Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22°.3S±0°.2×179°.6W±0°.3,h613km±42km,
n22,σ1°.15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*TEH **01** 00:14:18.7, 32°.69N×47°.60E, h12km, ML3.7*
*IDC **01** 00:14:19.9±1.4, 32°.63N×47°.62E, h0km, mb3.7/10, mb1 3.8/15, mb1mx3.6/50, mbtmp3.7/15, ML3.4/6, Error ellipse: s-maj=31.7km s-min=16.1km az=167.0*
*NEIC **01** 00:14:20.2±1.5, 32°.47N±0°.09×47°.65E±0°.07, h10km±1km, mb4.1/15, mb_Lg3.7(TEH), Error ellipse: s-maj=15.9km s-min=10.1km az=196.0*
*ISN **01** 00:14:21.6±1.4, 32°.66N×47°.60E, h15km±21km, ML3.5*
ISC 01 00:14:21.2±0.6, 32°.69N±0°.05×47°.61E±0°.05, h10km, n92, σ1§41/91, mb3.8/16, 1C-13D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.28	268	*e*Pg	Pg	00 14 24.3	-2.5
BMDN	Meydan	1.41	46	*e*Pg	Pn	00 14 44.9	-2.3
BMDN				*e*		00 15 15.5	
IKOM	Komasi	1.48	357	*e*Pg	Pn	00 14 47.3	-0.8
IKOM				*e*		00 15 16.7	
AHWZ	Ahwaz	1.62	147	*e*Pg	Pn	00 14 49.0	-0.8
KCHF	Cheshme Sefid,	1.65	343	*e*Pg	Pn	00 14 49.5	-0.9
KCHF				*e*		00 15 20.3	
HSAM	Samen	1.73	28	*e*Pg	Pn	00 14 51.3	-0.3
HSAM				*e*		00 15 23.3	
KER	Kermanshah	1.73	347	*e*Pg	Pn	00 14 51.2	-0.4
IBZA	Bozab	1.78	7	*e*Pg	Pn	00 14 51.9	-0.5
IBZA				*e*		00 15 30.5	
IGHG	Ghaleghazi	1.85	332	*e*Pn	Pn	00 14 52.7	-0.5
IGHG				*e*		00 15 44.6	
IVIS	Veis	1.94	341	*e*	Sg	00 15 34.6	+11
NSR	Nassriya	2.09	217	*e*Pn	Pn	00 14 57.0	+0.7
NSR				*e*Sn	Sn	00 15 23.0	+0.6
NSR				AML	AML	00 15 32.0	
	comp=E,670nm,0.6s						
IALM	Almabolaq	2.21	12	*e*Pn	Pn	00 14 58.1	-0.2
IDHR	Dehrash	2.25	333	*e*Pn	Pn	00 14 58.1	-0.6
SNGE	Sanandaj	2.40	355	*e*Pn	Pn	00 15 01.6	+0.8
HAGD	Aghdareh	2.48	31	*e*Pn	Pn	00 15 00.8	-1.1
HAGD				*e*		00 15 49.8	
HSRG	Sareghieh	2.60	12	*e*Pn	Pn	00 15 04.2	+0.5
HSRG				*e*		00 15 55.5	
JHBN	Jahan bin	2.62	99	*e*Pn	Pn	00 15 02.7	-1.3
JHBN				*e*		00 16 02.2	
IPIR	Pirpir	2.77	89	*e*		00 15 49.6	
IPIR				*e*Pn	Pn	00 15 05.7	-0.2
BHD	Baghdad	2.77	283	*e*Pn	Pn	00 15 07.0	+1.3
	baz=102						
BHD				*e*Sn	Sn	00 15 40.0	+0.7
BHD				AML	AML	00 16 02.1	
	comp=E,184nm,0.5s						
IRAZ	Razeghan	3.32	35	*e*Pn	Pn	00 15 13.4	-0.1
IKLH	Kolahrood	3.39	78	*e*Pn	Pn	00 15 14.3	-0.2
IKLH				*e*		00 16 19.5	
QABG	Abgarm-Qazvin	3.42	28	*e*Pn	Pn	00 15 14.2	-0.7
KLNJ	Kolanjah	3.78	115	*e*Pn	Pn	00 15 19.4	-0.5
IZEF	Zefreh	3.98	86	*e*Pn	Pn	00 15 21.5	-1.1
QSDN	Sirdan	4.01	18	*e*Pn	Pn	00 15 22.7	-0.3
IRAM	Ramesheh	4.14	101	*e*Pn	Pn	00 15 24.6	-0.1
MAHB	Mahabad	4.36	339	*e*Pn	Pn	00 15 25.9	-1.7
QALM	Alamut, Qazvin	4.49	33	*e*Pn	Pn	00 15 29.3	-0.3
ISRB	Sarab	5.12	1	*e*Pn	Pn	00 15 37.4	-0.8
IAZR	Azarshahr	5.15	345	*e*Pn	Pn	00 15 37.1	-1.5
IHRS	Heris	5.63	355	*e*Pn	Pn	00 15 45.7	+0.5
IMRD	Marand	6.20	346	*e*Pn	Pn	00 15 53.4	+0.4
GEVA	Gevas	6.72	328		Pn	00 16 01.9	+1.7
TPRV	Parvadeh(Tabas	7.64	85	*e*Pn	Pn	00 16 12.6	-0.2
NGRK	Negar Kerman	8.38	109	*e*Pn	Pn	00 16 24.0	+0.8
ASF	Jabal al Asfar	9.07	270	Pn	Pn	00 16 31.6	-0.7
	comp=E,0.2nm,0.3s,baz=50,slow=7.9,SNR=2.2						
ASF				Sn	Sn	00 18 10.3	-4.2
	comp=E,0.2nm,0.3s,baz=252,slow=22,SNR=1.4						
ASF				Lg	Lg	00 19 10.4	
	comp=E,0.2nm,0.3s,baz=252,slow=20,SNR=2.4						
KOPT	Kop Dagi	9.29	324	Pn	Pn	00 16 37.9	+2.5
ARTV	Artvin	9.62	333		Pn	00 16 42.9	+3.0
GEYT	Alibeck	10.05	56	Pn	Pn	00 16 44.7	-0.9
MMAI	Mount Meron Ar	10.27	275	Pn	Pn	00 16 49.4	+0.6
	comp=E,0.1nm,0.3s,baz=93,slow=13,SNR=1.1						
MMAI				Lg	Lg	00 19 44.9	
	comp=E,0.1nm,0.3s,baz=85,slow=35,SNR=2.2						
UOSS	Minazif	10.78	134	Pn	Pn	00 16 53.0	-2.8
EIL	Elat	11.25	258	Lg	Lg	00 20 18.3	
	baz=9.5,slow=18,SNR=1.4						
BRTR	Keskin Array B	13.28	306	Pn	Pn	00 17 33.9	+4.0
	comp=E,0.0nm,0.3s,baz=122,slow=18,SNR=5.1						
WSAR	Wadi Sarin	13.54	131	Pn	Pn	00 17 31.4	-2.1
	comp=E,0.2nm,0.3s,baz=298,slow=4.3,SNR=1.6						
WSAR				Sn	Sn	00 19 53.5	-10
	comp=E,0.1nm,0.3s,baz=119,slow=19,SNR=1.7						
SANT	Santorini	18.61	288	P	P	00 18 35.3	-3.4
ABKAR	Abkulak array	18.94	26	P	P	00 18 43.2	+0.9
IDI	Anoyia	19.01	284	P	P	00 18 44.7	+1.5
	comp=E,0.6nm,0.3s,baz=49,slow=7.6,SNR=6.9						
IDI	Anoyia	19.01	284	P	P	00 18 44.0	+0.8
IDI				IAmb	IAmb	00 18 52.0	
	comp=Z,17nm,1.1s						
AKTO	Aktyubinsk	19.33	20	P	P	00 18 48.0	+1.5
	comp=Z,0.3nm,0.3s,baz=205,slow=13,SNR=6.3						
CFR	Carcaliu	19.56	315	⇓P	Pn	00 18 51.9	+1.6
VRI	Vrincioaia	20.76	315	⇓P	P	00 19 04.2	+2.0
NEHR	Nehoiu	20.79	314	⇓P	Pn	00 19 05.7	+0.7
MLR	Muntele Rosu	21.04	314	⇓P	P	00 19 07.3	+2.0
MLR	Muntele Rosu	21.04	314	P	P	00 19 07.3	+2.0
MLR				IAmb	IAmb	00 19 13.7	
	comp=Z,8.3nm,0.9s						
TESR	Tescani	21.16	317	⇓P	P	00 19 08.2	+1.7
SORM	Soroca	21.19	322	⇓P	P	00 19 07.0	+0.3
AGG	Agios Georgios	21.40	294	P	P	00 19 09.7	+0.5
NIL	Nilore	21.47	80	P	P	00 19 09.1	-0.9
NIL				IAmb	IAmb	00 19 13.9	
	comp=Z,8.4nm,1.1s						
VOIR		21.56	313	⇓P	P	00 19 12.7	+1.8
DOPR	Dopca	21.61	314	⇓P	P	00 19 13.2	+1.8
BIZ	Bicaz	21.70	317	⇓P	P	00 19 13.5	+1.2
ARR	Arges	21.79	312	⇓P	P	00 19 15.3	+2.0
LOT	Lotru	22.37	312	⇓P	P	00 19 21.1	+1.5
AKASG	Malin Array Be	22.52	328	P	P	00 19 20.3	-0.7
	comp=Z,1.4nm,0.8s,baz=138,slow=8.4,SNR=2.5						
AKASG	Malin Array Be	22.52	328	P	P	00 19 21.1	+0.1
AKBB	Malin Array Si	22.52	328	P	P	00 19 20.8	-0.3
AKBB				IAmb	IAmb	00 19 25.2	
	comp=Z,2.3nm,0.7s						
BURAR	Bucovina Array	22.58	318	⇓P	P	00 19 21.9	0.0
BURAR	Bucovina Array	22.58	318	P	P	00 19 23.0	+1.2
BUR08	Bucovina Ar. S	22.61	318	P	P	00 19 23.2	+1.2
HERR	Herculane	23.00	309	⇓P	P	00 19 27.2	+1.0
BZS	Buzias	23.81	310	⇓P	P	00 19 34.4	+0.2
DIVS	Divibare	24.34	306	P	P	00 19 39.4	+0.1
KOLS	Kolonicke sedl	24.95	318	*e*P	P	00 19 46.6	+2.0
KWP	Kalwaria Pacla	25.08	320	P	P	00 19 46.5	+0.7
KWP				IAmb	IAmb	00 19 53.0	
	comp=Z,5.7nm,0.7s						
CRVS	Cervenica-Dubn	25.39	317	*e*P	P	00 19 51.1	+2.4
PSZ	Piszkesteto	25.85	314	P	P	00 19 53.0	+0.1
PSZ				IAmb	IAmb	00 19 57.1	
	comp=Z,7.0nm,0.8s						
BVAR	Borovoye Array	26.10	32	P	P	00 19 55.6	+0.6
	comp=Z,1.4nm,0.8s,baz=233,slow=7.2,SNR=8.8						
VYHS	Vyhne	26.74	315	*e*P	P	00 20 02.9	+2.0
KURBB	Kurchatov Arra	28.93	43	P	P	00 20 21.6	+1.2
	comp=Z,0.7nm,0.7s,baz=246,slow=9.1,SNR=4.6						
KURK	Kurchatov	29.03	42	P	P	00 20 21.6	+0.4
KURK	Kurchatov	29.03	42	IAmb	IAmb	00 20 23.6	
	comp=Z,1.7nm,0.9s						
MKAR	Makanchi Array	29.89	52	P	P	00 20 29.9	+0.9
	comp=Z,0.8nm,0.7s,baz=253,slow=7.2,SNR=6.2						
MKAR	Makanchi Array	29.89	52	P	P	00 20 29.3	+0.3
GERES	GERESS Array B	30.02	313	P	P	00 20 31.4	+1.2
	comp=Z,0.2nm,0.5s,baz=109,slow=12,SNR=2.2						
CASP	Castiglione de	30.54	300	P	P	00 20 35.2	+0.4
FINES	FINESS Array B	31.97	341	P	P	00 20 47.4	+0.3
	comp=Z,3.4nm,1.1s,baz=143,slow=7.7,SNR=3.8						
BNI	Bardonecchia	33.82	303	P	P	00 21 04.0	+0.3
ZALV	Zalesovo Beam	33.84	40	P	P	00 21 03.4	-0.2
	comp=Z,1.2nm,0.5s,baz=238,slow=8.2,SNR=4.2						
ARCES	ARCESS Array B	38.92	348	P	P	00 21 47.3	+0.5
	comp=Z,1.5nm,0.9s,baz=157,slow=9.5,SNR=5.6						
ESDC	Sonseca Array	41.73	295	P	P	00 22 11.1	+0.6
	comp=Z,0.7nm,0.7s,baz=75,slow=8.3,SNR=10.0						
TORD	Torodi Ar. Bea	46.13	256	P	P	00 22 46.1	0.0
	comp=Z,0.4nm,0.5s,baz=58,slow=8.7,SNR=1.9						
TORD	Torodi Ar. Bea	46.13	256	P	P	00 22 44.1	-1.9

*NEIC **01** 00:19:01.7±1.9, 21°.5S±0°.2×178°.3W±0°.1, h592km±5km, mb4.3/18, Error ellipse: s-maj=22.0km s-min=17.4km az=176.0*
*IDC **01** 00:19:01.5±10.0, 21°.18S×178°.53W, h562km±89km, mb3.3/4, mb1 3.3/5, mb1mx2.9/33, mbtmp4.2/5, Error ellipse: s-maj=88.2km s-min=51.9km az=114.0*
ISC 01 00:19:00.9±0.7, 21°.4S±0°.1×178°.2W±0°.1, h600km, n32, σ1§78/31, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.05	315	P	P	00 20 33.7	-0.6
MSVF				S	S	00 21 54.1	+3.6
RAO	Raoul Island	7.86	178	P	P	00 20 59.9	+1.1
DZM	Mont Dzumac	14.29	264	P	P	00 22 00.6	-2.0
	0.3nm,0.3s,baz=61,slow=17,SNR=2.3						
DZM	Mont Dzumac	14.29	264	P	P	00 22 01.2	-1.4
SANVU	Saraoutou	15.05	291	P	P	00 22 09.6	0.0
OUZ	Omahuta	15.58	206	P	P	00 22 13.3	-0.8
OUZ				IAmb	IAmb	00 22 26.4	
	comp=Z,11nm,1.0s						
RAR	Rarotonga	17.17	93	P	P	00 22 30.7	+1.7
SNZO	South Karori	20.78	195	P	P	00 23 01.0	-0.4
EIDS	Eidsvold	28.45	256	P	P	00 24 10.0	+0.6
EIDS				IAmb	IAmb	00 24 11.0	
	comp=Z,3.0nm,0.5s						
CAN	Canberra	31.89	237	P	P	00 24 37.1	-1.6
CTAO	Charters Tower	33.23	266	P	P	00 24 50.7	+0.5
CTAO				IAmb	IAmb	00 24 58.0	
	comp=Z,6.1nm,1.0s						
STKA	Stephens Creek	37.26	245	P	P	00 25 25.0	+1.7
	comp=Z,0.7nm,0.4s,baz=88,slow=11,SNR=3.6						
BBOO	Buckleboo	42.01	244	P	P	00 26 02.1	+0.9
WR0	Warramunga Arr	44.12	263	P	P	00 26 17.9	+0.1
JAY	Jayapura	44.15	289	P	P	00 26 18.9	+0.8
	comp=Z,9.2nm,0.9s,baz=94,slow=18,SNR=4.2						
AS31	Alice Springs	44.15	258	P	P	00 26 19.5	+1.5
ASAR	Alice Springs	44.15	258	P	P	00 26 19.0	+1.0
	comp=Z,3.0nm,0.6s,baz=95,slow=7.8,SNR=33						
ASAR				PcP	pP	00 27 53.0	-8.9
	comp=Z,0.3nm,0.5s,baz=91,slow=3.7,SNR=2.8						
ASAR	Alice Springs	44.15	258	P	P	00 26 18.3	+0.4
WB0	Warramunga Arr	44.29	263	P	P	00 26 19.6	+0.5
WB0				IAmb	IAmb	00 26 20.0	
	comp=Z,3.5nm,0.6s						
WB2	Warramunga Arr	44.29	263	P	P	00 26 19.5	+0.4
WB2				IAmb	IAmb	00 26 20.1	
	comp=Z,8.3nm,1.1s						
WRAB	Tennant Creek	44.30	263	P	P	00 26 19.7	+0.5
WRAB				IAmb	IAmb	00 26 20.2	
	comp=Z,6.0nm,0.9s						
WRA	Warramunga Arr	44.31	263	P	P	00 26 19.4	+0.2
	comp=Z,1.0nm,0.3s,baz=98,slow=8.1,SNR=55						
WRA				PcP	PcP	00 27 53.1	+3.1
	comp=Z,0.5nm,1.0s,baz=96,slow=3.4,SNR=2.1						
WRA	Warramunga Arr	44.31	263	P	P	00 26 19.4	+0.2
FITZ	Fitzroy Crossi	52.74	263	P	P	00 27 22.6	+1.2
LCMT	Little Creek M	84.33	47	P	P	00 30 33.5	+2.5
PV19	Morning Glory	87.90	47	P	P	00 30 46.9	-1.2
PV19				IAmb	IAmb	00 31 02.7	
	comp=Z,16nm,1.2s						
PV23	Carpenter Ridg	87.95	47	P	P	00 30 51.6	+3.2
PV23				IAmb	IAmb	00 30 52.7	
	comp=Z,6.7nm,0.6s						
PV21	Cone Mtn., Par	88.03	47	P	P	00 30 49.4	+0.7
AKASG	Malin Array Be	143.67	330	PKP	PKiKP	00 37 30.1	-1.7
	comp=Z,0.9nm,0.4s,baz=42,slow=4.0,SNR=8.1						
BRTR	Keskin Array B	147.27	311	PKPbc	PKPab	00 37 41.0	-1.2
	comp=Z,0.3nm,0.4s,baz=140,slow=4.2,SNR=5.0						
GERES	GERESS Array B	150.97	344	PKPbc	PKPab	00 37 51.2	-6.0
	comp=Z,0.4nm,0.6s,baz=22,slow=3.5,SNR=3.0						
FUORN	Ofenpass-Fuorn	153.87	347		PKiKP	00 37 54.9	+1.5

*THR **01** 00:26:24.9±0.5, 32°.57N×47°.61E, h16km±4km, ML3.2*
*TEH **01** 00:26:26.2, 32°.65N×47°.77E, h13km, ML3.4*
*ISN **01** 00:26:27.2±1.4, 32°.62N×47°.78E, h17km±23km, ML3.1*
ISC 01 00:26:26.3±1.7, 32°.60N±0°.04×47°.77E±0°.04, h3km±14km, n37, σ0§87/42, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.42	281	*e*Pg	Pg	00 26 34.6	+0.2
SHGR	Shooshtar-Gavs	1.00	119	*e*Pg	Pb	00 26 45.7	-0.6
SHGR				*e*Sg	Sn	00 27 00.2	-1.6
SHGR				IAML		00 27 09.0	
	comp=N,537nm,0.5s						
SHGR				IAML		00 27 21.2	
	comp=E,633nm,0.5s						
SHGR	Shooshtar-Gavs	1.00	119	*e*Pn	Pb	00 26 45.7	-0.6
BMDN	Meydan	1.39	39	*e*Pg	Pn	00 26 51.2	-1.6
AHWZ	Ahwaz	1.47	149	*e*Pg	Pg	00 26 54.7	+0.3
AHWZ				*e*Sg	Sn	00 27 16.0	+2.6
IKOM	Komasi	1.59	352	*e*Pg	Pn	00 26 55.4	-0.1
IKOM				*e*		00 27 21.5	
HSAM	Samen	1.75	23	*e*Pg	Pn	00 26 58.1	+0.3
HSAM				*e*		00 27 26.0	
KCHF	Cheshme Sefid,	1.78	340	*e*Pg	Pn	00 26 58.2	+0.1
KCHF				*e*		00 27 27.7	
KER	Kermanshah	1.86	344	*e*Pg	Pn	00 26 59.3	+0.1
IBZA	Bozab	1.87	2	*e*Pg	Pn	00 26 59.9	+0.5
IBZA				*e*		00 27 30.2	
IGHG	Ghaleghazi	2.00	330	*e*Pn	Pn	00 27 01.1	-0.1
IGHG				*e*		00 27 43.2	
IVIS	Veis	2.07	338	*e*Pn	Pn	00 27 01.8	-0.3
IVIS				*e*		00 27 36.9	
NSR	Nassriya	2.11	222	*e*Pn	Pn	00 27 03.0	+0.6
NSR				*e*Sn	Sb	00 27 30.0	-1.6
KHMZ	Khomeyn	2.16	58	*e*Pn	Pn	00 27 04.3	+0.9
KHMZ	Khomeyn	2.16	58	*e*Pn	Pn	00 27 04.3	+0.9
IALM	Almabolaq	2.28	8	*e*Pn	Pn	00 27 05.6	+0.5
IDHR	Dehrash	2.39	332	*e*		00 27 12.8	
IDHR				*e*Pn	Pn	00 27 06.4	-0.2
JHBN	Jahan bin	2.48	98	*e*		00 27 55.2	
JHBN				*e*Pn	Pn	00 27 07.8	-0.1
HAGD	Aghdareh	2.49	27	*e*		00 27 49.7	
HAGD				*e*Pn	Pn	00 27 08.2	+0.2
SNGE	Sanandaj	2.51	352	*e*Pn	Pn	00 27 07.4	-0.8
SNGE				*e*Sg	Sb	00 27 44.3	+0.7
SNGE	Sanandaj	2.51	352	*e*Pn	Pn	00 27 07.4	-0.8
IPIR	Pirpir	2.64	87	*e*Pn	Pn	00 27 10.5	+0.5
IPIR				*e*		00 27 55.8	
HSRG	Sareghieh	2.67	9	*e*Pn	Pn	00 27 11.0	+0.5
HSRG				*e*		00 27 53.7	
ASAO	Ashtian	2.71	43	*e*Pn	Pn	00 27 11.9	+0.9
ASAO	Ashtian	2.71	43	*e*Pn	Pn	00 27 11.9	+0.9
ROKH	ROKH	2.77	94	*e*Pn	Pn	00 27 11.9	+0.1
ROKH				*e*		00 27 56.8	
BHD	Baghdad	2.93	284	*e*Pn	Pn	00 27 15.0	+1.3
	baz=102						
BHD				*e*Sn	Sn	00 27 49.0	-0.4
BHD				AML	AML	00 28 06.8	
	comp=E,97nm,0.3s						
IKLH	Kolahrood	3.28	76	*e*Pn	Pn	00 27 19.7	+0.8
IRAZ	Razeghan	3.32	32	*e*Pn	Pn	00 27 20.5	+1.1
QABG	Abgarm-Qazvin	3.45	25	*e*Pn	Pn	00 27 20.9	-0.2
IGAR	Garneh	3.62	92	*e*Pn	Pn	00 27 23.8	+0.4
KLNJ	Kolanjah	3.62	115	*e*Pn	Pn	00 27 23.7	+0.1
KLNJ				*e*		00 28 36.9	
IZEF	Zefreh	3.85	84	*e*Pn	Pn	00 27 27.2	+0.5
IRAM	Ramesheh	3.99	100	*e*Pn	Pn	00 27 28.2	-0.4
QSDN	Sirdan	4.06	16	*e*Pn	Pn	00 27 30.3	+0.7
QALM	Alamut, Qazvin	4.50	31	*e*Pn	Pn	00 27 36.7	+1.1
IDMV	Damavand	4.62	49	*e*Pn	Pn	00 27 37.0	-0.3

*IDC **01** 00:35:09.1±1.4, 28°.48S×178°.31W, h171km±11km, mb3.1/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.6/3, Error ellipse: s-maj=45.1km s-min=32.5km az=18.0*
ISC 01 00:35:09.1±1.4, 28°.5S±0°.3×178°.8W±0°.2, h150km, n9, σ1§87/8, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.08	134	P	Pn	00 35 35.7	+1.2
	389nm,0.3s,baz=74,slow=15,SNR=17						
RAO				S	Sn	00 35 54.3	+0.3
	233nm,0.3s,baz=68,slow=22,SNR=2.6						
URZ	Urewera	10.31	198	S	Sn	00 39 17.3	-10
	1.5nm,0.3s,baz=211,slow=14,SNR=1.6						
ASAR	Alice Springs	42.54	265	P	P	00 42 51.4	+1.3
	0.7nm,0.5s,baz=99,slow=6.8,SNR=11						
WRA	Warramunga Arr	43.35	271	P	P	00 42 58.0	+1.3
	0.5nm,0.4s,baz=110,slow=7.9,SNR=15						
VNDA	Vanda	49.91	185	P	P	00 43 45.3	-1.6
	0.3nm,0.5s,baz=15,slow=7.9,SNR=2.0						
MKAR	Makanchi Array	116.01	311	PKP	PKPdf	00 53 31.7	-2.3
	0.2nm,0.5s,baz=102,slow=4.7,SNR=1.8						
FINES	FINESS Array B	143.13	340	PKhKP	PKPab	00 54 18.0	-2.4
	2.7nm,1.0s,baz=14,slow=2.9,SNR=4.3						
AKASG	Malin Array Be	149.36	324	PKPbc	PKPdf	00 54 36.9	+1.5
	0.6nm,0.4s,baz=43,slow=2.5,SNR=1.5						
BRTR	Keskin Array B	151.05	301	PKPbc	PKPbc	00 54 42.9	-1.6
	0.4nm,0.6s,baz=129,slow=2.6,SNR=2.4						

*IDC **01** 00:51:49.6±4.0, 43°.68N×146°.88E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/38, mbtmp3.8/6, Error ellipse: s-maj=122.0km s-min=35.5km az=180.0*
*NIED **01** 00:51:51.9, 42°.99N×146°.84E, h53km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.01; $M_{\theta\theta}$1.99; $M_{\phi\phi}$-3.00; $M_{r\theta}$1.50; $M_{\theta\phi}$-0.15; $M_{\phi r}$0.74; Fault plane solution: $M_0$3.13000×10^{14} NP1:ϕ_s41.00000°, δ74.00000°, λ144.00000°. NP2:ϕ_s142.00000°, δ56.00000°, λ20.00000°.*
*JMA **01** 00:51:51.9±0.2, 42°.99N×146°.84E, h53km±3km, M3.6*
*SKHL **01** 00:51:52.6±0.5, 42°.97N×146°.87E, h55km±5km, mb4.3/3*
*MOS **01** 00:51:53.0±1.3, 43°.08N×146°.75E, h54km, mb4.5/4, Error ellipse: s-maj=15.0km s-min=9.4km az=122.4*
*NEIC **01** 00:51:55.5±1.1, 42°.9N±0°.1×146°.7E±0°.1, h67km±6km, mb4.5/11, Error ellipse: s-maj=15.5km s-min=14.3km az=190.0*
ISC 01 00:51:52.5±0.8, 42°.97N±0°.06×146°.86E±0°.06, h36km±2km, n67, σ1§26/76, mb4.1/13, 1C-2D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.90	296	P	Pn	00 52 08.3	-0.3
NEM2				*e*S	Sn	00 52 20.6	+0.2
NMR	Nemuro--Hokkai	0.92	296	*i* P	Pn	00 52 08.3	-0.5
NMR				*i* S	Sn	00 52 20.0	-0.7
NMR	Nemuro--Hokkai	0.92	296	⇓*i*PN	Pn	00 52 08.2	-0.5
NMR				*i* S	Sn	00 52 20.7	0.0
JKHN	Kushirohamanak	1.25	276	P	Pn	00 52 13.3	0.0
YUK	Yuzh-Kuril'sk	1.28	326	*i* P	Pn	00 52 13.0	-0.9
YUK				AMB	AMB	00 52 14.0	
	140nm,0.3s						
YUK				*i* S	Sn	00 52 28.9	-0.8
YUK				A	A	00 52 31.9	
	1μm,0.4s						
YUK				A	A	00 52 31.9	
	300nm,0.4s						
YUK	Yuzh-Kuril'sk	1.28	326	⇑*i*PN	Pn	00 52 12.9	-0.9
YUK				*i* S	Sn	00 52 29.3	-0.4
YUK				pmax	pmax		
	comp=Z,320nm,0.3s						
YUK				pmax	pmax		
	comp=N,66nm,0.2s						
YUK				pmax	pmax		
	comp=E,105nm,0.1s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,532nm,0.3s						
GRPR	Tuman	1.29	323	*i* P	Pn	00 52 13.0	-0.9
GRPR				AMB	AMB	00 52 13.0	
	comp=N,140nm,0.3s						
GRPR				*i* S	Sn	00 52 28.0	-1.9
GRPR				A	A	00 52 31.0	
	comp=N,910nm,0.6s						
GRPR				A	A	00 52 31.0	
	comp=N,1μm,0.6s						
GRPR	Tuman	1.29	323	⇓*i*PN	Pn	00 52 13.0	-0.9
GRPR				*i* S	Sn	00 52 28.6	-1.3
GRPR				pmax	pmax		
	comp=Z,162nm,0.2s						
GRPR				pmax	pmax		
	comp=N,46nm,0.1s						
GRPR				pmax	pmax		
	comp=E,72nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.6s						
GRPR				smax	smax		
	comp=N,910nm,0.4s						
JNSB	Nemuroshibetsu	1.57	301	P	Pn	00 52 17.7	0.0
JAK	Akkeshi	1.58	272	P	Pn	00 52 17.8	-0.1
JAK				*e*S	Sn	00 52 37.3	+0.2
JRA	Rausu	1.59	308	P	Pn	00 52 18.0	0.0
JRA				*e*S	Sn	00 52 37.3	+0.1
RUSJ	Misakicho	1.63	315	PN	Pn	00 52 18.7	+0.2
RUSJ				*i* S	Sn	00 52 39.1	+0.9
JNK	Nakash	1.68	292	P	Pn	00 52 19.0	-0.2
JNK				*e*S	Sn

comp=Z,1.0nm,0.7s
MK31 Makanchi Array 44.76 298 P **P 01 00 01.9 -0.3**
MKAR Makanchi Array 44.76 298 P **P 01 00 02.1 -0.1**
comp=Z,1.0nm,0.6s,baz=79,slow=9.0,SNR=9.2
KURK Kurchatov 45.79 305 *e*P **P 01 00 10.1 -0.1**
KURK Kurchatov 45.79 305 P **P 01 00 10.1 -0.1**
KURBB Kurchatov Arra 45.87 304 P **P 01 00 10.1 -0.8**
comp=Z,0.9nm,0.6s,baz=73,slow=8.7,SNR=7.0
INK Inuvik 47.18 30 P **P 01 00 21.4 +0.5**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 47.18 30 P **P 01 00 21.4 +0.5**
INK IAmb IAmb 01 00 32.3
comp=Z,4.2nm,1.1s
EUNU Eureka 53.66 10 P **P 01 01 09.0 -0.8**
EUNU IAmb IAmb 01 01 16.8
comp=Z,5.5nm,0.9s
SPA0 Spitsbergen Ar 55.50 349 P **P 01 01 25.3 +2.1**
SPA0 IAmb IAmb 01 01 28.7
comp=Z,9.4nm,1.1s
KBS Kingsbay 55.51 350 P **P 01 01 24.0 +0.8**
KBS pmax pmax
comp=Z,11nm,1.1s
KBS Kingsbay 55.51 350 P **P 01 01 24.0 +0.8**
KBS IAmb IAmb 01 01 41.4
comp=Z,11nm,1.1s
ABKAR Akbulak array 57.38 309 P **P 01 01 36.7 -0.2**
KCPM Cahto Peak 64.13 59 P **P 01 02 23.5 +0.4**
FINES FINESS Array B 65.47 333 P **P 01 02 29.8 -1.4**
comp=Z,1.5nm,0.8s,baz=46,slow=5.5,SNR=4.9
FINES FINESS Array B 65.47 333 P **P 01 02 28.5 -2.8**
NB2 NORSAR Subarra 70.25 339 P **P 01 03 00.5 -0.9**
comp=Z,0.6nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 70.25 339 P **P 01 03 00.2 -1.2**
comp=Z,1.2nm,0.6s,baz=31,slow=6.3,SNR=8.3
ZOU Zoufplan 81.92 330 P **P 01 04 05.4 -2.9**
TXAR Lajitas Array 83.26 56 P **P 01 04 16.2 +0.7**
comp=Z,0.2nm,0.7s,baz=309,slow=3.4,SNR=2.2

*GCG **01** 01:06:27.5±0.3, 14°.18N×91°.85W, h49km±64km, MD3.7*
*MEX **01** 01:06:28.0±0.6, 14°.37N×91°.75W, h84km±16km, MD3.3*
ISC 01 01:06:25.9±3.3, 14°.1N±0°.2×92°.0W±0°.1, h33km±12km, n6, σ0°63/11, Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
THIG		**0.90**	**341**	*i* P		**Pb**	**01 06 43.5**	**+0.4**
THIG				*i* S		**Sn**	**01 06 54.6**	**+0.4**
FUG	**Fuego 3**	**1.16**	**70**	*e*P		**Pn**	**01 06 46.0**	**0.0**
FUG				*e*S		**Sn**	**01 07 00.4**	**-0.4**
PCG	**Pacaya**	**1.36**	**75**	*e*P		**Pn**	**01 06 49.3**	**+0.5**
PCG				*e*S		**Sn**	**01 07 06.0**	**+0.2**
IXG	**Ixpaco**	**1.48**	**85**	*e*P		**Pn**	**01 06 50.8**	**+0.3**
IXG				*e*S		**Sn**	**01 07 09.2**	**-0.4**
NBG	**Las Nubes**	**1.65**	**71**	*e*P		**Pb**	**01 06 55.4**	**-0.6**
PCIG		**2.05**	**324**	*i* P		**Pn**	**01 06 58.2**	**+0.1**
PCIG				*e*S		**Sn**	**01 07 21.2**	**-1.2**

*JMA **01** 01:26:35.2±0.1, 38°.33N×142°.13E, h37km±1km, M4.3*
JMA Felt II J1.
*NEIC **01** 01:26:36.0±1.6, 38°.25N±0°.06×142°.18E±0°.10, h37km±6km, mb4.6/18, Error ellipse: s-maj=11.5km s-min=7.8km az=116.0*
*NIED **01** 01:26:35.2, 38°.33N×142°.13E, h37km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.42; $M_{\theta\theta}$=1.72; $M_{\phi\phi}$=-1.30; $M_{r\theta}$=1.21; $M_{\theta\phi}$=0.22; $M_{\phi r}$=1.04; Fault plane solution: M_0=2.24000×10^{15} NP1: ϕ_s=234.00000°, δ=83.00000°, λ=-132.00000°. NP2: ϕ_s=136.00000°, δ=43.00000°, λ=-11.00000°.*
*IDC **01** 01:26:37.0±0.7, 38°.27N×142°.10E, h43km±6km, mb3.7/16, mb1 4.0/21, mb1mx3.8/45, mbtmp4.0/21, ML3.5/3, MS3.1/13, Ms1 3.1/13, ms1mx3.0/42 Error ellipse: s-maj=16.2km s-min=13.0km az=101.0*
ISC 01 01:26:35.7±0.8, 38°.27N±0°.04×142°.19E±0°.06, h34km±2km, n86, σ1°19/97, mb4.2/25, MS3.4/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.57**	**274**	P		**Pn**	**01 26 46.0**	**-1.3**
JIKH				S		**Sn**	**01 26 53.4**	**-2.1**
JIO	**Ouri**	**0.69**	**286**	P		**Pn**	**01 26 47.7**	**-1.2**
JIO				S		**Sn**	**01 26 56.2**	**-2.2**
JKMT	**Kesennumamotoy**	**0.78**	**314**	P		**Pn**	**01 26 48.8**	**-1.4**
JKMT				S		**Sn**	**01 26 58.3**	**-2.4**
OFUJ	**Ofunato**	**0.90**	**333**	P		**Pn**	**01 26 50.4**	**-1.6**
OFUJ				S		**Sn**	**01 27 01.1**	**-2.7**
JMK	**Ichinoseki**	**1.02**	**312**	P		**Pn**	**01 26 52.4**	**-1.1**
JMK				*e*S		**Sn**	**01 27 04.6**	**-2.1**
JMM	**Marumori**	**1.17**	**250**	P		**Pn**	**01 26 54.7**	**-1.0**
JMM				S		**Sn**	**01 27 08.9**	**-1.6**
JOU	**Okura**	**1.20**	**275**	P		**Pn**	**01 26 55.6**	**-0.5**
JOU				S		**Sn**	**01 27 10.8**	**-0.5**
JFK	**Kawauchi**	**1.38**	**229**	P		**Pn**	**01 26 57.5**	**-1.1**
JFK				S		**Sn**	**01 27 13.6**	**-2.0**
JOM	**Ohasama**	**1.39**	**330**	P		**Pn**	**01 26 57.9**	**-0.8**
JOM				*e*S		**Sn**	**01 27 14.4**	**-1.4**
JYK	**Kaneyama**	**1.57**	**295**	P		**Pn**	**01 27 00.7**	**-0.5**
JYK				*e*S		**Sn**	**01 27 19.5**	**-0.8**
JFT	**Otama**	**1.65**	**243**	P		**Pn**	**01 27 02.1**	**-0.1**
JFT				*e*S		**Sn**	**01 27 22.3**	**+0.1**
JRG	**Rokugo**	**1.65**	**313**	P		**Pn**	**01 27 01.8**	**-0.5**
JYS	**Shiratake**	**1.67**	**269**	P		**Pn**	**01 27 02.1**	**-0.5**
JYS				*e*S		**Sn**	**01 27 22.5**	**-0.3**
MJAR	**Matsushiro Arr**	**3.61**	**243**	P		**Pn**	**01 27 30.6**	**+1.4**
	1.3nm,0.3s,baz=69,slow=11,SNR=37							
MJAR				S		**Sn**	**01 28 07.2**	**-3.5**
	1.6nm,0.3s,baz=71,slow=19,SNR=5.3							
MJAR				LR		LR	01 29 07.5	
	comp=Z,96nm,18.2s,baz=10.0,slow=43							
MJAR	**Matsushiro Arr**	**3.61**	**243**			**Pn**	**01 27 30.8**	**+1.6**
MAJO	**Matsushiro**	**3.61**	**243**	Pn		**Pn**	**01 27 31.0**	**+1.8**
MAJO				Sn		**Sn**	**01 28 09.3**	**-1.4**
MAT	**Matsushiro**	**3.61**	**243**	P		**Pn**	**01 27 31.1**	**+1.9**
MAT				*e*S		**Sn**	**01 28 11.9**	**+1.2**
ERM	**Erimo**	**3.81**	**11**	Pn		**Pn**	**01 27 31.4**	**-0.5**
ERM				Sn		**Sn**	**01 28 16.2**	**+0.7**
JHJ2	**Mitsune**	**5.50**	**201**	Pn		**Pn**	**01 27 55.4**	**+0.2**
JHJ	**Hachijo jima 2**	**5.50**	**202**	P		**Pn**	**01 27 55.2**	**0.0**
	80nm,0.3s,baz=90,slow=13,SNR=12							
JHJ				S		**Sn**	**01 28 56.1**	**-1.1**
	52nm,0.3s,baz=108,slow=19,SNR=2.6							
JKA	**Kamikawa-asahi**	**5.85**	**3**			**Pn**	**01 28 00.4**	**+0.5**
ASAJ	**Asahikawa**	**5.85**	**3**	P		**Pn**	**01 28 00.7**	**+0.7**
	2.4nm,0.3s,baz=193,slow=11,SNR=11							
ASAJ				S		**Sn**	**01 29 05.4**	**-0.3**
	0.9nm,0.3s,baz=198,slow=28,SNR=1.3							
ASAJ				LR		LR	01 29 44.2	
	comp=Z,32nm,21.2s,baz=141,slow=32							
YSS	**Yuzh-Sakhalins**	**8.69**	**3**	Pn		**Pn**	**01 28 39.0**	**+0.1**
USA0B	**Ussuriysk Arra**	**9.70**	**311**			**Pn**	**01 28 54.4**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.70**	**311**	P		**Pn**	**01 28 53.1**	**+0.4**
	baz=126,slow=16,SNR=12							
USRK				LR		LR	01 32 16.7	
	comp=Z,194nm,21.3s,baz=148,slow=35							
USRK	**Ussuriysk Ar.**	**9.70**	**311**			**Pn**	**01 28 54.9**	**+2.2**
JNU	**Nakatsue**	**10.53**	**244**	P		**Pn**	**01 29 07.5**	**+3.2**
	0.2nm,0.3s,baz=73,slow=11,SNR=1.6							
JNU				LR		LR	01 33 35.7	
	comp=Z,62nm,19.1s,baz=26,slow=40							
JNU	**Nakatsue**	**10.53**	**244**			**Pn**	**01 29 05.7**	**+1.4**
JCJ	**Chichijima**	**11.15**	**180**	P		**Pn**	**01 29 09.9**	**-2.7**
	12nm,0.3s,baz=337,slow=15,SNR=12							
JCJ				S		Sn	01 31 07.5	-8.6
	3.8nm,0.3s,baz=295,slow=23,SNR=2.0							
JCJ	**Chichijima**	**11.15**	**180**			**Pn**	**01 29 10.4**	**-2.3**
KSRS	**Korea Array**	**11.31**	**270**	P		Pn	01 29 19.5	+4.7
	0.2nm,0.3s,baz=8.3,slow=24,SNR=1.9							
KSRS				LR		LR	01 33 15.2	
	comp=Z,79nm,20.0s,baz=80,slow=35							
KLR	**Kul'dur**	**13.29**	**329**	P		**Pn**	**01 29 41.2**	**-0.6**
	0.1nm,0.3s,baz=132,slow=14,SNR=4.8							
KLR				LR		LR	01 34 52.5	
	comp=Z,136nm,18.3s,baz=148,slow=37							
PETK	**Petropavlovsk-**	**18.31**	**31**	LR		LR	01 38 39.8	
	comp=Z,40nm,18.0s,baz=235,slow=39							
GUMO	**Guam**	**24.70**	**174**	LR		LR	01 41 52.1	
	comp=Z,19nm,21.5s,baz=29,slow=37							
SEY	**Seymchan**	**25.46**	**11**	P		**P**	**01 32 01.1**	**+0.9**
	4.9nm,0.8s,baz=212,slow=6.7,SNR=9.2							
SONM	**Songino Array**	**27.63**	**302**	P		**P**	**01 32 21.2**	**+1.2**
	0.7nm,0.4s,baz=110,slow=8.2,SNR=6.5							
SONM				LR		LR	01 43 34.6	
	comp=Z,46nm,19.1s,baz=46,slow=37							
SONM	**Songino Array**	**27.63**	**302**	P		**P**	**01 32 19.8**	**-0.3**
ENH	**Enshi**	**28.07**	**263**	P		**P**	**01 32 24.9**	**+0.8**
ENH				IAmb		IAmb	01 32 36.0	
	comp=Z,7.6nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.29**	**124**	T		T	02 02 49.4	
	baz=316,slow=76,SNR=824							
H11N1	**WAKE ISLAND Hy**	**28.30**	**124**	T		T	02 02 43.8	
	baz=316,slow=76,SNR=755							
H11N3	**WAKE ISLAND Hy**	**28.31**	**124**	T		T	02 02 50.4	
	baz=316,slow=76,SNR=797							
H11S1	**WAKE ISLAND Hy**	**29.05**	**126**	T		T	02 03 50.5	
	baz=318,slow=76,SNR=184							
H11S3	**WAKE ISLAND Hy**	**29.05**	**126**	T		T	02 04 05.0	
	baz=318,slow=76,SNR=230							
H11S2	**WAKE ISLAND Hy**	**29.07**	**126**	T		T	02 03 46.0	
	baz=318,slow=76,SNR=235							
ZAA0	**Zalesovo Array**	**41.55**	**311**	P		**P**	**01 34 19.1**	**-0.6**
ZAA0				IAmb		IAmb	01 34 19.8	
	comp=Z,3.1nm,0.5s							
ZALV	**Zalesovo Beam**	**41.55**	**311**	P		**P**	**01 34 19.4**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=87,slow=8.3,SNR=9.3							
ZALV				LR		LR	01 52 08.0	
	comp=Z,34nm,19.4s,baz=68,slow=37							
ZALV	**Zalesovo Beam**	**41.55**	**311**	P		**P**	**01 34 18.9**	**-0.8**
MK31	**Makanchi Array**	**43.99**	**301**	P		**P**	**01 34 39.1**	**-0.5**
MKAR	**Makanchi Array**	**43.99**	**301**	P		**P**	**01 34 39.2**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=88,slow=9.8,SNR=14							
MKAR	**Makanchi Array**	**43.99**	**301**	P		**P**	**01 34 39.4**	**-0.3**
KURK	**Kurchatov**	**45.66**	**307**	P		**P**	**01 34 52.2**	**-0.7**
GHO	**Glory Hole Cre**	**47.35**	**37**	P		**P**	**01 35 06.9**	**+0.8**
ILAR	**Eielson Array**	**48.12**	**33**	P		**P**	**01 35 12.6**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=276,slow=6.2,SNR=6.0							
ILAR	**Eielson Array**	**48.12**	**33**	P		**P**	**01 35 12.0**	**+0.1**
INK	**Inuvik**	**53.00**	**28**	P		**P**	**01 35 50.1**	**+1.5**
	comp=Z,2.1nm,1.0s,baz=286,slow=7.4,SNR=2.3							
KK31	**Karatay Array**	**53.04**	**300**	P		**P**	**01 35 49.4**	**0.0**
KKAR	**Karatay Array**	**53.04**	**300**	P		**P**	**01 35 49.2**	**-0.1**
NIL	**Nilore**	**54.82**	**288**	P		**P**	**01 36 02.8**	**+0.3**
NIL				IAmb		IAmb	01 36 04.2	
	comp=Z,8.3nm,0.9s							
CHGR	**Chuyangaron**	**55.70**	**295**	P		**P**	**01 36 09.2**	**+0.5**
ABKAR	**Akbulak array**	**57.62**	**310**	P		**P**	**01 36 21.5**	**-0.6**
WB0	**Warramunga Arr**	**58.19**	**189**	P		**P**	**01 36 25.9**	**-0.5**
WB0				IAmb		IAmb	01 36 26.9	
	comp=Z,7.7nm,1.1s							
WB2	**Warramunga Arr**	**58.37**	**189**	P		**P**	**01 36 27.3**	**-0.4**
WB2				IAmb		IAmb	01 36 39.6	
	comp=Z,8.1nm,1.4s							
WRA	**Warramunga Arr**	**58.37**	**189**	P		**P**	**01 36 27.4**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=7,9,slow=6.9,SNR=24							
ASAR	**Alice Springs**	**62.10**	**189**	P		**P**	**01 36 53.3**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=13,slow=6.6,SNR=12							
ASAR				pP		**sP**	**01 37 06.0**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=9.5,slow=5.6,SNR=3.1							
ARCES	**ARCESS Array B**	**63.06**	**339**	P		**P**	**01 36 58.7**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=46,slow=6.4,SNR=5.4							
FIA1	**FINESS Array S**	**68.00**	**332**	P		**P**	**01 37 30.5**	**-0.5**
FIA1				IAmb		IAmb	01 37 31.5	
	comp=Z,6.0nm,0.8s							
FINES	**FINESS Array B**	**68.01**	**332**	P		**P**	**01 37 30.7**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=35,slow=5.1,SNR=10							
FINES				LR		LR	02 08 08.6	
	comp=Z,31nm,18.5s,baz=324,slow=37							
STKA	**Stephens Creek**	**69.79**	**181**	P		**P**	**01 37 42.1**	**-0.3**
EGMT	**Eagleton**	**72.94**	**42**	P		**P**	**01 38 02.2**	**+0.7**
EGMT				IAmb		IAmb	01 38 16.5	
	comp=Z,5.0nm,1.0s							
NC204	**NORSAR Array S**	**73.23**	**338**	P		**P**	**01 38 03.4**	**+0.4**
NC204				IAmb		IAmb	01 38 05.7	
	comp=Z,8.9nm,1.1s							
NB2	**NORSAR Subarra**	**73.28**	**337**	P		**P**	**01 38 02.8**	**-0.5**
	comp=Z,4.2nm,1.0s,baz=38,slow=5.9							
NOA	**NORSAR Array B**	**73.28**	**337**	P		**P**	**01 38 02.6**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=38,slow=5.9,SNR=6.7							
NOA				LR		LR	02 12 39.1	
	comp=Z,32nm,21.9s,baz=255,slow=38							
AKASG	**Malin Array Be**	**73.69**	**322**	P		**P**	**01 38 05.1**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=45,slow=6.1,SNR=7.2							
NVAR	**Mina Array Bea**	**73.76**	**54**	P		**P**	**01 38 07.4**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=284,slow=8.2,SNR=3.6							
PDAR	**Pinedale Array**	**76.36**	**46**	P		**P**	**01 38 22.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=278,slow=0.9,SNR=10							
PDAR				pP		**PcP**	**01 38 34.8**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=302,slow=4.0,SNR=4.4							
BUR08	**Bucovina Ar. S**	**77.71**	**322**	P		**P**	**01 38 29.6**	**+0.6**
BURAR	**Bucovina Array**	**77.72**	**322**	P		**P**	**01 38 28.9**	**-0.1**
BRTR	**Keskin Array B**	**78.49**	**312**	P		**P**	**01 38 34.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=68,slow=4.1,SNR=1.7							
BRTR	**Keskin Array B**	**78.49**	**312**	P		**P**	**01 38 33.7**	**+0.2**
GERES	**GERESS Array B**	**81.98**	**329**	LR		LR	02 17 31.3	
	comp=Z,51nm,19.4s,baz=322,slow=37							
FUORN	**Ofenpass-Fuorn**	**85.16**	**329**	P		**P**	**01 39 09.2**	**+0.6**
FUORN				IAmb		IAmb	01 39 22.0	
	comp=Z,6.3nm,1.1s							
LTZ	**Lake Taylor**	**85.18**	**158**	P		**P**	**01 39 08.7**	**+0.5**
TXAR	**Lajitas Array**	**88.88**	**53**	P		**P**	**01 39 27.5**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=296,slow=2.5,SNR=12							
TXAR				pP		**sP**	**01 39 40.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=305,slow=4.4,SNR=4.3							
TXAR	**Lajitas Array**	**88.88**	**53**	P		**P**	**01 39 27.0**	**+0.2**
LPAZ	**La Paz**	**145.53**	**59**	PKPbc		**PKPdf**	**01 46 11.4**	**0.0**
	comp=Z,1.4nm,0.5s,baz=0.0,slow=1.0,SNR=8.8							
LPAZ	**La Paz**	**145.53**	**59**			**PKPdf**	**01 46 11.1**	**-0.3**

*NEIC **01** 01:43:09.9±2.1, 14°.71S±0°.08×167°.3E±0°.2, h137km±6km, mb4.1/13, Error ellipse: s-maj=26.6km s-min=11.0km az=97.0*
*IDC **01** 01:43:11.5±1.1, 14°.81S×167°.24E, h149km±7km, mb3.6/7, mb1 3.8/8, mb1mx3.5/32, mbtmp4.1/8, Error ellipse: s-maj=22.4km s-min=15.8km az=91.0*
ISC 01 01:43:09.7±0.8, 14°.77S±0°.08×167°.3E±0°.1, h129km, n27, σ1°36/35, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.68**	**186**			**Pn**	**01 43 31.6**	**+1.8**
SANVU					Sn	**Sn**	**01 43 47.4**	**+2.3**
DZM	**Mont Dzumac**	**7.31**	**186**	P		**Pn**	**01 44 54.8**	**+0.9**
	3.5nm,0.3s,baz=25,slow=15,SNR=30							
DZM				S		**Sn**	**01 46 15.2**	**-0.3**
	3.2nm,0.3s,baz=308,slow=20,SNR=6.0							
DZM	**Mont Dzumac**	**7.31**	**186**			**Pn**	**01 44 55.3**	**+1.4**
DZM					Sn	**Sn**	**01 46 15.5**	**+0.1**
EIDS	**Eidsvold**	**18.49**	**233**	P		**Pn**	**01 47 18.2**	**+0.6**
CTAO	**Charters Tower**	**20.73**	**252**	P		**P**	**01 47 40.3**	**+0.1**
CTAO				IAmb		IAmb	01 47 42.6	
	comp=Z,7.9nm,0.9s							
BKZ	**Black Stump Fm**	**25.62**	**163**	P		**P**	**01 48 26.3**	**-0.9**
BKZ				IAmb		IAmb	01 48 28.6	
	comp=Z,8.1nm,0.7s							
STKA	**Stephens Creek**	**28.97**	**230**	P		**P**	**01 48 57.8**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=57,slow=10.0,SNR=6.9							
STKA	**Stephens Creek**	**28.97**	**230**	P		**P**	**01 48 58.0**	**+0.9**
RPZ	**Rata Peaks**	**29.03**	**174**	P		**P**	**01 48 57.7**	**+0.2**
	comp=Z,4.7nm,0.5s,baz=311,slow=1.6,SNR=5.9							
RPZ	**Rata Peaks**	**29.03**	**174**	P		**P**	**01 48 57.9**	**+0.4**
WB2	**Warramunga Arr**	**31.81**	**256**	P		**P**	**01 49 21.2**	**-1.1**
WB2				IAmb		IAmb	01 49 21.2	
	comp=Z,2.4nm,1.1s							
WRA	**Warramunga Arr**	**31.82**	**256**	P		**P**	**01 49 21.0**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=85,slow=9.0,SNR=17							
WRA				pP		**pwP**	**01 49 54.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=87,slow=9.6,SNR=1.5							
WRA				sP		sP	01 50 11.3	+7.7
	comp=Z,0.3nm,0.7s,baz=84,slow=8.9,SNR=1.7							
WRA				PcP		**PcP**	**01 52 10.0**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=77,slow=3.8,SNR=3.1							
WRA	**Warramunga Arr**	**31.82**	**256**	P		**P**	**01 49 20.9**	**-1.5**
AS31	**Alice Springs**	**32.66**	**249**	P		**P**	**01 49 28.8**	**-0.9**
ASAR	**Alice Springs**	**32.66**	**249**	P		**P**	**01 49 28.9**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=77,slow=9.1,SNR=22							
ASAR				pP		**pwP**	**01 50 01.7**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=73,slow=9.5,SNR=1.7							
ASAR				PcP		**PcP**	**01 52 12.2**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=75,slow=3.6,SNR=3.7							
BBOO	**Buckleboo**	**33.56**	**232**	P		**P**	**01 49 38.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**40.01**	**259**	P		**P**	**01 50 32.3**	**+0.1**
FITZ				IAmb		IAmb	01 50 32.6	
	comp=Z,2.4nm,0.6s							
VNDA	**Vanda**	**62.82**	**181**	P		**P**	**01 53 20.7**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=355,slow=8.6,SNR=25							
VNDA	**Vanda**	**62.82**	**181**	P		**P**	**01 53 20.8**	**-0.4**
VNDA				IAmb		IAmb	01 53 22.5	
	comp=Z,2.0nm,0.8s							
QSPA	**South Pole Qui**	**75.26**	**180**	P		**P**	**01 54 37.6**	**-0.7**
QSPA				IAmb		IAmb	01 54 38.0	
	comp=Z,3.4nm,0.7s							
MAW	**Mawson**	**81.85**	**202**	P		**P**	**01 55 14.5**	**+0.3**
SONM	**Songino Array**	**82.53**	**324**	P		**P**	**01 55 18.6**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=137,slow=4.4,SNR=1.6							
ILAR	**Eielson Array**	**86.56**	**18**	P		**P**	**01 55 36.5**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=230,slow=5.6,SNR=0.6							
ILAR				pP		**pP**	**01 56 15.0**	**+4.6**
	comp=Z,0.3nm,0.7s,baz=239,slow=6.2,SNR=1.7							
SNAA	**Sanae**	**93.51**	**183**	P		**P**	**01 56 08.7**	**-1.9**
VNA3	**Neumayer Olymp**	**94.18**	**181**	P		**P**	**01 56 11.5**	**-2.1**
VNA2	**Neumayer--Watz**	**94.44**	**182**	P		**P**	**01 56 13.0**	**-1.8**
ARCES	**ARCESS Array B**	**120.29**	**345**	PKP		**PKPdf**	**02 01 44.0**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=48,slow=1.5,SNR=15							

*TEH **01** 01:57:30.8, 33°.72N×45°.60E, h12km, ML3.1*
*ISN **01** 01:57:30.7±1.0, 33°.72N×45°.66E, h0km±8km, ML3.4*
ISC 01 01:57:33.0±1.1, 33°.76N±0°.06×45°.69E±0°.06, h10km, n21, σ0°99/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.92**	**52**	*e*Pg		**Pg**	**01 57 50.3**	**-0.5**
IGHG				*e*			01 57 54.1	
IDHR	**Dehrash**	**1.10**	**31**	*e*Pg		**Pg**	**01 57 53.1**	**-1.0**
IDHR				*e*			01 58 14.1	
BHD	**Baghdad**	**1.20**	**246**	*e*Pg		**Pn**	**01 57 56.0**	**+0.2**
	baz=67							
BHD				*e*Sg		**Sn**	**01 58 14.0**	**+1.9**
BHD				AML		AML	01 58 17.4	
	comp=E,881nm,0.3s							
IVIS	**Veis**	**1.23**	**51**	*e*Pg		**Pn**	**01 57 55.8**	**-0.5**
IVIS				*e*			01 58 17.3	
KCHF	**Cheshme Sefid,**	**1.23**	**65**	*e*Pg		**Pb**	**01 57 56.0**	**-0.5**
KCHF				*e*			01 58 18.8	
KER	**Kermanshah**	**1.35**	**62**	*e*Pg		**Pg**	**01 57 59.2**	**+0.3**
ILIN	**Lien**	**1.56**	**42**	*e*Pg		**Pb**	**01 58 01.9**	**-0.2**
ILIN				*e*			01 58 26.0	
IKOM	**Komasi**	**1.57**	**74**	*e*Pg		**Pn**	**01 58 01.4**	**+0.4**
IKOM				*e*			01 58 27.1	
DHL1	**Dehloran**	**1.71**	**129**	*e*Pg		**Pn**	**01 58 03.3**	**+0.4**
SNGE	**Sanandaj**	**1.91**	**45**	*e*Pn		**Pn**	**01 58 04.9**	**-0.8**
IBZA	**Bozab**	**1.93**	**68**	*e*			01 58 10.3	
IBZA				*e*Pn		**Pb**	**01 58 07.8**	**-0.7**
IALM	**Almabolaq**	**2.32**	**61**	*e*Pn		**Pn**	**01 58 13.1**	**+1.6**
HSAM	**Samen**	**2.46**	**79**	*e*Pn		**Pn**	**01 58 13.8**	**+0.4**
HSAM				*e*			01 58 55.2	
HSRG	**Sareghieh**	**2.60**	**55**	*e*Pn		**Pn**	**01 58 17.3**	**+2.0**
HSRG				*e*			01 59 00.3	
BMDN	**Meydan**	**2.61**	**91**	*e*Pn		**Pn**	**01 58 16.1**	**+0.7**
BMDN				*e*			01 59 05.8	
NSR	**Nassriya**	**2.77**	**172**	*e*Pn		**Pn**	**01 58 17.0**	**-0.4**
NSR				*e*Sn		**Sn**	**01 58 50.0**	**-0.9**
HAGD	**Aghdareh**	**3.04**	**69**	*e*Pn		**Pn**	**01 58 22.8**	**+1.4**
HAGD				*e*			01 59 15.8	
KHMZ	**Khomeyn**	**3.56**	**89**	*e*Pn		**Pn**	**01 58 29.6**	**+1.2**
ASAO	**Ashtian**	**3.68**	**76**	*e*Pn		**Pn**	**01 58 30.8**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.75**	**58**	*e*Pn		**Pn**	**01 58 30.8**	**-0.3**
IRAZ	**Razeghan**	**3.86**	**64**	*e*Pn		**Pn**	**01 58 33.7**	**+1.1**

*CNRM **01** 02:17:40.9±0.5, 35°.11N×2°.67W, h11km±6km, Error ellipse: s-ma

2014 SEP

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.98±.13; $M_{\theta\theta}$1.38±.09; $M_{\phi\phi}$-0.40±.11; $M_{r\theta}$-1.26±.06; $M_{r\phi}$-2.19±.07; $M_{\theta\phi}$-1.16±.08; Best double couple: M_o3.03100×10^{16} NP1:ϕ_s342.00000°, δ59.00000°, λ-24.00000°. NP2: ϕ_s85.00000°, δ70.00000°, λ-147.00000°. Principal axes: T 2.9020, Plg7.0000°, Azm212.0000°; N 0.2610, Plg52.0000°, Azm113.0000°; P -3.1610, Plg38.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*KLM **01** 02:49:56.0, 19°.21N×121°.65E, h127km, mb5.1*

ISC 01 02:49:48.4±0.5, **19°.34N**±0°.02×**121°.78E**±0°.04, **h59**km±4km, **n500**, σ1$63/551, **mb4.9**/153, **MS3.9**/40, **31C-35D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.11**	**9**	*eP*	**Pn**	**02 50 07.4**	**-0.5**
BBP				*eS*	**Sn**	**02 50 22.7**	**+0.5**
SGCP	**Mt. Cagua**	**1.12**	**167**	*eP*	**Pn**	**02 50 09.4**	**+1.3**
SGCP				*eS*	**Sn**	**02 50 25.0**	**+2.3**
APYP	**Conner**	**1.56**	**199**	*eP*	**Pn**	**02 50 13.8**	**-0.1**
APYP				*eS*	**Sn**	**02 50 33.5**	**+0.5**
SIPP	**Brgy, Tapao**	**1.89**	**222**⇑	*eP*	**Pn**	**02 50 18.0**	**-0.3**
SIPP				*eS*	**Sn**	**02 50 49.2**	**+8.2**
ABRA	**Dolores**	**1.96**	**211**	*eP*	**Pn**	**02 50 18.3**	**-1.1**
CAUP	**Cauayan**	**2.39**	**179**	*eP*	**Pn**	**02 50 28.0**	**+2.8**
SMPP	**San Manuel, Pa**	**3.34**	**198**	*eP*	**Pn**	**02 50 38.7**	**+0.4**
SMPP				*eS*	**Sn**	**02 51 16.9**	**+0.2**
BOLP	**Bolinao**	**3.44**	**211**	*eP*	**Pn**	**02 50 39.3**	**-0.2**
BOLP				*eS*	**Sn**	**02 51 16.2**	**-2.9**
TWG	**Pinlang**	**3.52**	**349**		**Pn**	**02 50 38.3**	**-2.4**
BALP	**Baler**	**3.59**	**183**	*eP*	**Pn**	**02 50 42.6**	**+1.0**
BALP				*eS*	**Sn**	**02 51 25.5**	**+2.8**
YULB	**Yu-li**	**4.05**	**354**		**Pn**	**02 50 46.4**	**-1.6**
YULB				Sn	**Sn**	**02 51 33.8**	**-0.4**
TPUB	**Ta-pu**	**4.08**	**345**	Pn	**Pn**	**02 50 46.9**	**-1.5**
TPUB				Sn	**Sn**	**02 51 32.0**	**-2.8**
SSLB	**Suanglung**	**4.49**	**350**		**Pn**	**02 50 53.0**	**-0.9**
SSLB				Sn	**Sn**	**02 51 43.8**	**-1.1**
NACB	**Ninganchiao**	**4.81**	**358**		**Pn**	**02 50 57.5**	**-0.9**
NACB				Sn	**Sn**	**02 51 50.0**	**-2.8**
LQP	**Lukban**	**5.21**	**183**⇑	*eP*	**Pn**	**02 51 05.8**	**+1.8**
YOJ	**Yonaguni jima**	**5.22**	**12**	P	**Pn**	**02 51 04.5**	**+0.6**
YOJ	**Yonaguni jima**	**5.22**	**12**	Pn	**Pn**	**02 51 04.5**	**+0.6**
TGY	**Tagaytay City**	**5.27**	**189**	P	**Pn**	**02 51 07.5**	**+2.7**
	145nm,0.3s,baz=352,slow=5.7,SNR=13						
TGY				S	**Sn**	**02 52 08.7**	**+4.4**
	24nm,0.3s,baz=92,slow=4.3,SNR=4.2						
TGY				LR	LR	02 53 31.3	
	comp=Z,2μm,21.9s,baz=4.0,slow=42						
TGY	**Tagaytay City**	**5.27**	**189**⇑	*eP*	**Pn**	**02 51 07.2**	**+2.4**
YHNB	**Yeheng**	**5.31**	**356**		**Pn**	**02 51 05.2**	**0.0**
GQP	**Guinayangan**	**5.45**	**173**⇑	*eP*	**Pn**	**02 51 09.2**	**+2.2**
GQP				*eS*	**Sn**	**02 52 10.1**	**+1.7**
KNMB	**Chin-men Tao**	**5.99**	**329**	Pn	**Pn**	**02 51 12.1**	**-2.4**
QZH	**Quanzhou**	**6.30**	**333**	*i* P	**Pn**	**02 51 18.8**	**0.0**
QZH				S	**Sn**	**02 52 23.8**	**-5.6**
QZH				smax	smax		
	comp=N,160nm,0.7s						
QZH				smax	smax		
	comp=E,200nm,1.5s						
QZH				LR	LR		
	comp=N,570nm,9.9s						
QZH				LR	LR		
	comp=E,720nm,10.2s						
QZH				LR	LR		
	comp=Z,990nm,13.3s						
HKPS	**Hong Kong Po S**	**7.71**	**294**	Pn	**Pn**	**02 51 34.9**	**-3.2**
QIZ	**Qiongzhong**	**11.28**	**270**	P	**Pn**	**02 52 24.8**	**-2.1**
QIZ				S	**Sn**	**02 54 30.3**	**-1.2**
QIZ				LR	LR		
	comp=N,740nm,21.1s						
QIZ				LR	LR		
	comp=E,340nm,18.6s						
QIZ				LR	LR		
	comp=Z,490nm,25.0s						
QIZ	**Qiongzhong**	**11.28**	**270**	Pn	**Pn**	**02 52 22.4**	**-4.5**
KCP	**Kidapawan**	**12.68**	**165**⇓	*i* P	**Pn**	**02 52 49.6**	**+3.5**
DAV	**Davao City (W)**	**12.75**	**163**	LR	LR	02 58 08.8	
	comp=Z,953nm,21.2s,baz=338,slow=39						
NJ2	**Nanjing**	**12.93**	**349**	*eP*	**Pn**	**02 52 47.8**	**-1.5**
NJ2				S	**Sn**	**02 55 16.7**	**+5.3**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
NJ2				LR	LR		
	comp=N,580nm,20.6s						
NJ2				LR	LR		
	comp=E,630nm,17.2s						
NJ2				LR	LR		
	comp=Z,750nm,17.7s						
WHN	**Wuhan**	**13.02**	**330**	P	**Pn**	**02 52 51.8**	**+1.2**
WHN				pP	**P**	**02 53 01.8**	**+2.7**
WHN				S	**Sn**	**02 55 06.8**	**-7.0**
WHN				LR	LR		
	comp=N,1μm,9.6s						
WHN				LR	LR		
	comp=E,390nm,6.1s						
WHN				LR	LR		
	comp=Z,2μm,14.4s						
KKM	**Kota Kinabalu**	**14.29**	**203**	Pn	**Pn**	**02 53 08.4**	**+0.6**
MYLDM	**Lahad Datu**	**14.44**	**193**		**Pn**	**02 53 10.9**	**+1.2**
ENH	**Enshi**	**15.57**	**317**	Pn	**Pn**	**02 53 24.2**	**-0.1**
ENH				IAmb	IAmb	02 53 26.5	
	comp=Z,174nm,1.7s						
GYA	**Guiyang**	**15.61**	**300**	⇑P	**Pn**	**02 53 24.5**	**-0.5**
GYA				pP	P	02 53 33.9	+5.8
GYA				S	**Sn**	**02 56 14.7**	**-2.4**
GYA				SS	**SnSn**	**02 56 37.7**	**+7.1**
GYA				pmax	pmax		
	comp=Z,38nm,1.2s						
GYA				pmax	pmax		
	comp=Z,220nm,3.5s						
GYA				LR	LR		
	comp=Z,260nm,13.5s						
GYA				LR	LR		
	comp=Z,290nm,13.9s						
GYA				LR	LR		
	comp=Z,400nm,15.3s						
JNU	**Nakatsue**	**15.96**	**29**	P	**P**	**02 53 31.3**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=192,slow=7.0,SNR=32						
JNU				LR	LR	03 00 01.5	
	comp=Z,337nm,20.6s,baz=222,slow=38						
JNU	**Nakatsue**	**15.96**	**29**	Pn	**Pn**	**02 53 29.9**	**+0.7**
JNU				IAmb	IAmb	02 53 36.4	
	comp=Z,106nm,0.8s						
TIA	**Tai'an**	**17.30**	**347**	P	**P**	**02 53 47.3**	**+0.8**
TIA				S	**Sn**	**02 56 57.6**	**+0.1**
TIA				SS	**SnSn**	**02 57 12.2**	**+0.2**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TIA				pmax	pmax		
	comp=Z,140nm,3.5s						
TIA				LR	LR		
	comp=Z,340nm,16.4s						
TIA				LR	LR		
	comp=Z,210nm,12.1s						
TIA				LR	LR		
	comp=Z,670nm,19.2s						
TJN	**Taejon**	**17.67**	**15**	*ce*P	**P**	**02 53 51.7**	**+1.1**
KMI	**Kunming**	**18.53**	**292**⇓	*i* P	**Pn**	**02 54 01.6**	**+0.4**
KMI				pP	pP	02 54 12.1	-0.6
KMI				sP	sP	02 54 18.6	-1.3
KMI				S	**Sn**	**02 57 22.8**	**-5.0**
KMI				pmax	pmax		
	comp=Z,34nm,1.5s						
KMI				pmax	pmax		
	comp=Z,430nm,6.2s						
KMI				LR	LR		
	comp=Z,270nm,11.2s						
KMI				LR	LR		
	comp=Z,270nm,14.1s						
KMI				LR	LR		
	comp=Z,400nm,30.9s						
KMI	**Kunming**	**18.53**	**292**	P	**Pn**	**02 54 01.0**	**-0.2**
KMI				pmax	pmax		
	comp=Z,51nm,1.2s						
KMI	**Kunming**	**18.53**	**292**		**Pn**	**02 54 01.0**	**-0.2**
INCN	**Inchon**	**18.57**	**12**	P	**P**	**02 54 00.4**	**-0.1**
INCN				pmax	pmax		
	comp=Z,29nm,0.6s						
INCN	**Inchon**	**18.57**	**12**	P	**P**	**02 54 00.4**	**-0.1**
XAN	**Xi'an**	**18.58**	**325**	P	**Pn**	**02 54 01.4**	**-0.1**
XAN				pP	pP	02 54 11.8	-1.4
XAN				S	**Sn**	**02 57 26.6**	**-2.0**
XAN				pmax	pmax		
	comp=Z,23nm,1.9s						
XAN				pmax	pmax		
	comp=Z,540nm,5.8s						
XAN				LR	LR		
	comp=Z,610nm,22.1s						
XAN				LR	LR		
	comp=Z,450nm,17.6s						
XAN				LR	LR		
	comp=Z,950nm,15.8s						
XAN	**Xi'an**	**18.58**	**325**	P	**P**	**02 54 01.0**	**+0.3**
XAN				pmax	pmax		
	comp=Z,20nm,0.9s						
XAN	**Xi'an**	**18.58**	**325**		**P**	**02 54 01.0**	**+0.3**
GTOI	**Gorontalo**	**18.63**	**176**	P	**P**	**02 54 00.2**	**-1.2**
	comp=Z,323nmcomp=Z,30nm,0.9s						
KMSI	**Cibinong**	**18.78**	**173**	P	**P**	**02 54 03.2**	**+0.2**
	comp=Z,156nm,0.8s						
KSAR	**Wonju Array Be**	**18.81**	**15**	P	**Pn**	**02 54 03.6**	**-0.6**
KSAR	**Wonju Array Be**	**18.81**	**15**	P	**Pn**	**02 54 03.6**	**-0.6**
KSRS	**Korea Array**	**18.83**	**15**	P	**Pn**	**02 54 04.2**	**-0.2**
	comp=Z,2.8nm,0.3s,baz=197,slow=11,SNR=28						
KSRS				S	**S**	**02 57 32.5**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=198,slow=23,SNR=6.8						
KSRS				LR	LR	03 02 33.2	
	comp=Z,244nm,18.3s,baz=202,slow=40						
KS19	**Wonju Array Si**	**18.86**	**15**	P	**Pn**	**02 54 04.2**	**-0.6**
MPSI	**Mapaga**	**18.98**	**186**	P	**Pn**	**02 54 06.8**	**+0.4**
	comp=Z,644nmcomp=Z,13nm,0.6s						
SBUM	**Sibu**	**19.22**	**210**	P	**P**	**02 54 07.7**	**-0.1**
SBUM	**Sibu**	**19.22**	**210**	P	**Pn**	**02 54 10.0**	**+0.8**
DL2	**Dalian**	**19.50**	**360**	P	**Pn**	**02 54 13.0**	**+0.7**
DL2				pP	**pP**	**02 54 25.4**	**+2.3**
DL2				S	**S**	**02 57 48.7**	**+1.0**
DL2				pmax	pmax		
	comp=Z,24nm,0.6s						
DL2				pmax	pmax		
	comp=Z,83nm,5.3s						
DL2				LR	LR		
	comp=Z,230nm,16.5s						
DL2				LR	LR		
	comp=Z,370nm,20.0s						
DL2				LR	LR		
	comp=Z,300nm,14.3s						
CD2	**Chengdu**	**19.94**	**309**	P	**P**	**02 54 16.3**	**+0.7**
CD2				PP	**sP**	**02 54 37.2**	**+1.5**
CD2				S	**S**	**02 57 52.0**	**-4.8**
CD2				pmax	pmax		
	comp=Z,140nm,1.1s						
CD2				pmax	pmax		
	comp=Z,320nm,5.8s						
CD2				LR	LR		
	comp=Z,570nm,20.6s						
CD2				LR	LR		
	comp=Z,580nm,18.9s						
CD2				LR	LR		
	comp=Z,680nm,15.3s						
SMKI	**Samarinda**	**20.17**	**193**	P	Pn	02 54 20.8	+0.3
	comp=Z,15μmcomp=Z,190nm,0.4s						
JCJ	**Chichijima**	**20.26**	**64**	P	**P**	**02 54 19.6**	**+0.4**
	comp=Z,23nm,0.7s,baz=299,slow=19,SNR=2.1						
JCJ	**Chichijima**	**20.26**	**64**	P	**P**	**02 54 19.3**	**+0.2**
JCJ				IAmb	IAmb	02 54 56.2	
	comp=Z,65nm,0.9s						
LUWI	**Luwuk**	**20.28**	**177**	P	**P**	**02 54 18.2**	**-1.2**
	comp=Z,127nm,0.8s						
LUWI	**Luwuk**	**20.28**	**177**	P	**P**	**02 54 19.3**	**0.0**
KSM	**Kuching**	**21.01**	**214**	P	**P**	**02 54 26.4**	**-0.9**
KSM				IAmb	IAmb	02 54 32.7	
	comp=Z,79nm,1.0s						
KSM	**Kuching**	**21.01**	**214**	P	**P**	**02 54 31.0**	**+3.7**
BJT	**Baijiatuau**	**21.16**	**348**	P	**P**	**02 54 28.1**	**-0.6**
BJT				pmax	pmax		
	comp=Z,27nm,0.6s						
BJT	**Baijiatuau**	**21.16**	**348**	P	**P**	**02 54 28.1**	**-0.6**
BJT				IAmb	IAmb	02 54 34.5	
	comp=Z,27nm,0.6s						
BJI	**Beijing**	**21.18**	**348**	P	**P**	**02 54 29.0**	**+0.1**
BJI				S	**S**	**02 58 20.7**	**-0.5**
BJI				pmax	pmax		
	comp=Z,24nm,0.6s						
BJI				pmax	pmax		
	comp=Z,110nm,3.5s						
BJI				LR	LR		
	comp=Z,270nm,20.4s						
BJI				LR	LR		
	comp=Z,260nm,20.8s						
BJI				LR	LR		
	comp=Z,420nm,24.6s						
MTKI	**Muara Teweh, K**	**21.26**	**199**	P	**P**	**02 54 30.3**	**+0.4**
	comp=Z,71nm,0.8s						
CHTO	**Chiang Mai**	**21.58**	**272**	P	**P**	**02 54 32.8**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,66nm,1.1s						
CHTO	**Chiang Mai**	**21.58**	**272**	P	**P**	**02 54 32.8**	**-0.6**
CHTO				IAmb	IAmb	02 54 36.3	
	comp=Z,66nm,1.1s						
CM31	**Chiang Mai Arr**	**21.62**	**271**	P	**P**	**02 54 33.8**	**+0.1**
CM31				IAmb	IAmb	02 54 36.9	
	comp=Z,86nm,1.4s						
CMAR	**Chiang Mai Arr**	**21.62**	**271**	P	**P**	**02 54 34.5**	**+0.7**
	comp=Z,18nm,1.0s,baz=73,slow=8.7,SNR=61						
CMAR				ScP	**ScP**	**03 02 03.7**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=149,slow=1.9,SNR=4.3						
CMAR				LR	LR	03 03 18.1	
	comp=Z,112nm,19.1s,baz=129,slow=37						
CMAR	**Chiang Mai Arr**	**21.62**	**271**	P	**P**	**02 54 33.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**21.62**	**271**	P	**P**	**02 54 33.3**	**-0.5**
MAJO	**Matsushiro**	**22.40**	**37**	*i* P	**P**	**02 54 42.7**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,17nm,0.9s						
MAJO	**Matsushiro**	**22.40**	**37**	P	**P**	**02 54 41.8**	**-0.3**
MAT	**Matsushiro**	**22.40**	**37**	P	**P**	**02 54 42.7**	**+0.7**
MAT				S	**S**	**02 58 46.4**	**+2.1**
MJAR	**Matsushiro Arr**	**22.40**	**37**	P	**P**	**02 54 43.3**	**+1.2**
	comp=Z,12nm,0.8s,baz=225,slow=9.7,SNR=22						
MJAR	**Matsushiro Arr**	**22.40**	**37**	P	**P**	**02 54 42.3**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	**22.40**	**37**	P	**P**	**02 54 42.3**	**+0.3**
LZH	**Lanzhou**	**22.96**	**320**	*eP*	**P**	**02 54 48.7**	**+0.6**
LZH				pP	pwP	02 55 03.0	+1.9
LZH				S	**S**	**02 58 58.5**	**+4.5**
LZH				pmax	pmax		
	comp=Z,88nm,1.4s						
LZH				pmax	pmax		
	comp=Z,510nm,4.9s						
LZH				LR	LR		
	comp=Z,550nm,12.5s						
LZH				LR	LR		
	comp=Z,690nm,15.2s						
LZH				LR	LR		
	comp=Z,980nm,16.3s						
HHC	**Hu-ho-hao-te**	**23.15**	**340**⇑	*i* P	**P**	**02 54 50.6**	**+0.8**
HHC				S	**S**	**02 58 53.4**	**-3.5**
HHC				sS	Sn	02 59 14.6	-3.6
HHC				pmax	pmax		
	comp=Z,56nm,1.0s						
HHC				pmax	pmax		
	comp=Z,260nm,5.4s						
HHC				LR	LR		
	comp=Z,500nm,18.6s						
HHC				LR	LR		
	comp=Z,280nm,16.9s						
HHC				LR	LR		
	comp=Z,680nm,19.0s						
KBKI	**Kotabaru**	**23.17**	**194**	P	**P**	**02 54 50.1**	**0.0**
	comp=Z,1μmcomp=Z,28nm,1.1s						
SPSI	**Sidrap Palu**	**23.25**	**185**	P	**P**	**02 54 52.0**	**+1.2**
	comp=Z,53nm,0.9s						
BTO	**Baotou**	**23.47**	**337**	*eP*	**P**	**02 54 54.2**	**+1.4**
BNSI	**Bone**	**23.65**	**184**	P	**P**	**02 54 53.2**	**-1.4**
	comp=Z,32nm,1.4s						
BBKI	**Banjar Baru**	**23.67**	**197**	P	**P**	**02 54 54.9**	**+0.1**
	comp=Z,5μmcomp=Z,107nm,0.9s						
KAPI	**Kappang**	**24.29**	**185**	P	**P**	**02 55 00.2**	**-0.1**
	comp=Z,40nm,0.7s,baz=7.2,slow=7.3,SNR=20						
KAPI	**Kappang**	**24.29**	**185**	P	**P**	**02 55 00.3**	**-0.1**
KAPI				pmax	pmax		
	comp=Z,42nm,0.8s						
KAPI	**Kappang**	**24.29**	**185**	P	**P**	**02 55 00.3**	**-0.1**
KAPI				IAmb	IAmb	02 55 01.9	
	comp=Z,42nm,0.8s						
FAKI	**Fak Fak**	**24.40**	**154**	P	**P**	**02 55 02.4**	**+1.0**

*BJI **01** 02:49:46.3±0.0, 19°.39N×121°.66E, h41km, mB4.8/54, mb4.7/70, ML4.5/4, Ms4.1/69, Ms7 4.0/66*

*MOS **01** 02:49:47.9±0.9, 19°.32N×121°.81E, h73km, mb5.2/72, Error ellipse: s-maj=6.7km s-min=3.9km az=115.0*

*MAN **01** 02:49:47.9, 19°.38N×121°.58E, h48km, MS5.2*

MAN Intensity III - Santa Ana Cagayan.

*NEIC **01** 02:49:48.4±1.5, 19°.40N±0°.05×121°.69E±0°.08, h57km±6km, mb5.0/109, Error ellipse: s-maj=11.3km s-min=7.8km az=91.0*

*IDC **01** 02:49:49.8±1.4, 19°.30N×121°.82E, h75km±12km, mb4.4/30, mb1 4.5/33, mb1mx4.4/48, mbtmp4.8/33, MS3.9/28, Ms1 3.9/28, ms1mx3.7/44, Error ellipse: s-maj=12.4km s-min=9.4km az=86.0*

*GCMT **01** 02:49:49.4±0.2, 19°.38N±0°.01×121°.48E±0°.02, h65km±2km, MW4.9/89, Moment Tensor Solution. s34,c41; s89,c137;*

FAKI IAmb IAmb 02 55 20.5
comp=Z,55nm,1.2s
CN2 Changchun 24.58 6 *e*P **P 02 55 02.8 0.0**
CN2 *e*S **S 02 59 20.6 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
MYKOM Kota Tinggi 24.74 227 P **P 02 55 04.3 -0.2**
KULM Kulim 24.87 239 P **P 02 55 05.2 -0.6**
KULM Kulim 24.87 239 P **P 02 55 06.0 +0.2**
IPM Ipoh 25.06 237 P **P 02 55 06.8 -0.7**
IPM IAmb IAmb 02 55 08.7
comp=Z,29nm,0.8s
DSRI Dabo 25.94 223 P **P 02 55 16.2 +0.8**
TPI Tanjungpandan 25.98 214 P **P 02 55 15.4 -0.4**
comp=Z,901nmcomp=Z,27nm,0.9s
MDJ Mudanjiang 26.03 13 P **P 02 55 18.7 +2.7**
MDJ pmax pmax
comp=Z,19nm,0.7s
MDJ pmax pmax
comp=Z,80nm,6.5s
MDJ LR LR
comp=Z,200nm,19.2s
MDJ LR LR
comp=Z,270nm,22.9s
MDJ LR LR
comp=Z,410nm,14.0s
MDJ Mudanjiang 26.03 13 P **P 02 55 16.2 +0.3**
USA0B Ussuriysk Arra 26.22 17 P **P 02 55 17.2 -0.5**
USA0B pmax pmax
comp=Z,12nm,0.7s
USA0B Ussuriysk Arra 26.22 17 P **P 02 55 17.2 -0.5**
USRK Ussuriysk Ar. 26.22 17 P **P 02 55 17.3 -0.3**
comp=Z,14nm,0.8s,baz=207,slow=9.4,SNR=27
USRK LR LR 03 04 57.6
comp=Z,237nm,21.9s,baz=201,slow=35
USRK Ussuriysk Ar. 26.22 17 P **P 02 55 17.6 0.0**
USRK Ussuriysk Ar. 26.22 17 P **P 02 55 17.6 0.0**
ZIRO ZIRO 26.84 293 *e*P **P 02 55 22.4 -1.3**
SAIH SAIHA 27.05 282 *e*P **P 02 55 24.5 -1.1**
GTA Gaotai 27.55 321 P **P 02 55 30.9 +1.0**
GTA pP pP 02 55 45.2 +1.1
GTA S **S 03 00 03.6 -3.4**
GTA sS sS 03 00 24.6 -6.6
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,94nm,5.9s
GTA LR LR
comp=Z,180nm,14.3s
GTA LR LR
comp=Z,210nm,14.3s
GTA LR LR
comp=Z,290nm,16.8s
PSI Prapat 27.74 236 P **P 02 55 31.6 -0.2**
PSI pmax pmax
comp=Z,29nm,1.6s
RPSI Rantau Prapat 27.80 236 P **P 02 55 31.6 -0.6**
EDFI Ende, Flores 27.92 180 P **P 02 55 31.9 -1.4**
comp=Z,433nmcomp=Z,59nm,0.8s
SHL Shillong 28.27 288 *e*P **P 02 55 36.3 -0.3**
SHL IAmb IAmb 02 55 47.0
comp=Z,12nm,1.0s
SHL Shillong 28.27 288 P **P 02 55 35.8 -0.7**
SHL pmax pmax
comp=Z,23nm,0.8s
SHL Shillong 28.27 288 P **P 02 55 35.8 -0.7**
SHL IAmb IAmb 02 55 38.2
comp=Z,23nm,0.8s
SMRI Semarang 28.50 204 P **P 02 55 39.1 +0.6**
ERM Erimo 28.98 34 *i* P **P 02 55 43.2 +0.8**
ERM pmax pmax
comp=Z,24nm,0.8s
SOEI Soe 29.02 175 P **P 02 55 42.9 -0.2**
SOEI IAmb IAmb 02 55 58.9
comp=Z,29nm,0.9s
KLSI 29.19 217 P **P 02 55 44.9 +0.4**
comp=Z,9.3nm,1.2s
MDSI Maura Dua 29.34 218 P **P 02 55 46.7 +0.9**
comp=Z,622nmcomp=Z,12nm,1.0s
BATI Baumata 29.42 176 P **P 02 55 46.5 -0.1**
comp=Z,34nm,0.4s,baz=70,slow=2.0,SNR=4.2
BATI LR LR 03 09 05.5
comp=Z,91nm,21.2s,baz=184,slow=39
BATI Baumata 29.42 176 P **P 02 55 46.7 +0.1**
comp=Z,700nmcomp=Z,35nm,0.7s
LEM Lembang 29.51 210 LR LR 03 08 01.6
comp=Z,132nm,18.8s,baz=122,slow=37
LSA Lhasa 29.63 296 P **P 02 55 49.0 +0.1**
LSA pmax pmax
comp=Z,12nm,1.0s
LSA Lhasa 29.63 296 P **P 02 55 49.0 +0.1**
HIA Hailar 29.90 357 P **P 02 55 51.4 +0.9**
HIA pmax pmax
comp=Z,18nm,1.2s
HIA Hailar 29.90 357 P **P 02 55 51.4 +0.9**
ASAJ Asahikawa 30.22 31 P **P 02 55 54.7 +1.3**
comp=Z,3.8nm,0.4s,baz=240,slow=15,SNR=9.5
ASAJ Asahikawa 30.22 31 P **P 02 55 54.1 +0.7**
ASAJ pmax pmax
comp=Z,34nm,0.6s
JKA Kamikawa-asahi 30.22 31 P **P 02 55 54.1 +0.7**
ULN Ulaanbaatar 30.87 341 *ce*P **P 02 55 58.9 -0.3**
ULN pmax pmax
comp=Z,36nm,1.7s
ULN Ulaanbaatar 30.87 341 P **P 02 55 59.2 0.0**
KLR Kul'dur 30.88 13 *ce*P **P 02 55 58.8 -0.3**
KLR pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 31.05 340 P **P 02 56 01.3 +0.5**
comp=Z,5.1nm,0.6s,baz=160,slow=9.7,SNR=44
SONM PcP **PcP 02 58 55.4 0.0**
comp=Z,0.4nm,0.3s,baz=152,slow=4.3,SNR=2.4
SONM ScP **ScP 03 02 31.9 -1.3**
comp=Z,0.9nm,0.8s,baz=132,slow=2.1,SNR=1.8
SONM LR LR 03 09 36.6
comp=Z,615nm,20.5s,baz=154,slow=38
SONM Songino Array 31.05 340 P **P 02 56 00.7 -0.1**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 31.05 340 P **P 02 56 00.7 -0.1**
TAPN Taplejung 32.20 291 *e*P **P 02 56 11.8 +0.4**
TAPN Taplejung 32.20 291 *e*P **P 02 56 11.8 +0.4**
ODAN Odare 32.43 290 *e*P **P 02 56 13.4 +0.1**
ODAN Odare 32.43 290 *e*P **P 02 56 13.4 +0.1**
YSS Yuzh-Sakhalins 32.45 27⇑ *e*P **P 02 56 14.5 +1.5**
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,100nm,18.0s
YSS Yuzh-Sakhalins 32.45 27 P **P 02 56 13.4 +0.4**
YSS IAmb IAmb 02 56 33.2
comp=Z,51nm,1.3s
RAMN Ramite 33.14 290 *e*P **P 02 56 19.1 -0.4**
comp=Z,99nm,0.6s
RAMN Ramite 33.14 290 *e*P **P 02 56 19.1 -0.4**
comp=Z,99nm,0.6s
JIRN Jiri 33.57 291 *e*P **P 02 56 23.9 +0.4**
JIRN Jiri 33.57 291 *e*P **P 02 56 23.9 +0.4**
BOK Bokaro 33.61 284 *e*P **P 02 56 23.4 0.0**
BOK IAmb IAmb 02 56 24.7
comp=Z,25nm,1.2s
GUN Gumba 33.88 291 *e*P **P 02 56 26.4 +0.3**
comp=Z,172nm,0.8s
GUN Gumba 33.88 291 *e*P **P 02 56 26.4 +0.3**
comp=Z,172nm,0.8s
PKI Pulchoki 34.25 291 *e*P **P 02 56 29.0 -0.3**
comp=Z,88nm,1.1s
PKI Pulchoki 34.25 291 *e*P **P 02 56 29.0 -0.3**
comp=Z,88nm,1.1s
ZAK Zakamensk 34.29 339 *e*P **P 02 56 29.3 +0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
KKN Kakani 34.39 291 *e*P **P 02 56 30.3 -0.1**
comp=Z,91nm,0.9s
KKN Kakani 34.39 291 *e*P **P 02 56 30.3 -0.1**
comp=Z,91nm,0.9s
DMN Daman 34.52 291 *e*P **P 02 56 31.5 -0.1**
comp=Z,150nm,1.2s
DMN Daman 34.52 291 *e*P **P 02 56 31.5 -0.1**
comp=Z,150nm,1.2s
ZEA Zeya 34.59 6 *e*P **P 02 56 30.5 -1.0**
ZEA pmax pmax
comp=Z,29nm,1.0s
GKN Gorkha 34.98 291 *e*P **P 02 56 35.0 -0.4**
comp=Z,187nm,1.1s
GKN Gorkha 34.98 291 *e*P **P 02 56 35.0 -0.4**
comp=Z,187nm,1.1s
TLY Talaya 35.28 340 *e*P **P 02 56 38.4 +0.9**
TLY *e* 02 58 15.7
TLY pmax pmax
comp=Z,25nm,0.9s
TLY MLR MLR
comp=Z,1μm,27.0s
TLY Talaya 35.28 340 P **P 02 56 37.1 -0.4**
TLY IAmb IAmb 02 56 43.7
comp=Z,14nm,0.9s
KOLN Koldanda 35.87 291 *e*P **P 02 56 43.0 -0.1**
comp=Z,129nm,0.9s
KOLN Koldanda 35.87 291 *e*P **P 02 56 43.0 -0.1**
comp=Z,129nm,0.9s
MOY Mondy 36.16 338 *e*P **P 02 56 46.4 +1.3**
MOY pmax pmax
comp=Z,54nm,2.0s
PYUN Piuthan 36.44 291 *e*P **P 02 56 48.1 +0.2**
comp=Z,77nm,0.6s
PYUN Piuthan 36.44 291 *e*P **P 02 56 48.1 +0.2**
comp=Z,77nm,0.6s
FITZ Fitzroy Crossi 37.40 174 LR LR 03 13 07.2
comp=Z,39nm,19.5s,baz=348,slow=37
FITZ Fitzroy Crossi 37.40 174 P **P 02 56 55.1 -0.7**
WMQ Urumqi 37.51 318 *e*P **P 02 56 55.9 -0.8**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,67nm,5.1s
WMQ LR LR
comp=Z,180nm,16.1s
WMQ LR LR
comp=Z,91nm,17.3s
WMQ LR LR
comp=Z,80nm,18.1s
PSA00 Pilbara Seismi 40.71 183 P **P 02 57 22.1 -1.3**
PSA00 IAmb IAmb 02 57 23.4
comp=Z,33nm,1.1s
DGZ Jazzator, Alta 40.83 326 *d i*P **P 02 57 23.6 -0.8**
DGZ pmax pmax
comp=Z,23nm,0.9s
WRAB Tennant Creek 40.93 162 *ce*P **P 02 57 23.4 -1.9**
WRAB pmax pmax
comp=Z,20nm,1.7s
WRA Warramunga Arr 40.94 162 P **P 02 57 23.3 -2.1**
comp=Z,8.6nm,0.9s,baz=343,slow=9.1,SNR=42
WRA PcP **PcP 02 59 24.6 -0.3**
comp=Z,1.4nm,0.7s,baz=344,slow=3.2,SNR=2.7
WRA ScP **ScP 03 03 07.7 -2.0**
comp=Z,1.9nm,0.9s,baz=344,slow=4.1,SNR=6.9
WRA S **S 03 03 25.1 -8.1**
comp=Z,1.7nm,0.8s,baz=342,slow=15,SNR=5.6
WB2 Warramunga Arr 40.94 162 P **P 02 57 23.4 -2.0**
WR0 Warramunga Arr 41.02 162 P **P 02 57 24.5 -1.5**
ZSN Zaisan 41.04 322 *e*P **P 02 57 26.9 +0.9**
comp=Z,11nm,0.9s,baz=321
ZSN *i* S **S 03 03 41.0 +6.7**
baz=321
ZSN Zaisan 41.04 322 *e*P **P 02 57 26.9 +0.9**
ZSN pmax pmax
comp=Z,11nm,0.9s
SKR Severo-Kuril's 41.41 33 *e*P **P 02 57 28.0 -0.9**
SKR *e*S **S 03 03 40.9 +1.4**
SKR pmax pmax
comp=Z,26nm,0.9s
SKR MLR MLR
comp=Z,100nm,17.0s
PALK Pallekele 41.62 259 P **P 02 57 31.3 +0.2**
comp=Z,7.8nm,0.7s,baz=182,slow=9.0,SNR=4.9
PALK Pallekele 41.62 259 P **P 02 57 30.9 -0.3**
PALK pmax pmax
comp=Z,75nm,1.5s
PALK Pallekele 41.62 259 P **P 02 57 30.9 -0.3**
PALK IAmb IAmb 02 57 45.6
comp=Z,75nm,1.5s
SMLA Simla 41.77 295 *e*P **P 02 57 32.1 0.0**
SMLA IAmb IAmb 02 57 35.2
comp=Z,28nm,0.5s
SMLA *i* x x 02 57 43.0
MK31 Makanchi Array 42.27 319 *i* P **P 02 57 36.7 +0.6**
MK31 Makanchi Array 42.27 319 P **P 02 57 36.6 +0.6**
MK31 IAmb IAmb 02 57 38.1
comp=Z,29nm,0.9s
MKAR Makanchi Array 42.27 319 P **P 02 57 36.9 +0.7**
comp=Z,34nm,0.9s,baz=110,slow=10,SNR=152
MKAR PcP **PcP 02 59 29.1 +0.1**
comp=Z,5.9nm,0.8s,baz=108,slow=4.7,SNR=4.0
MKAR ScP **ScP 03 03 12.3 -2.4**
comp=Z,0.4nm,0.8s,baz=132,slow=2.1,SNR=2.1
MKAR LR LR 03 16 50.9
comp=Z,137nm,18.4s,baz=114,slow=38
MKAR Makanchi Array 42.27 319 P **P 02 57 36.4 +0.3**
MKAR 02 59 28.9
MKAR Makanchi Array 42.27 319 P **P 02 57 36.4 +0.3**
MKAR **PcP 02 59 28.9 -0.1**
H11S3 WAKE ISLAND Hy 42.40 83 T T 03 43 18.5
baz=279,slow=75,SNR=144
H11S1 WAKE ISLAND Hy 42.41 83 T T 03 43 28.7
baz=279,slow=75,SNR=144
H11S2 WAKE ISLAND Hy 42.42 83 T T 03 43 05.0
baz=279,slow=75,SNR=108
H11N1 WAKE ISLAND Hy 42.42 82 T T 03 43 21.3
baz=277,slow=75,SNR=519
H11N2 WAKE ISLAND Hy 42.43 82 T T 03 43 21.0
baz=277,slow=75,SNR=287
H11N3 WAKE ISLAND Hy 42.44 82 T T 03 43 22.5
baz=277,slow=75,SNR=284
MAKZ Makanchi 42.47 319 P **P 02 57 38.5 +0.8**
MAKZ pmax pmax
comp=Z,35nm,1.1s
MAKZ Makanchi 42.47 319 P **P 02 57 38.5 +0.8**
MAKZ IAmb IAmb 02 57 39.8
comp=Z,35nm,1.1s
DHRM DHARAMSHALA 42.62 297 *e*P **P 02 57 38.8 -0.6**
SHLS Shalkode 42.66 313 *e*P **P 02 57 38.4 -1.1**
comp=Z,30nm,1.5s,baz=313
SHLS Shalkode 42.66 313 *e*P **P 02 57 38.3 -1.1**
SHLS pmax pmax
comp=Z,30nm,1.5s
PDGK Podgornoye 42.70 314 P **P 02 57 40.2 +0.4**
UZB Uzynbulak 42.96 313 ⇓ *i*P **P 02 57 43.1 +1.1**
comp=Z,30nm,1.6s,baz=313
UZB *e*S **S 03 04 09.4 +6.4**
baz=313
UZB *i* S **S 03 04 09.5 +6.5**
baz=313
UZB Uzynbulak 42.96 313 *d i*P **P 02 57 43.0 +1.1**
UZB *e*S **S 03 04 09.4 +6.4**
UZB pmax pmax
comp=Z,30nm,1.6s
YAK Yakutsk 43.00 5 P **P 02 57 41.5 -0.2**
YAK pmax pmax
comp=Z,30nm,0.5s
YAK Yakutsk 43.00 5 P **P 02 57 41.5 -0.2**
KPKS Kokpek 43.30 314 ⇓ *i*P **P 02 57 45.5 +0.9**
comp=Z,26nm,1.2s,baz=313
KPKS Kokpek 43.30 314 *d i*P **P 02 57 45.5 +0.9**
KPKS pmax pmax
comp=Z,26nm,1.2s
SATY Saty 43.36 313 ⇓ *i*P **P 02 57 46.4 +1.3**
comp=Z,20nm,1.3s,baz=313
SATY Saty 43.36 313 *d i*P **P 02 57 46.4 +1.3**
SATY pmax pmax
comp=Z,20nm,1.3s
PEA0B Petropavlovsk- 43.64 31 P **P 02 57 47.2 +0.2**
PEA0B pmax pmax
comp=Z,14nm,0.9s
PEA0B Petropavlovsk- 43.64 31 P **P 02 57 47.2 +0.2**
PEA0B IAmb IAmb 02 57 54.2
comp=Z,14nm,0.8s
PETK Petropavlovsk- 43.64 31 P **P 02 57 47.5 +0.5**
comp=Z,9.3nm,0.7s,baz=223,slow=5.2,SNR=16
PETK Petropavlovsk- 43.64 31 P **P 02 57 46.7 -0.3**
PETK Petropavlovsk- 43.64 31 P **P 02 57 46.7 -0.3**
KDJ Kajisay 43.93 311 P **P 02 57 48.9 -0.8**
KDJ pmax pmax
comp=Z,26nm,1.0s
KDJ Kajisay 43.93 311 P **P 02 57 48.9 -0.8**
KDJ IAmb IAmb 02 57 52.4
comp=Z,26nm,1.0s
TDK Taldyqorghan 44.03 315 *e*P **P 02 57 51.5 +1.2**
comp=Z,47nm,1.1s,baz=315
TDK LR LR 03 15 26.8
comp=Z,95nm,15.9s,baz=315
TDK Taldyqorghan 44.03 315 *e*P **P 02 57 51.4 +1.2**
TDK pmax pmax
comp=Z,47nm,1.1s
TDK MLR MLR
comp=Z,95nm,16.0s
KSH Kashi 44.12 307 P **P 02 57 54.7 +3.4**
KSH S **S 03 04 22.0 +2.0**
KSH pmax pmax
comp=Z,46nm,1.0s
MDOK Medeo 44.33 313 *i* P **P 02 57 54.3 +1.4**
baz=312
MDOK *i* S **S 03 04 29.7 +6.7**
baz=312
MDOK LR LR 03 14 52.1
comp=Z,85nm,17.4s,baz=312
MDOK Medeo 44.33 313 *i* P **P 02 57 54.3 +1.4**
MDOK MLR MLR
comp=Z,85nm,17.0s
AS31 Alice Springs 44.35 164 P **P 02 57 51.9 -1.2**
ASAR Alice Springs 44.36 164 P **P 02 57 52.0 -1.1**
comp=Z,7.6nm,0.8s,baz=349,slow=7.1,SNR=47
ASAR ScP **ScP 03 03 21.2 -2.2**
comp=Z,2.4nm,0.9s,baz=349,slow=4.6,SNR=9.0
ASAR S **S 03 04 18.2 -5.2**
comp=Z,1.7nm,0.9s,baz=353,slow=20,SNR=7.5
ASAR LR LR 03 19 05.9
comp=Z,45nm,18.8s,baz=11,slow=40
ASAR Alice Springs 44.36 164 P **P 02 57 51.9 -1.1**
ASAR **ScP 03 03 22.6 -0.8**
TNSS Tian-Shan 44.37 312 *e*P **P 02 57 55.3 +1.8**
baz=312
TNSS Tian-Shan 44.37 312 *e*P **P 02 57 55.2 +1.8**
AAA Alma-Ata 44.44 313 ⇓ *i*P **P 02 57 55.2 +1.6**
comp=Z,13nm,0.8s,baz=312
AAA Alma-Ata 44.44 313 *d i*P **P 02 57 55.2 +1.6**
AAA pmax pmax
comp=Z,13nm,0.8s
CHKK Chushkaly 44.59 313 ⇓ *e*P **P 02 57 55.3 +0.4**
baz=313
CHKK Chushkaly 44.59 313 ⇓ *e*P **P 02 57 55.2 +0.4**
ULHL Ulahol 44.63 311 P **P 02 57 56.9 +1.5**
SNR=36
ZAA0 Zalesovo Array 44.64 330 P **P 02 57 54.9 -0.1**
ZAA0 IAmb IAmb 02 57 56.1
comp=Z,37nm,0.8s
ZALV Zalesovo Beam 44.64 330 P **P 02 57 55.1 +0.2**
comp=Z,32nm,0.7s,baz=117,slow=7.5,SNR=77
ZALV LR LR 03 17 30.4
comp=Z,97nm,19.4s,baz=122,slow=37
ZALV Zalesovo Beam 44.64 330 P **P 02 57 54.8 -0.2**
ZALV Zalesovo Beam 44.64 330 P **P 02 57 54.8 -0.2**
MTBS Maitube 44.76 312 *e*P **P 02 57 57.3 +1.0**
baz=312
MTBS Maitube 44.76 312 *e*P **P 02 57 57.2 +1.0**
KUU Kurty 45.05 313 ⇓ *i*P **P 02 57 59.6 +1.1**
comp=Z,64nm,1.2s,baz=313
KUU Kurty 45.05 313 *d i*P **P 02 57 59.5 +1.1**
KUU pmax pmax
comp=Z,63nm,1.2s
TKM2 Tokmak 2 45.28 312 P **P 02 58 01.7 +1.2**
SNR=26
TKM2 Tokmak 2 45.28 312 P **P 02 58 01.4 +0.9**
KZA Kyzart 45.29 311 P **P 02 58 02.9 +2.1**
SNR=41
NIL Nilore 45.31 298 P **P 02 58 00.3 -0.4**
NIL pmax pmax
comp=Z,71nm,0.9s
NIL Nilore 45.31 298 P **P 02 58 00.2 -0.4**
KBK Karagaybulak 45.66 311 P **P 02 58 05.2 +1.7**
SNR=15
UCH Uchtor 45.86 311 P **P 02 58 07.4 +2.0**
SNR=77
CHMS Chumysh 45.90 312 P **P 02 58 06.2 +1.0**
SNR=14
FRU1 Bishkek 45.93 311 P **P 02 58 06.0 +0.5**
FRU1 pmax pmax
comp=Z,58nm,0.5s
FRU1 Bishkek 45.93 311 P **P 02 58 06.0 +0.5**
AAK Ala-Archa 45.98 311 P **P 02 58 07.4 +1.4**
comp=Z,7.6nm,0.7s,baz=105,slow=5.8,SNR=20
AAK PcP **PcP 02 59 42.4 +0.4**
comp=Z,2.9nm,0.5s,baz=196,slow=4.6,SNR=2.4
AAK Ala-Archa 45.98 311 P **P 02 58 07.4 +1.4**
SNR=6.3
AAK Ala-Archa 45.98 311 P **P 02 58 06.2 +0.2**
AAK pmax pmax
comp=Z,14nm,1.0s
AAK Ala-Archa 45.98 311 P **P 02 58 06.2 +0.2**
AAK IAmb IAmb 02 58 08.5
comp=Z,14nm,0.9s
SGDS Sogindy 46.10 312 ⇓ *i*P **P 02 58 07.6 +0.7**
comp=Z,18nm,1.6s,baz=312
SGDS Sogindy 46.10 312 *d i*P **P 02 58 07.6 +0.7**
SGDS pmax pmax
comp=Z,18nm,1.6s
USP Ospenovka 46.15 312 P **P 02 58 08.2 +1.0**
SNR=15
KURK Kurchatov 46.21 323 P **P 02 58 07.6 +0.2**
KURK pmax pmax
comp=Z,81nm,1.4s
KURK Kurchatov 46.21 323 P **P 02 58 07.6 +0.2**
AML Almayashu 46.43 310 P **P 02 58 11.6 +1.8**
SNR=59
EKS2 Erkin-Say 46.50 311 P **P 02 58 11.5 +1.5**
SNR=10
BTLS Baital 46.96 314 ⇓ *i*P **P 02 58 14.0 +0.6**
comp=Z,16nm,1.2s,baz=314
BTLS Baital 46.96 314 *d i*P **P 02 58 14.0 +0.6**
BTLS pmax pmax
comp=Z,16nm,1.2s
BTK Batken 48.12 307 P **P 02 58 23.1 +0.5**
BTK pmax pmax
comp=Z,37nm,1.2s
BTK Batken 48.12 307 P **P 02 58 23.1 +0.5**
DZA Taraz 48.30 311 *e*P **P 02 58 24.8 +0.8**
comp=Z,18nm,0.9s,baz=310
DZA Taraz 48.30 311 *e*P **P 02 58 24.7 +0.8**
DZA pmax pmax
comp=Z,17nm,0.9s
GAR Garm 48.33 305 P **P 02 58 24.5 +0.1**
SEY Seymchan 48.35 18 *i* P **P 02 58 24.4 +0.5**
MORW Morawa 48.45 187 P **P 02 58 24.1 -0.9**
KBL Kabul 48.87 299 P **P 02 58 28.4 -0.2**
KBL pmax pmax
comp=Z,38nm,1.2s
KBL Kabul 48.87 299 P **P 02 58 28.4 -0.2**
KK31 Karatay Array 48.94 311 P **P 02 58 29.0 +0.2**
KK31 pmax pmax
comp=Z,41nm,1.1s
KK31 Karatay Array 48.94 311 P **P 02 58 29.0 +0.2**
KKAR Karatay Array 48.94 311 P **P 02 58 28.9 +0.2**
KKAR Karatay Array 48.94 311 P **P 02 58 28.9 +0.2**
IUG Iuzhnay 49.09 309 ⇓ *i*P **P 02 58 31.2 +1.2**
comp=Z,40nm,1.0s,baz=309
IUG Iuzhnay 49.09 309 *d i*P **P 02 58 31.2 +1.2**
IUG pmax pmax
comp=Z,40nm,1.0s
CHGR Chuyangaron 49.18 305 P **P 02 58 30.7 -0.1**
BRZS Berezniki 49.41 320 ⇓ *i*P **P 02 58 33.2 +0.9**
comp=Z,31nm,1.1s,baz=320
BRZS *i* S **S 03 05 41.7 +6.6**
baz=320
BRZS Berezniki 49.41 320 *d i*P **P 02 58 33.2 +0.9**
BRZS pmax pmax
comp=Z,31nm,1.1s
BRVK Borovoye 51.88 323 P **P 02 58 51.3 +0.5**
BRVK pmax pmax
comp=Z,57nm,1.1s
BRVK Borovoye 51.88 323 P **P 02 58 51.2 +0.5**
NWAO Narrogin (SRO) 52.16 185 P **P 02 58 52.1 -0.9**
NWAO pmax pmax
comp=Z,54nm,1.5s
NWAO Narrogin (SRO) 52.16 185 P **P 02 58 52.1 -0.9**
BBOO Buckleboo 53.63 165 P **P 02 59 03.3 -0.6**
NRIK Noril'sk 54.20 346 P **P 02 59 07.5 -0.1**
comp=Z,22nm,0.8s,baz=129,slow=6.9,SNR=29
NRIK LR LR 03 24 41.6
comp=Z,243nm,18.9s,baz=184,slow=39
NRIK Noril'sk 54.20 346⇑ *e*P **P 02 59 07.3 -0.3**
NRIK pmax pmax

comp=Z,31nm,1.0s
STKA Stephens Creek 54.36 159 P **P 02 59 08.1 -1.1**
comp=Z,3.2nm,0.9s,baz=320,slow=15,SNR=4.3
STKA LR LR 03 25 08.4
comp=Z,57nm,18.2s,baz=19,slow=39
STKA Stephens Creek 54.36 159 P **P 02 59 08.1 -1.1**
STKA pmax pmax
comp=Z,7.0nm,1.9s
STKA Stephens Creek 54.36 159 P **P 02 59 08.1 -1.1**
HRA Herat 54.47 299 P **P 02 59 10.0 -0.5**
HRA IAmb IAmb 02 59 11.3
comp=Z,35nm,1.8s
AMKA Amchitka 54.95 40 P **P 02 59 13.0 -0.3**
AB31 Akbulak array 57.26 317 P **P 02 59 30.0 +0.1**
ABKAR Akbulak array 57.26 317 P **P 02 59 29.8 -0.1**
GEYT Alibeck 57.80 303 P **P 02 59 34.5 +0.6**
comp=Z,5.0nm,0.9s,baz=119,slow=5.2,SNR=12
GEYT LR LR 03 28 29.5
comp=Z,86nm,19.3s,baz=35,slow=40
GEYT Alibeck 57.80 303 P **P 02 59 34.0 +0.1**
GYA0B ALIBECK ARRAY 57.80 303 P **P 02 59 33.6 -0.3**
GYA0B IAmb IAmb 02 59 57.0
comp=Z,12nm,1.0s
SVE Sverdlovsk 58.29 326 *c*eP **P 02 59 37.4 +0.5**
SVE pmax pmax
comp=Z,91nm,1.1s
WSAR Wadi Sarin 58.56 286 P **P 02 59 39.4 0.0**
comp=Z,14nm,1.0s,baz=142,slow=3.8,SNR=6.2
ARU Arti 59.32 325 *d i* P **P 02 59 43.9 -0.2**
ARU 03 00 28.0
ARU 03 01 51.6
ARU S **S 03 07 56.3 +8.2**
ARU SS **SS 03 11 42.8 -0.5**
ARU pmax pmax
comp=Z,53nm,1.0s
ARU Arti 59.32 325 P **P 02 59 43.8 -0.3**
DZM Mont Dzumac 60.01 131 P **P 02 59 49.7 +0.4**
DZM IAmb IAmb 03 00 39.6
comp=Z,22nm,1.4s
PRGR Permogore 66.59 330 *e*P **P 03 00 30.5 -1.7**
PRGR *e* 03 00 49.2
PRGR pmax pmax
comp=Z,6.0nm,0.5s
TBLG Delisi 67.86 308 P **P 03 00 40.3 -0.4**
TBLG pmax pmax
comp=Z,11nm,1.2s
TBLG Delisi 67.86 308 P **P 03 00 40.3 -0.4**
TBLG IAmb IAmb 03 00 41.2
comp=Z,11nm,1.2s
CNBA Chernabura Isl 67.90 38 P **P 03 00 39.9 -0.7**
CNBA IAmb IAmb 03 02 08.7
comp=Z,26nm,1.0s
ZEI Tsey 68.35 309 *e*P **P 03 00 43.2 -0.8**
ZEI pmax pmax
comp=Z,22nm,1.4s
GOF Gofitskoye 68.71 312⇑ *e*P **P 03 00 46.1 +0.2**
AKH Akhalkalaki 68.83 308 P **P 03 00 47.4 +0.4**
AKH pmax pmax
comp=Z,22nm,1.2s
AKH Akhalkalaki 68.83 308 P **P 03 00 47.4 +0.4**
AKH IAmb IAmb 03 00 48.9
comp=Z,22nm,1.2s
KBZ Khabaz 68.97 310 P **P 03 00 47.5 0.0**
comp=Z,8.9nm,0.9s,baz=120,slow=2.5,SNR=12
KBZ LR LR 03 35 19.1
comp=Z,85nm,19.3s,baz=75,slow=40
KBZ Khabaz 68.97 310 *c*eP **P 03 00 47.2 -0.3**
KBZ pmax pmax
comp=Z,12nm,1.0s
VRH Novokhopyorsk 68.99 318 *e*P **P 03 00 46.3 -1.2**
VRH pmax pmax
comp=Z,30nm,0.8s
KIV Kislovodsk 69.09 311 *e*P **P 03 00 47.4 -1.1**
KIV pmax pmax
comp=Z,68nm,1.0s
KIV MLR MLR
comp=Z,167nm,17.0s
KIV Kislovodsk 69.09 311 P **P 03 00 47.8 -0.6**
KIV IAmb IAmb 03 00 49.6
comp=Z,19nm,0.8s
TTA Tatalina 69.43 29 P **P 03 00 50.3 +0.1**
TTA pmax pmax
comp=Z,6.0nm,0.9s
TTA Tatalina 69.43 29 P **P 03 00 50.3 +0.1**
KLMR Klimovskoe 69.55 329 *e*P **P 03 00 48.9 -1.9**
KLMR pmax pmax
comp=Z,31nm,1.3s
SVW2 Sparrevohn 69.72 31 P **P 03 00 51.5 -0.4**
IMAR Indian Mountai 70.27 26 P **P 03 00 55.1 -0.1**
VORD Divnogorie 70.54 318 *e*P **P 03 00 55.7 -1.3**
VORD pmax pmax
comp=Z,20nm,1.4s
LPSR Galich'ya Gora 70.57 320 *e*P **P 03 00 55.9 -1.3**
LPSR pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 70.59 319 *e*P **P 03 00 55.9 -1.4**
VSR pmax pmax
comp=Z,30nm,1.4s
MOS Moscow 70.98 323 *e*P **P 03 00 57.0 -2.6**
MOS *e* 03 01 14.5
SOC Sochi 71.28 311 *e*P **P 03 01 00.9 -0.8**
SOC *e* 03 03 40.0
SOC *e*PPP PPP 03 05 19.8
SOC *e*S **S 03 10 21.4 +6.6**
SOC *e*SS **SS 03 14 52.7 +3.2**
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC MLR MLR
comp=Z,94nm,22.0s
KDAK Kodiak Island 71.55 34 P **P 03 01 03.4 +0.4**
KDAK Kodiak Island 71.55 34 P **P 03 01 03.4 +0.4**
BPAW Bear Paw Mtn. 71.59 28 P **P 03 01 03.1 -0.1**
OBN Obninsk 71.65 323 *e*P **P 03 01 01.8 -1.9**
OBN *e* 03 01 22.0
OBN *e* 03 03 42.6
OBN *e*PPP PPP 03 05 25.1
OBN *e*S **S 03 10 24.3 +5.7**
OBN *e*SS **SS 03 14 58.5 +3.9**
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,76nm,16.0s
APA Apatity 71.68 336⇓ *i* P **pP 03 01 18.0 -1.5**
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,200nm,11.0s
MCK McKinley 72.54 28 P **P 03 01 08.5 -0.4**
MCK pmax pmax
comp=Z,51nm,0.7s
MCK McKinley 72.54 28 P **P 03 01 08.5 -0.4**
RND Reindeer 72.62 28 P **P 03 01 08.8 -0.6**
RND pmax pmax
comp=Z,32nm,0.9s
RND Reindeer 72.62 28 P **P 03 01 08.8 -0.6**
RND IAmb IAmb 03 01 55.6
comp=Z,32nm,0.9s
PMR Palmer 72.76 30 P **P 03 01 09.4 -0.8**
PMR pmax pmax
comp=Z,9.0nm,0.8s
PMR Palmer 72.76 30 P **P 03 01 09.4 -0.8**
PMR IAmb IAmb 03 02 53.4
comp=Z,8.8nm,0.8s
KNK Knik Glacier 73.11 30 P **P 03 01 12.4 +0.1**
KNK IAmb IAmb 03 02 10.7
comp=Z,9.0nm,0.8s
ILAR Eielson Array 73.26 27 P **P 03 01 11.8 -1.4**
comp=Z,2.8nm,0.5s,baz=265,slow=4.5,SNR=40
SCM Sheep Creek Mo 73.57 30 P **P 03 01 14.9 -0.2**
SCM pmax pmax
comp=Z,28nm,0.8s
SCM Sheep Creek Mo 73.57 30 P **P 03 01 14.9 -0.2**
SCM IAmb IAmb 03 01 16.1
comp=Z,28nm,0.8s
KEV Kevo 73.66 339 P **P 03 01 14.9 -0.5**
KEV pmax pmax
comp=Z,49nm,1.7s
KEV Kevo 73.66 339 P **P 03 01 14.8 -0.5**
KEV IAmb IAmb 03 01 26.1
comp=Z,49nm,1.7s
BMAR Burnt Mountain 73.71 24 P **P 03 01 16.5 +0.7**
GLI Glacier Island 73.85 31 P **P 03 01 16.7 0.0**
GLI IAmb IAmb 03 01 17.4
comp=Z,9.1nm,0.7s
FID Port Fidalgo 74.18 31 P **P 03 01 18.4 -0.2**
FID IAmb IAmb 03 01 35.8
comp=Z,56nm,2.0s
ARCES ARCESS Array B 74.22 339 P **P 03 01 18.5 -0.1**
comp=Z,2.2nm,0.6s,baz=75,slow=8.2,SNR=17
ARCES LR LR 03 38 10.8
comp=Z,78nm,18.2s,baz=112,slow=39
ARCES ARCESS Array B 74.22 339 P **P 03 01 18.4 -0.3**
ARCES ARCESS Array B 74.22 339 P **P 03 01 18.4 -0.3**
ARE0 ARCESS Array S 74.22 339 P **P 03 01 19.2 +0.5**
KLU Klutina 74.29 30 P **P 03 01 19.6 +0.2**
SPA0 Spitsbergen Ar 74.31 348 P **P 03 01 19.1 0.0**
SPA0 IAmb IAmb 03 01 20.1
comp=Z,36nm,1.1s
GLB Gilahina Butte 75.30 30 P **P 03 01 25.4 +0.3**
GLB IAmb IAmb 03 01 29.1
comp=Z,14nm,1.4s
BCAR Beaver Creek A 75.82 28 P **P 03 01 28.9 +0.8**
FIA1 FINESS Array S 75.89 330 P **P 03 01 27.8 -0.6**
FIA1 IAmb IAmb 03 01 28.9
comp=Z,12nm,0.9s
FINES FINESS Array B 75.89 330 P **P 03 01 27.7 -0.7**
comp=Z,7.8nm,0.9s,baz=88,slow=6.5,SNR=16
FINES LR LR 03 37 32.8
comp=Z,156nm,20.1s,baz=74,slow=38
ATD Arta Tunnel 75.93 277 P **P 03 01 29.9 +0.3**
comp=Z,3.1nm,0.3s,baz=61,slow=11,SNR=3.9
ATD Arta Tunnel 75.93 277 P **P 03 01 29.3 -0.3**
ATD IAmb IAmb 03 01 31.3
comp=Z,14nm,1.1s
VSU Vasula 76.32 327 *e*P **P 03 01 30.4 -0.5**
VSU Vasula 76.32 327 *i* P **P 03 01 29.8 -1.1**
VSU pmax pmax
comp=Z,58nm,1.0s
BR131 Keskin Array S 76.51 308 P **P 03 01 31.4 -1.2**
BR131 pmax pmax
comp=Z,6.0nm,1.2s
BR131 Keskin Array S 76.51 308 P **P 03 01 31.4 -1.2**
BRTR Keskin Array B 76.51 308 P **P 03 01 31.6 -1.0**
comp=Z,2.3nm,0.9s,baz=106,slow=7.1,SNR=15
BRTR LR LR 03 39 35.8
comp=Z,46nm,19.0s,baz=9.0,slow=39
BRTR Keskin Array B 76.51 308 P **P 03 01 31.4 -1.2**
CTGM Chitina Glacie 76.58 30 P **P 03 01 32.4 -0.2**
CTGM IAmb IAmb 03 01 53.3
comp=Z,12nm,0.8s
AKASG Malin Array Be 76.86 319 P **P 03 01 32.8 -1.3**
comp=Z,9.7nm,0.9s,baz=63,slow=5.5,SNR=26
AKASG LR LR 03 37 36.4
comp=Z,89nm,20.1s,baz=245,slow=37
AKBB Malin Array Si 76.86 319 P **P 03 01 32.4 -1.7**
AKBB pmax pmax
comp=Z,13nm,1.1s
AKBB Malin Array Si 76.86 319 P **P 03 01 32.4 -1.7**
AKBB IAmb IAmb 03 01 33.8
comp=Z,13nm,1.1s
NACGM Naroch 77.21 324 *e* **P 03 01 35.0 -1.0**
ISAL Salakas 77.40 325 *e*P **P 03 01 37.5 +0.5**
BKZ Black Stump Fm 77.47 139 P **P 03 01 38.6 +0.9**
BKZ IAmb IAmb 03 02 42.2
comp=Z,34nm,1.4s
INK Inuvik 77.49 22 P **P 03 01 36.1 -1.2**
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 77.49 22 P **P 03 01 36.1 -1.2**
CSS Mathiatis 77.94 303 P **P 03 01 39.1 -1.4**
CSS IAmb IAmb 03 01 41.0
comp=Z,19nm,0.8s
SORM Soroca 78.07 317⇑P **P 03 01 39.8 -1.1**
HYT Haines Junctio 78.41 29 P **P 03 01 43.5 +0.8**
TLCR 78.56 314⇑P **P 03 01 43.0 -0.7**
PABE Paberze 78.59 325 *e*P **P 03 01 43.0 -0.7**
TOPG Topolog 78.94 314⇓P **P 03 01 45.3 -0.5**
ISP Isparta 79.36 306 P **P 03 01 46.8 -1.6**
ISP pmax pmax
comp=Z,16nm,1.1s
ISP Isparta 79.36 306 P **P 03 01 46.8 -1.6**
ISP IAmb IAmb 03 01 47.9
comp=Z,16nm,1.1s
SUW Suwalki 79.48 324 *e*P **P 03 01 47.7 -0.8**
SUW Suwalki 79.48 324 P **P 03 01 47.7 -0.8**
SUW pmax pmax
comp=Z,93nm,1.1s
SUW Suwalki 79.48 324 P **P 03 01 47.6 -0.8**
ODBI Odobesti 79.59 315⇓P **P 03 01 49.4 +0.1**
TESR Tescani 79.64 316⇑P **P 03 01 49.0 -0.6**
VRI Vrincioaia 79.78 315⇑P **P 03 01 50.3 -0.1**
PLOR Plostina 79.83 315⇓P **P 03 01 50.7 0.0**
BIZ Bicaz 79.87 316⇓P **P 03 01 50.7 -0.2**
BISRR Bisoca 79.88 315⇑P **P 03 01 51.1 +0.1**
ISR Istrita 80.12 314⇑P **P 03 01 52.7 +0.5**
ELL Elmali 80.13 305 P **P 03 01 51.9 -0.7**
ELL pmax pmax
comp=Z,41nm,1.0s
ELL Elmali 80.13 305 P **P 03 01 51.9 -0.7**
NEHR Nehoiu 80.20 315⇑P **P 03 01 53.0 +0.4**
BURAR Bucovina Array 80.24 317⇓P **P 03 01 52.3 -0.6**
BURAR Bucovina Array 80.24 317 P **P 03 01 52.1 -0.8**
BUR08 Bucovina Ar. S 80.24 317 P **P 03 01 52.4 -0.6**
BUR08 IAmb IAmb 03 01 53.6
comp=Z,12nm,1.1s
MLR Muntele Rosu 80.41 315⇑P **P 03 01 53.4 -0.5**
MLR Muntele Rosu 80.41 315 P **P 03 01 53.7 -0.3**
MLR pmax pmax
comp=Z,11nm,0.9s
MLR Muntele Rosu 80.41 315 P **P 03 01 53.7 -0.3**
MLR IAmb IAmb 03 01 54.7
comp=Z,11nm,0.9s
DOPR Dopca 80.64 315⇑P **P 03 01 54.4 -0.6**
MANT Manisa 80.65 307 P **P 03 01 54.7 -0.7**
ARCR ARCALIA 80.97 317⇑P **P 03 01 56.4 -0.2**
VOIR 81.03 315⇑P **P 03 01 55.9 -1.2**
KWP Kalwaria Pacla 81.18 319 *e*P **P 03 01 57.2 -0.6**
KWP Kalwaria Pacla 81.18 319 P **P 03 01 57.2 -0.6**
KWP pmax pmax
comp=Z,32nm,1.0s
KWP Kalwaria Pacla 81.18 319 P **P 03 01 57.1 -0.6**
KWP IAmb IAmb 03 01 58.8
comp=Z,32nm,1.0s
ARR Arges 81.33 315⇑P **P 03 01 58.4 -0.4**
HUMR Humele 81.36 314⇓P **P 03 01 58.2 -0.7**
BEL Belsk 81.57 322 *e*P **P 03 01 59.6 -0.2**
KOLS Kolonicke sedl 81.68 319 *e*P **P 03 01 59.2 -1.2**
KOLS Kolonicke sedl 81.68 319 *e*P **P 03 01 59.2 -1.2**
UZH Uzhgorod 81.77 319 *e*P **P 03 02 00.2 -0.7**
HFS Hagfors 82.05 331 LR LR 03 42 13.2
comp=Z,133nm,18.8s,baz=64,slow=38
CRVS Cervenica-Dubn 82.19 319 *e*P **P 03 02 03.6 +0.5**
CRVS pmax pmax
comp=Z,37nm,1.5s
CRVS Cervenica-Dubn 82.19 319 *e*P **P 03 02 03.6 +0.5**
DEV Deva 82.31 316⇑P **P 03 02 04.3 +0.5**
NC405 NORSAR Array S 82.50 333 P **P 03 02 03.8 -0.7**
NIE Niedzica 82.72 320 *e*P **P 03 02 06.5 +0.6**
OJC Ojcow 82.73 321 *e*P **P 03 02 06.0 +0.1**
OJC Ojcow 82.73 321 P **P 03 02 05.3 -0.7**
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 82.73 321 P **P 03 02 05.3 -0.7**
OJC IAmb IAmb 03 02 06.8
comp=Z,14nm,0.9s
NB2 NORSAR Subarra 82.75 333 P **P 03 02 04.5 -1.3**
comp=Z,0.8nm,0.7s,baz=56,slow=5.3
NOA NORSAR Array B 82.75 333 P **P 03 02 04.1 -1.8**
comp=Z,2.1nm,0.9s,baz=62,slow=5.1,SNR=6.3
NOA PP **PP 03 05 16.4 +0.4**
comp=Z,0.7nm,0.8s,baz=72,slow=9.9,SNR=3.5
NOA LR LR 03 42 47.1
comp=Z,112nm,18.2s,baz=60,slow=38
HERR Herculane 82.97 315⇓P **P 03 02 06.3 -1.0**
BZS Buzias 83.24 316⇑P **P 03 02 07.5 -1.1**
MDVR Moldovita 83.47 315⇓P **P 03 02 09.5 -0.4**
PSZ Piszkesteto 83.52 319 P **P 03 02 09.7 -0.4**
PSZ pmax pmax
comp=Z,6.0nm,1.0s
PSZ Piszkesteto 83.52 319 P **P 03 02 09.7 -0.4**
VYHS Vyhne 83.96 319 *e*P **P 03 02 12.4 +0.1**
VYHS pmax pmax
comp=Z,17nm,1.3s
VYHS Vyhne 83.96 319 *e*P **P 03 02 12.4 +0.1**
MORC Moravsky Berou 84.25 321⇓P **P 03 02 13.2 -0.6**
MORC Moravsky Berou 84.25 321 *e*P **P 03 02 13.4 -0.4**
MORC Moravsky Berou 84.25 321 P **P 03 02 13.1 -0.6**
MORC pmax pmax
comp=Z,9.0nm,1.1s
MORC Moravsky Berou 84.25 321 P **P 03 02 13.1 -0.6**
MORC IAmb IAmb 03 02 14.7
comp=Z,9.2nm,1.1s
SRO2 Moca 84.51 319 *e*P **P 03 02 14.0 -1.1**
SRO2 Moca 84.51 319 *e*P **P 03 02 14.0 -1.1**
JAVC Velka Javorina 84.53 320 *e*P **P 03 02 16.6 +1.4**
SRO Srobarova 84.55 319 *e*P **P 03 02 15.0 -0.2**
SRO Srobarova 84.55 319 *e*P **P 03 02 15.0 -0.2**
KSP Ksiaz 84.56 322 *e*P **P 03 02 15.2 0.0**
KRLC Kraliky 84.58 321 *e*P **P 03 02 15.1 -0.4**
KRLC Kraliky 84.58 321 *e*P **P 03 02 15.1 -0.4**
OSTC Ostas 84.72 322 *e*P **P 03 02 16.5 +0.4**
DPC Dobruska-Polom 84.74 322 *e*P **P 03 02 16.3 0.0**
DPC Dobruska-Polom 84.74 322 *e*P **P 03 02 16.3 0.0**
CHVC Chvalec 84.80 322 *e*P **P 03 02 16.1 -0.4**
SMOL Smolenice 84.82 320 *e*P **P 03 02 17.1 +0.5**
SMOL pmax pmax
comp=Z,6.0nm,1.3s
SMOL Smolenice 84.82 320 *e*P **P 03 02 17.1 +0.5**
MODS Modra-Piesok 84.96 320 *e*P **P 03 02 16.5 -0.9**
MODS pmax pmax
comp=Z,18nm,1.5s
MODS Modra-Piesok 84.96 320 *e*P **P 03 02 16.5 -0.9**
VRAC Vranov 85.00 321 LR LR 03 43 06.5
comp=Z,92nm,20.0s,baz=34,slow=38
VRAC Vranov 85.00 321⇓P **P 03 02 17.9 +0.3**
VRAC Vranov 85.00 321 *e*P **P 03 02 17.9 +0.3**
VRAC *e* 03 02 34.4
AGG Agios Georgios 85.08 310 P **P 03 02 15.9 -2.3**
AGG pmax pmax
comp=Z,15nm,1.0s
AGG Agios Georgios 85.08 310 P **P 03 02 15.9 -2.3**
AGG IAmb IAmb 03 02 16.5
comp=Z,15nm,1.0s
KMBO Kilima Mbogo 85.20 267 P **P 03 02 20.8 +1.4**
comp=Z,6.9nm,0.9s,baz=54,slow=7.4,SNR=14
KMBO Kilima Mbogo 85.20 267 P **P 03 02 19.5 +0.1**
KMBO pmax pmax
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 85.20 267 P **P 03 02 19.5 +0.1**
KMBO IAmb IAmb 03 02 21.4
comp=Z,14nm,1.1s
KRUC Moravsky 85.22 320 *e*P **P 03 02 18.7 +0.1**
KRUC *e* 03 02 35.2
GOPC GO Pecny, Ondr 85.82 322 *e*P **P 03 02 21.8 +0.2**
GOPC GO Pecny, Ondr 85.82 322 *e*P **P 03 02 21.8 +0.2**
BRG Berggiesshubel 85.90 323 *i* P **P 03 02 21.8 -0.2**
comp=Z,13nm,1.3s
BRG *e* 03 02 37.8
comp=Z,16nm,1.6s
PRU Pruhonice 85.93 322 *e*P **P 03 02 20.9 -1.2**
PRU Pruhonice 85.93 322 *e*P **P 03 02 20.9 -1.2**
CONA Conrad Observa 86.01 320 *e*PcP **P 03 02 22.8 +0.1**
comp=Z,8.2nm,1.2s
ITM Ithomi 86.04 308 P **P 03 02 21.2 -1.7**
CLL Collm 86.24 323⇑ *i*P **P 03 02 23.2 -0.4**
comp=Z,12nm,1.2s
CLL *i* pP **pP 03 02 41.0 +1.0**
CLL *e*PP **PP 03 05 43.0 -1.5**
CLL LmV 03 46 00.0
comp=Z,200nm,18.5s
CLL Collm 86.24 323 P **P 03 02 23.0 -0.6**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 86.24 323 P **P 03 02 23.0 -0.6**
CLL IAmb IAmb 03 02 24.0
comp=Z,6.5nm,0.9s
KHC Kasperske Hory 86.87 321 *e*P **P 03 02 28.5 +1.7**
KHC Kasperske Hory 86.87 321 *e*P **P 03 02 28.5 +1.7**
GERES GERESS Array B 86.92 321 P **P 03 02 26.1 -1.0**
comp=Z,1.1nm,0.8s,baz=69,slow=4.4,SNR=7.5
GERES LR LR 03 44 12.6
comp=Z,109nm,18.6s,baz=73,slow=38
GERES GERESS Array B 86.92 321 P **P 03 02 26.5 -0.7**
GERES GERESS Array B 86.92 321 P **P 03 02 26.5 -0.7**
MOA Molln 87.02 320 *e*PcP **P 03 02 27.3 -0.2**
comp=Z,8.1nm,1.4s
YKA Yellowknife Ar 87.20 23 P **P 03 02 27.9 -0.1**
comp=Z,12nm,0.8s,baz=293,slow=7.6,SNR=39
YKA LR LR 03 42 57.3
comp=Z,32nm,20.9s,baz=0.0,slow=36
YKA Yellowknife Ar 87.20 23 P **P 03 02 28.0 -0.1**
SUMG Summit 87.35 354 *i* P **P 03 02 28.0 -1.1**
comp=Z,28nm,1.0s
SUMG Summit 87.35 354 *i* P **P 03 02 28.0 -1.1**
SUMG pmax pmax
comp=Z,28nm,1.0s
BORG Borgarnes 91.52 345 LR LR 03 46 23.7
comp=Z,130nm,20.9s,baz=29,slow=37
MAW Mawson 96.73 199 LR LR 03 46 04.0
comp=Z,34nm,19.1s,baz=53,slow=35
SYO Syowa Base 105.12 202⇑ *e*Pdiff **Pdif 03 03 51.3 +2.0**
TXAR Lajitas Array 114.71 43 PKP **PKiKP 03 08 22.8 -0.1**
comp=Z,0.6nm,0.8s,baz=250,slow=0.7,SNR=11
SNAA Sanae 118.82 197 PKiKP **PKPdf 03 08 28.8 -0.6**
VNA2 Neumayer--Watz 120.47 197 PKiKP **PKPdf 03 08 31.8 -0.7**
VNA3 Neumayer Olymp 120.91 196 PKiKP **PKPdf 03 08 32.7 -0.7**
DBBC Dabeiba 148.38 36 *e*P **PKPdf 03 09 23.0 -2.8**
OCAC Ocana 148.81 30 *e*P **PKPdf 03 09 26.6 -0.1**
CBOC Ciudad Bolivar 149.43 37 *e*P **PKPab 03 09 37.3 +0.4**
BRRC Barranca, Sant 149.61 32 *e*P **PKPbc 03 09 30.1 -2.2**
PTBC PUERTO BERRIO 149.72 33 *e*P **PKPdf 03 09 30.1 +2.2**
PAMC Pamplona, Colo 149.89 30 *e*P **PKPbc 03 09 33.7 +0.1**
BARC Barichara 150.31 31 *e*P **PKPdf 03 09 26.6 -2.6**
TOLC Tolima 150.87 37 *e*P **PKPbc 03 09 33.7 -2.1**
ANIL Santa Ana 150.90 37 *e*P **PKPbc 03 09 33.7 -2.1**
RUSC La Rusia 150.97 32 *e*P **PKPab 03 09 40.9 -2.7**
ROSC El Rosal 151.22 35 PKPbc **PKPbc 03 09 35.7 -0.9**
comp=Z,7.9nm,0.5s,baz=56,slow=14,SNR=6.4
ROSC El Rosal 151.22 35 *e*P **PKPbc 03 09 33.7 -2.9**
ORTC Ortega, Tolima 151.46 38 *e*P **PKPbc 03 09 33.7 -3.1**
CHIC Chingaza 151.71 34 *e*P **PKPdf 03 09 33.7 +2.2**
PRAC Prado 151.83 37 *e*P **PKPdf 03 09 30.1 -1.1**
MARP Paez Belalcaza 151.89 40 *e*P **PKPdf 03 09 30.1 -1.5**
GARC Garzon, Huila 152.69 40 *e*P **PKPdf 03 09 33.7 +1.0**

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*IDC **01** 03:09:50.4±0.9, 64°.35N×17°.96W, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/48, mbtmp3.5/7, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/35, Error ellipse: s-maj=36.2km s-min=17.1km az=36.0*

ISC 01 03:09:51.7±0.8, 64°.3N±0°.2×17°.9W±0°.1, h10km, n8, σ1§48/10, mb3.4/6, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.54**	**288**	Pn	**Pn**	**03 10 17.5**	**-1.7**
	17nm,0.3s,baz=101,slow=12,SNR=39						
BORG				Sn	**Sb**	**03 10 40.5**	**+0.7**
	5.5nm,0.3s,baz=212,slow=20,SNR=7.1						
EKA	**Eskdalemuir Ar**	**11.64**	**134**	**Pn**	**Pn**	**03 12 36.5**	**-1.1**
	baz=328,slow=13,SNR=6.4						
GERES	**GERESS Array B**	**22.95**	**117**	P	**P**	**03 14 56.4**	**+0.5**
	0.6nm,0.9s,baz=305,slow=7.3,SNR=4.8						
GERES				LR	LR	03 24 59.6	
	comp=Z,86nm,18.1s,baz=288,slow=40						
ESDC	**Sonseca Array**	**26.01**	**155**	P	**P**	**03 15 27.1**	**+2.5**
	0.7nm,0.9s,baz=357,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**45.91**	**332**	P	**P**	**03 18 15.6**	**+1.8**
	0.6nm,1.0s,baz=27,slow=8.3,SNR=4.2						
ILAR				PcP	**PcP**	**03 19 50.0**	**-0.6**
	0.4nm,0.9s,baz=36,slow=1.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**52.89**	**156**	P	**P**	**03 19 07.4**	**-0.2**
	1.6nm,1.1s,baz=339,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**53.06**	**58**	P	**P**	**03 19 07.8**	**-0.8**
	0.2nm,0.5s,baz=311,slow=9.0,SNR=1.8						
PDAR	**Pinedale Array**	**53.15**	**293**	P	**P**	**03 19 09.6**	**0.0**
	0.9nm,0.9s,baz=45,slow=6.5,SNR=6.7						

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*NEIC **01** 03:11:07.9±0.7, 5°.8S±0°.1×111°.2E±0°.1, h513km±9km, mb4.1/19, Error ellipse: s-maj=18.4km s-min=14.3km az=49.0*

*IDC **01** 03:11:08.0±1.9, 5°.76S×111°.15E, h517km±21km, mb3.3/13, mb1 3.4/14, mb1mx3.2/42, mbtmp4.2/14, Error ellipse: s-maj=24.2km s-min=9.5km az=69.0*

ISC 01 03:11:07.0±0.5, 5°.73S±0°.07×111°.19E±0°.08, h500km, n43, σ1§32/50, mb3.9/18, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.27**	**197**	P	**P**	**03 12 16.1**	**+2.6**
UGM				S	**S**	**03 13 10.5**	**+2.9**

CISI	Cisompet, Garu	3.81	241	P	P	03 12 25.4	+1.4
CISI				S	S	03 13 26.4	-0.2
JAGI	Jajag, Banyuwa	4.00	133	P	P	03 12 27.3	+1.8
JAGI				S	S	03 13 31.4	+2.0
XMIS	Christmas Isla	7.23	229	P	P	03 12 56.0	+0.4
MNAI	Manna	8.32	279	P	P	03 13 08.4	+1.6
PSA00	Pilbara Seismi	17.84	153	P	P	03 14 46.2	+0.3
PSA00				IAmb	IAmb	03 14 47.4	
	comp=Z,6.6nm,0.7s						
FITZ	Fitzroy Crossi	18.71	132	P	P	03 14 54.2	+0.2
	comp=Z,0.8nm,0.3s,baz=333,slow=10.0,SNR=24						
FITZ	Fitzroy Crossi	18.71	132	P	P	03 14 54.3	+0.4
FITZ				IAmb	IAmb	03 14 54.7	
	comp=Z,2.6nm,0.8s						
KNRA	Kununurra	19.88	121	P	P	03 15 05.1	+0.5
MTN	Manton Dam	20.90	111	P	P	03 15 14.9	+0.9
MTN				IAmb	IAmb	03 15 34.5	
	comp=Z,8.2nm,1.1s						
MORW	Morawa	23.66	169	P	P	03 15 39.0	+0.5
MORW				IAmb	IAmb	03 15 41.4	
	comp=Z,4.6nm,1.0s						
WRA	Warramunga Arr	26.57	124	P	P	03 16 04.2	-0.3
	comp=Z,2.6nm,0.4s,baz=305,slow=9.3,SNR=54						
WRA				PcP	PcP	03 19 11.9	-1.0
	comp=Z,0.3nm,0.5s,baz=309,slow=1.7,SNR=5.2						
WRA				S	S	03 19 58.3	-5.2
	comp=Z,0.8nm,0.8s,baz=297,slow=18,SNR=6.3						
WRA				ScP	ScP	03 22 03.0	-2.4
	comp=Z,0.4nm,0.9s,baz=313,slow=2.4,SNR=2.7						
WRA	Warramunga Arr	26.57	124	P	P	03 16 04.5	0.0
WB2	Warramunga Arr	26.58	124	P	P	03 16 04.3	-0.3
WB2				IAmb	IAmb	03 16 05.2	
	comp=Z,4.0nm,0.6s						
CMAR	Chiang Mai Arr	26.90	334	P	P	03 16 08.9	+1.5
	comp=Z,0.7nm,0.3s,baz=163,slow=8.0,SNR=4.8						
NWAO	Narrogin (SRO)	27.64	169	P	P	03 16 14.5	+0.8
	comp=Z,4.9nm,0.7s,baz=333,slow=9.0,SNR=1.6						
NWAO	Narrogin (SRO)	27.64	169	P	P	03 16 13.8	+0.1
NWAO				IAmb	IAmb	03 16 24.6	
	comp=Z,6.3nm,1.1s						
AS31	Alice Springs	28.21	132	P	P	03 16 19.2	+0.2
ASAR	Alice Springs	28.21	132	P	P	03 16 19.1	+0.2
	comp=Z,4.6nm,0.3s,baz=304,slow=8.6,SNR=78						
ASAR				ScP	ScP	03 22 08.6	-1.8
	comp=Z,0.3nm,0.6s,baz=315,slow=2.6,SNR=3.3						
ASAR	Alice Springs	28.21	132	P	P	03 16 19.3	+0.4
BBOO	Buckleboo	35.53	142	P	P	03 17 21.2	-0.2
STKA	Stephens Creek	38.53	136	P	P	03 17 46.5	+0.4
	comp=Z,5.7nm,0.3s,baz=319,slow=8.1,SNR=24						
STKA	Stephens Creek	38.53	136	P	P	03 17 46.4	+0.4
XAN	Xi'an	39.61	357	P	P	03 17 55.2	+0.4
XAN				IAmb	IAmb	03 17 55.9	
	comp=Z,3.4nm,0.5s						
EIDS	Eidsvold	42.86	121	P	P	03 18 21.0	+0.2
EIDS				IAmb	IAmb	03 18 22.0	
	comp=Z,2.4nm,0.5s						
CAN	Canberra	45.57	135	P	P	03 18 41.8	+0.1
CAN				IAmb	IAmb	03 18 49.3	
	comp=Z,5.1nm,1.1s						
KSRS	Korea Array	45.71	19	P	P	03 18 43.2	+0.6
	comp=Z,0.8nm,0.5s,baz=198,slow=7.9,SNR=4.2						
USRK	Ussuriysk Ar.	53.12	19	P	P	03 19 37.0	-0.2
	comp=Z,1.3nm,0.7s,baz=179,slow=7.9,SNR=3.1						
SONM	Songino Array	53.50	356	P	P	03 19 39.7	-0.4
	comp=Z,1.0nm,0.6s,baz=174,slow=9.6,SNR=6.3						
SONM	Songino Array	53.50	356	P	P	03 19 40.1	0.0
KLR	Kul'dur	57.60	16	P	P	03 20 07.7	-0.7
	comp=Z,1.8nm,0.4s,baz=224,slow=4.3,SNR=7.5						
MK31	Makanchi Array	58.23	337	P	P	03 20 12.9	0.0
MKAR	Makanchi Array	58.23	337	P	P	03 20 12.4	-0.4
	comp=Z,0.8nm,0.3s,baz=151,slow=6.9,SNR=12						
MKAR	Makanchi Array	58.23	337	P	P	03 20 12.6	-0.2
ZALV	Zalesovo Beam	63.45	343	P	P	03 20 46.1	-1.0
	comp=Z,0.8nm,0.4s,baz=158,slow=4.7,SNR=2.8						
BKZ	Black Stump Fm	67.32	130	P	P	03 21 11.1	-0.7
MAW	Mawson	69.81	198	P	P	03 21 23.7	-2.5
	comp=Z,0.9nm,0.4s,baz=63,slow=5.0,SNR=4.1						
PETK	Petropavlovsk-	70.50	28	P	P	03 21 30.9	+0.2
ABKAR	Akbulak array	70.54	327	P	P	03 21 30.3	-0.7
VNDA	Vanda	76.46	170	P	P	03 22 04.3	-0.1
	comp=Z,0.8nm,0.5s,baz=320,slow=7.7,SNR=11						
VNDA	Vanda	76.46	170	P	P	03 22 04.2	-0.1
QSPA	South Pole Qui	84.25	180	P	P	03 22 45.0	-0.3
CPUP	Villa Florida	146.24	199	PKPbc	PKPdf	03 29 51.1	+1.3
	comp=Z,0.7nm,0.5s,baz=159,slow=4.3,SNR=4.4						

*IDC **01** 04:05:21.3±1.7, 32°.61N×47°.78E, h0km, mb3.9/9, mb1 3.9/15, mb1mx3.7/46, mbtmp3.9/15, ML3.7/6, MS3.4/7, Ms1 3.4/7, ms1mx3.0/34, Error ellipse: s-maj=36.5km s-min=16.8km az=174.0*
*THR **01** 04:05:23.9±0.5, 32°.76N×47°.87E, h14km±4km, ML4.0*
*TEH **01** 04:05:23.3, 32°.60N×47°.72E, h17km, ML3.9*
*ISN **01** 04:05:24.4±1.4, 32°.55N×47°.84E, h28km±25km, ML3.7*
*NEIC **01** 04:05:26.4±2.3, 32°.56N±0°.05×47°.76E±0°.08, h50km±14km, Error ellipse: s-maj=11.2km s-min=4.3km az=52.0*

ISC 01 04:05:23.5±1.1, 32°.62N±0°.03×47°.78E±0°.03, h14km±8km, n112, σ1§67/114, mb4.1/14, 5C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.43	278	ePg	Pg	04 05 31.8	-0.3
SHGR	Shooshtar-Gavs	1.00	120	ePg	Pn	04 05 43.1	-0.1
SHGR				eSg	Sn	04 05 56.7	-0.3
SHGR				IAML		04 06 09.4	
	comp=E,4μm,0.4s						
SHGR				IAML		04 06 12.4	
	comp=N,4μm,0.6s						
SHGR	Shooshtar-Gavs	1.00	120	ePg	Pn	04 05 43.1	-0.1
SHGR	Shooshtar-Gavs	1.00	120		Pn	04 05 43.0	-0.1
BMDN	Meydan	1.37	40	ePg	Pg	04 05 50.1	+0.2
BMDN				e		04 06 20.7	
BMDN	Meydan	1.37	40	Pg	Pg	04 05 50.1	+0.2
AHWZ	Ahwaz	1.48	150	ePg	Pg	04 05 51.4	-0.6
AHWZ				eSg	Sg	04 06 12.1	+0.9
AHWZ	Ahwaz	1.48	150	Pg	Pb	04 05 51.3	+0.5
AHWZ				Sg	Sg	04 06 12.1	+0.9
IKOM	Komasi	1.57	352	ePg	Pg	04 05 53.7	0.0
IKOM				e		04 05 58.6	
IKOM	Komasi	1.57	352	Pg	Pg	04 05 53.6	-0.1
HSAM	Samen	1.73	23	ePg	Pg	04 05 56.5	-0.4
HSAM	Samen	1.73	23	Pg	Pg	04 05 56.4	-0.4
KCHF	Cheshme Sefid,	1.76	340	ePg	Pb	04 05 55.6	-0.2
KCHF				e		04 06 30.3	
KCHF	Cheshme Sefid,	1.76	340	Pg	Pb	04 05 55.5	-0.2
KER	Kermanshah	1.84	343	ePn	Pb	04 05 58.1	+1.0
IBZA	Bozab	1.85	2	ePg	Pb	04 05 58.0	+0.8
IBZA				e		04 06 33.5	
IBZA	Bozab	1.85	2	Pg	Pb	04 05 58.0	+0.8
IGHG	Ghaleghazi	1.98	330	ePg	Pb	04 05 59.5	-0.1
IGHG				e		04 06 37.9	
IVIS	Veis	2.06	338	ePn	Pb	04 05 59.7	-1.0
IVIS				e		04 06 07.4	
NSR	Nassriya	2.13	221	ePn	Pn	04 05 59.0	+0.4
NSR				eSn	Sn	04 06 25.0	+0.2
NSR				AML	AML	04 06 43.6	
	comp=E,644nm,0.6s						
IALM	Almabolaq	2.26	8	ePn	Pn	04 06 02.5	+1.8
IDHR	Dehrash	2.38	331	ePn	Pb	04 06 04.5	-1.8
IDHR				e		04 06 54.8	
ILIN	Lien	2.39	344	e		04 06 47.3	
ILIN				ePn	Pb	04 06 05.1	-1.4
JHBN	Jahan bin	2.47	98	e		04 06 49.9	
JHBN				ePn	Pn	04 06 05.5	+1.9
HAGD	Aghdareh	2.47	27	e		04 06 56.4	
HAGD				ePn	Pb	04 06 06.7	-1.2
SNGE	Sanandaj	2.49	352	ePn	Pn	04 06 04.7	+0.8
SNGE				eSg	Sb	04 06 38.1	-0.7
SNGE	Sanandaj	2.49	352	ePn	Pn	04 06 04.7	+0.8
IPIR	Pirpir	2.62	88	e		04 06 57.2	
IPIR				ePn	Pn	04 06 07.9	+2.2
ASAO	Ashtian	2.69	44	ePn	Pn	04 06 06.7	+0.2
ASAO				eSg	Sb	04 06 43.6	-0.8
ASAO	Ashtian	2.69	44	ePn	Pn	04 06 06.7	+0.2
ROKH	ROKH	2.76	95	ePn	Pn	04 06 09.6	+2.0
BHD	Baghdad	2.93	284	ePn	Pn	04 06 12.0	+2.3
	baz=103						
BHD				eSn	Sn	04 06 46.0	+1.3
BHD				AML	AML	04 07 09.2	
	comp=E,384nm,0.2s						
IBRJ	Brojen	3.03	103	ePn	Pn	04 06 13.0	+1.7
IKLH	Kolahrood	3.27	77	ePn	Pn	04 06 17.3	+2.8
IKLH				e		04 07 25.0	
IRAZ	Razeghan	3.30	32	ePn	Pn	04 06 18.1	+3.1
QABG	Abgarm-Qazvin	3.42	25	ePn	Pn	04 06 19.1	+2.4
IQOM	Qom	3.52	50	ePn	Pn	04 06 20.9	+2.8
IGAR	Gharneh	3.61	92	ePn	Pn	04 06 21.0	+1.8
IGAR				e		04 07 06.4	
KLNJ	Kolanjah	3.62	115	ePn	Pn	04 06 20.4	+0.9
KLNJ				e		04 07 33.6	
IZEF	Zefreh	3.84	85	ePn	Pn	04 06 24.3	+1.9
IMHD	Mahdasht	3.88	37	ePn	Pn	04 06 25.9	+3.0
IRAM	Ramesheh	3.98	100	ePn	Pn	04 06 25.4	+1.1
IHSB	Hasanabad	4.04	45	ePn	Pn	04 06 27.7	+2.7
QSDN	Sirdan	4.04	16	ePn	Pn	04 06 28.6	+3.4
QALM	Alamut, Qazvin	4.48	31	ePn	Pn	04 06 32.6	+1.4
IDMV	Damavand	4.60	49	ePn	Pn	04 06 35.3	+2.4
ANAR	Anarak	5.03	82	ePn	Pn	04 06 40.2	+1.5
ISAD	Sadrabad	5.05	96	ePn	Pn	04 06 40.6	+1.5
ILAS	Lasjerd	5.11	56	ePn	Pn	04 06 42.8	+3.0
IPRN	Peran	5.22	45	ePn	Pn	04 06 44.7	+3.5
IALA	Alasht	5.41	49	ePn	Pn	04 06 46.8	+2.8
ISHM	Shahmirzad	5.56	54	ePn	Pn	04 06 49.3	+3.2
IGLO	Ghalogbah	6.32	51	ePn	Pn	04 06 59.6	+3.2
IBAF	Bafgh	6.69	97	ePn	Pn	04 07 02.3	+0.9
GEVA	Gevas	6.86	327	Pn	Pn	04 07 05.0	+1.2
TPRV	Parvadeh(Tabas	7.51	84	ePn	Pn	04 07 13.9	+1.3
TKDS	Koohdasht(Taba	7.90	80	ePn	Pn	04 07 19.1	+1.0
ASF	Jabal al Asfar	9.21	270	Pn	Pn	04 07 37.5	+1.4
	comp=E,0.2nm,0.3s,baz=7.5,slow=14,SNR=1.8						
ASF				Lg	Lg	04 10 19.6	
	comp=E,0.3nm,0.3s,baz=92,slow=23,SNR=3.0						
KOPT	Kop Dagi	9.43	324	Pn	Pn	04 07 39.0	-0.2
GAZ	Gaziantep	9.80	301	Pn	Pn	04 07 41.7	-2.3
GEYT	Alibeck	9.97	55	Pn	Pn	04 07 45.4	-0.9
	comp=E,0.2nm,0.3s,baz=231,slow=9.1,SNR=2.1						
GEYT	Alibeck	9.97	55		Pn	04 07 47.2	+0.8
MMAI	Mount Meron Ar	10.43	276	Pn	Pn	04 07 52.5	-0.1
	comp=E,2.8nm,0.3s,baz=64,slow=30,SNR=2.0						
UOSS	Minazif	10.63	134	Pn	Pn	04 07 53.4	-2.0
KBZ	Khabaz	11.73	342	LR	LR	04 13 27.0	
	comp=E,77nm,18.1s,baz=140,slow=41						
WSAR	Wadi Sarin	13.38	132	Pn	Pn	04 08 31.4	-1.6
	comp=E,0.5nm,0.3s,baz=308,slow=17,SNR=2.0						
WSAR				Sn	Sn	04 10 51.6	-10
	comp=E,1.4nm,0.3s,baz=326,slow=23,SNR=5.0						
BRTR	Keskin Array B	13.44	306	Pn	Pn	04 08 33.5	-0.3
	comp=E,0.0nm,0.3s,baz=131,slow=15,SNR=4.2						
BRTR	Keskin Array B	13.44	306		Pn	04 08 31.0	-2.9
KBL	Kabul	17.82	78	P	Pn	04 09 30.9	-0.4
CHGR	Chuyangaron	18.37	65	P	P	04 09 37.3	-0.6
CHGR				IAmb	IAmb	04 09 40.5	
	comp=Z,11nm,1.0s						
ABKAR	Akbulak array	18.95	25	P	Pn	04 09 44.8	0.0
IDI	Anoyia	19.17	284	P	P	04 09 45.3	-1.4
	comp=Z,0.2nm,0.3s,baz=41,slow=16,SNR=2.0						
GAR	Garm	19.33	64	P	P	04 09 47.6	-0.9
GAR				IAmb	IAmb	04 09 51.3	
	comp=Z,12nm,1.1s						
AKTO	Aktyubinsk	19.35	20	P	P	04 09 48.3	-0.1
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=8.2						
BTK	Batken	19.95	62	P	P	04 09 55.2	0.0
KK31	Karatay Array	20.71	53	P	P	04 10 03.2	-0.2
KK31				IAmb	IAmb	04 10 08.5	
	comp=Z,6.7nm,1.0s						
KKAR	Karatay Array	20.71	53	P	P	04 10 02.5	-0.8
KKAR				IAmb	IAmb	04 10 08.4	
	comp=Z,6.7nm,1.0s						
KKAR	Karatay Array	20.71	53	P	P	04 10 03.2	-0.2
MLR	Muntele Rosu	21.20	314	⇑P	P	04 10 15.3	+6.6
MLR	Muntele Rosu	21.20	314	P	P	04 10 07.4	-1.3
MLR				IAmb	IAmb	04 10 20.2	
	comp=Z,7.3nm,0.8s						
TESR	Tescani	21.31	317	⇑P	P	04 10 13.7	+3.9
NIL	Nilore	21.34	80	P	P	04 10 09.2	-1.1
VOIR		21.72	313	⇑P	P	04 10 15.5	+1.3
DOPR	Dopca	21.77	314	⇑P	P	04 10 17.2	+2.5
BIZ	Bicaz	21.86	317	⇑P	P	04 10 19.3	+3.7
AKASG	Malin Array Be	22.66	328	P	P	04 10 23.0	-1.2
	comp=Z,0.5nm,0.4s,baz=137,slow=9.4,SNR=2.7						
BURAR	Bucovina Array	22.73	318	P	P	04 10 23.8	-1.3
BUR08	Bucovina Ar. S	22.76	318	P	P	04 10 24.3	-1.0
ARU	Arti	24.95	14	P	P	04 10 46.0	-0.3
KOLS	Kolonicke sedl	25.10	318	eP	P	04 10 49.3	+1.6
KDJ	Kajisay	25.11	59	P	P	04 10 47.9	-0.1
KDJ				IAmb	IAmb	04 10 52.7	
	comp=Z,5.3nm,0.9s						
PSZ	Piszkesteto	26.01	314	P	P	04 10 56.8	+0.8
BRVK	Borovoye	26.06	32	P	P	04 10 56.5	+0.2
BRVK				IAmb	IAmb	04 10 58.7	
	comp=Z,5.8nm,1.0s						
BVAR	Borovoye Array	26.09	32	P	P	04 10 56.9	+0.4
	comp=Z,4.5nm,0.9s,baz=221,slow=7.9,SNR=17						
VYHS	Vyhne	26.90	315	eP	P	04 11 06.6	+2.7
KURBB	Kurchatov Arra	28.89	42	P	P	04 11 21.8	+0.1
	comp=Z,2.1nm,1.0s,baz=250,slow=9.5,SNR=7.1						
KURK	Kurchatov	28.98	42	P	P	04 11 20.7	-1.8
KURK				IAmb	IAmb	04 11 25.0	
	comp=Z,3.7nm,1.0s						
MKAR	Makanchi Array	29.82	52	P	P	04 11 30.0	0.0
	comp=Z,3.3nm,0.9s,baz=248,slow=6.4,SNR=17						
MKAR				LR	LR	04 24 37.5	
	comp=Z,35nm,19.3s,baz=326,slow=39						
MKAR	Makanchi Array	29.82	52	P	P	04 11 30.8	+0.7
MK31	Makanchi Array	29.82	52	P	P	04 11 30.3	+0.3
MK31				IAmb	IAmb	04 11 32.6	
	comp=Z,2.9nm,0.9s						
GERES	GERESS Array B	30.17	313	LR	LR	04 26 58.3	
	comp=Z,39nm,21.2s,baz=282,slow=43						
FINES	FINESS Array B	32.09	340	P	P	04 11 49.8	0.0
	comp=Z,3.3nm,0.9s,baz=150,slow=11,SNR=7.0						
FINES				LR	LR	04 26 39.7	
	comp=Z,57nm,19.4s,baz=214,slow=40						
FINES	FINESS Array B	32.09	340	P	P	04 11 48.5	-1.2
ZAA0	Zalesovo Array	33.81	40	P	P	04 12 05.2	+0.3
ZALV	Zalesovo Beam	33.81	40	P	P	04 12 05.0	+0.1
	comp=Z,0.9nm,0.4s,baz=263,slow=9.9,SNR=5.9						
ZALV	Zalesovo Beam	33.81	40	P	P	04 12 05.1	+0.2
NOA	NORSAR Array B	37.01	331	LR	LR	04 31 21.3	
	comp=Z,22nm,18.7s,baz=265,slow=42						
ARCES	ARCESS Array B	39.02	348	P	P	04 12 49.5	+0.2
	comp=Z,1.1nm,0.8s,baz=163,slow=8.6,SNR=5.7						
ESDC	Sonseca Array	41.89	295	P	P	04 13 13.4	0.0
	comp=Z,1.0nm,1.0s,baz=69,slow=7.4,SNR=4.9						
SONM	Songino Array	46.17	53	P	P	04 13 47.8	0.0
	comp=Z,0.3nm,0.4s,baz=107,slow=35,SNR=1.4						
JNU	Nakatsue	67.86	64	LR	LR	04 47 23.2	
	comp=Z,168nm,21.9s,baz=143,slow=37						
JHJ	Hachijo jima 2	74.51	60	LR	LR	04 52 14.1	
	comp=Z,89nm,18.0s,baz=326,slow=38						

IDC 01 04:12:46.5±2.8, 13°.74S×167°.06E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/32, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=55.6km s-min=45.5km az=101.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.31	184	Pn	Pn	04 14 49.7	+1.3
	0.5nm,0.3s,baz=122,slow=24,SNR=10						
DZM				Sn	Sn	04 16 11.2	-12
	0.3nm,0.3s,baz=118,slow=23,SNR=1.2						
STKA	Stephens Creek	29.49	228	P	P	04 18 51.1	-1.4
	1.2nm,0.3s,baz=65,slow=8.5,SNR=8.4						
WRA	Warramunga Arr	31.89	254	P	P	04 19 14.6	+0.8
	0.5nm,0.4s,baz=84,slow=8.6,SNR=14						
ASAR	Alice Springs	32.85	248	P	P	04 19 22.3	0.0
	1.1nm,0.4s,baz=79,slow=9.5,SNR=16						
ARCES	ARCESS Array B	119.25	345	PKP	PKPdf	04 31 36.9	-0.3
	2.6nm,1.0s,baz=64,slow=2.1,SNR=2.1						

*CERI **01** 04:19:13.0, 36°.39N×89°.52W, h7km*
*SLM **01** 04:19:13.7±0.9, 36°.39N±0°.03×89°.52W±0°.04, h7km±6km, mb_Lg2.9/140(NEIC), Error ellipse: s-maj=5.5km s-min=2.1km az=131.0*
*ANF **01** 04:19:13.3±0.4, 36°.41N×89°.40W, h0km, ML3.8/11, Error ellipse: s-maj=4.5km s-min=4.3km az=21.0*
*NEIC **01** 04:19:14.2±1.2, 36°.38N±0°.03×89°.51W±0°.04, h11km±5km, Error ellipse: s-maj=5.8km s-min=2.2km az=128.0*

ISC 01 04:19:14.0±0.9, 36°.38N±0°.02×89°.52W±0°.02, h10km±7km, n122, σ0§60/86, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENMO	Penman	0.11	307		Pg	04 19 16.4	-0.4
PENMO				Sg	Sg	04 19 18.6	-0.2
GLAT	Glass	0.21	121		Pg	04 19 18.5	0.0
GLAT				Sg	Sg	04 19 21.5	0.0
LNXT	Lenox	0.28	176		Pg	04 19 19.7	+0.1
LNXT				Sg	Sg	04 19 23.7	+0.3
HICK	Hickman	0.28	55		Pg	04 19 19.4	-0.3
HICK				Sg	Sg	04 19 23.5	0.0
HENM	Henderson Moun	0.34	6		Pg	04 19 20.3	-0.4
HENM					Sg	04 19 25.3	+0.1
PARMO	Parma	0.34	326		Pg	04 19 20.4	-0.4
PARMO				Sg	Sg	04 19 25.5	+0.2
PEBM	Pemiscott Bayo	0.39	226		Pg	04 19 21.6	-0.1
PEBM				Sg	Sg	04 19 27.1	+0.3
HALT	Halls	0.49	163		Pg	04 19 23.5	-0.1
HALT				Sg	Sb	04 19 31.5	-0.4
UTMT	University of	0.53	94	Pg	Pg	04 19 24.1	-0.2
UTMT				Sg	Sg	04 19 31.7	+0.5
GNAR	Gosnell	0.58	225		Pg	04 19 25.3	0.0
T45A	Paducah	0.95	47		Pg	04 19 31.2	-1.0
T45A				Sg	Sg	04 19 43.7	-0.8
LPAR	Lepanto	1.00	220		Pg	04 19 32.6	-0.7
LPAR				Sg	Sg	04 19 46.8	+0.4
HBAR	Harrisburg	1.24	229		Pn	04 19 36.6	-0.7
W45A	Hickory Valley	1.25	168		Pn	04 19 36.3	-1.2
MET	Memphis--Engin	1.30	195	Pn	Pn	04 19 37.6	-0.5
MET				IAmb_Lg		04 19 56.2	
	comp=Z,102nm,0.8s						
S44A	Carbondale	1.33	9		Pn	04 19 37.5	-1.0
LCAR	Lake Charles	1.36	257		Pn	04 19 38.1	-0.9
WVT	Waverly	1.39	100	P	Pn	04 19 38.6	-0.8
	baz=281						
WVT	Waverly	1.39	100		Pn	04 19 38.5	-0.8
T42A	Van Buren	1.42	298		Pn	04 19 38.9	-1.0
FVM	French Village	1.76	336		Pn	04 19 44.6	+0.1
PLAL	Pickwick Lake	1.82	140	Pn	Pn	04 19 44.6	-0.7
OXF	Oxford	1.87	177	P	Pn	04 19 46.7	+0.7
	baz=357						
OXF				S	Sb	04 20 12.1	+0.6
	baz=357						
OXF	Oxford	1.87	177		Pn	04 19 46.5	+0.6
OXF				IAmb_Lg		04 20 15.5	
	comp=Z,60nm,0.8s						
T47A	Sharon Grove	2.03	72		Pn	04 19 48.6	+0.4
USIN	University of	2.16	42		Pn	04 19 49.9	-0.1
USIN				IAmb_Lg		04 20 26.9	
	comp=Z,56nm,1.0s						
CCM	Cathedral Cave	2.17	321	P	Pn	04 19 50.8	+0.7
	baz=140						
CCM				S	Sb	04 20 20.6	+0.4
	baz=140						
CCM	Cathedral Cave	2.17	321	Pn	Pn	04 19 50.5	+0.4
FCAR	Ozark Folk Cen	2.17	258		Pn	04 19 50.6	+0.5
FCAR				IAmb_Lg		04 20 20.6	
	comp=Z,56nm,0.7s						
X43A	Marvell	2.17	211	S	Sg	04 20 22.3	-1.3
	baz=30						
X43A	Marvell	2.17	211		Pn	04 19 50.2	+0.2
X43A				IAmb_Lg		04 20 26.8	
	comp=Z,40nm,0.7s						
V48A	Smith Brothers	2.27	106		Pn	04 19 51.8	+0.2
SLM	Saint Louis	2.32	346		Pn	04 19 52.2	0.0
MGMO	Mountain Grove	2.34	290		Pn	04 19 52.7	+0.2
MGMO				IAmb_Lg		04 20 31.7	
	comp=Z,64nm,0.8s						
WHAR	Wooly Hollow	2.50	245	Pn	Pn	04 19 54.9	+0.2
Y45A	Yeager Farm, C	2.51	181		Pn	04 19 55.3	+0.5
W41B	Gary Mavity, V	2.53	242	Pb	Pg	04 20 01.1	-1.3
	baz=60						
W41B				S	Sb	04 20 31.6	+1.1
	baz=60						
W41B	Gary Mavity, V	2.53	242		Pn	04 19 55.2	+0.1
Q44A	Meyer Farm, Va	2.55	9		Pn	04 19 56.2	+0.8
Q44A				IAmb_Lg		04 20 40.8	
	comp=Z,52nm,1.1s						
CLTN	Cedars of Leba	2.59	95		Pn	04 19 56.3	+0.4
OLIL	Olney	2.60	25		Pn	04 19 57.1	+1.0
U40A	Yellville	2.69	270	P	Pn	04 19 58.4	+1.0
	baz=88						
U40A	Yellville	2.69	270		Pn	04 19 58.1	+0.7
X48A	Hartselle	2.79	133	Pn	Pn	04 19 58.6	0.0
X48A				IAmb_Lg		04 20 46.8	
	comp=Z,44nm,0.7s						
UALR	University of	2.81	236		Pn	04 19 59.1	+0.2
R40A	Maddies Statio	2.91	312		Pn	04 20 00.8	+0.5
R40A				IAmb_Lg		04 20 52.6	
	comp=Z,39nm,0.8s						
U49A	Red Boiling Sp	3.02	86		Pn	04 20 02.4	+0.6

	comp=Z,21nm,0.8s					
L42A	**Oliver, Polo**	5.62	359	IAmb_Lg		04 22 09.3
	comp=Z,19nm,0.9s					
T35A	**Sooner Cattle**	5.65	277	IAmb_Lg		04 22 16.8
	comp=Z,24nm,1.0s					
GOGA	**Godfrey**	5.79	119	IAmb_Lg		04 22 17.4
	comp=Z,15nm,0.7s					
L40A	**Anamosa**	5.83	347	IAmb_Lg		04 22 21.0
	comp=Z,19nm,0.9s					
P51A	**Williamsport**	5.97	57	IAmb_Lg		04 22 24.4
	comp=Z,20nm,0.7s					
KSU1	**Kansas State U**	6.24	298	P	**Pn**	**04 20 45.8 -0.3**
	baz=114					
KSU1	**Kansas State U**	6.24	298	IAmb_Lg		04 22 43.7
	comp=Z,43nm,0.9s					
R53A	**Hurricane**	6.33	70	IAmb_Lg		04 22 34.3
	comp=Z,16nm,0.8s					
ACSO	**Alum Creek Sta**	6.42	51	IAmb_Lg		04 22 35.5
	comp=Z,18nm,0.8s					
OKCFA	**Oklahoma City**	6.51	264	IAmb_Lg		04 22 59.6
	comp=Z,19nm,0.8s					
JFWS	**Jewell Farm**	6.55	355	IAmb_Lg		04 22 39.8
	comp=Z,14nm,0.9s					
P52A	**Corning**	6.67	59	IAmb_Lg		04 22 59.3
	comp=Z,14nm,0.8s					
S54A	**Dingess, Beckl**	6.71	75	IAmb_Lg		04 22 49.2
	comp=Z,16nm,0.7s					
K38A	**Parkersburg**	6.74	339	IAmb_Lg		04 22 48.0
	comp=Z,22nm,0.9s					
KMSC	**Kings Mountain**	6.77	98	IAmb_Lg		04 22 54.8
	comp=Z,14nm,0.9s					
TIGA	**Tifton**	6.97	133	IAmb_Lg		04 22 55.9
	comp=Z,16nm,0.7s					
O52A	**Adamsville**	7.10	56	IAmb_Lg		04 23 02.2
	comp=Z,12nm,0.8s					
P53A	**Whipple**	7.13	62	IAmb_Lg		04 22 59.6
	comp=Z,17nm,1.0s					
N51A	**Ashland**	7.19	49	IAmb_Lg		04 23 19.0
	comp=Z,12nm,0.9s					
255A	**Hazlehurst**	7.33	125	IAmb_Lg		04 23 20.4
	comp=Z,18nm,0.9s					
U56A	**King**	7.37	88	IAmb_Lg		04 23 16.8
	comp=Z,11nm,0.8s					
Y57A	**Sumter**	7.83	105	IAmb_Lg		04 23 34.6
	comp=Z,11nm,0.7s					
W57A	**Gilead**	7.84	96	IAmb_Lg		04 23 30.2
	comp=Z,12nm,0.8s					
V58A	**Windy Hill, Pi**	8.44	91	IAmb_Lg		04 23 54.0
	comp=Z,11nm,1.0s					
CBKS	**Cedar Bluff**	8.47	290	IAmb_Lg		04 23 57.1
	comp=Z,11nm,0.8s					
X58A	**Rowland**	8.50	99	IAmb_Lg		04 23 53.3
	comp=Z,14nm,0.7s					
Q56A	**Snyder Ridge,**	8.61	69	IAmb_Lg		04 23 49.1
	comp=Z,10nm,0.8s					
ECSD	**EROS Data Cent**	9.14	326	IAmb_Lg		04 24 00.5
	comp=Z,9.8nm,1.0s					
S58A	**Poland Farm, P**	9.25	79	IAmb_Lg		04 24 23.1
	comp=Z,7.3nm,0.8s					
R58B	**Mineral**	9.42	77	IAmb_Lg		04 24 14.9
	comp=Z,8.2nm,0.9s					
O56A	**Blue Knob Stat**	9.44	62	IAmb_Lg		04 24 15.8
	comp=Z,7.0nm,1.0s					
CNNC	**Cliffs of the**	9.51	93	IAmb_Lg		04 24 15.1
	comp=Z,13nm,0.8s					

*MOS **01** 04:24:14.7±1.0,24°.91S×175°.85W,h11km,mb5.4/47, MS4.9/9, Error ellipse: s-maj=10.2km s-min=7.9km az=93.0*
*IDC **01** 04:24:14.0±0.5,24°.81S×175°.96W,h0km,mb4.8/19, mb1 4.9/21,mb1mx4.9/35,mbtmp4.8/21,ML4.4/2,MS4.8/19, Ms1 4.8/19,ms1mx4.7/23,Error ellipse: s-maj=18.4km s-min=14.9km az=117.0*
*BJI **01** 04:24:15.0±0.0,24°.53S×175°.37W,h10km,mB5.6/49, mb5.3/53,Ms5.1/53,Ms7 4.9/53*
*NEIC **01** 04:24:15.7±1.3,24°.91S±0°.08×175°.8W±0°.1,h10km±1km, mb5.3/140,Error ellipse: s-maj=18.7km s-min=12.7km az=79.0*
*INMG **01** 04:24:15.7,24°.95S×175°.79W,h10km,Mb4.3*
*UNK **01** 04:24:15.8,24°.95S×175°.79W,h10km*
*GCMT **01** 04:24:18.7±0.1,24°.82S±0°.01×175°.33W±0°.01,h12km, MW5.3/132,Moment Tensor Solution. s97,c153; s132,c241; Duration: 1ｘ1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.83±.01; $M_{\theta\theta}$-0.68±.01; $M_{\phi\phi}$-0.15±.01; $M_{r\theta}$-0.09±.03; $M_{r\phi}$-0.68±.01; $M_{\theta\phi}$0.18±.04; Best double couple: $M_0$1.02100×10^{17} NP1:ϕ_s253.00000°,δ47.00000°, λ116.00000°. NP2:ϕ_s38.00000°,δ49.00000°,λ65.00000°. Principal axes: T 0.9020, Plg72.0000°, Azm238.0000°; N 0.2400, Plg18.0000°, Azm55.0000°; P -1.1410, Plg1.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 04:24:16.2±0.9,24°.95S±0°.05×175°.78W±0°.06,h12km±5km, n533,σ1ｘ42/538,mb5.2/123,MS4.9/51,32C-16D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.69**	**204**	Pn	**Pn**	**04 25 26.9**	**+0.1**
	115nm,0.3s,baz=265,slow=22,SNR=3.9						
RAO				Sn	**Sn**	**04 26 27.5**	**+6.3**
	131nm,0.3s,baz=74,slow=23,SNR=6.3						
RAO	**Raoul Island**	**4.69**	**204**	P	**Pn**	**04 25 27.0**	**+0.1**
NIUE	**Niue**	**7.97**	**44**	P	Pn	04 26 01.3	-11
	baz=7.1,SNR=8.2						
NIUE				S	Sn	04 27 19.7	-22
	baz=7.1						
MSVF	**Nonsavu**	**9.20**	**320**	P	**Pn**	**04 26 28.8**	**0.0**
MSVF	**Nonsavu**	**9.20**	**320**		**Pn**	**04 26 28.8**	**0.0**
AFI	**Afiamalu**	**11.61**	**20**	Pn	Pn	04 26 53.0	-8.9
	8.6nm,0.3s,baz=228,slow=8.0,SNR=6.0						
AFI				Sn	Sn	04 28 50.9	-21
	3.5nm,0.3s,baz=117,slow=17,SNR=2.4						
AFI	**Afiamalu**	**11.61**	**20**		Pn	04 26 51.5	-10
URZ	**Urewera**	**14.58**	**203**	Pn	**Pn**	**04 27 41.9**	**-0.5**
	0.2nm,0.3s,baz=140,slow=6.5,SNR=3.5						
URZ				Sn	**Sn**	**04 30 17.2**	**-6.7**
	0.8nm,0.3s,baz=123,slow=14,SNR=1.6						
URZ				LR	LR	04 32 28.2	
	comp=Z,4μm,21.0s,baz=24,slow=34						
URZ	**Urewera**	**14.58**	**203**		**Pn**	**04 27 42.6**	**+0.3**
RAR	**Rarotonga**	**15.19**	**79**	Pn	Pn	04 27 40.1	-10
	6.4nm,0.3s,baz=237,slow=9.7,SNR=9.5						
RAR				Sn	Sn	04 30 17.8	-21
	2.4nm,0.3s,baz=111,slow=22,SNR=1.6						
RAR	**Rarotonga**	**15.19**	**79**	P	Pn	04 27 38.4	-12
RAR				pmax	pmax		
	comp=Z,112nm,0.9s						
RAR	**Rarotonga**	**15.19**	**79**	Pn	Pn	04 27 38.4	-12
RAR				IAmb	IAmb	04 28 05.6	
	comp=Z,112nm,0.9s						
DZM	**Mont Dzumac**	**16.56**	**276**	Pn	**P**	**04 28 12.9**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=86,slow=19,SNR=15						
DZM	**Mont Dzumac**	**16.56**	**276**		**Pn**	**04 28 08.8**	**+0.4**
DZM				IAmb	IAmb	04 28 40.4	
	comp=Z,484nm,2.0s						
SANVU	**Saraoutou**	**18.55**	**297**	P	**P**	**04 28 31.5**	**-1.4**
SANVU				IAmb	IAmb	04 29 10.7	
	comp=Z,316nm,1.3s						
RPZ	**Rata Peaks**	**21.60**	**207**	P	**P**	**04 29 04.3**	**-1.6**
	comp=Z,4.9nm,0.6s,baz=172,slow=16,SNR=3.0						
RPZ	**Rata Peaks**	**21.60**	**207**	P	**P**	**04 29 05.0**	**-0.9**
ODZ	**Otahua Downs**	**22.87**	**205**	P	**P**	**04 29 19.1**	**-0.4**
LHI	**Lord Howe Isla**	**23.09**	**248**	P	**P**	**04 29 25.5**	**+3.7**
	baz=24						
PPT	**Papeete**	**25.47**	**78**	LR	LR	04 38 14.5	
	comp=Z,3μm,18.1s,baz=256,slow=33						
HNR	**Honiara**	**27.78**	**299**	LR	LR	04 39 33.0	
	comp=Z,2μm,19.2s,baz=146,slow=33						
ARMA	**Armidale**	**29.31**	**252**	P	**P**	**04 30 18.1**	**-0.8**
EIDS	**Eidsvold**	**29.96**	**262**	P	**P**	**04 30 24.9**	**+0.3**
	baz=31						
EIDS	**Eidsvold**	**29.96**	**262**	P	**P**	**04 30 24.7**	**+0.2**
CNB	**Canberra Magne**	**31.73**	**243**	P	**P**	**04 30 42.7**	**+2.6**
	baz=32,SNR=4.4						
RMQ	**Roma**	**31.93**	**259**	P	**P**	**04 30 44.7**	**+2.8**
	baz=33,SNR=7.1						
YNG	**Young**	**32.37**	**245**	P	**P**	**04 30 47.3**	**+1.5**
	baz=33,SNR=11						
CMSA	**Cobar Meteorol**	**34.45**	**250**	P	**P**	**04 31 05.8**	**+1.9**
	baz=35,SNR=5.4						
TOO	**Toolangi**	**35.18**	**240**	P	**P**	**04 31 09.9**	**-0.3**
TOO				pmax	pmax		
	comp=Z,14nm,1.0s						
TOO	**Toolangi**	**35.18**	**240**	P	**P**	**04 31 09.8**	**-0.3**
CTAO	**Charters Tower**	**35.33**	**270**	P	**P**	**04 31 10.7**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**35.33**	**270**	P	**P**	**04 31 10.7**	**-0.9**
MTSU	**Mount Surprise**	**37.63**	**272**	P	**P**	**04 31 30.3**	**-1.0**
	baz=38,SNR=9.5						
STKA	**Stephens Creek**	**37.94**	**250**	P	**P**	**04 31 33.6**	**-0.2**
	baz=39,SNR=7.0						
STKA	**Stephens Creek**	**37.94**	**250**	P	**P**	**04 31 32.5**	**-1.3**
	comp=Z,2.8nm,0.5s,baz=92,slow=11,SNR=9.8						
STKA				LR	LR	04 46 22.0	
	comp=Z,3μm,18.3s,baz=85,slow=35						
STKA	**Stephens Creek**	**37.94**	**250**	P	**P**	**04 31 33.0**	**-0.8**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
STKA	**Stephens Creek**	**37.94**	**250**	P	**P**	**04 31 33.0**	**-0.8**
PMG	**Port Moresby**	**38.48**	**287**	P	**P**	**04 31 35.2**	**-3.2**
	comp=Z,41nm,0.9s,baz=164,slow=2.7,SNR=6.0						
PMG	**Port Moresby**	**38.48**	**287**	*ce*P	**P**	**04 31 36.5**	**-1.9**
PMG				pmax	pmax		
	comp=Z,42nm,0.8s						
PMG	**Port Moresby**	**38.48**	**287**	P	**P**	**04 31 37.0**	**-1.5**
PMG				IAmb	IAmb	04 31 48.7	
	comp=Z,56nm,1.0s						
COEN	**Coen**	**40.08**	**278**	P	**P**	**04 31 52.5**	**+0.7**
	baz=41,SNR=4.4						
COEN	**Coen**	**40.08**	**278**	P	**P**	**04 31 51.0**	**-0.8**
HTT	**Hallett**	**40.19**	**247**	P	**P**	**04 31 52.6**	**0.0**
	baz=41,SNR=5.8						
BBOO	**Buckleboo**	**42.60**	**248**	P	**P**	**04 32 11.7**	**-0.7**
	baz=43,SNR=5.3						
AS31	**Alice Springs**	**45.66**	**261**	P	**P**	**04 32 35.6**	**-1.5**
ASAR	**Alice Springs**	**45.66**	**261**	P	**P**	**04 32 34.5**	**-2.6**
	comp=Z,7.7nm,1.0s,baz=103,slow=7.7,SNR=29						
ASAR				PcP	**PcP**	**04 34 15.5**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=105,slow=2.0,SNR=1.0						
ASAR				LR	LR	04 51 49.3	
	comp=Z,2μm,18.2s,baz=108,slow=36						
ASAR	**Alice Springs**	**45.66**	**261**	P	**P**	**04 32 35.5**	**-1.6**
ASAR	**Alice Springs**	**45.66**	**261**	P	**P**	**04 32 35.5**	**-1.6**
WR0	**Warramunga Arr**	**45.99**	**266**	P	**P**	**04 32 38.3**	**-1.4**
WC3	**Warramunga Arr**	**46.14**	**266**	P	**P**	**04 32 38.2**	**-2.6**
	baz=47						
WRAB	**Tennant Creek**	**46.17**	**266**	*ce*P	**P**	**04 32 39.5**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,22nm,1.3s						
WB0	**Warramunga Arr**	**46.17**	**266**	P	**P**	**04 32 38.5**	**-2.7**
WB0				IAmb	IAmb	04 32 43.0	
	comp=Z,29nm,1.2s						
WRA	**Warramunga Arr**	**46.17**	**266**	P	**P**	**04 32 38.1**	**-3.0**
	comp=Z,5.2nm,0.5s,baz=100,slow=7.4,SNR=37						
WRA				PcP	**PcP**	**04 34 17.8**	**+0.8**
	comp=Z,6.4nm,1.1s,baz=106,slow=5.2,SNR=2.0						
WRA				S	**S**	**04 39 22.2**	**-5.2**
	comp=Z,0.8nm,0.8s,baz=100,slow=14,SNR=5.2						
WRA				LR	LR	04 52 09.2	
	comp=Z,2μm,18.1s,baz=105,slow=36						
WRA	**Warramunga Arr**	**46.17**	**266**	P	**P**	**04 32 38.1**	**-3.0**
FORT	**Forest**	**49.56**	**250**	P	**P**	**04 33 06.2**	**-1.0**
	baz=50						
WRKA	**Warakurna**	**50.37**	**257**	P	**P**	**04 33 12.0**	**-1.5**
	baz=51,SNR=8.3						
MTN	**Manton Dam**	**51.37**	**273**	P	**P**	**04 33 20.1**	**-1.0**
KNRA	**Kununurra**	**52.53**	**269**	P	**P**	**04 33 28.1**	**-1.6**
	baz=53,SNR=3.4						
KNRA	**Kununurra**	**52.53**	**269**	P	**P**	**04 33 28.2**	**-1.5**
KNRA				IAmb	IAmb	04 33 50.0	
	comp=Z,35nm,1.1s						
VNDA	**Vanda**	**53.70**	**186**	P	**P**	**04 33 39.3**	**+1.8**
	comp=Z,2.6nm,1.0s,baz=14,slow=6.0,SNR=11						
VNDA				LR	LR	04 52 41.7	
	comp=Z,411nm,20.3s,baz=30,slow=32						
VNDA	**Vanda**	**53.70**	**186**	P	**P**	**04 33 38.3**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,51nm,1.8s						
VNDA	**Vanda**	**53.70**	**186**	P	**P**	**04 33 38.2**	**+0.8**
VNDA				IAmb	IAmb	04 34 39.3	
	comp=Z,51nm,1.8s						
FAKI	**Fak Fak**	**54.57**	**285**	P	**P**	**04 33 44.4**	**-0.4**
	comp=Z,52nm,1.6s						
FITZ	**Fitzroy Crossi**	**54.58**	**265**	P	**P**	**04 33 43.7**	**-1.1**
	baz=55,SNR=21						
FITZ	**Fitzroy Crossi**	**54.58**	**265**	P	**P**	**04 33 44.0**	**-0.8**
FITZ				IAmb	IAmb	04 33 57.1	
	comp=Z,19nm,0.8s						
KLBR	**Kellerberrin**	**58.13**	**247**	P	**P**	**04 34 09.0**	**-1.1**
	baz=59,SNR=10						
MEEK	**Meekatharra**	**58.50**	**253**	P	**P**	**04 34 14.6**	**+1.9**
	baz=59,SNR=3.3						
BLDU	**Ballidu**	**59.21**	**248**	P	**P**	**04 34 17.2**	**-0.4**
	baz=60,SNR=8.0						
MORW	**Morawa**	**60.13**	**250**	P	**P**	**04 34 23.4**	**-0.4**
	baz=61,SNR=5.9						
MORW	**Morawa**	**60.13**	**250**	P	**P**	**04 34 23.2**	**-0.6**
MORW				IAmb	IAmb	04 35 16.0	
	comp=Z,55nm,1.7s						
CASY	**Casey**	**60.87**	**206**	P	**P**	**04 34 29.9**	**+1.6**
QSPA	**South Pole Qui**	**65.14**	**180**	P	**P**	**04 34 57.5**	**+0.6**
BELA	**Belgrano 2**	**74.90**	**172**	P	**P**	**04 35 56.6**	**+0.2**
MJAR	**Mausihiro Arr**	**74.99**	**323**	P	**P**	**04 35 55.5**	**-2.0**
	comp=Z,9.4nm,0.9s,baz=159,slow=6.1,SNR=14						
MJAR				LR	LR	05 03 35.3	
	comp=Z,657nm,21.9s,baz=120,slow=32						
MJAR	**Matsushiro Arr**	**74.99**	**323**	P	**P**	**04 35 56.9**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MJAR	**Matsushiro Arr**	**74.99**	**323**	P	**P**	**04 35 56.9**	**-0.6**
MAJO	**Matsushiro**	**74.99**	**323**	P	**P**	**04 35 57.4**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s						
MAJO	**Matsushiro**	**74.99**	**323**		**P**	**04 35 57.4**	**-0.1**
MAT	**Matsushiro**	**74.99**	**323**	P	**P**	**04 35 58.2**	**+0.7**
MAT				S	**S**	**04 45 37.6**	**+2.5**
KSM	**Kuching**	**76.07**	**278**	P	**P**	**04 36 03.0**	**-1.2**
AMKA	**Amchitka**	**76.11**	**357**	P	**P**	**04 36 02.7**	**-0.8**
PMSA	**Palmer Station**	**76.41**	**156**	P	**P**	**04 36 04.5**	**-0.7**
ADK	**Adak**	**76.50**	**359**	P	**P**	**04 36 05.4**	**-0.3**
ADK				pmax	pmax		
	comp=Z,82nm,1.5s						
ADK	**Adak**	**76.50**	**359**		**P**	**04 36 05.4**	**-0.3**
ERM	**Erimo**	**76.69**	**330**	*ce*P	**P**	**04 36 07.1**	**+0.1**
ERM				pmax	pmax		
	comp=Z,35nm,1.7s						
JNU	**Nakatsue**	**76.90**	**316**	P	**P**	**04 36 07.5**	**-0.9**
	comp=Z,34nm,1.2s,baz=138,slow=7.5,SNR=5.8						
JNU	**Nakatsue**	**76.90**	**316**	P	**P**	**04 36 08.2**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**77.12**	**333**	P	P	04 35 51.6	-18
YUK				*e*		04 45 55.9	
YUK				MLR	MLR		
	comp=Z,382nm,16.0s						
KUR	**Kuril'sk**	**77.31**	**335**	*i* P	**P**	**04 36 11.4**	**+1.0**
KUR				pmax	pmax		
	comp=Z,73nm,1.3s						
TWG	**Pinlang**	**77.50**	**303**	P	**P**	**04 36 10.7**	**-1.3**
YULB	**Yu-li**	**77.64**	**303**	P	**P**	**04 36 11.5**	**-1.4**
MAW	**Mawson**	**78.09**	**200**	P	**P**	**04 36 15.9**	**+1.4**
	baz=79,SNR=13						
MAW	**Mawson**	**78.09**	**200**	P	**P**	**04 36 15.3**	**+0.7**
	comp=Z,6.3nm,0.7s,baz=117,slow=9.9,SNR=17						
MAW				LR	LR	05 09 42.0	
	comp=Z,747nm,18.1s,baz=116,slow=35						
MAW	**Mawson**	**78.09**	**200**	P	**P**	**04 36 15.2**	**+0.7**
TPUB	**Ta-pu**	**78.10**	**303**	P	**P**	**04 36 14.7**	**-0.7**
YHNB	**Yeheng**	**78.30**	**304**	P	**P**	**04 36 16.7**	**+0.1**
YHNB				IAmb	IAmb	04 36 32.0	
	comp=Z,34nm,1.1s						
JKA	**Kamikawa-asahi**	**78.59**	**331**	P	**P**	**04 36 18.2**	**+0.6**
ASAJ	**Asahikawa**	**78.59**	**331**	P	**P**	**04 36 18.2**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,53nm,1.0s						
SKR	**Severo-Kuril's**	**79.30**	**342**	*e*P	**P**	**04 36 20.5**	**-0.8**
SKR				*e*S	**S**	**04 46 24.5**	**+3.3**
SKR				*e*PS	PnS	04 47 27.7	+23
SKR				pmax	pmax		
	comp=Z,200nm,3.4s						
SKR				pmax	pmax		
	comp=Z,35nm,0.9s						
SKR				MLR	MLR		
	comp=Z,200nm,17.0s						
SKR				MLR	MLR		
	comp=Z,200nm,19.0s						
ESJX	**Sierra Juarez**	**80.42**	**48**	P	**P**	**04 36 27.0**	**-1.1**
QZH	**Quanzhou**	**80.56**	**303**	P	**P**	**04 36 29.0**	**+0.3**
QZH				S	**S**	**04 46 34.3**	**-1.3**
QZH				LR	LR		
	comp=Z,210nm,24.6s						
QZH				LR	LR		
	comp=Z,390nm,34.1s						
MURC	**Murrieta**	**80.56**	**46**	P	**P**	**04 36 29.3**	**+0.6**
	baz=232						
MONP2	**Monument Peak**	**80.64**	**47**	P	**P**	**04 36 28.9**	**-0.4**
	baz=232						
VES	**Vestal, Richgr**	**80.76**	**43**	P	**P**	**04 36 29.6**	**0.0**
	baz=230						
YSS	**Yuzh-Sakhalins**	**80.77**	**333**	*c i* P	**P**	**04 36 31.2**	**+1.9**
YSS				*e*S	**S**	**04 46 40.8**	**+3.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				pmax	pmax		
	comp=Z,300nm,3.1s						
YSS				smax	smax		
	comp=N,500nm,11.6s						
YSS				smax	smax		
	comp=E,200nm,12.3s						
YSS				MLR	MLR		
	comp=Z,300nm,19.0s						
YSS				MLR	MLR		
	comp=N,300nm,17.0s						
YSS				MLR	MLR		
	comp=E,100nm,17.0s						
YSS	**Yuzh-Sakhalins**	**80.77**	**333**	P	**P**	**04 36 29.6**	**+0.2**
PET	**Petropavlovsk**	**80.77**	**345**	*e*P	**P**	**04 36 29.2**	**0.0**
PET				*e*S	**S**	**04 46 38.9**	**+2.2**
PET				pmax	pmax		
	comp=Z,100nm,16.6s						
EDW2	**Edwards Air Fo**	**80.84**	**45**	P	**P**	**04 36 30.3**	**+0.1**
	baz=231						
KMRM	**Mail Ridge**	**80.94**	**38**	P	**P**	**04 36 30.0**	**-0.5**
KMRM				IAmb	IAmb	04 36 48.9	
	comp=Z,38nm,1.0s						
ISA	**Isabella, Lake**	**81.03**	**44**	P	**P**	**04 36 30.5**	**-0.6**
ISA				pmax	pmax		
	comp=Z,19nm,1.2s						
ISA	**Isabella, Lake**	**81.03**	**44**	P	**P**	**04 36 30.9**	**-0.3**
	baz=230						
ISA	**Isabella, Lake**	**81.03**	**44**	P	**P**	**04 36 30.5**	**-0.6**
PFO	**Pinyon Flats O**	**81.06**	**47**	P	**P**	**04 36 30.9**	**-0.5**
PFO				pmax	pmax		
	comp=Z,18nm,1.5s						
PFO	**Pinyon Flats O**	**81.06**	**47**	P	**P**	**04 36 30.9**	**-0.5**
PEA0B	**Petropavlovsk-**	**81.08**	**344**	*ce*P	**P**	**04 36 30.9**	**0.0**
PEA0B	**Petropavlovsk-**	**81.08**	**344**	P	**P**	**04 36 31.3**	**+0.4**
PETK	**Petropavlovsk-**	**81.08**	**344**	P	**P**	**04 36 29.6**	**-1.3**
	comp=Z,18nm,1.0s,baz=120,slow=8.8,SNR=17						
PETK	**Petropavlovsk-**	**81.08**	**344**	P	**P**	**04 36 31.2**	**+0.3**
PETK	**Petropavlovsk-**	**81.08**	**344**	P	**P**	**04 36 31.2**	**+0.3**
TJN	**Taejon**	**81.21**	**317**	*ce*P	**P**	**04 36 33.0**	**+1.0**
LRMC	**Laurel Mtn Rad**	**81.42**	**44**	P	**P**	**04 36 33.5**	**+0.2**
	baz=231						
O02D	**Mt. Diablo Mer**	**81.42**	**38**	P	**P**	**04 36 34.1**	**+0.9**
	baz=227						
KSRS	**Korea Array**	**81.56**	**318**	P	**P**	**04 36 33.3**	**-0.5**
	comp=Z,18nm,1.1s,baz=142,slow=5.9,SNR=34						
KSRS				LR	LR	05 07 26.6	
	comp=Z,496nm,21.6s,baz=113,slow=32						
KSAR	**Wonju Array Be**	**81.57**	**318**	P	**P**	**04 36 33.5**	**-0.4**
KSAR	**Wonju Array Be**	**81.57**	**318**	P	**P**	**04 36 33.5**	**-0.4**
BELC	**Belle Mtn. Jos**	**81.60**	**47**	P	**P**	**04 36 34.4**	**+0.1**
	baz=232						
KS19	**Wonju Array Si**	**81.62**	**318**	P	**P**	**04 36 34.0**	**-0.1**
KS19				IAmb	IAmb	04 36 37.1	
	comp=Z,51nm,1.4s						
AFDM	**Forest Hills D**	**81.64**	**40**	P	**P**	**04 36 34.2**	**0.0**
ORV	**Oroville**	**81.73**	**39**	P	**P**	**04 36 34.3**	**-0.4**
ORV				pmax	pmax		
	comp=Z,27nm,1.7s						
ORV	**Oroville**	**81.73**	**39**	P	**P**	**04 36 34.3**	**-0.4**
BC3	**Big Chuckawall**	**81.75**	**47**	P	**P**	**04 36 35.3**	**+0.3**
	baz=233						
CWC	**Cottonwood Cre**	**81.77**	**44**	P	**P**	**04 36 35.6**	**+0.4**
	baz=231						
GLA	**Glamis**	**81.81**	**48**	P	**P**	**04 36 35.1**	**-0.2**
GLA				pmax	pmax		
	comp=Z,15nm,0.9s						
GLA	**Glamis**	**81.81**	**48**	P	**P**	**04 36 36.8**	**+1.5**
	baz=233						
GLA	**Glamis**	**81.81**	**48**	P	**P**	**04 36 35.1**	**-0.2**
WDC	**Whiskeytown Da**	**81.83**	**38**	P	**P**	**04 36 34.4**	**-0.8**
WDC				pmax	pmax		
	comp=Z,28nm,1.5s						
WDC	**Whiskeytown Da**	**81.83**	**38**	P	**P**	**04 36 34.4**	**-0.8**
WDC				IAmb	IAmb	04 36 38.1	
	comp=Z,28nm,1.5s						
GSC	**Goldstone, Bar**	**81.87**	**45**	P	**P**	**04 36 35.8**	**+0.2**
	baz=232						
HEC	**Hector,Ludlow**	**81.88**	**46**	P	**P**	**04 36 36.0**	**+0.3**
	baz=232						
MPMC	**Manual Prospec**	**81.90**	**44**	P	**P**	**04 36 36.5**	**+0.6**
	baz=231						
OMMB	**Old Mammoth Mi**	**81.95**	**42**		**P**	**04 36 36.0**	**-0.3**
N02D	**Trinity Center**	**82.01**	**38**	P	**P**	**04 36 37.5**	**+1.2**
	baz=227						
O03E	**Paynes Creek**	**82.06**	**39**	P	**P**	**04 36 36.8**	**+0.3**
	baz=228						
MLAC	**Mammoth, Mammo**	**82.06**	**42**	P	**P**	**04 36 37.9**	**+1.1**
	baz=230						
TIN	**Tinemaha, Big**	**82.06**	**43**	P	**P**	**04 36 37.4**	**+0.8**
	baz=230						
TEY	**Ternei**	**82.06**	**328**	‖ *e*P	**P**	**04 36 38.4**	**+2.2**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.4s						
IRM	**Iron Mountain**	**82.25**	**47**	P	**P**	**04 36 38.3**	**+0.7**
	baz=233						
WAKR	**Walker**	**82.26**	**41**	P	**P**	**04 36 37.4**	**-0.3**
WAKR				IAmb	IAmb	04 36 41.6	
	comp=Z,38nm,1.4s						
GMRC

TPNV	**Topopah Spring**	**83.24**	**44**	P	**P**	**04 36 41.7**	**-1.1**
TPNV				pmax	pmax		
	comp=Z,34nm,1.6s						
TPNV	**Topopah Spring**	**83.24**	**44**	P	**P**	**04 36 43.5**	**+0.7**
	baz=232						
TPNV	**Topopah Spring**	**83.24**	**44**	P	**P**	**04 36 41.6**	**-1.1**
TPNV				IAmb	IAmb	04 36 45.9	
	comp=Z,34nm,1.6s						
HHU	**Hamhung**	**83.39**	**320**	P	**P**	**04 36 46.1**	**+2.8**
HHU				S	S	04 47 12.9	+8.7
KVN	**Kaiserville**	**83.41**	**41**	P	**P**	**04 36 43.5**	**-0.2**
KVN				pmax	pmax		
	comp=Z,21nm,1.3s						
KVN	**Kaiserville**	**83.41**	**41**		**P**	**04 36 43.5**	**-0.2**
KVN				IAmb	IAmb	04 36 46.3	
	comp=Z,21nm,1.3s						
SNAA	**Sanae**	**83.52**	**178**	P	**P**	**04 36 43.4**	**-0.3**
SNAA	**Sanae**	**83.52**	**178**	P	**P**	**04 36 43.7**	**0.0**
SNAA				pmax	pmax		
	comp=Z,61nm,1.4s						
SNAA	**Sanae**	**83.52**	**178**	P	**P**	**04 36 43.7**	**0.0**
I03D	**Drain, OR**	**83.53**	**35**	P	**P**	**04 36 45.0**	**+1.1**
	baz=226						
VNA3	**Neumayer Olymp**	**83.58**	**176**	P	**P**	**04 36 43.4**	**-0.6**
W13A	**Hualapai Mount**	**83.65**	**47**		**P**	**04 36 44.4**	**-0.7**
W13A				IAmb	IAmb	04 36 48.2	
	comp=Z,19nm,1.5s						
SHPR	**Sheep Range**	**83.66**	**45**		**P**	**04 36 45.0**	**0.0**
SHPR				IAmb	IAmb	04 36 48.2	
	comp=Z,24nm,1.5s						
USA0B	**Ussuriysk Arra**	**83.78**	**325**	P	**P**	**04 36 45.7**	**+0.5**
USA0B				pmax	pmax		
	comp=Z,56nm,1.0s						
USA0B	**Ussuriysk Arra**	**83.78**	**325**	P	**P**	**04 36 45.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**83.78**	**325**	P	**P**	**04 36 45.8**	**+0.7**
	comp=Z,21nm,0.9s,baz=135,slow=4.5,SNR=48						
USRK				LR	LR	05 11 41.9	
	comp=Z,605nm,19.1s,baz=125,slow=34						
USRK	**Ussuriysk Ar.**	**83.78**	**325**	P	**P**	**04 36 45.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**83.78**	**325**	P	**P**	**04 36 45.1**	**-0.1**
J04D	**Umpqua Nationa**	**83.87**	**36**	P	**P**	**04 36 46.6**	**+0.6**
	baz=227						
PYAG	**Pyongyang**	**83.89**	**318**	P	**P**	**04 36 47.6**	**+1.8**
TYV	**Tymovskoe**	**83.92**	**335**	*e*P	**P**	**04 36 47.5**	**+1.8**
TYV				*e*		04 48 08.4	
TYV				pmax	pmax		
	comp=Z,32nm,1.3s						
TYV				pmax	pmax		
	comp=Z,200nm,3.0s						
MOD	**Modoc Plateau**	**83.97**	**38**	P	**P**	**04 36 46.0**	**-0.5**
MOD				IAmb	IAmb	04 36 49.1	
	comp=Z,21nm,1.2s						
VNA2	**Neumayer--Watz**	**84.04**	**176**	P	**P**	**04 36 46.2**	**-0.1**
I04A	**Tendick Farm,**	**84.09**	**36**	P	**P**	**04 36 46.4**	**-0.5**
	baz=227						
TUC	**Tucson**	**84.15**	**50**	P	**P**	**04 36 47.4**	**-0.1**
TUC				pmax	pmax		
	comp=Z,22nm,1.4s						
TUC	**Tucson**	**84.15**	**50**	P	**P**	**04 36 48.3**	**+0.8**
	baz=236						
TUC	**Tucson**	**84.15**	**50**	P	**P**	**04 36 47.4**	**-0.1**
TUC				IAmb	IAmb	04 37 04.9	
	comp=Z,22nm,1.4s						
K05A	**Summer Lake**	**84.19**	**37**	P	**P**	**04 36 47.5**	**-0.1**
VNA1	**Neumayer--Stat**	**84.26**	**176**	P	**P**	**04 36 47.2**	**-0.1**
PRN	**Pahroc Range**	**84.27**	**44**		**P**	**04 36 48.4**	**+0.3**
NJ2	**Nanjing**	**84.28**	**309**	*e*P	**P**	**04 36 50.2**	**+2.2**
NJ2				pP	**PcP**	**04 36 52.3**	**+0.6**
NJ2				S	**S**	**04 47 14.0**	**+0.5**
NJ2				SS	**SS**	**04 52 47.1**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,23nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.5s						
NJ2				LR	LR		
	comp=Z,370nm,22.6s						
NJ2				LR	LR		
	comp=Z,300nm,23.0s						
NJ2				LR	LR		
	comp=Z,510nm,21.6s						
J05D	**Fort Rock, OR**	**84.38**	**37**	P	**P**	**04 36 49.3**	**+0.8**
	baz=228						
NVL	**N'lazarevskaya**	**84.40**	**183**	*e*P	sP	04 37 00.2	+8.4
NVL				*e*S	**S**	**04 47 19.2**	**+5.5**
NVL				pmax	pmax		
	comp=Z,13nm,0.8s						
H04D	**Lebanon**	**84.41**	**35**	P	**P**	**04 36 49.3**	**+0.8**
	baz=227						
R11A	**Troy Canyon, C**	**84.51**	**43**	P	**P**	**04 36 49.3**	**0.0**
	baz=232						
QIZ	**Qiongzhong**	**84.53**	**294**	P	**P**	**04 36 47.7**	**-1.9**
QIZ				S	**S**	**04 47 17.7**	**+1.1**
QIZ				SS	**SS**	**04 52 46.9**	**-1.0**
QIZ				pmax	pmax		
	comp=Z,220nm,14.2s						
QIZ				LR	LR		
	comp=Z,270nm,15.7s						
QIZ				LR	LR		
	comp=Z,280nm,23.5s						
QIZ				LR	LR		
	comp=Z,330nm,26.0s						
319A	**Douglas**	**84.70**	**52**	P	**P**	**04 36 49.9**	**-0.4**
319A				IAmb	IAmb	04 37 47.9	
	comp=Z,28nm,1.5s						
PLCA	**Paso Flores**	**84.75**	**133**	P	**P**	**04 36 50.9**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=216,slow=5.7,SNR=4.8						
PLCA				LR	LR	05 05 28.0	
	comp=Z,456nm,21.6s,baz=205,slow=29						
PLCA	**Paso Flores**	**84.75**	**133**	P	**P**	**04 36 50.4**	**-0.2**
PLCA				pmax	pmax		
	comp=Z,42nm,2.0s						
PLCA	**Paso Flores**	**84.75**	**133**	P	**P**	**04 36 50.4**	**-0.2**
PLCA				IAmb	IAmb	04 37 00.4	
	comp=Z,42nm,2.0s						
PINE	**Pine Mountain**	**84.87**	**36**	P	**P**	**04 36 51.0**	**-0.1**
X16A	**Lo Mia Camp, P**	**84.89**	**48**		**P**	**04 36 51.3**	**-0.1**
I05D	**Terrebonne, OR**	**85.03**	**36**	P	**P**	**04 36 51.4**	**-0.2**
	baz=228						
WVOR	**Wild Horse Val**	**85.26**	**39**	P	**P**	**04 36 52.6**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,24nm,1.4s						
WVOR	**Wild Horse Val**	**85.26**	**39**	P	**P**	**04 36 52.6**	**-0.3**
WVOR				IAmb	IAmb	04 36 55.5	
	comp=Z,24nm,1.4s						
SUJ	**Sinuiju**	**85.31**	**318**	P	**P**	**04 36 54.3**	**+1.3**
SUJ				S	**S**	**04 47 29.7**	**+6.3**
MDJ	**Mudanjiang**	**85.32**	**324**	P	**P**	**04 36 56.5**	**+3.5**
MDJ				S	**S**	**04 47 21.1**	**-2.2**
MDJ				SS	**SS**	**04 52 53.1**	**-5.5**
MDJ				pmax	pmax		
	comp=Z,21nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,320nm,2.6s						
MDJ				LR	LR		
	comp=Z,250nm,18.6s						
MDJ				LR	LR		
	comp=Z,470nm,18.4s						
MDJ				LR	LR		
	comp=Z,880nm,20.2s						
E03A	**Lebam**	**85.39**	**33**		**P**	**04 36 53.1**	**-0.1**
KNB	**Kanab**	**85.47**	**46**	P	**P**	**04 36 54.5**	**+0.3**
KNB				pmax	pmax		
	comp=Z,51nm,1.6s						
KNB	**Kanab**	**85.47**	**46**	P	**P**	**04 36 54.5**	**+0.3**
WUAZ	**Wupatki**	**85.56**	**48**		**P**	**04 36 54.7**	**+0.1**
WUAZ				IAmb	IAmb	04 37 19.0	
	comp=Z,21nm,1.4s						
IPM	**Ipoh**	**85.72**	**277**		**P**	**04 36 56.3**	**+0.5**
IPM				IAmb	IAmb	04 36 59.0	
	comp=Z,36nm,1.2s						
I07A	**Izee**	**85.84**	**37**		**P**	**04 36 55.8**	**0.0**
PKCU	**Pink Cliffs**	**86.05**	**46**		**P**	**04 36 56.6**	**-0.7**
DL2	**Dalian**	**86.35**	**316**	P	**P**	**04 36 58.9**	**+0.7**
DL2				SKS	**SKSac**	**04 47 25.3**	**+0.9**
DL2				S	**S**	**04 47 34.3**	**+0.6**
DL2				pmax	pmax		
	comp=Z,39nm,0.8s						
DL2				pmax	pmax		
	comp=Z,280nm,5.5s						
DL2				LR	LR		
	comp=Z,220nm,17.0s						
DL2				LR	LR		
	comp=Z,340nm,19.4s						
DL2				LR	LR		
	comp=Z,390nm,26.4s						

GRNR	**Gornyy**	**86.38**	**332**	*e*P	**P**	**04 36 56.4**	**-1.7**
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
121A	**Cookes Peak, D**	**86.39**	**52**	P	**P**	**04 36 57.9**	**-0.9**
121A				IAmb	IAmb	04 38 03.4	
	comp=Z,44nm,1.8s						
KULM	**Kulim**	**86.40**	**277**	P	**P**	**04 36 59.2**	**+0.1**
KULM				IAmb	IAmb	04 37 02.6	
	comp=Z,37nm,1.4s						
W18A	**Petrified Fore**	**86.44**	**49**	P	**P**	**04 36 58.8**	**-0.2**
W18A				IAmb	IAmb	04 37 12.1	
	comp=Z,21nm,1.3s						
NKL	**Nikolayevsk**	**86.48**	**335**	*e*P	**P**	**04 36 58.2**	**-0.2**
NKL				*e*S	**SKSac**	**04 47 17.3**	**-7.1**
NKL				pmax	pmax		
	comp=N,12nm,0.7s						
NKL				pmax	pmax		
	comp=Z,17nm,0.8s						
WHN	**Wuhan**	**86.71**	**306**	P	**P**	**04 37 01.9**	**+1.7**
WHN				pP	**pwP**	**04 37 11.3**	**+2.9**
WHN				SKS	**SKSac**	**04 47 29.0**	**+2.0**
WHN				pmax	pmax		
	comp=Z,140nm,1.3s						
WHN				pmax	pmax		
	comp=Z,760nm,4.7s						
WHN				LR	LR		
	comp=Z,760nm,19.1s						
WHN				LR	LR		
	comp=Z,910nm,17.6s						
WHN				LR	LR		
	comp=Z,1μm,22.1s						
MSU	**Marysvale**	**86.76**	**45**	P	**P**	**04 37 00.9**	**+0.4**
MSU	**Marysvale**	**86.76**	**45**		**P**	**04 37 00.9**	**+0.4**
RPSI	**Rantau Prapat**	**86.86**	**274**	P	**P**	**04 37 00.4**	**-0.9**
PSI	**Prapat**	**86.91**	**275**	P	**P**	**04 37 01.1**	**-0.7**
	comp=Z,32nm,1.1s,baz=180,slow=2.3,SNR=18						
PSI	**Prapat**	**86.91**	**275**	P	**P**	**04 37 00.4**	**-1.4**
PSI				pmax	pmax		
	comp=Z,36nm,1.0s						
G08A	**Pilot Rock**	**86.92**	**36**		**P**	**04 37 00.8**	**-0.3**
G08A				IAmb	IAmb	04 37 29.4	
	comp=Z,38nm,1.9s						
CN2	**Changchun**	**87.05**	**322**	*e*P	**P**	**04 37 03.0**	**+1.4**
CN2				*e*S	**SKKSac**	**04 47 33.3**	**-4.0**
CN2				pmax	pmax		
	comp=Z,30nm,2.0s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,300nm,20.0s						
CN2				LR	LR		
	comp=Z,400nm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,22.0s						
DUG	**Dugway, Tooele**	**87.34**	**43**	P	**P**	**04 37 03.7**	**+0.4**
DUG				pmax	pmax		
	comp=Z,11nm,1.4s						
DUG	**Dugway, Tooele**	**87.34**	**43**		**P**	**04 37 03.6**	**+0.4**
HAWA	**Hanford**	**87.34**	**35**	P	**P**	**04 37 03.0**	**+0.1**
HAWA				IAmb	IAmb	04 37 28.8	
	comp=Z,17nm,1.4s						
KLR	**Kul'dur**	**87.38**	**329**	*ce*P	**P**	**04 37 03.2**	**+0.2**
KLR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MFID	**Camas Ranch**	**87.48**	**39**		**P**	**04 37 03.4**	**-0.4**
GSI	**Gunungsitoli**	**87.50**	**273**	P	**P**	**04 37 05.5**	**+1.0**
	comp=Z,112nm,0.8s						
GSI	**Gunungsitoli**	**87.50**	**273**	P	**P**	**04 37 04.2**	**-0.3**
BMO	**Blue Mountains**	**87.54**	**37**	P	**P**	**04 37 04.4**	**+0.4**
BMO				pmax	pmax		
	comp=Z,26nm,2.0s						
BMO	**Blue Mountains**	**87.54**	**37**	P	**P**	**04 37 04.4**	**+0.4**
BMO				IAmb	IAmb	04 37 33.9	
	comp=Z,26nm,1.9s						
Q16A	**Castle Valley**	**87.63**	**45**	P	**P**	**04 37 04.5**	**-0.3**
MNTX	**Cornudas Mount**	**87.69**	**53**	P	**P**	**04 37 05.3**	**+0.4**
	baz=239						
MNTX	**Cornudas Mount**	**87.69**	**53**		**P**	**04 37 04.2**	**-0.8**
MNTX				IAmb	IAmb	04 37 17.6	
	comp=Z,21nm,1.4s						
TX32	**Lajitas Array**	**87.76**	**56**		**P**	**04 37 04.8**	**-0.7**
TX32				IAmb	IAmb	04 37 18.2	
	comp=Z,20nm,1.3s						
TXAR	**Lajitas Array**	**87.76**	**56**	P	**P**	**04 37 05.3**	**-0.2**
	comp=Z,4.5nm,1.1s,baz=212,slow=5.9,SNR=18						
TXAR				LR	LR	05 11 55.5	
	comp=Z,381nm,18.2s,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**87.76**	**56**	P	**P**	**04 37 04.8**	**-0.7**
TXAR	**Lajitas Array**	**87.76**	**56**	P	**P**	**04 37 04.8**	**-0.7**
TIA	**Tai'an**	**87.77**	**312**	P	**P**	**04 37 07.0**	**+1.8**
TIA				sP	pwP	04 37 20.6	+7.2
TIA				SKS	**SKSac**	**04 47 32.8**	**-0.5**
TIA				S	**S**	**04 47 48.4**	**+0.8**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TIA				pmax	pmax		
	comp=Z,220nm,3.9s						
TIA				LR	LR		
	comp=Z,64nm,12.1s						
TIA				LR	LR		
	comp=Z,280nm,16.4s						
TIA				LR	LR		
	comp=Z,280nm,19.2s						
BNM	**Barren Site**	**88.07**	**51**		**P**	**04 37 06.7**	**-0.4**
D08A	**Wollman Farm,**	**88.09**	**35**		**P**	**04 37 06.2**	**-0.3**
SRU	**San Rafael Swe**	**88.16**	**45**	P	**P**	**04 37 06.6**	**-0.6**
SRU				pmax	pmax		
	comp=Z,11nm,1.0s						
SRU	**San Rafael Swe**	**88.16**	**45**		**P**	**04 37 06.6**	**-0.6**
KCSI	**Kotacane, Aceh**	**88.25**	**275**	P	**P**	**04 37 09.0**	**+0.9**
	comp=Z,25nm,0.8s						
F10A	**Beach Ranch, E**	**88.30**	**37**	P	**P**	**04 37 07.2**	**-0.4**
F10A				IAmb	IAmb	04 37 35.0	
	comp=Z,19nm,1.3s						
HLID	**Hailey**	**88.38**	**40**	P	**P**	**04 37 07.9**	**-0.3**
	baz=233						
HLID	**Hailey**	**88.38**	**40**		**P**	**04 37 08.1**	**-0.1**
MA2	**Magadan**	**88.60**	**344**	*i* P	**P**	**04 37 08.9**	**+0.3**
MA2				pmax	pmax		
	comp=Z,33nm,2.1s						
ANMO	**Albuquerque**	**88.61**	**50**	*ce*P	**P**	**04 37 08.8**	**-0.7**
ANMO				pmax	pmax		
	comp=Z,28nm,2.5s						
ANMO	**Albuquerque**	**88.61**	**50**	P	**P**	**04 37 10.0**	**+0.4**
	baz=238						
ANMO	**Albuquerque**	**88.61**	**50**		**P**	**04 37 09.2**	**-0.3**
ANMO				IAmb	IAmb	04 37 22.3	
	comp=Z,15nm,1.1s						
EYAK	**Cordova Ski Ar**	**88.64**	**14**	P	**P**	**04 37 08.4**	**-0.2**
EYAK				IAmb	IAmb	04 37 11.8	
	comp=Z,21nm,1.2s						
GLI	**Glacier Island**	**88.64**	**14**	P	**P**	**04 37 08.8**	**0.0**
FID	**Port Fidalgo**	**88.66**	**14**	P	**P**	**04 37 09.1**	**+0.3**
TPTI		**88.68**	**274**	P	**P**	**04 37 09.8**	**-0.3**
	comp=Z,27nm,0.7s						
B08A	**Colville Reser**	**88.73**	**34**	P	**P**	**04 37 09.1**	**-0.4**
B08A				IAmb	IAmb	04 37 37.1	
	comp=Z,16nm,1.5s						
PV13	**Radium Mtn., P**	**88.74**	**47**	P	**P**	**04 37 09.8**	**-0.3**
SKT	**Skwentna**	**88.79**	**11**	P	**P**	**04 37 08.5**	**-1.0**
SKT				IAmb	IAmb	04 38 34.2	
	comp=Z,18nm,1.0s						
PMR	**Palmer**	**88.87**	**12**	P	**P**	**04 37 10.3**	**+0.5**
PMR				pmax	pmax		
	comp=Z,28nm,1.4s						
PMR	**Palmer**	**88.87**	**12**		**P**	**04 37 10.3**	**+0.5**
PMR				IAmb	IAmb	04 37 12.7	
	comp=Z,28nm,1.4s						
C09A	**Chrisman Ranch**	**88.91**	**35**		**P**	**04 37 09.7**	**-0.6**
TTA	**Tatalina**	**88.98**	**9**	P	**P**	**04 37 10.2**	**-0.2**
TTA				pmax	pmax		
	comp=Z,33nm,1.6s						
TTA	**Tatalina**	**88.98**	**9**		**P**	**04 37 10.2**	**-0.2**
TTA				IAmb	IAmb	04 37 31.6	
	comp=Z,33nm,1.6s						
CUT	**Chulitna**	**89.41**	**12**	P	**P**	**04 37 14.4**	**+2.2**
	baz=203						
KLU	**Klutina**	**89.44**	**14**	P	**P**	**04 37 12.8**	**+0.2**
KLU				IAmb	IAmb	04 37 15.1	
	comp=Z,17nm,1.2s						
ISLE	**Juniper Island**	**89.49**	**16**	P	**P**	**04 37 13.3**	**+0.4**
VRDI	**Verde Repeater**	**89.77**	**15**		**P**	**04 37 14.2**	**-0.1**
VRDI				IAmb	IAmb	04 37 17.6	
	comp=Z,33nm,1.4s						
MLSI	**Meulaboh, Aceh**	**89.80**	**275**	P	**P**	**04 37 15.4**	**0.0**

S22A	**4UR Ranch, Cre**	**89.84**	**48**	P	**P**	**04 37 15.9**	**+0.5**
	baz=238						
S22A	**4UR Ranch, Cre**	**89.84**	**48**		**P**	**04 37 14.9**	**-0.5**
GLB	**Gilahina Butte**	**89.87**	**15**		**P**	**04 37 14.6**	**0.0**
GLB				IAmb	IAmb	04 37 40.3	
	comp=Z,38nm,1.6s						
M24K	**Tolsona, Glenn**	**89.94**	**13**	P	**P**	**04 37 16.9**	**+2.0**
	baz=207						
MCMT	**McKenzie Canyo**	**90.04**	**39**	P	**P**	**04 37 15.8**	**-0.2**
CTGM	**Chitina Glacie**	**90.05**	**16**	P	**P**	**04 37 15.7**	**+0.1**
CTGM				IAmb	IAmb	04 37 28.2	
	comp=Z,11nm,0.8s						
BARN	**Barnard Glacie**	**90.05**	**16**	P	**P**	**04 37 16.0**	**+0.4**
ENH	**Enshi**	**90.21**	**303**	P	**P**	**04 37 17.1**	**+0.2**
KTH	**Kantishna Hill**	**90.36**	**11**		**P**	**04 37 16.9**	**+0.1**
KTH				IAmb	IAmb	04 37 33.0	
	comp=Z,12nm,1.0s						
TRF	**Thorofare Moun**	**90.37**	**11**	P	**P**	**04 37 17.4**	**+0.4**
TRF				IAmb	IAmb	04 37 37.2	
	comp=Z,16nm,0.9s						
BJI	**Beijing**	**90.47**	**315**	P	**P**	**04 37 19.7**	**+1.9**
BJI				SKS	**SKSac**	**04 47 51.9**	**+2.9**
BJI				S	**ScS**	**04 48 17.9**	**+1.5**
BJI				pmax	pmax		
	comp=Z,18nm,2.3s						
BJI				pmax	pmax		
	comp=Z,190nm,3.8s						
BJI				LR	LR		
	comp=Z,200nm,19.6s						
BJI				LR	LR		
	comp=Z,210nm,16.7s						
BJI				LR	LR		
	comp=Z,440nm,26.5s						
SNOW	**Snow King Moun**	**90.48**	**41**	P	**P**	**04 37 18.2**	**+0.1**
RND	**Reindeer**	**90.59**	**12**	P	**P**	**04 37 18.2**	**+0.3**
RND				pmax	pmax		
	comp=Z,33nm,1.2s						
RND	**Reindeer**	**90.59**	**12**		**P**	**04 37 18.2**	**+0.3**
GYA	**Guiyang**	**90.61**	**299**	||P	**P**	**04 37 21.5**	**+2.6**
GYA				SKS	**SKSac**	**04 47 52.1**	**+1.4**
GYA				S	**ScS**	**04 48 18.1**	**-0.3**
GYA				pmax	pmax		
	comp=Z,11nm,1.6s						
GYA				pmax	pmax		
	comp=Z,160nm,3.5s						
GYA				LR	LR		
	comp=Z,190nm,23.8s						
GYA				LR	LR		
	comp=Z,360nm,21.1s						
GYA				LR	LR		
	comp=Z,580nm,24.4s						
MSO	**Missoula**	**90.61**	**37**	P	**P**	**04 37 18.4**	**-0.1**
	baz=233						
MSO	**Missoula**	**90.61**	**37**		**P**	**04 37 19.3**	**+0.8**
IMW	**Indian Meadow**	**90.62**	**41**	P	**P**	**04 37 18.2**	**-0.6**
IMW				IAmb	IAmb	04 37 22.3	
	comp=Z,14nm,1.4s						
SDCO	**Great Sand Dun**	**90.73**	**48**	P	**P**	**04 37 19.3**	**-0.2**
	baz=239						
SDCO	**Great Sand Dun**	**90.73**	**48**		**P**	**04 37 18.7**	**-0.8**
BW06	**Boulder Array**	**90.81**	**42**	P	**P**	**04 37 19.1**	**-0.6**
	baz=236						
PD31	**Pinedale Array**	**90.81**	**42**	P	**P**	**04 37 18.9**	**-0.7**
PDAR	**Pinedale Array**	**90.81**	**42**	P	**P**	**04 37 19.0**	**-0.7**
	comp=Z,2.9nm,1.1s,baz=219,slow=3.8,SNR=11						
PDAR				LR	LR	05 10 38.9	
	comp=Z,415nm,20.7s,baz=252,slow=31						
PDAR	**Pinedale Array**	**90.81**	**42**		**P**	**04 37 18.7**	**-1.0**
QLMT	**Earthquake Lak**	**90.86**	**40**	P	**P**	**04 37 19.9**	**+0.1**
MCK	**McKinley**	**90.87**	**12**	P	**P**	**04 37 19.9**	**+0.8**
MCK				pmax	pmax		
	comp=Z,27nm,1.2s						
MCK	**McKinley**	**90.87**	**12**		**P**	**04 37 19.9**	**+0.8**
SEY	**Seymchan**	**91.16**	**346**	*i* P	**P**	**04 37 20.3**	**-0.1**
BOZ	**Bozeman (W)**	**91.19**	**39**	P	**P**	**04 37 21.2**	**-0.1**
BOZ	**Bozeman (W)**	**91.19**	**39**	P	**P**	**04 37 21.5**	**+0.3**
	baz=235						
BOZ	**Bozeman (W)**	**91.19**	**39**	P	**P**	**04 37 21.2**	**-0.1**
MENT	**Mentasta**	**91.21**	**14**	P	**P**	**04 37 21.2**	**+0.4**
MENT				IAmb	IAmb	04 37 33.3	
	comp=Z,11nm,1.0s						
JCT	**Junction City**	**91.25**	**57**	P	**P**	**04 37 20.7**	**-1.0**
JCT				pmax	pmax		
	comp=Z,28nm,1.9s						
JCT	**Junction City**	**91.25**	**57**	P	**P**	**04 37 21.0**	**-0.7**
	baz=242						
JCT	**Junction City**	**91.25**	**57**	P	**P**	**04 37 20.7**	**-1.0**
JCT				IAmb	IAmb	04 38 41.3	
	comp=Z,28nm,1.9s						
RIDG	**Independent Ri**	**91.68**	**13**		**P**	**04 37 22.5**	**-0.4**
RIDG				IAmb	IAmb	04 37 34.6	
	comp=Z,14nm,1.1s						
HRY	**Holter Researc**	**91.72**	**38**	P	**P**	**04 37 23.4**	**-0.2**
BCAR	**Beaver Creek A**	**91.76**	**15**	P	**P**	**04 37 23.1**	**-0.3**
DOT	**Dot Lake**	**91.76**	**14**		**P**	**04 37 23.4**	**+0.2**
DOT				IAmb	IAmb	04 37 35.5	
	comp=Z,14nm,1.1s						
N23A	**Red Feather La**	**92.08**	**45**		**P**	**04 37 26.2**	**+0.5**
N23A				IAmb	IAmb	04 38 23.9	
	comp=Z,33nm,1.9s						
COLA	**College**	**92.11**	**12**	*i* P	**P**	**04 37 23.5**	**-1.3**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MDM	**Murphy Dome**	**92.12**	**11**	P	**P**	**04 37 25.4**	**+0.5**
MDM				IAmb	IAmb	04 37 42.3	
	comp=Z,17nm,1.3s						
IMAR	**Indian Mountai**	**92.19**	**9**	P	**P**	**04 37 25.4**	**+0.2**
ILAR	**Eielson Array**	**92.20**	**12**	P	**P**	**04 37 23.9**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=225,slow=5.6,SNR=11						
ILAR				LR	LR	05 16 55.0	
	comp=Z,182nm,18.0s,baz=214,slow=34						
RLMT	**Red Lodge**	**92.30**	**41**	P	**P**	**04 37 27.1**	**+0.7**
	baz=236						
ABTX	**Abilene, Hawle**	**92.38**	**55**		**P**	**04 37 25.8**	**-1.1**
XAN	**Xi'an**	**92.43**	**306**	P	**P**	**04 37 29.6**	**+2.4**
XAN				pP	pwP	04 37 38.4	+3.1
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN	**Xi'an**	**92.43**	**306**	P	**P**	**04 37 27.3**	**+0.2**
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
XAN	**Xi'an**	**92.43**	**306**	P	**P**	**04 37 27.3**	**+0.2**
ZEA	**Zeya**	**92.49**	**330**	*i* P	**P**	**04 37 29.3**	**+2.5**
ZEA				*e*		04 48 36.0	
ZEA				*e*PS	PnS	04 50 23.0	+39
ZEA				pmax	pmax		
	comp=Z,32nm,1.4s						
K27K	**Chicken**	**92.53**	**14**	P	**P**	**04 37 27.9**	**+1.1**
	baz=210						
KMI	**Kunming**	**93.17**	**296**	||*e*P	**P**	**04 37 34.7**	**+3.7**
KMI				pP	pwP	04 37 37.6	-1.6
KMI				sP	sP	04 37 39.0	+4.4
KMI				SKS	**SKSac**	**04 48 04.5**	**-1.0**
KMI				S	**S**	**04 48 37.9**	**-0.3**
KMI				pmax	pmax		
	comp=Z,20nm,1.4s						
KMI				pmax	pmax		
	comp=Z,110nm,3.5s						
KMI				LR	LR		

comp=Z,280nm,22.9s
HHC LR LR
BTO Baotou 94.81 313 *e*P **P** **04 37 41.1 +3.1**
CD2 Chengdu 94.89 302 *e*P **P** **04 37 41.9 +3.4**
CD2 S **S** **04 48 56.7 +4.0**
CD2 SS **SS** **04 55 22.4 +4.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.4s
CD2 LR LR
comp=Z,320nm,20.6s
CD2 LR LR
comp=Z,390nm,18.9s
CD2 LR LR
comp=Z,530nm,21.5s
LAO LASA Array 94.93 40 **P** **04 37 38.4 +0.1**
LAO IAmb IAmb 04 37 41.4
comp=Z,19nm,1.2s
RSSD Black Hills 94.94 43 P **P** **04 37 37.6 -1.1**
RSSD pmax pmax
comp=Z,13nm,1.2s
RSSD Black Hills 94.94 43 P **P** **04 37 38.4 -0.3**
baz=240
RSSD Black Hills 94.94 43 **P** **04 37 37.6 -1.1**
RSSD IAmb IAmb 04 37 48.3
comp=Z,13nm,1.1s
LZH Lanzhou 97.07 306 *e*P Pdif 04 37 52.9 +4.3
LZH pP pwP 04 37 57.0 +0.3
LZH SKS **SKSac** **04 48 29.2 +3.5**
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,62nm,4.7s
LZH LR LR
comp=Z,310nm,16.3s
LZH LR LR
comp=Z,250nm,15.4s
LZH LR LR
comp=Z,350nm,16.8s
LPAZ La Paz 98.47 112 LR LR 05 16 00.5
comp=Z,278nm,18.0s,baz=225,slow=32
YKA Yellowknife Ar 99.69 24 LR LR 05 16 49.2
comp=Z,275nm,20.6s,baz=0.0,slow=32
ULN Ulaanbaatar 100.04 318 *i* P **Pdif** **04 38 01.0 -0.5**
ULN pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 100.43 318 P **Pdif** **04 38 02.9 -0.3**
comp=Z,0.4nm,0.5s,baz=131,slow=4.5,SNR=4.2
SONM Songino Array 100.43 318 P **Pdif** **04 38 02.5 -0.7**
SONM Songino Array 100.43 318 **Pdif** **04 38 02.5 -0.7**
GTA Gaotai 101.35 308 sS sS 04 49 55.7 +3.7
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,33nm,4.6s
GTA LR LR
comp=N,110nm,21.9s
GTA LR LR
comp=E,160nm,24.8s
GTA LR LR
comp=Z,310nm,20.9s
WMQ Urumqi 111.36 309 *e*PKP **PKiKP** **04 42 50.2 0.0**
WMQ AMB AMB
comp=Z,53nm,5.1s
WMQ LR LR
comp=Z,120nm,17.9s
WMQ LR LR
comp=Z,170nm,19.3s
WMQ LR LR
comp=Z,130nm,22.9s
DGZ Jazzator, Alta 112.88 316 *i* PKIKP **PKiKP** **04 42 52.0 -1.0**
ZALV Zalesovo Beam 115.22 320 PKP **PKiKP** **04 42 55.2 -2.0**
comp=Z,1.7nm,0.6s,baz=101,slow=3.0,SNR=6.0
NRIK Noril'sk 115.44 337 *i* PKIKP **PKPdf** **04 42 57.2 +0.1**
MK31 Makanchi Array 115.71 312 PKIKP **PKiKP** **04 42 58.1 -0.3**
MK31 Makanchi Array 115.71 312 **PKiKP** **04 42 58.1 -0.3**
MKAR Makanchi Array 115.71 312 PKP **PKPdf** **04 42 56.4 -2.0**
comp=Z,1.7nm,0.7s,baz=11,slow=0.6,SNR=22
MKAR Makanchi Array 115.71 312 PKIKP **PKPdf** **04 42 56.7 -1.7**
MKAR Makanchi Array 115.71 312 **PKPdf** **04 42 56.7 -1.7**
MAKZ Makanchi 115.92 312 PKIKP **PKPdf** **04 42 58.0 -0.8**
MAKZ Makanchi 115.92 312 **PKPdf** **04 42 58.0 -0.8**
KURK Kurchatov 118.62 316 PKIKP **PKPdf** **04 43 02.8 -1.0**
KURK Kurchatov 118.62 316 **PKPdf** **04 43 02.8 -1.0**
AAK Ala-Archa 120.61 306 *i* PKIKP **PKPdf** **04 43 06.8 -1.4**
GAR Garm 123.34 301 **PKPdf** **04 43 13.0 -0.5**
KK31 Karatay Array 123.57 306 PKIKP **PKPdf** **04 43 12.5 -1.1**
KK31 Karatay Array 123.57 306 PKPdf **PKPdf** **04 43 12.5 -1.1**
KKAR Karatay Array 123.57 306 PKIKP **PKPdf** **04 43 12.5 -1.2**
KKAR Karatay Array 123.57 306 PKPdf **PKPdf** **04 43 12.4 -1.2**
KBL Kabul 123.75 296 PKIKP **PKPdf** **04 43 13.4 -1.1**
KBL Kabul 123.75 296 **PKPdf** **04 43 13.4 -1.1**
BRVK Borovoye 123.83 318 *c* *i*PKIKP **PKiKP** **04 43 15.1 +1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
ARU Arti 130.00 324 *i* PKIKP **PKiKP** **04 43 25.6 -0.6**
ARU 04 45 35.0
ARU 04 50 35.2
ARU MLR MLR
comp=Z,514nm,21.0s
ABKAR Akbulak array 130.69 314 PKPdf **PKPdf** **04 43 26.0 -0.9**
GEYT Alibeck 132.83 299 PKP **PKPdf** **04 43 30.3 -1.2**
comp=Z,1.2nm,0.4s,baz=191,slow=4.5,SNR=5.1
ARCES ARCESS Array B 133.64 350 **PKPdf** **04 43 30.8 -1.2**
comp=Z,4.1nm,0.8s,baz=18,slow=1.8,SNR=11
ARCES ARCESS Array B 133.64 350 PKIKP **PKPdf** **04 43 32.1 +0.1**
ARCES ARCESS Array B 133.64 350 **PKPdf** **04 43 32.1 +0.1**
TMCR Tamitsa 135.03 340 *e*PKIKP **PKPdf** **04 43 34.7 0.0**
KLMR Klimovskoe 136.76 336 *e*PKIKP **PKPdf** **04 43 36.3 -1.7**
KLMR *e* 04 46 21.8
KLMR pmax pmax
comp=Z,11nm,1.2s
KLMR Klimovskoe 136.76 336 *e*PKPdf **PKPdf** **04 43 36.4 -1.6**
KLMR AMP 04 43 42.3
comp=Z,11nm,1.2s
KLMR *e*PP **PP** **04 46 21.9 +1.4**
KLMR LQ LQ 05 34 47.8
KLMR LQ LQ 05 34 47.8
KLMR LR LR 05 35 25.8
FINES FINESS Array B 140.60 344 PKhKP PKPpre 04 43 38.7
comp=Z,1.1nm,0.7s,baz=183,slow=34,SNR=2.4
FINES FINESS Array B 140.60 344 PKIKP **PKPdf** **04 43 44.9 -0.1**
FINES FINESS Array B 140.60 344 **PKPdf** **04 43 44.9 -0.1**
VRH Novokhopyorsk 141.18 322 *e*PKIKP **PKPdf** **04 43 43.8 -2.6**
VRH pmax pmax
comp=Z,10.0nm,1.6s
OBN Obninsk 141.62 330 *e*PKIKP **PKPdf** **04 43 46.6 -0.4**
OBN *e*PPP PPP 04 49 54.6
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,190nm,19.0s
LPSR Galich'ya Gora 141.96 326 *e*PKIKP **PKPdf** **04 43 45.3 -2.4**
LPSR pmax pmax
comp=Z,8.0nm,0.7s
VSR Storozhevoye 142.57 324 *e*PKIKP **PKPdf** **04 43 48.2 -0.7**
VSR pmax pmax
comp=Z,10.0nm,1.5s
KBZ Khabaz 143.39 311 PKP PKPbc 04 43 48.4 +0.7
comp=Z,3.0nm,0.8s,baz=53,slow=4.2,SNR=5.1
KIV Kislovodsk 143.46 311 *i* PKIKP **PKiKP** **04 43 53.2 -1.0**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,780nm,24.0s
NB2 NORSAR Subarra 143.60 354 PKP PKPbc 04 43 48.7 +0.8
comp=Z,22nm,2.0s,baz=17,slow=2.6
NOA NORSAR Array B 143.60 354 PKP **PKPdf** **04 43 49.6 -0.9**
comp=Z,0.7nm,0.8s,baz=312,slow=19,SNR=3.3
AKH Akhalkalaki 143.61 307 ||P PKPab 04 43 47.1 -0.8
AKH Akhalkalaki 143.61 307 PKIKP **PKPdf** **04 43 49.9 -1.4**
AKH Akhalkalaki 143.61 307 PKPdf **PKPdf** **04 43 49.9 -1.4**
IZAR Zarasai 145.26 338 *e*P **PKiKP** **04 43 56.0 -1.4**
IDID Didziasalis 145.44 337 *e*P **PKiKP** **04 43 56.2 -1.5**
ISAL Salakas 145.45 338 *e*P **PKiKP** **04 43 56.0 -1.8**
IIGN Ignalina 145.59 338 *e*P **PKPab** **04 43 55.5 +1.0**
SOC Sochi 145.61 312 *e*PKIKP **PKPab** **04 43 54.7 -0.3**
SOC *i* 04 43 57.6
SOC *e* 04 47 14.6
SOC *e*PPP PPP 04 50 25.6
SOC *e*SS SS 05 06 05.3 -3.0
SOC *e*SSS SSS 05 11 33.8
SOC pmax pmax
comp=Z,9.0nm,0.5s
SOC pmax pmax
comp=Z,8.0nm,0.5s
MICGM Minsk 145.66 335 *e* **PKPbc** **04 43 54.0 -0.4**
MNK Minsk 145.66 335 *e*PKIKP **PKPbc** **04 43 54.0 -0.4**
NACGM Naroch 145.75 337 *e* **PKPdf** **04 43 53.0 -1.3**
PABE Paberze 146.21 340 *e*P **PKPbc** **04 43 55.8 -0.2**
PBUR Paburge 146.37 342 *e*P **PKPab** **04 43 57.5 +0.1**
ANN Anapa 146.65 315 *i* PKP2 **PKPbc** **04 43 57.3 -0.4**
ANN pmax pmax
comp=Z,61nm,1.9s
SUW Suwalki 147.71 339 *e* **PKPab** **04 44 02.4 -0.3**
AKASG Malin Array Be 147.88 330 PKPbc **PKPdf** **04 43 58.6 +0.6**
comp=Z,17nm,1.0s,baz=40,slow=3.7,SNR=20
MUD Monsted U'grnd 148.32 355 *i* P **PKPbc** **04 44 02.3 +0.4**
MUD Monsted U'grnd 148.32 355 *e*PKP2 **PKPbc** **04 44 02.3 +0.4**
GAZ Gaziantep 149.38 301 **PKPdf** **04 44 00.0 -1.0**
DIKM Dikmen 149.39 311 ||P **PKPab** **04 44 13.5 +3.6**
SORM Soroca 150.04 327 ⇑P **PKPbc** **04 44 04.7 -1.9**
SORM Soroca 150.04 327 ⇑PKHKP PKPpre 04 44 04.7
GKP Gorka Klasztor 150.07 344 *e* **PKPab** **04 44 09.4 -2.8**
BZK Bozkurt 150.12 312 ⇑P **PKiKP** **04 44 08.3 +0.5**
PURM Purcari 150.28 323 ||P **PKiKP** **04 44 08.3 +0.3**
BEL Belsk 150.32 339 *e* **PKiKP** **04 44 09.9 +2.0**
BSEG Bad Segeberg 150.69 353 *e*L L 05 49 33.8
comp=Z,310nm,21.9s
ILGA Ilgaz 150.69 310 **PKiKP** **04 44 08.8 -0.5**
LVV L'vov 150.78 333 *e*PKIKP **PKiKP** **04 44 09.6 +0.7**
BR131 Keskin Array S 151.27 308 PKIKP **PKPbc** **04 44 08.9 -1.0**
BR131 Keskin Array S 151.27 308 **PKPbc** **04 44 08.9 -1.0**
BRTR Keskin Array B 151.27 308 PKPbc **PKPbc** **04 44 08.7 -1.3**
comp=Z,6.6nm,0.9s,baz=147,slow=4.4,SNR=27
BRTR Keskin Array B 151.27 308 PKIKP **PKPdf** **04 44 03.6 -0.4**
BRTR Keskin Array B 151.27 308 PKPdf **PKPdf** **04 44 03.6 -0.4**
KWP Kalwaria Pacla 151.46 334 *e* **PKiKP** **04 44 10.4 +0.1**
RUE Ruedersdorf 151.56 348 *e*P **PKiKP** **04 44 10.7 +0.3**
BR231 Keskin MP Arra 151.84 309 **PKiKP** **04 44 11.3 -0.3**
JURR Jurilovca 151.90 321 ⇑P **PKiKP** **04 44 12.3 +0.9**
BUR08 Bucovina Ar. S 151.91 329 **PKPdf** **04 44 05.5 +0.8**
BURAR Bucovina Array 151.92 329 ⇑P **PKiKP** **04 44 12.3 +0.8**
BURAR Bucovina Array 151.92 329 ⇑PKIKP **PKiKP** **04 44 12.3 +0.8**
BURAR Bucovina Array 151.92 329 **PKPdf** **04 44 06.6 +1.9**
BIZ Bicaz 151.97 327 ⇑P **PKiKP** **04 44 11.3 -0.2**
TESR Tescani 151.99 326 ||P **PKPbc** **04 44 10.4 -0.8**
OJC Ojcow 152.03 338 *e* **PKiKP** **04 44 11.9 +0.4**
OJC Ojcow 152.03 338 PKIKP **PKPdf** **04 44 06.2 +1.6**
OJC Ojcow 152.03 338 **PKPdf** **04 44 06.2 +1.6**
CFR Carcaliu 152.06 322 ⇑P **PKPbc** **04 44 10.8 -0.6**
CFR Carcaliu 152.06 322 ⇑PKIKP **PKPbc** **04 44 10.8 -0.6**
TOPG Topolog 152.11 322 ⇑P **PKiKP** **04 44 12.1 +0.3**
KOLS Kolonicke sedl 152.19 334 *e*PKIKP **PKiKP** **04 44 12.5 +0.6**
KOLS *e* 04 44 21.1
KOLS Kolonicke sedl 152.19 334 *e*PKP **PKiKP** **04 44 12.5 +0.6**
KOLS *e* 04 44 21.1
TIRR Tirgusor 152.35 321 ||P **PKiKP** **04 44 12.7 +0.4**
TIRR Tirgusor 152.35 321 ||PKIKP **PKiKP** **04 44 12.7 +0.4**
VRI Vrincioaia 152.38 325 ||P **PKPbc** **04 44 11.7 -0.4**
VRI Vrincioaia 152.38 325 ||PKIKP **PKPbc** **04 44 11.7 -0.4**
UZH Uzhgorod 152.42 334 *e*PKIKP **PKPdf** **04 44 06.9 +1.7**
UZH *i* 04 44 13.8
UZH *e* 04 44 21.7
HARR Harsova 152.48 322 ⇑P **PKiKP** **04 44 12.6 0.0**
HARR Harsova 152.48 322 ⇑PKIKP **PKiKP** **04 44 12.6 0.0**
KSP Ksiaz 152.52 343 *e* **PKPbc** **04 44 11.9 -0.3**
CRVS Cervenica-Dubn 152.53 335 *e*PKIKP **PKPbc** **04 44 12.1 -0.3**
CRVS *e* 04 44 19.2
CRVS Cervenica-Dubn 152.53 335 *e*PKP **PKPbc** **04 44 12.1 -0.3**
CRVS *e* 04 44 19.2
NIE Niedzica 152.54 337 *e* **PKiKP** **04 44 12.5 -0.1**
MDUB Mudurnu 152.67 311 **PKPdf** **04 44 05.6 -0.4**
ARCR ARCALIA 152.71 329 ||P **PKPab** **04 44 20.5 -3.0**
OZUR 152.71 326 ⇑P **PKiKP** **04 44 13.6 +0.5**
OSTC Ostas 152.80 343 *e*PKP **PKiKP** **04 44 13.1 0.0**
OSTC AMS AMS 05 56 20.0
comp=Z,400nm,23.3s
CHVC Chvalec 152.82 343 *e*PKP **PKPbc** **04 44 10.6 -2.4**
CHVC *ex* x 04 44 18.6
CHVC AMS AMS 05 49 20.0
comp=Z,400nm,20.9s
CLL Collm 152.83 348 *e*PKPdf **PKPdf** **04 44 06.0 +0.3**
CLL *i* PKPbc **PKPbc** **04 44 12.3 -0.6**
comp=Z,49nm,1.5s
CLL *i* PKPab **PKPab** **04 44 22.3 -1.5**
comp=Z,25nm,1.1s
CLL *e* 04 44 34.0
CLL *e*(PSKS) 04 58 32.0
CLL *e*SS SS 05 07 30.0 +3.0
CLL *e*SSS SSS 05 13 36.0
CLL *e*SSSS 05 17 48.0
CLL LV 06 05 00.0
comp=Z,300nm,20.2s
CLL Collm 152.83 348 PKIKP **PKPdf** **04 44 05.6 -0.1**
CLL Collm 152.83 348 *e*L L 06 05 38.0
comp=Z,335nm,20.1s
CLL Collm 152.83 348 **PKPdf** **04 44 05.6 -0.1**
UPC Upice 152.90 343 AMS AMS 05 56 00.0
comp=Z,300nm,19.8s
CSS Mathiatis 152.96 298 **PKPbc** **04 44 13.3 -0.4**
DPC Dobruska-Polom 152.96 343 ⇑*e*PKP **PKiKP** **04 44 14.2 +0.7**
DPC AMS AMS 05 54 20.0
comp=Z,300nm,19.4s
DPC Dobruska-Polom 152.96 343 *e*PKIKP **PKiKP** **04 44 14.2 +0.7**
DPC MLR MLR
comp=Z,300nm,19.4s
DOPR Dopca 153.00 326 ⇑P **PKPbc** **04 44 12.9 -0.6**
MLR Muntele Rosu 153.04 325 ||P **PKiKP** **04 44 14.5 +0.6**
MLR Muntele Rosu 153.04 325 PKIKP **PKPbc** **04 44 12.1 -1.7**
MLR Muntele Rosu 153.04 325 **PKPbc** **04 44 12.1 -1.7**
BRG Berggiesshubel 153.05 346 *e*PKP **PKPdf** **04 44 06.3 +0.2**
comp=Z,22nm,1.6s
BRG *i* 04 44 14.0
comp=Z,18nm,1.0s
KRLC Kraliky 153.09 342 ⇑*e*PKP **PKiKP** **04 44 13.5 -0.3**
KRLC AMS AMS 05 57 10.0
comp=Z,400nm,20.8s
KRLC Kraliky 153.09 342 *e*PKIKP **PKiKP** **04 44 13.5 -0.3**
KRLC MLR MLR
comp=Z,400nm,20.8s
MORC Moravsky Berou 153.13 341 ⇑P **PKiKP** **04 44 14.6 +0.8**
MORC Moravsky Berou 153.13 341 *e*PKP **PKPdf** **04 44 05.4 -0.9**
MORC Moravsky Berou 153.13 341 PKIKP **PKPdf** **04 44 06.0 -0.3**
MORC Moravsky Berou 153.13 341 **PKPdf** **04 44 06.0 -0.3**
PVCC Panska Ves 153.24 345 ⇑*e*PKP **PKiKP** **04 44 15.4 +1.4**
PVCC AMS AMS 05 59 50.0
comp=Z,400nm,19.7s
PVCC Panska Ves 153.24 345 *e*PKIKP **PKiKP** **04 44 15.4 +1.4**
PVCC MLR MLR
comp=Z,400nm,19.7s
VOIR 153.54 326 ⇑P **PKiKP** **04 44 15.2 +0.3**
VOIR 153.54 326 ⇑PKIKP **PKiKP** **04 44 15.2 +0.3**
PRA Prague 153.69 345 AMS AMS 06 09 30.0
comp=Z,200nm,21.1s
MOX Moxa 153.72 349 *e*L L 06 04 47.9
comp=Z,332nm,20.3s
PRU Pruhonice 153.75 345 ⇑*e*PKP **PKiKP** **04 44 17.6 +2.6**
PRU *e*PKPAB **PKPab** **04 44 26.9 -0.8**
PRU AMS AMS 06 00 20.0
comp=Z,400nm,19.2s
PRU Pruhonice 153.75 345 *e*PKIKP **PKiKP** **04 44 17.6 +2.6**
PRU *e* 04 44 26.9
PRU MLR MLR
comp=Z,400nm,19.2s
GOPC GO Pecny, Ondr 153.76 344 AMS AMS 06 04 40.0
comp=Z,400nm,18.2s
ARR Arges 153.80 326 ||P **PKiKP** **04 44 15.9 +0.5**
VRAC Vranov 153.83 341 *e*PKP **PKPdf** **04 44 08.2 +0.9**
VYHS Vyhne 153.83 338 *e*PKP2 **PKPab** **04 44 29.3 +1.1**
JAVC Velka Javorina 153.90 340 *e*PKP **PKPdf** **04 44 10.2 +2.7**
PSZ Piszkesteto 153.94 336 PKIKP **PKPdf** **04 44 07.2 -0.4**
PSZ Piszkesteto 153.94 336 **PKPdf** **04 44 07.2 -0.4**
NKC Novy Kostel 153.96 348 AMS AMS 05 48 30.0
comp=Z,500nm,22.0s
KRUC Moravsky 154.11 341 *e*PKP **PKPdf** **04 44 07.1 -0.6**
MODS Modra-Piesok 154.45 340 *e*PKP2 **PKPab** **04 44 31.6 +0.8**
TNS Taunus Mts 154.56 354 *e*L L 05 58 47.9
comp=Z,394nm,20.9s
BMRD Maredsous 154.68 359 x sPKPbc 04 44 26.5 +5.8
GRF Grafenberg Arr 154.70 349 *e*PKP **PKPab** **04 44 34.2 +2.3**
baz=15,slow=4.0
GRF *e*L L 06 03 14.9
comp=Z,379nm,19.9s
KHC Kasperske Hory 154.77 345 *e*PKPDF **PKPdf** **04 44 10.2 +1.6**
KHC ⇑*e*PKP **PKiKP** **04 44 17.8 +0.5**
KHC AMS AMS 05 56 40.0
comp=Z,600nm,22.9s
KHC Kasperske Hory 154.77 345 PKIKP **PKPdf** **04 44 09.2 +0.6**
KHC Kasperske Hory 154.77 345 **PKPdf** **04 44 09.2 +0.6**
DOU Dourbes 154.89 359 PKPdf **PKPdf** **04 44 04.9 -3.8**
WET Wettzell 154.91 347 *e*L L 05 53 08.5
comp=Z,477nm,21.2s
GEC2 GERESS Array S 155.01 345 *e*L L 05 58 13.3
comp=Z,372nm,20.2s
GEC2 GERESS Array S 155.01 345 **PKPdf** **04 44 07.8 -1.2**
GERES GERESS Array B 155.01 345 PKP **PKPdf** **04 44 08.5 -0.5**
comp=Z,0.2nm,0.2s,baz=48,slow=2.2,SNR=6.3
GERES GERESS Array B 155.01 345 PKIKP **PKPdf** **04 44 07.4 -1.7**
GERES GERESS Array B 155.01 345 **PKPdf** **04 44 07.4 -1.7**
FUR Furstenfeldbru 156.16 348 *e*L L 05 59 12.2
comp=Z,351nm,20.4s
BFO Black Forest 156.44 353 *e*L L 05 57 08.1
comp=Z,297nm,19.7s
PGAV Gavieira, Arco 160.12 28 *e*LR LR 05 47 57.1
comp=Z,422nm,20.0s
PBRG Braganca 160.88 26 *e*PKP **PKPdf** **04 44 21.1 +4.7**
MVO Moncorvo 161.31 27 *e*LR LR 05 49 25.6
comp=Z,371nm,18.0s
PCAS Casmilo, Conde 161.54 32 *e*PKP PKPdf 04 44 25.8 +8.7
MTE Manteigas 161.71 30 *e*PKP **PKPdf** **04 44 18.6 +1.2**
MTE Manteigas 161.71 30 *e*LR LR 05 47 21.7
comp=Z,453nm,18.0s
PCBR Castelo Branco 162.19 31 *e*PKP **PKPdf** **04 44 19.2 +1.4**
PMRV Marv??o 162.56 31 *e*LR LR 05 48 50.2
comp=Z,349nm,18.0s
EVO Evora 162.94 35 *e*PKP **PKPdf** **04 44 19.7 +1.1**
PNCL Nicolau / Gran 162.98 37 *e*PKP **PKPdf** **04 44 19.9 +1.3**
MORF Marmelete 163.49 39 *e*PKP **PKPdf** **04 44 22.9 +3.7**
ESDC Sonseca Array 163.78 23 PKP **PKPdf** **04 44 19.6 +0.2**
comp=Z,2.2nm,1.1s,baz=340,slow=4.0,SNR=9.9
ESDC PKPab **PKPab** **04 45 10.5 -1.1**
comp=Z,1.3nm,1.0s,baz=320,slow=4.0,SNR=2.0
ESDC Sonseca Array 163.78 23 **PKPdf** **04 44 18.8 -0.6**
TORD Torodi Ar. Bea 168.02 168 PKP **PKPdf** **04 44 24.5 +1.0**
comp=Z,1.4nm,1.0s,baz=325,slow=1.8,SNR=4.5
TORD PKPab **PKPab** **04 45 30.3 -0.3**
comp=Z,2.2nm,0.8s,baz=180,slow=4.9,SNR=5.3

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*MAN **01** 04:34:41.9, 13°.52N×120°.48E, h45km, MS3.3*
*IDC **01** 04:34:42.8±0.6, 13°.62N×120°.77E, h75km±7km, mb3.7/9, mb1 3.8/9, mb1mx3.5/38, mbtmp4.0/9, MS3.5/3, Ms1 3.5/3, ms1mx3.0/45, Error ellipse: s-maj=29.3km s-min=9.9km az=80.0*
*NEIC **01** 04:34:43.6±1.1, 13°.63N±0°.07×120°.9E±0°.2, h83km±8km, mb4.6/16, Error ellipse: s-maj=26.8km s-min=5.6km az=70.0*
ISC 01 04:34:42.8±0.6,**13°.54N**±0°.04×**120°.51E**±0°.05,**h66**km±5km,
n69,σ1°**08**/80,**mb4.5**/17,**1C-4D,Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.32**	**307**	*e*P	**Pn**	**04 34 52.3**	**-1.3**
LUBP				*e*S	**Sn**	**04 34 60.0**	**-1.6**
PGP	**Puerto Galera**	**0.44**	**96**	⇑*e*P	**Pn**	**04 34 57.0**	**+2.3**
PGP				*e*S	**Sn**	**04 35 01.3**	**-2.1**
TGY	**Tagaytay City**	**0.69**	**37**	P	**Pn**	**04 34 56.8**	**-0.7**
	855nm,0.3s,baz=220,slow=3.7,SNR=188						
TGY				S	**Sn**	**04 35 08.2**	**0.0**
	7μm,0.3s,baz=138,slow=23,SNR=25						
TGY	**Tagaytay City**	**0.69**	**37**	||*e*P	**Pn**	**04 34 57.4**	**0.0**
TGY				*e*S	**Sn**	**04 35 07.6**	**-0.6**
LQP	**Lukban**	**1.15**	**61**	||*i*P	**Pn**	**04 35 02.9**	**-0.4**
LQP				*i* S	**Sn**	**04 35 17.8**	**-0.7**
BOAC	**Boac**	**1.30**	**94**	*e*P	**Pn**	**04 35 03.7**	**-1.3**
BOAC				*e*S	**Sn**	**04 35 20.0**	**-1.8**
BUSP	**Coron**	**1.56**	**191**	*e*P	**Pn**	**04 35 07.5**	**-1.0**
BUSP				*e*S	**Sn**	**04 35 27.6**	**-0.3**
OTRP	**Odiongan**	**1.89**	**128**	*e*P	**Pn**	**04 35 12.8**	**-0.1**
OTRP				*e*S	**Sn**	**04 35 35.7**	**-0.1**
GQP	**Guinayangan**	**1.92**	**79**	||*e*P	**Pn**	**04 35 13.5**	**+0.3**
GQP				*i* S	**Sn**	**04 35 37.1**	**+0.7**
BALP	**Baler**	**2.42**	**25**	*e*P	**Pn**	**04 35 21.1**	**+1.0**
BALP				*e*S	**Sn**	**04 35 50.1**	**+1.5**
ENPP	**El Nido**	**2.55**	**205**	*e*P	**Pn**	**04 35 21.5**	**-0.4**
ENPP				*e*S	Sn	04 35 46.8	-5.1
SMPP	**San Manuel, Pa**	**2.60**	**4**	*e*P	**Pn**	**04 35 22.0**	**-0.6**
SMPP				*e*S	**Sn**	**04 35 51.4**	**-1.6**
CUYO	**Cuyo Island**	**2.73**	**169**	*e*P	**Pn**	**04 35 23.0**	**-1.3**
JAP	**San Jose, Anti**	**3.12**	**153**	||*e*P	Pn	04 35 22.7	-6.9
CAUP	**Cauayan**	**3.61**	**20**	*e*P	**Pn**	**04 35 36.8**	**+0.4**
CAUP				*e*S	**Sn**	**04 36 16.7**	**-1.0**
DAV	**Davao City (W)**	**8.14**	**142**	LR	LR	04 40 22.8	
	comp=Z,168nm,19.0s,baz=298,slow=42						
MYLDM	**Lahad Datu**	**8.54**	**194**		**Pn**	**04 36 47.4**	**+3.6**
CMAR	**Chiang Mai Arr**	**21.29**	**286**	P	**P**	**04 39 26.9**	**+2.8**
	3.3nm,0.9s,baz=94,slow=7.4,SNR=4.8						
BATI	**Baumata**	**23.80**	**172**	P	**P**	**04 39 49.9**	**+0.1**
	68nm,0.5s,baz=59,slow=2.3,SNR=4.5						
PSI	**Prapat**	**23.85**	**245**	LR	LR	04 49 02.9	
	comp=Z,96nm,18.2s,baz=274,slow=36						
RPSI	**Rantau Prapat**	**23.90**	**245**	P	**P**	**04 39 52.2**	**+1.6**
SHL	**Shillong**	**29.43**	**298**	P	**P**	**04 40 40.8**	**+0.3**
SHL				IAmb	IAmb	04 40 42.2	
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**31.54**	**305**	P	**P**	**04 41 00.1**	**+0.5**
LSA				IAmb	IAmb	04 41 01.7	
	comp=Z,6,1nm,0.5s						
FITZ	**Fitzroy Crossi**	**31.85**	**171**	P	**P**	**04 41 00.3**	**-1.3**
TAPN	**Taplejung**	**33.54**	**299**	*e*P	**P**	**04 41 17.7**	**+0.9**
TAPN	**Taplejung**	**33.54**	**299**	*e*P	**P**	**04 41 17.7**	**+0.9**
ODAN	**Odare**	**33.67**	**298**	*e*P	**P**	**04 41 19.2**	**+1.3**
	comp=Z,41nm,0.8s						
ODAN	**Odare**	**33.67**	**298**	*e*P	**P**	**04 41 19.2**	**+1.3**
	comp=Z,41nm,0.8s						
JIRN	**Jiri**	**34.92**	**299**	*e*P	**P**	**04 41 29.9**	**+1.1**
	comp=Z,51nm,0.5s						
JIRN	**Jiri**	**34.92**	**299**	*e*P	**P**	**04 41 29.9**	**+1.1**
	comp=Z,51nm,0.5s						
GUN	**Gumba**	**35.26**	**299**	*e*P	**P**	**04 41 32.7**	**+1.0**
	comp=Z,37nm,0.4s						
GUN	**Gumba**	**35.26**	**299**	*e*P	**P**	**04 41 32.7**	**+1.0**
	comp=Z,37nm,0.4s						
PKI	**Pulchoki**	**35.56**	**299**	*e*P	**P**	**04 41 34.9**	**+0.6**
	comp=Z,24nm,0.6s						
PKI	**Pulchoki**	**35.56**	**299**	*e*P	**P**	**04 41 34.9**	**+0.6**
	comp=Z,24nm,0.6s						
KKN	**Kakani**	**35.73**	**299**	*e*P	**P**	**04 41 36.5**	**+0.9**
KKN	**Kakani**	**35.73**	**299**	*e*P	**P**	**04 41 36.5**	**+0.9**
DMN	**Daman**	**35.83**	**299**	*e*P	**P**	**04 41 37.2**	**+0.7**
	comp=Z,13nm,0.6s						
DMN	**Daman**	**35.83**	**299**	*e*P	**P**	**04 41 37.2**	**+0.7**
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**35.95**	**157**	P	**P**	**04 41 36.2**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=332,slow=10,SNR=33						
WRA				pP	**pP**	**04 41 53.2**	**-0.3**
	comp=Z,6.8nm,0.6s,baz=335,slow=9.7,SNR=20						
WRA	**Warramunga Arr**	**35.95**	**157**	P	**P**	**04 41 35.9**	**-1.4**
WB2	**Warramunga Arr**	**35.96**	**157**	P	**P**	**04 41 35.9**	**-1.4**
ULN	**Ulaanbaatar**	**36.01**	**345**	P	**P**	**04 41 37.0**	**-0.7**
WR0	**Warramunga Arr**	**36.05**	**157**	P	**P**	**04 41 37.1**	**-1.0**
WR0				IAmb	IAmb	04 41 55.0	
	comp=Z,7.7nm,0.9s						
SONM	**Songino Array**	**36.15**	**344**	P	**P**	**04 41 38.0**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=165,slow=9.7,SNR=17						
SONM				pP	**pP**	**04 41 55.8**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=156,slow=7.9,SNR=3.2						
SONM	**Songino Array**	**36.15**	**344**	P	**P**	**04 41 38.5**	**-0.4**
GKN	**Gorkha**	**36.34**	**299**	*e*P	**P**	**04 41 41.2**	**+0.5**
GKN	**Gorkha**	**36.34**	**299**	*e*P	**P**	**04 41 41.2**	**+0.5**
KOLN	**Koldanda**	**37.16**	**298**	*e*P	**P**	**04 41 48.3**	**+0.5**
	comp=Z,20nm,0.8s						
KOLN	**Koldanda**	**37.16**	**298**	*e*P	**P**	**04 41 48.3**	**+0.5**
	comp=Z,20nm,0.8s						
PYUN	**Piuthan**	**37.76**	**299**	*e*P	**P**	**04 41 53.7**	**+0.8**
	comp=Z,50nm,0.8s						
PYUN	**Piuthan**	**37.76**	**299**	*e*P	**P**	**04 41 53.7**	**+0.8**
	comp=Z,50nm,0.8s						
AS31	**Alice Springs**	**39.23**	**160**	P	**P**	**04 42 03.4**	**-1.7**
AS31				IAmb	IAmb	04 42 22.9	
	comp=Z,3.1nm,0.7s						
ASAR	**Alice Springs**	**39.24**	**160**	P	**P**	**04 42 04.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=338,slow=6.5,SNR=17						
ASAR

TLY IAmb IAmb 04 42 15.3
comp=Z,8.9nm,1.2s
NWAO Narrogin (SRO) 46.31 184 P **P** **04 43 02.3 +0.1**
KURK Kurchatov 50.21 326 P **P** **04 43 32.3 +0.3**
KK31 Karatay Array 51.95 315 P **P** **04 43 45.6 +0.4**
KK31 IAmb IAmb 04 44 03.4
comp=Z,3.9nm,0.9s
KKAR Karatay Array 51.95 315 P **P** **04 43 45.8 +0.6**
BRVK Borovoye 55.87 326 P **P** **04 44 13.8 +0.2**
BRVK IAmb IAmb 04 44 14.7
comp=Z,8.8nm,0.8s
GEYT Alibeck 60.07 306 P **P** **04 44 43.2 -0.2**
comp=Z,3.2nm,0.6s,baz=106,slow=2.2,SNR=4.3
GEYT Alibeck 60.07 306 P **P** **04 44 43.9 +0.5**
ABKAR Akbulak array 60.73 319 P **P** **04 44 47.0 -0.5**
KIRV Kirov 68.69 328 LR LR 05 17 25.8
comp=Z,72nm,21.6s,baz=253,slow=37
BRTR Keskin Array B 79.10 308 P **P** **04 46 40.4 -0.2**
comp=Z,1.1nm,0.8s,baz=121,slow=3.8,SNR=2.6
BRTR Keskin Array B 79.10 308 P **P** **04 46 40.2 -0.4**
ARCES ARCESS Array B 79.16 339 P **P** **04 46 38.8 -1.3**
comp=Z,0.6nm,0.5s,baz=77,slow=7.1,SNR=7.6
FINES FINESS Array B 80.33 331 P **P** **04 46 45.4 -1.2**
comp=Z,0.9nm,0.6s,baz=146,slow=34,SNR=1.4
AKASG Malin Array Be 80.46 320 P **P** **04 46 46.5 -1.0**
comp=Z,0.6nm,0.3s,baz=255,slow=24,SNR=4.1

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*SNET **01** 04:38:34.3±1.0, 14°.49N×89°.16W, h1km±3km, ML3.0*
*GCG **01** 04:38:35.9±0.6, 14°.74N×89°.10W, h28km±22km, MD3.7*
ISC 01 04:38:34.3±1.5, 14°.51N±0°.04×89°.14W±0°.04, h16km±12km, n30, σ0°73/37, 8C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.20**	**284**	⇑*iP*	**Pb**	**04 38 38.8**	**-0.9**
ESQI				*eS*	**Sb**	**04 38 42.6**	**-0.7**
MTO3	**Montecristo**	**0.24**	**242**	⇑*iP*	**Pb**	**04 38 39.7**	**-0.8**
MTO3				*eS*	**Sb**	**04 38 43.8**	**-0.7**
MTO3				IAML		04 38 45.6	
	comp=Z,2μm,0.2s						
TACO	**Tacachico**	**0.57**	**201**	⇓*iP*	**Pb**	**04 38 45.9**	**-0.2**
TACO				*eS*	**Sb**	**04 38 54.4**	**+0.4**
LFU	**La Fuente**	**0.76**	**178**	*eP*	**Pb**	**04 38 49.2**	**0.0**
MRL	**Marmol**	**0.77**	**317**	*eP*	**Pb**	**04 38 49.3**	**-0.3**
MRL				*eS*	**Sb**	**04 38 59.7**	**-0.2**
LBRS	**Las Brisas**	**0.77**	**173**	*eP*	**Pb**	**04 38 49.5**	**0.0**
SNJE	**San Jose**	**0.78**	**215**	*eP*	**Pb**	**04 38 49.8**	**+0.1**
RTR	**El Retiro**	**0.78**	**219**	*eP*	**Pn**	**04 38 50.3**	**-0.6**
BOQS	**Boqueron**	**0.78**	**190**	*eP*	**Pb**	**04 38 49.9**	**+0.2**
BOQS				*eS*	**Sn**	**04 39 02.2**	**-0.2**
OPAM	**Oficina de Pla**	**0.80**	**184**	*eP*	**Pb**	**04 38 50.0**	**+0.1**
UEES	**Universidad Ev**	**0.80**	**187**	⇑*eP*	**Pb**	**04 38 49.9**	**+0.1**
SBLS	**San Blas**	**0.81**	**215**	*eP*	**Pb**	**04 38 50.5**	**+0.2**
PAVA	**Las Pavas**	**0.82**	**166**	⇓*eP*	**Pb**	**04 38 50.2**	**-0.1**
PAVA				IAML		04 39 07.1	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**0.82**	**215**	⇓*eP*	**Pn**	**04 38 50.8**	**-0.8**
SNET	**Serv Nac Est T**	**0.82**	**186**	*eP*	**Pb**	**04 38 50.2**	**-0.1**
SNET				IAML		04 39 05.2	
	comp=Z,460nm,0.3s						
NUBE	**Las Nubes**	**0.86**	**226**	⇓*iP*	**Pn**	**04 38 51.2**	**-0.8**
NUBE				*eS*	**Sn**	**04 39 03.6**	**-0.8**
NUBE				IAML		04 39 07.4	
	comp=Z,271nm,0.4s						
LFRS	**El Faro**	**0.89**	**175**	*eP*	**Pg**	**04 38 51.3**	**-0.3**
COEG	**Centro de Oper**	**0.92**	**164**	⇓*iP*	**Pb**	**04 38 51.9**	**-0.1**
LALI	**Alcalda de L**	**1.03**	**190**	⇓*iP*	**Pn**	**04 38 54.2**	**0.0**
COEB	**Comit de Eme**	**1.17**	**149**	⇑*eP*	**Pn**	**04 38 55.9**	**-0.3**
COEB				IAML		04 39 19.1	
	comp=Z,681nm,0.3s						
NBG	**Las Nubes**	**1.17**	**274**	*eP*	**Pg**	**04 38 57.7**	**+0.7**
NBG				*eS*	**Sn**	**04 39 15.1**	**+3.0**
TECA	**Tecapa**	**1.19**	**148**	⇑*eP*	**Pn**	**04 38 56.3**	**-0.1**
FAGO	**Alcalda de S**	**1.29**	**129**	*eP*	**Pn**	**04 38 57.3**	**-0.5**
ALJI	**Alcalda de J**	**1.30**	**155**	⇑*eP*	**Pb**	**04 38 58.4**	**0.0**
ALJI				IAML		04 39 21.5	
	comp=Z,364nm,0.3s						
IXG	**Ixpaco**	**1.30**	**255**	*eP*	**Pg**	**04 39 00.2**	**+0.7**
PCG	**Pacaya**	**1.43**	**265**	*eP*	**Pg**	**04 39 02.3**	**+0.5**
FUG	**Fuego 3**	**1.65**	**268**	*eP*	**Pg**	**04 39 06.0**	**0.0**
LCND	**La Caada**	**1.70**	**134**	*eP*	**Pn**	**04 39 04.6**	**+1.1**
CNCH	**Conchagua**	**1.77**	**134**	⇑*eP*	**Pb**	**04 39 05.8**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.87**	**104**	⇑*eP*	**Pb**	**04 39 07.5**	**-0.6**

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*REY **01** 04:59:22.8, 64°.68N×17°.46W, h7km*
*IDC **01** 04:59:23.3±0.7, 64°.57N×17°.71W, h0km, mb3.6/10, mb1 3.9/13, mb1mx3.7/46, mbtmp3.6/13, ML3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/44, Error ellipse: s-maj=23.2km s-min=10.4km az=13.0*
*NEIC **01** 04:59:24.0±1.3, 64°.51N±0°.10×17°.8W±0°.2, h7km±5km, mb4.3/10, Error ellipse: s-maj=14.4km s-min=8.8km az=197.0*
ISC 01 04:59:24.0±0.5, 64°.69N±0°.02×17°.50W±0°.03, h10km, n68, σ1§82/71, mb3.8/15, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**260**	P	**Pg**	**04 59 25.5**	**-1.2**
	baz=268						
IVON				S	**Sg**	**04 59 28.3**	**-0.5**
	baz=268						
IDYN	**Dyngjuhals**	**0.12**	**31**	P	**Pg**	**04 59 25.6**	**-1.3**
	baz=18						
IDYN				S	**Sg**	**04 59 28.4**	**-0.6**
	baz=18						
IGRF	**Grimsfjall**	**0.30**	**160**	P	**Pg**	**04 59 28.4**	**-1.8**
	baz=163						
IKVE	**Kverkfjoll**	**0.36**	**92**	P	**Pg**	**04 59 29.5**	**-1.6**
	baz=90						
IBJK	**Bruarjokull**	**0.39**	**124**	P	**Pg**	**04 59 29.4**	**-2.3**
	baz=124						
ISKR	**Skrokkalda**	**0.40**	**251**	P	**Pg**	**04 59 30.5**	**-1.4**
	baz=254						
IHUS	**Husbondi**	**0.40**	**189**	P	**Pg**	**04 59 30.4**	**-1.5**
	baz=193						
IVOT	**Vottur**	**0.45**	**162**	P	**Pg**	**04 59 30.8**	**-1.9**
	baz=164						
IJOK	**Jokulheimar**	**0.49**	**220**	P	**Pg**	**04 59 31.9**	**-1.6**
	baz=223						
IKRE	**Kreppuhraun**	**0.49**	**79**	P	**Pg**	**04 59 31.4**	**-2.1**
	baz=76						
IASK	**Askja**	**0.51**	**45**	P	**Pg**	**04 59 32.1**	**-1.9**
	baz=42						
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**	**04 59 33.1**	**-2.0**
	baz=57						
IIEY	**Innrieyrar**	**0.66**	**204**	P	**Pg**	**04 59 34.5**	**-2.1**
	baz=207						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**04 59 34.9**	**-1.8**
	baz=7.2						
ISVA				S	**Sg**	**04 59 44.8**	**-0.5**
	baz=7.2						
IKSK	**Karasker**	**0.69**	**140**	P	**Pg**	**04 59 34.4**	**-3.0**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**186**	P	**Pg**	**04 59 36.1**	**-2.3**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P	**Pg**	**04 59 36.0**	**-2.8**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**231**	P	**Pg**	**04 59 37.4**	**-1.9**
	baz=233						
IADA	**Aoalbol**	**0.89**	**67**	P	**Pg**	**04 59 37.9**	**-3.1**
	baz=66						
IFAG	**Fagurholsmyri**	**0.90**	**155**	P	**Pg**	**04 59 38.5**	**-2.8**
	baz=156						
IHVE	**Hveravellir**	**0.90**	**282**	P	**Pg**	**04 59 38.8**	**-2.5**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**22**	P	**Pg**	**04 59 39.6**	**-2.7**
	baz=20						
IREN	**Reynihlio**	**0.99**	**14**	P	**Pg**	**04 59 40.4**	**-2.7**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**	**04 59 41.5**	**-2.8**
	baz=13						
IGRS	**Grimsstaoir**	**1.11**	**31**	P	**Pb**	**04 59 42.4**	**-3.0**
	baz=30						
IGRS				S	**Sg**	**04 59 58.4**	**-1.4**
	baz=30						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pb**	**04 59 42.5**	**-2.9**
	baz=221						
IFED	**Fedgar**	**1.16**	**236**	P	**Pb**	**04 59 43.8**	**-2.3**
	baz=237						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pb**	**04 59 43.8**	**-3.0**
	baz=8.4						
ISKI				S	**Sb**	**05 00 00.9**	**-1.4**
	baz=8.4						
IMJO	**Mjoaskard**	**1.21**	**232**	P	**Pb**	**04 59 44.8**	**-2.2**
	baz=233						
BORG	**Borgarnes**	**1.64**	**274**	Pg	**Pn**	**04 59 51.1**	**-1.8**
	20nm,0.3s,baz=94,slow=8.5,SNR=60						
BORG				Lg	Lg	05 00 14.0	
	15nm,0.3s,baz=209,slow=20,SNR=11						
BORG	**Borgarnes**	**1.64**	**274**		**Pn**	**04 59 50.9**	**-2.0**
BORG					**Sn**	**05 00 12.2**	**-1.7**
SCO	**Scoresbysund**	**6.06**	**346**	Pn	**Pn**	**05 00 54.8**	**+1.3**
SUMG	**Summit**	**10.92**	**325**	Pn	**Pn**	**05 02 01.3**	**+0.9**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**05 02 10.5**	**-1.3**
	baz=324,slow=13,SNR=4.4						
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**05 02 11.9**	**+0.1**
ARCES	**ARCESS Array B**	**17.11**	**55**	P	**P**	**05 03 25.7**	**+1.2**
	0.1nm,0.3s,baz=354,slow=9.8,SNR=2.2						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**05 03 56.8**	**+2.4**
	0.1nm,0.3s,baz=270,slow=6.9,SNR=1.6						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**05 03 55.3**	**+0.9**
CLL	**Collm**	**20.72**	**116**	*eP*	Pn	05 04 07.0	+0.5
CLL				*i*		05 04 13.3	
CLL	**Collm**	**20.72**	**116**	P	Pn	05 04 04.8	-1.7
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**05 04 29.8**	**+1.4**
	0.8nm,0.8s,baz=325,slow=6.8,SNR=5.9						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**05 04 28.4**	**0.0**
PSZ	**Piszkesteto**	**26.13**	**112**	P	**P**	**05 04 58.8**	**+0.9**
PSZ				IAmb	IAmb	05 05 13.1	
	comp=Z,5.9nm,1.2s						
ESDC	**Sonseca Array**	**26.28**	**156**	P	**P**	**05 05 00.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=353,slow=9.3,SNR=5.1						
ESDC	**Sonseca Array**	**26.28**	**156**	P	**P**	**05 04 58.2**	**-1.1**
KEST	**Kesra**	**33.18**	**138**	LR	LR	05 19 38.1	
	comp=Z,78nm,19.6s,baz=330,slow=37						
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**05 06 48.7**	**+2.6**
	comp=Z,1.0nm,0.8s,baz=329,slow=4.6,SNR=3.8						
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**05 06 47.3**	**+1.2**
YKA	**Yellowknife Ar**	**39.19**	**313**	P	**P**	**05 06 52.7**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=49,slow=6.6,SNR=2.7						
BVAR	**Borovoye Array**	**43.19**	**62**	P	**P**	**05 07 25.6**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=331,slow=8.5,SNR=4.9						
IL31		**45.66**	**332**	P	**P**	**05 07 45.6**	**+1.6**
IL31				IAmb	IAmb	05 07 48.9	
	comp=Z,6.2nm,1.4s						
ILAR	**Eielson Array**	**45.66**	**332**	P	**P**	**05 07 46.0**	**+1.8**
	comp=Z,0.9nm,1.0s,baz=30,slow=7.6,SNR=8.8						
ILAR	**Eielson Array**	**45.66**	**332**	P	**P**	**05 07 45.9**	**+1.8**
IMAR	**Indian Mountai**	**45.83**	**337**	P	**P**	**05 07 47.7**	**+2.2**
BCAR	**Beaver Creek A**	**46.09**	**329**	P	**P**	**05 07 49.3**	**+1.8**
ZAA0	**Zalesovo Array**	**47.62**	**51**	P	**P**	**05 08 00.9**	**+1.3**
ZAA0				IAmb	IAmb	05 08 10.6	
	comp=Z,3.8nm,1.2s						
ZALV	**Zalesovo Beam**	**47.62**	**51**	P	**P**	**05 08 00.9**	**+1.3**
KURBB	**Kurchatov Arra**	**48.14**	**58**	P	**P**	**05 08 04.2**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=320,slow=7.4,SNR=7.5						
KK31	**Karatay Array**	**51.27**	**70**	P	**P**	**05 08 29.4**	**+1.8**
KK31				IAmb	IAmb	05 08 32.3	
	comp=Z,3.0nm,1.1s						
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**05 08 29.2**	**+1.7**
PD31	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 08 42.2**	**+0.3**
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 08 42.5**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=66,slow=8.3,SNR=10.0						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 08 42.4**	**+0.4**
TOA0	**Torodi Ar. Sit**	**53.17**	**156**	P	**P**	**05 08 41.5**	**-0.4**
TOA0				IAmb	IAmb	05 08 43.7	
	comp=Z,6.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P	**P**	**05 08 41.2**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=341,slow=7.8,SNR=2.4						
CHGR	**Chuyangaron**	**54.46**	**74**	P	**P**	**05 08 52.1**	**+0.8**
GAR	**Garm**	**54.65**	**73**	P	**P**	**05 08 53.5**	**+0.9**
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**05 09 45.7**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=108,slow=4.1,SNR=4.5						

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*SOME **01** 06:18:08.1, 41°.73N×81°.30E, h5km*
*NNC **01** 06:18:09.3±2.3, 41°.71N×81°.35E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=18.9km s-min=14.8km az=36.0*
ISC 01 06:18:08.9±3.1, 41°.7N±0°.1×81°.25E±0°.09, h1km±14km, n23, σ1§37/37, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.94**	**318**	*eP*	**Pn**	**06 18 42.7**	**-0.4**
	41nm,0.4s						
SHLS				*eS*	**Sn**	**06 19 07.3**	**-0.9**
	112nm,0.5s						
SHLS	**Shalkode**	**1.94**	**318**	P	**Pn**	**06 18 42.7**	**-0.4**
	41nm,0.4s						
SHLS				S	**Sn**	**06 19 07.3**	**-0.9**
	112nm,0.5s						
PDGK	**Podgornoye**	**2.05**	**321**	Pg	**Pb**	**06 18 47.0**	**-0.1**
	8.7nm,0.4s						
PDGK				Lg	Lg	06 19 15.2	
	34nm,0.5s						
PDGK	**Podgornoye**	**2.05**	**321**	⇓Pn	**Pb**	**06 18 47.1**	**+0.1**
	12nm,0.6s						
PDGK				⇑Sn	**Sg**	**06 19 17.5**	**+2.6**
	37nm,0.5s						
UZB	**Uzynbulak**	**2.17**	**311**	*eP*	**Pg**	**06 18 49.9**	**-0.5**
	7.9nm,0.5s						
UZB				*eS*	**Sg**	**06 19 20.0**	**+1.5**
	22nm,0.3s						
UZB	**Uzynbulak**	**2.17**	**311**	Pg	**Pg**	**06 18 49.9**	**-0.5**
	7.9nm,0.5s						
UZB				Lg	Lg	06 19 20.0	
	22nm,0.3s						
SATY	**Saty**	**2.48**	**303**	*eP*	**Pb**	**06 18 55.5**	**+1.1**
	7.3nm,0.4s						
SATY				*eS*	**Sg**	**06 19 29.3**	**+0.6**
	45nm,0.3s						
SATY	**Saty**	**2.48**	**303**	Pg	**Pb**	**06 18 55.5**	**+1.1**
	7.3nm,0.4s						
SATY				Lg	Lg	06 19 29.3	
	45nm,0.3s						
KPKS	**Kokpek**	**2.56**	**313**	*eP*	**Pg**	**06 18 58.0**	**0.0**
	17nm,0.4s						
KPKS				*eS*	**Sg**	**06 19 33.9**	**+2.7**
	79nm,0.4s						
DJR	**Jarkent**	**2.80**	**338**	*eP*	**Pb**	**06 19 00.9**	**+1.1**
	4.7nm,0.6s						
DJR				*eS*	**Sg**	**06 19 39.0**	**+0.1**
	16nm,0.6s						
DJR	**Jarkent**	**2.80**	**338**	Pg	**Pb**	**06 19 00.9**	**+1.1**
	4.7nm,0.6s						
DJR				Lg	Lg	06 19 39.0	
	16nm,0.6s						
MNBS	**Baschi**	**3.14**	**319**	*eP*	**Pb**	**06 19 06.3**	**+0.8**
	2.2nm,0.2s						
MNBS				*eS*	**Sg**	**06 19 48.1**	**-1.6**
	18nm,0.5s						
MNBS	**Baschi**	**3.14**	**319**	Pg	**Pb**	**06 19 06.3**	**+0.8**
	2.2nm,0.2s						
MNBS				Lg	Lg	06 19 48.1	
	18nm,0.5s						
KOTS	**Kotyrbulak**	**3.41**	**297**	*eP*	**Pg**	**06 19 12.4**	**-1.7**
	6.8nm,0.4s						
KOTS				*eS*	**Sg**	**06 19 58.7**	**+0.4**
	22nm,0.5s						
KOTS	**Kotyrbulak**	**3.41**	**297**	Pg	**Pg**	**06 19 12.4**	**-1.7**
	6.8nm,0.4s						
KOTS				Lg	Lg	06 19 58.7	
	22nm,0.5s						
TNSS	**Tian-Shan**	**3.44**	**294**	*eP*	**Pb**	**06 19 12.8**	**+1.9**
	1.5nm,0.3s						
TNSS				*eS*	**Sg**	**06 19 59.0**	**-0.4**
	5.7nm,0.6s						
ARXS	**Arharly**	**3.52**	**316**	*eP*	**Pb**	**06 19 13.5**	**+1.4**
	6.9nm,0.4s						
ARXS				*eS*	**Sg**	**06 20 01.1**	**-1.0**
	6.9nm,0.5s						
ARXS	**Arharly**	**3.52**	**316**	Pg	**Pb**	**06 19 13.5**	**+1.4**
	6.9nm,0.4s						
ARXS				Lg	Lg	06 20 01.1	
	6.9nm,0.5s						
KAPS	**Kapalarasan**	**3.80**	**339**	*eP*	**Pb**	**06 19 18.6**	**+1.8**
	2.7nm,0.4s						
KAPS				*eS*	**Sg**	**06 20 09.3**	**-1.7**
	7.1nm,0.6s						
KAPS	**Kapalarasan**	**3.80**	**339**	Pg	**Pb**	**06 19 18.6**	**+1.8**
	2.7nm,0.4s						
KAPS				Lg	Lg	06 20 09.3	
	7.1nm,0.6s						
KTBS	**Karatobe**	**3.90**	**302**	*eP*	**Pb**	**06 19 20.3**	**+1.9**
	2.5nm,0.4s						
KTBS				*eS*	**Sg**	**06 20 12.8**	**-1.3**
	11nm,0.6s						
KTBS	**Karatobe**	**3.90**	**302**	Pg	**Pb**	**06 19 20.3**	**+1.9**
	2.5nm,0.4s						
KTBS				Lg	Lg	06 20 12.8	
	11nm,0.6s						
MK31	**Makanchi Array**	**5.11**	**8**	⇓Pn	**Pn**	**06 19 25.9**	**-0.7**
	baz=182,slow=12,SNR=4.8						
MK31				⇓Sn	**Sn**	**06 20 26.9**	**+0.7**
	0.5nm,0.3s,baz=180,slow=25,SNR=6.0						
MK31				⇑Lg	Lg	06 20 46.8	
	2.0nm,0.7s,baz=184,slow=31,SNR=4.3						

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*IDC **01** 06:24:38.9±1.3, 6°.66S×156°.46E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/29, mbtmp4.1/9, ML4.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=35.2km s-min=24.3km az=100.0*
*NEIC **01** 06:24:39.6±2.7, 6°.6S±0°.1×156°.7E±0°.1, h10km±1km, mb4.1/13, Error ellipse: s-maj=22.2km s-min=17.6km az=61.0*
ISC 01 06:24:43.4±0.7, 6°.7S±0°.1×156°.6E±0°.1, h35km, n34, σ1§39/29, mb4.0/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.28**	**129**	Pn	**Pn**	**06 25 48.6**	**+2.6**
	24nm,0.3s,baz=231,slow=1.7,SNR=1.5						
HNR				Sn	**Sn**	**06 26 35.1**	**+0.3**
	10nm,0.3s,baz=277,slow=11,SNR=2.0						
HNR	**Honiara**	**4.28**	**129**		**Pn**	**06 25 43.8**	**-2.2**
HNR					**Sn**	**06 26 34.5**	**-0.3**
EIDS	**Eidsvold**	**19.26**	**195**	Pn	**Pn**	**06 29 07.8**	**+1.6**
WR0	**Warramunga Arr**	**25.11**	**236**	P	**P**	**06 30 07.4**	**+2.2**
WR0				IAmb	IAmb	06 30 15.6	
	comp=Z,4.3nm,0.9s						
WB0	**Warramunga Arr**	**25.14**	**237**	P	**P**	**06 30 05.5**	**+0.1**
WB0				IAmb	IAmb	06 30 20.2	
	comp=Z,2.9nm,0.8s						
WRAB	**Tennant Creek**	**25.25**	**237**	P	**P**	**06 30 08.5**	**+2.0**
WRAB				IAmb	IAmb	06 30 19.8	
	comp=Z,4.2nm,0.8s						
WB2	**Warramunga Arr**	**25.26**	**237**	P	**P**	**06 30 09.2**	**+2.7**
WB2				IAmb	IAmb	06 30 17.4	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**25.27**	**237**	P	**P**	**06 30 07.3**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=63,slow=10,SNR=12						
WRA	**Warramunga Arr**	**25.27**	**237**	P	**P**	**06 30 07.9**	**+1.3**
MTN	**Manton Dam**	**25.79**	**254**	P	**P**	**06 30 13.0**	**+1.6**
H11S3	**WAKE ISLAND Hy**	**26.98**	**22**	T	T	06 58 24.6	
	baz=202,slow=76,SNR=1747						
H11S2	**WAKE ISLAND Hy**	**26.98**	**22**	T	T	06 58 24.9	
	baz=202,slow=76,SNR=2007						
H11S1	**WAKE ISLAND Hy**	**27.00**	**22**	T	T	06 58 26.0	
	baz=202,slow=76,SNR=1812						
AS31	**Alice Springs**	**27.53**	**230**	P	**P**	**06 30 27.2**	**+0.2**
ASAR	**Alice Springs**	**27.53**	**230**	P	**P**	**06 30 27.0**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=59,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**27.53**	**230**	P	**P**	**06 30 27.2**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**28.17**	**21**	T	T	06 59 56.0	
	baz=202,slow=76,SNR=846						
H11N3	**WAKE ISLAND Hy**	**28.18**	**21**	T	T	06 59 57.8	
	baz=202,slow=76,SNR=488						
H11N2	**WAKE ISLAND Hy**	**28.19**	**21**	T	T	06 59 58.7	
	baz=202,slow=76,SNR=233						
STKA	**Stephens Creek**	**28.66**	**207**	LR	LR	06 41 46.0	
	comp=Z,50nm,19.4s,baz=28,slow=36						
FITZ	**Fitzroy Crossi**	**32.20**	**247**	P	**P**	**06 31 08.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=46,slow=0.9,SNR=9.8						
FITZ	**Fitzroy Crossi**	**32.20**	**247**	P	**P**	**06 31 08.0**	**-0.4**
FITZ				IAmb	IAmb	06 31 25.9	
	comp=Z,3.2nm,1.1s						
KSRS	**Korea Array**	**51.46**	**331**	P	**P**	**06 33 46.7**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=140,slow=7.9,SNR=2.0						
SONM	**Songino Array**	**69.98**	**327**	P	**P**	**06 35 52.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=132,slow=8.0,SNR=2.3						
SONM	**Songino Array**	**69.98**	**327**	P	**P**	**06 35 51.5**	**-0.1**
IMAR	**Indian Mountai**	**80.98**	**18**	P	**P**	**06 36 53.8**	**-0.3**
MK31	**Makanchi Array**	**84.25**	**318**	P	**P**	**06 37 10.5**	**-1.1**
MK31				IAmb	IAmb	06 37 13.2	
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**84.25**	**318**	P	**P**	**06 37 10.8**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=105,slow=5.1,SNR=10						
MKAR	**Makanchi Array**	**84.25**	**318**	P	**P**	**06 37 11.8**	**+0.2**
MAKZ	**Makanchi**	**84.47**	**318**	P	**P**	**06 37 12.2**	**-0.4**
ZALV	**Zalesovo Beam**	**84.85**	**326**	P	**P**	**06 37 14.1**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=113,slow=6.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**84.85**	**326**	P	**P**	**06 37 14.0**	**-0.4**
MAW	**Mawson**	**85.24**	**203**	P	**P**	**06 37 16.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=155,slow=4.8,SNR=3.9						
MAW	**Mawson**	**85.24**	**203**	P	**P**	**06 37 13.0**	**-3.1**
MAW				IAmb	IAmb	06 37 18.2	
	comp=Z,0.9nm,1.1s						

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*IDC **01** 06:31:07.1±0.6, 58°.84S×25°.01W, h0km, mb4.2/10, mb1 4.2/12, mb1mx4.1/24, mbtmp4.2/12, ML4.4/2, Error ellipse: s-maj=21.5km s-min=17.8km az=82.0*
*NEIC **01** 06:31:08.3±1.4, 58°.85S±0°.10×24°.9W±0°.1, h10km±1km, mb4.6/28, Error ellipse: s-maj=16.5km s-min=10.5km az=180.0*
ISC 01 06:31:09.7±0.5, 58°.89S±0°.08×24°.92W±0°.09, h18km, n62, σ1§04/60, mb4.6/21, South Sandwich Islands region

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

comp=Z,14nm,1.6s
BOSA Boshof 45.61 71 P **P 06 39 29.2 +0.4**
comp=Z,2.5nm,0.8s,baz=218,slow=8.3,SNR=3.4
BOSA Boshof 45.61 71 P **P 06 39 28.6 -0.2**
BDFB Brasilia 46.44 329 P **P 06 39 36.7 +1.4**
comp=Z,1.3nm,0.4s,baz=130,slow=3.4,SNR=3.6
BDFB Brasilia 46.44 329 P **P 06 39 35.0 -0.3**
BDFB IAmb IAmb 06 39 45.6
comp=Z,14nm,1.4s
H10S2 ASCENSION HYDR 50.43 13 T T 07 34 29.4
baz=187,slow=74,SNR=5.5
H10S3 ASCENSION HYDR 50.44 13 T T 07 34 32.1
baz=33,slow=74,SNR=10
GO01 Chusmiza 50.48 301 P **P 06 40 06.1 -0.8**
GO01 IAmb IAmb 06 40 13.4
comp=Z,9.1nm,1.6s
MNMC Minye Minye 51.13 301 P **P 06 40 10.9 -0.7**
MNMC IAmb IAmb 06 40 37.4
comp=Z,7.3nm,1.2s
H10N1 ASCENSION HYDR 51.55 13 T T 07 35 55.7
H10N3 ASCENSION HYDR 51.55 13 T T 07 35 54.5
baz=266,slow=74,SNR=8.4
H10N2 ASCENSION HYDR 51.57 13 T T 07 35 55.9
baz=188,slow=74,SNR=8.9
PB16 IPOC Station P 51.79 302 P **P 06 40 16.4 -0.5**
LPAZ La Paz 53.01 305 P **P 06 40 24.9 -1.0**
comp=Z,0.7nm,0.5s,baz=111,slow=5.7,SNR=9.4
LPAZ PcP **PcP 06 41 33.9 -0.6**
comp=Z,0.7nm,0.5s,baz=86,slow=2.7,SNR=5.9
LPAZ La Paz 53.01 305 P **P 06 40 25.1 -0.8**
LPAZ **PcP 06 41 34.2 -0.2**
DBIC Dimbokro 67.31 22 P **P 06 42 03.9 +0.8**
comp=Z,2.1nm,0.6s,baz=305,slow=17,SNR=2.4
DBIC Dimbokro 67.31 22 P **P 06 42 03.0 0.0**
TOA0 Torodi Ar. Sit 74.99 27 P **P 06 42 50.9 +1.3**
TORD Torodi Ar. Bea 74.99 27 P **P 06 42 50.8 +1.2**
comp=Z,5.1nm,0.4s,baz=202,slow=6.3,SNR=29
TORD Torodi Ar. Bea 74.99 27 P **P 06 42 50.3 +0.7**
ASAR Alice Springs 95.90 161 P **P 06 44 34.0 -1.1**
comp=Z,0.4nm,0.7s,baz=175,slow=4.4,SNR=5.3
PDAR Pinedale Array 122.85 299 PKP **PKPdf 06 50 01.8 -2.1**
comp=Z,0.3nm,0.7s,baz=117,slow=5.2,SNR=3.5
PDAR Pinedale Array 122.85 299 **PKPdf 06 50 01.6 -2.2**
NVAR Mina Array Bea 123.58 290 PKP **PKiKP 06 50 06.0 +0.4**
comp=Z,0.7nm,0.8s,baz=156,slow=3.9,SNR=5.5
NVAR Mina Array Bea 123.58 290 **PKiKP 06 50 05.7 0.0**
FINES FINESS Array B 126.33 28 PKP **PKiKP 06 50 09.2 -0.8**
comp=Z,0.7nm,0.4s,baz=163,slow=2.0,SNR=8.6
ARCES ARCESS Array B 133.13 22 PKP **PKPdf 06 50 22.1 -0.2**
comp=Z,2.2nm,1.0s,baz=188,slow=1.4,SNR=8.2
ARCES ARCESS Array B 133.13 22 **PKiKP 06 50 23.0 -0.5**
YKA Yellowknife Ar 139.08 315 PKP **PKPdf 06 50 33.4 -0.2**
comp=Z,0.6nm,0.5s,baz=266,slow=21,SNR=7.1
SONM Songino Array 149.60 90 PKPbc **PKiKP 06 50 57.0 -1.1**
comp=Z,2.4nm,0.9s,baz=239,slow=2.4,SNR=8.5
SONM Songino Array 149.60 90 **PKiKP 06 50 57.2 -0.9**
ILAR Eielson Array 152.87 307 PKPbc **PKiKP 06 51 03.6 -0.5**
comp=Z,3.3nm,0.7s,baz=150,slow=3.3,SNR=32
ILAR Eielson Array 152.87 307 **PKiKP 06 51 03.3 -0.8**

*IDC **01** 06:58:28.4±6.0, 17.°40S×178.°77W, h597km±71km, mb3.2/10, mb1 3.5/10, mb1mx3.3/32, mbtmp4.1/10, Error ellipse: s-maj=35.5km s-min=23.8km az=130.0*
*NEIC **01** 06:58:29.8±1.1, 17.°6S±0.°2×178.°72W±0.°09, h623km±7km, mb4.2/16, Error ellipse: s-maj=24.4km s-min=9.1km az=159.0*
ISC 01 06:58:28.3±0.6, **17.°5S**±0.°1×**178.°7W**±0.°1, **h600**km, **n38**, σ1**9**03/38, **mb4.0**/18, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.15**	**266**	P	**P**	**06 59 51.5**	**+3.0**
DZM	**Mont Dzumac**	**14.73**	**250**	P	**P**	**07 01 33.9**	**-0.3**
OUZ	**Omahuta**	**18.91**	**200**	P	**P**	**07 02 10.1**	**-2.0**
OUZ				IAmb	IAmb	07 02 42.7	
	comp=Z,36nm,1.4s						
EIDS	**Eidsvold**	**29.17**	**249**	P	**P**	**07 03 43.1**	**0.0**
EIDS				IAmb	IAmb	07 03 45.9	
	comp=Z,8.8nm,1.5s						
CTAO	**Charters Tower**	**33.27**	**260**	P	**P**	**07 04 19.3**	**+1.2**
CTAO				IAmb	IAmb	07 04 20.3	
	comp=Z,7.9nm,1.3s						
COEN	**Coen**	**36.87**	**270**	P	**P**	**07 04 48.1**	**+0.3**
COEN				IAmb	IAmb	07 04 53.1	
	comp=Z,22nm,1.6s						
TOO	**Toolangi**	**37.22**	**230**	P	**P**	**07 04 49.3**	**-1.1**
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**07 05 01.2**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=80,slow=8.5,SNR=11						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**07 05 01.3**	**-0.3**
BBOO	**Buckleboo**	**43.38**	**241**	P	**P**	**07 05 38.5**	**-0.9**
WR0	**Warramunga Arr**	**44.28**	**259**	P	**P**	**07 05 46.7**	**+0.3**
WR0				IAmb	IAmb	07 06 08.7	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**44.43**	**259**	P	**P**	**07 05 47.5**	**-0.1**
WB0				IAmb	IAmb	07 06 12.5	
	comp=Z,12nm,1.6s						
WB2	**Warramunga Arr**	**44.46**	**259**	P	**P**	**07 05 47.1**	**-0.7**
WB2				IAmb	IAmb	07 05 47.7	
	comp=Z,6.0nm,1.1s						
WRAB	**Tennant Creek**	**44.46**	**259**	P	**P**	**07 05 47.2**	**-0.7**
WRAB				IAmb	IAmb	07 06 18.6	
	comp=Z,15nm,1.6s						
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**07 05 47.5**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=93,slow=7.4,SNR=64						
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**07 05 47.5**	**-0.4**
AS31	**Alice Springs**	**44.66**	**254**	P	**P**	**07 05 49.3**	**-0.1**
AS31				IAmb	IAmb	07 05 50.0	
	comp=Z,2.4nm,0.5s						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**07 05 49.0**	**-0.4**
	comp=Z,6.0nm,0.5s,baz=87,slow=8.8,SNR=106						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**07 05 48.7**	**-0.7**
PTCN	**Pitcairn Islan**	**45.67**	**108**	P	**P**	**07 05 57.6**	**+0.7**
PETK	**Petropavlovsk-**	**73.26**	**345**	P	**P**	**07 09 00.8**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=95,slow=6.6,SNR=2.4						
KSRS	**Korea Array**	**74.27**	**318**	P	**P**	**07 09 04.2**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=97,slow=40,SNR=2.6						
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**07 09 33.1**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=221,slow=8.4,SNR=6.0						
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**07 09 32.7**	**-0.6**
K05A	**Summer Lake**	**80.06**	**39**	P	**P**	**07 09 37.4**	**+0.4**
MAW	**Mawson**	**84.13**	**200**	P	**P**	**07 09 58.3**	**+1.5**
	comp=Z,2.4nm,0.3s,baz=278,slow=14,SNR=14						
MAW	**Mawson**	**84.13**	**200**	P	**P**	**07 09 58.4**	**+1.5**
ILAR	**Eielson Array**	**85.58**	**13**	P	**P**	**07 10 03.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=218,slow=5.2,SNR=4.9						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**07 10 07.3**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=215,slow=6.1,SNR=12						
PDAR	**Pinedale Array**	**87.25**	**44**	P	**P**	**07 10 12.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=231,slow=3.8,SNR=6.0						
PDAR	**Pinedale Array**	**87.25**	**44**	P	**P**	**07 10 12.1**	**-0.4**
ARCES	**ARCESS Array B**	**125.91**	**350**	PKP	**PKiKP**	**07 16 21.2**	**-1.7**
	comp=Z,3.4nm,1.1s,baz=10,slow=2.7,SNR=3.6						
ARCES	**ARCESS Array B**	**125.91**	**350**		**PKiKP**	**07 16 21.7**	**-1.2**
BRTR	**Keskin Array B**	**144.35**	**315**	PKP	**PKPab**	**07 16 57.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=17,slow=1.5,SNR=2.6						
BRTR	**Keskin Array B**	**144.35**	**315**		**PKPab**	**07 16 57.2**	**-0.9**
CLL	**Collm**	**145.05**	**347**	*i* PKPbc	**PKPab**	**07 16 59.4**	**-0.8**
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**147.19**	**345**	PKPbc	**PKPbc**	**07 17 04.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=20,slow=4.3,SNR=5.1						
GERES	**GERESS Array B**	**147.19**	**345**		**PKPbc**	**07 17 04.0**	**-1.3**

*NNC **01** 06:58:59.8±0.3, 43.°14N×77.°49E, h0km, mb2.3, mpv2.7, Error ellipse: s-maj=3.2km s-min=1.6km az=178.0*
*SOME **01** 06:58:59.8, 43.°12N×77.°48E, h15km*
*KRNET **01** 06:59:00.1±0.1, 43.°11N×77.°42E, h12km, mb1.9*
ISC 01 06:59:00.1±0.9, **43.°12N**±0.°02×**77.°48E**±0.°02, **h16**km±7km, **n38**, σ0**9**51/71, **12C-8D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTS	**Kotyrbulak**	**0.29**	**293**	*e*P	**Pg**	**06 59 06.4**	**0.0**
	14nm,0.1s						
KOTS				*e*S	**Sg**	**06 59 10.9**	**+0.2**
	53nm,0.1s						
KOTS	**Kotyrbulak**	**0.29**	**293**	P	**Pg**	**06 59 06.4**	**0.0**
	14nm,0.1s						
KOTS				S	**Sg**	**06 59 10.9**	**+0.2**
	53nm,0.1s						
MDOK	**Medeo**	**0.32**	**278**	*e*P	**Pg**	**06 59 06.6**	**-0.2**
	9.6nm,0.1s						
MDOK				*e*S	**Sg**	**06 59 11.4**	**0.0**
	13nm,0.2s						
MDOK	**Medeo**	**0.32**	**278**	Pg	**Pg**	**06 59 06.6**	**-0.2**
	9.6nm,0.1s						
MDOK				Lg	Lg	06 59 11.4	
	13nm,0.2s						
ANVS	**Anan'yevo**	**0.36**	**158**	⇑*i*P	**Pg**	**06 59 07.6**	**0.0**
	baz=50						
ANVS				⇑*i*S	**Sg**	**06 59 12.9**	**+0.2**
	baz=50						
TNSS	**Tian-Shan**	**0.40**	**258**	*e*P	**Pg**	**06 59 08.1**	**-0.2**
	18nm,0.1s						
TNSS				*e*S	**Sg**	**06 59 14.2**	**+0.2**
	21nm,0.1s						
TNSS	**Tian-Shan**	**0.40**	**258**	P	**Pg**	**06 59 08.1**	**-0.2**
	18nm,0.1s						
TNSS				S	**Sg**	**06 59 14.2**	**+0.2**
	21nm,0.1s						
SATY	**Saty**	**0.68**	**95**	*e*P	**Pg**	**06 59 13.2**	**-0.2**
	5.6nm,0.1s						
SATY				*e*S	**Sb**	**06 59 22.8**	**-0.1**
	26nm,0.2s						
SATY	**Saty**	**0.68**	**95**	P	**Pg**	**06 59 13.2**	**-0.2**
	5.6nm,0.1s						
SATY				S	**Sb**	**06 59 22.8**	**-0.1**
	26nm,0.2s						
CHKK	**Chushkaly**	**0.82**	**334**	*e*P	**Pg**	**06 59 15.4**	**-0.6**
	4.5nm,0.2s						
CHKK				*e*S	**Sg**	**06 59 26.3**	**-0.5**
	17nm,0.2s						
CHKK	**Chushkaly**	**0.82**	**334**	P	**Pg**	**06 59 15.4**	**-0.6**
	4.5nm,0.2s						
CHKK				S	**Sg**	**06 59 26.3**	**-0.5**
	17nm,0.2s						
KTBS	**Karatobe**	**0.83**	**316**	*e*P	**Pg**	**06 59 15.7**	**-0.6**
	1.0nm,0.1s						
KTBS				*e*S	**Sg**	**06 59 26.6**	**-0.5**
	14nm,0.2s						
KTBS	**Karatobe**	**0.83**	**316**	P	**Pg**	**06 59 15.6**	**-0.6**
	1.0nm,0.1s						
KTBS				S	**Sg**	**06 59 26.6**	**-0.5**
	14nm,0.2s						
PRZ	**Przheval'sk**	**0.93**	**133**	⇓*i*P	**Pn**	**06 59 19.2**	**+0.5**
	baz=30						
PRZ				⇓*i*S	**Sn**	**06 59 31.8**	**0.0**
	baz=30						
KPKS	**Kokpek**	**0.94**	**68**	*e*P	**Pg**	**06 59 17.5**	**-0.9**
	3.7nm,0.3s						
KPKS				*e*S	**Sb**	**06 59 30.5**	**0.0**
	10.0nm,0.2s						
KDJ	**Kajisay**	**1.01**	**193**	⇑*i*P	**Pg**	**06 59 19.0**	**-0.7**
	baz=89						
KDJ				⇑*i*S	**Sb**	**06 59 32.9**	**+0.3**
	baz=89						
KST	**Kastek**	**1.11**	**267**	*e*P	**Pb**	**06 59 20.6**	**-0.5**
	5.3nm,0.1s						
KST				*e*S	**Sg**	**06 59 35.9**	**-0.3**
	2.3nm,0.2s						
KST	**Kastek**	**1.11**	**267**	P	**Pb**	**06 59 20.6**	**-0.5**
	5.3nm,0.1s						
KST				S	**Sg**	**06 59 35.9**	**-0.3**
	2.3nm,0.2s						
ARXS	**Arharly**	**1.12**	**13**	*e*P	**Pb**	**06 59 20.6**	**-0.5**
	3.5nm,0.2s						
ARXS				*e*S	**Sb**	**06 59 35.5**	**-0.1**
	14nm,0.2s						
ARXS	**Arharly**	**1.12**	**13**	P	**Pb**	**06 59 20.6**	**-0.5**
	3.5nm,0.2s						
ARXS				S	**Sb**	**06 59 35.5**	**-0.1**
	14nm,0.2s						
UZB	**Uzynbulak**	**1.13**	**88**	*e*P	**Pb**	**06 59 21.0**	**-0.4**
	1.7nm,0.1s						
UZB				*e*S	**Sg**	**06 59 36.2**	**-0.5**
	5.3nm,0.1s						
UZB	**Uzynbulak**	**1.13**	**88**	P	**Pb**	**06 59 21.0**	**-0.4**
	1.7nm,0.1s						
UZB				S	**Sg**	**06 59 36.2**	**-0.5**
	5.3nm,0.1s						
MNBS	**Baschi**	**1.17**	**35**	*e*P	**Pb**	**06 59 21.9**	**-0.1**
	0.9nm,0.1s						
MNBS				*e*S	**Sg**	**06 59 37.8**	**-0.2**
	10nm,0.2s						
MNBS	**Baschi**	**1.17**	**35**	P	**Pb**	**06 59 21.9**	**-0.1**
	0.9nm,0.1s						
MNBS				S	**Sg**	**06 59 37.8**	**-0.2**
	10nm,0.2s						
ULHL	**Ulahol**	**1.26**	**227**	⇓*i*P	**Pn**	**06 59 23.4**	**+0.1**
	baz=25						
ULHL				⇓*i*S	**Sn**	**06 59 40.3**	**+0.2**
	baz=25						
TKM2	**Tokmak 2**	**1.40**	**262**	⇑*i*P	**Pn**	**06 59 25.5**	**+0.4**
	baz=63						
TKM2				⇑*i*S	**Sb**	**06 59 44.2**	**+0.6**
	baz=63						
TKM2	**Tokmak 2**	**1.40**	**262**	⇓Pg	**Pn**	**06 59 25.6**	**+0.5**
	0.2nm,0.2s						
TKM2				⇑Lg	Lg	06 59 44.4	
	1.0nm,0.3s						
KRBS	**Karabastau**	**1.44**	**294**	*e*P	**Pn**	**06 59 25.8**	**+0.2**
	2.5nm,0.3s						
KRBS				*e*S	**Sn**	**06 59 44.5**	**+0.4**
	4.1nm,0.2s						
KRBS	**Karabastau**	**1.44**	**294**	P	**Pn**	**06 59 25.8**	**+0.2**
	2.5nm,0.3s						
KRBS				S	**Sn**	**06 59 44.5**	**+0.4**
	4.1nm,0.2s						
PDGK	**Podgornoye**	**1.48**	**81**	P	**Pb**	**06 59 26.9**	**-0.4**
	1.0nm,0.3s						
PDGK				S	**Sb**	**06 59 46.6**	**+0.5**
	1.6nm,0.5s						
PDGK	**Podgornoye**	**1.48**	**81**	⇑Pg	**Pn**	**06 59 26.5**	**+0.2**
	0.7nm,0.4s						
PDGK				⇓Lg	Lg	06 59 47.2	
	2.2nm,0.6s						
KZA	**Kyzart**	**1.95**	**238**	⇓*i*P	**Pb**	**06 59 35.4**	**-0.1**
	baz=38						
KZA				⇓*i*S	**Sg**	**07 00 01.5**	**-1.3**
	baz=38						
DJR	**Jarkent**	**2.07**	**53**	*e*P	**Pb**	**06 59 37.6**	**+0.3**
	1.4nm,0.3s						
DJR				*e*S	**Sb**	**07 00 04.6**	**+1.8**
	2.5nm,0.3s						
DJR	**Jarkent**	**2.07**	**53**	Pg	**Pb**	**06 59 37.6**	**+0.3**
	1.4nm,0.3s						
DJR				Lg	Lg	07 00 04.6	
	2.5nm,0.3s						
USP	**Ospenovka**	**2.19**	**275**	⇑*i*P	**Pb**	**06 59 38.8**	**-0.5**
	baz=75						
USP				⇑*i*S	**Sb**	**07 00 07.0**	**+0.9**
	baz=75						
UCH	**Uchtor**	**2.36**	**249**	⇑*i*P	**Pb**	**06 59 41.9**	**-0.6**
	baz=49						
UCH				⇑*i*S	**Sb**	**07 00 12.2**	**+0.5**
	baz=49						
KAPS	**Kapalarasan**	**2.55**	**31**	*e*P	**Pb**	**06 59 45.6**	**0.0**
	0.5nm,0.5s						
KAPS				*e*S	**Sb**	**07 00 18.3**	**+1.6**
	3.6nm,0.3s						
KAPS	**Kapalarasan**	**2.55**	**31**	Pg	**Pb**	**06 59 45.6**	**0.0**
	0.5nm,0.5s						
KAPS				Lg	Lg	07 00 18.3	
	3.6nm,0.3s						

IDC 01 07:11:58.3±3.2, **29.°89N**×**140.°04E**, **h0**km, **mb3.4**/3, **mb1 3.5**/4, **mb1mx3.3**/31, **mbtmp3.4**/4, **ML3.0**/1, **Error ellipse: s-maj=103.4km s-min=26.8km az=55.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.37**	**145**	Pn	Pn	07 12 52.5	+0.4
	1.4nm,0.3s,baz=113,slow=23,SNR=1.9						
JCJ				Sn	Sn	07 13 32.7	-0.1
	2.0nm,0.3s,baz=272,slow=20,SNR=1.4						
MKAR	**Makanchi Array**	**47.26**	**308**	P	P	07 20 33.2	-0.1
	0.1nm,0.4s,baz=85,slow=8.8,SNR=1.9						
WRA	**Warramunga Arr**	**49.85**	**187**	P	P	07 20 53.4	0.0
	0.4nm,0.3s,baz=5.1,slow=7.6,SNR=20						
ASAR	**Alice Springs**	**53.58**	**187**	P	P	07 21 20.9	-0.3
	0.2nm,0.4s,baz=4.8,slow=5.7,SNR=7.6						

*LDG **01** 07:17:43.8±0.1, 53.°17N×6.°78E, h3km, Md2.9/2, Ml2.9/7, Error ellipse: s-maj=3.2km s-min=1.2km az=99.0*
*BGR **01** 07:17:45.3±0.8, 53.°18N×6.°79E, h3km, ML3.0/2, Error ellipse: s-maj=10.0km s-min=4.4km az=104.0*
BGR Felt IV EMS.
*BUG **01** 07:17:47.0±1.0, 53.°17N×7.°00E, h23km±7km, MD3.3/7, ML3.1/9*
ISC 01 07:17:41.5±1.3, **53.°17N**±0.°06×**6.°55E**±0.°04, **h0**km, **n25**, σ1**9**66/45, **The Netherlands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBBN	**Ibbenburen**	**1.14**	**139**	*e*Pg	**Pb**	**07 18 04.2**	**+0.2**
	SNR=14						
IBBN				*e*Sg	**Sb**	**07 18 18.9**	**-0.3**
	SNR=8.2						
IBBS	**Ibbenbueren So**	**1.15**	**140**	Pg	**Pn**	**07 18 04.7**	**-0.1**
IBBS				Sg	**Sg**	**07 18 18.9**	**+0.5**
IBBE	**Ibbenbueren Ea**	**1.16**	**139**	Pg	**Pb**	**07 18 04.5**	**+0.2**
IBBE				Sg	**Sg**	**07 18 18.4**	**-0.2**
HLG	**Helgoland**	**1.29**	**37**	*e*Sg	**Sb**	**07 18 23.6**	**0.0**
BAVN	**Auguste-Victor**	**1.48**	**166**	Pn	**Pg**	**07 18 12.1**	**+2.3**
BULI	**Ruhr-Universit**	**1.78**	**166**	Pn	**Pb**	**07 18 15.3**	**+0.4**
BTEZ	**Ruhr-Universit**	**1.78**	**165**	Pn	**Pg**	**07 18 17.1**	**+1.5**
BKLB	**Ruhr-Universit**	**1.79**	**165**	Pn	**Pn**	**07 18 13.8**	**+0.2**
BUG	**Bochum--Univer**	**1.79**	**165**	Pn	**Pn**	**07 18 13.8**	**+0.2**
BUG				*e*Sg	**Sg**	**07 18 40.9**	**+1.9**
AHRW	**Bad Neuenahr-A**	**2.66**	**173**	Pn	**Pn**	**07 18 27.4**	**+1.9**
AHRW				*e*Sg	**Sg**	**07 19 10.2**	**+3.5**
CLZ	**Clausthal**	**2.69**	**118**	*e*Pn	**Pn**	**07 18 26.9**	**+0.9**
CLZ				*e*Sn	**Sn**	**07 18 55.5**	**-3.7**
TNS	**Taunus Mts**	**3.18**	**157**	*e*Pn	**Pn**	**07 18 33.5**	**+0.7**
	SNR=5.1						
TNS				*e*Sn	**Sn**	**07 19 11.0**	**-0.4**
	SNR=2.1						
TNS				*e*Sg	**Sg**	**07 19 25.8**	**+2.1**
	SNR=1.9						
GIVF	**Givet**	**3.26**	**200**	*e*Pn	**Pn**	**07 18 34.7**	**+0.9**
GIVF	**Givet**	**3.26**	**200**	*e*Pg	**Pg**	**07 18 45.1**	**+1.2**
GIVF				*e*Sn	**Sn**	**07 19 12.2**	**-1.0**
GIVF				*e*Sg	**Sg**	**07 19 27.5**	**+1.4**
	27nm,0.6s						
BAIF	**Baives**	**3.44**	**206**	*e*Pn	**Pn**	**07 18 37.8**	**+1.5**
BAIF	**Baives**	**3.44**	**206**	*e*Pg	**Pg**	**07 18 49.1**	**+1.7**
BAIF				*e*Sn	**Sn**	**07 19 17.0**	**-0.8**
BAIF				*e*Sg	**Sg**	**07 19 34.3**	**+2.3**
	10nm,0.5s						
PAGF	**Fort de Pagny**	**4.65**	**187**	*e*Pn	**Pn**	**07 18 52.9**	**-0.1**
PAGF	**Fort de Pagny**	**4.65**	**187**	*e*Pg	**Pg**	**07 19 11.3**	**+0.7**
PAGF				*e*Sn	**Sn**	**07 19 45.7**	**-2.0**
PAGF				*e*Sg	**Sg**	**07 20 12.1**	**+1.2**
	7.2nm,0.5s						
MEZF	**Maizieres J'vi**	**4.77**	**192**	*e*Pn	**Pn**	**07 18 54.4**	**-0.2**
CDF	**Champ du Feu**	**4.79**	**174**	*e*Pn	**Pn**	**07 18 54.4**	**-0.5**
CDF	**Champ du Feu**	**4.79**	**174**	*e*Pg	**Pg**	**07 19 13.2**	**0.0**
CDF				*e*Sn	**Sn**	**07 19 47.4**	**-3.7**
CDF				*e*Sg	**Sg**	**07 20 14.1**	**-1.1**
	3.5nm,0.4s						
LOR	**Lormes**	**6.16**	**197**	*e*Pn	**Pn**	**07 19 13.4**	**-0.3**
LOR	**Lormes**	**6.16**	**197**	*e*Pg	**Pg**	**07 19 38.4**	**-1.0**
LOR				*e*Sn	**Sn**	**07 20 21.1**	**-3.7**
LOR				*e*Sg	**Sg**	**07 20 57.8**	**-1.4**
	1.9nm,0.4s,baz=20						
SSF	**Saint Saulge**	**6.42**	**199**	*e*Pn	**Pn**	**07 19 17.0**	**-0.3**
SSF				*e*Sn	**Sn**	**07 20 27.7**	**-3.6**
SSF				*e*Sg	**Sg**	**07 21 06.4**	**-1.3**
	0.7nm,0.2s						
CABF	**La Chapelle**	**6.58**	**183**	*e*Pn	**Pn**	**07 19 19.4**	**-0.1**

*UCR **01** 07:44:44.5±0.5, 12.°47N×87.°96W, h30km±3km, ML3.5*
*SNET **01** 07:44:44.7±0.5, 12.°48N×87.°97W, h30km±3km, ML3.5*
*INET **01** 07:44:45.7, 12.°52N×87.°82W, h15km, ML3.7*
ISC 01 07:44:44.3±4.0, **12.°4N**±0.°2×**87.°92W**±0.°09, **h50**km, **n24**, σ0**9**25/30, **2C-8D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.85**	**6**	⇓*i*P	**Pn**	**07 44 60.0**	**-0.2**
CNCH				*e*S	**Sn**	**07 45 11.7**	**0.0**
CNCH	**Conchagua**	**0.85**	**6**	⇓*i*P	**Pn**	**07 44 60.0**	**-0.2**
CNCH				*e*S	**Sn**	**07 45 11.7**	**0.0**
LCND	**La Caada**	**0.88**	**2**	⇓*e*P	**Pn**	**07 45 00.3**	**-0.2**
LCND				*e*S	**Sn**	**07 45 12.1**	**-0.1**
LCND				IAML		07 45 14.4	
	comp=Z,3μm,0.4s						
LCND	**La Caada**	**0.88**	**2**	⇓*e*P	**Pn**	**07 45 00.3**	**-0.2**
LCND				*e*S	**Sn**	**07 45 12.1**	**-0.1**
LCND				IAML		07 45 14.4	
	comp=Z,3μm,0.4s						
ALJI	**Alcalda de J**	**1.09**	**325**	⇓*i*P	**Pn**	**07 45 03.1**	**-0.3**
ALJI				IAML		07 45 19.0	
	comp=Z,945nm,0.1s						
ALJI	**Alcalda de J**	**1.09**	**325**	⇓*i*P	**Pn**	**07 45 03.1**	**-0.3**
ALJI				IAML		07 45 19.0	
	comp=Z,945nm,0.1s						
PACA	**Pacayal**	**1.11**	**339**	*e*P	**Pn**	**07 45 03.6**	**0.0**
PACA				*e*S	**Sn**	**07 45 18.4**	**+0.4**
PACA	**Pacayal**	**1.11**	**339**	*e*P	**Pn**	**07 45 03.6**	**0.0**
PACA				*e*S	**Sn**	**07 45 18.4**	**+0.4**
TECA	**Tecapa**	**1.20**	**332**	*e*P	**Pn**	**07 45 04.9**	**-0.1**
TECA	**Tecapa**	**1.20**	**332**	*e*P	**Pn**	**07 45 04.9**	**-0.1**
COEB	**Comit de Eme**	**1.22**	**331**	*e*P	**Pn**	**07 45 04.7**	**-0.5**
COEB				IAML		07 45 24.0	
	comp=Z,485nm,0.3s						
COEB	**Comit de Eme**	**1.22**	**331**	*e*P	**Pn**	**07 45 04.7**	**-0.5**
COEB				IAML		07 45 24.0	
	comp=Z,485nm,0.3s						
FAGO	**Alcalda de S**	**1.27**	**352**	⇓*e*P	**Pn**	**07 45 05.5**	**-0.3**
FAGO	**Alcalda de S**	**1.27**	**352**	⇓*e*P	**Pn**	**07 45 05.5**	**-0.3**
COEG	**Centro de Oper**	**1.51**	**322**	*e*P	**Pn**	**07 45 08.7**	**-0.4**
COEG				IAML		07 45 31.6	
	comp=Z,851nm,0.3s						
COEG	**Centro de Oper**	**1.51**	**322**	*e*P	**Pn**	**07 45 08.7**	**-0.4**
COEG				IAML		07 45 31.6	
	comp=Z,851nm,0.3s						
**PA

comp=Z,2.3nm,0.5s,baz=90,slow=8.6,SNR=58
ASAR Alice Springs 50.47 254 P **P** **07 54 55.1 +0.2**

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*ISN **01** 08:19:26.1±1.2,33°79N×45°72E,h7km±6km,ML2.3*
*TEH **01** 08:19:27.3,33°76N×45°77E,h15km,ML2.9*
ISC 01 08:19:27.2±1.0,33°80N±0°04×45°70E±0°07,h10km,n13,
σ1§12/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.71**	**164**	*e*Pg	**Pg**	**08 19 40.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**08 19 49.0**	**-1.2**
IGHG	**Ghaleghazi**	**0.90**	**53**	*e*Pg	**Pg**	**08 19 44.0**	**-0.5**
IGHG				*e*		08 19 47.7	
IDHR	**Dehrash**	**1.07**	**32**	*e*Pg	**Pg**	**08 19 47.7**	**0.0**
IDHR				*e*		08 20 08.0	
IVIS	**Veis**	**1.20**	**52**	*e*Pg	**Pn**	**08 19 49.5**	**-0.7**
IVIS				*e*		08 20 10.8	
KCHF	**Cheshme Sefid,**	**1.22**	**66**	*e*Pg	**Pn**	**08 19 49.9**	**-0.5**
KCHF				*e*		08 20 12.2	
BHD	**Baghdad**	**1.22**	**245**	*e*Pg	**Pb**	**08 19 49.0**	**-1.3**
BHD				*e*Sg	**Sb**	**08 20 07.0**	**+0.9**
ILIN	**Lien**	**1.53**	**43**	*e*Pg	**Pn**	**08 19 55.8**	**+0.9**
ILIN				*e*		08 20 19.4	
IKOM	**Komasi**	**1.55**	**75**	*e*Pg	**Pn**	**08 19 55.8**	**+0.8**
IKOM				*e*		08 20 20.5	
DHL1	**Dehloran**	**1.73**	**129**	*e*Pg	**Pn**	**08 19 58.4**	**+1.1**
IBZA	**Bozab**	**1.92**	**69**	*e*		08 20 03.8	
IBZA				*e*Pn	**Pn**	**08 20 01.1**	**+1.0**
HSAM	**Samen**	**2.45**	**79**	*e*		08 20 48.7	
HSAM				*e*Pn	**Pn**	**08 20 07.5**	**0.0**
HSRG	**Sareghieh**	**2.58**	**55**	*e*Pn	**Pn**	**08 20 10.5**	**+1.3**
HSRG				*e*		08 20 53.8	
NSR	**Nassriya**	**2.80**	**172**	*e*Pn	**Pn**	**08 20 13.0**	**+1.0**
NSR				*e*Sn	**Sn**	**08 20 48.0**	**+2.1**
NSR				AML	AML	08 20 55.4	
	comp=E,17nm,0.6s						

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*NEIC **01** 08:22:22.6±2.9,27°26S±0°04×70°11W±0°08,h113km±9km,*
ML3.6(GUC),Error ellipse: s-maj=10.0km s-min=6.1km
az=102.0
*GUC **01** 08:22:24.8±0.6,27°29S×70°09W,h98km±4km,ML3.5*
ISC 01 08:22:22.9±1.3,27°27S±0°03×70°11W±0°06,
h103km±11km,n45,σ1§53/60,6C-1D,Near coast of
northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.34**	**199**	*e*P	**Pn**	**08 22 38.8**	**+0.6**
GO03				*i* S	**Sn**	**08 22 49.6**	**0.0**
GO03				IAML		08 22 51.0	
	comp=E,3μm,0.1s						
GO03	**Copiap**	**0.34**	**199**		**Pn**	**08 22 38.9**	**+0.6**
GO03				Sn	**Sn**	**08 22 49.7**	**+0.1**
AC02	**Maricunga**	**0.97**	**64**	⇓*i*P	**Pn**	**08 22 45.2**	**+1.3**
AC02				*i* S	**Sn**	**08 23 00.1**	**+0.5**
AC02				IAML		08 23 01.1	
	comp=N,3μm,0.1s						
AC02	**Maricunga**	**0.97**	**64**		**Pn**	**08 22 45.2**	**+1.3**
AC02				Sn	**Sn**	**08 23 00.2**	**+0.7**
AC01	**Pan de Azucar**	**1.20**	**338**	⇑*i*P	**Pn**	**08 22 47.7**	**+1.8**
AC01				*i* S	**Sn**	**08 23 05.0**	**+1.8**
AC01				IAML		08 23 06.2	
	comp=E,1μm,0.2s						
AC01	**Pan de Azucar**	**1.20**	**338**	Pn	**Pn**	**08 22 47.6**	**+1.8**
AC01				Sn	**Sn**	**08 23 04.8**	**+1.6**
AC04	**Llanos de Chal**	**1.26**	**222**	⇑*i*P	**Pn**	**08 22 48.0**	**+1.5**
AC04				*i* S	**Sn**	**08 23 05.6**	**+1.2**
AC04				IAML		08 23 07.0	
	comp=N,1μm,0.1s						
AC04	**Llanos de Chal**	**1.26**	**222**		**Pn**	**08 22 48.0**	**+1.5**
AC04				Sn	**Sn**	**08 23 05.6**	**+1.2**
AC05	**El Transito**	**1.56**	**185**	⇑*i*P	**Pn**	**08 22 51.7**	**+1.4**
AC05				*i* S	**Sn**	**08 23 12.8**	**+1.7**
AC05				IAML		08 23 13.4	
	comp=E,893nm,0.2s						
AC05	**El Transito**	**1.56**	**185**	Pn	**Pn**	**08 22 51.7**	**+1.4**
AC05				Sn	**Sn**	**08 23 12.6**	**+1.6**
LCO	**Las Campanas**	**1.81**	**197**		**Pn**	**08 22 54.7**	**+1.2**
LCO				Sn	**Sn**	**08 23 17.7**	**+1.0**
GO02	**Mina Guanaco**	**2.15**	**13**	⇑*i*P	**Pn**	**08 22 59.5**	**+1.6**
GO02				*e*S	**Sn**	**08 23 27.1**	**+2.5**
GO02				IAML		08 23 31.2	
	comp=E,444nm,0.1s						
GO02	**Mina Guanaco**	**2.15**	**13**		**Pn**	**08 22 59.5**	**+1.6**
PB14	**IPOC Station P**	**2.65**	**354**	*e*P	**Pn**	**08 23 05.4**	**+1.0**
PB14				*e*S	**Sn**	**08 23 35.7**	**-0.6**
PB14				IAML		08 23 44.2	
	comp=E,65nm,0.5s						
PB14	**IPOC Station P**	**2.65**	**354**	Pn	**Pn**	**08 23 05.2**	**+0.8**
CO01	**Juntas del Tor**	**2.69**	**180**	⇑*i*P	**Pn**	**08 23 06.9**	**+2.0**
CO01				*e*S	**Sn**	**08 23 38.8**	**+1.6**
CO01				IAML		08 23 41.4	
	comp=E,138nm,0.9s						
CO01	**Juntas del Tor**	**2.69**	**180**		**Pn**	**08 23 06.8**	**+1.9**
GO04	**Tololo Observa**	**2.95**	**192**		**Pn**	**08 23 09.2**	**+0.8**
CO03	**El Pedregal**	**3.59**	**188**	⇑*i*P	**Pn**	**08 23 17.4**	**+0.7**
CO03				*e*S	**Sn**	**08 23 58.5**	**+0.1**
CO03	**El Pedregal**	**3.59**	**188**		**Pn**	**08 23 17.4**	**+0.7**
PB10	**IPOC Station P**	**3.77**	**354**	Pn	**Pn**	**08 23 18.9**	**-0.1**
CO02	**Combarbal**	**3.99**	**191**		**Pn**	**08 23 22.1**	**-0.1**
PB15	**IPOC Station P**	**4.09**	**8**		**Pn**	**08 23 24.3**	**+0.7**
ZON	**Zonda**	**4.44**	**164**	Pn	**Pn**	**08 23 28.4**	**+0.3**
PB06	**IPOC Station P**	**4.57**	**6**	Pn	**Pn**	**08 23 30.3**	**+0.2**
LVC	**Limon Verde**	**4.77**	**13**	Pn	**Pn**	**08 23 33.5**	**+0.6**
PB04	**IPOC Station P**	**4.92**	**360**	Pn	**Pn**	**08 23 34.0**	**-0.8**
VA03	**San Esteban**	**5.49**	**184**	Pn	**Pn**	**08 23 42.5**	**+0.1**
PB09	**IPOC Station P**	**5.51**	**8**	Pn	**Pn**	**08 23 43.3**	**+0.6**
PB07	**IPOC Station P**	**5.53**	**2**	Pn	**Pn**	**08 23 42.1**	**-0.9**
ROC1	**El Roble**	**5.74**	**188**	Pn	**Pn**	**08 23 45.0**	**-0.9**
PEL	**Peldehue**	**5.87**	**185**	Pn	**Pn**	**08 23 46.0**	**-1.5**
MT02	**Curacav**	**6.03**	**188**	Pn	**Pn**	**08 23 48.5**	**-1.2**
MT05	**Renca**	**6.12**	**185**	Pn	**Pn**	**08 23 49.4**	**-1.5**
PB01	**IPOC Station P**	**6.23**	**5**	Pn	**Pn**	**08 23 51.6**	**-0.8**
PATCX	**Punta Patache**	**6.42**	**360**	Pn	**Pn**	**08 23 54.0**	**-1.1**
BO01	**Tunca**	**7.15**	**187**	Pn	**Pn**	**08 24 02.9**	**-1.9**
PB08	**IPOC Station P**	**7.15**	**7**	Pn	**Pn**	**08 24 03.6**	**-1.7**
PB11	**IPOC Station P**	**7.49**	**3**	Pn	**Pn**	**08 24 07.3**	**-2.4**
BO02	**Sierra Bellavi**	**7.52**	**184**	Pn	**Pn**	**08 24 08.2**	**-1.7**
GO01	**Chusmiza**	**7.62**	**7**	Pn	**Pn**	**08 24 09.9**	**-1.8**
PSGCX	**Pisagua**	**7.64**	**360**	Pn	**Pn**	**08 24 08.9**	**-2.7**
GO05	**Huala**	**7.87**	**191**	Pn	**Pn**	**08 24 11.5**	**-3.1**
MNMC	**Minye Minye**	**8.12**	**3**	Pn	**Pn**	**08 24 14.3**	**-4.0**
PB12	**IPOC Station P**	**8.62**	**359**	Pn	**Pn**	**08 24 22.3**	**-2.7**

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*IDC **01** 08:27:39.5±1.4,5°87N×126°72E,h0km,mb4.0/8,*
mb1 4.1/8,mb1mx3.7/51,mbtmp4.0/8,MS3.2/3,Ms1 3.2/3,
ms1mx2.6/51,Error ellipse: s-maj=127.8km s-min=16.8km
az=71.0
*NEIC **01** 08:27:40.6±2.1,6°1N±0°1×127°2E±0°1,h10km±1km,*
mb4.1/12,Error ellipse: s-maj=26.1km s-min=12.2km
az=43.0
*MAN **01** 08:27:48.7,5°27N×126°50E,h42km,MS3.7*
ISC 01 08:27:48.8±0.8,5°66N±0°08×126°7E±0°1,h66km,n36,
σ2§27/36,mb4.0/14,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.11**	**293**	*e*P	**Pn**	**08 28 09.1**	**+0.5**
DDMP				*e*S	**Sn**	**08 28 20.1**	**-3.3**
MATI	**Mati**	**1.37**	**339**	*e*P	Pn	08 28 16.2	+4.3
DAV	**Davao City (W)**	**1.81**	**321**	Sn	**Sn**	**08 28 44.0**	**+4.0**
	98nm,0.3s,baz=232,slow=22,SNR=3.6						
DAV	**Davao City (W)**	**1.81**	**321**	Pn	Pn	08 28 12.2	-5.8
DAV				Sn	**Sn**	**08 28 36.4**	**-3.6**
KCP	**Kidapawan**	**2.12**	**309**	⇓*i*P	**Pn**	**08 28 24.8**	**+2.7**
KCP				*i* S	**Sn**	**08 28 54.6**	**+7.2**
SKMP	**Bagumbayan, Su**	**2.35**	**291**	*e*P	**Pn**	**08 28 25.1**	**0.0**
SKMP				*e*S	**Sn**	**08 28 52.8**	**-0.1**
BUKP	**Musuan**	**2.76**	**323**	*e*P	**Pn**	**08 28 34.4**	**+3.5**
BUKP				*e*S	**Sn**	**08 29 04.2**	**+1.0**
PAGZ	**Pagadian**	**3.98**	**303**	*e*P	**Pn**	**08 28 48.8**	**+1.4**
PAGZ				*e*S	Sn	08 29 16.0	-17
MYLDM	**Lahad Datu**	**8.22**	**267**	Pn	**Pn**	**08 29 48.0**	**+2.6**
KNRA	**Kununurra**	**21.29**	**175**	P	**P**	**08 32 31.8**	**+1.7**
KNRA				IAmb	IAmb	08 32 32.1	
	comp=Z,6.8nm,0.6s						

LEM	**Lembang**	**22.76**	**237**	LR	LR	08 43 54.2	
	comp=Z,65nm,18.8s,baz=160,slow=43						
FITZ	**Fitzroy Crossi**	**23.63**	**183**	P	**P**	**08 32 54.1**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=1.5,slow=11,SNR=7.1						
FITZ	**Fitzroy Crossi**	**23.63**	**183**	P	**P**	**08 32 54.9**	**+0.6**
FITZ				IAmb	IAmb	08 32 55.5	
	comp=Z,5.0nm,1.2s						
WB0	**Warramunga Arr**	**26.36**	**164**	P	**P**	**08 33 20.2**	**+1.1**
WB0				IAmb	IAmb	08 33 28.2	
	comp=Z,4.3nm,1.1s						
WRAB	**Tennant Creek**	**26.51**	**164**	P	**P**	**08 33 21.0**	**+0.7**
WRAB				IAmb	IAmb	08 33 39.3	
	comp=Z,3.7nm,1.2s						
WRA	**Warramunga Arr**	**26.52**	**164**	P	**P**	**08 33 21.2**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=342,slow=10.0,SNR=11						
WRA	**Warramunga Arr**	**26.52**	**164**	P	**P**	**08 33 19.2**	**-1.3**
WB2	**Warramunga Arr**	**26.52**	**164**	P	**P**	**08 33 21.2**	**+0.8**
WR0	**Warramunga Arr**	**26.59**	**163**	P	**P**	**08 33 22.4**	**+1.3**
WR0				IAmb	IAmb	08 33 30.6	
	comp=Z,5.6nm,1.1s						
AS31	**Alice Springs**	**29.97**	**167**	P	**P**	**08 33 52.5**	**+1.3**
ASAR	**Alice Springs**	**29.97**	**167**	P	**P**	**08 33 52.4**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=345,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**29.97**	**167**	P	**P**	**08 33 50.8**	**-0.4**
MJAR	**Matsushiro Arr**	**32.49**	**17**	LR	LR	08 48 27.7	
	comp=Z,12nm,18.8s,baz=325,slow=39						
STKA	**Stephens Creek**	**39.92**	**160**	P	**P**	**08 35 18.8**	**+2.1**
MK31	**Makanchi Array**	**55.99**	**325**	P	**P**	**08 37 19.6**	**-1.0**
MK31				IAmb	IAmb	08 37 37.8	
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**55.99**	**325**	P	**P**	**08 37 18.7**	**-2.0**
	comp=Z,1.4nm,0.5s,baz=116,slow=7.6,SNR=10						
MKAR	**Makanchi Array**	**55.99**	**325**	P	**P**	**08 37 19.9**	**-0.8**
MAKZ	**Makanchi**	**56.18**	**324**	P	**P**	**08 37 20.0**	**-2.0**
MAKZ				IAmb	IAmb	08 37 22.1	
	comp=Z,3.1nm,1.2s						
ZALV	**Zalesovo Beam**	**58.89**	**333**	P	**P**	**08 37 39.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=107,slow=5.7,SNR=2.5						
KURK	**Kurchatov**	**60.13**	**327**	P	**P**	**08 37 48.3**	**-1.1**
KURBB	**Kurchatov Arra**	**60.13**	**327**	P	**P**	**08 37 48.3**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=128,slow=6.7,SNR=16						
ABKAR	**Akbulak array**	**70.68**	**320**	P	**P**	**08 38 55.4**	**-2.2**
KDAK	**Kodiak Island**	**80.27**	**32**	LR	LR	09 13 04.7	
	comp=Z,29nm,19.9s,baz=134,slow=34						
ARCES	**ARCESS Array B**	**88.65**	**340**	P	**P**	**08 40 32.4**	**-2.2**
	comp=Z,1.8nm,0.8s,baz=79,slow=6.4,SNR=4.4						
FINES	**FINESS Array B**	**90.15**	**332**	P	**P**	**08 40 40.5**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=46,slow=8.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**122.31**	**289**	PKP	**PKPdf**	**08 46 35.1**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=77,slow=1.7,SNR=3.4						

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*NDI **01** 08:31:55.5±1.9,25°34N×94°90E,h80km,ML3.9*
*IDC **01** 08:31:56.8±3.8,25°24N×95°19E,h121km±41km,mb3.2/7,*
mb1 3.4/8,mb1mx3.1/65,mbtmp3.6/8,MS3.0/1,Ms1 3.0/1,
ms1mx2.4/24,Error ellipse: s-maj=85.2km s-min=17.2km
az=55.0
ISC 01 08:31:54.6±1.1,25°33N±0°05×94°86E±0°08,h98km±10km,
n42,σ1§52/63,mb3.5/7,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.96**	**239**	*e*P	**Pn**	**08 32 15.1**	**+0.5**
IMP				*e*S	**Sn**	**08 32 28.9**	**-0.6**
JORH	**JORHAT**	**1.51**	**339**	*e*S	**Sn**	**08 32 41.0**	**+0.2**
JORH				IAML		08 32 42.2	
	comp=N,2μm,0.1s						
JORH				IAML		08 32 43.1	
	comp=E,1μm,0.0s						
SILR	**SILCHAR**	**1.94**	**254**	*e*P	**Pn**	**08 32 28.2**	**+1.9**
SILR				*e*S	**Sn**	**08 32 53.5**	**+3.0**
SILR				IAML		08 32 60.0	
	comp=N,870nm,0.2s						
SILR				IAML		08 33 00.4	
	comp=E,706nm,0.6s						
ITAN	**ITANAGAR**	**2.08**	**331**	*e*P	**Pn**	**08 32 28.1**	**0.0**
ITAN				*e*S	**Sn**	**08 32 53.4**	**-0.3**
ITAN				IAML		08 32 54.8	
	comp=N,2μm,0.0s						
ITAN				IAML		08 32 54.9	
	comp=E,2μm,0.1s						
TEZP	**TEZPUR**	**2.25**	**305**	*e*P	**Pn**	**08 32 31.1**	**+0.7**
TEZP				*e*S	**Sn**	**08 32 56.3**	**-1.5**
ZIRO	**ZIRO**	**2.37**	**338**	*e*P	**Pn**	**08 32 31.6**	**-0.5**
ZIRO				*e*S	**Sn**	**08 32 59.1**	**-1.7**
ZIRO				IAML		08 33 01.4	
	comp=E,2μm,0.3s						
ZIRO				IAML		08 33 01.9	
	comp=N,2μm,0.2s						
SHL	**Shillong**	**2.70**	**276**	*e*P	**Pn**	**08 32 36.7**	**+0.2**
SHL				*e*S	**Sn**	**08 33 07.8**	**-0.8**
SHL				IAML		08 33 09.0	
	comp=N,796nm,0.1s						
SHL				IAML		08 33 10.4	
	comp=E,603nm,0.1s						
GUWA	**GUWAHATI**	**2.98**	**287**	*e*P	**Pn**	**08 32 40.0**	**-0.1**
GUWA				*e*S	**Sn**	**08 33 13.5**	**-1.6**
GUWA				IAML		08 33 16.0	
	comp=N,956nm,0.1s						
GUWA				IAML		08 33 16.3	
	comp=E,1μm,0.1s						
SAIH	**SAIHA**	**3.30**	**212**	*e*P	**Pn**	**08 32 44.8**	**+0.3**
SAIH				*e*S	**Sn**	**08 33 22.5**	**-0.6**
SAIH				IAML		08 33 25.8	
	comp=N,62nm,0.6s						
SAIH				IAML		08 33 25.9	
	comp=E,156nm,0.5s						
TAWA	**Tawang**	**3.50**	**311**	*e*P	**Pn**	**08 32 48.8**	**+1.4**
TAWA				*e*S	**Sn**	**08 33 27.6**	**-0.6**
TAWA				IAML		08 33 30.5	
	comp=E,2μm,0.3s						
TAWA				IAML		08 33 32.9	
	comp=N,1μm,0.0s						
TURI	**Tura**	**4.10**	**274**	*e*P	**Pn**	**08 32 56.8**	**+1.7**
TURI				*e*S	**Sn**	**08 33 42.2**	**+0.2**
TURI				IAML		08 33 46.8	
	comp=N,646nm,0.0s						
TAPN	**Taplejung**	**6.72**	**289**	*e*Pn	**Pn**	**08 33 31.1**	**+0.1**
TAPN				*e*Sn	**Sn**	**08 34 46.0**	**-0.2**
TAPN	**Taplejung**	**6.72**	**289**	*e*Pn	**Pn**	**08 33 31.1**	**+0.1**
TAPN				*e*Sn	**Sn**	**08 34 46.0**	**-0.2**
ODAN	**Odare**	**6.88**	**284**	*e*Pn	**Pn**	**08 33 33.7**	**+0.5**
ODAN				*e*Sn	**Sn**	**08 34 49.9**	**-0.2**
	comp=N,98nm,0.3s						
ODAN	**Odare**	**6.88**	**284**	*e*Pn	**Pn**	**08 33 33.7**	**+0.5**
ODAN				*e*Sn	**Sn**	**08 34 49.9**	**-0.2**
	comp=N,98nm,0.3s						
RAMN	**Ramite**	**7.59**	**284**	*e*Pn	**Pn**	**08 33 44.2**	**+1.4**
RAMN	**Ramite**	**7.59**	**284**	*e*Pn	**Pn**	**08 33 44.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**7.82**	**150**	P	**Pn**	**08 33 44.5**	**-1.2**
	comp=N,0.4nm,0.3s,baz=328,slow=13,SNR=28						
JIRN	**Jiri**	**8.10**	**289**	*e*Pn	**Pn**	**08 33 50.7**	**+0.8**
JIRN				*e*Sn	**Sn**	**08 35 17.8**	**-2.2**
	comp=N,64nm,0.2s						
JIRN	**Jiri**	**8.10**	**289**	*e*Pn	**Pn**	**08 33 50.7**	**+0.8**
JIRN				*e*Sn	**Sn**	**08 35 17.8**	**-2.2**
	comp=N,64nm,0.2s						
GUN	**Gumba**	**8.44**	**290**	*e*Pn	**Pn**	**08 33 54.9**	**+0.5**
GUN				*e*Sn	**Sn**	**08 35 26.9**	**-1.2**
	comp=N,154nm,0.8s						
GUN	**Gumba**	**8.44**	**290**	*e*Pn	**Pn**	**08 33 54.9**	**+0.5**
GUN				*e*Sn	**Sn**	**08 35 26.9**	**-1.2**
	comp=N,154nm,0.8s						
PKI	**Pulchoki**	**8.76**	**287**	*e*Sn	**Sn**	**08 35 34.5**	**-1.4**
	comp=N,18nm,0.3s						
PKI	**Pulchoki**	**8.76**	**287**	*e*Sn	**Sn**	**08 35 34.5**	**-1.4**
	comp=N,18nm,0.3s						
KKN	**Kakani**	**8.92**	**288**	*e*Sn	**Sn**	**08 35 37.8**	**-1.9**
KKN	**Kakani**	**8.92**	**288**	*e*Sn	**Sn**	**08 35 37.8**	**-1.9**
DMN	**Daman**	**9.03**	**287**	*e*Sn	**Sn**	**08 35 40.5**	**-1.9**
DMN	**Daman**	**9.03**	**287**	*e*Sn	**Sn**	**08 35 40.5**	**-1.9**
GKN	**Gorkha**	**9.52**	**288**	*e*Pn	**Pn**	**08 34 08.8**	**-0.2**
GKN				*e*Sn	**Sn**	**08 35 51.7**	**-2.6**
	comp=N,55nm,0.5s						
GKN	**Gorkha**	**9.52**	**288**	*e*Pn	**Pn**	**08 34 08.8**	**-0.2**
GKN				*e*Sn	**Sn**	**08 35 51.7**	**-2.6**
	comp=N,55nm,0.5s						
KOLN	**Koldanda**	**10.37**	**286**	*e*Sn	**Sn**	**08 36 13.1**	**-1.8**
KOLN	**Koldanda**	**10.37**	**286**	*e*Sn	**Sn**	**08 36 13.1**	**-1.8**
PYUN	**Piuthan**	**10.96**	**287**	*e*Pn	**Pn**	**08 34 28.9**	**+0.3**
PYUN				*e*Sn	**Sn**	**08 36 26.0**	**-3.4**
	comp=N,53nm,0.6s						
PYUN	**Piuthan**	**10.96**	**287**	*e*Pn	**Pn**	**08 34 28.9**	**+0.3**
PYUN				*e*Sn	**Sn**	**08 36 26.0**	**-3.4**
	comp=N,53nm,0.6s						
MKAR	**Makanchi Array**	**23.65**	**338**	P	**P**	**08 36 58.7**	**+1.6**
	comp=N,0.6nm,0.5s,baz=150,slow=9.8,SNR=6.7						
SONM	**Songino Array**	**24.24**	**19**	LR	LR	08 47 27.5	
	comp=N,30nm,18.1s,baz=98,slow=38						
BVAR	**Borovoye Array**	**33.21**	**333**	P	**P**	**08 38 25.5**	**+3.4**
	comp=N,0.3nm,0.3s,baz=37,slow=45,SNR=2.6						
AKTO	**Aktyubinsk**	**37.79**	**321**	P	**P**	**08 39 03.4**	**+2.1**
	comp=N,1.0nm,0.6s,baz=99,slow=8.0,SNR=4.4						
FINES	**FINESS Array B**	**57.96**	**328**	P	**P**	**08 41 36.4**	**-0.1**
	comp=N,0.6nm,0.6s,baz=97,slow=11,SNR=1.3						
WRA	**Warramunga Arr**	**59.15**	**136**	P	**P**	**08 41 43.4**	**-2.0**
	comp=N,0.4nm,0.7s,baz=326,slow=7.2,SNR=2.3						
ASAR	**Alice Springs**	**61.67**	**139**	P	**P**	**08 42 00.6**	**-1.9**
	comp=N,0.4nm,0.7s,baz=330,slow=7.1,SNR=4.3						
ILAR	**Eielson Array**	**78.42**	**23**	P	**P**	**08 43 43.4**	**-0.8**
	comp=N,0.2nm,0.5s,baz=289,slow=2.8,SNR=2.8						

IDC 01 08:35:02.1±2.2,25°79S×137°54E,h0km,mb1 2.9/3,
mb1mx2.9/33,mbtmp2.7/3,ML2.6/3,Error ellipse:
s-maj=36.5km s-min=14.7km az=54.0,Northern
Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.92**	**302**	Pn	Pn	08 36 05.3	+1.7
	0.2nm,0.3s,baz=127,slow=14,SNR=6.2						
ASAR				Pg	Pg	08 36 15.2	-2.0
	0.2nm,0.3s,baz=120,slow=16,SNR=5.2						
ASAR				Sn	Sn	08 36 49.7	-0.7
	0.6nm,0.3s,baz=124,slow=16,SNR=7.1						
ASAR				Lg	Lg	08 37 04.4	
	1.0nm,0.3s,baz=127,slow=27,SNR=6.0						
WRA	**Warramunga Arr**	**6.52**	**332**	Pn	Pn	08 36 39.5	+0.1
	0.1nm,0.3s,baz=149,slow=12,SNR=2.2						
WRA				Sn	Sn	08 37 55.1	+0.6
	0.1nm,0.3s,baz=236,slow=31,SNR=1.3						
WRA				Lg	Lg	08 38 27.6	
	0.3nm,0.3s,baz=148,slow=14,SNR=7.0						
STKA	**Stephens Creek**	**7.03**	**151**	Pn	Pn	08 36 45.8	-0.6
	0.1nm,0.3s,baz=323,slow=16,SNR=1.8						
STKA				Sn	Sn	08 38 07.0	-0.1
	0.4nm,0.3s,baz=310,slow=18,SNR=3.9						
STKA				Lg	Lg	08 38 45.6	
	0.1nm,0.3s,baz=128,slow=16,SNR=1.5						

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*DDA **01** 08:42:59.6,34°99N×33°53E,h3km±1km,ML1.9*
*ISK **01** 08:42:59.2,34°95N×33°81E,h68km±1km,ML2.5/10*
*NIC **01** 08:43:01.4±0.0,35°09N×33°86E,h44km±1km,Ml2.1/4*
ISC 01 08:43:02.4±1.7,35°01N±0°07×33°85E±0°06,h42km±10km,
n21,σ1§21/30,1C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.15**	**95**	⇓P	**Pn**	**08 43 08.7**	**-0.9**
PARAL				AML	AML	08 43 15.1	
	0.7nm,0.6s						
PARAL				AML	AML	08 43 15.1	
	0.7nm,0.6s						
PARAL				S	**Sn**	**08 43 15.3**	**+0.7**
PARAL				AML	AML	08 43 16.5	
	0.7nm,0.3s						
PARAL				AML	AML	08 43 16.5	
	0.7nm,0.3s						
MVOU	**Mavrovouni**	**0.18**	**272**	⇑P	**Pn**	**08 43 09.0**	**-0.8**
MVOU				AML	AML	08 43 14.7	
	1.0nm,0.5s						
MVOU				AML	AML	08 43 14.7	
	1.0nm,0.5s						
MVOU				S	**Sn**	**08 43 15.3**	**+0.4**
MVOU				AML	AML	08 43 15.6	
	1.0nm,0.2s						
MVOU				AML	AML	08 43 15.6	
	1.0nm,0.2s						
AKIN	**Akıncılar- Kıb**	**0.32**	**271**	PG	**Pn**	**08 43 10.3**	**-0.8**
LFK	**Lefkose**	**0.38**	**316**	PG	**Pn**	**08 43 11.6**	**-0.2**
LFK				SG	**Sn**	**08 43 20.3**	**+1.9**
ATHAL	**Athalassa**	**0.40**	**290**	S	**Sn**	**08 43 18.4**	**-0.3**
CSS	**Mathiatis**	**0.43**	**264**	PG	**Pn**	**08 43 11.4**	**-1.0**
CSS	**Mathiatis**	**0.43**	**264**	P	**Pn**	**08 43 11.6**	**-0.9**
CSS				S	**Sn**	**08 43 19.5**	**0.0**
ASGA	**Asgata**	**0.54**	**246**	P	**Pn**	**08 43 13.5**	**-0.3**
ASGA				AML	AML	08 43 23.1	
	0.4nm,0.4s						
ASGA				AML	AML	08 43 23.1	
	0.4nm,0.4s						
ASGA				S	**Sn**	**08 43 23.1**	**+1.2**
ASGA				AML	AML	08 43 25.0	
	0.3nm,0.4s						
ASGA			

SDLR	Sedlovina	7.25 272	*e*P	Pn	08 53 10.6	+2.2
SMAR	Somma	7.30 272	*e*P	Pn	08 53 11.7	+2.5
KRER	Koryakskii	7.32 272	*e*P	Pn	08 53 11.5	+2.0
KRER			*e*S	Sn	08 54 30.4	-2.3
KRX	Arik	7.37 273	*e*P	Pn	08 53 11.8	+1.6
KRX			*e*S	Sn	08 54 31.2	-2.7
KIMD	Kanaga Island	7.39 100		Pn	08 53 09.6	-0.7
RUS	Russkaya	7.62 266	*e*P	Pn	08 53 15.3	+1.9
RUS			*e*S	Sn	08 54 36.0	-3.8
ADK	Adak	7.68 98		Pn	08 53 12.9	-1.3
KRMR	Karymshinskiy	7.77 269	*e*S	Sn	08 54 39.2	-4.1
PEA0B	Petropavlovsk-	7.97 272	Pn	Pn	08 53 21.2	+2.9
PETK	Petropavlovsk-	7.97 272	Pn	Pn	08 53 21.0	+2.7
	0.7nm,0.3s,baz=102,slow=17,SNR=32					
PETK			Sn	Sn	08 54 46.3	-2.1
	0.5nm,0.3s,baz=141,slow=12,SNR=1.5					
PETK			LR	LR	08 56 05.2	
	comp=Z,35nm,21.0s,baz=90,slow=35					
PETK	Petropavlovsk-	7.97 272		Pn	08 53 21.5	+3.2
GSTR	Great Sitkin T	7.98 96	Pn	Pn	08 53 15.3	-3.1
ASAK	Asacha	8.00 266	*e*S	Sn	08 54 46.6	-2.6
KDTR	Khodutka, Kamc	8.06 262	*e*P	Pn	08 53 21.2	+1.8
KDTR			*e*S	Sn	08 54 45.5	-4.9
ATKA	Atka Island	9.06 93	Pn	Pn	08 53 32.3	-0.9
MA2	Magadan	12.61 306	LR	LR	08 58 54.1	
	comp=Z,37nm,18.7s,baz=84,slow=36					
PPLA	Purkeypile	21.18 49	P	P	08 56 05.8	-2.0
PPLA			IAmb	IAmb	08 56 11.3	
	comp=Z,9.9nm,1.5s					
IMAR	Indian Mountai	21.26 41	P	P	08 56 07.4	-1.0
ILAR	Eielson Array	23.78 45	P	P	08 56 33.6	-1.1
	comp=Z,0.9nm,0.9s,baz=321,slow=34,SNR=4.7					
H11N2	WAKE ISLAND Hy	33.98 187	T	T	09 33 49.7	
	baz=5.1,slow=76,SNR=45					
H11N3	WAKE ISLAND Hy	33.99 187	T	T	09 33 35.7	
	baz=5.1,slow=76,SNR=50					
H11N1	WAKE ISLAND Hy	34.00 187	T	T	09 33 51.3	
	baz=5.1,slow=76,SNR=51					
H11S1	WAKE ISLAND Hy	35.21 187	T	T	09 35 23.5	
	baz=5.0,slow=76,SNR=128					
H11S3	WAKE ISLAND Hy	35.22 187	T	T	09 35 24.7	
	baz=5.0,slow=76,SNR=79					
H11S2	WAKE ISLAND Hy	35.22 187	T	T	09 35 23.7	
	baz=5.0,slow=76,SNR=63					
SONM	Songino Array	40.03 289	P	P	08 58 58.5	+1.1
	comp=Z,0.7nm,0.5s,baz=64,slow=6.8,SNR=4.5					
SONM	Songino Array	40.03 289	IAmb	IAmb	08 59 02.4	
	comp=Z,0.8nm,0.6s					
NVAR	Mina Array Bea	49.32 78	P	P	09 00 12.4	+0.6
	comp=Z,1.3nm,0.7s,baz=297,slow=7.6,SNR=12					
NVAR	Mina Array Bea	49.32 78	P	P	09 00 11.9	+0.2
PDAR	Pinedale Array	51.41 68	P	P	09 00 26.7	-0.8
	comp=Z,0.7nm,0.8s,baz=311,slow=3.0,SNR=7.1					
MKAR	Makanchi Array	53.64 301	P	P	09 00 42.5	-1.2
	comp=Z,0.7nm,0.3s,baz=52,slow=6.7,SNR=9.9					
MKAR	Makanchi Array	53.64 301	P	P	09 00 45.8	+2.0
TXAR	Lajitas Array	64.29 75	P	P	09 01 58.1	+0.1
	comp=Z,1.3nm,0.7s,baz=303,slow=4.4,SNR=19					
TXAR	Lajitas Array	64.29 75	P	P	09 01 58.2	+0.3
WRA	Warramunga Arr	79.79 215	P	P	09 03 32.2	+1.6
	comp=Z,0.9nm,0.8s,baz=26,slow=5.8,SNR=7.9					
ASAR	Alice Springs	83.39 214	P	P	09 03 52.0	+2.4
	comp=Z,0.7nm,0.5s,baz=20,slow=4.9,SNR=12					

REY ***01*** *08:58:11.9, 64°.66N×17°.54W, h9km*
BJI ***01*** *08:58:12.4±0.0, 64°.75N×17°.39W, h8km, mB5.1/31, mb4.8/42, Ms4.7/19, Ms7 4.4/14*
BGS ***01*** *08:58:12.2±1.8, 64°.61N×17°.60W, h5km, MS4.5*
IEPN ***01*** *08:58:12.6, 64°.46N×17°.27W, h10km*
MOS ***01*** *08:58:12.5±0.9, 64°.62N×17°.57W, h10km, mb5.0/89, MS4.4/15, Error ellipse: s-maj=7.5km s-min=4.9km az=99.7*
IDC ***01*** *08:58:12.4±0.4, 64°.61N×17°.60W, h0km, mb4.5/35, mb1 4.6/41, mb1mx4.5/60, mbtmp4.5/41, ML3.3/4, MS4.1/41, Ms1 4.1/41, ms1mx4.0/54, Error ellipse: s-maj=12.2km s-min=7.1km az=6.0*
INMG ***01*** *08:58:13.5, 64°.56N×17°.82W, h6km, Mb4.3*
UNK ***01*** *08:58:13.6, 64°.56N×17°.82W, h6km*
GCMT ***01*** *08:58:14.1±0.2, 64°.53N±0°.02×17°.65W±0°.03, h12km, MW4.9/108, Moment Tensor Solution. s30,c37; s108,c168; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.20±.06; Mθθ0.37±.06; Mφφ1.83±.05; Mrθ-1.48±.22; Mrφ0.81±.05; Mθφ-0.09±.17; Best double couple: M=2.60300×10^16^ NP1:φs184.00000°, δ40.00000°, λ-127.00000°. NP2:φs49.00000°, δ59.00000°, λ-63.00000°. Principal axes: T 2.3170, Plg10.0000°, Azm120.0000°; N 0.5730, Plg23.0000°, Azm214.0000°; P -2.8890, Plg65.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***01*** *08:58:14.2±1.5, 64°.61N±0°.07×17°.6W±0°.1, h10km±3km, mb4.9/319 Error ellipse: s-maj=10.5km s-min=8.2km az=179.0*
NAO ***01*** *08:58:15.4±5.3, 64°.63N×16°.85W, ML5.2*
BGR ***01*** *08:58:16.9±0.0, 64°.51N×17°.47W, h10km, mb4.8, Ms4.2*
DNK ***01*** *08:58:40.4±3.0, 66°.53N×18°.73W, h15km, Hypocentre not reviewed by the ISC*

ISC 01 08:58:12.5±0.7, 64°.66N±0°.02×17°.56W±0°.02, h2km±4km, n912, σ1§49/879, mb4.9/249, MS4.3/60, 27C-18D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.09	278	P	Pg	08 58 14.3	0.0
	baz=278						
IDYN	Dyngjuhals	0.15	32	P	Pg	08 58 15.3	-0.2
	baz=30						
IDJK	Dyngjujokull	0.21	139	P	Pg	08 58 16.4	-0.1
	baz=140						
IGRF	Grimsfjall	0.28	154	P	Pg	08 58 17.4	-0.6
	baz=155						
IHUS	Husbondi	0.37	187	P	Pg	08 58 19.0	-0.6
	baz=188						
ISKR	Skrokkalda	0.37	255	P	Pg	08 58 19.2	-0.5
	baz=255						
IKVE	Kverkfjoll	0.38	87	P	Pg	08 58 19.0	-0.8
	baz=87						
IBJK	Bruarjokull	0.40	119	P	Pg	08 58 19.2	-0.9
	baz=119						
IVOT	Vottur	0.42	157	P	Pg	08 58 19.7	-0.9
	baz=158						
IJOK	Jokulheimar	0.45	220	P	Pg	08 58 20.4	-0.8
	baz=221						
IKRE	Kreppuhraun	0.52	76	P	Pg	08 58 21.1	-1.3
	baz=76						
IASK	Askja	0.55	44	P	Pg	08 58 21.7	-1.4
	baz=44						
IMKO	Mokollar	0.61	58	P	Pg	08 58 22.8	-1.4
	baz=58						
IIEY	Innrieyrar	0.62	204	P	Pg	08 58 23.0	-1.4
	baz=204						
IKSK	Karasker	0.69	136	P	Pg	08 58 23.7	-1.9
	baz=137						
ISVA	Svartarkot	0.69	11	P	Pg	08 58 24.3	-1.4
	baz=9.9						
IKAL	Kalfafell	0.72	185	P	Pg	08 58 24.7	-1.6
	baz=185						
IVAT	Vatnsfell	0.76	232	P	Pg	08 58 25.8	-1.3
	baz=232						
IVSH	V-Sauoahnukur	0.80	79	P	Pg	08 58 25.9	-2.0
	baz=78						
IFAG	Fagurholsmyri	0.88	153	P	Pg	08 58 27.3	-2.1
	baz=154						
IHVE	Hveravellir	0.89	285	P	Pg	08 58 27.5	-2.0
	baz=284						
IADA	Aoalbol	0.92	66	P	Pg	08 58 27.8	-2.3
	baz=66						
IMEL	Melhnausar	0.99	22	P	Pg	08 58 29.1	-2.4
	baz=22						
IREN	Reynihlio	1.03	15	P	Pg	08 58 30.0	-2.2
	baz=15						
ISNB	Snabyli	1.04	207	P	Pg	08 58 30.4	-2.1
	baz=208						
ISLY	Slysaalda	1.08	220	P	Pg	08 58 31.0	-2.2
	baz=220						
IKVO	Krokottuvotn	1.09	15	P	Pg	08 58 30.9	-2.6
	baz=14						
IFED	Fedgar	1.13	236	P	Pg	08 58 32.3	-1.8
	baz=237						
IGRS	Grimsstaoir	1.15	31	P	Pg	08 58 31.9	-2.7
	baz=31						
IMJO	Mjoaskard	1.18	233	P	Pb	08 58 32.8	-2.8
	baz=233						
IGYG	Gygjarholskot	1.21	253	P	Pb	08 58 33.1	-3.1
	baz=253						
ISKI	Skildingahlsh	1.23	10	P	Pn	08 58 33.2	-3.6
	baz=9.8						
IGHA	Grjothals	1.25	17	P	Pn	08 58 33.4	-3.5
	baz=17						
IHAU	Haukadalur	1.26	238	P	Pn	08 58 33.9	-3.2
	baz=238						
IGRA	Granastaoir	1.26	360	P	Pn	08 58 33.8	-3.4
	baz=359						
IGOD	Go??abunga	1.27	218	P	Pn	08 58 34.7	-2.7
	baz=219						
IHVO	Lagu-Hvolar	1.27	207	P	Pn	08 58 34.4	-2.9
	baz=207						
IDIM	Dimmadalss	1.33	11	P	Pn	08 58 34.9	-3.3
	baz=11						
IHLA	Hella	1.33	345	P	Pn	08 58 35.1	-3.0
	baz=345						
BORG	Borgarnes	1.62	275	Pn	Pn	08 58 39.4	-2.7
	390nm,0.3s,baz=93,slow=9.0,SNR=417						
BORG				Pg	Pb	08 58 40.1	-3.1
	390nm,0.3s,baz=97,slow=9.8,SNR=128						
BORG				Lg	Lg	08 59 02.6	
	124nm,0.3s,baz=33,slow=20,SNR=6.0						
BORG	Borgarnes	1.62	275	Pn	Pn	08 58 39.2	-3.0
SOFL	Sornfelli, Far	5.43	114	*e*P	Pn	08 59 34.4	-0.1
SCO	Scoresbysund	6.08	346	P	Pn	08 59 42.9	-0.5
SCO	Scoresbysund	6.08	346	Pn	Pn	08 59 42.9	-0.5
JMIC	Jan Mayen	7.21	24	Pn	Pn	09 00 02.2	+3.5
JMIC	Jan Mayen	7.21	24	Pn	Pn	08 59 58.1	-0.6
	baz=293,slow=13,SNR=1.9						
JMIC	Jan Mayen	7.21	24	*e*P	Pn	09 00 03.1	+4.3
LEWI	Lewis, Hebride	8.30	137	*e*P	Pn	09 00 12.9	-0.8
LEWI				IAMs_20	IAMs_20	09 04 15.1	
	comp=Z,5μm,7.1s						
LRW	Lerwick	8.84	113	*e*P	Pn	09 00 20.0	-1.2
LRW				IAMs_20	IAMs_20	09 03 46.9	
	comp=Z,5μm,16.0s						
MLA1	Latheron	9.29	127	*e*P	Pn	09 00 26.9	-0.4
KAC	Achnashellach	9.30	135	*e*P	Pn	09 00 26.5	-1.0
KPL	Plockton	9.33	136	*e*P	Pn	09 00 26.5	-1.3
KPL				IAMs_20	IAMs_20	09 04 19.4	
	comp=Z,5μm,17.1s						
MCD	Coleburn Disti	9.89	129	*e*P	Pn	09 00 34.9	-0.6
LAWE	Loch Awe, Argy	10.32	139	*e*P	Pn	09 00 40.0	-1.4
INVG	Invergeldie, C	10.58	135	*e*P	Pn	09 00 43.7	-1.3
INVG				IAMs_20	IAMs_20	09 04 51.9	
	comp=Z,4μm,18.2s						
EAB	Aberfoyle	10.69	136	*e*P	Pn	09 00 46.0	-0.5
SUMG	Summit	10.93	325	*i* P	Pn	09 00 52.0	+1.9
	comp=Z,48nm,0.8s						
SUMG	Summit	10.93	325	*i* P	Pn	09 00 52.0	+1.9
SUMG				pmax	pmax		
	comp=Z,48nm,0.8s						
SUMG	Summit	10.93	325	Pn	Pn	09 00 50.5	+0.4
PGBU	Glenifferbraes	10.97	138	*e*P	Pn	09 00 49.7	-0.6
PGBU				IAMs_20	IAMs_20	09 05 27.9	
	comp=Z,5μm,11.6s						
CLGH	Cloghs, Cushen	11.17	144	*e*P	Pn	09 00 51.9	-1.2
AKN	Aaknes	11.25	92	Pn	Pn	09 00 53.1	-1.0
AKN	Aaknes	11.25	92	*e*P	Pn	09 00 52.7	-1.4
MOL	Molde	11.33	89	*e*P	Pn	09 00 56.3	+1.1
EBL	Broad Law	11.43	134	*e*P	Pn	09 00 55.9	-0.8
NEWG	New Galloway	11.65	139	*e*P	Pn	09 00 59.0	-0.5
GAL1	Galloway	11.73	141	*e*P	Pn	09 00 59.9	-0.8
GAL1				IAMs_20	IAMs_20	09 07 16.4	
	comp=Z,3μm,8.3s						
EKA	Eskdalemuir Ar	11.77	136	Pn	Pn	09 01 01.7	+0.4
EKA	Eskdalemuir Ar	11.77	136	Pn	Pn	09 01 01.6	+0.3
	baz=321,slow=12,SNR=16						
EKA	Eskdalemuir Ar	11.77	136	Pn	Pn	09 01 01.7	+0.4
ESK	Eskdalemuir	11.77	136	*e*P	Pn	09 01 00.6	-0.6
ESK				IAMs_20	IAMs_20	09 05 46.7	
	comp=Z,5μm,11.3s						
ESK	Eskdalemuir	11.77	136	P	Pn	09 01 01.2	-0.1
ESK	Eskdalemuir	11.77	136	Pn	Pn	09 01 01.2	-0.1
KMY	Karmoy	12.00	106	*e*P	Pn	09 01 03.5	-0.9
DOMB	Dombas	12.19	90	*e*P	Pn	09 01 05.6	-1.4
SKAR	Skarslia	12.48	97	*e*P	Pn	09 01 10.0	-1.0
NSS	Namsos	12.62	77	*e*P	Pn	09 01 19.3	+6.5
KONS	Konsvik	12.75	68	*e*P	Pn	09 01 16.4	+1.8
NC204	NORSAR Array S	13.25	92		Pn	09 01 20.2	-1.3
MOR8	Moi Rana	13.32	69	*e*P	P	09 01 29.2	-3.1
NBO00	NORSAR Array S	13.37	93		Pn	09 01 20.9	-2.2
NAO01	NORSAR Array S	13.51	93	Pn	Pn	09 01 25.1	+0.1
FAUS	Fauske	13.53	64	*e*P	P	09 01 36.2	+1.6
NB2	NORSAR Subarra	13.56	92	Pn	Pn	09 01 23.7	-2.0
NB2	NORSAR Subarra	13.56	92	Pn	Pn	09 01 23.3	-2.4
	comp=Z,28nm,2.0s,baz=298,slow=14						
NOA	NORSAR Array B	13.56	92	Pn	Pn	09 01 23.9	-1.7
	comp=Z,0.0nm,0.3s,baz=296,slow=12,SNR=6.0						
NOA				LR	LR	09 06 44.6	
	comp=Z,950nm,19.1s,baz=300,slow=38						
SFJD	Kangerlussuaq	13.65	295	Pn	P	09 01 32.3	-3.6
	comp=Z,0.7nm,0.3s,baz=64,slow=23,SNR=2.1						
SFJD				LR	LR	09 06 14.2	
	comp=Z,4μm,20.9s,baz=86,slow=35						
SFJD	Kangerlussuaq	13.65	295	P	Pn	09 01 25.4	-1.4
SFJD	Kangerlussuaq	13.65	295		Pn	09 01 25.4	-1.4
NC405	NORSAR Array S	13.74	91	Pn	Pn	09 01 24.6	-3.5
LBWR	Ladybower, Pea	13.87	137	*e*P	Pn	09 01 29.1	-0.8
LBWR				IAMs_20	IAMs_20	09 07 08.4	
	comp=Z,3μm,13.8s						
TRO	Tromso	14.83	54	P	P	09 01 44.5	-4.5
TRO	Tromso	14.83	54	P	P	09 01 44.5	-4.5
HFS	Hagfors	15.07	93	P	Pn	09 01 46.9	+0.7
	baz=303,slow=28						
HFS	Hagfors	15.07	93	Pn	P	09 01 51.0	-0.7
	comp=Z,0.2nm,0.3s,baz=316,slow=8.1,SNR=29						
HFS				LR	LR	09 07 31.5	
	comp=Z,1μm,20.1s,baz=292,slow=37						
HFS	Hagfors	15.07	93	P	P	09 01 51.0	-0.7
HFS	Hagfors	15.07	93	P	Pn	09 01 46.9	+0.7
	baz=303,slow=28						
KIF	Kilpisjarvi	15.50	57	P	Pn	09 01 51.2	-0.6
KIF	Kilpisjarvi	15.50	57	P	Pn	09 01 51.2	-0.6
BJO1	Bjornoya	15.77	36	P	Pn	09 01 55.5	+0.2
BJO1	Bjornoya	15.77	36	P	Pn	09 01 55.5	+0.2
HSPB	Hornsund (broa	16.08	26	P	P	09 02 00.9	-1.9
HSPB	Hornsund (broa	16.08	26	*e*P	P	09 02 02.4	-0.5
HSPB	Hornsund (broa	16.08	26	*e*P	P	09 02 01.7	-1.2
HSPB				*e*S	Sn	09 05 02.3	+4.4
HSPB	Hornsund (broa	16.08	26	*e*P	P	09 02 01.0	-1.9
KTK1	Kautokeino	16.38	57	*e*P	P	09 02 04.5	-1.6
HAMF	Hammerfest	16.48	51	P	P	09 02 04.8	-2.4
HAMF	Hammerfest	16.48	51	*e*P	P	09 02 05.4	-1.8
HAMF				*e*		09 02 09.2	
KBS	Kingsbay	16.65	19	P	P	09 02 10.4	+1.2
KBS	Kingsbay	16.65	19	*e*P	P	09 02 06.9	-2.3
KBS				*e*S	Sn	09 05 13.5	+1.8
KBS	Kingsbay	16.65	19	*d i*P	P	09 02 10.4	+1.2
KBS				pmax	pmax		
	comp=Z,105nm,1.7s						
KBS	Kingsbay	16.65	19		P	09 02 06.8	-2.3
KBS	Kingsbay	16.65	19	*e*P	P	09 02 10.3	+1.2
SPA0	Spitsbergen Ar	16.88	23	P	P	09 02 12.3	+0.6
	baz=225,slow=7.9						
SPA0	Spitsbergen Ar	16.88	23	*e*P	P	09 02 12.3	+0.6
SPA0				*e*S	S	09 05 22.8	-5.3
SPA0	Spitsbergen Ar	16.88	23		P	09 02 09.4	-2.3
SPA0	Spitsbergen Ar	16.88	23	P	P	09 02 12.3	+0.6
	baz=225,slow=7.9						
SPITS	Spitsbergen Ar	16.88	23	Pn	P	09 02 11.3	-0.4
	baz=268,slow=5.2,SNR=3.4						
SPITS				LR	LR	09 07 05.1	
	comp=Z,477nm,19.9s,baz=200,slow=31						
NOR	Nord	17.03	0	P	P	09 02 13.4	+0.1
NOR	Nord	17.03	0	⇑*i*P	P	09 02 13.9	+0.6
NOR	Nord	17.03	0	⇑*i*P	P	09 02 13.9	+0.6
ARA0	ARCESS Array S	17.14	55	P	P	09 02 12.2	-2.4
	baz=274,slow=12						
ARA0	ARCESS Array S	17.14	55	P	P	09 02 12.2	-2.4
	baz=274,slow=12						
ARCES	ARCESS Array B	17.14	55	P	P	09 02 13.2	-1.4
	comp=Z,0.3nm,0.3s,baz=279,slow=12,SNR=19						
ARCES	ARCESS Array B	17.14	55	P	P	09 02 13.7	-0.9
ARCES	ARCESS Array B	17.14	55		P	09 02 13.7	-0.9
ARE0	ARCESS Array S	17.14	55	Pn	P	09 02 12.9	-1.7
KEV	Kevo	17.65	54	P	P	09 02 19.5	-0.6
KEV				pmax	pmax		
	comp=Z,32nm,0.8s						
KEV	Kevo	17.65	54		P	09 02 19.5	-0.6
BSEG	Bad Segeberg	17.66	114	*e*L	L	09 09 36.0	
	comp=Z,2μm,18.7s						
HOPEN	Hopen	17.85	31	P	P	09 02 22.7	+0.4
HOPEN	Hopen	17.85	31	P	P	09 02 22.7	+0.4
UCC	Uccle	18.02	130	P	P	09 02 23.7	-0.6
UCC				pmax	pmax		
	comp=Z,81nm,1.5s						
UCC	Uccle	18.02	130		P	09 02 23.7	-0.6
SNF	Seneffe	18.24	131	P	P	09 02 25.8	-0.9
BMRD	Maredsous	18.57	130	P	Pn	09 02 30.9	+0.3
	comp=Z,30nm,1.8s						
BGES	Gesves	18.61	129	P	Pn	09 02 30.4	-0.6
BCLA	Clavier	18.65	129	P	Pn	09 02 30.9	-0.7
	comp=Z,23nm,1.9s						
DOU	Dourbes	18.70	131	P	Pn	09 02 30.8	-1.3
DOU				sP	sP	09 02 34.4	+1.1
MEM	Membach	18.73	128	P	Pn	09 02 31.8	-0.7
BHOU	Houvegnez	18.95	128	P	Pn	09 02 37.6	+2.4
CLZ	Clausthal	19.29	118	*e*P	Pn	09 02 38.5	-0.9
	comp=Z,46nm,1.2s,baz=324,slow=11						
WLF	Walferdange	19.58	129	P	Pn	09 02 42.0	-0.9
WLF	Walferdange	19.58	129	P	Pn	09 02 41.7	-1.1
WLF				pmax	pmax		
	comp=Z,22nm,1.1s						
WLF	Walferdange	19.58	129	P	Pn	09 02 41.7	-1.1
FIA0	FINESS Array S	19.73	79	P	Pn	09 02 43.0	-1.4
	baz=298,slow=7.9						
FIA0	FINESS Array S	19.73	79	P	Pn	09 02 43.0	-1.4
	baz=298,slow=7.9						
FIA1	FINESS Array S	19.73	79	P	Pn	09 02 43.4	-1.0
FIA1				IAmb	IAmb	09 02 48.0	
	comp=Z,66nm,1.2s						
FINES	FINESS Array B	19.73	79	P	Pn	09 02 43.7	-0.8
	comp=Z,0.2nm,0.3s,baz=287,slow=7.8,SNR=18						
FINES				LR	LR	09 09 50.7	
	comp=Z,349nm,19.9s,baz=296,slow=35						
FINES	FINESS Array B	19.73	79	P	Pn	09 02 43.1	-1.4
CLF	Chambon-Foret	19.81	138		Pn	09 02 43.6	-1.9
CLF				IAmb	IAmb	09 02 58.4	
	comp=Z,52nm,1.1s						
TNS	Taunus Mts	19.91	124	*e*L	L	09 10 19.4	
	comp=Z,337nm,19.6s						
UBBA	Unterbreizbach	19.98	121	*e*P	Pn	09 02 47.4	+0.1
	comp=Z,94nm,1.6s,baz=324,slow=11						
APA0	Apatity Array	20.19	59	P	Pn	09 02 47.9	-2.0
	baz=284,slow=9.3						
APA0	Apatity Array	20.19	59	P	Pn	09 02 47.9	-2.0
	baz=284,slow=9.3						
APA	Apatity	20.35	59	⇑*i*P	P	09 02 48.1	-1.7
APA				*i* S	S	09 06 30.0	-8.1
APA				pmax	pmax		
	comp=Z,35nm,1.0s						
APA				MLR	MLR		
	comp=Z,600nm,13.0s						
LVZ	Lovozero	20.72	58	⇓*e*P	Pn	09 02 54.7	-1.4
LVZ				pmax	pmax		
	comp=Z,100nm,1.7s						
LVZ	Lovozero	20.72	58	P	Pn	09 02 54.0	-2.1
LVZ				IAmb	IAmb	09 02 57.9	
	comp=Z,81nm,1.3s						
MOX	Moxa	20.72	119	*e*P	Pn	09 02 55.5	-0.8
	comp=Z,163nm,2.2s,baz=324,slow=11						
MOX				*e*L	L	09 11 47.5	
	comp=Z,1μm,19.2s						
CLL	Collm	20.72	116	*i* P	Pn	09 02 54.7	-1.6
	comp=Z,82nm,1.7s						
CLL				*e*Pmax		09 02 57.0	
CLL				*i* sP	sP	09 02 59.1	+3.7
	comp=Z,65nm,1.2s						
CLL				*e*S	Sn	09 06 48.0	-2.3
CLL				Lmax		09 12 00.0	
CLL	Collm	20.72	116	P	Pn	09 02 54.3	-2.0
CLL				pmax	pmax		
	comp=Z,48nm,1.0s						
CLL	Collm	20.72	116	*e*P	Pn	09 02 55.3	-1.0
	comp=Z,65nm,1.2s,baz=324,slow=11						
CLL				*e*L	L	09 11 40.9	
	comp=Z,1μm,18.9s						
CLL	Collm	20.72	116	P	Pn	09 02 54.3	-2.0
CLL				IAmb	IAmb	09 03 00.6	
	comp=Z,48nm,1.0s						
PBUR	Paburge	21.02	96	*e*P	P	09 02 58.0	+0.9
ECH	Echery	21.17	129	P	P	09 02 58.1	-0.7
ECH				pmax	pmax		
	comp=Z,36nm,1.0s						
ECH	Echery	21.17	129	P	P	09 02 58.1	-0.7
KLNR	Kaliningrad	21.24	100	⇓*e*P	P	09 02 59.1	-0.3
GRA1	Grafenberg Arr	21.35	121	P	P	09 03 01.3	+0.5
GRF	Grafenberg Arr	21.35	121	P	P	09 03 01.3	+0.5
GRF				pmax	pmax		
	comp=Z,32nm,0.9s						
GRF	Grafenberg Arr	21.35	121	*e*P	P	09 03 02.4	+1.6
	comp=Z,47nm,1.1s,baz=324,slow=11						
GRF				*e*L	L	09 12 50.1	
	comp=Z,900nm,18.7s						
NKC	Novy Kostel	21.37	118	*e*P	P	09 03 01.6	+0.7
NKC				AMS	AMS	09 13 00.0	
	comp=Z,2μm,11.3s						
NKC	Novy Kostel	21.37	118	*e*P	P	09 03 01.6	+0.7
NKC				MLR	MLR		
	comp=Z,2μm,11.3s						
STU	Stuttgart	21.39	125	P	P	09 03 00.7	-0.5
STU				pmax	pmax		
	comp=Z,56nm,0.9s						
STU	Stuttgart	21.39	125	P	P	09 03 00.7	-0.5
STU				IAmb	IAmb	09 03 04.5	
	comp=Z,56nm,0.9s						
BRG	Berggiesshubel	21.43	115	*i* P	P	09 03 02.1	+0.5
	comp=Z,37nm,1.1s						
BRG				*i*		09 03 07.4	
	comp=Z,64nm,1.1s						
BRG				S	Sn	09 07 11.0	+3.7
	comp=Z,2μm,18.1s						
	comp=N,920nm,

UPC AMS AMS 09 13 00.0
comp=Z,2μm,18.1s
UPC Upice 22.53 113 *e*P **P 09 03 15.8 +2.4**
UPC *e*S **S 09 07 25.0 +4.0**
UPC MLR MLR
comp=Z,2μm,18.1s
OSTC Ostas 22.58 113 *e*P **P 09 03 14.7 +0.8**
OSTC *e*S Sn 09 07 31.0 -3.8
OSTC AMS AMS 09 12 40.0
comp=Z,1μm,18.7s
FUR Furstenfeldbru 22.64 123 *e*L L 09 14 10.3
comp=Z,1μm,18.2s
KHC Kasperske Hory 22.69 118 *e*P **P 09 03 15.7 +0.5**
KHC *ex* x 09 03 24.0
KHC *e*S Sn 09 07 29.2 -8.4
KHC AMS AMS 09 12 20.0
comp=Z,1μm,17.6s
KHC Kasperske Hory 22.69 118 *e*P **P 09 03 15.7 +0.5**
KHC *e* 09 03 24.0
KHC MLR MLR
comp=Z,1μm,17.6s
KHC Kasperske Hory 22.69 118 P **P 09 03 15.4 +0.3**
DPC Dobruska-Polom 22.78 113 *e*P **P 09 03 16.7 +0.6**
DPC AMS AMS 09 12 50.0
comp=Z,1μm,18.5s
DPC Dobruska-Polom 22.78 113 *e*P **P 09 03 16.7 +0.6**
DPC MLR MLR
comp=Z,1μm,18.5s
SENIN Lac Senin/Sane 22.84 131 P **P 09 03 16.3 -0.6**
SUW Suwalki 22.91 98 *e*P **P 09 03 17.1 -0.2**
SUW Suwalki 22.91 98 P **P 09 03 17.5 +0.2**
SUW pmax pmax
comp=Z,99nm,1.1s
SUW Suwalki 22.91 98 P **P 09 03 17.5 +0.2**
SSB Saint Sauveur 22.96 137 P **P 09 03 17.5 -0.5**
SSB *PP **P 09 03 17.9 -0.1**
SSB pmax pmax
comp=Z,40nm,1.4s
SSB Saint Sauveur 22.96 137 **P 09 03 17.9 -0.1**
SSB Saint Sauveur 22.96 137 P **P 09 03 17.5 -0.5**
SSB IAmb IAmb 09 03 29.1
comp=Z,40nm,1.4s
GEC2 GERESS Array S 22.97 119 *e*L L 09 12 23.8
comp=Z,1μm,21.3s
GEC2 GERESS Array S 22.97 119 P **P 09 03 18.8 +0.6**
GEC2 IAmb IAmb 09 03 30.7
comp=Z,59nm,1.5s
GERES GERESS Array B 22.97 119 P **P 09 03 19.1 +0.9**
comp=Z,7.8nm,0.9s,baz=331,slow=7.9,SNR=34
GERES LR LR 09 12 45.4
comp=Z,1μm,20.8s,baz=330,slow=38
GERES GERESS Array B 22.97 119 P **P 09 03 18.9 +0.7**
GERES GERESS Array B 22.97 119 P **P 09 03 18.9 +0.7**
IZAR Zarasai 23.05 92 *e*P **P 09 03 19.6 +0.8**
ZFI2 Zemlya Franca- 23.08 22 *e*P **P 09 03 19.0 +0.1**
comp=Z,26nm,1.2s
ZFI2 *e*S **S 09 07 31.4 +1.0**
ISAL Salakas 23.12 92 *e*P **P 09 03 20.3 +0.8**
KRLC Kraliky 23.18 113 *e*P **P 09 03 21.1 +0.9**
KRLC AMS AMS 09 13 30.0
comp=Z,1μm,16.6s
KRLC Kraliky 23.18 113 *e*P **P 09 03 21.1 +0.9**
KRLC MLR MLR
comp=Z,1μm,16.6s
IIGN Ignalina 23.30 93 *e*P **P 09 03 22.3 +0.9**
TMCR Tamitsa 23.37 66 *e*P **P 09 03 21.2 -0.7**
TMCR *e*S **S 09 07 35.1 -0.2**
TMCR Tamitsa 23.37 66 *e*P **P 09 03 21.3 -0.7**
TMCR *e*S **S 09 07 35.9 +0.6**
WATA Walderalm 23.45 124 *i* pP **P 09 03 25.2 +2.1**
SNR=5.0
BEL Belsk 23.46 105 *e*P **P 09 03 25.3 +2.3**
WTTA Wattenberg 23.54 124 *i* pP **P 09 03 26.1 +2.1**
SNR=6.1
IDID Didziasalis 23.55 92 *e*P **P 09 03 24.5 +0.7**
FUORN Ofenpass-Fuorn 23.61 127 P **P 09 03 26.6 +1.9**
FUORN IAmb IAmb 09 03 50.7
comp=Z,33nm,1.2s
EUNU Eureka 23.66 336 P **P 09 03 25.3 +0.4**
EUNU IAmb IAmb 09 03 28.9
comp=Z,36nm,0.9s
VRAC Vranov 23.71 114 P **P 09 03 25.7 +0.1**
comp=Z,11nm,0.9s,baz=328,slow=11,SNR=14
VRAC LR LR 09 13 59.8
comp=Z,1μm,18.4s,baz=330,slow=40
VRAC Vranov 23.71 114 ⇑P **P 09 03 27.7 +2.2**
VRAC Vranov 23.71 114 *e*P **P 09 03 26.3 +0.8**
VRAC Vranov 23.71 114 ⇑P **P 09 03 27.7 +2.2**
MORC Moravsky Berou 23.72 112 ⇑P **P 09 03 27.7 +2.1**
MORC Moravsky Berou 23.72 112 *e*P **P 09 03 26.2 +0.6**
MORC Moravsky Berou 23.72 112 ⇑P **P 09 03 27.7 +2.1**
MORC Moravsky Berou 23.72 112 P **P 09 03 26.1 +0.5**
PBRG Braganca 23.73 160 *e*P **P 09 03 27.5 +1.8**
comp=Z,37nm,1.6s
KRUC Moravsky 23.83 115 *e*P **P 09 03 27.2 +0.5**
NACGM Naroch 23.84 93 *e*P **P 09 03 26.0 -0.7**
NACGM *e*S **S 09 07 48.0 +5.0**
NACGM *e*LQ LQ 09 12 12.0
NACGM *e*LR LR 09 13 16.0
PVRL Vila Real 24.11 162 *e*P **P 09 03 31.1 +1.7**
comp=Z,37nm,1.6s
OJC Ojcow 24.28 109 *e*P **P 09 03 29.1 -1.8**
OJC Ojcow 24.28 109 P **P 09 03 29.1 -1.8**
OJC pmax pmax
comp=Z,19nm,1.3s
OJC Ojcow 24.28 109 P **P 09 03 29.1 -1.8**
MVO Moncorvo 24.31 160 *e*P **P 09 03 34.1 +2.8**
comp=Z,38nm,1.5s
JAVC Velka Javorina 24.50 113 *e*P **P 09 03 34.7 +1.8**
CONA Conrad Observa 24.55 117 *i* P **P 09 03 34.6 +1.2**
SNR=8.7
CTI Castel Tesino 24.58 125 P **P 09 03 35.2 +1.4**
CTI pmax pmax
comp=Z,25nm,1.0s
CTI Castel Tesino 24.58 125 P **P 09 03 35.2 +1.4**
CTI IAmb IAmb 09 03 49.9
comp=Z,25nm,1.0s
MICGM Minsk 24.59 93 *e* **P 09 03 34.0 +0.4**
MNK Minsk 24.59 93 *e*P **P 09 03 34.0 +0.4**
PVIS Viseu 24.63 162 *e*P **P 09 03 36.1 +1.9**
comp=Z,40nm,1.2s
SMOL Smolenice 24.68 114 *e*P **P 09 03 36.1 +1.6**
SMOL pmax pmax
comp=Z,17nm,0.9s
SMOL Smolenice 24.68 114 *e*P **P 09 03 36.1 +1.6**
MODS Modra-Piesok 24.73 114 *e*P **P 09 03 34.9 -0.1**
MODS pmax pmax
comp=Z,88nm,2.2s
MODS Modra-Piesok 24.73 114 *e*P **P 09 03 34.9 -0.1**
MODS *e*S **S 09 08 03.2 +5.7**
MODS *e*L L 09 14 34.8
STAL STALIGIAL 24.78 123 P **P 09 03 35.0 -0.4**
PRED Cave del Predi 24.93 122 P **P 09 03 35.5 -1.4**
MTE Manteigas 24.99 162 P **P 09 03 37.5 +0.1**
MTE Manteigas 24.99 162 *e*P **P 09 03 40.4 +3.0**
comp=Z,59nm,1.6s
COI Coimbra 25.07 163 P **P 09 03 38.1 +0.1**
COI pmax pmax
comp=Z,71nm,1.4s
COI Coimbra 25.07 163 P **P 09 03 38.1 +0.1**
NIE Niedzica 25.11 109 *e*P **P 09 03 39.9 +1.5**
PCAS Casmilo, Conde 25.21 164 *e*P **P 09 03 42.1 +2.8**
comp=Z,56nm,1.4s
VYHS Vyhne 25.25 112 *e*P **P 09 03 40.6 +0.9**
VYHS pmax pmax
comp=Z,28nm,1.3s
VYHS Vyhne 25.25 112 *e*P **P 09 03 40.6 +0.9**
VYHS *e*S **S 09 08 13.6 +7.8**
VYHS *e*L L 09 14 16.2
PCBR Castelo Branco 25.55 162 *e*P **P 09 03 43.4 +1.0**
comp=Z,34nm,1.5s
KLMR Klimovskoe 25.63 72 *e*P **P 09 03 42.6 -0.3**
comp=Z,77nm,1.3s
KLMR *e*S **S 09 08 11.7 +0.2**
KLMR Klimovskoe 25.63 72 *e*P **P 09 03 42.6 -0.3**
KLMR *e* 09 07 12.5
KLMR *e*S **S 09 08 11.6 +0.2**
KLMR pmax pmax
comp=Z,77nm,1.3s
KLMR Klimovskoe 25.63 72 *e*P **P 09 03 42.7 -0.3**
KLMR AMP 09 03 45.6
comp=Z,77nm,1.3s
KLMR *e*PcP **PcP 09 07 12.5 -0.7**
KLMR *e*S **S 09 08 11.7 +0.2**

KLMR *e*S **S 09 08 11.7 +0.2**
KLMR LQ LQ 09 10 28.8
KLMR LQ LQ 09 10 28.8
KLMR LR LR 09 11 37.2
KECS Kecovo 25.92 110 *e*P **P 09 03 47.1 +1.3**
KECS pmax pmax
comp=Z,9.0nm,1.0s
KECS Kecovo 25.92 110 *e*P **P 09 03 47.1 +1.3**
KWP Kalwaria Pacla 25.93 106 *e*P **P 09 03 47.8 +2.0**
KWP Kalwaria Pacla 25.93 106 P **P 09 03 46.5 +0.7**
KWP pmax pmax
comp=Z,87nm,1.3s
KWP Kalwaria Pacla 25.93 106 P **P 09 03 46.5 +0.7**
PMRV Marv??o 25.96 162 *e*P **P 09 03 48.7 +2.5**
comp=Z,40nm,1.8s
CRVS Cervenica-Dubn 25.99 109 *e*P **P 09 03 47.0 +0.6**
CRVS pmax pmax
comp=Z,126nm,2.1s
CRVS Cervenica-Dubn 25.99 109 *e*P **P 09 03 47.0 +0.6**
CRVS *e*S S 09 08 32.4 +15
CRVS *e*L L 09 14 02.6
LSH Leshukonskoye 25.99 60 *e*P **P 09 03 44.7 -1.5**
comp=Z,100nm,1.1s
SCHQ Schefferville 26.02 271 P **P 09 03 46.6 0.0**
comp=Z,9.2nm,0.6s,baz=41,slow=9.2,SNR=19
SCHQ LR LR 09 13 03.9
comp=Z,614nm,18.6s,baz=70,slow=34
SCHQ Schefferville 26.02 271 P **P 09 03 46.6 0.0**
SCHQ IAmb IAmb 09 03 50.4
comp=Z,36nm,1.4s
PSZ Piszkesteto 26.14 112 ⇑P **P 09 03 49.6 +1.8**
PSZ Piszkesteto 26.14 112 P **P 09 03 47.3 -0.5**
PSZ pmax pmax
comp=Z,32nm,1.1s
PSZ Piszkesteto 26.14 112 P **P 09 03 47.2 -0.5**
PSZ IAmb IAmb 09 03 52.0
comp=Z,32nm,1.1s
PMAFR Mafra 26.20 165 *e*P **P 09 03 52.6 +4.3**
comp=Z,94nm,1.7s
ESBB Sonseca Array 26.26 156 P **P 09 03 48.9 0.0**
ESDC Sonseca Array 26.26 156 P **P 09 03 48.6 -0.3**
comp=Z,6.4nm,0.8s,baz=350,slow=9.2,SNR=39
ESDC LR LR 09 13 50.5
comp=Z,320nm,18.3s,baz=310,slow=36
ESDC Sonseca Array 26.26 156 P **P 09 03 48.5 -0.3**
KOLS Kolonicke sedl 26.30 108 *e*P **P 09 03 49.4 +0.3**
KOLS pmax pmax
comp=Z,26nm,1.4s
KOLS Kolonicke sedl 26.30 108 *e*P **P 09 03 49.4 +0.3**
KOLS *e*L L 09 14 25.0
PAB San Pablo 26.32 157 P **P 09 03 49.9 +0.4**
PAB pmax pmax
comp=Z,14nm,1.1s
PAB San Pablo 26.32 157 P **P 09 03 49.9 +0.4**
LVV L'vov 26.34 104 *e*P **P 09 03 50.4 +0.9**
LVV *e*PPP PPP 09 04 37.9
LVV *e*S **S 09 08 19.6 -3.3**
LVV *e*SS **SnSn 09 09 27.9 +5.9**
LVV MLR MLR
comp=N,500nm,15.0s
LVV MLR MLR
comp=E,900nm,15.0s
LVV MLR MLR
comp=Z,600nm,13.0s
RES Resolute Bay 26.46 324 LR LR 09 14 13.1
comp=Z,816nm,19.0s,baz=72,slow=36
UZH Uzhgorod 26.54 108 *e*P **P 09 03 54.6 +3.3**
UZH *e* 09 03 58.5
UZH *e* 09 04 44.0
UZH *e*S **S 09 08 27.5 +1.4**
UZH *e* 09 09 54.5
UZH MLR MLR
comp=N,160nm,17.0s
UZH MLR MLR
comp=E,160nm,17.0s
UZH MLR MLR
comp=Z,60nm,17.0s
ROSA Rosais 26.73 199 P **P 09 03 52.1 -1.0**
PRGR Permogore 27.65 67 *e*P **P 09 03 59.4 -1.8**
comp=Z,25nm,0.5s
PRGR *e*PP **PnPn 09 04 45.1 -0.9**
PRGR *e*S **S 09 08 40.2 -3.1**
PRGR Permogore 27.65 67 *e*P **P 09 03 59.3 -1.8**
PRGR *e* 09 04 44.9
PRGR *e* 09 07 14.4
AKASG Malin Array Be 27.87 97 P **P 09 04 01.8 -1.4**
comp=Z,2.7nm,0.9s,baz=321,slow=9.9,SNR=12
AKASG LR LR 09 14 47.9
comp=Z,507nm,21.1s,baz=320,slow=36
AKASG Malin Array Be 27.87 97 *i* P **P 09 04 03.4 +0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 27.87 97 P **P 09 04 00.6 -2.6**
AKBB Malin Array Si 27.87 97 P **P 09 04 03.0 -0.2**
AKBB pmax pmax
comp=Z,10.0nm,1.0s
AKBB Malin Array Si 27.87 97 P **P 09 04 03.0 -0.2**
OBN Obninsk 27.91 84 P **P 09 04 03.7 +0.2**
comp=Z,12nm,0.4s,baz=319,slow=0.9,SNR=12
OBN LR LR 09 14 36.0
comp=Z,62nm,18.8s,baz=358,slow=35
OBN Obninsk 27.91 84 *ce*P **P 09 04 04.4 +0.9**
OBN *e* 09 04 52.3
OBN *e*PPP PPP 09 04 59.7
OBN *e* 09 07 19.7
OBN pmax pmax
comp=Z,74nm,1.2s
OBN MLR MLR
comp=Z,236nm,18.0s
OBN Obninsk 27.91 84 P **P 09 04 03.5 0.0**
MOS Moscow 27.94 82 *e*P **P 09 04 02.8 -1.0**
MOS *e* 09 04 57.7
SIRR Siria 28.18 112 ⇑P **P 09 04 07.7 +1.6**
BUR08 Bucovina Ar. S 28.52 106 P **P 09 04 08.9 -0.3**
BURAR Bucovina Array 28.55 106 ⇑P P 09 04 13.4 +4.0
BURAR Bucovina Array 28.55 106 ⇑P P 09 04 13.4 +4.0
BURAR Bucovina Array 28.55 106 P **P 09 04 10.3 +0.9**
CARTT Cartagena 28.84 152 P **P 09 04 12.0 +0.1**
BIZ Bicaz 29.45 106 ⇑P **P 09 04 19.2 +1.8**
HERR Herculane 29.63 113 ⇑P **P 09 04 20.7 +1.8**
TESR Tescani 30.02 106 ⇓P P 09 04 27.7 +5.4
ARR Arges 30.12 109 ⇑P **P 09 04 26.2 +2.9**
VOIR 30.23 109 ⇑P **P 09 04 26.2 +1.9**
VOIR 30.23 109 ⇑P **P 09 04 26.2 +1.9**
PLOR Plostina 30.55 107 ⇑P **P 09 04 27.4 +0.3**
PLOR Plostina 30.55 107 ⇑P **P 09 04 27.4 +0.3**
MLR Muntele Rosu 30.55 108 ⇑P **P 09 04 28.8 +1.5**
MLR Muntele Rosu 30.55 108 ⇑P **P 09 04 28.8 +1.5**
MLR Muntele Rosu 30.55 108 P **P 09 04 27.0 -0.3**
MLR IAmb IAmb 09 04 35.7
comp=Z,20nm,1.3s
VRI Vrincioaia 30.57 106 ⇓P **P 09 04 29.1 +1.8**
VRI Vrincioaia 30.57 106 ⇓P **P 09 04 29.1 +1.8**
LPSR Galich'ya Gora 30.66 86 *e*P **P 09 04 28.4 +0.5**
LPSR pmax pmax
comp=Z,30nm,1.0s
KIRV Kirov 31.01 69 P **P 09 04 30.7 -0.2**
comp=Z,20nm,0.8s,baz=132,slow=20,SNR=18
CFR Carcaliu 31.71 106 ⇑P **P 09 04 37.1 -0.1**
CFR Carcaliu 31.71 106 ⇑P **P 09 04 37.1 -0.1**
VSR Storozhevoye 31.76 87 *e*P **P 09 04 37.2 -0.4**
VSR pmax pmax
comp=Z,30nm,1.3s
VORD Divnogorie 31.99 88 *e*P **P 09 04 37.1 -2.6**
VORD pmax pmax
comp=Z,50nm,1.8s
CHGQ Chibougamau 32.76 271 P **P 09 04 46.5 0.0**
baz=42
VRH Novokhopyorsk 32.86 85 *e*P **P 09 04 47.8 +0.5**
VRH pmax pmax
comp=Z,40nm,1.1s
VAE Valguarnera 33.14 130 LR LR 09 17 54.4
comp=Z,369nm,18.9s,baz=336,slow=36
KEST Kesra 33.17 138 LR LR 09 17 50.9
comp=Z,460nm,18.9s,baz=322,slow=36
D59A Saint-Raymond 33.89 265 P **P 09 04 57.1 +0.8**
baz=39
G64A Maxfield 33.96 260 P **P 09 04 57.5 +0.5**
baz=37
F62A Pittston Farm, 33.96 262 P **P 09 04 57.7 +0.7**
baz=38
E60A Ste Agathe de 34.22 264 P **P 09 04 58.7 -0.5**
baz=38
D58A Chemin du LacG 34.27 266 P **P 09 05 00.6 +0.9**

baz=39
F61A St Evariste 34.34 263 P **P 09 05 00.9 +0.7**
baz=38
ALN Alexandroupoli 34.42 112 P **P 09 05 00.8 -0.1**
ALN pmax pmax
comp=Z,16nm,1.1s
ALN Alexandroupoli 34.42 112 P **P 09 05 00.8 -0.1**
ALN IAmb IAmb 09 05 02.7
comp=Z,16nm,1.1s
LSQQ Lebel-sur-Quev 34.52 272 P **P 09 05 01.9 +0.1**
baz=41
AGG Agios Georgios 34.59 118 P **P 09 05 03.3 +0.8**
AGG pmax pmax
comp=Z,33nm,1.1s
AGG Agios Georgios 34.59 118 P **P 09 05 03.3 +0.8**
D57A Chemin Vers le 34.76 267 P **P 09 05 04.9 +1.0**
baz=39,SNR=6.0
D56A ZEC Mazanza, M 35.11 268 P **P 09 05 07.7 +0.7**
baz=39
E57A Chemin Saint G 35.35 267 P **P 09 05 09.8 +0.9**
baz=38
D55A Sainte-Anne-du 35.44 269 P **P 09 05 10.8 +1.0**
baz=39,SNR=5.1
VLDQ Val d'Or 35.45 272 P **P 09 05 10.5 +0.7**
VLDQ IAmb IAmb 09 05 12.1
comp=Z,23nm,1.4s
G60A Masonville 35.61 264 P **P 09 05 12.7 +1.5**
baz=37
E56A St. Veronique 35.62 268 P **P 09 05 11.9 +0.6**
baz=39
D54A Lac Fusel, La 35.85 270 P **P 09 05 13.6 +0.3**
baz=39
ANN Anapa 35.94 97 *e*P **P 09 05 11.2 -2.8**
ANN *e**PP **pP 09 05 14.7 -0.3**
ANN *e*S **S 09 10 48.3 -4.4**
ANN pmax pmax
comp=Z,38nm,1.4s
ANN MLR MLR
comp=Z,820nm,16.0s
ARU Arti 36.11 66 P **P 09 05 16.9 +1.6**
comp=Z,2.8nm,0.2s,baz=329,slow=7.6,SNR=11
ARU LR LR 09 20 36.9
comp=Z,109nm,20.0s,baz=310,slow=37
ARU Arti 36.11 66 *c i*P **P 09 05 15.1 -0.2**
ARU S **S 09 10 55.4 +0.3**
ARU pmax pmax
comp=Z,19nm,1.1s
ARU MLR MLR
comp=Z,315nm,16.0s
ARU Arti 36.11 66 P **P 09 05 16.3 +1.0**
ARU IAmb IAmb 09 05 17.2
comp=Z,33nm,1.4s
E55A Montcerf-Lytto 36.13 269 P **P 09 05 16.8 +1.1**
baz=38
D53A Lac Vacive, Po 36.35 271 P **P 09 05 18.1 +0.5**
baz=39
D53A Lac Vacive, Po 36.35 271 P **P 09 05 18.6 +1.0**
D53A IAmb IAmb 09 05 19.5
comp=Z,18nm,1.1s
FRNY Flat Rock 36.35 265 P **P 09 05 17.7 +0.2**
FRNY IAmb IAmb 09 05 19.9
comp=Z,35nm,1.6s
NRIK Noril'sk 36.48 35 P **P 09 05 20.3 +2.0**
comp=Z,14nm,1.0s,baz=313,slow=5.3,SNR=19
NRIK LR LR 09 20 58.7
comp=Z,91nm,18.9s,baz=8.5,slow=37
H59A Cadyville 36.55 264 P **P 09 05 19.6 +0.3**
baz=37
SVE Sverdlovsk 36.64 64 *e*P **P 09 05 20.7 +0.8**
E54A Lac Daplat, Po 36.64 270 P **P 09 05 20.4 +0.4**
baz=38
ORIO Orleans, Innes 36.69 267 P **P 09 05 21.2 +0.8**
baz=38
ORIO Orleans, Innes 36.69 267 P **P 09 05 21.2 +0.8**
G57A Newington 36.74 266 P **P 09 05 22.3 +1.5**
baz=37,SNR=5.9
E53A Dumoine, Ponti 36.89 270 P **P 09 05 23.0 +0.9**
baz=38
H58A Gabriels 36.94 265 P **P 09 05 23.6 +1.0**
baz=37
LONY Lake Ozonia 36.95 265 P **P 09 05 22.4 -0.3**
baz=37
LONY Lake Ozonia 36.95 265 P **P 09 05 22.9 +0.2**
G55A Calabogie 37.37 268 P **P 09 05 27.2 +1.0**
baz=38,SNR=6.9
ALGO Algonquin Park 37.38 270 P **P 09 05 27.1 +0.8**
baz=38
H57A Richville 37.43 266 P **P 09 05 27.8 +1.1**
baz=37
H56A Elgin 37.69 267 P **P 09 05 30.2 +1.3**
baz=37
G54A Lake Saint Pet 37.84 269 P **P 09 05 30.5 +0.3**
baz=38
SOC Sochi 37.89 96 *e*P **P 09 05 29.9 -0.7**
SOC *e*PPP PPP 09 07 28.5
SOC *e*S **S 09 11 22.1 -0.4**
SOC *e*SS **SS 09 14 05.1 -3.2**
SOC pmax pmax
comp=Z,8.0nm,1.0s
SOC MLR MLR
comp=Z,228nm,13.0s
I57A Carthage 37.96 266 P **P 09 05 32.3 +1.1**
baz=36
H55A Tweed 38.12 268 P **P 09 05 34.1 +1.5**
baz=37,SNR=7.1
GOF Gofitskoye 38.14 91 ⇑*e*P P 09 05 26.1 -6.6
J58A Remsen 38.27 265 P **P 09 05 35.8 +1.9**
baz=36
BR131 Keskin Array S 38.50 105 P **P 09 05 36.4 +0.4**
BR131 pmax pmax
comp=Z,11nm,1.1s
BR131 Keskin Array S 38.50 105 P **P 09 05 36.4 +0.4**
BRTR Keskin Array B 38.50 105 P **P 09 05 36.9 +0.9**
comp=Z,5.5nm,0.9s,baz=339,slow=6.6,SNR=21
BRTR Keskin Array B 38.50 105 P **P 09 05 36.7 +0.7**
BRTR Keskin Array B 38.50 105 P **P 09 05 36.7 +0.7**
PECO Prince Edward 38.54 267 P **P 09 05 37.4 +1.4**
D47A Chapleau 38.69 275 P **P 09 05 37.9 +0.5**
baz=39
H53A Bobcaygeon 38.71 269 P **P 09 05 38.4 +0.9**
baz=37
SADO Sadowa 38.79 270 LR LR 09 20 33.5
comp=Z,536nm,18.6s,baz=54,slow=35
SADO Sadowa 38.79 270 P **P 09 05 38.5 +0.3**
IDI Anoyia 38.84 118 P **P 09 05 38.6 -0.2**
comp=Z,15nm,1.0s,baz=338,slow=8.5,SNR=4.8
IDI LR LR 09 22 50.0
comp=Z,280nm,20.9s,baz=304,slow=38
IDI Anoyia 38.84 118 P **P 09 05 38.3 -0.5**
IDI IAmb IAmb 09 06 04.1
comp=Z,54nm,1.6s
KIV Kislovodsk 38.87 92 *e*P **P 09 05 40.8 +1.8**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV MLR MLR
comp=Z,842nm,16.0s
KBZ Khabaz 39.14 92 P **P 09 05 41.7 +0.6**
comp=Z,8.6nm,1.0s,baz=320,slow=5.9,SNR=11
KBZ LR LR 09 22 09.7
comp=Z,614nm,21.3s,baz=322,slow=37
KBZ Khabaz 39.14 92 *d i*P **P 09 05 42.6 +1.5**
KBZ pmax pmax
comp=Z,20nm,1.1s
YKA Yellowknife Ar 39.20 313 P **P 09 05 40.9 -0.5**
comp=Z,4.3nm,1.0s,baz=40,slow=8.8,SNR=12
YKA PcP **PcP 09 07 50.5 +0.1**
comp=Z,2.9nm,0.9s,baz=36,slow=3.2,SNR=5.8
D46A Sault St. Mari 39.22 276 P **P 09 05 43.5 +1.7**
baz=39
E47A Iron Bridge 39.24 275 P **P 09 05 42.5 +0.6**
baz=38
F49A Sandfield 39.25 273 P **P 09 05 42.1 0.0**
baz=38
K56A Middlesex 39.68 266 P **P 09 05 47.4 +1.7**
baz=36
E46A Sault Ste Mari 39.75 276 P **P 09 05 46.6 +0.4**
E46A IAmb IAmb 09 05 52.2
comp=Z,23nm,1.1s
INK Inuvik 39.83 329 P **P 09 05 46.8 +0.1**
comp=Z,6.4nm,1.0s,baz=42,slow=11,SNR=6.9
INK PcP **PcP 09 07 52.5 +0.2**
comp=Z,4.9nm,1.0s,baz=175,slow=4.7,SNR=4.5
INK LR LR 09 23 15.8
comp=Z,564nm,18.6s,baz=32,slow=38
INK Inuvik 39.83 329 P **P 09 05 46.7 +0.1**
L57A Andrews Acres 40.04 265 P **P 09 05 48.9 +0.2**
baz=35

L56A	Greenwood	40.24	266	P	P	09 05 51.8 +1.5
	baz=35					
AKTO	Aktyubinsk	40.31	73	P	P	09 05 51.1 +0.3
	comp=Z,13nm,0.9s,baz=321,slow=8.4,SNR=32					
AKTO				LR	LR	09 22 13.3
	comp=Z,151nm,19.2s,baz=322,slow=36					
K54A	Basiliko Farm,	40.34	267	P	P	09 05 51.2 +0.1
	baz=36					
I51A	Listowel	40.38	270	P	P	09 05 52.8 +1.3
	baz=36					
WVNY	West Valley, N	40.47	267	P	P	09 05 52.7 +0.5
WVNY				IAmb	IAmb	09 05 54.8
	comp=Z,32nm,1.2s					
FFC	Flin Flon	40.58	297	P	P	09 05 53.5 +0.5
FFC				pmax	pmax	
	comp=Z,28nm,1.5s					
FFC	Flin Flon	40.58	297	P	P	09 05 53.5 +0.5
FFC				IAmb	IAmb	09 05 55.6
	comp=Z,28nm,1.5s					
L55A	Hinsdale	40.58	267	P	P	09 05 54.6 +1.4
	baz=35					
M57A	Sunshine Farm,	40.71	265	P	P	09 05 56.1 +1.9
	baz=35					
M57A	Sunshine Farm,	40.71	265	P	P	09 05 53.9 -0.3
L54A	Sinclairville	40.91	267	P	P	09 05 57.4 +1.5
	baz=35					
N58A	Sunbury	40.94	264	P	P	09 05 58.1 +2.0
	baz=34					
M56A	Emporium	41.04	266	P	P	09 05 58.3 +1.3
	baz=35					
M56A	Emporium	41.04	266	P	P	09 05 57.4 +0.5
KOPT	Kop Dagi	41.15	98	P	P	09 05 58.6 +0.5
AKH	Akhalkalaki	41.28	94	P	P	09 05 59.2 +0.1
AKH				pmax	pmax	
	comp=Z,51nm,1.6s					
AKH	Akhalkalaki	41.28	94	P	P	09 05 59.2 +0.1
AKH				IAmb	IAmb	09 06 03.0
	comp=Z,51nm,1.6s					
M55A	Ridgway	41.30	266	P	P	09 06 00.4 +1.2
	baz=35					
TBLG	Delisi	41.55	92	P	P	09 06 03.5 +2.3
TBLG				pmax	pmax	
	comp=Z,37nm,1.3s					
TBLG	Delisi	41.55	92	P	P	09 06 03.5 +2.3
TBLG				IAmb	IAmb	09 06 04.4
	comp=Z,37nm,1.3s					
N56A	West Decatur	41.55	265	P	P	09 06 02.9 +1.7
	baz=34					
ULM	Lac du Bonnet	41.58	289	P	P	09 06 01.6 +0.4
	comp=Z,1.7nm,0.4s,baz=61,slow=5.1,SNR=3.4					
ULM	Lac du Bonnet	41.58	289	P	P	09 06 02.0 +0.7
ULM				pmax	pmax	
	comp=Z,11nm,1.3s					
ULM	Lac du Bonnet	41.58	289	P	P	09 06 02.0 +0.7
M54A	Oil Creek Stat	41.66	267	P	P	09 06 03.8 +1.7
	baz=35,SNR=5.6					
M54A	Oil Creek Stat	41.66	267	P	P	09 06 02.6 +0.6
M54A				IAmb	IAmb	09 06 04.6
	comp=Z,20nm,1.0s					
MAK	Makhachkala	41.74	89	eP	P	09 05 58.6 -4.0
MAK				eS	S	09 12 13.5 -6.7
MAK				eSS	SS	09 15 20.3 -4.9
MAK				pmax	pmax	
	comp=Z,172nm,0.9s					
MAK				MLR	MLR	
	comp=Z,916nm,18.0s					
O57A	Amberson	41.85	264	P	P	09 06 01.4 -2.2
	baz=34					
N55A	Marion Center	41.96	266	P	P	09 06 06.2 +1.7
	baz=34					
AB31	Akbulak array	42.02	73	P	P	09 06 05.6 +0.8
ABKAR	Akbulak array	42.02	73	P	P	09 06 05.3 +0.5
EPYK	Eagle Plains	42.13	328	P	P	09 06 07.1 +1.4
	baz=34					
M53A	WI Miller and	42.15	268	P	P	09 06 07.4 +1.4
	baz=35					
M53A	WI Miller and	42.15	268	P	P	09 06 07.5 +1.5
O56A	Blue Knob Stat	42.20	265	P	P	09 06 07.6 +1.0
	baz=34					
N54A	Moraine State	42.24	267	P	P	09 06 08.1 +1.3
	baz=35,SNR=7.9					
N54A	Moraine State	42.24	267	P	P	09 06 08.4 +1.6
N54A				IAmb	IAmb	09 06 09.6
	comp=Z,18nm,1.0s					
M52A	Chesterland	42.36	269	P	P	09 06 09.3 +1.6
	baz=35					
M52A	Chesterland	42.36	269	P	P	09 06 08.8 +1.1
M52A				IAmb	IAmb	09 06 10.2
	comp=Z,33nm,1.1s					
N53A	Lisbon	42.74	268	P	P	09 06 12.3 +1.5
	baz=34					
N53A	Lisbon	42.74	268	P	P	09 06 11.9 +1.1
N53A				IAmb	IAmb	09 06 13.4
	comp=Z,22nm,1.1s					
TOLK	Toolik Lake Re	42.74	336	P	P	09 06 12.6 +2.0
	baz=28,SNR=11					
TOLK	Toolik Lake Re	42.74	336	P	P	09 06 12.3 +1.7
M51A	Elyria	42.88	269	P	P	09 06 13.3 +1.3
	baz=35					
BMAR	Burnt Mountain	42.89	333	P	P	09 06 12.6 +0.8
Q58A	Fox Den Farm,	42.93	263	P	P	09 06 13.6 +1.2
	baz=33					
P56A	Dayton Farm, R	42.95	265	P	P	09 06 13.9 +1.3
	baz=34					
O54A	Avella	43.05	267	P	P	09 06 14.3 +0.9
	baz=34					
O54A	Avella	43.05	267	P	P	09 06 14.4 +1.1
N52A	McGinn's Farm,	43.10	268	P	P	09 06 15.4 +1.7
	baz=35					
AGMN	Agassiz Nation	43.10	287	P	P	09 06 14.9 +1.2
	baz=38					
AGMN	Agassiz Nation	43.10	287	P	P	09 06 13.9 +0.3
G40A	Rib Lake	43.13	280	P	P	09 06 14.9 +0.9
BRVK	Borovoye	43.16	62	diP	P	09 06 14.5 +0.4
BRVK				pmax	pmax	
	comp=Z,33nm,1.7s					
BRVK	Borovoye	43.16	62	P	P	09 06 15.3 +1.2
BRVK				IAmb	IAmb	09 06 16.4
	comp=Z,27nm,1.2s					
Q57A	Strasburg	43.16	264	P	P	09 06 16.4 +2.1
	baz=33					
M50A	Fremont	43.19	270	P	P	09 06 14.7 +0.2
BVAR	Borovoye Array	43.22	62	P	P	09 06 14.7 +0.1
	comp=Z,16nm,1.0s,baz=310,slow=7.2,SNR=44					
BVAR				PP	PcP	09 07 60.0 -3.7
	comp=Z,3.5nm,1.0s,baz=308,slow=7.3,SNR=4.0					
MCWV	Mont Chateau	43.26	266	P	P	09 06 16.6 +1.6
	baz=34					
N51A	Ashland	43.30	269	P	P	09 06 16.1 +0.6
	baz=35					
N51A	Ashland	43.30	269	P	P	09 06 15.9 +0.5
N51A				IAmb	IAmb	09 06 17.9
	comp=Z,29nm,1.1s					
L48A	N Adams	43.35	272	P	P	09 06 15.2 -0.5
L48A				IAmb	IAmb	09 06 18.1
	comp=Z,30nm,1.2s					
O53A	New Philadelph	43.36	268	P	P	09 06 17.0 +1.2
	baz=34					
O53A	New Philadelph	43.36	268	P	P	09 06 16.8 +0.9
O53A				IAmb	IAmb	09 06 18.6
	comp=Z,20nm,1.1s					
P55A	Reedsville	43.38	266	P	P	09 06 16.9 +0.8
	baz=34					
P54A	Burton	43.58	266	P	P	09 06 19.2 +1.5
	baz=34					
R58A	Rapidan	43.60	263	P	P	09 06 19.1 +1.3
	baz=33					
O52A	Adamsville	43.73	268	P	P	09 06 20.1 +1.2
	baz=34,SNR=5.9					
O52A	Adamsville	43.73	268	P	P	09 06 19.7 +0.8
O52A				IAmb	IAmb	09 06 23.7
	comp=Z,21nm,1.0s					
O51A	Pataskala	44.04	269	P	P	09 06 22.6 +1.2
	baz=34,SNR=11					
P53A	Whipple	44.06	267	P	P	09 06 23.4 +1.9
	baz=34,SNR=7.4					
P53A	Whipple	44.06	267	P	P	09 06 21.8 +0.2
N49A	Columbus Grove	44.08	271	P	P	09 06 22.2 +0.6
L46A	Eue Claire	44.09	274	P	P	09 06 21.8 +0.1
COLD	Coldfoot	44.11	336	P	P	09 06 22.8 +1.2
	baz=27,SNR=5.3					
R56A	Bull Pasture M	44.11	264	P	P	09 06 23.8 +1.8
	baz=33					
ACSO	Alum Creek Sta	44.13	269	P	P	09 06 23.1 +1.1
	baz=34,SNR=5.8					
ACSO	Alum Creek Sta	44.13	269	IAmb	IAmb	09 06 24.4
	comp=Z,22nm,1.1s					
Q54A	Coxs Mills	44.24	266	P	P	09 06 22.4 -0.6
	baz=34					
Q54A	Coxs Mills	44.24	266	IAmb	IAmb	09 06 27.9
	comp=Z,38nm,1.6s					
P52A	Corning	44.26	268	P	P	09 06 25.0 +1.9
	baz=34					
P52A	Corning	44.26	268	IAmb	IAmb	09 06 25.4
	comp=Z,23nm,1.1s					
SPMN	Marine on St.	44.27	282	P	P	09 06 24.4 +1.3
	baz=37					
SPMN	Marine on St.	44.27	282	P	P	09 06 24.2 +1.1
SPMN				IAmb	IAmb	09 06 25.6
	comp=Z,31nm,1.6s					
K43A	Burlington	44.40	276	P	P	09 06 25.0 +0.8
K43A				IAmb	IAmb	09 06 26.2
	comp=Z,22nm,0.9s					
EGAK	Eagle	44.47	329	P	P	09 06 25.7 +1.2
EGAK				IAmb	IAmb	09 06 26.6
	comp=Z,16nm,1.2s					
TAM	Tamanrasset	44.52	149	P	P	09 06 25.1 -0.4
TAM				pmax	pmax	
	comp=Z,16nm,1.3s					
TAM	Tamanrasset	44.52	149	P	P	09 06 25.1 -0.4
Q53A	Leroy	44.65	267	P	P	09 06 28.2 +2.1
	baz=33,SNR=6.1					
O49A	Covington	44.75	270	P	P	09 06 27.6 +0.6
N47A	Urbana	44.76	272	P	P	09 06 27.8 +0.7
N47A				IAmb	IAmb	09 06 29.1
	comp=Z,20nm,1.2s					
P51A	Williamsport	44.79	269	P	P	09 06 28.4 +1.2
	baz=34,SNR=5.5					
P51A	Williamsport	44.79	269	P	P	09 06 27.3 0.0
Q52A	Bidwell	44.88	267	P	P	09 06 29.0 +0.9
	baz=34					
R54A	Victor	44.98	266	P	P	09 06 29.7 +0.8
	baz=33					
MMAI	Mount Meron Ar	44.98	108	LR	LR	09 27 25.6
	comp=Z,96nm,18.6s,baz=340,slow=39					
T57A	Hurt	45.23	263	P	P	09 06 32.4 +1.5
	baz=32					
T57A	Hurt	45.23	263	IAmb	IAmb	09 06 39.7
	comp=Z,13nm,1.1s					
F33A	5 Mile Ranch,	45.23	285	IAmb	IAmb	09 06 35.6
	comp=Z,14nm,1.1s					
R53A	Hurricane	45.27	267	P	P	09 06 32.9 +1.7
	baz=33					
Q51A	Peebles	45.29	269	P	P	09 06 31.8 +0.5
Q51A				IAmb	IAmb	09 06 33.6
	comp=Z,20nm,1.1s					
K27K	Chicken	45.32	329	P	P	09 06 32.7 +1.5
	baz=30					
S54A	Dingess, Beckl	45.44	266	P	P	09 06 34.1 +1.6
	baz=33					
S54A	Dingess, Beckl	45.44	266	IAmb	IAmb	09 06 37.2
	comp=Z,17nm,1.2s					
P49A	Miami Univ. Ec	45.46	270	P	P	09 06 33.3 +0.7
	baz=34					
P49A	Miami Univ. Ec	45.46	270	IAmb	IAmb	09 06 34.6
	comp=Z,12nm,0.8s					
L42A	Oliver, Polo	45.55	276	P	P	09 06 34.4 +1.1
L42A				IAmb	IAmb	09 06 38.8
	comp=Z,11nm,0.9s					
IL31		45.68	332	P	P	09 06 35.4 +1.4
IL31				IAmb	IAmb	09 06 37.2
	comp=Z,26nm,1.4s					
IL31				PcP	PcP	09 08 11.8 0.0
ILAR	Eielson Array	45.68	332	P	P	09 06 35.2 +1.1
	comp=Z,7.1nm,1.1s,baz=26,slow=5.2,SNR=34					
ILAR				PcP	PcP	09 08 12.0 +0.1
	comp=Z,4.0nm,0.9s,baz=359,slow=2.6,SNR=14					
ILAR				LR	LR	09 27 20.0
	comp=Z,248nm,19.1s,baz=30,slow=38					
ILAR	Eielson Array	45.68	332	P	P	09 06 35.0 +0.9
ILAR						09 08 11.7
ILAR	Eielson Array	45.68	332	P	P	09 06 35.0 +0.9
ILAR					PcP	09 08 11.7 -0.2
U57A	Blanch	45.75	263	P	P	09 06 36.9 +1.9
	baz=32					
COLA	College	45.78	333	diP	P	09 06 36.1 +1.3
COLA				pmax	pmax	
	comp=Z,24nm,1.2s					
COLA	College	45.78	333	P	P	09 06 35.8 +1.0
SFIN	Lafayette	45.78	273	P	P	09 06 36.0 +0.8
	baz=34					
SFIN	Lafayette	45.78	273	IAmb	IAmb	09 06 37.0
	comp=Z,12nm,0.9s					
TCOL	CIGO, UAF Yank	45.78	333	P	P	09 06 37.3 +2.5
	baz=27,SNR=5.7					
SCRK	Sand Creek	45.78	330	P	P	09 06 37.0 +1.9
	baz=29					
T55A	Pulaski	45.79	265	P	P	09 06 36.5 +1.2
	baz=32					
P48A	Milroy	45.82	271	IAmb	IAmb	09 06 37.5
	comp=Z,14nm,0.8s					
IMAR	Indian Mountai	45.85	337	P	P	09 06 36.2 +0.7
IMAR					PcP	09 08 13.2 +0.7
S53A	Williamson	45.89	266	P	P	09 06 37.4 +1.3
	baz=33					
CCB	Clear Creek Bu	45.97	333	P	P	09 06 36.9 +0.5
CCB				IAmb	IAmb	09 06 39.3
	comp=Z,18nm,1.4s					
HDA	Harding Lake	46.01	332	P	P	09 06 38.3 +1.5
	baz=28,SNR=8.0					
HDA	Harding Lake	46.01	332	P	P	09 06 38.3 +1.5
DOT	Dot Lake	46.09	330	IAmb	IAmb	09 06 39.9
	comp=Z,18nm,1.4s					
BCAR	Beaver Creek A	46.10	328	P	P	09 06 39.4 +1.9
BCAR					PcP	09 08 14.2 +0.7
L40A	Anamosa	46.16	278	P	P	09 06 37.3 -0.8
L40A				IAmb	IAmb	09 06 42.0
	comp=Z,11nm,0.9s					
RIDG	Independent Ri	46.17	331	P	P	09 06 40.1 +2.0
T54A	Tazewell	46.17	265	P	P	09 06 39.7 +1.3
	baz=32,SNR=6.5					
NEA2	Nenana	46.27	333	P	P	09 06 40.2 +1.5
	baz=27,SNR=14					
U56A	King	46.27	264	P	P	09 06 38.5 -0.5
DGMT	Dagmar	46.33	293	P	P	09 06 40.9 +1.4
	baz=36					
DGMT	Dagmar	46.33	293	P	P	09 06 41.2 +1.8
R50A	Paris	46.33	269	P	P	09 06 39.3 -0.3
R50A				IAmb	IAmb	09 06 43.4
	comp=Z,8.5nm,0.8s					
U55A	TA2, Sparta	46.42	264	P	P	09 06 41.2 +0.8
	baz=32,SNR=7.8					
BRZS	Berezniki	46.51	63	eP	P	09 06 41.0 +0.2
	comp=Z,15nm,1.0s,baz=63					
BRZS				ePP	PP	09 08 30.3 +0.7
	baz=63					
BRZS	Berezniki	46.51	63	eP	P	09 06 41.0 +0.2
BRZS				e		09 08 30.3
BRZS				pmax	pmax	
	comp=Z,15nm,1.0s					
BLO	Bloomington	46.53	271	P	P	09 06 42.2 +1.1
BLO				pmax	pmax	
	comp=Z,10.0nm,1.0s					
BLO	Bloomington	46.53	271	P	P	09 06 42.1 +1.1
BLO				IAmb	IAmb	09 06 42.6
	comp=Z,10nm,1.0s					
S51A	Beattyville	46.55	268	IAmb	IAmb	09 06 43.6
	comp=Z,15nm,1.0s					
O44A	Mansfield	46.56	274	P	P	09 06 42.6 +1.3
HDIL	Hopedale	46.58	275	P	P	09 06 43.0 +1.5
	baz=34					
T53A	Wise	46.65	266	P	P	09 06 42.9 +0.8
	baz=32					
U54A	Nelsons Funny	46.73	265	P	P	09 06 43.5 +0.7
	baz=32					
U54A	Nelsons Funny	46.73	265	P	P	09 06 43.5 +0.7
V56A	Mocksville	46.77	263	P	P	09 06 44.3 +1.3
	baz=32,SNR=6.7					
PAX	Paxson	46.99	330	P	P	09 06 46.1 +1.6
PAX				pmax	pmax	
	comp=Z,26nm,1.6s					
PAX	Paxson	46.99	330	P	P	09 06 46.1 +1.6
MCK	McKinley	47.01	333	P	P	09 06 45.2 +0.6
MCK				pmax	pmax	
	comp=Z,27nm,1.3s					
MCK	McKinley	47.01	333	P	P	09 06 45.2 +0.6
V55A	Taylorsville	47.04	264	P	P	09 06 46.4 +1.2
	baz=32					
DLBC	Dease Lake	47.06	318	LR	LR	09 26 50.6
	comp=Z,397nm,18.1s,baz=29,slow=36					
ECSD	EROS Data Cent	47.08	284	P	P	09 06 46.6 +1.3
	baz=35,SNR=6.7					
ECSD	EROS Data Cent	47.08	284	IAmb	IAmb	09 06 47.9
	comp=Z,11nm,1.3s					
BPAW	Bear Paw Mtn.	47.08	334	P	P	09 06 46.5 +1.4
W57A	Gilead	47.11	263	P	P	09 06 47.0 +1.3
	baz=31					
W57A	Gilead	47.11	263	IAmb	IAmb	09 06 54.0
	comp=Z,17nm,1.3s					
WCI	Wyandotte Cave	47.22	271	P	P	09 06 46.9 +0.4
WCI				pmax	pmax	
	comp=Z,21nm,1.1s					
WCI	Wyandotte Cave	47.22	271	P	P	09 06 47.5 +1.0
	baz=33					
WCI	Wyandotte Cave	47.22	271	P	P	09 06 46.9 +0.4
W56A	Indian Trail	47.38	263	P	P	09 06 48.9 +1.1
	baz=31					
V54A	Nebo	47.42	265	P	P	09 06 49.4 +1.3
	baz=32,SNR=8.1					
P43A	Skaggs, Pawnee	47.43	274	P	P	09 06 48.8 +0.6
TZTN	Tazewell	47.46	267	P	P	09 06 49.0 +0.6
	baz=32					
OLIL	Olney	47.58	273	P	P	09 06 50.0 +0.7
T50A	Nancy	47.61	268	IAmb	IAmb	09 06 51.2
	comp=Z,12nm,1.2s					
ZAA0	Zalesovo Array	47.66	51	P	P	09 06 50.1 +0.4
ZAA0				IAmb	IAmb	09 06 51.7
	comp=Z,20nm,1.4s					
ZALV	Zalesovo Beam	47.66	51	P	P	09 06 50.0 +0.3
	comp=Z,3.2nm,0.7s,baz=332,slow=8.4,SNR=9.4					
ZALV				PcP	PcP	09 08 19.1 +0.1
	comp=Z,2.0nm,0.7s,baz=345,slow=4.6,SNR=4.4					
ZALV				LR	LR	09 29 28.1
	comp=Z,65nm,18.1s,baz=302,slow=39					
ZALV	Zalesovo Beam	47.66	51	P	P	09 06 50.5 +0.8
ZALV						09 08 19.7
ZALV	Zalesovo Beam	47.66	51	P	P	09 06 50.5 +0.8
ZALV				PcP	PcP	09 08 19.7 +0.6
KMSC	Kings Mountain	47.70	264	P	P	09 06 51.1 +0.8
	baz=32					
KMSC	Kings Mountain	47.70	264	P	P	09 06 50.8 +0.6
BIRD	Birdtown, Kers	47.75	263	P	P	09 06 50.9 +0.3
BIRD				IAmb	IAmb	09 06 55.8
	comp=Z,10nm,1.2s					
Q44A	Meyer Farm, Va	47.83	273	P	P	09 06 52.4 +1.1
W54A	Cherokee Point	48.11	265	P	P	09 06 54.4 +1.0
	baz=32,SNR=5.8					
X56A	White Oak	48.12	263	P	P	09 06 54.3 +0.7
	baz=31					
KURK	Kurchatov	48.14	58	P	P	09 06 53.9 +0.4
KURK				pmax	pmax	
	comp=Z,24nm,1.1s					
KURK	Kurchatov	48.14	58	P	P	09 06 53.9 +0.4
TKL	Tuckaleechee C	48.30	266	P	P	09 06 56.1 +1.2
TKL				pmax	pmax	
	comp=Z,7.0nm,1.0s					
TKL	Tuckaleechee C	48.30	266	P	P	09 06 56.1 +1.2
X55A	Gracelyn & Ava	48.40	264	P	P	09 06 57.3 +1.6
	baz=31					
JSC	Jenkinsville	48.40	263		pP	09 06 57.6 +0.9
PPLA	Purkeypile	48.40	334	P	P	09 06 56.5 +1.0
PPLA				IAmb	IAmb	09 07 04.6
	comp=Z,19nm,1.2s					
KLU	Klutina	48.41	330	P	P	09 06 57.1 +1.6
V51A	Loudon	48.43	267	P	P	09 06 56.5 +0.6
V51A				IAmb	IAmb	09 07 05.7
	comp=Z,17nm,1.1s					
U49A	Red Boiling Sp	48.44	269	P	P	09 06 56.6 +0.7
U49A				IAmb	IAmb	09 06 58.1
	comp=Z,16nm,1.2s					
LAO	LASA Array	48.58	293	P	P	09 06 59.4 +2.4
	baz=35,SNR=6.8					
LAO	LASA Array	48.58	293	P	P	09 06 57.8 +0.8
SLM	Saint Louis	48.58	274	P	P	09 06 57.3 +0.3
SLM				pmax	pmax	
	comp=Z,13nm,0.6s					
SLM	Saint Louis	48.58	274	P	P	09 06 57.3 +0.3
X54A	Belton	48.65	264	P	P	09 06 59.0 +1.4
	baz=31					
GHO	Glory Hole Cre	48.78	332	P	P	09 07 00.4 +2.0
GHO				IAmb	IAmb	09 07 05.8
	comp=Z,11nm,1.0s					
CPCT	Cooper Cave	48.80	267	IAmb	IAmb	09 07 00.7
	comp=Z,20nm,1.3s					
EGMT	Eagleton	48.85	297	P	P	09 07 01.0 +1.8
	baz=35,SNR=15					
EGMT	Eagleton	48.85	297	P	P	09 07 01.0 +1.8
NHSC	New Hope	48.94	261	P	P	09 07 01.4 +1.6
	baz=30					
Y55A	Saluda	48.95	263	P	P	09 07 00.3 +0.4
	baz=31					
PMR	Palmer	48.99	332	IAmb	IAmb	09 07 02.8
	comp=Z,13nm,1.2s					
Z57A	Bowman	49.00	262	P	P	09 07 01.1 +0.8
	baz=31					
KNK	Knik Glacier	49.01	331	IAmb	IAmb	09 07 09.9
	comp=Z,12nm,1.0s					
CLTN	Cedars of Leba	49.04	269	IAmb	IAmb	09 07 05.0
	comp=Z,18nm,1.4s					
TTA	Tatalina	49.06	336	P	P	09 07 02.4 +1.9
TTA				pmax	pmax	
	comp=Z,19nm,1.6s					
TTA	Tatalina	49.06	336	P	P	09 07 02.4 +1.9
TTA				IAmb	IAmb	09 07 05.6
	comp=Z,19nm,1.6s					
SKT	Skwentna	49.11	333	P	P	09 07 00.6 -0.2
SKT				IAmb	IAmb	09 07 02.7
	comp=Z,11nm,0.7s					
GLI	Glacier Island	49.21	330	P	P	09 07 01.5 -0.1
EYAK	Cordova Ski Ar	49.21	329	P	P	09 07 03.5 +2.0
Z56A	Williston	49.26	263	P	P	09 07 02.4 0.0
CCM	Cathedral Cave	49.49	275	P	P	09 07 03.0 -1.0
CCM				pmax	pmax	
	comp=Z,3.0nm,0.7s					
CCM	Cathedral Cave	49.49	275	P	P	09 07 03.6 -0.4
	baz=33					
CCM	Cathedral Cave	49.49	275	P	P	09 07 03.0 -1.0
V48A	Smith Brothers	49.54	269	P	P	09 07 04.4 0.0
V48A				IAmb	IAmb	09 07 09.7
	comp=Z,12nm,1.1s					
SWET	Sewanee	49.60	268	IAmb	IAmb	09 07 09.0
	comp=Z,16nm,1.4s					
X51A	Calhoun	49.70	267	P	P	09 07 04.7 -0.9
X51A				IAmb	IAmb	09 07 08.1
	comp=Z,15nm,1.1s					
R40A	Maddies Statio	49.74	276	P	P	09 07 05.3 -0.6
R40A				PcP	PcP	09 08 27.1 +0.2
RSSD	Black Hills	49.81	290	P	P	09 07 07.9 +1.2
RSSD				pmax	pmax	
	comp=Z,7.0nm,1.1s					
RSSD	Black Hills	49.81	290	P	P	09 07 07.7 +1.0
	baz=34					
RSSD	Black Hills	49.81	290	P	P	09 07 07.9 +1.2
Y52A	Lilburn	49.95	265	IAmb	IAmb	09 07 09.9
	comp=Z,14nm,1.1s					
FPAL	Fort Paine	50.04	267	P	P	09 07 09.4 +1.1
FPAL				IAmb	IAmb	09 07 10.3
	comp=Z,21nm,1.3s					
GOGA	Godfrey	50.09	265	P	P	09 07 09.9 +1.3
GOGA				pmax	pmax	
	comp=Z,14nm,1.2s					
GOGA	Godfrey	50.09	265	P	P	09 07 09.5 +0.9
	baz=31					
GOGA	Godfrey	50.09	265	P	P	09 07 09.9 +1.3
GOGA				IAmb	IAmb	09 07 10.8
	comp=Z,14nm,1.1s					
T42A	Van Buren	50.29	274	P	P	09 07 09.8 -0.3
GEYT	Alibeck	50.45	84	P	P	09 07 12.1 +0.8
	comp=Z,3.4nm,0.7s,baz=303,slow=14,SNR=7.5					
GEYT				LR	LR	09 29 07.4
	comp=Z,160nm,20.4s,baz=235,slow=37					
GEYT	Alibeck	50.45	84	P	P	09 07 11.8 +0.4
GYA0B	ALIBECK ARRAY	50.45	84	P	P	09 07 12.3 +1.0
GYA0B				IAmb	IAmb	09 07 14.0
	comp=Z,10nm,0.9s					
GCMT	Greycliff	50.67	295	P	P	09 07 13.6 +0.6
S39A	Bolivar	50.69	276	P	P	09 07 12.9 -0.2
PLAL	Pickwick Lake	50.73	270	P	P	09 07 13.1 -0.3
PLAL				IAmb	IAmb	09 07 14.7
	comp=Z,15nm,1.3s					
X48A	Hartselle	50.73	269	P	P	09 07 13.4 0.0
X48A				IAmb	IAmb	09 07 18.0
	comp=Z,8.8nm,0.8s					
HRY	Holter Researc	50.73	298	P	P	09 07 13.9 +0.4
Z51A	Franklin	50.90	266	IAmb	IAmb	09 07 19.2
	comp=Z,28nm,1.6s					
KSU1	Kansas State U	50.91	280	P	P	09 07 14.6 -0.2

baz=33
RLMT Red Lodge 51.07 295 P P 09 07 17.4 +1.2
baz=34,SNR=11
BTLS Baital 51.09 66 *e*P **P 09 07 17.1 +1.0**
comp=Z,5.5nm,1.1s,baz=66
BTLS Baital 51.09 66 *e*P **P 09 07 17.1 +1.0**
BTLS pmax pmax
comp=Z,5.0nm,1.1s
YAK Yakutsk 51.28 19‖*e*P **P 09 07 17.9 +0.7**
YAK pmax pmax
comp=Z,15nm,0.7s
KK31 Karatay Array 51.30 70 *i*P **P 09 07 19.0 +1.3**
KK31 Karatay Array 51.30 70 IAmb IAmb 09 07 20.5
comp=Z,26nm,1.2s
KKAR Karatay Array 51.30 70 P **P 09 07 18.7 +1.0**
KKAR pmax pmax
comp=Z,26nm,1.3s
KKAR Karatay Array 51.30 70 P **P 09 07 18.7 +1.0**
KKAR IAmb IAmb 09 07 20.5
comp=Z,26nm,1.2s
MSO Missoula 51.44 299 P **P 09 07 19.3 +0.6**
baz=33
MSO Missoula 51.44 299 P **P 09 07 19.1 +0.4**
YNE Yellowstone No 51.45 295 P **P 09 07 20.5 +1.4**
BOZ Bozeman (W) 51.59 297 P **P 09 07 21.2 +1.2**
baz=33,SNR=32
BOZ Bozeman (W) 51.59 297 IAmb IAmb 09 07 22.5
comp=Z,22nm,1.1s
U40A Yellville 51.62 275 P **P 09 07 20.1 0.0**
baz=32
U40A Yellville 51.62 275 P **P 09 07 20.3 +0.2**
U40A IAmb IAmb 09 07 23.8
comp=Z,17nm,1.3s
DZA Taraz 51.81 69 *e*P **P 09 07 22.9 +1.4**
baz=69
DZA Taraz 51.81 69 *e*P **P 09 07 22.9 +1.4**
IUG Iuzhnay 51.91 71 *e*P **P 09 07 24.0 +1.6**
comp=Z,13nm,1.1s,baz=71
IUG Iuzhnay 51.91 71 *e*P **P 09 07 23.9 +1.6**
IUG pmax pmax
comp=Z,13nm,1.1s
LRAL Lakeview Retre 51.92 268 P **P 09 07 22.4 0.0**
baz=31
K22A Casper 52.04 291 P **P 09 07 23.5 0.0**
baz=33,SNR=6.2
K22A Casper 52.04 291 P **P 09 07 22.5 -0.9**
K22A IAmb IAmb 09 07 27.2
comp=Z,13nm,1.1s
DGZ Jazzator, Alta 52.10 53*d i*P **P 09 07 25.4 +1.6**
DGZ pmax pmax
comp=Z,23nm,1.2s
YHB Horse Butte 52.13 296 P **P 09 07 24.4 +0.3**
H17A Grant Village 52.19 295 P **P 09 07 27.6 +3.0**
baz=33,SNR=6.3
H17A Grant Village 52.19 295 P **P 09 07 23.8 -0.8**
H17A IAmb IAmb 09 07 29.0
comp=Z,13nm,1.1s
U38A Gravette 52.20 276 P **P 09 07 23.7 -0.8**
R32A Long Quarter, 52.37 281 P **P 09 07 24.7 -1.0**
YPP Pitchstone Pla 52.38 295 P **P 09 07 26.4 +0.4**
CBKS Cedar Bluff 52.47 283 P **P 09 07 27.8 +1.4**
baz=33
SEY Seymchan 52.49 6‖*e*P **P 09 07 28.1 +1.8**
FLWY Flagg Ranch 52.50 295 P **P 09 07 26.9 0.0**
MAKZ Makanchi 52.62 58 P **P 09 07 28.5 +1.0**
MAKZ pmax pmax
comp=Z,27nm,1.6s
MAKZ Makanchi 52.62 58 P **P 09 07 28.5 +1.0**
MAKZ IAmb IAmb 09 07 29.5
comp=Z,27nm,1.6s
SGDS Sogindy 52.65 66 *e*P **P 09 07 28.8 +0.9**
comp=Z,7.8nm,1.1s,baz=66
SGDS Sogindy 52.65 66 *e*P **P 09 07 28.7 +0.9**
SGDS pmax pmax
comp=Z,8.0nm,1.1s
PHWY Pilot Hill 52.74 289 P **P 09 07 29.1 +0.3**
IMW Indian Meadow 52.75 295 P **P 09 07 29.4 +0.6**
MK31 Makanchi Array 52.75 58 *i*P **P 09 07 28.7 +0.3**
MK31 Makanchi Array 52.75 58 P **P 09 07 28.8 +0.3**
MKAR Makanchi Array 52.75 58 P **P 09 07 28.2 -0.2**
comp=Z,6.3nm,1.0s,baz=326,slow=5.9,SNR=41
MKAR LR LR 09 30 06.1
comp=Z,91nm,19.2s,baz=313,slow=36
MKAR Makanchi Array 52.75 58 *i*P **P 09 07 29.3 +0.9**
MKAR pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 52.75 58 P **P 09 07 28.8 +0.3**
USP Ospenovka 52.76 66 P **P 09 07 30.0 +1.4**
SNR=5.2
TDK Taldyqorghan 52.81 62 *e*P **P 09 07 29.8 +0.9**
baz=62
TDK Taldyqorghan 52.81 62 *e*P **P 09 07 29.8 +0.9**
KUU Kurty 52.95 65 *e*P **P 09 07 30.4 +0.5**
comp=Z,13nm,1.2s,baz=65
KUU Kurty 52.95 65 *e*P **P 09 07 30.4 +0.5**
KUU pmax pmax
comp=Z,13nm,1.2s
EKS2 Erkin-Say 52.98 67 P P 09 07 33.5 +3.2
SNR=20
W39A Magazine 53.00 275 P **P 09 07 29.9 -0.4**
baz=32
W39A Magazine 53.00 275 P **P 09 07 30.1 -0.2**
FXWY Fox Creek 53.00 295 P **P 09 07 31.4 +0.8**
FXWY IAmb IAmb 09 07 36.6
comp=Z,19nm,1.6s
SNOW Snow King Moun 53.04 295 P **P 09 07 31.0 +0.1**
SNOW IAmb IAmb 09 07 33.7
comp=Z,15nm,1.3s
TPAW Teton Pass 53.09 295 P **P 09 07 31.8 +0.5**
ZSN Zaisan 53.12 56 *e*P **P 09 07 32.0 +0.8**
comp=Z,6.8nm,1.0s,baz=56
ZSN Zaisan 53.12 56 *e*P **P 09 07 32.0 +0.8**
ZSN pmax pmax
comp=Z,7.0nm,1.0s
RWWY Rawlins 53.13 291 P **P 09 07 31.1 -0.5**
RWWY IAmb IAmb 09 07 33.5
comp=Z,23nm,1.4s
TOA0 Torodi Ar. Sit 53.15 156 P **P 09 07 31.2 -0.4**
TOA0 IAmb IAmb 09 07 34.2
comp=Z,15nm,0.9s
TORD Torodi Ar. Bea 53.15 156 P **P 09 07 30.9 -0.7**
comp=Z,12nm,0.9s,baz=342,slow=8.1,SNR=23
TORD LR LR 09 32 02.0
comp=Z,189nm,18.4s,baz=325,slow=38
TORD Torodi Ar. Bea 53.15 156 P **P 09 07 30.7 -0.9**
BW06 Boulder Array 53.16 293 P **P 09 07 31.5 -0.2**
baz=33,SNR=22
BW06 Boulder Array 53.16 293 IAmb IAmb 09 07 33.2
comp=Z,18nm,1.1s
PD31 Pinedale Array 53.16 293 P **P 09 07 31.2 -0.6**
PD31 IAmb IAmb 09 07 33.2
comp=Z,16nm,1.1s
PDAR Pinedale Array 53.16 293 P **P 09 07 31.7 -0.1**
comp=Z,7.4nm,0.9s,baz=57,slow=5.5,SNR=56
PDAR Pinedale Array 53.16 293 P **P 09 07 31.5 -0.3**
REDW Red Top Meadow 53.16 295 IAmb IAmb 09 07 34.4
comp=Z,19nm,1.4s
X40A Basin Creek Fa 53.19 274 P **P 09 07 31.1 -0.7**
baz=31
CHKK Chushkaly 53.23 64 *e*P **P 09 07 32.8 +0.7**
baz=64
CHKK Chushkaly 53.23 64 *e*P **P 09 07 32.7 +0.7**
N23A Red Feather La 53.28 289 P **P 09 07 33.7 +1.0**
baz=32,SNR=10
N23A Red Feather La 53.28 289 P **P 09 07 33.7 +1.0**
N23A IAmb IAmb 09 07 35.3
comp=Z,20nm,1.1s
AAK Ala-Archa 53.28 67 P **P 09 07 35.0 +2.4**
SNR=7.0
AAK Ala-Archa 53.28 67*d i*P **P 09 07 34.4 +1.8**
AAK pmax pmax
comp=Z,34nm,1.7s
AAK Ala-Archa 53.28 67 P **P 09 07 33.2 +0.6**
AAK IAmb IAmb 09 07 35.7
comp=Z,15nm,0.9s
AML Almayashu 53.39 68 P **P 09 07 36.4 +2.7**
SNR=6.6
MIAR Mount Ida 53.46 274 P **P 09 07 34.3 +0.5**
baz=31
TKM2 Tokmak 2 53.48 66 P **P 09 07 36.4 +2.3**
SNR=8.2
KSCO Kaye Shedlock' 53.51 285 P **P 09 07 35.6 +1.4**
baz=32
KSCO Kaye Shedlock' 53.51 285 P **P 09 07 34.2 0.0**
KSCO IAmb IAmb 09 07 39.9
comp=Z,18nm,1.1s

MTBS Maitube 53.63 65 *e*P **P 09 07 36.6 +1.6**
baz=65
MTBS Maitube 53.63 65 *e*P **P 09 07 36.6 +1.6**
UCH Uchtor 53.64 67 P **P 09 07 38.4 +2.8**
SNR=17
AAA Alma-Ata 53.75 65 *e*P **P 09 07 37.6 +1.7**
baz=65
AAA Alma-Ata 53.75 65 *e*P **P 09 07 37.6 +1.7**
AHID Auburn Hatcher 53.77 294 IAmb IAmb 09 07 40.7
comp=Z,15nm,1.4s
MDOK Medeo 53.84 65 *e*P **P 09 07 37.9 +1.2**
baz=65
MDOK Medeo 53.84 65 *e*P **P 09 07 37.9 +1.2**
TNSS Tian-Shan 53.91 65 *e*P **P 09 07 39.0 +1.5**
baz=65
TNSS Tian-Shan 53.91 65 *e*P **P 09 07 39.0 +1.5**
ISCO Idaho Springs 54.07 288 P **P 09 07 39.1 +0.5**
baz=32
KPKS Kokpek 54.22 63 *e*P **P 09 07 40.7 +1.4**
comp=Z,12nm,1.1s,baz=63
KPKS Kokpek 54.22 63 *e*P **P 09 07 40.7 +1.4**
KPKS pmax pmax
comp=Z,12nm,1.1s
HLID Hailey 54.37 297 P **P 09 07 41.7 +1.1**
baz=32
SATY Saty 54.46 64 *e*P **P 09 07 42.3 +1.1**
comp=Z,5.9nm,1.1s,baz=64
SATY Saty 54.46 64 *e*P **P 09 07 42.2 +1.1**
SATY pmax pmax
comp=Z,6.0nm,1.1s
CHGR Chuyangaron 54.49 74 P **P 09 07 42.2 +0.9**
Q24A Divide 54.59 287 P **P 09 07 40.5 -1.8**
baz=32
UZB Uzynbulak 54.62 63 *e*P **P 09 07 43.2 +0.8**
comp=Z,6.4nm,1.2s,baz=63
UZB Uzynbulak 54.62 63 *e*P **P 09 07 43.1 +0.8**
UZB pmax pmax
comp=Z,6.0nm,1.2s
MOY Mondy 54.68 42 *e*P **P 09 07 45.1 +2.5**
MOY pmax pmax
comp=Z,62nm,1.5s
KDJ Kajisay 54.77 65 IAmb IAmb 09 07 46.2
comp=Z,14nm,1.1s
SHLS Shalkode 54.78 63 *e*P **P 09 07 46.3 +2.8**
comp=Z,11nm,1.1s,baz=62
SHLS Shalkode 54.78 63 *e*P **P 09 07 46.3 +2.8**
SHLS pmax pmax
comp=Z,11nm,1.1s
O20A White River Ci 54.86 290 P **P 09 07 44.9 +0.8**
baz=32,SNR=11
HWUT Hardware Ranch 54.93 294 P **P 09 07 45.4 +0.7**
HWUT IAmb IAmb 09 07 46.9
comp=Z,16nm,1.1s
RDMU Red Mountain 55.02 292 P **P 09 07 46.0 +0.6**
HRA Herat 55.22 82 P **P 09 07 47.6 +0.7**
HRA IAmb IAmb 09 07 49.3
comp=Z,11nm,1.1s
TCUT Toone Canyon 55.28 293 P **P 09 07 47.4 +0.1**
TLY Talaya 55.42 40 *e*P **P 09 07 49.0 +1.2**
TLY pmax pmax
comp=Z,39nm,1.7s
WMOK Wichita Mounta 55.52 279 P **P 09 07 48.4 -0.4**
WMOK pmax pmax
comp=Z,14nm,1.3s
WMOK Wichita Mounta 55.52 279 P **P 09 07 49.9 +1.1**
baz=31,SNR=8.8
WMOK Wichita Mounta 55.52 279 P **P 09 07 48.4 -0.4**
WMOK IAmb IAmb 09 07 53.9
comp=Z,14nm,1.3s
SDCO Great Sand Dun 55.77 287 P **P 09 07 51.7 +0.8**
baz=31
T25A Trinidad 55.84 285 P **P 09 07 52.7 +1.4**
baz=31,SNR=5.7
T25A Trinidad 55.84 285 P **P 09 07 52.1 +0.8**
T25A IAmb IAmb 09 07 54.0
comp=Z,13nm,1.3s
Z35A Perchaven, San 56.08 277 P **P 09 07 53.9 +1.1**
Z35A IAmb IAmb 09 07 54.4
comp=Z,15nm,0.9s
I05D Terrebonne, OR 56.28 303 P **P 09 07 55.2 +1.1**
baz=30
S22A 4UR Ranch, Cre 56.32 288 P **P 09 07 56.0 +1.2**
baz=31,SNR=5.7
PV22 Blue Mesa, Par 56.44 290 P **P 09 07 56.2 +0.6**
ZAK Zakamensk 56.48 41 *e*P **P 09 07 56.2 +0.6**
ZAK pmax pmax
comp=Z,13nm,1.2s
PV21 Cone Mtn., Par 56.49 290 IAmb IAmb 09 07 57.8
comp=Z,12nm,1.1s
HUMP Col San Antoni 56.52 238 P **P 09 07 55.3 -0.8**
KSH Kashi 56.52 68 P **P 09 07 58.1 +2.1**
KSH PP PP 09 10 08.4 +7.1
KSH S **S 09 15 49.2 +1.1**
KSH sS sS 09 16 02.0 +12
KSH ScS **ScS 09 17 44.4 -1.7**
KSH pmax pmax
comp=Z,16nm,0.6s
KSH pmax pmax
comp=Z,260nm,4.4s
KSH LR LR
comp=Z,330nm,7.6s
KSH LR LR
comp=Z,330nm,5.9s
KSH LR LR
comp=Z,390nm,9.7s
PV23 Carpenter Ridg 56.60 290 IAmb IAmb 09 07 58.7
comp=Z,14nm,1.0s
PV04 Paradox Valley 56.61 290 IAmb IAmb 09 08 00.4
comp=Z,12nm,1.0s
DUG Dugway, Tooele 56.63 294 P **P 09 07 56.9 +0.1**
DUG pmax pmax
comp=Z,15nm,1.3s
DUG Dugway, Tooele 56.63 294 P **P 09 07 58.4 +1.6**
baz=31,SNR=8.5
DUG Dugway, Tooele 56.63 294 P **P 09 07 56.9 +0.1**
DUG IAmb IAmb 09 08 02.8
comp=Z,15nm,1.2s
SRU San Rafael Swe 56.65 292 P **P 09 07 57.3 +0.3**
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael Swe 56.65 292 P **P 09 07 57.3 +0.3**
PV14 Lion Creek, Pa 56.67 290 IAmb IAmb 09 07 59.1
comp=Z,19nm,1.2s
PV11 David Mesa, Pa 56.68 290 IAmb IAmb 09 08 01.0
comp=Z,13nm,0.9s
PV20 West Nyswonger 56.68 290 IAmb IAmb 09 07 59.2
comp=Z,14nm,1.2s
PV16 Nyswonger Mesa 56.69 290 IAmb IAmb 09 08 06.1
comp=Z,9.3nm,1.0s
PV01 Paradox Valley 56.70 289 IAmb IAmb 09 07 59.7
comp=Z,15nm,1.1s
PV03 Paradox Valley 56.71 290 IAmb IAmb 09 07 59.5
comp=Z,16nm,1.1s
PV19 Morning Glory 56.71 290 IAmb IAmb 09 08 02.8
comp=Z,10nm,1.1s
PV17 East Wray Mesa 56.73 290 IAmb IAmb 09 07 59.7
comp=Z,16nm,1.2s
PV18 Skein Mesa, Pa 56.74 290 P **P 09 07 58.0 +0.3**
PV18 IAmb IAmb 09 07 59.8
comp=Z,18nm,1.1s
TMUT Trail Mountain 56.76 292 P **P 09 07 59.2 +1.2**
PV13 Radium Mtn., P 56.78 290 P **P 09 07 58.7 +0.7**
Q16A Castle Valley 57.07 292 P **P 09 08 00.0 0.0**
J05D Fort Rock, OR 57.15 302 P **P 09 08 02.0 +1.5**
baz=30
WMQ Urumqi 57.26 56 *e*P **P 09 08 03.0 +1.9**
WMQ pP sP 09 08 07.0 +4.4
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,41nm,4.9s
WMQ LR LR
comp=Z,47nm,18.1s
WMQ LR LR
comp=Z,160nm,15.7s
MVCO Mesa Verde 57.46 289 P **P 09 08 04.3 +1.5**
baz=31
K05A Summer Lake 57.52 302 P **P 09 08 04.6 +1.5**
K05A IAmb IAmb 09 08 11.0
comp=Z,15nm,1.2s
ABTX Abilene, Hawle 57.70 279 P **P 09 08 05.5 +1.2**
baz=30
MSU Marysvale 57.82 293 P **P 09 08 06.7 +1.3**
MSU Marysvale 57.82 293 P **P 09 08 06.7 +1.3**
TCRU Three Creeks R 57.84 293 P **P 09 08 06.2 +0.6**
KBL Kabul 57.96 76 P **P 09 08 07.8 +1.5**

KBL pmax pmax
comp=Z,18nm,1.4s
KBL Kabul 57.96 76 P **P 09 08 07.8 +1.5**
KBL IAmb IAmb 09 08 09.0
comp=Z,18nm,1.4s
MOD Modoc Plateau 58.01 301 P **P 09 08 07.8 +1.2**
MTPU Mount Pierson 58.23 292 P **P 09 08 09.7 +1.3**
PSUT Pine Spring 58.47 294 P **P 09 08 11.6 +1.8**
ANMO Albuquerque 58.57 286 P **P 09 08 11.7 +1.1**
comp=Z,0.1nm,0.6s,baz=205,slow=6.1,SNR=3.2
ANMO Albuquerque 58.57 286‖*i*P **P 09 08 12.4 +1.8**
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ANMO Albuquerque 58.57 286 P **P 09 08 12.2 +1.6**
baz=30
ANMO Albuquerque 58.57 286 P **P 09 08 11.2 +0.6**
DBIC Dimbokro 58.59 165 P **P 09 08 08.9 -1.7**
comp=Z,10nm,0.9s,baz=349,slow=9.4,SNR=7.4
DBIC LR LR 09 33 09.9
comp=Z,65nm,18.0s,baz=354,slow=36
DBIC Dimbokro 58.59 165 P **P 09 08 10.2 -0.4**
DBIC pmax pmax
comp=Z,13nm,1.0s
DBIC Dimbokro 58.59 165 P **P 09 08 10.2 -0.4**
DBIC IAmb IAmb 09 08 11.6
comp=Z,13nm,1.0s
M04C Macdoel 58.68 302 P **P 09 08 12.3 +1.1**
baz=29
PKCU Pink Cliffs 58.80 292 P **P 09 08 14.0 +1.7**
ZEA Zeya 58.85 24 *e*P **P 09 08 12.3 +0.3**
ZEA pmax pmax
comp=Z,14nm,1.2s
R11A Troy Canyon, C 59.30 295 P **P 09 08 17.0 +1.3**
baz=30,SNR=19
R11A Troy Canyon, C 59.30 295 P **P 09 08 16.4 +0.7**
R11A IAmb IAmb 09 08 21.6
comp=Z,15nm,1.3s
BNM Barren Site 59.33 285 P **P 09 08 16.4 +0.5**
LCMT Little Creek M 59.54 292 P **P 09 08 18.4 +1.1**
JCT Junction City 59.62 277 P **P 09 08 18.8 +1.1**
JCT pmax pmax
comp=Z,17nm,1.0s
JCT Junction City 59.62 277 P **P 09 08 19.0 +1.2**
baz=30
JCT Junction City 59.62 277 P **P 09 08 18.8 +1.1**
SONM Songino Array 59.66 40 P **P 09 08 18.0 +0.1**
comp=Z,2.9nm,1.1s,baz=321,slow=6.5,SNR=16
SONM LR LR 09 36 51.4
comp=Z,179nm,18.3s,baz=340,slow=39
SONM Songino Array 59.66 40 P **P 09 08 18.4 +0.5**
SONM pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 59.66 40 P **P 09 08 18.4 +0.5**
KVN Kaiserville 59.66 298 IAmb IAmb 09 08 20.3
comp=Z,8.3nm,1.0s
U15A North Rim 59.67 291 IAmb IAmb 09 08 19.9
comp=Z,10nm,1.0s
ULN Ulaanbaatar 59.81 40*d i*P **P 09 08 19.8 +0.8**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 59.81 40 P **P 09 08 20.3 +1.3**
ULN IAmb IAmb 09 08 21.5
comp=Z,15nm,1.3s
PRN Pahroc Range 59.91 294 P **P 09 08 21.6 +1.8**
PRN IAmb IAmb 09 08 26.3
comp=Z,17nm,1.4s
WUAZ Wupatki 60.09 290 P **P 09 08 21.8 +0.7**
baz=30,SNR=8.3
WUAZ Wupatki 60.09 290 P **P 09 08 21.3 +0.2**
YERR Yerington 60.16 298 P **P 09 08 22.4 +0.9**
NV11 Mina Array Sit 60.22 297 P **P 09 08 22.8 +0.9**
NVAR Mina Array Bea 60.28 297 P **P 09 08 22.3 -0.1**
comp=Z,1.3nm,0.8s,baz=51,slow=4.9,SNR=9.7
NVAR LR LR 09 34 33.3
comp=Z,1μm,19.7s,baz=22,slow=36
NIL Nilore 60.48 73 P **P 09 08 24.5 +0.9**
NIL pmax pmax
comp=Z,28nm,1.1s
NIL Nilore 60.48 73 P **P 09 08 24.5 +0.9**
WAKR Walker 60.65 298 P **P 09 08 26.2 +1.3**
WAKR IAmb IAmb 09 08 30.7
comp=Z,16nm,1.4s
SHPR Sheep Range 60.74 294 P **P 09 08 25.9 +0.4**
SHPR IAmb IAmb 09 08 28.5
comp=Z,12nm,1.2s
TPNV Topopah Spring 60.78 295 P **P 09 08 27.3 +1.5**
TPNV pmax pmax
comp=Z,4.0nm,1.0s
TPNV Topopah Spring 60.78 295 P **P 09 08 26.7 +0.9**
baz=29
TPNV Topopah Spring 60.78 295 P **P 09 08 27.3 +1.5**
MNTX Cornudas Mount 60.93 283 P **P 09 08 27.1 +0.4**
baz=30,SNR=5.7
MNTX Cornudas Mount 60.93 283 P **P 09 08 26.7 +0.1**
X16A Lo Mia Camp, P 61.07 290 P **P 09 08 28.8 +1.0**
X16A IAmb IAmb 09 08 30.5
comp=Z,10nm,1.1s
121A Cookes Peak, D 61.21 285 P **P 09 08 30.1 +1.4**
baz=29
121A Cookes Peak, D 61.21 285 IAmb IAmb 09 08 30.9
comp=Z,11nm,1.2s
OMMB Old Mammoth Mi 61.26 297 IAmb IAmb 09 08 35.4
comp=Z,10nm,1.3s
MDPB Devils Postpil 61.28 297 IAmb IAmb 09 08 32.2
comp=Z,9.3nm,1.2s
833A Chaparral WMA, 61.32 276 P **P 09 08 31.0 +1.7**
baz=29
FURC Furnace Creek, 61.44 295 P **P 09 08 31.2 +1.2**
baz=29
SHOC Shoshone, Teco 61.71 294 P **P 09 08 31.7 -0.2**
baz=29
CWC Cottonwood Cre 61.94 296 P **P 09 08 35.4 +1.8**
baz=29
PDMCI Parker Dam,Lak 62.26 292 P **P 09 08 36.9 +1.4**
baz=29
TX31 Lajitas Ar. Si 62.26 280 P **P 09 08 36.2 +0.4**
TX32 Lajitas Array 62.26 280 P **P 09 08 36.7 +0.9**
TX32 IAmb IAmb 09 08 55.9
comp=Z,10.0nm,1.6s
TXAR Lajitas Array 62.26 280 P **P 09 08 35.6 -0.2**
comp=Z,2.1nm,0.9s,baz=50,slow=3.9,SNR=17
TXAR PcP **PcP 09 09 17.9 +2.3**
comp=Z,1.2nm,0.9s,baz=69,slow=4.2,SNR=5.3
TXAR LR LR 09 35 16.3
comp=Z,758nm,18.1s,baz=0.0,slow=36
TXAR Lajitas Array 62.26 280 P **P 09 08 36.6 +0.8**
TXAR Lajitas Array 62.26 280 P **P 09 08 36.6 +0.8**
GMRC Granite Mounta 62.44 293 P **P 09 08 38.4 +1.5**
baz=29,SNR=8.1
PEA0B Petropavlovsk- 62.51 3*de*P **P 09 08 37.5 +0.5**
PET Petropavlovsk 62.61 3‖*e*P **P 09 08 39.9 +2.3**
PET pmax pmax
comp=Z,121nm,1.3s
LRMC Laurel Mtn Rad 62.62 295 P **P 09 08 39.7 +1.6**
baz=28
TUC Tucson 62.64 288 P **P 09 08 39.8 +1.5**
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC Tucson 62.64 288 P **P 09 08 39.4 +1.2**
baz=29
TUC Tucson 62.64 288 P **P 09 08 39.8 +1.5**
TUC IAmb IAmb 09 08 41.2
comp=Z,10.0nm,1.2s
ISA Isabella, Lake 62.77 296 P **P 09 08 40.3 +1.2**
ISA pmax pmax
comp=Z,7.0nm,1.0s
ISA Isabella, Lake 62.77 296 P **P 09 08 40.8 +1.7**
baz=28
ISA Isabella, Lake 62.77 296 P **P 09 08 40.3 +1.2**
ISA IAmb IAmb 09 08 41.8
comp=Z,6.9nm,1.0s
IRM Iron Mountain 62.78 292 P **P 09 08 40.7 +1.6**
baz=29
319A Douglas 62.83 286 P **P 09 08 40.8 +1.2**
BELC Belle Mtn. Jos 63.26 293 P **P 09 08 44.6 +2.1**
baz=28,SNR=7.9
BC3 Big Chuckawall 63.35 292 P **P 09 08 44.5 +1.6**
baz=28
KLR Kul'dur 63.95 22 P **P 09 08 47.0 +0.4**
comp=Z,1.6nm,0.8s,baz=343,slow=6.4,SNR=5.2
KLR Kul'dur 63.95 22‖*e*P **P 09 08 46.8 +0.2**
KLR pmax pmax
comp=Z,5.0nm,1.5s
MONP2 Monument Peak 64.40 293 P P 09 08 54.2 +4.2
baz=28
GTA Gaotai 65.32 49 P **P 09 08 57.2 +1.3**

GTA				pP	sP	09 09 01.5	+4.1
GTA				sP	pP	09 09 04.1	+7.1
GTA				S	S	09 17 47.4	+7.1
GTA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,130nm,6.5s						
GTA				LR	LR		
	comp=Z,130nm,20.3s						
GTA				LR	LR		
	comp=Z,160nm,20.0s						
GTA				LR	LR		
	comp=Z,180nm,18.4s						
SPX	**San Pedro Mart**	**65.65**	**291**	P	**P**	**09 08 59.1**	**+0.8**
SPX				IAmb	IAmb	09 09 04.4	
	comp=Z,13nm,1.4s						
SDV	**Santo Domingo**	**66.80**	**239**	P	**P**	**09 09 06.6**	**+1.0**
	comp=Z,9.8nm,0.4s,baz=355,slow=7.1,SNR=4.3						
SDV	**Santo Domingo**	**66.80**	**239**	P	**P**	**09 09 06.3**	**+0.6**
SDV				IAmb	IAmb	09 09 10.1	
	comp=Z,31nm,1.2s						
HHC	**Hu-ho-hao-te**	**67.53**	**40**	*e*P	P	09 09 14.2	+4.2
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,41nm,5.8s						
ZAIG	**Zacatecas**	**67.55**	**276**	P	**P**	**09 09 09.8**	**-0.7**
ZAIG				IAmb	IAmb	09 09 13.7	
	comp=Z,7.8nm,1.0s						
YSS	**Yuzh-Sakhalins**	**67.66**	**14**	*e*P	**P**	**09 09 11.9**	**+1.4**
YSS				*e*		09 09 18.7	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
USRK	**Ussuriysk Ar.**	**68.88**	**23**	P	**P**	**09 09 17.7**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=291,slow=12,SNR=6.7						
BJI	**Beijing**	**69.51**	**36**	P	**P**	**09 09 23.9**	**+1.8**
BJI				S	S	09 18 37.7	+7.4
BJI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BJI				LR	LR		
	comp=Z,190nm,17.5s						
BJI				LR	LR		
	comp=Z,100nm,14.1s						
LZH	**Lanzhou**	**69.65**	**48**	*e*P	**P**	**09 09 18.8**	**-4.5**
LZH				pP	pP	09 09 25.2	+0.7
LZH				sP	sP	09 09 28.3	+3.4
LZH				*e*PP	PP	09 11 48.4	-8.2
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,200nm,4.9s						
LZH				LR	LR		
	comp=N,260nm,15.3s						
LZH				LR	LR		
	comp=E,240nm,16.5s						
LZH				LR	LR		
	comp=Z,250nm,16.8s						
RUSC	**La Rusia**	**70.47**	**240**	P	**P**	**09 09 28.2**	**-0.7**
ROSC	**El Rosal**	**71.90**	**241**	P	**P**	**09 09 38.5**	**+1.0**
	comp=Z,17nm,0.7s,baz=47,slow=4.6,SNR=8.5						
ROSC				LR	LR	09 37 24.6	
	comp=Z,60nm,21.2s,baz=284,slow=33						
ROSC	**El Rosal**	**71.90**	**241**	P	**P**	**09 09 38.2**	**+0.7**
DL2	**Dalian**	**71.91**	**32**	P	**P**	**09 09 39.1**	**+2.3**
DL2				S	**SKiKP**	**09 19 06.0**	**-8.8**
DL2				pmax	pmax		
	comp=Z,14nm,1.1s						
DL2				pmax	pmax		
	comp=Z,120nm,5.6s						
DL2				LR	LR		
	comp=Z,110nm,20.0s						
DL2				LR	LR		
	comp=Z,150nm,20.2s						
DL2				LR	LR		
	comp=Z,170nm,18.6s						
PTGA	**Pitinga**	**72.17**	**225**	P	**P**	**09 09 39.3**	**+0.7**
PTGA				IAmb	IAmb	09 09 42.5	
	comp=Z,10nm,1.1s						
XAN	**Xi'an**	**73.11**	**44**	P	**P**	**09 09 44.3**	**+0.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN	**Xi'an**	**73.11**	**44**	P	**P**	**09 09 44.3**	**+0.2**
KSRS	**Korea Array**	**74.67**	**28**	LR	LR	09 45 13.9	
	comp=Z,51nm,19.1s,baz=342,slow=38						
FLOC	**Florencia**	**75.40**	**241**	P	**P**	**09 09 56.4**	**-1.2**
KMBO	**Kilima Mbogo**	**76.68**	**123**	LR	LR	09 46 44.3	
	comp=Z,96nm,19.5s,baz=279,slow=38						
MJAR	**Matsushiro Arr**	**77.34**	**20**	P	**P**	**09 10 09.2**	**+0.8**
	comp=Z,3.1nm,1.1s,baz=340,slow=7.5,SNR=5.8						
MJAR	**Matsushiro Arr**	**77.34**	**20**	P	**P**	**09 10 08.3**	**-0.1**
OTAV	**Otavalo**	**77.70**	**243**	P	**P**	**09 10 11.4**	**+0.3**
OTAV				pmax	pmax		
	comp=Z,19nm,1.4s						
OTAV	**Otavalo**	**77.70**	**243**	P	**P**	**09 10 11.4**	**+0.3**
OTAV				IAmb	IAmb	09 10 15.9	
	comp=Z,19nm,1.4s						
NJ2	**Nanjing**	**77.76**	**37**	*e*P	**P**	**09 10 11.9**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GYA	**Guiyang**	**79.45**	**49**	*e*P	**P**	**09 10 20.5**	**+0.2**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SAML	**Samuel**	**80.92**	**226**	P	**P**	**09 10 28.2**	**+0.1**
SAML				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SAML	**Samuel**	**80.92**	**226**	P	**P**	**09 10 28.2**	**+0.1**
BDFB	**Brasilia**	**83.37**	**209**	LR	LR	09 44 56.8	
	comp=Z,111nm,18.0s,baz=39,slow=34						
CHTO	**Chiang Mai**	**83.83**	**59**	P	**P**	**09 10 43.7**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,13nm,1.1s						
CHTO	**Chiang Mai**	**83.83**	**59**	P	**P**	**09 10 43.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**84.16**	**59**	P	**P**	**09 10 45.5**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=317,slow=6.4,SNR=20						
CMAR				LR	LR	09 51 53.7	
	comp=Z,49nm,18.5s,baz=0.5,slow=38						
LPAZ	**La Paz**	**89.38**	**228**	P	**P**	**09 11 11.0**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=49,slow=8.2,SNR=5.1						
LPAZ				LR	LR	09 50 14.5	
	comp=Z,29nm,18.4s,baz=346,slow=35						
LPAZ	**La Paz**	**89.38**	**228**	P	**P**	**09 11 11.0**	**-0.1**
LPAZ	**La Paz**	**89.38**	**228**	P	**P**	**09 11 10.4**	**-0.7**
CPUP	**Villa Florida**	**95.82**	**215**	LR	LR	09 52 51.9	
	comp=Z,45nm,18.6s,baz=356,slow=34						
BOSA	**Boshof**	**98.77**	**143**	LR	LR	10 01 34.5	
	comp=Z,109nm,18.5s,baz=1.5,slow=38						
WRA	**Warramunga Arr**	**131.54**	**36**	PKP	**PKiKP**	**09 17 26.7**	**-0.6**
	comp=Z,2.0nm,1.1s,baz=340,slow=2.6,SNR=6.7						
WRA	**Warramunga Arr**	**131.54**	**36**		**PKiKP**	**09 17 26.9**	**-0.5**
ASAR	**Alice Springs**	**134.98**	**38**	PKP	**PKiKP**	**09 17 33.0**	**-1.2**
	comp=Z,2.2nm,1.0s,baz=299,slow=2.0,SNR=12						
ASAR	**Alice Springs**	**134.98**	**38**		**PKiKP**	**09 17 33.4**	**-0.9**
STKA	**Stephens Creek**	**144.74**	**32**	PKP	**PKPdf**	**09 17 48.6**	**-1.6**
	comp=Z,5.7nm,0.7s,baz=341,slow=7.8,SNR=5.3						
STKA	**Stephens Creek**	**144.74**	**32**	PKIKP	**PKPdf**	**09 17 49.1**	**-1.1**
STKA	**Stephens Creek**	**144.74**	**32**		**PKPdf**	**09 17 49.1**	**-1.1**

ISK 01 09:04:13.7, 37.10N×27.91E, h3km, ML1.9/4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.30**	**84**	PG	Pg	09 04 20.3	+0.8
TURN	**Turunc**	**0.42**	**140**	PG	Pg	09 04 22.5	+0.7
DAT	**Datca**	**0.46**	**216**	PG	Pb	09 04 23.5	-1.0
BODT	**Bodrum**	**0.48**	**265**	PG	Pb	09 04 23.9	-0.9
DALY	**Dalyan (Mula)**	**0.66**	**115**	PG	Pb	09 04 27.6	-0.2
DALY				SG	Sb	09 04 37.2	-0.2

DDA 01 09:04:27.1, 38.38N×28.56E, h12km±1km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.11**	**1**	*i* P	Pg	09 04 30.7	+0.4
MANT				IAML		09 04 32.0	
	comp=N,1μm,0.3s						
MANT				IAML		09 04 32.0	
	comp=E,2μm,0.1s						
MANT				*i* S	Sg	09 04 32.4	-0.3
USAK	**Uak-Merkez**	**0.49**	**47**	*i* P	Pg	09 04 36.6	-0.2
USAK				IAML		09 04 43.0	
	comp=E,210nm,0.3s						

GDZ	**Gediz**	**1.01**	**45**	*i* P	Pg	09 04 46.2	-0.4
GDZ				*i* S	Sg	09 04 58.4	-1.5
STEP	**BALIKESIR_Sava**	**1.19**	**327**	*i* P	Pn	09 04 48.8	-0.8
STEP				IAML		09 05 09.0	
	comp=E,17nm,0.4s						
STEP				IAML		09 05 28.0	
	comp=N,24nm,1.0s						
DURS	**Dursunbey**	**1.22**	**357**	*i* P	Pg	09 04 50.6	0.0
DURS				*i* S	Sn	09 05 06.8	+0.2
DURS				IAML		09 05 12.0	
	comp=N,8.6nm,0.8s						
ULDT	**Uludag**	**1.82**	**14**	*i* P	Pb	09 05 01.1	+0.7
ULDT				IAML		09 05 24.0	
	comp=E,13nm,1.1s						
ULDT				IAML		09 05 29.0	
	comp=N,6.6nm,0.4s						

IDC ***01*** *09:07:07.7±1.0, 12.59N×87.30W, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.2/40, mbtmp4.2/14, ML3.3/3, MS3.7/4, Ms1 3.7/4, ms1mx3.1/32, Error ellipse: s-maj=36.6km s-min=14.9km az=43.0*

SNET ***01*** *09:07:08.2±1.2, 11.87N×88.08W, h14km±9km, ML3.8*

SSS ***01*** *09:07:08.2, 11.87N×88.08W, h14km, ML3.8*

UCR ***01*** *09:07:09.8±1.5, 11.90N×88.14W, h24km±19km, ML3.7, mb4.6(NEIC)*

INET ***01*** *09:07:09.5, 11.90N×88.08W, h15km, ML4.5*

UNK ***01*** *09:07:13.6, 12.12N×87.91W, h47km*

NEIC ***01*** *09:07:13.9±1.5, 12.09N±0.07×87.92W±0.07, h55km±8km, mb4.6/210, Error ellipse: s-maj=12.5km s-min=7.6km az=219.0*

ISC 01 09:07:13.2±1.0, 11.99N±0.05×88.01W±0.05, h58km±10km, n450, σ1§20/425, mb4.5/102, 6C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.18**	**53**			**09 07 31.7**	**-1.9**
CNCH	**Conchagua**	**1.29**	**8**	⇑*i*P	**Pn**	**09 07 33.1**	**-2.0**
CNCH				*e*S	**Sn**	**09 07 53.0**	**+1.5**
CNCH	**Conchagua**	**1.29**	**8**	⇑*i*P	**Pn**	**09 07 33.1**	**-2.0**
CNCH				*e*S	**Sn**	**09 07 53.0**	**+1.5**
LCND	**La Caada**	**1.31**	**5**	*e*P	**Pn**	**09 07 33.3**	**-2.1**
LCND				IAML		09 07 46.6	
	comp=Z,2μm,0.5s						
LCND				*e*S	**Sn**	**09 07 53.2**	**+1.3**
LCND	**La Caada**	**1.31**	**5**	*e*P	**Pn**	**09 07 33.3**	**-2.1**
LCND				IAML		09 07 46.6	
	comp=Z,2μm,0.5s						
LCND				*e*S	**Sn**	**09 07 53.2**	**+1.3**
ALJI	**Alcalda de J**	**1.43**	**338**	*e*P	**Pn**	**09 07 34.5**	**-2.4**
ALJI	**Alcalda de J**	**1.43**	**338**	*e*P	**Pn**	**09 07 34.5**	**-2.4**
PACA	**Pacayal**	**1.50**	**348**	*e*P	**Pn**	**09 07 36.3**	**-1.7**
PACA	**Pacayal**	**1.50**	**348**	*e*P	**Pn**	**09 07 36.3**	**-1.7**
TECA	**Tecapa**	**1.57**	**342**	*e*P	**Pn**	**09 07 36.7**	**-2.2**
TECA	**Tecapa**	**1.57**	**342**	*e*P	**Pn**	**09 07 36.7**	**-2.2**
FAGO	**Alcalda de S**	**1.70**	**357**	⇑*e*P	**Pn**	**09 07 38.8**	**-1.7**
FAGO				*e*S	**Sn**	**09 08 02.4**	**+1.3**
FAGO	**Alcalda de S**	**1.70**	**357**	⇑*e*P	**Pn**	**09 07 38.8**	**-1.7**
FAGO				*e*S	**Sn**	**09 08 02.4**	**+1.3**
COEG	**Centro de Oper**	**1.83**	**333**	*e*P	**Pn**	**09 07 39.6**	**-2.7**
COEG				IAML		09 08 02.8	
	comp=Z,941nm,0.5s						
COEG	**Centro de Oper**	**1.83**	**333**	*e*P	**Pn**	**09 07 39.6**	**-2.7**
COEG				IAML		09 08 02.8	
	comp=Z,941nm,0.5s						
LFRS	**El Faro**	**1.92**	**328**	*e*P	**Pn**	**09 07 40.8**	**-2.8**
LFRS	**El Faro**	**1.92**	**328**	*e*P	**Pn**	**09 07 40.8**	**-2.8**
PAVA	**Las Pavas**	**1.93**	**332**	*e*P	**Pn**	**09 07 41.5**	**-2.4**
PAVA	**Las Pavas**	**1.93**	**332**	*e*P	**Pn**	**09 07 41.5**	**-2.4**
ESTN	**Estel**	**1.95**	**55**		**Pn**	**09 07 42.1**	**-1.9**
LALI	**Alcalda de L**	**1.96**	**320**	*e*P	**Pn**	**09 07 40.7**	**-3.4**
LALI	**Alcalda de L**	**1.96**	**320**	*e*P	**Pn**	**09 07 40.7**	**-3.4**
LBRS	**Las Brisas**	**2.00**	**330**	*e*P	**Pn**	**09 07 43.3**	**-1.5**
LBRS	**Las Brisas**	**2.00**	**330**	*e*P	**Pn**	**09 07 43.3**	**-1.5**
SNET	**Serv Nac Est T**	**2.06**	**325**	*e*P	**Pn**	**09 07 44.0**	**-1.5**
SNET	**Serv Nac Est T**	**2.06**	**325**	*e*P	**Pn**	**09 07 44.0**	**-1.5**
SNET	**Serv Nac Est T**	**2.06**	**325**		**Pn**	**09 07 42.5**	**-3.1**
OPAM	**Oficina de Pla**	**2.06**	**326**	*e*P	**Pn**	**09 07 43.8**	**-1.8**
OPAM				IAML		09 08 23.1	
	comp=Z,608nm,0.6s						
OPAM	**Oficina de Pla**	**2.06**	**326**	*e*P	**Pn**	**09 07 43.8**	**-1.8**
OPAM				IAML		09 08 23.1	
	comp=Z,608nm,0.6s						
UEES	**Universidad Ev**	**2.09**	**325**	*e*P	**Pn**	**09 07 43.9**	**-2.0**
UEES				IAML		09 08 14.3	
	comp=Z,502nm,0.5s						
UEES	**Universidad Ev**	**2.09**	**325**	*e*P	**Pn**	**09 07 43.9**	**-2.0**
UEES				IAML		09 08 14.3	
	comp=Z,502nm,0.5s						
TGUH	**Tegucigalpa,Un**	**2.18**	**19**	*e*P	**Pn**	**09 07 45.8**	**-1.3**
TGUH	**Tegucigalpa,Un**	**2.18**	**19**	*e*P	**Pn**	**09 07 45.8**	**-1.3**
TGUH	**Tegucigalpa,Un**	**2.18**	**19**		**Pn**	**09 07 45.9**	**-1.3**
MATN	**Matagalpa**	**2.24**	**65**		**Pn**	**09 07 45.8**	**-2.2**
TACO	**Tacachico**	**2.36**	**327**	⇑*i*P	**Pn**	**09 07 47.5**	**-2.1**
TACO	**Tacachico**	**2.36**	**327**	⇑*i*P	**Pn**	**09 07 47.5**	**-2.1**
CEVE	**Cerro Verde**	**2.41**	**319**	*e*P	**Pn**	**09 07 48.3**	**-2.2**
CEVE	**Cerro Verde**	**2.41**	**319**	*e*P	**Pn**	**09 07 48.3**	**-2.2**
MTO3	**Montecristo**	**2.73**	**331**	*e*P	**Pn**	**09 07 54.2**	**-0.6**
MTO3	**Montecristo**	**2.73**	**331**	*e*P	**Pn**	**09 07 54.2**	**-0.6**
ACON	**Acoyapa**	**2.78**	**90**		**Pn**	**09 07 52.7**	**-2.5**
LAPC	**Finca la Perla**	**2.81**	**115**	*i* P	**Pn**	**09 07 54.2**	**-1.5**
GB1A	**Borinquen Arri**	**2.82**	**114**	*i* P	**Pn**	**09 07 55.0**	**-0.9**
BUEV	**Buena Vista**	**2.82**	**115**	*i* P	**Pn**	**09 07 55.6**	**-0.3**
BUEV				*i* S	**Sn**	**09 08 29.3**	**+0.6**
BUAI	**Buenos Aires**	**2.85**	**113**	*i* S	**Sn**	**09 08 29.4**	**-0.1**
ESQI	**Esquipulas**	**2.86**	**333**	*e*P	**Pn**	**09 07 55.2**	**-1.3**
ESQI	**Esquipulas**	**2.86**	**333**		**Pn**	**09 07 55.8**	**-0.8**
ORTG	**Ortega, Santa**	**2.98**	**123**	*e*P	**Pn**	**09 07 56.1**	**-2.1**
GUAI	**GUAI**	**2.99**	**125**	*i* P	**Pn**	**09 07 56.2**	**-2.0**
GUAB	**Guayabo de Bag**	**3.01**	**115**	*i* P	**Pn**	**09 07 57.4**	**-1.1**
COLC	**Colonia**	**3.06**	**115**	*i* P	**Pn**	**09 07 57.8**	**-1.3**
HORNC	**Hornillas**	**3.06**	**114**	*i* P	**Pn**	**09 07 58.0**	**-1.2**
PLVR	**Palo Verde**	**3.08**	**122**	*e*P	**Pn**	**09 07 57.7**	**-1.9**
CUI	**Cuipilapa**	**3.09**	**115**	⇓*e*P	**Pn**	**09 07 58.4**	**-1.2**
GRZA	**Playa Garza**	**3.12**	**131**	*e*P	**Pn**	**09 07 57.0**	**-2.9**
DUNO	**Dulce Nombre,**	**3.12**	**127**	*e*P	**Pn**	**09 07 57.7**	**-2.3**
ACAL	**Aguas Claras**	**3.22**	**114**	*i* P	**Pn**	**09 08 00.4**	**-1.0**
PTEN	**Parque Tenorio**	**3.23**	**113**	*i* P	**Pn**	**09 08 00.3**	**-1.2**
JTS	**Las Juntas de**	**3.45**	**119**	Pn	**Pn**	**09 08 01.7**	**-2.7**
	comp=Z,5.7nm,0.3s,baz=13,slow=17,SNR=21						
JTS				Sn	**Sn**	**09 08 39.5**	**-4.6**
	comp=Z,15nm,0.3s,baz=360,slow=8.2,SNR=6.1						
JTS	**Las Juntas de**	**3.45**	**119**	*e*P	**Pn**	**09 08 02.6**	**-1.8**
JTS	**Las Juntas de**	**3.45**	**119**	Pn	**Pn**	**09 08 03.4**	**-1.0**
LAFE	**Finca La Fe, P**	**3.74**	**125**	*e*P	**Pn**	**09 08 05.8**	**-2.6**
APG	**El Apazote**	**3.83**	**322**	Pn	**Pn**	**09 08 08.7**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=170,slow=5.0,SNR=12						
JACO	**JACO, Garabito**	**4.03**	**125**	*e*P	**Pn**	**09 08 12.0**	**-0.3**
HDC	**Heredia**	**4.31**	**117**	*e*P	**Pn**	**09 08 15.8**	**-0.6**
HDC	**Heredia**	**4.31**	**117**		**Pn**	**09 08 16.4**	**0.0**
SJS	**Escuela Geolog**	**4.39**	**117**	*e*P	**Pn**	**09 08 17.9**	**+0.4**
LCR2	**La Lucha 2**	**4.53**	**119**	*e*P	**Pn**	**09 08 19.5**	**0.0**
RIMA	**Rio Macho**	**4.64**	**118**	*e*P	**Pn**	**09 08 20.9**	**0.0**
CDM	**Cerro de Muert**	**4.83**	**120**	*e*P	**Pn**	**09 08 23.8**	**+0.1**
PETF	**Flores**	**5.21**	**340**		**Pn**	**09 08 28.4**	**-0.2**
DRK0	**Durika**	**5.42**	**120**	⇓*e*P	**Pn**	**09 08 31.3**	**-0.3**
CCIG	**Comitan**	**5.85**	**317**		**Pn**	**09 08 38.4**	**+0.9**
CMIG	**Matias Romero**	**8.36**	**308**	Pn	**Pn**	**09 09 11.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=156,slow=11,SNR=7.9						
CMIG				Sn	Sn	09 10 54.6	+10
	comp=Z,0.3nm,0.3s,baz=120,slow=23,SNR=1.9						
TLIG	**Tlapa**	**11.61**	**300**	Pn	**Pn**	**09 09 56.9**	**+0.6**
RUSC	**La Rusia**	**15.94**	**111**	P	**P**	**09 11 01.5**	**+4.5**
FLOC	**Florencia**	**16.04**	**129**	P	**P**	**09 10 58.6**	**+0.9**
346A	**Big Creek Wild**	**19.35**	**356**	P	**P**	**09 11 34.5**	**+0.5**
346A				IAmb	IAmb	09 11 36.9	
	comp=Z,32nm,0.6s						
833A	**Chaparral WMA,**	**19.42**	**328**	P	**Pn**	**09 11 35.8**	**-0.7**
	baz=144,SNR=41						
833A	**Chaparral WMA,**	**19.42**	**328**	P	**P**	**09 11 35.7**	**+0.8**
344A	**Westbrook Farm**	**19.53**	**353**	P	**Pn**	**09 11 37.2**	**-0.5**
352A	**Blakely**	**19.60**	**8**	P	**P**	**09 11 36.9**	**+0.2**
352A				IAmb	IAmb	09 11 39.6	
	comp=Z,36nm,0.8s						
TIGA	**Tifton**	**19.78**	**11**	P	**Pn**	**09 11 40.5**	**-0.2**
	baz=193,SNR=13						
TIGA	**Tifton**	**19.78**	**11**	P	**P**	**09 11 39.7**	**+1.0**
VBMS	**Vicksburg**	**20.26**	**354**	P	Pn	09 11 46.3	0.0
	baz=173,SNR=5.1						
255A	**Hazlehurst**	**20.49**	**14**	P	**P**	**09 11 47.2**	**+0.9**

255A				IAmb	IAmb	09 11 48.3	
	comp=Z,23nm,0.7s						
146A	**Union**	**20.57**	**357**	IAmb	IAmb	09 11 49.3	
	comp=Z,25nm,0.9s						
NATX	**Nacogdoches**	**20.61**	**344**	P	Pn	09 11 49.4	-1.1
	baz=161						
435B	**Jarrell**	**20.69**	**336**	P	**P**	**09 11 48.9**	**+0.3**
	baz=152,SNR=14						
152A	**Waverly Hall**	**20.80**	**8**	P	**P**	**09 11 50.2**	**+0.4**
152A				IAmb	IAmb	09 11 54.2	
	comp=Z,19nm,0.8s						
LRAL	**Lakeview Retre**	**20.97**	**2**	P	**P**	**09 11 52.3**	**+0.8**
	baz=182,SNR=16						
LRAL	**Lakeview Retre**	**20.97**	**2**		**P**	**09 11 52.1**	**+0.6**
LRAL				IAmb	IAmb	09 11 56.1	
	comp=Z,15nm,0.8s						
154A	**Montrose**	**21.01**	**12**	P	**P**	**09 11 52.5**	**+0.5**
Z47A	**Carrollton**	**21.11**	**360**	P	**P**	**09 11 53.8**	**+0.8**
237A	**Washetta, Mont**	**21.17**	**341**	P	**P**	**09 11 55.2**	**+1.5**
237A				IAmb	IAmb	09 11 58.8	
	comp=Z,29nm,0.8s						
ATAH	**Atahualpa**	**21.27**	**153**	LR	LR	09 19 27.0	
	comp=Z,97nm,19.2s,baz=333,slow=34						
Z51A	**Franklin**	**21.39**	**7**	P	**P**	**09 11 56.7**	**+0.7**
Z51A				IAmb	IAmb	09 11 59.6	
	comp=Z,20nm,0.8s						
JCT	**Junction City**	**21.40**	**331**	P	**P**	**09 11 56.1**	**-0.1**
	baz=146,SNR=23						
JCT	**Junction City**	**21.40**	**331**	P	**P**	**09 11 56.1**	**-0.1**
JCT				IAmb	IAmb	09 12 00.1	
	comp=Z,26nm,0.7s						
157A	**Early Branch**	**21.57**	**16**	P	**P**	**09 11 59.7**	**+1.7**
	baz=199						
Z41A	**Richland Creek**	**21.62**	**349**	P	**P**	**09 11 59.6**	**+1.2**
	baz=167,SNR=7.6						
WHTX	**Lake Whitney,**	**21.72**	**338**	P	**P**	**09 11 59.3**	**-0.3**
	baz=154						
GOGA	**Godfrey**	**21.72**	**10**	P	**P**	**09 12 00.6**	**+1.0**
	baz=192,SNR=20						
GOGA	**Godfrey**	**21.72**	**10**	P	**P**	**09 12 00.7**	**+1.0**
Y49A	**Blount Mountai**	**21.82**	**4**	IAmb	IAmb	09 12 01.9	
	comp=Z,18nm,0.6s						
Y52A	**Lilburn**	**22.07**	**9**	P	**P**	**09 12 03.6**	**+0.3**
Y52A				IAmb	IAmb	09 12 06.1	
	comp=Z,17nm,0.8s						
Z56A	**Williston**	**22.09**	**15**	P	**P**	**09 12 04.2**	**+0.6**
	baz=197						
WLAR	**White Oak Lake**	**22.09**	**349**	P	**P**	**09 12 04.4**	**+0.8**
NHSC	**New Hope**	**22.21**	**18**	P	**P**	**09 12 06.4**	**+1.6**
	baz=200						
NHSC	**New Hope**	**22.21**	**18**	P	**P**	**09 12 05.2**	**+0.3**
NHSC				IAmb	IAmb	09 12 07.3	
	comp=Z,18nm,0.7s						
OXF	**Oxford**	**22.45**	**357**	P	**P**	**09 12 07.9**	**+0.4**
	baz=176						
OXF	**Oxford**	**22.45**	**357**	P	**P**	**09 12 07.4**	**-0.1**
OXF				IAmb	IAmb	09 12 09.9	
	comp=Z,20nm,0.8s						
FPAL	**Fort Paine**	**22.55**	**5**	P	**P**	**09 12 08.5**	**-0.1**
Y55A	**Saluda**	**22.56**	**13**	P	**P**	**09 12 08.8**	**+0.3**
	baz=196,SNR=8.7						
TXAR	**Lajitas Array**	**22.59**	**322**	P	**P**	**09 12 10.0**	**+1.0**
	comp=Z,7.0nm,0.6s,baz=135,slow=9.6,SNR=92						
TXAR				PcP	**PcP**	**09 16 05.1**	**+4.5**
	comp=Z,0.4nm,0.7s,baz=172,slow=3.5,SNR=3.5						
TXAR	**Lajitas Array**	**22.59**	**322**	P	**P**	**09 12 09.4**	**+0.3**
TX32	**Lajitas Array**	**22.59**	**322**	P	**P**	**09 12 09.8**	**+0.8**
TX32				IAmb	IAmb	09 12 19.0	
	comp=Z,12nm,0.8s						
X40A	**Basin Creek Fa**	**22.82**	**350**	P	**P**	**09 12 12.5**	**+1.2**
	baz=168						
X40A	**Basin Creek Fa**	**22.82**	**350**	P	**P**	**09 12 11.8**	**+0.4**
Y57A	**Sumter**	**23.00**	**16**	P	**P**	**09 12 14.1**	**+1.0**
	baz=199						
MIAR	**Mount Ida**	**23.02**	**348**	P	**P**	**09 12 13.5**	**+0.2**
	baz=166,SNR=70						
MIAR	**Mount Ida**	**23.02**	**348**	P	**P**	**09 12 13.5**	**+0.2**
UALR	**University of**	**23.02**	**351**	IAmb	IAmb	09 12 15.4	
	comp=Z,19nm,0.8s						
JSC	**Jenkinsville**	**23.03**	**14**	P	**P**	**09 12 13.5**	**+0.1**
X54A	**Belton**	**23.03**	**12**	P	**P**	**09 12 14.0**	**+0.5**
	baz=194,SNR=15						
X55A	**Gracelyn & Ava**	**23.12**	**14**	P	**P**	**09 12 14.6**	**+0.3**
	baz=196						
ABTX	**Abilene, Hawle**	**23.15**	**334**	P	**P**	**09 12 13.9**	**-0.7**
	baz=150,SNR=15						
X56A	**White Oak**	**23.28**	**15**	P	**P**	**09 12 16.1**	**+0.1**
	baz=197,SNR=5.1						
W52A	**Murphy**	**23.30**	**8**	P	**P**	**09 12 16.1**	**0.0**
W41B	**Gary Mavity, V**	**23.40**	**351**

WMOK Wichita Mounta 24.67 338 P 09 12 28.9 +0.2
WMOK IAmb IAmb 09 12 30.9
comp=Z,13nm,0.8s
FNO Franklin 24.68 341 P **P 09 12 29.6 +0.9**
HHAR Hobbs 24.77 349 P **P 09 12 29.4 -0.2**
HHAR IAmb IAmb 09 12 31.6
comp=Z,16nm,0.7s
TZTN Tazewell 24.77 9 P **P 09 12 29.8 +0.2**
baz=190
TZTN Tazewell 24.77 9 P **P 09 12 29.8 +0.2**
TZTN IAmb IAmb 09 12 32.3
comp=Z,9.7nm,0.7s
W60A Pink Hill 24.79 20 P **P 09 12 29.9 +0.2**
baz=204
TUL1 Leonard 24.83 345 P **P 09 12 30.1 0.0**
baz=161,SNR=19
CNNC Cliffs of the 24.90 20 P **P 09 12 30.7 0.0**
baz=204
T47A Sharon Grove 24.90 2 P **P 09 12 30.0 -0.7**
T45A Paducah 24.93 359 P **P 09 12 30.5 -0.5**
V57A Coltrane Farms 24.93 16 P **P 09 12 30.8 -0.2**
baz=199,SNR=6.6
OK025 Westminster Rd 24.96 342 IAmb IAmb 09 12 33.4
comp=Z,18nm,0.7s
U38A Gravette 25.01 348 P **P 09 12 31.7 0.0**
U38A IAmb IAmb 09 12 33.8
comp=Z,20nm,0.8s
V58A Windy Hill, Pi 25.03 17 P **P 09 12 32.2 +0.3**
baz=201,SNR=10
V58A Windy Hill, Pi 25.03 17 IAmb IAmb 09 12 32.8
comp=Z,24nm,0.8s
U54A Nelsons Funny 25.05 12 P **P 09 12 32.6 +0.4**
baz=194,SNR=20
U54A Nelsons Funny 25.05 12 **P 09 12 32.9 +0.6**
T42A Van Buren 25.09 354 P **P 09 12 31.6 -0.7**
T42A IAmb IAmb 09 12 32.2
comp=Z,12nm,0.7s
OK029 Liberty Lake 25.19 342 P **P 09 12 32.9 -0.5**
OK029 **P 09 12 33.1 -0.3**
U55A TA2, Sparta 25.20 13 P **P 09 12 33.9 +0.3**
baz=196,SNR=8.9
U56A King 25.21 15 P **P 09 12 33.9 +0.3**
baz=198
V59A Middlesex 25.27 19 P **P 09 12 34.2 +0.2**
baz=203
MNTX Cornudas Mount 25.32 323 P **P 09 12 35.2 +0.6**
baz=137,SNR=13
MNTX Cornudas Mount 25.32 323 **P 09 12 35.7 +1.1**
QUOK Quay 25.32 343 P **P 09 12 34.0 -0.6**
QUOK **P 09 12 34.2 -0.4**
QUOK **PcP 09 16 07.4 +1.2**
T53A Wise 25.37 10 P **P 09 12 35.2 +0.1**
baz=192
U57A Blanch 25.56 16 P **P 09 12 36.8 0.0**
baz=200,SNR=8.1
V60A Jim Taylor Roa 25.59 21 P **P 09 12 37.4 +0.4**
baz=205,SNR=5.1
V60A Jim Taylor Roa 25.59 21 P **P 09 12 37.2 +0.2**
S44A Carbondale 25.62 358 IAmb IAmb 09 12 37.5
comp=Z,14nm,0.8s
T54A Tazewell 25.62 12 P **P 09 12 37.2 -0.1**
baz=194,SNR=7.2
U58A Oxford 25.75 18 P **P 09 12 38.5 0.0**
baz=202,SNR=5.6
S51A Beattyville 25.84 8 P **P 09 12 39.1 -0.2**
T55A Pulaski 25.85 13 P **P 09 12 39.2 -0.2**
baz=196
U59A Littleton 25.95 19 P **P 09 12 40.8 +0.6**
baz=203
T35A Sooner Cattle 25.97 344 P **P 09 12 40.5 +0.1**
T35A IAmb IAmb 09 12 44.4
comp=Z,15nm,0.8s
BLA Blacksburg 26.02 14 P **P 09 12 41.5 +0.5**
baz=197
S39A Bolivar 26.03 350 P **P 09 12 40.8 -0.2**
CCM Cathedral Cave 26.12 354 P **P 09 12 41.0 -0.7**
baz=173
CCM Cathedral Cave 26.12 354 P **P 09 12 41.0 -0.7**
CCM IAmb IAmb 09 12 42.1
comp=Z,15nm,0.7s
T57A Hurt 26.12 16 P **P 09 12 41.0 -0.7**
baz=200
S53A Williamson 26.12 11 P **P 09 12 41.8 -0.1**
baz=193,SNR=5.4
VWCC Virginia Weste 26.16 15 P **P 09 12 41.9 -0.3**
WCI Wyandotte Cave 26.17 3 P **P 09 12 41.2 -1.0**
baz=184
WCI Wyandotte Cave 26.17 3 P **P 09 12 41.7 -0.6**
WCI IAmb IAmb 09 12 42.6
comp=Z,16nm,0.7s
U60A Pendleton 26.27 20 P **P 09 12 42.8 -0.2**
baz=204
T58A Grand View Acr 26.27 17 P **P 09 12 42.4 -0.7**
baz=201
S54A Dingess, Beckl 26.39 12 P **P 09 12 44.6 +0.3**
R40A Maddies Static 26.46 352 P **P 09 12 44.0 -0.8**
R40A IAmb IAmb 09 12 44.8
comp=Z,8.0nm,0.6s
S55A Lewisburg 26.54 13 P **P 09 12 45.8 +0.1**
baz=196
T59A Double "B" Far 26.59 19 P **P 09 12 46.0 0.0**
baz=203
T59A Double "B" Far 26.59 19 IAmb IAmb 09 12 47.1
comp=Z,20nm,1.4s
OLIL Olney 26.63 360 IAmb IAmb 09 12 46.5
comp=Z,12nm,0.8s
S56A Natural Bridge 26.67 15 P **P 09 12 47.2 +0.4**
baz=198
R53A Hurricane 26.78 11 P **P 09 12 47.1 -0.6**
baz=193
R53A Hurricane 26.78 11 P **P 09 12 47.8 0.0**
R53A IAmb IAmb 09 12 48.8
comp=Z,8.1nm,0.7s
Q44A Meyer Farm, Va 26.82 358 IAmb IAmb 09 12 47.9
comp=Z,16nm,0.7s
R54A Victor 26.82 12 P **P 09 12 47.8 -0.3**
baz=195
S57A Dark Hollow, R 26.91 16 P **P 09 12 49.7 +0.8**
BLO Bloomington 27.10 3 IAmb IAmb 09 12 50.3
comp=Z,9.0nm,0.8s
R55A Marlinton 27.11 14 P **P 09 12 51.1 +0.3**
baz=197
R55A Marlinton 27.11 14 P **P 09 12 50.6 -0.2**
R55A **P 09 12 51.5 +0.6**
Q51A Peebles 27.24 8 IAmb IAmb 09 12 52.5
comp=Z,12nm,0.8s
121A Cookes Peak, D 27.34 322 P **P 09 12 56.8 +3.7**
baz=134
Q52A Bidwell 27.34 10 P **P 09 12 52.7 -0.1**
baz=192
Q53A Leroy 27.37 11 P **P 09 12 53.0 -0.1**
baz=194
R56A Bull Pasture M 27.41 15 P **P 09 12 53.7 +0.3**
baz=198
R57A Stanardsville 27.53 16 P **P 09 12 54.5 0.0**
baz=200
Q54A Coxs Mills 27.63 12 P **P 09 12 55.4 0.0**
baz=195,SNR=6.4
Q54A Coxs Mills 27.63 12 IAmb IAmb 09 12 56.0
comp=Z,17nm,1.1s
P40A Paris 27.66 353 IAmb IAmb 09 12 55.9
comp=Z,6.8nm,0.6s
CBN Corbin Frederi 27.78 18 P **P 09 12 56.5 -0.2**
Q55A Buckhannon 27.80 13 P **P 09 12 57.1 +0.2**
baz=197
BNM Barren Site 27.83 325 P **P 09 12 59.4 +2.0**
R32A Long Quarter, 28.00 342 IAmb IAmb 09 12 59.2
comp=Z,9.7nm,0.7s
P53A Whipple 28.01 11 P **P 09 12 59.0 +0.3**
baz=194,SNR=6.8
P53A Whipple 28.01 11 IAmb IAmb 09 12 59.7
comp=Z,15nm,0.8s
P52A Corning 28.02 10 P **P 09 12 58.4 -0.4**
baz=192
P52A Corning 28.02 10 P **P 09 12 58.5 -0.3**
P52A **P 09 12 58.7 -0.1**
P52A IAmb IAmb 09 12 59.2
comp=Z,8.8nm,0.8s
O44A Mansfield 28.05 359 P **P 09 12 58.1 -1.0**
O44A IAmb IAmb 09 12 58.8
comp=Z,8.4nm,0.7s
KSU1 Kansas State U 28.06 346 P **P 09 12 58.8 -0.4**
baz=162
Q56A Snyder Ridge, 28.06 15 P **P 09 13 00.0 +0.9**
O49A Covington 28.27 6 IAmb IAmb 09 13 00.9
comp=Z,7.0nm,0.7s

P54A Burton 28.30 12 P **P 09 13 01.1 -0.2**
baz=196
ANMO Albuquerque 28.33 327 P **P 09 13 04.4 +2.6**
comp=Z,0.1nm,0.8s,baz=322,slow=5.9,SNR=5.0
ANMO Albuquerque 28.33 327 P **P 09 13 04.5 +2.6**
baz=139
ANMO Albuquerque 28.33 327 P **P 09 13 04.0 +2.1**
O51A Pataskala 28.45 9 P **P 09 13 02.3 -0.3**
baz=191
HDIL Hopedale 28.47 358 P **P 09 13 02.2 -0.6**
baz=177
ACSO Alum Creek Sta 28.48 8 P **P 09 13 02.1 -0.7**
baz=190
MCWV Mont Chateau 28.49 13 P **P 09 13 02.9 -0.1**
baz=197
MCWV Mont Chateau 28.49 13 P **P 09 13 02.9 -0.1**
O52A Adamsville 28.54 10 P **P 09 13 03.0 -0.4**
baz=192
O52A Adamsville 28.54 10 P **P 09 13 03.3 -0.2**
O52A IAmb IAmb 09 13 03.8
comp=Z,7.9nm,0.8s
P56A Dayton Farm, R 28.58 15 P **P 09 13 04.1 +0.3**
baz=199
CBKS Cedar Bluff 28.68 341 P **P 09 13 04.8 +0.1**
baz=155
N41A Harden Midland 28.71 356 IAmb IAmb 09 13 04.7
comp=Z,12nm,0.7s
O53A New Philadelph 28.78 11 P **P 09 13 05.3 -0.3**
baz=194
O53A New Philadelph 28.78 11 IAmb IAmb 09 13 06.2
comp=Z,7.6nm,0.7s
P57A Homestead Farm 28.78 16 P **P 09 13 05.8 +0.2**
baz=200
P57A Homestead Farm 28.78 16 P **P 09 13 05.5 -0.1**
P57A IAmb IAmb 09 13 07.5
comp=Z,8.5nm,0.6s
O54A Avella 28.88 12 P **P 09 13 06.0 -0.5**
baz=195
O54A Avella 28.88 12 P **P 09 13 06.1 -0.3**
O54A **P 09 13 06.4 -0.1**
P58A Pank, Wackersv 28.99 17 P **P 09 13 07.5 +0.1**
baz=202
N49A Columbus Grove 29.01 6 P **P 09 13 06.6 -1.0**
N49A IAmb IAmb 09 13 07.5
comp=Z,12nm,1.1s
T25A Trinidad 29.05 332 P **P 09 13 10.3 +2.1**
baz=145,SNR=12
T25A Trinidad 29.05 332 IAmb IAmb 09 13 12.0
comp=Z,9.1nm,0.7s
N52A McGinn's Farm, 29.24 10 P **P 09 13 09.2 -0.5**
baz=192
N35A Tabor 29.53 348 P **P 09 13 12.1 -0.2**
O57A Amberson 29.56 16 P **P 09 13 12.9 +0.3**
baz=201
N54A Moraine State 29.71 12 P **P 09 13 13.6 -0.2**
baz=196
N54A Moraine State 29.71 12 P **P 09 13 13.6 -0.2**
N54A IAmb IAmb 09 13 17.1
comp=Z,19nm,1.4s
PAGS Pennsylvania G 29.84 18 IAmb IAmb 09 13 16.3
comp=Z,8.9nm,0.7s
KSCO Kaye Shedlock' 29.88 337 P **P 09 13 16.1 +0.6**
baz=150,SNR=5.3
SSPA Standing Stone 29.89 16 P **P 09 13 15.8 +0.3**
L42A Oliver, Polo 29.93 358 P **P 09 13 14.7 -1.1**
L48A N Adams 30.00 5 IAmb IAmb 09 13 16.1
comp=Z,6.9nm,0.7s
M53A Wt Miller and 30.03 11 P **P 09 13 16.6 -0.1**
baz=194
M53A Wt Miller and 30.03 11 P **P 09 13 16.8 +0.2**
M53A IAmb IAmb 09 13 17.8
comp=Z,5.8nm,0.4s
SDCO Great Sand Dun 30.04 332 P **P 09 13 19.2 +2.1**
baz=144,SNR=8.8
SDCO Great Sand Dun 30.04 332 P **P 09 13 18.0 +0.8**
N56A West Decatur 30.05 15 P **P 09 13 16.5 -0.4**
baz=199
O59A Robesonia 30.08 18 P **P 09 13 17.3 +0.3**
baz=203
L40A Anamosa 30.09 355 IAmb IAmb 09 13 16.3
comp=Z,16nm,1.1s
N57A Milroy 30.09 16 P **P 09 13 17.0 -0.2**
baz=201
M54A Oil Creek Stat 30.30 12 P **P 09 13 18.6 -0.5**
baz=196
M54A Oil Creek Stat 30.30 12 P **P 09 13 18.7 -0.3**
M54A **P 09 13 18.8 -0.2**
M54A IAmb IAmb 09 13 19.3
comp=Z,8.9nm,0.5s
AAM Ann Arbor 30.43 6 P **P 09 13 19.6 -0.6**
baz=188
M56A Emporium 30.62 15 P **P 09 13 21.4 -0.5**
baz=199
M56A Emporium 30.62 15 P **P 09 13 21.9 +0.1**
BGNE Belgrade 30.62 345 P **P 09 13 22.0 +0.1**
baz=160
S22A 4UR Ranch, Cre 30.68 330 P **P 09 13 24.2 +1.4**
baz=142,SNR=5.6
S22A 4UR Ranch, Cre 30.68 330 P **P 09 13 23.9 +1.1**
M57A Sunshine Farm, 30.75 16 P **P 09 13 22.9 -0.1**
baz=201
M57A Sunshine Farm, 30.75 16 P **P 09 13 22.9 -0.1**
M57A IAmb IAmb 09 13 23.8
comp=Z,7.4nm,0.8s
N59A State Game Lan 30.76 18 P **P 09 13 23.6 +0.5**
baz=204
N59A State Game Lan 30.76 18 P **P 09 13 23.4 +0.3**
JFWS Jewell Farm 30.87 357 P **P 09 13 23.3 -0.7**
baz=176
JFWS Jewell Farm 30.87 357 P **P 09 13 23.9 -0.1**
JFWS IAmb IAmb 09 13 25.5
comp=Z,6.5nm,0.7s
BRNJ Basking Ridge 30.93 20 P **P 09 13 24.7 +0.1**
BRNJ IAmb IAmb 09 13 25.8
comp=Z,6.0nm,0.8s
M58A Price's Panora 30.97 17 P **P 09 13 25.2 +0.2**
baz=202
L54A Sinclairville 31.07 13 P **P 09 13 25.0 -0.8**
baz=196
MVCO Mesa Verde 31.12 327 P **P 09 13 30.4 +3.8**
baz=138
L55A Hinsdale 31.22 14 P **P 09 13 26.5 -0.6**
baz=198
J47A Sunmer 31.25 4 P **P 09 13 25.8 -1.6**
J47A IAmb IAmb 09 13 25.9
comp=Z,7.0nm,0.7s
WVNY West Valley, N 31.39 13 P **P 09 13 28.6 0.0**
WVNY IAmb IAmb 09 13 29.9
comp=Z,6.2nm,0.8s
M59A Waymart 31.43 18 P **P 09 13 29.1 +0.1**
baz=204
M60A Port Jervis 31.49 20 P **P 09 13 29.6 +0.1**
baz=206
WUAZ Wupatki 31.55 322 P P 09 13 35.4 +5.1
baz=132
K54A Basiliko Farm, 31.57 13 P **P 09 13 29.8 -0.4**
baz=197
M61A Granite Spring 31.77 21 P **P 09 13 32.1 +0.2**
baz=207
ISCO Idaho Springs 31.77 334 P **P 09 13 33.6 +1.2**
baz=146
ISCO Idaho Springs 31.77 334 P **P 09 13 32.9 +0.5**
K56A Middlesex 31.97 15 P **P 09 13 33.5 -0.2**
baz=200
PV13 Radium Mtn., P 32.00 328 P **P 09 13 35.4 +1.0**
PV03 Paradox Valley 32.09 328 P **P 09 13 36.3 +1.2**
PV12 Saucer Basin, 32.11 328 P **P 09 13 36.9 +1.6**
PV12 IAmb IAmb 09 13 41.9
comp=Z,5.8nm,0.7s
PV18 Skein Mesa, Pa 32.11 328 P **P 09 13 36.9 +1.6**
PV18 IAmb IAmb 09 13 42.2
comp=Z,14nm,1.4s
PV11 David Mesa, Pa 32.13 328 IAmb IAmb 09 13 43.6
comp=Z,5.9nm,0.6s
L59A Walton 32.14 18 P **P 09 13 35.3 0.0**
baz=204
L59A Walton 32.14 18 P **P 09 13 34.9 -0.4**
L59A IAmb IAmb 09 13 35.7
comp=Z,8.1nm,0.9s
PV17 East Wray Mesa 32.16 328 IAmb IAmb 09 13 42.0
comp=Z,5.3nm,0.6s
PV16 Nyswonger Mesa 32.16 328 P **P 09 13 36.9 +1.1**
K57A Scipio Center 32.22 16 P **P 09 13 35.5 -0.3**
baz=201
I37A Lemond, Waseca 32.24 353 IAmb IAmb 09 13 36.0
comp=Z,12nm,1.0s
I51A Listowel 32.27 10 P **P 09 13 36.2 -0.1**

baz=193
SAML Samuel 32.28 129 P **P 09 13 36.9 +0.1**
SAML IAmb IAmb 09 13 38.6
comp=Z,5.1nm,0.7s
ECSD EROS Data Cent 32.49 348 P **P 09 13 37.1 -1.1**
baz=164,SNR=13
J56A Wolcott 32.63 15 P **P 09 13 39.0 -0.5**
baz=200,SNR=6.6
J56A Wolcott 32.63 15 P **P 09 13 39.0 -0.5**
N23A Red Feather La 32.82 334 P **P 09 13 42.2 +0.7**
baz=146
J57A Williamstown 32.99 16 P **P 09 13 42.9 +0.3**
baz=202
J58A Remsen 33.14 17 P **P 09 13 43.1 -0.9**
baz=203
G40A Rib Lake 33.22 357 P **P 09 13 43.6 -0.9**
G40A IAmb IAmb 09 13 44.6
comp=Z,15nm,1.2s
O20A White River Ci 33.23 331 P **P 09 13 47.4 +2.3**
baz=142,SNR=13
O20A White River Ci 33.23 331 IAmb IAmb 09 13 49.1
comp=Z,10.0nm,0.8s
I55A Frankford 33.32 14 P **P 09 13 44.9 -0.6**
baz=198
SPMN Marine on St. 33.37 354 P **P 09 13 44.5 -1.4**
baz=171
H53A Bobcaygeon 33.46 12 P **P 09 13 45.6 -1.1**
baz=197,SNR=5.1
I58A Old Forge 33.53 17 P **P 09 13 47.0 -0.4**
baz=203
SADO Sadowa 33.54 11 P **P 09 13 46.1 -1.2**
comp=Z,10nm,0.6s,baz=217,slow=9.7,SNR=17
SADO Sadowa 33.54 11 P **P 09 13 46.7 -0.6**
DELO Deloro Mine 33.62 13 P **P 09 13 47.3 -0.8**
SUSD Miller 33.68 346 P **P 09 13 47.9 -0.7**
baz=160,SNR=6.8
H55A Tweed 33.75 14 P **P 09 13 48.5 -0.7**
baz=199
P17A Butcher Ranch, 33.98 328 P **P 09 13 52.3 +0.8**
H56A Elgin 34.02 15 P **P 09 13 51.4 -0.1**
baz=201
F36A Milaca 34.08 353 P **P 09 13 51.0 -1.1**
F36A IAmb IAmb 09 13 52.4
comp=Z,10nm,0.8s
H57A Richville 34.13 16 P **P 09 13 52.5 0.0**
baz=202
J62A Henniker 34.14 21 P **P 09 13 53.6 +1.0**
baz=209
PLVO Plevna 34.24 14 P **P 09 13 53.0 -0.5**
PLVO IAmb IAmb 09 13 53.5
comp=Z,10nm,1.1s
LPAZ La Paz 34.30 145 LR LR 09 28 42.7
comp=Z,70nm,19.2s,baz=286,slow=38
G54A Lake Saint Pet 34.35 12 P **P 09 13 53.6 -0.9**
baz=197
H58A Gabriels 34.43 18 P **P 09 13 54.8 -0.3**
baz=204
F33A 5 Mile Ranch, 34.46 350 P **P 09 13 54.6 -0.8**
LONY Lake Ozonia 34.50 17 P **P 09 13 55.5 -0.3**
baz=204
K22A Casper 34.52 336 P **P 09 13 57.0 +0.8**
baz=147
G55A Calabogie 34.52 14 P **P 09 13 55.7 -0.2**
baz=200
RSSD Black Hills 34.86 340 P **P 09 14 00.3 +1.2**
baz=152
RSSD Black Hills 34.86 340 P **P 09 14 00.3 +1.2**
RSSD IAmb IAmb 09 14 01.8
comp=Z,6.5nm,0.7s
I62A Tamworth 34.87 21 P **P 09 13 60.0 +1.0**
baz=209
ALGO Algonquin Park 34.89 12 P **P 09 13 58.0 -1.0**
baz=197
ORIO Orleans, Innes 35.01 15 P **P 09 13 59.4 -0.7**
baz=202
F55A Otter Lake 35.16 14 P **P 09 14 01.1 -0.2**
baz=200
I63A Otisfield 35.30 22 P **P 09 14 02.6 0.0**
baz=210
E53A Dumoine, Ponti 35.38 12 P **P 09 14 02.5 -0.8**
baz=198
D48A Paudash Townsh 35.46 7 P **P 09 14 02.4 -1.6**
baz=190
E54A Lac Daplat, Po 35.53 13 P **P 09 14 03.6 -1.0**
baz=198
BW06 Boulder Array 35.92 333 P **P 09 14 10.0 +1.7**
baz=142
BW06 Boulder Array 35.92 333 P **P 09 14 09.3 +1.0**
PD31 Pinedale Array 35.92 333 P **P 09 14 09.6 +1.3**
PDAR Pinedale Array 35.92 333 P **P 09 14 08.8 +0.5**
comp=Z,1.2nm,0.6s,baz=130,slow=8.5,SNR=11
PDAR PcP **PcP 09 16 36.2 +1.9**
comp=Z,0.8nm,0.7s,baz=137,slow=5.6,SNR=6.6
EYMN Ely 35.96 356 P **P 09 14 06.2 -2.0**
HWUT Hardware Ranch 35.98 329 P **P 09 14 09.9 +1.1**
HWUT IAmb IAmb 09 14 15.3
comp=Z,4.8nm,0.8s
D53A Lac Vacive, Po 36.04 12 P **P 09 14 08.9 -0.1**
baz=197
D53A Lac Vacive, Po 36.04 12 IAmb IAmb 09 14 09.6
comp=Z,9.6nm,0.8s
E28A Huff 36.10 345 **P 09 14 09.4 -0.1**
H64A Troy 36.31 23 P **P 09 14 12.2 +1.0**
baz=212
G62A West of Eustis 36.33 21 P **P 09 14 11.9 +0.4**
baz=210
G62A West of Eustis 36.33 21 P **P 09 14 11.4 0.0**
D54A Lac Fusel, La 36.33 13 P **P 09 14 10.5 -0.9**
baz=199
E58A La Victoria 36.47 17 P **P 09 14 12.0 -0.6**
baz=205
D55A Sainte-Anne-du 36.48 14 P **P 09 14 11.8 -0.9**
baz=201,SNR=6.6
F60A Warwick 36.51 19 P **P 09 14 12.7 -0.3**
baz=207
GO01 Chusmiza 36.52 149 P **P 09 14 17.0 +3.2**
GO01 IAmb IAmb 09 14 30.9
comp=Z,6.6nm,1.2s
G63A Kingsbury 36.56 22 P **P 09 14 13.6 +0.1**
baz=211
AHID Auburn Hatcher 36.63 331 IAmb IAmb 09 14 30.7
comp=Z,7.1nm,0.8s
D56A ZEC Mazanza, M 36.69 15 P **P 09 14 13.9 -0.6**
baz=202
AGMN Agassiz Nation 36.78 351 P **P 09 14 14.2 -1.0**
baz=167,SNR=16
PKME Peaks-Kenny Pk 36.81 22 P **P 09 14 15.7 +0.2**
baz=211
PKME Peaks-Kenny Pk 36.81 22 P **P 09 14 15.2 -0.3**
D57A Chemin Vers le 36.89 16 P **P 09 14 15.6 -0.6**
baz=203
REDW Red Top Meadow 36.97 332 P **P 09 14 18.0 +0.8**
MDND Maddock 37.04 347 P **P 09 14 17.4 0.0**
baz=161,SNR=9.0
LOHW Long Hollow 37.05 332 IAmb IAmb 09 14 24.1
comp=Z,4.2nm,0.7s
F62A Pittston Farm, 37.11 21 P **P 09 14 18.0 -0.1**
baz=210
TPAW Teton Pass 37.12 332 P **P 09 14 18.5 0.0**
TPAW IAmb IAmb 09 14 24.5
comp=Z,6.5nm,0.8s
D58A Chemin du LacG 37.24 17 P **P 09 14 18.4 -0.7**
baz=205
FXWY Fox Creek 37.27 332 P **P 09 14 21.8 +2.0**
E61A Lac Etchemin 37.40 20 P **P 09 14 20.4 -0.1**
baz=209
IMW Indian Meadow 37.43 332 P **P 09 14 22.6 +1.4**
FLWY Flagg Ranch 37.47 333 IAmb IAmb 09 14 33.0
comp=Z,6.4nm,1.0s
LATQ La Tuque 37.53 17 P **P 09 14 21.2 -0.4**
baz=205
F64A Sherman 37.67 23 P **P 09 14 22.9 +0.1**
baz=212
RLMT Red Lodge 37.68 335 P **P 09 14 23.9 +0.7**
baz=144,SNR=6.3
RLMT Red Lodge 37.68 335 IAmb IAmb 09 14 24.6
comp=Z,7.1nm,0.9s
NVAR Mina Array Bea 37.69 320 P **P 09 14 25.6 +2.3**
comp=Z,0.6nm,0.6s,baz=171,slow=6.0,SNR=6.3
NVAR PcP **PcP 09 16 41.0 +1.3**
comp=Z,1.0nm,0.8s,baz=135,slow=3.0,SNR=7.4
NVAR Mina Array Bea 37.69 320 P **P 09 14 24.9 +1.5**
NVAR **PcP 09 16 42.6 +2.9**
YMR Madison River 38.04 333 P **P 09 14 27.9 +1.6**
LSQQ Lebel-sur-Quev 38.07 12 P **P 09 14 25.1 -1.0**
baz=198
E63A Oxbow 38.12 22 P **P 09 14 26.6 +0.1**

	baz=212						
E64A	Bridgewater	38.34	23	P	P	09 14 28.5	+0.1
	baz=213						
D62A	Allapoint, All	38.45	21	P	P	09 14 29.2	-0.1
	baz=211,SNR=5.3						
PQI	Presque Isle	38.48	22	P	P	09 14 29.3	-0.3
ULM	Lac du Bonnet	38.69	352	P	P	09 14 29.6	-1.7
	comp=Z,18nm,0.6s,baz=168,slow=9.1,SNR=16						
D63A	Stockholm	38.75	22	P	P	09 14 31.8	-0.1
	baz=212						
DGMT	Dagmar	38.79	343	P	P	09 14 32.9	+0.6
	baz=154,SNR=14						
DGMT	Dagmar	38.79	343	P	P	09 14 32.8	+0.6
HLID	Hailey	38.84	329	P	P	09 14 34.1	+1.1
	baz=136						
BOZ	Bozeman (W)	39.06	333	P	P	09 14 35.9	+1.1
	baz=141,SNR=9.2						
DLMT	Dillon	39.31	332	P	P	09 14 37.9	+1.1
CHGQ	Chibougamau	39.44	14	P	P	09 14 36.4	-1.2
	baz=201						
LRM	Limekiln Ridge	39.60	333	P	P	09 14 40.7	+1.4
HRY	Holter Researc	40.03	334	P	P	09 14 43.8	+1.1
EGMT	Eagleton	40.26	337	P	P	09 14 45.3	+0.8
	baz=146						
EGMT	Eagleton	40.26	337	IAmb	IAmb	09 14 53.6	
	comp=Z,8.6nm,0.9s						
J08A	Circle Bar Ran	40.85	326		PcP	09 16 49.9	+0.4
MSO	Missoula	41.04	333	P	P	09 14 52.1	+1.1
	baz=139						
SCHQ	Schefferville	45.87	17	P	P	09 15 26.8	-2.9
	comp=Z,12nm,0.7s,baz=211,slow=5.5,SNR=19						
SCHQ				LR	LR	09 36 11.0	
	comp=Z,186nm,18.4s,baz=191,slow=39						
SCHQ	Schefferville	45.87	17	P	P	09 15 28.4	-1.2
BDFB	Brasilia	48.18	124	P	P	09 15 48.6	+0.3
	comp=Z,8.2nm,1.1s,baz=311,slow=14,SNR=5.7						
BDFB	Brasilia	48.18	124	IAmb	IAmb	09 15 49.7	
	comp=Z,11nm,1.1s						
YKA	Yellowknife Ar	53.91	345	P	P	09 16 29.5	-1.0
	comp=Z,2.8nm,0.7s,baz=137,slow=7.4,SNR=14						
YKA				LR	LR	09 40 57.3	
	comp=Z,64nm,18.8s,baz=0.0,slow=38						
DLBC	Dease Lake	56.09	335	IAmb	IAmb	09 17 00.7	
	comp=Z,5.5nm,0.7s						
RES	Resolute Bay	62.80	358	P	P	09 17 29.7	-2.5
	comp=Z,5.5nm,0.7s,baz=157,slow=3.7,SNR=3.7						
INK	Inuvik	63.48	343	P	P	09 17 35.0	-1.9
	comp=Z,4.1nm,1.0s,baz=123,slow=5.4,SNR=4.0						
INK	Inuvik	63.48	343	IAmb	IAmb	09 17 37.8	
	comp=Z,5.6nm,1.1s						
ILAR	Eielson Array	66.22	336	P	P	09 17 55.1	+0.3
	comp=Z,1.3nm,0.9s,baz=105,slow=6.8,SNR=4.0						
RND	Reindeer	66.49	335	P	P	09 17 57.9	+1.3
RND				IAmb	IAmb	09 17 58.5	
	comp=Z,5.2nm,0.8s						
ESDC	Sonseca Array	77.90	52	P	P	09 19 01.5	-3.8
	comp=Z,0.3nm,0.4s,baz=299,slow=5.6,SNR=3.2						
ARCES	ARCESS Array B	86.79	19	P	P	09 19 49.4	-1.5
	comp=Z,1.0nm,0.8s,baz=334,slow=6.0,SNR=1.9						
ASAR	Alice Springs	138.59	248	PKhKP	PKPdf	09 26 32.0	-1.4
	comp=Z,0.4nm,0.6s,baz=96,slow=2.9,SNR=3.8						
WRA	Warramunga Arr	138.61	253	PKhKP	PKPdf	09 26 32.2	-1.3
	comp=Z,0.6nm,0.7s,baz=92,slow=2.3,SNR=8.2						
CMAR	Chiang Mai Arr	148.97	347	PKPbc	PKiKP	09 26 56.5	-0.4
	comp=Z,2.6nm,0.7s,baz=345,slow=3.4,SNR=13						

*IDC **01** 09:20:28.4±1.8, 38°.51N×55°.52E, h0km, mb2.9/2, mb1 3.4/5, mb1mx3.2/37, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=29.0km s-min=12.9km az=24.0*
*TEH **01** 09:20:30.9, 38°.49N×55°.45E, h19km, ML3.5*
ISC 01 09:20:30.7±0.9, 38°.67N±0°.08×55°.44E±0°.06, h10km, n20, σ1ϟ45/20, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	Minoodasht	1.41	181	ePg	Pn	09 20 54.5	-1.9
IMND				e		09 21 15.3	
GEYT	Alibeck	2.24	108	Pg	Pn	09 21 06.8	-1.1
	15nm,0.3s,baz=286,slow=18,SNR=33						
GEYT				Lg	Lg	09 21 36.9	
	9.3nm,0.3s,baz=265,slow=26,SNR=6.8						
IGLO	Ghaloghah	2.51	211	ePn	Pn	09 21 11.5	-0.3
IGLO				e		09 22 01.9	
ISFR	Sfrayin	2.59	128	ePn	Pn	09 21 13.3	+0.3
ISFR				e		09 21 50.1	
IEMG	Emamgholi	2.83	115	ePn	Pn	09 21 16.0	-0.3
IEMG				e		09 22 07.0	
SBZV	Sabzevar	2.86	142	ePn	Pn	09 21 15.7	-0.9
IKRD	Kardeh	3.09	127	ePn	Pb	09 21 28.5	+2.6
IKRD				e		09 22 39.3	
IALA	Alasht	3.32	220	ePn	Pn	09 21 22.2	-0.8
IALA				e		09 22 33.3	
ISHM	Shahmirzad	3.33	212	ePn	Pn	09 21 23.5	+0.4
ISHM				e		09 22 08.0	
IAKL	Akhelmad	3.35	127	ePn	Pn	09 21 22.5	-0.9
IAKL				e		09 22 26.9	
IANJ	Anjilo	3.42	201	ePn	Pn	09 21 23.2	-1.1
IANJ				e		09 22 12.8	
TNSJ	Nastanj	4.79	168	ePn	Pn	09 21 41.4	-1.6
TKDS	Koohdasht(Taba	5.23	164	ePn	Pn	09 21 48.1	-0.9
QSDN	Sirdan	5.42	248	ePn	Pn	09 21 52.1	+0.3
ANAR	Anarak	5.64	195	ePn	Pn	09 21 52.8	-1.9
KBZ	Khabaz	10.71	302	Pn	Pn	09 23 06.6	+2.5
	0.1nm,0.3s,baz=112,slow=11,SNR=2.1						
AKTO	Aktyubinsk	11.91	8	Pn	Pn	09 23 18.7	-1.7
	0.2nm,0.3s,baz=187,slow=16,SNR=2.6						
BVAR	Borovoye Array	17.68	31	P	Pn	09 24 37.1	+0.2
	0.1nm,0.3s,baz=224,slow=9.5,SNR=2.2						
MKAR	Makanchi Array	21.26	59	P	P	09 25 15.3	-1.7
	0.6nm,0.8s,baz=253,slow=6.2,SNR=4.1						
AKASG	Malin Array Be	22.05	312	P	P	09 25 24.8	-0.6
	0.2nm,0.3s,baz=101,slow=9.5,SNR=3.7						

ISC 01 09:31:18.4±1.2, 49°.87N±0°.07×17°.55E±0°.07, h10km, n6, σ1ϟ14/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	0.09	183	ePG	Pg	09 31 19.5	-1.4
MORC				eSG	Sg	09 31 20.9	-1.8
VRAC	Vranov	0.84	228	ePG	Pg	09 31 34.9	+0.4
VRAC				eSG	Sg	09 31 45.2	-0.2
JAVC	Velka Javorina	1.01	175	ePG	Pb	09 31 38.7	+0.6
KRUC	Moravsky	1.10	224	ePG	Pg	09 31 39.1	-0.5
KRUC				eSG	Sg	09 31 53.3	-0.6
KSP	Ksiaz	1.27	321	ePg	Pn	09 31 41.8	-0.4
KSP				eSg	Sn	09 31 59.9	+0.6
VYHS	Vyhne	1.61	148	ePG	Pb	09 31 49.6	+1.3
VYHS				eSG	Sn	09 32 09.0	+1.2

*IDC **01** 09:37:39.0±1.9, 35°.04N×74°.13E, h0km, mb3.9/3, mb1 3.8/7, mb1mx3.5/48, mbtmp3.6/7, ML3.4/4, Error ellipse: s-maj=60.6km s-min=22.0km az=67.0*
ISC 01 09:37:44.2±1.6, 35°.6N±0°.2×75°.1E±0°.3, h25km, n23, σ1ϟ22/23, mb3.7/3, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	Piuthan	10.04	136	eP	Pn	09 40 07.5	+0.3
PYUN	Piuthan	10.04	136	eP	Pn	09 40 07.5	+0.3
KOLN	Koldanda	10.64	135	eP	Pn	09 40 13.7	-1.7
KOLN	Koldanda	10.64	135	eP	Pn	09 40 13.7	-1.7
GKN	Gorkha	11.10	130	eP	Pn	09 40 21.4	-0.1
	22nm,0.4s						
GKN	Gorkha	11.10	130	eP	Pn	09 40 21.4	-0.1
	22nm,0.4s						
KKN	Kakani	11.65	129	eP	Pn	09 40 27.9	-1.2
KKN	Kakani	11.65	129	eP	Pn	09 40 27.9	-1.2
DMN	Daman	11.67	130	eP	Pn	09 40 28.4	-1.0
	22nm,0.6s						
DMN	Daman	11.67	130	eP	Pn	09 40 28.4	-1.0
	22nm,0.6s						
PKI	Pulchoki	11.88	130	eP	Pn	09 40 31.3	-1.1
	9.4nm,0.4s						
PKI	Pulchoki	11.88	130	eP	Pn	09 40 31.3	-1.1
	9.4nm,0.4s						
GUN	Gumba	11.95	127	eP	Pn	09 40 32.6	-0.7
GUN	Gumba	11.95	127	eP	Pn	09 40 32.6	-0.7
JIRN	Jiri	12.32	127	eP	Pn	09 40 36.8	-1.6
JIRN	Jiri	12.32	127	eP	Pn	09 40 36.8	-1.6
MKAR	Makanchi Array	12.40	24	Pn	P	09 40 50.4	-0.5
	0.1nm,0.3s,baz=198,slow=8.3,SNR=2.1						
KURBB	Kurchatov Arra	15.21	8	Pn	P	09 41 23.1	+1.2
	0.1nm,0.3s,baz=200,slow=11,SNR=5.0						
BVAR	Borovoye Array	17.73	351	P	P	09 41 51.3	+1.4
	0.4nm,0.3s,baz=126,slow=9.1,SNR=2.6						
AKTO	Aktyubinsk	19.31	325	P	P	09 42 05.4	-1.9
	0.3nm,0.3s,baz=118,slow=14,SNR=3.9						
CMAR	Chiang Mai Arr	27.14	123	P	P	09 43 26.6	+1.1
	3.6nm,0.9s,baz=309,slow=10,SNR=13						
WRA	Warramunga Arr	78.72	124	P	P	09 49 45.5	+0.9
	0.5nm,0.6s,baz=324,slow=5.7,SNR=13						
ASAR	Alice Springs	81.04	127	P	P	09 49 58.2	+1.0
	0.4nm,0.9s,baz=311,slow=5.0,SNR=2.8						

*HEL **01** 09:59:59.5±0.1, 67°.95N×25°.80E, h0km, ML1.6, Explosion*
*BER **01** 10:00:00.8±2.2, 67°.93N×26°.06E, h0km, ML1.1, Explosion*
*IDC **01** 10:00:00.3±4.0, 67°.99N×25°.92E, h0km, Error ellipse: s-maj=30.6km s-min=22.4km az=90.0*
ISC 01 09:59:58.4±0.8, 67°.94N±0°.03×25°.82E±0°.03, h0km, n15, σ0ϟ44/24, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	Sodankyl	0.57	151	PG	Pg	10 00 09.8	+0.6
SGF				SG	Sg	10 00 17.5	+0.9
RNF	Rovaniemi	1.34	177	PG	Pg	10 00 23.5	-0.5
RNF				SB	Sg	10 00 41.2	-0.1
KTK1	Kautokeino	1.44	320	eP	Pn	10 00 25.9	+0.1
KTK1				eS	Sb	10 00 44.9	0.0
KTK1				IAML		10 00 48.7	
	comp=Z,5.5nm,0.4s						
LANU	Lannavaara	1.45	276	PG	Pn	10 00 25.5	-0.3
LANU				SG	Sg	10 00 44.6	-0.2
VRF	Varrio	1.45	96	PG	Pn	10 00 26.0	+0.1
	baz=280						
VRF				MSG		10 00 43.3	
	comp=Z,2.9nm,0.2s						
VRF				SG	Sg	10 00 44.0	-1.0
ARE0	ARCESS Array S	1.61	356	eP	Pb	10 00 28.9	-0.1
ARE0				eS	Sg	10 00 50.1	0.0
ARE0				IAML		10 00 53.7	
	comp=Z,3.1nm,0.2s						
ARCES	ARCESS Array B	1.61	356	Pg	Pn	10 00 28.5	+0.4
	comp=Z,0.9nm,0.3s,baz=175,slow=15,SNR=38						
ARCES				Lg	Lg	10 00 49.3	
	comp=Z,1.1nm,0.3s,baz=174,slow=29,SNR=18						
TOF	Tornio	1.96	198	PG	Pb	10 00 34.8	0.0
TOF				MSG		10 00 58.1	
	comp=Z,4.3nm,0.2s						
TOF				SG	Sb	10 01 00.2	+0.5
ERTU	Ertsjaerv	1.98	227	PG	Pb	10 00 35.3	0.0
ERTU				SG	Sg	10 01 01.5	-0.4
KIF	Kilpisjarvi	2.14	302	PG	Pb	10 00 37.8	-0.2
KIF				MSG		10 01 03.0	
	comp=Z,3.2nm,0.2s						
KIF				SG	Sb	10 01 05.3	+0.3
KIF	Kilpisjarvi	2.14	302	eP	Pb	10 00 37.8	-0.2
KIF				eS	Sb	10 01 05.5	+0.5
MSF	Maaselka	2.40	147	SG	Sb	10 01 12.8	+0.3
KU6	Riekki	2.50	138	PG	Pb	10 00 43.5	-0.6
KU6				MSG		10 01 13.6	
	comp=Z,3.7nm,0.2s						
KU6				SG	Sb	10 01 15.6	+0.2
I37NO	I37NO	2.89	297	i		10 18 00.0	
	baz=109,slow=311,SNR=22						
I43RU	DUBNA INFRASONI	2.41	150	i		11 17 10.0	
	baz=342,slow=327,SNR=2.4						

*DJA **01** 10:11:53.9±0.3, 5°.S±3°.×12°.5E±°, h10km, M4.2/14, mB4.8/7, mb4.6/7, MLv4.2/14, Mw(mB)4.0/7*
*IDC **01** 10:11:56.7±1.5, 6°.00S×124°.91E, h0km, mb3.7/2, mb1 4.1/5, mb1mx3.7/35, mbtmp4.0/5, ML4.0/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/43, Error ellipse: s-maj=53.9km s-min=24.8km az=65.0*
ISC 01 10:11:52.3±1.1, 5°.42S±0°.08×125°.27E±0°.06, h10km, n18, σ1ϟ96/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	2.83	40	P	Pn	10 12 39.1	+1.4
AAI	Ambon	3.39	60	P	Pn	10 12 46.6	+1.3
SANI	Sanana	3.42	12	P	Pn	10 12 45.4	-0.4
SOEI	Soe	4.42	193	P	Pn	10 13 02.3	+2.6
EDFI	Ende, Flores	4.85	227	P	Pn	10 13 07.3	+1.7
LUWI	Luwuk	5.01	330	P	Pn	10 13 07.2	-0.4
BATI	Baumata	5.01	198	P	Pn	10 13 10.6	+2.8
	0.1nm39nm,1.6s						
BKSI	Bulukumba	5.12	271	P	Pn	10 13 10.2	+1.0
	0.3nm1μm90nm,0.7s						
BNSI	Bone	5.24	281	P	Pn	10 13 11.6	+0.8
	0.2nm763nm65nm,0.7s						
KAPI	Kappang	5.51	274	Pn	Pn	10 13 15.4	+0.9
	13nm,0.3s,baz=127,slow=5.2,SNR=13						
KAPI				Sn	Sn	10 14 16.2	-1.7
	2.9nm,0.3s,baz=60,slow=22,SNR=1.8						
KAPI				LR	LR	10 15 39.2	
	comp=Z,123nm,19.4s,baz=107,slow=43						
SPSI	Sidrap Palu	5.67	285	P	Pn	10 13 17.9	+1.2
	0.1nm678nm20nm,0.7s						
GTOI	Gorontalo	6.42	339	P	Pn	10 13 29.6	+2.5
	0.1nm294nm27nm,0.7s						
MPSI	Mapaga	7.84	317	P	Pn	10 13 48.4	+1.9
FITZ	Fitzroy Crossi	12.61	178	Pn	Pn	10 14 50.5	-1.3
	0.3nm,0.3s,baz=0.4,slow=12,SNR=7.8						
WRA	Warramunga Arr	16.92	149	Pn	Pn	10 15 46.0	-3.5
	0.5nm,0.3s,baz=324,slow=13,SNR=27						
WRA				Sn	Sn	10 18 44.6	-13
	0.1nm,0.3s,baz=324,slow=20,SNR=4.1						
ASAR	Alice Springs	19.96	156	P	P	10 16 26.0	+1.1
	0.7nm,0.3s,baz=332,slow=10,SNR=64						
SONM	Songino Array	55.57	345	P	P	10 21 36.9	+8.7
	0.2nm,0.3s,baz=168,slow=7.4,SNR=1.5						
MKAR	Makanchi Array	64.39	329	P	P	10 22 37.1	+8.5
	0.7nm,0.7s,baz=128,slow=8.0,SNR=7.8						

*ISK **01** 10:19:35.8, 40°.42N×34°.85E, h18km, ML2.5/2*
*DDA **01** 10:19:36.1, 40°.39N×34°.80E, h7km±1km, ML1.3*
ISC 01 10:19:36.2±1.1, 40°.42N±0°.04×34°.86E±0°.06, h15km±8km, n7, σ0ϟ51/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COAL	Corum-Alaca	0.19	150	i P	Pg	10 19 40.4	-0.4
COAL				i S	Sg	10 19 43.9	-0.1
COAL				IAML		10 19 45.0	
	comp=E,62nm,0.3s						
COAL				IAML		10 19 46.0	
	comp=N,63nm,0.7s						
CTAK	Corum_Osmancik	0.23	347	i P	Pg	10 19 41.7	+0.2
CTAK				i S	Sg	10 19 45.2	+0.1
CTAK				IAML		10 19 46.0	
	comp=E,58nm,0.3s						
CTAK				IAML		10 19 46.0	
	comp=N,53nm,0.6s						
CORM	Corum	0.30	216	PG	Pg	10 19 42.6	0.0
CORM				SG	Sg	10 19 47.6	+0.6
YOZ	Yozgat	0.86	156	PG	Pb	10 19 52.8	0.0
YOZ				SG	Sg	10 20 05.2	+1.0
CDAG	Cicekdag	0.88	205	i P	Pb	10 19 53.0	-0.2
CDAG				i S	Sb	10 20 04.5	-0.3
BRTR	Keskin Array B	1.17	234	PN	Pn	10 19 57.6	-0.5
BRTR				SN	Sb	10 20 13.6	+0.5
BNN	Bunyan	1.74	154	PN	Pn	10 20 06.1	+0.1

*DDA **01** 10:36:28.3, 39°.22N×40°.61E, h7km±3km, ML1.7*
*ISK **01** 10:36:28.6, 39°.23N×40°.58E, h6km, ML2.5/9*
ISC 01 10:36:28.9±0.9, 39°.23N±0°.02×40°.58E±0°.03, h12km±8km, n17, σ0ϟ48/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	Yedisu-Bingol	0.21	353	PG	Pg	10 36 33.4	-0.1
YEDI				SG	Sg	10 36 36.8	+0.1
BNGB	Bingl	0.25	162	PG	Pg	10 36 34.1	-0.2
BNGB				SG	Sg	10 36 38.1	+0.2
VRTB	Varto-Mus	0.69	96	PG	Pg	10 36 42.3	0.0
ERZN	Erzincan	0.75	298	PG	Pg	10 36 43.2	-0.3
ERZN				SG	Sb	10 36 54.5	+0.3
KOPT	Kop Dagi	0.79	356	i P	Pg	10 36 44.3	0.0
KOPT				i S	Sn	10 36 57.0	-0.9
KOPT				IAML		10 36 58.0	
	comp=N,44nm,0.5s						
KOPT				IAML		10 37 03.0	
	comp=E,28nm,0.5s						
HANI	Diyarbakir_Han	0.83	190	i P	Pg	10 36 45.1	+0.1
HANI				i S	Sb	10 36 56.2	-0.3
HANI				IAML		10 37 00.0	
	comp=N,25nm,0.3s						
HANI				IAML		10 37 07.0	
	comp=E,30nm,0.5s						
EMRE	Erzurum,Aziziy	0.85	21	i P	Pg	10 36 45.6	+0.1
EMRE				i S	Sg	10 36 57.0	+0.3
EMRE				IAML		10 37 06.0	
	comp=N,92nm,0.7s						
EMRE				IAML		10 37 12.0	
	comp=E,81nm,0.5s						
MUSM	Mu-Merkez	0.89	125	i P	Pg	10 36 45.3	-0.8
MUSM				IAML		10 36 57.0	
	comp=N,248nm,0.5s						
MUSM				IAML		10 36 57.0	
	comp=E,197nm,0.3s						
MUSM				i S	Sg	10 36 57.0	-0.7
PTK	Pertek	0.98	250	PG	Pg	10 36 48.0	+0.1
BAYB	BAYBURT	1.05	347	i P	Pg	10 36 48.6	-0.7
KRIK	Erzurum-spir	1.14	14	i P	Pb	10 36 50.4	-0.2
KRIK				i S	Sg	10 37 05.9	+0.3
KRIK				IAML		10 37 08.0	
	comp=E,5.4nm,0.7s						
KRIK				IAML		10 37 09.0	
	comp=N,4.7nm,0.4s						
SVAN	Silvan-Diyarba	1.19	156	PN	Pg	10 36 51.7	0.0
GURO	Guroymak-BITLI	1.32	121	PN	Pg	10 36 54.1	-0.3
KELT	Kelkit	1.37	312	i P	Pn	10 36 54.3	+0.3
KEMA	Kemaliye	1.62	272	i P	Pb	10 36 58.5	-0.3
ARPR	Arapgir-MALATY	1.75	266	PN	Pb	10 37 00.9	-0.1
AKDM	Akdamar-Van	2.08	115	PN	Pn	10 37 05.1	+1.3

*GCG **01** 10:46:05.6±0.5, 15°.89N×92°.24W, h247km±17km, MD4.2*
*IDC **01** 10:46:09.5±18.0, 15°.53N×92°.13W, h169km±202km, mb3.3/2, mb1 3.6/3, mb1mx3.1/32, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=323.8km s-min=25.9km az=50.0*
*MEX **01** 10:46:10.6±1.0, 15°.68N×92°.25W, h211km±7km, MD4.0*
ISC 01 10:46:12.2±0.9, 15°.70N±0°.10×92°.36W±0°.08, h192km±7km, n13, σ1ϟ87/20, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.62	20	eP	Pn	10 46 38.3	-0.8
CCIG				eS	Sn	10 46 58.9	-1.1
THIG		0.79	173	eP	Pn	10 46 38.7	-1.1
THIG				eS	Sn	10 47 01.0	-0.2
PCIG		0.83	271	eP	Pn	10 46 39.4	-0.6
PCIG				eS	Sn	10 47 01.5	+0.1
TGIG		1.30	326	eP	Pn	10 46 43.6	+0.1
TGIG				eS	Sn	10 47 08.4	+0.5
FUG	Fuego 3	1.92	130	eP	Pn	10 46 48.6	-0.9
FUG				eS	Sn	10 47 22.7	+4.3
PCG	Pacaya	2.13	127	eP	Pn	10 46 51.3	-0.5
NBG	Las Nubes	2.23	119	eP	Pn	10 46 51.8	-1.1
IXG	Ixpaco	2.39	129	eP	Pn	10 46 53.7	-0.9
IXG				eS	Sn	10 47 30.9	+3.3
MRL	Marmol	2.65	103	eP	Pn	10 46 55.4	-2.2
CMIG	Matias Romero	2.79	300	eP	Pn	10 46 58.1	-0.9
CMIG				i S	Sn	10 47 35.8	+0.2
TXAR	Lajitas Array	17.11	324	P	P	10 50 00.8	+1.8
	0.1nm,0.3s,baz=152,slow=12,SNR=14						
NVAR	Mina Array Bea	32.15	320	P	P	10 52 23.7	+1.7
	0.7nm,0.6s,baz=130,slow=9.5,SNR=10						
LPAZ	La Paz	39.77	142	P	P	10 53 24.4	-2.9
	0.8nm,0.6s,baz=320,slow=9.1,SNR=4.5						

IDC 01 11:31:15.6±4.0, 17°.59S×177°.59W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/41, mbtmp3.7/4, Error ellipse: s-maj=281.4km s-min=32.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.46	259	P	P	11 39 37.1	+0.2
	0.3nm,0.3s,baz=95,slow=7.5,SNR=23						
ASAR	Alice Springs	45.63	254	P	P	11 39 38.6	+0.5
	0.8nm,0.4s,baz=90,slow=8.2,SNR=30						
FITZ	Fitzroy Crossi	53.85	260	P	P	11 40 39.1	-1.8
	0.9nm,0.9s,baz=97,slow=8.1,SNR=1.2						
NVAR	Mina Array Bea	78.65	44	P	P	11 43 20.0	+0.1
	0.4nm,0.8s,baz=232,slow=6.7,SNR=3.0						

*IDC **01** 11:34:41.2±0.5, 10°.46N×63°.65W, h0km, mb4.1/21, mb1 4.4/25, mb1mx4.3/45, mbtmp4.3/25, ML4.0/4, MS4.4/5, Ms1 4.4/5, ms1mx3.9/35, Error ellipse: s-maj=12.6km s-min=9.1km az=154.0*
*NEIC **01** 11:34:42.5±1.6, 10°.40N±0°.06×63°.62W±0°.05, h10km±1km, mb4.6/83, Error ellipse: s-maj=10.9km s-min=7.2km az=161.0*
*OSPL **01** 11:34:44.8±2.1, 10°.19N×62°.84W, h85km±999km, ML5.1*
*GCMT **01** 11:34:44.5±0.3, 10°.52N±0°.01×63°.57W±0°.02, h19km±1km, MW5.0/102, Moment Tensor Solution. s19,c21; s102,c145; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.36±.16; $M_{\theta\theta}$1.04±.14; $M_{\phi\phi}$-0.67±.15; $M_{r\theta}$2.01±.35; $M_{\theta\phi}$-3.28±.11; $M_{\phi r}$-0.48±.28; Best double couple: $M_0$3.91300×10^16^ NP1:ϕ_s175.00000°, δ61.00000°, λ3.00000°. NP2:ϕ_s83.00000°, δ87.00000°, λ151.00000°. Principal axes: T 4.3410, Plg22.0000°, Azm35.0000°; N -0.8540, Plg61.0000°, Azm258.0000°; P -3.4860, Plg18.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **01** 11:34:49.4±2.7, 9°.74N×63°.34W, h10km, mb4.5*
ISC 01 11:34:42.1±0.4, 10°.37N±0°.04×63°.65W±0°.04, h10km, n179, σ1ϟ88/164, mb4.5/57, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCV	Puerto La Cruz	0.95	258		Pg	11 34 59.3	-1.0
PCRV	Puerto La Cruz	0.99	259	Pg	Pg	11 34 59.3	-1.8
	2μm,0.3s,baz=58,slow=6.6,SNR=2662						
PCRV				Lg	Lg	11 35 13.2	
	3μm,0.3s,baz=331,slow=19,SNR=8.4						
PCRV				LR	LR	11 35 21.6	
	comp=Z,5μm,21.6s,slow=42						
GRGR	Grenville	2.63	48		Pn	11 35 24.3	-0.3
TOSP	Speyside	3.19	73		Pn	11 35 33.6	+1.2
SVB	Belmont	3

PCDR IAML 11 38 42.3
comp=Z,129nm,0.9s
PAMC Pamplona, Colo 9.44 252 *eP* **Pn 11 36 56.1 -2.6**
OCAC Ocana 9.78 258 *eP* **Pn 11 37 01.6 -1.4**
DR12 Loma Pena Alta 10.04 327 Pn 11 37 06.7 +0.1
SDD Santo Domingo 10.07 324 Pn **Pn 11 37 08.6 +1.7**
BARC Barichara 10.15 249 *eP* **Pn 11 37 06.5 -1.6**
BANI BANI 10.29 322 Pn 11 37 11.0 +1.0
RUSC La Rusia 10.34 245 *eP* **Pn 11 37 08.6 -2.4**
RUSC La Rusia 10.34 245 Pn **Pn 11 37 10.3 -0.8**
SMLC San Martn de 10.40 262 *eP* **Pn 11 37 08.6 -2.7**
SMRC Santa Marta, M 10.42 275 *eP* Pn 11 37 06.3 -5.5
ARGC Ariguani, Magd 10.45 268 *eP* **Pn 11 37 10.5 -1.6**
BRRC Barranca, Sant 10.46 253 *eP* **Pn 11 37 11.4 -0.9**
SDDR Presa de Saban 11.31 320 Pn **Pn 11 37 24.5 +0.6**
SDDR Presa de Saban 11.31 320 *i P* **Pn 11 37 25.5 +1.6**
PTBC PUERTO BERRIO, 11.35 251 *eP* **Pn 11 37 20.8 -3.6**
SJCC San Jacinto, C 11.36 269 *eP* **Pn 11 37 21.6 -3.0**
ZARC Zaragoza, Cauc 11.44 256 *eP* **Pn 11 37 22.3 -3.4**
CHIC Chingaza 11.51 241 *eP* **Pn 11 37 24.3 -2.7**
PTGA Pitinga 11.62 161 Pn **Pn 11 37 27.6 -0.5**
comp=Z,6.0nm,0.3s,baz=359,slow=15,SNR=54
PTGA Sn **Sn 11 39 34.0 -4.1**
comp=Z,1.0nm,0.3s,baz=319,slow=20,SNR=1.7
PTGA Lg Lg 11 40 40.8
comp=Z,7.2nm,0.3s,baz=12,slow=20,SNR=3.0
PTGA LR LR 11 42 09.7
comp=Z,916nm,19.7s,baz=343,slow=38
PTGA Pitinga 11.62 161 Pn 11 37 27.8 -0.3
VILC Villavicencio, 11.74 239 *eP* **Pn 11 37 28.7 -1.2**
ROSC El Rosal 11.92 243 Pn **Pn 11 37 34.0 +1.5**
comp=Z,5.1nm,0.3s,baz=60,slow=7.2,SNR=7.2
ROSC Sn **Sn 11 39 43.0 -2.8**
comp=Z,2.7nm,0.3s,baz=108,slow=20,SNR=1.3
ROSC Lg Lg 11 40 57.9
comp=Z,1.8nm,0.3s,baz=158,slow=19,SNR=2.7
ROSC LR LR 11 42 30.9
comp=Z,7μm,19.5s,baz=46,slow=39
ROSC El Rosal 11.92 243 *eP* **Pn 11 37 32.7 +0.1**
ROSC El Rosal 11.92 243 Pn **Pn 11 37 33.6 +1.1**
UREC San Jos de Ur 12.02 258 *eP* **Pn 11 37 32.3 -1.3**
NORC Norcasia 12.09 248 *eP* **Pn 11 37 30.9 -3.7**
MDP Montagnes des 12.09 115 Pn **Pn 11 37 34.3 -0.3**
comp=Z,1.5nm,0.3s,baz=259,slow=7.3,SNR=4.6
MDP Sn **Sn 11 39 42.3 -7.4**
baz=217,slow=20,SNR=2.5
HELC Santa Helena 12.47 251 *eP* **Pn 11 37 40.7 +0.6**
GUY2C Guyana, Caldas 12.68 247 *eP* **Pn 11 37 41.6 -1.5**
DBBC Dabeiba 12.86 256 *eP* **Pn 11 37 45.9 +0.8**
TOLC Tolima 12.92 244 *eP* **Pn 11 37 42.4 -3.8**
PRAC Prado 12.96 240 *eP* **Pn 11 37 44.4 -2.1**
CBOC Ciudad Bolivar 13.03 251 *eP* **Pn 11 37 46.6 -1.0**
YOTC Yotoco, Valle 14.10 244 *eP* **Pn 11 38 04.6 +2.5**
GARC Garzon, Huila 14.30 236 *eP* **Pn 11 38 04.9 -0.2**
FLOC Florencia 14.78 235 *eP* **Pn 11 38 09.6 -1.8**
FLOC Florencia 14.78 235 Pn **Pn 11 38 12.4 +1.0**
PCON Cinco Dias 14.97 239 *eP* **Pn 11 38 12.6 -1.9**
POPC Popayan, Colom 15.09 240 *eP* **P 11 38 23.2 +2.1**
MALB Monte Alegre 15.32 142 *eP* **Pn 11 38 15.8 -2.7**
BCIP Isla Barro Col 16.00 267 *eP* **Pn 11 38 23.0 -4.5**
BCIP Isla Barro Col 16.00 267 Pn **Pn 11 38 26.3 -1.2**
OTAV Otavalo 17.83 237 P 11 38 51.4 -0.3
NPGB Novo Progresso 19.17 154 *eP* **P 11 39 06.0 +0.1**
SAML Samuel 19.20 179 *eP* **Pn 11 39 06.9 -0.2**
CZSB Cruzeiro do Su 20.11 207 *eP* Pn 11 39 17.9 -0.2
ETMB Extrema 20.21 187 *eP* Pn 11 39 19.5 +0.2
JTS Las Juntas de 20.96 272 *eP* Pn 11 39 27.4 -0.7
comp=Z,1.8nm,0.5s,baz=28,slow=22,SNR=2.0
JTS LR LR 11 49 17.2
comp=Z,557nm,19.9s,baz=137,slow=42
JTS Las Juntas de 20.96 272 IAmb IAmb 11 39 38.6
comp=Z,28nm,1.2s
ACON Acoyapa 21.18 276 P **P 11 39 29.1 +1.2**
ACON IAmb IAmb 11 39 34.2
comp=Z,35nm,1.1s
CLDB Colider 22.50 159 *eP* **P 11 39 40.8 -1.2**
ATAH Atahualpa 22.76 221 *P* **P 11 39 47.4 +2.2**
comp=Z,7.4nm,0.6s,baz=38,slow=7.3,SNR=4.4
TGUH Tegucigalpa,Un 23.38 281 P **P 11 39 52.0 +0.7**
VILB Vilhena 23.42 172 *eP* **P 11 39 52.3 +0.8**
SMTB Santa Maria do 24.91 140 *eP* **P 11 40 07.3 +1.8**
MTO3 Montecristo 25.42 282 P **P 11 40 14.9 +4.5**
MTO3 IAmb IAmb 11 40 28.2
comp=Z,25nm,1.2s
NNA Nana 25.79 211 P **P 11 40 14.7 +1.2**
comp=Z,5.3nm,0.4s,baz=338,slow=8.3,SNR=1.9
NNA Nana 25.79 211 IAmb IAmb 11 40 26.0
comp=Z,16nm,0.9s
PTLB Pontes e Lacer 26.04 170 *eP* **P 11 40 16.8 +1.2**
SIV San Ignacio 26.31 174 *P* **P 11 40 19.6 +1.4**
comp=Z,1.5nm,0.5s,baz=9.0,slow=7.5,SNR=11
SIV Lg Lg 11 48 31.6
comp=Z,26nm,0.9s,baz=90,slow=21,SNR=7.5
APG El Apazote 26.55 283 P **P 11 40 24.8 +4.1**
comp=Z,3.1nm,0.9s,baz=120,slow=20,SNR=2.5
LPAZ La Paz 26.85 190 P **P 11 40 26.4 +2.6**
comp=Z,2.7nm,0.9s,baz=8.0,slow=7.9,SNR=7.5
LPAZ Lg Lg 11 48 49.3
comp=Z,18nm,1.1s,baz=352,slow=15,SNR=3.3
LPAZ La Paz 26.85 190 P **P 11 40 25.9 +2.1**
PB16 IPOC Station P 29.10 192 P **P 11 40 43.6 -0.2**
PB16 IAmb IAmb 11 41 02.5
comp=Z,14nm,1.4s
MNMC Minye Minye 29.89 191 P **P 11 40 50.8 +0.3**
MNMC IAmb IAmb 11 40 55.8
comp=Z,8.3nm,0.7s
BDFB Brasilia 30.12 149 P **P 11 40 56.0 +3.6**
comp=Z,2.4nm,0.5s,baz=57,slow=22,SNR=2.1
BDFB Lg Lg 11 50 31.1
comp=Z,18nm,1.1s,baz=330,slow=20,SNR=3.3
GO01 Chusmiza 30.34 190 IAmb IAmb 11 41 09.2
comp=Z,6.5nm,0.8s
PSGCX Pisagua 30.45 192 P **P 11 40 55.3 +0.1**
PB11 IPOC Station P 30.52 191 P **P 11 40 55.4 -0.5**
PB08 IPOC Station P 30.80 190 P **P 11 40 59.0 +0.4**
PB08 IAmb IAmb 11 41 13.2
comp=Z,12nm,0.9s
LRAL Lakeview Retre 31.15 320 P **P 11 41 02.1 +0.8**
PB09 IPOC Station P 32.43 190 P **P 11 41 13.9 +1.1**
PB09 IAmb IAmb 11 41 18.7
comp=Z,10nm,1.0s
PB07 IPOC Station P 32.48 191 P **P 11 41 12.9 -0.2**
PLAL Pickwick Lake 33.11 322 P **P 11 41 18.8 +0.4**
PLAL IAmb IAmb 11 41 24.6
comp=Z,5.9nm,0.9s
LVC Limon Verde 33.18 189 P **P 11 41 23.8 +4.4**
comp=Z,4.5nm,0.6s,baz=3.1,slow=12,SNR=3.7
WVT Waverly 33.74 323 P **P 11 41 25.5 +1.6**
WVT IAmb IAmb 11 41 34.0
comp=Z,3.8nm,0.8s
NCB Newcomb 34.71 347 P **P 11 41 32.5 +0.3**
NCB IAmb IAmb 11 41 36.6
comp=Z,11nm,1.3s
S44A Carbondale 35.64 324 P **P 11 41 40.9 +0.5**
S44A IAmb IAmb 11 41 52.9
comp=Z,12nm,0.9s
FCAR Ozark Folk Cen 36.23 319 P **P 11 41 45.8 +0.3**
CPUP Villa Florida 36.99 171 P **P 11 41 52.9 +1.0**
comp=Z,2.3nm,0.6s,baz=335,slow=6.9,SNR=3.6
S39A Bolivar 38.09 320 P **P 11 42 01.5 +0.3**
S39A IAmb IAmb 11 42 10.1
comp=Z,12nm,0.8s
D53A Lac Vacive, Po 38.48 345 P **P 11 42 04.9 +0.5**
D53A IAmb IAmb 11 42 09.3
comp=Z,8.8nm,1.1s
AC04 Llanos de Chal 39.01 190 P **P 11 42 09.2 +0.2**
AC04 IAmb IAmb 11 42 21.9
comp=Z,8.4nm,0.9s
AC05 El Transito 39.50 189 P **P 11 42 14.1 +0.9**
KSU1 Kansas State U 41.01 320 IAmb IAmb 11 42 33.6
comp=Z,17nm,0.8s
TXAR Lajitas Array 41.83 303 P **P 11 42 31.9 -0.6**
comp=Z,0.6nm,0.6s,baz=114,slow=9.7,SNR=9.9
TXAR Lajitas Array 41.83 303 P **P 11 42 32.8 +0.2**
TX31 Lajitas Ar. Si 41.84 303 IAmb IAmb 11 42 47.5
comp=Z,12nm,1.2s
SCHQ Schefferville 44.42 357 P **P 11 42 53.8 +0.8**
comp=Z,7.6nm,0.7s,baz=166,slow=7.8,SNR=6.2
T25A Trinidad 45.33 313 IAmb IAmb 11 43 09.3
comp=Z,8.3nm,0.8s
ANMO Albuquerque 45.98 309 P **P 11 43 05.8 -0.2**
SDCO Great Sand Dun 46.38 313 IAmb IAmb 11 43 19.3
comp=Z,5.3nm,0.9s
S22A 4UR Ranch, Cre 47.34 312 IAmb IAmb 11 43 20.1
comp=Z,6.9nm,1.3s
ULM Lac du Bonnet 47.82 332 P **P 11 43 21.1 +1.2**
comp=Z,2.8nm,0.6s,baz=101,slow=9.7,SNR=3.0
ULM Lac du Bonnet 47.82 332 IAmb IAmb 11 43 28.5
comp=Z,15nm,1.4s
PV01 Paradox Valley 48.75 312 P **P 11 43 28.3 +0.8**
PV02 Paradox Valley 48.90 312 IAmb IAmb 11 43 46.6
comp=Z,8.4nm,0.9s
PV03 Paradox Valley 49.00 312 IAmb IAmb 11 43 33.1
comp=Z,8.7nm,1.1s
PV11 David Mesa, Pa 49.04 312 P **P 11 43 30.6 +0.9**
PV18 Skein Mesa, Pa 49.04 312 P **P 11 43 31.8 +2.0**
PV18 IAmb IAmb 11 43 40.7
comp=Z,7.7nm,0.9s
PV22 Blue Mesa, Par 49.06 313 IAmb IAmb 11 43 49.6
comp=Z,6.7nm,1.1s
PV16 Nyswonger Mesa 49.07 312 P **P 11 43 31.6 +1.6**
PV17 East Wray Mesa 49.09 312 P **P 11 43 30.8 +0.7**
PV17 IAmb IAmb 11 43 49.4
comp=Z,5.1nm,0.9s
PV04 Paradox Valley 49.09 312 P **P 11 43 32.7 +2.6**
PV04 IAmb IAmb 11 43 33.8
comp=Z,12nm,1.3s
PV14 Lion Creek, Pa 49.17 312 P **P 11 43 30.8 0.0**
PV14 IAmb IAmb 11 43 39.4
comp=Z,6.2nm,0.8s
PV23 Carpenter Ridg 49.19 312 P **P 11 43 31.6 +0.6**
PV23 IAmb IAmb 11 43 39.6
comp=Z,7.1nm,1.0s
PLCA Paso Flores 51.24 187 P **P 11 43 48.0 +1.9**
comp=Z,1.3nm,0.5s,baz=346,slow=13,SNR=3.5
PLCA Paso Flores 51.24 187 IAmb IAmb 11 43 54.1
comp=Z,6.0nm,1.1s
PDAR Pinedale Array 51.31 317 P **P 11 43 46.1 -0.8**
comp=Z,1.8nm,0.7s,baz=118,slow=10,SNR=14
KNB Kanab 51.54 309 P **P 11 43 49.0 +0.4**
JLU Jordanelle 51.75 314 P **P 11 43 51.7 +1.4**
RLMT Red Lodge 52.16 320 P **P 11 43 53.9 +0.7**
RLMT IAmb IAmb 11 44 11.6
comp=Z,7.9nm,1.2s
AHID Auburn Hatcher 52.35 317 P **P 11 43 55.3 +0.7**
LOHW Long Hollow 52.36 318 P **P 11 43 55.2 +0.5**
REDW Red Top Meadow 52.42 318 P **P 11 43 55.8 +0.6**
REDW IAmb IAmb 11 44 12.8
comp=Z,14nm,1.4s
TPAW Teton Pass 52.54 318 P **P 11 43 56.0 -0.1**
FRB Frobisher Bay 53.41 357 P **P 11 44 02.9 +1.1**
comp=Z,9.5nm,0.9s,baz=175,slow=10,SNR=3.4
BOZ Bozeman (W) 53.86 320 IAmb IAmb 11 44 23.6
comp=Z,5.6nm,1.2s
R11A Troy Canyon, C 54.03 310 IAmb IAmb 11 44 26.7
comp=Z,6.2nm,1.4s
DLMT Dillon 54.38 319 P **P 11 44 10.0 +0.5**
DLMT IAmb IAmb 11 44 27.4
comp=Z,6.1nm,1.2s
HRY Holter Researc 54.47 321 P **P 11 44 10.3 +0.2**
NVAR Mina Array Bea 56.10 309 P **P 11 44 22.7 +0.6**
comp=Z,0.6nm,0.8s,baz=94,slow=6.7,SNR=4.5
NVAR Mina Array Bea 56.10 309 P **P 11 44 23.2 +1.1**
YERR Yerington 56.95 310 P **P 11 44 28.0 -0.1**
BMO Blue Mountains 57.29 317 P **P 11 44 31.0 +0.8**
DBIC Dimbokro 58.20 89 P **P 11 44 38.5 +1.5**
comp=Z,2.4nm,0.7s,baz=233,slow=10,SNR=1.8
I07A Izee 58.54 316 IAmb IAmb 11 44 55.4
comp=Z,6.0nm,0.9s
K05A Summer Lake 59.13 314 P **P 11 44 44.0 +0.7**
ESDC Sonseca Array 60.20 50 P **P 11 44 50.1 -0.4**
comp=Z,0.8nm,0.7s,baz=267,slow=6.8,SNR=6.7
YKA Yellowknife Ar 63.51 336 P **P 11 45 11.3 -1.0**
comp=Z,2.6nm,0.7s,baz=108,slow=7.1,SNR=12
TORD Torodi Ar. Bea 63.88 80 P **P 11 45 15.9 +0.3**
comp=Z,1.9nm,0.6s,baz=287,slow=5.9,SNR=5.0
TORD Torodi Ar. Bea 63.88 80 P **P 11 45 15.7 +0.1**
DOU Dourbes 68.18 40 PcP **PcP 11 46 08.8 +0.3**
BGES Gesves 68.54 40 PcP **PcP 11 46 09.9 -0.2**
BCLA Clavier 68.69 40 P **P 11 45 43.8 -2.0**
BCLA PcP **PcP 11 46 09.9 -0.7**
BSTI Sart Tilman 68.88 40 PcP **PcP 11 46 07.9 -3.6**
BEBN Eben Emael 68.98 39 PcP **PcP 11 46 10.6 -1.3**
WLF Walferdange 69.11 41 PcP **PcP 11 46 10.4 -2.1**
BHOU Houvegnez 69.12 40 PcP **PcP 11 46 13.2 +0.7**
MEM Membach 69.16 40 PcP **PcP 11 46 10.8 -1.8**
KEST Kesra 70.24 56 P **P 11 45 56.3 +0.4**
comp=Z,2.4nm,0.8s,baz=263,slow=8.1,SNR=1.6
KEST Kesra 70.24 56 IAmb IAmb 11 45 57.6
comp=Z,6.9nm,1.1s
INK Inuvik 73.03 339 P **P 11 46 12.4 +0.5**
comp=Z,2.0nm,0.8s,baz=48,slow=4.7,SNR=6.0
INK Inuvik 73.03 339 IAmb IAmb 11 46 30.7
comp=Z,3.7nm,0.9s
PMSA Palmer Station 74.92 180 LR LR 12 20 25.9
comp=Z,215nm,18.6s,baz=352,slow=37
EGAK Eagle 75.36 334 P **P 11 46 26.8 +1.2**
EGAK IAmb IAmb 11 46 31.0
comp=Z,5.5nm,0.9s
VRAC Vranov 75.86 42 LR LR 12 16 32.1
comp=Z,167nm,18.9s,baz=169,slow=33
ILAR Eielson Array 77.81 334 P **P 11 46 40.4 +1.0**
comp=Z,0.5nm,0.7s,baz=100,slow=5.0,SNR=3.9
FINES FINESS Array B 80.85 29 P **P 11 46 56.4 +0.3**
comp=Z,3.7nm,0.8s,baz=289,slow=4.3,SNR=1.0
STKA Stephens Creek 148.33 224 PKPbc **PKPbc 11 54 29.1 -0.2**
comp=Z,2.2nm,0.9s,baz=63,slow=4.5,SNR=2.1
WRA Warramunga Arr 160.22 239 PKPab **PKPab 11 55 22.8 -0.3**
comp=Z,1.2nm,0.9s,baz=117,slow=3.6,SNR=5.4

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*IDC **01** 11:35:49.6±1.1, 10.°15N×63.°62W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/45, mbtmp4.2/9, ML4.3/2, Error ellipse: s-maj=30.5km s-min=11.4km az=1.0*
ISC 01 11:35:50.4±0.7, 10.°1N±0.°1×63.°63W±0.°08, h9km, n10, σ1º50/11, mb4.4/7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**0.99**	**276**	Pg	**Pg**	**11 36 08.2**	**-1.4**
	baz=64,slow=14,SNR=0.3						
PCRV				Lg	Lg	11 36 21.4	
	baz=198,slow=22,SNR=0.4						
PTGA	**Pitinga**	**11.33**	**161**	Pn	**Pn**	**11 38 34.0**	**+1.3**
	2.4nm,0.3s,baz=347,slow=19,SNR=1.2						
MDP	**Montagnes des**	**11.96**	**114**	Pn	**Pn**	**11 38 41.2**	**-0.1**
	1.6nm,0.3s,baz=302,slow=19,SNR=1.0						
MDP				Sn	**Sn**	**11 40 51.8**	**-3.1**
	2.9nm,0.3s,baz=43,slow=19,SNR=2.2						
TXAR	**Lajitas Array**	**42.01**	**303**	P	**P**	**11 43 43.3**	**+0.8**
	0.4nm,0.6s,baz=116,slow=8.1,SNR=1.3						
SCHQ	**Schefferville**	**44.72**	**357**	P	**P**	**11 44 04.8**	**+0.9**
	4.8nm,0.6s,baz=216,slow=6.0,SNR=3.7						
PDAR	**Pinedale Array**	**51.54**	**317**	P	**P**	**11 44 56.3**	**-0.9**
	0.6nm,0.5s,baz=111,slow=10.0,SNR=1.3						
DBIC	**Dimbokro**	**58.19**	**88**	P	**P**	**11 45 46.9**	**+1.4**
	2.5nm,0.6s,baz=279,slow=18,SNR=1.6						
ESDC	**Sonseca Array**	**60.38**	**50**	P	**P**	**11 45 59.5**	**-0.8**
	2.4nm,1.1s,baz=265,slow=7.1,SNR=3.2						
YKA	**Yellowknife Ar**	**63.78**	**336**	P	**P**	**11 46 22.8**	**+0.1**
	2.9nm,0.7s,baz=110,slow=7.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**63.92**	**80**	P	**P**	**11 46 24.6**	**+0.2**
	2.0nm,0.8s,baz=284,slow=6.1,SNR=2.6						

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*BGS **01** 11:41:07.9±2.4, 64.°68N×17.°49W, h5km, MS5.1*
*IDC **01** 11:41:08.7±0.4, 64.°68N×17.°54W, h0km, mb4.6/28, mb1 4.7/33, mb1mx4.5/46, mbtmp4.6/33, ML3.6/4, MS4.9/42, Ms1 4.9/42, ms1mx4.8/45, Error ellipse: s-maj=13.2km s-min=9.6km az=23.0*
*REY **01** 11:41:08.5, 64.°68N×17.°45W, h7km*
*NEIC **01** 11:41:09.5±1.4, 64.°68N±0.°06×17.°50W±0.°05, h0km±1km, mb5.3/398, Ms_20 5.1/683, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=10.8km s-min=3.3km az=171.0*
*NAO **01** 11:41:09.8±5.2, 64.°56N×16.°97W, ML5.2*
*IEPN **01** 11:41:09.2, 64.°37N×16.°94W, h10km*
*MOS **01** 11:41:09.3±0.9, 64.°73N×17.°42W, h12km, mb5.4/84, MS4.9/61, Error ellipse: s-maj=7.4km s-min=4.7km az=95.9*
*UNK **01** 11:41:10.8, 64.°64N×17.°41W, h7km*
*BJI **01** 11:41:10.1±0.0, 65.°09N×17.°02W, h9km, mB5.6/73, mb5.0/67, Ms5.4/77, Ms7 5.1/72*
*BGR **01** 11:41:10.7±0.0, 64.°60N×17.°82W, h10km, mb5.4, Ms4.9*
*DNK **01** 11:41:11.8±6.9, 64.°77N×17.°28W, h0km±338km, Ms5.0, Hypocentre not reviewed by the ISC*
*GCMT **01** 11:41:14.5±0.1, 64.°61N±0.°01×17.°19W±0.°01, h12km, MW5.5/153, Moment Tensor Solution. s128,c212; s153,c289; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr-2.64±.02; Mθθ 1.16±.03; Mφφ 1.47±.02; Mrθ-0.48±.06; Mrφ-0.27±.02; Mθr-0.78±.06; Best double couple: M0 2.26600×10^17 NP1:φs 146.00000°, δ39.00000°, λ-107.00000°. NP2:φs 348.00000°, δ53.00000°, λ-77.00000°. Principal axes: T 1.6830, Plg7.0000°, Azm68.0000°; N 1.1560, Plg11.0000°, Azm160.0000°; P -2.8490, Plg77.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 11:41:15, 64.°60N×17.°27W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-2.65; Mθθ 1.30; Mφφ 1.35; Mrθ-0.74; Mφφ-0.32; Mθr-0.76; Fault plane solution: M0 2.55000×10^17 NP1:φs 125.00000°, δ46.00000°, λ-111.00000°. NP2:φs 334.00000°, δ48.00000°, λ-70.00000°. Principal axes: T 1.6423, Plg1.0000°, Azm49.0000°; N 1.2947, Plg15.0000°, Azm140.0000°; P -2.9370, Plg75.0000°, Azm315.0000°;*
*NEIC **01** 11:41:16, 64.°44N×17.°18W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-2.21; Mθθ 0.96; Mφφ 1.25; Mrθ 0.05; Mφφ-0.03; Mθr 0.37; Fault plane solution: M0 1.96000×10^17 NP1:φs 354.00000°, δ39.00000°, λ-92.00000°. NP2:φs 177.00000°, δ51.00000°, λ-88.00000°. Principal axes: T 1.2956, Plg6.0000°, Azm265.0000°; N 0.9582, Plg1.0000°, Azm355.0000°; P -2.2538, Plg84.0000°, Azm99.0000°;*
ISC 01 11:41:09.8±0.6, 64.°69N±0.°02×17.°49W±0.°02, h2km±3km, n1371, σ1º77/1241, mb5.2/333, MS5.1/444, 23C-60B, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**264**	P	**Pg**	**11 41 11.3**	**-0.8**
	baz=268						
IDYN	**Dyngjuhals**	**0.12**	**26**	P	**Pg**	**11 41 11.1**	**-1.0**
	baz=18						
IDJK	**Dyngjujokull**	**0.21**	**149**	P	**Pg**	**11 41 12.4**	**-1.5**
	baz=152						
IGRF	**Grimsfjall**	**0.29**	**161**	P	**Pg**	**11 41 14.1**	**-1.4**
	baz=164						
IKVE	**Kverkfjoll**	**0.35**	**91**	P	**Pg**	**11 41 14.8**	**-1.7**
	baz=90						
IBJK	**Bruarjokull**	**0.38**	**124**	P	**Pg**	**11 41 15.5**	**-1.7**
	baz=124						
IHUS	**Husbondi**	**0.40**	**191**	P	**Pg**	**11 41 15.9**	**-1.6**
	baz=193						
ISKR	**Skrokkalda**	**0.41**	**252**	P	**Pg**	**11 41 16.2**	**-1.4**
	baz=254						
IVOT	**Vottur**	**0.44**	**162**	P	**Pg**	**11 41 16.1**	**-2.0**
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**78**	P	**Pg**	**11 41 16.8**	**-2.3**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**11 41 17.3**	**-1.9**
	baz=223						
IASK	**Askja**	**0.51**	**44**	P	**Pg**	**11 41 17.8**	**-1.9**
	baz=42						
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**	**11 41 18.6**	**-2.2**
	baz=57						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**11 41 20.0**	**-2.3**
	baz=207						
ISVA	**Svartarkot**	**0.66**	**8**	P	**Pg**	**11 41 20.3**	**-2.1**
	baz=7.1						
IKSK	**Karasker**	**0.69**	**140**	P	**Pg**	**11 41 19.8**	**-3.1**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**187**	P	**Pg**	**11 41 21.5**	**-2.6**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P	**Pg**	**11 41 21.4**	**-3.0**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**11 41 22.7**	**-2.3**
	baz=233						
IADA	**Aoalbol**	**0.88**	**67**	P	**Pg**	**11 41 23.4**	**-3.3**
	baz=66						
IFAG	**Fagurholsmyri**	**0.89**	**156**	P	**Pg**	**11 41 23.6**	**-3.2**
	baz=156						
IHVE	**Hveravellir**	**0.91**	**283**	P	**Pg**	**11 41 24.4**	**-2.8**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**11 41 25.3**	**-2.8**
	baz=20						
IREN	**Reynihlio**	**1.00**	**14**	P	**Pg**	**11 41 25.8**	**-3.0**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**	**11 41 26.8**	**-3.3**
	baz=13						
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**	**11 41 27.2**	**-3.2**
	baz=209						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pg**	**11 41 27.8**	**-3.3**
	baz=30						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pg**	**11 41 28.0**	**-3.2**
	baz=221						
IFED	**Fedgar**	**1.17**	**236**	P	**Pg**	**11 41 29.2**	**-2.9**
	baz=237						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pg**	**11 41 29.2**	**-3.7**
	baz=8.3						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pg**	**11 41 29.3**	**-3.7**
	baz=16						
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**11 41 35.7**	**-4.0**
	205nm,0.3s,baz=111,slow=8.1,SNR=161						
BORG				Sn	**Sn**	**11 41 59.9**	**-1.5**
	132nm,0.3s,baz=254,slow=22,SNR=16						
BORG	**Borgarnes**	**1.65**	**274**	P	**Pn**	**11 41 36.3**	**-3.4**
BORG						11 41 59.9	
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**11 41 36.3**	**-3.4**
SCO	**Scoresbysund**	**6.07**	**346**	*i P*	**Pn**	**11 42 38.8**	**-1.5**
SCO	**Scoresbysund**	**6.07**	**346**	P	**Pn**	**11 42 40.4**	**+0.1**
SCO	**Scoresbysund**	**6.07**	**346**	Pn	**Pn**	**11 42 40.4**	**+0.1**
JMIC	**Jan Mayen**	**7.17**	**24**	Pn	**Pn**	**11 42 56.5**	**+1.0**
JMIC	**Jan Mayen**	**7.17**	**24**	Pn	**Pn**	**11 42 55.2**	**-0.3**
	baz=344,slow=2.9,SNR=3.1						
JMIC	**Jan Mayen**	**7.17**	**24**	Pn	**Pn**	**11 42 56.5**	**+1.0**
LEWI	**Lewis, Hebride**	**8.29**	**137**	*eP*	**Pn**	**11 43 08.7**	**-2.3**
LRW	**Lerwick**	**8.82**	**114**	*eP*	**Pn**	**11 43 15.8**	**-2.4**
LRW				IAMs_20	IAMs_20	11 47 17.2	
	comp=Z,20μm,12.6s						
LRW	**Lerwick**	**8.82**	**114**	*eP*	**Pn**	**11 43 18.1**	**0.0**
LRW				IAmb	IAmb	11 43 23.8	
	comp=Z,146nm,1.2s						
BIGH	**Upper Bighouse**	**8.95**	**128**	*eP*	**Pn**	**11 43 17.9**	**-2.0**
BIGH				IAMs_20	IAMs_20	11 49 31.1	
	comp=Z,10μm,12.4s						
BIGH	**Upper Bighouse**	**8.95**	**128**	*eP*	**Pn**	**11 43 18.6**	**-1.3**
KAC	**Achnashellach**	**9.30**	**135**	*eP*	**Pn**	**11 43 22.5**	**-2.2**
KPL	**Plockton**	**9.33**	**137**	*eP*	**Pn**	**11 43 22.6**	**-2.4**
KPL	**Plockton**	**9.33**	**137**	*eP*	**Pn**	**11 43 23.2**	**-1.8**
MCD	**Coleburn Disti**	**9.88**	**129**	*eP*	**Pn**	**11 43 31.8**	**-0.9**
LAWE	**Loch Awe, Argy**	**10.32**	**139**	*eP*	**Pn**	**11 43 38.1**	**-0.6**
INVG	**Invergeldie, C**	**10.57**	**135**	*eP*	**Pn**	**11 43 39.8**	**-2.4**
INVG				IAMs_20	IAMs_20	11 48 20.1	
	comp=Z,16μm,10.8s						
FOO	**Floro**	**10.63**	**97**	*eP*	**Pn**	**11 43 47.2**	**+4.4**
EAB	**Aberfoyle**	**10.69**	**137**	*eP*	**Pn**	**11 43 42.1**	**-1.6**
SUMG	**Summit**	**10.93**	**325**	*i P*	**Pn**	**11 43 47.0**	**-0.3**
SUMG	**Summit**	**10.93**	**325**	P	**Pn**	**11 43 47.4**	**+0.1**
SUMG	**Summit**	**10.93**	**325**	Pn	**Pn**	**11 43 47.4**	**+0.1**
PGBU	**Glenifferbraes**	**10.97**	**138**	*eP*	**Pn**	**11 43 44.5**	**-3.0**
PGBU				IAMs_20	IAMs_20	11 48 56.8	
	comp=Z,14μm,12.4s						
CLGH	**Cloghs, Cushen**	**11.18**	**144**	*eP*	**Pn**	**11 43 49.8**	**-0.6**
AKN	**Aaknes**	**11.22**	**92**	Pn	**Pn**	**11 43 48.1**	**-2.8**
AKN	**Aaknes**	**11.22**	**92**	Pn	**Pn**	**11 43 48.1**	**-2.8**
ASK	**Askoy**	**11.24**	**102**	*eP*	Pn	11 43 44.9	-6.3
EDI	**Edinburgh**	**11.26**	**135**	*eP*	**Pn**	**11 43

ESK Eskdalemuir 11.77 136 *e*P Pn **11 43 55.6 -2.9**
ESK IAMs_20 IAMs_20 11 49 11.6
comp=Z,11µm,10.5s
ESK Eskdalemuir 11.77 136 P Pn **11 43 57.1 -1.4**
ESK Eskdalemuir 11.77 136 Pn Pn **11 43 57.1 -1.4**
KMY Karmoy 11.98 107 *e*P Pn **11 44 00.2 -1.1**
KMY IAmb IAmb 11 44 13.8
comp=Z,133nm,1.0s
ODD1 Odda 12.15 102 *e*P Pn 11 44 08.7 +5.0
DAG Danmarks Havn 12.15 359 *i*P Pn **11 44 06.4 +2.8**
DAG Danmarks Havn 12.15 359 *i*P Pn **11 44 06.4 +2.8**
DOMB Dombas 12.16 90 *e*P Pn **11 44 00.8 -3.0**
DOMB IAmb IAmb 11 44 09.3
comp=Z,21nm,0.9s
BLS5 Blasjo 12.36 104 *e*P Pn **11 44 05.1 -1.3**
BLS5 IAmb IAmb 11 44 16.0
comp=Z,154nm,1.6s
WIM Isle of Man 12.39 143 *e*P Pn **11 44 04.8 -2.1**
KESW Keswick, Cumbr 12.43 138 *e*P Pn **11 44 04.8 -2.6**
KESW IAMs_20 IAMs_20 11 49 55.4
comp=Z,22µm,10.5s
SKAR Skarslia 12.46 97 *e*P Pn **11 44 06.7 -1.2**
SKAR IAmb IAmb 11 44 19.3
comp=Z,119nm,1.5s
EDMD Edmundbyers 12.56 135 *e*P Pn **11 44 09.8 +0.5**
NSS Namsos 12.59 77 *e*P Pn **11 44 11.7 +2.2**
KONS Konsvik 12.71 68 *e*P Pn **11 44 09.6 -1.7**
DSB Dublin 12.80 148 Pn **11 44 13.2 +0.7**
LOF Lofoten 12.81 61 Pn Pn **11 44 12.4 -0.1**
LOF Lofoten 12.81 61 *e*P Pn **11 44 13.2 +0.7**
NRS Narsarsuaq 13.14 267 P Pn **11 44 18.7 +1.5**
NRS Narsarsuaq 13.14 267 Pn Pn **11 44 18.6 +1.5**
NC204 NORSAR Array S 13.22 92 Pn **11 44 15.6 -2.8**
GDLE Glaisdale, N Y 13.26 133 *e*P Pn **11 44 18.9 +0.1**
MOR8 Moi Rana 13.29 69 *e*P Pn **11 44 21.6 +2.5**
MOR8 IAmb IAmb 11 44 36.0
comp=Z,245nm,1.8s
SNART Snartemo 13.32 107 *e*P Pn **11 44 20.9 +1.3**
NBO00 NORSAR Array S 13.35 93 Pn **11 44 16.8 -3.2**
NAO01 NORSAR Array S 13.48 93 Pn Pn **11 44 20.2 -1.6**
FAUS Fauske 13.49 64 *e*P P **11 44 27.2 -4.1**
FAUS IAmb IAmb 11 44 33.6
comp=Z,66nm,1.4s
NC303 NORSAR Array S 13.51 92 Pn **11 44 24.0 +1.9**
NB2 NORSAR Subarra 13.53 92 Pn Pn **11 44 18.0 -4.5**
NB2 NORSAR Subarra 13.53 92 Pn Pn **11 44 18.9 -3.6**
comp=Z,170nm,2.5s,baz=298,slow=14
NOA NORSAR Array B 13.53 92 Pn Pn **11 44 18.4 -4.0**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=6.2
NOA LR LR 11 49 22.0
comp=Z,5µm,21.1s,baz=300,slow=36
KONO Kongsberg 13.55 99*de*P Pn **11 44 27.1 +4.4**
KONO pmax pmax
comp=Z,79nm,2.5s
KONO Kongsberg 13.55 99 Pn Pn **11 44 25.0 +2.3**
KONO Kongsberg 13.55 99 *e*P Pn **11 44 25.9 +3.2**
SFJD Kangerlussuaq 13.66 295 *i*P Pn **11 44 27.4 +3.2**
SFJD Kangerlussuaq 13.66 295 *e*P Pn **11 44 27.4 +3.2**
NC405 NORSAR Array S 13.71 92 Pn **11 44 22.5 -2.5**
ILULI Ilulissat 13.79 304 P Pn **11 44 27.4 +1.5**
ILULI Ilulissat 13.79 304 Pn Pn **11 44 27.4 +1.5**
NOD Norderasen 14.12 80 *e*P Pn **11 44 30.1 -0.5**
IVI Ivigtut 14.30 270 P **11 44 39.5 -0.8**
SALU Saltoluokta 14.73 63 *e*P Pn **11 44 37.8 -1.1**
TRO Tromso 14.79 54 P Pn **11 44 39.1 -0.6**
TRO Tromso 14.79 54 *e*P Pn **11 44 39.8 +0.2**
HFS Hagfors 15.04 93 P Pn **11 44 39.4 -3.6**
baz=304,slow=7.4
HFS Hagfors 15.04 93 Pn Pn **11 44 40.4 -2.7**
comp=Z,0.2nm,0.3s,baz=319,slow=15,SNR=2.2
HFS LR LR 11 50 08.1
comp=Z,6µm,21.5s,baz=290,slow=36
HFS Hagfors 15.04 93 P Pn **11 44 39.4 -3.6**
baz=304,slow=7.4
MUD Monsted U'grnd 15.37 110 *i*P Pn **11 44 48.5 +1.2**
comp=Z,5µm,12.0s
MUD Monsted U'grnd 15.37 110 *e*P Pn **11 44 48.5 +1.2**
MUD MLR MLR
comp=Z,5µm,12.0s
KIF Kilpisjarvi 15.46 57 P Pn **11 44 48.5 -0.1**
KIF Kilpisjarvi 15.46 57 *e*P Pn **11 44 48.1 -0.4**
BJO1 Bjornoya 15.73 36 P Pn **11 44 51.4 -0.6**
BJO1 Bjornoya 15.73 36 *e*P Pn **11 44 50.5 -1.5**
BJO1 IAmb IAmb 11 45 02.4
comp=Z,208nm,1.3s
HSPB Hornsund (broa 16.05 26 P Pn **11 44 57.8 +1.7**
HSPB Hornsund (broa 16.05 26 *e*P Pn **11 44 57.4 +1.3**
HSPB *e*S S **11 48 18.9 +11**
HSPB Hornsund (broa 16.05 26 ⇓*i*P Pn **11 44 57.3 +1.2**
HSPB *i*S Sn **11 47 58.1 +3.8**
HSPB Hornsund (broa 16.05 26 P Pn **11 44 57.8 +1.7**
KTK1 Kautokeino 16.34 57 *e*P Pn **11 44 59.5 -0.4**
BRBA Barentsburg A 16.42 23 P Pn **11 45 01.8 +1.0**
BRBA Barentsburg A 16.42 23 P Pn **11 45 01.8 +1.0**
HAMF Hammerfest 16.44 51 P Pn **11 44 59.7 -1.5**
HAMF Hammerfest 16.44 51 P Pn **11 44 59.7 -1.5**
KULLO Kullorsuaq 16.58 323 *i*P P **11 45 10.4 +4.8**
KULLO Kullorsuaq 16.58 323 *e*P P **11 45 10.4 +4.8**
KBS Kingsbay 16.62 19 P P **11 45 05.4 -0.5**
KBS Kingsbay 16.62 19 ⇓*i*P P **11 45 06.0 +0.1**
KBS *i*S S **11 48 15.3 -4.6**
KBS Kingsbay 16.62 19*d*P P **11 45 05.5 -0.5**
KBS pmax pmax
comp=Z,138nm,2.5s
KBS Kingsbay 16.62 19 P P **11 45 05.9 -0.1**
KBS Kingsbay 16.62 19 P P **11 45 05.4 -0.5**
SPA0 Spitsbergen Ar 16.85 23 P P **11 45 08.1 -0.5**
SPA0 Spitsbergen Ar 16.85 23 ⇓*i*P P **11 45 08.1 -0.5**
SPA0 *e*S S **11 48 19.1 -5.5**
SPA0 Spitsbergen Ar 16.85 23 P P **11 45 08.5 0.0**
SPA0 Spitsbergen Ar 16.85 23 P P **11 45 08.1 -0.5**
SPITS Spitsbergen Ar 16.85 23 Pn P **11 45 08.6 +0.1**
baz=151,slow=16,SNR=4.4
SPITS LR LR 11 50 22.4
comp=Z,3µm,18.6s,baz=220,slow=33
NOR Nord 17.01 0 P Pn **11 45 07.8 -0.5**
NOR Nord 17.01 0 ⇓*i*P Pn **11 45 08.9 +0.6**
NOR Nord 17.01 0 ⇓*i*P Pn **11 45 08.9 +0.6**
ARA0 ARCESS Array S 17.10 55 P Pn **11 45 09.0 -0.6**
baz=280,slow=14
ARA0 ARCESS Array S 17.10 55 P Pn **11 45 09.0 -0.6**
baz=280,slow=14
ARCES ARCESS Array B 17.10 55 P Pn **11 45 09.1 -0.5**
comp=Z,0.5nm,0.3s,baz=283,slow=13,SNR=10
ARCES LR LR 11 50 22.5
comp=Z,7µm,21.4s,baz=273,slow=32
ARE0 ARCESS Array S 17.10 55 Pn Pn **11 45 09.1 -0.5**
KEV Kevo 17.61 54 P P **11 45 16.4 -0.5**
KEV pmax pmax
comp=Z,125nm,1.3s
KEV Kevo 17.61 54 P P **11 45 16.4 -0.5**
BSEG Bad Segeberg 17.64 114 *e*P Pn **11 45 14.7 -1.6**
comp=Z,584nm,2.1s,baz=324,slow=11
BSEG *e*L L 11 52 41.6
comp=Z,9µm,18.0s
HOPEN Hopen 17.82 31 P P **11 45 18.8 -0.3**
HOPEN Hopen 17.82 31 ⇓*i*P P **11 45 18.9 -0.3**
HOPEN *i*S Sn **11 48 39.7 +2.7**
HOPEN Hopen 17.82 31 P P **11 45 18.8 -0.3**
IBBN Ibbenburen 17.93 122 *e*P P **11 45 21.1 +0.5**
comp=Z,440nm,1.8s,baz=324,slow=11
UCC Uccle 18.01 130 P Pn **11 45 20.6 -0.3**
SNF Seneffe 18.23 131 P P **11 45 23.9 0.0**
BEBN Eben Emael 18.45 128 P Pn **11 45 26.9 +0.6**
BUG Bochum--Univer 18.46 124 *e*P P **11 45 25.9 -0.5**
comp=Z,291nm,1.7s,baz=324,slow=11
BMRD Maredsous 18.57 130 P P **11 45 27.1 -0.5**
comp=Z,77nm,1.9s
BSTI Sart Tilman 18.59 128 P P **11 45 28.0 +0.1**
BGES Gesves 18.60 130 P P **11 45 28.0 0.0**
comp=Z,104nm,2.0s
BCLA Clavier 18.64 129 P P **11 45 26.8 -1.7**
comp=Z,91nm,1.9s
NRDL Niedersach Rie 18.66 118 *e*P P **11 45 27.4 -1.2**
comp=Z,440nm,1.8s,baz=324,slow=11
DOU Dourbes 18.69 131 P P **11 45 28.6 -0.4**
MEM Membach 18.72 128 P Pn **11 45 29.6 0.0**
comp=Z,86nm,2.1s
AHRW Bad Neuenahr-A 19.15 126 *e*P P **11 45 33.9 -0.1**
comp=Z,400nm,1.7s,baz=324,slow=11
CLZ Clausthal 19.28 119 *e*P P **11 45 33.9 -1.6**
comp=Z,218nm,1.4s,baz=324,slow=11
GTTG Gottingen 19.36 120 *e*P P **11 45 35.5 -0.9**
comp=Z,427nm,1.8s,baz=324,slow=11
WLF Walferdange 19.57 129 P Pn **11 45 39.6 -0.3**
WLF Walferdange 19.57 129 P Pn **11 45 40.2 +0.3**
WLF pmax pmax
comp=Z,231nm,1.7s
WLF Walferdange 19.57 129 *e*P P **11 45 38.8 +0.2**
comp=Z,253nm,1.8s,baz=324,slow=11
WLF Walferdange 19.57 129 P Pn **11 45 40.2 +0.3**
WLF IAmb IAmb 11 45 45.5
comp=Z,231nm,1.7s
FIA0 FINESS Array S 19.70 79 P P **11 45 37.5 -2.4**
baz=317,slow=7.9
FIA0 FINESS Array S 19.70 79 P P **11 45 37.5 -2.4**
baz=317,slow=7.9
FIA1 FINESS Array S 19.70 79 P P **11 45 39.4 -0.5**
FIA1 IAmb IAmb 11 46 03.2
comp=Z,427nm,1.9s
FINES FINESS Array B 19.70 79 P P **11 45 39.0 -0.9**
comp=Z,0.2nm,0.3s,baz=324,slow=9.4,SNR=14
FINES LR LR 11 52 51.9
comp=Z,5µm,21.5s,baz=294,slow=36
FINES FINESS Array B 19.70 79 P P **11 45 38.9 -1.0**
CLF Chambon-Foret 19.81 138 P Pn **11 45 42.4 -0.3**
TULEG Thule 19.84 327 P Pn **11 45 43.1 +0.3**
TNS Taunus Mts 19.89 124 *e*P P **11 45 43.0 +0.8**
comp=Z,395nm,2.1s,baz=324,slow=11
TNS *e*L L 11 54 21.5
comp=Z,2µm,19.2s
UBBA Unterbreizbach 19.96 121 *e*P P **11 45 43.4 +0.6**
comp=Z,342nm,1.7s,baz=324,slow=11
RUE Ruedersdorf 20.11 113 *e*P P **11 45 44.3 -0.1**
SLIT Slitere, Latvi 20.14 92 *e*P P **11 45 44.8 0.0**
APA0 Apatity Array 20.15 59 P P **11 45 42.6 -2.2**
APA0 Apatity Array 20.15 59 P P **11 45 42.6 -2.2**
APA Apatity 20.31 59⇑*i*P P **11 45 44.7 -1.9**
APA *i*S S **11 49 28.0 -6.5**
APA pmax pmax
comp=Z,33nm,1.0s
APA MLR MLR
comp=Z,5µm,20.0s
NEUB Neuenburg 20.32 118 *e*P P **11 45 46.7 0.0**
comp=Z,969nm,2.0s,baz=324,slow=11
LVZ Lovozero 20.68 58*c i*P Pn 11 45 51.8 -1.1
LVZ pmax pmax
comp=Z,179nm,1.7s
LVZ Lovozero 20.68 58 P Pn 11 45 51.9 -1.0
LVZ IAmb IAmb 11 46 02.4
comp=Z,139nm,1.3s
MOX Moxa 20.71 119 *e*P P **11 45 50.9 -0.1**
comp=Z,275nm,1.5s,baz=324,slow=11
MOX *e*L L 11 54 34.7
comp=Z,7µm,19.4s
CLL Collm 20.71 116 *e*P P **11 45 50.0 -1.0**
comp=Z,352nm,1.6s
CLL *e*Pmax 11 45 56.0
CLL *e* 11 46 00.0
CLL *e* 11 47 36.0
CLL *e*S S **11 49 41.0 -1.6**
CLL *e*SSS SSS 11 50 15.0
CLL Lm MLR 11 54 00.0
comp=N,4µm,19.8s
CLL Lm MLR 11 54 00.0
comp=E,6µm,18.6s
CLL Lm MLR 11 54 00.0
comp=Z,5µm,19.3s
CLL Lmax 11 55 00.0
CLL Collm 20.71 116 P P **11 45 50.6 -0.4**
CLL pmax pmax
comp=Z,277nm,1.5s
CLL MLR MLR
comp=Z,5µm,19.0s
CLL Collm 20.71 116 *e*P P **11 45 50.5 -0.4**
comp=Z,352nm,1.6s,baz=324,slow=11
CLL *e*L L 11 53 37.4
comp=Z,4µm,21.6s
CLL Collm 20.71 116 P P **11 45 50.6 -0.4**
CLL IAmb IAmb 11 45 55.2
comp=Z,277nm,1.5s
CLL IAMs_20 IAMs_20 11 54 36.1
comp=Z,5µm,19.0s
GKP Gorka Klasztor 20.92 107 *e*P Pn 11 45 59.1 +3.5
GKP *e*S Sn 11 49 53.6 +1.6
PBUR Paburge 20.99 96 *e*P P **11 45 53.9 -0.1**
PLN Plauen 21.04 118 *e*P P **11 45 54.2 -0.4**
comp=Z,591nm,2.1s,baz=324,slow=11
WERD Werda 21.13 118 *e*P P **11 45 55.0 -0.5**
comp=Z,496nm,2.4s,baz=324,slow=11
FBE Freiberg 21.15 116 *e*P P **11 45 55.2 -0.5**
comp=Z,1µm,2.4s,baz=324,slow=11
ECH Echery 21.16 129 P P **11 45 56.1 +0.2**
ECH pmax pmax
comp=Z,125nm,1.3s
ECH Echery 21.16 129 P P **11 45 56.1 +0.2**
ECH IAmb IAmb 11 45 59.7
comp=Z,125nm,1.3s
GUNZ Gunzen 21.20 118 *e*P P **11 45 55.8 -0.6**
baz=324,slow=11
TANN Tannenbergstha 21.21 118 *e*P P **11 45 55.9 -0.6**
comp=Z,306nm,1.3s,baz=324,slow=11
WERN Wernitzgruen 21.28 118 *e*P P **11 45 56.4 -0.9**
comp=Z,480nm,1.8s,baz=324,slow=11
GRA1 Grafenberg Arr 21.34 121 P P **11 45 58.0 +0.2**
GRA1 IAmb IAmb 11 46 07.9
comp=Z,137nm,1.2s
GRA1 IAMs_20 IAMs_20 11 55 34.8
comp=Z,6µm,18.0s
GRF Grafenberg Arr 21.34 121 P P **11 45 58.0 +0.2**
GRF pmax pmax
comp=Z,137nm,1.2s
GRF MLR MLR
comp=Z,6µm,18.0s
GRF Grafenberg Arr 21.34 121 *e*P P **11 45 58.1 +0.3**
comp=Z,308nm,1.7s,baz=324,slow=11
GRF *e*L L 11 55 36.8
comp=Z,6µm,18.3s
NKC Novy Kostel 21.36 118 *e*P P **11 45 57.4 -0.6**
NKC *e*S Sn 11 50 02.7 0.0
NKC AMS AMS 11 54 50.0
comp=Z,6µm,17.1s
NKC Novy Kostel 21.36 118 *e*P P **11 45 57.4 -0.6**
NKC *e*S Sn 11 50 02.7 0.0
NKC MLR MLR
comp=Z,6µm,17.1s
STU Stuttgart 21.38 125 P P **11 45 58.5 +0.3**
STU pmax pmax
comp=Z,231nm,1.4s
STU MLR MLR
comp=Z,4µm,18.0s
STU Stuttgart 21.38 125 *e*P P **11 45 58.6 +0.3**
comp=Z,456nm,1.9s,baz=324,slow=11
STU Stuttgart 21.38 125 P P **11 45 58.5 +0.3**
STU IAmb IAmb 11 46 03.3
comp=Z,231nm,1.4s
BRG Berggiesshubel 21.42 115⇑*i*P P **11 45 58.2 -0.4**
comp=Z,29nm,1.1s
BRG *i* 11 46 00.8
comp=Z,167nm,1.2s
BRG *e* 11 46 06.6
comp=Z,303nm,1.7s
BRG S Sn 11 50 01.0 -3.1
comp=Z,6.6nm,17.5s
comp=N,5µm,18.9s
comp=E,5µm,18.9s
BRG Berggiesshubel 21.42 115 *e*P P **11 45 58.0 -0.6**
comp=E,566nm,2.1s,baz=324,slow=11
MANZ Manzenberg 21.43 119 *e*P P **11 45 58.2 -0.5**
comp=E,130nm,1.6s,baz=324,slow=11
BFO Black Forest 21.46 127 P P **11 45 59.1 0.0**
BFO pmax pmax
comp=Z,177nm,1.3s
BFO MLR MLR
comp=Z,4µm,19.0s
BFO Black Forest 21.46 127 *e*P P **11 45 58.0 -1.1**
comp=Z,240nm,1.4s,baz=324,slow=11
BFO *e*L L 11 54 39.9
comp=Z,4µm,18.2s
BFO Black Forest 21.46 127 P P **11 45 59.1 0.0**
BFO IAmb IAmb 11 46 03.9
comp=Z,177nm,1.3s
VSU Vasula 21.56 86 *e*P P **11 45 58.6 -1.4**
VSU Vasula 21.56 86*d i*P P **11 45 58.6 -1.4**
VSU pmax pmax
comp=Z,668nm,2.5s
ROTZ Rotzenmuhle 21.64 119 *e*P P **11 46 00.9 -0.2**
comp=Z,417nm,2.2s,baz=324,slow=11
FRB Frobisher Bay 21.75 291 P P **11 46 02.6 +0.6**
comp=Z,17nm,0.9s,baz=69,slow=9.3,SNR=4.7
FRB LR LR 11 53 42.4
comp=Z,4µm,20.9s,baz=58,slow=35
PVCC Panska Ves 21.93 115 AMS AMS 11 55 30.0
comp=Z,5µm,17.0s
SLVR Solovky 22.05 65 *e*P P **11 46 03.4 -1.9**
comp=Z,315nm,1.7s
SLVR *e*S S **11 50 07.3 -1.5**
PABE Paberze 22.21 95 *e*P P **11 46 06.3 -0.7**
PRA Prague 22.25 116 *e*P P **11 46 09.9 +2.4**
PRA *e*S S **11 50 16.6 +3.9**
PRA AMS AMS 11 55 40.0
comp=Z,3µm,15.9s
PRA Prague 22.25 116 *e*P P **11 46 09.9 +2.4**
PRA MLR MLR
comp=Z,3µm,15.9s
PRU Pruhonice 22.35 116 *e*P P **11 46 09.9 +1.2**
PRU *e*S S **11 50 18.4 +3.6**
PRU AMS AMS 11 55 40.0
comp=Z,6µm,15.6s
PRU Pruhonice 22.35 116 *e*P P **11 46 09.9 +1.2**
PRU *e*S S **11 50 18.4 +3.6**
PRU MLR MLR
comp=Z,6µm,15.6s
KSP Ksiaz 22.37 112 *e*P P **11 46 08.1 -0.7**
KSP *e*S Sn 11 50 21.7 -5.1
WET Wettzell 22.41 119 *e*P P **11 46 08.6 -0.6**
comp=Z,312nm,1.9s,baz=324,slow=11
WET *e*L L 11 54 43.6
comp=Z,6µm,22.0s
CHVC Chvalec 22.47 113 *e*P P **11 46 11.0 +1.0**
CHVC *e*S S **11 50 20.4 +3.3**
CHVC AMS AMS 11 55 00.0
comp=Z,5µm,18.0s
GOPC GO Pecny, Ondr 22.51 116 *e*P P **11 46 09.3 -1.1**
GOPC AMS AMS 11 55 50.0
comp=Z,7µm,17.0s
GOPC GO Pecny, Ondr 22.51 116 *e*P P **11 46 09.3 -1.1**
GOPC MLR MLR
comp=Z,7µm,17.0s
UPC Upice 22.52 113 *e*P P **11 46 10.7 +0.3**
UPC *e*S S **11 50 21.5 +3.6**
UPC AMS AMS 11 55 40.0
comp=Z,6µm,18.0s
UPC Upice 22.52 113 *e*P P **11 46 10.7 +0.3**
UPC MLR MLR
comp=Z,6µm,18.0s
OSTC Ostas 22.56 113 *e*P P **11 46 11.7 +0.8**
OSTC *e*S S **11 50 23.2 +4.5**
OSTC AMS AMS 11 55 00.0
comp=Z,6µm,22.5s
UBR Ueberruh 22.63 126 *e*P P **11 46 11.5 -0.2**
comp=Z,372nm,1.5s,baz=324,slow=11
FUR Furstenfeldbru 22.63 123 *e*L L 11 56 21.3
comp=Z,5µm,18.2s
KHC Kasperske Hory 22.68 118 *e*P P **11 46 11.5 -0.7**
KHC *ex* x 11 46 20.5
KHC *e*S S **11 50 25.7 +4.7**
KHC AMS AMS 11 54 50.0
comp=Z,6µm,19.5s
KHC Kasperske Hory 22.68 118 *e*P P **11 46 11.5 -0.7**
KHC *e* 11 46 20.5
KHC MLR MLR
comp=Z,6µm,19.5s
KHC Kasperske Hory 22.68 118 P P **11 46 11.6 -0.7**
DPC Dobruska-Polom 22.76 113 *e*P P **11 46 12.3 -0.8**
DPC *e*S S **11 50 25.4 +2.9**
DPC AMS AMS 11 55 50.0
comp=Z,5µm,17.4s
DPC Dobruska-Polom 22.76 113 *e*P P **11 46 12.3 -0.8**
DPC *e*S S **11 50 25.4 +2.9**
DPC MLR MLR
comp=Z,5µm,17.4s
SENIN Lac Senin/Sane 22.83 132 P P **11 46 14.2 +0.2**
SENIN IAmb IAmb 11 46 38.3
comp=Z,177nm,1.5s
SENIN IAMs_20 IAMs_20 11 55 21.3
comp=Z,4µm,18.0s
SUW Suwalki 22.88 98 *e*P P **11 46 12.6 -1.7**
SUW *e*S S **11 50 26.3 +1.9**
SUW Suwalki 22.88 98 P P **11 46 13.8 -0.4**
SUW pmax pmax
comp=Z,440nm,1.5s
SUW Suwalki 22.88 98 P P **11 46 13.8 -0.4**
DAVA Damuels 22.89 126 *e*P P **11 46 17.3 +2.7**
comp=Z,80nm,1.2s,SNR=14
GEC2 GERESS Array S 22.96 119 *e*P P **11 46 14.6 -0.6**
comp=Z,330nm,1.9s,baz=324,slow=11
GEC2 *e*L L 11 55 10.1
comp=Z,6µm,21.7s
GEC2 GERESS Array S 22.96 119 P P **11 46 14.9 -0.3**
GEC2 IAMs_20 IAMs_20 11 55 21.7
comp=Z,6µm,20.0s
GERES GERESS Array B 22.96 119 P P **11 46 15.1 -0.1**
comp=Z,12nm,0.9s,baz=312,slow=8.5,SNR=26
GERES LR LR 11 55 31.9
comp=Z,6µm,21.0s,baz=332,slow=38
GERES GERESS Array B 22.96 119 P P **11 46 14.9 -0.3**
GERES GERESS Array B 22.96 119 P P **11 46 14.9 -0.3**
SSB Saint Sauveur 22.96 137 P P **11 46 15.8 +0.6**
SSB pmax pmax
comp=Z,223nm,1.8s
SSB MLR MLR
comp=Z,5µm,20.0s
SSB Saint Sauveur 22.96 137 P P **11 46 15.8 +0.6**
SSB IAmb IAmb 11 46 23.8
comp=Z,223nm,1.8s
IZAR Zarasai 23.02 92 *e*P P **11 46 15.6 -0.1**
RETA Reutte 23.02 125 *i*P P **11 46 16.4 +0.5**
comp=Z,32nm,1.0s,SNR=17
ZFI2 Zemlya Franca- 23.05 22⇓*i*P P **11 46 16.2 +0.4**
comp=Z,41nm,1.5s
ZFI2 *e*S S **11 50 29.0 +2.0**
ISAL Salakas 23.09 93 *e*P P **11 46 16.7 +0.3**
KRLC Kraliky 23.16 113 *e*P P **11 46 16.7 -0.5**
KRLC *e*S S **11 50 33.6 +4.2**
KRLC AMS AMS 11 56 20.0
comp=Z,5µm,17.4s
KRLC Kraliky 23.16 113 *e*P P **11 46 16.7 -0.5**
KRLC MLR MLR
comp=Z,5µm,17.4s
MOTA Moosalm 23.27 125 *e*P P **11 46 19.0 +0.6**
comp=Z,157nm,2.0s,SNR=24
IIGN Ignalina 23.28 93 *e*P P **11 46 18.2 -0.1**
TREC Trest 23.28 116 *e*S S **11 50 34.9 +3.6**
TREC AMS AMS 11 56 10.0
comp=Z,5µm,16.6s
TMCR Tamitsa 23.33 66 *e*P P **11 46 17.1 -1.6**
TMCR *e*S S **11 50 30.7 -1.1**
TMCR Tamitsa 23.33 66 *e*P P **11 46 17.2 -1.6**
TMCR *e*S S **11 50 30.4 -1.5**
PGAV Gavieira, Arco 23.37 162 *e*P P **11 46 20.6 +1.2**
comp=Z,163nm,1.6s
PGAV *e*S S **11 50 35.8 +2.8**
PGAV *e*LR LR 11 52 25.9
comp=Z,2µm,18.0s
SQTA Sankt Quirin 23.41 125 *i*P P **11 46 21.1 +1.3**
comp=Z,126nm,1.7s,SNR=16
FETA Feichten 23.41 126 *e*P P **11 46 21.9 +2.0**
comp=Z,22nm,1.4s,SNR=11
TUE Stuetta 23.41 128 P P **11 46 21.8 +1.8**
TUE IAMs_20 IAMs_20 11 55 21.7
comp=Z,4µm,19.0s
BEL Belsk 23.44 105 *e*P P **11 46 19.9 -0.1**
BEL *e*S Sn 11 50 43.6 -9.0
WATA Walderalm 23.44 124 *e*P P **11 46 20.5 +0.2**
comp=Z,98nm,1.3s,SNR=14
IDID Didziasalis 23.52 92 *e*P P **11 46 20.5 -0.2**
WTTA Wattenberg 23.52 124 *e*P P **11 46 21.1 0.0**
comp=Z,106nm,1.4s,SNR=17
FUORN Ofenpass-Fuorn 23.60 127 P P **11 46 23.4 +1.5**
FUORN IAmb IAmb 11 46 47.4
comp=Z,128nm,1.4s
FUORN IAMs_20 IAMs_20 11 56 17.5
comp=Z,6µm,18.0s
PCAB Cabril 23.65 162 *e*P P **11 46 23.0 +0.8**
comp=Z,154nm,1.6s
EUNU Eureka 23.65 336 P P **11 46 21.8 -0.2**
EUNU IAmb IAmb 11 46 57.3
comp=Z,162nm,1.5s
EUNU IAMs_20 IAMs_20 11 55 16.6
comp=Z,6µm,20.0s
VRAC Vranov 23.70 114 P P **11 46 21.8 -0.8**
comp=Z,26nm,1.0s,baz=328,slow=11,SNR=27
VRAC LR LR 11 56 46.9

comp=Z,5μm,18.9s,baz=336,slow=40
VRAC Vranov 23.70 114 ⇓P **P 11 46 23.0 +0.4**
VRAC Vranov 23.70 114 *e*P **P 11 46 21.5 -1.1**
VRAC *e*S **S 11 50 43.9 +5.9**
MORC Moravsky Berou 23.70 112 ⇑P **P 11 46 23.4 +0.8**
MORC Moravsky Berou 23.70 112 *e*P **P 11 46 21.0 -1.6**
MORC *e*S **S 11 50 43.9 +5.8**
MORC Moravsky Berou 23.70 112 P **P 11 46 22.7 +0.1**
MORC pmax pmax
comp=Z,290nm,1.7s
MORC MLR MLR
comp=Z,5μm,19.0s
MORC Moravsky Berou 23.70 112 P **P 11 46 22.7 +0.1**
MORC IAMs_20 IAMs_20 11 56 26.2
comp=Z,5μm,19.0s
PBRG Braganca 23.74 160 *e*P **P 11 46 25.0 +1.9**
comp=Z,108nm,1.7s
BNI Bardonecchia 23.81 134 P **P 11 46 24.3 +0.5**
BNI pmax pmax
comp=Z,242nm,1.8s
BNI MLR MLR
comp=Z,5μm,21.0s
BNI Bardonecchia 23.81 134 P **P 11 46 24.3 +0.5**
BNI IAMs_20 IAMs_20 11 55 10.1
comp=Z,5μm,21.0s
NACGM Naroch 23.81 93 *e*P **P 11 46 22.0 -1.6**
NACGM *e*PP PnPn 11 47 04.0 +13
NACGM *e*PPP PPP 11 47 22.0
NACGM *e*S **S 11 50 40.0 +0.3**
NACGM *e*SS SnSn 11 51 44.0 +27
NACGM *e*SSS SSS 11 52 20.0
NACGM *e*LQ LQ 11 54 22.0
NACGM *e*LR LR 11 56 10.0
NACGM LRM MLR 11 58 10.0
comp=Z,3.5nm,14.0s
KRUC Moravsky 23.82 115 *e*P **P 11 46 22.9 -0.8**
KRUC *e*S **S 11 50 46.0 +6.1**
MOA Molln 24.00 119 *e*P **P 11 46 27.6 +2.2**
comp=Z,67nm,1.6s,SNR=11
PVRL Vila Real 24.12 162 *e*P **P 11 46 27.6 +0.9**
comp=Z,174nm,1.6s
OJC Ojcow 24.26 109 *e*P **P 11 46 26.3 -1.6**
OJC *e*S **S 11 50 56.9 +10**
OJC Ojcow 24.26 109 P **P 11 46 25.8 -2.1**
OJC **P 11 46 26.4 -1.5**
ABTA Abfaltersbach 24.28 123 *e*P **P 11 46 29.9 +1.7**
comp=Z,60nm,1.7s,SNR=12
KBA Koelnbreinsper 24.30 122 *e*P **P 11 46 31.3 +2.8**
comp=Z,51nm,1.4s,SNR=7.9
MVO Moncorvo 24.32 161 *e*P **P 11 46 29.2 +0.6**
comp=Z,195nm,1.7s
MVO *e*S **S 11 50 49.0 +0.8**
MVO *e*LR LR 11 53 00.0
comp=Z,2μm,16.0s
JAVC Velka Javorina 24.48 113 *e*P **P 11 46 29.9 -0.1**
JAVC *e*S **S 11 50 56.2 +5.5**
CONA Conrad Observa 24.54 117 *e*P **P 11 46 30.2 -0.3**
comp=Z,15nm,0.8s,SNR=14
MICGM Minsk 24.56 93⇓*e*P **P 11 46 29.0 -1.5**
MICGM ⇓*e*P **P 11 46 29.0 -1.5**
MICGM PM 11 46 30.0
comp=Z,3.4nm,7.0s
MICGM PM 11 46 32.0
comp=Z,0.8nm,2.0s
MICGM PM 11 46 33.0
comp=N,1.0nm,2.0s
MICGM *e*PP PnPn 11 47 14.0 +13
MICGM *e*S **S 11 50 46.0 -5.6**
MICGM SM 11 50 59.0
comp=E,11nm,10.0s
MICGM eSS 11 51 52.0
MICGM *e*LQ LQ 11 55 08.0
MICGM *e*LR LR 11 56 40.0
MICGM LRM MLR 11 58 26.0
comp=E,3.0nm,10.0s
MICGM LRM MLR 11 58 28.0
comp=Z,3.4nm,10.0s
MNK Minsk 24.56 93⇓*e*P **P 11 46 29.0 -1.5**
MNK *e* 11 46 29.0
MNK *e* 11 47 14.0
MNK *e*S **S 11 50 46.0 -5.6**
MNK *e* 11 51 52.0
MNK pmax pmax
comp=Z,3μm,7.0s
MNK pmax pmax
comp=Z,810nm,2.0s
MNK pmax pmax
comp=N,950nm,2.0s
MNK smax smax
comp=E,11μm,10.0s
MNK MLR MLR
comp=E,3μm,10.0s
MNK MLR MLR
comp=Z,3μm,10.0s
SALO Salr 24.56 128 P **P 11 46 29.6 -1.1**
SALO IAmb IAmb 11 47 21.7
comp=Z,99nm,1.4s
CTI Castel Tesino 24.57 125 P **P 11 46 31.4 +0.5**
CTI pmax pmax
comp=Z,154nm,1.4s
CTI MLR MLR
comp=Z,4μm,20.0s
CTI Castel Tesino 24.57 125 P **P 11 46 31.4 +0.5**
ZOU Zoufplan 24.61 123 P **P 11 46 33.0 +1.7**
CIMO Cimolais 24.63 124 P **P 11 46 31.4 +0.1**
CIMO IAMs_20 IAMs_20 11 57 48.8
comp=Z,7μm,18.0s
PVIS Viseu 24.65 162 *e*P **P 11 46 31.5 0.0**
comp=Z,111nm,1.8s
SMOL Smolenice 24.66 114 *e*P **P 11 46 31.5 -0.1**
SMOL pmax pmax
comp=Z,200nm,2.2s
SMOL Smolenice 24.66 114 *e*P **P 11 46 31.5 -0.1**
MODS Modra-Piesok 24.72 115 *e*P **P 11 46 31.5 -0.6**
MODS pmax pmax
comp=Z,153nm,1.7s
MODS Modra-Piesok 24.72 115 *e*P **P 11 46 31.5 -0.6**
MODS *e*S **S 11 50 58.8 +4.4**
MODS *e*L L 11 56 06.7
MYKA Terra Mystica 24.79 122 *e*P **P 11 46 34.3 +1.5**
comp=Z,60nm,1.8s,SNR=6.1
PRED Cave del Predi 24.92 122 P **P 11 46 34.2 +0.2**
PRED IAMs_20 IAMs_20 11 57 32.5
comp=Z,5μm,19.0s
ARSA Arzberg 24.97 118 *e*P **P 11 46 34.2 -0.1**
comp=Z,73nm,2.0s
MTE Manteigas 25.00 162 P **P 11 46 34.6 -0.1**
MTE Manteigas 25.00 162 *e*P **P 11 46 35.9 +1.2**
comp=Z,212nm,1.7s
MTE *e*S **S 11 51 07.5 +8.3**
MTE *e*LR LR 11 53 17.8
comp=Z,2μm,20.0s
COI Coimbra 25.08 163 P **P 11 46 35.9 +0.6**
COI pmax pmax
comp=Z,165nm,1.3s
COI Coimbra 25.08 163 P **P 11 46 35.9 +0.6**
COI Coimbra 25.08 163 A A 11 46 41.8
comp=Z,246nm,1.4s
NIE Niedzica 25.09 109 *e*P **P 11 46 35.7 +0.3**
NIE *e*S S 11 51 13.0 +13
OBKA Obir 25.22 121 *e*P **P 11 46 37.6 +0.8**
comp=Z,51nm,1.5s,SNR=5.8
PCAS Casmilo, Conde 25.22 164 *e*P **P 11 46 38.7 +2.0**
comp=Z,212nm,1.7s
VYHS Vyhne 25.24 112 *e*P **P 11 46 36.4 -0.3**
VYHS pmax pmax
comp=Z,149nm,1.6s
VYHS Vyhne 25.24 112 *e*P **P 11 46 36.4 -0.3**
VYHS *e*S **S 11 51 07.5 +4.8**
VYHS *e*L L 11 55 41.2
SOKA Soboth 25.26 120 *i* P **P 11 46 38.8 +1.8**
comp=Z,62nm,1.6s,SNR=15
PERS Pernice 25.33 120 *e*P **P 11 46 37.0 -0.7**
PCBR Castelo Branco 25.56 162 *e*P **P 11 46 40.6 +0.9**
comp=Z,155nm,1.5s
SRO Srobarova 25.58 114 *e*P **P 11 46 41.6 +1.8**
SRO Srobarova 25.58 114 *e*P **P 11 46 41.6 +1.8**
KLMR Klimovskoe 25.59 72⇓*i*P **P 11 46 38.2 -1.6**
comp=Z,157nm,1.4s
KLMR *i* S **S 11 51 07.0 -1.1**
KLMR Klimovskoe 25.59 72*d i*P **P 11 46 38.2 -1.6**
KLMR *e* 11 50 08.0
KLMR *e*S **S 11 51 07.2 -0.9**
KLMR pmax pmax
comp=Z,157nm,1.4s
KLMR MLR MLR
comp=Z,3μm,16.0s
KLMR Klimovskoe 25.59 72⇓*i*P **P 11 46 38.2 -1.6**
KLMR *i* P **P 11 46 38.2 -1.6**
KLMR *i* P **P 11 46 38.2 -1.6**
KLMR AMP 11 46 54.1
comp=Z,157nm,1.4s
KLMR *e*PcP **PcP 11 50 08.0 -2.4**
KLMR *e*S **S 11 51 07.2 -0.9**
KLMR *e*S **S 11 51 07.2 -0.9**
KLMR LQ LQ 11 53 38.2
KLMR LQ LQ 11 53 38.2
KLMR LR LR 11 54 46.5
KLMR AMP 11 56 30.3
comp=Z,3μm,16.4s
TRI Trieste 25.62 123 IAMs_20 IAMs_20 11 58 16.0
comp=Z,4μm,20.0s
PSBE So Bento 25.72 164 A A 11 46 47.5
comp=Z,147nm,1.8s
PDKS Podkum 25.77 121 *e*P **P 11 46 40.5 -1.1**
UCM Universidad Co 25.78 154 *e*P **P 11 46 45.0 +3.3**
UCM *e*S **S 11 51 21.9 +10**
VLC Villacollemand 25.80 129 P **P 11 46 42.8 +0.9**
VLC **P 11 46 45.0 +3.1**
ZCCA Zocca 25.82 128 IAMs_20 IAMs_20 11 56 42.5
comp=Z,5μm,21.0s
KECS Kecovo 25.91 110 *e*P **P 11 46 43.7 +0.9**
KECS pmax pmax
comp=Z,35nm,1.1s
KECS Kecovo 25.91 110 *e*P **P 11 46 43.7 +0.9**
KWP Kalwaria Pacla 25.91 106 *e*P **P 11 46 44.9 +2.0**
KWP *e*S S 11 51 25.6 +12
KWP Kalwaria Pacla 25.91 106 P **P 11 46 42.5 -0.3**
KWP pmax pmax
comp=Z,487nm,1.4s
KWP Kalwaria Pacla 25.91 106 P **P 11 46 42.5 -0.3**
LSH Leshukonskoye 25.95 61 *e*P **P 11 46 40.4 -2.6**
comp=Z,167nm,1.9s
LSH *i* S **S 11 51 10.1 -3.6**
CRVS Cervenica-Dubn 25.97 109 *e*P **P 11 46 42.9 -0.5**
CRVS pmax pmax
comp=Z,193nm,1.6s
CRVS Cervenica-Dubn 25.97 109 *e*P **P 11 46 42.9 -0.5**
CRVS *e*S **S 11 51 15.6 +1.3**
CRVS *e*L L 11 54 33.6
PMRV Marv??o 25.98 162 *e*P **P 11 46 45.4 +1.9**
comp=Z,167nm,1.5s
PMRV *e*S **S 11 51 22.7 +8.1**
PMRV *e*LR LR 11 53 48.8
comp=Z,2μm,20.0s
SCHQ Schefferville 26.04 271 P **P 11 46 42.8 -1.2**
comp=Z,37nm,0.8s,baz=39,slow=7.6,SNR=22
SCHQ LR LR 11 55 35.9
comp=Z,3μm,19.4s,baz=56,slow=33
SCHQ Schefferville 26.04 271 P **P 11 46 43.2 -0.8**
SCHQ IAmb IAmb 11 46 46.9
comp=Z,39nm,0.8s
PSZ Piszkesteto 26.12 112 ⇑P **P 11 46 44.9 +0.1**
PSZ Piszkesteto 26.12 112 P **P 11 46 44.6 -0.2**
PSZ pmax pmax
comp=Z,347nm,1.5s
PSZ MLR MLR
comp=Z,4μm,18.0s
PSZ Piszkesteto 26.12 112 P **P 11 46 44.6 -0.2**
PSZ IAMs_20 IAMs_20 11 58 14.3
comp=Z,4μm,18.0s
PMAFR Mafra 26.22 165 *e*P **P 11 46 46.8 +1.1**
comp=Z,190nm,1.5s
PMTG Montargil 26.23 164 *e*P **P 11 46 48.5 +2.8**
comp=Z,113nm,1.8s
ESBB Sonseca Array 26.27 156 P **P 11 46 45.9 -0.3**
ESBB IAmb IAmb 11 46 51.4
comp=Z,48nm,1.2s
ESDC Sonseca Array 26.27 156 P **P 11 46 45.5 -0.7**
comp=Z,12nm,0.9s,baz=348,slow=8.9,SNR=50
ESDC LR LR 11 56 28.3
comp=Z,2μm,19.6s,baz=340,slow=35
ESDC Sonseca Array 26.27 156 P **P 11 46 45.3 -0.9**
KOLS Kolonicke sedl 26.27 108 *e*P **P 11 46 44.8 -1.3**
KOLS pmax pmax
comp=Z,186nm,1.5s
KOLS Kolonicke sedl 26.27 108 *e*P **P 11 46 44.8 -1.3**
KOLS *e*S **S 11 51 23.8 +4.7**
KOLS *e*L L 11 54 56.5
LVV L'vov 26.32 104 *e*P **P 11 46 46.0 -0.5**
LVV *e*S **S 11 51 13.7 -6.0**
LVV *e*SSS SSS 11 52 47.1
LVV pmax pmax
comp=Z,800nm,1.7s
LVV smax smax
comp=E,5μm,6.8s
LVV smax smax
comp=N,6μm,6.8s
LVV MLR MLR
comp=E,2μm,15.0s
LVV MLR MLR
comp=N,2μm,14.0s
LVV MLR MLR
comp=Z,3μm,14.0s
PAB San Pablo 26.33 157 P **P 11 46 46.5 -0.3**
PAB pmax pmax
comp=Z,98nm,1.5s
PAB San Pablo 26.33 157 P **P 11 46 46.5 -0.3**
PAB IAmb IAmb 11 46 57.9
comp=Z,98nm,1.4s
RES Resolute Bay 26.45 324 LR LR 11 57 11.8
comp=Z,2μm,18.0s,baz=66,slow=36
LIS Lisbon 26.47 165 *e*S **S 11 51 22.6 +0.4**
UZH Uzhgorod 26.52 108⇓*e*P **P 11 46 48.9 +0.6**
UZH *e* 11 47 36.6
UZH *e* 11 50 16.0
UZH *e*S **S 11 51 21.3 -1.7**
UZH *e* 11 52 48.9
UZH MLR MLR
comp=N,950nm,16.0s
UZH MLR MLR
comp=E,880nm,16.0s
UZH MLR MLR
comp=Z,330nm,16.0s
OSSC Osservatorio P 26.65 129 P **P 11 46 50.6 +1.1**
EVO Evora 26.78 163 *e*P **P 11 46 48.2 -2.6**
EVO *e*S **S 11 51 29.9 +2.6**
EVO Evora 26.78 163 A A 11 46 59.8
comp=Z,57nm,1.9s
PNCL Nicolau / Gran 27.14 164 *e*P **P 11 46 55.3 +1.4**
comp=Z,56nm,1.7s
PBEJ Beja 27.30 163 *e*P **P 11 46 56.3 +0.9**
comp=Z,68nm,1.7s
MURB Monte Urbino 27.31 127 P **P 11 46 55.1 -0.5**
PRGR Permogore 27.61 67 P **P 11 46 55.7 -2.3**
comp=Z,103nm,1.8s
PRGR Permogore 27.61 67 *e*P **P 11 46 55.8 -2.2**
PCVE Castro Verde 27.67 164 *e*P **P 11 47 00.4 +1.7**
comp=Z,49nm,1.8s
PTEO Sao Teotonio 27.67 165 *e*P **P 11 47 00.4 +1.6**
comp=Z,85nm,1.8s
AKASG Malin Array Be 27.84 98 P **P 11 46 58.0 -2.2**
comp=Z,10nm,0.9s,baz=324,slow=9.6,SNR=29
AKASG LR LR 11 57 45.1
comp=Z,3μm,21.9s,baz=320,slow=36
AKASG Malin Array Be 27.84 98 *i* P **P 11 47 01.6 +1.5**
AKASG pmax pmax
comp=Z,15nm,1.0s
AKASG Malin Array Be 27.84 98 P **P 11 47 01.1 +0.9**
AKBB Malin Array Si 27.84 98 **P 11 47 00.1 -0.1**
AKBB IAmb IAmb 11 47 52.6
comp=Z,81nm,1.5s
AKBB IAMs_20 IAMs_20 11 57 21.7
comp=Z,4μm,22.0s
MAHO Mahon 27.87 142 *e*P **P 11 47 02.0 +1.5**
MAHO *e*S **S 11 51 48.7 +4.4**
OBN Obninsk 27.88 84 LR LR 11 58 23.7
comp=Z,402nm,18.0s,baz=326,slow=37
OBN Obninsk 27.88 84*de*P **P 11 46 59.1 -1.3**
OBN *i* *PP **sP 11 47 02.6 +0.7**
OBN *e* 11 47 48.2
OBN *e*PPP PPP 11 47 55.4
OBN *e* 11 50 16.5
OBN *i* S **S 11 51 47.3 +3.2**
OBN *e*SS **SnSn 11 52 56.8 +0.3**
OBN pmax pmax
comp=Z,209nm,1.7s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 27.88 84 P **P 11 47 01.3 +0.9**
NRCA Norcia 27.89 127 P **P 11 46 59.6 -1.2**
NRCA IAmb IAmb 11 47 16.2
comp=Z,74nm,1.4s
MOS Moscow 27.91 82 *e*P **P 11 46 58.5 -2.2**
MOS *e* 11 47 57.8
MOS *e*S **S 11 51 42.0 -2.7**
MOS *e*SS **SnSn 11 53 01.9 +4.5**
MOS pmax pmax
comp=Z,124nm,1.6s
MOS MLR MLR
comp=Z,2μm,14.0s
MORF Marmelete 27.92 165 *e*P **P 11 47 01.0 0.0**
MORF AMb AMB 11 47 10.3
comp=Z,59nm,2.3s
MORF *e*S **S 11 51 45.8 +0.5**
MORF Marmelete 27.92 165 *e*P **P 11 47 01.0 0.0**
MORF pmax pmax
comp=Z,59nm,2.3s
PFVI Vila Bisbo 28.07 165 A A 11 47 11.7
comp=Z,78nm,1.7s
SIRR Siria 28.16 112 ⇑P **P 11 47 03.2 +0.1**
AQU L'Aquila 28.42 127 IAMs_20 IAMs_20 12 00 14.1
comp=Z,5μm,19.0s
BUR08 Bucovina Ar. S 28.50 106 P **P 11 47 05.7 -0.5**
BUR08 IAmb IAmb 11 47 23.7
comp=Z,107nm,1.9s
BURAR Bucovina Array 28.53 106 ⇑P **P 11 47 06.0 -0.5**
BURAR Bucovina Array 28.53 106 P **P 11 47 05.5 -0.9**
BZS Buzias 28.68 113 ⇑P **P 11 47 07.8 +0.1**
CART Cartagena 28.85 152 *e*P P 11 46 57.4 -12
CART *e*S **S 11 52 02.6 +2.9**
EMAL Malaga-Limoner 29.03 158 *e*P **P 11 47 13.5 +2.7**
EMAL *e*S **S 11 52 09.4 +6.8**
SFS San Fernando 29.05 161 *e*P **P 11 47 15.3 +4.2**
SFS *e*S **S 11 52 10.3 +7.3**
DIVS Divibare 29.32 116 P **P 11 47 14.1 +0.6**
DIVS **P 11 47 15.1 +1.6**
DIVS IAmb IAmb 11 47 47.6
comp=Z,60nm,1.7s
BIZ Bicaz 29.43 106 ⇑P **P 11 47 13.7 -0.7**
LOT Lotru 29.68 110 ⇑P **P 11 47 17.8 +1.1**
CEU Ceuta 29.73 160 *e*P P 11 47 10.8 -6.3
CEU *e*S **S 11 52 17.0 +3.4**
TESR Tescani 30.00 106 ⇑P **P 11 47 20.4 +1.0**
ARR Arges 30.10 109 ⇑P **P 11 47 20.9 +0.6**
VOIR 30.21 109 ⇑P **P 11 47 21.4 0.0**
MTUR Matau 30.39 109 ⇑P **P 11 47 23.8 +0.8**
KIS Kishinev 30.51 103 *i* P **P 11 47 22.0 -1.9**
KIS Kishinev 30.51 103 *e*PPP PPP 11 48 24.0
KIS Kishinev 30.51 103 *e*PcP **PcP 11 50 24.0 +1.3**
KIS *e*S **S 11 52 19.0 -6.8**
KIS *e*L L 11 59 50.0
KIS LRM MLR 12 00 48.0
comp=Z,400nm,17.0s
PLOR Plostina 30.53 107 ⇑P **P 11 47 24.1 0.0**
MLR Muntele Rosu 30.53 108 ⇑P **P 11 47 24.6 +0.3**
MLR Muntele Rosu 30.53 108 P **P 11 47 24.0 -0.2**
MLR *PP **P 11 47 24.6 +0.3**
MLR pmax pmax
comp=Z,91nm,1.5s
MLR MLR MLR
comp=Z,4μm,18.0s
MLR Muntele Rosu 30.53 108 P **P 11 47 24.0 -0.2**
MLR **P 11 47 24.6 +0.3**
MLR IAMs_20 IAMs_20 12 01 10.9
comp=Z,4μm,18.0s
VRI Vrincioaia 30.55 107 ⇑P **P 11 47 24.3 +0.1**
MILM Milestii Mici 30.57 103 ⇓P **P 11 47 25.3 +0.9**
PVLZ Peæn de 30.61 158 *e*P **P 11 47 25.2 +0.4**
PVLZ *e*S **S 11 52 31.8 +4.5**
LPSR Galich'ya Gora 30.62 86 *e*P **P 11 47 23.4 -1.4**
LPSR *e*S **S 11 52 28.7 +1.3**
LPSR pmax pmax
comp=Z,60nm,1.4s
LPSR smax smax
comp=E,2μm,10.5s
LPSR MLR MLR
comp=Z,2μm,22.0s
MELI Melilla 30.71 156 *e*P **P 11 47 22.0 -3.8**
MELI *e*S **S 11 52 20.7 -8.3**
BISRR Bisoca 30.80 107 ⇑P **P 11 47 27.4 +0.9**
GBN Guysborough 30.84 253 IAmb IAmb 11 47 31.9
comp=Z,68nm,1.3s
MATE Matera 31.08 124 ⇑P **P 11 47 29.4 +0.4**
BATG Bathurst New B 31.25 260 P **P 11 47 29.7 -0.8**
BATG IAMs_20 IAMs_20 11 58 22.7
comp=Z,4μm,18.0s
RTC Rabat Centre 31.41 163 IAMs_20 IAMs_20 12 00 06.3
comp=Z,3μm,19.0s
VORR Voronezh 31.41 87 *e*P **P 11 47 30.0 -1.8**
VORR pmax pmax
comp=Z,300nm,2.0s
TIR Tirane 31.62 119 IAMs_20 IAMs_20 12 02 16.9
comp=Z,3μm,18.0s
CFR Carcaliu 31.69 106 ⇑P **P 11 47 34.1 -0.1**
VSR Storozhevoye 31.73 88 *e*P **P 11 47 33.9 -0.6**
VSR *e*S **S 11 52 40.1 -4.5**
VSR pmax pmax
comp=Z,90nm,1.3s
VSR smax smax
comp=N,2μm,11.9s
VSR MLR MLR
comp=Z,4μm,18.0s
VTS Vitosha 31.83 114 *e*P **P 11 47 33.9 -1.8**
LMN Caledonia Moun 31.85 257 IAMs_20 IAMs_20 11 58 39.6
comp=Z,3μm,19.0s
PMOZ Porto Moniz, M 31.89 180 *e*LR LR 11 56 06.9
comp=Z,969nm,16.0s
VORD Divnogorie 31.96 88 *e*P **P 11 47 35.5 -1.1**
VORD *e*S **S 11 52 54.4 +6.1**
VORD pmax pmax
comp=Z,70nm,1.5s
VORD smax smax
comp=E,250nm,6.6s
AVE Averroes 32.02 164 *e*P **P 11 47 36.0 -1.3**
AVE *e*S **S 11 52 52.4 +2.9**
IFR Ifrane 32.11 160 *e*P **P 11 47 37.6 -0.6**
IFR *e*S **S 11 52 54.3 +3.1**
OHR Ohrid 32.18 118 *i* P **P 11 47 41.5 +2.8**
STIP Stip 32.21 116 *i* P **P 11 47 38.4 -0.5**
SCTE Santa Cesarea 32.22 122 IAMs_20 IAMs_20 12 02 02.8
comp=Z,4μm,20.0s
HAL Halifax 32.33 254 IAMs_20 IAMs_20 11 58 42.2
comp=Z,3μm,19.0s
RAZG Razgrad 32.34 109 ⇓P **P 11 47 39.5 -0.5**
TIRR Tirgusor 32.39 106 P **P 11 47 40.0 -0.4**
TIRR pmax pmax
comp=Z,159nm,1.5s
TIRR MLR MLR
comp=Z,4μm,21.0s
TIRR Tirgusor 32.39 106 P **P 11 47 40.0 -0.4**
TIRR IAMs_20 IAMs_20 12 01 05.1
comp=Z,4μm,21.0s
TIP Timpagrande 32.40 125 IAMs_20 IAMs_20 12 00 37.5
comp=Z,4μm,21.0s
KKB Krupnik 32.41 115 *e*P **P 11 47 41.9 +1.2**
PQI Presque Isle 32.55 261 IAMs_20 IAMs_20 11 59 04.3
comp=Z,4μm,19.0s
CLTB Caltabellotta 32.65 131 P **P 11 47 43.6 +0.7**
CLTB **P 11 47 45.0 +2.1**
CLTB IAMs_20 IAMs_20 12 00 54.1
comp=Z,4μm,20.0s
D62A Allapoint, All 32.67 263 P **P 11 47 42.2 -0.7**
baz=39
D62A Allapoint, All 32.67 263 IAmb IAmb 11 47 49.0
comp=Z,52nm,1.8s
D62A IAMs_20 IAMs_20 11 59 02.3
comp=Z,3μm,20.0s
VAY Valandovo 32.67 116 *i* P **P 11 47 42.8 -0.2**
CHGQ Chibougamau 32.79 271 P **P 11 47 43.1 -0.9**
baz=42,SNR=8.6
VRH Novokhopyorsk 32.83 85 *e*P **P 11 47 43.2 -1.0**
VRH *e*S **S 11 52 59.2 -2.7**
VRH pmax pmax
comp=Z,100nm,1.6s
VRH smax smax
comp=N,2μm,9.4s
MMB Musomiste 32.90 114 *e*P **P 11 47 46.9 +1.9**
E63A Oxbow 32.92 261 IAMs_20 IAMs_20 11 59 17.0
comp=Z,4μm,19.0s
CEL Celeste 32.92 127 IAMs_20 IAMs_20 12 03 33.4
comp=Z,3μm,18.0s
KEST Kesra 33.17 138 P **P 11 47 47.1 -0.3**
comp=Z,37nm,1.3s,baz=308,slow=1.3,SNR=14

KEST LR LR 12 00 06.7
comp=Z,2μm,21.0s,baz=290,slow=34
KEST Kesra 33.17 138 P **P 11 47 47.5 0.0**
KEST **P 11 47 49.8 +2.4**
E62A Clayton Lake 33.23 263 P **P 11 47 48.6 +0.8**
E62A IAmb IAmb 11 47 55.0
comp=Z,54nm,1.6s
E62A IAMs_20 IAMs_20 11 59 19.2
comp=Z,3μm,20.0s
GGN Saint George 33.29 258 IAMs_20 IAMs_20 11 59 24.6
comp=Z,3μm,20.0s
F64A Sherman 33.34 261 P **P 11 47 47.4 -1.3**
baz=37
F64A Sherman 33.34 261 IAMs_20 IAMs_20 11 59 37.9
comp=Z,4μm,18.0s
KDZ Kurdzhali 33.51 112 *e*P **P 11 47 49.2 -1.1**
G65A Princeton 33.53 259 IAMs_20 IAMs_20 11 59 32.1
comp=Z,4μm,20.0s
D60A Saint Jean D'O 33.60 264 P **P 11 47 52.0 +1.0**
baz=39
F63A Nahmakanta, Br 33.78 261 P **P 11 47 53.5 +0.9**
baz=37
F63A Nahmakanta, Br 33.78 261 IAmb IAmb 11 47 59.9
comp=Z,43nm,1.5s
F63A IAMs_20 IAMs_20 11 59 51.7
comp=Z,4μm,18.0s
E61A Lac Etchemin 33.80 263 P **P 11 47 52.4 -0.3**
baz=38
EMMW East Machias 33.88 258 IAMs_20 IAMs_20 11 59 51.4
comp=Z,3μm,18.0s
G64A Maxfield 33.99 260 P **P 11 47 54.2 -0.3**
baz=37
F62A Pittston Farm, 33.99 262 P **P 11 47 53.9 -0.5**
baz=38
F62A Pittston Farm, 33.99 262 IAmb IAmb 11 48 01.9
comp=Z,88nm,1.8s
F62A IAMs_20 IAMs_20 11 59 51.4
comp=Z,3μm,20.0s
LATQ La Tuque 34.03 267 P **P 11 47 54.7 -0.1**
baz=39
PKME Peaks-Kenny Pk 34.21 261 P **P 11 47 55.8 -0.5**
baz=37
PKME Peaks-Kenny Pk 34.21 261 IAmb IAmb 11 48 00.4
comp=Z,46nm,1.4s
PKME IAMs_20 IAMs_20 12 00 05.1
comp=Z,4μm,18.0s
E60A Ste Agathe de 34.25 264 P **P 11 47 54.6 -2.0**
baz=38
D58A Chemin du LacG 34.30 266 P **P 11 47 56.6 -0.5**
baz=39
F61A St Evariste 34.37 263 P **P 11 47 57.7 0.0**
baz=38
ALN Alexandroupoli 34.40 112 P **P 11 47 56.8 -1.2**
ALN **P 11 47 58.1 +0.1**
ALN IAMs_20 IAMs_20 12 04 11.4
comp=Z,3μm,19.0s
G63A Kingsbury 34.47 261 P **P 11 47 58.5 -0.1**
baz=37
LSQQ Lebel-sur-Quev 34.55 272 P **P 11 47 58.9 -0.4**
baz=41
AGG Agios Georgios 34.57 118 P **P 11 47 58.5 -1.1**
AGG *PP **P 11 47 59.5 -0.1**
AGG pmax pmax
comp=Z,288nm,1.7s
AGG MLR MLR
comp=Z,4μm,20.0s
AGG Agios Georgios 34.57 118 P **P 11 47 58.5 -1.1**
AGG **P 11 47 59.5 -0.1**
AGG IAMs_20 IAMs_20 12 03 27.1
comp=Z,4μm,20.0s
G62A West of Eustis 34.78 262 IAMs_20 IAMs_20 12 00 25.0
comp=Z,3μm,18.0s
F60A Warwick 34.79 264 P **P 11 48 01.0 -0.3**
baz=38
D57A Chemin Vers le 34.79 267 P **P 11 48 01.0 -0.4**
baz=39,SNR=14
WVL Waterville 34.93 260 IAMs_20 IAMs_20 12 00 35.1
comp=Z,4μm,18.0s
D56A ZEC Mazanza, M 35.14 268 P **P 11 48 04.2 -0.2**
baz=39,SNR=6.9
G61A St-Isidore-de- 35.15 263 P **P 11 48 03.4 -1.1**
baz=37
E57A Chemin Saint G 35.38 267 P **P 11 48 05.7 -0.8**
baz=38
MOQ Mont Orford 35.44 264 P **P 11 48 06.6 -0.4**
D55A Sainte-Anne-du 35.47 269 P **P 11 48 06.5 -0.7**
baz=39,SNR=9.8
VLDQ Val d'Or 35.48 272 P **P 11 48 07.5 +0.3**
H62A Milan 35.56 262 IAMs_20 IAMs_20 12 00 16.7
comp=Z,3μm,22.0s
G60A Masonville 35.64 264 P **P 11 48 08.4 -0.3**
baz=37
E56A St. Veronique 35.66 268 P **P 11 48 08.2 -0.5**
baz=38,SNR=11
I63A Otisfield 35.73 261 IAMs_20 IAMs_20 12 00 51.4
comp=Z,4μm,19.0s
D54A Lac Fusel, La 35.88 270 P **P 11 48 09.6 -1.1**
baz=39,SNR=9.4
ANN Anapa 35.91 97 *e*P P 11 48 05.0 -5.9
ANN *e**PP pP 11 48 07.0 -5.0
ANN *e*S **S 11 53 41.3 -8.1**
ANN *e*SS **SnSn 11 56 06.6 -5.4**
ANN pmax pmax
comp=Z,35nm,1.5s
ANN MLR MLR
comp=Z,4μm,18.0s
ANN MLR MLR
comp=N,2μm,18.0s
H61A Lyndonville 35.92 263 P **P 11 48 13.1 +2.0**
baz=37
G59A Clarenceville 36.02 264 P **P 11 48 11.6 -0.3**
baz=37
ITM Ithomi 36.04 120 P **P 11 48 12.1 -0.2**
ITM **P 11 48 14.0 +1.8**
ITM IAmb IAmb 11 48 16.0
comp=Z,61nm,1.5s
ITM IAMs_20 IAMs_20 12 05 36.9
comp=Z,3μm,20.0s
ARU Arti 36.07 66*d i*P **P 11 48 11.4 -0.8**
ARU 11 49 31.0
ARU 11 50 32.8
ARU S **S 11 53 53.5 +1.8**
ARU pmax pmax
comp=Z,78nm,2.0s
ARU MLR MLR
comp=Z,5μm,22.0s
ARU Arti 36.07 66 P **P 11 48 11.4 -0.8**
ARU IAmb IAmb 11 48 16.8
comp=Z,80nm,1.4s
F57A Harrington 36.08 267 P **P 11 48 13.6 +1.2**
baz=38
LBNH Lisbon 36.15 262 IAMs_20 IAMs_20 12 01 08.5
comp=Z,3μm,19.0s
E55A Montcerf-Lytto 36.16 269 P **P 11 48 12.9 -0.2**
baz=38
I62A Tamworth 36.20 261 IAMs_20 IAMs_20 12 01 16.6
comp=Z,3μm,19.0s
H60A Morristown 36.23 263 P **P 11 48 15.2 +1.5**
baz=37
G58A Ormstown 36.34 265 P **P 11 48 14.8 +0.2**
baz=37
D53A Lac Vacive, Po 36.38 271 P **P 11 48 14.8 -0.2**
baz=39,SNR=7.5
D53A Lac Vacive, Po 36.38 271 P **P 11 48 13.9 -1.1**
FRNY Flat Rock 36.39 265 P **P 11 48 15.0 0.0**
FRNY **P 11 48 15.2 +0.2**
FRNY IAmb IAmb 11 48 22.8
comp=Z,82nm,1.6s
FRNY IAMs_20 IAMs_20 12 01 05.6
comp=Z,3μm,21.0s
VT1 Waterbury 36.43 263 IAMs_20 IAMs_20 12 01 07.1
comp=Z,3μm,20.0s
NRIK Noril'sk 36.44 35 P **P 11 48 15.2 -0.1**
comp=Z,11nm,1.0s,baz=317,slow=4.6,SNR=7.9
NRIK LR LR 12 05 12.1
comp=Z,1μm,18.6s,baz=338,slow=40
I61A Oroboro, Fairl 36.52 262 P **P 11 48 15.7 -0.5**
baz=36
H59A Cadyville 36.58 264 P **P 11 48 16.4 -0.3**
baz=37
SVE Sverdlovsk 36.60 64⇓ *e*P **P 11 48 16.3 -0.4**
SVE *e*S **S 11 54 00.8 +1.0**
SVE pmax pmax
comp=Z,55nm,1.6s
SVE MLR MLR
comp=Z,4μm,20.0s
FFD Franklin Falls 36.66 261 IAMs_20 IAMs_20 12 02 04.9
comp=Z,3μm,18.0s
E54A Lac Daplat, Po 36.67 270 P **P 11 48 16.5 -0.9**
baz=38
ORIO Orleans, Innes 36.72 267 P **P 11 48 17.9 0.0**
baz=38
HNH Hanover 36.74 262 IAMs_20 IAMs_20 12 01 35.0
comp=Z,3μm,18.0s
G57A Newington 36.77 266 P **P 11 48 18.9 +0.5**
baz=37,SNR=12
F55A Otter Lake 36.78 268 P **P 11 48 17.9 -0.5**
baz=38
C36M Paulatuk 36.81 325 IAMs_20 IAMs_20 12 04 29.3
comp=Z,2μm,18.0s
MDUB Mudurnu 36.84 107 IAMs_20 IAMs_20 12 03 33.0
comp=Z,4μm,21.0s
E53A Dumoine, Ponti 36.91 270 P **P 11 48 19.7 +0.1**
baz=38,SNR=13
H58A Gabriels 36.97 265 P **P 11 48 19.1 -1.0**
baz=37
LONY Lake Ozonia 36.98 265 P **P 11 48 19.5 -0.6**
baz=37
LONY Lake Ozonia 36.98 265 P **P 11 48 20.1 -0.1**
LONY IAmb IAmb 11 48 25.2
comp=Z,76nm,1.9s
I60A Shoreham 37.06 263 P **P 11 48 21.1 +0.4**
baz=36
J61A Chester 37.14 262 P **P 11 48 20.8 -0.7**
baz=36
NCB Newcomb 37.35 264 IAMs_20 IAMs_20 12 01 44.1
comp=Z,2μm,20.0s
BCX Boston College 37.38 260 IAMs_20 IAMs_20 12 01 58.0
comp=Z,3μm,20.0s
G55A Calabogie 37.40 268 P **P 11 48 23.6 0.0**
baz=37,SNR=11
ILGA Ilgaz 37.40 104 IAmb IAmb 11 48 29.4
comp=Z,90nm,1.3s
WES Weston 37.41 260 IAMs_20 IAMs_20 12 01 58.6
comp=Z,3μm,18.0s
HRV Adam Dziewonsk 37.41 260 IAMs_20 IAMs_20 12 01 59.6
comp=Z,3μm,18.0s
ALGO Algonquin Park 37.41 270 P **P 11 48 23.4 -0.4**
baz=38
H57A Richville 37.46 266 P **P 11 48 23.7 -0.4**
baz=37
K62A Royalston 37.56 261 IAMs_20 IAMs_20 12 02 06.8
comp=Z,3μm,19.0s
H56A Elgin 37.73 267 P **P 11 48 26.4 0.0**
baz=37
M65A Busby, Falmout 37.80 259 IAMs_20 IAMs_20 12 01 50.0
comp=Z,2μm,21.0s
SOC Sochi 37.86 96 *e*P **P 11 48 26.9 -0.7**
SOC *e* 11 49 52.5
SOC *e*S **S 11 54 18.7 -0.6**
SOC *e*SS **SnSn 11 56 58.7 -0.5**
SOC pmax pmax
comp=Z,7.0nm,0.5s
SOC MLR MLR
comp=Z,1μm,15.0s
G54A Lake Saint Pet 37.87 269 P **P 11 48 27.2 -0.5**
baz=38
J59A Piesco 37.88 264 P **P 11 48 27.4 -0.4**
baz=36
J59A Piesco 37.88 264 IAMs_20 IAMs_20 12 02 01.1
comp=Z,3μm,19.0s
BRYW Bryant College 37.88 260 IAMs_20 IAMs_20 12 02 13.2
comp=Z,2μm,19.0s
I58A Old Forge 37.90 265 P **P 11 48 28.2 +0.2**
baz=36
QUA2 Belchertown 37.93 261 IAMs_20 IAMs_20 12 02 25.4
comp=Z,3μm,18.0s
I57A Carthage 37.99 266 P **P 11 48 28.8 +0.1**
baz=36,SNR=9.5
D48A Paudash Townsh 38.07 274 P **P 11 48 30.1 +0.7**
baz=39
SANT Santorini 38.09 117 IAMs_20 IAMs_20 12 06 33.0
comp=Z,3μm,20.0s
GOF Gofitskoye 38.11 91⇑ *e*P **P 11 48 30.0 +0.3**
GOF pmax pmax
comp=Z,213nm,1.5s
TRY Troy 38.12 263 IAMs_20 IAMs_20 12 02 08.4
comp=Z,3μm,20.0s
H55A Tweed 38.16 268 P **P 11 48 30.0 0.0**
baz=37,SNR=5.7
BOLV Bolvadin 38.23 109 IAMs_20 IAMs_20 12 06 16.7
comp=Z,3μm,19.0s
J58A Remsen 38.30 265 P **P 11 48 31.7 +0.4**
baz=36
J58A Remsen 38.30 265 IAMs_20 IAMs_20 12 02 14.2
comp=Z,3μm,20.0s
BR131 Keskin Array S 38.48 105 P **P 11 48 36.6 +3.6**
SNR=27
BR131 Keskin Array S 38.48 105 IAmb IAmb 11 48 38.4
comp=Z,59nm,1.2s
BRTR Keskin Array B 38.48 105 P **P 11 48 33.0 0.0**
comp=Z,11nm,0.9s,baz=332,slow=5.4,SNR=22
BRTR LR LR 12 05 41.1
comp=Z,667nm,20.9s,baz=287,slow=38
J57A Williamstown 38.56 265 P **P 11 48 33.1 -0.4**
baz=36
PECO Prince Edward 38.57 267 IAMs_20 IAMs_20 12 02 34.3
comp=Z,2μm,20.0s
K59A Cooperstown 38.59 264 P **P 11 48 34.5 +0.8**
baz=36
I55A Frankford 38.64 268 P **P 11 48 32.8 -1.3**
baz=37
D47A Chapleau 38.72 275 P **P 11 48 33.9 -0.9**
baz=39
H53A Bobcaygeon 38.74 269 P **P 11 48 35.1 +0.1**
baz=37,SNR=5.7
E48A Lockeyer 38.77 274 P **P 11 48 34.2 -1.0**
baz=38
ISP Isparta 38.82 110 IAMs_20 IAMs_20 12 06 04.8
comp=Z,2μm,20.0s
SADO Sadowa 38.82 270 P **P 11 48 35.0 -0.7**
SADO **P 11 48 35.8 +0.1**
SADO IAMs_20 IAMs_20 12 03 04.0
comp=Z,3μm,19.0s
KIV Kislovodsk 38.84 92 *e*P **P 11 48 35.9 0.0**
KIV *e* 11 50 02.7
KIV *e*S **S 11 54 34.7 +0.5**
KIV pmax pmax
comp=Z,112nm,1.1s
KIV pmax pmax
comp=Z,483nm,4.4s
KIV MLR MLR
comp=Z,5μm,16.0s
KIV Kislovodsk 38.84 92 IAMs_20 IAMs_20 12 04 22.6
comp=Z,3μm,22.0s
KSCT Kent School, K 38.86 261 P **P 11 48 36.2 +0.2**
KSCT **P 11 48 37.0 +1.0**
KSCT IAMs_20 IAMs_20 12 02 47.2
comp=Z,3μm,19.0s
K58A Earlville 38.94 265 P **P 11 48 36.6 -0.1**
baz=36
K58A Earlville 38.94 265 P **P 11 48 36.9 +0.2**
K58A **P 11 48 37.1 +0.4**
K58A IAMs_20 IAMs_20 12 02 33.1
comp=Z,3μm,20.0s
YLE Yale 38.97 261 IAMs_20 IAMs_20 12 03 05.0
comp=Z,3μm,18.0s
J56A Wolcott 39.04 266 P **P 11 48 38.1 +0.6**
baz=36
KBZ Khabaz 39.11 92 P **P 11 48 39.0 +0.9**
comp=Z,25nm,0.9s,baz=316,slow=9.8,SNR=26
KBZ LR LR 12 04 55.7
comp=Z,3μm,21.5s,baz=328,slow=36
KBZ Khabaz 39.11 92*d i*P **P 11 48 38.5 +0.5**
KBZ pmax pmax
comp=Z,74nm,1.1s
L59A Walton 39.15 263 IAMs_20 IAMs_20 12 02 39.7
comp=Z,2μm,21.0s
YKA Yellowknife Ar 39.20 313 P **P 11 48 37.8 -0.9**
comp=Z,3.9nm,0.9s,baz=44,slow=8.7,SNR=10
YKA PcP **PcP 11 50 46.9 -0.7**
comp=Z,3.2nm,1.0s,baz=36,slow=3.1,SNR=5.8
YKA LR LR 12 04 19.4
comp=Z,1μm,19.8s,baz=0.0,slow=36
D46A Sault St. Mari 39.25 276 P **P 11 48 38.7 -0.5**
baz=38
WSPT Westport, CT 39.26 261 IAMs_20 IAMs_20 12 03 05.5
comp=Z,2μm,20.0s
E47A Iron Bridge 39.27 275 P **P 11 48 39.3 0.0**
baz=38
F49A Sandfield 39.28 273 P **P 11 48 39.6 +0.1**
baz=38
J55A Hilton 39.46 267 P **P 11 48 41.4 +0.4**
baz=36
J55A Hilton 39.46 267 IAMs_20 IAMs_20 12 02 49.9
comp=Z,2μm,21.0s
KARP Karpathos 39.47 116 IAMs_20 IAMs_20 12 06 50.5
comp=Z,2μm,20.0s
BINY Binghamton 39.54 264 IAMs_20 IAMs_20 12 02 52.1
comp=Z,3μm,21.0s
K56A Middlesex 39.71 266 P **P 11 48 44.1 +1.0**
baz=36
E46A Sault Ste Mari 39.77 276 IAMs_20 IAMs_20 12 03 44.2
comp=Z,3μm,19.0s
J54A Appleton 39.81 268 IAMs_20 IAMs_20 12 03 12.1
comp=Z,3μm,20.0s
MEDO Medina 39.82 268 P **P 11 48 44.4 +0.4**
MEDO IAMs_20 IAMs_20 12 03 11.3
comp=Z,3μm,21.0s
INK Inuvik 39.83 329 LR LR 12 06 31.0
comp=Z,991nm,19.5s,baz=22,slow=38
INK Inuvik 39.83 329 P **P 11 48 43.7 -0.1**
INK pmax pmax
comp=Z,20nm,1.2s
INK MLR MLR
comp=Z,1μm,21.0s
INK Inuvik 39.83 329 P **P 11 48 43.6 -0.1**
M59A Waymart 39.84 263 P **P 11 48 45.4 +1.2**
baz=35
MMNY Mt. Morris Dam 39.93 267 P **P 11 48 44.8 -0.2**
MMNY **P 11 48 46.0 +1.1**
MMNY IAMs_20 IAMs_20 12 03 06.4
comp=Z,2μm,21.0s
KSPA Keystone Colle 39.98 264 IAMs_20 IAMs_20 12 03 15.6
comp=Z,3μm,21.0s
K55A Perry 40.01 267 P **P 11 48 46.0 +0.4**
baz=36
L57A Andrews Acres 40.08 265 P **P 11 48 45.9 -0.3**
baz=35
BRNJ Basking Ridge 40.19 262 IAMs_20 IAMs_20 12 03 29.1
comp=Z,2μm,19.0s
L56A Greenwood 40.27 266 P **P 11 48 47.5 -0.3**
baz=35
L56A Greenwood 40.27 266 P **P 11 48 47.8 0.0**
L56A IAmb IAmb 11 48 55.4
comp=Z,99nm,1.7s
L56A IAMs_20 IAMs_20 12 03 38.3
comp=Z,2μm,21.0s
ZEI Tsey 40.30 92 *e*P **P 11 48 48.1 -0.2**
ZEI pmax pmax
comp=Z,75nm,1.7s
I51A Listowel 40.41 270 P **P 11 48 48.6 -0.3**
baz=36
WVNY West Valley, N 40.50 267 P **P 11 48 48.9 -0.8**
WVNY IAmb IAmb 11 48 56.3
comp=Z,55nm,1.3s
WVNY IAMs_20 IAMs_20 12 03 55.3
comp=Z,2μm,21.0s
FFC Flin Flon 40.59 297 P **P 11 48 50.8 +0.5**
FFC pmax pmax
comp=Z,96nm,1.8s
FFC MLR MLR
comp=Z,4μm,19.0s
FFC Flin Flon 40.59 297 P **P 11 48 50.8 +0.5**
FFC IAmb IAmb 11 48 56.1
comp=Z,96nm,1.8s
L55A Hinsdale 40.61 267 P **P 11 48 50.9 +0.3**
baz=35
M57A Sunshine Farm, 40.74 265 P **P 11 48 51.9 +0.3**
baz=35
M57A Sunshine Farm, 40.74 265 P **P 11 48 51.7 +0.1**
M57A IAMs_20 IAMs_20 12 03 38.8
comp=Z,2μm,19.0s
GROC Groznyy 40.78 90 *e*P **P 11 48 48.5 -3.5**
GROC *e* 11 50 24.3
GROC *e*S **S 11 54 59.1 -4.0**
GROC pmax pmax
comp=Z,173nm,1.6s
E43A Lone Tree Farm 40.92 278 P **P 11 48 52.1 -0.9**
L54A Sinclairville 40.94 267 P **P 11 48 54.2 +0.8**
baz=35
N58A Sunbury 40.97 264 P **P 11 48 53.0 -0.5**
baz=34
N58A Sunbury 40.97 264 P **P 11 48 52.7 -0.9**
N58A IAmb IAmb 11 49 05.8
comp=Z,78nm,1.8s
N58A IAMs_20 IAMs_20 12 03 47.0
comp=Z,3μm,21.0s
D41A Chassel 41.04 280 IAMs_20 IAMs_20 12 04 48.7
comp=Z,3μm,19.0s
I49A Point Hope 41.07 272 P **P 11 48 53.9 -0.4**
I49A IAmb IAmb 11 48 56.6
comp=Z,37nm,0.9s
M56A Emporium 41.07 266 P **P 11 48 54.4 -0.1**
baz=35
M56A Emporium 41.07 266 P **P 11 48 54.3 -0.1**
M56A IAMs_20 IAMs_20 12 03 50.5
comp=Z,2μm,22.0s
P61A Hammonton 41.12 261 IAMs_20 IAMs_20 12 04 45.9
comp=Z,2μm,18.0s
KOPT Kop Dagi 41.12 98 P **P 11 48 56.8 +1.7**
GLMI Grayling 41.13 275 P **P 11 48 54.7 -0.2**
GLMI IAmb IAmb 11 49 03.0
comp=Z,71nm,1.1s
GLMI IAMs_20 IAMs_20 12 04 43.0
comp=Z,3μm,20.0s
O59A Robesonia 41.18 263 P **P 11 48 56.0 +0.7**
baz=34
PSUB Penn St. - Bra 41.19 262 IAMs_20 IAMs_20 12 04 09.7
comp=Z,3μm,19.0s
AKH Akhalkalaki 41.25 94 P **P 11 48 57.2 +1.1**
AKH pmax pmax
comp=Z,210nm,1.7s
AKH MLR MLR
comp=Z,3μm,22.0s
AKH Akhalkalaki 41.25 94 P **P 11 48 57.2 +1.1**
AKH IAMs_20 IAMs_20 12 05 58.5
comp=Z,3μm,22.0s
ERPA Erie 41.33 268 IAMs_20 IAMs_20 12 04 20.3
comp=Z,3μm,20.0s
M55A Ridgway 41.33 266 P **P 11 48 56.8 +0.2**
baz=35
M55A Ridgway 41.33 266 IAmb IAmb 11 49 08.8
comp=Z,61nm,1.6s
M55A IAMs_20 IAMs_20 12 04 10.5
comp=Z,2μm,21.0s
P60A Greenville 41.36 262 IAMs_20 IAMs_20 12 04 15.3
comp=Z,3μm,19.0s
N57A Milroy 41.40 265 P **P 11 48 57.7 +0.6**
baz=34
G45A Suttons Bay 41.40 276 IAMs_20 IAMs_20 12 04 44.2
comp=Z,3μm,19.0s
PAGS Pennsylvania G 41.48 263 P **P 11 48 58.2 +0.5**
MVL Millersville 41.51 263 P **P 11 48 57.4 -0.6**
TBLG Delisi 41.52 93 P **P 11 48 58.8 +0.6**
TBLG **P 11 48 59.8 +1.7**
EYMN Ely 41.58 283 P **P 11 48 59.0 +0.5**
baz=38
EYMN Ely 41.58 283 IAMs_20 IAMs_20 12 04 50.9
comp=Z,3μm,21.0s
N56A West Decatur 41.58 265 P **P 11 48 58.7 0.0**
baz=34
ULM Lac du Bonnet 41.60 289 P **P 11 48 57.6 -1.0**
comp=Z,4.5nm,0.7s,baz=38,slow=11,SNR=2.5
ULM LR LR 12 05 30.9
comp=Z,2μm,18.1s,baz=48,slow=35
ULM Lac du Bonnet 41.60 289 P **P 11 48 56.6 -2.0**
ULM IAmb IAmb 11 49 10.4
comp=Z,81nm,1.8s
ULM IAMs_20 IAMs_20 12 05 20.2
comp=Z,2μm,19.0s
SSPA Standing Stone 41.64 265 P **P 11 48 58.5 -0.6**
baz=34
SSPA Standing Stone 41.64 265 P **P 11 48 59.0 0.0**
SSPA Standing Stone 41.64 265 IAMs_20 IAMs_20 12 04 06.7
comp=Z,2μm,20.0s
O58A Lewisberry 41.65 263 P **P 11 48 59.4 +0.2**
baz=34
M54A Oil Creek Stat 41.69 267 P **P 11 48 59.8 +0.3**
baz=35,SNR=13
M54A Oil Creek Stat 41.69 267 P **P 11 48 59.0 -0.5**
M54A IAmb IAmb 11 49 02.8
comp=Z,41nm,1.1s
M54A IAMs_20 IAMs_20 12 04 41.8
comp=Z,2μm,20.0s
ALLY Alegheny Colle 41.78 268 P **P 11 48 59.6 -0.6**
ALLY IAMs_20 IAMs_20 12 04 38.2
comp=Z,3μm,21.0s
P59A Jarrettsville 41.87 263 P **P 11 49 02.5 +1.5**
baz=34
O57A Amberson 41.88 264 P **P 11 49 01.0 -0.1**
baz=34

K50A	**Casco**	**41.92 271**	P	**P**	**11 49 01.5**	**+0.1**
K50A			IAmb	IAmb	11 49 09.7	
	comp=Z,80nm,1.4s					
K50A			IAMs_20	IAMs_20	12 05 07.1	
	comp=Z,2μm,18.0s					
AB31	**Akbulak array**	**41.98 73**	P	**P**	**11 49 00.2**	**-1.5**
ABKAR	**Akbulak array**	**41.98 73**	P	**P**	**11 49 00.6**	**-1.1**
N55A	**Marion Center**	**41.99 266**	P	**P**	**11 49 01.8**	**-0.2**
	baz=34					
COWI	**Conover**	**42.04 280**		**P**	**11 49 02.7**	**+0.4**
COWI			IAMs_20	IAMs_20	12 04 47.1	
	comp=Z,4μm,21.0s					
GAZ	**Gaziantep**	**42.13 104**	P	**P**	**11 49 05.5**	**+2.3**
GAZ			IAmb	IAmb	11 49 15.2	
	comp=Z,101nm,1.6s					
EPYK	**Eagle Plains**	**42.13 328**	P	**P**	**11 49 02.1**	**-0.7**
	baz=34					
EPYK	**Eagle Plains**	**42.13 328**	P	**P**	**11 49 01.3**	**-1.6**
EPYK			IAMs_20	IAMs_20	12 08 58.8	
	comp=Z,2μm,18.0s					
M53A	**WI Miller and**	**42.18 268**	P	**P**	**11 49 03.6**	**+0.2**
	baz=35					
M53A	**WI Miller and**	**42.18 268**	P	**P**	**11 49 03.0**	**-0.5**
M53A			IAmb	IAmb	11 49 10.0	
	comp=Z,71nm,1.4s					
M53A			IAMs_20	IAMs_20	12 04 56.8	
	comp=Z,3μm,19.0s					
SDMD	**Soldier's Deli**	**42.21 263**	P	**P**	**11 49 03.2**	**-0.5**
SDMD			IAMs_20	IAMs_20	12 04 42.8	
	comp=Z,2μm,20.0s					
O56A	**Blue Knob Stat**	**42.24 265**	P	**P**	**11 49 04.8**	**+0.8**
	baz=34					
O56A	**Blue Knob Stat**	**42.24 265**	P	**P**	**11 49 04.0**	**0.0**
O56A			IAmb	IAmb	11 49 12.4	
	comp=Z,63nm,1.6s					
O56A			IAMs_20	IAMs_20	12 04 26.4	
	comp=Z,2μm,21.0s					
N54A	**Moraine State**	**42.27 267**	P	**P**	**11 49 04.6**	**+0.4**
	baz=34,SNR=10					
N54A	**Moraine State**	**42.27 267**	P	**P**	**11 49 03.6**	**-0.6**
N54A			IAMs_20	IAMs_20	12 05 01.4	
	comp=Z,3μm,20.0s					
P58A	**Pank, Wackersv**	**42.34 263**	P	**P**	**11 49 03.7**	**-1.1**
	baz=34					
M52A	**Chesterland**	**42.39 269**	P	**P**	**11 49 05.5**	**+0.3**
	baz=35					
M52A	**Chesterland**	**42.39 269**	P	**P**	**11 49 05.0**	**-0.2**
M52A			IAMs_20	IAMs_20	12 04 53.3	
	comp=Z,3μm,20.0s					
CSS	**Mathiatis**	**42.43 109**	P	**P**	**11 49 07.0**	**+1.4**
CSS			IAmb	IAmb	11 49 24.2	
	comp=Z,81nm,1.5s					
I45A	**Fountain**	**42.45 275**	IAMs_20	IAMs_20	12 05 25.1	
	comp=Z,2μm,19.0s					
J47A	**Sunmer**	**42.49 273**	P	**P**	**11 49 06.5**	**+0.5**
J47A			IAmb	IAmb	11 49 12.7	
	comp=Z,94nm,1.7s					
O55A	**Ligonier**	**42.60 266**	P	**P**	**11 49 07.2**	**+0.2**
	baz=34					
P57A	**Homestead Farm**	**42.65 264**	P	**P**	**11 49 07.6**	**+0.3**
	baz=34					
P57A	**Homestead Farm**	**42.65 264**	P	**P**	**11 49 06.1**	**-1.2**
P57A			IAMs_20	IAMs_20	12 04 49.4	
	comp=Z,3μm,21.0s					
E38A	**The Farm, Brul**	**42.66 282**	IAMs_20	IAMs_20	12 05 43.5	
	comp=Z,2μm,20.0s					
TOLK	**Toolik Lake Re**	**42.73 336**	P	**P**	**11 49 08.1**	**+0.4**
	baz=28,SNR=10					
TOLK	**Toolik Lake Re**	**42.73 336**		**P**	**11 49 08.7**	**+1.0**
AAM	**Ann Arbor**	**42.75 271**	P	**P**	**11 49 08.6**	**+0.5**
AAM			pmax	pmax		
	comp=Z,154nm,2.0s					
AAM			MLR	MLR		
	comp=Z,1μm,18.0s					
AAM	**Ann Arbor**	**42.75 271**	P	**P**	**11 49 08.6**	**+0.5**
AAM			IAmb	IAmb	11 49 20.3	
	comp=Z,154nm,2.0s					
N53A	**Lisbon**	**42.77 268**	P	**P**	**11 49 08.5**	**+0.3**
	baz=34					
N53A	**Lisbon**	**42.77 268**	P	**P**	**11 49 08.6**	**+0.3**
N53A			IAmb	IAmb	11 49 16.6	
	comp=Z,88nm,1.6s					
N53A			IAMs_20	IAMs_20	12 05 15.4	
	comp=Z,3μm,20.0s					
BMAR	**Burnt Mountain**	**42.88 333**	P	**P**	**11 49 09.1**	**+0.2**
M51A	**Elyria**	**42.91 269**	P	**P**	**11 49 09.4**	**0.0**
	baz=35					
Q58A	**Fox Den Farm,**	**42.96 263**	P	**P**	**11 49 09.3**	**-0.6**
	baz=33					
P56A	**Dayton Farm, R**	**42.99 265**	P	**P**	**11 49 10.9**	**+0.8**
	baz=34					
O54A	**Avella**	**43.08 267**	P	**P**	**11 49 10.7**	**-0.2**
	baz=34					
O54A	**Avella**	**43.08 267**	P	**P**	**11 49 11.2**	**+0.3**
O54A			IAMs_20	IAMs_20	12 05 36.8	
	comp=Z,3μm,19.0s					
BRVK	**Borovoye**	**43.12 62***d i*	P	**P**	**11 49 10.6**	**-0.3**
BRVK			pmax	pmax		
	comp=Z,69nm,1.7s					
BRVK	**Borovoye**	**43.12 62**	P	**P**	**11 49 10.8**	**-0.2**
BRVK			IAmb	IAmb	11 49 16.0	
	comp=Z,67nm,1.4s					
BRVK			IAMs_20	IAMs_20	12 07 16.4	
	comp=Z,2μm,18.0s					
AGMN	**Agassiz Nation**	**43.12 287**	P	**P**	**11 49 10.9**	**-0.2**
	baz=38					
AGMN	**Agassiz Nation**	**43.12 287**	P	**P**	**11 49 10.8**	**-0.2**
AGMN			IAmb	IAmb	11 49 23.4	
	comp=Z,76nm,1.9s					
AGMN			IAMs_20	IAMs_20	12 06 02.5	
	comp=Z,2μm,19.0s					
N52A	**McGinn's Farm,**	**43.13 268**	P	**P**	**11 49 12.0**	**+0.8**
	baz=34					
G40A	**Rib Lake**	**43.16 280**	P	**P**	**11 49 10.8**	**-0.6**
G40A			IAMs_20	IAMs_20	12 05 53.6	
	comp=Z,3μm,21.0s					
BVA0	**Borovoye Array**	**43.18 62**	P	**P**	**11 49 10.4**	**-1.1**
Q57A	**Strasburg**	**43.19 264**	P	**P**	**11 49 11.9**	**+0.2**
	baz=33					
M50A	**Fremont**	**43.22 270**	P	**P**	**11 49 10.8**	**-1.1**
M50A			IAmb	IAmb	11 49 18.6	
	comp=Z,44nm,1.1s					
M50A			IAMs_20	IAMs_20	12 05 39.5	
	comp=Z,3μm,19.0s					
MCWV	**Mont Chateau**	**43.29 266**	P	**P**	**11 49 13.1**	**+0.6**
N51A	**Ashland**	**43.34 269**	P	**P**	**11 49 12.6**	**-0.2**
	baz=34					
N51A	**Ashland**	**43.34 269**	P	**P**	**11 49 12.9**	**+0.1**
N51A			IAmb	IAmb	11 49 16.7	
	comp=Z,64nm,1.4s					
L48A	**N Adams**	**43.38 272**	P	**P**	**11 49 13.6**	**+0.4**
O53A	**New Philadelph**	**43.39 268**	P	**P**	**11 49 13.7**	**+0.4**
	baz=34,SNR=8.8					
O53A	**New Philadelph**	**43.39 268**		**P**	**11 49 14.3**	**+1.0**
O53A			IAmb	IAmb	11 49 20.1	
	comp=Z,49nm,1.2s					
O53A			IAMs_20	IAMs_20	12 05 34.8	
	comp=Z,3μm,20.0s					
P55A	**Reedsville**	**43.41 266**	P	**P**	**11 49 14.0**	**+0.5**
	baz=34					
CBN	**Corbin Frederi**	**43.45 262**	IAMs_20	IAMs_20	12 05 38.5	
	comp=Z,3μm,18.0s					
Q56A	**Snyder Ridge,**	**43.52 265**	P	**P**	**11 49 14.4**	**0.0**
	baz=33					
Q56A	**Snyder Ridge,**	**43.52 265**	P	**P**	**11 49 14.4**	**0.0**
Q56A			IAmb	IAmb	11 49 24.0	
	comp=Z,61nm,1.6s					
P54A	**Burton**	**43.61 266**	P	**P**	**11 49 15.4**	**+0.3**
	baz=34					
R58A	**Rapidan**	**43.64 263**	P	**P**	**11 49 14.2**	**-1.1**
	baz=33,SNR=7.3					
GEVA	**Gevas**	**43.64 97**	P	**P**	**11 49 16.9**	**+1.4**
GEVA			IAmb	IAmb	11 49 21.3	
	comp=Z,71nm,1.5s					
I42A	**Draeger Farm,**	**43.72 277**	P	**P**	**11 49 15.9**	**0.0**
O52A	**Adamsville**	**43.77 268**	P	**P**	**11 49 16.6**	**+0.3**
	baz=34,SNR=7.3					
O52A	**Adamsville**	**43.77 268**	P	**P**	**11 49 16.4**	**+0.1**
O52A			IAmb	IAmb	11 49 24.7	
	comp=Z,52nm,1.1s					
O52A			IAMs_20	IAMs_20	12 05 45.8	
	comp=Z,3μm,20.0s					
R57A	**Stanardsville**	**43.86 263**	P	**P**	**11 49 16.3**	**-0.8**
	baz=33					
R58B	**Mineral**	**43.87 263**	P	**P**	**11 49 17.2**	**+0.1**
	baz=33					
R58B	**Mineral**	**43.87 263**	P	**P**	**11 49 16.6**	**-0.5**
R58B			IAMs_20	IAMs_20	12 05 42.5	
	comp=Z,3μm,19.0s					
Q55A	**Buckhannon**	**43.94 266**	P	**P**	**11 49 18.4**	**+0.6**
	baz=33					
O51A	**Pataskala**	**44.07 269**	P	**P**	**11 49 19.0**	**+0.2**
	baz=34,SNR=14					
T60A	**Surry**	**44.07 261**	IAMs_20	IAMs_20	12 06 36.1	
	comp=Z,2μm,18.0s					
F36A	**Milaca**	**44.08 283**	IAMs_20	IAMs_20	12 06 18.0	
	comp=Z,2μm,21.0s					
P53A	**Whipple**	**44.09 267**	P	**P**	**11 49 19.7**	**+0.7**
	baz=34,SNR=13					
P53A	**Whipple**	**44.09 267**	P	**P**	**11 49 18.9**	**-0.1**
P53A			IAmb	IAmb	11 49 26.0	
	comp=Z,50nm,1.1s					
P53A			IAMs_20	IAMs_20	12 06 07.6	
	comp=Z,3μm,20.0s					
COLD	**Coldfoot**	**44.10 336**	P	**P**	**11 49 18.4**	**-0.3**
	baz=27					
COLD	**Coldfoot**	**44.10 336**	P	**P**	**11 49 19.7**	**+1.0**
N49A	**Columbus Grove**	**44.11 271**	P	**P**	**11 49 19.0**	**0.0**
N49A			IAmb	IAmb	11 49 21.8	
	comp=Z,47nm,1.1s					
N49A			IAMs_20	IAMs_20	12 06 34.9	
	comp=Z,2μm,18.0s					
L46A	**Eue Claire**	**44.12 274**	P	**P**	**11 49 19.0**	**-0.2**
L46A			IAmb	IAmb	11 49 23.3	
	comp=Z,48nm,1.1s					
L46A			IAMs_20	IAMs_20	12 07 03.2	
	comp=Z,2μm,18.0s					
R56A	**Bull Pasture M**	**44.14 264**	P	**P**	**11 49 19.9**	**+0.4**
	baz=33,SNR=9.1					
ACSO	**Alum Creek Sta**	**44.16 269**	P	**P**	**11 49 19.7**	**+0.1**
	baz=34,SNR=7.9					
ACSO	**Alum Creek Sta**	**44.16 269**	P	**P**	**11 49 18.6**	**-0.9**
ACSO			IAmb	IAmb	11 49 27.6	
	comp=Z,40nm,1.1s					
S58A	**Poland Farm, P**	**44.23 262**	P	**P**	**11 49 20.8**	**+0.8**
S58A			IAMs_20	IAMs_20	12 06 11.3	
	comp=Z,3μm,18.0s					
Q54A	**Coxs Mills**	**44.27 266**	P	**P**	**11 49 20.8**	**+0.4**
	baz=33					
Q54A	**Coxs Mills**	**44.27 266**	P	**P**	**11 49 19.1**	**-1.3**
Q54A			IAmb	IAmb	11 49 33.9	
	comp=Z,99nm,1.9s					
Q54A			IAMs_20	IAMs_20	12 05 40.4	
	comp=Z,2μm,21.0s					
P52A	**Corning**	**44.29 268**	P	**P**	**11 49 20.8**	**+0.2**
	baz=34					
P52A	**Corning**	**44.29 268**	P	**P**	**11 49 20.2**	**-0.3**
P52A			IAmb	IAmb	11 49 28.6	
	comp=Z,77nm,1.4s					
P52A			IAMs_20	IAMs_20	12 06 01.8	
	comp=Z,3μm,20.0s					
SPMN	**Marine on St.**	**44.29 282**	P	**P**	**11 49 21.3**	**+0.8**
	baz=36					
SPMN	**Marine on St.**	**44.29 282**	P	**P**	**11 49 20.4**	**-0.1**
K43A	**Burlington**	**44.43 276**	IAmb	IAmb	11 49 25.0	
	comp=Z,39nm,1.1s					
K43A			IAMs_20	IAMs_20	12 06 26.3	
	comp=Z,2μm,20.0s					
I40A	**Norwalk**	**44.44 279**	P	**P**	**11 49 21.7**	**0.0**
I40A			IAmb	IAmb	11 49 34.4	
	comp=Z,77nm,1.8s					
EGAK	**Eagle**	**44.47 329**		**P**	**11 49 22.2**	**+0.6**
S57A	**Dark Hollow, R**	**44.49 263**	P	**P**	**11 49 21.5**	**-0.7**
	baz=33					
S57A	**Dark Hollow, R**	**44.49 263**		**P**	**11 49 22.6**	**+0.5**
TAM	**Tamanrasset**	**44.52 149**	P	**P**	**11 49 22.8**	**+0.1**
TAM			pmax	pmax		
	comp=Z,103nm,1.9s					
TAM			MLR	MLR		
	comp=Z,900nm,20.0s					
TAM	**Tamanrasset**	**44.52 149**	P	**P**	**11 49 22.8**	**+0.1**
TAM			IAmb	IAmb	11 49 32.3	
	comp=Z,103nm,1.9s					
R55A	**Marlinton**	**44.55 265**	IAMs_20	IAMs_20	12 05 48.8	
	comp=Z,3μm,22.0s					
T59A	**Double "B" Far**	**44.56 262**	P	**P**	**11 49 22.1**	**-0.7**
	baz=32					
T59A	**Double "B" Far**	**44.56 262**	P	**P**	**11 49 23.2**	**+0.5**
Q53A	**Leroy**	**44.68 267**	P	**P**	**11 49 24.1**	**+0.5**
	baz=33,SNR=10.0					
L44A	**Lake County Fo**	**44.68 275**	IAMs_20	IAMs_20	12 06 51.9	
	comp=Z,2μm,18.0s					
O49A	**Covington**	**44.78 270**	P	**P**	**11 49 24.1**	**-0.3**
O49A			IAmb	IAmb	11 49 32.5	
	comp=Z,39nm,1.1s					
O49A			IAMs_20	IAMs_20	12 06 28.7	
	comp=Z,3μm,19.0s					
N47A	**Urbana**	**44.79 272**	P	**P**	**11 49 23.8**	**-0.7**
N47A			IAmb	IAmb	11 49 30.7	
	comp=Z,31nm,1.2s					
P51A	**Williamsport**	**44.82 269**	P	**P**	**11 49 24.8**	**+0.1**
	baz=34					
P51A	**Williamsport**	**44.82 269**	P	**P**	**11 49 24.7**	**-0.1**
P51A			IAmb	IAmb	11 49 31.0	
	comp=Z,42nm,1.1s					
P51A			IAMs_20	IAMs_20	12 06 36.7	
	comp=Z,3μm,18.0s					
Q52A	**Bidwell**	**44.91 268**	P	**P**	**11 49 25.1**	**-0.4**
	baz=33					
HQIL	**Hanson Quary C**	**44.96 275**	IAMs_20	IAMs_20	12 07 10.5	
	comp=Z,2μm,18.0s					
T58A	**Grand View Acr**	**45.00 262**	P	**P**	**11 49 26.2**	**0.0**
	baz=32					
MDND	**Maddock**	**45.01 289**	P	**P**	**11 49 25.8**	**-0.3**
	baz=37					
MDND	**Maddock**	**45.01 289**	P	**P**	**11 49 26.2**	**0.0**
MDND			IAMs_20	IAMs_20	12 07 23.3	
	comp=Z,3μm,18.0s					
R54A	**Victor**	**45.01 266**	P	**P**	**11 49 26.1**	**-0.3**
	baz=33					
JFWS	**Jewell Farm**	**45.08 278**	P	**P**	**11 49 26.8**	**0.0**
JFWS			pmax	pmax		
	comp=Z,59nm,1.8s					
JFWS	**Jewell Farm**	**45.08 278**	P	**P**	**11 49 26.8**	**0.0**
JFWS			IAmb	IAmb	11 49 40.3	
	comp=Z,59nm,1.8s					
V62A	**Hyde County Ai**	**45.09 259**	IAMs_20	IAMs_20	12 06 42.9	
	comp=Z,3μm,20.0s					
S55A	**Lewisburg**	**45.15 265**	P	**P**	**11 49 27.8**	**+0.4**
	baz=33,SNR=5.6					
F33A	**5 Mile Ranch,**	**45.26 285**	P	**P**	**11 49 28.8**	**+0.6**
F33A			IAmb	IAmb	11 49 34.9	
	comp=Z,90nm,1.9s					
F33A			IAMs_20	IAMs_20	12 07 15.0	
	comp=Z,3μm,20.0s					
T57A	**Hurt**	**45.27 263**	P	**P**	**11 49 28.8**	**+0.5**
	baz=32					
T57A	**Hurt**	**45.27 263**	P	**P**	**11 49 28.5**	**+0.2**
T57A			IAmb	IAmb	11 49 35.1	
	comp=Z,35nm,1.2s					
R53A	**Hurricane**	**45.30 267**	P	**P**	**11 49 29.0**	**+0.4**
	baz=33					
R53A	**Hurricane**	**45.30 267**	P	**P**	**11 49 29.1**	**+0.4**
R53A			IAmb	IAmb	11 49 35.6	
	comp=Z,58nm,1.3s					
K27K	**Chicken**	**45.32 329**	P	**P**	**11 49 29.0**	**+0.6**
	baz=30					
Q51A	**Peebles**	**45.32 269**	P	**P**	**11 49 29.1**	**+0.3**
Q51A			IAmb	IAmb	11 49 36.8	
	comp=Z,36nm,1.1s					
Q51A			IAMs_20	IAMs_20	12 06 43.9	
	comp=Z,3μm,19.0s					
M44A	**Midewin, Midew**	**45.38 275**	P	**P**	**11 49 29.5**	**+0.3**
M44A			IAMs_20	IAMs_20	12 07 32.6	
	comp=Z,2μm,19.0s					
S54A	**Dingess, Beckl**	**45.47 266**	P	**P**	**11 49 29.7**	**-0.3**
	baz=33					
S54A	**Dingess, Beckl**	**45.47 266**	P	**P**	**11 49 30.4**	**+0.4**
S54A			IAmb	IAmb	11 49 43.2	
	comp=Z,67nm,1.6s					
S54A			IAMs_20	IAMs_20	12 06 19.0	
	comp=Z,2μm,20.0s					
P49A	**Miami Univ. Ec**	**45.48 270**	P	**P**	**11 49 29.5**	**-0.6**
	baz=34					
P49A	**Miami Univ. Ec**	**45.48 270**	P	**P**	**11 49 28.1**	**-2.0**
P49A			IAmb	IAmb	11 49 36.1	
	comp=Z,42nm,1.4s					
I37A	**Lemond, Waseca**	**45.52 281**	IAMs_20	IAMs_20	12 06 44.1	
	comp=Z,3μm,20.0s					
T56A	**Rocky Mt**	**45.57 264**	P	**P**	**11 49 29.6**	**-1.2**
	baz=32					
L42A	**Oliver, Polo**	**45.57 276**	P	**P**	**11 49 30.7**	**0.0**
L42A			IAmb	IAmb	11 51 15.0	
	comp=Z,24nm,0.8s					
L42A			IAMs_20	IAMs_20	12 07 13.6	
	comp=Z,3μm,20.0s					
BLA	**Blacksburg**	**45.58 264**	P	**P**	**11 49 30.5**	**-0.4**
BLA			pmax	pmax		
	comp=Z,44nm,1.6s					
BLA	**Blacksburg**	**45.58 264**	P	**P**	**11 49 30.7**	**-0.2**
	baz=32					
BLA	**Blacksburg**	**45.58 264**	P	**P**	**11 49 30.5**	**-0.4**
BLA			IAmb	IAmb	11 49 44.4	
	comp=Z,44nm,1.6s					
IL31		**45.67 332**		**P**	**11 49 30.8**	**-0.3**
IL31			IAmb	IAmb	11 49 32.6	
	comp=Z,28nm,1.4s					
ILAR	**Eielson Array**	**45.67 332**	P	**P**	**11 49 29.6**	**-1.6**
	comp=Z,11nm,1.1s,baz=23,slow=5.8,SNR=32					
ILAR			PcP	**PcP**	**11 51 08.2**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=353,slow=3.0,SNR=8.2					
ILAR			LR	LR	12 11 20.8	
	comp=Z,813nm,18.6s,baz=59,slow=40					
ILAR	**Eielson Array**	**45.67 332**	P	**P**	**11 49 31.1**	**-0.1**
ILAR					11 51 08.1	
ILAR	**Eielson Array**	**45.67 332**	P	**P**	**11 49 31.1**	**-0.1**
ILAR				**PcP**	**11 51 08.1**	**-1.0**
MDM	**Murphy Dome**	**45.77 333**	P	**P**	**11 49 32.6**	**+0.5**
MDM			IAmb	IAmb	11 49 40.1	
	comp=Z,41nm,1.2s					
COLA	**College**	**45.77 333***d i*	P	**P**	**11 49 32.6**	**+0.6**
COLA			pmax	pmax		
	comp=Z,29nm,1.3s					
COLA	**College**	**45.77 333**	P	**P**	**11 49 31.6**	**-0.3**
COLA			IAmb	IAmb	11 49 40.0	
	comp=Z,29nm,1.1s					
TCOL	**CIGO, UAF Yank**	**45.77 333**	P	**P**	**11 49 32.9**	**+0.9**
	baz=27					
SCRK	**Sand Creek**	**45.78 330**	P	**P**	**11 49 32.9**	**+0.7**
	baz=29,SNR=9.1					
U57A	**Blanch**	**45.78 263**	P	**P**	**11 49 32.5**	**+0.1**
	baz=32					
SFIN	**Lafayette**	**45.81 273**	P	**P**	**11 49 32.7**	**+0.1**
	baz=34,SNR=6.0					
SFIN	**Lafayette**	**45.81 273**	P	**P**	**11 49 32.3**	**-0.3**
SFIN			IAmb	IAmb	11 49 39.1	
	comp=Z,30nm,1.1s					
T55A	**Pulaski**	**45.82 265**	P	**P**	**11 49 32.9**	**+0.2**
	baz=32					
IMAR	**Indian Mountai**	**45.84 337**	P	**P**	**11 49 32.2**	**-0.3**
IMAR				**PcP**	**11 51 11.1**	**+1.5**
P48A	**Milroy**	**45.85 271**	P	**P**	**11 49 32.8**	**-0.2**
P48A			IAmb	IAmb	11 49 40.6	
	comp=Z,51nm,1.2s					
P48A			IAMs_20	IAMs_20	12 07 13.0	
	comp=Z,2μm,19.0s					
S53A	**Williamson**	**45.92 266**	P	**P**	**11 49 33.8**	**+0.2**
	baz=33					
CCB	**Clear Creek Bu**	**45.96 333**	P	**P**	**11 49 33.3**	**-0.2**
CCB			IAmb	IAmb	11 49 40.6	
	comp=Z,31nm,1.5s					
HDA	**Harding Lake**	**46.01 332**	P	**P**	**11 49 34.1**	**+0.2**
	baz=27,SNR=16					
HDA	**Harding Lake**	**46.01 332**	P	**P**	**11 49 34.2**	**+0.3**
HDA			IAmb	IAmb	11 49 41.0	
	comp=Z,40nm,1.4s					
DOT	**Dot Lake**	**46.08 330**	P	**P**	**11 49 34.8**	**+0.3**
DOT			IAmb	IAmb	11 49 41.1	
	comp=Z,29nm,1.4s					
BCAR	**Beaver Creek A**	**46.09 329**	P	**P**	**11 49 34.9**	**+0.3**
RIDG	**Independent Ri**	**46.17 331**	P	**P**	**11 49 35.0**	**-0.2**
RIDG			IAmb	IAmb	11 49 42.9	
	comp=Z,40nm,1.3s					
WRH	**Wood River Hil**	**46.18 333**	P	**P**	**11 49 34.3**	**-0.9**
WRH			IAmb	IAmb	11 49 57.0	
	comp=Z,30nm,1.7s					
CNNC	**Cliffs of the**	**46.18 261**	IAMs_20	IAMs_20	12 08 29.8	
	comp=Z,1μm,18.0s					
L40A	**Anamosa**	**46.19 278**	P	**P**	**11 49 36.2**	**+0.7**
T54A	**Tazewell**	**46.20 265**	P	**P**	**11 49 35.6**	**-0.3**
	baz=32,SNR=8.7					
V58A	**Windy Hill, Pi**	**46.23 262**	P	**P**	**11 49 36.8**	**+0.9**
	baz=32					
NEA2	**Nenana**	**46.26 333**	P	**P**	**11 49 36.2**	**+0.4**
	baz=26,SNR=13					
U56A	**King**	**46.30 264**	P	**P**	**11 49 36.9**	**+0.4**
	baz=32					
U56A	**King**	**46.30 264**	P	**P**	**11 49 35.6**	**-1.0**
U56A			IAmb	IAmb	11 49 49.9	
	comp=Z,57nm,1.4s					
DGMT	**Dagmar**	**46.34 293**	P	**P**	**11 49 37.5**	**+0.8**
	baz=36					
DGMT	**Dagmar**	**46.34 293**	P	**P**	**11 49 37.6**	**+0.8**
R50A	**Paris**	**46.36 269**	P	**P**	**11 49 37.2**	**+0.2**
R50A			IAmb	IAmb	11 49 44.9	
	comp=Z,32nm,1.2s					
K38A	**Parkersburg**	**46.37 280**	IAMs_20	IAMs_20	12 07 52.5	
	comp=Z,3μm,20.0s					
V57A	**Coltrane Farms**	**46.43 263**	P	**P**	**11 49 37.4**	**-0.1**
	baz=32					
U55A	**TA2, Sparta**	**46.45 265**	P	**P**	**11 49 37.7**	**-0.1**
	baz=32,SNR=9.3					
BRZS	**Berezniki**	**46.47 63**⇓*i P*		**P**	**11 49 37.2**	**-0.6**
	comp=Z,21nm,1.0s,baz=63					
BRZS			*e*PP	**PP**	**11 51 26.4**	**0.0**
	baz=63					
BRZS			*e*S	**S**	**11 56 25.8**	**-0.4**
	baz=63					
BRZS			*e*SS	**SS**	**11 59 53.4**	**+2.0**
	baz=63					
BRZS			LR	LR	12 09 43.8	
	comp=Z,225nm,12.3s,baz=63					
BRZS	**Berezniki**	**46.47 63***d i P*		**P**	**11 49 37.1**	**-0.6**
BRZS			*e*		11 51 26.4	
BRZS			*e*S	**S**	**11 56 25.8**	**-0.4**
BRZS			pmax	pmax		
	comp=Z,21nm,1.0s					
BRZS			MLR	MLR		
	comp=Z,225nm,12.0s					
E28A	**Huff**	**46.47 289**	IAMs_20	IAMs_20	12 08 26.1	
	comp=Z,3μm,18.0s					
P46A	**Rosedale**	**46.49 272**	P	**P**	**11 49 37.9**	**0.0**
P46A			IAmb	IAmb	11 51 25.4	
	comp=Z,30nm,0.8s					
BLO	**Bloomington**	**46.56 272**	P	**P**	**11 49 37.9**	**-0.6**
BLO			pmax	pmax		
	comp=Z,29nm,1.1s					
BLO	**Bloomington**	**46.56 272**	P	**P**	**11 49 37.9**	**-0.6**
BLO			IAmb	IAmb	11 49 46.5	
	comp=Z,28nm,1.1s					
O44A	**Mansfield**	**46.58 274**	P	**P**	**11 49 38.5**	**-0.2**
O44A			IAMs_20	IAMs_20	12 08 29.4	
	comp=Z,2μm,19.0s					
S51A	**Beattyville**	**46.59 268**	P	**P**	**11 49 38.8**	**0.0**
S51A			IAmb	IAmb	11 49 45.2	
	comp=Z,38nm,1.2s					
S51A			IAMs_20	IAMs_20	12 07 24.5	
	comp=Z,3μm,21.0s					
HDIL	**Hopedale**	**46.60 275**	P	**P**	**11 49 39.4**	**+0.5**
HDIL			IAMs_20	IAMs_20	12 08 10.9	
	comp=Z,1μm,20.0s					
MENT	**Mentasta**	**46.63 330**	P	**P**	**11 49 40.2**	**+1.4**
MENT			IAmb	IAmb	11 50 05.8	
	comp=Z,60nm,1.8s					
T53A	**Wise**	**46.68 266**	P	**P**	**11 49 40.0**	**+0.4**
	baz=32,SNR=7.3					
R49A	**Shelbyville**	**46.72 270**	P	**P**	**11 49 39.8**	**+0.1**
U54A	**Nelsons Funny**	**46.77 265**	P	**P**	**11 49 40.2**	**-0.1**
	baz=32					
U54A	**Nelsons Fun

MCK	**McKinley**	**47.01 333**	P	**P**	**11 49 41.3**	**-0.4**	
MCK			IAmb	IAmb	11 49 43.0		
	comp=Z,50nm,1.5s						
HYT	**Haines Junctio**	**47.03 325**	P	**P**	**11 49 42.7**	**+0.7**	
HYT			IAmb	IAmb	11 49 49.8		
	comp=Z,55nm,1.6s						
HYT			IAMs_20	IAMs_20	12 09 49.3		
	comp=Z,2μm,19.0s						
DLBC	**Dease Lake**	**47.06 318**	LR	LR	12 10 10.6		
	comp=Z,908nm,18.0s,baz=344,slow=37						
DLBC	**Dease Lake**	**47.06 318**	IAMs_20	IAMs_20	12 12 41.4		
	comp=Z,2μm,18.0s						
BPAW	**Bear Paw Mtn.**	**47.07 334**	P	**P**	**11 49 42.2**	**0.0**	
BPAW			IAmb	IAmb	11 49 49.3		
	comp=Z,31nm,1.3s						
V55A	**Taylorsville**	**47.07 264**	P	**P**	**11 49 42.5**	**0.0**	
	baz=32						
V55A	**Taylorsville**	**47.07 264**	P	**P**	**11 49 42.3**	**-0.3**	
ECSD	**EROS Data Cent**	**47.10 284**	IAmb	IAmb	11 50 48.8		
	comp=Z,15nm,0.8s						
ECSD	**EROS Data Cent**	**47.10 284**	IAMs_20	IAMs_20	12 08 21.8		
	comp=Z,3μm,21.0s						
W57A	**Gilead**	**47.15 263**	P	**P**	**11 49 44.4**	**+1.2**	
	baz=31						
W57A	**Gilead**	**47.15 263**	P	**P**	**11 49 43.0**	**-0.1**	
N41A	**Harden Midland**	**47.15 276**	IAMs_20	IAMs_20	12 08 10.2		
	comp=Z,2μm,20.0s						
WCI	**Wyandotte Cave**	**47.25 271**	P	**P**	**11 49 43.0**	**-0.9**	
WCI			pmax	pmax			
	comp=Z,30nm,0.9s						
WCI	**Wyandotte Cave**	**47.25 271**	P	**P**	**11 49 44.0**	**+0.1**	
	baz=33						
WCI	**Wyandotte Cave**	**47.25 271**	P	**P**	**11 49 43.0**	**-0.9**	
DHY	**Denali Highway**	**47.28 332**	P	**P**	**11 49 43.8**	**-0.3**	
DHY			IAmb	IAmb	11 51 19.1		
	comp=Z,20nm,1.2s						
RND	**Reindeer**	**47.28 333**		**P**	**11 49 44.1**	**+0.1**	
RND			IAmb	IAmb	11 50 03.9		
	comp=Z,20nm,1.3s						
Y60A	**Bolivia**	**47.37 260**	IAMs_20	IAMs_20	12 07 33.5		
	comp=Z,2μm,21.0s						
W56A	**Indian Trail**	**47.41 263**	P	**P**	**11 49 45.1**	**-0.1**	
	baz=31						
V54A	**Nebo**	**47.45 265**	P	**P**	**11 49 45.4**	**-0.2**	
	baz=32,SNR=8.6						
P43A	**Skaggs, Pawnee**	**47.46 275**	P	**P**	**11 49 45.5**	**0.0**	
P43A			IAMs_20	IAMs_20	12 08 45.5		
	comp=Z,2μm,18.0s						
TZTN	**Tazewell**	**47.49 267**	P	**P**	**11 49 46.2**	**+0.4**	
	baz=32						
TZTN	**Tazewell**	**47.49 267**	P	**P**	**11 49 45.7**	**-0.1**	
TZTN			IAMs_20	IAMs_20	12 08 13.4		
	comp=Z,2μm,20.0s						
SUSD	**Miller**	**47.49 286**	IAMs_20	IAMs_20	12 08 33.2		
	comp=Z,2μm,21.0s						
TRF	**Thorofare Moun**	**47.52 333**	P	**P**	**11 49 45.9**	**0.0**	
KTH	**Kantishna Hill**	**47.55 334**	IAmb	IAmb	11 50 04.5		
	comp=Z,64nm,1.9s						
OLIL	**Olney**	**47.60 273**	P	**P**	**11 49 46.9**	**+0.2**	
ZAA0	**Zalesovo Array**	**47.62 51**	P	**P**	**11 49 45.0**	**-1.6**	
ZAA0			IAmb	IAmb	11 49 50.4		
	comp=Z,24nm,1.2s						
ZALV	**Zalesovo Beam**	**47.62 51**	P	**P**	**11 49 46.0**	**-0.6**	
	comp=Z,3.0nm,0.6s,baz=330,slow=8.6,SNR=10						
ZALV			PcP	**PcP**	**11 51 15.7**	**-0.4**	
	comp=Z,2.3nm,0.9s,baz=297,slow=4.7,SNR=2.9						
ZALV			LR	LR	12 12 29.7		
	comp=Z,1μm,18.2s,baz=322,slow=40						
T50A	**Nancy**	**47.64 268**	P	**P**	**11 49 46.3**	**-0.6**	
T50A			IAmb	IAmb	11 50 17.7		
	comp=Z,55nm,2.0s						
T50A			IAMs_20	IAMs_20	12 07 46.4		
	comp=Z,2μm,20.0s						
SKAG	**Skagway**	**47.65 322**	IAMs_20	IAMs_20	12 09 14.7		
	comp=Z,2μm,18.0s						
KMSC	**Kings Mountain**	**47.73 264**	P	**P**	**11 49 47.4**	**-0.3**	
	baz=31						
KMSC	**Kings Mountain**	**47.73 264**	P	**P**	**11 49 47.7**	**0.0**	
KMSC			IAmb	IAmb	11 50 00.8		
	comp=Z,41nm,1.4s						
BIRD	**Birdtown, Kers**	**47.78 263**	P	**P**	**11 49 48.0**	**-0.1**	
BIRD			IAmb	IAmb	11 50 00.1		
	comp=Z,56nm,1.7s						
BIRD			IAMs_20	IAMs_20	12 08 02.2		
	comp=Z,1μm,19.0s						
Q44A	**Meyer Farm, Va**	**47.86 274**	P	**P**	**11 49 48.5**	**-0.2**	
Q44A			IAMs_20	IAMs_20	12 08 30.1		
	comp=Z,1μm,18.0s						
V53A	**Saluda**	**47.91 266**	IAmb	IAmb	11 50 01.4		
	comp=Z,24nm,1.4s						
GLB	**Gilahina Butte**	**47.98 329**	P	**P**	**11 49 49.3**	**-0.1**	
GLB				**P**	**11 49 49.8**	**+0.5**	
GLB			IAmb	IAmb	11 49 56.6		
	comp=Z,31nm,1.4s						
GLB			IAMs_20	IAMs_20	12 12 00.4		
	comp=Z,1μm,18.0s						
KURK	**Kurchatov**	**48.10 58**	P	**P**	**11 49 49.6**	**-0.8**	
KURK			pmax	pmax			
	comp=Z,49nm,1.2s						
KURK			MLR	MLR			
	comp=Z,2μm,21.0s						
KURK	**Kurchatov**	**48.10 58**	P	**P**	**11 49 49.6**	**-0.8**	
KURK	**Kurchatov**	**48.10 58**	IAMs_20	IAMs_20	12 10 09.1		
	comp=Z,2μm,21.0s						
V52A	**Sevierville**	**48.10 266**	P	**P**	**11 49 50.2**	**-0.4**	
V52A			IAMs_20	IAMs_20	12 08 34.7		
	comp=Z,2μm,19.0s						
W54A	**Cherokee Point**	**48.14 265**	P	**P**	**11 49 51.2**	**+0.3**	
	baz=31,SNR=8.5						
X56A	**White Oak**	**48.15 263**	P	**P**	**11 49 51.1**	**+0.1**	
	baz=31						
TKL	**Tuckaleechee C**	**48.33 266**	P	**P**	**11 49 52.7**	**+0.3**	
TKL			pmax	pmax			
	comp=Z,63nm,1.8s						
TKL	**Tuckaleechee C**	**48.33 266**	P	**P**	**11 49 52.7**	**+0.3**	
TKL			IAmb	IAmb	11 50 04.6		
	comp=Z,63nm,1.8s						
TKL			IAMs_20	IAMs_20	12 08 41.8		
	comp=Z,2μm,20.0s						
PCA	**Pinnacle**	**48.34 326**	IAMs_20	IAMs_20	12 12 12.9		
	comp=Z,1μm,20.0s						
PPLA	**Purkeypile**	**48.39 334**	IAmb	IAmb	11 50 19.3		
	comp=Z,39nm,1.4s						
SCM	**Sheep Creek Mo**	**48.39 331**	P	**P**	**11 49 52.7**	**+0.1**	
SCM			pmax	pmax			
	comp=Z,36nm,1.2s						
SCM			MLR	MLR			
	comp=Z,600nm,20.0s						
SCM	**Sheep Creek Mo**	**48.39 331**	P	**P**	**11 49 52.6**	**+0.1**	
SCM			IAmb	IAmb	11 50 03.0		
	comp=Z,36nm,1.2s						
KLU	**Klutina**	**48.40 330**	P	**P**	**11 49 51.9**	**-0.8**	
KLU			IAmb	IAmb	11 50 14.3		
	comp=Z,59nm,1.9s						
JIS	**Juneau Island**	**48.41 321**	IAMs_20	IAMs_20	12 10 59.0		
	comp=Z,1μm,18.0s						
X55A	**Gracelyn & Ava**	**48.43 264**	P	**P**	**11 49 53.5**	**+0.4**	
	baz=31,SNR=7.4						
JSC	**Jenkinsville**	**48.43 263**	P	**P**	**11 49 53.5**	**+0.4**	
JSC			pmax	pmax			
	comp=Z,19nm,1.3s						
JSC	**Jenkinsville**	**48.43 263**	P	**P**	**11 49 53.5**	**+0.4**	
L34A	**Svendsen Farm,**	**48.45 282**	IAMs_20	IAMs_20	12 08 44.6		
	comp=Z,2μm,20.0s						
V51A	**Loudon**	**48.46 267**	P	**P**	**11 49 53.4**	**0.0**	
U49A	**Red Boiling Sp**	**48.47 269**	P	**P**	**11 49 53.2**	**-0.2**	
U49A			IAmb	IAmb	11 50 01.3		
	comp=Z,21nm,1.1s						
U49A			IAMs_20	IAMs_20	12 08 22.4		
	comp=Z,2μm,20.0s						
LAO	**LASA Array**	**48.59 293**	P	**P**	**11 49 55.3**	**+1.0**	
	baz=35						
LAO	**LASA Array**	**48.59 293**	P	**P**	**11 49 55.1**	**+0.8**	
SLM	**Saint Louis**	**48.60 274**	P	**P**	**11 49 54.2**	**-0.2**	
SLM			pmax	pmax			
	comp=Z,38nm,0.7s						
SLM	**Saint Louis**	**48.60 274**	P	**P**	**11 49 54.2**	**-0.2**	
P40A	**Paris**	**48.63 277**	IAMs_20	IAMs_20	12 09 06.6		
	comp=Z,2μm,19.0s						
T47A	**Sharon Grove**	**48.64 270**	P	**P**	**11 49 54.1**	**-0.6**	
T47A			IAMs_20	IAMs_20	12 08 48.9		
	comp=Z,3μm,20.0s						
X54A	**Belton**	**48.68 264**	P	**P**	**11 49 54.9**	**-0.2**	
	baz=31						
GHO	**Glory Hole Cre**	**48.78 332**	P	**P**	**11 49 56.2**	**+0.6**	
GHO			IAmb	IAmb	11 50 02.8		
	comp=Z,56nm,1.7s						
GHO			IAMs_20	IAMs_20	12 11 56.5		
	comp=Z,2μm,22.0s						
CPCT	**Cooper Cave**	**48.83 267**	P	**P**	**11 49 56.0**	**-0.3**	
CPCT			IAmb	IAmb	11 50 04.6		
	comp=Z,24nm,1.1s						
CPCT			IAMs_20	IAMs_20	12 08 55.0		
	comp=Z,2μm,20.0s						
EGMT	**Eagleton**	**48.87 297**	P	**P**	**11 49 56.9**	**+0.5**	
	baz=35,SNR=42						
EGMT	**Eagleton**	**48.87 297**	P	**P**	**11 49 56.6**	**+0.1**	
W52A	**Murphy**	**48.88 266**	P	**P**	**11 49 56.5**	**-0.2**	
W52A			IAmb	IAmb	11 50 04.0		
	comp=Z,36nm,1.4s						
S44A	**Carbondale**	**48.97 273**	IAmb	IAmb	11 50 27.7		
	comp=Z,29nm,0.8s						
NHSC	**New Hope**	**48.98 261**	P	**P**	**11 49 56.9**	**-0.4**	
	baz=30						
Y55A	**Saluda**	**48.98 263**	P	**P**	**11 49 56.7**	**-0.6**	
	baz=31						
PMR	**Palmer**	**48.98 332**	P	**P**	**11 49 57.0**	**0.0**	
PMR			pmax	pmax			
	comp=Z,22nm,1.1s						
PMR			MLR	MLR			
	comp=Z,500nm,20.0s						
PMR	**Palmer**	**48.98 332**	P	**P**	**11 49 57.0**	**0.0**	
PMR			IAmb	IAmb	11 50 13.9		
	comp=Z,22nm,1.1s						
CLTN	**Cedars of Leba**	**49.07 269**	P	**P**	**11 49 58.0**	**0.0**	
CLTN			IAMs_20	IAMs_20	12 08 40.1		
	comp=Z,2μm,21.0s						
EYAK	**Cordova Ski Ar**	**49.21 329**	P	**P**	**11 49 59.9**	**+1.2**	
EYAK			IAmb	IAmb	11 50 06.3		
	comp=Z,66nm,1.5s						
EYAK			IAMs_20	IAMs_20	12 12 51.9		
	comp=Z,2μm,20.0s						
Z56A	**Williston**	**49.30 263**	IAMs_20	IAMs_20	12 08 56.3		
	comp=Z,1μm,18.0s						
W50A	**Signal Mountai**	**49.38 268**		**P**	**11 50 00.7**	**+0.3**	
W50A			IAmb	IAmb	11 50 08.7		
	comp=Z,46nm,1.1s						
W50A			IAMs_20	IAMs_20	12 09 12.6		
	comp=Z,3μm,20.0s						
CCM	**Cathedral Cave**	**49.52 275**	IAMs_20	IAMs_20	12 10 20.1		
	comp=Z,1μm,18.0s						
V48A	**Smith Brothers**	**49.57 269**	IAMs_20	IAMs_20	12 08 56.6		
	comp=Z,2μm,20.0s						
WALA	**Waterton Lakes**	**49.58 301**	IAmb	IAmb	11 50 08.0		
	comp=Z,63nm,1.9s						
SWET	**Sewanee**	**49.64 268**		**P**	**11 50 02.5**	**+0.1**	
SWET			IAmb	IAmb	11 50 14.0		
	comp=Z,70nm,1.8s						
SWET			IAMs_20	IAMs_20	12 09 20.2		
	comp=Z,3μm,21.0s						
BGNE	**Belgrade**	**49.66 283**	IAMs_20	IAMs_20	12 09 42.5		
	comp=Z,2μm,20.0s						
WVT	**Waverly**	**49.68 270**	P	**P**	**11 50 01.7**	**-1.0**	
WVT			pmax	pmax			
	comp=Z,16nm,1.1s						
WVT	**Waverly**	**49.68 270**	P	**P**	**11 50 01.7**	**-1.0**	
X51A	**Calhoun**	**49.73 267**	P	**P**	**11 50 02.8**	**-0.3**	
X51A			IAmb	IAmb	11 50 11.3		
	comp=Z,28nm,1.1s						
X51A			IAMs_20	IAMs_20	12 09 25.7		
	comp=Z,2μm,21.0s						
R40A	**Maddies Statio**	**49.76 276**	IAMs_20	IAMs_20	12 10 09.5		
	comp=Z,2μm,18.0s						
RSSD	**Black Hills**	**49.83 290**	P	**P**	**11 50 04.7**	**+0.6**	
RSSD			pmax	pmax			
	comp=Z,14nm,1.2s						
RSSD	**Black Hills**	**49.83 290**	P	**P**	**11 50 04.7**	**+0.6**	
RSSD	**Black Hills**	**49.83 290**	IAMs_20	IAMs_20	12 10 08.1		
	comp=Z,2μm,20.0s						
HENM	**Henderson Moun**	**49.89 272**	IAMs_20	IAMs_20	12 10 31.8		
	comp=Z,1μm,18.0s						
HICK	**Hickman**	**49.93 272**	IAMs_20	IAMs_20	12 09 50.0		
	comp=Z,1μm,18.0s						
Y52A	**Lilburn**	**49.99 265**	P	**P**	**11 50 05.5**	**+0.4**	
Y52A			IAmb	IAmb	11 50 17.2		
	comp=Z,94nm,1.9s						
PARMO	**Parma**	**50.05 273**	IAMs_20	IAMs_20	12 10 20.2		
	comp=Z,1μm,18.0s						
FPAL	**Fort Paine**	**50.07 267**	P	**P**	**11 50 05.8**	**+0.1**	
FPAL			IAmb	IAmb	11 50 17.5		
	comp=Z,85nm,1.9s						
FPAL			IAMs_20	IAMs_20	12 09 42.8		
	comp=Z,2μm,20.0s						
GOGA	**Godfrey**	**50.12 265**	P	**P**	**11 50 05.7**	**-0.3**	
	baz=31,SNR=6.3						
GOGA	**Godfrey**	**50.12 265**	IAmb	IAmb	11 50 19.1		
	comp=Z,60nm,1.8s						
GOGA	**Godfrey**	**50.12 265**	IAMs_20	IAMs_20	12 09 19.1		
	comp=Z,2μm,20.0s						
257A	**Skidaway Islan**	**50.31 261**	IAMs_20	IAMs_20	12 09 17.3		
	comp=Z,2μm,19.0s						
T42A	**Van Buren**	**50.32 274**	IAMs_20	IAMs_20	12 09 57.2		
	comp=Z,1μm,19.0s						
LNXT	**Lenox**	**50.42 272**	IAMs_20	IAMs_20	12 10 04.8		
	comp=Z,1μm,20.0s						
GEYT	**Alibeck**	**50.42 84**	P	**P**	**11 50 07.8**	**-0.5**	
	comp=Z,8.3nm,0.9s,baz=321,slow=12,SNR=16						
GEYT			PP	**PP**	**11 52 05.7**	**+2.2**	
	comp=Z,5.8nm,1.1s,baz=294,slow=8.5,SNR=5.1						
GEYT			LR	LR	12 14 13.0		
	comp=Z,2μm,19.1s,baz=340,slow=39						
GEYT	**Alibeck**	**50.42 84**	P	**P**	**11 50 08.5**	**+0.1**	
GYA0B	**ALIBECK ARRAY**	**50.42 84**	P	**P**	**11 50 09.0**	**+0.7**	
GYA0B			IAMs_20	IAMs_20	12 14 02.0		
	comp=Z,2μm,20.0s						
HALT	**Halls**	**50.51 272**	IAMs_20	IAMs_20	12 10 16.4		
	comp=Z,2μm,18.0s						
PEBM	**Pemiscott Bayo**	**50.56 272**	IAMs_20	IAMs_20	12 10 44.8		
	comp=Z,1μm,18.0s						
154A	**Montrose**	**50.65 264**	IAMs_20	IAMs_20	12 09 31.1		
	comp=Z,1μm,20.0s						
SVW2	**Sparrevohn**	**50.68 335**	P	**P**	**11 50 10.7**	**+0.8**	
S39A	**Bolivar**	**50.72 276**	IAMs_20	IAMs_20	12 10 12.7		
	comp=Z,2μm,20.0s						
GNAR	**Gosnell**	**50.76 272**	IAMs_20	IAMs_20	12 10 32.9		
	comp=Z,1μm,18.0s						
X48A	**Hartselle**	**50.76 269**	IAmb	IAmb	11 50 22.1		
	comp=Z,80nm,1.8s						
255A	**Hazlehurst**	**50.97 263**	IAMs_20	IAMs_20	12 10 32.7		
	comp=Z,2μm,18.0s						
Y49A	**Blount Mountai**	**51.00 268**	P	**P**	**11 50 12.0**	**-0.7**	
Y49A			IAmb	IAmb	11 50 24.3		
	comp=Z,82nm,1.9s						
BTLS	**Baital**	**51.05 66**	*i* P	**P**	**11 50 13.0**	**0.0**	
	comp=Z,12nm,1.4s,baz=66						
BTLS			*e*S	**S**	**11 57 30.1**	**-0.7**	
	baz=66						
BTLS			*e*SS	**SS**	**12 01 07.5**	**+2.4**	
	baz=66						
BTLS			LR	LR	12 10 46.3		
	comp=Z,381nm,14.5s,baz=66						
BTLS	**Baital**	**51.05 66**	*d i* P	**P**	**11 50 12.9**	**0.0**	
BTLS			*e*S	**S**	**11 57 31.0**	**+0.2**	
BTLS			*e*SS	**SS**	**12 01 07.5**	**+2.4**	
BTLS			pmax	pmax			
	comp=Z,12nm,1.4s						
BTLS			MLR	MLR			
	comp=Z,381nm,15.0s						
RLMT	**Red Lodge**	**51.08 295**	P	**P**	**11 50 13.9**	**+0.4**	
	baz=34,SNR=14						
RLMT	**Red Lodge**	**51.08 295**	P	**P**	**11 50 13.4**	**-0.1**	
RLMT			IAmb	IAmb	11 50 26.1		
	comp=Z,69nm,1.4s						
LCAR	**Lake Charles**	**51.16 273**	IAMs_20	IAMs_20	12 10 42.4		
	comp=Z,1μm,20.0s						
LPAR	**Lepanto**	**51.19 272**	IAMs_20	IAMs_20	12 10 55.2		
	comp=Z,1μm,19.0s						
YAK	**Yakutsk**	**51.25 19**	*e*P	**P**	**11 50 12.0**	**-2.2**	
YAK			*e*		11 51 26.2		
YAK			*e*		11 52 11.1		
YAK			*e*S	**S**	**11 57 31.9**	**-1.1**	
YAK			*e*		12 00 01.6		
YAK			*e*SS	**SS**	**12 01 10.7**	**+3.2**	
YAK			pmax	pmax			
	comp=E,25μm,1.8s						
YAK			pmax	pmax			
	comp=Z,310μm,4.2s						
YAK			pmax	pmax			
	comp=N,216μm,4.0s						
YAK			pmax	pmax			
	comp=Z,212nm,5.2s						
YAK			pmax	pmax			
	comp=E,96nm,6.2s						
YAK			pmax	pmax			
	comp=N,206nm,5.8s						
YAK			smax	smax			
	comp=N,751nm,11.1s						
YAK			smax	smax			
	comp=E,168nm,8.8s						
YAK			MLR	MLR			
	comp=Z,719nm,23.0s						
YAK			MLR	MLR			
	comp=N,631nm,19.0s						
YAK			MLR	MLR			
	comp=E,172nm,17.0s						
KK31	**Karatay Array**	**51.26 70**	*i* P	**P**	**11 50 14.3**	**-0.3**	
KKAR	**Karatay Array**	**51.26 70**	P	**P**	**11 50 14.0**	**-0.6**	
KKAR	**Karatay Array**	**51.26 70**	P	**P**	**11 50 14.0**	**-0.6**	
KKAR	**Karatay Array**	**51.26 70**	IAmb	IAmb	11 50 20.0		
	comp=Z,102nm,1.5s						
152A	**Waverly Hall**	**51.29 265**	IAmb	IAmb	11 50 26.7		
	comp=Z,48nm,1.6s						
HBAR	**Harrisburg**	**51.38 273**	IAMs_20	IAMs_20	12 11 12.3		
	comp=Z,2μm,20.0s						
NEW	**Newport**	**51.42 303**	P	**P**	**11 50 14.7**	**-1.0**	
	baz=33						
NEW	**Newport**	**51.42 303**	IAMs_20	IAMs_20	12 11 29.8		
	comp=Z,1μm,19.0s						
MET	**Memphis--Engin**	**51.44 272**	IAMs_20	IAMs_20	12 10 35.8		
	comp=Z,1μm,19.0s						
MSO	**Missoula**	**51.45 299**	P	**P**	**11 50 15.3**	**-0.8**	
	baz=33						
BOZ	**Bozeman (W)**	**51.60 297**	P	**P**	**11 50 17.0**	**-0.3**	
BOZ			pmax	pmax			
	comp=Z,119nm,1.8s						
BOZ	**Bozeman (W)**	**51.60 297**	P	**P**	**11 50 17.3**	**0.0**	
	baz=33,SNR=32						
BOZ	**Bozeman (W)**	**51.60 297**	P	**P**	**11 50 17.0**	**-0.3**	
U40A	**Yellville**	**51.64 275**	IAMs_20	IAMs_20	12 11 18.2		
	comp=Z,2μm,19.0s						
FCAR	**Ozark Folk Cen**	**51.73 274**	IAMs_20	IAMs_20	12 10 49.4		
	comp=Z,1μm,20.0s						
OXF	**Oxford**	**51.73 271**	P	**P**	**11 50 20.1**	**+1.9**	
	baz=31						
YMP	**Mirror Lake Pl**	**51.75 295**	P	**P**	**11 50 18.8**	**+0.2**	
DZA	**Taraz**	**51.77 69**	*i* P	**P**	**11 50 18.3**	**-0.1**	
	comp=Z,40nm,1.4s,baz=69						
DZA			*e*PP	**PP**	**11 52 16.1**	**+0.4**	
	baz=69						
DZA	**Taraz**	**51.77 69**	*i* P	**P**	**11 50 18.3**	**-0.1**	
DZA			*e*		11 52 16.0		
DZA			pmax	pmax			
	comp=Z,40nm,1.4s						
456A	**Hilliard**	**51.82 262**	IAMs_20	IAMs_20	12 10 44.1		
	comp=Z,2μm,19.0s						
TIGA	**Tifton**	**51.87 263**	IAMs_20	IAMs_20	12 10 54.4		
	comp=Z,2μm,18.0s						
IUG	**Iuzhnay**	**51.87 71**	⇓*i* P	**P**	**11 50 19.4**	**+0.2**	
	comp=Z,28nm,1.7s,baz=71						
IUG			LR	LR	12 11 42.3		
	comp=Z,492nm,16.4s,baz=71						
IUG	**Iuzhnay**	**51.87 71**	*d i* P	**P**	**11 50 19.4**	**+0.2**	
IUG			pmax	pmax			
	comp=Z,28nm,1.7s						
IUG			MLR	MLR			
	comp=Z,492nm,16.0s						
LRAL	**Lakeview Retre**	**51.95 268**	P	**P**	**11 50 18.9**	**-1.0**	
	baz=31						
LRAL	**Lakeview Retre**	**51.95 268**	IAMs_20	IAMs_20	12 10 49.7		
	comp=Z,2μm,19.0s						
K22A	**Casper**	**52.06 291**	P	**P**	**11 50 20.5**	**-0.2**	
	baz=33						
DGZ	**Jazzator, Alta**	**52.06 53**	*d i* P	**P**	**11 50 21.0**	**+0.3**	
DGZ			pmax	pmax			
	comp=Z,58nm,1.7s						
B08A	**Colville Reser**	**52.13 304**	P	**P**	**11 50 19.0**	**-2.0**	
B08A			IAMs_20	IAMs_20	12 12 13.6		
	comp=Z,1μm,19.0s						
YHB	**Horse Butte**	**52.15 296**	P	**P**	**11 50 21.1**	**-0.4**	
DLMT	**Dillon**	**52.17 297**	P	**P**	**11 50 21.8**	**+0.3**	
DLMT			IAmb	IAmb	11 50 33.9		
	comp=Z,81nm,2.0s						
HHAR	**Hobbs**	**52.17 276**	IAMs_20	IAMs_20	12 11 51.2		
	comp=Z,2μm,19.0s						
H17A	**Grant Village**	**52.20 295**	P	**P**	**11 50 23.6**	**+1.7**	
	baz=33,SNR=12						
H17A	**Grant Village**	**52.20 295**	IAmb	IAmb	11 50 27.2		
	comp=Z,32nm,1.2s						
C09A	**Chrisman Ranch**	**52.23 303**	IAMs_20	IAMs_20	12 12 52.1		
	comp=Z,2μm,18.0s						
U38A	**Gravette**	**52.23 276**	IAMs_20	IAMs_20	12 11 09.7		
	comp=Z,1μm,20.0s						
WHAR	**Wooly Hollow**	**52.30 274**	IAMs_20	IAMs_20	12 11 56.8		
	comp=Z,2μm,18.0s						
X43A	**Marvell**	**52.36 272**	IAMs_20	IAMs_20	12 11 57.2		
	comp=Z,2μm,18.0s						
W41B	**Gary Mavity, V**	**52.39 274**	IAMs_20	IAMs_20	12 11 39.9		
	comp=Z,1μm,20.0s						
R32A	**Long Quarter,**	**52.39 281**	IAMs_20	IAMs_20	12 10 59.9		
	comp=Z,2μm,19.0s						
352A	**Blakely**	**52.40 265**	IAMs_20	IAMs_20	12 11 14.6		
	comp=Z,2μm,18.0s						
SEY	**Seymchan**	**52.47 6**	P	**P**	**11 50 20.9**	**-2.3**	
	comp=Z,6.0nm,1.0s,baz=67,slow=3.2,SNR=5.5						
SEY			LR	LR	12 13 45.9		
	comp=Z,250nm,18.3s,baz=353,slow=37						
SEY	**Seymchan**	**52.47 6**	*d i* P	**P**	**11 50 23.2**	**0.0**	
CBKS	**Cedar Bluff**	**52.49 283**	IAMs_20	IAMs_20	12 12 01.5		
	comp=Z,2μm,19.0s						
MAKZ	**Makanchi**	**52.58 59**	P	**P**	**11 50 23.9**	**-0.5**	
MAKZ			pmax	pmax			
	comp=Z,99nm,1.8s						
MAKZ	**Makanchi**	**52.58 59**	P	**P**	**11 50 23.9**	**-0.5**	
SGDS	**Sogindy**	**52.62 66**	⇓*i* P	**P**	**11 50 24.6**	**-0.1**	
	comp=Z,13nm,1.1s,baz=66						
SGDS			*e*S	**S**	**11 57 52.7**	**+0.3**	
	baz=66						
SGDS			*e*SS	**SS**	**12 01 32.3**	**+2.3**	
	baz=66						
SGDS			LR	LR	12 11 35.8		
	comp=Z,763nm,15.1s,baz=66						
SGDS	**Sogindy**	**52.62 66**	*d i* P	**P**	**11 50 24.6**	**-0.1**	
SGDS			*e*S	**S**	**11 57 52.7**	**+0.3**	
SGDS			*e*SS	**SS**	**12 01 32.2**	**+2.3**	
SGDS			pmax	pmax			
	comp=Z,13nm,1.1s						
SGDS			MLR	MLR			
	comp=Z,763nm,15.0s						
MK31	**Makanchi Array**	**52.71 58**	*i* P	**

EKS2	Erkin-Say	52.94	68	P	P	11 50 27.5	+0.3	
	SNR=25							
FXWY	Fox Creek	53.02	295	IAmb	IAmb	11 50 36.5		
	comp=Z,66nm,2.0s							
SNOW	Snow King Moun	53.06	295	IAmb	IAmb	11 50 40.8		
	comp=Z,36nm,1.4s							
ZSN	Zaisan	53.08	56	eP	P	11 50 27.8	-0.3	
	comp=Z,13nm,1.1s,baz=56							
ZSN				LR	LR	12 12 32.6		
	comp=Z,340nm,14.4s,baz=56							
ZSN	Zaisan	53.08	56	eP	P	11 50 27.7	-0.3	
ZSN				pmax	pmax			
	comp=Z,13nm,1.1s							
ZSN				MLR	MLR			
	comp=Z,340nm,14.0s							
D08A	Wollman Farm,	53.09	303	IAms_20	IAms_20	12 13 26.9		
	comp=Z,2μm,18.0s							
TOA0	Torodi Ar. Sit	53.16	156	P	P	11 50 30.8	+1.9	
	SNR=5.8							
TORD	Torodi Ar. Bea	53.16	156	P	P	11 50 27.3	-1.6	
	comp=Z,12nm,1.0s,baz=343,slow=9.3,SNR=18							
TORD	Torodi Ar. Bea	53.16	156	P	P	11 50 27.4	-1.6	
BW06	Boulder Array	53.17	293	P	P	11 50 28.2	-0.9	
	baz=32,SNR=23							
BW06	Boulder Array	53.17	293	IAmb	IAmb	11 50 35.3		
	comp=Z,89nm,1.8s							
PDAR	Pinedale Array	53.17	293	P	P	11 50 27.0	-2.1	
	comp=Z,9.5nm,0.8s,baz=61,slow=7.0,SNR=23							
PDAR				LR	LR	12 12 39.2		
	comp=Z,2μm,19.5s,baz=40,slow=36							
CHKK	Chushkaly	53.20	64	i P	P	11 50 28.4	-0.6	
	baz=64							
CHKK	Chushkaly	53.20	64	i P	P	11 50 28.4	-0.6	
656A	Willston	53.21	261	IAms_20	IAms_20	12 11 54.1		
	comp=Z,2μm,19.0s							
X40A	Basin Creek Fa	53.22	274	IAms_20	IAms_20	12 12 34.1		
	comp=Z,2μm,18.0s							
AAK	Ala-Archa	53.25	67	P	P	11 50 30.6	+1.1	
	SNR=8.7							
AAK	Ala-Archa	53.25	67	i P	P	11 50 28.8	-0.7	
	SNR=18							
AAK	Ala-Archa	53.25	67	d iP	P	11 50 29.8	+0.3	
AAK				pmax	pmax			
	comp=Z,68nm,1.7s							
AAK	Ala-Archa	53.25	67	P	P	11 50 30.1	+0.5	
CCAR	Cane Creek	53.25	273	IAms_20	IAms_20	12 12 17.9		
	comp=Z,2μm,18.0s							
E09A	Wood Farm, Sta	53.27	302	IAms_20	IAms_20	12 12 32.7		
	comp=Z,1μm,20.0s							
N23A	Red Feather La	53.30	289	P	P	11 50 30.0	-0.1	
	baz=32							
N23A	Red Feather La	53.30	289	IAms_20	IAms_20	12 12 39.9		
	comp=Z,2μm,19.0s							
553A	Crawfordville	53.31	263	IAms_20	IAms_20	12 12 33.6		
	comp=Z,2μm,18.0s							
AML	Almayashu	53.36	68	P	P	11 50 31.5	+0.9	
	SNR=8.6							
KBK	Karagaybulak	53.41	67	P	P	11 50 34.6	+3.9	
	SNR=6.8							
TKM2	Tokmak 2	53.44	66	P	P	11 50 31.5	+0.5	
	SNR=11							
TKM2	Tokmak 2	53.44	66	P	P	11 50 30.7	-0.3	
MIAR	Mount Ida	53.49	275	IAms_20	IAms_20	12 12 17.2		
	comp=Z,2μm,20.0s							
451A	Vernon	53.50	265	IAms_20	IAms_20	12 11 15.6		
	comp=Z,2μm,22.0s							
LTY	Liberty	53.54	304	IAms_20	IAms_20	12 13 08.0		
	comp=Z,1μm,18.0s							
MTBS	Maitube	53.59	65	eP	P	11 50 32.1	+0.2	
	baz=65							
MTBS	Maitube	53.59	65	eP	P	11 50 32.1	+0.2	
UCH	Uchtor	53.60	67	P	P	11 50 33.0	+0.5	
	SNR=21							
AAA	Alma-Ata	53.71	65	⇓i P	P	11 50 33.2	+0.4	
	baz=65							
AAA				ePP	PP	11 52 34.1	+0.9	
	baz=65							
AAA				eS	S	11 58 08.1	+0.6	
	baz=65							
AAA				eSS	SKiKP	12 01 50.2	+2.6	
	baz=65							
AAA				LR	LR	12 12 15.5		
	comp=Z,1μm,15.6s,baz=65							
AAA	Alma-Ata	53.71	65	d iP	P	11 50 33.2	+0.4	
AAA				e		11 52 34.1		
AAA				eS	S	11 58 08.0	+0.6	
AAA				eSS	SKiKP	12 01 50.2	+2.6	
AAA				MLR	MLR			
	comp=Z,1μm,16.0s							
AHID	Auburn Hatcher	53.78	294	IAmb	IAmb	11 50 41.4		
	comp=Z,62nm,1.8s							
MDOK	Medeo	53.80	65	i P	P	11 50 33.8	+0.1	
	baz=65							
MDOK				eS	S	11 58 09.2	+0.4	
	baz=65							
MDOK				eSS	SS	12 01 51.4	+2.5	
	baz=65							
MDOK				LR	LR	12 12 19.6		
	comp=Z,1μm,15.5s,baz=65							
MDOK	Medeo	53.80	65	i P	P	11 50 33.7	+0.1	
MDOK				eS	S	11 58 09.2	+0.4	
MDOK				eSS	SS	12 01 51.3	+2.5	
MDOK				MLR	MLR			
	comp=Z,1μm,16.0s							
OHAK	Old Harbor	53.85	332	IAms_20	IAms_20	12 15 06.6		
	comp=Z,1μm,19.0s							
E07A	Sunnyside	53.85	303	IAms_20	IAms_20	12 13 17.1		
	comp=Z,2μm,18.0s							
TNSS	Tian-Shan	53.87	65	eP	P	11 50 34.5	0.0	
	baz=65							
TNSS	Tian-Shan	53.87	65	eP	P	11 50 34.4	0.0	
KPKS	Kokpek	54.18	63	⇓i P	P	11 50 36.2	0.0	
	comp=Z,16nm,0.9s,baz=63							
KPKS				LR	LR	12 12 32.6		
	comp=Z,927nm,18.4s,baz=63							
KPKS	Kokpek	54.18	63	d iP	P	11 50 36.2	0.0	
KPKS				pmax	pmax			
	comp=Z,17nm,0.9s							
KPKS				MLR	MLR			
	comp=Z,927nm,18.0s							
X37A	Clayton	54.22	276	IAms_20	IAms_20	12 12 24.5		
	comp=Z,2μm,20.0s							
Z41A	Richland Creek	54.26	273	IAms_20	IAms_20	12 13 17.5		
	comp=Z,2μm,18.0s							
060A	Indiantown	54.33	258	IAms_20	IAms_20	12 12 27.9		
	comp=Z,1μm,20.0s							
BMO	Blue Mountains	54.38	300	IAmb	IAmb	11 50 50.4		
	comp=Z,46nm,1.6s							
LON	Longmire	54.38	305	IAms_20	IAms_20	12 12 53.1		
	comp=Z,2μm,19.0s							
HLID	Hailey	54.39	297	P	P	11 50 38.0	+0.1	
	baz=32,SNR=8.8							
HLID	Hailey	54.39	297	IAmb	IAmb	11 50 44.5		
	comp=Z,36nm,1.9s							
SATY	Saty	54.42	64	⇓i P	P	11 50 38.1	0.0	
	comp=Z,14nm,1.3s,baz=64							
SATY				LR	LR	12 13 00.9		
	comp=Z,412nm,13.7s,baz=64							
SATY	Saty	54.42	64	d iP	P	11 50 38.0	0.0	
SATY				pmax	pmax			
	comp=Z,14nm,1.3s							
SATY				MLR	MLR			
	comp=Z,412nm,14.0s							
NLWA	Neilton Lookou	54.55	307	IAms_20	IAms_20	12 12 54.4		
	comp=Z,2μm,18.0s							
UZB	Uzynbulak	54.58	63	⇓i P	P	11 50 39.3	0.0	
	comp=Z,13nm,1.1s,baz=63							
UZB				ePP	PP	11 52 41.7	+0.6	
	baz=63							
UZB				eS	S	11 58 19.7	+0.4	
	baz=63							
UZB	Uzynbulak	54.58	63	d iP	P	11 50 39.3	0.0	
UZB				e		11 52 41.6		
UZB				eS	S	11 58 19.7	+0.4	
UZB				pmax	pmax			
	comp=Z,13nm,1.1s							
G08A	Pilot Rock	54.61	302	IAms_20	IAms_20	12 13 26.2		
	comp=Z,2μm,20.0s							
MOY	Mondy	54.64	42	eP	P	11 50 40.5	+1.0	
MOY				pmax	pmax			
	comp=Z,147nm,1.9s							
SHLS	Shalkode	54.74	63	eP	P	11 50 42.1	+1.7	
	comp=Z,37nm,2.3s,baz=62							
SHLS	Shalkode	54.74	63	eP	P	11 50 42.0	+1.7	
SHLS				pmax	pmax			
	comp=Z,37nm,2.3s							
E04D	Cinebar	54.81	305	P	P	11 50 39.8	-0.8	
	baz=30							
O20A	White River Ci	54.88	290	P	P	11 50 41.4	-0.1	
	baz=32,SNR=8.5							
O20A	White River Ci	54.88	290	IAms_20	IAms_20	12 13 20.5		
	comp=Z,2μm,19.0s							
E03A	Lebam	55.17	306	IAms_20	IAms_20	12 15 26.0		
	comp=Z,2μm,18.0s							
F04A	Amboy	55.30	305	IAms_20	IAms_20	12 13 22.4		
	comp=Z,1μm,20.0s							
TLY	Talaya	55.38	40	eP	P	11 50 44.1	-0.7	
TLY				e		11 52 50.0		
TLY				ePPP	PPP	11 54 06.0		
TLY				eS	S	11 58 36.8	+7.3	
TLY				pmax	pmax			
	comp=Z,57nm,1.4s							
TLY				MLR	MLR			
	comp=Z,2μm,15.0s							
TLY	Talaya	55.38	40	IAms_20	IAms_20	12 17 28.4		
	comp=Z,1μm,18.0s							
GRTK	Grand Turk	55.50	246	IAms_20	IAms_20	12 10 47.9		
	comp=Z,2μm,20.0s							
G05D	Wamic, OR	55.50	304	P	P	11 50 46.3	+0.6	
	baz=30							
SPUT	South Promonto	55.55	294	P	P	11 50 46.6	+0.4	
MA2	Magadan	55.74	7	deP	P	11 50 46.8	-0.4	
MA2				pmax	pmax			
	comp=Z,29nm,1.4s							
SDCO	Great Sand Dun	55.79	287	IAms_20	IAms_20	12 13 42.9		
	comp=Z,2μm,18.0s							
Z35A	Perchaven, San	56.10	277	IAmb	IAmb	11 50 53.4		
	comp=Z,47nm,1.2s							
Z35A				IAms_20	IAms_20	12 13 52.3		
	comp=Z,1μm,20.0s							
I05D	Terrebonne, OR	56.29	303	P	P	11 50 51.1	-0.3	
	baz=30							
H04A	Detroit Lake	56.30	304	IAms_20	IAms_20	12 14 53.8		
	comp=Z,2μm,18.0s							
S22A	4UR Ranch, Cre	56.34	288	P	P	11 50 51.4	-0.7	
	baz=31							
S22A	4UR Ranch, Cre	56.34	288	IAms_20	IAms_20	12 14 53.3		
	comp=Z,2μm,19.0s							
NATX	Nacogdoches	56.34	274	IAms_20	IAms_20	12 15 25.7		
	comp=Z,1μm,18.0s							
ZAK	Zakamensk	56.44	41	eP	P	11 50 51.8	-0.7	
ZAK				pmax	pmax			
	comp=Z,23nm,1.7s							
CBYP	Canovanas	56.44	238	P	P	11 50 53.7	+1.0	
KSH	Kashi	56.49	68	P	P	11 50 54.4	+1.4	
KSH				PP	PP	11 53 01.5	+3.3	
KSH				S	S	11 58 41.4	-3.4	
KSH				sS	sS	11 58 58.3	+12	
KSH				pmax	pmax			
	comp=Z,70nm,1.1s							
KSH				pmax	pmax			
	comp=Z,590nm,7.2s							
KSH				LR	LR			
	comp=Z,480nm,11.4s							
KSH				LR	LR			
	comp=Z,610nm,11.4s							
KSH				LR	LR			
	comp=Z,4μm,17.8s							
PV07	Paradox Valley	56.49	290	IAms_20	IAms_20	12 14 24.0		
	comp=Z,2μm,19.0s							
MTP	Monte Pirata	56.49	238	P	P	11 50 54.1	+1.1	
PV15	Paradox Valley	56.50	289	IAmb	IAmb	11 51 06.5		
	comp=Z,63nm,1.9s							
PV15				IAms_20	IAms_20	12 14 20.6		
	comp=Z,2μm,20.0s							
441A	DeHier	56.58	272	IAms_20	IAms_20	12 14 25.1		
	comp=Z,2μm,18.0s							
PINE	Pine Mountain	56.62	302	P	P	11 50 54.8	+0.8	
PINE				IAmb	IAmb	11 51 08.5		
	comp=Z,38nm,1.6s							
PV23	Carpenter Ridg	56.62	290	IAmb	IAmb	11 51 01.9		
	comp=Z,32nm,1.2s							
PV04	Paradox Valley	56.63	290	IAmb	IAmb	11 51 01.9		
	comp=Z,34nm,1.4s							
DUG	Dugway, Tooele	56.64	294	P	P	11 50 54.9	+0.8	
	baz=31,SNR=8.7							
DUG	Dugway, Tooele	56.64	294	IAmb	IAmb	11 51 01.1		
	comp=Z,41nm,1.6s							
PV12	Saucer Basin,	56.65	290	IAmb	IAmb	11 51 12.4		
	comp=Z,41nm,1.7s							
PV12				IAms_20	IAms_20	12 14 17.6		
	comp=Z,2μm,20.0s							
PV14	Lion Creek, Pa	56.70	290	IAms_20	IAms_20	12 14 28.7		
	comp=Z,2μm,20.0s							
PV10	Paradox Valley	56.70	290	IAmb	IAmb	11 51 03.1		
	comp=Z,26nm,0.9s							
PV16	Nyswonger Mesa	56.70	290	IAmb	IAmb	11 51 06.6		
	comp=Z,32nm,1.4s							
PV16				IAms_20	IAms_20	12 15 01.9		
	comp=Z,2μm,18.0s							
PV02	Paradox Valley	56.72	290	P	P	11 50 54.7	-0.1	
PV02				IAmb	IAmb	11 51 02.8		
	comp=Z,23nm,1.0s							
PV03	Paradox Valley	56.73	290	IAmb	IAmb	11 51 06.7		
	comp=Z,23nm,1.2s							
PV03				IAms_20	IAms_20	12 14 19.5		
	comp=Z,2μm,21.0s							
PV17	East Wray Mesa	56.75	290	IAmb	IAmb	11 51 06.7		
	comp=Z,64nm,1.7s							
PV18	Skein Mesa, Pa	56.76	290	IAmb	IAmb	11 51 03.0		
	comp=Z,24nm,1.0s							
PV18				IAms_20	IAms_20	12 15 09.3		
	comp=Z,2μm,19.0s							
COR	Corvallis	56.78	305	IAms_20	IAms_20	12 14 53.5		
	comp=Z,2μm,19.0s							
PV13	Radium Mtn., P	56.80	290	IAmb	IAmb	11 50 57.9		
	comp=Z,32nm,0.9s							
J05D	Fort Rock, OR	57.17	302	P	P	11 50 58.6	+0.9	
	baz=30,SNR=15							
WMQ	Urumqi	57.22	56	eP	P	11 50 59.5	+1.5	
WMQ				sP	sP	11 51 06.4	+6.8	
WMQ				S	S	11 58 56.0	+1.8	
WMQ				sS	sS	11 59 02.3	+6.3	
WMQ				pmax	pmax			
	comp=Z,22nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,410nm,6.7s							
WMQ				LR	LR			
	comp=Z,880nm,19.9s							
WMQ				LR	LR			
	comp=Z,1μm,19.3s							
WMQ				LR	LR			
	comp=Z,500nm,24.5s							
WHTX	Lake Whitney,	57.34	276	IAms_20	IAms_20	12 13 34.1		
	comp=Z,2μm,22.0s							
MVCO	Mesa Verde	57.48	289	P	P	11 51 00.1	-0.1	
	baz=31							
MVCO	Mesa Verde	57.48	289	IAmb	IAmb	11 51 07.8		
	comp=Z,32nm,1.6s							
J04D	Umpqua Nationa	57.52	303	P	P	11 51 00.2	-0.1	
	baz=30							
K05A	Summer Lake	57.53	302	IAmb	IAmb	11 51 14.8		
	comp=Z,45nm,1.4s							
SDDR	Presa de Saban	57.85	244	IAms_20	IAms_20	12 11 50.1		
	comp=Z,2μm,20.0s							
KBL	Kabul	57.92	77	P	P	11 51 03.8	+0.5	
KBL				pmax	pmax			
	comp=Z,44nm,1.6s							
KBL				MLR	MLR			
	comp=Z,2μm,20.0s							
KBL	Kabul	57.92	77	P	P	11 51 03.8	+0.5	
KBL				IAmb	IAmb	11 51 07.8		
	comp=Z,44nm,1.6s							
KBL				IAms_20	IAms_20	12 16 26.5		
	comp=Z,2μm,20.0s							
MOD	Modoc Plateau	58.02	301	IAmb	IAmb	11 51 17.6		
	comp=Z,34nm,1.6s							
MOD				IAms_20	IAms_20	12 15 36.6		
	comp=Z,2μm,20.0s							
GTBY	Guantanamo Bay	58.50	249	IAms_20	IAms_20	12 11 32.4		
	comp=Z,2μm,22.0s							
ANMO	Albuquerque	58.59	286	d iP	P	11 51 08.1	+0.2	
ANMO				pmax	pmax			
	comp=Z,23nm,2.3s							
DBIC	Dimbokro	58.61	165	P	P	11 51 06.1	-1.8	
	comp=Z,22nm,1.0s,baz=355,slow=8.2,SNR=11							
DBIC				LR	LR	12 17 08.7		
	comp=Z,515nm,18.2s,baz=350,slow=37							
DBIC	Dimbokro	58.61	165	P	P	11 51 06.9	-1.0	
DBIC				pmax	pmax			
	comp=Z,43nm,1.2s							
DBIC	Dimbokro	58.61	165	P	P	11 51 06.9	-1.0	
DBIC				IAmb	IAmb	11 51 09.9		
	comp=Z,43nm,1.1s							
TIC	Toumodi	58.61	165	eP	P	11 51 06.4	-1.6	
ZEA	Zeya	58.82	24	eP	P	11 51 09.0	0.0	
ZEA				ePPP	PPP	11 54 41.0		
ZEA				eS	S	11 59 18.0	+3.3	
ZEA				eSSS	SSS	12 05 36.0		
ZEA				pmax	pmax			
	comp=Z,95nm,2.5s							
ZEA				pmax	pmax			
	comp=Z,900nm,8.0s							
ZEA				smax	smax			
	comp=Z,700nm,12.0s							
ZEA				smax	smax			
	comp=N,1μm,18.0s							
ZEA				MLR	MLR			
	comp=Z,1μm,14.0s							
ZEA				MLR	MLR			
	comp=E,400nm,17.0s							
ZEA				MLR	MLR			
	comp=N,600nm,14.0s							
KIC	Kosan Boka	58.92	165	eP	P	11 51 07.2	-3.0	
	comp=N,111nm,1.3s							
LIC	Lamto	59.03	166	eP	P	11 51 09.3	-1.6	
	comp=N,105nm,1.1s							
YBH	Yreka Blue Hor	59.05	303	LR	LR	12 18 05.6		
	comp=N,1μm,18.8s,baz=50,slow=38							
YBH	Yreka Blue Hor	59.05	303	IAms_20	IAms_20	12 15 28.8		
	comp=Z,957nm,19.0s							
KBO	Bosley Butte	59.18	304	IAms_20	IAms_20	12 16 45.0		
	comp=Z,988nm,19.0s							
R11A	Troy Canyon, C	59.32	295	P	P	11 51 13.1	+0.1	
	baz=30,SNR=15							
R11A	Troy Canyon, C	59.32	295	IAmb	IAmb	11 51 27.9		
	comp=Z,36nm,1.6s							
PAHR	Pah Rah Range	59.59	299	IAmb	IAmb	11 51 28.9		
	comp=Z,44nm,1.5s							
PAHR				IAms_20	IAms_20	12 16 25.1		
	comp=Z,2μm,21.0s							
SONM	Songino Array	59.62	40	P	P	11 51 14.2	-0.6	
	comp=Z,5.0nm,0.9s,baz=331,slow=5.9,SNR=20							
SONM				LR	LR	12 19 44.2		
	comp=Z,967nm,18.6s,baz=324,slow=39							
SONM	Songino Array	59.62	40	P	P	11 51 13.8	-1.0	
KRMB	Red Mountain	59.67	303	IAms_20	IAms_20	12 18 58.1		
	comp=Z,1μm,19.0s							
U15A	North Rim	59.69	291	IAmb	IAmb	11 51 23.1		
	comp=Z,26nm,1.3s							
ULN	Ulaanbaatar	59.78	40	d iP	P	11 51 15.9	0.0	
ULN				pmax	pmax			
	comp=Z,34nm,1.4s							
ULN	Ulaanbaatar	59.78	40	P	P	11 51 16.4	+0.5	
ULN				IAmb	IAmb	11 51 21.2		
	comp=Z,33nm,1.3s							
ULN	Ulaanbaatar	59.78	40	IAms_20	IAms_20	12 19 06.7		
	comp=Z,2μm,20.0s							
SHME	Shamm	59.78	93	i P	P	11 51 16.0	0.0	
	SNR=6.3							
W18A	Petrified Fore	59.79	289	IAms_20	IAms_20	12 17 07.6		
	comp=Z,2μm,19.0s							
PRN	Pahroc Range	59.93	294	IAmb	IAmb	11 51 26.3		
	comp=Z,44nm,1.6s							
PRN				IAms_20	IAms_20	12 16 48.2		
	comp=Z,2μm,20.0s							
BANOM	Banah	59.96	93	P	P	11 51 17.5	+0.2	
BANOM	Banah	59.96	93	P	P	11 51 22.1	+4.8	
	SNR=6.4							
WDC	Whiskeytown Da	60.00	302	IAms_20	IAms_20	12 16 57.9		
	comp=Z,1μm,20.0s							
VCNR	Virginia City	60.05	299	IAmb	IAmb	11 51 32.0		
	comp=Z,41nm,1.7s							
WUAZ	Wupatki	60.11	290	P	P	11 51 18.5	+0.1	
	baz=30,SNR=14							
WUAZ	Wupatki	60.11	290	IAmb	IAmb	11 51 24.9		
	comp=Z,23nm,1.0s							
WUAZ				IAms_20	IAms_20	12 16 18.0		
	comp=Z,2μm,19.0s							
YERR	Yerington	60.17	298	IAmb	IAmb	11 51 39.0		
	comp=Z,47nm,1.5s							
KHMM	Horse Mountain	60.17	303	IAms_20	IAms_20	12 17 38.5		
	comp=Z,896nm,19.0s							
735A	Kenedy	60.21	275	IAms_20	IAms_20	12 17 17.0		
	comp=Z,1μm,18.0s							
NVAR	Mina Array Bea	60.30	297	P	P	11 51 19.2	-0.5	
	comp=Z,1.8nm,0.8s,baz=38,slow=3.5,SNR=13							
NVAR				LR	LR	12 17 43.2		
	comp=Z,3μm,18.9s,baz=30,slow=36							
NVAR	Mina Array Bea	60.30	297	P	P	11 51 18.9	-0.9	
MSFE	Esma-Masafi	60.39	93	i P	P	11 51 18.8	-1.5	
	SNR=12							
NIL	Nilore	60.44	74	P	P	11 51 20.3	-0.2	
NIL				pmax	pmax			
	comp=Z,43nm,1.1s							
NIL				MLR	MLR			
	comp=Z,1μm,19.0s							
NIL	Nilore	60.44	74	P	P	11 51 20.3	-0.2	
NIL	Nilore	60.44	74	IAms_20	IAms_20	12 18 46.2		
	comp=Z,1μm,19.0s							
NAZ	Nazwa, Dubai	60.50	94	P	P	11 51 21.5	+0.5	
MDH	Madha	60.50	93	i P	P	11 51 19.4	-1.6	
	SNR=9.9							
MDH	Madha	60.50	93	P	P	11 51 25.0	+4.1	
	SNR=6.0							
ORV	Oroville	60.52	300	P	P	11 51 20.3	-0.6	
ORV				pmax	pmax			
	comp=Z,15nm,1.7s							
ORV				MLR	MLR			
	comp=Z,2μm,20.0s							
ORV	Oroville	60.52	300	P	P	11 51 20.3	-0.6	
WAKR	Walker	60.66	298	IAmb	IAmb	11 51 42.4		
	comp=Z,41nm,1.6s							
KMRM	Mail Ridge	60.74	303	IAms_20	IAms_20	12 17 40.9		
	comp=Z,1μm,18.0s							
SHPR	Sheep Range	60.76	294	IAms_20	IAms_20	12 17 16.1		
	comp=Z,1μm,19.0s							
UOSS	Minazif	60.77	93	i P	P	11 51 21.4	-1.5	
	SNR=9.0							
UOSS	Minazif	60.77	93	P	P	11 51 23.4	+0.6	
TPNV	Topopah Spring	60.80	295	P	P	11 51 23.0	-0.1	
	baz=29							
TPNV	Topopah Spring	60.80	295	IAmb	IAmb	11 51 31.3		
	comp=Z,34nm,1.5s							
HATD	Hatta, Dubai	60.85	93	i P	P	11 51 21.7	-1.6	
	SNR=6.9							
AFDM	Forest Hills D	60.85	300	P	P	11 51 22.9	-0.4	
AFDM				IAms_20	IAms_20	12 17 16.5		
	comp=Z,2μm,20.0s							
ASHO	Ashiyiah	60.94	94	i P	P	11 51 23.0	-1.1	
	SNR=9.7							
ASHO	Ashiyiah	60.94	94	P	P	11 51 27.0	+3.0	
	SNR=12							
ASHO				P	P	11 51 27.0	+3.0	
	SNR=12							
MNTX	Cornudas Mount	60.95	283	IAms_20	IAms_20	12 17 07.5		
	comp=Z,1μm,19.0s							
MTDJ	Mount Denham	61.01	250	IAms_20	IAms_20	12 13 31.8		
	comp=Z,1μm,21.0s							
X16A	Lo Mia Camp, P	61.09	290	IAmb	IAmb	11 51 33.7		
	comp=Z,18nm,1.2s							
X16A				IAms_20	IAms_20	12 17 26.0		
	comp=Z,1μm,18.0s							
KCPM	Cahto Peak	61.17	302	IAms_20	IAms_20	12 17 47.7		
	comp=Z,1μm,18.0s							
GRAC	Grapevine Rang	61.19	296	P	P	11 51 27.1	+1.5	
	baz=29							
121A	Cookes Peak, D	61.23	285	IAms_20	IAms_20	12 17 10.8		
	comp=Z,1μm,21.0s							
OMMB	Old Mammoth Mi	61.28	297	IAmb	IAmb	11 51 41.0		
	comp=Z,55nm,1.9s							

comp=Z,24nm,1.8s
W13A IAMs_20 IAMs_20 12 16 41.2
comp=Z,2μm,22.0s
HOPS Hopland Field 61.59 301 IAMs_20 IAMs_20 12 17 55.0
comp=Z,2μm,20.0s
HIA Hailar 61.61 30 IAMs_20 IAMs_20 12 20 14.9
comp=Z,1μm,19.0s
SOHO SOHO 61.63 93 *i* P **P 11 51 28.0 -0.6**
SNR=6.1
SOHO SOHO 61.63 93 P **P 11 51 30.1 +1.5**
SHOC Shoshone, Teco 61.72 294 P **P 11 51 29.8 +0.6**
baz=29
CWC Cottonwood Cre 61.95 296 P **P 11 51 30.9 0.0**
baz=28
MCCM Marconi Confer 62.27 301 IAMs_20 IAMs_20 12 18 12.9
comp=Z,2μm,20.0s
PDMCI Parker Dam,Lak 62.27 292 P **P 11 51 33.2 +0.3**
baz=29
TXAR Lajitas Array 62.29 280 LR LR 12 18 06.3
comp=Z,3μm,19.0s,baz=0.0,slow=36
HOQ Hoqain 62.45 93 P **P 11 51 37.1 +2.9**
SNR=7.2
GSC Goldstone, Bar 62.45 294 P **P 11 51 34.7 +0.5**
baz=28
GMRC Granite Mounta 62.46 293 P **P 11 51 34.8 +0.5**
baz=29,SNR=8.2
PEA0B Petropavlovsk- 62.48 3*d i*P **P 11 51 33.4 -0.6**
PETK Petropavlovsk- 62.48 3 P **P 11 51 33.4 -0.6**
comp=Z,3.5nm,1.0s,baz=345,slow=5.1,SNR=4.1
PETK LR LR 12 20 12.4
comp=Z,250nm,18.0s,baz=4.6,slow=38
PET Petropavlovsk 62.59 3*d i*P **P 11 51 33.8 -0.8**
PET *e* 11 53 50.8
PET *e*S **S 12 00 01.8 -1.0**
PET *e*SS **SS 12 04 05.3 -0.4**
PET pmax pmax
comp=Z,500nm,8.1s
PET pmax pmax
comp=Z,700nm,6.9s
PET pmax pmax
comp=Z,200nm,9.0s
TUC Tucson 62.66 288 P **P 11 51 36.0 +0.4**
TUC pmax pmax
comp=Z,41nm,1.7s
TUC Tucson 62.66 288 P **P 11 51 36.0 +0.4**
baz=29
TUC Tucson 62.66 288 P **P 11 51 36.0 +0.4**
TUC IAmb IAmb 11 51 48.4
comp=Z,41nm,1.6s
TUC Tucson 62.66 288 IAMs_20 IAMs_20 12 18 07.6
comp=Z,1μm,19.0s
ISA Isabella, Lake 62.79 296 P **P 11 51 36.5 +0.1**
baz=28
IRM Iron Mountain 62.80 292 P **P 11 51 36.8 +0.4**
baz=28
BIDO Bidbid 62.85 92 P **P 11 51 40.0 +3.1**
SNR=9.4
BIDO P **P 11 51 40.0 +3.1**
SNR=9.4
319A Douglas 62.85 286 IAMs_20 IAMs_20 12 18 52.8
comp=Z,1μm,18.0s
GRNR Gornyy 63.11 18 *e*P P 11 51 30.3 -7.9
GRNR *e* 11 53 53.9
GRNR MLR MLR
comp=E,120nm,15.0s
GRNR MLR MLR
comp=N,240nm,19.0s
GRNR MLR MLR
comp=Z,300nm,19.0s
PMPB Monarch Peak 63.19 298 IAMs_20 IAMs_20 12 18 52.4
comp=Z,2μm,20.0s
SMDO Samad 63.22 93 P **P 11 51 43.0 +3.5**
SNR=9.0
SMDO P **P 11 51 43.0 +3.5**
SNR=9.0
BELC Belle Mtn. Jos 63.28 293 P **P 11 51 40.3 +0.6**
baz=28,SNR=6.6
TEIG Tepich 63.70 262 IAMs_20 IAMs_20 12 18 09.7
comp=Z,1μm,20.0s
TYV Tymovskoe 63.76 14 *e*P **P 11 51 42.2 -0.3**
TYV pmax pmax
comp=Z,700nm,6.6s
TYV pmax pmax
comp=Z,9.0nm,1.5s
214A Organ Pipe Nat 63.79 289 IAMs_20 IAMs_20 12 17 35.6
comp=Z,1μm,19.0s
JMDO Jabal Madar 63.85 93 P **P 11 51 45.0 +1.5**
KLR Kul'dur 63.92 22*d i*P **P 11 51 42.5 -1.1**
KLR pmax pmax
comp=Z,9.0nm,1.7s
WBK Wadi Bani Khal 64.01 92 P **P 11 51 45.9 +1.3**
JLN Jalan Bani Buh 64.61 92 P **P 11 51 50.5 +2.1**
SKR Severo-Kuril's 64.86 4 *e*P **P 11 51 48.4 -1.3**
SKR *e*PPP PPP 11 55 43.1
SKR *e*S **S 12 00 38.2 +7.1**
SKR pmax pmax
comp=Z,300nm,7.5s
SKR MLR MLR
comp=Z,200nm,20.0s
SKR MLR MLR
comp=Z,200nm,19.0s
MHTO MHTO 65.02 94 P **P 11 51 52.6 +1.5**
GTA Gaotai 65.28 49 ⇓P **P 11 51 52.2 -0.6**
GTA pP sP 11 51 58.2 +3.8
GTA sP pP 11 52 01.2 +7.2
GTA sS sS 12 00 44.8 +5.9
GTA SS **SS 12 04 44.3 -4.4**
GTA pmax pmax
comp=Z,10.0nm,1.3s
GTA pmax pmax
comp=Z,630nm,6.9s
GTA LR LR
comp=Z,1μm,18.1s
GTA LR LR
comp=Z,960nm,18.7s
GTA LR LR
comp=Z,1μm,17.8s
HSIG 65.61 286 IAMs_20 IAMs_20 12 19 23.7
comp=Z,912nm,22.0s
SPX San Pedro Mart 65.67 291 IAmb IAmb 11 51 57.7
comp=Z,29nm,1.7s
DQM DQM 65.77 95 P **P 11 51 57.0 +1.0**
DQM P **P 11 51 57.0 +1.0**
DQM P **P 11 51 57.2 +1.2**
DQM P **P 11 51 57.2 +1.2**
WHFO Wadi Hawf 65.94 99 P **P 11 51 58.8 +1.6**
ABTO Aybut 66.25 100 P **P 11 51 59.9 +0.7**
BTO Baotou 67.29 41 *e*P **P 11 52 06.7 +1.1**
PETF Flores 67.31 261 IAMs_20 IAMs_20 12 20 59.6
comp=Z,1μm,18.0s
HHC Hu-ho-hao-te 67.49 40 *e*P **P 11 52 09.9 +3.0**
HHC S **S 12 01 04.5 +0.8**
HHC sS sS 12 01 11.4 +5.8
HHC pmax pmax
comp=Z,26nm,1.2s
HHC pmax pmax
comp=Z,490nm,5.8s
HHC LR LR
comp=Z,930nm,16.7s
HHC LR LR
comp=Z,700nm,14.3s
HHC LR LR
comp=Z,980nm,17.7s
ZAIG Zacatecas 67.58 276 P **P 11 52 08.8 +0.9**
ZAIG IAmb IAmb 11 52 21.0
comp=Z,23nm,1.3s
ZAIG IAMs_20 IAMs_20 12 21 09.2
comp=Z,1μm,21.0s
SJCC San Jacinto, C 67.63 244 *e*P **P 11 52 07.4 -0.6**
YSS Yuzh-Sakhalins 67.63 15*d i*P **P 11 52 07.6 +0.1**
YSS *e* 11 52 29.5
YSS *e* 11 54 34.9
YSS *e*PPP PPP 11 56 19.3
YSS *e*S **S 12 01 03.2 -1.7**
YSS *e*SS **SS 12 05 21.8 -2.6**
YSS pmax pmax
comp=Z,900nm,6.5s
YSS smax smax
comp=N,500nm,8.0s
YSS smax smax
comp=E,200nm,8.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,300nm,15.0s
YSS MLR MLR
comp=E,300nm,14.0s
YSS Yuzh-Sakhalins 67.63 15 P **P 11 52 10.7 +3.2**
CN2 Changchun 68.02 28 *e*P **P 11 52 09.4 -0.6**
CN2 PP **PP 11 54 35.0 -4.3**
CN2 *e*S **S 12 01 07.1 -2.6**
CN2 SS **SS 12 05 27.1 -3.4**
CN2 pmax pmax
comp=E,10.0nm,0.9s
CN2 pmax pmax
comp=E,800nm,8.0s
CN2 LR LR
comp=E,600nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=E,900nm,17.0s
MDJ Mudanjiang 68.02 25 IAMs_20 IAMs_20 12 24 42.6
comp=Z,785nm,19.0s
SMLC San Martn de 68.21 243 *e*P P 11 51 57.8 -14
MOTC Monteria, Cord 68.84 244 *e*P **P 11 52 14.4 -1.1**
USA0B Ussuriysk Arra 68.84 23*d i*P **P 11 52 14.1 -1.1**
USRK Ussuriysk Ar. 68.84 23 P **P 11 52 17.2 +2.0**
USRK Ussuriysk Ar. 68.84 23 P **P 11 52 17.2 +2.0**
CCIG Comitan 68.85 263 IAMs_20 IAMs_20 12 20 41.2
comp=Z,2μm,21.0s
APG El Apazote 69.27 261 P **P 11 52 16.9 -1.5**
comp=Z,1.7nm,0.7s,baz=17,slow=17,SNR=1.7
HUEH Huehuetenango 69.44 262 IAMs_20 IAMs_20 12 22 13.8
comp=Z,937nm,20.0s
BJI Beijing 69.47 36 P **P 11 52 18.6 -0.5**
BJI S **S 12 01 29.8 +2.8**
BJI pmax pmax
comp=Z,20nm,1.8s
BJI pmax pmax
comp=Z,680nm,6.8s
BJI LR LR
comp=Z,1μm,16.7s
BJI LR LR
comp=Z,660nm,16.3s
BJI LR LR
comp=Z,1μm,17.7s
SNY Shenyang 69.52 30 ⇓P **P 11 52 18.8 -0.6**
SNY S **S 12 01 30.3 +2.8**
SNY SS **SS 12 05 50.1 -3.6**
SNY pmax pmax
comp=Z,22nm,1.2s
SNY pmax pmax
comp=Z,630nm,8.3s
SNY LR LR
comp=Z,520nm,24.5s
SNY LR LR
comp=Z,520nm,23.0s
SNY LR LR
comp=Z,760nm,32.0s
LZH Lanzhou 69.61 48 *e*P **P 11 52 20.3 0.0**
LZH pP sP 11 52 23.6 +1.7
LZH S **S 12 01 33.5 +4.3**
LZH SS **SS 12 05 54.5 -1.4**
LZH pmax pmax
comp=Z,23nm,1.4s
LZH pmax pmax
comp=Z,650nm,8.1s
LZH LR LR
comp=Z,700nm,16.8s
LZH LR LR
comp=Z,580nm,15.8s
LZH LR LR
comp=Z,720nm,16.9s
BRRC Barranca, Sant 69.62 242 *e*P P 11 52 13.2 -7.1
ZARC Zaragoza, Cauc 69.71 243 *e*P **P 11 52 21.0 +0.1**
KUR Kuril'sk 69.82 11 *e*P **P 11 52 22.4 +1.2**
KUR *e* 11 55 01.6
KUR *e*PPP PPP 11 56 42.6
KUR S SKiKP 12 01 50.7 -18
SLBS Sierra La Lagu 69.89 283 IAMs_20 IAMs_20 12 21 58.4
comp=Z,1μm,21.0s
PTBC PUERTO BERRIO, 70.43 242 *e*P **P 11 52 25.8 +0.5**
DBBC Dabeiba 70.66 244 *e*P **P 11 52 26.5 -0.3**
YUK Yuzh-Kuril'sk 70.83 13*d i*P **P 11 52 26.1 -1.3**
YUK *e*S **S 12 01 46.2 +3.4**
YUK *e* 12 02 33.5
YUK pmax pmax
comp=Z,182nm,4.6s
YUK pmax pmax
comp=Z,145nm,0.9s
YUK pmax pmax
comp=N,153nm,0.8s
YUK pmax pmax
comp=E,105nm,0.9s
SPBC San Pablo de B 71.10 241 *e*P **P 11 52 27.4 -2.1**
HDC Heredia 71.11 253 IAMs_20 IAMs_20 12 18 43.3
comp=Z,1μm,21.0s
HELC Santa Helena 71.16 243 *e*P **P 11 52 28.3 -1.8**
NORC Norcasia 71.48 242 *e*P **P 11 52 30.8 -1.0**
CBOC Ciudad Bolivar 71.64 243 *e*P **P 11 52 31.9 -1.0**
DL2 Dalian 71.87 33 ⇓P **P 11 52 33.3 -0.5**
DL2 PP **PP 11 55 14.9 +2.3**
DL2 S **S 12 01 57.7 +2.7**
DL2 SS **SS 12 06 30.9 +0.9**
DL2 pmax pmax
comp=Z,13nm,0.7s
DL2 pmax pmax
comp=Z,830nm,6.8s
DL2 LR LR
comp=Z,1μm,18.5s
DL2 LR LR
comp=Z,340nm,17.4s
DL2 LR LR
comp=Z,1μm,19.8s
ROSC El Rosal 71.94 241 P **P 11 52 35.6 +0.8**
comp=Z,18nm,0.7s,baz=341,slow=5.3,SNR=6.5
ROSC LR LR 12 20 39.2
comp=Z,679nm,22.0s,baz=34,slow=33
ROSC El Rosal 71.94 241 *e*P **P 11 52 34.6 -0.3**
ROSC El Rosal 71.94 241 IAMs_20 IAMs_20 12 20 16.5
comp=Z,908nm,22.0s
GUY2C Guyana, Caldas 71.98 242 *e*P **P 11 52 34.7 -0.6**
VILC Villavicencio, 72.37 240 *e*P **P 11 52 36.4 -0.8**
TOLC Tolima 72.55 242 *e*P **P 11 52 39.1 +0.6**
XAN Xi'an 73.07 44 P **P 11 52 39.0 -2.1**
XAN pP pP 11 52 42.7 +0.4
XAN PP **PP 11 55 20.2 -2.9**
XAN pmax pmax
comp=Z,6.0nm,1.7s
XAN pmax pmax
comp=Z,720nm,7.9s
XAN LR LR
comp=Z,1μm,23.1s
XAN LR LR
comp=Z,710nm,20.7s
XAN LR LR
comp=Z,2μm,24.1s
XAN Xi'an 73.07 44 IAMs_20 IAMs_20 12 29 07.9
comp=Z,1μm,18.0s
ORTC Ortega, Tolima 73.14 242 *e*P **P 11 52 39.2 -2.4**
PRAC Prado 73.19 241 *e*P **P 11 52 40.7 -1.2**
TIA Tai'an 73.33 37 P **P 11 52 45.8 +3.3**
TIA pmax pmax
comp=Z,4.0nm,0.4s
TIA pmax pmax
comp=Z,670nm,4.5s
TIA LR LR
comp=Z,360nm,23.5s
TIA LR LR
comp=Z,200nm,19.9s
TIA LR LR
comp=Z,750nm,21.4s
YOTC Yotoco, Valle 73.49 243 *e*P **P 11 52 39.6 -4.3**
MBAR Mbarara 73.92 129 IAMs_20 IAMs_20 12 26 06.5
comp=Z,826nm,20.0s
INCN Inchon 74.34 29 IAMs_20 IAMs_20 12 26 42.9
comp=Z,764nm,22.0s
CD2 Chengdu 74.35 50 *e*P **P 11 52 48.7 +0.1**
CD2 PP **PP 11 55 31.7 -2.3**
CD2 S **S 12 02 21.0 -2.5**
CD2 SS **SS 12 07 07.0 -1.3**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,700nm,7.9s
CD2 LR LR
comp=Z,910nm,18.9s
CD2 LR LR
comp=Z,900nm,15.9s
CD2 LR LR
comp=Z,1μm,21.5s
KSRS Korea Array 74.63 28 P **P 11 52 49.0 -1.0**
comp=Z,1.3nm,0.9s,baz=353,slow=4.5,SNR=6.7
KSRS LR LR 12 29 31.7
comp=Z,535nm,18.2s,baz=340,slow=39
KSAR Wonju Array Be 74.63 28 P **P 11 52 50.5 +0.4**
KSAR Wonju Array Be 74.63 28 P **P 11 52 50.5 +0.4**
TJN Taejon 75.56 29*c i*P **P 11 52 56.4 +1.0**
KMBO Kilima Mbogo 76.67 123 LR LR 12 29 51.3
comp=Z,356nm,19.1s,baz=280,slow=38
HYB Hyderabad 76.97 77 *i*P **P 11 53 05.5 +1.7**
MAJO Matsushiro 77.31 20*de*P **P 11 53 04.6 -0.8**
MAJO pmax pmax
comp=Z,14nm,1.9s
MAT Matsushiro 77.31 20 P **P 11 53 04.9 -0.5**
MAT S **S 12 02 56.2 +0.3**
MJAR Matsushiro Arr 77.31 20 P **P 11 53 05.0 -0.4**
comp=Z,2.2nm,0.9s,baz=15,slow=5.7,SNR=3.5
MJAR Matsushiro Arr 77.31 20 P **P 11 53 05.0 -0.4**
MJAR pmax pmax
comp=Z,7.0nm,1.5s
MJAR Matsushiro Arr 77.31 20 IAmb IAmb 11 53 09.4
comp=Z,7.2nm,1.5s
NJ2 Nanjing 77.72 37 ⇓P **P 11 53 06.8 -0.9**
NJ2 PP **PP 11 56 05.6 +3.3**
NJ2 S **S 12 02 57.6 -2.8**
NJ2 sS **sS 12 03 08.9 +6.5**
NJ2 SS **SS 12 07 56.2 -2.8**
NJ2 pmax pmax
comp=Z,25nm,1.1s
NJ2 pmax pmax
comp=Z,840nm,6.7s
NJ2 LR LR
comp=Z,940nm,24.1s
NJ2 LR LR
comp=Z,450nm,19.2s
NJ2 LR LR
comp=Z,1μm,22.4s
OTAV Otavalo 77.74 243 P **P 11 53 11.2 +2.6**
OTAV pmax pmax
comp=Z,22nm,1.3s
OTAV Otavalo 77.74 243 P **P 11 53 11.2 +2.6**
OTAV IAmb IAmb 11 53 12.6
comp=Z,22nm,1.3s
WHN Wuhan 77.93 41 ⇓*i*P **P 11 53 07.9 -1.0**
WHN PP **PP 11 56 04.4 +0.3**
WHN S **S 12 03 04.6 +1.9**
WHN SS **SS 12 07 56.9 -5.3**
WHN pmax pmax
comp=Z,670nm,6.8s
WHN LR LR
comp=Z,920nm,15.2s
WHN LR LR
comp=Z,2μm,15.2s
WHN LR LR
comp=Z,2μm,16.6s
SSE Sheshan 77.22 35 P **P 11 53 16.5 +0.5**
SSE S **S 12 03 13.3 -3.2**
SSE pmax pmax
comp=Z,31nm,0.7s
SSE pmax pmax
comp=Z,350nm,6.7s
SSE LR LR
comp=Z,470nm,18.2s
SSE LR LR
comp=Z,280nm,21.1s
SSE Sheshan 79.22 35 IAMs_20 IAMs_20 12 31 26.3
comp=Z,1μm,20.0s
KMI Kunming 79.34 53 ⇓*i*P **P 11 53 15.0 -2.1**
KMI pP sP 11 53 19.6 +0.9
KMI PP **PP 11 56 14.5 -1.8**
KMI S **S 12 03 15.2 -3.3**
KMI sS sS 12 03 23.1 +2.7
KMI SS **SS 12 08 23.2 -1.0**
KMI pmax pmax
comp=Z,13nm,0.5s
KMI pmax pmax
comp=Z,530nm,8.9s
KMI LR LR
comp=Z,290nm,21.7s
KMI LR LR
comp=Z,510nm,21.4s
KMI LR LR
comp=Z,490nm,26.4s
GYA Guiyang 79.41 49 ⇓P **P 11 53 16.4 -0.9**
GYA PP **PP 11 56 15.6 -1.1**
GYA pmax pmax
comp=Z,530nm,6.9s
GYA LR LR
comp=Z,520nm,18.8s
GYA LR LR
comp=Z,370nm,18.6s
GYA LR LR
comp=Z,670nm,19.7s
SAML Samuel 80.96 226 IAMs_20 IAMs_20 12 23 37.0
comp=Z,739nm,21.0s
BDFB Brasilia 83.40 210 LR LR 12 24 44.4
comp=Z,846nm,21.3s,baz=329,slow=31
BDFB Brasilia 83.40 210 IAMs_20 IAMs_20 12 24 22.9
comp=Z,916nm,21.0s
CHTO Chiang Mai 83.79 59 P **P 11 53 39.3 -1.1**
CHTO pmax pmax
comp=Z,52nm,1.5s
CHTO Chiang Mai 83.79 59 P **P 11 53 39.3 -1.1**
CM31 Chiang Mai Arr 84.12 59 P **P 11 53 45.6 +3.6**
SNR=7.3
CMAR Chiang Mai Arr 84.12 59 P **P 11 53 41.4 -0.7**
comp=Z,5.1nm,1.0s,baz=321,slow=6.9,SNR=16
CMAR PP **PP 11 56 59.0 +3.4**
comp=Z,0.6nm,0.4s,baz=324,slow=9.1,SNR=4.3
CMAR LR LR 12 34 04.5
comp=Z,610nm,19.7s,baz=352,slow=38
CMAR Chiang Mai Arr 84.12 59 P **P 11 53 40.4 -1.7**
QZH Quanzhou 84.40 39 ⇓*i*P **P 11 53 43.0 -0.4**
QZH PP **PP 11 56 58.2 +0.6**
QZH S **S 12 04 09.6 -0.6**
QZH pmax pmax
comp=Z,550nm,7.6s
QZH LR LR
comp=Z,620nm,18.0s
QZH LR LR
comp=Z,260nm,11.4s
QZH LR LR
comp=Z,870nm,19.9s
KNMB Chin-men Tao 84.80 40 IAMs_20 IAMs_20 12 35 14.2
comp=Z,652nm,20.0s
YHNB Yeheng 85.40 37 IAMs_20 IAMs_20 12 35 42.0
comp=Z,935nm,18.0s
NACB Ninganchiao 85.93 37 IAMs_20 IAMs_20 12 36 17.0
comp=Z,711nm,19.0s
YOJ Yonaguni jima 86.02 36 IAMs_20 IAMs_20 12 36 08.1
comp=Z,726nm,19.0s
SSLB Suanglung 86.13 38 IAMs_20 IAMs_20 12 36 15.4
comp=Z,671nm,18.0s
TPUB Ta-pu 86.51 38 IAMs_20 IAMs_20 12 34 12.5
comp=Z,599nm,21.0s
YULB Yu-li 86.60 37 IAMs_20 IAMs_20 12 36 41.8
comp=Z,795nm,20.0s
LSZ Lusaka 86.93 136 IAMs_20 IAMs_20 12 33 24.5
comp=Z,890nm,19.0s
PALK Pallekele 86.97 80 IAMs_20 IAMs_20 12 34 33.2
comp=Z,917nm,21.0s
QIZ Qiongzhong 87.36 49 P **P 11 53 56.8 -1.4**
QIZ PP **PP 11 57 23.2 +1.4**
QIZ S **S 12 04 37.2 -2.2**
QIZ SS **SS 12 10 22.1 -0.6**
QIZ pmax pmax
comp=Z,28nm,1.8s
QIZ pmax pmax
comp=Z,530nm,7.8s
QIZ LR LR
comp=Z,470nm,14.3s
QIZ LR LR
comp=Z,490nm,18.1s
QIZ LR LR
comp=Z,590nm,17.1s
QIZ Qiongzhong 87.36 49 IAMs_20 IAMs_20 12 37 54.4
comp=Z,688nm,20.0s
LPAZ La Paz 89.42 228 LR LR 12 32 16.0
comp=Z,202nm,18.9s,baz=1.5,slow=34
SPB Sao Paulo 91.00 207 IAMs_20 IAMs_20 12 28 03.3
comp=Z,584nm,22.0s
PB16 IPOC Station P 91.78 229 P **P 11 54 21.8 +2.4**
PB16 IAmb IAmb 11 54 29.4
comp=Z,23nm,1.5s
MNMC Minye Minye 92.55 228 IAmb IAmb 11 54 25.6

comp=Z,15nm,1.2s
CPUP **Villa Florida** 95.86 215 LR LR 12 33 56.0
comp=Z,357nm,18.9s,baz=11,slow=33
KULM **Kulim** 96.85 62 IAms_20 IAms_20 12 41 00.2
comp=Z,660nm,22.0s
IPM **Ipoh** 97.73 62 IAms_20 IAms_20 12 43 47.7
comp=Z,615nm,22.0s
RPSI **Rantau Prapat** 98.56 65 IAms_20 IAms_20 12 44 25.8
comp=Z,696nm,22.0s
BOSA **Boshof** 98.77 143 LR LR 12 41 28.0
comp=Z,460nm,18.8s,baz=350,slow=37
MYKOM **Kota Tinggi** 101.27 61 IAms_20 IAms_20 12 45 02.4
comp=Z,457nm,19.0s
BKNI **Bangkinang** 101.55 64 IAms_20 IAms_20 12 45 27.9
comp=Z,670nm,21.0s
KKM **Kota Kinabalu** 101.59 47 IAms_20 IAms_20 12 49 46.4
comp=Z,466nm,19.0s
KSM **Kuching** 103.91 54 IAms_20 IAms_20 12 48 50.0
comp=Z,518nm,21.0s
BO02 **Sierra Bellavi** 107.54 224 IAms_20 IAms_20 12 40 45.1
comp=Z,601nm,21.0s
CISI **Cisompet, Garu** 111.36 60 IAms_20 IAms_20 12 51 41.9
comp=Z,595nm,21.0s
TAOE **Nuku Hiva Isla** 111.55 297 *e*LR LR 12 32 57.3
comp=Z,727nm,26.0s
PPT2 **Papeete2** 123.10 302 *e*LR LR 12 38 22.7
comp=Z,428nm,22.2s
COEN **Coen** 127.61 24 IAms_20 IAms_20 12 55 20.1
comp=Z,298nm,22.0s
TBI **Tubuai** 128.32 299 *e*LR LR 12 40 42.2
comp=Z,508nm,25.0s
WB8 **Warramunga Arr** 131.39 36 IAms_20 IAms_20 13 09 37.7
comp=Z,295nm,19.0s
WB5 **Warramunga Arr** 131.45 36 IAms_20 IAms_20 12 53 10.2
comp=Z,291nm,20.0s
WB3 **Warramunga Arr** 131.49 36 IAms_20 IAms_20 13 05 52.3
comp=Z,423nm,18.0s
WRA **Warramunga Arr** 131.50 36 PKP **PKPdf** 12 00 23.1 -0.5
comp=Z,3.7nm,1.1s,baz=350,slow=2.2,SNR=10
WRA **Warramunga Arr** 131.50 36 **PKPdf** 12 00 23.6 0.0
WR5 **Warramunga Arr** 131.54 36 IAms_20 IAms_20 13 06 40.5
comp=Z,297nm,19.0s
WR0 **Warramunga Arr** 131.57 36 IAms_20 IAms_20 13 06 39.5
comp=Z,340nm,21.0s
ASAR **Alice Springs** 134.95 38 PKP **PKPdf** 12 00 28.9 -1.0
comp=Z,2.6nm,0.9s,baz=347,slow=2.0,SNR=14
ASAR PP **PP** 12 03 08.8 +4.6
comp=Z,0.6nm,1.1s,baz=319,slow=7.9,SNR=4.4
ASAR **Alice Springs** 134.95 38 PKIKP **PKPdf** 12 00 28.5 -1.4
ASAR **Alice Springs** 134.95 38 PKPdf **PKPdf** 12 00 28.5 -1.4
VNA1 **Neumayer--Stat** 135.22 176 PKiKP **PKiKP** 12 00 31.0 +0.7
VNA2 **Neumayer--Watz** 135.52 175 PKiKP **PKiKP** 12 00 30.7 -0.3
VNA3 **Neumayer Olymp** 135.77 176 PKiKP **PKiKP** 12 00 30.8 -0.7
SNAA **Sanae** 136.46 173 PKiKP **PKiKP** 12 00 33.2 +0.2
SNAA **Sanae** 136.46 173 PKIKP **PKiKP** 12 00 33.0 0.0
SNAA **Sanae** 136.46 173 PKPdf **PKiKP** 12 00 33.0 0.0
DZM **Mont Dzumac** 137.32 355 *e*LR LR 12 44 47.0
comp=Z,495nm,24.9s
SYO **Syowa Base** 139.29 152⇑ *e*Pdiff **Pdif** 11 57 53.0 +3.5
SYO **Syowa Base** 139.29 152 ⇓*i*PKPdif **PKPdf** 12 00 37.0 +0.6
MAW **Mawson** 143.74 140 **PKPdf** 12 00 43.7 -0.7
comp=Z,3.3nm,1.0s,baz=27,slow=3.1,SNR=5.7
MAW **Mawson** 143.74 140 PKPdf **PKiKP** 12 00 46.1 -1.7
STKA **Stephens Creek** 144.70 32 PKP **PKPab** 12 00 44.6 -1.5
comp=Z,6.2nm,0.9s,baz=316,slow=4.1,SNR=8.1
STKA **Stephens Creek** 144.70 32 PKIKP **PKPab** 12 00 45.1 -0.9
STKA **Stephens Creek** 144.70 32 PKPdf **PKPab** 12 00 45.1 -0.9
QSPA **South Pole Qui** 154.61 180 **PKPdf** 12 01 00.9 -1.0

NEIC ***01*** *11:44:14.9±1.2, 0°.48N±0°.08×123°.92E±0°.08, h165km±11km, mb4.3/12, Error ellipse: s-maj=11.7km s-min=11.0km az=110.0*
IDC ***01*** *11:44:16.7±6.2, 0°.34N×123°.69E, h178km±61km, mb3.5/8, mb1 3.7/9, mb1mx3.3/39, mbtmp4.0/9, Error ellipse: s-maj=57.1km s-min=13.9km az=73.0*
DJA ***01*** *11:44:19.0±0.6, 0°.N±5°×12°.4E±°, h177km±6km, M4.0/8, MLv4.0/8*
ISC 01 11:44:17.9±0.7,**0°.30N**±0°.06×**124°.07E**±0°.05,**h189**km±6km, **n30**,σ1°**64**/36,**mb3.9**/13,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.29**	**342**	P	**Pn**	**11 44 43.8**	**+0.6**
KMSI				S	**Sn**	**11 45 03.9**	**+1.2**
GTOI	**Gorontalo**	**1.11**	**288**	P	**Pn**	**11 44 48.5**	**+1.1**
GTOI				S	**Sn**	**11 45 10.7**	**+0.5**
LUWI	**Luwuk**	**1.86**	**224**	P	**Pn**	**11 44 53.6**	**-0.6**
LUWI				S	**Sn**	**11 45 20.2**	**-2.2**
LUWI	**Luwuk**	**1.86**	**224**	Pn	Pn	11 44 49.9	-4.3
LUWI					**Sn**	**11 45 17.7**	**-4.8**
SANI	**Sanana**	**3.02**	**141**	P	**Pn**	**11 45 07.1**	**-0.2**
TNTI	**Ternate**	**3.33**	**82**	P	**Pn**	**11 45 12.2**	**+1.2**
TNTI	**Ternate**	**3.33**	**82**	Pn	**Pn**	**11 45 08.9**	**-2.1**
TNTI					**Sn**	**11 45 49.5**	**-3.0**
MPSI	**Mapaga**	**4.17**	**271**	P	**Pn**	**11 45 21.8**	**+0.2**
NLAI	**Namlea**	**4.64**	**139**	P	**Pn**	**11 45 28.7**	**+1.2**
KNRA	**Kununurra**	**16.54**	**164**	P	**P**	**11 48 00.1**	**+1.6**
KNRA				IAmb	IAmb	11 48 01.2	
comp=Z,13nm,0.6s
FITZ **Fitzroy Crossi** **18.35** **175** P **P** **11 48 19.2** **+0.9**
comp=Z,0.5nm,0.3s,baz=8.7,slow=10,SNR=35
FITZ **Fitzroy Crossi** **18.35** **175** P **P** **11 48 19.7** **+1.3**
FITZ IAmb IAmb 11 48 20.4
comp=Z,4.6nm,0.8s
WB0 **Warramunga Arr** **22.36** **154** P **P** **11 49 01.6** **+1.0**
WB0 IAmb IAmb 11 49 02.9
comp=Z,7.1nm,0.5s
WRAB **Tennant Creek** **22.49** **154** P **P** **11 49 02.6** **+0.9**
WRA **Warramunga Arr** **22.49** **154** P **P** **11 49 02.7** **+0.9**
comp=Z,5.5nm,0.4s,baz=337,slow=10,SNR=140
WRA S **S** **11 52 51.9** **-2.5**
comp=Z,0.3nm,0.7s,baz=336,slow=16,SNR=2.3
WRA **Warramunga Arr** **22.49** **154** P **P** **11 49 02.3** **+0.6**
WB2 **Warramunga Arr** **22.50** **154** P **P** **11 49 02.4** **+0.6**
WB2 IAmb IAmb 11 49 04.7
comp=Z,8.6nm,0.6s
WR0 **Warramunga Arr** **22.60** **154** P **P** **11 49 03.4** **+0.7**
WR0 IAmb IAmb 11 49 04.3
comp=Z,5.1nm,0.8s
AS31 **Alice Springs** **25.66** **159** P **P** **11 49 31.7** **+1.2**
ASAR **Alice Springs** **25.67** **159** P **P** **11 49 31.9** **+1.4**
comp=Z,1.4nm,0.7s,baz=341,slow=7.7,SNR=28
ASAR PcP **PcP** **11 52 56.4** **+0.3**
comp=Z,0.5nm,0.6s,baz=348,slow=2.5,SNR=6.4
FORT **Forrest** **31.14** **173** P **P** **11 50 19.5** **+0.6**
STKA **Stephens Creek** **36.05** **154** P **P** **11 51 02.8** **+1.5**
comp=Z,1.6nm,0.5s,baz=342,slow=6.9,SNR=6.7
STKA **Stephens Creek** **36.05** **154** P **P** **11 51 02.6** **+1.2**
CAN **Canberra** **42.39** **149** P **P** **11 51 56.2** **+2.4**
CAN IAmb IAmb 11 52 10.8
comp=Z,19nm,1.2s
USRK **Ussuriysk Ar.** **44.28** **8** P **P** **11 52 08.6** **-0.1**
comp=Z,0.8nm,0.4s,baz=199,slow=3.3,SNR=5.7
SONM **Songino Array** **49.78** **344** P **P** **11 52 50.6** **-0.8**
comp=Z,0.8nm,0.6s,baz=159,slow=9.9,SNR=3.0
MK31 **Makanchi Array** **58.93** **328** P **P** **11 53 55.6** **-1.7**
MK31 IAmb IAmb 11 53 57.4
comp=Z,1.6nm,0.8s
MKAR **Makanchi Array** **58.93** **328** P **P** **11 53 55.0** **-2.3**
comp=Z,1.1nm,0.5s,baz=126,slow=8.6,SNR=8.2
ZALV **Zalesovo Beam** **62.49** **335** P **P** **11 54 19.9** **-1.2**
comp=Z,0.6nm,0.4s,baz=148,slow=8.5,SNR=2.2
VNDA **Vanda** **80.39** **172** P **P** **11 56 08.3** **+0.5**
comp=Z,0.7nm,0.7s,baz=301,slow=5.9,SNR=4.3

UNK ***01*** *11:46:49.6, 36°.19N×97°.40W, h3km*
NEIC ***01*** *11:46:49.4±1.2, 36°.20N±0°.01×97°.40W±0°.01, h3km±7km, Error ellipse: s-maj=2.2km s-min=0.8km az=151.0*
TUL ***01*** *11:46:49.2±1.4, 36°.20N±0°.01×97°.41W±0°.01, h4km±7km, ML3.0, Error ellipse: s-maj=2.2km s-min=0.7km az=150.0*
ANF ***01*** *11:46:51.2±1.8, 36°.23N×97°.38W, h19km±13km, ML3.9/7, Error ellipse: s-maj=5.8km s-min=5.1km az=120.0*
ISC 01 11:46:49.3±1.2,**36°.19N**±0°.02×**97°.41W**±0°.03,**h2**km±14km, **n45**,σ0°**94**/50,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.39**	**186**		**Pg**	**11 46 57.2**	**+0.4**
OK029				Sg	**Sg**	**11 47 02.9**	**+1.0**
ADOK	**Arcadia Dam**	**0.54**	**177**		**Pg**	**11 46 58.7**	**-0.9**
BCOK	**Bluff Creek, N**	**0.56**	**197**		**Pg**	**11 47 00.2**	**+0.3**
BCOK				Sg	**Sg**	**11 47 08.1**	**+0.9**
CROK	**Carrier**	**0.56**	**304**	Pg	**Pg**	**11 47 00.1**	**0.0**
QUOK	**Quay**	**0.57**	**92**		**Pg**	**11 47 00.4**	**+0.2**
QUOK				Sg	**Sg**	**11 47 08.2**	**+0.7**
OK025	**Westminster Rd**	**0.61**	**175**		**Pg**	**11 47 01.3**	**+0.3**
OKCFA	**Oklahoma City**	**0.77**	**183**		**Pg**	**11 47 04.1**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.78**	**182**		**Pg**	**11 47 04.2**	**0.0**
KAN13	**South Haven SW**	**0.82**	**356**	Pg	**Pg**	**11 47 04.9**	**-0.3**
FNO	**Franklin**	**0.93**	**180**		**Pg**	**11 47 07.4**	**+0.3**
T35A	**Sooner Cattle**	**1.02**	**45**		**Pg**	**11 47 08.4**	**-0.5**
KAN10	**Anthony SW Sta**	**1.08**	**330**	Pg	**Pg**	**11 47 09.4**	**-0.7**
W35A	**Tecumseh**	**1.12**	**157**		**Pb**	**11 47 09.9**	**-1.4**
KAN12	**Harper NE Stat**	**1.20**	**337**	Pg	**Pb**	**11 47 11.6**	**-1.2**
U32A	**Winter Ranch,**	**1.30**	**279**		**Pn**	**11 47 13.1**	**-1.4**
TUL1	**Leonard**	**1.34**	**101**	P	**Pn**	**11 47 13.7**	**-1.3**
baz=283
TUL1 S **Sg** **11 47 32.1** **-0.2**
baz=283
TUL1 **Leonard** **1.34** **101** **Pn** **11 47 13.6** **-1.3**
WMOK **Wichita Mounta** **1.83** **218** P **Pb** **11 47 22.1** **-1.3**
baz=37
WMOK S **Sb** **11 47 46.6** **-0.2**
baz=37
WMOK **Wichita Mounta** **1.83** **218** **Pb** **11 47 22.2** **-1.3**
X37A **Clayton** **2.31** **133** **Pn** **11 47 28.8** **+0.5**
U38A **Gravette** **2.45** **83** **Pn** **11 47 30.1** **-0.2**
R32A **Long Quarter,** **2.46** **335** **Pn** **11 47 31.3** **+0.9**
HHAR **Hobbs** **2.81** **87** **Pn** **11 47 35.4** **+0.2**
Z35A **Perchaven, San** **2.85** **177** **Pn** **11 47 36.3** **+0.5**
KSU1 **Kansas State U** **2.98** **12** Sb **Sb** **11 48 21.6** **+1.8**
baz=192
KSU1 **Kansas State U** **2.98** **12** **Pn** **11 47 38.9** **+1.4**
W39A **Magazine** **3.11** **108** P **Pn** **11 47 39.9** **+0.5**
baz=290
CBKS **Cedar Bluff** **3.21** **325** Pn **Pn** **11 47 41.9** **+1.1**
MIAR **Mount Ida** **3.53** **117** P **Pn** **11 47 45.9** **+0.7**
baz=299
MIAR **Mount Ida** **3.53** **117** **Pn** **11 47 45.8** **+0.6**
Z38A **Mt. Pleasant** **3.54** **145** **Pn** **11 47 47.4** **+2.2**
S39A **Bolivar** **3.60** **64** **Pn** **11 47 46.5** **+0.4**
U40A **Yellville** **3.68** **86** Pb **Pb** **11 47 54.1** **-1.0**
baz=269
U40A **Yellville** **3.68** **86** **Pn** **11 47 46.9** **-0.4**
AMTX **Amarillo** **3.72** **251** **Pn** **11 47 48.8** **+1.0**
X40A **Basin Creek Fa** **4.11** **113** P **Pn** **11 47 54.0** **+0.9**
baz=296
X40A **Basin Creek Fa** **4.11** **113** Pn **Pn** **11 47 54.2** **+1.1**
WHTX **Lake Whitney,** **4.19** **181** Pn **Pn** **11 47 54.9** **+0.8**
WHAR **Wooly Hollow** **4.26** **101** **Pn** **11 47 55.3** **+0.1**
FCAR **Ozark Folk Cen** **4.29** **92** Pn **Pn** **11 47 56.7** **+1.1**
KSCO **Kaye Shedlock'** **5.01** **306** Pn **Pn** **11 48 05.7** **+0.1**
BGNE **Belgrade** **5.24** **354** **Pn** **11 48 08.3** **-0.4**
P40A **Paris** **5.39** **50** Pn **Pn** **11 48 11.6** **+0.9**
T25A **Trinidad** **5.71** **282** **Pn** **11 48 16.0** **+0.8**
ECSD **EROS Data Cent** **7.56** **4** P **Pn** **11 48 39.2** **-1.3**
baz=185

IDC 01 12:09:14.0±1.4,**55°.77N**×**34°.93W**,**h0**km,**mb3.6**/5, **mb1 3.8**/6,**mb1mx3.5**/47,**mbtmp3.6**/6,**ML4.4**/1,**MS3.8**/2, **Ms1 3.8**/2,**ms1mx3.1**/49,**Error ellipse: s-maj=45.1km s-min=26.5km az=17.0**,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.90**	**78**	P	P	12 13 25.2	+0.3
baz=293,slow=9.2,SNR=5.4
FRB **Frobisher Bay** **18.51** **309** LR LR 12 18 51.7
comp=Z,252nm,18.5s,baz=146,slow=31
ESDC **Sonseca Array** **26.03** **115** P P 12 14 48.8 +0.1
0.3nm,0.6s,baz=331,slow=10,SNR=2.9
BRTR **Keskin Array B** **46.81** **80** P P 12 17 45.9 +0.5
1.1nm,0.7s,baz=304,slow=5.0,SNR=6.5
PDAR **Pinedale Array** **48.05** **287** P P 12 17 55.5 +0.4
0.3nm,0.7s,baz=57,slow=9.9,SNR=4.1
TORD **Torodi Ar. Bea** **51.08** **132** P P 12 18 17.5 -0.7
0.6nm,0.4s,baz=338,slow=8.4,SNR=2.9
YBH **Yreka Blue Hor** **55.70** **295** LR LR 12 44 02.5
comp=Z,101nm,18.5s,baz=142,slow=38
MKAR **Makanchi Array** **65.05** **42** P P 12 19 55.2 -0.6
0.7nm,0.7s,baz=326,slow=6.1,SNR=7.9
ASAR **Alice Springs** **146.89** **19** PKPbc PKPdf 12 28 56.9 +0.7
0.3nm,0.8s,baz=341,slow=2.3,SNR=2.5

IDC ***01*** *12:11:27.2±0.9, 12°.17S×167°.20E, h242km±7km, mb4.1/28, mb1 4.1/32, mb1mx4.1/42, mbtmp4.7/32, Error ellipse: s-maj=12.1km s-min=9.4km az=97.0*
NEIC ***01*** *12:11:28.4±1.8, 12°.20S±0°.08×167°.1E±0°.1, h256km±5km, mb4.7/183, Error ellipse: s-maj=17.1km s-min=12.1km az=83.0*
UNK ***01*** *12:11:29.0, 12°.24S×167°.14E, h259km*
BJI ***01*** *12:11:29.4±0.0, 11°.50S×166°.70E, h234km, mB5.1/19, mb4.7/37*
ISC 01 12:11:27.9±0.3,**12°.22S**±0°.05×**167°.17E**±0°.06,**h250**km, **n331**,σ0°**87**/321,**mb4.7**/113,**3C-2D**,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.21**	**179**		**Pn**	**12 12 24.5**	**+1.8**
HNR	**Honiara**	**7.62**	**291**	P	**Pn**	**12 13 16.1**	**-0.4**
14nm,0.3s,baz=90,slow=9.1,SNR=7.5
HNR **Honiara** **7.62** **291** Pn **Pn** **12 13 18.2** **+1.7**
DZM **Mont Dzumac** **9.82** **184** P **Pn** **12 13 46.2** **+1.8**
0.3nm,0.3s,baz=18,slow=17,SNR=8.0
DZM S **S** **12 15 35.7** **+0.6**
0.1nm,0.3s,baz=253,slow=19,SNR=1.1
MSVF **Nonsavu** **11.85** **119** P **P** **12 14 13.0** **0.0**
KRVT **Keravat (AS076** **16.91** **296** P **P** **12 15 08.4** **-0.5**
1.5nm,0.3s,baz=118,slow=2.4,SNR=6.3
KRVT S **S** **12 18 14.7** **+2.1**
1.5nm,0.3s,baz=170,slow=17,SNR=0.9
PMG **Port Moresby** **19.85** **276** P **P** **12 15 41.4** **+0.9**
0.2nm,0.3s,baz=63,slow=7.2,SNR=3.6
EIDS **Eidsvold** **20.05** **227** **P** **12 15 43.6** **+1.1**
PATS **Pohnpei** **20.88** **335** **P** **12 15 51.1** **-0.3**
CTA **Charters Tower** **21.55** **246** **P** **12 15 58.0** **+0.2**
8.9nm,0.7s,baz=75,slow=11,SNR=15
CTAO **Charters Tower** **21.55** **246** **P** **12 15 58.5** **+0.7**
COEN **Coen** **23.43** **263** **P** **12 16 15.6** **+0.4**
URZ **Urewera** **27.41** **163** **P** **12 16 50.5** **-0.1**
22nm,1.1s,baz=282,slow=2.9,SNR=2.7
URZ **Urewera** **27.41** **163** IAmb IAmb 12 16 55.0
comp=Z,36nm,1.2s
BKZ **Black Stump Fm** **28.09** **164** **P** **12 16 57.1** **+0.4**
NNZ **Nelson** **29.40** **170** **P** **12 17 10.8** **+2.7**
BFZ **Birch Farm** **29.46** **166** **P** **12 17 08.3** **-0.4**
TUWZ **Tuamarina** **29.70** **170** **P** **12 17 12.0** **+1.2**
BHW **Baring Head** **29.85** **168** **P** **12 17 12.2** **+0.1**
THZ **Tophouse** **29.86** **171** **P** **12 17 14.4** **+2.2**
MSWZ **Moikau Station** **29.94** **168** **P** **12 17 12.9** **-0.1**
BSWZ **Blackbirch Sta** **29.97** **170** **P** **12 17 14.3** **+1.1**
PLWZ **Palliser** **30.09** **168** **P** **12 17 14.4** **+0.2**
KHZ **Kahutara** **30.59** **171** **P** **12 17 19.1** **+0.5**
KHZ IAmb IAmb 12 17 35.3
comp=Z,22nm,1.3s
STKA **Stephens Creek** **30.60** **226** P **P** **12 17 21.1** **+2.3**
comp=Z,3.2nm,0.9s,baz=2.0,slow=12,SNR=3.5
STKA **Stephens Creek** **30.60** **226** P **P** **12 17 20.1** **+1.2**
LTZ **Lake Taylor** **30.77** **173** P **P** **12 17 21.5** **+1.2**
LTZ IAmb IAmb 12 17 22.8
comp=Z,18nm,0.8s
OXZ **Oxford** **31.28** **173** **P** **12 17 25.2** **+0.6**
OXZ IAmb IAmb 12 17 27.1
comp=Z,14nm,0.6s
RPZ **Rata Peaks** **31.56** **175** **P** **12 17 28.0** **+0.9**
comp=Z,4.4nm,0.5s,baz=310,slow=4.1,SNR=6.7
RPZ **Rata Peaks** **31.56** **175** **P** **12 17 28.0** **+0.9**
MQZ **McQueen's Vall** **31.73** **172** **P** **12 17 29.7** **+1.2**
WR0 **Warramunga Arr** **32.24** **252** **P** **12 17 32.4** **-1.0**
WB0 **Warramunga Arr** **32.35** **252** **P** **12 17 33.8** **-0.6**
WB2 **Warramunga Arr** **32.41** **252** **P** **12 17 34.2** **-0.7**
WRAB **Tennant Creek** **32.41** **252** **P** **12 17 34.0** **-0.9**
WRA **Warramunga Arr** **32.42** **252** **P** **12 17 34.0** **-0.9**
comp=Z,1.4nm,0.5s,baz=85,slow=8.9,SNR=20
WRA pP **pP** **12 18 23.5** **-0.1**
comp=Z,1.2nm,0.7s,baz=84,slow=8.5,SNR=3.5
WRA **Warramunga Arr** **32.42** **252** **P** **12 17 33.8** **-1.2**
WKZ **Wanaka** **32.54** **178** **P** **12 17 35.4** **-0.2**
WKZ IAmb IAmb 12 17 43.0
comp=Z,31nm,1.5s
ODZ **Otahua Downs** **32.85** **175** **P** **12 17 38.6** **+0.3**
MLZ **Mavora Lakes** **33.05** **179** **P** **12 17 39.0** **-1.1**
DCZ **Deep Cove** **33.14** **180** **P** **12 17 39.2** **-1.5**
DCZ IAmb IAmb 12 17 44.4
comp=Z,18nm,1.3s
AS31 **Alice Springs** **33.55** **246** P **P** **12 17 44.2** **-0.4**
ASAR **Alice Springs** **33.55** **246** P **P** **12 17 43.8** **-0.9**
comp=Z,2.1nm,0.7s,baz=71,slow=9.7,SNR=26
ASAR pP **pP** **12 18 34.5** **+0.6**
comp=Z,2.1nm,0.7s,baz=71,slow=9.4,SNR=4.8
ASAR sP **sP** **12 19 01.5** **-0.9**
comp=Z,2.1nm,0.6s,baz=78,slow=9.3,SNR=3.4
ASAR S **S** **12 22 44.6** **-3.6**
comp=Z,0.9nm,1.0s,baz=82,slow=15,SNR=4.7
ASAR ScP **ScP** **12 23 39.9** **0.0**
comp=Z,1.6nm,0.9s,baz=75,slow=3.6,SNR=8.4
ASAR **Alice Springs** **33.55** **246** P **P** **12 17 42.9** **-1.8**
BBOO **Buckleboo** **35.09** **229** P **P** **12 17 57.9** **+0.2**
MTN **Manton Dam** **35.17** **265** P **P** **12 17 57.6** **-1.0**
KNRA **Kununurra** **37.40** **260** P **P** **12 18 17.3** **-0.2**
FITZ **Fitzroy Crossi** **40.45** **256** P **P** **12 18 42.8** **+0.2**
JCJ **Chichijima** **45.99** **328** P **P** **12 19 26.2** **-0.4**
comp=Z,32nm,0.7s,baz=106,slow=9.7,SNR=5.2
JCJ **Chichijima** **45.99** **328** P **P** **12 19 26.4** **-0.3**
AIN **Ainahou** **48.38** **50** P **P** **12 19 45.6** **+0.2**
HMH **Humu'ula Sheep** **48.50** **50** P **P** **12 19 47.0** **+0.6**
HMH IAmb IAmb 12 19 47.6
comp=Z,47nm,0.9s
NWAO **Narrogin (SRO)** **49.99** **237** P **P** **12 19 56.1** **-1.0**
NWAO **Narrogin (SRO)** **49.99** **237** P **P** **12 19 56.0** **-1.2**
NWAO IAmb IAmb 12 20 02.0
comp=Z,21nm,1.2s
MJAR **Matsushiro Arr** **55.65** **332** P **P** **12 20 37.2** **-1.1**
comp=Z,9.7nm,0.8s,baz=167,slow=8.1,SNR=22
MAJO **Matsushiro** **55.65** **332** P **P** **12 20 38.0** **-0.3**
MAT **Matsushiro** **55.65** **332** P **P** **12 20 37.7** **-0.6**
JNU **Nakatsue** **56.84** **324** P **P** **12 20 46.6** **-0.2**
JKA **Kamikawa-asahi** **60.36** **340** P **P** **12 21 11.4** **+0.7**
JKA IAmb IAmb 12 21 12.4
comp=Z,11nm,0.7s
KSRS **Korea Array** **61.63** **325** P **P** **12 21 19.6** **+0.3**
comp=Z,2.7nm,0.9s,baz=142,slow=7.2,SNR=13
KSAR **Wonju Array Be** **61.64** **325** P **P** **12 21 18.7** **-0.7**
YSS **Yuzh-Sakhalins** **62.83** **341** P **P** **12 21 28.1** **+1.1**
YSS IAmb IAmb 12 21 29.4
comp=Z,23nm,0.9s
NJ2 **Nanjing** **63.83** **315** ⇓P **P** **12 21 34.6** **+0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
USA0B **Ussuriysk Arra** **64.62** **333** P **P** **12 21 40.0** **+1.2**
USA0B IAmb IAmb 12 21 40.8
comp=Z,24nm,1.2s
USRK **Ussuriysk Ar.** **64.62** **333** P **P** **12 21 39.5** **+0.7**
comp=Z,6.4nm,0.8s,baz=136,slow=5.8,SNR=32
USRK PcP **PcP** **12 22 11.1** **+0.6**
comp=Z,2.2nm,0.8s,baz=139,slow=3.3,SNR=4.1
USRK **Ussuriysk Ar.** **64.62** **333** P **P** **12 21 39.7** **+0.9**
ADK **Adak** **65.35** **11** P **P** **12 21 43.5** **+0.1**
VNDA **Vanda** **65.36** **181** P **P** **12 21 43.5** **+0.3**
comp=Z,1.5nm,0.7s,baz=350,slow=5.5,SNR=9.5
VNDA **Vanda** **65.36** **181** P **P** **12 21 43.9** **+0.7**
PETK **Petropavlovsk-** **65.57** **354** P **P** **12 21 45.1** **+0.4**
comp=Z,3.8nm,0.8s,baz=147,slow=8.3,SNR=7.7
PETK **Petropavlovsk-** **65.57** **354** P **P** **12 21 45.3** **+0.5**
GSTR **Great Sitkin T** **65.67** **11** P **P** **12 21 44.8** **-0.6**
ATKA **Atka Island** **66.14** **12** P **P** **12 21 48.2** **-0.1**
NIKH **Nikolski High** **68.11** **15** P **P** **12 22 00.5** **-0.2**
ENH **Enshi** **69.72** **309** P **P** **12 22 11.1** **0.0**
ENH IAmb IAmb 12 22 11.8
comp=Z,15nm,0.9s
AKUT **Akutan** **69.98** **17** P **P** **12 22 11.2** **-0.9**
BJI **Beijing** **70.27** **321** P **P** **12 22 14.4** **+0.2**
BJI pmax pmax
comp=Z,4.0nm,0.7s
GSI **Gunungsitoli** **70.37** **276** P **P** **12 22 15.8** **+0.3**
GSI IAmb IAmb 12 22 16.4
comp=Z,11nm,0.7s
SPIA **Saint Paul Isl** **71.62** **13** P **P** **12 22 22.0** **+0.1**
KMI **Kunming** **72.92** **301**⇑ *e*P **P** **12 22 31.9** **+1.3**
KMI pmax pmax
comp=Z,17nm,0.7s
HHC **Hu-ho-hao-te** **73.62** **319** *e*P **P** **12 22 36.0** **+1.7**
HHC pmax pmax
comp=Z,11nm,1.3s
HHC pmax pmax
comp=Z,110nm,5.9s
CMAR **Chiang Mai Arr** **73.86** **293** P **P** **12 22 36.9** **+1.0**
comp=Z,4.7nm,0.8s,baz=123,slow=4.3,SNR=21
CMAR **Chiang Mai Arr** **73.86** **293** P **P** **12 22 36.6** **+0.6**
CHTO **Chiang Mai** **73.97** **294** P **P** **12 22 37.6** **+1.0**
SEY **Seymchan** **75.79** **353** P **P** **12 22 46.0** **+0.1**
comp=Z,21nm,0.8s,baz=170,slow=5.3,SNR=62
OHAK **Old Harbor** **76.49** **21** P **P** **12 22 49.8** **-0.2**
OHAK IAmb IAmb 12 22 50.8
comp=Z,21nm,0.9s
LZH **Lanzhou** **76.57** **312** *e*P **P** **12 22 52.6** **+1.3**
LZH pP pP 12 23 51.7 +2.0
LZH sP sP 12 24 16.1 0.0
LZH pmax pmax
comp=Z,18nm,1.0s
KDAK **Kodiak Island** **77.16** **21** P **P** **12 22 53.4** **-0.4**
comp=Z,6.6nm,0.8s,baz=225,slow=8.3,SNR=4.4
KDAK **Kodiak Island** **77.16** **21** P **P** **12 22 53.7** **0.0**
QSPA **South Pole Qui** **77.80** **180** P **P** **12 22 57.7** **+0.2**
QSPA IAmb IAmb 12 22 58.3
comp=Z,13nm,0.8s
CNPM **China Poot** **78.94** **20** P **P** **12 23 04.5** **+0.9**
CNPM IAmb IAmb 12 23 06.8
comp=Z,17nm,0.7s
RSO **Redoubt South** **79.16** **19** P **P** **12 23 06.5** **+1.5**
BRLK **Bradley Lake** **79.24** **20** P **P** **12 23 05.3** **+0.2**
BRLK IAmb IAmb 12 23 05.9
comp=Z,20nm,0.9s
YAK **Yakutsk** **79.61** **343** P **P** **12 23 06.9** **-0.1**
comp=Z,8.3nm,0.6s,baz=140,slow=0.6,SNR=6.8
YAK **Yakutsk** **79.61** **343** IAmb IAmb 12 23 07.8
comp=Z,18nm,0.8s
SEW **Seward** **79.98** **20** P **P** **12 23 08.8** **-0.3**
SEW IAmb IAmb 12 23 12.1
comp=Z,27nm,1.4s
ULN **Ulaanbaatar** **80.06** **324** P **P** **12 23 10.9** **+0.8**
O22K **Cooper Landing** **80.16** **20** P **P** **12 23 10.0** **-0.1**
baz=223
SONM **Songino Array** **80.43** **323** P **P** **12 23 12.0** **+0.1**
comp=Z,2.8nm,0.9s,baz=130,slow=4.5,SNR=12
SONM **Songino Array** **80.43** **323** P **P** **12 23 12.1** **+0.1**
GTA **Gaotai** **80.87** **314** P **P** **12 23 15.5** **+1.0**
GTA pmax pmax
comp=Z,6.0nm,1.4s
PMR **Palmer** **81.18** **20** IAmb IAmb 12 23 16.1
comp=Z,13nm,0.9s
PPLA **Purkeypile** **81.20** **18** P **P** **12 23 16.1** **+0.4**
KNK **Knik Glacier** **81.27** **20** P **P** **12 23 16.0** **+0.1**
KNK IAmb IAmb 12 23 16.8
comp=Z,15nm,0.7s
GHO **Glory Hole Cre** **81.38** **19** **P** **12 23 16.6** **0.0**
GHO IAmb IAmb 12 23 17.9
comp=Z,9.7nm,0.7s
CUT **Chulitna** **81.42** **19** P **P** **12 23 16.5** **-0.1**
baz=222
FID **Port Fidalgo** **81.47** **21** P **P** **12 23 16.8** **-0.2**
FID **P** **12 23 16.9** **-0.1**
FID IAmb IAmb 12 23 17.6
comp=Z,16nm,0.8s
EYAK **Cordova Ski Ar** **81.59** **21** P **P** **12 23 17.4** **-0.1**
EYAK IAmb IAmb 12 23 18.7
comp=Z,16nm,1.3s
KTH **Kantishna Hill** **82.08** **18** IAmb IAmb 12 23 20.4
comp=Z,13nm,1.0s
KLU **Klutina** **82.19** **21** IAmb IAmb 12 23 21.9
comp=Z,11nm,0.8s
TRF **Thorofare Moun** **82.19** **18** IAmb IAmb 12 23 21.6
comp=Z,14nm,0.8s
M24K **

baz=248,SNR=9.3
MCARA **McCarthy VSAT** 83.14 22 IAmb IAmb 12 23 26.6
comp=Z,28nm,1.2s
BALM **Baldy** 83.16 22 IAmb IAmb 12 23 26.7
comp=Z,15nm,0.8s
L02E **Cave Junction** 83.27 44 P **P** 12 23 27.5 +0.8
baz=247
PAX **Paxson** 83.36 20 IAmb IAmb 12 23 27.4
comp=Z,17nm,1.5s
NEA2 **Nenana** 83.40 17 P **P** 12 23 26.0 -0.8
baz=223,SNR=5.2
WDC **Whiskeytown Da** 83.40 46 IAmb IAmb 12 23 29.1
comp=Z,13nm,1.1s
N02D **Trinity Center** 83.43 46 P **P** 12 23 29.0 +1.4
baz=248
K02D **Willamette Mer** 83.44 44 P **P** 12 23 28.2 +0.6
baz=247,SNR=7.6
J01E **Myrtle Point** 83.44 43 P **P** 12 23 28.2 +0.7
baz=247
CTGM **Chitina Glacie** 83.49 23 **P** 12 23 28.0 +0.4
M02C **Callahan** 83.49 45 P **P** 12 23 28.9 +1.0
baz=248,SNR=5.6
BCPM **Bancas Point** 83.51 24 P **P** 12 23 26.2 -1.3
BCPM IAmb IAmb 12 23 28.2
comp=Z,20nm,0.9s
WRH **Wood River Hil** 83.60 18 P **P** 12 23 25.7 -2.2
YBH **Yreka Blue Hor** 83.72 45 P **P** 12 23 29.7 +0.6
comp=Z,15nm,0.8s,baz=208,slow=4.2,SNR=7.3
YBH **Yreka Blue Hor** 83.72 45 IAmb IAmb 12 23 30.9
comp=Z,20nm,0.9s
ORV **Oroville** 83.76 47 IAmb IAmb 12 23 30.4
comp=Z,13nm,1.1s
O03E **Paynes Creek** 83.82 47 P **P** 12 23 29.8 +0.2
baz=248,SNR=7.4
I02D **Swisshome** 83.87 43 P **P** 12 23 30.5 +0.8
baz=247
HUMO **Hull Mountain** 83.88 44 P **P** 12 23 31.0 +1.2
HDA **Harding Lake** 83.90 18 P **P** 12 23 29.2 -0.2
baz=225,SNR=79
AFDM **Forest Hills D** 83.93 48 P **P** 12 23 30.3 +0.2
AFDM **P** 12 23 30.7 +0.5
AFDM IAmb IAmb 12 23 31.4
comp=Z,14nm,1.0s
MENT **Mentasta** 83.93 20 P **P** 12 23 29.7 +0.1
MENT **P** 12 23 29.9 +0.3
MENT IAmb IAmb 12 23 30.8
comp=Z,9.6nm,0.8s
TCOL **CIGO, UAF Yank** 83.96 18 P **P** 12 23 29.1 -0.5
baz=224,SNR=9.4
CMB **Columbia Colle** 84.04 49 P **P** 12 23 30.9 +0.1
CMB IAmb IAmb 12 23 31.8
comp=Z,8.5nm,0.9s
I03D **Drain, OR** 84.04 43 P **P** 12 23 31.0 +0.5
baz=247
RIDG **Independent Ri** 84.10 19 P **P** 12 23 30.4 -0.1
RIDG **P** 12 23 30.6 +0.2
MAW **Mawson** 84.17 202 P **P** 12 23 30.7 0.0
comp=Z,7.7nm,1.0s,baz=94,slow=4.6,SNR=11
MAW **Mawson** 84.17 202 P **P** 12 23 31.1 +0.4
ILAR **Eielson Array** 84.18 18 P **P** 12 23 30.1 -0.7
comp=Z,26nm,0.6s,baz=242,slow=5.5,SNR=263
L04D **Klamath Falls** 84.18 45 P **P** 12 23 32.1 +0.6
baz=248,SNR=9.3
POKR **Poker Plat Res** 84.26 18 P **P** 12 23 30.7 -0.5
baz=224,SNR=9.9
DOT **Dot Lake** 84.29 20 P **P** 12 23 31.4 0.0
DOT **P** 12 23 31.5 +0.1
M04C **Macdoel** 84.34 45 P **P** 12 23 33.1 +0.8
baz=248,SNR=9.6
SCRK **Sand Creek** 84.54 19 P **P** 12 23 32.8 0.0
baz=228,SNR=27
WRAK **Wrangell Islan** 84.67 29 P **P** 12 23 33.1 -0.2
WRAK IAmb IAmb 12 23 34.3
comp=Z,13nm,0.8s
BCAR **Beaver Creek A** 84.68 21 P **P** 12 23 32.9 -0.5
ISA **Isabella, Lake** 84.68 52 P **P** 12 23 34.7 +0.6
baz=251
G03D **McMinnville, O** 84.69 42 P **P** 12 23 34.4 +0.7
baz=247,SNR=5.8
J04D **Umpqua Nationa** 84.70 44 P **P** 12 23 34.8 +0.6
baz=248,SNR=12
I04A **Tendick Farm,** 84.70 43 P **P** 12 23 34.1 +0.1
baz=248,SNR=12
K04D **Chiloquin, OR** 84.71 45 P **P** 12 23 34.5 +0.4
baz=248
H04D **Lebanon** 84.77 42 P **P** 12 23 34.8 +0.7
baz=247,SNR=7.0
EDW2 **Edwards Air Fo** 84.80 53 P **P** 12 23 35.1 +0.4
baz=251
MDPB **Devils Postpil** 84.87 50 P **P** 12 23 35.7 +0.5
MDPB **P** 12 23 35.9 +0.7
MDPB IAmb IAmb 12 23 36.5
comp=Z,13nm,0.9s
HYT **Haines Junctio** 84.88 24 IAmb IAmb 12 23 35.5
comp=Z,7.9nm,0.8s
WAKR **Walker** 84.90 49 P **P** 12 23 35.5 +0.2
WAKR **P** 12 23 36.2 +1.0
WAKR IAmb IAmb 12 23 36.9
comp=Z,18nm,1.1s
OMMB **Old Mammoth Mi** 84.92 50 P **P** 12 23 35.5 -0.1
OMMB **P** 12 23 36.2 +0.6
OMMB IAmb IAmb 12 23 36.9
comp=Z,9.5nm,1.1s
PNTR **Pine Nut** 84.98 48 IAmb IAmb 12 23 37.2
comp=Z,12nm,0.9s
COLD **Coldfoot** 85.05 15 P **P** 12 23 36.1 +1.0
baz=222,SNR=10
COLD **Coldfoot** 85.05 15 P **P** 12 23 36.1 +1.0
COLD IAmb IAmb 12 23 37.0
comp=Z,17nm,0.9s
MLAC **Mammoth, Mammo** 85.05 50 P **P** 12 23 36.9 +0.8
baz=250
H04A **Detroit Lake** 85.19 42 **P** 12 23 36.9 +0.5
H04A IAmb IAmb 12 23 37.2
comp=Z,20nm,1.2s
K27K **Chicken** 85.21 20 P **P** 12 23 36.3 +0.4
baz=229
LRMC **Laurel Mtn Rad** 85.24 52 P **P** 12 23 37.2 +0.3
baz=251
CWC **Cottonwood Cre** 85.24 51 P **P** 12 23 37.2 +0.3
baz=251
J05D **Fort Rock, OR** 85.31 44 P **P** 12 23 37.8 +0.7
baz=248,SNR=28
K05A **Summer Lake** 85.34 45 P **P** 12 23 38.0 +0.7
PAHR **Pah Rah Range** 85.35 48 IAmb IAmb 12 23 38.8
comp=Z,15nm,1.0s
MONP2 **Monument Peak** 85.43 55 P **P** 12 23 38.1 0.0
baz=252
MOD **Modoc Plateau** 85.45 46 **P** 12 23 38.2 +0.3
MOD IAmb IAmb 12 23 39.1
comp=Z,14nm,1.1s
LHV **Little Huntoon** 85.51 49 P **P** 12 23 38.0 +0.1
LHV **P** 12 23 39.1 +1.1
LHV IAmb IAmb 12 23 39.7
comp=Z,10nm,0.9s
F04A **Amboy** 85.52 41 P **P** 12 23 38.3 +0.5
F04A **P** 12 23 38.5 +0.7
RYN **Ryan** 85.62 49 **P** 12 23 39.5 +0.8
RYN IAmb IAmb 12 23 40.0
comp=Z,7.9nm,0.9s
I05D **Terrebonne, OR** 85.62 43 P **P** 12 23 38.8 +0.3
baz=248,SNR=11
E04D **Cinebar** 85.66 41 P **P** 12 23 39.2 +0.7
baz=247
D03D **Eldon** 85.71 40 P **P** 12 23 39.7 +0.9
baz=247
NVAR **Mina Array Bea** 85.71 49 P **P** 12 23 39.5 +0.2
comp=Z,5.4nm,0.8s,baz=231,slow=8.5,SNR=42
NVAR **Mina Array Bea** 85.71 49 P **P** 12 23 39.2 0.0
NVAR **pwP** 12 24 44.6 +2.4
NV11 **Mina Array Sit** 85.83 49 P **P** 12 23 39.5 -0.3
NV11 **P** 12 23 40.0 +0.2
NV11 IAmb IAmb 12 23 41.1
comp=Z,12nm,1.1s
PGC **Sidney** 85.93 38 IAmb IAmb 12 23 40.6
comp=Z,9.7nm,0.8s
G05D **Wamic, OR** 85.97 42 P **P** 12 23 40.6 +0.5
baz=248,SNR=6.3
EGAK **Eagle** 86.00 20 **P** 12 23 39.7 -0.1
KVN **Kaiserville** 86.07 49 P **P** 12 23 40.2 -0.8
KVN **P** 12 23 41.2 +0.3
KVN IAmb IAmb 12 23 42.2
comp=Z,10nm,1.1s
BELC **Belle Mtn. Jos** 86.10 54 P **P** 12 23 41.6 +0.4
baz=252
F05D **White Salmon** 86.12 42 P **P** 12 23 41.4 +0.6
baz=248,SNR=6.0
FURC **Furnace Creek,** 86.18 52 P **P** 12 23 41.6 +0.4
baz=252
TOLK **Toolik Lake Re** 86.26 15 P **P** 12 23 41.6 +0.6
baz=222
A04D **Lummi Island** 86.41 39 P **P** 12 23 43.0 +0.9
baz=247
BC3 **Big Chuckawall** 86.43 55 P **P** 12 23 43.2 +0.4
baz=253
TUQ **Turquoise Moun** 86.59 53 P **P** 12 23 43.9 +0.4
baz=252
GMRC **Granite Mounta** 86.60 54 P **P** 12 23 43.9 +0.3
baz=253
B05A **Bryant** 86.61 39 P **P** 12 23 43.6 +0.5
baz=248,SNR=5.3
BMAR **Burnt Mountain** 86.71 17 P **P** 12 23 44.0 +0.7
I07A **Izee** 86.77 44 **P** 12 23 45.0 +0.8
I07A IAmb IAmb 12 23 45.6
comp=Z,15nm,0.9s
DLBC **Dease Lake** 86.78 28 P **P** 12 23 43.3 -0.5
comp=Z,5.0nm,1.1s,baz=204,slow=3.9,SNR=6.0
DLBC **Dease Lake** 86.78 28 IAmb IAmb 12 23 45.0
comp=Z,12nm,1.4s
TPNV **Topopah Spring** 86.79 51 P **P** 12 23 44.7 +0.2
baz=252
TPNV **Topopah Spring** 86.79 51 P **P** 12 23 44.9 +0.4
TPNV **P** 12 23 45.0 +0.5
WVOR **Wild Horse Val** 86.80 46 IAmb IAmb 12 23 45.9
comp=Z,13nm,1.1s
IRM **Iron Mountain** 86.82 54 P **P** 12 23 45.1 +0.5
baz=253
LTY **Liberty** 87.13 40 IAmb IAmb 12 23 46.7
comp=Z,10.0nm,0.9s
E07A **Sunnyside** 87.40 41 P **P** 12 23 47.7 +0.7
E07A **P** 12 23 47.8 +0.8
SHPR **Sheep Range** 87.50 52 IAmb IAmb 12 23 49.7
comp=Z,16nm,1.4s
G08A **Pilot Rock** 87.55 43 P **P** 12 23 48.0 +0.2
G08A **P** 12 23 48.4 +0.6
G08A IAmb IAmb 12 23 49.2
comp=Z,14nm,1.0s
HAWA **Hanford** 87.55 42 IAmb IAmb 12 23 49.2
comp=Z,16nm,0.9s
PDMCI **Parker Dam,Lak** 87.66 54 P **P** 12 23 49.1 +0.6
baz=254
R11A **Troy Canyon, C** 87.72 50 P **P** 12 23 49.2 +0.3
baz=252
PRN **Pahroc Range** 87.84 51 IAmb IAmb 12 23 51.3
comp=Z,9.6nm,1.0s
E08A **Dider Farm, El** 87.89 42 IAmb IAmb 12 23 50.9
comp=Z,18nm,1.0s
214A **Organ Pipe Nat** 88.09 57 P **P** 12 23 51.5 +0.9
baz=254
D08A **Wollman Farm,** 88.17 41 IAmb IAmb 12 23 51.5
comp=Z,6.0nm,0.8s
B08A **Colville Reser** 88.36 40 IAmb IAmb 12 23 52.4
comp=Z,9.0nm,1.1s
EPYK **Eagle Plains** 88.43 20 P **P** 12 23 50.7 -0.7
baz=234
E09A **Wood Farm, Sta** 88.49 42 IAmb IAmb 12 23 53.5
comp=Z,12nm,1.2s
BMO **Blue Mountains** 88.51 44 **P** 12 23 52.7 +0.3
MFID **Camas Ranch** 89.07 45 IAmb IAmb 12 23 56.5
comp=Z,11nm,0.8s
BELA **Belgrano 2** 89.22 175 P **P** 12 23 54.1 -0.9
KNB **Kanab** 89.44 52 **P** 12 23 58.2 +1.2
U15A **North Rim** 89.69 53 IAmb IAmb 12 24 00.3
comp=Z,15nm,0.9s
NEW **Newport** 89.72 40 P **P** 12 23 58.0 +0.2
baz=251
NEW **Newport** 89.72 40 **P** 12 23 58.3 +0.5
NEW IAmb IAmb 12 23 58.9
comp=Z,11nm,0.9s
TUC **Tucson** 89.84 57 P **P** 12 23 59.8 +1.0
baz=255
X16A **Lo Mia Camp, P** 89.84 55 IAmb IAmb 12 24 01.0
comp=Z,5.8nm,0.8s
HLID **Hailey** 90.09 45 P **P** 12 24 00.6 +0.6
baz=253
HLID **Hailey** 90.09 45 P **P** 12 24 00.5 +0.6
HLID **P** 12 24 00.7 +0.8
HLID IAmb IAmb 12 24 01.6
comp=Z,8.7nm,0.8s
WUAZ **Wupatki** 90.18 54 P **P** 12 24 01.3 +0.8
baz=255
WUAZ **Wupatki** 90.18 54 IAmb IAmb 12 24 02.3
comp=Z,7.7nm,0.9s
DUG **Dugway, Tooele** 90.31 49 P **P** 12 24 01.0 +0.1
baz=254
WMQ **Urumqi** 90.91 315 *eP* **P** 12 24 04.4 +0.9
SYO **Syowa Base** 91.07 197 *eP* P 12 23 53.4 -10
SYO **Syowa Base** 91.07 197 *eX* **P** 12 24 00.8 -2.9
SYO **Syowa Base** 91.07 197 *ePcP* **P** 12 24 03.0 -0.7
MSO **Missoula** 91.35 42 P **P** 12 24 05.7 +0.2
baz=254
DLMT **Dillon** 91.84 44 IAmb IAmb 12 24 09.4
comp=Z,9.0nm,0.9s
WALA **Waterton Lakes** 91.99 40 IAmb IAmb 12 24 09.9
comp=Z,9.5nm,1.1s
121A **Cookes Peak, D** 92.36 57 P **P** 12 24 11.5 +0.8
baz=257
BOZ **Bozeman (W)** 92.56 44 P **P** 12 24 11.4 +0.2
baz=255
BOZ **Bozeman (W)** 92.56 44 IAmb IAmb 12 24 12.7
comp=Z,8.1nm,1.2s
HRY **Holter Researc** 92.71 43 **P** 12 24 12.8 +1.0
PV23 **Carpenter Ridg** 92.72 51 IAmb IAmb 12 24 13.5
comp=Z,9.1nm,0.8s
PV23 **P** 12 24 13.6 +1.3
PV21 **Cone Mtn., Par** 92.78 51 IAmb IAmb 12 24 13.7
comp=Z,5.6nm,0.8s
PV12 **Saucer Basin,** 92.85 52 IAmb IAmb 12 24 14.0
comp=Z,6.5nm,0.9s
PV22 **Blue Mesa, Par** 92.92 51 IAmb IAmb 12 24 14.1
comp=Z,4.7nm,0.7s
H17A **Grant Village** 92.99 45 P **P** 12 24 15.0 +1.7
baz=256
H17A **Grant Village** 92.99 45 IAmb IAmb 12 24 16.8
comp=Z,4.0nm,0.8s
BW06 **Boulder Array** 93.32 47 P **P** 12 24 15.0 +0.1
baz=256
PDAR **Pinedale Array** 93.32 47 P **P** 12 24 14.2 -0.7
comp=Z,0.6nm,0.7s,baz=256,slow=3.1,SNR=7.6
PDAR **Pinedale Array** 93.32 47 P **P** 12 24 14.1 -0.8
O20A **White River Ci** 93.69 50 P **P** 12 24 16.4 -0.2
baz=257
PMSA **Palmer Station** 94.15 160 P **P** 12 24 18.0 0.0
comp=Z,4.3nm,0.7s,baz=211,slow=3.4,SNR=4.3
MNTX **Cornudas Mount** 94.18 59 P **P** 12 24 18.7 -0.1
baz=258
S22A **4UR Ranch, Cre** 94.25 52 P **P** 12 24 19.5 +0.2
baz=258
EGMT **Eagleton** 94.40 42 P **P** 12 24 20.9 +1.4
baz=257
TXAR **Lajitas Array** 95.16 61 P **P** 12 24 23.2 -0.2
comp=Z,1.3nm,0.7s,baz=225,slow=5.9,SNR=23
TXAR **Lajitas Array** 95.16 61 P **P** 12 24 23.9 +0.4
ZALV **Zalavo Beam** 95.32 324 P **P** 12 24 22.2 -1.2
comp=Z,0.8nm,0.3s,baz=108,slow=3.2,SNR=2.2
MK31 **Makanchi Array** 95.33 317 IAmb IAmb 12 24 24.5
comp=Z,6.8nm,0.8s
MKAR **Makanchi Array** 95.33 317 P **P** 12 24 23.6 -0.1
comp=Z,7.7nm,0.7s,baz=97,slow=6.6,SNR=31
MKAR PKKPbc **PKKPdf** 12 41 14.1 -3.2
comp=Z,0.3nm,0.5s,baz=258,slow=4.3,SNR=3.8
MKAR **Makanchi Array** 95.33 317 P **P** 12 24 23.4 -0.3
YKA **Yellowknife Ar** 95.37 27 P **P** 12 24 22.3 -1.1
comp=Z,2.4nm,0.6s,baz=264,slow=4.6,SNR=10
ISCO **Idaho Springs** 95.59 51 P **P** 12 24 25.9 +0.4
baz=259
Q24A **Divide** 95.79 52 P **P** 12 24 26.5 +0.2
baz=259
SNAA **Sanae** 96.04 183 P **P** 12 24 25.8 -0.8
VNA3 **Neumayer Olymp** 96.71 181 P **P** 12 24 28.5 -1.0
VNA2 **Neumayer--Watz** 96.97 182 P **P** 12 24 30.2 -0.5
VNA1 **Neumayer--Stat** 97.27 182 P **P** 12 24 30.9 -1.1
NRIK **Norii'sk** 97.70 339 P **P** 12 24 33.0 -0.9
comp=Z,3.9nm,0.9s,baz=68,slow=6.0,SNR=4.4
G54A **Lake Saint Pet** 115.94 45 P **PKPdf** 12 29 40.1 -1.0
baz=279
M55A **Ridgway** 116.00 50 P **PKPdf** 12 29 40.5 -0.8
baz=277
L55A **Hinsdale** 116.15 49 P **PKPdf** 12 29 40.8 -0.9
baz=277
E54A **Lac Daplat, Po** 116.39 44 P **PKPdf** 12 29 40.3 -1.5
baz=280
D54A **Lac Fusel, La** 116.61 43 P **PKPdf** 12 29 40.7 -1.6
baz=281
L56A **Greenwood** 116.80 49 P **PKPdf** 12 29 41.9 -1.0
baz=278
M57A **Sunshine Farm,** 117.23 50 P **PKPdf** 12 29 43.1 -0.6
baz=278
D55A **Sainte-Anne-du** 117.43 43 P **PKPdf** 12 29 42.5 -1.4
baz=282
ARCES **ARCESS Array B** 117.81 346 PKP **PKPdf** 12 29 43.6 -0.4
comp=Z,6.0nm,0.6s,baz=79,slow=1.9,SNR=42
I57A **Carthage** 117.90 47 P **PKPdf** 12 29 43.6 -1.2
baz=280
D56A **ZEC Mazanza, M** 117.91 43 P **PKPdf** 12 29 43.7 -1.1
baz=283
E57A **Chemin Saint G** 118.45 44 P **PKPdf** 12 29 44.7 -1.2
baz=283
M59A **Waymart** 118.46 49 P **PKPdf** 12 29 45.3 -0.8
baz=279
D57A **Chemin Vers le** 118.49 43 P **PKPdf** 12 29 44.6 -1.4
baz=283
G58A **Ormstown** 118.79 45 P **PKPdf** 12 29 45.5 -1.0
baz=282
J59A **Piesco** 118.81 47 P **PKPdf** 12 29 45.6 -1.1
baz=281
E58A **La Victoria** 119.05 44 P **PKPdf** 12 29 46.2 -0.8
baz=283
D58A **Chemin du LacG** 119.14 43 P **PKPdf** 12 29 46.0 -1.2
baz=284
I59A **Olmsteadville** 119.19 47 P **PKPdf** 12 29 46.5 -0.8
baz=282
I60A **Shoreham** 119.59 46 P **PKPdf** 12 29 47.6 -0.5
baz=282
F60A **Warwick** 120.04 44 P **PKPdf** 12 29 48.0 -0.9
baz=284
E61A **Lac Etchemin** 120.90 43 P **PKPdf** 12 29 50.3 -0.3
baz=286
G62A **West of Eustis** 121.19 44 P **PKPdf** 12 29 50.6 -0.5
baz=285
D62A **Allapoint, All** 121.67 42 P **PKPdf** 12 29 51.0 -1.0
baz=287
PKME **Peaks-Kenny Pk** 122.03 44 P **PKPdf** 12 29 52.5 -0.2
baz=286
F63A **Nahmakanta, Br** 122.03 43 P **PKPdf** 12 29 52.4 -0.4
baz=286
I64A **Boothbay** 122.15 46 P **PKPdf** 12 29 52.7 -0.3
baz=285
H64A **Troy** 122.25 45 P **PKPdf** 12 29 52.4 -0.7
baz=286
E63A **Oxbow** 122.28 42 P **PKPdf** 12 29 52.3 -0.9
baz=288
D63A **Stockholm** 122.29 42 P **PKPdf** 12 29 51.8 -1.4
baz=288
F64A **Sherman** 122.49 43 P **PKPdf** 12 29 52.7 -0.9
baz=287
E64A **Bridgewater** 122.67 42 P **PKPdf** 12 29 53.1 -0.9
baz=288
G65A **Princeton** 123.21 44 P **PKPdf** 12 29 54.6 -0.4
baz=288
FINES **FINESS Array B** 123.36 339 PKP **PKPdf** 12 29 54.2 -0.6
comp=Z,2.5nm,0.6s,baz=58,slow=2.5,SNR=16
NB2 **NORSAR Subarra** 128.18 345 PKPdf **PKPdf** 12 30 04.0 -0.2
comp=Z,0.7nm,0.6s,baz=31,slow=1.9
NOA **NORSAR Array B** 128.18 345 PKP **PKPdf** 12 30 03.9 -0.2
comp=Z,1.1nm,0.6s,baz=33,slow=2.0,SNR=7.3
BRTR **Keskin Array B** 130.78 312 PKP **PKPdf** 12 30 09.6 -0.3
comp=Z,0.5nm,0.7s,baz=26,slow=3.7,SNR=2.5
BRTR SKPbc **SKPab** 12 33 10.9 +0.3
comp=Z,0.9nm,0.8s,baz=5.7,slow=1.4,SNR=4.3
CLL **Collm** 135.73 337 *e*PKPdf **PKPdf** 12 30 18.0 -0.6
GERES **GERESS Array B** 137.36 334 PKP **PKPdf** 12 30 19.6 -2.2
comp=Z,0.7nm,0.5s,baz=315,slow=0.8,SNR=6.3
GERES SKPbc **SKiKP** 12 33 33.4 -2.5
comp=Z,0.3nm,0.3s,baz=57,slow=4.9,SNR=4.7
KEST **Kesra** 149.19 323 PKPbc **PKiKP** 12 30 47.8 -0.6
comp=Z,14nm,0.7s,baz=82,slow=3.8,SNR=14
KEST **Kesra** 149.19 323 **PKiKP** 12 30 48.2 -0.3
PBRG **Braganca** 150.05 351 *e*PKP **PKPbc** 12 30 47.8 -1.4
PCAB **Cabril** 150.32 353 *e*PKP **PKiKP** 12 30 49.9 -0.6
PVRL **Vila Real** 150.71 352 *e*PKP **PKPbc** 12 30 50.7 -0.1
MVO **Moncorvo** 150.72 351 *e*PKP **PKiKP** 12 30 50.9 -0.5
PTO **Porto** 150.95 353 *e*PKP **PKPdf** 12 30 47.8 +2.5
PVIS **Viseu** 151.28 352 *e*PKP **PKiKP** 12 30 52.2 -0.4
MTE **Manteigas** 151.54 352 *e*PKP **PKiKP** 12 30 53.3 +0.1
ESDC **Sonseca Array** 151.55 346 PKPbc **PKPbc** 12 30 52.6 -0.2
comp=Z,3.8nm,0.8s,baz=8.3,slow=2.7,SNR=21
ESDC PKPab **PKPab** 12 31 02.4 +0.2
comp=Z,4.6nm,0.8s,baz=17,slow=3.8,SNR=13
PCAS **Casmilo, Conde** 152.01 353 *e*PKP **PKiKP** 12 30 53.8 -0.2
PCBR **Castelo Branco** 152.08 351 *e*PKP **PKiKP** 12 30 54.0 -0.2
PMRV **Marv??o** 152.47 351 *e*PKP **PKiKP** 12 30 54.8 -0.2
PMTG **Montargil** 152.94 352 *e*PKP **PKiKP** 12 30 56.2 +0.2
PCVE **Castro Verde** 154.33 351 *e*PKP **PKiKP** 12 30 59.6 +0.7
TORD **Torodi Ar. Bea** 165.80 275 PKP **PKPdf** 12 31 03.4 -0.3
comp=Z,2.1nm,0.8s,baz=8.6,slow=2.2,SNR=5.5
TORD PKPab **PKPab** 12 32 04.2 -0.5
comp=Z,2.6nm,1.1s,baz=61,slow=3.0,SNR=5.5
TORD **Torodi Ar. Bea** 165.80 275 **PKPab** 12 32 04.6 -0.1

INET ***01*** *12:32:57.3, 10°.59N×86°.78W, h15km, ML3.2*
UCR ***01*** *12:33:01.3±1.6, 11°.16N×86°.61W, h10km, MD3.9*
IDC ***01*** *12:33:04.6±3.7, 11°.64N×86°.06W, h31km±33km, mb3.3/4, mb1 3.7/5, mb1mx3.4/40, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=60.7km s-min=20.7km az=51.0*
ISC 01 12:33:01.7±0.9, 11°.4N±0°.2×86°.4W±0°.2, h10km, n21, σ1§16/22, mb3.4/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAPC	Finca la Perla	1.13	122	*i* P	Pb	12 33 22.7	-0.6
GB1A	Borinquen Arri	1.13	119	*i* P	Pb	12 33 23.4	0.0
BUEV	Buena Vista	1.13	120	*i* P	Pb	12 33 23.4	-0.1
BUAI	Buenos Aires	1.16	114	*i* P	Pb	12 33 25.4	+1.5
GPS1	Guardaparques	1.19	119	*i* P	Pb	12 33 24.2	-0.2
HORNC	Hornillas	1.37	118	*i* P	Pn	12 33 26.8	-0.2
CUI	Cuipilapa	1.41	120	*i* P	Pn	12 33 26.6	-0.9
ACAL	Aguas Claras	1.53	118	*i* P	Pn	12 33 29.6	+0.4
PTEN	Parque Tenorio	1.54	115	*i* P	Pn	12 33 29.8	+0.5
JTS	Las Juntas de	1.78	127	Pn	Pn	12 33 30.8	-1.8
	16nm,0.3s,baz=18,slow=14,SNR=19						
JTS				Lg	Lg	12 34 01.4	
	18nm,0.3s,baz=1.3,slow=15,SNR=12						
ARE1	Arenal 1	1.89	118	*e*P	Pn	12 33 36.4	+2.4
CEDE	Laguna Cedeo	1.89	117	*e*P	Pn	12 33 34.4	+0.3
CMIG	Matias Romero	9.99	306	Pn	Pn	12 35 26.4	+0.9
	0.3nm,0.3s,baz=117,slow=14,SNR=2.5						
TXAR	Lajitas Array	24.06	321	P	P	12 38 17.1	-0.2
	0.8nm,0.7s,baz=138,slow=10,SNR=14						
TXAR				PcP	PcP	12 41 58.5	-0.6
	0.6nm,1.0s,baz=138,slow=4.3,SNR=5.0						
TKL	Tuckaleechee C	24.30	5	P	P	12 38 16.9	-2.6
	1.6nm,0.7s,baz=180,slow=13,SNR=2.0						
H06E1	SOCORRO T-PHAS	24.77	290	T	T	13 04 03.5	
	SNR=9.9						
PDAR	Pinedale Array	37.21	331	P	P	12 40 12.3	-1.2
	0.3nm,0.6s,baz=132,slow=11,SNR=4.0						
NVAR	Mina Array Bea	39.19	319	P	P	12 40 31.1	+0.9
	0.3nm,0.6s,baz=114,slow=8.3,SNR=3.2						
NVAR				PcP	PcP	12 42 39.9	+0.3
	0.7nm,0.7s,baz=138,slow=4.5,SNR=5.6						
ASAR	Alice Springs	139.80	247	PKP	PKPdf	12 52 31.1	+0.2
	0.2nm,0.6s,baz=120,slow=2.4,SNR=1.6						
WRA	Warramunga Arr	139.93	253	PKP	PKPdf	12 52 31.4	+0.2
	0.2nm,0.8s,baz=96,slow=2.4,SNR=1.3						
CMAR	Chiang Mai Arr	149.90	350	PKPbc	PKPdf	12 52 50.0	+1.5
	0.3nm,0.3s,baz=348,slow=3.9,SNR=1.7						

IDC 01 12:41:08.1±12.0, 12°.67S×166°.73E, h176km±127km, mb2.9/3, mb1 3.2/4, mb1mx3.0/28, mbtmp3.4/4, Error ellipse: s-maj=122.3km s-min=34.2km az=159.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.35	182	P	Pn	12 43 19.2	-0.1
	0.1nm,0.3s,baz=358,slow=7.8,SNR=2.3						
DZM				S	Sn	12 44 57.2	-6.3
	0.1nm,0.3s,baz=284,slow=14,SNR=2.3						
WRA	Warramunga Arr	31.87	253	P	P	12 47 16.8	-0.2
	0.4nm,1.0s,baz=84,slow=8.9,SNR=1.8						
ASAR	Alice Springs	32.97	246	P	P	12 47 26.6	+0.1
	0.2nm,0.5s,baz=72,slow=9.8,SNR=4.7						
ILAR	Eielson Array	84.75	18	P	P	12 53 22.2	+0.1
	0.4nm,0.6s,baz=237,slow=5.0,SNR=4.1						
ARCES	ARCESS Array B	118.14	346	PKP	PKPdf	12 59 33.4	-0.3
	0.5nm,0.3s,baz=48,slow=1.3,SNR=7.4						

*IDC **01** 12:58:00.0±1.3, 26.21S×70.82W, h0km, mb4.2/1, mb1 4.0/2, mb1mx3.6/20, mbtmp4.0/2, ML3.7/1, Error ellipse: s-maj=92.2km s-min=43.3km az=116.0*
*GUC **01** 12:58:04.2±0.5, 26.02S×70.84W, h32km±2km, ML3.8*
ISC 01 12:58:02.3±0.8, 26.12S±0.05×71.0W±0.1, h21km±4km, n32, σ1°61/29, 4C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.39**	**94**	*e*P	**Pb**	**12 58 11.0**	**+0.7**
AC01				*e*S	**Sb**	**12 58 15.6**	**-0.2**
AC01				IAML		12 58 16.0	
	comp=N,25μm,0.2s						
PB14	**IPOC Station P**	**1.59**	**21**	⇑*i*P	**Pn**	**12 58 28.5**	**-1.0**
PB14				*e*S	**Sn**	**12 58 47.1**	**-2.4**
PB14				IAML		12 58 52.3	
	comp=E,1μm,0.3s						
GO02	**Mina Guanaco**	**1.61**	**54**	*e*P	**Pn**	**12 58 29.2**	**-0.5**
GO02				*i*S	**Sn**	**12 58 48.1**	**-1.9**
GO02				IAML		12 58 49.9	
	comp=N,4μm,0.5s						
GO03	**Copiap**	**1.63**	**154**	⇓*i*P	**Pb**	**12 58 32.8**	**+1.1**
GO03				*e*S	**Sb**	**12 58 54.0**	**+2.2**
GO03				IAML		12 58 57.8	
	comp=E,1μm,0.3s						
AC02	**Maricunga**	**1.84**	**113**	*e*P	**Pb**	**12 58 34.9**	**-0.7**
AC02				*e*S	**Sb**	**12 58 58.1**	**-0.3**
AC02				IAML		12 59 00.7	
	comp=E,2μm,0.3s						
AC04	**Llanos de Chal**	**2.08**	**181**	⇓*i*P	**Pn**	**12 58 37.4**	**+1.5**
AC04				IAML		12 59 17.2	
	comp=E,383nm,0.6s						
PB10	**IPOC Station P**	**2.63**	**9**	*e*P	**Pn**	**12 58 42.0**	**-1.5**
AC05	**El Transito**	**2.79**	**166**	*e*P	**Pb**	**12 58 49.7**	**-1.8**
AC05				*e*S	**Sb**	**12 59 23.9**	**-1.4**
AC05				IAML		12 59 37.9	
	comp=N,397nm,0.3s						
PB15	**IPOC Station P**	**3.23**	**26**	*e*P	**Pn**	**12 58 52.0**	**+0.1**
PB05	**IPOC Station P**	**3.34**	**13**	⇑*i*P	**Pn**	**12 58 51.8**	**-1.5**
PB06	**IPOC Station P**	**3.65**	**22**	⇑*i*P	**Pn**	**12 58 56.7**	**-0.9**
PB06				*e*S	**Sn**	**12 59 41.0**	**+0.9**
PB06				IAML		12 59 59.5	
	comp=E,365nm,0.5s						
PB04	**IPOC Station P**	**3.85**	**12**	*e*P	Pn	12 58 53.5	-7.0
PB04				*e*S	**Sn**	**12 59 46.6**	**+1.4**
PB03	**IPOC Station P**	**4.22**	**16**	⇑*i*P	**Pn**	**12 59 03.7**	**-1.8**
PB03				*e*S	**Sn**	**12 59 59.3**	**+5.2**
H03N1	**Juan Fernandez**	**10.01**	**221**	T	T	13 11 07.2	
	baz=47,slow=72,SNR=346						
H03N2	**Juan Fernandez**	**10.02**	**221**	T	T	13 11 08.0	
	baz=47,slow=72,SNR=212						
H03N3	**Juan Fernandez**	**10.02**	**221**	T	T	13 11 06.0	
	baz=47,slow=72,SNR=176						
LPAZ	**La Paz**	**10.15**	**16**	Pn	**Pn**	**13 00 27.0**	**-0.3**
	comp=E,0.3nm,0.3s,baz=219,slow=4.3,SNR=10.0						
H03S3	**Juan Fernandez**	**10.28**	**220**	T	T	13 11 12.3	
	baz=43						
H03S1	**Juan Fernandez**	**10.29**	**220**	T	T	13 11 22.2	
	baz=43						
H03S2	**Juan Fernandez**	**10.29**	**220**	T	T	13 11 25.3	
	baz=43						
TORD	**Torodi Ar. Bea**	**80.73**	**70**	P	**P**	**13 10 14.3**	**-0.1**
	comp=E,1.7nm,0.7s,baz=258,slow=5.5,SNR=4.6						
ASAR	**Alice Springs**	**124.94**	**208**	PKP	**PKPdf**	**13 17 01.8**	**+0.3**
	comp=E,0.3nm,0.9s,baz=125,slow=2.8,SNR=1.6						
H11S2	**WAKE ISLAND Hyd**	**26.41**	**274**	T	T	15 36 28.7	
	baz=108,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hyd**	**26.42**	**274**	T	T	15 36 35.6	
	baz=108,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hyd**	**26.43**	**274**	T	T	15 36 29.8	
	baz=108,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hyd**	**26.62**	**276**	T	T	15 36 44.7	
	baz=108						
H11N1	**WAKE ISLAND Hyd**	**26.63**	**276**	T	T	15 36 48.3	
	baz=108						
H11N2	**WAKE ISLAND Hyd**	**26.63**	**276**	T	T	15 36 46.2	
	baz=108						
WRA	**Warramunga Arr**	**128.01**	**211**	PKP	**PKiKP**	**13 17 08.6**	**+0.6**
	comp=E,0.3nm,0.8s,baz=157,slow=2.1,SNR=1.7						
KURBB	**Kurchatov Arra**	**146.23**	**35**	PKPbc	**PKPab**	**13 17 42.4**	**+0.8**
	comp=E,0.3nm,0.8s,baz=295,slow=3.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**146.94**	**26**	PKPbc	**PKPbc**	**13 17 42.6**	**-0.1**
	comp=E,0.8nm,0.6s,baz=292,slow=3.7,SNR=4.3						
MKAR	**Makanchi Array**	**150.47**	**39**	PKPbc	**PKiKP**	**13 17 53.1**	**+0.2**
	comp=E,0.5nm,0.7s,baz=279,slow=2.3,SNR=4.3						
MKAR				PKPab	**sPKPbc**	**13 18 00.8**	**-0.5**
	comp=E,0.6nm,0.7s,baz=315,slow=2.7,SNR=4.4						

*TEH **01** 12:58:10.3, 36.66N×59.27E, h8km, ML3.6*
*IDC **01** 12:58:10.6±1.2, 36.60N×59.25E, h0km, mb3.7/7, mb1 3.7/13, mb1mx3.6/45, mbtmp3.6/13, ML3.4/6, Error ellipse: s-maj=23.0km s-min=13.3km az=30.0*
*THR **01** 12:58:11.5±1.0, 36.68N×59.36E, h16km±10km, ML3.6*
ISC 01 12:58:11.8±0.6, 36.74N±0.04×59.33E±0.04, h10km, n42, σ1°75/44, mb3.7/6, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAY	**Payeh**	**0.39**	**222**	*e*Pg	Pg	12 58 16.6	-3.0
IPAY				*e*		12 58 21.5	
IAKL	**Akhelmad**	**0.48**	**253**	*e*Pg	**Pg**	**12 58 19.0**	**-2.2**
IAKL				*e*		12 58 26.3	
IMOG	**Moghan**	**0.63**	**179**	*e*Pg	**Pg**	**12 58 21.7**	**-2.4**
IMOG				*e*		12 58 29.7	
IKRD	**Kardeh**	**0.65**	**273**	*e*Pg	Pg	12 58 15.6	-8.8
IMYA	**Miami**	**0.74**	**122**	*e*Pg	**Pg**	**12 58 24.3**	**-1.8**
IEMG	**Emamgholi**	**0.86**	**322**	*e*Pg	**Pg**	**12 58 27.8**	**-0.6**
IEMG				*e*		12 58 49.6	
ISFR	**Sfrayin**	**1.11**	**287**	*e*Pg	**Pg**	**12 58 31.3**	**-1.8**
ISFR				*e*		12 58 53.3	
JRKH	**Jarkhoshk**	**1.17**	**135**	*e*Pg	**Pb**	**12 58 32.5**	**-1.7**
SBZV	**Sabzevar**	**1.42**	**256**	*e*Pg	**Pn**	**12 58 36.1**	**-1.8**
GEYT	**Alibeck**	**1.53**	**321**	Pg	**Pn**	**12 58 39.6**	**+0.4**
	37nm,0.3s,baz=156,slow=17,SNR=110						
GEYT				Lg	Lg	12 59 03.2	
	26nm,0.3s,baz=162,slow=29,SNR=2.9						
BJRD	**Bojnurd**	**1.81**	**303**	*e*Pn	**Pn**	**12 58 44.1**	**+1.0**
BJRD				*e*Sg	**Sg**	**12 59 10.8**	**+0.9**
BJRD	**Bojnurd**	**1.81**	**303**	*e*Pn	**Pn**	**12 58 44.1**	**+1.0**
SHRT	**Shahrakht**	**3.19**	**165**	*e*Pn	**Pn**	**12 59 02.3**	**+0.3**
SHRT				*e*Sg	**Sb**	**12 59 48.4**	**+1.0**
SHRT	**Shahrakht**	**3.19**	**165**	*e*Pn	**Pn**	**12 59 02.3**	**+0.3**
AFRZ	**Afriz**	**3.32**	**184**	*e*		12 59 07.4	
AFRZ				*e*Pn	**Pn**	**12 59 05.1**	**+1.2**
TNSJ	**Nastanj**	**3.55**	**219**	*e*Pn	**Pn**	**12 59 06.6**	**-0.4**
IMON	**Monand**	**3.55**	**175**	*e*Pn	**Pn**	**12 59 08.8**	**+1.6**
TABS	**Tabas**	**3.57**	**211**	*e*Pn	**Pn**	**12 59 08.2**	**+0.8**
TABS				*e*Sg	**Sb**	**13 00 01.2**	**+2.6**
TABS				IAML		13 00 06.1	
	comp=N,57nm,0.5s						
TABS	**Tabas**	**3.57**	**211**	*e*Pn	**Pn**	**12 59 08.2**	**+0.8**
TKDS	**Koohdasht(Taba**	**3.60**	**211**	*e*Pn	**Pn**	**12 59 08.2**	**+0.4**
TKDS				*e*		13 00 19.4	
IDAH	**Dahanechah**	**4.02**	**173**	*e*Pn	**Pn**	**12 59 13.7**	**+0.1**
IDAH				*e*		12 59 18.8	
TPRV	**Parvadeh(Tabas**	**4.29**	**211**	*e*Pn	**Pn**	**12 59 16.8**	**-0.4**
TPRV				*e*		13 00 37.2	
IANJ	**Anjilo**	**4.56**	**255**	*e*Pn	**Pn**	**12 59 21.1**	**0.0**
BSRN	**Basiran**	**4.77**	**182**	*e*Pn	**Pn**	**12 59 24.8**	**+1.0**
BSRN	**Basiran**	**4.77**	**182**	*e*Pn	**Pn**	**12 59 24.8**	**+1.0**
ANAR	**Anarak**	**5.80**	**234**	*e*Pn	**Pn**	**12 59 37.7**	**-0.3**
YZKH	**Yazd**	**5.84**	**223**	*e*Pn	**Pn**	**12 59 39.3**	**+0.9**
IBAF	**Bafgh**	**6.01**	**212**	*e*Pn	**Pn**	**12 59 41.3**	**+0.4**
KRBR	**Kerman**	**7.07**	**198**	IAML		13 00 31.7	
	comp=N,8.7nm,0.5s						
AKTO	**Aktyubinsk**	**13.72**	**356**	Pn	**Pn**	**13 01 27.9**	**+1.6**
	comp=N,0.4nm,0.3s,baz=188,slow=7.1,SNR=2.1						
AKTO				Sn	**Sn**	**13 03 53.8**	**-5.0**
	comp=N,0.2nm,0.3s,baz=231,slow=14,SNR=2.4						
KBZ	**Khabaz**	**14.35**	**304**	Pn	**Pn**	**13 01 33.5**	**-1.3**
	comp=N,0.2nm,0.3s,baz=82,slow=7.1,SNR=2.1						
BVAR	**Borovoye Array**	**18.04**	**22**	P	**P**	**13 02 24.3**	**+1.5**
	comp=N,0.3nm,0.3s,baz=207,slow=9.2,SNR=5.3						
BVAR				S	**Sn**	**13 05 36.9**	**-6.5**
	comp=N,0.2nm,0.3s,baz=202,slow=23,SNR=3.0						
ASF	**Jabal al Asfar**	**19.04**	**263**	P	**P**	**13 02 34.1**	**+0.1**
	comp=N,0.2nm,0.3s,baz=50,slow=7.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**19.55**	**39**	P	**Pn**	**13 02 40.7**	**-0.1**
	comp=N,0.0nm,0.3s,baz=238,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**19.79**	**52**	P	**Pn**	**13 02 44.2**	**+0.5**
	comp=N,0.1nm,0.3s,baz=242,slow=12,SNR=4.3						
BRTR	**Keskin Array B**	**20.38**	**286**	P	**P**	**13 02 50.3**	**+1.6**
	comp=N,1.4nm,0.8s,baz=105,slow=9.1,SNR=6.7						
ZALV	**Zalesovo Beam**	**24.63**	**38**	P	**P**	**13 03 33.9**	**+1.6**
	comp=N,0.4nm,0.3s,baz=218,slow=9.1,SNR=1.8						
AKASG	**Malin Array Be**	**25.63**	**313**	P	**P**	**13 03 41.8**	**+0.5**
	comp=N,1.4nm,0.6s,baz=108,slow=8.1,SNR=4.1						
MLR	**Muntele Rosu**	**26.47**	**300**	P	**P**	**13 03 49.1**	**0.0**
	comp=N,1.6nm,0.5s,baz=122,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**32.31**	**330**	P	**P**	**13 04 41.7**	**+1.0**
	comp=N,0.7nm,0.6s,baz=121,slow=9.9,SNR=1.6						
CMAR	**Chiang Mai Arr**	**39.22**	**107**	P	**P**	**13 05 40.8**	**+0.5**
	comp=N,0.8nm,0.6s,baz=299,slow=8.0,SNR=5.4						
KSRS	**Korea Array**	**53.56**	**67**	P	**P**	**13 07 34.4**	**+1.5**
	comp=N,0.5nm,0.6s,baz=310,slow=8.7,SNR=2.4						

*ISN **01** 13:16:21.1±0.4, 33.72N×45.64E, h7km±2km, ML2.4*
*TEH **01** 13:16:22.4, 33.70N×45.62E, h7km, ML2.8*
ISC 01 13:16:22.6±1.0, 33.70N±0.04×45.63E±0.05, h13km, n12, σ1°27/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.64**	**157**	*e*Pg	**Pg**	**13 16 34.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**13 16 43.0**	**-0.5**
IBDR				AML	AML	13 16 50.8	
	comp=N,83nm,0.5s						
IBDR				AML	AML	13 16 56.6	
	comp=E,63nm,0.3s						
IGHG	**Ghaleghazi**	**1.00**	**51**	*e*Pg	**Pg**	**13 16 41.2**	**-0.6**
IGHG				*e*		13 17 04.8	
BHD	**Baghdad**	**1.13**	**248**	*e*Pg	**Pb**	**13 16 43.0**	**-1.0**
BHD				*e*Sg	**Sg**	**13 16 59.0**	**-0.2**
BHD				AML	AML	13 17 07.5	
	comp=E,1μm,1.3s						
IDHR	**Dehrash**	**1.17**	**32**	*e*Pg	**Pb**	**13 16 44.3**	**-0.6**
IDHR				*e*Sg	**Sn**	**13 17 03.1**	**+2.2**
IDHR				*e*		13 17 05.3	
KCHF	**Cheshme Sefid,**	**1.30**	**64**	*e*Pg	**Pn**	**13 16 46.5**	**-0.1**
KCHF				*e*		13 17 08.7	
IVIS	**Veis**	**1.30**	**50**	*e*Pg	**Pg**	**13 16 47.1**	**-0.5**
IVIS				*e*		13 17 08.7	
KER	**Kermanshah**	**1.42**	**61**	*e*Pg	**Pg**	**13 16 49.4**	**-0.4**
KER				*e*		13 16 52.7	
IKOM	**Komasi**	**1.63**	**73**	*e*Pg	**Pb**	**13 16 52.7**	**+0.1**
IKOM				*e*		13 16 60.0	
ILIN	**Lien**	**1.64**	**42**	*e*Pg	**Pb**	**13 16 52.9**	**+0.1**
IBZA	**Bozab**	**2.00**	**67**	*e*Pn	**Pb**	**13 16 57.8**	**-1.2**
IBZA				*e*		13 17 00.2	
IALM	**Almabolaq**	**2.39**	**60**	*e*		13 17 08.3	
IALM				*e*Pn	**Pb**	**13 17 03.6**	**-2.1**
NSR	**Nassriya**	**2.72**	**171**	*e*Pn	**Pn**	**13 17 07.0**	**+1.1**
NSR				*e*Sn	**Sn**	**13 17 41.0**	**+2.4**
NSR				AML	AML	13 17 47.5	
	comp=E,12nm,0.6s						

*ISN **01** 13:22:46.7±0.8, 33.83N×45.63E, h9km±4km, ML2.0*
*TEH **01** 13:22:47.0, 33.85N×45.67E, h22km, ML2.7*
ISC 01 13:22:46.1±1.5, 33.89N±0.05×45.63E±0.06, h5km±13km, n10, σ0°89/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.82**	**162**	*e*Pg	**Pg**	**13 23 02.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**13 23 12.0**	**-0.5**
IBDR				AML	AML	13 23 13.0	
	comp=E,30nm,0.3s						
IBDR				AML	AML	13 23 16.9	
	comp=N,63nm,0.4s						
IGHG	**Ghaleghazi**	**0.89**	**61**	*e*		13 23 05.9	
IGHG				*e*Pg	**Pg**	**13 23 02.8**	**-0.5**
IDHR	**Dehrash**	**1.02**	**38**	*e*		13 23 26.3	
IDHR				*e*Pg	**Pg**	**13 23 06.0**	**+0.3**
IVIS	**Veis**	**1.19**	**58**	*e*Pg	**Pb**	**13 23 08.7**	**-0.6**
BHD	**Baghdad**	**1.21**	**240**	*e*Pg	**Pn**	**13 23 09.0**	**-0.7**
BHD				*e*Sg	**Sb**	**13 23 26.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.23**	**72**	*e*		13 23 11.3	
KCHF				*e*Pg	**Pb**	**13 23 08.6**	**-1.4**
KCHF				*e*Sg	**Sn**	**13 23 27.4**	**+0.1**
ILIN	**Lien**	**1.50**	**47**	*e*Pg	**Pn**	**13 23 14.0**	**0.0**
ILIN				*e*Sg	**Sg**	**13 23 36.4**	**+1.9**
ILIN				*e*		13 23 39.7	
IKOM	**Komasi**	**1.59**	**79**	*e*Pg	**Pn**	**13 23 14.8**	**-0.3**
IKOM				*e*		13 23 40.2	
IALM	**Almabolaq**	**2.31**	**65**	*e*Pn	**Pn**	**13 23 25.0**	**-0.1**
IALM				*e*		13 23 30.8	
NSR	**Nassriya**	**2.91**	**171**	*e*Pn	**Pn**	**13 23 34.0**	**+1.0**
NSR				*e*Sn	**Sn**	**13 24 09.0**	**+0.7**
NSR				AML	AML	13 24 16.1	
	comp=E,12nm,0.6s						

*ISN **01** 13:39:35.3±0.8, 33.71N×45.62E, h0km±3km, ML2.4*
*TEH **01** 13:39:36.4, 33.77N×45.59E, h10km, ML2.7*
ISC 01 13:39:36.8±1.0, 33.71N±0.04×45.60E±0.06, h13km, n10, σ1°25/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.66**	**155**	*e*Pg	**Pg**	**13 39 49.0**	**-0.6**
IBDR				AML	AML	13 39 57.5	
	comp=E,47nm,0.5s						
IBDR				*e*Sg	**Sg**	**13 39 58.0**	**-0.2**
IBDR				AML	AML	13 39 58.4	
	comp=N,30nm,0.1s						
IGHG	**Ghaleghazi**	**1.02**	**52**	*e*Pg	**Pb**	**13 39 55.7**	**-0.7**
IGHG				*e*		13 39 56.8	
BHD	**Baghdad**	**1.11**	**247**	*e*Pg	**Pn**	**13 39 58.0**	**0.0**
BHD				*e*Sg	**Sn**	**13 40 15.0**	**+1.9**
BHD				AML	AML	13 40 18.4	
	comp=E,5μm,0.3s						
IDHR	**Dehrash**	**1.19**	**33**	*e*Pg	**Pb**	**13 39 58.6**	**-0.7**
IDHR				*e*		13 40 19.5	
IVIS	**Veis**	**1.32**	**51**	*e*Pg	**Pg**	**13 40 01.4**	**-0.8**
IVIS				*e*Sg	**Sg**	**13 40 20.3**	**+0.8**
IVIS				*e*		13 40 22.2	
KCHF	**Cheshme Sefid,**	**1.33**	**64**	*e*		13 40 03.6	
KCHF				*e*Pg	**Pg**	**13 40 02.1**	**-0.2**
ILIN	**Lien**	**1.66**	**43**	*e*		13 40 08.4	
ILIN				*e*Pg	**Pg**	**13 40 07.4**	**-1.2**
IKOM	**Komasi**	**1.66**	**73**	*e*		13 40 08.7	
IKOM				*e*Pg	**Pg**	**13 40 07.9**	**-0.7**
IALM	**Almabolaq**	**2.42**	**61**	*e*Pn	**Pn**	**13 40 17.9**	**+1.6**
NSR	**Nassriya**	**2.73**	**170**	*e*Pn	**Pn**	**13 40 22.0**	**+1.7**
NSR				AML	AML	13 40 24.3	
	comp=E,11nm,0.9s						
NSR				*e*Sn	**Sb**	**13 40 57.0**	**-1.8**

*JMA **01** 13:40:28.8±0.1, 38.30N×141.82E, h47km±1km, M3.4*
JMA Felt I J1.
*IDC **01** 13:40:29.0±6.1, 38.25N×141.96E, h51km±51km, mb3.0/3, mb1 3.3/5, mb1mx3.1/37, mbtmp3.2/5, ML2.1/2, Error ellipse: s-maj=47.6km s-min=26.3km az=95.0*
ISC 01 13:40:27.9±1.4, 38.27N±0.05×141.9E±0.1, h39km±5km, n24, σ0°60/28, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.37**	**277**	P	**Pn**	**13 40 37.5**	**+0.6**
JIKH				S	**Sn**	**13 40 43.4**	**0.0**
JIO	**Ouri**	**0.50**	**292**	P	**Pn**	**13 40 38.7**	**+0.1**
JIO				S	**Sn**	**13 40 45.6**	**-0.5**
JKMT	**Kesennumamotoy**	**0.65**	**326**	P	**Pn**	**13 40 40.9**	**+0.1**
JKMT				S	**Sn**	**13 40 49.3**	**-0.6**
OFUJ	**Ofunato**	**0.84**	**346**	P	**Pn**	**13 40 43.5**	**+0.2**
OFUJ				*e*S	**Sn**	**13 40 54.0**	**-0.4**
JMK	**Ichinoseki**	**0.89**	**321**	P	**Pn**	**13 40 44.1**	**+0.2**
JMK				S	**Sn**	**13 40 54.8**	**-0.7**
JMM	**Marumori**	**0.99**	**247**	P	**Pn**	**13 40 44.9**	**-0.4**
JOU	**Okura**	**1.01**	**276**	P	**Pn**	**13 40 45.5**	**-0.1**
JOU				*e*S	**Sn**	**13 40 57.9**	**-0.6**
JFK	**Kawauchi**	**1.23**	**223**	P	**Pn**	**13 40 48.6**	**-0.1**
JFK				*e*S	**Sn**	**13 41 03.2**	**-0.9**
JOM	**Ohasama**	**1.31**	**338**	P	**Pn**	**13 40 50.1**	**+0.4**
JOM				*e*S	**Sn**	**13 41 05.9**	**0.0**
JYK	**Kaneyama**	**1.40**	**298**	P	**Pn**	**13 40 50.9**	**0.0**
JFT	**Otama**	**1.47**	**240**	P	**Pn**	**13 40 52.3**	**+0.4**
JFT				S	**Sn**	**13 41 09.9**	**0.0**
JYS	**Shirataka**	**1.48**	**269**	P	**Pn**	**13 40 52.0**	**0.0**
JRG	**Rokugo**	**1.52**	**318**	P	**Pn**	**13 40 53.2**	**+0.6**
MJAR	**Matsushiro Arr**	**3.43**	**241**	P	**Pn**	**13 41 20.2**	**+1.3**
	0.2nm,0.3s,baz=50,slow=10,SNR=11						
MJAR				S	**Sn**	**13 41 59.7**	**+1.4**
	0.1nm,0.3s,baz=46,slow=21,SNR=4.4						
USRK	**Ussuriysk Ar.**	**9.55**	**312**	P	**Pn**	**13 42 43.5**	**+0.8**
	baz=121,slow=14,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	14 16 32.0	
	baz=316,slow=76,SNR=63						
H11N1	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	14 16 32.8	
	baz=316,slow=76,SNR=85						
H11N3	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	14 16 33.5	
	baz=316,slow=76,SNR=65						
H11S1	**WAKE ISLAND Hy**	**29.21**	**125**	T	T	14 17 30.3	
	baz=318,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.21**	**125**	T	T	14 17 29.2	
	baz=318,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**29.22**	**125**	T	T	14 17 31.7	
	baz=318,slow=76,SNR=23						
MKAR	**Makanchi Array**	**43.83**	**301**	P	**P**	**13 48 30.3**	**+0.2**
	0.3nm,0.7s,baz=90,slow=8.8,SNR=3.1						
WRA	**Warramunga Arr**	**58.34**	**188**	P	**P**	**13 50 18.4**	**-0.7**
	0.2nm,0.6s,baz=5.2,slow=7.1,SNR=5.9						
ASAR	**Alice Springs**	**62.06**	**188**	P	**P**	**13 50 44.4**	**-0.1**
	0.1nm,0.4s,baz=358,slow=5.3,SNR=4.1						

*IDC **01** 14:18:28.6±1.4, 26.20S×139.63E, h0km, mb3.7/1, mb1 3.9/6, mb1mx3.6/33, mbtmp3.8/6, ML3.7/5, Error ellipse: s-maj=23.2km s-min=15.6km az=57.0*
*AUST **01** 14:18:29.6±0.4, 26.22S×139.51E, h10km, Error ellipse: s-maj=6.0km s-min=4.1km az=120.0*
ISC 01 14:18:28.5±0.7, 26.21S±0.05×139.59E±0.05, h10km, n24, σ2°29/37, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INKA	**Innaminka**	**1.85**	**146**	P	**Pb**	**14 19 02.8**	**+0.5**
	baz=1.9,SNR=158						
INKA				S	**Sb**	**14 19 26.4**	**+0.9**
	baz=1.9,SNR=14						
OOD	**Oodnadatta**	**3.82**	**245**	P	**Pn**	**14 19 29.5**	**+2.1**
	baz=3.8,SNR=8.3						
OOD				S	**Sn**	**14 20 14.3**	**+1.8**
	baz=3.8						
QLP	**Quilpie**	**4.18**	**96**	P	**Pn**	**14 19 34.9**	**+2.5**
	baz=4.2,SNR=57						
QLP				S	**Sn**	**14 20 21.3**	**0.0**
	baz=4.2,SNR=6.2						
LCRK	**Leigh Creek**	**4.40**	**196**	P	**Pn**	**14 19 37.2**	**+1.9**
	baz=4.4,SNR=5.9						
LCRK				S	**Sn**	**14 20 27.4**	**+0.8**
	baz=4.4						
QIS	**Mount Isa**	**5.62**	**0**	P	**Pn**	**14 19 54.7**	**+2.5**
	baz=5.7,SNR=9.8						
QIS				S	**Sn**	**14 20 58.4**	**+1.5**
	baz=5.7						
ASAR	**Alice Springs**	**5.75**	**295**	Pn	**Pn**	**14 19 57.0**	**+3.0**
	4.5nm,0.3s,baz=121,slow=14,SNR=140						
ASAR				Sn	**Sn**	**14 21 01.3**	**+1.3**
	3.6nm,0.3s,baz=117,slow=22,SNR=10						
ASAR				Lg	Lg	14 21 31.5	
	2.5nm,0.3s,baz=113,slow=26,SNR=4.4						
STKA	**Stephens Creek**	**5.92**	**163**	P	**Pn**	**14 19 56.8**	**+0.6**
	baz=5.9,SNR=7.4						
STKA				S	**Sn**	**14 21 00.8**	**-3.3**
	baz=5.9						
STKA	**Stephens Creek**	**5.92**	**163**	Pn	**Pn**	**14 19 57.2**	**+1.0**
	0.5nm,0.3s,baz=337,slow=15,SNR=14						
STKA				Sn	**Sn**	**14 21 00.6**	**-3.5**
	5.7nm,0.3s,baz=246,slow=14,SNR=9.9						
STKA				Lg	Lg	14 21 34.6	
	3.3nm,0.3s,baz=94,slow=20,SNR=3.6						
MULG	**Mulgathing**	**6.35**	**229**	P	**Pn**	**14 20 02.9**	**+0.8**
	baz=6.3,SNR=3.1						
MULG				S	**Sn**	**14 21 12.6**	**-2.0**
	baz=6.3						
AUJCS	**Jamestown Cent**	**7.02**	**187**	P	**Pn**	**14 20 13.8**	**+2.4**
	baz=7.0						
HTT	**Hallett**	**7.22**	**184**	P	**Pn**	**14 20 15.7**	**+1.5**
	baz=7.2,SNR=3.3						
HTT				S	**Sn**	**14 21 32.8**	**-3.6**
	baz=7.2						
BBOO	**Buckleboo**	**7.26**	**204**	P	**Pn**	**14 20 15.1**	**+0.4**
	baz=7.2,SNR=12						
BBOO				S	**Sn**	**14 21 33.2**	**-4.1**
	baz=7.2						
WRA	**Warramunga Arr**	**7.89**	**321**	Pn	**Pn**	**14 20 24.9**	**+1.6**
	0.9nm,0.3s,baz=141,slow=12,SNR=48						
WRA				Sn	**Sn**	**14 21 47.2**	**-5.5**
	0.9nm,0.3s,baz=146,slow=24,SNR=3.6						
WRA				Lg	Lg	14 22 38.6	
	1.2nm,0.3s,baz=144,slow=27,SNR=5.5						
AULRC	**Lightning Ridg**	**8.09**	**115**	P	**Pn

PRK				S	Sn	14 36 56.5	-0.7
	comp=N,4μm,0.4s						
PRK	**Paraskevi**	**0.76**	**179**	P	**Pn**	**14 36 46.1**	**0.0**
PRK				S	**Sn**	**14 36 56.5**	**-0.7**
PRK				AML	AML	14 36 59.6	
	comp=E,9046μm,0.3s						
PRK				AML	AML	14 37 00.1	
	comp=N,8802μm,0.5s						
AYVA	**Ayvalik**	**0.77**	**154**	*i* P	**Pg**	**14 36 45.5**	**0.0**
AYVA				*i* S	**Sg**	**14 36 55.9**	**+0.2**
LIA	**Limnos Island**	**0.83**	**263**	P	**Pb**	**14 36 46.2**	**-0.1**
LIA				S	**Sb**	**14 36 57.3**	**+0.1**
	comp=N,5μm,0.4s						
LIA	**Limnos Island**	**0.83**	**263**	P	**Pb**	**14 36 46.3**	**0.0**
LIA				S	**Sb**	**14 36 57.3**	**+0.1**
LIA				AML	AML	14 36 59.8	
	comp=E,11535μm,0.4s						
LIA				AML	AML	14 37 00.0	
	comp=N,10194μm,0.5s						
SIGR	**SIGRI**	**0.85**	**201**	P	**Pb**	**14 36 46.5**	**-0.1**
SIGR				S	**Sg**	**14 36 58.5**	**+0.3**
	comp=N,5μm,0.3s						
SIGR	**SIGRI**	**0.85**	**201**	P	**Pb**	**14 36 46.5**	**-0.1**
SIGR				S	**Sb**	**14 36 57.9**	**+0.2**
SIGR				AML	AML	14 36 59.0	
	comp=E,7573μm,0.3s						
SIGR				AML	AML	14 36 59.5	
	comp=N,11854μm,0.4s						
SIGR	**SIGRI**	**0.85**	**201**	PG	**Pb**	**14 36 46.5**	**-0.1**
KESN	**Edirne-Kesan**	**0.88**	**21**	*i* P	**Pb**	**14 36 46.4**	**-0.9**
KESN				*i* S	**Sb**	**14 36 58.4**	**-0.5**
ALN	**Alexandroupoli**	**0.90**	**350**	P	**Pg**	**14 36 47.8**	**-0.1**
ALN				S	**Sg**	**14 36 59.9**	**0.0**
	comp=N,2μm,0.4s						
ALN	**Alexandroupoli**	**0.90**	**350**	P	**Pg**	**14 36 47.8**	**-0.1**
ALN				S	**Sg**	**14 36 59.6**	**-0.2**
ALN				AML	AML	14 37 01.1	
	comp=N,2309μm,0.3s						
ALN				AML	AML	14 37 01.1	
	comp=E,4460μm,0.4s						
RKY	**Sarkoy-Tekirda**	**0.98**	**46**	PG	**Pb**	**14 36 48.4**	**-0.4**
SART	**Tekirdag**	**0.98**	**46**	*i* P	**Pb**	**14 36 47.7**	**-1.2**
SART				*i* S	**Sn**	**14 37 03.3**	**+0.5**
KNL	**Balıkesir**	**1.01**	**74**	*i* P	**Pb**	**14 36 49.2**	**-0.1**
MAR6	**Marsite Statio**	**1.04**	**48**	PG	**Pb**	**14 36 49.8**	**0.0**
DKL	**Dikili**	**1.06**	**152**	PG	**Pg**	**14 36 50.7**	**-0.2**
MAR2	**Marsite Statio**	**1.07**	**48**	PG	**Pn**	**14 36 50.6**	**+0.1**
MAR3	**Marsite Statio**	**1.08**	**47**	PG	**Pb**	**14 36 50.4**	**-0.1**
BALY	**Balya**	**1.08**	**104**	*i* P	**Pn**	**14 36 51.0**	**+0.3**
BALY				*i* S	**Sn**	**14 37 05.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.10**	**87**	PN	**Pn**	**14 36 51.1**	**+0.2**
MAR4	**Marsite Statio**	**1.12**	**45**	PN	**Pb**	**14 36 50.9**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.16**	**14**	PN	**Pg**	**14 36 52.2**	**-0.5**
MRMT	**Marmara Adasi**	**1.18**	**59**	PN	**Pn**	**14 36 51.9**	**-0.2**
ZEDA	**zmir-Bergama**	**1.22**	**148**	*i* P	**Pg**	**14 36 53.5**	**-0.4**
MAR9	**Marsite Statio**	**1.26**	**61**	PN	**Pb**	**14 36 53.6**	**0.0**
RDO	**Rodhopi**	**1.26**	**335**	P	**Pb**	**14 36 53.4**	**-0.2**
RDO				S	**Sn**	**14 37 10.3**	**+0.6**
	comp=E,282nm,0.3s						
RDO	**Rodhopi**	**1.26**	**335**	P	**Pb**	**14 36 53.7**	**0.0**
RDO				S	**Sn**	**14 37 10.0**	**+0.3**
RDO				AML	AML	14 37 14.5	
	comp=N,554μm,0.5s						
RDO				AML	AML	14 37 16.5	
	comp=E,570μm,0.2s						
RDO	**Rodhopi**	**1.26**	**335**	PN	**Pb**	**14 36 53.5**	**-0.2**
EDC	**Edincik**	**1.28**	**74**	PN	**Pb**	**14 36 53.9**	**0.0**
STEP	**BALIKESIR_Sava**	**1.29**	**119**	*i* P	**Pb**	**14 36 54.2**	**+0.1**
BALB	**Balikesir**	**1.30**	**106**	PN	**Pb**	**14 36 54.2**	**-0.1**
THAS	**Thassos island**	**1.32**	**297**	P	**Pn**	**14 36 53.6**	**-0.3**
THAS				S	**Sn**	**14 37 10.3**	**-0.7**
	comp=E,540nm,0.3s						
THAS	**Thassos island**	**1.32**	**297**	P	**Pn**	**14 36 53.5**	**-0.3**
THAS				AML	AML	14 37 11.3	
	comp=E,1069μm,0.3s						
THAS				AML	AML	14 37 15.0	
	comp=N,1088μm,0.3s						
TKR	**Tekirdag**	**1.38**	**44**	PN	**Pb**	**14 36 55.5**	**-0.2**
CHOS	**Chios island**	**1.62**	**186**	P	**Pn**	**14 36 58.2**	**0.0**
CHOS				S	**Sn**	**14 37 18.9**	**+0.2**
	comp=N,972nm,0.2s						
CHOS	**Chios island**	**1.62**	**186**	P	**Pn**	**14 36 58.1**	**-0.1**
CHOS				AML	AML	14 37 25.3	
	comp=E,2553μm,0.2s						
CHOS				AML	AML	14 37 26.7	
	comp=N,1329μm,0.2s						
BOTS	**Marmara Eregli**	**1.64**	**53**	PN	**Pn**	**14 36 58.9**	**+0.6**
KAVA	**Kavala**	**1.66**	**307**	P	**Pn**	**14 36 58.8**	**+0.3**
KAVA	**Kavala**	**1.66**	**307**	P	**Pn**	**14 36 58.7**	**+0.1**
KAVA				AML	AML	14 37 24.8	
	comp=N,454μm,0.4s						
KAVA				AML	AML	14 37 26.4	
	comp=E,454μm,0.2s						
KDZ	**Kurdzhali**	**1.76**	**339**	PN	**Pn**	**14 37 00.7**	**+0.7**
OUR	**Ouranopolis**	**1.77**	**281**	P	**Pn**	**14 37 00.2**	**+0.1**
OUR				S	**Sn**	**14 37 21.7**	**-0.5**
	comp=E,588nm,0.6s						
OUR	**Ouranopolis**	**1.77**	**281**	PN	**Pn**	**14 37 00.2**	**+0.1**
EDRB	**Edirne**	**1.88**	**11**	P	**Pn**	**14 37 02.0**	**+0.4**
EDRB	**Edirne**	**1.88**	**11**	PN	**Pn**	**14 37 02.0**	**+0.4**
AOS	**Alonnisos**	**2.02**	**246**	P	**Pn**	**14 37 03.9**	**+0.4**
KYMI	**Kymi, Euboea I**	**2.16**	**231**	P	**Pn**	**14 37 05.2**	**-0.3**
PLG	**Polygyros**	**2.19**	**281**	P	**Pn**	**14 37 06.2**	**+0.4**
NVR	**Nevrokopi**	**2.26**	**307**	P	**Pn**	**14 37 07.5**	**+0.6**
SRS	**Serrai**	**2.31**	**300**	P	**Pn**	**14 37 07.1**	**-0.5**
SMG	**Samos**	**2.34**	**169**	P	**Pn**	**14 37 08.0**	**+0.1**
KULA	**Kula-Manisa**	**2.39**	**128**	P	**Pn**	**14 37 10.2**	**+1.5**
APE	**Apeiranthos**	**2.99**	**191**	⇑P	**Pn**	**14 37 18.1**	**+1.2**
STIP	**Stip**	**3.52**	**300**	*i* Pn	**Pn**	**14 37 23.6**	**-0.5**
RAZG	**Razgrad**	**3.56**	**3**	⇑P	**Pn**	**14 37 26.2**	**+1.4**
MLR	**Muntele Rosu**	**5.49**	**358**	⇓P	**Pn**	**14 37 53.1**	**+1.8**
VOIR		**5.50**	**351**	⇑P	**Pn**	**14 37 51.6**	**+0.1**
HERR	**Herculane**	**5.64**	**331**	⇓P	**Pn**	**14 37 53.6**	**+0.3**
VRI	**Vrincioaia**	**5.87**	**3**	⇓P	**Pn**	**14 37 56.6**	**+0.2**
BZS	**Buzias**	**6.56**	**330**	⇓P	**Pn**	**14 38 06.6**	**+0.6**

*IDC **01** 14:40:04.1±2.3, 28°.43S×23°.10E, h0km, mb1 3.1/3, mb1mx3.0/31, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=25.5km s-min=17.7km az=154.0*
*EAF **01** 14:40:05.8±1.6, 30°.42S×26°.36E, h10km, MD4.5*
ISC 01 14:40:04.9±2.0, 30°.28S±0°.09×26°.2E±0°.1, h10km, n19, σ1§86/20, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**1.86**	**333**	Pn	**Pb**	**14 40 39.0**	**0.0**
	0.6nm,0.3s,baz=278,slow=17,SNR=18						
BOSA				Lg	Lg	14 41 04.0	
	2.0nm,0.3s,baz=43,slow=21,SNR=8.8						
BOSA				Rg	Rg	14 41 18.5	
	168nm,1.1s,baz=2.4,slow=19,SNR=18						
BOSA	**Boshof**	**1.86**	**333**	*i* P	**Pb**	**14 40 39.0**	**0.0**
BOSA				*i* S	**Sg**	**14 41 05.3**	**+0.7**
BOSA	**Boshof**	**1.86**	**333**	*i* P	**Pb**	**14 40 39.0**	**0.0**
BOSA				*i* S	**Sg**	**14 41 05.3**	**+0.7**
I47ZA	**BOSHOF INFRASO**	**1.86**	**333**	*i*		14 53 19.8	
	baz=275,slow=310,SNR=1.4						
SUR	**Sutherland**	**5.07**	**244**	Pn	Pn	14 41 12.6	-8.5
	0.3nm,0.3s,baz=27,slow=14,SNR=15						
SUR				Pg	Pb	14 41 23.4	-10
	0.4nm,0.3s,baz=25,slow=16,SNR=2.7						
SUR				Sn	Sn	14 42 01.6	-18
	0.2nm,0.3s,baz=126,slow=7.5,SNR=1.6						
SUR				Lg	Lg	14 42 18.2	
	1.4nm,0.3s,baz=296,slow=22,SNR=12						
SUR	**Sutherland**	**5.07**	**244**	*i* P	**Pn**	**14 41 21.4**	**+0.3**
SUR				*i* S	**Sn**	**14 42 18.8**	**-1.0**
SUR	**Sutherland**	**5.07**	**244**	*i* P	**Pn**	**14 41 21.4**	**+0.3**
SUR				*i* S	**Sn**	**14 42 18.8**	**-1.0**
LBTB	**Lobatse**	**5.27**	**354**	Pn	Pn	14 41 06.8	-17
	0.1nm,0.3s,baz=209,slow=14,SNR=1.6						
LBTB	**Lobatse**	**5.27**	**354**	*i* P	**Pn**	**14 41 25.8**	**+1.9**
LBTB	**Lobatse**	**5.27**	**354**	AML	AML	14 41 54.7	
	comp=Z,19nm,0.2s						
LBTB	**Lobatse**	**5.27**	**354**	*i* P	**Pn**	**14 41 25.8**	**+1.9**
LBTB	**Lobatse**	**5.27**	**354**	*e*P	**Pn**	**14 41 25.4**	**+1.5**
LBTB	**Lobatse**	**5.27**	**354**	*e*S	Sn	14 41 53.1	-32
MATP	**Matopo**	**10.03**	**12**	Pn	Pn	14 42 20.9	-8.3
	comp=Z,0.2nm,0.3s,baz=217,slow=9.6,SNR=1.9						
MATP				Lg	Lg	14 44 47.8	
	comp=Z,0.3nm,0.3s,baz=204,slow=22,SNR=1.9						
MATP	**Matopo**	**10.03**	**12**	*i* P	**Pn**	**14 42 30.9**	**+1.7**
MATP				*i* S	**Sn**	**14 44 19.7**	**-2.3**
MATP	**Matopo**	**10.03**	**12**	*i* P	**Pn**	**14 42 30.9**	**+1.7**
MATP				*i* S	**Sn**	**14 44 19.7**	**-2.3**
BLWY	**Bulawayo**	**10.33**	**13**	*i* P	**Pn**	**14 42 35.7**	**+2.3**
BLWY				*i* S	**Sn**	**14 44 26.2**	**-3.1**
BLWY	**Bulawayo**	**10.33**	**13**	*i* P	**Pn**	**14 42 35.7**	**+2.3**
BLWY				*i* S	**Sn**	**14 44 26.2**	**-3.1**
I35NA	**TSUMEB INFRASO**	**13.53**	**323**	*i*		15 50 00.0	
	baz=152,slow=308,SNR=5.9						

PRE 01 14:40:46.5±1.1, 26°.45S×27°.48E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.06**	**298**	*e*P	Pg	14 40 47.9	+0.1
WDLM				*e*S	Sg	14 40 48.4	-0.2
WDLM				AML	AML	14 40 50.8	
	comp=Z,794nm,0.2s						
KLOF	**Kloof**	**0.15**	**49**	*e*P	Pg	14 40 50.1	+0.5
KLOF				*e*S	Sg	14 40 52.0	+0.4
KLOF				AML	AML	14 41 08.6	
	comp=Z,135nm,0.1s						
PRYS	**Parys**	**0.48**	**193**	*e*P	Pg	14 40 56.1	+0.3
PRYS				*e*S	Sg	14 41 02.5	+0.4
PRYS				AML	AML	14 41 03.7	
	comp=Z,53nm,0.1s						
ERPM	**east rand prop**	**0.69**	**81**	*e*P	Pg	14 41 00.4	+0.6
ERPM				*e*S	Sg	14 41 09.3	+0.6
ERPM				AML	AML	14 41 17.1	
	comp=Z,11nm,0.2s						
KSR	**Koster**	**0.79**	**319**	*e*P	Pg	14 41 00.8	-0.9
KSR				*e*S	Sg	14 41 12.6	+0.6
KSR				AML	AML	14 41 15.8	
	comp=Z,115nm,0.1s						

*SNET **01** 14:46:26.1±1.3, 14°.48N×89°.16W, h1km±3km, ML3.0*
*GCG **01** 14:46:27.3±0.4, 14°.66N×89°.10W, h21km±6km, MD3.5*
ISC 01 14:46:25.0±1.3, 14°.53N±0°.05×89°.06W±0°.04, h11km±9km, n20, σ1§73/28, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.27**	**276**	⇑*i*P	**Pg**	**14 46 30.6**	**-0.1**
ESQI				*e*S	**Sg**	**14 46 34.4**	**-0.1**
MTO3	**Montecristo**	**0.32**	**246**	⇓*i*P	**Pg**	**14 46 31.5**	**-0.1**
MTO3				*e*S	**Sg**	**14 46 35.6**	**-0.4**
LFU	**La Fuente**	**0.78**	**184**	*e*P	**Pb**	**14 46 41.0**	**+0.4**
LBRS	**Las Brisas**	**0.79**	**179**	*e*P	**Pn**	**14 46 41.3**	**-0.9**
MRL	**Marmol**	**0.81**	**312**	*e*P	**Pb**	**14 46 41.2**	**-0.2**
MRL				*e*S	**Sb**	**14 46 52.0**	**-0.4**
BOQS	**Boqueron**	**0.82**	**195**	*e*P	**Pb**	**14 46 41.5**	**+0.1**
PAVA	**Las Pavas**	**0.82**	**172**	*e*P	**Pn**	**14 46 42.0**	**-0.7**
PAVA				*e*S	**Sn**	**14 46 53.7**	**-1.1**
PAVA				IAML		14 46 58.9	
	comp=Z,626nm,0.3s						
RTR	**El Retiro**	**0.85**	**222**	*e*P	**Pb**	**14 46 41.7**	**-0.2**
SBLS	**San Blas**	**0.88**	**218**	*e*P	**Pb**	**14 46 42.2**	**-0.3**
CEVE	**Cerro Verde**	**0.89**	**218**	*e*P	**Pb**	**14 46 42.5**	**-0.1**
CEVE				*e*S	**Sb**	**14 46 55.2**	**+0.7**
CEVE				IAML		14 46 59.7	
	comp=Z,580nm,0.3s						
LFRS	**El Faro**	**0.90**	**180**	*e*P	**Pn**	**14 46 43.5**	**-0.3**
COEG	**Centro de Oper**	**0.92**	**169**	*e*P	**Pn**	**14 46 43.8**	**-0.2**
COEG				*e*S	**Sn**	**14 46 56.8**	**-0.5**
COEG				IAML		14 47 02.4	
	comp=Z,667nm,0.4s						
NUBE	**Las Nubes**	**0.94**	**228**	*e*P	**Pg**	**14 46 43.0**	**-0.1**
LALI	**Alcalda de L**	**1.07**	**194**	*e*P	**Pn**	**14 46 45.7**	**-0.2**
COEB	**Comit de Eme**	**1.15**	**153**	*e*P	**Pn**	**14 46 47.7**	**+0.5**
COEB				IAML		14 47 10.7	
	comp=Z,492nm,0.3s						
NBG	**Las Nubes**	**1.25**	**273**	*e*P	**Pg**	**14 46 49.7**	**+0.6**
NBG				*e*S	**Sn**	**14 47 07.0**	**+1.5**
IXG	**Ixpaco**	**1.38**	**255**	*e*P	**Pg**	**14 46 51.7**	**0.0**
JUCU	**Jucuar¡n**	**1.50**	**148**	*e*P	**Pg**	**14 46 53.4**	**-0.4**
CNCH	**Conchagua**	**1.73**	**136**	*e*P	**Pg**	**14 46 57.4**	**-0.8**
CNCH				*e*S	**Sg**	**14 47 22.9**	**+2.3**
FUG	**Fuego 3**	**1.73**	**267**	*e*P	**Pb**	**14 46 56.4**	**-0.5**

*IDC **01** 15:02:55.0±0.9, 5°.16N×127°.54E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/36, mbtmp3.8/8, MS2.7/1, Ms1 2.7/1, ms1mx2.3/31, Error ellipse: s-maj=67.5km s-min=16.1km az=72.0*
*MAN **01** 15:02:55.0, 5°.53N×127°.92E, h1km, MS4.5*
*NEIC **01** 15:03:02.1±1.6, 5°.2N±0°.1×127°.6E±0°.1, h56km±10km, mb4.2/16, Error ellipse: s-maj=22.2km s-min=17.0km az=67.0*
ISC 01 15:02:56.2±0.8, 5°.28N±0°.08×127°.85E±0°.09, h10km, n30, σ1§97/31, mb4.0/13, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.28**	**291**	*e*P	**Pn**	**15 03 34.3**	**+0.4**
DDMP				*e*S	**Sn**	**15 04 00.5**	**-1.7**
MATI	**Mati**	**2.29**	**316**	*e*P	**Pn**	**15 03 32.7**	**-1.4**
KCP	**Kidapawan**	**3.24**	**302**	⇓*e*P	**Pn**	**15 03 47.8**	**+0.6**
KCP				*i* S	**Sn**	**15 04 25.8**	**0.0**
SKMP	**Bagumbayan, Su**	**3.52**	**291**	*e*P	**Pn**	**15 03 51.2**	**+0.3**
SKMP				*e*S	**Sn**	**15 04 34.9**	**+2.3**
MYLDM	**Lahad Datu**	**9.32**	**270**	Pn	**Pn**	**15 05 11.9**	**+1.3**
KAPI	**Kappang**	**13.04**	**218**	Pn	**Pn**	**15 06 00.9**	**-0.8**
SBUM	**Sibu**	**15.85**	**260**	P	**P**	**15 06 41.9**	**-1.5**
SBUM				IAmb	IAmb	15 07 30.7	
	comp=Z,17nm,0.8s						
KSM	**Kuching**	**17.92**	**258**		**P**	**15 07 06.1**	**-0.2**
GUMO	**Guam**	**18.69**	**63**	LR	LR	15 14 01.6	
	comp=Z,22nm,19.5s,baz=132,slow=35						
WB0	**Warramunga Arr**	**25.71**	**166**	P	**P**	**15 08 26.9**	**0.0**
WRAB	**Tennant Creek**	**25.86**	**166**	P	**P**	**15 08 28.1**	**0.0**
WRA	**Warramunga Arr**	**25.87**	**166**	P	**P**	**15 08 28.0**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=343,slow=10,SNR=12						
WB2	**Warramunga Arr**	**25.87**	**166**	P	**P**	**15 08 28.2**	**-0.1**
WR0	**Warramunga Arr**	**25.93**	**165**	P	**P**	**15 08 28.1**	**-0.7**
ASAR	**Alice Springs**	**29.37**	**169**	P	**P**	**15 08 59.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=352,slow=7.5,SNR=16						
ASAR				PcP	**PcP**	**15 12 05.7**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=335,slow=1.5,SNR=2.8						
USA0B	**Ussuriysk Arra**	**38.93**	**5**	P	**P**	**15 10 23.4**	**+1.2**
USA0B				IAmb	IAmb	15 11 16.0	
	comp=Z,3.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**38.93**	**5**	P	**P**	**15 10 23.5**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=185,slow=7.7,SNR=6.3						
STKA	**Stephens Creek**	**39.20**	**161**	P	**P**	**15 10 25.2**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=332,slow=6.7,SNR=5.4						
STKA	**Stephens Creek**	**39.20**	**161**	IAmb	IAmb	15 10 26.9	
	comp=Z,6.5nm,1.6s						
SONM	**Songino Array**	**46.21**	**340**	P	**P**	**15 11 22.6**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=153,slow=9.7,SNR=2.3						
MK31	**Makanchi Array**	**56.94**	**324**	P	**P**	**15 12 40.7**	**-1.0**
MK31				IAmb	IAmb	15 12 53.6	
	comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	**56.94**	**324**	P	**P**	**15 12 41.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=124,slow=8.3,SNR=18						
MKAR	**Makanchi Array**	**56.94**	**324**	P	**P**	**15 12 40.8**	**-1.0**
MAKZ	**Makanchi**	**57.13**	**324**	P	**P**	**15 12 42.0**	**-1.1**
MAKZ				IAmb	IAmb	15 12 43.8	
	comp=Z,1.5nm,0.8s						
KDJ	**Kajisay**	**57.96**	**317**	P	**P**	**15 12 48.7**	**-0.5**
ZALV	**Zalesovo Beam**	**59.73**	**332**	P	**P**	**15 13 01.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=148,slow=8.4,SNR=2.0						
KK31	**Karatay Array**	**62.88**	**316**		**P**	**15 13 21.5**	**-1.1**
KK31				IAmb	IAmb	15 13 23.3	
	comp=Z,1.5nm,0.8s						
BRVK	**Borovoye**	**66.72**	**326**	P	**P**	**15 13 47.3**	**-0.2**
BRVK				IAmb	IAmb	15 13 48.7	
	comp=Z,1.9nm,0.6s						
GEYT	**Alibeck**	**70.81**	**308**	P	**P**	**15 14 13.1**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=98,slow=5.0,SNR=2.8						
GEYT	**Alibeck**	**70.81**	**308**	IAmb	IAmb	15 14 14.1	
	comp=Z,1.2nm,0.7s						

VAO 01 15:08:20.9±2.7, 11°.08S×76°.00W, h15km±17km, mb4.3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**4.66**	**45**	*e*P	Pn	15 09 31.5	+0.8
LPAZ	**La Paz**	**9.24**	**125**	*e*P	Pn	15 10 33.5	-0.7
ETMB	**Extrema**	**9.71**	**83**	*e*P	Pn	15 10 39.6	-0.6
OTAV	**Otavalo**	**11.50**	**348**	*e*P	Pn	15 11 04.4	-0.8
LVC	**Limon Verde**	**13.32**	**150**	*e*P	Pn	15 11 29.9	0.0
VILB	**Vilhena**	**15.57**	**98**	*e*P	Pn	15 11 59.8	-0.3
PTLB	**Pontes e Lacer**	**16.98**	**107**	*e*P	Pn	15 12 17.4	-0.7
MACA	**Manacapuru-AM**	**17.11**	**64**	*e*P	Pn	15 12 19.9	+0.2
SDV	**Santo Domingo**	**20.54**	**15**	*e*P	P	15 12 59.5	+0.3
CPUP	**Villa Florida**	**23.25**	**133**	*e*P	P	15 13 28.2	+0.2
MALB	**Monte Alegre**	**23.44**	**69**	*e*P	P	15 13 29.8	-0.1
ARAG	**Araguaiana, MT**	**23.97**	**104**	*e*P	P	15 13 35.0	0.0
PCMB	**Pacaembu**	**25.91**	**117**	*e*P	P	15 13 52.2	-0.4
MAN01	**Angra dos Reis**	**32.73**	**115**	*e*P	P	15 14 53.6	+0.2
VAS01	**Vassouras-RJ**	**33.04**	**114**	*e*P	P	15 14 56.9	+0.8

*IDC **01** 15:58:48.7±1.9, 43°.63N×45°.19E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/37, mbtmp3.6/4, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.2/46, Error ellipse: s-maj=35.3km s-min=8.8km az=168.0*
*TIF **01** 15:58:50.5, 43°.68N×45°.23E, h16km±2km*
*NORS **01** 15:58:50.9±0.0, 43°.64N×45°.34E, h26km, MPVA4.3*
*MOS **01** 15:58:51.6±0.0, 43°.66N×45°.23E, h22km, MPVA4.3*
*DRS **01** 15:58:54.1±0.0, 43°.15N×45°.31E, h12km*
ISC 01 15:58:52.5±1.0, 43°.68N±0°.02×45°.25E±0°.02, h32km±9km, n98, σ1§98/161, 1C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.38**	**276**	*e*Pg	**Pn**	**15 59 01.1**	**-0.6**
TRKR				*e*Sg	**Sn**	**15 59 07.3**	**-0.6**
TRKR	**Terskaya**	**0.38**	**276**	⇑*i*PG	**Pn**	**15 59 01.2**	**-0.5**
TRKR				*e*S	**Sn**	**15 59 08.9**	**+1.0**
BTKR	**Batakoyurt**	**0.60**	**239**	*e*Pg	**Pn**	**15 59 04.1**	**-0.8**
BTKR				*e*Sg	**Sn**	**15 59 13.4**	**0.0**
BTKR	**Batakoyurt**	**0.60**	**239**	*e*PG	**Pn**	**15 59 04.8**	**0.0**
BTKR				*e*S	**Sn**	**15 59 15.0**	**+1.5**
GROC	**Groznyy**	**0.63**	**140**	*e*Pg	**Pb**	**15 59 03.8**	**-1.3**
GROC				*e*Sg	**Sn**	**15 59 13.5**	**-0.5**
GROC	**Groznyy**	**0.63**	**140**	*e*PG	**Pb**	**15 59 03.8**	**-1.3**
GROC				*e*S	**Sn**	**15 59 13.5**	**-0.5**
KMGR	**Komgaron**	**0.69**	**204**	*i* Pg	**Pb**	**15 59 05.0**	**-1.1**
KMGR				*e*Sg	**Sn**	**15 59 15.8**	**+0.2**
KMGR	**Komgaron**	**0.69**	**204**	*i* PG	**Pb**	**15 59 05.0**	**-1.1**
KMGR				*e*S	**Sn**	**15 59 15.8**	**+0.2**
PRTR	**Priterechnaya**	**0.70**	**276**	*i* Pg	**Pn**	**15 59 07.2**	**+1.0**
PRTR				*e*Sg	**Sn**	**15 59 18.9**	**+2.9**
PRTR	**Priterechnaya**	**0.70**	**276**	*i* PG	**Pn**	**15 59 07.2**	**+1.0**
PRTR				*e*S	**Sn**	**15 59 18.9**	**+2.9**
VLKR	**Vladikavkaz**	**0.76**	**213**	*e*Pg	**Pn**	**15 59 06.8**	**-0.2**
VLKR				*e*Sg	**Sn**	**15 59 18.3**	**+0.8**
VLKR	**Vladikavkaz**	**0.76**	**213**	*e*PG	**Pn**	**15 59 07.0**	**-0.1**
VLKR				*e*S	**Sn**	**15 59 18.5**	**+1.0**
ARNR	**Ardon**	**0.86**	**235**	*e*Pg	**Pn**	**15 59 09.1**	**+0.6**
ARNR				*e*Sg	**Sn**	**15 59 21.4**	**+1.4**
ARNR	**Ardon**	**0.86**	**235**	*e*PG	**Pn**	**15 59 09.1**	**+0.6**
ARNR				*e*S	**Sn**	**15 59 21.4**	**+1.4**
STDR	**Stavd-Durt**	**0.92**	**250**	*e*Pg	**Pn**	**15 59 10.8**	**+1.6**
STDR				*e*Sg	**Sn**	**15 59 25.7**	**+4.5**
STDR	**Stavd-Durt**	**0.92**	**250**	*e*PG	**Pn**	**15 59 10.8**	**+1.6**
STDR				*e*S	**Sn**	**15 59 25.7**	**+4.5**
KORR	**Kora**	**1.05**	**236**	*e*Pg	**Pn**	**15 59 12.1**	**+1.1**
KORR				*e*Sg	**Sn**	**15 59 28.6**	**+4.1**
KORR	**Kora**	**1.05**	**236**	*e*PG	**Pn**	**15 59 12.1**	**+1.1**
KORR				*e*S	**Sn**	**15 59 28.6**	**+4.1**
LSNR	**Lesken**	**1.11**	**249**	*e*Pg	**Pb**	**15 59 13.5**	**+0.3**
LSNR				*e*Sg	**Sn**	**15 59 29.5**	**+3.4**
LSNR	**Lesken**	**1.11**	**249**	⇓*i*PG	**Pb**	**15 59 13.8**	**+0.6**
LSNR				*e*S	**Sn**	**15 59 31.1**	**+5.0**
PNSH	**Pansheti**	**1.15**	**204**	PG	**Pn**	**15 59 12.1**	**-0.4**
PNSH				S	**Sn**	**15 59 28.4**	**+1.3**
PNSH	**Pansheti**	**1.15**	**204**	P	**Pn**	**15 59 12.1**	**-0.4**
PNSH	

GOF	**Gofitskoye**	**2.09 312**	*e*PN	**Pb**	**15 59 27.4**	**-2.4**
GOF			*i* S	**Sb**	**15 59 54.2**	**-1.2**
TRLG	**Trialeti**	**2.30 202**	*e*PN	**Pb**	**15 59 30.1**	**-3.4**
TRLG			*e*Sn	**Sb**	**15 59 59.9**	**-1.7**
TRLG	**Trialeti**	**2.30 202**	PN	**Pb**	**15 59 30.1**	**-3.4**
TRLG			S	**Sb**	**15 59 59.9**	**-1.7**
TRLG	**Trialeti**	**2.30 202**	P	**Pb**	**15 59 30.1**	**-3.4**
TRLG			S	**Sb**	**15 59 59.9**	**-1.7**
DDFL	**Dedoflistskaro**	**2.33 164**	*e*Pn	**Pb**	**15 59 33.2**	**-0.6**
DDFL	**Dedoflistskaro**	**2.33 164**	PN	**Pb**	**15 59 33.2**	**-0.6**
DDFL	**Dedoflistskaro**	**2.33 164**	P	**Pb**	**15 59 33.2**	**-0.6**
KZRT	**Kazreti**	**2.38 196**	*e*Pn	**Pn**	**15 59 31.0**	**+1.7**
KZRT	**Kazreti**	**2.38 196**	PN	**Pn**	**15 59 31.0**	**+1.7**
KZRT	**Kazreti**	**2.38 196**	P	**Pn**	**15 59 31.0**	**+1.7**
DMNI	**Dmanisi**	**2.48 199**	PN	**Pn**	**15 59 31.9**	**+1.1**
DMNI	**Dmanisi**	**2.48 199**	P	**Pn**	**15 59 31.9**	**+1.1**
NVNR	**Nevinnomyssk**	**2.54 293**	*e*Pn	**Pn**	**15 59 33.3**	**+1.8**
NVNR			*e*Sn	**Sb**	**16 00 05.2**	**-3.0**
NVNR	**Nevinnomyssk**	**2.54 293**	*e*PN	**Pn**	**15 59 33.3**	**+1.8**
NVNR			*e*S	**Sb**	**16 00 05.2**	**-3.0**
DOMR	**Dombai**	**2.67 263**	*e*Pn	**Pn**	**15 59 35.5**	**+2.1**
DOMR			*e*Sn	**Sn**	**16 00 06.5**	**+1.8**
DOMR	**Dombai**	**2.67 263**	*e*PN	**Pn**	**15 59 35.5**	**+2.1**
DOMR			*e*S	**Sn**	**16 00 06.5**	**+1.8**
SEKA	**Sheki**	**2.86 149**	PN	**Pn**	**15 59 38.1**	**+2.1**
AKT	**Akhty**	**2.87 139**	*e*PN	**Pb**	**15 59 39.1**	**-3.9**
AKT	**Akhty**	**2.87 139**	*d i*PN	**Pb**	**15 59 39.2**	**-3.8**
ARXR	**Arkhyz**	**2.89 269**	*e*Pn	**Pn**	**15 59 39.0**	**+2.6**
ARXR			*e*Sn	**Sn**	**16 00 12.5**	**+2.4**
ARXR	**Arkhyz**	**2.89 269**	*e*PN	**Pn**	**15 59 39.0**	**+2.6**
ARXR			*e*S	**Sn**	**16 00 12.5**	**+2.4**
GANJ	**Ganja**	**3.14 165**	PN	**Pb**	**15 59 43.7**	**-3.9**
LABN	**Labinsk**	**3.39 288**	*e*Pn	**Pn**	**15 59 43.0**	**-0.2**
LABN			*e*Sn	**Sn**	**16 00 24.4**	**+2.0**
LABN	**Labinsk**	**3.39 288**	*e*PN	**Pn**	**15 59 43.0**	**-0.2**
LABN			*e*S	**Sn**	**16 00 24.3**	**+2.0**
RPOR	**Krasnaya Polya**	**3.61 272**	*e*PN	Pb	15 59 50.4	-5.3
RPOR			*e*S	**Sn**	**16 00 31.7**	**+3.9**
AKTO	**Aktyubinsk**	**11.01 48**	Pn	**Pn**	**16 01 27.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=230,slow=15,SNR=2.4					
AKTO			Sn	**Sn**	**16 03 24.4**	**-5.3**
	comp=Z,0.3nm,0.3s,baz=44,slow=21,SNR=2.4					
AKTO	**Aktyubinsk**	**11.01 48**	Pn	Pn	16 01 33.1	+5.4
	comp=Z,2.5nm,0.8s					
AKTO			Sn	**Sn**	**16 03 26.8**	**-2.9**
	comp=Z,4.0nm,0.7s					
AB31	**Akbulak array**	**11.56 56**	Pn	**Pn**	**16 01 36.6**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=247,slow=11					
AB31			Sn	**Sn**	**16 03 35.5**	**-7.5**
	comp=Z,1.4nm,0.5s,baz=243,slow=23					
ARU	**Arti**	**15.32 29**	Pn	**Pn**	**16 02 25.9**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=57,slow=19,SNR=1.8					
ARU			Sn	Sn	16 05 03.1	-12
	comp=Z,0.0nm,0.3s,baz=308,slow=21,SNR=1.4					
KLMR	**Klimovskoe**	**17.54 351**	*e*P	**P**	**16 02 57.4**	**+2.3**
KLMR			pmax	pmax		
	comp=Z,4.0nm,1.1s					
KLMR	**Klimovskoe**	**17.54 351**	*e*Pn	**P**	**16 02 57.5**	**+2.3**
KLMR			AMP		16 03 03.7	
	comp=Z,4.0nm,1.1s					
BVAR	**Borovoye Array**	**19.06 52**	P	**Pn**	**16 03 13.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=250,slow=13,SNR=2.6					
FINES	**FINESS Array B**	**21.12 334**	P	**P**	**16 03 36.0**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=135,slow=16,SNR=1.8					
FINES	**FINESS Array B**	**21.12 334**	P	**P**	**16 03 36.0**	**+1.8**
WSAR	**Wadi Sarin**	**23.19 147**	LR	LR	16 13 57.0	
	comp=Z,40nm,19.0s,baz=50,slow=39					
TORD	**Torodi Ar. Bea**	**48.11 244**	P	**P**	**16 07 30.3**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=35,slow=8.5,SNR=2.1					

*NCEDC **01** 16:10:37.4±2.1, 36°.98N±0°.008×121°.46W±0°.009, h6km±3km, Mwr3.4/4, Error ellipse: s-maj=1.1km s-min=1.0km az=153.0*

NEIC 01 16:10:37.4, 36°.98N×121°.46W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}**Nm;** M_{rr}-0.22; $M_{\theta\theta}$-0.76; $M_{\phi\phi}$0.98; $M_{r\theta}$-0.28; $M_{\theta\phi}$1.02; $M_{\phi r}$0.11; **Fault plane solution:** $M_0$1.39000×10^{14} **NP1:**ϕ_s68.61000°, δ79.68000°, λ_s-11.52000°. **NP2:**ϕ_s160.70000°, δ78.67000°, λ_s-169.47000°. **Principal axes:** T 1.4501, Plg1.0000°, Azm115.0000°; N -0.1357, Plg75.0000°, Azm207.0000°; P -1.3144, Plg15.0000°, Azm25.0000°; **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDC	**Canada Road**	**0.05**	**341**		Pg	16 10 38.7	-0.1
HCAM	**Canada Road**	**0.05**	**341**		Pg	16 10 40.5	+1.7
HFEM	**San Felipe**	**0.05**	**85**		Pg	16 10 38.5	-0.2
CSR	**Chase Ranch**	**0.10**	**258**		Pg	16 10 39.4	-0.1
GHS	**Gilroy Hot Spr**	**0.12**	**7**		Pg	16 10 39.7	-0.2
PACP	**Pacheco Peak**	**0.14**	**78**		Pg	16 10 40.2	-0.2
PACP					Sg	16 10 42.6	+0.3
HBTM	**San Juan Bauti**	**0.15**	**208**		Pg	16 10 41.0	+0.7
HLPM	**Lions Peak**	**0.15**	**295**		Pg	16 10 40.2	-0.2
CBC	**Chamberlain**	**0.17**	**253**		Pg	16 10 41.0	+0.3
HPCM	**Pacheco Lake**	**0.17**	**62**		Pg	16 10 40.6	-0.2
HJGM	**San Juan Grade**	**0.20**	**206**		Pg	16 10 41.7	+0.4
HJSM	**John Smith Roa**	**0.21**	**141**		Pg	16 10 41.6	+0.1
HTUM	**Tustin Road**	**0.21**	**223**		Pg	16 10 41.8	+0.3
HTUM					Sg	16 10 45.5	+1.2
SAO	**San Andreas Ge**	**0.21**	**176**		Sg	16 10 42.0	-2.5
SAO	**San Andreas Ge**	**0.21**	**176**	Pg	Pg	16 10 41.9	+0.2
HCOM	**Corn Cob Canyo**	**0.22**	**245**		Pg	16 10 42.1	+0.4
SLD	**San Luis Dam**	**0.22**	**64**		Pg	16 10 41.5	-0.2
SLD					Sg	16 10 44.9	+0.3
BSLM	**Silva Ranch**	**0.22**	**156**		Pg	16 10 42.2	+0.4
CADM	**Anderson Res.**	**0.23**	**325**		Pg	16 10 41.8	0.0
FRP	**Fremont Peak**	**0.23**	**185**		Pg	16 10 42.2	+0.3
BVYM	**Vineyard**	**0.23**	**170**		Pg	16 10 42.4	+0.5
SFJWR	**San Luis Fatjo**	**0.24**	**73**		Pg	16 10 42.0	-0.2
HERM	**Elkhorn Road**	**0.27**	**228**		Pg	16 10 43.0	+0.4
JLAB	**Laurel Hill**	**0.28**	**309**		Pg	16 10 42.8	-0.1
BCGM	**Cienega Road**	**0.29**	**160**		Pg	16 10 43.4	+0.4
JELB	**Ellicott, Sant**	**0.30**	**260**		Pg	16 10 43.5	+0.3
JELB					Sb	16 10 48.8	-1.6
BHRM	**Hodges Ranch**	**0.30**	**147**		Pg	16 10 43.3	+0.1
BSRM	**Salinas Radio**	**0.32**	**188**		Pg	16 10 43.6	+0.1
JHLM	**Holstrom Ranch**	**0.32**	**294**		Pg	16 10 43.5	-0.2
CCOB	**Coe Ranch Numb**	**0.33**	**329**		Pg	16 10 44.3	+0.6
CCOB					Sb	16 10 50.8	-0.5
BLRM	**Lewis Ranch**	**0.35**	**154**		Pg	16 10 44.7	+0.6
JSTM	**Santa Teresa H**	**0.35**	**311**		Pg	16 10 44.0	-0.1
AMC	**Almaden**	**0.35**	**300**		Pg	16 10 44.0	-0.3
BJOM	**Mount Johnson**	**0.37**	**161**		Pg	16 10 44.9	+0.3
ARN	**Arnold Ranch**	**0.37**	**352**		Pg	16 10 44.7	0.0
SCKWR	**San Luis Creek**	**0.38**	**57**		Pg	16 10 45.0	+0.3
SCKWR					Sb	16 10 51.2	-1.5
SCZ	**Santa Cruz**	**0.38**	**173**		Pg	16 10 44.6	-0.2
MHC	**Mount Hamilton**	**0.39**	**339**		Pg	16 10 45.0	0.0
MHC					Sg	16 10 51.1	+0.9
BEHM	**Elkhorn Ranch**	**0.39**	**143**		Pg	16 10 44.9	-0.1
JUMM	**Mount Umunhum**	**0.39**	**298**		Pg	16 10 44.6	-0.4
CMPM	**Mikes Peak**	**0.40**	**17**		Pg	16 10 45.0	-0.1
JRGM	**Rodeo Gulch Ro**	**0.41**	**278**		Pg	16 10 45.2	-0.1
BPCNC	**Pine Canyon**	**0.42**	**198**		Pg	16 10 45.8	+0.2
BEMM	**Emmet**	**0.43**	**137**		Pg	16 10 45.6	-0.2
BJCM	**Johnson Can.**	**0.43**	**172**		Pg	16 10 45.6	-0.2
SCCB	**Santa Clara Co**	**0.44**	**314**		Pg	16 10 45.9	-0.1
BVL	**Bear Valley**	**0.46**	**151**		Pg	16 10 46.4	+0.2
JJOM	**Saint Joseph's**	**0.47**	**299**		Pg	16 10 46.0	-0.5
CMMM	**Mount Mocho**	**0.48**	**357**		Pg	16 10 46.6	0.0
BAVM	**Antelope Valle**	**0.48**	**134**		Pg	16 10 46.5	-0.1
CMLM	**Mount Lewis**	**0.52**	**343**		Pg	16 10 47.5	+0.1
BBGB	**Big Mountain B**	**0.53**	**139**		Pg	16 10 47.5	0.0
HMOM	**Monterey**	**0.53**	**224**		Pg	16 10 47.4	0.0
BRMM	**Rolling Bench**	**0.53**	**106**		Pg	16 10 48.1	+0.4
BPIM	**Pinnacles**	**0.54**	**154**		Pg	16 10 47.5	-0.3
JBNB	**Ben Lomond Mou**	**0.57**	**285**		Pg	16 10 47.9	-0.5
BSGM	**Shirttail Gulc**	**0.59**	**163**		Pg	16 10 48.2	-0.5
HAST	**Hastings Reser**	**0.59**	**187**		Pg	16 10 48.6	-0.2
BSMM	**Soledad Missio**	**0.59**	**177**		Pg	16 10 48.8	0.0
BMSM	**Mercy Hot Spri**	**0.63**	**121**		Pg	16 10 49.4	0.0
CMJM	**Mission San Jo**	**0.63**	**329**		Pg	16 10 49.5	0.0
MOBB	**Monterey Bay O**	**0.63**	**243**		Pg	16 10 49.9	+0.4
LRV	**Little Rabbit**	**0.66**	**147**		Pg	16 10 50.6	+0.5
BCWM	**Chews Ridge**	**0.68**	**187**		Pg	16 10 50.2	-0.2
WENL	**Wente Vineyard**	**0.68**	**340**		Pg	16 10 50.6	+0.1
JJRM	**Joaquin Road**	**0.69**	**302**		Pg	16 10 50.1	-0.6
JFP	**Foothills Park**	**0.69**	**304**		Pg	16 10 50.2	-0.5
JSFB	**Stanford Teles**	**0.71**	**307**		Pg	16 10 50.7	-0.4
CVLM	**Vallecito**	**0.71**	**335**		Pg	16 10 51.4	+0.4
JPSM		**0.74**	**288**		Pg	16 10 51.5	-0.2
CNIC	**Niles Canyon**	**0.74**	**328**		Pg	16 10 51.5	-0.2
JRSC	**Jasper Ridge**	**0.75**	**305**		Pg	16 10 51.0	-0.8
CYD1	**Coyote D'meter**	**0.77**	**319**		Pg	16 10 52.0	-0.2
BGH	**Bear Gulch**	**0.79**	**298**		Pg	16 10 51.9	-0.6
PBWM	**Bitterwater Cr**	**0.79**	**147**		Pg	16 10 52.5	-0.1
PHRM	**Hernandez Vall**	**0.80**	**139**		Pg	16 10 52.3	-0.4
CDOM	**Doolan Road**	**0.81**	**339**		Pg	16 10 53.3	+0.4
LRC	**Lone Oak Road**	**0.81**	**155**		Pg	16 10 52.4	-0.5
BAPM	**Anderson Peak**	**0.81**	**190**		Pg	16 10 52.6	-0.5
JHPM	**Huddart Park**	**0.81**	**305**		Pg	16 10 52.3	-0.7
CBSNC	**Byron Hot Spri**	**0.85**	**350**		Pb	16 10 54.3	-0.3
C055	**Cottonwood Ave**	**0.85**	**323**		Pg	16 10 53.5	-0.2
CMORB	**Morgan Territo**	**0.87**	**342**		Pg	16 10 54.2	+0.1
CLCB	**Lake Chabot**	**0.90**	**328**		Pg	16 10 54.3	-0.3
JCHM	**Cahill Ridge**	**0.90**	**307**		Pg	16 10 53.6	-1.1
CSLM	**San Leandro Hi**	**0.91**	**325**		Pg	16 10 54.2	-0.6
JCPM	**Coyote Point**	**0.92**	**312**		Pg	16 10 54.0	-0.9
PCCM	**Crazy Canyon**	**0.92**	**165**		Pg	16 10 54.6	-0.4
MYLM	**Yosemite Lake**	**0.93**	**64**		Pg	16 10 54.4	-0.8
PMPB	**Monarch Peak**	**0.93**	**145**		Pg	16 10 55.1	-0.2
BGC	**Bolinger Road**	**0.96**	**331**		Pg	16 10 55.3	-0.5
CRHM	**Round Hill Res**	**0.97**	**335**		Pg	16 10 55.8	-0.3
CMCM	**Mills College**	**0.98**	**325**		Pg	16 10 55.4	-0.8
SMCB	**Saint Mary's C**	**1.00**	**329**		Pg	16 10 56.2	-0.4
BDM	**Black Diamond**	**1.02**	**342**		Pg	16 10 56.2	-0.8
JMGM	**Milagra Ridge**	**1.04**	**310**		Pg	16 10 55.6	-1.7
PSAM	**San Ardo**	**1.06**	**154**		Pg	16 10 56.9	-0.9
PAPM	**Alder Peak**	**1.07**	**176**		Pg	16 10 56.8	-1.1
BKS	**Berkeley--Byer**	**1.09**	**326**		Pg	16 10 56.9	-1.4
BRIB	**Briones**	**1.09**	**330**		Pg	16 10 57.1	-1.2
CVPM	**Vollmer Peak**	**1.09**	**326**		Pg	16 10 57.0	-1.3
PDRM	**Domengine Ranc**	**1.09**	**126**		Pg	16 10 57.5	-0.8
BL67	**Building 67, L**	**1.09**	**325**		Pg	16 10 57.1	-1.3
VAK	**Adit at Lawren**	**1.09**	**325**		Pg	16 10 57.3	-1.1
BRK	**Berkeley--Havi**	**1.09**	**325**		Pg	16 10 57.7	-0.8
CYBM	**Yerba Buena Is**	**1.10**	**320**		Pg	16 10 56.8	-1.6
CTAM	**Taylor**	**1.13**	**337**		Pg	16 10 57.9	-1.3
JPRM	**Presidio of Sa**	**1.15**	**316**		Pg	16 10 57.3	-2.1
PSMM	**Smith Mountain**	**1.15**	**142**		Pg	16 10 59.0	-0.4
PARM	**Anticline Ridg**	**1.16**	**129**		Pg	16 10 58.7	-0.9
CPIM	**Pinole Ridge**	**1.17**	**330**		Pg	16 10 58.6	-1.3
CSPM	**San Pablo Ridg**	**1.19**	**326**		Pg	16 10 58.6	-1.6
MCUB	**Copperopolis B**	**1.20**	**34**		Pg	16 10 58.6	-1.8
PHPM	**Hope Ranch**	**1.21**	**145**		Pg	16 10 59.2	-1.4
CPMM	**Point Molate**	**1.23**	**322**		Pg	16 10 58.8	-2.2
NLHM	**Lake Herman**	**1.26**	**335**		Pg	16 11 00.1	-1.5
MHDM	**Hidden Dam**	**1.26**	**83**		Pg	16 10 59.6	-2.0
PKD	**Bear Valley Ra**	**1.27**	**144**		Pg	16 10 59.8	-2.0
MNHB	**Near Hogan Dam**	**1.27**	**24**		Pg	16 10 59.6	-2.3
PANM	**San Antonio Re**	**1.28**	**159**		Pg	16 11 00.1	-1.9
PVCM	**Vineyard Canyo**	**1.29**	**144**		Pn	16 11 00.5	-1.7
PSTM	**Stockdale Moun**	**1.30**	**143**		Pn	16 11 00.4	-1.9
PPO	**Portuguese Can**	**1.30**	**148**		Pn	16 11 00.8	-1.5
PHCM	**Hearst Castle**	**1.32**	**169**		Pn	16 11 00.5	-2.0
CMB	**Columbia Colle**	**1.36**	**39**		Pn	16 11 01.3	-1.8
CMB	**Columbia Colle**	**1.36**	**39**	Pn	Pn	16 11 01.1	-2.0
CTM	**Castle Mountai**	**1.39**	**139**		Pn	16 11 03.0	-0.5
FRI	**Friant**	**1.41**	**89**		Pn	16 10 59.8	-3.9
FARB	**Farallon Islan**	**1.42**	**301**		Pn	16 11 01.0	-2.8
RAMR	**Ramage Ranch**	**1.42**	**160**		Pn	16 11 02.2	-1.7
PKEM	**Kettleman Hill**	**1.43**	**130**		Pn	16 11 03.0	-1.0
PHAM	**Harlan Ranch**	**1.43**	**143**		Pn	16 11 02.6	-1.5
SNT	**Sears Point**	**1.44**	**327**		Pn	16 11 01.9	-2.2
MMIM	**Miami Mountain**	**1.44**	**72**		Pn	16 11 03.0	-1.3
PCMM	**Cholame Hills**	**1.45**	**144**		Pn	16 11 02.9	-1.4
GHC	**Gold Hill**	**1.46**	**142**		Pn	16 11 02.8	-1.5
PSRM	**Scobie Ranch**	**1.47**	**139**		Pn	16 11 03.6	-1.0
AASM	**Arroyo Seco**	**1.48**	**11**		Pn	16 11 03.2	-1.4
PCBM	**Cambria**	**1.49**	**167**		Pn	16 11 02.9	-2.0
BLDC	**Black Mountain**	**1.51**	**162**		Pn	16 11 03.4	-1.8
BLDC	**Black Mountain**	**1.51**	**162**		Pn	16 11 03.3	-1.8
PSNM	**Stone Corral**	**1.52**	**141**		Pn	16 11 04.0	-1.2
NADM	**Allendale**	**1.53**	**345**		Pn	16 11 04.6	-0.8
PMRM	**Maxey Ranch**	**1.55**	**140**		Pn	16 11 04.7	-1.0
ARDC	**Alexander Ranc**	**1.56**	**165**		Pn	16 11 03.6	-2.2
CVS	**Carmenet Viney**	**1.58**	**330**		Pn	16 11 03.7	-2.4
PAGB	**Antelope Grade**	**1.58**	**141**		Pn	16 11 04.4	-1.7
NAPC	**Atlas Peak**	**1.59**	**337**		Pn	16 11 04.2	-2.0
NPRM	**Point Reyes**	**1.60**	**310**		Pn	16 11 03.9	-2.5
MCCM	**Marconi Confer**	**1.62**	**316**		Pn	16 11 03.8	-2.8
MCCM	**Marconi Confer**	**1.62**	**316**	Pn	Pn	16 11 03.6	-3.0
NTYM	**Taylor**	**1.70**	**326**		Pn	16 11 05.6	-2.1
NBPM	**Berryessa Peak**	**1.78**	**341**		Pn	16 11 07.4	-1.4
NSHM	**Saint Helena R**	**1.79**	**330**		Pn	16 11 06.5	-2.5
PBPM	**Bitterwater Pu**	**1.79**	**141**		Pn	16 11 07.8	-1.2
VPDC	**Valencia Peak**	**1.80**	**164**		Pn	16 11 07.5	-1.7
DPD	**Davis Peak**	**1.83**	**162**		Pn	16 11 07.9	-1.6
MAC	**Mark West Spri**	**1.86**	**328**		Pn	16 11 08.0	-1.9
NHSM	**Mount Saint He**	**1.91**	**332**		Pn	16 11 08.3	-2.4
NMCNC	**Mill Creek, So**	**1.98**	**325**		Pn	16 11 09.0	-2.6
HELL	**Mitchell Peak,**	**1.98**	**98**		Pn	16 11 10.1	-1.6
NMTM	**Middletown**	**1.98**	**337**		Pn	16 11 10.2	-1.4
AFDM	**Forest Hills D**	**2.00**	**11**		Pn	16 11 10.7	-1.2
GAXM	**Alexander Vall**	**2.01**	**330**		Pn	16 11 09.4	-2.5
MDPB	**Devils Postpil**	**2.01**	**70**		Pn	16 11 12.0	-0.3
MRDM	**Red Cones**	**2.02**	**71**		Pn	16 11 12.7	+0.3
MINS	**Minaret Summit**	**2.03**	**70**		Pn	16 11 12.9	+0.3
MRHM	**Rocky Hill**	**2.03**	**109**		Pn	16 11 12.2	-0.2
MMPM	**Mammoth Pass**	**2.04**	**71**		Pn	16 11 13.1	+0.3
FTR	**Fort Ross**	**2.04**	**319**		Pn	16 11 10.2	-2.3
GCRM	**Castle Rock Sp**	**2.05**	**331**		Pn	16 11 10.0	-2.6
MNRC	**McLaughlin Min**	**2.05**	**338**		Pn	16 11 11.3	-1.2
MLIM	**Lincoln Peak**	**2.06**	**71**		Pn	16 11 13.5	+0.5
MDCM	**Deadman Creek**	**2.06**	**69**		Pn	16 11 13.7	+0.7
OMMB	**Old Mammoth Mi**	**2.06**	**71**		Pn	16 11 12.7	-0.4
GBGM	**Boggs Mountain**	**2.07**	**333**		Pn	16 11 10.9	-2.0
MDYM	**Dry Creek**	**2.07**	**70**		Pn	16 11 14.0	+0.9
GGPM	**Geyser Peak**	**2.09**	**329**		Pn	16 11 10.8	-2.4
MMLB	**Mammoth Lakes**	**2.09**	**70**		Pn	16 11 14.3	+0.8
GDXM	**Geysers**	**2.11**	**340**		Pn	16 11 10.8	-2.6
LUL	**Lundy Lake**	**2.11**	**59**		Pn	16 11 13.8	+0.2
BCH	**Branch Mountai**	**2.11**	**148**		Pn	16 11 11.9	-1.6
GSSM	**Skaggs Springs**	**2.11**	**325**		Pn	16 11 10.3	-3.1
CARC	**Carrizo Plain**	**2.12**	**141**		Pn	16 11 12.3	-1.3
GSGM	**Seigler Mounta**	**2.13**	**333**		Pn	16 11 12.2	-1.4
MEMM	**East Mammoth H**	**2.13**	**70**		Pn	16 11 14.8	+0.9
GHCM	**House Creek**	**2.13**	**320**		Pn	16 11 11.4	-2.3
MLCM	**Laurel Creek C**	**2.13**	**72**		Pn	16 11 14.4	+0.4
MGPM	**Gravel Pit**	**2.14**	**72**		Pn	16 11 14.8	+0.8
MCSM	**Casa Diablo Ho**	**2.15**	**71**		Pn	16 11 15.1	+0.9
MCBM	**Casa Benchmark**	**2.15**	**71**		Pn	16 11 15.1	+0.9
MCMM	**Convict Lake**	**2.16**	**72**		Pn	16 11 14.7	+0.4
GCVM	**Cloverdale**	**2.17**	**326**		Pn	16 11 11.9	-2.2
MCVM	**Convict Lake**	**2.19**	**73**		Pn	16 11 14.9	+0.2
GACM	**Adobe Creek**	**2.19**	**330**		Pn	16 11 13.1	-1.4
MLAC	**Mammoth, Mammo**	**2.19**	**72**		Pn	16 11 16.0	+1.2
MDRNC	**Doe Ridge**	**2.20**	**72**		Pn	16 11 15.0	+0.2
WAKR	**Walker**	**2.21**	**46**		Pn	16 11 15.3	+0.3
CRGC	**Crocker Grade**	**2.23**	**140**		Pn	16 11 14.7	-0.5
SCHCA	**Scheelite**	**2.25**	**79**		Pn	16 11 16.0	+0.5
SUTB	**Sutter Butte**	**2.26**	**354**		Pn	16 11 13.8	-1.7
SPG2	**Springville 2**	**2.31**	**109**		Pn	16 11 14.5	-1.6
RUBR	**Rubicon Trail**	**2.31**	**26**		Pn	16 11 16.3	-0.1
ORC	**Owens River**	**2.33**	**73**		Pn	16 11 18.1	+1.5
MTUM	**Tungsten Hills**	**2.35**	**80**		Pn	16 11 17.7	+0.9
OHCM	**Honcut**	**2.35**	**360**		Pn	16 11 16.6	-0.1
MGNR	**McGee Canyon**	**2.36**	**68**		Pb	16 11 18.8	-1.7
HOPS	**Hopland Field**	**2.38**	**328**	Pn	Pn	16 11 14.4	-2.6
GSNM	**Snow Mountain**	**2.39**	**326**		Pn	16 11 14.9	-2.3
GHLM	**Highland Sprin**	**2.40**	**330**		Pn	16 11 14.9	-2.5
BHPR	**Bishop**	**2.40**	**81**		Pn	16 11 18.5	+0.9
BFC	**Buffalo Canyon**	**2.41**	**37**		Pn	16 11 18.2	+0.5
MRCM	**Red Rock Canyo**	**2.46**	**73**		Pn	16 11 20.1	+1.7
MFBM	**Five Bridges**	**2.46**	**79**		Pn	16 11 20.2	+1.8
PAM	**Palermo**	**2.47**	**359**		Pn	16 11 18.3	+0.1
GGUM	**Gualala**	**2.47**	**320**		Pn	16 11 16.4	-2.0
HCK	**Huntoon Valley**	**2.53**	**64**		Pb	16 11 21.5	-1.8
DONR	**Donner Summit**	**2.54**	**20**		Pn	16 11 19.9	+0.5
MLNR	**Milner Canyon**	**2.56**	**75**		Pn	16 11 21.8	+2.0
PNTR	**Pine Nut**	**2.57**	**34**		Pn	16 11 19.3	-0.6
ORV	**Oroville**	**2.57**	**359**		Pn	16 11 20.1	+0.3
ORV	**Oroville**	**2.57**	**359**		Pn	16 11 19.6	-0.2
ORV	**Oroville**	**2.57**	**359**	Pn	Pn	16 11 19.0	-0.8
IND	**Independence**	**2.62**	**20**		Pn	16 11 21.6	+1.0
NJQ	**Nojoqui County**	**2.66**	**156**		Pb	16 11 25.1	-0.3
YERR	**Yerington**	**2.66**	**41**		Pn	16 11 20.6	-0.5
LHV	**Little Huntoon**	**2.67**	**61**		Pn	16 11 20.6	-0.4
VCNR	**Virginia City**	**2.72**	**31**		Pn	16 11 21.5	-0.4
ISA	**Isabella, Lake**	**2.75**	**118**	Pn	Pn	16 11 21.2	-1.1
RYN	**Ryan**	**2.85**	**54**		Pn	16 11 23.6	-0.2
NVAR	**Mina Array Bea**	**2.90**	**59**	Pn	Pn	16 11 24.0	-0.4
NV11	**Mina Array Sit**	**3.00**	**60**		Pn	16 11 25.4	-0.3
KCPM	**Cahto Peak**	**3.17**	**329**	Pn	Pn	16 11 26.5	-1.6
PAHR	**Pah Rah Range**	**3.18**	**30**		Pn	16 11 28.0	-0.2
KVN	**Kaiserville**	**3.37**	**51**	Pn	Pn	16 11 30.3	-0.5
KMRM	**Mail Ridge**	**3.68**	**332**	Pn	Pn	16 11 34.2	-0.9
WDC	**Whiskeytown Da**	**3.69**	**347**	Pn	Pn	16 11 34.8	-0.3
MWC	**Mount Wilson**	**3.91**	**134**	Pn	Pn	16 11 37.9	-0.3
GSC	**Goldstone, Bar**	**4.12**	**113**	Pn	Pn	16 11 40.2	-0.9
TPNV	**Topopah Spring**	**4.18**	**89**		Pn	16 11 42.0	0.0
KHMM	**Horse Mountain**	**4.27**	**336**	Pn	Pn	16 11 43.0	-0.2
R11A	**Troy Canyon, C**	**4.86**	**72**	Pn	Pn	16 11 50.0	-1.3
KRMB	**Red Mountain**	**4.92**	**338**	P

ABKAR	**Akbulak array**	60.70	319	P	**P**	**16 37 23.2**	**-0.9**
RND	**Reindeer**	78.03	27	P	**P**	**16 39 10.3**	**-0.1**
RND				IAmb	IAmb	16 41 07.3	
	comp=Z,13nm,1.6s						
ILAR	**Eielson Array**	78.71	26	P	**P**	**16 39 13.9**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=297,slow=4.0,SNR=2.5						
ARCES	**ARCESS Array B**	79.05	339	P	**P**	**16 39 15.4**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=75,slow=7.0,SNR=14						
ARE0	**ARCESS Array S**	79.05	339	P	**P**	**16 39 15.5**	**-0.2**
FINES	**FINESS Array B**	80.25	331	P	**P**	**16 39 23.8**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=90,slow=5.6,SNR=3.6						
NOA	**NORSAR Array B**	87.22	333	P	**P**	**16 39 56.8**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=68,slow=4.5,SNR=3.4						
VNA2	**Neumayer--Watz**	114.84	197	PKiKP	**PKiKP**	**16 45 50.0**	**-0.7**
VNA3	**Neumayer Olymp**	115.28	196	PKiKP	**PKiKP**	**16 45 50.8**	**-0.7**
TXAR	**Lajitas Array**	119.44	45	PKP	**PKiKP**	**16 46 01.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=156,slow=0.8,SNR=7.9						

*IDC **01** 16:42:47.4±1.8, 39.°19N×18.°66E, h0km, mb3.6/7, mb1 3.8/14, mb1mx3.6/45, mbtmp3.6/14, ML3.7/6, MS3.0/4, Ms1 3.0/4, ms1mx2.7/45, Error ellipse: s-maj=29.5km s-min=17.0km az=33.0*
*PDG **01** 16:42:48.7±0.3, 39.°26N×18.°85E, h10km±1km, ML3.7/13, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0*
*BEO **01** 16:42:49.0±1.5, 38.°96N×18.°77E, h37km±9km, ML3.9/2*
*ROM **01** 16:42:50.2±0.2, 39.°18N±0.°01×18.°81E±0.°02, h5km, ML3.6/15, Error ellipse: s-maj=1.8km s-min=1.1km az=321.0, hypocenter*
*THE **01** 16:42:51.5, 39.°24N×18.°89E, h0km±3km, ML3.8/9, Error ellipse: s-maj=4.5km s-min=1.1km az=293.0*

ISC 01 16:42:51.0±1.1, 39.°13N±0.°03×18.°81E±0.°02, h33km±6km, n123, σ1§87/154, mb3.6/7, 17C-9D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	0.96	53	P	**Pb**	**16 43 06.8**	**-2.3**
KEK				S	**Sn**	**16 43 20.9**	**+0.2**
	6μm,0.8s						
KEK	**Kerkira**	0.96	53	P	**Pn**	16 43 08.3	+0.1
KEK				S	**Sn**	16 43 21.8	+1.1
SCTE	**Santa Cesarea**	0.97	344	P	**Pn**	16 43 08.2	-0.2
SCTE				S	**Sn**	16 43 21.5	+0.4
SCTE				AML	AML		
	comp=E,9705μm,0.7s						
SCTE				AML	AML		
	comp=N,11150μm,0.7s						
SRN	**Sarande**	1.18	51	P	**Pn**	**16 43 10.9**	**-0.3**
SRN				S	**Sn**	**16 43 27.1**	**+0.9**
	comp=N,2μm,0.6s						
IGT	**Igoumenitsa**	1.24	71	P	**Pn**	16 43 12.4	+0.3
IGT				S	**Sb**	16 43 29.3	-0.4
	comp=N,2μm,0.8s						
IGT	**Igoumenitsa**	1.24	71	*e*Pg	**Pb**	16 43 14.0	+0.1
IGT				*e*Sg	**Sb**	16 43 30.5	+0.8
VLO	**Vlora**	1.43	21	P	**Pb**	16 43 15.9	-1.2
TSLK	**Tsoukalades, L**	1.47	102	P	**Pb**	16 43 17.9	+0.2
TSLK				S	**Sb**	16 43 38.1	+2.1
	comp=N,3μm,0.8s						
LKD2	**Lefkada island**	1.48	103	P	**Pb**	16 43 17.8	-0.1
LKD2				S	**Sb**	16 43 39.2	+2.8
	comp=N,3μm,0.5s						
FSK	**Fiskardo**	1.52	116	P	**Pb**	16 43 18.4	-0.2
FSK				S	**Sb**	16 43 41.5	+3.9
	comp=N,3μm,0.9s						
EVGI	**Lefkada island**	1.53	109	P	**Pb**	16 43 18.7	0.0
PIPA	**Pietrapaola**	1.59	283	P	**Pb**	16 43 19.0	-0.8
PIPA				AML	AML		
	comp=E,1146μm,0.6s						
PIPA				AML	AML		
	comp=E,1191μm,0.6s						
PIPA				AML	AML		
	comp=N,1007μm,1.1s						
PIPA				AML	AML		
	comp=E,1146μm,0.6s						
PIPA				AML	AML		
	comp=E,1190μm,0.6s						
PIPA				AML	AML		
	comp=N,1012μm,1.1s						
PIPA				AML	AML		
	comp=N,942μm,1.1s						
TIP	**Timpagrande**	1.60	272	⇑P	Pb	16 43 24.3	+4.3
TIP	**Timpagrande**	1.60	272	P	**Pb**	**16 43 19.6**	**-0.3**
TIP				AML	AML		
	comp=E,284μm,1.6s						
TIP				AML	AML		
	comp=N,306μm,0.9s						
TIP				AML	AML		
	comp=E,332μm,1.6s						
TIP				AML	AML		
	comp=N,391μm,1.3s						
TIP				AML	AML		
	comp=E,354μm,1.5s						
TIP				AML	AML		
	comp=N,392μm,1.3s						
TIP				AML	AML		
	comp=E,324μm,1.5s						
MESG	**Mesagne**	1.63	333	P	**Pn**	**16 43 17.6**	**+0.2**
MESG				S	**Sb**	**16 43 41.7**	**+1.0**
SERS	**Sersale**	1.66	267	P	**Pb**	**16 43 20.5**	**-0.4**
SERS				AML	AML		
	comp=E,435μm,1.3s						
SERS				AML	AML		
	comp=N,414μm,0.9s						
SERS				AML	AML		
	comp=N,465μm,0.7s						
SERS				AML	AML		
	comp=E,411μm,1.2s						
SERS				AML	AML		
	comp=N,466μm,0.7s						
VLS	**Valsamata**	1.69	124	P	**Pb**	**16 43 21.2**	**-0.2**
CELI	**Celico**	1.81	279	P	**Pb**	**16 43 22.2**	**-1.4**
GRI	**Girifalco**	1.89	261	AML	AML		
	comp=N,413μm,0.9s						
GRI				AML	AML		
	comp=E,386μm,1.1s						
PLAC	**Placanica**	1.98	251	P	**Pb**	**16 43 25.3**	**-1.1**
PLAC				AML	AML		
	comp=N,659μm,1.0s						
PLAC				AML	AML		
	comp=E,595μm,0.9s						
CAR1	**CAROLEI**	2.02	274	P	**Pb**	**16 43 25.8**	**-1.4**
SALB	**San Lorenzo Be**	2.05	292	P	**Pb**	**16 43 25.3**	**-2.3**
SALB				AML	AML		
	comp=E,531μm,0.9s						
SALB				AML	AML		
	comp=N,504μm,0.6s						
PENT	**Pentalofos**	2.08	59	P	**Pb**	**16 43 26.2**	**-2.0**
KPRO	**Kipourio**	2.14	67	P	**Pb**	**16 43 26.8**	**-2.3**
NEST	**Nestorio**	2.15	53	P	**Pb**	**16 43 26.9**	**-2.4**
PVO	**Paravola**	2.18	103	P	**Pb**	**16 43 28.3**	**-1.5**
T0702	**Acquaformosa (**	2.19	286	P	**Pb**	**16 43 28.9**	**-1.1**
T0702				AML	AML		
	comp=E,46μm,1.6s						
T0702				AML	AML		
	comp=N,340μm,1.5s						
MATE	**Matera**	2.22	314	⇑P	**Pb**	**16 43 31.4**	**+1.0**
MATE	**Matera**	2.22	314	⇑S	**Sb**	**16 44 02.3**	**+4.8**
CET2	**Cetraro**	2.25	281	P	**Pb**	**16 43 29.4**	**-1.7**
CET2				AML	AML		
	comp=E,970μm,0.7s						
CET2				AML	AML		
	comp=N,1340μm,0.8s						
RLS	**Riolos of Patr**	2.34	116	P	**Pb**	**16 43 30.8**	**-1.7**
RLS				S	**Sb**	**16 44 01.0**	**0.0**
	comp=N,690nm,0.8s						
EVR	**Evrytania**	2.34	94	P	**Pb**	**16 43 30.8**	**-1.8**
JOPP	**Joppolo**	2.34	258	P	**Pb**	**16 43 30.2**	**-2.4**
TIR	**Tirane**	2.35	20	*e*Pn	**Pn**	**16 43 28.1**	**+0.8**
TIR				*e*Sg	Sb	16 44 10.4	+9.0
SOI	**Samo**	2.41	245	P	**Pb**	**16 43 31.6**	**-2.1**
SOI				AML	AML		
	comp=E,568μm,0.8s						
SOI				AML	AML		
	comp=N,472μm,0.9s						
CEL	**Celeste**	2.44	250	P	**Pb**	**16 43 31.9**	**-2.4**
CEL				S	**Sb**	**16 44 02.8**	**-1.3**
ANX	**Ano Chora**	2.49	102	P	**Pb**	**16 43 33.3**	**-1.7**
ANX				S	**Sb**	**16 44 03.3**	**-2.0**
	comp=N,1μm,0.6s						
MPAZ	**Palizzi**	2.50	243	P	**Pb**	**16 43 32.2**	**-3.0**
MPAZ				AML	AML		
	comp=E,548μm,0.8s						
MPAZ				AML	AML		
	comp=N,432μm,0.7s						
EFP	**Efpalio**	2.52	105	P	**Pb**	**16 43 33.3**	**-2.2**
THL	**Klokotos Trika**	2.52	79	P	**Pb**	**16 43 33.0**	**-2.5**
GMB	**Gambarie**	2.53	249	P	**Pb**	**16 43 32.5**	**-3.3**
DRO	**Drossia**	2.56	117	P	**Pb**	**16 43 34.0**	**-2.2**
KZN	**Kozani**	2.56	62	P	**Pn**	**16 43 32.8**	**+2.5**
TRIZ	**Trizonia**	2.66	106	P	**Pb**	**16 43 35.5**	**-2.5**
AGG	**Agios Georgios**	2.74	91	P	**Pb**	**16 43 36.5**	**-2.8**
AGG				S	**Sb**	**16 44 08.8**	**-3.7**
	comp=N,768nm,0.7s						
SLCN	**Sala Consilina**	2.75	298	P	**Pb**	**16 43 36.9**	**-2.7**
SLCN				AML	AML		
	comp=E,883μm,1.6s						
SLCN				AML	AML		
	comp=N,897μm,1.6s						
SLCN				AML	AML		
	comp=N,661μm,0.7s						
SLCN				AML	AML		
	comp=E,798μm,0.9s						
ACER	**Acerenza**	2.75	308	AML	AML		
	comp=E,1131μm,0.7s						
ACER				AML	AML		
	comp=E,1063μm,0.7s						
ACER				AML	AML		
	comp=N,1130μm,1.5s						
ACER				AML	AML		
	comp=N,1210μm,0.6s						
ULC	**Ulcinj**	2.85	6	⇑*i*Pn	**Pn**	**16 43 33.9**	**-0.2**
ULC				*i* Sn	**Sn**	**16 44 08.2**	**+0.9**
MCSR	**Castroreale**	2.99	250	P	**Pb**	**16 43 39.9**	**-3.7**
MCSR				AML	AML		
	comp=E,398μm,1.0s						
MCSR				AML	AML		
	comp=N,432μm,1.2s						
DRME	**Dracevica, Mon**	3.06	5	⇓*i*Pn	**Pn**	**16 43 37.0**	**-0.1**
DRME				*i* Sn	**Sn**	**16 44 13.2**	**+0.6**
BUM	**Brajici-Budva**	3.17	1	⇑*i*Pn	**Pn**	**16 43 37.9**	**-0.7**
BUM				*i* Sn	**Sn**	**16 44 16.1**	**+0.9**
PDG	**Podgorica**	3.31	6	*e*Pn	**Pn**	**16 43 41.4**	**+0.9**
PDG	**Podgorica**	3.31	6	⇑P	**Pn**	**16 43 42.6**	**+2.1**
TTG	**Podgorica**	3.31	6	⇑*i*Pn	**Pn**	**16 43 39.7**	**-0.8**
TTG				*i* Sn	**Sn**	**16 44 19.0**	**+0.3**
HCY	**Herceg Novi**	3.32	356	⇑*i*Pn	**Pn**	**16 43 40.2**	**-0.4**
HCY				*i* Sn	**Sn**	**16 44 19.5**	**+0.6**
CEME	**Cevo**	3.41	1	⇓*i*Pn	**Pn**	**16 43 41.3**	**-0.6**
CEME				*i* Sn	**Sn**	**16 44 20.9**	**-0.4**
SSY	**Sortino**	3.55	237	P	**Pn**	**16 43 44.5**	**+0.7**
SSY				AML	AML		
	comp=N,480μm,0.6s						
SSY				AML	AML		
	comp=E,358μm,0.7s						
PVY	**Plav**	3.56	14	⇓*i*Pn	**Pn**	**16 43 45.4**	**+1.3**
PVY				*i* Sn	**Sn**	**16 44 25.4**	**+0.2**
HLNI	**Lentini**	3.58	241	P	**Pn**	**16 43 45.1**	**+0.9**
TREB	**Trebinje**	3.60	355	*e*Pn	**Pn**	**16 43 43.9**	**-0.5**
VAY	**Valandovo**	3.61	52	*e*Pn	**Pn**	**16 43 46.0**	**+1.4**
VAY	**Valandovo**	3.61	52	*i* Pn	**Pn**	**16 43 45.5**	**+0.9**
STIP	**Stip**	3.63	44	*i* Pn	**Pn**	**16 43 48.0**	**+3.1**
HAVL	**Avola**	3.63	234	P	**Pn**	**16 43 45.6**	**+0.7**
HAVL				AML	AML		
	comp=E,334μm,0.8s						
HAVL				AML	AML		
	comp=N,394μm,1.0s						
NKME	**Niksic**	3.63	2	⇑*i*Pn	**Pn**	**16 43 44.5**	**-0.5**
NKME				*i* Sn	**Sn**	**16 44 27.4**	**+0.7**
KOME	**Kolasin**	3.75	8	⇓*i*Pn	**Pn**	**16 43 47.9**	**+1.3**
KOME				*i* Sn	**Sn**	**16 44 30.5**	**+0.8**
BRY	**Bratogost**	3.77	357	⇑*i*Pn	**Pn**	**16 43 46.5**	**-0.4**
BRY				*i* Sn	**Sn**	**16 44 30.5**	**+0.3**
MELA	**Melanico ??? S**	3.81	314	P	**Pn**	**16 43 49.5**	**+2.2**
MELA				AML	AML		
	comp=E,1068μm,1.0s						
MELA				AML	AML		
	comp=E,1132μm,1.0s						
MELA				AML	AML		
	comp=N,1475μm,1.2s						
MELA				AML	AML		
	comp=N,1490μm,1.2s						
IVA	**Berane**	3.82	12	⇓*i*Pn	**Pn**	**16 43 48.5**	**+0.9**
IVA				*i* Sn	**Sn**	**16 44 32.1**	**+0.6**
VAE	**Valguarnera**	3.84	246	Sn	**Sn**	**16 44 33.4**	**+1.6**
	comp=N,2.5nm,0.3s,baz=358,slow=6.6,SNR=5.0						
UPM	**Unac-Piva**	4.07	1	⇓*i*Pn	**Pn**	**16 43 50.7**	**-0.4**
UPM				*i* Sn	**Sn**	**16 44 37.8**	**+0.2**
SRS	**Serrai**	4.17	60	*e*Pn	**Pn**	**16 43 52.5**	**+0.2**
PLE	**Pljevlja**	4.21	6	⇓*i*Pn	**Pn**	**16 43 53.1**	**+0.1**
PLE				*i* Sn	**Sn**	**16 44 41.5**	**+0.3**
SJES	**Sjenica**	4.22	12	*e*Pn	**Pn**	**16 43 53.3**	**+0.3**
KKB	**Krupnik**	4.25	49	*e*P	**Pn**	**16 43 53.9**	**+0.5**
BARS	**Barje**	4.33	31	*e*Pn	**Pn**	**16 43 54.2**	**-0.2**
BOSS	**Bosilegrad**	4.36	38	*e*Pn	**Pn**	**16 43 54.3**	**-0.7**
SELS	**Selova**	4.44	22	*e*Pn	**Pn**	**16 43 56.0**	**0.0**
MMB	**Musomiste**	4.49	55	*e*P	**Pn**	**16 43 58.5**	**+1.8**
VTS	**Vitosha**	4.83	43	*e*P	**Pb**	**16 44 14.5**	**-0.5**
GRUS	**Gruza**	4.96	16	*e*Pn	**Pn**	**16 44 02.9**	**-0.3**
BOVS	**Bovan**	5.00	25	*e*Pn	**Pn**	**16 44 03.4**	**-0.2**
DIVS	**Divibare**	5.04	10	*e*Pn	**Pn**	**16 44 02.9**	**-1.4**
ZAPS	**Zavoj**	5.04	34	*e*Pn	**Pn**	**16 44 04.5**	**+0.2**
TRUS	**Trudelj**	5.22	13	*e*Pn	**Pn**	**16 44 06.0**	**-0.8**
ZAGS	**Zajecar**	5.33	28	*e*Pn	**Pn**	**16 44 07.9**	**-0.4**
BLKB	**Belogradchik**	5.34	32	⇓S	**Sn**	**16 45 08.8**	**-0.1**
APE	**Apeiranthos**	5.69	109	⇑P	**Pn**	**16 44 11.6**	**-1.6**
APE	**Apeiranthos**	5.69	109	⇑S	**Sn**	**16 45 14.9**	**-2.5**
IDI	**Anoyia**	6.18	126	Pn	**Pn**	**16 44 22.1**	**+2.0**
	comp=N,1.7nm,0.3s,baz=299,slow=7.8,SNR=3.2						
IDI				Sn	**Sn**	**16 45 28.2**	**-1.5**
	comp=N,2.9nm,0.3s,baz=359,slow=6.8,SNR=2.5						
IDI	**Anoyia**	6.18	126	⇑P	**Pn**	**16 44 20.2**	**+0.1**
IDI	**Anoyia**	6.18	126	⇑S	**Sn**	**16 45 30.4**	**+0.7**
BZS	**Buzias**	6.80	17	⇓P	**Pn**	**16 44 28.7**	**+0.2**
VOIR		7.81	34	⇑P	**Pn**	**16 44 42.0**	**-0.3**
OBKA	**Obir**	8.01	338	*e*Pn	**Pn**	**16 44 46.0**	**+0.9**
	comp=N,2.5nm,0.2s						
OBKA				*e*Sn	**Sn**	**16 46 12.3**	**-2.2**
	comp=N,9.0nm,0.5s						
SOKA	**Soboth**	8.03	341	*e*Pn	**Pn**	**16 44 45.3**	**-0.1**
	comp=N,1.8nm,0.2s						
SOKA				*e*Sn	**Sn**	**16 46 10.5**	**-4.6**
	comp=N,6.1nm,0.8s						
MLR	**Muntele Rosu**	8.26	37	Pn	**Pn**	**16 44 51.0**	**+2.5**
	comp=N,0.3nm,0.3s,baz=130,slow=22,SNR=2.7						
MLR				LR	LR	16 48 49.2	
	comp=N,151nm,19.1s,baz=123,slow=44						
MLR	**Muntele Rosu**	8.26	37	⇑P	**Pn**	**16 44 48.3**	**-0.3**
ARSA	**Arzberg**	8.46	345	*i* Pn	**Pn**	**16 44 51.4**	**+0.2**
	comp=N,3.2nm,0.5s						
KBA	**Koelnbreinsper**	8.89	335	*i* Pn	**Pn**	**16 44 59.2**	**+2.0**
	comp=N,2.6nm,0.4s						
ABTA	**Abfaltersbach**	8.90	331	*e*Sn	**Sn**	**16 46 32.2**	**-4.2**
	comp=N,15nm,0.8s						
VRI	**Vrincioaia**	8.91	38	⇑P	**Pn**	**16 44 57.5**	**+0.1**
MOA	**Molin**	9.32	341	*e*Pn	**Pn**	**16 45 04.0**	**+1.1**
	comp=N,2.4nm,0.2s						
MOA				*e*Sn	**Sn**	**16 46 41.2**	**-5.3**
	comp=N,2.9nm,0.5s						
VYHS	**Vyhne**	9.36	0	*e*PN	Pn	16 45 08.3	+4.8
WTTA	**Wattenberg**	9.66	330	*e*Pn	**Pn**	**16 45 09.3**	**+1.4**
	comp=N,2.3nm,0.5s						
WTTA				*e*Sn	**Sn**	**16 46 51.4**	**-3.9**
	comp=N,6.2nm,0.6s						
MOTA	**Moosalm**	9.94	328	*e*Pn	**Pn**	**16 45 14.5**	**+2.9**
	comp=N,1.8nm,0.5s						
MOTA				*e*Sn	**Sn**	**16 47 00.2**	**-1.9**
	comp=N,2.6nm,0.6s						
KOLS	**Kolonicke sedl**	10.11	13	*e*PN	**Pn**	**16 45 15.0**	**+1.2**
GERES	**GERESS Array B**	10.38	341	Pn	**Pn**	**16 45 17.5**	**-0.1**
	comp=N,0.3nm,0.3s,baz=157,slow=14,SNR=7.0						
GERES				Sn	**Sn**	**16 47 05.8**	**-6.9**
	comp=N,0.2nm,0.3s,baz=156,slow=25,SNR=6.9						
KHC	**Kasperske Hory**	10.68	341	*e*PN	**Pn**	**16 45 19.9**	**-1.7**
KHC				*e*SN	**Sn**	**16 47 13.3**	**-6.6**
BRTR	**Keskin Array B**	11.48	82	Pn	**Pn**	**16 45 36.9**	**+4.1**
	comp=N,0.0nm,0.3s,baz=266,slow=11,SNR=6.7						
BRTR				LR	LR	16 50 15.0	
	comp=N,21nm,18.4s,baz=242,slow=39						
AKASG	**Malin Array Be**	13.70	29	Pn	**Pn**	**16 46 00.4**	**-2.4**
	comp=N,0.4nm,0.3s,baz=217,slow=12,SNR=4.0						
MMAI	**Mount Meron Ar**	14.73	109	Pn	**Pn**	**16 46 15.8**	**-1.2**
	comp=N,1.2nm,0.3s,baz=299,slow=13,SNR=2.3						
EIL	**Elat**	16.30	120	Pn	**Pn**	**16 46 35.5**	**-1.9**
	comp=N,0.8nm,0.3s,baz=9.8,slow=5.4,SNR=6.5						
EIL				Sn	Sn	16 49 27.0	-10
	comp=N,0.7nm,0.3s,baz=198,slow=23,SNR=1.7						
ESDC	**Sonseca Array**	17.61	279	P	**Pn**	**16 46 53.6**	**-0.2**
	comp=N,0.1nm,0.3s,baz=74,slow=14,SNR=4.1						
KBZ	**Khabaz**	18.61	68	P	**Pn**	**16 47 07.7**	**+1.7**
	comp=N,0.2nm,0.3s,baz=250,slow=7.5,SNR=4.9						
HFS	**Hagfors**	21.27	353	P	**P**	**16 47 34.8**	**+0.6**
	comp=N,6.6nm,0.8s,baz=163,slow=11,SNR=7.8						
EKA	**Eskdalemuir Ar**	21.88	325	P	**P**	**16 47 39.6**	**-1.2**
	comp=N,2.1nm,0.8s,baz=129,slow=10,SNR=2.9						
NB2	**NORSAR Subarra**	22.44	350	P	**P**	**16 47 47.4**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=167,slow=11						
NOA	**NORSAR Array B**	22.44	350	P	**P**	**16 47 46.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=162,slow=8.6,SNR=4.9						
FINES	**FINESS Array B**	22.79	9	P	**P**	**16 47 50.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=169,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	45.95	59	P	**P**	**16 51 11.8**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=300,slow=6.4,SNR=4.1						
MKAR				LR	LR	17 10 55.0	
	comp=Z,38nm,19.1s,baz=320,slow=37						
ZALV	**Zalesovo Beam**	46.06	49	P	**P**	**16 51 12.7**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=278,slow=11,SNR=3.6						
ZALV				LR	LR	17 14 40.1	
	comp=Z,18nm,19.8s,baz=62,slow=42						
CMAR	**Chiang Mai Arr**	71.07	81	P	**P**	**16 54 08.2**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=309,slow=9.0,SNR=4.2						

*OTT **01** 16:46:04±1.5, 44.°3N±0.°1×129.°5W±0.°2, h10km±7km, mb3.6/12(NEIC), Error ellipse: s-maj=22.6km s-min=16.2km az=220.0*
*NEIC **01** 16:46:04.8±2.0, 44.°2N±0.°1×129.°6W±0.°2, h27km±5km, Error ellipse: s-maj=22.3km s-min=14.3km az=206.0*
*PGC **01** 16:46:04.5±0.2, 44.°26N×129.°54W, h10km, MLSn4.0/2, Mw4.6/2, 604km southwest of Ucluelet, Bc Off Coast Of Oregon*

ISC 01 16:46:03.8±1.4, 44.°23N±0.°08×129.°5W±0.°1, h13km, n57, σ1§31/64, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F03A	**Seaside**	4.52	66		**Pn**	**16 47 12.0**	**+0.2**
E03A	**Lebam**	4.76	59	Pn	**Pn**	**16 47 14.7**	**-0.5**
WISH	**Wishkah**	4.93	52	Pn	**Pn**	**16 47 18.5**	**+1.1**
NLWA	**Neilton Lookou**	5.03	49	Pn	**Pn**	**16 47 19.6**	**+0.6**
H04A	**Detroit Lake**	5.23	82	Pn	**Pn**	**16 47 21.0**	**-0.7**
OCP	**Olym-Cheeka Pk**	5.28	38	Pn	**Pn**	**16 47 23.3**	**+1.0**
OBC	**Olympics--Boni**	5.34	43	Pn	**Pn**	**16 47 24.4**	**+1.2**
OSD	**Olympics--Snow**	5.39	46	Pn	**Pn**	**16 47 24.4**	**+0.4**
PFB	**Port Renfrew**	5.56	37	Pn	**Pn**	**16 47 27.0**	**+0.8**
PFB				Sn	**Sn**	**16 48 28.8**	**-1.2**
STW	**Striped Peak**	5.62	44	Pn	**Pn**	**16 47 28.9**	**+1.9**
MGB	**Mount Grey**	5.80	33	Pn	**Pn**	**16 47 30.0**	**+0.5**
MGB				Sn	**Sn**	**16 48 34.9**	**-1.0**
B926	**Mesachie Lake**	5.89	37	Pn	**Pn**	**16 47 31.7**	**+1.1**
B926				Sn	**Sn**	**16 48 37.2**	**-0.7**
BLN	**Blyn Mountain**	5.89	48	Pn	**Pn**	**16 47 32.9**	**+2.2**
YOUB	**Youbou, Lake C**	5.89	36	Pn	**Pn**	**16 47 31.3**	**+0.5**
YOUB				Sn	**Sn**	**16 48 37.6**	**-0.5**
LON	**Longmire**	5.95	62	Pn	**Pn**	**16 47 33.1**	**+1.6**
B009	**North Saanich**	6.07	41	Sn	**Sn**	**16 48 40.8**	**-1.5**
B010	**North Saanich**	6.07	41	Pn	**Pn**	**16 47 34.2**	**+1.1**
B010				Sn	**Sn**	**16 48 41.8**	**-0.6**
PGC	**Sidney**	6.07	41	Pn	**Pn**	**16 47 34.2**	**+1.0**
PGC				Sn	**Sn**	**16 48 41.7**	**-0.7**
PGC	**Sidney**	6.07	41	Pn	**Pn**	**16 47 34.4**	**+1.3**
B011	**North Saanich**	6.07	41	Sn	**Sn**	**16 48 41.0**	**-1.4**
FMW	**Mount Fremont**	6.10	61	Pn	**Pn**	**16 47 35.1**	**+1.3**
PINE	**Pine Mountain**	6.17	91	Pn	**Pn**	**16 47 33.9**	**-0.8**
NLLB	**Nanaimo Lost L**	6.26	35	Pn	**Pn**	**16 47 37.1**	**+1.4**
MCW	**Mount Constitu**	6.39	43	Pn	**Pn**	**16 47 41.4**	**+3.9**
TXB	**Texada**	6.46	30	Pn	**Pn**	**16 47 40.6**	**+2.0**
JCW	**Jim Creek**	6.56	50	Pn	**Pn**	**16 47 41.6**	**+1.6**
CMW	**Cultus Mountai**	6.59	48	Pn	**Pn**	**16 47 42.0**	**+1.5**
SHB	**Sechelt**	6.60	34	Pn	**Pn**	**16 47 42.7**	**+2.2**
SHB				Sn	**Sn**	**16 48 53.2**	**-2.3**
BIB	**Bowen Island**	6.68	37	Pn	**Pn**	**16 47 43.0**	**+1.4**
LTY	**Liberty**	6.86	61	Pn	**Pn**	**16 47 44.6**	**+0.5**
WPB	**Watts Point**	6.92	36	Pn	**Pn**	**16 47 46.0**	**+1.2**
HNBB	**Haney**	6.93	41	Pn	**Pn**	**16 47 46.5**	**+1.5**
MBW	**Mount Baker**	6.93	46	Pn	**Pn**	**16 47 46.5**	**+1.3**
RPW	**Rockport**	6.94	50	Pn	**Pn**	**16 47 46.6**	**+1.5**
VDB	**Vedder Mountai**	6.98	44	Pn	**Pn**	**16 47 47.5**	**+1.8**
G08A	**Pilot Rock**	7.56	78	Pn	**Pn**	**16 47 53.3**	**-0.4**
HLID	**Hailey**	10.89	88	Pn	**Pn**	**16 48 42.4**	**+3.0**
LRM	**Limekiln Ridge**	12.15	77	Pn	**Pn**	**16 48 56.3**	**-0.5**
IMW	**Indian Meadow**	13.33	85	Pn	**Pn**	**16 49 14.5**	**+1.6**
REDW	**Red Top Meadow**	13.48	87	Pn	**Pn**	**16 49 14.8**	**0.0**
GCMT	**Greycliff**	14.10	77	Pn	**Pn**	**16 49 22.3**	**-0.9**
KNB	**Kanab**	14.54	114	Pn	**Pn**	**16 49 30.2**	**+0.9**
Q16A	**Castle Valley**	14.68	105	P	**P**	**16 49 38.1**	**+0.6**
P17A	**Butcher Ranch,**	14.74	102	P

ASAO	Ashtian	2.66	45	ePn	Pb	17 02 37.2 -3.1
BHD	Baghdad	2.89	283	ePn	Pn	17 02 39.0 +0.5
BHD				eSn	Sn	17 03 14.0 +0.6
IRAZ	Razeghan	3.27	33	ePn	Pn	17 02 45.1 +1.2
QABG	Abgarm-Qazvin	3.38	26	ePn	Pn	17 02 46.4 +0.9

*IDC **01** 17:02:40.7±1.4,2°.23N×126°.77E,h96km±13km,mb4.2/24, mb1 4.3/29,mb1mx4.1/49,mbtmp4.5/29,MS3.2/15, Ms1 3.2/15,ms1mx3.1/42,Error ellipse: s-maj=16.6km s-min=7.2km az=76.0*

*GCMT **01** 17:02:40.6±0.3,2°.32N±0°.02×126°.82E±0°.03,h92km±4km, MW4.8/73,Moment Tensor Solution. s16,c16; s73,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.06±.08; $M_{\theta\theta}$0.31±.09; $M_{\phi\phi}$-1.37±.10; $M_{r\theta}$-0.76±.04; $M_{\theta\phi}$-0.74±.09; $M_{\phi r}$-0.35±.07; Best double couple: $M_0$1.65600×10^{16} NP1:ϕ_s351.00000°,δ42.00000°,λ41.00000°. NP2: ϕ_s228.00000°,δ64.00000°,λ124.00000°. Principal axes: T 1.5320, Plg57.0000°, Azm184.0000°; N 0.2500, Plg30.0000°, Azm31.0000°; P -1.7790, Plg12.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*KLM **01** 17:02:40.0,2°.35N×127°.07E,h103km,mb4.9*

*BJI **01** 17:02:40.9±0.0,2°.58N×126°.78E,h91km,mB4.8/22, mb4.7/36*

*NEIC **01** 17:02:40.6±1.6,2°.28N±0°.06×126°.81E±0°.08,h97km±5km, mb4.9/86,Error ellipse: s-maj=11.5km s-min=8.1km az=64.0*

*DJA **01** 17:02:41.7±0.3,2°.N±3°×12°.7E±°,h78km±5km,M4.6/20, mb4.9/20,mB5.1/15,MLv4.9/12,Mw(mB)4.5/15,Mwp4.8/1*

*MAN **01** 17:02:43.0,2°.62N×126°.72E,h102km,MS4.7*

ISC 01 17:02:40.7±0.8,2°.28N±0°.03×126°.74E±0°.05,h97km±7km, n224,σ1§41/234,mb4.7/73,2C-1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.62**	**157**	P	**Pn**	**17 03 09.0**	**+0.6**
TNTI				S	**Sn**	**17 03 30.0**	**+0.7**
TNTI	**Ternate**	**1.62**	**157**	Pn	**Pn**	**17 03 08.9**	**+0.6**
KMSI	**Cibinong**	**3.24**	**239**	P	**Pn**	**17 03 32.1**	**+2.5**
DDMP	**Don Marcelino,**	**3.94**	**345**	*e*P	**Pn**	**17 03 36.5**	**-2.7**
DDMP				*e*S	**Sn**	**17 04 20.3**	**-4.1**
GTOI	**Gorontalo**	**4.07**	**246**	P	**Pn**	**17 03 43.3**	**+2.4**
SANI	**Sanana**	**4.36**	**190**	P	**Pn**	**17 03 44.0**	**-0.8**
MATI	**Mati**	**4.67**	**354**	*e*P	**Pn**	**17 03 47.5**	**-1.4**
SKMP	**Bagumbayan, Su**	**4.75**	**333**	*e*P	**Pn**	**17 03 48.5**	**-1.6**
SKMP				*e*S	**Sn**	**17 04 40.9**	**-3.2**
DAV	**Davao City (W)**	**4.90**	**346**	P	**Pn**	**17 03 52.6**	**+0.5**
	55nm,0.3s,baz=66,slow=11,SNR=2.3						
DAV				S	**Sn**	**17 04 49.5**	**+1.9**
	126nm,0.3s,baz=212,slow=16,SNR=4.6						
DAV				LR	LR	17 06 21.5	
	comp=Z,482nm,18.2s,baz=122,slow=45						
DAV	**Davao City (W)**	**4.90**	**346**		**Pn**	**17 03 52.4**	**+0.2**
KCP	**Kidapawan**	**4.98**	**341⇑**	*e*P	**Pn**	**17 03 53.9**	**+0.7**
KCP				*i* S	**Sn**	**17 04 54.4**	**+4.6**
LUWI	**Luwuk**	**5.16**	**230**	P	**Pn**	**17 03 59.2**	**+3.6**
	3.6nm5μm241nm,0.7s						
LUWI	**Luwuk**	**5.16**	**230**		**Pn**	**17 03 57.4**	**+1.8**
NLAI	**Namlea**	**5.49**	**176**	P	**Pn**	**17 04 01.1**	**+1.0**
	1.7nm4μm215nm,0.5s						
SIJI	**Sorong**	**5.50**	**125**	P	**Pn**	**17 03 59.7**	**-0.5**
	8.0nm,0.3s,baz=337,slow=9.7,SNR=9.4						
BUKP	**Musuan**	**5.81**	**343**	*e*P	**Pn**	**17 04 04.1**	**-0.5**
BUKP				*e*S	Sn	17 04 56.1	-14
PAGZ	**Pagadian**	**6.47**	**329**	*e*P	**Pn**	**17 04 12.3**	**-1.1**
ZCP	**Zamboanga City**	**6.56**	**315⇑**	*i*P	**Pn**	**17 04 14.5**	**-0.2**
ZCP				*i* S	**Sn**	**17 05 25.3**	**-2.8**
MPSI	**Mapaga**	**7.11**	**254**	P	**Pn**	**17 04 24.7**	**+2.6**
	0.4nm1μm139nm,0.9s						
FAKI	**Fak Fak**	**7.54**	**133**	Pn	**Pn**	**17 04 28.5**	**+0.5**
CNOP	**Candoni, Negro**	**8.54**	**332**	*e*P	**Pn**	**17 04 41.9**	**+0.3**
MYLDM	**Lahad Datu**	**8.72**	**290**	Pn	**Pn**	**17 04 48.1**	**+4.1**
GUIM	**Jordan**	**9.27**	**334**	*e*P	**Pn**	**17 04 50.9**	**-0.6**
SPSI	**Sidrap Palu**	**9.33**	**228**	P	**Pn**	**17 04 53.5**	**+1.1**
	481nm47nm,0.9s						
KAPI	**Kappang**	**10.06**	**224**	P	**Pn**	**17 05 02.2**	**-0.1**
	2.4nm,0.3s,baz=131,slow=11,SNR=2.4						
KAPI				S	**Sn**	**17 06 48.7**	**-4.7**
	2.1nm,0.3s,baz=178,slow=18,SNR=1.5						
KAPI				LR	LR	17 08 53.5	
	comp=Z,95nm,18.2s,baz=52,slow=37						
SRPI	**Serui, Papua**	**10.35**	**113**	P	**Pn**	**17 05 08.5**	**+2.2**
	65nm,0.7s						
SPMM	**Sapulut**	**10.54**	**284**	P	**Pn**	**17 05 12.0**	**+3.1**
BATP	**Bataraza**	**11.01**	**306**	*e*P	**Pn**	**17 05 17.0**	**+1.8**
KKM	**Kota Kinabalu**	**11.15**	**290**	Pn	**Pn**	**17 05 18.1**	**+0.9**
EDFI	**Ende, Flores**	**12.05**	**205**	P	**Pn**	**17 05 31.2**	**+1.8**
	287nm13nm,0.7s						
SOEI	**Soe**	**12.20**	**192**	P	**P**	**17 05 37.6**	**-2.2**
SOEI	**Soe**	**12.20**	**192**	Pn	**Pn**	**17 05 33.0**	**+1.6**
MTKI	**Muara Teweh, K**	**12.27**	**255**	P	**Pn**	**17 05 35.1**	**+3.0**
	1μm44nm,1.1s						
SMPI	**Sarmi**	**12.69**	**109**	P	**Pn**	**17 05 37.9**	**+0.2**
	34nm,1.4s						
BATI	**Baumata**	**12.77**	**194**	P	**Pn**	**17 05 38.5**	**-0.3**
	1.2nm,0.3s,baz=138,slow=19,SNR=2.2						
BATI				LR	LR	17 11 42.2	
	comp=Z,118nm,19.9s,baz=8.0,slow=42						
LQP	**Lukban**	**12.84**	**337⇓**	*e*P	**Pn**	**17 05 40.0**	**+0.2**
WBSI	**Waikabubak, Su**	**13.92**	**212**	P	**Pn**	**17 05 56.6**	**+2.7**
	719nm59nm,0.7s						
PLAI	**Plampang**	**14.20**	**219**	P	**P**	**17 06 01.5**	**-0.3**
	2μm152nm,0.8s						
GENI	**Genyem**	**14.26**	**110**	P	**Pn**	**17 05 59.9**	**+1.6**
SBUM	**Sibu**	**14.51**	**271**	P	**P**	**17 06 05.5**	**+0.1**
SBUM	**Sibu**	**14.51**	**271**	P	**P**	**17 06 06.0**	**+0.6**
TWSI	**Taliwang, Sumb**	**14.71**	**222**	P	**P**	**17 06 08.3**	**+0.8**
	706nm59nm,1.3s						
JAY	**Jayapura**	**14.74**	**109**	P	**Pn**	**17 06 04.1**	**-0.4**
	baz=98,slow=18,SNR=1.6						
CAUP	**Cauayan**	**15.36**	**342**	*e*P	**Pn**	**17 06 09.9**	**-2.3**
MTN	**Manton Dam**	**15.64**	**164**		**Pn**	**17 06 13.4**	**-2.4**
MTN				IAmb	IAmb	17 06 15.8	
	comp=Z,43nm,0.5s						
APYP	**Conner**	**16.40**	**341**	*e*P	**Pn**	**17 06 24.6**	**-0.6**
KSM	**Kuching**	**16.45**	**268**		**P**	**17 06 27.3**	**+0.4**
KSM	**Kuching**	**16.45**	**268**	P	**P**	**17 06 29.0**	**+2.2**
JAGI	**Jajag, Banyuwa**	**16.48**	**229**	P	**P**	**17 06 30.3**	**+3.1**
JAGI				IAmb	IAmb	17 06 33.2	
	comp=Z,35nm,0.6s						
KNRA	**Kununurra**	**17.95**	**174**		**P**	**17 06 43.2**	**-0.1**
KNRA				IAmb	IAmb	17 06 44.1	
	comp=Z,70nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.27**	**183**	P	**P**	**17 07 08.2**	**-0.5**
	comp=Z,24nm,0.5s,baz=13,slow=8.6,SNR=200						
FITZ				S	**S**	**17 10 43.8**	**-7.0**
	comp=Z,4.3nm,1.0s,baz=206,slow=14,SNR=2.4						
TWG	**Pinlang**	**21.15**	**345**	P	**P**	**17 07 14.2**	**-3.9**
GUMO	**Guam**	**21.16**	**57**	LR	LR	17 13 57.6	
	comp=Z,41nm,20.1s,baz=228,slow=32						
YULB	**Yu-li**	**21.65**	**346**	P	**P**	**17 07 19.4**	**-4.0**
TPUB	**Ta-pu**	**21.73**	**345**	P	**P**	**17 07 20.9**	**-3.3**
TPUB				IAmb	IAmb	17 07 27.3	
	comp=Z,34nm,0.9s						
SSLB	**Suanglung**	**22.11**	**346**	P	**P**	**17 07 25.8**	**-2.5**
NACB	**Ninganchiao**	**22.33**	**348**	P	**P**	**17 07 26.7**	**-3.8**
YOJ	**Yonaguni jima**	**22.35**	**351**	P	**P**	**17 07 30.0**	**-0.8**
YHNB	**Yeheng**	**22.86**	**347**	P	**P**	**17 07 34.3**	**-1.7**
MYKOM	**Kota Tinggi**	**22.89**	**269**	P	**P**	**17 07 39.0**	**+2.6**
COEN	**Coen**	**22.92**	**135**	P	**P**	**17 07 35.4**	**-1.3**
KLSI		**23.06**	**253**	P	**P**	**17 07 40.8**	**+2.7**
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**23.16**	**161**	P	**P**	**17 07 37.5**	**-1.5**
WB0				IAmb	IAmb	17 07 45.7	
	comp=Z,43nm,0.7s						
WRAB	**Tennant Creek**	**23.30**	**162**	P	**P**	**17 07 38.9**	**-1.3**
WRAB				IAmb	IAmb	17 07 47.0	
	comp=Z,31nm,0.8s						
WRA	**Warramunga Arr**	**23.30**	**162**	P	**P**	**17 07 38.9**	**-1.4**
	comp=Z,18nm,0.5s,baz=342,slow=11,SNR=333						
WRA				PcP	**PcP**	**17 11 25.2**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=328,slow=2.0,SNR=6.0						
WRA				S	**S**	**17 11 45.4**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=345,slow=16,SNR=7.0						
WRA	**Warramunga Arr**	**23.30**	**162**	P	**P**	**17 07 38.1**	**-2.2**
WB2	**Warramunga Arr**	**23.31**	**162**	P	**P**	**17 07 38.9**	**-1.4**
WB2				IAmb	IAmb	17 07 47.1	
	comp=Z,30nm,0.7s						
HKPS	**Hong Kong Po S**	**23.35**	**329**	P	**P**	**17 07 40.5**	**-0.1**
HKPS				IAmb	IAmb	17 07 40.9	
	comp=Z,57nm,1.3s						
WR0	**Warramunga Arr**	**23.38**	**161**	P	**P**	**17 07 39.6**	**-1.4**
PMG	**Port Moresby**	**23.42**	**120**	LR	LR	17 18 41.7	
	comp=Z,90nm,19.3s,baz=275,slow=41						
QIZ	**Qiongzhong**	**23.47**	**316**	P	**P**	**17 07 41.8**	**-0.1**
QIZ				IAmb	IAmb	17 07 44.6	
	comp=Z,55nm,1.4s						
MDSI	**Maura Dua**	**23.53**	**253**	P	**P**	**17 07 45.0**	**+2.6**
	comp=Z,16nm,1.1s						
XMIS	**Christmas Isla**	**24.52**	**239**	P	**P**	**17 07 52.4**	**+1.0**
UBPT	**Khong Chiam**	**24.64**	**303**	P	**P**	**17 07 52.5**	**+0.1**
UBPT				IAmb	IAmb	17 07 53.9	
	comp=Z,66nm,1.3s						
PSA00	**Pilbara Seismi**	**24.64**	**196**	P	**P**	**17 07 52.9**	**+0.5**
PSA00				IAmb	IAmb	17 07 53.5	
	comp=Z,33nm,0.7s						
PSA00	**Pilbara Seismi**	**24.64**	**196**	P	**P**	**17 07 52.7**	**+0.3**
PSA00				IAmb	IAmb	17 07 54.5	
	comp=Z,22nm,0.7s						
KRVT	**Keravat (AS076**	**26.10**	**104**	LR	LR	17 16 21.9	
	comp=Z,73nm,19.6s,baz=266,slow=32						
AS31	**Alice Springs**	**26.71**	**165**	P	**P**	**17 08 10.5**	**-0.6**
ASAR	**Alice Springs**	**26.71**	**165**	P	**P**	**17 08 10.2**	**-0.9**
	comp=Z,9.7nm,0.5s,baz=349,slow=8.1,SNR=371						
ASAR				PcP	**PcP**	**17 11 32.7**	**+0.3**
	comp=Z,3.8nm,0.5s,baz=346,slow=2.2,SNR=11						
ASAR				S	**S**	**17 12 38.5**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=333,slow=22,SNR=2.7						
ASAR				LR	LR	17 20 10.5	
	comp=Z,40nm,18.2s,baz=344,slow=39						
ASAR	**Alice Springs**	**26.71**	**165**	P	**P**	**17 08 10.0**	**-1.1**
ASAR				PcP	**PcP**	**17 11 32.4**	**-0.1**
GIRL	**Giralia**	**27.61**	**206**	P	**P**	**17 08 21.6**	**+2.5**
RPSI	**Rantau Prapat**	**27.80**	**271**	P	**P**	**17 08 20.3**	**-0.6**
PSI	**Prapat**	**27.80**	**271**	P	**P**	**17 08 20.3**	**-0.8**
	comp=Z,2.6nm,0.4s,baz=181,slow=1.7,SNR=3.8						
PSI				LR	LR	17 21 40.0	
	comp=Z,43nm,18.9s,baz=274,slow=41						
JCJ	**Chichijima**	**28.78**	**30**	LR	LR	17 19 04.4	
	comp=Z,40nm,20.9s,baz=146,slow=34						
PBKT	**Sadao Pong**	**29.06**	**301**	P	**P**	**17 08 32.3**	**+0.2**
GSI	**Gunungsitoli**	**29.17**	**269**	P	**P**	**17 08 31.3**	**-1.9**
GSI				IAmb	IAmb	17 08 53.1	
	comp=Z,18nm,1.0s						
CTA	**Charters Tower**	**29.33**	**140**	P	**P**	**17 08 33.9**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=316,slow=12,SNR=2.2						
WHN	**Wuhan**	**30.47**	**339**	P	**P**	**17 08 44.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**31.64**	**302**	P	**P**	**17 08 55.2**	**+0.4**
	comp=Z,10nm,0.9s,baz=118,slow=7.3,SNR=42						
CMAR				LR	LR	17 22 28.5	
	comp=Z,26nm,21.9s,baz=162,slow=38						
CHTO	**Chiang Mai**	**31.80**	**303**	P	**P**	**17 08 56.3**	**0.0**
CHTO				IAmb	IAmb	17 08 57.6	
	comp=Z,24nm,1.1s						
ENH	**Enshi**	**32.30**	**331**	P	**P**	**17 08 60.0**	**-0.5**
ENH				IAmb	IAmb	17 09 00.9	
	comp=Z,18nm,0.8s						
KMI	**Kunming**	**32.42**	**317**	P	**P**	**17 09 01.7**	**-0.2**
KMI				IAmb	IAmb	17 09 04.4	
	comp=Z,32nm,1.4s						
MORW	**Morawa**	**32.81**	**197**	P	**P**	**17 09 05.5**	**+0.5**
MORW				IAmb	IAmb	17 09 06.3	
	comp=Z,15nm,0.7s						
FORT	**Forrest**	**32.89**	**178**	P	**P**	**17 09 05.3**	**-0.4**
TIA	**Tai'an**	**34.92**	**346**	P	**P**	**17 09 23.6**	**+0.4**
TIA				pmax	pmax		
	comp=Z,11nm,0.8s						
KSRS	**Korea Array**	**35.02**	**2**	P	**P**	**17 09 24.0**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=180,slow=10,SNR=18						
KSRS				PcP	**PcP**	**17 11 55.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=182,slow=2.2,SNR=4.4						
KS19	**Wonju Array Si**	**35.07**	**2**	P	**P**	**17 09 25.0**	**+0.6**
KS19				IAmb	IAmb	17 09 44.1	
	comp=Z,13nm,1.1s						
MJAR	**Matsushiro Arr**	**35.71**	**16**	P	**P**	**17 09 29.1**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=184,slow=10.0,SNR=2.2						
MJAR				LR	LR	17 24 50.3	
	comp=Z,17nm,20.1s,baz=280,slow=37						
XAN	**Xi'an**	**35.72**	**334**	P	**P**	**17 09 29.1**	**-1.0**
XAN				pmax	pmax		
	comp=Z,11nm,1.1s						
XAN	**Xi'an**	**35.72**	**334**	P	**P**	**17 09 28.9**	**-1.2**
XAN				IAmb	IAmb	17 09 46.2	
	comp=Z,20nm,1.3s						
BBOO	**Buckleboo**	**35.99**	**167**	P	**P**	**17 09 31.6**	**-0.8**
NWAO	**Narrogin (SRO)**	**36.15**	**194**	P	**P**	**17 09 34.0**	**+0.3**
	comp=Z,11nm,0.5s,baz=26,slow=6.6,SNR=24						
NWAO	**Narrogin (SRO)**	**36.15**	**194**	P	**P**	**17 09 34.0**	**+0.3**
NWAO				IAmb	IAmb	17 09 35.0	
	comp=Z,10nm,0.6s						
NWAO	**Narrogin (SRO)**	**36.15**	**194**	P	**P**	**17 09 34.3**	**+0.6**
NWAO				IAmb	IAmb	17 09 35.0	
	comp=Z,13nm,0.6s						
EIDS	**Eidsvold**	**36.21**	**141**	P	**P**	**17 09 33.3**	**-1.1**
EIDS				IAmb	IAmb	17 09 35.1	
	comp=Z,7.1nm,0.8s						
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	**17 09 38.8**	**-0.2**
	comp=Z,12nm,0.7s,baz=332,slow=9.0,SNR=31						
STKA				PcP	**PcP**	**17 11 59.8**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=355,slow=3.9,SNR=3.1						
STKA				LR	LR	17 27 02.4	
	comp=Z,43nm,18.7s,baz=22,slow=40						
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	**17 09 38.5**	**-0.6**
STKA					**PcP**	**17 11 59.7**	**+0.3**
BJT	**Baijiatuau**	**38.78**	**347**	P	**P**	**17 09 56.5**	**+0.8**
BJT				IAmb	IAmb	17 09 57.2	
	comp=Z,20nm,0.9s						
BJI	**Beijing**	**38.80**	**347**	P	**P**	**17 09 56.2**	**+0.3**
BJI				pmax	pmax		
	comp=Z,22nm,0.9s						
LZH	**Lanzhou**	**39.76**	**330**	*e*P	P	17 10 18.7	+14
LZH				pP	pP	17 10 21.4	-5.0
LZH				sP	pwP	17 10 23.6	-4.8
LZH				pmax	pmax		
	comp=Z,32nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
ARMA	**Armidale**	**40.26**	**146**	P	**P**	**17 10 08.7**	**+0.3**
ARMA				IAmb	IAmb	17 10 09.4	
	comp=Z,11nm,0.6s						
SHL	**Shillong**	**40.76**	**308**	P	**P**	**17 10 12.2**	**-0.5**
USA0B	**Ussuriysk Arra**	**42.01**	**6**	P	**P**	**17 10 22.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**42.01**	**6**	P	**P**	**17 10 23.0**	**+0.7**
	comp=Z,4.5nm,0.7s,baz=190,slow=6.4,SNR=15						
USRK	**Ussuriysk Ar.**	**42.01**	**6**	P	**P**	**17 10 21.5**	**-0.8**
CAN	**Canberra**	**42.81**	**153**	P	**P**	**17 10 30.2**	**+1.1**
CAN				IAmb	IAmb	17 10 30.3	
	comp=Z,30nm,1.1s						
TOO	**Toolangi**	**43.29**	**158**	P	**P**	**17 10 34.0**	**+1.1**
LSA	**Lhasa**	**43.42**	**313**	P	**P**	**17 10 35.5**	**+0.9**
LSA				IAmb	IAmb	17 10 36.3	
	comp=Z,14nm,0.6s						
GTA	**Gaotai**	**44.35**	**330**	*e*P	**P**	**17 10 41.8**	**+0.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TAPN	**Taplejung**	**44.90**	**307**	*e*P	**P**	**17 10 45.9**	**-0.3**
	comp=Z,22nm,0.6s						
TAPN	**Taplejung**	**44.90**	**307**	*e*P	**P**	**17 10 45.9**	**-0.3**
	comp=Z,22nm,0.6s						
ODAN	**Odare**	**44.93**	**307**	*e*P	**P**	**17 10 46.2**	**-0.3**
	comp=Z,34nm,0.7s						
ODAN	**Odare**	**44.93**	**307**	*e*P	**P**	**17 10 46.2**	**-0.3**
	comp=Z,34nm,0.7s						
PALK	**Pallekele**	**46.13**	**278**	LR	LR	17 32 48.8	
	comp=Z,31nm,18.7s,baz=208,slow=39						
JIRN	**Jiri**	**46.24**	**307**	*e*P	**P**	**17 10 56.9**	**0.0**
	comp=Z,39nm,0.7s						
JIRN	**Jiri**	**46.24**	**307**	*e*P	**P**	**17 10 56.9**	**0.0**
	comp=Z,39nm,0.7s						
GUN	**Gumba**	**46.60**	**307**	*e*P	**P**	**17 10 59.6**	**-0.1**
	comp=Z,43nm,0.7s						
GUN	**Gumba**	**46.60**	**307**	*e*P	**P**	**17 10 59.6**	**-0.1**
	comp=Z,43nm,0.7s						
PKI	**Pulchoki**	**46.83**	**306**	*e*P	**P**	**17 11 00.8**	**-0.7**
	comp=Z,20nm,0.8s						
PKI	**Pulchoki**	**46.83**	**306**	*e*P	**P**	**17 11 00.8**	**-0.7**
	comp=Z,20nm,0.8s						
KKN	**Kakani**	**47.02**	**307**	*e*P	**P**	**17 11 02.3**	**-0.6**
KKN	**Kakani**	**47.02**	**307**	*e*P	**P**	**17 11 02.3**	**-0.6**
DMN	**Daman**	**47.09**	**306**	*e*P	**P**	**17 11 03.3**	**-0.1**
	comp=Z,33nm,0.9s						
DMN	**Daman**	**47.09**	**306**	*e*P	**P**	**17 11 03.3**	**-0.1**
	comp=Z,33nm,0.9s						
KOLN	**Koldanda**	**48.37**	**306**	*e*P	**P**	**17 11 13.3**	**0.0**
	comp=Z,44nm,0.7s						
KOLN	**Koldanda**	**48.37**	**306**	*e*P	**P**	**17 11 13.3**	**0.0**
	comp=Z,44nm,0.7s						
ULN	**Ulaanbaatar**	**48.50**	**342**	P	**P**	**17 11 14.6**	**+0.8**
ULN				IAmb	IAmb	17 11 15.8	
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**48.67**	**342**	P	**P**	**17 11 15.8**	**+0.7**
	comp=Z,4.0nm,0.6s,baz=160,slow=8.7,SNR=27						
SONM				LR	LR	17 33 20.5	
	comp=Z,43nm,21.4s,baz=153,slow=38						
SONM	**Songino Array**	**48.67**	**342**	P	**P**	**17 11 15.9**	**+0.7**
PETK	**Petropavlovsk-**	**56.77**	**22**	P	**P**	**17 12 14.6**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=180,slow=4.8,SNR=7.4						
PETK	**Petropavlovsk-**	**56.77**	**22**	P	**P**	**17 12 14.4**	**-0.1**
ZSN	**Zaisan**	**57.73**	**328**	*e*P	**P**	**17 12 21.5**	**0.0**
	comp=Z,1.3nm,1.2s,baz=328						
SHLS	**Shalkode**	**58.47**	**321**	*e*P	**P**	**17 12 25.0**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=321						
UZB	**Uzynbulak**	**58.74**	**321**	*i* P	**P**	**17 12 28.8**	**+0.1**
	baz=321						
MK31	**Makanchi Array**	**58.75**	**326**	P	**P**	**17 12 28.4**	**-0.2**
MK31				IAmb	IAmb	17 12 45.0	
	comp=Z,4.9nm,0.8s						
MKAR	**Makanchi Array**	**58.75**	**326**	P	**P**	**17 12 28.9**	**+0.3**
	comp=Z,4.3nm,0.4s,baz=119,slow=7.9,SNR=54						
MKAR	**Makanchi Array**	**58.75**	**326**	P	**P**	**17 12 28.6**	**0.0**
NIL	**Nilore**	**58.83**	**308**	P	**P**	**17 12 29.2**	**-0.2**
NIL				IAmb	IAmb	17 12 50.2	
	comp=Z,8.7nm,1.0s						
MAKZ	**Makanchi**	**58.94**	**326**	P	**P**	**17 12 30.2**	**+0.3**
MAKZ				IAmb	IAmb	17 12 46.2	
	comp=Z,6.6nm,0.7s						
SATY	**Saty**	**59.09**	**320**	*i* P	**P**	**17 12 31.6**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=320						
KPKS	**Kokpek**	**59.12**	**321**	*i* P	**P**	**17 12 31.3**	**0.0**
	comp=Z,2.2nm,0.7s,baz=321						
KDJ	**Kajisay**	**59.44**	**319**	P	**P**	**17 12 34.2**	**+0.5**
YAK	**Yakutsk**	**59.65**	**2**	P	**P**	**17 12 34.5**	**+0.1**
QRZ	**Quartz Range**	**59.79**	**141**	P	**P**	**17 12 35.4**	**-0.4**
MLZ	**Mavora Lakes**	**59.96**	**147**	P	**P**	**17 12 36.1**	**-0.8**
MDOK	**Medeo**	**60.01**	**320**	*i* P	**P**	**17 12 37.7**	**+0.2**
	baz=320						
TNSS	**Tian-Shan**	**60.02**	**320**	*e*P	**P**	**17 12 38.3**	**+0.5**
	baz=320						
TDK	**Taldyqorghan**	**60.06**	**322**	*e*P	**P**	**17 12 37.3**	**-0.3**
	baz=322						
WKZ	**Wanaka**	**60.10**	**146**	P	**P**	**17 12 37.0**	**-0.9**
WHZ	**Wether Hill Ro**	**60.21**	**148**	P	**P**	**17 12 37.5**	**-1.1**
LBZ	**Lake Benmore**	**60.48**	**145**	P	**P**	**17 12 40.2**	**-0.3**
THZ	**Tophouse**	**60.55**	**142**	P	**P**	**17 12 40.3**	**-0.8**
RPZ	**Rata Peaks**	**60.57**	**144**	P	**P**	**17 12 40.8**	**-0.3**
LTZ	**Lake Taylor**	**60.75**	**143**	P	**P**	**17 12 42.3**	**0.0**
KUU	**Kurty**	**60.81**	**320**	*e*P	**P**	**17 12 42.7**	**-0.1**
	comp=Z,11nm,1.4s,baz=320						
OXZ	**Oxford**	**60.92**	**144**	P	**P**	**17 12 42.5**	**-0.9**
TUWZ	**Tuamarina**	**61.02**	**141**	P	**P**	**17 12 43.4**	**-0.7**
ODZ	**Otahua Downs**	**61.14**	**146**	P	**P**	**17 12 44.7**	**-0.2**
ODZ				IAmb	IAmb	17 13 06.8	
	comp=Z,19nm,1.5s						
KHZ	**Kahutara**	**61.31**	**142**	P	**P**	**17 12 45.0**	**-1.0**
BKZ	**Black Stump Fm**	**61.50**	**138**	P	**P**	**17 12 46.4**	**-1.2**
MQZ	**McQueen's Vall**	**61.51**	**144**	P	**P**	**17 12 47.1**	**-0.2**
SGDS	**Sogindy**	**61.71**	**319**	*e*P	**P**	**17 12 48.6**	**-0.3**
	baz=319						
ZAA0	**Zalesovo Array**	**61.88**	**333**	P	**P**	**17 12 49.6**	**-0.1**
ZAA0				IAmb	IAmb	17 12 50.5	
	comp=Z,9.6nm,1.1s						
ZALV	**Zalesovo Beam**	**61.88**	**333**	P	**P**	**17 12 49.5**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=126,slow=7.5,SNR=14						
ZALV	**Zalesovo Beam**	**61.88**	**333**	P	**P**	**17 12 49.3**	**-0.4**
PLWZ	**Palliser**	**61.92**	**140**	P	**P**	**17 12 48.9**	**-1.4**
BTLS	**Baital**	**62.80**	**321**	*e*P	**P**	**

Error ellipse: s-maj=14.0km s-min=6.6km az=167.0
*AEIC **01** 17:04:16±1.3, 52°.83N×0°.09×169°.48W±0°.10, h81km±5km, ML3.3, Error ellipse: s-maj=13.8km s-min=5.4km az=150.0*
*IDC **01** 17:04:17.6±7.9, 53°.00N×169°.78W, h119km±71km, mb3.3/9, mb1 3.5/10, mb1mx3.3/54, mbtmp3.6/10, Error ellipse: s-maj=41.6km s-min=18.6km az=9.0*
ISC 01 17:04:14.8±0.8, 52°.9N±0°.1×169°.56W±0°.05, h92km±7km, n45, σ0°90/51, mb3.6/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.44	77		Pn	17 04 28.7	-0.5
NIKH					Sn	17 04 39.5	-0.4
OKSP	Okmok Steeple	0.85	63		Pn	17 04 32.8	-0.2
OKCE	Okmok Cone E	1.01	56		Pn	17 04 34.7	0.0
OKCE					Sn	17 04 51.1	+1.5
OKNC	Okmok New Cone	1.04	56		Pn	17 04 34.6	-0.4
OKFG	Magazine Ridge	1.13	61		Pn	17 04 36.0	0.0
OKFG					Sn	17 04 52.7	+0.7
MAPS	Pakushin South	1.83	58		Pn	17 04 44.7	0.0
MGOD	Makushin Gods	1.86	59		Pn	17 04 45.0	-0.1
MGOD					Sn	17 05 07.7	-0.6
MREP	Makushin Rep't	1.93	60		Pn	17 04 46.5	+0.3
MSW	Makushin Switc	1.96	57		Pn	17 04 46.5	0.0
MNAT	Makushin Natee	2.00	59		Pn	17 04 47.1	+0.2
MNAT					Sn	17 05 11.5	0.0
UNV	Unalaska Valle	2.07	61		Pn	17 04 48.1	+0.2
AKRB	Akutan Reef Bi	2.44	58		Pn	17 04 53.6	+0.9
AKMO	Akutan Morgan	2.45	59		Pn	17 04 53.6	+0.8
AKBBA	Akutan Broad B	2.49	59		Pn	17 04 54.5	+1.0
AKGG	Akutan Green G	2.51	57		Pn	17 04 54.3	+0.6
AKLV	Akutan Long Va	2.51	58		Pn	17 04 54.4	+0.7
AKUT	Akutan	2.59	59		Pn	17 04 55.7	+1.0
AKSA	Akutan Strait	2.63	60		Pn	17 04 55.7	+0.4
ATKA	Atka Island	2.91	258		Pn	17 04 59.6	+0.6
ATKA					Sn	17 05 32.8	-0.2
WESP	Westdahl Peak	3.30	59		Pn	17 05 05.2	+0.9
GSTR	Great Sitkin T	4.05	261	Pn	Pn	17 05 16.2	+1.8
GSMY	Great Sitkin M	4.06	261		Pn	17 05 15.8	+1.2
GSTD	Great Sitkin T	4.11	261		Pn	17 05 16.5	+1.2
SPIA	Saint Paul Isl	4.33	355		Pn	17 05 18.8	+0.7
ADAG	Mount Adagdak	4.40	261		Pn	17 05 20.9	+1.7
ADK	Adak	4.47	260		Pn	17 05 21.3	+1.2
KIKV	Kanaga Island	4.77	261		Pn	17 05 25.3	+1.1
KIMD	Kanaga Island	4.84	260		Pn	17 05 26.2	+1.1
DT1	Dutton Round H	4.84	60		Pn	17 05 25.3	+0.2
SDPT	Sand Point	5.89	62		Pn	17 05 39.0	-0.4
CNBA	Chernabura Isl	6.22	68		Pn	17 05 42.5	-1.3
CESW	Semis' Southwe	6.73	266		Pn	17 05 51.8	+1.0
AMKA	Amchitka	7.02	262		Pn	17 05 54.8	0.0
GHO	Glory Hole Cre	14.21	43	Pn	Pn	17 07 30.6	-0.9
ILAR	Eielson Array	16.60	35	P	Pn	17 08 01.6	+0.1
	0.1nm,0.3s,baz=225,slow=11,SNR=3.4						
SEY	Seymchan	22.24	312	P	P	17 09 02.5	-1.1
	1.5nm,0.8s,baz=80,slow=11,SNR=4.7						
DLBC	Dease Lake	22.73	60	P	P	17 09 10.4	+1.6
	1.2nm,0.5s,baz=315,slow=7.6,SNR=3.3						
NVAR	Mina Array Bea	37.79	91	P	P	17 11 23.7	+1.5
	0.5nm,0.6s,baz=311,slow=8.2,SNR=2.1						
PDAR	Pinedale Array	40.42	80	P	P	17 11 44.6	+0.6
	0.2nm,0.4s,baz=320,slow=3.9,SNR=3.4						
TXAR	Lajitas Array	52.86	89	P	P	17 13 21.8	+0.8
	0.4nm,0.7s,baz=305,slow=4.5,SNR=5.6						
FINES	FINESS Array B	65.35	352	P	P	17 14 45.5	-1.1
	1.5nm,0.9s,baz=8.9,slow=9.8,SNR=2.5						
CMAR	Chiang Mai Arr	76.39	283	P	P	17 15 53.2	-0.9
	0.3nm,0.3s,baz=41,slow=8.4,SNR=4.2						
WRA	Warramunga Arr	87.23	231	P	P	17 16 49.6	-1.1
	0.6nm,1.0s,baz=35,slow=5.2,SNR=2.7						
ASAR	Alice Springs	90.63	230	P	P	17 17 06.6	-0.1
	0.6nm,0.9s,baz=40,slow=4.5,SNR=4.5						
BOSA	Boshof	153.39	330	PKPbc	PKPbc	17 24 01.1	-1.0
	1.0nm,0.4s,baz=340,slow=3.0,SNR=7.3						

IDC 01 17:05:23.6±2.2, 13°.91N×92°.50E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/63, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=63.9km s-min=30.2km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.66	53	Pn	Pn	17 07 16.6	+0.1
	0.3nm,0.3s,baz=241,slow=16,SNR=5.5						
H08S3	Diego Garcia H	29.20	224	T	T	17 42 44.5	
	baz=42,slow=76,SNR=4.0						
H08S2	Diego Garcia H	29.21	224	T	T	17 42 47.3	
	baz=42,slow=76,SNR=2.9						
H08S1	Diego Garcia H	29.22	224	T	T	17 42 47.0	
	baz=42,slow=76,SNR=3.3						
MKAR	Makanchi Array	33.88	347	P	P	17 12 08.1	+0.1
	0.3nm,0.5s,baz=164,slow=8.3,SNR=4.7						
WRA	Warramunga Arr	53.16	128	P	P	17 14 43.3	-0.5
	0.2nm,0.7s,baz=310,slow=8.9,SNR=1.3						
ASAR	Alice Springs	55.08	132	P	P	17 14 57.9	+0.1
	0.2nm,0.5s,baz=317,slow=6.4,SNR=1.6						

*TEH **01** 17:05:36.4, 32°.79N×47°.45E, h8km, ML3.0*
*ISN **01** 17:05:36.8±1.4, 32°.69N×47°.55E, h34km±8km, ML3.1*
ISC 01 17:05:36.3±1.4, 32°.78N±0°.03×47°.44E±0°.04, h7km±12km, n20, σ1°52/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.17	234	ePg	Pg	17 05 39.8	+0.1
DHL1				e		17 05 44.8	
IBDR	Badra	1.31	285	ePg	Pg	17 06 02.0	+0.5
IBDR				eSg	Sn	17 06 22.0	+3.1
IBDR				AML	AML	17 06 25.9	
	comp=N,338nm,0.6s						
IBDR				AML	AML	17 06 26.3	
	comp=E,268nm,0.8s						
SHGR	Shooshtar-Gavs	1.33	120	ePg	Pg	17 06 03.4	+1.5
IKOM	Komasi	1.39	2	e		17 06 05.1	
IKOM				ePg	Pg	17 06 03.9	+0.8
BMDN	Meydan	1.46	52	ePg	Pb	17 06 03.7	-0.3
BMDN				e		17 06 32.5	
KCHF	Cheshme Sefid,	1.53	348	e		17 06 30.9	
KCHF				ePg	Pg	17 06 06.5	+0.8
KER	Kermanshah	1.62	351	ePg	Pg	17 06 08.4	+1.0
IGHG	Ghaleghazi	1.71	335	e		17 06 47.0	
IGHG				ePg	Pg	17 06 09.0	-0.1
IBZA	Bozab	1.72	12	e		17 06 38.9	
IBZA				ePg	Pg	17 06 08.8	-0.6
HSAM	Samen	1.73	34	e		17 06 37.7	
HSAM				ePg	Pg	17 06 09.0	-0.5
AHWZ	Ahwaz	1.77	144	ePg	Pb	17 06 09.6	+0.5
IVIS	Veis	1.81	344	ePn	Pg	17 06 11.2	+0.1
NSR	Nassriya	2.08	212	ePn	Pn	17 06 11.0	-0.7
NSR				eSn	Sn	17 06 34.0	-3.9
IDHR	Dehrash	2.11	336	ePn	Pb	17 06 13.9	-1.1
IDHR				e		17 06 52.2	
ILIN	Lien	2.17	350	ePn	Pb	17 06 15.4	-0.7
ILIN				e		17 06 55.8	
KHMZ	Khomeyn	2.32	65	ePn	Pb	17 06 17.9	-0.7
HSRG	Sareghieh	2.55	16	ePn	Pb	17 06 20.7	-2.0
BHD	Baghdad	2.62	282	ePn	Pn	17 06 20.0	+1.0
BHD				eSn	Sn	17 06 52.0	+0.9
ASAO	Ashtian	2.79	50	ePn	Pb	17 06 24.9	-1.7
QABG	Abgarm-Qazvin	3.42	31	ePn	Pn	17 06 31.5	+1.2

*IDC **01** 17:13:47.2±0.9, 24°.76N×125°.58E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.7/54, mbtmp3.9/13, ML3.7/2, MS3.3/5, Ms1 3.3/5, ms1mx2.8/37, Error ellipse: s-maj=27.1km s-min=17.6km az=77.0*
*NEIC **01** 17:13:52.3±1.1, 24°.82N±0°.10×125°.7E±0°.1, h37km±7km, mb4.0/9, Error ellipse: s-maj=16.7km s-min=12.5km az=128.0*
*JMA **01** 17:13:52.7±0.1, 24°.75N×125°.76E, h54km±1km, M3.7*
*NIED **01** 17:13:52.8, 24°.75N×125°.76E, h54km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.13; $M_{\theta\theta}$=0.21; $M_{\phi\phi}$=0.34; $M_{r\theta}$=0.68; $M_{\theta\phi}$=1.05; $M_{\phi r}$=0.07; Fault plane solution: M_0=1.28000×10^{15} NP1: ϕ_s=261.00000°, δ=83.00000°, λ=-32.00000°. NP2: ϕ_s=355.00000°, δ=59.00000°, λ=-172.00000°.*
ISC 01 17:13:53.1±1.0, 24°.74N±0°.08×125°.77E±0°.06, h49km±7km, n48, σ0°97/54, mb3.8/15, MS3.6/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.33	274	P	Pn	17 14 02.4	-0.1
JOGS				S	Sn	17 14 09.4	+0.3
JMJ2	Miyako jima3	0.40	271	P	Pn	17 14 03.1	-0.1
JMJ2				S	Sn	17 14 10.5	+0.1
JIKM	Ikemajima	0.51	291	P	Pn	17 14 04.2	-0.2
JIKM				S	Sn	17 14 12.6	+0.1
JIRB	Irabujima	0.55	280	P	Pn	17 14 04.5	-0.4
JIRB				S	Sn	17 14 13.1	-0.3
JTJ	Tarama	0.98	265	P	Pn	17 14 10.6	+0.1
JTJ				S	Sn	17 14 23.3	0.0
JISG	Ishigakijimahi	1.34	264	P	Pn	17 14 15.2	-0.2
JISG				S	Sn	17 14 31.5	-0.5
JIJ	Ishigaki jima	1.53	256	P	Pn	17 14 17.8	-0.2
JIJ				S	Sn	17 14 35.8	-0.9
JKRS	Kuro-shima	1.68	253	P	Pn	17 14 19.9	-0.2
JKE	Kume jima 2	1.83	30	P	Pn	17 14 21.9	-0.2
IRIF	Iriomote-Funau	1.90	258	P	Pn	17 14 22.7	-0.4
HATJ	Hateruma jima	1.92	250	P	Pn	17 14 22.8	-0.5
JAGN	Aguni-jima	2.27	35	P	Pn	17 14 28.1	-0.1
JJT3	Tamagusuku3	2.30	52	P	Pn	17 14 28.8	+0.3
JJT3				eS	Sn	17 14 54.9	-0.7
YOJ	Yonaguni jima	2.53	264	Pn	Pn	17 14 31.1	-0.6
NACB	Ninganchiao	3.85	262	Pn	Pn	17 14 48.8	-1.0
YHNB	Yeheng	4.00	270	Pn	Pn	17 14 53.7	+1.7
YULB	Yu-li	4.30	253		Pn	17 14 53.6	-2.5
SSLB	Suanglung	4.50	259		Pn	17 14 57.0	-1.8
TWG	Pinlang	4.71	247	Pn	Pn	17 14 58.9	-2.7
TPUB	Ta-pu	4.91	254		Pn	17 15 03.4	-1.1
JNU	Nakatsue	9.47	27	Pn	Pn	17 16 05.5	-1.5
	0.8nm,0.3s,baz=239,slow=5.4,SNR=12						
JNU				Sn	Sn	17 17 52.4	+0.3
	0.1nm,0.3s,baz=241,slow=18,SNR=1.2						
JNU	Nakatsue	9.47	27		Pn	17 16 05.3	-1.7
KSRS	Korea Array	12.81	8	LR	LR	17 22 47.3	
	comp=Z,47nm,18.7s,baz=196,slow=42						
MJAR	Matsushiro Arr	15.89	39	Pn	P	17 17 35.0	-1.3
	0.1nm,0.3s,baz=230,slow=11,SNR=11						
DAV	Davao City (W)	17.57	181	LR	LR	17 25 21.8	
	comp=Z,29nm,19.3s,baz=334,slow=40						
SBUM	Sibu	25.73	213	P	P	17 19 20.7	+1.6
SBUM				IAmb	IAmb	17 19 22.2	
	comp=Z,3.4nm,0.8s						
SONM	Songino Array	27.69	331	P	P	17 19 35.3	-1.4
	comp=Z,0.4nm,0.4s,baz=163,slow=11,SNR=2.1						
SONM	Songino Array	27.69	331	P	P	17 19 35.4	-1.2
PETK	Petropavlovsk-	37.13	32	P	P	17 21 00.6	+1.7
	comp=Z,0.9nm,0.6s,baz=222,slow=6.6,SNR=5.4						
PETK				LR	LR	17 36 40.0	
	comp=Z,65nm,18.8s,baz=184,slow=37						
MK31	Makanchi Array	40.91	314	P	P	17 21 30.5	-0.1
MKAR	Makanchi Array	40.91	314	P	P	17 21 30.5	-0.1
	comp=Z,0.4nm,0.3s,baz=98,slow=9.4,SNR=14						
ZAA0	Zalesovo Array	42.13	325	P	P	17 21 39.7	-0.7
ZAA0				IAmb	IAmb	17 21 40.1	
	comp=Z,2.4nm,0.6s						
ZALV	Zalesovo Beam	42.13	325	P	P	17 21 39.5	-0.9
	comp=Z,1.8nm,0.5s,baz=115,slow=9.2,SNR=9.6						
KDJ	Kajisay	43.49	306	P	P	17 21 52.3	+0.5
KDJ				IAmb	IAmb	17 22 18.8	
	comp=Z,7.6nm,1.8s						
WRA	Warramunga Arr	45.19	169	P	P	17 22 05.6	+0.2
	comp=Z,0.9nm,0.9s,baz=349,slow=9.3,SNR=5.8						
WRA	Warramunga Arr	45.19	169	P	P	17 22 05.7	+0.3
KKAR	Karatay Array	48.48	307	P	P	17 22 30.7	-0.2
GAR	Garm	48.50	301	P	P	17 22 31.1	-0.2
AS31	Alice Springs	48.76	170	P	P	17 22 34.5	+1.3
AS31				IAmb	IAmb	17 22 54.3	
	comp=Z,1.3nm,1.2s						
ASAR	Alice Springs	48.76	170	P	P	17 22 34.6	+1.4
	comp=Z,0.3nm,0.4s,baz=354,slow=7.3,SNR=21						
BVAR	Borovoye Array	49.93	319	P	P	17 22 41.7	-0.1
	comp=Z,0.2nm,0.3s,baz=104,slow=9.4,SNR=2.1						
ABKAR	Akbulak array	56.06	314	P	P	17 23 27.9	+0.9
GEYT	Alibeck	58.12	301	P	P	17 23 42.4	+0.5
	comp=Z,2.5nm,0.8s,baz=24,slow=1.8,SNR=5.2						
GEYT	Alibeck	58.12	301	P	P	17 23 41.6	-0.3
ARCES	ARCESS Array B	70.58	338	LR	LR	18 00 50.3	
	comp=Z,40nm,18.8s,baz=264,slow=40						
FINES	FINESS Array B	73.06	330	P	P	17 25 18.0	+0.2
	comp=Z,1.0nm,0.6s,baz=8.7,slow=2.5,SNR=6.1						
AKASG	Malin Array Be	75.21	319	P	P	17 25 30.7	+0.2
	comp=Z,0.3nm,0.3s,baz=69,slow=5.1,SNR=2.9						
NOA	NORSAR Array B	79.65	333	P	P	17 25 55.2	0.0
	comp=Z,0.4nm,0.6s,baz=56,slow=5.5,SNR=2.0						
NOA				LR	LR	18 03 38.6	
	comp=Z,28nm,19.3s,baz=60,slow=38						

*IDC **01** 17:16:58.2±2.5, 38°.95N×141°.81E, h79km±21km, mb3.5/5, mb1 3.5/9, mb1mx3.2/54, mbtmp3.7/9, Error ellipse: s-maj=40.8km s-min=17.7km az=80.0*
*JMA **01** 17:16:59.3, 38°.95N×141°.61E, h77km±1km, M3.1*
ISC 01 17:16:58.5±1.1, 38°.94N±0°.05×141°.66E±0°.09, h77km±7km, n25, σ2°13/31, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.14	3	P	Pn	17 17 10.5	+0.8
OFUJ				S	Sn	17 17 18.6	+0.7
JKMT	Kesennumamotoy	0.20	228	P	Pn	17 17 10.7	+0.8
JKMT				S	Sn	17 17 18.9	+0.7
JMK	Ichinoseki	0.34	272	P	Pn	17 17 11.1	+0.4
JMK				S	Sn	17 17 19.9	+0.3
JIO	Ouri	0.55	207	P	Pn	17 17 13.0	+0.7
JIO				S	Sn	17 17 22.9	+0.4
JOM	Ohasama	0.60	332	P	Pn	17 17 13.5	+0.6
JOM				S	Sn	17 17 24.0	+0.5
JRG	Rokugo	0.92	300	P	Pn	17 17 16.9	+0.5
JRG				S	Sn	17 17 30.1	+0.5
JOU	Okura	0.97	234	P	Pn	17 17 17.7	+0.7
JOU				S	Sn	17 17 31.7	+0.9
JYK	Kaneyama	1.01	269	P	Pn	17 17 18.1	+0.6
JYK				eS	Sn	17 17 32.0	+0.3
JMM	Marumori	1.27	213	P	Pn	17 17 21.0	+0.2
JMM				eS	Sn	17 17 37.6	+0.2
JYS	Shirataka	1.44	240	P	Pn	17 17 23.8	+0.9
JYS				eS	Sn	17 17 42.3	+0.9
MJAR	Matsushiro Arr	3.64	230	P	Pn	17 17 53.9	+1.4
	0.1nm,0.3s,baz=74,slow=17,SNR=9.3						
ASAJ	Asahikawa	5.22	7	P	Pn	17 18 13.5	-0.5
	1.0nm,0.3s,baz=209,slow=9.0,SNR=16						
ASAJ				S	Sn	17 19 05.0	-7.8
	0.7nm,0.3s,baz=204,slow=16,SNR=2.2						
JHJ	Hachijo jima 2	6.01	195	P	Pn	17 18 23.9	-0.9
	7.1nm,0.3s,baz=233,slow=20,SNR=6.7						
JHJ				S	Sn	17 19 25.2	-7.0
	3.5nm,0.3s,baz=229,slow=20,SNR=1.8						
USRK	Ussuriysk Ar.	8.95	309	P	Pn	17 19 06.5	+1.6
	baz=117,slow=14,SNR=2.0						
H11N2	WAKE ISLAND Hy	29.01	124	T	T	17 53 20.7	
	baz=317,slow=76,SNR=26						
H11N1	WAKE ISLAND Hy	29.02	124	T	T	17 53 20.8	
	baz=317,slow=76,SNR=33						
H11N3	WAKE ISLAND Hy	29.02	124	T	T	17 53 22.1	
	baz=317,slow=76,SNR=49						
H11S1	WAKE ISLAND Hy	29.78	126	T	T	17 54 15.4	
	baz=318,slow=76,SNR=30						
H11S3	WAKE ISLAND Hy	29.78	126	T	T	17 54 18.2	
	baz=318,slow=76,SNR=26						
H11S2	WAKE ISLAND Hy	29.80	126	T	T	17 54 17.7	
	baz=318,slow=76,SNR=14						
ZALV	Zalesovo Beam	40.80	311	P	P	17 24 31.8	-0.3
	1.0nm,0.5s,baz=81,slow=9.3,SNR=4.6						
MKAR	Makanchi Array	43.30	300	P	P	17 24 52.6	+0.1
	0.8nm,0.7s,baz=85,slow=10,SNR=8.4						
KURBB	Kurchatov Arra	45.00	307	P	P	17 25 06.0	-0.1
	3.1nm,0.2s,baz=82,slow=9.2,SNR=5.9						
WRA	Warramunga Arr	58.98	188	P	P	17 26 49.5	-0.6
	0.4nm,0.8s,baz=5.3,slow=7.0,SNR=4.8						
ASAR	Alice Springs	62.70	188	P	P	17 27 15.5	+0.2
	0.3nm,0.9s,baz=359,slow=5.7,SNR=1.7						

ISC 01 17:20:12.5±1.5, 44°.47N±0°.05×17°.14E±0°.08, h1km±21km, n6, σ0°98/11, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.28	6	ePg	Pg	17 20 17.7	-0.2
BLY				eSg	Sg	17 20 21.9	+0.4
KIJV	Kijevo	0.71	229	ePg	Pg	17 20 25.4	-0.7
KIJV				Sg	Sg	17 20 35.4	+0.2
RICI	Ricice	0.98	180	ePg	Pg	17 20 31.3	0.0
RICI				Sg	Sb	17 20 46.3	+0.7
MORI	Morici	1.20	240	ePg	Pb	17 20 34.4	-1.5
MORI				Sg	Sg	17 20 50.9	-0.1
ZIRJ	Zirje	1.35	233	Sg	Sg	17 20 56.9	+0.8
DUGI	Dugi Otok	1.57	253	ePn	Pb	17 20 42.9	+0.5
DUGI				Sn	Sg	17 21 04.6	+1.5

*IDC **01** 17:36:09.6±15.0, 23°.52S×178°.66W, h520km±64km, mb2.9/3, mb1 3.2/5, mb1mx2.9/24, mbtmp4.1/5, Error ellipse: s-maj=238.3km s-min=51.0km az=57.0*
*NEIC **01** 17:36:19.3±1.1, 24°.3S±0°.2×179°.8W±0°.2, h529km±14km, mb4.3/19, Error ellipse: s-maj=25.3km s-min=22.0km az=75.0*
ISC 01 17:36:18.6±1.0, 24°.33S±0°.10×179°.8W±0°.1, h512km, n30, σ1°16/31, mb4.1/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.85	343	P	P	17 38 04.6	+0.6
DZM	Mont Dzumac	12.82	277	P	P	17 39 07.7	+1.7
	0.3nm,0.3s,baz=91,slow=18,SNR=7.8						
DZM	Mont Dzumac	12.82	277	P	P	17 39 07.4	+1.4
URZ	Urewera	14.13	190	P	P	17 39 20.4	+1.1
	0.4nm,0.3s,baz=3.5,slow=14,SNR=2.3						
URZ				S	S	17 41 48.4	0.0
	0.6nm,0.3s,baz=176,slow=23,SNR=7.1						
BKZ	Black Stump Fm	15.12	191	P	P	17 39 30.4	+0.6
MSWZ	Moikau Station	17.53	192	P	P	17 39 53.8	-0.1
QRZ	Quartz Range	17.65	199	P	P	17 39 54.8	-0.3
THZ	Tophouse	18.41	197	P	P	17 40 00.4	-1.6
THZ				IAmb	IAmb	17 40 05.5	
	comp=Z,14nm,1.1s						
KHZ	Kahutara	18.86	195	P	P	17 40 04.5	-1.5
KHZ				IAmb	IAmb	17 40 27.8	
	comp=Z,20nm,1.4s						
LTZ	Lake Taylor	19.53	198	P	P	17 40 10.7	-1.5
LTZ				IAmb	IAmb	17 40 20.2	
	comp=Z,6.3nm,1.1s						
OXZ	Oxford	20.10	197	P	P	17 40 14.6	-2.7
OXZ				IAmb	IAmb	17 40 37.3	
	comp=Z,23nm,1.5s						
FOZ	Fox Glacier	20.96	201	P	P	17 40 23.7	-1.4
CTAO	Charters Tower	31.64	271	P	P	17 41 58.9	-0.6
CTAO				IAmb	IAmb	17 42 08.3	
	comp=Z,9.0nm,1.4s						
STKA	Stephens Creek	34.71	249	P	P	17 42 25.8	+0.4
	comp=Z,1.4nm,0.7s,baz=98,slow=11,SNR=4.0						
BBOO	Buckleboo	39.42	247	P	P	17 43 03.8	-0.3
BBOO				IAmb	IAmb	17 43 26.9	
	comp=Z,39nm,1.4s						
AS31	Alice Springs	42.12	261	P	P	17 43 25.6	-0.3
ASAR	Alice Springs	42.12	261	P	P	17 43 25.4	-0.4
	comp=Z,0.4nm,0.3s,baz=95,slow=6.8,SNR=36						
WR0	Warramunga Arr	42.35	267	P	P	17 43 26.2	-1.4
WB2	Warramunga Arr	42.53	267	P	P	17 43 28.1	-0.9
WB2				IAmb	IAmb	17 43 39.2	
	comp=Z,11nm,1.4s						
WRAB	Tennant Creek	42.53	267	P	P	17 43 27.8	-1.3
WRAB				IAmb	IAmb	17 43 35.6	
	comp=Z,9.5nm,1.5s						
WB0	Warramunga Arr	42.53	267	P	P	17 43 27.9	-1.1
WRA	Warramunga Arr	42.54	267	P	P	17 43 28.4	-0.7
	comp=Z,1.1nm,0.3s,baz=100,slow=8.4,SNR=50						
WRA	Warramunga Arr	42.54	267	P	P	17 43 27.6	-1.5
KNRA	Kununurra	48.84	270	P	P	17 44 17.4	+0.1
KNRA				IAmb	IAmb	17 44 29.2	
	comp=Z,14nm,1.5s						
FITZ	Fitzroy Crossi	50.95	266	P	P	17 44 32.7	-0.1
MORW	Morawa	56.88	250	P	P	17 45 14.3	-0.3
MORW				IAmb	IAmb	17 45 43.4	
	comp=Z,10nm,1.3s						
SNAA	Sanae	84.24	179	P	P	17 47 56.5	+0.9
VNA3	Neumayer Olymp	84.44	177	P	P	17 47 57.6	+1.1
VNA2	Neumayer--Watz	84.86	178	P	P	17 48 00.2	+1.6
PHWY	Pilot Hill	94.83	47	P	P	17 48 44.8	-0.9

*MDD **01** 17:40:08.0±1.8, 36°.67N×9°.83W, h30km, mbLg2.6/15, Error ellipse: s-maj=16.2km s-min=10.5km az=34.0, PRXIMO*
*INMG **01** 17:40:08.3±1.6, 36°.65N×9°.73W, h16km±6km, ML2.2, Error ellipse: s-maj=6.2km s-min=4.0km az=50.0*
*CNRM **01** 17:40:08.5±1.0, 36°.48N×9°.47W, h28km±11km, Error ellipse: s-maj=22.3km s-min=4.0km az=116.0*
*IGIL **01** 17:40:08.8, 36°.65N×9°.71W, h19km, ML2.2*
ISC 01 17:40:05.9±2.3, 36°.65N±0°.08×9°.82W±0°.08, h32km±12km, n47, σ1°50/83, 5C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.93	58	⇑P	Pn	17 40 24.1	+1.4
	10nm,0.1s,SNR=18						
PFVI				S	Sb	17 40 35.2	-0.3
	26nm,0.1s,SNR=16						
PFVI	Vila Bisbo	0.93	58	P	Pn	17 40 23.9	+1.3
PFVI				S	Sb	17 40 35.6	+0.1
PFVI	Vila Bisbo	0.93	58⇑	eP	Pn	17 40 24.1	+1.4
PFVI				eS	Sb	17 40 35.7	+0.1
PFVI				A	A	17 40 36.7	

PSBE	So Bento	2.97	15	ePn	Pn	17 40 52.6	+1.8
PSBE				eSn	Sn	17 41 26.5	+1.1
PSBE				A	A	17 41 30.1	
	comp=N,10nm,0.3s						
ESPR	Espera	3.19	85	P	Pn	17 40 55.2	+1.5
	comp=N,0.8nm,0.1s,SNR=7.9						
ESPR				S	Sn	17 41 30.1	-0.6
	comp=N,27nm,0.3s,SNR=7.9						
PMRV	Marv??o	3.37	34	ePn	Pn	17 40 57.9	+1.6
PMRV				eSn	Sn	17 41 34.4	-0.8
PMRV				A	A	17 41 37.4	
	comp=N,4.7nm,0.4s						
PCAS	Casmilo, Conde	3.55	17	ePn	Pn	17 41 00.8	+2.0
PCAS				eSn	Sn	17 41 38.5	-1.2
PCAS				A	A	17 41 42.4	
	comp=N,5.3nm,0.2s						
PCBR	Castelo Branco	3.68	29	eSn	Sn	17 41 42.8	0.0
ECAB	El Cabril	3.78	67	P	Pn	17 41 03.5	+1.5
	comp=N,0.1nm,0.0s,SNR=7.6						
ECAB				S	Sn	17 41 44.3	-1.1
	comp=N,4.9nm,0.4s,SNR=8.7						
HORN	Hornachuelos	3.83	70	P	Pn	17 41 03.3	+0.8
HORN				S	Sn	17 41 44.7	-1.7
MTE	Manteigas	4.15	25	eSn	Sn	17 41 55.3	+0.9
PVIS	Viseu	4.33	20	eSn	Sn	17 41 59.2	+0.3
PVIS				A	A	17 42 00.7	
	comp=N,4.0nm,0.1s						
EADA	Adamuz	4.44	68	P	Pn	17 41 12.3	+1.3
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	17 42 00.1	-1.4
	SNR=7.9						
EPLA	Plasencia	4.50	40	P	Pn	17 41 13.1	+1.3
	comp=N,0.3nm,0.1s,SNR=4.0						
EPLA				S	Sn	17 42 02.2	-0.9
	comp=N,2.2nm,0.2s,SNR=7.9						
MVO	Moncorvo	5.01	25	P	Pn	17 41 20.2	+1.5
	comp=N,0.5nm,0.1s,SNR=7.9						
MVO				S	Sn	17 42 12.7	-2.8
	comp=N,1.8nm,0.2s,SNR=7.0						
MVO	Moncorvo	5.01	25	ePn	Pn	17 41 20.3	+1.5
MVO				eSn	Sn	17 42 13.4	-2.2
MVO				A	A	17 42 16.6	
	comp=N,2.9nm,0.2s						
PAB	San Pablo	5.19	55	S	Sn	17 42 18.1	-2.1
	comp=N,0.8nm,0.3s,SNR=7.9						
PCAB	Cabril	5.24	15	eSn	Sn	17 42 20.4	-0.9
ELOB	Lobios	5.39	14	P	Pn	17 41 25.4	+1.4
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	17 42 21.8	-3.1
	comp=N,2.9nm,0.2s,SNR=5.7						
PGAV	Gavieira, Arco	5.44	12	ePn	Pn	17 41 26.3	+1.5
PGAV				eSn	Sn	17 42 25.1	-1.3
PGAV				A	A	17 42 28.0	
	comp=N,3.2nm,0.6s						
EQES	Quesada	5.51	76	S	Sn	17 42 26.1	-1.8
	comp=N,1.1nm,0.3s,SNR=7.9						
MD31	MD31	5.62	131	P	Pn	17 41 27.0	-0.2
OUK	Oukaimeden	5.67	163	P	Pn	17 41 27.5	-0.6
PBRG	Braganca	5.67	24	ePn	Pn	17 41 29.8	+1.8
PBRG				eSn	Sn	17 42 30.6	-1.4
ECAL	Calabor	5.80	23	P	Pn	17 41 30.7	+1.0
	comp=N,0.1nm,0.0s,SNR=7.9						
ECAL				S	Sn	17 42 32.8	-2.3
	comp=N,2.8nm,0.2s,SNR=7.9						
GUD	Guadarrama	5.96	46	P	Pn	17 41 33.6	+1.6
	comp=N,0.1nm,0.1s,SNR=4.0						
GUD				S	Sn	17 42 37.8	-1.5
	comp=N,1.8nm,0.3s,SNR=5.6						
OUZM	OUZ	6.26	155	P	Pn	17 41 35.5	-0.7
EAGO	Agolada(Pontev	6.29	12	P	Pn	17 41 36.9	+0.5
	comp=N,0.3nm,0.1s,SNR=7.9						
EAGO				S	Sn	17 42 42.9	-4.2
	SNR=7.9						
EMAZ	Mazaricos	6.33	6	P	Pn	17 41 37.7	+0.9
	comp=N,0.6nm,0.1s,SNR=7.9						
EMAZ				S	Sn	17 42 44.2	-3.7
	comp=N,1.0nm,0.2s,SNR=7.9						
ETOR	Torete	7.36	53	S	Sn	17 43 10.7	-2.8
	comp=N,1.7nm,0.3s,SNR=7.9						

*IDC **01** 17:42:21.0±2.7, 31°.40N×132°.43E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/28, mbtmp3.5/5, MS2.3/1, Ms1 2.3/1, ms1mx2.0/25, Error ellipse: s-maj=138.4km s-min=22.2km az=67.0*

*JMA **01** 17:42:24.4±0.1, 31°.24N×132°.43E, h62km±4km, M3.4*

ISC 01 17:42:23.9±1.0, 31°.27N±0°.05×132°.44E±0°.07, h22km±6km, n20, σ0°.88/31, mb3.6/5, 4C-3D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKG	Nichinankitago	0.99	293	⇑P	Pn	17 42 42.6	+0.1
JNKG				S	Sn	17 42 56.2	+0.4
JNAR	Kushima--Naru	1.03	285	⇓P	Pb	17 42 43.2	+0.2
JNAR				eS	Sb	17 42 56.5	+0.4
JTSN	Tsuno	1.26	321	⇑P	Pn	17 42 46.2	+0.1
JTSN				eS	Sn	17 43 02.0	-0.4
JTSR	Tashiro 2	1.31	266	P	Pn	17 42 46.5	-0.3
JTSR				eS	Sn	17 43 02.6	-1.0
JTZ	Takazaki	1.31	299	⇓P	Pn	17 42 46.9	0.0
JTZ				eS	Sn	17 43 04.1	+0.3
JTN	Tanegashima 3	1.40	244	⇑P	Pn	17 42 48.0	-0.1
JTN				eS	Sn	17 43 05.2	-0.7
JMTN	Minamitane	1.59	237	⇓P	Pn	17 42 50.5	-0.2
JMTN				S	Sn	17 43 10.1	-0.4
JTO	Tosashimizu	1.61	11	P	Pn	17 42 50.6	-0.5
JTO				eS	Sn	17 43 08.7	-2.5
JIU3	Izumi3	1.88	313	P	Pn	17 42 55.4	+0.6
JIU3				S	Sn	17 43 18.7	+0.9
JYAK	Yakushimahirau	1.96	239	⇑P	Pn	17 42 55.7	0.0
JYAK				S	Sn	17 43 18.9	-0.7
JNA	Nagahama	2.28	1	P	Pn	17 43 01.0	+0.8
JNA				S	Sn	17 43 26.1	-1.6
JSJ	Shimokoshiki	2.36	281	P	Pn	17 43 00.5	-0.9
JNN	Nakanoshima	2.63	238	P	Pn	17 43 04.9	-0.2
JNN				S	Sn	17 43 35.4	-1.0
JMN	Monobe	2.73	26	P	Pn	17 43 07.3	+0.8
MJAR	Matsushiro Arr	7.11	41	LR	LR	17 46 01.7	
	comp=Z,22nm,19.8s,baz=105,slow=31						
SONM	Songino Array	25.84	317	P	P	17 47 53.6	-0.2
	0.4nm,0.5s,baz=109,slow=7.9,SNR=2.7						
MKAR	Makanchi Array	41.21	307	P	P	17 50 06.2	-0.8
	0.2nm,0.5s,baz=88,slow=11,SNR=2.8						
WRA	Warramunga Arr	50.95	178	P	P	17 51 24.4	+0.6
	0.5nm,0.6s,baz=354,slow=7.5,SNR=8.4						
ASAR	Alice Springs	54.64	178	P	P	17 51 53.0	+1.9
	0.4nm,0.5s,baz=12,slow=12,SNR=26						
FINES	FINESS Array B	70.30	331	P	P	17 53 35.4	0.0
	1.0nm,0.8s,baz=46,slow=5.5,SNR=3.7						

IDC 01 18:08:19.0±2.1, 2°.34N×123°.20E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/37, mbtmp3.2/3, Error ellipse: s-maj=336.4km s-min=27.6km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.70	154	P	P	18 13 42.2	+0.2
	0.2nm,0.3s,baz=334,slow=9.8,SNR=6.0						
ASAR	Alice Springs	27.87	159	P	P	18 14 10.5	-0.2
	0.1nm,0.3s,baz=335,slow=8.8,SNR=1.8						
MKAR	Makanchi Array	56.75	327	P	P	18 18 04.8	-0.1
	0.2nm,0.4s,baz=119,slow=8.2,SNR=5.2						

*IDC **01** 18:20:21.3±2.0, 50°.89N×174°.10W, h0km, mb3.3/3, mb1 3.7/6, mb1mx3.4/47, mbtmp3.5/6, ML3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=58.4km s-min=25.7km az=3.0*

*NEIC **01** 18:20:24.2±1.0, 50°.46N±0°.09×174°.42W±0°.09, h30km±8km, Error ellipse: s-maj=13.1km s-min=7.8km az=170.0*

*AEIC **01** 18:20:24±1.0, 50°.45N±0°.08×174°.44W±0°.09, h35km±7km, ML3.0, Error ellipse: s-maj=11.8km s-min=8.0km az=167.0*

ISC 01 18:20:24.5±1.1, 50°.5N±0°.1×174°.44W±0°.06, h35km, n27, σ0°.95/28, mb3.2/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.75	5		Pn	18 20 51.9	-0.3
ATKA	Atka Island	1.75	5		Sn	18 21 13.9	+0.6
GSMY	Great Sitkin M	1.88	328		Pn	18 20 53.9	-0.2
GSTD	Great Sitkin T	1.92	327		Pn	18 20 54.7	-0.1
GSTD					Sn	18 21 18.3	+0.6
GSTR	Great Sitkin T	1.92	329		Pn	18 20 54.7	0.0
ADK	Adak	2.00	316		Pn	18 20 55.2	-0.6
ADAG	Mount Adagdak	2.04	319		Pn	18 20 56.5	+0.2
KIMD	Kanaga Island	2.19	308		Pn	18 20 58.0	-0.3
KIKV	Kanaga Island	2.23	311		Pn	18 20 59.0	+0.1
KICM	Kanaga Island	2.27	311		Pn	18 20 59.6	+0.2
TASE	Tanaga Southea	2.65	303		Pn	18 21 05.2	+0.5
TAFP	Tanaga Falls P	2.65	304		Pn	18 21 05.1	+0.3
TAFP					Sn	18 21 36.4	+0.7
AMKA	Amchitka	4.06	285		Pn	18 21 23.2	-0.8
NIKH	Nikolski High	4.29	52		Pn	18 21 27.1	-0.1
OKNC	Okmok New Cone	4.92	50		Pn	18 21 37.2	+1.3
MAPS	Pakushin South	5.71	51		Pn	18 21 47.5	+0.8
MSW	Makushin Switc	5.84	51		Pn	18 21 48.6	+0.1
UNV	Unalaska Valle	5.95	52	Pn	Pn	18 21 50.5	+0.6
SDPT	Sand Point	9.75	54	Pn	Pn	18 22 42.6	+0.5
CNBA	Chernabura Isl	10.02	58	Pn	Pn	18 22 46.3	+0.5
KDAK	Kodiak Island	14.72	52	Pn	Pn	18 23 46.5	-3.3
	0.6nm,0.3s,baz=248,slow=6.4,SNR=7.1						
PETK	Petropavlovsk-	17.39	290	P	P	18 24 25.7	+0.5
	0.2nm,0.3s,baz=91,slow=17,SNR=9.0						
ILAR	Eielson Array	20.33	35	P	P	18 24 55.4	-1.8
	0.1nm,0.3s,baz=220,slow=9.1,SNR=3.0						
NVAR	Mina Array Bea	40.91	85	P	P	18 28 03.5	+0.1
	0.4nm,0.8s,baz=289,slow=8.5,SNR=2.7						
KSRS	Korea Array	42.44	275	LR	LR	18 45 48.1	
	comp=Z,13nm,19.9s,baz=40,slow=36						
TXAR	Lajitas Array	56.04	84	P	P	18 30 00.1	+0.3
	0.3nm,0.7s,baz=278,slow=6.1,SNR=4.2						
MKAR	Makanchi Array	62.74	311	P	P	18 30 47.0	+1.2
	0.1nm,0.5s,baz=57,slow=5.3,SNR=2.4						

*TUL **01** 18:31:06.3±1.4, 36°.73N±0°.02×97°.91W±0°.06, h5km±2km, ML3.2, Error ellipse: s-maj=7.7km s-min=3.5km az=83.0*

*NEIC **01** 18:31:06.5±1.0, 36°.69N±0°.02×97°.90W±0°.06, h5km±7km, Error ellipse: s-maj=6.9km s-min=2.9km az=81.0*

*UNK **01** 18:31:06.3, 36°.73N×97°.91W, h5km*

*ANF **01** 18:31:08.1±1.5, 36°.74N×97°.94W, h16km±10km, ML4.0/12, Error ellipse: s-maj=4.1km s-min=3.4km az=41.0*

ISC 01 18:31:06.0±1.2, 36°.71N±0°.02×97°.91W±0°.03, h3km±10km, n64, σ0°.89/70, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.21	197		Pg	18 31 10.9	+0.9
CROK				Sg	Sg	18 31 13.7	+1.0
KAN10	Anthony SW Sta	0.44	340	Pg	Pg	18 31 15.0	+0.5
KAN13	South Haven SW	0.46	48	Pg	Pg	18 31 15.5	+0.6
KAN13				Sg	Sg	18 31 21.6	+0.7
KAN12	Harper NE Stat	0.60	353		Pg	18 31 17.9	+0.5
U32A	Winter Ranch,	0.94	250		Pg	18 31 24.3	+0.3
OK029	Liberty Lake	0.98	158		Pg	18 31 25.0	+0.3
BCOK	Bluff Creek, N	1.07	167		Pg	18 31 26.6	0.0
QUOK	Quay	1.10	118		Pg	18 31 27.1	-0.1
ADOK	Arcadia Dam	1.14	157	Pg	Pg	18 31 26.7	-1.0
T35A	Sooner Cattle	1.14	79		Pg	18 31 27.9	0.0
OK025	Westminster Rd	1.21	157	Pg	Pg	18 31 29.3	0.0
OKCFA	Oklahoma City	1.34	164		Pn	18 31 31.3	-0.2
OKCSW	OKLAHOMA CITY	1.35	163		Pn	18 31 31.5	-0.2
FNO	Franklin	1.50	164		Pn	18 31 34.0	+0.2
W35A	Tecumseh	1.76	151		Pn	18 31 37.9	+0.6
R32A	Long Quarter,	1.83	340		Pb	18 31 39.4	-0.7
TUL1	Leonard	1.89	114	P	Pb	18 31 40.6	-0.4
	baz=296						
TUL1				S	Sb	18 32 05.7	+0.8
	baz=296						
TUL1	Leonard	1.89	114		Pn	18 31 39.7	+0.7
WMOK	Wichita Mounta	2.09	200	P	Pn	18 31 42.5	+0.7
	baz=19						
WMOK				S	Sn	18 32 10.2	+1.9
	baz=19						
WMOK	Wichita Mounta	2.09	200	Pn	Pn	18 31 42.3	+0.5
CBKS	Cedar Bluff	2.56	326	Sb	Sb	18 32 24.9	+0.6
	baz=145						
CBKS	Cedar Bluff	2.56	326		Pn	18 31 48.9	+0.6
KSU1	Kansas State U	2.60	23	P	Pn	18 31 49.7	+0.7
	baz=204						
KSU1				S	Sn	18 32 22.4	+1.4
	baz=204						
KSU1	Kansas State U	2.60	23		Pn	18 31 49.4	+0.5
U38A	Gravette	2.85	94		Pn	18 31 52.7	+0.4
X37A	Clayton	2.95	135		Pn	18 31 54.9	+1.2
HHAR	Hobbs	3.23	96		Pn	18 31 58.1	+0.6
Z35A	Perchaven, San	3.41	171	Pn	Pn	18 32 00.7	+0.7
AMTX	Amarillo	3.56	240	Sb	Sg	18 32 58.2	-2.2
	baz=58						
AMTX	Amarillo	3.56	240		Pn	18 32 02.6	+0.4
W39A	Magazine	3.67	113	Sb	Sg	18 33 02.0	-1.9
	baz=296						
W39A	Magazine	3.67	113		Pn	18 32 04.5	+0.9
S39A	Bolivar	3.79	74	Pn	Pn	18 32 05.5	+0.3
U40A	Yellville	4.09	93	P	Pn	18 32 10.3	+1.0
	baz=277						
U40A				S	Sn	18 32 56.8	-0.8
	baz=277						
U40A	Yellville	4.09	93	Pn	Pn	18 32 09.6	+0.3
MIAR	Mount Ida	4.13	120	S	Sn	18 32 58.5	-0.3
	baz=303						
MIAR	Mount Ida	4.13	120		Pn	18 32 11.1	+1.1
KSCO	Kaye Shedlock'	4.39	303	S	Sn	18 33 04.7	-0.5
	baz=120						
KSCO	Kaye Shedlock'	4.39	303		Pn	18 32 11.6	-1.9
N35A	Tabor	4.51	22		Pn	18 32 13.3	-1.8
P38A	Dawn	4.52	48	Pn	Pn	18 32 16.1	+0.9
X40A	Basin Creek Fa	4.69	117		Pn	18 32 19.4	+1.8
BGNE	Belgrade	4.70	358	P	Pn	18 32 18.0	+0.3
	baz=178						
BGNE	Belgrade	4.70	358	Pn	Pn	18 32 18.1	+0.3
WHTX	Lake Whitney,	4.72	175	P	Pn	18 32 18.5	+0.5
	baz=356						
R40A	Maddies Statio	4.76	69	Pn	Pn	18 32 18.7	+0.2
W41B	Gary Mavity, V	4.84	107	P	Pn	18 32 21.0	+1.4
	baz=290						
W41B	Gary Mavity, V	4.84	107	Pn	Pn	18 32 20.9	+1.2
P40A	Paris	5.41	57		Pn	18 32 27.9	+0.4
T42A	Van Buren	5.47	85		Pn	18 32 28.1	-0.3
CCM	Cathedral Cave	5.48	74	P	Pn	18 32 28.3	-0.1
	baz=258						
CCM	Cathedral Cave	5.48	74	Pn	Pn	18 32 28.2	-0.1
N38A	Joes South For	5.48	40	Pn	Pn	18 32 28.4	0.0
LCAR	Lake Charles	5.49	95	Pn	Pn	18 32 29.4	+0.9
ECSD	EROS Data Cent	7.09	8	Pn	Pn	18 32 49.5	-1.0
P43A	Skaggs, Pawnee	7.23	64	Pn	Pn	18 32 53.3	+0.8
OXF	Oxford	7.26	105	Pn	Pn	18 32 53.9	+1.0
L40A	Anamosa	7.45	42		Pn	18 32 55.2	-0.2
HDIL	Hopedale	7.76	58	Pn	Pn	18 32 59.8	0.0
MNTX	Cornudas Mount	7.95	233	Pn	Pn	18 33 02.9	+0.5
L42A	Oliver, Polo	8.29	48	Pn	Pn	18 33 07.1	+0.1
S51A	Beattyville	11.46	81		Pn	18 33 50.6	+0.1
TKL	Tuckaleechee C	11.47	91	Pn	Pn	18 33 50.8	+0.1
N49A	Columbus Grove	11.51	64	Pn	Pn	18 33 49.3	-1.7

IDC 01 18:31:45.0±2.4, 29°.99S×177°.16W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/29, mbtmp3.8/3, ML3.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/31, Error ellipse: s-maj=48.3km s-min=24.6km az=72.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.99	318	Pn	Pn	18 32 06.5	+0.4
	832nm,0.3s,baz=162,slow=13,SNR=46						
RAO				Sn	Sn	18 32 20.5	-0.3
	610nm,0.3s,baz=115,slow=23,SNR=12						
RAO				LR	LR	18 32 32.7	
	comp=Z,231nm,20.4s,baz=192,slow=48						
URZ	Urewera	9.51	208	Pn	Pn	18 34 02.1	-1.1
	0.2nm,0.3s,baz=117,slow=9.2,SNR=3.4						
URZ				Sn	Sn	18 35 47.1	-3.7
	0.4nm,0.3s,baz=181,slow=9.3,SNR=1.1						
ASAR	Alice Springs	43.86	266	P	P	18 39 53.6	+0.4
	0.3nm,0.7s,baz=98,slow=7.3,SNR=8.8						
WRA	Warramunga Arr	44.81	271	P	P	18 40 00.5	-0.4
	1.1nm,0.5s,baz=111,slow=7.3,SNR=11						
JHJ	Hachijo jima 2	74.84	324	LR	LR	19 11 04.9	
	comp=Z,9.3nm,21.2s,baz=117,slow=32						
FINES	FINESS Array B	145.01	341	PKPbc	PKPbc	18 51 21.8	-1.0
	2.6nm,0.7s,baz=60,slow=3.3,SNR=20						

*IDC **01** 18:32:03.8±2.2, 63°.08N×150°.31W, h70km±32km, mb3.4/5, mb1 3.5/8, mb1mx3.2/40, mbtmp3.7/8, ML3.6/4, Error ellipse: s-maj=47.5km s-min=17.3km az=122.0*

*NEIC **01** 18:32:04.8±1.1, 62°.97N±0°.03×149°.93W±0°.06, h95km±4km, Error ellipse: s-maj=4.4km s-min=3.6km az=141.0*

*AEIC **01** 18:32:05±1.5, 62°.97N±0°.02×149°.93W±0°.07, h86km±4km, ML3.5, mb4.2/3(NEIC), Error ellipse: s-maj=4.5km s-min=3.2km az=61.0*

ISC 01 18:32:04.8±0.7, 62°.96N±0°.03×149°.90W±0°.03, h96km±5km, n120, σ0°.90/138, mb3.6/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	Hurricane	0.12	84		Pn	18 32 18.2	-0.1
HUR					Sn	18 32 28.0	-0.5
WAT7	Susitna Watana	0.50	105		Pn	18 32 20.1	-0.2
WAT7					Sn	18 32 31.4	-0.5
TRF	Thorofare Moun	0.52	340		Pn	18 32 20.6	+0.1
TRF					Sn	18 32 32.0	-0.3
CUT	Chulitna	0.59	197		Pn	18 32 20.7	-0.1
CUT					Sn	18 32 32.6	-0.2
WAT2	Susitna Watana	0.60	90		Pn	18 32 21.0	-0.1
WAT2					Sn	18 32 32.8	-0.6
WAT1	Susitna Watana	0.63	102		Pn	18 32 21.2	0.0
WAT1					Sn	18 32 33.4	-0.2
RND	Reindeer	0.65	47		Pn	18 32 21.6	+0.1
RND					Sn	18 32 33.6	-0.4
KTH	Kantishna Hill	0.75	322		Pn	18 32 22.4	0.0
KTH					Sn	18 32 34.8	-0.8
MCK	McKinley	0.89	29		Pn	18 32 23.9	+0.2
MCK					Sn	18 32 37.6	-0.3
PPLA	Purkeypile	1.05	267		Pn	18 32 25.8	+0.2
WAT6	Susitna Watana	1.07	110		Pn	18 32 25.7	-0.1
WAT6					Sn	18 32 41.1	-0.6
DHY	Denali Highway	1.16	83		Pn	18 32 27.0	+0.1
BWN	Browne	1.23	9		Pn	18 32 27.7	+0.2
BPAW	Bear Paw Mtn.	1.24	337		Pn	18 32 27.6	-0.1
BPAW					Sn	18 32 43.6	-1.3
SKT	Skwentna	1.25	218		Pn	18 32 27.4	-0.3
GHO	Glory Hole Cre	1.28	159		Pn	18 32 28.6	+0.4
CHUM	Lake Minchumin	1.42	311		Pn	18 32 30.0	+0.2
PMR	Palmer	1.42	165		Pn	18 32 29.8	0.0
SUA	Susitna One	1.56	195		Pn	18 32 32.1	+0.4
SUA					Sn	18 32 52.0	0.0
SCM	Sheep Creek Mo	1.65	132		Pn	18 32 33.0	+0.2
NEA2	Nenana	1.68	12		Pn	18 32 32.8	-0.2
KNK	Knik Glacier	1.70	156		Pn	18 32 33.5	+0.2
WRH	Wood River Hil	1.71	27		Pn	18 32 33.6	+0.1
WRH					Sn	18 32 54.0	-1.3
STLK	Strandline Lak	1.73	212		Pn	18 32 33.7	-0.1
FIS	Fire Island	1.83	185		Pn	18 32 37.8	+2.8
RC01	Rabbit Creek A	1.88	178		Pn	18 32 36.1	+0.4
CCB	Clear Creek Bu	1.93	28		Pn	18 32 36.2	0.0
M24K	Tolsona, Glenn	1.93	115		Pn	18 32 37.2	+0.9
SPCG	Spurr Capps Gl	1.95	212		Pn	18 32 36.9	+0.2
HDA	Harding Lake	1.96	41		Pn	18 32 36.8	+0.2
SPCP	Crater Peak Br	2.01	213		Pn	18 32 37.7	+0.3
PAX	Paxson	2.02	88		Pn	18 32 38.1	+0.5
SPNN	North Nagishla	2.07	221		Pn	18 32 38.3	+0.1
PS08	TAPS Pump Stn8	2.10	39		Pn	18 32 38.6	+0.3
TCOL	CIGO, UAF Yank	2.12	24		Pn	18 32 38.9	+0.3
COLA	College	2.12	24		Pn	18 32 38.7	0.0
MDM	Murphy Dome	2.13	19		Pn	18 32 39.1	+0.2
MDM					Sn	18 33 03.5	-1.6
PS11	TAPS Pump St11	2.24	111		Pn	18 32 41.5	+1.2
PWL	Port Wells	2.24	160		Pn	18 32 40.2	-0.1
IL31		2.25	35		Pn	18 32 40.6	+0.3
ILAR	Eielson Array	2.25	35	P	Pn	18 32 40.7	+0.3
	88nm,0.3s,baz=218,slow=14,SNR=3277						
ILAR				S	Sn	18 33 06.2	-1.6
	8.0nm,0.3s,baz=205,slow=15,SNR=5.0						
ILAR	Eielson Array	2.25	35		Pn	18 32 39.9	-0.5
CAPN	Captain Cook N	2.28	196		Pn	18 32 43.6	+2.8
KLU	Klutina	2.38	127		Pn	18 32 41.9	-0.3
RIDG	Independent Ri	2.41	69		Pn	18 32 43.6	+1.1
POKR	Poker Plat Res	2.42	26		Pn	18 32 43.0	+0.4
PS07	TAPS Pump Stn7	2.46	16		Pn	18 32 43.5	+0.4
PS07					Sn	18 33 11.6	-1.1
SLKM	Skilak Lake	2.47	184		Pn	18 32 43.9	+0.6
GLI	Glacier Island	2.48	146		Pn	18 32 43.0	-0.4
VMT	TAPS TI Valdez	2.52	137		Pn	18 32 43.1	-0.8
DIV	Divide	2.68	132		Pn	18 32 45.4	-0.8
DOT	Dot Lake	2.73	73		Pn	18 32 47.0	+0.3
FID	Port Fidalgo	2.75	142		Pn	18 32 46.5	-0.5
TTA	Tatalina	2.79	272		Pn	18 32 47.5	-0.2
TT01	Tatalina	2.80	272		Pn	18 32 47.5	-0.2
MENT	Mentasta	2.83	88		Pn	18 32 48.8	+0.7
SCRK	Sand Creek	2.84	66		Pn	18 32 48.8	+0.4
RDWB	Redoubt West	2.85	211		Pn	18 32 48.5	0.0
RSO	Redoubt South	2.85	210		Pn	18 32 49.6	+1.0
SEW	Seward	2.88	176		Pn	18 32 48.7	0.0
RED	Redoubt Volcan	2.90	209		Pn	18 32 49.3	+0.2
HIN	Hinchinbrook I	3.04	146		Pn	18 32 50.5	-0.5
EYAK	Cordova Ski Ar	3.13	139		Pn	18 32 51.7	-0.3
BMRM	Bremner River	3.21	126		Pn	18 32 52.5	-0.7
GLB	Gilahina Butte	3.24	115		Pn	18 32 53.7	+0.1
B

SONM Songino Array 54.24 306 P P 18 41 21.6 +1.3
comp=Z,0.3nm,0.7s,baz=27,slow=4.8,SNR=3.0
ZALV Zalesovo Beam 55.84 324 P P 18 41 31.7 +0.1
comp=Z,0.5nm,0.4s,baz=36,slow=5.4,SNR=2.0
MKAR Makanchi Array 63.01 322 P P 18 42 21.2 +0.2
comp=Z,0.4nm,0.6s,baz=41,slow=6.3,SNR=6.1

*IDC **01** 18:33:36.8±0.8, 62°.32S×164°.85E, h0km, mb4.3/7, mb1 4.4/9, mb1mx4.3/23, mbtmp4.3/9, ML4.0/2, MS4.1/14, Ms1 4.1/14, ms1mx3.9/28, Error ellipse: s-maj=36.0km s-min=17.6km az=81.0*
*NEIC **01** 18:33:38.5±1.1, 62°.32S±0°.09×164°.6E±0°.4, h10km±1km, mb4.6/22, Error ellipse: s-maj=34.5km s-min=15.5km az=89.0*
*GCMT **01** 18:33:41.5±0.3, 62°.31S±0°.01×165°.08E±0°.04, h23km±1km, MW5.0/90, Moment Tensor Solution. s35,c41; s90,c132; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.33±.19; Mθθ=3.78±.15; Mφφ=-3.45±.13; Mrθ=-1.95±.25; Mrφ=-0.62±.11; Mθφ=1.28±.26; Best double couple: M0=4.30200×10^16 NP1:φs=228.00000°, δ59.00000°, λ178.00000°. NP2: φs=319.00000°, δ88.00000°, λ31.00000°. Principal axes: T 4.6960, Plg23.0000°, Azm188.0000°; N -0.7850, Plg59.0000°, Azm322.0000°; P -3.9080, Plg20.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 18:33:38.3±0.6, 62°.30S±0°.07×164°.7E±0°.2, h10km, n64, σ0§74/40, mb4.4/10, MS4.1/14, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.32**	**182**	Pn	**Pn**	**18 37 14.1**	**0.0**
	1.0nm,0.3s,baz=355,slow=13,SNR=51						
VNDA				LR	LR	18 42 15.1	
	comp=Z,1μm,18.3s,baz=9.5,slow=34						
VNDA	**Vanda**	**15.32**	**182**	Pn	**Pn**	**18 37 14.8**	**+0.7**
VNDA				IAmb	IAmb	18 37 17.3	
	comp=Z,25nm,0.8s						
WHZ	**Wether Hill Ro**	**16.55**	**8**	P	**Pn**	**18 37 29.8**	**-0.5**
DCZ	**Deep Cove**	**16.93**	**6**	Pn	**Pn**	**18 37 35.6**	**+0.6**
DCZ				IAmb	IAmb	18 37 43.6	
	comp=Z,39nm,1.1s						
MLZ	**Mavora Lakes**	**17.09**	**8**	Pn	**Pn**	**18 37 37.5**	**+0.5**
MLZ				IAmb	IAmb	18 37 47.4	
	comp=Z,58nm,1.3s						
ODZ	**Otahua Downs**	**17.63**	**14**	P	**P**	**18 37 44.9**	**+0.1**
WKZ	**Wanaka**	**17.69**	**10**	P	**P**	**18 37 46.2**	**+0.8**
LBZ	**Lake Benmore**	**18.23**	**13**	P	**P**	**18 37 52.3**	**+0.9**
LBZ				IAmb	IAmb	18 37 59.8	
	comp=Z,71nm,1.5s						
RPZ	**Rata Peaks**	**18.99**	**14**	P	**P**	**18 37 58.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=205,slow=19,SNR=3.8						
RPZ				LR	LR	18 44 11.4	
	comp=Z,1μm,20.5s,baz=201,slow=33						
RPZ	**Rata Peaks**	**18.99**	**14**	P	**P**	**18 37 59.2**	**-0.5**
RPZ				IAmb	IAmb	18 38 05.1	
	comp=Z,32nm,1.3s						
URZ	**Urewera**	**25.25**	**23**	LR	LR	18 48 46.3	
	comp=Z,803nm,18.7s,baz=196,slow=36						
QSPA	**South Pole Qui**	**27.79**	**180**	P	**P**	**18 39 27.2**	**+0.2**
	comp=Z,5.5nm,1.0s,baz=13,slow=3.6,SNR=14						
QSPA				LR	LR	18 49 00.5	
	comp=Z,458nm,18.5s,baz=61,slow=33						
QSPA	**South Pole Qui**	**27.79**	**180**	P	**P**	**18 39 26.9**	**-0.2**
QSPA				IAmb	IAmb	18 39 38.6	
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**33.88**	**323**	P	**P**	**18 40 21.3**	**+0.4**
	comp=Z,4.1nm,1.0s,baz=148,slow=15,SNR=4.0						
STKA				LR	LR	18 51 49.3	
	comp=Z,167nm,18.5s,baz=168,slow=32						
STKA	**Stephens Creek**	**33.88**	**323**	IAmb	IAmb	18 40 24.3	
	comp=Z,1.9nm,1.1s						
MAW	**Mawson**	**38.75**	**217**	P	**P**	**18 41 01.7**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=314,slow=21,SNR=4.9						
MAW				LR	LR	18 57 09.9	
	comp=Z,561nm,18.5s,baz=114,slow=36						
MAW	**Mawson**	**38.75**	**217**	IAmb	IAmb	18 41 08.2	
	comp=Z,2.2nm,1.4s						
BELA	**Belgrano 2**	**39.56**	**174**	P	**P**	**18 41 09.3**	**+0.5**
DZM	**Mont Dzumac**	**40.23**	**2**	*e*P	**P**	**18 41 14.4**	**-0.5**
	comp=Z,35nm,1.4s						
DZM	**Mont Dzumac**	**40.23**	**2**	P	**P**	**18 41 15.3**	**+0.4**
	comp=Z,10nm,1.1s,baz=93,slow=10,SNR=4.2						
DZM	**Mont Dzumac**	**40.23**	**2**	IAmb	IAmb	18 41 16.7	
	comp=Z,19nm,1.2s						
H01W1	**Cape Leeuwin H**	**41.63**	**287**	T	T	19 26 23.2	
	baz=147,slow=75,SNR=123						
H01W2	**Cape Leeuwin H**	**41.63**	**287**	T	T	19 26 23.6	
	baz=147,slow=75,SNR=176						
H01W3	**Cape Leeuwin H**	**41.65**	**287**	T	T	19 26 24.3	
	baz=147,slow=75,SNR=114						
ASAR	**Alice Springs**	**43.88**	**317**	P	**P**	**18 41 45.8**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=161,slow=7.3,SNR=29						
ASAR				PcP	**PcP**	**18 43 30.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=148,slow=3.7,SNR=4.9						
ASAR	**Alice Springs**	**43.88**	**317**	P	**P**	**18 41 45.3**	**+0.6**
AS31	**Alice Springs**	**43.88**	**317**	P	**P**	**18 41 45.0**	**+0.3**
SNAA	**Sanae**	**46.02**	**185**	P	**P**	**18 42 01.7**	**+0.4**
SNAA	**Sanae**	**46.02**	**185**	P	**P**	**18 42 01.4**	**+0.1**
SNAA				IAmb	IAmb	18 42 02.7	
	comp=Z,11nm,1.1s						
VNA3	**Neumayer Olymp**	**46.67**	**182**	P	**P**	**18 42 06.5**	**+0.2**
VNA2	**Neumayer--Watz**	**46.93**	**184**	P	**P**	**18 42 07.5**	**-0.8**
WR0	**Warramunga Arr**	**47.16**	**320**	P	**P**	**18 42 09.2**	**-1.4**
WR0				IAmb	IAmb	18 42 18.8	
	comp=Z,7.6nm,1.1s						
WB2	**Warramunga Arr**	**47.23**	**320**	P	**P**	**18 42 10.1**	**-1.1**
VNA1	**Neumayer--Stat**	**47.23**	**183**	P	**P**	**18 42 11.1**	**+0.5**
WRA	**Warramunga Arr**	**47.24**	**320**	P	**P**	**18 42 11.1**	**-0.2**
	comp=Z,3.0nm,1.1s,baz=157,slow=7.1,SNR=8.1						
WRA				PcP	**PcP**	**18 43 42.2**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=156,slow=3.2,SNR=5.3						
WRA	**Warramunga Arr**	**47.24**	**320**	P	**P**	**18 42 10.7**	**-0.6**
WB0	**Warramunga Arr**	**47.39**	**320**	P	**P**	**18 42 12.8**	**+0.3**
RAR	**Rarotonga**	**47.71**	**47**	LR	LR	18 56 44.6	
	comp=Z,180nm,20.8s,baz=207,slow=29						
TBI	**Tubuai**	**49.63**	**60**	*e*LQ	LQ	18 53 52.7	
	comp=Z,610nm,27.0s						
TBI				*e*LR	LR	18 56 28.8	
	comp=Z,237nm,22.8s						
TBI	**Tubuai**	**49.63**	**60**	*e*T	T	19 35 15.1	
	comp=Z,32nm,0.3s						
FITZ	**Fitzroy Crossi**	**51.83**	**310**	P	**P**	**18 42 45.6**	**-0.7**
FITZ				IAmb	IAmb	18 42 57.0	
	comp=Z,8.8nm,1.2s						
HNR	**Honiara**	**52.89**	**354**	LR	LR	19 02 10.6	
	comp=Z,132nm,18.2s,baz=188,slow=32						
KNRA	**Kununurra**	**53.01**	**315**	P	**P**	**18 42 56.5**	**+1.4**
PMG	**Port Moresby**	**54.33**	**339**	LR	LR	19 02 50.4	
	comp=Z,159nm,19.7s,baz=152,slow=32						
PAE	**Paea**	**54.71**	**57**	*e*T	T	19 41 35.1	
	comp=Z,4.0nm,0.3s						
PPT2	**Papeete2**	**54.77**	**57**	*e*LR	LR	18 58 54.4	
	comp=Z,133nm,22.5s						
PPT	**Papeete**	**54.80**	**57**	LR	LR	19 02 57.3	
	comp=Z,74nm,18.8s,baz=168,slow=32						
TIAR	**Tiarei**	**54.89**	**57**	*e*T	T	19 41 49.7	
	comp=Z,3.3nm,0.3s						
VAH	**Vaihoa**	**57.68**	**58**	*e*T	T	19 45 17.6	
	comp=Z,153nm,0.3s						
RPN	**Rapa Nui**	**64.51**	**100**	LR	LR	19 04 28.4	
	comp=Z,135nm,20.8s,baz=215,slow=29						
H03S2	**Juan Fernandez**	**71.49**	**128**	T	T	20 03 35.9	
	baz=204,slow=74,SNR=107						
H03S1	**Juan Fernandez**	**71.50**	**128**	T	T	20 03 37.3	
	baz=204,slow=74,SNR=110						
H03S3	**Juan Fernandez**	**71.51**	**128**	T	T	20 03 36.7	
	baz=204,slow=74,SNR=98						
BOSA	**Boshof**	**83.74**	**215**	LR	LR	19 19 30.7	
	comp=Z,63nm,20.6s,baz=146,slow=33						
H08S2	**Diego Garcia H**	**84.33**	**264**	T	T	20 19 59.2	
	baz=151,slow=76,SNR=52						
H08S1	**Diego Garcia H**	**84.33**	**264**	T	T	20 19 59.7	
	baz=151,slow=76,SNR=51						
H08S3	**Diego Garcia H**	**84.35**	**264**	T	T	20 20 06.6	
	baz=151,slow=76,SNR=55						
CPUP	**Villa Florida**	**85.49**	**143**	LR	LR	19 20 31.4	
	comp=Z,81nm,19.6s,baz=210,slow=33						
LPAZ	**La Paz**	**91.41**	**130**	P	**P**	**18 46 45.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=256,slow=8.3,SNR=3.7						
LPAZ				LR	LR	19 19 37.0	
	comp=Z,43nm,18.9s,baz=166,slow=30						
LPAZ	**La Paz**	**91.41**	**130**	P	**P**	**18 46 44.6**	**-0.5**

PDAR Pinedale Array 124.92 64 PKP PKiKP 18 52 38.9 +0.8
comp=Z,0.2nm,0.4s,baz=202,slow=4.7,SNR=2.0
MKAR Makanchi Array 126.88 302 PKP PKiKP 18 52 42.3 +0.8
comp=Z,0.1nm,0.6s,baz=100,slow=5.0,SNR=1.9
TORD Torodi Ar. Bea 129.43 202 PKP PKPdf 18 52 45.5 -1.4
comp=Z,0.8nm,0.9s,baz=132,slow=2.1,SNR=2.3
ILAR Eielson Array 131.75 25 PKP PKPdf 18 52 48.9 -0.8
comp=Z,0.5nm,0.9s,baz=257,slow=2.4,SNR=4.1

WEL 01 18:50:48.3, 37°S±10°×17°E±3°0, h315km±20km, M2.9/10, MLv2.9/10, Error ellipse: s-maj=0.0km s-min=0.0km az=93.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**0.73**	**292**	P	Pn	18 51 29.6	+0.2
NGRZ	**Ngongotaha**	**1.12**	**195**	P	S	18 52 13.7	+8.8
HAZ	**Te Kaha**	**1.22**	**128**	P	Pn	18 51 30.9	-0.5
HAZ				S	S	18 52 02.1	-3.5
RUGZ	**Raukumara Rang**	**1.29**	**137**	P	Pn	18 51 31.1	-0.8
RUGZ				S	S	18 52 02.3	-4.3
URZ	**Urewera**	**1.31**	**161**	P	Pn	18 51 31.2	-0.6
URZ				S	S	18 52 03.8	-2.7
MUGZ	**Murupara**	**1.46**	**174**	P	Pn	18 51 32.8	+0.1
MWZ	**Matawai**	**1.52**	**150**	P	Pn	18 51 33.0	-0.1
MWZ				S	S	18 52 06.2	-2.6
RTZ	**Ruatahuna**	**1.63**	**168**	P	Pn	18 51 34.1	+0.3
RTZ				S	S	18 52 08.1	-2.1
RTZ	**Ruatahuna**	**1.63**	**168**	P	S	18 52 08.8	-1.3
PUZ	**Puketiti**	**1.71**	**128**	P	Pn	18 51 34.4	+0.1
PUZ				S	S	18 52 08.9	-2.1
MTHZ	**Maungataniwha**	**1.84**	**173**	P	S	18 52 09.8	-2.9
RIGZ	**Rimuhau**	**1.93**	**151**	P	Pn	18 51 36.7	+0.8
RAHZ	**Arahi**	**1.94**	**168**	P	S	18 52 13.2	-0.7
NMHZ	**Naumai**	**2.08**	**175**	P	Pn	18 51 37.8	+0.7
WHHZ	**Waihua**	**2.12**	**166**	P	S	18 52 16.1	-0.4
BKZ	**Black Stump Fm**	**2.14**	**182**	P	Pn	18 51 37.5	-0.1
BKZ				S	S	18 52 14.2	-2.7
KWHZ	**Kaweka Forest**	**2.40**	**183**	P	S	18 52 19.4	-1.4
MCHZ	**McNeill Hill**	**2.42**	**178**	P	S	18 52 19.9	-1.1
BHHZ	**Black Hill Sta**	**2.50**	**189**	P	Pn	18 51 40.6	+0.1
BHHZ				S	S	18 52 19.7	-2.6
PXZ	**Pawanui**	**3.02**	**176**	P	S	18 52 29.3	-1.4
BFZ	**Birch Farm**	**3.67**	**184**	P	S	18 52 40.6	-2.0
MRZ	**Mangatainoka R**	**3.72**	**192**	P	S	18 52 40.7	-2.8
HOWZ	**Holdsworth Sta**	**3.96**	**192**	P	S	18 52 44.5	-3.7

IDC 01 18:52:19.5±2.3, 49°.14N×154°.83E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/56, mbtmp3.5/4, ML1.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.1/40, Error ellipse: s-maj=65.9km s-min=33.4km az=171.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.36**	**23**	Pn	Pn	18 53 27.9	+0.8
	0.3nm,0.3s,baz=206,slow=11,SNR=22						
PETK				Lg	Lg	18 54 45.8	
	0.3nm,0.3s,baz=232,slow=10,SNR=1.4						
JCJ	**Chichijima**	**24.09**	**209**	LR	LR	19 08 04.0	
	comp=Z,20nm,19.1s,baz=84,slow=39						
H11N2	**WAKE ISLAND Hy**	**30.90**	**157**	T	T	19 30 39.1	
	baz=344,slow=76,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**30.92**	**157**	T	T	19 30 41.9	
	baz=344,slow=76,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**30.92**	**157**	T	T	19 30 40.4	
	baz=344,slow=76,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**32.03**	**158**	T	T	19 32 06.1	
	baz=345,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**32.04**	**158**	T	T	19 32 07.5	
	baz=345,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**32.05**	**158**	T	T	19 32 05.8	
	baz=345,slow=76,SNR=38						
ILAR	**Eielson Array**	**33.97**	**41**	P	P	18 59 03.7	-0.6
	0.3nm,0.7s,baz=276,slow=9.0,SNR=2.7						
MKAR	**Makanchi Array**	**46.90**	**296**	P	P	19 00 51.2	-0.1
	0.3nm,0.6s,baz=52,slow=7.9,SNR=4.4						
PDAR	**Pinedale Array**	**62.42**	**56**	P	P	19 02 43.4	-1.0
	0.2nm,0.3s,baz=321,slow=2.3,SNR=2.7						
TXAR	**Lajitas Array**	**75.33**	**62**	P	P	19 04 05.5	+0.8
	0.4nm,0.6s,baz=302,slow=4.2,SNR=7.1						
H03N2	**Juan Fernandez**	**137.58**	**89**	T	T	21 45 13.4	
	baz=310,slow=77,SNR=2.5						
H03N1	**Juan Fernandez**	**137.59**	**89**	T	T	21 45 14.4	
	baz=310,slow=77,SNR=3.1						
H03N3	**Juan Fernandez**	**137.59**	**89**	T	T	21 45 13.8	
	baz=310,slow=77,SNR=2.4						

*NEIC **01** 18:54:38.1±0.5, 15°.5S±0°.1×174°.4W±0°.1, h178km±8km, mb4.3/4, Error ellipse: s-maj=24.1km s-min=13.2km az=138.0*
*IDC **01** 18:54:38.6±2.2, 15°.19S×174°.53W, h170km±22km, mb3.5/7, mb1 3.8/8, mb1mx3.4/50, mbtmp4.0/8, Error ellipse: s-maj=40.2km s-min=15.8km az=139.0*

ISC 01 18:54:36.0±0.7, 15°.5S±0°.1×174°.5W±0°.1, h150km, n22, σ1§52/24, mb3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.05**	**60**	P	**Pn**	**18 55 26.4**	**+2.3**
	24nm,0.3s,baz=171,slow=1.6,SNR=12						
AFI				S	**Sn**	**18 55 59.1**	**-2.2**
	7.7nm,0.3s,baz=235,slow=23,SNR=2.0						
AFI	**Afiamalu**	**3.05**	**60**		**Pn**	**18 55 26.6**	**+2.5**
AFI					**Sn**	**18 56 02.5**	**+1.2**
NIUE	**Niue**	**5.67**	**130**	Pn	**Pn**	**18 55 58.7**	**+0.4**
URZ	**Urewera**	**23.90**	**196**	P	**P**	**18 59 39.1**	**+3.3**
	16nm,1.0s,baz=19,slow=4.4,SNR=6.1						
URZ	**Urewera**	**23.90**	**196**	P	**P**	**18 59 38.8**	**+3.0**
URZ				IAmb	IAmb	18 59 43.0	
	comp=Z,42nm,1.3s						
WHZ	**Wether Hill Ro**	**33.73**	**202**	P	**P**	**19 01 01.5**	**-1.5**
WHZ				IAmb	IAmb	19 01 09.6	
	comp=Z,9.7nm,1.1s						
WRA	**Warramunga Arr**	**48.79**	**257**	P	**P**	**19 03 06.9**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=91,slow=6.6,SNR=6.4						
WRA	**Warramunga Arr**	**48.79**	**257**	P	**P**	**19 03 06.6**	**+0.3**
AS31	**Alice Springs**	**49.08**	**252**	P	**P**	**19 03 09.0**	**+0.6**
AS31				IAmb	IAmb	19 03 18.2	
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**49.08**	**252**	P	**P**	**19 03 08.9**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=85,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**49.08**	**252**	P	**P**	**19 03 08.5**	**+0.1**
NVAR	**Mina Array Bea**	**75.08**	**42**	P	**P**	**19 06 01.2**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=226,slow=10,SNR=5.1						
TXAR	**Lajitas Array**	**81.53**	**57**	P	**P**	**19 06 36.3**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=230,slow=7.7,SNR=3.5						
TXAR	**Lajitas Array**	**81.53**	**57**	P	**P**	**19 06 35.9**	**-1.3**
ILAR	**Eielson Array**	**82.70**	**12**	P	**P**	**19 06 41.6**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=226,slow=5.7,SNR=17						
ILAR	**Eielson Array**	**82.70**	**12**	P	**P**	**19 06 41.4**	**-1.0**
PDAR	**Pinedale Array**	**83.02**	**42**	P	**P**	**19 06 43.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=204,slow=5.9,SNR=2.1						
PDAR	**Pinedale Array**	**83.02**	**42**	P	**P**	**19 06 43.4**	**-1.4**
BRTR	**Keskin Array B**	**145.51**	**320**	PKPbc	**PKPdf**	**19 13 56.3**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=101,slow=2.5,SNR=3.7						
BRTR	**Keskin Array B**	**145.51**	**320**		**PKPdf**	**19 13 56.6**	**-0.1**
GERES	**GERESS Array B**	**146.02**	**350**	PKPbc	**PKPdf**	**19 13 57.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=29,slow=3.0,SNR=3.7						
GERES	**GERESS Array B**	**146.02**	**350**		**PKPdf**	**19 13 57.1**	**-0.2**

*GCMT **01** 18:54:55.9±0.4, 3°.95S±0°.02×103°.32E±0°.02, h27km±1km, MW4.9/69, Moment Tensor Solution. s15,c19; s69,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.14±.13; Mθθ=-2.05±.10; Mφφ=2.18±.10; Mrθ=0.98±.19; Mrφ=-0.25±.07; Mθφ=0.99±.20; Best double couple: M0=2.55100×10^16 NP1:φs=133.00000°, δ57.00000°, λ-177.00000°. NP2: φs=41.00000°, δ87.00000°, λ-33.00000°. Principal axes: T 2.5510, Plg21.0000°, Azm92.0000°; N -0.0070, Plg57.0000°, Azm217.0000°; P -2.5500, Plg25.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **01** 18:54:56.4±0.1, 4°.5±1°.1×10°.3E±°, h10km, M4.7/39, mb4.8/39, mB5.1/19, MLv5.3/25, Mw(mB)4.4/19, Mwp4.9/1*
*NEIC **01** 18:54:57.9±2.0, 3°.99S±0°.05×103°.25E±0°.06, h37km±6km, mb4.7/47, Error ellipse: s-maj=9.6km s-min=6.6km az=116.0*

*KLM **01** 18:54:57.0, 4°.04S×103°.28E, h28km, mb4.7*
*IDC **01** 18:54:59.1±2.1, 3°.87S×103°.36E, h43km±20km, mb4.1/30, mb1 4.2/33, mb1mx4.1/60, mbtmp4.3/33, ML3.9/3, MS4.1/3, Ms1 4.1/3, ms1mx3.5/28, Error ellipse: s-maj=14.1km s-min=10.5km az=54.0*

ISC 01 18:54:54.6±0.3, 3°.97S±0°.03×103°.25E±0°.03, h10km, n181, σ1§63/172, mb4.6/49, 10C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	**Lahat**	**0.31**	**63**	P	**Pg**	**18 55 01.1**	**+0.3**
LHSI				S	**Sg**	**18 55 05.7**	**+0.8**
MNAI	**Manna**	**0.49**	**217**	P	**Pb**	**18 55 06.4**	**+1.0**
MNAI				S	**Sb**	**18 55 14.9**	**+2.3**
MNAI	**Manna**	**0.49**	**217**		**Pb**	**18 55 06.4**	**+1.0**
MDSI	**Maura Dua**	**1.06**	**119**	P	**Pg**	**18 55 14.4**	**-0.7**
MDSI				S	**Sg**	**18 55 28.7**	**-0.2**
LWLI	**Liwa**	**1.32**	**142**	P	**Pn**	**18 55 20.0**	**+0.8**
LWLI				S	**Sg**	**18 55 39.9**	**+2.7**
KLSI		**1.64**	**116**	P	**Pn**	**18 55 24.0**	**+0.4**
KASI	**Kota Agung**	**1.99**	**141**	P	**Pn**	**18 55 30.4**	**+2.1**
BLSI	**Bandar Lampung**	**2.43**	**125**	P	**Pn**	**18 55 36.1**	**+1.7**
KRJI	**Kerinci**	**2.58**	**316**	P	**Pb**	**18 55 41.8**	**+0.8**
PPBI	**Pangkal Pinang**	**3.40**	**58**	P	**Pn**	**18 55 47.5**	**-0.2**
PPSI	**Pulau Pagai**	**3.45**	**290**	P	**Pn**	**18 55 51.0**	**+2.6**
SDSI	**Sungai Dareh**	**3.52**	**329**	P	**Pn**	**18 55 50.2**	**+0.8**
SBJI	**Serang**	**3.58**	**127**	P	**Pb**	**18 55 58.4**	**+0.3**
RGRI	**Rengat**	**3.71**	**346**	P	**Pg**	**18 56 06.0**	**+0.3**
DSRI	**Dabo**	**3.71**	**201**	P	**Pn**	**18 55 53.1**	**+1.1**
TNG	**Tangerang**	**4.03**	**123**	P	**Pg**	**18 56 12.3**	**+0.4**
PDSI	**Padang**	**4.12**	**317**	P	**Pn**	**18 56 01.5**	**+3.8**
DBJI	**Dramaga**	**4.33**	**127**	P	**Pn**	**18 56 04.9**	**+4.3**
SKJI	**Sukabumi**	**4.47**	**133**	P	Pn	18 56 07.5	+5.0
TPI	**Tanjungpandan**	**4.56**	**75**	P	**Pb**	**18 56 17.8**	**+3.0**
BKNI	**Bangkinang**	**4.80**	**333**	P	**Pn**	**18 56 11.2**	**+4.2**
BKNI	**Bangkinang**	**4.80**	**333**		**Pn**	**18 56 08.8**	**+1.8**
LEM	**Lembang**	**5.20**	**123**	P	**Pn**	**18 56 15.3**	**+2.7**
	5.7nm,0.3s,baz=345,slow=18,SNR=4.3						
LEM				Lg	Lg	18 57 34.0	
	7.5nm,0.3s,baz=358,slow=21,SNR=1.5						
MYKOM	**Kota Tinggi**	**5.75**	**6**		**Pn**	**18 56 21.4**	**+1.3**
MYKOM	**Kota Tinggi**	**5.75**	**6**	P	**Pn**	**18 56 22.0**	**+1.9**
CISI	**Cisompet, Garu**	**5.78**	**128**	P	**Pn**	**18 56 24.3**	**+3.8**
	18nm2μm258nm,0.8s						
CISI	**Cisompet, Garu**	**5.78**	**128**		**Pn**	**18 56 23.4**	**+2.9**
MNSI	**Mandailing Nat**	**5.98**	**322**	P	**Pn**	**18 56 27.3**	**+4.0**
	1.3nm2μm124nm,1.2s						
XMIS	**Christmas Isla**	**6.90**	**160**	Pn	**Pn**	**18 56 32.5**	**-3.4**
GSI	**Gunungsitoli**	**7.72**	**313**	P	**Pn**	**18 56 49.6**	**+2.5**
	0.6nm148nm,0.7s						
GSI	**Gunungsitoli**	**7.72**	**313**	Pn	**Pn**	**18 56 49.0**	**+1.9**
SMRI	**Semarang**	**7.79**	**113**	P	Pb	18 57 03.5	-6.3
RPSI	**Rantau Prapat**	**7.90**	**327**		**Pn**	**18 56 52.8**	**+3.1**
PSI	**Prapat**	**7.99**	**327**	P	**Pn**	**18 56 52.8**	**+1.7**
	0.7nm,0.3s,baz=180,slow=9.6,SNR=10.0						
PSI				Lg	Lg	18 59 02.9	
	1.3nm,0.3s,baz=180,slow=14,SNR=2.3						
PSI				LR	LR	18 59 48.3	
	comp=Z,732nm,21.1s,baz=91,slow=37						
WOJI	**Wonogiri, Jawa**	**8.55**	**117**	P	**Pn**	**18 57 00.0**	**+1.5**
	84nm,1.2s						
IPM	**Ipoh**	**8.68**	**345**	Pn	**Pn**	**18 57 01.4**	**+1.0**
IPM	**Ipoh**	**8.68**	**345**	P	**Pn**	**18 57 02.0**	**+1.7**
KSM	**Kuching**	**8.89**	**53**	Pn	**Pn**	**18 57 02.8**	**-0.4**
KSM	**Kuching**	**8.89**	**53**	P	**Pn**	**18 57 04.0**	**+0.8**
KCSI	**Kotacane, Aceh**	**9.23**	**324**	P	**Pn**	**18 57 09.1**	**+1.1**
	508nm44nm,0.9s						
TPTI		**9.40**	**320**	P	**Pn**	**18 57 13.1**	**+2.9**
	19nm,1.0s						
KULM	**Kulim**	**9.55**	**344**	Pn	**Pn**	**18 57 13.9**	**+1.5**
KULM	**Kulim**	**9.55**	**344**	P	**Pn**	**18 57 14.0**	**+1.7**
COCO	**West Island**	**10.35**	**217**	Pn	**Pn**	**18 57 23.0**	**-0.2**
MLSI	**Meulaboh, Aceh**	**10.66**	**320**	P	**Pn**	**18 57 31.1**	**+3.6**
	3μm266nm,1.2s						
SBUM	**Sibu**	**11.00**	**55**		**Pn**	**18 57 33.0**	**+0.8**
SBUM	**Sibu**	**11.00**	**55**	P	**Pn**	**18 57 33.0**	**+0.8**
JAGI	**Jajag, Banyuwa**	**11.72**	**113**	P	**Pn**	**18 57 46.6**	**+4.5**
	54nm,1.0s						
JAGI	**Jajag, Banyuwa**	**11.72**	**113**	Pn	**Pn**	**18 57 43.4**	**+1.3**
PLAI	**Plampang**	**15.22**	**109**	P	**P**	**18 58 33.0**	**-1.8**
	55nm,0.8s						
KKM	**Kota Kinabalu**	**16.32**	**53**		**Pn**	**18

WRA	**Warramunga Arr**	**34.21 120**	P	**P**		**19 01 39.5**	**-1.3**
	comp=Z,6.0nm,0.9s,baz=300,slow=9.1,SNR=55						
WRA	**Warramunga Arr**	**34.21 120**	P	**P**		**19 01 39.2**	**-1.6**
WB2	**Warramunga Arr**	**34.22 120**	P	**P**		**19 01 39.5**	**-1.3**
WB2			IAmb	IAmb		19 01 50.3	
	comp=Z,6.7nm,0.8s						
WR0	**Warramunga Arr**	**34.39 120**	P	**P**		**19 01 41.0**	**-1.2**
LSA	**Lhasa**	**35.43 342**	P	**P**		**19 01 51.5**	**-0.1**
ASAR	**Alice Springs**	**35.48 126**	P	**P**		**19 01 51.2**	**-0.5**
	comp=Z,13nm,0.8s,baz=297,slow=7.7,SNR=230						
ASAR			PcP	**PcP**		**19 04 20.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=306,slow=3.2,SNR=1.6						
AS31	**Alice Springs**	**35.48 126**	P	**P**		**19 01 51.1**	**-0.6**
AS31			IAmb	IAmb		19 01 56.5	
	comp=Z,4.6nm,0.6s						
WHN	**Wuhan**	**35.92 16**	P	**P**		19 02 01.2	+6.0
XAN	**Xi'an**	**38.18 8**	P	**P**		**19 02 15.4**	**+0.9**
XAN			pP	sP		19 02 20.8	+1.7
XAN			pmax	pmax			
	comp=Z,9.0nm,0.9s						
XAN	**Xi'an**	**38.18 8**	P	**P**		**19 02 14.9**	**+0.4**
GTA	**Gaotai**	**43.28 356**	*e*P	**P**		**19 02 58.2**	**+1.6**
GTA			pP	sP		19 03 09.1	+7.5
GTA			sP	pP		19 03 14.4	+14
CTA	**Charters Tower**	**44.83 115**	P	**P**		**19 03 08.5**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=298,slow=9.2,SNR=7.2						
CTAO	**Charters Tower**	**44.83 115**	P	**P**		**19 03 08.6**	**-0.8**
CTAO			IAmb	IAmb		19 03 14.4	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**45.43 132**	P	**P**		**19 03 13.9**	**0.0**
	comp=Z,16nm,0.8s,baz=305,slow=8.1,SNR=15						
STKA	**Stephens Creek**	**45.43 132**	P	**P**		**19 03 13.9**	**0.0**
NIL	**Nilore**	**46.94 325**	P	**P**		**19 03 26.3**	**+0.5**
KSRS	**Korea Array**	**47.17 27**	P	**P**		**19 03 27.4**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=221,slow=6.6,SNR=1.2						
KSRS			ScP	**ScP**		**19 08 49.1**	**-4.1**
	comp=Z,2.2nm,0.9s,baz=219,slow=3.5,SNR=4.2						
CN2	**Changchun**	**51.58 20**	*e*P	P		19 04 07.0	+6.0
CN2			*e*S	**PKiKP**		**19 11 52.8**	**-4.1**
CN2			pmax	pmax			
	comp=Z,100nm,1.0s						
CN2			pmax	pmax			
	comp=Z,100nm,3.0s						
CN2			LR	LR			
	comp=N,200nm,16.0s						
CN2			LR	LR			
	comp=E,200nm,16.0s						
CN2			LR	LR			
	comp=Z,100nm,15.1s						
KDJ	**Kajisay**	**51.63 335**	P	**P**		**19 04 00.7**	**-1.0**
KDJ			IAmb	IAmb		19 04 25.3	
	comp=Z,8.2nm,0.8s						
SONM	**Songino Array**	**51.66 3**	P	**P**		**19 04 01.7**	**0.0**
	comp=Z,2.4nm,0.8s,baz=184,slow=8.6,SNR=16						
SONM	**Songino Array**	**51.66 3**	P	**P**		**19 04 01.2**	**-0.5**
MJAR	**Matsushiro Arr**	**51.85 36**	P	**P**		**19 04 02.4**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=205,slow=6.4,SNR=4.7						
GAR	**Garm**	**52.45 328**	P	**P**		**19 04 08.0**	**+0.2**
GAR			IAmb	IAmb		19 04 12.5	
	comp=Z,14nm,1.2s						
CHGR	**Chuyangaron**	**52.83 327**	P	**P**		**19 04 10.7**	**0.0**
CHGR			IAmb	IAmb		19 04 13.8	
	comp=Z,9.1nm,0.8s						
MK31	**Makanchi Array**	**53.83 342**	P	**P**		**19 04 16.8**	**-0.9**
MKAR	**Makanchi Array**	**53.83 342**	P	**P**		**19 04 16.4**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=151,slow=8.4,SNR=9.9						
MKAR	**Makanchi Array**	**53.83 342**	P	**P**		**19 04 17.6**	**-0.1**
MAKZ	**Makanchi**	**53.94 342**	P	**P**		**19 04 18.7**	**+0.2**
USA0B	**Ussuriysk Arra**	**54.45 25**	P	**P**		**19 04 21.8**	**-0.4**
USA0B			IAmb	IAmb		19 04 43.2	
	comp=Z,8.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.45 25**	P	**P**		**19 04 21.3**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=216,slow=4.7,SNR=13						
USRK	**Ussuriysk Ar.**	**54.45 25**	P	**P**		**19 04 21.7**	**-0.5**
KK31	**Karatay Array**	**55.40 331**	P	**P**		**19 04 27.8**	**-1.4**
KKAR	**Karatay Array**	**55.40 331**	P	**P**		**19 04 28.1**	**-1.0**
KKAR	**Karatay Array**	**55.40 331**	P	**P**		**19 04 27.5**	**-1.6**
KKAR			IAmb	IAmb		19 04 55.6	
	comp=Z,1.6nm,0.8s						
OPO	**Ambohidratompo**	**56.63 250**	P	**P**		**19 04 39.1**	**+0.5**
	comp=Z,4.3nm,1.0s,baz=308,slow=12,SNR=2.9						
KURK	**Kurchatov**	**58.43 342**	P	**P**		**19 04 48.8**	**-1.7**
KURK			IAmb	IAmb		19 04 59.9	
	comp=Z,5.2nm,0.8s						
KLR	**Kul'dur**	**58.48 22**	P	**P**		**19 04 47.4**	**-3.5**
	comp=Z,0.7nm,0.5s,baz=304,slow=14,SNR=2.4						
GEYT	**Alibeck**	**59.04 319**	P	**P**		**19 04 57.9**	**+2.9**
	comp=Z,1.6nm,0.8s,baz=145,slow=11,SNR=3.6						
GEYT	**Alibeck**	**59.04 319**	P	**P**		**19 04 55.0**	**-0.1**
ASAJ	**Asahikawa**	**59.47 32**	P	**P**		**19 04 57.6**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=130,slow=27,SNR=2.2						
JKA	**Kamikawa-asahi**	**59.47 32**	P	**P**		**19 04 56.5**	**-1.4**
ZAA0	**Zalesovo Array**	**59.73 348**	IAmb	IAmb		19 05 20.4	
	comp=Z,6.7nm,0.8s						
ZALV	**Zalesovo Beam**	**59.73 348**	P	**P**		**19 04 57.9**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=189,slow=4.9,SNR=7.9						
ZALV	**Zalesovo Beam**	**59.73 348**	P	**P**		**19 04 57.4**	**-2.0**
ABKAR	**Akbulak array**	**64.93 330**	P	**P**		**19 05 31.9**	**-2.5**
MAW	**Mawson**	**69.23 195**	P	**P**		**19 06 01.3**	**0.0**
	comp=Z,1.9nm,0.9s,baz=218,slow=21,SNR=3.0						
MAW	**Mawson**	**69.23 195**	P	**P**		**19 06 01.4**	**+0.1**
KBZ	**Khabaz**	**71.91 318**	P	**P**		**19 06 17.1**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=96,slow=21,SNR=3.1						
MBAR	**Mbarara**	**72.51 271**	P	**P**		**19 06 23.2**	**+0.6**
	comp=Z,2.1nm,0.2s,baz=82,slow=8.9,SNR=4.9						
MBAR	**Mbarara**	**72.51 271**	P	**P**		**19 06 20.6**	**-2.0**
MBAR			IAmb	IAmb		19 06 30.4	
	comp=Z,5.9nm,1.1s						
PETK	**Petropavlovsk-**	**72.85 31**	P	**P**		**19 06 23.2**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=106,slow=19,SNR=2.6						
NRIK	**Noril'sk**	**73.94 354**	P	**P**		**19 06 29.3**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=157,slow=7.7,SNR=1.5						
MATP	**Matopo**	**74.34 250**	P	**P**		**19 06 34.6**	**+1.4**
	comp=Z,7.4nm,0.9s,baz=94,slow=6.3,SNR=11						
LSZ	**Lusaka**	**74.56 255**	P	**P**		**19 06 35.9**	**+1.3**
	comp=Z,1.0nm,0.2s,baz=1.1,slow=23,SNR=1.7						
BR131	**Keskin Array S**	**77.04 312**	P	**P**		**19 06 46.0**	**-2.3**
BR131			IAmb	IAmb		19 06 53.4	
	comp=Z,8.7nm,0.9s						
BRTR	**Keskin Array B**	**77.04 312**	P	**P**		**19 06 46.6**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=126,slow=7.5,SNR=12						
BRTR	**Keskin Array B**	**77.04 312**	P	**P**		**19 06 45.7**	**-2.6**
SYO	**Syowa Base**	**77.08 199⇑**	*e*P	**P**		**19 06 47.0**	**-0.8**
SYO	**Syowa Base**	**77.08 199⇑**	*e*PcP	**PcP**		**19 06 57.6**	**-1.0**
BOSA	**Boshof**	**77.57 242**	P	**P**		**19 06 52.8**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=100,slow=7.3,SNR=4.7						
BOSA	**Boshof**	**77.57 242**	P	**P**		**19 06 51.5**	**-0.1**
BOSA			IAmb	IAmb		19 07 17.0	
	comp=Z,12nm,1.3s						
VNDA	**Vanda**	**79.62 169**	P	**P**		**19 07 02.2**	**+0.5**
	comp=Z,0.9nm,1.1s,baz=282,slow=5.3,SNR=1.8						
VNDA	**Vanda**	**79.62 169**	P	**P**		**19 07 02.1**	**+0.5**
KLMR	**Klimovskoe**	**81.01 334**	*e*P	**P**		**19 07 10.4**	**+1.0**
KLMR			AMP			19 07 23.5	
	comp=Z,8.0nm,1.2s						
IDI	**Anoyia**	**82.81 306**	⇓P	**P**		**19 07 18.8**	**-0.8**
SORM	**Soroca**	**82.93 319**	⇑P	**P**		**19 07 21.2**	**+1.4**
AKASG	**Malin Array Be**	**83.02 322**	P	**P**		**19 07 18.9**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=83,slow=3.8,SNR=2.4						
VRI	**Vrincioaia**	**83.49 317**	⇑P	**P**		**19 07 23.2**	**+0.4**
PLOR	**Plostina**	**83.54 317**	⇑P	**P**		**19 07 25.2**	**+2.1**
TESR	**Tescani**	**83.69 317**	⇑P	**P**		**19 07 24.0**	**+0.2**
MLR	**Muntele Rosu**	**83.95 316**	⇑P	**P**		**19 07 27.5**	**+2.2**
MLR	**Muntele Rosu**	**83.95 316**	P	**P**		**19 07 25.0**	**-0.3**
BIZ	**Bicaz**	**84.14 318**	⇑P	**P**		**19 07 28.0**	**+1.9**
TSUM	**Tsumeb**	**84.62 251**	P	**P**		**19 07 29.5**	**+0.2**
BURAR	**Bucovina Array**	**84.87 318**	⇑P	**P**		**19 07 30.8**	**+0.9**
BURAR	**Bucovina Array**	**84.87 318**	P	**P**		**19 07 29.9**	**-0.1**
BUR08	**Bucovina Ar. S**	**84.89 318**	P	**P**		**19 07 30.0**	**0.0**
LIT	**Litokhoron**	**85.48 311**	P	**P**		**19 07 32.7**	**-0.3**
QSPA	**South Pole Qui**	**86.01 180**	P	**P**		**19 07 36.3**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=110,slow=11,SNR=5.1						
QSPA	**South Pole Qui**	**86.01 180**	P	**P**		**19 07 36.2**	**+0.9**
QSPA			IAmb	IAmb		19 07 55.2	
	comp=Z,6.9nm,1.4s						
HERR	**Herculane**	**86.29 315**	⇑P	**P**		**19 07 37.7**	**+0.8**
BZS	**Buzias**	**86.96 316**	⇓P	**P**		**19 07 40.6**	**+0.5**
KOLS	**Kolonicke sedl**	**87.05 319**	*e*P	**P**		**19 07 44.0**	**+3.5**
FINES	**FINESS Array B**	**87.35 332**	P	**P**		**19 07 40.4**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=204,slow=4.2,SNR=3.8						
VYHS	**Vyhne**	**89.24 319**	*e*P	P		19 07 55.8	+4.8
VYHS			*e*			19 12 09.0	
MORC	**Moravsky Berou**	**90.22 320**	⇓P	**P**		**19 07 58.5**	**+3.0**
GERES	**GERESS Array B**	**92.66 319**	P	**P**		**19 08 07.5**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=99,slow=6.1,SNR=2.1						
GERES	**GERESS Array B**	**92.66 319**	P	**P**		**19 08 07.3**	**+0.3**
TXAR	**Lajitas Array**	**144.12 42**	PKP	**PKPab**		**19 14 28.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=241,slow=0.9,SNR=4.5						
TXAR	**Lajitas Array**	**144.12 42**		**PKPab**		**19 14 28.3**	**-0.8**
CPUP	**Villa Florida**	**144.49 211**	PKP	**PKPab**		**19 14 31.3**	**+0.9**
	comp=Z,12nm,1.0s,baz=111,slow=4.0,SNR=7.7						
BDFB	**Brasilia**	**145.53 235**	PKPbc	**PKPbc**		**19 14 35.3**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=179,slow=9.4,SNR=4.5						
BDFB	**Brasilia**	**145.53 235**	PKPdf	**PKPdf**		**19 14 32.6**	**-1.7**

BJI ***01*** *18:58:31.0±0.0, 9.°30S×106.°90E, h10km, mB5.1/60, mb5.0/74, Ms4.9/71, Ms7 4.7/66*
KLM ***01*** *18:58:32.0, 9.°36S×106.°91E, h10km, mb4.8*
NEIC ***01*** *18:58:33.9±2.0, 9.°40S±0.°06×106.°98E±0.°07, h24km±3km, mb5.1/73, Error ellipse: s-maj=10.9km s-min=6.9km az=130.0*
UNK ***01*** *18:58:34.9, 9.°38S×106.°98E, h30km*
MOS ***01*** *18:58:35.7±0.9, 9.°13S×107.°15E, h38km, mb5.3/32, MS4.3/5, Error ellipse: s-maj=9.4km s-min=4.8km az=108.2*
IDC ***01*** *18:58:38.0±2.2, 9.°19S×107.°12E, h43km±19km, mb4.2/31, mb1 4.3/34, mb1mx4.2/52, mbtmp4.5/34, ML4.7/3, MS4.1/11, Ms1 4.1/11, ms1mx3.9/32, Error ellipse: s-maj=16.6km s-min=9.4km az=69.0*
ISC 01 18:58:33.2±0.6, 9.°34S±0.°04×107.°00E±0.°05, h14km±3km, h14km:pP-P, n516, σ1s25/538, mb5.1/122, MS4.5/30, 45C-12D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.75**	**229**	Pn	**Pn**	**18 59 00.8**	**-2.4**
CISI	**Cisompet, Garu**	**1.94**	**25**	Pn	**Pn**	**18 59 05.9**	**+0.1**
LEM	**Lembang**	**2.57**	**14**	P	**Pn**	**18 59 15.7**	**+1.1**
	110nm,0.3s,baz=352,slow=11,SNR=26						
LEM				S	**Sn**	**18 59 43.8**	**-1.8**
	98nm,0.3s,baz=171,slow=22,SNR=4.0						
LEM				LR	LR	19 00 20.3	
	comp=Z,4μm,18.1s,baz=285,slow=42						
UGM	**Wanagama**	**3.76**	**68**		**Pn**	**18 59 30.6**	**-0.2**
SMRI	**Semarang**	**4.09**	**57**		**Pn**	**18 59 36.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**7.12**	**84**	Pn	**Pn**	**19 00 16.8**	**-0.2**
COCO	**West Island**	**10.38**	**253**	P	**Pn**	**19 00 59.9**	**-1.9**
COCO	**West Island**	**10.38**	**253**		**Pn**	**19 00 59.9**	**-1.9**
KSM	**Kuching**	**11.23**	**17**	P	**Pn**	**19 01 15.0**	**+1.6**
KAPI	**Kappang**	**13.36**	**72**	P	**Pn**	**19 01 43.7**	**+1.2**
	2.0nm,0.3s,baz=255,slow=9.4,SNR=6.2						
KAPI				LR	LR	19 07 08.9	
	comp=Z,852nm,19.9s,baz=239,slow=39						
KAPI	**Kappang**	**13.36**	**72**	Pn	**Pn**	**19 01 41.4**	**-1.1**
PSI	**Prapat**	**14.50**	**326**	LR	LR	19 08 44.4	
	comp=Z,863nm,18.0s,baz=91,slow=42						
GIRL	**Giralia**	**14.94**	**153**	Pn	Pn	19 01 58.5	-5.6
MMRI	**Maumere**	**15.06**	**89**	Pn	**Pn**	**19 02 01.4**	**-4.5**
MMRI				IAmb	IAmb	19 02 21.7	
	comp=Z,88nm,1.0s						
BATI	**Baumata**	**16.44**	**94**	P	**P**	**19 02 25.4**	**-1.0**
	comp=Z,7.2nm,0.3s,baz=41,slow=6.1,SNR=4.0						
BATI				S	Sn	19 05 09.9	-16
	comp=Z,1.7nm,0.3s,baz=342,slow=13,SNR=1.2						
SOEI	**Soe**	**17.03**	**93**	Pn	**Pn**	**19 02 29.9**	**-1.4**
SOEI				IAmb	IAmb	19 02 58.4	
	comp=Z,132nm,1.0s						
PSA00	**Pilbara Seismi**	**17.34**	**136**	Pn	**Pn**	**19 02 31.6**	**-3.3**
LHMI	**Lhok Sumawe**	**17.60**	**325**	Pn	**Pn**	**19 02 34.8**	**-3.4**
KKM	**Kota Kinabalu**	**17.82**	**31**		**Pn**	**19 02 41.2**	**+0.1**
MYLDM	**Lahad Datu**	**18.42**	**39**	P	**Pn**	**19 02 49.0**	**+0.7**
MYLDM				IAmb	IAmb	19 03 13.4	
	comp=Z,153nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.08**	**118**	P	**P**	**19 03 06.3**	**-0.1**
	baz=20,SNR=6.8						
FITZ	**Fitzroy Crossi**	**20.08**	**118**	P	Pn	19 03 07.8	-0.4
	comp=Z,8.4nm,0.8s,baz=315,slow=7.8,SNR=5.9						
FITZ				S	S	19 06 32.8	-19
	comp=Z,4.5nm,1.0s,baz=143,slow=11,SNR=2.0						
FITZ	**Fitzroy Crossi**	**20.08**	**118**	P	**P**	**19 03 06.7**	**+0.3**
MEEK	**Meekatharra**	**20.42**	**149**	P	**P**	**19 03 10.6**	**+0.4**
	baz=20,SNR=6.7						
MORW	**Morawa**	**21.39**	**158**	P	**P**	**19 03 21.7**	**+1.2**
	baz=22,SNR=4.0						
MORW	**Morawa**	**21.39**	**158**	P	**P**	**19 03 20.0**	**-0.5**
MORW				IAmb	IAmb	19 03 34.2	
	comp=Z,98nm,1.4s						
KNRA	**Kununurra**	**22.15**	**109**	P	**P**	**19 03 29.5**	**+0.7**
	baz=22,SNR=5.8						
KNRA	**Kununurra**	**22.15**	**109**	P	**P**	**19 03 28.7**	**-0.1**
KNRA				IAmb	IAmb	19 03 43.3	
	comp=Z,64nm,0.8s						
TNTI	**Ternate**	**22.63**	**65**	P	**P**	**19 03 32.8**	**-1.2**
MTN	**Manton Dam**	**23.93**	**101**	P	**P**	**19 03 47.2**	**+0.1**
	baz=24,SNR=5.8						
MTN	**Manton Dam**	**23.93**	**101**	P	**P**	**19 03 46.9**	**-0.2**
MTN				IAmb	IAmb	19 04 14.5	
	comp=Z,80nm,1.3s						
DAV	**Davao City (W)**	**24.66**	**49**	P	**P**	**19 03 53.4**	**-0.4**
	comp=Z,66nm,0.5s,baz=304,slow=1.5,SNR=7.9						
KDU	**Kakadu**	**25.22**	**100**	P	**P**	**19 03 59.3**	**+0.5**
	baz=25,SNR=4.1						
NWAO	**Narrogin (SRO)**	**25.31**	**160**	P	**P**	**19 04 00.7**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=182,slow=14,SNR=1.4						
NWAO	**Narrogin (SRO)**	**25.31**	**160**	P	**P**	**19 04 00.7**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,17nm,1.2s						
NWAO	**Narrogin (SRO)**	**25.31**	**160**	IAmb	IAmb	19 04 08.4	
	comp=Z,17nm,1.1s						
SIJI	**Sorong**	**25.57**	**72**	P	**P**	**19 04 00.8**	**-1.2**
	comp=Z,14nm,0.7s,baz=276,slow=12,SNR=2.3						
WRKA	**Warakurna**	**25.58**	**130**	P	**P**	**19 04 02.1**	**0.0**
	baz=26,SNR=5.4						
PBKT	**Sadao Pong**	**26.42**	**347**	P	**P**	**19 04 08.2**	**-1.4**
PBKT				IAmb	IAmb	19 04 11.1	
	comp=Z,30nm,0.7s						
TGY	**Tagaytay City**	**27.08**	**31**	P	**P**	**19 04 14.9**	**-0.7**
	comp=Z,118nm,0.4s,baz=207,slow=3.7,SNR=3.5						
TGY				LR	LR	19 17 07.7	
	comp=Z,324nm,18.0s,baz=197,slow=41						
TGY	**Tagaytay City**	**27.08**	**31**	P	**P**	**19 04 15.0**	**-0.7**
QIZ	**Qiongzhong**	**28.32**	**6**	P	**P**	**19 04 26.8**	**+0.1**
QIZ				S	**S**	**19 09 12.6**	**-0.3**
QIZ				LR	LR		
	comp=Z,860nm,13.7s						
QIZ				LR	LR		
	comp=Z,900nm,14.7s						
QIZ				LR	LR		
	comp=Z,1μm,16.2s						
QIZ	**Qiongzhong**	**28.32**	**6**	S	**P**	**19 04 27.1**	**+0.4**
WB0	**Warramunga Arr**	**28.42**	**114**	P	**P**	**19 04 27.2**	**-0.5**
WB0				IAmb	IAmb	19 04 38.8	
	comp=Z,50nm,1.4s						
WRA	**Warramunga Arr**	**28.43**	**115**	P	**P**	**19 04 27.9**	**+0.2**
	comp=Z,3.7nm,1.0s,baz=289,slow=11,SNR=8.6						
WRAB	**Tennant Creek**	**28.43**	**115⇓**	*e*P	**P**	**19 04 28.3**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,13nm,1.6s						
WRAB	**Tennant Creek**	**28.43**	**115**	P	**P**	**19 04 26.7**	**-1.1**
WB2	**Warramunga Arr**	**28.44**	**115**	P	**P**	**19 04 24.9**	**-2.9**
WR0	**Warramunga Arr**	**28.61**	**115**	P	**P**	**19 04 28.6**	**-0.8**
WR0				IAmb	IAmb	19 04 40.9	
	comp=Z,49nm,1.4s						
CM31	**Chiang Mai Arr**	**28.74**	**344**	P	**P**	**19 04 30.1**	**-0.3**
CM31				IAmb	IAmb	19 04 32.6	
	comp=Z,63nm,1.2s						
CMAR	**Chiang Mai Arr**	**28.74**	**344**	P	**P**	**19 04 30.0**	**-0.5**
	comp=Z,15nm,0.8s,baz=179,slow=8.6,SNR=34						
CMAR				PcP	**PcP**	**19 07 40.7**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=180,slow=2.3,SNR=1.9						
CMAR	**Chiang Mai Arr**	**28.74**	**344**	P	**P**	**19 04 29.8**	**-0.7**
CHTO	**Chiang Mai**	**29.08**	**344**	P	**P**	**19 04 32.4**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,48nm,1.1s						
CHTO	**Chiang Mai**	**29.08**	**344**	P	**P**	**19 04 32.4**	**-1.1**
CHTO				IAmb	IAmb	19 04 35.5	
	comp=Z,48nm,1.1s						
ASAR	**Alice Springs**	**29.39**	**122**	P	**P**	**19 04 38.1**	**+1.8**
	comp=Z,3.3nm,0.7s,baz=302,slow=8.2,SNR=6.8						
ASAR				PcP	**PcP**	**19 07 42.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=272,slow=2.5,SNR=2.1						
QIS	**Mount Isa**	**33.35**	**113**	P	**P**	**19 05 09.9**	**-1.3**
	baz=33,SNR=4.2						
H08S2	**Diego Garcia H**	**34.16**	**270**	T	T	19 41 22.5	
	baz=95,slow=75,SNR=103						
H08S3	**Diego Garcia H**	**34.18**	**270**	T	T	19 41 21.2	
	baz=95,slow=75,SNR=88						
H08S1	**Diego Carcia H**	**34.18**	**270**	T	T	19 41 21.5	
	baz=95,slow=75,SNR=74						
SAIH	**SAIHA**	**34.48**	**337**	*e*P	**P**	**19 05 22.0**	**+0.9**
SAIH				IAmb	IAmb	19 05 24.3	
	comp=Z,54nm,0.5s						
KMI	**Kunming**	**34.50**	**353⇑**	*i*P	**P**	**19 05 23.9**	**+2.6**
KMI				pP	pwP	19 05 33.1	+2.2
KMI				S	**S**	**19 10 50.4**	**+0.6**
KMI				sS	sS	19 11 04.7	+10
KMI				pmax	pmax		
	comp=Z,56nm,1.4s						
KMI				pmax	pmax		
	comp=Z,230nm,7.3s						
KMI				LR	LR		
	comp=Z,2μm,11.7s						
KMI				LR	LR		
	comp=Z,530nm,11.7s						
KMI				LR	LR		
	comp=Z,2μm,12.4s						
YULB	**Yu-li**	**35.41 23**	P	**P**		**19 05 28.1**	**-0.8**
YULB			IAmb	IAmb		19 05 34.0	
	comp=Z,16nm,0.9s						
GYA	**Guiyang**	**35.58**	**359⇑**	P	**P**	**19 05 31.8**	**+1.3**
GYA			pP	pwP		19 05 40.6	+1.3
GYA			PP	**PP**		**19 06 51.9**	**+0.4**
GYA			S	**S**		**19 11 08.0**	**+1.8**
GYA			pmax	pmax			
	comp=Z,43nm,1.2s						
GYA			pmax	pmax			
	comp=Z,180nm,3.5s						
GYA			LR	LR			
	comp=Z,640nm,12.1s						
GYA			LR	LR			
	comp=Z,530nm,10.1s						
GYA			LR	LR			
	comp=Z,1μm,11.7s						
SSLB	**Suanglung**	**35.63 22**	P	**P**		**19 05 30.8**	**-0.1**
COEN	**Coen**	**35.70 101**	P	**P**		**19 05 31.0**	**-0.6**
	baz=36,SNR=4.3						
COEN	**Coen**	**35.70 101**	P	**P**		**19 05 31.0**	**-0.6**
COEN			IAmb	IAmb		19 05 57.0	
	comp=Z,35nm,1.3s						
QZH	**Quanzhou**	**35.90 18⇑**	*i*P	**P**		**19 05 32.4**	**-0.6**
QZH			PP	**PP**		**19 06 59.4**	**+4.6**
QZH			S	**S**		**19 11 11.0**	**+0.2**
QZH			LR	LR			
	comp=Z,520nm,12.0s						
QZH			LR	LR			
	comp=Z,360nm,12.2s						
QZH			LR	LR			
	comp=Z,460nm,12.7s						
YHNB	**Yeheng**	**36.59 22**	P	**P**		**19 05 38.8**	**-0.3**
YHNB			IAmb	IAmb		19 05 52.7	
	comp=Z,28nm,1.1s						
SILR	**SILCHAR**	**36.63 338**	*e*P	**P**		**19 05 39.0**	**-0.3**
YOJ	**Yonaguni jima**	**37.05 25**	P	**P**		**19 05 42.1**	**-0.8**
YOJ			pmax	pmax			
	comp=Z,140nm,1.4s						
YOJ	**Yonaguni jima**	**37.05 25**	P	**P**		**19 05 42.1**	**-0.8**
MTSU	**Mount Surprise**	**37.22 108**	P	**P**		**19 05 44.9**	**+0.3**
	baz=37,SNR=5.5						
SHL	**Shillong**	**37.69 337**	*e*P	**P**		**19 05 47.2**	**-1.3**
SHL	**Shillong**	**37.69 337**	P	**P**		**19 05 48.0**	**-0.5**
SHL			pmax	pmax			
	comp=Z,81nm,1.2s						
SHL	**Shillong**	**37.69 337**	P	**P**		**19 05 48.0**	**-0.5**
LKP	**Lekhapani**	**38.02 344**	*e*P	**P**		**19 05 51.9**	**+0.7**
GUWA	**GUWAHATI**	**38.33 338**	*e*P	**P**		**19 05 53.7**	**0.0**
GUWA			IAmb	IAmb		19 05 57.3	
	comp=Z,12nm,0.7s						
ITAN	**ITANAGAR**	**38.48 341**	*e*P	**P**		**19 05 56.2**	**+1.2**
ITAN			IAmb	IAmb		19 06 02.4	
	comp=Z,33nm,0.6s						
HYB	**Hyderabad**	**38.69 313**	*i*P	**P**		**19 05 58.0**	**+1.0**
ZIRO	**ZIRO**	**38.80 341**	*e*P	**P**		**19 05 58.5**	**+0.6**
STKA	**Stephens Creek**	**39.11 130**	P	**P**		**19 06 01.7**	**+1.3**
	baz=39,SNR=6.0						
STKA	**Stephens Creek**	**39.11

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NJ2                                   LR    LR
     comp=Z,410nm,18.7s
NJ2                                   LR    LR
     comp=Z,580nm,18.7s
NJ2                                   LR    LR
     comp=Z,580nm,18.2s
GKN  Gorkha        42.97 330 eP       P     19 06 33.1 +0.8
GKN  Gorkha        42.97 330 eP       P     19 06 33.1 +0.8
RMQ  Roma          43.00 119 P        P     19 06 32.3 -0.2
     baz=43,SNR=4.9
XAN  Xi'an         43.17   2 P        P     19 06 33.9 +0.2
XAN                                   pP    pwP 19 06 42.6 +0.1
XAN                                   S     S   19 12 58.9 -1.1
XAN                                   pmax  pmax
     comp=Z,45nm,1.1s
XAN                                   pmax  pmax
     comp=Z,280nm,3.5s
XAN                                   LR    LR
     comp=Z,700nm,12.3s
XAN                                   LR    LR
     comp=Z,870nm,12.7s
XAN                                   LR    LR
     comp=Z,1μm,13.2s
XAN  Xi'an         43.17   2 P        P     19 06 32.9 -0.8
XAN                                   pmax  pmax
     comp=Z,52nm,1.1s
XAN  Xi'an         43.17   2 P        P     19 06 32.9 -0.8
XAN                                   IAmb  IAmb 19 06 43.8
     comp=Z,52nm,1.1s
KOLN Koldanda      43.29 329 eP       P     19 06 35.9 +1.0
KOLN Koldanda      43.29 329 eP       P     19 06 35.9 +1.0
TIA  Tai'an        46.30  11 P        P     19 06 58.1 -0.4
TIA                                   S     S   19 13 42.6 -2.5
TIA                                   pmax  pmax
     comp=Z,11nm,0.6s
TIA                                   pmax  pmax
     comp=Z,110nm,3.7s
TIA                                   LR    LR
     comp=Z,210nm,13.5s
TIA                                   LR    LR
     comp=Z,220nm,15.7s
TIA                                   LR    LR
     comp=Z,290nm,11.4s
JNU  Nakatsue      47.96  27 P        P     19 07 11.6  0.0
     comp=Z,13nm,1.1s,baz=270,slow=2.0,SNR=3.5
GTA  Gaotai        48.95 353 ⇑P       P     19 07 20.5 +1.2
GTA                                   pP    pwP 19 07 29.6 +0.7
GTA                                   S     S   19 14 25.8 +2.7
GTA                                   pmax  pmax
     comp=Z,31nm,1.7s
GTA                                   pmax  pmax
     comp=Z,270nm,5.6s
GTA                                   LR    LR
     comp=Z,440nm,16.8s
GTA                                   LR    LR
     comp=Z,660nm,18.4s
GTA                                   LR    LR
     comp=Z,540nm,17.1s
TJN  Taejon        49.34  22⇓eP       P     19 07 21.9 -0.2
SMLA Simla         49.36 326 eP       P     19 07 22.3  0.0
BTO  Baotou        49.77   3 eP       P     19 07 26.8 +1.4
BJT  Baijiatuau    49.83   9 P        P     19 07 26.0 +0.2
BJT                                   pmax  pmax
     comp=Z,40nm,1.5s
BJT  Baijiatuau    49.83   9 P        P     19 07 26.0 +0.2
BJT                                   IAmb  IAmb 19 07 27.7
     comp=Z,40nm,1.5s
BJI  Beijing       49.85   9 P        P     19 07 26.0 +0.1
BJI                                   S     S   19 14 38.9 +3.5
BJI                                   pmax  pmax
     comp=Z,17nm,1.6s
BJI                                   pmax  pmax
     comp=Z,160nm,3.5s
BJI                                   LR    LR
     comp=Z,460nm,13.8s
BJI                                   LR    LR
     comp=Z,330nm,13.0s
BJI                                   LR    LR
     comp=Z,220nm,13.7s
DL2  Dalian        49.89  15 P        P     19 07 22.8 -3.4
DL2                                   S     S   19 14 31.2 -4.7
DL2                                   pmax  pmax
     comp=Z,26nm,1.1s
DL2                                   pmax  pmax
     comp=Z,170nm,4.4s
DL2                                   LR    LR
     comp=N,330nm,13.7s
DL2                                   LR    LR
     comp=E,230nm,13.1s
DL2                                   LR    LR
     comp=Z,320nm,15.7s
HHC  Hu-ho-hao-te  50.11   5 eP       P     19 07 29.0 +0.9
HHC                                   S     S   19 14 37.4 -1.8
HHC                                   sS    sS  19 14 54.8 +10
HHC                                   pmax  pmax
     comp=Z,29nm,1.0s
HHC                                   pmax  pmax
     comp=Z,120nm,5.7s
HHC                                   LR    LR
     comp=Z,850nm,13.3s
HHC                                   LR    LR
     comp=Z,540nm,13.3s
HHC                                   LR    LR
     comp=Z,790nm,12.6s
KSRS Korea Array   50.50  22 P        P     19 07 30.4 -0.6
     comp=Z,3.8nm,0.9s,baz=208,slow=9.5,SNR=12
DHRM DHARAMSHALA   50.69 326 eP       P     19 07 32.8  0.0
NIL  Nilore        53.44 325 P        P     19 07 51.8 -1.2
NIL                                   pmax  pmax
     comp=Z,27nm,1.1s
NIL  Nilore        53.44 325 P        P     19 07 51.8 -1.2
NIL                                   IAmb  IAmb 19 08 03.0
     comp=Z,27nm,1.1s
MAT  Matsushiro    54.25  31 P        P     19 07 48.9 -10
MAT                                   eS    S   19 15 30.6 -5.4
MJAR Matsushiro Arr 54.25 31 P        P     19 07 56.5 -2.3
     comp=Z,2.4nm,0.8s,baz=225,slow=7.7,SNR=7.6
MJAR                                  LR    LR  19 33 18.8
     comp=Z,92nm,18.8s,baz=200,slow=38
MJAR Matsushiro Arr 54.25  31 P       P     19 07 56.5 -2.3
MJAR                                  pmax  pmax
     comp=Z,3.0nm,0.9s
CN2  Changchun     55.48  16 eP       P     19 08 06.1 -1.4
CN2                                   pmax  pmax
     comp=Z,10.0nm,1.3s
CN2                                   pmax  pmax
     comp=Z,100nm,3.0s
CN2                                   LR    LR
     comp=Z,300nm,15.0s
CN2                                   LR    LR
     comp=Z,200nm,15.0s
CN2                                   LR    LR
     comp=Z,300nm,16.0s
WMQ  Urumqi        55.74 343 eP       P     19 08 10.8 +1.3
WMQ                                   pP    pwP 19 08 19.8 +0.7
WMQ                                   pmax  pmax
     comp=Z,21nm,1.5s
WMQ                                   pmax  pmax
     comp=Z,150nm,4.5s
WMQ                                   LR    LR
     comp=Z,230nm,17.9s
WMQ                                   LR    LR
     comp=Z,220nm,16.9s
WMQ                                   LR    LR
     comp=Z,67nm,20.9s
KSH  Kashi         56.49 331 eP       P     19 08 13.8 -1.3
KSH                                   S     S   19 16 00.1 -6.0
KSH                                   sS    sS  19 16 18.4 +6.8
KSH                                   SS    SS  19 19 53.9 +0.1
KSH                                   LR    LR
     comp=Z,240nm,5.9s
KSH                                   LR    LR
     comp=Z,270nm,5.5s
KSH                                   LR    LR
     comp=Z,280nm,5.7s
KBL  Kabul         56.54 323 P        P     19 08 13.1 -2.5
KBL                                   pmax  pmax
     comp=Z,13nm,0.9s
KBL  Kabul         56.54 323 P        P     19 08 13.1 -2.5
KBL                                   IAmb  IAmb 19 08 20.6
     comp=Z,13nm,0.8s
SONM Songino Array 56.92 360 P        P     19 08 18.8 +0.8
     comp=Z,4.3nm,0.6s,baz=177,slow=8.5,SNR=17
SONM                                  LR    LR  19 35 53.3
     comp=Z,285nm,18.2s,baz=178,slow=39
SONM Songino Array 56.92 360 P        P     19 08 18.0  0.0
ULN  Ulaanbaatar   56.95   0c iP      P     19 08 18.8 +0.6
ULN                                   pmax  pmax
     comp=Z,31nm,2.5s
ULN  Ulaanbaatar   56.95   0 P        P     19 08 18.1 -0.1
PRZ  Przheval'sk   57.82 335 P        P     19 08 25.8 +1.3
PRZ                                   pmax  pmax
     comp=Z,28nm,1.1s
PRZ  Przheval'sk   57.82 335 P        P     19 08 25.8 +1.3
PRZ                                   IAmb  IAmb 19 08 36.0
     comp=Z,28nm,1.1s
USA0B Ussuriysk Arra 57.90  21 P      P     19 08 23.5 -1.2
USA0B                                 pmax  pmax
     comp=Z,19nm,1.5s
USA0B Ussuriysk Arra 57.90  21 P      P     19 08 23.5 -1.2
USRK Ussuriysk Ar. 57.90  21 P        P     19 08 24.1 -0.6
     comp=Z,2.7nm,0.6s,baz=201,slow=6.3,SNR=9.1
USRK Ussuriysk Ar. 57.90  21 P        P     19 08 23.4 -1.3
SHLS Shalkode      57.96 336⇑iP       P     19 08 25.3 -0.1
     comp=Z,15nm,0.8s,baz=337
SHLS                                  eS    S   19 16 23.5 -1.9
     baz=337
SHLS Shalkode      57.96 336c iP      P     19 08 25.2 -0.1
SHLS                                  eS    S   19 16 23.4 -1.9
SHLS                                  pmax  pmax
     comp=Z,15nm,0.8s
KDJ  Kajisay       58.05 334 P        P     19 08 26.7 +0.6
KDJ                                   pmax  pmax
     comp=Z,35nm,1.1s
KDJ  Kajisay       58.05 334 P        P     19 08 26.7 +0.6
UZB  Uzynbulak     58.12 336⇑iP       P     19 08 27.3 +0.7
     comp=Z,23nm,1.6s,baz=337
UZB                                   eS    S   19 16 27.1 -0.4
     baz=337
UZB  Uzynbulak     58.12 336c iP      P     19 08 27.2 +0.7
UZB                                   eS    S   19 16 27.1 -0.4
UZB                                   pmax  pmax
     comp=Z,23nm,1.6s
SATY Saty          58.30 336 i P      P     19 08 28.5 +0.7
     comp=Z,11nm,1.3s,baz=336
SATY                                  eS    S   19 16 29.6 -0.3
     baz=336
SATY Saty          58.30 336 i P      P     19 08 28.4 +0.7
SATY                                  eS    S   19 16 29.5 -0.3
SATY                                  pmax  pmax
     comp=Z,11nm,1.3s
KPKS Kokpek        58.53 336 eP       P     19 08 29.7 +0.4
     comp=Z,28nm,1.5s,baz=337
KPKS Kokpek        58.53 336 eP       P     19 08 29.7 +0.4
KPKS                                  pmax  pmax
     comp=Z,28nm,1.5s
KZA  Kyzart        58.86 333 P        P     19 08 33.0 +1.0
     SNR=6.9
TNSS Tian-Shan     58.89 335 eP       P     19 08 31.9 -0.3
     baz=335
TNSS Tian-Shan     58.89 335 eP       P     19 08 31.9 -0.3
MDOK Medeo         58.95 335 i P      P     19 08 32.7 +0.4
     baz=335
MDOK                                  LR    LR  19 36 34.6
     comp=Z,162nm,13.8s,baz=335
MDOK Medeo         58.95 335 i P      P     19 08 32.7 +0.4
GAR  Garm          58.96 327 P        P     19 08 31.3 -1.1
AAA  Alma-Ata      59.04 335 i P      P     19 08 33.1 +0.3
     baz=335
AAA  Alma-Ata      59.04 335 i P      P     19 08 33.1 +0.3
MTBS Maitube       59.18 334 eP       P     19 08 33.8 -0.1
     baz=335
MTBS Maitube       59.18 334 eP       P     19 08 33.8 -0.1
UCH  Uchtor        59.31 332 P        P     19 08 35.7 +0.5
     SNR=6.0
CHGR Chuyangaron   59.34 326 P        P     19 08 33.9 -1.2
TKM2 Tokmak 2      59.38 334 P        P     19 08 35.7 +0.4
     SNR=17
BTK  Batken        59.46 328 P        P     19 08 35.8 -0.1
BTK                                   pmax  pmax
     comp=Z,47nm,1.5s
BTK  Batken        59.46 328 P        P     19 08 35.8 -0.1
CHKK Chushkaly     59.54 335⇑iP       P     19 08 35.8 -0.4
     baz=336
CHKK Chushkaly     59.54 335⇑iP       P     19 08 35.8 -0.4
ZAK  Zakamensk     59.56 357 eP       P     19 08 36.5 +0.2
ZAK                                   pmax  pmax
     comp=Z,9.0nm,1.3s
AML  Almayashu     59.61 332 P        P     19 08 37.6 +0.4
     SNR=9.8
AAK  Ala-Archa     59.64 333ceP       P     19 08 37.5 +0.4
AAK                                   pmax  pmax
     comp=Z,13nm,1.3s
AAK  Ala-Archa     59.64 333 P        P     19 08 36.2 -1.0
AAK                                   IAmb  IAmb 19 08 47.9
     comp=Z,14nm,1.1s
KUU  Kurty         59.84 335⇑iP       P     19 08 38.1 -0.2
     comp=Z,40nm,1.4s,baz=335
KUU                                   LR    LR  19 38 23.4
     baz=335
KUU  Kurty         59.84 335c iP      P     19 08 38.1 -0.2
KUU                                   pmax  pmax
     comp=Z,40nm,1.4s
ZSN  Zaisan        59.86 343⇑iP       P     19 08 39.6 +1.2
     comp=Z,12nm,0.8s,baz=343
ZSN                                   LR    LR  19 36 53.0
     comp=Z,87nm,12.2s,baz=343
ZSN  Zaisan        59.86 343c iP      P     19 08 39.5 +1.2
ZSN                                   pmax  pmax
     comp=Z,12nm,0.8s
ZSN                                   MLR   MLR
     comp=Z,87nm,12.0s
TDK  Taldyqorghan  59.92 337 eP       P     19 08 39.1 +0.3
     comp=Z,27nm,0.7s,baz=337
TDK  Taldyqorghan  59.92 337 eP       P     19 08 39.1 +0.3
TDK                                   pmax  pmax
     comp=Z,27nm,0.7s
EKS2 Erkin-Say     59.99 332 P        P     19 08 40.1 +0.6
     SNR=8.5
MK31 Makanchi Array 60.07 341 P       P     19 08 38.9 -0.9
MK31                                  pmax  pmax
     comp=Z,13nm,0.8s
MK31 Makanchi Array 60.07 341 P       P     19 08 38.9 -0.9
MK31                                  IAmb  IAmb 19 08 51.9
     comp=Z,13nm,0.8s
MKAR Makanchi Array 60.07 341 P       P     19 08 40.2 +0.4
     comp=Z,13nm,0.6s,baz=142,slow=8.1,SNR=87
MKAR Makanchi Array 60.07 341 P       P     19 08 39.8 -0.1
UOSS Minazif       60.09 306 P        P     19 08 39.1 -1.2
UOSS                                  IAmb  IAmb 19 09 06.3
     comp=Z,21nm,1.5s
USP  Ospenovka     60.14 333 P        P     19 08 40.4  0.0
     SNR=7.2
MAKZ Makanchi      60.19 340 P        P     19 08 40.4 -0.2
MAKZ                                  pmax  pmax
     comp=Z,13nm,1.2s
MAKZ Makanchi      60.19 340 P        P     19 08 40.4 -0.2
MAKZ                                  IAmb  IAmb 19 08 42.2
     comp=Z,13nm,1.1s
SGDS Sogindy       60.23 333⇑iP       P     19 08 41.0 -0.1
     comp=Z,22nm,1.8s,baz=334
SGDS Sogindy       60.23 333c iP      P     19 08 40.9 -0.1
SGDS                                  pmax  pmax
     comp=Z,21nm,1.8s
HRA  Herat         60.73 318 P        P     19 08 44.0 -0.8
HRA                                   IAmb  IAmb 19 08 55.0
     comp=Z,16nm,1.2s
TLY  Talaya        60.84 358 P        P     19 08 45.5 +0.6
     comp=Z,2.3nm,0.5s,baz=152,slow=7.6,SNR=4.7
TLY  Talaya        60.84 358 eP       P     19 08 44.8 -0.2
TLY                                   e     19 11 06.9
TLY                                   ePPP  PPP 19 12 27.5
TLY                                   eS    S   19 17 06.5 +4.5
TLY                                   pmax  pmax
     comp=Z,39nm,1.5s
TLY                                   MLR   MLR
     comp=Z,1μm,14.0s
TLY  Talaya        60.84 358 P        P     19 08 44.9  0.0
TLY                                   IAmb  IAmb 19 08 55.9
     comp=Z,16nm,1.2s
MOY  Mondy         60.98 356 eP       P     19 08 47.2 +1.2
MOY                                   pmax  pmax
     comp=Z,7.0nm,1.5s
DGZ  Jazzator, Alta 61.23 346c iP     P     19 08 49.1 +1.2
DGZ                                   pmax  pmax
     comp=Z,81nm,1.4s
DZA  Taraz         61.32 331 eP       P     19 08 47.7 -0.8
     baz=331
DZA  Taraz         61.32 331 eP       P     19 08 47.6 -0.8
IRK  Irkutsk       61.38 358 eP       P     19 08 49.0 +0.4
IRK                                   pmax  pmax
     comp=Z,45nm,2.0s
IUG  Iuzhnay       61.40 329⇑iP       P     19 08 49.4 +0.2
     comp=Z,16nm,1.4s,baz=330
IUG  Iuzhnay       61.40 329c iP      P     19 08 49.3 +0.2
IUG                                   pmax  pmax
     comp=Z,17nm,1.4s
BTLS Baital        61.74 334 eP       P     19 08 50.7 -0.5
     comp=Z,12nm,1.6s,baz=334
BTLS Baital        61.74 334 eP       P     19 08 50.7 -0.5
BTLS                                  pmax  pmax
     comp=Z,12nm,1.6s
KK31 Karatay Array 61.88 330 P        P     19 08 51.0 -1.2
KK31                                  pmax  pmax
     comp=Z,7.0nm,1.2s
KK31 Karatay Array 61.88 330 P        P     19 08 51.0 -1.2
KKAR Karatay Array 61.88 330 P        P     19 08 50.5 -1.7
KKAR                                  pmax  pmax
     comp=Z,7.0nm,1.2s
KKAR Karatay Array 61.88 330 P        P     19 08 50.5 -1.7
KKAR Karatay Array 61.88 330 P        P     19 08 50.1 -2.1
ASAJ Asahikawa     62.21  28 P        P     19 08 53.5 -0.8
     comp=Z,3.1nm,0.7s,baz=188,slow=8.0,SNR=6.3
JKA  Kamikawa-asahi 62.21  28 IAmb   IAmb  19 09 13.6
     comp=Z,15nm,1.4s
KLR  Kul'dur       62.23  18 P        P     19 08 53.5 -0.9
     comp=Z,7.4nm,0.8s,baz=219,slow=4.8,SNR=22
KLR  Kul'dur       62.23  18c iP      P     19 08 53.4 -1.0
KLR                                   pmax  pmax
     comp=Z,26nm,1.5s
YSS  Yuzh-Sakhalins 64.45  26 eP      P     19 09 08.6 -0.5
YSS                                   e*PP  pwP 19 09 17.8 -0.2
YSS                                   e     19 09 39.9
YSS                                   eS    S   19 17 46.1 -1.4
YSS                                   pmax  pmax
     comp=Z,30nm,1.2s
YSS                                   smax  smax
     comp=N,100nm,12.8s
YSS                                   smax  smax
     comp=E,100nm,11.4s
YSS                                   MLR   MLR
     comp=Z,200nm,19.0s
YSS  Yuzh-Sakhalins 64.45  26 P       P     19 09 07.8 -1.3
KURK Kurchatov     64.69 340 P        P     19 09 10.9 +0.3
KURK                                  pmax  pmax
     comp=Z,49nm,1.3s
KURK Kurchatov     64.69 340 P        P     19 09 10.9 +0.3
GRNR Gornyy        65.08  20⇑iP       P     19 09 12.5 -0.7
GRNR                                  pmax  pmax
     comp=Z,5.0nm,1.2s
ZEA  Zeya          65.14  13 eP       P     19 09 13.7 +0.2
ZEA                                   eS    S   19 18 00.5 +4.8
ZEA                                   pmax  pmax
     comp=N,24nm,1.0s
ZEA                                   pmax  pmax
     comp=Z,29nm,1.0s
ZEA                                   smax  smax
     comp=N,200nm,8.0s
ZEA                                   MLR   MLR
     comp=Z,500nm,16.0s
ZEA                                   MLR   MLR
     comp=N,300nm,14.0s
MAW  Mawson        65.15 197 P        P     19 09 14.8 +1.4
     baz=65,SNR=5.3
MAW  Mawson        65.15 197 P        P     19 09 14.4 +1.0
     comp=N,2.4nm,0.6s,baz=49,slow=4.4,SNR=11
MAW  Mawson        65.15 197 P        P     19 09 14.7 +1.3
MAW                                   pmax  pmax
     comp=Z,3.0nm,0.8s
MAW  Mawson        65.15 197 P        P     19 09 14.7 +1.3
GEYT Alibeck       65.51 319 P        P     19 09 17.1 +0.8
     comp=Z,3.0nm,0.6s,baz=155,slow=4.9,SNR=10
GEYT                                  LR    LR  19 41 53.6
     comp=Z,76nm,18.0s,baz=35,slow=40
GEYT Alibeck       65.51 319 P        P     19 09 16.4 +0.1
GYA0B ALIBECK ARRAY 65.51 319 P       P     19 09 16.4 +0.1
GYA0B                                 IAmb  IAmb 19 09 34.3
     comp=Z,28nm,1.3s
ZAA0 Zalesovo Array 65.78 346 P       P     19 09 17.3 -0.4
ZALV Zalesovo Beam 65.78 346 P        P     19 09 17.5 -0.1
     comp=Z,2.7nm,0.6s,baz=145,slow=3.6,SNR=11
ZALV Zalesovo Beam 65.78 346 i P      P     19 09 20.1 +2.5
ZALV                                  pmax  pmax
     comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 65.78 346 P        P     19 09 16.0 -1.6
BRZS Berezniki     66.23 337 eP       P     19 09 21.4 +0.7
     comp=Z,32nm,1.4s,baz=337
BRZS Berezniki     66.23 337 eP       P     19 09 21.3 +0.7
BRZS                                  pmax  pmax
     comp=Z,31nm,1.4s
BRVK Borovoye      69.57 337⇑iP       P     19 09 41.9 +0.3
BRVK                                  pmax  pmax
     comp=Z,31nm,1.7s
BRVK Borovoye      69.57 337 P        P     19 09 40.1 -1.5
BRVK                                  IAmb  IAmb 19 09 45.9
     comp=Z,12nm,0.7s
ABKAR Akbulak array 71.41 330 P       P     19 09 53.0 +0.1
YAK  Yakutsk       73.31  11c iP      P     19 10 03.3 -0.7
YAK                                   e     19 10 18.2
YAK                                   e     19 12 49.4
YAK                                   eS    SKiKP 19 19 33.9 -1.3
YAK                                   e     19 20 14.2
YAK                                   eSS   SS  19 24 10.8 -3.5
YAK                                   pmax  pmax
     comp=Z,24nm,1.0s
YAK                                   pmax  pmax
     comp=N,9.0nm,0.9s
YAK                                   pmax  pmax
     comp=E,10.0nm,1.4s
YAK                                   pmax  pmax
     comp=Z,97nm,3.9s
YAK                                   pmax  pmax
     comp=N,31nm,3.3s
YAK                                   pmax  pmax
     comp=E,44nm,3.7s
YAK                                   smax  smax
     comp=E,67nm,4.4s
YAK                                   smax  smax
     comp=N,54nm,3.4s
YAK                                   MLR   MLR
     comp=Z,191nm,21.0s
YAK                                   MLR   MLR
     comp=N,146nm,21.0s
YAK  Yakutsk       73.31  11 P        P     19 10 03.0 -0.9
SYO  Syowa Base    73.33 200⇑eP       P     19 10 03.2 -0.8
SYO  Syowa Base    73.33 200⇑epP      pP    19 10 10.0 +3.1
SYO  Syowa Base    73.33 200⇓iSP      sP    19 10 13.0 +5.1
SYO  Syowa Base    73.33 200⇓ePcP     PcP   19 10 19.0 -1.3
VNDA Vanda         73.69 169 P        P     19 10 07.3 +1.2
     comp=N,1.3nm,1.0s,baz=296,slow=6.4,SNR=2.0
PEA0B Petropavlovsk- 75.62  29 P      P     19 10 17.9 +0.3
PEA0B                                 pmax  pmax
     comp=Z,23nm,1.1s
PEA0B Petropavlovsk- 75.62  29 P      P     19 10 17.9 +0.3
PEA0B                                 IAmb  IAmb 19 10 40.2
     comp=Z,23nm,1.1s
PETK Petropavlovsk- 75.62  29 P       P     19 10 17.8 +0.2
     comp=Z,5.2nm,0.7s,baz=116,slow=0.6,SNR=16
PETK Petropavlovsk- 75.62  29 P       P     19 10 17.1 -0.5
PET  Petropavlovsk 76.03  29 eP       P     19 10 18.0 -1.9
PET                                   eS    S   19 20 05.8 +3.1
SVE  Sverdlovsk    76.13 336deP       P     19 10 21.4 +1.0
SVE                                   eS    S   19 20 04.1 +0.4
SVE                                   pmax  pmax
     comp=Z,30nm,1.2s
GROC Groznyy       76.25 319 eP       P     19 10 19.9 -1.5
GROC                                  e     19 10 31.5
GROC                                  pmax  pmax
     comp=Z,15nm,0.6s
TBLG Delisi        76.30 317 P        P     19 10 22.4 +0.6
TBLG                                  pmax  pmax
     comp=Z,38nm,1.1s
TBLG Delisi        76.30 317 P        P     19 10 22.4 +0.6
ARU  Arti          76.72 335c iP      P     19 10 24.3 +0.5
ARU                                   S     S   19 13 15.2
ARU                                   S     S   19 20 10.3 +0.1
ARU                                   pmax  pmax
     comp=Z,26nm,1.6s
ARU  Arti          76.72 335 P        P     19 10 23.1 -0.7
ARU                                   IAmb  IAmb 19 10 39.7
     comp=Z,39nm,1.5s
AKH  Akhalkalaki   77.00 316 P        P     19 10 26.3 +0.3
AKH                                   pmax  pmax
     comp=Z,11nm,1.2s
AKH  Akhalkalaki   77.00 316          P     19 10 26.3 +0.3
MA2  Magadan       77.06  21ceP       P     19 10 25.8 +0.2
MA2                                   pmax  pmax
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comp=Z,22nm,1.5s
ZEI Tsey 77.31 318 *e*P **P** 19 10 27.8 +0.1
ZEI pmax pmax
comp=Z,30nm,1.5s
KBZ Khabaz 78.38 318 P **P** 19 10 34.2 +0.9
comp=Z,6.6nm,0.9s,baz=112,slow=3.6,SNR=8.6
KBZ Khabaz 78.38 318*c i*P **P** 19 10 34.1 +0.8
KBZ pmax pmax
comp=Z,11nm,1.0s
BOSA Boshof 78.38 243 LR LR 19 41 19.7
comp=Z,172nm,18.1s,baz=97,slow=33
KIV Kislovodsk 78.61 318 *e*P **P** 19 10 33.7 -1.1
KIV pmax pmax
comp=Z,46nm,1.1s
NRIK Noril'sk 79.65 353 P **P** 19 10 39.7 -0.1
comp=Z,6.1nm,1.0s,baz=151,slow=5.0,SNR=9.7
NRIK Noril'sk 79.65 353 *i*P **P** 19 10 39.6 -0.2
SEY Seymchan 79.99 19*c i*P **P** 19 10 42.0 +0.3
SOC Sochi 80.43 317 *e*P P 19 10 51.2 +6.6
SOC *e* 19 13 45.9
SOC *e*PPP PPP 19 15 33.0
SOC pmax pmax
comp=Z,15nm,1.1s
QSPA South Pole Qui 80.67 180 P **P** 19 10 46.5 +0.9
comp=Z,3.2nm,1.0s,baz=329,slow=2.1,SNR=6.6
QSPA South Pole Qui 80.67 180 P **P** 19 10 45.1 -0.5
VRH Novokhopyorsk 82.28 325 *e*P **P** 19 10 54.2 0.0
VRH *e**PP **pwP** 19 11 03.7 0.0
VRH pmax pmax
comp=Z,40nm,0.7s
ANN Anapa 82.41 318 *e*P **P** 19 10 52.0 -3.0
ANN *e**PP **PcP** 19 11 02.0 +1.8
ANN *e*S **S** 19 21 06.0 -4.9
ANN pmax pmax
comp=Z,10.0nm,0.7s
BR131 Keskin Array S 83.38 312 P **P** 19 10 59.4 -1.0
BR131 pmax pmax
comp=Z,11nm,1.2s
BR131 Keskin Array S 83.38 312 P **P** 19 10 59.4 -1.0
BRTR Keskin Array B 83.38 312 P **P** 19 11 00.7 +0.3
comp=Z,1.9nm,0.7s,baz=141,slow=6.0,SNR=9.3
BRTR Keskin Array B 83.38 312 P **P** 19 11 00.1 -0.3
VORD Divnogorie 83.58 324 *e*P **P** 19 11 01.1 +0.2
VORD *e**PP **pwP** 19 11 10.0 -0.5
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 83.75 324 *e*P **P** 19 11 01.8 0.0
VSR *e**PP **pwP** 19 11 11.1 -0.2
VSR pmax pmax
comp=Z,50nm,1.5s
LPSR Galich'ya Gora 84.43 325 *e*P **P** 19 11 05.6 +0.4
LPSR *e**PP **pwP** 19 11 14.5 -0.3
LPSR pmax pmax
comp=Z,10.0nm,0.7s
PRGR Permogore 85.17 335 *e*P **P** 19 11 08.1 -0.6
PRGR *e**PP **pwP** 19 11 17.7 -0.6
PRGR pmax pmax
comp=Z,22nm,1.1s
MOS Moscow 86.35 328 *e*P **P** 19 11 14.4 -0.3
MOS *e* 19 11 24.1
MOS pmax pmax
comp=Z,31nm,0.9s
TSUM Tsumeb 86.44 251 P **P** 19 11 17.9 +1.7
comp=Z,1.0nm,0.7s,baz=112,slow=6.6,SNR=4.1
TSUM Tsumeb 86.44 251 IAmb IAmb 19 11 28.4
comp=Z,10nm,1.1s
OBN Obninsk 86.68 327*c i*P **P** 19 11 17.1 +0.8
OBN pmax pmax
comp=Z,72nm,1.7s
OBN MLR MLR
comp=Z,124nm,18.0s
SNAA Sanae 87.31 197 P **P** 19 11 19.9 +0.5
SNAA Sanae 87.31 197 P **P** 19 11 21.0 +1.6
comp=Z,1.5nm,0.9s,baz=129,slow=4.0,SNR=4.2
SNAA LR LR 19 44 42.8
comp=Z,144nm,20.8s,baz=102,slow=32
SNAA Sanae 87.31 197 P **P** 19 11 21.0 +1.6
SNAA pmax pmax
comp=Z,12nm,1.1s
SNAA Sanae 87.31 197 P **P** 19 11 20.9 +1.6
SNAA IAmb IAmb 19 11 31.4
comp=Z,12nm,1.1s
KLMR Klimovskoe 87.45 333 *e*P **P** 19 11 19.7 -0.2
KLMR pmax pmax
comp=Z,61nm,1.2s
KLMR Klimovskoe 87.45 333 *e*P **P** 19 11 19.8 -0.2
KLMR Klimovskoe 87.45 333 AMP 19 11 31.7
comp=Z,61nm,1.2s
JURR Jurilovca 88.19 316 ⇑P **P** 19 11 26.0 +2.1
TIRR Tirgusor 88.43 315 ⇑P **P** 19 11 28.7 +3.6
TIRR Tirgusor 88.43 315 ⇑P **P** 19 11 28.7 +3.6
VNA2 Neumayer--Watz 88.96 197 P **P** 19 11 29.2 +2.1
VNA1 Neumayer--Stat 89.34 198 P **P** 19 11 31.3 +2.4
SORM Soroca 89.40 319 ⇓P **P** 19 11 30.2 +0.7
SORM Soroca 89.40 319 ⇓P **P** 19 11 30.2 +0.7
TMCR Tamitsa 89.41 336 *e*P **P** 19 11 27.6 -1.6
VNA3 Neumayer Olymp 89.47 197 P **P** 19 11 29.9 +0.3
AKASG Malin Array Be 89.51 322 P **P** 19 11 30.2 +0.2
comp=Z,0.2nm,0.2s,baz=86,slow=4.0,SNR=5.5
AKASG PP **PP** 19 15 03.0 +1.4
comp=Z,0.3nm,0.2s,baz=90,slow=6.3,SNR=4.9
AKASG Malin Array Be 89.51 322 *i*P **P** 19 11 31.7 +1.7
AKASG Malin Array Be 89.51 322 P **P** 19 11 29.6 -0.4
VRI Vrincioaia 89.93 316 ⇓P **P** 19 11 34.1 +2.0
VRI Vrincioaia 89.93 316 ⇓P **P** 19 11 34.1 +2.0
PLOR Plostina 89.98 316 ⇑P **P** 19 11 33.8 +1.4
PLOR Plostina 89.98 316 ⇑P **P** 19 11 33.8 +1.4
TESR Tescani 90.13 317 ⇓P **P** 19 11 34.3 +1.3
MLR Muntele Rosu 90.38 316 ⇑P **P** 19 11 34.8 +0.5
MLR Muntele Rosu 90.38 316 P **P** 19 11 35.6 +1.2
MLR pmax pmax
comp=Z,24nm,1.3s
MLR Muntele Rosu 90.38 316 P **P** 19 11 35.6 +1.2
BURAR Bucovina Array 91.33 318 ⇓P **P** 19 11 40.7 +2.0
BURAR Bucovina Array 91.33 318 ⇓P **P** 19 11 40.7 +2.0
IDID Didziasalis 92.11 326 *e*P **P** 19 11 42.9 +0.9
IIGN Ignalina 92.41 326 *e*P **P** 19 11 43.7 +0.4
ISAL Salakas 92.51 326 *e*P **P** 19 11 44.9 +1.1
DEV Deva 92.55 316 ⇑P **P** 19 11 44.4 +0.2
DEV Deva 92.55 316 ⇑P **P** 19 11 44.4 +0.2
VSU Vasula 92.83 329 ⇓*e*P **P** 19 11 45.8 +0.6
BZS Buzias 93.39 316 ⇑P **P** 19 11 49.5 +1.4
BZS Buzias 93.39 316 ⇑P **P** 19 11 49.5 +1.4
KOLS Kolonicke sedl 93.52 319 *e*P **P** 19 11 49.6 +0.9
KOLS *e* 19 11 58.1
KOLS Kolonicke sedl 93.52 319 *e*P **P** 19 11 49.5 +0.9
KOLS *e* 19 11 58.1
PABE Paberze 93.69 326 *e*P P 19 11 58.6 +9.3
FINES FINESS Array B 93.81 332 P **P** 19 11 49.9 +0.3
comp=Z,3.6nm,1.1s,baz=149,slow=3.2,SNR=1.8
FINES FINESS Array B 93.81 332 P **P** 19 11 50.0 +0.3
ARCES ARCESS Array B 95.71 340 P **P** 19 11 58.2 0.0
comp=Z,1.7nm,0.8s,baz=97,slow=9.9,SNR=5.1
ARCES LR LR 19 59 39.0
comp=Z,133nm,18.1s,baz=105,slow=38
HFS Hagfors 99.67 330 LR LR 20 01 14.8
comp=Z,57nm,21.0s,baz=86,slow=38
NVAR Mina Array Bea 130.16 47 PKP **PKiKP** 19 17 44.6 +0.2
comp=Z,0.1nm,0.5s,baz=253,slow=0.9,SNR=1.8
L42A Oliver, Polo 144.30 21 PKPbc 19 18 07.6 +0.1
G58A Ormstown 144.31 1 P PKPbc 19 18 07.7 +0.4
baz=358
G57A Newington 144.32 2 P PKPbc 19 18 08.2 +0.8
baz=357,SNR=5.4
H64A Troy 144.67 355 P PKPbc 19 18 09.0 +0.5
baz=6.5
J47A Sunmer 144.68 15 **PKPdf** 19 18 09.7 -0.2
P38A Dawn 144.70 28 **PKPdf** 19 18 09.5 -0.5
DELO Deloro Mine 144.72 6 PKPdf PKPbc 19 18 09.1 +0.5
H55A Tweed 144.73 5 P PKPbc 19 18 08.9 +0.2
baz=353
H56A Elgin 144.76 4 P **PKPdf** 19 18 09.5 -0.4
baz=354
WVL Waterville 144.78 356 PKPbc 19 18 08.9 0.0
H59A Cadyville 144.82 1 P PKPbc 19 18 09.3 +0.3
baz=359,SNR=5.8
LONY Lake Ozonia 144.82 2 P **PKPdf** 19 18 09.9 -0.1
baz=357,SNR=15
LONY Lake Ozonia 144.82 2 **PKPdf** 19 18 09.7 -0.3
H62A Milan 144.86 358 P **PKPdf** 19 18 10.2 +0.1
baz=3.2
H62A Milan 144.86 358 **PKPdf** 19 18 09.9 -0.2
H60A Morristown 144.91 360 P **PKPdf** 19 18 10.2 -0.1
baz=0.6,SNR=5.1
H61A Lyndonville 144.92 359 P **PKPdf** 19 18 10.5 +0.2
baz=1.9,SNR=7.7
H57A Richville 144.94 3 P PKPbc 19 18 09.8 +0.4
baz=356,SNR=7.0
BDFB Brasilia 144.95 225 PKPbc **PKPdf** 19 18 12.7 +1.4
comp=Z,2.3nm,0.5s,baz=117,slow=9.0,SNR=2.9
I51A Listowel 144.96 10 P **PKPdf** 19 18 10.4 +0.1
baz=346
I55A Frankford 145.01 6 P **PKPbc** 19 18 10.0 +0.4
baz=352
H58A Gabriels 145.03 1 P **PKPdf** 19 18 10.5 0.0
baz=358,SNR=5.7
TXAR Lajitas Array 145.06 51 PKP **PKPdf** 19 18 12.1 +1.0
comp=Z,2.9nm,0.9s,baz=274,slow=2.1,SNR=15
TXAR Lajitas Array 145.06 51 **PKPdf** 19 18 10.9 -0.1
LBNH Lisbon 145.21 359 P **PKPdf** 19 18 11.5 +0.7
baz=1.9,SNR=5.2
I63A Otisfield 145.35 357 P **PKPdf** 19 18 11.7 +0.7
baz=4.2
WMOK Wichita Mounta 145.41 39 P **PKPab** 19 18 12.7 +1.2
baz=311
M44A Midewin, Midew 145.42 20 **PKPab** 19 18 12.1 +0.9
I64A Boothbay 145.42 356 P **PKPab** 19 18 11.6 +0.5
baz=5.9
P40A Paris 145.45 26 **PKPab** 19 18 11.8 +0.4
I57A Carthage 145.45 3 P **PKPab** 19 18 11.6 +0.3
baz=355,SNR=10
NCB Newcomb 145.48 2 **PKPab** 19 18 12.0 +0.6
I61A Oroboro, Fairl 145.53 359 P **PKPab** 19 18 12.4 +0.9
baz=1.4
I62A Tamworth 145.56 358 P **PKPab** 19 18 12.1 +0.5
baz=2.9
I60A Shoreham 145.62 0 P **PKPab** 19 18 12.8 +0.9
baz=360,SNR=9.1
I59A Olmsteadville 145.66 1 P **PKPab** 19 18 12.7 +0.6
baz=358,SNR=6.5
HDIL Hopedale 145.70 22 P **PKPab** 19 18 12.9 +0.6
baz=331
I58A Old Forge 145.73 3 P **PKPab** 19 18 12.9 +0.6
baz=357,SNR=6.3
J54A Appleton 145.84 7 P **PKPab** 19 18 13.0 +0.3
baz=350
J55A Hilton 145.94 6 P **PKPab** 19 18 13.2 +0.1
baz=352
J57A Williamstown 145.96 4 P **PKPab** 19 18 13.6 +0.5
baz=355,SNR=12
J59A Piesco 145.98 2 P **PKPab** 19 18 13.9 +0.6
baz=357,SNR=5.8
J56A Wolcott 146.02 5 P **PKPab** 19 18 13.5 +0.1
baz=353
J58A Remsen 146.05 3 P **PKPab** 19 18 13.8 +0.3
baz=356,SNR=6.8
J61A Chester 146.12 359 P **PKPab** 19 18 13.8 +0.1
baz=0.8
J60A Lant Hill Farm 146.22 1 P **PKPab** 19 18 14.5 +0.3
baz=359
J62A Hemiker 146.22 358 P **PKPab** 19 18 14.7 +0.6
baz=2.1
S39A Bolivar 146.34 30 **PKPdf** 19 18 13.1 +0.3
R40A Maddies Statio 146.36 28 **PKPbc** 19 18 14.3 +0.2
TUL1 Leonard 146.38 35 P **PKPab** 19 18 15.6 +0.6
baz=316
K55A Perry 146.44 7 P **PKPab** 19 18 15.0 -0.1
baz=351,SNR=5.4
K54A Basiliko Farm, 146.48 8 P **PKPab** 19 18 15.1 -0.1
baz=350
K57A Scipio Center 146.59 5 P **PKPab** 19 18 15.6 0.0
baz=354,SNR=6.6
K58A Earlville 146.62 4 P **PKPab** 19 18 15.6 -0.1
baz=355
SFIN Lafayette 146.64 20 P **PKPab** 19 18 16.1 +0.2
baz=334
WVNY West Valley, N 146.69 8 PKPab **PKPbc** 19 18 15.5 +0.5
K63A Dunstable 146.75 358 P **PKPab** 19 18 15.7 -0.5
baz=2.7
L54A Sinclairville 146.76 9 P **PKPbc** 19 18 15.3 +0.1
baz=349
K62A Royalston 146.79 359 P **PKPab** 19 18 16.3 0.0
baz=1.4
K60A Five Rivers En 146.84 1 P **PKPab** 19 18 16.8 +0.3
baz=358
L55A Hinsdale 146.93 7 P **PKPbc** 19 18 15.9 +0.2
baz=350
HRV Adam Dziewonsk 146.94 358 P **PKPbc** 19 18 16.0 +0.4
baz=2.6
L61B Northampton 147.01 360 P **PKPbc** 19 18 16.2 +0.4
baz=0.6
CCM Cathedral Cave 147.02 27 PKP2 **PKPbc** 19 18 16.5 +0.5
CCM Cathedral Cave 147.02 27 P **PKPbc** 19 18 16.4 +0.5
baz=326
CCM Cathedral Cave 147.02 27 PKPab **PKPbc** 19 18 16.5 +0.5
L56A Greenwood 147.08 6 P **PKPbc** 19 18 15.8 -0.3
baz=352
L56A Greenwood 147.08 6 **PKPbc** 19 18 16.8 +0.7
M52A Chesterland 147.09 12 P **PKPbc** 19 18 16.4 +0.3
baz=345
BINY Binghamton 147.16 4 P **PKPab** 19 18 17.4 -0.5
baz=355,SNR=7.1
L59A Walton 147.23 3 P **PKPbc** 19 18 17.1 +0.6
baz=356
L59A Walton 147.23 3 PKPab **PKPbc** 19 18 16.9 +0.5
L61A Hillsdale 1, H 147.27 1 P **PKPbc** 19 18 17.2 +0.7
baz=359
L57A Andrews Acres 147.29 5 P **PKPbc** 19 18 17.5 +0.8
baz=353,SNR=5.4
M53A Wi Miller and 147.31 11 P **PKPbc** 19 18 17.6 +0.9
baz=346
L58A Harry Jones Me 147.32 4 P **PKPab** 19 18 17.9 -0.6
baz=355,SNR=8.9
JCT Junction City 147.33 46 PKP2 **PKPbc** 19 18 18.1 +0.9
JCT Junction City 147.33 46 P **PKPab** 19 18 18.6 -0.4
baz=305
JCT Junction City 147.33 46 PKPab **PKPbc** 19 18 18.1 +0.9
M54A Oil Creek Stat 147.42 9 P **PKPbc** 19 18 17.8 +0.8
baz=348
N51A Ashland 147.47 13 P **PKPdf** 19 18 15.7 +1.0
baz=343
M55A Ridgway 147.59 8 P **PKPbc** 19 18 18.3 +0.8
baz=349,SNR=5.1
U40A Yellville 147.61 31 P **PKPbc** 19 18 18.2 +0.5
baz=321,SNR=12
U40A Yellville 147.61 31 PKPab **PKPbc** 19 18 18.3 +0.6
M56A Emporium 147.66 7 P **PKPbc** 19 18 18.4 +0.7
baz=350,SNR=6.9
N52A McGinn's Farm, 147.72 12 P **PKPbc** 19 18 18.7 +0.9
baz=344
KSCT Kent School, K 147.74 1 **PKPbc** 19 18 18.5 +0.7
OLIL Olney 147.74 22 **PKPbc** 19 18 19.0 +1.1
KSPA Keystone Colle 147.81 4 **PKiKP** 19 18 19.1 -0.9
M59A Waymart 147.85 3 P **PKPbc** 19 18 19.2 +1.0
baz=356,SNR=6.4
N53A Lisbon 147.90 11 P **PKPbc** 19 18 19.1 +0.8
baz=345
N53A Lisbon 147.90 11 **PKPbc** 19 18 19.3 +1.0
N54A Moraine State 147.90 10 P **PKPbc** 19 18 19.0 +0.6
baz=347
N54A Moraine State 147.90 10 PKPab **PKPbc** 19 18 19.0 +0.6
M57A Sunshine Farm, 147.92 6 P **PKPbc** 19 18 19.3 +0.9
baz=352,SNR=7.8
M57A Sunshine Farm, 147.92 6 **PKPbc** 19 18 19.3 +0.9
M58A Price's Panora 147.95 5 P **PKiKP** 19 18 19.6 -0.8
baz=354,SNR=6.9
ACSO Alum Creek Sta 147.97 14 P **PKPbc** 19 18 19.4 +0.8
baz=341
ACSO Alum Creek Sta 147.97 14 **PKPbc** 19 18 19.2 +0.7
P48A Milroy 148.01 18 **PKPbc** 19 18 18.8 +0.1
W39A Magazine 148.01 33 P **PKiKP** 19 18 19.9 -0.7
baz=319
W39A Magazine 148.01 33 **PKPbc** 19 18 19.3 +0.5
M60A Port Jervis 148.11 2 P **PKPbc** 19 18 19.7 +0.9
baz=357
O51A Pataskala 148.15 14 P **PKPbc** 19 18 19.8 +0.8
baz=342,SNR=7.5
N56A West Decatur 148.20 8 P **PKPbc** 19 18 19.7 +0.6
baz=350
N55A Marion Center 148.24 9 P **PKPbc** 19 18 20.1 +0.9
baz=349,SNR=6.2
O52A Adamsville 148.35 13 P **PKPbc** 19 18 20.4 +0.8
baz=343
O53A New Philadelph 148.36 12 P **PKiKP** 19 18 20.5 -0.7
baz=344
N57A Milroy 148.45 7 P **PKiKP** 19 18 20.8 -0.6
baz=351,SNR=6.1
N58A Sunbury 148.45 5 P **PKiKP** 19 18 20.6 -0.7
baz=353,SNR=5.7
N59A State Game Lan 148.45 4 P **PKiKP** 19 18 21.1 -0.3
baz=355,SNR=6.1
N59A State Game Lan 148.45 4 PKPab **PKiKP** 19 18 20.7 -0.7
SSPA Standing Stone 148.53 7 P **PKPbc** 19 18 20.6 +0.6
baz=351
N60A Cedar Hill Far 148.54 3 P **PKiKP** 19 18 20.9 -0.6
baz=356
O54A Avella 148.59 11 P **PKiKP** 19 18 21.2 -0.5
baz=346,SNR=5.8
O54A Avella 148.59 11 **PKiKP** 19 18 21.0 -0.7
MIAR Mount Ida 148.61 34 PKP2 **PKiKP** 19 18 21.6 -0.3
MIAR Mount Ida 148.61 34 P **PKiKP** 19 18 21.8 -0.1
baz=318
MIAR Mount Ida 148.61 34 PKPab **PKiKP** 19 18 21.6 -0.3
P51A Williamsport 148.66 15 P **PKPbc** 19 18 21.0 +0.7
baz=341
N61A South Mountain 148.69 2 P **PKiKP** 19 18 21.9 0.0
baz=358
P52A Corning 148.75 14 P **PKPbc** 19 18 21.0 +0.4
baz=342,SNR=6.8
O55A Ligonier 148.75 9 P **PKPbc** 19 18 21.2 +0.6
baz=348
O56A Blue Knob Stat 148.80 8 P **PKiKP** 19 18 21.7 -0.5
baz=349
W41B Gary Mavity, V 148.84 31 P **PKPbc** 19 18 21.6 +0.6
baz=321
W41B Gary Mavity, V 148.84 31 **PKPbc** 19 18 21.4 +0.5
WCI Wyandotte Cave 148.84 20 P **PKPbc** 19 18 21.6 +0.8
baz=334
O57A Amberson 148.98 7 P **PKPbc** 19 18 21.9 +0.7
baz=351
O59A Robesonia 149.02 5 P **PKiKP** 19 18 22.2 -0.4
baz=354
P53A Whipple 149.05 13 P **PKiKP** 19 18 22.4 -0.2
baz=344
O60A Telford 149.07 4 P **PKiKP** 19 18 22.3 -0.3
baz=355
P54A Burton 149.13 11 P **PKiKP** 19 18 22.6 -0.2
baz=346
O58A Lewisberry 149.14 6 P **PKPbc** 19 18 22.1 +0.6
baz=352
MCWV Mont Chateau 149.19 10 P **PKiKP** 19 18 23.1 +0.2
baz=347
P55A Reedsville 149.34 10 P **PKiKP** 19 18 23.1 -0.2
baz=347
Q52A Bidwell 149.35 14 P **PKiKP** 19 18 23.0 -0.3
baz=342
P56A Dayton Farm, R 149.51 9 P **PKiKP** 19 18 23.4 -0.2
baz=349
P60A Greenville 149.56 4 P **PKiKP** 19 18 23.5 -0.2
baz=355
Q53A Leroy 149.62 13 P **PKPbc** 19 18 22.1 -0.7
baz=343
P57A Homestead Farm 149.65 8 P **PKiKP** 19 18 23.7 -0.2
baz=350
Q54A Coxs Mills 149.65 12 P **PKiKP** 19 18 23.9 0.0
baz=345
P58A Pank, Wackersv 149.73 7 P **PKiKP** 19 18 23.7 -0.3
baz=352
Q55A Buckhannon 149.79 11 P **PKiKP** 19 18 24.2 -0.1
baz=346,SNR=5.6
Q56A Snyder Ridge, 149.91 10 P **PKiKP** 19 18 24.3 -0.1
baz=348
R53A Hurricane 150.03 14 P **PKiKP** 19 18 24.5 -0.2
baz=342
Q57A Strasburg 150.03 8 P **PKiKP** 19 18 24.7 0.0
baz=349
WVT Waverly 150.11 25 P **PKiKP** 19 18 25.0 +0.1
baz=330
Q58A Fox Den Farm, 150.22 7 P **PKiKP** 19 18 25.1 0.0
baz=351
R54A Victor 150.39 13 P **PKPbc** 19 18 25.1 +0.4
baz=344
R55A Marlinton 150.47 11 P **PKiKP** 19 18 25.8 +0.1
baz=346
R56A Bull Pasture M 150.49 10 P **PKiKP** 19 18 25.9 +0.2
baz=347
S53A Williamson 150.60 15 P **PKiKP** 19 18 26.1 +0.2
baz=342
S54A Dingess, Beckl 150.68 14 P **PKiKP** 19 18 26.2 +0.1
baz=343
R57A Stanardsville 150.74 9 P **PKiKP** 19 18 27.0 +0.8
baz=349,SNR=5.1
OXF Oxford 150.77 29 P **PKiKP** 19 18 27.1 +0.7
baz=325
R58A Rapidan 150.81 8 P **PKiKP** 19 18 26.9 +0.5
baz=350
PLAL Pickwick Lake 150.98 26 **PKPbc** 19 18 25.8 -0.4
T53A Wise 151.15 16 P **PKiKP** 19 18 27.6 +0.4
baz=340
R58B Mineral 151.16 8 P **PKiKP** 19 18 27.3 +0.3
baz=350
S57A Dark Hollow, R 151.19 10 P **PKiKP** 19 18 27.6 +0.5
baz=348
TZTN Tazewell 151.27 18 P **PKiKP** 19 18 27.8 +0.4
baz=338
T54A Tazewell 151.32 14 P **PKiKP** 19 18 27.8 +0.2
baz=342
S59A Mechanicsville 151.43 7 P **PKiKP** 19 18 28.5 +0.9
baz=351
BLA Blacksburg 151.45 12 P **PKiKP** 19 18 28.0 +0.3
baz=345
T55A Pulaski 151.46 13 P **PKiKP** 19 18 28.2 +0.4
baz=344
S58A Poland Farm, P 151.48 8 P **PKiKP** 19 18 28.2 +0.5
baz=350,SNR=5.3
MNMC Minye Minye 151.51 187 PKPbc **PKPbc** 19 18 26.8 -1.5
SWET Sewanee 151.66 23 **PKPbc** 19 18 27.8 0.0
T56A Rocky Mt 151.70 12 P **PKiKP** 19 18 28.8 +0.6
baz=345
X48A Hartselle 151.88 25 **PKPbc** 19 18 28.4 +0.1
T57A Hurt 151.88 11 P **PKiKP** 19 18 29.0 +0.5
baz=347
U55A TA2, Sparta 151.98 14 P **PKiKP** 19 18 29.3 +0.4
baz=343
T58A Grand View Acr 152.06 9 P **PKiKP** 19 18 29.1 +0.2
baz=348
T59A Double "B" Far 152.18 8 P **PKiKP** 19 18 30.0 +0.9
baz=350
T59A Double "B" Far 152.18 8 **PKPbc** 19 18 29.0 +0.2
V54A Nebo 152.44 16 P **PKiKP** 19 18 30.4 +0.6
baz=341
U58A Oxford 152.59 10 P **PKiKP** 19 18 30.6 +0.5
baz=348
Y49A Blount Mountai 152.65 25 **PKiKP** 19 18 30.3 0.0
V56A Mocksville 152.78 13 P **PKPab** 19 18 39.9 -1.0
baz=344
V57A Coltrane Farms 152.86 12 P **PKPab** 19 18 39.6 -1.6
baz=345
BG3 Lake Jocassee 152.89 18 **PKPbc** 19 18 30.4 -0.1
KMSC Kings Mountain 153.21 15 PKPab **PKPab** 19 18 41.2 -1.6

ISN ***01*** *19:18:31.7*±*1.9,33°.71N×45°.54E,h8km*±*9km,ML2.5*
TEH ***01*** *19:18:32.5,33°.76N×45°.56E,h10km,ML2.5*
ISC 01 19:18:32.7±1.1,**33°.71N**±0°.05×**45°.58E**±0°.06,**h13km,n8,**
σ1°**06**/12,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.66**	**154**	*e*Pg	**Pg**	**19 18 46.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**19 18 55.0**	**+0.6**
IGHG	**Ghaleghazi**	**1.03**	**53**	*e*Pg	**Pb**	**19 18 51.2**	**-1.3**
IGHG				*e*		19 18 54.6	
BHD	**Baghdad**	**1.09**	**247**	*e*Pg	**Pb**	**19 18 53.0**	**-0.5**
BHD				*e*Sg	**Sb**	**19 19 07.0**	**-0.7**
IDHR	**Dehrash**	**1.19**	**34**	*e*Pg	**Pb**	**19 18 54.7**	**-0.6**
IDHR				*e*		19 18 56.7	
IDHR				*e*Sg	**Sn**	**19 19 12.7**	**+1.2**
IVIS	**Veis**	**1.33**	**52**	*e*Pg	**Pb**	**19 18 57.4**	**-0.2**
IVIS				*e*		19 18 58.4	
ILIN	**Lien**	**1.66**	**43**	*e*		19 19 06.2	
ILIN				*e*Pg	**Pb**	**19 19 02.3**	**-1.1**
IKOM	**Komasi**	**1.67**	**73**	*e*		19 19 03.9	
IKOM				*e*Pn	**Pn**	**19 19 02.4**	**+0.6**
NSR	**Nassriya**	**2.73**	**170**	*e*Pn	**Pn**	**19 19 17.0**	**+0.8**
NSR				*e*Sn	**Sb**	**19 19 53.0**	**-1.8**

ISN ***01*** *19:45:36.6*±*0.6,33°.71N×45°.60E,h0km*±*2km,ML2.6*
TEH ***01*** *19:45:37.3,33°.76N×45°.73E,h19km,ML2.8*
ISC 01 19:45:36.9±1.0,**33°.73N**±0°.04×**45°.65E**±0°.05,**h13km,n17,**
σ0°**91**/20,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.66**	**159**	*e*Pg	**Pg**	**19 45 50.0**	**+0.3**
IBDR				*e*Sg	**Sb**	**19 46 00.0**	**+0.8**

IBDR				AML	AML	19 46 05.5	
	comp=N,106nm,0.5s						
IBDR				AML	AML	19 46 18.4	
	comp=E,64nm,0.7s						
IGHG	**Ghaleghazi**	**0.97**	**51**	*e*Pg	**Pg**	**19 45 54.8**	**-0.9**
IGHG				*e*		19 45 57.8	
IDHR	**Dehrash**	**1.15**	**32**	*e*Pg	**Pb**	**19 45 58.0**	**-0.7**
IDHR				*e*		19 46 18.1	
BHD	**Baghdad**	**1.16**	**247**	*e*Pg	**Pg**	**19 45 59.0**	**-0.2**
BHD				*e*Sg	**Sn**	**19 46 16.0**	**+1.5**
IVIS	**Veis**	**1.27**	**51**	*e*Pg	**Pn**	**19 46 00.1**	**-0.4**
IVIS				*e*		19 46 23.4	
KCHF	**Cheshme Sefid,**	**1.27**	**64**	*e*Pg	**Pn**	**19 46 00.2**	**-0.4**
KER	**Kermanshah**	**1.39**	**61**	*e*Pg	**Pb**	**19 46 03.0**	**+0.1**
IKOM	**Komasi**	**1.61**	**73**	*e*		19 46 07.4	
IKOM				*e*Pg	**Pb**	**19 46 06.1**	**-0.4**
ILIN	**Lien**	**1.61**	**42**	*e*		19 46 06.7	
ILIN				*e*Pg	**Pb**	**19 46 06.0**	**-0.6**
DHL1	**Dehloran**	**1.72**	**127**	*e*Sg	**Sg**	**19 46 32.6**	**+0.5**
IBZA	**Bozab**	**1.98**	**67**	*e*Pn	**Pn**	**19 46 10.1**	**-0.2**
IBZA				*e*		19 46 14.3	
IALM	**Almabolaq**	**2.37**	**61**	*e*Pn	**Pn**	**19 46 16.8**	**+1.1**
HSAM	**Samen**	**2.50**	**78**	*e*Pn	**Pn**	**19 46 18.1**	**+0.6**
BMDN	**Meydan**	**2.64**	**90**	*e*Pn	**Pn**	**19 46 20.0**	**+0.6**
HSRG	**Sareghieh**	**2.64**	**54**	*e*Pn	**Pn**	**19 46 20.8**	**+1.3**
HSRG				*e*		19 46 21.5	
NSR	**Nassriya**	**2.74**	**171**	*e*Pn	**Pb**	**19 46 24.0**	**-1.7**
NSR				*e*Sn	**Sb**	**19 46 58.0**	**-1.2**
NSR				AML	AML	19 46 58.5	
	comp=E,496nm,0.3s						
HAGD	**Aghdareh**	**3.09**	**68**	*e*Pn	**Pn**	**19 46 26.3**	**+0.7**

IPEC ***01*** *19:56:44.8±0.3, 51.°48N×16.°35E, h0km, ML2.0/3, Error ellipse: s-maj=2.9km s-min=1.7km az=69.0*
PRU ***01*** *19:56:46.2±0.0, 51.°42N×16.°17E, h0km*
VIE ***01*** *19:56:46.6±1.0, 51.°36N×16.°43E, h0km, mb1.9/1, ml2.5/4, Error ellipse: s-maj=14.3km s-min=6.3km az=89.0 51 km NW of Wroclaw Suspected Mining induced.*

ISC 01 19:56:45.7±1.2, 51.°39N±0.°06×16.°22E±0.°03, h0km, n24, σ0s78/50, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.55**	**175**	*e*Pg	**Pb**	**19 56 57.3**	**-0.9**
KSP				*e*Sg	**Sb**	**19 57 05.4**	**-1.2**
CHVC	**Chvalec**	**0.81**	**187**	*e*PG	**Pb**	**19 57 02.2**	**-0.5**
CHVC				*e*SG	**Sb**	**19 57 13.8**	**-0.3**
	comp=Z,19nm,0.4s						
OSTC	**Ostas**	**0.83**	**180**	*e*PG	**Pb**	**19 57 02.9**	**-0.2**
OSTC				*e*SG	**Sb**	**19 57 14.9**	**+0.1**
	comp=Z,27nm,0.4s						
UPC	**Upice**	**0.89**	**189**	*e*PG	**Pb**	**19 57 03.7**	**-0.4**
UPC				*e*SG	**Sb**	**19 57 16.4**	**-0.1**
	comp=Z,58nm,0.4s						
DPC	**Dobruska-Polom**	**1.04**	**176**	*e*PG	**Pb**	**19 57 06.2**	**-0.5**
DPC				*e*SG	**Sb**	**19 57 20.9**	**0.0**
	comp=Z,28nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**231**	*e*PG	**Pb**	**19 57 11.8**	**-0.1**
PVCC				*e*SG	**Sn**	**19 57 30.0**	**-0.5**
	comp=Z,59nm,0.5s						
KRLC	**Kraliky**	**1.36**	**165**	*e*PG	**Pg**	**19 57 11.9**	**+0.1**
KRLC				*e*SG	**Sn**	**19 57 30.4**	**-0.4**
	comp=Z,20nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**251**	PG	**Pn**	**19 57 14.5**	**+0.3**
BRG				SG	**Sb**	**19 57 34.6**	**-0.1**
	36nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.74**	**212**	*e*PG	**Pb**	**19 57 18.4**	**-0.1**
GOPC				*e*SG	**Sb**	**19 57 40.3**	**-0.5**
	comp=Z,32nm,1.0s						
PRU	**Pruhonice**	**1.76**	**218**	*e*PG	**Pb**	**19 57 18.8**	**-0.1**
PRU				*e*SG	**Sg**	**19 57 42.0**	**-0.3**
	comp=Z,15nm,0.4s						
MORC	**Moravsky Berou**	**1.82**	**152**	*e*PN	**Pn**	**19 57 18.0**	**-0.4**
MORC				*e*SG	**Sb**	**19 57 43.2**	**-0.1**
MORC	**Moravsky Berou**	**1.82**	**152**	*e*Pn	**Pn**	**19 57 17.9**	**-0.4**
	baz=336						
MORC				*e*Sg	**Sb**	**19 57 43.2**	**-0.1**
	9.8nm,0.3s,baz=336						
CLL	**Collm**	**2.02**	**269**	*e*Pg	**Pb**	**19 57 23.0**	**-0.2**
CLL				*e*Sg	**Sn**	**19 57 48.0**	**+1.1**
	comp=Z,10.0nm,0.4s						
VRAC	**Vranov**	**2.10**	**173**	*e*PN	**Pn**	**19 57 22.4**	**+0.3**
VRAC				*e*SG	**Sg**	**19 57 52.9**	**-0.2**
VRAC	**Vranov**	**2.10**	**173**	*e*Pn	**Pn**	**19 57 22.4**	**+0.3**
	baz=356						
VRAC				*e*Sg	**Sg**	**19 57 52.9**	**-0.2**
	comp=Z,7.7nm,0.5s,baz=356						
KRUC	**Moravsky**	**2.33**	**177**	*e*PG	**Pb**	**19 57 29.0**	**+0.4**
KRUC				*e*SG	**Sg**	**19 58 00.6**	**0.0**
KRUC	**Moravsky**	**2.33**	**177**	*e*Pg	**Pb**	**19 57 29.0**	**+0.4**
	baz=359						
KRUC				*e*Sg	**Sg**	**19 58 00.6**	**0.0**
	comp=Z,5.1nm,0.5s,baz=359						
OJC	**Ojcow**	**2.56**	**116**	*e*Pg	**Pg**	**19 57 34.3**	**-0.3**
OJC				*e*Sg	**Sg**	**19 58 09.4**	**+1.6**
NKC	**Novy Kostel**	**2.66**	**246**	*e*PN	**Pn**	**19 57 30.1**	**+0.3**
NKC				*e*PG	**Pg**	**19 57 35.6**	**-1.0**
NKC				*e*SG	**Sg**	**19 58 10.9**	**-0.1**
	comp=Z,16nm,0.3s						
KHC	**Kasperske Hory**	**2.83**	**218**	*e*PN	**Pn**	**19 57 33.2**	**+1.1**
KHC				*e*PG	**Pb**	**19 57 37.9**	**+0.9**
KHC				*e*SN	**Sn**	**19 58 06.1**	**-0.8**
KHC				*e*SG	**Sg**	**19 58 15.6**	**-0.8**
	comp=Z,7.4nm,0.5s						
VYHS	**Vyhne**	**3.36**	**149**	*e*PG	**Pg**	**19 57 49.8**	**-0.2**
VYHS				*e*SG	**Sg**	**19 58 31.7**	**-1.7**
CONA	**Conrad Observa**	**3.47**	**184**	*e*Pn	**Pn**	**19 57 42.9**	**+1.8**
	comp=Z,0.1nm,0.1s						
CONA				*e*Sg	**Sg**	**19 58 38.1**	**+0.9**
	comp=Z,4.4nm,0.3s						
MOA	**Molln**	**3.77**	**200**	*e*Pn	**Pn**	**19 57 45.6**	**+0.6**
	comp=Z,0.6nm,0.2s						
MOA				*e*Sg	**Sg**	**19 58 48.4**	**+1.8**
	comp=Z,2.2nm,0.3s						
ARSA	**Arzberg**	**4.17**	**187**	Sg	**Sg**	**19 59 01.8**	**+2.3**
	comp=Z,3.4nm,0.4s						

IDC 01 20:01:05.6±5.6, 0.°43S×100.°56E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/40, mbtmp3.3/3, Error ellipse: s-maj=305.8km s-min=30.3km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.33**	**123**	P	P	20 08 29.0	+0.5
	0.5nm,0.5s,baz=302,slow=9.1,SNR=6.4						
ASAR	**Alice Springs**	**39.74**	**128**	P	P	20 08 39.6	-0.8
	0.3nm,0.8s,baz=296,slow=7.1,SNR=1.8						
MKAR	**Makanchi Array**	**49.68**	**344**	P	P	20 09 59.5	+0.2
	0.3nm,0.6s,baz=158,slow=6.7,SNR=3.9						
TXAR	**Lajitas Array**	**143.12**	**37**	PKP	PKPbc	20 20 40.1	+0.8
	0.3nm,0.7s,baz=243,slow=0.8,SNR=3.5						

DJA 01 20:02:15.1±0.3, 4.°S±3.°×10.°3E±.°, h10km, M3.2/8, MLv3.2/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	**Lahat**	**0.26**	**62**	P	Pg	20 02 20.9	+0.4
LHSI				S	Sb	20 02 25.4	-1.1
MNAI	**Manna**	**0.53**	**219**	P	Pg	20 02 25.7	+0.3
MNAI				S	Sb	20 02 34.2	0.0
KSI	**Kapahiang**	**0.76**	**293**	P	Pg	20 02 29.5	-0.2
MDSI	**Maura Dua**	**1.03**	**121**	P	Pg	20 02 34.1	-0.9
LWLI	**Liwa**	**1.31**	**144**	P	Pb	20 02 39.8	-0.1
KLSI		**1.61**	**117**	P	Pn	20 02 43.8	+0.1
DSRI	**Dabo**	**3.68**	**20**	P	Pn	20 03 12.9	+0.8

NNC ***01*** *20:05:20.6±2.1, 40.°68N×78.°25E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=13.9km s-min=9.8km az=172.0*
KRNET ***01*** *20:05:20.7±0.1, 42.°29N×79.°41E, h17km, mb2.4*

SOME 01 20:05:14.4, 40.°52N×78.°37E, h0km, 11C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.84**	**331**	⇑*e*P	Pg	20 05 50.8	+1.1
	baz=65						
KDJ				⇑*i*S	Sb	20 06 12.9	+0.1
	baz=65						
PRZ	**Przheval'sk**	**1.96**	**1**	⇑*e*P	Pn	20 05 34.8	-14
	baz=85						
PRZ				⇑*i*S	Sn	20 05 45.4	-29
	baz=85						
ANVS	**Anan'yevo**	**2.32**	**347**	⇑*e*P	Pn	20 05 46.2	-7.9
	baz=92						
ANVS				⇑*i*S	Sn	20 06 04.4	-19
	baz=92						
ULHL	**Ulahol**	**2.35**	**318**	⇑*i*P	Pg	20 06 00.7	+1.2
	baz=70						
ULHL				⇑*i*S	Sg	20 06 30.3	+0.3
	baz=70						
SATY	**Saty**	**2.54**	**1**	*e*P	Pg	20 06 02.8	-0.3
	1.0nm,0.6s						
SATY				*e*S	Sg	20 06 38.2	+2.2
	6.2nm,0.6s						
UZB	**Uzynbulak**	**2.67**	**10**	*e*P	Pg	20 06 04.5	-1.2
	1.0nm,0.5s						
UZB				*e*S	Sg	20 06 41.5	+1.2
	4.6nm,0.4s						
UZB	**Uzynbulak**	**2.67**	**10**	Pg	Pg	20 06 07.2	+1.6
	1.2nm,0.4s						
UZB				Lg	Lg	20 06 41.5	
	4.6nm,0.4s						
TNSS	**Tian-Shan**	**2.73**	**338**	*e*P	Pb	20 06 05.4	+1.0
	1.2nm,0.6s						
TNSS				*e*S	Sg	20 06 42.9	+0.6
	6.9nm,0.6s						
TNSS	**Tian-Shan**	**2.73**	**338**	Pg	Pg	20 06 07.9	+1.1
	2.6nm,0.7s						
TNSS				Lg	Lg	20 06 42.9	
	6.9nm,0.6s						
SHLS	**Shalkode**	**2.76**	**17**	*e*P	Pg	20 06 07.4	0.0
	0.8nm,0.6s						
SHLS				*e*S	Sg	20 06 45.9	+2.7
	6.7nm,0.5s						
KZA	**Kyzart**	**2.82**	**305**	⇑*i*P	Pg	20 06 11.4	+3.0
	baz=67						
KZA				⇑*i*S	Sg	20 06 48.6	+3.6
	baz=67						
MDOK	**Medeo**	**2.82**	**340**	*e*P	Pb	20 06 06.4	+0.6
	1.2nm,0.7s						
MDOK				*e*S	Sg	20 06 43.9	-1.2
	6.3nm,0.7s						
MDOK	**Medeo**	**2.82**	**340**	Pg	Pg	20 06 08.7	+0.2
	1.3nm,0.4s						
MDOK				Lg	Lg	20 06 43.9	
	6.3nm,0.7s						
KOTS	**Kotyrbulak**	**2.87**	**341**	*e*P	Pb	20 06 07.1	+0.5
	0.8nm,0.4s						
KOTS				*e*S	Sg	20 06 45.8	-0.8
	9.1nm,0.6s						
KOTS	**Kotyrbulak**	**2.87**	**341**	Pg	Pg	20 06 10.0	+0.5
	3.2nm,0.3s						
KOTS				Lg	Lg	20 06 45.8	
	9.1nm,0.6s						
PDGK	**Podgornoye**	**2.93**	**16**	⇓*e*Pg	Pg	20 06 09.6	-1.0
	0.6nm,0.4s						
PDGK				⇑Lg	Lg	20 06 47.6	
	5.2nm,0.7s						
KPKS	**Kokpek**	**2.96**	**4**	*e*P	Pg	20 06 10.1	-1.0
	2.3nm,0.4s						
KPKS				*e*S	Sg	20 06 50.6	+1.2
	13nm,0.4s						
KST	**Kastek**	**3.10**	**325**	*e*P	Pb	20 06 11.8	+1.4
	1.0nm,0.4s						
KST				*e*S	Sg	20 06 53.7	-0.2
	3.8nm,0.5s						
KST	**Kastek**	**3.10**	**325**	Pg	Pg	20 06 14.7	+0.9
	2.4nm,0.3s						
KST				Lg	Lg	20 06 53.7	
	3.8nm,0.5s						
TKM2	**Tokmak 2**	**3.17**	**320**	⇓*e*Pg	Pg	20 06 13.6	-1.7
	0.5nm,0.5s						
TKM2				⇓Lg	Lg	20 06 55.1	
	1.3nm,0.5s						
KRBS	**Karabastau**	**3.75**	**329**	Pg	Pg	20 06 26.0	-0.4
	0.4nm,0.3s						
KRBS				Lg	Lg	20 07 13.1	
	2.2nm,0.5s						
DJR	**Jarkent**	**3.96**	**15**	*e*P	Pb	20 06 26.9	+1.8
	1.6nm,0.5s						
DJR				*e*S	Sg	20 07 19.9	-1.5
	2.1nm,0.5s						
DJR	**Jarkent**	**3.96**	**15**	Pg	Pg	20 06 31.2	+1.0
	0.7nm,0.2s						
DJR				Lg	Lg	20 07 22.1	
	2.1nm,0.5s						

MOS ***01*** *20:10:03.9±1.1, 50.°85N×103.°36E, h5km, mb4.5/6, Error ellipse: s-maj=8.4km s-min=5.7km az=83.8*
IDC ***01*** *20:10:04.3±0.6, 50.°89N×103.°39E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.6/51, mbtmp3.6/15, ML3.0/4, MS2.9/4, Ms1 3.0/4, ms1mx2.6/55, Error ellipse: s-maj=11.3km s-min=7.8km az=94.0*
BYKL ***01*** *20:10:05.1±0.2, 50.°86N×103.°27E, FELT I=IV-V MSK at Zakamensk, IV at Holtoson*
NEIC ***01*** *20:10:05.8±2.8, 50.°95N±0.°03×103.°5E±0.°1, h12km±5km, mb4.6/9, Error ellipse: s-maj=13.3km s-min=4.7km az=96.0*

ISC 01 20:10:05.6±0.4, 50.°88N±0.°02×103.°36E±0.°02, h10km, n100, σ2s57/147, mb4.0/16, 13C-9D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**0.50**	**186**	⇑*i*Pg	**Pg**	**20 10 13.8**	**-1.5**
ZAK				Pmax		20 10 14.0	
	16μm,0.1s						
ZAK				*e*Sg	**Sg**	**20 10 20.5**	**-1.4**
ZAK				Smax		20 10 20.8	
	45μm,0.2s						
ZAK				*e*		20 10 22.1	
ZAK	**Zakamensk**	**0.50**	**186**	⇑*i*PG	**Pg**	**20 10 13.8**	**-1.5**
ZAK				*e*		20 10 20.5	
ZAK				pmax	pmax		
	comp=Z,16μm,0.1s						
ZAK				smax	smax		
	comp=N,43μm,0.3s						
TLY	**Talaya**	**0.82**	**12**	Pg	**Pg**	**20 10 20.2**	**-1.2**
	comp=N,2.1nm,0.3s,baz=201,slow=12,SNR=503						
TLY				Lg	Lg	20 10 31.0	
	comp=N,5.9nm,0.3s,baz=321,slow=21,SNR=26						
TLY	**Talaya**	**0.82**	**12**	⇑*i*Pg	**Pg**	**20 10 20.3**	**-1.2**
TLY				Pmax		20 10 21.8	
	comp=N,630nm,0.1s						
TLY				*e*Pb	**Pn**	**20 10 22.9**	**-0.4**
TLY				*e*Sg	**Sg**	**20 10 31.3**	**-0.9**
TLY				Smax		20 10 31.9	
	comp=N,6μm,0.1s						
TLY				*e*Sb	**Sn**	**20 10 38.0**	**+2.5**
TLY	**Talaya**	**0.82**	**12**	*c i*PG	**Pg**	**20 10 20.1**	**-1.4**
TLY				*e*		20 10 31.2	
TLY				pmax	pmax		
	comp=Z,2μm,0.4s						
TLY	**Talaya**	**0.82**	**12**		**Pg**	**20 10 20.0**	**-1.5**
IVK	**Ivanovka**	**1.14**	**35**	*e*Pg	**Pb**	**20 10 26.3**	**-1.0**
IVK				*e*Pb	**Pn**	**20 10 28.3**	**+0.7**
IVK				max		20 10 29.1	
	comp=Z,716nm,0.5s						
IVK				*e*Sg	**Sn**	**20 10 41.9**	**-1.3**
IVK				*e*		20 10 46.1	
IVK				max		20 10 47.1	
	comp=Z,2μm,0.4s						
IVK	**Ivanovka**	**1.14**	**35**	*e*PG	**Pb**	**20 10 26.4**	**-0.9**
IVK				*e*		20 10 41.8	
IVK				pmax	pmax		
	comp=Z,713nm,0.6s						
IVK				smax	smax		
	comp=E,2μm,0.8s						
ARS	**Arshan**	**1.20**	**331**	⇑*i*Pg	**Pb**	**20 10 26.2**	**-2.2**
ARS				*e*		20 10 28.6	
ARS				max		20 10 29.9	
	comp=E,2μm,0.5s						
ARS				*e*Sg	**Sb**	**20 10 43.0**	**-1.0**
ARS				*e*		20 10 47.5	
ARS				max		20 10 55.1	
	comp=E,7μm,0.6s						
ARS	**Arshan**	**1.20**	**331**	⇑*i*PG	**Pb**	**20 10 26.2**	**-2.2**
ARS				*e*		20 10 42.7	
ARS				pmax	pmax		
	comp=Z,2μm,0.3s						
ARS				smax	smax		
	comp=E,7μm,0.6s						
LSTR	**Listvyanka**	**1.35**	**42**	*e*Pg	**Pb**	**20 10 30.1**	**-0.9**
LSTR				*e*		20 10 35.6	
LSTR				max		20 10 36.0	
	comp=E,449nm,0.7s						
LSTR				*e*Sg	**Sn**	**20 10 47.8**	**-0.8**
LSTR				*e*		20 10 51.3	
LSTR				max		20 10 52.0	
	comp=E,2μm,0.7s						
IRK	**Irkutsk**	**1.48**	**22**	⇑*i*Pg	**Pb**	**20 10 32.2**	**-0.9**
IRK				Pmax		20 10 37.3	
	comp=E,849nm,0.3s						
IRK				*e*Sg	**Sg**	**20 10 51.8**	**-1.4**
IRK				*e*		20 10 54.6	
IRK				max		20 10 56.1	
	comp=E,10μm,0.6s						
IRK	**Irkutsk**	**1.48**	**22**	*e*PG	**Pb**	**20 10 32.3**	**-0.9**
IRK				*e*		20 10 51.8	
IRK				pmax	pmax		
	comp=Z,897nm,0.5s						
IRK				smax	smax		
	comp=E,10μm,0.6s						
MOY	**Mondy**	**1.69**	**299**	⇑*i*Pg	**Pn**	**20 10 34.2**	**-1.0**
	comp=E,667nm,0.8s						
MOY				⇓*i*Pg	**Pn**	**20 10 34.2**	**-1.0**
	comp=E,940nm,0.8s						
MOY				⇑*i*Pg	**Pn**	**20 10 34.2**	**-1.0**
	comp=E,1μm,0.8s						
MOY				Pmax		20 10 34.9	
	comp=E,2μm,0.6s						
MOY				*e*Sg	**Sb**	**20 10 57.2**	**-0.8**
MOY				*e*		20 11 00.3	
MOY				max		20 11 01.4	
	comp=E,7μm,0.8s						
MOY				*e*		20 11 09.7	
MOY	**Mondy**	**1.69**	**299**	⇑*i*PN	**Pn**	**20 10 34.2**	**-1.0**
MOY				*e*		20 10 56.4	
MOY				pmax	pmax		
	comp=Z,2μm,0.6s						
MOY				smax	smax		
	comp=E,7μm,0.6s						
BGT	**Bolshoye Golou**	**1.73**	**47**	*e*Pn	**Pb**	**20 10 36.2**	**-1.3**
BGT				*e*Pg	**Pg**	**20 10 37.1**	**-1.7**
BGT				Pmax		20 10 37.9	
	comp=E,883nm,0.5s						
BGT				*e*Sg	**Sg**	**20 11 01.0**	**-0.3**
BGT				Smax		20 11 02.4	
	comp=E,3μm,0.4s						
STDB	**Stepnoy Dvoret**	**2.28**	**54**	*e*Pn	**Pb**	**20 10 44.3**	**-2.5**
STDB				*e*Pg	**Pg**	**20 10 48.1**	**-1.1**
STDB				*e*Sg	**Sg**	**20 11 18.4**	**-0.4**
KAB	**Kabansk**	**2.37**	**59**	*e*Pg	**Pb**	**20 10 48.4**	**+0.1**
KAB				Pmax		20 10 54.0	
	comp=E,704nm,1.3s						
KAB				*e*		20 11 12.2	
KAB				*e*Sg	**Sg**	**20 11 20.4**	**-1.3**
KAB				*e*		20 11 23.3	
KAB				max		20 11 23.8	
	comp=E,5μm,0.5s						
KAB				*e*		20 11 45.9	
KAB	**Kabansk**	**2.37**	**59**	*e*PN	**Pb**	**20 10 48.4**	**+0.1**
KAB				*e*		20 11 21.0	
KAB				pmax	pmax		
	comp=Z,745nm,1.3s						
KAB				smax	smax		
	comp=N,5μm,0.6s						
HRMR	**Khuramsha**	**2.38**	**70**	*e*Pn	**Pn**	**20 10 45.3**	**+0.6**
HRMR				⇓*i*Pg	**Pb**	**20 10 48.5**	**0.0**
HRMR				Pmax		20 10 52.6	
	comp=N,2μm,0.7s						
HRMR				*e*Sg	**Sg**	**20 11 21.2**	**-0.8**
HRMR				*e*		20 11 24.9	
HRMR				max		20 11 25.5	
	comp=N,13μm,0.5s						
FFNB	**Fofonovo**	**2.43**	**60**	*e*Pn	**Pn**	**20 10 46.1**	**+0.8**
FFNB				*e*Pg	**Pb**	**20 10 49.3**	**-0.1**
FFNB				*e*Sg	**Sg**	**20 11 22.9**	**-0.7**
TRG	**Tyrgan**	**2.64**	**43**	⇓*i*Pn	**Pn**	**20 10 48.8**	**+0.5**
TRG				*e*Pg	**Pb**	**20 10 52.9**	**-0.1**
TRG				Pmax		20 10 53.6	
	comp=N,158nm,0.3s						
TRG				*e*PgPg	**Pg**	**20 10 56.1**	**-0.1**
TRG				*e*Sg	**Sg**	**20 11 29.3**	**-1.2**
TRG				Smax		20 11 30.7	
	comp=N,1μm,0.3s						
TRG	**Tyrgan**	**2.64**	**43**	*e*PN	**Pn**	**20 10 49.2**	**+0.9**
TRG				*e*		20 10 53.0	
TRG				*e*S	**Sn**	**20 11 20.8**	**+0.4**
TRG				*e*		20 11 27.0	
TRG				pmax	pmax		
	comp=Z,160nm,0.2s						
TRG				smax	smax		
	comp=E,1μm,0.4s						
ORL	**Orlik**	**2.77**	**308**	*e*Pn	**Pn**	**20 10 50.1**	**0.0**
ORL				*e*Pg	**Pb**	**20 10 53.2**	**-2.0**
ORL				Pmax		20 10 57.1	
	comp=E,552nm,0.7s						
ORL				*e*		20 11 02.4	
ORL				*e*Sg	**Sb**	**20 11 29.2**	**+0.1**
ORL				Smax		20 11 36.3	
	comp=E,1μm,0.8s						
ORL	**Orlik**	**2.77**	**308**	*e*PN	**Pn**	**20 10 50.1**	**0.0**
ORL				*e*		20 10 52.9	
ORL				*e*		20 11 28.9	
ORL				pmax	pmax		
	comp=Z,537nm,0.4s						
ORL				smax	smax		
	comp=N,1μm,0.8s						
UUDB	**Ulan-Yde**	**2.87**	**68**	*e*	**Pn**	**20 10 52.6**	**+1.2**
UUDB				*e*Pg	**Pb**	**20 10 56.7**	**-0.2**
UUDB				Pmax		20 11 00.5	
	comp=N,527nm,0.9s						
UUDB				*e*Sg	**Sg**	**20 11 35.7**	**-2.1**
UUDB				*e*		20 11 38.6	
UUDB				max		20 11 45.5	
	comp=N,2μm,1.4s						
KELR	**Kotokel**	**3.48**	**55**	*e*Pn	**Pn**	**20 11 00.8**	**+1.0**
KELR				*e*Pg	**Pb**	**20 11 08.5**	**+1.2**
KELR				*e*PgPg	**Pg**	**20 11 11.5**	**-0.7**
KELR				*e*		20 11 34.0	
KELR				*e*Sg	**Sg**	**20 11 54.8**	**-2.5**
SONM	**Songino Array**	**3.63**	**146**	Pn	**Pn**	**20 11 01.6**	**-0.4**
	comp=N,4.5nm,0.3s,baz=321,slow=14,SNR=161						
SONM				Pg	**Pb**	**20 11 08.9**	**-1.1**
	comp=N,134nm,0.3s,baz=320,slow=17,SNR=166						
SONM				Sn	**Sn**	**20 11 37.8**	**-7.1**
	comp=N,40nm,0.3s,baz=311,slow=28,SNR=5.6						
SONM				Lg	Lg	20 11 58.5	
	comp=N,349nm,0.3s,baz=330,slow=30,SNR=24						
SONM	**Songino Array**	**3.63**	**146**		**Pn**	**20 11 01.8**	**-0.2**
KNGR	**Kungurtug, Tuv**	**3.72**	**268**	*e*Pn	**Pn**	**20 11 03.6**	**+0.4**
KNGR				*e*Pg	**Pb**	**20 11 10.9**	**-0.6**
KNGR				*e*Sg	**Sb**	**20 11 59.8**	**+3.1**
OGRR	**Ongureny**	**3.80**	**42**	⇓*i*Pn	**Pn**	**20 11 06.1**	**+2.0**
OGRR				*e*		20 11 10.9	
OGRR				*e*		20 11 15.7	
OGRR				max		20 11 24.4	
	comp=N,131nm,0.7s						
OGRR				*e*Sg	**Sg**	**20 12 03.7**	**-3.8**
OGRR				Smax		20 12 05.0	
	comp=N,948nm,0.5s						
OGRR	**Ongureny**	**3.80**	**42**	*e*PN	**Pn**	**20 11 06.2**	**+2.1**
OGRR				*e*		20 11 13.4	
OGRR				*e*		20 12 02.7	
OGRR				pmax	pmax		
	comp=Z,143nm,0.9s						
OGRR				smax	smax		
	comp=E,945nm,1.0s						
ULN	**Ulaanb

SYVR				e			20 11 33.8	
SYVR				e			20 12 40.0	
SYVR				pmax	pmax			
	comp=Z,56nm,0.7s							
SYVR				smax	smax			
	comp=N,219nm,1.1s							
KPC	**Khapcheranga**	**5.90**	**98**	⇓iPn	**Pn**		**20 11 31.9**	**-1.1**
KPC				e			20 11 35.4	
KPC				ePg	Pg		20 11 52.8	-5.7
KPC				e			20 11 57.8	
KPC				max			20 11 59.3	
	comp=N,55nm,0.7s							
KPC				eSg	**Sg**		**20 13 10.6**	**-4.2**
KPC				e			20 13 18.9	
KPC				max			20 13 20.5	
	comp=N,893nm,1.4s							
KPC	**Khapcheranga**	**5.90**	**98**	ePN	**Pn**		**20 11 31.9**	**-1.1**
KPC				e			20 11 51.7	
KPC				e			20 13 09.3	
KPC				pmax	pmax			
	comp=Z,56nm,0.7s							
KPC				smax	smax			
	comp=N,891nm,1.6s							
NIZ	**Nizh Angarsk**	**6.14**	**35**	ePn	**Pn**		**20 11 35.7**	**-0.6**
NIZ				ePg	**Pb**		**20 11 55.7**	**+3.1**
NIZ				Pmax			20 12 03.0	
	comp=N,31nm,0.5s							
NIZ				e			20 12 49.4	
NIZ				e			20 13 12.7	
NIZ				eSg	**Sg**		**20 13 16.7**	**-6.0**
NIZ				Smax			20 13 22.5	
	comp=N,403nm,0.9s							
NIZ	**Nizh Angarsk**	**6.14**	**35**	ePN	**Pn**		**20 11 36.3**	**0.0**
NIZ				e			20 11 54.9	
NIZ				e			20 13 13.2	
NIZ				pmax	pmax			
	comp=Z,30nm,0.6s							
NIZ				smax	smax			
	comp=N,296nm,0.9s							
YLYR	**Ulyunkhan**	**6.19**	**47**	ePn	**Pn**		**20 11 37.3**	**+0.3**
YLYR				e			20 11 41.2	
YLYR				e			20 11 54.6	
YLYR				max			20 12 13.5	
	comp=N,19nm,1.0s							
YLYR				e			20 13 12.9	
YLYR				eSg	**Sg**		**20 13 19.5**	**-4.6**
YLYR				Smax			20 13 23.9	
	comp=N,218nm,1.5s							
YLYR	**Ulyunkhan**	**6.19**	**47**	ePN	**Pn**		**20 11 40.5**	**+3.5**
YLYR				e			20 11 57.3	
YLYR				eS	**Sn**		**20 12 47.4**	**-0.4**
YLYR				e			20 13 17.3	
YLYR				pmax	pmax			
	comp=Z,19nm,0.9s							
YLYR				smax	smax			
	comp=N,219nm,1.5s							
CIT	**Chita**	**6.47**	**76**	ePg	**Pb**		**20 12 01.2**	**+3.0**
CIT				Pmax			20 12 11.4	
	comp=N,62nm,0.3s							
CIT				eSg	**Sg**		**20 13 27.4**	**-5.8**
CIT				Smax			20 13 39.6	
	comp=N,407nm,0.9s							
KMO	**Kumora**	**6.87**	**40**	ePn	**Pn**		**20 11 46.1**	**-0.1**
KMO				Pg	Pb		20 12 09.4	+4.5
KMO				Pmax			20 12 28.9	
	comp=N,28nm,0.4s							
KMO				eSg	**Sg**		**20 13 39.6**	**-6.1**
KMO				e			20 13 48.9	
KMO				max			20 13 53.4	
	comp=N,668nm,1.3s							
UKT	**Uakit**	**7.70**	**49**	ePn	**Pn**		**20 11 58.4**	**+0.6**
UKT				e			20 12 01.9	
UKT				e			20 12 11.3	
UKT				ePg	Pg		20 12 25.3	-7.6
UKT				e			20 12 38.1	
UKT				max			20 12 46.9	
	comp=N,12nm,1.0s							
UKT				eSg	**Sg**		**20 14 05.8**	**-6.7**
UKT				e			20 14 18.0	
UKT				max			20 14 22.0	
	comp=N,112nm,1.1s							
NLYR	**Nelyaty**	**9.22**	**48**	ePn	**Pn**		**20 12 19.5**	**+0.9**
NLYR				e			20 12 51.1	
NLYR				e			20 13 03.7	
NLYR				max			20 13 18.5	
	comp=N,7.0nm,0.7s							
NLYR				e			20 14 21.1	
NLYR				eSg	Sn		20 14 52.5	+50
NLYR				Smax			20 15 29.2	
	comp=N,341nm,1.2s							
CRS	**Chara**	**10.65**	**50**	ePg	Pn		20 13 16.6	+38
CRS				e			20 13 32.4	
CRS				max			20 13 51.4	
	comp=N,6.0nm,1.2s							
CRS				e			20 15 25.7	
CRS				Sg	Sn		20 15 35.5	+58
CRS				e			20 15 52.9	
CRS				max			20 16 39.8	
	comp=N,112nm,1.3s							
TUP	**Tupik**	**10.69**	**64**	ePn	**Pn**		**20 12 38.8**	**+0.2**
TUP				ePg			20 13 18.2	
TUP				Pmax			20 13 40.8	
	comp=N,3.0nm,0.8s							
TUP				eSg			20 15 38.9	
TUP				Smax			20 15 52.3	
	comp=N,145nm,1.4s							
ZALV	**Zalesovo Beam**	**11.73**	**292**	Lg	Lg		20 16 08.2	
	comp=N,0.3nm,0.3s,baz=118,slow=26,SNR=5.7							
MK31	**Makanchi Array**	**14.45**	**262**	P	**P**		**20 13 32.9**	**-4.1**
MK31	**Makanchi Array**	**14.45**	**262**		**P**		**20 13 32.9**	**-4.1**
MKAR	**Makanchi Array**	**14.45**	**262**	Pn	**Pn**		**20 13 31.1**	**+1.0**
	comp=N,0.1nm,0.3s,baz=64,slow=8.6,SNR=6.4							
MKAR				Lg	Lg		20 17 40.4	
	comp=N,0.1nm,0.3s,baz=75,slow=28,SNR=6.8							
MKAR				LR	LR		20 19 28.8	
	comp=N,40nm,22.0s,baz=44,slow=39							
MKAR	**Makanchi Array**	**14.45**	**262**	i P	**P**		**20 13 34.9**	**-2.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**14.45**	**262**		**Pn**		**20 13 32.6**	**+2.5**
MAKZ	**Makanchi**	**14.64**	**262**	P	**Pn**		**20 13 35.0**	**+2.3**
MAKZ	**Makanchi**	**14.64**	**262**		**Pn**		**20 13 35.0**	**+2.3**
KURK	**Kurchatov**	**15.63**	**279**	P	**Pn**		**20 13 45.9**	**+0.2**
KURBB	**Kurchatov Arra**	**15.70**	**279**	Pn	**Pn**		**20 13 45.9**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=76,slow=12,SNR=4.1							
KURBB				Lg	Lg		20 18 14.8	
	comp=Z,0.1nm,0.3s,baz=83,slow=32,SNR=7.3							
YAK	**Yakutsk**	**18.18**	**42**	Lg	Lg		20 19 29.6	
	comp=Z,0.1nm,0.3s,baz=176,slow=19,SNR=1.5							
YAK	**Yakutsk**	**18.18**	**42**	⇓eP	**P**		**20 14 17.8**	**-0.3**
YAK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KLR	**Kul'dur**	**18.26**	**84**	P	**P**		**20 14 19.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=279,slow=8.8,SNR=5.2							
KLR				Lg	Lg		20 19 46.3	
	comp=Z,0.1nm,0.3s,baz=282,slow=18,SNR=8.9							
KLR				LR	LR		20 21 54.9	
	comp=Z,32nm,21.9s,baz=308,slow=39							
KLR	**Kul'dur**	**18.26**	**84**	⇓eP	**P**		**20 14 20.9**	**+1.9**
KLR				pmax	pmax			
	comp=Z,3.0nm,1.2s							
PRZ	**Przheval'sk**	**19.00**	**253**	P	**Pn**		**20 14 28.7**	**+0.6**
PRZ				pmax	pmax			
	comp=Z,13nm,0.7s							
PRZ	**Przheval'sk**	**19.00**	**253**	P	**Pn**		**20 14 28.7**	**+0.6**
PRZ				IAmb	IAmb		20 14 33.8	
	comp=Z,13nm,0.7s							
NRIK	**Noril'sk**	**20.00**	**344**	P	Pn		20 14 40.9	+1.2
	comp=Z,0.6nm,0.3s,baz=126,slow=9.9,SNR=5.5							
NRIK				S	**S**		**20 18 11.9**	**-11**
	comp=Z,0.2nm,0.3s,baz=117,slow=18,SNR=2.6							
NRIK				Lg	Lg		20 20 35.6	
	comp=Z,0.2nm,0.3s,baz=44,slow=21,SNR=3.5							
NRIK	**Noril'sk**	**20.00**	**344**	⇓eP	Pn		20 14 41.5	+1.9
NRIK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BVAR	**Borovoye Array**	**20.34**	**289**	P	**P**		**20 14 41.5**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=73,slow=9.9,SNR=9.2							
USRK	**Ussuriysk Ar.**	**20.36**	**98**	P	Pn		20 14 43.2	-0.9
	comp=Z,4.1nm,0.9s,baz=295,slow=10,SNR=6.3							
BRVK	**Borovoye**	**20.40**	**289**	⇓eP	Pn		20 14 45.5	+1.0
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KSRS	**Korea Array**	**22.02**	**118**	P	**P**		**20 15 00.5**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=313,slow=9.0,SNR=5.5							
KKAR	**Karatay Array**	**23.57**	**264**	P	**P**		**20 15 19.8**	**+3.7**
KKAR	**Karatay Array**	**23.57**	**264**	P	**P**		**20 15 19.8**	**+3.7**
SVE	**Sverdlovsk**	**25.56**	**300**	eP	**P**		**20 15 36.2**	**+2.0**
SVE				pmax	pmax			
	comp=Z,11nm,1.0s							
ARU	**Arti**	**26.74**	**300**	P	**P**		**20 15 47.0**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=125,slow=12,SNR=3.8							
ARU	**Arti**	**26.74**	**300c**	i P	**P**		**20 15 49.3**	**+4.4**
ARU							20 16 26.8	
ARU				S	**S**		**20 20 29.5**	**+9.2**
ARU				SS	**SnSn**		**20 21 34.3**	**+11**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.3s							
SEY	**Seymchan**	**28.59**	**46**	eP	**P**		**20 16 03.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**32.54**	**188**	P	**P**		**20 16 38.1**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=354,slow=4.5,SNR=1.3							
CMAR				LR	LR		20 29 31.6	
	comp=Z,15nm,18.7s,baz=275,slow=36							
OBN	**Obninsk**	**39.04**	**303**	eP	**P**		**20 17 34.2**	**+2.1**
OBN				pmax	pmax			
	comp=Z,7.0nm,0.5s							
FINES	**FINESS Array B**	**41.79**	**315**	P	**P**		**20 17 54.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=75,slow=10,SNR=12							
ANN	**Anapa**	**43.34**	**289**	eP	**P**		**20 18 06.9**	**-0.6**
ANN				e*PP	**pP**		**20 18 10.8**	**-0.4**
ANN				e			20 19 55.4	
ANN				eS	**S**		**20 24 35.2**	**+0.3**
ANN				pmax	pmax			
	comp=Z,20nm,1.0s							
AKASG	**Malin Array Be**	**44.99**	**300**	P	**P**		**20 18 20.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=356,slow=2.8,SNR=1.3							
AKASG	**Malin Array Be**	**44.99**	**300**	P	**P**		**20 18 19.6**	**-1.1**
BRTR	**Keskin Array B**	**48.56**	**285**	P	**P**		**20 18 49.2**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=85,slow=5.3,SNR=6.1							
BURAR	**Bucovina Array**	**48.87**	**298**	P	**P**		**20 18 50.3**	**-0.9**
BPAW	**Bear Paw Mtn.**	**51.68**	**33**	P	**P**		**20 19 09.9**	**-2.3**
BPAW				IAmb	IAmb		20 19 11.5	
	comp=Z,12nm,0.7s							
WRH	**Wood River Hil**	**52.41**	**31**		**P**		**20 19 17.9**	**+0.4**
WRH				IAmb	IAmb		20 19 18.6	
	comp=Z,3.4nm,0.8s							
IL31		**52.61**	**31**	P	**P**		**20 19 19.6**	**+0.7**
IL31				IAmb	IAmb		20 19 37.9	
	comp=Z,6.2nm,0.3s							
ILAR	**Eielson Array**	**52.61**	**31**	P	**P**		**20 19 19.3**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=303,slow=4.6,SNR=14							
ILAR	**Eielson Array**	**52.61**	**31**	P	**P**		**20 19 19.0**	**0.0**
SUA	**Susitna One**	**53.46**	**35**	P	**P**		**20 19 24.5**	**-1.0**
DHY	**Denali Highway**	**53.58**	**32**	P	**P**		**20 19 25.8**	**-0.6**
RES	**Resolute Bay**	**54.13**	**6**	LR	LR		20 45 04.7	
	comp=Z,27nm,18.4s,baz=140,slow=39							
BCAR	**Beaver Creek A**	**55.42**	**30**	P	**P**		**20 19 40.4**	**+0.8**
WRA	**Warramunga Arr**	**75.60**	**150**	P	**P**		**20 21 49.7**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=344,slow=6.2,SNR=2.9							
WRA	**Warramunga Arr**	**75.60**	**150**	P	**P**		**20 21 50.0**	**-0.4**
WRA	**Warramunga Arr**	**75.60**	**150**	P	**P**		**20 21 50.0**	**-0.4**
WB2	**Warramunga Arr**	**75.61**	**150**	P	**P**		**20 21 49.5**	**-1.0**
WB2				IAmb	IAmb		20 21 54.9	
	comp=Z,5.4nm,1.1s							
ASAR	**Alice Springs**	**78.96**	**152**	P	**P**		**20 22 09.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=348,slow=6.4,SNR=11							

*JMA **01** 20:18:17.4±0.1,24°.21N×121°.70E,h18km,2km,M2.1*
*TAP **01** 20:18:17.4,24°.25N×121°.75E,h14km,ML3.0,B*
ISC 01 20:18:17.3±0.8,24°.24N±0°.02×121°.74E±0°.02,h15km,5km,
n93,σ0°51/138,12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.15**	**245**	⇓iP	**Pg**	**20 18 21.3**	**+0.1**
	baz=234						
NACB				eS	**Sg**	**20 18 24.0**	**+0.3**
	baz=234						
ENA	**Nanau**	**0.19**	**0**	⇓iP	**Pg**	**20 18 21.7**	**-0.1**
	baz=359						
ENA				S	**Sg**	**20 18 24.7**	**-0.1**
	baz=359						
TWD	**Chiawan**	**0.20**	**220**	⇓iP	**Pb**	**20 18 22.4**	**-0.3**
	baz=219						
TWD				S	**Sb**	**20 18 25.9**	**-0.5**
	baz=219						
ENAH	**Nanao**	**0.22**	**17**	P	**Pg**	**20 18 22.2**	**-0.1**
	baz=13						
ENAH				eS	**Sg**	**20 18 25.6**	**-0.1**
	baz=13						
ETLH	**Xiulin Townshi**	**0.24**	**263**	⇓P	**Pg**	**20 18 22.8**	**+0.2**
	baz=261						
ETLH				S	**Sb**	**20 18 26.8**	**-0.7**
	baz=261						
HWA	**Hwalien**	**0.29**	**206**	eP	**Pb**	**20 18 24.5**	**+0.4**
	baz=214						
HWA				eS	**Sb**	**20 18 29.4**	**+0.7**
	baz=214						
NNSB	**Datong**	**0.38**	**300**	⇓iP	**Pb**	**20 18 25.5**	**-0.3**
	baz=298						
NNSB				i S	**Sb**	**20 18 30.8**	**-0.7**
	baz=298						
NNSH	**Datong**	**0.38**	**300**	⇓P	**Pb**	**20 18 25.4**	**-0.4**
	baz=297						
NNSH				i S	**Sg**	**20 18 30.7**	**+0.4**
	baz=297						
TWC	**Suao**	**0.38**	**15**	⇓iP	**Pg**	**20 18 25.0**	**0.0**
	baz=11						
TWC				S	**Sg**	**20 18 30.1**	**-0.3**
	baz=11						
NNS	**Nan Shan**	**0.39**	**301**	⇓iP	**Pb**	**20 18 25.7**	**-0.3**
	baz=299						
NNS				i S	**Sg**	**20 18 31.1**	**+0.4**
	baz=299						
NDT	**Datong Townshi**	**0.42**	**330**	i P	**Pg**	**20 18 26.1**	**+0.3**
	baz=328						
NDT				S	**Sg**	**20 18 31.8**	**+0.3**
	baz=328						
ENTT	**Nioudou**	**0.43**	**338**	⇓iP	**Pg**	**20 18 26.2**	**+0.2**
	baz=336						
ENTT				S	**Sg**	**20 18 32.1**	**+0.2**
	baz=336						
WHF	**Hehuan Shan**	**0.44**	**258**	⇓iP	**Pb**	**20 18 26.7**	**-0.4**
	baz=257						
WHF				eS	**Sb**	**20 18 33.4**	**-0.3**
	baz=257						
FUSS	**Fushou**	**0.45**	**271**	P	**Pb**	**20 18 27.0**	**-0.1**
	baz=270						
FUSS				S	**Sb**	**20 18 33.3**	**-0.5**
	baz=270						
TWE	**Neicheng**	**0.49**	**352**	i P	**Pg**	**20 18 27.2**	**+0.2**
	baz=351						
TWE				eS	**Sg**	**20 18 33.2**	**-0.4**
	baz=351						
ESL	**Shilin**	**0.51**	**214**	P	**Pb**	**20 18 27.6**	**-0.3**
	baz=220						
ESL				eS	**Sb**	**20 18 36.2**	**+1.2**
	baz=220						
TWT	**Tachien**	**0.52**	**272**	P	**Pb**	**20 18 28.5**	**+0.4**
	baz=270						
TWT				S	**Sb**	**20 18 35.9**	**+0.4**
	baz=270						
TDCB	**Techi**	**0.53**	**272**	⇓iP	**Pb**	**20 18 28.5**	**+0.1**
	baz=271						
TDCB				S	**Sb**	**20 18 35.5**	**-0.4**
	baz=271						
YHNB	**Yeheng**	**0.54**	**322**	P	**Pb**	**20 18 28.4**	**-0.2**
	baz=320						
YHNB				eS	**Sg**	**20 18 35.4**	**0.0**
	baz=320						
CHGB	**Renai**	**0.55**	**251**	⇓iP	**Pb**	**20 18 28.8**	**0.0**
	baz=245						
CHGB				S	**Sb**	**20 18 36.4**	**0.0**
	baz=245						
NSK	**Sanguang**	**0.56**	**321**	P	**Pg**	**20 18 28.6**	**+0.2**
	baz=320						
NSK				S	**Sg**	**20 18 36.1**	**+0.2**
	baz=320						
NWLT	**Wulai**	**0.58**	**338**	eP	**Pg**	**20 18 28.9**	**+0.2**
	baz=336						
NWLT				S	**Sg**	**20 18 36.3**	**-0.2**
	baz=336						
OWD	**Renai**	**0.59**	**242**	eP	**Pb**	**20 18 29.3**	**-0.1**
	baz=241						
OWD				eS	**Sb**	**20 18 38.3**	**+0.7**
	baz=241						
NTC	**Toucheng**	**0.62**	**7**	eP	**Pg**	**20 18 29.5**	**0.0**
	baz=6.0						
NTC				eS	**Sg**	**20 18 37.2**	**-0.5**
	baz=6.0						
EGS		**0.63**	**16**	eP	**Pg**	**20 18 29.7**	**+0.1**
	baz=23						
EGFH	**Guangfu**	**0.63**	**207**	eP	**Pb**	**20 18 30.3**	**+0.3**
	baz=221						
EGFH				eS	**Sn**	**20 18 40.6**	**-0.9**
	baz=221						
WHP	**Taichung City**	**0.73**	**273**	eP	**Pb**	**20 18 32.2**	**+0.5**
	baz=273						
WHP				eS	**Sb**	**20 18 42.0**	**+0.4**
	baz=273						
VWDT	**VWDT**	**0.73**	**229**	eP	**Pb**	**20 18 32.0**	**+0.3**
	baz=229						
VWDT				eS	**Sn**	**20 18 43.2**	**-0.7**
	baz=229						
TIPB	**Shuangxi**	**0.74**	**6**	P	**Pg**	**20 18 31.7**	**0.0**
	baz=4.0						
TIPB				eS	**Sg**	**20 18 40.6**	**-0.8**
	baz=4.0						
TWA	**Mucha**	**0.75**	**349**	eP	**Pn**	**20 18 33.3**	**-0.1**
	baz=348						
TATO	**Taipei**	**0.77**	**343**	eP	**Pn**	**20 18 33.4**	**-0.3**
	baz=341						
TATO				eS	**Sg**	**20 18 42.5**	**0.0**
	baz=341						
LIOB	**Emei**	**0.78**	**302**	P	**Pn**	**20 18 33.5**	**-0.2**
	baz=301						
LIOB				eS	**Sn**	**20 18 44.1**	**-1.0**
	baz=301						
NSTT	**Nanjuang**	**0.78**	**300**	eP	**Pn**	**20 18 33.2**	**-0.6**
	baz=299						
NSTT				eS	**Sb**	**20 18 43.1**	**+0.2**
	baz=299						
HGSD	**Ruisui**	**0.80**	**201**	eP	**Pn**	**20 18 33.3**	**-0.6**
	baz=216						
HGSD				eS	**Sn**	**20 18 46.0**	**+0.4**
	baz=216						
TWB1	**Santiao Chiao**	**0.80**	**16**	eP	**Pn**	**20 18 34.0**	**0.0**
	baz=15						
TWB1				eS	**Sb**	**20 18 42.8**	**-0.7**
	baz=15						
EHY	**Hungye**	**0.82**	**208**	P	**Pg**	**20 18 33.3**	**0.0**
	baz=220						
EHY				eS	**Sn**	**20 18 46.1**	**-0.1**
	baz=220						
TAP	**Taipei**	**0.83**	**345**	eP	**Pn**	**20 18 34.5**	**+0.1**
	baz=335						
NWF	**Wu-fen Shan**	**0.83**	**3**	eP	**Pn**	**20 18 34.5**	**0.0**
	baz=353						
NWF				eS	**Sb**	**20 18 44.4**	**-0.1**
	baz=353						
WFSB	**Wu-fen Shan**	**0.83**	**3**	eP	**Pb**	**20 18 33.6**	**+0.1**
	baz=353						
WFSB				eS	**Sb**	**20 18 44.0**	**-0.4**
	baz=353						
SMLT	**Sun Moon Lake**	**0.85**	**246**	P	**Pn**	**20 18 34.3**	**-0.4**
	baz=238						
SMLT				eS	**Sn**	**20 18 46.1**	**-0.8**
	baz=238						
SSLB	**Suanglung**	**0.85**	**238**	P	**Pg**	**20 18 34.0**	**+0.2**
	baz=239						
SSLB				eS	**Sg**	**20 18 44.7**	**-0.2**
	baz=239						
TYC	**Yuchr**	**0.87**	**248**	eP	**Pn**	**20 18 34.5**	**-0.5**
	baz=239						
TYC				eS	**Sn**	**20 18 46.5**	**-1.0**
	baz=239						
NCUH	**Zhongli**	**0.89**	**325**	eP	**Pn**	**20 18 35.8**	**+0.6**
	baz=318						
NCU	**National Centr**	**0.89**	**325**	eP	**Pn**	**20 18 36.0**	**+0.7**
	baz=324						
NCU				eS	**Sn**	**20 18 49.2**	**+1.4**
	baz=324						
TWQ1	**Liyutan**	**0.89**	**277**	eP	**Pn**	**20 18 35.9**	**+0.7**
	baz=276						
TWS1	**Kuangyinshan**	**0.91**	**341**	eP	**Pn**	**20 18 36.1**	**+0.5**
	baz=340						
TWS1				eS	**Sn**	**20 18 48.0**	**-0.4**
	baz=340						
NMLH	**Miaoli**	**0.92**	**289**	eP	**Pn**	**20 18 36.7**	**+1.1**
	baz=288						
YM01	**YM01**	**0.92**	**350**	eP	**Pg**	**20 18 35.5**	**+0.4**
	baz=360						
YM10	**YM10**	**0.93**	**350**	eP	**Pn**	**20 18 35.8**	**-0.1**
	baz=348						
YM04	**YM04**	**0.93**	**349**	eP	**Pb**	**20 18 35.3**	**+0.2**
	baz=347						
YULB	**Yu-li**	**0.93**	**206**	eP	**Pb**	**20 18 34.9**	**-0.3**
	baz=217						
YULB				eS	**Sn**	**20 18 48.6**	**-0.3**
	baz=217						
YM05	**YM05**	**0.94**	**350**	eP	**Pg**	**20 18 35.7**	**+0.2**
	baz=349						
YM11	**YM11**	**0.94**	**351**	eP	**Pb**	**20 18 35.2**	**-0.1**
	baz=349						
YM03	**YM03**	**0.96**	**349**	eP	**Pb**	**20 18 35.1**	**-0.5**
	baz=336						
YM08	**YM08**	**0.96**	**352**	eP	**Pb**	**20 18 35.6**	**0.0**
	baz=350						
NTST	**Danshui**	**0.96**	**344**	eP	**Pn**	**20 18 36.6**	**+0.4**
	baz=342						
EYUL	**Yuli**	**0.97**	**204**	eP	**Pn**	**20 18 36.3**	**0.0**
	baz=217						
ANP	**Anpu**	**0.97**	**348**	eP	**Pg**	**20 18 36.3**	**+0.3**
	baz=347						
TWF1	**Yuli**	**0.97**	**205**	eP	**Pn**	**20 18 36.3**	**-0.1**
	baz=217						
TWF1				eS	**Sn**	**20 18 50.3**	**+0.4**
	baz=217						
WNT	**Mingjian**	**1.03**	**250**	eP	**Pg**	**20 18 38.4**	**+1.2**
	baz=241						
TWY	**Chenhua**	**1.04**	**353**	eP	**Pg**	**20 18 38.5**	**+1.1**
	baz=352						
WCHH	**Zhanghua**	**1.09**	**262**	eP	**Pg**	**20 18 39.2**	**+0.9**
	baz=261						
FULB	**Fuli**	**1.11**	**202**	eP	**Pn**	**20 18 38.3**	**0.0**
	baz=217						
JYNG	**Yonagunijimaku**	**1.12**	**79**	P	**Pn**	**20 18 38.4**	**0.0**
ALS	**Alishan**	**1.12**	**230**	eP	**Pg**	**20 18 39.4**	**+0.4**
	baz=217						
CHN5	**Tsauling**	**1.16**	**237**	eP	**Pg**	**20 18 40.4**	**+0.7**
	baz=238						
YOJ	**Yonaguni jima**	**1.18**	**79**	eP	**Pn**	**20 18 39.3**	**+0.1**
	baz=67						
YOJ	**Yonaguni jima**	**1.18**	**79**	P	**Pn**	**20 18 39.3**	**+0.1**
WDLH	**Douliu**	**1.23**	**244**	eP	**Pg**	**20 18 41.4**	**+0.5**
	baz=244						
ELDTW	**Lidau**	**1.24**	**213**	eP	**Pb**	**20 18 40.2**	**-0.2**
	baz=214						
RLNB	**Erlin**	**1.31**	**255**	eP	**Pg**	**20 18 42.9**	**+0.4**
	baz=255						
EDH	**Donghe**	**1.32**	**198**	eP	**Pn**	**20 18 41.0**	**-0.2**
	baz=184						
WTK	**Tuku**	**1.35**	**246**	eP	**Pg**	**20 18 43.3**	**-0.1**
	baz=234						
TPUB	**Ta-pu**	**1.38**	**228**	eP	**Pg**	**20 18 43.5**	**-0.4**
	baz=230						
STYT	**Tauyuan**	**1.40**	**220**	eP	**Pg**	**20 18 44.7**	**+0.4**
	baz=222						
PCYT	**Pengchaiyu**	**1.42**	**12**	eP	**Pn**	**20 18 42.4**	**-0.1**
	baz=10.0						
WTP	**Ta-pu**	**1.43**	**227**	eP	**Pg**	**20 18 45.2**	**+0.5**
	baz=229						
CHN1	**Nanshi**	**1.53**	**227**	eP	**Pg**	**20 18 47.2**	**+0.5**
	baz=230						
SGST	**Jiashian**	**1.56**	**223**	eP	**Pg**	**20 18 46.6**	**-0.8**
	baz=225						
SLGT	**Liugui**	**1.59**	**219**	eP	**Pb**	**20 18 47.0**	**+0.5**
	baz=222						
ICHU	**Yijhu**	**1.60**	**237**	eP	**Pg**	**20 18 47.3**	**-0.7**
	baz=238						
SSD	**Sandimen**

JISG	Ishigakijimahi	2.37	81	P		Pn	20 18 55.5	-0.1
JISG				eS		Sn	20 19 25.8	+1.4

*IDC **01** 20:35:53.1±2.4, 59.′97N×152.′99W, h87km±42km, mb3.5/5, mb1 3.8/8, mb1mx3.3/44, mbtmp4.0/8, Error ellipse: s-maj=47.2km s-min=16.9km az=113.0*
*NEIC **01** 20:35:54.3±1.0, 59.′99N±0.′04×152.′79W±0.′09, h110km±4km, Error ellipse: s-maj=6.7km s-min=5.6km az=72.0*
*AEIC **01** 20:35:55±1.1, 59.′99N±0.′04×152.′79W±0.′10, h109km±4km, ML3.5, Error ellipse: s-maj=7.1km s-min=5.6km az=65.0*
*ANF **01** 20:35:55.2±1.1, 60.′03N×152.′56W, h118km±8km, ML4.2/8, ML4.1/7, Error ellipse: s-maj=10.9km s-min=7.5km az=82.0*
*UNK **01** 20:35:55.1, 59.′99N×152.′79W, h109km*

ISC 01 20:35:54.5±0.8, 60.′00N±0.′03×152.′72W±0.′04, h114km±5km, n136, σ1°08/160, mb4.0/5, Southern Alaska region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIM	Iliamna	0.15	305		Pn	20 36 09.6	-0.6
ILIM					Sn	20 36 21.1	-1.0
IVE	Iliamna Volcan	0.15	278		Pn	20 36 09.6	-0.8
ILS	Iliamna Low So	0.18	258		Pn	20 36 09.7	-0.7
RED	Redoubt Volcan	0.43	356		Pn	20 36 11.0	-0.4
RED					Sn	20 36 22.6	-1.5
RSO	Redoubt South	0.47	358		Pn	20 36 11.1	-0.7
RDWB	Redoubt West	0.50	353		Pn	20 36 11.2	-0.7
RDWB					Sn	20 36 23.6	-1.3
RDJH	Redoubt Jeurge	0.60	356		Pn	20 36 12.2	-0.3
RDJH					Sn	20 36 25.2	-1.0
HOM	Homer	0.64	121	P	Pn	20 36 12.7	+0.1
	baz=300,SNR=10						
HOM				S	Sn	20 36 26.5	+0.2
	baz=300						
HOM	Homer	0.64	121		Pn	20 36 12.8	+0.1
HOM					Sn	20 36 26.5	+0.2
AU22	Augustine Moun	0.71	208		Pn	20 36 12.6	-0.6
AU22					Sn	20 36 26.3	-0.9
AUL	Augustine Lava	0.71	211		Pn	20 36 13.0	-0.3
AUP	Augustine Pinn	0.73	210		Pn	20 36 13.0	-0.5
AUQ	Augustine Qik'	0.73	209		Pn	20 36 13.1	-0.4
CNPM	China Poot	0.89	122		Pn	20 36 14.3	-0.6
CNPM	China Poot	0.89	122		Sn	20 36 29.7	-0.5
BRLK	Bradley Lake	0.95	103		Pn	20 36 15.3	-0.2
BRSE	Bradley Lake S	1.03	103		Pn	20 36 16.1	-0.1
CAPN	Captain Cook N	1.10	44	P	Pn	20 36 18.7	+1.8
	baz=227						
CAPN				S	Sn	20 36 35.1	+1.3
	baz=227						
CAPN	Captain Cook N	1.10	44		Pn	20 36 18.7	+1.8
SPCP	Crater Peak Br	1.30	12		Pn	20 36 19.6	+0.2
SPCP					Sn	20 36 38.5	+0.3
SPCG	Spurr Capps Gl	1.34	14		Pn	20 36 19.9	+0.1
SPCG					Sn	20 36 38.7	-0.3
SLKM	Skilak Lake	1.35	66		Pn	20 36 19.1	-0.6
SPNN	North Nagishla	1.38	0		Pn	20 36 20.2	0.0
STLK	Strandline Lak	1.57	16		Pn	20 36 22.5	+0.1
O22K	Cooper Landing	1.57	71	P	Pn	20 36 22.3	+0.1
	baz=253,SNR=21						
O22K				S	Sn	20 36 42.3	-1.2
	baz=253						
O22K	Cooper Landing	1.57	71		Pn	20 36 22.3	+0.1
KAPH	Katmai Pasha	1.63	211		Pn	20 36 22.9	-0.2
SEW	Seward	1.64	85		Pn	20 36 22.6	-0.6
FIS	Fire Island	1.69	46		Pn	20 36 24.8	+1.2
SUA	Susitna One	1.76	32		Pn	20 36 25.1	+0.4
KAHG	Katmai Hook Gl	1.77	213		Pn	20 36 24.8	-0.1
KAHC	Katmai Hardscr	1.79	222		Pn	20 36 24.7	-0.4
SVW2	Sparrevohn	1.80	309		Pn	20 36 24.4	-0.6
RC01	Rabbit Creek A	1.84	52		Pn	20 36 25.5	-0.1
RC01					Sn	20 36 48.2	-1.1
SKT	Skwentna	2.07	16		Pn	20 36 28.4	-0.1
KVTA	Katmai Vly 10	2.09	220		Pn	20 36 28.6	-0.2
KABR	Katmai Barrier	2.20	213		Pn	20 36 29.9	-0.3
KDAK	Kodiak Island	2.22	178	P	Pn	20 36 28.5	-1.9
	26nm,0.3s,baz=33,slow=8.8,SNR=296						
KDAK				S	Sn	20 36 54.7	-3.2
	44nm,0.3s,baz=323,slow=20,SNR=21						
KDAK	Kodiak Island	2.22	178		Pn	20 36 28.8	-1.6
PWL	Port Wells	2.34	66		Pn	20 36 30.9	-1.0
PMR	Palmer	2.38	46		Pn	20 36 31.5	-0.8
KNK	Knik Glacier	2.53	54		Pn	20 36 33.7	-0.7
GHO	Glory Hole Cre	2.57	44		Pn	20 36 34.3	-0.7
CUT	Chulitna	2.69	25	P	Pn	20 36 36.8	+0.3
	baz=208,SNR=12						
CUT				S	Sn	20 37 08.6	-0.2
	baz=208						
CUT	Chulitna	2.69	25		Pn	20 36 36.0	-0.4
OHAK	Old Harbor	2.80	186		Pn	20 36 36.0	-1.8
PPLA	Purkeypile	2.92	5	Pn	Pn	20 36 40.0	+0.4
GLI	Glacier Island	2.92	70		Pn	20 36 37.8	-1.7
HIN	Hinchinbrook I	3.13	80		Pn	20 36 40.9	-1.3
HIN					Sn	20 37 17.5	-1.6
FID	Port Fidalgo	3.19	74		Pn	20 36 41.0	-2.1
Q23K	Middleton Isla	3.28	97	P	Pn	20 36 44.1	0.0
	baz=282						
Q23K				S	Sn	20 37 23.0	+0.6
	baz=282						
Q23K	Middleton Isla	3.28	97		Pn	20 36 44.0	-0.2
MID	Middleton Isla	3.28	97		Pn	20 36 44.0	-0.2
TT01	Tatalina	3.32	333		Pn	20 36 44.5	-0.3
HUR	Hurricane	3.34	25		Pn	20 36 45.6	+0.7
WAT7	Susitna Watana	3.40	31		Pn	20 36 45.5	-0.4
WAT1	Susitna Watana	3.48	33		Pn	20 36 46.7	-0.1
EYAK	Cordova Ski Ar	3.52	78		Pn	20 36 47.1	-0.2
SII	Sitkinak Islan	3.53	193		Pn	20 36 45.9	-1.8
WAT6	Susitna Watana	3.54	41		Pn	20 36 47.2	-0.5
WAT2	Susitna Watana	3.58	32		Pn	20 36 48.0	-0.2
DIV	Divide	3.61	69		Pn	20 36 48.0	-0.6
TRF	Thorofare Moun	3.65	17		Pn	20 36 50.2	+0.8
KLU	Klutina	3.66	63		Pn	20 36 48.5	-0.8
KTH	Kantishna Hill	3.67	13	Pn	Pn	20 36 49.9	+0.4
M24K	Tolsona, Glenn	3.82	54	P	Pn	20 36 51.6	+0.2
	baz=239						
M24K				S	Sn	20 37 35.0	-0.6
	baz=239						
M24K	Tolsona, Glenn	3.82	54		Pn	20 36 51.4	0.0
RND	Reindeer	3.88	27		Pn	20 36 52.2	-0.2
GOAT	Goat Mountain	4.02	78		Pn	20 36 52.9	-1.2
RAGM	Ragged Mountai	4.04	81		Pn	20 36 53.8	-0.5
BMRM	Bremner River	4.13	73		Pn	20 36 54.2	-1.4
MCK	McKinley	4.16	24		Pn	20 36 56.4	+0.5
KAIM	Kayak Island	4.17	87		Pn	20 36 56.1	0.0
BPAW	Bear Paw Mtn.	4.20	10		Pn	20 36 55.9	-0.6
NICHA	Nichawak Mount	4.38	83		Pn	20 36 58.7	-0.3
BWN	Browne	4.46	19		Pn	20 37 00.7	+0.7
SUCK	Suckling Hills	4.49	85		Pn	20 37 00.4	+0.1
BERG	Berg Lake	4.52	81		Pn	20 37 00.4	-0.4
PAX	Paxson	4.58	46		Pn	20 37 01.1	-0.6
GLB	Gilahina Butte	4.61	68		Pn	20 37 01.2	-0.8
GRIN	Grindle Hills	4.71	82		Pn	20 37 03.7	+0.4
VRDI	Verde Repeater	4.73	71	Pn	Pn	20 37 04.0	+0.2
NEA2	Nenana	4.92	19	P	Pn	20 37 05.8	-0.3
	baz=202,SNR=16						
NEA2	Nenana	4.92	19		Pn	20 37 05.9	-0.3
SNH	Sunshine Point	4.95	84		Pn	20 37 06.9	+0.3
MCARA	McCarthy VSAT	4.96	70	Pn	Pn	20 37 07.0	+0.3
WRH	Wood River Hil	4.99	24		Pn	20 37 06.8	-0.2
KULT	Kultieth River	5.01	83		Pn	20 37 07.3	-0.1
BARK	Barkley Ridge	5.12	81		Pn	20 37 09.3	+0.4
HDA	Harding Lake	5.19	29	P	Pn	20 37 09.4	-0.3
	baz=214,SNR=26						
HDA				S	Sn	20 38 05.2	-3.1
	baz=214						
HDA				S	Sn	20 38 05.2	-3.1
	baz=214						
HDA	Harding Lake	5.19	29		Pn	20 37 09.1	-0.6
PTPK	Patty Peak	5.19	72		Pn	20 37 09.5	-0.5
CCB	Clear Creek Bu	5.20	24		Pn	20 37 09.2	-0.7
ISLE	Juniper Island	5.20	79		Pn	20 37 09.9	-0.1
KIAG	Kiagna River	5.21	75		Pn	20 37 10.1	-0.2
BALM	Baldy	5.23	74		Pn	20 37 10.6	+0.2
RIDG	Independent Ri	5.29	41		Pn	20 37 11.2	+0.1
BAGL	Bagley Icefiel	5.32	80		Pn	20 37 12.3	+0.8
PS08	TAPS Pump Stn8	5.33	29		Pn	20 37 11.1	-0.5
TCOL	CIGO, UAF Yank	5.39	23	P	Pn	20 37 12.3	-0.1
	baz=207,SNR=14						
TCOL				S	Sn	20 38 12.2	-0.9
	baz=207						
COLA	College	5.39	23		Pn	20 37 12.1	-0.3
MESA	MESA	5.39	83		Pn	20 37 13.0	+0.3
MDM	Murphy Dome	5.40	21		Pn	20 37 12.3	-0.3
YAH	Yahtse	5.49	81		Pn	20 37 14.6	+0.5
DOT	Dot Lake	5.50	44	Pn	Pn	20 37 13.9	-0.1
IL31		5.50	27		Pn	20 37 13.2	-0.8
ILAR	Eielson Array	5.50	27	P	Pn	20 37 13.1	-0.9
	3.5nm,0.3s,baz=216,slow=14,SNR=125						
ILAR				S	Sn	20 38 11.6	-4.4
	1.9nm,0.3s,baz=207,slow=16,SNR=2.4						
BARN	Barnard Glacie	5.56	74		Pn	20 37 15.5	+0.5
POKR	Poker Plat Res	5.69	23	P	Pn	20 37 16.2	-0.3
	baz=208,SNR=6.3						
POKR				S	Sn	20 38 15.4	-5.1
	baz=208						
POKR	Poker Plat Res	5.69	23		Pn	20 37 16.2	-0.3
RKAV	Rock Avalanche	5.69	82		Pn	20 37 17.1	+0.4
CTGM	Chitina Glacie	5.71	75		Pn	20 37 17.9	+0.9
SCRK	Sand Creek	5.73	42	P	Pn	20 37 16.6	-0.6
	baz=230,SNR=13						
SCRK				S	Sn	20 38 18.9	-2.8
	baz=230						
SCRK	Sand Creek	5.73	42		Pn	20 37 16.1	-1.1
TABL	Table Mountain	5.79	81		Pn	20 37 18.4	+0.3
IM03		6.03	356		Pn	20 37 21.2	+0.2
IMAR	Indian Mountai	6.03	356		Pn	20 37 21.0	-0.1
PS06	TAPS Pump Stn6	6.04	12		Pn	20 37 21.5	+0.3
BCAR	Beaver Creek A	6.07	55		Pn	20 37 21.1	-0.6
PCA	Pinnacle	6.24	84		Pn	20 37 24.7	+0.6
SDPT	Sand Point	6.25	225		Pn	20 37 22.7	-1.3
CNBA	Chernabura Isl	6.38	219	Pn	Pn	20 37 23.9	-1.9
BCPM	Bancas Point	6.57	85		Pn	20 37 28.8	+0.4
PNL	Peninsula	6.72	87		Pn	20 37 30.6	0.0
PS05	TAPS Pump Stn5	6.90	7		Pn	20 37 33.2	+0.3
COLD	Coldfoot	7.35	8	P	Pn	20 37 39.1	+0.2
	baz=190,SNR=7.5						
COLD	Coldfoot	7.35	8		Pn	20 37 38.6	-0.3
BM03	Burnt Mountain	8.27	22		Pn	20 37 50.1	-1.3
BMAR	Burnt Mountain	8.28	22		Pn	20 37 50.6	-1.0
DLBC	Dease Lake	11.72	88	P	Pn	20 38 40.7	+2.8
	2.5nm,0.3s,baz=286,slow=6.3,SNR=26						
DLBC				S	Sn	20 40 44.6	-2.0
	0.2nm,0.3s,baz=246,slow=19,SNR=1.7						
DLBC	Dease Lake	11.72	88	Pn	Pn	20 38 39.7	+1.8
PETK	Petropavlovsk-	27.60	278	P	P	20 41 30.9	+0.1
	0.5nm,0.4s,baz=71,slow=13,SNR=8.2						
KSRS	Korea Array	53.32	283	P	P	20 45 03.0	+1.5
	1.4nm,0.8s,baz=40,slow=5.8,SNR=4.5						
SONM	Songino Array	54.91	306	P	P	20 45 14.7	+1.6
	0.9nm,0.5s,baz=40,slow=5.5,SNR=12						
ZALV	Zalesovo Beam	57.46	324	P	P	20 45 31.1	+0.1
	0.9nm,0.4s,baz=34,slow=7.0,SNR=4.3						
MKAR	Makanchi Array	64.52	321	P	P	20 46 18.7	-0.1
	0.3nm,0.5s,baz=36,slow=6.7,SNR=7.3						

*NEIC **01** 20:48:08.7±1.1, 5.′55S±0.′1×152.′1E±0.′2, h53km±8km, mb4.4/12, Error ellipse: s-maj=26.3km s-min=8.2km az=124.0*
*IDC **01** 20:48:08.7±2.5, 5.′52S×152.′07E, h48km±16km, mb3.7/9, mb1 4.0/10, mb1mx3.7/34, mbtmp4.0/10, ML2.2/1, MS3.2/9, Ms1 3.2/9, ms1mx3.0/36, Error ellipse: s-maj=39.5km s-min=10.2km az=115.0*

ISC 01 20:48:07.9±1.0, 5.′52S±0.′09×152.′1E±0.′2, h45km, n39, σ0°76/35, mb4.0/14, MS3.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.20	356	P	Pn	20 48 28.7	+0.3
	753nm,0.3s,baz=144,slow=2.9,SNR=119						
KRVT				S	Sn	20 48 44.7	+1.2
	430nm,0.3s,baz=161,slow=24,SNR=5.8						
RABL	Rabaul	1.32	3		Pn	20 48 30.8	+0.8
PMG	Port Moresby	6.24	231	P	Pn	20 49 39.1	+1.5
	3.2nm,0.3s,baz=47,slow=13,SNR=5.9						
PMG				S	Sn	20 50 47.5	-0.1
	2.5nm,0.3s,baz=27,slow=14,SNR=3.2						
PMG				LR	LR	20 52 19.6	
	comp=Z,141nm,19.5s,baz=20,slow=40						
PMG	Port Moresby	6.24	231		Pn	20 49 38.0	+0.4
DZM	Mont Dzumac	21.52	141	LR	LR	21 00 39.5	
	comp=Z,111nm,18.6s,baz=304,slow=35						
MTN	Manton Dam	21.93	249	P	P	20 52 57.7	-0.1
MTN				IAmb	IAmb	20 53 48.0	
	comp=Z,15nm,1.2s						
WB0	Warramunga Arr	22.31	229	P	P	20 53 02.2	+0.3
WRAB	Tennant Creek	22.44	229	P	P	20 53 03.1	-0.1
WRAB				IAmb	IAmb	20 53 39.0	
	comp=Z,13nm,0.9s						
WB2	Warramunga Arr	22.45	229	P	P	20 53 03.5	+0.1
WB2				IAmb	IAmb	20 53 35.2	
	comp=Z,12nm,1.2s						
WRA	Warramunga Arr	22.45	229	P	P	20 53 03.4	0.0
	comp=Z,2.3nm,0.6s,baz=52,slow=10,SNR=20						
WRA	Warramunga Arr	22.45	229	P	P	20 53 03.2	-0.2
KNRA	Kununurra	25.04	244	P	P	20 53 27.8	-0.3
KNRA				IAmb	IAmb	20 53 33.3	
	comp=Z,20nm,0.7s						
AS31	Alice Springs	25.16	222	P	P	20 53 29.1	0.0
ASAR	Alice Springs	25.16	222	P	P	20 53 30.2	+1.0
	comp=Z,5.2nm,0.9s,baz=56,slow=9.3,SNR=40						
ASAR				LR	LR	21 02 20.0	
	comp=Z,46nm,20.5s,baz=84,slow=34						
ASAR	Alice Springs	25.16	222	P	P	20 53 29.1	-0.2
BATI	Baumata	28.55	259	LR	LR	21 06 16.5	
	comp=Z,61nm,19.3s,baz=108,slow=38						
FITZ	Fitzroy Crossi	28.71	242	P	P	20 53 60.0	-1.2
	comp=Z,1.7nm,0.6s,baz=63,slow=7.1,SNR=10						
FITZ				LR	LR	21 06 42.8	
	comp=Z,18nm,18.1s,baz=42,slow=39						
FITZ	Fitzroy Crossi	28.71	242	P	P	20 54 01.7	+0.5
FITZ				IAmb	IAmb	20 54 12.4	
	comp=Z,4.6nm,0.7s						
DAV	Davao City (W)	29.27	295	LR	LR	21 05 16.1	
	comp=Z,74nm,18.5s,baz=110,slow=35						
TWG	Pinlang	41.40	314	P	P	20 55 48.1	-2.0
MJAR	Matsushiro Arr	43.81	344	LR	LR	21 12 47.0	
	comp=Z,21nm,21.5s,baz=295,slow=34						
LEM	Lembang	44.24	266	LR	LR	21 20 21.7	
	comp=Z,23nm,19.2s,baz=30,slow=44						
KSRS	Korea Array	48.33	334	LR	LR	21 17 16.3	
	comp=Z,19nm,18.1s,baz=23,slow=36						
KSAR	Wonju Array Be	48.34	334	P	P	20 56 44.3	-0.8
MDJ	Mudanjiang	53.85	340	P	P	20 57 26.5	+0.2
CMAR	Chiang Mai Arr	57.56	296	P	P	20 57 54.8	+1.3
	comp=Z,1.0nm,0.9s,baz=119,slow=5.9,SNR=5.7						
SONM	Songino Array	66.56	328	P	P	20 58 54.1	+0.6
	comp=Z,0.7nm,0.7s,baz=155,slow=6.8,SNR=6.1						
SONM	Songino Array	66.56	328	P	P	20 58 53.7	+0.2
MKAR	Makanchi Array	80.41	319	P	P	21 00 14.5	-0.4
	comp=Z,0.9nm,1.0s,baz=98,slow=5.0,SNR=4.8						
MKAR	Makanchi Array	80.41	319	P	P	21 00 15.0	+0.1
ZALV	Zalesovo Beam	81.36	327	P	P	21 00 19.6	-0.1
	comp=Z,0.8nm,0.6s,baz=97,slow=9.6,SNR=4.4						
ZALV	Zalesovo Beam	81.36	327	P	P	21 00 18.8	-1.0
IL31		83.08	22	P	P	21 00 28.4	-0.1
IL31				IAmb	IAmb	21 02 08.3	
	comp=Z,11nm,1.7s						
ILAR	Eielson Array	83.08	22	P	P	21 00 28.2	-0.3
	comp=Z,0.9nm,0.7s,baz=250,slow=5.8,SNR=8.7						
ILAR	Eielson Array	83.08	22	P	P	21 00 27.7	-0.8
NVAR	Mina Array Bea	93.07	52	P	P	21 01 18.8	+1.2
	comp=Z,0.3nm,0.5s,baz=270,slow=3.6,SNR=1.7						
NVAR	Mina Array Bea	93.07	52	P	P	21 01 16.7	-0.8
TORD	Torodi Ar. Bea	149.86	287	PKPbc	PKPbc	21 07 54.6	+0.3
	comp=Z,3.5nm,0.8s,baz=56,slow=2.4,SNR=9.8						
TORD	Torodi Ar. Bea	149.86	287		PKiKP	21 07 54.9	-0.3

*IDC **01** 20:50:05.8±6.1, 34.′03N×36.′42E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/35, mbtmp3.6/5, ML3.5/2, MS3.2/2, Ms1 3.3/2, ms1mx2.6/45, Error ellipse: s-maj=95.5km s-min=49.3km az=130.0*
*NEIC **01** 20:50:06.7±1.1, 33.′8N±0.′1×36.′15E±0.′08, h10km±2km, mb4.4/6, Error ellipse: s-maj=23.3km s-min=10.6km az=165.0*
*GII **01** 20:50:08.0±0.5, 34.′15N×36.′16E, h1km±1km, mb4.1/5, MD4.0/5, Mm3.7/7*
*NIC **01** 20:50:11.3±0.0, 34.′15N×35.′95E, h9km±3km, Ml3.9/4*
*ISK **01** 20:50:11.1, 34.′12N×36.′07E, h87km, ML3.9/39*
*GRAL **01** 20:50:11.3±0.6, 34.′10N×36.′21E, h23km±9km, MD4.3*
*HLW **01** 20:50:14.1, 33.′97N×35.′81E, h10km±17km, Md4.1, Ml4.1*

ISC 01 20:50:08.9±1.1, 34.′18N±0.′02×36.′20E±0.′04, h11km±7km, n159, σ1°32/186, mb3.9/5, MS3.5/3, 6C, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	Hawqa	0.23	294	eP	Pg	20 50 17.6	+3.7
HWQ				eS	Sg	20 50 21.7	+4.4
BHL	Bhannes	0.53	239	eP	Pb	20 50 20.8	+0.4
BHL				eS	Sb	20 50 27.5	-0.7
BEYL	Beirut	0.67	243	eP	Pb	20 50 23.3	+0.7
BEYL				eS	Sg	20 50 31.2	+0.6
DQRL	Deir Qamar	0.71	228	eP	Pb	20 50 23.5	+0.1
DQRL				eS	Sg	20 50 32.1	+0.1
RCY	Rachaya	0.75	204	eP	Pb	20 50 23.4	-0.7
RCY				eS	Sg	20 50 32.6	-0.7
QRWL	Qaraoun	0.77	215	eP	Pb	20 50 23.8	-0.5
SHBL	Chebaa	0.92	205	eP	Pg	20 50 26.1	-0.5
SHBL				eS	Sg	20 50 37.2	-1.4
NATI	Neve Ativ	1.00	203	P	Pg	20 50 27.4	-0.7
NATI	Neve Ativ	1.00	203	Pg	Pg	20 50 27.3	-0.8
NATI				Sg	Sg	20 50 40.9	-0.2
GEM	Giv'at Ha'Em	1.07	205	P	Pg	20 50 28.6	-0.9
GEM	Giv'at Ha'Em	1.07	205	Pg	Pg	20 50 28.5	-0.9
GEM				Sg	Sb	20 50 43.8	+0.4
MMA0B	Mount Meron ar	1.34	210	Pg	Pn	20 50 33.0	-0.7
MMA0B				Sg	Sb	20 50 52.5	+1.1
HNTI	Hanita	1.39	218	P	Pg	20 50 34.8	-0.9
HNTI				S	Sg	20 50 53.4	-0.4
HNTI	Hanita	1.39	218	Pn	Pg	20 50 34.1	-0.2
HNTI				Sn	Sb	20 50 53.7	+0.9
SHMJ	Saham	1.50	194	P	Pg	20 50 36.8	-0.9
SHMJ				S	Sn	20 50 55.3	0.0
SHMJ	Saham	1.50	194	Pn	Pn	20 50 35.5	-0.3
BLGI	Bet Lehem HaGe	1.68	211	P	Pn	20 50 38.4	+0.2
BLGI	Bet Lehem HaGe	1.68	211	Pn	Pn	20 50 38.1	-0.1
BLGI				Sn	Sb	20 51 01.4	+0.5
MMLI	Mount Malkishu	1.86	201	PN	Pn	20 50 41.2	+0.4
MMLI	Mount Malkishu	1.86	201	S	Sn	20 51 05.7	+1.4
MMLI	Mount Malkishu	1.86	201	Pn	Pn	20 50 40.8	0.0
MMLI				Sn	Sb	20 51 06.7	+0.5
MMLI	Mount Malkishu	1.86	201	⇑P	Pn	20 50 41.3	+0.6
MMLI				S	Sn	20 51 06.1	+1.8
MMLI				AML	AML	20 51 06.2	
	5.1nm,0.4s						
MMLI				AML	AML	20 51 06.2	
	5.1nm,0.4s						
MMLI				AML	AML	20 51 06.7	
	4.9nm,0.4s						
MMLI				AML	AML	20 51 06.7	
	4.9nm,0.4s						
OFRI	`Ofer	1.86	214	P	Pn	20 50 41.0	+0.2
OFRI	`Ofer	1.86	214	Pn	Pn	20 50 40.5	-0.3
OFRI				Sn	Sn	20 51 06.0	+1.7
PARAL	Paralimni	1.96	295	P	Pn	20 50 42.0	-0.1
PARAL				S	Sn	20 51 06.2	-0.5
PARAL				AML	AML	20 51 06.5	
	4.2nm,0.4s						
PARAL				AML	AML	20 51 06.5	
	4.2nm,0.4s						
PARAL				AML	AML	20 51 06.7	
	3.3nm,0.3s						
PARAL				AML	AML	20 51 06.7	
	3.3nm,0.3s						
HMDT	Nahal Hemdat	2.01	197	P	Pn	20 50 43.1	+0.3
HMDT	Nahal Hemdat	2.01	197	Pn	Pn	20 50 43.6	+0.8
HMDT				Sn	Sn	20 51 09.9	+2.1
HSUJ	Al Zarqa	2.07	180	P	Pn	20 50 44.7	+1.0
ASF	Jabal al Asfar	2.09	164	P	Pn	20 50 43.5	-0.5
EREN	Erenkoy	2.15	309	PN	Pb	20 50 45.7	-2.1
SLTI	Sal'it	2.17	207	P	Pn	20 50 45.2	+0.2
SLTI	Sal'it	2.17	207	Pn	Pn	20 50 45.2	+0.2
SLTI				Sn	Sn	20 51 13.1	+1.2
MVOU	Mavrovouni	2.28	292	⇑P	Pn	20 50 45.9	-0.6
MVOU				S	Sn	20 51 13.2	-1.4
MVOU				AML	AML	20 51 14.9	
	2.2nm,0.3s						
MVOU				AML	AML	20 51 14.9	
	2.2nm,0.3s						
MVOU				AML	AML	20 51 15.1	
	1.5nm,0.3s						
MVOU				AML	AML	20 51 15.1	
	1.5nm,0.3s						
UJAP	Al Uja	2.31	196	P	Pn	20 50 47.4	+0.5
UJAP	Al Uja	2.31	196	Pn	Pn	20 50 46.9	0.0
AKIN	Akıncılar- Kıb	2.41	291	PN	Pn	20 50 49.3	+1.0
AKIN				SN	Sn	20 51 16.7	-1.1
KRTS	Karatas	2.48	344	PN	Pb	20 50 51.6	-1.9
KRTD	Karatas-Adana	2.49	345	PN	Pb	20 50 51.8	-1.9
CSS	Mathiatis	2.50	289	PN	Pn	20 50 50.3	+0.8
CSS				SN	Sn	20 51 18.4	-1.6
CSS	Mathiatis	2.50	289	P	Pn	20 50 49.8	+0.3
CSS	Mathiatis	2.50	289	Pn	Pn	20 50 49.5	0.0
CSS	Mathiatis	2.50	289	⇑P	Pn	20 50 49.3	-0.2
CSS				S	Sn	20 51 18.6	-1.4
CSS	Mathiatis	2.50

ALAN	**Alanya-ANTALYA**	**4.15 306**	PN	**Pn**	**20 51 12.9**	**+0.6**
OSC1	**CSNet OBS 1**	**4.16 262**	P	**Pn**	**20 51 11.7**	**-0.7**
OSC1			S	**Sn**	**20 51 59.4**	**-1.5**
SARI	**SarD1z-Kayseri**	**4.22 2**	PN	**Pn**	**20 51 15.5**	**+2.1**
KRMI	**Paran Flat**	**4.24 198**	P	**Pn**	**20 51 14.4**	**+0.8**
GULA	**Gulagac**	**4.45 340**	PN	**Pn**	**20 51 17.6**	**+1.2**
MALT	**Malatya**	**4.50 23**	PN	**Pn**	**20 51 19.6**	**+2.5**
DARE	**Darende-Malaty**	**4.50 13**	PN	**Pn**	**20 51 19.4**	**+2.2**
MBRI	**Mt Berech**	**4.51 194**	P	**Pn**	**20 51 17.7**	**+0.4**
MBRI	**Mt Berech**	**4.51 194**	Pn	**Pn**	**20 51 17.6**	**+0.3**
AQBJ	**Aqaba**	**4.55 193**	P	**Pn**	**20 51 17.9**	**+0.2**
SULT	**Sultanhani-AKS**	**4.56 332**	PN	**Pn**	**20 51 18.8**	**+0.8**
EIL	**Elat**	**4.62 194**	P	**Pn**	**20 51 19.6**	**+0.8**
BNN	**Bunyan**	**4.67 357**	PN	**Pn**	**20 51 21.8**	**+2.3**
SEYD	**Seydisehir-KON**	**4.79 313**	PN	**Pn**	**20 51 21.6**	**+0.5**
KONT	**Konya--Tatoy**	**4.88 321**	PN	**Pn**	**20 51 23.6**	**+1.3**
LADK	**Ladik-KONYA**	**5.07 323**	PN	**Pn**	**20 51 25.3**	**+0.3**
YAYX	**Yaylak**	**5.12 339**	PN	**Pn**	**20 51 26.9**	**+1.2**
CHBY	**Cihanbeyli**	**5.14 330**	PN	**Pn**	**20 51 26.5**	**+0.5**
ANTB	**Antalya**	**5.28 303**	PN	**Pn**	**20 51 27.9**	**+0.2**
KORT	**Korkueli**	**5.54 302**	PN	**Pn**	**20 51 31.4**	**0.0**
KOT	**Kottamia**	**5.64 222**	P	**Pn**	**20 51 32.8**	**+0.1**
	baz=222					
KOT			AMP		20 52 00.0	
	baz=222					
KOT			S	**Sn**	**20 52 30.1**	**-7.4**
	baz=222					
ELL	**Elmali**	**5.74 298**	PN	**Pn**	**20 51 34.2**	**0.0**
AKAS	**Kas**	**5.78 293**	PN	**Pn**	**20 51 34.6**	**-0.1**
AKAS	**Kas**	**5.78 293**	Pn	**Pn**	**20 51 34.0**	**-0.8**
KIZT	**Kizilcal**	**5.84 325**	PN	**Pn**	**20 51 35.9**	**+0.3**
ISP	**Isparta**	**5.87 310**	PN	**Pn**	**20 51 35.9**	**0.0**
ISP	**Isparta**	**5.87 310**	Pn	**Pn**	**20 51 37.3**	**+1.4**
BR131	**Keskin Array S**	**5.90 340**		**Pn**	**20 51 39.4**	**+2.9**
BRTR	**Keskin Array B**	**5.90 340**	Pn	**Pn**	**20 51 39.4**	**+2.9**
	0.8nm,0.3s,baz=158,slow=15,SNR=20					
BRTR			Sn	**Sn**	**20 52 46.8**	**+2.7**
	0.2nm,0.3s,baz=206,slow=26,SNR=2.0					
BRTR	**Keskin Array B**	**5.90 340**	PN	**Pn**	**20 51 37.2**	**+0.8**
BRTR	**Keskin Array B**	**5.90 340**		**Pn**	**20 51 39.5**	**+3.1**
GLL	**Jalalah**	**5.97 221**	P	**Pn**	**20 51 37.0**	**-0.4**
	baz=220					
HSAF	**As Saff**	**6.03 222**	P	**Pn**	**20 51 38.2**	**+0.1**
	baz=221					
BOLV	**Bolvadin**	**6.20 318**	Pn	**Pn**	**20 51 41.7**	**+1.2**
BASM	**Basmaki-Afyon**	**6.22 309**	PN	**Pn**	**20 51 40.9**	**+0.1**
FETY	**Fethiye**	**6.31 295**	PN	**Pn**	**20 51 41.9**	**0.0**
SHUT	**Suhut-Afyon**	**6.31 315**	PN	**Pn**	**20 51 42.1**	**+0.1**
HNAT	**Natroun**	**6.57 228**	P	**Pn**	**20 51 45.6**	**+0.1**
	baz=227					
KOPT	**Kop Dagi**	**6.76 29**		**Pn**	**20 51 50.8**	**+2.5**
GEVA	**Gevas**	**6.90 51**		**Pn**	**20 51 52.5**	**+2.3**
NBNS	**Bani Suef**	**6.95 218**	P	**Pn**	**20 51 51.4**	**+0.6**
	baz=218					
KARP	**Karpathos**	**7.56 283**	Pn	**Pn**	**20 51 58.1**	**-1.0**
SANT	**Santorini**	**9.05 287**	Pn	**Pn**	**20 52 17.8**	**-1.8**
IDI	**Anoyia**	**9.38 280**		**Pn**	**20 52 23.4**	**-0.7**
ALN	**Alexandroupoli**	**10.48 313**	Pn	**Pn**	**20 52 41.2**	**+2.1**
ITM	**Ithomi**	**11.99 289**	Pn	**Pn**	**20 52 59.0**	**-0.8**
AGG	**Agios Georgios**	**12.15 297**	Pn	**Pn**	**20 53 01.5**	**-0.5**
BURAR	**Bucovina Array**	**15.76 332**	P	**P**	**20 53 55.7**	**+0.9**
BUR08	**Bucovina Ar. S**	**15.79 332**	P	**P**	**20 53 56.8**	**+1.6**
CEL	**Celeste**	**16.88 290**	Pn	**Pn**	**20 54 04.4**	**-0.9**
CEL			IAmb	IAmb	20 54 19.3	
	comp=Z,91nm,1.5s					
AKASG	**Malin Array Be**	**17.28 345**	P	**P**	**20 54 12.7**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=166,slow=11,SNR=1.4					
RAFF	**Raffo Rosso**	**17.99 286**	P	**Pn**	**20 54 17.6**	**-1.4**
VYHS	**Vyhne**	**19.29 323**	*e*PN	**Pn**	**20 54 34.6**	**-0.1**
GEC2	**GERESS Array S**	**22.21 318**	P	**P**	**20 55 05.8**	**+0.4**
GEC2			IAmb	IAmb	20 55 06.6	
	comp=Z,4.5nm,1.2s					
GERES	**GERESS Array B**	**22.21 318**	P	**P**	**20 55 05.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=122,slow=9.4,SNR=12					
GERES	**GERESS Array B**	**22.21 318**	P	**P**	**20 55 05.8**	**+0.4**
BNI	**Bardonecchia**	**25.07 304**	P	**P**	**20 55 32.6**	**-0.9**
BNI			IAmb	IAmb	20 55 50.3	
	comp=Z,13nm,1.5s					
BFO	**Black Forest**	**25.11 313**	P	**P**	**20 55 33.7**	**+0.1**
BFO			IAmb	IAmb	20 55 36.2	
	comp=Z,11nm,1.2s					
ESDC	**Sonseca Array**	**32.38 292**	P	**P**	**20 56 39.7**	**+1.1**
	comp=Z,1.1nm,1.1s,baz=86,slow=8.8,SNR=7.5					
ARCES	**ARCESS Array B**	**35.90 354**	P	**P**	**20 57 08.4**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=168,slow=8.9,SNR=4.0					
WMQ	**Urumqi**	**40.58 61**	*e*P	**P**	**20 57 50.2**	**+1.6**
WMQ			LR	LR		
	comp=N,290nm,28.8s					
WMQ			LR	LR		
	comp=E,690nm,29.0s					
WMQ			LR	LR		
	comp=Z,31nm,29.3s					
CMAR	**Chiang Mai Arr**	**57.56 89**	LR	LR	21 31 13.0	
	comp=Z,11nm,18.3s,baz=280,slow=43					
MA2	**Magadan**	**72.18 29**	LR	LR	21 38 23.5	
	comp=Z,22nm,18.9s,baz=282,slow=40					

*NEIC **01** 21:05:34.8±2.1, 17°.41S±0°.06×69°.69W±0°.08, h149km±3km, mb4.4/11, Error ellipse: s-maj=11.2km s-min=8.4km az=116.0*
*VAO **01** 21:05:35.2±0.3, 17°.34S×69°.47W, h136km±2km, mb4.4*
*GUC **01** 21:05:36.8±0.7, 17°.58S×69°.90W, h164km±3km, ML4.1*
*IDC **01** 21:05:36.5±1.2, 17°.47S×69°.45W, h156km±9km, mb3.8/11, mb1 4.0/15, mb1mx3.8/33, mbtmp4.3/15, Error ellipse: s-maj=17.8km s-min=13.6km az=96.0*

ISC 01 21:05:34.7±0.6, 17°.46S±0°.04×69°.60W±0°.05, h146km±5km, n127, σ1§49/145, mb4.3/14, 3C-4D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.87 174**			**Pn**	**21 06 00.6**	**+1.9**
PB16				Sn	**Sn**	**21 06 19.5**	**+2.6**
AP01	**Chacalluta**	**1.14 218**		*e*P	**Pn**	**21 06 01.2**	**+0.8**
AP01				*e*S	**Sn**	**21 06 20.4**	**+0.5**
AP01				IAML		21 06 21.7	
	comp=N,7μm,0.3s						
AP01	**Chacalluta**	**1.14 218**			**Pn**	**21 06 00.9**	**+0.6**
AP01				Sn	**Sn**	**21 06 20.3**	**+0.4**
PB12	**IPOC Station P**	**1.34 211**	⇑	*i*P	**Pn**	**21 06 02.7**	**+0.3**
PB12				*e*S	**Sn**	**21 06 23.4**	**-0.1**
PB12				IAML		21 06 25.1	
	comp=N,4μm,0.2s						
PB12	**IPOC Station P**	**1.34 211**			**Pn**	**21 06 02.6**	**+0.3**
PB12				Sn	**Sn**	**21 06 23.4**	**-0.1**
MNMC	**Minye Minye**	**1.66 180**	⇑	*i*P	**Pn**	**21 06 07.5**	**+1.5**
MNMC				*e*S	**Sn**	**21 06 31.6**	**+1.7**
MNMC				IAML		21 06 37.3	
	comp=E,1μm,0.1s						
MNMC	**Minye Minye**	**1.66 180**			**Pn**	**21 06 07.5**	**+1.5**
MNMC				Sn	**Sn**	**21 06 31.4**	**+1.5**
LPAZ	**La Paz**	**1.83 51**		P	**Pn**	**21 06 09.7**	**+1.4**
	comp=E,180nm,0.3s,baz=256,slow=3.3,SNR=4150						
LPAZ				S	**Sn**	**21 06 35.3**	**+1.4**
	comp=E,28nm,0.3s,baz=29,slow=21,SNR=11						
LPAZ				LR	LR	21 06 52.8	
	comp=E,435nm,19.5s,baz=180,slow=44						
LPAZ	**La Paz**	**1.83 51**	⇓	*i*P	**Pn**	**21 06 10.3**	**+2.0**
LPAZ				*i* S	**Sn**	**21 06 35.9**	**+2.1**
LPAZ	**La Paz**	**1.83 51**		Pn	**Pn**	**21 06 10.1**	**+1.9**
PSGC	**Pisagua**	**2.18 193**		*e*P	**Pn**	**21 06 11.9**	**+0.1**
PSGC				*i* S	**Sn**	**21 06 38.9**	**-1.4**
PSGCX	**Pisagua**	**2.18 193**			**Pn**	**21 06 12.3**	**+0.5**
GO01	**Chusmiza**	**2.23 170**	⇓	*i*P	**Pn**	**21 06 15.1**	**+2.3**
GO01				*e*S	**Sn**	**21 06 45.2**	**+3.2**
GO01	**Chusmiza**	**2.23 170**		Pn	**Pn**	**21 06 14.6**	**+1.8**
PB11	**IPOC Station P**	**2.29 181**	⇑	*i*P	**Pn**	**21 06 14.2**	**+1.0**
PB11				*e*S	**Sn**	**21 06 42.9**	**+0.1**
PB11				IAML		21 06 45.1	
	comp=N,806nm,0.4s						
PB11	**IPOC Station P**	**2.29 181**		Pn	**Pn**	**21 06 14.1**	**+1.0**
PB08	**IPOC Station P**	**2.70 171**		*e*P	**Pn**	**21 06 20.4**	**+1.9**
PB08				*e*S	**Sn**	**21 06 53.6**	**+1.4**
PB08	**IPOC Station P**	**2.70 171**			**Pn**	**21 06 20.1**	**+1.6**
TA02	**Huaiquique**	**2.84 190**		*e*P	**Pn**	**21 06 20.2**	**+0.4**
TA01	**Diego Aracena**	**3.13 190**		*e*P	**Pn**	**21 06 23.3**	**-0.4**
TA01				*e*S	**Sn**	**21 06 56.6**	**-4.8**
TA01				IAML		21 07 04.1	
	comp=N,237nm,0.1s						
TA01	**Diego Aracena**	**3.13 190**			**Pn**	**21 06 23.2**	**-0.4**
PATCX	**Punta Patache**	**3.38 189**		*e*P	**Pn**	**21 06 26.7**	**-0.1**
PATCX				IAML		21 07 22.1	
	comp=E,170nm,0.4s						
PATCX	**Punta Patache**	**3.38 189**			**Pn**	**21 06 26.7**	**-0.1**
PB01	**IPOC Station P**	**3.56 178**		*e*P	**Pn**	**21 06 29.8**	**+0.6**
PB01				*e*S	**Sn**	**21 07 09.5**	**-2.1**
PB01	**IPOC Station P**	**3.56 178**			**Pn**	**21 06 29.7**	**+0.6**
PB02	**IPOC Station P**	**3.85 184**	⇓	*i*P	**Pn**	**21 06 33.5**	**+0.6**
PB02				*e*S	**Sn**	**21 07 15.8**	**-2.4**
PB07	**IPOC Station P**	**4.25 184**		*e*P	**Pn**	**21 06 38.8**	**+0.5**
PB07				*e*S	**Sn**	**21 07 23.4**	**-4.3**
PB07	**IPOC Station P**	**4.25 184**			**Pn**	**21 06 39.3**	**+1.0**
PB09	**IPOC Station P**	**4.32 176**			**Pn**	**21 06 40.4**	**+1.1**
PB03	**IPOC Station P**	**4.56 182**	⇓	*i*P	**Pn**	**21 06 42.9**	**+0.5**
PB03				*e*S	**Sn**	**21 07 30.5**	**-4.6**
PB04	**IPOC Station P**	**4.87 186**			**Pn**	**21 06 46.9**	**+0.4**
LVC	**Limon Verde**	**5.16 173**		P	**Pn**	**21 06 51.5**	**+1.0**
	comp=E,7.5nm,0.3s,baz=358,slow=12,SNR=45						
LVC				S	**Sn**	**21 07 47.5**	**-2.1**
	comp=E,15nm,0.3s,baz=146,slow=16,SNR=11						
LVC	**Limon Verde**	**5.16 173**		*e*P	**Pn**	**21 06 52.1**	**+1.6**
PB06	**IPOC Station P**	**5.22 180**			**Pn**	**21 06 51.2**	**+0.1**
PB15	**IPOC Station P**	**5.72 179**			**Pn**	**21 06 58.0**	**+0.2**
PB14	**IPOC Station P**	**7.17 186**		Pn	**Pn**	**21 07 15.4**	**-1.8**
GO02	**Mina Guanaco**	**7.66 180**		Pn	**Pn**	**21 07 23.0**	**-0.9**
ETMB	**Extrema**	**8.28 24**		*e*P	**Pn**	**21 07 31.0**	**-1.0**
SIV	**San Ignacio**	**8.30 81**		P	**Pn**	**21 07 30.5**	**-1.7**
	comp=E,19nm,0.3s,baz=283,slow=9.9,SNR=156						
SIV				S	**Sn**	**21 08 59.7**	**-5.0**
	comp=E,4.4nm,0.3s,baz=7.9,slow=23,SNR=9.1						
NNA	**Nana**	**8.87 307**		P	**Pn**	**21 07 39.5**	**-0.3**
	comp=E,4.6nm,0.3s,baz=136,slow=12,SNR=4.3						
NNA				S	**Sn**	**21 09 12.2**	**-6.2**
	comp=E,4.9nm,0.3s,baz=38,slow=21,SNR=3.6						
NNA	**Nana**	**8.87 307**			**Pn**	**21 07 39.0**	**-0.9**
VILB	**Vilhena**	**10.12 65**		*e*P	**Pn**	**21 07 55.2**	**-1.3**
CZSB	**Cruzeiro do Su**	**10.14 342**		*e*P	**Pn**	**21 07 56.0**	**-0.7**
PTLB	**Pontes e Lacer**	**10.24 80**		*e*P	**Pn**	**21 07 56.0**	**-2.0**
SAML	**Samuel**	**10.52 37**		Pn	**Pn**	**21 07 59.7**	**-2.1**
SAML	**Samuel**	**10.52 37**		*e*P	**Pn**	**21 07 59.5**	**-2.2**
LCO	**Las Campanas**	**11.54 185**		Pn	**Pn**	**21 08 13.6**	**-1.7**
AQDB	**Aquidauana**	**13.49 105**		*e*P	**Pn**	**21 08 39.4**	**-0.9**
CPUP	**Villa Florida**	**14.40 130**		P	**Pn**	**21 08 51.1**	**-0.7**
	comp=E,0.1nm,0.3s,baz=322,slow=14,SNR=3.8						
CPUP	**Villa Florida**	**14.40 130**			**Pn**	**21 08 51.4**	**-0.4**
CPUP	**Villa Florida**	**14.40 130**		*e*P	**P**	**21 08 53.7**	**-0.9**
CLDB	**Colider**	**14.90 66**		*e*P	**Pn**	**21 08 56.9**	**-1.4**
MACA	**Manacapuru-AM**	**16.69 33**		*e*P	**Pn**	**21 09 19.7**	**-0.5**
TRCB	**Terra Rica**	**16.79 111**		*e*P	**Pn**	**21 09 22.1**	**+0.7**
ARAG	**Araguaiana, MT**	**17.14 87**		*e*P	**Pn**	**21 09 24.9**	**-0.7**
NPGB	**Novo Progresso**	**17.33 55**		*e*P	**Pn**	**21 09 26.6**	**-1.4**
PCMB	**Pacaembu**	**17.77 106**		*e*P	**Pn**	**21 09 33.0**	**-0.1**
PTGB	**Pitanga**	**17.88 117**		*e*P	**Pn**	**21 09 33.7**	**-0.7**
H03N1	**Juan Fernandez**	**17.98 206**		T	**T**	21 27 24.9	
	baz=28,slow=73,SNR=9.7						
H03N2	**Juan Fernandez**	**17.98 206**		T	**T**	21 27 23.4	
	baz=28,slow=73,SNR=10						
H03N3	**Juan Fernandez**	**18.00 206**		T	**T**	21 27 22.6	
	baz=28,slow=73,SNR=9.8						
ITRB	**Iturama**	**18.38 100**		*e*P	**Pn**	**21 09 39.2**	**-1.2**
ITTB	**Itaituba**	**18.82 48**		*e*P	**P**	**21 09 42.8**	**-0.5**
ITAB	**Concordia**	**18.84 124**		*e*P	**Pn**	**21 09 44.1**	**-1.5**
PTGA	**Pitinga**	**19.14 31**		P	**P**	**21 09 45.7**	**-1.1**
	comp=E,2.9nm,0.3s,baz=202,slow=17,SNR=16						
PTGA	**Pitinga**	**19.14 31**		P	**P**	**21 09 45.4**	**-1.5**
PTGA	**Pitinga**	**19.14 31**		*e*P	**P**	**21 09 45.8**	**-1.0**
FRTB	**Fartura**	**19.66 111**		*e*P	**P**	**21 09 52.8**	**+0.3**
BB19B	**Bebedouro**	**20.21 104**		*e*P	**P**	**21 09 58.5**	**+0.1**
PLTB	**Pedras Altas**	**20.32 137**		*e*P	**P**	**21 09 59.6**	**+0.2**
IPMB	**Ipameri, GO**	**20.39 95**		*e*P	**P**	**21 09 59.9**	**-0.4**
TIJ01	**Guaruva-PR**	**20.70 116**		*e*P	**P**	**21 10 04.4**	**+0.8**
BDFB	**Brasilia**	**20.77 88**		P	**P**	**21 10 04.1**	**-0.4**
	comp=E,17nm,0.5s,baz=262,slow=11,SNR=20						
BDFB	**Brasilia**	**20.77 88**		P	**P**	**21 10 04.0**	**-0.6**
CNLB	**Canela**	**20.83 128**		*e*P	**P**	**21 10 05.8**	**+0.9**
PEXB	**Peixe**	**21.27 78**		*e*P	**P**	**21 10 09.2**	**-0.6**
TRQA	**Tornquist**	**21.58 163**		*e*P	**P**	**21 10 15.6**	**+2.7**
SPB	**Sao Paulo**	**21.63 110**		*e*P	**P**	**21 10 12.5**	**-1.0**
MALB	**Monte Alegre**	**21.63 46**		*e*P	**P**	**21 10 11.8**	**-1.8**
MALB				*e*S	**S**	**21 14 03.9**	**-0.1**
PET01	**Itanhaem-SP**	**21.92 112**		*e*P	**P**	**21 10 17.2**	**+0.6**
VAO	**Valinhos**	**21.93 108**		*e*P	**P**	**21 10 16.4**	**-0.4**
PRPB	**Paraupebas**	**22.36 62**		*e*P	**P**	**21 10 20.2**	**-0.7**
PRPB				*e*S	**S**	**21 14 15.7**	**-0.5**
SMTB	**Santa Maria do**	**23.06 71**		*e*P	**P**	**21 10 27.3**	**-0.3**
SMTB				*e*S	**S**	**21 14 26.1**	**-1.5**
PLCA	**Paso Flores**	**23.20 182**		P	**P**	**21 10 29.6**	**+0.8**
	comp=E,8.3nm,0.8s,baz=356,slow=10,SNR=19						
PLCA	**Paso Flores**	**23.20 182**		P	**P**	**21 10 30.0**	**+1.3**
PLCA				IAmb	IAmb	21 10 32.9	
	comp=Z,11nm,0.9s						
PLCA	**Paso Flores**	**23.20 182**		*e*P	**P**	**21 10 30.6**	**+1.9**
RUSC	**La Rusia**	**23.46 351**		P	**P**	**21 10 31.9**	**+0.2**
BSCB	**Bom Sucesso**	**23.70 103**		*e*P	**P**	**21 10 35.0**	**+1.6**
MCPB	**Macapa, AP**	**24.23 47**		*e*P	**P**	**21 10 38.3**	**+0.1**
SDBA	**SAO DESIDERIO**	**24.38 82**		*e*P	**P**	**21 10 39.9**	**+0.2**
JANB	**Januaria**	**24.39 88**		*e*P	**P**	**21 10 38.6**	**-1.2**
MC01	**Montes Claros**	**24.54 92**		*e*P	**P**	**21 10 41.4**	**+0.3**
SDV	**Santo Domingo**	**26.20 358**		*e*P	**P**	**21 10 55.9**	**-0.3**
SJMB	**Sao Joao De Ma**	**27.03 97**		*e*P	**P**	**21 11 04.6**	**+1.1**
BSFB	**Barra de Sao F**	**27.35 97**		*e*P	**P**	**21 11 07.2**	**+0.9**
RIB01	**Linhares ES**	**27.77 98**		*e*P	**P**	**21 11 11.0**	**+0.9**
MDP	**Montagnes des**	**27.99 38**		P	**P**	**21 11 11.9**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=209,slow=11,SNR=5.2						
ROSB	**Rosrio**	**28.89 63**		*e*P	**P**	**21 11 19.5**	**-0.6**
ROSB				*e*S	**S**	**21 16 01.8**	**+1.8**
GDU01	**Guandu, BA**	**29.14 87**		*e*P	**P**	**21 11 22.5**	**+0.2**
RCBR	**Riachuelo**	**34.91 75**		*e*P	**P**	**21 12 12.9**	**+0.2**
PMSA	**Palmer Station**	**47.42 177**		*e*P	**P**	**21 13 55.5**	**+1.4**
TXAR	**Lajitas Array**	**56.97 324**		P	**P**	**21 15 06.2**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=148,slow=7.9,SNR=3.9						
TXAR	**Lajitas Array**	**56.97 324**		P	**P**	**21 15 05.9**	**+0.7**
SNAA	**Sanae**	**66.29 161**		P	**P**	**21 16 07.6**	**+0.5**
SNAA				IAmb	IAmb	21 16 22.5	
	comp=Z,6.3nm,1.4s						
LIC	**Lamto**	**67.96 76**		*e*PKP1	**P**	**21 16 18.2**	**-0.3**
	comp=Z,27nm,0.5s						
TIC	**Toumodi**	**68.12 75**		*e*PKP1	**P**	**21 16 19.2**	**-0.3**
KIC	**Kosan Boka**	**68.27 76**		*e*PKP1	**P**	**21 16 18.9**	**-1.5**
	comp=Z,16nm,0.4s						
DBIC	**Dimbokro**	**68.28 75**		P	**P**	**21 16 20.5**	**0.0**
	comp=Z,16nm,0.6s,baz=232,slow=7.3,SNR=27						
DBIC	**Dimbokro**	**68.28 75**		P	**P**	**21 16 20.2**	**-0.3**
PDAR	**Pinedale Array**	**70.31 330**		P	**P**	**21 16 33.5**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=129,slow=7.1,SNR=1.4						
ULM	**Lac du Bonnet**	**71.29 343**		P	**P**	**21 16 38.1**	**0.0**
	comp=Z,2.8nm,0.3s,baz=134,slow=4.9,SNR=2.7						
ULM	**Lac du Bonnet**	**71.29 343**		P	**P**	**21 16 38.0**	**-0.1**
ULM				IAmb	IAmb	21 16 52.0	
	comp=Z,3.4nm,0.8s						
NVAR	**Mina Array Bea**	**71.93 322**		P	**P**	**21 16 44.2**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=156,slow=6.7,SNR=2.3						
QSPA	**South Pole Qui**	**72.71 180**		P	**P**	**21 16 48.5**	**+1.9**
TOA0	**Torodi Ar. Sit**	**76.66 71**		P	**P**	**21 17 09.9**	**-0.2**
TOA0				IAmb	IAmb	21 17 10.8	
	comp=Z,11nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.66 71**		P	**P**	**21 17 09.6**	**-0.5**
	comp=Z,7.3nm,0.6s,baz=259,slow=4.9,SNR=27						
TORD	**Torodi Ar. Bea**	**76.66 71**		P	**P**	**21 17 09.8**	**-0.3**
ESDC	**Sonseca Array**	**83.44 45**		P	**P**	**21 17 46.8**	**+0.7**
	comp=Z,2.7nm,1.1s,baz=252,slow=6.2,SNR=11						
ESDC	**Sonseca Array**	**83.44 45**		P	**P**	**21 17 46.7**	**+0.7**
YKA	**Yellowknife Ar**	**87.18 341**		P	**P**	**21 18 05.2**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=129,slow=4.7,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**126.62 280**		T	**T**	23 44 08.3	
	baz=101,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**126.63 280**		T	**T**	23 44 13.4	
	baz=101,slow=75,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**126.64 280**		T	**T**	23 44 16.1	
	baz=101,slow=75,SNR=4.9						
ASAR	**Alice Springs**	**133.12 210**		PKP	**PKPdf**	**21 24 34.7**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=101,slow=1.2,SNR=1.8						
WRA	**Warramunga Arr**	**136.02 213**		PKP	**PKPdf**	**21 24 39.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=146,slow=1.8,SNR=6.4						
MKAR	**Makanchi Array**	**142.67 32**		PKhKP	PKPpre	21 24 47.2	
	comp=Z,0.1nm,0.4s,baz=354,slow=2.4,SNR=1.5						
SONM	**Songino Array**	**149.53 5**		PKPbc	**PKiKP**	**21 25 07.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=319,slow=1.3,SNR=5.0						

*IDC **01** 21:23:09.5±1.4, 16°.22S×175°.14W, h272km±17km, mb3.5/7, mb1 3.7/8, mb1mx3.3/44, mbtmp4.1/8, Error ellipse: s-maj=34.0km s-min=17.2km az=145.0*

ISC 01 21:23:09.9±0.7, 16°.25S±0°.2×175°.1W±0°.2, h278km, n9, σ0§55/12, mb3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.97 55**		P	**Pn**	**21 24 15.3**	**+0.5**
	18nm,0.3s,baz=114,slow=1.9,SNR=15						
AFI				S	**S**	**21 25 05.6**	**-1.0**
	20nm,0.3s,baz=53,slow=22,SNR=6.7						
STKA	**Stephens Creek**	**42.19 240**		P	**P**	**21 30 36.5**	**+0.4**
	3.8nm,0.5s,baz=97,slow=10,SNR=15						
WRA	**Warramunga Arr**	**48.04 258**		P	**P**	**21 31 21.4**	**-0.6**
	1.1nm,0.4s,baz=91,slow=7.0,SNR=44						
WRA				PcP	**PcP**	**21 32 45.4**	**+0.2**
	1.4nm,1.2s,baz=96,slow=3.0,SNR=2.4						
ASAR	**Alice Springs**	**48.28 253**		P	**P**	**21 31 23.6**	**-0.1**
	6.0nm,0.5s,baz=88,slow=8.0,SNR=135						
ASAR				PcP	**PcP**	**21 32 45.9**	**-0.2**
	0.2nm,0.7s,baz=117,slow=3.2,SNR=2.0						
VNDA	**Vanda**	**62.41 186**		P	**P**	**21 33 03.3**	**+0.1**
	1.3nm,0.9s,baz=5.8,slow=5.9,SNR=4.4						
NVAR	**Mina Array Bea**	**76.05 43**		P	**P**	**21 34 28.0**	**+0.7**
	0.3nm,0.7s,baz=226,slow=4.9,SNR=2.4						
ILAR	**Eielson Array**	**83.56 12**		P	**P**	**21 35 06.3**	**-0.3**
	0.2nm,0.4s,baz=222,slow=4.6,SNR=2.3						
MAW	**Mawson**	**86.49 199**		P	**P**	**21 35 20.6**	**-0.6**
	1.4nm,0.6s,baz=140,slow=6.3,SNR=4.5						
BRTR	**Keskin Array B**	**145.70 319**		PKPbc	**PKPbc**	**21 42 16.7**	**+0.1**
	0.5nm,0.8s,baz=151,slow=3.3,SNR=2.3						

*NEIC **01** 21:28:37.6±1.1, 16°.1N±0°.1×145°.8E±0°.1, h79km±3km, mb4.3/13, Error ellipse: s-maj=21.6km s-min=14.2km az=112.0*
*IDC **01** 21:28:38.8±2.9, 16°.04N×145°.93E, h96km±27km, mb3.4/7, mb1 3.6/8, mb1mx3.2/51, mbtmp3.7/8, Error ellipse: s-maj=33.7km s-min=21.7km az=91.0*

ISC 01 21:28:40.5±0.7, 15°.97N±0°.08×145°.8E±0°.1, h109km, n33, σ0§81/29, mb4.0/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.54 202**		P	**Pn**	**21 29 20.6**	**+0.1**
	20nm,0.3s,baz=145,slow=5.7,SNR=14						
GUMO				S	**Sn**	**21 29 51.6**	**+0.4**
	41nm,0.3s,baz=338,slow=22,SNR=8.7						
GUMO	**Guam**	**2.54 202**			**Pn**	**21 29 18.3**	**-2.2**
GUMO				S

BVAR	Borovoye Array	63.38	324	P		P	21 41 02.2	-0.2
	0.7nm,0.7s,baz=46,slow=8.3,SNR=3.2							
CMAR	Chiang Mai Arr	75.61	282	P		P	21 42 16.8	-1.6
	0.6nm,0.5s,baz=25,slow=6.9,SNR=1.4							
ASAR	Alice Springs	89.28	229	P		P	21 43 30.2	+1.0
	0.3nm,0.5s,baz=30,slow=4.4,SNR=5.8							

*IDC **01** 21:46:33.2±1.1, 13°30N×91°21W, h0km, mb4.1/2, mb1 4.3/6, mb1mx3.8/35, mbtmp4.1/6, ML4.1/4, MS3.5/9, Ms1 3.5/9, ms1mx3.2/42, Error ellipse: s-maj=27.1km s-min=15.8km az=46.0*

*NEIC **01** 21:46:34.4±1.7, 13°36N±0°06×91°30W±0°05, h10km±1km, mb4.2/15, Md4.3(SNET), Error ellipse: s-maj=11.8km s-min=5.0km az=219.0*

*SNET **01** 21:46:36.5±1.4, 13°49N×91°19W, h13km±10km, ML4.3*

*UCR **01** 21:46:36.5±1.4, 13°49N×91°19W, h13km±10km, ML4.1, mb4.2(NEIC)*

*GCG **01** 21:46:38.1±0.3, 13°57N×91°09W, h0km±8km, MD4.7*

ISC 01 21:46:34.9±2.2, 13°43N±0°06×91°24W±0°04, h11km±12km, n94, σ0§90/96, mb4.2/7, MS3.6/8, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	1.07	46	⇑iP		Pb	21 46 55.0	-0.6
IXG	Ixpaco	1.07	46	⇑iP		Pb	21 46 55.0	-0.6
IXG	Ixpaco	1.07	46	iP		Pb	21 46 55.9	+0.3
FUG	Fuego 1	1.08	21	eP		Pg	21 46 56.5	+0.6
PCG	Pacaya	1.14	33	eP		Pn	21 46 57.4	+0.3
RTAL	Retalhuleu	1.18	338	eP		Pn	21 46 56.3	-1.0
RTAL				eS		Sb	21 47 11.9	-0.6
RTAL	Retalhuleu	1.18	338			Pn	21 46 56.5	-0.8
RTAL				Sn		Sb	21 47 12.2	-0.3
NBG	Las Nubes	1.44	37	eP		Pb	21 47 02.5	+0.5
NBG				eS		Sg	21 47 21.3	-0.1
NUBE	Las Nubes	1.50	72	eP		Pn	21 47 01.0	-0.8
NUBE	Las Nubes	1.50	72	eP		Pn	21 47 01.0	-0.8
CEVE	Cerro Verde	1.62	76	eP		Pn	21 47 03.9	+0.2
CEVE				IAML			21 47 34.7	
	comp=Z,6μm,0.4s							
CEVE	Cerro Verde	1.62	76	eP		Pn	21 47 03.9	+0.2
CEVE				IAML			21 47 34.7	
	comp=Z,6μm,0.4s							
SBLS	San Blas	1.62	75	eP		Pn	21 47 03.4	-0.3
SBLS	San Blas	1.62	75	eP		Pn	21 47 03.4	-0.3
APG	El Apazote	1.74	26	Pn		Pn	21 47 05.7	+0.5
	comp=Z,168nm,0.3s,baz=207,slow=16,SNR=226							
APG				Sn		Sg	21 47 29.9	-1.0
	comp=Z,30nm,0.3s,baz=131,slow=20,SNR=10							
APG				LR		LR	21 47 51.1	
	comp=Z,1μm,18.8s,baz=112,slow=42							
LALI	Alcalda de L	1.87	88	eP		Pn	21 47 07.8	+1.0
LALI				eS		Sn	21 47 30.1	-0.3
LALI	Alcalda de L	1.87	88	eP		Pn	21 47 07.8	+1.0
LALI				eS		Sn	21 47 30.1	-0.3
HUEH	Huehuetenango	1.90	352			Pn	21 47 08.1	+0.6
BOQS	Boqueron	1.93	81	eP		Pn	21 47 08.0	+0.1
BOQS	Boqueron	1.93	81	eP		Pn	21 47 08.0	+0.1
SNET	Serv Nac Est T	1.97	82	eP		Pn	21 47 08.4	+0.1
SNET	Serv Nac Est T	1.97	82	eP		Pn	21 47 08.4	+0.1
SNET	Serv Nac Est T	1.97	82	Pn		Pn	21 47 08.0	-0.3
MTO3	Montecristo	2.06	62	⇓iP		Pn	21 47 10.4	+0.6
MTO3				eS		Sb	21 47 36.6	-1.7
MTO3	Montecristo	2.06	62	⇓iP		Pn	21 47 10.4	+0.6
MTO3				eS		Sb	21 47 36.6	-1.7
MTO3	Montecristo	2.06	62	Pn		Pn	21 47 10.1	+0.4
MTO3				Sn		Sb	21 47 36.6	-1.7
LFU	La Fuente	2.09	81	eP		Pn	21 47 10.8	+0.8
LFU	La Fuente	2.09	81	eP		Pn	21 47 10.8	+0.8
LFRS	El Faro	2.13	85	eP		Pn	21 47 11.4	+0.9
LFRS	El Faro	2.13	85	eP		Pn	21 47 11.4	+0.9
LBRS	Las Brisas	2.16	82	eP		Pn	21 47 11.7	+0.8
LBRS	Las Brisas	2.16	82	eP		Pn	21 47 11.7	+0.8
ESQI	Esquipulas	2.16	58	eP		Pn	21 47 11.8	+0.8
ESQI	Esquipulas	2.16	58			Pn	21 47 11.9	+0.9
MRL	Marmol	2.23	42	eP		Pn	21 47 12.8	+0.7
MRL	Marmol	2.23	42	eP		Pn	21 47 12.8	+0.7
MRL	Marmol	2.23	42	eP		Pb	21 47 14.2	-1.2
PAVA	Las Pavas	2.26	83	eP		Pn	21 47 12.9	+0.6
PAVA	Las Pavas	2.26	83	eP		Pn	21 47 12.9	+0.6
COEG	Centro de Oper	2.30	85	eP		Pn	21 47 14.0	+1.1
COEG				IAML			21 47 51.1	
	comp=Z,1μm,0.4s							
COEG	Centro de Oper	2.30	85	eP		Pn	21 47 14.0	+1.1
COEG				IAML			21 47 51.1	
	comp=Z,1μm,0.4s							
COEB	Comit de Eme	2.64	88	eS		Sn	21 47 50.2	+0.6
COEB	Comit de Eme	2.64	88	eS		Sn	21 47 50.2	+0.6
JUCU	Jucuarjn	2.92	93	eP		Pn	21 47 21.1	-0.3
JUCU				IAML			21 48 12.7	
	comp=Z,614nm,0.6s							
JUCU	Jucuarjn	2.92	93	eP		Pn	21 47 21.1	-0.3
JUCU				IAML			21 48 12.7	
	comp=Z,614nm,0.6s							
CCIG	Comitan	2.97	343			Pn	21 47 23.9	+1.8
LCND	La Caada	3.26	92	eP		Pn	21 47 27.0	+0.9
LCND				eS		Sn	21 48 06.0	+1.2
LCND				IAML			21 48 11.7	
	comp=Z,533nm,0.3s							
LCND	La Caada	3.26	92	eP		Pn	21 47 27.0	+0.9
LCND				eS		Sn	21 48 06.0	+1.2
LCND				IAML			21 48 11.7	
	comp=Z,533nm,0.3s							
CNCH	Conchagua	3.32	92	eP		Pn	21 47 27.0	+0.1
CNCH				IAML			21 48 17.3	
	comp=Z,1μm,0.5s							
CNCH	Conchagua	3.32	92	eP		Pn	21 47 27.0	+0.1
CNCH				IAML			21 48 17.3	
	comp=Z,1μm,0.5s							
PETF	Flores	3.71	21	Pn		Pn	21 47 33.6	+1.4
TGUH	Tegucigalpa,Un	3.91	80			Pn	21 47 35.6	+0.6
ESTN	Estel	4.75	93	Pn		Pn	21 47 46.8	+0.1
CMIG	Matias Romero	5.06	316	Pn		Pn	21 47 50.7	-0.1
	comp=Z,2.4nm,0.3s,baz=133,slow=12,SNR=17							
CMIG				Sn		Sn	21 48 48.5	-0.8
	comp=Z,2.8nm,0.3s,baz=44,slow=11,SNR=6.0							
CMIG				LR		LR	21 50 01.5	
	comp=Z,274nm,19.4s,baz=94,slow=40							
MATN	Matagalpa	5.20	95			Pn	21 47 52.3	-0.5
ESPN	Las Esperanzas	6.88	99	Pn		Pn	21 48 17.1	+1.3
JTS	Las Juntas de	6.90	116	Pn		Pn	21 48 15.4	-0.7
	comp=Z,0.7nm,0.3s,baz=345,slow=20,SNR=1.6							
JTS				Sn		Sn	21 49 35.7	+1.1
	comp=Z,1.1nm,0.3s,baz=25,slow=23,SNR=1.7							
JTS				Lg		Lg	21 50 11.1	
	comp=Z,0.9nm,0.3s,baz=343,slow=19,SNR=5.5							
JTS	Las Juntas de	6.90	116			Pn	21 48 16.4	+0.3
TEIG	Tepich	7.33	22	Pn		Pn	21 48 24.0	+2.1
	comp=Z,27nm,0.3s,baz=193,slow=5.8,SNR=48							
TEIG	Tepich	7.33	22	Pn		Pn	21 48 24.0	+2.1
553A	Crawfordville	17.83	20	P		P	21 50 44.4	+0.7
FLOC	Florencia	19.40	126	Pn		P	21 51 02.4	+1.1
TX32	Lajitas Array	19.58	326	P		P	21 51 02.8	-0.4
TXAR	Lajitas Array	19.58	326	P		P	21 51 05.1	+2.0
	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=26							
TXAR	Lajitas Array	19.58	326	P		P	21 51 03.3	+0.2
H06E1	SOCORRO T-PHAS	19.64	288	T		T	22 11 15.8	
	SNR=73							
LRAL	Lakeview Retre	19.90	11	P		Pn	21 51 09.0	+0.9
ABTX	Abilene, Hawle	20.59	339	P		P	21 51 13.8	-0.3
ABTX				IAmb		IAmb	21 51 15.3	
	comp=Z,6.2nm,0.8s							
GOGA	Godfrey	21.11	18	P		P	21 51 20.0	+0.3
MNTX	Cornudas Mount	22.34	327	P		P	21 51 32.9	0.0
MNTX				IAmb		IAmb	21 51 35.8	
	comp=Z,6.7nm,0.8s							
AMTX	Amarillo	23.36	338	P		P	21 51 43.1	-0.4
TZTN	Tazewell	24.03	15	P		P	21 51 48.3	-1.7
TZTN				IAmb		IAmb	21 51 49.3	
	comp=Z,5.6nm,0.8s							
ATAH	Atahualpa	24.09	147	LR		LR	21 59 56.3	
	comp=Z,83nm,19.5s,baz=352,slow=34							
121A	Cookes Peak, D	24.30	324	P		P	21 51 51.5	-1.2
121A				IAmb		IAmb	21 51 56.1	
	comp=Z,5.0nm,0.8s							
BNM	Barren Site	24.91	329	P		P	21 51 58.8	+0.5
KNB	Kanab	30.40	324	P		P	21 52 46.8	-0.7
CCUT	Cedar City	31.08	325	P		P	21 52 54.0	+0.5
PTGA	Pitinga	34.04	112	P		P	21 53 18.7	-0.7
PTGA				IAmb		IAmb	21 53 20.7	
	comp=Z,3.7nm,0.9s							

REDW	Red Top Meadow	34.27	334	P		P	21 53 20.7	-0.6
REDW				IAmb		IAmb	21 53 23.2	
	comp=Z,4.9nm,1.2s							
NVAR	Mina Array Bea	34.58	321	P		P	21 53 25.7	+1.6
	comp=Z,1.2nm,0.6s,baz=137,slow=9.4,SNR=15							
NVAR				PcP		PcP	21 55 58.9	+0.2
	comp=Z,0.5nm,0.7s,baz=148,slow=4.3,SNR=4.3							
NVAR	Mina Array Bea	34.58	321	P		P	21 53 24.7	+0.6
LPAZ	La Paz	37.33	142	LR		LR	22 09 10.9	
	comp=Z,39nm,18.6s,baz=294,slow=36							
J08A	Circle Bar Ran	37.92	327	P		P	21 53 52.5	+0.1
YBH	Yreka Blue Hor	39.27	322	LR		LR	22 12 05.5	
	comp=Z,77nm,19.8s,baz=148,slow=39							
SIV	San Ignacio	41.76	133	P		P	21 54 23.0	-1.6
	comp=Z,2.8nm,0.7s,baz=313,slow=7.4,SNR=18							
SCHQ	Schefferville	45.50	20	LR		LR	22 16 40.7	
	comp=Z,64nm,18.7s,baz=259,slow=40							
H03N2	Juan Fernandez	48.06	166	T		T	22 46 45.4	
	baz=344							
H03N1	Juan Fernandez	48.07	166	T		T	22 46 46.3	
	baz=344							
H03N3	Juan Fernandez	48.08	166	T		T	22 46 45.3	
	baz=344							
CPUP	Villa Florida	51.47	140	LR		LR	22 18 47.1	
	comp=Z,54nm,18.4s,baz=220,slow=38							
FRB	Frobisher Bay	52.70	12	LR		LR	22 18 25.6	
	comp=Z,59nm,20.2s,baz=181,slow=36							
PLCA	Paso Flores	57.20	161	LR		LR	22 16 11.3	
	comp=Z,80nm,18.2s,baz=202,slow=31							
INK	Inuvik	61.19	343	LR		LR	22 27 41.0	
	comp=Z,41nm,20.2s,baz=252,slow=40							
CMAR	Chiang Mai Arr	146.76	342	PKPbc		PKPdf	22 06 17.6	+1.3
	comp=Z,2.2nm,0.7s,baz=334,slow=3.8,SNR=9.3							

IDC 01 22:03:42.4±1.9, 5°80S×128°95E, h454km±36km, mb2.4/1, mb1 2.8/5, mb1mx2.6/33, mbtmp3.6/5, Error ellipse: s-maj=63.6km s-min=17.8km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.42	25	P		P	22 05 10.7	-0.4
	1.0nm,0.3s,baz=74,slow=24,SNR=1.1							
SIJI				S		S	22 06 24.1	+0.6
	1.1nm,0.3s,baz=128,slow=23,SNR=1.5							
FITZ	Fitzroy Crossi	12.64	195	P		P	22 06 29.9	+1.8
	0.1nm,0.3s,baz=5.7,slow=10,SNR=2.3							
FITZ				S		S	22 08 46.4	+1.4
	0.1nm,0.3s,baz=145,slow=21,SNR=2.2							
WRA	Warramunga Arr	15.00	160	P		P	22 06 52.9	-0.6
	0.4nm,0.3s,baz=336,slow=11,SNR=20							
ASAR	Alice Springs	18.39	165	P		P	22 07 28.2	-0.6
	0.4nm,0.3s,baz=344,slow=11,SNR=22							
MKAR	Makanchi Array	66.66	327	P		P	22 13 46.9	0.0
	0.2nm,0.5s,baz=114,slow=7.1,SNR=2.3							

*NEIC **01** 22:06:30.5±1.2, 43°65N±0°05×105°27W±0°02, h0km±2km, ML3.5/63, Error ellipse: s-maj=9.2km s-min=3.1km az=348.0*

*IDC **01** 22:06:33.0±1.1, 44°68N×106°50W, h0km, mb3.9/1, mb1 3.8/5, mb1mx3.5/40, mbtmp3.6/5, ML3.5/4, Error ellipse: s-maj=49.6km s-min=8.5km az=138.0*

ISC 01 22:06:29.2±1.0, 43°71N±0°06×105°25W±0°07, h0km, n65, σ1§14/64, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.97	64	Pg		Pn	22 06 49.1	-1.1
K22A	Casper	1.41	222	Pg		Pn	22 06 54.5	-1.8
K22A				IAML			22 07 16.5	
	comp=E,722nm,0.7s							
K22A				IAML			22 07 19.0	
	comp=N,619nm,0.3s							
PHWY	Pilot Hill	2.41	184			Pn	22 07 10.3	+0.2
RWWY	Rawlins	2.48	216			Pn	22 07 10.3	-0.8
RWWY				IAML			22 07 46.1	
	comp=N,287nm,0.8s							
N23A	Red Feather La	2.86	191	Pn		Pn	22 07 16.7	+0.5
N23A				IAML			22 08 01.7	
	comp=E,229nm,0.8s							
LAO	LASA Array	3.06	347			Pb	22 07 21.7	-2.7
LAO				IAML			22 08 16.5	
	comp=E,165nm,0.9s							
LAO				IAML			22 08 27.4	
	comp=E,169nm,0.9s							
RLMT	Red Lodge	3.21	298			Pn	22 07 21.9	+0.9
RLMT				IAML			22 08 17.4	
	comp=E,64nm,0.9s							
BW06	Boulder Array	3.29	255			Pn	22 07 22.5	+0.4
BW06				IAML			22 08 10.5	
	comp=N,108nm,0.7s							
PD31	Pinedale Array	3.29	255			Pn	22 07 22.4	+0.3
PDAR	Pinedale Array	3.29	255	Pn		Pn	22 07 23.1	+1.0
	comp=N,4.6nm,0.3s,baz=73,slow=17,SNR=48							
PDAR				Lg		Lg	22 08 05.9	
	comp=N,5.0nm,0.3s,baz=71,slow=28,SNR=4.0							
PDAR	Pinedale Array	3.29	255			Pn	22 07 22.9	+0.8
OGNE	Ogallala	3.65	138			Pn	22 07 27.9	+1.0
YNE	Yellowstone No	3.65	292			Pn	22 07 27.9	+0.7
YMP	Mirror Lake Pl	3.67	288			Pn	22 07 28.1	+0.6
LOHW	Long Hollow	3.89	270			Pn	22 07 31.7	+1.4
H17A	Grant Village	3.90	282			Pn	22 07 31.5	+0.9
H17A				IAML			22 08 34.9	
	comp=E,39nm,0.7s							
H17A				IAML			22 08 39.6	
	comp=N,52nm,1.4s							
ISCO	Idaho Springs	3.92	184			Pn	22 07 31.0	+0.1
ISCO				IAML			22 08 37.5	
	comp=N,54nm,1.9s							
FLWY	Flagg Ranch	3.96	277			Pn	22 07 32.5	+1.2
FLWY				IAML			22 08 39.2	
	comp=N,73nm,2.1s							
FLWY				IAML			22 09 04.9	
	comp=N,75nm,1.9s							
SNOW	Snow King Moun	4.01	268			Pn	22 07 34.5	+2.5
SNOW				IAML			22 08 46.2	
	comp=N,83nm,1.7s							
SNOW				IAML			22 09 21.0	
	comp=N,74nm,1.6s							
YPP	Pitchstone Pla	4.05	280			Pn	22 07 34.2	+1.5
REDW	Red Top Meadow	4.09	267			Pn	22 07 34.8	+1.6
IMW	Indian Meadow	4.12	275			Pn	22 07 35.2	+1.5
IMW				IAML			22 08 45.8	
	comp=N,48nm,0.8s							
IMW				IAML			22 08 48.2	
	comp=N,70nm,0.7s							
TPAW	Teton Pass	4.15	269			Pn	22 07 34.9	+0.9
TPAW				IAML			22 08 48.1	
	comp=N,32nm,1.2s							
TPAW				IAML			22 09 02.4	
	comp=N,73nm,1.0s							
YHH	Holmes Hill	4.17	287			Pn	22 07 35.6	+1.3
FXWY	Fox Creek	4.19	271			Pn	22 07 36.0	+1.5
O20A	White River Ci	4.21	213			Pn	22 07 35.5	+0.7
E28A	Huff	4.31	47	Pn		Pn	22 07 38.1	+2.1
RDMU	Red Mountain	4.49	227			Pn	22 07 38.8	+0.2
DGMT	Dagmar	4.82	8			Pn	22 07 45.4	+2.4
BOZ	Bozeman (W)	4.93	295			Pn	22 07 45.2	+0.6
BOZ				IAML			22 09 05.1	
	comp=N,21nm,1.7s							
BOZ				IAML			22 09 17.6	
	comp=N,21nm,0.9s							
KSCO	Kaye Shedlock'	5.09	156			Pn	22 07 47.4	+0.6
HWUT	Hardware Ranch	5.11	248			Pn	22 07 47.8	+0.7
TCUT	Toone Canyon	5.24	242			Pn	22 07 49.1	+0.1
EGMT	Eagleton	5.34	325			Pn	22 07 52.2	+2.1
LRM	Limekiln Ridge	5.54	295	Pn		Pn	22 07 53.6	+0.5
PV22	Blue Mesa, Par	5.82	209			Pn	22 07 57.9	+1.0
SPUT	South Promonto	5.84	248			Pn	22 07 58.5	+1.4
PV07	Paradox Valley	5.86	207			Pn	22 07 58.4	+1.0
PV15	Paradox Valley	5.89	206			Pn	22 07 57.6	-0.4
P17A	Butcher Ranch,	5.90	226			Pn	22 07 59.6	+1.6
SDCO	Great Sand Dun	5.96	182	Pn		Pn	22 08 00.1	+1.1
PV23	Carpenter Ridg	5.97	210			Pn	22 07 59.4	+0.3
PV04	Paradox Valley	5.99	209			Pn	22 08 00.2	+1.1
PV14	Lion Creek, Pa	6.05	209			Pn	22 08 00.4	+0.4
PV20	West Nyswonger	6.05	209	Pn		Pn	22 07 59.6	-0.5
PV16	Nyswonger Mesa	6.06	208			Pn	22 08 00.6	+0.4
SRU	San Rafael Swe	6.07	223			Pn	22 08 00.2	-0.1
PV03	Paradox Valley	6.09	208			Pn	22 08 01.3	+0.6
PV02	Paradox Valley	6.10	207			Pn	22 08 01.8	+1.1
PV01	Paradox Valley	6.11	205			Pn	22 08 01.1	+0.2
ECSD	EROS Data Cent	6.26	87			Pn	22 08 03.5	+0.8

TMUT	Trail Mountain	6.28	227	Pn		Pn	22 08 04.6	+1.3
BGU	Big Grassy Mou	6.40	247			Pn	22 08 05.6	+0.7
Q16A	Castle Valley	6.54	225			Pn	22 08 07.3	+0.5
DUG	Dugway, Tooele	6.64	241			Pn	22 08 08.1	0.0
HLID	Hailey	6.65	272			Pn	22 08 08.1	-0.2
MSO	Missoula	6.88	300	Pn		Pn	22 08 12.6	+1.2
MSU	Marysvale	7.37	228	Pn		Pn	22 08 18.8	+0.7
JTMT	Jette	7.50	306	Pn		Pn	22 08 21.7	+1.9
MTPU	Mount Pierson	7.72	225	Pn		Pn	22 08 24.0	+0.8
PSUT	Pine Spring	8.30	234	Pn		Pn	22 08 31.4	+0.5
ULM	Lac du Bonnet	9.15	41	Pn		Pn	22 08 43.5	+1.1
	comp=N,1.9nm,0.3s,baz=229,slow=15,SNR=8.6							
ULM				Lg		Lg	22 11 15.8	
	comp=N,0.3nm,0.3s,baz=283,slow=12,SNR=1.5							
NVAR	Mina Array Bea	11.17	246	Pn		Pn	22 09 11.1	+0.8
	comp=N,0.1nm,0.3s,baz=53,slow=13,SNR=2.9							
DLBC	Dease Lake	21.26	323	P		P	22 11 06.0	-11
	comp=N,0.1nm,0.3s,baz=90,slow=10,SNR=3.4							
ARCES	ARCESS Array B	61.44	18	P		P	22 16 46.6	-0.2
	comp=N,1.2nm,0.7s,baz=325,slow=7.7,SNR=5.2							

*IDC **01** 22:11:59.0±0.8, 48°77S×106°44E, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.2/36, mbtmp4.3/11, MS3.7/8, Ms1 3.7/8, ms1mx3.4/29, Error ellipse: s-maj=32.8km s-min=15.6km az=114.0*

*NEIC **01** 22:12:00.6±1.1, 48°85S±0°1×106°6E±0°3, h10km±1km, mb4.7/24, Error ellipse: s-maj=28.7km s-min=17.3km az=280.0*

*UNK **01** 22:12:00.7, 48°84S×106°59E, h10km*

ISC 01 22:12:00.6±0.4, 48°85S±0°07×106°6E±0°1, h10km, n119, σ0§66/110, mb4.6/24, MS3.7/9, 2C-1D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.01	25	T		T	22 30 54.8	
	baz=199,slow=74,SNR=69							
H01W1	Cape Leeuwin H	15.02	25	T		T	22 31 00.2	
	baz=199,slow=74,SNR=86							
H01W3	Cape Leeuwin H	15.03	25	T		T	22 30 49.8	
	baz=199,slow=74,SNR=84							
CASY	Casey	17.60	175	P		P	22 16 07.1	+0.5
CASY				IAmb		IAmb	22 16 09.1	
	comp=Z,124nm,2.0s							
NWAO	Narrogin (SRO)	17.79	30	LR		LR	22 21 14.2	
	comp=Z,338nm,22.0s,baz=248,slow=31							
MORW	Morawa	21.04	24	P		P	22 16 44.5	0.0
MORW				IAmb		IAmb	22 16 53.5	
	comp=Z,51nm,1.4s							
BBOO	Buckleboo	27.21	65			P	22 17 45.0	+0.4
MAW	Mawson	28.80	213	LR		LR	22 27 11.2	
	comp=Z,174nm,19.9s,baz=59,slow=32							
STKA	Stephens Creek	31.23	70	P		P	22 18 20.4	+0.2
	comp=Z,4.1nm,0.8s,baz=217,slow=9.8,SNR=5.3							
STKA				LR		LR	22 28 36.1	
	comp=Z,68nm,21.8s,baz=209,slow=32							
STKA	Stephens Creek	31.23	70	P		P	22 18 20.2	0.0
ASAR	Alice Springs	33.08	50	P		P	22 18 36.6	+0.1
	comp=Z,5.2nm,0.9s,baz=209,slow=8.5,SNR=40							
ASAR				PcP		PcP	22 21 19.1	-0.7
	comp=Z,1.6nm,1.0s,baz=185,slow=2.8,SNR=7.1							
ASAR				LR		LR	22 30 13.1	
	comp=Z,155nm,21.0s,baz=207,slow=33							
ASAR	Alice Springs	33.08	50	P		P	22 18 36.3	-0.2
AS31	Alice Springs	33.08	50	P		P	22 18 35.8	-0.8
FITZ	Fitzroy Crossi	34.33	33	P		P	22 18 48.1	+0.7
	comp=Z,3.9nm,0.9s,baz=207,slow=11,SNR=6.2							
FITZ				LR		LR	22 31 40.3	
	comp=Z,166nm,18.6s,baz=199,slow=34							
FITZ	Fitzroy Crossi	34.33	33	P		P	22 18 47.7	+0.4
VNDA	Vanda	35.44	162	P		P	22 18 57.2	+0.9
	comp=Z,2.4nm,0.9s,baz=302,slow=9.7,SNR=5.7							
VNDA				LR		LR	22 32 22.1	
	comp=Z,185nm,19.1s,baz=312,slow=34							
VNDA	Vanda	35.44	162	P		P	22 18 56.4	0.0
VNDA				IAmb		IAmb	22 18 59.5	
	comp=Z,14nm,1.6s							
WRA	Warramunga Arr	36.42	47	P		P	22 19 05.6	+0.2
	comp=Z,8.6nm,0.9s,baz=211,slow=8.2,SNR=35							
WRA				PcP		PcP	22 21 27.3	-2.3
	comp=Z,0.7nm,0.9s,baz=217,slow=2.4,SNR=3.7							
WB2	Warramunga Arr	36.43	47	P		P	22 19 05.0	-0.5
WB2				IAmb		IAmb	22 19 06.8	
	comp=Z,11nm,0.9s							
WR0	Warramunga Arr	36.51	48	P		P	22 19 05.5	-0.6
WB0	Warramunga Arr	36.60	47	P		P	22 19 06.7	-0.2
WB0				IAmb		IAmb	22 19 08.2	
	comp=Z,9.5nm,1.0s							
SYO	Syowa Base	37.51	213	⇓eP		P	22 19 13.0	-1.1
SYO	Syowa Base	37.51	213	⇑esP		sP	22 19 19.0	+2.1
MTN	Manton Dam	41.24	38	P		P	22 19 44.7	-1.0
MTN				IAmb		IAmb	22 19 47.4	
	comp=Z,16nm,1.1s							
QSPA

	comp=Z,68nm,14.9s							
HHC	Hu-ho-hao-te	89.42	4	eP	P	22 24 57.5	+0.3
HHC	comp=Z,9.0nm,1.2s			pmax	pmax		
HHC	comp=Z,84nm,5.8s			pmax	pmax		
KBL	Kabul	89.52	330	P	P	22 24 57.5	-0.5
PLCA	Paso Flores	90.76	182	P	P	22 25 04.8	+0.9
	comp=Z,4.3nm,1.2s,baz=266,slow=5.4,SNR=3.1						
WMQ	Urumqi	93.77	346	eP	P	22 25 19.6	+2.3
WMQ	comp=Z,10.0nm,0.8s			pmax	pmax		
WMQ	comp=Z,65nm,5.7s			pmax	pmax		
WMQ	comp=N,420nm,27.5s			LR	LR		
WMQ	comp=E,340nm,21.3s			LR	LR		
WMQ	comp=Z,42nm,23.9s			LR	LR		
SONM	Songino Array	96.30	360	P	P	22 25 28.3	-0.5
	comp=Z,0.8nm,0.8s,baz=190,slow=3.6,SNR=7.1						
SONM	Songino Array	96.30	360	P	P	22 25 28.0	-0.8
EPYK	Eagle Plains	143.76	38	P	PKPbc	22 31 32.6	+0.3
	baz=267						
O02D	Mt. Diablo Mer	144.27	85	P	PKPdf	22 31 36.1	-0.3
	baz=239						
L02E	Cave Junction	144.71	82	P	PKPdf	22 31 37.1	+0.1
	baz=241						
N02D	Trinity Center	144.73	84	P	PKPdf	22 31 37.2	+0.1
	baz=240,SNR=5.1						
ORV	Oroville	144.80	87	PKPdf	PKPbc	22 31 36.2	0.0
M02C	Callahan	144.83	83	P	PKPdf	22 31 37.6	+0.3
	baz=241,SNR=5.7						
K02D	Willamette Mer	144.93	81	P	PKPab	22 31 36.7	0.0
	baz=242						
J01E	Myrtle Point	144.97	80	P	PKPdf	22 31 37.1	-0.2
	baz=243						
O03E	Paynes Creek	144.98	86	P	PKPab	22 31 36.9	-0.1
	baz=239,SNR=6.9						
INK	Inuvik	145.01	34	PKPbc	PKPbc	22 31 35.3	-0.7
	comp=Z,4.7nm,0.8s,baz=219,slow=8.8,SNR=4.2						
INK	Inuvik	145.01	34		PKPbc	22 31 35.5	-0.5
LRMC	Laurel Mtn Rad	145.05	96	P	PKPdf	22 31 38.3	+0.3
	baz=234						
ZAIG	Zacatecas	145.20	128		PKPdf	22 31 39.1	+0.3
BELC	Belle Mtn. Jos	145.26	99	P	PKPab	22 31 39.1	+0.9
	baz=232						
CWC	Cottonwood Cre	145.35	94	P	PKPbc	22 31 38.2	-0.1
	baz=235						
BC3	Big Chuckawall	145.40	100	P	PKPab	22 31 39.6	+0.9
	baz=231						
GLA	Glamis	145.42	102	P	PKPab	22 31 39.5	+0.7
	baz=230						
MPMC	Manual Prospec	145.52	95	P	PKPab	22 31 39.5	+0.3
	baz=234						
GSC	Goldstone, Bar	145.52	97	P	PKPab	22 31 39.9	+0.8
	baz=233						
GSC	Goldstone, Bar	145.52	97		PKPab	22 31 39.2	+0.1
HEC	Hector,Ludlow	145.54	98	P	PKPab	22 31 39.9	+0.7
	baz=233						
I03D	Drain, OR	145.59	79	P	PKPab	22 31 39.3	+0.4
	baz=244,SNR=5.8						
L04D	Klamath Falls	145.59	82	P	PKPab	22 31 39.3	+0.1
	baz=242						
WAKR	Walker	145.60	90	PKPdf	PKPbc	22 31 39.0	-0.2
M04C	Macdoel	145.69	83	P	PKPbc	22 31 39.2	0.0
	baz=241						
GMRC	Granite Mounta	145.96	98	P	PKPab	22 31 41.2	+0.4
	baz=232						
214A	Organ Pipe Nat	146.01	105	P	PKPab	22 31 41.2	+0.3
	baz=228						
FURC	Furnace Creek,	146.16	95	P	PKPab	22 31 41.7	+0.4
	baz=235						
I04A	Tendick Farm,	146.24	80	P	PKPbc	22 31 40.9	+0.1
	baz=244,SNR=5.7						
RYN	Ryan	146.27	90		PKPbc	22 31 40.5	-0.6
NVAR	Mina Array Bea	146.31	91	PKPbc	PKPab	22 31 42.2	+0.1
	comp=Z,2.8nm,0.8s,baz=221,slow=5.7,SNR=20						
H04D	Lebanon	146.35	78	P	PKPab	22 31 41.8	0.0
	baz=245,SNR=6.5						
NV11	Mina Array Sit	146.41	91		PKPdf	22 31 40.0	-0.2
K05A	Summer Lake	146.75	82	PKPbc	PKPbc	22 31 42.8	+0.4
MOD	Modoc Plateau	146.75	84	PKPbc	PKPab	22 31 43.0	-0.7
KVN	Kaiserville	146.78	90	PKPbc	PKPbc	22 31 43.1	+0.5
J05D	Fort Rock, OR	146.78	81	P	PKPab	22 31 43.1	-0.6
	baz=243,SNR=12						
TPNV	Topopah Spring	146.84	95	P	PKPab	22 31 43.6	-0.6
	baz=235						
PINE	Pine Mountain	147.20	81	PKPbc	PKPab	22 31 44.5	-0.9
TUC	Tucson	147.53	107	P	PKPbc	22 31 45.5	+0.7
	baz=228						
R11A	Troy Canyon, C	148.06	93	P	PKPbc	22 31 46.7	+0.5
	baz=237						
WVOR	Wild Horse Val	148.10	84	PKPbc	PKPbc	22 31 46.6	+0.6
J08A	Circle Bar Ran	148.62	83	PKPbc	PKPbc	22 31 47.4	+0.1
LCMT	Little Creek M	148.85	97	PKPbc	PKiKP	22 31 48.9	-0.7
CCUT	Cedar City	149.08	96	PKPbc	PKPbc	22 31 48.9	0.0
G08A	Pilot Rock	149.11	79	PKPbc	PKiKP	22 31 49.0	-0.8
HAWA	Hanford	149.16	77	PKPbc	PKiKP	22 31 48.9	-0.8
WUAZ	Wupatki	149.19	101	P	PKiKP	22 31 49.7	-0.7
	baz=232						
WUAZ	Wupatki	149.19	101	PKPbc	PKPbc	22 31 49.2	+0.1
SZCU	Shurtz Canyon	149.29	96	PKPbc	PKPbc	22 31 49.5	+0.1
TX32	Lajitas Array	149.77	119	PKPbc	PKPbc	22 31 50.7	0.0
TXAR	Lajitas Array	149.77	119	PKPbc	PKiKP	22 31 51.0	-0.7
	comp=Z,2.6nm,0.8s,baz=196,slow=6.1,SNR=36						
TXAR	Lajitas Array	149.77	119		PKPbc	22 31 50.8	+0.1
MNTX	Cornudas Mount	150.47	114	P	PKPbc	22 31 52.4	+0.2
	baz=225						
DUG	Dugway, Tooele	150.86	92	P	PKiKP	22 31 53.7	+0.1
	baz=239						
HLID	Hailey	151.38	85	P	PKiKP	22 31 54.6	0.0
	baz=245						
ANMO	Albuquerque	151.98	107	P	PKiKP	22 31 56.4	+0.2
	baz=230						
MSO	Missoula	152.92	79	P	PKPbc	22 31 56.9	-0.6
	baz=251						
S22A	4UR Ranch, Cre	153.45	102	P	PKiKP	22 31 59.9	+0.6
	baz=234						
YKA	Yellowknife Ar	153.59	43	PKPbc	PKPbc	22 31 56.9	-1.3
	comp=Z,1.3nm,0.9s,baz=181,slow=36,SNR=1.9						
BOZ	Bozeman (W)	154.00	83	P	PKPab	22 32 14.3	+0.8
	baz=249						

*ATH **01** 22:13:03.5, 37°.65N×26°.58E, h26km±2km, ML2.4/3, Error ellipse: s-maj=3.2km s-min=1.2km az=133.0*
*ISK **01** 22:13:03.6, 37°.69N×26°.55E, h3km, ML2.5/15*
*DDA **01** 22:13:04.7, 37°.71N×26°.62E, h4km±3km, ML2.2*
*THE **01** 22:13:04.7, 37°.67N×26°.63E, h21km±8km, ML2.4/7, Error ellipse: s-maj=11.3km s-min=0.4km az=76.0*

ISC 01 22:13:04.0±0.9, 37°.69N±0°.02×26°.55E±0°.02, h17km±7km, n48, σ0§84/70, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.23	86	P	Pg		22 13 09.5	+0.2
SMG				S	Sg		22 13 13.0	0.0
	2μm,0.3s							
SMG	Samos	0.23	86	P	Pg		22 13 09.5	+0.2
SMG				S	Sg		22 13 13.1	+0.2
SMG				AML	AML		22 13 13.4	
	comp=E,4072μm,0.4s							
SMG				AML	AML		22 13 13.7	
	comp=N,3694μm,0.2s							
DGB	zmir	0.45	36	i P	Pb		22 13 13.5	+0.2
GCAM	G?zelcaml?	0.55	89	PG	Pb		22 13 15.3	+0.3
GCAM				SG	Sb		22 13 23.3	+0.8
GCAM	G?zelcaml?	0.55	89	i P	Pg		22 13 14.3	-0.5
URLA	Izmir	0.67	3	PG	Pg		22 13 16.8	-0.3
URLA				SG	Sb		22 13 27.4	+1.3
URLA	Izmir	0.67	3	i P	Pb		22 13 17.4	+0.3
URLA				i S	Sb		22 13 26.8	+0.6
URLA				IAML			22 13 30.0	
	comp=E,81nm,0.6s							
URLA				IAML			22 13 30.0	
	comp=N,131nm,0.5s							
BLCB	Balcova	0.79	29	PG	Pb		22 13 19.7	+0.4
BLCB				SG	Sb		22 13 31.2	+1.5
CHOS	Chios island	0.79	331	P	Pb		22 13 20.2	+0.8
CHOS				S	Sb		22 13 31.8	+1.9
	comp=N,182nm,0.4s							
CHOS	Chios island	0.79	331	P	Pb		22 13 20.1	+0.8
CHOS	Chios island	0.79	331	PG	Pb		22 13 19.9	+0.6
CHOS				SG	Sb		22 13 31.7	+1.9
BODT	Bodrum	0.88	136	PG	Pb		22 13 21.1	+0.4
KRBN	Karaburun	0.90	0	PG	Pn		22 13 21.9	+0.1
KOSK	Kos Island	1.00	160	PG	Pn		22 13 23.4	+0.2
AMGA	Amorgos Island	1.01	211	P	Pg		22 13 22.7	-0.8
AMGA				S	Sb		22 13 36.2	+0.4
	comp=N,198nm,0.4s							
AMGA	Amorgos Island	1.01	211	P	Pg		22 13 22.8	-0.7
AMGA				S	Sb		22 13 36.9	+1.1
AMGA				AML	AML		22 13 41.2	
	comp=E,295μm,0.3s							
AMGA				AML	AML		22 13 42.5	
	comp=N,440μm,0.3s							
APE	Apeiranthos	1.02	233	P	Pb		22 13 23.4	+0.2
APE				S	Sb		22 13 37.3	+1.0
	comp=N,128nm,0.2s							
APE	Apeiranthos	1.02	233	P	Pb		22 13 23.5	+0.2
APE				S	Sb		22 13 37.1	+0.7
APE				AML	AML		22 13 39.2	
	comp=N,221μm,0.2s							
APE				AML	AML		22 13 40.5	
	comp=E,276μm,0.2s							
APE	Apeiranthos	1.02	233	PG	Pb		22 13 23.6	+0.4
AYDN	Tasoluk	1.06	91	i P	Pg		22 13 23.3	-1.2
AYDN				i S	Sn		22 13 38.7	+0.4
DAT	Datca	1.27	139	PN	Pg		22 13 27.9	-0.6
DAT	Datca	1.27	139	i P	Pg		22 13 27.7	-0.8
ZEDA	zmir-Bergama	1.34	18	i P	Pn		22 13 27.8	-0.1
ZEDA				i S	Sb		22 13 45.0	-0.4
ZEDA				IAML			22 13 52.0	
	comp=N,28nm,0.2s							
IOSP	Ios island	1.40	226	P	Pn		22 13 28.4	-0.2
IOSP				S	Sb		22 13 46.1	-0.9
	comp=N,172nm,0.2s							
IOSP	Ios island	1.40	226	P	Pn		22 13 28.5	-0.2
DKL	Dikili	1.40	11	PN	Pb		22 13 29.5	-0.2
ANAF	Anafi Island	1.47	205	P	Pn		22 13 30.2	+0.5
YER	Yerkesik	1.49	111	PN	Pg		22 13 32.6	-0.1
AKHS	Akhisar	1.55	40	i P	Pb		22 13 32.2	0.0
AKHS				i S	Sg		22 13 52.6	-1.3
PRK	Paraskevi	1.56	352	P	Pg		22 13 33.4	-0.7
PRK				S	Sn		22 13 50.9	+0.1
	comp=N,135nm,0.6s							
SAP3	Santorini-Thir	1.58	218	P	Pb		22 13 32.4	-0.3
SIGR	SIGRI	1.61	340	P	Pn		22 13 32.4	+0.8
SIGR				S	Sn		22 13 52.3	+0.4
	comp=N,42nm,0.4s							
SIGR	SIGRI	1.61	340	PN	Pg		22 13 34.2	-0.8
AYVA	Ayvalik	1.62	4	i P	Pg		22 13 35.1	0.0
AYVA				i S	Sg		22 13 55.3	-0.8
AYVA				IAML			22 14 02.0	
	comp=E,20nm,0.4s							
AYVA				IAML			22 14 02.0	
	comp=N,34nm,0.3s							
TURN	Turunc	1.64	124	PN	Pg		22 13 34.2	-1.2
TURN	Turunc	1.64	124	i P	Pb		22 13 33.9	+0.3
TURN				IAML			22 14 02.0	
	comp=N,22nm,1.3s							
MANT	Manisa	1.77	63	i P	Pg		22 13 38.0	-0.2
MANT				i S	Sn		22 13 56.9	+0.6
KULA	Kula-Manisa	1.86	63	PN	Pb		22 13 37.3	-0.2
TAVA	DENIZLI Tavas	1.89	96	i P	Pg		22 13 39.4	-1.0
STEP	BALIKESIR_Sava	1.92	28	i P	Pg		22 13 39.5	-1.3
STEP				i S	Sg		22 14 04.9	-0.7
STEP				IAML			22 14 10.0	
	comp=E,25nm,0.2s							
STEP				IAML			22 14 10.0	
	comp=N,14nm,0.6s							
BAYC	CANAKKALE_Bayr	2.04	360	i P	Pn		22 13 38.0	+0.4
BAYC				i S	Sn		22 14 03.5	+0.9
BAYC				IAML			22 14 13.0	
	comp=E,12nm,0.4s							
BOZC	Bozcaada	2.18	350	PN	Pb		22 13 42.3	-0.6
BOZC	Bozcaada	2.18	350	i P	Pg		22 13 44.2	-1.6
USAK	Uak-Merkez	2.20	62	i P	Pg		22 13 46.3	+0.2
USAK				IAML			22 14 19.0	
	comp=N,44nm,0.6s							
USAK				IAML			22 14 20.0	
	comp=E,53nm,0.4s							
BALY	Balya	2.21	22	i P	Pb		22 13 44.1	+0.7
BALY				IAML			22 14 19.0	
	comp=E,17nm,0.4s							
BALY				IAML			22 14 19.0	
	comp=N,25nm,0.4s							
SIMA	Simav-Kutahya	2.36	53	PN	Pb		22 13 44.8	-1.3
DURS	Dursunbey	2.43	38	i P	Pg		22 13 48.6	-2.0
GELI	Tayfur-Gelibol	2.70	359	PN	Pb		22 13 49.8	-2.0

BUC 01 22:15:40.1±0.3, 45°.80N×26°.74E, h66km±2km, ml2.8/15, 41C-19D, Error ellipse: s-maj=1.9km s-min=1.8km az=94.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.06	351	⇑P		Pn	22 15 49.4	-0.3
VRI				⇑S		Sn	22 15 56.1	-0.7
VRI	Vrincioaia	0.06	351	⇑P		Pn	22 15 49.4	-0.3
PLOR	Plostina	0.08	306	⇑P		Pn	22 15 49.3	-0.5
PLOR				⇑S		Sn	22 15 56.3	-0.6
PLOR	Plostina	0.08	306	⇑P		Pn	22 15 49.3	-0.5
ODBI	Odobesti	0.22	100	⇑P		Pn	22 15 51.0	+0.8
ODBI	Odobesti	0.22	100	⇑P		Pn	22 15 51.0	+0.8
BISRR	Bisoca	0.26	185	⇑P		Pn	22 15 51.0	+0.4
BISRR				⇑S		Sn	22 15 59.4	+1.1
BISRR	Bisoca	0.26	185	⇑P		Pn	22 15 51.0	+0.4
PETR	Petresti	0.35	103	⇓P		Pn	22 15 51.8	+0.7
PETR				⇑S		Sn	22 16 00.4	+1.2
PETR	Petresti	0.35	103	⇓P		Pn	22 15 51.8	+0.7
NEHR	Nehoiu	0.49	220	⇑P		Pn	22 15 53.3	+0.9
NEHR				⇑S		Sn	22 16 02.9	+1.5
NEHR	Nehoiu	0.49	220	⇑P		Pn	22 15 53.3	+0.9
MLR	Muntele Rosu	0.64	241	⇓P		Pn	22 15 54.1	0.0
MLR				⇑S		Sn	22 16 05.1	+0.7
MLR	Muntele Rosu	0.64	241	⇓P		Pn	22 15 54.1	0.0
TUDR		0.68	108	⇓P		Pn	22 15 53.7	-0.8
TUDR				⇑S		Sn	22 16 05.1	+0.1
TUDR		0.68	108	⇓P		Pn	22 15 53.7	-0.8
TESR	Tescani	0.71	355	⇑P		Pn	22 15 54.9	+0.1
TESR				⇑S		Sn	22 16 05.6	-0.1
TESR	Tescani	0.71	355	⇑P		Pn	22 15 54.9	+0.1
OZUR		0.73	294	⇓P		Pn	22 15 54.8	-0.3
OZUR		0.73	294	⇓P		Pn	22 15 54.8	-0.3
VARL	Varlezi	0.78	83	⇑S		Sn	22 16 08.0	+1.0
VARL	Varlezi	0.78	83	⇑S		Sn	22 16 08.0	+1.0
SCHL	Schela	0.82	111	⇑P		Pn	22 15 55.7	-0.4
SCHL	Schela	0.82	111	⇑P		Pn	22 15 55.7	-0.4
GIUM	Giurgiulesti	1.08	107	⇓S		Sn	22 16 14.1	+0.5
GIUM	Giurgiulesti	1.08	107	⇓S		Sn	22 16 14.1	+0.5
VASR	Vaslui	1.11	41	⇑P		Pn	22 16 00.2	+0.5
VASR				⇑S		Sn	22 16 15.1	+0.6
VASR	Vaslui	1.11	41	⇑P		Pn	22 16 00.2	+0.5
BIZ	Bicaz	1.22	339	⇑P		Pn	22 16 01.4	+0.2
BIZ				⇓S		Sn	22 16 18.2	+1.2
BIZ	Bicaz	1.22	339	⇑P		Pn	22 16 01.4	+0.2
VOIR		1.24	253	⇑P		Pn	22 16 01.4	-0.2
VOIR				⇑S		Sn	22 16 17.6	0.0
VOIR		1.24	253	⇑P		Pn	22 16 01.4	-0.2
LEHL	Lehliu	1.33	178	⇑S		Sn	22 16 20.4	+0.8
LEHL	Lehliu	1.33	178	⇑S		Sn	22 16 20.4	+0.8
TLBR	Topalu	1.56	143	⇑P		Pn	22 16 05.8	+0.1
TLBR				⇓S		Sn	22 16 25.0	0.0
TLBR	Topalu	1.56	143	⇑P		Pn	22 16 05.8	+0.1
RASA	Rasa	1.62	170	⇓P		Pn	22 16 06.7	+0.3
RASA				⇑S		Sn	22 16 26.1	-0.2
RASA	Rasa	1.62	170	⇓P		Pn	22 16 06.7	+0.3
TIRR	Tirgusor	1.79	138	⇑P		Pn	22 16 08.9	+0.1
TIRR	Tirgusor	1.79	138	⇑P		Pn	22 16 08.9	+0.1
MILM	Milestii Mici	1.82	51	⇓P		Pn	22 16 09.0	-0.1
MILM				⇓S		Sn	22 16 31.4	+0.3
MILM	Milestii Mici	1.82	51	⇓P		Pn	22 16 09.0	-0.1
ICOR	Ion Corvin	1.85	156	⇓P		Pn	22 16 09.7	+0.1
ICOR				⇑S		Sn	22 16 32.5	+0.6
ICOR	Ion Corvin	1.85	156	⇓P		Pn	22 16 09.7	+0.1
ICOR	Ion Corvin	1.85	156	⇑S		Sn	22 16 32.5	+0.6
NEF	NEVSHA	2.57	171	i P		Pn	22 16 19.6	+0.3
NEF				S		Sn	22 16 48.2	-1.2
ROIA	ROIAK	2.75	170	eP		Pn	22 16 22.0	+0.2
ROIA				S		Sn	22 16 54.4	+0.6

*KRNET **01** 22:20:29.2±0.1, 39°.84N×69°.57E, h22km, mb2.6*

ISC 01 22:20:31.0±1.3, 39°.77N±0°.04×69°.64E±0°.09, h24km±18km, n8, σ1§10/20, 17C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GAR	Garm	0.93	145	⇑iP		Pn	22 20 48.4	-0.2
	baz=45							
GAR				⇑iS		Sn	22 21 02.1	+0.9
	baz=45							
BTK	Batken	0.95	72	⇑iP		Pb	22 20 47.7	-1.2
	baz=77							
BTK				⇑iS		Sn	22 21 01.1	-0.7
	baz=77							
CHGR	Chuyangaron	1.17	199	⇑iP		Pb	22 20 51.7	-0.9
	baz=95							
CHGR				⇑iS		Sb	22 21 08.2	+0.9
	baz=95							
OHH	Osh	2.53	72	⇑iP		Pn	22 21 11.4	+0.9
	baz=74							
OHH				⇑iS		Sn	22 21 41.5	+0.9
	baz=74							
ARK	Arkit	2.69	40	⇑iP		Pn	22 21 12.1	-0.7
	baz=43							
ARK				⇑iS		Sn	22 21 44.0	-0.6
	baz=43							
KK31	Karatay Array	3.40	11	⇑P		Pb	22 21 29.5	-0.9
	0.2nm,0.2s,baz=192,slow=17,SNR=6.1							
KK31				⇑P		Pb	22 21 29.5	-0.9
	0.2nm,0.2s,baz=192,slow=17,SNR=6.1							
KK31				⇑P		Pb	22 21 29.5	-0.9
	0.2nm,0.2s,baz=192,slow=17,SNR=6.1							
KK31				⇓S		Sb	22 22 13.0	+1.7
	3.3nm,0.4s,baz=194,slow=28,SNR=20							
KK31				⇓S		Sb	22 22 13.0	+1.7
	3.3nm,0.4s,baz=194,slow=28,SNR=20							
KK31				⇓S		Sb	22 22 13.0	+1.7
	3.3nm,0.4s,baz=194,slow=28,SNR=20							
AML	Almayashu	3.87	51	⇑iP		Pn	22 21 29.3	0.0
	baz=52							
AML				⇑iS		Sn	22 22 13.3	-1.0
	baz=52							
ARLS	Aral	4.12	58	⇑iP		Pn	22 21 33.2	+0.6
	baz=59							
ARLS				⇑iS		Sn	22 22 19.6	-0.5
	baz=59							

*WEL **01** 22:28:37.4±0.6, 32°.S±7°×17°.9W±1°.7, h369km±8km, M4.7/9, mB4.5/2, MLv4.7/9, Mw(mB)3.6/2, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6*
*IDC **01** 22:28:40.6±8.6, 32°.25S×179°.58W, h387km±103km, mb2.7/2, mb1 3.1/3, mb1mx2.9/29, mbtmp3.7/3, Error ellipse: s-maj=118.7km s-min=53.2km az=180.0*

ISC 01 22:28:40.1±1.4, 32°.4S±0°.1×179°.4W±0°.2, h400km, n39, σ1§52/63, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.36	23	P		Pn	22 29 36.6	-10
GLKZ				S		S	22 30 21.8	-18
WMGZ	Waiomatatini S	5.72	197	P		Pn	22 30 12.3	+2.8
WMGZ				S		S	22 31 23.3	+0.9
HAZ	Te Kaha	5.84	202	P		Pn	22 30 12.3	+1.5
HAZ				S		S	22 31 25.2	+0.3
PUZ	Puketiti	6.00	198	P		Pn	22 30 13.7	+1.1
PUZ				S		S	22 31 27.4	-0.6
RUGZ	Raukumara Rang	6.07	202	P		Pn	22 30 13.7	+0.2
RUGZ				S		S	22 31 30.6	+1.0
WCZ	Waipu Caves	6.27	234	P		Pn	22 30 16.4	+0.8
WIAZ	Waiheke Island	6.29	224	P		Pn	22 30 18.7	+2.9
MWZ	Matawai	6.45	202	P		P	22 30 18.2	+0.6
MWZ				S		S	22 31 37.4	+0.2
MKAZ	Moumakai	6.49	222	P		P	22 30 20.5	+2.5
URZ	Urewera	6.52	205	P		P	22 30 19.6	+0.7
	3.1nm,0.3s,baz=277,slow=6.4,SNR=7.4							
URZ				S		S	22 31 39.7	+1.2
	7.8nm,0.3s,baz=91,slow=24,SNR=16							
SNGZ	Shannon Statio	6.92	201	P		Pn	22 30 21.4	-1.4
SNGZ				S		S	22 31 47.8	+1.1
KNZ	Kokohu	7.05	199	P		P	22 30 26.8	+2.1
KNZ				S		S	22 31 49.1	0.0
BKZ	Black Stump Fm	7.55	205	S		S	22 31 59.1	-0.7
DVHZ	Dannevirke	8.68	203	P		P	22 30 42.8	-0.1
DVHZ				S		S	22 32 21.8	-1.5
ANWZ	Angora Road	8.72	201	P		P	22 30 45.9	+2.6
ANWZ				S		S	22 32 23.2	-1.2
PRWZ	Pori Road	8.97	203	P		P	22 30 47.1	+1.0
PRWZ				S		S	22 32 29.8	+0.2
BFZ	Birch Farm	9.00	202	P		Pn	22 30 46.4	0.0
BFZ				S		S	22 32 29.7	-0.4
TIWZ	Tintock	9.20	203	P		Pn	22 30 48.7	0.0
TIWZ				P		S	22 32 34.1	-0.3
CPWZ	Castlepoint	9.22	201	P		S	22 32 39.3	+4.5
HOWZ	Holdsworth Sta	9.43	204	P		P	22 30 48.8	-2.5
HOWZ				S		S	22 32 36.0	-3.2
KIW	Kapiti Island	9.62	207	P		P	22 30 52.6	-0.7
KIW				S		S	22 32 39.4	-3.7
CAW	Cannon Point	9.78	205	P		Pn	22 30 55.6	+0.2
CAW				S		S	22 32 45.1	-1.2
TRWZ	Traveller	9.82	202	P		Pn	22 30 57.2	+1.3
TRWZ				P		S	22 32 46.2	-1.0
DUWZ	D'Urville Isla	9.97	211	P		Pn	22 30 57.2	-0.4
DUWZ				S		S	22 32 50.3	0.0
MSWZ	Moikau Station	9.98	204	P		Pn	22 30 58.7	+0.9
MSWZ				S		S	22 32 48.1	-2.4
BHW	Baring Head	10.11	205	P		P	22 30 58.5	-0.2
BHW				S		S	22 32 53.0	0.0
PLWZ	Palliser	10.12	203	P		Pn	22 30 59.4	0.0
PLWZ				S		S	22 32 53.4	+0.1
TCW	Tory Channel	10.16	208	P		P	22 30 58.3	-1.1
TCW				S		S	22 32 52.7	-1.5
TUWZ	Tuamarina	10.48

PTGA	Pitinga	17.51	17	P		Pn	22 52 37.9	+1.2
	0.6nm,0.3s,baz=350,slow=23,SNR=7.4							
PTGA	Pitinga	17.51	17	eP		Pn	22 52 37.3	+0.7
PRPB	Parauapebas	18.66	54	eP		P	22 52 49.2	-1.3
MALB	Monte Alegre	18.87	35	eP		P	22 52 53.4	+0.5
PARB	Paraibuna	18.94	111	eP		P	22 52 52.0	-1.6
SMTB	Santa Maria do	18.99	65	eP		P	22 52 54.4	+0.2
BSCB	Bom Sucesso	19.31	103	eP		P	22 52 55.8	-1.9
JANB	Januaria	19.95	86	eP		P	22 53 03.3	-1.4
SDBA	SAO DESIDERIO	20.02	78	eP		P	22 53 04.2	-1.3
TRQA	Tornquist	20.49	173	eP		P	22 53 06.9	-3.5
MCPB	Macapa, AP	21.34	38	eP		P	22 53 19.9	+0.1
OTAV	Otavalo	22.21	322	eP		P	22 53 28.0	-1.5
TMAB	Tom-Au,PA,Br	22.44	49	eP		P	22 53 32.3	+0.7
PLCA	Paso Flores	23.51	191	P		P	22 53 45.7	+3.2
	1.4nm,0.9s,baz=1.2,slow=13,SNR=4.0							
GDU01	Guandu, BA	24.71	85	eP		P	22 53 52.9	-1.0
ROSB	Rosrio	25.13	57	eP		P	22 53 57.1	-0.6
SDV	Santo Domingo	26.96	347	eP		P	22 54 13.5	-1.0
SNAA	Sanae	64.72	162	P		P	22 59 14.8	+4.5
	0.5nm,0.8s,baz=286,slow=8.2,SNR=1.9							
TORD	Torodi Ar. Bea	72.52	70	P		P	23 00 01.5	+1.6
	0.4nm,0.4s,baz=258,slow=5.2,SNR=5.5							
QSPA	South Pole Qui	72.52	180	P		P	23 00 02.8	+3.5
	1.3nm,1.1s,baz=131,slow=2.8,SNR=6.2							

*IDC **01** 22:50:06.8±2.4,52°.41N×171°.17W,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.5/58,mbtmp3.8/8,ML3.0/2,Error ellipse: s-maj=69.3km s-min=28.0km az=161.0*
*AEIC **01** 22:50:10±1.3,52°.1N±0°.2×171°.2W±0°.1,h27km±8km,ML3.1, Error ellipse: s-maj=23.6km s-min=3.9km az=156.0*
*NEIC **01** 22:50:12.8±1.4,52°.2N±0°.4×171°.2W±0°.2,h46km±53km, Error ellipse: s-maj=56.5km s-min=1.6km az=165.0*
ISC 01 22:50:11.8±1.9,52°.1N±0°.3×171°.2W±0°.1,h42km,n43, σ1§15/40,**mb4.0/6,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.64	58		Pn	22 50 37.2	-0.9
NIKH	Nikolski High	1.64	58		Sn	22 50 56.1	-2.0
NIKH	Nikolski High	1.64	58		Sn	22 50 56.6	-1.4
ATKA	Atka Island	1.88	274		Pn	22 50 40.8	-0.5
ATKA	Atka Island	1.88	274		Sn	22 51 03.0	-0.8
OKSP	Okmok Steeple	2.08	56		Pn	22 50 44.2	+0.1
OKCE	Okmok Cone E	2.24	53		Pn	22 50 47.8	+1.5
OKNC	Okmok New Cone	2.28	53		Pn	22 50 47.6	+0.8
OKFG	Magazine Ridge	2.36	55		Pn	22 50 48.5	+0.6
OKFG					Sn	22 51 17.2	+1.6
GSTR	Great Sitkin T	3.03	272		Pn	22 50 57.5	+0.3
GSMY	Great Sitkin M	3.03	271		Pn	22 50 58.5	+1.3
MAPS	Pakushin South	3.06	55		Pn	22 50 58.3	+0.7
GSTD	Great Sitkin T	3.08	271		Pn	22 50 58.2	+0.2
MGOD	Makushin Gods	3.08	55		Pn	22 50 59.0	+1.0
MREP	Makushin Rep't	3.16	56		Pn	22 51 00.1	+1.1
MSW	Makushin Switc	3.19	54		Pn	22 51 00.7	+1.2
MNAT	Makushin Natee	3.23	55		Pn	22 51 00.6	+0.7
MNAT					Sn	22 51 38.1	+1.0
UNV	Unalaska Valle	3.30	57		Pn	22 50 59.0	-1.8
ADAG	Mount Adagdak	3.37	270		Pn	22 51 02.4	+0.6
ADK	Adak	3.43	268		Pn	22 51 02.5	-0.1
ADK				Sn	Sn	22 51 42.5	+0.6
AKBBA	Akutan Broad B	3.72	56		Pn	22 51 09.0	+2.4
KIKV	Kanaga Island	3.73	269		Pn	22 51 08.0	+1.3
AKGG	Akutan Green G	3.74	54		Pn	22 51 09.8	+2.9
KIMD	Kanaga Island	3.78	267		Pn	22 51 08.4	+0.9
AKUT	Akutan	3.82	56	Pn	Pn	22 51 08.9	+1.0
TAFP	Tanaga Falls P	4.23	270		Pn	22 51 14.5	+0.9
AMKA	Amchitka	5.98	267		Pn	22 51 37.7	+0.1
KDAK	Kodiak Island	12.07	55	Pn	Pn	22 53 00.8	-0.1
	0.1nm,0.3s,baz=236,slow=11,SNR=1.9						
PETK	Petropavlovsk-	18.87	285	Pn	Pn	22 54 29.5	+0.4
	0.2nm,0.3s,baz=78,slow=13,SNR=2.2						
H11N2	WAKE ISLAND Hy	36.59	216	T	T	23 36 17.3	
	baz=22,slow=74						
H11N3	WAKE ISLAND Hy	36.59	216	T	T	23 36 07.2	
	baz=22,slow=74						
H11N1	WAKE ISLAND Hy	36.60	216	T	T	23 36 08.2	
	baz=22						
H11S1	WAKE ISLAND Hy	37.78	216	T	T	23 38 05.5	
	baz=22,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy	37.80	216	T	T	23 38 08.4	
	baz=22,slow=76,SNR=16						
H11S3	WAKE ISLAND Hy	37.80	216	T	T	23 37 58.0	
	baz=22,slow=76,SNR=16						
SONM	Songino Array	50.48	300	P	P	22 59 05.6	+0.2
	0.2nm,0.3s,baz=44,slow=6.4,SNR=2.6						
ARCES	ARCESS Array B	58.05	353	P	P	22 59 59.0	-0.9
	2.5nm,0.9s,baz=21,slow=10,SNR=3.7						
MKAR	Makanchi Array	63.17	312	P	P	23 00 33.7	-1.5
	0.2nm,0.5s,baz=35,slow=5.9,SNR=4.6						
FINES	FINESS Array B	65.96	351	P	P	23 00 52.6	-0.4
	1.5nm,0.9s,baz=23,slow=8.3,SNR=4.6						
CMAR	Chiang Mai Arr	75.60	281	P	P	23 01 52.9	+0.6
	1.4nm,0.6s,baz=23,slow=6.7,SNR=7.0						
BRTR	Keskin Array B	86.02	341	P	P	23 02 47.6	-0.1
	0.5nm,0.7s,baz=358,slow=4.4,SNR=3.0						
LBTB	Lobatse	150.09	328	PKPbc	PKiKP	23 09 58.5	-0.1
	1.7nm,0.4s,baz=249,slow=0.7,SNR=7.0						
BOSA	Boshof	153.53	326	PKPbc	PKiKP	23 10 06.9	+1.2
	1.3nm,0.6s,baz=349,slow=5.2,SNR=1.6						

*VAO **01** 22:55:17.6±0.5,15°.09S×74°.87W,h10km,mb5.1*
*ARE **01** 22:55:19±2.5,15°.21S±0°.07×75°.30W±0°.06,h60km±4km, Error ellipse: s-maj=11.5km s-min=6.1km az=219.0*
*NEIC **01** 22:55:21.8±1.2,15°.01S±0°.05×74°.91W±0°.08,h60km±5km, mb5.2/146,Mww5.2,ML5.5(ARE),Error ellipse: s-maj=13.8km s-min=0.7km az=59.0*
*MOS **01** 22:55:21.5±1.3,14°.98S×74°.95W,h67km,mb5.4/20,Error ellipse: s-maj=10.8km s-min=6.1km az=113.2*
*UNK **01** 22:55:22.2,15°.09S×74°.98W,h62km*
*IDC **01** 22:55:23.1±0.4,14°.91S×74°.87W,h67km±3km,mb4.5/28, mb1 4.5/32,mb1mx4.5/44,mbtmp4.7/32,MS4.3/19, Ms1 4.3/19,ms1mx4.2/26,Error ellipse: s-maj=13.2km s-min=8.7km az=67.0*
*GUC **01** 22:55:23.8±0.7,14°.77S×74°.67W,h55km±12km,ML5.2, MW5.2*
*GCMT **01** 22:55:23.8±0.1,15°.07S±0°.01×74°.91W±0°.01,h84km±1km, MW5.2/125,Moment Tensor Solution. s119,c176; s125,c207; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.49±.01; Mθθ-0.59±.01; Mφφ0.09±.02; Mrθ-0.34±.01; Mφφ0.46±.01; Mφr0.55±.01; Best double couple: M0 0.95400×10^17 NP1:φs85.00000°,δ34.00000°, λ37.00000°. NP2:φs323.00000°,δ71.00000°,λ118.00000°. Principal axes: T 0.8760, Plg55.0000°, Azm269.0000°; N 0.1560, Plg26.0000°, Azm133.0000°; P -1.0320, Plg21.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 22:55:25,15°.39S×75°.28W,h60km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr5.58; Mθθ-5.79; Mφφ0.21; Mrθ-2.50; Mφφ2.51; Mφr4.88; Fault plane solution: Mo8.29000×10^16 NP1:φs86.00000°, δ33.00000°,λ46.00000°. NP2:φs316.00000°,δ67.00000°, λ115.00000°. Principal axes: T 8.5241, Plg60.0000°, Azm262.0000°; N -0.4888, Plg23.0000°, Azm126.0000°; P -8.0353, Plg18.0000°, Azm28.0000°;*
ISC 01 22:55:20.3±0.3,15°.04S±0°.04×74°.92W±0°.05,h44km,n770, σ1§12/751,**mb5.1/98,MS4.6/24,11C-9D,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	3.56	328	P	Pn	22 56 14.5	+1.4
NNA						22 56 55.5	
NNA	Nana	3.56	328		Pn	22 56 14.5	+1.4
NNA				Sn	Sn	22 56 55.5	+1.5
AP01	Chacalluta	5.50	128	eP	Pn	22 56 42.8	+3.1
AP01				i S	Sn	22 57 40.5	-1.1
PB12	IPOC Station P	5.66	130	⇑iP	Pn	22 56 43.5	+1.6
PB12				i S	Sn	22 57 42.8	-3.0
PB12	IPOC Station P	5.66	130		Pn	22 56 43.3	+1.3
PB16	IPOC Station P	6.14	123	eP	Pn	22 56 51.8	+2.8
PB16				i S	Sn	22 57 56.6	-1.6
PB16	IPOC Station P	6.14	123		Pn	22 56 52.0	+3.0
PSGC	Pisagua	6.45	135	eP	Pn	22 56 54.0	+1.2
PSGC				i S	Sn	22 57 58.5	-6.7
PSGCX	Pisagua	6.45	135		Pn	22 56 54.0	+1.2
MNMC	Minye Minye	6.52	129	eP	Pn	22 56 55.7	+1.7
MNMC				i S	Sn	22 58 04.9	-2.3
MNMC	Minye Minye	6.52	129		Pn	22 56 55.6	+1.7
LPAZ	La Paz	6.66	102	P	Pn	22 57 02.9	+6.7
	7.5nm,0.3s,baz=316,slow=6.6,SNR=18						
LPAZ				LR	LR	22 59 11.0	
	comp=Z,949nm,20.2s,baz=272,slow=34						
LPAZ	La Paz	6.66	102	eP	Pn	22 57 04.0	+7.8
LPAZ	La Paz	6.66	102	P	Pn	22 57 00.9	+4.7
LPAZ	La Paz	6.66	102	Pn	Pn	22 57 00.8	+4.7
PB11	IPOC Station P	6.88	134	Pn	Pn	22 57 00.2	+1.4
TA01	Diego Aracena	7.11	141		Pn	22 57 03.9	+2.0
GO01	Chusmiza	7.15	131	eP	Pn	22 57 04.9	+2.1
GO01				i S	Sn	22 58 23.3	+0.3
GO01	Chusmiza	7.15	131		Pn	22 57 04.9	+2.1
PATCX	Punta Patache	7.33	142		Pn	22 57 06.5	+1.6
PB08	IPOC Station P	7.48	134		Pn	22 57 09.4	+2.1
CZSB	Cruzeiro do Su	7.58	17	eP	Pn	22 57 11.0	+2.7
CZSB				eS	Sn	22 58 35.4	+2.4
PB01	IPOC Station P	7.90	140		Pn	22 57 14.6	+1.8
PB07	IPOC Station P	8.19	145		Pn	22 57 18.2	+1.3
PB04	IPOC Station P	8.55	149		Pn	22 57 22.7	+1.0
ATAH	Atahualpa	8.56	336	P	Pn	22 57 28.2	+6.1
	4.6nm,0.3s,baz=171,slow=5.7,SNR=28						
ATAH				S	Sn	22 58 58.4	+0.8
	6.1nm,0.3s,baz=180,slow=18,SNR=2.5						
PB09	IPOC Station P	8.62	142		Pn	22 57 25.6	+3.0
PB06	IPOC Station P	9.15	147		Pn	22 57 31.3	+1.3
PB10	IPOC Station P	9.38	155	Pn	Pn	22 57 33.5	+0.5
LVC	Limon Verde	9.44	144	P	Pn	22 57 37.7	+3.6
	6.9nm,0.3s,baz=306,slow=9.4,SNR=32						
LVC				S	Sn	22 59 16.9	-2.2
	16nm,0.3s,baz=95,slow=23,SNR=6.5						
LVC	Limon Verde	9.44	144	Pn	Pn	22 57 36.7	+2.6
PB15	IPOC Station P	9.62	148		Pn	22 57 37.9	+1.5
ETMB	Extrema	9.96	60	eP	Pn	22 57 42.7	+1.8
PB14	IPOC Station P	10.44	157	Pn	Pn	22 57 48.3	+0.6
GO02	Mina Guanaco	11.25	154		Pn	22 58 00.5	+1.7
AC01	Pan de Azucar	11.77	161	Pn	Pn	22 58 06.0	+0.3
SAML	Samuel	12.97	64	P	Pn	22 58 22.1	0.0
SAML	Samuel	12.97	64		Pn	22 58 22.1	0.0
SAML	Samuel	12.97	64	eP	Pn	22 58 22.2	+0.1
GO03	Copiap	13.23	162		Pn	22 58 26.6	+0.9
SIV	San Ignacio	13.38	96	P	Pn	22 58 30.7	+2.9
	1.0nm,0.3s,baz=283,slow=11,SNR=5.9						
SIV				LR	LR	23 04 30.7	
	comp=Z,3μm,21.2s,baz=290,slow=41						
AC05	El Transito	14.39	163	Pn	Pn	22 58 42.6	+1.1
VILB	Vilhena	14.44	84	eP	Pn	22 58 42.0	-0.1
LCO	Las Campanas	14.45	165	P	Pn	22 58 44.4	+2.1
LCO	Las Campanas	14.45	165	Pn	Pn	22 58 44.4	+2.1
PTLC	Puerto Leguiza	15.11	0	eP	Pn	22 58 45.7	-5.3
PTLB	Pontes e Lacer	15.24	94	eP	Pn	22 58 53.8	+1.2
GO04	Tololo Observa	15.54	167		Pn	22 58 57.5	+0.9
OTAV	Otavalo	15.57	347	eP	P	22 59 00.7	-0.3
OTAV	Otavalo	15.57	347	P	P	22 59 00.0	-1.1
OTAV				pmax	pmax		
	comp=Z,106nm,1.2s						
OTAV	Otavalo	15.57	347		P	22 59 00.0	-1.1
PUAC	Puerto Asis, P	15.57	354	eP	Pn	22 58 57.7	+0.8
CMBC	Cumbal	16.13	349	eP	P	22 59 11.6	+4.3
GCUF	Volcan Galeras	16.34	351	eP	P	22 59 09.9	+0.3
CO02	Combarbal	16.49	168	Pn	Pn	22 59 09.0	+0.3
CO02				IAmb	IAmb	22 59 29.9	
	comp=Z,505nm,1.9s						
FLOC	Florencia	16.53	357	eP	P	22 59 10.3	-0.9
FLOC	Florencia	16.53	357		Pn	22 59 10.0	+0.8
CRUC	La Cruz	16.62	353	eP	P	22 59 13.1	+0.5
BBAC	Balboa, Cauca	17.10	352	eP	P	22 59 19.5	+1.8
MACC	Macarena, Meta	17.10	4	eP	Pn	22 59 16.1	-0.3
GARC	Garzon, Huila	17.12	358	eP	P	22 59 18.0	0.0
PCON	Cinco Dias	17.31	355	eP	P	22 59 21.8	+1.3
ZON	Zonda	17.40	162	P	P	22 59 21.2	+0.4
ZON				pmax	pmax		
	comp=Z,120nm,1.7s						
ZON	Zonda	17.40	162	P	P	22 59 21.2	+0.4
POPC	Popayan, Colom	17.55	354	eP	P	22 59 24.0	+1.2
BETC	Betania	17.61	358	eP	P	22 59 23.9	+0.7
GUVC	San Jose del G	17.61	8	eP	Pn	22 59 22.0	-0.7
ROC1	El Roble	18.21	169	P	Pn	22 59 30.7	+0.6
MACA	Manacapuru-AM	18.33	51	eP	Pn	22 59 32.1	+0.6
PEL	Peldehue	18.43	169	P	P	22 59 32.1	-0.1
PEL				pmax	pmax		
	comp=Z,37nm,0.9s						
PEL	Peldehue	18.43	169		P	22 59 32.1	-0.1
PRAC	Prado	18.63	0	eP	Pn	22 59 36.2	+1.1
H03N1	Juan Fernandez	18.68	190	T	T	23 18 31.3	
	baz=13,slow=74,SNR=3681						
H03N2	Juan Fernandez	18.68	191	T	T	23 18 29.2	
	baz=13,slow=74,SNR=1780						
H03N3	Juan Fernandez	18.69	190	T	T	23 18 28.7	
	baz=13,slow=74,SNR=3337						
ORTC	Ortega, Tolima	18.83	359	eP	Pn	22 59 38.0	+0.6
YOTC	Yotoco, Valle	18.95	356	eP	P	22 59 37.3	-0.7
VILC	Villavicencio,	19.06	4	eP	Pn	22 59 40.0	-0.3
AQDB	Aquidauana	19.08	109	eP	Pn	22 59 40.2	-0.3
CLDB	Colider	19.09	80	eP	P	22 59 39.0	-0.5
ANIL	Santa Ana	19.41	359	eP	P	22 59 43.3	+0.1
TOLC	Tolima	19.50	359	eP	Pn	22 59 46.1	+0.3
CHIC	Chingaza	19.57	4	eP	Pn	22 59 46.8	+0.1
ROSC	El Rosal	19.76	2	P	P	22 59 46.6	-0.5
	comp=Z,1.0nm,0.3s,baz=300,slow=23,SNR=1.4						
ROSC				LR	LR	23 08 25.1	
	comp=Z,1μm,18.3s,baz=214,slow=40						
ROSC	El Rosal	19.76	2	eP	Pn	22 59 51.9	+3.0
ROSC	El Rosal	19.76	2	P	P	22 59 47.8	+0.6
ROSC				IAmb	IAmb	23 00 22.3	
	comp=Z,133nm,0.9s						
CPUP	Villa Florida	19.90	127	P	Pn	22 59 50.5	+0.4
	comp=Z,0.2nm,0.3s,baz=299,slow=11,SNR=9.8						
CPUP				LR	LR	23 09 46.2	
	comp=Z,276nm,18.4s,baz=298,slow=43						
CPUP	Villa Florida	19.90	127	P	P	22 59 48.8	+0.6
CPUP	Villa Florida	19.90	127	eP	P	22 59 49.1	+0.8
BO02	Sierra Bellavi	20.02	170	P	P	22 59 49.2	-0.3
GUY2C	Guyana, Caldas	20.13	359	eP	Pn	22 59 53.7	+0.3
NORC	Norcasia	20.47	0	eP	P	22 59 55.5	+1.0
PTGA	Pitinga	20.50	47	P	P	22 59 55.6	+0.8
	comp=Z,35nm,1.0s,baz=226,slow=12,SNR=21						
PTGA				LR	LR	23 08 24.2	
	comp=Z,3μm,19.1s,baz=230,slow=38						
PTGA	Pitinga	20.50	47	P	P	22 59 54.8	0.0
PTGA				IAmb	IAmb	23 00 15.1	
	comp=Z,79nm,0.8s						
PTGA	Pitinga	20.50	47	eP	P	22 59 55.9	+1.0
SPBC	San Pablo de B	20.57	2	eP	P	22 59 56.8	+1.1
NPGB	Novo Progresso	20.76	70	eP	P	22 59 57.4	-0.4
CBOC	Ciudad Bolivar	20.79	357	eP	P	22 59 58.6	+0.5
PAYG	Puerto Ayora	20.84	312	P	P	22 59 58.9	+0.5
PAYG				IAmb	IAmb	23 00 11.7	
	comp=Z,133nm,1.2s						
RUSC	La Rusia	20.87	5	eP	Pn	23 00 01.1	-1.1
RUSC	La Rusia	20.87	5	P	Pn	23 00 01.1	-1.1
HELC	Santa Helena	21.10	358	eP	P	23 00 02.2	+0.6
PTBC	PUERTO BERRIO,	21.44	1	eP	P	23 00 04.3	-0.7
TAMC	Tame, Arauca	21.56	8	eP	P	23 00 01.7	-4.5
BARC	Barichara	21.56	5	eP	P	23 00 06.5	+0.1
ITTB	Itaituba	21.66	63	eP	P	23 00 07.0	-0.3
BI02	San Fabin de	21.78	172	P	P	23 00 08.8	+0.3
DBBC	Dabeiba	21.95	357	eP	P	23 00 10.7	+0.3
BRRC	Barranca, Sant	22.03	3	eP	P	23 00 07.9	-3.4
ARAG	Araguaiana, MT	22.29	95	eP	P	23 00 15.4	+1.3
ZARC	Zaragoza, Cauc	22.38	0	eP	P	23 00 14.5	-0.5
UREC	San Jos de Ur	22.65	358	eP	P	23 00 17.3	-0.6
OCAC	Ocana	23.18	4	eP	P	23 00 21.8	-1.7
AZU	Azuero	23.29	346	eP	P	23 00 26.1	+1.7
PCMB	Pacaembu	23.38	110	eP	P	23 00 26.0	+0.7
PTGB	Pitanga	23.52	118	eP	P	23 00 27.1	+0.4
CAPC	Capurgana	23.64	354	eP	pP	23 00 41.0	+1.7
MOTC	Monteria, Cord	23.67	358	eP	P	23 00 28.5	+0.5
SMLC	San Martn de	23.70	2	eP	P	23 00 26.7	-1.6
ITRB	Iturama	23.89	105	eP	P	23 00 31.3	+1.2
LC01	Cunco	23.92	174	P	P	23 00 30.1	-0.1
SDV	Santo Domingo	24.14	10	P	P	23 00 33.6	+1.0
	comp=Z,32nm,0.8s,baz=198,slow=8.1,SNR=18						
SDV	Santo Domingo	24.14	10	eP	P	23 00 32.9	+0.2
SDV	Santo Domingo	24.14	10	P	P	23 00 31.9	-0.8
SDV				IAmb	IAmb	23 01 02.7	
	comp=Z,102nm,1.1s						
SDV	Santo Domingo	24.14	10	eP	P	23 00 33.5	+0.9
UPA	Univ. de Panam	24.30	349	eP	pP	23 00 47.9	+2.1
ITAB	Concordia	24.43	123	eP	P	23 00 35.9	+0.9
BCIP	Isla Barro Col	24.54	348	P	P	23 00 37.4	+1.4
BCIP				pmax	pmax		
	comp=Z,165nm,1.6s						
BCIP	Isla Barro Col	24.54	348	P	P	23 00 37.4	+1.4
BCIP				IAmb	IAmb	23 01 16.1	
	comp=Z,165nm,1.6s						
ARGC	Ariguani, Magd	24.74	2	eP	P	23 00 39.6	+1.8
SJCC	San Jacinto, C	24.77	359	eP	P	23 00 39.5	+1.3
BAUV	El Baul	24.78	16	eP	P	23 00 37.8	-0.5
CPSB	Cacapava Do Su	24.96	131	eP	P	23 00 39.9	+0.1
FRTB	Fartura	25.30	113	eP	P	23 00 44.3	+1.3
PLTB	Pedras Altas	25.61	134	eP	P	23 00 46.2	+0.6
IPMB	Ipameri, GO	25.77	100	eP	P	23 00 47.9	+0.6
BB19B	Bebedouro	25.78	107	eP	P	23 00 48.7	+1.3
PLCA	Paso Flores	25.88	172	P	P	23 00 49.2	+1.1
	comp=Z,12nm,0.9s,baz=345,slow=9.4,SNR=22						
PLCA				pP	sP	23 01 06.1	+0.8
	comp=Z,12nm,0.7s,baz=345,slow=10,SNR=12						
PLCA				PcP	PcP	23 04 16.1	-0.2
	comp=Z,2.7nm,0.8s,baz=341,slow=2.5,SNR=3.0						
PLCA				LR	LR	23 09 19.0	
	comp=Z,260nm,20.1s,baz=352,slow=32						
PLCA	Paso Flores	25.88	172	P	P	23 00 48.2	+0.1
PLCA	Paso Flores	25.88	172	eP	P	23 00 49.1	+1.1
BDFB	Brasilia	25.95	95	P	P	23 00 49.5	+0.5
	comp=Z,6.2nm,0.8s,baz=307,slow=8.1,SNR=4.4						
BDFB				LR	LR	23 12 12.8	
	comp=Z,1μm,19.6s,baz=278,slow=39						
BDFB	Brasilia	25.95	95	P	P	23 00 48.9	-0.2
PEXB	Peixe	26.03	87	eP	P	23 00 49.8	+0.1
PRPB	Parauapebas	26.18	73	eP	P	23 00 51.5	+0.5
TIJ01	Guaruva-PR	26.34	117	eP	P	23 00 53.7	+1.2
CNLB	Canela	26.36	127	eP	P	23 00 53.8	+1.3
MCPB	Macapa, AP	26.89	59	eP	P	23 00 58.4	+1.0
PCRV	Puerto La Cruz	27.04	23	P	P	23 00 57.4	-1.4
	comp=Z,40nm,1.2s,baz=191,slow=6.4,SNR=8.1						
SPB	Sao Paulo	27.26	112	P	P	23 01 00.8	+0.2
SPB	Sao Paulo	27.26	112	eP	P	23 01 01.9	+1.2
LL01	San Ignacio de	27.33	176	P	P	23 01 00.5	-0.5
SMTB	Santa Maria do	27.42	80	eP	P	23 01 02.3	+0.1
VAO	Valinhos	27.55	111	eP	P	23 01 04.6	+1.2
HATO	Hato, Curacao	27.68	13	P	P	23 01 03.1	-1.2
PARB	Paraibuna	28.83	111	eP	P	23 01 15.2	+0.4
BSCB	Bom Sucesso	29.25	106	eP	P	23 01 20.4	+1.9
SDBA	SAO DESIDERIO	29.27	89	eP	P	23 01 19.4	+0.8
JANB	Januaria	29.55	94	eP	P	23 01 21.5	+0.4
MDP	Montagnes des	29.80	49	P	P	23 01 22.3	-1.0
	comp=Z,8.9nm,1.1s,baz=238,slow=10,SNR=5.2						
MC01	Montes Claros	29.83	97	eP	P	23 01 23.8	+0.1
MAN01	Angra dos Reis	30.25	110	eP	P	23 01 28.4	+1.1
BSFB	Barra de Sao F	32.78	101	eP	P	23 01 50.3	+0.7
RIB01	Linhares ES	33.23	102	eP	P	23 01 54.6	+1.1
OBIP	Obispado Ponce	33.88	14	P	P	23 01 58.4	-0.5
OBIP				IAmb	IAmb	23 02 40.4	
	comp=Z,25nm,0.9s						
PDPR	Patillas Dam,	34.00	15	P	P	23 01 58.8	-1.2
GDU01	Guandu, BA	34.24	92	eP	P	23 02 03.4	+1.0
SC01	Santiago de lo	34.49	7	P	P	23 02 04.5	+0.1
ANWB	Willy Bob	34.98	22	eP	P	23 02 09.9	+1.3
ANWB	Willy Bob	34.98	22	P	P	23 02 06.1	-2.5
TEIG	Tepich	37.42	339	P	P	23 02 29.2	-0.1
	comp=Z,29nm,0.9s,baz=144,slow=8.7,SNR=4.6						
TEIG	Tepich	37.42	339	P	P	23 02 28.1	-1.2
TEIG				IAmb	IAmb	23 02 30.6	
	comp=Z,32nm,0.9s						
CMIG	Matias Romero	37.51	328	P	P	23 02 31.0	+0.8
	comp=Z,8.0nm,1.0s,baz=108,slow=9.2,SNR=3.0						
RCBR	Riachuelo	39.39	81	P	P	23 02 47.0	+0.8
	comp=Z,6.0nm,0.9s,baz=279,slow=10,SNR=4.1						
RCBR				pP	sP	23 03 02.9	-1.2
	comp=Z,24nm,0.9s,baz=255,slow=9.1,SNR=6.6						
RCBR	Riachuelo	39.39	81	P	P	23 02 44.7	-1.5
RCBR				IAmb	IAmb	23 03 04.1	
	comp=Z,32nm,1.0s						
RCBR	Riachuel

435B	Jarrell	50.50	335	P	P	23 04 14.3 +0.2
	baz=151					
X48A	Hartselle	50.55	347	P	P	23 04 13.3 -1.1
W52A	Murphy	50.58	350	P	P	23 04 13.9 -0.8
W52A				IAmb	IAmb	23 04 14.7
	comp=Z,21nm,1.1s					
V59A	Middlesex	50.62	357	P	P	23 04 14.8 -0.1
	baz=176,SNR=9.2					
V58A	Windy Hill, Pi	50.71	356	P	P	23 04 15.2 -0.4
	baz=175,SNR=10					
V58A	Windy Hill, Pi	50.71	356	P	P	23 04 14.9 -0.7
V58A				IAmb	IAmb	23 04 16.4
	comp=Z,30nm,1.1s					
V56A	Mocksville	50.84	354	P	P	23 04 16.0 -0.6
	baz=173,SNR=13					
V57A	Coltrane Farms	50.85	355	P	P	23 04 16.1 -0.6
	baz=174,SNR=10					
V55A	Taylorsville	50.96	353	P	P	23 04 17.2 -0.3
	baz=172,SNR=7.8					
Z41A	Richland Creek	50.97	341	P	P	23 04 17.6 0.0
	baz=158					
Z41A	Richland Creek	50.97	341	P	P	23 04 17.4 -0.2
V54A	Nebo	50.97	353	P	P	23 04 17.0 -0.6
	baz=171,SNR=9.7					
V53A	Saluda	50.98	352	P	P	23 04 16.7 -1.1
CPCT	Cooper Cave	51.03	350	P	P	23 04 16.4 -1.6
CPCT				IAmb	IAmb	23 04 18.6
	comp=Z,44nm,1.7s					
TKL	Tuckaleechee C	51.11	351	P	P	23 04 17.6 -1.1
	comp=Z,8.0nm,1.1s,baz=176,slow=8.9,SNR=8.4					
TKL				pP	sP	23 04 34.6 -1.8
	comp=Z,3.2nm,0.7s,baz=244,slow=6.9,SNR=2.6					
TKL	Tuckaleechee C	51.11	351	P	P	23 04 17.9 -0.8
TKL				IAmb	IAmb	23 04 18.9
	comp=Z,36nm,1.4s					
OXF	Oxford	51.16	345	P	P	23 04 17.5 -1.5
	baz=162					
U59A	Littleton	51.18	357	P	P	23 04 19.1 0.0
	baz=176					
JCT	Junction City	51.20	332	P	P	23 04 19.3 -0.2
JCT				pmax	pmax	
	comp=Z,21nm,1.1s					
JCT	Junction City	51.20	332	P	P	23 04 19.2 -0.2
	baz=149					
JCT	Junction City	51.20	332	P	P	23 04 19.3 -0.2
JCT				IAmb	IAmb	23 04 20.4
	comp=Z,21nm,1.1s					
V52A	Sevierville	51.26	351	P	P	23 04 18.9 -0.9
V52A				IAmb	IAmb	23 04 19.5
	comp=Z,26nm,1.0s					
U58A	Oxford	51.27	356	P	P	23 04 19.3 -0.5
	baz=176,SNR=6.2					
U60A	Pendleton	51.27	358	P	P	23 04 19.6 -0.2
	baz=177					
PLAL	Pickwick Lake	51.29	346	P	P	23 04 18.6 -1.4
U57A	Blanch	51.36	355	P	P	23 04 20.0 -0.5
	baz=175,SNR=11					
U56A	King	51.36	354	P	P	23 04 20.5 0.0
	baz=173,SNR=9.9					
WLAR	White Oak Lake	51.46	341	P	P	23 04 21.2 -0.1
WHTX	Lake Whitney,	51.51	335	P	P	23 04 21.6 -0.1
	baz=152,SNR=6.7					
WHTX	Lake Whitney,	51.51	335	P	P	23 04 21.7 -0.1
X43A	Marvell	51.56	343	P	P	23 04 22.3 +0.2
	baz=160					
U55A	TA2, Sparta	51.58	354	P	P	23 04 21.8 -0.5
	baz=172					
U54A	Nelsons Funny	51.69	353	P	P	23 04 22.1 -1.0
	baz=172,SNR=7.5					
T59A	Double "B" Far	51.79	357	P	P	23 04 23.5 -0.2
	baz=177,SNR=7.7					
T58A	Grand View Acr	51.81	356	P	P	23 04 23.5 -0.4
	baz=176,SNR=13					
T57A	Hurt	51.91	356	P	P	23 04 24.4 -0.3
	baz=175,SNR=18					
T57A	Hurt	51.91	356	P	P	23 04 24.2 -0.4
T60A	Surry	51.92	358	P	P	23 04 24.8 +0.2
	baz=178					
TZTN	Tazewell	51.94	351	P	P	23 04 23.6 -1.3
	baz=170					
T56A	Rocky Mt	52.01	355	P	P	23 04 25.4 0.0
	baz=174,SNR=7.8					
X40A	Basin Creek Fa	52.11	341	P	P	23 04 25.5 -0.7
	baz=158					
TXAR	Lajitas Array	52.12	328	P	P	23 04 26.4 -0.1
	comp=Z,12nm,0.7s,baz=149,slow=8.9,SNR=96					
TXAR				LR	LR	23 24 30.7
	comp=Z,128nm,19.9s,baz=0.0,slow=34					
TXAR	Lajitas Array	52.12	328	P	P	23 04 26.2 -0.2
TX31	Lajitas Ar. Si	52.12	328	P	P	23 04 26.4 0.0
T55A	Pulaski	52.17	354	P	P	23 04 26.3 -0.3
	baz=173,SNR=8.7					
T54A	Tazewell	52.20	353	P	P	23 04 26.1 -0.7
	baz=172,SNR=7.9					
BLA	Blacksburg	52.22	354	P	P	23 04 26.6 -0.4
BLA				pmax	pmax	
	comp=Z,71nm,1.8s					
BLA	Blacksburg	52.22	354	P	P	23 04 26.8 -0.2
	baz=173					
BLA	Blacksburg	52.22	354	P	P	23 04 26.6 -0.4
UALR	University of	52.23	342	P	P	23 04 26.3 -0.7
UALR				IAmb	IAmb	23 05 04.7
	comp=Z,33nm,1.3s					
T53A	Wise	52.23	352	P	P	23 04 26.2 -0.9
	baz=171,SNR=12					
WVT	Waverly	52.33	347	P	P	23 04 25.8 -1.9
	baz=164					
MIAR	Mount Ida	52.40	341	P	P	23 04 27.6 -0.7
MIAR				pmax	pmax	
	comp=Z,20nm,1.2s					
MIAR	Mount Ida	52.40	341	P	P	23 04 27.6 -0.7
	baz=157,SNR=8.2					
MIAR	Mount Ida	52.40	341	P	P	23 04 27.6 -0.7
MIAR				IAmb	IAmb	23 05 07.2
	comp=Z,20nm,1.1s					
S58A	Poland Farm, P	52.45	357	P	P	23 04 28.4 -0.2
	baz=176					
S58A	Poland Farm, P	52.45	357	P	P	23 04 28.1 -0.4
S58A				IAmb	IAmb	23 04 29.6
	comp=Z,20nm,0.9s					
S59A	Mechanicsville	52.56	358	P	P	23 04 29.6 +0.2
	baz=177					
W41B	Gary Mavity, V	52.57	342	P	P	23 04 29.1 -0.4
	baz=159,SNR=5.6					
Z35A	Perchaven, San	52.61	336	P	P	23 04 29.5 -0.4
S57A	Dark Hollow, R	52.65	356	P	P	23 04 29.7 -0.4
	baz=175,SNR=13					
WHAR	Wooly Hollow	52.69	342	P	P	23 04 29.9 -0.6
WHAR				IAmb	IAmb	23 05 08.2
	comp=Z,44nm,1.5s					
S55A	Lewisburg	52.79	354	P	P	23 04 30.7 -0.5
	baz=173,SNR=13					
R58B	Mineral	52.79	357	P	P	23 04 31.2 +0.1
	baz=176,SNR=14					
S53A	Williamson	52.87	353	P	P	23 04 30.7 -1.0
	baz=171,SNR=5.4					
S54A	Dingess, Beckl	52.90	354	P	P	23 04 31.0 -1.0
	baz=172,SNR=9.1					
S54A	Dingess, Beckl	52.90	354	P	P	23 04 30.8 -1.1
S54A				IAmb	IAmb	23 04 32.4
	comp=Z,31nm,1.0s					
ABTX	Abilene, Hawle	52.97	334	P	P	23 04 32.5 -0.1
	baz=150,SNR=15					
ABTX	Abilene, Hawle	52.97	334	P	P	23 04 32.0 -0.5
R59A	King George, V	52.99	358	P	P	23 04 33.2 +0.6
	baz=177					
CBN	Corbin Frederi	53.01	358	P	P	23 04 32.6 -0.1
	baz=177					
X37A	Clayton	53.04	339	P	P	23 04 32.8 -0.3
X37A				IAmb	IAmb	23 04 34.2
	comp=Z,33nm,0.9s					
W39A	Magazine	53.07	341	P	P	23 04 33.2 0.0
	baz=157,SNR=7.6					
LCAR	Lake Charles	53.10	344	P	P	23 04 32.3 -1.1
R58A	Rapidan	53.13	357	P	P	23 04 33.6 0.0
	baz=176,SNR=9.8					
R57A	Stanardsville	53.16	356	P	P	23 04 34.0 +0.2
	baz=176,SNR=8.7					
R54A	Victor	53.24	354	P	P	23 04 33.5 -1.0
	baz=173,SNR=5.8					
R55A	Marlinton	53.26	355	P	P	23 04 34.6 0.0
	baz=174,SNR=5.8					
R56A	Bull Pasture M	53.33	356	P	P	23 04 34.5 -0.7
	baz=175					
R53A	Hurricane	53.49	353	P	P	23 04 35.0 -1.3
	baz=172					
Q58A	Fox Den Farm,	53.76	357	P	P	23 04 38.2 +0.1
	baz=177,SNR=9.5					
U40A	Yellville	53.85	342	P	P	23 04 37.9 -1.0
	baz=159,SNR=6.6					
Q57A	Strasburg	53.89	357	P	P	23 04 39.4 +0.2
	baz=176,SNR=13					
Q56A	Snyder Ridge,	53.94	356	P	P	23 04 39.8 +0.2
	baz=175,SNR=13					
Q56A	Snyder Ridge,	53.94	356	P	P	23 04 39.3 -0.2
Q56A				IAmb	IAmb	23 04 41.1
	comp=Z,34nm,1.0s					
Q55A	Buckhannon	53.96	355	P	P	23 04 39.6 -0.1
	baz=174,SNR=8.0					
Q53A	Leroy	53.97	354	P	P	23 04 38.7 -1.0
	baz=172,SNR=10					
Q54A	Coxs Mills	54.02	354	P	P	23 04 38.5 -1.6
	baz=173,SNR=5.6					
WCI	Wyandotte Cave	54.05	349	P	P	23 04 39.0 -1.3
WCI				pmax	pmax	
	comp=Z,44nm,1.0s					
WCI	Wyandotte Cave	54.05	349	P	P	23 04 38.8 -1.5
	baz=166					
WCI	Wyandotte Cave	54.05	349	P	P	23 04 39.0 -1.3
Q52A	Bidwell	54.15	353	P	P	23 04 40.1 -1.0
	baz=171					
SDMD	Soldier's Deli	54.19	358	P	P	23 04 41.0 -0.3
P58A	Pank, Wackersv	54.29	358	P	P	23 04 42.3 +0.3
	baz=177,SNR=8.9					
P57A	Homestead Farm	54.31	357	P	P	23 04 42.4 +0.2
	baz=176					
P57A	Homestead Farm	54.31	357	P	P	23 04 42.2 0.0
P57A				IAmb	IAmb	23 04 44.2
	comp=Z,25nm,1.3s					
FNO	Franklin	54.37	337	P	P	23 04 42.3 -0.5
P56A	Dayton Farm, R	54.38	356	P	P	23 04 42.9 +0.2
	baz=175,SNR=5.7					
P59A	Jarrettsville	54.38	359	P	P	23 04 43.4 +0.7
	baz=178,SNR=5.4					
TUL1	Leonard	54.38	339	P	P	23 04 42.6 -0.3
	baz=155,SNR=10					
WMOK	Wichita Mounta	54.45	336	P	P	23 04 42.1 -1.2
	baz=152,SNR=6.8					
P55A	Reedsville	54.45	355	P	P	23 04 42.4 -0.9
	baz=174					
P60A	Greenville	54.57	359	P	P	23 04 44.1 +0.1
	baz=179					
P53A	Whipple	54.57	354	P	P	23 04 43.4 -0.7
	baz=172,SNR=6.5					
P54A	Burton	54.60	355	P	P	23 04 43.7 -0.7
	baz=174,SNR=8.3					
MCWV	Mont Chateau	54.60	355	P	P	23 04 43.5 -0.9
	baz=174					
PSUB	Penn St. - Bra	54.68	360	P	P	23 04 44.5 -0.3
PSUB				IAmb	IAmb	23 04 46.3
	comp=Z,18nm,1.0s					
P51A	Williamsport	54.76	352	P	P	23 04 43.8 -1.7
	baz=170					
GDL2	Guadalupe Moun	54.79	329	P	P	23 04 45.7 -0.3
P52A	Coning	54.80	353	P	P	23 04 44.3 -1.5
	baz=172					
MNTX	Cornudas Mount	54.89	328	P	P	23 04 45.9 -0.7
	baz=143,SNR=14					
MNTX	Cornudas Mount	54.89	328	P	P	23 04 45.8 -0.9
O58A	Lewisberry	54.91	358	P	P	23 04 47.0 +0.5
	baz=178,SNR=8.5					
O57A	Amberson	55.02	357	P	P	23 04 47.8 +0.4
	baz=177,SNR=14					
P49A	Miami Univ. Ec	55.05	351	P	P	23 04 45.6 -1.9
	baz=169,SNR=9.1					
O60A	Telford	55.07	360	P	P	23 04 48.2 +0.5
	baz=180					
O59A	Robesonia	55.07	359	P	P	23 04 48.0 +0.2
	baz=179					
O55A	Ligonier	55.11	356	P	P	23 04 47.4 -0.6
	baz=175,SNR=6.4					
O56A	Blue Knob Stat	55.12	357	P	P	23 04 48.0 -0.1
	baz=176,SNR=9.6					
O52A	Adamsville	55.24	354	P	P	23 04 47.8 -1.2
	baz=172					
O53A	New Philadelph	55.31	354	P	P	23 04 48.1 -1.4
	baz=173					
O51A	Pataskala	55.36	353	P	P	23 04 48.5 -1.4
	baz=171,SNR=6.0					
SSPA	Standing Stone	55.45	357	P	P	23 04 50.4 -0.1
	baz=177					
SSPA	Standing Stone	55.45	357	P	P	23 04 50.1 -0.4
ACSO	Alum Creek Sta	55.49	353	P	P	23 04 49.7 -1.1
	baz=171,SNR=7.0					
ACSO	Alum Creek Sta	55.49	353	P	P	23 04 49.6 -1.1
ACSO				IAmb	IAmb	23 04 50.7
	comp=Z,33nm,0.9s					
T35A	Sooner Cattle	55.54	339	P	P	23 04 50.7 -0.5
N57A	Milroy	55.56	358	P	P	23 04 50.7 -0.6
	baz=177,SNR=5.8					
N58A	Sunbury	55.61	358	P	P	23 04 51.8 +0.2
	baz=178,SNR=8.2					
N58A	Sunbury	55.61	358	P	P	23 04 51.5 -0.1
N58A				IAmb	IAmb	23 04 52.6
	comp=Z,24nm,1.0s					
N60A	Cedar Hill Far	55.62	360	P	P	23 04 51.6 -0.1
	baz=180					
N55A	Marion Center	55.66	356	P	P	23 04 51.8 -0.2
	baz=175,SNR=7.8					
N59A	State Game Lan	55.67	359	P	P	23 04 52.7 +0.7
	baz=179,SNR=8.9					
N56A	West Decatur	55.76	357	P	P	23 04 52.4 -0.2
	baz=176,SNR=6.5					
AMTX	Amarillo	55.77	333	P	P	23 04 51.8 -1.2
	baz=148					
N53A	Lisbon	55.83	355	P	P	23 04 52.3 -0.9
	baz=173					
N54A	Moraine State	55.91	355	P	P	23 04 53.4 -0.4
	baz=174,SNR=5.1					
WSPT	Westport, CT	55.94	1	P	P	23 04 53.8 -0.1
WSPT				IAmb	IAmb	23 04 55.3
	comp=Z,39nm,1.2s					
HSIG		55.95	322	P	P	23 04 53.8 -0.5
N51A	Ashland	56.10	353	P	P	23 04 53.6 -1.5
	baz=171					
M57A	Sunshine Farm,	56.12	358	P	P	23 04 55.6 +0.3
	baz=178,SNR=10.0					
M58A	Price's Panora	56.14	359	P	P	23 04 56.1 +0.7
	baz=178,SNR=6.8					
SFIN	Lafayette	56.28	349	P	P	23 04 54.2 -2.2
	baz=166					
M59A	Waymart	56.29	360	P	P	23 04 57.2 +0.7
	baz=180,SNR=7.0					
M56A	Emporium	56.31	357	P	P	23 04 56.5 -0.2
	baz=176,SNR=8.9					
M55A	Ridgway	56.33	357	P	P	23 04 56.4 -0.4
	baz=176,SNR=6.9					
M54A	Oil Creek Stat	56.43	356	P	P	23 04 56.8 -0.6
	baz=175,SNR=9.1					
M53A	Wt Miller and	56.44	355	P	P	23 04 56.7 -0.8
	baz=173					
L63A	North Scituate	56.70	3	P	P	23 04 59.3 0.0
	baz=184					
319A	Douglas	56.73	325	P	P	23 05 00.3 +0.3
L57A	Andrews Acres	56.78	358	P	P	23 04 60.0 0.0
	baz=178,SNR=5.2					
121A	Cookes Peak, D	56.80	327	P	P	23 05 01.1 +0.6
	baz=141,SNR=18					
121A	Cookes Peak, D	56.80	327	P	P	23 05 00.6 +0.1
121A				IAmb	IAmb	23 05 02.2
	comp=Z,32nm,1.0s					
L58A	Harry Jones Me	56.80	359	P	P	23 05 00.6 +0.5
	baz=179,SNR=12					
HDIL	Hopedale	56.90	347	P	P	23 04 58.8 -1.9
	baz=164					
L53A	Girard	56.92	355	P	P	23 04 59.7 -1.2
	baz=174					
L56A	Greenwood	56.94	358	P	P	23 05 00.6 -0.5
	baz=177,SNR=7.3					
L59A	Walton	56.94	360	P	P	23 05 01.6 +0.5
	baz=180,SNR=11					
BINY	Binghamton	56.96	359	P	P	23 05 01.5 +0.3
	baz=179,SNR=10					
RKT	Rikitea	57.00	252	eLR	LR	23 21 40.5
	comp=Z,868nm,29.2s					
L55A	Hinsdale	57.02	357	P	P	23 05 01.4 -0.3
	baz=176,SNR=8.9					
ERPA	Erie	57.06	356	P	P	23 05 01.2 -0.7
	baz=174					
L54A	Sinclairville	57.13	356	P	P	23 05 01.9 -0.5
	baz=175,SNR=8.0					
K54A	Basiliko Farm,	57.46	357	P	P	23 05 04.4 -0.4
	baz=176					
K56A	Middlesex	57.49	358	P	P	23 05 04.6 -0.4
	baz=177					
K57A	Scipio Center	57.50	359	P	P	23 05 04.9 -0.1
	baz=178,SNR=7.7					
K58A	Earlville	57.52	359	P	P	23 05 05.2 +0.1
	baz=179,SNR=12					
K59A	Cooperstown	57.52	0	P	P	23 05 05.5 +0.3
	baz=180,SNR=10.0					
KSU1	Kansas State U	57.55	340	P	P	23 05 04.5 -0.9
	baz=155					
K55A	Perry	57.55	357	P	P	23 05 04.6 -0.7
	baz=176					
R32A	Long Quarter,	57.66	338	P	P	23 05 05.9 -0.4
ANMO	Albuquerque	58.03	330	P	P	23 05 09.1 0.0
	comp=Z,0.5nm,0.8s,baz=305,slow=7.9,SNR=27					
ANMO	Albuquerque	58.03	330	*c iP*	P	23 05 09.0 -0.1
ANMO				pmax	pmax	
	comp=Z,29nm,1.7s					
ANMO	Albuquerque	58.03	330	P	P	23 05 09.1 0.0
	baz=144					
ANMO	Albuquerque	58.03	330	P	P	23 05 08.8 -0.3
ANMO				IAmb	IAmb	23 05 10.2
	comp=Z,18nm,1.1s					
J56A	Wolcott	58.05	358	P	P	23 05 08.6 -0.3
	baz=178,SNR=5.8					
J55A	Hilton	58.08	358	P	P	23 05 08.5 -0.5
	baz=177					
J58A	Remsen	58.11	360	P	P	23 05 09.0 -0.3
	baz=180					
J54A	Appleton	58.12	357	P	P	23 05 08.5 -0.8
	baz=176					
J61A	Chester	58.13	2	P	P	23 05 10.0 +0.6
	baz=183					
ACCN	Adirondack Com	58.14	1	P	P	23 05 09.2 -0.3
ACCN				IAmb	IAmb	23 05 11.3
	comp=Z,21nm,1.2s					
J57A	Williamstown	58.17	359	P	P	23 05 09.3 -0.3
	baz=179,SNR=8.1					
J59A	Piesco	58.21	0	P	P	23 05 10.3 +0.3
	baz=180,SNR=5.4					
J59A	Piesco	58.21	0	P	P	23 05 09.7 -0.3
J59A				IAmb	IAmb	23 05 48.2
	comp=Z,31nm,1.4s					
TUC	Tucson	58.27	324	P	P	23 05 10.3 -0.4
TUC				pmax	pmax	
	comp=Z,15nm,1.1s					
TUC	Tucson	58.27	324	P	P	23 05 10.8 +0.1
	baz=138					
TUC	Tucson	58.27	324	P	P	23 05 10.3 -0.4
TUC				IAmb	IAmb	23 05 12.1
	comp=Z,15nm,1.1s					
CBKS	Cedar Bluff	58.39	337	P	P	23 05 11.1 -0.3
	baz=152					
I58A	Old Forge	58.44	360	P	P	23 05 11.1 -0.5
	baz=180,SNR=6.1					
I59A	Olmsteadville	58.55	1	P	P	23 05 13.0 +0.6
	baz=181					
I60A	Shoreham	58.61	1	P	P	23 05 12.8 0.0
	baz=182					
I57A	Carthage	58.69	359	P	P	23 05 13.6 +0.3
	baz=179					
I61A	Oroboro, Fairl	58.73	2	P	P	23 05 13.3 -0.3
	baz=183					
T25A	Trinidad	58.86	333	P	P	23 05 14.9 0.0
	baz=146,SNR=14					
T25A	Trinidad	58.86	333	P	P	23 05 14.5 -0.4
T25A				IAmb	IAmb	23 05 16.0
	comp=Z,21nm,0.9s					
I55A	Frankford	59.02	358	P	P	23 05 14.5 -1.0
	baz=177					
LBNH	Lisbon	59.05	3	P	P	23 05 16.1 +0.2
	baz=183					
H58A	Gabriels	59.17	1	P	P	23 05 16.4 -0.2
	baz=181					
214A	Organ Pipe Nat	59.18	323	P	P	23 05 17.7 +0.8
	baz=136,SNR=14					
214A	Organ Pipe Nat	59.18	323	P	P	23 05 17.3 +0.3
214A				IAmb	IAmb	23 05 18.8
	comp=Z,23nm,1.0s					
H57A	Richville	59.21	360	P	P	23 05 16.7 -0.2
	baz=180,SNR=9.4					
H55A	Tweed	59.33	358	P	P	23 05 16.8 -0.9
	baz=178					
H61A	Lyndonville	59.34	2	P	P	23 05 18.6 +0.7
	baz=183					
H56A	Elgin	59.35	359	P	P	23 05 17.5 -0.4
	baz=179,SNR=8.3					
LONY	Lake Ozonia	59.37	0	P	P	23 05 17.8 -0.2
	baz=180					
H59A	Cadyville	59.40	1	P	P	23 05 18.2 0.0
	baz=181					
H53A	Bobcaygeon	59.41	357	P	P	23 05 17.6 -0.7
	baz=176					
FRNY	Flat Rock	59.59	1	P	P	23 05 19.1 -0.4
FRNY				IAmb	IAmb	23 05 21.0
	comp=Z,16nm,1.0s					
KSCO	Kaye Shedlock'	59.68	335	P	P	23 05 20.6 +0.2
	baz=149					
KSCO	Kaye Shedlock'	59.68	335	P	P	23 05 20.1 -0.3
KSCO				IAmb	IAmb	23 05 21.2
	comp=Z,29nm,1.1s					
W18A	Petrified Fore	59.83	327	P	P	23 05 22.0 +0.4
	baz=141,SNR=17					
W18A	Petrified Fore	59.83	327	P	P	23 05 21.7 +0.1
G59A	Clarenceville	59.85	1	P	P	23 05 21.3 +0.1
	baz=182					
G57A	Newington	59.85	360	P	P	23 05 21.1 -0.1
	baz=180					
SDCO	Great Sand Dun	59.85	332	P	P	23 05 21.9 +0.1
	baz=146,SNR=49					
G58A	Ormstown	59.90	1	P	P	23 05 21.7 +0.1
	baz=181					
G55A	Calabogie	60.02	359	P	P	23 05 22.3 -0.2
	baz=178					
G62A	West of Eustis	60.10	4	P	P	23 05 23.7 +0.7
	baz=185,SNR=5.7					
G62A	West of Eustis	60.10	4	P	P	23 05 23.0 0.0
G62A				IAmb	IAmb	23 05 25.0
	comp=Z,25nm,1.2s					
G61A	St-Isidore-de-	60.11	3	P	P	23 05 23.7 +0.6
	baz=184					
BGNE	Belgrade	60.13	340	P	P	23 05 22.9 -0.4
	baz=154					
BGNE	Belgrade	60.13	340	P	P	23 05 23.1 -0.2
SPX	San Pedro Mart	60.13	320	P	P	23 05 23.8 -0.2
SPX				IAmb	IAmb	23 05 25.7
	comp=Z,30nm,1.6s					
G54A	Lake Saint Pet	60.21	357	P	P	23 05 23.4 -0.4
	baz=177,SNR=5.1					
PKME	Peaks-Kenny Pk	60.23	5	P	P	23 05 24.4 +0.5
	baz=186					
G64A	Maxfield	60.26	5	P	P	23 05 24.6 +0.5
	baz=187					
G65A	Princeton	60.32	6	P	P	23 05 25.0 +0.5
	baz=188					
S22A	4UR Ranch, Cre	60.46	331	P	P	23 05 26.2 +0.2
	baz=144,SNR=17					
Q24A	Divide	60.70	333	P	P	23 05 27.6 -0.1
	baz=146					
ALGO	Algonquin Park	60.77	357	P	P	23 05 26.4 -1.1
	baz=177					
F60A	Warwick	60.78	2	P	P	23 05 27.3 -0.2
	baz=183					
F62A	Pittston Farm,	60.81	4	P	P	23 05 28.4 +0.6
	baz=186					
MVCO	Mesa Verde	60.83	330	P	P	23 05 28.3 -0.2
	baz=142,SNR=9.5					
F64A	Sherman	60.90	5	P	P	23 05 29.2 +0.8
	baz=187,SNR=5.2					
F64A	Sherman	60.90	5	P	P	23 05 28.5 +0.1
F64A				IAmb	IAmb	23 05 30.3
	comp=Z,28nm,1.2s					
WUAZ	Wupatki	60.99	326	P	P	23 05 30.2 +0.7
	baz=139,SNR=20					
OGNE	Ogallala	61.11	337	P	P	23 05 30.4 +0.3
	baz=150					
E58A	La Victoria	61.14	1	P	P	23 05 29.9 -0.1
	baz=182					
GLA	Glamis	61.15	322	P	P	23 05 30.5 0.0
GLA				pmax	pmax	
	comp=Z,26nm,1.5s					
GLA	Glamis	61.15	322	P	P	23 05 31.1 +0.6
	baz=135					
GLA	Glamis	61.15	322	P	P	23 05 30.4 0.0
GLA				IAmb	IAmb	23 05 32.2
	comp=Z,26nm,1.4s					
E57A	Chemin Saint G	61.16	1	P	P	23 05 30.2 -0.1
	baz=181,SNR=5.3					
E53A	Dumoine, Ponti	61.18	358	P	P	23 05 28.9 -1.4

baz=177
E54A Lac Daplat, Po 61.22 358 P P 23 05 29.7 -0.9
baz=178
LMN Caledonia Moun 61.29 8 P P 23 05 30.7 -0.4
LMN IAmb IAmb 23 05 32.4
comp=Z,31nm,1.1s
E56A St. Veronique 61.29 360 P P 23 05 30.7 -0.4
baz=180,SNR=8.5
E63A Oxbow 61.45 5 P P 23 05 32.4 +0.3
baz=187
E64A Bridgewater 61.50 6 P P 23 05 32.9 +0.4
baz=188
E62A Clayton Lake 61.56 4 P P 23 05 33.5 +0.6
baz=186
E62A Clayton Lake 61.56 4 P P 23 05 32.7 -0.2
E62A IAmb IAmb 23 06 03.9
comp=Z,45nm,1.6s
ISCO Idaho Springs 61.59 333 P P 23 05 33.4 -0.3
ISCO pmax pmax
comp=Z,12nm,1.2s
ISCO Idaho Springs 61.59 333 P P 23 05 33.2 -0.5
baz=146,SNR=12
ISCO Idaho Springs 61.59 333 P P 23 05 33.4 -0.3
PDMCI Parker Dam,Lak 61.64 323 P P 23 05 34.3 +0.6
baz=136
IKP In-Ko-Pah, Jac 61.64 321 P P 23 05 35.2 +1.3
baz=134
SWSC Sam W. Stewart 61.66 321 P P 23 05 35.1 +1.2
baz=134
E47A Iron Bridge 61.66 353 P P 23 05 32.1 -1.5
baz=171
ECSD EROS Data Cent 61.76 342 P P 23 05 33.4 -1.0
baz=156,SNR=12
D55A Sainte-Anne-du 61.77 360 P P 23 05 33.6 -0.7
baz=180,SNR=5.4
D57A Chemin Vers le 61.77 1 P P 23 05 34.4 0.0
baz=181,SNR=5.0
D56A ZEC Mazanza, M 61.80 0 P P 23 05 33.6 -0.9
baz=180
D58A Chemin du LacG 61.87 2 P P 23 05 34.7 -0.3
baz=182,SNR=5.5
D53A Lac Vacive, Po 61.88 358 P P 23 05 34.3 -0.7
baz=177
D54A Lac Fusel, La 61.92 359 P P 23 05 34.2 -1.1
baz=178
BC3 Big Chuckawall 61.95 322 P P 23 05 36.7 +0.7
baz=135,SNR=14
MONP2 Monument Peak 62.00 321 P P 23 05 37.7 +1.3
baz=134
BAR Barrett 62.01 321 P P 23 05 36.4 +0.1
BAR IAmb IAmb 23 05 38.3
comp=Z,35nm,1.4s
D62A Allapoint, All 62.05 5 P P 23 05 36.6 +0.4
baz=186,SNR=5.3
D62A Allapoint, All 62.05 5 P P 23 05 35.9 -0.3
D62A IAmb IAmb 23 05 37.9
comp=Z,20nm,1.1s
W13A Hualapai Mount 62.07 324 P P 23 05 36.9 0.0
W13A IAmb IAmb 23 05 39.0
comp=Z,27nm,1.6s
D63A Stockholm 62.09 5 P P 23 05 36.8 +0.3
baz=188
IRM Iron Mountain 62.12 323 P P 23 05 37.8 +0.8
baz=135,SNR=22
SPMN Marine on St. 62.13 346 P P 23 05 35.7 -1.1
baz=160,SNR=9.4
LATQ La Tuque 62.16 2 P P 23 05 36.5 -0.4
baz=182
U15A North Rim 62.17 326 P P 23 05 37.9 +0.3
U15A IAmb IAmb 23 05 39.5
comp=Z,19nm,1.1s
D46A Sault St. Mari 62.18 353 P P 23 05 35.3 -1.8
baz=170
D47A Chapleau 62.24 354 P P 23 05 34.9 -2.6
baz=171
109C Camp Elliot, M 62.42 320 P P 23 05 39.9 +1.0
baz=133
BELC Belle Mtn. Jos 62.51 322 P P 23 05 40.6 +0.8
baz=134,SNR=7.2
TPFO Pinon Flats 62.51 321 P P 23 05 40.9 +1.2
baz=134,SNR=13
PFO Pinyon Flats O 62.52 321 *e*P P 23 05 40.7 +0.9
PFO Pinyon Flats O 62.52 321 P P 23 05 40.9 +1.1
baz=134,SNR=13
PFO Pinyon Flats O 62.52 321 P P 23 05 40.3 +0.5
PFO IAmb IAmb 23 05 41.8
comp=Z,27nm,1.0s
BATG Bathurst New B 62.53 7 P P 23 05 39.5 +0.1
BATG IAmb IAmb 23 05 41.0
comp=Z,30nm,1.2s
N23A Red Feather La 62.64 334 P P 23 05 40.5 -0.1
baz=146
GMRC Granite Mounta 62.86 323 P P 23 05 43.0 +1.0
baz=135,SNR=6.8
MURC Murrieta 62.96 321 P P 23 05 43.2 +0.7
baz=133
O20A White River Ci 63.03 332 P P 23 05 43.2 +0.1
baz=144,SNR=12
HEC Hector,Ludlow 63.29 322 P P 23 05 46.0 +1.2
baz=134
TUQ Turquoise Moun 63.47 323 P P 23 05 46.9 +0.8
baz=135
BFSC Mount Baldy Ra 63.67 321 P P 23 05 48.0 +0.5
baz=133
LSQQ Lebel-sur-Quev 63.83 358 P P 23 05 47.2 -0.8
baz=178
GSC Goldstone, Bar 63.89 323 P P 23 05 49.6 +0.7
baz=134,SNR=7.1
TAOE Nuku Hiva Isla 63.93 267 *e*LR LR 23 24 51.3
comp=Z,1μm,28.0s
RDMU Red Mountain 63.99 331 P P 23 05 49.2 -0.4
SHOC Shoshone, Teco 64.00 323 P P 23 05 50.7 +1.2
baz=135,SNR=5.7
DECC Green Verdugo 64.09 321 P P 23 05 51.0 +0.9
baz=133
EDW2 Edwards Air Fo 64.31 321 P P 23 05 52.1 +0.6
baz=133,SNR=7.7
K22A Casper 64.34 335 P P 23 05 51.5 -0.1
baz=146,SNR=11
K22A Casper 64.34 335 P P 23 05 51.0 -0.7
K22A IAmb IAmb 23 05 52.6
comp=Z,21nm,1.1s
PRN Pahroc Range 64.39 325 P P 23 05 52.2 +0.2
EYMN Ely 64.42 348 P P 23 05 50.4 -1.6
baz=162
LRMC Laurel Mtn Rad 64.53 322 P P 23 05 53.6 +0.5
baz=134
MATQ Matagami 64.55 358 P P 23 05 51.5 -1.2
baz=177
RSSD Black Hills 64.59 337 P P 23 05 52.8 -0.6
RSSD pmax pmax
comp=Z,20nm,1.3s
RSSD Black Hills 64.59 337 P P 23 05 53.2 -0.2
baz=149
RSSD Black Hills 64.59 337 P P 23 05 52.8 -0.6
CHGQ Chibougamau 64.66 0 P P 23 05 52.5 -0.9
baz=181
TPNV Topopah Spring 64.73 324 P P 23 05 55.3 +1.0
baz=135,SNR=16
FURC Furnace Creek, 64.74 323 P P 23 05 55.0 +0.9
baz=135,SNR=10
MPMC Manual Prospec 64.82 323 P P 23 05 55.4 +0.4
baz=134,SNR=10
JLU Jordanelle 64.91 330 P P 23 05 55.7 +0.1
ISA Isabella, Lake 65.13 322 P P 23 05 57.5 +0.6
baz=133,SNR=6.8
DUG Dugway, Tooele 65.27 329 P P 23 05 58.5 +0.7
baz=139,SNR=38
R11A Troy Canyon, C 65.36 326 P P 23 05 59.4 +0.9
baz=136,SNR=23
PKM Mcpherson Peak 65.42 320 P P 23 05 59.9 +1.0
baz=132,SNR=6.2
CWC Cottonwood Cre 65.43 323 P P 23 05 59.5 +0.6
baz=134
BW06 Boulder Array 65.73 333 P P 23 06 00.3 -0.5
baz=143,SNR=7.3
PD31 Pinedale Array 65.73 333 P P 23 06 00.1 -0.7
PDAR Pinedale Array 65.73 333 P P 23 06 00.5 -0.4
comp=Z,4.7nm,1.0s,baz=149,slow=6.9,SNR=24
PDAR Pinedale Array 65.73 333 P P 23 06 00.2 -0.7
AGMN Agassiz Nation 65.75 345 P P 23 05 59.9 -0.6
baz=158,SNR=14
SMMC Simmler 65.82 321 P P 23 06 02.4 +1.1
baz=132,SNR=5.2
DRLN Deer Lake 65.84 12 P P 23 06 00.7 -0.4
BELA Belgrano 2 65.94 171 P P 23 06 02.4 +1.0
MDND Maddock 66.37 342 P P 23 06 04.5 0.0
baz=154,SNR=6.0
NV11 Mina Array Sit 66.84 324 P P 23 06 08.1 +0.2
NVAR Mina Array Bea 66.92 324 P P 23 06 09.2 +0.6
comp=Z,4.4nm,0.8s,baz=146,slow=6.8,SNR=18
NVAR Mina Array Bea 66.92 324 P P 23 06 08.8 +0.3
RLMT Red Lodge 67.50 334 P P 23 06 12.1 +0.1
baz=144,SNR=19
ULM Lac du Bonnet 67.57 346 P P 23 06 11.1 -1.0
comp=Z,17nm,0.8s,baz=160,slow=7.1,SNR=11
ULM pP **sP** **23 06 29.4 -0.8**
comp=Z,8.2nm,0.6s,baz=149,slow=9.5,SNR=4.1
ULM LR LR 23 39 12.1
comp=Z,195nm,18.5s,baz=147,slow=39
VNA3 Neumayer Olymp 67.99 162 P P 23 06 15.4 +0.8
VNA1 Neumayer--Stat 68.24 161 P P 23 06 17.3 +1.2
DGMT Dagmar 68.38 340 P P 23 06 17.6 +0.3
baz=150,SNR=7.1
HLID Hailey 68.59 330 P P 23 06 19.6 +0.7
baz=139,SNR=16
VNA2 Neumayer--Watz 68.60 161 P P 23 06 19.1 +0.8
BOZ Bozeman (W) 68.89 333 P P 23 06 20.8 +0.2
baz=142,SNR=22
SCHQ Schefferville 69.93 5 P P 23 06 25.6 -1.1
comp=Z,8.7nm,1.0s,baz=204,slow=5.2,SNR=5.0
SCHQ LR LR 23 38 14.4
comp=Z,114nm,20.4s,baz=190,slow=37
EGMT Eagleton 70.04 336 P P 23 06 27.9 +0.2
baz=144
EGMT Eagleton 70.04 336 P P 23 06 27.6 -0.1
EGMT IAmb IAmb 23 06 28.5
comp=Z,24nm,0.9s
O03E Paynes Creek 70.18 324 P P 23 06 28.3 -0.4
baz=132,SNR=5.3
SNAA Sanae 70.21 161 P P 23 06 29.1 +0.8
SNAA Sanae 70.21 161 *e*P P 23 06 29.0 +0.6
SNAA Sanae 70.21 161 P P 23 06 28.6 +0.2
TBI Tubuai 70.23 250 *e*LR LR 23 27 47.1
comp=Z,684nm,32.0s
TBI Tubuai 70.23 250 *e*T T 00 22 32.3
comp=Z,14nm,0.3s
O02D Mt. Diablo Mer 70.67 323 P P 23 06 31.5 -0.1
baz=131
MSO Missoula 70.85 333 P P 23 06 33.4 +0.7
baz=140,SNR=13
TIAR Tiarei 71.05 256 *e*T T 00 23 31.0
comp=Z,3.6nm,0.2s
N02D Trinity Center 71.14 324 P P 23 06 33.9 -0.6
baz=131
M04C Macdoel 71.19 325 P P 23 06 35.3 +0.5
baz=132
PPT2 Papeete2 71.26 256 *e*LR LR 23 28 15.3
comp=Z,529nm,26.8s
M02C Callahan 71.50 324 P P 23 06 36.6 -0.1
baz=131
L04D Klamath Falls 71.74 325 P P 23 06 37.8 -0.4
baz=132,SNR=6.0
J05D Fort Rock, OR 71.87 326 P P 23 06 39.5 +0.6
baz=133,SNR=14
PINE Pine Mountain 72.06 327 P P 23 06 40.8 +0.7
PINE IAmb IAmb 23 06 42.2
comp=Z,25nm,1.0s
J04D Umpqua Nationa 72.31 326 P P 23 06 42.1 +0.5
baz=132,SNR=6.5
L02E Cave Junction 72.43 324 P P 23 06 42.6 +0.5
baz=131
I05D Terrebonne, OR 72.64 327 P P 23 06 44.4 +1.1
baz=133,SNR=10
DBIC Dimbokro 72.69 78 P P 23 06 43.6 -0.6
comp=Z,6.4nm,1.0s,baz=155,slow=2.1,SNR=4.3
DBIC pP **PcP** **23 07 01.6 0.0**
comp=Z,4.4nm,0.7s,baz=234,slow=8.9,SNR=3.2
DBIC LR LR 23 36 27.8
comp=Z,593nm,21.5s,baz=231,slow=34
DBIC Dimbokro 72.69 78 P P 23 06 42.8 -1.5
DBIC IAmb IAmb 23 08 05.4
comp=Z,46nm,1.8s
K02D Willamette Mer 72.81 325 P P 23 06 45.3 +0.8
baz=131,SNR=7.7
I04A Tendick Farm, 72.84 326 P P 23 06 44.6 0.0
baz=132,SNR=6.9
G05D Wamic, OR 73.24 328 P P 23 06 48.2 +1.3
baz=133
J01E Myrtle Point 73.26 325 P P 23 06 47.8 +0.9
baz=131
I03D Drain, OR 73.29 325 P P 23 06 48.1 +1.0
baz=131,SNR=7.0
NEW Newport 73.36 332 P P 23 06 47.3 -0.2
NEW pmax pmax
comp=Z,22nm,1.2s
NEW Newport 73.36 332 P P 23 06 47.6 +0.1
baz=138,SNR=12
NEW Newport 73.36 332 P P 23 06 47.3 -0.2
H04D Lebanon 73.50 326 P P 23 06 48.5 +0.1
baz=132
F05D White Salmon 73.75 328 P P 23 06 51.0 +1.1
baz=133
I02D Swisshome 73.83 326 P P 23 06 51.5 +1.2
baz=131
COR Corvallis 73.85 326 P P 23 06 51.0 +0.6
COR pmax pmax
comp=Z,47nm,1.0s
COR Corvallis 73.85 326 P P 23 06 51.0 +0.6
E04D Cinebar 74.78 328 P P 23 06 56.7 +0.9
baz=132,SNR=6.7
NVL N'lazarevskaya 74.85 160 *e*P sP 23 07 13.9 -0.2
NVL pmax pmax
comp=Z,27nm,1.0s
QSPA South Pole Qui 75.12 180 P P 23 06 58.2 +0.5
QSPA IAmb IAmb 23 06 59.4
comp=Z,20nm,0.8s
D03D Eldon 75.70 329 P P 23 07 01.9 +0.9
baz=132
B05A Bryant 75.70 330 P P 23 07 01.0 0.0
baz=133,SNR=9.8
A04D Lummi Island 76.31 330 P P 23 07 05.5 +1.1
baz=133
TTIG Tnine Tigouga, 78.33 54 P P 23 07 18.1 +1.7
SNR=6.3
TOA0 Torodi Ar. Sit 80.82 74 P P 23 07 29.6 -0.5
TOA0 IAmb IAmb 23 07 31.6
comp=Z,39nm,1.2s
TORD Torodi Ar. Bea 80.82 74 P P 23 07 30.1 0.0
comp=Z,24nm,1.1s,baz=264,slow=5.1,SNR=34
TORD pP **sP** **23 07 47.7 -1.0**
comp=Z,16nm,0.7s,baz=262,slow=4.7,SNR=9.1
TORD LR LR 23 41 23.0
comp=Z,664nm,21.3s,baz=250,slow=34
TORD Torodi Ar. Bea 80.82 74 P P 23 07 29.6 -0.5
MORF Marmelete 81.11 48 *e*P P 23 07 31.2 0.0
MORF AMb AMB 23 07 37.9
comp=Z,43nm,1.2s
MORF Marmelete 81.11 48 *e*P P 23 07 31.2 0.0
MORF pmax pmax
comp=Z,43nm,1.2s
MORF Marmelete 81.11 48 *e*P P 23 07 33.3 +2.0
comp=Z,43nm,1.5s
PCVE Castro Verde 81.70 48 *e*P P 23 07 36.1 +1.8
PVAQ Vaqueiros 81.83 48 *e*LR LR 23 39 03.8
comp=Z,237nm,22.0s
PBEJ Beja 81.99 47 *e*P P 23 07 38.0 +2.2
comp=Z,32nm,1.7s
VNDA Vanda 82.16 191 P P 23 07 37.2 +1.2
comp=Z,7.0nm,0.9s,baz=129,slow=5.5,SNR=22
VNDA pP **sP** **23 07 56.8 +2.3**
comp=Z,12nm,0.8s,baz=129,slow=4.9,SNR=15
VNDA LR LR 23 36 53.2
comp=Z,140nm,19.5s,baz=146,slow=30
VNDA Vanda 82.16 191 P P 23 07 37.0 +1.0
PMTG Montargil 82.20 46 *e*P P 23 07 38.3 +1.4
comp=Z,45nm,1.7s
COI Coimbra 82.58 45 P P 23 07 39.7 +0.9
COI pmax pmax
comp=Z,86nm,1.4s
COI Coimbra 82.58 45 P P 23 07 39.7 +0.9
PMRV Marv??o 82.94 46 *e*P P 23 07 41.6 +0.9
comp=Z,16nm,1.4s
PMRV Marv??o 82.94 46 *e*LR LR 23 38 36.0
comp=Z,371nm,20.0s
PCBR Castelo Branco 83.06 46 *e*P P 23 07 42.0 +0.7
PVIS Viseu 83.16 45 *e*P P 23 07 42.7 +0.8
comp=Z,28nm,2.1s
MTE Manteigas 83.26 45 P P 23 07 42.5 0.0
MTE IAmb IAmb 23 07 44.5
comp=Z,24nm,1.2s
MTE Manteigas 83.26 45 *e*P P 23 07 42.9 +0.5
comp=Z,33nm,1.3s
MTE Manteigas 83.26 45 *e*LR LR 23 37 28.6
comp=Z,429nm,20.0s
YKA Yellowknife Ar 83.29 343 P P 23 07 41.1 -0.9
comp=Z,6.0nm,0.8s,baz=134,slow=5.1,SNR=20
YKA pP **sP** **23 07 59.4 -0.9**
comp=Z,7.5nm,0.8s,baz=135,slow=5.3,SNR=11
YKA LR LR 23 49 09.2
comp=Z,148nm,18.4s,baz=0.0,slow=39
PGAV Gavieira, Arco 83.46 44 *e*LR LR 23 38 04.3
comp=Z,337nm,22.0s
AKLM AKL 83.48 52 P P 23 07 46.0 +2.3
SNR=6.6
HORN Hornachuelos 83.78 48 P P 23 07 46.1 +1.0
SNR=16
MVO Moncorvo 83.94 45 *e*LR LR 23 36 11.3
comp=Z,321nm,20.0s
JBK JBK 84.40 52 P P 23 07 50.0 +1.4
SNR=7.6
PBRG Braganca 84.42 44 *e*P P 23 07 49.9 +1.6
comp=Z,24nm,1.6s
SYO Syowa Base 84.49 161⇑ *e*P P 23 07 46.4 -1.7
SYO Syowa Base 84.49 161⇓ *e*PcP P 23 07 48.3 +0.2
SYO Syowa Base 84.49 161⇓ *e*sP sP 23 08 07.4 +0.7
TAF Taforalt 84.69 52 P P 23 07 52.0 +2.1
SNR=6.9
PAB San Pablo 85.12 47 P P 23 07 52.2 +0.2
PAB pmax pmax
comp=Z,26nm,1.4s
PAB San Pablo 85.12 47 P P 23 07 52.2 +0.2
PAB IAmb IAmb 23 07 54.1
comp=Z,26nm,1.4s
ESDC Sonseca Array 85.45 47 P P 23 07 54.3 +0.8
comp=Z,7.0nm,1.2s,baz=258,slow=5.0,SNR=22
ESDC pP **sP** **23 08 11.2 -1.1**
comp=Z,4.6nm,1.2s,baz=258,slow=4.4,SNR=4.4
ESDC LR LR 23 44 54.0
comp=Z,240nm,18.0s,baz=285,slow=35
ESDC Sonseca Array 85.45 47 P P 23 07 53.6 0.0
ESBB Sonseca Array 85.45 47 P P 23 07 53.3 -0.2
ESBB IAmb IAmb 23 07 55.9
comp=Z,34nm,1.6s
TAM Tamanrasset 87.21 66 P P 23 08 02.8 +0.1
TAM pmax pmax
comp=Z,18nm,1.1s
TAM Tamanrasset 87.21 66 P P 23 08 02.8 +0.1
TAM IAmb IAmb 23 08 23.4
comp=Z,18nm,1.1s
TSUM Tsumeb 87.46 109 P P 23 08 03.9 -0.1
comp=Z,5.1nm,0.8s,baz=248,slow=3.9,SNR=19
TSUM pP **sP** **23 08 22.1 -0.6**
comp=Z,6.3nm,1.0s,baz=260,slow=4.8,SNR=5.8
TSUM Tsumeb 87.46 109 P P 23 08 03.9 -0.1
SUMG Summit 90.67 10 *i* P P 23 08 19.0 +0.8
SUMG Summit 90.67 10 *i* P P 23 08 19.0 +0.8
SUMG Summit 90.67 10 P P 23 08 18.1 -0.1
BOSA Boshof 91.56 120 P P 23 08 22.6 -0.6
comp=Z,1.4nm,0.8s,baz=246,slow=1.4,SNR=3.6
BOSA LR LR 23 48 46.3
comp=Z,106nm,18.3s,baz=260,slow=35
BOSA Boshof 91.56 120 P P 23 08 22.3 -0.8
MAW Mawson 92.07 165 P P 23 08 24.6 +0.2
comp=Z,6.0nm,0.8s,baz=242,slow=7.0,SNR=12
MAW pP **sP** **23 08 43.7 +0.6**
comp=Z,4.2nm,0.9s,baz=174,slow=9.8,SNR=3.5
MAW LR LR 23 47 05.1
comp=Z,177nm,21.7s,baz=236,slow=34
MAW Mawson 92.07 165 P P 23 08 24.3 -0.1
LBTB Lobatse 92.96 117 P P 23 08 29.2 -0.4
comp=Z,5.2nm,1.0s,baz=0.0,slow=7.1,SNR=3.6
BCAR Beaver Creek A 93.25 335 P P 23 08 29.2 -0.7
EGAK Eagle 93.79 337 P P 23 08 31.4 -0.9
EGAK IAmb IAmb 23 08 32.5
comp=Z,8.9nm,1.1s
K27K Chicken 93.80 336 P P 23 08 32.5 +0.2
baz=117
KEST Kesra 94.09 54 LR LR 23 51 53.5
comp=Z,218nm,19.3s,baz=235,slow=36
SCRK Sand Creek 94.54 336 P P 23 08 34.9 -1.0
baz=115
M24K Tolsona, Glenn 94.67 333 P P 23 08 36.2 -0.3
baz=114
ILAR Eielson Array 96.01 336 P P 23 08 41.2 -1.3
comp=Z,1.1nm,0.8s,baz=153,slow=3.2,SNR=9.9
ILAR pP **sP** **23 09 00.0 -0.9**
comp=Z,1.0nm,0.9s,baz=161,slow=1.9,SNR=4.0
ILAR PP **PP** **23 12 31.1 -4.5**
comp=Z,0.6nm,0.8s,baz=97,slow=6.9,SNR=5.4
ILAR LR LR 23 57 21.5
comp=Z,89nm,18.4s,baz=120,slow=39
ILAR Eielson Array 96.01 336 P P 23 08 40.7 -1.7
KDAK Kodiak Island 96.15 328 P P 23 08 43.2 +0.1
comp=Z,5.2nm,0.9s,baz=327,slow=23,SNR=11
POKR Poker Plat Res 96.36 336 P P 23 08 43.6 -0.5
baz=112
COLA College 96.43 336⇑ *e*P P 23 08 43.3 -1.0
COLA pmax pmax
comp=Z,7.0nm,1.0s
MDM Murphy Dome 96.61 336 P P 23 08 44.4 -0.9
NEA2 Nenana 96.82 335 P P 23 08 45.1 -1.0
baz=111
MATP Matopo 96.94 113 P P 23 08 47.2 -0.7
comp=Z,4.9nm,0.8s,baz=265,slow=2.8,SNR=7.9
MATP pP **sP** **23 09 06.9 +0.2**
comp=Z,3.3nm,0.8s,baz=274,slow=3.4,SNR=4.1
KHC Kasperske Hory 100.24 42⇓ *e*P Pdif 23 08 59.8 -2.1
KHC pmax pmax
comp=Z,18nm,1.9s
GERES GERESS Array B 100.27 42 P Pdif 23 09 01.7 -0.4
comp=Z,1.3nm,0.9s,baz=199,slow=3.7,SNR=7.3
GERES pP sPdif 23 09 19.8 -0.8
comp=Z,0.6nm,0.8s,baz=318,slow=1.8,SNR=3.0
GERES GERESS Array B 100.27 42 Pdif 23 08 59.4 -2.6
CLL Collm 100.30 40 *e*PP PP 23 13 06.0 -2.7
CLL *e*PS **PS** **23 22 15.0 +5.8**
DZM Mont Dzumac 109.46 240 *e*LR LR 23 46 00.7
comp=Z,628nm,29.9s
BRTR Keskin Array B 113.66 53 PKiKP PKiKP 23 13 53.2 -1.2
comp=Z,1.3nm,1.0s,baz=194,slow=2.0,SNR=7.0
BRTR Keskin Array B 113.66 53 *c* *i* PKIKP PKiKP 23 13 54.5 +0.1
BRTR pmax pmax
comp=Z,1.0nm,1.0s
OBN Obninsk 114.48 36 *i* PKIKP PKPdf 23 13 54.4 -0.8
OBN *e* 23 14 13.4
OBN *e* 23 14 50.0
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,125nm,16.0s
KBZ Khabaz 120.30 48 PKP PKPdf 23 14 06.5 -0.3
comp=Z,5.2nm,0.8s,baz=255,slow=1.8,SNR=9.3
KBZ pPKP **sPKPdf** **23 14 25.7 -0.2**
comp=Z,4.2nm,0.7s,baz=225,slow=4.1,SNR=5.4
KBZ Khabaz 120.30 48 ⇓ *i* PKIKP PKiKP 23 14 06.9 0.0
H11N3 WAKE ISLAND Hyl 21.08 284 T T 01 27 13.8
baz=97,slow=75,SNR=3.8
H11N2 WAKE ISLAND Hyl 21.09 284 T T 01 27 14.9
baz=97,slow=75,SNR=43
H11N1 WAKE ISLAND Hyl 21.09 284 T T 01 27 19.5
baz=97,slow=75,SNR=36
H11S2 WAKE ISLAND Hyl 21.13 283 T T 01 26 59.7
baz=97,slow=75,SNR=78
H11S1 WAKE ISLAND Hyl 21.14 283 T T 01 26 59.9
baz=97,slow=75,SNR=4.5
H11S3 WAKE ISLAND Hyl 21.15 283 T T 01 26 51.3
baz=97,slow=75,SNR=27
SEY Seymchan 121.94 337 ⇑ *i* PKIKP PKiKP 23 14 10.0 +0.5
ARU Arti 125.71 30 *i* PKIKP PKPdf 23 14 16.5 -0.3
ARU 23 16 08.5
ARU 23 21 22.3
ABKAR Akbulak array 129.89 37 PKPdf PKPdf 23 14 25.1 0.0
ASAR Alice Springs 132.32 217 PKP PKPdf 23 14 29.9 -0.6
comp=Z,2.1nm,0.7s,baz=135,slow=2.2,SNR=13
ASAR pPKP **sPKPdf** **23 14 49.9 +0.6**
comp=Z,3.8nm,0.8s,baz=145,slow=2.6,SNR=8.8
ASAR Alice Springs 132.32 217 PKPdf PKPdf 23 14 29.6 -0.9
BRVK Borovoye 133.19 28 ⇓ *i* PKIKP PKPdf 23 14 31.6 +0.4
BRVK Borovoye 133.19 28 PKPdf PKPdf 23 14 31.3 +0.1
WRA Warramunga Arr 134.88 220 PKP PKPdf 23 14 34.9 -0.5
comp=Z,3.5nm,0.7s,baz=148,slow=1.7,SNR=12
WRA pPKP **sPKPdf** **23 14 54.9 +0.6**
comp=Z,8.5nm,0.7s,baz=144,slow=1.7,SNR=18
WRA Warramunga Arr 134.88 220 PKPdf 23 14 34.2 -1.2
WRAB Tennant Creek 134.88 220 ⇓ *i* PKIKP PKPdf 23 14 35.0 -0.4
WSAR Wadi Sarin 135.52 72 PKP PKPdf 23 14 35.8 -0.7
comp=Z,5.7nm,0.9s,baz=334,slow=3.5,SNR=4.0
ZAA0 Zalesovo Array 138.05 18 PKPdf PKPdf 23 14 40.1 -0.1
ZALV Zalesovo Beam 138.05 18 PKP PKPdf 23 14 39.6 -0.5

comp=Z,16nm,0.9s,baz=311,slow=2.4,SNR=35
ZALV pPKP **sPKPdf** 23 14 59.0 -0.1
comp=Z,15nm,0.7s,baz=300,slow=2.2,SNR=11
KURK Kurchatov 138.50 25 PKIKP **PKPdf** 23 14 41.0 -0.1
KURK Kurchatov 138.50 25 **PKPdf** 23 14 41.0 -0.1
IUG Iuzhnay 139.52 41 *i* PKIKP **PKPdf** 23 14 40.1 -3.3
KLR Kul'dur 139.52 333⇑ *e*PKIKP **PKPdf** 23 14 42.4 -0.6
DZA Taraz 139.93 39 *e*PKP **PKPdf** 23 14 43.5 -0.6
DZA Taraz 139.93 39 *e*PKIKP **PKPdf** 23 14 43.4 -0.6
BTLS Baital 140.24 35 *e*PKP **PKPdf** 23 14 42.2 -2.3
baz=35
BTLS Baital 140.24 35 *e*PKIKP **PKPdf** 23 14 42.2 -2.3
SGDS Sogindy 141.56 36 *e*PKP **PKPdf** 23 14 46.5 -0.6
baz=36
SGDS Sogindy 141.56 36 *e*PKIKP **PKPdf** 23 14 46.4 -0.6
AAK Ala-Archa 141.98 38 PKhKP PKPpre 23 14 43.0
comp=Z,1.1nm,0.3s,baz=20,slow=0.5,SNR=4.6
AAK Ala-Archa 141.98 38⇓ *e*PKIKP **PKPdf** 23 14 44.3 -3.6
DGZ Jazzator, Alta 142.55 19⇓ *e*PKIKP **PKPdf** 23 14 44.5 -4.2
CHKK Chushkaly 142.62 34 *e*PKP **PKPdf** 23 14 48.7 -0.1
CHKK Chushkaly 142.62 34 *e*PKIKP **PKPdf** 23 14 48.6 -0.2
MAKZ Makanchi 142.92 27 PKIKP **PKPdf** 23 14 48.5 -0.8
MAKZ Makanchi 142.92 27 **PKPdf** 23 14 48.5 -0.8
AAA Alma-Ata 143.00 35 *e*PKP **PKPdf** 23 14 49.5 -0.2
AAA Alma-Ata 143.00 35 *e*PKIKP **PKPdf** 23 14 49.4 -0.2
USA0B Ussuriysk Arra 143.02 327⇓ *e*PKIKP PKPbc 23 14 46.1 -0.2
USRK Ussuriysk Ar. 143.02 327 PKhKP PKPab 23 14 44.8 +0.1
comp=Z,3.5nm,1.0s,baz=64,slow=4.4,SNR=11
MK31 Makanchi Array 143.07 26 PKIKP **PKPdf** 23 14 49.0 -0.5
MK31 Makanchi Array 143.07 26 PKPdf **PKPdf** 23 14 49.0 -0.5
MKAR Makanchi Array 143.07 26 PKP PKPbc 23 14 46.5 0.0
comp=Z,2.3nm,0.8s,baz=343,slow=3.8,SNR=10
MKAR pPKP sPKPdf 23 15 08.2 -0.3
comp=Z,2.8nm,0.7s,baz=320,slow=2.1,SNR=7.7
MDOK Medeo 143.11 35 *e*PKIKP PKPbc 23 14 47.4 +0.5
MDOK Medeo 143.11 35 *e*PKIKP PKPab 23 14 46.0 +0.6
TNSS Tian-Shan 143.13 35 *e*PKP **PKPdf** 23 14 49.1 -1.2
TNSS Tian-Shan 143.13 35 *e*PKIKP **PKPdf** 23 14 49.1 -1.2
MOY Mondy 143.31 4 *e*PKIKP PKPbc 23 14 47.1 +0.1
MOY pmax pmax
comp=Z,13nm,1.8s
TLY Talaya 143.43 2⇑ *e*PKIKP PKPab 23 14 45.9 -0.3
MJAR Matsushiro Arr 143.56 312 PKhKP PKPab 23 14 46.4 -0.8
comp=Z,3.8nm,0.8s,baz=128,slow=2.5,SNR=12
MAJO Matsushiro 143.56 312⇑ *e*PKIKP PKPab 23 14 46.3 -0.9
MAT Matsushiro 143.56 312 PKP PKPab 23 14 46.5 -0.7
ZSN Zaisan 143.58 23 *e*PKP **PKPdf** 23 14 50.4 -0.1
baz=23
ZSN Zaisan 143.58 23 *e*PKIKP **PKPdf** 23 14 50.3 -0.1
KPKS Kokpek 143.79 33 *e*PKP PKPbc 23 14 48.8 +0.1
comp=Z,14nm,0.9s,baz=33
KPKS Kokpek 143.79 33 *e*PKIKP PKPbc 23 14 48.7 0.0
KPKS pmax pmax
comp=Z,14nm,0.9s
KDJ Kajisay 143.85 36 PKIKP PKPbc 23 14 49.2 +0.2
KDJ Kajisay 143.85 36 PKPdf PKPbc 23 14 49.2 +0.2
SATY Saty 143.92 34 *e*PKP PKPbc 23 14 48.9 -0.2
comp=Z,9.4nm,1.4s,baz=34
SATY Saty 143.92 34 *e*PKIKP PKPbc 23 14 48.9 -0.2
SATY pmax pmax
comp=Z,9.0nm,1.4s
UZB Uzynbulak 144.19 33 *e*PKP PKPbc 23 14 50.0 +0.1
comp=Z,13nm,1.1s,baz=33
UZB Uzynbulak 144.19 33 *e*PKIKP PKPbc 23 14 50.0 0.0
UZB pmax pmax
comp=Z,13nm,1.1s
SHLS Shalkode 144.41 33 *e*PKP **PKPdf** 23 14 52.0 -0.1
comp=Z,22nm,1.1s,baz=32
SHLS Shalkode 144.41 33 *e*PKIKP **PKPdf** 23 14 52.0 -0.1
SHLS pmax pmax
comp=Z,22nm,1.1s
ZAK Zakamensk 144.72 2 *e*PKIKP **PKPab** 23 14 50.8 -0.4
ZAK pmax pmax
comp=Z,27nm,1.0s
KSH Kashi 144.72 41 PKP PKPbc 23 14 51.9 +0.1
KSH sPKP 23 15 11.1
KSH LR LR
comp=Z,190nm,5.8s
KSH LR LR
comp=Z,150nm,4.7s
NIL Nilore 145.79 51 PKP2 **PKPdf** 23 14 54.7 0.0
NIL Nilore 145.79 51 PKPdf **PKPdf** 23 14 54.7 0.0
ULN Ulaanbaatar 147.23 358⇑ *e*PKP2 **PKPdf** 23 14 56.9 +0.1
ULN Ulaanbaatar 147.23 358 PKPdf **PKPdf** 23 14 56.5 -0.4
SONM Songino Array 147.28 358 PKPbc **PKPbc** 23 14 58.8 -0.4
comp=Z,18nm,0.7s,baz=330,slow=1.6,SNR=84
SONM pPKPbc **sPKPbc** 23 15 18.0 +0.1
comp=Z,12nm,0.6s,baz=325,slow=1.3,SNR=7.9
SONM Songino Array 147.28 358 PKIKP **PKPdf** 23 14 56.5 -0.4
SONM Songino Array 147.28 358 **PKPdf** 23 14 56.5 -0.4
WMQ Urumqi 147.70 24 *e*PKPbc **PKPdf** 23 14 55.3 -2.3
WMQ LR LR
comp=Z,110nm,23.1s
WMQ LR LR
comp=Z,160nm,23.1s
WMQ LR LR
comp=Z,81nm,24.7s
SOEI Soe 148.88 219 **PKPbc** 23 15 04.6 +0.2
KSRS Korea Array 149.85 322 PKPbc **PKPbc** 23 15 05.3 -0.6
comp=Z,8.3nm,1.0s,baz=28,slow=1.4,SNR=12
KSAR Wonju Array Be 149.88 322 PKP2 **PKPbc** 23 15 05.8 -0.3
KSAR Wonju Array Be 149.88 322 **PKPdf** 23 15 01.0 -0.2
KSAR PKPbc **PKPbc** 23 15 05.8 -0.3
TJN Taejon 150.90 321 ⇓ *i*PKIKP **PKPbc** 23 15 06.1 -2.4
BJI Beijing 153.26 341 P **PKPbc** 23 15 13.1 -0.7
BJI pmax pmax
comp=Z,8.0nm,0.8s
HHC Hu-ho-hao-te 153.67 349 *e*PKPbc **PKPdf** 23 15 09.3 +2.3
GTA Gaotai 155.28 10 PKP **PKPdf** 23 15 10.1 +0.8
GTA pPKP sPKPdf 23 15 29.0 +0.5
GTA sPKP 23 15 34.3
GTA LR LR
comp=Z,84nm,19.4s
GTA LR LR
comp=Z,140nm,23.5s
GTA LR LR
comp=Z,160nm,23.8s
NJ2 Nanjing 158.91 326 *e*PKP **PKPdf** 23 15 12.0 -1.9
LZH Lanzhou 159.01 3 *e*PKP **PKPdf** 23 15 19.7 +5.5
LZH pPKP sPKPdf 23 15 30.9 -2.2
LZH sPKP 23 15 37.1
LZH LR LR
comp=N,110nm,18.4s
LZH LR LR
comp=E,92nm,14.6s
LZH LR LR
comp=Z,120nm,19.0s
LSA Lhasa 160.56 39 PKIKP **PKPdf** 23 15 16.6 +0.1
LSA Lhasa 160.56 39 **PKPdf** 23 15 16.6 +0.1
XAN Xi'an 160.76 350 PKP **PKPdf** 23 15 16.2 +0.1
WHN Wuhan 162.37 333 PKP **PKPdf** 23 15 22.0 +4.2
SSLB Suanglung 162.69 303 **PKPdf** 23 15 18.2 -0.2
GYA Guiyang 168.54 353 *e*PKP **PKPdf** 23 15 23.1 -0.1
CHTO Chiang Mai 173.03 57 PKIKP **PKPdf** 23 15 24.9 -0.7
CHTO Chiang Mai 173.03 57 **PKPdf** 23 15 24.9 -0.7
CMAR Chiang Mai Arr 173.21 59 PKIKP **PKPdf** 23 15 24.3 -1.4
CMAR Chiang Mai Arr 173.21 59 **PKPdf** 23 15 24.3 -1.4

GCG ***01*** *22:55:43.3±0.6, 13°.30N×91°.30W, h0km±11km, MD4.7*
NEIC ***01*** *22:55:44.3±2.9, 13°.43N±0°.07×91°.16W±0°.07, h10km±1km, mb4.4/98, Md4.5(SNET), Error ellipse: s-maj=13.1km s-min=8.2km az=222.0*
UCR ***01*** *22:55:47.1±1.3, 13°.51N×91°.15W, h11km±7km, ML4.3, mb4.4(NEIC)*
SNET ***01*** *22:55:47.1±1.3, 13°.51N×91°.15W, h13km±7km, ML4.5*
IDC ***01*** *22:55:54.0±2.6, 13°.72N×90°.83W, h82km±19km, mb4.0/10, mb1 4.2/12, mb1mx3.9/43, mbtmp4.3/12, MS3.4/2, Ms1 3.3/2, ms1mx3.1/30, Error ellipse: s-maj=34.7km s-min=17.0km az=44.0*

ISC 01 22:55:43.8±1.7, 13°.39N±0°.06×91°.20W±0°.04, h9km±10km, n181, σ1§28/206, mb4.4/49, 4C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.07**	**43**	*i* P	**Pn**	**22 56 06.3**	**+1.1**
FUG	**Fuego 3**	**1.11**	**18**	*e*P	**Pn**	**22 56 06.9**	**+1.2**
PCG	**Pacaya**	**1.15**	**30**	*i* P	**Pn**	**22 56 07.9**	**+1.5**
RTAL	**Retalhuleu**	**1.23**	**337**	*e*P	**Pn**	**22 56 06.8**	**-0.4**
RTAL				*e*S	**Sb**	**22 56 22.7**	**-0.5**
RTAL	**Retalhuleu**	**1.23**	**337**		**Pn**	**22 56 07.0**	**-0.2**
RTAL				Sn	**Sb**	**22 56 21.0**	**-2.1**
NBG	**Las Nubes**	**1.45**	**35**	*e*P	**Pg**	**22 56 13.0**	**+1.3**
NUBE	**Las Nubes**	**1.47**	**70⇓**	*e*P	**Pb**	**22 56 11.3**	**-0.1**
NUBE				*e*S	**Sg**	**22 56 30.1**	**-1.0**
NUBE	**Las Nubes**	**1.47**	**70⇓**	*e*P	**Pb**	**22 56 11.3**	**-0.1**
NUBE				*e*S	**Sg**	**22 56 30.1**	**-1.0**
CEVE	**Cerro Verde**	**1.59**	**74**	*e*P	**Pb**	**22 56 13.5**	**0.0**
CEVE				*e*S	**Sg**	**22 56 35.4**	**+0.4**
CEVE				IAML		22 56 41.0	
comp=Z,12μm,0.4s							
CEVE	**Cerro Verde**	**1.59**	**74**	*e*P	**Pb**	**22 56 13.5**	**0.0**
CEVE				*e*S	**Sg**	**22 56 35.4**	**+0.4**
CEVE				IAML		22 56 41.0	
comp=Z,12μm,0.4s							
RTR	**El Retiro**	**1.59**	**71**	*e*P	**Pg**	**22 56 13.7**	**-0.7**
RTR	**El Retiro**	**1.59**	**71**	*e*P	**Pg**	**22 56 13.7**	**-0.7**
SBLS	**San Blas**	**1.59**	**74**	*e*P	**Pb**	**22 56 13.5**	**-0.1**
SBLS	**San Blas**	**1.59**	**74**	*e*P	**Pb**	**22 56 13.5**	**-0.1**
APG	**El Apazote**	**1.75**	**24**	P	**Pg**	**22 56 16.9**	**-0.6**
baz=180,slow=11							
APG				S	**Sb**	**22 56 38.2**	**-0.3**
comp=Z,70nm,0.3s,baz=112,slow=19,SNR=4.2							
APG				LR	LR	22 57 01.6	
comp=Z,2μm,18.9s,baz=116,slow=51							
LALI	**Alcalda de L**	**1.83**	**87**	*e*P	**Pb**	**22 56 17.1**	**-0.3**
LALI	**Alcalda de L**	**1.83**	**87**	*e*P	**Pb**	**22 56 17.1**	**-0.3**
THIG		**1.83**	**326**	*i* P	**Pn**	**22 56 16.2**	**+0.7**
THIG				*e*S	**Sn**	**22 56 37.3**	**-1.4**
BOQS	**Boqueron**	**1.90**	**79**	*e*P	**Pb**	**22 56 18.3**	**-0.4**
BOQS				*e*S	**Sg**	**22 56 43.2**	**-1.6**
BOQS	**Boqueron**	**1.90**	**79**	*e*P	**Pb**	**22 56 18.3**	**-0.4**
BOQS				*e*S	**Sg**	**22 56 43.2**	**-1.6**
SNET	**Serv Nac Est T**	**1.94**	**81**	*e*P	**Pb**	**22 56 18.2**	**-1.2**
SNET				*e*S	**Sb**	**22 56 42.4**	**-1.3**
SNET	**Serv Nac Est T**	**1.94**	**81**	*e*P	**Pb**	**22 56 18.2**	**-1.2**
SNET				*e*S	**Sb**	**22 56 42.4**	**-1.3**
SNET	**Serv Nac Est T**	**1.94**	**81**		**Pb**	**22 56 18.2**	**-1.2**
HUEH	**Huehuetenango**	**1.94**	**351**	*e*P	**Pb**	**22 56 19.3**	**-0.2**
HUEH				*e*S	**Sb**	**22 56 43.3**	**-0.6**
HUEH				IAML		22 56 50.0	
comp=Z,3μm,0.6s							
HUEH	**Huehuetenango**	**1.94**	**351**		**Pb**	**22 56 18.9**	**-0.6**
OPAM	**Oficina de Pla**	**1.97**	**80**	*e*P	**Pb**	**22 56 19.6**	**-0.3**
OPAM	**Oficina de Pla**	**1.97**	**80**	*e*P	**Pb**	**22 56 19.6**	**-0.3**
MTO3	**Montecristo**	**2.05**	**60⇓**	*e*P	**Pb**	**22 56 20.8**	**-0.5**
MTO3				*e*S	**Sb**	**22 56 47.1**	**+0.1**
MTO3	**Montecristo**	**2.05**	**60⇓**	*e*P	**Pb**	**22 56 20.8**	**-0.5**
MTO3				*e*S	**Sb**	**22 56 47.1**	**+0.1**
MTO3	**Montecristo**	**2.05**	**60**		**Pb**	**22 56 20.8**	**-0.5**
LFU	**La Fuente**	**2.06**	**80**	*e*P	**Pb**	**22 56 21.0**	**-0.5**
LFU				*e*S	**Sb**	**22 56 46.4**	**-0.7**
LFU	**La Fuente**	**2.06**	**80**	*e*P	**Pb**	**22 56 21.0**	**-0.5**
LFU				*e*S	**Sb**	**22 56 46.4**	**-0.7**
LFRS	**El Faro**	**2.09**	**83**	*e*P	**Pb**	**22 56 21.3**	**-0.8**
LFRS	**El Faro**	**2.09**	**83**	*e*P	**Pb**	**22 56 21.3**	**-0.8**
LBRS	**Las Brisas**	**2.12**	**80**	*e*P	**Pb**	**22 56 21.9**	**-0.6**
LBRS	**Las Brisas**	**2.12**	**80**	*e*P	**Pb**	**22 56 21.9**	**-0.6**
ESQI	**Esquipulas**	**2.15**	**57**		**Pb**	**22 56 21.9**	**-1.0**
PAVA	**Las Pavas**	**2.22**	**81⇓**	*e*P	**Pb**	**22 56 23.3**	**-1.0**
PAVA				*e*S	**Sb**	**22 56 50.3**	**-1.7**
PAVA				IAML		22 57 00.7	
comp=Z,2μm,0.6s							
PAVA	**Las Pavas**	**2.22**	**81⇓**	*e*P	**Pb**	**22 56 23.3**	**-1.0**
PAVA				*e*S	**Sb**	**22 56 50.3**	**-1.7**
PAVA				IAML		22 57 00.7	
comp=Z,2μm,0.6s							
MRL	**Marmol**	**2.23**	**41**	*e*P	**Pb**	**22 56 24.5**	**0.0**
MRL				*e*S	**Sg**	**22 56 55.9**	**+0.3**
COEG	**Centro de Oper**	**2.27**	**84⇑**	*e*P	**Pb**	**22 56 24.1**	**-0.9**
COEG				IAML		22 57 01.8	
comp=Z,3μm,0.5s							
COEG	**Centro de Oper**	**2.27**	**84⇑**	*e*P	**Pb**	**22 56 24.1**	**-0.9**
COEG				IAML		22 57 01.8	
comp=Z,3μm,0.5s							
COEB	**Comit de Eme**	**2.60**	**87⇑**	*e*P	**Pb**	**22 56 28.4**	**-2.2**
COEB				IAML		22 57 08.8	
comp=Z,2μm,0.4s							
COEB	**Comit de Eme**	**2.60**	**87⇑**	*e*P	**Pb**	**22 56 28.4**	**-2.2**
COEB				IAML		22 57 08.8	
comp=Z,2μm,0.4s							
JUCU	**Jucuarın**	**2.88**	**92**	*e*P	**Pn**	**22 56 31.3**	**+1.4**
JUCU				*e*S	**Sn**	**22 57 07.0**	**+2.3**
JUCU				IAML		22 57 19.1	
comp=Z,1μm,0.3s							
JUCU	**Jucuarın**	**2.88**	**92**	*e*P	**Pn**	**22 56 31.3**	**+1.4**
JUCU				*e*S	**Sn**	**22 57 07.0**	**+2.3**
JUCU				IAML		22 57 19.1	
comp=Z,1μm,0.3s							
CCIG	**Comitan**	**3.01**	**343**		**Pn**	**22 56 34.5**	**+2.6**
PETF	**Flores**	**3.73**	**20**		**Pn**	**22 56 43.1**	**+1.4**
TGUH	**Tegucigalpa,Un**	**3.87**	**80**	Pn	**Pn**	**22 56 45.5**	**+1.7**
CRIN	**San Cristobal**	**4.10**	**99**		**Pn**	**22 56 46.8**	**0.0**
ESTN	**Estel**	**4.71**	**93**		**Pn**	**22 56 56.7**	**+1.5**
CMIG	**Matias Romero**	**5.12**	**316**	P	**Pn**	**22 57 02.1**	**+1.4**
comp=Z,5.3nm,0.3s,baz=127,slow=8.7,SNR=7.3							
CMIG				S	**Sn**	**22 58 02.1**	**+2.1**
comp=Z,7.4nm,0.3s,baz=335,slow=23,SNR=6.4							
MATN	**Matagalpa**	**5.16**	**95**	Pn	**Pn**	**22 57 02.5**	**+1.2**
ACON	**Acoyapa**	**6.05**	**103**		**Pn**	**22 57 13.3**	**-0.1**
ESPN	**Las Esperanzas**	**6.83**	**99**	Pn	**Pn**	**22 57 24.6**	**+0.4**
JTS	**Las Juntas de**	**6.85**	**116**	P	**Pn**	**22 57 28.3**	**+3.8**
comp=Z,3.6nm,0.3s,baz=7.8,slow=21,SNR=11							
JTS	**Las Juntas de**	**6.85**	**116**		**Pn**	**22 57 27.8**	**+3.3**
TEIG	**Tepich**	**7.35**	**22**	P	**Pn**	**22 57 34.5**	**+3.1**
comp=Z,54nm,0.3s,baz=211,slow=0.8,SNR=208							
TEIG				LR	LR	23 00 33.5	
comp=Z,520nm,18.8s,baz=70,slow=40							
TEIG	**Tepich**	**7.35**	**22**	Pn	**Pn**	**22 57 33.4**	**+2.0**
TLIG	**Tlapa**	**8.22**	**301**	Pn	**Pn**	**22 57 45.5**	**+2.0**
MOIG	**Morelia**	**11.44**	**304**	Pn	**Pn**	**22 58 30.8**	**+3.1**
ZAIG	**Zacatecas**	**14.27**	**312**	Pn	**Pn**	**22 59 09.6**	**+3.1**
833A	**Chaparral WMA,**	**16.70**	**334**	Pn	**Pn**	**22 59 39.2**	**+1.0**
553A	**Crawfordville**	**17.85**	**19**	P	**P**	**22 59 53.4**	**+0.2**
JCT	**Junction City**	**18.77**	**336**		**Pn**	**23 00 04.2**	**+0.4**
PAMC	**Pamplona, Colo**	**19.16**	**106**	*e*P	**Pn**	**23 00 11.2**	**+2.1**
146A	**Union**	**19.26**	**5**	P	**P**	**23 00 08.7**	**0.0**
146A				IAmb	IAmb	23 00 17.3	
comp=Z,27nm,0.9s							
TIGA	**Tifton**	**19.28**	**20**	P	**P**	**23 00 08.2**	**-0.7**
TIGA				IAmb	IAmb	23 00 18.3	
comp=Z,24nm,0.7s							
TX31	**Lajitas Ar. Si**	**19.63**	**326**	P	**Pn**	**23 00 14.8**	**+0.5**
TX31				IAmb	IAmb	23 00 17.8	
comp=Z,17nm,0.8s							
TX32	**Lajitas Array**	**19.63**	**326**	P	**Pn**	**23 00 15.3**	**+1.0**
TXAR	**Lajitas Array**	**19.63**	**326**	P	**Pn**	**23 00 15.7**	**+1.4**
comp=Z,0.3nm,0.3s,baz=154,slow=12,SNR=84							
TXAR				LR	LR	23 07 57.2	
comp=Z,54nm,19.5s,baz=0.0,slow=37							
TXAR	**Lajitas Array**	**19.63**	**326**	P	**Pn**	**23 00 15.1**	**+0.8**
Z41A	**Richland Creek**	**19.83**	**356**	P	**P**	**23 00 15.5**	**+0.5**
Z41A				IAmb	IAmb	23 00 18.7	
comp=Z,11nm,0.8s							
Z47A	**Carrollton**	**19.92**	**8**	P	**P**	**23 00 16.0**	**+0.1**
LRAL	**Lakeview Retre**	**19.93**	**10**	P	**P**	**23 00 16.7**	**+0.7**
LRAL				IAmb	IAmb	23 00 24.0	
comp=Z,15nm,0.9s							
152A	**Waverly Hall**	**20.08**	**16**	P	**P**	**23 00 17.7**	**0.0**
152A				IAmb	IAmb	23 00 36.7	
comp=Z,10nm,0.8s							
ABTX	**Abilene, Hawle**	**20.64**	**339**	P	**P**	**23 00 24.8**	**+0.9**
ABTX				IAmb	IAmb	23 00 26.1	
comp=Z,18nm,0.8s							
Y49A	**Blount Mountai**	**20.84**	**11**	P	**P**	**23 00 26.9**	**+1.0**
Y49A				IAmb	IAmb	23 00 31.9	
comp=Z,10nm,0.8s							
X40A	**Basin Creek Fa**	**21.05**	**356**	P	**P**	**23 00 29.9**	**+1.7**
GOGA	**Godfrey**	**21.14**	**18**	P	**P**	**23 00 30.2**	**+1.1**
MIAR	**Mount Ida**	**21.17**	**355**	P	**P**	**23 00 29.9**	**+0.5**
X48A	**Hartselle**	**21.30**	**9**	P	**P**	**23 00 30.1**	**-0.8**
X48A				IAmb	IAmb	23 00 47.1	
comp=Z,11nm,0.8s							
UALR	**University of**	**21.32**	**357**	P	**P**	**23 00 30.2**	**-0.8**
UALR				IAmb	IAmb	23 00 35.1	
comp=Z,15nm,0.7s							
FPAL	**Fort Paine**	**21.66**	**13**	P	**P**	**23 00 33.5**	**-1.2**
PLAL	**Pickwick Lake**	**21.68**	**7**	P	**P**	**23 00 34.8**	**-0.1**
W41B	**Gary Mavity, V**	**21.71**	**358**	P	**P**	**23 00 34.4**	**-0.8**
WHAR	**Wooly Hollow**	**21.83**	**358**	P	**P**	**23 00 36.0**	**-0.5**
SWET	**Sewanee**	**22.25**	**11**	P	**P**	**23 00 40.4**	**-0.7**
SWET				IAmb	IAmb	23 00 44.9	
comp=Z,6.7nm,0.6s							
HODGE	**Hodges**	**22.28**	**20**	P	**P**	**23 00 40.0**	**-1.4**
MNTX	**Cornudas Mount**	**22.40**	**327**	P	**P**	**23 00 43.2**	**+0.5**
FCAR	**Ozark Folk Cen**	**22.42**	**358**	P	**P**	**23 00 40.9**	**-1.9**
LCAR	**Lake Charles**	**22.58**	**0**	P	**P**	**23 00 42.2**	**-2.4**
BG3	**Lake Jocassee**	**22.77**	**18**	P	**P**	**23 00 45.7**	**-0.9**
CPCT	**Cooper Cave**	**22.77**	**14**	P	**P**	**23 00 45.3**	**-1.3**
WVT	**Waverly**	**22.84**	**7**	P	**P**	**23 00 45.9**	**-1.4**
WVT				IAmb	IAmb	23 00 58.3	
comp=Z,13nm,0.8s							
U40A	**Yellville**	**22.92**	**357**	P	**P**	**23 00 47.2**	**-0.9**
CLTN	**Cedars of Leba**	**23.02**	**10**	P	**P**	**23 00 48.5**	**-0.7**
CLTN				IAmb	IAmb	23 01 01.4	
comp=Z,8.8nm,0.9s							
U38A	**Gravette**	**23.13**	**353**	P	**P**	**23 00 49.4**	**-0.9**
U38A				IAmb	IAmb	23 00 55.5	
comp=Z,11nm,1.2s							
TKL	**Tuckaleechee C**	**23.16**	**16**	P	**P**	**23 00 50.2**	**-0.4**
comp=Z,7.0nm,0.8s,baz=194,slow=11,SNR=11							
TKL	**Tuckaleechee C**	**23.16**	**16**	P	**P**	**23 00 49.1**	**-1.6**
TKL				IAmb	IAmb	23 00 50.8	
comp=Z,6.7nm,0.8s							
BIRD	**Birdtown, Kers**	**23.29**	**23**	P	**P**	**23 00 50.8**	**-1.1**
BIRD				IAmb	IAmb	23 01 03.1	
comp=Z,15nm,1.5s							
V52A	**Sevierville**	**23.38**	**16**	P	**P**	**23 00 52.0**	**-0.9**
V52A				IAmb	IAmb	23 00 52.9	
comp=Z,6.6nm,0.8s							
AMTX	**Amarillo**	**23.41**	**338**	P	**P**	**23 00 52.8**	**-0.4**
AMTX				IAmb	IAmb	23 01 00.3	
comp=Z,16nm,1.1s							
V53A	**Saluda**	**23.43**	**17**	P	**P**	**23 00 52.1**	**-1.3**
U49A	**Red Boiling Sp**	**23.53**	**11**	P	**P**	**23 00 53.0**	**-1.4**
U49A				IAmb	IAmb	23 01 06.7	
comp=Z,15nm,1.3s							
T47A	**Sharon Grove**	**23.78**	**8**	P	**P**	**23 00 54.6**	**-2.2**
TZTN	**Tazewell**	**24.05**	**15**	P	**P**	**23 00 57.8**	**-1.6**
TZTN				IAmb	IAmb	23 01 00.1	
comp=Z,8.6nm,0.7s							
T50A	**Nancy**	**24.21**	**12**	P	**P**	**23 00 58.5**	**-2.4**
T50A				IAmb	IAmb	23 01 01.0	
comp=Z,5.1nm,0.7s							
S44A	**Carbondale**	**24.27**	**4**	P	**P**	**23 01 00.2**	**-1.2**
121A	**Cookes Peak, D**	**24.36**	**324**	P	**P**	**23 01 04.0**	**+1.6**
U54A	**Nelsons Funny**	**24.52**	**18**	P	**P**	**23 01 02.7**	**-1.1**
CCM	**Cathedral Cave**	**24.56**	**360**	P	**P**	**23 01 02.5**	**-1.6**
CCM				IAmb	IAmb	23 01 08.1	
comp=Z,11nm,0.8s							
R40A	**Maddies Statio**	**24.82**	**358**	P	**P**	**23 01 05.1**	**-1.3**
R40A				IAmb	IAmb	23 01 10.5	
comp=Z,12nm,0.9s							
V58A	**Windy Hill, Pi**	**24.82**	**24**	P	**P**	**23 01 05.0**	**-1.4**
V58A				IAmb	IAmb	23 01 09.8	
comp=Z,7.6nm,0.7s							
BNM	**Barren Site**	**24.97**	**328**	P	**P**	**23 01 09.2**	**+1.1**
S51A	**Beattyville**	**25.08**	**14**	P	**P**	**23 01 07.4**	**-1.4**
S51A				IAmb	IAmb	23 01 23.8	
comp=Z,5.9nm,0.8s							
WCI	**Wyandotte Cave**	**25.12**	**9**	P	**P**	**23 01 07.6**	**-1.4**
SLM	**Saint Louis**	**25.16**	**2**	P	**P**	**23 01 09.0**	**-0.5**
ANMO	**Albuquerque**	**25.51**	**330**	P	**P**	**23 01 13.9**	**+1.0**
comp=Z,0.1nm,0.6s,baz=321,slow=11,SNR=12							
ANMO	**Albuquerque**	**25.51**	**330**	P	**P**	**23 01 14.2**	**+1.3**
S54A	**Dingess, Beckl**	**25.86**	**18**	P	**P**	**23 01 14.8**	**-1.0**
S54A				IAmb	IAmb	23 01 19.6	
comp=Z,5.7nm,0.7s							
P40A	**Paris**	**26.05**	**359**	P	**P**	**23 01 16.1**	**-1.4**
P40A				IAmb	IAmb	23 01 21.9	
comp=Z,7.7nm,0.7s							
Q51A	**Peebles**	**26.46**	**14**	P	**P**	**23 01 20.2**	**-1.1**
Q51A				IAmb	IAmb	23 01 21.2	
comp=Z,15nm,1.2s							
T59A	**Double "B" Far**	**26.47**	**25**	P	**P**	**23 01 20.0**	**-1.3**
T59A				IAmb	IAmb	23 01 21.7	
comp=Z,5.0nm,0.7s							
W18A	**Petrified Fore**	**27.36**	**325**	P	**P**	**23 01 30.0**	**+0.4**
W18A				IAmb	IAmb	23 01 33.3	
comp=Z,8.0nm,0.9s							
X16A	**Lo Mia Camp, P**	**27.83**	**322**	P	**P**	**23 01 34.6**	**+0.7**
X16A				IAmb	IAmb	23 01 38.2	
comp=Z,4.1nm,0.8s							
MVCO	**Mesa Verde**	**28.31**	**330**	P	**P**	**23 01 38.2**	**0.0**
MVCO				IAmb	IAmb	23 01 40.8	
comp=Z,4.2nm,0.8s							
O54A	**Avella**	**28.33**	**18**	P	**P**	**23 01 36.8**	**-1.3**
WUAZ	**Wupatki**	**28.57**	**324**	P	**P**	**23 01 41.4**	**+1.0**
WUAZ				IAmb	IAmb	23 01 44.6	
comp=Z,6.2nm,0.8s							
PV13	**Radium Mtn., P**	**29.22**	**331**	P	**P**	**23 01 46.6**	**+0.3**
PV13				IAmb	IAmb	23 01 51.4	
comp=Z,5.9nm,1.2s							
BIM	**Bigot**	**29.25**	**84**	*e*P	**P**	**23 01 47.9**	**+1.4**
SSPA	**Standing Stone**	**29.54**	**21**	P	**P**	**23 01 47.0**	**-1.8**
SSPA				IAmb	IAmb	23 02 05.1	
comp=Z,4.7nm,1.0s							
U15A	**North Rim**	**29.73**	**324**	P	**P**	**23 01 51.8**	**+0.9**
U15A				IAmb	IAmb	23

KDAK	Kodiak Island	63.64	328	P	P	23 06 14.6	-0.6
	comp=Z,5.3nm,0.7s,baz=77,slow=5.6,SNR=4.6						
KDAK	Kodiak Island	63.64	328	P	P	23 06 14.9	-0.3
IL31		63.70	337	P	P	23 06 14.8	-0.6
ILAR	Eielson Array	63.70	337	P	P	23 06 15.2	-0.2
	comp=Z,1.9nm,0.8s,baz=144,slow=4.3,SNR=23						
ILAR	Eielson Array	63.70	337	P	P	23 06 15.1	-0.4
BMAR	Burnt Mountain	64.13	340	P	P	23 06 18.0	-0.3
SKT	Skwentna	64.51	333	P	P	23 06 21.2	+0.3
ARCES	ARCESS Array B	86.47	18	P	P	23 08 24.2	-2.5
	comp=Z,1.2nm,0.8s,baz=269,slow=4.9,SNR=5.4						
SEY	Seymchan	89.62	336	P	P	23 08 41.2	-0.6
	comp=Z,2.1nm,0.4s,baz=291,slow=22,SNR=2.5						
BOSA	Boshof	119.39	115	PKP	PKPdf	23 14 34.6	0.0
	comp=Z,2.9nm,0.9s,baz=302,slow=2.6,SNR=4.0						
CMAR	Chiang Mai Arr	146.81	342	PKPbc	PKPdf	23 15 25.4	-0.3
	comp=Z,6.9nm,0.7s,baz=346,slow=3.3,SNR=31						

*NEIC **01** 23:01:33.1±2.2, 19°.85S±0°.05×133°.84E±0°.04, h6km±4km, Error ellipse: s-maj=8.3km s-min=4.8km az=202.0*
*AUST **01** 23:01:33.3±0.1, 19°.94S×133°.87E, h5km, Error ellipse: s-maj=0.4km s-min=0.2km az=30.0*
*IDC **01** 23:01:34.0±0.9, 19°.88S×133°.92E, h0km, mb4.1/3, mb1 4.1/6, mb1mx3.8/37, mbtmp4.1/6, ML3.8/3, MS3.4/2, Ms1 3.4/2, ms1mx2.7/25, Error ellipse: s-maj=7.1km s-min=3.7km az=98.0*
ISC 01 23:01:33.0±0.5, 19°.96S±0°.04×133°.87E±0°.04, h12km, n53, σ2s10/68, mb4.3/6, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	0.44	88	Pg	Pg	23 01 42.1	+0.4
	48nm,0.3s,baz=277,slow=18,SNR=748						
WRA				Lg	Lg	23 01 46.8	
	228nm,0.3s,baz=279,slow=30,SNR=35						
WRA	Warramunga Arr	0.44	88		Pg	23 01 42.5	+0.7
WRAB	Tennant Creek	0.45	86		Pb	23 01 42.8	-0.1
WRAB				Sg	Sg	23 01 48.3	+0.3
WB2	Warramunga Arr	0.46	88		Pg	23 01 42.8	+0.8
WB2				Sg	Sg	23 01 48.0	0.0
WB0	Warramunga Arr	0.53	69	Pg	Pg	23 01 43.3	-0.1
WB0				Sg	Sg	23 01 48.7	-1.7
WR0	Warramunga Arr	0.63	90		Pg	23 01 46.0	+0.7
AS31	Alice Springs	3.69	179	Pn	Pn	23 02 33.2	+3.3
ASAR	Alice Springs	3.69	179	Pn	Pb	23 02 35.5	-2.7
	7.9nm,0.3s,baz=5.2,slow=14,SNR=136						
ASAR				Pg	Pg	23 02 43.8	+0.2
	9.7nm,0.3s,baz=3.6,slow=17,SNR=30						
ASAR				Sn	Sb	23 03 20.4	-2.4
	16nm,0.3s,baz=0.5,slow=30,SNR=8.1						
ASAR				Lg	Lg	23 03 33.8	
	36nm,0.3s,baz=2.3,slow=30,SNR=15						
ASAR				LR	LR	23 04 03.4	
	comp=Z,160nm,18.2s,baz=74,slow=40						
ASAR	Alice Springs	3.69	179	Pn	Pn	23 02 32.5	+2.6
QIS	Mount Isa	5.42	97	P	Pn	23 02 55.4	+1.8
	baz=5.4,SNR=12						
QIS				S	Sn	23 03 54.7	-1.3
	baz=5.4						
AUKAT	Katherine High	5.68	344	S	Sn	23 03 59.1	-3.3
	baz=5.7,SNR=7.4						
KNRA	Kununurra	6.47	310	P	Pn	23 03 08.5	+0.5
	baz=6.5,SNR=12						
KNRA				S	Sn	23 04 18.1	-3.7
	baz=6.5						
KNRA	Kununurra	6.47	310	Pn	Pn	23 03 07.9	-0.1
WRKA	Warakurna	7.21	225	P	Pn	23 03 20.7	+2.4
	baz=7.2,SNR=12						
WRKA				S	Sn	23 04 42.8	+2.5
	baz=7.2						
KDU	Kakadu	7.36	349	P	Pn	23 03 19.9	-0.4
	baz=7.4,SNR=35						
KDU				S	Sn	23 04 40.1	-3.7
	baz=7.4,SNR=5.0						
MTN	Manton Dam	7.55	339	P	Pn	23 03 23.8	+0.9
	baz=7.6,SNR=8.3						
MTN				S	Sn	23 04 45.2	-3.3
	baz=7.6,SNR=4.7						
MTN	Manton Dam	7.55	339	Pn	Pn	23 03 22.3	-0.7
OOD	Oodnadatta	7.97	168	P	Pn	23 03 30.5	+1.8
	baz=8.0,SNR=21						
OOD				S	Sn	23 05 00.4	+1.6
	baz=8.0						
FITZ	Fitzroy Crossi	8.00	282	P	Pn	23 03 30.8	+1.6
	baz=8.0,SNR=29						
FITZ				S	Sn	23 04 54.4	-5.2
	baz=8.0,SNR=8.6						
FITZ	Fitzroy Crossi	8.00	282	Pn	Pn	23 03 30.0	+0.9
	2.3nm,0.3s,baz=97,slow=8.6,SNR=61						
FITZ				Sn	Sn	23 04 55.8	-3.9
	6.7nm,0.3s,baz=87,slow=14,SNR=11						
FITZ				Lg	Lg	23 05 46.7	
	10nm,0.3s,baz=211,slow=18,SNR=4.7						
FITZ	Fitzroy Crossi	8.00	282	Pn	Pn	23 03 29.6	+0.4
MTSU	Mount Surprise	10.05	81	P	Pn	23 03 58.6	+1.3
	baz=10.0,SNR=5.6						
MTSU				S	Sn	23 05 44.8	-5.2
	baz=10.0						
MULG	Mulgathing	10.28	179	P	Pn	23 04 03.1	+2.8
	baz=10,SNR=9.0						
MULG				S	Sn	23 05 54.1	-1.4
	baz=10						
COEN	Coen	10.72	58	P	Pn	23 04 05.4	-1.1
	baz=11,SNR=3.7						
COEN	Coen	10.72	58	Pn	Pn	23 04 05.8	-0.6
LCRK	Leigh Creek	11.15	160	P	Pn	23 04 14.2	+1.8
	baz=11,SNR=3.1						
CTA	Charters Tower	11.64	93	Pn	Pn	23 04 19.1	0.0
	0.2nm,0.3s,baz=264,slow=12,SNR=1.5						
CTA				Lg	Lg	23 07 39.5	
	0.7nm,0.3s,baz=8.0,slow=21,SNR=5.0						
CTAO	Charters Tower	11.64	93	Pn	Pn	23 04 19.3	+0.2
FORT	Forrest	11.98	205	P	Pn	23 04 24.2	+0.6
	baz=12,SNR=50						
FORT				S	Sn	23 06 34.5	-2.7
	baz=12						
FORT	Forrest	11.98	205	Pn	Pn	23 04 24.6	+1.0
BBOO	Buckleboo	12.95	172	P	Pn	23 04 37.7	+0.8
	baz=13						
BBOO	Buckleboo	12.95	172	Pn	Pn	23 04 38.7	+1.9
PSA00	Pilbara Seismi	13.21	261	Pn	Pn	23 04 40.1	-0.5
STKA	Stephens Creek	13.74	151	P	Pn	23 04 47.4	-0.3
	baz=14,SNR=4.3						
STKA	Stephens Creek	13.74	151	Pn	Pn	23 04 47.5	-0.3
	0.6nm,0.3s,baz=328,slow=12,SNR=7.7						
STKA				Sn	Sn	23 07 15.6	-4.8
	0.8nm,0.3s,baz=121,slow=9.3,SNR=4.1						
STKA	Stephens Creek	13.74	151		Pn	23 04 47.7	0.0
MEEK	Meekatharra	15.50	242	P	Pn	23 05 09.9	-1.6
	baz=16,SNR=6.7						
GIRL	Giralia	18.49	258	P	Pn	23 05 51.9	+2.7
	baz=18						
GIRL	Giralia	18.49	258	P	P	23 05 47.5	-1.5
MORW	Morawa	18.56	237	P	P	23 05 49.1	-0.7
NWAO	Narrogin (SRO)	19.68	226	P	P	23 06 01.8	-0.3
	1.3nm,0.3s,baz=42,slow=11,SNR=9.6						
NWAO				S	S	23 09 29.6	-14
	0.9nm,0.3s,baz=137,slow=6.2,SNR=2.5						
NWAO	Narrogin (SRO)	19.68	226	P	P	23 06 01.2	-0.8
NWAO				IAmb	IAmb	23 06 04.7	
	comp=Z,13nm,1.1s						
TOO	Toolangi	20.26	152	P	Pn	23 06 10.5	+0.2
TOO				IAmb	IAmb	23 06 16.8	
	comp=Z,25nm,1.1s						
RAR	Rarotonga	61.70	104	LR	LR	23 36 47.7	
	comp=Z,80nm,18.1s,baz=85,slow=34						
QSPA	South Pole Qui	70.09	180	P	P	23 12 45.8	+0.9
QSPA				IAmb	IAmb	23 12 59.4	
	comp=Z,5.4nm,1.4s						
SONM	Songino Array	71.85	341	P	P	23 12 58.4	+2.6
	comp=Z,0.3nm,0.4s,baz=159,slow=4.3,SNR=2.8						
MK31	Makanchi Array	81.08	327		P	23 13 49.8	+1.8
MK31				IAmb	IAmb	23 13 52.7	
	comp=Z,1.8nm,0.8s						
MKAR	Makanchi Array	81.08	327	P	P	23 13 50.5	+2.5
	comp=Z,2.2nm,0.7s,baz=136,slow=6.1,SNR=23						
MKAR	Makanchi Array	81.08	327	P	P	23 13 50.0	+2.0
BELA	Belgrano 2	82.13	182	P	P	23 13 54.9	+1.7
SNAA	Sanae	83.95	193	P	P	23 14 04.8	+2.0
SNAA				IAmb	IAmb	23 14 20.0	
	comp=Z,3.6nm,1.5s						
ZALV	Zalesovo Beam	84.80	333	P	P	23 14 10.0	+3.0
	comp=Z,1.2nm,0.7s,baz=124,slow=7.2,SNR=6.2						
ZALV	Zalesovo Beam	84.80	333		P	23 14 08.2	+1.2

*JMA **01** 23:17:15.7, 24°.25N×121°.92E, h32km±2km, M1.8*
*TAP **01** 23:17:15.9, 24°.29N×121°.94E, h23km, ML2.8, B*
ISC 01 23:17:16.2±0.9, 24°.28N±0°.02×121°.94E±0°.02, h27km±6km, n69, σ0s82/130, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	Nanao	0.20	326	P	Pb	23 17 22.1	-0.1
	baz=322						
ENAH				S	Sb	23 17 27.2	+1.0
	baz=322						
ENA	Nanau	0.23	310	*i* P	Pb	23 17 22.3	-0.2
	baz=307						
ENA				*i* S	Sb	23 17 27.4	+0.6
	baz=307						
NACB	Ninganchiao	0.33	251	P	Pb	23 17 23.5	-0.3
	baz=249						
NACB				S	Sn	23 17 30.1	-1.0
	baz=249						
TWC	Suao	0.34	346	P	Pb	23 17 23.8	-0.2
	baz=346						
TWC				S	Sb	23 17 29.4	+0.2
	baz=346						
TWD	Chiawan	0.37	237	P	Pb	23 17 24.4	0.0
	baz=235						
TWD				S	Sn	23 17 31.3	-0.8
	baz=235						
ETLH	Xiulin Townshi	0.42	260	P	Pb	23 17 24.9	-0.4
	baz=258						
ETLH				S	Sn	23 17 32.6	-0.9
	baz=258						
HWA	Hwalien	0.43	225	*e*P	Pb	23 17 25.2	-0.2
	baz=223						
HWA				*e*S	Sn	23 17 32.1	-1.4
	baz=223						
ENTT	Nioudou	0.49	317	P	Pb	23 17 25.9	-0.5
	baz=315						
ENTT				*e*S	Sb	23 17 33.6	+0.2
	baz=315						
NDT	Datong Townshi	0.50	310	P	Pb	23 17 26.3	-0.3
	baz=308						
NDT				*e*S	Sn	23 17 34.3	-1.1
	baz=308						
TWE	Neicheng	0.50	331	P	Pb	23 17 26.5	-0.1
	baz=330						
TWE				*e*S	Sb	23 17 33.3	-0.3
	baz=330						
NNSB	Datong	0.53	286	*i* P	Pb	23 17 26.8	-0.3
	baz=284						
NNSB				S	Sb	23 17 34.7	+0.3
	baz=284						
NNSH	Datong	0.53	286	P	Pb	23 17 26.7	-0.4
	baz=284						
NNSH				*e*S	Sb	23 17 34.2	-0.2
	baz=284						
NNS	Nan Shan	0.54	287	P	Pb	23 17 26.8	-0.4
	baz=285						
NNS				S	Sb	23 17 34.7	0.0
	baz=285						
EGS		0.56	360	P	Pb	23 17 26.7	-0.9
EGS				*e*S	Sb	23 17 35.7	+0.4
NTC	Toucheng	0.58	350	P	Pb	23 17 26.2	-1.6
	baz=349						
NTC				S	Sn	23 17 37.4	+0.1
	baz=349						
WHF	Hehuan Shan	0.63	258	P	Pb	23 17 28.5	-0.4
	baz=256						
WHF				*e*S	Sb	23 17 37.5	0.0
	baz=256						
FUSS	Fushou	0.63	267	P	Pb	23 17 28.6	-0.3
	baz=266						
FUSS				*e*S	Sn	23 17 37.7	-1.3
	baz=266						
NWLT	Wulai	0.63	322	P	Pb	23 17 28.2	-0.6
	baz=320						
NWLT				S	Sb	23 17 37.2	-0.2
	baz=320						
YHNB	Yeheng	0.64	307	*i* P	Pb	23 17 28.5	-0.5
	baz=306						
YHNB				S	Sn	23 17 38.0	-1.0
	baz=306						
ESL	Shilin	0.65	225	P	Pb	23 17 28.7	-0.4
	baz=223						
ESL				S	Sn	23 17 39.5	+0.4
	baz=223						
NSK	Sanguang	0.66	307	*e*P	Pb	23 17 28.8	-0.4
	baz=305						
NSK				S	Sb	23 17 37.9	-0.2
	baz=305						
TWT	Tachien	0.69	268	P	Pn	23 17 30.3	-0.1
	baz=266						
TWT				S	Sn	23 17 40.9	+0.4
	baz=266						
TIPB	Shuangxi	0.70	352	P	Pb	23 17 29.6	-0.2
	baz=350						
TIPB				*e*S	Sn	23 17 39.6	-0.6
	baz=350						
TDCB	Techi	0.71	268	P	Pn	23 17 30.0	-0.7
	baz=266						
TDCB				*e*S	Sn	23 17 40.0	-0.7
	baz=266						
TWB1	Santiao Chiao	0.73	4	P	Pb	23 17 29.9	-0.5
	baz=3.0						
TWB1				S	Sn	23 17 40.2	-0.7
	baz=3.0						
CHGB	Renai	0.73	253	P	Pn	23 17 30.5	-0.5
	baz=251						
CHGB				*e*S	Sn	23 17 40.6	-0.7
	baz=251						
EGFH	Guangfu	0.77	217	*e*P	Pn	23 17 30.6	-0.7
	baz=217						
EGFH				S	Sn	23 17 42.8	+0.9
	baz=217						
TWA	Mucha	0.77	335	P	Pn	23 17 31.5	+0.2
	baz=334						
TWA				*e*S	Sn	23 17 43.0	+1.0
	baz=334						
NWF	Wu-fen Shan	0.80	350	*e*P	Pb	23 17 30.8	-0.9
	baz=349						
NWF				S	Sn	23 17 43.1	+0.2
	baz=349						
WFSB	Wu-fen Shan	0.80	350	P	Pn	23 17 31.7	0.0
	baz=349						
WFSB				S	Sn	23 17 42.7	0.0
	baz=349						
TATO	Taipei	0.80	330	P	Pn	23 17 31.5	-0.3
	baz=329						
TATO				S	Sn	23 17 43.0	+0.2
	baz=329						
VWDT	VWDT	0.90	234	P	Pb	23 17 33.3	+0.1
	baz=233						
VWDT				*e*S	Sn	23 17 46.3	+1.2
	baz=233						
WHP	Taichung City	0.90	270	P	Pb	23 17 33.2	-0.1
	baz=269						
WHP				*e*S	Sn	23 17 45.8	+0.4
	baz=269						
HGSD	Ruisui	0.91	211	P	Pb	23 17 34.1	+0.6
	baz=210						
HGSD				*e*S	Sn	23 17 47.2	+1.6
	baz=210						
LIOB	Emei	0.91	294	P	Pb	23 17 33.6	+0.1
	baz=292						
LIOB				S	Sn	23 17 46.7	+1.1
	baz=292						
NSTT	Nanjuang	0.92	292	P	Pb	23 17 33.9	+0.3
	baz=291						
NSTT				S	Sn	23 17 46.1	+0.4
	baz=291						
YM10	YM10	0.94	339	*e*P	Pb	23 17 33.7	-0.2
	baz=337						
YM10				S	Sn	23 17 47.3	+1.1
	baz=337						
JYNG	Yonagunijimaku	0.94	79	P	Pn	23 17 33.0	-0.6
JYNG				S	Sn	23 17 46.6	+0.5
YM11	YM11	0.94	340	*e*P	Pb	23 17 33.9	-0.1
	baz=338						
YM11				*e*S	Sn	23 17 47.5	+1.1
	baz=338						
YM04	YM04	0.94	337	*e*P	Pn	23 17 33.5	-0.3
	baz=336						
YM04				*e*S	Sn	23 17 47.8	+1.4
	baz=336						
YM05	YM05	0.94	339	*e*P	Pn	23 17 32.7	-1.1
	baz=338						
YM05				*e*S	Sn	23 17 48.1	+1.7
	baz=338						
EHY	Hungye	0.95	216	*e*P	Pn	23 17 33.2	-0.7
	baz=215						
EHY				*e*S	Sn	23 17 46.6	0.0
	baz=215						
YM08	YM08	0.96	341	*e*P	Pn	23 17 33.3	-0.6
	baz=340						
YM08				*e*S	Sn	23 17 47.2	+0.5
	baz=340						
YM03	YM03	0.96	338	*e*P	Pb	23 17 34.2	-0.2
	baz=337						
YM03				*e*S	Sn	23 17 47.2	+0.2
	baz=337						
ANP	Anpu	0.98	337	*e*S	Sn	23 17 48.2	+0.9
	baz=336						
NTST	Danshui	0.98	333	*e*S	Sb	23 17 49.3	+2.0
	baz=332						
YOJ	Yonaguni jima	1.00	79	P	Pn	23 17 33.8	-0.6
	baz=79						
YOJ				S	Sb	23 17 48.1	+0.4
	baz=79						
YOJ	Yonaguni jima	1.00	79	P	Pn	23 17 33.8	-0.6
YOJ				*e*S	Sb	23 17 47.7	+0.1
SSLB	Suanglung	1.02	242	*e*P	Pb	23 17 35.0	-0.4
	baz=241						
SSLB				*e*S	Sb	23 17 49.6	+1.2
	baz=241						
SMLT	Sun Moon Lake	1.03	248	*e*P	Pb	23 17 35.9	+0.4
	baz=246						
SMLT				S	Sb	23 17 50.2	+1.6
	baz=246						
TWY	Chenhua	1.04	343	*e*S	Sb	23 17 51.1	+2.3
	baz=342						
TYC	Yuchr	1.05	249	*e*P	Pb	23 17 36.0	+0.2
	baz=248						
TYC				*e*S	Sb	23 17 50.2	+0.9
	baz=248						
YULB	Yu-li	1.06	214	P	Pn	23 17 33.9	-1.4
	baz=213						
YULB				S	Sb	23 17 49.0	-0.5
	baz=213						
TWQ1	Liyutan	1.06	274	*e*P	Pb	23 17 37.2	+1.2
	baz=272						
TWQ1				*e*S	Sb	23 17 52.0	+2.5
	baz=272						
NHW	Xinwu Township	1.08	312	*e*P	Pb	23 17 36.2	-0.2
	baz=311						
NHW				*e*S	Sb	23 17 51.2	+1.1
	baz=311						
EYUL	Yuli	1.09	211	P	Pb	23 17 37.3	+0.8
	baz=211						
EYUL				*e*S	Sb	23 17 52.5	+2.3
	baz=211						
TWF1	Yuli	1.09	212	*e*P	Pb	23 17 36.3	-0.2
	baz=211						
TWF1				S	Sb	23 17 49.9	-0.5
	baz=211						
WHYT	Xinyi Township	1.15	240	*e*P	Pb	23 17 36.9	-0.5
	baz=239						
WHYT				*e*S	Sb	23 17 52.8	+0.7
	baz=239						
WJS	Zhushan	1.20	248	*e*S	Sb	23 17 53.8	+0.5
	baz=247						
FULB	Fuli	1.23	209	*e*P	Pb	23 17 39.3	+0.5
	baz=208						
FULB				*e*S	Sb	23 17 56.1	+1.8
	baz=208						
ALS	Alishan	1.29	234	P	Pb	23 17 39.8	-0.2
	baz=233						
ALS				*e*S	Sb	23 17 57.0	+0.7
	baz=233						
CHN5	Tsauling	1.34	240	P	Pb	23 17 40.1	-0.6
	baz=239						
CHN5				S	Sb	23 17 57.4	-0.1
	baz=239						
ELDTW	Lidau	1.37	218	*e*S	Sb	23 17 59.4	+0.8
	baz=217						
EDH	Donghe	1.43	204	*e*P	Pb	23 17 42.2	+0.1
	baz=204						
EDH				S	Sb	23 18 01.0	+1.1
	baz=204						
IRIF	Iriomote-Funau	1.64	88	S	Sn	23 18 04.3	+0.9
TWGBT	Beinan	1.65	208	*e*S	Sn	23 18 04.3	+0.5
	baz=208						
TWG	Pinlang	1.66	209	*e*S	Sn	23 18 04.2	+0.3
	baz=208						
CHN1	Nanshi	1.69	230	*e*P	Pb	23 17 45.1	-1.6
	baz=229						
CHN1				*e*S	Sb	23 18 06.4	-1.1
	baz=229						
JIJ	Ishigaki jima	2.02	87	P	Pn	23 17 47.6	-0.9
JIJ				*e*S	Sn	23 18 12.9	+0.1

RSNC 01 23:32:27.0±1.8, 6°.82N×73°.16W, h144km±7km, ML3.5, Mw3.7, 6C-10D, Fault plane solution: NP1:ϕs48.00000°, δ51.00000°, λ18.00000°, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	186	⇑*i*P	Pn	23 32 46.6	-0.3
BARC				*e*S	Sn	23 33 01.2	-0.8
BARC				*i*		23 33 04.3	
	comp=Z,834nm,0.3s						
BRRC	Barranca, Sant	0.62	298	⇑*i*P	Pn	23 32 48.5	+0.2
BRRC				*e*S	Sn	23 33 04.9	+0.4
BRRC				*i*		23 33 09.4	
	comp=Z,581nm,0.2s						
PAMC	Pamplona, Colo	0.69	41	⇑*i*P	Pn	23 32 49.4	+0.1
PAMC				*i*		23 32 49.8	
	comp=Z,1μm,0.2s						
PAMC				*e*S	Sn	23 33 06.6	+0.4
RUSC	La Rusia	0.92	175	⇓*i*P	Pn	23 32 50.5	-0.6
RUSC				*e*S	Sn	23 33 08.7	-0.7
RUSC				*i*		23 33 10.7	
	comp=Z,433nm,0.3s						
PTBC	PUERTO BERRIO,	1.32	258	⇓*e*P	Pn	23 32 53.0	-1.2
PTBC				*e*S	Sn	23 33 14.5	-0.5
PTBC				*i*		23 33 16.9	
	comp=Z,345nm,0.1s						
TAMC	Tame, Arauca	1.41	106	⇑*i*P	Pn	23 32 55.1	-0.1
TAMC				*i*		23 32 55.2	
	comp=Z,616nm,0.4s						
TAMC				*e*S	Sn	23 33 15.7	-1.0
OCAC	Ocana	1.42	354	⇓*e*P	Pn	23 32 54.7	-0.7
OCAC				*e*S	Sn	23 33 16.7	-0.4
OCAC				*i*		23 33 25.0	
	comp=Z,331nm,0.3s						
SPBC	San Pablo de B	1.47	218	⇓*e*P	Pn	23 32 55.3	-0.6
SPBC				*e*S	Sn	23 33 17.4	-0.6
SPBC				*i*		23 33 23.7	
	comp=Z,646nm,0.2s						
ZARC	Zaragoza, Cauc	1.81	292	*e*P	Pn	23 32 58.9	-0.7
ZARC				*e*S	Sn	23 33 24.0	-0.5
ZARC				*i*		23 33 29.7	
	comp=Z,278nm,0.3s						
NORC	Norcasia	2.11	234	*e*P	Pn	23 33 02.4	-0.7
NORC				*e*S	Sn	23 33 30.6	-0.3
NORC				*i*		23 33 37.4	
	comp=Z,277nm,0.2s						
SMLC	San Martn de	2.17	335	⇓*e*P	Pn	23 33 02.8	-1.0
SMLC				*e*S	Sn	23 33 31.1	-1.0
SMLC				*i*		23 33 34.8	
	comp=Z,388nm,0.1s						
CHIC	Chingaza	2.25	195	⇓*i*P	Pn	23 33 04.5	-0.7
CHIC				*e*S	Sn	23 33 33.1	-1.3
CHIC				*i*		23 33 40.3	
	comp=Z,205nm,0.3s						
ROSC	El Rosal	2.28	211	*e*P	Pn	23 33 06.6	+1.1
ROSC				*e*S	Sn	23 33 35.7	+0.6
ROSC				*i*		23 33 41.3	
	comp=Z,419nm,0.4s						
HELC	Santa Helena	2.44	255	*e*P	Pn	23 33 06.5	-0.9
HELC				*e*S	Sn	23 33 38.1	-0.3
HELC				*i*		23 33 45.2	
	comp=Z,181nm,0.5s						
UREC	San Jos de Ur	2.53	292	*e*P	Pn	23 33 06.3	-1.9
UREC				*e*S	Sn	23 33 37.8	-2.1
UREC				*i*		23 33 48.8	
	comp=Z,190nm,0.2s						
GUY2C	Guyana, Caldas	2.71	234	*e*P	Pn	23 33 10.4	-0.5
GUY2C				*e*S	Sn	23 33 45.0	+0.4
GUY2C				*i*		23 33 56.9	
	comp=Z,210nm,0.5s						
VILC	Villavicencio,	2.74	191	⇓*e*P	Pn	23 33 09.8	-1.2
VILC				*e*S	Sn	23 33 44.3	-0.6
VILC				*i*		23 33 53.8	

comp=Z,218nm,0.5s
CBOC Ciudad Bolivar 2.99 252 *e*P Pn 23 33 14.2 0.0
CBOC *e*S Sn 23 33 49.4 -1.2
DBBC Dabeiba 3.04 274⇑*i*P Pn 23 33 13.9 -0.8
TOLC Tolima 3.09 224 *e*P Pn 23 33 15.5 -0.1
TOLC *e*S Sn 23 33 52.7 -0.5
MOTC Monteria, Cord 3.16 308⇓*e*P Pn 23 33 13.7 -2.4
MOTC *e*S Sn 23 33 51.4 -2.8
MOTC *i* 23 33 54.6
comp=Z,81nm,0.5s
ARGC Ariguani, Magd 3.21 340 *e*P Pn 23 33 17.0 +0.2
ARGC *e*S Sn 23 33 54.7 -0.6
ARGC *i* 23 34 06.8
comp=Z,82nm,0.2s
ANIL Santa Ana 3.22 224 *e*P Pn 23 33 17.8 +0.6
ANIL *e*S Sn 23 33 57.3 +1.3
ANIL *i* 23 34 03.6
comp=Z,50nm,0.3s
SDV Santo Domingo 3.24 50⇑*e*P Pn 23 33 16.2 -1.2
SDV *e*S Sn 23 33 52.6 -3.7
PRAC Prado 3.53 209⇓*e*P Pn 23 33 19.8 -1.3
PRAC *e*S Sn 23 34 02.0 -1.0
PRAC *i* 23 34 09.0
comp=Z,199nm,0.3s
ORTC Ortega, Tolima 3.56 216 *e*P Pn 23 33 20.7 -0.7
ORTC *e*S Sn 23 34 03.4 -0.2
ORTC *i* 23 34 10.5
comp=Z,100nm,0.3s
PLMC San Jos del P 3.64 239 *e*P Pn 23 33 22.3 -0.3
PLMC *i* 23 33 24.8
comp=Z,217nm,0.1s
PLMC *e*S Sn 23 34 04.7 -0.8
SJCC San Jacinto, C 3.65 327 *e*P Pn 23 33 20.5 -2.1
SJCC *i* 23 33 22.5
comp=Z,50nm,0.3s
SJCC *e*S Sn 23 34 00.4 -5.4
CVALL Valledupar, Ce 3.67 358 *e*P Pn 23 33 20.2 -2.5
CVALL *e*S Sn 23 34 01.4 -4.6
YOTC Yotoco, Valle 4.24 229 *e*P Pn 23 33 29.2 -1.2
YOTC *i* 23 33 33.5
comp=Z,17nm,0.4s
GUVC San Jose del G 4.28 173 *e*P Pn 23 33 29.1 -1.8
GUVC *e*S Sn 23 34 16.8 -3.6
GUVC *i* 23 34 24.3
comp=Z,100nm,0.2s
SMRC Santa Marta, M 4.44 346 *e*P Pn 23 33 31.8 -1.2
SMRC *e*S Sn 23 34 18.4 -5.9
SMRC *i* 23 34 24.0
comp=Z,43nm,0.3s
MACC Macarena, Meta 4.69 188⇓*e*P Pn 23 33 33.5 -2.8
MACC *i* 23 33 34.4
comp=Z,104nm,0.4s
MACC *e*S Sn 23 34 24.9 -5.4
URIC Uribia, Colomb 4.99 13 *e*P Pn 23 33 37.3 -2.9
URIC *e*S Sn 23 34 29.4 -7.8
URIC *i* 23 34 39.5
comp=Z,15nm,0.6s
GARC Garzon, Huila 5.16 207 *e*P Pn 23 33 40.8 -1.9
GARC *e*S Sn 23 34 36.7 -4.9
PCON Cinco Dias 5.51 216 *e*P Pn 23 33 47.6 -0.1
PCON *e*S Sn 23 34 49.0 -1.5
PCON *i* 23 34 53.0
comp=Z,14nm,0.5s
FLOC Florencia 5.77 206 *e*P Pn 23 33 49.7 -0.9
FLOC *i* 23 33 51.8
comp=Z,15nm,0.2s
FLOC *e*S Sn 23 34 54.2 -1.7

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*IDC **01** 23:34:18.2±8.5, 22°.2S×178°.33W, h336km±80km, mb3.4/11, mb1 3.7/11, mb1mx3.6/22, mbtmp4.1/11, Error ellipse: s-maj=36.8km s-min=24.5km az=141.0*
ISC 01 23:34:19.6±0.9, 22°.2S±0°.2×178°.3W±0°.2, h350km, n15, σ1§18/16, mb3.8/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.79**	**246**	P	**P**	**23 40 55.3**	**0.0**
	2.3nm,0.6s,baz=340,slow=9.7,SNR=3.4						
ASAR	**Alice Springs**	**43.86**	**259**	P	**P**	**23 41 52.4**	**-0.4**
	9.6nm,0.9s,baz=92,slow=8.0,SNR=87						
ASAR				PcP	**PcP**	**23 43 29.8**	**-2.4**
	0.5nm,0.7s,baz=120,slow=3.7,SNR=2.6						
WRA	**Warramunga Arr**	**44.09**	**264**	P	**P**	**23 41 53.6**	**-1.0**
	3.7nm,0.7s,baz=100,slow=8.1,SNR=22						
PETK	**Petropavlovsk-**	**77.86**	**345**	P	**P**	**23 45 39.3**	**+0.4**
	1.2nm,0.6s,baz=152,slow=6.5,SNR=2.0						
MAW	**Mawson**	**79.85**	**200**	P	**P**	**23 45 51.0**	**+1.5**
	2.7nm,1.1s,baz=105,slow=14,SNR=4.1						
USRK	**Ussuriysk Ar.**	**80.22**	**326**	P	**P**	**23 45 53.1**	**+1.3**
	1.2nm,0.8s,baz=126,slow=9.8,SNR=5.4						
NVAR	**Mina Array Bea**	**82.48**	**43**	P	**P**	**23 46 03.7**	**-0.3**
	0.3nm,0.5s,baz=230,slow=13,SNR=4.2						
TXAR	**Lajitas Array**	**88.23**	**57**	P	**P**	**23 46 32.4**	**+0.2**
	0.4nm,0.8s,baz=224,slow=5.2,SNR=4.9						
ILAR	**Eielson Array**	**90.06**	**13**	P	**P**	**23 46 39.8**	**+0.1**
	0.2nm,0.3s,baz=224,slow=5.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**90.41**	**290**	P	**P**	**23 46 44.0**	**+1.5**
	1.2nm,0.5s,baz=140,slow=3.1,SNR=8.2						
PDAR	**Pinedale Array**	**90.42**	**43**	P	**P**	**23 46 41.6**	**-0.6**
	0.4nm,0.7s,baz=197,slow=4.6,SNR=3.7						
ARCES	**ARCESS Array B**	**130.56**	**349**	PKP	**PKiKP**	**23 52 49.1**	**-0.1**
	0.7nm,0.5s,baz=343,slow=1.3,SNR=9.0						
AKASG	**Malin Array Be**	**144.36**	**330**	PKP	**PKPdf**	**23 53 12.7**	**-1.5**
	1.2nm,0.4s,baz=44,slow=4.4,SNR=7.0						
BRTR	**Keskin Array B**	**147.75**	**310**	PKPbc	**PKPbc**	**23 53 22.4**	**-1.4**
	0.7nm,0.5s,baz=132,slow=5.3,SNR=4.5						
GERES	**GERESS Array B**	**151.77**	**343**	PKPbc	**PKiKP**	**23 53 33.4**	**0.0**
	0.4nm,0.5s,baz=50,slow=4.2,SNR=4.5						

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*TEH **02** 00:06:39.8, 32°.57N×47°.73E, h8km, ML3.0*
*THR **02** 00:06:39.5±0.6, 32°.51N×47°.56E, h14km±10km, ML3.2*
*ISN **02** 00:06:40.6±0.5, 32°.73N×47°.39E, h0km±4km, ML3.2*
ISC 02 00:06:41.1±1.0, 32°.49N±0°.04×47°.66E±0°.03, h10km, n29, σ0§87/33, 1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.38**	**301**	*e*Pg	**Pg**	**00 06 48.1**	**-0.5**
SHGR	**Shooshtar-Gavs**	**1.04**	**111**	*e*Pg	**Pg**	**00 07 00.1**	**-0.9**
SHGR				*e*Sg	**Sb**	**00 07 15.9**	**+1.2**
SHGR	**Shooshtar-Gavs**	**1.04**	**111**	*e*Pg	**Pg**	**00 07 00.1**	**-0.9**
AHWZ	**Ahwaz**	**1.42**	**144**	*e*Pg	**Pn**	**00 07 07.2**	**+0.2**
BMDN	**Meydan**	**1.53**	**39**	*e*		00 07 33.6	
BMDN				*e*Pg	**Pn**	**00 07 07.2**	**-1.5**
IBDR	**Badra**	**1.59**	**294**	*e*Pg	**Pn**	**00 07 09.0**	**-0.3**
	baz=107						
IBDR				*e*Sg	**Sn**	**00 07 29.0**	**-0.8**
IBDR				AML	AML	00 07 37.0	
	comp=E,251nm,0.5s						
IBDR				AML	AML	00 07 37.6	
	comp=N,238nm,0.7s						
IKOM	**Komasi**	**1.69**	**356**	*e*Pg	**Pn**	**00 07 10.9**	**+0.1**
IKOM				*e*		00 07 42.3	
KCHF	**Cheshme Sefid,**	**1.86**	**344**	*e*Pg	**Pn**	**00 07 13.6**	**+0.4**
KCHF				*e*		00 07 45.1	
HSAM	**Samen**	**1.89**	**24**	*e*Pg	**Pn**	**00 07 13.7**	**0.0**
HSAM				*e*		00 07 42.0	
KER	**Kermanshah**	**1.94**	**347**	*e*Pg	**Pn**	**00 07 15.7**	**+1.3**
NSR	**Nassriya**	**1.96**	**222**	*e*Pn	**Pn**	**00 07 16.0**	**+1.6**
NSR				*e*Sn	**Sb**	**00 07 41.0**	**-0.4**
NSR				AML	AML	00 07 45.5	
	comp=E,802nm,0.2s						
IBZA	**Bozab**	**1.98**	**5**	*e*Pn	**Pn**	**00 07 14.9**	**-0.1**
IBZA				*e*		00 07 46.3	
IGHG	**Ghaleghazi**	**2.05**	**334**	*e*Pn	**Pn**	**00 07 16.3**	**+0.4**
IGHG				*e*		00 07 52.8	
IVIS	**Veis**	**2.15**	**342**	*e*Pn	**Pn**	**00 07 16.6**	**-0.5**
IVIS				*e*		00 07 53.0	
KHMZ	**Khomeyn**	**2.30**	**56**	*e*Pn	**Pn**	**00 07 19.8**	**+0.5**
KHMZ	**Khomeyn**	**2.30**	**56**	*e*Pn	**Pn**	**00 07 19.8**	**+0.5**
IALM	**Almabolaq**	**2.41**	**10**	*e*Pn	**Pn**	**00 07 21.3**	**+0.5**
IDHR	**Dehrash**	**2.45**	**335**	*e*Pn	**Pn**	**00 07 21.2**	**-0.2**
IDHR				*e*		00 08 05.6	
ILIN	**Lien**	**2.50**	**347**	*e*Pn	**Pn**	**00 07 22.5**	**+0.5**
ILIN				*e*		00 08 09.2	
JHBN	**Jahan bin**	**2.56**	**95**	*e*Pn	**Pn**	**00 07 22.8**	**-0.1**
JHBN				*e*		00 08 13.3	
HAGD	**Aghdareh**	**2.64**	**27**	*e*Pn	**Pn**	**00 07 23.8**	**-0.1**
HAGD				*e*		00 08 07.7	
IPIR	**Pirpir**	**2.73**	**85**	*e*Pn	**Pn**	**00 07 25.2**	**-0.1**
IPIR				*e*		00 08 17.6	
HSRG	**Sareghieh**	**2.80**	**10**	*e*Pn	**Pn**	**00 07 26.7**	**+0.5**
HSRG				*e*		00 08 14.5	
ASAO	**Ashtian**	**2.85**	**43**⇓*e*Pn		**Pn**	**00 07 27.7**	**+0.8**
ASAO				*e*Sg	**Sb**	**00 08 09.9**	**+2.6**
ASAO	**Ashtian**	**2.85**	**43**	*e*Pn	**Pn**	**00 07 27.7**	**+0.8**
ROKH	**ROKH**	**2.86**	**92**	*e*Pn	**Pn**	**00 07 27.1**	**+0.1**
IRAZ	**Razeghan**	**3.47**	**32**	*e*Pn	**Pn**	**00 07 34.6**	**-0.8**
QABG	**Abgarm-Qazvin**	**3.59**	**26**	*e*Pn	**Pn**	**00 07 37.7**	**+0.7**
QSDN	**Sirdan**	**4.20**	**17**	*e*Pn	**Pn**	**00 07 44.3**	**-1.1**

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*PRU **02** 00:12:09.4±0.0, 52°.91N×8°.05E, h26km*
*BGR **02** 00:12:09.9±0.2, 52°.79N×8°.19E, h5km, ML2.8/10, Error ellipse: s-maj=3.3km s-min=2.2km az=156.0*
*BUG **02** 00:12:10.8±0.4, 52°.75N×8°.27E, h1km±3km, MD3.3/13, ML3.3/13*
*LDG **02** 00:12:10.0±0.1, 52°.80N×8°.11E, h5km, Md3.3/2, Ml2.9/24, Error ellipse: s-maj=2.5km s-min=1.5km az=149.0*
*DNK **02** 00:12:12.2±1.6, 53°.16N×8°.23E, h5km±76km, Hypocentre not reviewed by the ISC*
*BNS **02** 00:12:12.2±0.7, 52°.80N×8°.04E, h10km, ML2.6*
ISC 02 00:12:07.6±0.8, 52°.76N±0°.03×8°.04E±0°.03, h0km, n73, σ1§91/110, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBBE	**Ibbenbueren Ea**	**0.48**	**198**	Pg	**Pn**	**00 12 20.7**	**-1.0**
IBBN	**Ibbenburen**	**0.48**	**201**	*e*Pg	**Pn**	**00 12 20.9**	**-0.8**
	SNR=22						
IBBN				*e*Sg	**Sb**	**00 12 30.5**	**+4.0**
	SNR=1.4						
IBBS	**Ibbenbueren So**	**0.50**	**201**	Pg	**Pn**	**00 12 21.5**	**-0.6**
WTSB	**Winterswijk**	**1.10**	**224**	*e*Pn	**Pn**	**00 12 31.5**	**+1.3**
	SNR=32						
WTSB				*e*Sg	**Sn**	**00 12 49.3**	**+3.2**
	SNR=3.2						
HMES	**Hamm, Michael-**	**1.12**	**190**	Pg	**Pn**	**00 12 32.5**	**+2.1**
BAVN	**Auguste-Victor**	**1.17**	**209**	Pg	**Pn**	**00 12 33.5**	**+2.4**
NRDL	**Niedersach Rie**	**1.29**	**101**	*e*Pn	**Pg**	**00 12 32.1**	**-0.2**
	SNR=27						
NRDL				*e*Sg	**Sb**	**00 12 50.2**	**+0.5**
	SNR=1.2						
BZER	**Hlnxe**	**1.35**	**213**	Pn	**Pn**	**00 12 36.4**	**+2.8**
BULI	**Ruhr-Universit**	**1.39**	**201**	Pn	**Pb**	**00 12 35.7**	**+1.3**
BTEZ	**Ruhr-Universit**	**1.39**	**200**	Pn	**Pb**	**00 12 37.5**	**+3.1**
BKLB	**Ruhr-Universit**	**1.40**	**200**	Pn	**Pb**	**00 12 35.8**	**+1.2**
BUG	**Bochum--Univer**	**1.40**	**200**	*e*Pn	**Pb**	**00 12 35.9**	**+1.3**
	SNR=5.6						
HLG	**Helgoland**	**1.44**	**356**	*e*Pn	**Pb**	**00 12 36.1**	**+0.9**
	SNR=3.1						
HLG				*e*Sn	**Sg**	**00 12 54.7**	**+1.0**
LAUG	**Laupendahl**	**1.56**	**206**	*e*Pn	**Pg**	**00 12 38.9**	**+1.4**
LAUG				*e*Sn	**Sg**	**00 12 58.1**	**+0.4**
	42nm,0.6s						
GTTG	**Gottingen**	**1.69**	**135**	*e*Pn	**Pn**	**00 12 38.6**	**+0.1**
	SNR=8.4						
CLZ	**Clausthal**	**1.70**	**122**	*e*Pn	**Pn**	**00 12 38.0**	**-0.6**
	SNR=20						
BSEG	**Bad Segeberg**	**1.81**	**48**	*e*Pn	**Pn**	**00 12 38.0**	**-1.9**
	SNR=10.0						
BSEG				*e*Sn	**Sn**	**00 12 59.5**	**-4.1**
HOBG	**Hohbusch**	**1.83**	**194**	*e*Pn	**Pg**	**00 12 44.8**	**+2.2**
STB	**Steinbach**	**2.29**	**200**	*e*Pn	**Pn**	**00 12 48.2**	**+1.6**
STB				*e*Sn	**Sb**	**00 13 17.3**	**-1.3**
	39nm,0.3s						
UBBA	**Unterbreizbach**	**2.29**	**147**	*e*Pn	**Pn**	**00 12 46.5**	**0.0**
	SNR=4.6						
UBBA				*e*Sn	**Sn**	**00 13 13.1**	**-2.2**
AHRW	**Bad Neuenahr-A**	**2.30**	**196**	*e*Pn	**Pn**	**00 12 48.3**	**+1.6**
	SNR=3.7						
KLL	**Kalltalsperre**	**2.37**	**208**	*e*Pn	**Pb**	**00 12 50.5**	**-0.6**
DREG	**Dreilaegerbach**	**2.38**	**209**	*e*Pn	**Pb**	**00 12 50.8**	**-0.5**
TNS	**Taunus Mts**	**2.55**	**174**	*e*Pn	**Pn**	**00 12 52.0**	**+1.7**
	SNR=3.5						
BGG	**Burgeitz**	**2.59**	**190**	*e*Pn	**Pn**	**00 12 52.9**	**+2.2**
HILG	**Hillesheim**	**2.61**	**200**	*e*Pn	**Pb**	**00 12 53.7**	**-1.5**
MOX	**Moxa**	**3.07**	**132**	*e*Pn	**Pn**	**00 12 57.5**	**+0.2**
	SNR=3.0						
GIVF	**Givet**	**3.33**	**218**	*e*Pn	**Pn**	**00 13 01.7**	**+0.7**
GIVF	**Givet**	**3.33**	**218**	*e*Pg	**Pg**	**00 13 12.8**	**+1.3**
GIVF				*e*Sn	**Sn**	**00 13 40.1**	**-1.1**
	5.7nm,0.2s						
GIVF				*e*Sg	**Sg**	**00 13 57.2**	**+2.6**
	12nm,0.3s						
CLL	**Collm**	**3.39**	**113**	*e*Pn	**Pn**	**00 13 02.0**	**+0.3**
CLL				*e*Pg	**Pg**	**00 13 13.0**	**+0.5**
CLL				*e*		00 13 22.0	
CLL				*e*Sg	**Sg**	**00 13 55.0**	**-1.4**
	comp=Z,7.0nm,0.6s						
WERD	**Werda**	**3.52**	**129**	*e*Pn	**Pn**	**00 13 04.2**	**+0.6**
	SNR=2.5						
BAIF	**Baives**	**3.61**	**223**	*e*Pn	**Pn**	**00 13 06.0**	**+1.2**
BAIF	**Baives**	**3.61**	**223**	*e*Pg	**Pg**	**00 13 18.5**	**+1.7**
BAIF				*e*Sn	**Sn**	**00 13 47.0**	**-1.1**
	comp=Z,2.8nm,0.3s						
BAIF				*e*Sg	**Sg**	**00 14 05.2**	**+1.6**
	comp=Z,4.8nm,0.3s						
TANN	**Tannenbergstha**	**3.62**	**129**	*e*Pn	**Pn**	**00 13 05.6**	**+0.7**
	SNR=4.4						
NKC	**Novy Kostel**	**3.74**	**131**	*e*PN	**Pn**	**00 13 06.8**	**+0.3**
NKC				*e*SG	**Sg**	**00 14 10.8**	**+3.2**
	comp=Z,11nm,0.7s						
MUD	**Monsted U'grnd**	**3.77**	**10**	*i* P	**Pn**	**00 13 05.2**	**-1.7**
BRG	**Berggiesshubel**	**4.12**	**115**	*e*Pn	**Pn**	**00 13 12.1**	**+0.3**
	SNR=4.0						
BRG	**Berggiesshubel**	**4.12**	**115**	PN	**Pn**	**00 13 11.9**	**+0.2**
BRG				*e*		00 14 09.2	
BRG	**Berggiesshubel**	**4.12**	**115**	SG	**Sg**	**00 14 23.8**	**+3.9**
	comp=Z,3.9nm,1.0s						
CDF	**Champ du Feu**	**4.38**	**187**	*e*Pn	**Pn**	**00 13 15.1**	**-0.3**
CDF	**Champ du Feu**	**4.38**	**187**	*e*Pg	**Pg**	**00 13 31.3**	**-0.1**
CDF				*e*Sn	**Sn**	**00 14 03.8**	**-3.3**
	comp=Z,2.7nm,0.4s						
CDF				*e*Sg	**Sg**	**00 14 27.7**	**-0.4**
	comp=Z,8.1nm,0.5s						
PAGF	**Fort de Pagny**	**4.46**	**200**	*e*Pn	**Pn**	**00 13 17.1**	**+0.7**
	baz=21						
PAGF				*e*Sn	**Sn**	**00 14 06.6**	**-2.3**
	comp=Z,4.3nm,0.4s						
PAGF				*e*Sg	**Sg**	**00 14 31.5**	**+0.8**
	comp=Z,5.0nm,0.4s,baz=19						
MEZF	**Maizieres J'vi**	**4.66**	**205**	*e*Pn	**Pn**	**00 13 19.6**	**+0.4**
	baz=26						
MEZF	**Maizieres J'vi**	**4.66**	**205**	*e*Pg	**Pg**	**00 13 37.5**	**+0.6**
	baz=32						
MEZF				*e*Sn	**Sn**	**00 14 11.0**	**-3.0**
	comp=Z,5.4nm,0.4s,baz=29						
MEZF				*e*Sg	**Sg**	**00 14 37.9**	**+0.6**
	comp=Z,5.4nm,0.5s						
HAU	**Haudompre**	**4.88**	**193**	*e*Pn	**Pn**	**00 13 22.1**	**-0.1**
HAU				*e*Sn	**Sn**	**00 14 15.7**	**-3.6**
HAU				*e*Sg	**Sg**	**00 14 44.6**	**+0.4**
	comp=Z,6.8nm,0.4s						
PRU	**Pruhonice**	**4.92**	**122**	*e*PN	**Pn**	**00 13 22.9**	**+0.1**
SFTF	**Sexfontaines**	**4.94**	**204**	*e*Pn	**Pn**	**00 13 23.4**	**+0.3**
	baz=21						
SFTF	**Sexfontaines**	**4.94**	**204**	*e*Pg	**Pg**	**00 13 41.8**	**-0.5**
SFTF				*e*Sn	**Sn**	**00 14 17.8**	**-3.1**
SFTF				*e*Sg	**Sg**	**00 14 46.4**	**+0.1**
	comp=Z,6.5nm,0.6s						
HINF	**Hinteralfeld**	**5.00**	**189**	*e*Pn	**Pn**	**00 13 23.6**	**-0.3**
HINF	**Hinteralfeld**	**5.00**	**189**	*e*Pg	**Pg**	**00 13 43.2**	**-0.2**
HINF				*e*Sn	**Sn**	**00 14 18.7**	**-3.8**
HINF				*e*Sg	**Sg**	**00 14 48.0**	**-0.2**
	comp=Z,8.2nm,0.7s						
KHC	**Kasperske Hory**	**5.04**	**134**	*e*PN	**Pn**	**00 13 25.3**	**+0.8**
KHC				*e*SG	**Sg**	**00 14 53.1**	**+3.6**
GEC2	**GERESS Array S**	**5.31**	**135**	*e*Pn	**Pn**	**00 13 29.1**	**+0.9**
	SNR=2.4						
DAVA	**Damuels**	**5.60**	**167**	*i* Pn	**Pn**	**00 13 33.9**	**+1.6**
	comp=Z,0.3nm,0.1s						
MOTA	**Moosalm**	**5.76**	**159**	*e*Pn	**Pn**	**00 13 35.1**	**+0.7**
	comp=Z,0.7nm,0.2s						
WATA	**Walderalm**	**5.88**	**156**	*i* Pn	**Pn**	**00 13 36.9**	**+0.8**
	comp=Z,1.0nm,0.2s						
SQTA	**Sankt Quirin**	**5.91**	**159**	*e*Pn	**Pn**	**00 13 37.8**	**+1.4**
	comp=Z,0.8nm,0.2s						
WTTA	**Wattenberg**	**5.96**	**156**	*e*Pn	**Pn**	**00 13 38.2**	**+0.9**
	comp=Z,1.1nm,0.3s						
FETA	**Feichten**	**6.00**	**162**	*e*Pn	**Pn**	**00 13 39.2**	**+1.5**
	comp=Z,1.3nm,0.4s						
LOR	**Lormes**	**6.12**	**208**	*e*Pn	**Pn**	**00 13 39.3**	**+0.1**
	baz=36						
LOR				*e*Sn	**Sn**	**00 14 46.2**	**-3.7**
	comp=Z,2.5nm,0.5s,baz=29						
LOR				*e*Sg	**Sg**	**00 15 23.6**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=28						
CABF	**La Chapelle**	**6.28**	**192**	*e*Pn	**Pn**	**00 13 41.7**	**+0.2**
SSF	**Saint Saulge**	**6.41**	**209**	*e*Pn	**Pn**	**00 13 44.0**	**+0.8**
SSF				*e*Sn	**Sn**	**00 14 52.8**	**-4.2**
	comp=Z,1.1nm,0.4s						
SSF				*e*Sg	**Sg**	**00 15 32.8**	**-0.5**
	comp=Z,2.1nm,0.4s						
LDF	**La Druitiere**	**6.65**	**234**	*e*Pn	**Pn**	**00 13 46.9**	**+0.4**
LDF				*e*Sn	**Sn**	**00 14 59.7**	**-3.3**
	comp=Z,1.1nm,0.3s						
LDF				*e*Sg	**Sg**	**00 15 40.3**	**-0.8**
	comp=Z,0.4nm,0.3s						
ABTA	**Abfaltersbach**	**6.67**	**153**	*e*Pn	**Pn**	**00 13 48.1**	**+1.2**
	comp=Z,0.8nm,0.3s						
SMF	**Signal de Mont**	**6.69**	**206**	*e*Pn	**Pn**	**00 13 47.5**	**+0.4**
SMF				*e*Sn	**Sn**	**00 14 58.4**	**-5.7**
SMF				*e*Sg	**Sg**	**00 15 41.3**	**-1.2**
	comp=Z,1.9nm,0.4s						
AVF	**Avril sur Loir**	**6.70**	**209**	*e*Pn	**Pn**	**00 13 46.9**	**-0.2**
FLN	**La Foliniere**	**6.72**	**237**	*e*Pn	**Pn**	**00 13 47.9**	**+0.4**
	baz=52						
BGF	**Bois d'Agland**	**7.06**	**211**	*e*Pn	**Pn**	**00 13 52.3**	**+0.2**
BGF				*e*Sn	**Sn**	**00 15 08.8**	**-4.2**
	comp=Z,7.1nm,0.6s						
GRR	**Gorron**	**7.16**	**236**	*e*Pn	**Pn**	**00 13 53.3**	**-0.1**
GRR	**Gorron**	**7.16**	**236**	*e*P	Pn	00 13 59.0	+5.6
GRR				*e*Sn	**Sn**	**00 15 11.3**	**-4.1**
	comp=Z,1.3nm,0.2s						
TCF	**Toulx Ste Croi**	**7.50**	**213**	*e*Pn	**Pn**	**00 13 58.8**	**+0.6**
ROSF	**Rostrenen**	**8.45**	**243**	*e*P	Pn	00 14 17.2	+6.0
ROSF				*e*Sn	**Sn**	**00 15 42.3**	**-5.0**
	comp=Z,0.6nm,0.3s						
QUIF	**Quistinic**	**8.65**	**240**	*e*Pn	**Pn**	**00 14 13.9**	**0.0**
CAF	**Calviac**	**8.77**	**209**	*e*Pn	**Pn**	**00 14 15.6**	**0.0**

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*GUC **02** 00:24:41.8±0.5, 20°.33S×70°.55W, h34km±1km, ML3.5*
*IDC **02** 00:24:46.7±5.0, 20°.25S×70°.20W, h64km±32km, mb3.5/1, mb1 3.6/4, mb1mx3.3/22, mbtmp3.6/4, ML3.0/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/22, Error ellipse: s-maj=75.8km s-min=17.5km az=87.0*
ISC 02 00:24:41.2±1.5, 20°.36S±0°.03×70°.52W±0°.08, h30km±10km, n20, σ1§11/36, 2C-12D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.38**	**76**⇓*i*P		**Pb**	**00 24 49.8**	**0.0**
TA02				*i* S	**Sn**	**00 24 56.1**	**-0.8**
TA01	**Diego Aracena**	**0.38**	**122**⇓*i*P		**Pb**	**00 24 50.0**	**+0.2**
TA01				*i* S	**Sn**	**00 24 56.6**	**-0.4**
TA01				IAML		00 24 57.1	
	comp=N,10μm,0.3s						
PATCX	**Punta Patache**	**0.57**	**143**⇓*i*P		**Pb**	**00 24 53.0**	**+0.1**
PATCX				*i* S	**Sn**	**00 25 01.6**	**-0.3**
PSGC	**Pisagua**	**0.85**	**26**⇓*i*P		**Pn**	**00 24 56.1**	**-1.1**
PSGC				*i* S	**Sb**	**00 25 07.4**	**-1.2**
PB11	**IPOC Station P**	**1.01**	**54**⇓*i*P		**Pn**	**00 24 59.2**	**-0.3**
PB11				*i* S	**Sb**	**00 25 12.5**	**-0.8**
PB11				IAML		00 25 14.0	
	comp=N,3μm,0.3s						
PB02	**IPOC Station P**	**1.12**	**148**⇓*i*P		**Pn**	**00 25 01.6**	**+0.6**
PB02				*i* S	**Sb**	**00 25 16.6**	**+0.3**
PB02				IAML		00 25 21.0	
	comp=N,4μm,0.6s						
PB01	**IPOC Station P**	**1.18**	**125**⇓*i*P		**Pb**	**00 25 02.5**	**-0.7**
PB01				*i* S	**Sb**	**00 25 18.2**	**0.0**
PB01				IAML		00 25 23.6	
	comp=N,2μm,0.3s						
PB08	**IPOC Station P**	**1.31**	**81**⇓*i*P		**Pb**	**00 25 04.7**	**-0.7**
PB08				*i* S	**Sb**	**00 25 22.3**	**+0.4**
PB08				IAML		00 25 23.4	
	comp=E,946nm,0.3s						
GO01	**Chusmiza**	**1.43**	**61**⇓*i*P		**Pn**	**00 25 06.3**	**+0.8**
GO01				*i* S	**Sb**	**00 25 25.5**	**0.0**
GO01				IAML		00 25 26.2	
	comp=N,3μm,0.2s						
PB07	**IPOC Station P**	**1.48**	**156**⇑*i*P		**Pn**	**00 25 06.8**	**+0.7**
PB07				*i* S	**Sb**	**00 25 26.9**	**+0.1**
PB07				IAML		00 25 32.1	
	comp=E,766nm,0.6s						
MNMC	**Minye Minye**	**1.50**	**36**⇓*i*P		**Pn**	**00 25 06.9**	**+0.5**
MNMC				*i* S	**Sn**	**00 25 26.3**	**+1.2**
MNMC				IAML		00 25 32.2	
	comp=N,3μm,0.4s						
PB12	**IPOC Station P**	**1.75**	**6**	*e*P	**Pn**	**00 25 09.2**	**-0.4**
PB12				*e*S	**Sn**	**00 25 31.6**	**+0.7**
PB12				IAML		00 25 36.0	
	comp=N,678nm,0.4s						
PB03	**IPOC Station P**	**1.83**	**157**⇑*i*P		**Pn**	**00 25 11.6**	**+0.8**
PB03				*e*S	**Sb**	**00 25 35.4**	**-1.3**
PB03				IAML		00 25 44.0	
	comp=E,305nm,0.6s						
PB03				IAML		00 25 44.2	
	comp=E,292nm,0.2s						
PB04	**IPOC Station P**	**1.99**	**170**⇓*i*P		**Pn**	**00 25 13.1**	**0.0**
PB04				*e*S	**Sn**	**00 25 35.8**	**-1.3**
PB04				IAML		00 25 49.1	
	comp=N,442nm,0.4s						
PB16	**IPOC Station P**

NUBE eS Sg 00 42 01.0 +1.8
NUBE IAML 00 42 07.4
comp=Z,2µm,0.4s
NUBE Las Nubes 1.35 73⇓ eP Pg 00 41 40.8 -0.6
NUBE eS Sg 00 42 01.0 +1.8
NUBE IAML 00 42 07.4
comp=Z,2µm,0.4s
RTR El Retiro 1.47 74 eP Pg 00 41 43.4 -0.4
RTR El Retiro 1.47 74 eP Pg 00 41 43.4 -0.4
CEVE Cerro Verde 1.48 77 eP Pg 00 41 43.1 -0.8
CEVE eS Sg 00 42 03.8 +0.6
CEVE IAML 00 42 14.4
comp=Z,12µm,0.4s
CEVE Cerro Verde 1.48 77 eP Pg 00 41 43.1 -0.8
CEVE eS Sg 00 42 03.8 +0.6
CEVE IAML 00 42 14.4
comp=Z,12µm,0.4s
SBLS San Blas 1.48 77 eP Pg 00 41 43.1 -0.8
SBLS eS Sg 00 42 05.2 +1.8
SBLS San Blas 1.48 77 eP Pg 00 41 43.1 -0.8
SBLS eS Sg 00 42 05.2 +1.8
SNJE San Jose 1.50 76 eP Pg 00 41 43.6 -0.8
SNJE San Jose 1.50 76 eP Pg 00 41 43.6 -0.8
APG El Apazote 1.62 23 P Pg 00 41 46.5 0.0
comp=Z,406nm,0.3s,baz=202,slow=7.3,SNR=767
APG S Sg 00 42 05.8 -1.8
comp=Z,207nm,0.3s,baz=126,slow=19,SNR=6.1
APG LR LR 00 42 31.0
comp=Z,2µm,18.8s,baz=115,slow=52
LALI Alcalda de L 1.74 90 eP Pg 00 41 46.9 -1.9
LALI Alcalda de L 1.74 90 eP Pg 00 41 46.9 -1.9
TACO Tacachico 1.77 75 eP Pg 00 41 47.4 -2.0
TACO Tacachico 1.77 75 eP Pg 00 41 47.4 -2.0
BOQS Boqueron 1.79 82 eP Pg 00 41 47.8 -2.0
BOQS eS Sg 00 42 11.5 -1.7
BOQS Boqueron 1.79 82 eP Pg 00 41 47.8 -2.0
BOQS eS Sg 00 42 11.5 -1.7
UEES Universidad Ev 1.83 83 eP Pb 00 41 48.0 -0.1
UEES IAML 00 42 23.4
comp=Z,5µm,0.3s
UEES Universidad Ev 1.83 83 eP Pb 00 41 48.0 -0.1
UEES IAML 00 42 23.4
comp=Z,5µm,0.3s
SNET Serv Nac Est T 1.83 84 eP Pb 00 41 47.9 -0.4
SNET IAML 00 42 19.7
comp=Z,4µm,0.4s
SNET Serv Nac Est T 1.83 84 eP Pb 00 41 47.9 -0.4
SNET IAML 00 42 19.7
comp=Z,4µm,0.4s
SNET Serv Nac Est T 1.83 84 Pb 00 41 48.1 -0.2
HUEH Huehuetenango 1.84 348 eP Pb 00 41 48.0 -0.6
HUEH IAML 00 42 19.2
comp=Z,6µm,0.5s
HUEH Huehuetenango 1.84 348 Pb 00 41 48.1 -0.4
OPAM Oficina de Pla 1.87 83 eP Pb 00 41 48.4 -0.5
OPAM Oficina de Pla 1.87 83 eP Pb 00 41 48.4 -0.5
IGN Direccin Gen 1.90 83 eP Pb 00 41 49.2 -0.1
IGN Direccin Gen 1.90 83 eP Pb 00 41 49.2 -0.1
MTO3 Montecristo 1.91 62⇓ eP Pg 00 41 50.2 -2.0
MTO3 Montecristo 1.91 62⇓ eP Pg 00 41 50.2 -2.0
MTO3 Montecristo 1.91 62 Pg 00 41 50.0 -2.2
LFU La Fuente 1.95 83 eP Pb 00 41 50.4 +0.1
LFU La Fuente 1.95 83 eP Pb 00 41 50.4 +0.1
LFRS El Faro 1.99 86 eP Pb 00 41 49.7 -1.3
LFRS El Faro 1.99 86 eP Pb 00 41 49.7 -1.3
ESQI Esquipulas 2.01 58 eP Pb 00 41 51.2 -0.1
ESQI IAML 00 42 26.8
comp=Z,2µm,0.7s
ESQI Esquipulas 2.01 58 Pb 00 41 51.1 -0.1
LBRS Las Brisas 2.02 83 eP Pb 00 41 51.4 0.0
LBRS Las Brisas 2.02 83 eP Pb 00 41 51.4 0.0
MRL Marmol 2.09 41 eP Pg 00 41 53.8 -1.7
MRL eS Sg 00 42 24.8 +2.0
COEG Centro de Oper 2.17 87 eP Pb 00 41 53.4 -0.6
COEG IAML 00 42 31.8
comp=Z,3µm,0.3s
COEG Centro de Oper 2.17 87 eP Pb 00 41 53.4 -0.6
COEG IAML 00 42 31.8
comp=Z,3µm,0.3s
LLGN La Laguna 2.20 72 eP Pb 00 41 53.9 -0.7
LLGN La Laguna 2.20 72 eP Pb 00 41 53.9 -0.7
ALJI Alcalda de J 2.47 94 eP Pb 00 41 57.6 -1.6
ALJI Alcalda de J 2.47 94 eP Pb 00 41 57.6 -1.6
COEB Comit de Eme 2.51 90 eP Pb 00 41 58.0 -1.7
COEB IAML 00 42 42.7
comp=Z,1µm,0.6s
COEB Comit de Eme 2.51 90 eP Pb 00 41 58.0 -1.7
COEB IAML 00 42 42.7
comp=Z,1µm,0.6s
TECA Tecapa 2.53 90 eP Pb 00 41 58.0 -2.3
TECA Tecapa 2.53 90 eP Pb 00 41 58.0 -2.3
JUCU Jucuarˌn 2.79 95 eP Pn 00 42 00.7 +1.7
JUCU IAML 00 42 50.0
comp=Z,1µm,0.2s
JUCU Jucuarˌn 2.79 95 eP Pn 00 42 00.7 +1.7
JUCU IAML 00 42 50.0
comp=Z,1µm,0.2s
FAGO Alcalda de S 2.92 86 eP Pn 00 42 03.2 +2.4
FAGO Alcalda de S 2.92 86 eP Pn 00 42 03.2 +2.4
CCIG Comitan 2.94 340 Pn 00 42 03.4 +2.3
LCND La Caada 3.14 93 eP Pn 00 42 06.5 +2.9
LCND IAML 00 42 51.7
comp=Z,1µm,0.5s
LCND La Caada 3.14 93 eP Pn 00 42 06.5 +2.9
LCND IAML 00 42 51.7
comp=Z,1µm,0.5s
CNCH Conchagua 3.19 94⇑ eP Pn 00 42 07.2 +2.7
CNCH IAML 00 43 01.8
comp=Z,3µm,0.5s
CNCH Conchagua 3.19 94⇑ eP Pn 00 42 07.2 +2.7
CNCH IAML 00 43 01.8
comp=Z,3µm,0.5s
PETF Flores 3.60 19 Pn 00 42 12.3 +2.3
TGUH Tegucigalpa,Un 3.77 81 eP Pn 00 42 14.5 +2.1
TGUH Tegucigalpa,Un 3.77 81 eP Pn 00 42 14.5 +2.1
TGUH Tegucigalpa,Un 3.77 81 Pn Pn 00 42 15.0 +2.5
TGUH Sn Sn 00 42 55.7 -0.6
ESTN Estel 4.63 94 Pn 00 42 26.1 +1.8
MATN Matagalpa 5.08 96 Pn Pn 00 42 32.5 +2.0
CMIG Matias Romero 5.10 315 P Pn 00 42 31.0 +0.3
comp=Z,6.2nm,0.3s,baz=130,slow=11,SNR=42
CMIG S Sn 00 43 29.7 +0.6
comp=Z,18nm,0.3s,baz=325,slow=22,SNR=6.8
CMIG LR LR 00 45 01.0
comp=Z,826nm,18.4s,baz=115,slow=42
ACON Acoyapa 5.99 104 Pn 00 42 43.9 +1.0
JTS Las Juntas de 6.82 117 P Pn 00 42 59.6 +5.3
comp=Z,1.2nm,0.3s,baz=49,slow=8.6,SNR=9.3
JTS LR LR 00 45 38.9
comp=Z,382nm,19.6s,baz=3.0,slow=38
JTS Las Juntas de 6.82 117 Pn 00 42 57.8 +3.5
TEIG Tepich 7.21 22 P Pn 00 43 03.8 +4.1
comp=Z,69nm,0.3s,baz=198,slow=17,SNR=320
HDC Heredia 7.68 116 Pn Pn 00 43 08.7 +2.4
TLIG Tlapa 8.24 300 Pn Pn 00 43 16.7 +2.7
SJCC San Jacinto, C 16.00 101 eP P 00 45 01.7 -1.2
833A Chaparral WMA, 16.64 334 P 00 45 08.8 -1.1
YOTC Yotoco, Valle 17.38 122 eP P 00 45 20.6 +2.4
GUY2C Guyana, Caldas 17.57 116 eP P 00 45 22.2 +1.5
656A Willston 17.68 25 P 00 45 21.4 +0.1
656A IAmb IAmb 00 45 40.2
comp=Z,38nm,0.8s
553A Crawfordville 17.71 19 P 00 45 22.2 +0.5
346A Big Creek Wild 17.86 5 P 00 45 24.1 +0.7
346A IAmb IAmb 00 45 31.1
comp=Z,54nm,0.8s
344A Westbrook Farm 17.87 1 P 00 45 24.2 +0.8
344A IAmb IAmb 00 45 31.5
comp=Z,48nm,0.9s
TOLC Tolima 17.92 118 eP P 00 45 29.1 +4.7
POPC Popayan, Colom 17.95 126 eP P 00 45 27.2 +2.5
435B Jarrell 18.20 342 P P 00 45 27.2 +0.1
baz=159
435B Jarrell 18.20 342 P 00 45 27.9 +0.8
NATX Nacogdoches 18.46 350 P Pn 00 45 30.3 +0.2
baz=169
NATX Nacogdoches 18.46 350 P Pn 00 45 30.6 +0.5
NATX IAmb IAmb 00 45 32.7
comp=Z,17nm,0.8s
JCT Junction City 18.70 336 P Pn 00 45 33.4 +0.3
baz=152
JCT Junction City 18.70 336 P 00 45 32.9 +0.2
PRAC Prado 18.74 120 eP Pn 00 45 37.6 +3.9

TIGA Tifton 19.14 20 P P 00 45 37.6 +0.2
baz=203
CHIC Chingaza 19.28 116 eP Pn 00 45 41.4 +0.9
RUSC La Rusia 19.30 111 eP Pn 00 45 42.0 +1.2
RUSC La Rusia 19.30 111 P Pn 00 45 41.4 +0.6
FLOC Florencia 19.34 126 Pn 00 45 42.6 +1.6
TXAR Lajitas Array 19.59 326 P Pn 00 45 45.3 +1.5
comp=Z,0.6nm,0.3s,baz=154,slow=13,SNR=147
TXAR PcP PcP 00 50 03.4 +1.2
comp=Z,0.0nm,0.3s,baz=140,slow=2.8,SNR=3.6
TXAR LR LR 00 55 18.5
comp=Z,72nm,18.4s,baz=0.0,slow=42
TXAR Lajitas Array 19.59 326 P Pn 00 45 44.8 +0.9
TX31 Lajitas Ar. Si 19.59 326 P Pn 00 45 44.4 +0.6
TX31 IAmb IAmb 00 45 47.2
comp=Z,27nm,0.8s
LRAL Lakeview Retre 19.80 10 P Pn 00 45 45.6 -0.6
baz=192,SNR=11
LRAL Lakeview Retre 19.80 10 P P 00 45 44.9 +0.2
LRAL IAmb IAmb 00 45 53.3
comp=Z,22nm,0.9s
Z38A Mt. Pleasant 19.98 350 P P 00 45 46.5 -0.1
Z38A IAmb IAmb 00 45 51.4
comp=Z,20nm,0.7s
WLAR White Oak Lake 20.18 355 P P 00 45 48.8 +0.1
WLAR IAmb IAmb 00 45 54.1
comp=Z,22nm,1.0s
Y45A Yeager Farm, C 20.32 4 P P 00 45 50.7 +0.5
Y45A IAmb IAmb 00 46 01.0
comp=Z,23nm,0.8s
CCAR Cane Creek 20.33 358 P P 00 45 49.8 -0.5
CCAR IAmb IAmb 00 46 05.6
comp=Z,26nm,0.7s
MACC Macarena, Meta 20.46 122 eP Pn 00 45 55.2 +1.0
ABTX Abilene, Hawle 20.57 339 P P 00 45 53.0 0.0
baz=155,SNR=12
SDV Santo Domingo 20.60 101 LR LR 00 54 19.8
comp=Z,457nm,21.2s,baz=203,slow=38
X40A Basin Creek Fa 20.95 356 P P 00 45 57.4 +0.3
baz=175
OXF Oxford 20.97 4 P P 00 45 56.9 -0.4
OXF IAmb IAmb 00 46 07.1
comp=Z,22nm,0.8s
GOGA Godfrey 21.00 18 P P 00 45 57.8 +0.1
baz=201
GOGA Godfrey 21.00 18 P P 00 45 57.5 -0.1
GOGA IAmb IAmb 00 46 13.5
comp=Z,11nm,0.7s
MIAR Mount Ida 21.07 354 P P 00 45 58.4 +0.1
baz=173
MIAR Mount Ida 21.07 354 P P 00 45 58.2 -0.1
X48A Hartselle 21.18 9 P P 00 45 59.4 -0.1
X48A IAmb IAmb 00 46 16.5
comp=Z,16nm,0.7s
UALR University of 21.21 357 P P 00 45 59.4 -0.4
UALR IAmb IAmb 00 46 04.5
comp=Z,19nm,0.8s
FPAL Fort Paine 21.53 12 P P 00 46 02.3 -1.0
PLAL Pickwick Lake 21.56 7 P P 00 46 03.6 -0.1
W41B Gary Mavity, V 21.60 357 P P 00 46 03.5 -0.5
baz=177
W41B Gary Mavity, V 21.60 357 P P 00 46 03.3 -0.7
WHAR Wooly Hollow 21.72 357 P P 00 46 05.0 -0.3
W39A Magazine 21.73 354 P P 00 46 05.7 +0.2
baz=173,SNR=5.2
W39A Magazine 21.73 354 P P 00 46 05.9 +0.4
Z57A Bowman 21.87 24 P P 00 46 06.5 -0.4
baz=208
WMOK Wichita Mounta 22.25 343 P P 00 46 10.7 -0.4
baz=160,SNR=5.9
WMOK Wichita Mounta 22.25 343 P P 00 46 11.2 0.0
Z58A St. Stephen 22.26 26 P P 00 46 10.8 -0.3
baz=210
FCAR Ozark Folk Cen 22.31 358 P P 00 46 10.5 -1.2
FCAR IAmb IAmb 00 46 14.0
comp=Z,9.0nm,0.7s
MNTX Cornudas Mount 22.35 326 P P 00 46 12.7 +0.4
baz=140,SNR=90
MNTX Cornudas Mount 22.35 326 P P 00 46 12.5 +0.3
X54A Belton 22.39 19 P P 00 46 12.3 -0.3
baz=203,SNR=5.9
LCAR Lake Charles 22.47 360 P P 00 46 12.5 -0.9
LCAR IAmb IAmb 00 46 25.9
comp=Z,14nm,1.0s
X55A Gracelyn & Ava 22.57 21 P P 00 46 14.1 -0.4
baz=205
TUL1 Leonard 22.71 350 P P 00 46 15.9 0.0
baz=168
WVT Waverly 22.72 7 P P 00 46 15.5 -0.6
baz=188
WVT Waverly 22.72 7 P P 00 46 14.8 -1.2
WVT IAmb IAmb 00 46 27.7
comp=Z,19nm,0.8s
X56A White Oak 22.80 22 P P 00 46 16.5 -0.4
baz=206
U40A Yellville 22.81 356 P P 00 46 15.8 -1.2
baz=175,SNR=6.9
CLTN Cedars of Leba 22.90 10 P P 00 46 18.0 +0.1
CLTN IAmb IAmb 00 46 30.8
comp=Z,12nm,0.9s
W54A Cherokee Point 22.95 19 P P 00 46 18.4 -0.1
baz=203,SNR=7.8
TKL Tuckaleechee C 23.03 15 P P 00 46 19.7 +0.4
comp=Z,8.7nm,0.8s,baz=186,slow=12,SNR=18
TKL LR LR 00 55 55.8
comp=Z,224nm,21.5s,baz=188,slow=38
TKL Tuckaleechee C 23.03 15 P P 00 46 19.5 +0.2
TKL IAmb IAmb 00 46 20.3
comp=Z,9.4nm,0.8s
U38A Gravette 23.03 353 P P 00 46 18.3 -1.0
BIRD Birdtown, Kers 23.15 23 P P 00 46 20.7 +0.2
V52A Sevierville 23.25 16 P P 00 46 21.6 +0.1
V52A IAmb IAmb 00 46 22.8
comp=Z,10nm,1.0s
KMSC Kings Mountain 23.28 21 P P 00 46 22.0 +0.2
baz=205
V53A Saluda 23.30 17 P P 00 46 22.3 +0.2
V53A IAmb IAmb 00 46 29.4
comp=Z,5.9nm,0.7s
AMTX Amarillo 23.34 338 P P 00 46 22.4 -0.1
baz=153
AMTX Amarillo 23.34 338 P P 00 46 22.2 -0.3
AMTX IAmb IAmb 00 46 24.0
comp=Z,19nm,1.1s
T42A Van Buren 23.43 0 P P 00 46 22.1 -1.2
W56A Indian Trail 23.54 22 P P 00 46 23.8 -0.6
baz=206
T47A Sharon Grove 23.66 8 P P 00 46 25.1 -0.5
V54A Nebo 23.66 19 P P 00 46 24.9 -0.7
baz=203
TZTN Tazewell 23.92 15 P P 00 46 27.8 -0.3
baz=198,SNR=7.2
TZTN Tazewell 23.92 15 P P 00 46 27.7 -0.4
TZTN IAmb IAmb 00 46 29.2
comp=Z,11nm,0.7s
W58A Raeford 23.96 25 P P 00 46 28.3 -0.1
baz=210
V55A Taylorsville 23.97 20 P P 00 46 27.9 -0.6
baz=204
ATAH Atahualpa 24.08 148 LR LR 00 54 43.9
comp=Z,180nm,19.0s,baz=328,slow=33
S44A Carbondale 24.15 4 P P 00 46 31.0 +0.8
S39A Bolivar 24.17 356 P P 00 46 29.7 -0.7
V56A Mocksville 24.18 21 P P 00 46 29.8 -0.6
baz=206
121A Cookes Peak, D 24.32 324 P P 00 46 32.0 0.0
baz=137,SNR=15
U54A Nelsons Funny 24.39 18 P P 00 46 31.8 -0.6
baz=202,SNR=7.1
CCM Cathedral Cave 24.45 360 P P 00 46 32.5 -0.4
baz=180
CCM Cathedral Cave 24.45 360 P P 00 46 32.2 -0.7
CCM IAmb IAmb 00 46 37.1
comp=Z,16nm,0.8s
V57A Coltrane Farms 24.51 23 P P 00 46 33.1 -0.4
baz=207
T53A Wise 24.61 17 P P 00 46 33.8 -0.6
baz=200
U55A TA2, Sparta 24.61 20 P P 00 46 33.8 -0.7
baz=204,SNR=7.9
V58A Windy Hill, Pi 24.68 24 P P 00 46 33.8 -1.2
baz=209,SNR=8.0
U56A King 24.70 21 P P 00 46 35.0 -0.3
baz=206
S51A Beattyville 24.95 14 P P 00 46 37.2 -0.3
S51A IAmb IAmb 00 46 40.0

comp=Z,8.9nm,0.8s
T54A Tazewell 24.96 18 P P 00 46 36.8 -0.9
baz=202,SNR=5.9
WCI Wyandotte Cave 24.99 9 P P 00 46 37.5 -0.3
baz=191
WCI Wyandotte Cave 24.99 9 P P 00 46 37.1 -0.8
WCI IAmb IAmb 00 46 39.6
comp=Z,14nm,0.8s
V59A Middlesex 25.01 25 P P 00 46 37.6 -0.4
baz=211
U57A Blanch 25.16 23 P P 00 46 39.1 -0.2
baz=208
T55A Pulaski 25.26 20 P P 00 46 40.1 -0.3
baz=204
S53A Williamson 25.38 17 P P 00 46 40.7 -0.7
baz=201
U58A Oxford 25.43 24 P P 00 46 41.7 -0.1
baz=210
T56A Rocky Mt 25.44 21 P P 00 46 42.3 +0.5
baz=206
ANMO Albuquerque 25.46 330 P P 00 46 43.9 +1.5
comp=Z,0.2nm,0.6s,baz=319,slow=11,SNR=20
ANMO Albuquerque 25.46 330 P P 00 46 43.1 +0.7
baz=143
ANMO Albuquerque 25.46 330 P P 00 46 43.2 +0.9
BLA Blacksburg 25.47 20 P P 00 46 42.5 +0.3
baz=205
T57A Hurt 25.69 22 P P 00 46 43.8 -0.3
baz=207
S54A Dingess, Beckl 25.72 18 P P 00 46 44.3 -0.2
baz=202
S54A Dingess, Beckl 25.72 18 P P 00 46 44.5 -0.1
S54A IAmb IAmb 00 46 49.0
comp=Z,6.6nm,0.7s
T58A Grand View Acr 25.91 24 P P 00 46 45.8 -0.3
baz=209
P40A Paris 25.94 358 P P 00 46 46.1 -0.3
S55A Lewisburg 25.95 19 P P 00 46 46.8 +0.2
baz=204
TUC Tucson 25.97 319 P P 00 46 48.2 +1.3
baz=131
TUC Tucson 25.97 319 P P 00 46 47.3 +0.3
R53A Hurricane 26.03 17 P P 00 46 47.8 +0.5
baz=201
S56A Natural Bridge 26.18 21 P P 00 46 48.6 0.0
baz=206
T59A Double "B" Far 26.33 25 P P 00 46 49.7 -0.2
baz=211
S57A Dark Hollow, R 26.47 22 P P 00 46 51.3 0.0
baz=207
Q52A Bidwell 26.54 16 P P 00 46 52.0 +0.2
baz=199
R55A Marlinton 26.54 20 P P 00 46 51.8 -0.2
baz=204
Q53A Leroy 26.64 17 P P 00 46 52.8 +0.1
baz=201
P51A Williamsport 26.83 14 P P 00 46 54.8 +0.4
baz=197
Q54A Coxs Mills 26.96 18 P P 00 46 55.8 +0.2
baz=202
R58B Mineral 27.05 23 P P 00 46 56.5 0.0
baz=209
214A Organ Pipe Nat 27.07 316 P P 00 46 57.7 +0.9
baz=127
214A Organ Pipe Nat 27.07 316 P P 00 46 56.7 -0.1
214A IAmb IAmb 00 47 01.4
comp=Z,5.2nm,0.8s
R57A Stanardsville 27.11 22 P P 00 46 57.0 0.0
baz=208
Q55A Buckhannon 27.20 19 P P 00 46 57.7 -0.1
baz=204
P52A Corning 27.20 15 P P 00 46 57.8 0.0
baz=199
P53A Whipple 27.27 17 P P 00 46 58.3 0.0
baz=201
R58A Rapidan 27.30 23 P P 00 46 58.5 -0.2
baz=209
SDCO Great Sand Dun 27.34 335 P P 00 46 59.8 +0.4
baz=148
SDCO Great Sand Dun 27.34 335 P P 00 46 59.8 +0.4
ACSO Alum Creek Sta 27.57 14 P P 00 47 00.6 -0.4
baz=197
O51A Pataskala 27.57 14 P P 00 47 00.7 -0.5
baz=198
P54A Burton 27.63 18 P P 00 47 01.3 -0.4
baz=203
R60A Leonardtown, M 27.84 25 P P 00 47 02.2 -1.2
baz=212
S22A 4UR Ranch, Cre 27.91 333 P P 00 47 03.8 -0.8
baz=145
S22A 4UR Ranch, Cre 27.91 333 P P 00 47 04.7 +0.2
Q58A Fox Den Farm, 27.98 23 P P 00 47 02.8 -2.0
baz=209
O54A Avella 28.20 18 P P 00 47 06.0 -0.7
baz=202
MVCO Mesa Verde 28.26 330 P P 00 47 06.5 -1.2
baz=142
P57A Homestead Farm 28.34 22 P P 00 47 07.2 -0.8
baz=208
N52A McGinn's Farm, 28.43 15 P P 00 47 08.3 -0.5
baz=199
WUAZ Wupatki 28.53 324 P P 00 47 09.9 0.0
baz=135,SNR=7.3
WUAZ Wupatki 28.53 324 P P 00 47 12.0 +2.1
WUAZ IAmb IAmb 00 47 14.0
comp=Z,10.0nm,0.8s
O55A Ligonier 28.55 19 P P 00 47 09.4 -0.5
baz=204
N53A Lisbon 28.65 16 P P 00 47 10.1 -0.6
baz=201
L44A Lake County Fo 28.70 5 P P 00 47 10.7 -0.5
baz=186
O56A Blue Knob Stat 28.85 20 P P 00 47 12.3 -0.2
baz=206
NNA Nana 29.01 150 LR LR 00 57 10.1
comp=Z,54nm,18.2s,baz=310,slow=33
N54A Moraine State 29.03 18 P P 00 47 13.1 -1.1
baz=203
N55A Marion Center 29.17 19 P P 00 47 15.2 -0.2
baz=205
M53A Wl Miller and 29.28 16 P P 00 47 15.7 -0.7
baz=201
JFWS Jewell Farm 29.32 1 P P 00 47 16.3 -0.4
baz=182
PDMCI Parker Dam,Lak 29.40 319 P P 00 47 17.5 0.0
baz=129
N56A West Decatur 29.52 20 P P 00 47 17.7 -0.8
baz=206
BC3 Big Chuckawall 29.87 316 P P 00 47 21.2 -0.5
baz=126
L53A Girard 29.87 16 P P 00 47 20.9 -0.7
baz=202
IRM Iron Mountain 29.96 317 P P 00 47 22.5 0.0
baz=127
N58A Sunbury 30.00 22 P P 00 47 21.8 -1.0
baz=209
M56A Emporium 30.07 20 P P 00 47 22.5 -0.9
baz=206
ERPA Erie 30.10 17 P P 00 47 23.7 +0.1
baz=202
M57A Sunshine Farm, 30.29 21 P P 00 47 25.0 -0.3
baz=208
L54A Sinclairville 30.40 17 P P 00 47 26.0 -0.3
baz=203
N59A State Game Lan 30.43 23 P P 00 47 26.2 -0.4
baz=210
N59A State Game Lan 30.43 23 P P 00 47 25.7 -0.8
N59A IAmb IAmb 00 47 27.0
comp=Z,4.3nm,0.8s
BELC Belle Mtn. Jos 30.44 316 P P 00 47 27.3 +0.4
baz=126
ECSD EROS Data Cent 30.49 352 P P 00 47 27.4 +0.3
baz=169
ECSD EROS Data Cent 30.49 352 P P 00 47 25.4 -1.7
O20A White River Ci 30.50 334 P P 00 47 28.0 +0.6
baz=145
TPFO Pinon Flats 30.52 315 P P 00 47 27.7 +0.1
baz=125
M58A Price's Panora 30.56 22 P P 00 47 27.1 -0.6
baz=209
L55A Hinsdale 30.62 19 P P 00 47 28.0 -0.2
baz=205
WVNY West Valley, N 30.77 18 P P 00 47 28.1 -1.4
WVNY IAmb IAmb 00 47 33.0
comp=Z,5.2nm,0.9s
M59A Waymart 31.09 23 P P 00 47 31.6 -0.8
baz=210
CCUT Cedar City 31.09 324 P P 00 47 33.6 +0.9

L58A	Harry Jones Me	31.37	22	P	P	00 47 34.0	-0.8
	baz=209						
K56A	Middlesex	31.44	20	P	P	00 47 34.5	-0.9
	baz=206						
BINY	Binghamton	31.46	22	P	P	00 47 35.3	-0.3
	baz=209						
SPMN	Marine on St.	31.65	358	P	P	00 47 36.8	-0.4
	baz=177						
SPMN	Marine on St.	31.65	358	P	P	00 47 35.9	-1.3
SPMN				IAmb	IAmb	00 47 37.1	
	comp=Z,11nm,1.0s						
K57A	Scipio Center	31.74	21	P	P	00 47 37.2	-0.9
	baz=208						
L59A	Walton	31.80	23	P	P	00 47 37.9	-0.7
	baz=211						
L60A	Shokan	31.95	24	P	P	00 47 38.7	-1.2
	baz=212						
K22A	Casper	31.96	338	P	P	00 47 40.0	-0.1
	baz=150						
PSUT	Pine Spring	32.06	325	P	P	00 47 42.1	+0.9
K58A	Earlville	32.07	22	P	P	00 47 40.2	-0.8
	baz=209						
K58A	Earlville	32.07	22	P	P	00 47 40.1	-0.8
J56A	Wolcott	32.11	20	P	P	00 47 40.5	-0.7
	baz=207						
TPNV	Topopah Spring	32.40	321	P	P	00 47 44.6	+0.4
TPNV				IAmb	IAmb	00 47 52.4	
	comp=Z,3.1nm,0.8s						
RSSD	Black Hills	32.46	343	P	P	00 47 44.3	-0.3
	baz=156						
J57A	Williamstown	32.52	21	P	P	00 47 44.0	-0.9
	baz=208						
COWI	Conover	32.53	3	P	P	00 47 43.3	-1.7
COWI				IAmb	IAmb	00 47 54.6	
	comp=Z,6.8nm,1.1s						
MPMC	Manual Prospec	32.64	318	P	P	00 47 48.2	+1.9
	baz=126,SNR=5.6						
I55A	Frankford	32.69	18	P	P	00 47 45.6	-0.8
	baz=205						
J58A	Remsen	32.72	22	P	P	00 47 46.0	-0.7
	baz=209						
TCUT	Toone Canyon	32.73	331	P	P	00 47 47.2	+0.2
H53A	Bobcaygeon	32.76	17	P	P	00 47 46.4	-0.6
	baz=203						
R11A	Troy Canyon, C	32.92	323	P	P	00 47 50.6	+1.9
	baz=132,SNR=13						
E43A	Lone Tree Farm	32.95	5	P	P	00 47 47.4	-1.2
E43A				IAmb	IAmb	00 47 51.9	
	comp=Z,5.6nm,0.8s						
J59A	Piesco	33.10	22	P	P	00 47 49.0	-0.9
	baz=211						
I58A	Old Forge	33.12	22	P	P	00 47 48.6	-1.5
	baz=210,SNR=5.7						
H55A	Tweed	33.15	18	P	P	00 47 49.2	-1.2
	baz=205						
HWUT	Hardware Ranch	33.18	331	P	P	00 47 51.1	+0.2
HWUT				IAmb	IAmb	00 47 53.9	
	comp=Z,5.9nm,0.9s						
PDAR	Pinedale Array	33.23	335	P	P	00 47 52.6	+1.2
	comp=Z,0.7nm,0.6s,baz=141,slow=9.6,SNR=8.3						
PDAR				PcP	PcP	00 50 34.0	+0.3
	comp=Z,0.6nm,0.6s,baz=150,slow=4.5,SNR=5.6						
PDAR				LR	LR	01 03 56.7	
	comp=Z,79nm,19.9s,baz=135,slow=41						
PDAR	Pinedale Array	33.23	335	P	P	00 47 51.2	-0.2
K63A	Dunstable	33.65	26	P	P	00 47 53.5	-1.2
	baz=216						
G54A	Lake Saint Pet	33.66	17	P	P	00 47 53.8	-1.0
	baz=203						
I60A	Shoreham	33.88	23	P	P	00 47 55.0	-1.7
	baz=212						
PTGA	Pitinga	33.95	112	P	P	00 47 58.2	+0.4
PTGA				IAmb	IAmb	00 48 00.6	
	comp=Z,6.0nm,0.8s						
H58A	Gabriels	34.04	22	P	P	00 47 56.7	-1.4
	baz=210						
SNOW	Snow King Moun	34.30	334	P	P	00 48 01.2	+0.5
EYMN	Ely	34.34	360	P	P	00 47 59.3	-1.4
	baz=179						
G57A	Newington	34.35	20	P	P	00 47 59.5	-1.3
	baz=208						
NV11	Mina Array Sit	34.51	321	P	P	00 48 04.4	+1.9
NV11				IAmb	IAmb	00 48 07.3	
	comp=Z,6.4nm,0.8s						
NVAR	Mina Array Bea	34.60	321	P	P	00 48 06.1	+2.8
	comp=Z,7.8nm,0.7s,baz=132,slow=8.1,SNR=62						
NVAR				PcP	PcP	00 50 39.0	+1.3
	comp=Z,3.0nm,0.7s,baz=143,slow=2.8,SNR=11						
NVAR	Mina Array Bea	34.60	321	P	P	00 48 05.2	+1.9
LHV	Little Huntoon	34.62	320	P	P	00 48 05.6	+2.4
E54A	Lac Daplat, Po	34.86	17	P	P	00 48 04.0	-1.2
	baz=204						
RLMT	Red Lodge	35.09	337	P	P	00 48 07.6	+0.1
	baz=148						
E55A	Montcerf-Lytto	35.21	18	P	P	00 48 07.7	-0.5
	baz=206						
D53A	Lac Vacive, Po	35.31	16	P	P	00 48 08.7	-0.4
	baz=203						
SAML	Samuel	35.58	127	P	P	00 48 11.2	-0.6
E56A	St. Veronique	35.60	19	P	P	00 48 11.0	-0.7
	baz=208						
D54A	Lac Fusel, La	35.66	17	P	P	00 48 11.1	-1.0
	baz=204						
F59A	Saint Guilaume	35.77	22	P	P	00 48 12.1	-0.9
	baz=212						
E57A	Chemin Saint G	35.78	20	P	P	00 48 12.1	-1.1
	baz=209						
D55A	Sainte-Anne-du	35.89	18	P	P	00 48 13.2	-0.9
	baz=206						
HLID	Hailey	36.03	331	P	P	00 48 15.9	+0.4
	baz=139						
E58A	La Victoria	36.04	21	P	P	00 48 14.6	-0.8
	baz=210						
D56A	ZEC Mazanza, M	36.14	19	P	P	00 48 15.3	-0.9
	baz=208						
F60A	Warwick	36.18	23	P	P	00 48 15.5	-1.1
	baz=213						
H64A	Troy	36.21	27	P	P	00 48 17.0	+0.1
	baz=218						
MCMT	McKenzie Canyo	36.30	334	P	P	00 48 18.9	+0.9
D57A	Chemin Vers le	36.40	20	P	P	00 48 18.3	-0.1
	baz=209						
BOZ	Bozeman (W)	36.41	335	P	P	00 48 19.3	+0.6
	baz=145						
PKME	Peaks-Kenny Pk	36.68	26	P	P	00 48 20.5	-0.3
	baz=217						
D58A	Chemin du LacG	36.80	21	P	P	00 48 20.8	-1.1
	baz=210						
ULM	Lac du Bonnet	36.85	355	LR	LR	01 04 27.5	
	comp=Z,74nm,21.5s,baz=172,slow=38						
LPAZ	La Paz	37.31	142	LR	LR	01 03 31.1	
	comp=Z,83nm,19.2s,baz=308,slow=36						
WVOR	Wild Horse Val	37.39	326	P	P	00 48 27.7	+0.7
WVOR				IAmb	IAmb	00 48 31.3	
	comp=Z,8.3nm,0.9s						
MATQ	Matagami	37.80	14	P	P	00 48 29.9	-0.4
	baz=202						
O03E	Paynes Creek	37.89	321	P	P	00 48 31.9	+0.6
	baz=126						
J08A	Circle Bar Ran	37.93	327	P	P	00 48 32.5	+0.9
MOD	Modoc Plateau	37.98	324	P	P	00 48 32.7	+0.6
PB16	IPOC Station P	38.14	146	P	P	00 48 35.0	+0.8
PB16				IAmb	IAmb	00 48 51.5	
	comp=Z,5.8nm,1.0s						
MSO	Missoula	38.35	335	P	P	00 48 35.3	+0.2
	baz=142						
BMO	Blue Mountains	38.38	330	P	P	00 48 35.4	0.0
O02D	Mt. Diablo Mer	38.43	320	P	P	00 48 35.9	+0.1
	baz=124						
D63A	Stockholm	38.59	25	P	P	00 48 36.0	-0.9
	baz=218						
M04C	Macdoel	38.80	322	P	P	00 48 39.5	+0.5
	baz=127						
CHGQ	Chibougamau	38.81	17	P	P	00 48 37.6	-1.1
	baz=206						
F10A	Beach Ranch, E	39.16	331	P	P	00 48 42.0	+0.1
F10A				IAmb	IAmb	00 48 43.8	
	comp=Z,12nm,0.8s						
L04D	Klamath Falls	39.34	323	P	P	00 48 44.6	+1.1
	baz=127						
J05D	Fort Rock, OR	39.39	325	P	P	00 48 45.3	+1.4
	baz=130						
KHMM	Horse Mountain	39.42	320	P	P	00 48 45.5	+1.2
KHMM				IAmb	IAmb	00 48 48.3	
	comp=Z,16nm,0.9s						
PINE	Pine Mountain	39.55	326	P	P	00 48 46.4	+1.1
PINE				IAmb	IAmb	00 48 48.0	
	comp=Z,5.8nm,0.8s						
I04A	Tendick Farm,	40.37	324	P	P	00 48 53.6	+1.6
	baz=128						
G05D	Wamic, OR	40.70	327	P	P	00 48 57.0	+2.3
	baz=131						
H04A	Detroit Lake	40.81	326	P	P	00 48 55.6	+0.1
H04A				IAmb	IAmb	00 48 58.3	
	comp=Z,15nm,1.0s						
NEW	Newport	40.82	333	P	P	00 48 56.4	+0.8
	baz=139						
I03D	Drain, OR	40.85	324	P	P	00 48 57.5	+1.7
	baz=127						
J01E	Myrtle Point	40.87	323	P	P	00 48 57.7	+1.7
	baz=126						
C09A	Chrisman Ranch	40.99	332	P	P	00 48 57.0	0.0
C09A				IAmb	IAmb	00 48 58.7	
	comp=Z,4.8nm,0.8s						
H04D	Lebanon	41.01	325	P	P	00 48 58.1	+0.9
	baz=129						
F05D	White Salmon	41.21	328	P	P	00 49 00.6	+1.9
	baz=132						
I02D	Swisshome	41.38	324	P	P	00 49 02.1	+1.9
	baz=127						
SIV	San Ignacio	41.72	134	P	P	00 49 03.8	+0.5
	comp=Z,3.9nm,0.8s,baz=313,slow=8.6,SNR=31						
G03D	McMinnville, O	41.74	326	P	P	00 49 05.0	+1.9
	baz=129						
LON	Longmire	41.96	328	P	P	00 49 05.0	-0.1
LON				IAmb	IAmb	00 49 08.9	
	comp=Z,6.0nm,0.9s						
E04D	Cinebar	42.23	328	P	P	00 49 07.7	+0.6
	baz=131						
A04D	Lummi Island	43.74	330	P	P	00 49 20.2	+1.0
	baz=132						
SCHQ	Schefferville	45.39	20	P	P	00 49 30.9	-1.6
	comp=Z,16nm,0.8s,baz=210,slow=6.7,SNR=12						
SCHQ				LR	LR	01 09 55.6	
	comp=Z,160nm,18.1s,baz=324,slow=38						
SCHQ	Schefferville	45.39	20	P	P	00 49 30.8	-1.6
CPUP	Villa Florida	51.45	140	LR	LR	01 11 52.7	
	comp=Z,59nm,20.9s,baz=330,slow=36						
GO05	Huala	51.56	160	P	P	00 50 22.0	+1.8
YKA	Yellowknife Ar	51.71	346	P	P	00 50 20.1	-0.8
	comp=Z,2.4nm,0.7s,baz=150,slow=7.2,SNR=10						
YKA				LR	LR	01 14 56.4	
	comp=Z,55nm,18.0s,baz=0.0,slow=39						
PLCA	Paso Flores	57.23	161	LR	LR	01 10 43.4	
	comp=Z,58nm,18.7s,baz=8.0,slow=31						
C36M	Paulatuk	59.57	347	P	P	00 51 17.8	+0.5
	baz=142						
BCAR	Beaver Creek A	60.84	336	P	P	00 51 26.1	-0.1
GLB	Gilahina Butte	60.88	334	P	P	00 51 26.2	-0.2
GLB				IAmb	IAmb	00 51 28.4	
	comp=Z,5.9nm,0.9s						
RES	Resolute Bay	61.21	359	P	P	00 51 26.6	-1.8
KLU	Klutina	61.80	334	P	P	00 51 33.5	+0.7
SCRK	Sand Creek	62.15	337	P	P	00 51 35.0	-0.1
	baz=118						
M24K	Tolsona, Glenn	62.18	334	P	P	00 51 35.9	+0.7
	baz=116						
KNK	Knik Glacier	62.88	333	P	P	00 51 40.5	+0.6
BRLK	Bradley Lake	63.39	331	P	P	00 51 43.7	+0.4
HDA	Harding Lake	63.50	336	P	P	00 51 43.9	0.0
	baz=116						
KDAK	Kodiak Island	63.59	328	P	P	00 51 44.5	-0.1
IL31		63.63	337	P	P	00 51 44.5	-0.3
IL31				IAmb	IAmb	00 51 46.0	
	comp=Z,3.9nm,0.8s						
ILAR	Eielson Array	63.63	337	P	P	00 51 44.8	-0.1
	comp=Z,2.6nm,0.9s,baz=140,slow=4.0,SNR=21						
ILAR	Eielson Array	63.63	337	P	P	00 51 44.9	+0.1
RND	Reindeer	63.84	335	P	P	00 51 46.4	+0.1
CAPN	Captain Cook N	63.86	332	P	P	00 51 46.3	0.0
	baz=110						
BMAR	Burnt Mountain	64.05	340	P	P	00 51 47.6	0.0
CUT	Chulitna	64.05	334	P	P	00 51 47.7	+0.1
	baz=112						
NEA2	Nenana	64.41	336	P	P	00 51 49.9	-0.1
	baz=114						
COLD	Coldfoot	65.91	339	P	P	00 51 59.7	+0.2
	baz=114						
SVW2	Sparrevohn	66.02	331	P	P	00 51 59.7	-0.8
SUMG	Summit	66.48	15	P	P	00 52 01.9	-1.7
EUNU	Eureka	66.61	1	P	P	00 52 02.6	-1.3
ADK	Adak	76.79	321	P	P	00 53 06.0	+0.5
AMKA	Amchitka	79.33	320	P	P	00 53 20.0	+0.3
ESDC	Sonseca Array	79.34	52	P	P	00 53 17.5	-2.7
	comp=Z,0.3nm,0.6s,baz=283,slow=5.2,SNR=4.9						
TIC	Toumodi	84.69	84	*e*P	P	00 53 47.8	-0.8
LIC	Lamto	84.77	85	*e*P	P	00 53 48.3	-0.7
	comp=Z,26nm,1.0s						
DBIC	Dimbokro	84.84	84	P	P	00 53 47.7	-1.7
	comp=Z,4.6nm,0.7s,baz=278,slow=4.2,SNR=5.4						
DBIC	Dimbokro	84.84	84	P	P	00 53 48.1	-1.3
KIC	Kosan Boka	85.02	85	*e*P	P	00 53 49.4	-0.9
	comp=Z,20nm,1.0s						
ARCES	ARCESS Array B	86.33	18	P	P	00 53 54.4	-1.4
	comp=Z,1.5nm,0.8s,baz=290,slow=5.0,SNR=4.3						
ARCES	ARCESS Array B	86.33	18	P	P	00 53 54.5	-1.3
ARE0	ARCESS Array S	86.33	18	P	P	00 53 54.4	-1.4
BOSA	Boshof	119.36	115	PKP	PKPdf	01 00 04.0	-0.2
	comp=Z,1.9nm,0.7s,baz=329,slow=2.0,SNR=4.6						
BOSA	Boshof	119.36	115		PKPdf	01 00 02.9	-1.3
MKAR	Makanchi Array	119.69	5	PKP	PKPdf	01 00 03.5	-0.8
	comp=Z,0.4nm,0.8s,baz=354,slow=1.2,SNR=4.0						
MKAR	Makanchi Array	119.69	5		PKPdf	01 00 03.1	-1.2
LZH	Lanzhou	128.69	344	*e*PKP	PKPdf	01 00 22.9	+0.9
LZH				pPKP	sPKPdf	01 00 27.8	-3.2
LZH				sPKP		01 00 43.7	
WRA	Warramunga Arr	136.11	255	PKP	PKPdf	01 00 36.3	+0.1
	comp=Z,1.0nm,0.8s,baz=91,slow=2.0,SNR=4.5						
CMAR	Chiang Mai Arr	146.73	342	PKPbc	PKPdf	01 00 56.5	+1.3
	comp=Z,9.1nm,0.7s,baz=333,slow=3.5,SNR=42						
CMAR	Chiang Mai Arr	146.73	342		PKPdf	01 00 56.2	+1.0

IDC 02 00:47:48.2±5.8, 8°.68S×120°.32E, h224km±59km, mb3.4/1, mb1 3.1/4, mb1mx2.7/53, mbtmp3.6/4, Error ellipse: s-maj=111.6km s-min=46.0km az=49.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.70	152	P		Pn		00 50 16.4	+0.5
	0.1nm,0.3s,baz=337,slow=10.0,SNR=1.8								
FITZ				S		S		00 52 16.2	+0.4
	0.2nm,0.3s,baz=195,slow=20,SNR=2.5								
WRA	Warramunga Arr	17.59	131	P		P		00 51 37.6	-0.4
	0.4nm,0.3s,baz=306,slow=13,SNR=8.6								
WRA				S		S		00 54 50.1	+1.0
	0.0nm,0.3s,baz=304,slow=24,SNR=2.3								
ASAR	Alice Springs	19.78	140	P		P		00 52 01.7	0.0
	0.2nm,0.3s,baz=321,slow=8.9,SNR=9.6								
STKA	Stephens Creek	30.39	142	P		P		00 53 39.6	+0.1
	0.7nm,0.2s,baz=315,slow=11,SNR=3.0								

*IDC **02** 00:54:56.9±1.1, 35°.47N×27°.83E, h0km, mb3.6/4, mb1 3.7/11, mb1mx3.4/51, mbtmp3.5/11, ML3.3/7, MS2.8/2, Ms1 2.8/2, ms1mx2.4/46, Error ellipse: s-maj=20.2km s-min=15.2km az=6.0*

*DDA **02** 00:54:56.4, 35°.36N×27°.61E, h9km±2km, MW3.7*

*NIC **02** 00:54:57.3±0.0, 35°.51N×27°.73E, h13km±1km, MI3.8/4*

*ISK **02** 00:54:57.0, 35°.53N×27°.64E, h8km, ML3.4/28*

*THE **02** 00:54:58.5, 35°.55N×27°.69E, h0km±1km, ML3.3/6, Error ellipse: s-maj=3.3km s-min=1.0km az=140.0*

*ATH **02** 00:54:58.4, 35°.60N×27°.68E, h20km±1km, ML3.3/6, Error ellipse: s-maj=3.0km s-min=1.1km az=140.0*

ISC 02 00:54:58.1±1.1, 35°.49N±0°.03×27°.73E±0°.02, h13km±8km, n143, σ1§24/176, mb3.6/4, 7C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	Karpathos	0.47	277	P		Pg		00 55 06.9	-0.5
KARP				S		Sb		00 55 15.5	+0.3
	4μm,0.4s								
KARP	Karpathos	0.47	277	P		Pg		00 55 06.8	-0.6
KARP				S		Sg		00 55 14.0	+0.3
KARP				AML		AML		00 55 16.7	
	comp=E,7503μm,0.3s								
KARP				AML		AML		00 55 19.0	
	comp=N,7227μm,0.5s								
KARP	Karpathos	0.47	277	PG		Pg		00 55 06.9	-0.5
KARP	Karpathos	0.47	277	⇑P		Pg		00 55 06.7	-0.6
KARP				S		Sg		00 55 14.0	+0.3
KARP				AML		AML		00 55 16.2	
	comp=N,7.5nm,0.3s								
KARP				AML		AML		00 55 16.2	
	comp=N,7.5nm,0.3s								
KARP				AML		AML		00 55 18.4	
	comp=N,7.2nm,0.5s								
KARP				AML		AML		00 55 18.4	
	comp=N,7.2nm,0.5s								
ARG	Arkhangelos	0.79	24	P		Pb		00 55 12.5	-1.3
ARG				S		Sg		00 55 25.7	+1.9
	comp=N,2μm,0.3s								
ARG	Arkhangelos	0.79	24	P		Pb		00 55 12.4	-1.4
ARG				AML		AML		00 55 29.4	
	comp=N,3145μm,0.3s								
ARG				AML		AML		00 55 33.1	
	comp=E,3877μm,0.3s								
ARG	Arkhangelos	0.79	24	PG		Pb		00 55 12.2	-1.5
ARG				SG		Sb		00 55 24.3	-0.1
ARG	Arkhangelos	0.79	24	⇑P		Pb		00 55 12.3	-1.5
ARG				S		Sb		00 55 23.5	-0.9
NISR	Nisiros	1.22	336	P		Pn		00 55 20.3	-0.6
NISR				S		Sn		00 55 36.9	-0.4
	comp=E,825nm,0.8s								
NISR	Nisiros	1.22	336	P		Pn		00 55 20.3	-0.6
DAT	Datca	1.24	354	PN		Pn		00 55 20.2	-1.1
DAT				SN		Sn		00 55 37.9	-0.2
DAT	Datca	1.24	354	*i* P		Pn		00 55 20.2	-1.1
DAT				*i* S		Sn		00 55 38.2	+0.1
MRSB	Marmaris-Mugla	1.28	17	PN		Pn		00 55 21.7	-0.1
ZKR	Zakros	1.30	254	P		Pb		00 55 22.1	-0.3
ZKR				S		Sg		00 55 40.1	+0.2
	comp=E,2μm,0.6s								
ZKR	Zakros	1.30	254	P		Pb		00 55 22.3	-0.1
ZKR				S		Sg		00 55 41.4	+1.5
ZKR				AML		AML		00 55 49.6	
	comp=E,5576μm,0.6s								
ZKR				AML		AML		00 55 49.9	
	comp=N,2100μm,0.6s								
ZKR	Zakros	1.30	254	PN		Pn		00 55 21.6	-0.4
TURN	Turunc	1.35	18	PN		Pn		00 55 22.4	-0.2
TURN	Turunc	1.35	18	*i* P		Pn		00 55 22.5	-0.1
TURN				*i* S		Sg		00 55 42.6	+1.1
TURN				IAML				00 55 47.0	
	comp=Z,970nm,0.7s								
KOSK	Kos Island	1.40	334	P		Pn		00 55 23.6	+0.2
KOSK	Kos Island	1.40	334	PN		Pn		00 55 22.5	-0.9
DALY	Dalyan (Mula)	1.52	29	PN		Pn		00 55 25.4	+0.4
DALY	Dalyan (Mula)	1.52	29	*i* P		Pn		00 55 25.2	+0.2
DALY				*i* S		Sg		00 55 47.5	+0.5
DALY				IAML				00 55 56.0	
	comp=Z,326nm,0.9s								
FETY	Fethiye	1.58	43	PN		Pn		00 55 26.4	+0.5
FETY	Fethiye	1.58	43	*i* P		Pn		00 55 26.8	+0.8
FETY				*i* S		Sb		00 55 47.3	+0.1
FETY				IAML				00 55 59.0	
	comp=Z,94nm,0.7s								
BDRM	Kayabasi	1.59	352	*i* P		Pn		00 55 23.0	-3.1
BDRM				*i* S		Sn		00 55 45.8	-0.7
BODT	Bodrum	1.60	348	PN		Pn		00 55 25.8	-0.4
KSL	Kastellorizon	1.64	66	P		Pn		00 55 27.8	+1.1
KSL	Kastellorizon	1.64	66	⇑P		Pn		00 55 26.8	+0.1
AKAS	Kas	1.69	63	PN		Pn		00 55 28.6	+1.1
AKAS	Kas	1.69	63	*i* P		Pn		00 55 28.3	+0.8
YER	Yerkesik	1.70	15	PN		Pn		00 55 28.2	+0.6
NPS	Neapolis	1.75	263	P		Pb		00 55 29.0	-1.1
NPS				S		Sb		00 55 51.1	-0.9
	comp=Z,982nm,0.7s								
NPS	Neapolis	1.75	263	P		Pb		00 55 29.6	-0.5
NPS				S		Sg		00 55 52.8	-1.6
NPS				AML		AML		00 56 10.3	
	comp=E,1524μm,0.7s								
NPS				AML		AML		00 56 12.1	
	comp=N,2026μm,0.9s								
ANAF	Anafi Island	1.81	299	P		Pn		00 55 29.1	+0.1
ANAF				S		Sn		00 55 51.3	-0.6
	comp=N,2μm,0.3s								
ANAF	Anafi Island	1.81	299	P		Pn		00 55 29.1	+0.1
ANAF				AML		AML		00 56 00.8	
	comp=N,3351μm,0.3s								
ANAF				AML		AML		00 56 01.1	
	comp=E,3896μm,0.3s								
LAST	Lasithi	1.87	261	P		Pb		00 55 31.8	-0.4
SANT	Santorini	2.04	296	P		Pn		00 55 32.5	+0.2
SANT	Santorini	2.04	296	PN		Pn		00 55 31.5	-0.8
SAP1	Santorini-Akro	2.09	295	P		Pn		00 55 33.3	+0.5
THT2	Imerovigli	2.10	297	PN		Pn		00 55 32.1	-0.9
CMBO	Columbo, Santo	2.13	298	P		Pn		00 55 33.6	+0.2
SAP3	Santorini-Thir	2.15	297	P		Pn		00 55 34.2	+0.4
HRKL	Herakleio	2.16	266	PN		Pn		00 55 33.3	-0.5
ELL	Elmali	2.16	54	PN		Pn		00 55 35.2	+1.2
AYDN	Tasoluk	2.17	3	*i* P		Pn		00 55 34.5	+0.4
AYDN				*i* S		Sn		00 56 01.7	+0.9
AYDN				IAML				00 56 09.0	
	comp=Z,102nm,0.4s								
TAVA	DENIZLI_Tavas	2.19	25	*i* P		Pn		00 55 36.1	+1.7
TAVA				*i* S		Sb		00 56 03.4	-1.3
TAVA				IAML				00 56 12.0	
	comp=Z,215nm,1.2s								
GCAM	G?zelcaml?	2.24	350	PN		Pn		00 55 35.2	+0.2
GCAM	G?zelcaml?	2.24	350	*i* P		Pn		00 55 36.3	+1.4
GCAM				IAML				00 56 13.0	
	comp=Z,56nm,1.0s								
AKUM	Antalya-Kumluc	2.27	68	*i* P		Pn		00 55 35.3	-0.1
GOLH	Golhisar	2.28	40	*i* P		Pn		00 55 37.4	+1.7
GOLH				IAML				00 56 27.0	
	comp=Z,126nm,0.7s								
SMG	Samos	2.33	342	P		Pn		00 55 35.7	-0.5
SMG	Samos	2.33	342	P		Pn		00 55 35.9	-0.3
IDI	Anoyia	2.33	266	Pn		Pn		00 55 37.7	+1.4
	comp=Z,9.4nm,0.3s,baz=84,slow=15,SNR=73								
IDI				Sn		Sb		00 56 09.0	+0.2
	comp=Z,22nm,0.3s,baz=203,slow=7.4,SNR=8.6								
IDI				LR		LR		00 56 28.1	
	comp=Z,35nm,20.8s,baz=227,slow=38								
IDI	Anoyia	2.33	266	P		Pn		00 55 37.3	+1.0
IDI	Anoyia	2.33	266	PN		Pn		00 55 35.6	-0.7
APE	Apeiranthos	2.38	312	P		Pn		00 55 36.7	-0.2
APE				S		Sn		00 56 05.4	-0.5
APE				AML		AML		00 56 07.4	
	comp=N,423μm,0.3s								
APE				AML		AML		00 56 11.7	
	comp=E,398μm,0.6s								
APE	Apeiranthos	2.38	312	PN		Pn		00 55 36.3	-0.6

KEPZ				IAML				00 56 42.0
	comp=Z,17nm,1.0s							
BAGO	**Egridir - ISPA**	**3.50**	**44**	*i* P		**Pn**	**00 55 53.8**	**+1.4**
ZEDA	**zmir-Bergama**	**3.51**	**352**	*i* P		**Pn**	**00 55 52.5**	**+0.1**
ZEDA				IAML			00 56 39.0	
	comp=Z,13nm,1.1s							
OSC1	**CSNet OBS 1**	**3.54**	**123**	P		**Pn**	**00 55 51.5**	**-1.2**
OSC1				S		**Sn**	**00 56 35.0**	**+0.6**
DKL	**Dikili**	**3.63**	**350**	PN		**Pn**	**00 55 54.9**	**+0.8**
ALAN	**Alanya-ANTALYA**	**3.64**	**72**	PN		**Pn**	**00 55 55.9**	**+1.7**
SIMA	**Simav-Kutahya**	**3.72**	**15**	PN		**Pn**	**00 55 56.4**	**+1.0**
AKMS	**Akamas**	**3.79**	**96**	P		**Pn**	**00 55 56.2**	**-0.2**
AKMS				S		**Sn**	**00 56 42.1**	**+1.2**
AKMS				AML	AML		00 56 44.9	
	comp=Z,0.4nm,0.3s							
AKMS				AML	AML		00 56 44.9	
	comp=Z,0.4nm,0.3s							
AKMS				AML	AML		00 56 45.1	
	comp=Z,0.4nm,0.4s							
AKMS				AML	AML		00 56 45.1	
	comp=Z,0.4nm,0.4s							
GAZI	**Gazipasa**	**3.79**	**77**	*i* P		**Pn**	**00 55 54.9**	**-1.4**
GAZI				*i* S		**Sn**	**00 56 38.0**	**-2.9**
GAZI				IAML			00 56 46.0	
	comp=Z,23nm,0.5s							
SHUT	**Suhut-Afyon**	**3.80**	**36**	PN		**Pn**	**00 55 57.5**	**+1.0**
SEYD	**Seydisehir-KON**	**3.82**	**59**	PN		**Pn**	**00 55 59.0**	**+2.2**
GDZ	**Gediz**	**3.85**	**21**	*i* P		**Pn**	**00 55 57.7**	**+0.5**
STEP	**BALIKESIR_Sava**	**3.88**	**360**	*i* P		Pn	00 55 49.2	-8.3
PRK	**Paraskevi**	**3.93**	**343**	P		**Pn**	**00 55 58.6**	**+0.5**
VLY	**Voula,Athens**	**3.95**	**308**	P		**Pn**	**00 55 59.5**	**+1.0**
ALFC	**Alefka**	**3.99**	**93**	⇑P		**Pn**	**00 55 58.8**	**-0.3**
ALFC				S		**Sn**	**00 56 46.3**	**+0.6**
ALFC				AML	AML		00 56 47.6	
	comp=Z,0.4nm,1.0s							
ALFC				AML	AML		00 56 47.6	
	comp=Z,0.4nm,1.0s							
ALFC				AML	AML		00 56 47.6	
	comp=Z,0.2nm,0.3s							
ALFC				AML	AML		00 56 47.6	
	comp=Z,0.2nm,0.3s							
SIGR	**SIGRI**	**4.00**	**339**	P		**Pn**	**00 55 59.2**	**0.0**
SIGR	**SIGRI**	**4.00**	**339**	PN		**Pn**	**00 55 59.4**	**+0.2**
PTL	**Penteli**	**4.02**	**311**	P		**Pn**	**00 56 00.9**	**+1.4**
NATA	**Nata**	**4.03**	**99**	P		**Pn**	**00 55 59.3**	**-0.3**
NATA				S		**Sn**	**00 56 47.6**	**+1.1**
VLI	**Veliai**	**4.07**	**289**	P		**Pn**	**00 56 01.0**	**+0.9**
DOGA	**KONYA_Doganhis**	**4.10**	**49**	*i* P		**Pn**	**00 56 02.6**	**+2.0**
DOGA				IAML			00 57 01.0	
	comp=Z,16nm,0.7s							
BALB	**Balikesir**	**4.14**	**2**	PN		**Pn**	**00 56 01.9**	**+0.8**
DURS	**Dursunbey**	**4.14**	**8**	*i* P		**Pn**	**00 56 00.7**	**-0.5**
DURS				IAML			00 57 23.0	
	comp=Z,10nm,0.9s							
TVSB	**Tavsanli**	**4.18**	**19**	PN		**Pn**	**00 56 03.1**	**+1.3**
LEF	**Lefka**	**4.23**	**94**	*i* P		**Pn**	**00 56 00.8**	**-1.5**
LEF				*i* S		**Sn**	**00 56 48.4**	**-3.3**
LEF				IAML			00 56 57.0	
	comp=Z,36nm,0.6s							
BALY	**Balya**	**4.24**	**359**	*i* P		**Pn**	**00 56 02.5**	**0.0**
BALY				*i* S		**Sn**	**00 56 48.3**	**-3.7**
BALY				IAML			00 56 58.0	
	comp=Z,13nm,0.6s							
SZAC	**Souni**	**4.28**	**98**	P		**Pn**	**00 56 02.9**	**-0.2**
SZAC				AML	AML		00 56 55.5	
	comp=Z,0.4nm,0.5s							
SZAC				AML	AML		00 56 56.5	
	comp=Z,0.4nm,0.4s							
BAYC	**CANAKKALE_Bayr**	**4.35**	**348**	*i* P		**Pn**	**00 56 03.0**	**-1.0**
ERMK	**Ermenek**	**4.35**	**73**	*i* P		**Pn**	**00 56 05.6**	**+1.4**
ERMK				IAML			00 57 04.0	
	comp=Z,48nm,0.7s							
KMER	**Konya-Meram**	**4.37**	**57**	*i* P		**Pn**	**00 56 06.8**	**+2.5**
KMER				IAML			00 57 02.0	
	comp=Z,7.0nm,0.8s							
KONT	**Konya--Tatoy**	**4.45**	**55**	*i* P		**Pn**	**00 56 07.5**	**+2.1**
KONT				IAML			00 57 07.0	
	comp=Z,9.5nm,0.7s							
EZN	**Ezine**	**4.47**	**346**	PN		**Pn**	**00 56 06.5**	**+0.9**
VIL2	**Platees**	**4.50**	**308**	P		**Pn**	**00 56 06.4**	**+0.5**
BOZC	**Bozcaada**	**4.54**	**343**	PN		**Pn**	**00 56 07.5**	**+0.9**
BOZC	**Bozcaada**	**4.54**	**343**	*i* P		**Pn**	**00 56 06.7**	**0.0**
BOZC				IAML			00 57 36.0	
	comp=Z,6.3nm,1.9s							
ASGA	**Asgata**	**4.57**	**97**	P		**Pn**	**00 56 07.0**	**0.0**
CSS	**Mathiatis**	**4.61**	**95**	⇑P		**Pn**	**00 56 07.0**	**-0.6**
KDHN	**Kadinhani**	**4.63**	**48**	*i* P		**Pn**	**00 56 09.6**	**+1.7**
KDHN				IAML			00 57 07.0	
	comp=Z,5.6nm,0.8s							
GULN	**MERSIN_Gulnar**	**4.77**	**80**	*i* P		**Pn**	**00 56 08.5**	**-1.2**
GULN				IAML			00 57 11.0	
	comp=Z,20nm,0.7s							
MVOU	**Mavrovouni**	**4.85**	**94**	⇑P		**Pn**	**00 56 10.1**	**-0.7**
BORA	**Eskisehir**	**4.88**	**25**	*i* P		**Pn**	**00 56 11.6**	**+0.2**
SART	**Tekirdag**	**5.21**	**355**	*i* P		**Pn**	**00 56 13.2**	**-2.6**
KIZK	**Mersin**	**5.29**	**77**	*i* P		**Pn**	**00 56 18.2**	**+1.3**
KIZK				IAML			00 57 30.0	
	comp=Z,24nm,1.2s							
KERG	**Konya-Eregli**	**5.50**	**68**	*i* P		**Pn**	**00 56 19.8**	**-0.1**
KERG				IAML			00 59 30.0	
	comp=Z,29nm,6.5s							
DED	**Mersin**	**5.90**	**74**	*i* P		**Pn**	**00 56 26.0**	**+0.7**
DED				IAML			00 57 40.0	
	comp=Z,7.5nm,0.8s							
GULE	**Gulek**	**5.96**	**70**	*i* P		**Pn**	**00 56 27.5**	**+1.3**
GULE				IAML			00 57 45.0	
	comp=Z,12nm,1.0s							
BRTR	**Keskin Array B**	**6.31**	**46**	Pn		**Pn**	**00 56 32.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=223,slow=16,SNR=6.8							
BRTR				Sn		**Sn**	**00 57 44.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=218,slow=22,SNR=3.3							
MMAI	**Mount Meron Ar**	**6.81**	**109**	Pn		**Pn**	**00 56 37.1**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=306,slow=12,SNR=17							
MMAI				Sn		**Sn**	**00 57 54.5**	**-0.9**
	comp=Z,2.2nm,0.3s,baz=300,slow=15,SNR=6.8							
ASF	**Jabal al Asfar**	**8.31**	**111**	Pn		**Pn**	**00 56 58.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=356,slow=13,SNR=1.5							
ASF				Sn		**Sn**	**00 58 32.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=1.6							
EIL	**Elat**	**8.41**	**132**	Pn		**Pn**	**00 56 59.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=311,slow=15,SNR=2.2							
EIL				Sn		**Sn**	**00 58 31.0**	**-3.6**
	comp=Z,0.9nm,0.3s,baz=333,slow=6.6,SNR=6.0							
MLR	**Muntele Rosu**	**10.08**	**353**	Pn		**Pn**	**00 57 25.2**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=184,slow=15,SNR=5.6							
VYHS	**Vyhne**	**14.57**	**336**	*e*PN		**P**	**00 58 32.4**	**+2.0**
GERES	**GERESS Array B**	**16.88**	**327**	Pn		**P**	**00 58 56.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=132,slow=13,SNR=1.9							
ESDC	**Sonseca Array**	**25.39**	**289**	P		**P**	**01 00 26.7**	**+1.4**
	comp=Z,0.8nm,1.0s,baz=78,slow=9.7,SNR=10							
FINES	**FINESS Array B**	**25.99**	**358**	P		**P**	**01 00 31.3**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=167,slow=13,SNR=1.4							
TORD	**Torodi Ar. Bea**	**32.34**	**233**	P		P	01 01 28.3	+1.0
	comp=Z,0.4nm,0.4s,baz=38,slow=8.3,SNR=1.7							
ARCES	**ARCESS Array B**	**34.12**	**359**	P		**P**	**01 01 43.0**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=172,slow=6.8,SNR=1.9							
SADO	**Sadowa**	**76.30**	**315**	LR		LR	01 39 41.6	
	comp=Z,34nm,18.3s,baz=68,slow=35							

BEO ***02*** *01:10:57.1±0.6, 43°.94N×16°.56E, h1km±3km, ML2.9/10*
PRU ***02*** *01:10:58.3±0.0, 43°.81N×17°.10E, h0km*
RHSSO ***02*** *01:10:59.9±0.5, 43°.86N×16°.91E, h4km±3km, ML2.9/11*
LDG ***02*** *01:11:01.9±0.1, 43°.85N×16°.85E, h5km, Ml2.8/10, Error ellipse: s-maj=5.3km s-min=2.6km az=20.0*

ISC 02 01:10:59.7±1.1, 43°.88N±0°.02×16°.86E±0°.02, h6km±9km, n63, σ1%96/119, 5C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.35**	**292**	*e*Pg	**Pg**	**01 11 06.0**	**-0.6**
KIJV				Sg	**Sg**	**01 11 12.2**	**+1.1**
RICI	**Ricice**	**0.43**	**152**	*e*Pg	**Pg**	**01 11 07.6**	**-0.4**
RICI				Sg	**Sb**	**01 11 15.0**	**-1.4**
MAKA	**Makarska**	**0.60**	**168**	*e*Pg	**Pg**	**01 11 10.7**	**-0.5**
MAKA				Sg	**Sb**	**01 11 20.5**	**-0.7**
HVAR	**Hvar**	**0.76**	**203**	*e*Pg	**Pg**	**01 11 13.4**	**-0.8**
HVAR				Sg	**Sb**	**01 11 25.7**	**-0.1**
MORI	**Morici**	**0.83**	**270**	*e*Pg	**Pg**	**01 11 14.9**	**-0.7**
MORI				Sg	**Sg**	**01 11 28.3**	**+1.9**
BLY	**Banja Luka**	**0.91**	**15**	*e*Pg	**Pg**	**01 11 15.0**	**-2.0**
BLY				*e*Sg	**Sg**	**01 11 27.7**	**-1.1**
BLY	**Banja Luka**	**0.91**	**15**	⇑*i*Pg	**Pg**	**01 11 15.7**	**-1.3**
BLY				*e*Sg	**Sg**	**01 11 28.5**	**-0.3**
ZIRJ	**Zirje**	**0.91**	**256**	*e*Pg	**Pg**	**01 11 16.5**	**-0.5**
ZIRJ				Sg	**Sb**	**01 11 31.3**	**+1.3**
PRIJ	**Prijedor**	**1.11**	**355**	⇑*i*Pg	**Pg**	**01 11 20.1**	**-0.8**
PRIJ				*e*Sg	**Sg**	**01 11 35.7**	**+0.5**
LSTV	**Lastovo**	**1.11**	**179**	*e*Pg	**Pb**	**01 11 21.5**	**+0.4**
LSTV				Sg	**Sn**	**01 11 37.7**	**+0.5**
DUGI	**Dugi Otok**	**1.30**	**276**	*e*Pg	**Pn**	**01 11 23.6**	**-0.8**
DUGI				Sg	**Sn**	**01 11 43.8**	**+1.7**
DBRK	**Dubrovnik**	**1.53**	**142**	*e*Pn	**Pb**	**01 11 28.3**	**-0.1**
DBRK				Sn	**Sg**	**01 11 49.6**	**+0.7**
NVLJ	**Novalja**	**1.58**	**296**	*e*Pn	**Pn**	**01 11 28.4**	**+0.2**
NVLJ				Sn	**Sn**	**01 11 51.0**	**+2.1**
TREB	**Trebinje**	**1.59**	**136**	*e*Pg	**Pn**	**01 11 28.7**	**+0.4**
TREB				*e*Sg	**Sg**	**01 11 53.3**	**+2.5**
TREB	**Trebinje**	**1.59**	**136**	*e*Pn	**Pn**	**01 11 28.4**	**+0.1**
TREB				*e*Sn	**Sn**	**01 11 49.1**	**0.0**
UPM	**Unac-Piva**	**1.64**	**114**	*e*Pn	**Pn**	**01 11 29.3**	**+0.2**
UPM				*e*Sn	**Sb**	**01 11 50.4**	**-0.8**
RUDO	**Rudo**	**1.84**	**97**	*e*Pn	**Pn**	**01 11 31.6**	**-0.2**
RUDO				*e*Sn	**Sn**	**01 11 55.2**	**-0.1**
HCY	**Herceg Novi**	**1.86**	**139**	*e*Pn	**Pn**	**01 11 32.0**	**-0.1**
HCY				*e*Sn	**Sn**	**01 11 55.5**	**-0.4**
TEKS	**Tekeris**	**2.04**	**70**	*e*Pn	**Pn**	**01 11 34.4**	**-0.1**
TEKS				*e*Sn	**Sb**	**01 12 02.9**	**+0.3**
TEKS	**Tekeris**	**2.04**	**70**	*e*Pn	**Pn**	**01 11 34.9**	**+0.4**
TEKS				*e*Sn	**Sn**	**01 12 00.3**	**+0.1**
CRES	**Cresnjev**	**2.19**	**333**	*e*Pn	**Pn**	**01 11 37.4**	**+0.8**
CRES				*e*Sn	**Sn**	**01 12 05.0**	**+1.1**
PDG	**Podgorica**	**2.27**	**129**	*e*Pn	**Pn**	**01 11 39.2**	**+1.5**
PDG				*e*Sn	**Sb**	**01 12 10.0**	**+0.6**
PDG	**Podgorica**	**2.27**	**129**	⇑P	**Pb**	**01 11 40.5**	**-0.5**
PDG	**Podgorica**	**2.27**	**129**	⇑S	**Sg**	**01 12 13.2**	**+0.5**
PDG	**Podgorica**	**2.27**	**129**	*e*Pn	**Pn**	**01 11 37.8**	**+0.1**
PDG				*e*Sn	**Sn**	**01 12 05.1**	**-0.9**
DIVS	**Divibare**	**2.27**	**83**	*e*Pn	**Pn**	**01 11 38.1**	**+0.3**
DIVS				*e*Sn	**Sb**	**01 12 09.5**	**0.0**
DIVS	**Divibare**	**2.27**	**83**	*e*Pn	**Pn**	**01 11 37.7**	**-0.1**
DIVS				*e*Sn	**Sn**	**01 12 05.3**	**-0.9**
SJES	**Sjenica**	**2.35**	**104**	*e*Pn	**Pn**	**01 11 40.2**	**+1.4**
SJES				*e*Sn	**Sb**	**01 12 11.4**	**-0.3**
DRME	**Dracevica, Mon**	**2.40**	**134**	*e*Pn	**Pn**	**01 11 39.7**	**+0.3**
DRME				*e*Sn	**Sn**	**01 12 08.9**	**-0.2**
FRGS	**Fruska Gora**	**2.47**	**58**	*e*Pn	**Pn**	**01 11 40.4**	**-0.1**
FRGS				*e*Sn	**Sb**	**01 12 14.0**	**-1.1**
FRGS	**Fruska Gora**	**2.47**	**58**	*e*Pn	**Pn**	**01 11 40.7**	**+0.2**
FRGS				*e*Sn	**Sn**	**01 12 11.1**	**+0.2**
CEY	**Cerknica**	**2.54**	**318**	*e*Pn	**Pn**	**01 11 42.7**	**+1.3**
CEY				*e*Sn	**Sn**	**01 12 14.7**	**+2.0**
TRUS	**Trudelj**	**2.58**	**81**	*e*Pn	**Pn**	**01 11 42.4**	**+0.4**
TRUS				*e*Sn	**Sb**	**01 12 16.3**	**-2.0**
MORH	**Mrgy, Hungar**	**2.66**	**28**	*e*Pn	**Pn**	**01 11 43.4**	**+0.4**
MORH				*e*Sn	**Sn**	**01 12 16.1**	**+0.6**
LJU	**Ljubljana**	**2.73**	**324**	*e*Pn	**Pn**	**01 11 44.9**	**+1.0**
LJU				*e*Sn	**Sn**	**01 12 18.6**	**+1.4**
GRUS	**Gruza**	**2.79**	**88**	*e*Pn	**Pn**	**01 11 45.4**	**+0.6**
GRUS				*e*Sn	**Sb**	**01 12 21.8**	**-2.5**
SOKA	**Soboth**	**3.08**	**336**	*i* Pn	**Pn**	**01 11 49.3**	**+0.4**
	2.9nm,0.5s						
SOKA				*i* Sn	**Sn**	**01 12 29.7**	**+3.6**
	4.7nm,0.5s						
OBKA	**Obir**	**3.10**	**329**	*e*Pn	**Pn**	**01 11 51.6**	**+2.5**
	13nm,0.4s						
OBKA				*i* Sn	**Sn**	**01 12 30.6**	**+4.1**
	20nm,0.4s						
SELS	**Selova**	**3.17**	**100**	*e*Pn	**Pn**	**01 11 51.2**	**+1.2**
SELS				*e*Sn	**Sn**	**01 12 31.0**	**+2.9**
ARSA	**Arzberg**	**3.50**	**345**	*e*Pn	**Pn**	**01 11 55.4**	**+0.8**
	7.2nm,0.3s,SNR=7.6						
BARS	**Barje**	**3.77**	**105**	*e*Pn	**Pn**	**01 11 59.0**	**+0.7**
BARS				*e*Sn	**Sn**	**01 12 46.3**	**+3.4**
BZS	**Buzias**	**3.81**	**61**	⇑P	**Pb**	**01 12 07.5**	**+0.2**
HERR	**Herculane**	**4.11**	**74**	⇓P	**Pn**	**01 12 03.2**	**+0.2**
CONA	**Conrad Observa**	**4.11**	**351**	*e*Pn	**Pn**	**01 12 03.2**	**+0.1**
	4.6nm,0.4s,SNR=4.4						
CONA				*i* Sn	**Sn**	**01 12 51.3**	**-0.2**
	1.6nm,0.3s						
ABTA	**Abfaltersbach**	**4.20**	**315**	*i* Pn	**Pn**	**01 12 05.5**	**+1.2**
	1.0nm,0.2s						
ABTA				*e*Sn	**Sn**	**01 12 55.3**	**+1.7**
	2.7nm,0.4s						
ZAPS	**Zavoj**	**4.24**	**96**	*e*Pn	**Pn**	**01 12 05.6**	**+0.8**
ZAPS				*e*Sn	**Sn**	**01 12 57.6**	**+3.0**
BOSS	**Bosilegrad**	**4.34**	**107**	*e*Pn	**Pn**	**01 12 06.6**	**+0.5**
MOA	**Molln**	**4.37**	**336**	*i* Pn	**Pn**	**01 12 07.5**	**+1.0**
	1.9nm,0.2s						
MOA				*i* Sn	**Sn**	**01 13 01.6**	**+3.9**
	0.3nm,0.1s						
VYHS	**Vyhne**	**4.82**	**16**	*e*PN	**Pn**	**01 12 13.2**	**+0.5**
VYHS				*e*SN	**Sn**	**01 13 07.5**	**-1.3**
VAY	**Valandovo**	**4.93**	**119**	*e*Pn	**Pn**	**01 12 14.7**	**+0.5**
WTTA	**Wattenberg**	**4.99**	**315**	*i* Pn	**Pn**	**01 12 16.9**	**+1.7**
	3.3nm,0.2s,SNR=6.5						
WTTA				*e*Sn	**Sn**	**01 13 16.4**	**+3.2**
	6.9nm,0.9s						
WATA	**Walderalm**	**5.07**	**315**	*i* Pn	**Pn**	**01 12 18.1**	**+1.9**
	4.7nm,0.5s,SNR=9.0						
WATA				*e*Sn	**Sn**	**01 13 16.7**	**+1.6**
	4.7nm,0.5s						
SQTA	**Sankt Quirin**	**5.19**	**312**	*e*Pn	**Pn**	**01 12 20.5**	**+2.6**
	2.1nm,0.3s						
SQTA				*e*Sn	**Sn**	**01 13 21.1**	**+3.1**
	2.8nm,0.3s						
MOTA	**Moosalm**	**5.32**	**313**	*i* Pn	**Pn**	**01 12 21.7**	**+2.0**
	1.9nm,0.3s,SNR=11						
MOTA				*e*Sn	**Sn**	**01 13 25.2**	**+3.9**
	2.6nm,0.5s						
KHC	**Kasperske Hory**	**5.72**	**338**	*e*PN	**Pn**	**01 12 24.9**	**-0.2**
KHC				*e*SN	**Sn**	**01 13 31.0**	**-0.1**
PGF	**Pioggiola**	**5.89**	**260**	*e*Pn	**Pn**	**01 12 27.1**	**-0.4**
PGF				*e*Sn	**Sn**	**01 13 28.5**	**-6.9**
	8.0nm,0.8s						
SBF	**Sospel**	**6.81**	**273**	*e*Pn	**Pn**	**01 12 40.0**	**-0.1**
SBF				*e*Sn	**Sn**	**01 13 52.7**	**-5.2**
	0.9nm,0.3s						
MBDF	**Montbardon**	**7.29**	**280**	*e*Pn	**Pn**	**01 12 47.7**	**+1.0**
MBDF				*e*Sn	**Sn**	**01 14 04.5**	**-5.2**
	1.0nm,0.4s						
LPG	**La Plagne**	**7.38**	**286**	*e*Pn	**Pn**	**01 12 49.6**	**+1.5**
LPG				*e*Sn	**Sn**	**01 14 08.5**	**-3.8**
	4.0nm,0.6s						
LPL	**La Plagne**	**7.40**	**286**	*e*Pn	**Pn**	**01 12 50.2**	**+1.9**
LPL				*e*Sn	**Sn**	**01 14 08.0**	**-4.6**
	4.7nm,0.5s						
FRF	**La Foret Royal**	**7.40**	**271**	*e*Pn	**Pn**	**01 12 47.7**	**-0.5**
FRF				*e*Sn	**Sn**	**01 14 07.3**	**-5.1**
	0.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**7.93**	**281**	*e*Pn	**Pn**	**01 12 55.5**	**0.0**
ORIF				*e*Sn	**Sn**	**01 14 20.4**	**-5.1**
	1.8nm,0.5s						
SMRF	**Simiane la Rot**	**8.14**	**275**	*e*Pn	**Pn**	**01 12 59.0**	**+0.6**
SMRF				*e*Sn	**Sn**	**01 14 24.9**	**-5.8**
	0.3nm,0.2s						

IDC 02 01:26:10.0±18.0, 6°.91S×129°.84E, h245km±219km, mb3.1/1, mb1 3.0/3, mb1mx2.8/25, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=141.2km s-min=91.0km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.67**	**162**	P	Pn	01 29 14.5	+0.2
	0.2nm,0.3s,baz=344,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**17.11**	**167**	P	P	01 29 53.3	-0.1
	0.2nm,0.3s,baz=349,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**68.06**	**327**	P	P	01 36 43.3	0.0
	0.3nm,0.4s,baz=116,slow=8.6,SNR=4.9						

IDC 02 02:12:53.3±2.8, 7°.15S×129°.82E, h136km±38km, mb3.4/1, mb1 3.2/5, mb1mx3.0/29, mbtmp3.6/5, Error ellipse: s-maj=67.2km s-min=21.2km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.40**	**13**	P	Pn	02 14 25.6	+0.3
	1.1nm,0.3s,baz=146,slow=23,SNR=6.2						
SIJI				S	Sn	02 15 31.1	-6.1
	1.5nm,0.3s,baz=211,slow=22,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.62**	**200**	P	Pn	02 15 34.5	-0.6
	0.2nm,0.3s,baz=14,slow=11,SNR=7.7						
FITZ				S	Sn	02 17 33.9	-10
	0.4nm,0.3s,baz=150,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**13.46**	**161**	P	Pn	02 15 57.9	-1.0
	0.3nm,0.3s,baz=346,slow=14,SNR=8.6						
WRA				S	Sn	02 18 17.4	-10
	0.9nm,0.3s,baz=341,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**16.89**	**167**	P	Pn	02 16 43.3	+1.6
	0.1nm,0.3s,baz=342,slow=8.9,SNR=7.7						
ASAR				S	Sn	02 19 44.9	-5.3
	0.2nm,0.3s,baz=318,slow=16,SNR=3.2						
MKAR	**Makanchi Array**	**68.25**	**327**	P	P	02 23 39.3	-0.1
	0.4nm,0.4s,baz=120,slow=7.6,SNR=6.5						

ECX ***02*** *02:19:19.3±1.2, 30°.38N×114°.08W, h8km±12km, MD3.0, ML3.1*
MEX ***02*** *02:19:27.6±0.8, 30°.27N×114°.31W, h16km±67km, MD3.5*

ISC 02 02:19:17.8±3.0, 30°.4N±0°.1×114°.02W±0°.08, h13km±12km, n8, σ1%61/14, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.97**	**312**	*e*P	**Pg**	**02 19 35.3**	**-1.2**
SFX				*e*S	**Sg**	**02 19 48.7**	**-0.5**
PIX	**Pinacate**	**1.27**	**22**	*e*P	**Pn**	**02 19 40.6**	**-0.5**
PIX				*e*S	**Sb**	**02 19 58.3**	**+0.6**
SPX	**San Pedro Mart**	**1.41**	**298**	*i* P	**Pg**	**02 19 47.4**	**+2.5**
SPX				*i* S	**Sb**	**02 20 01.6**	**-0.5**
SPX	**San Pedro Mart**	**1.41**	**298**	*e*P	**Pn**	**02 19 42.1**	**-1.3**
SPX				*e*S	**Sb**	**02 20 02.4**	**+0.3**
SPX				IAML		02 20 11.1	
	comp=E,215nm,1.5s						
SPX				⇑*e*		02 20 11.1	
SPX				IAML		02 20 11.3	
	comp=N,326nm,0.6s						
SPX				⇓*e*		02 20 11.3	
SPIG	**San Pedro Mart**	**1.41**	**298**	*i* P	**Pg**	**02 19 47.4**	**+2.4**
SPIG				*i* S	**Sb**	**02 20 01.5**	**-0.7**
SQX	**San Quintin**	**1.62**	**277**	*e*P	**Pn**	**02 19 45.0**	**-1.0**
SQX				*e*S	**Sn**	**02 20 07.3**	**+0.6**
CBX	**Cerro Bola**	**2.97**	**311**	*i* P	**Pb**	**02 20 09.4**	**-1.2**
CBX				*i* S	**Sn**	**02 20 42.8**	**+2.5**
CBX	**Cerro Bola**	**2.97**	**311**	IAML		02 21 02.4	
	comp=N,147nm,0.6s						
CBX				⇑*e*		02 21 02.4	
CBX				IAML		02 21 02.8	
	comp=E,98nm,0.6s						
CBX				⇓*e*		02 21 02.8	

DDA ***02*** *02:37:15.7, 42°.58N×25°.29E, h8km±4km, ML2.4*
ISK ***02*** *02:37:17.5, 42°.12N×24°.92E, h5km, ML2.5/12*
BEO ***02*** *02:37:17.3±0.9, 42°.19N×25°.02E, h0km, ML2.3/7*

ISC 02 02:37:16.8±1.2, 42°.19N±0°.03×25°.00E±0°.02, h3km±11km, n38, σ1%42/51, 5C-1D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.23**	**249**	*e*Pg	**Pg**	**02 37 20.9**	**-0.3**
PLD				*e*Sg	**Sg**	**02 37 24.1**	**-0.2**
PLD	**Plovdiv**	**0.23**	**249**	PG	**Pg**	**02 37 21.2**	**0.0**
PLD				SG	**Sg**	**02 37 24.2**	**-0.1**
KDZ	**Kurdzhali**	**0.62**	**150**	PG	**Pg**	**02 37 29.2**	**+0.5**
KDZ				SG	**Sg**	**02 37 37.8**	**+1.1**
RDO	**Rodhopi**	**1.12**	**159**	PG	**Pg**	**02 37 38.2**	**+0.1**
EDRB	**Edirne**	**1.35**	**104**	PN	**Pb**	**02 37 43.5**	**+0.9**
ALN	**Alexandroupoli**	**1.51**	**148**	PN	**Pg**	**02 37 45.7**	**0.0**
ALN				SN	**Sg**	**02 38 05.9**	**+0.6**
KIRK	**Kırklareli**	**1.62**	**104**	*i* P	**Pn**	**02 37 43.5**	**-2.7**
KIRK				*i* S	**Sn**	**02 38 03.4**	**-4.2**
**

ellipse: s-maj=47.9km s-min=21.8km az=48.0

ISC 02 03:19:22.1±1.1, 7.72S±0.08×102.94E±0.09, h35km, n20, σ1°99/25, mb3.6/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**2.67**	**35**	P	**Pn**	**03 20 01.5**	**-1.2**
KASI				S	**Sn**	**03 20 31.1**	**-2.8**
LWLI	**Liwa**	**2.91**	**23**	P	**Pn**	**03 20 05.1**	**-0.9**
LWLI				S	**Sn**	**03 20 40.0**	**+0.2**
MNAI	**Manna**	**3.34**	**0**	P	**Pn**	**03 20 09.9**	**-1.9**
MNAI				S	**Sn**	**03 20 51.6**	**+1.3**
MDSI	**Maura Dua**	**3.44**	**21**	P	**Pn**	**03 20 12.5**	**-0.7**
KLSI		**3.50**	**31**	P	**Pn**	**03 20 13.4**	**-0.6**
KLSI				S	**Sn**	**03 20 55.3**	**+1.1**
CBJI	**Citeko**	**4.09**	**72**	P	**Pn**	**03 20 20.3**	**-1.9**
LEM	**Lembang**	**4.73**	**79**	Pn	**Pn**	**03 20 30.2**	**-0.8**
	11nm,0.3s,baz=310,slow=10,SNR=8.1						
LEM				Sn	**Sn**	**03 21 29.8**	**+5.1**
	3.6nm,0.3s,baz=129,slow=23,SNR=3.7						
LEM	**Lembang**	**4.73**	**79**	P	**Pn**	**03 20 29.0**	**-2.1**
CISI	**Cisompet, Garu**	**4.84**	**88**	P	**Pn**	**03 20 29.9**	**-2.6**
CMJI	**Cimerak**	**5.46**	**91**	P	**Pn**	**03 20 37.9**	**-3.1**
	0.3nm1μm62nm,0.5s						
PPSI	**Pulau Pagai**	**5.72**	**329**	P	**Pn**	**03 20 42.2**	**-2.4**
	0.5nm124nm,1.4s						
UGM	**Wanagama**	**7.52**	**92**	P	**Pn**	**03 21 06.2**	**-3.1**
BKB	**Balikpapan**	**15.32**	**66**	P	**Pn**	**03 22 55.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.38**	**117**	P	**P**	**03 24 37.2**	**-0.1**
	0.9nm,0.6s,baz=314,slow=5.7,SNR=5.7						
WRA	**Warramunga Arr**	**32.75**	**115**	P	**P**	**03 25 51.9**	**-0.1**
	0.8nm,0.7s,baz=285,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**33.65**	**122**	P	**P**	**03 25 59.5**	**-0.3**
	0.3nm,0.6s,baz=297,slow=7.4,SNR=4.8						
STKA	**Stephens Creek**	**43.23**	**129**	P	**P**	**03 27 19.8**	**-0.4**
	2.0nm,0.7s,baz=274,slow=15,SNR=3.6						
SONM	**Songino Array**	**55.40**	**3**	P	**P**	**03 28 54.6**	**+1.7**
	0.8nm,0.5s,baz=190,slow=6.3,SNR=4.5						
MKAR	**Makanchi Array**	**57.30**	**343**	P	**P**	**03 29 07.0**	**+0.6**
	0.4nm,0.7s,baz=151,slow=9.5,SNR=3.6						
TXAR	**Lajitas Array**	**147.01**	**46**	PKPbc	**PKPbc**	**03 39 02.4**	**+0.4**
	0.2nm,0.5s,baz=329,slow=0.5,SNR=6.0						

*SNET **02** 03:20:38.9±1.1, 14.25N×91.18W, h17km±6km, ML2.8*
*GCG **02** 03:20:40.8±0.3, 14.07N×91.22W, h32km±4km, MD3.9*

ISC 02 03:20:37.6±2.0, 14.0N±0.1×91.3W±0.1, h28km±16km, n12, σ1°23/17, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.59**	**325**	*eP*	**Pb**	**03 20 49.2**	**-0.2**
RTAL				*eS*	**Sb**	**03 20 58.7**	**+1.2**
RTAL				IAML		03 21 14.2	
	comp=Z,318nm,0.5s						
FUG	**Fuego 3**	**0.63**	**50**	*eP*	**Pn**	**03 20 52.1**	**+1.2**
PCG	**Pacaya**	**0.79**	**64**	*eP*	**Pn**	**03 20 54.7**	**+1.5**
IXG	**Ixpaco**	**0.88**	**82**	*eP*	**Pn**	**03 20 55.8**	**+1.4**
NBG	**Las Nubes**	**1.11**	**61**	*eP*	**Pn**	**03 20 59.3**	**+1.8**
HUEH	**Huehuetenango**	**1.28**	**353**	*eP*	**Pn**	**03 20 58.9**	**-0.9**
HUEH				*eS*	**Sn**	**03 21 15.5**	**-0.7**
NUBE	**Las Nubes**	**1.52**	**95**	*eP*	**Pn**	**03 21 03.6**	**+0.4**
NUBE				*eS*	**Sb**	**03 21 23.0**	**-1.3**
CEVE	**Cerro Verde**	**1.68**	**97**	*eP*	**Pn**	**03 21 06.6**	**+1.2**
CEVE				*eS*	**Sb**	**03 21 27.9**	**-1.1**
CEVE				IAML		03 21 34.6	
	comp=Z,671nm,0.4s						
SBLS	**San Blas**	**1.68**	**97**	*eP*	**Pn**	**03 21 07.0**	**+1.6**
SBLS				*eS*	**Sb**	**03 21 28.4**	**-0.5**
TACO	**Tacachico**	**1.93**	**92**	*eP*	**Pn**	**03 21 08.6**	**0.0**
TACO				IAML		03 21 37.2	
	comp=Z,22nm,0.4s						
MTO3	**Montecristo**	**1.95**	**79**	*eP*	**Pn**	**03 21 08.8**	**-0.4**
COEG	**Centro de Oper**	**2.43**	**100**	*eP*	**Pn**	**03 21 15.8**	**+0.3**
COEG				IAML		03 21 57.7	
	comp=Z,90nm,0.4s						

IDC 02 03:20:40.5±54.0, 4.05S×113.17E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.4/46, mbtmp3.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/53, Error ellipse: s-maj=922.5km s-min=259.4km az=150.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.98**	**129**	P	P	03 26 15.6	+0.4
	0.5nm,0.5s,baz=312,slow=9.4,SNR=8.5						
ASAR	**Alice Springs**	**27.95**	**136**	P	P	03 26 32.5	-0.4
	0.6nm,0.4s,baz=310,slow=8.0,SNR=12						
STKA	**Stephens Creek**	**38.44**	**139**	P	P	03 28 04.2	0.0
	1.8nm,0.4s,baz=314,slow=12,SNR=5.2						
KRVT	**Keravat (AS076**	**38.75**	**92**	LR	LR	03 48 32.0	
	comp=Z,22nm,18.3s,baz=197,slow=43						

*IDC **02** 03:28:20.4±1.3, 10.32S×118.20E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.6/45, mbtmp3.8/10, ML3.8/4, MS2.8/2, Ms1 2.9/2, ms1mx2.4/42, Error ellipse: s-maj=49.3km s-min=19.2km az=49.0*
*NEIC **02** 03:28:24.4±1.4, 10.30S±0.08×118.35E±0.07, h34km±3km, mb4.1/9, Error ellipse: s-maj=12.5km s-min=9.4km az=211.0*
*DJA **02** 03:28:27.0±0.4, 10°S±5°×11°9E±°, h10km, M4.3/10, mB4.7/1, mb4.6/2, MLv4.2/10, Mw(mB)4.0/1*

ISC 02 03:28:26.0±0.6, 10.16S±0.05×118.74E±0.04, h37km, n43, σ2°39/44, mb4.1/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.82**	**51**	P	**Pn**	**03 28 40.9**	**-0.2**
WBSI				S	**Sn**	**03 28 51.5**	**-0.6**
PLAI	**Plampang**	**1.63**	**324**	P	**Pn**	**03 28 53.7**	**+1.5**
PLAI				S	**Sn**	**03 29 13.0**	**+1.0**
BASI	**Baing, Sumba**	**1.81**	**92**	P	**Pn**	**03 28 58.2**	**+3.6**
BASI				S	**Sn**	**03 29 22.0**	**+5.8**
TWSI	**Taliwang, Sumb**	**2.32**	**307**	P	**Pn**	**03 29 04.7**	**+3.1**
TWSI				S	**Sn**	**03 29 32.0**	**+3.1**
EDFI	**Ende, Flores**	**3.23**	**64**	P	**Pn**	**03 29 16.0**	**+1.8**
MMRI	**Maumere**	**3.77**	**67**	Pn	Pn	03 29 26.9	+5.4
SRBI	**Singaraja**	**4.05**	**300**	P	**Pn**	**03 29 28.2**	**+2.7**
JAGI	**Jajag, Banyuwa**	**4.83**	**290**	P	Pn	03 29 51.6	+15
JAGI	**Jajag, Banyuwa**	**4.83**	**290**		Pn	03 29 27.7	-8.6
BATI	**Baumata**	**4.84**	**91**	Pn	Pn	03 29 42.1	+5.7
	7.7nm,0.3s,baz=252,slow=19,SNR=1.9						
BATI				Sn	**Sn**	**03 30 33.2**	**+1.9**
	7.3nm,0.3s,baz=133,slow=19,SNR=1.9						
BKSI	**Bulukumba**	**5.00**	**16**	P	**Pn**	**03 29 40.9**	**+2.4**
KAPI	**Kappang**	**5.21**	**11**	Pn	**Pn**	**03 29 44.0**	**+2.6**
	4.9nm,0.3s,baz=182,slow=10,SNR=12						
KAPI				Sn	**Sn**	**03 30 40.2**	**-0.1**
	13nm,0.3s,baz=272,slow=24,SNR=20						
KAPI				LR	LR	03 31 52.8	
	comp=Z,76nm,19.0s,baz=329,slow=39						
KAPI	**Kappang**	**5.21**	**11**		**Pn**	**03 29 44.6**	**+3.2**
KAPI					**Sn**	**03 30 40.9**	**+0.7**
SOEI	**Soe**	**5.46**	**86**	Pn	**Pn**	**03 29 48.7**	**+3.8**
GMJI	**Gumukmas**	**5.56**	**289**	P	**Pn**	**03 29 47.7**	**+1.5**
	0.2nm55nm,1.0s						
BNSI	**Bone**	**5.88**	**13**	P	**Pn**	**03 29 52.6**	**+2.0**
FITZ	**Fitzroy Crossi**	**10.34**	**140**	Pn	**Pn**	**03 30 53.2**	**+1.3**
	0.7nm,0.3s,baz=324,slow=8.1,SNR=14						
FITZ				Sn	**Sn**	**03 32 42.4**	**-4.1**
	0.6nm,0.3s,baz=183,slow=15,SNR=5.2						
FITZ	**Fitzroy Crossi**	**10.34**	**140**		**Pn**	**03 30 52.5**	**+0.6**
GIRL	**Giralia**	**13.14**	**199**		**Pn**	**03 31 31.8**	**+1.6**
FAKI	**Fak Fak**	**15.22**	**63**	Pn	**P**	**03 32 02.4**	**-0.5**
FAKI				IAmb	IAmb	03 32 04.0	
	comp=Z,28nm,1.1s						
WB0	**Warramunga Arr**	**17.87**	**124**		**P**	**03 32 33.2**	**+1.0**
WRA	**Warramunga Arr**	**17.91**	**125**	P	**P**	**03 32 35.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=299,slow=13,SNR=3.5						
WRA				S	**Sn**	**03 35 44.1**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=296,slow=21,SNR=2.7						
WRA	**Warramunga Arr**	**17.91**	**125**	P	**P**	**03 32 33.8**	**+1.1**
WB2	**Warramunga Arr**	**17.92**	**125**		**P**	**03 32 35.0**	**+2.2**
WB2				IAmb	IAmb	03 32 47.6	
	comp=Z,5.1nm,1.1s						
MORW	**Morawa**	**18.98**	**187**		**P**	**03 32 41.1**	**-3.3**
MORW				IAmb	IAmb	03 32 56.9	
	comp=Z,8.5nm,1.1s						
ASAR	**Alice Springs**	**19.74**	**135**	P	**Pn**	**03 32 55.5**	**+1.0**
	comp=Z,1.4nm,0.4s,baz=310,slow=8.4,SNR=19						
ASAR	**Alice Springs**	**19.74**	**135**	P	**Pn**	**03 32 53.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**34.50**	**325**	LR	LR	03 52 02.6	
	comp=Z,15nm,18.0s,baz=330,slow=41						
TOO	**Toolangi**	**36.39**	**143**	P	**P**	**03 35 26.5**	**-0.4**
H08S2	**Diego Garcia H**	**45.73**	**269**	T	T	04 26 01.0	
	baz=96,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**45.75**	**269**	T	T	04 26 00.8	
	baz=96,slow=75,SNR=25						
H08S1	**Diego Carcia H**	**45.75**	**269**	T	T	04 26 01.9	
	baz=96,slow=75,SNR=22						
ULN	**Ulaanbaatar**	**58.70**	**351**	P	**P**	**03 38 18.2**	**-1.7**
ULN				IAmb	IAmb	03 38 23.9	
	comp=Z,2.2nm,1.1s						
SONM	**Songino Array**	**58.77**	**350**	P	**P**	**03 38 20.4**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=156,slow=9.2,SNR=3.8						
SONM	**Songino Array**	**58.77**	**350**	P	**P**	**03 38 19.4**	**-1.0**
MKAR	**Makanchi Array**	**65.37**	**333**	P	**P**	**03 39 04.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=153,slow=7.4,SNR=7.7						
MKAR	**Makanchi Array**	**65.37**	**333**	P	**P**	**03 39 03.6**	**-1.1**
KURBB	**Kurchatov Arra**	**69.89**	**334**	P	**P**	**03 39 32.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=134,slow=5.3,SNR=4.0						
KURK	**Kurchatov**	**69.92**	**334**	P	**P**	**03 39 32.2**	**-1.0**
KURK				IAmb	IAmb	03 39 50.1	
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**70.03**	**339**	P	**P**	**03 39 33.2**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=147,slow=8.1,SNR=2.1						
ZALV	**Zalesovo Beam**	**70.03**	**339**	P	**P**	**03 39 32.6**	**-1.2**
BVAR	**Borovoye Array**	**75.20**	**332**	P	**P**	**03 40 03.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=116,slow=8.2,SNR=1.6						
ABKAR	**Akbulak array**	**78.36**	**325**	P	**P**	**03 40 20.8**	**-1.7**

*IDC **02** 03:39:37.0±1.2, 7.21S×125.07E, h544km±15km, mb2.8/2, mb1 3.1/7, mb1mx2.7/46, mbtmp4.0/7, Error ellipse: s-maj=34.1km s-min=19.3km az=75.0*

ISC 02 03:39:37.1±1.1, 7.21S±0.10×125.2E±0.2, h543km, n7, σ0°89/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.34**	**207**	P	**P**	**03 40 54.6**	**+0.8**
	11nm,0.3s,baz=0.0,slow=0.0,SNR=4.3						
BATI				S	**S**	**03 41 56.0**	**-0.2**
	16nm,0.3s,baz=90,slow=22,SNR=8.5						
SIJI	**Sorong**	**8.74**	**44**	P	**P**	**03 41 42.0**	**-0.3**
	5.5nm,0.3s,baz=232,slow=8.2,SNR=6.9						
FITZ	**Fitzroy Crossi**	**10.83**	**178**	P	**P**	**03 42 03.7**	**+0.2**
	0.4nm,0.3s,baz=353,slow=9.2,SNR=16						
FITZ				S	**S**	**03 44 02.2**	**-1.7**
	0.1nm,0.3s,baz=221,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**15.46**	**146**	P	**P**	**03 42 50.6**	**-0.9**
	0.9nm,0.3s,baz=314,slow=9.4,SNR=20						
WRA				S	**S**	**03 45 31.9**	**+0.7**
	0.1nm,0.3s,baz=321,slow=18,SNR=4.9						
ASAR	**Alice Springs**	**18.38**	**154**	P	**P**	**03 43 19.2**	**+0.3**
	0.8nm,0.3s,baz=329,slow=7.6,SNR=24						
STKA	**Stephens Creek**	**28.92**	**150**	P	**P**	**03 44 53.2**	**+0.5**
	1.5nm,0.5s,baz=330,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**65.87**	**329**	P	**P**	**03 49 28.8**	**-0.4**
	0.1nm,0.4s,baz=123,slow=7.1,SNR=2.4						

*IDC **02** 03:53:43.3±1.1, 35.03S×14.66W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/26, mbtmp3.9/5, MS3.7/13, Ms1 3.7/13, ms1mx3.6/21, Error ellipse: s-maj=37.0km s-min=28.9km az=27.0*
*NEIC **02** 03:53:44.3±0.3, 35.13S±0.06×14.6W±0.2, h10km±1km, mb4.3/6, Error ellipse: s-maj=23.7km s-min=9.0km az=253.0*

ISC 02 03:53:44.7±0.7, 35.1S±0.1×14.6W±0.1, h10km, n28, σ0°74/12, mb4.0/8, MS3.6/13, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**26.02**	**360**	T	T	04 25 13.6	
	baz=180,slow=74,SNR=57						
H10S3	**ASCENSION HYDR**	**26.02**	**360**	T	T	04 25 14.1	
	baz=40,slow=74,SNR=150						
H10N1	**ASCENSION HYDR**	**27.12**	**0**	T	T	04 26 35.3	
	baz=180,slow=72,SNR=5.5						
H10N3	**ASCENSION HYDR**	**27.13**	**0**	T	T	04 26 37.5	
	baz=180,slow=72,SNR=67						
H10N2	**ASCENSION HYDR**	**27.14**	**0**	T	T	04 26 38.3	
	baz=180,slow=72,SNR=14						
SUR	**Sutherland**	**29.47**	**95**	LR	LR	04 08 42.2	
	comp=Z,161nm,19.0s,baz=258,slow=30						
TSUM	**Tsumeb**	**32.53**	**69**	P	**P**	**04 00 15.8**	**-0.3**
TSUM				IAmb	IAmb	04 00 20.1	
	comp=Z,5.0nm,1.1s						
BOSA	**Boshof**	**34.29**	**90**	LR	LR	04 11 52.6	
	comp=Z,115nm,19.8s,baz=246,slow=32						
BDFB	**Brasilia**	**35.64**	**294**	LR	LR	04 12 50.7	
	comp=Z,131nm,18.4s,baz=139,slow=32						
SNAA	**Sanae**	**37.16**	**174**	P	**P**	**04 00 54.9**	**-0.5**
CPUP	**Villa Florida**	**37.54**	**271**	LR	LR	04 13 21.8	
	comp=Z,76nm,21.7s,baz=122,slow=31						
MATP	**Matopo**	**40.52**	**80**	P	**P**	**04 01 24.6**	**+0.4**
	comp=Z,2.7nm,1.0s,baz=234,slow=8.7,SNR=2.4						
DBIC	**Dimbokro**	**42.55**	**14**	LR	LR	04 14 18.5	
	comp=Z,85nm,21.8s,baz=142,slow=29						
PLCA	**Paso Flores**	**43.88**	**245**	LR	LR	04 18 40.6	
	comp=Z,41nm,21.9s,baz=12,slow=34						
SIV	**San Ignacio**	**45.59**	**282**	P	**P**	**04 02 04.9**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=143,slow=9.0,SNR=9.6						
BO01	**Tunca**	**45.88**	**254**	P	**P**	**04 02 08.6**	**+1.2**
BO01				IAmb	IAmb	04 02 09.4	
	comp=Z,4.7nm,0.9s						
LPAZ	**La Paz**	**51.13**	**277**	LR	LR	04 23 46.3	
	comp=Z,55nm,18.5s,baz=124,slow=35						
SAML	**Samuel**	**51.37**	**288**	P	**P**	**04 02 49.0**	**-0.8**
SAML				IAmb	IAmb	04 03 01.5	
	comp=Z,3.3nm,1.1s						
MAW	**Mawson**	**53.35**	**152**	P	**P**	**04 03 04.4**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=252,slow=13,SNR=8.1						
MAW				LR	LR	04 22 32.1	
	comp=Z,47nm,18.1s,baz=246,slow=32						
QSPA	**South Pole Qui**	**55.15**	**180**	P	**P**	**04 03 16.4**	**-0.7**
VNDA	**Vanda**	**67.62**	**179**	LR	LR	04 30 13.2	
	comp=Z,50nm,20.8s,baz=181,slow=32						
ROSC	**El Rosal**	**68.66**	**292**	LR	LR	04 33 10.4	
	comp=Z,139nm,19.8s,baz=97,slow=34						
KEST	**Kesra**	**73.92**	**20**	LR	LR	04 34 43.4	
	comp=Z,147nm,18.9s,baz=272,slow=33						
ESDC	**Sonseca Array**	**75.05**	**8**	P	**P**	**04 05 25.9**	**-0.5**
	comp=Z,1.3nm,1.1s,baz=182,slow=6.0,SNR=5.4						
ESDC				LR	LR	04 33 43.2	
	comp=Z,34nm,19.9s,baz=45,slow=32						
ESDC	**Sonseca Array**	**75.05**	**8**	P	**P**	**04 05 26.4**	**+0.1**
BRTR	**Keskin Array B**	**86.74**	**35**	P	**P**	**04 06 29.9**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=235,slow=5.1,SNR=3.3						
BRTR	**Keskin Array B**	**86.74**	**35**	P	**P**	**04 06 28.6**	**-0.3**
NOA	**NORSAR Array B**	**98.09**	**12**	LR	LR	04 49 19.2	
	comp=Z,38nm,18.0s,baz=275,slow=34						

*BJI **02** 04:02:53.9±0.0, 26.75N×143.75E, h17km, mB4.8/41, mb4.7/49, Ms4.2/38, Ms7 4.0/36*
*IDC **02** 04:02:54.4±0.4, 26.96N×143.78E, h0km, mb4.4/29, mb1 4.6/33, mb1mx4.5/45, mbtmp4.4/33, ML3.7/4, MS3.5/26, Ms1 3.5/26, ms1mx3.5/38, Error ellipse: s-maj=13.7km s-min=11.2km az=73.0*
*NEIC **02** 04:02:55.3±1.2, 27.01N±0.07×143.74E±0.07, h10km±1km, mb4.7/147, Error ellipse: s-maj=12.9km s-min=10.1km az=160.0*
*NIED **02** 04:02:58.1, 27.14N×143.69E, h52km, MW4.7, Moment Tensor Solution. s1 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.72; $M_{\theta\theta}$=0.26; $M_{\phi\phi}$=0.46; $M_{r\theta}$=-0.66; $M_{\theta\phi}$=-0.47; $M_{\phi r}$=0.31; Fault plane solution: M_0=1.07000×10^{16} NP1: ϕ_s=123.00000°, δ=67.00000°, λ=-106.00000°. NP2: ϕ_s=340.00000°, δ=28.00000°, λ=-57.00000°.*
*JMA **02** 04:02:58.0±0.2, 27.14N×143.69E, h52km, M4.9*

ISC 02 04:02:55.3±1.0, 27.03N±0.05×143.71E±0.05, h8km±5km, n224, σ1°25/192, mb4.7/105, MS3.7/27, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.36**	**273**	P	**Pn**	**04 03 21.0**	**+0.3**
CBIJ				*eS*	**Sb**	**04 03 37.2**	**-1.6**
JCJ	**Chichijima**	**1.36**	**273**	Pn	**Pn**	**04 03 21.1**	**+0.3**
	280nm,0.3s,baz=6.4,slow=8.4,SNR=226						
JCJ				Sn	**Sb**	**04 03 38.1**	**-0.7**
	663nm,0.3s,baz=272,slow=22,SNR=11						
JCJ	**Chichijima**	**1.36**	**273**	Pn	**Pb**	**04 03 21.3**	**+0.2**
JCJ					**Sb**	**04 03 38.4**	**-0.3**
JHH2	**Haha-jima-NKT2**	**1.43**	**254**	P	**Pn**	**04 03 22.1**	**+0.5**
JHH2				*eS*	**Sn**	**04 03 40.8**	**+0.2**
JHJ	**Hachijo jima 2**	**6.96**	**332**	Pn	**Pn**	**04 04 37.7**	**+0.1**
	11nm,0.3s,baz=98,slow=22,SNR=7.1						
JHJ				Sn	**Sn**	**04 05 49.4**	**-7.5**
	16nm,0.3s,baz=61,slow=16,SNR=1.3						
JMKN	**Mikurajimanish**	**7.71**	**334**	P	**Pn**	**04 04 47.9**	**0.0**
JMKN				*eS*	**Sn**	**04 06 10.9**	**-4.5**
JOD2	**Odawara 2**	**9.11**	**335**	P	**Pn**	**04 05 06.7**	**-0.5**
JRY	**Ryogami san**	**9.85**	**337**	P	**Pn**	**04 05 17.5**	**+0.2**
JAG	**Ashikaga**	**10.04**	**340**	P	**Pn**	**04 05 19.1**	**-0.8**
MJAR	**Matsushiro Arr**	**10.57**	**335**	Pn	**Pn**	**04 05 26.5**	**-0.7**
	0.7nm,0.3s,baz=157,slow=11,SNR=61						
MJAR				LR	LR	04 10 21.9	
	comp=Z,104nm,20.6s,baz=155,slow=42						
MJAR	**Matsushiro Arr**	**10.57**	**335**		**Pn**	**04 05 27.2**	**0.0**
MAJO	**Matsushiro**	**10.57**	**335**	Pn	**Pn**	**04 05 27.5**	**+0.3**
MAT	**Matsushiro**	**10.57**	**335**	P	**Pn**	**04 05 27.7**	**+0.5**
MAT				*eS*	**Sn**	**04 07 22.3**	**-3.6**
JNU	**Nakatsue**	**12.66**	**302**	LR	LR	04 10 08.9	
	comp=Z,131nm,21.1s,baz=125,slow=34						
GUMO	**Guam**	**13.42**	**175**	LR	LR	04 11 16.2	
	comp=Z,88nm,18.1s,baz=31,slow=38						
ERM	**Erimo**	**14.95**	**358**		**Pn**	**04 06 26.5**	**-0.5**
KSRS	**Korea Array**	**16.90**	**312**	P	**P**	**04 06 54.3**	**0.0**
	0.4nm,0.3s,baz=122,slow=11,SNR=19						
KSRS				LR	LR	04 13 23.2	
	comp=Z,145nm,18.6s,baz=124,slow=37						
KS19	**Wonju Array Si**	**16.96**	**312**	P	**Pn**	**04 06 53.2**	**+0.2**
ASAJ	**Asahikawa**	**17.07**	**357**	P	**Pn**	**04 06 53.4**	**-1.0**
	1.6nm,0.3s,baz=151,slow=19,SNR=2.4						
ASAJ				LR	LR	04 13 35.2	
	comp=Z,170nm,21.1s,baz=149,slow=37						
JKA	**Kamikawa-asahi**	**17.07**	**357**	P	**Pn**	**04 06 53.5**	**-0.8**
USA0B	**Ussuriysk Arra**	**19.57**	**334**	P	**P**	**04 07 23.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**19.57**	**334**	P	**P**	**04 07 23.1**	**-0.6**
	baz=142,slow=11,SNR=13						
USRK				LR	LR	04 15 36.0	
	comp=Z,82nm,20.2s,baz=145,slow=39						
USRK	**Ussuriysk Ar.**	**19.57**	**334**	P	**P**	**04 07 23.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**19.90**	**358**	Pn	**Pn**	**04 07 30.3**	**+1.5**
YSS				IAmb	IAmb	04 07 41.6	
	comp=Z,34nm,0.9s						
YHNB	**Yeheng**	**20.24**	**268**	P	**P**	**04 07 31.1**	**-0.1**
YULB	**Yu-li**	**20.60**	**265**	P	**P**	**04 07 34.3**	**-0.7**
SSLB	**Suanglung**	**20.80**	**266**	P	**P**	**04 07 35.6**	**-1.7**
SSLB				IAmb	IAmb	04 07 53.2	
	comp=Z,31nm,0.8s						
TWG	**Pinlang**	**20.95**	**263**	P	**P**	**04 07 38.1**	**-0.7**
TPUB	**Ta-pu**	**21.21**	**265**	P	**P**	**04 07 40.3**	**-1.4**
NJ2	**Nanjing**	**22.18**	**289**	*eP*	**P**	**04 07 52.2**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
CN2	**Changchun**	**22.31**	**323**	*eP*	**P**	**04 07 55.5**	**+2.2**
CN2				*eS*	**S**	**04 11 55.6**	**-3.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
H11N2	**WAKE ISLAND Hy**	**22.46**	**104**	T	T	04 30 56.0	
	baz=301,slow=74,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**22.47**	**104**	T	T	04 30 54.2	
	baz=301,slow=74,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**22.48**	**104**	T	T	04 30 04.1	
	baz=301,SNR=14						
H11S3	**WAKE ISLAND Hy**	**22.80**	**107**	T	T	04 31 10.4	
	baz=294,slow=74,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**22.80**	**107**	T	T	04 31 23.6	
	baz=294,slow=74,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**22.82**	**107**	T	T	04 31 15.8	
	baz=294,slow=74,SNR=3.8						
KLR	**Kul'dur**	**24.02**	**340**	P	**P**	**04 08 12.7**	**+2.0**
	comp=Z,12nm,0.8s,baz=146,slow=8.1,SNR=29						
KLR				LR	LR	04 20 35.7	
	comp=Z,44nm,18.8s,baz=142,slow=44						
TGY	**Tagaytay City**	**24.85**	**243**	P	**P**	**04 08 19.9**	**+1.4**
	comp=Z,128nm,0.3s,baz=138,slow=13,SNR=3.1						
TGY				LR	LR	04 16 16.1	
	comp=Z,326nm,21.2s,baz=32,sl

SONM	Songino Array	35.71 316	P	P	04 09 56.7	+2.2
	comp=Z,2.7nm,0.8s,baz=108,slow=6.0,SNR=10.0					
SONM			PcP	PcP	04 12 23.7	+1.1
	comp=Z,2.8nm,1.0s,baz=123,slow=2.7,SNR=5.3					
SONM			LR	LR	04 24 06.4	
	comp=Z,66nm,18.8s,baz=92,slow=36					
SONM	Songino Array	35.71 316	P	P	04 09 54.0	-0.5
SONM				PcP	04 12 22.3	-0.3
GTA	Gaotai	38.39 300	P	P	04 10 19.9	+2.5
GTA			pP	pwP	04 10 23.2	-3.0
GTA			sP	sP	04 10 26.1	+8.1
GTA			pmax	pmax		
	comp=Z,7.0nm,1.0s					
GTA			pmax	pmax		
	comp=Z,84nm,5.1s					
GTA			LR	LR		
	comp=Z,180nm,16.2s					
GTA			LR	LR		
	comp=Z,400nm,17.8s					
GTA			LR	LR		
	comp=Z,180nm,15.9s					
TLY	Talaya	38.85 320	P	P	04 10 24.3	+3.3
	comp=Z,2.3nm,0.5s,baz=116,slow=10.0,SNR=5.4					
TLY	Talaya	38.85 320	P	P	04 10 21.5	+0.5
COEN	Coen	40.75 181	P	P	04 10 37.2	+0.2
MTN	Manton Dam	41.48 199	P	P	04 10 42.5	-0.5
CHTO	Chiang Mai	41.86 268	P	P	04 10 46.1	-0.2
CMAR	Chiang Mai Arr	41.98 268	P	P	04 10 47.6	+0.3
	comp=Z,1.5nm,0.6s,baz=55,slow=8.0,SNR=9.8					
CMAR			PcP	PcP	04 12 43.4	+0.8
	comp=Z,0.9nm,0.5s,baz=198,slow=2.2,SNR=4.4					
CMAR			LR	LR	04 29 07.6	
	comp=Z,42nm,18.4s,baz=122,slow=37					
CMAR	Chiang Mai Arr	41.98 268	P	P	04 10 45.9	-1.4
CMAR				PcP	04 12 42.0	-0.6
KNRA	Kununurra	44.87 201	P	P	04 11 09.1	-1.3
CTA	Charters Tower	46.91 177	P	P	04 11 25.9	-0.6
	comp=Z,17nm,0.8s,baz=358,slow=8.9,SNR=28					
CTAO	Charters Tower	46.91 177	P	P	04 11 25.9	-0.6
WB0	Warramunga Arr	47.39 192	P	P	04 11 29.4	-0.8
WR0	Warramunga Arr	47.55 192	P	P	04 11 30.8	-0.7
WRAB	Tennant Creek	47.56 192	P	P	04 11 31.1	-0.5
WB2	Warramunga Arr	47.57 192	P	P	04 11 31.1	-0.6
WRA	Warramunga Arr	47.57 192	P	P	04 11 30.9	-0.8
	comp=Z,38nm,0.9s,baz=12,slow=8.2,SNR=93					
WRA	Warramunga Arr	47.57 192	P	P	04 11 30.5	-1.2
WMQ	Urumqi	47.72 306	eP	P	04 11 34.7	+1.9
FITZ	Fitzroy Crossi	48.17 203	P	P	04 11 36.5	+0.2
ZSN	Zaisan	49.82 311	eP	P	04 11 49.2	+0.4
ZSN			ePP	PP	04 13 43.8	+0.4
ZAA0	Zalesovo Array	50.43 319	P	P	04 11 53.8	+0.6
ZAA0			IAmb	IAmb	04 12 07.0	
	comp=Z,7.9nm,1.0s					
ZALV	Zalesovo Beam	50.43 319	P	P	04 11 55.9	+2.6
	comp=Z,1.2nm,0.4s,baz=95,slow=9.4,SNR=8.4					
ZALV			PcP	PcP	04 13 11.9	+0.4
	comp=Z,2.3nm,0.5s,baz=112,slow=4.0,SNR=4.3					
ZALV			LR	LR	04 33 10.1	
	comp=Z,66nm,19.2s,baz=65,slow=36					
ZALV	Zalesovo Beam	50.43 319	P	P	04 11 53.7	+0.5
ZALV				PcP	04 13 11.7	+0.2
AS31	Alice Springs	51.28 192	P	P	04 11 59.8	-0.2
ASAR	Alice Springs	51.28 192	P	P	04 11 58.9	-1.1
	comp=Z,3.6nm,0.7s,baz=10,slow=6.4,SNR=62					
ASAR			PcP	PcP	04 13 15.5	+0.4
	comp=Z,3.0nm,0.8s,baz=13,slow=4.2,SNR=8.1					
ASAR			LR	LR	04 33 40.5	
	comp=Z,31nm,18.9s,baz=351,slow=36					
ASAR	Alice Springs	51.28 192	P	P	04 11 59.1	-0.9
ASAR				PcP	04 13 15.0	0.0
MK31	Makanchi Array	51.56 310	P	P	04 12 02.3	+0.3
MK31			IAmb	IAmb	04 12 15.2	
	comp=Z,5.8nm,0.8s					
MKAR	Makanchi Array	51.56 310	P	P	04 12 03.4	+1.4
	comp=Z,3.3nm,0.8s,baz=91,slow=8.8,SNR=27					
MKAR			PcP	PcP	04 13 16.5	+0.6
	comp=Z,2.8nm,0.8s,baz=76,slow=5.1,SNR=4.9					
MKAR			LR	LR	04 34 43.5	
	comp=Z,84nm,19.2s,baz=76,slow=37					
MKAR	Makanchi Array	51.56 310	P	P	04 12 02.2	+0.2
MKAR				PcP	04 13 16.2	+0.3
MAKZ	Makanchi	51.78 310	P	P	04 12 03.6	+0.1
MAKZ			IAmb	IAmb	04 12 16.9	
	comp=Z,7.7nm,0.8s					
NRIK	Noril'sk	53.21 338	P	P	04 12 14.7	+0.9
	comp=Z,8.2nm,0.9s,baz=104,slow=9.9,SNR=8.4					
DZM	Mont Dzumac	53.54 154	P	P	04 12 16.9	0.0
KDAK	Kodiak Island	53.60 37	P	P	04 12 17.6	+0.8
	comp=Z,6.1nm,0.6s,baz=288,slow=7.9,SNR=6.3					
KDAK	Kodiak Island	53.60 37	P	P	04 12 17.7	+0.9
KDAK			IAmb	IAmb	04 12 30.0	
	comp=Z,9.8nm,0.8s					
SHLS	Shalkode	53.72 305	eP	P	04 12 16.4	-1.8
KURK	Kurchatov	54.00 315	P	P	04 12 19.5	-0.4
UZB	Uzynbulak	54.05 305	eP	P	04 12 21.1	+0.5
KURBB	Kurchatov Arra	54.06 314	P	P	04 12 21.3	+1.0
	comp=Z,14nm,0.8s,baz=91,slow=7.6,SNR=24					
KPKS	Kokpek	54.26 306	eP	P	04 12 22.8	+0.8
TDK	Taldyqorghan	54.34 308	eP	P	04 12 22.7	+0.2
IMAR	Indian Mountai	54.49 26	P	P	04 12 23.8	+0.5
SATY	Saty	54.50 305	eP	P	04 12 24.0	+0.2
CHKK	Chushkaly	55.45 306	eP	P	04 12 30.9	+0.3
MDOK	Medeo	55.48 305	eP	P	04 12 31.0	0.0
AAA	Alma-Ata	55.57 305	eP	P	04 12 32.2	+0.7
KUU	Kurty	55.91 306	eP	P	04 12 34.0	+0.1
	comp=Z,12nm,1.1s					
MTBS	Maitube	55.94 305	eP	P	04 12 34.4	+0.3
RND	Reindeer	56.10 30	P	P	04 12 35.1	+0.1
RND			IAmb	IAmb	04 12 46.8	
	comp=Z,5.6nm,0.8s					
COLD	Coldfoot	56.14 25	P	P	04 12 36.1	+1.0
COLD			IAmb	IAmb	04 12 48.6	
	comp=Z,8.0nm,0.9s					
MDM	Murphy Dome	56.57 28	IAmb	IAmb	04 12 43.2	
	comp=Z,10nm,1.0s					
KSH	Kashi	56.78 301	P	P	04 12 43.8	+3.5
KSH			sP	pwP	04 12 49.3	+0.2
KSH			S	S	04 20 36.7	+3.0
KSH			pmax	pmax		
	comp=Z,9.0nm,1.4s					
KSH			pmax	pmax		
	comp=Z,160nm,5.3s					
HDA	Harding Lake	57.05 29	IAmb	IAmb	04 12 45.4	
	comp=Z,7.1nm,1.1s					
IL31		57.12 29	IAmb	IAmb	04 12 53.8	
	comp=Z,5.1nm,0.9s					
ILAR	Eielson Array	57.12 29	P	P	04 12 42.1	+0.1
	comp=Z,3.2nm,0.9s,baz=257,slow=5.8,SNR=16					
ILAR			PcP	PcP	04 13 37.0	+0.3
	comp=Z,1.9nm,0.9s,baz=249,slow=4.7,SNR=4.6					
ILAR			LR	LR	04 35 37.0	
	comp=Z,38nm,21.5s,baz=293,slow=34					
SGDS	Sogindy	57.20 306	eP	P	04 12 43.3	+0.2
AAK	Ala-Archa	57.41 305	P	P	04 12 46.1	+1.4
	comp=Z,1.4nm,0.3s,baz=121,slow=9.3,SNR=3.6					
AAK	Ala-Archa	57.41 305	P	P	04 12 43.4	-1.4
BTLS	Baital	57.41 308	eP	P	04 12 44.6	+0.1
BRZS	Berezniki	57.83 314	eP	P	04 12 48.0	+0.6
	comp=Z,9.5nm,1.0s					
DOT	Dot Lake	58.26 30	IAmb	IAmb	04 13 02.5	
	comp=Z,7.3nm,1.0s					
GLB	Gilahina Butte	58.30 33	P	P	04 12 50.1	-0.4
GLB			IAmb	IAmb	04 12 55.4	
	comp=Z,9.5nm,1.2s					
BMAR	Burnt Mountain	58.32 26	P	P	04 12 50.0	-0.6
STKA	Stephens Creek	58.62 182	P	P	04 12 52.4	-0.5
	comp=Z,11nm,0.7s,baz=338,slow=8.0,SNR=23					
STKA			LR	LR	04 37 48.0	
	comp=Z,44nm,20.9s,baz=25,slow=36					
BVAR	Borovoye Array	59.01 318	P	P	04 12 56.7	+1.1
	comp=Z,2.3nm,0.5s,baz=92,slow=8.0,SNR=18					
BVAR			PcP	PcP	04 13 44.9	+0.4
	comp=Z,3.6nm,0.8s,baz=89,slow=6.2,SNR=4.1					
BVAR			LR	LR	04 38 48.3	
	comp=Z,52nm,19.1s,baz=120,slow=36					
BRVK	Borovoye	59.07 318	P	P	04 12 55.6	-0.4
BRVK			IAmb	IAmb	04 13 00.5	
	comp=Z,7.0nm,0.9s					
BCAR	Beaver Creek A	59.27 31	P	P	04 12 57.2	0.0
BCAR				PcP	04 13 45.5	+0.1
KK31	Karatay Array	60.22 306	P	P	04 13 04.4	+0.3
KKAR	Karatay Array	60.22 306	P	P	04 13 04.0	-0.2
KKAR	Karatay Array	60.22 306	P	P	04 13 03.9	-0.2
IUG	Iuzhnay	60.75 305	eP	P	04 13 08.7	+0.9
	comp=Z,7.5nm,0.8s					
EPYK	Eagle Plains	61.39 27	P	P	04 13 12.2	+0.5
CHGR	Chuyangaron	62.15 301	P	P	04 13 17.1	-0.3
INK	Inuvik	62.52 25	P	P	04 13 19.7	+0.6
	comp=Z,2.4nm,0.7s,baz=318,slow=17,SNR=4.4					
INK	Inuvik	62.52 25	IAmb	IAmb	04 13 23.9	
	comp=Z,6.7nm,1.1s					
ARU	Arti	65.31 322	P	P	04 13 38.3	+0.6
	comp=Z,2.8nm,0.6s,baz=96,slow=3.4,SNR=15					
ARU	Arti	65.31 322	P	P	04 13 37.4	-0.3
ABKAR	Akbulak array	66.11 315	P	P	04 13 43.2	+0.2
AKTO	Aktyubinsk	67.02 316	P	P	04 13 48.9	0.0
	comp=Z,1.8nm,0.5s,baz=80,slow=7.3,SNR=5.5					
GEYT	Alibeck	70.68 303	P	P	04 14 13.3	+1.4
	comp=Z,0.9nm,0.3s,baz=27,slow=1.0,SNR=1.7					
GEYT	Alibeck	70.68 303	P	P	04 14 11.9	0.0
YKA	Yellowknife Ar	71.55 29	P	P	04 14 16.0	-0.6
	comp=Z,1.5nm,0.8s,baz=289,slow=5.9,SNR=5.9					
KLMR	Klimovskoe	73.31 330	eP	P	04 14 27.4	+0.2
KLMR			AMP		04 14 31.9	
	comp=Z,18nm,1.5s					
KLMR			PP	PP	04 17 12.3	+2.3
ARCES	ARCESS Array B	74.04 341	P	P	04 14 31.8	+0.4
	comp=Z,2.7nm,0.8s,baz=40,slow=9.6,SNR=7.1					
H04A	Detroit Lake	74.26 48	P	P	04 14 33.4	+0.2
H04A			IAmb	IAmb	04 14 35.2	
	comp=Z,11nm,1.2s					
B08A	Colville Reser	74.64 43	P	P	04 14 35.4	+0.1
B08A			IAmb	IAmb	04 14 40.3	
	comp=Z,6.8nm,1.0s					
D08A	Wollman Farm,	75.42 44	IAmb	IAmb	04 14 44.8	
	comp=Z,5.2nm,1.0s					
K05A	Summer Lake	75.89 49	P	P	04 14 42.1	-0.7
NEW	Newport	76.03 43	IAmb	IAmb	04 14 48.2	
	comp=Z,7.9nm,1.1s					
E09A	Wood Farm, Sta	76.13 45	IAmb	IAmb	04 14 49.1	
	comp=Z,7.2nm,1.0s					
MOD	Modoc Plateau	76.62 50	P	P	04 14 45.6	-1.3
ORV	Oroville	76.75 52	IAmb	IAmb	04 14 49.1	
	comp=Z,6.2nm,0.9s					
UOSS	Minazif	77.01 291	P	P	04 14 48.8	-0.4
UOSS			IAmb	IAmb	04 14 50.6	
	comp=Z,9.0nm,0.9s					
J08A	Circle Bar Ran	77.24 48	IAmb	IAmb	04 15 03.6	
	comp=Z,5.0nm,0.9s					
BMO	Blue Mountains	77.37 46	IAmb	IAmb	04 14 56.2	
	comp=Z,7.0nm,1.1s					
AFDM	Forest Hills D	77.37 53	IAmb	IAmb	04 14 56.7	
	comp=Z,5.1nm,1.1s					
WVOR	Wild Horse Val	77.53 49	IAmb	IAmb	04 14 54.0	
	comp=Z,5.4nm,1.1s					
CMB	Columbia Colle	78.17 53	IAmb	IAmb	04 14 57.4	
	comp=Z,8.1nm,0.9s					
PNTR	Pine Nut	78.28 52	IAmb	IAmb	04 15 01.6	
	comp=Z,7.6nm,0.9s					
FINES	FINESS Array B	78.60 334	P	P	04 14 57.6	+0.3
	comp=Z,2.9nm,0.7s,baz=83,slow=6.0,SNR=14					
FINES	FINESS Array B	78.60 334	P	P	04 14 57.3	-0.1
WAKR	Walker	78.65 53	IAmb	IAmb	04 15 00.5	
	comp=Z,4.6nm,0.9s					
MFID	Camas Ranch	78.95 47	IAmb	IAmb	04 15 05.1	
	comp=Z,1.1nm,1.1s					
KBZ	Khabaz	79.04 314	P	P	04 15 01.6	+1.4
	comp=Z,9.3nm,0.9s,baz=86,slow=3.0,SNR=15					
RYN	Ryan	79.24 52	IAmb	IAmb	04 15 06.6	
	comp=Z,7.1nm,1.1s					
OMMB	Old Mammoth Mi	79.34 53	IAmb	IAmb	04 15 04.9	
	comp=Z,6.6nm,1.2s					
KVN	Kaiserville	79.35 52	IAmb	IAmb	04 15 07.2	
	comp=Z,6.8nm,1.0s					
LHV	Little Huntoon	79.42 53	IAmb	IAmb	04 15 08.0	
	comp=Z,8.8nm,1.0s					
NVAR	Mina Array Bea	79.48 52	P	P	04 15 03.5	+0.5
	comp=Z,3.6nm,0.8s,baz=279,slow=5.7,SNR=25					
NVAR			LR	LR	04 42 07.6	
	comp=Z,71nm,21.4s,baz=296,slow=30					
NVAR	Mina Array Bea	79.48 52	P	P	04 15 02.7	-0.3
SUMG	Summit	80.65 1	i P	P	04 15 10.8	+2.0
SUMG			e		04 15 21.7	
R11A	Troy Canyon, C	81.43 51	IAmb	IAmb	04 15 18.3	
	comp=Z,6.2nm,1.1s					
TPNV	Topopah Spring	81.60 53	IAmb	IAmb	04 15 19.1	
	comp=Z,6.0nm,1.0s					
H17A	Grant Village	81.83 44	IAmb	IAmb	04 15 22.6	
	comp=Z,8.1nm,1.1s					
IMW	Indian Meadow	81.86 45	IAmb	IAmb	04 15 18.3	
	comp=Z,5.2nm,0.8s					
FLWY	Flagg Ranch	81.91 45	IAmb	IAmb	04 15 18.4	
	comp=Z,8.3nm,1.1s					
TPAW	Teton Pass	82.05 45	IAmb	IAmb	04 15 18.1	
	comp=Z,4.6nm,0.8s					
PRN	Pahroc Range	82.24 52	IAmb	IAmb	04 15 32.8	
	comp=Z,4.3nm,0.9s					
RLMT	Red Lodge	82.28 43	IAmb	IAmb	04 15 20.1	
	comp=Z,5.3nm,0.6s					
AHID	Auburn Hatcher	82.31 46	IAmb	IAmb	04 15 19.8	
	comp=Z,5.6nm,1.1s					
DUG	Dugway, Tooele	82.45 49	IAmb	IAmb	04 15 20.4	
	comp=Z,5.1nm,0.7s					
HWUT	Hardware Ranch	82.58 47	IAmb	IAmb	04 15 21.3	
	comp=Z,5.1nm,0.9s					
PDAR	Pinedale Array	83.29 45	P	P	04 15 23.6	+0.5
	comp=Z,1.2nm,0.7s,baz=284,slow=1.9,SNR=15					
PDAR			LR	LR	04 49 54.7	
	comp=Z,60nm,19.0s,baz=327,slow=34					
PDAR	Pinedale Array	83.29 45	P	P	04 15 22.6	-0.5
AKASG	Malin Array Be	83.47 324	P	P	04 15 23.7	+0.2
	comp=Z,7.6nm,0.8s,baz=47,slow=5.5,SNR=21					
KNB	Kanab	83.99 52	P	P	04 15 26.1	-0.6
NB2	NORSAR Subarra	84.17 339	P	P	04 15 26.8	-0.2
	comp=Z,16nm,1.7s,baz=43,slow=5.3					
NOA	NORSAR Array B	84.17 339	P	P	04 15 26.9	-0.1
	comp=Z,3.2nm,1.0s,baz=41,slow=5.2,SNR=4.0					
K22A	Casper	85.26 44	IAmb	IAmb	04 15 37.7	
	comp=Z,7.2nm,1.1s					
O20A	White River Ci	85.50 47	IAmb	IAmb	04 15 35.6	
	comp=Z,5.0nm,0.9s					
WUAZ	Wupatki	85.75 52	IAmb	IAmb	04 15 40.6	
	comp=Z,6.0nm,1.1s					
PV21	Cone Mtn., Par	85.84 49	IAmb	IAmb	04 15 40.8	
	comp=Z,6.8nm,0.9s					
RSSD	Black Hills	85.97 42	P	P	04 15 36.5	-0.1
PV04	Paradox Valley	85.97 49	IAmb	IAmb	04 15 42.2	
	comp=Z,6.7nm,1.0s					
PV22	Blue Mesa, Par	85.98 49	IAmb	IAmb	04 15 41.4	
	comp=Z,5.2nm,1.1s					
PV05	Paradox Valley	86.01 49	IAmb	IAmb	04 15 38.4	
	comp=Z,5.0nm,0.9s					
PV16	Nyvonger Mesa	86.01 49	IAmb	IAmb	04 15 38.3	
	comp=Z,6.0nm,0.8s					
PV18	Skein Mesa, Pa	86.05 49	IAmb	IAmb	04 15 41.6	
	comp=Z,6.9nm,1.0s					
PV12	Saucer Basin,	86.08 49	IAmb	IAmb	04 15 41.4	
	comp=Z,7.4nm,1.0s					
PV03	Paradox Valley	86.08 49	IAmb	IAmb	04 15 38.6	
	comp=Z,5.7nm,1.1s					
PV13	Radium Mtn., P	86.15 49	IAmb	IAmb	04 15 42.0	
	comp=Z,5.9nm,0.9s					
PV02	Paradox Valley	86.18 49	IAmb	IAmb	04 15 42.2	
	comp=Z,7.7nm,1.1s					
N23A	Red Feather La	86.58 45	IAmb	IAmb	04 15 42.0	
	comp=Z,6.7nm,1.0s					
ULM	Lac du Bonnet	86.75 34	LR	LR	04 57 34.2	
	comp=Z,22nm,18.8s,baz=324,slow=38					
BR131	Keskin Array S	87.04 314	IAmb	IAmb	04 15 43.1	
	comp=Z,4.5nm,0.9s					
BRTR	Keskin Array B	87.04 314	P	P	04 15 42.0	+0.1
	comp=Z,3.0nm,0.8s,baz=106,slow=3.7,SNR=17					
BRTR			LR	LR	04 57 00.6	
	comp=Z,47nm,18.3s,baz=332,slow=37					
BRTR	Keskin Array B	87.04 314	P	P	04 15 41.4	-0.5
BURAR	Bucovina Array	87.42 323	P	P	04 15 43.3	-0.2
CRVS	Cervenica-Dubn	88.53 326	eP	P	04 15 50.3	+1.7
F33A	5 Mile Ranch,	89.34 37	P	P	04 15 52.3	-0.2
ANMO	Albuquerque	89.47 51	P	P	04 15 52.7	-0.9
VYHS	Vyhne	90.10 327	eP	P	04 15 56.6	+0.6
CLL	Collm	90.76 332	eP	P	04 15 59.0	0.0
SPMN	Marine on St.	91.60 36	P	P	04 16 02.5	-0.5
MNTX	Cornudas Mount	92.00 53	IAmb	IAmb	04 16 20.4	
	comp=Z,2.4nm,0.9s					
KHC	Kasperske Hory	92.11 330	eP	P	04 16 05.6	+0.3
GERES	GERESS Array B	92.26 330	P	P	04 16 06.1	0.0
	comp=Z,0.7nm,0.7s,baz=124,slow=1.9,SNR=5.9					
GERES	GERESS Array B	92.26 330	P	P	04 16 06.0	-0.2
SCHQ	Schefferville	94.34 17	LR	LR	04 59 49.1	
	comp=Z,40nm,21.9s,baz=96,slow=36					
TX32	Lajitas Array	94.54 54	IAmb	IAmb	04 16 18.8	
	comp=Z,2.6nm,1.0s					
TXAR	Lajitas Array	94.54 54	P	P	04 16 18.0	+0.9
	comp=Z,1.0nm,0.9s,baz=322,slow=2.4,SNR=12					
TXAR			LR	LR	04 54 36.2	
	comp=Z,21nm,19.4s,baz=0.0,slow=33					
TXAR	Lajitas Array	94.54 54	P	P	04 16 16.2	-0.8
SNAA	Sanae	131.63 193	PKPdf	PKPdf	04 22 07.3	-0.8
VNA2	Neumayer--Watz	133.13 193	PKPdf	PKiKP	04 22 11.7	-0.3
VNA3	Neumayer Olymp	133.29 191	PKPdf	PKPdf	04 22 10.8	-0.3
LPAZ	La Paz	148.62 77	PKP	PKPdf	04 22 40.9	+0.1
	comp=Z,16nm,1.0s,baz=278,slow=1.4,SNR=17					
LPAZ			PKPbc	pPKPbc	04 22 45.0	0.0
	comp=Z,12nm,0.8s,baz=332,slow=2.2,SNR=36					
LPAZ	La Paz	148.62 77		PKPdf	04 22 39.6	-1.3
PLCA	Paso Flores	148.66 125	PKPbc	PKPbc	04 22 43.9	+0.6
	comp=Z,5.2nm,1.0s,baz=182,slow=4.4,SNR=6.5					
PLCA	Paso Flores	148.66 125		PKPdf	04 22 35.4	-4.1

ECX ***02*** *04:18:13.8±0.5, 31°.46N×114°.33W, h10km±44km, MD2.6, ML2.7*
MEX ***02*** *04:18:14.5±1.2, 30°.85N×114°.18W, h11km, MD3.7*
ISC 02 04:18:12.8±1.1, 31°.43N±0°.08×114°.32W±0°.03, h11km±15km, n10, σ1§04/16, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.60	230	eP	Pg	04 18 25.0	+0.5
SFX				i S	Sg	04 18 33.0	+0.7
ECBX	El Chinero	0.63	274	eP	Pg	04 18 24.7	-0.3
ECBX				i S	Sg	04 18 33.3	0.0
PIX	Pinacate	0.75	80⇑	eP	Pg	04 18 27.2	-0.1
PIX				eS	Sg	04 18 37.1	+0.1
SPIG	San Pedro Mart	1.05	249	eP	Pg	04 18 31.8	-1.3
SPIG				eS	Sg	04 18 46.0	-0.9
SPX	San Pedro Mart	1.05	249	eP	Pg	04 18 33.2	0.0
SPX				eS	Sg	04 18 46.8	-0.1
SPX	San Pedro Mart	1.05	249	eP	Pg	04 18 32.0	-1.2
SPX				eS	Sg	04 18 47.0	+0.1
SPX			⇓	e		04 18 47.2	
SPX				IAML		04 18 47.2	
	comp=N,221nm,0.3s						
CPBX	Cerro Prieto	1.30	320	IAML		04 19 02.1	
	comp=E,460nm,0.3s						
CPBX			⇓	e		04 19 02.1	
CPBX			⇑	e		04 19 09.2	
CPBX				IAML		04 19 09.2	
	comp=N,434nm,0.4s						
214A	Organ Pipe Nat	1.39	67	eP	Pn	04 18 39.4	+1.3
214A				eS	Sb	04 18 54.2	-2.4
CBX	Cerro Bola	2.18	295	i P	Pb	04 18 52.6	+0.3
CBX				i S	Sg	04 19 23.9	+1.0
CBX	Cerro Bola	2.18	295	IAML		04 19 34.7	
	comp=N,60nm,0.9s						

TEH ***02*** *04:37:18.1, 32°.69N×47°.69E, h10km, ML3.1*
ISN ***02*** *04:37:18.6±1.6, 32°.79N×47°.52E, h38km±18km, ML2.8*
ISC 02 04:37:18.6±0.9, 32°.66N±0°.04×47°.54E±0°.05, h10km, n20, σ1§15/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.22	276	ePg	Pg	04 37 24.9	+1.8
IBDR	Badra	1.43	289	ePg	Pn	04 37 43.0	-1.5
	baz=103						
IBDR				eSg	Sn	04 38 03.0	-0.3
IBDR				AML	AML	04 38 12.8	
	comp=E,175nm,0.8s						
IBDR				AML	AML	04 38 26.3	
	comp=N,140nm,0.2s						
BMDN	Meydan	1.48	47	ePg	Pn	04 37 44.4	-1.1
IKOM	Komasi	1.51	359	ePg	Pg	04 37 47.3	-0.3
IKOM				e		04 38 16.9	
AHWZ	Ahwaz	1.62	144	ePg	Pn	04 37 48.2	+1.0
AHWZ				eSg	Sg	04 38 11.6	+0.8
KCHF	Cheshme Sefid,	1.67	346	ePg	Pb	04 37 49.3	-0.2
KCHF				e		04 38 16.3	
KER	Kermanshah	1.76	349	ePg	Pb	04 37 50.7	-0.3
HSAM	Samen	1.79	30	ePg	Pn	04 37 50.3	+0.5
HSAM				e		04 38 19.3	
IBZA	Bozab	1.83	8	ePg	Pb	04 37 52.1	-0.2
IBZA				e		04 38 24.7	
IGHG	Ghaleghazi	1.85	334	ePg	Pg	04 37 54.1	-0.1
IGHG				e		04 38 39.8	
IVIS	Veis	1.95	343	ePn	Pb	04 37 53.4	-0.9
IVIS				e		04 38 31.6	
NSR	Nassriya	2.03	216	ePn	Pn	04 37 52.0	-0.8
NSR				eSn	Sn	04 38 18.0	-0.1
IDHR	Dehrash	2.25	335	ePn	Pb	04 37 58.2	-1.3
IDHR				e		04 38 49.7	
IALM	Almabolaq	2.26	13	ePn	Pn	04 37 57.7	+1.4
ILIN	Lien	2.31	348	ePn	Pn	04 37 58.8	+1.9
ILIN				e		04 38 37.0	
HAGD	Aghdareh	2.54	31	ePn	Pn	04 38 01.2	+1.1
HAGD				e		04 38 39.7	
HSRG	Sareghieh	2.65	13	ePn	Pb	04 38 04.2	-2.1
HSRG				e		04 38 46.9	
JHBN	Jahan bin	2.68	98	ePn	Pn	04 38 01.2	-0.9
JHBN				e		04 38 49.9	
IRAZ	Razeghan	3.38	35	ePn	Pn	04 38 13.0	+1.3
QABG	Abgarm-Qazvin	3.48	29	ePn	Pn	04 38 13.6	+0.5

SOF ***02*** *04:54:24.5, 42°.58N×23°.05E, h20km, MD2.8*
BEO ***02*** *04:54:26.6±0.4, 42°.60N×22°.95E, h12km±1km, ML2.8/16*
SKO ***02*** *04:54:26.3, 42°.59N×23°.00E, h12km*
ISC 02 04:54:25.6±1.0, 42°.59N±0°.02×22°.98E±0°.02, h9km±9km, n39, σ0§91/56, 12C-1D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	Vitosha	0.19	82	i Pg	Pg	04 54

DIVS				*e*Sn	Sn	04 55 41.0	+0.1
RAZG	**Razgrad**	**2.76**	**68**	⇑P	Pb	04 55 13.6	-1.5
BZS	**Buzias**	**3.18**	**342**	*e*Pn	Pn	04 55 15.4	-0.4
BZS				*e*Sg	Sg	04 56 07.1	-0.6
BZS	**Buzias**	**3.18**	**342**	⇑P	Pn	04 55 15.5	-0.2
VOIR		**3.21**	**27**	⇓P	Pn	04 55 16.6	+0.3
FRGS	**Fruska Gora**	**3.44**	**319**	*e*Pn	Pn	04 55 19.2	-0.2
MLR	**Muntele Rosu**	**3.60**	**35**	⇑P	Pn	04 55 24.4	+2.7
PLOR	**Plostina**	**4.19**	**38**	⇑P	Pn	04 55 31.4	+1.6
VRI	**Vrincioaia**	**4.24**	**38**	⇑P	Pn	04 55 31.9	+1.6

OTT ***02*** *04:57:34.6±0.3, 70.°98N×65.°61W, h18km, ML4.0/2, 124km northeast from Clyde River, Nu Baffin Bay Seismic Zone.*
DNK ***02*** *04:57:38.7±3.7, 71.°04N×65.°33W, h35km±27km, ML2.7, Hypocentre not reviewed by the ISC*

ISC 02 04:57:31.9±0.9, 70.°90N±0.°05×65.°49W±0.°05, h10km, n15, σ2°89/24, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	**Clyde River**	**1.11**	**249**	PG	Pn	04 57 55.7	+2.2
CLRN				SG	Sn	04 58 09.7	+0.8
CLRN				Trac		04 58 10.7	
	comp=Z,554nm,0.2s						
KULLO	**Kullorsuaq**	**4.44**	**30**	*i* P	Pn	04 58 43.7	+4.5
KULLO				*i* S	Sn	04 59 27.5	-3.4
KULLO	**Kullorsuaq**	**4.44**	**30**	PN	Pn	04 58 42.2	+2.9
KULLO				SN	Sn	04 59 28.3	-2.6
ILULI	**Ilulissat**	**5.20**	**102**	PN	Pn	04 58 51.4	+1.7
ILULI				SN	Sn	04 59 49.7	+0.1
TULEG	**Thule**	**5.75**	**352**	PN	Pn	04 58 59.0	+1.8
TULEG				SN	Sn	04 59 58.8	-4.3
ILON	**Igloolik, Nuna**	**5.77**	**262**	PN	Pn	04 58 57.1	-0.3
ILON				SN	Sn	04 59 59.8	-3.8
ILON				LG	Lg	05 00 30.9	
ILON				Trac		05 00 33.7	
	comp=Z,13nm,0.3s						
SFJD	**Kangerlussuaq**	**6.62**	**119**	*i* P	Pn	04 59 12.9	+3.8
SFJD				*i* S	Sn	05 00 21.8	-2.7
SFJD	**Kangerlussuaq**	**6.62**	**119**	PN	Pn	04 59 09.7	+0.6
SFJD				SN	Sn	05 00 22.2	-2.3
FRB	**Frobisher Bay**	**7.28**	**191**	PN	Pn	04 59 20.8	+2.7
FRB				SN	Sn	05 00 38.0	-2.6
FRB				Trac		05 00 54.1	
	comp=Z,32nm,0.8s						
SUMG	**Summit**	**8.61**	**66**	*i* P	Pn	04 59 40.0	+3.2
RES	**Resolute Bay**	**9.42**	**307**	PN	Pn	04 59 49.6	+2.1
RES				SN	Sn	05 01 24.4	-8.8
KNGQ	**Kangiqsujuaq**	**9.70**	**199**	PN	Pn	04 59 51.9	+0.6
KNGQ				SN	Sn	05 01 35.0	-5.1
EUNU	**Eureka**	**10.48**	**340**	PN	Pn	05 00 02.5	+0.6
EUNU				SN	Sn	05 01 47.4	-12
CB01	**Cambridge Bay**	**13.50**	**282**	SN	Sn	05 02 58.0	-15
CB01				LG	Lg	05 04 25.4	
DAG	**Danmarks Havn**	**13.90**	**44**	*i* P	Pn	05 00 49.6	+1.1

TUL ***02*** *04:58:06.6±2.4, 36.°72N±0.°01×97.°919W±0.°008, h13km±8km, ML3.3, Error ellipse: s-maj=2.0km s-min=0.9km az=184.0*
UNK ***02*** *04:58:07.0, 36.°71N×97.°92W, h7km*
ANF ***02*** *04:58:08.1±1.3, 36.°75N×97.°97W, h14km±9km, ML4.2/10, Error ellipse: s-maj=3.6km s-min=2.6km az=64.0*

ISC 02 04:58:06.7±0.9, 36.°70N±0.°02×97.°92W±0.°03, h12km±8km, n49, σ0°98/59, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.20**	**195**		Pg	04 58 11.1	0.0
CROK				Sg	Sg	04 58 14.3	+0.2
KAN10	**Anthony SW Sta**	**0.45**	**341**		Pg	04 58 15.3	-0.2
KAN10				Sg	Sg	04 58 21.2	-0.3
KAN13	**South Haven SW**	**0.47**	**48**		Pg	04 58 15.8	-0.2
KAN13				Sg	Sg	04 58 22.2	0.0
KAN12	**Harper NE Stat**	**0.60**	**354**		Pg	04 58 18.1	-0.3
KAN12				Sg	Sg	04 58 26.4	+0.1
U32A	**Winter Ranch,**	**0.93**	**250**		Pb	04 58 24.1	-0.7
U32A				Sg	Sg	04 58 37.0	+0.2
OK029	**Liberty Lake**	**0.98**	**157**		Pb	04 58 25.1	-0.5
OK029				Sg	Sb	04 58 39.6	+1.1
BCOK	**Bluff Creek, N**	**1.07**	**166**		Pb	04 58 26.7	-0.5
QUOK	**Quay**	**1.11**	**118**		Pb	04 58 27.6	-0.3
ADOK	**Arcadia Dam**	**1.14**	**157**	Pg	Pn	04 58 27.1	-1.4
T35A	**Sooner Cattle**	**1.15**	**79**		Pn	04 58 28.1	-0.5
OK025	**Westminster Rd**	**1.21**	**157**	Pn	Pn	04 58 29.4	-0.2
OKCFA	**Oklahoma City**	**1.34**	**163**		Pn	04 58 31.0	-0.3
OKCSW	**OKLAHOMA CITY**	**1.35**	**163**		Pn	04 58 31.3	-0.2
FNO	**Franklin**	**1.50**	**164**		Pn	04 58 33.3	-0.2
W35A	**Tecumseh**	**1.76**	**151**		Pn	04 58 36.8	-0.2
R32A	**Long Quarter,**	**1.83**	**340**		Pn	04 58 37.0	-1.0
TUL1	**Leonard**	**1.89**	**114**	P	Pn	04 58 40.9	+2.0
	baz=296						
TUL1				S	Sb	04 59 06.0	+1.3
	baz=296						
TUL1	**Leonard**	**1.89**	**114**	Pn	Pn	04 58 38.1	-0.8
WMOK	**Wichita Mounta**	**2.08**	**200**	P	Pn	04 58 42.5	+1.1
	baz=19						
WMOK				S	Sb	04 59 10.1	-0.2
	baz=19						
WMOK	**Wichita Mounta**	**2.08**	**200**		Pn	04 58 40.9	-0.6
CBKS	**Cedar Bluff**	**2.56**	**326**	Sb	Sb	04 59 25.1	+1.1
	baz=145						
CBKS	**Cedar Bluff**	**2.56**	**326**	Pn	Pn	04 58 47.1	-0.9
KSU1	**Kansas State U**	**2.61**	**23**	P	Pn	04 58 49.9	+1.1
	baz=204						
KSU1				Sb	Sb	04 59 26.7	+1.2
	baz=204						
KSU1	**Kansas State U**	**2.61**	**23**	Pn	Pn	04 58 48.1	-0.6
U38A	**Gravette**	**2.85**	**94**		Pn	04 58 51.6	-0.5
X37A	**Clayton**	**2.96**	**135**		Pn	04 58 54.9	+1.4
HHAR	**Hobbs**	**3.23**	**96**		Pn	04 58 56.8	-0.5
AMTX	**Amarillo**	**3.56**	**240**	Pn	Pn	04 59 01.2	-0.6
W39A	**Magazine**	**3.67**	**113**	P	Pn	04 59 05.9	+2.5
	baz=296						
W39A	**Magazine**	**3.67**	**113**		Pn	04 59 03.0	-0.3
S39A	**Bolivar**	**3.80**	**74**	Pn	Pn	04 59 04.5	-0.6
U40A	**Yellville**	**4.09**	**93**	P	Pn	04 59 10.1	+1.0
	baz=276						
U40A	**Yellville**	**4.09**	**93**		Pn	04 59 08.7	-0.4
MIAR	**Mount Ida**	**4.14**	**120**	Pn	Pn	04 59 09.4	-0.4
KSCO	**Kaye Shedlock'**	**4.38**	**303**	P	Pn	04 59 14.5	+1.2
	baz=120						
KSCO				S	Sn	05 00 04.5	+0.2
	baz=120						
KSCO	**Kaye Shedlock'**	**4.38**	**303**		Pn	04 59 12.6	-0.7
P38A	**Dawn**	**4.52**	**48**	Pn	Pn	04 59 14.4	-0.6
X40A	**Basin Creek Fa**	**4.69**	**117**		Pn	04 59 17.1	-0.3
BGNE	**Belgrade**	**4.70**	**358**	P	Pn	04 59 18.3	+0.7
	baz=178						
BGNE	**Belgrade**	**4.70**	**358**	Pn	Pn	04 59 16.8	-0.8
WHTX	**Lake Whitney,**	**4.71**	**175**	P	Pn	04 59 18.5	+0.8
	baz=356						
WHTX	**Lake Whitney,**	**4.71**	**175**	Pn	Pn	04 59 18.4	+0.8
MSTX	**Muleshoe**	**4.81**	**237**	P	Pn	04 59 20.6	+1.4
	baz=54						
Z41A	**Richland Creek**	**5.42**	**128**	S	Sn	05 00 28.3	-1.5
	baz=311						
CCM	**Cathedral Cave**	**5.48**	**74**	P	Pn	04 59 28.6	+0.3
	baz=258						
SDCO	**Great Sand Dun**	**6.14**	**282**	P	Pn	04 59 40.1	+2.6
	baz=97						
Q24A	**Divide**	**6.15**	**294**	P	Pn	04 59 39.1	+1.4
	baz=109						
ECSD	**EROS Data Cent**	**7.09**	**8**	P	Pn	04 59 49.7	-0.7
	baz=188						
N23A	**Red Feather La**	**7.54**	**306**	P	Pn	04 59 58.9	+2.3
	baz=121						

IDC 02 05:09:43.7±2.4, 17.°21S×173.°16W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/25, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=93.0km s-min=23.7km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.54**	**22**	Pn	Pn	05 10 39.3	-0.7
	3.2nm,0.3s,baz=264,slow=21,SNR=1.9						
AFI				Sn	Sn	05 11 23.0	+0.4
	8.7nm,0.3s,baz=116,slow=22,SNR=5.4						
WRA	**Warramunga Arr**	**49.68**	**258**	P	P	05 18 37.5	-0.3
	0.3nm,0.4s,baz=98,slow=6.6,SNR=10						
ASAR	**Alice Springs**	**49.80**	**253**	P	P	05 18 38.6	0.0
	2.4nm,0.6s,baz=90,slow=8.6,SNR=53						
NVAR	**Mina Array Bea**	**75.52**	**42**	P	P	05 21 30.8	+0.4
	0.2nm,0.5s,baz=248,slow=8.7,SNR=2.1						

WEL 02 05:22:54.3±0.8, 32.°S±14.°×17.°9E±3.°8, h324km±31km, M4.7/18, mB4.4/3, ML4.8/12, MLv4.8/18, Mw(mB)3.5/3, Error ellipse: s-maj=0.1km s-min=0.0km az=110.2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.55**	**52**	P	Pn	05 23 55.5	-1.7
GLKZ				S	S	05 24 47.4	-0.3
MWZ	**Matawai**	**6.89**	**189**	P	Pn	05 24 36.7	+1.9
MWZ				S	S	05 25 58.6	+2.3
MUGZ	**Murupara**	**7.16**	**194**	P	Pn	05 24 40.0	+2.0
RIGZ	**Rimuhau**	**7.23**	**187**	P	Pn	05 24 41.1	+2.2
RIGZ				S	S	05 26 07.6	+3.9
RTZ	**Ruatahuna**	**7.26**	**192**	P	Pn	05 24 40.5	+1.3
RTZ				S	S	05 26 04.2	0.0
MTHZ	**Maungataniwha**	**7.51**	**192**	P	Pn	05 24 44.1	+1.9
MTHZ				S	S	05 26 12.1	+2.4
RAHZ	**Arahi**	**7.53**	**191**	P	Pn	05 24 43.9	+1.5
RAHZ				S	S	05 26 09.8	-0.4
KNZ	**Kokohu**	**7.56**	**187**	P	Pn	05 24 43.6	+1.0
NMHZ	**Naumai**	**7.75**	**192**	P	Pn	05 24 47.1	+1.9
NMHZ				S	S	05 26 17.3	+2.1
BKZ	**Black Stump Fm**	**7.88**	**194**	P	Pn	05 24 46.5	-0.2
BKZ				S	S	05 26 16.6	-1.3
TWVZ	**Taurewa**	**8.05**	**200**	P	Pn	05 24 49.9	+1.2
OTVZ	**Oturere**	**8.07**	**198**	P	Pn	05 24 50.3	+1.2
KWHZ	**Kaweka Forest**	**8.14**	**194**	P	Pn	05 24 50.2	+0.3
KWHZ				S	S	05 26 23.4	-0.4
FWVZ	**Far West T-bar**	**8.19**	**199**	P	Pn	05 24 51.0	+0.4
WNVZ	**Wahianoa**	**8.25**	**198**	P	Pn	05 24 51.1	-0.1
MOVZ	**Moawhango**	**8.28**	**197**	P	Pn	05 24 51.1	-0.4
BHHZ	**Black Hill Sta**	**8.29**	**195**	P	Pn	05 24 50.4	-1.1
BHHZ				S	S	05 26 25.0	-1.9
VRZ	**Vera Road**	**8.31**	**203**	P	Pn	05 24 52.0	+0.2
KRHZ	**Kereru**	**8.37**	**194**	P	Pn	05 24 51.5	-1.0
KRHZ				S	S	05 26 25.1	-3.5
KAHZ	**Kahuranaki**	**8.42**	**191**	P	Pn	05 24 53.5	+0.3
PXZ	**Pawanui**	**8.66**	**190**	P	Pn	05 24 55.7	-0.2
PXZ				S	S	05 26 35.6	+0.6
PNHZ	**Pukenui**	**8.66**	**194**	P	Pn	05 24 53.8	-2.2
PNHZ				S	S	05 26 32.2	-3.0
BFZ	**Birch Farm**	**9.39**	**192**	P	Pn	05 25 03.3	-1.6
MRZ	**Mangatainoka R**	**9.51**	**195**	P	Pn	05 25 03.6	-2.6

CRAAG ***02*** *05:23:04.7, 35.°76N×7.°74E, MI3.5*
MDD ***02*** *05:23:12.2±0.9, 35.°96N×5.°67E, h0km, mb3.7/2, Error ellipse: s-maj=13.8km s-min=5.9km az=3.0, PRXIMO SIN SOLUCIN*

ISC 02 05:23:08.7±1.6, 35.°8N±0.°1×5.°65E±0.°04, h10km, n12, σ1°18/12, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.24**	**332**	P	Pg	05 23 12.4	-1.3
SET	**Setif**	**0.44**	**333**	P	Pb	05 23 18.0	-0.7
SET	**Setif**	**0.44**	**333**	P	Pb	05 23 18.0	-0.7
CTEI	**Djebel Teioual**	**0.67**	**67**	P	Pg	05 23 19.4	-2.2
DFRA	**Djebel Bou Aff**	**0.76**	**14**	P	Pg	05 23 23.7	+0.3
CASM	**Ain Smara**	**0.82**	**56**	P	Pb	05 23 25.9	+0.9
CASM	**Ain Smara**	**0.82**	**56**	P	Pb	05 23 25.9	+0.9
CKFL	**Kef-Lekhel**	**1.05**	**55**	P	Pg	05 23 28.1	-0.8
AKET	**Djebel Ketaf**	**1.46**	**280**	P	Pg	05 23 36.1	-0.5
AKET	**Djebel Ketaf**	**1.46**	**280**	P	Pg	05 23 36.1	-0.5
ETOS	**Mallorca**	**4.55**	**331**	P	Pn	05 24 17.8	+0.2
	0.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.70**	**314**	P	Pn	05 24 21.2	+1.6
	1.2nm,0.2s,SNR=7.9						

TEH ***02*** *05:23:38.4, 33.°70N×45.°63E, h20km, ML2.6*
ISN ***02*** *05:23:38.7±0.6, 33.°68N×45.°71E, h20km±3km, ML2.6*

ISC 02 05:23:33.6±2.6, 33.°58N±0.°06×45.°3E±0.°2, h13km, n8, σ0°98/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.70**	**132**	*e*Pg	Pn	05 23 50.0	+0.9
	baz=342						
IBDR				*e*Sg	Sn	05 23 59.0	-0.7
IGHG	**Ghaleghazi**	**1.28**	**54**	*e*Pg	Pb	05 23 57.5	-0.2
IGHG				*e*		05 24 01.1	
IDHR	**Dehrash**	**1.43**	**38**	*e*Pg	Pg	05 24 00.6	-0.5
IDHR				*e*		05 24 21.5	
IVIS	**Veis**	**1.59**	**53**	*e*		05 24 24.2	
IVIS				*e*Pg	Pb	05 24 03.2	+0.4
ILIN	**Lien**	**1.91**	**45**	*e*		05 24 10.0	
ILIN				*e*Pg	Pg	05 24 09.4	-0.9
IKOM	**Komasi**	**1.92**	**71**	*e*		05 24 10.8	
IKOM				*e*Pg	Pb	05 24 09.3	+0.7
IKOM				*e*Sg	Sb	05 24 32.3	-0.2
IBZA	**Bozab**	**2.29**	**67**	*e*Pg	Pb	05 24 15.3	+0.3
IBZA				*e*		05 24 17.6	
NSR	**Nassriya**	**2.66**	**165**	*e*Pn	Pg	05 24 23.0	-1.5
NSR				*e*Sn	Sb	05 24 55.0	+1.5

IDC ***02*** *05:25:14.9±2.9, 5.°49S×68.°70E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/29, mbtmp3.8/4, MS3.3/7, Ms1 3.3/7, ms1mx3.1/36, Error ellipse: s-maj=85.5km s-min=35.6km az=65.0*

ISC 02 05:25:16.0±3.0, 5.°6S±0.°3×68.°6E±0.°4, h13km, n14, σ0°73/8, mb3.9/4, MS3.4/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**4.33**	**119**	Pn	Pn	05 26 20.9	-0.5
	baz=316,slow=18,SNR=555						
H08S1				T	T	05 31 02.7	
	baz=311,slow=75,SNR=38						
H08S3	**Diego Garcia H**	**4.33**	**118**	Pn	Pn	05 26 20.8	-0.6
	baz=316,slow=18,SNR=631						
H08S3				T	T	05 31 03.0	
	baz=311,slow=75,SNR=24						
H08S2	**Diego Garcia H**	**4.35**	**119**	Pn	Pn	05 26 21.2	-0.4
	baz=316,slow=18,SNR=620						
H08S2				T	T	05 31 05.1	
	baz=311,slow=75,SNR=40						
PALK	**Pallekele**	**17.54**	**43**	LR	LR	05 34 40.6	
	comp=Z,83nm,18.2s,baz=330,slow=32						
KMBO	**Kilima Mbogo**	**31.63**	**277**	LR	LR	05 41 39.8	
	comp=Z,60nm,21.5s,baz=100,slow=31						
CMAR	**Chiang Mai Arr**	**38.25**	**51**	P	P	05 32 36.9	+0.6
	1.3nm,0.4s,baz=239,slow=10,SNR=2.0						
CMAR				LR	LR	05 45 48.7	
	comp=Z,31nm,20.1s,baz=358,slow=32						
BOSA	**Boshof**	**47.00**	**236**	LR	LR	05 50 00.5	
	comp=Z,37nm,19.3s,baz=60,slow=32						
KAPI	**Kappang**	**50.88**	**92**	LR	LR	05 53 34.9	
	comp=Z,40nm,20.0s,baz=311,slow=33						
MKAR	**Makanchi Array**	**53.52**	**12**	P	P	05 34 35.6	-0.8
	0.3nm,0.5s,baz=194,slow=9.7,SNR=3.9						
DAV	**Davao City (W)**	**58.19**	**78**	LR	LR	06 00 04.3	
	comp=Z,32nm,19.1s,baz=204,slow=36						
ASAR	**Alice Springs**	**65.14**	**113**	P	P	05 35 58.0	+0.7
	0.3nm,0.5s,baz=287,slow=6.1,SNR=5.5						
WRA	**Warramunga Arr**	**65.29**	**109**	P	P	05 35 58.9	+0.6
	1.2nm,0.7s,baz=281,slow=6.2,SNR=9.9						
KSRS	**Korea Array**	**69.74**	**47**	LR	LR	06 07 03.9	
	comp=Z,23nm,19.4s,baz=330,slow=36						
NVAR	**Mina Array Bea**	**146.69**	**10**	PKPbc	PKPab	05 44 59.4	-0.1
	0.3nm,0.6s,baz=308,slow=2.7,SNR=3.7						

UPA ***02*** *05:30:19.1±1.1, 5.°86N×82.°61W, h10km±44km, MW3.8*

ISC 02 05:30:20.0±2.1, 5.°89N±0.°08×82.°6W±0.°1, h14km, n13, σ1°10/19, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**2.27**	**50**	*e*P	Pn	05 30 56.0	-1.0
CACAO				*e*S	Sn	05 31 23.0	-1.9
GMAL	**Guarumal, Vera**	**2.32**	**36**	*e*P	Pn	05 30 57.6	-0.1
GMAL				*e*S	Sn	05 31 25.5	-0.5
BCO2	**Palmira**	**2.81**	**2**	*e*P	Pn	05 31 03.9	-0.8
BCO2				*e*S	Sn	05 31 39.0	+0.5
BRU2	**Volcan**	**2.88**	**359**	*e*P	Pn	05 31 05.6	-0.1
BRU2				*e*S	Sn	05 31 41.1	+0.8
AZU	**Azuero**	**3.00**	**51**	*e*P	Pn	05 31 06.8	-0.3
AZU				*e*S	Sn	05 31 42.3	-0.6
CHGR2	**Aguacate**	**3.06**	**9**	*e*P	Pn	05 31 08.3	+0.3
CHGR2				*e*S	Sn	05 31 45.1	+0.5
PTAC	**Punta Ardita,**	**4.94**	**75**	*e*P	Pn	05 31 35.0	+1.1
SOLC	**Bahia Solano**	**5.20**	**86**	*e*P	Pn	05 31 37.0	-0.3
BBAC	**Balboa, Cauca**	**6.60**	**125**	*e*P	Pn	05 31 55.7	-1.1
POPC	**Popayan, Colom**	**6.80**	**119**	*e*P	Pn	05 31 58.9	-0.7
HELC	**Santa Helena**	**7.06**	**87**	*e*P	Pn	05 32 04.7	+1.4
GUY2C	**Guyana, Caldas**	**7.25**	**95**	*e*P	Pn	05 32 08.3	+2.2
ORTC	**Ortega, Tolima**	**7.61**	**105**	*e*P	Pn	05 32 12.0	+1.4

DDA ***02*** *05:41:16.0, 34.°97N×27.°13E, h10km±4km, MW3.5*
NIC ***02*** *05:41:18.4±0.0, 35.°03N×27.°09E, h10km±1km, Ml3.5/2*
ATH ***02*** *05:41:20.9, 35.°18N×27.°28E, h23km±1km, ML3.4/4, Error ellipse: s-maj=3.0km s-min=1.3km az=322.0*
THE ***02*** *05:41:21.8, 35.°18N×27.°22E, h0km, ML3.2/7, Error ellipse: s-maj=2.1km s-min=0.7km az=143.0*
HLW ***02*** *05:41:22.4, 35.°09N×27.°48E, h14km±6km, Md3.7, Ml3.7*
ISK ***02*** *05:41:24.0, 35.°46N×27.°03E, h8km, ML3.2/18*

ISC 02 05:41:21.3±1.1, 35.°16N±0.°03×27.°26E±0.°02, h16km±8km, n88, σ1°20/114, 4C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.40**	**348**	P	Pg	05 41 29.0	-0.5
KARP				S	Sb	05 41 35.5	-0.4
	5μm,0.3s						
KARP	**Karpathos**	**0.40**	**348**	P	Pg	05 41 29.0	-0.5
KARP				S	Sb	05 41 35.6	-0.4
KARP				AML	AML	05 41 38.0	
	comp=E,9611μm,0.5s						
KARP				AML	AML	05 41 38.8	
	comp=N,10555μm,0.1s						
KARP	**Karpathos**	**0.40**	**348**	PG	Pg	05 41 27.6	-1.9
KARP	**Karpathos**	**0.40**	**348**	⇑P	Pg	05 41 29.0	-0.5
KARP				S	Sb	05 41 36.4	+0.4
KARP				AML	AML	05 41 38.4	
	comp=N,10nm,0.2s						
KARP				AML	AML	05 41 38.4	
	comp=N,10nm,0.2s						
KARP				AML	AML	05 41 40.3	
	comp=N,8.0nm,0.3s						
KARP				AML	AML	05 41 40.3	
	comp=N,8.0nm,0.3s						
ZKR	**Zakros**	**0.86**	**268**	P	Pg	05 41 37.6	-0.4
ZKR				S	Sn	05 41 50.8	-0.2
	comp=N,2μm,0.5s						
ZKR	**Zakros**	**0.86**	**268**	P	Pg	05 41 37.2	-0.8
ZKR				S	Sn	05 41 50.8	-0.2
ZKR				AML	AML	05 41 56.7	
	comp=N,3246μm,0.4s						
ZKR				AML	AML	05 41 56.8	
	comp=E,6117μm,0.7s						
ZKR	**Zakros**	**0.86**	**268**	PG	Pg	05 41 36.9	-1.1
ZKR				SG	Sb	05 41 49.9	+0.8
ARG	**Arkhangelos**	**1.27**	**33**	P	Pn	05 41 45.3	+0.8
ARG				S	Sg	05 42 03.6	+1.2
	comp=E,955nm,0.5s						
ARG	**Arkhangelos**	**1.27**	**33**	P	Pn	05 41 45.3	+0.8
ARG	**Arkhangelos**	**1.27**	**33**	PN	Pg	05 41 46.6	+0.8
ARG				SN	Sg	05 42 03.4	+1.0
ARG	**Arkhangelos**	**1.27**	**33**	⇑P	Pn	05 41 45.2	+0.8
ARG				S	Sg	05 42 04.6	+2.2
NPS	**Neapolis**	**1.35**	**275**	P	Pn	05 41 46.2	+0.6
NPS				S	Sg	05 42 05.3	+0.2
	comp=E,1μm,0.5s						
NPS	**Neapolis**	**1.35**	**275**	P	Pb	05 41 46.7	+0.3
NPS				S	Sg	05 42 05.3	+0.2
NPS				AML	AML	05 42 13.4	
	comp=N,1836μm,0.4s						
NPS				AML	AML	05 42 19.0	
	comp=E,2451μm,0.6s						
NISR	**Nisiros**	**1.46**	**356**	P	Pn	05 41 47.2	+0.2
NISR				S	Sg	05 42 07.8	-0.5
	comp=E,768nm,0.5s						
NISR	**Nisiros**	**1.46**	**356**	P	Pn	05 41 47.2	+0.2
LAST	**Lasithi**	**1.46**	**271**	P	Pn	05 41 48.0	+0.9
LAST	**Lasithi**	**1.46**	**271**	P	Pb	05 41 48.5	+0.3
DAT	**Datca**	**1.59**	**9**	PN	Pn	05 41 49.6	+0.7
DAT				SN	Sn	05 42 08.3	-0.9
DAT	**Datca**	**1.59**	**9**	*i* P	Pn	05 41 49.4	+0.5
DAT				*i* S	Sn	05 42 08.6	-0.7
DAT				IAML		05 42 17.0	
	comp=N,79nm,0.4s						
DAT				IAML		05 42 21.0	
	comp=E,84nm,0.4s						
KOSK	**Kos Island**	**1.61**	**352**	P	Pn	05 41 49.7	+0.6
KOSK				S	Sb	05 42 11.3	+0.6
	comp=E,415nm,0.5s						
KOSK	**Kos Island**	**1.61**	**352**	PN	Pn	05 41 49.1	0.0
KOSK				SN	Sn	05 42 06.9	-2.6
ANAF	**Anafi Island**	**1.70**	**315**	P	Pn	05 41 51.1	+0.7
ANAF				S	Sb	05 42 13.4	-0.1
	comp=E,3μm,0.4s						
ANAF	**Anafi Island**	**1.70**	**315**	P	Pn	05 41 51.1	+0.7
ANAF				S	Sb	05 42 13.4	-0.1
ANAF				AML	AML	05 42 14.5	
	comp=N,5875μm,0.4s						
ANAF				AML	AML	05 42 18.2	
	comp=E,5627μm,0.4s						
MRSB	**Marmaris-Mugla**	**1.73**	**26**	PN	Pn	05 41 52.7	+1.9
HRKL	**Herakleio**	**1.78**	**276**	PN	Pb	05 41 52.9	-0.6
TURN	**Turunc**	**1.80**	**26**	PN	Pn	05 41 53.7	+2.0
TURN	**Turunc**	**1.80**	**26**	*i* P	Pn	05 41 53.4	+1.6
TURN				*i* S	Sn	05 42 16.2	+2.0
TURN

	comp=N,46nm,0.3s						
AYDN				IAML		05 42 49.0	
	comp=E,60nm,1.1s						
GVD	**Gavdhos**	**2.63**	**264**	P	**Pn**	**05 42 05.0**	**+2.0**
TAVA	**DENIZLI_Tavas**	**2.66**	**30**	*i* P	**Pn**	**05 42 05.4**	**+1.8**
TAVA				*i* S	**Sb**	**05 42 41.4**	**+0.2**
TAVA				IAML		05 42 49.0	
	comp=N,72nm,0.9s						
TAVA				IAML		05 42 50.0	
	comp=E,84nm,0.8s						
ELL	**Elmali**	**2.67**	**53**	PN	**Pb**	**05 42 08.5**	**-0.3**
IMMV	**Iera Moni Meta**	**2.70**	**277**	P	**Pn**	**05 42 06.4**	**+2.3**
AKUM	**Antalya-Kumluc**	**2.76**	**64**	*i* P	**Pn**	**05 42 04.1**	**-0.9**
AKUM				IAML		05 42 44.0	
	comp=E,34nm,0.6s						
GOLH	**Golhisar**	**2.79**	**41**	*i* P	**Pn**	**05 42 07.3**	**+1.9**
GOLH				IAML		05 43 06.0	
	comp=N,82nm,0.7s						
DGB	**zmir**	**2.91**	**354**	*i* P	**Pn**	**05 42 07.4**	**+0.5**
SERI	**Serifos**	**3.01**	**312**	P	**Pn**	**05 42 08.8**	**+0.4**
SERI	**Serifos**	**3.01**	**312**	P	**Pn**	**05 42 08.8**	**+0.4**
KORT	**Korkueli**	**3.10**	**53**	PN	**Pb**	**05 42 14.4**	**-1.9**
KORT	**Korkueli**	**3.10**	**53**	*i* P	**Pn**	**05 42 11.1**	**+1.3**
KORT				IAML		05 42 56.0	
	comp=N,36nm,0.6s						
KORT				IAML		05 43 13.0	
	comp=E,36nm,0.5s						
URLA	**Izmir**	**3.24**	**351**	PN	**Pn**	**05 42 11.7**	**+0.1**
URLA	**Izmir**	**3.24**	**351**	*i* P	**Pn**	**05 42 10.8**	**-0.7**
URLA				IAML		05 43 16.0	
	comp=E,20nm,1.1s						
URLA				IAML		05 43 24.0	
	comp=N,20nm,1.0s						
ANKY	**Antikythira Is**	**3.31**	**284**	P	**Pn**	**05 42 13.7**	**+1.3**
CHOS	**Chios island**	**3.37**	**344**	P	**Pn**	**05 42 13.8**	**+0.5**
CHOS	**Chios island**	**3.37**	**344**	PN	**Pn**	**05 42 13.8**	**+0.5**
MANT	**Manisa**	**3.49**	**17**	*i* P	**Pn**	**05 42 16.5**	**+1.4**
KULA	**Kula-Manisa**	**3.53**	**18**	PN	**Pn**	**05 42 17.6**	**+2.0**
OSC1	**CSNet OBS 1**	**3.71**	**115**	S	**Sn**	**05 43 02.9**	**+1.6**
ZEDA	**zmir-Bergama**	**3.81**	**358**	*i* P	**Pn**	**05 42 19.2**	**-0.1**
USAK	**Uak-Merkez**	**3.82**	**21**	*i* P	**Pn**	**05 42 20.8**	**+1.2**
USAK				IAML		05 43 11.0	
	comp=N,14nm,0.4s						
USAK				IAML		05 44 38.0	
	comp=E,24nm,4.8s						
KEPZ	**Antalya-Kepez**	**3.93**	**62**	*i* P	**Pn**	**05 42 21.5**	**+0.5**
KEPZ				*i* S	**Sn**	**05 43 05.5**	**-1.3**
KEPZ				IAML		05 43 12.0	
	comp=N,16nm,0.7s						
KEPZ				IAML		05 43 19.0	
	comp=E,17nm,0.8s						
SLUM	**Salum**	**4.04**	**206**	P	**Pn**	**05 42 23.8**	**+1.3**
	baz=209						
SLUM				AMP		05 43 00.0	
	baz=209						
SLUM				S	**Sn**	**05 43 08.6**	**-0.9**
	baz=209						
AKMS	**Akamas**	**4.16**	**90**	P	**Pn**	**05 42 24.2**	**0.0**
AKMS				AML	AML	05 43 13.8	
	comp=E,0.2nm,0.3s						
AKMS				AML	AML	05 43 16.4	
	comp=E,0.3nm,0.6s						
GAZI	**Gazipasa**	**4.25**	**74**	*i* P	**Pn**	**05 42 24.8**	**-0.6**
GAZI				*i* S	**Sn**	**05 43 09.0**	**-5.8**
GAZI				IAML		05 43 18.0	
	comp=N,44nm,0.8s						
GAZI				IAML		05 43 21.0	
	comp=E,33nm,0.9s						
ALFC	**Alefka**	**4.37**	**88**	⇓P	**Pn**	**05 42 27.0**	**-0.1**
NATA	**Nata**	**4.37**	**93**	P	**Pn**	**05 42 27.5**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**4.61**	**353**	*i* P	**Pn**	**05 42 30.5**	**+0.1**
SZAC	**Souni**	**4.63**	**93**	P	**Pn**	**05 42 30.6**	**-0.1**
SWA2		**6.09**	**195**	P	**Pn**	**05 42 50.8**	**+0.1**
	baz=197						
GLL	**Jalalah**	**6.71**	**145**	P	**Pn**	**05 42 58.6**	**-0.7**
	baz=145						
RSH		**6.85**	**126**	P	**Pn**	**05 43 00.1**	**-1.1**
	baz=126						
HFRF	**Wahat Farafira**	**8.03**	**173**	P	**Pn**	**05 43 16.9**	**-0.5**
	baz=174						

*IDC **02** 05:43:59.6±4.1, 40.°12N×142.°90E, h0km, mb3.9/3, mb1 3.8/5, mb1mx3.4/51, mbtmp3.8/5, ML3.1/2, MS2.3/1, Ms1 2.3/1, ms1mx1.9/40, Error ellipse: s-maj=72.0km s-min=44.4km az=125.0*
*JMA **02** 05:44:13.8±0.1, 40.°91N×142.°12E, h51km±2km, M3.6*
JMA Felt I J1.

ISC 02 05:44:14.7±1.1**, 40.°86N**±0.°04×**142.°02E**±0.°06**, h51**km±10km**, n26**, σ1§**80**/31**, mb3.7**/3**, 1C-8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.51**	**287**	⇓P	**Pn**	**05 44 26.1**	**-0.1**
JARK				S	**Sn**	**05 44 34.7**	**+0.2**
JANG	**Nango**	**0.62**	**218**	⇓P	**Pn**	**05 44 27.7**	**+0.2**
JANG				*e*S	**Sn**	**05 44 37.5**	**+0.8**
JAHD	**Aomorihigashid**	**0.65**	**308**	⇓P	**Pn**	**05 44 27.5**	**-0.4**
JAHD				*e*S	**Sn**	**05 44 37.7**	**+0.2**
JKEN	**Kujiedanarisaw**	**0.69**	**200**	⇑P	**Pn**	**05 44 28.4**	**0.0**
JKEN				S	**Sn**	**05 44 38.9**	**+0.5**
JTM	**Tenmabayashi**	**0.72**	**265**	⇓P	**Pn**	**05 44 29.0**	**+0.2**
JTM				S	**Sn**	**05 44 39.9**	**+0.9**
JOT	**Ohata**	**0.90**	**306**	⇓P	**Pn**	**05 44 30.5**	**-0.6**
JOT				*e*S	**Sn**	**05 44 43.4**	**+0.3**
JAH	**Hinai**	**1.25**	**238**	⇓P	**Pn**	**05 44 36.3**	**+0.5**
JAH				*e*S	**Sn**	**05 44 53.2**	**+1.7**
JKB	**Kayabe**	**1.27**	**325**	⇓P	**Pn**	**05 44 35.2**	**-0.9**
JKB				*e*S	**Sn**	**05 44 51.2**	**-0.8**
JSR	**Shiriuchi**	**1.38**	**300**	P	**Pn**	**05 44 37.7**	**+0.1**
JSR				*e*S	**Sn**	**05 44 55.7**	**+1.0**
JEM	**Erimo**	**1.44**	**36**	P	**Pn**	**05 44 37.9**	**-0.5**
JOM	**Ohasama**	**1.49**	**202**	⇓P	**Pn**	**05 44 39.7**	**+0.5**
JOM				*e*S	**Sn**	**05 44 58.1**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.52**	**21**	P	**Pn**	**05 44 39.6**	**0.0**
JIW	**Iwasaki**	**1.55**	**261**	P	**Pn**	**05 44 40.3**	**+0.3**
JYM2	**Yakumo 2**	**1.76**	**316**	P	**Pn**	**05 44 42.8**	**0.0**
JNB	**Noboribetsu**	**1.77**	**336**	P	**Pn**	**05 44 41.7**	**-1.2**
ASAJ	**Asahikawa**	**3.28**	**7**	Pn	**Pn**	**05 45 02.7**	**-1.0**
	2.3nm,0.3s,baz=225,slow=14,SNR=3.2						
ASAJ				Sn	**Sn**	**05 45 49.0**	**+7.6**
	1.6nm,0.3s,baz=178,slow=28,SNR=4.1						
ASAJ				LR	LR	05 46 57.2	
	comp=Z,39nm,18.9s,baz=162,slow=44						
USRK	**Ussuriysk Ar.**	**8.12**	**298**	Pn	**Pn**	**05 46 13.7**	**+3.7**
	baz=114,slow=13,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**29.90**	**127**	T	T	06 21 54.2	
	baz=321,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**29.91**	**127**	T	T	06 21 57.1	
	baz=321,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**29.92**	**127**	T	T	06 21 56.7	
	baz=321,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**30.73**	**129**	T	T	06 22 55.7	
	baz=322,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**30.73**	**129**	T	T	06 22 55.1	
	baz=322,slow=76,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**30.75**	**129**	T	T	06 22 53.8	
	baz=322,slow=76,SNR=2.9						
MKAR	**Makanchi Array**	**42.59**	**299**	P	**P**	**05 52 04.5**	**-1.1**
	0.4nm,0.4s,baz=82,slow=11,SNR=6.6						
KURBB	**Kurchatov Arra**	**44.11**	**305**	P	**P**	**05 52 16.4**	**-1.3**
	0.7nm,0.5s,baz=81,slow=9.3,SNR=6.0						
FINES	**FINESS Array B**	**65.66**	**332**	P	**P**	**05 54 52.0**	**-1.3**
	1.9nm,0.7s,baz=40,slow=7.4,SNR=8.1						

*NEIC **02** 05:48:49.4±2.2, 8.°63S±0.°04×118.°36E±0.°06, h135km±8km, mb4.3/8, Error ellipse: s-maj=9.6km s-min=3.1km az=122.0*
*DJA **02** 05:48:49.9±0.2, 9.°S±3.°×11.°8E±.°, h130km±3km, M4.4/16, mb4.5/6, mB5.0/6, MLv4.4/16, Mw(mB)4.4/6*
*IDC **02** 05:48:52.4±2.4, 8.°49S×118.°65E, h152km±17km, mb3.4/4, mb1 3.6/7, mb1mx3.3/39, mbtmp4.0/7, Error ellipse: s-maj=31.2km s-min=9.8km az=57.0*

ISC 02 05:48:50.5±0.6**, 8.°65S**±0.°05×**118.°36E**±0.°05**, h152**km**, n45,** σ1§**89**/52**, mb3.8**/4**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.61**	**253**	P	**Pn**	**05 49 09.9**	**-2.7**
PLAI				S	**Sn**	**05 49 24.7**	**-4.8**
WBSI	**Waikabubak, Su**	**1.42**	**134**	P	**Pn**	**05 49 16.9**	**-2.5**
WBSI				S	**Sn**	**05 49 39.2**	**-2.4**
TWSI	**Taliwang, Sumb**	**1.47**	**266**	P	**Pn**	**05 49 18.0**	**-1.9**
TWSI				S	**Sn**	**05 49 39.8**	**-2.5**
BASI	**Baing, Sumba**	**2.69**	**126**	P	**Pn**	**05 49 32.9**	**-1.1**
SRBI	**Singaraja**	**3.17**	**280**	P	**Pn**	**05 49 39.3**	**-0.8**
EDFI	**Ende, Flores**	**3.29**	**92**	P	**Pn**	**05 49 40.4**	**-1.4**
BKSI	**Bulukumba**	**3.74**	**28**	P	**Pn**	**05 49 46.5**	**-0.9**
MMRI	**Maumere**	**3.83**	**90**	P	**Pn**	**05 49 48.0**	**-0.6**
MMRI	**Maumere**	**3.83**	**90**		**Pn**	**05 49 47.5**	**-1.2**
KAPI	**Kappang**	**3.87**	**21**	P	**Pn**	**05 49 48.2**	**-0.8**
	7.6nm,0.3s,baz=190,slow=7.3,SNR=18						
KAPI				S	**Sn**	**05 50 31.8**	**-2.8**
	3.5nm,0.3s,baz=101,slow=23,SNR=9.4						
JAGI	**Jajag, Banyuwa**	**4.17**	**272**	P	**Pn**	**05 49 51.0**	**-2.0**
JAGI	**Jajag, Banyuwa**	**4.17**	**272**	Pn	**Pn**	**05 49 50.6**	**-2.5**
BNSI	**Bone**	**4.56**	**22**	P	**Pn**	**05 49 59.9**	**+1.7**
SPSI	**Sidrap Palu**	**4.86**	**17**	P	**Pn**	**05 50 02.1**	**0.0**
GMJI	**Gumukmas**	**4.88**	**274**	P	**Pn**	**05 50 00.1**	**-2.3**
BATI	**Baumata**	**5.45**	**107**	P	**Pn**	**05 50 09.5**	**-0.5**
	34nm,0.3s,baz=53,slow=1.2,SNR=31						
BATI				S	**Sn**	**05 51 08.8**	**-3.3**
	36nm,0.3s,baz=111,slow=10.0,SNR=2.3						
BATI	**Baumata**	**5.45**	**107**	P	**Pn**	**05 50 09.6**	**-0.5**
SOEI	**Soe**	**5.93**	**101**	P	**Pn**	**05 50 16.3**	**-0.2**
	0.5nm3μm74nm,0.5s						
SOEI	**Soe**	**5.93**	**101**	Pn	**Pn**	**05 50 15.7**	**-0.8**
BBKI	**Banjar Baru**	**6.23**	**326**	P	**Pn**	**05 50 21.8**	**+1.5**
	0.3nm5μm31nm,1.2s						
UGM	**Wanagama**	**7.79**	**275**	Pn	**Pn**	**05 50 39.0**	**-2.2**
KNRA	**Kununurra**	**12.33**	**125**		**Pn**	**05 51 39.8**	**-1.3**
KSM	**Kuching**	**12.87**	**321**	Pn	**Pn**	**05 51 44.4**	**-3.7**
PSA00	**Pilbara Seismi**	**12.93**	**174**		**Pn**	**05 51 47.8**	**-1.0**
MTN	**Manton Dam**	**13.22**	**109**	Pn	**Pn**	**05 51 50.4**	**-2.2**
GIRL	**Giralia**	**14.47**	**195**	Pn	**Pn**	**05 52 08.2**	**-0.1**
FAKI	**Fak Fak**	**14.94**	**68**	Pn	**Pn**	**05 52 13.1**	**-1.1**
KSI	**Kapahiang**	**16.44**	**287**	P	**P**	**05 52 34.2**	**+1.5**
WB0	**Warramunga Arr**	**19.05**	**127**	P	**P**	**05 53 01.8**	**+0.6**
WB0				IAmb	IAmb	05 53 07.5	
	comp=Z,8.4nm,0.6s						
WRA	**Warramunga Arr**	**19.10**	**128**	P	**P**	**05 53 02.2**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=302,slow=12,SNR=37						
WRA				S	**S**	**05 56 29.4**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=313,slow=24,SNR=5.8						
WRA				ScP	**ScP**	**06 00 43.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=324,slow=2.0,SNR=3.7						
WRA	**Warramunga Arr**	**19.10**	**128**	P	**P**	**05 53 01.9**	**+0.1**
WB2	**Warramunga Arr**	**19.11**	**128**	P	**P**	**05 53 02.3**	**+0.4**
WB2				IAmb	IAmb	05 53 09.3	
	comp=Z,7.2nm,0.7s						
WR0	**Warramunga Arr**	**19.27**	**127**	P	**P**	**05 53 04.3**	**+0.7**
WR0				IAmb	IAmb	05 53 07.1	
	comp=Z,11nm,0.7s						
MORW	**Morawa**	**20.43**	**186**	P	**P**	**05 53 18.7**	**+2.8**
MORW				IAmb	IAmb	05 53 28.9	
	comp=Z,20nm,1.4s						
MORW				S	**S**	**05 56 59.5**	**+3.0**
AS31	**Alice Springs**	**21.08**	**137**	P	**P**	**05 53 24.1**	**+1.1**
ASAR	**Alice Springs**	**21.08**	**137**	P	**P**	**05 53 24.4**	**+1.3**
	comp=Z,4.4nm,0.4s,baz=310,slow=9.2,SNR=79						
ASAR				S	**S**	**05 57 10.9**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=316,slow=16,SNR=2.4						
ASAR				ScP	**ScP**	**06 00 49.0**	**+2.7**
	comp=Z,1.1nm,0.6s,baz=330,slow=2.3,SNR=7.8						
ASAR	**Alice Springs**	**21.08**	**137**	P	**P**	**05 53 23.7**	**+0.7**
FORT	**Forrest**	**23.81**	**159**	P	**P**	**05 53 50.9**	**+1.4**
STKA	**Stephens Creek**	**31.62**	**140**	P	**P**	**05 55 00.8**	**+1.6**
	comp=Z,1.4nm,0.5s,baz=316,slow=12,SNR=6.6						
H08S2	**Diego Garcia H**	**45.40**	**268**	T	T	06 46 53.4	
	baz=94,slow=74,SNR=4.1						
H08S3	**Diego Garcia H**	**45.41**	**268**	T	T	06 46 58.6	
	baz=94,slow=74,SNR=4.2						
H08S1	**Diego Carcia H**	**45.42**	**268**	T	T	06 47 00.7	
	baz=94						
SONM	**Songino Array**	**57.23**	**350**	P	**P**	**05 58 23.1**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=171,slow=10,SNR=2.1						
MKAR	**Makanchi Array**	**63.86**	**333**	P	**P**	**05 59 07.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=151,slow=7.8,SNR=3.9						
CPUP	**Villa Florida**	**144.98**	**187**	PKPbc	**PKPdf**	**06 08 12.5**	**+2.0**
	comp=Z,1.4nm,0.8s,baz=205,slow=1.5,SNR=4.2						

NNC 02 06:34:44.7±6.7**, 36.°99N**×**70.°69E, h0**km**, mb4.1, mpv3.7, 5C-1D, Error ellipse: s-maj=52.2km s-min=45.9km az=165.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.11**	**359**	⇑P	Pn	06 36 17.1	+0.9
	8.1nm,0.7s,baz=174,slow=12,SNR=40						
KK31				⇑S	Sn	06 37 27.5	+0.6
	2.4nm,0.6s,baz=181,slow=20,SNR=8.6						
AAK	**Ala-Archa**	**6.35**	**26**	⇑P	Pn	06 36 20.9	+1.1
	2.9nm,0.5s						
AAK				⇓S	Sn	06 37 35.4	+2.3
	3.1nm,0.5s						
TKM2	**Tokmak 2**	**7.02**	**31**	⇑P	Pn	06 36 26.8	-2.2
	3.0nm,0.7s						
TKM2				⇑S	Sn	06 37 49.9	+0.4
	2.6nm,0.7s						

*IDC **02** 06:50:27.0±3.0, 43.°76N×129.°89W, h0km, mb3.4/3, mb1 3.8/6, mb1mx3.5/35, mbtmp3.4/6, ML3.3/3, MS3.2/6, Ms1 3.2/6, ms1mx3.1/11, Error ellipse: s-maj=64.5km s-min=20.1km az=48.0*
*OTT **02** 06:50:29.0, 44.°13N×129.°42W, h10km*
*PGC **02** 06:50:29.6±0.1, 44.°13N×129.°42W, h10km, MLSn4.0/2, Mw4.6/2, 612km southwest of Ucluelet, Bc Off Coast Of Oregon*
*ANF **02** 06:50:32.1±1.4, 44.°05N×128.°88W, h0km, ML3.3/6, Error ellipse: s-maj=15.8km s-min=6.2km az=45.0*
*NEIC **02** 06:50:32.3±2.4, 44.°21N±0.°09×129.°1W±0.°2, h10km±2km, ML3.0/14, Error ellipse: s-maj=21.9km s-min=15.2km az=256.0*

ISC 02 06:50:31.2±1.6**, 44.°13N**±0.°06×**129.°2W**±0.°1**, h10**km**, n103,** σ1§**13**/118**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	**Swisshome**	**3.85**	**88**	P	**Pn**	**06 51 29.4**	**-1.0**
	baz=272,SNR=39						
I02D				S	**Sn**	**06 52 13.9**	**-1.7**
	baz=272						
J01E	**Myrtle Point**	**3.94**	**102**	P	**Pn**	**06 51 29.3**	**-2.3**
	baz=286,SNR=7.4						
J01E				S	**Sn**	**06 52 15.9**	**-2.0**
	baz=286						
I03D	**Drain, OR**	**4.24**	**94**	P	**Pn**	**06 51 35.0**	**-0.8**
	baz=278,SNR=103						
I03D				S	**Sn**	**06 52 23.6**	**-1.8**
	baz=278						
COR	**Corvallis**	**4.25**	**82**		**Pn**	**06 51 36.0**	**+0.1**
COR				IAML		06 52 08.2	
	17nm,2.5s						
K02D	**Willamette Mer**	**4.27**	**108**	S	**Sn**	**06 52 23.8**	**-2.5**
	baz=291						
G03D	**McMinnville, O**	**4.36**	**74**	P	**Pn**	**06 51 36.8**	**-0.7**
	baz=258,SNR=7.7						
F03A	**Seaside**	**4.38**	**64**		**Pn**	**06 51 37.6**	**-0.1**
E03A	**Lebam**	**4.64**	**57**	Pn	**Pn**	**06 51 40.9**	**-0.4**
E03A				Sn	**Sn**	**06 52 34.1**	**-1.2**
E03A	**Lebam**	**4.64**	**57**		**Pn**	**06 51 41.0**	**-0.3**
E03A				IAML		06 52 18.0	
	comp=E,18nm,3.6s						
E03A				IAML		06 53 23.2	
	comp=N,13nm,2.4s						
H04D	**Lebanon**	**4.65**	**83**	P	**Pn**	**06 51 40.9**	**-0.5**
	baz=268,SNR=8.2						
HUMO	**Hull Mountain**	**4.79**	**106**	Pn	**Pn**	**06 51 42.8**	**-0.6**
WISH	**Wishkah**	**4.83**	**50**	Pn	**Pn**	**06 51 43.8**	**-0.1**
NLWA	**Neilton Lookou**	**4.95**	**47**		**Pn**	**06 51 45.7**	**+0.1**
NLWA				IAML		06 52 32.8	
	comp=N,10nm,3.6s						
NLWA				IAML		06 53 01.0	
	comp=N,11nm,3.3s						
H04A	**Detroit Lake**	**5.05**	**81**		**Pn**	**06 51 46.3**	**-0.7**
H04A				IAML		06 52 31.1	
	comp=E,8.9nm,0.8s						
H04A				IAML		06 52 49.1	
	comp=N,10nm,0.5s						
F04A	**Amboy**	**5.13**	**67**		**Pn**	**06 51 48.2**	**+0.3**
F04A				IAML		06 52 57.9	
	comp=N,12nm,2.0s						
J04D	**Umpqua Nationa**	**5.21**	**97**	P	**Pn**	**06 51 48.9**	**-0.5**
	baz=282,SNR=13						
OCP	**Olym-Cheeka Pk**	**5.24**	**36**	Pn	**Pn**	**06 51 49.3**	**-0.2**
OCP				Sn	**Sn**	**06 52 48.6**	**-1.4**
E04D	**Cinebar**	**5.26**	**60**	P	**Pn**	**06 51 49.2**	**-0.6**
	baz=246,SNR=8.3						
OBC	**Olympics--Boni**	**5.28**	**40**	Pn	**Pn**	**06 51 49.9**	**-0.3**
OSD	**Olympics--Snow**	**5.32**	**44**	Pn	**Pn**	**06 51 50.4**	**-0.4**
YBH	**Yreka Blue Hor**	**5.32**	**114**	Pn	**Pn**	**06 51 53.4**	**+2.6**
	comp=N,0.2nm,0.3s,baz=277,slow=9.6,SNR=5.8						
L04D	**Klamath Falls**	**5.38**	**108**	P	**Pn**	**06 51 50.3**	**-1.4**
	baz=293						
D04E	**Lakebay**	**5.43**	**54**	P	**Pn**	**06 51 52.5**	**+0.3**
	baz=239						
D03D	**Eldon**	**5.46**	**49**	P	**Pn**	**06 51 52.9**	**+0.4**
	baz=235,SNR=9.9						
OZB	**Mount Ozzard**	**5.46**	**26**	Pn	**Pn**	**06 51 52.3**	**-0.4**
OZB				Sn	**Sn**	**06 52 54.4**	**-1.1**
BFSB	**Bamfield**	**5.47**	**29**	Pn	**Pn**	**06 51 52.4**	**-0.3**
BFSB				Sn	**Sn**	**06 52 53.8**	**-1.9**
B928	**Bamfield**	**5.48**	**29**	Pn	**Pn**	**06 51 52.4**	**-0.4**
B928				Sn	**Sn**	**06 52 54.5**	**-1.2**
HDW	**Hoodsport**	**5.54**	**48**	Pn	**Pn**	**06 51 53.7**	**-0.1**
STW	**Striped Peak**	**5.56**	**42**	Pn	**Pn**	**06 51 53.6**	**-0.3**
GNW	**Green Mountain**	**5.62**	**50**	Pn	**Pn**	**06 51 54.7**	**0.0**
G05D	**Wamic, OR**	**5.72**	**76**	P	**Pn**	**06 51 56.3**	**+0.1**
	baz=262,SNR=8.5						
SOKB	**Sooke**	**5.73**	**40**	Pn	**Pn**	**06 51 55.5**	**-0.7**
SOKB				Sn	**Sn**	**06 53 00.7**	**-1.3**
F05D	**White Salmon**	**5.75**	**70**	P	**Pn**	**06 51 56.9**	**+0.2**
	baz=256						
MGB	**Mount Grey**	**5.78**	**31**	Pn	**Pn**	**06 51 56.0**	**-1.0**
MGB				Sn	**Sn**	**06 53 01.1**	**-2.2**
BLN	**Blyn Mountain**	**5.81**	**46**	Pn	**Pn**	**06 51 57.6**	**+0.2**
LON	**Longmire**	**5.82**	**61**	Pn	**Pn**	**06 51 57.5**	**0.0**
LON	**Longmire**	**5.82**	**61**		**Pn**	**06 51 57.9**	**+0.4**
J05D	**Fort Rock, OR**	**5.83**	**96**	P	**Pn**	**06 51 57.0**	**-0.8**
	baz=281						
B926	**Mesachie Lake**	**5.85**	**35**	Pn	**Pn**	**06 51 57.6**	**-0.3**
B926				Sn	**Sn**	**06 53 03.2**	**-1.8**
YOUB	**Youbou, Lake C**	**5.86**	**34**	Pn	**Pn**	**06 51 57.9**	**-0.2**
YOUB				Sn	**Sn**	**06 53 03.6**	**-1.7**
D05A	**Enumclaw**	**5.90**	**56**	Pn	**Pn**	**06 51 58.7**	**+0.1**
D05A	**Enumclaw**	**5.90**	**56**		**Pn**	**06 51 59.7**	**+1.1**
BTB	**Buttle Lake**	**5.91**	**24**	Pn	**Pn**	**06 51 58.0**	**-0.8**
VGZ	**Gonzales**	**5.91**	**41**	Pn	**Pn**	**06 51 58.1**	**-0.6**
VGZ				Sn	**Sn**	**06 53 05.2**	**-1.1**
B927	**Port Alberni**	**5.92**	**29**	Sn	**Sn**	**06 53 05.0**	**-1.6**
PINE	**Pine Mountain**	**5.96**	**90**		**Pn**	**06 51 59.8**	**+0.1**
FMW	**Mount Fremont**	**5.98**	**59**	Pn	**Pn**	**06 51 59.9**	**0.0**
B009	**North Saanich**	**6.01**	**39**	Pn	**Pn**	**06 52 00.1**	**-0.1**
B009				Sn	**Sn**	**06 53 06.9**	**-2.1**
PA12	**PA12 Sannich**	**6.01**	**39**	Pn	**Pn**	**06 51 59.9**	**-0.4**
PA12				Sn	**Sn**	**06 53 07.0**	**-2.0**
B010	**North Saanich**	**6.02**	**39**	Pn	**Pn**	**06 51 59.9**	**-0.3**
B010				Sn	**Sn**	**06 53 06.7**	**-2.3**
PGC	**Sidney**	**6.02**	**39**	Pn	**Pn**	**06 51 59.8**	**-0.4**
PGC				Sn	**Sn**	**06 53 06.8**	**-2.3**
PGC	**Sidney**	**6.02**	**39**	Pn	**Pn**	**06 52 00.0**	**-0.1**
B011	**North Saanich**	**6.02**	**39**	Pn	**Pn**	**06 51 59.7**	**-0.5**
B011				Sn	**Sn**	**06 53 06.9**	**-2.2**
PA02	**PA02 Ocean**	**6.02**	**39**	Sn	**Sn**	**06 53 08.4**	**-0.7**
PA04	**PA04 Cage**	**6.02**	**39**	Sn	**Sn**	**06 53 08.4**	**-0.8**
GHNB	**Nanoose**	**6.20**	**32**	Pn	**Pn**	**06 52 02.6**	**0.0**
GHNB				Sn	**Sn**	**06 53 12.7**	**-0.8**
GOBB	**Galiano Island**	**6.21**	**37**	Pn	**Pn**	**06 52 02.7**	**-0.1**
GOBB				Sn	**Sn**	**06 53 14.6**	**+0.7**
NLLB	**Nanaimo Lost L**	**6.23**	**33**	Pn	**Pn**	**06 52 03.1**	**0.0**
NLLB				Sn	**Sn**	**06 53 13.6**	**-0.7**
SNB	**Saturna Island**	**6.24**	**40**	Pn	**Pn**	**06 52 03.6**	**+0.4**
SNB				Sn	**Sn**	**06 53 13.7**	**-0.8**
MCW	**Mount Constitu**	**6.33**	**42**	Pn	**Pn**	**06 52 04.4**	**-0.1**
B05A	**Bryant**	**6.43**	**47**	P	**Pn**	**06 52 06.1**	**+0.3**
	baz=234,SNR=13						
TXB	**Texada**	**6.45**	**29**	Pn	**Pn**	**06 52 06.6**	**+0.4**
CBB	**Campbell River**	**6.46**	**22**	Pn	**Pn**	**06 52 06.6**	**+0.3**
JCW	**Jim Creek**	**6.47**	**49**	Pn	**Pn**	**06 52 07.3**	**+0.8**
CMW	**Cultus Mountai**	**6.51**	**46**	Pn	**Pn**	**06 52 07.7**	**+0.6**
SHB	**Sechelt**	**6.57**	**32**	Pn	**Pn**	**06 52 08.7**	**+0.7**
SHB				Sn	**Sn**	**06 53 23.0**	**+0.1**
TLCB	**Telegraph Cove**	**6.62**	**13**	Pn	**

eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.18**	**33**	⇑P	**Pn**	**07 32 49.2**	**+0.7**
JYT				S	**Sn**	**07 32 54.8**	**+0.6**
JAG	**Ashikaga**	**0.61**	**305**	⇓P	**Pn**	**07 32 52.8**	**-0.2**
JAG				S	**Sn**	**07 33 00.9**	**-1.1**
JRY	**Ryogami san**	**0.95**	**267**	⇓P	**Pn**	**07 32 57.6**	**+0.2**
JRY				S	**Sn**	**07 33 09.7**	**-0.2**
JKT	**Katashina**	**0.96**	**317**	⇓P	**Pn**	**07 32 57.1**	**-0.5**
JKT				S	**Sn**	**07 33 09.5**	**-0.8**
JOD2	**Odawara 2**	**1.14**	**225**	P	**Pn**	**07 33 01.5**	**+1.5**
JOD2				S	**Sn**	**07 33 15.8**	**+1.3**
JFY	**Yanaizu**	**1.36**	**348**	⇓P	**Pn**	**07 33 03.1**	**0.0**
JFY				S	**Sn**	**07 33 19.5**	**-0.5**
JYN	**Shimob**	**1.37**	**246**	P	**Pn**	**07 33 04.9**	**+1.7**
MJAR	**Matsushiro Arr**	**1.57**	**288**	P	**Pn**	**07 33 06.1**	**+0.1**
	14nm,0.3s,baz=86,slow=9.2,SNR=356						
MJAR				LR	LR	07 33 54.0	
	comp=Z,124nm,19.9s,baz=300,slow=49						
MAT	**Matsushiro**	**1.57**	**288**	P	**Pn**	**07 33 06.1**	**+0.1**
MAT				*e*S	**Sn**	**07 33 24.0**	**-1.2**
JHJ	**Hachijo jima 2**	**2.96**	**185**	P	**Pn**	**07 33 26.1**	**+1.3**
	60nm,0.3s,baz=70,slow=21,SNR=31						
JHJ				S	**Sn**	**07 33 59.6**	**+0.5**
	84nm,0.3s,baz=55,slow=23,SNR=9.5						
JNU	**Nakatsue**	**8.13**	**251**	LR	LR	07 37 30.9	
	comp=Z,69nm,21.4s,baz=20,slow=36						
JCJ	**Chichijima**	**9.13**	**168**	P	**Pn**	**07 34 47.8**	**-1.8**
	5.1nm,0.3s,baz=5.1,slow=21,SNR=14						
JCJ				S	**Sn**	**07 36 24.0**	**-7.0**
	3.2nm,0.3s,baz=131,slow=23,SNR=1.5						
KSRS	**Korea Array**	**9.84**	**282**	P	**Pn**	**07 35 03.0**	**+3.7**
	0.4nm,0.3s,baz=94,slow=14,SNR=7.8						
KSRS				LR	LR	07 38 16.8	
	comp=Z,37nm,21.0s,baz=346,slow=34						
USRK	**Ussuriysk Ar.**	**10.20**	**325**	P	Pn	07 35 08.7	+4.5
	baz=137,slow=13,SNR=7.2						
KLR	**Kul'dur**	**14.49**	**338**	LR	LR	07 40 42.3	
	comp=Z,52nm,18.7s,baz=64,slow=33						
PETK	**Petropavlovsk-**	**21.06**	**31**	P	**P**	**07 37 23.5**	**+3.2**
	0.4nm,0.6s,baz=231,slow=9.1,SNR=1.2						
SONM	**Songino Array**	**27.45**	**306**	P	**P**	**07 38 23.1**	**+1.3**
	0.5nm,0.4s,baz=96,slow=7.7,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.63**	**117**	T	T	08 08 43.2	
	baz=312,slow=75,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**28.64**	**117**	T	T	08 08 43.9	
	baz=312,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**28.65**	**117**	T	T	08 08 44.6	
	baz=312,slow=75,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**29.29**	**120**	T	T	08 09 35.0	
	baz=314,slow=76,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**29.29**	**120**	T	T	08 09 34.1	
	baz=314,slow=76,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**29.30**	**120**	T	T	08 09 34.3	
	baz=314,slow=76,SNR=5.6						
MKAR	**Makanchi Array**	**43.72**	**303**	P	**P**	**07 40 40.0**	**-0.7**
	1.6nm,0.7s,baz=90,slow=10,SNR=16						
KURBB	**Kurchatov Arra**	**45.74**	**309**	P	**P**	**07 40 56.0**	**-0.8**
	2.5nm,0.7s,baz=85,slow=8.1,SNR=21						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**07 41 36.3**	**+0.1**
	0.7nm,0.8s,baz=271,slow=6.1,SNR=8.2						
WRA	**Warramunga Arr**	**55.97**	**187**	P	**P**	**07 42 13.9**	**-0.1**
	0.9nm,0.4s,baz=3.4,slow=7.6,SNR=7.1						
ASAR	**Alice Springs**	**59.70**	**187**	P	**P**	**07 42 40.8**	**+0.7**
	0.4nm,0.5s,baz=11,slow=12,SNR=9.0						
NB2	**NORSAR Subarra**	**74.65**	**337**	P	**P**	**07 44 13.4**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.65**	**337**	P	**P**	**07 44 13.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=40,slow=5.7,SNR=3.9						
NVAR	**Mina Array Bea**	**76.43**	**52**	P	**P**	**07 44 25.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=316,slow=4.1,SNR=4.4						
PDAR	**Pinedale Array**	**79.11**	**45**	P	**P**	**07 44 40.2**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=304,slow=2.1,SNR=2.2						
TXAR	**Lajitas Array**	**91.56**	**52**	P	**P**	**07 45 42.8**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=282,slow=2.9,SNR=5.5						
H03N2	**Juan Fernandez**	**147.99**	**97**	T	T	10 37 38.9	
	baz=291,slow=76,SNR=4.1						
H03N3	**Juan Fernandez**	**148.00**	**97**	T	T	10 37 40.0	
	baz=291,slow=76,SNR=6.1						
H03N1	**Juan Fernandez**	**148.01**	**97**	T	T	10 37 37.2	
	baz=291,slow=76,SNR=10						

IDC ***02*** *07:38:59.2±0.4, 40°.06N×72°.58E, h0km, mb4.5/36, mb1 4.6/44, mb1mx4.4/64, mbtmp4.5/44, ML3.7/8, MS3.6/24, Ms1 3.6/24, ms1mx3.4/49, Error ellipse: s-maj=9.1km s-min=7.3km az=136.0*

ISU ***02*** *07:39:01.0, 40°.14N×72°.53E, h10km*

MOS ***02*** *07:39:02.4±1.1, 40°.15N×72°.54E, h29km, mb4.9/28, Error ellipse: s-maj=5.3km s-min=4.5km az=105.3*

NEIC ***02*** *07:39:02.9±2.5, 40°.27N±0°.02×72°.48E±0°.06, h18km±4km, mb4.8/75, Error ellipse: s-maj=6.8km s-min=1.8km az=73.0*

BJI ***02*** *07:39:02.1±0.0, 40°.37N×72°.63E, h20km, mB4.6/21, mb4.6/31, ML4.6/4, Ms4.2/21, Ms7 4.0/20*

KRNET ***02*** *07:39:02.1±0.1, 40°.19N×72°.57E, h12km, mb5.1*

SOME ***02*** *07:39:08.2, 40°.65N×72°.57E, h0km, MS4.1*

NNC ***02*** *07:39:09.4±1.2, 40°.59N×72°.61E, h24km±6km, mb5.2, mpv4.8, Error ellipse: s-maj=9.9km s-min=3.6km az=1.0*

ISC 02 07:39:01.5±0.5, 40°.24N±0°.02×72°.61E±0°.02, h11km±3km, h11km:pP-P, n444, σ1§87/500, mb4.7/93, MS3.7/28, 69C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.31**	**26**	⇓*i*P	**Pb**	**07 39 09.0**	**-0.2**
	baz=26						
OHH				*i*S	**Sb**	**07 39 14.7**	**+0.3**
	baz=26						
OHH	**Osh**	**0.31**	**26**	*e*P	**Pb**	**07 39 09.0**	**-0.2**
FRG	**Fergana**	**0.80**	**308**	*i* P	**Pg**	**07 39 13.3**	**-3.6**
FRG				*e*S	**Sg**	**07 39 22.4**	**-5.0**
CHMI	**Chimion**	**0.83**	**272**	*e*P	**Pg**	**07 39 16.2**	**-1.4**
CHMI				*e*S	**Sg**	**07 39 27.0**	**-1.4**
NAM	**Namangan**	**1.04**	**316**	*i* P	**Pn**	**07 39 22.4**	**+0.3**
NAM				*i* S	**Sn**	**07 39 39.0**	**+2.3**
BTK	**Batken**	**1.38**	**263**	⇑*i*P	**Pb**	**07 39 27.4**	**-0.1**
	baz=65						
BTK				⇑*i*S	**Sg**	**07 39 46.0**	**0.0**
	baz=65						
BTK	**Batken**	**1.38**	**263**	PG	**Pn**	**07 39 25.7**	**-1.2**
BTK	**Batken**	**1.38**	**263**	Pn	**Pn**	**07 39 25.7**	**-1.2**
BTK	**Batken**	**1.38**	**263**	*e*P	**Pn**	**07 39 25.6**	**-1.3**
BTK				*e*S	**Sg**	**07 39 46.7**	**+0.7**
ARK	**Arkit**	**1.63**	**343**	⇓*i*P	**Pb**	**07 39 32.5**	**+0.8**
	baz=45						
ARK				⇓*i*S	**Sg**	**07 39 54.8**	**+0.8**
	baz=45						
ARK	**Arkit**	**1.63**	**343**	*e*P	**Pb**	**07 39 32.3**	**+0.6**
ARK				*e*S	**Sb**	**07 39 52.6**	**+0.3**
AML	**Almayashu**	**2.06**	**23**	⇑*i*P	**Pg**	**07 39 40.5**	**-0.5**
	baz=23						
AML				⇑*i*S	**Sg**	**07 40 07.9**	**+0.1**
	baz=23						
AML	**Almayashu**	**2.06**	**23**	P	**Pb**	**07 39 40.3**	**+1.1**
	SNR=1078						
ARLS	**Aral**	**2.07**	**38**	⇑*i*P	**Pb**	**07 39 39.7**	**+0.4**
	baz=38						
ARLS				⇑*i*S	**Sg**	**07 40 08.4**	**+0.2**
	baz=38						
GAR	**Garm**	**2.16**	**236**	⇑*e*P	**Pb**	**07 39 40.1**	**-0.7**
	baz=36						
GAR				⇑*i*S	**Sb**	**07 40 07.2**	**-0.4**
	baz=36						
GAR	**Garm**	**2.16**	**236**		**Pb**	**07 39 40.0**	**-0.7**
CHMG	**Chimgan**	**2.36**	**304**	*e*P	**Pb**	**07 39 44.1**	**-0.1**
CHMG				*e*S	**Sg**	**07 40 16.6**	**-0.9**
UCH	**Uchtor**	**2.45**	**35**	⇑*i*P	**Pb**	**07 39 45.8**	**-0.1**
	baz=35						
UCH				⇑*i*S	**Sb**	**07 40 17.5**	**+1.2**
	baz=35						
UCH	**Uchtor**	**2.45**	**35**	P	**Pb**	**07 39 46.0**	**+0.1**
	SNR=547						
MRKS	**Merke**	**2.54**	**10**	*e*P	**Pg**	**07 39 49.7**	**-0.6**
	1μm,0.4s						
MRKS				*e*S	**Sb**	**07 40 19.9**	**+1.3**
	2μm,0.4s						
MRKS	**Merke**	**2.54**	**10**	Pg	**Pg**	**07 39 49.7**	**-0.6**
	1μm,0.4s						
MRKS				Lg	Lg	07 40 19.9	
	2μm,0.4s						
MRKS	**Merke**	**2.54**	**10**	*e*PN	**Pg**	**07 39 49.7**	**-0.6**
MRKS				*e*S	**Sb**	**07 40 19.9**	**+1.3**
EKS2	**Erkin-Say**	**2.57**	**20**	⇓*i*P	**Pb**	**07 39 47.7**	**-0.1**
	baz=20						
EKS2				⇓*i*S	**Sb**	**07 40 20.0**	**+0.5**
	baz=20						
EKS2	**Erkin-Say**	**2.57**	**20**	P	**Pb**	**07 39 47.7**	**-0.1**
	SNR=70						
KSH	**Kashi**	**2.69**	**105**	Pn	**Pn**	**07 39 46.9**	**+2.0**
KSH				Sn	**Sb**	**07 40 21.3**	**-1.5**
KSH				smax	smax		
	comp=N,4μm,0.8s						
KSH				smax	smax		
	comp=E,3μm,0.6s						
KZA	**Kyzart**	**2.71**	**47**	⇑*i*P	**Pb**	**07 39 49.0**	**-1.3**
	baz=46						
KZA				⇑*i*S	**Sb**	**07 40 23.5**	**-0.2**
	baz=46						
KZA	**Kyzart**	**2.71**	**47**	P	**Pb**	**07 39 48.9**	**-1.3**
	SNR=566						
IUG	**Iuzhnay**	**2.72**	**315**	*e*P	**Pg**	**07 39 54.3**	**+0.7**
	263nm,0.5s						
IUG				*e*S	**Sg**	**07 40 27.5**	**-1.4**
	4μm,0.9s						
IUG	**Iuzhnay**	**2.72**	**315**	Pg	**Pg**	**07 39 54.3**	**+0.7**
	263nm,0.5s						
IUG				Lg	Lg	07 40 27.5	
	4μm,0.9s						
IUG	**Iuzhnay**	**2.72**	**315**	*e*PN	**Pg**	**07 39 54.3**	**+0.7**
IUG				*e*S	**Sg**	**07 40 27.5**	**-1.4**
TAS	**Tashkent**	**2.74**	**294**	⇓*i*P	**Pb**	**07 39 48.4**	**-2.1**
	baz=96						
TAS				⇓*i*S	**Sn**	**07 40 21.8**	**+3.3**
	baz=96						
TAS	**Tashkent**	**2.74**	**294**	PN	**Pn**	**07 39 46.7**	**+1.3**
TAS	**Tashkent**	**2.74**	**294**	*e*P	**Pb**	**07 39 51.1**	**+0.6**
TAS				*e*S	**Sb**	**07 40 24.6**	**+0.5**
AAK	**Ala-Archa**	**2.78**	**30**	Pn	**Pb**	**07 39 50.8**	**-0.6**
	82nm,0.3s,baz=195,slow=7.8,SNR=100						
AAK				Pg	**Pg**	**07 39 54.1**	**-0.7**
	150nm,0.3s,baz=186,slow=7.9,SNR=79						
AAK				Lg	Lg	07 40 30.6	
	368nm,0.3s,baz=45,slow=14,SNR=28						
AAK	**Ala-Archa**	**2.78**	**30**	⇑*i*P	**Pb**	**07 39 50.5**	**-0.8**
	baz=30						
AAK				⇑*i*S	**Sb**	**07 40 25.5**	**-0.1**
	baz=30						
AAK	**Ala-Archa**	**2.78**	**30**	P	**Pb**	**07 39 50.7**	**-0.7**
	SNR=21						
AAK	**Ala-Archa**	**2.78**	**30**	⇑Pg	**Pg**	**07 39 55.2**	**+0.3**
	734nm,0.9s						
AAK				⇑Lg	Lg	07 40 31.1	
	2μm,0.6s						
AAK	**Ala-Archa**	**2.78**	**30**	Pn	**Pb**	**07 39 50.6**	**-0.8**
DZA	**Taraz**	**2.81**	**341**	*e*P	**Pg**	**07 39 54.3**	**-1.2**
	1μm,0.5s						
DZA				*e*S	**Sb**	**07 40 27.0**	**+0.6**
	3μm,0.7s						
DZA	**Taraz**	**2.81**	**341**	Pg	**Pg**	**07 39 54.3**	**-1.2**
	1μm,0.5s						
DZA				Lg	Lg	07 40 27.0	
	3μm,0.7s						
DZA	**Taraz**	**2.81**	**341**	*e*PN	**Pg**	**07 39 54.3**	**-1.2**
DZA				*e*S	**Sb**	**07 40 27.0**	**+0.6**
FRU1	**Bishkek**	**2.98**	**30**	⇑*i*P	**Pb**	**07 39 53.1**	**-1.6**
	baz=30						
FRU1				⇑*i*S	**Sb**	**07 40 29.9**	**-1.3**
	baz=30						
FRU1	**Bishkek**	**2.98**	**30**	PN	**Pb**	**07 39 52.5**	**-2.2**
FRU1	**Bishkek**	**2.98**	**30**		**Pb**	**07 39 52.5**	**-2.2**
KBK	**Karagaybulak**	**2.99**	**35**	⇑*e*P	**Pb**	**07 39 53.4**	**-1.5**
	baz=35						
KBK				⇑*i*S	**Sb**	**07 40 30.0**	**-1.4**
	baz=35						
KBK	**Karagaybulak**	**2.99**	**35**	P	**Pb**	**07 39 54.0**	**-0.9**
	SNR=201						
CHM	**Chimkent**	**3.07**	**313**	*e*P	**Pg**	**07 40 02.0**	**+1.6**
	290nm,0.5s						
CHM				*e*S	**Sg**	**07 40 40.1**	**0.0**
	3μm,0.6s						
CHGR	**Chuyangaron**	**3.10**	**240**	⇑*i*P	**Pn**	**07 39 52.9**	**+2.4**
	baz=41						
CHGR				⇑*i*S	**Sn**	**07 40 29.6**	**+1.9**
	baz=41						
CHGR	**Chuyangaron**	**3.10**	**240**	Pn	**Pn**	**07 39 52.9**	**+2.4**
CHMS	**Chumysh**	**3.19**	**30**	⇑*i*P	**Pb**	**07 39 56.1**	**-2.1**
	baz=30						
CHMS				⇑*i*S	**Sb**	**07 40 34.6**	**-2.5**
	baz=30						
CHMS	**Chumysh**	**3.19**	**30**	P	**Pb**	**07 39 56.3**	**-1.9**
	SNR=122						
KK31	**Karatay Array**	**3.26**	**332**	⇓Pn	**Pn**	**07 39 55.3**	**+2.7**
	3.3nm,0.3s						
KK31				⇓Pg	**Pb**	**07 40 02.0**	**+2.6**
	173nm,0.6s						
KK31				⇑Lg	Lg	07 40 43.8	
	313nm,0.5s,baz=154,slow=31,SNR=6.0						
KK31	**Karatay Array**	**3.26**	**332**	PN	**Pn**	**07 39 55.4**	**+2.7**
KK31	**Karatay Array**	**3.26**	**332**	Pn	**Pn**	**07 39 55.4**	**+2.8**
KKAR	**Karatay Array**	**3.26**	**332**	PN	**Pn**	**07 39 54.5**	**+1.9**
KKAR	**Karatay Array**	**3.26**	**332**		**Pn**	**07 39 55.1**	**+2.5**
KKAR	**Karatay Array**	**3.26**	**332**	Pn	**Pn**	**07 39 54.5**	**+1.9**
USP	**Ospenovka**	**3.34**	**24**	⇓*i*P	**Pb**	**07 39 57.9**	**-2.9**
	baz=25						
USP				⇓*i*S	**Sb**	**07 40 38.3**	**-3.1**
	baz=25						
USP	**Ospenovka**	**3.34**	**24**	P	**Pb**	**07 39 57.9**	**-2.9**
	SNR=72						
ULHL	**Ulahol**	**3.39**	**53**	⇑*i*P	**Pn**	**07 39 58.0**	**+3.4**
	baz=52						
ULHL				⇑*i*S	**Sb**	**07 40 40.1**	**-3.1**
	baz=52						
ULHL	**Ulahol**	**3.39**	**53**	P	**Pn**	**07 39 58.1**	**+3.4**
	SNR=153						
BRLS	**Borolday**	**3.47**	**324**	*e*P	**Pg**	**07 40 06.2**	**-1.9**
	159nm,0.4s						
BRLS				*e*S	**Sb**	**07 40 48.1**	**+2.8**
	620nm,0.5s						
BRLS	**Borolday**	**3.47**	**324**	Pg	**Pg**	**07 40 06.2**	**-1.9**
	159nm,0.4s						
BRLS				Lg	Lg	07 40 48.1	
	620nm,0.5s						
TKM2	**Tokmak 2**	**3.49**	**39**	⇑*e*P	**Pb**	**07 40 00.3**	**-3.2**
	baz=39						
TKM2				⇑*i*S	**Sb**	**07 40 42.2**	**-3.8**
	baz=39						
TKM2	**Tokmak 2**	**3.49**	**39**	P	**Pb**	**07 40 00.3**	**-3.2**
	SNR=294						
TKM2	**Tokmak 2**	**3.49**	**39**	⇑Pn	**Pb**	**07 39 59.9**	**-3.7**
	171nm,0.6s						
TKM2				⇑Pg	**Pg**	**07 40 10.3**	**+1.8**
TKM2				⇑Lg	Lg	07 40 53.0	
	426nm,0.5s						
TKM2	**Tokmak 2**	**3.49**	**39**	PN	**Pb**	**07 39 59.8**	**-3.7**
TKM2						07 40 10.2	
KST	**Kastek**	**3.76**	**41**	*e*P	**Pg**	**07 40 14.1**	**+0.4**
	176nm,0.4s						
KST				*e*S	**Sg**	**07 41 01.8**	**-0.6**
	1μm,0.7s						
KST	**Kastek**	**3.76**	**41**	Pg	**Pg**	**07 40 14.1**	**+0.4**
	176nm,0.4s						
KST				Lg	Lg	07 41 01.8	
	1μm,0.7s						
KDJ	**Kajisay**	**3.93**	**60**	⇑*i*P	**Pn**	**07 40 06.2**	**+4.2**
	baz=59						
KDJ				⇑*i*S	**Sn**	**07 40 52.8**	**+4.5**
	baz=59						
KDJ	**Kajisay**	**3.93**	**60**	PN	**Pn**	**07 40 05.7**	**+3.6**
KDJ	**Kajisay**	**3.93**	**60**	Pn	**Pn**	**07 40 05.7**	**+3.6**
MTBS	**Maitube**	**4.07**	**44**	*e*P	**Pg**	**07 40 18.6**	**-0.8**
	122nm,0.6s						
MTBS				*e*S	**Sg**	**07 41 08.8**	**-3.2**
	539nm,0.5s						
MTBS	**Maitube**	**4.07**	**44**	Pg	**Pg**	**07 40 18.6**	**-0.8**
	122nm,0.6s						
MTBS				Lg	Lg	07 41 08.8	
	539nm,0.5s						
IZV	**Izvestkoviy**	**4.10**	**46**	*e*P	**Pg**	**07 40 20.8**	**+0.7**
	174nm,0.5s						
IZV				*e*S	**Sg**	**07 41 12.2**	**-0.9**
	776nm,0.8s						
IZV	**Izvestkoviy**	**4.10**	**46**	Pg	**Pg**	**07 40 20.8**	**+0.7**
	174nm,0.5s						
IZV				Lg	Lg	07 41 12.3	
	776nm,0.8s						
KRBS	**Karabastau**	**4.14**	**33**	*e*P	**Pg**	**07 40 19.8**	**-1.1**
	143nm,0.8s						
KRBS				*e*S	**Sg**	**07 41 10.0**	**-4.5**
	270nm,0.8s						
KRBS	**Karabastau**	**4.14**	**33**	Pg	**Pg**	**07 40 19.8**	**-1.1**
	143nm,0.8s						
KRBS				Lg	Lg	07 41 10.0	
	270nm,0.8s						
SAM	**Samarkand**	**4.35**	**264**	*e*P	**Pn**	**07 40 10.9**	**+3.2**
SAM				*e*S	**Sn**	**07 40 56.6**	**-1.8**
AAA	**Alma-Ata**	**4.38**	**46**	*e*PN	**Pg**	**07 40 27.2**	**+1.8**
KNDC	**Almaty**	**4.41**	**46**	⇑Pn	**Pn**	**07 40 12.3**	**+3.8**
	264nm,0.8s						
KNDC				⇑Pg	**Pg**	**07 40 28.5**	**+2.4**
	641nm,0.9s						
KNDC				⇑Lg	Lg	07 41 23.7	
	994nm,0.6s						
KNDC	**Almaty**	**4.41**	**46**	PN	**Pn**	**07 40 12.3**	**+3.8**
KNDC						07 40 28.4	
MDOK	**Medeo**	**4.42**	**47**	*e*P	**Pg**	**07 40 26.4**	**+0.1**
	157nm,0.9s						
MDOK				*e*S	**Sg**	**07 41 22.2**	**-1.3**
	869nm,1.1s						
MDOK	**Medeo**	**4.42**	**47**	Pg	**Pg**	**07 40 26.4**	**+0.1**
	157nm,0.9s						
MDOK				Lg	Lg	07 41 22.2	
	869nm,1.1s						
KOTS	**Kotyrbulak**	**4.51**	**47**	*e*P	**Pg**	**07 40 28.3**	**+0.5**
	584nm,0.7s						
KOTS				*e*S	**Sg**	**07 41 25.1**	**-1.0**
	639nm,1.2s						
KOTS	**Kotyrbulak**	**4.51**	**47**	Pg	**Pg**	**07 40 28.3**	**+0.5**
	584nm,0.7s						
KOTS				Lg	Lg	07 41 25.1	
	639nm,1.2s						
ANVS	**Anan'yevo**	**4.57**	**55**	⇑*e*P	**Pn**	**07 40 15.1**	**+4.3**
	baz=54						
ANVS				⇑*i*S	**Sn**	**07 41 07.6**	**+3.6**
	baz=54						
KUU	**Kurty**	**4.59**	**36**	*e*P	**Pg**	**07 40 28.7**	**-0.6**
	121nm,0.7s						
KUU				*e*S	**Sg**	**07 41 26.2**	**-2.5**
	904nm,1.1s						
KUU	**Kurty**	**4.59**	**36**	Pg	**Pg**	**07 40 28.7**	**-0.6**
	121nm,0.7s						
KUU				Lg	Lg	07 41 26.2	
	904nm,1.1s						
KTBS	**Karatobe**	**4.61**	**40**	*e*P	**Pg**	**07 40 29.5**	**-0.3**
	82nm,0.5s						
KTBS				*e*S	**Sg**	**07 41 27.2**	**-2.3**
	921nm,0.7s						
KTBS	**Karatobe**	**4.61**	**40**	Pg	**Pg**	**07 40 29.5**	**-0.3**
	82nm,0.5s						
KTBS				Lg	Lg	07 41 27.2	
	921nm,0.7s						
CHKK	**Chushkaly**	**4.87**	**41**	*e*P	**Pg**	**07 40 32.9**	**-1.8**
	65nm,0.5s						
CHKK				*e*S	**Sg**	**07 41 33.5**	**-4.2**
	456nm,0.5s						
CHKK	**Chushkaly**	**4.87**	**41**	Pg	**Pg**	**07 40 32.9**	**-1.8**
	65nm,0.5s						
CHKK				Lg	Lg	07 41 33.5	
	456nm,0.5s						
PRZ	**Przheval'sk**	**4.90**	**61**	⇑*i*P	**Pn**	**07 40 18.7**	**+3.4**
	baz=61						
PRZ				⇑*i*S	**Sn**	**07 41 15.8**	**+3.6**
	baz=61						
PRZ	**Przheval'sk**	**4.90**	**61**	PN	**Pn**	**07 40 19.1**	**+3.7**
PRZ	**Przheval'sk**	**4.90**	**61**		**Pn**	**07 40 19.1**	**+3.7**
BTLS	**Baital**	**4.91**	**12**	*e*P	**Pg**	**07 40 33.1**	**-2.4**
	163nm,0.9s						
BTLS				*e*S	**Sg**	**07 41 34.2**	**-5.0**
	481nm,1.2s						
BTLS	**Baital**	**4.91**	**12**	Pg	**Pg**	**07 40 33.1**	**-2.4**
	163nm,0.9s						
BTLS				Lg	Lg	07 41 34.2	
	481nm,1.2s						
SATY	**Saty**	**5.18**	**55**	*e*P	**Pg**	**07 40 39.8**	**-0.8**
	106nm,0.8s						
SATY				*e*S	**Sg**	**07 41 45.1**	**-2.5**
	692nm,1.2s						
SATY	**Saty**	**5.18**	**55**	Pg	**Pg**	**07 40 39.8**	**-0.8**
	106nm,0.8s						
SATY				Lg	Lg	07 41 45.2	
	692nm,1.2s						
KURS	**Kuram**	**5.27**	**50**	*e*P	**Pg**	**07 40 41.4**	**-1.0**
	69nm,0.9s						
KURS				*e*S	**Sg**	**07 41 47.5**	**-3.2**
	298nm,0.9s						
ARXS	**Arharly**	**5.55**	**43**	*e*P	**Pg**	**07 40 45.2**	**-2.6**
	80nm,0.7s						
ARXS				*e*S	**Sg**	**07 41 54.0**	**-5.5**
	372nm,0.7s						
ARXS	**Arharly**	**5.55**	**43**	Pg	**Pg**	**07 40 45.2**	**-2.6**
	80nm,0.7s						
ARXS				Lg	Lg	07 41 54.0	
	372nm,0.7s						
KPKS	**Kokpek**	**5.56**	**53**	*e*P	**Pg**	**07 40 46.3**	**-1.8**
	109nm,0.7s						
KPKS				*e*S	**Sg**	**07 41 55.9**	**-4.3**
	620nm,1.0s						
UZB	**Uzynbulak**	**5.61**	**57**	*e*P	**Pg**	**07 40 47.2**	**-1.7**
	39nm,0.4s						
UZB				*e*S	**Sg**	**07 41 57.6**	**-4.0**
	333nm,0.6s						
SHLS	**Shalkode**	**5.90**	**58**	*e*P	**Pg**	**07 40 57.6**	**+3.1**
	65nm,0.7s						
SHLS				*e*S	**Sg**	**07 42 15.5**	**+4.6**
	502nm,0.9s						
SHLS	**Shalkode**	**5.90**	**58**	Pg	**Pg**	**07 40 57.6**	**+3.1**
	65nm,0.7s						
SHLS				Lg	Lg	07 42 15.5	
	395nm,0.7s						
PDGK	**Podgornoye**	**6.00**	**57**	⇓Pn	**Pn**	**07 40 33.2**	**+2.8**
	55nm,0.7s						
PDGK				⇑Lg	Lg	07 42 11.1	
	203nm,0.7s						
PDGK	**Podgornoye**	**6.00**	**57**	PN	**Pn**	**07 40 33.1**	**+2.8**
KBL	**Kabul**	**6.36**	**208**	P	**Pn**	**07 40 39.6**	**+4.3**
	SNR=74						
KBL				S	**Sn**	**07 41 51.5

comp=N,0.3nm,0.3s,baz=217,slow=12,SNR=36
KURBB Lg Lg 07 44 59.6
comp=N,0.9nm,0.3s,baz=174,slow=30,SNR=3.3
KURBB Kurchatov Arra 11.18 20 ⇑Lg Lg 07 44 55.1
comp=N,281nm,0.8s
KURK Kurchatov 11.29 20 ⇓Lg Lg 07 44 56.2
comp=N,189nm,1.0s
KURK Kurchatov 11.29 20 *de*P **Pn 07 41 45.4 +2.7**
KURK pmax pmax
comp=Z,23nm,1.3s
KURK Kurchatov 11.29 20 Pn **Pn 07 41 45.5 +2.8**
GEYT Alibeck 11.50 263 Pn **Pn 07 41 43.4 -2.3**
comp=Z,1.3nm,0.3s,baz=93,slow=9.1,SNR=8.8
GEYT Sn **Sn 07 43 51.6 -2.5**
comp=Z,1.8nm,0.3s,baz=23,slow=19,SNR=1.9
GEYT LR LR 07 46 25.3
comp=Z,58nm,21.1s,baz=0.0,slow=39
GEYT Alibeck 11.50 263 Pn **Pn 07 41 42.7 -3.0**
GYA0B ALIBECK ARRAY 11.50 263 Pn **Pn 07 41 42.7 -3.0**
WMQ Urumqi 11.78 67 *e*P Pn 07 41 55.3 +5.8
SONA Sohna 12.52 161 *e*P **Pn 07 41 59.8 +0.2**
SONA *e*S Sn 07 44 09.6 -9.4
AB31 Akbulak array 12.72 319 ⇑Pn **Pn 07 42 00.4 -1.9**
comp=Z,4.4nm,0.4s,baz=127,slow=9.5,SNR=114
AB31 ⇑Sn **Sn 07 44 25.1 +1.2**
comp=Z,13nm,0.5s,baz=136,slow=21,SNR=3.8
AB31 Akbulak array 12.72 319 *i* P **Pn 07 42 00.6 -1.7**
ABKAR Akbulak array 12.72 319 Pn **Pn 07 42 00.6 -1.7**
BVAR Borovoye Array 12.88 354 Pn **Pn 07 42 04.2 -0.2**
comp=Z,0.6nm,0.3s,baz=163,slow=12,SNR=18
BVAR Lg Lg 07 45 55.6
comp=Z,1.6nm,0.3s,baz=148,slow=24,SNR=1.7
BVAR LR LR 07 47 17.9
comp=Z,460nm,18.7s,baz=297,slow=38
BRVK Borovoye 12.92 354 *ce*P **Pn 07 42 05.3 +0.3**
BRVK pmax pmax
comp=Z,22nm,1.7s
BRVK Borovoye 12.92 354 Pn **Pn 07 42 04.3 -0.7**
JASL Jaisalmer 13.36 187 *e*P **Pn 07 42 09.8 -1.3**
DGZ Jazzator, Alta 14.10 43 *i* P **Pn 07 42 23.0 +1.7**
DGZ pmax pmax
comp=Z,18nm,0.7s
AKTO Aktyubinsk 14.44 320 Pn **Pn 07 42 23.6 -2.2**
comp=Z,0.6nm,0.3s,baz=142,slow=13,SNR=14
AKTO Sn Sn 07 44 56.9 -8.7
comp=Z,0.4nm,0.3s,baz=356,slow=1.9,SNR=3.9
AKTO Lg Lg 07 46 43.8
comp=Z,0.2nm,0.3s,baz=175,slow=22,SNR=1.8
AKTO LR LR 07 48 29.5
comp=Z,325nm,18.9s,baz=138,slow=39
AKTO Aktyubinsk 14.44 320 ⇓Pn **Pn 07 42 27.9 +2.2**
comp=Z,13nm,1.1s
AKTO ⇑Sn **Sn 07 45 07.1 +1.4**
comp=Z,25nm,0.8s
PYUN Piuthan 14.84 142 *e*P **Pn 07 42 27.4 -4.1**
PYUN Piuthan 14.84 142 *e*P **Pn 07 42 27.4 -4.1**
KOLN Koldanda 15.40 140 *e*P **Pn 07 42 33.6 -5.5**
comp=Z,92nm,1.0s
KOLN Koldanda 15.40 140 *e*P **Pn 07 42 33.6 -5.5**
comp=Z,92nm,1.0s
GKN Gorkha 15.74 137 *e*P **Pn 07 42 39.2 -4.1**
GKN Gorkha 15.74 137 *e*P **Pn 07 42 39.2 -4.1**
ZAA0 Zalesovo Array 16.00 27 **Pn 07 42 46.6 +0.2**
ZALV Zalesovo Beam 16.00 27 Pn **Pn 07 42 46.6 +0.2**
comp=Z,0.7nm,0.3s,baz=228,slow=12,SNR=15
ZALV Lg Lg 07 47 36.8
baz=207,slow=18,SNR=1.3
ZALV LR LR 07 49 20.0
comp=Z,192nm,18.9s,baz=243,slow=38
ZALV Zalesovo Beam 16.00 27 P **Pn 07 42 46.3 -0.1**
ZALV Zalesovo Beam 16.00 27 P **Pn 07 42 46.3 -0.1**
DMN Daman 16.30 137 *e*P **Pn 07 42 45.7 -5.0**
DMN Daman 16.30 137 *e*P **Pn 07 42 45.7 -5.0**
GUN Gumba 16.47 134 *e*P **Pn 07 42 48.7 -4.3**
comp=Z,104nm,1.0s
GUN Gumba 16.47 134 *e*P **Pn 07 42 48.7 -4.3**
comp=Z,104nm,1.0s
PKI Pulchoki 16.49 136 *e*P **Pn 07 42 48.7 -4.5**
comp=Z,146nm,1.2s
PKI Pulchoki 16.49 136 *e*P **Pn 07 42 48.7 -4.5**
comp=Z,146nm,1.2s
JIRN Jiri 16.84 134 *e*P **Pn 07 42 53.2 -4.5**
JIRN Jiri 16.84 134 *e*P **Pn 07 42 53.2 -4.5**
BHPL Bhopal 17.43 165 *e*P **P 07 43 05.7 -0.3**
BHPL *e*S Sn 07 46 05.4 -13
TAPN Taplejung 17.94 131 *e*P **Pn 07 43 07.3 -3.9**
comp=Z,83nm,1.1s
TAPN Taplejung 17.94 131 *e*P **Pn 07 43 07.3 -3.9**
comp=Z,83nm,1.1s
ODAN Odare 18.13 133 *e*P **Pn 07 43 08.5 -5.1**
comp=Z,96nm,0.8s
ODAN Odare 18.13 133 *e*P **Pn 07 43 08.5 -5.1**
comp=Z,96nm,0.8s
HVS Khovu-Aksy 18.26 46 *i* P **P 07 43 17.2 +2.2**
HVS pmax pmax
comp=Z,22nm,1.0s
SVE Sverdlovsk 18.34 339 *e*P **Pn 07 43 15.5 -0.2**
LSA Lhasa 18.45 119 P **Pn 07 43 17.7 0.0**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 18.45 119 P **Pn 07 43 17.7 0.0**
ARU Arti 18.63 335 P **P 07 43 18.9 -0.1**
comp=Z,0.0nm,0.3s,baz=157,slow=13,SNR=10
ARU Lg Lg 07 48 56.6
comp=Z,0.0nm,0.3s,baz=319,slow=23,SNR=4.0
ARU LR LR 07 50 59.3
comp=Z,393nm,18.2s,baz=164,slow=38
ARU Arti 18.63 335 *d i* P **P 07 43 18.9 -0.1**
ARU S **Sn 07 46 45.1 -2.3**
ARU pmax pmax
comp=Z,22nm,0.9s
ARU MLR MLR
comp=Z,445nm,13.0s
ARU Arti 18.63 335 P **P 07 43 18.8 -0.2**
ARU IAmb IAmb 07 43 25.0
comp=Z,61nm,1.4s
AKT Akhty 18.84 282 *i* P **Pn 07 43 23.9 +1.8**
SEKA Sheki 19.27 281 P **P 07 43 25.5 -0.6**
GNBR Gunib 19.36 285 *i* P **Pn 07 43 28.6 +0.4**
GNBR pmax pmax
comp=Z,42nm,1.0s
DBC Dubki 19.44 287 *i* P **P 07 43 28.6 +0.5**
DBC pmax pmax
comp=Z,17nm,0.8s
BANOM Banah 19.72 229 P **P 07 43 31.6 +0.5**
NGP Nagpur 19.81 162 *e*P **Pn 07 43 33.0 -0.6**
NGP *ex* x 07 47 01.4
BTLR Botlikh 19.90 286 *i* P **Pn 07 43 34.9 +0.2**
BTLR pmax pmax
comp=Z,16nm,0.9s
GANJ Ganja 19.99 280 P **P 07 43 33.5 -0.5**
GROC Groznyy 20.20 287 *e*P **P 07 43 36.5 +0.3**
GROC *e* 07 43 53.1
GROC pmax pmax
comp=Z,41nm,0.6s
UOSS Minazif 20.53 227 P Pn 07 43 41.2 -1.0
NAZ Nazwa, Dubai 20.80 228 P Pn 07 43 45.1 -0.2
SNR=7.9
ASHO Ashiyiah 20.82 227 P **P 07 43 43.9 +0.8**
SNR=7.6
GTA Gaotai 20.89 83 P Pn 07 43 45.5 -0.9
GTA pP sP 07 43 52.9 +3.6
GTA sP pP 07 43 56.0 +8.4
GTA sS sS 07 47 44.3 +1.7
GTA pmax pmax
comp=Z,29nm,1.0s
GTA pmax pmax
comp=Z,79nm,4.3s
GTA LR LR
comp=Z,170nm,13.3s
GTA LR LR
comp=Z,320nm,15.2s
GTA LR LR
comp=Z,230nm,14.3s
SOHO SOHO 20.99 225 P **P 07 43 43.9 -1.0**
ZEI Tsey 21.60 286 *e*P **P 07 43 50.6 -1.0**
ZEI pmax pmax
comp=Z,12nm,0.8s
JMDO Jabal Madar 21.65 219 P **P 07 43 52.3 +0.3**
SHL Shillong 21.75 126 P **P 07 43 55.2 +1.9**
SNR=8.5
SHL Shillong 21.75 126 P **P 07 43 52.7 -0.6**
SHL pmax pmax
comp=Z,26nm,0.8s
SHL Shillong 21.75 126 P **P 07 43 52.7 -0.6**
SHL IAmb IAmb 07 44 01.5
comp=Z,26nm,0.8s
AKH Akhalkalaki 22.02 283 P **P 07 43 56.3 +0.2**
AKH pmax pmax
comp=Z,13nm,0.9s
AKH Akhalkalaki 22.02 283 P **P 07 43 56.3 +0.2**
KBZ Khabaz 22.30 289 P **P 07 43 57.6 -1.2**
comp=Z,6.4nm,0.8s,baz=142,slow=12,SNR=4.1
KBZ LR LR 07 54 54.9
comp=Z,147nm,18.1s,baz=92,slow=43
KBZ Khabaz 22.30 289 *ce*P **P 07 44 00.0 +1.2**
KBZ pmax pmax
comp=Z,14nm,0.9s
KBZ MLR MLR
comp=Z,198nm,17.0s
KVAR Kislovodsk Arr 22.44 289 LR LR 07 55 18.0
comp=Z,206nm,18.6s,baz=278,slow=44
KIV Kislovodsk 22.45 289 *e*P **P 07 44 02.2 +1.6**
KIV pmax pmax
comp=Z,61nm,1.0s
KIV MLR MLR
comp=Z,166nm,14.0s
MOY Mondy 22.65 50 *e*P **P 07 44 04.0 +1.3**
MOY pmax pmax
comp=Z,25nm,1.9s
HYB Hyderabad 23.32 166 *i* P **P 07 44 09.0 -0.7**
KIRV Kirov 23.55 329 P **P 07 44 11.9 +0.3**
comp=Z,19nm,0.6s,baz=87,slow=5.4,SNR=7.8
KIRV LR LR 07 53 56.7
comp=Z,286nm,19.9s,baz=136,slow=38
ZAK Zakamensk 23.68 54 *e*P **P 07 44 13.5 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
VRH Novokhopyorsk 24.01 307 *e*P **P 07 44 15.6 -0.5**
VRH pmax pmax
comp=Z,20nm,0.7s
TLY Talaya 24.23 51 P **P 07 44 18.4 +0.2**
comp=Z,2.4nm,0.5s,baz=254,slow=11,SNR=3.3
TLY Talaya 24.23 51 *i* P **P 07 44 19.2 +0.9**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY MLR MLR
comp=Z,84nm,15.0s
TLY Talaya 24.23 51 P **P 07 44 18.8 +0.5**
LZH Lanzhou 24.84 90 *e*P **P 07 44 24.7 +0.6**
LZH pP sP 07 44 30.6 +0.9
LZH sP pP 07 44 34.1 +6.1
LZH *e*PP **PnPn 07 45 02.4 +6.1**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,97nm,5.4s
LZH LR LR
comp=Z,260nm,13.2s
LZH LR LR
comp=Z,330nm,13.0s
LZH LR LR
comp=Z,260nm,14.6s
SONM Songino Array 25.29 61 P **P 07 44 29.0 +0.9**
comp=Z,2.6nm,0.7s,baz=270,slow=10,SNR=13
SONM LR LR 07 55 38.7
comp=Z,146nm,19.2s,baz=290,slow=39
SONM Songino Array 25.29 61 P **P 07 44 29.0 +0.9**
SONM Songino Array 25.29 61 P **P 07 44 29.4 +1.3**
VSR Storozhevoye 25.58 307 *e*P **P 07 44 29.7 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
ULN Ulaanbaatar 25.74 61 *ce*P **P 07 44 33.1 +1.0**
ULN pmax pmax
comp=Z,8.0nm,1.3s
LPSR Galich'ya Gora 26.05 310 *e*P **P 07 44 34.8 +0.2**
LPSR pmax pmax
comp=Z,30nm,0.7s
CD2 Chengdu 26.88 100 *e*P **P 07 44 44.2 +1.7**
PRGR Permogore 26.98 331 *e*P **P 07 44 41.3 -1.7**
PRGR pmax pmax
comp=Z,47nm,1.3s
MOS Moscow 27.70 316 *e*P **P 07 44 48.3 -1.2**
OBN Obninsk 28.08 314 *ce*P **P 07 44 53.3 +0.4**
OBN *e* 07 45 37.9
OBN *e*SS SS 07 50 54.5 -41
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,104nm,11.0s
DIKM Dikmen 28.11 285 ⇑P **P 07 44 54.5 +1.2**
KLMR Klimovskoe 28.95 326 *e*P **P 07 44 59.4 -1.1**
KLMR pmax pmax
comp=Z,22nm,1.2s
KLMR Klimovskoe 28.95 326 *e*P **P 07 44 59.4 -1.1**
KLMR AMP 07 45 05.9
comp=Z,22nm,1.2s
BZK Bozkurt 28.98 286 ⇑P **P 07 45 01.6 +0.6**
ILGA Ilgaz 29.36 284 P **P 07 45 05.1 +0.4**
ILGA IAmb IAmb 07 45 07.1
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 29.45 76 *e*P **P 07 45 08.3 +2.9**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,99nm,7.5s
HHC LR LR
comp=Z,260nm,18.0s
HHC LR LR
comp=Z,190nm,14.1s
HHC LR LR
comp=Z,170nm,10.3s
BR131 Keskin Array S 29.70 282 P **P 07 45 08.3 +0.6**
SNR=10
BR131 Keskin Array S 29.70 282 P **P 07 45 07.8 +0.1**
BR131 pmax pmax
comp=Z,13nm,0.8s
BR131 Keskin Array S 29.70 282 P **P 07 45 07.8 +0.1**
BR131 IAmb IAmb 07 45 08.9
comp=Z,13nm,0.8s
BRTR Keskin Array B 29.70 282 P **P 07 45 08.2 +0.6**
comp=Z,12nm,0.8s,baz=90,slow=7.5,SNR=52
BRTR Keskin Array B 29.70 282 P **P 07 45 07.6 -0.1**
BRTR Keskin Array B 29.70 282 P **P 07 45 07.6 -0.1**
NRIK Noril'sk 30.22 10 P **P 07 45 12.9 +1.2**
comp=Z,6.2nm,0.8s,baz=190,slow=5.4,SNR=11
NRIK LR LR 07 59 11.6
comp=Z,199nm,20.4s,baz=19,slow=40
NRIK Noril'sk 30.22 10 P **P 07 45 13.0 +1.2**
TMCR Tamitsa 31.28 331 *e*P **P 07 45 20.0 -1.2**
MDUB Mudurnu 31.35 284 P **P 07 45 23.4 +1.3**
CMAR Chiang Mai Arr 31.39 126 P **P 07 45 20.2 -2.4**
comp=Z,1.8nm,0.7s,baz=309,slow=8.2,SNR=6.3
CMAR LR LR 07 58 33.0
comp=Z,44nm,18.1s,baz=353,slow=38
CMAR Chiang Mai Arr 31.39 126 P **P 07 45 21.6 -1.0**
GYA Guiyang 31.39 105 ⇓P **P 07 45 23.9 +1.2**
GYA sP sP 07 45 37.0 +8.8
GYA pmax pmax
comp=Z,11nm,0.7s
AKASG Malin Array Be 31.75 304 P **P 07 45 25.2 -0.2**
comp=Z,2.8nm,0.4s,baz=82,slow=7.6,SNR=13
AKASG Malin Array Be 31.75 304 P **P 07 45 25.4 0.0**
AKBB Malin Array Si 31.75 304 P **P 07 45 24.5 -0.9**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 31.75 304 P **P 07 45 24.5 -0.9**
AKBB IAmb IAmb 07 45 25.7
comp=Z,8.3nm,0.7s
PALK Pallekele 33.62 165 P **P 07 45 41.6 -0.5**
comp=Z,13nm,0.8s,baz=35,slow=16,SNR=4.4
PALK LR LR 07 58 46.4
comp=Z,45nm,18.6s,baz=103,slow=36
PALK Pallekele 33.62 165 P **P 07 45 42.7 +0.6**
VRI Vrincioaia 33.62 295 ⇑P **P 07 45 42.2 +0.3**
VRI Vrincioaia 33.62 295 ⇑P **P 07 45 42.2 +0.3**
PLOR Plostina 33.68 295 ⇑P **P 07 45 43.4 +0.9**
PLOR Plostina 33.68 295 ⇑P **P 07 45 43.4 +0.9**
PBKT Sadao Pong 34.07 126 P **P 07 45 46.0 0.0**
PBKT IAmb IAmb 07 45 47.6
comp=Z,6.2nm,0.7s
VSU Vasula 34.15 318 *i* P **P 07 45 46.5 +0.2**
VSU pmax pmax
comp=Z,53nm,1.2s
VSU MLR MLR
comp=Z,482nm,15.0s
MLR Muntele Rosu 34.22 295 P **P 07 45 48.6 +1.4**
comp=Z,4.3nm,0.7s,baz=123,slow=4.2,SNR=6.8
MLR Muntele Rosu 34.22 295 ⇑P **P 07 45 48.9 +1.7**
MLR Muntele Rosu 34.22 295 ⇑P **P 07 45 48.9 +1.7**
BURAR Bucovina Array 34.47 298 ⇑P **P 07 45 50.0 +0.7**
BURAR Bucovina Array 34.47 298 ⇑P **P 07 45 50.0 +0.7**
BURAR Bucovina Array 34.47 298 P **P 07 45 48.8 -0.5**
BUR08 Bucovina Ar. S 34.47 298 P **P 07 45 49.7 +0.3**
LVZ Lovozero 34.51 336 P **P 07 45 49.9 +0.5**
LVZ pmax pmax
comp=Z,36nm,1.1s
LVZ Lovozero 34.51 336 P **P 07 45 49.9 +0.5**
WHN Wuhan 35.10 93 P **P 07 45 56.0 +1.1**
FIA1 FINESS Array S 35.18 323 P **P 07 45 55.4 +0.2**
FIA1 IAmb IAmb 07 46 00.2
comp=Z,15nm,1.0s
FINES FINESS Array B 35.18 323 P **P 07 45 55.6 +0.4**
comp=Z,13nm,0.7s,baz=112,slow=9.3,SNR=48
FINES LR LR 08 00 34.0
comp=Z,177nm,19.1s,baz=338,slow=37
FINES FINESS Array B 35.18 323 P **P 07 45 55.8 +0.7**
KOLS Kolonicke sedl 36.30 301 *e*P **P 07 46 04.5 -0.5**
KOLS Kolonicke sedl 36.30 301 *e*P **P 07 46 04.5 -0.5**
UZH Uzhgorod 36.31 300 ⇓*i* P P 07 45 56.5 -8.6
UZH *e* 07 46 03.7
APE Apeiranthos 36.56 281 ⇑P **P 07 46 03.9 -3.5**
APE Apeiranthos 36.56 281 ⇑P **P 07 46 03.9 -3.5**
HERR Herculane 36.78 294 ⇑P **P 07 46 10.1 +1.0**
BZS Buzias 37.20 296 ⇑P **P 07 46 14.3 +1.6**
BZS Buzias 37.20 296 ⇑P **P 07 46 14.3 +1.6**
NIE Niedzica 37.54 302 *e*P **P 07 46 16.8 +1.2**
IDI Anoyia 37.69 278 ⇓P **P 07 46 14.6 -2.4**
IDI Anoyia 37.69 278 P **P 07 46 15.8 -1.1**
IDI IAmb IAmb 07 46 17.6
comp=Z,11nm,1.0s
OJC Ojcow 37.78 303 *e*P **P 07 46 17.6 +0.1**
OJC Ojcow 37.78 303 P **P 07 46 17.2 -0.3**
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 37.78 303 P **P 07 46 17.1 -0.3**
OJC IAmb IAmb 07 46 18.4
comp=Z,9.6nm,0.8s
NJ2 Nanjing 37.88 88 *e*P **P 07 46 20.4 +1.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ARCES ARCESS Array B 38.22 335 P **P 07 46 21.9 +0.9**
comp=Z,5.3nm,0.6s,baz=110,slow=9.0,SNR=39
ARCES ARCESS Array B 38.22 335 P **P 07 46 21.4 +0.4**
ARCES ARCESS Array B 38.22 335 P **P 07 46 21.4 +0.4**
ARE0 ARCESS Array S 38.22 335 P **P 07 46 21.9 +0.9**
VYHS Vyhne 38.61 301 *e*P **P 07 46 25.6 +1.0**
VYHS Vyhne 38.61 301 *e*P **P 07 46 25.6 +1.0**
CN2 Changchun 38.87 67 *e*P **pP 07 46 31.7 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,13.0s
OKC Ostrava-Krasne 38.88 303 *e*P sP 07 46 33.7 +1.6
OKC Ostrava-Krasne 38.88 303 *e*P sP 07 46 33.7 +1.6
MORC Moravsky Berou 39.27 303 ⇓P **P 07 46 31.0 +0.9**
MORC Moravsky Berou 39.27 303 *e*P **P 07 46 30.8 +0.7**
MORC Moravsky Berou 39.27 303 ⇓P **P 07 46 31.0 +0.9**
MORC Moravsky Berou 39.27 303 P **P 07 46 30.3 +0.1**
JAVC Velka Javorina 39.32 301 *e*P **P 07 46 32.0 +1.4**
KRLC Kraliky 39.72 303 *e*P **P 07 46 34.4 +0.5**
KRLC *ep*P **sP 07 46 40.4 +1.2**
KRLC Kraliky 39.72 303 *e*P **P 07 46 34.4 +0.5**
KRLC *e* 07 46 40.4
VRAC Vranov 39.95 302 *e*P **P 07 46 36.8 +1.0**
DPC Dobruska-Polom 39.98 304 *e*P **P 07 46 36.6 +0.6**
DPC *ep*P **sP 07 46 42.8 +1.5**
DPC Dobruska-Polom 39.98 304 *e*P **P 07 46 36.6 +0.6**
DPC *e* 07 46 42.8
OSTC Ostas 40.02 304 *e*P **P 07 46 37.2 +0.9**
OSTC *ex* x 07 46 41.2
CHVC Chvalec 40.12 304 *e*P **P 07 46 37.1 0.0**
CHVC *ex* x 07 46 43.5
KRUC Moravsky 40.12 302 *e*P **P 07 46 37.9 +0.8**
UPC Upice 40.15 304 *e*P **P 07 46 38.4 +1.0**
UPC *ep*P **sP 07 46 44.0 +1.3**
UPC Upice 40.15 304 *e*P **P 07 46 38.4 +1.0**
UPC *e* 07 46 44.0
YAK Yakutsk 40.21 38 P **P 07 46 37.5 -0.2**
comp=Z,13nm,0.4s,baz=287,slow=2.0,SNR=7.1
YAK Yakutsk 40.21 38 *e*P **P 07 46 38.2 +0.5**
YAK pmax pmax
comp=Z,31nm,0.8s
YAK Yakutsk 40.21 38 P **P 07 46 37.9 +0.2**
HFS Hagfors 40.98 319 P **P 07 46 44.2 +0.1**
comp=Z,5.6nm,0.5s,baz=102,slow=12,SNR=13
PVCC Panska Ves 41.06 304 *e*P sP 07 46 51.7 +1.5
PVCC Panska Ves 41.06 304 *e*P sP 07 46 51.7 +1.5
PRU Pruhonice 41.16 304 *e*P **P 07 46 46.3 +0.6**
PRU *ep*P **sP 07 46 52.5 +1.4**
PRU Pruhonice 41.16 304 *e*P **P 07 46 46.3 +0.6**
PRU *e* 07 46 52.5
BRG Berggiesshubel 41.40 305 *i* P **P 07 46 48.3 +0.6**
comp=Z,8.6nm,1.0s
BRG *e* 07 46 52.1
comp=Z,8.2nm,1.0s
GEC2 GERESS Array S 41.91 302 P **P 07 46 52.3 +0.3**
GERES GERESS Array B 41.91 302 P **P 07 46 52.7 +0.8**
comp=Z,4.6nm,0.8s,baz=68,slow=7.6,SNR=26
GERES GERESS Array B 41.91 302 P **P 07 46 52.2 +0.2**
GERES GERESS Array B 41.91 302 P **P 07 46 52.2 +0.2**
CLL Collm 41.92 306 *i* P **P 07 46 52.3 +0.4**
comp=Z,6.0nm,0.8s
CLL *i* pP **sP 07 46 57.7 +0.4**
CLL L L 08 02 00.0
comp=Z,200nm,20.5s
KHC Kasperske Hory 41.93 303 *e*P **P 07 46 52.3 +0.2**
KHC *ep*P **sP 07 46 58.7 +1.3**
KHC Kasperske Hory 41.93 303 *e*P **P 07 46 52.3 +0.2**
KHC *e* 07 46 58.7
KHC Kasperske Hory 41.93 303 P **P 07 46 51.7 -0.4**
NC405 NORSAR Array S 41.98 321 P **P 07 46 52.1 -0.2**
KLR Kul'dur 41.99 57 P **P 07 46 52.5 0.0**
comp=Z,1.3nm,0.6s,baz=296,slow=10,SNR=5.0
KLR PcP **PcP 07 48 46.2 -1.4**
comp=Z,1.8nm,0.6s,baz=292,slow=2.3,SNR=4.9
KLR Kul'dur 41.99 57 *ce*P **P 07 46 53.1 +0.6**
KLR pmax pmax
comp=Z,3.0nm,1.5s
KLR MLR MLR
comp=Z,70nm,10.0s
NC303 NORSAR Array S 42.15 321 P **P 07 46 52.8 -0.9**
NB2 NORSAR Subarra 42.23 321 P **P 07 46 54.0 -0.3**
comp=Z,17nm,1.2s,baz=92,slow=8.6
NOA NORSAR Array B 42.23 321 P **P 07 46 54.3 0.0**
comp=Z,4.3nm,0.8s,baz=92,slow=8.1,SNR=14
NOA LR LR 08 06 28.2
comp=Z,65nm,18.9s,baz=355,slow=39
NC204 NORSAR Array S 42.45 321 P **P 07 46 55.6 -0.6**
NC204 IAmb IAmb 07 47 00.3
comp=Z,24nm,1.1s
KSAR Wonju Array Be 42.56 75 P **P 07 46 58.0 +0.7**
KSAR Wonju Array Be 42.56 75 P **P 07 46 58.0 +0.7**
KSRS Korea Array 42.58 75 P **P 07 46 57.3 -0.2**
comp=Z,0.6nm,0.4s,baz=262,slow=6.3,SNR=5.0
KSRS LR LR 08 05 54.8
comp=Z,36nm,20.6s,baz=316,slow=38
TPTI 43.00 142 P **P 07 47 01.4 +0.4**
comp=Z,7.8nm,0.9s
KCSI Kotacane, Aceh 43.05 142 P **P 07 47 01.9 +0.5**
comp=Z,10.0nm,0.9s
IPM Ipoh 43.85 137 P **P 07 47 06.5 -1.5**
IPM IAmb IAmb 07 47 08.8
comp=Z,18nm,0.9s
SPITS Spitsbergen Ar 44.16 346 P **P 07 47 10.6 +0.9**
comp=Z,4.6nm,0.8s,baz=152,slow=16,SNR=3.9
PSI Prapat 44.23 141 P **P 07 47 10.1 -1.0**
comp=Z,5.1nm,0.6s,baz=359,slow=9.5,SNR=7.1
PSI Prapat 44.23 141 P **P 07 47 10.1 -1.0**
PSI pmax pmax
comp=Z,7.0nm,0.8s
TWG Pinlang 44.24 98 P **P 07 47 12.2 +1.2**
RPSI Rantau Prapat 44.32 141 P **P 07 47 10.1 -1.6**
RPSI Rantau Prapat 44.32 141 P **P 07 47 08.8 -2.9**
RPSI IAmb IAmb 07 47 10.8
comp=Z,6.5nm,0.8s
GSI Gunungsitoli 44.91 143 P **P 07 47 16.5 +0.2**
KBS Kingsbay 45.26 346 P **P 07 47 19.5 +1.0**
KBS pmax pmax

comp=Z,13nm,0.9s
KBS Kingsbay 45.26 346 P P 07 47 19.5 +1.0
KBS IAmb IAmb 07 47 24.5
comp=Z,13nm,0.9s
KRJI Kerinci 49.71 141 P P 07 47 52.6 -1.3
MAJO Matsushiro 50.50 72 P P 07 47 58.8 -0.8
MAJO pmax pmax
comp=Z,9.0nm,1.1s
MAJO Matsushiro 50.50 72 P P 07 47 58.8 -0.8
MAJO IAmb IAmb 07 48 06.7
comp=Z,9.3nm,1.1s
MJAR Matsushiro Arr 50.50 72 P P 07 47 59.5 -0.2
comp=Z,3.6nm,0.8s,baz=291,slow=9.7,SNR=8.0
MJAR Matsushiro Arr 50.50 72 P P 07 47 59.1 -0.5
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 50.50 72 P P 07 47 59.1 -0.5
EKA Eskdalemuir Ar 50.53 314 P P 07 47 59.1 -0.5
comp=Z,0.9nm,0.6s,baz=83,slow=7.9,SNR=6.0
ASAJ Asahikawa 50.58 61 LR LR 08 09 55.7
comp=Z,45nm,18.0s,baz=192,slow=37
SEY Seymchan 50.63 36 LR LR 08 10 38.7
comp=Z,78nm,18.3s,baz=136,slow=37
SEY Seymchan 50.63 36 *i* P **P 07 48 01.7 +1.5**
SBUM Sibu 51.94 126 P P 07 48 11.8 +1.1
PPBI Pangkal Pinang 52.16 136 P P 07 48 12.6 +0.4
KMBO Kilima Mbogo 52.29 227 P P 07 48 14.9 +1.4
comp=Z,4.7nm,0.9s,baz=35,slow=13,SNR=5.4
KMBO LR LR 08 12 39.8
comp=Z,56nm,18.8s,baz=298,slow=39
MYLDM Lahad Datu 53.96 118 P P 07 48 27.3 +1.7
MBAR Mbarara 55.72 234 P P 07 48 37.7 -0.8
comp=Z,2.8nm,0.2s,baz=0.3,slow=19,SNR=3.6
MBAR Mbarara 55.72 234 P P 07 48 38.0 -0.5
MBAR IAmb IAmb 07 48 38.8
comp=Z,3.9nm,0.7s
PETK Petropavlovsk- 56.44 46 P P 07 48 43.7 +0.7
comp=Z,5.1nm,1.1s,baz=292,slow=4.7,SNR=4.1
PETK LR LR 08 14 25.0
comp=Z,56nm,18.4s,baz=69,slow=38
PETK Petropavlovsk- 56.44 46 P P 07 48 43.0 0.0
PETK Petropavlovsk- 56.44 46 P P 07 48 43.0 0.0
ESDC Sonseca Array 56.88 296 P P 07 48 45.6 -0.8
comp=Z,2.8nm,0.6s,baz=56,slow=7.0,SNR=18
ESDC LR LR 08 16 11.6
comp=Z,70nm,19.2s,baz=245,slow=39
ESDC Sonseca Array 56.88 296 P P 07 48 45.3 -1.2
SUMG Summit 57.95 341 *i* **P P 07 48 55.0 +1.2**
SUMG Summit 57.95 341 *i* **P P 07 48 55.0 +1.2**
comp=Z,41nm,0.7s
SUMG Summit 57.95 341 P P 07 48 54.3 +0.5
SUMG pmax pmax
comp=Z,15nm,0.8s
SUMG Summit 57.95 341 P P 07 48 54.3 +0.5
TOLK Toolik Lake Re 66.99 16 P P 07 49 54.2 +0.3
TOLK IAmb IAmb 07 50 00.3
comp=Z,7.7nm,0.9s
TOA0 Torodi Ar. Sit 67.09 268 P P 07 49 53.3 -2.0
TOA0 IAmb IAmb 07 49 54.7
comp=Z,8.1nm,0.8s
TORD Torodi Ar. Bea 67.09 268 P P 07 49 54.1 -1.2
comp=Z,6.9nm,0.7s,baz=42,slow=6.0,SNR=27
COLD Coldfoot 68.03 17 P P 07 50 00.3 -0.2
COLD IAmb IAmb 07 50 07.1
comp=Z,8.8nm,1.2s
IMAR Indian Mountai 68.23 19 P P 07 50 01.7 -0.1
INK Inuvik 70.01 10 P P 07 50 13.4 +0.7
comp=Z,5.0nm,0.5s,baz=337,slow=8.8,SNR=7.8
INK Inuvik 70.01 10 P P 07 50 12.5 -0.2
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 70.01 10 P P 07 50 12.5 -0.2
C36M Paulatuk 70.03 6 P P 07 50 12.5 -0.3
ILAR Eielson Array 70.84 17 P P 07 50 17.8 -0.1
comp=Z,1.4nm,0.8s,baz=322,slow=5.7,SNR=19
ILAR LR LR 08 24 55.7
comp=Z,43nm,18.4s,baz=292,slow=39
ILAR Eielson Array 70.84 17 P P 07 50 17.6 -0.3
ILAR Eielson Array 70.84 17 P P 07 50 17.6 -0.3
EGAK Eagle 72.02 14 P P 07 50 25.8 +0.8
SKT Skwentna 72.07 20 P P 07 50 24.7 -0.7
SKT IAmb IAmb 07 50 26.0
comp=Z,10.0nm,1.1s
RIDG Independent Ri 72.18 17 P P 07 50 25.4 -0.6
RIDG IAmb IAmb 07 50 42.8
comp=Z,5.3nm,1.0s
DHY Denali Highway 72.19 18 P P 07 50 26.3 +0.1
DOT Dot Lake 72.43 16 P P 07 50 27.8 +0.2
PAX Paxson 72.72 17 P P 07 50 30.9 +1.6
PAX pmax pmax
comp=Z,13nm,1.4s
PAX Paxson 72.72 17 P P 07 50 30.9 +1.6
PAX IAmb IAmb 07 50 37.2
comp=Z,12nm,1.4s
SCM Sheep Creek Mo 73.27 19 P P 07 50 32.3 -0.3
SCM pmax pmax
comp=Z,8.0nm,0.7s
SCM Sheep Creek Mo 73.27 19 P P 07 50 32.3 -0.3
SCM IAmb IAmb 07 50 40.5
comp=Z,7.7nm,0.7s
BCAR Beaver Creek A 73.43 16 P P 07 50 34.1 +0.6
FID Port Fidalgo 74.41 19 P P 07 50 39.2 0.0
FID IAmb IAmb 07 50 50.3
comp=Z,6.2nm,0.8s
DBIC Dimbokro 76.16 267 P P 07 50 49.0 -0.9
comp=Z,6.8nm,0.9s,baz=44,slow=6.2,SNR=4.8
DBIC Dimbokro 76.16 267 P P 07 50 49.5 -0.4
DBIC IAmb IAmb 07 50 49.7
comp=Z,11nm,1.0s
FITZ Fitzroy Crossi 76.17 128 P P 07 50 49.1 -0.6
FITZ IAmb IAmb 07 50 50.3
comp=Z,6.2nm,1.1s
KNRA Kununurra 76.24 125 P P 07 50 50.5 +0.3
KNRA IAmb IAmb 07 50 50.8
comp=Z,13nm,1.0s
KIC Kosan Boka 76.26 267 *e*P **P 07 50 49.1 -1.5**
comp=Z,34nm,1.0s
TIC Toumodi 76.30 267 *e*P **P 07 50 49.4 -1.4**
LIC Lamto 76.57 267 *e*P **P 07 50 51.1 -1.2**
comp=Z,15nm,0.9s
YKA Yellowknife Ar 77.45 3 P P 07 50 57.7 +1.2
comp=Z,6.4nm,0.8s,baz=351,slow=5.6,SNR=28
YKA LR LR 08 29 11.5
comp=Z,46nm,18.3s,baz=0.0,slow=39
LBTB Lobatse 78.29 223 P P 07 51 01.6 -0.1
LBTB pmax pmax
comp=Z,7.0nm,0.9s
LBTB Lobatse 78.29 223 P P 07 51 01.6 -0.1
LBTB IAmb IAmb 07 51 02.3
comp=Z,6.9nm,0.8s
DLBC Dease Lake 79.88 12 P P 07 51 10.7 +0.7
comp=Z,2.4nm,0.8s,baz=348,slow=5.0,SNR=6.2
DLBC Dease Lake 79.88 12 P P 07 51 11.1 +1.0
BOSA Boshof 81.41 221 P P 07 51 17.1 -1.4
comp=Z,3.5nm,0.8s,baz=44,slow=8.1,SNR=5.7
BOSA Boshof 81.41 221 P P 07 51 17.7 -0.8
BOSA IAmb IAmb 07 51 20.0
comp=Z,19nm,1.4s
WB0 Warramunga Arr 82.85 123 P P 07 51 25.2 -1.0
WB0 IAmb IAmb 07 51 26.0
comp=Z,5.1nm,0.8s
WRA Warramunga Arr 82.94 123 P P 07 51 25.9 -0.7
comp=Z,5.5nm,0.8s,baz=325,slow=5.0,SNR=48
WRA Warramunga Arr 82.94 123 P P 07 51 25.8 -0.9
WRA Warramunga Arr 82.94 123 P P 07 51 25.8 -0.9
WB2 Warramunga Arr 82.95 123 P P 07 51 25.8 -0.9
WB2 IAmb IAmb 07 51 26.6
comp=Z,8.3nm,0.8s
WR0 Warramunga Arr 83.08 123 P P 07 51 26.7 -0.7
WR0 IAmb IAmb 07 51 42.3
comp=Z,12nm,1.4s
COEN Coen 84.66 113 P P 07 51 35.5 0.0
AS31 Alice Springs 85.40 126 P P 07 51 38.0 -1.1
ASAR Alice Springs 85.40 126 P P 07 51 38.0 -1.1
comp=Z,4.2nm,0.8s,baz=321,slow=5.3,SNR=44
ASAR Alice Springs 85.40 126 P P 07 51 38.0 -1.1
ASAR Alice Springs 85.40 126 P P 07 51 38.4 -0.7
BATG Bathurst New B 85.42 333 P P 07 51 39.7 +0.7
PQI Presque Isle 86.61 334 P P 07 51 45.8 +0.9
WALA Waterton Lakes 90.89 4 P P 07 52 05.8 +0.5
CTAO Charters Tower 90.98 116 P P 07 52 06.6 +0.7
CTAO Charters Tower 90.98 116 P P 07 52 06.6 +0.7
CTAO IAmb IAmb 07 52 12.1
comp=Z,7.8nm,1.4s
B08A Colville Reser 91.15 8 P P 07 52 07.3 +0.9
B08A IAmb IAmb 07 52 07.9
comp=Z,6.6nm,0.9s
NEW Newport 91.45 6 P **P 07 52 09.2 +1.4**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 91.45 6 P 07 52 09.2 +1.4
NEW IAmb IAmb 07 52 09.3
comp=Z,5.5nm,0.8s
E09A Wood Farm, Sta 93.09 7 P 07 52 16.1 +0.8
F10A Beach Ranch, E 93.72 7 P 07 52 19.0 +0.7
F10A IAmb IAmb 07 52 21.6
comp=Z,3.2nm,0.8s
BOZ Bozeman (W) 94.46 3 P **P 07 52 23.0 +1.2**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 94.46 3 P 07 52 23.0 +1.2
BOZ IAmb IAmb 07 52 23.9
comp=Z,2.9nm,0.8s
DLMT Dillon 94.65 4 P 07 52 24.8 +2.0
DLMT IAmb IAmb 07 52 25.4
comp=Z,4.2nm,1.1s
STKA Stephens Creek 96.01 127 P **P 07 52 26.6 -2.1**
comp=Z,1.0nm,0.6s,baz=342,slow=11,SNR=3.1
STKA Stephens Creek 96.01 127 P **P 07 52 28.2 -0.5**
PDAR Pinedale Array 97.35 2 P Pdif 07 52 35.6 +0.4
comp=Z,0.6nm,0.8s,baz=48,slow=2.2,SNR=6.9
PDAR LR LR 08 44 55.7
comp=Z,23nm,18.5s,baz=28,slow=41
PDAR Pinedale Array 97.35 2 P Pdif 07 52 35.5 +0.3
SNAA Sanae 123.34 202 PKPdf **PKPdf 07 57 56.5 -0.9**
VNA2 Neumayer--Watz 124.33 203 PKPdf **PKPdf 07 57 59.0 -0.3**
VNA1 Neumayer--Stat 124.48 204 PKPdf **PKiKP 07 57 59.8 0.0**
VNA3 Neumayer Olymp 125.14 203 PKPdf **PKPdf 07 58 00.4 -0.4**
CPUP Villa Florida 136.46 273 PKP **PKPdf 07 58 21.2 -2.3**
comp=Z,2.6nm,0.9s,baz=55,slow=7.6,SNR=6.0
CPUP Villa Florida 136.46 273 PKPdf **PKPdf 07 58 23.1 -0.5**

*IDC **02** 08:00:04.2±1.5, 34°.76N×25°.19E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/40, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=57.5km s-min=26.0km az=137.0*
*HLW **02** 08:00:09.7, 34°.83N×25°.35E, h25km±14km, Md3.9, Ml3.2*
*ATH **02** 08:00:11.2, 34°.84N×25°.13E, h41km±2km, ML2.9/7, Error ellipse: s-maj=4.1km s-min=1.6km az=357.0*
*THE **02** 08:00:11.5, 34°.73N×25°.14E, h19km±2km, ML2.9/5, Error ellipse: s-maj=3.2km s-min=0.8km az=350.0*
ISC 02 08:00:11.3±1.0, 34°.86N±0°.08×25°.12E±0°.03, h44km±8km, n31, σ1°28/41, mb3.4/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.30**	**301**	P	**Pn**	**08 00 19.8**	**-0.1**
SIVA				S	**Sn**	**08 00 26.1**	**+0.2**
6μm,0.5s							
SIVA	**Sivas**	**0.30**	**301**	P	**Pn**	**08 00 20.0**	**+0.1**
SIVA				S	**Sn**	**08 00 27.1**	**+1.2**
SIVA				AML	AML	08 00 29.0	
comp=N,11444μm,0.4s							
SIVA				AML	AML	08 00 34.0	
comp=E,10480μm,0.5s							
TMBK	**Timbaki Herakl**	**0.36**	**306**	P	**Pn**	**08 00 20.7**	**+0.2**
LAST	**Lasithi**	**0.42**	**44**	P	**Pn**	**08 00 21.0**	**-0.3**
LAST				S	**Sn**	**08 00 29.8**	**+1.5**
comp=E,752nm,0.4s							
LAST	**Lasithi**	**0.42**	**44**	P	**Pn**	**08 00 21.0**	**-0.3**
LAST				S	**Sn**	**08 00 30.0**	**+1.7**
LAST				AML	AML	08 00 32.5	
comp=E,1624μm,0.5s							
LAST				AML	AML	08 00 34.4	
comp=N,1332μm,0.5s							
KSTL	**Kastelli Herak**	**0.44**	**355**	P	**Pn**	**08 00 20.7**	**-0.8**
KSTL				S	**Sn**	**08 00 29.6**	**+0.9**
IACM	**Heraklion**	**0.45**	**355**	P	**Pn**	**08 00 21.9**	**+0.4**
IACM				S	**Sn**	**08 00 29.5**	**+0.8**
IDI	**Anoyia**	**0.47**	**336**	P	**Pn**	**08 00 21.9**	**0.0**
IDI				S	**Sn**	**08 00 31.6**	**+2.3**
comp=N,2μm,0.4s							
IDI	**Anoyia**	**0.47**	**336**	P	**Pn**	**08 00 22.0**	**+0.2**
IDI				S	**Sn**	**08 00 30.6**	**+1.3**
IDI				AML	AML	08 00 34.0	
comp=E,4216μm,0.3s							
IDI				AML	AML	08 00 36.9	
comp=N,3390μm,0.5s							
FRMA	**Ierapetra Chan**	**0.52**	**73**	P	**Pn**	**08 00 24.0**	**+1.5**
NPS	**Neapolis**	**0.57**	**45**	P	**Pn**	**08 00 23.3**	**+0.2**
NPS				S	**Sn**	**08 00 33.6**	**+2.1**
comp=N,1μm,0.4s							
NPS	**Neapolis**	**0.57**	**45**	P	**Pn**	**08 00 23.3**	**+0.2**
NPS				S	**Sn**	**08 00 33.6**	**+2.1**
NPS				AML	AML	08 00 36.7	
comp=N,1548μm,0.4s							
NPS				AML	AML	08 00 38.6	
comp=E,2628μm,0.5s							
GVDS	**Gavdos**	**0.85**	**269**	P	**Pn**	**08 00 28.1**	**+1.3**
GVD	**Gavdhos**	**0.85**	**269**	P	**Pn**	**08 00 27.2**	**+0.3**
GVD				S	**Sn**	**08 00 39.4**	**+1.2**
comp=E,922nm,0.4s							
GVD	**Gavdhos**	**0.85**	**269**	P	**Pn**	**08 00 28.1**	**+1.2**
VAM	**Vamos**	**0.93**	**306**	P	**Pn**	**08 00 29.3**	**+1.3**
VAM	**Vamos**	**0.93**	**306**	P	**Pn**	**08 00 29.5**	**+1.6**
VAM				AML	AML	08 00 51.0	
comp=E,1500μm,0.4s							
VAM				AML	AML	08 00 51.6	
comp=N,2091μm,0.4s							
ZKR	**Zakros**	**0.93**	**74**	P	**Pn**	**08 00 29.0**	**+1.0**
ZKR	**Zakros**	**0.93**	**74**	P	**Pn**	**08 00 29.0**	**+1.0**
ZKR				AML	AML	08 00 48.6	
comp=N,673μm,0.3s							
ZKR				AML	AML	08 00 52.3	
comp=E,977μm,0.6s							
IMMV	**Iera Moni Meta**	**1.11**	**303**	P	**Pn**	**08 00 31.7**	**+1.3**
IMMV	**Iera Moni Meta**	**1.11**	**303**	P	**Pn**	**08 00 32.1**	**+1.7**
IMMV				AML	AML	08 00 56.4	
comp=N,1078μm,0.5s							
IMMV				AML	AML	08 00 57.3	
comp=E,1165μm,0.7s							
ANKY	**Antikythira Is**	**1.79**	**304**	P	**Pn**	**08 00 41.9**	**+2.1**
ANKY	**Antikythira Is**	**1.79**	**304**	P	**Pn**	**08 00 41.9**	**+2.1**
KARP	**Karpathos**	**1.80**	**67**	P	**Pn**	**08 00 41.4**	**+1.4**
KARP	**Karpathos**	**1.80**	**67**	P	**Pn**	**08 00 41.6**	**+1.7**
SLUM	**Salum**	**3.36**	**179**	AMP		08 01 00.0	
baz=183							
AKASG	**Malin Array Be**	**16.11**	**9**	Pn	**Pn**	**08 03 54.2**	**-0.3**
comp=E,0.8nm,0.3s,baz=201,slow=11,SNR=4.3							
TORD	**Torodi Ar. Bea**	**30.27**	**230**	P	**P**	**08 06 17.4**	**-1.0**
comp=E,0.5nm,0.3s,baz=32,slow=8.5,SNR=5.2							
KURBB	**Kurchatov Arra**	**41.33**	**51**	P	**P**	**08 07 51.2**	**-1.4**
comp=E,0.3nm,0.4s,baz=273,slow=8.5,SNR=1.6							
MKAR	**Makanchi Array**	**43.96**	**56**	P	**P**	**08 08 13.3**	**-0.8**
comp=E,0.3nm,0.3s,baz=265,slow=7.7,SNR=7.5							
YKA	**Yellowknife Ar**	**77.72**	**342**	P	**P**	**08 12 02.1**	**-1.1**
comp=E,0.1nm,0.5s,baz=31,slow=5.7,SNR=1.1							

*TUL **02** 08:05:10.3±1.5, 36°.52N±0°.02×98°.47W±0°.06, h4km±7km, ML3.4, Error ellipse: s-maj=6.4km s-min=3.2km az=84.0*
*UNK **02** 08:05:10.3, 36°.52N×98°.47W, h4km*
*NEIC **02** 08:05:11.2±1.2, 36°.49N±0°.01×98°.39W±0°.05, h5km±2km, Error ellipse: s-maj=7.1km s-min=3.0km az=276.0*
*ANF **02** 08:05:12.1±1.3, 36°.54N×98°.43W, h17km±10km, ML4.1/12, Error ellipse: s-maj=3.6km s-min=3.3km az=170.0*
ISC 02 08:05:11.6±0.8, 36°.51N±0°.03×98°.39W±0°.03, h10km, n71, σ0°94/75, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.33**	**91**		**Pg**	**08 05 18.4**	**+0.3**
U32A	**Winter Ranch,**	**0.51**	**255**		**Pg**	**08 05 19.6**	**-2.0**
KAN10	**Anthony SW Sta**	**0.66**	**21**		**Pg**	**08 05 23.6**	**-0.7**
KAN12	**Harper NE Stat**	**0.84**	**22**		**Pg**	**08 05 27.1**	**-0.8**
KAN13	**South Haven SW**	**0.89**	**55**		**Pg**	**08 05 28.1**	**-0.6**
OK029	**Liberty Lake**	**1.04**	**133**	Pg	**Pg**	**08 05 31.0**	**-0.6**
BCOK	**Bluff Creek, N**	**1.06**	**143**	Pg	**Pg**	**08 05 31.2**	**-0.9**
ADOK	**Arcadia Dam**	**1.19**	**136**	Pg	**Pn**	**08 05 32.8**	**-1.6**
OK025	**Westminster Rd**	**1.26**	**137**	Pn	**Pn**	**08 05 34.7**	**-0.6**
OKCFA	**Oklahoma City**	**1.33**	**145**	Pn	**Pn**	**08 05 35.8**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**1.35**	**145**		**Pn**	**08 05 35.9**	**-0.6**
QUOK	**Quay**	**1.40**	**104**	Pn	**Pn**	**08 05 37.5**	**+0.3**
FNO	**Franklin**	**1.49**	**147**	Pn	**Pn**	**08 05 38.8**	**+0.4**
T35A	**Sooner Cattle**	**1.56**	**74**	Pn	**Pn**	**08 05 40.1**	**+0.6**
WMOK	**Wichita Mounta**	**1.80**	**190**	P	**Pn**	**08 05 42.2**	**-0.5**
baz=7.9							
WMOK				S	**Sn**	**08 06 06.4**	**+0.8**
baz=7.9							
WMOK	**Wichita Mounta**	**1.80**	**190**		**Pn**	**08 05 42.1**	**-0.6**
W35A	**Tecumseh**	**1.83**	**137**	Pn	**Pn**	**08 05 43.8**	**+0.6**
R32A	**Long Quarter,**	**1.92**	**353**	Pn	**Pn**	**08 05 44.8**	**+0.3**
TUL1	**Leonard**	**2.19**	**105**	P	**Pn**	**08 05 48.8**	**+0.7**
baz=286							
TUL1				Sb	**Sb**	**08 06 20.1**	**+1.7**
baz=286							
TUL1	**Leonard**	**2.19**	**105**		**Pn**	**08 05 48.7**	**+0.7**
CBKS	**Cedar Bluff**	**2.53**	**335**	Sb	**Sb**	**08 06 27.7**	**-0.8**
baz=156							
CBKS	**Cedar Bluff**	**2.53**	**335**	Pn	**Pn**	**08 05 53.0**	**+0.1**
KSU1	**Kansas State U**	**2.94**	**28**	Pn	**Pn**	**08 05 59.2**	**+0.7**
X37A	**Clayton**	**3.12**	**127**		**Pn**	**08 06 01.3**	**+0.4**
AMTX	**Amarillo**	**3.13**	**240**	Pb	**Pb**	**08 06 06.8**	**-0.7**
baz=57							
AMTX				Sb	**Sb**	**08 06 46.8**	**+1.1**
baz=57							
AMTX	**Amarillo**	**3.13**	**240**	Pn	**Pn**	**08 06 02.3**	**+1.2**
U38A	**Gravette**	**3.23**	**90**	Pn	**Pn**	**08 06 03.3**	**+0.9**
Z35A	**Perchaven, San**	**3.31**	**163**	Pn	**Pn**	**08 06 04.2**	**+0.8**
HHAR	**Hobbs**	**3.60**	**92**	Pn	**Pn**	**08 06 08.0**	**+0.6**
W39A	**Magazine**	**3.97**	**108**		**Pn**	**08 06 13.8**	**+1.3**
ABTX	**Abilene, Hawle**	**4.01**	**195**	P	**Pn**	**08 06 13.0**	**-0.2**
baz=14							
ABTX	**Abilene, Hawle**	**4.01**	**195**	Pn	**Pn**	**08 06 12.3**	**-0.9**
KSCO	**Kaye Shedlock'**	**4.18**	**308**		**Pn**	**08 06 16.7**	**+1.1**
S39A	**Bolivar**	**4.22**	**72**	Pn	**Pn**	**08 06 13.7**	**-2.3**
MIAR	**Mount Ida**	**4.39**	**115**	P	**Pn**	**08 06 19.3**	**+1.0**
baz=298							
MIAR				S	**Sn**	**08 07 10.0**	**+0.5**
baz=298							
MIAR	**Mount Ida**	**4.39**	**115**		**Pn**	**08 06 18.9**	**+0.6**
MSTX	**Muleshoe**	**4.39**	**236**	P	**Pn**	**08 06 18.8**	**+0.3**
baz=53							
MSTX	**Muleshoe**	**4.39**	**236**	Pn	**Pn**	**08 06 18.3**	**-0.1**
U40A	**Yellville**	**4.47**	**90**	Pn	**Pn**	**08 06 20.0**	**+0.6**
WHTX	**Lake Whitney,**	**4.58**	**170**	P	**Pn**	**08 06 20.9**	**0.0**
baz=350							
WHTX	**Lake Whitney,**	**4.58**	**170**	Pn	**Pn**	**08 06 20.1**	**-0.7**
T25A	**Trinidad**	**4.87**	**279**	Sb	**Sb**	**08 07 39.8**	**+3.9**
baz=96							
T25A	**Trinidad**	**4.87**	**279**	Pn	**Pn**	**08 06 24.9**	**-0.2**
BGNE	**Belgrade**	**4.89**	**2**	P	**Pn**	**08 06 24.9**	**-0.3**
baz=183							
BGNE	**Belgrade**	**4.89**	**2**	Pn	**Pn**	**08 06 24.7**	**-0.5**
P38A	**Dawn**	**4.94**	**50**	Pn	**Pn**	**08 06 26.4**	**+0.6**
X40A	**Basin Creek Fa**	**4.96**	**112**		**Pn**	**08 06 27.4**	**+1.2**
WHAR	**Wooly Hollow**	**5.10**	**102**	Pn	**Pn**	**08 06 28.7**	**+0.6**
FCAR	**Ozark Folk Cen**	**5.11**	**95**		**Pn**	**08 06 28.7**	**+0.6**
W41B	**Gary Mavity, V**	**5.17**	**103**	S	**Sn**	**08 07 28.3**	**-0.3**
baz=287							
W41B	**Gary Mavity, V**	**5.17**	**103**		**Pn**	**08 06 29.1**	**+0.1**
R40A	**Maddies Statio**	**5.19**	**68**	Pn	**Pn**	**08 06 29.2**	**-0.1**
UALR	**University of**	**5.22**	**108**	Pn	**Pn**	**08 06 29.8**	**+0.1**
OGNE	**Ogallala**	**5.26**	**328**	P	**Pn**	**08 06 31.2**	**+0.7**
baz=147							
OGNE	**Ogallala**	**5.26**	**328**	Pn	**Pn**	**08 06 31.1**	**+0.7**
Z41A	**Richland Creek**	**5.62**	**124**	S	**Sn**	**08 07 38.2**	**-1.7**
baz=307							
L34A	**Svendsen Farm,**	**5.67**	**15**	Pn	**Pn**	**08 06 36.5**	**+0.6**
435B	**Jarrell**	**5.75**	**173**	Pn	**Pn**	**08 06 36.3**	**-0.8**
SDCO	**Great Sand Dun**	**5.81**	**284**	Pn	**Pn**	**08 06 38.7**	**+0.6**
P40A	**Paris**	**5.84**	**57**	Pn	**Pn**	**08 06 38.8**	**+0.6**
LCAR	**Lake Charles**	**5.86**	**92**		**Pn**	**08 06 38.5**	**0.0**
N38A	**Joes South For**	**5.88**	**42**	Pn	**Pn**	**08 06 39.5**	**+0.8**
T42A	**Van Buren**	**5.88**	**83**	Pn	**Pn**	**08 06 39.3**	**+0.5**
K31A	**O'Neill**	**6.11**	**357**	Pn	**Pn**	**08 06 41.8**	**-0.2**
JCT	**Junction City**	**6.13**	**191**	Pn	**Pn**	**08 06 41.1**	**-1.2**
ISCO	**Idaho Springs**	**6.57**	**302**	Pn	**Pn**	**08 06 49.7**	**+1.1**
PHWY	**Pilot Hill**	**7.29**	**313**	Pn	**Pn**	**08 06 59.0**	**+0.5**
N23A	**Red Feather La**	**7.35**	**309**	Pn	**Pn**	**08 06 58.6**	**-0.6**
TX31	**Lajitas Ar. Si**	**8.42**	**213**		**Pn**	**08 07 13.2**	**-0.6**
TX32	**Lajitas Array**	**8.42**	**213**		**Pn**	**08 07 13.3**	**-0.4**
WVT	**Waverly**	**8.53**	**89**	Pn	**Pn**	**08 07 14.7**	**-0.5**

*IDC **02** 08:51:06.2±1.0, 62°.70S×60°.17W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/22, mbtmp3.9/7, ML4.2/1, MS3.5/10, Ms1 3.5/10, ms1mx3.3/18, Error ellipse: s-maj=28.6km s-min=18.6km az=90.0*
*NEIC **02** 08:51:09.3±1.7, 62°.65S±0°.08×59°.7W±0°.3, h15km±2km, mb4.4/13, Error ellipse: s-maj=22.0km s-min=11.1km az=81.0*
ISC 02 08:51:07.8±0.6, 62°.72S±0°.08×60°.2W±0°.1, h10km, n36, σ0°79/30, mb4.2/10, MS3.5/9, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**2.67**	**218**	Pn	**Pn**	**08 51 51.4**	**+0.6**
40nm,0.3s,baz=55,slow=8.7,SNR=274							
PMSA				Pg	**Pb**	**08 51 54.6**	**-1.1**
40nm,0.3s,baz=46,slow=13,SNR=175							
PMSA				Lg	Lg	08 52 30.3	
37nm,0.3s,baz=318,slow=24,SNR=11							
PMSA				LR	LR	08 52 51.5	
comp=Z,336nm,20.6s,baz=82,slow=39							
BELA	**Belgrano 2**	**17.20**	**162**	P	**P**	**08 55 09.8**	**+0.5**
VNA3	**Neumayer Olymp**	**20.85**	**135**	P	**P**	**08 55 49.0**	**-0.3**
VNA1	**Neumayer--Stat**	**21.35**	**134**	P	**P**	**08 55 55.1**	**+0.5**
VNA2	**Neumayer--Watz**	**21.61**	**135**	P	**P**	**08 55 57.3**	**-0.2**
PLCA	**Paso Flores**	**22.87**	**339**	P	**P**	**08 56 11.1**	**-0.1**
2.8nm,0.8s,baz=184,slow=8.7,SNR=7.2							
PLCA				LR	LR	09 03 43.3	
comp=Z,74nm,18.8s,baz=190,slow=33							
PLCA	**Paso Flores**	**22.87**	**339**	P	**P**	**08 56 11.5**	**+0.2**
SNAA	**Sanae**	**23.00**	**137**	P	**P**	**08 56 12.1**	**-0.2**
SNAA	**Sanae**	**23.00**	**137**	P	**P**	**08 56 11.7**	**-0.6**
4.6nm,1.0s,baz=260,slow=9.8,SNR=13							
SNAA				LR	LR	09 02 34.0	
comp=Z,75nm,21.9s,baz=322,slow=30							
SNAA	**Sanae**	**23.00**	**137**	P	**P**	**08 56 11.9**	**-0.4**
SNAA				IAmb	IAmb	08 56 14.2	
comp=Z,10nm,1.2s							
LC01	**Cunco**	**24.88**	**338**	P	**P**	**08 56 30.7**	**+0.3**
LC01				IAmb	IAmb	08 56 32.8	
comp=Z,3.8nm,0.7s							
QSPA	**South Pole Qui**	**27.50**	**180**	P	**P**	**08 56 54.7**	**+0.6**
comp=Z,3.5nm,0.9s,baz=154,slow=5.4,SNR=10.0							
QSPA				LR	LR	09 07 39.3	
comp=Z,62nm,19.0s,baz=156,slow=36							
QSPA	**South Pole Qui**	**27.50**	**180**	P	**P**	**08 56 54.9**	**+0.7**
QSPA				IAmb	IAmb	08 56 55.9	
comp=Z,7.1nm,1.1s							
CO02	**Combarbal**	**32.28**	**343**	P	**P**	**08 57 37.3**	**+0.7**
CO03	**El Pedregal**	**32.60**	**343**	P	**P**	**08 57 40.2**	**+0.8**
CO03				IAmb	IAmb	08 57 40.9	
comp=Z,6.2nm,0.7s							
CO01	**Juntas del Tor**	**33.37**	**344**	P	**P**	**08 57 47.8**	**+1.5**
CO01				IAmb	IAmb	08 57 52.2	
comp=Z,4.6nm,0.8s							
AC05	**El Transito**	**34.52**	**344**	P	**P**	**08 57 56.5**	**+0.4**
AC05				IAmb	IAmb	08 58 14.6	
comp=Z,16nm,1.3s							
AC04	**

ARCES	ARCESS Array B	144.96	38	PKP	PKPab	09 10 41.2	-1.4
	comp=Z,0.9nm,0.6s,baz=270,slow=1.8,SNR=5.2						
IMAR	Indian Mountai	145.22	314	PKPbc	PKPbc	09 10 44.0	+0.4
ABKAR	Akbulak array	145.31	84	PKPbc	PKiKP	09 10 46.5	-1.8
KKAR	Karatay Array	145.54	101	PKPbc	PKPab	09 10 45.5	-0.1
MKAR	Makanchi Array	153.65	110	PKPab	PKPab	09 11 17.7	-0.7
	comp=Z,0.5nm,0.6s,baz=224,slow=4.0,SNR=2.5						

IDC 02 08:57:18.7±1.2, 16°.45N×95°.91E, h0km, mb3.6/6, mb1 3.6/8, mb1mx3.5/43, mbtmp3.5/8, ML3.6/1, MS3.2/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=25.3km s-min=20.0km az=50.0

ISC 02 08:57:22.0±1.2, 16°.5N±0°.1×95°.8E±0°.1, h20km, n26, σ1°36/22, mb3.6/6, MS3.5/3, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	Maesarieng	2.64	49	P	Pb	08 58 08.0	-0.6
CM13	Chiang Mai Arr	3.53	56	P	Pn	08 58 17.0	+1.2
CM05	Chiang Mai Arr	3.55	56	P	Pn	08 58 17.1	+1.1
CM15	Chiang Mai Arr	3.56	56	P	Pn	08 58 18.0	+1.8
CM02	Chiang Mai Arr	3.57	56	P	Pn	08 58 18.0	+1.7
CM01	Chiang Mai Arr	3.57	56	P	Pn	08 58 17.7	+1.4
CM04	Chiang Mai Arr	3.58	57	P	Pn	08 58 17.7	+1.4
CMAR	Chiang Mai Arr	3.58	56	Pn	Pn	08 58 14.7	-1.7
	1.4nm,0.3s,baz=242,slow=15,SNR=8.4						
CMAR				Lg	Lg	08 59 10.4	
	0.9nm,0.3s,baz=238,slow=32,SNR=2.0						
CMAR				LR	LR	08 59 57.1	
	comp=Z,191nm,18.1s,baz=230,slow=45						
CM09	Chiang Mai Arr	3.61	56	P	Pn	08 58 17.3	+0.5
SUKH	Sukhothai	3.78	74	P	Pn	08 58 18.9	-0.3
CMMT	Chiang Mai	3.79	51	P	Pn	08 58 20.2	+0.9
SRDT	SRDT	3.80	123	P	Pn	08 58 19.2	-0.2
PHIT	Phitsanulok	4.45	80	P	Pn	08 58 27.3	-1.1
PHRA	Phrae	4.67	63	P	Pn	08 58 30.6	-0.7
PAYA	Payao	4.81	52	P	Pn	08 58 33.2	-0.1
BRDH	Bariadhala	7.35	328	Pn	Pn	08 59 05.7	-2.4
	baz=96,slow=1.0						
PALK	Pallekele	17.38	240	LR	LR	09 07 44.8	
	comp=Z,36nm,18.4s,baz=145,slow=36						
MKAR	Makanchi Array	32.28	342	P	P	09 03 48.2	-1.2
	0.3nm,0.4s,baz=161,slow=9.7,SNR=6.1						
KSRS	Korea Array	35.18	47	LR	LR	09 18 48.1	
	comp=Z,19nm,20.3s,baz=10.0,slow=37						
KURBB	Kurchatov Arra	36.82	342	P	P	09 04 27.3	-1.2
	0.3nm,0.4s,baz=150,slow=8.7,SNR=4.1						
ZALV	Zalesovo Beam	38.39	350	P	P	09 04 43.5	+1.7
	0.8nm,0.4s,baz=172,slow=12,SNR=3.7						
ARU	Arti	48.84	333	LR	LR	09 31 09.8	
	comp=Z,117nm,21.1s,baz=332,slow=42						
WRA	Warramunga Arr	52.34	132	P	P	09 06 31.7	-1.1
	0.6nm,0.7s,baz=315,slow=7.6,SNR=6.0						
ASAR	Alice Springs	54.53	136	P	P	09 06 48.4	-0.4
	0.3nm,0.9s,baz=336,slow=8.1,SNR=2.4						
OBN	Obninsk	59.20	325	LR	LR	09 37 39.1	
	comp=Z,36nm,18.6s,baz=166,slow=41						
ARCES	ARCESS Array B	67.85	339	P	P	09 08 20.3	+1.8
	1.3nm,0.9s,baz=90,slow=6.6,SNR=3.7						

IDC 02 09:29:42.0±1.8, 24°.06S×66°.96W, h188km±23km, mb3.1/1, mb1 3.1/5, mb1mx2.9/30, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/9, Error ellipse: s-maj=30.8km s-min=18.1km az=135.0

GUC 02 09:29:43.2±0.6, 23°.94S×67°.47W, h225km±6km, ML4.1

ISC 02 09:29:42.0±1.1, 24°.08S±0°.07×67°.1W±0°.1, h205km±13km, n22, σ0°95/38, 10C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.19	312	P	Pn	09 30 24.1	+0.7
	17nm,0.3s,baz=136,slow=7.6,SNR=110						
LVC				S	S	09 30 55.4	+0.5
	32nm,0.3s,baz=268,slow=21,SNR=9.8						
LVC	Limon Verde	2.19	312	eP	Pn	09 30 24.0	+0.7
LVC				eS	S	09 30 55.3	+0.3
PB15	IPOC Station P	2.31	292	↑iP	Pn	09 30 25.1	+0.7
PB15				i S	S	09 30 56.9	0.0
GO02	Mina Guanaco	2.48	244	↑iP	Pn	09 30 26.1	-0.2
GO02				i S	S	09 31 00.2	-0.1
GO02				IAML		09 31 01.2	
	comp=N,516nm,0.1s						
PB06	IPOC Station P	2.63	301	↑iP	Pn	09 30 28.6	+0.8
PB06				i S	S	09 31 03.0	0.0
PB06				IAML		09 31 07.2	
	comp=N,575nm,0.2s						
PB09	IPOC Station P	2.99	319	↑iP	Pn	09 30 33.1	+1.0
PB09				eS	S	09 31 11.0	+0.5
PB09				IAML		09 31 13.3	
	comp=N,142nm,0.5s						
PB14	IPOC Station P	3.03	259	↑iP	Pn	09 30 32.2	-0.4
PB14				eS	S	09 31 09.6	-1.9
PB14				IAML		09 31 11.9	
	comp=E,107nm,0.2s						
PB05	IPOC Station P	3.07	293	↑iP	Pn	09 30 33.3	+0.4
PB05				i S	S	09 31 11.1	-1.0
PB05				IAML		09 31 16.7	
	comp=N,146nm,0.2s						
PB03	IPOC Station P	3.15	310	↑eP	Pn	09 30 34.3	+0.5
PB03				i S	S	09 31 13.3	-0.5
PB03				IAML		09 31 15.1	
	comp=N,411nm,0.3s						
PB10	IPOC Station P	3.18	280	↑iP	Pn	09 30 34.5	+0.4
PB10				i S	S	09 31 13.5	-0.7
PB10				IAML		09 31 17.1	
	comp=E,124nm,0.2s						
PB04	IPOC Station P	3.27	302	↓eP	Pn	09 30 36.1	+0.7
PB04				i S	S	09 31 15.8	-0.7
PB04				IAML		09 31 21.9	
	comp=N,308nm,0.2s						
PB07	IPOC Station P	3.46	312	↑iP	Pn	09 30 37.9	+0.3
PB07				i S	S	09 31 19.6	-0.9
PB01	IPOC Station P	3.73	324	↑eP	Pn	09 30 40.8	0.0
PB01				i S	S	09 31 25.8	-0.5
PATCX	Punta Patache	4.28	319	eP	Pn	09 30 48.2	+0.6
PATCX				eS	S	09 31 37.1	-1.6
PB08	IPOC Station P	4.35	334	eP	Pn	09 30 49.5	+0.7
PB08				i S	S	09 31 41.5	+0.8
LPAZ	La Paz	7.81	353	P	Pn	09 31 34.8	+1.3
	comp=N,0.1nm,0.3s,baz=155,slow=5.3,SNR=14						
LPAZ				S	S	09 33 00.6	-1.6
	comp=N,0.0nm,0.3s,baz=248,slow=19,SNR=1.7						
SIV	San Ignacio	9.86	36	P	Pn	09 31 57.0	-2.5
	comp=N,0.3nm,0.3s,baz=238,slow=11,SNR=7.5						
SIV				S	S	09 33 49.6	-0.5
	comp=N,0.1nm,0.3s,baz=319,slow=19,SNR=2.4						
BDFB	Brasilia	19.83	68	P	P	09 33 57.0	-0.6
	comp=N,0.3nm,0.3s,baz=254,slow=12,SNR=6.1						
PTGA	Pitinga	24.23	18	LR	LR	09 45 19.7	
	comp=N,35nm,18.1s,baz=224,slow=39						
SNAA	Sanae	59.31	161	P	P	09 39 23.2	+1.2
	comp=N,0.5nm,0.6s,baz=270,slow=9.8,SNR=6.1						
WRA	Warramunga Arr	131.50	207	PKP	PKiKP	09 48 33.2	+1.3
	comp=N,0.1nm,0.4s,baz=157,slow=2.0,SNR=1.2						
MKAR	Makanchi Array	146.67	39	PKPbc	PKPab	09 49 00.2	-0.9
	comp=N,0.5nm,0.6s,baz=295,slow=2.9,SNR=4.8						

NEIC 02 09:35:58.6±1.4, 50°.40N±0°.05×174°.38W±0°.10, h33km±11km, Error ellipse: s-maj=10.4km s-min=4.6km az=126.0

AEIC 02 09:35:59±1.7, 50°.47N±0°.10×174°.44W±0°.09, h22km±8km, mb3.8/4 (NEIC), Error ellipse: s-maj=14.2km s-min=7.5km az=163.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.75	5		Pn	09 36 27.3	-0.7
ATKA					Sn	09 36 49.1	-0.4
GSMY	Great Sitkin M	1.88	328		Pn	09 36 29.3	-0.5
GSTD	Great Sitkin T	1.92	327		Pn	09 36 29.9	-0.5
GSTD					Sn	09 36 52.8	-1.1
GSTR	Great Sitkin T	1.92	329		Pn	09 36 30.1	-0.3
ADK	Adak	2.00	316		Pn	09 36 30.5	-1.0
ADAG	Mount Adagdak	2.04	319		Pn	09 36 31.9	0.0
KIMD	Kanaga Island	2.19	307		Pn	09 36 33.4	-0.7
KIKV	Kanaga Island	2.23	311		Pn	09 36 34.2	-0.4
KIKV					Sn	09 37 00.9	-0.5
KICM	Kanaga Island	2.26	311		Pn	09 36 34.8	-0.3
TASE	Tanaga Southea	2.65	303		Pn	09 36 40.8	+0.4
TAFP	Tanaga Falls P	2.65	304		Pn	09 36 40.4	0.0
TAFP					Sn	09 37 11.9	0.0
GAEA	Gareloi East	3.02	298		Pn	09 36 45.5	+0.1
AMKA	Amchitka	4.06	285		Pn	09 36 58.6	-1.2
NIKH	Nikolski High	4.29	52		Pn	09 37 02.2	-0.7
UNV	Unalaska Valle	5.94	52	Pn	Pn	09 37 23.4	-2.1
AKUT	Akutan	6.46	52	Pn	Pn	09 37 33.6	+0.9
FALS	False Pass	8.01	52	Pn	Pn	09 37 52.9	-1.1
SDPT	Sand Point	9.75	55	Pn	Pn	09 38 16.5	-1.2
CNBA	Chernabura Isl	10.02	58	Pn	Pn	09 38 20.9	-0.5
OHAK	Old Harbor	14.16	53	Pn	Pn	09 39 15.1	-2.9
KDAK	Kodiak Island	14.71	52	Pn	Pn	09 39 22.4	-3.1
HIN	Hinchinbrook I	18.57	47	P	P	09 40 08.6	-5.5
FID	Port Fidalgo	18.70	46	P	P	09 40 13.6	-1.9
FID				IAmb	IAmb	09 40 15.5	
	comp=Z,7.2nm,1.0s						
SCM	Sheep Creek Mo	18.75	42	P	P	09 40 13.2	-3.0
BCAR	Beaver Creek A	21.60	42	P	P	09 40 47.2	+0.1
BCPM	Bancas Point	21.76	51	P	P	09 40 45.0	-3.8
BCPM				IAmb	IAmb	09 40 49.0	
	comp=Z,3.2nm,0.7s						

SNET 02 09:38:49.8±1.2, 13°.55N×90°.41W, h51km±14km, ML3.0
GCG 02 09:38:53.0±0.3, 13°.77N×90°.65W, h7km±8km, MD4.0

ISC 02 09:38:49.2±3.1, 13°.5N±0°.2×90°.46W±0°.09, h32km±14km, n16, σ0°35/23, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.67	2	eP	Pn	09 39 02.7	0.0
NUBE	Las Nubes	0.78	59	↑iP	Pb	09 39 03.8	-0.7
NUBE				eS	Sb	09 39 15.1	+0.3
NUBE				IAML		09 39 17.0	
	comp=Z,193nm,0.2s						
CEVE	Cerro Verde	0.88	68	eP	Pn	09 39 05.5	-0.2
CEVE				eS	Sb	09 39 18.6	+0.9
CEVE				IAML		09 39 20.1	
	comp=Z,2μm,0.3s						
SBLS	San Blas	0.89	67	eP	Pn	09 39 05.4	-0.3
SBLS				eS	Sb	09 39 17.6	-0.3
RTR	El Retiro	0.89	63	eP	Pn	09 39 05.7	0.0
RTR				eS	Sb	09 39 18.2	+0.2
PCG	Pacaya	0.90	351	eP	Pn	09 39 06.0	+0.1
SNJE	San Jose	0.91	66	eP	Pn	09 39 05.8	-0.2
SNJE				eS	Sn	09 39 18.0	-0.1
FUG	Fuego 3	1.01	339	eP	Pn	09 39 07.0	-0.4
NBG	Las Nubes	1.09	6	eP	Pb	09 39 10.0	+0.3
TACO	Tacachico	1.18	66	eP	Pn	09 39 09.6	+0.1
TACO				eS	Sn	09 39 24.6	+0.2
UEES	Universidad Ev	1.21	80	eP	Pn	09 39 10.2	+0.2
UEES				IAML		09 39 31.2	
	comp=Z,189nm,0.2s						
SNET	Serv Nac Est T	1.21	81	eP	Pn	09 39 10.1	+0.1
SNET				IAML		09 39 11.1	
	comp=Z,243nm,0.2s						
LFRS	El Faro	1.37	85	eP	Pn	09 39 12.6	+0.4
LFRS				eS	Sn	09 39 29.6	+0.2
MTO3	Montecristo	1.40	50	↑eP	Pn	09 39 12.3	-0.4
LBRS	Las Brisas	1.40	80	eP	Pn	09 39 12.5	-0.1
ESQI	Esquipulas	1.52	46	eP	Pn	09 39 14.0	-0.3

WEL 02 09:56:12.6, 44°S±2°×17°2E±°, h7km±2km, M2.3/7, ML2.4/7, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=131.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.28	110	P	Pb	09 56 19.7	-0.2
OXZ	Oxford	0.34	327	P	Pg	09 56 19.9	+0.7
WACZ	Wakanui South	0.47	225	P	Pb	09 56 23.9	+0.8
AMCZ	Amberley	0.51	31	P	Pb	09 56 23.9	+0.1
AKCZ	Akaroa Harbour	0.51	120	P	Pb	09 56 24.3	+0.4
OKCZ	Okains Bay	0.56	101	P	Pb	09 56 25.3	+0.5
LTZ	Lake Taylor	0.83	359	P	Pb	09 56 29.3	0.0
ARCZ	Arundel	0.88	247	P	Pn	09 56 31.0	-0.3
RPZ	Rata Peaks	0.91	263	P	Pn	09 56 31.5	-0.3
INZ	Inchbonnie	1.09	325	P	Pn	09 56 34.3	+0.1
WVZ	Waitaha Valley	1.26	295	P	Pg	09 56 37.6	+0.9
KHZ	Kahutara	1.50	38	P	Pn	09 56 38.9	-1.0
LBZ	Lake Benmore	1.71	242	P	Pg	09 56 47.0	+1.7
ODZ	Otahua Downs	1.86	219	P	Pg	09 56 48.4	+0.2
TSZ	Takapari Road	4.49	39	P	Pn	09 57 22.1	+1.2

REY 02 11:26:50.2, 64°.68N×17°.48W, h6km
IDC 02 11:26:51.1±0.7, 64°.58N×17°.63W, h0km, mb3.8/13, mb1 4.0/18, mb1mx3.8/43, mbtmp3.8/18, ML2.8/4, MS3.4/9, Ms1 3.4/9, ms1mx3.0/46, Error ellipse: s-maj=22.2km s-min=13.3km az=17.0
NEIC 02 11:26:53.2±2.2, 64°.66N±0°.04×17°.5W±0°.1, h10km±1km, mb4.5/53, Error ellipse: s-maj=11.3km s-min=3.1km az=52.0

ISC 02 11:26:52.6±0.4, 64°.68N±0°.02×17°.47W±0°.02, h10km, n153, σ2°18/148, mb4.4/38, MS3.3/8, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	Dyngjuhals	0.12	22	P	Pg	11 26 53.1	-2.5
	baz=23						
IVON	Vonarskard	0.12	268	P	Pg	11 26 52.7	-2.9
	baz=268						
IURH	Urdarhals	0.20	44	P	Pg	11 26 54.4	-2.5
	baz=45						
IDJK	Dyngjujokull	0.20	150	P	Pg	11 26 54.1	-2.8
	baz=149						
IGRF	Grimsfjall	0.29	162	P	Pg	11 26 56.7	-1.7
	baz=161						
IKVE	Kverkfjoll	0.34	90	P	Pg	11 26 56.7	-2.8
	baz=90						
IBJK	Bruarjokull	0.38	124	P	Pg	11 26 57.1	-2.9
	baz=123						
IHUS	Husbondi	0.39	192	P	Pg	11 26 57.6	-2.8
	baz=191						
ISKR	Skrokkalda	0.41	254	P	Pg	11 26 57.7	-3.0
	baz=254						
IVOT	Vottur	0.43	163	P	Pg	11 26 58.0	-3.0
	baz=162						
IKRE	Kreppuhraun	0.48	77	P	Pg	11 26 58.8	-3.2
	baz=77						
IKRE				S	Sg	11 27 06.4	-1.9
	baz=77						
IJOK	Jokulheimar	0.49	222	P	Pg	11 26 58.8	-3.3
	baz=222						
IASK	Askja	0.52	43	P	Pg	11 26 59.5	-3.1
	baz=43						
IMKO	Mokollar	0.57	58	P	Pg	11 27 00.6	-3.1
	baz=58						
IIEY	Innrieyrar	0.65	206	P	Pg	11 27 01.8	-3.4
	baz=206						
ISVA	Svartarkot	0.67	8	P	Pg	11 27 02.2	-3.3
	baz=8.1						
IKSK	Karasker	0.68	140	P	Pg	11 27 01.9	-3.8
	baz=139						
IKAL	Kalfafell	0.74	187	P	Pg	11 27 03.2	-3.6
	baz=187						
IVSH	V-Sauoahnukur	0.76	79	P	Pg	11 27 03.4	-3.8
	baz=79						
IVSH				S	Sg	11 27 14.5	-2.6
	baz=79						
IVAT	Vatnsfell	0.80	232	P	Pg	11 27 04.7	-3.3
	baz=232						
IADA	Aoalbol	0.88	66	P	Pg	11 27 05.4	-4.2
	baz=66						
IFAG	Fagurholsmyri	0.88	156	P	Pg	11 27 05.5	-4.0
	baz=156						
IHVE	Hveravellir	0.92	283	P	Pg	11 27 05.9	-4.3
	baz=283						
IMEL	Melhnausar	0.96	21	P	Pg	11 27 06.9	-4.2
	baz=21						
IREN	Reynihlio	1.00	14	P	Pg	11 27 07.7	-4.2
	baz=14						
IKVO	Krokottuvotn	1.07	13	P	Pg	11 27 08.9	-4.3
	baz=13						
ISNB	Snabyli	1.07	209	P	Pg	11 27 08.8	-4.4
	baz=209						
ISLY	Slysaalda	1.12	221	P	Pb	11 27 09.7	-4.4
	baz=221						
IGRS	Grimsstaoir	1.12	30	P	Pb	11 27 09.8	-4.2
	baz=30						
IFED	Fedgar	1.17	237	P	Pb	11 27 11.1	-3.7
	baz=237						
IRJU	Rjupnafell	1.19	207	P	Pb	11 27 11.0	-4.2
	baz=207						
ISKI	Skildingahlsh	1.21	9	P	Pn	11 27 11.2	-4.4
	baz=8.8						
IMJO	Mjoaskard	1.22	233	P	Pb	11 27 11.9	-3.8
	baz=233						
IGRA	Granastaoir	1.25	358	P	Pn	11 27 11.8	-4.3
	baz=358						
BORG	Borgarnes	1.66	274	Pn	Pn	11 27 17.6	-4.1
	23nm,0.3s,baz=96,slow=10.0,SNR=48						
BORG					Sn	11 27 41.6	-1.3
	15nm,0.3s,baz=10,slow=23,SNR=5.9						
BORG	Borgarnes	1.66	274	Pn	Pn	11 27 18.2	-3.5
BORG					Sg	11 27 44.8	-1.0
SCO	Scoresbysund	6.08	346	i P	Pn	11 28 22.0	-0.3
SCO	Scoresbysund	6.08	346	Pn	Pn	11 28 23.4	+1.1
SUMG	Summit	10.94	325	Pn	Pn	11 29 29.3	+0.1
EKA	Eskdalemuir Ar	11.76	136	Pn	Pn	11 29 39.2	-1.0
	baz=326,slow=13,SNR=14						
ESK	Eskdalemuir	11.76	136		Pn	11 29 39.7	-0.5
NC204	NORSAR Array S	13.22	92	Pn	Pn	11 29 58.8	-1.4
NBO00	NORSAR Array S	13.34	93	Pn	Pn	11 30 00.8	-1.0
NAO01	NORSAR Array S	13.47	93	Pn	Pn	11 30 00.8	-2.8
NC303	NORSAR Array S	13.50	92	Pn	Pn	11 30 03.7	-0.2
NOA	NORSAR Array B	13.52	92	Pn	Pn	11 30 03.6	-0.7
	0.0nm,0.3s,baz=299,slow=13,SNR=4.6						
NOA				LR	LR	11 35 04.4	
	comp=Z,115nm,19.0s,baz=10.0,slow=36						
NB201	NORSAR Array S	13.55	92	Pn	Pn	11 30 04.7	0.0
NC405	NORSAR Array S	13.70	92	Pn	Pn	11 30 06.1	-0.6
HFS	Hagfors	15.04	93	Pn	Pn	11 30 24.8	-0.1
	0.1nm,0.3s,baz=261,slow=16,SNR=2.1						
HFS				LR	LR	11 36 45.0	
	comp=Z,116nm,18.4s,baz=342,slow=39						
ARCES	ARCESS Array B	17.10	55	P	P	11 30 52.1	-1.0
	0.2nm,0.3s,baz=263,slow=11,SNR=4.3						
ARCES	ARCESS Array B	17.10	55	P	P	11 30 52.6	-0.5
KEV	Kevo	17.61	54		P	11 30 59.0	+0.4
FINES	FINESS Array B	19.69	79	P	Pn	11 31 22.4	-0.6
	0.0nm,0.3s,baz=319,slow=7.8,SNR=2.1						
FINES				LR	LR	11 38 34.8	
	comp=Z,167nm,19.2s,baz=313,slow=36						
FINES	FINESS Array B	19.69	79	P	Pn	11 31 22.0	-1.0
CLL	Collm	20.70	116	eP	Pn	11 31 34.0	-0.9
	comp=Z,24nm,1.5s						
CLL				Lm	MLR	11 38 00.0	
	comp=Z,200nm,19.9s						
CLL	Collm	20.70	116	P	Pn	11 31 34.2	-0.8
ECH	Echery	21.15	129	P	P	11 31 38.7	+1.2
BRG	Berggiesshubel	21.41	115	eP	P	11 31 40.5	+0.3
	comp=Z,12nm,1.1s						
BFO	Black Forest	21.45	127	P	P	11 31 38.6	-2.1
FRB	Frobisher Bay	21.75	291	LR	LR	11 39 52.3	
	comp=Z,64nm,19.2s,baz=349,slow=36						
CHVC	Chvalec	22.46	113	eP	P	11 31 55.4	+3.8
KHC	Kasperske Hory	22.67	118	eP	P	11 31 53.9	+0.1
KHC	Kasperske Hory	22.67	118	P	P	11 31 51.1	-2.7
DPC	Dobruska-Polom	22.75	113	eP	P	11 31 56.5	+1.8
SENIN	Lac Senin/Sane	22.82	132	P	P	11 31 54.5	-1.1
SENIN				IAmb	IAmb	11 32 22.0	
	comp=Z,17nm,1.5s						
GEC2	GERESS Array S	22.95	119	P	P	11 31 57.5	+0.7
GEC2				IAmb	IAmb	11 32 17.0	
	comp=Z,21nm,1.5s						
GERES	GERESS Array B	22.95	119	P	P	11 31 57.3	+0.5
	comp=Z,0.5nm,0.5s,baz=316,slow=9.3,SNR=4.9						
GERES				LR	LR	11 40 29.1	
	comp=Z,154nm,19.3s,baz=324,slow=36						
GERES	GERESS Array B	22.95	119	P	P	11 31 56.7	-0.2
KRLC	Kraliky	23.15	113	eP	P	11 32 02.4	+3.6
VRAC	Vranov	23.69	114	LR	LR	11 40 59.6	
	comp=Z,79nm,19.2s,baz=320,slow=36						
MORC	Moravsky Berou	23.69	112	P	P	11 32 05.8	+1.6
MODS	Modra-Piesok	24.71	115	eP	P	11 32 20.1	+6.5
VYHS	Vyhne	25.23	112	eP	P	11 32 22.6	+4.3
KLMR	Klimovskoe	25.59	72	eP	P	11 32 22.9	+1.4
	comp=Z,15nm,1.2s						
KLMR	Klimovskoe	25.59	72	e	P	11 32 23.3	+1.9
KLMR				AMP		11 32 29.4	
	comp=Z,15nm,1.2s						
LSH	Leshukonskoye	25.95	61	eP	P	11 32 22.9	-1.8
	comp=Z,18nm,1.2s						
SCHQ	Schefferville	26.05	271	P	P	11 32 25.9	+0.2
	comp=Z,4.6nm,0.8s,baz=45,slow=15,SNR=5.7						
SCHQ	Schefferville	26.05	271	P	P	11 32 26.6	+0.9
SCHQ				IAmb	IAmb	11 32 32.9	
	comp=Z,7.3nm,0.9s						
PSZ	Piszkesteto	26.11	112	P	P	11 32 26.5	+0.1
ESDC	Sonseca Array	26.26	156	P	P	11 32 27.2	-0.6
	comp=Z,1.0nm,0.7s,baz=352,slow=9.4,SNR=7.2						
ESDC				LR	LR	11 41 55.6	
	comp=Z,61nm,18.5s,baz=335,slow=34						
ESDC	Sonseca Array	26.26	156	P	P	11 32 28.4	+0.6
KOLS	Kolonicke sedl	26.27	108	eP	P	11 32 31.9	+4.2
RES	Resolute Bay	26.46	324	LR	LR	11 43 35.7	
	comp=Z,40nm,20.9s,baz=82,slow=38						
FRNY	Flat Rock	36.39	265	P	P	11 33 59.5	+2.8
FRNY				IAmb	IAmb	11 34 02.3	
	comp=Z,12nm,1.2s						
BR131	Keskin Array S	38.47	105	P	P	11 34 16.3	+1.7
BRTR	Keskin Array B	38.47	105	P	P	11 34 14.1	-0.5
	comp=Z,1.5nm,0.8s,baz=321,slow=11,SNR=3.2						
BRTR	Keskin Array B	38.47	105	P	P	11 34 16.0	+1.4
KBZ	Khabaz	39.10	92	P	P	11 34 21.5	+1.9
	comp=Z,2.1nm,0.8s,baz=288,slow=13,SNR=2.3						
ABKAR	Akbulak array	41.98	73	P	P	11 34 43.6	+0.3
Q51A	Peebles	45.32	269	P	P	11 35 13.9	+3.5
ILAR	Eielson Array	45.68	332	P	P	11 35 13.8	+1.0
	comp=Z,1.1nm,1.0s,baz=36,slow=6.2,SNR=8.0						
ILAR				PcP	PcP	11 36 50.7	+0.1
	comp=Z,0.1nm,0.5s,baz=358,slow=2.9,SNR=3.8						
IMAR	Indian Mountai	45.85	337	P	P	11 35 14.5	+0.3
BCAR	Beaver Creek A	46.10	329	P	P	11 35

SRU	**San Rafael Swe**	**56.67**	**292**	P	**P**	**11 36 35.5**	**-0.4**
PV11	**David Mesa, Pa**	**56.71**	**290**	P	**P**	**11 36 37.4**	**+1.2**
PV01	**Paradox Valley**	**56.72**	**289**	P	**P**	**11 36 36.7**	**+0.3**
PV01				IAmb	IAmb	11 36 42.2	
	comp=Z,6.1nm,1.1s						
PV02	**Paradox Valley**	**56.73**	**290**	P	**P**	**11 36 35.8**	**-0.6**
PV03	**Paradox Valley**	**56.73**	**290**	P	**P**	**11 36 36.6**	**+0.2**
PV03				IAmb	IAmb	11 36 41.4	
	comp=Z,8.4nm,1.3s						
PV17	**East Wray Mesa**	**56.76**	**290**	P	**P**	**11 36 36.3**	**-0.3**
PV17				IAmb	IAmb	11 36 41.6	
	comp=Z,7.6nm,1.2s						
TMUT	**Trail Mountain**	**56.79**	**292**	P	**P**	**11 36 38.3**	**+1.3**
PV13	**Radium Mtn., P**	**56.80**	**290**	P	**P**	**11 36 37.6**	**+0.6**
PV05	**Paradox Valley**	**56.99**	**290**	P	**P**	**11 36 37.4**	**-0.9**
PV05				IAmb	IAmb	11 36 43.2	
	comp=Z,5.6nm,0.9s						
WMQ	**Urumqi**	**57.22**	**56**	*e*P	P	11 36 44.0	+4.4
MSU	**Marysvale**	**57.85**	**293**	P	**P**	**11 36 45.0**	**+0.7**
TCRU	**Three Creeks R**	**57.87**	**293**	P	**P**	**11 36 45.2**	**+0.7**
MTPU	**Mount Pierson**	**58.26**	**292**	P	**P**	**11 36 48.6**	**+1.3**
CCUT	**Cedar City**	**59.15**	**293**	P	**P**	**11 36 55.9**	**+2.5**
R11A	**Troy Canyon, C**	**59.33**	**295**	P	**P**	**11 36 55.2**	**+0.7**
BNM	**Barren Site**	**59.35**	**285**	P	**P**	**11 36 56.2**	**+1.4**
KNB	**Kanab**	**59.40**	**292**	P	**P**	**11 36 56.1**	**+1.1**
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**11 36 56.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=313,slow=5.1,SNR=1.4						
SONM				LR	LR	12 03 31.9	
	comp=Z,28nm,18.6s,baz=336,slow=37						
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**11 36 55.6**	**-0.8**
KVN	**Kaiserville**	**59.69**	**298**	P	**P**	**11 36 56.8**	**-0.3**
KVN				IAmb	IAmb	11 37 02.7	
	comp=Z,3.7nm,1.1s						
U15A	**North Rim**	**59.69**	**291**	P	**P**	**11 36 57.6**	**+0.4**
WUAZ	**Wupatki**	**60.11**	**290**	P	**P**	**11 37 00.2**	**+0.2**
NVAR	**Mina Array Bea**	**60.31**	**297**	P	**P**	**11 37 01.5**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=29,slow=2.8,SNR=3.8						
SHPR	**Sheep Range**	**60.77**	**294**	P	**P**	**11 37 05.5**	**+1.1**
SHPR				IAmb	IAmb	11 37 10.3	
	comp=Z,4.4nm,1.3s						
X16A	**Lo Mia Camp, P**	**61.10**	**290**	P	**P**	**11 37 06.8**	**+0.1**
X16A				IAmb	IAmb	11 37 13.0	
	comp=Z,5.2nm,1.2s						
TXAR	**Lajitas Array**	**62.29**	**280**	P	**P**	**11 37 14.1**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=46,slow=5.4,SNR=6.4						
TXAR	**Lajitas Array**	**62.29**	**280**	P	**P**	**11 37 14.7**	**0.0**
TUC	**Tucson**	**62.66**	**288**	P	**P**	**11 37 16.4**	**-0.8**
HHC	**Hu-ho-hao-te**	**67.50**	**40**	*e*P	**P**	**11 37 51.0**	**+2.5**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,56nm,6.1s						
LZH	**Lanzhou**	**69.61**	**48**	*e*P	**P**	**11 38 02.3**	**+0.5**
LZH				*e*PP	**PP**	**11 40 37.5**	**+2.4**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,67nm,6.5s						
LZH				LR	LR		
	comp=N,130nm,15.2s						
LZH				LR	LR		
	comp=E,130nm,15.0s						
LZH				LR	LR		
	comp=Z,210nm,17.5s						
NJ2	**Nanjing**	**77.72**	**37**	*e*P	**P**	**11 38 49.6**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**131.51**	**36**	PKP	**PKPdf**	**11 46 04.3**	**-0.7**
	comp=Z,0.4nm,1.0s,baz=336,slow=2.0,SNR=2.1						
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKiKP**	**11 46 12.1**	**-0.7**
	comp=Z,0.4nm,1.0s,baz=20,slow=3.0,SNR=1.9						

TAP 02 12:20:46.0, 24°.55N×121°.69E, h69km±1km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.13**	**159**	P	Pn	12 20 56.6	+0.4
	baz=156						
ENA				S	Sn	12 21 04.0	+0.3
	baz=156						
ENTT	**Nioudou**	**0.14**	**308**	*i* P	Pn	12 20 56.5	+0.3
	baz=308						
ENTT				S	Sn	12 21 04.3	+0.6
	baz=308						
NDT	**Datong Townshi**	**0.17**	**287**	*e*P	Pn	12 20 56.7	+0.3
	baz=287						
NDT				*e*S	Sn	12 21 04.8	+0.9
	baz=287						
TWE	**Neicheng**	**0.17**	**353**	P	Pn	12 20 56.6	+0.2
	baz=357						
TWE				S	Sn	12 21 04.9	+1.0
	baz=357						
NWLT	**Wulai**	**0.28**	**323**	*e*P	Pn	12 20 56.7	-0.2
	baz=322						
NWLT				*e*S	Sn	12 21 04.5	-0.4
	baz=322						
NNSB	**Datong**	**0.30**	**246**	P	Pn	12 20 57.2	0.0
	baz=246						
NNSB				S	Sn	12 21 05.5	+0.1
	baz=246						
NNSH	**Datong**	**0.30**	**246**	*e*P	Pn	12 20 57.5	+0.3
	baz=246						
NNSH				*e*S	Sn	12 21 05.6	+0.2
	baz=246						
YHNB	**Yeheng**	**0.31**	**292**	P	Pn	12 20 57.3	+0.1
	baz=292						
YHNB				S	Sn	12 21 05.4	0.0
	baz=292						
NNS	**Nan Shan**	**0.31**	**249**	P	Pn	12 20 57.5	+0.2
	baz=247						
NNS				S	Sn	12 21 06.3	+0.8
	baz=247						
NSK	**Sanguang**	**0.33**	**292**	P	Pn	12 20 57.4	+0.1
	baz=292						
NSK				S	Sn	12 21 05.3	-0.3
	baz=292						
EGS		**0.37**	**37**	*e*P	Pn	12 20 58.0	+0.5
	baz=38						
EGS				*e*S	Sn	12 21 06.3	+0.4
	baz=38						
NACB	**Ninganchiao**	**0.39**	**193**	*e*P	Pn	12 20 57.3	-0.4
	baz=192						
NACB				*e*S	Sn	12 21 07.0	+0.8
	baz=192						
ETLH	**Xiulin Townshi**	**0.39**	**209**	*e*P	Pn	12 20 57.3	-0.5
	baz=208						
ETLH				S	Sn	12 21 06.2	-0.3
	baz=208						
TIPB	**Shuangxi**	**0.44**	**17**	P	Pn	12 20 58.5	+0.4
	baz=16						
TIPB				S	Sn	12 21 08.0	+1.0
	baz=16						
FUSS	**Fushou**	**0.51**	**233**	*e*P	Pn	12 20 59.5	+0.5
	baz=233						
FUSS				*e*S	Sn	12 21 08.9	+0.3
	baz=233						
TWT	**Tachien**	**0.55**	**238**	*e*P	Pn	12 20 59.6	+0.2
	baz=237						
WHF	**Hehuan Shan**	**0.56**	**224**	*e*P	Pn	12 20 59.7	-0.1
	baz=223						
WHF				S	Sn	12 21 10.1	+0.2
	baz=223						
TDCB	**Techi**	**0.57**	**239**	P	Pn	12 21 00.7	+1.2
	baz=238						
TDCB				S	Sn	12 21 10.2	+0.8
	baz=238						
YM01	**YM01**	**0.60**	**350**	*e*S	Sn	12 21 10.2	+0.2
	baz=349						
YM10	**YM10**	**0.61**	**349**	*e*S	Sn	12 21 10.7	+0.5
	baz=349						
LIOB	**Emei**	**0.62**	**279**	*e*P	Pn	12 21 00.3	+0.4
	baz=278						
LIOB				*e*S	Sn	12 21 11.4	+1.2
	baz=278						
NSTT	**Nanjuang**	**0.63**	**277**	P	Pn	12 21 00.2	+0.2
	baz=277						
NSTT				S	Sn	12 21 11.1	+0.7
	baz=277						
CHGB	**Renai**	**0.68**	**224**	P	Pn	12 21 00.8	0.0
	baz=223						
CHGB				S	Sn	12 21 12.1	+0.4
	baz=223						
WHP	**Taichung City**	**0.73**	**248**	*e*P	Pn	12 21 02.2	+1.0
	baz=248						
WHP				*e*S	Sn	12 21 13.8	+1.3
	baz=248						
ESL	**Shilin**	**0.77**	**198**	*e*P	Pn	12 21 02.2	+0.6
	baz=197						
ESL				*e*S	Sn	12 21 13.8	+0.6
	baz=197						

JMA 02 12:21:20.0±0.3, 24°.19N×123°.62E, h50km±2km, M0.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.18**	**35**	P	Pn	12 21 28.2	0.0
IRIF				*e*S	Sn	12 21 33.9	-0.1
HATJ	**Hateruma jima**	**0.21**	**128**	P	Pn	12 21 28.3	-0.1
HATJ				*e*S	Sn	12 21 34.3	-0.1
JKRS	**Kuro-shima**	**0.36**	**82**	P	Pn	12 21 30.0	+0.3
JKRS				S	Sn	12 21 36.9	+0.3
JIJ	**Ishigaki jima**	**0.51**	**70**	P	Pn	12 21 31.2	-0.1
JIJ				*e*S	Sn	12 21 39.0	-0.5
JISG	**Ishigakijimahi**	**0.74**	**58**	P	Pn	12 21 34.3	0.0
JISG				*e*S	Sn	12 21 44.5	-0.2

KRSC 02 12:28:08.4±2.0, 48°.78N×156°.37E, h34km±25km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.91**	**355**	*e*P	Pn	12 28 39.9	+1.4
SKR				*e*S	Sn	12 29 03.1	+1.7
ALID	**Alaid**	**2.16**	**346**	*e*P	Pn	12 28 42.1	+0.1
ALID				*e*S	Sn	12 29 08.5	+0.8
PAU	**Pauzhetka**	**2.71**	**6**	*e*P	Pn	12 28 52.6	+3.2
PAU				*e*S	Sb	12 29 25.7	-3.1
KDTR	**Khodutka, Kamc**	**3.23**	**19**	*e*P	Pn	12 29 00.5	+4.0
KDTR				*e*S	Sb	12 29 40.1	-3.6
MIPR	**Malaya Ipel'ka**	**3.51**	**4**	*e*P	Pn	12 29 03.3	+2.8
ASAK	**Asacha**	**3.74**	**15**	*e*P	Pn	12 29 08.3	+4.6
MTVR	**Mutnovka**	**3.88**	**17**	*e*P	Pn	12 29 10.3	+4.6
MTVR				*e*S	Sb	12 29 56.9	-5.8
RUS	**Russkaya**	**3.91**	**20**	*e*P	Pn	12 29 09.7	+3.8
RUS				*e*S	Sn	12 29 56.3	+5.9
GRL	**Gorelyy**	**3.93**	**15**	*e*P	Pn	12 29 10.8	+4.5
GRL				*e*S	Sn	12 29 57.0	+5.7
APC	**Apacha**	**4.18**	**7**	*e*P	Pn	12 29 14.0	+4.3
KRMR	**Karymshinskiy**	**4.21**	**15**	*e*P	Pn	12 29 14.5	+4.5
KRMR				*e*S	Sn	12 30 03.7	+5.8
PET	**Petropavlovsk**	**4.49**	**18**	*e*P	Pn	12 29 17.2	+3.3
PET				*e*S	Sn	12 30 11.2	+6.4
DALK	**Dalny**	**4.52**	**19**	*e*P	Pn	12 29 18.4	+4.1
DALK				*e*S	Sn	12 30 12.9	+7.4
UGLR	**Uglovaya**	**4.70**	**18**	*e*P	Pn	12 29 21.7	+4.8
AVH	**Avacha**	**4.73**	**17**	*e*P	Pn	12 29 23.5	+6.2
KOK	**Koryaka**	**4.74**	**17**	*e*P	Pn	12 29 22.3	+4.9
KRX	**Arik**	**4.81**	**17**	*e*P	Pn	12 29 23.7	+5.3
SPN	**Mys Shipunski**	**4.90**	**27**	*e*P	Pn	12 29 24.2	+4.6
SPN				*e*S	Sn	12 30 21.1	+6.1
TUMD	**Tumrok D**	**6.90**	**20**	*e*S	Sn	12 31 08.8	+4.6
TUMR	**Tumrok**	**6.92**	**18**	*e*P	Pn	12 29 53.8	+6.5
KBTR	**Krutoberegovo**	**8.41**	**25**	*e*P	Pn	12 30 13.3	+5.6
BKI	**Bering**	**8.74**	**39**	*e*S	Sn	12 31 52.0	+2.6

MOS ***02*** *12:39:12.9±1.1, 36°.12N×70°.17E, h106km, mb4.8/35, Error ellipse: s-maj=5.4km s-min=3.4km az=84.8*
IDC ***02*** *12:39:13.7±0.5, 35°.94N×70°.10E, h110km±4km, mb4.1/35, mb1 4.2/39, mb1mx4.0/58, mbtmp4.5/39, MS3.3/9, Ms1 3.3/9, ms1mx3.0/42, Error ellipse: s-maj=10.0km s-min=7.8km az=28.0*
NEIC ***02*** *12:39:14.2±3.0, 36°.08N±0°.04×70°.00E±0°.07, h114km±5km, mb4.7/63, Error ellipse: s-maj=8.8km s-min=6.4km az=104.0*
NNC ***02*** *12:39:15.1±2.3, 36°.37N×69°.68E, h107km±27km, mb4.5, mpv4.9, Error ellipse: s-maj=21.5km s-min=10.9km az=160.0*
BJI ***02*** *12:39:16.7±0.0, 36°.26N×70°.23E, h128km, mB4.6/27, mb4.5/36*

ISC 02 12:39:13.5±0.3, 36°.05N±0°.03×70°.06E±0°.03, h102km±3km, h102km:pP-P, n415, σ19.96/463, mb4.7/98, 49C-13D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.72**	**209**	P	**Pn**	**12 39 44.1**	**+1.3**
	SNR=254						
KBL				S	**Sn**	**12 40 06.6**	**+1.5**
KBL	**Kabul**	**1.72**	**209**	PN	**Pn**	**12 39 44.0**	**+1.2**
KBL						12 40 07.2	
KBL	**Kabul**	**1.72**	**209**		**Pn**	**12 39 44.0**	**+1.2**
KBL				Sn	**Sn**	**12 40 07.2**	**+2.0**
CEP	**Cherat**	**2.69**	**145**	P	**Pn**	**12 39 57.5**	**+2.2**
CEP				S	**Sn**	**12 40 30.0**	**+2.5**
CHGR	**Chuyangaron**	**2.70**	**345**	Pn	**Pn**	**12 39 55.4**	**+0.1**
CHGR				Sn	**Sn**	**12 40 25.3**	**-2.1**
GAR	**Garm**	**2.95**	**4**		**Pn**	**12 39 59.8**	**+1.1**
GAR				Sn	**Sn**	**12 40 33.4**	**-0.1**
THW	**Thamme Wali**	**3.54**	**156**	P	**Pn**	**12 40 08.1**	**+1.6**
NIL	**Nilore**	**3.56**	**132**	P	**Pn**	**12 40 09.3**	**+2.6**
NIL	**Nilore**	**3.56**	**132**	PN	**Pn**	**12 40 09.1**	**+2.4**
NIL	**Nilore**	**3.56**	**132**	Pn	**Pn**	**12 40 09.1**	**+2.4**
BTK	**Batken**	**4.04**	**8**	PN	**Pn**	**12 40 14.7**	**+1.4**
BTK	**Batken**	**4.04**	**8**		**Pn**	**12 40 14.7**	**+1.4**
TAS	**Tashkent**	**5.30**	**354**	PN	**Pn**	**12 40 30.6**	**+0.4**
TAS	**Tashkent**	**5.30**	**354**	Pn	**Pn**	**12 40 30.6**	**+0.4**
KSH	**Kashi**	**5.82**	**52**	P	**Pn**	**12 40 35.9**	**-1.5**
KSH				S	**Sn**	**12 41 35.9**	**-6.9**
KSH				smax	smax		
	comp=N,370nm,0.4s						
KSH				smax	smax		
	comp=E,300nm,0.4s						
THN	**Thein Dam**	**5.91**	**126**	*e*P	**Pn**	**12 40 41.5**	**+2.9**
THN				*e*S	**Sn**	**12 41 46.0**	**+1.0**
IUG	**Iuzhnay**	**6.08**	**360⇑**	*e*P	**Pn**	**12 40 40.5**	**-0.4**
	64nm,0.7s						
IUG	**Iuzhnay**	**6.08**	**360**	*ce*PN	**Pn**	**12 40 40.5**	**-0.4**
IUG				pmax	pmax		
	comp=Z,64nm,0.7s						
DHRM	**DHARAMSHALA**	**6.41**	**124**	*e*P	**Pn**	**12 40 46.4**	**+0.8**
DHRM				*e*S	**Sn**	**12 41 57.0**	**-0.5**
HRA	**Herat**	**6.61**	**258**	Pn	**Pn**	**12 40 47.4**	**-0.8**
AML	**Almayashu**	**6.69**	**24**	P	**Pn**	**12 40 49.7**	**+0.2**
	SNR=177						
DZA	**Taraz**	**6.90**	**8**	*e*P	**Pn**	**12 40 51.6**	**-0.4**
	comp=Z,58nm,0.6s						
DZA	**Taraz**	**6.90**	**8**	*e*PN	**Pn**	**12 40 51.5**	**-0.4**
DZA				pmax	pmax		
	comp=Z,58nm,0.6s						
BHK	**Bhakra**	**7.03**	**129**	*e*P	**Pn**	**12 40 55.8**	**+2.0**
BHK				*e*S	**Sn**	**12 42 12.8**	**+0.6**
KK31	**Karatay Array**	**7.05**	**3**	⇑P	**Pn**	**12 40 53.7**	**-0.3**
	comp=Z,15nm,0.3s,baz=192,slow=14,SNR=622						
KK31				⇑S	**Sn**	**12 42 07.8**	**-4.7**
	comp=Z,135nm,0.8s,baz=188,slow=20,SNR=5.1						
KK31	**Karatay Array**	**7.05**	**3**	*i* PN	**Pn**	**12 40 53.6**	**-0.3**
KK31	**Karatay Array**	**7.05**	**3**	Pn	**Pn**	**12 40 53.7**	**-0.3**
KK31				Sn	**Sn**	**12 42 10.8**	**-1.7**
KKAR	**Karatay Array**	**7.05**	**3**	PN	**Pn**	**12 40 53.5**	**-0.5**
KKAR	**Karatay Array**	**7.05**	**3**		**Pn**	**12 40 53.5**	**-0.5**
UCH	**Uchtor**	**7.07**	**28**	P	**Pn**	**12 40 54.7**	**+0.1**
	SNR=208						
EKS2	**Erkin-Say**	**7.20**	**22**	P	**Pn**	**12 40 56.7**	**+0.6**
	SNR=37						
KZA	**Kyzart**	**7.24**	**32**	P	**Pn**	**12 40 57.2**	**+0.2**
	SNR=129						
AAK	**Ala-Archa**	**7.42**	**26**	P	**Pn**	**12 40 59.8**	**+0.8**
	comp=Z,28nm,0.3s,baz=197,slow=9.5,SNR=162						
AAK				S	**Sn**	**12 42 20.5**	**-1.1**
	comp=Z,17nm,0.3s,baz=336,slow=23,SNR=11						
AAK	**Ala-Archa**	**7.42**	**26**	P	**Pn**	**12 40 59.9**	**+0.8**
	SNR=105						
AAK	**Ala-Archa**	**7.42**	**26**	P	**Pn**	**12 40 59.6**	**+0.5**
AAK	**Ala-Archa**	**7.42**	**26**	P	**Pn**	**12 40 59.4**	**+0.4**
	comp=Z,64nm,0.3s						
AAK				⇑S	**Sn**	**12 42 21.0**	**-0.7**
	comp=Z,104nm,0.6s						
AAK	**Ala-Archa**	**7.42**	**26**	P	**Pn**	**12 40 60.0**	**+0.9**
AAK				S	**Sn**	**12 42 20.7**	**-1.0**
AAK	**Ala-Archa**	**7.42**	**26**	*c i*PN	**Pn**	**12 40 59.5**	**+0.5**
AAK	**Ala-Archa**	**7.42**	**26**	Pn	**Pn**	**12 40 59.6**	**+0.5**
KBK	**Karagaybulak**	**7.60**	**28**	P	**Pn**	**12 41 02.5**	**+0.9**
	SNR=39						
FRU1	**Bishkek**	**7.62**	**26**	PN	**Pn**	**12 41 02.3**	**+0.6**
FRU1	**Bishkek**	**7.62**	**26**		**Pn**	**12 41 02.3**	**+0.6**
SMLA	**Simla**	**7.70**	**128**	*e*P	**Pn**	**12 41 03.2**	**+0.4**
SMLA				*e*S	**Sn**	**12 42 25.3**	**-3.1**
SMLA				IAML		12 42 28.2	
	comp=E,411nm,0.3s						
CHMS	**Chumysh**	**7.82**	**26**	P	**Pn**	**12 41 04.8**	**+0.3**
	SNR=56						
ULHL	**Ulahol**	**7.83**	**36**	P	**Pn**	**12 41 06.3**	**+1.6**
	SNR=8.6						
USP	**Ospenovka**	**7.97**	**24**	P	**Pn**	**12 41 06.6**	**+0.1**
	SNR=9.7						
TKM2	**Tokmak 2**	**8.08**	**30**	P	**Pn**	**12 41 08.5**	**+0.4**
	SNR=139						
TKM2	**Tokmak 2**	**8.08**	**30**	⇑P	**Pn**	**12 41 07.9**	**-0.3**
	comp=E,38nm,0.6s						
TKM2				⇑S	**Sn**	**12 42 36.6**	**-1.3**
	comp=E,142nm,0.9s						
TKM2	**Tokmak 2**	**8.08**	**30**	PN	**Pn**	**12 41 07.9**	**-0.3**
SGDS	**Sogindy**	**8.18**	**24**	*e*P	**Pn**	**12 41 08.1**	**-1.4**
SGDS	**Sogindy**	**8.18**	**24**	*e*PN	**Pn**	**12 41 08.0**	**-1.4**
KDJ	**Kajisay**	**8.21**	**40**	PN	**Pn**	**12 41 10.0**	**+0.1**
KDJ	**Kajisay**	**8.21**	**40**	Pn	**Pn**	**12 41 09.9**	**+0.1**
MTBS	**Maitube**	**8.61**	**33**	*e*P	**Pn**	**12 41 14.0**	**-1.2**
MTBS	**Maitube**	**8.61**	**33**	*e*PN	**Pn**	**12 41 14.0**	**-1.2**
TNSS	**Tian-Shan**	**8.77**	**35⇑**	*e*P	**Pn**	**12 41 16.4**	**-1.3**
TNSS	**Tian-Shan**	**8.77**	**35**	*ce*PN	**Pn**	**12 41 16.3**	**-1.3**
DDI	**Dehra Dun**	**8.80**	**128**	*e*P	**Pn**	**12 41 18.9**	**+0.9**
DDI				*ex*	x	12 42 52.2	
AAA	**Alma-Ata**	**8.89**	**34**	*e*P	**Pn**	**12 41 18.2**	**-0.8**
AAA	**Alma-Ata**	**8.89**	**34**	*e*PN	**Pn**	**12 41 18.2**	**-0.8**
MDOK	**Medeo**	**8.91**	**35**	*e*P	**Pn**	**12 41 19.4**	**0.0**
MDOK	**Medeo**	**8.91**	**35**	*e*PN	**Pn**	**12 41 19.4**	**0.0**
PRZ	**Przheval'sk**	**9.11**	**43**	P	**Pn**	**12 41 22.5**	**+0.4**
PRZ	**Przheval'sk**	**9.11**	**43**		**Pn**	**12 41 22.5**	**+0.4**
JASL	**Jaisalmer**	**9.13**	**175**	*e*P	**Pn**	**12 41 20.1**	**-2.2**
JASL				*e*S	**Sn**	**12 42 55.9**	**-7.4**
KUU	**Kurty**	**9.19**	**30**	*e*P	**Pn**	**12 41 21.5**	**-1.5**
	comp=E,18nm,0.9s						
KUU	**Kurty**	**9.19**	**30**	*e*P	**Pn**	**12 41 21.5**	**-1.5**
KUU				pmax	pmax		
	comp=Z,18nm,0.9s						
CHKK	**Chushkaly**	**9.43**	**32**	*e*P	**Pn**	**12 41 24.9**	**-1.5**
CHKK	**Chushkaly**	**9.43**	**32**	*e*P	**Pn**	**12 41 24.8**	**-1.5**
BTLS	**Baital**	**9.47**	**17**	*e*P	**Pn**	**12 41 25.1**	**-1.8**
	comp=Z,3.9nm,0.6s						
BTLS	**Baital**	**9.47**	**17**	*e*P	**Pn**	**12 41 25.1**	**-1.8**
BTLS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SATY	**Saty**	**9.51**	**40**	*e*P	**Pn**	**12 41 25.7**	**-1.7**
SATY	**Saty**	**9.51**	**40**	*e*P	**Pn**	**12 41 25.7**	**-1.7**
NDI	**New Delhi**	**9.52**	**139**	*e*P	**Pn**	**12 41 28.0**	**+0.4**
NDI				IAML		12 42 53.3	
	comp=E,2μm,0.2s						
NDI				*e*S	**Sn**	**12 43 05.0**	**-7.7**
ASHT	**Ashkhabad**	**9.53**	**285**	P	**Pn**	**12 41 25.0**	**-2.6**
ASHT	**Ashkhabad**	**9.53**	**285**	Pn	**Pn**	**12 41 25.0**	**-2.6**
GEYT	**Alibeck**	**9.74**	**285**	P	**Pn**	**12 41 27.6**	**-2.9**
	comp=E,8.0nm,0.3s,baz=118,slow=11,SNR=69						
GEYT				S	**Sn**	**12 43 13.6**	**-4.4**
	comp=E,18nm,0.3s,baz=153,slow=19,SNR=10						
GEYT				LR	LR	12 45 43.8	
	comp=E,71nm,21.1s,baz=200,slow=40						
GEYT	**Alibeck**	**9.74**	**285**		**Pn**	**12 41 27.5**	**-3.1**
GYA0B	**ALIBECK ARRAY**	**9.74**	**285**	⇑P	**Pn**	**12 41 28.3**	**-2.2**
GYA0B				⇓S	Sn	12 43 08.8	-9.2
GYA0B	**ALIBECK ARRAY**	**9.74**	**285**		**Pn**	**12 41 27.8**	**-2.8**
SONA	**Sohna**	**9.79**	**141**	*e*P	**Pn**	**12 41 31.0**	**-0.3**
SONA				*e*S	**Sn**	**12 43 11.7**	**-7.7**
SONA				*e*S	**Sn**	**12 43 11.7**	**-7.7**
UZB	**Uzynbulak**	**9.89**	**42**	*e*P	**Pn**	**12 41 31.4**	**-1.3**
UZB	**Uzynbulak**	**9.89**	**42**	*e*P	**Pn**	**12 41 31.4**	**-1.3**
KPKS	**Kokpek**	**9.94**	**39⇑**	*e*P	**Pn**	**12 41 32.2**	**-1.1**
	comp=E,12nm,0.6s						
KPKS	**Kokpek**	**9.94**	**39**	*ce*P	**Pn**	**12 41 32.2**	**-1.1**
KPKS				pmax	pmax		
	comp=Z,12nm,0.6s						
SHLS	**Shalkode**	**10.14**	**43**	*e*P	**Pn**	**12 41 38.2**	**+2.1**
	comp=Z,4.6nm,0.8s						
SHLS	**Shalkode**	**10.14**	**43**	*e*P	**Pn**	**12 41 38.2**	**+2.1**
SHLS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PDGK	**Podgornoye**	**10.27**	**42**	⇑P	**Pn**	**12 41 37.0**	**-0.8**
	comp=Z,10nm,0.8s						
TDK	**Taldyqorghan**	**10.96**	**33**	*e*P	**Pn**	**12 41 45.5**	**-1.5**
TDK	**Taldyqorghan**	**10.96**	**33**	*e*P	**Pn**	**12 41 45.5**	**-1.5**
BHUJ	**Bhuj**	**12.76**	**182**	*e*P	Pn	12 42 06.0	-5.2
BHUJ				IVmB_BB		12 42 10.4	
	comp=Z,644nm,0.6s						
BHUJ				*e*S	Sn	12 44 19.9	-12
PYUN	**Piuthan**	**13.52**	**122**	*e*P	**Pn**	**12 42 17.3**	**-4.0**
PYUN	**Piuthan**	**13.52**	**122**	*e*P	**Pn**	**12 42 17.3**	**-4.0**
MAKZ	**Makanchi**	**13.96**	**36**	⇑P	**Pn**	**12 42 25.8**	**-0.8**
	comp=Z,38nm,1.0s						
MAKZ	**Makanchi**	**13.96**	**36**	P	**Pn**	**12 42 24.7**	**-1.9**
MAKZ	**Makanchi**	**13.96**	**36**		**Pn**	**12 42 24.7**	**-1.9**
BRZS	**Berezniki**	**14.05**	**7**	*e*P	**Pn**	**12 42 25.6**	**-2.2**
	comp=Z,14nm,0.8s						
BRZS	**Berezniki**	**14.05**	**7**	*e*P	**Pn**	**12 42 25.5**	**-2.2**
BRZS				pmax	pmax		
	comp=Z,14nm,0.8s						
MK31	**Makanchi Array**	**14.10**	**37**	⇑P	**Pn**	**

comp=Z,32nm,0.9s
MDH Madha 15.95 232 *i* P **Pn 12 42 51.9 -0.2**
SNR=6.0
MSFE Esma-Masafi 16.00 232 P **P 12 42 53.8 -0.4**
JIRN Jiri 16.04 117 *eP* **Pn 12 42 52.5 -1.0**
comp=Z,119nm,0.4s
JIRN Jiri 16.04 117 *eP* **Pn 12 42 52.5 -1.0**
comp=Z,119nm,0.4s
WSAR Wadi Sarin 16.16 221 P **Pn 12 42 52.1 -2.5**
comp=Z,0.7nm,0.3s,baz=45,slow=3.2,SNR=7.2
WSAR LR LR 12 50 14.6
comp=Z,52nm,19.2s,baz=88,slow=41
UOSS Minazif 16.27 231 *i* P **Pn 12 42 56.0 +0.1**
SNR=9.6
UOSS Minazif 16.27 231 P **P 12 42 56.5 -0.5**
UOSS Minazif 16.27 231 **Pn 12 42 56.4 +0.5**
HATD Hatta, Dubai 16.40 231 *i* P **P 12 42 58.5 0.0**
SNR=8.4
HATD Hatta, Dubai 16.40 231 P **P 12 43 00.0 +1.5**
SNR=6.0
WBK Wadi Bani Khal 16.50 219 P **P 12 43 01.5 +1.8**
SNR=7.4
ASHO Ashiyiah 16.55 231 *i* P **P 12 43 01.0 +0.8**
SNR=33
ASHO Ashiyiah 16.55 231 P **P 12 43 01.6 +1.4**
SNR=15
JLN Jalan Bani Buh 16.67 217 P **P 12 43 04.0 +2.4**
SNR=12
RAMN Ramite 16.75 118 *eP* **Pn 12 43 01.6 -0.6**
comp=Z,65nm,0.7s
RAMN Ramite 16.75 118 *eP* **Pn 12 43 01.6 -0.6**
comp=Z,65nm,0.7s
NGP Nagpur 16.80 150 *ex* **Pn 12 42 59.3 -3.2**
NGP IVmB_BB 12 43 04.2
comp=Z,318nm,1.4s
NGP *ex* x 12 45 59.3
AKTO Aktyubinsk 16.81 333 P **Pn 12 43 01.4 -1.0**
comp=Z,1.3nm,0.3s,baz=144,slow=13,SNR=38
AKTO S Sn 12 45 55.8 -13
comp=Z,0.5nm,0.3s,baz=326,slow=23,SNR=7.1
AKTO LR LR 12 50 01.5
comp=Z,132nm,20.7s,baz=145,slow=38
AKTO Aktyubinsk 16.81 333 ⇑P **Pn 12 43 00.1 -2.3**
comp=Z,95nm,1.2s
AKTO ⇑S **Sn 12 45 59.1 -10**
comp=Z,104nm,1.1s
BVA0 Borovoye Array 16.97 1 P **Pn 12 43 03.2 -1.1**
comp=Z,37nm,1.0s,baz=170,slow=10,SNR=115
BVA0 Borovoye Array 16.97 1 *i* P **Pn 12 43 03.2 -1.1**
BVAR Borovoye Array 16.97 1 P **Pn 12 43 03.7 -0.6**
comp=Z,2.4nm,0.3s,baz=171,slow=12,SNR=40
BVAR S **Sn 12 46 06.6 -6.2**
comp=Z,0.5nm,0.3s,baz=194,slow=20,SNR=1.6
BRVK Borovoye 17.00 0 ⇑P **Pn 12 43 02.6 -2.2**
comp=Z,59nm,1.3s
BRVK Borovoye 17.00 0 P **Pn 12 43 04.2 -0.5**
BRVK Borovoye 17.00 0 *ceP* **Pn 12 43 03.6 -1.1**
BRVK pmax pmax
comp=Z,60nm,1.3s
BRVK Borovoye 17.00 0 Pn **Pn 12 43 02.5 -2.2**
BRVK IAmb IAmb 12 43 08.1
comp=Z,36nm,0.8s
JMDO Jabal Madar 17.15 221 P **P 12 43 09.0 +2.2**
SNR=6.5
ALNE Al Ain 17.19 230 *i* P **P 12 43 08.0 +0.7**
SNR=9.4
ARQ Araqi 17.27 226 P **Pn 12 43 10.4 +2.2**
SNR=5.4
TAPN Taplejung 17.33 115 *eP* **Pn 12 43 09.6 +0.4**
comp=Z,153nm,1.0s
TAPN Taplejung 17.33 115 *eP* **Pn 12 43 09.6 +0.4**
comp=Z,153nm,1.0s
BSY Bisya 17.34 224 P **Pn 12 43 11.4 +2.3**
ODAN Odare 17.38 117 *eP* **Pn 12 43 09.7 0.0**
comp=Z,70nm,0.7s
ODAN Odare 17.38 117 *eP* **Pn 12 43 09.7 0.0**
comp=Z,70nm,0.7s
AKT Akhty 18.22 294 *eP* **Pn 12 43 20.8 +1.1**
AKT pmax pmax
comp=Z,13nm,0.7s
BOK Bokaro 18.34 127 *eP* **P 12 43 19.8 -0.1**
BOK IVmB_BB 12 43 22.9
comp=Z,127nm,0.3s
BOK *i* pP **pP 12 43 44.8 +4.7**
BOK *eS* S 12 46 29.5 -15
MHTO MHTO 18.37 218 P **Pn 12 43 22.0 +0.6**
SNR=5.1
DGZ Jazzator, Alta 18.59 37 *i* P **P 12 43 23.2 +0.5**
DGZ pmax pmax
comp=Z,30nm,0.9s
LSA Lhasa 18.80 104 P **Pn 12 43 27.8 +0.8**
LSA pmax pmax
comp=Z,19nm,1.1s
LSA Lhasa 18.80 104 P **Pn 12 43 27.8 +0.8**
GNBR Gunib 18.95 297 *i* P **Pn 12 43 29.2 +0.9**
GNBR pmax pmax
comp=Z,52nm,0.9s
DBC Dubki 19.19 298 *i* P **Pn 12 43 31.4 +0.3**
DBC pmax pmax
comp=Z,12nm,0.6s
DQM DQM 19.47 218 P **Pn 12 43 33.5 -1.0**
BTLR Botlikh 19.55 297 *i* P **Pn 12 43 35.4 +0.1**
BTLR pmax pmax
comp=Z,26nm,0.8s
GROC Groznyy 19.96 298 *eP* **Pn 12 43 39.0 -1.1**
GROC *e**PP **pP 12 43 58.3 +1.4**
GROC *eS* **S 12 47 20.7 +4.4**
GROC *e* 12 47 52.6
GROC pmax pmax
comp=Z,225nm,1.8s
HYB Hyderabad 20.03 156 *i* P **P 12 43 39.0 +0.6**
HYB *e* 12 47 13.0
TBLG Delisi 20.47 294 P **P 12 43 44.6 +1.6**
TBLG Delisi 20.47 294 P **P 12 43 44.6 +1.6**
ZAA0 Zalesovo Array 20.64 25 ⇓P **P 12 43 44.9 +0.4**
comp=Z,3.3nm,0.6s
ZAA0 Zalesovo Array 20.64 25 P **P 12 43 45.5 +1.0**
ZAA0 IAmb IAmb 12 43 48.2
comp=Z,27nm,0.6s
ZALV Zalesovo Beam 20.64 25 P **P 12 43 45.3 +0.7**
comp=Z,26nm,0.4s,baz=221,slow=10,SNR=75
ZALV S **S 12 47 27.4 -1.9**
comp=Z,1.4nm,0.7s,baz=214,slow=15,SNR=1.9
ZEI Tsey 21.25 296 *eP* P 12 43 37.4 -14
ZEI pmax pmax
comp=Z,31nm,1.2s
AKH Akhalkalaki 21.36 293 P **P 12 43 54.9 +2.2**
AKH pmax pmax
comp=Z,117nm,0.9s
AKH Akhalkalaki 21.36 293 P **P 12 43 54.9 +2.2**
SHL Shillong 21.42 113 P **P 12 43 54.3 +0.9**
SHL pmax pmax
comp=Z,87nm,1.1s
SHL Shillong 21.42 113 P **P 12 43 54.3 +0.9**
TEZP TEZPUR 21.54 110 *eP* **P 12 43 55.0 +0.5**
SVE Sverdlovsk 21.73 346 *eP* **P 12 43 57.0 +0.8**
SVE *eS* **S 12 47 53.6 +3.2**
SVE pmax pmax
comp=Z,61nm,1.2s
ARU Arti 21.82 343 P **P 12 43 58.4 +1.3**
comp=Z,33nm,0.9s,baz=146,slow=8.2,SNR=61
ARU S **S 12 47 52.9 +0.8**
comp=Z,2.9nm,0.7s,baz=156,slow=20,SNR=2.9
ARU Arti 21.82 343 *d i* P **P 12 43 58.4 +1.3**
ARU 12 44 27.3
ARU S **S 12 47 54.1 +2.0**
ARU SS **SnSn 12 48 34.5 +7.8**
ARU pmax pmax
comp=Z,145nm,1.0s
ARU Arti 21.82 343 P **P 12 43 57.5 +0.3**
KBZ Khabaz 22.14 299 P **P 12 44 01.1 +0.5**
comp=Z,14nm,0.9s,baz=124,slow=6.4,SNR=14
KBZ S **S 12 48 01.4 +3.4**
comp=Z,3.4nm,0.8s,baz=151,slow=17,SNR=1.1
KBZ Khabaz 22.14 299 *ceP* **P 12 44 01.3 +0.7**
KBZ pmax pmax
comp=Z,15nm,0.9s
KVAR Kislovodsk Arr 22.33 299 P **P 12 44 02.3 -0.4**
comp=Z,5.4nm,0.4s,baz=82,slow=14,SNR=2.0
KVAR S **S 12 48 04.0 +2.6**
comp=Z,9.0nm,0.7s,baz=139,slow=20,SNR=2.0
GOF Gofitskoye 22.33 302 ⇑*eP* **P 12 44 04.7 +2.1**
GOF pmax pmax
comp=Z,78nm,1.1s
KIV Kislovodsk 22.33 299 P **P 12 44 04.2 +1.4**
KIV Kislovodsk 22.33 299 *eP* **P 12 44 04.6 +1.8**
KIV *eS* **S 12 48 03.9 +2.5**
KIV pmax pmax
comp=Z,91nm,1.0s
KIV MLR MLR
comp=Z,119nm,14.0s
KIV Kislovodsk 22.33 299 P **P 12 44 03.0 +0.2**
KIV IAmb IAmb 12 44 21.8
comp=Z,32nm,0.9s
DMTO DMTO 22.65 220 P **P 12 44 06.4 +0.3**
WHFO Wadi Hawf 23.11 223 P **P 12 44 10.8 +0.1**
RBK Rabkut 23.22 221 P **P 12 44 11.9 +0.2**
KOPT Kop Dagi 23.57 289 P **P 12 44 16.3 +1.3**
KOPT IAmb IAmb 12 44 21.2
comp=Z,23nm,1.0s
GTA Gaotai 23.72 73 P **P 12 44 18.3 +2.1**
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA LR LR
comp=Z,140nm,14.9s
GTA LR LR
comp=Z,100nm,14.3s
GTA LR LR
comp=Z,130nm,16.2s
ABTO Aybut 23.83 223 P **P 12 44 17.7 +0.4**
SAIH SAIHA 24.06 118 *eP* **P 12 44 21.1 +1.6**
SOC Sochi 24.39 297 *eP* **P 12 44 21.3 -0.8**
SOC *eS* **S 12 48 33.0 -1.3**
SOC pmax pmax
comp=Z,27nm,0.8s
KIRV Kirov 26.32 335 P **P 12 44 40.0 +0.7**
comp=Z,34nm,0.6s,baz=126,slow=4.7,SNR=22
GAZ Gaziantep 26.32 282 P **P 12 44 38.9 -0.8**
GAZ IAmb IAmb 12 44 45.5
comp=Z,20nm,1.0s
VSR Storozhevoye 26.76 314 *eP* **P 12 44 44.1 +0.7**
VSR pmax pmax
comp=Z,8.0nm,0.5s
LZH Lanzhou 27.23 80 ⇓P **P 12 44 49.8 +1.8**
LZH PP **PnPn 12 45 41.2 +3.7**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,89nm,4.9s
BR131 Keskin Array S 28.85 288 P **P 12 45 02.4 0.0**
BR131 pmax pmax
comp=Z,11nm,0.8s
BR131 Keskin Array S 28.85 288 P **P 12 45 02.4 0.0**
BR131 IAmb IAmb 12 45 06.7
comp=Z,11nm,0.8s
BRTR Keskin Array B 28.85 288 P **P 12 45 03.0 +0.6**
comp=Z,9.7nm,0.8s,baz=97,slow=8.4,SNR=29
BRTR Keskin Array B 28.85 288 *ceP* **P 12 45 05.5 +3.1**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 28.85 288 P **P 12 45 02.0 -0.3**
SONM Songino Array 29.21 55 P **P 12 45 06.5 +1.0**
comp=Z,1.5nm,0.9s,baz=252,slow=7.6,SNR=6.2
SONM LR LR 12 57 05.8
comp=Z,57nm,18.1s,baz=268,slow=37
SONM Songino Array 29.21 55 P **P 12 45 04.1 -1.3**
OBN Obninsk 29.79 320 *ceP* **P 12 45 12.0 +1.8**
OBN pmax pmax
comp=Z,18nm,1.0s
PRGR Permogore 29.87 337 ⇓*iP* **P 12 45 12.7 +1.8**
PRGR pmax pmax
comp=Z,57nm,1.0s
PALK Pallekele 30.26 159 LR LR 12 58 03.4
comp=Z,52nm,18.7s,baz=82,slow=38
CMAR Chiang Mai Arr 30.92 117 P **P 12 45 20.0 -0.6**
comp=Z,2.1nm,1.0s,baz=284,slow=7.3,SNR=8.6
CMAR Chiang Mai Arr 30.92 117 *ceP* **P 12 45 22.7 +2.1**
CMAR pmax pmax
comp=Z,3.0nm,1.1s
CMAR Chiang Mai Arr 30.92 117 P **P 12 45 19.0 -1.7**
KLMR Klimovskoe 31.50 332 *eP* **P 12 45 25.8 +0.5**
KLMR *e**PP **pP 12 45 48.8 +0.2**
KLMR pmax pmax
comp=Z,30nm,1.2s
KLMR Klimovskoe 31.50 332 *eP* **P 12 45 25.9 +0.6**
KLMR AMP 12 45 28.0
comp=Z,30nm,1.2s
KLMR *ep*P **pP 12 45 48.9 +0.3**
ELL Elmali 32.16 283 P **P 12 45 31.1 -0.4**
ELL pmax pmax
comp=Z,131nm,0.8s
ELL Elmali 32.16 283 P **P 12 45 31.1 -0.4**
HHC Hu-ho-hao-te 32.63 69 *eP* **P 12 45 37.7 +2.1**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,80nm,5.9s
AKASG Malin Array Be 32.64 310 P **P 12 45 35.0 -0.4**
comp=Z,7.2nm,0.8s,baz=83,slow=7.5,SNR=11
AKASG LR LR 13 02 46.3
comp=Z,55nm,18.4s,baz=320,slow=43
AKASG Malin Array Be 32.64 310 P **P 12 45 35.3 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 32.64 310 P **P 12 45 35.3 -0.1**
AKBB Malin Array Si 32.64 310 P **P 12 45 33.5 -1.8**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 32.64 310 P **P 12 45 33.5 -1.8**
AKBB IAmb IAmb 12 45 37.7
comp=Z,7.8nm,0.8s
CFR Carcaliu 32.79 299 ⇑P **P 12 45 40.0 +3.2**
SORM Soroca 32.83 305 ⇓P **P 12 45 38.9 +1.9**
GHRR 33.33 301 ⇓P **P 12 45 44.4 +3.0**
PBKT Sadao Pong 33.61 117 P **P 12 45 45.2 +1.1**
PLOR Plostina 33.85 300 ⇑P **P 12 45 47.6 +1.6**
TESR Tescani 33.87 302 ⇓P **P 12 45 49.1 +3.0**
TMCR Tamitsa 34.13 336 *eP* **P 12 45 49.3 +1.2**
BIZ Bicaz 34.26 302 ⇓P **P 12 45 52.3 +2.8**
MLR Muntele Rosu 34.34 300 P **P 12 45 52.0 +1.6**
comp=Z,34nm,0.8s,baz=138,slow=3.8,SNR=30
MLR Muntele Rosu 34.34 300 ⇑P **P 12 45 52.8 +2.4**
MLR Muntele Rosu 34.34 300 P **P 12 45 52.0 +1.6**
MLR Muntele Rosu 34.34 300 P **P 12 45 51.6 +1.3**
ALN Alexandroupoli 34.52 292 P **P 12 45 52.8 +1.0**
ALN pmax pmax
comp=Z,14nm,1.0s
ALN Alexandroupoli 34.52 292 P **P 12 45 52.8 +1.0**
ALN IAmb IAmb 12 45 56.2
comp=Z,14nm,1.0s
NRIK Noril'sk 34.70 11 P **P 12 45 54.6 +1.5**
comp=Z,8.5nm,1.0s,baz=194,slow=4.6,SNR=6.4
NRIK LR LR 13 01 40.2
comp=Z,85nm,18.0s,baz=202,slow=39
DOPR Dopca 34.73 301 ⇑P **P 12 45 56.8 +3.1**
BURAR Bucovina Array 34.89 303 ⇓P **P 12 45 58.0 +3.0**
BURAR Bucovina Array 34.89 303 P **P 12 45 54.0 -1.1**
BUR08 Bucovina Ar. S 34.91 304 P **P 12 45 54.1 -1.1**
VOIR 34.97 300 ⇑P **P 12 45 57.3 +1.6**
ARR Arges 35.26 300 ⇓P **P 12 46 01.1 +2.8**
ARCR ARCALIA 35.46 303 ⇓P **P 12 46 03.1 +3.2**
APE Apeiranthos 35.54 285 ⇑P **P 12 46 00.8 +0.1**
LOT Lotru 35.87 300 ⇑P **P 12 46 06.7 +3.2**
IDI Anoyia 36.45 282 P **P 12 46 08.2 -0.3**
comp=Z,6.6nm,0.7s,baz=48,slow=13,SNR=2.2
IDI Anoyia 36.45 282 ⇑P **P 12 46 08.3 -0.2**
IDI Anoyia 36.45 282 P **P 12 46 08.0 -0.5**
IDI pmax pmax
comp=Z,24nm,1.2s
UZH Uzhgorod 36.89 305 *eP* **P 12 46 13.2 +1.2**
KOLS Kolonicke sedl 36.91 306 *eP* **P 12 46 14.3 +2.1**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 36.91 306 *eP* **P 12 46 14.3 +2.1**
SIRR Siria 37.32 301 ⇑P **P 12 46 17.3 +1.6**
MDVR Moldovita 37.35 299 ⇑P **P 12 46 16.9 +0.9**
BZS Buzias 37.38 300 ⇑P **P 12 46 18.7 +2.6**
FIA1 FINESS Array S 37.43 327 P **P 12 46 15.8 -0.6**
FIA1 IAmb IAmb 12 46 18.9
comp=Z,10nm,0.8s
FINES FINESS Array B 37.43 327 P **P 12 46 16.2 -0.1**
comp=Z,8.6nm,0.8s,baz=103,slow=8.4,SNR=22
FINES FINESS Array B 37.43 327 *ceP* **P 12 46 18.1 +1.7**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 37.43 327 P **P 12 46 15.4 -0.9**
LVZ Lovozero 37.60 339 *ceP* **P 12 46 19.2 +1.5**
LVZ pmax pmax
comp=Z,52nm,2.5s
LVZ Lovozero 37.60 339 P **P 12 46 18.9 +1.2**
UBPT Khong Chiam 37.73 114 P **P 12 46 19.2 -0.2**
UBPT IAmb IAmb 12 46 20.5
comp=Z,8.3nm,0.8s
PSZ Piszkesteto 38.49 304 ⇑P **P 12 46 29.0 +3.5**
PSZ Piszkesteto 38.49 304 P **P 12 46 22.9 -2.7**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 38.49 304 P **P 12 46 22.9 -2.7**
OJC Ojcow 38.57 308 P **P 12 46 23.6 -2.5**
OJC pmax pmax
comp=Z,11nm,0.8s
OJC Ojcow 38.57 308 P **P 12 46 23.6 -2.5**
OJC IAmb IAmb 12 46 29.1
comp=Z,11nm,0.8s
DIVS Divibare 38.64 298 P **P 12 46 27.7 +0.8**
DIVS IAmb IAmb 12 46 31.0
comp=Z,16nm,0.9s
VYHS Vyhne 39.19 305 *eP* **P 12 46 33.9 +2.6**
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 39.19 305 *eP* **P 12 46 33.9 +2.6**
PDG Podgorica 39.37 295 ⇑P **P 12 46 34.1 +1.2**
SRO2 Moca 39.50 304 *eP* **P 12 46 36.5 +2.6**
SRO2 pmax pmax
comp=Z,29nm,0.9s
SRO2 Moca 39.50 304 *eP* **P 12 46 36.5 +2.6**
OKC Ostrava-Krasne 39.63 307 *eP* P 12 46 29.3 -5.6
OKC Ostrava-Krasne 39.63 307 *eP* P 12 46 29.3 -5.6
MORC Moravsky Berou 40.02 307 ⇑P **P 12 46 41.3 +3.1**
MORC Moravsky Berou 40.02 307 P **P 12 46 38.1 -0.1**
MORC pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 40.02 307 P **P 12 46 38.1 -0.1**
NJ2 Nanjing 40.29 81 *eP* **P 12 46 41.9 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
KRLC Kraliky 40.51 307 *eP* **P 12 46 45.0 +2.7**
KRLC *ex* x 12 46 51.6
KRLC Kraliky 40.51 307 *eP* **P 12 46 45.0 +2.7**
DPC Dobruska-Polom 40.80 308 *eP* **P 12 46 47.6 +3.0**
DPC Dobruska-Polom 40.80 308 *eP* **P 12 46 47.6 +3.0**
CHVC Chvalec 40.97 308 *eP* **P 12 46 48.6 +2.6**
UPC Upice 41.00 308 *eP* **P 12 46 49.0 +2.8**
UPC Upice 41.00 308 *eP* **P 12 46 49.0 +2.8**
KOGS Kog 41.05 302 *i* P **P 12 46 49.5 +2.8**
CONA Conrad Observa 41.20 304 *eP* **P 12 46 50.8 +2.9**
comp=Z,9.9nm,1.0s
ARCES ARCESS Array B 41.27 338 P **P 12 46 48.5 +0.3**
comp=Z,22nm,0.9s,baz=110,slow=7.8,SNR=24
ARCES pP **pP 12 47 15.1 +2.8**
comp=Z,6.3nm,0.8s,baz=113,slow=8.0,SNR=3.9
ARCES ARCESS Array B 41.27 338 P **P 12 46 48.7 +0.5**
ARCES ARCESS Array B 41.27 338 P **P 12 46 48.7 +0.5**
ARE0 ARCESS Array S 41.27 338 P **P 12 46 49.0 +0.8**
ARSA Arzberg 41.48 303 *eP* **P 12 46 52.0 +1.8**
comp=Z,4.1nm,1.1s
BISS Bistriski jare 41.80 302 *i* P **P 12 46 55.7 +2.9**
PERS Pernice 41.81 302 *i* P **P 12 46 55.8 +2.8**
SOKA Soboth 41.86 302 *i* P **P 12 46 56.4 +3.0**
comp=Z,10nm,0.7s
MOA Molln 42.27 304 *eP* **P 12 46 59.2 +2.5**
comp=Z,7.6nm,0.9s
BRG Berggiesshubel 42.30 309 *eP* **P 12 46 57.5 +0.7**
comp=Z,12nm,0.9s
PSI Prapat 42.50 134 P **P 12 46 58.6 -0.3**
comp=Z,7.6nm,0.8s,baz=0.1,slow=4.1,SNR=5.5
GERES GERESS Array B 42.57 306 P **P 12 46 59.5 +0.4**
comp=Z,0.7nm,0.5s,baz=88,slow=8.1,SNR=12
GERES GERESS Array B 42.57 306 P **P 12 46 58.5 -0.6**
RPSI Rantau Prapat 42.59 135 P **P 12 46 58.6 -0.9**
KHC Kasperske Hory 42.63 306 *eP* **P 12 47 00.1 +0.5**
KHC *ex* x 12 47 16.5
KHC Kasperske Hory 42.63 306 *eP* **P 12 47 00.1 +0.5**
MYKA Terra Mystica 42.82 302 *eP* **P 12 47 03.8 +2.6**
comp=Z,6.2nm,0.8s
CLL Collm 42.88 309 *i* P **P 12 47 03.1 +1.6**
comp=Z,8.0nm,1.0s
CLL *es*P **sP 12 47 38.0 +0.6**
CLL Collm 42.88 309 P **P 12 47 02.1 +0.6**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 42.88 309 P **P 12 47 02.1 +0.6**
PRED Cave del Predi 42.90 302 P **P 12 47 03.9 +2.1**
PRED IAmb IAmb 12 47 05.1
comp=Z,9.6nm,0.8s
HFS Hagfors 42.95 322 P **P 12 47 01.5 -0.5**
comp=Z,16nm,0.8s,baz=101,slow=8.0,SNR=21
HFS pP **pP 12 47 27.7 +1.5**
comp=Z,13nm,0.9s,baz=96,slow=12,SNR=4.8
GSI Gunungsitoli 42.97 137 P **P 12 47 04.8 +2.2**
GSI Gunungsitoli 42.97 137 P **P 12 47 01.7 -0.8**
NC405 NORSAR Array S 44.05 324 P **P 12 47 10.8 +0.1**
NC602 NORSAR Array S 44.09 323 P **P 12 47 11.2 +0.1**
WTTA Wattenberg 44.11 304 *eP* **P 12 47 13.0 +1.4**
comp=Z,9.1nm,0.9s
WATA Walderalm 44.14 304 *eP* **P 12 47 13.5 +1.7**
comp=Z,4.1nm,0.4s
NC303 NORSAR Array S 44.23 324 P **P 12 47 12.7 +0.5**
NB2 NORSAR Subarra 44.28 323 P **P 12 47 11.8 -0.9**
comp=Z,17nm,0.9s,baz=97,slow=8.6
NOA NORSAR Array B 44.28 323 P **P 12 47 11.8 -0.9**
comp=Z,11nm,0.9s,baz=97,slow=8.0,SNR=24
NOA pP **pP 12 47 38.0 +1.0**
comp=Z,5.0nm,0.8s,baz=98,slow=8.0,SNR=5.2
NOA LR LR 13 08 17.4
comp=Z,44nm,20.0s,baz=355,slow=39
SQTA Sankt Quirin 44.40 304 *eP* **P 12 47 15.9 +2.0**
comp=Z,4.0nm,0.7s
NAO01 NORSAR Array S 44.42 323 P **P 12 47 15.3 +1.6**
NAO01 IAmb IAmb 12 47 35.4
comp=Z,13nm,0.9s
MOTA Moosalm 44.46 304 *eP* **P 12 47 15.6 +1.2**
comp=Z,1.1nm,0.8s
NBO00 NORSAR Array S 44.49 323 P **P 12 47 14.9 +0.6**
MNSI Mandailing Nat 44.51 135 P **P 12 47 15.5 +0.6**
NC204 NORSAR Array S 44.53 324 P **P 12 47 14.8 +0.2**
YAK Yakutsk 44.77 35 P **P 12 47 16.0 -0.4**
comp=Z,2.9nm,0.5s,baz=257,slow=1.7,SNR=1.7
YAK pP **pP 12 47 41.3 0.0**
comp=Z,5.3nm,0.4s,baz=243,slow=0.4,SNR=3.3
YAK Yakutsk 44.77 35 P **P 12 47 16.0 -0.4**
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK Yakutsk 44.77 35 P **P 12 47 16.0 -0.4**
YAK IAmb IAmb 12 47 21.7
comp=Z,9.2nm,0.6s
KONO Kongsberg 44.95 321 *ceP* **P 12 47 18.5 +0.6**
KONO pmax pmax
comp=Z,37nm,2.5s
KONO Kongsberg 44.95 321 P **P 12 47 17.2 -0.8**
KONO IAmb IAmb 12 47 20.4
comp=Z,8.8nm,0.9s
MUD Monsted U'grnd 45.07 317 *i* P **P 12 47 19.0 +0.1**
MUD Monsted U'grnd 45.07 317 *i* P **P 12 47 19.0 +0.1**
DAVA Damuels 45.29 304 *eP* **P 12 47 22.6 +1.7**
comp=Z,13nm,0.7s
VLC Villacollemand 45.47 299 P **P 12 47 22.5 +0.2**
VLC IAmb IAmb 12 47 26.5
comp=Z,14nm,0.8s
KSRS Korea Array 45.74 70 P **P 12 47 23.4 -1.1**
comp=Z,1.3nm,0.8s,baz=261,slow=7.5,SNR=4.4
KLR Kul'dur 46.02 53 *ceP* **P 12 47 26.4 -0.1**
KLR pmax pmax
comp=Z,2.0nm,1.0s
PDSI Padang 46.40 136 P **P 12 47 30.5 +0.6**
ECH Echery 46.96 305 P **P 12 47 35.7 +1.8**
ECH pmax pmax
comp=Z,6.0nm,1.0s
ECH Echery 46.96 305 P **P 12 47 35.7 +1.8**
SENIN Lac Senin/Sane 47.19 303 P **P 12 47 37.2 +1.2**
SENIN IAmb IAmb 12 47 38.9
comp=Z,10nm,0.7s
SPITS Spitsbergen Ar 47.75 347 P **P 12 47 40.6 +1.0**
comp=Z,17nm,0.8s,baz=141,slow=19,SNR=6.9
BNI Bardonecchia 47.88 301 P **P 12 47 42.8 +1.6**
BNI pmax pmax
comp=Z,23nm,1.5s
BNI Bardonecchia 47.88 301 P **P 12 47 42.8 +1.6**
BNI IAmb IAmb 12 47 44.7
comp=Z,23nm,1.5s
KRJI Kerinci 47.94 135 P **P 12 47 41.9 0.0**
comp=Z,2μmcomp=Z,24μmcomp=Z,270nm,0.7s
BMRD Maredsous 48.18 309 P **P 12 47 45.6 +2.3**
BMRD pP **pP 12 48 08.1 -0.1**
BMRD sP **sP 12 48 19.1 -0.8**

BMRD x x 12 48 45.1
KEST Kesra 48.46 289 P **P 12 47 45.8 +0.1**
comp=Z,13nm,0.7s,baz=322,slow=2.1,SNR=14
KEST Kesra 48.46 289 P **P 12 47 46.7 +1.0**
KBS Kingsbay 48.88 347 *ce*P **P 12 47 49.4 +1.2**
KBS pmax pmax
comp=Z,44nm,1.3s
KBS Kingsbay 48.88 347 P **P 12 47 46.9 -1.4**
KSI Kapahiang 49.85 135 P **P 12 47 56.8 +0.3**
comp=Z,78nm,0.9s
MBAR Mbarara 51.63 234 P **P 12 48 09.4 -0.6**
comp=Z,2.5nm,0.3s,baz=30,slow=8.8,SNR=7.3
MBAR Mbarara 51.63 234 *ce*P **P 12 48 10.3 +0.3**
MBAR pmax pmax
comp=Z,3.0nm,0.7s
MBAR Mbarara 51.63 234 P **P 12 48 09.3 -0.6**
MBAR IAmb IAmb 12 48 10.7
comp=Z,8.9nm,0.8s
KKM Kota Kinabalu 51.72 114 P **P 12 48 10.2 -0.3**
EKA Eskdalemuir Ar 52.08 316 P **P 12 48 13.2 +0.6**
comp=Z,7.2nm,0.8s,baz=80,slow=9.4,SNR=11
EKA pP **pP 12 48 38.8 +1.0**
comp=Z,0.5nm,0.3s,baz=276,slow=33,SNR=2.7
YSS Yuzh-Sakhalins 53.70 54 *e*P **P 12 48 25.1 +0.5**
YSS pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 53.82 68 P **P 12 48 24.7 -1.1**
comp=Z,0.9nm,0.6s,baz=301,slow=9.8,SNR=4.6
MJAR pP **pP 12 48 50.8 -0.5**
comp=Z,1.4nm,0.8s,baz=280,slow=8.6,SNR=2.7
MJAR Matsushiro Arr 53.82 68 P **P 12 48 24.3 -1.4**
DAG Danmarks Havn 54.94 344 *i* P **P 12 48 34.5 +1.3**
comp=Z,33nm,0.9s
DAG Danmarks Havn 54.94 344 *i* P **P 12 48 34.5 +1.3**
DAG pmax pmax
comp=Z,33nm,0.9s
SEY Seymchan 55.21 34 P **P 12 48 35.7 +0.4**
comp=Z,1.8nm,0.9s,baz=280,slow=12,SNR=2.6
ESBB Sonseca Array 56.99 298 P **P 12 48 46.5 -2.0**
ESBB IAmb IAmb 12 48 51.6
comp=Z,9.2nm,1.2s
ESDC Sonseca Array 56.99 298 P **P 12 48 48.0 -0.5**
comp=Z,5.1nm,1.0s,baz=59,slow=7.7,SNR=18
ESDC Sonseca Array 56.99 298 P **P 12 48 45.9 -2.5**
MPSI Mapaga 58.26 116 P **P 12 48 59.2 +1.7**
comp=Z,395nmcomp=Z,16nm,1.1s
MDT Midelt 60.23 291 P **P 12 49 10.4 -0.7**
comp=Z,3.0nm,0.9s,baz=13,slow=1.5,SNR=3.7
SUMG Summit 61.23 341 *i* P **P 12 49 20.0 +2.4**
comp=Z,66nm,0.9s
SUMG Summit 61.23 341 *i* P **P 12 49 20.0 +2.4**
SUMG pmax pmax
comp=Z,66nm,0.9s
SUMG Summit 61.23 341 P **P 12 49 19.0 +1.4**
LSZ Lusaka 64.60 225 P **P 12 49 40.2 -0.1**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ Lusaka 64.60 225 P **P 12 49 40.2 -0.1**
LSZ IAmb IAmb 12 49 40.9
comp=Z,6.1nm,0.8s
TOA0 Torodi Ar. Sit 64.95 268 P **P 12 49 40.0 -2.5**
TORD Torodi Ar. Bea 64.95 268 P **P 12 49 40.4 -2.1**
comp=Z,6.1nm,0.7s,baz=41,slow=5.9,SNR=20
TOLK Toolik Lake Re 71.54 14 P **P 12 50 23.4 +0.5**
TOLK IAmb IAmb 12 50 24.3
comp=Z,12nm,1.2s
IMAR Indian Mountai 72.82 17 P **P 12 50 30.0 -0.5**
BMAR Burnt Mountain 73.55 13 P **P 12 50 35.8 +1.0**
LBTB Lobatse 73.84 221 P **P 12 50 36.9 -0.2**
LBTB pmax pmax
comp=Z,18nm,0.8s
LBTB Lobatse 73.84 221 P **P 12 50 36.9 -0.2**
LBTB IAmb IAmb 12 50 38.0
comp=Z,18nm,0.8s
DBIC Dimbokro 73.92 267 P **P 12 50 36.1 -1.7**
comp=Z,5.7nm,1.0s,baz=36,slow=4.1,SNR=3.1
DBIC Dimbokro 73.92 267 P **P 12 50 36.5 -1.3**
DBIC pmax pmax
comp=Z,21nm,1.4s
DBIC Dimbokro 73.92 267 P **P 12 50 36.5 -1.3**
DBIC IAmb IAmb 12 50 49.3
comp=Z,21nm,1.4s
TSUM Tsumeb 74.05 231 P **P 12 50 37.3 -1.2**
C36M Paulatuk 74.39 5 P **P 12 50 40.0 +0.4**
C36M IAmb IAmb 12 50 40.2
comp=Z,11nm,1.0s
INK Inuvik 74.46 9 P **P 12 50 40.5 +0.4**
comp=Z,4.1nm,0.7s,baz=309,slow=4.4,SNR=5.9
INK Inuvik 74.46 9 P **P 12 50 41.0 +1.0**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 74.46 9 P **P 12 50 41.0 +1.0**
ILAR Eielson Array 75.41 15 P **P 12 50 45.0 -0.6**
comp=Z,1.3nm,0.9s,baz=310,slow=4.7,SNR=13
ILAR Eielson Array 75.41 15 P **P 12 50 44.0 -1.6**
BOSA Boshof 76.92 220 P **P 12 50 54.0 -0.7**
comp=Z,11nm,0.8s,baz=30,slow=8.3,SNR=15
BOSA Boshof 76.92 220 P **P 12 50 54.2 -0.5**
BOSA pmax pmax
comp=Z,13nm,0.9s
BOSA Boshof 76.92 220 P **P 12 50 54.2 -0.5**
BOSA IAmb IAmb 12 50 55.1
comp=Z,13nm,0.9s
MENT Mentasta 77.70 15 P **P 12 50 57.0 -1.6**
MENT IAmb IAmb 12 51 08.8
comp=Z,11nm,1.0s
BCAR Beaver Creek A 77.98 14 P **P 12 50 58.3 -1.9**
YKA Yellowknife Ar 81.72 2 P **P 12 51 19.9 -0.3**
comp=Z,2.7nm,0.9s,baz=353,slow=5.6,SNR=7.2
YKA pP **pP 12 51 48.0 +0.6**
comp=Z,3.1nm,0.8s,baz=344,slow=5.5,SNR=6.1
YKA LR LR 13 33 19.2
comp=Z,30nm,18.3s,baz=0.0,slow=40
WRA Warramunga Arr 82.41 121 P **P 12 51 23.1 -1.4**
comp=Z,0.5nm,0.4s,baz=324,slow=4.9,SNR=15
WRA pP **pP 12 51 51.6 -0.7**
comp=Z,2.4nm,0.8s,baz=320,slow=5.3,SNR=8.2
WRA Warramunga Arr 82.41 121 P **P 12 51 23.8 -0.7**
WB2 Warramunga Arr 82.41 121 P **P 12 51 23.5 -1.0**
WR0 Warramunga Arr 82.56 121 P **P 12 51 24.6 -0.6**
ASAR Alice Springs 84.63 124 P **P 12 51 34.6 -1.2**
comp=Z,0.8nm,0.6s,baz=312,slow=5.0,SNR=11
ASAR pP **pP 12 52 03.7 -0.1**
comp=Z,1.5nm,0.8s,baz=314,slow=4.6,SNR=6.1
ASAR Alice Springs 84.63 124 P **P 12 51 35.0 -0.8**
PLCA Paso Flores 148.96 249 PKPbc **PKPbc 12 58 49.0 -0.4**
comp=Z,4.0nm,0.9s,baz=132,slow=4.9,SNR=7.2
PLCA Paso Flores 148.96 249 PKP2 **PKPbc 12 58 49.0 -0.4**
PLCA Paso Flores 148.96 249 **PKPbc 12 58 49.1 -0.3**

*NEIC **02** 13:10:09.3±0.9, 6°.6S±0°.1×156°.4E±0°.1, h10km±1km, mb4.3/11, Error ellipse: s-maj=29.2km s-min=7.7km az=40.0*
*IDC **02** 13:10:25.4±2.1, 6°.83S×156°.27E, h147km±18km, mb3.3/6, mb1 3.5/11, mb1mx3.3/34, mbtmp3.9/11, Error ellipse: s-maj=21.7km s-min=20.1km az=53.0*
ISC 02 13:10:09.2±0.7, 6°.36S±0°.10×156°.64E±0°.07, h10km, n29, σ2s82/25, mb4.0/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.48**	**133**	P	**Pb**	**13 11 30.8**	**+2.8**
	7.5nm,0.3s,baz=286,slow=17,SNR=1.6						
HNR				S	**Sb**	**13 12 22.6**	**+0.5**
	13nm,0.3s,baz=265,slow=17,SNR=3.9						
KRVT	**Keravat (AS076**	**5.03**	**294**	P	**Pb**	**13 11 37.7**	**+0.4**
	1.9nm,0.3s,baz=138,slow=15,SNR=2.8						
KRVT				S	**Sb**	**13 12 40.6**	**+2.7**
	4.9nm,0.3s,baz=24,slow=19,SNR=2.0						
PMG	**Port Moresby**	**9.87**	**252**	P	Pn	13 12 37.6	+6.4
	1.6nm,0.3s,baz=49,slow=11,SNR=2.2						
PMG				S	**Sn**	**13 14 25.7**	**+3.5**
	1.7nm,0.3s,baz=296,slow=13,SNR=4.0						
CTA	**Charters Tower**	**16.97**	**215**	P	**Pn**	**13 14 08.2**	**+1.3**
	0.2nm,0.3s,baz=32,slow=15,SNR=4.5						
CTAO	**Charters Tower**	**16.97**	**215**	P	**Pn**	**13 14 07.6**	**+0.7**
DZM	**Mont Dzumac**	**18.27**	**150**	P	**P**	**13 14 27.2**	**+4.0**
	0.3nm,0.3s,baz=226,slow=13,SNR=5.7						
DZM	**Mont Dzumac**	**18.27**	**150**		**P**	**13 14 27.2**	**+4.0**
DZM				IAmb	IAmb	13 14 43.0	
	comp=Z,15nm,1.3s						
WR0	**Warramunga Arr**	**25.37**	**236**	P	**P**	**13 15 33.9**	**-2.9**
WR0				IAmb	IAmb	13 16 10.6	
	comp=Z,15nm,1.9s						
WB0	**Warramunga Arr**	**25.39**	**236**	P	**P**	**13 15 34.5**	**-2.5**
WB0				IAmb	IAmb	13 16 06.5	
	comp=Z,4.3nm,1.1s						
WB2	**Warramunga Arr**	**25.51**	**236**	P	**P**	**13 15 35.6**	**-2.6**
WB2				IAmb	IAmb	13 16 20.0	
	comp=Z,10.0nm,1.5s						
WRA	**Warramunga Arr**	**25.52**	**236**	P	**P**	**13 15 35.3**	**-2.9**
	comp=Z,1.0nm,0.6s,baz=61,slow=9.6,SNR=16						
WRA				PcP	**PcP**	**13 19 06.7**	**-3.2**
	comp=Z,0.3nm,0.4s,baz=67,slow=2.6,SNR=6.0						
WRA	**Warramunga Arr**	**25.52**	**236**	P	**P**	**13 15 35.9**	**-2.3**
H11S3	**WAKE ISLAND Hy**	**26.61**	**22**	T	T	13 44 38.6	
	baz=202,slow=75,SNR=66						
H11S2	**WAKE ISLAND Hy**	**26.61**	**22**	T	T	13 44 40.2	
	baz=202,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**26.62**	**22**	T	T	13 44 49.1	
	baz=202,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**27.80**	**21**	T	T	13 46 14.5	
	baz=203,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**27.81**	**21**	T	T	13 46 17.1	
	baz=203,slow=76,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**27.82**	**21**	T	T	13 46 15.9	
	baz=203,slow=76,SNR=5.4						
ASAR	**Alice Springs**	**27.82**	**229**	P	**P**	**13 15 54.1**	**-4.8**
	comp=Z,0.3nm,0.6s,baz=60,slow=9.4,SNR=3.0						
ASAR				PcP	**PcP**	**13 19 12.8**	**-2.5**
	comp=Z,0.3nm,0.5s,baz=68,slow=2.3,SNR=5.4						
BKZ	**Black Stump Fm**	**37.26**	**154**	P	**P**	**13 17 18.9**	**-2.4**
THZ	**Tophouse**	**38.11**	**160**	P	**P**	**13 17 27.3**	**-1.1**
LTZ	**Lake Taylor**	**38.82**	**162**	P	**P**	**13 17 33.2**	**-1.2**
LTZ				IAmb	IAmb	13 18 42.5	
	comp=Z,49nm,1.6s						
SONM	**Songino Array**	**69.70**	**326**	P	**P**	**13 21 21.2**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=125,slow=5.6,SNR=3.9						
SONM	**Songino Array**	**69.70**	**326**	IAmb	IAmb	13 21 23.3	
	comp=Z,1.2nm,1.0s						
ILAR	**Eielson Array**	**82.19**	**21**	P	**P**	**13 22 31.9**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=268,slow=5.1,SNR=1.8						
MKAR	**Makanchi Array**	**84.01**	**318**	P	**P**	**13 22 40.1**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=99,slow=6.7,SNR=5.6						
MAW	**Mawson**	**85.61**	**203**	P	**P**	**13 22 44.1**	**-3.5**
	comp=Z,2.0nm,0.7s,baz=81,slow=9.4,SNR=8.3						
MAW	**Mawson**	**85.61**	**203**	IAmb	IAmb	13 22 45.6	
	comp=Z,0.5nm,0.8s						
BRTR	**Keskin Array B**	**119.18**	**312**	PKP	**PKPdf**	**13 28 55.8**	**-3.4**
	comp=Z,0.6nm,0.5s,baz=293,slow=11,SNR=4.3						

*ISN **02** 13:28:30.5±1.0, 33°.62N×45°.72E, h14km±6km, ML3.0*
*TEH **02** 13:28:36.1, 33°.91N×46°.02E, h20km, ML2.7*
ISC 02 13:28:31.3±1.4, 33°.65N±0°.04×45°.67E±0°.04, h9km±12km, n17, σ1s66/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.58**	**158**	*e*Pg	**Pg**	**13 28 41.0**	**-1.5**
IBDR				*e*Sg	**Sg**	**13 28 49.0**	**-1.1**
IGHG	**Ghaleghazi**	**1.01**	**47**	*e*Pg	**Pb**	**13 28 48.6**	**-2.6**
BHD	**Baghdad**	**1.14**	**251**	*e*Pg	**Pb**	**13 28 52.0**	**-1.1**
BHD				*e*Sg	**Sb**	**13 29 08.0**	**0.0**
IDHR	**Dehrash**	**1.21**	**29**	*e*	**Sn**	**13 29 12.6**	**+1.4**
KCHF	**Cheshme Sefid,**	**1.30**	**61**	*e*Pg	**Pn**	**13 28 54.3**	**-1.6**
KCHF				*e*		13 29 17.8	
IVIS	**Veis**	**1.32**	**48**	*e*Pg	**Pn**	**13 28 53.0**	**-3.0**
IVIS				*e*	**Sg**	**13 29 15.9**	**+2.2**
KER	**Kermanshah**	**1.42**	**58**	*e*Pg	**Pn**	**13 28 56.7**	**-0.8**
IKOM	**Komasi**	**1.62**	**71**	*e*Pg	**Pn**	**13 28 59.9**	**-0.3**
IKOM				*e*		13 29 06.8	
DHL1	**Dehloran**	**1.66**	**125**	*e*Sg	**Sg**	**13 29 28.3**	**+3.6**
DHL1				*e*Pg	**Pg**	**13 29 05.8**	**+2.7**
ILIN	**Lien**	**1.66**	**40**	*e*Pg	**Pn**	**13 29 00.6**	**-0.3**
ILIN				*e*	**Sg**	**13 29 24.5**	**-0.2**
IBZA	**Bozab**	**2.00**	**65**	*e*		13 29 08.9	
IBZA				*e*Pn	**Pn**	**13 29 05.3**	**-0.2**
IDOB	**Doab**	**2.10**	**85**	*e*Pn	**Pn**	**13 29 06.4**	**-0.4**
IALM	**Almabolaq**	**2.40**	**59**	*e*Pn	**Pn**	**13 29 11.1**	**+0.1**
HSAM	**Samen**	**2.50**	**76**	*e*Pn	**Pn**	**13 29 11.7**	**-0.8**
NSR	**Nassriya**	**2.66**	**171**	*e*Pn	**Pn**	**13 29 15.0**	**+0.7**
NSR				*e*Sn	**Sn**	**13 29 46.0**	**-0.7**
HSRG	**Sareghieh**	**2.68**	**53**	*e*Pn	**Pn**	**13 29 14.8**	**-0.1**
HSRG				*e*		13 29 59.3	
MSL	**Mosul**	**3.46**	**323**	*e*Pn	**Pn**	**13 29 26.0**	**+0.7**
MSL				*e*Sn	**Sn**	**13 30 08.0**	**+1.6**

*IDC **02** 13:32:39.6±3.0, 1°.50S×134°.07E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/26, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=138.9km s-min=29.5km az=76.0*
*DJA **02** 13:32:44.7±0.8, 2°.5±6°.6×13°.4E±°, h10km, M3.5/4, MLv3.5/4*
ISC 02 13:32:41.3±2.0, 1°.5S±0°.2×134°.0E±0°.3, h10km, n4, σ0s09/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.23**	**232**	P	**Pn**	**13 33 18.4**	**0.0**
WRA	**Warramunga Arr**	**18.30**	**179**	P	**Pn**	**13 36 55.6**	**+0.1**
	0.3nm,0.3s,baz=358,slow=12,SNR=42						
ASAR	**Alice Springs**	**22.01**	**180**	P	**P**	**13 37 35.9**	**-0.1**
	1.4nm,0.7s,baz=6.3,slow=13,SNR=19						
MKAR	**Makanchi Array**	**66.03**	**324**	P	**P**	**13 43 28.3**	**0.0**
	0.2nm,0.5s,baz=103,slow=6.4,SNR=2.6						

*IDC **02** 13:55:01.0±0.6, 64°.29N×17°.48W, h0km, mb3.8/14, mb1 4.0/17, mb1mx3.8/41, mbtmp3.8/17, ML2.8/2, MS3.4/14, Ms1 3.5/14, ms1mx3.2/45, Error ellipse: s-maj=22.6km s-min=9.5km az=14.0*
*REY **02** 13:55:01.9, 64°.62N×17°.37W, h6km*
*NEIC **02** 13:55:04.2±1.5, 64°.6N±0°.1×17°.37W±0°.09, h8km±4km, mb4.5/58, Error ellipse: s-maj=15.8km s-min=0.5km az=200.0*
ISC 02 13:55:03.5±0.4, 64°.60N±0°.03×17°.37W±0°.03, h10km, n141, σ1s85/135, mb4.5/40, MS3.4/9, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.11**	**148**	P	**Pg**	**13 55 04.7**	**-1.6**
	baz=154						
IVON	**Vonarskard**	**0.19**	**295**	P	**Pg**	**13 55 05.4**	**-2.1**
	baz=287						
IGRF	**Grimsfjall**	**0.19**	**167**	P	**Pg**	**13 55 06.2**	**-1.5**
	baz=169						
IURH	**Urdarhals**	**0.24**	**22**	P	**Pg**	**13 55 06.2**	**-2.4**
	baz=26						
IBJK	**Bruarjokull**	**0.29**	**115**	P	**Pg**	**13 55 07.7**	**-1.8**
	baz=120						
IKVE	**Kverkfjoll**	**0.31**	**74**	P	**Pg**	**13 55 07.8**	**-1.9**
	baz=79						
IHUS	**Husbondi**	**0.33**	**203**	P	**Pg**	**13 55 08.5**	**-1.5**
	baz=201						
IVOT	**Vottur**	**0.34**	**166**	P	**Pg**	**13 55 08.7**	**-1.5**
	baz=167						
ISKR	**Skrokkalda**	**0.44**	**266**	P	**Pg**	**13 55 10.0**	**-2.2**
	baz=262						
IKRE	**Kreppuhraun**	**0.46**	**65**	P	**Pg**	**13 55 10.0**	**-2.6**
	baz=69						
IKRE				S	**Sg**	**13 55 17.1**	**-1.6**
	baz=69						
IJOK	**Jokulheimar**	**0.47**	**233**	P	**Pg**	**13 55 10.4**	**-2.2**
	baz=230						
IASK	**Askja**	**0.55**	**33**	P	**Pg**	**13 55 11.2**	**-3.0**
	baz=35						
IKSK	**Karasker**	**0.58**	**138**	P	**Pg**	**13 55 12.2**	**-2.6**
	baz=140						
IMKO	**Mokollar**	**0.58**	**48**	P	**Pg**	**13 55 12.1**	**-2.8**
	baz=51						
IIEY	**Innrieyrar**	**0.60**	**214**	P	**Pg**	**13 55 12.8**	**-2.3**
	baz=212						
IVSH	**V-Sauoahnukur**	**0.73**	**72**	P	**Pg**	**13 55 14.6**	**-3.1**
	baz=75						
ISVA	**Svartarkot**	**0.75**	**4**	P	**Pg**	**13 55 14.2**	**-3.7**
	baz=3.8						
IFAG	**Fagurholsmyri**	**0.79**	**156**	P	**Pg**	**13 55 15.5**	**-3.2**
	baz=157						
IVAT	**Vatnsfell**	**0.79**	**239**	P	**Pg**	**13 55 15.8**	**-2.9**
	baz=238						
IADA	**Aoalbol**	**0.88**	**60**	P	**Pg**	**13 55 16.8**	**-3.6**
	baz=62						
ISNB	**Snabyli**	**1.02**	**213**	P	**Pg**	**13 55 20.0**	**-3.2**
	baz=212						
IRJU	**Rjupnafell**	**1.14**	**211**	P	**Pb**	**13 55 22.2**	**-3.0**
	baz=210						
BORG	**Borgarnes**	**1.71**	**277**	Pg	**Pn**	**13 55 30.6**	**-2.7**
	16nm,0.3s,baz=100,slow=11,SNR=78						
BORG				Lg	Lg	13 55 55.0	
	14nm,0.3s,baz=92,slow=23,SNR=7.3						
BORG	**Borgarnes**	**1.71**	**277**	P	**Pn**	**13 55 30.4**	**-2.9**
JMIC	**Jan Mayen**	**7.24**	**24**	LR	LR	13 59 08.1	
	comp=Z,107nm,19.9s,baz=254,slow=33						
EKB	**Eskdalemuir**	**11.66**	**136**	Pn	**Pn**	**13 57 50.1**	**+0.4**
EKA	**Eskdalemuir Ar**	**11.67**	**136**	Pn	**Pn**	**13 57 45.3**	**-4.5**
	baz=328,slow=14,SNR=12						
ESK	**Eskdalemuir**	**11.67**	**136**	Pn	**Pn**	**13 57 49.4**	**-0.5**
NOA	**NORSAR Array B**	**13.47**	**92**	Pn	**Pn**	**13 58 12.3**	**-2.2**
	0.0nm,0.3s,baz=297,slow=13,SNR=3.3						
NOA				LR	LR	14 03 02.4	
	comp=Z,79nm,21.5s,baz=305,slow=36						
NC405	**NORSAR Array S**	**13.65**	**91**	Pn	**Pn**	**13 58 19.4**	**+2.5**
SFJD	**Kangerlussuaq**	**13.75**	**295**	LR	LR	14 03 14.4	
	comp=Z,207nm,18.9s,baz=90,slow=36						
HFS	**Hagfors**	**14.98**	**93**	Pn	**P**	**13 58 39.4**	**-1.2**
	0.1nm,0.3s,baz=290,slow=9.3,SNR=8.1						
HFS				LR	LR	14 03 49.7	
	comp=Z,152nm,18.2s,baz=314,slow=35						
ARCES	**ARCESS Array B**	**17.11**	**54**	LR	LR	14 04 17.1	
	comp=Z,127nm,20.0s,baz=203,slow=32						
KEV	**Kevo**	**17.62**	**54**	P	**P**	**13 59 12.2**	**+2.5**
FINES	**FINESS Array B**	**19.66**	**79**	P	**Pn**	**13 59 32.1**	**-1.4**
	0.1nm,0.3s,baz=286,slow=11,SNR=2.1						
FINES				LR	LR	14 06 34.4	
	comp=Z,85nm,18.9s,baz=316,slow=35						
FINES	**FINESS Array B**	**19.66**	**79**	P	**Pn**	**13 59 34.3**	**+0.8**
TULEG	**Thule**	**19.94**	**328**	P	**Pn**	**13 59 36.4**	**-0.3**
CLL	**Collm**	**20.62**	**116**	*i* P	**P**	**13 59 42.8**	**+0.2**
	comp=Z,23nm,1.6s						
CLL				*i*		13 59 51.3	
ECH	**Echery**	**21.06**	**129**	P	**P**	**13 59 48.8**	**+1.3**
NKC	**Novy Kostel**	**21.27**	**118**	*e*P	**P**	**13 59 54.9**	**+5.3**
STU	**Stuttgart**	**21.28**	**125**	P	**P**	**13 59 51.4**	**+1.6**
STU				IAmb	IAmb	13 59 56.6	
	comp=Z,18nm,0.9s						
BRG	**Berggiesshubel**	**21.33**	**115**	*i* P	**P**	**13 59 51.1**	**+0.9**
	comp=Z,13nm,1.1s						
BRG				*e*		13 59 58.7	
	comp=Z,14nm,1.2s						
BFO	**Black Forest**	**21.36**	**127**	P	**P**	**13 59 51.9**	**+1.2**
FRB	**Frobisher Bay**	**21.83**	**291**	LR	LR	14 07 53.4	
	comp=Z,85nm,20.2s,baz=258,slow=35						
PRU	**Pruhonice**	**22.27**	**116**	*e*P	**P**	14 00 07.2	+6.9
KSP	**Ksiaz**	**22.28**	**112**	*e*P	**P**	**14 00 01.5**	**+0.9**
KHC	**Kasperske Hory**	**22.59**	**118**	*e*P	**P**	**14 00 05.9**	**+2.0**
KHC				*ex*	x	14 00 16.2	
KHC	**Kasperske Hory**	**22.59**	**118**	P	**P**	**14 00 05.6**	**+1.7**
DPC	**Dobruska-Polom**	**22.68**	**113**	*e*P	**P**	**14 00 05.4**	**+0.6**
GEC2	**GERESS Array S**	**22.87**	**119**	P	**P**	**14 00 08.4**	**+1.5**
GEC2				IAmb	IAmb	14 00 14.7	
	comp=Z,34nm,1.8s						
GERES	**GERESS Array B**	**22.87**	**119**	P	**P**	**14 00 04.0**	**-2.9**
	comp=Z,1.0nm,0.8s,baz=322,slow=8.5,SNR=10						
GERES				LR	LR	14 08 59.7	
	comp=Z,103nm,19.7s,baz=288,slow=37						
GERES	**GERESS Array B**	**22.87**	**119**	P	**P**	**14 00 07.3**	**+0.5**
TUE	**Stuetta**	**23.32**	**128**	P	**P**	**14 00 12.7**	**+1.1**
FUORN	**Ofenpass-Fuorn**	**23.50**	**127**	P	**P**	**14 00 14.4**	**+0.9**
FUORN				IAmb	IAmb	14 00 52.1	
	comp=Z,28nm,1.9s						
VRAC	**Vranov**	**23.61**	**114**	LR	LR	14 11 03.5	
	comp=Z,121nm,18.2s,baz=298,slow=41						
VRAC	**Vranov**	**23.61**	**114**	*e*P	**P**	**14 00 14.9**	**+0.6**
MORC	**Moravsky Berou**	**23.62**	**112**	*e*P	**P**	**14 00 15.1**	**+0.7**
MORC	**Moravsky Berou**	**23.62**	**112**	P	**P**	**14 00 14.4**	**0.0**
MORC				IAmb	IAmb	14 00 16.3	
	comp=Z,43nm,2.0s						
KRUC	**Moravsky**	**23.73**	**115**	*e*P	**P**	**14 00 15.8**	**+0.4**
JAVC	**Velka Javorina**	**24.40**	**113**	*e*P	**P**	**14 00 23.2**	**+1.5**
MODS	**Modra-Piesok**	**24.63**	**115**	*e*P	**P**	**14 00 23.9**	**+0.1**
NIE	**Niedzica**	**25.01**	**109**	*e*P	**P**	**14 00 29.6**	**+2.4**
VYHS	**Vyhne**	**25.15**	**112**	*e*P	**P**	**14 00 29.5**	**+1.0**
KWP	**Kalwaria Pacla**	**25.83**	**106**	*e*P	**P**	**14 00 38.6**	**+3.9**
SCHQ	**Schefferville**	**26.10**	**272**	P	**P**	**14 00 35.4**	**-1.7**
	comp=Z,5.4nm,0.7s,baz=65,slow=14,SNR=4.9						
ESDC	**Sonseca Array**	**26.16**	**156**	P	**P**	**14 00 33.1**	**-4.7**
	comp=Z,0.1nm,0.5s,baz=342,slow=8.1,SNR=1.5						
ESDC				LR	LR	14 10 54.5	
	comp=Z,75nm,18.5s,baz=5.0,slow=37						
ESDC	**Sonseca Array**	**26.16**	**156**	P	**P**	**14 00 38.3**	**+0.5**
KOLS	**Kolonicke sedl**	**26.20**	**108**	*e*P	**P**	**14 00 40.4**	**+2.4**
RES	**Resolute Bay**	**26.56**	**325**	LR	LR	14 10 39.9	
	comp=Z,82nm,18.0s,baz=62,slow=35						
BR131	**Keskin Array S**	**38.41**	**105**	P	**P**	**14 02 23.5**	**-1.4**
BRTR	**Keskin Array B**	**38.41**	**105**	P	**P**	**14 02 22.4**	**-2.5**
	comp=Z,1.0nm,0.9s,baz=331,slow=7.0,SNR=2.6						
BRTR	**Keskin Array B**	**38.41**	**105**	P	**P**	**14 02 23.7**	**-1.2**
KBZ	**Khabaz**	**39.05**	**92**	P	**P**	**14 02 31.1**	**+1.0**
	comp=Z,2.8nm,1.0s,baz=277,slow=8.9,SNR=3.6						
YKA	**Yellowknife Ar**	**39.30**	**313**	LR	LR	14 17 48.5	
	comp=Z,56nm,18.1s,baz=0.0,slow=35						
ABKAR	**Akbulak array**	**41.96**	**73**	P	**P**	**14 02 54.0**	**0.0**
TOLK	**Toolik Lake Re**	**42.84**	**336**	P	**P**	**14 03 03.7**	**+2.6**
TOLK				IAmb	IAmb	14 03 10.8	
	comp=Z,16nm,1.2s						
BRVK	**Borovoye**	**43.11**	**62**	P	**P**	**14 03 04.1**	**+0.7**
BVAR	**Borovoye Array**	**43.18**	**62**	P	**P**	**14 03 04.9**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=335,slow=13,SNR=9.7						
N49A	**Columbus Grove**	**44.16**	**271**	P	**P**	**14 03 13.2**	**+1.2**
N49A				IAmb	IAmb	14 03 15.1	
	comp=Z,7.7nm,0.8s						
V62A	**Hyde County Ai**	**45.12**	**259**	P	**P**	**14 03 19.1**	**-0.5**
ILAR	**Eielson Array**	**45.78**	**333**	P	**P**	**14 03 25.1**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=21,slow=7.7,SNR=5.6						
ILAR				PcP	**PcP**	**14 05 02.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=349,slow=3.9,SNR=4.2						
BPAW	**Bear Paw Mtn.**	**47.17**	**334**	P	**P**	**14 03 35.9**	**+0.4**
BPAW				IAmb	IAmb	14 03 36.6	
	comp=Z,8.3nm,1.2s						

SRU	**San Rafael Swe**	**56.75**	**292**	P	**P**	**14 04 48.3**	**+0.9**
PV14	**Lion Creek, Pa**	**56.77**	**290**	P	**P**	**14 04 48.4**	**+0.7**
PV14				IAmb	IAmb	14 04 50.1	
comp=Z,5.5nm,0.7s							
PV02	**Paradox Valley**	**56.80**	**290**	P	**P**	**14 04 49.4**	**+1.6**
PV02				IAmb	IAmb	14 04 50.6	
comp=Z,5.7nm,0.8s							
PV03	**Paradox Valley**	**56.81**	**290**	P	**P**	**14 04 49.1**	**+1.3**
PV17	**East Wray Mesa**	**56.83**	**290**	P	**P**	**14 04 49.5**	**+1.6**
PV17				IAmb	IAmb	14 04 50.6	
comp=Z,4.6nm,0.9s							
PV18	**Skein Mesa, Pa**	**56.84**	**290**	P	**P**	**14 04 49.2**	**+1.2**
PV18				IAmb	IAmb	14 04 51.2	
comp=Z,5.3nm,0.9s							
TMUT	**Trail Mountain**	**56.86**	**292**	P	**P**	**14 04 50.1**	**+1.8**
PV13	**Radium Mtn., P**	**56.88**	**290**	P	**P**	**14 04 49.7**	**+1.3**
WMQ	**Urumqi**	**57.22**	**56**	*e*P	P	14 04 54.6	+4.1
MSU	**Marysvale**	**57.92**	**293**	P	**P**	**14 04 57.4**	**+1.6**
PSUT	**Pine Spring**	**58.57**	**294**	P	**P**	**14 05 01.4**	**+1.2**
R11A	**Troy Canyon, C**	**59.41**	**295**	P	**P**	**14 05 06.8**	**+0.8**
R11A				IAmb	IAmb	14 07 02.9	
comp=Z,6.6nm,1.8s							
BNM	**Barren Site**	**59.42**	**286**	P	**P**	**14 05 07.7**	**+1.4**
SVB	**Belmont**	**59.44**	**232**	P	**P**	**14 05 07.5**	**+1.3**
LCMT	**Little Creek M**	**59.64**	**293**	P	**P**	**14 05 09.5**	**+1.9**
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**14 05 06.8**	**-0.8**
comp=Z,0.9nm,0.7s,baz=332,slow=8.8,SNR=2.9							
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**14 05 09.6**	**+2.1**
KVN	**Kaiserville**	**59.77**	**298**	P	**P**	**14 05 09.8**	**+1.3**
U15A	**North Rim**	**59.77**	**292**	P	**P**	**14 05 09.5**	**+0.9**
U15A				IAmb	IAmb	14 05 11.3	
comp=Z,3.3nm,0.9s							
WUAZ	**Wupatki**	**60.19**	**290**	P	**P**	**14 05 12.4**	**+1.0**
WUAZ				IAmb	IAmb	14 05 14.3	
comp=Z,3.8nm,0.8s							
YERR	**Yerington**	**60.26**	**299**	P	**P**	**14 05 12.7**	**+0.8**
NVAR	**Mina Array Bea**	**60.39**	**298**	P	**P**	**14 05 13.6**	**+0.8**
comp=Z,0.5nm,0.8s,baz=59,slow=5.4,SNR=5.0							
NVAR				LR	LR	14 31 33.0	
comp=Z,108nm,18.5s,baz=28,slow=36							
NVAR	**Mina Array Bea**	**60.39**	**298**	P	**P**	**14 05 14.5**	**+1.7**
X16A	**Lo Mia Camp, P**	**61.17**	**290**	P	**P**	**14 05 20.0**	**+1.9**
TXAR	**Lajitas Array**	**62.35**	**280**	P	**P**	**14 05 26.3**	**+0.3**
comp=Z,0.8nm,0.9s,baz=57,slow=4.6,SNR=7.1							
TXAR	**Lajitas Array**	**62.35**	**280**	P	**P**	**14 05 27.1**	**+1.0**
319A	**Douglas**	**62.93**	**286**	P	**P**	**14 05 32.2**	**+2.4**
319A				IAmb	IAmb	14 05 33.3	
comp=Z,4.4nm,1.0s							
PMPB	**Monarch Peak**	**63.28**	**298**	P	**P**	**14 05 34.7**	**+2.6**
HHC	**Hu-ho-hao-te**	**67.53**	**40**	*e*P	**P**	**14 06 02.2**	**+2.6**
HHC				pmax	pmax		
comp=Z,23nm,0.8s							
HHC				pmax	pmax		
comp=Z,80nm,5.7s							
LZH	**Lanzhou**	**69.64**	**48**	*e*P	**P**	**14 06 13.5**	**+0.6**
LZH				pP	sP	14 06 16.4	-1.6
LZH				sP	pP	14 06 18.0	+1.4
LZH				*e*PP	**PP**	**14 08 48.6**	**+2.4**
LZH				pmax	pmax		
comp=Z,19nm,1.3s							
LZH				pmax	pmax		
comp=Z,65nm,6.6s							
LZH				LR	LR		
comp=N,120nm,15.0s							
LZH				LR	LR		
comp=E,130nm,15.3s							
LZH				LR	LR		
comp=Z,200nm,17.6s							
ASAR	**Alice Springs**	**134.99**	**39**	PKP	**PKiKP**	**14 14 22.3**	**-1.5**
comp=Z,0.4nm,0.9s,baz=330,slow=5.4,SNR=2.7							

*IDC **02** 14:09:52.8±1.2, 5°.40S×153°.12E, h0km, mb3.9/9,*
mb1 4.1/10, mb1mx3.9/36, mbtmp4.0/10, ML1.8/1, MS3.1/8,
Ms1 3.0/8, ms1mx2.9/33, Error ellipse: s-maj=30.3km
s-min=16.5km az=102.0

ISC 02 14:09:58.4±1.1, 5°.39S±0°.08×153°.1E±0°.1, h37km, n16, σ0°49/15, mb3.9/9, MS3.0/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.51**	**315**	Pn	**Pn**	**14 10 22.4**	**-0.6**
517nm,0.3s,baz=184,slow=1.0,SNR=276							
KRVT				Sn	**Sn**	**14 10 41.6**	**+0.2**
685nm,0.3s,baz=134,slow=23,SNR=25							
KRVT				LR	LR	14 11 00.9	
comp=Z,774nm,19.2s,baz=130,slow=44							
PMG	**Port Moresby**	**7.11**	**236**	Pn	**Pn**	**14 11 40.1**	**+0.2**
1.0nm,0.3s,baz=60,slow=14,SNR=2.8							
PMG				Sn	**Sn**	**14 12 59.7**	**+0.2**
3.1nm,0.3s,baz=316,slow=11,SNR=5.9							
HNR	**Honiara**	**7.89**	**121**	LR	LR	14 14 13.4	
comp=Z,28nm,21.0s,baz=300,slow=33							
GUMO	**Guam**	**20.55**	**337**	LR	LR	14 21 38.0	
comp=Z,50nm,19.1s,baz=162,slow=34							
WRA	**Warramunga Arr**	**23.28**	**230**	P	**P**	**14 15 02.5**	**-0.5**
1.7nm,0.8s,baz=52,slow=10.0,SNR=13							
ASAR	**Alice Springs**	**25.92**	**224**	P	**P**	**14 15 27.8**	**+0.5**
1.6nm,0.8s,baz=61,slow=8.6,SNR=16							
STKA	**Stephens Creek**	**28.47**	**201**	P	**P**	**14 15 49.2**	**-0.9**
1.1nm,0.7s,baz=40,slow=16,SNR=2.2							
STKA				LR	LR	14 27 46.5	
comp=Z,47nm,18.4s,baz=26,slow=38							
FITZ	**Fitzroy Crossi**	**29.64**	**242**	P	**P**	**14 16 00.2**	**-0.4**
1.9nm,0.8s,baz=360,slow=4.5,SNR=8.1							
FITZ				LR	LR	14 27 59.8	
comp=Z,18nm,19.1s,baz=273,slow=37							
NWAO	**Narrogin (SRO)**	**43.19**	**226**	LR	LR	14 35 45.3	
comp=Z,88nm,18.7s,baz=76,slow=36							
MJAR	**Matsushiro Arr**	**43.98**	**343**	LR	LR	14 36 01.8	
comp=Z,19nm,19.0s,baz=280,slow=36							
KSRS	**Korea Array**	**48.66**	**333**	P	**P**	**14 18 38.8**	**0.0**
1.2nm,0.8s,baz=148,slow=7.7,SNR=4.8							
KSRS				LR	LR	14 39 41.5	
comp=Z,12nm,18.1s,baz=20,slow=37							
CMAR	**Chiang Mai Arr**	**58.39**	**295**	P	**P**	**14 19 50.9**	**+0.2**
0.5nm,0.3s,baz=103,slow=6.4,SNR=5.1							
PETK	**Petropavlovsk-**	**58.41**	**3**	P	**P**	**14 19 50.4**	**+0.3**
1.9nm,0.6s,baz=160,slow=6.2,SNR=12							
PETK				LR	LR	14 40 55.5	
comp=Z,25nm,21.6s,baz=78,slow=32							
MKAR	**Makanchi Array**	**80.96**	**319**	P	**P**	**14 22 10.0**	**+0.8**
0.5nm,0.6s,baz=103,slow=6.6,SNR=7.5							
ZALV	**Zalesovo Beam**	**81.80**	**326**	P	**P**	**14 22 13.2**	**-0.3**
2.0nm,0.8s,baz=98,slow=4.5,SNR=6.6							
TORD	**Torodi Ar. Bea**	**150.76**	**287**	PKPbc	**PKPbc**	**14 29 48.1**	**+0.2**
1.9nm,0.6s,baz=69,slow=2.8,SNR=6.4							
TORD				PKPab	**pPKPdf**	**14 29 53.6**	**+0.3**
2.3nm,0.7s,baz=55,slow=2.5,SNR=8.5							

*TEH **02** 14:12:41.2, 33°.71N×59°.90E, h19km, ML3.4*
*THR **02** 14:12:41.1±0.4, 33°.70N×59°.88E, h14km±14km, ML3.5*

ISC 02 14:12:40.8±0.9, 33°.77N±0°.03×59°.87E±0°.04, h10km, n22, σ1°54/23, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**0.37**	**110**	*e*Pg	**Pg**	**14 12 48.3**	**+0.1**
SHRT				*e*Sg	**Sg**	**14 12 53.8**	**+0.6**
SHRT				IAML		14 12 54.1	
comp=E,7μm,0.1s							
SHRT				IAML		14 12 54.2	
comp=N,7μm,0.2s							
SHRT	**Shahrakht**	**0.37**	**110**	*e*Pg	**Pg**	**14 12 48.3**	**+0.1**
IMON	**Monand**	**0.60**	**196**	*e*Pg	**Pb**	**14 12 52.7**	**-0.9**
IMON				*e*	**Sb**	**14 13 02.2**	**-0.1**
AFRZ	**Afriz**	**0.79**	**244**	*e*Pg	**Pg**	**14 12 56.2**	**+0.1**
IDAH	**Dahanechah**	**1.03**	**180**	*e*Pg	**Pg**	**14 12 59.7**	**-1.0**
IDAH				*e*	**Sn**	**14 13 16.8**	**+0.5**
ITEG	**Tejag**	**1.28**	**227**	*e*		14 13 07.0	
ITEG				*e*Pg	**Pg**	**14 13 05.5**	**0.0**
BSRN	**Basiran**	**1.91**	**199**	*e*Pg	**Pb**	**14 13 14.8**	**-1.0**
BSRN	**Basiran**	**1.91**	**199**	*e*Pg	**Pb**	**14 13 14.8**	**-1.0**
JRKH	**Jarkhoshk**	**2.17**	**10**	*e*Pn	**Pb**	**14 13 18.8**	**-1.4**
TABS	**Tabas**	**2.30**	**268**	*e*Pn	**Pb**	**14 13 20.7**	**-1.7**
TABS	**Tabas**	**2.30**	**268**	*e*Pn	**Pb**	**14 13 20.7**	**-1.7**
TKDS	**Koohdasht(Taba**	**2.30**	**267**	*e*Pn	**Pn**	**14 13 20.0**	**+1.2**
TKDS				*e*		14 14 07.1	
NHDN	**Nehbandan**	**2.38**	**176**	*e*Pn	**Pb**	**14 13 21.6**	**-2.2**
NHDN				*e*		14 13 33.4	
IMYA	**Miami**	**2.57**	**4**	*e*Pn	**Pb**	**14 13 25.1**	**-2.0**
IMYA				*e*		14 14 08.0	
TNSJ	**Nastanj**	**2.72**	**275**	*e*	Sg	14 14 23.7	+15
IPAY	**Payeh**	**2.76**	**345**	*e*Pn	**Pb**	**14 13 28.4**	**-2.0**
IPAY				*e*		14 14 19.6	
TPRV	**Parvadeh(Tabas**	**2.77**	**255**	*e*Pn	**Pn**	**14 13 26.6**	**+1.3**
TPRV				*e*		14 13 42.6	
IAKL	**Akhelmad**	**2.96**	**342**	*e*Pn	**Pn**	**14 13 30.7**	**+2.5**
IAKL				*e*		14 14 28.3	
IKRD	**Kardeh**	**3.19**	**340**	*e*Pn	**Pn**	**14 13 30.2**	**-1.1**
IKRD				*e*		14 14 32.5	
SBZV	**Sabzevar**	**3.20**	**325**	*e*Pn	**Pn**	**14 13 33.7**	**+2.4**
ISFR	**Sfrayin**	**3.61**	**336**	*e*Pn	**Pn**	**14 13 39.5**	**+2.4**
ISFR				*e*		14 15 05.2	
YZKH	**Yazd**	**4.64**	**254**	IAML		14 15 15.7	
comp=E,13nm,0.6s							

*TEH **02** 14:15:57.5, 33°.79N×45°.75E, h8km, ML2.7*
*ISN **02** 14:15:57.0±0.3, 33°.58N×45°.61E, h1km±1km, ML2.7*

ISC 02 14:15:57.0±1.0, 33°.72N±0°.05×45°.71E±0°.07, h13km, n8, σ1°33/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.63**	**163**	*e*Pg	**Pg**	**14 16 08.0**	**-1.3**
IBDR				*e*Sg	**Sg**	**14 16 16.0**	**-1.6**
IGHG	**Ghaleghazi**	**0.94**	**49**	*e*Pg	**Pg**	**14 16 14.5**	**-0.6**
IGHG				*e*		14 16 18.1	
IDHR	**Dehrash**	**1.13**	**29**	*e*Pg	**Pb**	**14 16 18.0**	**-0.5**
IDHR				*e*		14 16 38.2	
BHD	**Baghdad**	**1.20**	**249**	*e*Pg	**Pb**	**14 16 19.0**	**-0.5**
BHD				*e*Sg	**Sb**	**14 16 35.0**	**+0.1**
IVIS	**Veis**	**1.24**	**49**	*e*Pg	**Pn**	**14 16 20.4**	**+0.3**
IVIS				*e*		14 16 41.7	
IKOM	**Komasi**	**1.56**	**73**	*e*Pn	**Pn**	**14 16 26.0**	**+1.4**
IKOM				*e*		14 16 51.9	
ILIN	**Lien**	**1.58**	**40**	*e*Pn	**Pn**	**14 16 25.9**	**+0.9**
ILIN				*e*		14 16 49.9	
NSR	**Nassriya**	**2.72**	**172**	*e*Pn	**Pn**	**14 16 42.0**	**+1.6**
NSR				*e*Sn	**Sn**	**14 17 15.0**	**+1.8**

*IDC **02** 14:23:43.2±0.7, 14°.94S×66°.21E, h0km, mb4.1/15,*
mb1 4.3/15, mb1mx4.0/43, mbtmp4.1/15, MS3.6/8,
Ms1 3.6/8, ms1mx3.3/27, Error ellipse: s-maj=24.6km
s-min=18.9km az=41.0
*NEIC **02** 14:23:46.4±1.0, 14°.9S±0°.1×66°.2E±0°.1, h18km±4km,*
mb4.7/30, Error ellipse: s-maj=21.3km s-min=19.1km
az=222.0

ISC 02 14:23:45.2±0.6, 14°.9S±0°.1×66°.2E±0°.1, h10km, n74, σ0°70/65, mb4.6/25, MS3.6/9, 1C-2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**9.43**	**41**	T	T	14 35 31.9	
baz=220,slow=76,SNR=6928							
H08S2	**Diego Garcia H**	**9.44**	**41**	T	T	14 35 32.8	
baz=220,slow=76,SNR=6686							
H08S3	**Diego Garcia H**	**9.45**	**41**	T	T	14 35 29.5	
baz=220,slow=76,SNR=8191							
PALK	**Pallekele**	**26.26**	**34**	LR	LR	14 37 37.5	
comp=Z,183nm,19.0s,baz=319,slow=32							
PALK	**Pallekele**	**26.26**	**34**	P	**P**	**14 29 21.0**	**+0.1**
KMBO	**Kilima Mbogo**	**31.72**	**293**	LR	LR	14 40 58.5	
comp=Z,39nm,18.7s,baz=93,slow=33							
BOSA	**Boshof**	**40.24**	**243**	LR	LR	14 44 57.9	
comp=Z,131nm,18.5s,baz=61,slow=32							
CMAR	**Chiang Mai Arr**	**46.21**	**45**	P	**P**	**14 32 12.0**	**+1.3**
3.2nm,1.1s,baz=239,slow=7.9,SNR=9.6							
CMAR	**Chiang Mai Arr**	**46.21**	**45**	P	**P**	**14 32 11.0**	**+0.3**
CHTO	**Chiang Mai**	**46.45**	**45**	P	**P**	**14 32 12.4**	**-0.2**
H01W3	**Cape Leeuwin H**	**47.30**	**124**	T	T	15 22 49.0	
baz=282,slow=75,SNR=19							
H01W2	**Cape Leeuwin H**	**47.30**	**124**	T	T	15 22 48.4	
baz=282,slow=75,SNR=9.5							
H01W1	**Cape Leeuwin H**	**47.32**	**124**	T	T	15 22 48.7	
baz=282,slow=75,SNR=15							
KBL	**Kabul**	**49.21**	**3**	P	**P**	**14 32 34.1**	**+0.1**
SLVN	**Son La**	**51.59**	**47**	P	**P**	**14 32 52.7**	**+0.6**
SLVN				IAmb	IAmb	14 32 54.9	
comp=Z,11nm,1.3s							
GAR	**Garm**	**53.72**	**4**	P	**P**	**14 33 08.0**	**+0.4**
SYO	**Syowa Base**	**56.68**	**191**	*e*P	**P**	**14 33 29.4**	**+1.0**
SYO	**Syowa Base**	**56.68**	**191**	*e*pP	pP	14 33 35.1	+4.2
LUWI	**Luwuk**	**57.47**	**82**	P	**P**	**14 33 35.2**	**+0.2**
KDJ	**Kajisay**	**57.60**	**10**	P	**P**	**14 33 35.6**	**0.0**
KKAR	**Karatay Array**	**57.82**	**4**	P	**P**	**14 33 37.5**	**+0.7**
BRTR	**Keskin Array B**	**62.23**	**332**	P	**P**	**14 34 08.2**	**+0.9**
comp=Z,0.8nm,0.8s,baz=154,slow=8.0,SNR=2.1							
GTA	**Gaotai**	**62.43**	**29**	*e*P	**P**	**14 34 09.6**	**+0.9**
GTA				pP	pwP	14 34 14.9	-0.1
GTA				sP	sP	14 34 18.0	+6.2
GTA				pmax	pmax		
comp=Z,8.0nm,1.2s							
GTA				pmax	pmax		
comp=Z,28nm,3.8s							
GTA				LR	LR		
comp=N,89nm,15.2s							
GTA				LR	LR		
comp=E,120nm,14.9s							
GTA				LR	LR		
comp=Z,87nm,17.5s							
MAKZ	**Makanchi**	**63.00**	**12**	P	**P**	**14 34 11.7**	**-0.5**
MAKZ				IAmb	IAmb	14 34 13.7	
comp=Z,5.6nm,1.1s							
MK31	**Makanchi Array**	**63.05**	**12**	P	**P**	**14 34 12.2**	**-0.4**
MK31				IAmb	IAmb	14 34 14.1	
comp=Z,7.3nm,1.2s							
MKAR	**Makanchi Array**	**63.05**	**12**	P	**P**	**14 34 12.4**	**-0.1**
comp=Z,4.3nm,1.0s,baz=203,slow=8.6,SNR=27							
MKAR	**Makanchi Array**	**63.05**	**12**	P	**P**	**14 34 11.6**	**-1.0**
XAN	**Xi'an**	**63.38**	**39**	P	**P**	**14 34 14.7**	**-0.3**
ASAR	**Alice Springs**	**63.98**	**109**	P	**P**	**14 34 18.9**	**-0.4**
comp=Z,1.1nm,1.0s,baz=272,slow=5.7,SNR=14							
ASAR				LR	LR	15 00 10.0	
comp=Z,49nm,18.1s,baz=273,slow=34							
ASAR	**Alice Springs**	**63.98**	**109**	P	**P**	**14 34 18.6**	**-0.7**
AS31	**Alice Springs**	**63.98**	**109**	P	**P**	**14 34 18.3**	**-1.0**
ABKAR	**Akbulak array**	**64.08**	**355**	P	**P**	**14 34 19.4**	**+0.1**
WRA	**Warramunga Arr**	**64.81**	**105**	P	**P**	**14 34 24.4**	**-0.4**
comp=Z,3.7nm,1.1s,baz=269,slow=5.9,SNR=13							
WRA	**Warramunga Arr**	**64.81**	**105**	P	**P**	**14 34 24.6**	**-0.1**
WB2	**Warramunga Arr**	**64.82**	**105**	P	**P**	**14 34 24.8**	**0.0**
WB2				IAmb	IAmb	14 34 32.9	
comp=Z,8.3nm,1.1s							
WB0	**Warramunga Arr**	**64.88**	**105**	P	**P**	**14 34 25.3**	**+0.1**
WR0	**Warramunga Arr**	**64.99**	**105**	P	**P**	**14 34 26.2**	**+0.3**
WR0				IAmb	IAmb	14 34 53.4	
comp=Z,7.8nm,1.2s							
KURK	**Kurchatov**	**66.20**	**9**	P	**P**	**14 34 33.1**	**+0.1**
BRVK	**Borovoye**	**67.74**	**3**	P	**P**	**14 34 43.0**	**+0.3**
BRVK				IAmb	IAmb	14 34 43.8	
comp=Z,6.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**69.68**	**290**	P	**P**	**14 34 55.1**	**-0.6**
comp=Z,0.9nm,0.8s,baz=95,slow=4.8,SNR=3.6							
STKA	**Stephens Creek**	**70.00**	**119**	LR	LR	15 01 13.3	
comp=Z,30nm,18.9s,baz=208,slow=32							
ZAA0	**Zalesovo Array**	**70.36**	**12**	P	**P**	**14 34 58.3**	**-0.7**
ZALV	**Zalesovo Beam**	**70.36**	**12**	P	**P**	**14 34 58.7**	**-0.3**
comp=Z,4.7nm,0.9s,baz=212,slow=5.3,SNR=17							
ZALV				LR	LR	15 03 15.1	
comp=Z,31nm,20.1s,baz=239,slow=34							
ZALV	**Zalesovo Beam**	**70.36**	**12**	P	**P**	**14 34 58.2**	**-0.8**
ARU	**Arti**	**71.32**	**356**	P	**P**	**14 35 04.6**	**-0.2**
SONM	**Songino Array**	**71.97**	**27**	P	**P**	**14 35 09.6**	**+0.5**
comp=Z,4.8nm,1.0s,baz=218,slow=6.1,SNR=19							
SONM				LR	LR	15 05 26.8	
comp=Z,73nm,18.7s,baz=219,slow=35							
SONM	**Songino Array**	**71.97**	**27**	P	**P**	**14 35 09.6**	**+0.5**
ULN	**Ulaanbaatar**	**72.29**	**28**	P	**P**	**14 35 11.9**	**+0.9**
ULN				IAmb	IAmb	14 35 13.3	
comp=Z,8.1nm,1.2s							
AKASG	**Malin Array Be**	**72.89**	**336**	P	**P**	**14 35 14.7**	**+0.4**
comp=Z,0.3nm,0.3s,baz=146,slow=5.1,SNR=6.1							
AKBB	**Malin Array Si**	**72.89**	**336**	P	**P**	**14 35 14.5**	**+0.2**
AKBB				IAmb	IAmb	14 35 17.5	
comp=Z,9.6nm,1.4s							
KOLS	**Kolonicke sedl**	**74.50**	**332**	*e*P	**P**	**14 35 24.3**	**+0.5**
QSPA	**South Pole Qui**	**75.21**	**180**	P	**P**	**14 35 27.7**	**-0.3**
comp=Z,3.9nm,1.1s,baz=170,slow=1.0,SNR=6.4							
QSPA	**South Pole Qui**	**75.21**	**180**	P	**P**	**14 35 28.8**	**+0.9**
QSPA				IAmb	IAmb	14 35 32.8	
comp=Z,9.0nm,1.4s							
VYHS	**Vyhne**	**75.82**	**330**	*e*P	**P**	**14 35 32.5**	**+1.0**
CTAO	**Charters Tower**	**75.84**	**107**	P	**P**	**14 35 32.2**	**-0.1**
ZOU	**Zoufplan**	**77.61**	**326**	P	**P**	**14 35 39.8**	**-2.1**
KSRS	**Korea Array**	**77.85**	**46**	P	**P**	**14 35 43.0**	**-0.1**
comp=Z,3.2nm,1.1s,baz=242,slow=5.2,SNR=5.6							
KSRS				LR	LR	15 07 21.5	
comp=Z,16nm,21.9s,baz=246,slow=34							
KRLC	**Kraliky**	**77.88**	**330**	*e*P	**P**	**14 35 44.0**	**+0.9**
KLMR	**Klimovskoe**	**78.44**	**347**	*e*P	**P**	**14 35 45.5**	**-0.3**
KLMR				AMP		14 35 47.8	
comp=Z,28nm,1.2s							
GERES	**GERESS Array B**	**78.63**	**328**	P	**P**	**14 35 47.3**	**0.0**
comp=Z,0.2nm,0.3s,baz=128,slow=6.4,SNR=6.8							
GERES	**GERESS Array B**	**78.63**	**328**	P	**P**	**14 35 47.0**	**-0.4**
KHC	**Kasperske Hory**	**78.87**	**328**	*e*P	**P**	**14 35 49.4**	**+0.8**
KHC	**Kasperske Hory**	**78.87**	**328**	P	**P**	**14 35 48.4**	**-0.3**
CLL	**Collm**	**80.52**	**329**	*i*P	**P**	**14 35 59.0**	**+1.6**
comp=Z,10.0nm,1.3s							
ESDC	**Sonseca Array**	**84.80**	**313**	P	**P**	**14 36 20.1**	**0.0**
comp=Z,1.5nm,1.0s,baz=94,slow=3.4,SNR=7.0							
ESDC	**Sonseca Array**	**84.80**	**313**	P	**P**	**14 36 20.1**	**0.0**
MJAR	**Matsushiro Arr**	**84.85**	**50**	P	**P**	**14 36 20.6**	**+0.3**
comp=Z,5.4nm,1.1s,baz=252,slow=6.3,SNR=9.7							
MJAR	**Matsushiro Arr**	**84.85**	**50**	P	**P**	**14 36 20.3**	**-0.1**
KLR	**Kul'dur**	**85.98**	**37**	P	**P**	**14 36 24.0**	**-1.7**
comp=Z,2.7nm,1.0s,baz=239,slow=5.9,SNR=3.3							
ILAR	**Eielson Array**	**125.27**	**17**	PKP	**PKPdf**	**14 42 44.4**	**-1.4**
comp=Z,0.9nm,1.0s,baz=275,slow=4.3,SNR=6.1							
ILAR	**Eielson Array**	**125.27**	**17**		**PKPdf**	**14 42 45.1**	**-0.7**
PDAR	**Pinedale Array**	**151.97**	**353**	PKP	**PKPdf**	**14 43 33.2**	**-1.4**
comp=Z,0.1nm,0.4s,baz=96,slow=3.6,SNR=2.1							
PDAR				PKPbc	**PKPbc**	**14 43 40.8**	**-0.3**
comp=Z,1.8nm,0.8s,baz=86,slow=2.0,SNR=15							
NVAR	**Mina Array Bea**	**156.19**	**9**	PKPab	**PKPab**	**14 44 08.0**	**-0.2**
comp=Z,0.9nm,0.9s,baz=344,slow=3.1,SNR=5.7							
TXAR	**Lajitas Array**	**162.85**	**329**	PKP	**PKPdf**	**14 43 49.0**	**+0.5**
comp=Z,0.3nm,0.9s,baz=73,slow=4.1,SNR=4.5							
TXAR				PKPab	**PKPab**	**14 44 37.2**	**-0.1**
comp=Z,0.8nm,0.9s,baz=16,slow=4.7,SNR=5.7							

*ISK **02** 14:38:26.6, 38°.00N×41°.34E, h5km, ML3.4/18*
*DDA **02** 14:38:26.0, 38°.00N×41°.29E, h17km±2km, ML3.3*

ISC 02 14:38:28.3±0.8, 37°.98N±0°.02×41°.29E±0°.02, h12km±5km, n41, σ1°31/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTMN	**Batman**	**0.09**	**190**	*i*P	**Pg**	**14 38 30.4**	**-0.7**
BTMN				*i*S	**Sg**	**14 38 34.4**	**+1.1**
BTMN				IAML		14 38 35.0	
comp=N,21μm,0.3s							
BTMN				IAML		14 38 35.0	
comp=E,19μm,0.7s							
SVAN	**Silvan-Diyarba**	**0.18**	**337**	PG	**Pg**	**14 38 30.8**	**-1.7**
SVAN				SG	**Sg**	**14 38 34.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**0.18**	**337**	*i*P	**Pg**	**14 38 30.9**	**-1.7**
SVAN				*i*S	**Sg**	**14 38 34.1**	**-1.2**
SVAN				IAML		14 38 35.0	
comp=E,7μm,0.2s							
SVAN				IAML		14 38 36.0	
comp=N,13μm,0.5s							
SRTM	**Siirt_Merkez**	**0.50**	**89**	*i*P	**Pg**	**14 38 36.5**	**-1.6**
SRTM				*i*S	**Sn**	**14 38 49.0**	**+4.2**
SRTM				IAML		14 38 53.0	
comp=N,4μm,0.7s							
SRTM				IAML		14 38 57.0	
comp=E,3μm,0.6s							
MUSM	**Mu-Merkez**	**0.76**	**13**	*i*P	**Pg**	**14 38 41.4**	**-1.7**
MUSM				*i*S	**Sg**	**14 38 52.0**	**-1.1**
BLIS	**Bitlis-Merkez**	**0.78**	**56**	*i*P	**Pg**	**14 38 42.3**	**-1.1**
BLIS				*i*S	**Sg**	**14 38 53.4**	**-0.3**
BLIS				IAML		14 38 59.0	
comp=E,778nm,0.6s							
GURO	**Guroymak-BITLI**	**0.81**	**46**	PG	**Pg**	**14 38 42.2**	**-1.9**
GURO				SG	**Sg**	**14 38 54.2**	**-0.6**
HANI	**Diyarbakir_Han**	**0.82**	**302**	*i*P	**Pb**	**14 38 43.9**	**-0.8**
HANI				*i*S	**Sb**	**14 38 56.2**	**+0.4**
MAZI	**Mazidag**	**0.85**	**232**	PG	**Pn**	**14 38 45.3**	**-0.9**
MAZI				SG	**Sn**	**14 38 57.9**	**-0.8**
DYBB	**Diyarbakir**	**0.91**	**269**	PG	**Pb**	**14 38 45.7**	**-0.

RPZ	**Rata Peaks**	**0.99 261**	P	Pn	14 48 18.5	0.0
INZ	**Inchbonnie**	**1.10 320**	P	Pn	14 48 20.2	+0.1
WVZ	**Waitaha Valley**	**1.31 292**	P	Pg	14 48 24.8	+1.2
KHZ	**Kahutara**	**1.43 36**	P	Pn	14 48 23.8	-0.7
GCSZ	**Gaunt Creek Bo**	**1.53 279**	P	Pg	14 48 28.3	+0.5
LBZ	**Lake Benmore**	**1.79 242**	P	Pg	14 48 33.5	+0.6
DSZ	**Denniston Nort**	**1.88 346**	P	Pb	14 48 32.1	-0.9
FOZ	**Fox Glacier**	**1.88 270**	P	Pb	14 48 32.7	-0.2
ODZ	**Otahua Downs**	**1.94 220**	P	Pn	14 48 32.6	+1.0

*ISN **02** 15:10:04.1±0.8, 33°.82N×45°.34E, h7km±4km, ML2.2*
*TEH **02** 15:10:05.7, 33°.81N×45°.35E, h10km, ML2.9*
ISC 02 15:10:06.8±1.1, **33°.74N**±0°.06×**45°.31E**±0°.05, **h10**km, **n8,** σ**1**°**44/11, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.81**	**140**	*e*Pg	**Pg**	**15 10 21.0**	**-1.5**
IBDR				*e*Sg	**Sg**	**15 10 33.0**	**-0.1**
IBDR				AML	AML	15 10 43.1	
	comp=E,70nm,0.3s						
IBDR				AML	AML	15 10 53.1	
	comp=N,94nm,0.5s						
BHD	**Baghdad**	**0.90**	**239**	*e*Pg	**Pg**	**15 10 23.0**	**-1.2**
BHD				*e*Sg	**Sg**	**15 10 36.0**	**+0.1**
BHD				AML	AML	15 10 55.6	
	comp=E,40nm,0.8s						
IDHR	**Dehrash**	**1.31**	**43**	*e*Pg	Pn	15 10 29.1	-2.3
IDHR				*e*Sg	**Sb**	**15 10 47.5**	**-1.2**
IDHR				*e*		15 10 52.5	
IVIS	**Veis**	**1.50**	**58**	*e*Pg	**Pn**	**15 10 33.9**	**0.0**
IVIS				*e*		15 10 55.2	
KER	**Kermanshah**	**1.65**	**66**	*e*Pg	**Pn**	**15 10 35.9**	**-0.1**
KER				*e*		15 10 58.5	
ILIN	**Lien**	**1.81**	**49**	*e*Pg	**Pn**	**15 10 40.3**	**+2.0**
ILIN				*e*		15 11 03.9	
IKOM	**Komasi**	**1.88**	**76**	*e*Pg	**Pn**	**15 10 40.5**	**+1.3**
IKOM				*e*		15 11 05.0	
NSR	**Nassriya**	**2.81**	**165**	*e*Pn	**Pn**	**15 10 52.0**	**+0.3**
NSR				*e*Sn	**Sn**	**15 11 28.0**	**+2.4**
NSR				AML	AML	15 11 39.3	
	comp=E,15nm,0.4s						

WEL 02 15:35:36.8, 44°S±2°×**16°8E**±°, **h81**km±9km, **M2.7/**11, **mB4.8/**1, **ML2.7/**10, **MLv2.7/**11, **Mw(mB)4.0/**1, **Error ellipse: s-maj=0.0km s-min=0.0km az=85.7, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.32**	**237**	P	Pn	15 35 49.7	+0.4
JCZ	**Jackson Bay**	**0.55**	**39**	P	Pn	15 35 51.6	+0.5
MLZ	**Mavora Lakes**	**0.88**	**189**	P	Pn	15 35 55.3	+0.7
DCZ	**Deep Cove**	**1.27**	**220**	P	Pn	15 35 59.2	+0.1
LBZ	**Lake Benmore**	**1.35**	**86**	P	Pn	15 36 00.9	+0.7
WHZ	**Wether Hill Ro**	**1.42**	**190**	P	Pn	15 36 01.5	+0.4
FOZ	**Fox Glacier**	**1.46**	**49**	P	Pn	15 36 01.0	-0.5
ODZ	**Otahua Downs**	**1.75**	**109**	P	Pn	15 36 06.4	+1.0
GCSZ	**Gaunt Creek Bo**	**1.88**	**52**	P	Pn	15 36 06.8	-0.2
SYZ	**Scrubby Hill**	**2.12**	**164**	P	Pn	15 36 11.0	+0.7
ARCZ	**Arundel**	**2.14**	**76**	P	Pn	15 36 10.8	+0.3
WVZ	**Waitaha Valley**	**2.26**	**52**	P	Pn	15 36 12.1	0.0
APZ	**The Paps**	**2.35**	**185**	P	Pn	15 36 13.6	+0.2
DSZ	**Denniston Nort**	**3.76**	**44**	P	Pn	15 36 32.3	-0.1
MRZ	**Mangatainoka R**	**6.59**	**57**	P	Pn	15 37 11.0	-0.1
TIWZ	**Tintock**	**6.71**	**59**	P	Pn	15 37 10.7	-1.9
POWZ	**Post Office Ro**	**6.88**	**56**	P	Pn	15 37 15.2	+0.3

*TEH **02** 15:39:45.7, 33°.75N×45°.49E, h20km, ML3.1*
*ISN **02** 15:39:45.4±1.0, 33°.62N×45°.52E, h7km±5km, ML3.0*
ISC 02 15:39:45.9±1.1, **33°.69N**±0°.05×**45°.49E**±0°.04, **h13**km, **n18,** σ**1**°**17/21, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.68**	**147**	*e*Pg	**Pg**	**15 39 58.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**15 40 06.0**	**-2.1**
IBDR				AML	AML	15 40 16.4	
	comp=E,210nm,0.5s						
IBDR				AML	AML	15 40 16.6	
	comp=N,164nm,0.5s						
BHD	**Baghdad**	**1.01**	**246**	*e*Pg	**Pb**	**15 40 05.0**	**-0.3**
BHD				*e*Sg	**Sg**	**15 40 19.0**	**+0.3**
BHD				AML	AML	15 40 32.4	
	comp=E,1μm,0.3s						
IGHG	**Ghaleghazi**	**1.10**	**54**	*e*		15 40 09.0	
IGHG				*e*Pg	**Pb**	**15 40 05.7**	**-1.2**
IDHR	**Dehrash**	**1.26**	**36**	*e*		15 40 29.3	
IDHR				*e*Pg	**Pn**	**15 40 08.6**	**-0.7**
IVIS	**Veis**	**1.41**	**53**	*e*Pg	**Pn**	**15 40 11.1**	**-0.2**
IVIS				*e*		15 40 32.0	
KCHF	**Cheshme Sefid,**	**1.42**	**65**	*e*Pg	**Pn**	**15 40 11.2**	**-0.3**
KCHF				*e*		15 40 33.0	
KER	**Kermanshah**	**1.53**	**62**	*e*Pg	**Pb**	**15 40 14.0**	**-0.2**
ILIN	**Lien**	**1.73**	**44**	*e*Pg	**Pb**	**15 40 17.2**	**-0.5**
ILIN				*e*		15 40 17.9	
IKOM	**Komasi**	**1.75**	**73**	*e*Pg	**Pb**	**15 40 17.2**	**-0.7**
IKOM				*e*		15 40 18.6	
DHL1	**Dehloran**	**1.81**	**123**	*e*Sg	**Sg**	**15 40 44.4**	**+0.4**
IBZA	**Bozab**	**2.12**	**68**	*e*Pg	**Pn**	**15 40 22.2**	**+1.0**
IBZA				*e*		15 40 25.5	
IDOB	**Doab**	**2.24**	**87**	*e*Pn	**Pn**	**15 40 23.2**	**+0.3**
IALM	**Alamabolaq**	**2.51**	**61**	*e*Pn	**Pn**	**15 40 28.2**	**+1.6**
HSAM	**Samen**	**2.64**	**78**	*e*Pn	**Pn**	**15 40 28.6**	**+0.2**
HSAM				*e*		15 41 11.3	
NSR	**Nassriya**	**2.72**	**168**	*e*Pn	**Pn**	**15 40 30.0**	**+0.7**
NSR				*e*Sn	**Sn**	**15 41 04.0**	**+1.9**
NSR				AML	AML	15 41 07.2	
	comp=E,431nm,0.3s						
HSRG	**Sareghieh**	**2.78**	**55**	*e*Pn	**Pn**	**15 40 31.9**	**+1.6**
HSRG				*e*		15 40 38.9	
BMDN	**Meydan**	**2.78**	**89**	*e*	**Sg**	**15 41 17.6**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.93**	**58**	*e*Pn	**Pn**	**15 40 46.2**	**+0.1**

*IDC **02** 15:51:51.6±2.1, 32°.43N×47°.90E, h0km, mb3.7/6,*
mb1 3.8/8, mb1mx3.5/38, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=42.1km s-min=22.5km az=7.0
*TEH **02** 15:51:54.6, 32°.67N×47°.86E, h12km, ML3.8*
*ISN **02** 15:51:54.5±0.9, 32°.64N×47°.81E, h11km±132km, ML3.4*
*THR **02** 15:51:55.3±1.0, 32°.74N×47°.86E, h14km±6km, ML4.0*
ISC 02 15:51:55.2±1.1, **32°.64N**±0°.03×**47°.85E**±0°.03, **h11**km±9km, **n68,** σ**1**°**19/75, mb3.6/6, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.49**	**276**	*e*Sg	**Sg**	**15 52 12.2**	**+1.0**
DHL1				*e*Pg	**Pg**	**15 52 04.1**	**-0.6**
SHGR	**Shooshtar-Gavs**	**0.96**	**123**	*e*Pg	**Pg**	**15 52 13.8**	**+0.1**
SHGR				*e*Sg	**Sn**	**15 52 28.6**	**+0.4**
SHGR	**Shooshtar-Gavs**	**0.96**	**123**	*e*Pg	**Pg**	**15 52 13.8**	**+0.1**
IKMR	**Kamar-syah**	**0.98**	**27**	*e*Pg	**Pg**	**15 52 12.7**	**-1.5**
IKMR				*e*		15 52 31.7	
IDOB	**Doab**	**1.18**	**13**	*e*Pg	**Pb**	**15 52 16.2**	**-1.5**
BMDN	**Meydan**	**1.32**	**38**	*e*Pg	**Pn**	**15 52 19.3**	**-0.4**
BMDN				*e*Sg	**Sn**	**15 52 38.8**	**+1.5**
BMDN				*e*		15 52 43.4	
AHWZ	**Ahwaz**	**1.46**	**153**	*e*Pg	**Pn**	**15 52 22.0**	**+0.5**
AHWZ				*e*Sg	**Sg**	**15 52 44.2**	**+1.9**
IKOM	**Komasi**	**1.56**	**349**	*e*Pg	**Pn**	**15 52 23.8**	**+0.8**
IKOM				*e*		15 52 48.8	
IBDR	**Badra**	**1.69**	**287**	*e*Pn	**Pn**	**15 52 25.0**	**+0.4**
IBDR				*e*Sn	**Sn**	**15 52 48.0**	**+1.9**
IBDR				AML	AML	15 53 04.2	
	comp=E,540nm,0.5s						
IBDR				AML	AML	15 53 06.5	
	comp=N,665nm,0.5s						
HSAM	**Samen**	**1.69**	**22**	*e*Pg	**Pn**	**15 52 25.4**	**+0.5**
HSAM				*e*		15 52 29.3	
KCHF	**Cheshme Sefid,**	**1.77**	**338**	*e*Pg	**Pn**	**15 52 26.7**	**+0.8**
IBZA	**Bozab**	**1.83**	**0**	*e*Pg	**Pb**	**15 52 28.6**	**-0.2**
IBZA				*e*		15 52 55.4	
KER	**Kermanshah**	**1.85**	**341**	*e*Pg	**Pn**	**15 52 28.5**	**+1.6**
IGHG	**Ghaleghazi**	**2.00**	**328**	*e*Pn	**Pn**	**15 52 30.0**	**+0.8**
IGHG				*e*		15 53 06.8	
IVIS	**Veis**	**2.06**	**336**	*e*Pn	**Pb**	**15 52 32.4**	**-0.3**
IVIS				*e*		15 53 03.1	
KHMZ	**Khomeyn**	**2.08**	**57**	*e*Pg	**Pn**	**15 52 31.9**	**+1.7**
KHMZ	**Khomeyn**	**2.08**	**57**	*e*Pg	**Pn**	**15 52 31.9**	**+1.7**
NSR	**Nassriya**	**2.18**	**222**	*e*Pn	**Pn**	**15 52 32.0**	**+0.6**
NSR				*e*Sn	**Sn**	**15 52 58.0**	**-0.3**
IALM	**Almabolaq**	**2.23**	**7**	*e*Pn	**Pn**	**15 52 34.1**	**+1.7**
IDHR	**Dehrash**	**2.40**	**330**	*e*Pn	**Pn**	**15 52 35.8**	**+1.3**
ILIN	**Lien**	**2.40**	**342**	*e*Pn	**Pn**	**15 52 35.2**	**+0.6**
ILIN				*e*		15 52 43.3	
JHBN	**Jahan bin**	**2.41**	**99**	*e*Pn	**Pn**	**15 52 35.9**	**+1.1**
JHBN				*e*		15 53 19.5	
HAGD	**Aghdareh**	**2.43**	**26**	*e*Pn	**Pn**	**15 52 36.5**	**+1.5**
HAGD				*e*		15 53 15.8	
IPIR	**Pirpir**	**2.56**	**88**	*e*Pn	**Pn**	**15 52 38.2**	**+1.3**
IPIR				*e*		15 52 48.3	
HSRG	**Sareghieh**	**2.62**	**8**	*e*Pn	**Pn**	**15 52 39.2**	**+1.4**
HSRG				*e*		15 53 22.2	
ASAO	**Ashtian**	**2.63**	**43**	*e*Pn	**Pn**	**15 52 39.0**	**+1.2**
ASAO				*e*Sg	**Sb**	**15 53 15.7**	**+0.8**
ASAO	**Ashtian**	**2.63**	**43**	*e*Pn	**Pn**	**15 52 39.0**	**+1.2**
ROKH	**ROKH**	**2.70**	**95**	*e*Pn	**Pn**	**15 52 39.7**	**+0.9**
ROKH				*e*		15 53 27.3	
IBRJ	**Brojen**	**2.98**	**103**	*e*Pn	**Pn**	**15 52 43.3**	**+0.7**
BHD	**Baghdad**	**2.99**	**283**	*e*Pn	**Pn**	**15 52 43.0**	**+0.5**
BHD				*e*Sn	**Sn**	**15 53 19.0**	**+0.7**
IKLH	**Kolahrood**	**3.20**	**77**	*e*Pn	**Pn**	**15 52 47.0**	**+1.3**
IKLH				*e*		15 53 45.5	
IRAZ	**Razeghan**	**3.26**	**31**	*e*Pn	**Pn**	**15 52 48.6**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.38**	**25**	*e*Pn	**Pn**	**15 52 49.2**	**+1.0**
GHVR	**GHOM**	**3.41**	**56**	*e*Pn	**Pn**	**15 52 49.3**	**+0.9**
GHVR				Sn	**Sn**	**15 53 27.7**	**-1.2**
GHVR	**GHOM**	**3.41**	**56**	*e*Pn	**Pn**	**15 52 49.3**	**+0.9**
IGAR	**Gharneh**	**3.54**	**93**	*e*Pn	**Pn**	**15 52 51.1**	**+0.7**
KLNJ	**Kolanjah**	**3.57**	**116**	*e*Pn	**Pn**	**15 52 51.1**	**+0.3**
KLNJ				*e*		15 53 05.3	
IZEF	**Zefreh**	**3.78**	**85**	*e*Pn	**Pn**	**15 52 54.8**	**+1.2**
IMHD	**Mahdasht**	**3.83**	**37**	*e*Pn	**Pn**	**15 52 56.5**	**+2.3**
IRAM	**Ramesheh**	**3.92**	**101**	*e*Pn	**Pn**	**15 52 55.5**	**-0.1**
QSDN	**Sirdan**	**4.01**	**15**	*e*Pn	**Pn**	**15 52 58.0**	**+1.2**
IGZV	**Ghazvin**	**4.22**	**27**	*e*Pn	**Pn**	**15 53 01.0**	**+1.4**
QALM	**Alamut, Qazvin**	**4.43**	**31**	*e*Pn	**Pn**	**15 53 03.7**	**+1.1**
DAMV	**Damavand**	**4.54**	**48**	*e*Pn	**Pn**	**15 53 05.0**	**+1.0**
DAMV	**Damavand**	**4.54**	**48**	*e*Pn	**Pn**	**15 53 05.0**	**+1.0**
IDMV	**Damavand**	**4.54**	**49**	*e*Pn	**Pn**	**15 53 05.1**	**+1.0**
ANAR	**Anarak**	**4.97**	**82**	*e*Pn	**Pn**	**15 53 11.1**	**+1.2**
ISAD	**Sadrabad**	**4.99**	**97**	*e*Pn	**Pn**	**15 53 10.5**	**+0.2**
ILAS	**Lasjerd**	**5.05**	**56**	*e*Pn	**Pn**	**15 53 12.4**	**+1.4**
IFIR	**Firoozkooh**	**5.05**	**52**	*e*Pn	**Pn**	**15 53 12.3**	**+1.2**
IPRN	**Peran**	**5.16**	**45**	*e*Pn	**Pn**	**15 53 14.7**	**+2.2**
IALA	**Alasht**	**5.35**	**49**	*e*Pn	**Pn**	**15 53 16.7**	**+1.5**
ISHM	**Shahmirzad**	**5.50**	**53**	*e*Pn	**Pn**	**15 53 18.6**	**+1.3**
ICHK	**Chekchek**	**5.55**	**92**	*e*Pn	**Pn**	**15 53 18.8**	**+0.8**
IANJ	**Anjilo**	**5.77**	**59**	*e*Pn	**Pn**	**15 53 21.9**	**+1.0**
IMEH	**Mehriz**	**5.87**	**100**	*e*Pn	**Pn**	**15 53 22.2**	**-0.2**
IBAF	**Bafgh**	**6.63**	**97**	*e*Pn	**Pn**	**15 53 32.9**	**+0.2**
TPRV	**Parvadeh(Tabas**	**7.44**	**85**	*e*Pn	**Pn**	**15 53 44.3**	**+0.5**
TKDS	**Koohdasht(Taba**	**7.84**	**80**	*e*Pn	**Pn**	**15 53 49.8**	**+0.6**
ASF	**Jabal al Asfar**	**9.28**	**270**	*e*Pn	**Pn**	**15 54 06.3**	**-2.7**
	comp=N,0.4nm,0.3s,baz=16,slow=7.4,SNR=2.2						
ASF				Sn	Sn	15 55 46.1	-7.2
	comp=N,0.1nm,0.3s,baz=118,slow=18,SNR=1.2						
ASF				Lg	Lg	15 56 48.6	
	comp=N,0.3nm,0.3s,baz=49,slow=19,SNR=2.0						
EIL	**Elat**	**11.44**	**258**	Lg	Lg	15 58 07.6	
	comp=N,0.9nm,0.3s,baz=6.4,slow=16,SNR=4.2						
WSAR	**Wadi Sarin**	**13.35**	**132**	Pn	Pn	15 55 00.7	-3.9
	comp=N,1.0nm,0.3s,baz=351,slow=14,SNR=7.5						
WSAR				Sn	Sn	15 57 22.1	-11
	comp=N,0.2nm,0.3s,baz=113,slow=13,SNR=1.3						
AKASG	**Malin Array Be**	**22.68**	**328**	P	**P**	**15 56 55.7**	**-0.8**
	comp=N,0.2nm,0.3s,baz=138,slow=9.6,SNR=2.1						
MKAR	**Makanchi Array**	**29.76**	**52**	P	**P**	**15 58 00.5**	**-1.2**
	comp=N,0.4nm,0.7s,baz=252,slow=7.7,SNR=4.8						
FINES	**FINESS Array B**	**32.09**	**340**	P	**P**	**15 58 20.5**	**-1.4**
	comp=N,0.7nm,0.4s,baz=138,slow=11,SNR=2.0						
ZALV	**Zalesovo Beam**	**33.76**	**40**	P	**P**	**15 58 35.0**	**-1.6**
	comp=N,0.3nm,0.4s,baz=251,slow=12,SNR=1.9						
HFS	**Hagfors**	**35.50**	**331**	P	**P**	**15 58 51.7**	**+0.1**
	comp=N,1.4nm,0.5s,baz=125,slow=9.0,SNR=4.2						
ARCES	**ARCESS Array B**	**39.02**	**348**	P	**P**	**15 59 22.7**	**+1.3**
	comp=N,1.6nm,1.0s,baz=161,slow=9.1,SNR=8.6						

*IDC **02** 16:05:21.5±0.9, 15°.76S×167°.12E, h0km, mb4.0/8,*
mb1 4.2/9, mb1mx4.0/34, mbtmp4.1/9, ML4.3/1, MS3.4/7,
Ms1 3.4/7, ms1mx3.1/27, Error ellipse: s-maj=28.6km
s-min=20.5km az=88.0
*NEIC **02** 16:05:23.3±1.8, 15°.83S±0°.07×166°.94E±0°.10, h8km±1km,*
mb4.6/15, Error ellipse: s-maj=15.9km s-min=4.8km
az=124.0
ISC 02 16:05:23.7±0.5, **15°.87S**±0°.06×**166°.91E**±0°.09, **h10**km, **n38,** σ**1**°**37/35, mb4.3/9, MS3.2/6, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.51**	**34**		**Pg**	**16 05 32.4**	**-1.3**
SANVU				Sg	**Sg**	**16 05 37.8**	**-2.6**
DZM	**Mont Dzumac**	**6.18**	**184**	*e*Pn	**Pn**	**16 06 55.2**	**0.0**
	65nm,0.6s						
DZM				*e*Sn	**Sn**	**16 08 02.7**	**-3.3**
	73nm,0.8s						
DZM				*e*LR	LR	16 08 15.5	
	comp=Z,365nm,22.9s						
DZM	**Mont Dzumac**	**6.18**	**184**	Pn	**Pn**	**16 06 55.5**	**+0.3**
	6.7nm,0.3s,baz=11,slow=2.2,SNR=137						
DZM				Sn	**Sn**	**16 08 02.1**	**-3.9**
	2.9nm,0.3s,baz=314,slow=23,SNR=1.8						
DZM				LR	LR	16 09 12.6	
	comp=Z,482nm,18.2s,baz=18,slow=37						
DZM	**Mont Dzumac**	**6.18**	**184**		**Pn**	**16 06 55.0**	**-0.2**
MSVF	**Nonsavu**	**10.83**	**101**		**Pn**	**16 08 02.4**	**+3.5**
CTA	**Charters Tower**	**20.09**	**255**	P	**P**	**16 09 58.9**	**+1.3**
	2.9nm,0.9s,baz=70,slow=12,SNR=2.2						
URZ	**Urewera**	**24.04**	**160**	P	**P**	**16 10 38.8**	**-0.2**
	15nm,0.7s,baz=307,slow=1.9,SNR=12						
BKZ	**Black Stump Fm**	**24.68**	**162**	P	**P**	**16 10 45.2**	**+0.3**
MSWZ	**Moikau Station**	**26.45**	**166**	P	**P**	**16 11 01.0**	**+0.1**
LTZ	**Lake Taylor**	**27.21**	**171**	P	**P**	**16 11 08.0**	**+0.3**
RPZ	**Rata Peaks**	**27.97**	**174**	P	**P**	**16 11 15.3**	**+0.8**
STKA	**Stephens Creek**	**28.00**	**231**	LR	LR	16 22 08.4	
	comp=Z,59nm,19.4s,baz=18,slow=36						
PYZ	**Puysegur Point**	**30.20**	**180**	P	**P**	**16 11 33.7**	**-0.6**
WB0	**Warramunga Arr**	**31.17**	**258**	P	**P**	**16 11 44.1**	**+1.0**
WB0				IAmb	IAmb	16 12 05.2	
	comp=Z,20nm,1.9s						
WRA	**Warramunga Arr**	**31.23**	**258**	P	**P**	**16 11 44.6**	**+0.9**
	comp=Z,0.7nm,1.0s,baz=86,slow=9.1,SNR=3.9						
WRA	**Warramunga Arr**	**31.23**	**258**	P	**P**	**16 11 44.2**	**+0.5**
AS31	**Alice Springs**	**31.95**	**251**		**P**	**16 11 50.4**	**+0.3**
ASAR	**Alice Springs**	**31.95**	**251**	P	**P**	**16 11 51.4**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=73,slow=9.1,SNR=36						
ASAR				LR	LR	16 24 24.5	
	comp=Z,62nm,18.6s,baz=102,slow=36						
ASAR	**Alice Springs**	**31.95**	**251**	P	**P**	**16 11 50.1**	**0.0**
GUMO	**Guam**	**36.49**	**322**	LR	LR	16 27 40.9	
	comp=Z,32nm,18.0s,baz=128,slow=37						
FITZ	**Fitzroy Crossi**	**39.48**	**261**	LR	LR	16 29 08.8	
	comp=Z,130nm,18.3s,baz=284,slow=36						
BATI	**Baumata**	**42.45**	**272**	LR	LR	16 30 39.2	
	comp=Z,69nm,18.6s,baz=204,slow=36						
JHJ2	**Mitsune**	**55.16**	**332**	P	**P**	**16 14 56.5**	**0.0**
VNDA	**Vanda**	**61.72**	**181**	P	**P**	**16 15 42.2**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=12,slow=5.4,SNR=8.2						
VNDA	**Vanda**	**61.72**	**181**	P	**P**	**16 15 41.6**	**-0.1**
VNDA				IAmb	IAmb	16 15 43.9	
	comp=Z,2.6nm,1.0s						
KSRS	**Korea Array**	**64.49**	**326**	LR	LR	16 41 16.9	
	comp=Z,10nm,21.4s,baz=150,slow=33						
USA0B	**Ussuriysk Arra**	**67.75**	**334**	P	**P**	**16 16 22.6**	**+1.2**
USA0B				IAmb	IAmb	16 18 25.2	
	comp=Z,3.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**67.75**	**334**	P	**P**	**16 16 22.6**	**+1.1**
PET	**Petropavlovsk**	**68.98**	**355**	P	**P**	**16 16 29.6**	**+0.6**
PETK	**Petropavlovsk-**	**69.16**	**354**	P	**P**	**16 16 29.6**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=146,slow=6.6,SNR=6.4						
PETK	**Petropavlovsk-**	**69.16**	**354**	P	**P**	**16 16 29.2**	**-0.9**
QSPA	**South Pole Qui**	**74.16**	**180**	P	**P**	**16 17 00.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**75.10**	**294**	P	**P**	**16 17 05.6**	**-0.8**
SONM	**Songino Array**	**83.21**	**324**	P	**P**	**16 17 50.6**	**+0.2**
	comp=Z,3.6nm,1.1s,baz=137,slow=5.1,SNR=11						
SONM	**Songino Array**	**83.21**	**324**	P	**P**	**16 17 49.5**	**-0.8**
ILAR	**Eielson Array**	**87.72**	**18**	P	**P**	16 18 09.2	-3.1
	comp=Z,0.5nm,0.6s,baz=238,slow=5.2,SNR=4.2						
BW06	**Boulder Array**	**95.97**	**47**	P	**P**	**16 18 51.9**	**+0.4**
AKASG	**Malin Array Be**	**131.47**	**325**	PKP	**PKPdf**	**16 24 35.5**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=70,slow=1.1,SNR=6.7						

IDC 02 16:42:50.0±4.5, **29°.78S**×**177°.71W, h69**km±37km, **mb3.0/**2, **mb1 3.3/**2, **mb1mx3.1/**23, **mbtmp3.3/**2, **Error ellipse: s-maj=94.9km s-min=62.5km az=2.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.56**	**341**	P	Pn	16 43 04.3	+0.9
	54nm,0.3s,baz=66,slow=13,SNR=5.6						
RAO				S	Sn	16 43 15.1	+2.0
	314nm,0.3s,baz=218,slow=23,SNR=13						
ASAR	**Alice Springs**	**43.40**	**266**	P	P	16 50 45.7	-0.4
	0.5nm,1.1s,baz=101,slow=7.4,SNR=1.4						
WRA	**Warramunga Arr**	**44.33**	**271**	P	P	16 50 53.5	0.0
	0.2nm,0.4s,baz=110,slow=8.1,SNR=8.5						
FINES	**FINESS Array B**	**144.65**	**340**	PKP	PKPbc	17 02 17.4	+0.4
	0.8nm,0.7s,baz=45,slow=6.1,SNR=1.6						

*OMAN **02** 16:53:48.3±0.5, 27°.60N×58°.24E, h10km±11km, ml3.0/6,*
Error ellipse: s-maj=13.4km s-min=2.9km az=247.0
*TEH **02** 16:53:49.8, 28°.36N×57°.50E, h10km, ML2.6*
ISC 02 16:53:41.4±1.7, **28°.01N**±0°.07×**58°.39E**±0°.08, **h10**km, **n10,** σ**2**°**18/16, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.61**	**265**	*e*Pg	**Pn**	**16 53 59.0**	**+2.9**
KHNJ				*e*		16 53 59.8	
IBND	**Bandar-abas**	**1.73**	**252**	*e*Pg	**Pn**	**16 54 13.1**	**+1.6**
IBND				*e*Sg	**Sn**	**16 54 32.0**	**-1.7**
IBND				*e*		16 54 46.2	
GENO	**Geno**	**2.06**	**253**	*e*Pg	**Pn**	**16 54 16.7**	**+0.5**
GENO				*e*		16 54 46.5	
NGRK	**Negar Kerman**	**2.19**	**319**	*e*Pg	**Pn**	**16 54 17.9**	**-0.3**
NGRK				*e*		16 54 46.6	
TVBK	**TV Kerman**	**2.44**	**325**	*e*Pg	**Pn**	**16 54 22.9**	**+1.4**
BANOM	**Banah**	**2.79**	**222**	P	**Pn**	**16 54 27.1**	**+1.0**
	SNR=17						
BANOM				S	**Sn**	**16 55 00.3**	**+0.4**
MDH	**Madha**	**3.28**	**215**	P	**Pn**	**16 54 34.2**	**+1.4**
MDH				S	**Sn**	**16 55 08.2**	**-3.8**
WSAR	**Wadi Sarin**	**4.75**	**177**	P	**Pn**	**16 54 54.8**	**+1.7**
	SNR=15						
WSAR				S	**Sn**	**16 55 46.8**	**-1.5**
WBK	**Wadi Bani Khal**	**5.40**	**174**	P	**Pn**	**16 55 04.2**	**+2.2**
	SNR=24						
WBK				S	**Sn**	**16 56 02.8**	**-1.4**
JLN	**Jalan Bani Buh**	**5.90**	**171**	P	**Pn**	**16 55 10.7**	**+1.8**
	SNR=6.5						
JLN				S	**Sn**	**16 56 13.1**	**-3.6**

*IDC **02** 17:04:40.5±1.9, 22°.87S×176°.40W, h106km±15km,*
mb4.5/22, mb1 4.7/24, mb1mx4.6/32, mbtmp4.9/24, MS3.3/4,
Ms1 3.3/4, ms1mx2.9/30, Error ellipse: s-maj=13.0km
s-min=12.6km az=150.0
*BJI **02** 17:04:42.0±0.0, 23°.00S×176°.30W, h134km, mB5.1/11,*
mb4.9/19
*GCMT **02** 17:04:43.3±0.4, 22°.96S±0°.03×175°.95W±0°.03,*
h154km±4km, MW4.8/78, Moment Tensor Solution.
s13,c15; s78,c102; Duration: 0 Moment tensor: Scale
10^{16}Nm; M_{rr}0.95±.11; $M_{\theta\theta}$-1.50±.12; $M_{\phi\phi}$0.54±.11;
*$M_{r\theta

RPZ Rata Peaks 23.10 204 P P 17 09 35.0 -2.2
comp=Z,7.2nm,0.4s,baz=62,slow=15,SNR=3.9
RPZ S **S** **17 13 33.0 -4.9**
comp=Z,4.1nm,0.5s,baz=50,slow=16,SNR=1.9
RPZ Rata Peaks 23.10 204 P P 17 09 34.9 -2.2
RPZ IAmb IAmb 17 09 45.7
comp=Z,18nm,0.6s
FOZ Fox Glacier 23.43 206 P P 17 09 38.8 -1.3
FOZ IAmb IAmb 17 09 43.8
comp=Z,30nm,0.8s
LBZ Lake Benmore 24.00 204 P P 17 09 43.5 -1.8
LBZ IAmb IAmb 17 09 51.4
comp=Z,73nm,1.6s
ODZ Otahua Downs 24.40 203 P P 17 09 49.1 +0.2
TBI Tubuai 24.70 96 *e*T T 17 34 59.5
comp=Z,7.9nm,0.3s
WKZ Wanaka 24.82 205 P P 17 09 52.5 -0.3
WKZ IAmb IAmb 17 10 03.1
comp=Z,44nm,1.3s
MLZ Mavora Lakes 25.63 206 P P 17 10 00.6 +0.5
MLZ IAmb IAmb 17 10 07.5
comp=Z,20nm,0.9s
PAE Paea 25.63 83 *e*T T 17 35 41.3
comp=Z,15nm,0.3s
PPT2 Papeete2 25.66 83 *e*LR LR 17 16 44.0
comp=Z,114nm,25.5s
PPT2 Papeete2 25.66 83 *e*T T 17 35 50.0
comp=Z,15nm,0.3s
PPT Papeete 25.66 83 LR LR 17 18 15.5
comp=Z,58nm,18.8s,baz=306,slow=32
TVO Taravao 25.90 83 *e*T T 17 35 55.4
comp=Z,1.9nm,0.3s
DCZ Deep Cove 26.10 207 P P 17 10 04.6 +0.3
DCZ IAmb IAmb 17 10 28.1
comp=Z,48nm,1.3s
WHZ Wether Hill Ro 26.13 205 P P 17 10 05.0 +0.4
WHZ IAmb IAmb 17 10 07.9
comp=Z,28nm,0.7s
HNR Honiara 26.43 297 P P 17 10 07.6 +0.1
comp=Z,44nm,0.5s,baz=113,slow=4.5,SNR=4.0
PYZ Puysegur Point 26.86 207 P P 17 10 10.4 -0.8
MEH Mehetia 26.96 84 *e*T T 17 37 44.5
comp=Z,22nm,0.3s
CAN Canberra 32.48 240 P P 17 11 02.0 +1.0
CTA Charters Tower 34.85 268 P P 17 11 22.2 +0.5
comp=Z,60nm,0.5s,baz=95,slow=11,SNR=178
CTAO Charters Tower 34.85 268 P P 17 11 21.9 +0.2
TAU Tasmania Unive 35.99 228 P P 17 11 32.6 +1.6
TAU IAmb IAmb 17 11 42.8
comp=Z,20nm,1.0s
PMG Port Moresby 37.45 285 P P 17 11 42.8 -1.0
comp=Z,122nm,0.8s,baz=81,slow=6.5,SNR=30
PMG Port Moresby 37.45 285 P P 17 11 43.8 0.0
STKA Stephens Creek 38.16 247 P P 17 11 49.5 -0.1
comp=Z,14nm,0.5s,baz=96,slow=10,SNR=70
STKA PcP **PcP** **17 14 02.9 +1.3**
comp=Z,2.3nm,0.5s,baz=356,slow=22,SNR=3.1
STKA LR LR 17 26 32.5
comp=Z,62nm,19.3s,baz=40,slow=34
STKA Stephens Creek 38.16 247 P P 17 11 49.2 -0.4
PATS Pohnpei 38.68 317 P P 17 11 54.3 +0.3
AS31 Alice Springs 45.49 259 P P 17 12 48.7 -0.6
AS31 IAmb IAmb 17 12 50.1
comp=Z,9.6nm,0.5s
ASAR Alice Springs 45.50 259 P P 17 12 48.9 -0.5
comp=Z,20nm,0.6s,baz=95,slow=6.6,SNR=508
ASAR PcP **PcP** **17 14 26.4 +0.4**
comp=Z,3.4nm,0.5s,baz=114,slow=3.9,SNR=4.6
ASAR ScP **ScP** **17 18 10.1 +3.8**
comp=Z,0.6nm,0.8s,baz=100,slow=4.8,SNR=2.8
ASAR S **S** **17 19 18.8 -2.3**
comp=Z,0.3nm,0.8s,baz=97,slow=14,SNR=2.2
ASAR LR LR 17 33 02.1
comp=Z,61nm,18.4s,baz=94,slow=37
ASAR Alice Springs 45.50 259 P P 17 12 48.4 -1.0
WR0 Warramunga Arr 45.64 264 P P 17 12 49.2 -1.3
WR0 IAmb IAmb 17 12 50.6
comp=Z,19nm,0.6s
WR0 PcP **PcP** **17 14 26.8 +0.3**
WC3 Warramunga Arr 45.80 264 P P 17 12 50.5 -1.2
WB2 Warramunga Arr 45.82 264 P P 17 12 50.7 -1.2
WB0 Warramunga Arr 45.82 264 P P 17 12 50.6 -1.3
WRAB Tennant Creek 45.82 264 P P 17 12 50.7 -1.2
WRAB IAmb IAmb 17 12 52.5
comp=Z,27nm,0.8s
WRA Warramunga Arr 45.83 264 P P 17 12 51.0 -1.0
comp=Z,26nm,0.6s,baz=90,slow=8.4,SNR=315
WRA PcP **PcP** **17 14 26.8 -0.4**
comp=Z,3.5nm,0.7s,baz=103,slow=3.1,SNR=4.5
WRA ScP **ScP** **17 18 11.6 +4.0**
comp=Z,0.5nm,0.7s,baz=106,slow=3.8,SNR=3.1
WRA Warramunga Arr 45.83 264 P P 17 12 50.2 -1.8
JAY Jayapura 46.33 290 P P 17 12 55.2 -0.8
comp=Z,21nm,0.4s,baz=153,slow=4.6,SNR=24
GENI Genyem 46.76 289 P P 17 12 58.8 -0.5
comp=Z,40nm,1.0s
GUMO Guam 52.61 310 P P 17 13 43.0 -0.3
comp=Z,23nm,0.5s,baz=124,slow=8.2,SNR=4.7
GUMO Guam 52.61 310 P P 17 13 43.1 -0.3
FAKI Fak Fak 53.59 284 P P 17 13 50.7 -0.1
VNDA Vanda 55.54 186 P P 17 14 07.0 +3.1
comp=Z,0.6nm,0.9s,baz=4.8,slow=5.7,SNR=4.4
VNDA PcP **PcP** **17 15 03.8 +1.7**
comp=Z,1.3nm,0.8s,baz=356,slow=6.4,SNR=4.4
VNDA Vanda 55.54 186 P P 17 14 06.5 +2.6
SOEI Soe 58.14 273 P P 17 14 22.1 -1.3
comp=Z,41nm,0.8s
SOEI Soe 58.14 273 P P 17 14 23.9 +0.5
BATI Baumata 58.54 272 P P 17 14 24.9 -1.1
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 58.65 245 P P 17 14 26.2 -0.3
comp=Z,3.5nm,0.5s,baz=125,slow=5.1,SNR=10
NWAO Narrogin (SRO) 58.65 245 P P 17 14 26.4 -0.1
TNTI Ternate 59.61 285 P P 17 14 32.8 -0.5
TNTI IAmb IAmb 17 14 34.5
comp=Z,23nm,1.1s
MMRI Maumere 60.41 273 P P 17 14 38.6 -0.3
EDFI Ende, Flores 60.88 273 P P 17 14 40.8 -1.3
comp=Z,10.0nm,1.1s
CASY Casey 62.35 206 P P 17 14 51.9 +0.9
CASY IAmb IAmb 17 14 53.3
comp=Z,17nm,0.8s
PLAI Plampang 64.45 271 P P 17 15 04.7 -1.0
comp=Z,28nm,0.8s
TWSI Taliwang, Sumb 65.31 271 P P 17 15 10.4 -0.8
comp=Z,17nm,1.2s
MPSI Mapaga 66.11 281 P P 17 15 15.2 -1.2
comp=Z,26nm,1.0s
QSPA South Pole Qui 67.04 180 P P 17 15 23.7 +2.0
comp=Z,2.1nm,0.6s,baz=302,slow=0.6,SNR=23
QSPA South Pole Qui 67.04 180 P P 17 15 23.7 +2.0
QSPA IAmb IAmb 17 15 34.8
comp=Z,8.6nm,0.9s
MYLDM Lahad Datu 69.48 285 P P 17 15 39.5 +2.0
MYLDM IAmb IAmb 17 16 05.6
comp=Z,8.7nm,0.8s
KKM Kota Kinabalu 71.90 285 P P 17 15 51.9 -0.3
KKM IAmb IAmb 17 15 53.2
comp=Z,34nm,1.4s
MJAR Matsushiro Arr 73.16 323 P P 17 15 58.6 -0.5
comp=Z,4.4nm,0.8s,baz=164,slow=5.6,SNR=12
MJAR Matsushiro Arr 73.16 323 P P 17 15 58.0 -1.1
MAJO Matsushiro 73.16 323 P P 17 15 59.6 +0.5
CISI Cisompet, Garu 74.09 268 P P 17 16 04.0 -1.2
AMKA Amchitka 74.19 357 P P 17 16 04.2 -0.5
ADK Adak 74.60 360 P P 17 16 06.7 -0.4
ADK IAmb IAmb 17 16 07.7
comp=Z,11nm,0.7s
ATKA Atka Island 74.94 1 P P 17 16 08.5 -0.5
ATKA IAmb IAmb 17 16 10.0
comp=Z,30nm,1.2s
JNU Nakatsue 75.17 316 P P 17 16 10.3 -0.6
JNU IAmb IAmb 17 16 38.0
comp=Z,23nm,1.2s
KSM Kuching 75.29 278 P P 17 16 12.1 +0.1
KSM IAmb IAmb 17 16 13.2
comp=Z,18nm,0.8s
YOJ Yonaguni jima 75.45 305 P P 17 16 12.1 -0.5
YOJ IAmb IAmb 17 16 12.7
comp=Z,15nm,0.8s
NIKH Nikolski High 75.97 5 P P 17 16 14.7 -0.1
TWG Pinlang 76.04 302 P P 17 16 14.2 -1.8
YULB Yu-li 76.17 303 P P 17 16 14.9 -1.9
YULB IAmb IAmb 17 16 18.5
comp=Z,9.1nm,0.7s
NACB Ninganchiao 76.37 304 P P 17 16 16.9 -0.9
NACB IAmb IAmb 17 16 17.5
comp=Z,27nm,0.8s
TPUB Ta-pu 76.64 303 P P 17 16 18.0 -1.4
SSLB Suanglung 76.65 303 P P 17 16 18.2 -1.3
SSLB IAmb IAmb 17 16 19.0
comp=Z,19nm,0.6s
YHNB Yeheng 76.81 304 P P 17 16 18.8 -1.6
YHNB IAmb IAmb 17 16 20.5
comp=Z,15nm,1.0s
BELA Belgrano 2 76.85 172 P P 17 16 20.6 +0.9
TATO Taipei 76.89 305 P P 17 16 20.4 -0.4
TATO IAmb IAmb 17 16 21.0
comp=Z,23nm,0.7s
UNV Unalaska Valle 77.03 6 P P 17 16 20.4 -0.4
UNV IAmb IAmb 17 16 22.1
comp=Z,19nm,1.1s
LWLI Liwa 78.50 269 P P 17 16 28.9 -1.2
comp=Z,22nm,0.8s
MDSI Maura Dua 78.59 270 P P 17 16 28.6 -1.9
comp=Z,10nm,1.1s
YSS Yuzh-Sakhalins 78.85 333 P P 17 16 30.4 -0.7
YSS IAmb IAmb 17 16 33.0
comp=Z,19nm,0.9s
CNBA Chernabura Isl 78.86 10 P P 17 16 29.8 -1.1
CNBA IAmb IAmb 17 16 32.2
comp=Z,30nm,1.4s
PEA0B Petropavlovsk- **79.11 344 P P 17 16 32.0 -0.4**
PEA0B IAmb IAmb 17 16 33.4
comp=Z,32nm,1.2s
PETK Petropavlovsk- **79.11 344 P P 17 16 32.2 -0.2**
comp=Z,13nm,0.9s,baz=111,slow=8.1,SNR=20
MAW Mawson 79.70 200 P P 17 16 37.4 +1.9
comp=Z,12nm,0.6s,baz=134,slow=6.1,SNR=55
MAW Mawson 79.70 200 P P 17 16 37.5 +1.9
KSRS Korea Array 79.80 318 P P 17 16 36.8 +0.4
comp=Z,1.7nm,0.7s,baz=126,slow=5.8,SNR=6.1
KSRS LR LR 17 47 24.3
comp=Z,9.4nm,20.6s,baz=330,slow=32
WAKR Walker 81.17 42 P P 17 16 44.4 +0.3
NVAR Mina Array Bea 81.83 42 P P 17 16 48.2 +0.6
comp=Z,1.6nm,0.7s,baz=220,slow=8.4,SNR=12
NVAR Mina Array Bea 81.83 42 P P 17 16 47.9 +0.4
NV11 Mina Array Sit 81.92 42 P P 17 16 48.8 +0.9
USA0B Ussuriysk Arra 81.92 325 P P 17 16 48.8 +1.2
USRK Ussuriysk Ar. 81.92 325 P P 17 16 48.5 +0.9
comp=Z,6.8nm,0.8s,baz=124,slow=3.0,SNR=12
USRK Ussuriysk Ar. 81.92 325 P P 17 16 47.7 +0.1
TPNV Topopah Spring 82.24 44 P P 17 16 50.6 +0.9
KVN Kaiserville 82.33 42 P P 17 16 50.5 +0.4
SDSI Sungai Dareh 82.49 272 P P 17 16 50.7 -0.6
comp=Z,4.4nm,0.9s
MOD Modoc Plateau 82.80 39 P P 17 16 52.8 +0.3
PRN Pahroc Range 83.28 45 P P 17 16 55.4 +0.4
H03S2 Juan Fernandez 83.30 124 T T 18 48 56.3
baz=245,slow=75,SNR=60
H03S1 Juan Fernandez 83.31 124 T T 18 49 03.2
baz=245,slow=75,SNR=68
H03S3 Juan Fernandez 83.31 124 T T 18 49 02.0
baz=245,slow=75,SNR=89
TUC Tucson 83.35 51 P P 17 16 56.5 +1.1
H03N2 Juan Fernandez 83.45 123 T T 18 49 00.8
baz=251,slow=73,SNR=38
H03N3 Juan Fernandez 83.45 123 T T 18 49 01.4
baz=251,slow=73,SNR=50
H03N1 Juan Fernandez 83.46 123 T T 18 49 03.5
baz=251,slow=73,SNR=34
MDJ Mudanjiang 83.47 324 P P 17 16 56.2 +0.6
MDJ IAmb IAmb 17 16 58.8
comp=Z,6.5nm,0.8s
PINE Pine Mountain 83.66 37 P P 17 16 58.1 +1.3
X16A Lo Mia Camp, P 84.02 49 P P 17 17 00.2 +1.3
WVOR Wild Horse Val 84.10 39 P P 17 16 59.7 +0.7
LCMT Little Creek M 84.24 46 P P 17 17 00.5 +0.6
CCUT Cedar City 84.46 45 P P 17 17 02.0 +0.9
KNB Kanab 84.52 46 P P 17 17 02.2 +0.9
I07A Izee 84.64 37 P P 17 17 02.7 +1.1
WUAZ Wupatki 84.67 48 P P 17 17 02.4 +0.3
MNSI Mandailing Nat 84.86 273 P P 17 17 01.2 -2.2
comp=Z,14nm,0.8s
IPM Ipoh 84.98 277 P P 17 17 03.7 -0.2
CN2 Changchun 85.24 322 *e*P P **17 17 02.9 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
SNAA Sanae 85.44 178 P P 17 17 06.1 +0.8
SNAA Sanae 85.44 178 P P 17 17 05.5 +0.3
MTPU Mount Pierson 85.51 45 P P 17 17 06.6 +0.1
VNA3 Neumayer Olymp 85.51 176 P P 17 17 06.4 +0.7
G08A Pilot Rock 85.70 37 P P 17 17 07.4 +0.5
MSU Marysvale 85.78 45 P P 17 17 08.2 +0.5
VNA2 Neumayer--Watz 85.97 176 P P 17 17 09.0 +1.1
VNA1 Neumayer--Stat 86.19 176 P P 17 17 10.2 +1.4
PLCA Paso Flores 86.42 133 P P 17 17 11.6 +0.8
comp=Z,2.4nm,1.0s,baz=204,slow=3.2,SNR=3.8
PLCA Paso Flores 86.42 133 IAmb IAmb 17 17 17.9
comp=Z,16nm,1.8s
TMUT Trail Mountain 86.84 45 P P 17 17 13.9 +1.0
GSI Gunungsitoli 86.90 273 P P 17 17 12.9 -0.5
comp=Z,37nm,1.0s
GSI Gunungsitoli 86.90 273 P P 17 17 13.7 +0.2
GLI Glacier Island 86.92 14 P P 17 17 12.3 0.0
GLI IAmb IAmb 17 17 13.3
comp=Z,16nm,0.8s
MNTX Cornudas Mount 86.98 54 P P 17 17 13.8 +0.5
LENM Lemitar 87.04 51 P P 17 17 14.1 +0.3
F10A Beach Ranch, E 87.08 37 P P 17 17 13.1 -0.6
TX31 Lajitas Ar. Si 87.14 57 P P 17 17 14.9 +0.6
TX31 IAmb IAmb 17 17 16.3
comp=Z,14nm,1.0s
TX32 Lajitas Array 87.14 57 P P 17 17 14.9 +0.6
TXAR Lajitas Array 87.14 57 P P 17 17 15.5 +1.2
comp=Z,2.5nm,0.8s,baz=215,slow=7.8,SNR=28
TXAR Lajitas Array 87.14 57 P P 17 17 14.7 +0.3
TTA Tatalina 87.18 9 P P 17 17 14.4 +0.7
TTA IAmb IAmb 17 17 15.3
comp=Z,11nm,1.0s
SCM Sheep Creek Mo 87.72 13 P P 17 17 16.8 +0.6
ANMO Albuquerque 87.80 51 P P 17 17 17.8 +0.3
BALM Baldy 88.17 16 IAmb IAmb 17 17 20.1
comp=Z,14nm,1.1s
BARN Barnard Glacie 88.37 16 P P 17 17 20.1 +0.6
BARN IAmb IAmb 17 17 21.3
comp=Z,14nm,0.8s
KTH Kantishna Hill 88.59 11 P P 17 17 19.7 -0.6
KTH IAmb IAmb 17 17 21.0
comp=Z,12nm,0.8s
RND Reindeer 88.83 12 P P 17 17 21.4 -0.1
MCK McKinley 89.12 12 P P 17 17 22.6 -0.1
MCK IAmb IAmb 17 17 23.7
comp=Z,14nm,0.9s
GYA Guiyang 89.23 299 *e*P **P 17 17 25.3 +1.0**
GYA pmax pmax
comp=Z,6.0nm,1.2s
GYA pmax pmax
comp=Z,97nm,4.9s
PDAR Pinedale Array 89.76 43 P P 17 17 26.3 -0.2
comp=Z,1.0nm,0.8s,baz=198,slow=2.8,SNR=11
PDAR Pinedale Array 89.76 43 P P 17 17 25.9 -0.6
WRH Wood River Hil 89.95 12 IAmb IAmb 17 17 27.5
comp=Z,15nm,1.0s
RIDG Independent Ri 89.95 13 P P 17 17 26.2 -0.4
DOT Dot Lake 90.04 14 IAmb IAmb 17 17 28.4
comp=Z,9.6nm,0.8s
BOZ Bozeman (W) 90.04 39 IAmb IAmb 17 17 29.4
comp=Z,4.6nm,0.8s
BCAR Beaver Creek A 90.05 15 P P 17 17 27.4 +0.3
HDA Harding Lake 90.11 12 IAmb IAmb 17 17 28.2
comp=Z,10nm,0.7s
CCB Clear Creek Bu 90.16 12 P P 17 17 27.1 -0.5
CCB IAmb IAmb 17 17 28.2
comp=Z,11nm,0.9s
IMAR Indian Mountai 90.40 9 P P 17 17 28.7 +0.1
IL31 90.45 12 P P 17 17 28.4 -0.4
IL31 IAmb IAmb 17 17 29.6
comp=Z,4.9nm,0.9s
ILAR Eielson Array 90.45 12 P P 17 17 28.8 -0.1
comp=Z,3.6nm,0.8s,baz=220,slow=5.5,SNR=30
ILAR Eielson Array 90.45 12 P P 17 17 28.6 -0.3
XAN Xi'an 90.89 307 P P 17 17 32.6 +0.8
XAN pmax pmax
comp=Z,13nm,0.9s
XAN Xi'an 90.89 307 P P 17 17 31.4 -0.4
XAN IAmb IAmb 17 17 33.5
comp=Z,12nm,0.9s
EGAK Eagle 91.66 14 IAmb IAmb 17 17 36.0
comp=Z,6.3nm,0.9s
CM31 Chiang Mai Arr 92.41 289 P P 17 17 39.6 +0.5
CMAR Chiang Mai Arr 92.41 289 P P 17 17 41.0 +1.9
comp=Z,8.4nm,0.9s,baz=132,slow=3.4,SNR=37
CMAR Chiang Mai Arr 92.41 289 P P 17 17 40.1 +1.1
CHTO Chiang Mai 92.55 289 P P 17 17 40.8 +1.1
BMAR Burnt Mountain 93.24 12 P P 17 17 42.7 +0.9
RSSD Black Hills 93.92 43 P P 17 17 45.8 +0.1
RSSD IAmb IAmb 17 17 46.6
comp=Z,10nm,1.1s
YAK Yakutsk 95.03 337 P P 17 17 48.9 -1.2
YKA Yellowknife Ar 98.17 24 P P 17 18 04.4 +0.1
comp=Z,0.8nm,0.8s,baz=228,slow=4.3,SNR=3.5
GTA Gaotai 99.76 309 *e*P **Pdif 17 18 14.6 +2.4**
GTA pmax pmax
comp=Z,2.0nm,1.3s
ZALV Zalesovo Beam 113.43 320 PKiKP **PKiKP 17 23 03.2 -1.5**
comp=Z,1.5nm,0.6s,baz=193,slow=2.2,SNR=8.6
MKAR Makanchi Array 114.05 312 PKiKP **PKiKP 17 23 05.3 -0.9**
comp=Z,1.4nm,0.7s,baz=66,slow=3.0,SNR=10
MKAR Makanchi Array 114.05 312 PKiKP 17 23 05.0 -1.2
BOSA Boshof 124.59 203 PKP **PKPdf 17 23 27.8 +0.5**
comp=Z,2.5nm,0.9s,baz=173,slow=4.2,SNR=4.5
ARCES ARCESS Array B 131.68 350 PKP **PKPdf 17 23 39.4 +0.1**
comp=Z,3.9nm,0.6s,baz=9.0,slow=1.9,SNR=24
FINES FINESS Array B 138.63 344 PKPpre 17 23 42.2
comp=Z,0.6nm,0.4s,baz=60,slow=3.0,SNR=11
FINES PKP **PKiKP 17 23 53.7 -0.9**
comp=Z,2.5nm,0.6s,baz=48,slow=2.8,SNR=5.3
FINES SKPbc **SKiKP 17 27 17.4 -0.8**
comp=Z,2.4nm,1.0s,baz=328,slow=4.9,SNR=2.2
FINES FINESS Array B 138.63 344 PKPpre 17 23 40.9
NB2 NORSAR Subarra141.66 354 PKP **PKPdf 17 23 52.4 -5.7**
comp=Z,1.0nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B141.66 354 PKhKP PKPpre 17 23 51.6
comp=Z,1.4nm,0.8s,baz=22,slow=3.9,SNR=6.1
NOA PKP **PKiKP 17 24 00.1 -0.9**
comp=Z,0.5nm,0.6s,baz=339,slow=5.2,SNR=4.2
SUW Suwalki 145.75 339 *e*PKP **PKPbc 17 24 06.1 +0.1**
AKASG Malin Array Be 145.97 331 PKPbc **PKPbc 17 24 06.3 -0.5**
comp=Z,1.1nm,0.4s,baz=42,slow=4.2,SNR=67
AKASG Malin Array Be 145.97 331 PKPdf **PKPdf 17 24 05.8 -0.1**
SORM Soroca 148.16 328 ⇑P **PKPbc 17 24 13.3 +0.3**
BEL Belsk 148.36 340 *e*PKP **PKiKP 17 24 14.2 -0.7**
BZK Bozkurt 148.45 314 ⇑P **PKiKP 17 24 15.0 -0.4**
KWP Kalwaria Pacla 149.52 335 *e*PKP **PKiKP 17 24 17.2 -0.2**
BRTR Keskin Array B 149.67 310 PKPbc **PKPbc 17 24 17.2 0.0**
comp=Z,4.0nm,0.5s,baz=142,slow=4.5,SNR=16
BRTR Keskin Array B 149.67 310 PKPbc 17 24 16.5 -0.7
TLCR 149.86 323 ⇑P **PKiKP 17 24 18.2 0.0**
BURAR Bucovina Array 150.02 330 ⇑P **PKiKP 17 24 19.1 +0.4**
OJC Ojcow 150.07 339 *e*PKP **PKiKP 17 24 18.2 -0.3**
BIZ Bicaz 150.09 328 ⇑P **PKiKP 17 24 19.1 +0.4**
CFR Carcaliu 150.24 324 ⇓P **PKiKP 17 24 19.0 0.0**
KOLS Kolonicke sedl 150.25 335 *e*PKP **PKPdf 17 24 13.0 +0.1**
KOLS *e* 17 24 18.2
KOLS *e* 17 24 24.7
TOPG Topolog 150.29 323 ⇑P **PKPbc 17 24 18.7 +0.3**
ASSE Asse, Remlinge 150.46 351 *e*PKPbc **PKiKP 17 24 18.9 -0.2**
baz=15,slow=2.3
VRI Vrincioaia 150.53 326 ⇓P **PKiKP 17 24 19.7 0.0**
KSP Ksiaz 150.55 344 *e*PKP **PKiKP 17 24 19.9 +0.4**
NIE Niedzica 150.58 338 *e*PKP **PKiKP 17 24 20.6 +0.9**
CRVS Cervenica-Dubn 150.59 336 *e*PKP **PKPbc 17 24 18.8 -0.2**
CRVS *e* 17 24 27.3
TLBR Topalu 150.69 323 ⇑P **PKiKP 17 24 21.2 +1.2**
CLZ Clausthal 150.78 351 *e*PKPbc **PKiKP 17 24 20.1 +0.1**
baz=15,slow=2.3
OSTC Ostas 150.84 343⇑*e*PKP **PKiKP 17 24 20.2 +0.1**
CHVC Chvalec 150.85 344⇑*e*PKP **PKiKP 17 24 20.1 -0.1**
CHVC *e*PKPAB **PKPab 17 24 26.3 -0.9**
CLL Collm 150.86 348⇑*i*PKPbc **PKiKP 17 24 20.0 -0.1**
comp=Z,32nm,1.0s
CLL ⇓*i*PKPab **PKPab 17 24 27.3 +0.1**
comp=Z,13nm,0.8s
CLL *e*PKPdf **pPKPdf 17 24 52.0 +2.1**
CLL Collm 150.86 348 *e*PKPbc **PKiKP 17 24 20.2 +0.1**
baz=15,slow=2.3
OKC Ostrava-Krasne 150.93 341⇑*e*PKP **PKPbc 17 24 19.1 -0.7**
UPC Upice 150.93 344⇑*e*PKP **PKiKP 17 24 20.6 +0.3**
UPC *e*PKPAB **PKPab 17 24 25.2 -2.3**
DPC Dobruska-Polom 151.00 343⇑*e*PKP **PKiKP 17 24 20.5 0.0**
BRG Berggiesshubel 151.08 346 *i* PKP **PKiKP 17 24 20.7 +0.1**
comp=Z,24nm,0.8s
BRG *e* 17 24 53.7
comp=Z,6.8nm,0.9s
BRG Berggiesshubel 151.08 346 *e*PKPbc **PKiKP 17 24 20.8 +0.1**
baz=15,slow=2.3
KRLC Kraliky 151.12 342⇑*e*PKP **PKiKP 17 24 20.7 -0.1**
DOPR Dopca 151.13 328 ⇓P **PKiKP 17 24 21.2 +0.3**
FBE Freiberg 151.16 347 *e*PKPbc **PKiKP 17 24 21.3 +0.5**
baz=15,slow=2.3
MORC Moravsky Berou 151.17 341 ⇓P **PKiKP 17 24 20.9 +0.1**
MORC Moravsky Berou 151.17 341 *e*PKP **PKiKP 17 24 20.8 -0.1**
MLR Muntele Rosu 151.18 326 ⇑P **PKPbc 17 24 19.6 -1.1**
PVCC Panska Ves 151.27 345⇑*e*PKP **PKiKP 17 24 21.4 +0.4**
VOIR 151.67 327 ⇑P **PKiKP 17 24 22.5 +0.4**
MOX Moxa 151.75 349 *e*PKPbc **PKiKP 17 24 22.1 +0.1**
baz=15,slow=2.3
PRU Pruhonice 151.78 345⇑*e*PKP **PKiKP 17 24 22.0 -0.1**
PRU *ex* x 17 24 24.9
GOPC GO Pecny, Ondr 151.79 345 *e*PKP **PKiKP 17 24 22.2 +0.1**
GOPC *e*PKPAB **PKPab 17 24 27.8 -3.3**
PLN Plauen 151.81 348 *e*PKPbc **PKiKP 17 24 22.2 +0.1**
baz=15,slow=2.3
WERD Werda 151.82 348 *e*PKPbc **PKiKP 17 24 22.4 +0.2**
baz=15,slow=2.3
TANN Tannenbergstha 151.82 348 *e*PKPbc **PKiKP 17 24 22.3 +0.1**
baz=15,slow=2.3
VRAC Vranov 151.86 342 *e*PKP **PKPbc 17 24 22.1 +0.2**
VYHS Vyhne 151.88 338 *e*PKP **PKiKP 17 24 22.5 +0.2**
VYHS *e* 17 24 32.2
GUNZ Gunzen 151.89 348 *e*PKPbc **PKiKP 17 24 22.7 +0.3**
baz=15,slow=2.3
ARR Arges 151.93 328 ⇓P **PKiKP 17 24 23.7 +1.1**
JAVC Velka Javorina 151.94 340 *e*PKP **PKiKP 17 24 23.8 +1.3**
NKC Novy Kostel 152.00 348⇑*e*PKP **PKiKP 17 24 23.0 +0.5**
NKC *e*PKPAB **PKPab 17 24 32.3 +0.3**
KRUC Moravsky 152.14 342 *e*PKP **PKiKP 17 24 22.9 +0.1**
TREC Trest 152.18 343⇑*e*PKP **PKiKP 17 24 22.9 -0.1**
PBCC Pribram 152.19 346⇑*e*PKP **PKiKP 17 24 23.0 +0.1**
PBCC *ex* x 17 24 25.9
MODS Modra-Piesok 152.49 340 *e*PKP **PKPbc 17 24 23.0 -0.4**
MODS *e* 17 24 35.0
SIRR Siria 152.63 332 ⇓P **PKiKP 17 24 24.6 +0.6**
KHC Kasperske Hory 152.80 346⇑*e*PKP **PKPbc 17 24 24.2 +0.1**
KHC *ex* x 17 24 27.2
KHC *e*PKPAB **PKPab 17 24 36.1 +0.6**
GERES GERESS Array B 153.04 345 PKP **PKPdf 17 24 16.2 -1.1**
comp=Z,0.6nm,0.8s,baz=348,slow=4.4,SNR=4.5
GERES PKPbc **PKiKP 17 24 24.9 +0.1**
comp=Z,2.6nm,0.8s,baz=48,slow=2.0,SNR=20
GERES PKPab **PKPab 17 24 35.6 -0.9**
comp=Z,0.9nm,0.5s,baz=35,slow=5.2,SNR=7.1
GERES GERESS Array B 153.04 345 PKPbc 17 24 24.7 0.0
BZS Buzias 153.15 331 ⇓P **PKiKP 17 24 25.2 +0.2**
CONA Conrad Observa 153.32 342 *e*PKiKP **PKiKP 17 24 25.9 +0.5**
comp=Z,12nm,1.5s
CONA *e*PKPab **PKPab 17 24 38.3 +0.5**
comp=Z,6.4nm,0.8s
HERR Herculane 153.35 329 ⇓P **PKiKP 17 24 25.5 0.0**
MDVR Moldovita 153.75 330 ⇓P **PKiKP 17 24 26.6 +0.2**
ARSA Arzberg 154.03 341 *e*PKPab **PKPab 17 24 41.4 +0.7**
comp=Z,1.7nm,0.6s
WATA Walderalm 154.94 347 *i* PKiKP **PKiKP 17 24 29.6 +0.7**
comp=Z,2.4nm,0.5s
RETA Reutte 154.95 349 *e*PKPab **PKPab 17 24 45.2 +0.6**
comp=Z,7.1nm,1.2s
WTTA Wattenberg 154.99 347 *e*PKiKP **PKiKP 17 24 29.9 +0.9**
comp=Z,1.7nm,0.4s
WTTA *e*PKPab **PKPab 17 24 44.1 -0.8**
comp=Z,2.8nm,0.4s
MYKA Terra Mystica 155.12 344 *e*PKPab **PKPab 17 24 45.7 +0.3**
comp=Z,2.5nm,0.4s
ABTA Abfaltersbach 155.29 345 *e*PKPab **PKPab 17 24 46.2 +0.1**
comp=Z,12nm,1.3s
FETA Feichten 155.40 348 *e*PKPab **PKPab 17 24 46.1 -0.6**
comp=Z,2.1nm,0.7s
TORD Torodi Ar. Bea 169.99 169 PKP **PKPdf 17 24 34.8 -0.8**
comp=Z,1.6nm,0.9s,baz=323,slow=3.7,SNR=4.1
TORD PKPab **PKPab 17 25 51.6 +0.6**
comp=Z,1.4nm,0.8s,baz=223,slow=3.6,SNR=3.8

SNET ***02*** *17:25:38.9±1.0, 12°.52N×87°.85W, h32km±33km, ML3.9*

*UCR **02** 17:25:38.9±1.3, 12°.51N×87°.88W, h30km±5km, ML3.9*
*INET **02** 17:25:39.5, 12°.48N×87°.69W, h23km, ML4.1*
ISC 02 17:25:38.3±3.3, 12°.5N±0°.1×87°.82W±0°.09, h28km±13km, n28, σ0s47/42, 4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.78**	**359**	⇓*iP*	**Pb**	**17 25 53.3**	**-0.2**
CNCH				*eS*	**Sn**	**17 26 05.0**	**+0.6**
CNCH				IAML		17 26 09.6	
	comp=Z,8μm,0.3s						
CNCH	**Conchagua**	**0.78**	**359**	⇓*iP*	**Pb**	**17 25 53.3**	**-0.2**
CNCH				*eS*	**Sn**	**17 26 05.0**	**+0.6**
CNCH				IAML		17 26 09.6	
	comp=Z,8μm,0.3s						
LCND	**La Caada**	**0.82**	**355**	⇓*iP*	**Pn**	**17 25 53.7**	**-0.3**
LCND				*eS*	**Sn**	**17 26 06.0**	**+0.8**
LCND				IAML		17 26 11.8	
	comp=Z,4μm,0.3s						
LCND	**La Caada**	**0.82**	**355**	⇓*iP*	**Pn**	**17 25 53.7**	**-0.3**
LCND				*eS*	**Sn**	**17 26 06.0**	**+0.8**
LCND				IAML		17 26 11.8	
	comp=Z,4μm,0.3s						
JUCU	**Jucuarın**	**0.87**	**331**	*eP*	**Pn**	**17 25 54.0**	**-0.7**
JUCU				*eS*	**Sn**	**17 26 06.2**	**-0.3**
JUCU	**Jucuarın**	**0.87**	**331**	*eP*	**Pn**	**17 25 54.0**	**-0.7**
JUCU				*eS*	**Sn**	**17 26 06.2**	**-0.3**
CNRM	**Centro Naciona**	**1.04**	**341**	*eS*	**Sb**	**17 26 11.7**	**+0.8**
CNRM	**Centro Naciona**	**1.04**	**341**	*eS*	**Sb**	**17 26 11.7**	**+0.8**
LCY	**Lacayo**	**1.04**	**334**	*eP*	**Pn**	**17 25 56.8**	**-0.3**
LCY	**Lacayo**	**1.04**	**334**	*eP*	**Pn**	**17 25 56.8**	**-0.3**
ALJI	**Alcalda de J**	**1.11**	**319**	*eP*	**Pn**	**17 25 57.5**	**-0.4**
ALJI				*eS*	**Sb**	**17 26 12.6**	**-0.3**
ALJI				IAML		17 26 17.2	
	comp=Z,3μm,0.3s						
ALJI	**Alcalda de J**	**1.11**	**319**	*eP*	**Pn**	**17 25 57.5**	**-0.4**
ALJI				*eS*	**Sb**	**17 26 12.6**	**-0.3**
ALJI				IAML		17 26 17.2	
	comp=Z,3μm,0.3s						
COEB	**Comit de Eme**	**1.22**	**325**	*eP*	**Pn**	**17 25 59.1**	**-0.5**
COEB				*eS*	**Sn**	**17 26 15.0**	**-0.2**
COEB				IAML		17 26 21.1	
	comp=Z,2μm,0.2s						
COEB	**Comit de Eme**	**1.22**	**325**	*eP*	**Pn**	**17 25 59.1**	**-0.5**
COEB				*eS*	**Sn**	**17 26 15.0**	**-0.2**
COEB				IAML		17 26 21.1	
	comp=Z,2μm,0.2s						
FAGO	**Alcalda de S**	**1.23**	**347**	*eP*	**Pn**	**17 25 59.0**	**-0.7**
FAGO				*eS*	**Sn**	**17 26 15.1**	**-0.3**
FAGO	**Alcalda de S**	**1.23**	**347**	*eP*	**Pn**	**17 25 59.0**	**-0.7**
FAGO				*eS*	**Sn**	**17 26 15.1**	**-0.3**
COEG	**Centro de Oper**	**1.53**	**318**	*eP*	**Pn**	**17 26 03.6**	**-0.1**
COEG				*eS*	**Sn**	**17 26 22.9**	**+0.1**
COEG	**Centro de Oper**	**1.53**	**318**	*eP*	**Pn**	**17 26 03.6**	**-0.1**
COEG				*eS*	**Sn**	**17 26 22.9**	**+0.1**
LFRS	**El Faro**	**1.65**	**313**	*eP*	**Pn**	**17 26 05.5**	**-0.1**
LFRS	**El Faro**	**1.65**	**313**	*eP*	**Pn**	**17 26 05.5**	**-0.1**
LBRS	**Las Brisas**	**1.72**	**316**	*eP*	**Pn**	**17 26 07.0**	**+0.5**
LBRS	**Las Brisas**	**1.72**	**316**	*eP*	**Pn**	**17 26 07.0**	**+0.5**
LFU	**La Fuente**	**1.78**	**315**	*eP*	**Pn**	**17 26 07.6**	**+0.4**
LFU	**La Fuente**	**1.78**	**315**	*eP*	**Pn**	**17 26 07.6**	**+0.4**
BOQS	**Boqueron**	**1.89**	**311**	*eP*	**Pn**	**17 26 09.3**	**+0.5**
BOQS	**Boqueron**	**1.89**	**311**	*eP*	**Pn**	**17 26 09.3**	**+0.5**
CEVE	**Cerro Verde**	**2.20**	**307**	*eP*	**Pn**	**17 26 13.5**	**+0.2**
CEVE				IAML		17 26 50.6	
	comp=Z,1μm,0.4s						
CEVE	**Cerro Verde**	**2.20**	**307**	*eP*	**Pn**	**17 26 13.5**	**+0.2**
CEVE				IAML		17 26 50.6	
	comp=Z,1μm,0.4s						

*IDC **02** 17:39:39.5±1.5, 7°.08S×156°.14E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/31, mbtmp4.1/6, ML3.8/1, Error ellipse: s-maj=35.0km s-min=29.8km az=78.0*
*NEIC **02** 17:39:40.3±0.9, 7°.2S±0°.2×156°.3E±0°.2, h10km±2km, mb4.2/9, Error ellipse: s-maj=35.5km s-min=18.5km az=35.0*
ISC 02 17:39:43.7±1.0, 7°.2S±0°.2×156°.4E±0°.1, h35km, n24, σ0s98/20, mb4.1/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.22**	**123**	Pn	**Pn**	**17 40 48.2**	**+2.6**
	5.2nm,0.3s,baz=23,slow=18,SNR=4.5						
HNR				Sn	**Sn**	**17 41 33.2**	**-0.5**
	5.8nm,0.3s,baz=263,slow=22,SNR=1.3						
HNR	**Honiara**	**4.22**	**123**		**Pn**	**17 40 45.3**	**-0.3**
MSVF	**Nonsavu**	**23.63**	**118**	P	**P**	**17 44 50.6**	**-1.4**
WR0	**Warramunga Arr**	**24.69**	**237**	P	**P**	**17 45 01.7**	**0.0**
WR0				IAmb	IAmb	17 45 02.4	
	comp=Z,4.3nm,0.8s						
WB0	**Warramunga Arr**	**24.72**	**237**	P	**P**	**17 45 01.9**	**-0.1**
WB0				IAmb	IAmb	17 45 02.7	
	comp=Z,3.6nm,0.7s						
WB2	**Warramunga Arr**	**24.84**	**237**	P	**P**	**17 45 03.0**	**0.0**
WB2				IAmb	IAmb	17 45 03.9	
	comp=Z,4.1nm,0.6s						
WRA	**Warramunga Arr**	**24.85**	**237**	P	**P**	**17 45 03.0**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=62,slow=9.2,SNR=30						
AS31	**Alice Springs**	**27.09**	**230**	P	**P**	**17 45 22.7**	**-0.8**
ASAR	**Alice Springs**	**27.09**	**230**	P	**P**	**17 45 22.5**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=58,slow=10.0,SNR=42						
ASAR				PcP	**PcP**	**17 48 43.2**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=57,slow=3.4,SNR=1.2						
ASAR	**Alice Springs**	**27.09**	**230**	P	**P**	**17 45 22.1**	**-1.3**
H11S3	**WAKE ISLAND Hy**	**27.45**	**22**	T	T	18 13 43.1	
	baz=202,slow=76,SNR=249						
H11S2	**WAKE ISLAND Hy**	**27.45**	**22**	T	T	18 13 40.0	
	baz=202,slow=76,SNR=338						
H11S1	**WAKE ISLAND Hy**	**27.47**	**22**	T	T	18 13 44.4	
	baz=202,slow=76,SNR=180						
STKA	**Stephens Creek**	**28.19**	**207**	P	**P**	**17 45 34.4**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=25,slow=16,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**28.64**	**21**	T	T	18 15 13.4	
	baz=202,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**28.65**	**21**	T	T	18 15 12.3	
	baz=202,slow=76,SNR=26						
H11N2	**WAKE ISLAND Hy**	**28.66**	**21**	T	T	18 15 14.8	
	baz=202,slow=76,SNR=13						
CMAR	**Chiang Mai Arr**	**62.07**	**295**	P	**P**	**17 50 01.8**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=119,slow=5.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**62.07**	**295**	P	**P**	**17 50 01.6**	**+0.2**
QSPA	**South Pole Qui**	**82.83**	**180**	P	**P**	**17 52 03.5**	**-0.9**
QSPA				IAmb	IAmb	17 52 22.2	
	comp=Z,1.9nm,1.1s						
MK31	**Makanchi Array**	**84.41**	**318**	P	**P**	**17 52 13.1**	**+0.4**
MK31				IAmb	IAmb	17 52 14.1	
	comp=Z,1.7nm,0.9s						
MKAR	**Makanchi Array**	**84.41**	**318**	P	**P**	**17 52 13.2**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=106,slow=6.6,SNR=16						
MKAR	**Makanchi Array**	**84.41**	**318**	P	**P**	**17 52 12.9**	**+0.2**
MAKZ	**Makanchi**	**84.62**	**318**	P	**P**	**17 52 13.8**	**0.0**

*IDC **02** 17:47:28.7±3.4, 34°.50S×179°.54W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/16, Error ellipse: s-maj=76.4km s-min=47.9km az=118.0*
*WEL **02** 17:47:37.8±1.1, 35°.S±7°.×18°.0W±1°.2, h33km, M4.0/18, mB4.6/1, ML4.2/18, MLv4.0/18, Mw(mB)3.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2*
ISC 02 17:47:34.5±1.9, 34°.75S±0°.09×179°.4W±0°.2, h43km, n28, σ1s56/40, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.34**	**212**	P	**Pn**	**17 48 25.8**	**+1.6**
WMGZ	**Waiomatatini S**	**3.52**	**209**	P	**Pn**	**17 48 28.6**	**+2.0**
WMGZ				S	**Sn**	**17 49 09.6**	**+2.7**
HAZ	**Te Kaha**	**3.75**	**216**	P	**Pn**	**17 48 30.8**	**+1.1**
HAZ				S	**Sn**	**17 49 14.1**	**+1.5**
PUZ	**Puketiti**	**3.80**	**209**	P	**Pn**	**17 48 30.7**	**+0.3**
PUZ				S	**Sn**	**17 49 14.0**	**+0.1**
RUGZ	**Raukumara Rang**	**3.96**	**215**	P	**Pn**	**17 48 33.9**	**+1.1**
RUGZ				S	**Sn**	**17 49 18.3**	**+0.2**
MWZ	**Matawai**	**4.33**	**213**	P	**Pn**	**17 48 38.8**	**+1.0**
KUZ	**Kuaotunu**	**4.41**	**242**	P	**Pn**	**17 48 40.1**	**+1.2**
URZ	**Urewera**	**4.47**	**217**	Pn	**Pn**	**17 48 40.0**	**+0.4**
	2.3nm,0.3s,baz=276,slow=4.2,SNR=33						
URZ				Sn	**Sn**	**17 49 27.8**	**-2.5**
	1.4nm,0.3s,baz=278,slow=8.8,SNR=1.8						
URZ	**Urewera**	**4.47**	**217**	P	**Pn**	**17 48 40.1**	**+0.4**
URZ				S	**Sn**	**17 49 27.8**	**-2.5**
RIGZ	**Rimuhau**	**4.54**	**209**	P	**Pn**	**17 48 42.1**	**+1.4**
RIGZ				S	**Sn**	**17 49 32.5**	**+0.3**
SNGZ	**Shannon Statio**	**4.78**	**212**	P	**Pn**	**17 48 45.6**	**+1.6**
SNGZ				S	**Sn**	**17 49 40.3**	**+2.2**
MUGZ	**Murupara**	**4.81**	**218**	P	**Pn**	**17 48 44.5**	**+0.2**
MUGZ				S	**Sn**	**17 49 38.2**	**-0.5**
RTZ	**Ruatahuna**	**4.81**	**216**	P	**Pn**	**17 48 44.9**	**+0.5**
RTZ				S	**Sn**	**17 49 38.1**	**-0.8**
KMRZ	**Kaimai**	**4.84**	**229**	P	**Pn**	**17 48 45.1**	**+0.3**
WIAZ	**Waiheke Island**	**4.86**	**244**	P	**Pn**	**17 48 45.0**	**0.0**
RAHZ	**Arahi**	**5.00**	**213**	P	**Pn**	**17 48 48.7**	**+1.7**
RAHZ				S	**Sn**	**17 49 43.5**	**-0.1**
TOZ	**Tahuroa Road**	**5.05**	**233**	P	**Pn**	**17 48 49.6**	**+1.9**
MTHZ	**Maungataniwha**	**5.07**	**215**	P	**Pn**	**17 48 49.9**	**+2.0**
MTHZ				S	**Sn**	**17 49 46.3**	**+1.2**
WCZ	**Waipu Caves**	**5.22**	**255**	P	**Pn**	**17 48 52.7**	**+2.7**
BKZ	**Black Stump Fm**	**5.48**	**215**	P	**Pn**	**17 48 53.5**	**-0.1**
OTVZ	**Oturere**	**5.89**	**220**	P	**Pn**	**17 48 56.9**	**-2.5**
HIZ	**Hauiti**	**5.93**	**229**	P	**Pn**	**17 49 00.5**	**+0.8**
NGZ	**Ngauruhoe**	**5.94**	**221**	P	Pn	17 49 05.9	+5.9
NGZ				S	**Sn**	**17 50 06.7**	**-0.1**
PNHZ	**Pukenui**	**6.21**	**213**	P	**Pn**	**17 49 03.5**	**-0.1**
PNHZ				S	**Sn**	**17 50 09.3**	**-4.1**
STKA	**Stephens Creek**	**32.55**	**264**	LR	LR	18 07 25.8	
	comp=Z,33nm,18.4s,baz=317,slow=37						
ASAR	**Alice Springs**	**41.87**	**272**	P	**P**	**17 55 20.0**	**-0.6**
	0.7nm,0.8s,baz=117,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**43.25**	**278**	P	**P**	**17 55 30.8**	**-1.1**
	0.5nm,0.8s,baz=118,slow=7.2,SNR=2.9						
FINES	**FINESS Array B**	**148.73**	**337**	PKPbc	**PKPbc**	**18 07 15.9**	**-0.3**
	0.6nm,0.6s,baz=62,slow=3.3,SNR=1.4						

*NEIC **02** 17:50:30.6±2.4, 23°.56S±0°.05×69°.28W±0°.07, h80km±5km, Error ellipse: s-maj=9.6km s-min=6.6km az=95.0*
*IDC **02** 17:50:31.5±0.6, 23°.52S×69°.18W, h84km±4km, mb3.8/13, mb1 3.9/16, mb1mx3.9/24, mbtmp4.1/16, MS2.8/2, Ms1 2.8/2, ms1mx2.7/19, Error ellipse: s-maj=20.3km s-min=9.1km az=94.0*
*SJA **02** 17:50:31.0±0.7, 23°.51S×69°.35W, h77km±4km, ML4.4, MW4.2*
*GUC **02** 17:50:31.3±0.7, 23°.49S×69°.33W, h81km±3km, ML4.4*
*VAO **02** 17:50:34.6±0.6, 23°.10S×69°.11W, h91km±5km, mb4.3*
ISC 02 17:50:30.9±0.5, 23°.48S±0°.03×69°.29W±0°.04, h80km±4km, n126, σ1s64/150, mb4.4/16, 3C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.32**	**329**	⇓*iP*	**Pn**	**17 50 44.3**	**+0.6**
PB15				*i S*	**Sn**	**17 50 54.0**	**+1.0**
PB15	**IPOC Station P**	**0.32**	**329**		**Pn**	**17 50 43.8**	**+0.2**
PB15				Sn	**Sn**	**17 50 53.9**	**+1.0**
PB15	**IPOC Station P**	**0.32**	**329**	*eP*	**Pn**	**17 50 43.9**	**+0.2**
PB15				*eS*	**Sn**	**17 50 54.0**	**+1.0**
PB06	**IPOC Station P**	**0.82**	**342**	⇓*iP*	**Pn**	**17 50 49.0**	**+1.0**
PB06				*eS*	**Sn**	**17 51 02.4**	**+1.6**
PB06				IAML		17 51 03.2	
	comp=E,27μm,0.3s						
PB06	**IPOC Station P**	**0.82**	**342**		**Pn**	**17 50 48.2**	**+0.2**
PB06				Sn	**Sn**	**17 51 02.2**	**+1.5**
PB06	**IPOC Station P**	**0.82**	**342**	*eP*	**Pn**	**17 50 49.0**	**+1.0**
PB06				*eS*	**Sn**	**17 51 02.3**	**+1.6**
PB06				IAML		17 51 02.8	
	comp=Z,15μm,0.5s						
LVC	**Limon Verde**	**0.94**	**22**	P	**Pn**	**17 50 50.6**	**+1.0**
	comp=Z,233nm,0.3s,baz=160,slow=6.3,SNR=2468						
LVC				S	**Sn**	**17 51 05.1**	**+1.6**
	comp=Z,2μm,0.3s,baz=253,slow=19,SNR=46						
LVC				LR	LR	17 51 21.0	
	comp=Z,945nm,18.2s,baz=195,slow=53						
LVC	**Limon Verde**	**0.94**	**22**	*eP*	**Pn**	**17 50 50.6**	**+1.0**
LVC				*eS*	**Sn**	**17 51 05.1**	**+1.6**
LVC	**Limon Verde**	**0.94**	**22**	*eP*	**Pn**	**17 50 50.7**	**+1.0**
LVC				*eS*	**Sn**	**17 51 05.2**	**+1.6**
LVC				IAML		17 51 06.6	
	comp=Z,4μm,0.2s						
LVC	**Limon Verde**	**0.94**	**22**	*eP*	**Pn**	**17 50 50.7**	**+1.1**
PB10	**IPOC Station P**	**1.16**	**268**	⇑*iP*	**Pn**	**17 50 52.5**	**+0.6**
PB10				*i S*	**Sn**	**17 51 08.2**	**+0.5**
PB10				IAML		17 51 12.8	
	comp=N,9μm,0.2s						
PB10	**IPOC Station P**	**1.16**	**268**	Pn	**Pn**	**17 50 52.5**	**+0.6**
PB10	**IPOC Station P**	**1.16**	**268**	*eP*	**Pn**	**17 50 52.5**	**+0.6**
PB10				*eS*	**Sn**	**17 51 08.2**	**+0.5**
PB10				IAML		17 51 14.5	
	comp=Z,6μm,0.4s						
PB04	**IPOC Station P**	**1.39**	**325**	*eP*	**Pn**	**17 50 55.6**	**+0.6**
PB04				*eS*	**Sn**	**17 51 14.0**	**+0.8**
PB04				IAML		17 51 19.5	
	comp=E,6μm,0.2s						
PB04	**IPOC Station P**	**1.39**	**325**		**Pn**	**17 50 55.6**	**+0.6**
PB04	**IPOC Station P**	**1.39**	**325**	*eP*	**Pn**	**17 50 56.0**	**+1.0**
PB04				*eS*	**Sn**	**17 51 14.5**	**+1.4**
PB04				IAML		17 51 23.7	
	comp=Z,4μm,0.5s						
PB03	**IPOC Station P**	**1.49**	**343**	⇓*iP*	**Pn**	**17 50 57.5**	**+1.2**
PB03				*eS*	**Sn**	**17 51 16.9**	**+1.5**
PB03				IAML		17 51 20.2	
	comp=E,7μm,0.3s						
PB14	**IPOC Station P**	**1.53**	**222**	⇑*iP*	**Pn**	**17 50 57.2**	**+0.3**
PB14				*eS*	**Sn**	**17 51 17.6**	**+1.1**
PB14	**IPOC Station P**	**1.53**	**222**	Pn	**Pn**	**17 50 56.9**	**0.0**
PB14	**IPOC Station P**	**1.53**	**222**	*eP*	**Pn**	**17 50 57.3**	**+0.3**
PB14				*eS*	**Sn**	**17 51 17.3**	**+0.8**
PB14				IAML		17 51 20.8	
	comp=Z,5μm,0.6s						
PB09	**IPOC Station P**	**1.68**	**2**	*eP*	**Pn**	**17 51 00.4**	**+1.7**
PB09				*eS*	**Sn**	**17 51 21.6**	**+1.8**
PB09				IAML		17 51 28.8	
	comp=E,4μm,0.4s						
PB09	**IPOC Station P**	**1.68**	**2**		**Pn**	**17 51 00.8**	**+2.0**
PB09	**IPOC Station P**	**1.68**	**2**	*eP*	**Pn**	**17 51 01.0**	**+2.2**
PB09				*eS*	**Sn**	**17 51 23.1**	**+3.3**
PB09				IAML		17 51 28.5	
	comp=Z,3μm,0.4s						
GO02	**Mina Guanaco**	**1.69**	**189**	⇑*iP*	**Pn**	**17 50 59.4**	**+0.2**
GO02				*eS*	**Sn**	**17 51 21.1**	**+0.7**
GO02	**Mina Guanaco**	**1.69**	**189**	Pn	**Pn**	**17 50 59.3**	**+0.2**
PB07	**IPOC Station P**	**1.83**	**342**	⇓*iP*	**Pn**	**17 51 01.7**	**+0.9**
PB07				*i S*	**Sn**	**17 51 21.3**	**-2.2**
PB07				IAML		17 51 32.7	
	comp=E,4μm,0.3s						
PB07	**IPOC Station P**	**1.83**	**342**		**Pn**	**17 51 01.5**	**+0.7**
PB01	**IPOC Station P**	**2.44**	**356**	*eP*	**Pn**	**17 51 09.8**	**+1.0**
PB01				*eS*	**Sn**	**17 51 39.6**	**+1.9**
PB01	**IPOC Station P**	**2.44**	**356**		**Pn**	**17 51 09.7**	**+1.0**
PATCX	**Punta Patache**	**2.77**	**343**		**Pn**	**17 51 13.2**	**0.0**
AC01	**Pan de Azucar**	**2.91**	**204**	*eP*	**Pn**	**17 51 14.2**	**-0.8**
AC01				*eS*	**Sn**	**17 51 53.6**	**+4.6**
AC01	**Pan de Azucar**	**2.91**	**204**		**Pn**	**17 51 13.8**	**-1.2**
TA01	**Diego Aracena**	**3.02**	**344**		**Pn**	**17 51 15.8**	**-0.7**
PB08	**IPOC Station P**	**3.33**	**2**		**Pn**	**17 51 21.9**	**+0.8**
AC02	**Maricunga**	**3.34**	**178**	*eP*	**Pn**	**17 51 22.9**	**+1.6**
AC02				*eS*	**Sn**	**17 52 03.6**	**+3.4**
AC02				IAML		17 52 13.6	
	comp=E,1μm,0.2s						
AC02	**Maricunga**	**3.34**	**178**	Pn	**Pn**	**17 51 22.6**	**+1.3**
SLA	**San Lorenzo**	**3.67**	**110**	*eP*	**Pn**	**17 51 29.9**	**+4.3**
PB11	**IPOC Station P**	**3.72**	**355**	Pn	**Pn**	**17 51 25.9**	**-0.3**
YJA	**Yavi**	**3.72**	**70**	*eP*	**Pn**	**17 51 30.1**	**+3.7**
GO01	**Chusmiza**	**3.80**	**1**		**Pn**	**17 51 27.8**	**+0.2**
AZAP	**Zapla**	**3.94**	**102**	*eP*	**Pn**	**17 51 31.9**	**+2.7**
AZAP				*eS*	**Sn**	**17 52 11.1**	**-3.3**
PSGCX	**Pisagua**	**3.94**	**349**		**Pn**	**17 51 28.1**	**-1.0**
GO03	**Copiap**	**4.18**	**192**		**Pn**	**17 51 30.7**	**-1.7**
MNMC	**Minye Minye**	**4.34**	**356**		**Pn**	**17 51 35.4**	**+0.7**
ASTB	**Santa Barbara**	**4.46**	**97**	*eP*	**Pn**	**17 51 38.9**	**+2.6**
AHML	**Horco Molle**	**4.87**	**133**	*eP*	**Pn**	**17 51 45.3**	**+3.6**
AHML				*eS*	Sn	17 52 19.3	-17
PB12	**IPOC Station P**	**4.94**	**349**		**Pn**	**17 51 40.9**	**-1.9**
AC04	**Llanos de Chal**	**4.97**	**198**	Pn	**Pn**	**17 51 39.5**	**-3.5**
PB16	**IPOC Station P**	**5.13**	**358**		**Pn**	**17 51 46.6**	**+0.9**
AP01	**Chacalluta**	**5.18**	**349**	Pn	**Pn**	**17 51 47.5**	**+1.5**
AC05	**El Transito**	**5.40**	**189**	Pn	**Pn**	**17 51 47.2**	**-1.9**
LCO	**Las Campanas**	**5.65**	**193**		**Pn**	**17 51 49.1**	**-3.5**
CO01	**Juntas del Tor**	**6.51**	**186**		**Pn**	**17 52 02.7**	**-1.6**
GO04	**Tololo Observa**	**6.80**	**191**		**Pn**	**17 52 05.0**	**-3.2**
LPAZ	**La Paz**	**7.24**	**9**	P	**Pn**	**17 52 16.7**	**+2.0**
	comp=E,0.6nm,0.3s,baz=165,slow=2.6,SNR=9.2						
CO03	**El Pedregal**	**7.43**	**189**		**Pn**	**17 52 13.7**	**-3.1**
CO02	**Combarbal**	**7.84**	**191**	Pn	**Pn**	**17 52 18.6**	**-3.8**
ZON	**Zonda**	**8.05**	**176**	Pn	**Pn**	**17 52 23.0**	**-2.2**
VA03	**San Esteban**	**9.31**	**187**		**Pn**	**17 52 38.6**	**-3.7**
ROC1	**El Roble**	**9.58**	**189**	Pn	**Pn**	**17 52 43.9**	**-2.3**
MT02	**Curacav**	**9.87**	**189**	Pn	**Pn**	**17 52 46.1**	**-3.9**
SIV	**San Ignacio**	**10.74**	**48**	P	**Pn**	**17 52 59.2**	**-2.7**
	comp=E,16nm,0.3s,baz=247,slow=10,SNR=181						
SIV				S	Sn	17 54 50.9	-10
	comp=E,1.0nm,0.3s,baz=315,slow=20,SNR=1.5						
SIV				LR	LR	17 57 07.3	
	comp=E,44nm,18.9s,baz=100,slow=37						
BO01	**Tunca**	**10.98**	**188**	Pn	Pn	17 53 00.2	-4.9
CPUP	**Villa Florida**	**11.22**	**107**	P	**Pn**	**17 53 06.8**	**-1.6**
	comp=E,0.3nm,0.3s,baz=310,slow=7.5,SNR=3.9						
CPUP				LR	LR	17 58 24.9	
	comp=E,59nm,20.6s,baz=271,slow=43						
GO05	**Huala**	**11.71**	**191**	Pn	**Pn**	**17 53 12.9**	**-2.1**
PTLB	**Pontes e Lacer**	**12.47**	**52**	*eP*	**Pn**	**17 53 23.0**	**-2.3**
PTLB				*eS*	**Sn**	**17 55 38.5**	**-3.9**
AQDB	**Aquidauana**	**12.96**	**79**	*eP*	**Pn**	**17 53 31.7**	**-0.2**
VILB	**Vilhena**	**13.57**	**41**	*eP*	**Pn**	**17 53 39.5**	**-0.5**
ETMB	**Extrema**	**13.90**	**13**	*eP*	**Pn**	**17 53 42.0**	**-2.4**
TRCB	**Terra Rica**	**15.34**	**91**	*eP*	**Pn**	**17 54 03.8**	**+0.8**
LC01	**Cunco**	**15.52**	**188**	Pn	**Pn**	**17 54 03.7**	**-1.4**
CPSB	**Cacapava Do Su**	**15.72**	**119**	*eP*	**P**	**17 54 11.5**	**+1.5**
PTGB	**Pitanga**	**15.78**	**98**	*eP*	**P**	**17 54 11.2**	**+0.4**
PCMB	**Pacaembu**	**16.76**	**87**	*eP*	**P**	**17 54 21.9**	**+0.2**
PLCA	**Paso Flores**	**17.23**	**183**	P	**Pn**	**17 54 26.4**	**0.0**
	comp=E,0.1nm,0.3s,baz=9.2,slow=14,SNR=5.1						
PLCA	**Paso Flores**	**17.23**	**183**		**Pn**	**17 54 26.2**	**-0.2**
PLCA				IAmb	IAmb	17 54 55.3	
	comp=Z,11nm,0.8s						
PLCA	**Paso Flores**	**17.23**	**183**	*eP*	**P**	17 54 34.3	+7.5
CLDB	**Colider**	**17.97**	**48**	*eP*	**P**	**17 54 32.7**	**-2.3**
ITRB	**Iturama**	**18.00**	**82**	*eP*	**P**	**17 54 34.6**	**-0.8**
FRTB	**Fartura**	**18.11**	**93**	*eP*	**Pn**	**17 54 37.2**	**0.0**
ARAG	**Araguaiana, MT**	**18.18**	**68**	*eP*	**P**	**17 54 37.1**	**-0.2**
BB19B	**Bebedouro**	**19.37**	**87**	*eP*	**P**	**17 54 49.8**	**-0.6**
IPMB	**Ipameri, GO**	**20.45**	**78**	*eP*	**P**	**17 55 01.7**	**-0.5**
VAO	**Valinhos**	**20.52**	**93**	*eP*	Pn	17 55 05.0	-0.7
NPGB	**Novo Progresso**	**21.13**	**42**	*eP*	**P**	**17 55 08.2**	**-1.2**
BDFB	**Brasilia**	**21.50**	**73**	P	**P**	**17 55 12.4**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=228,slow=11,SNR=5.8						
BDFB	**Brasilia**	**21.50**	**73**	P	**P**	**17 55 12.5**	**-0.9**
BDFB				IAmb	IAmb	17 55 14.8	
	comp=Z,6.1nm,0.8s						
PARB	**Paraibuna**	**21.72**	**94**	*eP*	**P**	**17 55 19.0**	**+3.3**
PEXB	**Peixe**	**22.93**	**64**	*eP*	**P**	**17 55 27.6**	**-1.0**
ITTB	**Itaituba**	**23.08**	**37**	*eP*	**P**	**17 55 27.9**	**-2.0**
PTGA	**Pitinga**	**24.36**	**23**	P	**P**	**17 55 40.8**	**-0.7**
	comp=Z,4.8nm,0.5s,baz=203,slow=14,SNR=11						
PTGA				pP	**pP**	**17 55 60.0**	**-0.6**
	comp=Z,2.5nm,0.3s,baz=204,slow=16,SNR=4.3						
PTGA	**Pitinga**	**24.36**	**23**	P	**P**	**17 55 41.5**	**-0.1**
PTGA	**Pitinga**	**24.36**	**23**	*eP*	**P**	**17 55 41.5**	**-0.1**
JANB	**Januaria**	**25.00**	**75**	*eP*	**P**	**17 55 47.1**	**-0.3**
OTAV	**Otavalo**	**25.20**	**338**	*eP*	**P**	**17 55 49.6**	**-0.2**
MALB	**Monte Alegre**	**25.97**	**36**

baz=92,slow=76,SNR=90
H08S1 Diego Carcia H 33.65 268 T T 19 05 35.6
baz=92,slow=76,SNR=81
STKA Stephens Creek 40.59 131 P **P 18 31 07.3 +1.0**
0.6nm,0.4s,baz=287,slow=11,SNR=3.4
MKAR Makanchi Array 58.37 341 P **P 18 33 18.4 -3.1**
0.2nm,0.4s,baz=143,slow=8.8,SNR=4.8

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*JMA **02** 18:34:09.1±0.1,24°.29N×121°.90E,h40km±2km,M3.1*
*TAP **02** 18:34:09.1,24°.35N×121°.92E,h36km,ML3.8,B*
ISC 02 18:34:09.7±0.9,24°.33N±0°.02×121°.95E±0°.02,h31km±5km,
n132,σ0°94/218,7C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.18 313**		*i* P	**Pb**	**18 34 15.7**	**-0.2**
ENAH	baz=320			*e*S	**Sb**	**18 34 20.4**	**+0.4**
ENA	**Nanau**	**0.22 297**		*i* P	**Pb**	**18 34 16.0**	**-0.2**
ENA	baz=302			*e*S	**Sb**	**18 34 20.7**	**0.0**
TWC	**Suao**	**0.29 341**	⇑	*i*P	**Pb**	**18 34 16.9**	**-0.2**
TWC	baz=347			*e*S	**Sb**	**18 34 22.0**	**-0.3**
NACB	**Ninganchiao**	**0.36 245**		P	**Pb**	**18 34 17.4**	**-0.7**
NACB	baz=239			*e*S	**Sn**	**18 34 25.1**	**+0.3**
TWD	**Chiawan**	**0.41 233**	⇓	*i*P	**Pb**	**18 34 18.2**	**-0.5**
TWD	baz=227			*e*S	**Sn**	**18 34 26.0**	**+0.1**
ETLH	**Xiulin Townshi**	**0.45 254**	⇓	*i*P	**Pb**	**18 34 18.8**	**-0.6**
ETLH	baz=244			*e*S	**Sb**	**18 34 25.9**	**-0.2**
ENTT	**Nioudou**	**0.47 311**	⇓	*i*P	**Pb**	**18 34 19.2**	**-0.5**
ENTT	baz=305			*e*S	**Sb**	**18 34 26.5**	**-0.1**
TWE	**Neicheng**	**0.47 326**		*i* P	**Pb**	**18 34 19.3**	**-0.4**
TWE	baz=329			*e*S	**Sb**	**18 34 26.0**	**-0.6**
HWA	**Hwalien**	**0.47 222**		*i* P	**Pb**	**18 34 19.7**	**0.0**
HWA	baz=217			*e*S	**Sn**	**18 34 28.4**	**+0.9**
ILA	**Ilan**	**0.47 337**		P	**Pb**	**18 34 19.5**	**-0.2**
ILA	baz=336			*e*S	**Sn**	**18 34 27.2**	**-0.4**
NDT	**Datong Townshi**	**0.48 304**	⇓	*i*P	**Pb**	**18 34 19.4**	**-0.5**
NDT	baz=300			*e*S	**Sb**	**18 34 26.6**	**-0.4**
EGS		**0.51 358**	⇓	*i*P	**Pb**	**18 34 20.2**	**-0.2**
EGS	baz=356			*e*S	**Sn**	**18 34 28.2**	**-0.4**
NNSB	**Datong**	**0.53 281**		P	**Pb**	**18 34 20.0**	**-0.7**
NNSB	baz=279			*e*S	**Sb**	**18 34 27.8**	**-0.5**
NNSH	**Datong**	**0.53 281**		P	**Pb**	**18 34 20.2**	**-0.6**
NNSH	baz=279			*e*S	**Sb**	**18 34 27.8**	**-0.5**
NTC	**Toucheng**	**0.54 348**		*e*P	**Pb**	**18 34 20.2**	**-0.5**
NTC	baz=358			*e*S	**Sb**	**18 34 28.4**	**+0.1**
NNS	**Nan Shan**	**0.54 282**		*i* P	**Pb**	**18 34 20.1**	**-0.8**
NNS	baz=280			*e*S	**Sb**	**18 34 28.1**	**-0.6**
NWLT	**Wulai**	**0.61 317**		*e*P	**Pb**	**18 34 21.2**	**-0.8**
NWLT	baz=318			*e*S	**Sb**	**18 34 29.7**	**-0.6**
YHNB	**Yeheng**	**0.63 303**		P	**Pb**	**18 34 21.6**	**-0.7**
YHNB	baz=302			*e*S	**Sb**	**18 34 29.9**	**-1.0**
NSK	**Sanguang**	**0.64 303**		P	**Pb**	**18 34 21.7**	**-0.8**
NSK	baz=302			S	**Sb**	**18 34 30.6**	**-0.7**
TIPB	**Shuangxi**	**0.65 350**	⇓	*i*P	**Pb**	**18 34 22.3**	**-0.3**
TIPB	baz=356			S	**Sb**	**18 34 31.3**	**-0.2**
FUSS	**Fushou**	**0.65 263**	⇓	P	**Pb**	**18 34 22.3**	**-0.5**
FUSS	baz=260			*e*S	**Sb**	**18 34 32.2**	**+0.4**
WHF	**Hehuan Shan**	**0.65 254**	⇓	*i*P	**Pb**	**18 34 22.1**	**-0.9**
WHF	baz=251			*e*S	**Sb**	**18 34 31.5**	**-0.6**
TWB1	**Santiao Chiao**	**0.68 3**		P	**Pn**	**18 34 22.9**	**-0.2**
TWB1	baz=6.0			*e*S	**Sn**	**18 34 33.0**	**+0.4**
ESL	**Shilin**	**0.70 223**		P	**Pb**	**18 34 22.1**	**-1.4**
ESL	baz=232			*e*S	**Sn**	**18 34 33.5**	**+0.4**
TWT	**Tachien**	**0.71 264**	⇓	*i*P	**Pb**	**18 34 23.4**	**-0.4**
TWT	baz=262			*e*S	**Sb**	**18 34 33.6**	**+0.2**
TDCB	**Techi**	**0.73 264**	⇓	*i*P	**Pb**	**18 34 23.4**	**-0.6**
TDCB	baz=262			*e*S	**Sb**	**18 34 33.1**	**-0.7**
TWA	**Mucha**	**0.73 333**		P	**Pb**	**18 34 23.6**	**-0.3**
TWA	baz=334			*e*S	**Sn**	**18 34 34.8**	**+0.8**
NWF	**Wu-fen Shan**	**0.76 348**	⇓	*i*P	**Pn**	**18 34 24.3**	**+0.1**
NWF	baz=349			*e*S	**Sn**	**18 34 34.9**	**+0.2**
WFSB	**Wu-fen Shan**	**0.76 348**	⇓	P	**Pn**	**18 34 24.3**	**+0.1**
WFSB	baz=349			*e*S	**Sn**	**18 34 34.8**	**+0.3**
CHGB	**Renai**	**0.76 250**	⇓	P	**Pb**	**18 34 23.8**	**-0.8**
CHGB	baz=238			*e*S	**Sn**	**18 34 35.9**	**+1.0**
TATO	**Taipei**	**0.77 327**	⇑	*i*P	**Pb**	**18 34 24.2**	**-0.5**
TATO	baz=316			*e*S	**Sn**	**18 34 34.9**	**0.0**
OWD	**Renai**	**0.80 242**		*e*P	**Pb**	**18 34 23.3**	**-1.9**
EGFH	**Guangfu**	**0.81 216**		P	**Pb**	**18 34 23.8**	**-1.6**
TAP	**Taipei**	**0.82 330**		*e*P	**Pb**	**18 34 24.7**	**-0.7**
TAP	baz=319			*e*S	**Sb**	**18 34 35.7**	**-0.4**
YM01	**YM01**	**0.89 337**		P	**Pb**	**18 34 25.7**	**-0.9**
YM01	baz=337			*e*S	**Sb**	**18 34 37.4**	**-0.7**
YM10	**YM10**	**0.90 337**	⇑	*i*P	**Pb**	**18 34 25.9**	**-0.9**
YM10	baz=337			*e*S	**Sb**	**18 34 38.2**	**-0.3**
YM11	**YM11**	**0.90 338**		P	**Pb**	**18 34 26.1**	**-0.8**
YM11	baz=338			*e*S	**Sn**	**18 34 38.5**	**+0.2**
YM05	**YM05**	**0.90 337**	⇑	*i*P	**Pb**	**18 34 25.9**	**-1.0**
YM05	baz=338			*e*S	**Sb**	**18 34 38.2**	**-0.4**
YM04	**YM04**	**0.90 335**	⇑	*i*P	**Pb**	**18 34 25.9**	**-1.0**
YM04	baz=326			*e*S	**Sb**	**18 34 38.2**	**-0.5**
NWRT	**Kuosheng**	**0.91 343**		*e*P	**Pb**	**18 34 26.5**	**-0.4**
TWS1	**Kuangyinshan**	**0.91 328**	⇑	*i*P	**Pb**	**18 34 26.2**	**-0.8**
TWS1	baz=328			*e*S	**Sn**	**18 34 39.6**	**+1.3**
LIOB	**Emei**	**0.91 290**	⇓	P	**Pb**	**18 34 26.9**	**-0.1**
LIOB	baz=289			*e*S	**Sn**	**18 34 39.5**	**+1.1**
JYNG	**Yonagunijimaku**	**0.91 82**		P	**Pb**	**18 34 26.3**	**-0.7**
JYNG				S	**Sn**	**18 34 39.8**	**+1.4**
YM08	**YM08**	**0.92 339**	⇑	*i*P	**Pb**	**18 34 25.9**	**-1.2**
YM08	baz=340			*e*S	**Sb**	**18 34 38.2**	**-0.8**
NSTT	**Nanjuang**	**0.92 289**		P	**Pn**	**18 34 26.7**	**+0.3**
NSTT	baz=288			*e*S	**Sb**	**18 34 38.8**	**-0.2**
WHP	**Taichung City**	**0.92 267**		*e*P	**Pn**	**18 34 26.7**	**+0.2**
WHP	baz=265			*e*S	**Sb**	**18 34 39.3**	**+0.1**
YM03	**YM03**	**0.93 336**		P	**Pn**	**18 34 26.1**	**-0.5**
YM03	baz=337			*e*S	**Sb**	**18 34 37.8**	**-1.6**
VWDT	**VWDT**	**0.94 233**	⇓	P	**Pn**	**18 34 26.2**	**-0.5**
VWDT	baz=220			*e*S	**Sb**	**18 34 37.8**	**-1.8**
ANP	**Anpu**	**0.94 335**		*e*P	**Pn**	**18 34 26.1**	**-0.7**
ANP	baz=327			*e*S	**Sb**	**18 34 39.0**	**-0.7**
NCU	**National Centr**	**0.94 313**		*e*P	**Pn**	**18 34 26.6**	**-0.2**
NCU	baz=312			*e*S	**Sn**	**18 34 40.5**	**+1.2**
NCUH	**Zhongli**	**0.94 312**		*e*P	**Pn**	**18 34 26.8**	**+0.1**
NCUH	baz=312			*e*S	**Sn**	**18 34 40.0**	**+0.8**
NTST	**Danshui**	**0.95 331**		*e*P	**Pn**	**18 34 26.5**	**-0.3**
NTST	baz=339			*e*S	**Sn**	**18 34 40.5**	**+1.2**
HGSD	**Ruisui**	**0.96 210**		P	**Pn**	**18 34 26.4**	**-0.6**
HGSD	baz=220			*e*S	**Sn**	**18 34 41.2**	**+1.6**
YOJ	**Yonaguni jima**	**0.97 82**	⇓	*i*P	**Pn**	**18 34 27.2**	**+0.1**
YOJ	baz=72			*e*S	**Sn**	**18 34 40.9**	**+1.0**
YOJ	**Yonaguni jima**	**0.97 82**		P	**Pn**	**18 34 27.2**	**+0.1**
YOJ				S	**Sn**	**18 34 41.1**	**+1.2**
SBCB	**Hsinchu**	**0.99 298**		*e*P	**Pn**	**18 34 27.7**	**+0.2**
SBCB	baz=311			*e*S	**Sn**	**18 34 41.5**	**+1.1**
TWY	**Chenhua**	**1.00 341**		*e*P	**Pn**	**18 34 27.8**	**+0.3**
TWY	baz=342			*e*S	**Sn**	**18 34 41.5**	**+1.0**
EHY	**Hungye**	**1.00 215**		*e*P	**Pn**	**18 34 26.1**	**-1.5**
EHY	baz=213			*e*S	**Sb**	**18 34 40.1**	**-1.3**
HSN	**Hsinchu**	**1.01 298**		*e*P	**Pn**	**18 34 27.5**	**-0.1**
HSN	baz=299			*e*S	**Sn**	**18 34 42.2**	**+1.4**
SMLT	**Sun Moon Lake**	**1.06 245**	⇓	*i*P	**Pn**	**18 34 28.4**	**-0.1**
SMLT	baz=237			*e*S	**Sb**	**18 34 43.3**	**+0.1**
SSLB	**Suanglung**	**1.06 240**	⇓	*e*P	**Pn**	**18 34 27.9**	**-0.5**
SSLB	baz=231			*e*S	**Sn**	**18 34 42.1**	**0.0**
TWQ1	**Liyutan**	**1.08 271**		*e*P	**Pb**	**18 34 29.4**	**-0.4**
TWQ1	baz=269			*e*S	**Sb**	**18 34 44.1**	**+0.6**
NMLH	**Miaoli**	**1.08 281**		*e*P	**Pn**	**18 34 29.3**	**+0.6**
NMLH	baz=280			*e*S	**Sb**	**18 34 44.0**	**+0.4**
TYC	**Yuchr**	**1.09 247**	⇓	*i*P	**Pn**	**18 34 28.7**	**0.0**
TYC	baz=236			*e*S	**Sn**	**18 34 42.9**	**+0.2**
NSY	**Sanyi**	**1.09 275**		*e*P	**Pb**	**18 34 29.9**	**-0.1**
NSY	baz=273			*e*S	**Sb**	**18 34 45.4**	**+1.5**
YULB	**Yu-li**	**1.11 213**		P	**Pn**	**18 34 27.6**	**-1.4**
YULB	baz=211			*e*S	**Sn**	**18 34 43.1**	**-0.1**
EYUL	**Yuli**	**1.14 211**		*e*P	**Pn**	**18 34 28.6**	**-0.8**
TWF1	**Yuli**	**1.14 212**		*e*P	**Pn**	**18 34 28.2**	**-1.3**
TCU	**Taichung**	**1.18 261**		*e*P	**Pn**	**18 34 30.9**	**+0.9**
TCU	baz=259			*e*S	**Sb**	**18 34 47.1**	**+0.7**
WHYT	**Xinyi Township**	**1.19 238**		*e*P	**Pn**	**18 34 30.7**	**+0.6**
WHYT	baz=234			*e*S	**Sb**	**18 34 47.3**	**+0.6**
WDJ	**Dajia District**	**1.20 271**		*e*P	**Pn**	**18 34 31.2**	**+1.0**
WDJ	baz=270			*e*S	**Sb**	**18 34 47.1**	**+0.2**
WJS	**Zhushan**	**1.23 246**		*e*P	**Pb**	**18 34 32.1**	**-0.2**
WJS	baz=232			*e*S	**Sb**	**18 34 49.9**	**+2.0**
WNT	**Mingjian**	**1.24 249**		*e*P	**Pb**	**18 34 32.4**	**-0.2**
WNT	baz=247			*e*S	**Sb**	**18 34 49.4**	**+1.2**
FULB	**Fuli**	**1.28 208**		*e*P	**Pn**	**18 34 30.7**	**-0.7**
FULB	baz=219			*e*S	**Sb**	**18 34 49.2**	**-0.1**
WCHH	**Zhanghua**	**1.30 259**		*e*P	**Pn**	**18 34 32.6**	**+1.0**
WCHH	baz=257			*e*S	**Sb**	**18 34 50.5**	**+0.7**
PCYT	**Pengchaiyu**	**1.30 5**		*e*P	**Pn**	**18 34 31.3**	**-0.4**
ALS	**Alishan**	**1.33 232**		*e*P	**Pn**	**18 34 33.1**	**+0.8**
CHKT	**Chengkung**	**1.34 204**		*e*P	**Pn**	**18 34 30.6**	**-1.5**
CHN5	**Tsauling**	**1.38 238**		P	**Pn**	**18 34 33.8**	**+1.1**
CHN5	baz=224			*e*S	**Sb**	**18 34 53.4**	**+1.3**
ELDTW	**Lidau**	**1.42 217**		*e*P	**Pn**	**18 34 32.8**	**-0.7**
WGK	**Gukeng**	**1.42 244**		*e*P	**Pb**	**18 34 35.1**	**-0.5**
WGK	baz=242			*e*S	**Sb**	**18 34 55.5**	**+2.1**
WDLH	**Douliu**	**1.44 244**		*e*P	**Pb**	**18 34 35.5**	**-0.4**
WDLH	baz=242			*e*S	**Sb**	**18 34 55.1**	**+1.2**
EDH	**Donghe**	**1.48 204**		*e*P	**Pn**	**18 34 32.9**	**-1.2**
RLNB	**Erlin**	**1.52 254**		*e*P	**Pn**	**18 34 35.1**	**+0.4**
WTK	**Tuku**	**1.57 246**		*e*P	**Pb**	**18 34 37.0**	**-1.1**
WTK	baz=245			*e*S	**Sb**	**18 34 57.8**	**+0.3**
TPUB	**Ta-pu**	**1.59 230**		*e*P	**Pn**	**18 34 36.8**	**+1.2**
TPUB	baz=217			*e*S	**Sb**	**18 34 58.0**	**-0.1**
STYT	**Tauyuan**	**1.60 224**		*e*P	**Pn**	**18 34 36.6**	**+0.8**
STYT	baz=215			*e*S	**Sn**	**18 34 56.8**	**+1.4**
LONT	**Longtian**	**1.60 208**		*e*P	**Pn**	**18 34 34.7**	**-1.2**
LONT	baz=214			*e*S	**Sn**	**18 34 56.3**	**+0.8**
IRIF	**Iriomote-Funau**	**1.62 89**		P	**Pn**	**18 34 35.9**	**-0.1**
IRIF				*e*S	**Sn**	**18 34 55.9**	**0.0**
CHY	**Chiayi**	**1.63 240**		*e*P	**Pn**	**18 34 37.8**	**+1.7**
WTP	**Ta-pu**	**1.63 229**		*e*P	**Pn**	**18 34 37.6**	**+1.3**
TWG	**Pinlang**	**1.71 208**		*e*P	**Pn**	**18 34 36.2**	**-1.0**
TWGBT	**Beinan**	**1.71 208**		*e*P	**Pn**	**18 34 35.9**	**-1.3**
LDUT	**Ludao**	**1.71 195**		*e*P	**Pn**	**18 34 35.2**	**-2.0**
HATJ	**Hateruma jima**	**1.71 99**		P	**Pn**	**18 34 38.5**	**+1.2**
HATJ				*e*S	**Sn**	**18 34 59.1**	**+1.0**
WSF	**Szhu**	**1.73 247**		*e*P	**Pn**	**18 34 38.4**	**+0.9**
SNST	**Tainan City**	**1.73 231**		*e*P	**Pn**	**18 34 39.0**	**+1.4**
CHN1	**Nanshi**	**1.73 229**		*e*P	**Pn**	**18 34 39.0**	**+1.3**
WLGB	**Puzi**	**1.73 241**		*e*P	**Pn**	**18 34 39.1**	**+1.5**
SGST	**Jiashian**	**1.77 226**		*e*P	**Pn**	**18 34 38.6**	**+0.5**
SLGT	**Liugui**	**1.79 222**		*e*P	**Pn**	**18 34 40.2**	**+1.7**
ICHU	**Yijhu**	**1.81 238**		*e*P	**Pn**	**18 34 40.3**	**+1.7**
CHN8	**Yiju**	**1.87 239**		*e*P	**Pn**	**18 34 40.9**	**+1.4**
JKRS	**Kuro-shima**	**1.88 92**		P	**Pn**	**18 34 40.0**	**+0.4**
JKRS				*e*S	**Sn**	**18 35 03.3**	**+1.1**
ECL	**Taimali**	**1.95 208**		*e*P	**Pn**	**18 34 39.4**	**-1.3**
SCST	**Cishan**	**1.96 223**		*e*P	**Pn**	**18 34 42.8**	**+2.0**
SSD	**Sandimen**	**1.99 218**		*e*P	**Pn**	**18 34 42.3**	**+1.2**
JIJ	**Ishigaki jima**	**2.00 89**		P	**Pn**	**18 34 41.0**	**-0.2**
JIJ				*e*S	**Sn**	**18 35 05.0**	**-0.2**
TSMG	**Majia**	**2.01 217**		*e*P	**Pn**	**18 34 43.1**	**+1.6**
TWM1	**Shoushan**	**2.05 223**		*e*P	**Pb**	**18 34 44.8**	**-1.5**
MASBT	**Mashibuluo**	**2.10 216**		*e*P	**Pn**	**18 34 43.1**	**+0.5**
JISG	**Ishigakijimahi**	**2.16 83**		P	**Pn**	**18 34 43.2**	**-0.3**
JISG				S	**Sn**	**18 35 08.9**	**-0.4**
SSPT	**Xinbi**	**2.23 215**		*e*P	**Pn**	**18 34 46.2**	**+1.7**
PTTC	**Pingtan**	**2.30 301**		*e*P	**Pn**	**18 34 43.6**	**-1.8**
SCZT	**Fangliau**	**2.30 212**		*e*P	**Pn**	**18 34 46.7**	**+1.3**
LAY	**Lan-yu**	**2.31 189**		*e*P	**Pn**	**18 34 43.5**	**-2.0**
PNG	**Penghu**	**2.32 251**		*e*P	**Pn**	**18 34 45.2**	**-0.5**
PHUB	**P'eng-hu**	**2.33 250**		*e*P	**Pn**	**18 34 44.9**	**-0.9**
WDGT	**Dungji**	**2.35 244**		*e*P	**Pn**	**18 34 46.7**	**+0.6**
SLIU	**Shizi**	**2.36 207**		*e*P	**Pn**	**18 34 46.4**	**+0.2**
VWUC	**VWUC**	**2.37 287**		*e*P	**Pn**	**18 34 45.3**	**-1.1**
WLCH	**Liuqiu**	**2.44 217**		*e*P	**Pn**	**18 34 50.1**	**+2.7**
TWP	**Hsiaoliuchiu**	**2.46 217**		*e*P	**Pb**	**18 34 51.5**	**-1.7**
JTJ	**Tarama**	**2.52 82**		P	**Pn**	**18 34 49.0**	**+0.5**
JTJ				S	**Sn**	**18 35 19.8**	**+1.6**
TWK1	**Hengchun**	**2.60 204**		*e*P	**Pn**	**18 34 48.8**	**-0.8**
TWKBT	**Hengchun**	**2.60 204**		*e*P	**Pn**	**18 34 48.2**	**-1.3**
PTMZ	**Houxiangcun**	**2.67 286**		*e*P	**Pn**	**18 34 49.6**	**-1.0**
JIRB	**Irabujima**	**2.97 80**		P	**Pn**	**18 34 55.0**	**+0.3**
JIRB				*e*S	**Sn**	**18 35 30.2**	**+0.9**
XPSS	**Dashiqiu**	**3.04 329**		*e*P	**Pn**	**18 34 54.5**	**-1.1**
JIKM	**Ikemajima**	**3.06 78**		*e*S	**Sn**	**18 35 33.2**	**+1.9**
JMJ2	**Miyako jima3**	**3.10 82**		P	**Pn**	**18 34 57.4**	**+1.0**
JMJ2				*e*S	**Sn**	**18 35 34.2**	**+1.8**
JOGS	**Gusukube**	**3.17 82**		P	**Pn**	**18 34 57.9**	**+0.5**
JOGS				S	**Sn**	**18 35 36.1**	**+1.9**

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*IDC **02** 18:39:35.2±0.6,10°.11S×111°.18E,h0km,mb4.2/17,*
mb1 4.3/21,mb1mx4.2/34,mbtmp4.2/21,ML4.1/4,MS3.1/6,
Ms1 3.0/6,ms1mx2.8/42,Error ellipse: s-maj=19.2km
s-min=12.3km az=58.0
*NEIC **02** 18:39:40.6±1.9,10°.15S±0°.07×111°.22E±0°.06,h36km±6km,*
mb4.5/42,Error ellipse: s-maj=11.5km s-min=8.1km
az=207.0
*DJA **02** 18:39:40.8±0.7,10°S±3°×11°1E±°,h30km±8km,M4.7/17,*
mB5.3/7,mb4.9/12,MLv4.7/17,Mw(mB)4.7/7
ISC 02 18:39:40.5±0.4,10°.19S±0°.06×111°.16E±0°.06,h35km,n111,
σ1°09/111,mb4.3/35,MS3.1/4,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.34 344**		P	**Pn**	**18 40 16.1**	**-0.4**
UGM				S	**Sn**	**18 40 44.6**	**+0.5**
UGM	**Wanagama**	**2.34 344**			**Pn**	**18 40 16.4**	**-0.1**
WOJI	**Wonogiri, Jawa**	**2.34 354**		P	**Pn**	**18 40 16.1**	**-0.4**
WOJI				S	**Sn**	**18 40 43.7**	**-0.4**
YOGI	**Yogyakarta**	**2.50 340**		P	**Pn**	**18 40 18.2**	**-0.5**
YOGI				S	**Sn**	**18 40 48.2**	**+0.2**
NGJI	**Ngawi**	**2.82 6**		P	**Pn**	**18 40 25.6**	**+2.6**
GMJI	**Gumukmas**	**2.95 50**		P	**Pn**	**18 40 24.8**	**-0.1**
SMRI	**Semarang**	**3.19 347**		P	**Pn**	**18 40 29.2**	**+0.9**
SMRI	**Semarang**	**3.19 347**			**Pn**	**18 40 29.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**3.41 60**		P	**Pn**	**18 40 32.0**	**+0.8**
JAGI	**Jajag, Banyuwa**	**3.41 60**		Pn	**Pn**	**18 40 31.6**	**+0.4**
TBJI	**Tambak Boyo**	**3.42 12**		P	**Pn**	**18 40 32.0**	**+0.7**
GRJI	**Gresik**	**3.50 22**		P	**Pn**	**18 40 33.0**	**+0.5**
CMJI	**Cimerak**	**3.58 312**		P	**Pn**	**18 40 33.0**	**-0.6**
CISI	**Cisompet, Garu**	**4.21 308**		P	**Pn**	**18 40 41.2**	**-1.0**
CISI	**Cisompet, Garu**	**4.21 308**			**Pn**	**18 40 41.8**	**-0.4**
LEM	**Lembang**	**4.83 313**		Pn	**Pn**	**18 40 49.6**	**-1.3**
	3.3nm,0.3s,baz=101,slow=10,SNR=2.1						
LEM				Sn	**Sn**	**18 41 46.6**	**+0.7**
	6.2nm,0.3s,baz=35,slow=22,SNR=1.9						
LEM				LR	LR	18 43 21.4	
	comp=Z,216nm,19.9s,baz=212,slow=47						
TWSI	**Taliwang, Sumb**	**5.83 76**		P	**Pn**	**18 41 04.7**	**+0.2**
PLAI	**Plampang**	**6.67 79**		P	**Pn**	**18 41 16.2**	**+0.2**
	0.7nm2μm81nm,0.6s						
BBKI	**Banjar Baru**	**7.62 29**		P	**Pn**	**18 41 30.1**	**+1.1**
	0.1nm35nm,0.7s						
WBSI	**Waikabubak, Su**	**8.13 87**		P	**Pn**	**18 41 35.1**	**-1.1**
	34nm,0.6s						
WSI	**Waingapu**	**9.02 88**		P	**Pn**	**18 41 49.3**	**+1.0**
	3μm175nm,0.6s						
BASI	**Baing, Sumba**	**9.28 91**		P	**Pn**	**18 41 53.1**	**+1.3**
	49nm,0.8s						
KAPI	**Kappang**	**9.95 60**		Pn	**Pn**	**18 41 59.7**	**-1.4**
	3.1nm,0.3s,baz=234,slow=5.6,SNR=5.2						
KAPI				LR	LR	18 46 09.7	
	comp=Z,69nm,21.8s,baz=250,slow=40						
KAPI	**Kappang**	**9.95 60**		Pn	**Pn**	**18 42 00.8**	**-0.2**
MNAI	**Manna**	**9.98 305**		Pn	**Pn**	**18 42 01.9**	**+0.5**
BKSI	**Bulukumba**	**10.11 62**		P	**Pn**	**18 42 03.9**	**+0.6**
	42nm,0.7s						
KSI	**Kapahiang**	**10.69 307**		P	Pn	18 42 28.2	+17
MMRI	**Maumere**	**11.04 83**		Pn	**Pn**	**18 42 14.3**	**-1.7**
KSM	**Kuching**	**11.61 356**		Pn	**Pn**	**18 42 24.1**	**+0.2**
BATI	**Baumata**	**12.31 91**		Pn	**Pn**	**18 42 32.4**	**-1.0**
	5.1nm,0.3s,baz=180,slow=2.1,SNR=8.4						
BATI				Sn	Sn	18 44 38.9	-11
	2.6nm,0.3s,baz=300,slow=20,SNR=1.9						
SBUM	**Sibu**	**12.60 5**		Pn	**Pn**	**18 42 38.3**	**+1.0**
SOEI	**Soe**	**12.92 89**		P	**P**	**18 42 55.5**	**+3.4**
SOEI	**Soe**	**12.92 89**		Pn	**Pn**	**18 42 42.3**	**+0.5**
MPSI	**Mapaga**	**13.60 40**		P	**P**	**18 43 01.4**	**+1.9**
MNSI	**Mandailing Nat**	**15.87 313**		P	**P**	**18 43 25.3**	**+0.6**

FITZ	**Fitzroy Crossi**	**16.09**	**121**	Pn	**Pn**	**18 43 21.7**	**-2.5**	
	0.3nm,0.3s,baz=358,slow=4.8,SNR=16							
FITZ				Sn	Sn	18 46 05.0	-17	
	0.4nm,0.3s,baz=360,slow=18,SNR=8.5							
KKM	**Kota Kinabalu**	**16.89**	**18**	Pn	**Pn**	**18 43 33.9**	**-0.5**	
MYLDM	**Lahad Datu**	**16.93**	**26**	P	**P**	**18 43 36.4**	**-0.1**	
MYLDM				IAmb	IAmb	18 43 40.7		
	comp=Z,24nm,1.2s							
IPM	**Ipoh**	**17.72**	**325**	P	**Pn**	**18 43 42.6**	**-2.0**	
PSI	**Prapat**	**17.74**	**316**	LR	LR	18 52 20.5		
	comp=Z,54nm,18.0s,baz=270,slow=43							
KULM	**Kulim**	**18.60**	**325**	P	**P**	**18 43 52.4**	**-2.5**	
TNTI	**Ternate**	**19.46**	**57**	P	**P**	**18 44 03.1**	**-1.3**	
TNTI				IAmb	IAmb	18 44 21.2		
	comp=Z,33nm,1.3s							
SIJI	**Sorong**	**22.03**	**66**	P	**P**	**18 44 31.1**	**-1.1**	
	comp=Z,6.8nm,0.5s,baz=155,slow=4.7,SNR=5.7							
FAKI	**Fak Fak**	**22.15**	**72**	P	**P**	**18 44 29.6**	**-3.9**	
NWAO	**Narrogin (SRO)**	**23.32**	**167**	P	**P**	**18 44 46.1**	**+0.6**	
	comp=Z,5.6nm,1.0s,baz=342,slow=20,SNR=1.6							
NWAO				S	**S**	**18 48 52.9**	**-2.8**	
	comp=Z,7.1nm,1.0s,baz=316,slow=16,SNR=1.3							
NWAO				LR	LR	18 54 42.2		
	comp=Z,39nm,18.1s,baz=50,slow=39							
WB0	**Warramunga Arr**	**24.36**	**116**	P	**P**	**18 44 55.5**	**0.0**	
WB0				IAmb	IAmb	18 44 55.8		
	comp=Z,7.1nm,0.9s							
WRA	**Warramunga Arr**	**24.37**	**116**	P	**P**	**18 44 55.5**	**-0.1**	
	comp=Z,3.3nm,0.6s,baz=290,slow=11,SNR=40							
WRA				PcP	**PcP**	**18 48 34.8**	**+0.2**	
	comp=Z,1.8nm,0.9s,baz=300,slow=1.9,SNR=6.0							
WRA	**Warramunga Arr**	**24.37**	**116**	P	**P**	**18 44 55.2**	**-0.3**	
WRA					**PcP**	**18 48 34.2**	**-0.4**	
WRAB	**Tennant Creek**	**24.38**	**116**	P	**P**	**18 44 57.3**	**+1.7**	
WRAB				IAmb	IAmb	18 45 08.9		
	comp=Z,8.9nm,0.9s							
WB2	**Warramunga Arr**	**24.38**	**116**	P	**P**	**18 44 55.8**	**+0.2**	
WR0	**Warramunga Arr**	**24.55**	**116**	P	**P**	**18 44 57.5**	**+0.3**	
WR0				IAmb	IAmb	18 45 13.3		
	comp=Z,7.1nm,1.1s							
AS31	**Alice Springs**	**25.51**	**125**	P	**P**	**18 45 06.4**	**+0.5**	
ASAR	**Alice Springs**	**25.51**	**125**	P	**P**	**18 45 06.2**	**+0.3**	
	comp=Z,1.9nm,0.6s,baz=302,slow=9.1,SNR=44							
ASAR				PcP	**PcP**	**18 48 37.8**	**+0.7**	
	comp=Z,1.4nm,0.7s,baz=297,slow=1.8,SNR=12							
ASAR	**Alice Springs**	**25.51**	**125**	P	**P**	**18 45 05.7**	**-0.2**	
UBPT	**Khong Chiam**	**25.92**	**347**	P	**P**	**18 45 08.5**	**-1.1**	
UBPT				IAmb	IAmb	18 45 19.6		
	comp=Z,7.9nm,1.1s							
PBA	**Port Blair**	**28.39**	**319**	P	P	18 45 31.2	-0.5	
PBKT	**Sadao Pong**	**28.43**	**339**	P	**P**	**18 45 31.8**	**-0.2**	
CMAR	**Chiang Mai Arr**	**30.91**	**337**	P	**P**	**18 45 54.2**	**+0.2**	
	comp=Z,1.8nm,0.8s,baz=176,slow=7.8,SNR=14							
CMAR	**Chiang Mai Arr**	**30.91**	**337**	P	**P**	**18 45 54.5**	**+0.5**	
TWG	**Pinlang**	**34.21**	**16**	P	**P**	**18 46 23.5**	**+0.6**	
TPUB	**Ta-pu**	**34.55**	**15**	P	**P**	**18 46 26.8**	**+1.0**	
TPUB				IAmb	IAmb	18 46 27.6		
	comp=Z,10nm,0.8s							
YULB	**Yu-li**	**34.82**	**16**	P	**P**	**18 46 28.1**	**-0.1**	
YULB				IAmb	IAmb	18 46 31.0		
	comp=Z,3.7nm,0.9s							
SSLB	**Suanglung**	**35.10**	**16**	P	**P**	**18 46 31.0**	**+0.4**	
SSLB				IAmb	IAmb	18 46 33.0		
	comp=Z,9.2nm,0.7s							
STKA	**Stephens Creek**	**35.47**	**132**	P	**P**	**18 46 33.6**	**-0.2**	
	comp=Z,6.6nm,0.6s,baz=316,slow=8.2,SNR=16							
STKA				LR	LR	19 02 47.4		
	comp=Z,44nm,18.2s,baz=208,slow=39							
STKA	**Stephens Creek**	**35.47**	**132**	P	**P**	**18 46 34.1**	**+0.3**	
PMG	**Port Moresby**	**35.48**	**92**	P	**P**	**18 46 32.6**	**-1.5**	
NACB	**Ninganchiao**	**35.64**	**16**	P	**P**	**18 46 35.5**	**+0.3**	
YHNB	**Yeheng**	**36.05**	**16**	P	**P**	**18 46 40.3**	**+1.5**	
YHNB				IAmb	IAmb	18 47 14.6		
	comp=Z,11nm,1.0s							
YOJ	**Yonaguni jima**	**36.33**	**18**	P	**P**	**18 46 41.0**	**-0.1**	
H08S2	**Diego Garcia H**	**38.26**	**271**	T	T	19 27 49.9		
	baz=96,slow=75,SNR=13							
H08S3	**Diego Garcia H**	**38.27**	**271**	T	T	19 27 47.0		
	baz=96,slow=75,SNR=10							
H08S1	**Diego Carcia H**	**38.28**	**271**	T	T	19 27 41.1		
	baz=96,slow=75,SNR=11							
SHL	**Shillong**	**40.19**	**332**	P	**P**	**18 47 14.1**	**+0.2**	
SHL				IAmb	IAmb	18 47 14.9		
	comp=Z,11nm,0.6s							
WHN	**Wuhan**	**40.61**	**4**	P	P	18 47 22.1	+5.1	
LSA	**Lhasa**	**44.09**	**335**	P	**P**	**18 47 47.2**	**+1.2**	
LSA				IAmb	IAmb	18 47 51.2		
	comp=Z,3.7nm,0.7s							
KSRS	**Korea Array**	**49.93**	**17**	P	**P**	**18 48 30.0**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=197,slow=8.9,SNR=2.8							
KSRS				LR	LR	19 12 27.1		
	comp=Z,11nm,18.8s,baz=105,slow=40							
GTA	**Gaotai**	**50.46**	**349**	*e*P	**P**	**18 48 36.7**	**+1.7**	
GTA				pP	pP	18 48 42.1	-2.3	
GTA				sP	sP	18 48 45.0	-3.2	
GTA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
MJAR	**Matsushiro Arr**	**52.99**	**27**	P	**P**	**18 48 52.6**	**-1.3**	
	comp=Z,1.8nm,0.6s,baz=208,slow=8.3,SNR=8.8							
MJAR	**Matsushiro Arr**	**52.99**	**27**	P	**P**	**18 48 53.7**	**-0.1**	
NIL	**Nilore**	**56.56**	**322**	P	**P**	**18 49 20.1**	**+0.3**	
USA0B	**Ussuriysk Arra**	**57.34**	**18**	P	**P**	**18 49 25.7**	**+0.7**	
USA0B				IAmb	IAmb	18 49 39.6		
	comp=Z,16nm,1.6s							
USRK	**Ussuriysk Ar.**	**57.34**	**18**	P	**P**	**18 49 24.5**	**-0.5**	
	comp=Z,1.4nm,0.6s,baz=205,slow=8.9,SNR=6.1							
USRK	**Ussuriysk Ar.**	**57.34**	**18**	P	**P**	**18 49 24.1**	**-0.9**	
WMQ	**Urumqi**	**57.83**	**340**	*e*P	**P**	**18 49 30.2**	**+1.6**	
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,40nm,3.7s							
WMQ				LR	LR			
	comp=N,230nm,28.8s							
WMQ				LR	LR			
	comp=E,430nm,29.1s							
WMQ				LR	LR			
	comp=Z,39nm,29.3s							
SONM	**Songino Array**	**57.92**	**356**	P	**P**	**18 49 28.6**	**-0.6**	
	comp=Z,1.1nm,0.6s,baz=178,slow=8.3,SNR=7.9							
SONM	**Songino Array**	**57.92**	**356**	P	**P**	**18 49 29.0**	**-0.2**	
MK31	**Makanchi Array**	**62.31**	**338**	P	**P**	**18 49 58.9**	**-0.3**	
MK31				IAmb	IAmb	18 50 01.8		
	comp=Z,3.3nm,0.5s							
MKAR	**Makanchi Array**	**62.31**	**338**	P	**P**	**18 49 59.0**	**-0.2**	
	comp=Z,5.3nm,0.5s,baz=149,slow=7.6,SNR=60							
MKAR	**Makanchi Array**	**62.31**	**338**	P	**P**	**18 49 58.8**	**-0.4**	
BTK	**Batken**	**62.40**	**326**	P	**P**	**18 50 01.8**	**+1.8**	
BTK				IAmb	IAmb	18 50 04.8		
	comp=Z,2.2nm,0.7s							
NNZ	**Nelson**	**62.52**	**131**	P	**P**	**18 49 59.7**	**-1.1**	
BKZ	**Black Stump Fm**	**64.54**	**129**	P	**P**	**18 50 14.5**	**+0.2**	
KK31	**Karatay Array**	**64.69**	**328**	P	**P**	**18 50 13.9**	**-1.2**	
KKAR	**Karatay Array**	**64.69**	**328**	P	**P**	**18 50 13.9**	**-1.1**	
MAW	**Mawson**	**65.59**	**198**	P	**P**	**18 50 20.8**	**+0.4**	
	comp=Z,2.8nm,0.7s,baz=43,slow=5.6,SNR=8.5							
MAW	**Mawson**	**65.59**	**198**	P	**P**	**18 50 21.1**	**+0.7**	
KURK	**Kurchatov**	**66.92**	**338**	P	**P**	**18 50 28.3**	**-0.8**	
KURK				IAmb	IAmb	18 50 32.1		
	comp=Z,1.9nm,0.7s							
ZAA0	**Zalesovo Array**	**67.68**	**344**	P	**P**	**18 50 33.5**	**-0.4**	
ZAA0				IAmb	IAmb	18 50 40.8		
	comp=Z,3.8nm,1.2s							
ZALV	**Zalesovo Beam**	**67.68**	**344**	P	**P**	**18 50 32.9**	**-1.0**	
	comp=Z,0.9nm,0.3s,baz=158,slow=4.8,SNR=5.8							
ZALV	**Zalesovo Beam**	**67.68**	**344**	P	**P**	**18 50 32.9**	**-1.0**	
ZALV					**P**	**18 50 33.0**	**-0.8**	
GEYT	**Alibeck**	**68.87**	**317**	P	**P**	**18 50 41.4**	**-0.4**	
	comp=Z,0.9nm,0.5s,baz=81,slow=4.7,SNR=3.6							
ABKAR	**Akbulak array**	**74.26**	**328**	P	**P**	**18 51 13.7**	**-0.2**	
PETK	**Petropavlovsk-**	**74.45**	**27**	P	**P**	**18 51 14.5**	**-0.5**	
	comp=Z,1.2nm,0.6s,baz=264,slow=4.3,SNR=2.1							
QSPA	**South Pole Qui**	**79.82**	**180**	P	**P**	**18 51 45.7**	**+0.5**	
QSPA				IAmb	IAmb	18 51 47.1		
	comp=Z,5.5nm,0.9s							
BRTR	**Keskin Array B**	**87.00**	**311**	P	**P**	**18 52 22.6**	**0.0**	
	comp=Z,1.6nm,0.8s,baz=138,slow=6.1,SNR=7.1							
BRTR	**Keskin Array B**	**87.00**	**311**	P	**P**	**18 52 21.5**	**-1.1**	
SNAA	**Sanae**	**87.71**	**197**	P	**P**	**18 52 26.2**	**+0.9**	
	comp=Z,1.7nm,0.8s,baz=102,slow=3.6,SNR=6.2							
SNAA	**Sanae**	**87.71**	**197**	P	**P**	**18 52 27.1**	**+1.8**	
SNAA				IAmb	IAmb	18 52 41.3		
	comp=Z,8.9nm,1.5s							
TXAR	**Lajitas Array**	**142.31**	**55**	PKhKP	PKPpre	18 59 05.6		
	comp=Z,0.2nm,0.7s,baz=208,slow=3.6,SNR=2.6							
TXAR	**Lajitas Array**	**142.31**	**55**	PKPpre	18 59 04.6			
TKL	**Tuckaleechee C**	**151.23**	**26**	PKPbc	**PKiKP**	**18 59 31.3**	**0.0**	
	comp=Z,1.8nm,0.6s,baz=288,slow=20,SNR=3.9							

*SJA **02** 18:43:41.5±0.7,24.°29S×69.°63W,h114^{km}±4^{km},ML4.3, MW4.0*
*NEIC **02** 18:43:42.4±2.7,24.°31S±0.°04×69.°57W±0.°07,h97^{km}±2^{km}, Error ellipse: s-maj=8.7km s-min=5.0km az=99.0*
*GUC **02** 18:43:43.0±0.7,24.°34S×69.°49W,h99^{km}±7^{km},ML4.3*
*IDC **02** 18:43:43.9±0.8,24.°32S×69.°25W,h102^{km}±6^{km},mb3.7/6, mb1 3.8/8,mb1mx3.5/35,mbtmp4.0/8,MS2.5/1,Ms1 2.7/1, ms1mx2.3/23,Error ellipse: s-maj=30.2km s-min=10.3km az=95.0*
*VAO **02** 18:43:52.3±1.3,23.°58S×68.°87W,h115^{km}±6^{km},mb4.2*
ISC 02 18:43:42.1±0.5,24.°35S±0.°03×69.°56W±0.°04,h100^{km}±5km, h100^{km}:pP-P,n121,σ1°34/163,mb4.2/10,2C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.81**	**182**	*e*P	**Pn**	**18 44 01.9**	**+0.9**
GO02				*e*S	**Sn**	**18 44 16.4**	**+1.3**
GO02				IAML		18 44 17.4	
	comp=N,15μm,0.2s						
GO02	**Mina Guanaco**	**0.81**	**182**		**Pn**	**18 44 01.9**	**+0.9**
GO02				Sn	**Sn**	**18 44 16.3**	**+1.3**
PB14	**IPOC Station P**	**0.82**	**250**	*i* P	**Pn**	**18 44 02.6**	**+1.5**
PB14				*e*S	**Sn**	**18 44 16.6**	**+1.5**
PB14	**IPOC Station P**	**0.82**	**250**		**Pn**	**18 44 02.5**	**+1.5**
PB14				Sn	**Sn**	**18 44 16.7**	**+1.5**
PB14	**IPOC Station P**	**0.82**	**250**	*e*P	**Pn**	**18 44 02.6**	**+1.5**
PB14				*e*S	**Sn**	**18 44 16.8**	**+1.6**
PB14				IAML		18 44 17.8	
	comp=Z,4μm,0.2s						
PB15	**IPOC Station P**	**1.13**	**4**	⇓*i*P	**Pn**	**18 44 05.3**	**+1.0**
PB15				*i* S	**Sn**	**18 44 21.4**	**+0.5**
PB15	**IPOC Station P**	**1.13**	**4**		**Pn**	**18 44 04.5**	**+0.2**
PB15				Sn	**Sn**	**18 44 21.4**	**+0.5**
PB15	**IPOC Station P**	**1.13**	**4**	*e*P	**Pn**	**18 44 05.3**	**+1.0**
PB15				*e*S	**Sn**	**18 44 22.3**	**+1.4**
PB10	**IPOC Station P**	**1.23**	**312**	⇓*i*P	**Pn**	**18 44 06.5**	**+1.3**
PB10				*e*S	**Sn**	**18 44 24.2**	**+1.7**
PB10	**IPOC Station P**	**1.23**	**312**		**Pn**	**18 44 05.9**	**+0.7**
PB10				Sn	**Sn**	**18 44 23.7**	**+1.1**
PB10	**IPOC Station P**	**1.23**	**312**	*e*S	**Sn**	**18 44 24.5**	**+2.0**
PB05	**IPOC Station P**	**1.60**	**338**	⇓*i*P	**Pn**	**18 44 10.4**	**+0.6**
PB05				*i* S	**Sn**	**18 44 31.0**	**+0.3**
PB05				IAML		18 44 34.6	
	comp=E,3μm,0.7s						
PB05	**IPOC Station P**	**1.60**	**338**	*e*P	**Pn**	**18 44 10.4**	**+0.6**
PB05				*e*S	**Sn**	**18 44 31.2**	**+0.5**
PB05				IAML		18 44 32.9	
	comp=Z,1μm,0.7s						
PB06	**IPOC Station P**	**1.63**	**360**	⇓*i*P	**Pn**	**18 44 10.8**	**+0.6**
PB06				*e*S	**Sn**	**18 44 31.0**	**-0.5**
PB06				IAML		18 44 32.9	
	comp=E,4μm,0.2s						
PB06	**IPOC Station P**	**1.63**	**360**		**Pn**	**18 44 10.9**	**+0.6**
PB06				Sn	**Sn**	**18 44 30.7**	**-0.8**
PB06	**IPOC Station P**	**1.63**	**360**	*e*P	**Pn**	**18 44 10.8**	**+0.6**
PB06				*e*S	**Sn**	**18 44 31.8**	**+0.3**
PB06				IAML		18 44 33.4	
	comp=Z,2μm,0.3s						
LVC	**Limon Verde**	**1.83**	**19**	P	**Pn**	**18 44 13.7**	**+0.8**
	comp=Z,88nm,0.3s,baz=156,slow=7.5,SNR=696						
LVC				S	**Sn**	**18 44 35.9**	**-0.3**
	comp=Z,67nm,0.3s,baz=195,slow=10,SNR=7.0						
LVC	**Limon Verde**	**1.83**	**19**	*e*P	**Pn**	**18 44 13.6**	**+0.8**
LVC				*e*S	**Sn**	**18 44 36.0**	**-0.3**
LVC	**Limon Verde**	**1.83**	**19**		**Pn**	**18 44 13.6**	**+0.8**
LVC				Sn	**Sn**	**18 44 36.3**	**+0.1**
LVC	**Limon Verde**	**1.83**	**19**	*e*P	**Pn**	**18 44 13.7**	**+0.8**
LVC				*e*S	**Sn**	**18 44 36.8**	**+0.6**
LVC	**Limon Verde**	**1.83**	**19**	*e*P	**Pn**	**18 44 13.8**	**+0.9**
AC01	**Pan de Azucar**	**2.03**	**207**	⇑*i*P	**Pn**	**18 44 15.8**	**+0.7**
AC01				*i* S	**Sn**	**18 44 38.4**	**-1.9**
AC01				IAML		18 44 43.1	
	comp=E,1μm,0.1s						
AC01	**Pan de Azucar**	**2.03**	**207**		**Pn**	**18 44 15.8**	**+0.7**
PB04	**IPOC Station P**	**2.07**	**345**	⇓*i*P	**Pn**	**18 44 16.1**	**+0.2**
PB04				*e*S	**Sn**	**18 44 40.9**	**-0.7**
PB04				IAML		18 44 42.6	
	comp=E,3μm,0.1s						
PB04	**IPOC Station P**	**2.07**	**345**		**Pn**	**18 44 15.8**	**-0.1**
PB04				Sn	**Sn**	**18 44 40.9**	**-0.7**
PB04	**IPOC Station P**	**2.07**	**345**	*e*P	**Pn**	**18 44 16.1**	**+0.2**
PB04				*e*S	**Sn**	**18 44 41.3**	**-0.3**
PB04				IAML		18 44 42.6	
	comp=Z,2μm,0.1s						
PB03	**IPOC Station P**	**2.29**	**355**	⇓*i*P	**Pn**	**18 44 18.9**	**+0.2**
PB03				*e*S	**Sn**	**18 44 45.8**	**-0.9**
PB03				IAML		18 44 47.2	
	comp=E,3μm,0.2s						
PB03	**IPOC Station P**	**2.29**	**355**	*e*P	**Pn**	**18 44 19.0**	**+0.2**
PB03				*e*S	**Sn**	**18 44 45.8**	**-0.9**
PB03				IAML		18 44 48.5	
	comp=Z,2μm,0.1s						
AC02	**Maricunga**	**2.51**	**171**	⇑*i*P	**Pn**	**18 44 24.1**	**+2.3**
AC02				*e*S	**Sn**	**18 44 51.0**	**-1.2**
AC02				IAML		18 44 58.8	
	comp=E,2μm,0.2s						
AC02	**Maricunga**	**2.51**	**171**		**Pn**	**18 44 24.0**	**+2.2**
PB09	**IPOC Station P**	**2.55**	**7**	*e*P	**Pn**	**18 44 23.1**	**+0.9**
PB09				IAML		18 44 58.6	
	comp=N,2μm,0.6s						
PB09	**IPOC Station P**	**2.55**	**7**		**Pn**	**18 44 23.1**	**+0.9**
PB09	**IPOC Station P**	**2.55**	**7**	*e*P	**Pn**	**18 44 23.0**	**+0.9**
PB09				*e*S	**Sn**	**18 44 53.9**	**+1.1**
PB09				IAML		18 44 58.2	
	comp=Z,1μm,0.6s						
PB07	**IPOC Station P**	**2.62**	**353**	*e*P	**Pn**	**18 44 23.0**	**-0.1**
PB07				IAML		18 44 54.6	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	**2.62**	**353**		**Pn**	**18 44 23.0**	**-0.1**
PB07	**IPOC Station P**	**2.62**	**353**	*e*P	**Pn**	**18 44 23.0**	**-0.1**
PB07				*e*S	**Sn**	**18 44 53.8**	**-0.7**
PB07				IAML		18 44 54.8	
	comp=Z,1μm,0.3s						
PB02	**IPOC Station P**	**3.03**	**354**	*e*P	**Pn**	**18 44 28.4**	**0.0**
PB02				*e*S	**Sn**	**18 45 03.3**	**-0.7**
PB02				IAML		18 45 05.0	
	comp=Z,2μm,0.3s						
PB01	**IPOC Station P**	**3.29**	**1**	*e*P	**Pn**	**18 44 31.5**	**-0.3**
PB01				*e*S	**Sn**	**18 45 08.0**	**-2.2**
PB01				IAML		18 45 11.1	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**3.29**	**1**		**Pn**	**18 44 31.6**	**-0.3**
PB01	**IPOC Station P**	**3.29**	**1**	*e*P	**Pn**	**18 44 31.9**	**0.0**
PB01				*e*S	**Sn**	**18 45 08.8**	**-1.4**
PB01				IAML		18 45 11.7	
	comp=Z,864nm,0.4s						
GO03	**Copiap**	**3.29**	**191**		**Pn**	**18 44 31.7**	**-0.2**
GO03	**Copiap**	**3.29**	**191**	*e*P	**Pn**	**18 44 32.0**	**+0.2**
GO03				*e*S	**Sn**	**18 45 10.7**	**+0.5**
PATCX	**Punta Patache**	**3.55**	**351**	*e*P	**Pn**	**18 44 34.5**	**-0.9**
PATCX	**Punta Patache**	**3.55**	**351**		**Pn**	**18 44 34.3**	**-1.1**
PATCX	**Punta Patache**	**3.55**	**351**	*e*S	**Sn**	**18 45 14.6**	**-1.9**
TA01	**Diego Aracena**	**3.81**	**351**		**Pn**	**18 44 37.3**	**-1.4**
AC04	**Llanos de Chal**	**4.08**	**199**		**Pn**	**18 44 41.1**	**-1.3**
AZAP	**Zapla**	**4.10**	**89**	*e*P	**Pn**	**18 44 45.1**	**+2.2**
AZAP				*e*S	**Sn**	**18 45 28.5**	**-1.6**
PB08	**IPOC Station P**	**4.20**	**5**	Pn	**Pn**	**18 44 44.2**	**-0.3**
YJA	**Yavi**	**4.30**	**61**	*e*P	**Pn**	**18 44 47.9**	**+2.1**
AC05	**El Transito**	**4.52**	**188**		**Pn**	**18 44 48.2**	**-0.3**
AHML	**Horco Molle**	**4.52**	**123**	*e*P	**Pn**	**18 44 50.3**	**+1.9**
PB11	**IPOC Station P**	**4.56**	**359**	*e*P	**Pn**	**18 44 47.8**	**-1.4**
PB11	**IPOC Station P**	**4.56**	**359**	Pn	**Pn**	**18 44 47.7**	**-1.4**
GO01	**Chusmiza**	**4.67**	**4**	Pn	**Pn**	**18 44 50.0**	**-0.8**
PSGCX	**Pisagua**	**4.75**	**354**		**Pn**	**18 44 49.4**	**-2.3**
LCO	**Las Campanas**	**4.76**	**192**		**Pn**	**18 44 50.5**	**-1.4**
MNMC	**Minye Minye**	**5.19**	**360**	Pn	**Pn**	**18 44 56.2**	**-1.5**
AGUA	**GUANDACOL**	**5.21**	**170**	*e*P	**Pn**	**18 44 59.3**	**+1.5**
AGUA				*e*S	Sn	18 45 42.1	-15
AGUA				IAML		18 46 01.2	
	comp=Z,108nm,0.7s						
CYA	**Choya**	**5.29**	**141**	*e*P	**Pn**	**18 45 00.3**	**+1.5**
ACLC	**CERRO LA CRUZ**	**5.57**	**156**	*e*P	**Pn**	**18 45 03.3**	**+0.5**
ACLC				*e*S	**Sn**	**18 46 03.7**	**-1.9**
ACLC				IAML		18 46 04.2	
	comp=Z,127nm,0.6s						
CO01	**Juntas del Tor**	**5.63**	**185**		**Pn**	**18 45 03.6**	**-0.1**
PB12	**IPOC Station P**	**5.75**	**353**	Pn	**Pn**	**18 45 03.0**	**-2.2**
AROD	**Rodeo**	**5.80**	**179**	*e*P	**Pn**	**18 45 07.4**	**+1.4**
GO04	**Tololo Observa**	**5.91**	**190**		**Pn**	**18 45 05.5**	**-1.9**
PB16	**IPOC Station P**	**5.98**	**0**		**Pn**	**18 45 08.4**	**-0.3**
AP01	**Chacalluta**	**5.99**	**353**	Pn	**Pn**	**18 45 07.0**	**-1.3**
ACCO	**Cerro Coronel**	**6.23**	**176**	*e*P	**Pn**	**18 45 12.6**	**+0.6**
ACCO				*e*S	**Sn**	**18 46 22.0**	**+0.1**
CO03	**El Pedregal**	**6.55**	**189**		**Pn**	**18 45 14.2**	**-1.8**
CO02	**Combarbal**	**6.95**	**190**		**Pn**	**18 45 18.9**	**-2.6**
ZON	**Zonda**	**7.22**	**174**		**Pn**	**18 45 26.8**	**+1.7**
RTLS	**Leoncito**	**7.43**	**178**	*e*P	**Pn**	**18 45 28.0**	**-0.2**
RTLS				IAML		18 47 41.5	
	comp=Z,22nm,0.8s						
RTCV	**Cerro Valdivia**	**7.54**	**173**	*e*P	**Pn**	**18 45 29.1**	**-0.4**
RTCV				*e*S	**Sn**	**18 46 48.3**	**-5.1**
RTCV				IAML		18 46 51.5	
	comp=Z,18nm,2.5s						
AUSP	**Uspallata**	**7.85**	**179**	*e*P	**Pn**	**18 45 33.3**	**-0.5**
LPAZ	**La Paz**	**8.13**	**10**	P	**Pn**	**18 45 38.5**	**+0.5**
	comp=Z,2.6nm,0.3s,baz=189,slow=7.5,SNR=46						
LPAZ				LR	LR	18 49 51.6	
	comp=Z,34nm,19.4s,baz=248,slow=46						
LPAZ	**La Paz**	**8.13**	**10**		**Pn**	**18 45 38.0**	**0.0**
VA03	**San Esteban**	**8.43**	**186**		**Pn**	**18 45 39.8**	**-1.8**
MT02	**Curacav**	**8.99**	**189**	Pn	**Pn**	**18 45 44.7**	**-4.4**
GO05	**Huala**	**10.83**	**190**	Pn	**Pn**	**18 46 11.7**	**-2.3**
SIV	**San Ignacio**	**11.51**	**45**	P	Pn	18 46 18.2	-5.2
	comp=Z,3.4nm,0.3s,baz=250,slow=10,SNR=70						
SIV				S	Sn	18 48 17.2	-13
	comp=Z,0.2nm,0.3s,baz=198,slow=19,SNR=1.3						
BI02	**San Fabin de**	**12.37**	**186**	Pn	**Pn**	**18 46 34.2**	**-0.6**
PTLB	**Pontes e Lacer**	**13.20**	**50**	*e*P	**Pn**	**18 46 42.6**	**-3.2**
VILB	**Vilhena**	**14.38**	**40**	*e*P	**Pn**	**18 46 58.3**	**-2.8**
ETMB	**Extrema**	**14.80**	**13**	*e*P	**Pn**	**18 47 04.2**	**-2.2**
PLCA	**Paso Flores**	**16.36**	**183**	P	**P**	**18 47 28.9**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=48,slow=11,SNR=3.9						
PLCA	**Paso Flores**	**16.36**	**183**	P	**Pn**	**18 47 26.0**	**0.0**
SAML	**Samuel**	**16.48**	**23**	P	**Pn**	**18 47 24.4**	**-3.1**
SAML	**Samuel**	**16.48**	**23**	*e*P	**Pn**	**18 47 24.3**	**-3.1**
CLDB	**Colider**	**18.73**	**47**	*e*P	**P**	**18 47 52.2**	**-0.9**
IPMB	**Ipameri, GO**	**20.88**	**76**	*e*P	**P**	**18 48 17.1**	**+0.6**
NPGB	**Novo Progresso**	**21.93**	**41**	*e*P	**P**	**18 48 26.4**	**-1.3**
BDFB	**Brasilia**	**22.00**	**71**	P	**P**	**18 48 26.0**	**-2.5**
	comp=Z,6.7nm,0.8s,baz=168,slow=19,SNR=1.3						
BDFB	**Brasilia**	**22.00**	**71**	P	**P**	**18 48 25.8**	**-2.7**
BDFB				IAmb	IAmb	18 48 30.4	
	comp=Z,9.5nm,0.8s						
MACA	**Manacapuru-AM**	**22.73**	**23**	*e*P	**P**	**18 48 35.7**	**-0.3**
PEXB	**Peixe**	**23.54**	**63**	*e*P	**P**	**18 48 42.5**	**-1.1**
ITTB	**Itaituba**	**23.91**	**36**	*e*P	**P**	**18 48 47.0**	**0.0**
PTGA	**Pitinga**	**25.25**	**23**	P	**P**	**18 48 58.8**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=208,slow=11,SNR=9.7						
PTGA				pP	**pP**	**18 49 21.4**	**-0.3**
	comp=

JISG	**Ishigakijimahi**	**0.90 111**	P	Pn	19 18 08.8	-0.5
JISG			S	Sb	19 18 20.3	-0.6
HATJ	**Hateruma jima**	**0.94 156**	P	Pn	19 18 09.5	-0.3
HATJ			S	Sb	19 18 22.1	+0.1

TAP 02 19:18:13.9, 24°.16N×121°.68E, h10km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.07**	**281**	P	Pg	19 18 16.9	+0.8
	baz=280						
NACB				S	Sg	19 18 18.8	+1.0
	baz=280						
TWD	**Chiawan**	**0.11**	**222**	*i* P	Pg	19 18 17.1	+0.6
	baz=219						
TWD				*i* S	Sg	19 18 19.1	+0.7
	baz=219						
ETLH	**Xiulin Townshi**	**0.18**	**285**	P	Pg	19 18 18.8	+0.9
	baz=284						
ETLH				S	Sg	19 18 22.0	+1.4
	baz=284						
ENA	**Nanau**	**0.27**	**13**	*i* P	Pb	19 18 20.3	-0.6
	baz=14						
ENA				*i* S	Sg	19 18 24.3	+1.1
	baz=14						
ENAH	**Nanao**	**0.31**	**23**	*e*S	Sg	19 18 25.5	+1.2
	baz=23						
WHF	**Hehuan Shan**	**0.38**	**268**	*i* P	Pb	19 18 22.3	-0.6
	baz=267						
WHF				*i* S	Sb	19 18 28.1	-0.8
	baz=267						
NNSB	**Datong**	**0.38**	**315**	P	Pb	19 18 22.6	-0.1
	baz=315						
NNSB				S	Sb	19 18 28.5	-0.2
	baz=315						
NNSH	**Datong**	**0.38**	**315**	*i* P	Pb	19 18 22.6	-0.1
	baz=315						
NNSH				*i* S	Sb	19 18 28.2	-0.5
	baz=315						
NNS	**Nan Shan**	**0.39**	**315**	*i* P	Pb	19 18 22.7	-0.3
	baz=315						
NNS				S	Sb	19 18 28.8	-0.4
	baz=315						
ESL	**Shilin**	**0.41**	**213**	P	Pg	19 18 22.0	+0.1
	baz=211						
ESL				S	Sb	19 18 29.4	-0.1
	baz=211						
NDT	**Datong Townshi**	**0.47**	**341**	*i* P	Pb	19 18 24.1	0.0
	baz=341						
NDT				*i* S	Sb	19 18 31.0	-0.1
	baz=341						
TWT	**Tachien**	**0.47**	**282**	P	Pb	19 18 24.4	+0.1
	baz=280						
TWT				S	Sb	19 18 31.8	+0.5
	baz=280						
CHGB	**Renai**	**0.47**	**258**	P	Pb	19 18 24.2	-0.2
	baz=257						
CHGB				S	Sb	19 18 31.0	-0.5
	baz=257						
TDCB	**Techi**	**0.48**	**281**	*e*S	Sb	19 18 31.3	-0.4
	baz=280						
ENTT	**Nioudou**	**0.49**	**348**	*i* P	Pb	19 18 24.7	+0.1
	baz=348						
ENTT				*i* S	Sb	19 18 31.7	-0.2
	baz=348						
TWE	**Neicheng**	**0.56**	**359**	S	Sb	19 18 34.1	+0.2
YHNB	**Yeheng**	**0.58**	**332**	P	Pb	19 18 26.4	+0.3
	baz=331						
YHNB				*e*S	Sb	19 18 34.5	+0.1
	baz=331						
NSK	**Sanguang**	**0.59**	**331**	*e*S	Sb	19 18 34.9	+0.1
	baz=331						
NWLT	**Wulai**	**0.63**	**346**	P	Pb	19 18 27.4	+0.3
	baz=345						
NWLT				S	Sb	19 18 35.9	-0.2
	baz=345						
VWDT	**VWDT**	**0.63**	**230**	P	Pb	19 18 27.5	+0.5
	baz=230						
VWDT				S	Sb	19 18 36.4	+0.4
	baz=230						
WHP	**Taichung City**	**0.68**	**280**	S	Sb	19 18 38.2	+0.9
	baz=279						
SSLB	**Suanglung**	**0.76**	**241**	P	Pg	19 18 28.8	+0.3
	baz=240						
SSLB				S	Sb	19 18 39.8	+0.3
	baz=240						
TIPB	**Shuangxi**	**0.82**	**10**	*e*P	Pn	19 18 30.9	-0.6
	baz=9.0						
TIPB				*e*S	Sb	19 18 42.5	+1.1
	baz=9.0						
YULB	**Yu-li**	**0.84**	**204**	P	Pb	19 18 30.5	-0.1
	baz=204						
YULB				S	Sb	19 18 42.8	+0.9
	baz=204						

*NEIC **02** 19:21:57.6±1.2, 11°.9N±0°.1×142°.0E±0°.1, h89km±9km, mb4.3/11, Error ellipse: s-maj=16.9km s-min=13.1km az=127.0*
*IDC **02** 19:21:59.4±2.9, 11°.95N×142°.11E, h109km±32km, mb3.4/9, mb1 3.6/10, mb1mx3.4/49, mbtmp3.8/10, Error ellipse: s-maj=31.1km s-min=15.7km az=98.0*
ISC 02 19:21:58.6±0.6, 11°.94N±0°.09×142°.03E±0°.09, h100km, n24, σ0.85/24, mb4.0/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.21**	**59**	P	**Pn**	**19 22 46.9**	**-0.3**
	13nm,0.3s,baz=296,slow=2.7,SNR=28						
GUMO				S	**Sn**	**19 23 24.7**	**0.0**
	20nm,0.3s,baz=241,slow=19,SNR=7.6						
GUMO	**Guam**	**3.21**	**59**		**Pn**	**19 22 47.2**	**-0.1**
PATS	**Pohnpei**	**16.84**	**106**		**P**	**19 25 49.5**	**+0.7**
PMG	**Port Moresby**	**21.81**	**166**	P	**P**	**19 26 42.8**	**-0.1**
PMG				IAmb	IAmb	19 27 09.5	
	comp=Z,26nm,1.1s						
SSLB	**Suanglung**	**23.23**	**303**	P	**P**	**19 26 57.0**	**-0.3**
WB0	**Warramunga Arr**	**32.40**	**194**	P	**P**	**19 28 18.1**	**-1.0**
WB0				IAmb	IAmb	19 28 32.6	
	comp=Z,6.4nm,1.2s						
WR0	**Warramunga Arr**	**32.55**	**193**	P	**P**	**19 28 19.3**	**-1.1**
WR0				IAmb	IAmb	19 28 31.5	
	comp=Z,8.0nm,1.4s						
WB2	**Warramunga Arr**	**32.58**	**194**	P	**P**	**19 28 20.4**	**-0.2**
WB2				IAmb	IAmb	19 28 33.6	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**32.58**	**194**	P	**P**	**19 28 20.4**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=12,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**32.58**	**194**	P	**P**	**19 28 20.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**33.29**	**347**	P	**P**	**19 28 27.0**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=195,slow=10.0,SNR=4.1						
USRK	**Ussuriysk Ar.**	**33.29**	**347**	P	**P**	**19 28 26.6**	**0.0**
ASAR	**Alice Springs**	**36.27**	**193**	P	**P**	**19 28 52.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=20,slow=12,SNR=9.9						
CMAR	**Chiang Mai Arr**	**42.01**	**284**	P	**P**	**19 29 40.7**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=84,slow=7.5,SNR=5.4						
SONM	**Songino Array**	**46.54**	**327**	P	**P**	**19 30 17.3**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=122,slow=14,SNR=5.8						
SONM	**Songino Array**	**46.54**	**327**	IAmb	IAmb	19 30 17.9	
	comp=Z,3.0nm,1.6s						
MKAR	**Makanchi Array**	**60.78**	**317**	P	**P**	**19 31 59.9**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=116,slow=6.6,SNR=2.0						
MAKZ	**Makanchi**	**60.99**	**317**	P	**P**	**19 32 03.9**	**+2.4**
BFZ	**Birch Farm**	**61.19**	**151**	P	**P**	**19 32 03.3**	**+0.5**
ZALV	**Zalesovo Beam**	**61.38**	**326**	P	**P**	**19 32 02.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=112,slow=4.5,SNR=2.5						
KURK	**Kurchatov**	**64.08**	**321**	P	**P**	**19 32 21.8**	**-0.1**
KURK				IAmb	IAmb	19 32 22.4	
	comp=Z,2.5nm,0.9s						
ILAR	**Eielson Array**	**71.23**	**25**	P	**P**	**19 33 06.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=249,slow=5.9,SNR=5.2						
ILAR	**Eielson Array**	**71.23**	**25**	P	**P**	**19 33 06.6**	**-0.1**
FINES	**FINESS Array B**	**91.46**	**334**	P	**P**	**19 34 51.6**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=85,slow=2.3,SNR=5.3						

*ISN **02** 19:23:07.9±0.9, 32°.67N×47°.71E, h14km±6km, ML2.8*
*TEH **02** 19:23:08.1, 32°.68N×47°.64E, h8km, ML3.1*
*THR **02** 19:23:08.0±0.8, 32°.70N×47°.47E, h14km±12km, ML3.1*
ISC 02 19:23:08.7±1.3, 32°.57N±0°.03×47°.58E±0°.03, h6km±12km, n30, σ1.55/36, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.27**	**293**	*e*Pg	**Pg**	**19 23 14.4**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.13**	**114**	*e*Pg	**Pn**	**19 23 31.2**	**+0.1**
SHGR				*e*Sg	**Sn**	**19 23 48.6**	**+1.6**
SHGR				IAML		19 23 50.9	
	comp=E,260nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.13**	**114**	*e*Pg	**Pn**	**19 23 31.2**	**+0.1**
IKMR	**Kamar-syah**	**1.16**	**35**	*e*Pg	**Pb**	**19 23 27.5**	**-3.6**
IKMR				*e*	**Sn**	**19 23 50.3**	**+2.7**
IDOB	**Doab**	**1.31**	**22**	*e*Pg	**Pn**	**19 23 31.5**	**-2.3**
IBDR	**Badra**	**1.49**	**292**	*e*Pg	**Pb**	**19 23 36.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**19 23 57.0**	**+0.4**
IBDR				AML	AML	19 24 02.0	
	comp=E,161nm,0.7s						
IBDR				AML	AML	19 24 02.0	
	comp=N,124nm,0.6s						
BMDN	**Meydan**	**1.51**	**43**	*e*Pg	**Pn**	**19 23 34.9**	**-1.7**
BMDN				*e*		19 24 00.6	
AHWZ	**Ahwaz**	**1.54**	**144**	*e*Pg	**Pg**	**19 23 37.6**	**-0.6**
IKOM	**Komasi**	**1.60**	**358**	*e*Pg	**Pb**	**19 23 37.3**	**-1.5**
IKOM				*e*		19 24 05.4	
KCHF	**Cheshme Sefid,**	**1.76**	**345**	*e*Pg	**Pb**	**19 23 40.2**	**-1.3**
KCHF				*e*		19 24 06.5	
HSAM	**Samen**	**1.84**	**27**	*e*Pg	**Pn**	**19 23 40.7**	**-0.5**
HSAM				*e*		19 24 09.5	
KER	**Kermanshah**	**1.84**	**348**	*e*Pg	**Pb**	**19 23 41.4**	**-1.6**
IBZA	**Bozab**	**1.91**	**7**	*e*Pg	**Pb**	**19 23 42.8**	**-1.3**
IBZA				*e*		19 24 10.3	
IGHG	**Ghaleghazi**	**1.94**	**335**	*e*Pn	**Pb**	**19 23 42.7**	**-2.0**
IGHG				*e*		19 24 16.1	
NSR	**Nassriya**	**1.98**	**219**	*e*Pn	**Pb**	**19 23 44.0**	**-1.2**
NSR				*e*Sn	**Sb**	**19 24 10.0**	**-0.1**
IVIS	**Veis**	**2.04**	**343**	*e*Pn	**Pn**	**19 23 43.8**	**+0.1**
IVIS				*e*		19 24 14.3	
KHMZ	**Khomeyn**	**2.31**	**59**	*e*Pn	**Pn**	**19 23 47.7**	**+0.2**
KHMZ	**Khomeyn**	**2.31**	**59**	*e*Pn	**Pn**	**19 23 47.7**	**+0.2**
IALM	**Almabolaq**	**2.33**	**12**	*e*Pn	**Pn**	**19 23 47.5**	**-0.4**
IDHR	**Dehrash**	**2.34**	**335**	*e*Pn	**Pn**	**19 23 48.4**	**+0.4**
IDHR				*e*		19 23 54.9	
ILIN	**Lien**	**2.40**	**348**	*e*Pn	**Pn**	**19 23 48.1**	**-0.6**
ILIN				*e*		19 24 29.9	
HAGD	**Aghdareh**	**2.59**	**30**	*e*Pn	**Pn**	**19 23 51.3**	**-0.1**
HAGD				*e*		19 24 32.9	
HSRG	**Sareghieh**	**2.72**	**12**	*e*	**Sg**	**19 24 40.4**	**+4.1**
BHD	**Baghdad**	**2.78**	**285**	*e*Pn	**Pn**	**19 23 55.0**	**+1.3**
BHD				*e*Sn	**Sb**	**19 24 30.0**	**-3.1**
ASAO	**Ashtian**	**2.84**	**45**	*e*Pn	**Pn**	**19 23 54.7**	**-0.1**
ASAO				*e*Sg	**Sb**	**19 24 36.1**	**+1.1**
ASAO	**Ashtian**	**2.84**	**45**	*e*Pn	**Pn**	**19 23 54.7**	**-0.1**
IRAZ	**Razeghan**	**3.43**	**34**	*e*Pn	**Pn**	**19 24 03.5**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.54**	**27**	*e*Pn	**Pn**	**19 24 03.7**	**-0.8**
GHVR	**GHOM**	**3.64**	**57**	*e*Pn	**Pn**	**19 24 06.4**	**+0.7**
GHVR	**GHOM**	**3.64**	**57**	*e*Pn	**Pn**	**19 24 06.4**	**+0.7**

*IDC **02** 19:28:33.4±2.8, 51°.90N×178°.63E, h84km±25km, mb3.8/21, mb1 4.0/23, mb1mx3.8/47, mbtmp4.1/23, MS2.9/1, Ms1 2.9/1, ms1mx2.2/64, Error ellipse: s-maj=20.0km s-min=9.9km az=167.0*
*NEIC **02** 19:28:34.2±1.6, 51°.78N±0°.07×178°.56E±0°.08, h94km±4km, mb4.5/128, ML3.7(AEIC), Error ellipse: s-maj=10.4km s-min=6.2km az=205.0*
*AEIC **02** 19:28:35±2.1, 51°.78N±0°.09×178°.60E±0°.08, h88km±4km, Error ellipse: s-maj=13.4km s-min=6.8km az=191.0*
ISC 02 19:28:33.8±0.7, 51°.84N±0°.09×178°.52E±0°.04, h90km±6km, n193, σ1.12/190, mb4.4/68, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.11**	**358**		**Pn**	**19 28 48.2**	**+1.6**
LSPA	**Little Sitkin**	**0.12**	**17**		**Pn**	**19 28 48.1**	**+1.6**
LSNW	**Little Sitkin**	**0.13**	**360**		**Pn**	**19 28 48.0**	**+1.4**
CETU	**Semis' Tuman**	**0.62**	**78**		**Pn**	**19 28 50.8**	**+1.3**
CESW	**Semis' Southwe**	**0.65**	**84**		**Pn**	**19 28 50.5**	**+0.7**
AMKA	**Amchitka**	**0.68**	**133**		**Pn**	**19 28 50.6**	**+0.6**
AMKA				Sn	**Sn**	**19 29 02.0**	**-0.1**
CEAP	**Semis' Anvil P**	**0.68**	**76**		**Pn**	**19 28 51.0**	**+1.0**
CERAA	**Semis' Rag'd T**	**0.73**	**84**		**Pn**	**19 28 51.2**	**+0.7**
GALAA	**Gareloi Lava P**	**1.69**	**92**		**Pn**	**19 29 02.7**	**+0.8**
GAEA	**Gareloi East**	**1.70**	**91**		**Pn**	**19 29 02.8**	**+0.7**
TASE	**Tanaga Southea**	**2.14**	**89**		**Pn**	**19 29 08.4**	**+0.6**
TAFP	**Tanaga Falls P**	**2.17**	**87**		**Pn**	**19 29 08.6**	**+0.4**
TAFP					**Sn**	**19 29 34.3**	**-0.2**
KIMD	**Kanaga Island**	**2.64**	**90**		**Pn**	**19 29 14.7**	**+0.3**
KICM	**Kanaga Island**	**2.66**	**87**		**Pn**	**19 29 15.4**	**+0.8**
KIKV	**Kanaga Island**	**2.67**	**88**		**Pn**	**19 29 15.4**	**+0.5**
SMY	**Shemya**	**2.85**	**290**	Pn	**Pn**	**19 29 18.7**	**+1.4**
SMY				Sn	**Sn**	**19 29 52.4**	**+1.6**
ADK	**Adak**	**2.98**	**87**	Pn	**Pn**	**19 29 19.1**	**+0.2**
ADAG	**Mount Adagdak**	**3.02**	**85**		**Pn**	**19 29 19.9**	**+0.3**
GSTD	**Great Sitkin T**	**3.31**	**84**		**Pn**	**19 29 23.6**	**+0.1**
GSTR	**Great Sitkin T**	**3.36**	**84**	Pn	**Pn**	**19 29 24.6**	**+0.4**
GSMY	**Great Sitkin M**	**3.36**	**84**		**Pn**	**19 29 24.4**	**+0.2**
ATKA	**Atka Island**	**4.51**	**83**		**Pn**	**19 29 40.6**	**+0.9**
NIKH	**Nikolski High**	**7.81**	**77**	Pn	**Pn**	**19 30 26.6**	**+2.1**
SPIA	**Saint Paul Isl**	**8.44**	**46**	Pn	**Pn**	**19 30 36.6**	**+3.5**
UNV	**Unalaska Valle**	**9.29**	**72**	Pn	**Pn**	**19 30 44.0**	**-0.7**
AKUT	**Akutan**	**9.75**	**70**	Pn	**Pn**	**19 30 52.0**	**+1.1**
FALS	**False Pass**	**11.21**	**67**	Pn	**Pn**	**19 31 12.9**	**+2.2**
PEA0B	**Petropavlovsk-**	**12.75**	**284**	Pn	**Pn**	**19 31 31.8**	**+0.2**
PETK	**Petropavlovsk-**	**12.75**	**284**	P	**Pn**	**19 31 33.1**	**+1.5**
	0.5nm,0.3s,baz=97,slow=14,SNR=10						
PETK				S	**Sn**	**19 33 44.6**	**-6.9**
	0.2nm,0.3s,baz=110,slow=17,SNR=1.1						
PETK	**Petropavlovsk-**	**12.75**	**284**	Pn	**Pn**	**19 31 32.5**	**+0.9**
SDPT	**Sand Point**	**12.95**	**66**	Pn	**Pn**	**19 31 32.7**	**-1.4**
CNBA	**Chernabura Isl**	**13.41**	**69**	Pn	**Pn**	**19 31 37.6**	**-2.5**
CHIR	**Chirikof Islan**	**15.74**	**65**	Pn	**Pn**	**19 32 08.7**	**-1.3**
SII	**Sitkinak Islan**	**16.59**	**63**		**Pn**	**19 32 20.6**	**-0.1**
SII				IAmb	IAmb	19 32 23.9	
	comp=Z,30nm,1.1s						
SVW2	**Sparrevohn**	**16.93**	**47**		**P**	**19 32 27.4**	**+2.0**
OHAK	**Old Harbor**	**17.15**	**61**		**Pn**	**19 32 25.0**	**-2.5**
OHAK				IAmb	IAmb	19 32 50.7	
	comp=Z,32nm,1.5s						
TTA	**Tatalina**	**17.51**	**41**		**Pn**	**19 32 33.2**	**+1.3**
KDAK	**Kodiak Island**	**17.59**	**59**	P	**P**	**19 32 30.2**	**-2.4**
	comp=Z,1.8nm,0.3s,baz=255,slow=2.5,SNR=25						
KDAK	**Kodiak Island**	**17.59**	**59**	P	**P**	**19 32 30.0**	**-2.6**
KDAK				IAmb	IAmb	19 32 58.3	
	comp=Z,44nm,1.4s						
CNPM	**China Poot**	**18.57**	**54**	P	**P**	**19 32 42.5**	**-0.8**
CNPM				IAmb	IAmb	19 33 08.7	
	comp=Z,37nm,1.3s						
BRLK	**Bradley Lake**	**18.79**	**53**	P	**P**	**19 32 46.1**	**+0.3**
BRLK				IAmb	IAmb	19 32 46.7	
	comp=Z,16nm,0.9s						
SKT	**Skwentna**	**19.06**	**46**	P	**Pn**	**19 32 50.9**	**+0.5**
SKT				IAmb	IAmb	19 32 55.3	
	comp=Z,24nm,1.0s						
SUA	**Susitna One**	**19.26**	**48**	P	**P**	**19 32 51.9**	**+0.8**
SEW	**Seward**	**19.56**	**53**	P	**P**	**19 32 53.8**	**-0.4**
SEW				IAmb	IAmb	19 32 57.5	
	comp=Z,18nm,0.9s						
KTH	**Kantishna Hill**	**19.87**	**42**	P	**Pn**	**19 32 58.9**	**-1.0**
IMAR	**Indian Mountai**	**19.89**	**34**	P	**Pn**	**19 32 59.2**	**-0.9**
PMR	**Palmer**	**20.04**	**48**	P	Pn	19 33 01.5	-0.4
BPAW	**Bear Paw Mtn.**	**20.05**	**41**	P	Pn	19 33 01.4	-0.6
TRF	**Thorofare Moun**	**20.09**	**43**	P	**P**	**19 33 00.8**	**+0.7**
TRF				IAmb	IAmb	19 33 04.0	
	comp=Z,14nm,0.7s						
KNK	**Knik Glacier**	**20.31**	**49**	P	**P**	**19 33 02.8**	**+0.5**
KNK				IAmb	IAmb	19 33 03.7	
	comp=Z,20nm,1.1s						
RND	**Reindeer**	**20.69**	**43**	P	**P**	**19 33 07.4**	**+1.0**
BWN	**Browne**	**20.70**	**41**	P	Pn	19 33 08.6	-0.9
BWN				IAmb	IAmb	19 33 23.5	
	comp=Z,21nm,0.9s						
MCK	**McKinley**	**20.76**	**42**	P	**P**	**19 33 08.5**	**+1.4**
GLI	**Glacier Island**	**20.85**	**51**	P	**P**	**19 33 07.4**	**-0.7**
GLI				IAmb	IAmb	19 33 08.8	
	comp=Z,27nm,0.7s						
HIN	**Hinchinbrook I**	**21.06**	**52**	P	**P**	**19 33 09.6**	**-0.8**
HIN				IAmb	IAmb	19 33 15.6	
	comp=Z,26nm,1.0s						
FID	**Port Fidalgo**	**21.13**	**51**	P	**P**	**19 33 10.2**	**-0.8**
FID				IAmb	IAmb	19 33 12.3	
	comp=Z,31nm,0.9s						
WRH	**Wood River Hil**	**21.36**	**41**	P	**P**	**19 33 14.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**21.45**	**52**	P	**P**	**19 33 14.9**	**+0.4**
EYAK				IAmb	IAmb	19 33 17.2	
	comp=Z,14nm,0.8s						
MDM	**Murphy Dome**	**21.48**	**40**	P	**P**	**19 33 15.4**	**+0.6**
KLU	**Klutina**	**21.52**	**50**	P	**P**	**19 33 15.3**	**0.0**
KLU				IAmb	IAmb	19 33 22.1	
	comp=Z,8.8nm,0.6s						
CCB	**Clear Creek Bu**	**21.54**	**41**	P	**P**	**19 33 15.6**	**+0.2**
COLD	**Coldfoot**	**21.75**	**33**	P	**P**	**19 33 18.2**	**+0.6**
HDA	**Harding Lake**	**21.81**	**42**	P	**P**	**19 33 18.7**	**+0.5**
IL31		**21.95**	**41**	P	**P**	**19 33 20.4**	**+0.7**
ILAR	**Eielson Array**	**21.95**	**41**	P	**P**	**19 33 18.7**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=237,slow=8.2,SNR=22						
ILAR	**Eielson Array**	**21.95**	**41**	P	**P**	**19 33 20.3**	**+0.6**
RAGM	**Ragged Mountai**	**21.96**	**53**	P	**P**	**19 33 20.4**	**+0.4**
PAX	**Paxson**	**22.04**	**46**	P	**P**	**19 33 20.9**	**+0.1**
PAX				IAmb	IAmb	19 33 22.9	
	comp=Z,16nm,1.0s						
KAIM	**Kayak Island**	**22.04**	**54**	P	**P**	**19 33 20.5**	**-0.3**
HMT	**Hamilton**	**22.16**	**53**	P	**P**	**19 33 22.7**	**+0.6**
SUCK	**Suckling Hills**	**22.38**	**54**	P	**P**	**19 33 24.4**	**0.0**
RIDG	**Independent Ri**	**22.50**	**44**	P	**P**	**19 33 26.1**	**+0.5**
RIDG				IAmb	IAmb	19 33 30.8	
	comp=Z,17nm,0.9s						
GLB	**Gilahina Butte**	**22.52**	**50**	P	**P**	**19 33 25.2**	**-0.6**
GLB				IAmb	IAmb	19 33 28.1	
	comp=Z,19nm,1.1s						
VRDI	**Verde Repeater**	**22.66**	**51**	P	**P**	**19 33 27.3**	**-0.2**
VRDI				IAmb	IAmb	19 33 29.4	
	comp=Z,14nm,0.8s						
TOLK	**Toolik Lake Re**	**22.68**	**30**	P	**P**	**19 33 28.2**	**+0.8**
TOLK				IAmb	IAmb	19 33 30.2	
	comp=Z,14nm,0.8s						
DOT	**Dot Lake**	**22.82**	**44**	P	**P**	**19 33 28.6**	**-0.2**
ISLE	**Juniper Island**	**23.13**	**52**	P	**P**	**19 33 31.5**	**-0.6**
BALM	**Baldy**	**23.17**	**51**	P	**P**	**19 33 32.2**	**-0.2**
MESA	**MESA**	**23.30**	**54**	P	**P**	**19 33 33.8**	**+0.1**
MESA				IAmb	IAmb	19 33 34.7	
	comp=Z,21nm,0.6s						
YAH	**Yahtse**	**23.41**	**53**	P	**P**	**19 33 34.6**	**-0.2**
BARN	**Barnard Glacie**	**23.50**	**51**	P	**P**	**19 33 35.6**	**0.0**
BARN				IAmb	IAmb	19 33 37.7	
	comp=Z,17nm,0.8s						
CTGM	**Chitina Glacie**	**23.66**	**52**	P	**P**	**19 33 36.7**	**-0.2**
CTGM				IAmb	IAmb	19 33 38.6	
	comp=Z,16nm,0.8s						
BCAR	**Beaver Creek A**	**23.70**	**46**	P	**P**	**19 33 37.3**	**+0.1**
TABL	**Table Mountain**	**23.71**	**53**	P	**P**	**19 33 37.4**	**-0.1**
TABL				IAmb	IAmb	19 33 43.2	
	comp=Z,22nm,1.1s						
BMAR	**Burnt Mountain**	**23.79**	**35**	P	**P**	**19 33 38.5**	**+0.6**
PCA	**Pinnacle**	**24.14**	**54**	P	**P**	**19 33 40.9**	**-0.2**
PCA				IAmb	IAmb	19 33 43.5	
	comp=Z,18nm,0.7s						
EGAK	**Eagle**	**24.31**	**42**	P	**P**	**19 33 42.7**	**+0.2**
EGAK				IAmb	IAmb	19 33 43.8	
	comp=Z,12nm,0.7s						
YKU2	**Yakutat**	**24.43**	**55**	P	**P**	**19 33 46.5**	**+2.8**
BCPM	**Bancas Point**	**24.45**	**54**	P	**P**	**19 33 43.4**	**-0.5**
BCPM				IAmb	IAmb	19 33 48.8	
	comp=Z,12nm,0.8s						
ASAJ	**Asahikawa**	**25.05**	**266**	P	**P**	**19 33 50.6**	**+1.2**
	comp=Z,9.7nm,0.8s,baz=39,slow=4.2,SNR=12						
HYT	**Haines Junctio**	**25.52**	**52**	P	**P**	**19 33 53.6**	**-0.1**
HYT				IAmb	IAmb	19 33 58.1	
	comp=Z,10nm,0.6s						
INK	**Inuvik**	**28.05**	**36**	P	**P**	**19 34 16.8**	**+0.7**
INK				IAmb	IAmb	19 34 18.2	
	comp=Z,13nm,1.6s						
KLR	**Kul'dur**	**29.45**	**284**	P	**P**	**19 34 29.6**	**+0.9**
	comp=Z,6.5nm,0.6s,baz=64,slow=7.8,SNR=26						
DLBC	**Dease Lake**	**29.50**	**57**	P	**P**	**19 34 28.4**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=285,slow=8.6,SNR=5.9						
DLBC	**Dease Lake**	**29.50**	**57**	P	**P**	**19 34 29.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**31.58**	**275**	P	**P**	**19 34 46.4**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=67,slow=6.7,SNR=4.3						
USRK	**Ussuriysk Ar.**	**31.58**	**275**	P	**P**	**19 34 47.3**	**-0.3**
C36M	**Paulatuk**	**31.59**	**35**	P	**P**	**19 34 48.7**	**+1.3**
MJAR	**Matsushiro Arr**	**32.23**	**258**	P	**P**	**19 34 54.5**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=44,slow=6.5,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**33.32**	**200**	T	T	20 10 35.1	
	baz=11,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**33.33**	**200**	T	T	20 10 36.1	
	baz=11,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	20 10 36.1	
	baz=11,slow=76,SNR=30						
JHJ	**Hachijo jima 2**	**33.63**	**251**	LR	LR	19 47 49.2	
	comp=Z,21nm,19.9s,baz=264,slow=34						
H11S1	**WAKE ISLAND Hy**	**34.55**	**200**	T	T	20 12 06.5	
	baz=20,slow=76						
H11S2	**WAKE ISLAND Hy**	**34.56**	**200**	T	T	20 12 11.1	
	baz=20,slow=76,SNR=13					

comp=Z,6.1nm,0.8s
OMMB Old Mammoth Mi 45.23 83 P P 19 36 43.2 +1.0
NV11 Mina Array Sit 45.23 81 P P 19 36 42.8 +0.7
YHH Holmes Hill 45.80 70 P P 19 36 45.7 -1.0
R11A Troy Canyon, C 46.86 80 P P 19 36 54.8 0.0
TPNV Topopah Spring 47.34 82 P P 19 36 58.9 +0.3
TPNV IAmb IAmb 19 36 59.8
comp=Z,7.0nm,0.8s
DUG Dugway, Tooele 47.39 76 P P 19 36 58.0 -1.0
DUG IAmb IAmb 19 36 59.5
comp=Z,5.0nm,0.5s
PD31 Pinedale Array 47.75 71 P P 19 37 00.8 -1.0
PD31 IAmb IAmb 19 37 19.4
comp=Z,8.7nm,1.6s
PDAR Pinedale Array 47.75 71 P P 19 37 00.9 -0.9
comp=Z,2.1nm,0.6s,baz=338,slow=3.5,SNR=9.7
PRN Pahroc Range 47.78 80 P P 19 37 01.9 -0.1
PRN IAmb IAmb 19 37 03.2
comp=Z,3.8nm,0.7s
PSUT Pine Spring 47.80 78 P P 19 37 01.8 -0.4
GSC Goldstone, Bar 48.07 84 P P 19 37 04.0 -0.2
GSC IAmb IAmb 19 37 05.2
comp=Z,8.2nm,0.9s
CCUT Cedar City 48.72 79 P P 19 37 06.6 -2.7
MSU Marysvale 48.83 77 P P 19 37 09.7 -0.4
TMUT Trail Mountain 48.91 76 P P 19 37 09.9 -0.9
RDMU Red Mountain 49.09 73 P P 19 37 11.3 -0.8
MTPU Mount Pierson 49.12 78 P P 19 37 12.9 +0.3
KNB Kanab 49.39 79 P P 19 37 14.6 +0.2
SRU San Rafael Swe 49.44 75 P P 19 37 15.0 +0.3
SPA0 Spitsbergen Ar 49.78 355 P P 19 37 16.7 +0.1
SPITS Spitsbergen Ar 49.78 355 P P 19 37 16.6 +0.1
comp=Z,2.2nm,0.4s,baz=94,slow=5.9,SNR=9.2
BAR Barrett 49.90 86 P P 19 37 17.7 -0.4
BAR IAmb IAmb 19 37 19.6
comp=Z,5.7nm,0.8s
W13A Hualapai Mount 50.00 82 P P 19 37 19.0 -0.1
U15A North Rim 50.10 79 P P 19 37 18.7 -1.2
U15A IAmb IAmb 19 37 21.0
comp=Z,3.0nm,0.6s
CBX Cerro Bola 50.15 86 P P 19 37 17.5 -2.6
PV21 Cone Mtn., Par 50.72 75 P P 19 37 22.5 -2.0
GLA Glamis 50.79 84 P P 19 37 22.8 -2.0
GLA IAmb IAmb 19 37 25.6
comp=Z,5.7nm,0.9s
PV04 Paradox Valley 50.87 75 P P 19 37 24.8 -0.8
PV04 IAmb IAmb 19 37 53.7
comp=Z,5.4nm,0.9s
PV17 East Wray Mesa 50.91 75 P P 19 37 25.3 -0.6
PV11 David Mesa, Pa 50.95 75 P P 19 37 24.3 -1.9
PV18 Skein Mesa, Pa 50.97 75 P P 19 37 25.9 -0.4
PV18 IAmb IAmb 19 37 54.6
comp=Z,4.3nm,0.7s
PV03 Paradox Valley 51.00 75 P P 19 37 25.5 -1.1
PV03 IAmb IAmb 19 37 51.2
comp=Z,9.5nm,1.4s
PV13 Radium Mtn., P 51.08 75 P P 19 37 26.7 -0.4
PV02 Paradox Valley 51.09 75 P P 19 37 26.9 -0.4
PV02 IAmb IAmb 19 37 27.3
comp=Z,4.9nm,0.7s
ZALV Zalesovo Beam 52.49 312 P P 19 37 37.1 0.0
comp=Z,0.5nm,0.4s,baz=26,slow=7.4,SNR=2.4
MK31 Makanchi Array 58.42 307 P P 19 38 19.8 0.0
MKAR Makanchi Array 58.42 307 P P 19 38 19.8 0.0
comp=Z,1.4nm,0.5s,baz=50,slow=6.1,SNR=23
WMOK Wichita Mounta 59.35 72 P P 19 38 25.5 -0.9
BRVK Borovoye 59.46 318 P P 19 38 27.6 +0.8
BRVK IAmb IAmb 19 38 29.7
comp=Z,2.4nm,0.6s
TX32 Lajitas Array 60.22 80 P P 19 38 31.9 -0.6
TX32 IAmb IAmb 19 38 32.5
comp=Z,5.8nm,1.4s
TXAR Lajitas Array 60.22 80 P P 19 38 32.2 -0.3
comp=Z,1.5nm,0.6s,baz=304,slow=5.5,SNR=16
X37A Clayton 61.45 70 P P 19 38 40.2 -0.4
MIAR Mount Ida 62.52 68 P P 19 38 47.2 -0.6
FINES FINESS Array B 64.94 346 P P 19 39 02.2 -1.0
comp=Z,0.5nm,0.5s,baz=46,slow=6.0,SNR=1.2
CLTN Cedars of Leba 65.49 62 P P 19 39 06.6 -0.7
CLTN IAmb IAmb 19 39 07.5
comp=Z,5.3nm,0.8s
NOA NORSAR Array B 67.01 353 P P 19 39 16.2 -0.4
comp=Z,0.6nm,0.8s,baz=14,slow=6.7,SNR=2.1
CMAR Chiang Mai Arr 69.31 274 P P 19 39 31.9 +0.3
comp=Z,0.7nm,0.5s,baz=25,slow=6.7,SNR=5.5
WRA Warramunga Arr 81.22 222 P P 19 40 39.8 +0.2
comp=Z,0.9nm,0.5s,baz=30,slow=5.7,SNR=11
WRA Warramunga Arr 81.22 222 P P 19 40 38.6 -1.0
ASAR Alice Springs 84.73 220 P P 19 40 58.5 +0.7
comp=Z,1.0nm,0.8s,baz=26,slow=5.3,SNR=18
STKA Stephens Creek 89.44 211 P P 19 41 21.2 +1.0
comp=Z,1.5nm,0.8s,baz=353,slow=11,SNR=3.8
BOSA Boshof 149.41 309 PKPbc PKiKP 19 48 13.1 -0.3
comp=Z,3.6nm,1.1s,baz=21,slow=4.5,SNR=5.0

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*IDC **02** 19:56:13.2±1.2, 0°.53S×67°.14E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/57, mbtmp3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.7/42, Error ellipse: s-maj=33.4km s-min=27.1km az=53.0*
*NEIC **02** 19:56:15.4±2.2, 0°.6S±0°.1×67°.09E±0°.08, h15km±5km, mb4.6/9, Error ellipse: s-maj=21.6km s-min=6.7km az=150.0*
ISC 02 19:56:14.7±0.8, 0°.6S±0°.1×67°.1E±0°.1, h10km, n22, σ0§95/21, mb4.2/10, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.27**	**251**	Pn	**Pn**	**19 59 10.5**	**+0.8**
PALK	**Pallekele**	**15.69**	**60**	LR	LR	20 04 33.4	
	comp=Z,75nm,18.1s,baz=354,slow=32						
PALK	**Pallekele**	**15.69**	**60**	Pn	**Pn**	**19 59 56.0**	**0.0**
PALK				IAmb	IAmb	20 00 18.4	
	comp=Z,91nm,1.9s						
RODM	**Citronelle, R**	**19.29**	**190**		**P**	**20 00 38.9**	**-0.9**
KMBO	**Kilima Mbogo**	**29.84**	**269**	P	**P**	**20 02 22.5**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=84,slow=19,SNR=3.2						
LSA	**Lhasa**	**37.90**	**35**	P	**P**	**20 03 34.6**	**+1.8**
GEYT	**Alibeck**	**39.25**	**349**	P	**P**	**20 03 43.2**	**-0.3**
GAR	**Garm**	**39.55**	**4**	P	**P**	**20 03 46.9**	**+0.8**
GAR				IAmb	IAmb	20 04 14.9	
	comp=Z,13nm,1.6s						
MKAR	**Makanchi Array**	**49.07**	**14**	P	**P**	**20 05 00.3**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=186,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**49.07**	**14**	P	**P**	**20 05 00.8**	**-1.3**
ABKAR	**Akbulak array**	**50.07**	**354**	P	**P**	**20 05 08.7**	**-0.9**
KURBB	**Kurchatov Arra**	**51.98**	**9**	P	**P**	**20 05 24.1**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=201,slow=7.5,SNR=3.6						
KURK	**Kurchatov**	**52.09**	**9**	P	**P**	**20 05 24.2**	**-0.5**
KURK				IAmb	IAmb	20 05 26.6	
	comp=Z,12nm,1.8s						
ZALV	**Zalesovo Beam**	**56.34**	**12**	P	**P**	**20 05 54.5**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=214,slow=6.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**56.34**	**12**	P	**P**	**20 05 55.0**	**-0.7**
SONM	**Songino Array**	**59.12**	**30**	P	**P**	**20 06 14.8**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=223,slow=6.9,SNR=10						
SONM	**Songino Array**	**59.12**	**30**	P	**P**	**20 06 16.2**	**+0.6**
WRA	**Warramunga Arr**	**68.44**	**111**	P	**P**	**20 07 17.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=286,slow=5.8,SNR=6.4						
WRA	**Warramunga Arr**	**68.44**	**111**	P	**P**	**20 07 16.8**	**-0.7**
WB2	**Warramunga Arr**	**68.45**	**111**	P	**P**	**20 07 18.3**	**+0.8**
WB2				IAmb	IAmb	20 07 22.9	
	comp=Z,5.8nm,1.2s						
ASAR	**Alice Springs**	**68.57**	**115**	P	**P**	**20 07 18.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=294,slow=5.8,SNR=6.8						
TXAR	**Lajitas Array**	**150.12**	**344**	PKPbc	**PKiKP**	**20 16 07.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=54,slow=1.6,SNR=3.4						

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*IDC **02** 20:00:05.2±0.5, 27°.80S×176°.53W, h0km, mb4.9/26, mb1 4.9/26, mb1mx4.8/41, mbtmp4.9/26, MS4.8/22, Ms1 4.8/22, ms1mx4.7/28, Error ellipse: s-maj=14.9km s-min=13.8km az=130.0*
*GCMT **02** 20:00:10.3±0.1, 27°.86S±0°.01×176°.21W±0°.01, h17km, MW5.4/147, Moment Tensor Solution. s124,c216; s147,c266; Duration: 1§2 Moment tensor: Scale 10^17 Nm; M_{rr}1.29±.02; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-1.34±.02; $M_{r\theta}$0.15±.04; $M_{\theta\phi}$-0.33±.01; $M_{r\phi}$0.88±.04; Best double couple: $M_0$1.62300×10^17 NP1:ϕ_s195.00000°, δ28.00000°, λ93.00000°. NP2:ϕ_s11.00000°, δ62.00000°, λ88.00000°. Principal axes: T 1.5610, Plg73.0000°, Azm277.0000°; N 0.1180, Plg2.0000°, Azm12.0000°; P -1.6850, Plg17.0000°,*

Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*BJI **02** 20:00:10.0±0.0, 28°.10S×176°.70W, h40km, mB5.6/41, mb5.3/48, Ms5.1/35, Ms7 4.8/33*
*MOS **02** 20:00:10.9±1.1, 27°.84S×176°.72W, h46km, mb5.2/17, MS4.8/6, Error ellipse: s-maj=10.1km s-min=8.7km az=115.1*
*NEIC **02** 20:00:11.3±1.9, 27°.93S±0°.08×176°.59W±0°.04, h44km±4km, mb5.2/112, Error ellipse: s-maj=11.8km s-min=5.1km az=177.0*
*UNK **02** 20:00:12.8, 27°.92S×176°.66W, h57km*
ISC 02 20:00:10.4±0.3, 27°.97S±0°.04×176°.56W±0°.06, h37km, n431, σ1§95/429, mb5.2/94, MS4.8/41, 17C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.75**	**223**	Pn	**Pn**	**20 00 40.6**	**+2.4**
	1μm,0.3s,baz=70,slow=7.5,SNR=49						
RAO				Sn	**Sn**	**20 01 05.6**	**+6.3**
	2μm,0.3s,baz=93,slow=23,SNR=5.2						
RAO	**Raoul Island**	**1.75**	**223**		**Pn**	**20 00 40.4**	**+2.1**
RIZ	**Raoul Island**	**1.76**	**223**	P	**Pn**	**20 00 41.1**	**+2.9**
RIZ				S	**Sn**	**20 01 07.8**	**+8.5**
GLKZ	**Green Lake**	**1.76**	**223**	P	**Pn**	**20 00 41.4**	**+3.1**
MXZ	**Matakaoa Point**	**10.50**	**203**	S	**Sn**	**20 04 27.0**	**-7.5**
MXZ	**Matakaoa Point**	**10.50**	**203**	Pn	**Pn**	**20 02 35.6**	**-2.6**
WMGZ	**Waiomatatini S**	**10.69**	**202**	P	**Pn**	**20 02 37.0**	**-3.9**
WMGZ				S	**Sn**	**20 04 35.0**	**-4.3**
NIUE	**Niue**	**10.73**	**36**	P	Pn	20 02 32.7	-8.8
	baz=10,SNR=4.5						
NIUE				S	Sn	20 04 17.8	-23
	baz=10						
HAZ	**Te Kaha**	**10.86**	**205**	P	Pn	20 02 37.9	-5.2
HAZ				S	**Sn**	**20 04 41.5**	**-1.8**
PUZ	**Puketiti**	**10.97**	**202**	S	**Sn**	**20 04 41.3**	**-4.9**
OUZ	**Omahuta**	**11.08**	**227**	Pn	**Pn**	**20 02 46.0**	**-0.2**
RUGZ	**Raukumara Rang**	**11.08**	**204**	P	**Pn**	**20 02 41.7**	**-4.7**
MSVF	**Nonsavu**	**11.33**	**333**	P	**Pn**	**20 02 49.7**	**-0.1**
MSVF	**Nonsavu**	**11.33**	**333**	Pn	**Pn**	**20 02 49.7**	**-0.1**
MWZ	**Matawai**	**11.46**	**204**	P	Pn	20 02 44.6	-6.9
MWZ				S	**Sn**	**20 04 53.4**	**-4.9**
URZ	**Urewera**	**11.55**	**206**	Pn	Pn	20 02 45.5	-7.2
	1.1nm,0.3s,baz=359,slow=12,SNR=2.3						
URZ				Sn	**Sn**	**20 04 55.8**	**-4.5**
	8.0nm,0.3s,baz=158,slow=22,SNR=15						
URZ	**Urewera**	**11.55**	**206**	P	Pn	20 02 44.8	-7.9
URZ				S	**Sn**	**20 04 55.5**	**-4.8**
MUGZ	**Murupara**	**11.87**	**206**	P	Pn	20 02 51.2	-5.8
MUGZ				S	**Sn**	**20 05 01.4**	**-6.8**
BKZ	**Black Stump Fm**	**12.58**	**206**		Pn	20 02 56.5	-10
BFZ	**Birch Farm**	**14.00**	**203**		Pn	20 03 17.1	-9.1
AFI	**Afiamalu**	**14.68**	**19**	Pn	Pn	20 03 27.1	-8.4
	8.6nm,0.3s,baz=283,slow=5.5,SNR=7.1						
SNZO	**South Karori**	**15.12**	**206**	Pn	**Pn**	**20 03 34.0**	**-7.1**
PLWZ	**Palliser**	**15.14**	**204**	P	**Pn**	**20 03 36.8**	**-4.6**
NNZ	**Nelson**	**15.59**	**209**	Pn	**Pn**	**20 03 43.0**	**-4.3**
QRZ	**Quartz Range**	**15.66**	**212**	Pn	**Pn**	**20 03 44.5**	**-3.7**
BSWZ	**Blackbirch Sta**	**15.79**	**207**	P	**Pn**	**20 03 50.5**	**+0.6**
THZ	**Tophouse**	**16.24**	**209**	P	**Pn**	**20 03 50.9**	**-4.8**
DZM	**Mont Dzumac**	**16.48**	**287**	*e*Pn	**P**	**20 04 04.3**	**+3.0**
	250nm,1.5s						
DZM				*e*LR	LR	20 07 37.4	
	comp=Z,14μm,25.4s						
DZM	**Mont Dzumac**	**16.48**	**287**	Pn	**P**	**20 04 04.2**	**+2.9**
	0.9nm,0.3s,baz=112,slow=10,SNR=17						
DZM				LR	LR	20 09 22.7	
	comp=Z,9μm,18.5s,baz=116,slow=34						
RAR	**Rarotonga**	**16.67**	**70**	Pn	Pn	20 03 52.1	-9.1
	2.3nm,0.3s,baz=242,slow=8.8,SNR=2.7						
RAR				Sn	Sn	20 06 41.5	-24
	4.7nm,0.3s,baz=146,slow=11,SNR=2.4						
RAR				LR	LR	20 10 59.1	
	comp=Z,2μm,18.1s,baz=258,slow=39						
RAR	**Rarotonga**	**16.67**	**70**	IAmb	IAmb	20 04 01.5	
	comp=Z,92nm,1.0s						
LTZ	**Lake Taylor**	**17.34**	**209**	P	**Pn**	**20 04 02.5**	**-7.0**
OXZ	**Oxford**	**17.88**	**208**	P	**Pn**	**20 04 09.8**	**-6.4**
RPZ	**Rata Peaks**	**18.62**	**209**	P	**P**	**20 04 22.6**	**-2.0**
	comp=Z,3.9nm,0.3s,baz=73,slow=1.3,SNR=16						
RPZ				S	Sn	20 07 34.6	-18
	comp=Z,1.4nm,0.3s,baz=232,slow=20,SNR=2.1						
RPZ				LR	LR	20 12 19.7	
	comp=Z,5μm,18.4s,baz=34,slow=39						
RPZ	**Rata Peaks**	**18.62**	**209**	P	**P**	**20 04 23.4**	**-1.2**
SANVU	**Saraoutou**	**19.54**	**306**	P	**Pn**	**20 04 36.0**	**-0.3**
SANVU				IAmb	IAmb	20 05 06.8	
	comp=Z,188nm,1.3s						
ODZ	**Otahua Downs**	**19.87**	**208**	P	**P**	**20 04 35.3**	**-2.9**
WKZ	**Wanaka**	**20.39**	**211**	P	**P**	**20 04 41.2**	**-2.8**
WKZ				IAmb	IAmb	20 04 51.8	
	comp=Z,226nm,1.9s						
MLZ	**Mavora Lakes**	**21.21**	**211**	P	**P**	**20 04 49.6**	**-3.2**
MLZ				IAmb	IAmb	20 05 06.9	
	comp=Z,136nm,2.0s						
TBI	**Tubuai**	**24.83**	**85**	*e*LQ	LQ	20 10 08.6	
	comp=Z,3μm,29.0s						
TBI				*e*LR	LR	20 11 25.4	
	comp=Z,5μm,30.8s,baz=254						
KNTN	**Kanton**	**25.47**	**11**	P	**P**	**20 05 34.0**	**-1.1**
PAE	**Paea**	**26.84**	**73**	*e*T	T	20 33 10.0	
	comp=Z,16nm,0.3s						
PPT2	**Papeete2**	**26.88**	**73**	*e*LQ	LQ	20 10 57.9	
	comp=Z,4μm,24.2s						
PPT2				*e*LR	LR	20 12 16.7	
	comp=Z,5μm,29.5s,baz=236						
PPT	**Papeete**	**26.89**	**73**	LR	LR	20 15 43.4	
	comp=Z,1μm,18.0s,baz=248,slow=35						
ARMA	**Armidale**	**27.84**	**257**	P	**P**	**20 05 59.5**	**+3.0**
	baz=28,SNR=6.0						
MGCD	**Mangrove Creek**	**28.25**	**251**	P	**P**	**20 06 01.6**	**+1.5**
	baz=29						
HNR	**Honiara**	**28.80**	**305**	P	**P**	**20 06 04.3**	**-0.8**
	comp=Z,67nm,0.8s,baz=218,slow=5.8,SNR=2.3						
HNR				LR	LR	20 16 19.3	
	comp=Z,4μm,18.9s,baz=146,slow=34						
HNR	**Honiara**	**28.80**	**305**	P	**P**	**20 06 04.3**	**-0.8**
HNR				pmax	pmax		
	comp=Z,88nm,0.9s						
EIDS	**Eidsvold**	**28.99**	**268**	P	**P**	**20 06 08.5**	**+1.8**
	baz=29,SNR=4.6						
CNB	**Canberra Magne**	**29.82**	**247**	P	**P**	**20 06 16.0**	**+2.0**
	baz=30,SNR=5.2						
CAN	**Canberra**	**30.12**	**247**	P	**P**	**20 06 16.0**	**-0.7**
CAN				pmax	pmax		
	comp=Z,200nm,1.9s						
CAN	**Canberra**	**30.12**	**247**	P	**P**	**20 06 16.0**	**-0.7**
RMQ	**Roma**	**30.82**	**265**	P	**P**	**20 06 25.6**	**+2.7**
	baz=31,SNR=7.0						
TAU	**Tasmania Unive**	**32.71**	**233**	P	**P**	**20 06 40.2**	**+0.9**
TAU				pmax	pmax		
	comp=Z,63nm,1.4s						
TAU	**Tasmania Unive**	**32.71**	**233**	P	**P**	**20 06 40.2**	**+0.9**
TAU				IAmb	IAmb	20 07 04.4	
	comp=Z,63nm,1.4s						
CMSA	**Cobar Meteorol**	**32.86**	**254**	P	**P**	**20 06 42.2**	**+1.4**
	baz=33						
CTA	**Charters Tower**	**34.76**	**275**	P	**P**	**20 06 58.5**	**+1.1**
	comp=Z,13nm,0.5s,baz=96,slow=10,SNR=28						
CTA				LR	LR	20 19 48.2	
	comp=Z,5μm,19.1s,baz=116,slow=34						
CTAO	**Charters Tower**	**34.76**	**275**	P	**P**	**20 06 57.5**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,22nm,1.0s						
CTAO	**Charters Tower**	**34.76**	**275**	P	**P**	**20 06 57.5**	**+0.1**
CTAO				IAmb	IAmb	20 06 59.8	
	comp=Z,22nm,1.0s						
QLP	**Quilpie**	**34.78**	**263**	P	**P**	**20 06 59.2**	**+1.7**
	baz=35,SNR=5.4						
ARPS	**Mount Arapiles**	**35.99**	**245**	P	**P**	**20 07 08.4**	**+0.6**
	baz=36,SNR=8.0						
STKA	**Stephens Creek**	**36.32**	**253**	P	**P**	**20 07 12.7**	**+2.0**
	baz=37,SNR=10						
STKA	**Stephens Creek**	**36.32**	**253**	P	**P**	**20 07 11.7**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=98,slow=12,SNR=10.0						
STKA				LR	LR	20 20 58.5	
	comp=Z,2μm,18.3s,baz=87,slow=34						
STKA	**Stephens Creek**	**36.32**	**253**	P	**P**	**20 07 11.1**	**+0.4**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
STKA	**Stephens Creek**	**36.32**	**253**	P	**P**	**20 07 11.1**	**+0.4**
MTSU	**Mount Surprise**	**37.17**	**277**	P	**P**	**20 07 19.8**	**+1.7**
	baz=38,SNR=3.9						

RKT Rikitea 37.70 92 *e*LR LR 20 17 16.9
comp=Z,3μm,31.2s
KRVT Keravat (AS076 38.04 302 P **P 20 07 24.9 -0.5**
comp=Z,30nm,0.6s,baz=199,slow=3.1,SNR=4.8
HTT Hallett 38.45 251 P **P 20 07 28.8 +0.1**
baz=39,SNR=4.6
PMG Port Moresby 38.80 291 P **P 20 07 32.9 +1.1**
comp=Z,22nm,0.8s,baz=119,slow=9.4,SNR=5.1
PMG Port Moresby 38.80 291 *ce*P **P 20 07 33.2 +1.4**
PMG pmax pmax
comp=Z,49nm,2.5s
PMG Port Moresby 38.80 291 P **P 20 07 31.6 -0.2**
TAOE Nuku Hiva Isla 39.21 68 *e*LR LR 20 17 58.3
comp=Z,2μm,28.3s
COEN Coen 39.91 282 P **P 20 07 42.1 +1.0**
baz=40,SNR=13
QIS Mount Isa 40.47 271 P **P 20 07 45.7 0.0**
baz=41,SNR=5.2
BBOO Buckleboo 40.90 251 P **P 20 07 49.4 +0.3**
baz=41,SNR=6.7
AS31 Alice Springs 44.56 264 P **P 20 08 17.6 -1.3**
ASAR Alice Springs 44.56 264 P **P 20 08 18.1 -0.9**
comp=Z,8.4nm,0.7s,baz=101,slow=7.5,SNR=72
ASAR PcP **PP 20 10 02.7 -0.6**
comp=Z,2.5nm,0.7s,baz=106,slow=4.9,SNR=2.9
ASAR LR LR 20 25 57.8
comp=Z,3μm,19.8s,baz=106,slow=35
ASAR Alice Springs 44.56 264 P **P 20 08 17.7 -1.3**
ASAR 20 10 02.7
ASAR Alice Springs 44.56 264 P **P 20 08 17.6 -1.3**
WR0 Warramunga Arr 45.15 269 P **P 20 08 22.2 -1.5**
WR0 IAmb IAmb 20 08 25.9
comp=Z,67nm,1.9s
WC3 Warramunga Arr 45.30 269 P **P 20 08 24.2 -0.6**
baz=46
WC3 Warramunga Arr 45.30 269 P **P 20 08 23.9 -1.0**
WB2 Warramunga Arr 45.33 269 P **P 20 08 23.7 -1.3**
WRAB Tennant Creek 45.33 269 *ce*P **P 20 08 24.2 -0.9**
WRAB pmax pmax
comp=Z,54nm,2.5s
WRAB Tennant Creek 45.33 269 P **P 20 08 23.6 -1.5**
WRAB IAmb IAmb 20 08 50.2
comp=Z,23nm,1.0s
WRA Warramunga Arr 45.34 269 P **P 20 08 24.0 -1.1**
comp=Z,11nm,0.7s,baz=109,slow=7.5,SNR=70
WRA PcP **PcP 20 10 04.8 +0.5**
comp=Z,2.3nm,0.7s,baz=115,slow=3.3,SNR=4.6
WRA LR LR 20 25 51.3
comp=Z,1μm,19.5s,baz=115,slow=34
WRA Warramunga Arr 45.34 269 P **P 20 08 23.6 -1.5**
WB0 Warramunga Arr 45.35 269 P **P 20 08 23.8 -1.4**
WB0 IAmb IAmb 20 08 27.3
comp=Z,97nm,1.8s
FORT Forrest 47.94 253 P **P 20 08 44.0 -1.3**
baz=48,SNR=9.3
JAY Jayapura 47.98 294 P **P 20 08 46.5 +0.6**
comp=Z,9.1nm,0.6s,baz=123,slow=5.1,SNR=6.2
WRKA Warakurna 49.09 260 P **P 20 08 52.8 -1.6**
baz=50,SNR=47
KDU Kakadu 49.81 277 P **P 20 08 58.4 -1.4**
baz=50,SNR=8.3
VNDA Vanda 50.64 186 P **P 20 09 07.9 +2.6**
comp=Z,0.7nm,0.7s,baz=19,slow=5.0,SNR=4.2
VNDA LR LR 20 26 53.0
comp=Z,606nm,20.8s,baz=16,slow=32
VNDA Vanda 50.64 186 P **P 20 09 08.2 +2.9**
MTN Manton Dam 50.92 276 P **P 20 09 08.6 +0.3**
baz=51,SNR=4.2
KNRA Kununurra 51.84 272 P **P 20 09 14.7 -0.5**
baz=52,SNR=5.8
FITZ Fitzroy Crossi 53.68 267 P **P 20 09 28.3 -0.5**
baz=54,SNR=9.4
FITZ Fitzroy Crossi 53.68 267 P **P 20 09 28.8 +0.1**
comp=Z,4.5nm,0.7s,baz=179,slow=4.0,SNR=19
MEEK Meekatharra 56.99 255 P **P 20 09 51.8 -0.8**
baz=57,SNR=4.0
CASY Casey 57.87 207 P **P 20 09 59.3 +1.2**
SOEI Soe 58.31 276 P **P 20 10 01.5 -0.6**
MORW Morawa 58.47 251 P **P 20 10 01.6 -1.3**
baz=59,SNR=3.8
BATI Baumata 58.64 275 P **P 20 10 05.2 +0.9**
comp=Z,19nm,0.7s,baz=334,slow=2.2,SNR=2.7
GIRL Giralia 62.06 258 P **P 20 10 25.0 -2.5**
baz=62,SNR=8.5
QSPA South Pole Qui 62.14 180 P **P 20 10 29.6 +2.0**
comp=Z,2.7nm,0.6s,baz=27,slow=1.0,SNR=2.2
QSPA South Pole Qui 62.14 180 P **P 20 10 29.1 +1.6**
QSPA IAmb IAmb 20 10 51.6
comp=Z,20nm,0.9s
JCJ Chichijima 67.58 321 P **P 20 11 03.0 -0.2**
comp=Z,53nm,0.7s,baz=263,slow=16,SNR=4.1
JCJ LR LR 20 39 04.7
comp=Z,237nm,18.1s,baz=126,slow=35
JCJ Chichijima 67.58 321 P **P 20 11 03.4 +0.2**
BELA Belgrano 2 72.02 172 P **P 20 11 29.7 -0.2**
CISI Cisompet, Garu 73.82 270 P **P 20 11 40.6 -1.1**
LEM Lembang 74.33 271 P **P 20 11 45.2 +0.5**
comp=Z,103nm,0.7s,baz=57,slow=5.9,SNR=31
SBUM Sibu 74.66 281 P **P 20 11 47.2 +0.7**
MAW Mawson 75.02 200 P **P 20 11 50.1 +2.4**
baz=75,SNR=9.6
MAW Mawson 75.02 200 P **P 20 11 49.5 +1.9**
comp=Z,3.3nm,0.7s,baz=115,slow=8.1,SNR=12
MAW LR LR 20 44 40.6
comp=Z,1μm,19.0s,baz=107,slow=36
MAW Mawson 75.02 200 P **P 20 11 49.3 +1.7**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 75.02 200 P **P 20 11 49.3 +1.7**
KSM Kuching 75.84 279 P **P 20 11 53.2 0.0**
KSM IAmb IAmb 20 11 54.6
comp=Z,26nm,0.9s
MJAR Matsushiro Arr 76.99 324 P **P 20 11 58.6 -0.6**
comp=Z,23nm,0.7s,baz=163,slow=5.5,SNR=54
MJAR LR LR 20 41 15.5
comp=Z,394nm,21.5s,baz=135,slow=32
MJAR Matsushiro Arr 76.99 324 P **P 20 11 59.6 +0.4**
MAJO Matsushiro 76.99 324 P **P 20 11 59.4 +0.1**
MAJO pmax pmax
comp=Z,29nm,0.9s
MAJO Matsushiro 76.99 324 P **P 20 11 59.4 +0.1**
MAJO IAmb IAmb 20 12 00.7
comp=Z,29nm,0.8s
MAT Matsushiro 76.99 324 P **P 20 11 58.9 -0.4**
MAT S **S 20 21 38.6 -6.4**
JNU Nakatsue 78.61 317 P **P 20 12 07.7 -0.7**
comp=Z,7.1nm,0.8s,baz=96,slow=13,SNR=2.1
JNU Nakatsue 78.61 317 P **P 20 12 08.3 0.0**
TPUB Ta-pu 79.16 304 P **P 20 12 10.4 -1.1**
SSLB Suanglung 79.21 304 P **P 20 12 10.8 -1.1**
YUK Yuzh-Kuril'sk 79.49 333 *e*P **P 20 12 08.8 -4.0**
YUK *e* 20 12 26.5
YUK *e* 20 15 21.1
YUK *e*PPP PPP 20 17 11.0
YUK *e*S S 20 22 20.4 +9.0
YUK *e* 20 22 35.3
YUK *e*SS **SS 20 27 25.6 +5.3**
YUK pmax pmax
comp=Z,91nm,2.0s
YUK pmax pmax
comp=Z,119nm,1.1s
ADK Adak 79.50 360 P **P 20 12 11.7 -1.0**
ADK pmax pmax
comp=Z,28nm,1.1s
ADK Adak 79.50 360 P **P 20 12 11.7 -1.0**
ADK IAmb IAmb 20 12 31.1
comp=Z,28nm,1.1s
KUR Kuril'sk 79.73 335 *e*P **P 20 12 17.3 +3.2**
KUR *e* 20 12 22.1
KUR 20 15 15.0
KUR *e*S **S 20 22 15.2 +1.3**
KUR *i* 20 22 33.1
KUR *e*SS **SS 20 27 20.1 -3.8**
KUR *e*SSS SSS 20 30 40.5
KUR pmax pmax
comp=Z,78nm,1.7s
KUR pmax pmax
comp=E,38nm,1.6s
KUR pmax pmax
comp=N,38nm,1.4s
KUR pmax pmax
comp=Z,409nm,4.1s
KUR MLR MLR
comp=

KUR MLR MLR
comp=E,286nm,16.0s
ATKA Atka Island 79.85 1 P **P** **20 12 13.9 -0.7**
ATKA IAmb IAmb 20 12 26.8
comp=Z,25nm,0.9s
SNAA Sanae 80.54 178 P **P** **20 12 18.4 0.0**
SNAA Sanae 80.54 178 P **P** **20 12 18.8 +0.4**
SNAA pmax pmax
comp=Z,24nm,1.4s
SNAA Sanae 80.54 178 P **P** **20 12 18.8 +0.4**
VNA3 Neumayer Olymp 80.64 176 P **P** **20 12 18.9 0.0**
H03S2 Juan Fernandez 80.75 123 T T 21 42 29.4
baz=240,slow=74,SNR=6.2
H03S1 Juan Fernandez 80.76 123 T T 21 42 33.3
baz=240,slow=74,SNR=8.9
H03S3 Juan Fernandez 80.76 123 T T 21 42 36.9
baz=240,slow=74,SNR=8.4
ASAJ Asahikawa 80.89 332 P **P** **20 12 21.1 +0.7**
comp=Z,22nm,0.7s,baz=216,slow=7.7,SNR=33
ASAJ LR LR 20 42 44.1
comp=Z,849nm,20.6s,baz=146,slow=32
VNA2 Neumayer--Watz 81.09 176 P **P** **20 12 21.9 +0.7**
VNA1 Neumayer--Stat 81.31 176 P **P** **20 12 22.8 +0.4**
NVL N'lazarevskaya 81.36 183 *e*P **sP** **20 12 39.8 +3.1**
NVL *e*S **S** **20 22 32.2 +1.6**
NVL pmax pmax
comp=Z,10.0nm,0.8s
QZH Quanzhou 81.63 304⇑ *i*P **P** **20 12 25.2 +0.4**
QZH *e*S **S** **20 22 29.2 -5.4**
QZH SKS **SKSac** **20 22 39.7 -2.2**
QZH pmax pmax
comp=Z,300nm,9.3s
QZH LR LR
comp=Z,330nm,16.1s
QZH LR LR
comp=Z,230nm,18.0s
QZH LR LR
comp=Z,350nm,17.5s
MYKOM Kota Tinggi 81.65 276 P **P** **20 12 25.5 +0.3**
MYKOM IAmb IAmb 20 12 26.9
comp=Z,24nm,0.9s
SKR Severo-Kuril's 81.95 343 *e*P **P** **20 12 26.9 +1.1**
SKR *e*S **SKSac** **20 22 42.1 -0.7**
SKR pmax pmax
comp=Z,200nm,5.3s
SKR MLR MLR
comp=Z,200nm,21.0s
SKR MLR MLR
comp=Z,200nm,20.0s
PAGB Antelope Grade 82.64 43 P **P** **20 12 31.5 +1.6**
PAGB IAmb IAmb 20 12 46.4
comp=Z,55nm,1.7s
TJN Taejon 82.94 318 *i*P **P** **20 12 32.5 +1.1**
YSS Yuzh-Sakhalins 83.13 333*α i*P **P** **20 12 33.3 +1.3**
YSS *e**SP **pwP** **20 12 47.7 +0.6**
YSS *e*S **SKSac** **20 22 52.1 +1.2**
YSS *e*PS **PnS** **20 23 37.6 -6.5**
YSS pmax pmax
comp=Z,400nm,3.9s
YSS pmax pmax
comp=N,100nm,3.8s
YSS pmax pmax
comp=Z,50nm,0.8s
YSS smax smax
comp=N,100nm,7.4s
YSS smax smax
comp=E,100nm,3.6s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS MLR MLR
comp=N,100nm,18.0s
YSS MLR MLR
comp=E,200nm,18.0s
YSS Yuzh-Sakhalins 83.13 333 P **P** **20 12 33.4 +1.3**
PLCA Paso Flores 83.23 133 P **P** **20 12 34.4 +1.2**
comp=E,4.2nm,0.7s,baz=229,slow=4.9,SNR=11
PLCA LR LR 20 40 51.8
comp=E,351nm,21.7s,baz=216,slow=29
PLCA Paso Flores 83.23 133 P **P** **20 12 34.0 +0.8**
PLCA pmax pmax
comp=Z,20nm,1.1s
PLCA Paso Flores 83.23 133 P **P** **20 12 34.0 +0.8**
PLCA IAmb IAmb 20 12 46.5
comp=Z,20nm,1.1s
LC01 Cunco 83.29 131 IAmb IAmb 20 12 46.1
comp=Z,22nm,1.1s
KSRS Korea Array 83.34 319 P **P** **20 12 34.0 +0.6**
comp=Z,6.4nm,0.8s,baz=145,slow=5.8,SNR=16
KSRS LR LR 20 43 40.4
comp=Z,249nm,21.9s,baz=126,slow=31
KSRS Korea Array 83.34 319 P **P** **20 12 34.0 +0.6**
KSAR Wonju Array Be 83.35 319 P **P** **20 12 33.9 +0.4**
KSAR Wonju Array Be 83.35 319 P **P** **20 12 33.9 +0.4**
PET Petropavlovsk 83.49 345 *e*P **P** **20 12 31.7 -2.1**
PET *e*SS SS 20 28 25.6 +5.9
PET pmax pmax
comp=Z,200nm,10.5s
PET MLR MLR
comp=Z,300nm,20.0s
ISA Isabella, Lake 83.68 44 P **P** **20 12 36.8 +1.5**
baz=229
PEA0B Petropavlovsk- 83.79 345*ce*P **P** **20 12 35.2 -0.2**
PEA0B Petropavlovsk- 83.79 345 P **P** **20 12 35.5 +0.1**
PEA0B IAmb IAmb 20 12 49.0
comp=Z,52nm,1.5s
PETK Petropavlovsk- 83.79 345 P **P** **20 12 35.5 +0.1**
comp=Z,6.8nm,0.8s,baz=133,slow=6.2,SNR=16
PETK LR LR 20 45 57.7
comp=Z,380nm,19.9s,baz=166,slow=33
PETK Petropavlovsk- 83.79 345 P **P** **20 12 36.1 +0.7**
BELC Belle Mtn. Jos 84.17 47 P **P** **20 12 39.6 +1.6**
baz=231
AFDM Forest Hills D 84.39 40 P **P** **20 12 39.9 +1.1**
CWC Cottonwood Cre 84.43 44 P **P** **20 12 40.9 +1.7**
baz=229
GSC Goldstone, Bar 84.48 45 P **P** **20 12 40.5 +1.1**
baz=230
MPMC Manual Prospec 84.55 44 P **P** **20 12 41.4 +1.5**
baz=230
BI02 San Fabin de 84.84 129 P **P** **20 12 41.2 -0.3**
QIZ Qiongzhong 85.12 294 P **P** **20 12 43.6 +0.7**
QIZ S **SKSac** **20 23 06.7 +1.6**
QIZ SS **SS** **20 28 39.6 -5.3**
QIZ pmax pmax
comp=Z,240nm,7.5s
QIZ LR LR
comp=Z,210nm,17.2s
QIZ LR LR
comp=Z,150nm,21.6s
QIZ LR LR
comp=Z,190nm,23.0s
PNTR Pine Nut 85.27 41 P **P** **20 12 43.8 +0.3**
PNTR IAmb IAmb 20 13 10.7
comp=Z,15nm,0.9s
LHV Little Huntoon 85.36 42 P **P** **20 12 44.0 +0.3**
LHV IAmb IAmb 20 12 58.1
comp=Z,21nm,1.4s
NVAR Mina Array Bea 85.60 42 P **P** **20 12 45.7 +0.5**
comp=Z,2.6nm,0.7s,baz=222,slow=7.9,SNR=20
NVAR LR LR 20 46 12.7
comp=Z,444nm,18.0s,baz=260,slow=32
NVAR Mina Array Bea 85.60 42 P **P** **20 12 45.2 +0.1**
NJ2 Nanjing 85.64 310 *e*P **P** **20 12 47.2 +2.0**
NJ2 pmax pmax
comp=Z,21nm,0.8s
NJ2 LR LR
comp=Z,330nm,22.7s
NJ2 LR LR
comp=Z,330nm,24.6s
NJ2 LR LR
comp=Z,430nm,23.5s
NV11 Mina Array Sit 85.69 42 IAmb IAmb 20 13 12.6
comp=Z,13nm,1.1s
HUMO Hull Mountain 85.82 37 P **P** **20 12 46.0 +0.1**
HUMO IAmb IAmb 20 13 02.3
comp=Z,26nm,1.4s
USA0B Ussuriysk Arra 85.85 326 P **P** **20 12 46.4 +0.5**
USA0B pmax pmax
comp=Z,35nm,1.3s
USA0B Ussuriysk Arra 85.85 326 P **P** **20 12 46.4 +0.5**
USRK Ussuriysk Ar. 85.85 326 P **P** **20 12 47.2 +1.3**
comp=Z,8.9nm,0.8s,baz=122,slow=4.1,SNR=18
USRK LR LR 20 45 44.0
comp=Z,457nm,21.1s,baz=130,slow=32
USRK Ussuriysk Ar. 85.85 326 P **P** **20 12 45.8 -0.1**
USRK Ussuriysk Ar. 85.85 326 P **P** **20 12 45.8 -0.1**

TPNV Topopah Spring 85.88 44 P **P** **20 12 46.5 0.0**
TPNV pmax pmax
comp=Z,12nm,1.2s
TPNV Topopah Spring 85.88 44 P **P** **20 12 48.8 +2.3**
baz=230
TPNV Topopah Spring 85.88 44 P **P** **20 12 46.5 0.0**
TPNV IAmb IAmb 20 13 00.2
comp=Z,12nm,1.1s
KVN Kaiserville 86.12 42 P **P** **20 12 47.6 -0.1**
KVN pmax pmax
comp=Z,6.0nm,1.0s
KVN Kaiserville 86.12 42 P **P** **20 12 47.6 -0.1**
BO02 Sierra Bellavi 86.15 127 P **P** **20 12 49.1 +1.1**
BO02 IAmb IAmb 20 13 00.7
comp=Z,28nm,1.4s
TYV Tymovskoe 86.36 335 *e*P **P** **20 12 49.2 +1.0**
TYV *e*S **S** **20 23 22.0 +1.1**
TYV pmax pmax
comp=Z,100nm,2.1s
TYV pmax pmax
comp=Z,9.0nm,0.5s
TYV smax smax
comp=E,200nm,5.2s
RPSI Rantau Prapat 86.41 275 IAmb IAmb 20 12 50.3
comp=Z,15nm,0.9s
PSI Prapat 86.46 275 P **P** **20 12 49.0 -0.9**
comp=Z,8.5nm,0.7s,baz=2.9,slow=0.2,SNR=10
PSI Prapat 86.46 275 P **P** **20 12 49.0 -0.9**
TUC Tucson 86.60 51 P **P** **20 12 50.9 +0.8**
TUC pmax pmax
comp=Z,57nm,1.3s
TUC Tucson 86.60 51 P **P** **20 12 52.2 +2.1**
baz=234
TUC Tucson 86.60 51 P **P** **20 12 50.9 +0.8**
MOD Modoc Plateau 86.77 38 **P** **20 12 50.3 -0.4**
MOD IAmb IAmb 20 13 05.4
comp=Z,27nm,1.8s
PRN Pahroc Range 86.91 44 IAmb IAmb 20 13 05.5
comp=Z,13nm,1.0s
GSI Gunungsitoli 86.95 273 P **P** **20 12 52.6 +0.5**
J05D Fort Rock, OR 87.20 37 P **P** **20 12 53.9 +1.0**
baz=227
MDJ Mudanjiang 87.36 325 P **P** **20 12 54.2 +0.9**
MDJ S **S** **20 23 39.2 +8.2**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,400nm,3.7s
MDJ LR LR
comp=Z,360nm,18.4s
MDJ LR LR
comp=Z,270nm,22.4s
MDJ LR LR
comp=Z,600nm,20.6s
MDJ Mudanjiang 87.36 325 P **P** **20 12 53.5 +0.2**
MDJ IAmb IAmb 20 13 06.4
comp=Z,25nm,1.1s
X16A Lo Mia Camp, P 87.41 49 P **P** **20 12 55.0 +0.9**
X16A IAmb IAmb 20 13 10.8
comp=Z,11nm,1.1s
LCMT Little Creek M 87.80 46 P **P** **20 12 56.8 +0.9**
CCUT Cedar City 88.06 45 P **P** **20 12 54.5 -2.6**
KNB Kanab 88.07 46 P **P** **20 12 58.9 +1.7**
KNB pmax pmax
comp=Z,35nm,1.6s
KNB Kanab 88.07 46 P **P** **20 12 58.9 +1.7**
PSUT Pine Spring 88.35 44 P **P** **20 12 59.4 +0.8**
GRNR Gornyy 88.71 332 *e*P **P** **20 12 59.4 -0.2**
J08A Circle Bar Ran 88.74 38 P **P** **20 13 01.1 +1.0**
J08A IAmb IAmb 20 13 14.0
comp=Z,20nm,1.5s
W18A Petrified Fore 88.95 49 P **P** **20 12 58.0 -3.4**
W18A IAmb IAmb 20 13 16.0
comp=Z,13nm,1.2s
CN2 Changchun 88.99 322 *e*P **P** **20 13 02.7 +1.6**
CN2 *e*S **S** **20 23 47.1 +0.6**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,17.0s
MTPU Mount Pierson 89.09 45 P **P** **20 13 03.7 +1.5**
TIA Tai'an 89.26 312 P **P** **20 13 03.5 +0.9**
TIA pmax pmax
comp=Z,30nm,1.6s
MSU Marysvale 89.38 45 P **P** **20 13 04.7 +1.3**
MSU Marysvale 89.38 45 P **P** **20 13 04.7 +1.3**
KLR Kul'dur 89.59 329 P **P** **20 13 04.5 +0.7**
comp=Z,8.3nm,0.8s,baz=129,slow=1.8,SNR=30
KLR Kul'dur 89.59 329*ce*P **P** **20 13 04.6 +0.8**
KLR pmax pmax
comp=Z,15nm,0.9s
G08A Pilot Rock 89.76 37 IAmb IAmb 20 13 19.4
comp=Z,22nm,1.3s
TX31 Lajitas Ar. Si 90.01 57 P **P** **20 13 04.6 -1.8**
TX32 Lajitas Array 90.01 57 IAmb IAmb 20 13 43.2
comp=Z,25nm,1.8s
TXAR Lajitas Array 90.01 57 P **P** **20 13 07.2 +0.8**
comp=Z,1.1nm,0.9s,baz=203,slow=5.4,SNR=7.8
TXAR LR LR 20 48 23.8
comp=Z,330nm,18.1s,baz=0.0,slow=32
TXAR Lajitas Array 90.01 57 P **P** **20 13 06.5 +0.1**
TXAR Lajitas Array 90.01 57 P **P** **20 13 06.5 +0.1**
MNTX Cornudas Mount 90.03 54 P **P** **20 13 06.3 0.0**
MFID Camas Ranch 90.25 39 P **P** **20 13 06.7 -0.5**
BMO Blue Mountains 90.36 38 P **P** **20 13 06.9 -0.7**
BMO pmax pmax
comp=Z,12nm,1.5s
BMO Blue Mountains 90.36 38 P **P** **20 13 06.9 -0.7**
BMO IAmb IAmb 20 13 21.2
comp=Z,12nm,1.5s
TMUT Trail Mountain 90.46 45 P **P** **20 13 08.8 +0.3**
E08A Dider Farm, El 90.51 36 P **P** **20 13 08.1 0.0**
E08A IAmb IAmb 20 13 22.7
comp=Z,9.7nm,1.1s
BNM Barren Site 90.51 51 P **P** **20 13 09.1 +0.4**
SPUT South Promonto 90.90 43 P **P** **20 13 10.3 0.0**
E09A Wood Farm, Sta 91.00 36 IAmb IAmb 20 13 24.6
comp=Z,12nm,0.9s
ANMO Albuquerque 91.07 51*ce*P **P** **20 13 11.7 +0.4**
ANMO pmax pmax
comp=Z,6.0nm,1.4s
ANMO Albuquerque 91.07 51 P **P** **20 13 12.0 +0.7**
baz=236
ANMO Albuquerque 91.07 51 P **P** **20 13 12.0 +0.7**
ANMO IAmb IAmb 20 13 27.3
comp=Z,9.0nm,1.1s
F10A Beach Ranch, E 91.13 37 P **P** **20 13 10.0 -1.1**
HLID Hailey 91.14 40 P **P** **20 13 11.3 0.0**
baz=232
HLID Hailey 91.14 40 P **P** **20 13 11.4 0.0**
PBKT Sadao Pong 91.21 288 P **P** **20 13 12.4 +0.3**
ENH Enshi 91.29 304 P **P** **20 13 12.6 +0.4**
GYA Guiyang 91.45 299 ⇓P **P** **20 13 14.2 +1.0**
GYA pP pwP 20 13 29.7 +1.2
GYA PP **PP** **20 16 49.8 -1.8**
GYA SKS **SKSac** **20 23 42.1 -1.0**
GYA S **S** **20 24 07.2 -3.1**
GYA sS sS 20 24 30.2 +1.3
GYA pmax pmax
comp=Z,11nm,1.9s
GYA pmax pmax
comp=Z,190nm,3.5s
GYA LR LR
comp=Z,110nm,16.4s
GYA LR LR
comp=Z,140nm,18.3s
GYA LR LR
comp=Z,240nm,20.2s
PV22 Blue Mesa, Par 91.55 47 P **P** **20 13 12.3 -1.1**
PV22 IAmb IAmb 20 13 29.0
comp=Z,12nm,1.4s
GLI Glacier Island 91.73 14 P **P** **20 13 13.5 +0.1**
BJT Baijiatuau 92.08 315 IAmb IAmb 20 13 27.3
comp=Z,12nm,0.8s
BJI Beijing 92.09 315 P **P** **20 13 16.3 +0.7**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI pmax pmax
comp=Z,190nm,3.5s

BJI LR LR
comp=Z,300nm,19.6s
BJI LR LR
comp=Z,190nm,20.1s
BJI LR LR
comp=Z,220nm,19.6s
YAH Yahtse 92.51 16 P **P** **20 13 17.9 +0.5**
SCM Sheep Creek Mo 92.54 13 P **P** **20 13 18.5 +1.2**
SCM pmax pmax
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 92.54 13 P **P** **20 13 18.5 +1.2**
MCMT McKenzie Canyo 92.81 40 P **P** **20 13 19.3 +0.2**
BALM Baldy 92.95 16 IAmb IAmb 20 13 21.3
comp=Z,9.0nm,0.8s
GLB Gilahina Butte 92.96 15 P **P** **20 13 19.1 -0.1**
GLB IAmb IAmb 20 13 21.1
comp=Z,6.9nm,0.8s
REDW Red Top Meadow 93.08 42 IAmb IAmb 20 13 34.3
comp=Z,14nm,1.2s
BARN Barnard Glacie 93.14 16 P **P** **20 13 21.1 +0.9**
BARN IAmb IAmb 20 13 22.4
comp=Z,11nm,0.9s
TRF Thorofare Moun 93.46 11 P **P** **20 13 21.8 +0.2**
TRF IAmb IAmb 20 13 22.5
comp=Z,10nm,0.8s
PDAR Pinedale Array 93.50 43 LR LR 20 47 37.4
comp=Z,385nm,21.9s,baz=250,slow=30
XAN Xi'an 93.66 307 P P 20 13 28.7 +5.6
XAN pP pP 20 13 34.5 +1.0
XAN pmax pmax
comp=Z,10.0nm,0.9s
RND Reindeer 93.67 12 P **P** **20 13 22.9 +0.4**
RND pmax pmax
comp=Z,16nm,1.2s
RND Reindeer 93.67 12 P **P** **20 13 22.9 +0.4**
RND IAmb IAmb 20 13 37.5
comp=Z,16nm,1.2s
CMAR Chiang Mai Arr 93.80 289 P **P** **20 13 25.5 +1.4**
comp=Z,2.9nm,0.8s,baz=148,slow=4.0,SNR=16
CMAR Chiang Mai Arr 93.80 289 P **P** **20 13 25.3 +1.2**
CMAR Chiang Mai Arr 93.80 289 P **P** **20 13 25.3 +1.2**
KMI Kunming 93.87 296⇓*e*P **P** **20 13 26.9 +2.4**
KMI pmax pmax
comp=Z,9.0nm,1.3s
SEY Seymchan 93.91 346 *i*P **P** **20 13 24.1 +0.7**
BOZ Bozeman (W) 93.96 40 IAmb IAmb 20 13 37.5
comp=Z,6.1nm,0.9s
CHTO Chiang Mai 93.97 289 P **P** **20 13 24.8 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 93.97 289 P **P** **20 13 24.8 0.0**
CHTO IAmb IAmb 20 13 27.8
comp=Z,5.0nm,0.8s
ZEA Zeya 94.75 330 *e*P **pP** **20 13 37.7 -0.4**
ZEA pmax pmax
comp=Z,18nm,1.4s
BCAR Beaver Creek A 94.84 15 P **P** **20 13 27.5 -0.3**
HDA Harding Lake 94.94 12 P **P** **20 13 28.2 0.0**
baz=206
CCB Clear Creek Bu 95.00 12 IAmb IAmb 20 13 29.3
comp=Z,5.6nm,0.9s
COLA College 95.20 12 *i*P **P** **20 13 29.4 +0.1**
COLA pmax pmax
comp=Z,5.0nm,0.7s
ILAR Eielson Array 95.28 12 P **P** **20 13 29.8 0.0**
comp=Z,2.2nm,0.8s,baz=216,slow=5.6,SNR=20
ILAR PP **PP** **20 17 24.4 +3.7**
comp=Z,0.6nm,0.9s,baz=215,slow=7.6,SNR=4.6
ILAR Eielson Array 95.28 12 P **P** **20 13 28.5 -1.2**
ILAR Eielson Array 95.28 12 P **P** **20 13 28.5 -1.2**
HHC Hu-ho-hao-te 95.47 314 *e*P **P** **20 13 35.1 +3.8**
HHC PP **PP** **20 17 28.3 +5.5**
HHC S **S** **20 24 37.6 -7.5**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.6s
HHC LR LR
comp=Z,300nm,17.6s
HHC LR LR
comp=Z,270nm,18.6s
HHC LR LR
comp=Z,490nm,18.8s
K27K Chicken 95.61 15 P **P** **20 13 33.4 +2.1**
baz=210
CD2 Chengdu 95.87 302 *e*P **P** **20 13 35.2 +1.9**
CD2 SKS **SKSac** **20 24 01.4 -5.5**
CD2 S **S** **20 24 43.0 -5.9**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,200nm,6.6s
CD2 LR LR
comp=Z,350nm,19.8s
CD2 LR LR
comp=Z,330nm,23.3s
CD2 LR LR
comp=Z,350nm,21.0s
LPAZ La Paz 97.96 113 LR LR 20 48 40.9
comp=Z,174nm,21.9s,baz=256,slow=30
BMAR Burnt Mountain 98.09 12 P **P** **20 13 41.0 -1.5**
LZH Lanzhou 98.29 306 ⇑P Pdif 20 13 49.3 +5.0
LZH PP **PP** **20 17 52.5 +7.7**
LZH pmax pmax
comp=Z,23nm,1.4s
LZH pmax pmax
comp=Z,97nm,7.3s
ULN Ulaanbaatar 101.81 318 *i*P **Pdif** **20 14 00.4 +0.7**
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 102.19 318 P **Pdif** **20 14 03.2 +1.9**
comp=Z,0.3nm,0.5s,baz=142,slow=7.2,SNR=2.6
SONM Songino Array 102.19 318 P **Pdif** **20 14 01.7 +0.4**
SONM Songino Array 102.19 318 **Pdif** **20 14 01.7 +0.4**
GTA Gaotai 102.65 308 *e*P **Pdif** **20 14 05.6 +2.0**
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA pmax pmax
comp=Z,44nm,4.3s
GTA LR LR
comp=Z,200nm,19.0s
GTA LR LR
comp=Z,340nm,20.0s
GTA LR LR
comp=Z,430nm,23.5s
WMQ Urumqi 112.71 309 *e*PKP **PKiKP** **20 18 42.9 0.0**
WMQ AMB AMB
comp=Z,24nm,4.9s
WMQ LR LR
comp=Z,210nm,25.3s
WMQ LR LR
comp=Z,380nm,29.0s
WMQ LR LR
comp=Z,130nm,19.1s
ZAA0 Zalesovo Array 117.04 319 PKPdf **PKPdf** **20 18 49.9 -0.9**
ZALV Zalesovo Beam 117.04 319 PKP **PKPdf** **20 18 49.9 -0.9**
comp=Z,2.5nm,0.7s,baz=121,slow=0.9,SNR=14
ZALV Zalesovo Beam 117.04 319 PKPdf **PKPdf** **20 18 49.8 -1.0**
MK31 Makanchi Array 117.16 311 PKIKP **PKPdf** **20 18 50.3 -1.0**
MK31 Makanchi Array 117.16 311 PKPdf **PKPdf** **20 18 50.3 -1.0**
MKAR Makanchi Array 117.16 311 PKP **PKPdf** **20 18 50.6 -0.8**
comp=Z,2.7nm,0.7s,baz=72,slow=2.7,SNR=28
MKAR Makanchi Array 117.16 311 PKIKP **PKPdf** **20 18 50.0 -1.4**
MKAR Makanchi Array 117.16 311 PKPdf **PKPdf** **20 18 50.0 -1.4**
MAKZ Makanchi 117.38 311 PKIKP **PKPdf** **20 18 51.1 -0.7**
MAKZ Makanchi 117.38 311 **PKPdf** **20 18 51.1 -0.7**
NRIK Noril'sk 117.93 336 PKP **PKPdf** **20 18 51.9 -0.2**
comp=Z,2.7nm,0.6s,baz=202,slow=1.9,SNR=3.6
NRIK Noril'sk 117.93 336 *i*PKIKP **PKPdf** **20 18 51.6 -0.5**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 119.98 202 PKP **PKPdf** **20 18 57.4 -0.2**
comp=Z,3.0nm,0.9s,baz=206,slow=5.7,SNR=3.7
KURK Kurchatov 120.26 315*c i*PKIKP **PKiKP** **20 18 57.3 +0.1**
KURK pmax pmax
comp=Z,17nm,2.5s
KURK Kurchatov 120.26 315 PKPdf **PKPdf** **20 18 56.4 -0.7**
KURBB Kurchatov Arra 120.31 315 PKP **PKPdf** **20 18 56.4 -0.8**
comp=Z,4.1nm,0.8s,baz=98,slow=1.9,SNR=23
AAK Ala-Archa 121.79 305*c i*PKIKP **PKiKP** **20 19 02.0 +1.3**
AAK pmax pmax
comp=Z,6.0nm,1.7s
GAR Garm 124.27 300 **PKPdf** **20 19 05.5 +0.1**
KBL Kabul 124.40 294 PKIKP **PKPdf** **20 19 05.8 -0.1**
KBL Kabul 124.40 294 PKPdf **PKPdf** **20 19 05.8 -0.1**

KK31	Karatay Array	124.75	305	PKIKP	PKPdf	20 19 05.3	-0.8
KK31	Karatay Array	124.75	305	PKPdf	PKPdf	20 19 05.2	-0.8
KKAR	Karatay Array	124.75	305	PKIKP	PKPdf	20 19 04.7	-1.4
KKAR	Karatay Array	124.75	305	PKPdf	PKPdf	20 19 04.7	-1.4
BVAR	Borovoye Array	125.52	317	PKP	PKPdf	20 19 06.9	-0.2
	comp=Z,4.8nm,0.8s,baz=212,slow=1.4,SNR=20						
BRVK	Borovoye	125.58	317 *c*	*i* PKIKP	PKiKP	20 19 09.1	+1.4
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
SPA0	Spitsbergen Ar	129.36	357	*e*PKPdf	PKiKP	20 19 15.4	+0.8
SVE	Sverdlovsk	130.78	322	*i* PKIKP	PKiKP	20 19 17.7	-0.2
SVE				MLR	MLR		
	comp=Z,765nm,21.0s						
ARU	Arti	131.98	322	*i* PKIKP	PKPdf	20 19 19.9	+0.6
ARU						20 21 40.7	
ARU				SS	SS	20 39 15.2	+0.2
ARU				MLR	MLR		
	comp=Z,616nm,20.0s						
ABKAR	Akbulak array	132.24	312		PKPdf	20 19 20.4	+0.3
AKTO	Aktyubinsk	133.36	314	PKP	PKiKP	20 19 22.9	-0.5
	comp=Z,2.9nm,0.6s,baz=40,slow=2.8,SNR=9.9						
GEYT	Alibeck	133.63	297	PKP	PKPdf	20 19 23.6	+0.4
	comp=Z,2.7nm,0.7s,baz=173,slow=2.4,SNR=5.5						
ARCES	ARCESS Array B	136.47	349	PKP	PKPdf	20 19 27.8	+0.3
	comp=Z,5.2nm,0.7s,baz=344,slow=1.2,SNR=18						
ARCES	ARCESS Array B	136.47	349	PKIKP	PKPdf	20 19 26.3	-1.1
ARCES	ARCESS Array B	136.47	349		PKPdf	20 19 26.3	-1.1
ARE0	ARCESS Array S	136.47	349	*e*PKPdf	PKPdf	20 19 28.1	+0.6
KMBO	Kilima Mbogo	136.53	234	PKP	PKiKP	20 19 31.8	+0.5
	comp=Z,0.8nm,0.4s,baz=36,slow=22,SNR=1.8						
KMBO	Kilima Mbogo	136.53	234	PKIKP	PKPdf	20 19 27.6	-2.0
KMBO	Kilima Mbogo	136.53	234		PKPdf	20 19 27.6	-2.0
TMCR	Tamitsa	137.59	338	*e*PKIKP	PKPdf	20 19 29.2	-0.4
KLMR	Klimovskoe	139.18	334	*e*PKIKP	PKPdf	20 19 30.5	-2.0
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KLMR	Klimovskoe	139.18	334	*e*PKPdf	PKPdf	20 19 30.6	-2.0
KLMR				AMP		20 19 36.5	
	comp=Z,7.0nm,1.1s						
LOF	Lofoten	139.35	354	*e*PKPdf	PKiKP	20 19 34.2	-0.8
MAK	Makhachkala	141.57	305	*e*P	Pdif	20 16 54.0	-2.3
MAK				*i*		20 19 39.0	
MAK				*e*		20 22 40.0	
MAK				pmax	pmax		
	comp=Z,522nm,1.3s						
MOS	Moscow	142.99	328	*e*PKIKP	PKPdf	20 19 37.6	-2.0
VRH	Novokhopyorsk	143.08	320	*e*PKIKP	PKPdf	20 19 40.6	+0.7
VRH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
FINES	FINESS Array B	143.26	342	PKhKP	PKPab	20 19 35.6	-0.2
	comp=Z,1.4nm,0.5s,baz=50,slow=3.7,SNR=12						
OBN	Obninsk	143.84	328	*e*PKIKP	PKPdf	20 19 40.4	-0.7
OBN				*e*		20 22 55.6	
OBN				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEI	Tsey	144.21	305	*i* PKIKP	PKPab	20 19 40.2	-0.1
ZEI				pmax	pmax		
	comp=Z,22nm,1.4s						
GOF	Gofitskoye	144.31	309	*e*PKIKP	PKPbc	20 19 40.7	0.0
VSR	Storozhevoye	144.52	321	*e*PKIKP	PKPab	20 19 40.6	-0.3
VSR				pmax	pmax		
	comp=Z,30nm,1.9s						
VORD	Divnogorie	144.56	320	*e*PKIKP	PKPab	20 19 39.5	-1.6
VORD				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBZ	Khabaz	144.73	307	PKP	PKPbc	20 19 42.3	+0.3
	comp=Z,8.7nm,0.8s,baz=119,slow=2.1,SNR=16						
KBZ	Khabaz	144.73	307 *c*	*i* PKIKP	PKPab	20 19 42.0	+0.1
AKH	Akhalkalaki	144.76	303	PKIKP	PKPbc	20 19 42.9	+0.4
AKH	Akhalkalaki	144.76	303	PKPdf	PKPbc	20 19 42.9	+0.5
KIV	Kislovodsk	144.83	308	*i* PKIKP	PKPab	20 19 42.3	-0.1
KIV				pmax	pmax		
	comp=Z,65nm,1.1s						
KIV	Kislovodsk	144.83	308	PKPdf	PKPbc	20 19 42.8	+0.3
MOL	Molde	145.29	357	*e*PKPbc	PKPbc	20 19 43.4	+0.2
VSU	Vasula	145.48	338	*e*P	PKPdf	20 19 44.0	+0.2
VSU	Vasula	145.48	338 *c*	*i* PKIKP	PKPdf	20 19 43.2	-0.6
AKN	Aaknes	145.71	357	*e*PKPdf	PKPab	20 19 45.0	0.0
DOMB	Dombas	145.72	355	*e*PKPab	PKPab	20 19 46.0	+0.9
NC303	NORSAR Array S	146.32	353		PKPdf	20 19 45.8	+0.5
NC204	NORSAR Array S	146.33	354		PKPbc	20 19 46.6	0.0
NC405	NORSAR Array S	146.39	353		PKPbc	20 19 46.4	-0.3
NB201	NORSAR Array S	146.50	353	PKPdf	PKPdf	20 19 46.4	+0.7
NB2	NORSAR Subarra	146.52	353	PKP	PKPdf	20 19 46.1	+0.4
	comp=Z,6.9nm,0.7s,baz=6.9,slow=2.9						
NB2	NORSAR Subarra	146.52	353	PKPab	PKPdf	20 19 46.1	+0.4
	comp=Z,6.9nm,0.7s,baz=6.9,slow=2.9						
NOA	NORSAR Array B	146.52	353	PKPbc	PKPdf	20 19 46.5	+0.8
	comp=Z,10nm,0.8s,baz=14,slow=4.5,SNR=49						
NAO01	NORSAR Array S	146.74	353	PKPdf	PKPdf	20 19 46.8	+0.8
NC602	NORSAR Array S	146.78	353		PKPdf	20 19 46.5	+0.5
NC602	NORSAR Array S	146.78	353	*e*PKPdf	PKPbc	20 19 47.4	-0.4
SOC	Sochi	147.00	308 *c*	*i* PKP2	PKPdf	20 19 47.9	+1.0
SOC				*e*		20 23 11.7	
SOC				*e*PPP	PPP	20 26 31.0	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SOC				pmax	pmax		
	comp=Z,15nm,0.6s						
SKAR	Skarslia	147.12	356	*e*PKPbc	PKPbc	20 19 49.2	+0.3
KOPT	Kop Dagi	147.24	301		PKPdf	20 19 48.4	+0.5
ASK	Askoy	147.47	358	*e*PKPdf	PKPdf	20 19 45.0	-2.1
SLIT	Slitere, Latvi	147.52	341	*e*P	PKPbc	20 19 49.3	-0.7
OSL	Oslo	147.65	353	*e*PKPbc	PKPbc	20 19 50.7	+0.5
IZAR	Zarasai	147.76	336	*e*P	PKPab	20 19 53.0	-0.1
IDID	Didziasalis	147.91	335	*e*P	PKiKP	20 19 52.2	-0.7
ISAL	Salakas	147.94	336	*e*P	PKiKP	20 19 52.6	-0.4
ODD1	Odda	147.99	357	*e*PKP	PKPbc	20 19 51.9	+0.7
KONO	Kongsberg	148.04	354 *c*	*i* PKIKP	PKPdf	20 19 49.5	+1.3
KONO				pmax	pmax		
	comp=Z,13nm,0.8s						
KONO	Kongsberg	148.04	354		PKPbc	20 19 50.6	-0.8
KONO	Kongsberg	148.04	354	*e*PKPbc	PKPbc	20 19 51.3	0.0
MICGM	Minsk	148.06	333	*e*	PKiKP	20 19 53.0	-0.3
MNK	Minsk	148.06	333	*e*PKP2	PKiKP	20 19 53.0	-0.3
IIGN	Ignalina	148.07	335	*e*P	PKPbc	20 19 52.1	+0.6
ANN	Anapa	148.18	311	*i* PKP2	PKPbc	20 19 51.6	-0.6
ANN				*e*		20 23 19.8	
ANN				pmax	pmax		
	comp=Z,38nm,1.0s						
NACGM	Naroch	148.20	334	*e*	PKPbc	20 19 51.0	-0.9
BLS5	Blasjo	148.48	357	*e*PKPbc	PKPbc	20 19 52.4	-0.1
KMY	Karmoy	148.74	358	*e*PKPbc	PKPbc	20 19 53.4	+0.3
PABE	Paberze	148.75	337	*e*P	PKPbc	20 19 53.8	+0.5
PBUR	Paburge	148.98	340	*e*P	PKPbc	20 19 54.2	+0.4
HOMB	Homborsund	149.50	355	*e*PKPbc	PKiKP	20 19 56.0	-0.1
SNART	Snartemo	149.53	356	*e*PKPbc	PKiKP	20 19 55.8	-0.4
AKASG	Malin Array Be	150.06	326	PKPbc	PKPbc	20 19 56.7	0.0
	comp=Z,12nm,0.7s,baz=46,slow=2.7,SNR=12						
AKASG	Malin Array Be	150.06	326		PKPbc	20 19 55.3	-1.3
AKBB	Malin Array Si	150.06	326	PKHKP	PKPbc	20 19 55.6	-1.1
AKBB	Malin Array Si	150.06	326		PKPbc	20 19 55.6	-1.1
SUW	Suwalki	150.22	336	*e*PKP	PKPbc	20 19 57.2	+0.2
SUW	Suwalki	150.22	336	PKIKP	PKPbc	20 19 56.9	-0.1
SUW	Suwalki	150.22	336		PKPbc	20 19 56.9	-0.1
GAZ	Gaziantep	150.23	297	PKPdf	PKPdf	20 19 51.8	-0.8
MUD	Monsted U'grnd	151.24	353	*i* P	PKPbc	20 19 59.1	-0.1
MUD	Monsted U'grnd	151.24	353	*e*PKIKP	PKPbc	20 19 59.1	-0.1
BRTR	Keskin Array B	152.44	303	PKPbc	PKPbc	20 20 01.2	-1.6
	comp=Z,2.3nm,0.7s,baz=134,slow=3.9,SNR=10						
BRTR				PKPab	pPKPbc	20 20 13.8	+0.4
	comp=Z,4.9nm,0.8s,baz=116,slow=1.6,SNR=8.7						
BRTR	Keskin Array B	152.44	303		PKPbc	20 20 00.6	-2.2
LVV	L'vov	153.09	330	*e*PKIKP	PKPbc	20 20 03.3	-0.4
KWP	Kalwaria Pacla	153.81	331	PKIKP	PKPbc	20 20 04.4	-0.9
KWP	Kalwaria Pacla	153.81	331		PKPbc	20 20 04.4	-0.9
BUR08	Bucovina Ar. S	154.05	325	PKPdf	PKPdf	20 19 57.5	-0.4
BUR08					PKPbc	20 20 04.2	-1.8
BURAR	Bucovina Array	154.06	325	PKPdf	PKPdf	20 19 57.5	-0.4
OJC	Ojcow	154.52	335	*e*PKP	PKiKP	20 20 08.3	+1.5
KOLS	Kolonicke sedl	154.52	330	*e*PKIKP	PKPdf	20 19 59.0	+0.6
KOLS	Kolonicke sedl	154.52	330	*e*PKP	PKPdf	20 19 59.0	+0.6
UZH	Uzhgorod	154.74	330	*e*PKIKP	PKPbc	20 20 06.0	-1.3
UZH				*i*		20 20 20.8	
CRVS	Cervenica-Dubn	154.90	331	*e*PKIKP	PKiKP	20 20 09.4	+1.7
CRVS				*e*		20 20 22.6	
CRVS	Cervenica-Dubn	154.90	331	*e*PKP	PKiKP	20 20 09.4	+1.7
CRVS				*e*		20 20 22.6	
KSP	Ksiaz	155.16	340	*e*PKP	PKPdf	20 20 09.2	+10
OSTC	Ostas	155.44	340	*e*PKP	PKPdf	20 20 00.9	+1.3
OSTC				*ex*	x	20 20 09.0	
DPC	Dobruska-Polom	155.59	340	*e*PKP	PKPdf	20 20 09.9	+10
DPC				*ex*	x	20 20 23.9	
DPC	Dobruska-Polom	155.59	340	*e*PKIKP	PKPdf	20 20 09.9	+10
DPC				*e*		20 20 23.9	
CLL	Collm	155.59	345	*i* PKPdf	PKPdf	20 20 00.2	+0.4
CLL				*e*PKPdiff	pPKPdf	20 20 10.0	-0.4
CLL				*i* PKPab	PKPab	20 20 26.1	+0.3
	comp=Z,8.0nm,0.9s						
CLL				*i* pPKPab	pPKPab	20 20 34.2	-2.0
CLL				*e*PP	PP	20 24 01.0	-1.1
CLL				*e*SKSP		20 34 12.0	
CLL				*e*PSKS		20 34 30.0	
CLL				*e*SS	SS	20 43 54.0	+8.8
CLL				*e*SSSS		20 54 00.0	
CLL				Lm	MLR	21 30 00.0	
	comp=N,300nm,21.4s						
CLL				Lm	MLR	21 30 00.0	
	comp=E,200nm,19.8s						
CLL				Lm	MLR	21 30 00.0	
	comp=Z,400nm,20.5s						
KRLC	Kraliky	155.68	339	*e*PKP	PKPdf	20 20 10.0	+10
KRLC				*ex*	x	20 20 22.1	
KRLC				*ex*	x	20 20 37.0	
KRLC	Kraliky	155.68	339	*e*PKIKP	PKPdf	20 20 10.0	+10
KRLC				*e*		20 20 22.1	
BRG	Berggiesshubel	155.78	344	*e*PKP	PKPdf	20 20 10.3	+10
	comp=Z,9.4nm,1.2s						
BRG				*e*		20 20 26.2	
	comp=Z,4.3nm,0.9s						
ELL	Elmali	156.05	298	PKP2	PKPab	20 20 28.1	-0.5
ELL	Elmali	156.05	298		PKPab	20 20 28.1	-0.5
VYHS	Vyhne	156.29	334	*e*PKP2	PKPab	20 20 29.6	+0.6
PRU	Pruhonice	156.43	342	*e*PKP	PKPab	20 20 30.7	+1.2
PRU	Pruhonice	156.43	342	*e*PKP2	PKPab	20 20 30.7	+1.2
KHC	Kasperske Hory	157.47	342	*e*PKP	PKPab	20 20 33.2	-0.8
KHC				*ex*	x	20 20 50.3	
KHC	Kasperske Hory	157.47	342	*e*PKP2	PKPab	20 20 33.2	-0.8
KHC	Kasperske Hory	157.47	342	PKPab	PKPab	20 20 33.8	-0.2
GERES	GERESS Array B	157.70	342	PKP	PKPdf	20 20 03.9	+1.2
	comp=Z,0.3nm,0.5s,baz=344,slow=1.9,SNR=3.6						
GERES				PKPab	PKPab	20 20 34.9	-0.2
	comp=Z,0.7nm,0.7s,baz=35,slow=3.6,SNR=4.3						
CONA	Conrad Observa	157.85	337	*e*PKPab	PKPab	20 20 36.9	+1.1
	comp=Z,9.7nm,1.6s						
KARP	Karpathos	158.50	297	PKPdf	PKPdf	20 20 04.7	+0.7
KARP				PKPab	PKPab	20 20 39.1	0.0
SOKA	Soboth	159.21	337	*e*PKPab	PKPab	20 20 42.2	+0.5
	comp=Z,5.7nm,0.9s						
TOA0	Torodi Ar. Sit	165.17	173	PKPab	PKPab	20 21 09.2	+0.8
TORD	Torodi Ar. Bea	165.17	173	PKP	PKPdf	20 20 11.5	+0.1
	comp=Z,1.2nm,0.7s,baz=336,slow=1.3,SNR=5.1						
TORD				PKPab	PKPab	20 21 08.8	+0.5
	comp=Z,4.7nm,0.8s,baz=194,slow=3.5,SNR=8.2						
TORD	Torodi Ar. Bea	165.17	173	PKPdf	PKPdf	20 20 10.3	-1.1
TORD				PKPab	PKPab	20 21 07.9	-0.4
ESDC	Sonseca Array	166.81	26	PKP	PKPdf	20 20 11.5	-0.6
	comp=Z,0.4nm,0.4s,baz=318,slow=2.2,SNR=4.7						
ESDC				PKPab	PKPab	20 21 15.1	0.0
	comp=Z,1.2nm,1.0s,baz=323,slow=3.8,SNR=4.8						

NEIC ***02*** *20:30:32.3±1.4, 7°.2S±0°.2×156°.14E±0°.10, h10km±1km, mb4.2/9, Error ellipse: s-maj=32.1km s-min=5.5km az=28.0*
IDC ***02*** *20:30:45.6±1.4, 7°.28S×155°.96E, h117km±15km, mb3.7/5, mb1 3.7/9, mb1mx3.4/34, mbtmp4.1/9, Error ellipse: s-maj=21.6km s-min=11.9km az=32.0*
ISC 02 20:30:42.1±0.9, 7°.3S±0°.1×156°.3E±0°.1, h100km, n28, σ1§10/23, mb3.9/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.25	121	P		Pn	20 31 52.3	+7.7
	20nm,0.3s,baz=313,slow=2.5,SNR=5.4							
HNR				S		Sn	20 32 43.0	+10
	16nm,0.3s,baz=55,slow=6.0,SNR=4.3							
HNR	Honiara	4.25	121			Pn	20 31 43.9	-0.7
KRVT	Keravat (AS076	5.12	305	P		Pn	20 31 56.3	-0.2
	2.8nm,0.3s,baz=31,slow=14,SNR=2.5							
KRVT				S		Sn	20 32 53.7	-0.8
	3.4nm,0.3s,baz=320,slow=23,SNR=1.4							
PMG	Port Moresby	9.25	256	P		Pn	20 32 53.5	+0.9
	1.4nm,0.3s,baz=319,slow=21,SNR=3.2							
PMG	Port Moresby	9.25	256			Pn	20 32 53.4	+0.7
CTA	Charters Tower	16.03	216	P		P	20 34 24.1	+0.8
	0.2nm,0.3s,baz=55,slow=22,SNR=1.5							
FAKI	Fak Fak	24.29	279	P		P	20 35 47.9	-2.4
WR0	Warramunga Arr	24.55	237	P		P	20 35 52.0	-0.7
WR0				IAmb		IAmb	20 35 54.1	
	comp=Z,3.7nm,0.7s							
WB0	Warramunga Arr	24.59	237	P		P	20 35 52.8	-0.3
WB0				IAmb		IAmb	20 35 54.3	
	comp=Z,4.6nm,0.6s							
WB2	Warramunga Arr	24.70	237	P		P	20 35 53.5	-0.5
WB2				IAmb		IAmb	20 35 55.9	
	comp=Z,15nm,1.4s							
WRA	Warramunga Arr	24.71	237	P		P	20 35 53.6	-0.6
	comp=Z,5.5nm,0.7s,baz=61,slow=9.5,SNR=47							
WRA	Warramunga Arr	24.71	237	P		P	20 35 53.3	-0.9
AS31	Alice Springs	26.95	230	P		P	20 36 13.4	-1.0
ASAR	Alice Springs	26.95	230	P		P	20 36 13.6	-0.9
	comp=Z,0.7nm,0.6s,baz=59,slow=8.8,SNR=13							
ASAR	Alice Springs	26.95	230	P		P	20 36 13.1	-1.4
H11S3	WAKE ISLAND Hy	27.58	22	T		T	21 04 43.5	
	baz=202,slow=75,SNR=98							
H11S2	WAKE ISLAND Hy	27.58	22	T		T	21 04 43.8	
	baz=202,slow=75,SNR=80							
H11S1	WAKE ISLAND Hy	27.59	22	T		T	21 04 41.6	
	baz=202,slow=75,SNR=45							
STKA	Stephens Creek	28.06	207	P		P	20 36 24.1	0.0
STKA				IAmb		IAmb	20 36 28.4	
	comp=Z,1.3nm,1.4s							
H11N1	WAKE ISLAND Hy	28.77	21	T		T	21 06 09.3	
	baz=297,slow=74,SNR=12							
H11N3	WAKE ISLAND Hy	28.78	21	T		T	21 06 14.0	
	baz=216,slow=74,SNR=14							
SONM	Songino Array	70.23	327	P		P	20 41 45.7	+1.2
	comp=Z,0.4nm,0.5s,baz=134,slow=6.2,SNR=3.1							
SONM	Songino Array	70.23	327	P		P	20 41 45.5	+1.0
MK31	Makanchi Array	84.42	318	P		P	20 43 05.2	+1.6
MK31				IAmb		IAmb	20 43 32.1	
	comp=Z,1.4nm,1.1s							
MKAR	Makanchi Array	84.42	318	P		P	20 43 05.0	+1.4
	comp=Z,0.8nm,0.4s,baz=98,slow=6.4,SNR=13							
MKAR	Makanchi Array	84.42	318	P		P	20 43 04.9	+1.4
ZALV	Zalesovo Beam	85.09	326	P		P	20 43 07.0	+0.3
	comp=Z,0.5nm,0.5s,baz=128,slow=4.4,SNR=4.5							
ZALV	Zalesovo Beam	85.09	326	P		P	20 43 07.3	+0.6

IDC ***02*** *20:31:34.0±7.7, 15°.61S×173°.31W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/36, mbtmp4.1/3, ML4.8/1, Error ellipse: s-maj=385.3km s-min=26.8km az=143.0*
NEIC ***02*** *20:31:40.2±1.6, 15°.1S±0°.1×173°.5W±0°.2, h39km±15km, mb4.5/8, Error ellipse: s-maj=26.7km s-min=15.8km az=128.0*
ISC 02 20:31:39.3±0.9, 15°.1S±0°.1×173°.4W±0°.1, h30km, n20, σ1§49/15, mb4.4/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.97	54	Pn		Pn	20 32 11.7	+1.1
	251nm,0.3s,baz=192,slow=1.6,SNR=77							
AFI				Sn		Sn	20 32 32.2	-2.2
	431nm,0.3s,baz=54,slow=22,SNR=27							
KNTN	Kanton	12.35	8	Pn		Pn	20 34 33.1	0.0
QRZ	Quartz Range	28.42	203	P		P	20 37 31.1	-0.2
LTZ	Lake Taylor	30.22	201	P		P	20 37 47.5	+0.3
WHZ	Wether Hill Ro	34.48	203	P		P	20 38 24.9	+0.4
H11S2	WAKE ISLAND Hy	38.69	329	T		T	21 19 50.0	
	baz=146,slow=76,SNR=20							
H11S3	WAKE ISLAND Hy	38.70	329	T		T	21 19 43.6	
	baz=146,slow=76,SNR=7.1							
H11S1	WAKE ISLAND Hy	38.71	329	T		T	21 19 44.7	
	baz=146,slow=76,SNR=5.3							
WAKE	Wake Island	39.39	329	P		P	20 39 06.9	+0.4
H11N3	WAKE ISLAND Hy	39.63	330	T		T	21 20 59.0	
	baz=150,slow=76,SNR=4.8							
H11N1	WAKE ISLAND Hy	39.64	330	T		T	21 21 20.2	
	baz=150,slow=76,SNR=5.5							
H11N2	WAKE ISLAND Hy	39.65	330	T		T	21 21 24.6	
	baz=150,slow=76,SNR=4.0							
WR0	Warramunga Arr	49.72	256	P		P	20 40 28.9	-0.2
WR0				IAmb		IAmb	20 40 35.2	
	comp=Z,9.5nm,1.5s							
WB0	Warramunga Arr	49.87	257	P		P	20 40 29.6	-0.7
WB0				IAmb		IAmb	20 40 52.2	
	comp=Z,5.7nm,1.2s							
WB2	Warramunga Arr	49.90	257	P		P	20 40 29.5	-1.0
WRA	Warramunga Arr	49.91	257	P		P	20 40 28.8	-1.7
	comp=Z,0.5nm,0.8s,baz=91,slow=6.9,SNR=8.0							
WRA	Warramunga Arr	49.91	257	P		P	20 40 28.2	-2.3
ASAR	Alice Springs	50.20	252	P		P	20 40 31.3	-1.5
	comp=Z,2.0nm,0.5s,baz=90,slow=7.4,SNR=30							
ASAR	Alice Springs	50.20	252	P		P	20 40 31.0	-1.7
BRTR	Keskin Array B	145.91	321	PKPbc		PKPdf	20 51 17.9	+2.3
	comp=Z,1.0nm,0.7s,baz=100,slow=2.1,SNR=5.6							

ISN ***02*** *20:37:54.5±1.2, 33°.77N×45°.78E, h12km±6km, ML3.2*
TEH ***02*** *20:37:55.1, 33°.77N×45°.56E, h16km, ML3.4*
ISC 02 20:37:56.3±1.0, 33°.74N±0°.04×45°.64E±0°.06, h10km, n24, σ1§35/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.68	159	*e*Pg		Pg	20 38 08.0	-1.4
IBDR				*e*Sg		Sg	20 38 17.0	-1.2
IBDR				AML		AML	20 38 23.2	
	comp=E,273nm,0.4s							
IBDR				AML		AML	20 38 36.0	
	comp=N,271nm,0.5s							
IGHG	Ghaleghazi	0.96	52	*e*Pg		Pg	20 38 14.0	-0.9
IGHG				*e*			20 38 32.3	
IDHR	Dehrash	1.14	33	*e*Pg		Pb	20 38 17.5	-0.7
IDHR				*e*			20 38 39.1	
BHD	Baghdad	1.16	246	*e*Pg		Pb	20 38 18.0	-0.4
BHD				*e*Sg		Sn	20 38 37.0	+2.6
BHD				AML		AML	20 38 40.5	
	comp=E,1μm,0.6s							
IVIS	Veis	1.27	52	*e*Pg		Pn	20 38 20.3	+0.1
IVIS				*e*			20 38 45.5	
KCHF	Cheshme Sefid,	1.27	65	*e*Pg		Pn	20 38 20.2	-0.2
KCHF				*e*			20 38 42.5	
KER	Kermanshah	1.39	62	*e*Pg		Pn	20 38 22.6	+0.7
ILIN	Lien	1.60	43	*e*Pg		Pn	20 38 26.4	+1.5
ILIN				*e*			20 38 50.6	
IKOM	Komasi	1.61	74	*e*Pg		Pn	20 38 26.4	+1.4
IKOM				*e*			20 38 54.6	
DHL1	Dehloran	1.73	127	*e*Pg		Pn	20 38 28.7	+2.2
IBZA	Bozab	1.98	68	*e*Pn		Pn	20 38 31.3	+1.2
IBZA				*e*			20 38 34.1	
IDOB	Doab	2.11	88	*e*Pn		Pn	20 38 32.7	+0.8
IKMR	Kamar-syah	2.29	95	*e*Pn		Pn	20 38 35.4	+1.2
IKMR				*e*			20 39 15.4	
IALM	Almabolaq	2.37	61	*e*Pn		Pn	20 38 37.3	+1.8
HSAM	Samen	2.50	78	*e*Pn		Pn	20 38 38.3	+1.0
HSAM				*e*			20 39 20.0	
HSRG	Sareghieh	2.64	55	*e*Pn		Pn	20 38 41.3	+2.0
HSRG				*e*			20 39 24.8	
BMDN	Meydan	2.65	91	*e*Pn		Pn	20 38 40.4	+1.1
BMDN				*e*			20 39 30.5	
NSR	Nassriya	2.76	171	*e*Pn		Pn	20 38 41.0	+0.4
NSR				*e*Sn		Sn	20 39 14.0	+0.1
NSR				AML		AML	20 39 20.9	
	comp=E,995nm,0.0s							
MAHB	Mahabad	3.02	1	*e*Pn		Pn	20 38 43.7	-0.6
HAGD	Aghdareh	3.09	69	*e*Pn		Pn	20 38 46.7	+1.3
QABG	Abgarm-Qazvin	3.79	58	*e*Pn		Pn	20 38 55.4	+0.4
IRAZ	Razeghan	3.90	64	*e*Pn		Pn	20 38 58.5	+1.9
QSDN	Sirdan	3.99	45	*e*Pn		Pn	20 38 59.2	+1.4
QALM	Alamut, Qazvin	4.90	55	*e*Pn		Pn	20 39 11.5	+1.2

NEIC ***02*** *20:55:25.0±1.8, 4°.53N±0°.07×95°.52E±0°.07, h75

KURK IAmb IAmb 21 04 15.5
comp=Z,1.5nm,1.0s
ZALV Zalesovo Beam 50.05 352 P P 21 04 11.7 0.0
comp=Z,1.0nm,0.5s,baz=176,slow=7.0,SNR=5.9
ZALV Zalesovo Beam 50.05 352 P P 21 04 11.9 +0.2
MJAR Matsushiro Arr 50.51 45 P P 21 04 14.8 -0.7
comp=Z,0.7nm,0.4s,baz=246,slow=7.0,SNR=2.8
USRK Ussuriysk Ar. 50.91 33 P P 21 04 17.2 -1.1
comp=Z,1.5nm,0.7s,baz=225,slow=9.8,SNR=2.8
ABKAR Akbulak array 53.80 332 P P 21 04 39.3 -0.4
FINES FINESS Array B 76.28 332 P P 21 07 05.5 +0.2
comp=Z,1.9nm,0.9s,baz=113,slow=5.0,SNR=5.2
FINES FINESS Array B 76.28 332 P P 21 07 05.4 +0.1
ARCES ARCESS Array B 78.86 340 P P 21 07 20.1 +0.5
comp=Z,2.9nm,1.0s,baz=90,slow=7.3,SNR=8.3
GERES GERESS Array B 81.20 319 P P 21 07 34.1 +1.4
comp=Z,0.1nm,0.3s,baz=112,slow=6.6,SNR=3.7

*SNET **02** 21:14:29.9±1.0, 13°.28N×89°.65W, h35km±604km, ML2.8*
*GCG **02** 21:14:33.3±0.3, 13°.55N×89°.74W, h18km±4km, MD3.6*
ISC 02 21:14:29.3±2.3, 13°.3N±0°.1×89°.67W±0°.05, h28km±13km, n18, σ0s47/31, 3C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.58**	**5**	⇓*iP*	**Pn**	**21 14 41.7**	**-0.3**
CEVE				IAML		21 14 54.0	
comp=Z,2μm,0.3s							
SBLS	**San Blas**	**0.59**	**5**	⇓*iP*	**Pn**	**21 14 41.8**	**-0.3**
SBLS				*e*S	**Sn**	**21 14 51.6**	**+0.6**
SNET	**Serv Nac Est T**	**0.61**	**45**	*iP*	**Pb**	**21 14 41.7**	**+0.2**
SNET				*e*S	**Sn**	**21 14 51.4**	**+0.1**
BOQS	**Boqueron**	**0.62**	**38**	⇓*iP*	**Pb**	**21 14 42.1**	**+0.4**
SNJE	**San Jose**	**0.62**	**6**	⇓*iP*	**Pn**	**21 14 42.1**	**-0.4**
UEES	**Universidad Ev**	**0.63**	**42**	⇑*iP*	**Pb**	**21 14 42.1**	**+0.3**
UEES				*e*S	**Sn**	**21 14 51.7**	**0.0**
RTR	**El Retiro**	**0.64**	**2**	⇓*iP*	**Pn**	**21 14 42.6**	**-0.3**
RTR				*e*S	**Sn**	**21 14 52.8**	**+0.6**
OPAM	**Oficina de Pla**	**0.65**	**45**	⇑*iP*	**Pb**	**21 14 42.5**	**+0.3**
OPAM				*e*S	**Sn**	**21 14 52.4**	**+0.2**
NUBE	**Las Nubes**	**0.66**	**351**	⇓*iP*	**Pb**	**21 14 42.5**	**+0.1**
NUBE				*e*S	**Sn**	**21 14 52.5**	**0.0**
NUBE				IAML		21 14 53.3	
comp=Z,557nm,0.3s							
LFRS	**El Faro**	**0.70**	**58**	*iP*	**Pb**	**21 14 42.9**	**-0.2**
LFRS				⇓*e*S	**Sb**	**21 14 52.8**	**+0.3**
LFU	**La Fuente**	**0.74**	**48**	*eP*	**Pb**	**21 14 43.6**	**0.0**
LFU				*e*S	**Sn**	**21 14 54.7**	**+0.3**
TACO	**Tacachico**	**0.78**	**23**	⇑*eP*	**Pb**	**21 14 43.5**	**-0.9**
TACO				*e*S	**Sn**	**21 14 54.5**	**-0.9**
LBRS	**Las Brisas**	**0.78**	**51**	*iP*	**Pb**	**21 14 44.1**	**-0.3**
LBRS				*e*S	**Sn**	**21 14 55.7**	**+0.2**
PAVA	**Las Pavas**	**0.85**	**57**	⇓*iP*	**Pb**	**21 14 45.3**	**-0.4**
PAVA				*e*S	**Sn**	**21 14 57.2**	**0.0**
PAVA				IAML		21 14 59.5	
comp=Z,610nm,0.3s							
COEG	**Centro de Oper**	**0.85**	**64**	⇓*iP*	**Pb**	**21 14 45.4**	**-0.3**
COEG				*e*Pn	**Sb**	**21 14 56.7**	**-0.1**
IXG	**Ixpaco**	**1.18**	**321**	*eP*	**Pn**	**21 14 50.6**	**+0.3**
NBG	**Las Nubes**	**1.48**	**334**	*eP*	**Pn**	**21 14 55.3**	**+0.8**
FUG	**Fuego 3**	**1.65**	**317**	*eP*	**Pb**	**21 14 58.2**	**-1.0**
FUG				*e*S	**Sn**	**21 15 17.6**	**+0.6**

*INET **02** 21:23:08.5, 11°.72N×86°.49W, h76km, ML3.3*
*UCR **02** 21:23:08.4±1.8, 11°.71N×86°.55W, h53km±37km, ML3.8*
*SNET **02** 21:23:10.2±1.1, 11°.78N×86°.71W, h90km±51km, ML3.9*
ISC 02 21:23:08.9±1.5, 11°.68N±0°.09×86°.56W±0°.09, h59km±52km, n41, σ0s64/52, 3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.35**	**135**	*eP*	**Pn**	**21 23 31.6**	**+0.1**
HZTE				*e*S	**Sn**	**21 23 50.6**	**+2.1**
GBS3	**Finca Las Img**	**1.40**	**129**	*iP*	**Pn**	**21 23 31.7**	**-0.6**
LAPC	**Finca la Perla**	**1.43**	**129**	*iP*	**Pn**	**21 23 31.9**	**-0.7**
BUEV	**Buena Vista**	**1.43**	**128**	*iP*	**Pn**	**21 23 32.1**	**-0.6**
BUEV				*i*S	**Sn**	**21 23 50.4**	**-0.2**
GPS1	**Guardaparques**	**1.49**	**127**	*iP*	**Pn**	**21 23 33.0**	**-0.5**
GPS1				*i*S	**Sn**	**21 23 51.5**	**-0.5**
LIM1	**Limonal**	**1.61**	**127**	*iP*	**Pn**	**21 23 34.7**	**-0.4**
COLC	**Colonia**	**1.67**	**127**	*iP*	**Pn**	**21 23 35.9**	**0.0**
COLC				*i*S	**Sn**	**21 23 56.8**	**+0.5**
ORTG	**Ortega, Santa**	**1.70**	**140**	*iP*	**Pn**	**21 23 36.6**	**+0.2**
CUI	**Cuipilapa**	**1.71**	**127**	⇓*eP*	**Pn**	**21 23 36.0**	**-0.4**
CUI				*e*S	**Sn**	**21 23 57.6**	**+0.4**
GUAI	**GUAI**	**1.74**	**144**	*iP*	**Pn**	**21 23 36.6**	**-0.2**
GUAI				*i*S	**Sn**	**21 23 57.2**	**-0.7**
PLVR	**Palo Verde**	**1.78**	**138**	*eP*	**Pn**	**21 23 37.9**	**+0.4**
PTEN	**Parque Tenorio**	**1.82**	**122**	*iP*	**Pn**	**21 23 37.6**	**-0.3**
ACAL	**Aguas Claras**	**1.82**	**125**	*iP*	**Pn**	**21 23 37.8**	**-0.2**
DUNO	**Dulce Nombre,**	**1.91**	**147**	*eP*	**Pn**	**21 23 39.1**	**+0.1**
GRZA	**Playa Garza**	**1.98**	**153**	⇓*iP*	**Pn**	**21 23 39.6**	**-0.4**
CNCH	**Conchagua**	**2.02**	**322**	*eP*	**Pn**	**21 23 40.6**	**-0.1**
CNCH				*e*S	**Sn**	**21 24 06.0**	**+1.2**
CNCH				IAML		21 24 12.4	
comp=Z,1μm,0.3s							
CNCH	**Conchagua**	**2.02**	**322**	*eP*	**Pn**	**21 23 40.6**	**-0.1**
CNCH				*e*S	**Sn**	**21 24 06.0**	**+1.2**
CNCH				IAML		21 24 12.4	
comp=Z,1μm,0.3s							
LCND	**La Caada**	**2.08**	**321**	*eP*	**Pn**	**21 23 41.0**	**-0.3**
LCND				*e*S	**Sn**	**21 24 05.4**	**-0.7**
LCND				IAML		21 24 08.4	
comp=Z,530nm,0.4s							
LCND	**La Caada**	**2.08**	**321**	*eP*	**Pn**	**21 23 41.0**	**-0.3**
LCND				*e*S	**Sn**	**21 24 05.4**	**-0.7**
LCND				*e*S		21 24 05.7	
LCND				IAML		21 24 08.4	
comp=Z,530nm,0.4s							
JTS	**Las Juntas de**	**2.10**	**131**	*eP*	**Pn**	**21 23 41.1**	**-0.5**
CEDE	**Laguna Cedeo**	**2.17**	**123**	*eP*	**Pn**	**21 23 42.5**	**-0.3**
ARE1	**Arenal 1**	**2.17**	**124**	*eP*	**Pn**	**21 23 42.3**	**-0.4**
JUCU	**Jucuarąn**	**2.27**	**314**	*e*S	**Sn**	**21 24 10.8**	**-0.3**
JUCU	**Jucuarąn**	**2.27**	**314**	*e*S	**Sn**	**21 24 10.8**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.46**	**344**	*eP*	**Pn**	**21 23 47.1**	**+0.3**
TGUH	**Tegucigalpa,Un**	**2.46**	**344**	*eP*	**Pn**	**21 23 47.1**	**+0.3**
LAFE	**Finca La Fe, P**	**2.47**	**139**	*eP*	**Pn**	**21 23 46.2**	**-0.5**
PACA	**Pacayal**	**2.48**	**316**	*e*S	**Sn**	**21 24 15.8**	**-0.3**
PACA	**Pacayal**	**2.48**	**316**	*e*S	**Sn**	**21 24 15.8**	**-0.3**
ALJI	**Alcalda de J**	**2.56**	**310**	*e*S	**Sn**	**21 24 17.4**	**-0.6**
ALJI	**Alcalda de J**	**2.56**	**310**	*e*S	**Sn**	**21 24 17.4**	**-0.6**
TECA	**Tecapa**	**2.62**	**314**	*eP*	**Pn**	**21 23 49.8**	**+0.8**
TECA	**Tecapa**	**2.62**	**314**	*eP*	**Pn**	**21 23 49.8**	**+0.8**
JACO	**JACO, Garabito**	**2.74**	**137**	*eP*	**Pn**	**21 23 50.8**	**+0.4**
JACO				*e*S	**Sn**	**21 24 22.6**	**+0.2**
COEG	**Centro de Oper**	**2.98**	**311**	*e*S	**Sn**	**21 24 27.8**	**-0.5**
COEG	**Centro de Oper**	**2.98**	**311**	*e*S	**Sn**	**21 24 27.8**	**-0.5**
LFRS	**El Faro**	**3.11**	**309**	*e*S	**Sn**	**21 24 30.7**	**-1.1**
LFRS	**El Faro**	**3.11**	**309**	*e*S	**Sn**	**21 24 30.7**	**-1.1**
RIMA	**Rio Macho**	**3.26**	**125**	⇓*iP*	**Pn**	**21 23 58.0**	**+0.2**
CEVE	**Cerro Verde**	**3.67**	**306**	*eP*	**Pn**	**21 24 04.2**	**+0.8**
CEVE				IAML		21 24 50.0	
comp=Z,336nm,0.5s							
CEVE	**Cerro Verde**	**3.67**	**306**	*eP*	**Pn**	**21 24 04.2**	**+0.8**
CEVE				IAML		21 24 50.0	
comp=Z,336nm,0.5s							

*IDC **02** 21:29:46.3±1.1, 10°.20S×161°.19E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/32, mbtmp4.0/7, MS3.1/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=25.8km s-min=23.8km az=169.0*
*NEIC **02** 21:29:52.1±0.9, 10°.2S±0°.1×161°.14E±0°.09, h39km±11km, mb4.1/4, Error ellipse: s-maj=19.7km s-min=6.0km az=216.0*
ISC 02 21:29:51.8±0.8, 10°.2S±0°.1×161°.16E±0°.10, h35km, n15, σ0s81/14, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.40**	**302**	**Pn**	**Pn**	**21 30 14.5**	**-0.4**
426nm,0.3s,baz=153,slow=5.0,SNR=116							
HNR				Sn	**Sn**	**21 30 32.7**	**+0.6**
95nm,0.3s,baz=160,slow=22,SNR=4.2							
HNR				LR	LR	21 30 40.6	
comp=Z,144nm,20.1s,baz=146,slow=38							
HNR	**Honiara**	**1.40**	**302**		**Pn**	**21 30 15.1**	**+0.2**
SANVU	**Saraoutou**	**7.89**	**132**		**Pn**	**21 31 44.7**	**+0.6**
TARA	**Tarawa**	**16.39**	**46**	Pn	**Pn**	**21 33 38.2**	**-1.0**
TARA				IAmb	IAmb	21 33 40.9	
comp=Z,164nm,1.2s							
WRA	**Warramunga Arr**	**27.61**	**246**	P	**P**	**21 35 36.9**	**+0.7**
comp=Z,1.5nm,0.5s,baz=76,slow=9.1,SNR=18							
STKA	**Stephens Creek**	**28.18**	**217**	LR	LR	21 47 43.1	
comp=Z,36nm,18.9s,baz=29,slow=38							
AS31	**Alice Springs**	**29.24**	**239**	P	**P**	**21 35 49.5**	**-1.2**
AS31				IAmb	IAmb	21 35 51.0	
comp=Z,2.6nm,1.5s							
ASAR	**Alice Springs**	**29.25**	**239**	P	**P**	**21 35 49.6**	**-1.2**
comp=Z,0.5nm,0.5s,baz=62,slow=10,SNR=11							
SONM	**Songino Array**	**75.35**	**325**	P	**P**	**21 41 32.3**	**+0.5**
comp=Z,1.7nm,0.7s,baz=139,slow=6.1,SNR=13							
SONM	**Songino Array**	**75.35**	**325**	P	**P**	**21 41 33.0**	**+1.2**
MAW	**Mawson**	**83.81**	**202**	P	**P**	**21 42 17.3**	**+0.1**
comp=Z,1.4nm,0.7s,baz=97,slow=4.0,SNR=5.4							
MAW	**Mawson**	**83.81**	**202**	IAmb	IAmb	21 43 46.0	
comp=Z,2.1nm,1.8s							
ILAR	**Eielson Array**	**84.18**	**20**	P	**P**	**21 42 19.1**	**0.0**
comp=Z,0.7nm,0.7s,baz=256,slow=4.9,SNR=5.9							
NVAR	**Mina Array Bea**	**88.95**	**51**	P	**P**	**21 42 43.5**	**+0.1**
comp=Z,0.7nm,0.8s,baz=235,slow=6.0,SNR=4.6							
MKAR	**Makanchi Array**	**89.82**	**318**	P	**P**	**21 42 46.6**	**-0.4**
comp=Z,0.2nm,0.4s,baz=81,slow=5.7,SNR=4.6							

*IDC **02** 21:50:30.3±1.6, 5°.64S×152°.85E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/26, mbtmp3.8/5, Error ellipse: s-maj=31.3km s-min=14.6km az=78.0*
*NEIC **02** 21:50:36.8±1.2, 5°.3S±0°.1×152°.3E±0°.2, h33km±7km, mb4.1/4, Error ellipse: s-maj=28.6km s-min=13.5km az=126.0*
ISC 02 21:50:38.0±1.1, 5°.5S±0°.1×152°.3E±0°.1, h40km, n10, σ1s54/11, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.23**	**347**	Pg	**Pn**	**21 50 59.2**	**+0.5**
207nm,0.3s,baz=179,slow=0.7,SNR=67							
KRVT				Lg	Lg	21 51 19.9	
194nm,0.3s,baz=165,slow=18,SNR=13							
KRVT				LR	LR	21 51 47.7	
comp=Z,233nm,18.6s,baz=18,slow=50							
PMG	**Port Moresby**	**6.41**	**233**	Pn	**Pn**	**21 52 08.0**	**-1.9**
PMG					**Sn**	**21 53 24.3**	**+2.5**
DZM	**Mont Dzumac**	**21.40**	**142**	P	**P**	**21 55 24.2**	**+1.6**
DZM				IAmb	IAmb	21 55 27.7	
comp=Z,7.6nm,0.9s							
WB2	**Warramunga Arr**	**22.60**	**229**	P	**P**	**21 55 36.0**	**+0.6**
WB2				IAmb	IAmb	21 55 46.8	
comp=Z,17nm,1.6s							
WRA	**Warramunga Arr**	**22.61**	**229**	P	**P**	**21 55 36.4**	**+0.8**
comp=Z,0.5nm,0.4s,baz=54,slow=10,SNR=11							
AS31	**Alice Springs**	**25.30**	**223**	P	**P**	**21 56 01.1**	**+0.1**
AS31				IAmb	IAmb	21 56 33.6	
comp=Z,2.8nm,1.6s							
ASAR	**Alice Springs**	**25.30**	**223**	P	**P**	**21 56 02.5**	**+1.5**
comp=Z,0.8nm,0.6s,baz=59,slow=8.8,SNR=14							
FITZ	**Fitzroy Crossi**	**28.89**	**242**	P	**P**	**21 56 33.3**	**0.0**
comp=Z,1.0nm,0.5s,baz=182,slow=6.6,SNR=2.2							
ZALV	**Zalesovo Beam**	**81.47**	**326**	P	**P**	**22 02 50.0**	**-0.9**
comp=Z,0.7nm,0.5s,baz=98,slow=6.1,SNR=1.1							
ILAR	**Eielson Array**	**83.00**	**22**	P	**P**	**22 02 57.3**	**-1.4**
comp=Z,0.6nm,0.8s,baz=231,slow=5.9,SNR=5.8							

*NEIC **02** 22:21:59.5±1.6, 10°.85N±0°.05×69°.49W±0°.06, h4km±3km, mb4.7/233, Mwr4.6(CAR), Error ellipse: s-maj=8.3km s-min=6.8km az=104.0*
*IDC **02** 22:21:59.9±0.4, 10°.77N×69°.59W, h0km, mb4.4/25, mb1 4.6/32, mb1mx4.6/37, mbtmp4.5/32, ML4.0/7, MS4.0/22, Ms1 4.0/22, ms1mx3.8/40, Error ellipse: s-maj=11.7km s-min=9.2km az=96.0*
*UNK **02** 22:22:00.8, 10°.82N×69°.51W, h10km*
*GCMT **02** 22:22:03.5±0.3, 10°.84N±0°.01×69°.61W±0°.02, h15km±1km, MW4.8/93, Moment Tensor Solution. s13,c14; s93,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~0.15±.07; $M_{\theta\theta}$~0.41±.06; $M_{\phi\phi}$0.55±.06; $M_{r\theta}$~0.38±.14; $M_{\theta\phi}$~1.60±.06; $M_{\phi r}$~0.38±.13; Best double couple: $M_0$1.76000×10^{16} NP1:ϕ_s100.00000°, δ75.00000°, λ~169.00000°. NP2: ϕ_s7.00000°, δ79.00000°, λ~15.00000°. Principal axes: T 1.7500, Plg3.0000°, Azm54.0000°; N 0.0200, Plg72.0000°, Azm151.0000°; P -1.7700, Plg18.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **02** 22:22:07.6±0.3, 10°.25N×69°.35W, h10km, mb4.9*
ISC 02 22:22:01.1±0.3, 10°.82N±0°.04×69°.61W±0°.04, h10km, n553, σ1s37/481, mb4.7/130, MS4.1/22, 13C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATO	**Hato, Curacao**	**1.50**	**25**		**Pn**	**22 22 26.6**	**-1.4**
SDV	**Santo Domingo**	**2.17**	**208**	Pn	**Pn**	**22 22 38.1**	**+0.7**
387nm,0.3s,baz=32,slow=7.9,SNR=184							
SDV				Lg	Lg	22 23 07.8	
330nm,0.3s,baz=326,slow=21,SNR=11							
SDV	**Santo Domingo**	**2.17**	**208**	*eP*	**Pn**	**22 22 38.0**	**+0.6**
SDV				*e*S	**Sn**	**22 23 05.0**	**+0.5**
SDV	**Santo Domingo**	**2.17**	**208**		**Pn**	**22 22 38.3**	**+0.9**
BAUV	**El Baul**	**2.42**	**140**	*eP*	**Pn**	**22 22 41.9**	**+1.1**
BAUV				*e*S	**Sg**	**22 23 17.9**	**-1.2**
URIC	**Uribia, Colomb**	**2.49**	**291**	*eP*	**Pn**	**22 22 41.0**	**-0.7**
URIC	**Uribia, Colomb**	**2.49**	**291**		**Pn**	**22 22 41.1**	**-0.7**
OCAC	**Ocana**	**4.46**	**235**	*eP*	**Pn**	**22 23 09.2**	**+0.1**
SMRC	**Santa Marta, M**	**4.54**	**275**	*eP*	**Pn**	**22 23 10.2**	**+0.3**
PAMC	**Pamplona, Colo**	**4.61**	**222**	*eP*	**Pn**	**22 23 11.6**	**+0.3**
ARGC	**Ariguani, Magd**	**4.66**	**259**	*eP*	**Pn**	**22 23 11.5**	**0.0**
SMLC	**San Martin de**	**4.83**	**246**	⇑*eP*	**Pn**	**22 23 13.9**	**-0.1**
TAMC	**Tame, Arauca**	**4.86**	**206**	*eP*	**Pn**	**22 23 15.3**	**+1.0**
PCRV	**Puerto La Cruz**	**4.94**	**97**	Pn	**Pn**	**22 23 16.0**	**+0.6**
20nm,0.3s,baz=290,slow=1.7,SNR=34							
PCRV				Lg	Lg	22 24 41.2	
2.7nm,0.3s,baz=162,slow=18,SNR=3.2							
BRRC	**Barranca, Sant**	**5.48**	**228**	⇑*iP*	**Pn**	**22 23 23.7**	**+0.8**
BARC	**Barichara**	**5.48**	**220**	*eP*	**Pn**	**22 23 23.8**	**+0.6**
SJCC	**San Jacinto, C**	**5.55**	**261**	⇑*eP*	**Pn**	**22 23 24.6**	**+0.7**
RUSC	**La Rusia**	**5.98**	**215**	⇑*eP*	**Pn**	**22 23 30.2**	**0.0**
RUSC	**La Rusia**	**5.98**	**215**		**Pn**	**22 23 30.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**6.14**	**238**	*eP*	**Pn**	**22 23 31.3**	**-0.7**
MOTC	**Monteria, Cord**	**6.30**	**252**	⇑*eP*	**Pn**	**22 23 32.9**	**-1.2**
PTBC	**PUERTO BERRIO,**	**6.40**	**229**	*eP*	**Pn**	**22 23 34.7**	**-0.9**
UREC	**San Jos de Ur**	**6.59**	**243**	*eP*	**Pn**	**22 23 38.3**	**+0.1**
SPBC	**San Pablo de B**	**6.77**	**221**	⇑*eP*	**Pn**	**22 23 41.0**	**+0.3**
LCBC	**Los crdobas,**	**6.94**	**254**	*eP*	**Pn**	**22 23 42.5**	**-0.4**
NORC	**Norcasia**	**7.37**	**225**	⇑*eP*	**Pn**	**22 23 47.6**	**-1.3**
CHIC	**Chingaza**	**7.38**	**214**	*eP*	**Pn**	**22 23 49.0**	**-0.3**
HELC	**Santa Helena**	**7.44**	**232**	⇑*eP*	**Pn**	**22 23 50.5**	**+0.3**
DBBC	**Dabeiba**	**7.53**	**240**	*eP*	**Pn**	**22 23 48.5**	**-2.6**
MLPR	**Magueyes Islan**	**7.53**	**19**	Pn	**Pn**	**22 23 48.8**	**-2.3**
CRPR	**Cabo Rojo, PR**	**7.54**	**18**		**Pn**	**22 23 49.3**	**-2.0**
ROSC	**El Rosal**	**7.55**	**218**	Pn	**Pn**	**22 23 53.2**	**+1.5**
23nm,0.3s,baz=65,slow=8.6,SNR=26							
ROSC				Sn	**Sn**	**22 25 19.1**	**+1.5**
6.5nm,0.3s,baz=152,slow=18,SNR=3.6							
ROSC	**El Rosal**	**7.55**	**218**	⇑*eP*	**Pn**	**22 23 52.3**	**+0.6**
ROSC	**El Rosal**	**7.55**	**218**		**Pn**	**22 23 54.0**	**+2.4**
BANI	**BANI**	**7.56**	**355**		**Pn**	**22 23 51.1**	**-0.5**
MPR	**Mayaguez**	**7.73**	**18**		**Pn**	**22 23 50.3**	**-3.5**
PCDR	**Punta Cana, DR**	**7.74**	**9**	Pn	**Pn**	**22 23 52.0**	**-2.0**
OBIP	**Obispado Ponce**	**7.75**	**22**		**Pn**	**22 23 51.5**	**-2.6**
VILC	**Villavicencio,**	**7.79**	**212**	*eP*	**Pn**	**22 23 54.4**	**-0.4**
IGPR	**InterUniversit**	**7.87**	**25**	Pn	**Pn**	**22 23 53.6**	**-2.1**
GRGR	**Grenville**	**7.91**	**80**		**Pn**	**22 23 53.5**	**-2.8**
DR12	**Loma Pena Alta**	**7.93**	**2**		**Pn**	**22 23 54.8**	**-1.8**
CAPC	**Capurgana**	**7.93**	**255**	*eP*	**Pn**	**22 23 54.8**	**-1.8**
GUY2C	**Guyana, Caldas**	**7.96**	**226**	⇑*eP*	**Pn**	**22 23 57.5**	**+0.2**
PDPR	**Patillas Dam,**	**7.96**	**26**		**Pn**	**22 23 54.4**	**-2.5**
AOPR	**Arecibo Observ**	**7.98**	**20**		**Pn**	**22 23 55.9**	**-1.3**
CBOC	**Ciudad Bolivar**	**8.02**	**233**	⇑*eP*	**Pn**	**22 23 58.0**	**0.0**
HUMP	**Col San Antoni**	**8.14**	**26**		**Pn**	**22 23 57.0**	**-2.4**
LGNH	**Logne**	**8.18**	**340**	Pn	**Pn**	**22 23 58.5**	**-1.4**
EMPR	**Esperanza - Ma**	**8.18**	**21**	Pn	**Pn**	**22 23 59.9**	**0.0**
GCPR	**Guaynabo City**	**8.19**	**24**		**Pn**	**22 23 58.8**	**-1.4**
MTP	**Monte Pirata**	**8.23**	**28**	Pn	**Pn**	**22 23 58.2**	**-2.6**
CBYP	**Canovanas**	**8.25**	**26**		**Pn**	**22 23 59.0**	**-2.0**
SDDR	**Presa de Saban**	**8.28**	**349**	Pn	**Pn**	**22 24 03.2**	**+1.9**
CDVI	**St. Croix**	**8.34**	**34**	Pn	**Pn**	**22 23 59.7**	**-2.4**
TOLC	**Tolima**	**8.38**	**223**	*eP*	**Pn**	**22 24 02.9**	**-0.2**
ANIL	**Santa Ana**	**8.51**	**223**	*eP*	**Pn**	**22 24 04.7**	**-0.1**
SVB	**Belmont**	**8.54**	**73**		**Pn**	**22 24 01.5**	**-3.4**
CUPR	**Culebra, Puert**	**8.54**	**29**	Pn	**Pn**	**22 24 04.2**	**-0.7**
STVI	**Saint Thomas**	**8.74**	**31**	Pn	**Pn**	**22 24 05.6**	**-2.0**
GUVC	**San Jose del G**	**8.75**	**200**	*eP*	**Pn**	**22 24 07.0**	**-0.8**
PRAC	**Prado**	**8.78**	**217**	*eP*	**Pn**	**22 24 07.6**	**-0.7**
PLMC	**San Jos del P**	**8.84**	**229**	*eP*	**Pn**	**22 24 08.0**	**-1.1**
ORTC	**Ortega, Tolima**	**8.85**	**220**	*eP*	**Pn**	**22 24 08.1**	**-1.1**
TOSP	**Speyside**	**8.93**	**86**	Pn	**Pn**	**22 24 07.0**	**-3.1**
SOLC	**Bahia Solano**	**8.96**	**240**	*eP*	**Pn**	**22 24 08.6**	**-2.0**
FDF	**Fort de France**	**9.12**	**64**	Pn	**Pn**	**22 24 09.5**	**-3.5**
YOTC	**Yotoco, Valle**	**9.52**	**225**	*eP*	**Pn**	**22 24 17.3**	**-1.2**
MACC	**Macarena, Meta**	**9.59**	**206**	⇑*eP*	**Pn**	**22 24 16.8**	**-2.5**
BETC	**Betania**	**9.94**	**216**	*eP*	**Pn**	**22 24 20.1**	**-4.1**
BCIP	**Isla Barro Col**	**10.20**	**262**	*eP*	**Pn**	**22 24 26.8**	**-0.9**
BCIP	**Isla Barro Col**	**10.20**	**262**		**Pn**	**22 24 27.7**	**-0.1**
GARC	**Garzon, Huila**	**10.37**	**215**	*eP*	**Pn**	**22 24 29.2**	**-1.1**
PCON	**Cinco Dias**	**10.79**	**219**	*eP*	**Pn**	**22 24 36.0**	**-0.3**
POPC	**Popayan, Colom**	**10.81**	**221**	*eP*	**Pn**	**22 24 36.3**	**+0.1**
FLOC	**Florencia**	**10.96**	**214**	*eP*	**Pn**	**22 24 34.2**	**-4.0**
FLOC	**Florencia**	**10.96**	**214**	Pn	**Pn**	**22 24 36.7**	**-1.5**
SOTA	**Rioblanco**	**11.07**	**219**	*eP*	**Pn**	**22 24 38.8**	**-1.3**
BBAC	**Balboa, Cauca**	**11.57**	**221**	*eP*	Pn	22 24 40.5	-6.2
PTLC	**Puerto Leguiza**	**11.77**	**206**	*eP*	**Pn**	**22 24 50.0**	**+0.9**
GCUF	**Volcan Galeras**	**12.24**	**219**	*eP*	Pn	22 25 02.7	+6.6
OTAV	**Otavalo**	**13.70**	**220**	*eP*	**Pn**	**22 25 18.6**	**+2.6**
OTAV	**Otavalo**	**13.70**	**220**	Pn	**Pn**	**22 25 14.3**	**-1.7**
OTAV	**Otavalo**	**13.70**	**220**	*eP*	**Pn**	**22 25 18.9**	**+2.9**
PTGA	**Pitinga**	**14.96**	**140**	Pn	**Pn**	**22 25 31.1**	**-1.6**
0.4nm,0.3s,baz=317,slow=15,SNR=6.0							
PTGA				Lg	Lg	22 29 44.5	
1.6nm,0.3s,baz=60,slow=16,SNR=6.8							
PTGA				LR	LR	22 31 30.7	
comp=Z,664nm,19.4s,baz=326,slow=38							
PTGA	**Pitinga**	**14.96**	**140**		**Pn**	**22 25 30.3**	**-2.5**
PTGA	**Pitinga**	**14.96**	**140**	*eP*	**Pn**	**22 25 30.8**	**-2.0**
JTS	**Las Juntas de**	**15.09**	**269**	Pn	**Pn**	**22 25 35.2**	**+0.6**
0.4nm,0.3s,baz=3.5,slow=19,SNR=2.0							
JTS				Sn	**Sn**	**22 28 16.3**	**-5.6**
0.3nm,0.3s,baz=172,slow=23,SNR=1.9							
JTS	**Las Juntas de**	**15.09**	**269**	Pn	**Pn**	**22 25 34.9**	**+0.3**
JTS				IAmb	IAmb	22 26 05.8	
comp=Z,39nm,1.0s							
BOAB	**BOACO BROADBAN**	**16.81**	**277**	Pn	**Pn**	**22 25 42.5**	**-1.4**
BOAB				IAmb	IAmb	22 25 53.8	
comp=Z,65nm,1.0s							
MATN	**Matagalpa**	**16.10**	**279**	Pn	**Pn**	**22 25 47.1**	**-0.8**
MACA	**Manacapuru-AM**	**16.49**	**147**	*eP*	**Pn**	**22 25 50.3**	**-2.4**
MDP	**Montagnes des**	**

U57A	Blanch	26.98	343	P	P	22 27 43.9 +0.9
	baz=158					
T60A	Surry	26.98	347	P	P	22 27 43.7 +0.6
	baz=164					
T59A	Double "B" Far	27.01	346	P	P	22 27 43.8 +0.5
	baz=162					
V55A	Taylorsville	27.05	339	P	P	22 27 44.6 +0.9
	baz=154					
V54A	Nebo	27.25	338	P	P	22 27 46.4 +0.8
	baz=153					
LRAL	Lakeview Retre	27.28	327	P	P	22 27 47.2 +1.4
	baz=140					
T57A	Hurt	27.48	343	P	P	22 27 48.8 +1.2
	baz=159					
V53A	Saluda	27.49	336	IAmb	IAmb	22 28 22.8
	comp=Z,18nm,1.2s					
U55A	TA2, Sparta	27.58	340	P	P	22 27 49.5 +1.0
	baz=155					
T56A	Rocky Mt	27.74	342	P	P	22 27 50.3 +0.4
	baz=157					
FPAL	Fort Paine	27.77	331	P	P	22 27 50.3 +0.1
U54A	Nelsons Funny	27.87	339	P	P	22 27 52.0 +0.8
	baz=154					
U54A	Nelsons Funny	27.87	339	P	P	22 27 49.3 -1.9
TKL	Tuckaleechee C	27.87	335	P	P	22 27 51.9 +0.8
	comp=Z,3.2nm,0.7s,baz=151,slow=9.7,SNR=7.1					
SIV	San Ignacio	27.95	162	P	P	22 27 51.6 -0.3
	comp=Z,1.9nm,0.6s,baz=21,slow=11,SNR=8.6					
SIV				LR	LR	22 39 27.0
	comp=Z,694nm,18.4s,baz=348,slow=38					
PTLB	Pontes e Lacer	28.09	158	eP	P	22 27 52.9 -0.2
V51A	Loudon	28.24	334	IAmb	IAmb	22 27 56.8
	comp=Z,14nm,0.8s					
T54A	Tazewell	28.27	340	P	P	22 27 55.4 +0.7
	baz=154					
R58A	Rapidan	28.38	346	P	P	22 27 56.2 +0.6
	baz=162					
SWET	Sewanee	28.47	331	IAmb	IAmb	22 28 42.7
	comp=Z,32nm,2.0s					
T53A	Wise	28.54	338	P	P	22 27 57.9 +0.8
	baz=152					
TZTN	Tazewell	28.54	336	P	P	22 27 58.0 +0.9
	baz=150					
ROSB	Rosrio	28.80	117	eP	P	22 28 01.8 +2.2
PB16	IPOC Station P	28.97	180	P	P	22 28 00.6 -1.0
PB16				IAmb	IAmb	22 28 21.0
	comp=Z,9.7nm,0.9s					
PLAL	Pickwick Lake	29.35	328	IAmb	IAmb	22 28 06.2
	comp=Z,8.9nm,0.9s					
SMTB	Santa Maria do	29.37	131	eP	P	22 28 06.2 +1.6
R53A	Hurricane	29.54	340	P	P	22 28 06.6 +0.6
	baz=155					
Q55A	Buckhannon	29.57	343	P	P	22 28 06.7 +0.4
	baz=159					
P56A	Dayton Farm, R	29.72	346	P	P	22 28 07.9 +0.4
	baz=161					
MNMC	Minye Minye	29.76	180	IAmb	IAmb	22 28 10.8
	comp=Z,15nm,1.0s					
Q54A	Coxs Mills	29.78	342	P	P	22 28 09.0 +0.9
	baz=157					
Q54A	Coxs Mills	29.78	342	IAmb	IAmb	22 28 10.4
	comp=Z,9.7nm,1.0s					
O60A	Telford	29.82	351	P	P	22 28 10.3 +1.9
	baz=168					
Q53A	Leroy	29.88	341	P	P	22 28 10.1 +1.1
	baz=156					
O58A	Lewisberry	29.90	349	P	P	22 28 10.5 +1.5
	baz=165					
LUPA	Lehigh Univers	30.09	351	IAmb	IAmb	22 28 13.2
	comp=Z,15nm,1.0s					
WVT	Waverly	30.12	330	P	P	22 28 11.7 +0.6
	baz=142					
Q52A	Bidwell	30.22	340	P	P	22 28 12.4 +0.5
	baz=155					
PSGCX	Pisagua	30.23	181	P	P	22 28 12.8 +0.5
PSGCX				IAmb	IAmb	22 28 17.1
	comp=Z,17nm,0.9s					
GO01	Chusmiza	30.30	179	P	P	22 28 12.3 -1.0
R50A	Paris	30.36	337	IAmb	IAmb	22 28 15.9
	comp=Z,14nm,0.9s					
O56A	Blue Knob Stat	30.38	346	P	P	22 28 14.3 +0.9
	baz=162					
PB11	IPOC Station P	30.39	180	P	P	22 28 13.4 -0.4
PB11					P	22 28 15.1 +1.4
T47A	Sharon Grove	30.46	332	IAmb	IAmb	22 28 16.0
	comp=Z,8.0nm,0.8s					
N59A	State Game Lan	30.47	351	P	P	22 28 14.5 +0.4
	baz=168					
M63A	Gales Ferry	30.54	356	P	P	22 28 15.6 +0.9
	baz=175					
N58A	Sunbury	30.55	349	P	P	22 28 15.4 +0.6
	baz=166					
M61A	Granite Spring	30.59	354	P	P	22 28 15.9 +0.8
	baz=172					
M62A	Hamden	30.64	355	P	P	22 28 16.7 +1.1
	baz=174					
M60A	Port Jervis	30.71	353	P	P	22 28 17.1 +0.9
	baz=170					
O54A	Avella	30.76	344	P	P	22 28 17.7 +1.0
	baz=159					
PB08	IPOC Station P	30.77	179	P	P	22 28 16.5 -0.9
PB08				IAmb	IAmb	22 28 19.9
	comp=Z,16nm,1.1s					
Z41A	Richland Creek	30.85	320	P	P	22 28 18.2 +0.6
	baz=131					
N56A	West Decatur	30.94	347	P	P	22 28 19.4 +1.0
	baz=163					
M58A	Price's Panora	31.02	350	P	P	22 28 19.9 +0.9
	baz=167					
M59A	Waymart	31.03	352	P	P	22 28 19.8 +0.7
	baz=169					
O53A	New Philadelph	31.06	343	P	P	22 28 20.3 +1.0
	baz=157					
PEXB	Peixe	31.09	137	eP	P	22 28 21.4 +1.5
M57A	Sunshine Farm,	31.11	349	P	P	22 28 21.1 +1.3
	baz=166					
WCI	Wyandotte Cave	31.12	334	P	P	22 28 20.7 +0.9
	baz=147					
WCI	Wyandotte Cave	31.12	334	P	P	22 28 19.5 -0.4
WCI				IAmb	IAmb	22 28 22.0
	comp=Z,8.4nm,0.8s					
O52A	Adamsville	31.13	342	P	P	22 28 20.9 +1.0
	baz=156					
O52A	Adamsville	31.13	342	IAmb	IAmb	22 28 22.1
	comp=Z,12nm,0.8s					
NATX	Nacogdoches	31.14	316	P	P	22 28 21.4 +1.2
	baz=126					
L60A	Shokan	31.31	353	P	P	22 28 22.8 +1.2
	baz=171					
N54A	Moraine State	31.39	345	P	P	22 28 23.4 +1.2
	baz=160					
O51A	Pataskala	31.40	341	P	P	22 28 23.4 +1.0
	baz=155					
M56A	Emporium	31.46	348	P	P	22 28 24.0 +1.1
	baz=164					
N53A	Lisbon	31.47	344	P	P	22 28 23.8 +0.9
	baz=158					
M55A	Ridgway	31.57	347	P	P	22 28 24.9 +1.0
	baz=162					
L58A	Harry Jones Me	31.58	351	P	P	22 28 25.3 +1.3
	baz=168					
P49A	Miami Univ. Ec	31.60	337	P	P	22 28 24.9 +0.8
	baz=151					
ACSO	Alum Creek Sta	31.60	340	P	P	22 28 25.3 +1.2
	baz=154					
L59A	Walton	31.61	352	P	P	22 28 24.9 +0.7
	baz=170					
HRV	Adam Dziewonsk	31.61	357	P	P	22 28 24.6 +0.5
	baz=176					
L61B	Northampton	31.62	356	P	P	22 28 25.0 +0.7
	baz=174					
X40A	Basin Creek Fa	31.69	322	P	P	22 28 25.5 +0.5
	baz=132					
L57A	Andrews Acres	31.70	350	P	P	22 28 26.1 +1.1
	baz=166					
ARAG	Araguaiana, MT	31.71	146	eP	P	22 28 25.8 +0.6
BINY	Binghamton	31.75	351	P	P	22 28 26.9 +1.4
	baz=168					
K63A	Dunstable	31.79	357	P	P	22 28 27.2 +1.5
	baz=176					
K62A	Royalston	31.81	356	P	P	22 28 27.1 +1.2
	baz=175					
W41B	Gary Mavity, V	31.81	323	P	P	22 28 26.6 +0.6
	baz=134,SNR=8.3					
M54A	Oil Creek Stat	31.82	346	P	P	22 28 27.1 +1.1
	baz=161					
LCAR	Lake Charles	31.82	326	IAmb	IAmb	22 28 27.9
	comp=Z,11nm,1.1s					
K61A	Williamstown	31.89	355	P	P	22 28 27.7 +1.1
	baz=173					
L56A	Greenwood	31.96	349	P	P	22 28 28.2 +0.8
	baz=165					
K59A	Cooperstown	32.16	353	P	P	22 28 29.8 +0.7
	baz=170					
MIAR	Mount Ida	32.18	321	P	P	22 28 29.3 0.0
	baz=132,SNR=6.4					
MIAR	Mount Ida	32.18	321	IAmb	IAmb	22 28 30.5
	comp=Z,9.4nm,0.8s					
L55A	Hinsdale	32.19	348	P	P	22 28 30.4 +1.1
	baz=163					
FCAR	Ozark Folk Cen	32.24	324	IAmb	IAmb	22 28 31.0
	comp=Z,11nm,0.8s					
K58A	Earlville	32.26	352	P	P	22 28 31.0 +1.1
	baz=169					
J62A	Henniker	32.34	357	P	P	22 28 31.5 +0.9
	baz=176					
K57A	Scipio Center	32.36	350	P	P	22 28 31.4 +0.6
	baz=167					
J63A	Strafford	32.36	358	P	P	22 28 31.8 +1.0
	baz=177					
L53A	Girard	32.39	345	P	P	22 28 31.9 +0.9
	baz=160					
L54A	Sinclairville	32.43	347	P	P	22 28 32.1 +0.8
	baz=162					
K56A	Middlesex	32.46	349	P	P	22 28 31.8 +0.1
	baz=166					
J60A	Lant Hill Farm	32.47	355	P	P	22 28 33.0 +1.2
	baz=173					
T42A	Van Buren	32.49	327	IAmb	IAmb	22 28 33.5
	comp=Z,9.4nm,0.8s					
J61A	Chester	32.51	356	P	P	22 28 32.9 +0.9
	baz=174					
K55A	Perry	32.63	348	P	P	22 28 33.9 +0.8
	baz=164					
W39A	Magazine	32.74	322	P	P	22 28 35.1 +0.9
	baz=132,SNR=14					
J58A	Remsen	32.79	352	P	P	22 28 35.2 +0.7
	baz=170					
J58A	Remsen	32.79	352	IAmb	IAmb	22 28 36.8
	comp=Z,13nm,1.1s					
J59A	Piesco	32.80	353	P	P	22 28 35.4 +0.8
	baz=171					
J59A	Piesco	32.80	353	IAmb	IAmb	22 28 36.9
	comp=Z,9.2nm,1.0s					
833A	Chaparral WMA,	32.88	306	P	P	22 28 36.0 +0.4
	baz=116,SNR=9.4					
J57A	Williamstown	32.94	351	P	P	22 28 36.7 +0.9
	baz=168					
I64A	Boothbay	32.98	360	P	P	22 28 37.5 +1.4
	baz=180					
U40A	Yellville	32.99	324	P	P	22 28 36.9 +0.5
	baz=135,SNR=5.8					
U40A	Yellville	32.99	324	IAmb	IAmb	22 28 37.8
	comp=Z,12nm,0.8s					
I59A	Olmsteadville	33.06	354	P	P	22 28 37.6 +0.7
	baz=172					
I61A	Oroboro, Fairl	33.07	357	P	P	22 28 37.1 +0.2
	baz=175					
I58A	Old Forge	33.08	353	P	P	22 28 37.4 +0.4
	baz=170					
I63A	Otisfield	33.12	359	P	P	22 28 38.7 +1.3
	baz=178					
LVC	Limon Verde	33.23	179	P	P	22 28 38.9 -0.1
LVC					P	22 28 39.2 +0.2
LVC				IAmb	IAmb	22 28 41.1
	comp=Z,14nm,1.1s					
LVC	Limon Verde	33.23	179	eP	P	22 28 38.9 -0.1
SFIN	Lafayette	33.26	335	P	P	22 28 39.4 +0.8
	baz=147					
SFIN	Lafayette	33.26	335	IAmb	IAmb	22 28 40.5
	comp=Z,7.2nm,0.8s					
NCB	Newcomb	33.27	354	P	P	22 28 38.4 -0.3
CCM	Cathedral Cave	33.34	328	P	P	22 28 39.9 +0.5
	baz=139					
CCM	Cathedral Cave	33.34	328	P	P	22 28 39.4 0.0
CCM				IAmb	IAmb	22 28 40.8
	comp=Z,14nm,1.0s					
LBNH	Lisbon	33.36	357	P	P	22 28 40.6 +1.1
	baz=176					
HHAR	Hobbs	33.57	323	IAmb	IAmb	22 28 42.5
	comp=Z,7.1nm,0.9s					
ZAIG	Zacatecas	33.62	295	P	P	22 28 42.8 +0.4
ZAIG				IAmb	IAmb	22 28 44.8
	comp=Z,13nm,1.2s					
H61A	Lyndonville	33.65	357	P	P	22 28 43.9 +1.9
	baz=176					
H62A	Milan	33.66	358	P	P	22 28 43.3 +1.2
	baz=177					
SDBA	SAO DESIDERIO	33.69	133	eP	P	22 28 43.9 +1.2
H64A	Troy	33.70	1	P	P	22 28 43.4 +1.0
	baz=180					
H58A	Gabriels	33.71	354	P	P	22 28 43.6 +1.0
	baz=172					
H63A	New Sharon	33.72	359	P	P	22 28 44.0 +1.4
	baz=179					
H60A	Morristown	33.73	356	P	P	22 28 44.1 +1.4
	baz=174					
H65A	Eastbrook	33.78	2	P	P	22 28 45.0 +1.9
	baz=182					
H59A	Cadyville	33.89	355	P	P	22 28 45.9 +1.8
	baz=173					
BDFB	Brasilia	33.89	141	P	P	22 28 45.5 +1.0
	comp=Z,14nm,1.0s,baz=340,slow=10,SNR=11					
BDFB				LR	LR	22 42 46.9
	comp=Z,367nm,20.9s,baz=338,slow=37					
BDFB	Brasilia	33.89	141	P	P	22 28 42.3 -2.2
BDFB				IAmb	IAmb	22 28 49.2
	comp=Z,16nm,1.0s					
H66A	Whiting	33.90	3	P	P	22 28 46.3 +2.2
	baz=184					
LONY	Lake Ozonia	33.95	354	P	P	22 28 46.8 +2.1
	baz=171					
I55A	Frankford	34.00	350	P	P	22 28 46.2 +1.2
	baz=166					
R40A	Maddies Statio	34.05	327	IAmb	IAmb	22 28 46.7
	comp=Z,13nm,0.9s					
H56A	Elgin	34.14	352	P	P	22 28 47.3 +1.1
	baz=168					
G63A	Kingsbury	34.17	360	P	P	22 28 48.3 +1.7
	baz=180					
G60A	Masonville	34.24	357	P	P	22 28 48.6 +1.5
	baz=175					
G59A	Clarenceville	34.28	356	P	P	22 28 48.6 +1.2
	baz=174					
G62A	West of Eustis	34.29	359	P	P	22 28 48.7 +1.2
	baz=178,SNR=5.6					
G62A	West of Eustis	34.29	359	IAmb	IAmb	22 28 50.3
	comp=Z,14nm,0.9s					
G65A	Princeton	34.30	3	P	P	22 28 48.7 +1.0
	baz=183					
I51A	Listowel	34.32	345	P	P	22 28 48.7 +0.9
	baz=160					
G64A	Maxfield	34.32	1	P	P	22 28 49.2 +1.4
	baz=181					
PKME	Peaks-Kenny Pk	34.33	0	P	P	22 28 49.0 +1.2
	baz=180					
PKME	Peaks-Kenny Pk	34.33	0	IAmb	IAmb	22 28 50.3
	comp=Z,12nm,0.8s					
G61A	St-Isidore-de-	34.38	358	P	P	22 28 49.2 +0.9
	baz=176					
TUL1	Leonard	34.45	321	P	P	22 28 48.9 -0.2
	baz=130,SNR=6.2					
H53A	Bobcaygeon	34.51	349	P	P	22 28 50.5 +1.0
	baz=164					
F63A	Nahmakanta, Br	34.77	1	P	P	22 28 52.8 +1.1
	baz=181					
G55A	Calabogie	34.85	351	P	P	22 28 53.4 +1.0
	baz=168					
P40A	Paris	34.86	329	IAmb	IAmb	22 28 53.5
	comp=Z,13nm,0.8s					
ORIO	Orleans, Innes	34.88	353	P	P	22 28 53.6 +1.0
	baz=170					
F64A	Sherman	34.94	2	P	P	22 28 54.1 +1.0
	baz=182					
F62A	Pittston Farm,	34.96	360	P	P	22 28 54.5 +1.2
	baz=179					
F61A	St Evariste	35.05	358	P	P	22 28 55.6 +1.5
	baz=178					
F60A	Warwick	35.09	357	P	P	22 28 55.2 +0.8
	baz=176					
ABTX	Abilene, Hawle	35.13	313	P	P	22 28 55.4 +0.3
	baz=121,SNR=5.8					
N41A	Harden Midland	35.19	331	IAmb	IAmb	22 28 56.0
	comp=Z,9.6nm,0.9s					
QUOK	Quay	35.19	320	IAmb	IAmb	22 28 56.0
	comp=Z,13nm,0.8s					
E63A	Oxbow	35.50	1	P	P	22 28 59.0 +1.1
	baz=182					
E61A	Lac Etchemin	35.50	359	P	P	22 28 59.1 +1.1
	baz=178					
E64A	Bridgewater	35.51	2	P	P	22 28 59.2 +1.1
	baz=183					
T35A	Sooner Cattle	35.54	321	IAmb	IAmb	22 28 58.9
	comp=Z,15nm,0.8s					
E58A	La Victoria	35.57	356	P	P	22 28 59.5 +0.9
	baz=174					
IPMB	Ipameri, GO	35.58	143	eP	P	22 29 00.0 +1.0
WMOK	Wichita Mounta	35.68	317	IAmb	IAmb	22 29 00.5
	comp=Z,11nm,0.7s					
E62A	Clayton Lake	35.68	0	P	P	22 29 00.4 +0.8
	baz=180					
E62A	Clayton Lake	35.68	0	P	P	22 28 59.9 +0.3
E62A				IAmb	IAmb	22 29 01.9
	comp=Z,12nm,1.1s					
E57A	Chemin Saint G	35.68	355	P	P	22 29 00.4 +0.8
	baz=172					
L42A	Oliver, Polo	35.69	334	IAmb	IAmb	22 29 00.6
	comp=Z,13nm,0.8s					
P38A	Dawn	35.70	328	IAmb	IAmb	22 29 00.7
	comp=Z,9.8nm,0.8s					
ALGO	Algonquin Park	35.75	350	P	P	22 29 00.5 +0.4
	baz=166,SNR=5.6					
ITRB	Iturama	35.77	148	eP	P	22 29 01.1 +0.5
E56A	St. Veronique	35.90	354	P	P	22 29 02.6 +1.1
	baz=171					
JANB	Januaria	35.91	135	eP	P	22 29 02.7 +0.8
E55A	Montcerf-Lytto	35.93	352	P	P	22 29 02.5 +0.8
	baz=169					
D60A	Saint Jean D'O	35.99	358	P	P	22 29 03.0 +0.9
	baz=178					
E54A	Lac Daplat, Po	36.07	351	P	P	22 29 03.2 +0.3
	baz=167					
E53A	Dumoine, Ponti	36.09	351	P	P	22 29 03.5 +0.4
	baz=166,SNR=6.6					
D63A	Stockholm	36.12	2	P	P	22 29 04.6 +1.3
	baz=182					
D62A	Allapoint, All	36.15	1	IAmb	IAmb	22 29 05.8
	comp=Z,8.0nm,0.8s					
D58A	Chemin du LacG	36.26	356	P	P	22 29 05.3 +0.8
	baz=174					
D61A	St Aubert, Com	36.27	359	P	P	22 29 06.1 +1.6
	baz=179,SNR=5.7					
D56A	ZEC Mazanza, M	36.37	354	P	P	22 29 06.3 +0.9
	baz=171					
F49A	Sandfield	36.41	345	P	P	22 29 06.0 +0.3
	baz=159					
D55A	Sainte-Anne-du	36.42	353	P	P	22 29 06.8 +0.9
	baz=170,SNR=7.5					
L40A	Anamosa	36.42	332	IAmb	IAmb	22 29 06.7
	comp=Z,11nm,0.8s					
LATQ	La Tuque	36.54	356	P	P	22 29 07.8 +1.0
	baz=175					
JFWS	Jewell Farm	36.68	334	P	P	22 29 08.4 +0.2
	baz=144,SNR=7.2					
D54A	Lac Fusel, La	36.70	352	P	P	22 29 08.6 +0.4
	baz=168,SNR=5.9					
TXAR	Lajitas Array	36.71	305	P	P	22 29 09.5 +0.8
	comp=Z,3.9nm,0.8s,baz=124,slow=8.9,SNR=28					
TXAR				PcP	PcP	22 31 32.2 +0.8
	comp=Z,1.1nm,0.9s,baz=128,slow=5.8,SNR=3.7					
TXAR				LR	LR	22 48 28.7
	comp=Z,50nm,18.1s,baz=0.0,slow=43					
TXAR	Lajitas Array	36.71	305	P	P	22 29 09.2 +0.5
TX31	Lajitas Ar. Si	36.71	305	IAmb	IAmb	22 29 21.2
	comp=Z,20nm,0.9s					
D53A	Lac Vacive, Po	36.78	351	P	P	22 29 09.6 +0.7
	baz=166,SNR=6.1					
D53A	Lac Vacive, Po	36.78	351	IAmb	IAmb	22 29 11.1
	comp=Z,13nm,0.8s					
PCMB	Pacaembu	36.92	151	eP	P	22 29 11.1 +0.6
I42A	Draeger Farm,	36.94	337	IAmb	IAmb	22 29 11.6
	comp=Z,14nm,0.8s					
KSU1	Kansas State U	37.03	324	P	P	22 29 11.6 +0.4
	baz=132					
SCIA	State Center	37.24	330	P	P	22 29 13.2 +0.2
	baz=139					
MC01	Montes Claros	37.32	137	eP	P	22 29 13.8 -0.1
TRCB	Terra Rica	37.32	154	eP	P	22 29 15.8 +2.0
E47A	Iron Bridge	37.37	344	P	P	22 29 14.6 +0.6
	baz=157					
RCBR	Riachuelo	37.41	115	P	P	22 29 12.1 -2.7
RCBR	Riachuelo	37.41	115	eP	P	22 29 17.7 +2.9
E46A	Sault Ste Mari	37.57	343	IAmb	IAmb	22 29 17.4
	comp=Z,13nm,0.8s					
I40A	Norwalk	37.63	335	IAmb	IAmb	22 29 17.3
	comp=Z,19nm,0.8s					
AMTX	Amarillo	37.76	315	P	P	22 29 17.5 -0.1
	baz=122					
BB19B	Bebedouro	37.86	147	eP	P	22 29 20.1 +1.6
D47A	Chapleau	37.88	345	P	P	22 29 18.6 +0.3
	baz=158					
D46A	Sault St. Mari	37.97	344	P	P	22 29 19.8 +0.8
	baz=156					
MSTX	Muleshoe	38.07	313	P	P	22 29 20.2 -0.1
	baz=119,SNR=6.4					
MSTX	Muleshoe	38.07	313	IAmb	IAmb	22 29 21.1
	comp=Z,10nm,0.8s					
GDU01	Guandu, BA	38.50	129	eP	P	22 29 24.9 +1.0
LSQQ	Lebel-sur-Quev	38.61	352	P	P	22 29 25.1 +0.7
	baz=168					
CPUP	Villa Florida	38.81	162	P	P	22 29 24.5 -1.8
	comp=Z,11nm,1.1s,baz=354,slow=8.1,SNR=7.4					
CPUP				LR	LR	22 46 17.7
	comp=Z,332nm,18.2s,baz=345,slow=38					
CPUP	Villa Florida	38.81	162	eP	P	22 29 26.1 -0.2
I37A	Lemond, Waseca	38.95	332	IAmb	IAmb	22 29 46.6
	comp=Z,22nm,1.0s					
MNTX	Cornudas Mount	39.01	308	P	P	22 29 27.9 -0.1
CHGQ	Chibougamau	39.17	355	P	P	22 29 29.6 +0.5
	baz=172					
FRTB	Fartura	39.22	150	eP	P	22 29 31.3 +1.5
PTGB	Pitanga	39.25	154	eP	P	22 29 31.6 +1.5
MATQ	Matagami	39.39	352	P	P	22 29 31.3 +0.4
	baz=167					
BGNE	Belgrade	39.45	326	P	P	22 29 31.0 -0.7
	baz=132					
SPMN	Marine on St.	39.63	334	P	P	22 29 32.9 -0.1
	baz=143					
BSCB	Bom Sucesso	39.95	142	eP	P	22 29 38.1 +2.1
E38A	The Farm, Brul	40.24	336	IAmb	IAmb	22 29 39.0
	comp=Z,20nm,0.8s					
ECSD	EROS Data Cent	40.27	329	P	P	22 29 38.1 -0.3
	baz=136					
VAO	Valinhos	40.27	147	eP	P	22 29 39.9 +1.3
SLBS	Sierra La Lagu	40.44	294	P	P	22 29 41.2 +1.1
SLBS				IAmb	IAmb	22 29 43.4
	comp=Z,13nm,0.9s					
T25A	Trinidad	40.81	316	P	P	22 29 43.5 +0.3
	baz=121					
BNM	Barren Site	40.99	310	P	P	22 29 44.9 +0.1
121A	Cookes Peak, D	41.21	308	P	P	22 29 48.0 +1.4
	baz=113,SNR=8.9					
ANMO	Albuquerque	41.22	312	P	P	22 29 47.2 +0.6
	baz=117					
ANMO	Albuquerque	41.22	312	P	P	22 29 46.6 0.0
EYMN	Ely	41.32	338	P	P	22 29 46.5 -0.5
	baz=146					
EYMN	Ely	41.32	338	P	P	22 29 46.8 -0.2
EYMN				IAmb	IAmb	22 29 48.0
	comp=Z,13nm,0.8s					
ITAB	Concordia	41.46	156	eP	P	22 29 50.2 +1.9
RIB01	Linhares ES	41.54	136	eP	P	22 29 51.8 +2.7
F33A	5 Mile Ranch,	41.66	332	P	P	22 29 49.9 0.0
F33A				IAmb	IAmb	22 29 50.4
	comp=Z,8.4nm,0.7s					
SDCO	Great Sand Dun	41.87	316	P	P	22 29 51.4 -0.6
ZON	Zonda	42.13	179	P	P	22 29 53.0 -0.8
ZON				IAmb	IAmb	22 29 55.7
	comp=Z,12nm,0.9s					
Q24A	Divide	42.26	318	P	P	22 29 55.4 +0.2
	baz=122					
S22A	4UR Ranch, Cre	42.78	315	P	P	22 30 00.4 +0.9
	baz=119,SNR=6.1					
AGMN	Agassiz Nation	43.35	335	P	P	22 30 03.5 +0.1
TUC	Tucson	43.49	306	P	P	22 30 05.8 +0.8
	baz=110					
TUC	Tucson	43.49	306	P	P	22 30 05.7 +0.7
MVCO	Mesa Verde	43.71	314	P	P	22 30 07.6 +0.8
	baz=117					
MVCO	Mesa Verde	43.71	314	IAmb	IAmb	22 30 28.9
	comp=Z,12nm,1.2s					
SCHQ	Schefferville	43.96	2	P	P	22 30 08.2 -0.1
	comp=Z,7.3nm,0.5s,baz=200,slow=8.0,SNR=11					

SCHQ	**Schefferville**	**43.96**	**2**	P	**P**	**22 30 07.7**	**-0.6**
SCHQ				IAmb	IAmb	22 30 13.3	
	comp=Z,18nm,1.0s						
PV15	**Paradox Valley**	**44.22**	**315**	IAmb	IAmb	22 30 14.2	
	comp=Z,16nm,0.9s						
RSSD	**Black Hills**	**44.52**	**325**	P	**P**	**22 30 13.6**	**+0.4**
	baz=128						
MDND	**Maddock**	**44.68**	**331**	P	**P**	**22 30 14.3**	**+0.1**
	baz=136						
ULM	**Lac du Bonnet**	**44.88**	**336**	P	**P**	**22 30 14.7**	**-1.0**
	comp=Z,15nm,0.7s,baz=141,slow=7.3,SNR=12						
ULM				LR	LR	22 51 31.8	
	comp=Z,146nm,18.3s,baz=150,slow=39						
O20A	**White River Ci**	**44.91**	**317**	P	**P**	**22 30 17.1**	**+0.7**
	baz=120						
WUAZ	**Wupatki**	**45.11**	**310**	P	**P**	**22 30 19.1**	**+1.1**
	baz=112,SNR=9.9						
WUAZ	**Wupatki**	**45.11**	**310**	IAmb	IAmb	22 30 21.0	
	comp=Z,12nm,0.9s						
U15A	**North Rim**	**46.15**	**311**	IAmb	IAmb	22 30 29.1	
	comp=Z,8.5nm,0.9s						
PDMCI	**Parker Dam,Lak**	**46.81**	**307**	P	**P**	**22 30 32.2**	**+1.0**
	baz=109						
W13A	**Hualapai Mount**	**46.88**	**308**	IAmb	IAmb	22 30 34.5	
	comp=Z,4.9nm,0.9s						
GLA	**Glamis**	**46.96**	**305**	P	**P**	**22 30 33.0**	**+0.5**
	baz=107						
BW06	**Boulder Array**	**47.09**	**320**	IAmb	IAmb	22 30 36.9	
	comp=Z,7.0nm,1.2s						
PD31	**Pinedale Array**	**47.09**	**320**	IAmb	IAmb	22 30 36.9	
	comp=Z,6.5nm,1.2s						
PDAR	**Pinedale Array**	**47.09**	**320**	P	**P**	**22 30 33.7**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=117,slow=11,SNR=23						
PDAR				LR	LR	22 52 48.7	
	comp=Z,89nm,18.1s,baz=122,slow=39						
PDAR	**Pinedale Array**	**47.09**	**320**	P	**P**	**22 30 32.9**	**-0.7**
LAO	**LASA Array**	**47.30**	**326**	P	**P**	**22 30 34.5**	**-0.4**
	baz=127						
DGMT	**Dagmar**	**47.35**	**329**	P	**P**	**22 30 35.9**	**+0.6**
	baz=131						
IRM	**Iron Mountain**	**47.55**	**307**	P	**P**	**22 30 38.4**	**+1.3**
	baz=108,SNR=10						
BC3	**Big Chuckawall**	**47.64**	**306**	P	**P**	**22 30 38.6**	**+0.7**
	baz=108						
SWSC	**Sam W. Stewart**	**47.71**	**305**	P	**P**	**22 30 39.3**	**+1.0**
	baz=107						
IKP	**In-Ko-Pah, Jac**	**47.88**	**304**	P	**P**	**22 30 40.7**	**+1.0**
	baz=106						
DUG	**Dugway, Tooele**	**48.05**	**315**	P	**P**	**22 30 42.2**	**+1.2**
	baz=115						
DUG	**Dugway, Tooele**	**48.05**	**315**	IAmb	IAmb	22 30 43.4	
	comp=Z,5.3nm,1.0s						
AHID	**Auburn Hatcher**	**48.08**	**319**	IAmb	IAmb	22 30 42.5	
	comp=Z,6.5nm,0.8s						
PSUT	**Pine Spring**	**48.11**	**313**	P	**P**	**22 30 42.0**	**+0.4**
RLMT	**Red Lodge**	**48.15**	**323**	P	**P**	**22 30 42.0**	**+0.2**
	baz=123,SNR=5.8						
RLMT	**Red Lodge**	**48.15**	**323**	IAmb	IAmb	22 30 43.0	
	comp=Z,6.8nm,0.8s						
GMRC	**Granite Mounta**	**48.15**	**307**	P	**P**	**22 30 42.7**	**+0.9**
	baz=108,SNR=6.4						
BELC	**Belle Mtn. Jos**	**48.18**	**306**	P	**P**	**22 30 42.6**	**+0.5**
	baz=107						
SHPR	**Sheep Range**	**48.33**	**310**	IAmb	IAmb	22 30 53.3	
	comp=Z,8.8nm,1.2s						
FLWY	**Flagg Ranch**	**48.47**	**321**	IAmb	IAmb	22 31 01.7	
	comp=Z,8.1nm,0.8s						
IMW	**Indian Meadow**	**48.53**	**320**	P	**P**	**22 30 44.4**	**-0.5**
IMW					**P**	**22 30 45.7**	**+0.9**
IMW				IAmb	IAmb	22 30 51.6	
	comp=Z,7.2nm,0.6s						
H17A	**Grant Village**	**48.56**	**321**	P	**P**	**22 30 45.3**	**+0.3**
	baz=121						
HEC	**Hector,Ludlow**	**48.69**	**307**	P	**P**	**22 30 47.3**	**+1.4**
	baz=108,SNR=5.2						
MURC	**Murrieta**	**49.02**	**305**	P	**P**	**22 30 49.3**	**+0.9**
	baz=106						
GSC	**Goldstone, Bar**	**49.20**	**308**	P	**P**	**22 30 50.8**	**+0.9**
	baz=108						
GSC	**Goldstone, Bar**	**49.20**	**308**	IAmb	IAmb	22 30 52.1	
	comp=Z,9.6nm,1.1s						
TPNV	**Topopah Spring**	**49.30**	**310**	P	**P**	**22 30 51.7**	**+1.0**
	baz=110,SNR=5.1						
TPNV	**Topopah Spring**	**49.30**	**310**	IAmb	IAmb	22 30 53.3	
	comp=Z,6.8nm,0.9s						
BFSC	**Mount Baldy Ra**	**49.56**	**306**	P	**P**	**22 30 54.0**	**+1.3**
	baz=106						
FURC	**Furnace Creek,**	**49.61**	**309**	P	**P**	**22 30 54.2**	**+1.4**
	baz=109,SNR=6.3						
BOZ	**Bozeman (W)**	**49.81**	**322**	P	**P**	**22 30 54.9**	**+0.4**
	baz=121,SNR=6.5						
BOZ	**Bozeman (W)**	**49.81**	**322**	IAmb	IAmb	22 30 56.1	
	comp=Z,6.9nm,0.9s						
LRMC	**Laurel Mtn Rad**	**49.94**	**308**	P	**P**	**22 30 56.6**	**+1.1**
	baz=107						
MPMC	**Manual Prospec**	**49.97**	**308**	P	**P**	**22 30 56.0**	**+0.2**
	baz=108,SNR=5.8						
EDW2	**Edwards Air Fo**	**50.01**	**307**	P	**P**	**22 30 56.3**	**+0.3**
	baz=106						
EGMT	**Eagleton**	**50.03**	**326**	P	**P**	**22 30 56.0**	**+0.1**
	baz=124						
HLID	**Hailey**	**50.59**	**318**	P	**P**	**22 31 01.2**	**+0.8**
	baz=116,SNR=9.7						
ISA	**Isabella, Lake**	**50.61**	**307**	P	**P**	**22 31 01.7**	**+1.1**
	baz=107						
FFC	**Flin Flon**	**50.71**	**336**	P	**P**	**22 31 00.2**	**-0.6**
VES	**Vestal, Richgr**	**51.14**	**308**	P	**P**	**22 31 05.6**	**+1.2**
	baz=106						
SBC	**Santa Barbara**	**51.26**	**306**	P	**P**	**22 31 05.9**	**+0.6**
	baz=105						
PLCA	**Paso Flores**	**51.30**	**181**	P	**P**	**22 31 04.1**	**-1.4**
	comp=Z,3.5nm,0.7s,baz=352,slow=7.4,SNR=6.8						
PLCA				LR	LR	22 52 03.8	
	comp=Z,205nm,19.2s,baz=9.0,slow=35						
PLCA	**Paso Flores**	**51.30**	**181**	P	**P**	**22 31 04.5**	**-1.1**
PLCA				IAmb	IAmb	22 31 24.4	
	comp=Z,7.7nm,0.8s						
PLCA	**Paso Flores**	**51.30**	**181**	*e*P	**P**	**22 31 04.1**	**-1.4**
NVAR	**Mina Array Bea**	**51.33**	**311**	P	**P**	**22 31 07.3**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=125,slow=7.4,SNR=23						
NVAR				LR	LR	22 56 53.1	
	comp=Z,77nm,18.1s,baz=112,slow=41						
NVAR	**Mina Array Bea**	**51.33**	**311**	P	**P**	**22 31 06.9**	**+0.8**
PKM	**Mcpherson Peak**	**51.45**	**306**	P	**P**	**22 31 07.8**	**+0.8**
	baz=105						
MFID	**Camas Ranch**	**51.46**	**318**	IAmb	IAmb	22 31 08.5	
	comp=Z,8.8nm,0.8s						
YERR	**Yerington**	**52.20**	**311**	IAmb	IAmb	22 31 17.5	
	comp=Z,16nm,1.0s						
PNTR	**Pine Nut**	**52.50**	**311**	IAmb	IAmb	22 31 22.0	
	comp=Z,11nm,0.8s						
F10A	**Beach Ranch, E**	**53.45**	**320**	P	**P**	**22 31 20.9**	**-0.6**
F10A				IAmb	IAmb	22 31 22.4	
	comp=Z,6.5nm,0.8s						
I07A	**Izee**	**54.17**	**317**	IAmb	IAmb	22 31 29.1	
	comp=Z,7.8nm,0.9s						
E09A	**Wood Farm, Sta**	**54.26**	**320**	IAmb	IAmb	22 31 28.4	
	comp=Z,6.8nm,0.9s						
G08A	**Pilot Rock**	**54.27**	**319**	IAmb	IAmb	22 31 33.4	
	comp=Z,5.6nm,0.8s						
NEW	**Newport**	**54.40**	**323**	P	**P**	**22 31 28.0**	**-0.4**
	baz=117						
C09A	**Chrisman Ranch**	**54.88**	**322**	IAmb	IAmb	22 31 32.9	
	comp=Z,6.3nm,0.7s						
PINE	**Pine Mountain**	**55.03**	**316**	IAmb	IAmb	22 31 35.4	
	comp=Z,12nm,0.9s						
B08A	**Colville Reser**	**55.76**	**322**	IAmb	IAmb	22 31 38.8	
	comp=Z,4.9nm,0.8s						
YKA	**Yellowknife Ar**	**60.81**	**338**	P	**P**	**22 32 12.8**	**-0.3**
	comp=Z,9.4nm,0.8s,baz=117,slow=6.8,SNR=46						
YKA				LR	LR	23 00 52.1	
	comp=Z,136nm,18.4s,baz=0.0,slow=38						
TIC	**Toumodi**	**63.89**	**88**	*e*P	**P**	**22 32 37.0**	**+2.3**
LIC	**Lamto**	**63.94**	**88**	*e*P	**P**	**22 32 38.1**	**+3.0**
	comp=Z,5.8nm,0.4s						
DBIC	**Dimbokro**	**64.04**	**88**	P	**P**	**22 32 36.4**	**+0.7**
	comp=Z,3.1nm,0.4s,baz=262,slow=7.4,SNR=11						
DBIC				LR	LR	22 57 03.4	
	comp=Z,78nm,20.9s,baz=238,slow=33						
KIC	**Kosan Boka**	**64.20**	**88**	*e*P	**P**	**22 32 39.2**	**+2.4**
	comp=Z,48nm,1.2s						
ESDC	**Sonseca Array**	**64.46**	**51**	P	**P**	**22 32 38.7**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=263,slow=6.0,SNR=11						
SUMG	**Summit**	**64.46**	**10**	*i* P	**P**	**22 32 37.9**	**0.0**
	comp=Z,25nm,0.8s						
SUMG	**Summit**	**64.46**	**10**	P	**P**	**22 32 38.0**	**0.0**
DLBC	**Dease Lake**	**65.56**	**330**	LR	LR	23 02 05.3	
	comp=Z,196nm,21.3s,baz=141,slow=37						
C36M	**Paulatuk**	**67.85**	**342**	P	**P**	**22 32 58.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**69.58**	**80**	P	**P**	**22 33 10.3**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=289,slow=7.4,SNR=11						
TORD				LR	LR	23 02 43.7	
	comp=Z,88nm,19.8s,baz=335,slow=35						
TORD	**Torodi Ar. Bea**	**69.58**	**80**	P	**P**	**22 33 09.1**	**-2.0**
HYT	**Haines Junctio**	**69.89**	**331**	IAmb	IAmb	22 33 14.7	
	comp=Z,8.3nm,1.0s						
TAM	**Tamanrasset**	**72.28**	**69**	P	**P**	**22 33 27.0**	**-0.5**
EGAK	**Eagle**	**72.44**	**335**	P	**P**	**22 33 26.5**	**-1.0**
EGAK				IAmb	IAmb	22 33 29.3	
	comp=Z,6.6nm,0.9s						
BNI	**Bardonecchia**	**72.75**	**46**	P	**P**	**22 33 31.5**	**+1.6**
BNI				IAmb	IAmb	22 33 36.0	
	comp=Z,7.5nm,1.0s						
MENT	**Mentasta**	**73.21**	**333**	P	P	22 33 37.5	+5.4
SENIN	**Lac Senin/Sane**	**73.23**	**45**	P	**P**	**22 33 33.1**	**+0.3**
SENIN				IAmb	IAmb	22 33 38.4	
	comp=Z,5.8nm,0.7s						
BMAR	**Burnt Mountain**	**74.31**	**337**	P	**P**	**22 33 38.7**	**+0.1**
ILAR	**Eielson Array**	**74.86**	**334**	P	**P**	**22 33 41.2**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=102,slow=4.8,SNR=12						
ILAR				LR	LR	23 10 36.9	
	comp=Z,92nm,18.1s,baz=105,slow=39						
DAVA	**Damuels**	**75.02**	**44**	*es*P	**P**	**22 33 47.1**	**+3.9**
	comp=Z,3.8nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**75.28**	**45**	IAmb	IAmb	22 33 50.0	
	comp=Z,8.8nm,1.1s						
PMSA	**Palmer Station**	**75.49**	**178**	P	**P**	**22 33 46.4**	**+1.3**
PMSA	**Palmer Station**	**75.49**	**178**	*e*P	**P**	**22 33 48.5**	**+3.3**
FETA	**Feichten**	**75.59**	**44**	*es*P	**P**	**22 33 48.8**	**+2.2**
	comp=Z,5.5nm,0.6s						
RETA	**Reutte**	**75.61**	**44**	*es*P	**P**	**22 33 49.0**	**+2.5**
	comp=Z,3.2nm,0.7s						
NEA2	**Nenana**	**75.77**	**334**	P	**P**	**22 33 46.5**	**-0.5**
	baz=95						
SQTA	**Sankt Quirin**	**75.92**	**44**	*es*P	**P**	**22 33 49.1**	**+0.8**
	comp=Z,6.6nm,1.0s						
NB2	**NORSAR Subarra**	**76.17**	**30**	P	**P**	**22 33 51.8**	**+2.5**
	comp=Z,3.7nm,0.9s,baz=269,slow=6.2						
NOA	**NORSAR Array B**	**76.17**	**30**	P	**P**	**22 33 51.6**	**+2.3**
	comp=Z,1.8nm,0.8s,baz=269,slow=5.8,SNR=7.4						
WATA	**Walderalm**	**76.17**	**44**	*es*P	**P**	**22 33 51.6**	**+1.8**
	comp=Z,2.9nm,0.9s						
WTTA	**Wattenberg**	**76.21**	**44**	*es*P	**P**	**22 33 53.8**	**+3.7**
	comp=Z,5.4nm,0.8s						
COLD	**Coldfoot**	**76.45**	**337**	P	**P**	**22 33 49.9**	**-0.9**
	baz=94						
BPAW	**Bear Paw Mtn.**	**76.57**	**333**	IAmb	IAmb	22 33 54.6	
	comp=Z,4.8nm,0.9s						
SKT	**Skwentna**	**76.72**	**331**	IAmb	IAmb	22 34 09.2	
	comp=Z,10.0nm,1.2s						
ABTA	**Abfaltersbach**	**76.82**	**44**	*es*P	**P**	**22 33 55.2**	**+1.7**
	comp=Z,8.4nm,1.2s						
CLL	**Collm**	**77.03**	**40**	*e*(P)	**P**	**22 33 57.0**	**+2.6**
	comp=Z,3.0nm,0.5s						
CLL				LH		23 06 00.0	
	comp=N,200nm,20.4s						
CLL				LH		23 06 00.0	
	comp=E,300nm,18.7s						
ZOU	**Zoufplan**	**77.15**	**45**	P	**P**	**22 33 55.4**	**0.0**
KDAK	**Kodiak Island**	**77.18**	**327**	LR	LR	23 08 42.1	
	comp=E,157nm,20.5s,baz=125,slow=36						
KBA	**Koelnbreinsper**	**77.38**	**44**	*es*P	**P**	**22 33 59.2**	**+2.5**
	comp=E,13nm,0.7s						
KHC	**Kasperske Hory**	**77.46**	**42**	*e*P	**P**	**22 33 57.9**	**+1.0**
KHC				*e*PCP	**PcP**	**22 34 05.4**	**-1.9**
GEC2	**GERESS Array S**	**77.55**	**42**	IAmb	IAmb	22 34 02.7	
	comp=Z,4.9nm,0.7s						
GERES	**GERESS Array B**	**77.55**	**42**	P	**P**	**22 33 58.4**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=264,slow=3.8,SNR=24						
GERES	**GERESS Array B**	**77.55**	**42**	P	**P**	**22 33 57.2**	**-0.3**
MYKA	**Terra Mystica**	**77.61**	**44**	*es*P	**P**	**22 34 01.1**	**+3.4**
	comp=Z,4.7nm,0.5s						
BRG	**Berggiesshubel**	**77.64**	**40**	*e*P	**P**	**22 33 58.6**	**+0.9**
	comp=Z,4.5nm,0.9s						
BRG	**Berggiesshubel**	**77.64**	**40**	*e*P	**P**	**22 33 58.6**	**+0.9**
	comp=Z,4.5nm,0.9s						
MOA	**Molln**	**77.97**	**43**	*es*P	**P**	**22 34 03.1**	**+3.3**
	comp=Z,2.7nm,0.5s						
PRU	**Pruhonice**	**78.05**	**41**	*e*P	**P**	**22 34 01.4**	**+1.3**
SVW2	**Sparrevohn**	**78.66**	**330**	P	**P**	**22 34 02.8**	**-0.5**
SVW2				IAmb	IAmb	22 34 09.2	
	comp=Z,7.5nm,0.7s						
TTA	**Tatalina**	**78.81**	**332**	IAmb	IAmb	22 34 13.2	
	comp=Z,12nm,1.2s						
UPC	**Upice**	**78.97**	**40**	*e*P	**P**	**22 34 06.9**	**+1.7**
CHVC	**Chvalec**	**78.99**	**40**	*e*P	**P**	**22 34 08.0**	**+2.7**
CHVC				*ex*	x	22 34 20.8	
OSTC	**Ostas**	**79.09**	**40**	*e*P	**P**	**22 34 07.3**	**+1.4**
OSTC				*ex*	x	22 34 21.9	
DPC	**Dobruska-Polom**	**79.17**	**41**	*e*P	**P**	**22 34 08.1**	**+1.7**
KRLC	**Kraliky**	**79.49**	**41**	*e*P	**P**	**22 34 09.4**	**+1.3**
VYHS	**Vyhne**	**80.97**	**42**	*e*P	**P**	**22 34 17.5**	**+1.4**
ARCES	**ARCESS Array B**	**81.73**	**21**	P	**P**	**22 34 21.4**	**+1.7**
	comp=Z,1.3nm,0.5s,baz=285,slow=3.5,SNR=11						
FINES	**FINESS Array B**	**83.30**	**29**	P	**P**	**22 34 28.9**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=296,slow=5.7,SNR=22						
FINES	**FINESS Array B**	**83.30**	**29**	P	**P**	**22 34 28.2**	**+0.2**
FIA1	**FINESS Array S**	**83.30**	**29**	P	**P**	**22 34 26.6**	**-1.3**
AKASG	**Malin Array Be**	**87.25**	**39**	P	**P**	**22 34 49.7**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=295,slow=4.4,SNR=2.1						
AKASG				LR	LR	23 10 20.6	
	comp=Z,91nm,21.2s,baz=325,slow=33						
KLMR	**Klimovskoe**	**89.71**	**28**	*e*P	**P**	**22 35 02.7**	**+3.3**
KLMR				AMP		22 35 11.4	
	comp=Z,8.0nm,1.5s						
BRTR	**Keskin Array B**	**93.15**	**49**	P	**P**	**22 35 16.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=298,slow=37,SNR=4.5						
BRTR				LR	LR	23 13 20.4	
	comp=Z,18nm,21.6s,baz=302,slow=33						
NRIK	**Noril'sk**	**98.45**	**8**	LR	LR	23 20 08.0	
	comp=Z,58nm,21.6s,baz=19,slow=35						
MKAR	**Makarchi Array**	**117.39**	**21**	PKP	**PKPdf**	**22 40 46.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=296,slow=2.2,SNR=4.8						
SONM	**Songino Array**	**121.50**	**3**	PKP	**PKiKP**	**22 40 56.5**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=231,slow=2.1,SNR=3.9						
LZH	**Lanzhou**	**132.94**	**7**	*e*PKP	**PKPdf**	**22 41 16.2**	**-1.3**
LZH				pPKP	PKiKP	22 41 19.5	+0.8
LZH				sPKP		22 41 20.8	
LZH				LR	LR		
	comp=N,110nm,18.0s						
LZH				LR	LR		
	comp=E,120nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,20.1s						
CTA	**Charters Tower**	**144.29**	**251**	PKP	PKPbc	22 41 36.7	0.0
	comp=Z,6.6nm,0.7s,baz=154,slow=4.5,SNR=8.4						
CMAR	**Chiang Mai Arr**	**148.79**	**21**	PKPbc	**PKPbc**	**22 41 48.8**	**-1.1**
	comp=Z,3.4nm,0.7s,baz=320,slow=4.1,SNR=9.3						
CMAR	**Chiang Mai Arr**	**148.79**	**21**		**PKPbc**	**22 41 48.5**	**-1.4**
QIZ	**Qiongzhong**	**150.34**	**1**	PKPbc	**PKPdf**	**22 41 46.4**	**-2.1**
QIZ				PP	**PP**	**22 45 24.4**	**-2.6**
ASAR	**Alice Springs**	**154.21**	**237**	PKP	**PKPdf**	**22 41 55.4**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=101,slow=1.7,SNR=8.9						
ASAR				PKPbc	**pPKPbc**	**22 42 04.8**	**-1.3**
	comp=Z,3.6nm,0.7s,baz=112,slow=2.5,SNR=22						
WRA	**Warramunga Arr**	**155.22**	**246**	PKP	**PKPdf**	**22 41 57.5**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=88,slow=1.0,SNR=9.7						
WRA				PKPab	**PKPab**	**22 42 20.9**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=100,slow=4.1,SNR=11						

IDC 02 22:38:15.7±1.5,**5°.63S**×**150°.79E, h0**km, **mb3.4**/3, **mb1 3.8**/3, **mb1mx3.4**/26, **mbtmp3.4**/3, **Error ellipse: s-maj=122.9km s-min=13.3km az=134.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.80**	**43**	Pg	Pn	22 38 48.7	+0.7
	31nm,0.3s,baz=28,slow=21,SNR=14						
KRVT				Lg	Lg	22 39 11.9	
	58nm,0.3s,baz=296,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**21.41**	**227**	P	P	22 43 04.3	-1.1
	0.4nm,0.3s,baz=52,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**24.21**	**221**	P	P	22 43 34.4	+0.1
	1.0nm,0.7s,baz=53,slow=9.1,SNR=5.3						
ILAR	**Eielson Array**	**83.68**	**22**	P	P	22 50 47.3	+1.2
	0.2nm,0.5s,baz=233,slow=4.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**148.63**	**286**	PKPbc	PKPbc	22 58 05.0	-0.9
	0.7nm,0.6s,baz=71,slow=3.1,SNR=2.6						

TEH ***02*** *22:50:15.9, 32°.68N×47°.74E, h10km, ML3.0*
ISN ***02*** *22:50:15.5*±*1.2, 32°.61N×47°.77E, h14km*±*7km, ML2.6*

THR ***02*** *22:50:19.3*±*0.7, 32°.78N×47°.78E, h18km*±*11km, ML3.0*
ISC 02 22:50:17.2±1.0, **32°.66N**±**0°.04×47°.63E**±**0°.04, h10**km, **n30,** σ1$**09**/34, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.29**	**275**	*e*Pg	**Pb**	**22 50 23.8**	**-0.8**
IKMR	**Kamar-syah**	**1.07**	**36**	*e*Pg	Pb	22 50 34.4	-3.3
IKMR				*e*		22 50 54.3	
SHGR	**Shooshtar-Gavs**	**1.13**	**119**	*e*Pg	**Pn**	**22 50 40.0**	**+1.0**
SHGR				*e*Sg	**Sb**	**22 50 54.1**	**+0.5**
SHGR				IAML		22 50 57.4	
	comp=E,345nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.13**	**119**	*e*Pg	**Pn**	**22 50 40.1**	**+1.0**
IDOB	**Doab**	**1.22**	**22**	*e*Pg	**Pn**	**22 50 38.7**	**-1.8**
BMDN	**Meydan**	**1.43**	**44**	*e*Pg	**Pn**	**22 50 41.2**	**-2.1**
BMDN				*e*		22 51 05.6	
IBDR	**Badra**	**1.50**	**288**	*e*Pg	**Pb**	**22 50 45.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**22 51 07.0**	**+1.6**
IBDR				AML	AML	22 51 24.0	
	comp=N,93nm,0.9s						
IBDR				AML	AML	22 51 32.2	
	comp=E,84nm,0.9s						
IKOM	**Komasi**	**1.52**	**356**	*e*Pg	**Pn**	**22 50 45.1**	**+0.5**
IKOM				*e*		22 51 11.3	
AHWZ	**Ahwaz**	**1.58**	**147**	*e*Pg	**Pn**	**22 50 45.4**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.69**	**343**	*e*Pg	**Pn**	**22 50 48.1**	**+1.2**
KCHF				*e*		22 51 17.8	
HSAM	**Samen**	**1.75**	**27**	*e*Pg	**Pn**	**22 50 48.1**	**+0.2**
HSAM				*e*		22 51 16.3	
KER	**Kermanshah**	**1.77**	**347**	*e*Pn	**Pn**	**22 50 49.2**	**+1.1**
IBZA	**Bozab**	**1.82**	**6**	*e*Pg	**Pn**	**22 50 49.9**	**+1.1**
IBZA				*e*		22 51 18.5	
IGHG	**Ghaleghazi**	**1.89**	**332**	*e*Pn	**Pn**	**22 50 51.5**	**+1.8**
IGHG				*e*		22 51 34.4	
IVIS	**Veis**	**1.98**	**341**	*e*Pn	**Pn**	**22 50 51.8**	**+1.0**
IVIS				*e*		22 51 27.6	
NSR	**Nassriya**	**2.07**	**218**	*e*Pn	**Pn**	**22 50 52.0**	**0.0**
NSR				*e*Sn	**Sn**	**22 51 17.0**	**-0.9**
KHMZ	**Khomeyn**	**2.23**	**60**	*e*Pn	**Pn**	**22 50 55.1**	**+0.7**
KHMZ	**Khomeyn**	**2.23**	**60**	*e*Pn	**Pn**	**22 50 55.1**	**+0.7**
IALM	**Almabolaq**	**2.24**	**11**	*e*Pn	**Pn**	**22 50 55.2**	**+0.5**
IDHR	**Dehrash**	**2.29**	**333**	*e*Pn	**Pn**	**22 50 56.3**	**+1.1**
IDHR				*e*		22 51 42.8	
ILIN	**Lien**	**2.32**	**346**	*e*Pn	**Pn**	**22 50 55.8**	**+0.1**
ILIN				*e*		22 51 40.4	
HAGD	**Aghdareh**	**2.50**	**30**	*e*Pn	**Pn**	**22 50 57.4**	**-0.7**
HAGD				*e*		22 51 40.3	
HSRG	**Sareghieh**	**2.63**	**12**	*e*Pn	**Pn**	**22 51 01.4**	**+1.4**
HSRG				*e*		22 51 50.1	
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn	**Pn**	**22 51 02.3**	**+0.7**
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn	**Pn**	**22 51 02.3**	**+0.7**
BHD	**Baghdad**	**2.80**	**284**	*e*Pn	**Pn**	**22 51 03.0**	**+1.0**
BHD				*e*Sn	**Sb**	**22 51 39.0**	**-2.6**
IRAZ	**Razeghan**	**3.34**	**34**	*e*Pn	**Pn**	**22 51 10.7**	**+1.0**
QABG	**Abgarm-Qazvin**	**3.45**	**27**	*e*Pn	**Pn**	**22 51 11.0**	**-0.2**
GHVR	**GHOM**	**3.56**	**58**	*e*Pn	**Pn**	**22 51 12.8**	**+0.2**
GHVR				*e*Sg	**Sb**	**22 52 03.8**	**+0.1**
GHVR	**GHOM**	**3.56**	**58**	*e*Pn	**Pn**	**22 51 12.8**	**+0.2**

REY ***02*** *22:53:36.3, 64°.67N×17°.45W, h6km*
MOS ***02*** *22:53:37.8*±*1.1, 64°.68N×17°.78W, h10km, mb4.6/25, Error ellipse: s-maj=11.4km s-min=7.8km az=116.4*
IDC ***02*** *22:53:37.9*±*0.5, 64°.64N×17°.73W, h0km, mb4.0/19, mb1 4.2/23, mb1mx4.1/49, mbtmp4.0/23, ML2.8/3, MS3.6/14, Ms1 3.6/14, ms1mx3.3/41, Error ellipse: s-maj=18.3km s-min=8.7km az=12.0*
NEIC ***02*** *22:53:39.4*±*1.7, 64°.65N*±*0°.08×17°.7W*±*0°.2, h10km*±*1km, mb4.6/93, Error ellipse: s-maj=13.2km s-min=10.5km az=200.0*
BGR ***02*** *22:53:46.4*±*0.0, 63°.67N×17°.24W, h10km, mb4.2, Ms3.3*
ISC 02 22:53:38.9±0.6, **64°.68N**±**0°.02×17°.53W**±**0°.02, h5**km±

comp=Z,136nm,21.3s,baz=255,slow=31
ARCES ARCESS Array B 17.12 55 P **P 22 57 41.0 +0.8**
0.1nm,0.3s,baz=278,slow=9.0,SNR=4.5
BSEG Bad Segeberg 17.65 114 *e*L L 23 04 18.5
151nm,19.3s
UCC Uccle 18.02 130 P **Pn 22 57 47.5 -2.2**
UCC pmax pmax
comp=Z,10.0nm,1.1s
UCC Uccle 18.02 130 Pn **Pn 22 57 47.5 -2.2**
DOU Dourbes 18.70 131 P **Pn 22 57 58.3 +0.2**
MEM Membach 18.73 128 P **Pn 22 57 58.4 -0.1**
CLZ Clausthal 19.29 119 *e*P **Pn 22 58 05.0 -0.3**
comp=Z,27nm,1.2s,baz=320,slow=11
WLF Walferdange 19.59 129 P **P 22 58 06.5 -0.9**
WLF pmax pmax
comp=Z,19nm,1.4s
WLF Walferdange 19.59 129 P **P 22 58 06.5 -0.9**
FIA1 FINESS Array S 19.72 79 P **Pn 22 58 10.0 -0.1**
FIA1 IAmb IAmb 22 58 37.9
comp=Z,43nm,1.6s
FINES FINESS Array B 19.72 79 P **P 22 58 08.7 0.0**
comp=Z,0.1nm,0.3s,baz=312,slow=12,SNR=7.7
FINES FINESS Array B 19.72 79*ce*P **Pn 22 58 11.3 +1.1**
FINES pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 19.72 79 P **Pn 22 58 09.8 -0.4**
CLF Chambon-Foret 19.82 138 P **P 22 58 10.2 +0.3**
TNS Taunus Mts 19.91 124 *e*L L 23 04 54.8
comp=Z,103nm,21.0s
MOX Moxa 20.72 119 *e*L L 23 06 04.7
comp=Z,108nm,19.0s
CLL Collm 20.72 116 *i* P **P 22 58 19.5 -0.2**
comp=Z,84nm,2.4s
CLL *i* sP **sP 22 58 24.3 +1.6**
comp=Z,21nm,1.3s
CLL *e*PPP PPP 22 58 46.0
CLL *e*(S) Sn 23 02 23.0 +7.1
CLL Collm 20.72 116 P Pn 22 58 21.8 -0.3
CLL pmax pmax
comp=Z,19nm,1.2s
CLL Collm 20.72 116 *e*P **P 22 58 19.6 -0.2**
comp=Z,21nm,1.2s,baz=320,slow=11
CLL *e*L L 23 06 52.3
comp=Z,92nm,21.0s
CLL Collm 20.72 116 P Pn 22 58 21.8 -0.3
GKP Gorka Klasztor 20.93 107 *e*P Pn 22 58 27.2 +2.7
ECH Echery 21.17 129 P **P 22 58 24.3 -0.4**
ECH pmax pmax
comp=Z,15nm,0.9s
ECH Echery 21.17 129 P **P 22 58 24.3 -0.4**
GRA1 Grafenberg Arr 21.35 121 P **P 22 58 26.6 0.0**
GRA1 IAmb IAmb 22 58 43.1
comp=Z,23nm,1.2s
GRF Grafenberg Arr 21.35 121 P **P 22 58 26.6 0.0**
GRF pmax pmax
comp=Z,23nm,1.2s
GRF Grafenberg Arr 21.35 121 *e*P **P 22 58 26.4 -0.1**
comp=Z,15nm,1.1s,baz=320,slow=11
GRF *e*L L 23 07 26.3
comp=Z,164nm,19.2s
NKC Novy Kostel 21.37 118 *e*P **P 22 58 29.9 +3.1**
NKC Novy Kostel 21.37 118 *e*P **P 22 58 29.9 +3.1**
STU Stuttgart 21.39 125 P **P 22 58 28.3 +1.3**
STU pmax pmax
comp=Z,26nm,0.9s
STU Stuttgart 21.39 125 P **P 22 58 28.3 +1.3**
STU IAmb IAmb 22 58 30.4
comp=Z,26nm,0.9s
BRG Berggiesshubel 21.43 115 *i* P **P 22 58 27.2 -0.2**
comp=Z,94nm,2.3s
BRG *e* 22 58 39.0
comp=Z,51nm,1.7s
MANZ Manzenberg 21.44 119 *e*P **P 22 58 27.5 0.0**
comp=Z,14nm,1.3s,baz=320,slow=11
BFO Black Forest 21.47 127 P **P 22 58 28.5 +0.6**
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 21.47 127 *e*L L 23 07 02.1
comp=Z,96nm,18.4s
BFO Black Forest 21.47 127 P **P 22 58 28.5 +0.6**
VSU Vasula 21.58 86 *e*P **P 22 58 29.6 +0.7**
VSU Vasula 21.58 86 *i* P **P 22 58 29.2 +0.3**
VSU pmax pmax
comp=Z,55nm,1.0s
FRB Frobisher Bay 21.73 291 LR LR 23 06 11.2
comp=Z,104nm,20.2s,baz=66,slow=35
SLVR Solovky 22.07 65 *e*P **P 22 58 30.2 -4.0**
comp=Z,33nm,1.4s
PABE Paberze 22.23 95 *e*P **P 22 58 37.1 +1.2**
PRU Pruhonice 22.37 116 *e*P **P 22 58 39.3 +1.8**
PRU *e*pP **sP 22 58 43.5 +3.1**
PRU Pruhonice 22.37 116 *e*P **P 22 58 39.3 +1.8**
PRU *e* 22 58 43.5
KSP Ksiaz 22.38 112 *e*P **P 22 58 41.0 +3.4**
WET Wettzell 22.42 119 *e*L L 23 07 09.6
comp=Z,145nm,18.3s
CHVC Chvalec 22.48 113 *e*P **P 22 58 40.3 +1.5**
CHVC *ex* x 22 58 49.3
GOPC GO Pecny, Ondr 22.52 116 *e*P **P 22 58 40.9 +1.8**
GOPC *e*pP **sP 22 58 44.9 +2.9**
GOPC GO Pecny, Ondr 22.52 116 *e*P **P 22 58 40.9 +1.8**
GOPC *e* 22 58 44.9
UPC Upice 22.53 113 *e*P **P 22 58 41.0 +1.8**
UPC *ex* x 22 58 50.9
UPC Upice 22.53 113 *e*P **P 22 58 41.0 +1.8**
OSTC Ostas 22.57 113 *e*P **P 22 58 41.5 +1.8**
OSTC *ex* x 22 58 50.2
FUR Furstenfeldbru 22.64 123 *e*L L 23 08 29.4
comp=Z,189nm,18.6s
KHC Kasperske Hory 22.69 118 *e*P **P 22 58 43.4 +2.4**
KHC *ex* x 22 58 51.1
KHC Kasperske Hory 22.69 118*ce*P **P 22 58 42.4 +1.4**
KHC pmax pmax
comp=Z,20nm,1.0s
KHC Kasperske Hory 22.69 118 P **P 22 58 41.2 +0.2**
DPC Dobruska-Polom 22.78 113 *e*P **P 22 58 42.5 +0.6**
DPC Dobruska-Polom 22.78 113 *e*P **P 22 58 42.5 +0.6**
SENIN Lac Senin/Sane 22.84 131 P **P 22 58 43.6 +0.8**
SENIN IAmb IAmb 22 58 54.9
comp=Z,28nm,1.6s
DAVA Damuels 22.90 126 *e*P **P 22 58 44.4 +1.1**
comp=Z,8.7nm,1.2s
SUW Suwalki 22.90 98 *e*P **P 22 58 43.9 +0.9**
SUW Suwalki 22.90 98 IAmb IAmb 22 59 05.3
comp=Z,18nm,0.9s
GEC2 GERESS Array S 22.97 119 *e*L L 23 07 56.8
comp=Z,142nm,18.3s
GEC2 GERESS Array S 22.97 119 P **P 22 58 43.4 -0.6**
GEC2 IAmb IAmb 22 58 58.0
comp=Z,46nm,1.9s
GERES GERESS Array B 22.97 119 P **P 22 58 44.6 +0.6**
comp=Z,2.9nm,0.9s,baz=332,slow=8.2,SNR=17
GERES GERESS Array B 22.97 119 P **P 22 58 44.2 +0.2**
GERES GERESS Array B 22.97 119 P **P 22 58 44.1 +0.2**
RETA Reutte 23.04 125 *e*P **P 22 58 45.9 +1.2**
comp=Z,8.1nm,1.0s
ISAL Salakas 23.11 92 *e*P **P 22 58 45.2 +0.1**
KRLC Kraliky 23.18 113 *e*P **P 22 58 46.0 0.0**
KRLC *ex* x 22 58 54.4
KRLC Kraliky 23.18 113 *e*P **P 22 58 46.0 0.0**
KRLC *e* 22 58 54.4
MOTA Moosalm 23.28 124 *e*pP **P 22 58 48.9 +1.7**
comp=Z,5.3nm,1.1s
TREC Trest 23.29 116 *e*P **P 22 58 47.4 +0.2**
TREC *ex* x 22 58 58.2
TREC Trest 23.29 116 *e*P **P 22 58 47.4 +0.2**
IIGN Ignalina 23.30 93 *e*P **P 22 58 46.3 -0.8**
SQTA Sankt Quirin 23.42 124 *e*pP **P 22 58 51.4 +2.8**
comp=Z,8.2nm,0.9s
FETA Feichten 23.42 125 *e*sP **P 22 58 52.2 +3.5**
comp=Z,3.9nm,1.0s
TUE Stuetta 23.42 128 P **P 22 58 50.9 +2.2**
WATA Walderalm 23.45 124 *e*P **P 22 58 50.0 +1.0**
comp=Z,6.1nm,0.9s
WTTA Wattenberg 23.54 124 P **P 22 58 50.3 +0.4**
comp=Z,12nm,1.5s
IDID Didziasalis 23.54 92 *e*P **P 22 58 50.1 +0.5**
FUORN Ofenpass-Fuorn 23.61 127 P **P 22 58 53.4 +2.8**
VRAC Vranov 23.71 114 P **P 22 58 52.6 +1.3**
comp=Z,4.1nm,0.9s,baz=326,slow=11,SNR=8.5
VRAC LR LR 23 09 37.3
comp=Z,90nm,18.9s,baz=316,slow=40
VRAC Vranov 23.71 114 *e*P **P 22 58 50.8 -0.5**
MORC Moravsky Berou 23.71 112 *e*P **P 22 58 50.5 -0.9**
MORC Moravsky Berou 23.71 112 P **P 22 58 51.2 -0.2**
MORC pmax pmax
comp=Z,23nm,1.6s
MORC Moravsky Berou 23.71 112 P **P 22 58 51.2 -0.2**
MORC IAmb IAmb 22 59 05.1
comp=Z,23nm,1.6s
KRUC Moravsky 23.83 115 *e*P **P 22 58 51.5 -1.0**
OJC Ojcow 24.28 109 *e*P **P 22 58 57.9 +1.2**
OJC Ojcow 24.28 109 P **P 22 58 55.9 -0.7**
OJC pmax pmax
comp=Z,12nm,1.2s
OJC Ojcow 24.28 109 P **P 22 58 55.9 -0.7**
ABTA Abfaltersbach 24.29 123 *e*P **P 22 58 57.5 +0.6**
comp=Z,4.0nm,1.1s
JAVC Velka Javorina 24.50 113 *e*P **P 22 59 00.6 +1.9**
CONA Conrad Observa 24.55 117 *e*P **P 22 58 59.1 -0.1**
comp=Z,7.1nm,1.1s
CTI Castel Tesino 24.59 125 P **P 22 59 00.5 +0.9**
CTI pmax pmax
comp=Z,53nm,1.9s
CTI Castel Tesino 24.59 125 P **P 22 59 00.5 +0.9**
ZOU Zoufplan 24.62 123 P **P 22 59 00.2 +0.2**
ZOU IAmb IAmb 22 59 12.3
comp=Z,35nm,1.7s
CIMO Cimolais 24.64 124 P **P 22 59 00.7 +0.7**
SMOL Smolenice 24.68 114 *e*P **P 22 59 01.6 +1.3**
SMOL pmax pmax
comp=Z,10.0nm,1.2s
SMOL Smolenice 24.68 114 *e*P **P 22 59 01.6 +1.3**
MODS Modra-Piesok 24.73 115 *e*P **P 22 59 01.8 +1.0**
MODS pmax pmax
comp=Z,27nm,1.7s
MODS Modra-Piesok 24.73 115 *e*P **P 22 59 01.8 +1.0**
ARSA Arzberg 24.98 118 *e*P **P 22 59 04.4 +1.3**
comp=Z,5.8nm,0.9s
NIE Niedzica 25.11 109 *e*P **P 22 59 05.2 +1.1**
VYHS Vyhne 25.25 112 *e*P **P 22 59 06.2 +0.7**
VYHS pmax pmax
comp=Z,25nm,1.7s
VYHS Vyhne 25.25 112 *e*P **P 22 59 06.2 +0.7**
SOKA Soboth 25.27 120 *e*P **P 22 59 05.4 -0.3**
comp=Z,9.6nm,1.4s
SRO Srobarova 25.59 114 *e*P **P 22 59 09.5 +1.0**
SRO Srobarova 25.59 114 *e*P **P 22 59 09.5 +1.0**
KLMR Klimovskoe 25.61 72 *e*P **P 22 59 07.3 -1.3**
comp=Z,17nm,1.5s
KLMR Klimovskoe 25.61 72 *e*P **P 22 59 07.3 -1.3**
KLMR pmax pmax
comp=Z,17nm,1.5s
KLMR Klimovskoe 25.61 72 *e*P **P 22 59 07.3 -1.3**
KLMR AMP 22 59 11.6
comp=Z,17nm,1.5s
KWP Kalwaria Pacla 25.93 106 *e*P **P 22 59 13.8 +2.3**
KWP Kalwaria Pacla 25.93 106 P **P 22 59 11.2 -0.4**
KWP pmax pmax
comp=Z,27nm,1.0s
KWP Kalwaria Pacla 25.93 106 P **P 22 59 11.2 -0.4**
LSH Leshukonskoye 25.97 61 *e*P **P 22 59 08.7 -3.1**
comp=Z,23nm,1.2s
CRVS Cervenica-Dubn 25.98 109 *e*P **P 22 59 13.8 +1.7**
CRVS pmax pmax
comp=Z,58nm,2.1s
CRVS Cervenica-Dubn 25.98 109 *e*P **P 22 59 13.8 +1.7**
SCHQ Schefferville 26.02 271 P **P 22 59 11.8 -0.7**
comp=Z,6.0nm,0.8s,baz=48,slow=11,SNR=4.2
SCHQ LR LR 23 07 55.0
comp=Z,102nm,20.2s,baz=86,slow=33
SCHQ Schefferville 26.02 271 IAmb IAmb 22 59 22.6
comp=Z,17nm,1.1s
PSZ Piszkesteto 26.14 112 P **P 22 59 12.5 -1.1**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 26.14 112 P **P 22 59 12.5 -1.1**
PSZ IAmb IAmb 22 59 18.6
comp=Z,11nm,1.0s
ESDC Sonseca Array 26.27 156 P **P 22 59 14.7 -0.1**
comp=Z,1.5nm,0.7s,baz=349,slow=10,SNR=11
ESDC LR LR 23 09 23.4
comp=Z,144nm,18.2s,baz=325,slow=36
KOLS Kolonicke sedl 26.29 108 *e*P **P 22 59 14.8 -0.1**
KOLS pmax pmax
comp=Z,16nm,1.6s
KOLS Kolonicke sedl 26.29 108 *e*P **P 22 59 14.8 -0.1**
LVV L'vov 26.33 104 *e*P **P 22 59 16.5 +1.3**
UZH Uzhgorod 26.54 108 *e*P **P 22 59 16.1 -1.0**
UZH *i* 22 59 22.0
OSSC Osservatorio P 26.66 129 P **P 22 59 19.2 +1.0**
OSSC IAmb IAmb 22 59 23.2
comp=Z,16nm,1.0s
AKASG Malin Array Be 27.86 98 P **P 22 59 28.8 -0.1**
comp=Z,0.9nm,0.4s,baz=314,slow=9.3,SNR=2.4
AKASG Malin Array Be 27.86 98 P **P 22 59 28.8 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,1.8s
AKASG Malin Array Be 27.86 98 IAmb IAmb 22 59 34.3
comp=Z,4.1nm,1.8s
OBN Obninsk 27.89 84*ce*P **P 22 59 29.1 -0.1**
OBN *e* 23 00 16.5
OBN *i* SS SS 23 05 28.2 -42
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,83nm,12.0s
OBN Obninsk 27.89 84 P **P 22 59 28.7 -0.5**
MOS Moscow 27.93 82 *e*P **P 22 59 33.1 +3.6**
MOS *e* 23 00 13.6
BURAR Bucovina Array 28.54 106 P **P 22 59 35.1 0.0**
VSR Storozhevoye 31.75 88 *e*P **P 22 59 59.1 -4.2**
VSR pmax pmax
comp=Z,8.0nm,1.5s
KEST Kesra 33.18 138 LR LR 23 12 23.1
comp=Z,73nm,18.8s,baz=260,slow=34
ARU Arti 36.09 66*d i* P **P 23 00 42.2 +1.2**
ARU 23 02 00.5
ARU S **S 23 06 23.0 +2.7**
ARU SS **SnSn 23 08 42.6 -1.9**
ARU pmax pmax
comp=Z,13nm,2.2s
NRIK Noril'sk 36.46 35 *i* P **P 23 00 46.0 +2.0**
NRIK pmax pmax
comp=Z,3.0nm,1.2s
GOF Gofitskoye 38.13 91⇑ *e*P **P 23 00 59.4 +1.0**
BRTR Keskin Array B 38.50 105 P **P 23 01 03.1 +1.4**
comp=Z,2.4nm,0.9s,baz=328,slow=6.7,SNR=11
BRTR Keskin Array B 38.50 105*ce*P **P 23 01 04.0 +2.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 38.50 105 P **P 23 01 02.1 +0.3**
KIV Kislovodsk 38.86 92 *e*P **P 23 01 06.5 +1.8**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,119nm,16.0s
KBZ Khabaz 39.13 92 P **P 23 01 08.4 +1.6**
comp=Z,3.4nm,0.8s,baz=312,slow=5.2,SNR=6.1
KBZ LR LR 23 17 20.5
comp=Z,80nm,21.9s,baz=331,slow=36
KBZ Khabaz 39.13 92*ce*P **P 23 01 08.9 +2.1**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 39.19 313 P **P 23 01 05.4 -1.7**
comp=Z,1.2nm,0.8s,baz=35,slow=9.0,SNR=6.2
KOPT Kop Dagi 41.14 98 P **P 23 01 24.4 +0.5**
KOPT IAmb IAmb 23 01 29.2
comp=Z,28nm,1.7s
AKH Akhalkalaki 41.27 94 P **P 23 01 24.8 0.0**
AKH pmax pmax
comp=Z,17nm,1.4s
AKH Akhalkalaki 41.27 94 P **P 23 01 24.8 0.0**
AKH IAmb IAmb 23 01 29.0
comp=Z,17nm,1.4s
TBLG Delisi 41.54 93 P **P 23 01 26.0 -0.9**
TBLG pmax pmax
comp=Z,18nm,1.4s
TBLG Delisi 41.54 93 P **P 23 01 26.0 -0.9**
TBLG IAmb IAmb 23 01 31.1
comp=Z,18nm,1.4s
TOLK Toolik Lake Re 42.73 336 P **P 23 01 37.0 +0.8**
BRVK Borovoye 43.14 62*ce*P **P 23 01 40.4 +0.7**
BRVK pmax pmax
comp=Z,12nm,2.5s
BRVK Borovoye 43.14 62 P **P 23 01 39.5 -0.2**
O53A New Philadelph 43.37 268 P **P 23 01 41.7 0.0**
MARD Mardin 43.53 100 P **P 23 01 44.3 +1.2**
MARD **sP 23 01 46.4 +0.3**
MARD IAmb IAmb 23 01 47.4
comp=Z,7.1nm,0.8s
ACSO Alum Creek Sta 44.14 269 P **P 23 01 47.7 -0.2**
ACSO IAmb IAmb 23 01 49.3
comp=Z,11nm,1.0s
TAM Tamanrasset 44.53 149 P **P 23 01 52.7 +1.4**
TAM pmax pmax
comp=Z,9.0nm,1.8s
TAM Tamanrasset 44.53 149 P **P 23 01 52.7 +1.4**
ILAR Eielson Array 45.67 332 P **P 23 02 00.8 +1.1**
comp=Z,4.8nm,1.2s,baz=28,slow=6.5,SNR=15
ILAR PcP **PcP 23 03 37.4 -0.3**
comp=Z,1.1nm,0.9s,baz=359,slow=3.3,SNR=6.3
ILAR Eielson Array 45.67 332 P **P 23 02 00.3 +0.5**
ILAR 23 03 36.8
ILAR Eielson Array 45.67 332 P **P 23 02 00.3 +0.5**
ILAR **PcP 23 03 36.8 -0.8**
MDM Murphy Dome 45.77 333 P **P 23 02 01.5 +1.0**
MDM IAmb IAmb 23 02 07.5
comp=Z,8.1nm,1.2s
COLA College 45.77 333 *i* P **P 23 02 00.7 +0.2**
COLA pmax pmax
comp=Z,6.0nm,1.1s
IMAR Indian Mountai 45.84 337 P **P 23 02 02.3 +1.2**
BCAR Beaver Creek A 46.09 329 P **P 23 02 04.2 +1.0**
S51A Beattyville 46.56 268 IAmb IAmb 23 02 08.3
comp=Z,10.0nm,1.2s
ZALV Zalesovo Beam 47.64 51 P **P 23 02 15.5 +0.2**
comp=Z,1.1nm,0.7s,baz=317,slow=6.3,SNR=5.7
KURK Kurchatov 48.12 58*ce*P **P 23 02 19.4 +0.3**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 48.12 58 P **P 23 02 19.1 +0.1**
KURK IAmb IAmb 23 02 25.8
comp=Z,7.6nm,1.1s
PAULI Pauline 48.19 264 P **P 23 02 19.5 -0.3**
W50A Signal Mountai 49.36 268 IAmb IAmb 23 02 31.2
comp=Z,7.9nm,0.9s
X51A Calhoun 49.71 267 IAmb IAmb 23 02 32.9
comp=Z,11nm,1.1s
T42A Van Buren 50.30 274 IAmb IAmb 23 02 38.7
comp=Z,6.8nm,1.2s
GEYT Alibeck 50.44 84 P **P 23 02 36.8 -0.2**
comp=Z,0.7nm,0.4s,baz=348,slow=21,SNR=2.0
GEYT PP **PP 23 04 34.6 +2.3**
comp=Z,0.4nm,0.4s,baz=224,slow=14,SNR=3.7
GEYT Alibeck 50.44 84 IAmb IAmb 23 02 40.0
comp=Z,2.0nm,1.1s
Y49A Blount Mountai 50.98 268 IAmb IAmb 23 02 41.8
comp=Z,5.9nm,1.1s
KKAR Karatay Array 51.29 70 P **P 23 02 43.4 0.0**
KKAR Karatay Array 51.29 70 P **P 23 02 43.4 0.0**
U40A Yellville 51.62 275 P **P 23 02 45.3 -0.6**
U40A IAmb IAmb 23 02 49.0
comp=Z,12nm,1.4s
DGZ Jazzator, Alta 52.08 53 *i* P **P 23 02 50.9 +1.5**
DGZ pmax pmax
comp=Z,6.0nm,1.5s
MAKZ Makanchi 52.60 59 P **P 23 02 54.3 +1.2**
MAKZ pmax pmax
comp=Z,8.0nm,1.6s
MAKZ Makanchi 52.60 59 P **P 23 02 54.3 +1.2**
MK31 Makanchi Array 52.73 58 P **P 23 02 53.5 -0.6**
MK31 pmax pmax
comp=Z,6.0nm,1.5s
MK31 Makanchi Array 52.73 58 P **P 23 02 53.5 -0.6**
MKAR Makanchi Array 52.73 58 P **P 23 02 53.8 -0.3**
comp=Z,1.9nm,1.1s,baz=329,slow=4.5,SNR=6.6
MKAR Makanchi Array 52.73 58 P **P 23 02 53.5 -0.5**
PD31 Pinedale Array 53.16 293 IAmb IAmb 23 03 00.5
comp=Z,6.2nm,1.1s
PDAR Pinedale Array 53.16 293 P **P 23 02 57.1 -0.4**
comp=Z,5.5nm,1.1s,baz=57,slow=5.5,SNR=22
PDAR LR LR 23 24 58.4
comp=Z,30nm,19.0s,baz=46,slow=35
PDAR Pinedale Array 53.16 293 P **P 23 02 56.1 -1.4**
TOA0 Torodi Ar. Sit 53.16 156 P **P 23 02 57.1 -0.4**
TOA0 IAmb IAmb 23 02 59.0
comp=Z,12nm,1.4s
TORD Torodi Ar. Bea 53.16 156 P **P 23 02 56.8 -0.7**
comp=Z,3.0nm,0.9s,baz=345,slow=7.3,SNR=7.6
TORD Torodi Ar. Bea 53.16 156 P **P 23 02 56.7 -0.7**
REDW Red Top Meadow 53.16 295 IAmb IAmb 23 03 00.9
comp=Z,6.8nm,1.2s
FRU1 Bishkek 53.18 67 P **P 23 02 59.8 +2.3**
FRU1 pmax pmax
comp=Z,8.0nm,0.5s
FRU1 Bishkek 53.18 67 P **P 23 02 59.8 +2.3**
AAK Ala-Archa 53.27 67*ce*P **P 23 03 00.4 +2.1**
AAK pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 53.27 67 P **P 23 02 59.7 +1.4**
N23A Red Feather La 53.29 289 P **P 23 02 58.3 -0.2**
N23A IAmb IAmb 23 03 01.8
comp=Z,11nm,1.2s
BTK Batken 53.97 72 P **P 23 03 03.6 +0.3**
BTK pmax pmax
comp=Z,15nm,1.1s
BTK Batken 53.97 72 P **P 23 03 03.6 +0.3**
BMO Blue Mountains 54.36 300 IAmb IAmb 23 03 10.4
comp=Z,14nm,1.8s
CHGR Chuyangaron 54.48 74 P **P 23 03 06.9 -0.1**
GAR Garm 54.66 73 P **P 23 03 09.3 +0.9**
HWUT Hardware Ranch 54.93 294 IAmb IAmb 23 03 11.7
comp=Z,8.4nm,1.2s
HRA Herat 55.20 82 P **P 23 03 12.4 -0.1**
HRA IAmb IAmb 23 03 16.1
comp=Z,9.2nm,1.6s
ZAK Zakamensk 56.46 41 *e*P **P 23 03 18.9 -2.3**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 56.51 68 P **P 23 03 23.3 +1.6**
KSH pmax pmax
comp=Z,30nm,1.2s
PV02 Paradox Valley 56.70 290 IAmb IAmb 23 03 24.5
comp=Z,6.8nm,1.0s
PV03 Paradox Valley 56.71 290 IAmb IAmb 23 03 26.9
comp=Z,11nm,1.4s
PV18 Skein Mesa, Pa 56.74 290 IAmb IAmb 23 03 30.8
comp=Z,5.0nm,1.0s
WMQ Urumqi 57.24 56 *e*P **P 23 03 31.1 +4.4**
PSUT Pine Spring 58.47 294 P **P 23 03 35.8 +0.2**
ANMO Albuquerque 58.57 286*ce*P **P 23 03 35.8 -0.6**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
R11A Troy Canyon, C 59.30 295 P **P 23 03 41.4 0.0**
R11A IAmb IAmb 23 04 53.6
comp=Z,2.4nm,0.5s
SONM Songino Array 59.64 40 P **P 23 03 43.3 -0.2**
comp=Z,0.3nm,0.4s,baz=306,slow=4.8,SNR=5.2
SONM LR LR 23 31 05.7
comp=Z,97nm,19.8s,baz=352,slow=38
SONM Songino Array 59.64 40 P **P 23 03 43.4 -0.2**
SONM pmax pmax
comp=Z,2.0nm,1.4s
SONM Songino Array 59.64 40 P **P 23 03 43.4 -0.2**
KVN Kaiserville 59.66 298 P **P 23 03 43.4 -0.5**
KVN pmax pmax
comp=Z,4.0nm,1.1s
KVN Kaiserville 59.66 298 P **P 23 03 43.4 -0.5**
ULN Ulaanbaatar 59.80 40*ce*P **P 23 03 45.8 +1.2**
ULN pmax pmax
comp=Z,10.0nm,2.5s
ULN Ulaanbaatar 59.80 40 P **P 23 03 44.9 +0.3**
ULN IAmb IAmb 23 03 47.6
comp=Z,11nm,1.7s
NVAR Mina Array Bea 60.28 297 P **P 23 03 46.7 -1.5**
comp=Z,0.7nm,0.9s,baz=56,slow=5.3,SNR=5.4
NVAR LR LR 23 30 05.6
comp=Z,81nm,19.2s,baz=54,slow=36
NVAR Mina Array Bea 60.28 297 P **P 23 03 48.1 -0.1**
NIL Nilore 60.46 73 P **P 23 03 49.8 +0.6**
NIL pmax pmax
comp=Z,18nm,1.3s
NIL Nilore 60.46 73 P **P 23 03 49.8 +0.6**
MNTX Cornudas Mount 60.93 283 IAmb IAmb 23 05 46.0
comp=Z,6.3nm,1.6s
TXAR Lajitas Array 62.27 280 P **P 23 04 01.5 -0.1**
comp=Z,1.5nm,1.0s,baz=25,slow=3.3,SNR=6.8
TXAR LR LR 23 29 52.9
comp=Z,59nm,19.7s,baz=0.0,slow=35
TXAR Lajitas Array 62.27 280 P **P 23 04 00.3 -1.2**
PETK Petropavlovsk- 62.49 3 P **P 23 04 03.1 +0.5**
comp=Z,2.0nm,1.1s,baz=318,slow=4.1,SNR=3.8
TUC Tucson 62.64 288 P **P 23 04 03.7 -0.3**

TUC					pmax	pmax			
	comp=Z,12nm,1.7s								
TUC	**Tucson**	**62.64**	**288**		P	**P**		**23 04 03.7**	**-0.3**
HHC	**Hu-ho-hao-te**	**67.51**	**40**	*eP*	**P**	**P**		**23 04 37.2**	**+1.6**
HHC					pmax	pmax			
	comp=Z,11nm,0.9s								
HHC					pmax	pmax			
	comp=Z,29nm,6.0s								
YSS	**Yuzh-Sakhalins**	**67.64**	**14⇑**	*eP*	**P**	**P**		**23 04 37.3**	**+1.2**
YSS					pmax	pmax			
	comp=Z,5.0nm,0.5s								
KSRS	**Korea Array**	**74.64**	**28**		LR	LR		23 39 41.3	
	comp=Z,41nm,18.9s,baz=30,slow=37								
NJ2	**Nanjing**	**77.74**	**37**	*eP*	**P**	**P**		**23 05 36.3**	**-0.1**
NJ2					pmax	pmax			
	comp=Z,6.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**84.14**	**59**		P	**P**		**23 06 10.6**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=318,slow=5.2,SNR=4.6								
CMAR	**Chiang Mai Arr**	**84.14**	**59**	*eP*	**P**	**P**		**23 06 13.8**	**+3.1**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								

IDC ***02*** *23:05:26.6±4.8, 17.°68S×178.°60W, h558km±53km, mb3.3/8, mb1 3.5/9, mb1mx3.2/29, mbtmp4.2/9, Error ellipse: s-maj=41.1km s-min=22.1km az=139.0*

NEIC ***02*** *23:05:28.4±0.8, 17.°7S±0.°2×178.°7W±0.°2, h581km±5km, mb4.1/7, Error ellipse: s-maj=34.3km s-min=20.6km az=147.0*

ISC 02 23:05:25.1±1.0**, 17.°7S**±0.°2×**178.°5W**±0.°2**, h547**km**, n27,** σ0.°68/25**, mb3.8**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.28**	**269**	P	P	23 06 47.6	+5.8
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**23 08 32.9**	**+0.2**
	0.4nm,0.3s,baz=110,slow=18,SNR=2.5						
TARA	**Tarawa**	**20.76**	**335**	P	**P**	**23 09 29.1**	**+0.7**
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**23 12 02.4**	**+0.4**
	3.6nm,0.7s,baz=92,slow=10,SNR=8.0						
STKA	**Stephens Creek**	**38.63**	**241**	IAmb	IAmb	23 13 12.6	
	comp=Z,8.3nm,1.9s						
WB0	**Warramunga Arr**	**44.54**	**260**	PKPdf	**P**	**23 12 49.6**	**+0.8**
WB2	**Warramunga Arr**	**44.56**	**259**	P	**P**	**23 12 48.3**	**-0.6**
WRA	**Warramunga Arr**	**44.57**	**259**	P	**P**	**23 12 49.0**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=96,slow=6.9,SNR=46						
WRA				PcP	**PcP**	**23 14 19.7**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=92,slow=3.4,SNR=3.9						
WRA	**Warramunga Arr**	**44.57**	**259**	PKIKP	**P**	**23 12 48.8**	**-0.2**
WRA	**Warramunga Arr**	**44.57**	**259**	PKPdf	**P**	**23 12 48.8**	**-0.2**
WRA	**Warramunga Arr**	**44.57**	**259**		**P**	**23 12 48.8**	**-0.2**
AS31	**Alice Springs**	**44.75**	**254**		**P**	**23 12 49.9**	**-0.4**
AS31	**Alice Springs**	**44.75**	**254**		**P**	**23 12 49.9**	**-0.4**
AS31				IAmb	IAmb	23 12 51.1	
	comp=Z,5.3nm,0.7s						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**23 12 50.5**	**+0.1**
	comp=Z,21nm,0.6s,baz=88,slow=8.5,SNR=277						
ASAR				PcP	**PcP**	**23 14 20.2**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=101,slow=4.2,SNR=4.7						
MJAR	**Matsushiro Arr**	**67.71**	**323**	P	**P**	**23 15 27.8**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=166,slow=5.8,SNR=6.1						
PETK	**Petropavlovsk-**	**73.49**	**345**	P	**P**	**23 16 02.8**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=151,slow=9.2,SNR=4.7						
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**23 16 34.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=224,slow=5.0,SNR=4.4						
IL31		**85.74**	**13**	P	**P**	**23 17 03.9**	**-2.1**
ILAR	**Eielson Array**	**85.74**	**13**	P	**P**	**23 17 05.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=230,slow=7.0,SNR=2.8						
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**23 17 09.3**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=219,slow=6.7,SNR=7.3						
BUR08	**Bucovina Ar. S**	**144.40**	**332**		PKPbc	23 23 59.2	0.0
BURAR	**Bucovina Array**	**144.42**	**332**		PKPbc	23 23 58.5	-0.8
BR131	**Keskin Array S**	**144.59**	**315**		**PKPdf**	**23 23 59.8**	**-0.1**
BRTR	**Keskin Array B**	**144.59**	**315**	PKP	**PKPdf**	**23 23 60.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=81,slow=2.8,SNR=8.5						
BRTR	**Keskin Array B**	**144.59**	**315**		**PKPdf**	**23 23 59.4**	**-0.5**
CLL	**Collm**	**145.27**	**347**	*i* PKPbc	**PKPbc**	**23 24 01.5**	**-0.1**
GERES	**GERESS Array B**	**147.42**	**345**	PKPbc	**PKPbc**	**23 24 07.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=12,slow=3.1,SNR=10						

TAP 02 23:09:32.5, 24.°45N×121.°35E, h52km±1km**, ML1.4, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.02**	**127**	S	Sn	23 09 46.8	+0.4
	baz=122						
NNSB	**Datong**	**0.04**	**133**	*eP*	Pn	23 09 40.6	0.0
	baz=132						
NNSB				S	Sn	23 09 46.6	+0.2
	baz=132						
NNSH	**Datong**	**0.04**	**133**	*eP*	Pn	23 09 41.0	+0.3
	baz=132						
NNSH				*eS*	Sn	23 09 46.4	0.0
	baz=132						
NDT	**Datong Townshi**	**0.21**	**45**	*eS*	Sn	23 09 46.2	-1.1
	baz=44						
YHNB	**Yeheng**	**0.22**	**5**	*eP*	Pn	23 09 41.3	0.0
	baz=5.0						
YHNB				*eS*	Sn	23 09 48.1	+0.4
	baz=5.0						
NSK	**Sanguang**	**0.22**	**1**	P	Pn	23 09 41.7	+0.4
	baz=3.0						
NSK				*eS*	Sn	23 09 48.7	+1.0
	baz=3.0						
FUSS	**Fushou**	**0.23**	**206**	*eS*	Sn	23 09 47.9	-0.2
	baz=205						
TDCB	**Techi**	**0.27**	**222**	*eP*	Pn	23 09 41.6	-0.1
	baz=221						
WHF	**Hehuan Shan**	**0.32**	**195**	*eP*	Pn	23 09 42.2	-0.3
	baz=193						
WHF				S	Sn	23 09 49.9	+0.3
	baz=193						
NWLT	**Wulai**	**0.35**	**23**	*eP*	Pn	23 09 42.8	+0.4
	baz=22						
NWLT				*eS*	Sn	23 09 50.0	+0.6
	baz=22						
ENA	**Nanau**	**0.35**	**94**	S	Sn	23 09 50.4	+1.0
	baz=94						
CHGB	**Renai**	**0.42**	**203**	*eS*	Sn	23 09 51.5	+0.5
	baz=202						
ANP	**Anpu**	**0.74**	**12**	*eP*	Pn	23 09 47.2	+0.2
	baz=12						
ANP				S	Sn	23 09 58.6	+1.0
	baz=12						

JMA 02 23:09:34.4±0.2**, 24.°89N**×**123.°40E, h22**km**, M1.7, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.55**	**220**	P	Pb	23 09 45.1	-0.4
YOJ				S	Sb	23 09 52.3	-0.7
JYNG	**Yonaguni jimaku**	**0.60**	**224**	P	Pb	23 09 46.1	-0.2
JYNG				S	Sb	23 09 54.1	-0.3
IRIF	**Iriomote-Funau**	**0.63**	**151**	P	Pb	23 09 46.6	-0.2
IRIF				S	Sb	23 09 55.1	0.0
JKRS	**Kuro-shima**	**0.85**	**139**	P	Pb	23 09 50.3	-0.2
JKRS				S	Sb	23 10 01.8	+0.2
JIJ	**Ishigaki jima**	**0.85**	**128**	P	Pb	23 09 50.2	-0.4
JIJ				S	Sb	23 10 02.0	+0.4
JISG	**Ishigakijimahi**	**0.88**	**110**	S	Sb	23 10 02.1	-0.2
HATJ	**Hateruma jima**	**0.91**	**156**	P	Pb	23 09 51.3	-0.2
HATJ				S	Sb	23 10 03.3	+0.2

IDC ***02*** *23:41:28.6±0.3, 11.°55S×112.°07W, h0km, mb5.1/39, mb1 5.2/39, mb1mx5.2/47, mbtmp5.1/39, MS4.9/20, Ms1 4.9/20, ms1mx4.9/22, Error ellipse: s-maj=11.1km s-min=10.0km az=67.0*

MOS ***02*** *23:41:29.4±0.9, 11.°44S×112.°01W, h10km, mb5.8/23, MS4.9/14, Error ellipse: s-maj=9.7km s-min=7.3km az=90.6*

NEIC ***02*** *23:41:30.2, 11.°54S×112.°00W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 0.96; Mθθ-0.42; Mφφ-0.54; Mrθ-0.00; Mrφ-0.53; Mθφ 1.02; Fault plane solution: M0 1.42000×10^17 NP1:φs 241.08000°, δ 29.13000°, λ 132.10000°. NP2:φs 15.11000°, δ 68.83000°, λ 69.51000°. Principal axes: T 1.5061, Plg61.0000°, Azm255.0000°; N -0.1952, Plg19.0000°, Azm23.0000°; P -1.3108, Plg21.0000°, Azm121.0000°;*

NEIC ***02*** *23:41:30.2±2.2, 11.°55S±0.°09×112.°00W±0.°08, h10km±1km, mb5.9/606, Ms_20 4.9/730, Mwb5.4/33, Mwc5.4(GCMT) Error ellipse: s-maj=15.3km s-min=13.3km az=202.0*

UNK ***02*** *23:41:31.1, 11.°58S×112.°01W, h10km*

GCMT ***02*** *23:41:32.2±0.1, 11.°56S±0.°01×112.°00W±0.°01, h12km, MW5.4/152, Moment Tensor Solution. s118, c187; s152, c297; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 1.52±.01; Mθθ-0.36±.02; Mφφ-1.16±.02; Mrθ-0.29±.04; Mθφ-0.54±.01; Mφr 0.13±.04; Best double couple: M0 1.50500×10^17 NP1:φs 16.00000°, δ 46.00000°, λ 75.00000°. NP2:φs 217.00000°, δ 46.00000°, λ 105.00000°. Principal axes: T 1.5810, Plg79.0000°, Azm206.0000°; N -0.1510, Plg11.0000°, Azm27.0000°; P -1.4290, Plg0.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***02*** *23:41:32, 11.°60S×112.°02W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 1.61; Mθθ-0.40; Mφφ-1.20; Mrθ-0.26; Mφφ-0.48; Mφr-0.04; Fault plane solution: M0 1.55000×10^17 NP1:φs 18.00000°, δ 43.00000°, λ 80.00000°. NP2:φs 212.00000°, δ 48.00000°, λ 99.00000°. Principal axes: T 1.6407, Plg83.0000°, Azm184.0000°; N -0.2077, Plg7.0000°, Azm26.0000°; P -1.4330, Plg3.0000°, Azm296.0000°;*

ISC 02 23:41:30.5±0.6**, 11.°54S**±0.°06×**112.°00W**±0.°05**, h12**km±3km**, h12**km**:pP-P, n1525,** σ1.°08/1113**, mb5.8**/324**, MS4.9**/397**, 48C-24D, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**15.71**	**171**	LR	LR	23 49 31.9	
	comp=Z,5μm,19.9s,baz=350,slow=31						
PAYG	**Puerto Ayora**	**24.11**	**65**	*eP*	**P**	**23 46 47.7**	**+1.4**
PAYG	**Puerto Ayora**	**24.11**	**65**	P	**P**	**23 46 43.1**	**-3.2**
PAYG	**Puerto Ayora**	**24.11**	**65**	IAMs_20	IAMs_20	23 53 17.5	
	comp=Z,6μm,21.0s						
RKT	**Rikitea**	**24.73**	**239**	*e*LQ	LQ	23 51 55.8	
	comp=Z,2μm,27.5s						
RKT				*e*LR	LR	23 52 55.3	
	comp=Z,5μm,26.5s						
TAOE	**Nuku Hiva Isla**	**27.83**	**273**	*eP*	**P**	**23 47 19.9**	**-0.2**
	comp=Z,34nm,1.4s						
TAOE				*e*LR	LR	23 54 09.3	
	comp=Z,12μm,25.5s,baz=102						
TAOE	**Nuku Hiva Isla**	**27.83**	**273**	P	**P**	**23 47 18.1**	**-2.0**
TLIG	**Tlapa**	**31.82**	**25**	P	**P**	**23 47 56.6**	**+1.3**
TLIG				IAmb	IAmb	23 47 58.8	
	comp=Z,190nm,1.4s						
RTAL	**Retalhuleu**	**32.80**	**38**	P	**P**	**23 48 04.9**	**+1.0**
RTAL				IAmb	IAmb	23 48 11.4	
	comp=Z,152nm,1.3s						
MOIG	**Morelia**	**32.80**	**19**	P	**P**	**23 48 05.9**	**+1.8**
MOIG				IAmb	IAmb	23 48 07.5	
	comp=Z,171nm,1.2s						
CMIG	**Matias Romero**	**33.10**	**31**	P	**P**	**23 48 07.9**	**+1.4**
	comp=Z,36nm,1.1s,baz=210,slow=7.0,SNR=22						
ATAH	**Atahualpa**	**33.43**	**85**	P	**P**	**23 48 12.2**	**+2.2**
	comp=Z,61nm,1.2s,baz=274,slow=9.8,SNR=30						
HUEH	**Huehuetenango**	**33.53**	**38**	P	**P**	**23 48 11.3**	**+0.8**
SNET	**Serv Nac Est T**	**33.73**	**43**	P	**P**	**23 48 13.3**	**+1.2**
SNET				IAMs_20	IAMs_20	23 58 39.6	
	comp=Z,3μm,21.0s						
CCIG	**Comitan**	**33.92**	**36**	P	**P**	**23 48 14.7**	**+0.8**
APG	**El Apazote**	**33.92**	**39**	P	**P**	**23 48 15.4**	**+1.5**
	comp=Z,53nm,1.1s,baz=224,slow=9.2,SNR=31						
APG				PcP	**PcP**	**23 50 52.9**	**+0.4**
	comp=Z,28nm,1.2s,baz=232,slow=5.3,SNR=8.0						
MTO3	**Montecristo**	**34.17**	**42**	P	**P**	**23 48 17.1**	**+1.0**
MTO3				PcP	**PcP**	**23 50 52.6**	**-0.6**
MTO3				IAMs_20	IAMs_20	23 58 55.2	
	comp=Z,3μm,22.0s						
ESQI	**Esquipulas**	**34.30**	**41**	IAMs_20	IAMs_20	23 58 58.6	
	comp=Z,3μm,22.0s						
NNA	**Nana**	**34.41**	**94**	P	**P**	**23 48 19.9**	**+1.9**
NNA						23 50 53.1	
NNA				pmax	pmax		
	comp=Z,16nm,1.0s						
NNA				MLR	MLR		
	comp=Z,4μm,20.0s						
NNA	**Nana**	**34.41**	**94**	P	**P**	**23 48 19.9**	**+1.9**
NNA				PcP	**PcP**	**23 50 53.1**	**-0.7**
JTS	**Las Juntas de**	**34.54**	**52**	P	**P**	**23 48 20.9**	**+1.7**
	comp=Z,16nm,1.1s,baz=344,slow=5.2,SNR=8.5						
JTS				LR	LR	23 58 50.6	
	comp=Z,3μm,20.9s,baz=290,slow=30						
JTS	**Las Juntas de**	**34.54**	**52**	*eP*	**P**	**23 48 20.6**	**+1.4**
JTS	**Las Juntas de**	**34.54**	**52**	P	**P**	**23 48 19.8**	**+0.6**
JTS	**Las Juntas de**	**34.54**	**52**	IAMs_20	IAMs_20	23 58 38.0	
	comp=Z,3μm,19.0s						
CRIN	**San Cristobal**	**34.54**	**47**	IAMs_20	IAMs_20	23 59 04.3	
	comp=Z,2μm,20.0s						
VAH	**Vaihoa**	**34.83**	**260**	*eP*	**P**	**23 48 22.0**	**+0.4**
	comp=Z,173nm,1.3s						
HDC	**Heredia**	**35.02**	**53**	IAMs_20	IAMs_20	23 58 55.7	
	comp=Z,2μm,20.0s						
SLBS	**Sierra La Lagu**	**35.07**	**3**	P	**P**	**23 48 25.0**	**+1.5**
SLBS				IAMs_20	IAMs_20	23 58 39.2	
	comp=Z,3μm,22.0s						
PMOR	**Pomariorio Ree**	**35.08**	**260**	*eP*	**P**	**23 48 24.2**	**+0.4**
	comp=Z,590nm,1.4s						
PMOR	**Pomariorio Ree**	**35.08**	**260**	*e*T	T	00 25 17.3	
	comp=Z,3.0nm,0.3s						
ESTN	**Estel**	**35.30**	**47**	P	**P**	**23 48 27.1**	**+1.4**
ESTN				IAmb	IAmb	23 48 28.6	
	comp=Z,167nm,1.1s						
ESTN				PcP	**PcP**	**23 50 56.2**	**-0.2**
ESTN				IAMs_20	IAMs_20	23 59 22.1	
	comp=Z,2μm,21.0s						
OTAV	**Otavalo**	**35.32**	**73**	*eP*	**P**	**23 48 27.6**	**+1.2**
OTAV	**Otavalo**	**35.32**	**73**	P	**P**	**23 48 28.6**	**+2.2**
OTAV				pmax	pmax		
	comp=Z,104nm,1.5s						
OTAV				MLR	MLR		
	comp=Z,3μm,20.0s						
OTAV	**Otavalo**	**35.32**	**73**	P	**P**	**23 48 28.6**	**+2.2**
OTAV	**Otavalo**	**35.32**	**73**	IAMs_20	IAMs_20	23 58 51.7	
	comp=Z,3μm,20.0s						
OTAV	**Otavalo**	**35.32**	**73**	*eP*	**P**	**23 48 26.1**	**-0.2**
TGUH	**Tegucigalpa,Un**	**35.32**	**45**	*eP*	**P**	**23 48 27.1**	**+1.1**
TGUH	**Tegucigalpa,Un**	**35.32**	**45**	P	**P**	**23 48 27.3**	**+1.3**
TGUH				IAmb	IAmb	23 48 28.8	
	comp=Z,181nm,1.2s						
TGUH				PcP	**PcP**	**23 50 56.7**	**+0.2**
ZAIG	**Zacatecas**	**35.33**	**15**	P	**P**	**23 48 27.1**	**+1.1**
ZAIG				IAMs_20	IAMs_20	23 59 32.9	
	comp=Z,2μm,20.0s						
BOAB	**BOACO BROADBAN**	**36.37**	**48**	P	**P**	**23 48 27.3**	**+1.1**
MEH	**Mehetia**	**35.41**	**255**	*eP*	**P**	**23 48 27.1**	**+0.5**
	comp=Z,67nm,1.3s						
ACON	**Acoyapa**	**35.43**	**50**	P	**P**	**23 48 27.9**	**+1.2**
LPIG	**La Paz**	**35.46**	**3**	P	**P**	**23 48 27.5**	**+0.6**
	comp=Z,17nm,0.3s,baz=38,slow=5.3,SNR=7.5						
LPIG				LR	LR	23 59 10.8	
	comp=Z,3μm,20.7s,baz=181,slow=30						
MATN	**Matagalpa**	**35.50**	**48**	P	**P**	**23 48 29.2**	**+1.7**
MATN				IAmb	IAmb	23 48 30.7	
	comp=Z,240nm,1.3s						
MATN				PcP	**PcP**	**23 50 56.7**	**-0.3**
PETF	**Flores**	**35.75**	**38**	P	**P**	**23 48 29.4**	**0.0**
PETF				IAmb	IAmb	23 48 32.4	
	comp=Z,258nm,1.3s						
PETF				PcP	**PcP**	**23 50 57.3**	**-0.2**
CMBC	**Cumbal**	**36.15**	**72**	*eP*	**P**	**23 48 34.5**	**+1.0**
ESPN	**Las Esperanzas**	**36.23**	**50**	IAMs_20	IAMs_20	23 59 46.7	
	comp=Z,2μm,19.0s						
GCUF	**Volcan Galeras**	**36.70**	**72**	*eP*	**P**	**23 48 40.3**	**+2.0**
PPT	**Papeete**	**36.81**	**256**	LR	LR	23 59 39.0	
	comp=Z,2μm,18.2s,baz=58,slow=30						
PPT2	**Papeete2**	**36.82**	**256**	*e*S	**S**	**23 54 24.2**	**+1.1**
	comp=Z,378nm,26.2s						
PPT2				*e*LQ	LQ	23 56 59.8	
	comp=Z,1μm,29.2s						
PPT2				*e*LR	LR	23 58 22.5	
	comp=Z,8μm,26.0s,baz=85						
BBAC	**Balboa, Cauca**	**37.08**	**71**	*eP*	**P**	**23 48 43.0**	**+1.8**
PUAC	**Puerto Ais, P**	**37.19**	**74**	*eP*	**P**	**23 48 43.5**	**+1.5**
H03N2	**Juan Fernandez**	**37.27**	**131**	T	T	00 28 03.3	
	baz=302,slow=77,SNR=415						
H03N3	**Juan Fernandez**	**37.28**	**131**	T	T	00 28 04.2	
	baz=302,slow=77,SNR=382						
H03N1	**Juan Fernandez**	**37.29**	**131**	T	T	00 28 04.6	
	baz=302,slow=77,SNR=509						
SOTA	**Rioblanco**	**37.72**	**71**	*eP*	**P**	**23 48 49.5**	**+2.5**
POPC	**Popayan, Colom**	**37.80**	**70**	*eP*	**P**	**23 48 48.1**	**+0.8**
PCON	**Cinco Dias**	**37.98**	**71**	*eP*	**P**	**23 48 51.2**	**+2.0**
BCIP	**Isla Barro Col**	**38.02**	**59**	*eP*	P	23 48 43.1	-5.8
BCIP	**Isla Barro Col**	**38.02**	**59**	IAMs_20	IAMs_20	00 00 55.4	
	comp=Z,2μm,21.0s						
FLOC	**Florencia**	**38.41**	**72**	*eP*	**P**	**23 48 53.6**	**+1.4**
FLOC	**Florencia**	**38.41**	**72**	P	**P**	**23 48 54.0**	**+1.8**
SRIG	**Santa Rosalia**	**38.63**	**360**	P	**P**	**23 48 56.0**	**+2.2**
SRIG				IAmb	IAmb	23 48 57.0	
	comp=Z,315nm,1.6s						
SRIG				IAMs_20	IAMs_20	00 00 33.6	
	comp=Z,1μm,21.0s						
YOTC	**Yotoco, Valle**	**38.67**	**69**	*eP*	**P**	**23 48 55.7**	**+1.1**
PTLC	**Puerto Leguiza**	**38.74**	**75**	*eP*	**P**	**23 48 55.0**	**0.0**
GARC	**Garzon, Huila**	**38.77**	**72**	*eP*	**P**	**23 48 56.7**	**+1.1**
CZSB	**Cruzeiro do Su**	**38.90**	**88**	*eP*	**P**	**23 48 57.2**	**+0.9**
BETC	**Betania**	**39.00**	**71**	*eP*	**P**	**23 48 57.5**	**+0.3**
PLMC	**San Jos del P**	**39.11**	**67**	*eP*	**P**	**23 48 58.9**	**+0.7**
TEIG	**Tepich**	**39.26**	**37**	P	**P**	**23 49 00.0**	**+0.8**
	comp=Z,66nm,1.1s,baz=221,slow=6.9,SNR=14						
TEIG	**Tepich**	**39.26**	**37**	*eP*	**P**	**23 48 59.9**	**+0.8**
TEIG	**Tepich**	**39.26**	**37**	P	**P**	**23 48 59.9**	**+0.7**
ORTC	**Ortega, Tolima**	**39.65**	**69**	*eP*	**P**	**23 49 03.7**	**+1.1**
ANIL	**Santa Ana**	**39.74**	**68**	*eP*	**P**	**23 49 04.2**	**+0.6**
CBOC	**Ciudad Bolivar**	**39.76**	**66**	*eP*	**P**	**23 49 05.1**	**+1.4**
TOLC	**Tolima**	**39.85**	**68**	*eP*	**P**	**23 49 06.0**	**+1.4**
PRAC	**Prado**	**39.90**	**70**	*eP*	**P**	**23 49 06.7**	**+1.9**
GUY2C	**Guyana, Caldas**	**40.07**	**67**	*eP*	**P**	**23 49 07.9**	**+1.3**
DBBC	**Dabeiba**	**40.09**	**64**	*eP*	**P**	**23 49 07.0**	**+0.6**
MACC	**Macarena, Meta**	**40.29**	**73**	*eP*	**P**	**23 49 08.1**	**+0.1**
HELC	**Santa Helena**	**40.33**	**66**	*eP*	**P**	**23 49 09.7**	**+1.1**
HSIG		**40.34**	**1**	IAmb	IAmb	23 49 11.3	
	comp=Z,319nm,1.5s						
HSIG				IAMs_20	IAMs_20	00 01 26.7	
	comp=Z,2μm,22.0s						
NORC	**Norcasia**	**40.66**	**67**	*eP*	**P**	**23 49 12.4**	**+1.4**
AP01	**Chacalluta**	**40.74**	**105**	IAMs_20	IAMs_20	00 01 13.8	
	comp=Z,2μm,20.0s						
PB12	**IPOC Station P**	**40.77**	**105**	P	**P**	**23 49 11.4**	**-0.6**
PB12				IAMs_20	IAMs_20	00 01 14.4	
	comp=Z,2μm,20.0s						
ROSC	**El Rosal**	**40.86**	**69**	P	**P**	**23 49 15.5**	**+2.4**
	comp=Z,11nm,0.6s,baz=175,slow=1.6,SNR=14						
ROSC				LR	LR	00 02 52.0	
	comp=Z,2μm,20.1s,baz=248,slow=31						
ROSC	**El Rosal**	**40.86**	**69**	*eP*	**P**	**23 49 13.8**	**+0.7**
ROSC	**El Rosal**	**40.86**	**69**	P	**P**	**23 49 13.9**	**+0.8**
ROSC				IAMs_20	IAMs_20	00 02 40.7	
	comp=Z,2μm,19.0s						
UREC	**San Jos de Ur**	**41.02**	**64**	*eP*	**P**	**23 49 13.8**	**-0.2**
PSGCX	**Pisagua**	**41.04**	**107**	P	**P**	**23 49 14.4**	**+0.2**
VILC	**Villavicencio,**	**41.15**	**70**	*eP*	**P**	**23 49 17.1**	**+1.9**
CHIC	**Chingaza**	**41.32**	**69**	*eP*	**P**	**23 49 18.4**	**+1.5**
MOTC	**Monteria, Cord**	**41.39**	**62**	*eP*	**P**	**23 49 18.7**	**+1.7**
SPBC	**San Pablo de B**	**41.42**	**68**	*eP*	**P**	**23 49 18.9**	**+1.6**
TX31	**Lajitas Ar. Si**	**41.42**	**11**	IAmb	IAmb	23 49 20.1	
	comp=Z,363nm,1.4s						
TXAR	**Lajitas Array**	**41.42**	**11**	P	**P**	**23 49 18.4**	**+1.3**
	comp=Z,36nm,1.1s,baz=187,slow=8.8,SNR=145						
TXAR				LR	LR	00 03 27.4	
	comp=Z,849nm,18.0s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**41.42**	**11**	P	**P**	**23 49 17.6**	**+0.5**
TXAR	**Lajitas Array**	**41.42**	**11**	P	**P**	**23 49 17.6**	**+0.5**
PTBC	**PUERTO BERRIO,**	**41.44**	**66**	*eP*	**P**	**23 49 18.8**	**+1.3**
833A	**Chaparral WMA,**	**41.46**	**17**	P	**P**	**23 49 19.0**	**+1.6**
	baz=199,SNR=49						
833A	**Chaparral WMA,**	**41.46**	**17**	IAMs_20	IAMs_20	00 03 33.5	
	comp=Z,2μm,20.0s						
ZARC	**Zaragoza, Cauc**	**41.50**	**65**	*eP*	**P**	**23 49 18.4**	**+0.5**
PB16	**IPOC Station P**	**41.53**	**105**	IAMs_20	IAMs_20	00 01 42.6	
	comp=Z,3μm,21.0s						
GUVC	**San Jose del G**	**41.57**	**73**	*eP*	**P**	**23 49 20.4**	**+1.9**
LCO	**Las Campanas**	**42.20**	**121**	P	**P**	**23 49 24.6**	**+0.9**
LCO				pmax	pmax		
	comp=Z,79nm,1.2s						
LCO	**Las Campanas**	**42.20**	**121**	P	**P**	**23 49 24.6**	**+0.9**
GO03	**Copiap**	**42.24**	**118**	P	**P**	**23 49 24.4**	**+0.5**
SJCC	**San Jacinto, C**	**42.35**	**61**	*eP*	**P**	**23 49 26.1**	**+1.3**
BRRC	**Barranca, Sant**	**42.35**	**66**	*eP*	**P**	**23 49 26.0**	**+1.1**
RUSC	**La Rusia**	**42.41**	**68**	*eP*	**P**	**23 49 27.1**	**+1.2**
SFX	**San Felipe**	**42.42**	**356**	P	**P**	**23 49 25.6**	**+0.5**
SFX				IAMs_20	IAMs_20	00 02 37.0	
	comp=Z,877nm,19.0s						
735A	**Kenedy**	**42.44**	**19**	IAMs_20	IAMs_20	00 04 43.2	
	comp=Z,1μm,18.0s						
SPX	**San Pedro Mart**	**42.46**	**356**	IAMs_20	IAMs_20	00 02 34.4	
	comp=Z,1μm,20.0s						
LVC	**Limon Verde**	**42.49

HKT	Hockley	44.09	20	P	P	23 49 39.8	+1.3
HKT				IAmb	IAmb	23 49 42.1	
	comp=Z,295nm,1.6s						
HKT	Hockley	44.09	20	IAMs_20	IAMs_20	00 07 05.3	
	comp=Z,1µm,18.0s						
IKP	In-Ko-Pah, Jac	44.12	355	P	P	23 49 40.6	+1.7
	baz=174,SNR=33						
BAR	Barrett	44.20	354	IAmb	IAmb	23 49 42.6	
	comp=Z,273nm,1.5s						
BAR				IAMs_20	IAMs_20	00 03 01.1	
	comp=Z,1µm,19.0s						
435B	Jarrell	44.30	18	P	P	23 49 41.8	+1.4
	baz=200,SNR=32						
435B	Jarrell	44.30	18	IAMs_20	IAMs_20	00 05 23.6	
	comp=Z,1µm,20.0s						
BI02	San Fabin de	44.33	131	P	P	23 49 41.1	+0.5
MONP2	Monument Peak	44.38	355	P	P	23 49 42.8	+1.6
	baz=174,SNR=30						
SWSC	Sam W. Stewart	44.38	355	P	P	23 49 42.4	+1.5
	baz=175,SNR=24						
GLA	Glamis	44.42	357	P	P	23 49 42.9	+1.6
	baz=176,SNR=18						
GLA	Glamis	44.42	357	IAmb	IAmb	23 49 44.4	
	comp=Z,226nm,1.4s						
GLA				IAMs_20	IAMs_20	00 03 28.0	
	comp=Z,1µm,19.0s						
CBCY	The Bluff, Cay	44.43	46	P	P	23 49 43.0	+1.5
109C	Camp Elliot, M	44.45	354	P	P	23 49 42.7	+1.3
	baz=173						
109C	Camp Elliot, M	44.45	354	IAmb	IAmb	23 49 44.4	
	comp=Z,202nm,1.8s						
109C				IAMs_20	IAMs_20	00 03 24.7	
	comp=Z,1µm,20.0s						
SCI2	San Clemente I	44.71	352	P	P	23 49 44.9	+1.4
	baz=171						
ETMB	Extrema	44.99	92	eP	P	23 49 45.4	-0.7
BC3	Big Chuckawall	45.06	356	P	P	23 49 48.1	+1.6
	baz=175,SNR=43						
XPFO	Pion Flat	45.10	355	IAMs_20	IAMs_20	00 03 41.2	
	comp=Z,1µm,18.0s						
PFO	Pinyon Flats O	45.10	355	P	P	23 49 48.0	+1.3
	comp=Z,37nm,1.2s,baz=171,slow=6.2,SNR=47						
PFO	Pinyon Flats O	45.10	355	P	P	23 49 47.6	+0.8
PFO				pmax	pmax		
	comp=Z,192nm,1.6s						
PFO	Pinyon Flats O	45.10	355	P	P	23 49 48.4	+1.6
	baz=174,SNR=28						
PFO	Pinyon Flats O	45.10	355	P	P	23 49 47.6	+0.8
PFO				IAmb	IAmb	23 49 50.0	
	comp=Z,192nm,1.6s						
PFO	Pinyon Flats O	45.10	355	IAMs_20	IAMs_20	00 03 48.0	
	comp=Z,1µm,19.0s						
CIS	Catalina Islan	45.11	352	P	P	23 49 48.0	+1.3
	baz=171						
SNCC	San Nicolas Is	45.11	351	P	P	23 49 47.9	+1.1
	baz=170						
SNCC	San Nicolas Is	45.11	351	IAMs_20	IAMs_20	00 03 12.4	
	comp=Z,2µm,21.0s						
MURC	Murrieta	45.16	354	P	P	23 49 48.5	+1.3
	baz=173,SNR=10						
FMP	Fort Macarthur	45.40	353	P	P	23 49 50.1	+1.2
	baz=171						
BELC	Belle Mtn. Jos	45.45	355	P	P	23 49 51.3	+1.7
	baz=174,SNR=43						
WHTX	Lake Whitney,	45.47	17	P	P	23 49 50.5	+0.9
	baz=200,SNR=17						
WHTX	Lake Whitney,	45.47	17	IAmb	IAmb	23 49 51.7	
	comp=Z,174nm,1.2s						
WHTX				IAMs_20	IAMs_20	00 05 57.5	
	comp=Z,990nm,20.0s						
ABTX	Abilene, Hawle	45.48	15	P	P	23 49 50.3	+0.6
	baz=197,SNR=41						
ABTX	Abilene, Hawle	45.48	15	IAmb	IAmb	23 49 51.6	
	comp=Z,194nm,1.2s						
ABTX				IAMs_20	IAMs_20	00 05 57.7	
	comp=Z,849nm,19.0s						
IRM	Iron Mountain	45.54	356	P	P	23 49 51.7	+1.5
	baz=176,SNR=48						
Y22D	IRIS PASSCAL I	45.62	6	P	P	23 49 52.9	+2.0
	baz=187,SNR=7.1						
Y22D	IRIS PASSCAL I	45.62	6	IAMs_20	IAMs_20	00 05 05.5	
	comp=Z,2µm,20.0s						
PDMCI	Parker Dam,Lak	45.64	358	P	P	23 49 52.4	+1.5
	baz=177,SNR=41						
X16A	Lo Mia Camp, P	45.71	1	IAmb	IAmb	23 49 55.0	
	comp=Z,161nm,1.4s						
X16A				IAMs_20	IAMs_20	00 04 40.0	
	comp=Z,1µm,21.0s						
BBRC	Big Bear Solar	45.79	354	P	P	23 49 54.1	+1.7
	baz=173						
PASC	Pasadena Art C	45.84	353	IAmb	IAmb	23 49 56.5	
	comp=Z,269nm,1.6s						
PASC	Pasadena Art C	45.84	353	IAMs_20	IAMs_20	00 03 47.5	
	comp=Z,1µm,20.0s						
BFSC	Mount Baldy Ra	45.84	353	P	P	23 49 54.1	+1.4
	baz=172,SNR=17						
SCZ2	Santa Cruz Isl	45.86	351	P	P	23 49 54.2	+1.5
	baz=170						
SDV	Santo Domingo	45.87	65	P	P	23 49 54.0	+0.7
	comp=Z,20nm,0.7s,baz=238,slow=7.4,SNR=23						
SDV	Santo Domingo	45.87	65	eP	P	23 49 53.0	-0.3
SDV	Santo Domingo	45.87	65	P	P	23 49 54.4	+1.1
SDV				IAmb	IAmb	23 49 55.9	
	comp=Z,143nm,1.4s						
SDV	Santo Domingo	45.87	65	IAMs_20	IAMs_20	00 05 05.7	
	comp=Z,1µm,22.0s						
SDV	Santo Domingo	45.87	65	eP	P	23 49 54.0	+0.7
MWC	Mount Wilson	45.87	353	IAmb	IAmb	23 49 56.1	
	comp=Z,266nm,1.5s						
MWC				IAMs_20	IAMs_20	00 03 49.5	
	comp=Z,1µm,20.0s						
DECC	Green Verdugo	45.94	353	P	P	23 49 55.0	+1.7
	baz=171,SNR=7.5						
URIC	Uribia, Colomb	45.95	61	eP	P	23 49 53.2	-0.5
237A	Washetta, Mont	45.99	19	IAMs_20	IAMs_20	00 06 32.2	
	comp=Z,993nm,22.0s						
MSTX	Muleshoe	46.10	11	P	P	23 49 55.2	+0.5
	baz=192,SNR=97						
NEE2	Needles Airpor	46.12	357	P	P	23 49 55.9	+1.2
	baz=176						
LL01	San Ignacio de	46.12	139	IAmb	IAmb	23 49 57.3	
	comp=Z,142nm,1.4s						
NATX	Nacogdoches	46.15	21	P	P	23 49 55.9	+0.9
	baz=204,SNR=12						
NATX	Nacogdoches	46.15	21	IAmb	IAmb	23 49 57.4	
	comp=Z,167nm,1.2s						
GMRC	Granite Mounta	46.20	356	P	P	23 49 57.1	+1.6
	baz=175,SNR=51						
HEC	Hector,Ludlow	46.30	355	P	P	23 49 57.9	+1.7
	baz=174,SNR=36						
SBC	Santa Barbara	46.31	351	P	P	23 49 57.5	+1.3
	baz=170						
OSI	Osito Audit: C	46.34	352	P	P	23 49 57.8	+1.3
	baz=171,SNR=6.5						
OSI	Osito Audit: C	46.34	352	IAmb	IAmb	23 49 59.4	
	comp=Z,222nm,1.6s						
OSI				IAMs_20	IAMs_20	00 04 02.9	
	comp=Z,2µm,21.0s						
RRX	Edison Barstow	46.40	354	P	P	23 49 58.5	+1.5
	baz=173						
W13A	Hualapai Mount	46.42	358	IAmb	IAmb	23 50 00.7	
	comp=Z,198nm,1.3s						
W13A				IAMs_20	IAMs_20	00 04 51.8	
	comp=Z,1µm,20.0s						
W18A	Petrified Fore	46.45	3	P	P	23 49 59.2	+1.7
	baz=183,SNR=38						
W18A	Petrified Fore	46.45	3	IAMs_20	IAMs_20	00 05 19.7	
	comp=Z,1µm,20.0s						
EDW2	Edwards Air Fo	46.52	353	P	P	23 49 58.9	+1.1
	baz=172,SNR=24						
ANMO	Albuquerque	46.53	6	ceP	P	23 49 59.4	+1.3
ANMO				pmax	pmax		
	comp=Z,106nm,1.8s						
ANMO	Albuquerque	46.53	6	P	P	23 49 59.5	+1.4
	baz=188						
ANMO	Albuquerque	46.53	6	P	P	23 49 59.5	+1.4
ANMO				IAmb	IAmb	23 50 01.1	
	comp=Z,122nm,1.6s						
ANMO	Albuquerque	46.53	6	IAMs_20	IAMs_20	00 06 04.7	
	comp=Z,1µm,19.0s						
PLCA	Paso Flores	46.57	136	P	P	23 49 59.4	+1.0
	comp=Z,40nm,1.2s,baz=296,slow=9.4,SNR=21						
PLCA				LR	LR	00 04 45.2	
	comp=Z,4µm,19.0s,baz=284,slow=30						
PLCA	Paso Flores	46.57	136	P	P	23 49 58.5	+0.1
PLCA	Paso Flores	46.57	136	eP	P	23 49 59.5	+1.1
RAR	Rarotonga	46.68	252	LR	LR	00 03 50.9	
	comp=Z,1µm,20.8s,baz=86,slow=29						
PKM	Mcpherson Peak	46.77	351	P	P	23 50 01.2	+1.2
	baz=170,SNR=13						
WUAZ	Wupatki	46.80	1	P	P	23 50 02.2	+1.9
	baz=181,SNR=89						
WUAZ	Wupatki	46.80	1	IAMs_20	IAMs_20	00 05 06.0	
	comp=Z,1µm,20.0s						
GSC	Goldstone, Bar	46.81	355	P	P	23 50 02.0	+1.8
	baz=174,SNR=66						
GSC	Goldstone, Bar	46.81	355	IAMs_20	IAMs_20	00 04 24.2	
	comp=Z,1µm,22.0s						
ARVC	Arvin	46.86	352	P	P	23 50 01.8	+1.3
	baz=171						
TUQ	Turquoise Moun	46.87	356	P	P	23 50 02.4	+1.7
	baz=175,SNR=11						
LRMC	Laurel Mtn Rad	47.07	354	P	P	23 50 03.8	+1.5
	baz=172,SNR=8.5						
XMAS	Kiritimati	47.15	284	P	P	23 50 04.1	+1.0
AMTX	Amarillo	47.20	12	P	P	23 50 03.6	+0.3
	baz=194						
SMMC	Simmler	47.21	351	P	P	23 50 04.7	+1.4
	baz=169,SNR=6.8						
ISA	Isabella, Lake	47.34	353	P	P	23 50 05.9	+1.6
	baz=171,SNR=32						
ISA	Isabella, Lake	47.34	353	IAmb	IAmb	23 50 07.5	
	comp=Z,176nm,1.6s						
ISA				IAMs_20	IAMs_20	00 05 04.4	
	comp=Z,2µm,20.0s						
SHOC	Shoshone, Teco	47.35	355	P	P	23 50 06.0	+1.7
	baz=174,SNR=12						
Z38A	Mt. Pleasant	47.41	19	IAmb	IAmb	23 50 07.2	
	comp=Z,169nm,1.2s						
Z38A				IAMs_20	IAMs_20	00 07 39.0	
	comp=Z,935nm,20.0s						
VES	Vestal, Richgr	47.60	352	P	P	23 50 07.4	+1.2
	baz=171,SNR=27						
MPMC	Manual Prospec	47.62	354	P	P	23 50 08.2	+1.5
	baz=173,SNR=64						
PAGB	Antelope Grade	47.66	351	IAMs_20	IAMs_20	00 04 38.8	
	comp=Z,2µm,20.0s						
WMOK	Wichita Mounta	47.70	15	P	P	23 50 06.9	-0.2
	baz=198,SNR=51						
SHPR	Sheep Range	47.88	357	IAMs_20	IAMs_20	00 05 34.5	
	comp=Z,2µm,21.0s						
GTBY	Guantanamo Bay	47.92	50	IAMs_20	IAMs_20	00 05 59.6	
	comp=Z,1µm,22.0s						
FURC	Furnace Creek,	47.97	355	P	P	23 50 10.6	+1.5
	baz=174,SNR=19						
SAML	Samuel	48.06	92	P	P	23 50 09.5	-0.8
SAML				pmax	pmax		
	comp=Z,177nm,1.3s						
SAML	Samuel	48.06	92	P	P	23 50 09.5	-0.8
SAML				IAmb	IAmb	23 50 11.4	
	comp=Z,177nm,1.3s						
SAML	Samuel	48.06	92	IAMs_20	IAMs_20	00 08 32.4	
	comp=Z,1µm,18.0s						
SAML	Samuel	48.06	92	eP	P	23 50 09.5	-0.8
CWC	Cottonwood Cre	48.06	353	P	P	23 50 11.7	+1.6
	baz=172						
VOG	Valley Oaks Go	48.11	352	P	P	23 50 11.0	+0.8
	baz=170						
VBMS	Vicksburg	48.12	25	P	P	23 50 11.3	+1.0
	baz=209						
Z41A	Richland Creek	48.16	22	P	P	23 50 11.9	+1.3
	baz=206,SNR=12						
PMPB	Monarch Peak	48.22	350	IAMs_20	IAMs_20	00 04 54.7	
	comp=Z,2µm,19.0s						
TPNV	Topopah Spring	48.40	355	P	P	23 50 14.5	+1.9
	baz=174,SNR=27						
TPNV	Topopah Spring	48.40	355	IAMs_20	IAMs_20	00 05 37.2	
	comp=Z,1µm,20.0s						
X37A	Clayton	48.52	18	IAmb	IAmb	23 50 15.2	
	comp=Z,227nm,1.8s						
X37A				IAMs_20	IAMs_20	00 07 56.2	
	comp=Z,1µm,20.0s						
GRAC	Grapevine Rang	48.54	354	P	P	23 50 15.4	+1.8
	baz=173,SNR=22						
MVCO	Mesa Verde	48.60	4	P	P	23 50 15.6	+1.3
	baz=185,SNR=41						
MVCO	Mesa Verde	48.60	4	IAMs_20	IAMs_20	00 06 33.6	
	comp=Z,988nm,21.0s						
OKCFA	Oklahoma City	48.69	16	P	P	23 50 14.7	0.0
TIN	Tinemaha, Big	48.69	353	P	P	23 50 16.4	+1.6
	baz=172,SNR=7.6						
BRAL	Brewton	48.75	29	P	P	23 50 16.2	+1.0
	baz=213						
PRN	Pahroc Range	48.77	357	IAMs_20	IAMs_20	00 06 14.1	
	comp=Z,1µm,19.0s						
SAO	San Andreas Ge	48.86	350	IAmb	IAmb	23 50 18.8	
	comp=Z,164nm,1.4s						
SAO				IAMs_20	IAMs_20	00 05 28.7	
	comp=Z,2µm,20.0s						
SZCU	Shurtz Canyon	48.89	359	P	P	23 50 17.2	+0.8
T25A	Trinidad	48.94	8	P	P	23 50 18.0	+1.1
	baz=190,SNR=63						
T25A	Trinidad	48.94	8	IAmb	IAmb	23 50 19.6	
	comp=Z,162nm,1.2s						
T25A				IAMs_20	IAMs_20	00 07 27.5	
	comp=Z,1µm,19.0s						
MIAR	Mount Ida	49.06	20	P	P	23 50 17.7	+0.2
	baz=204,SNR=52						
MIAR	Mount Ida	49.06	20	IAmb	IAmb	23 50 19.2	
	comp=Z,111nm,1.2s						
U32A	Winter Ranch,	49.21	14	IAmb	IAmb	23 50 20.8	
	comp=Z,186nm,1.2s						
U32A				IAMs_20	IAMs_20	00 08 14.7	
	comp=Z,712nm,19.0s						
553A	Crawfordville	49.25	32	IAmb	IAmb	23 50 21.4	
	comp=Z,137nm,1.2s						
X40A	Basin Creek Fa	49.26	21	P	P	23 50 19.2	+0.2
	baz=205,SNR=41						
X40A	Basin Creek Fa	49.26	21	IAMs_20	IAMs_20	00 09 22.9	
	comp=Z,889nm,20.0s						
S22A	4UR Ranch, Cre	49.27	5	P	P	23 50 20.8	+1.3
	baz=187,SNR=72						
S22A	4UR Ranch, Cre	49.27	5	IAmb	IAmb	23 50 22.3	
	comp=Z,159nm,1.4s						
S22A				IAMs_20	IAMs_20	00 07 25.1	
	comp=Z,921nm,19.0s						
DWPF	Disney Wildern	49.29	36	P	P	23 50 20.2	+0.8
	baz=221						
DWPF	Disney Wildern	49.29	36	P	P	23 50 20.7	+1.3
DWPF				IAmb	IAmb	23 50 21.6	
	comp=Z,188nm,1.1s						
MLAC	Mammoth, Mammo	49.33	353	P	P	23 50 21.2	+1.3
	baz=171						
OMMB	Old Mammoth Mi	49.33	353	IAMs_20	IAMs_20	00 06 07.1	
	comp=Z,2µm,20.0s						
MDPB	Devils Postpil	49.36	353	IAMs_20	IAMs_20	00 06 08.8	
	comp=Z,1µm,20.0s						
SDCO	Great Sand Dun	49.40	7	P	P	23 50 21.9	+1.4
	baz=188,SNR=266						
SDCO	Great Sand Dun	49.40	7	IAMs_20	IAMs_20	00 07 42.7	
	comp=Z,1µm,19.0s						
PV01	Paradox Valley	49.52	4	IAMs_20	IAMs_20	00 08 04.4	
	comp=Z,1µm,20.0s						
PV13	Radium Mtn., P	49.53	3	IAMs_20	IAMs_20	00 07 57.1	
	comp=Z,2µm,19.0s						
SIV	San Ignacio	49.57	101	P	P	23 50 21.9	0.0
	comp=Z,26nm,1.1s,baz=281,slow=9.2,SNR=39						
PV02	Paradox Valley	49.58	3	IAmb	IAmb	23 50 24.4	
	comp=Z,237nm,1.5s						
W39A	Magazine	49.58	20	P	P	23 50 21.7	+0.2
	baz=204,SNR=33						
W39A	Magazine	49.58	20	IAMs_20	IAMs_20	00 08 56.4	
	comp=Z,840nm,20.0s						
TUL1	Leonard	49.62	17	P	P	23 50 21.6	-0.2
	baz=201,SNR=28						
TUL1	Leonard	49.62	17	IAmb	IAmb	23 50 23.1	
	comp=Z,192nm,1.2s						
PV03	Paradox Valley	49.62	3	IAMs_20	IAMs_20	00 07 41.6	
	comp=Z,2µm,20.0s						
PV19	Morning Glory	49.67	3	IAMs_20	IAMs_20	00 08 05.8	
	comp=Z,2µm,19.0s						
PV16	Nyswonger Mesa	49.67	3	IAMs_20	IAMs_20	00 08 00.9	
	comp=Z,2µm,20.0s						
PV20	West Nyswonger	49.70	3	IAMs_20	IAMs_20	00 07 32.7	
	comp=Z,1µm,19.0s						
PV14	Lion Creek, Pa	49.73	3	IAMs_20	IAMs_20	00 07 31.4	
	comp=Z,2µm,20.0s						
PV15	Paradox Valley	49.73	4	IAmb	IAmb	23 50 25.7	
	comp=Z,270nm,1.6s						
R11A	Troy Canyon, C	49.74	356	P	P	23 50 24.8	+1.9
	baz=175,SNR=67						
R11A	Troy Canyon, C	49.74	356	IAmb	IAmb	23 50 26.4	
	comp=Z,176nm,1.7s						
R11A				IAMs_20	IAMs_20	00 06 43.8	
	comp=Z,1µm,20.0s						
PV07	Paradox Valley	49.81	3	IAmb	IAmb	23 50 26.1	
	comp=Z,199nm,1.7s						
PSUT	Pine Spring	49.84	358	P	P	23 50 24.8	+1.0
LHV	Little Huntoon	49.90	353	IAMs_20	IAMs_20	00 06 31.2	
	comp=Z,1µm,20.0s						
PV22	Blue Mesa, Par	49.90	3	IAMs_20	IAMs_20	00 07 54.0	
	comp=Z,2µm,20.0s						
CMB	Columbia Colle	49.94	351	IAmb	IAmb	23 50 27.1	
	comp=Z,135nm,1.4s						
X43A	Marvell	50.00	23	P	P	23 50 25.8	+1.1
	baz=207,SNR=8.8						
NV11	Mina Array Sit	50.04	354	IAmb	IAmb	23 50 28.3	
	comp=Z,198nm,1.4s						
NV11				IAMs_20	IAMs_20	00 06 15.9	
	comp=Z,2µm,22.0s						
NVAR	Mina Array Bea	50.06	354	P	P	23 50 27.1	+1.7
	comp=Z,45nm,1.0s,baz=178,slow=9.0,SNR=205						
NVAR				LR	LR	00 06 37.8	
	comp=Z,1µm,20.8s,baz=172,slow=30						
NVAR	Mina Array Bea	50.06	354	P	P	23 50 25.9	+0.6
W41B	Gary Mavity, V	50.09	21	P	P	23 50 25.9	+0.6
	baz=206,SNR=57						
W41B	Gary Mavity, V	50.09	21	IAMs_20	IAMs_20	00 09 58.7	
	comp=Z,760nm,19.0s						
WHAR	Wooly Hollow	50.18	21	IAmb	IAmb	23 50 28.0	
	comp=Z,258nm,1.5s						
WAKR	Walker	50.27	352	IAmb	IAmb	23 50 30.4	
	comp=Z,167nm,1.6s						
RYN	Ryan	50.28	353	IAmb	IAmb	23 50 30.2	
	comp=Z,248nm,1.5s						
RYN				IAMs_20	IAMs_20	00 06 43.1	
	comp=Z,1µm,20.0s						
SDDR	Presa de Saban	50.30	53	P	P	23 50 29.0	+1.6
SDDR				PcP	PcP	23 51 45.5	-0.7
LRAL	Lakeview Retre	50.34	27	P	P	23 50 28.1	+0.8
	baz=212,SNR=40						
LRAL	Lakeview Retre	50.34	27	IAmb	IAmb	23 50 29.5	
	comp=Z,134nm,1.4s						
T35A	Sooner Cattle	50.35	16	IAmb	IAmb	23 50 28.8	
	comp=Z,115nm,1.1s						
MCCM	Marconi Confer	50.46	349	IAmb	IAmb	23 50 31.0	
	comp=Z,231nm,1.5s						
MCCM				IAMs_20	IAMs_20	00 05 53.1	
	comp=Z,2µm,21.0s						
HHAR	Hobbs	50.52	19	IAMs_20	IAMs_20	00 09 30.3	
	comp=Z,1µm,22.0s						
U38A	Gravette	50.53	18	IAmb	IAmb	23 50 29.9	
	comp=Z,137nm,1.2s						
U38A				IAMs_20	IAMs_20	00 08 57.5	
	comp=Z,867nm,21.0s						
VILB	Vilhena	50.57	97	eP	P	23 50 28.7	-0.8
OXF	Oxford	50.57	24	P	P	23 50 29.1	+0.1
	baz=209						
OXF	Oxford	50.57	24	IAmb	IAmb	23 50 30.5	
	comp=Z,255nm,1.3s						
Q24A	Divide	50.65	7	P	P	23 50 30.7	+0.8
	baz=189,SNR=35						
Q24A	Divide	50.65	7	IAMs_20	IAMs_20	00 08 24.7	
	comp=Z,2µm,20.0s						
KVN	Kaiserville	50.65	354	IAmb	IAmb	23 50 32.9	
	comp=Z,156nm,1.5s						
KVN				IAMs_20	IAMs_20	00 06 56.9	
	comp=Z,1µm,21.0s						
TIGA	Tifton	50.68	32	P	P	23 50 30.1	+0.1
	baz=217,SNR=5.1						
YERR	Yerington	50.72	353	IAmb	IAmb	23 50 33.6	
	comp=Z,240nm,1.4s						
YERR				IAMs_20	IAMs_20	00 07 02.7	
	comp=Z,2µm,20.0s						
FCAR	Ozark Folk Cen	50.77	21	IAmb	IAmb	23 50 32.0	
	comp=Z,163nm,1.6s						
PNTR	Pine Nut	50.86	352	IAmb	IAmb	23 50 34.7	
	comp=Z,207nm,1.3s						
PNTR				IAMs_20	IAMs_20	00 07 14.6	
	comp=Z,2µm,19.0s						
MET	Memphis--Engin	50.90	23	P	P	23 50 32.2	+0.7
RUBR	Rubicon Trail	50.90	352	IAMs_20	IAMs_20	00 06 52.6	
	comp=Z,2µm,20.0s						
AFDM	Forest Hills D	50.92	351	IAmb	IAmb	23 50 34.6	
	comp=Z,217nm,1.6s						
AFDM				IAMs_20	IAMs_20	00 06 49.0	
	comp=Z,2µm,20.0s						
U40A	Yellville	50.95	20	P	P	23 50 31.7	-0.1
	baz=204,SNR=62						
U40A	Yellville	50.95	20	IAmb	IAmb	23 50 33.2	
	comp=Z,125nm,1.2s						
U40A				IAMs_20	IAMs_20	00 09 49.5	
	comp=Z,927nm,20.0s						
SC01	Santiago de lo	50.99	53	IAmb	IAmb	23 50 35.3	
	comp=Z,228nm,1.5s						
SC01				IAMs_20	IAMs_20	00 07 50.9	
	comp=Z,842nm,22.0s						
KSCO	Kaye Shedlock'	51.04	9	P	P	23 50 33.3	+0.6
	baz=192,SNR=19						
KSCO	Kaye Shedlock'	51.04	9	IAmb	IAmb	23 50 34.8	
	comp=Z,234nm,1.2s						
GO09	Cerro Castillo	51.05	149	P	P	23 50 34.0	+1.4
GO09				IAmb	IAmb	23 50 35.6	
	comp=Z,131nm,1.3s						
VCNR	Virginia City	51.07	352	IAmb	IAmb	23 50 36.2	
	comp=Z,144nm,1.4s						
VCNR				IAMs_20	IAMs_20	00 07 12.2	
	comp=Z,2µm,20.0s						
GDXM	Geysers	51.09	349	IAMs_20	IAMs_20	00 06 33.7	
	comp=Z,2µm,20.0s						
LPAR	Lepanto	51.18	23	IAMs_20	IAMs_20	00 11 11.2	
	comp=Z,756nm,18.0s						
W45A	Hickory Valley	51.22	24	IAMs_20	IAMs_20	00 11 52.9	
	comp=Z,656nm,18.0s						
R32A	Long Quarter,	51.23	13	IAmb	IAmb	23 50 35.6	
	comp=Z,274nm,1.4s						
R32A				IAMs_20	IAMs_20	00 10 05.1	
	comp=Z,1µm,18.0s						
LCAR	Lake Charles	51.28	22	IAmb	IAmb	23 50 36.1	
	comp=Z,278nm,1.5s						
LCAR				IAMs_20	IAMs_20	00 10 55.3	
	comp=Z,636nm,19.0s						
HOPS	Hopland Field	51.32	349	IAmb	IAmb	23 50 37.8	
	comp=Z,223nm,1.5s						
CBKS	Cedar Bluff	51.38	12	P	P	23 50 35.2	0.0
	baz=195,SNR=8.4						
CBKS	Cedar Bluff	51.38	12	IAmb	IAmb	23 50 37.4	
	comp=Z,231nm,1.6s						
CBKS				IAMs_20	IAMs_20	00 09 41.1	
	comp=Z,770nm,18.0s						
ISCO	Idaho Springs	51.42	6	P	P	23 50 36.2	+0.4
ISCO				pmax	pmax		
	comp=Z,162nm,1.3s						
ISCO	Idaho Springs	51.42	6	P	P	23 50 36.9	+1.1
	baz=188,SNR=101						
ISCO	Idaho

S39A IAMs_20 IAMs_20 00 10 04.7
comp=Z,768nm,21.0s
KCPM Cahto Peak 52.09 349 P P 23 50 42.6 +2.1
KCPM IAmb IAmb 23 50 43.8
comp=Z,274nm,1.7s
PVMO Portageville 52.12 23 IAMs_20 IAMs_20 00 11 47.7
comp=Z,675nm,18.0s
T42A Van Buren 52.16 21 IAMs_20 IAMs_20 00 11 00.7
comp=Z,681nm,18.0s
FPAL Fort Paine 52.23 28 IAmb IAmb 23 50 43.0
comp=Z,135nm,1.3s
GOGA Godfrey 52.32 30 P P 23 50 42.3 +0.1
baz=216,SNR=33
O03E Paynes Creek 52.37 351 P P 23 50 42.9 +0.4
baz=168,SNR=12
KSU1 Kansas State U 52.38 15 P P 23 50 42.6 0.0
baz=199,SNR=6.1
KSU1 Kansas State U 52.38 15 P P 23 50 42.5 0.0
KSU1 IAmb IAmb 23 50 44.2
comp=Z,188nm,1.4s
KSU1 Kansas State U 52.38 15 P 23 50 43.2 +0.7
O02D Mt. Diablo Mer 52.42 350 P P 23 50 44.5 +1.6
baz=167,SNR=11
N23A Red Feather La 52.47 6 P P 23 50 44.5 +1.0
baz=188,SNR=32
N23A Red Feather La 52.47 6 IAMs_20 IAMs_20 00 09 22.9
comp=Z,2μm,20.0s
WVT Waverly 52.62 25 P P 23 50 44.0 -0.3
WVT pmax pmax
comp=Z,107nm,1.4s
WVT MLR MLR
comp=Z,700nm,18.0s
WVT Waverly 52.62 25 P P 23 50 44.0 -0.3
baz=210
WVT Waverly 52.62 25 P P 23 50 44.0 -0.3
WVT IAMs_20 IAMs_20 00 12 39.7
comp=Z,663nm,18.0s
KMRM Mail Ridge 52.63 349 IAmb IAmb 23 50 47.8
comp=Z,247nm,1.4s
KMRM IAMs_20 IAMs_20 00 07 15.0
comp=Z,2μm,20.0s
SWET Sewanee 52.65 27 IAmb IAmb 23 50 46.0
comp=Z,183nm,1.4s
V48A Smith Brothers 52.70 26 IAmb IAmb 23 50 46.2
comp=Z,141nm,1.4s
PTGA Pitinga 52.74 82 P P 23 50 45.4 -0.3
comp=Z,63nm,1.1s,baz=252,slow=7.1,SNR=55
PTGA Pitinga 52.74 82 P P 23 50 45.2 -0.5
PTGA IAmb IAmb 23 50 47.3
comp=Z,121nm,1.2s
PTGA IAMs_20 IAMs_20 00 10 25.4
comp=Z,1μm,19.0s
PTGA Pitinga 52.74 82 *e*P **P 23 50 45.2 -0.5**
KHU Kahuku 52.76 305 P P 23 50 47.1 +1.2
KHU pmax pmax
comp=Z,635nm,1.6s
KHU Kahuku 52.76 305 P P 23 50 47.1 +1.2
WDC Whiskeytown Da 52.77 350 IAmb IAmb 23 50 47.4
comp=Z,157nm,1.4s
WDC IAMs_20 IAMs_20 00 07 22.1
comp=Z,1μm,20.0s
HMH Humu'ula Sheep 52.84 306 P P 23 50 47.5 +0.8
MWH Moku'aweowe 52.87 305 IAmb IAmb 23 50 49.0
comp=Z,241nm,1.2s
HWUT Hardware Ranch 52.88 0 IAmb IAmb 23 50 48.7
comp=Z,162nm,1.4s
HWUT IAMs_20 IAMs_20 00 08 52.9
comp=Z,1μm,20.0s
R40A Maddies Statio 52.90 19 IAMs_20 IAMs_20 00 10 35.2
comp=Z,916nm,22.0s
PHWY Pilot Hill 52.92 6 IAMs_20 IAMs_20 00 09 38.9
comp=Z,2μm,20.0s
157A Early Branch 53.01 33 P P 23 50 48.0 +0.7
baz=219,SNR=6.1
CCM Cathedral Cave 53.03 20 P P 23 50 47.0 -0.3
CCM pmax pmax
comp=Z,100nm,1.1s
CCM Cathedral Cave 53.03 20 P P 23 50 47.1 -0.3
baz=206
CCM Cathedral Cave 53.03 20 P P 23 50 47.0 -0.3
CCM Cathedral Cave 53.03 20 IAMs_20 IAMs_20 00 11 14.6
comp=Z,918nm,20.0s
OGNE Ogallala 53.03 9 P P 23 50 47.9 +0.5
baz=192,SNR=6.3
T45A Paducah 53.06 23 IAmb IAmb 23 50 49.0
comp=Z,255nm,1.3s
RWWY Rawlins 53.15 4 IAmb IAmb 23 50 50.4
comp=Z,212nm,1.2s
RWWY IAMs_20 IAMs_20 00 10 26.9
comp=Z,832nm,18.0s
KHLU Kahalu`u 53.16 305 P P 23 50 49.6 +0.8
N02D Trinity Center 53.18 350 P P 23 50 49.6 +1.1
baz=167,SNR=11
MLPR Magueyes Islan 53.19 57 P P 23 50 48.5 -0.4
HPAH Hawaii Prepara 53.23 306 P P 23 50 50.6 +1.4
HPAH IAmb IAmb 23 50 51.2
comp=Z,258nm,1.5s
KHMM Horse Mountain 53.27 349 IAmb IAmb 23 50 52.5
comp=Z,229nm,1.3s
JCC Jacoby Creek, 53.27 349 IAMs_20 IAMs_20 00 07 35.4
comp=Z,2μm,20.0s
Z56A Williston 53.32 32 P P 23 50 49.9 +0.3
baz=218
Z56A Williston 53.32 32 IAMs_20 IAMs_20 00 11 30.4
comp=Z,711nm,20.0s
AGPR Aguadilla, PR 53.38 57 IAmb IAmb 23 50 59.5
comp=Z,288nm,1.6s
CPUP Villa Florida 53.39 114 P P 23 50 50.2 -0.1
comp=Z,14nm,1.0s,baz=279,slow=8.1,SNR=14
CPUP LR LR 00 09 15.7
comp=Z,2μm,21.0s,baz=278,slow=31
CPUP Villa Florida 53.39 114 P P 23 50 50.4 0.0
CPUP pmax pmax
comp=Z,32nm,1.1s
CPUP Villa Florida 53.39 114 P P 23 50 50.4 0.0
CPUP Villa Florida 53.39 114 *e*P **P 23 50 50.2 -0.1**
S44A Carbondale 53.42 22 IAmb IAmb 23 50 51.6
comp=Z,173nm,1.3s
158A Hollywood 53.49 34 P P 23 50 51.2 +0.4
baz=220
Y55A Saluda 53.55 31 P P 23 50 51.3 +0.1
baz=218,SNR=32
HODGE Hodges 53.58 31 IAmb IAmb 23 50 53.1
comp=Z,148nm,1.6s
OBIP Obispado Ponce 53.59 57 IAmb IAmb 23 50 52.0
comp=Z,177nm,1.9s
M02C Callahan 53.61 350 P P 23 50 53.0 +1.3
baz=167,SNR=15
Z57A Bowman 53.65 33 P P 23 50 51.9 0.0
baz=219,SNR=5.1
T47A Sharon Grove 53.65 25 IAmb IAmb 23 50 53.2
comp=Z,189nm,1.2s
Y56A Pelion 53.72 32 P P 23 50 52.7 +0.2
baz=218
MOD Modoc Plateau 53.72 352 IAmb IAmb 23 50 55.5
comp=Z,226nm,1.4s
MOD IAMs_20 IAMs_20 00 08 36.3
comp=Z,1μm,19.0s
P38A Dawn 53.72 18 IAmb IAmb 23 50 54.4
comp=Z,186nm,1.6s
X54A Belton 53.77 30 P P 23 50 53.1 +0.2
baz=217,SNR=23
NHSC New Hope 53.78 33 P P 23 50 53.3 +0.3
baz=220,SNR=7.4
U49A Red Boiling Sp 53.80 26 P P 23 50 52.7 -0.3
U49A IAmb IAmb 23 50 54.3
comp=Z,131nm,1.6s
U49A PcP **PcP 23 51 57.6 -1.3**
M04C Macdoel 53.83 351 P P 23 50 54.6 +1.3
baz=168,SNR=28
V51A Loudon 53.85 28 IAmb IAmb 23 50 54.8
comp=Z,121nm,1.3s
SLM Saint Louis 53.90 21 IAmb IAmb 23 50 55.2
comp=Z,177nm,1.4s
SLM IAMs_20 IAMs_20 00 11 52.6
comp=Z,944nm,21.0s
YBH Yreka Blue Hor 53.92 350 P P 23 50 54.6 +0.7
comp=Z,17nm,1.0s,baz=138,slow=5.8,SNR=21
YBH Yreka Blue Hor 53.92 350 P P 23 50 54.9 +1.0
YBH IAmb IAmb 23 50 56.1
comp=Z,117nm,1.5s
KRMB Red Mountain 53.93 349 IAmb IAmb 23 50 57.1
comp=Z,205nm,1.5s
KRMB IAMs_20 IAMs_20 00 08 52.8
comp=Z,1μm,18.0s
AHID Auburn Hatcher 54.05 1 IAMs_20 IAMs_20 00 09 51.7
comp=Z,1μm,20.0s

WVOR Wild Horse Val 54.05 354 IAMs_20 IAMs_20 00 09 15.0
comp=Z,2μm,20.0s
X55A Gracelyn & Ava 54.08 31 P P 23 50 55.2 +0.1
baz=218,SNR=24
BW06 Boulder Array 54.09 2 P P 23 50 55.2 -0.2
baz=183,SNR=58
BW06 Boulder Array 54.09 2 IAMs_20 IAMs_20 00 09 54.8
comp=Z,1μm,20.0s
PDAR Pinedale Array 54.09 2 P P 23 50 55.1 -0.2
comp=Z,13nm,0.8s,baz=176,slow=5.9,SNR=114
PDAR LR LR 00 10 34.6
comp=Z,864nm,18.4s,baz=183,slow=32
PDAR Pinedale Array 54.09 2 P P 23 50 54.8 -0.5
P40A Paris 54.09 19 IAmb IAmb 23 50 56.0
comp=Z,146nm,1.4s
P40A IAMs_20 IAMs_20 00 10 57.9
comp=Z,678nm,22.0s
GCPR Guaynabo City 54.15 57 IAmb IAmb 23 50 56.2
comp=Z,119nm,1.1s
Z58A St. Stephen 54.15 33 P P 23 50 55.6 -0.1
baz=220,SNR=6.0
K22A Casper 54.16 5 P P 23 50 56.2 +0.4
baz=187,SNR=58
BGNE Belgrade 54.21 13 P P 23 50 56.0 -0.1
baz=197
BGNE Belgrade 54.21 13 IAmb IAmb 23 50 57.5
comp=Z,215nm,1.4s
HUMP Col San Antoni 54.26 58 P P 23 50 55.5 -1.2
HUMP PcP **PcP 23 52 00.1 -0.9**
PAULI Pauline 54.27 31 IAmb IAmb 23 50 58.0
comp=Z,132nm,1.5s
PAULI IAMs_20 IAMs_20 00 16 02.5
comp=Z,563nm,18.0s
KHLH Kahului Airpor 54.27 306 IAMs_20 IAMs_20 00 08 39.2
comp=Z,1μm,20.0s
N35A Tabor 54.29 15 IAMs_20 IAMs_20 00 11 35.0
comp=Z,784nm,18.0s
W54A Chokee Point 54.29 30 P P 23 50 57.0 +0.3
baz=217,SNR=25
L04D Klamath Falls 54.33 351 P P 23 50 57.7 +0.8
baz=168,SNR=20
Y57A Sumter 54.37 32 P P 23 50 57.1 -0.2
baz=219
Y57A Sumter 54.37 32 P P 23 50 57.6 +0.4
Y57A IAmb IAmb 23 50 58.6
comp=Z,167nm,1.9s
Y57A PcP **PcP 23 52 00.9 -0.1**
Z59A Georgetown, SC 54.37 34 P P 23 50 57.4 +0.2
baz=220
X56A White Oak 54.41 32 P P 23 50 57.6 +0.1
baz=218,SNR=18
V53A Saluda 54.46 29 IAmb IAmb 23 50 59.4
comp=Z,106nm,1.3s
L02E Cave Junction 54.49 349 P P 23 50 59.4 +1.4
baz=166,SNR=13
Q44A Meyer Farm, Va 54.57 22 IAMs_20 IAMs_20 00 12 29.5
comp=Z,553nm,18.0s
K05A Summer Lake 54.61 352 IAMs_20 IAMs_20 00 09 19.8
comp=Z,2μm,19.0s
K04D Chiloquin, OR 54.64 351 P P 23 51 00.4 +1.2
baz=168
T50A Nancy 54.64 27 IAmb IAmb 23 51 00.3
comp=Z,181nm,1.6s
REDW Red Top Meadow 54.65 1 IAmb IAmb 23 51 01.2
comp=Z,208nm,1.6s
REDW IAMs_20 IAMs_20 00 10 00.6
comp=Z,1μm,21.0s
SNOW Snow King Moun 54.75 1 IAmb IAmb 23 51 04.6
comp=Z,289nm,1.8s
SNOW IAMs_20 IAMs_20 00 10 04.6
comp=Z,1μm,21.0s
KMSC Kings Mountain 54.76 31 P P 23 50 59.8 -0.3
baz=218,SNR=11
KMSC Kings Mountain 54.76 31 IAMs_20 IAMs_20 00 13 07.6
comp=Z,594nm,19.0s
OLIL Olney 54.77 23 IAmb IAmb 23 51 01.4
comp=Z,195nm,1.4s
TPAW Teton Pass 54.77 1 IAmb IAmb 23 51 01.2
comp=Z,130nm,1.3s
TPAW IAMs_20 IAMs_20 00 10 14.9
comp=Z,960nm,20.0s
MFID Camas Ranch 54.80 357 IAMs_20 IAMs_20 00 09 44.7
comp=Z,972nm,21.0s
HUMO Hull Mountain 54.81 350 IAmb IAmb 23 51 03.0
comp=Z,110nm,1.4s
TZTN Tazewell 54.83 28 P P 23 51 00.5 0.0
baz=215,SNR=26
TZTN Tazewell 54.83 28 P P 23 51 00.6 0.0
TZTN IAmb IAmb 23 51 02.0
comp=Z,113nm,1.2s
TZTN PcP **PcP 23 52 03.0 +0.2**
X57A Johnson Farm, 54.87 32 P P 23 51 00.8 0.0
baz=219,SNR=5.4
HLID Hailey 54.88 358 P P 23 51 02.3 +1.2
baz=177,SNR=98
HLID Hailey 54.88 358 IAmb IAmb 23 51 03.8
comp=Z,164nm,1.4s
HLID IAMs_20 IAMs_20 00 10 37.8
comp=Z,1μm,18.0s
N38A Joes South For 54.89 17 IAMs_20 IAMs_20 00 11 40.3
comp=Z,604nm,20.0s
LOHW Long Hollow 54.90 1 IAMs_20 IAMs_20 00 10 09.3
comp=Z,1μm,22.0s
J08A Circle Bar Ran 54.95 354 IAMs_20 IAMs_20 00 10 48.8
comp=Z,1μm,18.0s
V54A Nebo 54.96 30 P P 23 51 01.5 -0.1
baz=217,SNR=27
K02D Willamette Mer 55.02 350 P P 23 51 03.4 +1.4
baz=166,SNR=19
USHA Ushuaia 55.04 151 P P 23 51 02.1 +0.3
comp=Z,12nm,0.7s,baz=11,slow=4.1,SNR=5.7
WCI Wyandotte Cave 55.04 25 P P 23 51 01.6 -0.5
WCI pmax pmax
comp=Z,87nm,1.4s
WCI Wyandotte Cave 55.04 25 P P 23 51 01.4 -0.6
baz=211
WCI Wyandotte Cave 55.04 25 P P 23 51 01.6 -0.5
P43A Skaggs, Pawnee 55.04 21 IAmb IAmb 23 51 03.1
comp=Z,172nm,1.6s
P43A IAMs_20 IAMs_20 00 12 19.0
comp=Z,737nm,20.0s
W56A Indian Trail 55.14 31 P P 23 51 02.5 -0.3
baz=218,SNR=17
L34A Svendsen Farm, 55.15 14 IAMs_20 IAMs_20 00 11 48.8
comp=Z,587nm,18.0s
Y59A Loris 55.16 34 P P 23 51 02.6 -0.3
baz=221
IMW Indian Meadow 55.18 1 IAMs_20 IAMs_20 00 10 15.7
comp=Z,1μm,22.0s
J05D Fort Rock, OR 55.21 352 P P 23 51 04.9 +1.5
baz=169,SNR=44
K31A O'Neill 55.25 12 IAMs_20 IAMs_20 00 12 13.5
comp=Z,806nm,19.0s
J04D Umpqua Nationa 55.29 351 P P 23 51 05.0 +1.0
baz=168,SNR=7.4
X58A Rowland 55.34 33 P P 23 51 04.2 -0.1
baz=220,SNR=6.4
FLWY Flagg Ranch 55.37 1 IAMs_20 IAMs_20 00 10 36.0
comp=Z,1μm,22.0s
V55A Taylorsville 55.38 30 P P 23 51 04.5 -0.1
baz=217,SNR=24
V55A Taylorsville 55.38 30 IAmb IAmb 23 51 06.0
comp=Z,140nm,1.4s
W57A Gilead 55.45 32 P P 23 51 04.7 -0.4
baz=219,SNR=11
W57A Gilead 55.45 32 IAMs_20 IAMs_20 00 12 34.9
comp=Z,593nm,20.0s
J01E Myrtle Point 55.52 349 P P 23 51 06.8 +1.5
baz=166,SNR=7.3
Y60A Bolivia 55.53 34 P P 23 51 05.2 -0.4
baz=221
N41A Harden Midland 55.55 19 IAMs_20 IAMs_20 00 12 04.3
comp=Z,656nm,22.0s
R49A Shelbyville 55.56 26 IAmb IAmb 23 51 06.5
comp=Z,130nm,1.4s
U54A Nelsons Funny 55.62 29 P P 23 51 06.1 -0.3
baz=216,SNR=11
U54A Nelsons Funny 55.62 29 P P 23 51 05.2 -1.1
T53A Wise 55.65 28 P P 23 51 06.3 -0.3
baz=216,SNR=13
PINE Pine Mountain 55.67 352 IAMs_20 IAMs_20 00 10 03.7
comp=Z,1μm,19.0s
H17A Grant Village 55.68 1 P P 23 51 07.6 +0.7
baz=182,SNR=5.5
V56A Mocksville 55.71 31 P P 23 51 06.8 -0.1
baz=218,SNR=25
X59A McDuffie Farm, 55.74 33 P P 23 51 06.6 -0.5
baz=221

W58A Raeford 55.75 33 P P 23 51 07.1 -0.1
baz=220,SNR=22
BLO Bloomington 55.76 24 IAmb IAmb 23 51 08.2
comp=Z,271nm,2.0s
LKWY Lake 55.86 1 IAMs_20 IAMs_20 00 11 59.6
comp=Z,1μm,18.0s
RSSD Black Hills 55.87 7 P P 23 51 08.1 0.0
RSSD pmax pmax
comp=Z,184nm,1.3s
RSSD Black Hills 55.87 7 P P 23 51 08.2 0.0
baz=189
RSSD Black Hills 55.87 7 P P 23 51 08.1 0.0
RSSD IAmb IAmb 23 51 09.6
comp=Z,184nm,1.3s
O44A Mansfield 55.87 22 IAmb IAmb 23 51 09.1
comp=Z,208nm,1.6s
O44A IAMs_20 IAMs_20 00 12 58.0
comp=Z,690nm,19.0s
P46A Rosedale 55.88 23 IAmb IAmb 23 51 09.3
comp=Z,205nm,1.3s
I04A Tendick Farm, 55.88 351 P P 23 51 08.7 +0.7
baz=168,SNR=19
R50A Paris 55.91 26 IAmb IAmb 23 51 08.9
comp=Z,126nm,1.3s
R50A IAMs_20 IAMs_20 00 14 39.1
comp=Z,591nm,19.0s
SCIA State Center 55.92 17 P P 23 51 07.9 -0.5
baz=202,SNR=8.6
HDIL Hopedale 55.94 21 P P 23 51 08.1 -0.4
baz=207,SNR=14
HDIL Hopedale 55.94 21 IAMs_20 IAMs_20 00 12 53.6
comp=Z,769nm,20.0s
I03D Drain, OR 55.94 350 P P 23 51 09.4 +1.0
baz=167,SNR=13
U55A TA2, Sparta 55.98 30 P P 23 51 08.7 -0.2
baz=217,SNR=37
X60A Albert Glenn T 56.09 34 P P 23 51 09.6 -0.1
baz=221,SNR=7.3
ITTB Itaituba 56.10 88 *e*P **P 23 51 09.2 -1.0**
V57A Coltrane Farms 56.13 31 P P 23 51 09.7 -0.2
baz=219,SNR=28
T54A Tazewell 56.17 29 P P 23 51 09.8 -0.5
baz=217,SNR=18
U56A King 56.19 31 P P 23 51 10.2 -0.2
baz=218,SNR=8.1
U56A King 56.19 31 IAmb IAmb 23 51 11.7
comp=Z,127nm,1.4s
U56A IAMs_20 IAMs_20 00 13 33.3
comp=Z,602nm,20.0s
I05D Terrebonne, OR 56.26 352 P P 23 51 12.2 +1.5
baz=169,SNR=17
W59A Clinton 56.28 33 P P 23 51 10.6 -0.4
baz=220
BMO Blue Mountains 56.33 355 P P 23 51 11.1 -0.3
BMO pmax pmax
comp=Z,258nm,1.5s
BMO Blue Mountains 56.33 355 P P 23 51 11.1 -0.3
BMO IAMs_20 IAMs_20 00 10 22.3
comp=Z,910nm,22.0s
SEUS St. Eustatius 56.36 60 IAMs_20 IAMs_20 00 12 51.2
comp=Z,652nm,19.0s
V58A Windy Hill, Pi 56.40 32 P P 23 51 11.6 -0.2
baz=220,SNR=15
S53A Williamson 56.41 28 P P 23 51 11.8 -0.2
baz=216
I02D Swisshome 56.42 350 P P 23 51 13.0 +1.1
baz=166
P48A Milroy 56.45 25 IAmb IAmb 23 51 12.4
comp=Z,184nm,1.4s
RLMT Red Lodge 56.45 2 P P 23 51 12.3 0.0
baz=183,SNR=12
RLMT Red Lodge 56.45 2 IAMs_20 IAMs_20 00 11 23.3
comp=Z,771nm,19.0s
SFIN Lafayette 56.58 23 P P 23 51 12.6 -0.4
baz=210
SFIN Lafayette 56.58 23 IAMs_20 IAMs_20 00 13 53.6
comp=Z,654nm,19.0s
W60A Pink Hill 56.59 34 P P 23 51 13.0 -0.2
baz=221,SNR=6.3
T55A Pulaski 56.59 30 P P 23 51 13.1 -0.2
baz=217,SNR=22
CNNC Cliffs of the 56.63 33 P P 23 51 13.5 0.0
baz=221,SNR=5.7
DLMT Dillon 56.64 359 IAmb IAmb 23 51 15.6
comp=Z,152nm,1.4s
DLMT IAMs_20 IAMs_20 00 11 28.3
comp=Z,693nm,22.0s
H04D Lebanon 56.64 351 P P 23 51 14.1 +0.7
baz=167
L40A Anamosa 56.66 18 IAmb IAmb 23 51 14.5
comp=Z,240nm,1.9s
H04A Detroit Lake 56.72 351 IAmb IAmb 23 51 16.1
comp=Z,187nm,1.5s
H04A IAMs_20 IAMs_20 00 10 06.5
comp=Z,1μm,21.0s
K38A Parkersburg 56.73 17 IAmb IAmb 23 51 38.0
comp=Z,214nm,1.8s
K38A IAMs_20 IAMs_20 00 12 45.7
comp=Z,570nm,20.0s
ECSD EROS Data Cent 56.77 13 P P 23 51 13.7 -0.6
baz=198,SNR=34
ECSD EROS Data Cent 56.77 13 IAmb IAmb 23 51 15.2
comp=Z,120nm,1.4s
ECSD EROS Data Cent 56.77 13 IAMs_20 IAMs_20 00 13 23.7
comp=Z,557nm,18.0s
U57A Blanch 56.78 31 P P 23 51 14.5 0.0
baz=219,SNR=34
COR Corvallis 56.79 350 P P 23 51 15.9 +1.4
COR pmax pmax
comp=Z,228nm,1.4s
COR Corvallis 56.79 350 P P 23 51 15.9 +1.4
COR Corvallis 56.79 350 IAMs_20 IAMs_20 00 09 41.6
comp=Z,2μm,21.0s
P49A Miami Univ. Ec 56.80 25 P P 23 51 13.4 -1.2
baz=212,SNR=16
P49A Miami Univ. Ec 56.80 25 IAmb IAmb 23 51 15.0
comp=Z,161nm,1.4s
P49A IAMs_20 IAMs_20 00 14 45.5
comp=Z,616nm,19.0s
V59A Middlesex 56.84 33 P P 23 51 14.8 -0.2
baz=220,SNR=27
BLA Blacksburg 56.85 30 P P 23 51 14.8 -0.3
baz=218,SNR=18
BLA Blacksburg 56.85 30 IAmb IAmb 23 51 16.3
comp=Z,140nm,1.4s
BOZ Bozeman (W) 56.87 0 P P 23 51 15.4 +0.1
baz=180,SNR=38
S54A Dingess, Beckl 56.89 29 P P 23 51 15.1 -0.2
baz=216,SNR=7.7
S54A Dingess, Beckl 56.89 29 IAmb IAmb 23 51 16.5
comp=Z,132nm,1.4s
T56A Rocky Mt 56.90 30 P P 23 51 15.4 0.0
baz=218,SNR=29
SUSD Miller 56.96 11 P P 23 51 15.3 -0.4
baz=195
SUSD Miller 56.96 11 IAmb IAmb 23 51 17.8
comp=Z,183nm,1.4s
R53A Hurricane 57.02 28 P P 23 51 16.1 -0.1
baz=216,SNR=14
R53A Hurricane 57.02 28 IAmb IAmb 23 51 17.6
comp=Z,171nm,1.4s
W61A Ground Anchor 57.07 34 P P 23 51 16.7 0.0
baz=222
M44A Midewin, Midew 57.11 21 IAMs_20 IAMs_20 00 13 41.8
comp=Z,684nm,20.0s
G05D Wamic, OR 57.14 352 P P 23 51 18.2 +1.2
baz=169,SNR=14
U58A Oxford 57.16 32 P P 23 51 16.7 -0.5
baz=220,SNR=12
PLTB Pedras Altas 57.21 120 *e*P **P 23 51 17.4 -0.4**
S55A Lewisburg 57.25 29 P P 23 51 17.7 -0.2
baz=217,SNR=20
T57A Hurt 57.26 31 P P 23 51 17.8 -0.2
baz=219,SNR=32
T57A Hurt 57.26 31 P P 23 51 16.9 -1.0
T57A IAmb IAmb 23 51 19.3
comp=Z,157nm,1.4s
T57A IAMs_20 IAMs_20 00 13 52.7
comp=Z,561nm,20.0s
R54A Victor 57.34 29 P P 23 51 18.3 -0.2
baz=217,SNR=15
V60A Jim Taylor Roa 57.36 33 P P 23 51 18.7 +0.1
baz=221,SNR=6.4
Q52A Bidwell 57.38 27 P P 23 51 18.1 -0.7
baz=215,SNR=15
G03D McMinnville, O 57.40 351 P P 23 51 19.6 +0.9
baz=167
F10A Beach Ranch, E 57.44 356 IAmb IAmb 23 51 21.2

comp=Z,155nm,1.6s
F10A IAMs_20 IAMs_20 00 11 19.6
comp=Z,795nm,20.0s
ANWB Willy Bob 57.45 60 IAMs_20 IAMs_20 00 11 16.2
comp=Z,617nm,21.0s
P51A Williamsport 57.46 26 P **P** **23 51 18.4 -0.9**
baz=214,SNR=6.6
TRCB Terra Rica 57.49 110 *eP* **P** **23 51 20.0 0.0**
O49A Covington 57.51 25 IAMs_20 IAMs_20 00 15 04.2
comp=Z,603nm,19.0s
U59A Littleton 57.52 33 P **P** **23 51 19.3 -0.5**
baz=221,SNR=11
HQIL Hanson Quary C 57.54 21 IAMs_20 IAMs_20 00 13 55.1
comp=Z,726nm,19.0s
N47A Urbana 57.55 23 IAmb IAmb 23 51 20.2
comp=Z,210nm,1.5s
N47A IAMs_20 IAMs_20 00 14 37.3
comp=Z,529nm,18.0s
T58A Grand View Acr 57.59 32 P **P** **23 51 19.8 -0.4**
baz=220,SNR=16
S56A Natural Bridge 57.63 30 P **P** **23 51 20.1 -0.5**
baz=218
Q53A Leroy 57.64 28 P **P** **23 51 20.5 -0.1**
baz=216,SNR=19
JFWS Jewell Farm 57.73 19 P **P** **23 51 20.5 -0.6**
baz=205,SNR=7.4
V61A Roper 57.75 34 P **P** **23 51 21.6 +0.1**
baz=222
F05D White Salmon 57.79 352 P **P** **23 51 22.8 +1.3**
baz=169,SNR=8.7
I37A Lemond, Waseca 57.82 16 IAMs_20 IAMs_20 00 13 37.8
comp=Z,854nm,18.0s
R55A Marlinton 57.84 29 P **P** **23 51 21.8 -0.3**
baz=218
R55A Marlinton 57.84 29 IAMs_20 IAMs_20 00 15 19.0
comp=Z,518nm,18.0s
L44A Lake County Fo 57.85 21 P **P** **23 51 21.3 -0.7**
baz=208
L44A Lake County Fo 57.85 21 IAmb IAmb 23 51 22.9
comp=Z,228nm,1.5s
L44A IAMs_20 IAMs_20 00 14 03.4
comp=Z,767nm,20.0s
V62A Hyde County Ai 57.92 34 P **P** **23 51 22.9 +0.3**
baz=223
V62A Hyde County Ai 57.92 34 IAMs_20 IAMs_20 00 14 54.4
comp=Z,539nm,18.0s
U60A Pendleton 57.95 33 P **P** **23 51 22.5 -0.3**
baz=221,SNR=7.1
F04A Amboy 57.97 351 IAMs_20 IAMs_20 00 10 44.7
comp=Z,994nm,21.0s
P52A Corning 57.99 27 P **P** **23 51 22.3 -0.8**
baz=215,SNR=11
P52A Corning 57.99 27 IAmb IAmb 23 51 23.8
comp=Z,169nm,1.5s
S57A Dark Hollow, R 58.00 31 P **P** **23 51 22.6 -0.5**
baz=219,SNR=8.6
S57A Dark Hollow, R 58.00 31 IAMs_20 IAMs_20 00 14 46.4
comp=Z,571nm,20.0s
MALB Monte Alegre 58.04 85 *eP* **P** **23 51 24.1 +0.2**
PTGB Pitanga 58.05 112 *eP* **P** **23 51 23.7 -0.3**
E09A Wood Farm, Sta 58.05 355 IAMs_20 IAMs_20 00 11 36.8
comp=Z,866nm,20.0s
Q54A Coxs Mills 58.06 28 P **P** **23 51 23.4 -0.1**
baz=217,SNR=14
Q54A Coxs Mills 58.06 28 IAmb IAmb 23 51 24.9
comp=Z,187nm,1.7s
HAWA Hanford 58.06 354 P **P** **23 51 23.5 +0.1**
HAWA IAmb IAmb 23 51 26.3
comp=Z,157nm,1.4s
ITAB Concordia 58.09 115 *eP* **P** **23 51 23.2 -0.9**
ACSO Alum Creek Sta 58.11 26 P **P** **23 51 22.7 -1.2**
baz=214,SNR=8.9
T59A Double "B" Far 58.11 32 P **P** **23 51 23.6 -0.4**
baz=221,SNR=14
MSO Missoula 58.13 358 P **P** **23 51 24.0 0.0**
baz=178,SNR=16
MSO Missoula 58.13 358 IAMs_20 IAMs_20 00 12 06.8
comp=Z,802nm,20.0s
K43A Burlington 58.17 20 IAmb IAmb 23 51 24.9
comp=Z,132nm,1.4s
K43A IAMs_20 IAMs_20 00 14 09.9
comp=Z,644nm,21.0s
N49A Columbus Grove 58.19 25 IAmb IAmb 23 51 24.9
comp=Z,112nm,1.4s
LAO LASA Array 58.19 5 P **P** **23 51 24.4 0.0**
baz=187,SNR=39
LAO LASA Array 58.19 5 IAMs_20 IAMs_20 00 12 50.4
comp=Z,987nm,20.0s
O51A Pataskala 58.21 26 P **P** **23 51 23.3 -1.3**
baz=214,SNR=12
F04D Rainier, OR 58.21 351 P **P** **23 51 25.5 +1.1**
baz=167
P53A Whipple 58.21 28 P **P** **23 51 24.4 -0.2**
baz=216,SNR=21
P53A Whipple 58.21 28 IAmb IAmb 23 51 25.9
comp=Z,222nm,1.4s
U61A Possum Corner 58.22 34 P **P** **23 51 24.6 -0.1**
baz=222
AFI Afiamalu 58.23 261 P **P** **23 51 25.7 +0.4**
comp=Z,61nm,1.2s,baz=291,slow=13,SNR=6.4
AFI Afiamalu 58.23 261 P **P** **23 51 26.7 +1.4**
R56A Bull Pasture M 58.28 30 P **P** **23 51 25.5 +0.2**
baz=218,SNR=28
L46A Eue Claire 58.30 22 IAmb IAmb 23 51 25.8
comp=Z,184nm,1.3s
L46A IAMs_20 IAMs_20 00 14 14.1
comp=Z,724nm,20.0s
S58A Poland Farm, P 58.34 31 P **P** **23 51 25.2 -0.4**
baz=220,SNR=18
S58A Poland Farm, P 58.34 31 IAmb IAmb 23 51 26.7
comp=Z,120nm,1.4s
S58A IAMs_20 IAMs_20 00 14 32.4
comp=Z,627nm,20.0s
Q55A Buckhannon 58.42 29 P **P** **23 51 25.4 -0.7**
baz=217
ARAG Araguaiana, MT 58.48 101 *eP* **P** **23 51 26.1 -0.9**
O52A Adamsville 58.52 27 P **P** **23 51 25.9 -0.9**
baz=215
E04D Cinebar 58.60 351 P **P** **23 51 28.3 +1.2**
baz=168,SNR=29
R57A Stanardsville 58.63 31 P **P** **23 51 27.1 -0.4**
baz=219,SNR=16
T60A Surry 58.67 33 P **P** **23 51 27.6 -0.2**
baz=221
LON Longmire 58.69 352 IAmb IAmb 23 51 30.1
comp=Z,149nm,1.6s
LON IAMs_20 IAMs_20 00 12 09.7
comp=Z,1µm,19.0s
R58B Mineral 58.70 31 P **P** **23 51 27.7 -0.4**
baz=220,SNR=6.4
R58B Mineral 58.70 31 IAMs_20 IAMs_20 00 14 32.8
comp=Z,565nm,21.0s
P54A Burton 58.72 28 P **P** **23 51 28.0 -0.2**
baz=217,SNR=16
E03A Lebam 58.74 351 IAmb IAmb 23 51 30.7
comp=Z,150nm,1.4s
E03A IAMs_20 IAMs_20 00 11 29.3
comp=Z,960nm,21.0s
PCMB Pacaembu 58.76 108 *eP* **P** **23 51 28.2 -0.7**
S59A Mechanicsville 58.85 32 P **P** **23 51 29.1 +0.1**
baz=221,SNR=6.9
Q56A Snyder Ridge, 58.88 30 P **P** **23 51 29.2 -0.1**
baz=218,SNR=6.1
R58A Rapidan 58.89 31 P **P** **23 51 29.1 -0.2**
baz=220,SNR=19
O53A New Philadelph 58.90 27 P **P** **23 51 29.1 -0.3**
baz=216,SNR=9.2
O53A New Philadelph 58.90 27 IAmb IAmb 23 51 30.5
comp=Z,136nm,1.4s
O53A IAMs_20 IAMs_20 00 16 34.2
comp=Z,660nm,18.0s
N51A Ashland 58.94 26 P **P** **23 51 28.9 -0.8**
baz=214,SNR=11
N51A Ashland 58.94 26 IAMs_20 IAMs_20 00 15 55.2
comp=Z,478nm,18.0s
P55A Reedsville 58.95 29 P **P** **23 51 29.6 -0.2**
baz=217,SNR=12
L48A N Adams 58.95 24 IAMs_20 IAMs_20 00 15 30.4
comp=Z,539nm,18.0s
EFI East Falkland 59.02 144 *ceP* **P** **23 51 30.3 +0.2**
EFI pmax pmax
comp=Z,116nm,1.4s
EFI East Falkland 59.02 144 IAMs_20 IAMs_20 00 11 37.3
comp=Z,1µm,20.0s
LTY Liberty 59.04 353 IAMs_20 IAMs_20 00 12 21.9
comp=Z,692nm,20.0s
JTMT Jette 59.06 358 IAmb IAmb 23 51 32.0
comp=Z,100nm,1.4s
JTMT IAMs_20 IAMs_20 00 13 03.3
comp=Z,871nm,19.0s
MCWV Mont Chateau 59.06 29 P **P** **23 51 30.4 -0.1**
baz=217,SNR=5.7
M50A Fremont 59.06 25 IAmb IAmb 23 51 31.2
comp=Z,99nm,1.3s
SPMN Marine on St. 59.10 16 P **P** **23 51 30.3 -0.4**
baz=202,SNR=11
SPMN Marine on St. 59.10 16 IAmb IAmb 23 51 31.6
comp=Z,136nm,1.3s
SPMN IAMs_20 IAMs_20 00 14 26.5
comp=Z,730nm,18.0s
S60A Water View 59.14 32 P **P** **23 51 30.9 -0.2**
baz=221
D05A Enumclaw 59.14 352 IAMs_20 IAMs_20 00 12 13.7
comp=Z,1µm,18.0s
CBN Corbin Frederi 59.14 31 P **P** **23 51 30.7 -0.4**
baz=220
N52A McGinn's Farm, 59.15 26 P **P** **23 51 30.3 -0.8**
baz=215
O54A Avella 59.23 28 P **P** **23 51 31.4 -0.3**
baz=217,SNR=15
O54A Avella 59.23 28 IAmb IAmb 23 51 32.9
comp=Z,152nm,1.5s
D04E Lakebay 59.24 351 P **P** **23 51 33.3 +1.8**
baz=168
Q57A Strasburg 59.26 30 P **P** **23 51 32.1 +0.2**
baz=219,SNR=12
R59A King George, V 59.27 32 P **P** **23 51 31.9 0.0**
baz=221
EGMT Eagleton 59.33 2 P **P** **23 51 32.8 +0.5**
baz=183,SNR=25
EGMT Eagleton 59.33 2 IAMs_20 IAMs_20 00 13 02.6
comp=Z,949nm,20.0s
CNLB Canela 59.34 117 *eP* **P** **23 51 33.4 +0.5**
M51A Elyria 59.36 26 P **P** **23 51 31.8 -0.7**
baz=214,SNR=5.8
P56A Dayton Farm, R 59.42 29 P **P** **23 51 33.0 0.0**
baz=218,SNR=7.6
N53A Lisbon 59.52 27 P **P** **23 51 33.5 -0.2**
baz=216,SNR=18
Q58A Fox Den Farm, 59.55 31 P **P** **23 51 33.8 0.0**
baz=220,SNR=20
AAM Ann Arbor 59.56 24 P **P** **23 51 33.6 -0.3**
baz=213,SNR=5.5
R60A Leonardtown, M 59.60 32 P **P** **23 51 34.3 +0.1**
baz=221
NLWA Neilton Lookou 59.62 351 IAMs_20 IAMs_20 00 11 46.3
comp=Z,1µm,20.0s
D03D Eldon 59.64 351 P **P** **23 51 35.4 +1.1**
baz=167,SNR=10
S61A Accomac 59.64 33 P **P** **23 51 34.4 -0.1**
baz=222
ITRB Iturama 59.65 106 *eP* **P** **23 51 34.7 -0.4**
NEW Newport 59.71 356 P **P** **23 51 34.2 -0.7**
NEW pmax pmax
comp=Z,212nm,1.8s
NEW Newport 59.71 356 P **P** **23 51 35.3 +0.4**
baz=174,SNR=23
NEW Newport 59.71 356 P **P** **23 51 34.2 -0.7**
NEW IAmb IAmb 23 51 36.9
comp=Z,212nm,1.8s
NEW Newport 59.71 356 IAMs_20 IAMs_20 00 12 48.7
comp=Z,653nm,20.0s
C06D Leavenworth 59.73 353 P **P** **23 51 35.8 +0.9**
baz=170,SNR=11
O55A Ligonier 59.75 29 P **P** **23 51 35.2 -0.1**
baz=218,SNR=14
P57A Homestead Farm 59.80 30 P **P** **23 51 35.9 +0.3**
baz=219,SNR=10.0
P57A Homestead Farm 59.80 30 IAmb IAmb 23 51 37.5
comp=Z,121nm,1.7s
M52A Chesterland 59.89 26 P **P** **23 51 36.0 -0.2**
baz=215,SNR=6.1
J47A Sumner 59.90 23 IAMs_20 IAMs_20 00 15 24.6
comp=Z,818nm,20.0s
H43A Windswept, Lux 59.93 20 IAmb IAmb 23 51 37.3
comp=Z,102nm,1.4s
B08A Colville Reser 59.99 354 IAmb IAmb 23 51 38.6
comp=Z,103nm,1.4s
Q59A Harwood 60.01 31 P **P** **23 51 36.7 -0.3**
baz=221
N54A Moraine State 60.03 28 P **P** **23 51 37.4 +0.2**
baz=217,SNR=25
N54A Moraine State 60.03 28 IAMs_20 IAMs_20 00 16 52.0
comp=Z,573nm,19.0s
I45A Fountain 60.07 21 IAMs_20 IAMs_20 00 15 20.1
comp=Z,752nm,20.0s
M53A Wl Miller and 60.11 27 P **P** **23 51 37.5 -0.2**
baz=216,SNR=11
MDND Maddock 60.14 10 P **P** **23 51 37.3 -0.6**
baz=194
O56A Blue Knob Stat 60.14 29 P **P** **23 51 38.1 +0.1**
baz=218,SNR=21
O56A Blue Knob Stat 60.14 29 IAmb IAmb 23 51 39.7
comp=Z,143nm,1.4s
O56A IAMs_20 IAMs_20 00 16 55.0
comp=Z,579nm,18.0s
DGMT Dagmar 60.15 6 P **P** **23 51 38.1 +0.3**
baz=189,SNR=20
P58A Pank, Wackersv 60.16 31 P **P** **23 51 38.2 +0.1**
baz=220,SNR=16
B05A Bryant 60.21 352 P **P** **23 51 39.0 +0.8**
baz=169,SNR=24
R61A Willards 60.30 33 P **P** **23 51 39.2 +0.2**
baz=222
FRTB Fartura 60.32 110 *eP* **P** **23 51 39.8 +0.1**
FRTB *eS* **S** **23 59 54.5 +0.1**
N55A Marion Center 60.35 28 P **P** **23 51 39.6 +0.2**
baz=218,SNR=16
WALA Waterton Lakes 60.36 359 IAmb IAmb 23 51 41.3
comp=Z,114nm,1.3s
WALA IAMs_20 IAMs_20 00 13 37.7
comp=Z,1µm,20.0s
K50A Casco 60.38 25 IAmb IAmb 23 51 40.3
comp=Z,169nm,1.4s
K50A IAMs_20 IAMs_20 00 16 29.1
comp=Z,522nm,18.0s
B06A Marblemount 60.38 353 IAmb IAmb 23 51 41.3
comp=Z,141nm,1.2s
B06A IAMs_20 IAMs_20 00 12 39.5
comp=Z,1µm,19.0s
MCPB Macapa, AP 60.52 84 *eP* **P** **23 51 41.0 -0.1**
Q60A Greensboro 60.53 32 P **P** **23 51 40.4 -0.2**
baz=222
O57A Amberson 60.55 30 P **P** **23 51 40.8 +0.1**
baz=219,SNR=14
M54A Oil Creek Stat 60.61 27 P **P** **23 51 41.3 +0.1**
baz=217,SNR=22
M54A Oil Creek Stat 60.61 27 IAMs_20 IAMs_20 00 17 17.4
comp=Z,624nm,18.0s
P59A Jarrettsville 60.69 31 P **P** **23 51 41.8 +0.1**
baz=221,SNR=8.3
L53A Girard 60.70 27 P **P** **23 51 41.5 -0.2**
baz=216,SNR=5.4
Q61A Milford 60.71 32 P **P** **23 51 42.1 +0.3**
baz=222
E38A The Farm, Brul 60.72 16 IAMs_20 IAMs_20 00 15 10.1
comp=Z,937nm,20.0s
A04D Lummi Island 60.74 352 P **P** **23 51 43.0 +1.2**
baz=168,SNR=12
SSPA Standing Stone 60.75 29 P **P** **23 51 42.4 +0.3**
baz=219
SSPA Standing Stone 60.75 29 P **P** **23 51 42.2 +0.1**
SSPA IAmb IAmb 23 51 43.8
comp=Z,182nm,1.6s
N56A West Decatur 60.78 29 P **P** **23 51 42.6 +0.2**
baz=218,SNR=26
O58A Lewisberry 60.83 30 P **P** **23 51 42.7 0.0**
baz=220,SNR=12
TIJ01 Guaruva-PR 60.84 113 *eP* **P** **23 51 43.2 -0.1**
F42A Maple Grove Fa 60.95 19 IAMs_20 IAMs_20 00 15 20.4
comp=Z,607nm,21.0s
ERPA Erie 60.96 27 P **P** **23 51 43.4 -0.1**
baz=216
M55A Ridgway 60.99 28 P **P** **23 51 43.7 -0.1**
baz=218,SNR=22
M55A Ridgway 60.99 28 IAmb IAmb 23 51 45.3
comp=Z,146nm,1.4s
M55A IAMs_20 IAMs_20 00 17 20.5
comp=Z,496nm,18.0s
PAGS Pennsylvania G 61.01 30 IAmb IAmb 23 51 45.2
comp=Z,136nm,1.5s
N57A Milroy 61.01 29 P **P** **23 51 43.8 -0.1**
baz=219,SNR=21
MVL Millersville 61.02 31 IAmb IAmb 23 51 45.6
comp=Z,138nm,1.4s
G45A Suttons Bay 61.15 21 IAMs_20 IAMs_20 00 16 02.6
comp=Z,599nm,20.0s
P60A Greenville 61.24 31 P **P** **23 51 44.8 -0.6**
baz=221
P60A Greenville 61.24 31 IAMs_20 IAMs_20 00 15 47.1
comp=Z,528nm,21.0s
I49A Point Hope 61.27 24 IAMs_20 IAMs_20 00 16 48.7
comp=Z,564nm,18.0s
AGMN Agassiz Nation 61.27 12 P **P** **23 51 45.1 -0.4**
baz=198
AGMN Agassiz Nation 61.27 12 IAmb IAmb 23 51 46.6
comp=Z,97nm,1.4s
AGMN IAMs_20 IAMs_20 00 15 52.8
comp=Z,471nm,18.0s
M56A Emporium 61.27 28 P **P** **23 51 45.7 0.0**
baz=218,SNR=28
M56A Emporium 61.27 28 IAMs_20 IAMs_20 00 18 06.0
comp=Z,532nm,18.0s
MDP Montagnes des 61.31 78 P **P** **23 51 45.2 -1.3**
comp=Z,54nm,1.1s,baz=253,slow=6.6,SNR=13
BB19B Bebedouro 61.32 108 *eP* **P** **23 51 46.7 +0.1**
GLMI Grayling 61.34 22 IAMs_20 IAMs_20 00 16 13.3
comp=Z,521nm,20.0s
O59A Robesonia 61.34 31 P **P** **23 51 46.2 +0.1**
baz=221
L54A Sinclairville 61.35 27 P **P** **23 51 46.3 +0.1**
baz=217,SNR=6.5
N58A Sunbury 61.48 30 P **P** **23 51 46.9 -0.1**
baz=220,SNR=18
N58A Sunbury 61.48 30 P **P** **23 51 46.1 -0.9**
N58A IAmb IAmb 23 51 48.5
comp=Z,122nm,1.4s
P61A Hammonton 61.57 32 P **P** **23 51 47.8 +0.2**
baz=222
PRPB Parauapebas 61.58 91 *eP* **P** **23 51 48.3 0.0**
M57A Sunshine Farm, 61.66 29 P **P** **23 51 48.5 +0.3**
baz=219,SNR=15
M57A Sunshine Farm, 61.66 29 IAmb IAmb 23 51 49.9
comp=Z,162nm,1.5s
M57A IAMs_20 IAMs_20 00 18 51.7
comp=Z,560nm,18.0s
L55A Hinsdale 61.71 28 P **P** **23 51 49.1 +0.5**
baz=218,SNR=24
O60A Telford 61.74 31 P **P** **23 51 48.7 0.0**
baz=221,SNR=16
IPMB Ipameri, GO 61.77 104 *eP* **P** **23 51 48.9 -0.7**
E43A Lone Tree Farm 61.87 19 IAmb IAmb 23 51 51.0
comp=Z,138nm,1.5s
I51A Listowel 61.88 25 P **P** **23 51 49.9 +0.2**
baz=215,SNR=22
K54A Basiliko Farm, 61.93 27 P **P** **23 51 50.1 0.0**
baz=218
LUPA Lehigh Univers 61.96 31 IAmb IAmb 23 51 51.9
comp=Z,90nm,1.3s
EYMN Ely 61.97 15 P **P** **23 51 49.9 -0.3**
baz=203,SNR=18
EYMN Ely 61.97 15 IAmb IAmb 23 51 51.3
comp=Z,129nm,1.1s
EYMN Ely 61.97 15 IAMs_20 IAMs_20 00 15 26.2
comp=Z,515nm,21.0s
N59A State Game Lan 62.00 30 P **P** **23 51 50.7 +0.1**
baz=221,SNR=13
N59A State Game Lan 62.00 30 IAmb IAmb 23 51 52.2
comp=Z,136nm,1.6s
O61A Allentown 62.01 32 P **P** **23 51 50.1 -0.5**
baz=222
M58A Price's Panora 62.01 30 P **P** **23 51 50.7 +0.1**
baz=220,SNR=28
L56A Greenwood 62.08 28 P **P** **23 51 51.4 +0.2**
baz=219,SNR=35
L56A Greenwood 62.08 28 IAMs_20 IAMs_20 00 17 33.1
comp=Z,534nm,18.0s
BDFB Brasilia 62.13 102 P **P** **23 51 51.8 -0.3**
comp=Z,25nm,1.0s,baz=261,slow=8.0,SNR=23
BDFB LR LR 00 16 20.4
comp=Z,1µm,19.2s,baz=282,slow=34
BDFB Brasilia 62.13 102 P **P** **23 51 51.9 -0.3**
BDFB pmax pmax
comp=Z,54nm,1.2s
BDFB Brasilia 62.13 102 P **P** **23 51 51.9 -0.3**
BDFB IAMs_20 IAMs_20 00 16 18.4
comp=Z,1µm,20.0s
PEXB Peixe 62.22 98 *eP* **P** **23 51 52.5 -0.1**
SPB Sao Paulo 62.27 111 P **P** **23 51 52.0 -0.8**
SPB IAmb IAmb 23 51 54.2
comp=Z,141nm,1.5s
SPB IAMs_20 IAMs_20 00 15 57.2
comp=Z,1µm,20.0s
SPB Sao Paulo 62.27 111 *eP* **P** **23 51 51.8 -1.0**
K55A Perry 62.30 28 P **P** **23 51 52.6 0.0**
baz=218,SNR=8.3
N60A Cedar Hill Far 62.30 31 P **P** **23 51 52.4 -0.2**
baz=222,SNR=16
L57A Andrews Acres 62.30 29 P **P** **23 51 52.7 0.0**
baz=220,SNR=19
PET01 Itanhaem-SP 62.41 111 *eP* **P** **23 51 53.7 0.0**
BRNJ Basking Ridge 62.44 31 IAmb IAmb 23 51 54.8
comp=Z,106nm,1.4s
MEDO Medina 62.47 27 IAmb IAmb 23 51 55.1
comp=Z,136nm,1.5s
J54A Appleton 62.48 27 P **P** **23 51 53.5 -0.1**
baz=217
J54A Appleton 62.48 27 IAmb IAmb 23 51 55.2
comp=Z,113nm,1.4s
KSPA Keystone Colle 62.49 30 IAmb IAmb 23 51 55.2
comp=Z,82nm,1.5s
PMSA Palmer Station 62.55 159 P **P** **23 51 54.4 +0.5**
comp=Z,28nm,1.2s,baz=306,slow=5.7,SNR=36
PMSA Palmer Station 62.55 159 IAmb IAmb 23 51 55.3
comp=Z,76nm,1.4s
PMSA Palmer Station 62.55 159 *eP* **P** **23 51 52.8 -1.1**
K56A Middlesex 62.62 28 P **P** **23 51 54.7 0.0**
baz=219,SNR=9.2
N61A South Mountain 62.62 32 P **P** **23 51 54.4 -0.4**
baz=222
M59A Waymart 62.64 30 P **P** **23 51 54.9 0.0**
baz=221,SNR=13
ODNJ Ogdensburg 62.71 31 IAmb IAmb 23 51 56.5
comp=Z,150nm,1.4s
VAO Valinhos 62.72 110 *eP* **P** **23 51 55.5 -0.4**
E46A Sault Ste Mari 62.77 21 IAMs_20 IAMs_20 00 17 01.0
comp=Z,552nm,21.0s
L58A Harry Jones Me 62.82 30 P **P** **23 51 56.3 +0.2**
baz=220,SNR=27
BBSR BB Station 62.84 44 P **P** **23 51 55.3 -1.0**
BBSR IAmb IAmb 23 51 57.7
comp=Z,78nm,1.4s
J55A Hilton 62.84 27 P **P** **23 51 55.8 -0.3**
baz=218
J55A Hilton 62.84 27 IAmb IAmb 23 51 57.3
comp=Z,114nm,1.4s
J55A IAMs_20 IAMs_20 00 18 31.7
comp=Z,724nm,19.0s
BINY Binghamton 62.87 29 P **P** **23 51 56.7 +0.3**
baz=220,SNR=22
M60A Port Jervis 62.88 31 P **P** **23 51 56.2 -0.2**
baz=222,SNR=18
F48A Evansville 62.93 23 P **P** **23 51 57.1 +0.4**
baz=213,SNR=7.6
PAL Palisades 63.01 32 P **P** **23 51 56.9 -0.4**
baz=223,SNR=7.9
PAL Palisades 63.01 32 IAmb IAmb 23 51 58.3
comp=Z,100nm,1.2s
K57A Scipio Center 63.02 29 P **P** **23 51 57.2 -0.2**
baz=220,SNR=14
F49A Sandfield 63.10 23 P **P** **23 51 58.0 +0.2**
baz=213,SNR=11
ULM Lac du Bonnet 63.13 12 P **P** **23 51 57.3 -0.6**
comp=Z,47nm,1.1s,baz=205,slow=7.1,SNR=23
ULM LR LR 00 16 38.8
comp=Z,411nm,19.4s,baz=190,slow=33
ULM Lac du Bonnet 63.13 12 IAmb IAmb 23 51 58.8
comp=Z,127nm,1.4s
E47A Iron Bridge 63.22 22 P **P** **23 51 59.3 +0.8**
baz=212,SNR=26
J56A Wolcott 63.29 28 P **P** **23 51 58.8 -0.3**
baz=219
J56A Wolcott 63.29 28 IAmb IAmb 23 52 00.3
comp=Z,122nm,1.4s
J56A IAMs_20 IAMs_20 00 19 03.5
comp=Z,530nm,19.0s
M61A Granite Spring 63.31 31 P **P** **23 51 59.0 -0.3**
baz=223,SNR=8.7
D46A Sault St. Mari 63.32 21 P **P** **23 51 59.8 +0.5**
baz=211
L59A Walton 63.32 30 P **P** **23 51 59.6 +0.2**
baz=221,SNR=18
L59A Walton 63.32 30 IAMs_20 IAMs_20 00 17 40.6
comp=Z,523nm,20.0s

SMTB Santa Maria do 63.34 94 *eP* **P 23 52 00.5 +0.4**
SADO Sadowa 63.45 26 P **P 23 51 59.3 -0.9**
SADO IAMs_20 IAMs_20 00 18 08.0
comp=Z,474nm,19.0s
K58A Earlville 63.46 29 P **P 23 52 00.2 -0.2**
baz=220,SNR=17
K58A Earlville 63.46 29 IAmb IAmb 23 52 01.7
comp=Z,136nm,1.4s
K58A IAMs_20 IAMs_20 00 19 26.3
comp=Z,501nm,19.0s
H53A Bobcaygeon 63.54 26 P **P 23 52 00.7 0.0**
baz=217,SNR=27
L60A Shokan 63.58 31 P **P 23 52 01.2 +0.2**
baz=222,SNR=23
I55A Frankford 63.65 27 P **P 23 52 01.4 -0.1**
baz=218,SNR=14
KSCT Kent School, K 63.76 31 IAmb IAmb 23 52 03.5
comp=Z,123nm,1.6s
J57A Williamstown 63.79 29 P **P 23 52 02.2 -0.2**
baz=220,SNR=8.6
J57A Williamstown 63.79 29 IAmb IAmb 23 52 03.5
comp=Z,88nm,1.4s
J57A IAMs_20 IAMs_20 00 18 42.9
comp=Z,574nm,20.0s
D47A Chapleau 63.79 22 P **P 23 52 02.9 +0.5**
baz=212,SNR=34
M62A Hamden 63.85 32 P **P 23 52 02.4 -0.5**
baz=223,SNR=5.7
K59A Cooperstown 63.85 30 P **P 23 52 03.0 +0.1**
baz=221,SNR=34
DELO Deloro Mine 63.91 27 IAmb IAmb 23 52 04.4
comp=Z,142nm,1.5s
PARB Paraibuna 63.94 110 *eP* **P 23 52 03.9 -0.1**
TMAB Tom-Au,PA,Br 63.97 87 *eP* **P 23 52 04.9 +0.7**
L61A Hillsdale 1, H 64.06 31 P **P 23 52 04.0 -0.3**
baz=222
J58A Remsen 64.09 29 P **P 23 52 04.5 +0.1**
baz=220,SNR=40
J58A Remsen 64.09 29 IAMs_20 IAMs_20 00 19 32.8
comp=Z,553nm,18.0s
H55A Tweed 64.13 27 P **P 23 52 04.5 -0.2**
baz=218,SNR=13
K60A Five Rivers En 64.21 30 P **P 23 52 05.2 0.0**
baz=222,SNR=6.8
M63A Gales Ferry 64.27 32 P **P 23 52 05.3 -0.3**
baz=224
I57A Carthage 64.35 28 P **P 23 52 06.2 +0.1**
baz=220,SNR=16
L62A Suffield 64.40 32 P **P 23 52 05.7 -0.7**
baz=223
G54A Lake Saint Pet 64.41 26 P **P 23 52 06.6 +0.1**
baz=217,SNR=28
I58A Old Forge 64.48 29 P **P 23 52 06.9 -0.2**
baz=221,SNR=16
J59A Piesco 64.54 29 P **P 23 52 07.2 -0.2**
baz=221,SNR=40
K61A Williamstown 64.56 31 P **P 23 52 07.7 +0.2**
baz=223,SNR=17
PLVO Plevna 64.56 27 IAmb IAmb 23 52 08.9
comp=Z,127nm,1.4s
H56A Elgin 64.58 28 P **P 23 52 07.5 0.0**
baz=219,SNR=14
L61B Northampton 64.69 31 P **P 23 52 07.6 -0.8**
baz=223
M64A Tiverton 64.81 33 P **P 23 52 08.7 -0.4**
baz=225
L63A North Scituate 64.82 32 P **P 23 52 08.5 -0.7**
baz=224
BSCB Bom Sucesso 64.83 108 *eP* **P 23 52 09.9 +0.1**
ALGO Algonquin Park 64.86 25 P **P 23 52 09.3 -0.1**
baz=217,SNR=17
H57A Richville 64.88 28 P **P 23 52 09.3 -0.2**
baz=220,SNR=10
G55A Calabogie 64.89 27 P **P 23 52 09.5 0.0**
baz=219,SNR=19
J60A Lant Hill Farm 64.90 30 P **P 23 52 10.0 +0.3**
baz=222,SNR=45
BBB Bella Bella 64.97 349 P **P 23 52 08.1 -1.8**
comp=Z,25nm,1.0s,baz=164,slow=11,SNR=3.9
BBB Bella Bella 64.97 349 IAmb IAmb 23 52 12.3
comp=Z,99nm,1.4s
NCB Newcomb 65.05 29 IAmb IAmb 23 52 12.2
comp=Z,131nm,1.4s
K62A Royalston 65.08 31 P **P 23 52 10.4 -0.5**
baz=224
I59A Olmsteadville 65.09 30 P **P 23 52 10.6 -0.3**
baz=222
M65A Busby, Falmout 65.12 33 IAMs_20 IAMs_20 00 17 15.2
comp=Z,665nm,22.0s
L64A Middleborough 65.28 33 P **P 23 52 12.0 -0.2**
baz=225,SNR=5.5
HRV Adam Dziewonsk 65.31 32 P **P 23 52 12.5 +0.1**
HRV pmax pmax
comp=Z,109nm,1.6s
HRV Adam Dziewonsk 65.31 32 P **P 23 52 12.1 -0.3**
baz=224
HRV Adam Dziewonsk 65.31 32 P **P 23 52 12.5 +0.1**
HRV IAmb IAmb 23 52 13.5
comp=Z,109nm,1.6s
WES Weston 65.34 32 IAmb IAmb 23 52 13.8
comp=Z,136nm,1.5s
WES IAMs_20 IAMs_20 00 18 07.2
comp=Z,496nm,21.0s
E53A Dumoine, Ponti 65.36 25 P **P 23 52 12.8 +0.1**
baz=217,SNR=14
LONY Lake Ozonia 65.37 29 P **P 23 52 12.6 -0.1**
baz=221,SNR=19
LONY Lake Ozonia 65.37 29 IAmb IAmb 23 52 14.2
comp=Z,89nm,1.4s
LONY IAMs_20 IAMs_20 00 18 32.7
comp=Z,508nm,20.0s
J61A Chester 65.41 31 P **P 23 52 13.1 +0.1**
baz=223,SNR=9.0
H58A Gabriels 65.41 29 P **P 23 52 12.8 -0.2**
baz=221,SNR=17
I60A Shoreham 65.41 30 P **P 23 52 12.9 -0.1**
baz=222,SNR=40
K63A Dunstable 65.45 32 P **P 23 52 13.2 -0.1**
baz=224,SNR=8.8
SDBA SAO DESIDERIO 65.48 98 *eP* **P 23 52 12.9 -1.2**
MAN01 Angra dos Reis 65.49 110 *eP* **P 23 52 14.3 +0.2**
F55A Otter Lake 65.50 27 P **P 23 52 13.6 0.0**
baz=219,SNR=9.7
G57A Newington 65.55 28 P **P 23 52 13.8 -0.1**
baz=220,SNR=11
E54A Lac Daplat, Po 65.61 26 P **P 23 52 14.6 +0.3**
baz=218,SNR=27
J62A Henniker 65.69 31 P **P 23 52 15.1 +0.2**
baz=224,SNR=11
JANB Januaria 65.75 101 *eP* **P 23 52 14.8 -1.1**
L65A Cape Cod Natio 65.77 33 P **P 23 52 15.5 +0.2**
baz=226
HNH Hanover 65.80 31 IAmb IAmb 23 52 17.3
comp=Z,106nm,1.3s
H59A Cadyville 65.81 29 P **P 23 52 15.6 0.0**
baz=222,SNR=22
D53A Lac Vacive, Po 65.91 25 P **P 23 52 16.7 +0.6**
baz=217,SNR=30
D53A Lac Vacive, Po 65.91 25 IAMs_20 IAMs_20 00 19 18.0
comp=Z,774nm,20.0s
MC01 Montes Claros 65.94 103 *eP* **P 23 52 17.0 -0.1**
VAS01 Vassouras-RJ 66.00 109 *eP* **P 23 52 17.9 +0.5**
FRNY Flat Rock 66.00 29 IAmb IAmb 23 52 18.4
comp=Z,122nm,1.4s
I61A Oroboro, Fairl 66.01 30 P **P 23 52 17.2 +0.4**
baz=223,SNR=16
G58A Ormstown 66.02 28 P **P 23 52 16.9 0.0**
baz=221,SNR=10
VT1 Waterbury 66.03 30 IAMs_20 IAMs_20 00 20 06.1
comp=Z,418nm,19.0s
J63A Strafford 66.11 32 P **P 23 52 17.5 0.0**
baz=224,SNR=6.7
E55A Montcerf-Lytto 66.11 26 P **P 23 52 17.5 +0.1**
baz=219,SNR=9.4
F57A Harrington 66.22 28 P **P 23 52 18.0 -0.2**
baz=220
H60A Morristown 66.22 30 P **P 23 52 18.6 +0.3**
baz=223,SNR=21
LBNH Lisbon 66.37 30 P **P 23 52 19.6 +0.4**
baz=223,SNR=13
LBNH Lisbon 66.37 30 IAmb IAmb 23 52 20.9
comp=Z,94nm,1.4s
LBNH IAMs_20 IAMs_20 00 20 44.2
comp=Z,394nm,18.0s
G59A Clarenceville 66.38 29 P **P 23 52 19.4 +0.2**
baz=222,SNR=9.8
D54A Lac Fusel, La 66.40 26 P **P 23 52 19.2 -0.2**
baz=218,SNR=23

I62A Tamworth 66.40 31 P **P 23 52 19.5 +0.1**
baz=224,SNR=7.7
I62A Tamworth 66.40 31 IAmb IAmb 23 52 21.0
comp=Z,100nm,1.4s
FFC Flin Flon 66.55 6 P **P 23 52 19.2 -0.9**
FFC pmax pmax
comp=Z,118nm,1.5s
FFC Flin Flon 66.55 6 P **P 23 52 19.2 -0.9**
FFC IAmb IAmb 23 52 20.8
comp=Z,118nm,1.4s
FFC Flin Flon 66.55 6 IAMs_20 IAMs_20 00 18 23.7
comp=Z,527nm,19.0s
H61A Lyndonville 66.58 30 P **P 23 52 21.1 +0.5**
baz=223,SNR=28
E56A St. Veronique 66.63 27 P **P 23 52 20.8 0.0**
baz=220,SNR=16
MOBC Moresby Island 66.66 347 IAMs_20 IAMs_20 00 14 35.6
comp=Z,1µm,19.0s
F58A St-Lin Laurent 66.67 28 P **P 23 52 20.1 -0.9**
baz=221
G60A Masonville 66.80 29 P **P 23 52 22.1 +0.1**
baz=223,SNR=5.4
D55A Sainte-Anne-du 66.80 26 P **P 23 52 21.9 0.0**
baz=219,SNR=22
VLDQ Val d'Or 66.83 24 IAmb IAmb 23 52 23.2
comp=Z,125nm,1.5s
I63A Otisfield 66.91 31 P **P 23 52 22.7 +0.1**
baz=225,SNR=7.6
I63A Otisfield 66.91 31 IAmb IAmb 23 52 24.2
comp=Z,134nm,1.5s
I63A IAMs_20 IAMs_20 00 21 20.5
comp=Z,485nm,21.0s
E57A Chemin Saint G 66.93 27 P **P 23 52 22.5 -0.2**
baz=221,SNR=20
H62A Milan 66.99 31 P **P 23 52 23.5 +0.3**
baz=224,SNR=14
H62A Milan 66.99 31 IAmb IAmb 23 52 25.0
comp=Z,152nm,1.4s
F59A Saint Guilaume 67.14 29 P **P 23 52 24.1 +0.1**
baz=222,SNR=15
D56A ZEC Mazanza, M 67.14 27 P **P 23 52 23.8 -0.2**
baz=220,SNR=25
E58A La Victoria 67.29 28 P **P 23 52 25.1 0.0**
baz=222,SNR=15
I64A Boothbay 67.30 32 P **P 23 52 25.3 +0.2**
baz=226,SNR=9.5
G61A St-Isidore-de- 67.32 30 P **P 23 52 25.6 +0.4**
baz=224,SNR=20
D57A Chemin Vers le 67.50 27 P **P 23 52 26.3 -0.1**
baz=221,SNR=14
F60A Warwick 67.62 29 P **P 23 52 27.1 0.0**
baz=223,SNR=26
H63A New Sharon 67.62 31 P **P 23 52 27.4 +0.3**
baz=225
MSVF Nonsavu 67.64 255 P **P 23 52 28.5 +0.5**
MSVF pmax pmax
comp=Z,200nm,1.8s
MSVF Nonsavu 67.64 255 P **P 23 52 28.5 +0.5**
MSVF IAmb IAmb 23 52 30.9
comp=Z,200nm,1.8s
FUNA Funafuti 67.68 265 P **P 23 52 28.5 +0.3**
E59A St. Maurice 67.73 28 P **P 23 52 27.6 -0.1**
baz=222
WVL Waterville 67.74 31 IAmb IAmb 23 52 29.7
comp=Z,122nm,1.3s
WVL IAMs_20 IAMs_20 00 22 01.5
comp=Z,546nm,18.0s
ROSB Rosrio 67.75 88 *eP* **P 23 52 28.6 -0.1**
G62A West of Eustis 67.76 30 P **P 23 52 28.2 +0.2**
baz=224,SNR=8.8
G62A West of Eustis 67.76 30 IAmb IAmb 23 52 29.8
comp=Z,75nm,1.4s
LSQQ Lebel-sur-Quev 67.78 24 P **P 23 52 28.1 +0.1**
baz=217
URZ Urewera 67.97 233 P **P 23 52 29.7 +0.2**
comp=Z,4.7nm,0.8s,baz=86,slow=7.3,SNR=5.4
URZ Urewera 67.97 233 IAmb IAmb 23 52 31.6
comp=Z,142nm,1.8s
URZ IAMs_20 IAMs_20 00 14 10.4
comp=Z,1µm,21.0s
D58A Chemin du LacG 68.02 28 P **P 23 52 29.8 +0.2**
baz=222,SNR=18
H64A Troy 68.02 32 P **P 23 52 29.9 +0.3**
baz=226,SNR=11
MATQ Matagami 68.08 23 P **P 23 52 30.1 +0.2**
baz=216,SNR=12
F61A St Evariste 68.08 30 P **P 23 52 30.2 +0.1**
baz=224,SNR=13
G63A Kingsbury 68.15 31 P **P 23 52 30.8 +0.3**
baz=225,SNR=11
E60A Ste Agathe de 68.15 29 P **P 23 52 30.4 0.0**
baz=223,SNR=16
LATQ La Tuque 68.28 28 P **P 23 52 31.2 0.0**
baz=222,SNR=11
SJMB Sao Joao De Ma 68.37 106 *eP* **P 23 52 32.4 0.0**
PKME Peaks-Kenny Pk 68.42 31 P **P 23 52 32.3 +0.2**
baz=226,SNR=17
PKME Peaks-Kenny Pk 68.42 31 IAmb IAmb 23 52 33.6
comp=Z,134nm,1.4s
PKME IAMs_20 IAMs_20 00 22 27.8
comp=Z,428nm,18.0s
D59A Saint-Raymond 68.43 28 P **P 23 52 32.1 -0.1**
baz=223
BKZ Black Stump Fm 68.49 232 IAmb IAmb 23 52 35.7
comp=Z,164nm,1.8s
BKZ IAMs_20 IAMs_20 00 14 14.3
comp=Z,1µm,22.0s
F62A Pittston Farm, 68.53 30 P **P 23 52 33.1 +0.3**
baz=225,SNR=11
F62A Pittston Farm, 68.53 30 IAmb IAmb 23 52 34.5
comp=Z,104nm,1.4s
F62A IAMs_20 IAMs_20 00 21 22.3
comp=Z,424nm,18.0s
H65A Eastbrook 68.56 32 P **P 23 52 33.3 +0.3**
baz=227,SNR=8.0
E61A Lac Etchemin 68.65 29 P **P 23 52 34.1 +0.5**
baz=224,SNR=17
BSFB Barra de Sao F 68.68 106 *eP* **P 23 52 32.9 -1.5**
G64A Maxfield 68.68 31 P **P 23 52 33.7 -0.1**
baz=226,SNR=14
D60A Saint Jean D'O 68.79 29 P **P 23 52 34.3 -0.1**
baz=224,SNR=7.3
F63A Nahmakanta, Br 68.82 31 P **P 23 52 35.0 +0.4**
baz=226,SNR=25
F63A Nahmakanta, Br 68.82 31 IAMs_20 IAMs_20 00 20 49.1
comp=Z,393nm,18.0s
EMMW East Machias 68.98 32 IAmb IAmb 23 52 37.3
comp=Z,106nm,1.4s
EMMW IAMs_20 IAMs_20 00 21 59.3
comp=Z,489nm,18.0s
RIB01 Linhares ES 69.06 106 *eP* **P 23 52 36.9 +0.2**
H66A Whiting 69.11 32 P **P 23 52 36.6 +0.2**
baz=227,SNR=6.5
E62A Clayton Lake 69.25 30 P **P 23 52 37.8 +0.5**
baz=225,SNR=42
E62A Clayton Lake 69.25 30 IAMs_20 IAMs_20 00 20 59.6
comp=Z,474nm,20.0s
G65A Princeton 69.26 32 P **P 23 52 37.6 +0.3**
baz=227,SNR=13
G65A Princeton 69.26 32 IAmb IAmb 23 52 39.1
comp=Z,136nm,1.4s
G65A IAMs_20 IAMs_20 00 19 52.6
comp=Z,556nm,21.0s
F64A Sherman 69.31 31 P **P 23 52 38.1 +0.5**
baz=226,SNR=25
F64A Sherman 69.31 31 P **P 23 52 38.1 +0.5**
F64A IAMs_20 IAMs_20 00 23 03.0
comp=Z,496nm,18.0s
D61A St Aubert, Com 69.35 29 P **P 23 52 38.1 +0.2**
baz=224,SNR=10.0
NAN01 Guarapari, ES 69.45 105 *eP* **P 23 52 39.4 +0.1**
CHGQ Chibougamau 69.50 25 P **P 23 52 38.6 -0.2**
baz=220,SNR=22
GGN Saint George 69.58 32 IAMs_20 IAMs_20 00 22 36.4
comp=Z,538nm,19.0s
E63A Oxbow 69.66 31 P **P 23 52 40.0 +0.2**
baz=226,SNR=18
E63A Oxbow 69.66 31 P **P 23 52 40.1 +0.2**
E63A IAmb IAmb 23 52 41.5
comp=Z,144nm,1.4s
E63A IAMs_20 IAMs_20 00 20 33.3
comp=Z,437nm,21.0s
WRAK Wrangell Islan 69.80 348 IAMs_20 IAMs_20 00 16 34.8
comp=Z,726nm,19.0s
D62A Allapoint, All 69.81 30 P **P 23 52 40.9 +0.2**
baz=225
D62A Allapoint, All 69.81 30 IAmb IAmb 23 52 42.3
comp=Z,126nm,1.4s

D62A IAMs_20 IAMs_20 00 21 14.7
comp=Z,553nm,20.0s
E64A Bridgewater 69.95 31 P **P 23 52 41.9 +0.3**
baz=226,SNR=13
PQI Presque Isle 70.03 31 IAmb IAmb 23 52 43.7
comp=Z,139nm,1.4s
PQI IAMs_20 IAMs_20 00 20 43.1
comp=Z,480nm,21.0s
D63A Stockholm 70.24 30 P **P 23 52 43.5 +0.1**
baz=226,SNR=9.5
GDU01 Guandu, BA 70.46 101 *eP* **P 23 52 45.7 +0.3**
OUZ Omahuta 70.74 237 P **P 23 52 47.8 +0.9**
OUZ **P 23 52 48.2 +1.4**
OUZ IAmb IAmb 23 52 48.7
comp=Z,115nm,1.7s
OUZ IAMs_20 IAMs_20 00 15 30.1
comp=Z,1µm,21.0s
KHZ Kahutara 70.85 229 P **P 23 52 48.7 +1.4**
KHZ **P 23 52 49.1 +1.8**
KHZ IAmb IAmb 23 52 50.1
comp=Z,142nm,1.7s
KHZ IAMs_20 IAMs_20 00 14 55.7
comp=Z,672nm,20.0s
NBCP Cabaceiras do 70.99 99 *eP* **P 23 52 49.4 +0.7**
HAL Halifax 71.02 34 IAmb IAmb 23 52 49.7
comp=Z,130nm,1.4s
SIT Sitka 71.02 347 IAmb IAmb 23 52 50.5
comp=Z,147nm,1.3s
SIT IAMs_20 IAMs_20 00 15 43.0
comp=Z,1µm,21.0s
LMN Caledonia Moun 71.14 33 IAmb IAmb 23 52 50.0
comp=Z,144nm,1.4s
LMN IAMs_20 IAMs_20 00 24 38.4
comp=Z,452nm,18.0s
DLBC Dease Lake 71.27 350 P **P 23 52 50.3 +0.8**
comp=Z,32nm,1.1s,baz=168,slow=6.1,SNR=29
DLBC Dease Lake 71.27 350 IAmb IAmb 23 52 52.0
comp=Z,108nm,1.4s
DLBC IAMs_20 IAMs_20 00 18 41.5
comp=Z,708nm,18.0s
THZ Tophouse 71.31 230 P **P 23 52 50.4 +0.2**
THZ IAmb IAmb 23 52 52.3
comp=Z,87nm,1.4s
THZ IAMs_20 IAMs_20 00 16 29.7
comp=Z,897nm,21.0s
BATG Bathurst New B 71.43 31 IAmb IAmb 23 52 52.1
comp=Z,123nm,1.3s
BATG IAMs_20 IAMs_20 00 21 13.2
comp=Z,450nm,20.0s
FCC Fort Churchill 71.56 10 IAmb IAmb 23 52 52.2
comp=Z,113nm,1.3s
FCC IAMs_20 IAMs_20 00 21 03.1
comp=Z,728nm,20.0s
QRZ Quartz Range 71.58 231 IAmb IAmb 23 52 52.5
comp=Z,84nm,1.3s
QRZ IAMs_20 IAMs_20 00 19 48.0
comp=Z,858nm,20.0s
NBMO Morrinhos-CE 71.67 90 *eP* **P 23 52 52.9 +0.1**
BESE Bessie Mountai 72.31 348 IAmb IAmb 23 52 58.2
comp=Z,140nm,1.5s
BESE IAMs_20 IAMs_20 00 17 27.2
comp=Z,1µm,19.0s
GBN Guysborough 72.65 35 IAmb IAmb 23 52 59.4
comp=Z,126nm,1.4s
RPZ Rata Peaks 72.70 228 P **P 23 52 59.3 +0.8**
comp=Z,30nm,1.1s,baz=29,slow=7.5,SNR=6.9
SKAG Skagway 73.22 348 P **P 23 53 01.5 +0.5**
SKAG IAMs_20 IAMs_20 00 17 27.1
comp=Z,941nm,21.0s
YKA Yellowknife Ar 73.83 359 P **P 23 53 04.7 +0.1**
comp=Z,24nm,1.1s,baz=174,slow=5.3,SNR=52
YKA LR LR 00 22 42.9
comp=Z,1µm,18.2s,baz=0.0,slow=34
NBLI Livramento-PB 73.97 94 *eP* **P 23 53 06.9 +0.3**
MIDW Midway 74.52 304 P **P 23 53 08.8 -0.6**
MIDW IAmb IAmb 23 53 10.8
comp=Z,170nm,1.4s
BCPM Bancas Point 74.62 346 IAMs_20 IAMs_20 00 18 13.3
comp=Z,861nm,20.0s
PCA Pinnacle 74.90 346 IAMs_20 IAMs_20 00 18 01.5
comp=Z,842nm,22.0s
HYT Haines Junctio 74.92 347 IAmb IAmb 23 53 13.7
comp=Z,170nm,1.7s
RCBR Riachuelo 75.27 93 P **P 23 53 14.7 +0.6**
RCBR pmax pmax
comp=Z,60nm,1.3s
RCBR Riachuelo 75.27 93 P **P 23 53 14.7 +0.6**
RCBR Riachuelo 75.27 93 *eP* **P 23 53 14.8 +0.8**
MESA MESA 75.39 345 IAMs_20 IAMs_20 00 19 16.5
comp=Z,765nm,18.0s
TABL Table Mountain 75.42 346 IAMs_20 IAMs_20 00 18 17.2
comp=Z,756nm,22.0s
YAH Yahtse 75.50 345 IAmb IAmb 23 53 17.0
comp=Z,242nm,2.0s
YAH IAMs_20 IAMs_20 00 19 13.5
comp=Z,722nm,19.0s
TARA Tarawa 75.66 274 P **P 23 53 16.0 -0.3**
TARA IAmb IAmb 23 53 18.3
comp=Z,109nm,1.1s
SUCK Suckling Hills 75.77 344 IAMs_20 IAMs_20 00 18 16.0
comp=Z,690nm,20.0s
ISLE Juniper Island 75.85 345 IAmb IAmb 23 53 19.3
comp=Z,112nm,1.5s
ISLE IAMs_20 IAMs_20 00 19 41.8
comp=Z,609nm,20.0s
CTGM Chitina Glacie 75.92 346 IAmb IAmb 23 53 19.1
comp=Z,195nm,1.9s
CTGM IAMs_20 IAMs_20 00 18 33.5
comp=Z,810nm,22.0s
Q23K Middleton Isla 75.95 343 P **P 23 53 17.3 +0.4**
baz=145
BARN Barnard Glacie 76.08 346 IAmb IAmb 23 53 20.0
comp=Z,135nm,1.6s
BARN IAMs_20 IAMs_20 00 19 36.8
comp=Z,588nm,19.0s
HMT Hamilton 76.13 344 IAmb IAmb 23 53 20.3
comp=Z,191nm,1.6s
HMT IAMs_20 IAMs_20 00 18 27.0
comp=Z,717nm,22.0s
BELA Belgrano 2 76.14 168 P **P 23 53 17.1 -0.8**
BALM Baldy 76.23 345 IAmb IAmb 23 53 20.7
comp=Z,184nm,1.9s
BALM IAMs_20 IAMs_20 00 20 56.9
comp=Z,540nm,18.0s
SCHQ Schefferville 76.25 25 P **P 23 53 18.8 0.0**
comp=Z,52nm,1.1s,baz=236,slow=4.9,SNR=18
SCHQ LR LR 00 25 51.3
comp=Z,584nm,20.1s,baz=264,slow=35
SCHQ Schefferville 76.25 25 IAmb IAmb 23 53 20.1
comp=Z,137nm,1.3s
SCHQ IAMs_20 IAMs_20 00 25 21.5
comp=Z,659nm,20.0s
RAGM Ragged Mountai 76.28 344 IAMs_20 IAMs_20 00 18 19.1
comp=Z,867nm,22.0s
SII Sitkinak Islan 76.32 338 P **P 23 53 20.0 +0.9**
KDAK Kodiak Island 76.65 339 P **P 23 53 21.0 +0.1**
comp=Z,72nm,1.4s,baz=146,slow=4.3,SNR=8.1
KDAK Kodiak Island 76.65 339 P **P 23 53 21.0 +0.1**
KDAK Kodiak Island 76.65 339 P **P 23 53 21.3 +0.4**
VRDI Verde Repeater 76.67 345 IAMs_20 IAMs_20 00 19 36.6
comp=Z,362nm,20.0s
MCARA McCarthy VSAT 76.70 345 IAmb IAmb 23 53 23.3
comp=Z,194nm,1.6s
MCARA IAMs_20 IAMs_20 00 18 40.4
comp=Z,366nm,20.0s
GLB Gilahina Butte 76.95 345 IAmb IAmb 23 53 24.5
comp=Z,163nm,1.8s
GLB IAMs_20 IAMs_20 00 19 44.6
comp=Z,420nm,20.0s
FID Port Fidalgo 77.08 343 IAmb IAmb 23 53 24.7
comp=Z,149nm,1.8s
DRLN Deer Lake 77.13 33 IAmb IAmb 23 53 24.9
comp=Z,149nm,1.3s
GLI Glacier Island 77.36 343 IAmb IAmb 23 53 25.9
comp=Z,185nm,1.8s
GLI IAMs_20 IAMs_20 00 19 47.6
comp=Z,909nm,20.0s
SEW Seward 77.43 342 IAmb IAmb 23 53 26.5
comp=Z,117nm,1.6s
KLU Klutina 77.54 344 IAMs_20 IAMs_20 00 19 22.4
comp=Z,616nm,20.0s
BRLK Bradley Lake 77.61 341 IAmb IAmb 23 53 28.7
comp=Z,206nm,1.5s
HOM Homer 77.77 341 P **P 23 53 27.6 +0.5**
baz=140
O22K Cooper Landing 77.81 342 P **P 23 53 27.0 -0.4**
baz=142

BCAR **Beaver Creek A** 77.86 347 P **P** 23 53 26.6 -1.0
VNDA **Vanda** 77.97 193 P **P** 23 53 29.4 +1.3
comp=Z,38nm,1.4s,baz=86,slow=5.2,SNR=38
VNDA PP **PP** 23 56 28.2 +4.3
comp=Z,5.1nm,1.2s,baz=119,slow=5.3,SNR=3.0
VNDA LR LR 00 20 45.0
comp=Z,485nm,20.6s,baz=94,slow=30
VNDA **Vanda** 77.97 193 P **P** 23 53 28.8 +0.6
VNDA pmax pmax
comp=Z,91nm,1.6s
VNDA **Vanda** 77.97 193 P **P** 23 53 28.8 +0.6
SDPT **Sand Point** 78.00 334 IAmb IAmb 23 53 29.4
comp=Z,213nm,1.6s
DZM **Mont Dzumac** 78.01 250 *e*P **P** 23 53 29.5 0.0
comp=Z,68nm,1.9s
DZM **Mont Dzumac** 78.01 250 *e*LQ LQ 00 14 20.0
DZM comp=Z,10µm,29.1s *e*LR LR 00 17 42.4
comp=Z,1µm,23.6s
DZM **Mont Dzumac** 78.01 250 P **P** 23 53 29.6 0.0
comp=Z,5.8nm,1.1s,baz=78,slow=10.0,SNR=7.3
DZM **Mont Dzumac** 78.01 250 P **P** 23 53 30.1 +0.6
DZM IAMs_20 IAMs_20 00 19 19.2
comp=Z,789nm,22.0s
M24K **Tolsona, Glenn** 78.12 344 P **P** 23 53 29.2 0.0
baz=146
KNK **Knik Glacier** 78.18 343 IAmb IAmb 23 53 31.0
comp=Z,221nm,1.8s
MENT **Mentasta** 78.20 346 IAMs_20 IAMs_20 00 20 16.7
comp=Z,547nm,21.0s
SANVU **Saraoutou** 78.24 256 IAMs_20 IAMs_20 00 19 16.7
comp=Z,824nm,21.0s
CAPN **Captain Cook N** 78.47 342 P **P** 23 53 32.1 +1.1
baz=141
PMR **Palmer** 78.52 343 IAmb IAmb 23 53 32.8
comp=Z,281nm,2.0s
QSPA **South Pole Qui** 78.55 180 P **P** 23 53 32.3 +0.6
QSPA IAmb IAmb 23 53 33.8
comp=Z,171nm,1.4s
GHO **Glory Hole Cre** 78.60 343 IAmb IAmb 23 53 33.2
comp=Z,158nm,1.8s
GHO IAMs_20 IAMs_20 00 20 18.5
comp=Z,922nm,20.0s
PAX **Paxson** 78.66 345 IAmb IAmb 23 53 33.3
comp=Z,139nm,1.7s
PAX IAMs_20 IAMs_20 00 22 34.9
comp=Z,405nm,19.0s
K27K **Chicken** 78.76 347 P **P** 23 53 33.0 +0.4
baz=150
DOT **Dot Lake** 78.89 346 IAMs_20 IAMs_20 00 21 36.1
comp=Z,595nm,18.0s
SCRK **Sand Creek** 79.15 346 P **P** 23 53 34.6 -0.2
baz=148
RIDG **Independent Ri** 79.15 346 IAmb IAmb 23 53 36.2
comp=Z,226nm,1.6s
RIDG IAMs_20 IAMs_20 00 22 01.9
comp=Z,456nm,21.0s
EGAK **Eagle** 79.22 348 IAmb IAmb 23 53 36.5
comp=Z,156nm,1.8s
EGAK IAMs_20 IAMs_20 00 21 19.8
comp=Z,832nm,20.0s
CUT **Chulitna** 79.49 343 P **P** 23 53 36.7 +0.1
baz=142
SKT **Skwentna** 79.53 342 IAmb IAmb 23 53 38.3
comp=Z,293nm,1.7s
AKUT **Akutan** 79.62 331 IAmb IAmb 23 53 38.1
comp=Z,261nm,1.7s
EPYK **Eagle Plains** 79.81 350 P **P** 23 53 38.1 -0.3
baz=155
EPYK **Eagle Plains** 79.81 350 IAmb IAmb 23 53 39.6
comp=Z,167nm,1.4s
RND **Reindeer** 79.90 344 IAmb IAmb 23 53 40.4
comp=Z,297nm,1.8s
RND IAMs_20 IAMs_20 00 20 54.7
comp=Z,768nm,21.0s
SVW2 **Sparrevohn** 80.15 340 IAmb IAmb 23 53 40.9
comp=Z,198nm,1.8s
MCK **McKinley** 80.18 344 IAmb IAmb 23 53 41.7
comp=Z,202nm,1.7s
MCK IAMs_20 IAMs_20 00 21 04.4
comp=Z,714nm,20.0s
HDA **Harding Lake** 80.22 345 P **P** 23 53 39.9 -0.6
baz=145
HDA **Harding Lake** 80.22 345 IAMs_20 IAMs_20 00 22 04.2
comp=Z,388nm,20.0s
NIKH **Nikolski High** 80.46 329 IAmb IAmb 23 53 42.4
comp=Z,185nm,1.3s
ILAR **Eielson Array** 80.51 346 P **P** 23 53 41.4 -0.7
comp=Z,4.7nm,1.1s,baz=151,slow=4.6,SNR=21
ILAR PKKPbc **PKKPbc** 00 12 22.2 -4.4
comp=Z,0.9nm,1.0s,baz=333,slow=3.1,SNR=4.5
ILAR LR LR 00 22 15.9
comp=Z,314nm,20.4s,baz=138,slow=30
WRH **Wood River Hil** 80.56 345 IAmb IAmb 23 53 44.7
comp=Z,226nm,1.6s
WRH IAMs_20 IAMs_20 00 22 09.4
comp=Z,563nm,19.0s
CCB **Clear Creek Bu** 80.63 345 IAMs_20 IAMs_20 00 21 55.2
comp=Z,492nm,19.0s
BWN **Browne** 80.67 344 IAMs_20 IAMs_20 00 21 49.3
comp=Z,712nm,20.0s
COLA **College** 80.83 345*c i*P **P** 23 53 43.6 -0.1
COLA pmax pmax
comp=Z,79nm,2.0s
COLA **College** 80.83 345 P **P** 23 53 43.1 -0.7
COLA IAmb IAmb 23 53 45.1
comp=Z,187nm,2.0s
COLA **College** 80.83 345 IAMs_20 IAMs_20 00 22 02.5
comp=Z,398nm,20.0s
TCOL **CIGO, UAF Yank** 80.83 345 P **P** 23 53 43.5 -0.2
baz=144
NEA2 **Nenana** 80.91 345 P **P** 23 53 44.0 -0.2
baz=143
POKR **Poker Plat Res** 80.92 346 P **P** 23 53 44.2 -0.1
baz=145
MDM **Murphy Dome** 80.99 345 IAmb IAmb 23 53 47.2
comp=Z,223nm,1.7s
MDM IAMs_20 IAMs_20 00 22 14.6
comp=Z,477nm,20.0s
BPAW **Bear Paw Mtn.** 81.03 344 IAmb IAmb 23 53 46.0
comp=Z,284nm,1.9s
BPAW IAMs_20 IAMs_20 00 21 06.8
comp=Z,739nm,21.0s
INK **Inuvik** 81.12 352 P **P** 23 53 44.7 -0.5
comp=Z,25nm,1.2s,baz=158,slow=6.4,SNR=18
C36M **Paulatuk** 81.13 356 P **P** 23 53 45.4 +0.1
baz=168
C36M **Paulatuk** 81.13 356 IAmb IAmb 23 53 47.0
comp=Z,188nm,1.8s
C36M IAMs_20 IAMs_20 00 24 46.3
comp=Z,686nm,22.0s
BMAR **Burnt Mountain** 82.22 348 P **P** 23 53 50.1 -1.1
ATKA **Atka Island** 82.84 327 IAmb IAmb 23 53 55.6
comp=Z,163nm,1.6s
VNA3 **Neumayer Olymp** 83.08 161 P **P** 23 53 54.9 -0.8
IMAR **Indian Mountai** 83.23 344 P **P** 23 53 55.0 -1.4
COLD **Coldfoot** 83.30 346 P **P** 23 53 57.4 +0.7
baz=142
COLD **Coldfoot** 83.30 346 IAmb IAmb 23 53 59.1
comp=Z,158nm,1.5s
COLD IAMs_20 IAMs_20 00 23 53.7
comp=Z,429nm,20.0s
VNA1 **Neumayer--Stat** 83.69 161 P **P** 23 53 58.3 -0.5
A36M **Sachs Harbour** 83.81 356 P **P** 23 53 59.2 0.0
baz=167
VNA2 **Neumayer--Watz** 83.89 161 P **P** 23 53 59.0 -0.8
ADK **Adak** 84.05 326 P **P** 23 53 59.8 -1.0
ADK pmax pmax
comp=Z,187nm,1.4s
ADK **Adak** 84.05 326 P **P** 23 53 59.8 -1.0
TOLK **Toolik Lake Re** 84.28 347 P **P** 23 54 02.2 +0.4
baz=143
TOLK **Toolik Lake Re** 84.28 347 IAmb IAmb 23 54 03.8
comp=Z,84nm,1.6s
TOLK IAMs_20 IAMs_20 00 25 36.8
comp=Z,580nm,20.0s
SNAA **Sanae** 85.02 163 P **P** 23 54 04.8 -0.9
SNAA **Sanae** 85.02 163 P **P** 23 54 04.5 -1.2
SNAA pmax pmax
comp=Z,65nm,1.4s
SNAA **Sanae** 85.02 163 P **P** 23 54 04.5 -1.2
SNAA IAMs_20 IAMs_20 00 24 47.7
comp=Z,654nm,20.0s
H11S2 **WAKE ISLAND Hy** 85.52 290 T T 01 28 32.8
baz=105,slow=75,SNR=732
H11S1 **WAKE ISLAND Hy** 85.53 290 T T 01 28 33.6
baz=105,slow=75,SNR=374
H11S3 **WAKE ISLAND Hy** 85.54 290 T T 01 28 34.0
baz=105,slow=75,SNR=401
H11N3 **WAKE ISLAND Hy** 85.62 291 T T 01 28 36.4
baz=105,slow=75,SNR=291
H11N2 **WAKE ISLAND Hy** 85.64 291 T T 01 28 41.1
baz=105,slow=75,SNR=256
H11N1 **WAKE ISLAND Hy** 85.64 291 T T 01 28 41.2
baz=105,slow=75,SNR=204
ANM **Nome** 85.80 340 IAMs_20 IAMs_20 00 24 31.1
comp=Z,602nm,20.0s
RES **Resolute Bay** 86.72 4 P **P** 23 54 13.2 -0.5
comp=Z,8.5nm,0.9s,baz=196,slow=9.8,SNR=7.6
SMY **Shemya** 89.57 324 IAmb IAmb 23 54 28.4
comp=Z,137nm,1.4s
CAN **Canberra** 90.63 234 P **P** 23 54 34.3 +1.0
CAN pmax pmax
comp=Z,228nm,1.9s
CAN **Canberra** 90.63 234 P **P** 23 54 34.3 +1.0
ILULI **Iluliissat** 90.89 18 IAmb IAmb 23 54 33.7
comp=Z,101nm,1.7s
TULEG **Thule** 91.48 9 IAMs_20 IAMs_20 00 33 51.7
comp=Z,579nm,19.0s
RABL **Rabaul** 94.88 265 IAMs_20 IAMs_20 00 31 24.7
comp=Z,359nm,20.0s
KRVT **Keravat (AS076** 94.99 265 P **P** 23 54 53.8 0.0
comp=Z,30nm,0.3s,baz=233,slow=9.0,SNR=7.2
CTAO **Charters Tower** 96.87 248 IAMs_20 IAMs_20 00 31 16.9
comp=Z,581nm,19.0s
STKA **Stephens Creek** 97.53 235 LR LR 00 32 19.8
comp=Z,366nm,20.2s,baz=93,slow=31
PMG **Port Moresby** 98.61 259 IAMs_20 IAMs_20 00 30 01.3
comp=Z,405nm,22.0s
PET **Petropavlovsk** 98.72 322 P **P** 23 55 09.6 -0.1
PET pmax pmax
comp=Z,66nm,1.5s
PET **Petropavlovsk** 98.72 322 P **P** 23 55 09.6 -0.1
PET IAMs_20 IAMs_20 00 33 39.7
comp=Z,518nm,20.0s
PEA0B **Petropavlovsk-** 99.31 322*ce*P **Pdif** 23 55 12.1 -0.3
PEA0B **Petropavlovsk-** 99.31 322 IAmb IAmb 23 55 13.7
comp=Z,49nm,1.4s
PEA0B IAMs_20 IAMs_20 00 30 18.1
comp=Z,473nm,22.0s
PETK **Petropavlovsk-** 99.31 322 P **Pdif** 23 55 12.6 +0.2
comp=Z,6.0nm,1.1s,baz=80,slow=8.1,SNR=10
PETK LR LR 00 30 06.5
comp=Z,382nm,21.8s,baz=99,slow=29
PETK **Petropavlovsk-** 99.31 322 P **Pdif** 23 55 12.1 -0.3
PETK **Petropavlovsk-** 99.31 322 **Pdif** 23 55 12.1 -0.3
WC3 **Warramunga Arr** 107.58 245 IAMs_20 IAMs_20 00 37 08.3
comp=Z,412nm,19.0s
WB7 **Warramunga Arr** 107.61 245 IAMs_20 IAMs_20 00 48 10.9
comp=Z,441nm,22.0s
WR1 **Warramunga Arr** 107.62 245 IAMs_20 IAMs_20 00 37 56.2
comp=Z,377nm,21.0s
WB6 **Warramunga Arr** 107.62 245 IAMs_20 IAMs_20 00 37 12.4
comp=Z,428nm,19.0s
WC1 **Warramunga Arr** 107.62 245 IAMs_20 IAMs_20 00 34 51.4
comp=Z,490nm,20.0s
MAJO **Matsushiro** 112.65 305 IAMs_20 IAMs_20 00 37 05.7
comp=Z,576nm,22.0s
TOC7 **Torodi Ar. Sit** 115.36 81 IAMs_20 IAMs_20 00 46 04.5
comp=Z,506nm,20.0s
TOB4 **Torodi Ar. Sit** 115.36 81 IAMs_20 IAMs_20 00 46 03.5
comp=Z,507nm,20.0s
TORD **Torodi Ar. Bea** 115.38 81 PKP **PKPdf** 00 00 12.2 -0.9
comp=Z,1.3nm,0.9s,baz=331,slow=1.8,SNR=3.5
TORD PP **PP** 00 01 11.3 -3.1
comp=Z,5.5nm,1.2s,baz=268,slow=5.9,SNR=6.6
TORD PKKPbc **PKKPbc** 00 10 48.2 +1.3
comp=Z,2.4nm,1.1s,baz=63,slow=7.0,SNR=4.4
TORD **Torodi Ar. Bea** 115.38 81 **PKPdf** 00 00 12.1 -1.0
TORD **PKKPbc** 00 10 48.0 +1.2
KLR **Kul'dur** 115.74 319*c i*PKIKP **PKiKP** 00 00 11.1 -1.8
KLR pmax pmax
comp=Z,5.0nm,1.5s
FITZ **Fitzroy Crossi** 115.95 243 PKPdf **PKPdf** 00 00 12.8 -1.4
USRK **Ussuriysk Ar.** 116.57 314 PP PP 00 01 19.4 -2.5
comp=Z,16nm,0.8s,baz=79,slow=9.9,SNR=6.3
WLF **Walferdange** 116.84 40 PKIKP **PKPdf** 00 00 14.9 -0.1
WLF **Walferdange** 116.84 40 *e*PKPdf **PKiKP** 00 00 15.1 +0.2
baz=289,slow=1.9
WLF **Walferdange** 116.84 40 PKPdf **PKPdf** 00 00 14.8 -0.1
BSEG **Bad Segeberg** 118.04 34 *e*PKPdf **PKPdf** 00 00 16.4 -0.7
baz=289,slow=1.9
BSEG *e*L L 00 55 29.7
comp=Z,148nm,18.9s
TNS **Taunus Mts** 118.12 39 *e*PKPdf **PKiKP** 00 00 17.6 +0.1
baz=289,slow=1.9
TNS *e*L L 00 41 23.1
comp=Z,259nm,21.4s
NRDL **Niedersach Rie** 118.41 36 *e*PKPdf **PKPdf** 00 00 17.4 -0.4
baz=289,slow=1.9
BFO **Black Forest** 118.57 41 PKIKP **PKPdf** 00 00 18.3 -0.1
BFO **Black Forest** 118.57 41 *e*PKPdf **PKPdf** 00 00 17.9 -0.5
baz=289,slow=1.9
BFO *e*L L 00 40 58.6
comp=Z,169nm,21.5s
BFO **Black Forest** 118.57 41 **PKPdf** 00 00 18.3 -0.1
GTTG **Gottingen** 118.64 37 *e*PKPdf **PKPdf** 00 00 18.3 -0.1
baz=289,slow=1.9
CLZ **Clausthal** 118.78 37 *e*PKPdf **PKPdf** 00 00 18.4 -0.3
baz=289,slow=1.9
ASSE **Asse, Remlinge** 118.86 36 *e*PKPdf **PKPdf** 00 00 18.2 -0.5
baz=289,slow=1.9
UBBA **Unterbreizbach** 118.89 38 *e*PKPdf **PKPdf** 00 00 18.7 -0.1
baz=289,slow=1.9
STU **Stuttgart** 119.00 40 PKIKP **PKiKP** 00 00 19.5 +0.3
STU **Stuttgart** 119.00 40 *e*PKPdf **PKiKP** 00 00 19.5 +0.3
baz=289,slow=1.9
STU **Stuttgart** 119.00 40 PKPdf **PKiKP** 00 00 19.5 +0.3
TAM **Tamanrasset** 119.64 70 PKIKP **PKPdf** 00 00 21.0 -0.3
TAM MLR MLR
comp=Z,400nm,19.0s
TAM **Tamanrasset** 119.64 70 PKPdf **PKPdf** 00 00 21.0 -0.3
TAM IAMs_20 IAMs_20 00 51 49.4
comp=Z,438nm,19.0s
TUE **Stuetta** 119.74 43 PKPdf **PKPdf** 00 00 20.7 -0.3
NEUB **Neuenburg** 119.82 37 *e*PKPdf **PKPdf** 00 00 20.6 0.0
baz=289,slow=1.9
DAVA **Damuels** 119.87 42 *e*PKiKP **PKPdf** 00 00 20.8 -0.3
comp=Z,11nm,1.2s
UBR **Ueberruh** 119.90 41 *e*PKPdf **PKPdf** 00 00 21.1 +0.1
baz=289,slow=1.9
MOX **Moxa** 119.92 38 *e*PKPdf **PKPdf** 00 00 20.8 -0.1
baz=289,slow=1.9
MOX *e*L L 00 48 06.9
comp=Z,172nm,21.2s
GRF **Grafenberg Arr** 119.99 39 *e*PKPdf **PKiKP** 00 00 21.3 +0.2
baz=289,slow=1.9
GRF *e*L L 00 44 31.8
comp=Z,244nm,20.9s
SOEI **Soe** 120.20 252 PKPdf **PKPdf** 00 00 22.0 -0.7
PLN **Plauen** 120.29 38 *e*PKPdf **PKPdf** 00 00 21.2 -0.4
baz=289,slow=1.9
FUORN **Ofenpass-Fuorn** 120.31 42 IAMs_20 IAMs_20 00 50 51.7
comp=Z,326nm,20.0s
WERD **Werda** 120.40 38 *e*PKPdf **PKPdf** 00 00 21.6 -0.2
baz=289,slow=1.9
MANZ **Manzenberg** 120.44 38 *e*PKPdf **PKPdf** 00 00 21.4 -0.5
baz=289,slow=1.9
GUNZ **Gunzen** 120.44 38 *e*PKPdf **PKPdf** 00 00 21.8 -0.1
baz=289,slow=1.9
WERN **Wernitzgruen** 120.49 38 *e*PKPdf **PKPdf** 00 00 22.0 -0.1
baz=289,slow=1.9
FETA **Feichten** 120.50 42 *e*PKiKP **PKPdf** 00 00 22.3 0.0
comp=Z,20nm,1.1s,SNR=10.0
TANN **Tannenbergstha** 120.50 38 *e*PKPdf **PKPdf** 00 00 22.1 0.0
baz=289,slow=1.9
CLL **Collm** 120.50 37 *i* PKPdf **PKPdf** 00 00 21.0 -1.0
comp=Z,20nm,1.4s
CLL *e* 00 01 15.0
CLL *e*PP **PP** 00 01 46.0 -2.7
CLL *e*PKKPdf **PKKPdf** 00 11 05.0 +2.4
CLL LmV 00 47 00.0
comp=Z,200nm,20.2s
CLL **Collm** 120.50 37 *e*PKPdf **PKPdf** 00 00 21.4 -0.5
baz=289,slow=1.9
CLL *e*L L 00 47 40.4
comp=Z,187nm,21.6s
FUR **Furstenfeldbru** 120.51 41 *e*PKPdf **PKPdf** 00 00 21.8 -0.3
baz=289,slow=1.9
FUR *e*L L 00 42 46.0
comp=Z,168nm,21.4s
NKC **Novy Kostel** 120.56 38 *e*PKPDF **PKiKP** 00 00 22.7 +0.5
NKC **Novy Kostel** 120.56 38 *e*PKIKP **PKiKP** 00 00 22.7 +0.5
MOTA **Moosalm** 120.65 41 *e*PKiKP **PKPdf** 00 00 22.3 -0.3
comp=Z,21nm,1.3s,SNR=7.9
SQTA **Sankt Quirin** 120.75 42 *i* PKiKP **PKPdf** 00 00 22.5 -0.2
comp=Z,28nm,1.3s,SNR=12
SALO **Salr** 120.76 44 IAMs_20 IAMs_20 00 44 53.8
comp=Z,319nm,20.0s
KSAR **Wonju Array Be** 120.78 307 PKIKP **PKPdf** 00 00 22.3 -0.6
KSAR **Wonju Array Be** 120.78 307 **PKPdf** 00 00 22.3 -0.6
FBE **Freiberg** 120.85 37 *e*PKPdf **PKPdf** 00 00 22.7 +0.1
baz=289,slow=1.9
NRIK **Noril'sk** 120.90 352 PP PP 00 01 50.0 -0.6
comp=Z,2.8nm,0.8s,baz=67,slow=4.2,SNR=4.9
NRIK **Noril'sk** 120.90 352⇑ *e*PKIKP **PKPdf** 00 00 21.9 -0.3
NRIK pmax pmax
comp=Z,4.0nm,1.1s
WATA **Walderalm** 120.95 41 *e*PKPdf **PKPdf** 00 00 22.5 -0.6
comp=Z,24nm,1.4s,SNR=8.5
WTTA **Wattenberg** 121.02 41 *e*PKiKP **PKPdf** 00 00 23.0 -0.4
comp=Z,24nm,1.3s,SNR=8.9
WET **Wettzell** 121.19 39 *e*PKPdf **PKPdf** 00 00 23.3 -0.1
baz=289,slow=1.9
WET *e*L L 00 44 42.8
comp=Z,240nm,21.1s
KHC **Kasperske Hory** 121.63 39 *e*PKPDF **PKPdf** 00 00 23.4 -0.9
KHC *e*pPKP **sPKPdf** 00 00 29.1 +0.7
KHC **Kasperske Hory** 121.63 39 *e*PKIKP **PKPdf** 00 00 23.4 -0.9
KHC *e* 00 00 29.1
FINES **FINESS Array B** 121.65 22 PKP **PKPdf** 00 00 21.6 -2.2
comp=Z,7.3nm,1.1s,baz=208,slow=6.5,SNR=7.4
FINES **FINESS Array B** 121.65 22 PKIKP **PKPdf** 00 00 23.3 -0.5
FINES **FINESS Array B** 121.65 22 PKPdf **PKPdf** 00 00 23.3 -0.5
TSUM **Tsumeb** 121.68 121 PKPdf **PKPdf** 00 00 25.0 -0.4
PBCC **Pribram** 121.69 38 *e*PKPDF **PKPdf** 00 00 24.2 -0.1
PBCC *e*pPKP **sPKPdf** 00 00 28.5 0.0
PVCC **Panska Ves** 121.71 37 *e*PKPDF **PKiKP** 00 00 24.8 +0.3
PVCC **Panska Ves** 121.71 37 *e*PKIKP **PKiKP** 00 00 24.8 +0.3
ABTA **Abfaltersbach** 121.75 42 *i* PKPdf **PKPdf** 00 00 23.8 -0.8
comp=Z,17nm,1.2s,SNR=7.1
GEC2 **GERESS Array S** 121.81 39 *e*PKPdf **PKPdf** 00 00 24.2 -0.5
baz=289,slow=1.9
GEC2 *e*L L 00 44 48.5
comp=Z,201nm,20.9s
GERES **GERESS Array B** 121.81 39 PKP **PKPdf** 00 00 23.8 -0.9
comp=Z,6.7nm,1.1s,baz=281,slow=0.7,SNR=27
GERES PP **PP** 00 02 02.1 +4.3
comp=Z,7.9nm,1.3s,baz=289,slow=3.0,SNR=11
GERES PKKPbc **PKKPbc** 00 10 24.3 -0.2
comp=Z,0.2nm,0.4s,baz=162,slow=5.5,SNR=5.1
PRU **Pruhonice** 121.90 38 *e*PKPDF **PKPdf** 00 00 24.4 -0.3
PRU **Pruhonice** 121.90 38 *e*PKIKP **PKPdf** 00 00 24.4 -0.3
GKP **Gorka Klasztor** 122.09 33 *e*P **PKPdf** 00 00 24.8 -0.1
KBA **Koelnbreinsper** 122.18 41 *e*PKPdf **PKPdf** 00 00 25.0 -0.5
comp=Z,18nm,1.1s
MMRI **Maumere** 122.46 252 IAMs_20 IAMs_20 00 49 19.2
comp=Z,290nm,21.0s
MOA **Molln** 122.51 40 *e*PKPdf **PKPdf** 00 00 25.3 -0.6
comp=Z,11nm,1.4s
MYKA **Terra Mystica** 122.52 42 *i* PKPdf **PKPdf** 00 00 25.1 -1.0
comp=Z,11nm,1.4s
BOSA **Boshof** 122.55 135 PKP **PKPdf** 00 00 26.5 -0.4
comp=Z,11nm,1.1s,baz=236,slow=3.4,SNR=7.2
CHVC **Chvalec** 122.56 37 *e*PKPDF **PKPdf** 00 00 26.1 +0.1
UPC **Upice** 122.57 37 *e*PKPDF **PKPdf** 00 00 26.0 0.0
UPC **Upice** 122.57 37 *e*PKIKP **PKPdf** 00 00 26.0 0.0
KSP **Ksiaz** 122.60 36 *e*P **PKiKP** 00 00 26.4 +0.2
OSTC **Ostas** 122.67 37 *e*PKPDF **PKPdf** 00 00 25.7 -0.5
OSTC *e*pPKP **sPKPdf** 00 00 31.6 +1.3
TREC **Trest** 122.73 38 *e*PKPDF **PKPdf** 00 00 26.1 -0.3
TREC **Trest** 122.73 38 *e*PKIKP **PKPdf** 00 00 26.1 -0.3
DPC **Dobruska-Polom** 122.82 37 *e*PKPDF **PKPdf** 00 00 26.7 +0.2
DPC *e*pPKP **sPKPdf** 00 00 31.1 +0.4
DPC **Dobruska-Polom** 122.82 37 *e*PKIKP **PKPdf** 00 00 26.7 +0.2
DPC *e* 00 00 31.1
OBKA **Obir** 123.15 42 *e*PKPdf **PKPdf** 00 00 26.7 -0.6
comp=Z,20nm,1.2s
KRLC **Kraliky** 123.20 37 *e*PKPDF **PKPdf** 00 00 27.0 -0.3
KRLC *e*pPKP **sPKPdf** 00 00 32.0 +0.6
KRLC **Kraliky** 123.20 37 *e*PKIKP **PKPdf** 00 00 27.0 -0.3
KRLC *e* 00 00 32.0
HIA **Hailar** 123.21 322 PKIKP **PKPdf** 00 00 26.7 -0.6
HIA **Hailar** 123.21 322 PKPdf **PKPdf** 00 00 26.6 -0.6
KRUC **Moravsky** 123.37 38 *e*PKP **PKPdf** 00 00 27.0 -0.6
KRUC *e*PP **PP** 00 02 11.9 +3.7
VRAC **Vranov** 123.39 38 PKP **PKPdf** 00 00 25.6 -2.0
comp=Z,5.9nm,1.1s,baz=250,slow=2.6,SNR=8.5
VRAC **Vranov** 123.39 38 *e*PKP **PKPdf** 00 00 27.1 -0.5
VRAC *e*PP **PP** 00 02 11.9 +3.5
SOKA **Soboth** 123.41 41 *i* PKPdf **PKPdf** 00 00 26.7 -1.2
comp=Z,12nm,1.3s
CONA **Conrad Observa** 123.48 40 *e*PKPdf **PKPdf** 00 00 27.1 -0.8
comp=Z,20nm,1.3s,SNR=11
ARSA **Arzberg** 123.52 40 *e*PKPdf **PKPdf** 00 00 26.9 -1.1
comp=Z,11nm,0.9s
MORC **Moravsky Berou** 123.77 37 ⇓P **PKPdf** 00 00 28.2 -0.2
MORC **Moravsky Berou** 123.77 37 *e*PKP **PKPdf** 00 00 28.0 -0.4
MORC **Moravsky Berou** 123.77 37 ⇓PKIKP **PKPdf** 00 00 28.2 -0.2
VSU **Vasula** 123.80 25 *e*P **PKPdf** 00 00 27.3 -0.8
OKC **Ostrava-Krasne** 124.10 37 *e*PKPDF **PKPdf** 00 00 28.9 0.0
OKC **Ostrava-Krasne** 124.10 37 *e*PKIKP **PKPdf** 00 00 28.9 0.0
INTR **Introdacqua** 124.11 47 IAMs_20 IAMs_20 00 52 51.4
comp=Z,187nm,19.0s
LUWI **Luwuk** 124.17 261 IAMs_20 IAMs_20 00 46 14.4
comp=Z,261nm,20.0s
MODS **Modra-Piesok** 124.18 39 *e*PKIKP **PKPdf** 00 00 28.1 -1.1
JAVC **Velka Javorina** 124.22 38 *e*PKP **PKiKP** 00 00 29.7 +0.1
PABE **Paberze** 124.36 29 *e*P **PKPdf** 00 00 29.2 0.0
CORL **Corleone** 124.73 52 IAMs_20 IAMs_20 00 40 02.6
comp=Z,294nm,22.0s
SUW **Suwalki** 124.80 30 *e*P **PKPdf** 00 00 29.8 -0.3
OJC **Ojcow** 124.89 36 *e*P **PKPdf** 00 00 30.2 -0.2
LBTB **Lobatse** 124.96 132 PKIKP **PKPdf** 00 00 31.6 +0.1
LBTB **Lobatse** 124.96 132 PKPdf **PKPdf** 00 00 31.6 +0.1
SRO **Srobarova** 125.04 39 *e*PKIKP **PKPdf** 00 00 30.8 0.0
SRO *e* 00 02 24.5
VYHS **Vyhne** 125.08 38 *e*PKIKP **PKPdf** 00 00 30.5 -0.4
VYHS *e* 00 02 23.6
IZAR **Zarasai** 125.26 27 *e*P **PKPdf** 00 00 31.0 0.0
ISAL **Salakas** 125.31 28 *e*P **PKiKP** 00 00 31.6 +0.1
IIGN **Ignalina** 125.49 28 *e*P **PKiKP** 00 00 31.9 +0.2
NIE **Niedzica** 125.54 36 *e*P **PKiKP** 00 00 32.5 +0.4
RAFF **Raffo Rosso** 125.70 52 IAMs_20 IAMs_20 01 03 54.5
comp=Z,432nm,20.0s
IDID **Didziasalis** 125.75 28 *e*P **PKiKP** 00 00 32.5 +0.3
KAPI **Kappang** 125.96 255 PKIKP **PKPdf** 00 00 32.2 -1.3
KAPI **Kappang** 125.96 255 PKPdf **PKPdf** 00 00 32.2 -1.3
KAPI **Kappang** 125.96 255 IAMs_20 IAMs_20 00 48 36.1
comp=Z,177nm,21.0s
PSZ **Piszkesteto** 125.97 38 ⇑P **PKPdf** 00 00 32.9 +0.2
PSZ **Piszkesteto** 125.97 38 ⇑PKIKP **PKPdf** 00 00 32.9 +0.2
YOJ **Yonaguni jima** 126.44 292 IAMs_20 IAMs_20 00 44 00.8
comp=Z,328nm,20.0s
CRVS **Cervenica-Dubn** 126.45 37 *e*PKIKP **PKPdf** 00 00 33.8 +0.3
KLMR **Klimovskoe** 126.52 17 *e*PKIKP **PKPdf** 00 00 31.3 -1.9
KLMR *e* 00 02 26.7
KLMR pmax pmax
comp=Z,47nm,1.4s
KLMR **Klimovskoe** 126.52 17 *e*PKPdf **PKPdf** 00 00 31.4 -1.8
KLMR AMP 00 00 34.2
comp=Z,47nm,1.4s
KLMR *e*PP **PP** 00 02 26.7 -1.8
KWP **Kalwaria Pacla** 126.82 35 *e*P **PKPdf** 00 00 34.2 0.0
KOLS **Kolonicke sedl** 126.91 36 *e*PKIKP **PKPdf** 00 00 33.9 -0.5
KOLS *e* 00 02 34.7
TIP **Timpagrande** 127.01 49 ⇑P **PKPdf** 00 00 33.7 -1.2
PRGR **Permogore** 127.40 13 ⇓*i*PKIKP **PKPdf** 00 00 34.1 -0.8
PRGR pmax pmax
comp=Z,74nm,1.5s
PDG **Podgorica** 127.74 45 ⇑P **PKPdf** 00 00 33.6 -2.5
SCTE **Santa Cesarea** 127.99 48 IAMs_20 IAMs_20 00 43 33.6
comp=Z,308nm,22.0s
BZS **Buzias** 128.03 40 ⇓P **PKPdf** 00 00 36.3 -0.3
BZS **Buzias** 128.03 40 ⇓PKIKP **PKPdf** 00 00 36.3 -0.3
YULB **Yu-li** 128.07 291 IAMs_20 IAMs_20 00 45 40.1
comp=Z,362nm,21.0s
BMR **Baia Mare** 128.24 37 ⇑P **PKPdf** 00 00 37.0 +0.1
BMR **Baia Mare** 128.24 37 ⇑PKIKP **PKPdf** 00 00 37.0 +0.1
SSLB **Suanglung** 128.36 291 PKPdf **PKPdf** 00 00 37.6 -0.3
SSLB IAMs_20 IAMs_20 00 45 54.7
comp=Z,424nm,21.0s
MDVR **Moldovita** 128.45 41 ⇑P **PKPdf** 00 00 36.9 -0.5
TIR **Tirane** 128.55 46 ⇑P **PKiKP** 00 00 38.2 -0.2
TIR **Tirane** 128.55 46 ⇑PKIKP **PKiKP** 00 00 38.2 -0.2
DEV **Deva** 128.72 39 ⇑P **PKPdf** 00 00 38.2 +0.3
DEV **Deva** 128.72 39 ⇑PKIKP **PKPdf** 00 00 38.2 +0.3

HERR	Herculane	128.86	41	⇓P		PKPdf	00 00 38.2	+0.1
BJI	Beijing	128.99	313	PKP		PKPdf	00 00 38.2	-0.3
BJI				LR	LR			
	comp=Z,150nm,24.6s							
BJI				LR	LR			
	comp=Z,260nm,22.2s							
BJI				LR	LR			
	comp=Z,390nm,21.8s							
BJT	Baijiatuau	129.00	313	PKIKP		PKPdf	00 00 38.2	-0.4
BJT	Baijiatuau	129.00	313	PKPdf		PKPdf	00 00 38.2	-0.4
BJT	Baijiatuau	129.00	313	IAMs_20	IAMs_20		00 47 41.6	
	comp=Z,414nm,21.0s							
ARCR	ARCALIA	129.03	37	⇓P		PKPdf	00 00 38.5	+0.1
NJ2	Nanjing	129.08	302	*e*PKP		PKPdf	00 00 37.9	-1.1
NJ2				PP		PP	00 02 47.8	+0.9
NJ2				AMB	AMB			
	comp=Z,130nm,4.3s							
NJ2				LR	LR			
	comp=Z,270nm,17.1s							
NJ2				LR	LR			
	comp=Z,290nm,18.0s							
NJ2				LR	LR			
	comp=Z,600nm,17.7s							
BURAR	Bucovina Array	129.27	36	⇑P		PKPdf	00 00 39.3	+0.3
BURAR	Bucovina Array	129.27	36	⇑PKIKP		PKPdf	00 00 39.3	+0.3
BURAR	Bucovina Array	129.27	36	PKPdf		PKPdf	00 00 38.5	-0.5
PUNG	Punghina	129.46	41	⇑P		PKiKP	00 00 40.6	+0.5
LOT	Lotru	129.46	39	⇓P		PKPdf	00 00 39.9	+0.4
MYLDM	Lahad Datu	129.70	267	PKPdf		PKPdf	00 00 40.9	+0.2
AKASG	Malin Array Be	129.74	31	PKP		PKPdf	00 00 38.9	-0.8
	comp=Z,16nm,1.1s,baz=283,slow=2.3,SNR=48							
AKASG	Malin Array Be	129.74	31	PKPdf		PKPdf	00 00 38.6	-1.0
BKB	Balikpapan	129.78	259	IAMs_20	IAMs_20		00 53 36.5	
	comp=Z,329nm,20.0s							
BAIL	Bailesti	129.84	41	⇑P		PKPdf	00 00 40.5	+0.4
MOS	Moscow	129.95	22	*e*PKIKP		PKPdf	00 00 37.4	-2.5
MOS				*e*			00 02 51.7	
MOS				pmax	pmax			
	comp=Z,62nm,1.5s							
MOS				MLR	MLR			
	comp=Z,300nm,20.0s							
JAGI	Jajag, Banyuwa	129.98	249	PKPdf		PKPdf	00 00 40.2	-1.1
IRK	Irkutsk	129.99	332	*e*PKIKP		PKPdf	00 00 40.0	-0.1
IRK				pmax	pmax			
	comp=Z,68nm,2.1s							
PRAR	RASCA	129.99	36	⇑P		PKPdf	00 00 40.4	+0.1
OBN	Obninsk	130.03	23	PKP		PKPdf	00 00 39.6	-0.4
	comp=Z,4.5nm,0.7s,baz=117,slow=5.0							
OBN	Obninsk	130.03	23	⇓P		PKiKP	00 00 41.1	+0.3
OBN	Obninsk	130.03	23	*c i* PKIKP		PKPdf	00 00 40.1	+0.1
OBN				*i*			00 02 49.1	
OBN				pmax	pmax			
	comp=Z,59nm,1.2s							
OBN				MLR	MLR			
	comp=Z,242nm,18.0s							
ARR	Arges	130.03	39	⇓P		PKPdf	00 00 40.3	-0.1
BIZ	Bicaz	130.14	37	⇑P		PKPdf	00 00 39.1	-1.4
DOPR	Dopca	130.20	38	⇓P		PKPdf	00 00 40.5	-0.2
VOIR		130.26	39	⇑P		PKPdf	00 00 41.0	0.0
VOIR		130.26	39	⇑PKIKP		PKPdf	00 00 41.0	0.0
VTS	Vitosha	130.37	43	P		PKPdf	00 00 41.2	-0.1
OZUR		130.38	38	⇓P		PKPdf	00 00 39.7	-1.4
MPEP	Malo Peshtene	130.39	42	P		PKPdf	00 00 40.8	-0.3
KNMB	Chin-men Tao	130.64	292	IAMs_20	IAMs_20		00 53 39.0	
	comp=Z,338nm,20.0s							
HUMR	Humele	130.65	40	⇑P		PKiKP	00 00 42.5	0.0
TLY	Talaya	130.65	331	*i* PKIKP		PKPdf	00 00 41.5	+0.1
TLY				*e*			00 02 52.9	
TLY				*e*			00 25 09.2	
TLY				pmax	pmax			
	comp=Z,44nm,1.5s							
TLY	Talaya	130.65	331	PKPdf		PKiKP	00 00 42.4	+0.1
TESR	Tescani	130.68	37	⇓P		PKPdf	00 00 41.6	0.0
SORM	Soroca	130.77	34	⇓P		PKPdf	00 00 41.3	-0.4
SORM	Soroca	130.77	34	⇓PKIKP		PKPdf	00 00 41.3	-0.4
MLR	Muntele Rosu	130.78	38	PKP		PKPdf	00 00 41.5	-0.5
	comp=Z,29nm,1.2s,baz=360,slow=2.0,SNR=22							
MLR	Muntele Rosu	130.78	38	⇓P		PKPdf	00 00 41.8	-0.2
MLR	Muntele Rosu	130.78	38	IAMs_20	IAMs_20		00 59 50.4	
	comp=Z,329nm,20.0s							
LIT	Litokhoron	130.87	46	IAMs_20	IAMs_20		00 58 13.6	
	comp=Z,176nm,18.0s							
PLOR	Plostina	131.02	38	⇑P		PKPdf	00 00 41.6	-0.7
PLOR	Plostina	131.02	38	⇑PKIKP		PKPdf	00 00 41.6	-0.7
VRI	Vrincioaia	131.06	38	⇑P		PKPdf	00 00 41.9	-0.4
VRI	Vrincioaia	131.06	38	⇑PKIKP		PKPdf	00 00 41.9	-0.4
AGG	Agios Georgios	131.16	48	IAMs_20	IAMs_20		01 08 01.5	
	comp=Z,232nm,18.0s							
ULN	Ulaanbaatar	131.26	326	*c i* PKIKP		PKPdf	00 00 42.5	-0.4
ULN				pmax	pmax			
	comp=Z,34nm,2.5s							
ULN	Ulaanbaatar	131.26	326	PKPdf		PKPdf	00 00 42.3	-0.5
VASR	Vaslui	131.28	36	⇓P		PKPdf	00 00 43.0	+0.2
ODBI	Odobesti	131.31	38	⇑P		PKPdf	00 00 42.1	-0.7
SGRR	Singureni	131.42	40	⇑P		PKiKP	00 00 43.9	-0.1
PLD	Plovdiv	131.57	43	P		PKPdf	00 00 43.2	-0.2
SONM	Songino Array	131.64	326	PKhKP		PKPpre	00 00 33.6	
	comp=Z,1.0nm,1.0s,baz=264,slow=1.5,SNR=6.2							
SONM				PKP		PKPdf	00 00 43.1	-0.5
	comp=Z,9.1nm,1.2s,baz=118,slow=0.9,SNR=23							
SONM				PP		PP	00 02 58.8	-3.9
	comp=Z,1.7nm,1.1s,baz=90,slow=3.1,SNR=5.6							
SONM	Songino Array	131.64	326	PKPdf		PKPdf	00 00 42.4	-1.1
MILM	Milestii Mici	131.72	35	⇓P		PKPdf	00 00 43.0	-0.5
RZN	Rozhen	131.76	44	P		PKPdf	00 00 43.8	-0.2
SZH	Strazhica	131.85	41	P		PKPdf	00 00 44.0	+0.1
HHC	Hu-ho-hao-te	131.93	315	*e*PKP		PKiKP	00 00 46.8	+1.5
HHC				PP		PP	00 03 11.9	+6.9
HHC				LR	LR			
	comp=Z,190nm,16.0s							
HHC				LR	LR			
	comp=Z,200nm,14.8s							
HHC				LR	LR			
	comp=Z,250nm,20.1s							
DIM	Dimitrovgrad	132.15	43	P		PKPdf	00 00 44.6	+0.1
KDZ	Kurdzhali	132.25	43	P		PKPdf	00 00 44.2	-0.5
CFR	Carcaliu	132.27	38	⇑P		PKPdf	00 00 44.6	0.0
CFR	Carcaliu	132.27	38	⇑PKIKP		PKPdf	00 00 44.6	0.0
HARR	Harsova	132.40	38	⇓P		PKPdf	00 00 45.4	+0.5
HARR	Harsova	132.40	38	⇓PKIKP		PKPdf	00 00 45.4	+0.5
LSZ	Lusaka	132.41	123	PKIKP		PKiKP	00 00 46.6	-0.4
LSZ	Lusaka	132.41	123			PKiKP	00 00 46.6	-0.4
PURM	Purcari	132.54	35	⇑P		PKiKP	00 00 47.0	+0.8
ICOR	Ion Corvin	132.61	39	⇑P		PKPpre	00 00 32.6	
JMB	Yambol	132.65	42	P		PKPdf	00 00 45.2	-0.2
TIRR	Tirgusor	132.81	38	⇑P		PKPdf	00 00 46.1	+0.5
TIRR	Tirgusor	132.81	38	⇑PKIKP		PKPdf	00 00 46.1	+0.5
LPSR	Galich'ya Gora	132.84	24	*e*PKIKP		PKPdf	00 00 45.0	-0.5
LPSR				pmax	pmax			
	comp=Z,50nm,1.1s							
BTO	Baotou	133.10	316	*e*PKP		PKPdf	00 00 46.9	+0.4
MANR	Mangalia	133.25	39	⇑P		PKiKP	00 00 52.9	+5.2
VSR	Storozhevoye	133.99	25	*e*PKIKP		PKPdf	00 00 47.0	-0.7
VSR				pmax	pmax			
	comp=Z,50nm,1.6s							
VORD	Divnogorie	134.23	25	*e*PKIKP		PKPdf	00 00 48.1	0.0
VORD				pmax	pmax			
	comp=Z,30nm,1.5s							
IDI	Anoyia	134.40	51	PKP		PKPdf	00 00 48.8	-0.3
	comp=Z,11nm,0.8s,baz=333,slow=3.4,SNR=8.1							
IDI	Anoyia	134.40	51	⇑P		PKiKP	00 00 51.8	+1.3
IDI	Anoyia	134.40	51	IAMs_20	IAMs_20		01 01 26.6	
	comp=Z,345nm,19.0s							
SANT	Santorini	134.44	50	IAMs_20	IAMs_20		01 01 07.5	
	comp=Z,188nm,22.0s							
SVE	Sverdlovsk	134.46	6	*e*PKIKP		PKPdf	00 00 48.1	-0.3
SVE				pmax	pmax			
	comp=Z,25nm,1.9s							
ARU	Arti	134.62	7	*i* PKIKP		PKPdf	00 00 48.9	+0.2
ARU							00 03 20.0	
ARU	Arti	134.62	7	PKPdf		PKPdf	00 00 48.1	-0.6
VRH	Novokhopyorsk	135.02	23	*e*PKIKP		PKPdf	00 00 49.3	-0.3
VRH				pmax	pmax			
	comp=Z,30nm,1.4s							
SBUM	Sibu	135.25	262	IAMs_20	IAMs_20		00 49 07.0	
	comp=Z,303nm,22.0s							
ZAA0	Zalesovo Array	135.63	346	PKPdf		PKPdf	00 00 49.4	-1.2
ZALV	Zalesovo Beam	135.63	346	PKhKP		PKPpre	00 00 40.8	
	comp=Z,0.3nm,0.3s,baz=132,slow=2.2,SNR=4.2							
ZALV				PKP		PKPdf	00 00 48.8	-1.9
	comp=Z,1.7nm,0.8s,baz=352,slow=3.1,SNR=9.6							
ZALV				PP		PP	00 03 26.4	-1.0
	comp=Z,0.9nm,0.7s,baz=78,slow=7.5,SNR=4.4							
ZALV	Zalesovo Beam	135.63	346	PKIKP		PKPdf	00 00 49.2	-1.5
ZALV	Zalesovo Beam	135.63	346	PKPdf		PKPdf	00 00 49.2	-1.5
ORH	Orhaniye	135.71	42	P		PKPpre	00 00 39.8	
MANT	Manisa	135.82	46	PKPdf		PKPdf	00 00 50.8	-1.1
CISI	Cisompet, Garu	136.09	246	IAMs_20	IAMs_20		00 52 59.8	
	comp=Z,298nm,21.0s							
XAN	Xi'an	136.53	308	P		PKPpre	00 00 40.2	
XAN				pP		PKPdf	00 00 52.5	-0.5
XAN				PP		PP	00 03 29.8	-4.7
XAN				S		PKKPdf	00 10 30.3	-1.3
XAN				pmax	pmax			
	comp=Z,7.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,54nm,4.4s							
XAN				LR	LR			
	comp=N,160nm,25.0s							
XAN				LR	LR			
	comp=E,330nm,25.0s							
XAN				LR	LR			
	comp=Z,700nm,25.0s							
XAN	Xi'an	136.53	308	PKIKP		PKPdf	00 00 52.2	-0.9
XAN	Xi'an	136.53	308	PKPdf		PKPdf	00 00 52.2	-0.9
XAN	Xi'an	136.53	308	IAMs_20	IAMs_20		00 53 44.4	
	comp=Z,287nm,20.0s							
MDUB	Mudurnu	136.65	42	PKPdf		PKPdf	00 00 53.3	+0.2
KSM	Kuching	136.85	260	IAMs_20	IAMs_20		00 47 50.2	
	comp=Z,203nm,22.0s							
ENH	Enshi	137.29	302	PKPdf		PKPdf	00 00 52.8	-1.7
ISP	Isparta	137.50	45	IAMs_20	IAMs_20		01 10 32.6	
	comp=Z,200nm,20.0s							
BZK	Bozkurt	137.60	38	⇑P		PKPpre	00 00 41.8	
ANN	Anapa	137.76	33	*i* PKIKP		PKPdf	00 00 54.4	-0.5
ANN				*e*PPP		PPP	00 06 40.6	
ANN				pmax	pmax			
	comp=Z,46nm,1.3s							
DIKM	Dikmen	138.54	38	⇑P		PKPdf	00 00 55.9	-0.5
BRVK	Borovoye	138.55	358	PKIKP		PKPdf	00 00 56.5	+0.4
BRVK	Borovoye	138.55	358	PKPdf		PKPdf	00 00 56.5	+0.4
BRTR	Keskin Array B	138.63	41	PKhKP		PKPpre	00 00 48.9	
	comp=Z,1.4nm,1.0s,baz=159,slow=1.5,SNR=4.6							
BRTR				PKP		PKPdf	00 00 56.6	-0.3
	comp=Z,30nm,1.1s,baz=261,slow=1.0,SNR=39							
BRTR				PP		PP	00 03 45.3	-1.9
	comp=Z,0.7nm,1.0s,baz=306,slow=3.2,SNR=3.2							
BRTR	Keskin Array B	138.63	41	PKPpre			00 00 45.0	
DGZ	Jazzator, Alta	138.70	341	*i* PKIKP		PKPdf	00 00 55.7	-1.0
QIZ	Qiongzhong	139.04	286	PKP		PKPdf	00 00 56.5	-1.5
QIZ				PP		PP	00 03 48.8	-1.9
QIZ				LR	LR			
	comp=Z,160nm,21.1s							
QIZ				LR	LR			
	comp=Z,310nm,18.1s							
QIZ				LR	LR			
	comp=Z,360nm,26.0s							
QIZ	Qiongzhong	139.04	286	IAMs_20	IAMs_20		00 48 01.9	
	comp=Z,374nm,22.0s							
LZH	Lanzhou	139.47	313	*e*PKP		PKPdf	00 00 58.0	-0.6
LZH				sPKP			00 01 02.3	
LZH				SS	SS		00 22 13.0	+1.1
LZH				LR	LR			
	comp=Z,400nm,18.1s							
LZH				LR	LR			
	comp=Z,450nm,18.0s							
LZH				LR	LR			
	comp=Z,720nm,20.0s							
SOC	Sochi	139.79	32	*i* PKIKP		PKPdf	00 00 59.4	+0.7
SOC				*e*			00 03 52.4	
SOC				*e*PPP	PPP		00 06 56.1	
SOC				*e*SS	SS		00 22 13.9	-0.3
SOC				*e*SSS	SSS		00 27 31.4	
SOC				pmax	pmax			
	comp=Z,29nm,1.0s							
SOC				MLR	MLR			
	comp=Z,174nm,18.0s							
KURK	Kurchatov	139.98	350	*i* PKIKP		PKPdf	00 00 58.1	-0.7
KURK	Kurchatov	139.98	350			PKPpre	00 00 51.5	
KURK				PKPdf		PKPdf	00 00 57.4	-1.3
TOKA	Tokat	140.07	39	IAMs_20	IAMs_20		01 11 52.3	
	comp=Z,159nm,20.0s							
GOF	Gofitskoye	140.35	28	⇑*e*PKIKP		PKPdf	00 01 00.0	+0.4
GOF				pmax	pmax			
	comp=Z,69nm,1.5s							
DLV	T Lat	140.38	275	IAMs_20	IAMs_20		01 01 13.2	
	comp=Z,310nm,19.0s							
GTA	Gaotai	140.43	320	*e*PKP		PKPdf	00 00 59.2	-1.0
GTA				AMB	AMB			
	comp=Z,170nm,4.8s							
GTA				LR	LR			
	comp=Z,290nm,22.2s							
GTA				LR	LR			
	comp=Z,270nm,20.9s							
GTA				LR	LR			
	comp=Z,520nm,22.2s							
GYA	Guiyang	140.72	298	⇑PKP		PKPdf	00 01 00.2	-0.8
GYA				sPKP			00 01 05.8	
GYA				SKKS			00 10 51.2	
GYA				AMB	AMB			
	comp=Z,46nm,7.9s							
GYA				LR	LR			
	comp=Z,130nm,15.5s							
GYA				LR	LR			
	comp=Z,180nm,19.8s							
GYA				LR	LR			
	comp=Z,240nm,16.5s							
KIV	Kislovodsk	141.02	29	⇓P		PKPdf	00 01 01.4	+0.4
KIV	Kislovodsk	141.02	29	P		PKPdf	00 01 01.2	+0.2
KIV	Kislovodsk	141.02	29	*i* PKHKP		PKPpre	00 00 53.7	
KIV				pmax	pmax			
	comp=Z,48nm,1.1s							
KIV				MLR	MLR			
	comp=Z,530nm,25.0s							
KIV	Kislovodsk	141.02	29			PKPdf	00 01 00.3	-0.7
MBAR	Mbarara	141.06	106	PKIKP		PKPdf	00 01 02.5	+0.4
MBAR	Mbarara	141.06	106	PKPdf		PKPdf	00 01 02.5	+0.4
KBZ	Khabaz	141.29	29	PKhKP		PKPpre	00 00 55.5	
	comp=Z,3.8nm,1.1s,baz=318,slow=7.2,SNR=6.3							
KBZ	Khabaz	141.29	29	*i* PKIKP		PKPdf	00 01 00.4	-0.9
KBZ				pmax	pmax			
	comp=Z,21nm,1.3s							
BRZS	Berezniki	141.48	355	*i* PKP		PKPdf	00 01 00.6	-1.0
	comp=Z,32nm,1.7s							
BRZS				*e*PP		PP	00 04 04.3	+0.7
BRZS	Berezniki	141.48	355	*i* PKIKP		PKPdf	00 01 00.5	-1.0
BRZS				*e*			00 04 04.2	
BRZS				pmax	pmax			
	comp=Z,32nm,1.7s							
ZSN	Zaisan	141.49	342	*i* PKP		PKPdf	00 01 00.9	-0.8
	comp=Z,95nm,4.6s							
ZSN				*e*PP		PP	00 04 04.6	+0.8
ZSN				LR	LR		00 57 43.8	
	comp=Z,222nm,20.1s							
ZSN	Zaisan	141.49	342	*i* PKIKP		PKPdf	00 01 00.8	-0.8
ZSN				*e*			00 04 04.6	
ZSN				pmax	pmax			
	comp=Z,95nm,4.6s							
ZSN				MLR	MLR			
	comp=Z,222nm,20.0s							
KTUT	Trabzon	141.59	35	⇓P		PKPdf	00 01 02.9	+0.9
CHVG	Ch'k'valeri	141.63	31	⇑P		PKPdf	00 01 03.4	+1.4
CD2	Chengdu	141.74	306	PKP		PKPdf	00 01 02.0	-0.6
CD2				PP		PP	00 04 04.7	-2.0
CD2				AMB	AMB			
	comp=Z,220nm,5.9s							
CD2				LR	LR			
	comp=Z,450nm,20.6s							
CD2				LR	LR			
	comp=Z,310nm,20.6s							
CD2				LR	LR			
	comp=Z,330nm,23.3s							
ABKAR	Akbulak array	141.81	9			PKPpre	00 00 57.0	
BATM	Batumi	142.22	33	⇓P		PKPdf	00 00 58.4	-4.7
ZEI	Tsey	142.48	30	*i* PKHKP		PKPdf	00 00 57.6	-6.2
ZEI				pmax	pmax			
	comp=Z,27nm,1.9s							
MK31	Makanchi Array	142.84	344	PKHKP		PKPdf	00 00 58.2	-5.9
MK31	Makanchi Array	142.84	344			PKPdf	00 00 58.2	-5.9
MKAR	Makanchi Array	142.84	344	PKhKP		PKPdf	00 00 59.2	-4.9
	comp=Z,8.1nm,1.1s,baz=28,slow=2.9,SNR=12							
MKAR	Makanchi Array	142.84	344	PKHKP		PKPdf	00 00 58.1	-6.0
MKAR	Makanchi Array	142.84	344			PKPdf	00 00 58.1	-6.0
MAKZ	Makanchi	142.91	344	PKHKP		PKPdf	00 00 59.3	-4.9
MAKZ				MLR	MLR			
	comp=Z,500nm,21.0s							
MAKZ	Makanchi	142.91	344			PKPdf	00 00 59.3	-4.9
GROC	Groznyy	143.04	27	*e*PKIKP		PKPbc	00 01 01.1	-0.2
GROC				*e*			00 08 10.7	
GROC				pmax	pmax			
	comp=Z,112nm,1.8s							
MYKOM	Kota Tinggi	143.15	257	PKPdf		PKPbc	00 01 01.9	-0.5
MYKOM				IAMs_20	IAMs_20		00 56 53.0	
	comp=Z,260nm,21.0s							
MMAI	Mount Meron Ar	143.27	49	PKP		PKPbc	00 01 03.1	+0.8
	comp=Z,46nm,1.4s,baz=259,slow=4.1,SNR=14							
AKH	Akhalkalaki	143.30	31	⇓P		PKPbc	00 01 02.1	-0.2
AKH	Akhalkalaki	143.30	31	IAMs_20	IAMs_20		01 17 44.9	
	comp=Z,270nm,20.0s							
ABPO	Ambohimpanom	143.37	146	PKIKP		PKPbc	00 01 04.3	+1.2
ABPO	Ambohimpanom	143.37	146	PKPdf		PKPbc	00 01 04.3	+1.2
WMQ	Urumqi	143.61	336	PKP		PKPab	00 01 02.5	+0.4
WMQ				PP		PP	00 04 22.1	+5.2
WMQ				PKS		PKSdf	00 04 37.0	-4.3
WMQ				AMB	AMB			
	comp=Z,130nm,5.1s							
WMQ				LR	LR			
	comp=Z,240nm,18.5s							
WMQ				LR	LR			
	comp=Z,340nm,18.5s							
WMQ				LR	LR			
	comp=Z,340nm,23.1s							
WMQ	Urumqi	143.61	336	PKIKP		PKPbc	00 01 02.9	0.0
WMQ	Urumqi	143.61	336	PKPdf		PKPbc	00 01 02.9	0.0
MAK	Makhachkala	143.99	26	*e*PKHKP		PKPab	00 01 01.0	-2.4
MAK				*e*			00 04 14.9	
MAK				MLR	MLR			
	comp=Z,218nm,17.0s							
EIL	Elat	144.37	55	PKP		PKPbc	00 01 06.2	+0.6
	comp=Z,154nm,1.2s,baz=313,slow=1.7,SNR=68							
KMI	Kunming	144.49	297	⇑*i* PKP		PKPab	00 01 06.0	-0.2
KMI	Kunming	144.49	297	PKP		PKiKP	00 01 11.0	-0.5
KMI				PP		PP	00 04 28.5	+4.6
KMI				SS	SS		00 23 06.9	-4.5
KMI				AMB	AMB			
	comp=Z,120nm,5.8s							
KMI				LR	LR			
	comp=Z,110nm,23.8s							
KMI				LR	LR			
	comp=Z,370nm,27.7s							
KMI				LR	LR			
	comp=Z,660nm,26.3s							
KMI	Kunming	144.49	297	PKIKP		PKPab	00 01 06.0	-0.2
KMI	Kunming	144.49	297	PKPdf		PKPab	00 01 06.0	-0.2
ASF	Jabal al Asfar	144.78	49	PKP		PKPdf	00 01 07.8	-0.2
	comp=Z,182nm,1.2s,baz=248,slow=1.3,SNR=122							
GEVA	Gevas	145.26	36			PKPdf	00 01 09.6	+0.8
GEVA				IAMs_20	IAMs_20		01 20 07.4	
	comp=Z,262nm,20.0s							
AKT	Akhty	145.28	27	*e*PKIKP		PKPbc	00 01 08.0	-0.3
AKT				*e*			00 04 26.5	
AKT				pmax	pmax			
	comp=Z,110nm,1.4s							
BKNI	Bangkinang	145.35	254	PKPbc		PKPbc	00 01 09.0	-0.2
TDK	Taldyqorghan	145.48	347	*i* PKP		PKPbc	00 01 07.8	-0.9
	comp=Z,484nm,1.7s							
TDK				LR	LR		00 58 45.0	
	comp=Z,429nm,18.2s							
TDK	Taldyqorghan	145.48	347	*i* PKIKP		PKPbc	00 01 07.8	-0.9
TDK				pmax	pmax			
	comp=Z,484nm,1.7s							
TDK				MLR	MLR			
	comp=Z,429nm,18.0s							
BTLS	Baital	146.22	352	*i* PKP		PKPdf	00 01 09.8	-0.2
	comp=Z,171nm,2.4s							
BTLS	Baital	146.22	352	*i* PKP2		PKPdf	00 01 09.7	-0.2
BTLS				pmax	pmax			
	comp=Z,171nm,2.4s							
IPM	Ipoh	146.58	261	PKPbc		PKPbc	00 01 13.0	-0.1
IPM				IAMs_20	IAMs_20		01 00 05.0	
	comp=Z,303nm,21.0s							
LODK	Lodwar	146.68	101	P		PKPbc	00 01 13.8	+0.4
	SNR=26							
KPKS	Kokpek	146.87	346	*i* PKP		PKPdf	00 01 10.8	-0.5
	comp=Z,175nm,1.9s							
KPKS	Kokpek	146.87	346	*i* PKIKP		PKPdf	00 01 10.8	-0.5
KPKS				pmax	pmax			
	comp=Z,175nm,1.9s							
CHKK	Chushkaly	146.88	348	*e*PKP		PKPdf	00 01 10.0	-1.2
CHKK	Chushkaly	146.88	348	*e*PKIKP		PKPdf	00 01 10.0	-1.2
KMBO	Kilima Mbogo	146.95	110	PKPbc		PKPab	00 01 15.2	-0.6
	comp=Z,32nm,1.1s,baz=176,slow=2.4,SNR=26							
KMBO	Kilima Mbogo	146.95	110	*i* P		PKPdf	00 01 13.1	+0.7
	SNR=11							
KMBO	Kilima Mbogo	146.95	110	PKP2		PKPbc	00 01 14.5	+0.1
KMBO	Kilima Mbogo	146.95	110	PKPbc		PKPbc	00 01 14.5	+0.1
SHLS	Shalkode	146.97	345	*i* PKP		PKPdf	00 01 10.8	-0.7
	comp=Z,255nm,2.5s							
SHLS	Shalkode	146.97	345	*i* PKIKP		PKPdf	00 01 10.8	-0.7
SHLS				pmax	pmax			
	comp=Z,255nm,2.5s							
KUU	Kurty	146.97	349	*i* PKP		PKPdf	00 01 10.0	-1.3
	comp=Z,85nm,1.5s							
KUU	Kurty	146.97	349	*i* PKIKP		PKPdf	00 01 10.0	-1.3
KUU				pmax	pmax			
	comp=Z,85nm,1.5s							
UZB	Uzynbulak	147.09	345	*e*PKP		PKPdf	00 01 10.8	-1

SNR=31
KZA Kyzart 148.93 350 P **PKPdf 00 01 15.4 +0.3**
SNR=20
AML Almayashu 149.12 352 P **PKPbc 00 01 19.4 -0.1**
SNR=15
CHTO Chiang Mai 149.31 287 PKIKP **PKPdf 00 01 15.1 -0.7**
CHTO 00 01 20.8
CHTO Chiang Mai 149.31 287 PKPdf **PKPdf 00 01 15.1 -0.7**
CHTO PKPbc **PKPbc 00 01 20.8 +0.6**
CHTO Chiang Mai 149.31 287 IAMs_20 IAMs_20 01 02 36.0
comp=Z,272nm,20.0s
CM31 Chiang Mai Arr 149.36 287 PKPbc 00 01 20.9 +0.6
CMAR Chiang Mai Arr 149.36 287 PKPbc **PKPbc 00 01 20.5 +0.2**
comp=Z,17nm,0.9s,baz=82,slow=0.5,SNR=14
SBV Sambava 149.36 144 P **PKPdf 00 01 18.1 +2.1**
SNR=5.7
IUG Iuzhnay 149.46 357 *i* PKP **PKPdf 00 01 15.4 -0.2**
comp=Z,116nm,1.5s
IUG Iuzhnay 149.46 357 *i* PKIKP **PKPdf 00 01 15.4 -0.2**
IUG pmax pmax
comp=Z,116nm,1.5s
TAS Tashkent 150.31 358 PKIKP **PKPdf 00 01 16.9 +0.1**
TAS 00 01 23.1
TAS Tashkent 150.31 358 PKPdf **PKPdf 00 01 16.9 +0.1**
TAS **PKiKP 00 01 23.1 +0.3**
LSA Lhasa 151.89 313 PKPbc **PKPdf 00 01 20.7 +0.5**
LSA Lhasa 151.89 313 *i* P **PKPdf 00 01 19.9 -0.3**
SNR=8.6
LSA Lhasa 151.89 313 IAMs_20 IAMs_20 01 07 10.4
comp=Z,279nm,20.0s
GEYT Alibeck 152.27 17 PKP **PKPdf 00 01 19.9 0.0**
comp=Z,16nm,1.2s,baz=275,slow=5.2,SNR=24
GEYT PKPbc **PKPbc 00 01 26.8 +0.1**
comp=Z,34nm,1.1s,baz=291,slow=4.1,SNR=26
GEYT PP **PP 00 05 05.1 -2.2**
comp=Z,2.5nm,1.0s,baz=288,slow=2.3,SNR=4.4
GEYT Alibeck 152.27 17 PKPdf **PKPdf 00 01 20.3 +0.3**
GEYT PKPbc **PKiKP 00 01 27.3 +0.3**
GAR Garm 152.58 356 PKPdf 00 01 21.1 +0.6
GAR PKPbc **PKiKP 00 01 28.8 +1.1**
SHL Shillong 153.47 305 PKIKP **PKPdf 00 01 20.7 -1.5**
SHL 00 01 42.1
SHL Shillong 153.47 305 PKPdf **PKPdf 00 01 20.7 -1.5**
SHL **PKPbc 00 01 29.5 -0.3**
SHL PKPab **PKPab 00 01 42.0 0.0**
HRA Herat 156.66 12 PKPdf **PKPdf 00 01 26.5 +0.1**
HRA PKPab **PKPab 00 01 56.1 +0.8**
KBL Kabul 157.09 358 P **PKPdf 00 01 28.6 +1.7**
SNR=10
KBL Kabul 157.09 358 PKIKP **PKPdf 00 01 27.1 +0.1**
KBL 00 01 28.3
KBL 00 01 53.4
KBL Kabul 157.09 358 PKPdf **PKPdf 00 01 27.1 +0.1**
KBL **pPKPdf 00 01 28.3 -1.8**
KBL PKPab **PKPab 00 01 53.4 -3.8**
KBL IAMs_20 IAMs_20 01 10 56.0
comp=Z,246nm,21.0s
NIL Nilore 157.47 349 PKIKP **PKPdf 00 01 26.9 -0.3**
NIL Nilore 157.47 349 PKPdf **PKPdf 00 01 26.9 -0.3**
NIL PKPab **PKPab 00 01 57.7 -0.9**
UOSS Minazif 162.60 38 P **PKPdf 00 01 31.5 -1.7**
HATD Hatta, Dubai 162.65 39 P **PKPdf 00 01 31.6 -1.7**
HATD Hatta, Dubai 162.65 39 P **PKPdf 00 01 34.0 +0.7**
SNR=5.7
ASHO Ashiyiah 162.71 39 *i* P **PKPdf 00 01 31.1 -2.2**
SNR=5.4
SOHO SOHO 163.40 39 *i* P **PKPdf 00 01 31.8 -2.1**
SNR=5.9
SMDO Samad 165.13 38 P **PKPdf 00 01 36.0 +0.3**
SNR=9.9

IDC 02 23:51:30.2±7.0, 16°.45S×174°.55W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.6/47, mbtmp3.9/3, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=368.2km s-min=25.9km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.68**	**47**	Pn	Pn	23 52 28.1	-0.4
	2.7nm,0.3s,baz=155,slow=20,SNR=1.3						
AFI				Sn	Sn	23 53 13.8	+1.2
	6.2nm,0.3s,baz=20,slow=23,SNR=1.9						
URZ	**Urewera**	**22.93**	**197**	LR	LR	00 04 30.1	
	comp=Z,62nm,19.6s,baz=213,slow=34						
WRA	**Warramunga Arr**	**48.53**	**258**	P	P	00 00 14.3	-1.2
	4.2nm,1.2s,baz=96,slow=9.3,SNR=6.5						
ASAR	**Alice Springs**	**48.74**	**253**	P	P	00 00 17.9	+0.8
	1.1nm,0.7s,baz=90,slow=7.9,SNR=8.5						
BRTR	**Keskin Array B**	**146.25**	**319**	PKPbc	PKPdf	00 11 12.5	+0.4
	0.7nm,0.7s,baz=130,slow=2.7,SNR=4.6						

*HLW **02** 23:53:25.6, 34°.77N×25°.32E, h10km±34km, Md3.7, Ml3.6*
*ATH **02** 23:53:27.4, 34°.81N×24°.87E, h31km, ML3.3/10, Error ellipse: s-maj=2.1km s-min=0.8km az=356.0*
*THE **02** 23:53:27.9, 34°.74N×24°.89E, h8km±1km, ML3.1/11, Error ellipse: s-maj=2.1km s-min=0.7km az=358.0*
*DDA **02** 23:53:34.3, 35°.22N×25°.24E, h20km±2km, MW3.4*
*IDC **02** 23:53:35.9±4.3, 35°.05N×24°.76E, h120km±44km, mb3.2/3, mb1 3.2/7, mb1mx3.0/49, mbtmp3.5/7, Error ellipse: s-maj=39.6km s-min=25.5km az=140.0*
ISC 02 23:53:27.3±0.9, 34°.73N±0°.03×24°.90E±0°.02, h29km±7km, n74, σ1°.34/103, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.30**	**346**	P	**Pb**	**23 53 34.6**	**-0.1**
SIVA				S	**Sb**	**23 53 39.1**	**-0.6**
	30μm,0.3s						
SIVA	**Sivas**	**0.30**	**346**	P	**Pb**	**23 53 34.5**	**-0.2**
SIVA				S	**Sb**	**23 53 38.8**	**-0.8**
SIVA				AML	AML	23 53 41.4	
	comp=N,35484μm,0.3s						
SIVA				AML	AML	23 53 41.8	
	comp=E,53463μm,0.3s						
TMBK	**Timbaki Herakl**	**0.36**	**343**	P	**Pb**	**23 53 35.3**	**-0.3**
TMBK				S	**Sb**	**23 53 41.3**	**+0.2**
	comp=E,5μm,0.3s						
IDI	**Anoyia**	**0.56**	**360**	P	**Pb**	**23 53 38.0**	**-0.7**
IDI				S	**Sb**	**23 53 46.1**	**-0.4**
	comp=E,2μm,0.3s						
IDI	**Anoyia**	**0.56**	**360**	P	**Pb**	**23 53 38.0**	**-0.7**
IDI				S	**Sb**	**23 53 46.1**	**-0.4**
IDI				AML	AML	23 53 48.8	
	comp=E,3391μm,0.3s						
IDI				AML	AML	23 53 49.3	
	comp=N,4475μm,0.3s						
KSTL	**Kastelli Herak**	**0.59**	**14**	P	**Pb**	**23 53 39.0**	**-0.2**
KSTL				S	**Sn**	**23 53 48.1**	**-0.4**
IACM	**Heraklion**	**0.59**	**14**	P	**Pb**	**23 53 39.3**	**0.0**
IACM	**Heraklion**	**0.59**	**14**	P	**Pb**	**23 53 39.3**	**0.0**
HRKL	**Herakleio**	**0.61**	**16**	P	**Pb**	**23 53 39.4**	**-0.1**
HRKL				S	**Sn**	**23 53 48.6**	**-0.2**
	comp=N,4μm,0.7s						
LAST	**Lasithi**	**0.65**	**48**	P	**Pb**	**23 53 39.8**	**-0.4**
LAST				S	**Sb**	**23 53 49.2**	**+0.2**
	comp=N,720nm,0.7s						
LAST	**Lasithi**	**0.65**	**48**	P	**Pb**	**23 53 40.0**	**-0.2**
LAST				S	**Sb**	**23 53 49.2**	**+0.2**
LAST				AML	AML	23 53 52.7	
	comp=N,2506μm,0.7s						
LAST				AML	AML	23 53 54.1	
	comp=E,3088μm,0.7s						
GVDS	**Gavdos**	**0.67**	**280**	P	**Pn**	**23 53 41.5**	**+0.6**
GVD	**Gavdhos**	**0.67**	**280**	P	**Pn**	**23 53 41.1**	**+0.2**
GVD				S	**Sn**	**23 53 54.6**	**+4.1**
GVD	**Gavdhos**	**0.67**	**280**	P	**Pb**	**23 53 40.8**	**+0.2**
GVD				S	**Sb**	**23 53 49.9**	**+0.3**
GVD				AML	AML	23 53 56.5	
	comp=E,11095μm,0.4s						
GVD				AML	AML	23 53 58.2	
	comp=N,6694μm,0.3s						
PRNS	**Prines Rethymn**	**0.71**	**333**	P	**Pn**	**23 53 41.5**	**0.0**
PRNS				S	**Sn**	**23 53 52.5**	**+1.1**
FRMA	**Ierapetra Chan**	**0.75**	**67**	P	**Pn**	**23 53 43.6**	**+1.7**
FRMA				S	**Sn**	**23 53 56.7**	**+4.4**
	comp=N,792nm,0.5s						
NPS	**Neapolis**	**0.80**	**48**	P	**Pb**	**23 53 42.5**	**-0.2**
NPS				S	**Sn**	**23 53 55.6**	**+2.1**
	comp=N,4μm,0.8s						
NPS	**Neapolis**	**0.80**	**48**	P	**Pb**	**23 53 42.4**	**-0.2**
NPS				S	**Sb**	**23 53 53.1**	**+0.1**
NPS				AML	AML	23 53 58.4	
	comp=E,5502μm,0.7s						
NPS				AML	AML	23 53 59.1	
	comp=N,5007μm,0.7s						
VAM	**Vamos**	**0.89**	**320**	P	**Pb**	**23 53 43.5**	**-0.7**
VAM				S	**Sn**	**23 53 57.4**	**+1.7**
	comp=N,6μm,0.4s						
VAM	**Vamos**	**0.89**	**320**	P	**Pb**	**23 53 43.5**	**-0.7**
VAM				S	**Sb**	**23 53 55.3**	**-0.4**
VAM				AML	AML	23 54 00.1	
	comp=E,5928μm,0.5s						
VAM				AML	AML	23 54 00.8	
	comp=N,5966μm,0.4s						
IMMV	**Iera Moni Meta**	**1.05**	**315**	P	**Pn**	**23 53 46.2**	**+0.1**
IMMV				S	**Sn**	**23 54 01.2**	**+1.5**
	comp=N,2μm,0.5s						
IMMV	**Iera Moni Meta**	**1.05**	**315**	P	**Pn**	**23 53 46.2**	**+0.1**
IMMV				S	**Sb**	**23 53 59.4**	**-0.8**
IMMV				AML	AML	23 54 07.2	
	comp=E,3480μm,0.6s						
IMMV				AML	AML	23 54 08.1	
	comp=N,3570μm,0.4s						
CHAN	**Chania**	**1.05**	**319**	P	**Pb**	**23 53 46.9**	**-0.1**
CHAN				S	**Sn**	**23 54 01.9**	**+2.0**
	comp=N,480nm,0.5s						
STIA	**Sitia Lasithi**	**1.09**	**64**	P	**Pb**	**23 53 48.5**	**+0.9**
KNDR	**Palaiochora Ch**	**1.11**	**297**	P	**Pb**	**23 53 49.0**	**+1.0**
ZKR	**Zakros**	**1.15**	**70**	P	**Pb**	**23 53 49.4**	**+0.7**
ZKR				S	**Sn**	**23 54 06.5**	**+4.2**
	comp=N,470nm,0.6s						
ZKR	**Zakros**	**1.15**	**70**	P	**Pb**	**23 53 49.2**	**+0.6**
ZKR				S	**Sn**	**23 54 04.5**	**+2.1**
ZKR				AML	AML	23 54 11.2	
	comp=N,856μm,0.5s						
ZKR				AML	AML	23 54 16.7	
	comp=E,1219μm,1.2s						
RODP	**Rodopos**	**1.25**	**312**	P	**Pb**	**23 53 50.5**	**+0.2**
SAP1	**Santorini-Akro**	**1.68**	**14**	P	**Pn**	**23 53 56.1**	**+1.4**
SAP1	**Santorini-Akro**	**1.68**	**14**	P	**Pn**	**23 53 56.1**	**+1.4**
SANT	**Santorini**	**1.70**	**16**	P	**Pn**	**23 53 55.8**	**+0.7**
SANT	**Santorini**	**1.70**	**16**	P	**Pn**	**23 53 55.8**	**+0.7**
SANT	**Santorini**	**1.70**	**16**	*i* P	**Pn**	**23 53 54.6**	**-0.5**
ANKY	**Antikythira Is**	**1.73**	**312**	P	**Pb**	**23 53 57.4**	**-1.0**
ANKY	**Antikythira Is**	**1.73**	**312**	P	**Pb**	**23 53 57.4**	**-1.0**
SAP3	**Santorini-Thir**	**1.74**	**12**	P	**Pn**	**23 53 56.4**	**+0.8**
SAP3	**Santorini-Thir**	**1.74**	**12**	P	**Pn**	**23 53 56.4**	**+0.8**
ANAF	**Anafi Island**	**1.78**	**24**	P	**Pn**	**23 53 56.3**	**+0.2**
ANAF				S	**Sn**	**23 54 19.4**	**+1.7**
ANAF	**Anafi Island**	**1.78**	**24**	P	**Pn**	**23 53 57.0**	**+0.9**
ANAF				S	**Sn**	**23 54 19.4**	**+1.7**
ANAF				AML	AML	23 54 30.9	
	comp=N,1841μm,0.5s						
ANAF				AML	AML	23 54 31.2	
	comp=E,1472μm,0.3s						
CMBO	**Columbo, Santo**	**1.79**	**13**	P	**Pn**	**23 53 57.5**	**+1.2**
CMBO	**Columbo, Santo**	**1.79**	**13**	P	**Pn**	**23 53 57.1**	**+0.8**
KARP	**Karpathos**	**2.03**	**66**	P	**Pb**	**23 54 01.8**	**-1.8**
KARP	**Karpathos**	**2.03**	**66**	P	**Pb**	**23 54 01.8**	**-1.8**
KARP				S	**Sn**	**23 54 26.1**	**+2.0**
KARP				AML	AML	23 54 41.2	
	comp=E,571μm,0.8s						
KARP				AML	AML	23 54 41.5	
	comp=N,532μm,0.8s						
MHLA	**Plaka, Milos I**	**2.05**	**349**	P	**Pn**	**23 54 01.3**	**+1.4**
KTHA	**Kythira Island**	**2.14**	**316**	P	**Pn**	**23 54 02.3**	**+1.2**
KTHA	**Kythira Island**	**2.14**	**316**	P	**Pn**	**23 54 02.3**	**+1.2**
AMGA	**Amorgos Island**	**2.25**	**21**	P	**Pn**	**23 54 03.9**	**+1.3**
AMGA	**Amorgos Island**	**2.25**	**21**	P	**Pn**	**23 54 03.3**	**+0.6**
APE	**Apeiranthos**	**2.39**	**12**	P	**Pn**	**23 54 04.7**	**+0.1**
APE	**Apeiranthos**	**2.39**	**12**	P	**Pn**	**23 54 04.6**	**-0.1**
APE	**Apeiranthos**	**2.39**	**12**	*i* P	**Pn**	**23 54 05.0**	**+0.3**
APE				*i* S	**Sn**	**23 54 31.1**	**-1.9**
VLI	**Veliai**	**2.54**	**322**	P	**Pn**	**23 54 07.4**	**+0.7**
VLI	**Veliai**	**2.54**	**322**	P	**Pn**	**23 54 07.4**	**+0.7**
KRND	**KRANIDI**	**3.00**	**332**	P	**Pn**	**23 54 13.9**	**+1.0**
KRND	**KRANIDI**	**3.00**	**332**	P	**Pn**	**23 54 13.9**	**+1.0**
SLUM	**Salum**	**3.24**	**175**	P	**Pn**	**23 54 16.6**	**+0.4**
	baz=182						
SLUM				S	**Sn**	**23 54 52.6**	**-1.2**
	baz=182						
TURN	**Turunc**	**3.41**	**52**	*i* P	**Pn**	**23 54 19.5**	**+1.0**
TURN				*i* S	**Sn**	**23 54 53.3**	**-4.6**
TURN				IAML		23 55 05.0	
	comp=N,10.0nm,0.7s						
TURN				IAML		23 55 06.0	
	comp=E,8.2nm,0.4s						
AYDN	**Tasoluk**	**3.79**	**39**	*i* P	**Pn**	**23 54 25.6**	**+1.8**
AKAS	**Kas**	**4.13**	**67**	*i* P	**Pn**	**23 54 27.5**	**-1.0**
TAVA	**DENIZLI_Tavas**	**4.25**	**49**	*i* P	**Pn**	**23 54 30.9**	**+0.7**
GOLH	**Golhisar**	**4.54**	**55**	*i* P	**Pn**	**23 54 34.5**	**+0.3**
AGG	**Agios Georgios**	**4.75**	**335**	*i* P	**Pn**	**23 54 38.0**	**+1.0**
AGG				*i* S	**Sn**	**23 55 31.1**	**-0.1**
KORT	**Korkueli**	**4.98**	**61**	*i* P	**Pn**	**23 54 41.2**	**+1.0**
USAK	**Uak-Merkez**	**5.18**	**39**	*i* P	**Pn**	**23 54 43.9**	**+1.0**
SWA2		**5.49**	**175**	P	**Pn**	**23 54 47.4**	**+0.3**
	baz=178						
SWA2				AMP		23 55 00.0	
	baz=178						
SWA2				S	**Sn**	**23 55 48.1**	**-1.2**
	baz=178						
HFRF	**Wahat Farafira**	**8.10**	**158**	P	**Pn**	**23 55 22.1**	**-0.9**
	baz=160						
BRTR	**Keskin Array B**	**8.57**	**52**	P	Pn	23 55 35.8	+6.3
	comp=E,0.0nm,0.3s,baz=227,slow=15,SNR=5.0						
VYHS	**Vyhne**	**14.47**	**344**	*e*PN	**Pn**	**23 56 50.9**	**+0.8**
AKASG	**Malin Array Be**	**16.27**	**10**	P	**Pn**	**23 57 13.8**	**+0.2**
	comp=E,0.9nm,0.3s,baz=204,slow=10,SNR=4.1						
GERES	**GERESS Array B**	**16.36**	**333**	P	**Pn**	**23 57 16.3**	**+1.4**
	comp=E,0.1nm,0.3s,baz=141,slow=15,SNR=3.1						
KBZ	**Khabaz**	**16.57**	**52**	P	**Pn**	**23 57 18.1**	**+0.7**
	comp=E,0.1nm,0.3s,baz=157,slow=23,SNR=2.6						
FINES	**FINESS Array B**	**26.74**	**1**	P	**P**	**23 59 00.2**	**-3.9**
	comp=E,1.2nm,0.9s,baz=159,slow=13,SNR=4.1						
TORD	**Torodi Ar. Bea**	**30.05**	**230**	P	**P**	**23 59 34.5**	**+0.5**
	comp=E,0.3nm,0.6s,baz=37,slow=10,SNR=1.5						
MKAR	**Makanchi Array**	**44.19**	**56**	P	**P**	**00 01 32.8**	**-0.9**
	comp=E,0.4nm,0.5s,baz=270,slow=8.7,SNR=5.1						

*IDC **02** 23:56:12.3±2.1, 47°.37N×150°.40E, h204km±20km, mb3.1/11, mb1 3.4/14, mb1mx3.2/56, mbtmp3.7/14, Error ellipse: s-maj=22.7km s-min=14.6km az=135.0*
ISC 02 23:56:11.1±0.7, 47°.1N±0°.1×150°.4E±0°.1, h200km, n27, σ2°.37/32, mb3.2/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**4.91**	**231**	P	**Pn**	**23 57 27.5**	**+3.2**
NEM2	**Nemuro 2**	**5.01**	**223**	P	**Pn**	**23 57 26.0**	**+0.4**
NEM2				*e*S	**Sn**	**23 58 23.2**	**-1.1**
JNK	**Nakash**	**5.36**	**231**	P	**Pn**	**23 57 32.7**	**+2.6**
JTKR	**Abashiri--Toko**	**5.56**	**238**	P	**Pn**	**23 57 36.2**	**+3.5**
JAK	**Akkeshi**	**5.79**	**227**	P	**Pn**	**23 57 36.3**	**+0.7**
JAK				*e*S	**Sn**	**23 58 39.6**	**-2.8**
ASAJ	**Asahikawa**	**6.27**	**244**	P	**Pn**	**23 57 45.4**	**+3.6**
	1.9nm,0.3s,baz=84,slow=9.2,SNR=11						
ASAJ	**Asahikawa**	**6.27**	**244**	P	**Pn**	**23 57 45.5**	**+3.8**
JOB	**Onbets**	**6.30**	**230**	P	**Pn**	**23 57 43.7**	**+1.5**
JOB				*e*S	**Sn**	**23 58 54.1**	**-0.2**
JKK2	**Kamakawa 2**	**6.31**	**242**	P	**Pn**	**23 57 46.3**	**+4.0**
JCH	**Churui**	**6.75**	**231**	P	**Pn**	**23 57 49.0**	**+1.0**
JCH				*e*S	**Sn**	**23 59 02.5**	**-2.4**
JEM	**Erimo**	**7.29**	**228**	P	**Pn**	**23 57 56.6**	**+1.6**
JNBK	**Urakawa-nobuka**	**7.31**	**231**	P	**Pn**	**23 57 55.4**	**+0.1**
JNBK				*e*S	**Sn**	**23 59 14.6**	**-3.4**
PETK	**Petropavlovsk-**	**7.59**	**35**	P	**Pn**	**23 57 56.8**	**-2.0**
	1.0nm,0.3s,baz=181,slow=10,SNR=28						
JKB	**Kayabe**	**8.52**	**235**	*e*S	**Sn**	**23 59 40.6**	**-6.0**
JYM2	**Yakumo 2**	**8.75**	**239**	P	**Pn**	**23 58 15.0**	**+1.0**
USRK	**Ussuriysk Ar.**	**13.23**	**264**	P	**Pn**	**23 59 12.5**	**+1.2**
	baz=71,slow=14,SNR=3.2						
ILAR	**Eielson Array**	**37.40**	**39**	P	**P**	**00 03 03.1**	**-1.2**
	0.3nm,0.5s,baz=283,slow=8.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**50.70**	**254**	P	**P**	**00 04 49.9**	**-0.4**
	1.2nm,0.3s,baz=64,slow=4.1,SNR=3.0						
FINES	**FINESS Array B**	**62.90**	**334**	P	**P**	**00 06 14.8**	**-0.6**
	1.0nm,0.4s,baz=28,slow=7.9,SNR=16						
NVAR	**Mina Array Bea**	**63.87**	**61**	P	**P**	**00 06 22.8**	**+0.4**
	0.2nm,0.5s,baz=306,slow=7.7,SNR=2.7						
PDAR	**Pinedale Array**	**65.99**	**53**	P	**P**	**00 06 36.4**	**+0.3**
	0.3nm,0.4s,baz=34,slow=3.4,SNR=2.4						
NOA	**NORSAR Array B**	**67.26**	**340**	P	**P**	**00 06 43.2**	**-0.3**
	0.3nm,0.4s,baz=30,slow=6.6,SNR=3.9						
HFS	**Hagfors**	**67.44**	**338**	P	**P**	**00 06 43.9**	**-0.8**
	1.1nm,0.7s,baz=64,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**68.32**	**196**	P	**P**	**00 06 52.5**	**+2.0**
	0.2nm,0.5s,baz=13,slow=6.3,SNR=1.7						
ASAR	**Alice Springs**	**72.03**	**196**	P	**P**	**00 07 15.6**	**+2.6**
	0.3nm,0.6s,baz=22,slow=5.3,SNR=2.8						
EKA	**Eskdalemuir Ar**	**75.52**	**345**	P	**P**	**00 07 33.0**	**+0.1**
	0.1nm,0.3s,baz=24,slow=5.4,SNR=2.0						
TXAR	**Lajitas Array**	**78.89**	**59**	P	**P**	**00 07 53.0**	**+0.7**
	0.3nm,0.6s,baz=317,slow=3.7,SNR=3.7						

IDC 03 00:00:18.1±6.5, 4°.34N×95°.67E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/46, mbtmp3.6/4, Error ellipse: s-maj=355.7km s-min=28.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.00**	**243**	T	T	00 33 18.6	
	baz=63,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**26.01**	**243**	T	T	00 33 19.9	
	baz=63,slow=75,SNR=25						
H08S1	**Diego Carcia H**	**26.02**	**243**	T	T	00 33 39.9	
	baz=63,slow=75,SNR=23						
MKAR	**Makanchi Array**	**43.85**	**347**	P	P	00 08 26.0	-0.1
	0.7nm,0.6s,baz=166,slow=8.6,SNR=5.6						
WRA	**Warramunga Arr**	**45.01**	**124**	P	P	00 08 35.1	-0.7
	0.8nm,0.9s,baz=299,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**46.52**	**129**	P	P	00 08 48.2	+0.6
	0.4nm,0.9s,baz=293,slow=7.6,SNR=2.6						
STKA	**Stephens Creek**	**56.59**	**133**	P	P	00 10 02.9	-0.1
	0.9nm,0.7s,baz=297,slow=9.0,SNR=1.3						

*IDC **03** 00:03:03.8±3.1, 2°.14N×92°.67E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/40, mbtmp3.7/5, ML4.7/1, MS4.4/2, Ms1 4.4/2, ms1mx3.1/36, Error ellipse: s-maj=102.7km s-min=25.5km az=64.0*
*NEIC **03** 00:03:08.8±1.7, 2°.4N±0°.1×92°.9E±0°.2, h30km±7km, mb4.0/3, Error ellipse: s-maj=27.1km s-min=14.6km az=57.0*
ISC 03 00:03:08.1±1.8, 2°.3N±0°.2×92°.9E±0°.2, h21km, n15, σ1°.37/9, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.78**	**102**	Pn	**Pn**	**00 04 19.6**	**+0.6**
LHMI	**Lhok Sumawe**	**4.95**	**54**	Pn	**Pn**	**00 04 20.5**	**-0.8**
RPSI	**Rantau Prapat**	**6.03**	**87**	Pn	**Pn**	**00 04 35.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.08**	**20**	P	**Pn**	**00 07 06.8**	**+1.1**
	1.0nm,0.3s,baz=211,slow=12,SNR=5.5						
H08S2	**Diego Garcia H**	**22.65**	**244**	T	T	00 30 27.8	
	baz=63,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**22.65**	**244**	T	T	00 30 30.9	
	baz=63,slow=75,SNR=16						
H08S1	**Diego Carcia H**	**22.67**	**244**	T	T	00 30 35.3	
	baz=63,slow=75,SNR=14						
MK31	**Makanchi Array**	**45.23**	**350**	P	**P**	**00 11 22.0**	**-1.9**
MK31				IAmb	IAmb	00 11 47.1	
	comp=Z,2.4nm,1.1s						
MKAR	**Makanchi Array**	**45.23**	**350**	P	**P**	**00 11 23.3**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=167,slow=8.6,SNR=7.5						
WRA	**Warramunga Arr**	**46.29**	**121**	P	**P**	**00 11 31.9**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=299,slow=8.9,SNR=6.5						
WRA	**Warramunga Arr**	**46.29**	**121**	IAmb	IAmb	00 11 39.0	
	comp=Z,0.4nm,1.4s						
SONM	**Songino Array**	**46.80**	**12**	P	**P**	**00 11 38.3**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=196,slow=9.7,SNR=4.3						
ASAR	**Alice Springs**	**47.53**	**125**	P	**P**	**00 11 42.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=306,slow=7.9,SNR=2.7						
MJAR	**Matsushiro Arr**	**53.84**	**45**	LR	LR	00 37 39.3	
	comp=Z,297nm,21.7s,baz=155,slow=38						
NRIK	**Noril'sk**	**66.98**	**358**	LR	LR	00 48 00.3	
	comp=Z,347nm,21.7s,baz=20,slow=40						

*DRS **03** 00:04:18.6±0.0, 42°.81N×48°.21E, h10km*
*MOS **03** 00:04:21.4±0.0, 42°.72N×47°.97E, h8km, MPVA3.5*
ISC 03 00:04:20.2±2.0, 42°.81N±0°.06×48°.13E±0°.07, h7km±10km, n17, σ0°.91/33, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.48**	**288**	*e*Pg	**Pg**	**00 04 29.5**	**0.0**
MAK				*e*Sg	**Sb**	**00 04 38.2**	**-0.2**
SGKR	**Sergokala**	**0.49**	**225**	*i* Pg	**Pg**	**00 04 30.0**	**+0.3**
SGKR				*e*Sg	**Sb**	**00 04 38.0**	**-0.7**
URKR	**Urkarakh**	**0.74**	**210**	*e*Pg	**Pg**	**00 04 34.7**	**+0.2**
URKR				*e*Sg	**Sg**	**00 04 43.2**	**-0.9**
BUJR	**Buynaksk**	**0.75**	**271**	*e*Pg	**Pg**	**00 04 35.2**	**+0.5**
BUJR				*e*Sg	**Sg**	**00 04 45.0**	**+0.6**
DRN	**Derbent**	**0.80**	**169**	*e*Pg	**Pn**	**00 04 38.1**	**+0.2**
DRN				*e*Sg	**Sn**	**00 04 50.8**	**+0.8**
ARKR	**Arakani**	**0.86**	**256**	*i* Pg	**Pg**	**00 04 37.0**	**+0.3**
ARKR				*e*Sg	**Sb**	**00 04 49.0**	**-0.3**
KRNR	**Karanay**	**0.90**	**271**	*e*Pg	**Pn**	**00 04 39.0**	**-0.4**
KRNR				*e*Sg	**Sn**	**00 04 51.0**	**-1.8**
GNBR	**Gunib**	**0.96**	**244**	*e*Pg	**Pg**	**00 04 38.6**	**0.0**
GNBR				*e*Sg	**Sg**	**00 04 50.8**	**-0.2**
KMKR	**Kumukh**	**1.02**	**229**	*e*Pg	**Pn**	**00 04 41.0**	**-0.2**
KMKR				*e*Sg	**Sb**	**00 04 53.5**	**-0.6**
XNZR	**Khunzakh**	**1.08**	**256**	*e*Pg	**Pn**	**00 04 41.4**	**-0.7**
XNZR				*e*Sg	**Sn**	**00 04 60.0**	**+2.6**
AKT	**Akhty**	**1

FORT				IAmb	IAmb	00 49 08.5	
	comp=Z,23nm,0.8s						
STKA	**Stephens Creek**	**21.28**	**39**	P	**P**	**00 49 29.5**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=211,slow=5.1,SNR=7.2						
STKA				LR	LR	00 56 16.3	
	comp=Z,89nm,20.8s,baz=196,slow=33						
STKA	**Stephens Creek**	**21.28**	**39**	P	**P**	**00 49 30.6**	**+1.4**
MORW	**Morawa**	**21.94**	**336**	P	**P**	**00 49 35.8**	**-0.5**
MORW				IAmb	IAmb	00 49 41.6	
	comp=Z,26nm,1.2s						
CAN	**Canberra**	**22.10**	**58**	P	**P**	**00 49 39.4**	**+1.4**
ASAR	**Alice Springs**	**26.70**	**16**	P	**P**	**00 50 22.1**	**+0.1**
	comp=Z,8.4nm,0.7s,baz=192,slow=8.9,SNR=66						
ASAR	**Alice Springs**	**26.70**	**16**	P	**P**	**00 50 22.6**	**+0.6**
AS31	**Alice Springs**	**26.70**	**16**	P	**P**	**00 50 22.9**	**+0.8**
AS31				IAmb	IAmb	00 50 27.2	
	comp=Z,2.7nm,0.7s						
WRA	**Warramunga Arr**	**30.41**	**16**	P	**P**	**00 50 54.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=194,slow=8.2,SNR=14						
WRA				LR	LR	01 02 38.9	
	comp=Z,102nm,20.3s,baz=145,slow=35						
VNDA	**Vanda**	**31.06**	**166**	P	**P**	**00 51 00.3**	**0.0**
	comp=Z,5.5nm,0.8s,baz=313,slow=9.0,SNR=48						
VNDA				LR	LR	01 02 48.4	
	comp=Z,220nm,18.6s,baz=322,slow=35						
VNDA	**Vanda**	**31.06**	**166**	P	**P**	**00 51 00.2**	**0.0**
MAW	**Mawson**	**35.43**	**216**	P	**P**	**00 51 38.2**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=90,slow=11,SNR=3.8						
MAW				LR	LR	01 03 11.5	
	comp=Z,134nm,18.9s,baz=57,slow=31						
MAW	**Mawson**	**35.43**	**216**	IAmb	IAmb	00 51 39.2	
	comp=Z,1.2nm,1.3s						
QSPA	**South Pole Qui**	**40.44**	**180**	P	**P**	**00 52 21.1**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=336,slow=3.2,SNR=9.3						
QSPA				PcP	**PcP**	**00 54 23.2**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=266,slow=4.6,SNR=5.7						
QSPA	**South Pole Qui**	**40.44**	**180**	P	**P**	**00 52 21.1**	**+0.1**
QSPA				IAmb	IAmb	00 52 39.2	
	comp=Z,13nm,1.2s						
DZM	**Mont Dzumac**	**42.05**	**64**	P	**P**	**00 52 35.0**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=221,slow=20,SNR=2.0						
KAPI	**Kappang**	**44.83**	**351**	LR	LR	01 09 55.7	
	comp=Z,67nm,19.0s,baz=200,slow=34						
LEM	**Lembang**	**45.42**	**334**	LR	LR	01 09 52.7	
	comp=Z,118nm,19.8s,baz=178,slow=33						
BELA	**Belgrano 2**	**52.15**	**185**	P	**P**	**00 53 52.2**	**-0.4**
SNAA	**Sanae**	**53.67**	**198**	P	**P**	**00 54 04.5**	**+0.5**
SNAA	**Sanae**	**53.67**	**198**	P	**P**	**00 54 04.5**	**+0.5**
	comp=Z,8.2nm,0.9s,baz=141,slow=8.6,SNR=28						
SNAA				PcP	**PcP**	**00 55 09.8**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=169,slow=10,SNR=1.7						
SNAA	**Sanae**	**53.67**	**198**	P	**P**	**00 54 03.6**	**-0.4**
VNA2	**Neumayer--Watz**	**55.16**	**197**	P	**P**	**00 54 15.6**	**+0.9**
VNA3	**Neumayer Olymp**	**55.31**	**196**	P	**P**	**00 54 16.4**	**+0.5**
VNA1	**Neumayer--Stat**	**55.55**	**197**	P	**P**	**00 54 18.2**	**+0.8**
GSI	**Gunungsitoli**	**56.37**	**325**	P	**P**	**00 54 25.4**	**+1.4**
H08S2	**Diego Garcia H**	**61.09**	**294**	T	T	02 01 11.6	
	baz=144,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**61.10**	**294**	T	T	02 01 07.2	
	baz=144,slow=76,SNR=8.5						
H08S3	**Diego Garcia H**	**61.11**	**294**	T	T	02 01 07.4	
	baz=144,slow=76,SNR=14						
CMAR	**Chiang Mai Arr**	**71.95**	**333**	P	**P**	**00 56 06.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=184,slow=5.2,SNR=1.5						
PLCA	**Paso Flores**	**88.79**	**167**	LR	LR	01 32 57.2	
	comp=Z,29nm,20.9s,baz=192,slow=33						
BRTR	**Keskin Array B**	**120.31**	**297**	PKP	**PKPdf**	**01 03 32.5**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=149,slow=3.4,SNR=1.9						
NVAR	**Mina Array Bea**	**133.78**	**79**	PKP	**PKiKP**	**01 04 00.5**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=222,slow=3.0,SNR=4.6						
TXAR	**Lajitas Array**	**137.53**	**100**	PKP	**PKPdf**	**01 04 07.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=186,slow=2.5,SNR=2.2						
ESDC	**Sonseca Array**	**143.65**	**273**	PKhKP	PKPab	01 04 13.3	-0.7
	comp=Z,0.8nm,0.9s,baz=127,slow=1.6,SNR=5.2						
ETX02	**Prairie Street**	**145.15**	**105**	PKPbc	**PKPbc**	**01 04 19.2**	**-0.5**
YKA	**Yellowknife Ar**	**145.23**	**45**	PKPbc	**PKPdf**	**01 04 19.8**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=275,slow=3.6,SNR=20						
LAO	**LASA Array**	**145.63**	**75**		**PKiKP**	**01 04 24.0**	**-0.6**
RSSD	**Black Hills**	**145.89**	**80**	PKPbc	**PKPab**	**01 04 23.1**	**+0.7**
KAN13	**South Haven SW**	**146.41**	**95**	PKPbc	**PKPbc**	**01 04 23.4**	**-0.1**
T35A	**Sooner Cattle**	**146.98**	**96**	PKPbc	**PKPab**	**01 04 26.0**	**-0.6**
U38A	**Gravette**	**148.06**	**99**	PKPbc	**PKiKP**	**01 04 29.3**	**-0.6**
EKA	**Eskdalemuir Ar**	**149.13**	**300**	PKPbc	**PKPbc**	**01 04 30.0**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=111,slow=2.5,SNR=14						

*IDC **03** 00:50:42.7±9.0, 7°.12S×128°.99E, h93km±88km, mb3.9/4, mb1 4.1/7, mb1mx3.5/39, mbtmp4.3/7, ML4.5/3, Error ellipse: s-maj=101.5km s-min=23.1km az=50.0*
*NEIC **03** 00:50:48.3±2.8, 7°.5S±0°.1×128°.59E±0°.09, h155km±13km, mb4.1/4, Error ellipse: s-maj=17.0km s-min=10.0km az=149.0*
ISC 03 00:50:48.2±0.9, 7°.67S±0°.08×128°.66E±0°.07, h151km, n23, σ2°11/26, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.63**	**97**	Pn	**Pn**	**00 51 34.0**	**+3.0**
SOEI	**Soe**	**4.81**	**244**		**Pn**	**00 52 00.5**	**+1.2**
SOEI					**Sn**	**00 52 54.1**	**-0.6**
BATI	**Baumata**	**5.55**	**243**	P	**Pn**	**00 52 10.2**	**+1.3**
	25nm,0.3s,baz=79,slow=3.1,SNR=11						
BATI				S	**Sn**	**00 53 11.7**	**-0.3**
	31nm,0.3s,baz=301,slow=20,SNR=12						
MTN	**Manton Dam**	**5.69**	**155**		**Pn**	**00 52 14.1**	**+3.3**
FAKI	**Fak Fak**	**5.92**	**37**	Pn	**Pn**	**00 52 12.4**	**-1.4**
KNRA	**Kununurra**	**7.96**	**179**		**Pn**	**00 52 42.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.78**	**196**		**Pn**	**00 53 19.3**	**+0.8**
WB0	**Warramunga Arr**	**13.25**	**156**		**Pn**	**00 53 50.0**	**-0.6**
WRA	**Warramunga Arr**	**13.39**	**156**	P	**Pn**	**00 53 52.8**	**+0.4**
	2.4nm,0.3s,baz=341,slow=12,SNR=62						
WRA				S	**Sn**	**00 56 14.6**	**-6.0**
	1.9nm,0.3s,baz=341,slow=22,SNR=8.2						
WRA	**Warramunga Arr**	**13.39**	**156**		**Pn**	**00 53 52.3**	**-0.1**
WB2	**Warramunga Arr**	**13.39**	**156**		**Pn**	**00 53 52.8**	**+0.4**
WR0	**Warramunga Arr**	**13.48**	**156**		**Pn**	**00 53 54.0**	**+0.5**
AS31	**Alice Springs**	**16.68**	**163**		**P**	**00 54 33.5**	**+0.5**
ASAR	**Alice Springs**	**16.68**	**163**	P	**Pn**	**00 54 36.5**	**+3.2**
	1.0nm,0.3s,baz=341,slow=10,SNR=56						
ASAR				S	**S**	**00 57 38.5**	**-0.3**
	0.4nm,0.3s,baz=347,slow=27,SNR=5.5						
ASAR	**Alice Springs**	**16.68**	**163**	P	**Pn**	**00 54 34.8**	**+1.5**
STKA	**Stephens Creek**	**26.93**	**155**	P	**P**	**00 56 18.7**	**+3.3**
	1.2nm,0.4s,baz=323,slow=7.6,SNR=4.3						
MK31	**Makanchi Array**	**68.06**	**328**	P	**P**	**01 01 30.6**	**-0.8**
MK31				IAmb	IAmb	01 03 19.1	
	comp=Z,7.3nm,1.7s						
MKAR	**Makanchi Array**	**68.06**	**328**	P	**P**	**01 01 30.9**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=121,slow=8.2,SNR=13						
ZAA0	**Zalesovo Array**	**71.60**	**334**	P	**P**	**01 01 50.0**	**-2.9**
ZAA0				IAmb	IAmb	01 01 52.8	
	comp=Z,1.7nm,0.5s						
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**01 01 50.6**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=117,slow=5.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**01 01 57.6**	**0.0**
	comp=Z,1.6nm,0.2s,baz=128,slow=4.9,SNR=2.1						
KURK	**Kurchatov**	**72.40**	**329**	P	**P**	**01 01 57.6**	**-0.1**
KURK	**Kurchatov**	**72.40**	**329**	IAmb	IAmb	01 01 59.2	
	comp=Z,1.8nm,0.7s						

*ISK **03** 00:50:55.6, 37°.24N×37°.20E, h4km, ML2.5/14*
*DDA **03** 00:50:55.8, 37°.22N×37°.15E, h6km±2km, ML2.4*
ISC 03 00:50:56.0±1.0, 37°.23N±0°.03×37°.18E±0°.03, h5km±9km, n25, σ0°60/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.07**	**155**	PG	**Pg**	**00 50 57.3**	**-0.3**
KMRS	**Kahramanmaras**	**0.35**	**321**	PG	**Pg**	**00 51 03.4**	**+0.6**
KMRS				SG	**Sg**	**00 51 08.2**	**+0.8**
KAMA	**Osmaniye**	**0.41**	**263**	*i* P	**Pg**	**00 51 04.0**	**+0.1**
KAMA				*i* S	**Sg**	**00 51 09.6**	**+0.3**
KUZU	**Kuzuini**	**0.47**	**190**	*i* P	**Pg**	**00 51 04.9**	**-0.2**
KUZU				*i* S	**Sg**	**00 51 11.8**	**+0.7**
KUZU				IAML		00 51 12.0	
	comp=N,414nm,0.4s						
KUZU				IAML		00 51 14.0	
	comp=E,307nm,0.9s						
ANDN	**Andirin**	**0.75**	**298**	*i* P	**Pb**	**00 51 10.9**	**-0.7**
ANDN				*i* S	**Sg**	**00 51 20.6**	**+0.5**
ANDN				IAML		00 51 25.0	
	comp=N,122nm,0.3s						
ANDN				IAML		00 51 26.0	
	comp=E,102nm,0.3s						
ELBS	**KAHRAMANMARAS**	**1.09**	**358**	*i* P	**Pn**	**00 51 17.5**	**-0.6**
ELBS				*i* S	**Sn**	**00 51 33.8**	**+0.1**
ELBS				IAML		00 51 37.0	
	comp=N,131nm,0.4s						
KOZT	**Kozan**	**1.10**	**283**	PN	**Pn**	**00 51 17.6**	**-0.6**
KOZT				SN	**Sn**	**00 51 33.5**	**-0.3**
SAIM	**ADANA**	**1.14**	**311**	*i* P	**Pn**	**00 51 18.4**	**-0.5**
SAIM				*i* S	**Sg**	**00 51 32.5**	**-0.2**
SAIM				IAML		00 51 36.0	
	comp=E,173nm,0.3s						
SAIM				IAML		00 51 37.0	
	comp=N,152nm,0.5s						
YURE	**YUREGIR**	**1.30**	**252**	PN	**Pb**	**00 51 21.5**	**+0.5**
SARI	**SarD1z-Kayseri**	**1.32**	**333**	PN	**Pb**	**00 51 21.6**	**+0.2**
URFA	**Urfa**	**1.33**	**81**	PN	**Pn**	**00 51 20.9**	**-0.5**
DARE	**Darende-Malaty**	**1.36**	**10**	PN	**Pg**	**00 51 21.8**	**-0.3**
MALT	**Malatya**	**1.47**	**42**	PN	**Pb**	**00 51 23.3**	**-0.6**
CUGUR	**Gurin_SVAS**	**1.49**	**3**	*i* P	**Pg**	**00 51 25.4**	**+0.8**
KRTS	**Karatas**	**1.59**	**246**	PN	**Pb**	**00 51 25.6**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**1.68**	**301**	*i* P	**Pb**	**00 51 27.0**	**-0.4**
YAHY				*i* S	**Sg**	**00 51 49.5**	**-0.4**
CMRD	**Camardi-Nigde**	**1.79**	**284**	PN	**Pn**	**00 51 28.2**	**+0.4**
GULE	**Gulek**	**1.92**	**272**	*i* P	**Pn**	**00 51 29.9**	**+0.3**
GULE				*i* S	**Sb**	**00 51 55.4**	**-0.4**
DED	**Mersin**	**1.92**	**263**	*i* P	**Pn**	**00 51 29.5**	**0.0**
BNN	**Bunyan**	**1.93**	**327**	PN	**Pb**	**00 51 30.4**	**-1.4**
SVRC	**Sivrice-ELAZID**	**2.04**	**55**	PN	**Pn**	**00 51 31.3**	**+0.1**
ARPR	**Arapgir-MALATY**	**2.07**	**26**	PN	**Pn**	**00 51 32.2**	**+0.6**
PTK	**Pertek**	**2.41**	**46**	PN	**Pn**	**00 51 36.8**	**+0.5**
GULA	**Gulagac**	**2.58**	**296**	PN	**Pn**	**00 51 39.7**	**+1.1**
MAZI	**Mazidag**	**2.62**	**84**	PN	**Pn**	**00 51 40.3**	**+1.2**

*IDC **03** 00:58:47.6±0.9, 38°.34N×21°.91E, h0km, mb3.9/13, mb1 3.9/19, mb1mx3.8/57, mbtmp3.8/19, ML3.6/5, MS2.8/2, Ms1 2.8/2, ms1mx2.7/42, Error ellipse: s-maj=17.2km s-min=14.9km az=25.0*
*ATH **03** 00:58:47.9, 38°.34N×21°.92E, h18km±1km, ML3.4/15, Error ellipse: s-maj=1.2km s-min=0.5km az=315.0*
*NEIC **03** 00:58:48.0±1.3, 38°.32N±0°.06×21°.91E±0°.06, h1km±6km, Error ellipse: s-maj=8.6km s-min=6.6km az=180.0*
*THE **03** 00:58:48.8, 38°.35N×21°.91E, h1km±1km, ML3.5/15, Error ellipse: s-maj=1.8km s-min=0.5km az=301.0*
*BEO **03** 00:58:54.8±1.0, 38°.72N×21°.90E, h0km, ML3.0/2*
ISC 03 00:58:48.9±0.9, 38°.35N±0°.02×21°.91E±0°.02, h7km±6km, n199, σ1°42/233, mb3.9/14, 8C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.13**	**81**	P	**Pg**	**00 58 51.6**	**0.0**
TRIZ				S	**Sg**	**00 58 53.9**	**+0.4**
	49μm,0.6s						
TRIZ	**Trizonia**	**0.13**	**81**	P	**Pg**	**00 58 51.6**	**0.0**
TRIZ				S	**Sg**	**00 58 54.1**	**+0.6**
ALIK	**Aliki, Aigiali**	**0.18**	**119**	P	**Pg**	**00 58 52.5**	**0.0**
ALIK				S	**Sg**	**00 58 55.7**	**+0.7**
RLS	**Riolos of Patr**	**0.46**	**231**	P	**Pg**	**00 58 57.2**	**-0.5**
RLS				S	**Sg**	**00 59 04.2**	**+0.6**
	5μm,0.4s						
RLS	**Riolos of Patr**	**0.46**	**231**	P	**Pg**	**00 58 57.3**	**-0.4**
RLS				S	**Sg**	**00 59 04.2**	**+0.6**
RLS				AML	AML	00 59 06.8	
	comp=N,11532μm,0.2s						
RLS				AML	AML	00 59 07.0	
	comp=E,10208μm,0.3s						
DLFA	**Delphi**	**0.48**	**74**	P	**Pg**	**00 58 57.5**	**-0.6**
DLFA				S	**Sg**	**00 59 03.9**	**-0.4**
DLFA				AML	AML	00 59 08.6	
	comp=E,10507μm,0.6s						
DLFA				AML	AML	00 59 09.0	
	comp=N,8497μm,0.4s						
EVR	**Evrytania**	**0.57**	**352**	P	**Pg**	**00 58 59.6**	**-0.4**
EVR				S	**Sb**	**00 59 08.8**	**-0.9**
	comp=N,7μm,0.8s						
EVR	**Evrytania**	**0.57**	**352**	P	**Pg**	**00 58 59.7**	**-0.4**
EVR				S	**Sg**	**00 59 07.8**	**+0.3**
EVR				AML	AML	00 59 14.2	
	comp=N,15725μm,0.7s						
EVR				AML	AML	00 59 16.5	
	comp=E,9552μm,0.6s						
AST1	**Astakos**	**0.68**	**287**	P	**Pg**	**00 59 01.4**	**-0.5**
AST1				S	**Sg**	**00 59 10.5**	**-0.2**
	comp=E,6μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.69**	**14**	P	**Pg**	**00 59 02.0**	**-0.1**
MAKR				S	**Sb**	**00 59 11.9**	**-1.0**
	comp=E,10μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.69**	**14**	P	**Pg**	**00 59 01.8**	**-0.3**
MAKR				S	**Sg**	**00 59 10.7**	**-0.4**
MAKR				AML	AML	00 59 16.7	
	comp=E,22912μm,0.5s						
MAKR				AML	AML	00 59 21.4	
	comp=N,16930μm,0.6s						
AGG	**Agios Georgios**	**0.75**	**26**	P	**Pg**	**00 59 02.4**	**-0.9**
AGG				S	**Sb**	**00 59 13.7**	**-1.0**
	comp=N,3μm,0.5s						
AGG	**Agios Georgios**	**0.75**	**26**	P	**Pg**	**00 59 02.4**	**-0.9**
AGG				S	**Sg**	**00 59 12.6**	**-0.5**
AGG				AML	AML	00 59 18.7	
	comp=E,5928μm,0.6s						
AGG				AML	AML	00 59 20.8	
	comp=N,7294μm,0.6s						
AGG	**Agios Georgios**	**0.75**	**26**	P	**Pg**	**00 59 02.9**	**-0.4**
AGG	**Agios Georgios**	**0.75**	**26**		**Pg**	**00 59 02.6**	**-0.7**
TRIP	**Tripoli**	**0.86**	**161**	P	**Pg**	**00 59 04.5**	**-1.0**
TRIP				S	**Sb**	**00 59 16.9**	**-1.1**
	comp=N,3μm,0.6s						
TRIP	**Tripoli**	**0.86**	**161**	P	**Pg**	**00 59 04.4**	**-1.0**
TRIP				S	**Sg**	**00 59 16.7**	**0.0**
TRIP				AML	AML	00 59 24.5	
	comp=E,6661μm,0.4s						
TRIP				AML	AML	00 59 25.6	
	comp=N,4882μm,0.6s						
LKR	**Lokris**	**0.91**	**70**	P	**Pg**	**00 59 05.1**	**-1.2**
LKR				S	**Sg**	**00 59 17.1**	**-1.0**
LKR				AML	AML	00 59 23.4	
	comp=E,2914μm,0.2s						
LKR				AML	AML	00 59 26.2	
	comp=N,3927μm,0.5s						
EVGI	**Lefkada island**	**1.02**	**286**	P	**Pg**	**00 59 07.4**	**-1.2**
EVGI				S	**Sn**	**00 59 23.6**	**-0.6**
	comp=N,720nm,1.3s						
EVGI	**Lefkada island**	**1.02**	**286**	P	**Pg**	**00 59 07.3**	**-1.2**
VLS	**Valsamata**	**1.05**	**261**	P	**Pg**	**00 59 07.7**	**-1.4**
VLS				S	**Sn**	**00 59 24.5**	**-0.5**
	comp=N,2μm,0.4s						
VLS	**Valsamata**	**1.05**	**261**	P	**Pg**	**00 59 07.7**	**-1.4**
VLS				S	**Sb**	**00 59 22.9**	**-0.5**
VLS				AML	AML	00 59 26.1	
	comp=E,2334μm,0.2s						
VLS				AML	AML	00 59 28.9	
	comp=N,4688μm,0.3s						
VIL2	**Platees**	**1.07**	**97**	P	**Pb**	**00 59 09.4**	**-0.4**
VIL2				S	**Sb**	**00 59 24.2**	**+0.1**
VIL2				AML	AML	00 59 30.1	
	comp=N,4816μm,0.4s						
VIL2				AML	AML	00 59 32.1	
	comp=E,5836μm,0.8s						
LKD2	**Lefkada island**	**1.08**	**295**	P	**Pg**	**00 59 08.5**	**-1.1**
LKD2	**Lefkada island**	**1.08**	**295**	P	**Pg**	**00 59 08.5**	**-1.1**
LKD2				S	**Sb**	**00 59 23.8**	**-0.4**
LKD2				AML	AML	00 59 37.2	
	comp=E,3730μm,0.6s						
LKD2				AML	AML	00 59 37.5	
	comp=N,2690μm,0.8s						
VLMS	**Volimes, Zakyn**	**1.09**	**245**	P	**Pg**	**00 59 08.3**	**-1.5**
VLMS				S	**Sb**	**00 59 24.0**	**-0.5**
VLMS				AML	AML	00 59 28.0	
	comp=N,9311μm,0.4s						
VLMS				AML	AML	00 59 28.2	
	comp=E,8779μm,0.2s						
TSLK	**Tsoukalades, L**	**1.09**	**296**	P	**Pg**	**00 59 09.2**	**-0.7**
TSLK	**Tsoukalades, L**	**1.09**	**296**	P	**Pg**	**00 59 09.0**	**-0.9**
KRI1	**kERI**	**1.10**	**232**	P	**Pg**	**00 59 08.9**	**-1.1**
KRI1				S	**Sn**	**00 59 26.9**	**+0.8**
	comp=E,4μm,0.7s						
VILL	**Villia**	**1.12**	**99**	P	**Pb**	**00 59 10.3**	**-0.2**
VILL				S	**Sb**	**00 59 26.0**	**+0.7**
	comp=E,3μm,0.6s						
KEF5	**Kardakata, Kep**	**1.14**	**267**	P	**Pg**	**00 59 09.1**	**-1.6**
ARGA	**Argostoli. Kep**	**1.14**	**262**	P	**Pg**	**00 59 09.2**	**-1.6**
ITM	**Ithomi**	**1.17**	**179**	P	**Pg**	**00 59 10.0**	**-1.3**
ITM				S	**Sn**	**00 59 27.6**	**-0.1**
	comp=E,2μm,0.7s						
ITM	**Ithomi**	**1.17**	**179**	P	**Pg**	**00 59 09.9**	**-1.3**
ITM	**Ithomi**	**1.17**	**179**	P	**Pn**	**00 59 11.3**	**-0.3**
ITM	**Ithomi**	**1.17**	**179**		**Pg**	**00 59 09.9**	**-1.3**
KEF4	**Livadi, Kephal**	**1.17**	**266**	P	**Pg**	**00 59 09.9**	**-1.5**
THL	**Klokotos Trika**	**1.22**	**4**	P	**Pg**	**00 59 11.6**	**-0.7**
THL				S	**Sn**	**00 59 28.8**	**-0.2**
	comp=E,2μm,0.8s						
THL	**Klokotos Trika**	**1.22**	**4**	P	**Pg**	**00 59 11.4**	**-0.9**
THL				S	**Sg**	**00 59 27.6**	**-0.4**
THL				AML	AML	00 59 37.8	
	comp=N,1907μm,0.6s						
THL				AML	AML	00 59 38.0	
	comp=E,3837μm,0.9s						
VOL3	**Nea Ionia, Vol**	**1.30**	**38**	P	**Pg**	**00 59 09.9**	**-3.9**
KRND	**KRANIDI**	**1.37**	**134**	P	**Pb**	**00 59 14.5**	**-0.3**
KRND				S	**Sn**	**00 59 33.5**	**+0.7**
	comp=E,3μm,0.6s						
KRND	**KRANIDI**	**1.37**	**134**	P	**Pn**	**00 59 13.9**	**-0.5**
LRSO	**Larissa Observ**	**1.37**	**16**	P	**Pb**	**00 59 14.8**	**-0.1**
NEO	**Neokhori**	**1.40**	**46**	P	**Pn**	**00 59 14.5**	**-0.4**
NEO	**Neokhori**	**1.40**	**46**	P	**Pn**	**00 59 14.3**	**-0.5**
XOR	**Xorichti**	**1.43**	**44**	P	**Pn**	**00 59 14.8**	**-0.4**
XOR	**Xorichti**	**1.43**	**44**	P	**Pn**	**00 59 14.9**	**-0.3**
XOR				S	**Sn**	**00 59 34.5**	**+0.3**
XOR				AML	AML	00 59 42.5	
	comp=N,2334μm,0.7s						
XOR				AML	AML	00 59 43.2	
	comp=E,1671μm,0.9s						
ATH	**Athens Observa**	**1.47**	**104**	P	**Pn**	**00 59 15.6**	**-0.1**
ATH				S	**Sn**	**00 59 36.5**	**+1.3**
	comp=E,1μm,0.8s						
ATH	**Athens Observa**	**1.47**	**104**	P	**Pn**	**00 59 15.7**	**-0.1**
ATH				S	**Sn**	**00 59 36.1**	**+0.9**
ATH				AML	AML	00 59 42.3	
	comp=N,2064μm,0.6s						
ATH				AML	AML	00 59 42.7	
	comp=E,2069μm,0.4s						
ATHU	**Athens Univers**	**1.52**	**104**	P	**Pn**	**00 59 16.3**	**-0.2**
ATHU	**Athens Univers**	**1.52**	**104**	P	**Pn**	**00 59 16.3**	**-0.2**
ATHU				S	**Sg**	**00 59 37.2**	**-0.7**
ATHU				AML	AML	00 59 43.0	
	comp=E,370μm,0.6s						
ATHU				AML	AML	00 59 44.9	
	comp=N,783μm,0.6s						
VLY	**Voula,Athens**	**1.56**	**108**	P	**Pn**	**00 59 16.8**	**-0.2**
VLY	**Voula,Athens**	**1.56**	**108**	P	**Pn**	**00 59 17.1**	**+0.1**
PTL	**Penteli**	**1.57**	**100**	P	**Pn**	**00 59 17.1**	**0.0**
PTL	**Penteli**	**1.57**	**100**	P	**Pn**	**00 59 16.9**	**-0.2**
DION	**Dionisos Attik**	**1.61**	**99**	P	**Pn**	**00 59 17.9**	**+0.1**
DION	**Dionisos Attik**	**1.61**	**99**	P	**Pn**	**00 59 17.8**	**+0.1**
KPRO	**Kipourio**	**1.66**	**345**	P	**Pb**	**00 59 19.0**	**-0.8**
IGT	**Igoumenitsa**	**1.71**	**314**	*e*Pn	**Pg**	**00 59 20.7**	**-0.9**
IGT				*e*Sg	**Sn**	**00 59 40.4**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.74**	**80**	P	**Pn**	**00 59 19.3**	**-0.1**
AOS	**Alonnisos**	**1.74**	**61**	P	**Pn**	**00 59 18.8**	**-0.8**
AOS	**Alonnisos**	**1.74**	**61**	P	**Pn**	**00 59 18.7**	**-0.8**
LIT	**Litokhoron**	**1.81**	**14**	P	**Pn**	**00 59 20.7**	**+0.2**
LIT	**Litokhoron**	**1.81**	**14**		**Pb**	**00 59 21.6**	**-0.7**
VLI	**Veliai**	**1.82**	**153**	P	**Pn**	**00 59 20.9**	**+0.4**
KARY	**Karystos**	**2.01**	**98**	P	**Pn**	**00 59 23.4**	**+0.2**
PAIG	**Paliouri**	**2.09**	**40**	P	**Pn**	**00 59 23.5**	**-0.8**
KTHA	**Kythira Island**	**2.28**	**156**	P	**Pb**	**00 59 28.4**	**-1.9**
PLG	**Polygyros**	**2.35**	**30**	P	**Pn**	**00 59 27.4**	**-0.5**
HORT	**Hortiatis**	**2.43**	**22**	P	**Pn**	**00 59 28.5**	**-0.5**
OUR	**Ouranopolis**	**2.55**	**38**	*e*P	**Pn**	**00 59 30.2**	**-0.4**
OHR	**Ohrid**	**2.89**	**343**	*i* Pn	**Pg**	**00 59 42.3**	**-2.0**
VAY	**Valandovo**	**3.01**	**9**	*e*Pn	**Pn**	**00 59 38.1**	**+1.1**
VAY	**Valandovo**	**3.01**	**9**	*i* Pn	**Pn**	**00 59 38.0**	**+1.1**
SRS	**Serrai**	**3.06**	**25**	*e*Pn	**Pn**	**00 59 37.3**	**-0.3**
SRS				*e*Sg	**Sb**	**01 00 20.6**	**-0.4**
APE	**Apeiranthos**	**3.14**	**113**	*e*P	**Pn**	**00 59 39.7**	**+0.9**
RODP	**Rodopos**	**3.15**	**151**	*e*P	**Pn**	**00 59 40.7**	**+1.8**
SCTE	**Santa Cesarea**	**3.18**	**304**	Pn	**Pn**	**00 59 39.5

VRI	Vrincioaia	8.32	24	⇑P	Pn	01 00 53.1	+3.2
BR131	Keskin Array S	9.23	78	Pn	Pn	01 01 02.3	-0.1
BRTR	Keskin Array B	9.23	78	Pn	Pn	01 01 04.8	+2.3
	comp=N,0.3nm,0.3s,baz=257,slow=13,SNR=11						
BRTR	Keskin Array B	9.23	78	Pn	Pn	01 01 02.6	+0.1
BUR08	Bucovina Ar. S	9.60	13		Pn	01 01 07.9	+0.4
PSZ	Piszkesteto	9.68	352	⇓P	Pn	01 01 12.6	+4.1
SOKA	Soboth	9.75	331	*e*Pn	Pn	01 01 09.7	+0.2
	comp=N,1.2nm,0.4s						
VYHS	Vyhne	10.39	349	*e*PN	Pn	01 01 21.8	+3.6
VYHS				*e*SN	Sn	01 03 19.2	+4.5
ABTA	Abfaltersbach	10.88	323	*e*Pn	Pn	01 01 26.4	+1.4
	comp=N,1.9nm,0.6s						
SQTA	Sankt Quirin	11.84	322	Pn	Pn	01 01 39.2	+1.0
	comp=N,8.7nm,1.4s						
FETA	Feichten	11.94	320	Pn	Pn	01 01 43.1	+3.5
	comp=N,5.3nm,1.4s						
MOTA	Moosalm	11.98	322	*e*Pn	Pn	01 01 41.4	+1.3
	comp=N,2.8nm,0.6s						
GERES	GERESS Array B	12.05	333	Pn	Pn	01 01 43.0	+1.9
	comp=N,0.1nm,0.3s,baz=145,slow=14,SNR=2.1						
MMAI	Mount Meron Ar	12.19	112	Pn	Pn	01 01 43.1	+0.2
	comp=N,0.3nm,0.3s,baz=291,slow=12,SNR=4.1						
CLL	Collm	14.40	337	*e*PP	P	01 02 25.1	+5.1
	comp=Z,10.0nm,1.4s						
AKH	Akhalkalaki	16.84	73	P	Pn	01 02 43.3	-1.9
ESDC	Sonseca Array	20.13	282	P	P	01 03 23.9	+0.4
	comp=Z,4.8nm,0.9s,baz=77,slow=11,SNR=19						
PAB	San Pablo	20.44	282	P	P	01 03 27.3	+0.5
PAB				IAmb	IAmb	01 03 32.3	
	comp=Z,6.8nm,1.1s						
TAM	Tamanrasset	20.91	227	P	P	01 03 29.8	-2.3
HFS	Hagfors	22.42	349	P	P	01 03 47.5	-0.4
	comp=Z,1.7nm,0.6s,baz=155,slow=9.4,SNR=4.9						
FINES	FINESS Array B	23.27	5	P	P	01 03 55.4	-1.3
	comp=Z,1.3nm,0.6s,baz=174,slow=8.3,SNR=12						
NB2	NORSAR Subarra	23.68	347	P	P	01 04 00.5	-0.4
	comp=Z,1.9nm,0.7s,baz=154,slow=10						
NOA	NORSAR Array B	23.68	347	P	P	01 04 00.3	-0.6
	comp=Z,0.8nm,0.7s,baz=154,slow=9.4,SNR=12						
NOA				LR	LR	01 15 22.6	
	comp=Z,21nm,18.7s,baz=55,slow=42						
EKA	Eskdalemuir Ar	23.93	323	P	P	01 04 03.0	-0.3
	comp=Z,2.5nm,0.7s,baz=120,slow=10.0,SNR=12						
KLMR	Klimovskoe	25.09	20	*e*	P	01 04 13.6	-0.1
KLMR				AMP		01 04 18.4	
	comp=Z,10.0nm,1.2s						
TORD	Torodi Ar. Bea	30.86	221	P	P	01 05 06.1	+0.3
	comp=Z,1.2nm,0.8s,baz=31,slow=8.4,SNR=3.7						
ARCES	ARCESS Array B	31.31	2	P	P	01 05 08.9	-0.3
	comp=Z,1.7nm,0.7s,baz=193,slow=10,SNR=6.5						
KK31	Karatay Array	36.72	67	P	P	01 05 56.6	0.0
KKAR	Karatay Array	36.72	67	P	P	01 05 56.8	+0.2
KURBB	Kurchatov Arra	41.25	54	P	P	01 06 34.0	-0.3
	comp=Z,1.3nm,0.6s,baz=282,slow=9.0,SNR=8.4						
KURK	Kurchatov	41.30	54	P	P	01 06 34.0	-0.7
KURK	Kurchatov	41.30	54	IAmb	IAmb	01 06 37.6	
	comp=Z,2.4nm,1.0s						
MK31	Makanchi Array	44.28	59	P	P	01 06 59.2	+0.2
MKAR	Makanchi Array	44.28	59	P	P	01 06 59.1	+0.1
	comp=Z,3.1nm,0.5s,baz=275,slow=7.4,SNR=51						
MKAR	Makanchi Array	44.28	59	P	P	01 06 58.8	-0.2
ZAA0	Zalesovo Array	44.76	48	P	P	01 07 02.1	-0.6
ZAA0				IAmb	IAmb	01 07 05.9	
	comp=Z,2.5nm,0.6s						
ZALV	Zalesovo Beam	44.76	48	P	P	01 07 02.3	-0.4
	comp=Z,1.9nm,0.4s,baz=275,slow=8.8,SNR=7.4						
SONM	Songino Array	59.50	51	P	P	01 08 52.1	-0.6
	comp=Z,0.4nm,0.4s,baz=268,slow=7.2,SNR=3.6						
SONM	Songino Array	59.50	51	IAmb	IAmb	01 08 54.3	
	comp=Z,0.6nm,0.8s						
YKA	Yellowknife Ar	73.60	341	P	P	01 10 22.5	+0.2
	comp=Z,0.5nm,0.7s,baz=34,slow=5.3,SNR=2.3						
ILAR	Eielson Array	76.84	355	P	P	01 10 41.0	+0.1
	comp=Z,0.7nm,0.9s,baz=3.2,slow=4.0,SNR=6.5						
ILAR	Eielson Array	76.84	355	P	P	01 10 41.7	+0.7

*IDC **03** 01:05:03.7±1.3, 60°.33S×27°.78W, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.8/15, mbtmp4.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/18, Error ellipse: s-maj=62.1km s-min=33.2km az=112.0*

*NEIC **03** 01:05:08.5±1.2, 60°.7S±0°.1×27°.2W±0°.3, h35km±1km, mb4.3/10, Error ellipse: s-maj=27.9km s-min=19.1km az=39.0*

ISC 03 01:05:06.3±0.7, **60°.7S**±0°.1×**27°.1W**±0°.1, **h19**km, **n26**, σ1§**45**/22, **mb4.3**/6, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.62	150	P	Pn	01 08 03.2	-1.2
VNA3	Neumayer Olymp	12.72	154	P	Pn	01 08 04.1	-1.8
VNA2	Neumayer--Watz	13.02	150	P	Pn	01 08 08.7	-1.2
SNAA	Sanae	14.63	149	P	Pn	01 08 30.1	-1.9
SNAA	Sanae	14.63	149		Pn	01 08 30.3	-1.7
BELA	Belgrano 2	17.48	185		P	01 09 09.1	-0.6
QSPA	South Pole Qui	29.59	180	P	P	01 11 10.1	+0.4
CPUP	Villa Florida	40.00	315	LR	LR	01 26 57.8	
	comp=Z,35nm,21.1s,baz=190,slow=33						
CO02	Combarbal	41.15	296	P	P	01 12 48.6	-0.6
CO03	El Pedregal	41.33	296	P	P	01 12 50.9	+0.3
CO03				IAmb	IAmb	01 12 54.3	
	comp=Z,3.7nm,1.0s						
VNDA	Vanda	41.97	183	P	P	01 12 58.9	+3.7
	comp=Z,0.7nm,0.9s,baz=195,slow=6.6,SNR=3.8						
AC05	El Transito	42.87	298	P	P	01 13 04.5	+1.2
GO02	Mina Guanaco	45.79	301	P	P	01 13 27.1	+0.2
GO02				IAmb	IAmb	01 13 33.7	
	comp=Z,6.5nm,1.0s						
BOSA	Boshof	47.24	72	P	P	01 13 38.9	+0.9
	comp=Z,1.5nm,0.9s,baz=194,slow=17,SNR=1.5						
BOSA	Boshof	47.24	72	P	P	01 13 38.7	+0.7
BOSA				IAmb	IAmb	01 13 40.8	
	comp=Z,2.3nm,1.0s						
LPAZ	La Paz	53.16	308	P	P	01 14 24.1	+0.6
H10N1	ASCENSION HYDR	53.54	16	T	T	02 12 39.0	
	baz=186						
H10N3	ASCENSION HYDR	53.54	16	T	T	02 12 33.0	
	baz=186						
H10N2	ASCENSION HYDR	53.56	16	T	T	02 12 43.1	
	baz=186						
OTAV	Otavalo	72.28	305	P	P	01 16 28.7	-2.2
OTAV				IAmb	IAmb	01 16 35.3	
	comp=Z,3.3nm,0.8s						
TORD	Torodi Ar. Bea	77.07	29	P	P	01 16 58.9	+1.0
	comp=Z,2.6nm,0.5s,baz=200,slow=6.2,SNR=18						
TORD	Torodi Ar. Bea	77.07	29	P	P	01 16 58.1	+0.2
BCAR	Beaver Creek A	150.27	303		PKPbc	01 24 54.3	-0.2
SONM	Songino Array	150.65	95	PKPbc	PKiKP	01 24 56.2	-0.5
	comp=Z,0.3nm,0.3s,baz=215,slow=1.8,SNR=1.8						
ILAR	Eielson Array	153.00	305	PKPbc	PKPbc	01 24 58.9	-1.8
	comp=Z,0.4nm,0.8s,baz=123,slow=3.3,SNR=4.6						
ILAR	Eielson Array	153.00	305		PKPbc	01 24 59.8	-0.8

KEA 03 01:08:32.3±0.0, **37°.00N**×**121°.41E**, **h0**km, **ML3.5**/8, **Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJU	Haeju	3.58	72	Pg	Pb	01 09 37.4	+0.9
HJU				Sg	Sb	01 10 22.2	+1.7
SUJ	Sinuiju	3.93	37	Sg	Sg	01 10 35.7	-2.8
PYAG	Pyongyang	4.00	58	Pg	Pb	01 09 45.7	+2.2
PYAG				Sg	Sb	01 10 36.4	+4.0
PYS	Pyongsong	4.16	56	Pg	Pg	01 09 49.4	-2.6
PYS				Sg	Sg	01 10 41.9	-4.1
KGE	Kanggye	5.65	44	Sg	Sg	01 11 32.0	-1.8

*TAP **03** 01:30:49.9, 24°.74N×122°.88E, h143km±1km, ML2.9, D*

*JMA **03** 01:30:50.3±0.2, 24°.81N×122°.87E, h137km±3km, M3.0*

ISC 03 01:30:50.3±1.8, **24°.76N**±0°.09×**122°.88E**±0°.03, **h139**km±12km, **n37**, σ0§**60**/62, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.32	169	P	Pn	01 31 09.8	+0.2
JYNG				S	Sn	01 31 24.5	+0.3
YOJ	Yonaguni jima	0.32	158	*i* P	Pn	01 31 09.5	-0.1
YOJ	baz=157						
				S	Sn	01 31 24.4	+0.2
YOJ	baz=157						
YOJ	Yonaguni jima	0.32	158	P	Pn	01 31 09.7	+0.1
YOJ				S	Sn	01 31 24.4	+0.2
TWB1	Santiao Chiao	0.84	287	*e*P	Pn	01 31 13.1	+0.4
	baz=288						
IRIF	Iriomote-Funau	0.89	119	P	Pn	01 31 13.2	+0.2
TWC	Suao	0.95	261	*i* P	Pn	01 31 13.7	+0.2
	baz=261						
TIPB	Shuangxi	0.98	282	*e*P	Pn	01 31 13.9	+0.1
	baz=283						
ENA	Nanau	1.09	252	*e*P	Pn	01 31 15.4	+0.6
	baz=253						
ENA				*i* S	Sn	01 31 33.2	-0.2
	baz=253						
HATJ	Hateruma jima	1.10	130	P	Pn	01 31 15.8	+0.9
HATJ				S	Sn	01 31 34.3	+0.6
JKRS	Kuro-shima	1.16	117	P	Pn	01 31 16.2	+0.8
JKRS				S	Sn	01 31 34.8	+0.2
ENTT	Nioudou	1.20	264	*e*P	Pn	01 31 16.9	+0.9
	baz=265						
ENTT				*e*S	Sn	01 31 35.8	+0.3
	baz=265						
JIJ	Ishigaki jima	1.22	109	P	Pn	01 31 16.2	+0.1
JIJ				S	Sn	01 31 34.6	-1.1
YM01	YM01	1.25	288	*e*P	Pn	01 31 16.7	+0.3
	baz=288						
NWLT	Wulai	1.25	271	P	Pn	01 31 16.5	+0.1
	baz=271						
NWLT				*i* S	Sn	01 31 36.2	-0.1
	baz=271						
NDT	Datong Townshi	1.25	263	*e*P	Pn	01 31 17.1	+0.7
	baz=263						
NDT				*e*S	Sn	01 31 36.5	+0.2
	baz=263						
YM05	YM05	1.26	289	*e*P	Pn	01 31 16.8	+0.3
	baz=289						
NACB	Ninganchiao	1.31	244	*i* P	Pn	01 31 17.2	+0.2
	baz=244						
NACB				*e*S	Sn	01 31 36.6	-0.7
	baz=244						
JISG	Ishigakijimahi	1.31	97	P	Pn	01 31 17.0	0.0
JISG				S	Sn	01 31 36.2	-1.2
TWD	Chiawan	1.35	240	*i* P	Pn	01 31 17.5	0.0
	baz=240						
TWD				*e*S	Sn	01 31 37.5	-0.6
	baz=240						
YHNB	Yeheng	1.37	266	P	Pn	01 31 18.0	+0.3
	baz=267						
YHNB				*e*S	Sn	01 31 38.0	-0.6
	baz=267						
NSK	Sanguang	1.39	267	*i* P	Pn	01 31 18.0	+0.2
	baz=267						
NSK				*e*S	Sn	01 31 37.9	-1.0
	baz=267						
ETLH	Xiulin Townshi	1.39	247	P	Pn	01 31 17.8	-0.1
	baz=247						
ETLH				*e*S	Sn	01 31 38.1	-0.9
	baz=247						
NNSB	Datong	1.40	257	*e*P	Pn	01 31 18.8	+0.7
	baz=257						
NNSB				*i* S	Sn	01 31 38.9	-0.4
	baz=257						
NNSH	Datong	1.40	257	*e*P	Pn	01 31 18.4	+0.3
	baz=257						
NNSH				*i* S	Sn	01 31 38.8	-0.5
	baz=257						
NNS	Nan Shan	1.41	257	*i* P	Pn	01 31 18.1	0.0
	baz=257						
NNS				*i* S	Sn	01 31 38.8	-0.6
	baz=257						
FUSS	Fushou	1.58	251	*e*P	Pn	01 31 20.8	+0.7
	baz=251						
FUSS				*i* S	Sn	01 31 42.1	-0.8
	baz=251						
WHF	Hehuan Shan	1.59	248	*e*P	Pn	01 31 19.9	-0.7
	baz=247						
TWT	Tachien	1.63	252	S	Sn	01 31 43.6	-0.2
	baz=252						
TDCB	Techi	1.65	252	*e*P	Pn	01 31 21.7	+0.9
	baz=252						
TDCB				*e*S	Sn	01 31 43.9	-0.2
	baz=252						
JTJ	Tarama	1.66	94	P	Pn	01 31 21.0	+0.2
JTJ				S	Sn	01 31 43.4	-0.7
CHGB	Renai	1.71	246	*e*P	Pn	01 31 21.3	-0.2
	baz=246						
WHP	Taichung City	1.83	255	*e*P	Pn	01 31 23.9	+1.1
	baz=255						
WHP				*e*S	Sn	01 31 48.1	+0.4
	baz=255						
HGSD	Ruisui	1.84	227	*e*P	Pn	01 31 23.4	+0.6
	baz=226						
HGSD				*e*S	Sn	01 31 46.1	-1.6
	baz=226						
VWDT	VWDT	1.88	238	*e*P	Pn	01 31 24.3	+1.0
	baz=238						
YULB	Yu-li	1.99	227	*e*P	Pn	01 31 24.7	0.0
	baz=227						
JIKM	Ikemajima	2.16	85	P	Pn	01 31 27.1	+0.5
JIKM				S	Sn	01 31 53.8	-0.7
JMJ2	Miyako jima3	2.23	90	P	Pn	01 31 28.1	+0.6

*IDC **03** 01:54:32.9±1.8, 34°.59N×26°.26E, h0km, mb3.5/2, mb1 3.2/3, mb1mx3.1/28, mbtmp3.2/3, ML2.5/1, Error ellipse: s-maj=295.4km s-min=27.9km az=142.0*

*ATH **03** 01:54:34.7, 35°.14N×25°.75E, h24km±1km, ML3.3/11, Error ellipse: s-maj=1.9km s-min=0.8km az=179.0*

*ISK **03** 01:54:34.4, 35°.12N×25°.76E, h2km, ML3.2/20*

*THE **03** 01:54:35.3, 35°.10N×25°.74E, h2km±1km, ML3.3/13, Error ellipse: s-maj=2.0km s-min=0.5km az=178.0*

*DDA **03** 01:54:37.0, 35°.44N×25°.83E, h8km±5km, MW3.3*

ISC 03 01:54:36.1±0.8, **35°.14N**±0°.03×**25°.73E**±0°.02, **h16**km±5km, **n91**, σ1§**48**/118, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	Ierapetra Chan	0.13	177	P	Pg	01 54 38.5	-1.2
FRMA				S	Sg	01 54 40.8	-1.3
NPS	Neapolis	0.15	323	P	Pg	01 54 40.0	-0.1
NPS				S	Sg	01 54 43.3	+0.5
	19μm,0.3s						
NPS	Neapolis	0.15	323	P	Pg	01 54 40.0	-0.1
NPS				S	Sg	01 54 43.4	+0.7
NPS				AML	AML	01 54 43.6	
	comp=N,30287μm,0.3s						
NPS				AML	AML	01 54 43.8	
	comp=E,47447μm,0.3s						
LAST	Lasithi	0.20	275	P	Pg	01 54 40.4	-0.5
LAST				S	Sg	01 54 44.1	0.0
	comp=E,13μm,0.5s						
LAST	Lasithi	0.20	275	P	Pg	01 54 40.4	-0.5
LAST				S	Sg	01 54 44.1	0.0
LAST				AML	AML	01 54 44.5	
	comp=N,24337μm,0.5s						
LAST				AML	AML	01 54 44.5	
	comp=E,23131μm,0.3s						
STIA	Sitia Lasithi	0.31	79	P	Pg	01 54 41.6	-0.9
STIA				S	Sg	01 54 46.5	-0.4
ZKR	Zakros	0.40	94	P	Pg	01 54 42.8	-1.5
ZKR				S	Sg	01 54 48.8	-1.0
	comp=E,6μm,0.3s						
ZKR	Zakros	0.40	94	P	Pg	01 54 42.9	-1.5
ZKR				S	Sg	01 54 49.0	-0.8
ZKR				AML	AML	01 54 50.6	
	comp=E,14896μm,0.4s						
ZKR				AML	AML	01 54 50.7	
	comp=N,9316μm,0.3s						
ZKR	Zakros	0.40	94	PG	Pg	01 54 42.7	-1.5
ZKR				SG	Sg	01 54 48.9	-0.9
HRKL	Herakleio	0.54	289	P	Pg	01 54 46.3	-0.4
HRKL				S	Sb	01 54 55.2	+0.6
	comp=N,5μm,0.5s						
HRKL	Herakleio	0.54	289	PG	Pg	01 54 46.5	-0.2
HRKL				SG	Sb	01 54 55.2	+0.6
KSTL	Kastelli Herak	0.56	287	P	Pg	01 54 42.4	-4.7
KSTL				S	Sg	01 54 48.1	-6.5
IACM	Heraklion	0.56	287	P	Pg	01 54 46.9	-0.2
IACM				S	Sg	01 54 55.2	+0.6
IDI	Anoyia	0.70	282	P	Pg	01 54 48.6	-1.2
IDI				S	Sb	01 54 59.8	+0.4
	comp=N,1μm,0.4s						
IDI	Anoyia	0.70	282	P	Pg	01 54 48.6	-1.2
IDI				S	Sg	01 54 59.5	+0.5
IDI				AML	AML	01 55 01.0	
	comp=E,2844μm,0.3s						
IDI				AML	AML	01 55 01.2	
	comp=N,2487μm,0.4s						
IDI	Anoyia	0.70	282	PG	Pg	01 54 48.9	-0.9
SIVA	Sivas	0.76	261	P	Pg	01 54 49.6	-1.3
SIVA				S	Sb	01 55 01.0	-0.1
	comp=N,3μm,0.4s						
SIVA	Sivas	0.76	261	P	Pg	01 54 49.5	-1.3
SIVA				S	Sb	01 55 01.2	+0.1
SIVA				AML	AML	01 55 02.9	
	comp=N,4773μm,0.4s						
SIVA				AML	AML	01 55 06.5	
	comp=E,6610μm,0.5s						
TMBK	Timbaki Herakl	0.79	265	P	Pg	01 54 50.4	-1.0
TMBK				S	Sb	01 55 02.6	+0.7
	comp=E,738nm,0.4s						
PRNS	Prines Rethymn	1.03	283	P	Pb	01 54 55.8	+0.4
PRNS				S	Sn	01 55 12.4	+2.5
ANAF	Anafi Island	1.21	2	P	Pg	01 54 58.0	-1.4
ANAF				S	Sb	01 55 15.6	+1.5
	comp=E,4μm,0.3s						
ANAF	Anafi Island	1.21	2	P	Pg	01 54 58.1	-1.4
ANAF				AML	AML	01 55 17.0	
	comp=E,8285μm,0.3s						
ANAF				AML	AML	01 55 17.9	
	comp=N,7962μm,0.3s						
KARP	Karpathos	1.24	71	P	Pg	01 54 58.3	-1.7
KARP				S	Sn	01 55 16.6	+1.3
	comp=N,905nm,0.5s						
KARP	Karpathos	1.24	71	P	Pg	01 54 58.3	-1.7
KARP				AML	AML	01 55 19.7	
	comp=N,1864μm,0.4s						
KARP				AML	AML	01 55 24.6	
	comp=E,1742μm,0.5s						
KARP	Karpathos	1.24	71	PN	Pg	01 54 58.8	-1.2
SAP1	Santorini-Akro	1.24	348	P	Pg	01 54 59.5	-0.5
SAP1				S	Sn	01 55 17.6	+2.3
	comp=E,4μm,0.5s						
SAP1	Santorini-Akro	1.24	348	P	Pg	01 54 58.9	-1.2
SANT	Santorini	1.25	350	P	Pg	01 54 58.3	-1.8
SANT				S	Sb	01 55 17.1	+2.0
	comp=E,840nm,0.3s						
SANT	Santorini	1.25	350	P	Pg	01 54 58.3	-1.8
SANT	Santorini	1.25	350	PN	Pg	01 54 59.0	-1.1
SANT	Santorini	1.25	350	*i* P	Pg	01 54 57.1	-3.0
SANT				*i* S	Sg	01 55 15.2	-1.2
VAM	Vamos	1.28	282	P	Pg	01 54 59.0	-1.7
VAM				S	Sg	01 55 17.0	-0.3
	comp=E,978nm,0.3s						
VAM	Vamos	1.28	282	P	Pg	01 54 58.9	-1.7
VAM				AML	AML	01 55 22.2	
	comp=E,1999μm,0.3s						
VAM				AML	AML	01 55 24.3	
	comp=N,1920μm,0.5s						
THT2	Imerovigli	1.31	349	P	Pn	01 54 59.3	-0.5
THT2	Imerovigli	1.31	349	PN	Pn	01 55 00.9	+1.1
SAP3	Santorini-Thir	1.33	347	P	Pn	01 54 59.4	-0.6
CMBO	Columbo, Santo	1.35	349	P	Pn	01 55 01.2	+0.9
CMBO				S	Sn	01 55 20.4	+2.5
	comp=N,1μm,0.6s						
CMBO	Columbo, Santo	1.35	349	P	Pn	01 55 01.0	+0.7
GVD	Gavdhos	1.38	258	P	Pn	01 55 01.0	+0.3
GVD	Gavdhos	1.38	258	P	Pn	01 55 00.8	+0.1
GVD				AML	AML	01 55 29.5	
	comp=E,838μm,0.5s						
GVD				AML	AML	01 55 31.7	
	comp=N,687μm,0.5s						
GVD	Gavdhos	1.38	258	PN	Pn	01 55 01.2	+0.5
CHAN	Chania	1.43	286	P	Pn	01 55 01.9	+0.6
IMMV	Iera Moni Meta	1.46	283	P	Pn	01 55 02.7	+0.9
IMMV	Iera Moni Meta	1.46	283	P	Pn	01 55 02.2	+0.4
IMMV				AML	AML	01 55 28.0	
	comp=E,1657μm,0.6s						
IMMV				AML	AML	01 55 30.1	
	comp=N,1376μm,0.4s						
IMMV	Iera Moni Meta	1.46	283	PN	Pb	01 55 03.5	+0.6
RODP	Rodopos	1.66	285	PN	Pn	01 55 06.2	+1.6
KNDR	Palaiochora Ch	1.67	274	PN	Pb	01 55 06.8	+0.3
AMGA	Amorgos Island	1.69	5	P	Pn	01 55 04.3	-0.7
AMGA				AML	AML	01 55 33.8	
	comp=E,678μm,0.3s						
AMGA				AML	AML	01 55 35.5	
	comp=N,864μm,0.4s						
MHLO	Agia Marina, M	1.88	326	P	Pn	01 55 07.3	-0.3
KOSK	Kos Island	1.90	32	PN	Pn	01 55 08.9	+1.1
MHLA	Plaka, Milos I	1.92	327	P	Pn	01 55 08.7	+0.6
APE	Apeiranthos	1.93	355	P	Pn	01 55 08.1	-0.2
APE	Apeiranthos	1.93	355	PN	Pn	01 55 09.3	+1.0
APE	Apeiranthos	1.93	355	*i* P	Pn	01 55 04.7	-3.6
DAT	Datca	2.18	43	PN	Pn	01 55 12.9	+1.0
ARG	Arkhangelos	2.23	61	P	Pn	01 55 13.5	+1.1
ARG	Arkhangelos	2.23	61	PN	Pn	01 55 13.4	+1.1
SERI	Serifos	2.25	334	P	Pn	01 55 12.0	-0.7
BODT	Bodrum	2.31	33	PN	Pn	01 55 15.1	+1.6
KTHA	Kythira Island	2.44	298	P	Pn	01 55 15.4	+0.2
TURN	Turunc	2.61	51	PN	Pn	01 55 18.9	+1.3
TURN	Turunc	2.61	51	*i* P	Pn	01 55 18.1	+0.5
SMG	Samos	2.71	19	P	Pn	01 55 18.9	-0.1
VLI	Veliai	2.75	306	P	Pn	01 55 19.8	+0.2
VLI	Veliai	2.75	306	P	Pn	01 55 19.7	+0.1
GCAM	G?zelcaml?	2.83	25	PN	Pn	01 55 22.2	+1.6
GCAM	G?zelcaml?	2.83	25	*i* P	Pn	01 55 20.5	-0.1
YER	Yerkesik	2.87	45	PN	Pn	01 55 22.5	+1.2
DALY	Dalyan (Mula)	2.90	54	PN	Pn	01 55 22.9	+1.3
DGB	zmir	3.05	17	*i* P	Pn	01 55 23.4	-0.2
AYDN	Tasoluk	3.06	34	*i* P	Pn	01 55 25.8	+1.9
FETY	Fethiye	3.11	60	PN	Pn	01 55 25.9	+1.4
CHOS	Chios island	3.25	5	PN	Pn	01 55 28.3	+1.8
DION	Dionisos Attik	3.27	334	P	Pn	01 55 27.6	+0.9
URLA	Izmir	3.29	12	PN	Pn	01 55 29.2	+2.2
URLA	Izmir	3.29	12	*i* P	Pb	01 55 32.1	-2.0
AKAS	Kas	3.34	70	PN	Pn	01 55 28.7	+0.9
AKAS	Kas	3.34	70	*i* P	Pn	01 55 29.5	+1.7
AKAS				*i* S	Sn	01 56 10.5	+3.3
AKAS				IAML		01 56 15.0	
	comp=N,19nm,0.7s						
AKAS				IAML		01 56 22.0	
	comp=E,15nm,0.8s						
BLCB	Balcova	3.41	18	PN	Pn	01 55 28.7	+0.2
TAVA	DENIZLI_Tavas	3.46	47	*i* P	Pn	01 55 30.7	+1.2
GOLH	Golhisar	3.74	55	*i* P	Pn	01 55 35.0	+1.7
ELL	Elmali	3.75	64	PN	Pn	01 55 35.1	+1.6
AKUM	Antalya-Kumluc	3.94	71	*i* P	Pn	01 55 39.0	+3.2
ZEDA	zmir-Bergama	3.97	15

baz=60
ANVS ⇓*i*S **Sb** **02 11 32.1 -0.1**
baz=60
PRZ Przheval'sk 0.67 59⇑*i*P **Pg** **02 11 23.0 -1.1**
baz=56
PRZ ⇑*i*S **Sb** **02 11 32.3 -0.7**
baz=56
TNSS Tian-Shan 1.03 331⇓*i*P **Pb** **02 11 30.2 0.0**
baz=30
TNSS ⇑*i*S **Sg** **02 11 44.5 +0.1**
baz=30
TNSS Tian-Shan 1.03 331⇓*i*P **Pb** **02 11 30.2 0.0**
748nm,0.4s
TNSS ⇑*i*S **Sg** **02 11 44.5 +0.1**
3μm,0.5s
TNSS Tian-Shan 1.03 331 P **Pb** **02 11 30.2 0.0**
748nm,0.4s
TNSS S **Sg** **02 11 44.5 +0.1**
2μm,0.3s
TNSS Tian-Shan 1.03 331 *i* PG **Pb** **02 11 30.2 0.0**
ULHL Ulahol 1.03 276⇑*i*P **Pb** **02 11 30.0 -0.2**
baz=77
ULHL ⇑*i*S **Sb** **02 11 44.5 +1.0**
baz=77
ULHL Ulahol 1.03 276 P **Pb** **02 11 30.3 +0.1**
186nm,0.2s,SNR=445
ULHL ⇑S **Sb** **02 11 45.0 +1.5**
915nm,0.4s
SATY Saty 1.09 32⇓*i*P **Pb** **02 11 30.3 -0.8**
907nm,0.3s
SATY ⇓*i*S **Sn** **02 11 45.0 -0.8**
4μm,0.1s
SATY Saty 1.09 32 P **Pb** **02 11 30.3 -0.8**
907nm,0.3s
SATY S **Sn** **02 11 45.1 -0.8**
4μm,0.1s
SATY Saty 1.09 32 *i* PG **Pb** **02 11 30.3 -0.8**
MDOK Medeo 1.11 338⇑*i*P **Pb** **02 11 31.4 -0.1**
baz=36
MDOK ⇑*i*S **Sn** **02 11 46.6 +0.2**
baz=36
MDOK Medeo 1.11 338⇑*i*P **Pb** **02 11 31.4 -0.1**
365nm,0.3s
MDOK ⇑*i*S **Sn** **02 11 46.6 +0.2**
2μm,0.6s
MDOK Medeo 1.11 338 Pg **Pb** **02 11 31.4 -0.1**
365nm,0.3s
MDOK Lg Lg 02 11 46.5
1μm,0.6s
MDOK Medeo 1.11 338 *i* PG **Pb** **02 11 31.4 -0.1**
KOTS Kotyrbulak 1.16 341⇓*i*P **Pn** **02 11 32.4 +0.2**
baz=40
KOTS ⇓*i*S **Sn** **02 11 48.3 +0.6**
baz=40
KOTS Kotyrbulak 1.16 341⇓*i*P **Pn** **02 11 32.4 +0.2**
963nm,0.4s
KOTS ⇓*i*S **Sn** **02 11 48.3 +0.6**
2μm,0.5s
KOTS Kotyrbulak 1.16 341 P **Pn** **02 11 32.4 +0.2**
963nm,0.4s
KOTS S **Sn** **02 11 48.2 +0.6**
2μm,0.5s
KOTS Kotyrbulak 1.16 341 *i* PG **Pn** **02 11 32.4 +0.2**
IZV Izvestkoviy 1.17 321⇓*i*P **Pn** **02 11 32.6 +0.3**
baz=20
IZV ⇓*i*S **Sg** **02 11 48.7 +0.1**
baz=20
IZV Izvestkoviy 1.17 321⇓*i*P **Pn** **02 11 32.6 +0.3**
408nm,0.5s
IZV ⇓*i*S **Sg** **02 11 48.8 +0.1**
826nm,0.4s
IZV Izvestkoviy 1.17 321 P **Pn** **02 11 32.7 +0.3**
408nm,0.5s
IZV S **Sg** **02 11 48.8 +0.1**
826nm,0.4s
IZV Izvestkoviy 1.17 321 *i* PG **Pn** **02 11 32.6 +0.3**
IZV *i* S **Sg** **02 11 48.8 +0.1**
KNDC Almaty 1.18 336⇑P **Pb** **02 11 32.9 +0.2**
494nm,0.5s
KNDC ⇓S **Sg** **02 11 49.6 +0.5**
3μm,0.6s
KNDC Almaty 1.18 336 PG **Pn** **02 11 32.7 +0.3**
AAA Alma-Ata 1.19 334⇓*i*P **Pg** **02 11 33.6 -0.2**
baz=33
AAA ⇑*i*S **Sg** **02 11 50.2 +0.8**
baz=33
AAA Alma-Ata 1.19 334⇓*i*P **Pg** **02 11 33.6 -0.2**
3μm,0.3s
AAA ⇑*i*S **Sg** **02 11 50.2 +0.8**
4μm,0.3s
AAA Alma-Ata 1.19 334 P **Pg** **02 11 33.6 -0.2**
3μm,0.3s
AAA S **Sg** **02 11 50.2 +0.8**
4μm,0.3s
AAA Alma-Ata 1.19 334 *i* PG **Pg** **02 11 33.6 -0.2**
MTBS Maitube 1.32 319⇓*i*P **Pb** **02 11 35.4 +0.3**
baz=18
MTBS ⇓*i*S **Sg** **02 11 53.9 +0.2**
baz=18
MTBS Maitube 1.32 319⇓*i*P **Pb** **02 11 35.4 +0.3**
250nm,0.3s
MTBS ⇓*i*S **Sg** **02 11 53.9 +0.2**
1μm,0.3s
MTBS Maitube 1.32 319 P **Pb** **02 11 35.4 +0.3**
250nm,0.3s
MTBS S **Sg** **02 11 53.9 +0.2**
1μm,0.3s
MTBS Maitube 1.32 319 *i* P* **Pb** **02 11 35.4 +0.3**
MTBS *i* S **Sg** **02 11 53.9 +0.2**
KURS Kuram 1.41 16⇓*i*P **Pb** **02 11 36.3 -0.2**
baz=15
KURS ⇑*i*S **Sg** **02 11 55.1 -1.2**
baz=15
KURS Kuram 1.41 16⇓*i*P **Pb** **02 11 36.3 -0.2**
719nm,0.5s
KURS ⇑*i*S **Sg** **02 11 55.1 -1.2**
1μm,0.4s
KURS Kuram 1.41 16 P **Pb** **02 11 36.3 -0.2**
719nm,0.5s
KURS S **Sg** **02 11 55.3 -1.0**
1μm,0.4s
KURS Kuram 1.41 16 *i* PN **Pb** **02 11 36.3 -0.2**
KURS *i* S **Sg** **02 11 55.1 -1.2**
UZB Uzynbulak 1.44 45 *e*P **Pb** **02 11 36.3 -0.9**
baz=44
UZB ⇑*i*S **Sb** **02 11 55.0 -0.2**
baz=44
UZB Uzynbulak 1.44 45 *e*P **Pb** **02 11 36.3 -0.9**
701nm,0.2s
UZB ⇑*i*S **Sb** **02 11 55.0 -0.2**
3μm,0.4s
UZB Uzynbulak 1.44 45 P **Pb** **02 11 36.3 -0.9**
701nm,0.2s
UZB S **Sb** **02 11 55.1 -0.2**
3μm,0.3s
UZB Uzynbulak 1.44 45 *e*PN **Pb** **02 11 36.3 -0.9**
UZB *i* S **Sb** **02 11 55.0 -0.2**
KST Kastek 1.52 307⇓*i*P **Pb** **02 11 38.9 +0.4**
baz=7.0
KST ⇓*i*S **Sg** **02 11 59.9 -0.1**
baz=7.0
KST Kastek 1.52 307⇓*i*P **Pb** **02 11 38.9 +0.4**
159nm,0.2s
KST ⇓*i*S **Sg** **02 11 59.9 -0.1**
1μm,0.7s
KST Kastek 1.52 307 P **Pb** **02 11 39.2 +0.6**
159nm,0.2s
KST S **Sg** **02 11 59.8 -0.1**
1μm,0.7s
KST Kastek 1.52 307 *i* PN **Pb** **02 11 38.9 +0.4**
KST *i* S **Sg** **02 11 59.9 -0.1**
KPKS Kokpek 1.54 30⇓*i*P **Pb** **02 11 38.4 -0.4**
baz=29
KPKS ⇑*i*S **Sg** **02 11 58.5 -2.0**
baz=29
KPKS Kokpek 1.54 30⇓*i*P **Pb** **02 11 38.4 -0.4**
2μm,0.1s
KPKS ⇑*i*S **Sg** **02 11 58.5 -2.0**
5μm,0.2s
KPKS Kokpek 1.54 30 *i* PN **Pb** **02 11 38.4 -0.4**
KPKS *i* S **Sg** **02 11 58.5 -2.0**
TKM2 Tokmak 2 1.69 298⇑*i*P **Pb** **02 11 41.5 +0.1**
baz=98
TKM2 ⇑*i*S **Sb** **02 12 04.3 +1.9**
baz=98
TKM2 Tokmak 2 1.69 298⇑P **Pb** **02 11 41.8 +0.4**
203nm,0.3s,SNR=299
TKM2 ⇑S **Sg** **02 12 05.2 -0.1**
1μm,0.2s
TKM2 Tokmak 2 1.69 298⇑P **Pb** **02 11 41.8 +0.4**
76nm,0.3s
TKM2 ⇓S **Sg** **02 12 05.0 -0.3**
625nm,0.3s
TKM2 Tokmak 2 1.69 298 PN **Pb** **02 11 41.9 +0.4**
TKM2 02 12 05.2
SHLS Shalkode 1.70 53 *e*P **Pg** **02 11 45.8 +2.4**
634nm,0.3s
SHLS *e*S **Sg** **02 12 11.3 +5.8**
3μm,0.4s
SHLS Shalkode 1.70 53 Pg **Pg** **02 11 45.8 +2.4**
579nm,0.3s
SHLS Lg Lg 02 12 11.3
3μm,0.4s
SHLS Shalkode 1.70 53 *e*PN **Pg** **02 11 45.8 +2.4**
SHLS *e*S **Sg** **02 12 11.3 +5.8**
KTBS Karatobe 1.72 337⇓*i*P **Pb** **02 11 42.4 +0.6**
488nm,0.3s
KTBS ⇓*i*S **Sg** **02 12 05.2 -0.9**
5μm,0.3s
KTBS Karatobe 1.72 337 P **Pb** **02 11 42.4 +0.6**
488nm,0.3s
KTBS S **Sg** **02 12 05.2 -0.9**
5μm,0.3s
KTBS Karatobe 1.72 337 *i* PN **Pb** **02 11 42.4 +0.6**
KTBS *i* S **Sg** **02 12 05.2 -0.9**
KZA Kyzart 1.77 269⇓*i*P **Pb** **02 11 43.1 +0.2**
baz=69
KZA ⇓*i*S **Sb** **02 12 06.4 +1.6**
baz=69
KZA Kyzart 1.77 269⇓P **Pb** **02 11 43.5 +0.6**
192nm,0.3s,SNR=182
KZA ⇑S **Sb** **02 12 07.5 +2.7**
430nm,0.3s
CHKK Chushkaly 1.78 345⇓*i*P **Pb** **02 11 43.4 +0.6**
baz=44
CHKK ⇓*i*S **Sg** **02 12 07.2 -0.9**
baz=44
CHKK Chushkaly 1.78 345⇓*i*P **Pb** **02 11 43.4 +0.6**
2μm,0.4s
CHKK ⇓*i*S **Sg** **02 12 07.2 -0.9**
3μm,0.3s
CHKK Chushkaly 1.78 345 P **Pb** **02 11 43.4 +0.6**
2μm,0.4s
CHKK S **Sg** **02 12 07.2 -0.9**
3μm,0.3s
CHKK Chushkaly 1.78 345 *i* PN **Pb** **02 11 43.4 +0.6**
CHKK *i* S **Sg** **02 12 07.2 -0.9**
PDGK Podgornoye 1.82 49⇓P **Pb** **02 11 42.9 -0.6**
355nm,0.3s
PDGK ⇑S **Sb** **02 12 06.2 +0.2**
3μm,0.5s
PDGK Podgornoye 1.82 49 PN **Pb** **02 11 42.8 -0.8**
PDGK 02 12 06.2
KUU Kurty 1.99 332 *e*P **Pb** **02 11 46.9 +0.5**
301nm,0.6s
KUU *e*S **Sg** **02 12 13.7 -1.1**
2μm,0.5s
KUU Kurty 1.99 332 Pg **Pb** **02 11 46.9 +0.5**
301nm,0.6s
KUU Lg Lg 02 12 13.7
2μm,0.5s
KUU Kurty 1.99 332 *e*PN **Pb** **02 11 46.9 +0.5**
KUU *e*S **Sg** **02 12 13.7 -1.1**
MNBS Baschi 2.02 16 *e*P **Pb** **02 11 47.1 +0.1**
927nm,0.3s
MNBS *e*S **Sg** **02 12 14.6 -1.3**
6μm,0.4s
MNBS Baschi 2.02 16 Pg **Pb** **02 11 47.1 +0.1**
927nm,0.3s
MNBS Lg Lg 02 12 14.6
6μm,0.4s
MNBS Baschi 2.02 16 *e*PN **Pb** **02 11 47.1 +0.1**
MNBS *e*S **Sg** **02 12 14.6 -1.3**
KBK Karagaybulak 2.05 286⇓*i*P **Pb** **02 11 46.8 -0.7**
baz=86
KBK ⇓*i*S **Sb** **02 12 13.0 +0.3**
baz=86
KBK Karagaybulak 2.05 286⇑P **Pb** **02 11 48.0 +0.5**
154nm,0.3s,SNR=93
KBK ⇓S **Sg** **02 12 16.0 -0.7**
622nm,0.3s
ARXS Arharly 2.08 4⇓*i*P **Pb** **02 11 47.8 -0.2**
632nm,0.3s
ARXS ⇓*i*S **Sg** **02 12 15.5 -2.2**
3μm,0.5s
ARXS Arharly 2.08 4 Pg **Pb** **02 11 47.8 -0.2**
388nm,0.3s
ARXS Lg Lg 02 12 15.5
3μm,0.5s
ARXS Arharly 2.08 4 *i* PN **Pb** **02 11 47.8 -0.2**
ARXS *i* S **Sg** **02 12 15.5 -2.2**
KRBS Karabastau 2.11 318 *e*P **Pb** **02 11 49.0 +0.4**
171nm,0.3s
KRBS *e*S **Sg** **02 12 17.0 -1.8**
206nm,0.5s
KRBS Karabastau 2.11 318 Pg **Pb** **02 11 49.0 +0.4**
171nm,0.3s
KRBS Lg Lg 02 12 17.0
206nm,0.5s
KRBS Karabastau 2.11 318 *e*PN **Pb** **02 11 49.0 +0.4**
KRBS *e*S **Sg** **02 12 17.0 -1.8**
CHMS Chumysh 2.29 293⇑*e*P **Pn** **02 11 50.0 +2.4**
baz=93
CHMS ⇑*i*S **Sn** **02 12 18.5 +3.1**
baz=93
CHMS Chumysh 2.29 293⇑P **Pb** **02 11 51.0 -0.5**
83nm,0.4s,SNR=38
CHMS ⇑S **Sb** **02 12 21.9 +2.4**
420nm,0.3s
FRU1 Bishkek 2.31 288⇑*i*P **Pn** **02 11 50.2 +2.2**
baz=88
FRU1 ⇑*i*S **Sn** **02 12 19.0 +3.0**
baz=88
UCH Uchtor 2.31 273⇑*i*P **Pn** **02 11 50.6 +2.3**
baz=74
UCH ⇑*i*S **Sn** **02 12 19.7 +3.2**
baz=74
UCH Uchtor 2.31 273⇑P **Pb** **02 11 52.6 +0.4**
105nm,0.4s,SNR=108
AAK Ala-Archa 2.37 283 Pn **Pb** **02 11 53.0 0.0**
25nm,0.3s,baz=98,slow=10.0,SNR=67
AAK Lg Lg 02 12 25.0
60nm,0.3s,baz=211,slow=9.0,SNR=19
AAK LR LR 02 12 28.4
comp=Z,15nm,19.8s,baz=82,slow=33
AAK Ala-Archa 2.37 283⇓*i*P **Pn** **02 11 51.0 +2.1**
baz=83
AAK ⇓*i*S **Sn** **02 12 20.5 +2.9**
baz=83
AAK Ala-Archa 2.37 283⇓P **Pb** **02 11 53.0 0.0**
53nm,0.3s,SNR=50
AAK Ala-Archa 2.37 283⇑Pn **Pb** **02 11 52.9 0.0**
81nm,0.5s
AAK ⇓Lg Lg 02 12 25.6
342nm,0.8s
AAK Ala-Archa 2.37 283 PN **Pb** **02 11 52.9 0.0**
AAK 02 12 25.8
KTMS Ketmen 2.40 56 *e*P **Pb** **02 11 52.9 -0.5**
1.8nm,0.3s
KTMS *e*S **Sb** **02 12 23.4 +0.7**
1μm,0.4s
KTMS Ketmen 2.40 56 Pg **Pb** **02 11 52.9 -0.5**
1.8nm,0.3s
KTMS Lg Lg 02 12 23.4
1μm,0.4s
KTMS Ketmen 2.40 56 *e*PN **Pb** **02 11 52.9 -0.5**
KTMS *e*S **Sb** **02 12 23.4 +0.7**
ARLS Aral 2.48 265⇑*i*P **Pn** **02 11 52.5 +2.2**
baz=65
ARLS ⇑*i*S **Sn** **02 12 23.2 +3.1**
baz=65
USP Ospenovka 2.56 297⇓*i*P **Pn** **02 11 53.6 +2.2**
baz=97
USP ⇓*i*S **Sn** **02 12 25.2 +3.1**
baz=97
USP Ospenovka 2.56 297⇑P **Pb** **02 11 54.5 -1.7**
31nm,0.2s,SNR=35
SGDS Sogindy 2.56 302 Pg **Pb** **02 11 57.1 +0.8**
177nm,0.3s
SGDS Lg Lg 02 12 30.5
540nm,0.4s
DJR Jarkent 2.70 35 *e*P **Pb** **02 11 57.8 -0.9**
125nm,0.3s
DJR *e*S **Sb** **02 12 32.6 +1.1**
1μm,0.4s
DJR Jarkent 2.70 35 Pg **Pb** **02 11 57.6 -1.1**
125nm,0.3s
DJR Lg Lg 02 12 31.4
1μm,0.4s
DJR Jarkent 2.70 35 *e*PN **Pb** **02 11 57.8 -0.9**
DJR *e*S **Sb** **02 12 32.6 +1.1**
EKS2 Erkin-Say 2.90 282⇑*i*P **Pn** **02 11 58.5 +2.4**
baz=82
EKS2 ⇑*i*S **Sn** **02 12 33.2 +2.7**
baz=82
EKS2 Erkin-Say 2.90 282⇑P **Pb** **02 12 00.4 -1.6**
41nm,0.4s,SNR=21
KSH Kashi 2.90 206 Pn Pg 02 12 12.0 +5.6
KSH Sn Sg 02 12 58.7 +15
KSH smax smax
comp=N,4μm,0.5s
KSH smax smax
comp=E,4μm,0.6s
TDK Taldyqorghan 2.92 11 *e*P **Pb** **02 12 03.0 +0.7**
354nm,0.5s
TDK *e*S **Sb** **02 12 40.0 +2.4**
2μm,0.4s
TDK Taldyqorghan 2.92 11 Pg **Pb** **02 12 02.2 -0.1**
354nm,0.5s
TDK Lg Lg 02 12 39.3
2μm,0.4s
TDK Taldyqorghan 2.92 11 *e*PN **Pb** **02 12 03.0 +0.7**
TDK *e*S **Sb** **02 12 40.0 +2.4**
AML Almayashu 2.92 271⇑*i*P **Pn** **02 11 59.1 +2.4**
baz=72
AML ⇑*i*S **Sn** **02 12 34.4 +2.9**
baz=72
MRKS Merke 3.31 282 *e*P **Pb** **02 12 11.3 +2.4**
54nm,0.5s
MRKS *e*S **Sg** **02 12 54.8 -2.3**
134nm,0.3s
MRKS Merke 3.31 282 Pg **Pb** **02 12 11.3 +2.4**
53nm,0.5s
MRKS Lg Lg 02 12 54.8
91nm,0.7s
MRKS Merke 3.31 282 *e*PN **Pb** **02 12 11.3 +2.4**
MRKS *e*S **Sg** **02 12 54.8 -2.3**
BTLS Baital 3.89 319 *e*P **Pb** **02 12 21.9 +3.1**
48nm,0.5s
BTLS *e*S **Sg** **02 13 13.5 -2.3**
100nm,0.5s
BTLS Baital 3.89 319 Pg **Pb** **02 12 20.8 +1.9**
48nm,0.5s
BTLS Lg Lg 02 13 11.2
100nm,0.5s
BTLS Baital 3.89 319 *e*PN **Pb** **02 12 21.9 +3.1**
BTLS *e*S **Sg** **02 13 13.5 -2.3**
ARK Arkit 4.23 267⇑*i*P **Pn** **02 12 16.8 +2.4**
baz=67
ARK ⇑*i*S **Sn** **02 13 04.9 +1.4**
baz=67
KK31 Karatay Array 5.33 283⇑Pg **Pg** **02 12 49.6 -3.3**
9.6nm,0.5s,baz=92,slow=16,SNR=12
KK31 Lg Lg 02 14 02.7
48nm,0.6s,baz=94,slow=29,SNR=5.2
KK31 Karatay Array 5.33 283 *e*PG **Pg** **02 12 52.4 -0.5**
MAKZ Makanchi 5.61 32⇑Pn **Pn** **02 12 36.9 +3.6**
5.6nm,0.3s
MAKZ ⇑Pg **Pg** **02 12 53.6 -4.5**
32nm,0.9s
MAKZ ⇑Lg Lg 02 14 06.7
49nm,0.6s
MAKZ Makanchi 5.61 32 PN **Pn** **02 12 34.9 +1.6**
MAKZ Makanchi 5.61 32 **Pn** **02 12 34.9 +1.6**
MAKZ Sn **Sn** **02 13 38.0 +0.7**
IUG Iuzhnay 5.64 273 *e*P **Pg** **02 12 55.1 -3.7**
29nm,0.7s
IUG *e*S **Sg** **02 14 10.0 -1.8**
88nm,0.8s
MK31 Makanchi Array 5.73 34⇑Pn **Pn** **02 12 38.2 +3.3**
3.3nm,0.2s,baz=201,slow=15,SNR=140
MK31 ⇓Sn **Sn** **02 13 42.6 +2.5**
39nm,0.7s
MK31 ⇑Lg Lg 02 14 13.1
14nm,0.3s,baz=212,slow=27,SNR=4.9
MK31 Makanchi Array 5.73 34 PN **Pn** **02 12 35.8 +1.0**
MK31 Makanchi Array 5.73 34 **Pn** **02 12 35.8 +1.0**
MK31 Sn **Sn** **02 13 40.1 0.0**
MKAR Makanchi Array 5.73 34 Pn **Pn** **02 12 37.6 +2.8**
1.4nm,0.3s,baz=211,slow=15,SNR=60
MKAR Sn **Sn** **02 13 43.3 +3.2**
6.1nm,0.3s,baz=216,slow=26,SNR=5.7
MKAR Lg Lg 02 14 04.2
13nm,0.3s,baz=212,slow=27,SNR=6.9
MKAR Makanchi Array 5.73 34 **Pn** **02 12 36.9 +2.0**
MKAR **Sn** **02 13 39.8 -0.3**
BRLS Borolday 5.82 281 *e*P **Pg** **02 12 58.6 -3.5**
2.7nm,0.1s
BRLS *e*S **Sg** **02 14 16.2 -1.2**
40nm,0.6s
BRLS Borolday 5.82 281 Pg **Pg** **02 12 59.0 -3.1**
2.7nm,0.1s
BRLS Lg Lg 02 14 16.5
40nm,0.6s
GAR Garm 6.38 243 **Pn** **02 12 44.8 +0.8**
CHGR Chuyangaron 7.34 244 **Pn** **02 12 57.9 +0.9**
ZSN Zaisan 7.40 42 *e*P Pb 02 13 23.3 +4.8
15nm,0.4s
ZSN *e*S Sg 02 14 58.2 -10
30nm,0.6s
WMQ Urumqi 7.58 74 Pn **Pn** **02 13 01.5 +1.2**
WMQ Sn **Sn** **02 14 26.8 +1.1**
KURBB Kurchatov Arra 8.51 4 Pn **Pn** **02 13 14.6 +1.7**
0.1nm,0.3s,baz=190,slow=12,SNR=13
KURBB Sn **Sn** **02 14 45.5 -3.0**
0.5nm,0.3s,baz=289,slow=31,SNR=4.7
KURBB Lg Lg 02 15 31.1
0.6nm,0.3s,baz=186,slow=28,SNR=6.1
KURBB Kurchatov Arra 8.51 4⇑Pn **Pn** **02 13 16.6 +3.6**
4.1nm,0.4s
KURBB ⇑Lg Lg 02 15 40.8
145nm,0.8s
BRZS Berezniki 8.56 338 *e*P Pn 02 13 47.8 +34
18nm,0.8s
BRZS *e*S Sn 02 15 40.2 +50
55nm,0.7s
KURK Kurchatov 8.61 4⇓Pn **Pn** **02 13 16.9 +2.6**
6.3nm,0.9s
KURK ⇓Lg Lg 02 15 43.6
109nm,0.9s
KURK Kurchatov 8.61 4 *i* P **Pn** **02 13 16.3 +2.0**
NIL Nilore 9.15 204 P **Pn** **02 13 25.0 +3.1**
NIL Nilore 9.15 204 **Pn** **02 13 25.0 +3.1**
DGZ Jazzator, Alta 10.19 39 *i* P **Pn** **02 13 38.8 +2.7**
BVAR Borovoye Array 11.93 338 Pn **Pn** **02 13 59.9 +0.1**
0.4nm,0.3s,baz=147,slow=13,SNR=6.8
BVAR Sn **Sn** **02 16 10.3 -2.0**
0.6nm,0.3s,baz=141,slow=17,SNR=5.1
BVAR Lg Lg 02 17 22.7
1.0nm,0.3s,baz=145,slow=28,SNR=2.2
BRVK Borovoye 11.99 338⇑Pn **Pn** **02 14 00.4 -0.2**
8.5nm,0.9s
BRVK ⇓Sn **Sn** **02 16 21.3 +7.6**
8.6nm,0.8s
BRVK ⇓Lg Lg 02 17 31.5
83nm,1.1s
BRVK Borovoye 11.99 338 *i* P **Pn** **02 14 01.4 +0.8**
ZAA0 Zalesovo Array 12.75 20 **Pn** **02 14 11.9 +0.9**
ZALV Zalesovo Beam 12.75 20 Pn **Pn** **02 14 12.5 +1.5**
0.4nm,0.3s,baz=216,slow=16,SNR=5.2
ZALV Lg Lg 02 17 48.7
baz=207,slow=25,SNR=1.4
ZALV Zalesovo Beam 12.75 20 **Pn** **02 14 12.9 +1.9**
ABKAR Akbulak array 14.24 306 **Pn** **02 14 31.1 -0.2**
AKTO Aktyubinsk 15.86 308 Pn **Pn** **02 14 51.4 -1.5**
0.1nm,0.3s,baz=109,slow=11,SNR=1.6
AKTO Sn **Sn** **02 17 43.3 -4.7**
0.2nm,0.3s,baz=55,slow=20,SNR=1.7
AKTO Lg Lg 02 19 28.9
0.1nm,0.3s,baz=32,slow=18,SNR=2.4
AKTO LR LR 02 21 23.6
comp=Z,44nm,18.9s,baz=72,slow=38
ARU Arti 18.85 326 P **Pn** **02 15 31.6 +1.4**
0.0nm,0.3s,baz=139,slow=6.5,SNR=6.3
ARU S **S** **02 19 04.8 +1.7**
0.0nm,0.3s,baz=311,slow=21,SNR=1.2
ARU Lg Lg 02 21 00.7
0.0nm,0.3s,baz=142,slow=21,SNR=1.4
ARU Arti 18.85 326*c* *i*P **Pn** **02 15 30.5 +0.3**
ARU S **Sn** **02 19 02.4 +1.9**
ARU pmax pmax

comp=Z,3.0nm,0.7s
TLY **Talaya** 20.08 53 *i* P **P** 02 15 42.5 -0.6
TLY pmax pmax
comp=Z,4.0nm,1.1s
SONM **Songino Array** 21.06 64 P **P** 02 15 54.3 +0.5
comp=Z,5.1nm,0.9s,baz=268,slow=12,SNR=20
SONM **Songino Array** 21.06 64 P **P** 02 15 53.9 0.0
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM **Songino Array** 21.06 64 P **P** 02 15 53.9 0.0
ULN **Ulaanbaatar** 21.50 64 *i* P **P** 02 15 59.2 +0.6
ULN pmax pmax
comp=Z,5.0nm,1.3s
KIV **Kislovodsk** 25.48 286 *e*P **P** 02 16 38.6 +0.7
KIV pmax pmax
comp=Z,19nm,1.1s
NRIK **Noril'sk** 27.75 8 *i* P **P** 02 16 57.7 -0.2
NRIK pmax pmax
comp=Z,3.0nm,1.1s
OBN **Obninsk** 29.62 310 *i* P **P** 02 17 15.6 +1.0
OBN pmax pmax
comp=Z,2.0nm,0.7s
CMAR **Chiang Mai Arr** 29.77 136 LR LR 02 29 55.7
comp=Z,11nm,20.4s,baz=205,slow=38
BRTR **Keskin Array B** 33.05 281 P **P** 02 17 46.3 +1.1
comp=Z,0.2nm,0.4s,baz=74,slow=9.6,SNR=3.3
BRTR **Keskin Array B** 33.05 281 P **P** 02 17 43.9 -1.3
BRTR **Keskin Array B** 33.05 281 P **P** 02 17 43.9 -1.3
FINES **FINESS Array B** 36.05 320 P **P** 02 18 11.3 +0.6
comp=Z,2.9nm,0.9s,baz=101,slow=8.7,SNR=6.4
FINES LR LR 02 34 33.9
comp=Z,82nm,19.0s,baz=24,slow=39
FINES **FINESS Array B** 36.05 320 P **P** 02 18 09.6 -1.1
FINES **FINESS Array B** 36.05 320 P **P** 02 18 09.6 -1.1
ARCES **ARCESS Array B** 38.15 333 P **P** 02 18 29.2 +0.7
comp=Z,1.2nm,0.8s,baz=98,slow=8.7,SNR=6.2
VYHS **Vyhne** 40.93 300 *e*P **P** 02 18 52.7 +0.8
VYHS **Vyhne** 40.93 300 *e*P **P** 02 18 52.7 +0.8
VRAC **Vranov** 42.17 301 LR LR 02 39 09.4
comp=Z,17nm,18.8s,baz=18,slow=40
NB2 **NORSAR Subarra** 43.21 319 P **P** 02 19 11.1 +0.7
comp=Z,3.1nm,0.8s,baz=87,slow=8.6
NOA **NORSAR Array B** 43.21 319 P **P** 02 19 11.1 +0.7
comp=Z,1.0nm,0.6s,baz=86,slow=8.0,SNR=3.6
CLL **Collm** 43.91 305 *e*(P) **P** 02 19 17.0 +0.9
CLL *e*PP **PP** 02 20 57.0 -1.2
CLL *e*(sPP) 02 21 20.0
GERES **GERESS Array B** 44.12 302 P **P** 02 19 18.2 +0.2
comp=Z,0.3nm,0.5s,baz=79,slow=10,SNR=2.1
GERES **GERESS Array B** 44.12 302 P **P** 02 19 16.3 -1.7
GERES **GERESS Array B** 44.12 302 P **P** 02 19 16.3 -1.7
ILAR **Eielson Array** 67.87 19 P **P** 02 22 05.9 -1.6
comp=Z,0.7nm,0.8s,baz=312,slow=6.2,SNR=8.5
ILAR **Eielson Array** 67.87 19 P **P** 02 22 06.6 -0.9
ILAR **Eielson Array** 67.87 19 P **P** 02 22 06.6 -0.9
TOA0 **Torodi Ar. Sit** 70.90 271 P **P** 02 22 24.9 -2.1
TORD **Torodi Ar. Bea** 70.90 271 P **P** 02 22 26.9 -0.1
comp=Z,0.7nm,0.6s,baz=47,slow=5.2,SNR=2.6
TORD **Torodi Ar. Bea** 70.90 271 P **P** 02 22 25.1 -1.9
YKA **Yellowknife Ar** 75.25 6 P **P** 02 22 52.0 0.0
comp=Z,1.4nm,0.7s,baz=351,slow=6.3,SNR=6.5
MATP **Matopo** 77.02 227 P **P** 02 23 01.2 -1.4
comp=Z,1.1nm,0.5s,baz=38,slow=6.4,SNR=5.7
WRA **Warramunga Arr** 80.95 127 P **P** 02 23 23.3 -0.8
comp=Z,1.5nm,0.8s,baz=325,slow=5.2,SNR=10
WRA **Warramunga Arr** 80.95 127 P **P** 02 23 23.2 -0.9
WRA **Warramunga Arr** 80.95 127 P **P** 02 23 23.2 -0.9
WB2 **Warramunga Arr** 80.95 127 P **P** 02 23 24.2 +0.1
WR0 **Warramunga Arr** 81.08 127 P **P** 02 23 24.9 +0.1
WR0 IAmb IAmb 02 23 36.2
comp=Z,4.7nm,1.1s
NWAO **Narrogin (SRO)** 83.09 147 P **P** 02 23 33.4 -1.6
NWAO pmax pmax
comp=Z,2.0nm,0.6s
NWAO **Narrogin (SRO)** 83.09 147 P **P** 02 23 33.4 -1.6
NWAO IAmb IAmb 02 23 43.7
comp=Z,1.8nm,0.6s
ASAR **Alice Springs** 83.58 130 P **P** 02 23 36.1 -1.8
comp=Z,0.4nm,0.5s,baz=316,slow=4.8,SNR=6.3
ASAR **Alice Springs** 83.58 130 P **P** 02 23 36.3 -1.5

*ANF **03** 02:38:34.8±0.1,33°.79N×116°.96W,h15km±1km,ML3.6/39,*
Error ellipse: s-maj=1.1km s-min=1.0km az=41.0
*SCEDC **03** 02:38:35.9,33°.80N×116°.96W,h14km*
*PAS **03** 02:38:35.9±0.7,33°.799N±0°.007×116°.964W±0°.009,*
h14km±1km,ML3.6/241,Error ellipse: s-maj=1.1km
s-min=0.9km az=222.0
ISC 03 02:38:35.4±0.8,**33°.79N**±0°.01×**116°.97W**±0°.01,**h17**km±4km,
n162,σ0=**61**/243,**Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMTC	**Hemet**	**0.09**	**201**		**Pg**	**02 38 38.7**	**-0.1**
HMTC					**Sg**	**02 38 40.8**	**-0.3**
POB	**Polly Butte**	**0.11**	**160**		**Pb**	**02 38 39.0**	**-0.1**
POB					**Sb**	**02 38 41.4**	**-0.2**
BBSC	**Beaumont Base**	**0.13**	**355**		**Pg**	**02 38 39.1**	**-0.2**
BBSC					**Sg**	**02 38 41.8**	**-0.3**
BACC	**Bachelor Mtn.**	**0.19**	**199**		**Pg**	**02 38 40.1**	**+0.1**
BACC					**Sg**	**02 38 43.2**	**+0.1**
MURC	**Murrieta**	**0.27**	**225**	P	**Pg**	**02 38 41.1**	**-0.2**
	baz=44						
MURC				S	**Sg**	**02 38 45.5**	**+0.1**
	baz=44						
MURC	**Murrieta**	**0.27**	**225**		**Pg**	**02 38 41.5**	**+0.2**
MURC					**Sg**	**02 38 45.6**	**+0.3**
GVDA	**Garner Valley**	**0.27**	**116**		**Pg**	**02 38 41.2**	**-0.2**
GVDA					**Sg**	**02 38 45.2**	**-0.4**
CFT	**Crafton Hills**	**0.27**	**334**		**Pg**	**02 38 41.4**	**-0.1**
CFT					**Sg**	**02 38 45.5**	**-0.1**
CRY	**Cary Ranch**	**0.29**	**139**		**Pg**	**02 38 41.9**	**+0.1**
CRY					**Sg**	**02 38 46.2**	**0.0**
SME	**Santa Rosa Min**	**0.33**	**276**		**Pg**	**02 38 42.1**	**-0.1**
SVD	**Seven Oaks Dam**	**0.34**	**341**		**Pg**	**02 38 42.3**	**-0.2**
SVD					**Sg**	**02 38 47.1**	**-0.2**
RSBC	**Riverside Bore**	**0.35**	**302**		**Pg**	**02 38 42.6**	**-0.1**
RSBC					**Sg**	**02 38 47.0**	**-0.7**
RSBC	**Riverside Bore**	**0.35**	**302**		**Pg**	**02 38 42.5**	**-0.3**
RSBC					**Sg**	**02 38 47.2**	**-0.5**
DEVC	**Devers**	**0.36**	**65**		**Pg**	**02 38 42.9**	**+0.1**
DEVC					**Sg**	**02 38 47.9**	**0.0**
DNR	**Dunn Ranch,Anz**	**0.36**	**128**		**Pg**	**02 38 43.0**	**+0.2**
DNR					**Sg**	**02 38 48.5**	**+0.6**
SNDA	**J Saunders Pla**	**0.38**	**129**		**Pg**	**02 38 43.4**	**+0.1**
SNDA					**Sg**	**02 38 48.9**	**+0.3**
BZNA	**Buzz No.'s Pla**	**0.39**	**140**		**Pg**	**02 38 43.6**	**+0.2**
BZNA					**Sg**	**02 38 49.0**	**+0.2**
HLNC	**Highland**	**0.39**	**328**		**Pg**	**02 38 43.4**	**-0.1**
RVR	**Riverside**	**0.40**	**301**		**Pg**	**02 38 43.1**	**-0.4**
RVR					**Sg**	**02 38 48.4**	**-0.6**
ELS	**Elsinore Mount**	**0.41**	**250**		**Pg**	**02 38 43.8**	**0.0**
ELS					**Sg**	**02 38 49.5**	**0.0**
CFSC	**Central Fire S**	**0.41**	**320**		**Pg**	**02 38 43.9**	**+0.1**
CFSC					**Sg**	**02 38 49.4**	**-0.1**
CLTC	**Calectric**	**0.42**	**316**		**Pg**	**02 38 44.0**	**+0.1**
CLTC					**Sg**	**02 38 50.0**	**+0.3**
FRD	**Ford Ranch, An**	**0.42**	**134**		**Pg**	**02 38 44.2**	**+0.1**
FRD					**Sg**	**02 38 49.9**	**+0.1**
FRD	**Ford Ranch, An**	**0.42**	**134**		**Pg**	**02 38 44.1**	**+0.1**
FRD					**Sg**	**02 38 50.0**	**+0.1**
PLM	**Palomar**	**0.44**	**169**		**Pg**	**02 38 44.6**	**+0.2**
PLM					**Sg**	**02 38 51.1**	**+0.6**
PFO	**Pinyon Flats O**	**0.46**	**112**	P	**Pg**	**02 38 44.1**	**-0.6**
	baz=294						
PFO				S	**Sg**	**02 38 50.1**	**-0.8**
	baz=294						
PFO	**Pinyon Flats O**	**0.46**	**112**		**Pg**	**02 38 44.4**	**-0.3**
PFO					**Sg**	**02 38 50.4**	**-0.6**
XPFO	**Pion Flat**	**0.46**	**112**		**Pg**	**02 38 44.4**	**-0.3**
XPFO					**Sg**	**02 38 50.2**	**-0.9**
BTL	**Butler Peak**	**0.47**	**356**		**Pg**	**02 38 44.7**	**-0.2**
BBRC	**Big Bear Solar**	**0.47**	**5**	P	**Pg**	**02 38 44.5**	**-0.6**
	baz=184						
BBRC				S	**Sg**	**02 38 51.1**	**-0.4**
	baz=184						
BBRC	**Big Bear Solar**	**0.47**	**5**		**Pg**	**02 38 44.7**	**-0.4**
EW2	**E Wide Canyon**	**0.49**	**72**		**Pg**	**02 38 45.1**	**-0.1**
EW2					**Sg**	**02 38 51.9**	**0.0**
CRNC	**Corona**	**0.50**	**280**		**Pg**	**02 38 45.1**	**-0.3**
CRNC					**Sg**	**02 38 52.1**	**-0.1**
PMD	**Palm Desert**	**0.51**	**106**		**Pg**	**02 38 45.2**	**-0.4**
PMD					**Sg**	**02 38 51.7**	**-0.7**
MLSC	**Mira Loma**	**0.54**	**294**		**Pg**	**02 38 45.7**	**-0.5**
MLSC					**Sg**	**02 38 52.9**	**-0.5**
BLAC	**Blackrock camp**	**0.56**	**60**		**Pg**	**02 38 46.2**	**-0.3**
BLAC					**Sg**	**02 38 53.5**	**-0.5**
SIL	**Silver Peak**	**0.57**	**12**		**Pg**	**02 38 46.3**	**-0.5**
CSP	**Cedar Springs**	**0.60**	**328**		**Pg**	**02 38 47.0**	**-0.4**
SS2	**San Sevaine**	**0.61**	**314**		**Pg**	**02 38 47.0**	**-0.4**
CHNC	**Chino**	**0.63**	**290**		**Pg**	**02 38 47.6**	**-0.2**
CHNC					**Sg**	**02 38 56.2**	**0.0**
MATG	**Mataguay Scout**	**0.65**	**155**		**Pg**	**02 38 48.2**	**0.0**
MATG					**Sg**	**02 38 56.9**	**+0.1**
GORC	**Green Oak Ranc**	**0.67**	**199**		**Pg**	**02 38 48.0**	**-0.6**
GORC					**Sg**	**02 38 57.0**	**-0.5**
BORC	**Borrego Spring**	**0.69**	**138**		**Pb**	**02 38 49.0**	**0.0**
BORC					**Sg**	**02 38 57.8**	**-0.4**
GTM	**Goat Mountain**	**0.72**	**45**		**Pg**	**02 38 48.7**	**-0.7**
GTM					**Sg**	**02 38 57.7**	**-1.2**
BFSC	**Mount Baldy Ra**	**0.73**	**308**	P	**Pb**	**02 38 48.8**	**-0.9**
	baz=127,SNR=122						
BFSC				S	**Sg**	**02 38 58.4**	**-1.0**
	baz=127						
BFSC	**Mount Baldy Ra**	**0.73**	**308**		**Pb**	**02 38 48.8**	**-0.9**
BFSC					**Sg**	**02 38 58.4**	**-1.0**
SSK	**Sunset Peak**	**0.73**	**305**		**Pg**	**02 38 49.2**	**-0.6**
HWB	**Hans Werner Br**	**0.76**	**180**		**Pb**	**02 38 49.4**	**-0.8**
HWB					**Sb**	**02 38 59.8**	**-0.5**
PSRC	**Puddingstone R**	**0.76**	**294**		**Pb**	**02 38 49.7**	**-0.5**
PSRC					**Sb**	**02 38 59.8**	**-0.5**
SANC	**Santa Ana**	**0.77**	**264**		**Pb**	**02 38 50.4**	**+0.1**
DPP	**Dos Picos Cty**	**0.79**	**178**		**Pb**	**02 38 49.9**	**-0.7**
DPP					**Sb**	**02 39 00.3**	**-0.8**
FULC	**Fullerton**	**0.80**	**276**		**Pb**	**02 38 51.4**	**+0.6**
CTCC	**Cactus City**	**0.82**	**99**		**Pb**	**02 38 51.2**	**-0.1**
CTCC					**Sb**	**02 39 02.1**	**0.0**
TPC	**Twentynine Pal**	**0.83**	**67**		**Pb**	**02 38 50.9**	**-0.5**
VTV	**Victorville**	**0.83**	**339**		**Pb**	**02 38 50.9**	**-0.5**
VTV					**Sb**	**02 39 01.4**	**-0.8**
BELC	**Belle Mtn. Jos**	**0.83**	**75**	P	**Pb**	**02 38 51.2**	**-0.3**
	baz=256,SNR=640						
BELC				S	**Sb**	**02 39 01.8**	**-0.7**
	baz=256						
BELC	**Belle Mtn. Jos**	**0.83**	**75**		**Pb**	**02 38 51.2**	**-0.3**
BELC					**Sb**	**02 39 01.8**	**-0.7**
PEM	**Pine Mountain**	**0.84**	**297**		**Pb**	**02 38 50.9**	**-0.6**
SLH	**Sleepy Hollow**	**0.84**	**135**		**Pb**	**02 38 51.8**	**+0.3**
BREC	**Barre Substati**	**0.84**	**272**		**Pb**	**02 38 52.3**	**+0.7**
BREC					**Sg**	**02 39 04.7**	**+1.7**
ADO	**Adelanto Recei**	**0.85**	**333**		**Pb**	**02 38 51.5**	**-0.3**
XTL	**Crystal Lake,**	**0.90**	**305**		**Pb**	**02 38 51.8**	**-0.8**
109C	**Camp Elliot, M**	**0.91**	**187**	P	**Pb**	**02 38 51.9**	**-0.7**
	baz=7.3,SNR=66						
109C				S	**Sb**	**02 39 03.9**	**-0.5**
	baz=7.3						
109C	**Camp Elliot, M**	**0.91**	**187**		**Pb**	**02 38 52.1**	**-0.5**
CPE	**Camp Elliot**	**0.91**	**187**		**Pb**	**02 38 51.9**	**-0.7**
CPE					**Sb**	**02 39 03.7**	**-0.7**
CTW	**Cottonwood Mou**	**0.92**	**97**		**Pb**	**02 38 52.7**	**-0.2**
CTW					**Sb**	**02 39 04.7**	**-0.1**
HOLC	**Holcomb Ridge**	**0.99**	**313**		**Pb**	**02 38 53.4**	**-0.7**
HOLC					**Sb**	**02 39 06.1**	**-0.9**
GVRC	**Garvey Reservo**	**0.99**	**286**		**Pb**	**02 38 54.0**	**-0.1**
MONP2	**Monument Peak**	**1.00**	**153**	P	**Pb**	**02 38 54.4**	**-0.1**
	baz=334,SNR=233						
MONP2				S	**Sb**	**02 39 07.4**	**0.0**
	baz=334						
MONP2	**Monument Peak**	**1.00**	**153**		**Pb**	**02 38 54.4**	**-0.1**
MONP2					**Sb**	**02 39 07.1**	**-0.3**
MWC	**Mount Wilson**	**1.00**	**296**		**Pb**	**02 38 53.7**	**-0.7**
MWC					**Sb**	**02 39 07.1**	**-0.4**
CACC	**Caltech Cellar**	**1.02**	**290**		**Pb**	**02 38 54.3**	**-0.3**
CHFC	**Chilao Flat St**	**1.03**	**302**		**Pb**	**02 38 54.0**	**-0.9**
CHFC					**Sb**	**02 39 07.4**	**-0.9**
JNH	**Juniper Hills**	**1.05**	**309**		**Pb**	**02 38 54.4**	**-0.8**
JNH					**Sb**	**02 39 08.0**	**-0.8**
SDRC	**San Diego Road**	**1.05**	**179**		**Pb**	**02 38 54.1**	**-0.9**
SDRC					**Sb**	**02 39 08.0**	**-0.6**
CBKC	**Canebrake**	**1.07**	**146**		**Pb**	**02 38 55.4**	**-0.1**
PASC	**Pasadena Art C**	**1.08**	**291**		**Pb**	**02 38 55.0**	**-0.6**
PASC					**Sb**	**02 39 08.7**	**-0.8**
RRX	**Edison Barstow**	**1.08**	**359**	P	**Pb**	**02 38 55.7**	**0.0**
	baz=179,SNR=80						
RRX				S	**Sb**	**02 39 10.1**	**+0.5**
	baz=179						
RRX	**Edison Barstow**	**1.08**	**359**		**Pb**	**02 38 55.7**	**0.0**
RRX					**Sb**	**02 39 10.1**	**+0.5**
FMP	**Fort Macarthur**	**1.11**	**266**	P	**Pb**	**02 38 55.8**	**-0.3**
	baz=85						
FMP				S	**Sb**	**02 39 10.3**	**+0.1**
	baz=85						
FMP	**Fort Macarthur**	**1.11**	**266**		**Pb**	**02 38 55.8**	**-0.3**
FMP					**Sb**	**02 39 10.1**	**-0.1**
BAR	**Barrett**	**1.13**	**167**		**Sb**	**02 39 10.5**	**-0.5**
BAR	**Barrett**	**1.13**	**167**	Pn	**Pn**	**02 38 55.9**	**-0.6**
SBB	**Saddle Back Bu**	**1.15**	**322**		**Pn**	**02 38 56.4**	**-0.3**
SBB					**Sb**	**02 39 10.8**	**-0.6**
HEC	**Hector,Ludlow**	**1.16**	**27**	P	**Pn**	**02 38 57.0**	**0.0**
	baz=207,SNR=175						
HEC				S	**Sb**	**02 39 12.3**	**+0.4**
	baz=207						
HEC	**Hector,Ludlow**	**1.16**	**27**		**Pn**	**02 38 57.0**	**0.0**
FRK	**Frink**	**1.17**	**109**		**Pn**	**02 38 55.7**	**-1.3**
RPV	**Rancho Palos V**	**1.20**	**268**		**Pn**	**02 38 56.8**	**-0.5**
HLLC	**North Hollywoo**	**1.22**	**289**		**Sb**	**02 39 13.4**	**-0.1**
DECC	**Green Verdugo**	**1.23**	**293**	P	**Pn**	**02 38 57.6**	**-0.1**
	baz=111,SNR=19						
DECC				S	**Sb**	**02 39 13.8**	**+0.1**
	baz=111						
DECC	**Green Verdugo**	**1.23**	**293**		**Pn**	**02 38 57.7**	**-0.1**
TKX	**Tecate**	**1.25**	**166**		**Sb**	**02 39 14.2**	**-0.3**
TKX	**Tecate**	**1.25**	**166**	Pn	**Pn**	**02 38 57.9**	**-0.2**
CIAC	**Catalina I. Ai**	**1.27**	**253**		**Pn**	**02 38 58.0**	**-0.4**
CIS	**Catalina Islan**	**1.27**	**253**	P	**Pn**	**02 38 58.0**	**-0.3**
	baz=71						
CIS				S	**Sb**	**02 39 15.4**	**+0.5**
	baz=71						
BC3	**Big Chuckawall**	**1.27**	**96**	P	**Pn**	**02 38 57.8**	**-0.6**
	baz=277,SNR=196						
BC3				S	**Sb**	**02 39 15.1**	**+0.1**
	baz=277						
BC3	**Big Chuckawall**	**1.27**	**96**		**Pn**	**02 38 57.8**	**-0.6**
BC3					**Sb**	**02 39 14.7**	**-0.3**
TJX	**Tijuana**	**1.28**	**183**		**Pn**	**02 38 58.0**	**-0.4**
SWSC	**Sam W. Stewart**	**1.29**	**130**	P	**Pn**	**02 38 57.5**	**-1.1**
	baz=312,SNR=18						
SWSC				S	**Sb**	**02 39 16.4**	**+1.0**
	baz=312						
IKP	**In-Ko-Pah, Jac**	**1.34**	**147**	P	**Pn**	**02 38 59.2**	**-0.3**
	baz=328						
IKP				S	**Sn**	**02 39 17.6**	**+0.7**
	baz=328						
EDW2	**Edwards Air Fo**	**1.38**	**322**	P	**Pn**	**02 39 00.2**	**+0.2**
	baz=142,SNR=95						
EDW2				S	**Sn**	**02 39 18.4**	**+0.5**
	baz=142						
RMX	**La Rumorosa**	**1.40**	**148**		**Pn**	**02 39 01.8**	**+1.6**
GMRC	**Granite Mounta**	**1.47**	**47**	P	**Pn**	**02 39 01.0**	**-0.3**
	baz=228,SNR=156						
GMRC				Sb	**Sb**	**02 39 21.6**	**+0.8**
	baz=228						
CBX	**Cerro Bola**	**1.49**	**170**	Pn	**Pn**	**02 39 02.1**	**+0.6**
GSC	**Goldstone, Bar**	**1.52**	**5**	P	**Pn**	**02 39 02.1**	**+0.3**
	baz=185,SNR=608						
GSC				S	**Sn**	**02 39 21.1**	**-0.1**
	baz=185						
GSC	**Goldstone, Bar**	**1.52**	**5**	Pn	**Pn**	**02 39 02.4**	**+0.5**
SCI2	**San Clemente I**	**1.55**	**239**	P	**Pn**	**02 39 02.2**	**0.0**
	baz=58,SNR=24						
SCI2				S	**Sn**	**02 39 22.5**	**+0.6**
	baz=58						
IRM	**Iron Mountain**	**1.56**	**76**	P	**Pn**	**02 39 01.7**	**-0.7**
	baz=257,SNR=265						
IRM				Sb	**Sb**	**02 39 24.5**	**+1.3**
	baz=257						
OSI	**Osito Audit: C**	**1.67**	**300**	P	**Pn**	**02 39 04.4**	**+0.5**
	baz=119,SNR=8.8						
OSI				S	**Sn**	**02 39 26.1**	**+1.1**
	baz=119						
OSI	**Osito Audit: C**	**1.67**	**300**		**Pn**	**02 39 04.6**	**+0.7**
LRMC	**Laurel Mtn Rad**	**1.79**	**341**	P	**Pn**	**02 39 05.9**	**+0.3**
	baz=160,SNR=13						
TUQ	**Turquoise Moun**	**1.85**	**27**	P	**Pn**	**02 39 06.7**	**+0.1**
	baz=208,SNR=36						
TUQ				Sb	**Sb**	**02 39 33.4**	**+1.5**
	baz=208						
CCX	**Cicese**	**1.93**	**172**		**Pn**	**02 39 08.3**	**+0.9**
GLA	**Glamis**	**1.94**	**112**	P	**Pn**	**02 39 06.6**	**-0.9**
	baz=293,SNR=20						
GLA				S	**Sn**	**02 39 31.1**	**-0.4**
	baz=293						
GLA	**Glamis**	**1.94**	**112**		**Pn**	**02 39 06.9**	**-0.6**
ESJX	**Sierra Juarez**	**1.98**	**154**		**Pn**	**02 39 08.2**	**0.0**
ARVC	**Arvin**	**2.04**	**311**	P	**Pn**	**02 39 09.1**	**+0.2**
	baz=130,SNR=8.9						
ARVC				Sb	**Sb**	**02 39 38.4**	**+1.4**
	baz=130						
NEE2	**Needles Airpor**	**2.18**	**63**	P	**Pn**	**02 39 10.3**	**-0.5**
	baz=244						
NEE2				Sb	**Sb**	**02 39 43.2**	**+2.2**
	baz=244						
SHOC	**Shoshone, Teco**	**2.18**	**15**	P	**Pn**	**02 39 11.4**	**+0.4**
	baz=195,SNR=123						
SNCC	**San Nicolas Is**	**2.20**	**257**	P	**Pn**	**02 39 10.9**	**-0.3**
	baz=75						
SCZ2	**Santa Cruz Isl**	**2.23**	**276**	Sb	**Sb**	**02 39 44.9**	**+2.3**
	baz=94						
ISA	**Isabella, Lake**	**2.24**	**327**	P	**Pn**	**02 39 12.1**	**+0.2**
	baz=146,SNR=80						
ISA				Sb	**Sb**	**02 39 44.9**	**+1.9**
	baz=146						
ISA	**Isabella, Lake**	**2.24**	**327**	Pn	**Pn**	**02 39 12.2**	**+0.4**
MPMC	**Manual Prospec**	**2.30**	**349**	P	**Pn**	**02 39 13.2**	**+0.4**
	baz=169,SNR=145						
SBC	**Santa Barbara**	**2.37**	**287**	Sb	**Sb**	**02 39 48.4**	**+1.9**
	baz=105						
PDMCI	**Parker Dam,Lak**	**2.40**	**77**	P	**Pn**	**02 39 13.9**	**0.0**
	baz=259						
CWC	**Cottonwood Cre**	**2.80**	**341**	P	**Pn**	**02 39 20.3**	**+0.8**
	baz=161						
W13A	**Hualapai Mount**	**2.86**	**62**	Pn	**Pn**	**02 39 20.7**	**+0.2**
113A	**Mohawk Valley,**	**2.87**	**110**	Pn	**Pn**	**02 39 19.6**	**-0.7**
SPX	**San Pedro Mart**	**3.02**	**155**		**Pn**	**02 39 23.3**	**+0.5**
SHPR	**Sheep Range**	**3.09**	**28**	Pn	**Pn**	**02 39 23.9**	**+0.4**
TPNV	**Topopah Spring**	**3.21**	**10**	P	**Pn**	**02 39 26.3**	**+1.1**
	baz=191,SNR=21						
TPNV	**Topopah Spring**	**3.21**	**10**	Pn	**Pn**	**02 39 25.6**	**+0.4**
GRAC	**Grapevine Rang**	**3.22**	**354**	P	**Pn**	**02 39 26.9**	**+1.7**
	baz=174,SNR=9.0						
SFX	**San Felipe**	**3.28**	**146**	Pn	**Pn**	**02 39 26.6**	**+0.7**
PAGB	**Antelope Grade**	**3.33**	**307**	Pn	**Pn**	**02 39 27.3**	**+0.6**
PRN	**Pahroc Range**	**3.93**	**23**	Pn	**Pn**	**02 39 35.3**	**+0.2**
214A	**Organ Pipe Nat**	**3.95**	**116**	P	**Pn**	**02 39 34.7**	**-0.5**
	baz=299						
214A	**Organ Pipe Nat**	**3.95**	**116**	Pn	**Pn**	**02 39 35.0**	**-0.2**
LCMT	**Little Creek M**	**4.43**	**42**		**Pn**	**02 39 42.3**	**+0.4**
LHV	**Little Huntoon**	**4.62**	**345**		**Pn**	**02 39 45.1**	**+0.6**
X16A	**Lo Mia Camp, P**	**4.63**	**81**	Pn	**Pn**	**02 39 45.2**	**+0.5**
U15A	**North Rim**	**4.65**	**54**		**Pn**	**02 39 45.3**	**+0.2**
KNB	**Kanab**	**4.67**	**45**		**Pn**	**02 39 45.7**	**+0.4**
R11A	**Troy Canyon, C**	**4.69**	**13**	Pn	**Pn**	**02 39 45.8**	**+0.3**
NV11	**Mina Array Sit**	**4.73**	**349**		**Pn**	**02 39 46.5**	**+0.4**
NVAR	**Mina Array Bea**	**4.76**	**347**	Pn	**Pn**	**02 39 46.9**	**+0.4**
CCUT	**Cedar City**	**4.76**	**37**	Pn	**Pn**	**02 39 46.9**	**+0.3**
WUAZ	**Wupatki**	**4.92**	**68**	P	**Pn**	**02 39 50.3**	**+1.6**
	baz=251,SNR=12						
WUAZ	**Wupatki**	**4.92**	**68**	Pn	**Pn**	**02 39 49.0**	**+0.3**
RYN	**Ryan**	**4.99**	**346**		**Pn**	**02 39 50.1**	**+0.4**
CMB	**Columbia Colle**	**5.06**	**328**		**Pn**	**02 39 51.0**	**+0.4**
PKCU	**Pink Cliffs**	**5.26**	**45**	Pn	**Pn**	**02 39 53.7**	**+0.2**
KVN	**Kaiserville**	**5.33**	**350**	Pn	**Pn**	**02 39 54.7**	**+0.3**
TUC	**Tucson**	**5.40**	**104**	P	**Pn**	**02 39 54.5**	**-0.6**
	baz=288						
TUC	**Tucson**	**5.40**	**104**	Pn	**Pn**	**02 39 54.6**	**-0.6**
YERR	**Yerington**	**5.50**	**341**	Pn	**Pn**	**02 39 57.0**	**+0.4**
PNTR	**Pine Nut**	**5.70**	**339**	Pn	**Pn**	**02 39 59.6**	**+0.1**
W18A	**Petrified Fore**	**6.12**	**75**	P	**Pn**	**02 40 05.1**	**-0.1**
	baz=260						
W18A	**Petrified Fore**	**6.12**	**75**	Pn	**Pn**	**02 40 05.7**	**+0.5**
121A	**Cookes Peak, D**	**7.80**	**97**	P	**Pn**	**02 40 28.7**	**+0.4**
	baz=282						
MNTX	**Cornudas Mount**	**9.98**	**99**	P	**Pn**	**02 40 58.3**	**+0.3**
	baz=285						

*JMA **03** 02:43:53.6±0.1,24°.45N×122°.73E,h93km±2km,M1.9*
*TAP **03** 02:43:53.6,24°.52N×122°.75E,h93km,ML3.2,C*
ISC 03 02:43:54.3±1.5,**24°.50N**±0°.05×**122.75E**±0°.03,**h90**km±9km,
n68,σ0=**53**/107,**4C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.18**	**105**	P	**Pn**	**02 44 07.2**	**+0.1**
JYNG				S	**Sn**	**02 44 17.2**	**+0.5**
YOJ	**Yonaguni jima**	**0.24**	**99**	P	**Pn**	**02 44 07.3**	**-0.1**
	baz=102						
YOJ				S	**Sn**	**02 44 17.4**	**+0.3**
	baz=102						
YOJ	**Yonaguni jima**	**0.24**	**99**	P	**Pn**	**02 44 07.3**	**-0.1**
YOJ				S	**Sn**	**02 44 17.3**	**+0.3**
EGS		**0.82**	**295**	*e*P	**Pn**	**02 44 12.0**	**0.0**
	baz=293						

NNSB	**Datong**	**1.25 267**	*eP*	**Pn**	**02 44 16.9**	**-0.1**
	baz=265					
NNSB			*eS*	**Sn**	**02 44 34.1**	**-0.1**
	baz=265					
YM01	**YM01**	**1.25 301**	P	**Pn**	**02 44 17.0**	**0.0**
	baz=300					
NNS	**Nan Shan**	**1.26 268**	*eP*	**Pn**	**02 44 17.0**	**-0.2**
	baz=266					
YM08	**YM08**	**1.26 303**	P	**Pn**	**02 44 16.9**	**-0.2**
	baz=302					
YHNB	**Yeheng**	**1.26 278**	*eP*	**Pn**	**02 44 17.3**	**+0.1**
	baz=276					
YHNB			*eS*	**Sn**	**02 44 34.2**	**-0.2**
	baz=276					
YM10	**YM10**	**1.26 301**	P	**Pn**	**02 44 17.0**	**-0.2**
	baz=300					
YM05	**YM05**	**1.27 302**	P	**Pn**	**02 44 17.0**	**-0.2**
	baz=300					
JIJ	**Ishigaki jima**	**1.27 96**	P	**Pn**	**02 44 17.1**	**-0.1**
JIJ			S	**Sn**	**02 44 33.5**	**-1.0**
NSK	**Sanguang**	**1.28 278**	*eP*	**Pn**	**02 44 17.5**	**+0.1**
	baz=276					
NSK			*eS*	**Sn**	**02 44 34.6**	**-0.1**
	baz=276					
YM04	**YM04**	**1.28 301**	*eP*	**Pn**	**02 44 17.1**	**-0.2**
	baz=299					
TWY	**Chenhua**	**1.30 307**	*eP*	**Pn**	**02 44 17.5**	**0.0**
	baz=305					
TWS1	**Kuangyinshan**	**1.35 297**	*eP*	**Pn**	**02 44 18.1**	**-0.1**
	baz=295					
ESL	**Shilin**	**1.38 241**	*eP*	**Pn**	**02 44 18.3**	**-0.3**
	baz=239					
FUSS	**Fushou**	**1.40 260**	*eP*	**Pn**	**02 44 19.2**	**+0.3**
	baz=258					
FUSS			*eS*	**Sn**	**02 44 37.3**	**-0.3**
	baz=258					
WHF	**Hehuan Shan**	**1.40 256**	P	**Pn**	**02 44 18.9**	**-0.3**
	baz=254					
WHF			*eS*	**Sn**	**02 44 37.4**	**-0.6**
	baz=254					
JISG	**Ishigakijimahi**	**1.42 86**	P	**Pn**	**02 44 19.2**	**+0.2**
JISG			S	**Sn**	**02 44 36.8**	**-0.9**
TWT	**Tachien**	**1.46 261**	*eP*	**Pn**	**02 44 20.1**	**+0.4**
	baz=259					
TWT			*eS*	**Sn**	**02 44 39.2**	**+0.4**
	baz=259					
EGFH	**Guangfu**	**1.47 236**	*eP*	**Pn**	**02 44 20.2**	**+0.6**
	baz=234					
TDCB	**Techi**	**1.47 261**	*eP*	**Pn**	**02 44 20.2**	**+0.3**
	baz=259					
TDCB			*eS*	**Sn**	**02 44 38.9**	**-0.2**
	baz=259					
CHGB	**Renai**	**1.50 253**	*eP*	**Pn**	**02 44 20.4**	**+0.1**
	baz=252					
CHGB			*eS*	**Sn**	**02 44 39.8**	**-0.1**
	baz=252					
HGSD	**Ruisui**	**1.57 231**	*eP*	**Pn**	**02 44 21.4**	**+0.5**
	baz=229					
HGSD			*eS*	**Sn**	**02 44 41.1**	**0.0**
	baz=229					
LIOB	**Emei**	**1.59 276**	*eP*	**Pn**	**02 44 21.6**	**+0.4**
	baz=274					
LIOB			*eS*	**Sn**	**02 44 41.8**	**+0.3**
	baz=274					
VWDT	**VWDT**	**1.65 244**	*eP*	**Pn**	**02 44 22.1**	**+0.3**
	baz=242					
VWDT			*eS*	**Sn**	**02 44 42.8**	**0.0**
	baz=242					
WHP	**Taichung City**	**1.66 263**	*eP*	**Pn**	**02 44 23.2**	**+1.1**
	baz=261					
WHP			*eS*	**Sn**	**02 44 43.2**	**-0.1**
	baz=261					
YULB	**Yu-li**	**1.73 231**	*eP*	**Pn**	**02 44 22.5**	**-0.4**
	baz=229					
EYUL	**Yuli**	**1.74 229**	*eP*	**Pn**	**02 44 24.2**	**+1.1**
	baz=228					
TWF1	**Yuli**	**1.75 230**	*eP*	**Pn**	**02 44 23.5**	**+0.2**
	baz=228					
JTJ	**Tarama**	**1.78 85**	P	**Pn**	**02 44 23.3**	**-0.3**
JTJ			S	**Sn**	**02 44 46.2**	**+0.3**
SSLB	**Suanglung**	**1.79 247**	*eP*	**Pn**	**02 44 24.3**	**+0.6**
	baz=246					
SSLB			*eS*	**Sn**	**02 44 46.4**	**+0.2**
	baz=246					
SMLT	**Sun Moon Lake**	**1.80 250**	*eP*	**Pn**	**02 44 25.1**	**+1.1**
	baz=249					
TYC	**Yuchr**	**1.83 252**	*eP*	**Pn**	**02 44 25.3**	**+1.1**
	baz=250					
FULB	**Fuli**	**1.86 226**	*eP*	**Pn**	**02 44 25.3**	**+0.6**
	baz=225					
FULB			*eS*	**Sn**	**02 44 47.8**	**0.0**
	baz=225					
EDH	**Donghe**	**2.02 221**	*eP*	**Pn**	**02 44 25.8**	**-0.9**
	baz=220					
EDH			*eS*	**Sn**	**02 44 49.5**	**-1.9**
	baz=220					
ALS	**Alishan**	**2.03 241**	*eP*	**Pn**	**02 44 28.1**	**+0.9**
	baz=240					
ALS			*eS*	**Sn**	**02 44 52.9**	**+0.6**
	baz=240					
ELDTW	**Lidau**	**2.06 231**	*eP*	**Pn**	**02 44 27.5**	**+0.2**
	baz=229					
ELDTW			*eS*	**Sn**	**02 44 51.5**	**-1.0**
	baz=229					
CHN5	**Tsauling**	**2.10 245**	*eP*	**Pn**	**02 44 27.9**	**+0.1**
	baz=244					
LDUT	**Ludao**	**2.17 213**	*eP*	**Pn**	**02 44 27.9**	**-0.7**
	baz=212					
LONT	**Longtian**	**2.17 223**	*eP*	**Pn**	**02 44 29.4**	**+0.7**
	baz=222					
TPUB	**Ta-pu**	**2.28 239**	*eP*	**Pn**	**02 44 31.8**	**+1.6**
	baz=237					
CHN1	**Nanshi**	**2.42 238**	*eP*	**Pn**	**02 44 32.1**	**+0.1**
	baz=236					
SLGT	**Liugui**	**2.44 233**	*eP*	**Pn**	**02 44 34.1**	**+1.8**
	baz=231					
LAY	**Lan-yu**	**2.69 205**	*eP*	**Pn**	**02 44 34.8**	**-0.8**
	baz=203					
EAST	**Anshuo**	**2.74 220**	*eP*	**Pn**	**02 44 36.6**	**+0.3**
	baz=219					

BJI ***03*** *03:09:53.0±0.0, 64°.80N×17°.40W, h6km, mB5.6/57, mb4.8/50, Ms5.3/61, Ms7 5.1/56*

IDC ***03*** *03:09:55.0±0.4, 64°.67N×17°.44W, h0km, mb4.5/28, mb1 4.6/36, mb1mx4.5/46, mbtmp4.5/36, ML3.3/6, MS4.9/45, Ms1 4.9/45, ms1mx4.8/49, Error ellipse: s-maj=12.6km s-min=7.5km az=10.0*

REY ***03*** *03:09:54.3, 64°.68N×17°.46W, h7km*

BGS ***03*** *03:09:54.5±1.9, 64°.71N×17°.47W, h5km, MS4.9*

MOS ***03*** *03:09:55.1±1.0, 64°.72N×17°.42W, h10km, mb5.2/69, MS4.9/58, Error ellipse: s-maj=7.7km s-min=4.8km az=93.9*

NEIC ***03*** *03:09:55.7±1.6, 64°.71N±0°.07×17°.5W±0°.1, h5km±1km, mb5.2/365, Ms_20 5.0/721, Mwb5.4/84, Mww5.4, Mwc5.5(GCMT), Error ellipse: s-maj=11.4km s-min=7.8km az=188.0*

UNK ***03*** *03:09:55.7, 64°.71N×17°.47W, h5km*

NEIC ***03*** *03:09:56.5, 64°.73N×17°.43W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-1.37; Mθθ0.75; Mφφ0.62; Mrθ-0.90; Mθφ-0.33; Mφr-0.49; Fault plane solution: M0 1.60000×10^17^ NP1:φs=94.52000°, δ62.78000°, λ-111.11000°. NP2:φs=314.69000°, δ33.94000°, λ-55.00000°. Principal axes: T 1.1265, Plg15.0000°, Azm200.0000°; N 0.7046, Plg19.0000°, Azm105.0000°; P -1.8311, Plg66.0000°, Azm327.0000°;*

IEPN ***03*** *03:09:56.0, 64°.35N×17°.11W, h10km*

NAO ***03*** *03:09:57.6±4.6, 64°.68N×16°.86W, ML4.9*

BGR ***03*** *03:09:58.6±0.0, 65°.37N×16°.27W, h10km, mb5.2, Ms4.8*

NEIC ***03*** *03:09:59, 64°.87N×17°.29W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-1.75; Mθθ0.78; Mφφ0.97; Mrθ-0.06; Mθφ-0.00; Mφr-0.32; Fault plane solution: M0 1.55000×10^17^ NP1:φs=180.00000°, δ38.00000°, λ-91.00000°. NP2:φs=2.00000°, δ52.00000°, λ-88.00000°. Principal axes: T 1.0066, Plg7.0000°, Azm92.0000°; N 0.7823, Plg1.0000°, Azm182.0000°; P -1.7889, Plg83.0000°, Azm282.0000°;*

GCMT ***03*** *03:10:00.7±0.1, 64°.62N±0°.01×17°.18W±0°.01, h12km, MW5.4/157, Moment Tensor Solution. s122,c210; s157,c277; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr-2.09±.02; Mθθ0.90±.02; Mφφ1.19±.02; Mrθ-0.34±.05; Mθφ-0.19±.02; Mφr-0.66±.05; Best double couple: M0 1.80800×10^17^ NP1:φs=152.00000°, δ37.00000°, λ-106.00000°. NP2:φs=352.00000°, δ55.00000°, λ-78.00000°. Principal axes: T 1.3540, Plg9.0000°, Azm73.0000°; N 0.9120, Plg9.0000°, Azm165.0000°; P -2.2620, Plg77.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DNK ***03*** *03:10:00.0±5.2, 64°.65N×17°.46W, h29km±167km, Ms4.7, Hypocenter not reviewed by the ISC*

NEIC ***03*** *03:10:01, 64°.60N×17°.22W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-2.21; Mθθ1.14; Mφφ1.07; Mrθ-0.77; Mθφ-0.27; Mφr-0.69; Fault plane solution: M0 2.19000×10^17^ NP1:φs=321.00000°, δ43.00000°, λ-65.00000°. NP2:φs=109.00000°, δ51.00000°, λ-111.00000°. Principal axes: T 1.3905, Plg4.0000°, Azm214.0000°; N 1.1382, Plg17.0000°, Azm122.0000°; P -2.5287, Plg73.0000°, Azm317.0000°;*

ISC 03 03:09:56.8±0.3, 64°.80N±0°.02×17°.43W±0°.02, h7km±1km, h7km:pP-P, n1512, σ2°19/1248, mb5.1/288, MS5.0/455, 41C-38D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.03**	**108**	P	**Pg**	**03 09 57.1**	**-1.3**
	baz=19						
IURH	**Urdarhals**	**0.12**	**80**	P	**Pg**	**03 09 58.4**	**-1.2**
	baz=43						
IURH				S	**Sg**	**03 10 01.4**	**-0.1**
	baz=43						
IVON	**Vonarskard**	**0.19**	**227**	P	Pg	03 09 57.0	-3.7
	baz=267						
IDJK	**Dyngjujokull**	**0.31**	**164**	P	Pg	03 09 58.1	-4.8
	baz=152						
IDJK				S	Sg	03 10 01.8	-5.2
	baz=152						
IKVE	**Kverkfjoll**	**0.35**	**110**	P	Pg	03 10 00.9	-2.8
	baz=90						
IGRF	**Grimsfjall**	**0.40**	**170**	P	Pg	03 10 00.4	-4.2
	baz=163						
IGRF				S	Sg	03 10 04.2	-5.7
	baz=163						
IASK	**Askja**	**0.42**	**53**	P	**Pg**	**03 10 03.5**	**-1.5**
	baz=42						
IBJK	**Bruarjokull**	**0.44**	**138**	P	Pg	03 10 00.8	-4.6
	baz=124						
IKRE	**Kreppuhraun**	**0.45**	**92**	P	**Pg**	**03 10 02.7**	**-2.8**
	baz=77						
ISKR	**Skrokkalda**	**0.47**	**240**	P	**Pg**	**03 10 01.9**	**-4.1**
	baz=254						
IMKO	**Mokollar**	**0.50**	**69**	P	**Pg**	**03 10 04.5**	**-2.0**
	baz=57						
IHUS	**Husbondi**	**0.52**	**191**	P	Pg	03 10 01.7	-5.0
	baz=193						
IVOT	**Vottur**	**0.54**	**168**	P	Pg	03 10 02.3	-4.9
	baz=164						
ISVA	**Svartarkot**	**0.54**	**8**	P	**Pb**	**03 10 06.2**	**-2.4**
	baz=7.3						
ISVA				S	**Pg**	**03 10 07.8**	**+0.5**
	baz=7.3						
IJOK	**Jokulheimar**	**0.59**	**215**	P	Pg	03 10 03.2	-5.0
	baz=223						
IVSH	**V-Sauoahnukur**	**0.73**	**89**	P	**Pg**	**03 10 07.3**	**-3.5**
	baz=79						
IKSK	**Karasker**	**0.76**	**147**	P	Pg	03 10 05.6	-5.9
	baz=140						
IIEY	**Innrieyrar**	**0.77**	**203**	P	Pg	03 10 06.0	-5.6
	baz=207						
IADA	**Aoalbol**	**0.82**	**74**	P	**Pg**	**03 10 09.3**	**-3.3**
	baz=66						
IMEL	**Melhnausar**	**0.84**	**23**	P	**Pb**	**03 10 11.1**	**-2.6**
	baz=20						
IREN	**Reynihlio**	**0.88**	**14**	P	**Pb**	**03 10 11.7**	**-2.6**
	baz=13						
IVAT	**Vatnsfell**	**0.89**	**227**	P	Pg	03 10 08.6	-5.3
	baz=233						
IHVE	**Hveravellir**	**0.92**	**275**	P	**Pg**	**03 10 10.3**	**-4.0**
	baz=283						
IKVO	**Krokottuvotn**	**0.95**	**14**	P	**Pb**	**03 10 12.7**	**-2.8**
	baz=13						
IFAG	**Fagurholsmyri**	**0.99**	**160**	P	Pb	03 10 09.8	-6.4
	baz=156						
IGRS	**Grimsstaoir**	**1.01**	**33**	P	**Pg**	**03 10 13.6**	**-2.5**
	baz=30						
ISKI	**Skildingahlsh**	**1.09**	**9**	P	**Pn**	**03 10 15.2**	**-3.2**
	baz=8.4						
IGHA	**Grjothals**	**1.10**	**17**	P	**Pb**	**03 10 15.2**	**-2.8**
	baz=16						
IGHA				S	Pn	03 10 21.8	+3.3
	baz=16						
IGRA	**Granastaoir**	**1.12**	**357**	P	**Pn**	**03 10 15.7**	**-3.1**
	baz=358						
IDIM	**Dimmadalss**	**1.19**	**10**	P	**Pn**	**03 10 16.7**	**-3.0**
	baz=9.5						
ISNB	**Snabyli**	**1.19**	**207**	P	Pn	03 10 13.0	-6.7
	baz=209						
ISNB				S	**Pg**	**03 10 17.0**	**-2.6**
	baz=209						
IHLA	**Hella**	**1.22**	**341**	P	**Pn**	**03 10 17.2**	**-2.9**
	baz=343						
ISLY	**Slysaalda**	**1.22**	**218**	P	Pn	03 10 14.2	-6.1
	baz=221						
IFED	**Fedgar**	**1.25**	**233**	P	Pn	03 10 15.3	-5.4
	baz=237						
IHED	**Heoinshofoi**	**1.29**	**2**	P	**Pn**	**03 10 18.4**	**-2.7**
	baz=2.4						
IHED				S	Pn	03 10 24.1	+3.0
	baz=2.4						
IRJU	**Rjupnafell**	**1.30**	**205**	P	Pn	03 10 15.1	-6.2
	baz=207						
IMJO	**Mjoaskard**	**1.31**	**229**	S	**Sb**	**03 10 31.6**	**-6.9**
	baz=233						
IGYG	**Gygjarholskot**	**1.31**	**248**	P	Pn	03 10 15.9	-5.5
	baz=253						
IBRE	**Brettingsstaoi**	**1.34**	**352**	P	**Pg**	**03 10 19.1**	**-3.4**
	baz=353						
IGIL	**Gilhagi**	**1.36**	**19**	P	**Pn**	**03 10 19.4**	**-2.7**
	baz=18						
IHAU	**Haukadalur**	**1.38**	**234**	P	Pn	03 10 16.8	-5.5
	baz=238						
IGOD	**Go??abunga**	**1.41**	**217**	P	Pn	03 10 17.7	-5.2
	baz=219						
IHVO	**Lagu-Hvolar**	**1.42**	**206**	P	Pn	03 10 17.3	-5.6
	baz=208						
ISIG	**Siglufjorour**	**1.47**	**336**	P	**Pg**	**03 10 21.0**	**-4.0**
	baz=338						
IALF	**Alftagrof**	**1.52**	**211**	P	Pn	03 10 18.8	-5.5
	baz=213						
ISAU	**Saurbar**	**1.53**	**239**	P	Pn	03 10 19.0	-5.4
	baz=243						
IESK	**Eystri-Skogar**	**1.56**	**216**	P	Pn	03 10 19.4	-5.4
	baz=218						
IESK				S	**Pg**	**03 10 24.8**	**-1.8**
	baz=218						
IMID	**Miomork**	**1.57**	**224**	P	Pn	03 10 20.0	-4.9
	baz=227						
ILEI	**Leirhofn**	**1.66**	**13**	P	**Pb**	**03 10 24.1**	**-3.5**
	baz=13						
IASB	**`sbjarnarst**	**1.67**	**270**	P	**Pn**	**03 10 22.2**	**-4.1**
	baz=274						
BORG	**Borgarnes**	**1.67**	**270**	Pg	**Pn**	**03 10 23.5**	**-2.8**
	143nm,0.3s,baz=92,slow=7.0,SNR=104						
BORG				Lg	Lg	03 10 48.6	
	114nm,0.3s,baz=271,slow=22,SNR=14						
BORG	**Borgarnes**	**1.67**	**270**	Pn	**Pn**	**03 10 22.1**	**-4.2**
BORG				Sn	**Sb**	**03 10 46.0**	**-2.9**
IASM	**Asmuli**	**1.69**	**236**	P	Pn	03 10 21.8	-4.9
	baz=240						
IHRN	**Hraun**	**1.73**	**321**	P	**Pb**	**03 10 24.6**	**-4.2**
	baz=323						
IKRO	**Krokur**	**1.75**	**248**	P	Pn	03 10 22.5	-4.9
	baz=252						
IHEI	**Heioarbar**	**1.75**	**252**	P	**Pn**	**03 10 22.9**	**-4.5**
	baz=255						
ISOL	**Solvholt**	**1.76**	**242**	P	Pn	03 10 22.7	-4.8
	baz=245						
ISOL				S	**Pg**	**03 10 28.8**	**-1.7**
	baz=245						
IGRI	**Grimsey**	**1.77**	**352**	P	**Pb**	**03 10 25.4**	**-4.0**
	baz=353						
IVME	**Vestmannaeyjar**	**1.86**	**224**	P	**Pn**	**03 10 24.9**	**-4.1**
	baz=226						
IKUD	**Kuludalsa**	**1.98**	**258**	P	**Pn**	**03 10 26.0**	**-4.5**
	baz=261						
IKAS	**Kald??rsel**	**2.07**	**250**	P	**Pn**	**03 10 28.1**	**-3.7**
	baz=253						
IVOS	**Vogsosar**	**2.09**	**245**	P	**Pn**	**03 10 28.3**	**-3.8**
	baz=248						
SCO	**Scoresbysund**	**5.96**	**345**	*i* P	**Pn**	**03 11 25.6**	**+0.4**
SCO	**Scoresbysund**	**5.96**	**345**	*i* P	**Pn**	**03 11 25.6**	**+0.4**
SCO	**Scoresbysund**	**5.96**	**345**	Pn	**Pn**	**03 11 25.3**	**+0.1**
JMIC	**Jan Mayen**	**7.06**	**24**	Pn	**Pn**	**03 11 40.8**	**+0.6**
	baz=160,slow=9.5,SNR=2.9						
JMIC				LR	LR	03 14 03.7	
	comp=Z,9μm,20.0s,baz=253,slow=35						
LEWI	**Lewis, Hebride**	**8.36**	**138**	*eP*	**Pn**	**03 11 55.0**	**-3.2**
LEWI				IAMs_20	IAMs_20	03 16 33.0	
	comp=Z,9μm,11.4s						
LRW	**Lerwick**	**8.85**	**114**	*eP*	**Pn**	**03 12 01.8**	**-3.1**
LRW				IAMs_20	IAMs_20	03 15 55.1	
	comp=Z,16μm,14.9s						
LRW	**Lerwick**	**8.85**	**114**	*eP*	**Pn**	**03 12 03.4**	**-1.4**
BIGH	**Upper Bighouse**	**9.01**	**128**	*eP*	**Pn**	**03 12 04.8**	**-2.1**
BIGH	**Upper Bighouse**	**9.01**	**128**	*eP*	**Pn**	**03 12 05.0**	**-2.0**
MLA1	**Latheron**	**9.34**	**128**	*eP*	**Pn**	**03 12 09.1**	**-2.4**
KAC	**Achnashellach**	**9.37**	**136**	*eP*	**Pn**	**03 12 08.8**	**-3.1**
KPL	**Plockton**	**9.40**	**137**	*eP*	Pn	03 12 08.8	-3.5
KPL	**Plockton**	**9.40**	**137**	*eP*	**Pn**	**03 12 09.2**	**-3.1**
KPL				*e*		03 13 52.8	
MDO	**Dochfour**	**9.70**	**133**	*eP*	Pn	03 12 13.1	-3.4
MCD	**Coleburn Disti**	**9.94**	**130**	*eP*	**Pn**	**03 12 17.8**	**-1.9**
LAWE	**Loch Awe, Argy**	**10.39**	**140**	*eP*	**Pn**	**03 12 23.4**	**-2.6**
LAWE				IAMs_20	IAMs_20	03 16 56.3	
	comp=Z,7μm,11.4s						
INVG	**Invergeldie, C**	**10.64**	**136**	*eP*	**Pn**	**03 12 26.4**	**-3.0**
INVG				IAMs_20	IAMs_20	03 17 00.3	
	comp=Z,9μm,10.8s						
ELO	**Logie Almond**	**10.71**	**135**	*eP*	**Pn**	**03 12 27.9**	**-2.4**
EAB	**Aberfoyle**	**10.76**	**137**	*eP*	**Pn**	**03 12 29.0**	**-1.9**
SUE	**Sulen**	**10.76**	**100**	*eP*	**Pn**	**03 12 30.5**	**-0.5**
SUMG	**Summit**	**10.85**	**325**	*i* P	Pn	03 12 35.0	+2.5
SUMG	**Summit**	**10.85**	**325**	P	Pn	03 12 34.5	+2.0
SUMG	**Summit**	**10.85**	**325**	Pn	Pn	03 12 34.5	+2.0
PGBU	**Glenifferbraes**	**11.04**	**139**	*eP*	**Pn**	**03 12 31.9**	**-3.0**
PGBU				IAMs_20	IAMs_20	03 17 42.9	
	comp=Z,10μm,12.8s						
AKN	**Aaknes**	**11.20**	**92**	Pn	**Pn**	**03 12 34.9**	**-2.1**
AKN	**Aaknes**	**11.20**	**92**	Pn	**Pn**	**03 12 34.9**	**-2.1**
ASK	**Askoy**	**11.24**	**102**	*eP*	Pn	03 12 30.9	-6.7
CLGH	**Cloghs, Cushen**	**11.26**	**145**	*eP*	**Pn**	**03 12 35.0**	**-2.7**
MOL	**Molde**	**11.28**	**90**	*eP*	**Pn**	**03 12 38.4**	**+0.4**
EDI	**Edinburgh**	**11.32**	**135**	*eP*	**Pn**	**03 12 36.7**	**-2.0**
EDI				IAMs_20	IAMs_20	03 16 38.4	
	comp=Z,7μm,17.8s						
EDI	**Edinburgh**	**11.32**	**135**	*eP*	**Pn**	**03 12 37.5**	**-1.3**
BER	**Bergen**	**11.35**	**102**	*eP*	**Pn**	**03 12 39.3**	**+0.2**
EBL	**Broad Law**	**11.49**	**135**	*eP*	**Pn**	**03 12 39.1**	**-2.0**
ESY	**Stoneypath**	**11.50**	**134**	*eP*	**Pn**	**03 12 38.0**	**-3.2**
NEWG	**New Galloway**	**11.72**	**140**	*eP*	**Pn**	**03 12 41.6**	**-2.5**
GAL1	**Galloway**	**11.81**	**142**	*eP*	**Pn**	**03 12 42.8**	**-2.6**
GAL1				IAMs_20	IAMs_20	03 18 43.3	
	comp=Z,6μm,13.9s						
EKA	**Eskdalemuir Ar**	**11.84**	**137**	Pn	**Pn**	**03 12 43.7**	**-2.0**
EKA	**Eskdalemuir Ar**	**11.84**	**137**	Pn	**Pn**	**03 12 43.6**	**-2.2**
	baz=322,slow=13,SNR=45						
EKA				Sn	**Sn**	**03 14 57.1**	**-0.8**
	baz=325,slow=27,SNR=2.3						
EKA				LR	LR	03 17 11.8	
	comp=Z,7μm,18.0s,baz=325,slow=37						
EKA	**Eskdalemuir Ar**	**11.84**	**137**	Pn	**Pn**	**03 12 43.7**	**-2.0**
ESK	**Eskdalemuir**	**11.84**	**137**	*eP*	**Pn**	**03 12 43.2**	**-2.5**
ESK				IAMs_20	IAMs_20	03 17 21.7	
	comp=Z,10μm,12.9s						
ESK	**Eskdalemuir**	**11.84**	**137**	P	**Pn**	**03 12 42.6**	**-3.1**
ESK	**Eskdalemuir**	**11.84**	**137**	Pn	**Pn**	**03 12 42.6**	**-3.1**
KMY	**Karmoy**	**11.99**	**107**	*eP*	**Pn**	**03 12 46.1**	**-1.7**
DAG	**Danmarks Havn**	**12.04**	**359**	*i* P	Pn	03 12 52.5	+4.1
	comp=Z,6μm,10.0s						
DAG	**Danmarks Havn**	**12.04**	**359**	*i* P	Pn	03 12 52.5	+4.1
DAG				MLR	MLR		
	comp=Z,6μm,10.0s						
DOMB	**Dombas**	**12.14**	**91**	*eP*	**Pn**	**03 12 48.7**	**-1.2**
ODD1	**Odda**	**12.15**	**103**	*eP*	**Pn**	**03 12 52.1**	**+2.1**
ODD1				IAmb	IAmb	03 13 00.6	
	comp=Z,23nm,0.9s						
BLS5	**Blasjo**	**12.36**	**105**	*eP*	**Pn**	**03 12 51.0**	**-1.9**
BLS5				IAmb	IAmb	03 12 53.8	
	comp=Z,21nm,0.7s						
SKAR	**Skarslia**	**12.45**	**97**	*eP*	**Pn**	**03 12 53.5**	**-0.6**
SKAR				IAmb	IAmb	03 12 58.6	
	comp=Z,24nm,0.9s						
WIM	**Isle of Man**	**12.46**	**143**	*eP*	**Pn**	**03 12 52.1**	**-2.2**
EDMD	**Edmundbyers**	**12.62**	**135**	*eP*	**Pn**	**03 12 54.9**	**-1.6**
DSB	**Dublin**	**12.88**	**149**	Pn	**Pn**	**03 12 58.2**	**-1.8**
NRS	**Narsarsuaq**	**13.17**	**267**	*i* P	**Pn**	**03 13 05.6**	**+1.7**
NRS	**Narsarsuaq**	**13.17**	**267**	*eP*	**Pn**	**03 13 05.6**	**+1.7**
NRS	**Narsarsuaq**	**13.17**	**267**		**Pn**	**03 13 01.2**	**-2.7**
WPS	**Cemaes, Angles**	**13.18**	**144**	*eP*	**Pn**	**03 13 02.3**	**-1.8**
WPS				IAMs_20	IAMs_20	03 19 13.6	
	comp=Z,6μm,15.4s						
NC204	**NORSAR Array S**	**13.21**	**92**	Pn	**Pn**	**03 13 02.0**	**-2.5**
YRC	**Rhoscolyn**	**13.30**	**144**	*eP*	**Pn**	**03 13 03.9**	**-1.8**
GDLE	**Glaisdale, N Y**	**13.32**	**134**	*eP*	**Pn**	**03 13 06.2**	**+0.2**
NBO00	**NORSAR Array S**	**13.33**	**93**		**Pn**	**03 13 02.7**	**-3.4**
SNART	**Snartemo**	**13.34**	**108**	*eP*	**Pn**	**03 13 06.0**	**-0.1**
SNART				IAmb	IAmb	03 13 19.9	
	comp=Z,172nm,1.3s						
NAO01	**NORSAR Array S**	**13.47**	**94**		**Pn**	**03 13 05.5**	**-2.4**
NAO01	**NORSAR Array S**	**13.47**	**94**	*eP*	**Pn**	**03 13 05.8**	**-2.1**
NC303	**NORSAR Array S**	**13.49**	**92**		**Pn**	**03 13 04.9**	**-3.4**
NOA	**NORSAR Array B**	**13.51**	**93**	Pn	**Pn**	**03 13 05.0**	**-3.6**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=11						
NOA				LR	LR	03 18 27.4	
	comp=Z,4μm,18.3s,baz=300,slow=38						
KONO	**Kongsberg**	**13.55**	**100**	*ceP*	**Pn**	**03 13 10.0**	**+1.0**
KONO				pmax	pmax		
	comp=Z,57nm,2.5s						
KONO	**Kongsberg**	**13.55**	**100**		**Pn**	**03 13 08.1**	**-0.9**
SFJD	**Kangerlussuaq**	**13.64**	**294**	Pn	**Pn**	**03 13 10.3**	**+0.1**
	baz=83,slow=19,SNR=1.7						
SFJD				Lg	Lg	03 16 56.2	
	comp=Z,0.5nm,0.3s,baz=331,slow=18,SNR=1.9						
SFJD				LR	LR	03 18 11.3	
	comp=Z,7μm,21.9s,baz=84,slow=36						
SFJD	**Kangerlussuaq**	**13.64**	**294**	*i* P	**P**	**03 13 14.6**	**-4.6**
	comp=Z,2μm,10.0s						
SFJD	**Kangerlussuaq**	**13.64**	**294**		**Pn**	**03 13 08.5**	**-1.7**

KBS pmax pmax
comp=Z,238nm,1.7s
KBS Kingsbay 16.50 20 P 03 13 48.6 -2.3
KBS IAmb IAmb 03 14 07.1
comp=Z,238nm,1.6s
KBS Kingsbay 16.50 20 P P 03 13 52.0 +1.1
SPA0 Spitsbergen Ar 16.73 23 P P 03 13 54.2 +0.7
SPA0 Spitsbergen Ar 16.73 23⇓ *i* P P 03 13 54.3 +0.7
SPA0 *e*S S 03 17 02.9 -5.2
SPA0 Spitsbergen Ar 16.73 23 P P 03 13 54.2 +0.7
SPITS Spitsbergen Ar 16.73 23 Pn P 03 13 52.4 -1.1
baz=258,slow=12,SNR=2.7
SPITS LR LR 03 18 49.5
comp=Z,3μm,20.2s,baz=215,slow=32
NOR Nord 16.89 0 P P 03 13 54.8 -0.5
NOR Nord 16.89 0 *i* P P 03 13 55.0 -0.2
NOR Nord 16.89 0 *i* P P 03 13 55.0 -0.2
NOR Nord 16.89 0 P P 03 13 54.8 -0.5
ARA0 ARCESS Array S 17.02 55 P P 03 13 55.0 -1.7
baz=284,slow=11
ARA0 ARCESS Array S 17.02 55 P P 03 13 55.0 -1.7
baz=284,slow=11
ARCES ARCESS Array B 17.02 55 P P 03 13 55.1 -1.6
comp=Z,0.2nm,0.3s,baz=276,slow=11,SNR=7.6
ARCES LR LR 03 19 08.8
comp=Z,6μm,21.7s,baz=272,slow=32
ARCES ARCESS Array B 17.02 55 Pn 03 13 53.5 -1.3
ARE0 ARCESS Array S 17.02 55 Pn 03 13 52.9 -1.9
KEV Kevo 17.52 54 P Pn 03 13 59.5 -1.6
KEV pmax pmax
comp=Z,178nm,1.9s
KEV Kevo 17.52 54 Pn 03 13 59.5 -1.6
BSEG Bad Segeberg 17.66 115 *e*P Pn 03 14 01.3 -1.7
comp=Z,290nm,1.7s,baz=325,slow=10
BSEG *e*L L 03 21 28.2
comp=Z,8μm,18.1s
HOPEN Hopen 17.70 31 P P 03 14 05.1 +0.9
HOPEN Hopen 17.70 31 P P 03 14 05.1 +0.9
UCC Uccle 18.07 131 P Pn 03 14 05.4 -2.5
UCC pmax pmax
comp=Z,86nm,1.5s
UCC Uccle 18.07 131 Pn 03 14 05.4 -2.5
SNF Seneffe 18.29 131 P P 03 14 09.4 -1.4
RGN Rugen 18.41 109 P 03 14 09.2 -2.8
BEBN Eben Emael 18.50 128 ⇑Pn P 03 14 11.3 -1.8
BMRD Maredsous 18.62 131 P P 03 14 13.4 -1.1
BSTI Sart Tilman 18.65 129 P P 03 14 13.8 -1.0
BGES Gesves 18.66 130 P P 03 14 12.5 -2.4
comp=Z,59nm,1.9s
BCLA Clavier 18.70 130 ⇑P P 03 14 13.6 -1.7
DOU Dourbes 18.75 131 ⇑P P 03 14 13.6 -2.2
MEM Membach 18.77 128 P P 03 14 13.6 -2.6
BHOU Houvegnez 18.99 128 P P 03 14 17.3 -1.2
CLZ Clausthal 19.32 119 *e*P P 03 14 21.3 -0.8
comp=Z,158nm,1.4s,baz=325,slow=10
WLF Walferdange 19.63 129 P P 03 14 26.5 +1.0
WLF Walferdange 19.63 129 P P 03 14 25.3 -0.2
WLF pmax pmax
comp=Z,122nm,1.8s
WLF Walferdange 19.63 129 P P 03 14 25.3 -0.2
FIA0 FINESS Array S 19.65 80 P Pn 03 14 26.3 -0.8
baz=322,slow=16
FIA0 FINESS Array S 19.65 80 P Pn 03 14 26.3 -0.8
baz=322,slow=16
FINES FINESS Array B 19.65 80 P P 03 14 25.2 -0.5
comp=Z,0.1nm,0.3s,baz=304,slow=9.9,SNR=7.6
FINES LR LR 03 21 38.1
comp=Z,4μm,21.1s,baz=294,slow=36
FINES FINESS Array B 19.65 80 P P 03 14 24.0 -1.7
FIA1 FINESS Array S 19.65 80 P P 03 14 24.2 -1.5
FIA1 IAmb IAmb 03 14 50.3
comp=Z,196nm,1.6s
TNS Taunus Mts 19.94 125 *e*P P 03 14 28.9 -0.1
comp=Z,92nm,1.6s,baz=325,slow=10
TNS *e*L L 03 24 20.1
comp=Z,2μm,19.8s
APA0 Apatity Array 20.07 59 P Pn 03 14 30.3 -1.7
APA0 Apatity Array 20.07 59 P Pn 03 14 30.3 -1.7
SLIT Slitere, Latvi 20.12 92 *e*P P 03 14 30.3 -0.5
RUE Ruedersdorf 20.13 113 *e*P P 03 14 30.9 0.0
APA Apatity 20.23 59⇑ *i*P Pn 03 14 33.1 -0.8
APA *i* S S 03 18 15.0 -3.8
APA pmax pmax
comp=Z,23nm,1.0s
APA MLR MLR
comp=Z,4μm,20.0s
LVZ Lovozero 20.60 58 *i* P P 03 14 35.2 -0.8
LVZ pmax pmax
comp=Z,27nm,1.0s
LVZ Lovozero 20.60 58 P P 03 14 34.4 -1.6
CLL Collm 20.74 116 *e*P P 03 14 36.0 -1.5
comp=Z,120nm,1.8s
CLL *i* 03 14 41.8
comp=Z,133nm,1.4s
CLL *e*Pmax 03 14 44.0
CLL *e* 03 14 49.0
CLL *e*S S 03 18 27.0 -2.0
CLL Lm MLR 03 22 00.0
comp=N,3μm,19.6s
CLL Lm MLR 03 22 00.0
comp=E,4μm,18.8s
CLL Lm MLR 03 22 00.0
comp=Z,4μm,19.6s
CLL Lmax 03 24 00.0
CLL Collm 20.74 116 *e*P P 03 14 36.4 -1.1
comp=Z,123nm,1.3s,baz=325,slow=10
CLL *e*L L 03 22 54.8
comp=Z,4μm,19.7s
CLL Collm 20.74 116 IAmb IAmb 03 14 43.3
comp=Z,137nm,1.4s
CLL IAMs_20 IAMs_20 03 23 32.3
comp=Z,5μm,19.0s
MOX Moxa 20.74 119 *e*P P 03 14 36.5 -1.2
comp=Z,360nm,1.9s,baz=325,slow=10
MOX *e*L L 03 23 11.0
comp=Z,6μm,20.0s
GKP Gorka Klasztor 20.93 107 *e*P P 03 14 40.8 +1.3
GKP *e*S Sn 03 18 43.4 +5.1
PBUR Paburge 20.98 96 *e*P P 03 14 40.7 +0.6
GRA1 Grafenberg Arr 21.38 121 P P 03 14 42.4 -2.1
GRA1 IAmb IAmb 03 15 18.2
comp=Z,212nm,1.6s
GRA1 IAMs_20 IAMs_20 03 24 13.0
comp=Z,5μm,18.0s
GRF Grafenberg Arr 21.38 121 P P 03 14 42.4 -2.1
GRF pmax pmax
comp=Z,212nm,1.6s
GRF MLR MLR
comp=Z,5μm,18.0s
GRF Grafenberg Arr 21.38 121 *e*P P 03 14 44.4 -0.1
comp=Z,146nm,1.4s,baz=325,slow=10
GRF *e*L L 03 24 23.1
comp=Z,5μm,18.6s
NKC Novy Kostel 21.39 119 *e*P P 03 14 44.5 -0.1
NKC *e*pP **pP 03 14 48.3 +1.3**
NKC *e*S Sn 03 18 49.7 +0.2
NKC AMS AMS 03 23 30.0
comp=Z,6μm,18.1s
NKC Novy Kostel 21.39 119 *e*P P 03 14 44.5 -0.1
NKC *e* 03 14 48.3
NKC *e*S Sn 03 18 49.7 +0.2
NKC MLR MLR
comp=Z,6μm,18.1s
STU Stuttgart 21.43 126 P P 03 14 44.4 -0.6
STU pmax pmax
comp=Z,130nm,1.2s
STU MLR MLR
comp=Z,4μm,19.0s
STU Stuttgart 21.43 126 P P 03 14 44.4 -0.6
STU IAmb IAmb 03 14 53.8
comp=Z,130nm,1.2s
BRG Berggiesshubel 21.45 116⇑ *i*P P 03 14 44.4 -0.8
comp=Z,907nm,2.5s
BRG S Sn 03 18 49.0 -1.8
comp=Z,6μm,17.2s
comp=N,4μm,15.5s
comp=E,3μm,15.5s
BRG Berggiesshubel 21.45 116 *e*P P 03 14 43.8 -1.3
comp=E,228nm,1.5s,baz=325,slow=10
BFO Black Forest 21.51 128 P P 03 14 44.7 -1.2
BFO pmax pmax
comp=Z,181nm,1.5s
BFO MLR MLR
comp=Z,4μm,20.0s
BFO Black Forest 21.51 128 *e*P P 03 14 45.1 -0.8
comp=Z,171nm,1.5s,baz=325,slow=10
BFO *e*L L 03 23 16.7
comp=Z,3μm,19.4s
BFO Black Forest 21.51 128 P P 03 14 44.7 -1.2
BFO IAmb IAmb 03 14 52.5
comp=Z,181nm,1.5s
VSU Vasula 21.53 86 *e*P P 03 14 46.0 0.0
VSU Vasula 21.53 86 *i* P P 03 14 46.5 +0.5
VSU pmax pmax
comp=Z,376nm,1.0s
FRB Frobisher Bay 21.73 291 P P 03 14 48.7 +0.7
comp=Z,16nm,0.9s,baz=87,slow=8.8,SNR=2.4
FRB LR LR 03 22 28.8
comp=Z,4μm,20.8s,baz=65,slow=35
PVCC Panska Ves 21.96 115 *e*P P 03 14 53.0 +2.3
PVCC *e*S S 03 18 58.1 +5.1
PVCC AMS AMS 03 24 30.0
comp=Z,5μm,16.4s
PVCC Panska Ves 21.96 115 *e*P P 03 14 53.0 +2.3
PVCC MLR MLR
comp=Z,5μm,16.4s
SLVR Solovky 21.98 65 *e*P P 03 14 48.7 -2.1
comp=Z,233nm,2.0s
SLVR *i* S S 03 18 52.2 -1.0
GRC1 Grafenberg Arr 22.07 122 *e*P P 03 15 02.7 +11
baz=325,slow=10
PABE Paberze 22.19 95 *e*P P 03 14 53.3 +0.2
PRA Prague 22.27 116 *e*S S 03 19 04.7 +5.7
PRA AMS AMS 03 24 30.0
comp=Z,3μm,16.7s
PRU Pruhonice 22.38 116 *e*P P 03 14 54.8 -0.4
PRU *e*S S 03 19 05.2 +4.1
PRU AMS AMS 03 24 20.0
comp=Z,5μm,17.1s
PRU Pruhonice 22.38 116 *e*P P 03 14 54.8 -0.4
PRU MLR MLR
comp=Z,5μm,17.1s
KSP Ksiaz 22.39 112 *e*P P 03 14 55.0 -0.3
KSP *e*S S 03 19 07.9 +6.7
WET Wettzell 22.44 120 *e*P P 03 14 55.8 -0.1
comp=Z,160nm,1.8s,baz=325,slow=10
WET *e*L L 03 23 40.9
comp=Z,5μm,21.4s
CHVC Chvalec 22.49 113 *e*P P 03 14 56.0 -0.5
CHVC *e*S S 03 19 08.5 +5.3
CHVC AMS AMS 03 24 20.0
comp=Z,5μm,19.5s
GOPC GO Pecny, Ondr 22.54 116 *e*P P 03 14 56.3 -0.6
GOPC AMS AMS 03 24 40.0
comp=Z,6μm,18.2s
GOPC GO Pecny, Ondr 22.54 116 *e*P P 03 14 56.3 -0.6
GOPC MLR MLR
comp=Z,6μm,18.2s
UPC Upice 22.54 113 *e*P P 03 14 57.5 +0.6
UPC *e*S S 03 19 09.5 +5.5
UPC AMS AMS 03 24 30.0
comp=Z,5μm,18.2s
UPC Upice 22.54 113 *e*P P 03 14 57.5 +0.6
UPC MLR MLR
comp=Z,5μm,18.2s
OSTC Ostas 22.58 113 *e*P P 03 14 56.9 -0.5
OSTC *e*S S 03 19 11.2 +6.4
OSTC AMS AMS 03 24 20.0
comp=Z,4μm,18.9s
FUR Furstenfeldbru 22.68 123 *e*L L 03 25 07.4
comp=Z,4μm,18.5s
KHC Kasperske Hory 22.71 119 *e*P P 03 14 58.6 -0.2
KHC *e*pP **pP 03 15 02.5 +1.2**
KHC *e*S S 03 19 12.7 +5.4
KHC AMS AMS 03 24 00.0
comp=Z,5μm,20.0s
KHC Kasperske Hory 22.71 119 *e*P P 03 14 58.6 -0.2
KHC *e* 03 15 02.5
KHC MLR MLR
comp=Z,5μm,20.0s
KHC Kasperske Hory 22.71 119 P P 03 14 58.0 -0.8
DPC Dobruska-Polom 22.79 113 *e*P P 03 14 59.6 0.0
DPC *e*pP **pP 03 15 03.4 +1.4**
DPC *e*S S 03 19 12.4 +3.8
DPC AMS AMS 03 24 50.0
comp=Z,5μm,18.5s
DPC Dobruska-Polom 22.79 113 *e*P P 03 14 59.6 0.0
DPC *e* 03 15 03.4
DPC *e*S S 03 19 12.4 +3.8
DPC MLR MLR
comp=Z,5μm,18.5s
SUW Suwalki 22.88 99 *e*P P 03 15 00.2 -0.2
SUW *e*S S 03 19 14.2 +4.2
SUW Suwalki 22.88 99 P P 03 14 58.4 -2.0
SUW pmax pmax
comp=Z,157nm,1.2s
SUW Suwalki 22.88 99 P P 03 14 58.4 -2.0
SENIN Lac Senin/Sane 22.89 132 P P 03 15 00.5 -0.4
ZFI2 Zemlya Franca- 22.93 22⇑ *i*P P 03 15 03.1 +2.3
comp=Z,51nm,1.6s
ZFI2 *e*S S 03 19 13.6 +2.9
DAVA Damuels 22.94 127 *i* P P 03 15 00.4 -0.9
comp=Z,60nm,1.2s,SNR=18
GEC2 GERESS Array S 23.00 119 *e*P P 03 15 01.9 +0.1
comp=Z,375nm,2.1s,baz=325,slow=10
GEC2 *e*L L 03 24 07.2
comp=Z,5μm,20.9s
GEC2 GERESS Array S 23.00 119 IAmb IAmb 03 15 14.0
comp=Z,108nm,1.4s
GEC2 IAMs_20 IAMs_20 03 24 07.9
comp=Z,5μm,20.0s
GERES GERESS Array B 23.00 119 P P 03 15 00.9 -0.9
comp=Z,12nm,1.0s,baz=327,slow=7.0,SNR=27
GERES LR LR 03 25 18.0
comp=Z,5μm,18.3s,baz=330,slow=40
GERES GERESS Array B 23.00 119 P P 03 15 00.7 -1.1
GERES GERESS Array B 23.00 119 P P 03 15 00.7 -1.1
IZAR Zarasai 23.00 92 *e*P P 03 15 01.8 +0.1
SSB Saint Sauveur 23.03 138 IAmb IAmb 03 15 22.6
comp=Z,107nm,1.5s
SSB Saint Sauveur 23.03 138 IAMs_20 IAMs_20 03 23 29.1
comp=Z,4μm,20.0s
ISAL Salakas 23.07 93 *e*P P 03 15 02.5 +0.1
RETA Reutte 23.07 125 *i* P P 03 15 01.3 -1.3
comp=Z,41nm,1.2s,SNR=9.2
KRLC Kraliky 23.18 113 *e*P P 03 15 04.2 +0.5
KRLC *e*S S 03 19 20.2 +4.7
KRLC AMS AMS 03 24 50.0
comp=Z,4μm,18.4s
KRLC Kraliky 23.18 113 *e*P P 03 15 04.2 +0.5
KRLC MLR MLR
comp=Z,4μm,18.4s
IIGN Ignalina 23.26 93 *e*P P 03 15 04.5 +0.2
TMCR Tamitsa 23.27 66 *e*P P 03 15 03.3 -1.0
TMCR *e*S S 03 19 16.4 0.0
TMCR Tamitsa 23.27 66 *e*P P 03 15 03.3 -1.0
TMCR *e*S S 03 19 16.4 0.0
TREC Trest 23.31 116 *e*P P 03 15 05.9 +1.0
TREC AMS AMS 03 25 00.0
comp=Z,5μm,17.7s
TREC Trest 23.31 116 *e*P P 03 15 05.9 +1.0
TREC MLR MLR
comp=Z,5μm,17.7s
MOTA Moosalm 23.31 125 *i* pP P 03 15 05.3 +0.2
comp=Z,95nm,1.4s,SNR=14
BEL Belsk 23.45 105 *e*P P 03 15 05.1 -1.2
BEL *e*S S 03 19 29.8 +10
SQTA Sankt Quirin 23.46 125 *i* pP P 03 15 05.9 -0.6
comp=Z,66nm,1.3s,SNR=13
FETA Feichten 23.46 126 *i* pP P 03 15 06.5 -0.2
comp=Z,69nm,1.5s,SNR=12
TUE Stuetta 23.47 129 P P 03 15 05.6 -1.1
TUE IAmb IAmb 03 15 39.1
comp=Z,150nm,1.5s
TUE IAMs_20 IAMs_20 03 24 07.0
comp=Z,4μm,21.0s
PGAV Gavieira, Arco 23.47 163 *e*P P 03 15 08.8 +2.1
comp=Z,143nm,1.7s
PGAV *e*S S 03 19 21.4 +1.1
PGAV *e*LR LR 03 21 09.7
comp=Z,2μm,18.0s
WATA Walderalm 23.49 124 *i* P P 03 15 05.9 -1.0
comp=Z,42nm,1.1s,SNR=15
IDID Didziasalis 23.50 93 *e*P P 03 15 06.6 -0.2
EUNU Eureka 23.56 336 P P 03 15 07.5 +0.2
EUNU IAmb IAmb 03 15 15.7
comp=Z,84nm,1.0s
EUNU IAMs_20 IAMs_20 03 23 39.3
comp=Z,4μm,19.0s
WTTA Wattenberg 23.57 124 *i* sP P 03 15 08.0 +0.3
comp=Z,59nm,1.3s,SNR=20
FUORN Ofenpass-Fuorn 23.65 127 P P 03 15 08.7 +0.1
FUORN IAmb IAmb 03 15 34.3
comp=Z,104nm,1.4s
FUORN IAMs_20 IAMs_20 03 25 04.8
comp=Z,5μm,18.0s
MORC Moravsky Berou 23.72 113 ⇓P P 03 15 09.6 +0.5
MORC Moravsky Berou 23.72 113 *e*P P 03 15 08.1 -1.0
MORC *e*S S 03 19 27.4 +3.2
MORC Moravsky Berou 23.72 113 IAMs_20 IAMs_20 03 25 03.3
comp=Z,4μm,19.0s
VRAC Vranov 23.72 114 P P 03 15 07.9 -1.1
comp=Z,22nm,1.1s,baz=323,slow=11,SNR=22
VRAC LR LR 03 25 42.3
comp=Z,5μm,18.1s,baz=336,slow=40
VRAC Vranov 23.72 114 ⇓P P 03 15 09.1 0.0
VRAC Vranov 23.72 114 *e*P P 03 15 08.1 -0.9
VRAC *e*S S 03 19 26.1 +2.0
PCAB Cabril 23.75 162 *e*P P 03 15 13.0 +3.6
comp=Z,55nm,1.8s
NACGM Naroch 23.80 93 *e*P P 03 15 08.0 -1.7
NACGM *e*PPP PPP 03 16 06.0
NACGM *e*S S 03 19 26.0 +0.9
NACGM *e*SS SnSn 03 20 28.0 +25
NACGM *e*LQ LQ 03 22 10.0
NACGM *e*LR LR 03 23 10.0
NACGM LRM MLR 03 24 30.0
comp=Z,5.0nm,18.0s
PBRG Braganca 23.84 160 *e*P P 03 15 10.4 +0.2
comp=Z,54nm,3.1s
KRUC Moravsky 23.85 115 *e*P P 03 15 08.8 -1.4
KRUC *e*S S 03 19 28.5 +2.5
BNI Bardonecchia 23.87 134 P P 03 15 10.2 -0.4
BNI pmax pmax
comp=Z,142nm,1.6s
BNI MLR MLR
comp=Z,5μm,18.0s
BNI Bardonecchia 23.87 134 P P 03 15 10.2 -0.4
BNI IAmb IAmb 03 15 34.2
comp=Z,142nm,1.6s
BNI IAMs_20 IAMs_20 03 24 59.5
comp=Z,5μm,18.0s
MOA Molln 24.03 120 *i* P P 03 15 10.7 -1.3
comp=Z,34nm,1.5s,SNR=9.4
PVRL Vila Real 24.22 162 *e*P P 03 15 15.6 +1.8
comp=Z,90nm,1.6s
OJC Ojcow 24.28 109 *e*P P 03 15 12.5 -1.8
OJC *e*S S 03 19 41.7 +8.8
OJC Ojcow 24.28 109 IAmb IAmb 03 15 23.4
comp=Z,141nm,1.7s
ABTA Abfaltersbach 24.32 124 *i* pP P 03 15 14.5 -0.3
comp=Z,49nm,1.5s,SNR=12
KBA Koelnbreinsper 24.34 122 *i* pP P 03 15 14.8 -0.2
comp=Z,49nm,1.9s
MVO Moncorvo 24.43 161 *e*P P 03 15 18.4 +2.7
comp=Z,82nm,1.7s
MVO *e*S S 03 19 42.5 +7.0
MVO *e*LR LR 03 22 13.3
comp=Z,1μm,18.0s
JAVC Velka Javorina 24.51 114 *e*P P 03 15 16.2 -0.2
JAVC *e*S S 03 19 43.1 +6.4
MICGM Minsk 24.54 93⇑ *e*P P 03 15 15.0 -1.6
MICGM PM 03 15 18.0
comp=Z,2.6nm,6.0s
MICGM PM 03 15 20.0
comp=Z,0.3nm,2.0s
MICGM PM 03 15 21.0
comp=N,0.3nm,2.0s
MICGM *e*PP PnPn 03 16 04.0 +17
MICGM *e*PPP PPP 03 16 26.0
MICGM *e*PcP PcP 03 18 46.0 -8.2
MICGM *e*S S 03 19 34.0 -3.0
MICGM SM 03 19 46.0
comp=E,9.0nm,10.0s
MICGM SM 03 19 48.0
comp=N,9.6nm,10.0s
MICGM *e*SS SnSn 03 20 40.0 +19
MICGM *e*SSS SSS 03 21 18.0
MICGM ScP ScP 03 22 14.0 -19
MICGM *e*LR LR 03 23 08.0
MICGM LRM MLR 03 24 10.0
comp=E,1.5nm,16.0s
MICGM LRM MLR 03 24 16.0
comp=Z,4.3nm,16.0s
MICGM LRM MLR 03 24 44.0
comp=N,2.5nm,14.0s
MNK Minsk 24.54 93⇑ *e*P P 03 15 15.0 -1.6
MNK *e* 03 16 04.0
MNK *e*S S 03 19 34.0 -3.0
MNK *e* 03 20 40.0
MNK pmax pmax
comp=Z,3μm,6.0s
MNK pmax pmax
comp=Z,310nm,2.0s
MNK pmax pmax
comp=N,320nm,2.0s
MNK smax smax
comp=E,9μm,10.0s
MNK smax smax
comp=N,10μm,10.0s
MNK MLR MLR
comp=E,2μm,16.0s
MNK MLR MLR
comp=Z,4μm,16.0s
MNK MLR MLR
comp=N,2μm,14.0s
CONA Conrad Observa 24.57 117 *i* P P 03 15 15.6 -1.4
comp=N,36nm,1.0s,SNR=15
CTI Castel Tesino 24.62 126 IAmb IAmb 03 15 25.3
comp=Z,71nm,1.1s
ZOU Zoufplan 24.65 123 IAMs_20 IAMs_20 03 26 29.5
comp=Z,4μm,19.0s
CIMO Cimolais 24.67 124 IAmb IAmb 03 15 33.8
comp=Z,46nm,1.2s
SMOL Smolenice 24.69 115 *e*P P 03 15 19.1 +1.1
SMOL pmax pmax
comp=Z,51nm,1.3s
SMOL Smolenice 24.69 115 *e*P P 03 15 19.1 +1.1
MODS Modra-Piesok 24.75 115 *e*P P 03 15 17.8 -0.7
MODS pmax pmax
comp=Z,203nm,1.9s
MODS Modra-Piesok 24.75 115 *e*P P 03 15 17.8 -0.7
MODS *e*S S 03 19 45.5 +5.0
MODS *e*L L 03 24 41.4
PVIS Viseu 24.75 162 *e*P P 03 15 21.7 +3.1
comp=Z,58nm,1.5s
MYKA Terra Mystica 24.83 122 *i* P P 03 15 19.0 -0.3
comp=Z,40nm,1.4s,SNR=7.5
PRED Cave del Predi 24.96 122 IAMs_20 IAMs_20 03 26 18.8
comp=Z,4μm,19.0s
ARSA Arzberg 25.00 119 *i* pP P 03 15 20.7 -0.1
comp=Z,30nm,1.1s,SNR=7.6
MTE Manteigas 25.11 162 P P 03 15 20.8 -1.1
MTE IAmb IAmb 03 15 26.0
comp=Z,45nm,0.9s
MTE Manteigas 25.11 162 *e*P P 03 15 25.4 +3.6
comp=Z,87nm,1.9s
MTE *e*LR LR 03 22 01.3
comp=Z,2μm,20.0s
NIE Niedzica 25.11 110 *e*P P 03 15 19.8 -1.9
NIE *e*S S 03 19 48.8 +2.5
COI Coimbra 25.18 164 P P 03 15 21.2 -1.3
COI pmax pmax
comp=Z,59nm,1.1s
COI Coimbra 25.18 164 P P 03 15 21.2 -1.3
COI IAmb IAmb 03 15 31.5
comp=Z,59nm,1.1s
COI Coimbra 25.18 164 *e*P P 03 15 27.4 +4.9
comp=Z,96nm,1.6s
CADS Cadrg 25.21 122 *e*P P 03 15 23.2 +0.5
CADS *e*S S 03 19 52.5 +4.5
VYHS Vyhne 25.26 113 *e*P P 03 15 23.1 0.0
VYHS pmax pmax
comp=Z,117nm,1.5s
VYHS Vyhne 25.26 113 *e*P P 03 15 23.1 0.0
VYHS *e*S S 03 19 52.6 +3.9
VYHS *e*L L 03 24 10.6
OBKA Obir 25.26 121 *i* P P 03 15 21.4 -1.9
comp=Z,20nm,1.1s
SOKA Soboth 25.30 120 *i* P P 03 15 22.6 -1.0
comp=Z,42nm,1.5s
PCAS Casmilo, Conde 25.33 164 *e*P P 03 15 25.2 +1.4
comp=Z,75nm,2.1s
KLMR Klimovskoe 25.54 72 *e*P P 03 15 24.3 -1.2
comp=Z,74nm,1.5s

KLMR eS S 03 19 52.5 -0.4
KLMR Klimovskoe 25.54 72 eP P 03 15 24.4 -1.1
KLMR e 03 18 55.8
KLMR eS S 03 19 52.4 -0.4
KLMR pmax pmax
comp=Z,74nm,1.5s
KLMR Klimovskoe 25.54 72 eP P 03 15 24.4 -1.1
KLMR AMP 03 15 34.7
comp=Z,74nm,1.5s
KLMR ePcP PcP 03 18 55.9 -0.4
KLMR eS S 03 19 52.5 -0.4
KLMR eS S 03 19 52.5 -0.4
KLMR LQ LQ 03 22 21.0
KLMR LQ LQ 03 22 21.0
KLMR LR LR 03 23 30.1
SRO Srobarova 25.61 114 eP P 03 15 26.6 +0.4
SRO pmax pmax
comp=Z,84nm,1.4s
SRO Srobarova 25.61 114 eP P 03 15 26.6 +0.4
LJU Ljubljana 25.65 122 eP P 03 15 27.2 +0.6
PCBR Castelo Branco 25.66 162 eP P 03 15 27.5 +0.7
comp=Z,63nm,1.6s
PSBE So Bento 25.82 165 eP P 03 15 34.5 +6.2
comp=Z,89nm,1.7s
LSH Leshukonskoye 25.88 61 eP P 03 15 28.1 -0.5
comp=Z,93nm,1.2s
LSH eS S 03 19 58.6 +0.4
KWP Kalwaria Pacla 25.92 106 eP P 03 15 29.1 0.0
KWP eS S 03 20 10.3 +11
KECS Kecovo 25.92 111 eP P 03 15 29.2 +0.1
KECS Kecovo 25.92 111 eP P 03 15 29.2 +0.1
CRVS Cervenica-Dubn 25.98 109 eP P 03 15 31.7 +2.0
CRVS pmax pmax
comp=Z,228nm,1.7s
CRVS Cervenica-Dubn 25.98 109 eP P 03 15 31.7 +2.0
CRVS eS S 03 20 06.2 +6.0
CRVS eL L 03 23 51.5
SCHQ Schefferville 26.06 271 P P 03 15 30.4 0.0
comp=Z,24nm,0.8s,baz=40,slow=8.4,SNR=14
SCHQ LR LR 03 24 31.9
comp=Z,2μm,19.6s,baz=48,slow=34
SCHQ Schefferville 26.06 271 P P 03 15 29.4 -1.0
SCHQ IAmb IAmb 03 15 36.5
comp=Z,27nm,0.8s
PMRV Marv??o 26.08 162 eP P 03 15 32.9 +2.2
comp=Z,88nm,1.7s
PMRV eS S 03 20 09.3 +7.4
PMRV eLR LR 03 22 39.6
comp=Z,2μm,22.0s
PSZ Piszkesteto 26.14 112 ⇑P P 03 15 32.2 +1.0
KOLS Kolonicke sedl 26.29 108 eP P 03 15 32.1 -0.4
KOLS pmax pmax
comp=Z,274nm,2.2s
KOLS Kolonicke sedl 26.29 108 eP P 03 15 32.1 -0.4
KOLS eS S 03 20 12.2 +7.2
KOLS eL L 03 24 03.1
LVV L'vov 26.32 105 eP P 03 15 31.6 -1.1
LVV e 03 16 14.8
LVV eS S 03 20 00.8 -4.7
LVV pmax pmax
comp=Z,630nm,1.8s
LVV smax smax
comp=E,4μm,6.0s
LVV smax smax
comp=N,5μm,7.0s
LVV MLR MLR
comp=N,2μm,15.0s
LVV MLR MLR
comp=E,2μm,15.0s
LVV MLR MLR
comp=Z,2μm,15.0s
PMAFR Mafra 26.32 166 eP P 03 15 35.3 +2.5
comp=Z,90nm,2.1s
ESDC Sonseca Array 26.36 156 P P 03 15 31.7 -1.6
comp=Z,12nm,0.9s,baz=349,slow=8.8,SNR=45
ESDC LR LR 03 25 24.3
comp=Z,2μm,19.2s,baz=335,slow=35
RES Resolute Bay 26.37 324 LR LR 03 25 58.9
comp=Z,2μm,18.8s,baz=74,slow=36
PAB San Pablo 26.42 157 P P 03 15 32.0 -1.8
PAB pmax pmax
comp=Z,88nm,1.6s
PAB San Pablo 26.42 157 P P 03 15 32.0 -1.8
PAB IAmb IAmb 03 15 46.7
comp=Z,88nm,1.6s
UZH Uzhgorod 26.54 108 eP P 03 15 32.4 -2.2
UZH i 03 15 38.6
UZH e 03 16 22.2
UZH e 03 19 02.3
UZH eS S 03 20 01.4 -7.4
UZH MLR MLR
comp=N,700nm,16.0s
UZH MLR MLR
comp=E,600nm,16.0s
UZH MLR MLR
comp=Z,270nm,16.0s
LIS Lisbon 26.57 165 eP P 03 15 35.1 +0.1
LIS eS S 03 20 10.6 +1.0
LIS Lisbon 26.57 165 eP P 03 15 35.1 +0.1
LIS eS S 03 20 10.5 +1.0
OSSC Osservatorio P 26.70 129 P P 03 15 35.9 -0.3
EVO Evora 26.89 164 eP P 03 15 38.3 +0.4
EVO eS S 03 20 21.4 +6.9
EVO Evora 26.89 164 eP P 03 15 40.2 +2.3
comp=Z,34nm,1.7s
MURB Monte Urbino 27.36 127 P P 03 15 41.1 -1.2
MURB IAmb IAmb 03 15 54.9
comp=Z,53nm,1.0s
PBEJ Beja 27.40 163 eP P 03 15 46.0 +3.5
comp=Z,36nm,1.7s
PRGR Permogore 27.55 67 eP P 03 15 43.2 -0.4
comp=Z,82nm,1.4s
PRGR eS S 03 20 24.3 -0.3
PRGR Permogore 27.55 67 ⇑iP P 03 15 43.2 -0.4
PRGR pmax pmax
comp=Z,82nm,1.5s
PCVE Castro Verde 27.77 164 eP P 03 15 47.3 +1.5
comp=Z,21nm,1.8s
BMR Baia Mare 27.79 108 ⇑P P 03 15 47.6 +1.7
AKASG Malin Array Be 27.83 98 P P 03 15 45.6 -0.7
comp=Z,2.7nm,0.7s,baz=325,slow=9.5,SNR=9.0
AKASG LR LR 03 26 31.5
comp=Z,3μm,21.7s,baz=320,slow=36
AKASG Malin Array Be 27.83 98 P P 03 15 44.4 -1.9
AKBB Malin Array Si 27.83 98 P P 03 15 43.9 -2.4
AKBB pmax pmax
comp=Z,43nm,1.4s
AKBB MLR MLR
comp=Z,3μm,21.0s
AKBB Malin Array Si 27.83 98 P P 03 15 43.9 -2.4
AKBB IAmb IAmb 03 15 59.9
comp=Z,43nm,1.4s
OBN Obninsk 27.84 84 P P 03 15 45.3 -1.0
comp=Z,4.7nm,0.4s,baz=303,slow=16,SNR=7.1
OBN LR LR 03 27 09.6
comp=Z,398nm,18.1s,baz=332,slow=37
OBN Obninsk 27.84 84 ⇑P P 03 15 46.9 +0.6
OBN Obninsk 27.84 84 *d*iP P 03 15 44.8 -1.5
OBN *i* 03 16 31.7
OBN *i* 03 19 01.7
OBN *i*S S 03 20 31.7 +2.4
OBN *i*SS SnSn 03 21 47.6 +5.9
OBN pmax pmax
comp=Z,26nm,1.0s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 27.84 84 P P 03 15 45.3 -1.0
MOS Moscow 27.87 83 eP P 03 15 46.6 0.0
MOS e 03 16 35.7
MOS eS S 03 20 32.6 +2.8
MOS pmax pmax
comp=Z,96nm,1.8s
MOS pmax pmax
comp=Z,700nm,4.4s
MOS MLR MLR
comp=Z,2μm,16.0s
MAHO Mahon 27.95 143 eP P 03 15 47.7 +0.3
MAHO eS S 03 20 35.3 +4.1
MORF Marmelete 28.02 165 eP P 03 15 48.1 -0.1
MORF AMb AMB 03 15 56.7
comp=Z,26nm,1.3s
MORF eS S 03 20 33.7 +1.1
MORF Marmelete 28.02 165 eP P 03 15 48.0 -0.1
MORF eS S 03 20 33.7 +1.1
MORF pmax pmax
comp=Z,27nm,1.3s
PVAQ Vaqueiros 28.04 163 eS S 03 20 36.5 +3.9
PVAQ eLR LR 03 23 10.8
comp=Z,1μm,20.0s
BUR08 Bucovina Ar. S 28.51 106 P P 03 15 50.8 -1.7
BUR08 IAmb IAmb 03 16 29.3
comp=Z,72nm,1.9s
BURAR Bucovina Array 28.54 106 ⇑P P 03 15 53.2 +0.4
CJR Cluj-Napoca 28.60 109 ⇓P P 03 15 54.7 +1.5
BZS Buzias 28.71 113 ⇓P P 03 15 55.0 +0.9
CART Cartagena 28.94 152 ⇑iP P 03 15 57.4 +1.2
CART eS S 03 20 50.8 +4.0
INTR Introdacqua 28.94 127 IAms_20 IAms_20 03 29 33.9
comp=Z,4μm,18.0s
DEV Deva 29.00 111 ⇑P P 03 15 58.2 +1.5
EMAL Malaga-Limoner 29.13 158 eP P 03 15 59.5 +1.5
EMAL eS S 03 20 57.0 +7.2
SFS San Fernando 29.16 161 eP P 03 16 01.3 +3.1
SFS eS S 03 21 03.5 +13
DIVS Divibare 29.35 117 P P 03 15 59.2 -0.7
SORM Soroca 29.43 102 ⇑P P 03 16 00.1 -0.4
MDVR Moldovita 29.44 114 ⇑P P 03 16 01.8 +1.1
BIZ Bicaz 29.44 106 ⇓P P 03 16 01.4 +0.8
HERR Herculane 29.63 113 ⇑P P 03 16 03.3 +1.0
CEU Ceuta 29.83 160 eP P 03 16 03.6 -0.6
CEU eS S 03 20 55.3 -5.5
DOPR Dopca 29.93 108 ⇑P P 03 16 06.4 +1.4
OZUR 29.99 108 ⇓P P 03 16 06.3 +0.8
TESR Tescani 30.01 106 ⇑P P 03 16 06.4 +0.8
PAOL Paolisi 30.04 127 P P 03 16 05.8 -0.2
PAOL IAmb IAmb 03 16 10.3
comp=Z,36nm,1.3s
PAOL IAMs_20 IAMs_20 03 30 00.0
comp=Z,5μm,18.0s
ARR Arges 30.11 110 ⇓P P 03 16 07.6 +0.9
VOIR 30.23 109 ⇓P P 03 16 08.5 +0.8
PUNG Punghina 30.34 113 ⇑P P 03 16 09.4 +0.8
VASR Vaslui 30.37 105 ⇓P P 03 16 09.8 +0.9
PDG Podgorica 30.50 119 ⇑P P 03 16 09.7 -0.2
KIS Kishinev 30.52 103 ⇑eP P 03 16 09.0 -1.1
comp=Z,240nm,7.5s
KIS Kishinev 30.52 103 *e*PP PP 03 17 07.0 -12
KIS Kishinev 30.52 103 *e*PcP PcP 03 19 06.0 -2.8
KIS eS S 03 21 06.0 -5.5
comp=Z,700nm,8.0s
KIS *e*SS SnSn 03 22 47.0 -0.1
KIS *e*Li 03 28 50.0
KIS LRM MLR 03 29 48.0
comp=Z,600nm,14.5s
PLOR Plostina 30.54 107 ⇑P P 03 16 11.4 +1.0
MLR Muntele Rosu 30.55 108 ⇓P P 03 16 11.7 +1.1
MLR Muntele Rosu 30.55 108 P P 03 16 10.6 0.0
MLR pmax pmax
comp=Z,39nm,1.3s
MLR MLR MLR
comp=Z,3μm,18.0s
MLR Muntele Rosu 30.55 108 P P 03 16 10.6 0.0
MLR IAmb IAmb 03 16 19.6
comp=Z,39nm,1.3s
MLR IAMs_20 IAMs_20 03 29 57.0
comp=Z,3μm,18.0s
VRI Vrincioaia 30.56 107 ⇓P P 03 16 10.8 +0.2
MILM Milestii Mici 30.58 103 ⇓P P 03 16 11.2 +0.6
LPSR Galich'ya Gora 30.59 86 eP P 03 16 11.4 +0.7
LPSR eS S 03 21 14.5 +2.0
LPSR pmax pmax
comp=Z,10.0nm,0.5s
LPSR smax smax
comp=E,1μm,10.4s
LPSR MLR MLR
comp=Z,2μm,20.0s
MELI Melilla 30.81 156 ⇑iP P 03 16 13.9 +1.1
MELI eS S 03 21 20.1 +3.9
KIRV Kirov 30.91 70 LR LR 03 28 19.9
comp=Z,4μm,19.4s,baz=311,slow=36
SECR 30.97 108 ⇑P P 03 16 13.9 -0.3
BATG Bathurst New B 31.29 260 IAMs_20 IAMs_20 03 27 00.3
comp=Z,3μm,19.0s
MPEP Malo Peshtene 31.43 113 P P 03 16 15.9 -2.3
TIR Tirane 31.66 120 ⇓P P 03 16 20.2 -0.1
CFR Carcaliu 31.70 106 ⇑P P 03 16 20.3 -0.3
VSR Storozhevoye 31.70 88 eP P 03 16 18.4 -2.1
VSR eS S 03 21 28.8 -1.1
VSR pmax pmax
comp=Z,20nm,1.5s
VSR smax smax
comp=N,3μm,11.5s
VSR MLR MLR
comp=Z,3μm,18.0s
SKO Skopje 31.71 117 *i*P P 03 16 22.2 +1.5
VTS Vitosha 31.86 114 P P 03 16 18.9 -3.2
LMN Caledonia Moun 31.90 257 IAMs_20 IAMs_20 03 27 25.3
comp=Z,2μm,19.0s
VORD Divnogorie 31.94 88 eP P 03 16 20.7 -1.9
VORD pmax pmax
comp=Z,30nm,1.5s
TOPG Topolog 32.04 106 ⇑P P 03 16 23.3 -0.2
AVE Averroes 32.12 164 eP P 03 16 23.5 -0.9
AVE eS S 03 21 40.2 +3.4
IFR Ifrane 32.21 160 eP P 03 16 24.0 -1.3
IFR eS S 03 21 38.3 -0.1
SCTE Santa Cesarea 32.26 123 IAMs_20 IAMs_20 03 30 48.0
comp=Z,3μm,20.0s
D63A Stockholm 32.34 261 P P 03 16 25.2 -1.0
baz=38
SZH Strazhica 32.38 110 P P 03 16 21.9 -4.6
TIRR Tirgusor 32.40 106 IAMs_20 IAMs_20 03 29 51.1
comp=Z,3μm,21.0s
CORL Corleone 32.45 131 IAMs_20 IAMs_20 03 29 24.6
comp=Z,3μm,19.0s
TIP Timpagrande 32.45 126 IAMs_20 IAMs_20 03 29 11.8
comp=Z,3μm,22.0s
PQI Presque Isle 32.59 261 IAMs_20 IAMs_20 03 27 51.9
comp=Z,3μm,19.0s
VAY Valandovo 32.71 116 *i*P P 03 16 28.9 -0.5
CLTB Caltabellotta 32.71 131 P P 03 16 28.4 -1.2
D62A Allapoint, All 32.71 262 P P 03 16 27.9 -1.5
baz=38
D62A Allapoint, All 32.71 262 IAMs_20 IAMs_20 03 27 47.9
comp=Z,3μm,20.0s
E64A Bridgewater 32.72 260 P P 03 16 28.6 -0.9
baz=38
E64A S S 03 21 52.0 +6.2
baz=38
VRH Novokhopyorsk 32.80 86 eP P 03 16 28.6 -1.5
VRH eS S 03 21 49.7 +2.7
VRH pmax pmax
comp=Z,30nm,1.3s
VRH smax smax
comp=E,3μm,11.4s
VRH MLR MLR
comp=Z,2μm,22.0s
CHGQ Chibougamau 32.81 271 P P 03 16 28.1 -2.2
baz=42,SNR=5.2
CHGQ S S 03 21 53.4 +6.1
baz=42
MMB Musomiste 32.92 115 P P 03 16 31.8 +0.4
E63A Oxbow 32.96 261 P P 03 16 29.8 -1.8
baz=38
E63A S S 03 21 56.6 +7.0
baz=38
E63A Oxbow 32.96 261 IAMs_20 IAMs_20 03 28 03.6
comp=Z,3μm,19.0s
CEL Celeste 32.98 127 IAMs_20 IAMs_20 03 32 19.7
comp=Z,2μm,18.0s
PRD Provadia 33.02 109 P P 03 16 31.4 -0.8
D61A St Aubert, Com 33.10 264 P P 03 16 30.4 -2.4
baz=39
D61A S S 03 21 59.8 +8.1
baz=39
KEST Kesra 33.24 138 P P 03 16 33.0 -1.2
comp=Z,7.0nm,1.1s,baz=290,slow=7.0,SNR=3.6
KEST LR LR 03 29 25.6
comp=Z,1μm,19.5s,baz=292,slow=35
KEST Kesra 33.24 138 P P 03 16 33.0 -1.2
KEST IAmb IAmb 03 16 50.9
comp=Z,48nm,1.4s
E62A Clayton Lake 33.27 262 P P 03 16 33.2 -1.2
baz=38
E62A S S 03 22 01.3 +6.9
baz=38
E62A Clayton Lake 33.27 262 IAMs_20 IAMs_20 03 28 04.8
comp=Z,3μm,21.0s
GGN Saint George 33.34 258 IAMs_20 IAMs_20 03 28 11.3
comp=Z,2μm,20.0s
F64A Sherman 33.38 260 P P 03 16 33.9 -1.3
baz=37
F64A S S 03 22 00.8 +4.7
baz=37
F64A Sherman 33.38 260 IAMs_20 IAMs_20 03 28 23.5
comp=Z,3μm,18.0s
KDZ Kurdzhali 33.53 113 P P 03 16 32.7 -4.0
G65A Princeton 33.58 259 P P 03 16 35.6 -1.3
baz=36
G65A S S 03 22 05.7 +6.5
baz=36
G65A Princeton 33.58 259 IAMs_20 IAMs_20 03 28 18.7
comp=Z,3μm,20.0s
D60A Saint Jean D'O 33.64 264 P P 03 16 35.9 -1.6
baz=38
D60A S S 03 22 07.2 +7.1
baz=38
H66A Whiting 33.80 258 P P 03 16 36.7 -2.2
baz=36
H66A S S 03 22 09.3 +6.6
baz=36
F63A Nahmakanta, Br 33.82 261 P P 03 16 38.1 -1.1
baz=37
F63A Nahmakanta, Br 33.82 261 IAmb IAmb 03 16 50.4
comp=Z,26nm,1.2s
F63A IAMs_20 IAMs_20 03 28 37.3
comp=Z,3μm,18.0s
E61A Lac Etchemin 33.83 263 P P 03 16 37.9 -1.3
baz=38
EMMW East Machias 33.93 258 IAMs_20 IAMs_20 03 28 30.1
comp=Z,2μm,20.0s
D59A Saint-Raymond 33.95 265 P P 03 16 39.2 -1.1
baz=39
F62A Pittston Farm, 34.03 262 IAMs_20 IAMs_20 03 28 37.0
comp=Z,3μm,20.0s
G64A Maxfield 34.04 260 P P 03 16 38.9 -2.0
baz=37,SNR=6.4
G64A S S 03 22 12.3 +6.0
baz=37
LATQ La Tuque 34.06 266 P P 03 16 39.9 -1.3
baz=39
PKME Peaks-Kenny Pk 34.25 261 P P 03 16 41.9 -0.9
baz=37
PKME S S 03 22 15.4 +5.8
baz=37
PKME Peaks-Kenny Pk 34.25 261 IAMs_20 IAMs_20 03 28 51.7
comp=Z,3μm,18.0s
H65A Eastbrook 34.27 259 P P 03 16 41.0 -2.0
baz=36
H65A S S 03 22 16.8 +6.9
baz=36
E60A Ste Agathe de 34.29 264 P P 03 16 42.1 -1.1
baz=38
MATQ Matagami 34.32 274 P P 03 16 42.2 -1.2
baz=41
MATQ S S 03 22 15.7 +5.0
baz=41
D58A Chemin du LacG 34.33 266 P P 03 16 42.0 -1.6
baz=39
D58A S S 03 22 17.4 +6.6
baz=39
F61A St Evariste 34.41 263 P P 03 16 42.7 -1.5
baz=38
F61A S S 03 22 20.2 +8.1
baz=38
G63A Kingsbury 34.51 261 P P 03 16 43.0 -2.1
baz=37
G63A S S 03 22 20.9 +7.2
baz=37
LSQQ Lebel-sur-Quev 34.57 272 P P 03 16 43.8 -1.8
baz=41
H64A Troy 34.72 260 P P 03 16 44.9 -2.1
baz=36
H64A S S 03 22 24.0 +7.1
baz=36
G62A West of Eustis 34.81 262 P P 03 16 46.5 -1.2
baz=37
G62A West of Eustis 34.81 262 IAMs_20 IAMs_20 03 29 00.6
comp=Z,2μm,20.0s
F60A Warwick 34.82 264 P P 03 16 46.5 -1.3
baz=38
D57A Chemin Vers le 34.82 267 P P 03 16 47.1 -0.7
baz=39,SNR=9.8
D57A S S 03 22 25.4 +6.9
baz=39
WVL Waterville 34.97 260 IAMs_20 IAMs_20 03 29 12.7
comp=Z,3μm,18.0s
E58A La Victoria 35.07 266 P P 03 16 47.9 -2.0
baz=38
E58A S S 03 22 29.3 +7.1
baz=38
D56A ZEC Mazanza, M 35.17 268 P P 03 16 48.9 -1.9
baz=39
D56A S S 03 22 32.4 +8.6
baz=39
G61A St-Isidore-de- 35.19 263 P P 03 16 49.3 -1.7
baz=37
G61A S S 03 22 31.6 +7.5
baz=37
F59A Saint Guilaume 35.27 265 P P 03 16 50.2 -1.4
baz=38
E57A Chemin Saint G 35.41 267 P P 03 16 51.6 -1.3
baz=38
E57A S S 03 22 35.9 +8.4
baz=38
I64A Boothbay 35.48 260 P P 03 16 51.9 -1.6
baz=36
I64A S S 03 22 35.6 +7.1
baz=36
D55A Sainte-Anne-du 35.50 269 P P 03 16 52.4 -1.2
baz=39,SNR=7.9
D55A S S 03 22 36.7 +7.9
baz=39
VLDQ Val d'Or 35.50 271 P P 03 16 54.0 +0.4
H62A Milan 35.60 262 P P 03 16 53.6 -0.8
baz=36
H62A S S 03 22 39.4 +9.1
baz=36
H62A Milan 35.60 262 IAMs_20 IAMs_20 03 29 35.3
comp=Z,2μm,19.0s
G60A Masonville 35.68 264 P P 03 16 52.8 -2.4
baz=37
G60A S S 03 22 39.3 +7.7
baz=37
E56A St. Veronique 35.68 268 P P 03 16 53.7 -1.5
baz=38,SNR=7.9
E56A S S 03 22 39.5 +7.8
baz=38
I63A Otisfield 35.78 261 P P 03 16 55.5 -0.5
baz=36
I63A S S 03 22 40.4 +7.3
baz=36
I63A Otisfield 35.78 261 IAMs_20 IAMs_20 03 29 48.0
comp=Z,3μm,19.0s
ANN Anapa 35.90 97 eP P 03 16 57.6 +0.6
ANN *e*PP pP 03 17 00.5 +0.8
ANN eS S 03 22 40.2 +5.3
ANN pmax pmax
comp=Z,37nm,1.1s
ANN MLR MLR
comp=N,1μm,20.0s
ANN MLR MLR
comp=Z,3μm,18.0s
D54A Lac Fusel, La 35.90 270 P P 03 16 54.6 -2.4
baz=39
D54A S S 03 22 42.8 +7.8
baz=39
H61A Lyndonville 35.96 263 P P 03 16 54.3 -3.3
baz=36
H61A S S 03 22 43.5 +7.6
baz=36
ARU Arti 36.00 66 LR LR 03 30 58.6
comp=Z,4μm,21.3s,baz=309,slow=35
ARU Arti 36.00 66 *c*iP P 03 16 58.2 +0.4
ARU S S 03 22 38.1 +1.8
ARU SS SnSn 03 25 02.6 +2.7
ARU pmax pmax
comp=Z,49nm,2.4s
ARU MLR MLR
comp=Z,4μm,20.0s
ARU Arti 36.00 66 P P 03 16 57.2 -0.6
G59A Clarenceville 36.05 264 P P 03 16 57.2 -1.1
baz=37
ITM Ithomi 36.08 121 IAMs_20 IAMs_20 03 34 23.1
comp=Z,3μm,20.0s
F57A Harrington 36.11 267 P P 03 16 57.7 -1.2
baz=38

F57A			S	S	03 22 45.5	+7.2
	baz=38					
E55A	**Montcerf-Lytto**	**36.19 268**	P	**P**	**03 16 57.7**	**-1.8**
	baz=38					
LBNH	**Lisbon**	**36.19 262**	P	**P**	**03 16 58.1**	**-1.5**
	baz=36					
LBNH	**Lisbon**	**36.19 262**	IAMs_20	IAMs_20	03 29 54.1	
	comp=Z,3μm,20.0s					
I62A	**Tamworth**	**36.24 261**	P	**P**	**03 16 58.5**	**-1.4**
	baz=36					
I62A			S	S	03 22 48.2	+8.0
	baz=36					
I62A	**Tamworth**	**36.24 261**	IAMs_20	IAMs_20	03 30 03.2	
	comp=Z,3μm,18.0s					
H60A	**Morristown**	**36.26 263**	P	**P**	**03 16 59.3**	**-0.9**
	baz=37					
H60A			S	S	03 22 48.4	+7.8
	baz=37					
NRIK	**Noril'sk**	**36.33 35**	P	**P**	**03 17 00.8**	**+0.3**
	comp=Z,9.0nm,1.0s,baz=339,slow=8.8,SNR=9.5					
NRIK			LR	LR	03 33 57.8	
	comp=Z,1μm,18.2s,baz=344,slow=40					
G58A	**Ormstown**	**36.37 265**	P	**P**	**03 16 58.7**	**-2.4**
	baz=37					
G58A			S	S	03 22 50.3	+8.2
	baz=37					
D53A	**Lac Vacive, Po**	**36.41 271**	P	**P**	**03 17 00.8**	**-0.6**
	baz=39					
D53A			S	**S**	**03 22 47.7**	**+5.0**
	baz=39					
D53A	**Lac Vacive, Po**	**36.41 271**	P	**P**	**03 17 00.1**	**-1.3**
D53A			IAmb	IAmb	03 17 06.4	
	comp=Z,26nm,0.9s					
FRNY	**Flat Rock**	**36.42 264**	IAmb	IAmb	03 17 07.4	
	comp=Z,42nm,1.4s					
FRNY			IAMs_20	IAMs_20	03 30 03.2	
	comp=Z,2μm,20.0s					
VT1	**Waterbury**	**36.47 263**	IAMs_20	IAMs_20	03 30 03.6	
	comp=Z,2μm,20.0s					
SVE	**Sverdlovsk**	**36.53 65**	*e*P	**P**	**03 17 02.7**	**+0.4**
SVE			*e*S	**S**	**03 22 47.2**	**+2.8**
SVE			pmax	pmax		
	comp=Z,29nm,1.5s					
SVE			MLR	MLR		
	comp=Z,3μm,20.0s					
I61A	**Oroboro, Fairl**	**36.56 262**	P	**P**	**03 17 02.2**	**-0.5**
	baz=36					
I61A			S	S	03 22 55.5	+10
	baz=36					
J63A	**Strafford**	**36.61 260**	P	**P**	**03 17 02.3**	**-0.8**
	baz=35					
J63A			S	S	03 22 54.9	+9.0
	baz=35					
H59A	**Cadyville**	**36.62 264**	P	**P**	**03 17 01.1**	**-2.1**
	baz=37					
H59A			S	S	03 22 53.6	+7.7
	baz=37					
E54A	**Lac Daplat, Po**	**36.69 269**	P	**P**	**03 17 02.9**	**-0.9**
	baz=38					
E54A			S	**S**	**03 22 53.4**	**+6.4**
	baz=38					
FFD	**Franklin Falls**	**36.70 261**	IAMs_20	IAMs_20	03 30 17.5	
	comp=Z,3μm,18.0s					
C36M	**Paulatuk**	**36.73 325**	P	**P**	**03 17 02.7**	**-1.2**
	baz=43					
C36M			S	S	03 22 56.9	+10
	baz=43					
ORIO	**Orleans, Innes**	**36.75 267**	P	**P**	**03 17 03.1**	**-1.2**
	baz=38					
ORIO			S	S	03 22 56.4	+8.5
	baz=38					
HNH	**Hanover**	**36.78 262**	IAMs_20	IAMs_20	03 30 12.6	
	comp=Z,2μm,20.0s					
G57A	**Newington**	**36.80 266**	P	**P**	**03 17 04.3**	**-0.4**
	baz=37,SNR=6.4					
G57A			S	S	03 22 56.0	+7.3
	baz=37					
F55A	**Otter Lake**	**36.81 268**	P	**P**	**03 17 03.9**	**-0.9**
	baz=38					
F55A			S	S	03 22 56.7	+7.8
	baz=38					
MDUB	**Mudurnu**	**36.86 107**	IAMs_20	IAMs_20	03 32 18.0	
	comp=Z,4μm,22.0s					
E53A	**Dumoine, Ponti**	**36.94 270**	P	**P**	**03 17 05.3**	**-0.6**
	baz=38					
E53A			S	**S**	**03 22 57.4**	**+6.5**
	baz=38					
J62A	**Henniker**	**36.97 261**	P	**P**	**03 17 05.0**	**-1.1**
	baz=35					
J62A			S	S	03 22 59.5	+8.2
	baz=35					
H58A	**Gabriels**	**37.01 265**	P	**P**	**03 17 04.7**	**-1.8**
	baz=37					
H58A			S	S	03 23 00.0	+8.1
	baz=37					
LONY	**Lake Ozonia**	**37.02 265**	P	**P**	**03 17 05.4**	**-1.2**
	baz=37					
LONY			S	S	03 23 00.1	+8.0
	baz=37					
I60A	**Shoreham**	**37.09 263**	P	**P**	**03 17 06.4**	**-0.8**
	baz=36					
I60A			S	S	03 23 01.4	+8.2
	baz=36					
J61A	**Chester**	**37.18 262**	P	**P**	**03 17 07.8**	**-0.2**
	baz=36					
K63A	**Dunstable**	**37.28 260**	P	**P**	**03 17 09.0**	**+0.1**
	baz=35					
K63A			S	S	03 23 04.5	+8.4
	baz=35					
I59A	**Olmsteadville**	**37.38 264**	P	**P**	**03 17 09.7**	**0.0**
	baz=36					
I59A			S	S	03 23 06.5	+8.9
	baz=36					
G55A	**Calabogie**	**37.42 268**	P	**P**	**03 17 08.8**	**-1.2**
	baz=37					
G55A			S	S	03 23 06.2	+8.0
	baz=37					
ALGO	**Algonquin Park**	**37.44 270**	P	**P**	**03 17 08.9**	**-1.2**
	baz=38					
HRV	**Adam Dziewonsk**	**37.45 260**	P	**P**	**03 17 09.4**	**-0.8**
	baz=35					
HRV			S	S	03 23 06.7	+8.1
	baz=35					
HRV	**Adam Dziewonsk**	**37.45 260**	IAMs_20	IAMs_20	03 30 54.2	
	comp=Z,3μm,18.0s					
WES	**Weston**	**37.45 260**	IAMs_20	IAMs_20	03 30 44.2	
	comp=Z,2μm,18.0s					
H57A	**Richville**	**37.49 266**	S	S	03 23 07.4	+8.2
	baz=37					
K62A	**Royalston**	**37.60 261**	P	**P**	**03 17 11.0**	**-0.5**
	baz=35					
K62A			S	S	03 23 08.2	+7.2
	baz=35					
K62A	**Royalston**	**37.60 261**	IAMs_20	IAMs_20	03 30 53.4	
	comp=Z,3μm,19.0s					
L64A	**Middleborough**	**37.61 259**	P	**P**	**03 17 09.9**	**-1.7**
	baz=34					
L64A			S	S	03 23 09.1	+8.0
	baz=34					
J60A	**Lant Hill Farm**	**37.63 263**	P	**P**	**03 17 11.3**	**-0.6**
	baz=36					
J60A			S	S	03 23 09.9	+8.4
	baz=36					
PLVO	**Plevna**	**37.75 268**	IAMs_20	IAMs_20	03 30 55.4	
	comp=Z,3μm,20.0s					
H56A	**Elgin**	**37.75 267**	P	**P**	**03 17 12.0**	**-0.9**
	baz=37					
H56A			S	S	03 23 10.8	+7.6
	baz=37					
M65A	**Busby, Falmout**	**37.84 258**	IAMs_20	IAMs_20	03 30 36.6	
	comp=Z,2μm,20.0s					
SOC	**Sochi**	**37.85 96**	*d i*P	**P**	**03 17 13.0**	**-0.7**
SOC			*e**PP	**pP**	**03 17 15.6**	**-0.8**
SOC			*e*		03 18 36.6	
SOC			*e*PPP	PPP	03 18 57.6	
SOC			*e*S	**S**	**03 23 04.5**	**-0.3**
SOC			*e*SS	**SnSn**	**03 25 37.2**	**-7.8**
SOC			pmax	pmax		
	comp=Z,7.0nm,0.6s					
SOC			MLR	MLR		
	comp=Z,1μm,18.0s					
G54A	**Lake Saint Pet**	**37.90 269**	P	**P**	**03 17 12.5**	**-1.6**
	baz=38					
G54A			S	S	03 23 12.4	+7.0
	baz=38					
J59A	**Piesco**	**37.91 264**	P	**P**	**03 17 13.6**	**-0.6**
	baz=36					
J59A			S	S	03 23 14.3	+8.5
	baz=36					
J59A	**Piesco**	**37.91 264**	IAMs_20	IAMs_20	03 30 46.7	
	comp=Z,2μm,20.0s					
BRYW	**Bryant College**	**37.92 260**	IAMs_20	IAMs_20	03 30 59.8	
	comp=Z,2μm,19.0s					
I58A	**Old Forge**	**37.93 265**	P	**P**	**03 17 13.8**	**-0.6**
	baz=36					
I58A			S	S	03 23 14.8	+8.8
	baz=36					
L61B	**Northampton**	**37.97 261**	P	**P**	**03 17 12.9**	**-1.8**
	baz=35					
QUA2	**Belchertown**	**37.97 261**	IAMs_20	IAMs_20	03 31 12.1	
	comp=Z,3μm,18.0s					
I57A	**Carthage**	**38.02 266**	P	**P**	**03 17 14.6**	**-0.6**
	baz=36					
I57A			S	S	03 23 17.0	+10
	baz=36					
K61A	**Williamstown**	**38.04 262**	P	**P**	**03 17 15.3**	**0.0**
	baz=35					
GOF	**Gofitskoye**	**38.09 91⇑**	*e*P	**P**	**03 17 16.9**	**+1.2**
GOF			pmax	pmax		
	comp=Z,68nm,0.8s					
M64A	**Tiverton**	**38.09 259**	P	**P**	**03 17 14.3**	**-1.4**
	baz=34					
M64A			S	S	03 23 16.2	+7.9
	baz=34					
SANT	**Santorini**	**38.12 117**	IAMs_20	IAMs_20	03 35 28.1	
	comp=Z,2μm,19.0s					
TRY	**Troy**	**38.16 262**	IAMs_20	IAMs_20	03 31 05.0	
	comp=Z,3μm,20.0s					
H55A	**Tweed**	**38.18 268**	P	**P**	**03 17 15.3**	**-1.2**
	baz=37					
H55A			S	S	03 23 18.1	+8.4
	baz=37					
BOLV	**Bolvadin**	**38.24 109**	IAMs_20	IAMs_20	03 35 02.7	
	comp=Z,2μm,19.0s					
J58A	**Remsen**	**38.33 265**	P	**P**	**03 17 15.9**	**-1.8**
	baz=36					
J58A			S	S	03 23 21.1	+9.0
	baz=36					
J58A	**Remsen**	**38.33 265**	IAMs_20	IAMs_20	03 30 59.8	
	comp=Z,2μm,20.0s					
DELO	**Deloro Mine**	**38.40 268**	IAMs_20	IAMs_20	03 31 25.6	
	comp=Z,4μm,20.0s					
BRTR	**Keskin Array B**	**38.49 105**	P	**P**	**03 17 18.2**	**-1.1**
	comp=Z,5.7nm,0.8s,baz=324,slow=7.1,SNR=3.2					
BRTR			LR	LR	03 34 27.7	
	comp=Z,528nm,21.2s,baz=286,slow=38					
BRTR	**Keskin Array B**	**38.49 105**	P	**P**	**03 17 17.6**	**-1.7**
L61A	**Hillsdale 1, H**	**38.55 262**	P	**P**	**03 17 19.6**	**+0.1**
	baz=35					
L61A			S	S	03 23 25.0	+10
	baz=35					
M63A	**Gales Ferry**	**38.56 260**	P	**P**	**03 17 19.5**	**-0.2**
	baz=34					
M63A			S	S	03 23 23.3	+7.8
	baz=34					
J57A	**Williamstown**	**38.60 265**	P	**P**	**03 17 19.1**	**-0.9**
	baz=36					
PECO	**Prince Edward**	**38.60 267**	IAMs_20	IAMs_20	03 31 20.9	
	comp=Z,2μm,20.0s					
K59A	**Cooperstown**	**38.62 264**	P	**P**	**03 17 19.3**	**-0.9**
	baz=35					
K59A			S	S	03 23 26.0	+9.5
	baz=35					
I55A	**Frankford**	**38.66 268**	P	**P**	**03 17 19.3**	**-1.2**
	baz=37					
I55A			S	S	03 23 24.2	+7.2
	baz=37					
D47A	**Chapleau**	**38.73 275**	P	**P**	**03 17 19.8**	**-1.3**
	baz=39					
D47A			S	S	03 23 25.3	+7.3
	baz=39					
H53A	**Bobcaygeon**	**38.76 269**	P	**P**	**03 17 20.1**	**-1.2**
	baz=37					
H53A			S	**S**	**03 23 25.3**	**+6.7**
	baz=37					
KIV	**Kislovodsk**	**38.82 93**	*e*P	**P**	**03 17 22.3**	**+0.4**
KIV			*e*		03 18 49.2	
KIV			*e*S	**S**	**03 23 20.3**	**+0.7**
KIV			pmax	pmax		
	comp=Z,43nm,1.1s					
KIV			MLR	MLR		
	comp=Z,5μm,16.0s					
KIV	**Kislovodsk**	**38.82 93**	IAMs_20	IAMs_20	03 33 20.5	
	comp=Z,2μm,21.0s					
KVAR	**Kislovodsk Arr**	**38.82 93**	LR	LR	03 34 08.9	
	comp=Z,2μm,18.4s,baz=269,slow=38					
ISP	**Isparta**	**38.84 110**	IAMs_20	IAMs_20	03 34 40.8	
	comp=Z,2μm,20.0s					
SADO	**Sadowa**	**38.85 270**	IAMs_20	IAMs_20	03 31 50.5	
	comp=Z,3μm,19.0s					
IDI	**Anoyia**	**38.86 119**	⇑P	**P**	**03 17 21.1**	**-1.2**
IDI	**Anoyia**	**38.86 119**	IAmb	IAmb	03 17 30.0	
	comp=Z,58nm,1.3s					
M62A	**Hamden**	**38.89 261**	P	**P**	**03 17 22.2**	**-0.2**
	baz=34					
M62A			S	S	03 23 30.1	+10
	baz=34					
KSCT	**Kent School, K**	**38.90 261**	IAMs_20	IAMs_20	03 31 33.8	
	comp=Z,2μm,19.0s					
K58A	**Earlville**	**38.97 264**	P	**P**	**03 17 21.6**	**-1.5**
	baz=35					
K58A	**Earlville**	**38.97 264**	IAMs_20	IAMs_20	03 31 18.7	
	comp=Z,2μm,21.0s					
L60A	**Shokan**	**39.00 262**	P	**P**	**03 17 21.9**	**-1.5**
	baz=35					
YLE	**Yale**	**39.01 260**	IAMs_20	IAMs_20	03 31 41.6	
	comp=Z,2μm,18.0s					
J56A	**Wolcott**	**39.07 266**	P	**P**	**03 17 23.3**	**-0.6**
	baz=36					
J56A			S	S	03 23 32.6	+9.4
	baz=36					
KBZ	**Khabaz**	**39.09 93**	P	**P**	**03 17 23.4**	**-0.7**
	comp=Z,8.5nm,0.9s,baz=334,slow=7.3,SNR=12					
KBZ			LR	LR	03 33 42.2	
	comp=Z,3μm,21.5s,baz=330,slow=36					
KBZ	**Khabaz**	**39.09 93**	*ce*P	**P**	**03 17 25.3**	**+1.2**
KBZ			pmax	pmax		
	comp=Z,50nm,1.5s					
YKA	**Yellowknife Ar**	**39.14 313**	P	**P**	**03 17 24.1**	**-0.2**
	comp=Z,4.3nm,1.1s,baz=41,slow=8.7,SNR=10					
YKA			PcP	**PcP**	**03 19 33.9**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=30,slow=3.8,SNR=7.9					
YKA			LR	LR	03 32 56.4	
	comp=Z,1μm,21.2s,baz=0.0,slow=35					
L59A	**Walton**	**39.18 263**	P	**P**	**03 17 24.3**	**-0.6**
	baz=35					
L59A			S	S	03 23 36.0	+11
	baz=35					
L59A	**Walton**	**39.18 263**	IAMs_20	IAMs_20	03 31 36.3	
	comp=Z,2μm,21.0s					
D46A	**Sault St. Mari**	**39.26 276**	P	**P**	**03 17 24.5**	**-1.0**
	baz=38					
D46A			S	S	03 23 33.6	+7.7
	baz=38					
E47A	**Iron Bridge**	**39.28 275**	P	**P**	**03 17 24.7**	**-1.0**
	baz=38					
E47A			S	S	03 23 33.0	+6.7
	baz=38					
WSPT	**Westport, CT**	**39.30 261**	IAMs_20	IAMs_20	03 31 51.2	
	comp=Z,2μm,19.0s					
F49A	**Sandfield**	**39.30 273**	P	**P**	**03 17 25.1**	**-0.7**
	baz=38					
F49A			S	**S**	**03 23 32.9**	**+6.4**
	baz=38					
M61A	**Granite Spring**	**39.37 261**	P	**P**	**03 17 24.0**	**-2.4**
	baz=34					
M61A			S	S	03 23 36.5	+8.9
	baz=34					
K57A	**Scipio Center**	**39.37 265**	P	**P**	**03 17 25.2**	**-1.2**
	baz=35					
K57A			S	S	03 23 36.1	+8.4
	baz=35					
J55A	**Hilton**	**39.49 267**	P	**P**	**03 17 24.4**	**-3.0**
	baz=36					
J55A			S	S	03 23 37.1	+7.7
	baz=36					
J55A	**Hilton**	**39.49 267**	IAMs_20	IAMs_20	03 31 36.5	
	comp=Z,2μm,22.0s					
F48A	**Evansville**	**39.49 274**	P	**P**	**03 17 24.3**	**-3.1**
	baz=38					
F48A			S	S	03 23 37.0	+7.6
	baz=38					
KARP	**Karpathos**	**39.50 116**	IAMs_20	IAMs_20	03 35 36.6	
	comp=Z,2μm,20.0s					
N62A	**Caumsett State**	**39.55 261**	P	**P**	**03 17 26.2**	**-1.7**
	baz=34					
BINY	**Binghamton**	**39.58 264**	P	**P**	**03 17 26.1**	**-2.2**
	baz=35					
BINY			S	S	03 23 38.9	+8.0
	baz=35					
BINY	**Binghamton**	**39.58 264**	IAMs_20	IAMs_20	03 31 37.7	
	comp=Z,2μm,22.0s					
L58A	**Harry Jones Me**	**39.65 264**	P	**P**	**03 17 27.2**	**-1.5**
	baz=35					
L58A			S	S	03 23 41.3	+9.4
	baz=35					
PAL	**Palisades**	**39.68 261**	P	**P**	**03 17 27.8**	**-1.1**
	baz=34					
PAL			S	S	03 23 40.0	+7.7
	baz=34					
M60A	**Port Jervis**	**39.72 262**	P	**P**	**03 17 28.8**	**-0.6**
	baz=34					
K56A	**Middlesex**	**39.74 266**	P	**P**	**03 17 27.7**	**-1.9**
	baz=36					
K56A			S	S	03 23 41.8	+8.5
	baz=36					
INK	**Inuvik**	**39.74 329**	P	**P**	**03 17 29.9**	**+0.7**
INK			pmax	pmax		
	comp=Z,23nm,1.2s					
INK			MLR	MLR		
	comp=Z,2μm,18.0s					
INK	**Inuvik**	**39.74 329**	P	**P**	**03 17 29.9**	**+0.7**
INK			IAMs_20	IAMs_20	03 35 29.8	
	comp=Z,2μm,18.0s					
E46A	**Sault Ste Mari**	**39.79 276**	IAmb	IAmb	03 17 35.5	
	comp=Z,34nm,0.9s					
E46A			IAMs_20	IAMs_20	03 32 30.6	
	comp=Z,3μm,20.0s					
J54A	**Appleton**	**39.84 268**	P	**P**	**03 17 29.1**	**-1.2**
	baz=36					
J54A			S	S	03 23 41.8	+7.2
	baz=36					
J54A	**Appleton**	**39.84 268**	IAMs_20	IAMs_20	03 31 58.7	
	comp=Z,3μm,20.0s					
MEDO	**Medina**	**39.84 267**	IAMs_20	IAMs_20	03 31 57.9	
	comp=Z,2μm,21.0s					
AKAS	**Kas**	**39.85 113**	IAmb	IAmb	03 17 40.1	
	comp=Z,46nm,1.2s					
M59A	**Waymart**	**39.88 263**	P	**P**	**03 17 28.9**	**-1.8**
	baz=34					
ODNJ	**Ogdensburg**	**39.91 262**	IAMs_20	IAMs_20	03 32 05.4	
	comp=Z,3μm,19.0s					
MMNY	**Mt. Morris Dam**	**39.96 267**	IAMs_20	IAMs_20	03 31 52.0	
	comp=Z,2μm,21.0s					
KSPA	**Keystone Colle**	**40.01 263**	IAMs_20	IAMs_20	03 32 02.2	
	comp=Z,2μm,21.0s					
K55A	**Perry**	**40.03 267**	P	**P**	**03 17 30.4**	**-1.6**
	baz=36					
K55A			S	S	03 23 46.3	+8.6
	baz=36					
N61A	**South Mountain**	**40.05 261**	P	**P**	**03 17 31.0**	**-1.1**
	baz=34					
L57A	**Andrews Acres**	**40.11 265**	P	**P**	**03 17 32.0**	**-0.6**
	baz=35					
L57A			S	S	03 23 46.8	+7.9
	baz=35					
AKTO	**Aktyubinsk**	**40.22 73**	LR	LR	03 34 18.3	
	comp=Z,4μm,18.4s,baz=327,slow=36					
BRNJ	**Basking Ridge**	**40.22 262**	IAMs_20	IAMs_20	03 32 14.8	
	comp=Z,2μm,19.0s					
ZEI	**Tsey**	**40.28 93**	*e*P	**P**	**03 17 34.0**	**-0.3**
ZEI			pmax	pmax		
	comp=Z,40nm,1.9s					
N60A	**Cedar Hill Far**	**40.30 262**	P	**P**	**03 17 32.7**	**-1.5**
	baz=34					
N60A			S	S	03 23 50.6	+9.0
	baz=34					
L56A	**Greenwood**	**40.30 266**	P	**P**	**03 17 33.9**	**-0.4**
	baz=35					
L56A			S	S	03 23 50.4	+8.7
	baz=35					
L56A	**Greenwood**	**40.30 266**	IAmb	IAmb	03 17 46.4	
	comp=Z,80nm,1.8s					
L56A			IAMs_20	IAMs_20	03 32 23.9	
	comp=Z,2μm,21.0s					
K54A	**Basiliko Farm,**	**40.40 267**	P	**P**	**03 17 33.1**	**-1.9**
	baz=35					
K54A			S	S	03 23 52.0	+8.9
	baz=35					
I51A	**Listowel**	**40.43 270**	P	**P**	**03 17 33.9**	**-1.3**
	baz=36					
M58A	**Price's Panora**	**40.46 264**	P	**P**	**03 17 35.2**	**-0.3**
	baz=34					
WVNY	**West Valley, N**	**40.53 267**	IAmb	IAmb	03 17 43.2	
	comp=Z,38nm,1.1s					
WVNY			IAMs_20	IAMs_20	03 32 41.9	
	comp=Z,2μm,20.0s					
N59A	**State Game Lan**	**40.54 263**	P	**P**	**03 17 35.9**	**-0.3**
	baz=34					
N59A			S	S	03 23 53.8	+8.5
	baz=34					
FFC	**Flin Flon**	**40.56 297**	P	**P**	**03 17 36.2**	**0.0**
FFC			MLR	MLR		
	comp=Z,4μm,20.0s					
FFC	**Flin Flon**	**40.56 297**	P	**P**	**03 17 36.2**	**0.0**
FFC			IAmb	IAmb	03 17 43.4	
	comp=Z,57nm,1.4s					
LUPA	**Lehigh Univers**	**40.63 262**	P	**P**	**03 17 37.4**	**+0.5**
LUPA			IAMs_20	IAMs_20	03 32 28.7	
	comp=Z,3μm,19.0s					
L55A	**Hinsdale**	**40.64 267**	P	**P**	**03 17 35.4**	**-1.6**
	baz=35					
L55A			S	S	03 23 55.4	+8.7
	baz=35					
O61A	**Allentown**	**40.71 261**	P	**P**	**03 17 36.4**	**-1.1**
	baz=34					
GROC	**Groznyy**	**40.76 90**	*e*P	**P**	**03 17 36.8**	**-1.1**
GROC			*e*		03 19 11.2	
GROC			*e*		03 19 38.6	
GROC			*e*S	**S**	**03 23 47.2**	**-1.2**
GROC			pmax	pmax		
	comp=Z,47nm,1.2s					
M57A	**Sunshine Farm,**	**40.77 265**	P	**P**	**03 17 37.2**	**-0.9**
	baz=34					
M57A			S	S	03 23 57.6	+8.9
	baz=34					
M57A	**Sunshine Farm,**	**40.77 265**	P	**P**	**03 17 37.8**	**-0.3**
M57A			IAMs_20	IAMs_20	03 32 25.3	
	comp=Z,2μm,21.0s					
O60A	**Telford**	**40.88 262**	P	**P**	**03 17 38.4**	**-0.5**
	baz=34					
O60A			S	S	03 23 58.9	+8.6
	baz=34					
E43A	**Lone Tree Farm**	**40.92 278**	IAMs_20	IAMs_20	03 33 20.7	
	comp=Z,3μm,20.0s					
L54A	**Sinclairville**	**40.97 267**	P	**P**	**03 17 38.5**	**-1.3**
	baz=35					
L54A			S	S	03 23 59.8	+8.1
	baz=35					
N58A	**Sunbury**	**41.01 264**	P	**P**	**03 17 38.2**	**-1.8**
	baz=34					
N58A			S	S	03 24 00.8	+8.6
	baz=34					
N58A	**Sunbury**	**41.01 264**	IAMs_20	IAMs_20	03 32 32.5	
	comp=Z,2μm,22.0s					
D41A	**Chassel**	**41.05 280**	IAMs_20	IAMs_20	03 33 34.0	
	comp=Z,3μm,18.0s					
I49A	**Point Hope**	**41.09 272**	P	**P**	**03 17 40.5**	**-0.2**
I49A			IAmb	IAmb	03 17 46.2	
	comp=Z,47nm,0.9s					
M56A	**Emporium**	**41.10 266**	P	**P**	**03 17 39.3**	**-1.6**
	baz=35					
M56A			S	S	03 24 02.1	+8.5
	baz=35					
M56A	**Emporium**	**41.10 266**	IAMs_20	IAMs_20	03 32 37.1	
	comp=Z,2μm,22.0s					
GLMI	**Grayling**	**41.15 274**	IAMs_20	IAMs_20	03 33 49.5	
	comp=Z,2μm,19.0s					
P61A	**Hammonton**	**41.16 261**	IAMs_20	IAMs_20	03 33 23.5	
	comp=Z,2μm,18.0s					
O59A	**Robesonia**	**41.22 263**	P	**P**	**03 17 40.3**	**-1.5**
	baz=34					
O59A			S	S	03 24 04.2	+8.8
	baz=34					
PSUB	**Penn St. - Bra**	**41.23 262**	IAMs_20	IAMs_20	03 32 55.3	
	comp=Z,2μm,18.0s					
AKH	**Akhalkalaki**	**41.24 94**	⇓P	**P**	**03 17 42.8**	**+0.7**
AKH	**Akhalkalaki**	**41.24 94**	P	**P**	**03 17 42.4**	**+0.2**
AKH			pmax	pmax		
	comp=Z,90nm,1.6s					
AKH			MLR	MLR		
	comp=Z,2μm,22.0s					
AKH	**Akhalkalaki**	**41.24 94**	P	**P**	**03 17 42.4**	**+0.2**
AKH			IAmb	IAmb	03 17 54.3	

	comp=Z,90nm,1.6s						
AKH			IAMs_20	IAMs_20	03 34 44.4		
	comp=Z,2µm,22.0s						
ERPA	**Erie**	**41.35 268**	P	**P**	**03 17 40.7**	**-2.2**	
	baz=35						
ERPA	**Erie**	**41.35 268**	IAMs_20	IAMs_20	03 33 05.8		
	comp=Z,3µm,20.0s						
M55A	**Ridgway**	**41.36 266**	P	**P**	**03 17 42.0**	**-1.0**	
	baz=35						
M55A			S	S	03 24 05.9	+8.4	
	baz=35						
M55A	**Ridgway**	**41.36 266**	IAMs_20	IAMs_20	03 32 57.0		
	comp=Z,2µm,21.0s						
P60A	**Greenville**	**41.40 262**	P	**P**	**03 17 41.2**	**-2.1**	
	baz=33						
P60A	**Greenville**	**41.40 262**	IAMs_20	IAMs_20	03 33 00.9		
	comp=Z,2µm,18.0s						
G45A	**Suttons Bay**	**41.41 276**	IAMs_20	IAMs_20	03 33 30.7		
	comp=Z,2µm,20.0s						
N57A	**Milroy**	**41.43 264**	P	**P**	**03 17 42.0**	**-1.5**	
	baz=34						
N57A			S	S	03 24 07.5	+9.0	
	baz=34						
TBLG	**Delisi**	**41.51 93**	P	**P**	**03 17 44.0**	**-0.1**	
TBLG	**Delisi**	**41.51 93**	P	**P**	**03 17 44.0**	**-0.1**	
EYMN	**Ely**	**41.58 283**	P	**P**	**03 17 43.6**	**-1.1**	
	baz=38						
EYMN			S	S	03 24 09.7	+9.1	
	baz=38						
EYMN	**Ely**	**41.58 283**	P	**P**	**03 17 45.9**	**+1.2**	
EYMN	**Ely**	**41.58 283**	IAMs_20	IAMs_20	03 33 38.2		
	comp=Z,2µm,21.0s						
ULM	**Lac du Bonnet**	**41.59 289**	P	**P**	**03 17 42.8**	**-1.8**	
	comp=Z,1.8nm,0.4s,baz=20,slow=13,SNR=2.2						
ULM	**Lac du Bonnet**	**41.59 289**	P	**P**	**03 17 42.9**	**-1.8**	
ULM			pmax	pmax			
	comp=Z,34nm,1.5s						
ULM			MLR	MLR			
	comp=Z,1µm,21.0s						
ULM	**Lac du Bonnet**	**41.59 289**	P	**P**	**03 17 42.9**	**-1.8**	
L53A	**Girard**	**41.60 268**	P	**P**	**03 17 43.7**	**-1.3**	
	baz=35						
L53A			S	S	03 24 09.3	+8.2	
	baz=35						
N56A	**West Decatur**	**41.62 265**	P	**P**	**03 17 43.5**	**-1.6**	
	baz=34						
N56A			S	S	03 24 09.6	+8.3	
	baz=34						
SSPA	**Standing Stone**	**41.67 265**	P	**P**	**03 17 44.3**	**-1.2**	
	baz=34						
SSPA			S	**S**	**03 24 08.5**	**+6.4**	
	baz=34						
SSPA	**Standing Stone**	**41.67 265**	P	**P**	**03 17 44.3**	**-1.2**	
SSPA			IAmb	IAmb	03 17 52.0		
	comp=Z,77nm,1.9s						
SSPA	**Standing Stone**	**41.67 265**	IAMs_20	IAMs_20	03 32 54.2		
	comp=Z,2µm,21.0s						
MAK	**Makhachkala**	**41.69 89**	*e*P	P	03 17 41.0	-4.5	
MAK			*e*S	**S**	**03 23 55.7**	**-6.5**	
MAK			*e*SS	**SS**	**03 27 00.9**	**-6.1**	
MAK			pmax	pmax			
	comp=Z,299nm,1.1s						
MAK			MLR	MLR			
	comp=Z,2µm,17.0s						
O58A	**Lewisberry**	**41.69 263**	P	**P**	**03 17 44.1**	**-1.5**	
	baz=34						
O58A			S	S	03 24 11.9	+10	
	baz=34						
M54A	**Oil Creek Stat**	**41.72 267**	P	**P**	**03 17 44.6**	**-1.3**	
	baz=35						
M54A			S	S	03 24 12.0	+9.3	
	baz=35						
M54A	**Oil Creek Stat**	**41.72 267**	IAmb	IAmb	03 17 51.5		
	comp=Z,35nm,1.0s						
M54A			IAMs_20	IAMs_20	03 33 28.4		
	comp=Z,2µm,20.0s						
ALLY	**Alegheny Colle**	**41.80 268**	IAMs_20	IAMs_20	03 33 20.7		
	comp=Z,3µm,22.0s						
F42A	**Maple Grove Fa**	**41.90 278**	IAMs_20	IAMs_20	03 33 50.5		
	comp=Z,3µm,21.0s						
P59A	**Jarrettsville**	**41.91 262**	P	**P**	**03 17 46.2**	**-1.2**	
	baz=33						
P59A			S	S	03 24 14.5	+9.0	
	baz=33						
O57A	**Amberson**	**41.92 264**	P	**P**	**03 17 47.5**	**0.0**	
	baz=34						
O57A			S	S	03 24 14.2	+8.4	
	baz=34						
ABKAR	**Akbulak array**	**41.92 73**	P	**P**	**03 17 46.1**	**-1.3**	
K50A	**Casco**	**41.95 271**	P	**P**	**03 17 47.7**	**0.0**	
K50A			IAmb	IAmb	03 17 53.5		
	comp=Z,38nm,1.1s						
K50A			IAMs_20	IAMs_20	03 34 02.6		
	comp=Z,1µm,18.0s						
N55A	**Marion Center**	**42.02 266**	P	**P**	**03 17 47.4**	**-1.0**	
	baz=34						
N55A			S	S	03 24 15.2	+7.9	
	baz=34						
EPYK	**Eagle Plains**	**42.04 328**	P	**P**	**03 17 47.7**	**-0.6**	
	baz=34						
EPYK			S	S	03 24 17.6	+11	
	baz=34						
EPYK	**Eagle Plains**	**42.04 328**	P	**P**	**03 17 48.0**	**-0.2**	
EPYK			IAMs_20	IAMs_20	03 37 30.6		
	comp=Z,1µm,19.0s						
COWI	**Conover**	**42.05 279**	P	**P**	**03 17 48.2**	**-0.4**	
COWI			IAMs_20	IAMs_20	03 34 04.5		
	comp=Z,3µm,20.0s						
Q60A	**Greensboro**	**42.17 261**	P	**P**	**03 17 47.8**	**-1.8**	
	baz=33						
M53A	**WI Miller and**	**42.20 268**	P	**P**	**03 17 48.0**	**-1.9**	
	baz=35						
M53A			S	S	03 24 17.9	+8.0	
	baz=35						
M53A	**WI Miller and**	**42.20 268**	IAMs_20	IAMs_20	03 33 32.3		
	comp=Z,3µm,20.0s						
SDMD	**Soldier's Deli**	**42.25 263**	P	**P**	**03 17 50.2**	**0.0**	
SDMD			IAMs_20	IAMs_20	03 33 28.4		
	comp=Z,2µm,20.0s						
O56A	**Blue Knob Stat**	**42.27 265**	P	**P**	**03 17 50.3**	**-0.1**	
	baz=34,SNR=5.2						
O56A			S	S	03 24 19.3	+8.3	
	baz=34						
O56A	**Blue Knob Stat**	**42.27 265**	IAmb	IAmb	03 18 02.6		
	comp=Z,60nm,1.6s						
O56A			IAMs_20	IAMs_20	03 33 13.0		
	comp=Z,2µm,22.0s						
N54A	**Moraine State**	**42.30 267**	P	**P**	**03 17 50.3**	**-0.3**	
	baz=34						
N54A			S	S	03 24 20.3	+8.9	
	baz=34						
N54A	**Moraine State**	**42.30 267**	IAMs_20	IAMs_20	03 33 46.9		
	comp=Z,2µm,21.0s						
P58A	**Pank, Wackersv**	**42.38 263**	P	**P**	**03 17 49.1**	**-2.1**	
	baz=33						
P58A			S	S	03 24 20.8	+8.3	
	baz=33						
M52A	**Chesterland**	**42.41 269**	P	**P**	**03 17 50.3**	**-1.3**	
	baz=35						
M52A	**Chesterland**	**42.41 269**	IAmb	IAmb	03 17 57.1		
	comp=Z,45nm,0.9s						
M52A			IAMs_20	IAMs_20	03 33 48.9		
	comp=Z,3µm,20.0s						
I45A	**Fountain**	**42.47 275**	IAMs_20	IAMs_20	03 34 21.5		
	comp=Z,2µm,20.0s						
J47A	**Sunmer**	**42.51 273**	IAMs_20	IAMs_20	03 34 11.6		
	comp=Z,1µm,19.0s						
R61A	**Willards**	**42.52 260**	IAMs_20	IAMs_20	03 34 23.4		
	comp=Z,1µm,18.0s						
Q59A	**Harwood**	**42.63 262**	P	**P**	**03 17 52.4**	**-0.8**	
	baz=33						
O55A	**Ligonier**	**42.63 266**	P	**P**	**03 17 52.4**	**-0.9**	
	baz=34						
O55A			S	S	03 24 24.7	+8.4	
	baz=34						
TOLK	**Toolik Lake Re**	**42.64 336**	P	**P**	**03 17 54.7**	**+1.6**	
	baz=28,SNR=14						
TOLK			S	S	03 24 29.9	+14	
	baz=28						
E38A	**The Farm, Brul**	**42.66 282**	IAMs_20	IAMs_20	03 34 20.9		
	comp=Z,2µm,19.0s						
P57A	**Homestead Farm**	**42.69 264**	P	**P**	**03 17 53.2**	**-0.6**	
	baz=33						
P57A			S	S	03 24 26.8	+10	
	baz=33						
P57A	**Homestead Farm**	**42.69 264**	IAMs_20	IAMs_20	03 33 35.0		
	comp=Z,3µm,21.0s						
H43A	**Windswept, Lux**	**42.77 277**	IAMs_20	IAMs_20	03 34 14.6		
	comp=Z,3µm,20.0s						
AAM	**Ann Arbor**	**42.77 271**	P	**P**	**03 17 54.1**	**-0.4**	
	baz=35						
BMAR	**Burnt Mountain**	**42.79 333**	P	**P**	**03 17 54.2**	**-0.2**	
N53A	**Lisbon**	**42.79 268**	P	**P**	**03 17 54.0**	**-0.6**	
	baz=34						
N53A	**Lisbon**	**42.79 268**	IAmb	IAmb	03 18 01.9		
	comp=Z,48nm,1.4s						
N53A			IAMs_20	IAMs_20	03 34 01.9		
	comp=Z,2µm,20.0s						
M51A	**Elyria**	**42.94 269**	P	**P**	**03 17 55.4**	**-0.3**	
	baz=35						
AKT	**Akhty**	**42.99 90**	*e*P	**P**	**03 17 57.1**	**+0.7**	
AKT			*e*		03 19 36.4		
AKT			*e*		03 19 45.1		
AKT			pmax	pmax			
	comp=Z,21nm,1.2s						
Q58A	**Fox Den Farm,**	**43.00 263**	P	**P**	**03 17 53.9**	**-2.4**	
	baz=33						
Q58A			S	S	03 24 29.3	+7.7	
	baz=33						
P56A	**Dayton Farm, R**	**43.02 265**	P	**P**	**03 17 54.3**	**-2.1**	
	baz=34						
P56A			S	S	03 24 30.1	+8.2	
	baz=34						
BRVK	**Borovoye**	**43.04 62**	*ce*P	**P**	**03 17 57.3**	**+0.8**	
BRVK			pmax	pmax			
	comp=Z,37nm,2.5s						
BRVK	**Borovoye**	**43.04 62**	P	**P**	**03 17 56.2**	**-0.3**	
BRVK			IAmb	IAmb	03 18 08.5		
	comp=Z,60nm,1.6s						
BRVK	**Borovoye**	**43.04 62**	IAMs_20	IAMs_20	03 35 52.0		
	comp=Z,1µm,18.0s						
R60A	**Leonardtown, M**	**43.09 262**	P	**P**	**03 17 55.9**	**-1.1**	
	baz=33						
AGMN	**Agassiz Nation**	**43.11 287**	P	**P**	**03 17 56.3**	**-0.8**	
	baz=38						
AGMN	**Agassiz Nation**	**43.11 287**	IAmb	IAmb	03 18 03.6		
	comp=Z,57nm,1.8s						
O54A	**Avella**	**43.11 267**	P	**P**	**03 17 55.7**	**-1.6**	
	baz=34						
O54A			S	S	03 24 33.1	+10	
	baz=34						
O54A	**Avella**	**43.11 267**	IAmb	IAmb	03 18 09.3		
	comp=Z,50nm,1.6s						
O54A			IAMs_20	IAMs_20	03 34 24.4		
	comp=Z,2µm,19.0s						
N52A	**McGinn's Farm,**	**43.15 268**	P	**P**	**03 17 56.9**	**-0.7**	
	baz=34						
G40A	**Rib Lake**	**43.16 280**	IAMs_20	IAMs_20	03 34 40.0		
	comp=Z,2µm,21.0s						
Q57A	**Strasburg**	**43.23 264**	P	**P**	**03 17 57.0**	**-1.2**	
	baz=33						
Q57A			S	S	03 24 34.0	+9.0	
	baz=33						
M50A	**Fremont**	**43.25 270**	IAmb	IAmb	03 18 04.0		
	comp=Z,38nm,0.9s						
M50A			IAMs_20	IAMs_20	03 34 26.0		
	comp=Z,2µm,18.0s						
MCWV	**Mont Chateau**	**43.32 266**	P	**P**	**03 17 58.0**	**-0.9**	
	baz=34						
MCWV			S	S	03 24 36.2	+10	
	baz=34						
N51A	**Ashland**	**43.36 269**	P	**P**	**03 17 58.2**	**-1.0**	
	baz=34						
N51A			S	S	03 24 36.0	+9.1	
	baz=34						
N51A	**Ashland**	**43.36 269**	IAmb	IAmb	03 18 04.8		
	comp=Z,35nm,0.9s						
R59A	**King George, V**	**43.38 262**	P	**P**	**03 17 58.9**	**-0.4**	
	baz=33,SNR=5.6						
L48A	**N Adams**	**43.40 272**	IAmb	IAmb	03 18 04.9		
	comp=Z,30nm,0.8s						
O53A	**New Philadelph**	**43.41 267**	P	**P**	**03 17 58.7**	**-0.9**	
	baz=34						
O53A	**New Philadelph**	**43.41 267**	IAMs_20	IAMs_20	03 34 20.4		
	comp=Z,2µm,20.0s						
P55A	**Reedsville**	**43.44 266**	P	**P**	**03 17 58.0**	**-1.9**	
	baz=34						
P55A			S	S	03 24 36.5	+8.4	
	baz=34						
CBN	**Corbin Frederi**	**43.48 262**	P	**P**	**03 17 59.1**	**-1.2**	
	baz=33						
CBN	**Corbin Frederi**	**43.48 262**	IAMs_20	IAMs_20	03 34 24.1		
	comp=Z,2µm,18.0s						
Q56A	**Snyder Ridge,**	**43.55 265**	P	**P**	**03 17 59.3**	**-1.5**	
	baz=33						
Q56A			S	S	03 24 39.9	+10	
	baz=33						
Q56A	**Snyder Ridge,**	**43.55 265**	IAMs_20	IAMs_20	03 33 52.0		
	comp=Z,2µm,22.0s						
S60A	**Water View**	**43.60 261**	P	**P**	**03 17 58.5**	**-2.7**	
	baz=32						
P54A	**Burton**	**43.64 266**	P	**P**	**03 17 59.6**	**-1.9**	
	baz=34						
P54A			S	S	03 24 38.7	+7.7	
	baz=34						
R58A	**Rapidan**	**43.67 263**	P	**P**	**03 18 00.9**	**-0.9**	
	baz=33						
R58A			S	**S**	**03 24 38.3**	**+6.8**	
	baz=33						
O52A	**Adamsville**	**43.79 268**	P	**P**	**03 18 00.5**	**-2.2**	
	baz=34						
O52A			S	S	03 24 42.0	+8.8	
	baz=34						
O52A	**Adamsville**	**43.79 268**	IAmb	IAmb	03 18 10.0		
	comp=Z,30nm,0.9s						
O52A			IAMs_20	IAMs_20	03 34 31.4		
	comp=Z,2µm,20.0s						
S59A	**Mechanicsville**	**43.82 262**	P	**P**	**03 18 01.8**	**-1.1**	
	baz=32						
R57A	**Stanardsville**	**43.90 263**	P	**P**	**03 18 02.7**	**-0.9**	
	baz=33						
R58B	**Mineral**	**43.90 263**	P	**P**	**03 18 02.1**	**-1.5**	
	baz=32						
R58B	**Mineral**	**43.90 263**	P	**P**	**03 18 02.9**	**-0.7**	
R58B			IAMs_20	IAMs_20	03 34 29.1		
	comp=Z,2µm,19.0s						
Q55A	**Buckhannon**	**43.98 265**	P	**P**	**03 18 03.3**	**-1.0**	
	baz=33						
Q55A			S	S	03 24 44.3	+8.3	
	baz=33						
COLD	**Coldfoot**	**44.01 336**	P	**P**	**03 18 02.0**	**-2.1**	
	baz=27						
COLD			S	S	03 24 48.6	+13	
	baz=27						
COLD	**Coldfoot**	**44.01 336**	P	**P**	**03 18 03.6**	**-0.5**	
F36A	**Milaca**	**44.08 283**	IAmb	IAmb	03 18 17.1		
	comp=Z,53nm,1.8s						
F36A			IAMs_20	IAMs_20	03 35 04.4		
	comp=Z,2µm,21.0s						
O51A	**Pataskala**	**44.10 269**	P	**P**	**03 18 04.7**	**-0.4**	
	baz=34,SNR=10.0						
O51A			S	S	03 24 46.3	+8.6	
	baz=34						
T60A	**Surry**	**44.11 261**	P	**P**	**03 18 03.8**	**-1.4**	
	baz=32						
T60A	**Surry**	**44.11 261**	IAMs_20	IAMs_20	03 35 22.7		
	comp=Z,1µm,18.0s						
P53A	**Whipple**	**44.12 267**	P	**P**	**03 18 05.0**	**-0.4**	
	baz=34,SNR=9.7						
P53A			S	S	03 24 47.1	+9.1	
	baz=34						
P53A	**Whipple**	**44.12 267**	IAmb	IAmb	03 18 11.3		
	comp=Z,34nm,0.9s						
P53A			IAMs_20	IAMs_20	03 34 53.1		
	comp=Z,2µm,21.0s						
N49A	**Columbus Grove**	**44.13 271**	IAMs_20	IAMs_20	03 34 53.4		
	comp=Z,1µm,20.0s						
L46A	**Eue Claire**	**44.14 274**	IAMs_20	IAMs_20	03 35 40.7		
	comp=Z,1µm,20.0s						
R56A	**Bull Pasture M**	**44.18 264**	P	**P**	**03 18 05.7**	**-0.2**	
	baz=33,SNR=6.0						
ACSO	**Alum Creek Sta**	**44.19 269**	P	**P**	**03 18 04.8**	**-1.1**	
	baz=34,SNR=5.9						
ACSO	**Alum Creek Sta**	**44.19 269**	IAmb	IAmb	03 18 11.3		
	comp=Z,30nm,0.9s						
S58A	**Poland Farm, P**	**44.27 262**	P	**P**	**03 18 05.7**	**-0.8**	
	baz=32						
S58A			S	S	03 24 49.4	+9.2	
	baz=32						
S58A	**Poland Farm, P**	**44.27 262**	P	**P**	**03 18 06.4**	**-0.1**	
S58A			IAMs_20	IAMs_20	03 34 39.9		
	comp=Z,2µm,20.0s						
SPMN	**Marine on St.**	**44.29 282**	P	**P**	**03 18 05.2**	**-1.4**	
	baz=36						
SPMN			S	S	03 24 49.5	+9.1	
	baz=36						
Q54A	**Coxs Mills**	**44.31 266**	P	**P**	**03 18 05.9**	**-0.9**	
	baz=33						
Q54A			S	S	03 24 49.4	+8.7	
	baz=33						
Q54A	**Coxs Mills**	**44.31 266**	IAmb	IAmb	03 18 12.7		
	comp=Z,46nm,1.5s						
Q54A			IAMs_20	IAMs_20	03 34 37.9		
	comp=Z,2µm,22.0s						
P52A	**Corning**	**44.32 268**	P	**P**	**03 18 06.0**	**-0.9**	
	baz=34						
P52A			S	S	03 24 49.3	+8.4	
	baz=34						
P52A	**Corning**	**44.32 268**	IAMs_20	IAMs_20	03 34 49.3		
	comp=Z,2µm,20.0s						
EGAK	**Eagle**	**44.38 329**	P	**P**	**03 18 07.5**	**+0.4**	
K43A	**Burlington**	**44.44 276**	P	**P**	**03 18 07.0**	**-0.9**	
K43A			IAmb	IAmb	03 18 13.7		
	comp=Z,27nm,0.9s						
K43A			IAMs_20	IAMs_20	03 35 12.8		
	comp=Z,2µm,20.0s						
I40A	**Norwalk**	**44.45 279**	IAmb	IAmb	03 18 20.3		
	comp=Z,47nm,1.4s						
S57A	**Dark Hollow, R**	**44.53 263**	P	**P**	**03 18 07.4**	**-1.2**	
	baz=32						
R55A	**Marlinton**	**44.59 265**	P	**P**	**03 18 07.9**	**-1.3**	
	baz=33						
R55A	**Marlinton**	**44.59 265**	IAMs_20	IAMs_20	03 34 47.4		
	comp=Z,2µm,22.0s						
T59A	**Double "B" Far**	**44.60 261**	P	**P**	**03 18 07.7**	**-1.4**	
	baz=32						
T59A			S	S	03 24 52.5	+7.5	
	baz=32						
TAM	**Tamanrasset**	**44.61 149**	P	**P**	**03 18 08.7**	**-0.9**	
TAM			pmax	pmax			
	comp=Z,23nm,1.4s						
TAM			MLR	MLR			
	comp=Z,1µm,18.0s						
TAM	**Tamanrasset**	**44.61 149**	P	**P**	**03 18 08.7**	**-0.9**	
U61A	**Possum Corner**	**44.68 260**	P	**P**	**03 18 08.4**	**-1.4**	
	baz=32						
L44A	**Lake County Fo**	**44.69 275**	P	**P**	**03 18 08.9**	**-1.0**	
	baz=35						
L44A	**Lake County Fo**	**44.69 275**	IAmb	IAmb	03 18 15.6		
	comp=Z,24nm,0.8s						
L44A			IAMs_20	IAMs_20	03 36 15.4		
	comp=Z,2µm,18.0s						
Q53A	**Leroy**	**44.70 267**	P	**P**	**03 18 10.0**	**0.0**	
	baz=33,SNR=7.0						
Q53A			S	S	03 24 55.5	+8.9	
	baz=33						
O49A	**Covington**	**44.80 270**	IAMs_20	IAMs_20	03 35 15.2		
	comp=Z,2µm,20.0s						
N47A	**Urbana**	**44.81 272**	IAmb	IAmb	03 18 16.0		
	comp=Z,20nm,0.8s						
P51A	**Williamsport**	**44.84 269**	P	**P**	**03 18 09.5**	**-1.6**	
	baz=34						
P51A			S	S	03 24 57.2	+8.7	
	baz=34						
P51A	**Williamsport**	**44.84 269**	IAmb	IAmb	03 18 16.3		
	comp=Z,32nm,0.9s						
P51A			IAMs_20	IAMs_20	03 35 04.2		
	comp=Z,2µm,20.0s						
U60A	**Pendleton**	**44.86 261**	P	**P**	**03 18 10.7**	**-0.5**	
	baz=32						
U60A			S	S	03 24 57.0	+8.3	
	baz=32						
S56A	**Natural Bridge**	**44.86 264**	P	**P**	**03 18 10.1**	**-1.2**	
	baz=32						
S56A			S	S	03 24 59.4	+11	
	baz=32						
Q52A	**Bidwell**	**44.94 267**	P	**P**	**03 18 10.0**	**-1.8**	
	baz=33						
Q52A			S	S	03 24 57.3	+7.4	
	baz=33						
HQIL	**Hanson Quary C**	**44.98 275**	IAMs_20	IAMs_20	03 36 04.9		
	comp=Z,2µm,18.0s						
MDND	**Maddock**	**44.99 289**	P	**P**	**03 18 10.1**	**-2.1**	
	baz=37						
MDND	**Maddock**	**44.99 289**	IAMs_20	IAMs_20	03 36 18.6		
	comp=Z,2µm,18.0s						
T58A	**Grand View Acr**	**45.04 262**	P	**P**	**03 18 10.3**	**-2.4**	
	baz=32						
T58A			S	S	03 25 00.5	+9.1	
	baz=32						
R54A	**Victor**	**45.05 266**	P	**P**	**03 18 11.4**	**-1.3**	
	baz=33						
R54A			S	S	03 25 00.8	+9.3	
	baz=33						
JFWS	**Jewell Farm**	**45.09 278**	P	**P**	**03 18 13.0**	**0.0**	
JFWS			pmax	pmax			
	comp=Z,13nm,1.0s						
JFWS	**Jewell Farm**	**45.09 278**	P	**P**	**03 18 10.7**	**-2.3**	
	baz=35						
JFWS			S	S	03 25 01.4	+9.4	
	baz=35						
JFWS	**Jewell Farm**	**45.09 278**	P	**P**	**03 18 13.0**	**0.0**	
V62A	**Hyde County Ai**	**45.13 259**	IAMs_20	IAMs_20	03 35 29.5		
	comp=Z,2µm,21.0s						
S55A	**Lewisburg**	**45.18 265**	P	**P**	**03 18 12.9**	**-1.0**	
	baz=33						
S55A			S	S	03 25 00.9	+7.4	
	baz=33						
V61A	**Roper**	**45.19 260**	P	**P**	**03 18 12.5**	**-1.4**	
	baz=31						
V61A	**Roper**	**45.19 260**	IAMs_20	IAMs_20	03 35 51.3		
	comp=Z,1µm,18.0s						
U59A	**Littleton**	**45.23 261**	P	**P**	**03 18 12.1**	**-2.1**	
	baz=32						
K27K	**Chicken**	**45.23 329**	P	**P**	**03 18 12.7**	**-1.2**	
	baz=30						
K27K			S	S	03 25 07.2	+14	
	baz=30						
F33A	**5 Mile Ranch,**	**45.25 285**	IAmb	IAmb	03 18 21.1		
	comp=Z,62nm,1.8s						
F33A			IAMs_20	IAMs_20	03 36 10.4		
	comp=Z,2µm,18.0s						
R53A	**Hurricane**	**45.33 267**	P	**P**	**03 18 15.0**	**0.0**	
	baz=33						
R53A			S	S	03 25 05.0	+9.4	
	baz=33						
R53A	**Hurricane**	**45.33 267**	IAMs_20	IAMs_20	03 35 32.0		
	comp=Z,3µm,21.0s						
Q51A	**Peebles**	**45.34 268**	IAmb	IAmb	03 18 20.4		
	comp=Z,26nm,0.8s						
Q51A			IAMs_20	IAMs_20	03 35 29.5		
	comp=Z,2µm,20.0s						
POKR	**Poker Plat Res**	**45.38 333**	P	**P**	**03 18 16.5**	**+1.4**	
	baz=28,SNR=5.7						
POKR			S	S	03 25 10.4	+15	
	baz=28						
M44A	**Midewin, Midew**	**45.40 275**	IAmb	IAmb	03 18 21.1		
	comp=Z,26nm,0.9s						
M44A			IAMs_20	IAMs_20	03 36 09.0		
	comp=Z,2µm,18.0s						
S54A	**Dingess, Beckl**	**45.50 266**	P	**P**	**03 18 14.8**	**-1.6**	
	baz=33						
S54A			S	**S**	**03 25 04.1**	**+5.9**	
	baz=33						
V60A	**Jim Taylor Roa**	**45.51 260**	P	**P**	**03 18 15.6**	**-0.8**	
	baz=31						
P49A	**Miami Univ. Ec**	**45.51 270**	P	**P**	**03 18 14.2**	**-2.2**	
	baz=34						
P49A			S	S	03 25 05.3	+7.2	
	baz=34						
P49A	**Miami Univ. Ec**	**45.51 270**	IAmb	IAmb	03 18 21.4		
	comp=Z,25nm,0.9s						
P49A			IAMs_20	IAMs_20	03 35 36.8		
	comp=Z,3µm,20.0s						
U58A	**Oxford**	**45.51 262**	P	**P**	**03 18 14.4**	**-2.1**	
	baz=32						
I37A	**Lemond, Waseca**	**45.52 281**	P	**P**	**03 18 17.2**	**+0.8**	
I37A			IAmb	IAmb	03 18 23.5		
	comp=Z,36nm,1.1s						
I37A			IAMs_20	IAMs_20	03 36 03.5		
	comp=Z,2µm,20.0s						
ILAR	**Eielson Array**	**45.58 332**	P	**P**	**03 18 17.7**	**+1.0**	
	comp=Z,12nm,1.0s,baz=25,slow=5.0,SNR=36						
ILAR			PcP	**PcP**	**03 19 55.7**	**+0.8**	
	comp=Z,6.3nm,0.9s,baz=354,slow=2.9,SNR=15						
ILAR			LR	LR	03 40 07.0		
	comp=Z,873nm,18.6s,baz=34,slow=40						
ILAR	**Eielson Array**	**45.58 332**	P	**P**	**03 18 15.8**	**-0.9**	
ILAR					03 19 54.4		
ILAR	**Eielson Array**	**45.58 332**	P	**P**	**03 18 15.8**	**-0.9**	
ILAR			PcP	**PcP**	**03 19 54.4**	**-0.5**	
L42A	**Oliver, Polo**	**45.58 276**	IAMs_20	IAMs_20	03 35 60.0		
	comp=Z,2µm,20.0s						
**T56

	baz=32					
T56A			S	S	03 25 09.9	+10
	baz=32					
BLA	**Blacksburg**	**45.62 264**	P	**P**	**03 18 15.8**	**-1.6**
	baz=32					
BLA			S	S	03 25 09.7	+10
	baz=32					
BLA	**Blacksburg**	**45.62 264**	IAmb	IAmb	03 18 23.9	
	comp=Z,38nm,1.6s					
BLA			IAMs_20	IAMs_20	03 35 26.6	
	comp=Z,3μm,21.0s					
COLA	**College**	**45.68 333**	*d iP*	**P**	**03 18 18.7**	**+1.3**
COLA			pmax	pmax		
	comp=Z,12nm,0.8s					
COLA	**College**	**45.68 333**	P	**P**	**03 18 18.2**	**+0.8**
TCOL	**CIGO, UAF Yank**	**45.68 333**	P	**P**	**03 18 15.0**	**-2.4**
	baz=27					
SCRK	**Sand Creek**	**45.69 330**	P	**P**	**03 18 18.9**	**+1.3**
	baz=29,SNR=7.5					
SCRK			S	S	03 25 11.2	+11
	baz=29					
IMAR	**Indian Mountai**	**45.74 337**	P	**P**	**03 18 18.4**	**+0.4**
U57A	**Blanch**	**45.82 263**	P	**P**	**03 18 18.6**	**-0.2**
	baz=32,SNR=6.3					
U57A			S	S	03 25 11.3	+8.7
	baz=32					
SFIN	**Lafayette**	**45.83 273**	P	**P**	**03 18 18.6**	**-0.3**
	baz=34,SNR=5.3					
SFIN			S	**S**	**03 25 08.8**	**+6.1**
	baz=34					
SFIN	**Lafayette**	**45.83 273**	IAmb	IAmb	03 18 24.4	
	comp=Z,22nm,0.8s					
T55A	**Pulaski**	**45.85 265**	P	**P**	**03 18 17.3**	**-1.9**
	baz=32					
T55A			S	S	03 25 12.6	+9.4
	baz=32					
CCB	**Clear Creek Bu**	**45.87 333**	IAmb	IAmb	03 18 26.9	
	comp=Z,56nm,1.6s					
P48A	**Milroy**	**45.87 271**	IAmb	IAmb	03 18 24.3	
	comp=Z,30nm,0.9s					
P48A			IAMs_20	IAMs_20	03 35 58.5	
	comp=Z,2μm,19.0s					
W61A	**Ground Anchor**	**45.89 260**	P	**P**	**03 18 18.3**	**-1.1**
	baz=31					
HDA	**Harding Lake**	**45.91 332**	P	**P**	**03 18 20.0**	**+0.7**
	baz=27,SNR=19					
HDA	**Harding Lake**	**45.91 332**	IAmb	IAmb	03 18 28.2	
	comp=Z,47nm,1.3s					
V59A	**Middlesex**	**45.92 261**	P	**P**	**03 18 17.6**	**-2.0**
	baz=31					
V59A			S	S	03 25 12.4	+8.3
	baz=31					
S53A	**Williamson**	**45.95 266**	P	**P**	**03 18 19.0**	**-1.0**
	baz=33					
DOT	**Dot Lake**	**45.99 330**	IAmb	IAmb	03 18 26.9	
	comp=Z,17nm,1.0s					
BCAR	**Beaver Creek A**	**46.01 328**	P	**P**	**03 18 20.1**	**0.0**
RIDG	**Independent Ri**	**46.08 331**	IAMs_20	IAMs_20	03 38 58.3	
	comp=Z,1μm,20.0s					
WRH	**Wood River Hil**	**46.08 333**	IAmb	IAmb	03 18 28.8	
	comp=Z,28nm,1.4s					
NEA2	**Nenana**	**46.16 333**	P	**P**	**03 18 22.5**	**+1.2**
	baz=26,SNR=24					
NEA2			S	S	03 25 19.8	+13
	baz=26					
CNNC	**Cliffs of the**	**46.22 261**	P	**P**	**03 18 21.5**	**-0.5**
	baz=31					
T54A	**Tazewell**	**46.24 265**	P	**P**	**03 18 21.3**	**-1.0**
	baz=32,SNR=6.5					
T54A			S	**S**	**03 25 15.0**	**+6.2**
	baz=32					
V58A	**Windy Hill, Pi**	**46.26 262**	P	**P**	**03 18 20.9**	**-1.4**
	baz=32					
W60A	**Pink Hill**	**46.30 260**	P	**P**	**03 18 21.9**	**-0.8**
	baz=31					
DGMT	**Dagmar**	**46.32 293**	P	**P**	**03 18 22.4**	**-0.4**
	baz=36					
DGMT	**Dagmar**	**46.32 293**	IAmb	IAmb	03 18 30.3	
	comp=Z,27nm,1.1s					
DGMT	**Dagmar**	**46.32 293**	IAMs_20	IAMs_20	03 37 07.9	
	comp=Z,2μm,18.0s					
U56A	**King**	**46.33 264**	P	**P**	**03 18 21.8**	**-1.2**
	baz=32					
U56A			S	**S**	**03 25 16.6**	**+6.5**
	baz=32					
K38A	**Parkersburg**	**46.37 280**	IAMs_20	IAMs_20	03 36 38.9	
	comp=Z,2μm,20.0s					
R50A	**Paris**	**46.39 269**	IAmb	IAmb	03 18 28.5	
	comp=Z,16nm,0.9s					
BRZS	**Berezniki**	**46.40 63**	*e*P	**P**	**03 18 23.2**	**-0.1**
	comp=Z,8.8nm,1.0s					
BRZS			*i* PP	**PP**	**03 20 12.2**	**+0.4**
BRZS			*e*S	**S**	**03 25 11.4**	**+0.6**
BRZS			LR	LR	03 36 39.0	
	comp=Z,443nm,15.2s					
BRZS	**Berezniki**	**46.40 63**	*e*P	**P**	**03 18 23.1**	**-0.2**
BRZS			*i*		03 20 12.2	
BRZS			*e*S	**S**	**03 25 11.4**	**+0.6**
BRZS			pmax	pmax		
	comp=Z,9.0nm,1.0s					
BRZS			MLR	MLR		
	comp=Z,443nm,15.0s					
E28A	**Huff**	**46.45 289**	IAMs_20	IAMs_20	03 37 11.4	
	comp=Z,2μm,18.0s					
V57A	**Coltrane Farms**	**46.47 263**	P	**P**	**03 18 23.1**	**-0.9**
	baz=32					
U55A	**TA2, Sparta**	**46.48 264**	P	**P**	**03 18 23.3**	**-0.9**
	baz=32,SNR=10					
U55A			S	**S**	**03 25 18.8**	**+6.4**
	baz=32					
P46A	**Rosedale**	**46.50 272**	IAMs_20	IAMs_20	03 36 45.3	
	comp=Z,1μm,19.0s					
W59A	**Clinton**	**46.51 261**	P	**P**	**03 18 23.2**	**-1.1**
	baz=31					
O44A	**Mansfield**	**46.60 274**	IAMs_20	IAMs_20	03 37 15.8	
	comp=Z,1μm,19.0s					
S51A	**Beattyville**	**46.61 268**	IAmb	IAmb	03 18 30.4	
	comp=Z,23nm,0.9s					
S51A			IAMs_20	IAMs_20	03 36 11.0	
	comp=Z,2μm,21.0s					
HDIL	**Hopedale**	**46.62 275**	P	**P**	**03 18 25.0**	**-0.1**
	baz=34					
HDIL			S	S	03 25 24.2	+10
	baz=34					
HDIL	**Hopedale**	**46.62 275**	IAMs_20	IAMs_20	03 37 07.3	
	comp=Z,1μm,19.0s					
T53A	**Wise**	**46.71 266**	P	**P**	**03 18 24.7**	**-1.3**
	baz=32					
T53A			S	**S**	**03 25 22.0**	**+6.4**
	baz=32					
R49A	**Shelbyville**	**46.74 270**	IAmb	IAmb	03 18 32.2	
	comp=Z,33nm,1.4s					
U54A	**Nelsons Funny**	**46.80 265**	P	**P**	**03 18 25.7**	**-1.0**
	baz=32					
U54A	**Nelsons Funny**	**46.80 265**	IAMs_20	IAMs_20	03 36 05.9	
	comp=Z,3μm,22.0s					
X60A	**Albert Glenn T**	**46.82 260**	P	**P**	**03 18 25.0**	**-1.7**
	baz=31					
V56A	**Mocksville**	**46.84 263**	P	**P**	**03 18 26.6**	**-0.3**
	baz=32,SNR=11					
V56A			S	**S**	**03 25 23.5**	**+6.2**
	baz=32					
BPAW	**Bear Paw Mtn.**	**46.97 334**	IAmb	IAmb	03 18 34.8	
	comp=Z,29nm,1.1s					
W58A	**Raeford**	**46.97 262**	P	**P**	**03 18 26.8**	**-1.1**
	baz=31					
X59A	**McDuffie Farm,**	**47.09 261**	P	**P**	**03 18 27.4**	**-1.4**
	baz=31					
ECSD	**EROS Data Cent**	**47.09 284**	P	**P**	**03 18 27.4**	**-1.5**
	baz=35					
ECSD			S	S	03 25 29.4	+8.6
	baz=35					
ECSD	**EROS Data Cent**	**47.09 284**	P	**P**	**03 18 28.1**	**-0.7**
ECSD			IAmb	IAmb	03 18 35.5	
	comp=Z,26nm,1.4s					
ECSD	**EROS Data Cent**	**47.09 284**	IAMs_20	IAMs_20	03 37 08.1	
	comp=Z,2μm,20.0s					
V55A	**Taylorsville**	**47.11 264**	P	**P**	**03 18 28.8**	**-0.2**
	baz=32,SNR=5.5					
V55A			S	**S**	**03 25 26.6**	**+5.4**
	baz=32					
N41A	**Harden Midland**	**47.16 276**	P	**P**	**03 18 29.8**	**+0.5**
N41A			IAmb	IAmb	03 18 35.7	
	comp=Z,22nm,1.1s					
N41A			IAMs_20	IAMs_20	03 36 57.7	
	comp=Z,2μm,20.0s					
SCIA	**State Center**	**47.17 279**	P	**P**	**03 18 28.3**	**-1.1**
	baz=34					
SCIA	**State Center**	**47.17 279**	P	**P**	**03 18 28.5**	**-0.9**
W57A	**Gilead**	**47.18 262**	P	**P**	**03 18 27.5**	**-2.0**
	baz=31					
W57A			S	S	03 25 30.1	+7.9
	baz=31					
W57A	**Gilead**	**47.18 262**	IAmb	IAmb	03 18 41.3	
	comp=Z,29nm,1.4s					
WCI	**Wyandotte Cave**	**47.27 271**	P	**P**	**03 18 29.7**	**-0.6**
WCI			pmax	pmax		
	comp=Z,40nm,0.8s					
WCI	**Wyandotte Cave**	**47.27 271**	P	**P**	**03 18 28.7**	**-1.6**
	baz=33					
WCI			S	**S**	**03 25 29.2**	**+5.8**
	baz=33					
WCI	**Wyandotte Cave**	**47.27 271**	P	**P**	**03 18 29.7**	**-0.6**
Y60A	**Bolivia**	**47.41 260**	IAMs_20	IAMs_20	03 36 20.1	
	comp=Z,2μm,21.0s					
X58A	**Rowland**	**47.42 261**	P	**P**	**03 18 29.7**	**-1.7**
	baz=31					
W56A	**Indian Trail**	**47.45 263**	P	**P**	**03 18 30.9**	**-0.8**
	baz=31,SNR=6.9					
W56A			S	**S**	**03 25 32.8**	**+6.8**
	baz=31					
P43A	**Skaggs, Pawnee**	**47.47 274**	IAMs_20	IAMs_20	03 37 32.0	
	comp=Z,1μm,19.0s					
SUSD	**Miller**	**47.48 286**	P	**P**	**03 18 30.7**	**-1.2**
	baz=35					
V54A	**Nebo**	**47.48 265**	S	**S**	**03 25 33.0**	**+6.4**
	baz=32					
TZTN	**Tazewell**	**47.52 267**	P	**P**	**03 18 31.3**	**-0.9**
	baz=32					
TZTN			S	S	03 25 36.9	+10
	baz=32					
TZTN	**Tazewell**	**47.52 267**	IAMs_20	IAMs_20	03 36 48.9	
	comp=Z,2μm,21.0s					
ZAA0	**Zalesovo Array**	**47.53 52**	P	**P**	**03 18 31.8**	**-0.2**
ZAA0			IAmb	IAmb	03 18 35.0	
	comp=Z,19nm,1.4s					
ZALV	**Zalesovo Beam**	**47.53 52**	P	**P**	**03 18 31.6**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=342,slow=9.3,SNR=12					
ZALV			PcP	**PcP**	**03 20 02.9**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=321,slow=2.0,SNR=1.6					
ZALV			LR	LR	03 41 15.9	
	comp=Z,860nm,18.3s,baz=322,slow=40					
ZALV	**Zalesovo Beam**	**47.53 52**	P	**P**	**03 18 31.5**	**-0.6**
ZALV				**PcP**	**03 20 01.4**	**-0.4**
SKAG	**Skagway**	**47.57 322**	IAMs_20	IAMs_20	03 38 35.6	
	comp=Z,1μm,19.0s					
T50A	**Nancy**	**47.67 268**	IAMs_20	IAMs_20	03 36 31.9	
	comp=Z,2μm,22.0s					
Y59A	**Loris**	**47.70 261**	P	**P**	**03 18 32.9**	**-0.8**
	baz=31					
KMSC	**Kings Mountain**	**47.76 264**	P	**P**	**03 18 32.9**	**-1.2**
	baz=31					
KMSC			S	**S**	**03 25 35.0**	**+4.5**
	baz=31					
KMSC	**Kings Mountain**	**47.76 264**	IAmb	IAmb	03 18 39.5	
	comp=Z,23nm,1.2s					
M24K	**Tolsona, Glenn**	**47.81 330**	P	**P**	**03 18 32.9**	**-1.3**
	baz=27					
X57A	**Johnson Farm,**	**47.81 262**	P	**P**	**03 18 33.1**	**-1.4**
	baz=31					
Q44A	**Meyer Farm, Va**	**47.87 273**	IAmb	IAmb	03 18 40.4	
	comp=Z,29nm,1.1s					
Q44A			IAMs_20	IAMs_20	03 37 56.6	
	comp=Z,1μm,18.0s					
V53A	**Saluda**	**47.94 266**	IAmb	IAmb	03 18 47.5	
	comp=Z,18nm,1.4s					
KURK	**Kurchatov**	**48.02 58**	*ce*P	**P**	**03 18 35.5**	**-0.4**
KURK			pmax	pmax		
	comp=Z,27nm,1.3s					
KURK	**Kurchatov**	**48.02 58**	P	**P**	**03 18 35.4**	**-0.5**
KURK			IAmb	IAmb	03 18 42.2	
	comp=Z,19nm,0.8s					
KURK	**Kurchatov**	**48.02 58**	IAMs_20	IAMs_20	03 38 55.6	
	comp=Z,2μm,21.0s					
N38A	**Joes South For**	**48.10 279**	IAmb	IAmb	03 18 41.5	
	comp=Z,16nm,0.9s					
V52A	**Sevierville**	**48.13 266**	IAmb	IAmb	03 18 49.0	
	comp=Z,38nm,1.6s					
V52A			IAMs_20	IAMs_20	03 37 20.2	
	comp=Z,2μm,19.0s					
W54A	**Cherokee Point**	**48.17 265**	P	**P**	**03 18 36.9**	**-0.4**
	baz=31,SNR=6.4					
W54A			S	S	03 25 44.9	+8.6
	baz=31					
X56A	**White Oak**	**48.19 263**	P	**P**	**03 18 36.6**	**-0.8**
	baz=31					
BESE	**Bessie Mountai**	**48.20 321**	IAMs_20	IAMs_20	03 39 33.3	
	comp=Z,1μm,19.0s					
PAULI	**Pauline**	**48.24 264**	IAMs_20	IAMs_20	03 37 22.0	
	comp=Z,2μm,18.0s					
Y57A	**Sumter**	**48.32 262**	P	**P**	**03 18 37.6**	**-0.8**
	baz=31					
JIS	**Juneau Island**	**48.34 321**	IAMs_20	IAMs_20	03 39 35.9	
	comp=Z,1μm,18.0s					
TKL	**Tuckaleechee C**	**48.36 266**	IAmb	IAmb	03 18 50.7	
	comp=Z,25nm,1.4s					
TKL			IAMs_20	IAMs_20	03 37 27.4	
	comp=Z,2μm,19.0s					
CUT	**Chulitna**	**48.38 333**	P	**P**	**03 18 37.8**	**-0.7**
	baz=25					
L34A	**Svendsen Farm,**	**48.45 282**	IAMs_20	IAMs_20	03 37 32.0	
	comp=Z,2μm,21.0s					
X55A	**Gracelyn & Ava**	**48.46 264**	P	**P**	**03 18 39.0**	**-0.5**
	baz=31					
X55A			S	**S**	**03 25 46.0**	**+5.6**
	baz=31					
V51A	**Loudon**	**48.49 267**	IAmb	IAmb	03 18 45.3	
	comp=Z,24nm,1.1s					
V51A			IAMs_20	IAMs_20	03 37 19.6	
	comp=Z,2μm,20.0s					
U49A	**Red Boiling Sp**	**48.50 269**	IAmb	IAmb	03 18 44.9	
	comp=Z,19nm,1.0s					
U49A			IAMs_20	IAMs_20	03 37 08.9	
	comp=Z,2μm,21.0s					
Z59A	**Georgetown, SC**	**48.52 260**	P	**P**	**03 18 40.1**	**+0.2**
	baz=30					
LAO	**LASA Array**	**48.57 293**	P	**P**	**03 18 40.5**	**+0.2**
	baz=35					
BG3	**Lake Jocassee**	**48.57 265**	IAmb	IAmb	03 18 52.4	
	comp=Z,26nm,1.5s					
BG3			IAMs_20	IAMs_20	03 37 10.8	
	comp=Z,2μm,21.0s					
MESA	**MESA**	**48.59 327**	IAMs_20	IAMs_20	03 40 37.6	
	comp=Z,1μm,19.0s					
P40A	**Paris**	**48.64 277**	IAmb	IAmb	03 20 12.6	
	comp=Z,23nm,1.5s					
P40A			IAMs_20	IAMs_20	03 37 54.0	
	comp=Z,2μm,19.0s					
Z58A	**St. Stephen**	**48.66 261**	P	**P**	**03 18 40.0**	**-1.1**
	baz=30					
GHO	**Glory Hole Cre**	**48.69 332**	IAMs_20	IAMs_20	03 40 40.3	
	comp=Z,1μm,20.0s					
X54A	**Belton**	**48.71 264**	P	**P**	**03 18 40.3**	**-1.2**
	baz=31					
X54A			S	S	03 25 53.0	+9.1
	baz=31					
EGMT	**Eagleton**	**48.84 297**	P	**P**	**03 18 42.5**	**+0.2**
	baz=35,SNR=20					
EGMT			S	S	03 25 57.5	+12
	baz=35					
CPCT	**Cooper Cave**	**48.86 267**	IAmb	IAmb	03 18 54.8	
	comp=Z,35nm,1.4s					
CPCT			IAMs_20	IAMs_20	03 37 30.5	
	comp=Z,2μm,21.0s					
Y56A	**Pelion**	**48.91 263**	P	**P**	**03 18 42.1**	**-0.8**
	baz=31					
HODGE	**Hodges**	**48.93 264**	IAmb	IAmb	03 18 55.0	
	comp=Z,39nm,1.4s					
HODGE			IAMs_20	IAMs_20	03 37 53.4	
	comp=Z,2μm,18.0s					
TTA	**Tatalina**	**48.95 336**	IAmb	IAmb	03 18 51.4	
	comp=Z,26nm,1.1s					
HMT	**Hamilton**	**48.98 328**	IAMs_20	IAMs_20	03 40 45.0	
	comp=Z,1μm,19.0s					
S44A	**Carbondale**	**48.99 273**	P	**P**	**03 18 43.1**	**-0.5**
S44A			IAMs_20	IAMs_20	03 38 33.1	
	comp=Z,1μm,18.0s					
Y55A	**Saluda**	**49.02 263**	P	**P**	**03 18 42.9**	**-0.8**
	baz=31					
Y55A			S	**S**	**03 25 54.3**	**+6.1**
	baz=31					
NHSC	**New Hope**	**49.02 261**	P	**P**	**03 18 43.0**	**-0.8**
	baz=30					
Z57A	**Bowman**	**49.08 262**	P	**P**	**03 18 43.4**	**-0.8**
	baz=30					
CLTN	**Cedars of Leba**	**49.09 269**	IAmb	IAmb	03 18 49.6	
	comp=Z,21nm,1.2s					
CLTN			IAMs_20	IAMs_20	03 37 37.7	
	comp=Z,2μm,20.0s					
SUCK	**Suckling Hills**	**49.10 328**	IAMs_20	IAMs_20	03 40 46.3	
	comp=Z,2μm,19.0s					
EYAK	**Cordova Ski Ar**	**49.12 329**	IAMs_20	IAMs_20	03 41 37.7	
	comp=Z,1μm,20.0s					
Z56A	**Williston**	**49.33 263**	P	**P**	**03 18 45.7**	**-0.5**
	baz=30					
KAIM	**Kayak Island**	**49.38 328**	IAMs_20	IAMs_20	03 43 13.6	
	comp=Z,1μm,18.0s					
W50A	**Signal Mountai**	**49.41 268**	IAMs_20	IAMs_20	03 37 58.1	
	comp=Z,2μm,20.0s					
CCM	**Cathedral Cave**	**49.53 275**	P	**P**	**03 18 47.7**	**0.0**
CCM			pmax	pmax		
	comp=Z,8.0nm,0.9s					
CCM			MLR	MLR		
	comp=Z,1μm,18.0s					
CCM	**Cathedral Cave**	**49.53 275**	P	**P**	**03 18 46.1**	**-1.6**
	baz=33					
CCM			S	S	03 26 03.0	+7.6
	baz=33					
CCM	**Cathedral Cave**	**49.53 275**	P	**P**	**03 18 47.7**	**0.0**
CCM	**Cathedral Cave**	**49.53 275**	IAMs_20	IAMs_20	03 39 06.6	
	comp=Z,1μm,18.0s					
WALA	**Waterton Lakes**	**49.54 301**	P	**P**	**03 18 47.9**	**+0.1**
V48A	**Smith Brothers**	**49.60 269**	IAmb	IAmb	03 18 60.0	
	comp=Z,40nm,1.4s					
V48A			IAMs_20	IAMs_20	03 37 53.1	
	comp=Z,2μm,20.0s					
BGNE	**Belgrade**	**49.65 283**	P	**P**	**03 18 46.2**	**-2.4**
	baz=34					
BGNE	**Belgrade**	**49.65 283**	IAMs_20	IAMs_20	03 38 38.9	
	comp=Z,1μm,20.0s					
SWET	**Sewanee**	**49.66 268**	IAmb	IAmb	03 19 00.1	
	comp=Z,38nm,1.5s					
SWET			IAMs_20	IAMs_20	03 38 05.8	
	comp=Z,2μm,20.0s					
WVT	**Waverly**	**49.70 270**	P	**P**	**03 18 48.2**	**-0.8**
WVT			pmax	pmax		
	comp=Z,20nm,1.6s					
WVT	**Waverly**	**49.70 270**	P	**P**	**03 18 47.1**	**-1.8**
	baz=32					
WVT			S	**S**	**03 26 03.5**	**+5.8**
	baz=32					
WVT	**Waverly**	**49.70 270**	P	**P**	**03 18 48.2**	**-0.8**
157A	**Early Branch**	**49.73 262**	P	**P**	**03 18 48.2**	**-1.1**
	baz=30					
X51A	**Calhoun**	**49.76 267**	IAmb	IAmb	03 18 54.9	
	comp=Z,28nm,1.1s					
X51A			IAMs_20	IAMs_20	03 38 12.2	
	comp=Z,2μm,21.0s					
R40A	**Maddies Statio**	**49.77 276**	IAMs_20	IAMs_20	03 38 55.9	
	comp=Z,2μm,18.0s					
RSSD	**Black Hills**	**49.82 290**	P	**P**	**03 18 49.7**	**-0.4**
RSSD			pmax	pmax		
	comp=Z,10.0nm,0.9s					
RSSD	**Black Hills**	**49.82 290**	P	**P**	**03 18 48.3**	**-1.8**
	baz=34					
RSSD			S	S	03 26 08.3	+8.7
	baz=34					
RSSD	**Black Hills**	**49.82 290**	P	**P**	**03 18 49.7**	**-0.4**
RSSD	**Black Hills**	**49.82 290**	IAMs_20	IAMs_20	03 38 54.3	
	comp=Z,2μm,20.0s					
HENM	**Henderson Moun**	**49.91 272**	IAMs_20	IAMs_20	03 39 08.3	
	comp=Z,1μm,18.0s					
HICK	**Hickman**	**49.95 272**	IAMs_20	IAMs_20	03 40 31.5	
	comp=Z,1μm,18.0s					
Y52A	**Lilburn**	**50.02 265**	IAmb	IAmb	03 19 03.2	
	comp=Z,58nm,1.6s					
PARMO	**Parma**	**50.07 273**	IAMs_20	IAMs_20	03 39 15.7	
	comp=Z,1μm,18.0s					
FPAL	**Fort Paine**	**50.10 267**	IAmb	IAmb	03 19 03.6	
	comp=Z,48nm,1.6s					
FPAL			IAMs_20	IAMs_20	03 38 18.4	
	comp=Z,2μm,20.0s					
GOGA	**Godfrey**	**50.15 265**	P	**P**	**03 18 51.0**	**-1.4**
	baz=31					
GOGA			S	**S**	**03 26 10.5**	**+6.5**
	baz=31					
GOGA	**Godfrey**	**50.15 265**	IAmb	IAmb	03 19 04.1	
	comp=Z,42nm,1.5s					
GOGA	**Godfrey**	**50.15 265**	IAMs_20	IAMs_20	03 38 04.6	
	comp=Z,2μm,20.0s					
GLAT	**Glass**	**50.20 272**	IAMs_20	IAMs_20	03 39 01.2	
	comp=Z,1μm,18.0s					
PBMO	**Poplar Bluff**	**50.26 273**	IAmb	IAmb	03 18 59.1	
	comp=Z,69nm,1.9s					
PBMO			IAMs_20	IAMs_20	03 39 09.8	
	comp=Z,1μm,19.0s					
T42A	**Van Buren**	**50.33 274**	IAMs_20	IAMs_20	03 38 42.7	
	comp=Z,1μm,19.0s					
257A	**Skidaway Islan**	**50.35 261**	IAMs_20	IAMs_20	03 38 03.9	
	comp=Z,1μm,21.0s					
GEYT	**Alibeck**	**50.38 84**	P	**P**	**03 18 54.5**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=289,slow=9.2,SNR=8.6					
GEYT			LR	LR	03 42 49.4	
	comp=Z,1μm,19.7s,baz=345,slow=39					
GEYT	**Alibeck**	**50.38 84**	P	**P**	**03 18 54.3**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**50.38 84**	IAMs_20	IAMs_20	03 42 37.7	
	comp=Z,1μm,19.0s					
LNXT	**Lenox**	**50.43 272**	IAMs_20	IAMs_20	03 38 59.3	
	comp=Z,1μm,18.0s					
HALT	**Halls**	**50.53 272**	IAMs_20	IAMs_20	03 38 53.9	
	comp=Z,1μm,19.0s					
154A	**Montrose**	**50.68 264**	IAMs_20	IAMs_20	03 38 45.7	
	comp=Z,1μm,18.0s					
MGMO	**Mountain Grove**	**50.73 275**	IAMs_20	IAMs_20	03 39 45.2	
	comp=Z,1μm,18.0s					
JTMT	**Jette**	**50.77 300**	P	**P**	**03 18 56.7**	**-0.4**
PLAL	**Pickwick Lake**	**50.78 270**	IAMs_20	IAMs_20	03 38 49.4	
	comp=Z,2μm,20.0s					
X48A	**Hartselle**	**50.79 269**	IAmb	IAmb	03 19 01.6	
	comp=Z,18nm,0.8s					
X48A			IAMs_20	IAMs_20	03 38 40.6	
	comp=Z,2μm,21.0s					
KSU1	**Kansas State U**	**50.93 280**	P	**P**	**03 18 57.2**	**-1.1**
	baz=33					
Z51A	**Franklin**	**50.96 266**	P	**P**	**03 18 58.2**	**-0.4**
BTLS	**Baital**	**50.99 66**	*j iP*	**P**	**03 18 59.1**	**+0.4**
	comp=Z,4.5nm,1.1s					
BTLS			LR	LR	03 39 44.0	
	comp=Z,555nm,17.3s					
BTLS	**Baital**	**50.99 66**	*d iP*	**P**	**03 18 59.0**	**+0.4**
BTLS			pmax	pmax		
	comp=Z,5.0nm,1.1s					
BTLS			MLR	MLR		
	comp=Z,555nm,17.0s					
255A	**Hazlehurst**	**51.01 263**	IAmb	IAmb	03 19 04.2	
	comp=Z,40nm,1.1s					
255A			IAMs_20	IAMs_20	03 39 18.3	
	comp=Z,1μm,18.0s					
Y49A	**Blount Mountai**	**51.03 268**	IAMs_20	IAMs_20	03 38 57.9	
	comp=Z,2μm,20.0s					
RLMT	**Red Lodge**	**51.06 295**	P	**P**	**03 18 59.4**	**-0.1**
	baz=33,SNR=13					
YAK	**Yakutsk**	**51.13 19**	*i* P	**P**	**03 19 00.9**	**+1.4**
YAK			pmax	pmax		
	comp=Z,7.0nm,0.9s					
LCAR	**Lake Charles**	**51.17 273**	IAMs_20	IAMs_20	03 39 37.9	
	comp=Z,1μm,20.0s					
KK31	**Karatay Array**	**51.20 70**	IAmb	IAmb	03 19 03.7	
	comp=Z,50nm,1.8s					
KKAR	**Karatay Array**	**51.20 70**	P	**P**	**03 19 00.3**	**0.0**
KKAR			pmax	pmax		
	comp=Z,50nm,1.8s					
KKAR	**Karatay Array**	**51.20 70**	P	**P**	**03 18 60.0**	**-0.3**
KKAR	**Karatay Array**	**51.20 70**	P	**P**	**03 19 00.3**	**0.0**
KKAR			IAmb	IAmb	03 19 03.7	
	comp=Z,50nm,1.8s					
LPAR	**Lepanto**	**51.20 272**	IAMs_20	IAMs_20	03 39 41.7	
	comp=Z,1μm,19.0s					
152A	**Waverly Hall**	**51.32 265**	IAmb	IAmb	03 19 12.9	
	comp=Z,40nm,1.6s					
NEW	**Newport**	**51.38 303**	P	**P**	**03 18 59.8**	**-1.7**
	baz=33					
NEW	**Newport**	**51.38 303**

OGNE	Ogallala	51.65 286	IAMs_20	IAMs_20	03 39 52.7	
	comp=Z,1µm,18.0s					
U40A	Yellville	51.66 275	P	P	03 19 01.2	-2.5
	baz=32					
U40A			S	S	03 26 32.1	+7.2
	baz=32					
U40A	Yellville	51.66 275	IAMs_20	IAMs_20	03 40 23.7	
	comp=Z,2µm,18.0s					
DZA	Taraz	51.71 69	eP	P	03 19 04.4	+0.2
DZA			LR	LR	03 40 16.0	
	comp=Z,645nm,15.8s					
DZA	Taraz	51.71 69	eP	P	03 19 04.3	+0.2
DZA			MLR	MLR		
	comp=Z,645nm,16.0s					
FCAR	Ozark Folk Cen	51.74 274	IAMs_20	IAMs_20	03 40 05.9	
	comp=Z,990nm,19.0s					
IUG	Iuzhnay	51.81 71	eP	P	03 19 05.4	+0.4
	comp=Z,7.3nm,1.0s					
IUG			eS	S	03 26 28.1	+0.9
IUG			LR	LR	03 40 31.2	
	comp=Z,339nm,14.9s					
IUG	Iuzhnay	51.81 71	eP	P	03 19 05.4	+0.4
IUG			eS	S	03 26 28.0	+0.9
IUG			pmax	pmax		
	comp=Z,7.0nm,1.0s					
IUG			MLR	MLR		
	comp=Z,339nm,15.0s					
456A	Hilliard	51.86 261	IAMs_20	IAMs_20	03 38 59.7	
	comp=Z,1µm,21.0s					
TIGA	Tifton	51.90 263	P	P	03 19 04.2	-1.4
	baz=30					
TIGA			S	S	03 26 36.7	+8.3
	baz=30					
TIGA	Tifton	51.90 263	IAMs_20	IAMs_20	03 39 24.0	
	comp=Z,1µm,19.0s					
DGZ	Jazzator, Alta	51.98 53	d iP	P	03 19 07.1	+0.9
DGZ			pmax	pmax		
	comp=Z,10.0nm,1.2s					
LRAL	Lakeview Retre	51.98 268	P	P	03 19 04.4	-1.8
	baz=31,SNR=6.1					
LRAL			S	S	03 26 34.5	+5.1
	baz=31					
LRAL	Lakeview Retre	51.98 268	IAMs_20	IAMs_20	03 39 56.2	
	comp=Z,1µm,18.0s					
K22A	Casper	52.04 291	P	P	03 19 04.4	-2.3
	baz=33					
K22A	Casper	52.04 291	IAmb	IAmb	03 19 13.4	
	comp=Z,21nm,1.0s					
B08A	Colville Reser	52.09 304	IAMs_20	IAMs_20	03 40 51.7	
	comp=Z,2µm,18.0s					
H17A	Grant Village	52.17 295	P	P	03 19 07.2	-0.7
	baz=33					
H17A	Grant Village	52.17 295	IAmb	IAmb	03 19 17.9	
	comp=Z,22nm,1.1s					
HHAR	Hobbs	52.18 276	IAMs_20	IAMs_20	03 40 37.6	
	comp=Z,2µm,20.0s					
DIB	Dawson Inlet,	52.20 316	IAMs_20	IAMs_20	03 41 26.0	
	comp=Z,1µm,22.0s					
U38A	Gravette	52.24 276	IAMs_20	IAMs_20	03 39 56.1	
	comp=Z,1µm,21.0s					
BOD	Bodaibo	52.28 30	eP	P	03 19 06.8	-1.3
BOD			pmax	pmax		
	comp=Z,15nm,2.2s					
WHAR	Wooly Hollow	52.32 274	IAMs_20	IAMs_20	03 40 34.2	
	comp=Z,1µm,19.0s					
SEY	Seymchan	52.35 6	i P	P	03 19 10.4	+1.9
X43A	Marvell	52.38 272	P	P	03 19 07.3	-1.8
	baz=31					
X43A	Marvell	52.38 272	IAMs_20	IAMs_20	03 40 33.7	
	comp=Z,2µm,18.0s					
R32A	Long Quarter,	52.39 281	IAMs_20	IAMs_20	03 39 46.3	
	comp=Z,2µm,21.0s					
W41B	Gary Mavity, V	52.40 274	P	P	03 19 06.8	-2.4
	baz=31					
W41B	Gary Mavity, V	52.40 274	IAmb	IAmb	03 19 32.1	
	comp=Z,70nm,2.0s					
W41B			IAMs_20	IAMs_20	03 40 45.4	
	comp=Z,1µm,18.0s					
352A	Blakely	52.44 265	IAMs_20	IAMs_20	03 40 00.2	
	comp=Z,2µm,18.0s					
CBKS	Cedar Bluff	52.49 283	P	P	03 19 07.9	-2.1
	baz=32					
CBKS	Cedar Bluff	52.49 283	IAmb	IAmb	03 20 26.5	
	comp=Z,36nm,1.2s					
CBKS			IAMs_20	IAMs_20	03 40 28.9	
	comp=Z,1µm,20.0s					
SGDS	Sogindy	52.55 66	⇓i P	P	03 19 10.6	+0.2
	comp=Z,117nm,3.6s					
SGDS	Sogindy	52.55 66	d iP	P	03 19 10.6	+0.2
SGDS			pmax	pmax		
	comp=Z,117nm,3.6s					
MK31	Makanchi Array	52.63 58	P	P	03 19 10.5	-0.4
MK31			pmax	pmax		
	comp=Z,24nm,1.6s					
MK31	Makanchi Array	52.63 58	P	P	03 19 10.5	-0.4
MKAR	Makanchi Array	52.63 58	P	P	03 19 10.2	-0.7
	comp=Z,6.3nm,1.0s,baz=332,slow=4.8,SNR=23					
MKAR			LR	LR	03 41 53.5	
	comp=Z,752nm,20.2s,baz=314,slow=36					
MKAR	Makanchi Array	52.63 58	P	P	03 19 10.7	-0.2
TDK	Taldyqorghan	52.70 63	eP	P	03 19 12.1	+0.6
TDK			LR	LR	03 40 06.1	
	comp=Z,304nm,4.9s					
TDK						
	comp=Z,891nm,17.1s					
TDK	Taldyqorghan	52.70 63	eP	P	03 19 12.0	+0.6
TDK			pmax	pmax		
	comp=Z,304nm,4.9s					
TDK			MLR	MLR		
	comp=Z,891nm,17.0s					
B06A	Marblemount	52.70 306	IAMs_20	IAMs_20	03 40 18.1	
	comp=Z,1µm,19.0s					
T35A	Sooner Cattle	52.74 279	IAmb	IAmb	03 19 16.6	
	comp=Z,52nm,1.6s					
PHWY	Pilot Hill	52.75 289	IAMs_20	IAMs_20	03 41 18.9	
	comp=Z,2µm,18.0s					
UALR	University of	52.78 274	IAMs_20	IAMs_20	03 40 57.5	
	comp=Z,1µm,19.0s					
KUU	Kurty	52.84 65	⇓i P	P	03 19 12.6	+0.1
	comp=Z,10nm,1.2s					
KUU			LR	LR	03 40 35.8	
	comp=Z,2µm,15.9s					
KUU	Kurty	52.84 65	d iP	P	03 19 12.6	+0.1
KUU			pmax	pmax		
	comp=Z,10.0nm,1.2s					
KUU			MLR	MLR		
	comp=Z,2µm,16.0s					
LOHW	Long Hollow	52.84 295	IAmb	IAmb	03 19 19.9	
	comp=Z,42nm,1.6s					
EKS2	Erkin-Say	52.88 68	P	P	03 19 16.1	+3.2
	SNR=11					
FXWY	Fox Creek	52.99 295	IAMs_20	IAMs_20	03 41 35.4	
	comp=Z,2µm,19.0s					
ZSN	Zaisan	53.00 56	⇓i P	P	03 19 14.0	+0.4
	comp=Z,4.3nm,0.9s					
ZSN			LR	LR	03 41 30.6	
	comp=Z,416nm,15.6s					
ZSN	Zaisan	53.00 56	d iP	P	03 19 14.0	+0.4
ZSN			pmax	pmax		
	comp=Z,4.0nm,0.9s					
ZSN			MLR	MLR		
	comp=Z,416nm,16.0s					
C06D	Leavenworth	53.01 305	P	P	03 19 12.0	-1.7
	baz=31					
SNOW	Snow King Moun	53.03 295	IAmb	IAmb	03 19 21.5	
	comp=Z,65nm,1.8s					
W39A	Magazine	53.04 275	P	P	03 19 12.1	-1.9
	baz=31					
W39A	Magazine	53.04 275	IAmb	IAmb	03 19 22.6	
	comp=Z,34nm,1.6s					
CHKK	Chushkaly	53.13 64	i P	P	03 19 14.2	-0.4
CHKK	Chushkaly	53.13 64	i P	P	03 19 14.1	-0.5
B05A	Bryant	53.13 306	P	P	03 19 11.6	-2.9
	baz=31					
BW06	Boulder Array	53.15 293	P	P	03 19 13.7	-1.3
	baz=32,SNR=42					
BW06	Boulder Array	53.15 293	IAmb	IAmb	03 19 21.7	
	comp=Z,25nm,0.9s					
BW06			IAMs_20	IAMs_20	03 41 14.6	
	comp=Z,2µm,20.0s					
PD31	Pinedale Array	53.15 293	IAmb	IAmb	03 19 21.7	
	comp=Z,23nm,0.9s					
PDAR	Pinedale Array	53.15 293	P	P	03 19 14.9	-0.2
	comp=Z,15nm,0.8s,baz=51,slow=4.7,SNR=34					
PDAR			LR	LR	03 41 26.1	
	comp=Z,2µm,20.0s,baz=31,slow=36					
PDAR	Pinedale Array	53.15 293	P	P	03 19 14.2	-0.8
REDW	Red Top Meadow	53.15 295	IAmb	IAmb	03 19 22.1	
	comp=Z,31nm,1.4s					
AAK	Ala-Archa	53.18 67	P	P	03 19 16.7	+1.5
	SNR=5.8					
AAK	Ala-Archa	53.18 67	P	P	03 19 15.6	+0.4
146A	Union	53.21 269	IAMs_20	IAMs_20	03 40 05.6	
	comp=Z,2µm,21.0s					
X40A	Basin Creek Fa	53.24 274	P	P	03 19 13.6	-1.8
	baz=31					
X40A	Basin Creek Fa	53.24 274	IAMs_20	IAMs_20	03 41 11.5	
	comp=Z,1µm,19.0s					
656A	Willston	53.25 261	IAMs_20	IAMs_20	03 40 47.7	
	comp=Z,2µm,19.0s					
TOA0	Torodi Ar. Sit	53.25 157	P	P	03 19 14.3	-1.4
TORD	Torodi Ar. Bea	53.25 157	P	P	03 19 12.8	-2.9
	comp=Z,12nm,1.0s,baz=339,slow=9.3,SNR=21					
TORD			LR	LR	03 43 45.3	
	comp=Z,552nm,18.4s,baz=340,slow=38					
TORD	Torodi Ar. Bea	53.25 157	P	P	03 19 13.8	-2.0
TUL1	Leonard	53.28 277	P	P	03 19 13.3	-2.5
	baz=32					
N23A	Red Feather La	53.29 289	P	P	03 19 16.0	-0.2
	baz=32,SNR=21					
AML	Almayashu	53.29 68	P	P	03 19 18.8	+2.5
	SNR=7.4					
553A	Crawfordville	53.34 263	IAMs_20	IAMs_20	03 41 19.2	
	comp=Z,1µm,18.0s					
TKM2	Tokmak 2	53.38 66	P	P	03 19 17.7	+1.1
	SNR=12					
MIAR	Mount Ida	53.50 274	P	P	03 19 15.9	-1.5
	baz=31					
MIAR	Mount Ida	53.50 274	IAmb	IAmb	03 19 28.7	
	comp=Z,29nm,1.6s					
MIAR			IAMs_20	IAMs_20	03 41 02.6	
	comp=Z,1µm,20.0s					
MTBS	Maitube	53.52 65	eP	P	03 19 18.4	+0.8
MTBS	Maitube	53.52 65	eP	P	03 19 18.4	+0.8
KSCO	Kaye Shedlock'	53.52 285	P	P	03 19 15.8	-1.9
	baz=32					
451A	Vernon	53.53 265	IAMs_20	IAMs_20	03 40 12.2	
	comp=Z,1µm,20.0s					
UCH	Uchtor	53.53 67	P	P	03 19 20.2	+2.1
	SNR=9.8					
BRAL	Brewton	53.61 266	P	P	03 19 16.2	-2.0
	baz=30					
AAA	Alma-Ata	53.64 65	eP	P	03 19 19.9	+1.4
AAA			ePP	PP	03 21 20.4	+1.6
AAA			LR	LR	03 41 05.5	
	comp=Z,1µm,15.4s					
AAA	Alma-Ata	53.64 65	eP	P	03 19 19.9	+1.4
AAA			e		03 21 20.4	
AAA			MLR	MLR		
	comp=Z,1µm,15.0s					
MDOK	Medeo	53.73 65	⇓i P	P	03 19 18.7	-0.5
MDOK			eS	S	03 26 53.6	+0.1
MDOK			LR	LR	03 41 06.2	
	comp=Z,1µm,15.8s					
MDOK	Medeo	53.73 65	d iP	P	03 19 18.7	-0.5
MDOK			eS	S	03 26 53.5	+0.1
MDOK			MLR	MLR		
	comp=Z,1µm,16.0s					
TNSS	Tian-Shan	53.80 65	⇓i P	P	03 19 20.9	+0.8
TNSS	Tian-Shan	53.80 65	⇓i P	P	03 19 20.8	+0.8
E07A	Sunnyside	53.80 303	IAMs_20	IAMs_20	03 42 03.2	
	comp=Z,2µm,18.0s					
DWPF	Disney Wildern	53.89 259	P	P	03 19 19.0	-1.3
	baz=28					
D05A	Enumclaw	54.02 305	IAMs_20	IAMs_20	03 40 43.9	
	comp=Z,1µm,21.0s					
WLAR	White Oak Lake	54.04 274	IAMs_20	IAMs_20	03 41 47.8	
	comp=Z,873nm,18.0s					
ISCO	Idaho Springs	54.08 288	P	P	03 19 19.8	-2.1
	baz=32					
OK029	Liberty Lake	54.09 279	IAmb	IAmb	03 19 29.1	
	comp=Z,32nm,1.3s					
D03D	Eldon	54.10 306	P	P	03 19 20.3	-1.4
	baz=31					
KPKS	Kokpek	54.11 63	⇓i P	P	03 19 22.4	+0.5
	comp=Z,7.4nm,0.9s					
KPKS			LR	LR	03 41 28.3	
	comp=Z,436nm,14.7s					
KPKS	Kokpek	54.11 63	d iP	P	03 19 22.4	+0.5
KPKS			pmax	pmax		
	comp=Z,7.0nm,0.9s					
KPKS			MLR	MLR		
	comp=Z,436nm,15.0s					
VBMS	Vicksburg	54.19 270	P	P	03 19 21.3	-1.1
	baz=30					
OK025	Westminster Rd	54.22 278	IAmb	IAmb	03 19 30.0	
	comp=Z,38nm,1.3s					
X37A	Clayton	54.23 276	IAMs_20	IAMs_20	03 41 08.9	
	comp=Z,1µm,20.0s					
Z41A	Richland Creek	54.28 273	P	P	03 19 22.5	-0.6
	baz=31					
Z41A	Richland Creek	54.28 273	IAMs_20	IAMs_20	03 42 03.0	
	comp=Z,2µm,18.0s					
D04E	Lakebay	54.30 306	P	P	03 19 23.0	-0.1
	baz=31					
LON	Longmire	54.33 305	IAMs_20	IAMs_20	03 43 07.2	
	comp=Z,1µm,20.0s					
SATY	Saty	54.35 64	eP	P	03 19 24.2	+0.5
	comp=Z,3.9nm,1.1s					
SATY			eS	S	03 27 02.9	+1.2
SATY			LR	LR	03 41 35.1	
	comp=Z,327nm,13.8s					
SATY	Saty	54.35 64	eP	P	03 19 24.1	+0.5
SATY			eS	S	03 27 02.8	+1.2
SATY			pmax	pmax		
	comp=Z,4.0nm,1.1s					
SATY			MLR	MLR		
	comp=Z,327nm,14.0s					
HLID	Hailey	54.35 297	P	P	03 19 23.7	0.0
	baz=32,SNR=8.9					
HLID	Hailey	54.35 297	IAmb	IAmb	03 19 30.8	
	comp=Z,37nm,1.8s					
W35A	Tecumseh	54.39 278	P	P	03 19 22.8	-1.2
NLWA	Neilton Lookou	54.49 307	IAMs_20	IAMs_20	03 41 40.5	
	comp=Z,2µm,19.0s					
UZB	Uzynbulak	54.51 63	eP	P	03 19 25.1	+0.3
	comp=Z,4.0nm,1.2s					
UZB			LR	LR	03 41 55.7	
UZB	Uzynbulak	54.51 63	eP	P	03 19 25.1	+0.3
UZB			pmax	pmax		
	comp=Z,4.0nm,1.2s					
MOY	Mondy	54.54 42	eP	P	03 19 26.4	+1.5
MOY			pmax	pmax		
	comp=Z,117nm,3.0s					
SII	Sitkinak Islan	54.55 332	IAMs_20	IAMs_20	03 44 19.4	
	comp=Z,1µm,20.0s					
G08A	Pilot Rock	54.57 302	IAMs_20	IAMs_20	03 42 22.3	
	comp=Z,2µm,20.0s					
Q24A	Divide	54.60 287	P	P	03 19 24.6	-1.2
	baz=32					
Q24A	Divide	54.60 287	IAMs_20	IAMs_20	03 42 39.9	
	comp=Z,2µm,20.0s					
SHLS	Shalkode	54.67 63	eP	P	03 19 27.8	+1.7
	comp=Z,8.4nm,1.1s					
SHLS	Shalkode	54.67 63	eP	P	03 19 27.7	+1.7
SHLS			pmax	pmax		
	comp=Z,8.0nm,1.1s					
E04D	Cinebar	54.77 305	P	P	03 19 25.4	-1.0
	baz=30					
O20A	White River Ci	54.86 290	P	P	03 19 25.2	-2.3
	baz=32					
O20A	White River Ci	54.86 290	IAmb	IAmb	03 19 35.1	
	comp=Z,37nm,1.2s					
O20A			IAMs_20	IAMs_20	03 42 07.8	
	comp=Z,2µm,19.0s					
HWUT	Hardware Ranch	54.92 294	IAmb	IAmb	03 19 35.4	
	comp=Z,31nm,1.0s					
F05D	White Salmon	54.95 304	P	P	03 19 27.1	-0.8
	baz=30					
E03A	Lebam	55.12 306	IAMs_20	IAMs_20	03 42 35.0	
	comp=Z,1µm,22.0s					
HRA	Herat	55.14 83	P	P	03 19 28.4	-1.2
F04A	Amboy	55.25 305	IAMs_20	IAMs_20	03 42 52.5	
	comp=Z,1µm,18.0s					
TLY	Talaya	55.28 40	eP	P	03 19 29.7	-0.5
TLY			e		03 21 31.5	
TLY			eS	S	03 27 22.5	+8.8
TLY			pmax	pmax		
	comp=Z,38nm,1.6s					
TLY			MLR	MLR		
	comp=Z,2µm,13.0s					
TLY	Talaya	55.28 40	P	P	03 19 30.7	+0.5
TLY			IAMs_20	IAMs_20	03 45 56.8	
	comp=Z,1µm,18.0s					
G05D	Wamic, OR	55.46 304	P	P	03 19 31.4	-0.2
	baz=30					
WMOK	Wichita Mounta	55.55 279	P	P	03 19 31.6	-0.7
	baz=31,SNR=10					
WMOK	Wichita Mounta	55.55 279	IAmb	IAmb	03 19 38.4	
	comp=Z,34nm,1.4s					
GRTK	Grand Turk	55.56 245	IAMs_20	IAMs_20	03 39 32.6	
	comp=Z,1µm,20.0s					
F03A	Seaside	55.65 306	IAMs_20	IAMs_20	03 42 26.1	
	comp=Z,1µm,19.0s					
SDCO	Great Sand Dun	55.78 287	P	P	03 19 33.1	-1.2
	baz=31					
SDCO			S	S	03 27 30.9	+10
	baz=31					
SDCO	Great Sand Dun	55.78 287	IAmb	IAmb	03 19 41.1	
	comp=Z,34nm,1.9s					
SDCO			IAMs_20	IAMs_20	03 42 29.2	
	comp=Z,2µm,19.0s					
T25A	Trinidad	55.85 285	P	P	03 19 33.1	-1.7
	baz=31					
Z35A	Perchaven, San	56.11 277	IAmb	IAmb	03 19 42.8	
	comp=Z,37nm,1.1s					
Z35A			IAMs_20	IAMs_20	03 42 55.7	
	comp=Z,1µm,18.0s					
I05D	Terrebonne, OR	56.25 303	P	P	03 19 35.9	-1.4
	baz=30					
H04A	Detroit Lake	56.25 304	IAMs_20	IAMs_20	03 43 40.9	
	comp=Z,1µm,19.0s					
S22A	4UR Ranch, Cre	56.33 288	P	P	03 19 37.9	-0.3
	baz=31,SNR=6.1					
S22A	4UR Ranch, Cre	56.33 288	IAMs_20	IAMs_20	03 43 40.6	
	comp=Z,1µm,18.0s					
ZAK	Zakamensk	56.34 41	eP	P	03 19 38.4	+0.5
ZAK			pmax	pmax		
	comp=Z,13nm,1.6s					
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.5s					
NATX	Nacogdoches	56.36 274	P	P	03 19 37.6	-0.6
	baz=30					
NATX	Nacogdoches	56.36 274	IAMs_20	IAMs_20	03 44 12.2	
	comp=Z,990nm,18.0s					
KSH	Kashi	56.42 68	P	P	03 19 40.7	+2.0
KSH			PP	PP	03 21 50.3	+6.5
KSH			S	S	03 27 33.6	+4.1
KSH			SS	SS	03 31 22.7	+6.9
KSH			pmax	pmax		
	comp=Z,42nm,0.8s					
KSH			pmax	pmax		
	comp=Z,890nm,5.9s					
KSH			LR	LR		
	comp=Z,1µm,15.7s					
KSH			LR	LR		
	comp=Z,950nm,9.1s					
KSH			LR	LR		
	comp=Z,4µm,19.3s					
PV15	Paradox Valley	56.48 289	IAMs_20	IAMs_20	03 43 06.8	
	comp=Z,1µm,20.0s					
PV21	Cone Mtn., Par	56.50 290	IAmb	IAmb	03 19 46.3	
	comp=Z,19nm,1.0s					
CBYP	Canovanas	56.52 238	P	P	03 19 39.7	+0.3
CBYP			IAmb	IAmb	03 19 43.8	
	comp=Z,26nm,0.9s					
MTP	Monte Pirata	56.57 238	P	P	03 19 40.5	+0.8
PINE	Pine Mountain	56.58 302	IAMs_20	IAMs_20	03 43 40.5	
	comp=Z,915nm,20.0s					
H04D	Lebanon	56.59 304	P	P	03 19 39.2	-0.4
	baz=30					
441A	DeRidder	56.60 272	IAMs_20	IAMs_20	03 42 21.6	
	comp=Z,922nm,20.0s					
PV23	Carpenter Ridg	56.60 290	IAmb	IAmb	03 19 45.5	
	comp=Z,28nm,0.9s					
PV04	Paradox Valley	56.61 290	IAmb	IAmb	03 19 46.7	
	comp=Z,22nm,1.0s					
DUG	Dugway, Tooele	56.62 294	P	P	03 19 40.1	+0.1
	baz=31,SNR=20					
DUG	Dugway, Tooele	56.62 294	IAmb	IAmb	03 19 47.4	
	comp=Z,32nm,1.4s					
PV12	Saucer Basin,	56.64 290	IAmb	IAmb	03 19 46.8	
	comp=Z,28nm,1.1s					
237A	Washetta, Mont	56.64 275	IAMs_20	IAMs_20	03 43 30.7	
	comp=Z,1µm,20.0s					
AMTX	Amarillo	56.65 282	P	P	03 19 39.5	-0.8
	baz=31					
PV10	Paradox Valley	56.68 290	IAMs_20	IAMs_20	03 46 23.0	
	comp=Z,930nm,21.0s					
PV20	West Nyswonger	56.68 290	IAmb	IAmb	03 19 45.6	
	comp=Z,16nm,0.9s					
PV16	Nyswonger Mesa	56.69 290	IAmb	IAmb	03 19 47.1	
	comp=Z,33nm,1.2s					
PV01	Paradox Valley	56.70 289	IAmb	IAmb	03 19 46.6	
	comp=Z,24nm,1.0s					
PV03	Paradox Valley	56.71 290	IAmb	IAmb	03 19 46.4	
	comp=Z,18nm,0.9s					
PV03			IAMs_20	IAMs_20	03 43 54.7	
	comp=Z,2µm,19.0s					
PV19	Morning Glory	56.72 290	IAmb	IAmb	03 19 47.4	
	comp=Z,20nm,1.1s					
PV19			IAMs_20	IAMs_20	03 43 06.9	
	comp=Z,1µm,21.0s					
COR	Corvallis	56.73 305	IAMs_20	IAMs_20	03 43 49.6	
	comp=Z,1µm,20.0s					
PV17	East Wray Mesa	56.73 290	IAmb	IAmb	03 19 46.1	
	comp=Z,19nm,0.9s					
PV18	Skein Mesa, Pa	56.74 290	IAmb	IAmb	03 19 46.6	
	comp=Z,28nm,0.9s					
PV18			IAMs_20	IAMs_20	03 43 55.6	
	comp=Z,2µm,19.0s					
PV13	Radium Mtn., P	56.78 290	IAMs_20	IAMs_20	03 43 58.6	
	comp=Z,2µm,18.0s					
I04A	Tendick Farm,	57.10 304	P	P	03 19 42.3	-1.1
	baz=30					
J05D	Fort Rock, OR	57.12 302	P	P	03 19 43.0	-0.6
	baz=30					
WMQ	Urumqi	57.13 56	eP	P	03 19 44.8	+1.2
WMQ			S	S	03 27 39.4	+0.7
WMQ			sS	sS	03 27 48.8	+5.5
WMQ			pmax	pmax		
	comp=Z,16nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,190nm,7.5s					
WMQ			LR	LR		
	comp=Z,740nm,18.7s					
WMQ			LR	LR		
	comp=Z,620nm,16.1s					
WMQ			LR	LR		
	comp=Z,460nm,22.1s					
WMQ	Urumqi	57.13 56	IAMs_20	IAMs_20	03 44 43.1	
	comp=Z,1µm,21.0s					
CNBA	Chernabura Isl	57.23 335	P	P	03 19 44.4	+0.4
SC01	Santiago de lo	57.30 244	IAMs_20	IAMs_20	03 39 01.5	
	comp=Z,2µm,21.0s					
WHTX	Lake Whitney,	57.35 276	P	P	03 19 44.0	-1.2
	baz=30					
WHTX	Lake Whitney,	57.35 276	IAMs_20	IAMs_20	03 42 20.5	
	comp=Z,1µm,22.0s					
MVCO	Mesa Verde	57.46 289	P	P	03 19 46.0	-0.2
	baz=30					
MVCO	Mesa Verde	57.46 289	IAmb	IAmb	03 19 53.2	
	comp=Z,53nm,1.9s					
J04D	Umpqua Nationa	57.48 303	P	P	03 19 45.5	-0.7
	baz=29					
I03D	Drain, OR	57.52 304	P	P	03 19 45.8	-0.4
	baz=29					
ABTX	Abilene, Hawle	57.73 279	P	P	03 19 46.0	-1.9
	baz=30					
KBL	Kabul	57.87 77	IAMs_20	IAMs_20	03 45 13.2	
	comp=Z,2µm,20.0s					
K04D	Chiloquin, OR	57.89 302	P	P	03 19 47.5	-1.5
	baz=29					
MSTX	Muleshoe	57.89 282	P	P	03 19 48.6	-0.5
	baz=30					
MSTX	Muleshoe	57.89 282	IAMs_20	IAMs_20	03 43 01.9	
	comp=Z,1µm,21.0s					
SDDR	Presa de Saban	57.92 244	IAMs_20	IAMs_20	03 39 42.9	
	comp=Z,2µm,21.0s					
J01E	Myrtle Point	58.20 304	P	P	03 19 48.4	-2.5
	baz=29					
HKT	Hockley	58.42 274	IAMs_20	IAMs_20	03 45 15.7	
	comp=Z,1µm,18.0s					
L04D	Klamath Falls	58.44 303	P	P	03 19 51.1	-1.8
	baz=29					
435B	Jarrell	58.45 276	P	P	03 19 51.4	-1.5
	baz=30					
K02D	Willamette Mer	58.51 304	P	P	03 19 50.0	-3.3
	baz=29					
GTBY	Guantanamo Bay	58.56 249	IAMs_20	IAMs_20	03 40 18.1	
	comp=Z,1µm,22.0s					
ANMO	Albuquerque	58.58 286	ceP	P	03 19 55.4	+1.4
ANMO			pmax	pmax		

	comp=Z,11nm,1.7s						
ANMO	Albuquerque	58.58	286	P	P	03 19 54.6	+0.5
	baz=30						
ANMO	Albuquerque	58.58	286	P	P	03 19 52.9	-1.2
ANMO				IAmb	IAmb	03 20 01.1	
	comp=Z,32nm,2.0s						
M04C	Macdoel	58.65	302	P	P	03 19 53.8	-0.5
	baz=29						
ZEA	Zeya	58.70	24	eP	P	03 19 54.8	+0.5
ZEA				eS	S	03 28 10.0	+11
ZEA				pmax	pmax		
	comp=N,300nm,9.0s						
ZEA				pmax	pmax		
	comp=Z,500nm,9.0s						
ZEA				pmax	pmax		
	comp=Z,48nm,1.8s						
ZEA				smax	smax		
	comp=N,600nm,14.0s						
ZEA				MLR	MLR		
	comp=N,700nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,16.0s						
DBIC	Dimbokro	58.71	165	P	P	03 19 53.6	-1.2
	comp=Z,23nm,0.9s,baz=352,slow=8.5,SNR=14						
DBIC				LR	LR	03 46 03.4	
	comp=Z,464nm,18.5s,baz=352,slow=37						
DBIC	Dimbokro	58.71	165	P	P	03 19 54.5	-0.3
DBIC				pmax	pmax		
	comp=Z,30nm,1.0s						
DBIC	Dimbokro	58.71	165	P	P	03 19 54.5	-0.3
TIC	Toumodi	58.72	166	eP	P	03 19 54.7	-0.2
L02E	Cave Junction	58.96	304	P	P	03 19 56.2	-0.1
	baz=29						
YBH	Yreka Blue Hor	59.01	303	IAMs_20	IAMs_20	03 43 08.9	
	comp=Z,790nm,18.0s						
MCLT	Moule a Chique	59.03	231	IAMs_20	IAMs_20	03 38 47.6	
	comp=Z,991nm,21.0s						
KIC	Kosan Boka	59.03	165	eP	P	03 19 56.9	-0.1
	comp=Z,95nm,1.1s						
LIC	Lamto	59.13	166	eP	P	03 19 57.1	-0.6
	comp=Z,147nm,1.2s						
R11A	Troy Canyon, C	59.29	295	P	P	03 19 58.2	-0.6
	baz=30,SNR=30						
R11A	Troy Canyon, C	59.29	295	IAmb	IAmb	03 20 06.1	
	comp=Z,26nm,1.2s						
M02C	Callahan	59.36	303	P	P	03 19 56.9	-2.3
	baz=29						
SONM	Songino Array	59.52	40	P	P	03 19 59.5	-0.7
	comp=Z,2.6nm,0.8s,baz=331,slow=7.7,SNR=14						
SONM				LR	LR	03 48 11.0	
	comp=Z,1μm,20.4s,baz=293,slow=38						
SONM	Songino Array	59.52	40	P	P	03 19 59.9	-0.4
SONM				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	Songino Array	59.52	40	P	P	03 19 59.9	-0.4
Y22D	IRIS PASSCAL I	59.52	286	IAMs_20	IAMs_20	03 45 05.3	
	comp=Z,944nm,19.0s						
PAHR	Pah Rah Range	59.56	299	IAmb	IAmb	03 20 09.5	
	comp=Z,19nm,1.2s						
KRMB	Red Mountain	59.62	303	IAMs_20	IAMs_20	03 46 29.2	
	comp=Z,1μm,21.0s						
KVN	Kaiserville	59.65	298	IAmb	IAmb	03 20 08.9	
	comp=Z,14nm,0.9s						
JCT	Junction City	59.66	277	P	P	03 19 59.8	-1.5
	baz=29						
JCT				S	S	03 28 18.1	+6.3
	baz=29						
U15A	North Rim	59.66	291	IAmb	IAmb	03 20 08.4	
	comp=Z,22nm,1.1s						
N02D	Trinity Center	59.67	302	P	P	03 20 00.6	-0.8
	baz=29						
ULN	Ulaanbaatar	59.67	40	ceP	P	03 20 02.4	+1.0
ULN				pmax	pmax		
	comp=Z,28nm,2.5s						
ULN	Ulaanbaatar	59.67	40	P	P	03 20 00.8	-0.5
ULN				IAmb	IAmb	03 20 12.9	
	comp=Z,38nm,1.7s						
W18A	Petrified Fore	59.77	289	P	P	03 20 02.2	-0.1
	baz=30						
W18A				S	S	03 28 21.5	+8.0
	baz=30						
PRN	Pahroc Range	59.90	294	IAmb	IAmb	03 20 24.1	
	comp=Z,36nm,1.5s						
O03E	Paynes Creek	59.94	301	P	P	03 20 02.8	-0.4
	baz=29						
WDC	Whiskeytown Da	59.96	302	IAMs_20	IAMs_20	03 45 45.0	
	comp=Z,1μm,20.0s						
WUAZ	Wupatki	60.09	290	P	P	03 20 04.1	-0.3
	baz=30,SNR=18						
WUAZ				S	S	03 28 26.1	+8.6
	baz=30						
WUAZ	Wupatki	60.09	290	IAMs_20	IAMs_20	03 45 04.2	
	comp=Z,1μm,18.0s						
KHMM	Horse Mountain	60.13	303	IAMs_20	IAMs_20	03 46 25.6	
	comp=Z,858nm,19.0s						
735A	Kenedy	60.22	275	IAMs_20	IAMs_20	03 45 54.5	
	comp=Z,1μm,19.0s						
NVAR	Mina Array Bea	60.27	297	P	P	03 20 05.0	-0.6
	comp=Z,3.0nm,0.9s,baz=39,slow=5.7,SNR=13						
NVAR				LR	LR	03 46 29.5	
	comp=Z,4μm,18.3s,baz=30,slow=36						
NVAR	Mina Array Bea	60.27	297	P	P	03 20 05.0	-0.6
NIL	Nilore	60.38	74	P	P	03 20 05.8	-0.5
NIL				pmax	pmax		
	comp=Z,36nm,1.1s						
NIL				MLR	MLR		
	comp=Z,1μm,20.0s						
NIL	Nilore	60.38	74	P	P	03 20 05.8	-0.5
NIL	Nilore	60.38	74	IAMs_20	IAMs_20	03 49 51.9	
	comp=Z,981nm,20.0s						
LHV	Little Huntoon	60.50	297	IAmb	IAmb	03 21 02.0	
	comp=Z,18nm,1.4s						
SHPR	Sheep Range	60.73	294	P	P	03 20 09.0	+0.3
SHPR				IAMs_20	IAMs_20	03 46 11.3	
	comp=Z,1μm,18.0s						
TPNV	Topopah Spring	60.77	295	P	P	03 20 09.5	+0.5
TPNV				pmax	pmax		
	comp=Z,16nm,1.3s						
TPNV				MLR	MLR		
	comp=Z,2μm,19.0s						
TPNV	Topopah Spring	60.77	295	P	P	03 20 08.6	-0.4
	baz=29						
TPNV	Topopah Spring	60.77	295	P	P	03 20 09.5	+0.5
AFDM	Forest Hills D	60.81	300	IAmb	IAmb	03 20 15.2	
	comp=Z,22nm,1.6s						
AFDM				IAMs_20	IAMs_20	03 46 02.6	
	comp=Z,1μm,21.0s						
MNTX	Cornudas Mount	60.95	283	P	P	03 20 09.1	-1.0
	baz=29						
MNTX	Cornudas Mount	60.95	283	IAmb	IAmb	03 21 00.3	
	comp=Z,22nm,1.6s						
MNTX				IAMs_20	IAMs_20	03 45 54.9	
	comp=Z,1μm,19.0s						
MTDJ	Mount Denham	61.07	250	IAMs_20	IAMs_20	03 42 29.5	
	comp=Z,1μm,20.0s						
X16A	Lo Mia Camp, P	61.07	290	IAmb	IAmb	03 20 19.0	
	comp=Z,17nm,1.1s						
X16A				IAMs_20	IAMs_20	03 46 12.2	
	comp=Z,1μm,18.0s						
KCPM	Cahto Peak	61.12	302	IAMs_20	IAMs_20	03 46 34.8	
	comp=Z,892nm,18.0s						
GRAC	Grapevine Rang	61.16	296	P	P	03 20 10.6	-0.9
	baz=29						
MLAC	Mammoth, Mammo	61.17	297	P	P	03 20 11.9	+0.1
	baz=29						
NKL	Nikolayevsk	61.17	15	eP	P	03 20 10.5	-0.8
NKL				eS	S	03 28 33.2	+2.7
NKL				pmax	pmax		
	comp=N,11nm,0.8s						
NKL				pmax	pmax		
	comp=Z,21nm,1.4s						
121A	Cookes Peak, D	61.22	285	P	P	03 20 12.5	+0.4
	baz=29,SNR=6.1						
121A	Cookes Peak, D	61.22	285	IAmb	IAmb	03 20 17.8	
	comp=Z,11nm,0.9s						
121A				IAMs_20	IAMs_20	03 45 58.1	
	comp=Z,1μm,20.0s						
OMMB	Old Mammoth Mi	61.24	297	P	P	03 20 12.3	-0.1
OMMB				IAmb	IAmb	03 20 19.9	
	comp=Z,33nm,1.6s						
MDPB	Devils Postpil	61.26	298	P	P	03 20 12.4	-0.1
MDPB				IAmb	IAmb	03 20 21.6	
	comp=Z,12nm,1.0s						
833A	Chaparral WMA,	61.36	276	P	P	03 20 11.8	-1.1
	baz=29						
833A	Chaparral WMA,	61.36	276	IAMs_20	IAMs_20	03 46 37.6	
	comp=Z,1μm,18.0s						
CMB	Columbia Colle	61.40	299	IAMs_20	IAMs_20	03 47 06.1	
	comp=Z,1μm,22.0s						
FURC	Furnace Creek,	61.43	295	P	P	03 20 13.1	-0.2
	baz=29						
TIN	Tinemaha, Big	61.44	297	P	P	03 20 13.4	-0.1
	baz=29						
W13A	Hualapai Mount	61.45	292	IAMs_20	IAMs_20	03 46 05.5	
	comp=Z,1μm,20.0s						
HIA	Hailar	61.50	30	IAMs_20	IAMs_20	03 47 30.4	
	comp=Z,896nm,19.0s						
SHOC	Shoshone, Teco	61.70	294	P	P	03 20 15.2	+0.1
	baz=29						
CWC	Cottonwood Cre	61.92	296	P	P	03 20 17.0	+0.2
	baz=28						
TUQ	Turquoise Moun	61.97	294	P	P	03 20 16.4	-0.7
	baz=29						
MPMC	Manual Prospec	62.03	295	P	P	03 20 16.2	-1.4
	baz=28						
NEE2	Needles Airpor	62.03	292	P	P	03 20 17.5	+0.1
	baz=29						
PDMCI	Parker Dam,Lak	62.25	292	P	P	03 20 18.1	-0.7
	baz=29						
TXAR	Lajitas Array	62.29	280	P	P	03 20 18.8	-0.5
	comp=Z,5.1nm,0.9s,baz=44,slow=5.0,SNR=20						
TXAR				LR	LR	03 46 52.9	
	comp=Z,3μm,19.0s,baz=0.0,slow=36						
PEA0B	Petropavlovsk-	62.37	3	ceP	P	03 20 21.3	+2.0
PEA0B	Petropavlovsk-	62.37	3	P	P	03 20 20.1	+0.8
PETK	Petropavlovsk-	62.37	3	P	P	03 20 19.1	-0.2
	comp=Z,5.8nm,1.1s,baz=39,slow=9.6,SNR=8.6						
PETK				LR	LR	03 49 06.7	
	comp=Z,262nm,18.1s,baz=356,slow=38						
PETK	Petropavlovsk-	62.37	3	P	P	03 20 19.3	0.0
PETK	Petropavlovsk-	62.37	3	P	P	03 20 19.3	0.0
GSC	Goldstone, Bar	62.43	294	P	P	03 20 19.2	-0.9
	baz=28						
GMRC	Granite Mounta	62.43	293	P	P	03 20 19.0	-1.3
	baz=29						
PET	Petropavlovsk	62.47	3d	iP	P	03 20 19.5	-0.5
PET				e		03 22 40.0	
PET				eS	S	03 28 46.9	0.0
PET				e		03 30 03.8	
PET				eSS	SS	03 32 49.7	+0.1
PET				pmax	pmax		
	comp=Z,500nm,10.3s						
PET				pmax	pmax		
	comp=Z,300nm,11.9s						
PET				MLR	MLR		
	comp=Z,500nm,20.0s						
TUC	Tucson	62.64	288	P	P	03 20 21.6	0.0
TUC				pmax	pmax		
	comp=Z,25nm,1.4s						
TUC				MLR	MLR		
	comp=Z,2μm,18.0s						
TUC	Tucson	62.64	288	P	P	03 20 21.1	-0.5
	baz=29						
TUC				S	S	03 29 00.3	+10
	baz=29						
TUC	Tucson	62.64	288	P	P	03 20 21.6	0.0
TUC				IAmb	IAmb	03 20 28.9	
	comp=Z,24nm,1.4s						
HEC	Hector,Ludlow	62.66	294	P	P	03 20 22.0	+0.3
	baz=28						
ISA	Isabella, Lake	62.76	296	P	P	03 20 22.8	+0.5
	baz=28,SNR=5.9						
ISA	Isabella, Lake	62.76	296	IAmb	IAmb	03 20 28.7	
	comp=Z,16nm,1.1s						
IRM	Iron Mountain	62.78	292	P	P	03 20 21.6	-0.8
	baz=28						
319A	Douglas	62.84	286	IAMs_20	IAMs_20	03 47 31.2	
	comp=Z,1μm,18.0s						
RRX	Edison Barstow	62.88	294	P	P	03 20 23.1	+0.1
	baz=28						
PMPB	Monarch Peak	63.16	298	IAMs_20	IAMs_20	03 47 39.6	
	comp=Z,2μm,21.0s						
BELC	Belle Mtn. Jos	63.25	293	P	P	03 20 25.1	-0.6
	baz=28						
EDW2	Edwards Air Fo	63.26	295	P	P	03 20 25.1	-0.6
	baz=28						
HATO	Hato, Curacao	63.26	239	IAMs_20	IAMs_20	03 39 56.5	
	comp=Z,804nm,19.0s						
BC3	Big Chuckawall	63.34	292	P	P	03 20 26.6	+0.3
	baz=28						
ARVC	Arvin	63.37	296	P	P	03 20 26.7	+0.4
	baz=28						
BBRC	Big Bear Solar	63.38	294	P	P	03 20 26.2	-0.5
	baz=28						
GLA	Glamis	63.62	292	P	P	03 20 27.6	-0.5
	baz=28						
GLA	Glamis	63.62	292	IAMs_20	IAMs_20	03 47 28.8	
	comp=Z,1μm,18.0s						
TYV	Tymovskoe	63.64	14	eP	P	03 20 29.0	+1.2
TYV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,500nm,5.2s						
BFSC	Mount Baldy Ra	63.69	295	P	P	03 20 28.0	-0.6
	baz=28						
TEIG	Tepich	63.73	262	IAMs_20	IAMs_20	03 48 46.3	
	comp=Z,930nm,18.0s						
OSI	Osito Audit: C	63.77	296	P	P	03 20 29.4	+0.4
	baz=28						
214A	Organ Pipe Nat	63.78	289	P	P	03 20 28.0	-1.0
	baz=28						
214A	Organ Pipe Nat	63.78	289	IAmb	IAmb	03 20 35.9	
	comp=Z,32nm,1.6s						
214A				IAMs_20	IAMs_20	03 48 37.9	
	comp=Z,963nm,21.0s						
PFO	Pinyon Flats O	63.78	293	P	P	03 20 27.9	-1.2
	baz=28						
KLR	Kul'dur	63.80	22	ceP	P	03 20 31.1	+2.1
KLR				pmax	pmax		
	comp=Z,13nm,2.5s						
DECC	Green Verdugo	63.94	295	P	P	03 20 29.3	-0.8
	baz=28						
PKM	Mcpherson Peak	63.95	297	P	P	03 20 29.9	-0.4
	baz=28						
MURC	Murrieta	64.08	294	P	P	03 20 31.1	+0.1
	baz=28						
SWSC	Sam W. Stewart	64.10	292	P	P	03 20 31.3	+0.2
	baz=28						
SBC	Santa Barbara	64.31	296	P	P	03 20 32.0	-0.4
	baz=28						
MONP2	Monument Peak	64.39	293	P	P	03 20 33.0	-0.4
	baz=28						
IKP	In-Ko-Pah, Jac	64.48	292	P	P	03 20 34.8	+1.0
	baz=28						
109C	Camp Elliot, M	64.67	293	P	P	03 20 33.8	-1.0
	baz=28						
SCZ2	Santa Cruz Isl	64.67	296	P	P	03 20 35.9	+1.0
	baz=28						
CIS	Catalina Islan	64.72	295	P	P	03 20 35.1	-0.2
	baz=28						
SKR	Severo-Kuril's	64.75	5	eP	P	03 20 32.0	-3.0
SKR				e		03 22 54.9	
SKR				ePPP	PPP	03 24 30.1	
SKR				eS	S	03 29 13.2	-2.1
SKR				pmax	pmax		
	comp=Z,200nm,6.3s						
SKR				MLR	MLR		
	comp=Z,300nm,17.0s						
ESJX	Sierra Juarez	64.99	292	IAMs_20	IAMs_20	03 48 13.0	
	comp=Z,1μm,20.0s						
SCI2	San Clemente I	65.15	295	P	P	03 20 39.1	+1.1
	baz=28						
GTA	Gaotai	65.19	49	P	P	03 20 38.6	+0.3
GTA				sP	sP	03 20 45.7	+3.6
GTA				PP	PP	03 22 59.6	-1.6
GTA				sS	sS	03 29 32.0	+5.9
GTA				SS	SS	03 33 27.7	-5.2
GTA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,440nm,7.3s						
GTA				LR	LR		
	comp=Z,810nm,17.1s						
GTA				LR	LR		
	comp=Z,750nm,17.5s						
GTA				LR	LR		
	comp=Z,1μm,18.1s						
CCX	Cicese	65.39	293	IAMs_20	IAMs_20	03 48 15.7	
	comp=Z,948nm,22.0s						
HSIG		65.60	286	IAMs_20	IAMs_20	03 47 46.0	
	comp=Z,781nm,20.0s						
SPX	San Pedro Mart	65.65	291	IAmb	IAmb	03 20 48.9	
	comp=Z,24nm,1.5s						
SDV	Santo Domingo	66.91	239	eP	P	03 20 52.0	+2.3
SDV	Santo Domingo	66.91	239	eP	P	03 20 52.8	+3.0
SDV				epP	pP	03 20 57.9	+5.4
BTO	Baotou	67.19	41	eP	P	03 20 55.9	+4.8
PETF	Flores	67.35	261	IAMs_20	IAMs_20	03 49 37.2	
	comp=Z,721nm,20.0s						
ARGC	Ariguani, Magd	67.38	243	eP	P	03 20 55.5	+3.1
YSS	Yuzh-Sakhalins	67.51	15	eP	P	03 20 52.7	-0.2
YSS				e*SP	P	03 20 55.7	+2.8
YSS				eS	S	03 29 51.5	+2.4
YSS				eSS	SS	03 34 07.1	-1.1
YSS				eSSS	SSS	03 37 17.1	
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
ZAIG	Zacatecas	67.59	276	IAmb	IAmb	03 21 01.6	
	comp=Z,14nm,1.1s						
SRIG	Santa Rosalia	67.63	287	IAMs_20	IAMs_20	03 49 33.8	
	comp=Z,705nm,21.0s						
SJCC	San Jacinto, C	67.70	244	eP	P	03 20 57.3	+2.7
CN2	Changchun	67.91	28	eP	P	03 20 55.7	+0.3
CN2				ePP	PP	03 23 26.0	+1.5
CN2				SKS	SKiKP	03 30 50.6	-0.9
CN2				eSS	SS	03 34 14.1	-0.3
CN2				LR	LR		
	comp=Z,670nm,18.0s						
CN2				LR	LR		
	comp=Z,440nm,18.0s						
CN2				LR	LR		
	comp=Z,790nm,18.0s						
MDJ	Mudanjiang	67.91	25	IAMs_20	IAMs_20	03 53 18.0	
	comp=Z,654nm,19.0s						
SMLC	San Martn de	68.28	243	eP	P	03 20 56.4	-1.7
USRK	Ussuriysk Ar.	68.73	23	LR	LR	03 52 24.6	
	comp=Z,328nm,18.6s,baz=330,slow=37						
CCIG	Comitan	68.88	263	IAMs_20	IAMs_20	03 49 14.8	
	comp=Z,1μm,22.0s						
MOTC	Monteria, Cord	68.91	244	eP	P	03 21 00.8	-1.3
ESQI	Esquipulas	69.24	260	IAMs_20	IAMs_20	03 51 32.1	
	comp=Z,704nm,18.0s						
MATN	Matagalpa	69.27	256	IAMs_20	IAMs_20	03 49 26.9	
	comp=Z,848nm,21.0s						
BJI	Beijing	69.37	36	P	P	03 21 06.0	+1.4
BJI				S	S	03 30 13.0	+1.7
BJI				SS	SS	03 34 36.3	-0.8
BJI				LR	LR		
	comp=Z,1μm,18.1s						
BJI				LR	LR		
	comp=Z,590nm,15.4s						
BJI				LR	LR		
	comp=Z,850nm,18.6s						
MTO3	Montecristo	69.39	260	IAMs_20	IAMs_20	03 54 03.2	
	comp=Z,834nm,20.0s						
LZH	Lanzhou	69.52	48	eP	P	03 21 04.7	-1.1
LZH				eS	S	03 30 14.8	+1.2
LZH				SS	SS	03 34 37.3	-2.8
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z,540nm,7.2s						
LZH				LR	LR		
	comp=Z,640nm,15.4s						
LZH				LR	LR		
	comp=Z,500nm,15.7s						
LZH				LR	LR		
	comp=Z,860nm,18.0s						
BRRC	Barranca, Sant	69.70	242	eP	P	03 21 08.7	+1.8
MCPB	Macapa, AP	69.72	217	eP	P	03 21 07.5	+0.5
MCPB				epP	pP	03 21 13.9	+4.1
ZARC	Zaragoza, Cauc	69.78	243	eP	P	03 21 07.8	+0.4
SLBS	Sierra La Lagu	69.89	283	P	P	03 21 09.6	+1.4
SLBS				IAmb	IAmb	03 21 15.7	
	comp=Z,20nm,1.2s						
SLBS				IAMs_20	IAMs_20	03 50 19.7	
	comp=Z,1μm,20.0s						
BARC	Barichara	69.97	241	eP	P	03 21 07.8	-1.1
ROSB	Rosrio	70.33	208	eP	P	03 21 13.2	+2.5
ROSB				epP	pP	03 21 17.6	+4.1
PTBC	PUERTO BERRIO,	70.50	242	eP	P	03 21 14.9	+3.0
RUSC	La Rusia	70.58	241	eP	P	03 21 14.9	+1.9
TMAB	Tom-Au,PA,Br	70.68	213	eP	P	03 21 15.2	+2.3
YUK	Yuzh-Kuril'sk	70.72	13	eP	P	03 21 11.6	-1.2
YUK				e		03 21 33.6	
YUK				e		03 23 49.5	
YUK				ePPP	PPP	03 25 33.3	
YUK				eS	S	03 30 29.9	+2.9
YUK				e		03 31 17.8	
YUK				eSS	SS	03 35 02.0	+4.4
DBBC	Dabeiba	70.73	244	eP	P	03 21 11.3	-2.0
HDC	Heredia	71.16	253	IAMs_20	IAMs_20	03 49 15.0	
	comp=Z,934nm,20.0s						
SPBC	San Pablo de B	71.17	241	eP	P	03 21 12.2	-3.8
HELC	Santa Helena	71.23	243	eP	P	03 21 15.8	-1.0
NORC	Norcasia	71.56	242	eP	P	03 21 19.3	+1.0
CBOC	Ciudad Bolivar	71.71	243	eP	P	03 21 21.9	+2.5
DL2	Dalian	71.76	33	P	P	03 21 21.7	+2.5
DL2				pmax	pmax		
	comp=Z,33nm,1.8s						
DL2				pmax	pmax		
	comp=Z,320nm,3.7s						
DL2				LR	LR		
	comp=Z,1μm,17.8s						
DL2				LR	LR		
	comp=Z,490nm,14.9s						
DL2				LR	LR		
	comp=Z,1μm,17.3s						
CHIC	Chingaza	71.99	241	eP	P	03 21 21.0	-0.3
ROSC	El Rosal	72.01	241	P	P	03 21 20.9	-0.6
	comp=Z,12nm,0.7s,baz=63,slow=5.6,SNR=16						
ROSC				LR	LR	03 49 25.3	
	comp=Z,559nm,21.9s,baz=14,slow=33						
ROSC	El Rosal	72.01	241	eP	P	03 21 23.7	+2.2
ROSC	El Rosal	72.01	241	P	P	03 21 20.7	-0.8
ROSC				IAMs_20	IAMs_20	03 49 03.3	
	comp=Z,769nm,22.0s						
GUY2C	Guyana, Caldas	72.06	243	eP	P	03 21 21.2	-0.6
PTGA	Pitinga	72.30	225	P	P	03 21 21.5	-1.2
PTGA	Pitinga	72.30	225	eP	P	03 21 24.1	+1.3
PTGA				epP	pP	03 21 30.6	+5.1
VILC	Villavicencio,	72.45	240	eP	P	03 21 26.9	+3.2
TOLC	Tolima	72.62	242	eP	P	03 21 23.7	-1.4
PLMC	San Jos del P	72.70	243	eP	P	03 21 25.4	+0.3
ANIL	Santa Ana	72.74	242	eP	P	03 21 26.7	+1.0
XAN	Xi'an	72.97	44	P	P	03 21 26.8	+0.2
XAN				pP	sP	03 21 34.5	+4.0
XAN				PP	PP	03 24 12.9	+4.5
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,430nm,5.9s						
XAN				LR	LR		
	comp=Z,1μm,23.3s						
XAN				LR	LR		
	comp=Z,830nm,19.7s						
XAN				LR	LR		
	comp=Z,2μm,23.3s						
XAN	Xi'an	72.97	44	IAMs_20	IAMs_20	03 57 54.4	
	comp=Z,986nm,18.0s						
ORTC	Ortega, Tolima	73.22	242	eP	P	03 21 29.8	+1.6
PRAC	Prado	73.26	241	eP	P	03 21 31.6	+3.1
MBAR	Mbarara	73.97	129	IAMs_20	IAMs_20	03 54 51.8	
	comp=Z,660nm,21.0s						
CD2	Chengdu	74.25	50	eP	P	03 21 34.0	-0.2
CD2				PP	PP	03 24 16.5	-2.9
CD2				S	S	03 31 05.7	-2.3
CD2				SS	SS	03 35 52.5	0.0
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,470nm,7.8s						
CD2				LR	LR		
	comp=Z,900nm,16.7s						
CD2				LR	LR		
	comp=Z,670nm,16.7s						
CD2				LR	LR		
	comp=Z,1μm,16.9s						
KSRS	Korea Array	74.52	28	LR	LR	03 58 08.9	
	comp=Z,400nm,18.4s,baz=342,slow=39						
PRPB	Parauapebas	74.75	213	eP	P	03 21 39.1	+2.0
MACA	Manacapuru-AM	74.82	225	eP	P	03 21 38.7	+1.2
GARC	Garzon, Huila	74.89	241	eP	P	03 21 37.8	-0.5
SHL	Shillong	74.93	62	P	P	03 21 37.0	-1.4
SHL				pmax	pmax		
	comp=Z,67nm,1.9s						
SHL				MLR	MLR		
	comp=Z,2μm,20.0s						

SHL	Shillong	74.93	62	P	P	03 21 37.0	-1.4		
PCON	Cinco Dias	75.11	242	eP	P	03 21 38.6	-1.3		
TJN	Taejon	75.44	29	ceP	P	03 21 43.0	+2.1		
FLOC	Florencia	75.51	241	eP	P	03 21 39.5	-2.0		
GCUF	Volcan Galeras	76.48	243	eP	P	03 21 45.7	-2.0		
ENH	Enshi	76.66	45	IAMs_20	IAMs_20	03 58 05.6			
	comp=Z,1μm,22.0s								
KMBO	Kilima Mbogo	76.72	123	LR	LR	03 58 28.6			
	comp=Z,368nm,19.4s,baz=316,slow=38								
PUAC	Puerto Asis, P	76.81	242	eP	P	03 21 51.0	+2.0		
SMTB	Santa Maria do	76.85	211	eP	P	03 21 51.5	+2.4		
NPGB	Novo Progresso	76.99	219	eP	P	03 21 51.3	+1.4		
NPGB				epP	pP	03 21 57.0	+4.3		
MAT	Matsushiro	77.19	20	P	P	03 21 49.9	-1.0		
MAT				S	S	03 31 43.0	+2.8		
MJAR	Matsushiro Arr	77.19	20	P	P	03 21 50.7	-0.2		
	comp=Z,1.9nm,0.9s,baz=345,slow=5.6,SNR=3.5								
MJAR	Matsushiro Arr	77.19	20	P	P	03 21 50.6	-0.3		
MJAR				pmax	pmax				
	comp=Z,7.0nm,1.7s								
MJAR	Matsushiro Arr	77.19	20	P	P	03 21 50.6	-0.3		
NJ2	Nanjing	77.61	37	eP	P	03 21 52.6	-0.6		
NJ2				S	S	03 31 46.4	+1.6		
NJ2				sS	sS	03 31 52.2	+2.6		
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,450nm,7.1s								
NJ2				LR	LR				
	comp=Z,780nm,20.4s								
NJ2				LR	LR				
	comp=Z,380nm,18.0s								
NJ2				LR	LR				
	comp=Z,1μm,21.8s								
OTAV	Otavalo	77.81	244	P	P	03 21 55.5	+0.5		
OTAV				pmax	pmax				
	comp=Z,39nm,1.5s								
OTAV	Otavalo	77.81	244	P	P	03 21 55.5	+0.5		
OTAV				IAmb	IAmb	03 22 04.1			
	comp=Z,39nm,1.4s								
OTAV	Otavalo	77.81	244	eP	P	03 21 57.9	+2.8		
WHN	Wuhan	77.83	41	⇓P	P	03 21 54.1	-0.4		
WHN				PP	PP	03 24 51.2	+1.8		
WHN				S	S	03 31 50.1	+2.9		
WHN				pmax	pmax				
	comp=Z,780nm,7.3s								
WHN				LR	LR				
	comp=Z,770nm,16.8s								
WHN				LR	LR				
	comp=Z,1μm,14.1s								
WHN				LR	LR				
	comp=Z,2μm,14.9s								
SSE	Sheshan	79.11	35	P	P	03 22 00.2	-1.3		
SSE				S	S	03 32 06.7	+5.8		
SSE				pmax	pmax				
	comp=Z,14nm,0.7s								
SSE				pmax	pmax				
	comp=Z,240nm,7.6s								
SSE				LR	LR				
	comp=Z,400nm,18.9s								
SSE				LR	LR				
	comp=Z,270nm,18.3s								
SSE	Sheshan	79.11	35	IAMs_20	IAMs_20	04 00 22.7			
	comp=Z,982nm,20.0s								
KMI	Kunming	79.25	53	P	P	03 22 01.4	-1.3		
KMI				pP	PcP	03 22 08.7	-2.3		
KMI				sP	sP	03 22 10.7	+4.2		
KMI				PP	PP	03 25 06.0	+4.3		
KMI				S	S	03 32 02.9	-0.2		
KMI				sS	sS	03 32 08.7	+0.9		
KMI				pmax	pmax				
	comp=Z,12nm,0.6s								
KMI				pmax	pmax				
	comp=Z,300nm,3.9s								
KMI				LR	LR				
	comp=Z,350nm,19.0s								
KMI				LR	LR				
	comp=Z,290nm,19.9s								
KMI				LR	LR				
	comp=Z,470nm,24.5s								
JNU	Nakatsue	79.29	27	IAMs_20	IAMs_20	04 02 16.3			
	comp=Z,618nm,18.0s								
GYA	Guiyang	79.32	49	⇓P	P	03 22 02.6	-0.3		
GYA				sP	sP	03 22 06.6	-0.2		
GYA				PP	PP	03 25 02.1	0.0		
GYA				S	S	03 32 05.6	+2.0		
GYA				sS	SKSac	03 32 14.2	-5.2		
GYA				pmax	pmax				
	comp=Z,9.0nm,1.0s								
GYA				pmax	pmax				
	comp=Z,340nm,4.1s								
GYA				LR	LR				
	comp=Z,300nm,20.7s								
GYA				LR	LR				
	comp=Z,350nm,19.4s								
GYA				LR	LR				
	comp=Z,410nm,19.3s								
GDU01	Guandu, BA	80.07	202	eP	P	03 22 09.3	+2.5		
PEXB	Peixe	80.15	211	eP	P	03 22 09.1	+1.8		
SAML	Samuel	81.05	226	P	P	03 22 10.8	-1.3		
SAML				pmax	pmax				
	comp=Z,53nm,1.9s								
SAML	Samuel	81.05	226	P	P	03 22 10.8	-1.3		
SAML				IAmb	IAmb	03 22 17.0			
	comp=Z,53nm,1.9s								
SAML	Samuel	81.05	226	IAMs_20	IAMs_20	03 52 25.8			
	comp=Z,537nm,20.0s								
SAML	Samuel	81.05	226	eP	P	03 22 11.2	-0.9		
SAML				epP	PcP	03 22 19.5	+1.0		
SLVN	Son La	83.15	53	P	P	03 22 23.0	-0.3		
SLVN				IAMs_20	IAMs_20	04 03 01.9			
	comp=Z,847nm,19.0s								
BDFB	Brasilia	83.51	210	P	P	03 22 23.1	-2.0		
	comp=Z,3.7nm,0.8s,baz=37,slow=19,SNR=1.7								
BDFB				LR	LR	03 53 19.7			
	comp=Z,671nm,21.7s,baz=341,slow=31								
BDFB	Brasilia	83.51	210	IAMs_20	IAMs_20	03 53 08.8			
	comp=Z,634nm,21.0s								
CHTO	Chiang Mai	83.71	59	P	P	03 22 25.4	-0.7		
CHTO				pmax	pmax				
	comp=Z,43nm,2.0s								
CHTO				MLR	MLR				
	comp=Z,700nm,21.0s								
CHTO	Chiang Mai	83.71	59	P	P	03 22 25.4	-0.7		
CHTO				IAmb	IAmb	03 22 28.1			
	comp=Z,43nm,2.0s								
CHTO				IAMs_20	IAMs_20	04 02 20.6			
	comp=Z,673nm,21.0s								
MC01	Montes Claros	83.75	205	eP	P	03 22 28.6	+2.4		
MC01				epP	pP	03 22 33.4	+4.4		
VILB	Vilhena	83.97	222	eP	P	03 22 29.2	+1.9		
CMAR	Chiang Mai Arr	84.04	59	P	P	03 22 27.6	-0.2		
	comp=Z,0.9nm,0.3s,baz=318,slow=5.6,SNR=12								
CMAR				LR	LR	04 02 50.5			
	comp=Z,498nm,19.8s,baz=351,slow=38								
CMAR	Chiang Mai Arr	84.04	59	ceP	P	03 22 28.0	+0.2		
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
CMAR	Chiang Mai Arr	84.04	59	P	P	03 22 27.2	-0.6		
NAN01	Guarapari, ES	84.20	202	eP	P	03 22 29.7	+1.3		
NAN01				epP	pP	03 22 35.0	+3.8		
QZH	Quanzhou	84.30	39	⇓P	P	03 22 28.8	-0.2		
QZH				PP	PP	03 25 44.1	+1.1		
QZH				S	S	03 32 52.3	-2.4		
QZH				pmax	pmax				
	comp=Z,310nm,8.3s								
QZH				LR	LR				
	comp=Z,570nm,16.3s								
QZH				LR	LR				
	comp=Z,220nm,13.7s								
QZH				LR	LR				
	comp=Z,830nm,19.6s								
ARAG	Araguaiana, MT	84.42	213	eP	P	03 22 31.6	+2.0		
ARAG				eS	S	03 32 58.1	+2.3		
KNMB	Chin-men Tao	84.70	40	IAMs_20	IAMs_20	04 04 01.7			
	comp=Z,634nm,19.0s								
SJMB	Sao Joao De Ma	85.22	203	eP	P	03 22 36.1	+2.7		
SJMB				eS	S	03 33 04.9	+1.4		
BSFB	Barra de Sao F	85.29	202	eP	P	03 22 35.4	+1.6		
YHNB	Yeheng	85.30	37	IAMs_20	IAMs_20	04 04 27.4			
	comp=Z,799nm,18.0s								
NACB	Ninganchiao	85.83	37	IAMs_20	IAMs_20	04 04 54.5			
	comp=Z,764nm,18.0s								
IPMB	Ipameri, GO	85.83	209	eP	P	03 22 38.4	+1.8		
YOJ	Yonaguni jima	85.91	36	IAMs_20	IAMs_20	04 04 53.5			
	comp=Z,616nm,20.0s								
SSLB	Suanglung	86.03	38	IAMs_20	IAMs_20	04 05 01.9			
	comp=Z,567nm,19.0s								
TPUB	Ta-pu	86.41	38	IAMs_20	IAMs_20	04 02 58.9			
	comp=Z,536nm,21.0s								
YULB	Yu-li	86.50	37	IAMs_20	IAMs_20	04 05 28.2			
	comp=Z,670nm,19.0s								
PALK	Pallekele	86.93	80	IAMs_20	IAMs_20	04 03 18.9			
	comp=Z,845nm,21.0s								
LSZ	Lusaka	87.00	136	IAMs_20	IAMs_20	04 04 33.9			
	comp=Z,740nm,19.0s								
QIZ	Qiongzhong	87.27	49	P	P	03 22 43.1	-0.8		
QIZ				PP	PP	03 26 08.4	+1.2		
QIZ				S	S	03 33 22.5	-1.5		
QIZ				pmax	pmax				
	comp=Z,280nm,6.5s								
QIZ				LR	LR				
	comp=Z,450nm,18.6s								
QIZ				LR	LR				
	comp=Z,320nm,18.6s								
QIZ				LR	LR				
	comp=Z,530nm,17.7s								
QIZ	Qiongzhong	87.27	49	IAMs_20	IAMs_20	04 06 31.9			
	comp=Z,620nm,18.0s								
ITRB	Iturama	87.95	211	eP	P	03 22 48.8	+1.9		
BSCB	Bom Sucesso	88.08	205	eP	P	03 22 49.1	+1.5		
VAS01	Vassouras-RJ	89.10	204	eS	S	03 33 42.6	+1.7		
LPAZ	La Paz	89.51	228	LR	LR	04 00 52.4			
	comp=Z,157nm,19.4s,baz=46,slow=34								
LPAZ	La Paz	89.51	228	eP	P	03 22 57.2	+2.2		
MAN01	Angra dos Reis	89.76	204	eP	P	03 22 57.3	+2.0		
AQDB	Aquidauana	89.95	215	eP	P	03 22 58.8	+2.6		
AQDB				epP	pP	03 23 02.6	+3.5		
PB16	IPOC Station P	91.87	229	P	P	03 23 06.0	+0.1		
DLV	T Lat	93.44	53	IAMs_20	IAMs_20	04 10 34.1			
	comp=Z,535nm,21.0s								
CPUP	Villa Florida	95.97	215	LR	LR	04 02 51.1			
	comp=Z,287nm,18.1s,baz=12,slow=33								
CPUP	Villa Florida	95.97	215	eP	P	03 23 26.9	+3.0		
KULM	Kulim	96.77	62	IAMs_20	IAMs_20	04 11 14.8			
	comp=Z,542nm,21.0s								
IPM	Ipoh	97.66	62	IAMs_20	IAMs_20	04 10 20.3			
	comp=Z,508nm,21.0s								
RPSI	Rantau Prapat	98.49	65	IAMs_20	IAMs_20	04 13 33.4			
	comp=Z,523nm,21.0s								
BOSA	Boshof	98.85	143	LR	LR	04 11 16.4			
	comp=Z,513nm,18.4s,baz=350,slow=37								
MYKOM	Kota Tinggi	101.20	61	IAMs_20	IAMs_20	04 13 17.9			
	comp=Z,412nm,20.0s								
BKNI	Bangkinang	101.48	64	IAMs_20	IAMs_20	04 14 25.5			
	comp=Z,649nm,22.0s								
SBUM	Sibu	103.57	52	IAMs_20	IAMs_20	04 13 38.6			
	comp=Z,515nm,22.0s								
KSM	Kuching	103.82	54	IAMs_20	IAMs_20	04 14 55.5			
	comp=Z,387nm,20.0s								
BKB	Balikpapan	108.59	49	IAMs_20	IAMs_20	04 17 08.2			
	comp=Z,671nm,22.0s								
CISI	Cisompet, Garu	111.28	60	IAMs_20	IAMs_20	04 20 16.4			
	comp=Z,436nm,21.0s								
JAGI	Jajag, Banyuwa	114.42	54	IAMs_20	IAMs_20	04 21 27.3			
	comp=Z,434nm,22.0s								
MMRI	Maumere	117.23	46	IAMs_20	IAMs_20	04 26 43.8			
	comp=Z,276nm,21.0s								
SOEI	Soe	118.90	44	IAMs_20	IAMs_20	04 15 01.1			
	comp=Z,479nm,22.0s								
RKT	Rikitea	122.35	285	eLR	LR	04 06 42.0			
	comp=Z,658nm,33.5s								
PPT2	Papeete2	123.06	302	eSS	SS	03 47 20.5	+3.5		
	comp=Z,725nm,32.0s								
PPT2	Papeete2	123.06	302	eLR	LR	04 06 54.6			
	comp=Z,415nm,21.8s								
PSAC2	Pilbara Seismi	128.55	54	IAMs_20	IAMs_20	04 13 52.0			
	comp=Z,388nm,20.0s								
WC1	Warramunga Arr	131.38	36	IAMs_20	IAMs_20	04 19 18.7			
	comp=Z,261nm,19.0s								
WRA	Warramunga Arr	131.40	36	PKP	PKPdf	03 29 08.7	-0.7		
	comp=Z,2.7nm,1.2s,baz=334,slow=3.1,SNR=5.1								
WRA	Warramunga Arr	131.40	36	PKIKP	PKPdf	03 29 08.1	-1.3		
WRA	Warramunga Arr	131.40	36		PKPdf	03 29 08.1	-1.3		
WR2	Warramunga Arr	131.41	36	IAMs_20	IAMs_20	04 35 01.4			
	comp=Z,289nm,22.0s								
WR5	Warramunga Arr	131.43	36	IAMs_20	IAMs_20	04 26 41.0			
	comp=Z,419nm,21.0s								
WR8	Warramunga Arr	131.45	36	IAMs_20	IAMs_20	04 26 38.5			
	comp=Z,334nm,18.0s								
ASAR	Alice Springs	134.84	38	PKhKP	PKPpre	03 29 11.0			
	comp=Z,0.5nm,0.9s,baz=342,slow=1.3,SNR=2.8								
VNA2	Neumayer--Watz	135.63	175	PKPdf	PKiKP	03 29 19.8	+2.5		
VNA3	Neumayer Olymp	135.88	176	PKPdf	PKiKP	03 29 16.5	-1.3		
SNAA	Sanae	136.57	173	PKPdf	PKiKP	03 29 21.2	+1.9		
BELA	Belgrano 2	142.83	186		PKPdf	03 29 28.0	-0.7		
MAW	Mawson	143.81	140	PKP	PKPbc	03 29 28.9	+0.6		
	comp=Z,1.0nm,0.7s,baz=342,slow=8.6,SNR=2.8								
MAW	Mawson	143.81	140		PKiKP	03 29 31.8	-2.3		
STKA	Stephens Creek	144.59	32	PKP	PKPdf	03 29 31.4	-1.8		
	comp=Z,5.3nm,0.9s,baz=153,slow=21,SNR=5.3								
STKA	Stephens Creek	144.59	32		PKPdf	03 29 32.6	-0.6		
QSPA	South Pole Qui	154.72	180		PKPdf	03 29 48.7	+0.6		

DDA ***03*** *03:15:28.6, 36°.53N×35°.88E, h26km±1km, MW3.6*
ISK ***03*** *03:15:29.0, 36°.61N×35°.93E, h10km, ML3.5/21*
GII ***03*** *03:15:30.0±0.0, 36°.69N×35°.61E, h8km, MD3.5/4*
NIC ***03*** *03:15:31.6±0.0, 36°.41N×36°.08E, h23km±2km, Ml3.7/5*
ISC 03 03:15:30.9±1.0, 36°.63N±0°.03×35°.85E±0°.02, h15km±8km, n92, σ1§31/127, 4C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	YUREGIR	0.26	318	PG	Pg	03 15 37.0	+0.4
YURE	YUREGIR	0.26	318	i P	Pg	03 15 36.6	0.0
KRTD	Karatas-Adana	0.35	264	PG	Pg	03 15 37.8	-0.3
KRTD				SG	Sg	03 15 43.6	+0.6
KRTS	Karatas	0.39	261	PG	Pg	03 15 38.2	-0.6
KOZT	Kozan	0.85	359	PG	Pg	03 15 46.0	-1.4
KOZT				SG	Sg	03 15 58.8	+0.3
KAMA	Osmaniye	0.86	50	i P	Pg	03 15 45.5	-2.1
KAMA				i S	Sg	03 15 57.7	-1.2
KAMA				IAML		03 16 01.0	
	comp=Z,819nm,0.6s						
DED	Mersin	0.91	292	i P	Pb	03 15 46.1	-2.3
DED				i S	Sb	03 15 59.5	-0.8
ANDN	Andirin	1.02	23	i P	Pb	03 15 50.4	-0.1
ANDN				i S	Sg	03 16 05.3	+1.0
ANDN				IAML		03 16 14.0	
	comp=Z,551nm,0.8s						
GULE	Gulek	1.08	307	i P	Pb	03 15 49.7	-1.8
GULE				i S	Sg	03 16 06.8	+0.9
KMRS	Kahramanmaras	1.21	44	PN	Pn	03 15 52.3	-1.1
GAZ	Gaziantep	1.22	63	PN	Pn	03 15 51.7	-1.8
GAZ	Gaziantep	1.22	63	⇑P	Pn	03 15 51.8	-1.7
GAZ				S	Sb	03 16 09.3	0.0
GAZ				AML	AML	03 16 12.7	
	comp=Z,3.4nm,0.4s						
GAZ				AML	AML	03 16 12.7	
	comp=Z,3.4nm,0.4s						
GAZ				AML	AML	03 16 15.2	
	comp=Z,5.1nm,0.4s						
GAZ				AML	AML	03 16 15.2	
	comp=Z,5.1nm,0.4s						
CMRD	Camardi-Nigde	1.24	326	PN	Pn	03 15 53.2	-0.7
SAIM	ADANA	1.35	8	i P	Pn	03 15 55.5	0.0
SAIM				i S	Sg	03 16 17.3	+2.6
SAIM				IAML		03 16 20.0	
	comp=Z,163nm,0.4s						
KIZK	Mersin	1.38	264	PN	Pn	03 15 55.4	-0.4
KIZK	Mersin	1.38	264	i P	Pn	03 15 55.4	-0.4
KIZK				i S	Sn	03 16 13.8	0.0
KIZK				IAML		03 16 20.0	
	comp=Z,177nm,0.3s						
YAHY	KAYSERI_Yahyal	1.51	345	i P	Pn	03 15 58.0	+0.3
YAHY				i S	Sg	03 16 19.8	+0.1
YAHY				IAML		03 16 25.0	
	comp=Z,110nm,0.4s						
GZT	Gaziantep	1.55	62	i P	Pn	03 15 57.8	-0.4
GZT				i S	Sn	03 16 18.2	+0.1
GZT				IAML		03 16 23.0	
	comp=Z,327nm,0.3s						
SLFK	Silifke-Mersin	1.55	262	PN	Pn	03 15 58.2	+0.1
SILI	Silifke-Mersin	1.57	261	PN	Pn	03 15 58.4	0.0
KERG	Konya-Eregli	1.59	300	i P	Pn	03 15 57.7	-1.0
EREN	Erenkoy	1.75	232	PN	Pn	03 16 00.8	0.0
EREN	Erenkoy	1.75	232	i P	Pn	03 16 00.4	-0.4
EREN				IAML		03 16 39.0	
	comp=Z,224nm,0.5s						
NIG	Nigde	1.78	327	PN	Pn	03 16 01.4	0.0
KARG	Kargicak-Mersi	1.78	257	PN	Pn	03 16 01.6	+0.4
IKL	Isikli	1.79	258	PN	Pn	03 16 01.1	-0.2
TISA	Tisan-Mersin	1.81	256	PN	Pn	03 16 02.1	+0.4
SARI	SarD1z-Kayseri	1.83	14	PN	Pn	03 16 01.4	-0.7
YESI	Yesilovacik-Me	1.83	257	PN	Pn	03 16 02.2	+0.3
TEPK	Tepekoy-MERSIN	1.90	258	PN	Pn	03 16 03.3	+0.3
AKKU	Akkuyu-Mersin	1.92	256	PN	Pn	03 16 03.5	+0.4
GULN	MERSIN_Gulnar	1.92	257	i P	Pn	03 16 03.4	+0.3
GULN				i S	Sn	03 16 24.9	-2.0
AKK2	Akkuyu-Mersin	1.92	256	PN	Pn	03 16 03.8	+0.7
AKK1	Akkuyu-Mersin	1.93	256	PN	Pn	03 16 03.8	+0.6
TEVE	Tevekalti-Mers	1.95	265	PN	Pn	03 16 02.0	-1.6
ELBS	KAHRAMANMARAS	1.97	31	i P	Pb	03 16 06.4	-0.3
ELBS				IAML		03 16 47.0	
	comp=Z,319nm,0.4s						
OREN	Orenkoy-Mersin	1.98	258	PN	Pn	03 16 04.7	+0.8
YESY	Yesilyurt	2.04	305	PN	Pn	03 16 05.7	+0.8
ATAB	Bozova	2.13	66	i P	Pb	03 16 09.4	+0.2
ATAB				i S	Sb	03 16 35.6	+0.2
GULA	Gulagac	2.14	324	PN	Pn	03 16 06.4	+0.1
KRMN	Karaman	2.14	285	PN	Pn	03 16 06.9	+0.6
PARAL	Paralimni	2.20	223	P	Pn	03 16 06.9	-0.1
PARAL				S	Sn	03 16 33.4	-0.6
PARAL				AML	AML	03 16 43.1	
	comp=Z,1.4nm,0.8s						
PARAL				AML	AML	03 16 43.1	
	comp=Z,1.4nm,0.8s						
PARAL				AML	AML	03 16 52.0	
	comp=Z,2.0nm,0.9s						
PARAL				AML	AML	03 16 52.0	
	comp=Z,2.0nm,0.9s						
BNN	Bunyan	2.22	360	PN	Pn	03 16 07.3	-0.1
SURC	SANLIURFA_SURC	2.23	83	i P	Pn	03 16 09.4	+1.9
SURC				i S	Sb	03 16 37.7	-0.8
TEKE	Tekeli-Mersin	2.26	258	PN	Pn	03 16 08.1	+0.3
AVNS	Nevsehir-Avano	2.31	340	i P	Pn	03 16 10.1	+1.5
AVNS				IAML		03 16 46.0	
	comp=Z,61nm,0.5s						
DARE	Darende-Malaty	2.33	33	PN	Pn	03 16 08.4	-0.5
ERMK	Ermenek	2.36	271	i P	Pn	03 16 11.4	+2.0
ERMK				i S	Sb	03 16 42.5	0.0
ERMK				IAML		03 16 49.0	
	comp=Z,119nm,0.5s						
MVOU	Mavrovouni	2.42	229	⇑P	Pn	03 16 09.3	-0.7
MVOU				S	Sn	03 16 41.2	+1.9
MVOU				AML	AML	03 16 54.2	
	comp=Z,0.5nm,0.6s						
MVOU				AML	AML	03 16 54.2	
	comp=Z,0.5nm,0.6s						
MVOU				AML	AML	03 16 59.6	
	comp=Z,0.8nm,0.6s						
MVOU				AML	AML	03 16 59.6	
	comp=Z,0.8nm,0.6s						
SULT	Sultanhani-AKS	2.43	311	PN	Pn	03 16 10.9	+0.7
ATHAL	Athalassa	2.49	234	S	Sn	03 16 43.0	+2.0
URFA	Urfa	2.51	70	PN	Pn	03 16 10.4	-0.9
CSS	Mathiatis	2.64	232	Pn	Pn	03 16 11.0	-2.1
CSS	Mathiatis	2.64	232	⇑P	Pn	03 16 13.3	+0.2
CSS				S	Sn	03 16 45.7	+0.8
MALT	Malatya	2.65	50	PN	Pn	03 16 12.9	-0.4
HEKM	Malatya_Hekimh	2.80	36	i P	Pb	03 16 23.0	+2.2
HEKM				i S	Sg	03 17 01.6	+0.8
ASGA	Asgata	2.81	230	P	Pn	03 16 15.9	+0.5
ASGA				S	Sn	03 16 49.6	+0.6
ASGA				AML	AML	03 17 00.7	
	comp=Z,0.6nm,0.5s						
ASGA				AML	AML	03 17 00.7	
	comp=Z,0.6nm,0.5s						
ASGA				AML	AML	03 17 02.4	
	comp=Z,1.0nm,1.0s						
ASGA				AML	AML	03 17 02.4	
	comp=Z,1.0nm,1.0s						
YAYX	Yaylak	2.81	326	PN	Pn	03 16 16.0	+0.5
GAZI	Gazipasa	2.88	263	i P	Pn	03 16 18.4	+2.1
GAZI				i S	Sn	03 16 51.9	+1.2
GAZI				IAML		03 16 56.0	
	comp=Z,50nm,0.3s						
KIRS	Kırehir-Merke	2.93	329	i P	Pn	03 16 19.3	+2.2
DQRL	Deir Qamar	2.93	185	eP	Pn	03 16 16.1	-1.0
CUKAN	kangal_SIVAS	2.97	25	i P	Pn	03 16 19.1	+1.4
KMER	Konya-Meram	3.00	293	i P	Pn	03 16 20.4	+2.3
SZAC	Souni	3.06	233	⇑P	Pn	03 16 20.1	+1.3
SZAC				AML	AML	03 17 08.1	
	comp=Z,1.3nm,0.6s						
SZAC				AML	AML	03 17 08.6	
	comp=Z,1.2nm,0.9s						
KONT	Konya--Tatoy	3.08	296	i P	Pn	03 16 21.0	+1.9
QRWL	Qaraoun	3.08	183	eP	Pn	03 16 18.0	-1.2
RCY	Rachaya	3.13	180	eP	Pn	03 16 19.1	-0.8
NATA	Nata	3.25	236	P	Pn	03 16 22.3	+0.9
SHBL	Chebaa	3.28	182	eP	Pn	03 16 21.3	-0.7
AKMS	Akamas	3.28	242	P	Pn	03 16 22.9	+1.0
AKMS				S	Sn	03 17 02.4	+1.8
KEMA	Kemaliye	3.36	38	i P	Pn	03 16 23.1	+0.1
KEMA				IAML		03 17 23.0	
	comp=Z,31nm,0.6s						
NATI	Neve Ativ	3.36	182	Pn	Pn	03 16 23.1	+0.1
NATI				Sn	Sn	03 17 05.1	+2.5
GEM	Giv'at Ha'Em	3.42	183	Pn	Pn	03 16 23.1	-0.6
GEM				Sn	Sn	03 17 06.5	+2.5
KEPZ	Antalya-Kepez	3.42	276	i P	Pn	03 16 26.4	+2.6
KEPZ				i S	Sb	03 17 10.1	-2.6
KEPZ				IAML		03 17 41.0	
	comp=Z,23nm,1.1s						
KDHN	Kadinhani	3.52	304	i P	Pn	03 16 27.0	+1.8
KDHN				IAML		03 17 31.0	
	comp=Z,16nm,2.5s						
HNTI	Hanita	3.58	189	Pn	Pn	03 16 26.6	+0.6
HNTI				Sn	Sn	03 17 08.8

0.5nm3µm43nm,1.2s
PMG Port Moresby 6.11 166 Pn **Pn 03 18 58.0 -0.8**
1.7nm,0.3s,baz=265,slow=7.2,SNR=4.2
PMG Port Moresby 6.11 166 **Pn 03 18 57.0 -1.8**
KRVT Keravat (AS076 6.45 98 Pn **Pn 03 19 03.0 -0.5**
1.6nm,0.3s,baz=156,slow=13,SNR=4.3
COEN Coen 10.71 193 Pn **Pn 03 20 01.8 -0.2**
SIJI Sorong 14.57 280 LR LR 03 26 01.5
comp=Z,137nm,21.9s,baz=248,slow=35
CTA Charters Tower 16.54 178 Pn **Pn 03 21 20.6 0.0**
0.2nm,0.3s,baz=355,slow=12,SNR=2.1
MTN Manton Dam 17.09 236 P **Pn 03 21 27.7 +0.2**
MTN IAmb IAmb 03 21 35.9
comp=Z,48nm,1.0s
WB0 Warramunga Arr 19.57 213 **P 03 21 56.4 0.0**
WB0 IAmb IAmb 03 22 03.5
comp=Z,31nm,0.8s
WR0 Warramunga Arr 19.64 213 **P 03 21 57.0 -0.2**
WR0 IAmb IAmb 03 22 04.4
comp=Z,36nm,0.8s
WB2 Warramunga Arr 19.73 213 P **P 03 21 58.2 0.0**
WB2 IAmb IAmb 03 22 05.5
comp=Z,34nm,0.9s
WRA Warramunga Arr 19.74 213 P **P 03 21 58.6 +0.4**
comp=Z,0.5nm,0.3s,baz=32,slow=11,SNR=30
WRA LR LR 03 30 13.5
comp=Z,178nm,21.8s,baz=45,slow=39
WRA Warramunga Arr 19.74 213 P **P 03 21 58.5 +0.3**
KNRA Kununurra 20.56 233 P **P 03 22 07.7 +0.5**
SOEI Soe 22.10 253 P **P 03 22 29.7 +5.7**
comp=Z,118nm,1.0s
BATI Baumata 22.80 252 P **P 03 22 31.1 -0.1**
comp=Z,12nm,0.4s,baz=76,slow=17,SNR=1.4
BATI Baumata 22.80 252 P P 03 22 44.2 +13
GTOI Gorontalo 22.96 280 P P 03 22 50.0 +17
ASAR Alice Springs 23.06 208 P **P 03 22 34.7 +0.7**
comp=Z,5.3nm,0.7s,baz=34,slow=9.8,SNR=30
ASAR LR LR 03 32 23.5
comp=Z,171nm,19.0s,baz=38,slow=39
ASAR Alice Springs 23.06 208 **P 03 22 34.1 +0.1**
EDFI Ende, Flores 24.36 256 P **P 03 22 51.1 +4.5**
comp=Z,248nmcomp=Z,11nm,1.0s
FITZ Fitzroy Crossi 24.39 232 P **P 03 22 46.9 +0.2**
comp=Z,8.0nm,0.7s,baz=2.0,slow=2.4,SNR=24
FITZ LR LR 03 33 07.7
comp=Z,280nm,19.0s,baz=338,slow=38
FITZ Fitzroy Crossi 24.39 232 P **P 03 22 45.4 -1.3**
BNSI Bone 25.47 267 P **P 03 23 00.1 +3.6**
comp=Z,718nmcomp=Z,60nm,1.3s
SPSI Sidrap Palu 25.80 268 P P 03 23 14.4 +15
KAPI Kappang 25.84 266 LR LR 03 34 34.8
comp=Z,57nm,18.5s,baz=90,slow=40
DZM Mont Dzumac 27.40 134 LR LR 03 33 11.7
comp=Z,177nm,19.0s,baz=13,slow=34
STKA Stephens Creek 28.52 187 P **P 03 23 24.7 +0.9**
comp=Z,2.8nm,0.9s,baz=359,slow=8.7,SNR=2.4
STKA LR LR 03 35 15.3
comp=Z,165nm,18.9s,baz=11,slow=37
STKA Stephens Creek 28.52 187 P **P 03 23 23.0 -0.8**
FORT Forrest 31.84 209 P **P 03 23 52.6 -0.5**
NWAO Narrogin (SRO) 39.56 219 LR LR 03 42 08.8
comp=Z,247nm,20.3s,baz=127,slow=37
MDSI Maura Dua 41.35 267 P P 03 25 21.5 +7.0
KSI Kapahiang 42.94 268 P P 03 25 38.5 +11
AFI Afiamalu 43.30 107 P **P 03 25 29.7 -0.8**
KSRS Korea Array 43.90 340 P **P 03 25 34.3 -0.5**
comp=Z,3.3nm,0.9s,baz=162,slow=10.0,SNR=5.4
URZ Urewera 45.01 144 LR LR 03 42 42.2
comp=Z,82nm,20.4s,baz=1.5,slow=34
RPZ Rata Peaks 45.98 154 LR LR 03 44 31.7
comp=Z,68nm,21.9s,baz=332,slow=35
JKA Kamikawa-asahi 47.43 357 P **P 03 26 02.2 -0.4**
JKA IAmb IAmb 03 26 17.4
comp=Z,10nm,1.1s
ASAJ Asahikawa 47.43 357 P **P 03 26 02.9 +0.2**
comp=Z,1.4nm,0.5s,baz=158,slow=11,SNR=1.7
SLVN Son La 47.70 303 P **P 03 26 04.3 -0.9**
USRK Ussuriysk Ar. 48.99 347 P **P 03 26 14.1 -0.6**
comp=Z,4.2nm,0.9s,baz=186,slow=7.9,SNR=3.8
USRK Ussuriysk Ar. 48.99 347 P **P 03 26 14.6 -0.2**
CMAR Chiang Mai Arr 50.86 297 P **P 03 26 30.9 +1.5**
comp=Z,1.4nm,0.3s,baz=118,slow=6.3,SNR=9.8
CMAR Chiang Mai Arr 50.86 297 P **P 03 26 29.9 +0.5**
PETK Petropavlovsk- 57.27 9 P **P 03 27 15.6 +0.1**
comp=Z,0.8nm,0.5s,baz=187,slow=7.3,SNR=4.6
PETK Petropavlovsk- 57.27 9 P **P 03 27 16.1 +0.6**
SONM Songino Array 61.52 331 P **P 03 27 44.9 -0.4**
comp=Z,0.5nm,0.7s,baz=152,slow=8.0,SNR=3.7
SONM Songino Array 61.52 331 P **P 03 27 45.6 +0.4**
MKAR Makanchi Array 74.67 320 P **P 03 29 08.0 +0.3**
comp=Z,0.7nm,0.8s,baz=104,slow=6.1,SNR=4.0
ZALV Zalesovo Beam 76.14 328 LR LR 04 01 39.7
comp=Z,148nm,21.2s,baz=258,slow=35
KURK Kurchatov 78.36 323 P **P 03 29 28.8 +0.4**
KURBB Kurchatov Arra 78.38 323 P **P 03 29 28.2 -0.4**
comp=Z,0.3nm,0.3s,baz=111,slow=4.6,SNR=5.5
KKAR Karatay Array 81.54 314 P **P 03 29 46.6 +0.7**
TRF Thorofare Moun 81.81 24 P **P 03 29 47.3 +0.3**
TRF IAmb IAmb 03 29 47.9
comp=Z,9.1nm,0.7s
ILAR Eielson Array 83.70 23 P **P 03 29 56.0 -0.7**
comp=Z,1.3nm,1.0s,baz=255,slow=5.1,SNR=8.7
ILAR Eielson Array 83.70 23 P **P 03 29 57.4 +0.8**
BVAR Borovoye Array 83.91 324 P **P 03 29 58.7 +0.7**
comp=Z,1.1nm,0.7s,baz=104,slow=11,SNR=7.9

*IDC **03** 03:36:46.6±5.6, 19°.42S×169°.06E, h99km±38km, mb4.4/4, mb1 4.4/5, mb1mx3.6/36, mbtmp4.6/5, MS3.7/1, Ms1 3.7/1, ms1mx2.8/30, Error ellipse: s-maj=74.8km s-min=36.2km az=115.0*
*NEIC **03** 03:36:46.1±0.8, 19°.47S±0°.09×169°.2E±0°.1, h113km±8km, mb4.4/14, Error ellipse: s-maj=16.9km s-min=11.8km az=109.0*
ISC 03 03:36:45.6±1.0, 19°.48S±0°.08×169°.2E±0°.1, h104km, n25, σ0s85/24, mb4.3/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.67**	**225**	P	**Pn**	**03 37 41.5**	**+1.0**
	10nm,0.3s,baz=51,slow=18,SNR=126						
DZM				S	**Sn**	**03 38 21.9**	**-1.1**
	29nm,0.3s,baz=128,slow=23,SNR=40						
DZM	**Mont Dzumac**	**3.67**	**225**		**Pn**	**03 37 41.2**	**+0.7**
DZM					**Sn**	**03 38 22.7**	**-0.3**
SANVU	**Saraoutou**	**4.45**	**334**		**Pn**	**03 37 51.5**	**+0.5**
AFI	**Afiamalu**	**19.00**	**76**	P	**P**	**03 40 59.4**	**0.0**
AFI				IAmb	IAmb	03 41 11.2	
	comp=Z,46nm,1.1s						
URZ	**Urewera**	**19.93**	**162**	P	**P**	**03 41 08.3**	**-0.8**
URZ				IAmb	IAmb	03 41 16.7	
	comp=Z,13nm,1.2s						
PMG	**Port Moresby**	**23.58**	**292**	LR	LR	03 50 14.4	
	comp=Z,151nm,18.1s,baz=298,slow=34						
TOO	**Toolangi**	**27.45**	**224**	P	**P**	**03 42 22.6**	**+0.8**
TOO				IAmb	IAmb	03 42 33.8	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**27.72**	**238**	P	**P**	**03 42 25.5**	**+1.2**
	comp=Z,2.0nm,0.5s,baz=77,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**27.72**	**238**	P	**P**	**03 42 23.7**	**-0.5**
BBOO	**Buckleboo**	**32.46**	**239**	P	**P**	**03 43 07.0**	**+0.8**
BBOO				IAmb	IAmb	03 43 12.5	
	comp=Z,4.5nm,1.1s						
WR0	**Warramunga Arr**	**32.63**	**263**	P	**P**	**03 43 07.0**	**-0.8**
WB0	**Warramunga Arr**	**32.79**	**264**	P	**P**	**03 43 08.7**	**-0.4**
WB0				IAmb	IAmb	03 43 16.8	
	comp=Z,4.5nm,1.1s						
WRA	**Warramunga Arr**	**32.82**	**263**	P	**P**	**03 43 09.1**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=94,slow=8.2,SNR=17						
WRA	**Warramunga Arr**	**32.82**	**263**	P	**P**	**03 43 07.0**	**-2.5**
AS31	**Alice Springs**	**33.07**	**256**	P	**P**	**03 43 11.1**	**-0.4**
ASAR	**Alice Springs**	**33.07**	**256**	P	**P**	**03 43 11.9**	**+0.3**
	comp=Z,11nm,0.5s,baz=84,slow=8.9,SNR=116						
ASAR	**Alice Springs**	**33.07**	**256**	P	**P**	**03 43 11.2**	**-0.4**
MTN	**Manton Dam**	**37.13**	**274**	P	**P**	**03 43 47.0**	**+0.6**
KNRA	**Kununurra**	**38.71**	**269**	P	**P**	**03 43 59.4**	**-0.3**
KNRA				IAmb	IAmb	03 44 00.1	
	comp=Z,4.2nm,0.7s						
FORT	**Forrest**	**38.75**	**245**	P	**P**	**03 44 00.2**	**+0.3**
FAKI	**Fak Fak**	**39.70**	**290**	P	**P**	**03 44 07.3**	**-0.7**
FAKI				IAmb	IAmb	03 44 20.0	
	comp=Z,13nm,0.9s						
GUMO	**Guam**	**40.69**	**322**	P	**P**	**03 44 16.1**	**+0.1**
	comp=Z,32nm,0.6s,baz=22,slow=23,SNR=1.6						
FITZ	**Fitzroy Crossi**	**41.22**	**265**	P	**P**	**03 44 20.4**	**-0.1**

GERES GERESS Array B 144.70 332 PKP PKPbc 03 56 09.9 +0.6
comp=Z,0.1nm,0.3s,baz=35,slow=2.4,SNR=4.1
GERES GERESS Array B 144.70 332 PKPbc 03 56 09.6 +0.4

*INET **03** 04:34:17.6, 12°.23N×87°.37W, h25km, ML2.1*
SNET 03 04:34:04.6±0.8, 11°.71N×88°.18W, h27km±371km, ML3.4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.59**	**12**	*e*P	Pn	04 34 31.1	-0.1
CNCH				*e*S	Sn	04 34 51.2	+0.2
CNCH				*e*S	Sb	04 34 52.3	-1.0
CNCH				IAML		04 34 56.1	
	comp=Z,758nm,0.3s						
LCND	**La Caada**	**1.62**	**10**	*e*P	Pn	04 34 31.3	0.0
LCND				IAML		04 34 56.5	
	comp=Z,214nm,0.4s						
FAGO	**Alcalda de S**	**1.98**	**2**	*e*P	Pn	04 34 36.9	+0.6
COEG	**Centro de Oper**	**2.02**	**340**	*e*P	Pn	04 34 37.0	+0.1

MEX 03 04:45:17.4±0.7, 14°.28N×92°.05W, h79km±51km, MD3.6, Near coast of Chiapas

*IDC **03** 04:58:34.3±1.3, 50°.10S×117°.16E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/24, mbtmp4.0/5, ML2.4/1, MS3.5/7, Ms1 3.6/7, ms1mx3.3/17, Error ellipse: s-maj=79.6km s-min=23.3km az=116.0*
*NEIC **03** 04:58:36.4±1.9, 50°.05S±0°.1×117°.1E±0°.7, h15km±6km, mb4.5/7, Error ellipse: s-maj=67.4km s-min=13.9km az=101.0*
ISC 03 04:58:35.4±1.0, 50°.05S±0°.2×117°.0E±0°.3, h10km, n25, σ0s56/14, mb4.1/6, MS3.5/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.22**	**351**	T	T	05 17 20.5	
	baz=168,slow=74						
H01W1	**Cape Leeuwin H**	**15.23**	**351**	T	T	05 17 13.0	
	baz=168,slow=74						
H01W3	**Cape Leeuwin H**	**15.24**	**351**	T	T	05 17 13.9	
	baz=168						
NWAO	**Narrogin (SRO)**	**17.05**	**1**	P	**P**	**05 02 36.0**	**+0.4**
	0.6nm,0.3s,baz=184,slow=14,SNR=1.9						
NWAO				LR	LR	05 07 19.5	
	comp=Z,349nm,21.8s,baz=260,slow=31						
NWAO	**Narrogin (SRO)**	**17.05**	**1**	P	**P**	**05 02 35.9**	**+0.4**
NWAO				IAmb	IAmb	05 02 50.8	
	comp=Z,34nm,1.5s						
STKA	**Stephens Creek**	**25.77**	**55**	P	**P**	**05 04 06.8**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=207,slow=9.0,SNR=3.8						
ASAR	**Alice Springs**	**29.43**	**33**	P	**P**	**05 04 39.4**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=204,slow=7.9,SNR=4.9						
ASAR				LR	LR	05 15 04.8	
	comp=Z,82nm,20.1s,baz=194,slow=34						
ASAR	**Alice Springs**	**29.43**	**33**	P	**P**	**05 04 38.1**	**-1.0**
VNDA	**Vanda**	**32.33**	**163**	LR	LR	05 17 22.1	
	comp=Z,125nm,18.4s,baz=298,slow=35						
WRA	**Warramunga Arr**	**33.02**	**31**	P	**P**	**05 05 10.9**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=202,slow=9.4,SNR=6.1						
WRA				LR	LR	05 16 44.6	
	comp=Z,50nm,21.6s,baz=195,slow=33						
WRA	**Warramunga Arr**	**33.02**	**31**	P	**P**	**05 05 10.6**	**-0.1**
WB2	**Warramunga Arr**	**33.03**	**31**	P	P	05 05 05.9	-4.8
WB2				IAmb	IAmb	05 05 22.8	
	comp=Z,10nm,1.2s						
WR0	**Warramunga Arr**	**33.08**	**31**	P	**P**	**05 05 11.0**	**-0.2**
WR0				IAmb	IAmb	05 05 25.5	
	comp=Z,16nm,1.6s						
WB0	**Warramunga Arr**	**33.20**	**31**	P	**P**	**05 05 12.2**	**-0.2**
QSPA	**South Pole Qui**	**40.13**	**180**	P	**P**	**05 06 11.7**	**+0.6**
SNAA	**Sanae**	**51.46**	**201**	P	**P**	**05 07 40.2**	**0.0**
	comp=Z,1.7nm,0.8s,baz=136,slow=14,SNR=10.0						
SNAA	**Sanae**	**51.46**	**201**	P	**P**	**05 07 39.8**	**-0.4**
SNAA				IAmb	IAmb	05 07 42.3	
	comp=Z,5.2nm,1.3s						
H08S2	**Diego Garcia H**	**56.11**	**303**	T	T	06 07 58.2	
	baz=146,slow=76						
H08S1	**Diego Garcia H**	**56.12**	**303**	T	T	06 08 01.4	
	baz=146						
H08S3	**Diego Garcia H**	**56.13**	**303**	T	T	06 07 56.3	
	baz=146,slow=76						
CMAR	**Chiang Mai Arr**	**69.99**	**342**	LR	LR	05 37 41.3	
	comp=Z,26nm,21.1s,baz=194,slow=34						
PLCA	**Paso Flores**	**89.42**	**174**	LR	LR	05 47 40.3	
	comp=Z,48nm,21.8s,baz=190,slow=33						
SONM	**Songino Array**	**97.87**	**353**	LR	LR	05 58 01.2	
	comp=Z,15nm,19.4s,baz=62,slow=36						
PDAR	**Pinedale Array**	**147.55**	**85**	PKPbc	**PKPbc**	**05 18 18.4**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=201,slow=1.5,SNR=4.8						
YKA	**Yellowknife Ar**	**149.63**	**46**	PKPbc	**PKiKP**	**05 18 24.7**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=294,slow=2.3,SNR=7.5						

IDC 03 05:16:23.3±5.0, 33°.08N×80°.99E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/29, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=173.1km s-min=41.4km az=72.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.74**	**4**	Pn	Pn	05 19 38.4	-0.9
	0.1nm,0.3s,baz=181,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	**21.70**	**128**	P	P	05 21 16.2	+0.2
	0.7nm,0.4s,baz=301,slow=9.3,SNR=1.6						
WRA	**Warramunga Arr**	**73.30**	**128**	P	P	05 27 56.0	-0.9
	0.5nm,0.7s,baz=323,slow=5.9,SNR=3.3						
ASAR	**Alice Springs**	**75.67**	**131**	P	P	05 28 11.6	+1.0
	0.3nm,0.7s,baz=311,slow=5.6,SNR=2.0						

*ISN **03** 05:30:39.8±0.5, 33°.81N×45°.88E, h14km±3km, ML2.6*
*TEH **03** 05:30:40.4, 33°.79N×45°.70E, h10km, ML2.6*
ISC 03 05:30:41.5±1.0, 33°.75N±0°.04×45°.75E±0°.06, h10km, n11, σ0s93/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.66**	**167**	*e*Pg	**Pg**	**05 30 53.0**	**-1.2**
IBDR				*e*Sg	**Sg**	**05 31 03.0**	**+0.2**
IBDR				AML	AML	05 31 07.5	
	comp=N,56nm,0.4s						
IBDR				AML	AML	05 31 08.5	
	comp=E,54nm,0.2s						
IGHG	**Ghaleghazi**	**0.89**	**49**	*e*Pg	**Pg**	**05 30 57.9**	**-0.9**
IGHG				*e*		05 31 01.3	
IDHR	**Dehrash**	**1.08**	**29**	*e*Pg	**Pg**	**05 31 00.9**	**-1.5**
IDHR				*e*		05 31 22.1	
KCHF	**Cheshme Sefid,**	**1.19**	**64**	*e*		05 31 25.4	
KCHF				*e*Pg	**Pb**	**05 31 04.1**	**-0.3**
IVIS	**Veis**	**1.20**	**49**	*e*		05 31 28.4	
IVIS				*e*Pg	**Pb**	**05 31 03.9**	**-0.5**
BHD	**Baghdad**	**1.24**	**248**	*e*Pg	**Pn**	**05 31 05.0**	**+0.1**
BHD				*e*Sg	**Sn**	**05 31 23.0**	**+1.3**
KER	**Kermanshah**	**1.31**	**61**	*e*Pg	**Pb**	**05 31 06.5**	**+0.2**
IKOM	**Komasi**	**1.52**	**73**	*e*		05 31 40.2	
IKOM				*e*Pg	**Pn**	**05 31 09.4**	**+0.4**
ILIN	**Lien**	**1.54**	**40**	*e*Sg	**Sg**	**05 31 32.2**	**+1.1**
ILIN				*e*Pg	**Pn**	**05 31 09.9**	**+0.6**
ILIN				*e*		05 31 33.6	
IDOB	**Doab**	**2.02**	**88**	*e*	Sg	05 31 57.2	+11
NSR	**Nassriya**	**2.75**	**173**	*e*Pn	**Pn**	**05 31 26.0**	**+0.3**
NSR				*e*Sn	**Sn**	**05 32 00.0**	**+1.0**
NSR				AML	AML	05 32 11.6	
	comp=E,618nm,0.2s						

WEL 03 05:43:31.7, 42°.S±5°.×17°.1E±°, h5km±8km, M2.3/7, ML2.3/6, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=123.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.41**	**142**	P	Pb	05 43 41.4	0.0
WVZ	**Waitaha Valley**	**0.72**	**202**	P	Pb	05 43 46.8	+0.1
DSZ	**Denniston Nort**	**0.84**	**39**	P	Pb	05 43 49.5	+0.7
LTZ	**Lake Taylor**	**0.94**	**114**	P	Pn	05 43 51.8	+0.1
GCSZ	**Gaunt Creek Bo**	**1.07**	**212**	P	Pn	05 43 53.3	-0.1
RPZ	**Rata Peaks**	**1.31**	**181**	P	Pg	05 43 57.6	+0.8
FOZ	**Fox Glacier**	**1.47**	**220**	P	Pg	05 43 60.0	+0.1
THZ	**Tophouse**	**1.49**	**65**	P	Pn	05 43 58.8	-0.4
QRZ	**Quartz Range**	**1.91**	**35**	P	Pg	05 44 08.3	0.0
ODZ	**Otahua Downs**	**2.66**	**187**	P	Pn	05 44 15.2	0.0

*TAP **03** 05:52:20.0, 24°.32N×122°.76E, h70km, ML3.7, C*
*JMA **03** 05:52:20.2±0.1, 24°.27N×122°.71E, h69km±2km, M2.7*
ISC 03 05:52:20.4±1.2, 24°.29N±0°.03×122°.74E±0°.02, h67km±7km, n109, σ1s08/195, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.25**	**49**	P	**Pn**	**05 52 31.3**	**+0.4**
JYNG				S	**Sn**	**05 52 38.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.31**	**55**	*i* P	**Pn**	**05 52 31.2**	**0.0**
	baz=48						
YOJ				S	**Sn**	**05 52 39.3**	**+0.2**
	baz=48						
YOJ	**Yonaguni jima**	**0.31**	**55**	P	**Pn**	**05 52 31.6**	**+0.4**
YOJ				S	**Sn**	**05 52 39.4**	**+0.2**
ENAH	**Nanao**	**0.86**	**281**	*e*P	**Pn**	**05 52 36.9**	**0.0**
	baz=279						
ENAH				*e*S	**Sn**	**05 52 49.2**	**0.0**
	baz=279						
TWC	**Suao**	**0.87**	**292**	P	**Pn**	**05 52 37.2**	**+0.2**
	baz=297						
TWC				*e*S	**Sn**	**05 52 48.8**	**-0.6**
	baz=297						
IRIF	**Iriomote-Funau**	**0.91**	**87**	P	**Pn**	**05 52 37.9**	**+0.4**
IRIF				S	**Sn**	**05 52 50.6**	**+0.3**
ENA	**Nanau**	**0.92**	**279**	*e*P	**Pn**	**05 52 37.9**	**+0.3**
	baz=277						
ENA				*e*S	**Sn**	**05 52 51.5**	**+1.0**
	baz=277						
EGS		**0.92**	**308**	*i* P	**Pn**	**05 52 37.9**	**+0.2**
	baz=305						
EGS				S	**Sn**	**05 52 50.1**	**-0.4**
	baz=305						
TWB1	**Santiao Chiao**	**0.99**	**317**	P	**Pn**	**05 52 38.7**	**+0.1**
	baz=322						
TWB1				*e*S	**Sn**	**05 52 51.5**	**-0.5**
	baz=322						
NTC	**Toucheng**	**1.00**	**305**	P	**Pn**	**05 52 38.8**	**+0.1**
	baz=302						
NTC				*e*S	**Sn**	**05 52 51.8**	**-0.5**
	baz=302						
HATJ	**Hateruma jima**	**1.00**	**103**	P	**Pn**	**05 52 39.7**	**+1.0**
HATJ				S	**Sn**	**05 52 53.6**	**+1.2**
NACB	**Ninganchiao**	**1.05**	**264**	*i* P	**Pn**	**05 52 39.2**	**-0.1**
	baz=263						
NACB				S	**Sn**	**05 52 53.0**	**-0.4**
	baz=263						
TWD	**Chiawan**	**1.06**	**259**	P	**Pn**	**05 52 39.1**	**-0.3**
	baz=249						
TWD				*e*S	**Sn**	**05 52 53.5**	**-0.2**
	baz=249						
TWE	**Neicheng**	**1.07**	**294**	P	**Pn**	**05 52 39.8**	**+0.3**
	baz=300						
TWE				*e*S	**Sn**	**05 52 53.7**	**-0.1**
	baz=300						
TIPB	**Shuangxi**	**1.07**	**310**	*e*P	**Pn**	**05 52 39.5**	**-0.2**
	baz=308						
TIPB				*e*S	**Sn**	**05 52 53.5**	**-0.6**
	baz=308						
HWA	**Hwalien**	**1.08**	**254**	*e*P	**Pn**	**05 52 39.8**	**+0.2**
	baz=252						
HWA				*e*S	**Sn**	**05 52 54.4**	**+0.4**
	baz=252						
ENTT	**Nioudou**	**1.12**	**289**	P	**Pn**	**05 52 41.0**	**+0.7**
	baz=294						
ENTT				*e*S	**Sn**	**05 52 55.7**	**+0.6**
	baz=294						
ETLH	**Xiulin Townshi**	**1.15**	**266**	P	**Pn**	**05 52 40.6**	**-0.1**
	baz=265						
ETLH				*e*S	**Sn**	**05 52 55.2**	**-0.6**
	baz=265						
NDT	**Datong Townshi**	**1.16**	**286**	P	**Pn**	**05 52 41.6**	**+0.9**
	baz=277						
NDT				*e*S	**Sn**	**05 52 56.5**	**+0.5**
	baz=277						
JKRS	**Kuro-shima**	**1.16**	**92**	P	**Pn**	**05 52 41.6**	**+0.8**
JKRS				S	**Sn**	**05 52 56.5**	**+0.5**
NWF	**Wu-fen Shan**	**1.17**	**312**	P	**Pn**	**05 52 41.0**	**+0.1**
	baz=310						
NWF				S	**Sn**	**05 52 55.7**	**-0.6**
	baz=310						
WFSB	**Wu-fen Shan**	**1.17**	**312**	P	**Pn**	**05 52 40.8**	**0.0**
	baz=310						
WFSB				*e*S	**Sn**	**05 52 55.7**	**-0.5**
	baz=310						
NWLT	**Wulai**	**1.23**	**294**	*e*P	**Pn**	**05 52 42.2**	**+0.6**
	baz=299						
NWLT				*e*S	**Sn**	**05 52 57.8**	**+0.2**
	baz=299						
NNSB	**Datong**	**1.24**	**277**	P	**Pn**	**05 52 42.2**	**+0.3**
	baz=276						
NNSB				*e*S	**Sn**	**05 52 57.6**	**-0.5**
	baz=276						
NNSH	**Datong**	**1.24**	**277**	P	**Pn**	**05 52 42.2**	**+0.3**
	baz=276						
NNSH				*e*S	**Sn**	**05 52 57.7**	**-0.4**
	baz=276						
NNS	**Nan Shan**	**1.25**	**277**	*e*P	**Pn**	**05 52 42.4**	**+0.4**
	baz=276						
NNS				*e*S	**Sn**	**05 52 57.5**	**-0.9**
	baz=276						
TWA	**Mucha**	**1.26**	**304**	*e*P	**Pn**	**05 52 42.2**	**+0.1**
	baz=302						
TWA				S	**Sn**	**05 52 57.4**	**-0.8**
	baz=302						
ESL	**Shilin**	**1.28**	**249**	*e*P	**Pn**	**05 52 41.8**	**-0.5**
	baz=241						
ESL				*e*S	**Sn**	**05 52 58.4**	**-0.4**
	baz=241						
JIJ	**Ishigaki jima**	**1.29**	**86**	P	**Pn**	**05 52 42.5**	**+0.1**
JIJ				S	**Sn**	**05 52 58.2**	**-0.7**
YHNB	**Yeheng**	**1.30**	**287**	P	**Pn**	**05 52 43.0**	**+0.4**
	baz=277						
YHNB				*e*S	**Sn**	**05 52 59.6**	**+0.3**
	baz=277						
NSK	**Sanguang**	**1.31**	**288**	P	**Pn**	**05 52 43.6**	**+0.8**
	baz=277						
NSK				*e*S	**Sn**	**05 52 59.8**	**+0.1**
	baz=277						
TATO	**Taipei**	**1.33**	**301**	P	**Pn**	**05 52 42.2**	**-0.7**
	baz=300						
TATO				*e*S	**Sn**	**05 52 59.0**	**-0.9**
	baz=300						
EGFH	**Guangfu**	**1.34**	**243**	P	**Pn**	**05 52 43.0**	**-0.1**
	baz=242						
EGFH				*e*S	**Sn**	**05 52 59.4**	**-0.9**
	baz=242						
WHF	**Hehuan Shan**	**1.35**	**264**	P	**Pn**	**05 52 43.6**	**0.0**
	baz=263						
WHF				*e*S	**Sn**	**05 52 59.4**	**-1.7**
	baz=263						
FUSS	**Fushou**	**1.36**	**269**	*e*P	**Pn**	**05 52 44.3**	**+0.7**
	baz=268						
FUSS				*e*S	**Sn**	**05 53 01.0**	**-0.1**
	baz=268						
YM01	**YM01**	**1.36**	**309**	*e*P	**Pn**	**05 52 42.6**	**-0.8**
	baz=308						
YM01				*e*S	**Sn**	**05 52 59.9**	**-0.9**
	baz=308						
YM11	**YM11**	**1.37**	**310**	*e*P	**Pn**	**05 52 43.5**	**-0.2**
	baz=308						
YM11				*e*S	**Sn**	**05 53 00.5**	**-0.6**
	baz=308						
YM10	**YM10**	**1.38**	**309**	*e*P	**Pn**	**05 52 43.6**	**-0.1**
	baz=308						
YM10				*e*S	**Sn**	**05 53 00.1**	**-1.1**
	baz=308

TDCB			*e*S		**Sn**	**05 53 02.5**	**-0.3**
	baz=268						
CHGB	**Renai**	**1.44 261**	P		**Pn**	**05 52 45.1**	**+0.4**
	baz=252						
CHGB			*e*S		**Sn**	**05 53 03.0**	**0.0**
	baz=252						
TWS1	**Kuangyinshan**	**1.45 304**	*e*P		**Pn**	**05 52 44.6**	**+0.1**
	baz=303						
TWS1			*e*S		**Sn**	**05 53 01.4**	**-1.3**
	baz=303						
NTST	**Danshui**	**1.46 307**	*e*S		**Sn**	**05 53 03.0**	**-0.1**
	baz=306						
JISG	**Ishigakijimahi**	**1.47 78**	P		**Pn**	**05 52 44.7**	**-0.1**
JISG			S		**Sn**	**05 53 02.3**	**-0.9**
PCYT	**Pengchaiyu**	**1.47 336**	P		**Pn**	**05 52 45.3**	**+0.5**
	baz=327						
EHY	**Hungye**	**1.51 239**	*e*P		**Pn**	**05 52 45.1**	**-0.3**
	baz=248						
VWDT	**VWDT**	**1.55 250**	*i* P		**Pn**	**05 52 46.2**	**+0.3**
	baz=250						
VWDT			*e*S		**Sn**	**05 53 05.0**	**-0.1**
	baz=250						
YULB	**Yu-li**	**1.59 236**	P		**Pn**	**05 52 46.3**	**-0.2**
	baz=247						
YULB			*e*S		**Sn**	**05 53 05.9**	**-0.2**
	baz=247						
EYUL	**Yuli**	**1.60 235**	P		**Pn**	**05 52 46.6**	**0.0**
	baz=227						
EYUL			*e*S		**Sn**	**05 53 06.2**	**-0.1**
	baz=227						
LIOB	**Emei**	**1.61 283**	*e*P		**Pn**	**05 52 47.8**	**+1.1**
	baz=282						
TWF1	**Yuli**	**1.61 235**	P		**Pn**	**05 52 46.7**	**0.0**
	baz=229						
TWF1			*e*S		**Sn**	**05 53 05.8**	**-0.9**
	baz=229						
NSTT	**Nanjuang**	**1.62 283**	*e*P		**Pn**	**05 52 47.8**	**+1.0**
	baz=282						
NSTT			*e*S		**Sn**	**05 53 07.6**	**+0.8**
	baz=282						
WHP	**Taichung City**	**1.63 270**	P		**Pn**	**05 52 48.4**	**+1.3**
	baz=263						
WHP			*e*S		**Sn**	**05 53 08.3**	**+1.0**
	baz=263						
SSLB	**Suanglung**	**1.70 253**	P		**Pn**	**05 52 48.3**	**+0.3**
	baz=259						
SSLB			*e*S		**Sn**	**05 53 10.3**	**+1.4**
	baz=259						
FULB	**Fuli**	**1.71 231**	P		**Pn**	**05 52 47.6**	**-0.5**
	baz=230						
FULB			*e*S		**Sn**	**05 53 07.9**	**-1.0**
	baz=230						
CHKT	**Chengkung**	**1.72 227**	*e*P		**Pn**	**05 52 47.3**	**-0.9**
	baz=226						
CHKT			*e*S		**Sn**	**05 53 06.9**	**-2.4**
	baz=226						
SMLT	**Sun Moon Lake**	**1.73 257**	*e*P		**Pn**	**05 52 49.1**	**+0.8**
	baz=250						
SMLT			*e*S		**Sn**	**05 53 09.5**	**0.0**
	baz=250						
TYC	**Yuchr**	**1.76 258**	P		**Pn**	**05 52 49.5**	**+0.8**
	baz=252						
TYC			*e*S		**Sn**	**05 53 10.2**	**0.0**
	baz=252						
NMLH	**Miaoli**	**1.79 278**	*e*S		**Sn**	**05 53 11.7**	**+0.7**
	baz=278						
TWQ1	**Liyutan**	**1.79 272**	*e*P		**Pn**	**05 52 51.9**	**+2.7**
	baz=272						
TWQ1			*e*S		**Sn**	**05 53 13.4**	**+2.4**
	baz=272						
NSY	**Sanyi**	**1.81 275**	*e*S		**Sn**	**05 53 12.9**	**+1.6**
	baz=284						
YUS	**Yu-Shan**	**1.81 244**	*e*P		**Pn**	**05 52 49.8**	**-0.1**
	baz=237						
WHYT	**Xinyi Township**	**1.82 252**	P		**Pn**	**05 52 50.8**	**+1.3**
	baz=247						
JTJ	**Tarama**	**1.83 78**	P		**Pn**	**05 52 49.8**	**+0.2**
JTJ			S		**Sn**	**05 53 11.7**	**-0.1**
EDH	**Donghe**	**1.85 225**	P		**Pn**	**05 52 49.2**	**-0.8**
	baz=220						
EDH			*e*S		**Sn**	**05 53 10.4**	**-2.0**
	baz=220						
TCU	**Taichung**	**1.89 266**	*e*S		**Sn**	**05 53 15.9**	**+2.6**
	baz=278						
WJS	**Zhushan**	**1.89 256**	P		**Pn**	**05 52 52.1**	**+1.6**
	baz=252						
WJS			*e*S		**Sn**	**05 53 15.4**	**+2.0**
	baz=252						
WDJ	**Dajia District**	**1.91 272**	*e*P		**Pn**	**05 52 51.5**	**+0.8**
	baz=272						
WDJ			*e*S		**Sn**	**05 53 15.1**	**+1.2**
	baz=272						
ELDTW	**Lidau**	**1.92 236**	*e*P		**Pn**	**05 52 50.7**	**-0.2**
	baz=235						
WNT	**Mingjian**	**1.92 258**	P		**Pn**	**05 52 52.9**	**+2.1**
	baz=258						
WNT			*e*S		**Sn**	**05 53 16.1**	**+2.1**
	baz=258						
ALS	**Alishan**	**1.93 247**	*e*P		**Pn**	**05 52 52.6**	**+1.3**
	baz=246						
ALS			*e*S		**Sn**	**05 53 14.8**	**+0.2**
	baz=246						
LDUT	**Ludao**	**1.98 216**	P		**Pn**	**05 52 50.9**	**-0.8**
	baz=210						
LDUT			*e*S		**Sn**	**05 53 13.3**	**-2.2**
	baz=210						
CHN5	**Tsauling**	**2.00 250**	*e*P		**Pn**	**05 52 53.6**	**+1.5**
	baz=250						
CHN5			*e*S		**Sn**	**05 53 17.6**	**+1.4**
	baz=250						
LONT	**Longtian**	**2.01 227**	*e*P		**Pn**	**05 52 51.8**	**-0.4**
	baz=236						
LONT			*e*S		**Sn**	**05 53 16.4**	**+0.1**
	baz=236						
WDLH	**Douliu**	**2.10 254**	*e*P		**Pn**	**05 52 54.9**	**+1.7**
	baz=245						
WDLH			*e*S		**Sn**	**05 53 20.4**	**+2.1**
	baz=245						
TWGBT	**Beinan**	**2.11 226**	*e*P		**Pn**	**05 52 53.0**	**-0.4**
	baz=235						
TWGBT			*e*S		**Sn**	**05 53 16.8**	**-1.8**
	baz=235						
TWG	**Pinlang**	**2.11 227**	*e*P		**Pn**	**05 52 53.0**	**-0.4**
	baz=235						
TWG			*e*S		**Sn**	**05 53 17.3**	**-1.4**
	baz=235						
STYT	**Tauyuan**	**2.13 239**	*e*P		**Pn**	**05 52 54.9**	**+1.2**
	baz=238						
STYT			*e*S		**Sn**	**05 53 20.1**	**+0.9**
	baz=238						
TPUB	**Ta-pu**	**2.16 244**	*e*P		**Pn**	**05 52 55.6**	**+1.4**
	baz=243						
TPUB			*e*S		**Sn**	**05 53 22.5**	**+2.4**
	baz=243						
WTP	**Ta-pu**	**2.20 242**	*e*P		**Pn**	**05 52 56.3**	**+1.6**
	baz=242						
WTP			*e*S		**Sn**	**05 53 23.7**	**+2.8**
	baz=242						
JIRB	**Irabujima**	**2.29 76**	P		**Pn**	**05 52 56.9**	**+1.1**
JIRB			*e*S		**Sn**	**05 53 23.0**	**+0.1**
CHN1	**Nanshi**	**2.30 242**	*e*P		**Pn**	**05 52 57.9**	**+1.8**
	baz=242						
CHN1			*e*S		**Sn**	**05 53 24.9**	**+1.6**
	baz=242						
SLGT	**Liugui**	**2.31 237**	*e*P		**Pn**	**05 52 57.6**	**+1.5**
	baz=232						
SLGT			*e*S		**Sn**	**05 53 24.5**	**+1.0**
	baz=232						
SGST	**Jiashian**	**2.31 239**	*e*P		**Pn**	**05 52 57.3**	**+1.1**
	baz=233						
SNST	**Tainan City**	**2.31 243**	*e*P		**Pn**	**05 52 58.1**	**+2.0**
	baz=243						
SNST			*e*S		**Sn**	**05 53 26.0**	**+2.5**
	baz=243						
JIKM	**Ikemajima**	**2.37 74**	P		**Pn**	**05 52 58.0**	**+1.0**
JIKM			*e*S		**Sn**	**05 53 24.5**	**-0.6**
JMJ	**Miyako jima 2**	**2.39 77**	*e*S		**Sn**	**05 53 24.5**	**-0.9**
	baz=77						
JMJ2	**Miyako jima3**	**2.41 79**	P		**Pn**	**05 52 58.0**	**+0.6**
JMJ2			S		**Sn**	**05 53 25.9**	**+0.1**
ICHU	**Yijhu**	**2.43 248**	*e*P		**Pn**	**05 52 59.0**	**+1.2**
	baz=248						
SSD	**Sandimen**	**2.46 232**	*e*P		**Pn**	**05 52 59.2**	**+1.0**
	baz=230						
SSD			*e*S		**Sn**	**05 53 29.9**	**+2.6**
	baz=230						
TSMG	**Majia**	**2.48 231**	*e*P		**Pn**	**05 52 59.5**	**+1.0**
	baz=229						
TSMG			*e*S		**Sn**	**05 53 27.8**	**+0.1**
	baz=229						
SCST	**Cishan**	**2.48 236**	*e*P		**Pn**	**05 53 00.9**	**+2.4**
	baz=247						
SCST			*e*S		**Sn**	**05 53 32.1**	**+4.3**
	baz=247						
LAY	**Lan-yu**	**2.49 206**	*e*P		**Pn**	**05 52 57.3**	**-1.3**
	baz=198						
LAY			*e*S		**Sn**	**05 53 25.8**	**-2.1**
	baz=198						
MASBT	**Mashibuluo**	**2.55 230**	*e*P		**Pn**	**05 53 00.2**	**+0.7**
	baz=228						
MASBT			*e*S		**Sn**	**05 53 28.7**	**-0.7**
	baz=228						
EAST	**Anshuo**	**2.57 223**	*e*P		**Pn**	**05 52 59.0**	**-0.7**
	baz=228						
EAST			*e*S		**Sn**	**05 53 28.6**	**-1.3**
	baz=228						
SCZT	**Fangliau**	**2.72 226**	*e*P		**Pn**	**05 53 02.3**	**+0.6**
	baz=228						
PTTC	**Pingtan**	**2.95 295**	*e*P		**Pn**	**05 53 04.3**	**-0.6**
	baz=285						
PHUB	**P'eng-hu**	**3.00 256**	*e*P		**Pn**	**05 53 04.9**	**-0.5**
	baz=256						
PHUB			*e*S		**Sn**	**05 53 37.9**	**-2.4**
	baz=256						
WDGT	**Dungji**	**3.00 251**	P		**Pn**	**05 53 05.7**	**+0.2**
	baz=251						
WDGT			*e*S		**Sn**	**05 53 38.9**	**-1.3**
	baz=251						
PNG	**Penghu**	**3.00 257**	*e*P		**Pn**	**05 53 03.6**	**-1.9**
	baz=256						
VWUC	**VWUC**	**3.07 284**	P		**Pn**	**05 53 06.2**	**-0.3**
	baz=283						
MATB	**Ma-tsu**	**3.14 307**	*e*P		**Pn**	**05 53 06.9**	**-0.5**
	baz=305						
PTMZ	**Houxiangcun**	**3.37 284**	*e*P		**Pn**	**05 53 10.6**	**0.0**
	baz=282						
XPSS	**Dashiqiu**	**3.50 319**	*e*P		**Pn**	**05 53 11.2**	**-1.0**
	baz=309						
LYJJ	**Jianjiangzhen**	**3.51 311**	*e*P		**Pn**	**05 53 11.7**	**-0.8**
	baz=309						
AXDP	**Jialang**	**4.38 279**	*e*P		**Pn**	**05 53 23.5**	**-0.9**
	baz=278						

*IDC **03** 06:22:43.4±0.9, 39.°02N×106.°00E, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.5/42, mbtmp3.5/11, ML3.2/3, Error ellipse: s-maj=28.6km s-min=16.2km az=64.0*

ISC 03 06:22:45.7±0.6, 39.°18N±0.°05×106.°24E±0.°04, h10km, n16, σ2§92/24, mb3.9/7, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**3.24**	**63**	*e*Pg	**Pn**	**06 23 37.3**	**+0.6**
BTO				Sg	**Sb**	**06 24 24.5**	**+1.6**
LZH	**Lanzhou**	**3.62**	**212**	*e*Pg	**Pb**	**06 23 49.0**	**-1.0**
LZH				Sg	**Sb**	**06 24 35.7**	**+1.7**
LZH				smax	smax		
	comp=N,280nm,1.2s						
LZH				smax	smax		
	comp=E,230nm,1.2s						
LZH				LR	LR		
	comp=N,360nm,4.6s						
LZH				LR	LR		
	comp=E,330nm,5.3s						
LZH				LR	LR		
	comp=Z,420nm,6.5s						
GTA	**Gaotai**	**4.99**	**275**	Pn	**Pn**	**06 24 00.0**	**-0.8**
GTA				Pg	**Pb**	**06 24 14.1**	**+0.8**
GTA				Sn	**Sn**	**06 24 58.5**	**-0.2**
GTA				Sg	**Sb**	**06 25 20.9**	**+7.5**
GTA				smax	smax		
	comp=N,100nm,0.7s						
GTA				smax	smax		
	comp=E,60nm,1.0s						
XAN	**Xi'an**	**5.56**	**156**	Pn	**Pn**	**06 24 08.2**	**-0.4**
XAN				Pg	**Pb**	**06 24 26.5**	**+3.6**
XAN				Sn	**Sn**	**06 25 07.4**	**-5.1**
XAN				Sg	**Sb**	**06 25 35.7**	**+6.1**
XAN				smax	smax		
	comp=N,53nm,0.7s						
XAN				smax	smax		
	comp=E,31nm,1.1s						
SONM	**Songino Array**	**8.66**	**1**	Pn	**Pn**	**06 24 53.6**	**+2.5**
	comp=E,0.2nm,0.3s,baz=183,slow=16,SNR=6.1						
SONM				Lg	Lg	06 27 23.7	
	comp=E,0.4nm,0.3s,baz=179,slow=29,SNR=4.1						
WMQ	**Urumqi**	**14.65**	**294**	*e*P	**Pn**	**06 26 12.1**	**-0.9**
WMQ				smax	smax		
	comp=N,10.0nm,0.7s						
WMQ				smax	smax		
	comp=E,15nm,0.9s						
KSRS	**Korea Array**	**17.10**	**89**	P	**Pn**	**06 26 46.4**	**+1.6**
	comp=E,0.1nm,0.3s,baz=280,slow=11,SNR=2.0						
MKAR	**Makanchi Array**	**19.06**	**301**	P	**P**	**06 27 04.8**	**-3.3**
	comp=E,0.1nm,0.3s,baz=110,slow=11,SNR=3.8						
ZALV	**Zalesovo Beam**	**20.74**	**322**	P	**P**	**06 27 25.9**	**-0.4**
	comp=E,1.1nm,0.4s,baz=115,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**21.59**	**199**	P	**P**	**06 27 32.0**	**-3.8**
	comp=E,0.4nm,0.3s,baz=13,slow=8.6,SNR=1.6						
KURBB	**Kurchatov Arra**	**22.58**	**310**	P	**P**	**06 27 45.0**	**-1.2**
	comp=E,2.6nm,0.7s,baz=108,slow=12,SNR=11						
AKASG	**Malin Array Be**	**53.37**	**309**	P	**P**	**06 32 04.8**	**-0.3**
	comp=E,0.2nm,0.3s,baz=63,slow=9.3,SNR=2.4						
NOA	**NORSAR Array B**	**58.91**	**326**	P	**P**	**06 32 44.0**	**-0.6**
	comp=E,0.8nm,0.8s,baz=65,slow=6.4,SNR=2.2						
ILAR	**Eielson Array**	**61.85**	**28**	P	**P**	**06 33 03.9**	**-0.8**
	comp=E,0.2nm,0.6s,baz=281,slow=8.8,SNR=2.3						
WRA	**Warramunga Arr**	**64.42**	**151**	P	**P**	**06 33 21.3**	**-0.9**
	comp=E,0.9nm,0.8s,baz=343,slow=6.3,SNR=4.1						
ASAR	**Alice Springs**	**67.66**	**153**	P	**P**	**06 33 42.4**	**-0.6**
	comp=E,0.9nm,0.5s,baz=319,slow=7.3,SNR=10						

*IDC **03** 06:28:26.0±3.7, 4.°56S×103.°39W, h0km, mb3.9/6, mb1 4.4/6, mb1mx3.9/31, mbtmp3.9/6, MS4.0/20, Ms1 4.0/20, ms1mx4.0/25, Error ellipse: s-maj=166.6km s-min=62.0km az=96.0*

*NEIC **03** 06:28:32.1±1.4, 4.°1S±0.°2×104.°1W±0.°2, h10km±2km, mb4.4/61, Error ellipse: s-maj=33.0km s-min=23.1km az=235.0*

*GCMT **03** 06:28:37.1±0.4, 3.°91S±0.°02×104.°03W±0.°02, h12km, MW4.8/87, Moment Tensor Solution. s20,c23; s87,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.60±.07; $M_{\theta\theta}$0.48±.07; $M_{\phi\phi}$0.12±.07; $M_{r\theta}$0.53±.20; $M_{\theta\phi}$1.65±.05; $M_{\phi r}$-0.47±.18; Best double couple: $M_0$1.87300×10^{16} NP1:ϕ_s7.00000°, δ67.00000°, λ-158.00000°. NP2: ϕ_s269.00000°, δ70.00000°, λ-24.00000°. Principal axes: T 1.9640, Plg2.0000°, Azm318.0000°; N -0.1820, Plg59.0000°, Azm52.0000°; P -1.7820, Plg31.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 06:28:32.2±1.4, 4.°2S±0.°2×104.°2W±0.°2, h18km, n79, σ1§02/46, mb4.3/30, MS4.0/23, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**23.12**	**23**	LR	LR	06 40 28.7	
	comp=Z,262nm,19.9s,baz=201,slow=31						
RPN	**Rapa Nui**	**23.28**	**192**	LR	LR	06 40 14.7	
	comp=Z,229nm,20.3s,baz=14,slow=31						
APG	**El Apazote**	**23.49**	**35**	LR	LR	06 40 37.5	
	comp=Z,492nm,21.4s,baz=214,slow=31						
CCIG	**Comitan**	**23.64**	**30**	P	**P**	**06 33 43.1**	**+0.3**
JTS	**Las Juntas de**	**24.03**	**53**	LR	LR	06 40 31.9	
	comp=Z,489nm,20.9s,baz=326,slow=31						
ATAH	**Atahualpa**	**25.88**	**98**	LR	LR	06 41 44.5	
	comp=Z,358nm,19.7s,baz=268,slow=32						
OTAV	**Otavalo**	**26.15**	**81**	P	**P**	**06 34 05.0**	**-1.2**
NNA	**Nana**	**28.18**	**108**	LR	LR	06 43 00.2	
	comp=Z,427nm,18.3s,baz=282,slow=32						
LPIG	**La Paz**	**28.78**	**348**	LR	LR	06 42 56.4	
	comp=Z,368nm,21.1s,baz=188,slow=30						
TEIG	**Tepich**	**28.93**	**32**	LR	LR	06 44 13.7	
	comp=Z,281nm,18.7s,baz=112,slow=33						
ROSC	**El Rosal**	**31.22**	**74**	LR	LR	06 44 22.9	
	comp=Z,121nm,21.9s,baz=208,slow=31						
TXAR	**Lajitas Array**	**33.38**	**1**	P	**P**	**06 35 10.0**	**+0.2**
	0.5nm,0.9s,baz=183,slow=14,SNR=5.1						
TXAR				LR	LR	06 46 36.0	
	comp=Z,192nm,21.6s,baz=0.0,slow=32						
RKT	**Rikitea**	**35.13**	**235**	*e*LR	LR	06 44 52.7	
	comp=Z,330nm,27.5s						
MNTX	**Cornudas Mount**	**35.75**	**358**	P	**P**	**06 35 29.4**	**-0.8**
PB16	**IPOC Station P**	**36.73**	**115**	P	**P**	**06 35 40.9**	**+1.4**
PB16				IAmb	IAmb	06 35 49.0	
	comp=Z,6.6nm,0.9s						
LPAZ	**La Paz**	**37.42**	**111**	LR	LR	06 48 23.4	
	comp=Z,242nm,18.6s,baz=284,slow=33						
X16A	**Lo Mia Camp, P**	**39.04**	**351**	P	**P**	**06 35 58.4**	**+0.1**
PFO	**Pinyon Flats O**	**39.37**	**344**	P	**P**	**06 36 02.6**	**+1.6**
	comp=Z,2.5nm,0.9s,baz=94,slow=2.5,SNR=3.3						
PFO	**Pinyon Flats O**	**39.37**	**344**	P	**P**	**06 36 01.8**	**+0.8**
MIAR	**Mount Ida**	**39.86**	**14**	P	**P**	**06 36 05.5**	**+0.6**
SAML	**Samuel**	**41.04**	**99**	P	**P**	**06 36 12.7**	**-2.3**
GSC	**Goldstone, Bar**	**41.06**	**344**	P	**P**	**06 36 15.0**	**+0.1**
GSC				IAmb	IAmb	06 36 18.3	
	comp=Z,8.3nm,1.1s						
MVCO	**Mesa Verde**	**41.42**	**355**	P	**P**	**06 36 18.2**	**+0.1**
MVCO				IAmb	IAmb	06 36 20.6	
	comp=Z,9.2nm,1.1s						
SDCO	**Great Sand Dun**	**41.78**	**359**	P	**P**	**06 36 22.1**	**+1.0**
SHPR	**Sheep Range**	**41.79**	**347**	P	**P**	**06 36 21.6**	**+0.6**
KNB	**Kanab**	**41.81**	**350**	P	**P**	**06 36 21.9**	**+0.8**
S22A	**4UR Ranch, Cre**	**41.83**	**357**	P	**P**	**06 36 22.1**	**+0.6**
PLAL	**Pickwick Lake**	**41.87**	**20**	P	**P**	**06 36 20.7**	**-0.7**
PLAL				IAmb	IAmb	06 36 35.4	
	comp=Z,8.1nm,1.4s						
ISA	**Isabella, Lake**	**41.87**	**343**	P	**P**	**06 36 22.4**	**+0.8**
ISA				IAmb	IAmb	06 36 27.1	
	comp=Z,8.4nm,1.4s						
PV12	**Saucer Basin,**	**42.55**	**355**	P	**P**	**06 36 27.6**	**+0.4**
PV12				IAmb	IAmb	06 36 29.9	
	comp=Z,7.4nm,1.3s						
PRN	**Pahroc Range**	**42.63**	**347**	P	**P**	**06 36 28.0**	**+0.2**
PRN				IAmb	IAmb	06 36 32.0	
	comp=Z,6.7nm,1.2s						
T42A	**Van Buren**	**42.84**	**16**	P	**P**	**06 36 28.8**	**-0.6**
T42A				IAmb	IAmb	06 36 36.2	
	comp=Z,8.4nm,1.3s						
SRU	**San Rafael Swe**	**43.52**	**353**	P	**P**	**06 36 35.7**	**+0.7**
OMMB	**Old Mammoth Mi**	**43.84**	**343**	P	**P**	**06 36 38.0**	**+0.2**
LHV	**Little Huntoon**	**44.29**	**344**	P	**P**	**06 36 42.1**	**+1.2**
LHV				IAmb	IAmb	06 36 52.3	
	comp=Z,5.5nm,1.1s						
O20A	**White River Ci**	**44.30**	**356**	P	**P**	**06 36 42.0**	**+0.6**
PTGA	**Pitinga**	**44.36**	**87**	P	**P**	**06 36 44.1**	**+2.1**
NVAR	**Mina Array Bea**	**44.40**	**344**	P	**P**	**06 36 43.3**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=168,slow=9.1,SNR=12						
NVAR				LR	LR	06 51 17.5	
	comp=Z,185nm,18.2s,baz=150,slow=30						
NVAR	**Mina Array Bea**	**44.40**	**344**	P	**P**	**06 36 42.7**	**+0.6**
RYN	**Ryan**	**44.65**	**344**	IAmb	IAmb	06 36 47.6	
	comp=Z,5.1nm,1.1s						
WAKR	**Walker**	**44.79**	**343**	P	**P**	**06 36 46.6**	**+1.4**
WAKR				IAmb	IAmb	06 36 49.2	
	comp=Z,7.0nm,1.1s						
DUG	**Dugway, Tooele**	**44.91**	**351**	P	**P**	**06 36 46.5**	**+0.4**
DUG				IAmb	IAmb	06 36 49.4	
	comp=Z,5.1nm,1.1s						
KVN	**Kaiserville**	**44.93**	**345**	P	**P**	**06 36 48.1**	**+1.7**
KVN				IAmb	IAmb	06 36 49.9	
	comp=Z,4.6nm,1.2s						
YERR	**Yerington**	**45.18**	**343**	P	**P**	**06 36 49.2**	**+0.8**
PHWY	**Pilot Hill**	**45.33**	**359**	IAmb	IAmb	06 36 52.0	
	comp=Z,4.4nm,1.1s						
VCNR	**Virginia City**	**45.59**	**343**	P	**P**	**06 36 52.3**	**+0.7**
VCNR				IAmb	IAmb	06 36 57.5	
	comp=Z,6.0nm,1.0s						
AFDM	**Forest Hills D**	**45.66**	**342**	IAmb	IAmb	06 36 55.4	
	comp=Z,3.9nm,1.1s						
HWUT	**Hardware Ranch**	**46.11**	**352**	P	**P**	**06 36 56.4**	**+0.8**
HWUT				IAmb	IAmb	06 37 00.4	
	comp=Z,5.1nm,1.1s						
PPT	**Papeete**	**46.31**	**250**	LR	LR	06 50 59.2	
	comp=Z,85nm,20.0s,baz=102,slow=29						
PPT2	**Papeete2**	**46.31**	**250**	*e*LQ	LQ	06 47 56.6	
	comp=Z,290nm,27.2s						
PPT2				*e*LR	LR	06 50 02.5	
	comp=Z,178nm,26.8s						
ORV	**Oroville**	**46.38**	**342**	P	**P**	**06 36 58.7**	**+1.1**
BW06	**Boulder Array**	**47.03**	**355**	P	**P**	**06 37 01.9**	**-0.9**
BW06				IAmb	IAmb	06 37 04.8	
	comp=Z,2.3nm,0.8s						
PDAR	**Pinedale Array**	**47.03**	**355**	P	**P**	**06 37 02.2**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=165,slow=6.2,SNR=13						
PDAR				LR	LR	06 54 20.6	
	comp=Z,93nm,18.2s,baz=164,slow=33						
PDAR	**Pinedale Array**	**47.03**	**355**	P	**P**	**06 37 01.0**	**-1.9**
PLCA	**Paso Flores**	**47.29**	**145**	LR	LR	06 52 28.9	
	comp=Z,342nm,18.0s,baz=7.5,slow=31						
REDW	**Red Top Meadow**	**47.75**	**353**	IAmb	IAmb	06 37 10.5	
	comp=Z,6.0nm,1.4s						
TPAW	**Teton Pass**	**47.89**	**353**	IAmb	IAmb	06 37 20.6	
	comp=Z,3.4nm,1.1s						
LOHW	**Long Hollow**	**47.97**	**354**	IAmb	IAmb	06 37 12.2	
	comp=Z,4.0nm,1.1s						
FXWY	**Fox Creek**	**48.04**	**353**	IAmb	IAmb	06 37 12.8	
	comp=Z,3.6nm,1.0s						
RSSD	**Black Hills**	**48.13**	**0**	P	**P**	**06 37 12.1**	**+0.7**
MOD	**Modoc Plateau**	**48.19**	**344**	P	**P**	**06 37 12.9**	**+1.1**
IMW	**Indian Meadow**	**48.29**	**354**	P	**P**	**06 37 12.4**	**-0.3**
MFID	**Camas Ranch**	**48.57**	**349**	IAmb	IAmb	06 37 17.5	
	comp=Z,4.5nm,1.1s						
YBH	**Yreka Blue Hor**	**48.74**	**342**	LR	LR	06 53 19.9	
	comp=Z,199nm,20.9s,baz=170,slow=30						
RLMT	**Red Lodge**	**49.34**	**355**	IAmb	IAmb	06 37 22.9	
	comp=Z,4.8nm,0.9s						
CPUP	**Villa Florida**	**49.93**	**121**	LR	LR	06 55 14.4	
	comp=Z,166nm,20.6s,baz=288,slow=33						
HRY	**Holter Researc**	**51.17**	**353**	P	**P**	**06 37 32.9**	**-1.5**
ULM	**Lac du Bonnet**	**54.74**	**7**	LR	LR	07 00 03.4	
	comp=Z,235nm,18.8s,baz=230,slow=34						
BDFB	**Brasilia**	**56.38**	**106**	LR	LR	07 00 50.6	
	comp=Z,135nm,18.5s,baz=169,slow=35						
YKA	**Yellowknife Ar**	**67.01**	**355**	P	**P**	**06 39 22.7**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=162,slow=6.6,SNR=5.4						
YKA				LR	LR	07 06 15.0	
	comp=Z,135nm,19.3s,baz=0.0,slow=34						
ILAR	**Eielson Array**	**75.63**	**343**	P	**P**	**06 40 15.1**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=152,slow=5.8,SNR=16						
H11N3	**WAKE ISLAND Hy**	**90.33**	**290**	T	T	08 21 33.4	
	baz=95,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**90.34**	**290**	T	T	08 21 35.4	
	baz=95,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**90.34**	**290**	T	T	08 21 36.3	
	baz=95,slow=75,SNR=23					

SSBA	Shishaldin	2.23	338		Pn	06 47 51.6	-0.5
SSBA					Sn	06 48 18.7	-0.9
WEBT	Westdahl Beart	2.24	328		Pn	06 47 52.0	-0.2
AKSA	Akutan Strait	2.29	310		Pn	06 47 52.5	-0.3
AKSA					LR	06 48 18.9	
AKUT	Akutan	2.32	309		Pn	06 47 53.1	-0.1
AKUT	Akutan	2.32	309		LR	06 48 19.9	
AKBBA	Akutan Broad B	2.38	307		Pn	06 47 54.0	-0.1
AKMO	Akutan Morgan	2.41	306		Pn	06 47 54.5	0.0
AKMO					LR	06 48 22.9	
DT1	Dutton Round H	2.41	6		Pn	06 47 54.2	-0.4
AKLV	Akutan Long Va	2.42	308		Pn	06 47 54.5	-0.2
AKLV					Sn	06 48 22.3	-2.1
AKRB	Akutan Reef Bi	2.46	307		Pn	06 47 55.2	0.0
AKGG	Akutan Green G	2.46	309		Pn	06 47 55.3	0.0
AKGG					LR	06 48 24.6	
UNV	Unalaska Valle	2.54	298		Pn	06 47 55.9	-0.4
UNV	Unalaska Valle	2.54	298		Sn	06 48 24.8	-2.6
HAG	Hague Volcano	2.65	10		Pn	06 47 58.0	+0.1
MNAT	Makushin Natee	2.66	298		Pn	06 47 57.6	-0.3
MREP	Makushin Rep't	2.66	296		Pn	06 47 57.8	-0.2
PS4A	Pavlof South-4	2.69	10		Pn	06 47 58.5	+0.2
MSW	Makushin Switc	2.72	298		Pn	06 47 58.5	-0.3
MSW					Sn	06 48 30.5	-1.3
MGOD	Makushin Gods	2.72	295		Pn	06 47 58.4	-0.5
MAPS	Pakushin South	2.77	295		Pn	06 47 59.1	-0.3
CNBA	Chernabura Isl	2.81	40	Pn	Pn	06 47 58.8	-1.2
CNBA	Chernabura Isl	2.81	40		Sn	06 48 30.2	-3.7
SDPT	Sand Point	2.95	26	Pn	Pn	06 48 01.7	-0.3
SDPT	Sand Point	2.95	26		Sn	06 48 35.6	-1.8
OKFG	Magazine Ridge	3.21	285		Pn	06 48 05.1	-0.5
OKNC	Okmok New Cone	3.35	285		Pn	06 48 06.3	-1.1
OKCE	Okmok Cone E	3.37	284		Pn	06 48 07.3	-0.3
OKSP	Okmok Steeple	3.42	281		Pn	06 48 07.5	-0.8
NIKH	Nikolski High	3.73	276	Pn	Pn	06 48 11.9	-0.7
NIKH	Nikolski High	3.73	276		Sn	06 48 52.2	-4.4
VNSG	Veniaminof 6	4.02	30		Pn	06 48 16.7	-0.1
VNFG	Fog Glacier, M	4.03	26		Pn	06 48 17.4	+0.6
CHIR	Chirikof Islan	5.19	50		Pn	06 48 31.1	-1.6
SPIA	Saint Paul Isl	6.23	319		Pn	06 48 47.8	+0.8
SII	Sitkinak Islan	6.27	49	Pn	Pn	06 48 46.8	-0.8
KABU	Katmai Buttres	6.99	34		Pn	06 48 57.2	-0.2
ATKA	Atka Island	7.04	270	Pn	Pn	06 48 57.7	-0.4
OHAK	Old Harbor	7.06	46	Pn	Pn	06 48 56.5	-1.8
KAKN	Katmai Knife C	7.08	35		Pn	06 48 58.9	+0.2
KAHC	Katmai Hardscr	7.37	33		Pn	06 49 02.6	-0.1
KDAK	Kodiak Island	7.70	45	Pn	Pn	06 49 05.1	-1.9
	1.7nm,0.3s,baz=180,slow=3.8,SNR=28						
KDAK					Sn	06 50 25.1	-9.1
	1.7nm,0.3s,baz=34,slow=18,SNR=3.1						
KDAK	Kodiak Island	7.70	45	Pn	Pn	06 49 05.8	-1.2
GSTR	Great Sitkin T	8.19	271		Pn	06 49 14.8	+1.0
GSMY	Great Sitkin M	8.20	271		Pn	06 49 13.9	-0.1
GSTD	Great Sitkin T	8.25	271		Pn	06 49 14.7	0.0
ADK	Adak	8.61	270	Pn	Pn	06 49 19.6	+0.1
SVW2	Sparrevohn	9.26	22	Pn	Pn	06 49 29.4	+0.9
CNPM	China Poot	9.36	39	Pn	Pn	06 49 30.6	+0.8
SEW	Seward	10.42	39	Pn	Pn	06 49 43.8	-0.5
TTA	Tatalina	10.84	16	Pn	Pn	06 49 50.7	+0.5
SUA	Susitna One	10.90	32	Pn	Pn	06 49 51.0	-0.1
AMKA	Amchitka	11.16	270	Pn	Pn	06 49 54.3	-0.2
PMR	Palmer	11.53	34	Pn	Pn	06 50 01.0	+1.5
PPLA	Purkeypile	11.63	25	Pn	Pn	06 50 04.1	+3.1
HIN	Hinchinbrook I	11.77	43	Pn	Pn	06 50 02.1	-0.8
FID	Port Fidalgo	11.98	41	Pn	Pn	06 50 03.9	-1.9
SCM	Sheep Creek Mo	12.33	36		Pn	06 50 09.0	-1.5
KAIM	Kayak Island	12.43	47	Pn	Pn	06 50 11.8	0.0
KLU	Klutina	12.64	39		Pn	06 50 13.0	-1.7
KLU					Sn	06 52 31.2	-4.2
BPAW	Bear Paw Mtn.	12.94	23	Pn	Pn	06 50 19.2	+0.4
PAX	Paxson	13.73	35		Pn	06 50 29.3	-0.3
IMAR	Indian Mountai	14.05	15	P	P	06 50 42.7	+0.9
RIDG	Independent Ri	14.45	33	Pn	Pn	06 50 39.0	-0.5
IL31		14.55	28		Pn	06 50 40.6	-0.1
ILAR	Eielson Array	14.55	28	Pn	Pn	06 50 38.0	-2.9
	0.1nm,0.3s,baz=224,slow=12,SNR=4.5						
ILAR				LR	LR	06 57 10.9	
	comp=Z,56nm,18.1s,baz=214,slow=41						
BCPM	Bancas Point	14.65	51	Pn	Pn	06 50 42.1	-0.1
DOT	Dot Lake	14.65	34	P	Pn	06 50 41.9	-0.3
COLD	Coldfoot	15.79	18		Pn	06 50 57.0	-0.3
HYT	Haines Junctio	15.94	49	Pn	P	06 51 01.5	-1.5
EGAK	Eagle	16.35	34	Pn	Pn	06 51 03.8	-0.6
EGAK				IAmb	IAmb	06 51 11.6	
	comp=Z,11nm,0.8s						
EPYK	Eagle Plains	18.79	33		Pn	06 51 36.3	+1.6
DLBC	Dease Lake	19.21	60	P	Pn	06 51 40.1	+0.2
	comp=Z,0.1nm,0.3s,baz=234,slow=14,SNR=4.4						
DLBC	Dease Lake	19.21	60	IAmb	IAmb	06 51 44.4	
	comp=Z,4.7nm,1.1s						
INK	Inuvik	20.90	31	P	P	06 51 57.2	+0.1
	comp=Z,2.7nm,0.7s,baz=229,slow=11,SNR=8.5						
INK	Inuvik	20.90	31	P	P	06 51 57.1	+0.1
INK				IAmb	IAmb	06 52 07.6	
	comp=Z,9.3nm,1.1s						
PEA0B	Petropavlovsk-	23.67	287	P	P	06 52 27.3	+0.8
PETK	Petropavlovsk-	23.67	287	P	P	06 52 27.2	+0.7
	comp=Z,6.8nm,0.6s,baz=84,slow=12,SNR=30						
PETK	Petropavlovsk-	23.67	287	P	P	06 52 27.0	+0.5
SEY	Seymchan	25.46	311	P	P	06 52 44.0	+1.2
	comp=Z,1.0nm,0.3s,baz=113,slow=12,SNR=4.2						
YKA	Yellowknife Ar	26.93	50	P	P	06 52 57.2	+1.1
	comp=Z,1.1nm,0.8s,baz=271,slow=8.9,SNR=6.0						
YBH	Yreka Blue Hor	28.94	96	P	P	06 53 16.3	+2.0
	comp=Z,1.7nm,0.7s,baz=231,slow=6.5,SNR=2.3						
YBH	Yreka Blue Hor	28.94	96	IAmb	IAmb	06 53 18.2	
	comp=Z,6.3nm,1.2s						
MOD	Modoc Plateau	30.30	94	P	P	06 53 28.2	+1.7
MOD				IAmb	IAmb	06 53 28.7	
	comp=Z,2.3nm,0.8s						
PAHR	Pah Rah Range	32.18	96	P	P	06 53 44.4	+1.4
PAHR				IAmb	IAmb	06 53 44.9	
	comp=Z,3.2nm,0.8s						
PNTR	Pine Nut	32.43	97	P	P	06 53 46.1	+0.8
PNTR				IAmb	IAmb	06 53 53.0	
	comp=Z,4.3nm,0.8s						
KVN	Kaiserville	33.36	96	P	P	06 53 54.8	+1.4
KVN				IAmb	IAmb	06 53 55.0	
	comp=Z,2.3nm,0.8s						
NVAR	Mina Array Bea	33.63	97	P	P	06 53 57.1	+1.3
	comp=Z,1.8nm,0.7s,baz=303,slow=9.0,SNR=20						
NVAR	Mina Array Bea	33.63	97	P	P	06 53 56.8	+0.9
R11A	Troy Canyon, C	35.33	95	P	P	06 54 11.0	+0.5
R11A				IAmb	IAmb	06 54 12.2	
	comp=Z,4.6nm,1.1s						
DUG	Dugway, Tooele	35.87	90	P	P	06 54 16.2	+1.2
PRN	Pahroc Range	36.26	96	P	P	06 54 18.9	+0.5
PRN				IAmb	IAmb	06 54 20.4	
	comp=Z,6.2nm,0.9s						
PDAR	Pinedale Array	36.33	84	P	P	06 54 19.6	+0.4
	comp=Z,0.6nm,0.8s,baz=318,slow=4.9,SNR=7.5						
PDAR	Pinedale Array	36.33	84	P	P	06 54 19.8	+0.7
CCUT	Cedar City	37.19	94	P	P	06 54 27.8	+1.3
KNB	Kanab	37.86	94	P	P	06 54 33.7	+1.6
W13A	Hualapai Mount	38.49	97	P	P	06 54 38.6	+1.1
U15A	North Rim	38.57	94	P	P	06 54 39.0	+0.8
U15A				IAmb	IAmb	06 54 40.2	
	comp=Z,5.4nm,0.9s						
O20A	White River Ci	38.68	87	P	P	06 54 39.7	+0.7
O20A				IAmb	IAmb	06 54 40.9	
	comp=Z,3.1nm,0.8s						
PV13	Radium Mtn., P	39.56	89	P	P	06 54 45.8	-0.6
PV13				IAmb	IAmb	06 54 47.6	
	comp=Z,5.1nm,0.9s						
PV01	Paradox Valley	39.73	89	P	P	06 54 48.4	+0.6
PV01				IAmb	IAmb	06 54 48.9	
	comp=Z,3.4nm,0.8s						
WUAZ	Wupatki	39.73	95	P	P	06 54 49.1	+1.4
WUAZ				IAmb	IAmb	06 54 49.6	
	comp=Z,4.5nm,0.7s						
X16A	Lo Mia Camp, P	40.43	96	P	P	06 54 55.1	+1.5
TUC	Tucson	42.28	98	P	P	06 55 09.6	+0.9
Y22D	IRIS PASSCAL I	43.41	93	P	P	06 55 16.6	-1.3
BNM	Barren Site	43.53	92	P	P	06 55 18.7	-0.3
MNTX	Cornudas Mount	45.98	94	P	P	06 55 38.5	+0.3
MNTX				IAmb	IAmb	06 55 40.0	
	comp=Z,2.7nm,0.8s						
WMOK	Wichita Mounta	47.91	86	P	P	06 55 53.4	+0.1
WMOK				IAmb	IAmb	06 55 54.6	
	comp=Z,4.0nm,0.9s						
NRIK	Noril'sk	48.01	333	P	P	06 55 54.9	+1.3
	comp=Z,3.7nm,0.6s,baz=47,slow=9.8,SNR=3.6						
TX31	Lajitas Ar. Si	48.70	95	P	P	06 56 00.3	+0.7
TX32	Lajitas Array	48.70	95	P	P	06 56 00.3	+0.7
TXAR	Lajitas Array	48.70	95	P	P	06 56 00.0	+0.5
	comp=Z,4.7nm,0.7s,baz=300,slow=5.5,SNR=67						
TXAR	Lajitas Array	48.70	95	P	P	06 55 59.7	+0.2
KSRS	Korea Array	49.37	281	P	P	06 56 05.4	+1.0
	comp=Z,1.8nm,0.8s,baz=53,slow=7.3,SNR=4.1						
JCT	Junction City	50.23	90	P	P	06 56 11.0	-0.1
833A	Chaparral WMA,	52.02	92	P	P	06 56 24.7	+0.1
SONM	Songino Array	54.54	304	P	P	06 56 43.1	0.0
	comp=Z,0.5nm,0.7s,baz=38,slow=7.3,SNR=1.8						
SONM	Songino Array	54.54	304	P	P	06 56 42.7	-0.3
HHC	Hu-ho-hao-te	56.53	295	*eP*	P	06 56 59.2	+1.8
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,92nm,5.7s						
ARCES	ARCESS Array B	57.92	357	P	P	06 57 06.9	+0.2
	comp=Z,1.8nm,0.7s,baz=19,slow=5.8,SNR=2.0						
ZALV	Zalesovo Beam	59.82	321	P	P	06 57 20.7	+0.6
	comp=Z,0.7nm,0.3s,baz=44,slow=6.6,SNR=1.1						
LZH	Lanzhou	64.16	296	*eP*	P	06 57 48.6	-1.2
LZH				pP	pwP	06 57 57.8	-0.5
LZH				sP	sP	06 58 01.5	+10
LZH				*e*PP	PP	07 00 11.7	+1.3
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,49nm,7.4s						
FINES	FINESS Array B	65.98	355	P	P	06 58 01.1	+0.2
	comp=Z,1.4nm,0.5s,baz=23,slow=8.0,SNR=8.5						
FINES	FINESS Array B	65.98	355	P	P	06 58 00.6	-0.3
MKAR	Makanchi Array	66.42	317	P	P	06 58 03.6	-0.4
	comp=Z,1.2nm,0.6s,baz=48,slow=5.9,SNR=9.0						
MKAR	Makanchi Array	66.42	317	P	P	06 58 03.3	-0.8
WMQ	Urumqi	66.43	312	*eP*	P	06 58 06.2	+2.0
NOA	NORSAR Array B	66.49	3	P	P	06 58 04.9	+0.6
	comp=Z,1.3nm,0.9s,baz=357,slow=6.3,SNR=3.3						
AKASG	Malin Array Be	76.47	352	P	P	06 59 04.6	0.0
	comp=Z,1.9nm,0.5s,baz=11,slow=6.5,SNR=4.8						
GERES	GERESS Array B	78.77	2	P	P	06 59 18.3	+0.7
	comp=Z,0.2nm,0.3s,baz=3.8,slow=4.0,SNR=4.6						
CMAR	Chiang Mai Arr	80.45	288	P	P	06 59 26.5	-0.6
	comp=Z,0.5nm,0.4s,baz=24,slow=4.9,SNR=5.4						
CMAR	Chiang Mai Arr	80.45	288	P	P	06 59 26.0	-1.1
ESDC	Sonseca Array	86.16	16	P	P	06 59 56.4	+0.1
	comp=Z,0.5nm,0.5s,baz=337,slow=5.0,SNR=3.2						
BRTR	Keskin Array B	86.85	347	P	P	07 00 00.2	+0.4
	comp=Z,0.9nm,0.7s,baz=298,slow=3.1,SNR=2.6						
WRA	Warramunga Arr	90.50	237	P	P	07 00 15.4	-1.5
	comp=Z,0.5nm,1.0s,baz=37,slow=6.1,SNR=2.7						
ASAR	Alice Springs	93.83	235	P	P	07 00 30.8	-1.5
	comp=Z,0.4nm,0.6s,baz=27,slow=4.5,SNR=3.4						
MAW	Mawson	153.66	218	PKPbc	PKPbc	07 07 11.9	-0.6
	comp=Z,0.3nm,0.3s,baz=153,slow=6.8,SNR=4.2						

NNC ***03*** *07:10:01.4±3.0, 54°.36N×86°.84E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=48.0km s-min=15.6km az=168.0, Suspected Mining explosion.*

IDC ***03*** *07:10:01.2±2.8, 54°.35N×86°.94E, h0km, mb1 3.2/2, mb1mx3.0/35, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=23.4km s-min=16.3km az=62.0*

ISC 03 07:10:04.1±4.8, 54°.3N±0°.2×86.6E±0°.2, h0km, n8, σ0§82/10, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.10	250	*i*		07 18 20.0	
	baz=71,slow=314,SNR=2.4						
ZAA0	Zalesovo Array	1.10	250	⇑P	Pg	07 10 24.7	-0.4
	1.3nm,0.7s						
ZAA0				⇓S	Sn	07 10 42.5	-0.1
	11nm,0.9s						
ZALV	Zalesovo Beam	1.10	250	Pg	Pg	07 10 24.4	-0.7
	3.0nm,0.3s,baz=71,slow=16,SNR=31						
ZALV				Lg	Lg	07 10 43.7	
	2.8nm,0.3s,baz=68,slow=24,SNR=8.4						
KURK	Kurchatov	6.05	236	⇑Lg	Lg	07 13 18.0	
	10nm,1.2s						
KURBB	Kurchatov Arra	6.16	236	Pn	Pn	07 11 37.4	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=24						
KURBB				Sn	Sn	07 12 47.4	+0.1
	0.0nm,0.3s,baz=43,slow=21,SNR=2.1						
KURBB				Lg	Lg	07 13 21.4	
	0.0nm,0.3s,baz=57,slow=33,SNR=7.5						
KURBB	Kurchatov Arra	6.16	236	⇑Pn	Pn	07 11 36.8	+0.6
	4.2nm,0.6s						
KURBB				⇑Sn	Sn	07 12 47.0	-0.2
	4.6nm,0.7s						
KURBB				⇑Lg	Lg	07 13 19.7	
	20nm,1.2s						
MK31	Makanchi Array	8.03	202	⇑Pn	Pn	07 12 02.5	+0.6
	1.1nm,0.8s,baz=26,slow=13,SNR=4.6						
MK31				⇓Lg	Lg	07 14 19.9	
	1.7nm,0.7s,baz=24,slow=31,SNR=4.2						
MKAR	Makanchi Array	8.03	202	Pn	Pn	07 12 00.8	-1.1
	0.1nm,0.3s,baz=18,slow=12,SNR=4.2						
MKAR				Sn	Sn	07 13 34.1	+0.8
	0.1nm,0.3s,baz=34,slow=29,SNR=2.2						
MKAR				Lg	Lg	07 14 15.3	
	0.1nm,0.3s,baz=27,slow=30,SNR=5.9						

BJI ***03*** *07:23:21.0±0.0, 15°.20S×173°.50W, h5km, mB5.3/4, mb5.1/21, Ms5.4/4, Ms7 5.2/5*

IDC ***03*** *07:23:22.4±0.5, 15°.02S×173°.65W, h0km, mb4.5/19, mb1 4.6/19, mb1mx4.6/34, mbtmp4.4/19, MS4.8/10, Ms1 4.8/10, ms1mx4.4/51, Error ellipse: s-maj=21.3km s-min=13.6km az=121.0*

NEIC ***03*** *07:23:23.8±2.1, 15°.1S±0°.1×173°.5W±0°.1, h10km±1km, mb4.7/162, Error ellipse: s-maj=20.4km s-min=18.0km az=93.0*

GCMT ***03*** *07:23:29.8±0.1, 14°.83S±0°.01×173°.25W±0°.01, h12km, MW5.3/143, Moment Tensor Solution. s102,c164; s143,c255; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.24±.01; Mθθ0.52±.02; Mφφ-0.76±.01; Mrθ0.29±.04; Mrφ0.68±.01; Mθφ0.69±.04; Best double couple: M0 1.21700×10^17 NP1:φs 114.00000°, δ50.00000°, λ10.00000°. NP2:φs 18.00000°, δ82.00000°, λ140.00000°. Principal axes: T 1.1770, Plg33.0000°, Azm328.0000°; N 0.0800, Plg49.0000°, Azm189.0000°; P -1.2570, Plg21.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 07:23:23.4±0.3, 15°.18S±0°.07×173°.36W±0°.07, h10km, n259, σ1§45/196, mb4.7/91, MS4.9/13, 18C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.99	51	Pn	Pn	07 23 49.7	-7.5
	414nm,0.3s,baz=194,slow=2.1,SNR=336						
AFI				Sn	Sn	07 24 08.9	-13
	1μm,0.3s,baz=192,slow=22,SNR=8.5						
NIUE	Niue	5.08	140	P	Pn	07 24 37.6	-1.9
	baz=5.0,SNR=114						
NIUE				S	Sn	07 25 34.8	-3.4
	baz=5.0						
NIUE	Niue	5.08	140	Pn	Pn	07 24 38.2	-1.4
RAR	Rarotonga	14.23	117	Pn	Pn	07 26 42.0	-3.1
	6.4nm,0.3s,baz=273,slow=8.6,SNR=14						
RAR				Sn	Sn	07 29 13.1	-10
	1.4nm,0.3s,baz=340,slow=18,SNR=2.0						
RAR				LR	LR	07 30 42.1	
	comp=Z,4μm,22.0s,baz=303,slow=30						
RAR	Rarotonga	14.23	117	Pn	Pn	07 26 44.7	-0.3
DZM	Mont Dzumac	20.31	247	P	Pn	07 28 01.7	-0.1
	11nm,0.9s,baz=70,slow=18,SNR=6.8						
DZM				LR	LR	07 34 33.9	
	comp=Z,4μm,20.1s,baz=86,slow=33						
DZM	Mont Dzumac	20.31	247	P	P	07 28 00.8	+1.0
PPT	Papeete	22.94	99	LR	LR	07 34 50.4	
	comp=Z,2μm,21.3s,baz=268,slow=30						
PAE	Paea	22.94	99	*e*T	T	07 51 58.4	
	9.3nm,0.2s						
PPT2	Papeete2	22.94	99	*e*LQ	LQ	07 32 56.0	
	10μm,28.2s						
PPT2				*e*LR	LR	07 33 58.7	
	comp=Z,6μm,25.0s,baz=267						
PPT2	Papeete2	22.94	99	*e*T	T	07 51 48.7	
	10.0nm,0.3s						
TIAR	Tiarei	23.16	99	*e*T	T	07 51 55.7	
	4.1nm,0.3s						
TVO	Taravao	23.26	100	*e*T	T	07 52 06.6	
	4.2nm,0.3s						
URZ	Urewera	24.48	198	P	P	07 28 43.8	+1.2
	8.5nm,0.6s,baz=343,slow=5.8,SNR=14						
URZ				LR	LR	07 37 28.2	
	comp=Z,4μm,20.4s,baz=17,slow=34						
URZ	Urewera	24.48	198	P	P	07 28 44.1	+1.5
URZ				IAmb	IAmb	07 28 49.2	
	comp=Z,14nm,0.9s						
PMOR	Pomariorio Ree	24.59	93	*e*P	P	07 28 44.2	+0.3
	comp=Z,236nm,1.3s						
PMOR	Pomariorio Ree	24.59	93	*e*T	T	07 53 59.0	
	comp=Z,5.9nm,0.2s						
VAH	Vaihoa	24.83	94	*e*P	P	07 28 46.3	+0.2
	comp=Z,182nm,1.3s						
VAH	Vaihoa	24.83	94	*e*T	T	07 54 16.6	
	comp=Z,20nm,0.3s						
HIZ	Hauiti	25.46	202	P	P	07 28 52.6	+1.1
BKZ	Black Stump Fm	25.50	199	P	P	07 28 52.9	+0.9
BFZ	Birch Farm	26.97	198	P	P	07 29 07.8	+2.6
MSWZ	Moikau Station	27.94	198	P	P	07 29 15.7	+1.7
QRZ	Quartz Range	28.34	203	P	P	07 29 18.4	+0.8
QRZ				IAmb	IAmb	07 29 19.9	
	comp=Z,14nm,0.9s						
LTZ	Lake Taylor	30.14	201	P	P	07 29 35.5	+2.0
LTZ				IAmb	IAmb	07 29 35.7	
	comp=Z,15nm,1.0s						
RPZ	Rata Peaks	31.39	202	P	P	07 29 45.2	+0.7
	comp=Z,3.5nm,0.6s,baz=225,slow=1.4,SNR=1.6						
RPZ				LR	LR	07 41 46.4	
	comp=Z,3μm,20.8s,baz=30,slow=35						
RPZ	Rata Peaks	31.39	202	P	P	07 29 45.1	+0.7
RPZ				IAmb	IAmb	07 29 53.1	
	comp=Z,6.9nm,0.7s						
FOZ	Fox Glacier	31.70	204	P	P	07 29 47.9	+0.7
FOZ				IAmb	IAmb	07 29 55.1	
	comp=Z,12nm,1.1s						
TAOE	Nuku Hiva Isla	33.06	83	*e*LR	LR	07 38 31.2	
	comp=Z,5μm,26.6s						
TAOE	Nuku Hiva Isla	33.06	83	*e*T	T	08 04 29.5	
	comp=Z,47nm,0.2s						
WKZ	Wanaka	33.10	203	P	P	07 30 01.4	+1.9
MLZ	Mavora Lakes	33.90	204	P	P	07 30 06.7	+0.2
MLZ				IAmb	IAmb	07 30 12.5	
	comp=Z,12nm,0.8s						
WHZ	Wether Hill Ro	34.41	203	P	P	07 30 13.0	+2.2
KRVT	Keravat (AS076	35.72	284	LR	LR	07 42 09.7	
	comp=Z,464nm,21.7s,baz=127,slow=32						
RKT	Rikitea	37.03	108	*e*LQ	LQ	07 39 00.0	
	comp=Z,1μm,25.8s						
RKT				*e*LR	LR	07 40 27.2	
	comp=Z,4μm,25.0s						
CTA	Charters Tower	38.73	257	LR	LR	07 44 01.7	
	comp=Z,1μm,21.2s,baz=82,slow=32						
H11S2	WAKE ISLAND Hy	38.80	329	T	T	08 12 30.4	
	baz=147,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	38.81	329	T	T	08 12 09.4	
	baz=147,slow=76,SNR=34						
H11S1	WAKE ISLAND Hy	38.82	329	T	T	08 12 14.9	
	baz=147,slow=76,SNR=32						
PMG	Port Moresby	38.96	274	LR	LR	07 45 58.5	
	comp=Z,1μm,18.1s,baz=86,slow=35						
H11N3	WAKE ISLAND Hy	39.74	330	T	T	08 13 16.1	
	baz=149,slow=76,SNR=27						
H11N1	WAKE ISLAND Hy	39.75	330	T	T	08 12 55.3	
	baz=149,slow=76,SNR=33						
H11N2	WAKE ISLAND Hy	39.76	330	T	T	08 13 00.9	
	baz=149,slow=76,SNR=28						
MTSU	Mount Surprise	40.59	260	P	P	07 31 02.7	-0.9
	baz=41,SNR=16						
COEN	Coen	42.03	266	P	P	07 31 15.6	+0.1
	baz=42,SNR=7.7						
TOO	Toolangi	42.63	231	P	P	07 31 20.8	+0.7
	baz=43,SNR=7.5						
TOO	Toolangi	42.63	231	P	P	07 31 20.0	-0.1
STKA	Stephens Creek	44.18	240	P	P	07 31 32.6	0.0
	baz=45,SNR=4.7						
STKA	Stephens Creek	44.18	240	P	P	07 31 32.2	-0.4
	comp=Z,3.5nm,0.7s,baz=87,slow=15,SNR=8.0						
STKA	Stephens Creek	44.18	240	P	P	07 31 32.0	-0.6
HTT	Hallett	46.69	238	P	P	07 31 53.7	+1.1
	baz=47,SNR=3.4						
WB0	Warramunga Arr	49.89	257	P	P	07 32 15.7	-1.8
WC3	Warramunga Arr	49.90	257	P	P	07 32 15.9	-1.6
	baz=50						
WB2	Warramunga Arr	49.92	257	P	P	07 32 15.8	-2.0
WRAB	Tennant Creek	49.92	257	P	P	07 32 15.9	-1.8
WRA	Warramunga Arr	49.93	257	P	P	07 32 15.6	-2.3
	comp=Z,14nm,0.7s,baz=92,slow=7.5,SNR=105						
WRA	Warramunga Arr	49.93	257	P	P	07 32 15.5	-2.3
AS31	Alice Springs	50.21	252	P	P	07 32 17.2	-2.7
ASAR	Alice Springs	50.21	252	P	P	07 32 17.1	-2.8
	comp=Z,55nm,0.7s,

TUC	**Tucson**	**76.23**	**51**	P	**P**	**07 35 13.8**	**+1.4**
TUC				IAmb	IAmb	07 35 16.7	
comp=Z,5.3nm,1.0s							
WVOR	**Wild Horse Val**	**76.24**	**38**	P	**P**	**07 35 08.7**	**-3.6**
I07A	**Izee**	**76.71**	**37**	P	**P**	**07 35 15.8**	**+0.8**
I07A				IAmb	IAmb	07 35 22.6	
comp=Z,7.1nm,0.9s							
X16A	**Lo Mia Camp, P**	**76.75**	**49**	P	**P**	**07 35 17.0**	**+1.5**
X16A				IAmb	IAmb	07 35 25.9	
comp=Z,5.3nm,0.9s							
J08A	**Circle Bar Ran**	**76.88**	**38**	P	**P**	**07 35 17.0**	**+1.1**
J08A				IAmb	IAmb	07 35 24.4	
comp=Z,7.1nm,1.1s							
319A	**Douglas**	**76.93**	**52**	P	**P**	**07 35 18.1**	**+1.6**
319A				IAmb	IAmb	07 35 23.1	
comp=Z,8.9nm,0.8s							
U15A	**North Rim**	**77.13**	**46**	IAmb	IAmb	07 35 28.2	
comp=Z,7.3nm,1.0s							
PSUT	**Pine Spring**	**77.13**	**44**	P	**P**	**07 35 18.2**	**+0.6**
USA0B	**Ussuriysk Arra**	**77.23**	**323**	P	**P**	**07 35 18.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**77.23**	**323**	P	**P**	**07 35 17.7**	**-0.1**
comp=Z,2.9nm,0.8s,baz=134,slow=5.5,SNR=8.5							
USRK	**Ussuriysk Ar.**	**77.23**	**323**	P	**P**	**07 35 17.2**	**-0.5**
WUAZ	**Wupatki**	**77.33**	**48**	P	**P**	**07 35 16.5**	**-2.2**
G08A	**Pilot Rock**	**77.74**	**36**	P	**P**	**07 35 20.9**	**+0.2**
G08A				IAmb	IAmb	07 35 29.2	
comp=Z,6.8nm,1.0s							
MTPU	**Mount Pierson**	**78.01**	**45**	P	**P**	**07 35 22.8**	**+0.1**
HAWA	**Hanford**	**78.08**	**35**	P	**P**	**07 35 23.2**	**+0.8**
HAWA				IAmb	IAmb	07 35 31.4	
comp=Z,7.7nm,1.1s							
B06A	**Marblemount**	**78.35**	**32**	P	**P**	**07 35 23.7**	**-0.1**
BMO	**Blue Mountains**	**78.43**	**37**	P	**P**	**07 35 25.8**	**+1.3**
MFID	**Camas Ranch**	**78.50**	**39**	P	**P**	**07 35 24.4**	**-0.6**
MFID				IAmb	IAmb	07 35 28.4	
comp=Z,6.7nm,1.1s							
121A	**Cookes Peak, D**	**78.58**	**52**	P	**P**	**07 35 25.8**	**0.0**
121A				IAmb	IAmb	07 35 34.5	
comp=Z,6.8nm,0.8s							
D08A	**Wollman Farm,**	**78.82**	**35**	P	**P**	**07 35 26.6**	**+0.1**
BGU	**Big Grassy Mou**	**78.91**	**42**	P	**P**	**07 35 27.5**	**+0.2**
TTA	**Tatalina**	**79.04**	**8**	IAmb	IAmb	07 35 35.0	
comp=Z,11nm,1.1s							
Q16A	**Castle Valley**	**79.13**	**45**	P	**P**	**07 35 28.9**	**+0.2**
HLID	**Hailey**	**79.44**	**39**	IAmb	IAmb	07 35 34.1	
comp=Z,8.4nm,1.0s							
SRU	**San Rafael Swe**	**79.67**	**45**	P	**P**	**07 35 33.6**	**+2.0**
NJ2	**Nanjing**	**80.06**	**307**	*e*P	**P**	**07 35 33.0**	**-0.6**
NJ2				pmax	pmax		
comp=Z,5.0nm,0.5s							
TCUT	**Toone Canyon**	**80.07**	**43**	P	**P**	**07 35 34.1**	**+0.3**
PV05	**Paradox Valley**	**80.15**	**46**	P	**P**	**07 35 36.8**	**+2.5**
HWUT	**Hardware Ranch**	**80.21**	**42**	P	**P**	**07 35 35.6**	**+1.1**
PV19	**Morning Glory**	**80.34**	**46**	P	**P**	**07 35 36.6**	**+1.3**
PV19				IAmb	IAmb	07 35 39.2	
comp=Z,7.6nm,1.0s							
PV14	**Lion Creek, Pa**	**80.34**	**46**	IAmb	IAmb	07 35 39.2	
comp=Z,7.5nm,0.8s							
PV17	**East Wray Mesa**	**80.34**	**46**	P	**P**	**07 35 36.9**	**+1.6**
KLR	**Kul'dur**	**80.36**	**327**	P	**P**	**07 35 35.6**	**+0.8**
comp=Z,1.2nm,0.5s,baz=144,slow=6.9,SNR=4.0							
KLR				LR	LR	08 06 17.6	
comp=Z,615nm,20.3s,baz=130,slow=32							
PV18	**Skein Mesa, Pa**	**80.36**	**46**	P	**P**	**07 35 36.0**	**+0.6**
PV20	**West Nyswonger**	**80.37**	**46**	P	**P**	**07 35 36.4**	**+1.1**
PV20				IAmb	IAmb	07 35 41.9	
comp=Z,7.1nm,0.8s							
PV13	**Radium Mtn., P**	**80.39**	**46**	P	**P**	**07 35 38.1**	**+2.5**
PV16	**Nyswonger Mesa**	**80.39**	**46**	P	**P**	**07 35 34.2**	**-1.3**
PV23	**Carpenter Ridg**	**80.39**	**46**	IAmb	IAmb	07 35 41.7	
comp=Z,12nm,0.9s							
PV03	**Paradox Valley**	**80.41**	**46**	IAmb	IAmb	07 35 41.2	
comp=Z,5.9nm,1.0s							
PV11	**David Mesa, Pa**	**80.41**	**46**	IAmb	IAmb	07 35 43.4	
comp=Z,9.1nm,1.1s							
PV04	**Paradox Valley**	**80.44**	**46**	P	**P**	**07 35 37.4**	**+1.6**
PV04				IAmb	IAmb	07 35 41.5	
comp=Z,8.0nm,0.9s							
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**07 35 37.5**	**+1.5**
comp=Z,2.9nm,0.9s,baz=213,slow=9.5,SNR=19							
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**07 35 36.9**	**+0.9**
PV21	**Cone Mtn., Par**	**80.47**	**46**	P	**P**	**07 35 37.0**	**+1.0**
PV21				IAmb	IAmb	07 35 39.5	
comp=Z,6.3nm,0.9s							
PV12	**Saucer Basin,**	**80.47**	**46**	IAmb	IAmb	07 35 42.1	
comp=Z,10nm,1.0s							
PV01	**Paradox Valley**	**80.55**	**46**	P	**P**	**07 35 36.6**	**+0.2**
PV01				IAmb	IAmb	07 35 42.0	
comp=Z,4.7nm,0.8s							
PV22	**Blue Mesa, Par**	**80.58**	**46**	P	**P**	**07 35 39.4**	**+2.8**
ANMO	**Albuquerque**	**80.64**	**50**	P	**P**	**07 35 37.2**	**+0.3**
REDW	**Red Top Meadow**	**81.55**	**41**	IAmb	IAmb	07 35 44.8	
comp=Z,6.0nm,1.1s							
TPAW	**Teton Pass**	**81.55**	**41**	IAmb	IAmb	07 35 46.6	
comp=Z,8.8nm,0.9s							
FXWY	**Fox Creek**	**81.58**	**41**	IAmb	IAmb	07 35 50.4	
comp=Z,5.1nm,1.1s							
S22A	**4UR Ranch, Cre**	**81.60**	**47**	IAmb	IAmb	07 35 48.4	
comp=Z,11nm,1.1s							
SNOW	**Snow King Moun**	**81.66**	**41**	IAmb	IAmb	07 35 48.7	
comp=Z,11nm,1.0s							
O20A	**White River Ci**	**81.70**	**45**	P	**P**	**07 35 44.5**	**+2.1**
WRH	**Wood River Hil**	**81.73**	**11**	P	**P**	**07 35 40.9**	**-0.9**
IMW	**Indian Meadow**	**81.76**	**40**	IAmb	IAmb	07 35 48.2	
comp=Z,6.6nm,1.1s							
DOT	**Dot Lake**	**81.79**	**13**	IAmb	IAmb	07 35 48.9	
comp=Z,7.1nm,1.0s							
HDA	**Harding Lake**	**81.89**	**11**	IAmb	IAmb	07 35 46.7	
comp=Z,7.3nm,0.7s							
QLMT	**Earthquake Lak**	**81.93**	**39**	P	**P**	**07 35 44.0**	**+0.5**
CCB	**Clear Creek Bu**	**81.95**	**11**	IAmb	IAmb	07 35 51.9	
comp=Z,9.3nm,0.8s							
FLWY	**Flagg Ranch**	**82.00**	**40**	IAmb	IAmb	07 35 49.8	
comp=Z,9.4nm,1.1s							
BW06	**Boulder Array**	**82.08**	**42**	IAmb	IAmb	07 35 48.8	
comp=Z,5.6nm,0.9s							
PD31	**Pinedale Array**	**82.08**	**42**	P	**P**	**07 35 44.1**	**-0.3**
PD31				IAmb	IAmb	07 35 48.8	
comp=Z,5.3nm,0.9s							
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**07 35 44.8**	**+0.3**
comp=Z,4.0nm,0.8s,baz=212,slow=2.9,SNR=24							
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**07 35 43.7**	**-0.7**
COLA	**College**	**82.14**	**11**	P	**P**	**07 35 44.6**	**+0.7**
IL31		**82.23**	**11**	IAmb	IAmb	07 35 54.0	
comp=Z,4.6nm,0.8s							
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**07 35 43.2**	**-1.2**
comp=Z,2.0nm,0.6s,baz=232,slow=6.1,SNR=12							
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**07 35 42.6**	**-1.8**
H17A	**Grant Village**	**82.24**	**40**	IAmb	IAmb	07 35 50.2	
comp=Z,4.0nm,0.8s							
SEY	**Seymchan**	**82.32**	**345**	P	**P**	**07 35 43.9**	**-1.0**
comp=Z,4.1nm,0.9s,baz=110,slow=6.2,SNR=4.6							
SDCO	**Great Sand Dun**	**82.54**	**48**	IAmb	IAmb	07 35 52.7	
comp=Z,6.3nm,1.1s							
RLMT	**Red Lodge**	**83.41**	**40**	P	**P**	**07 35 52.1**	**+0.9**
RLMT				IAmb	IAmb	07 35 55.2	
comp=Z,6.7nm,1.1s							
N23A	**Red Feather La**	**83.61**	**45**	IAmb	IAmb	07 35 56.0	
comp=Z,7.5nm,0.9s							
JCT	**Junction City**	**84.00**	**56**	P	**P**	**07 35 56.6**	**+2.2**
JCT				IAmb	IAmb	07 35 59.5	
comp=Z,4.6nm,0.8s							
PHWY	**Pilot Hill**	**84.12**	**45**	IAmb	IAmb	07 35 58.5	
comp=Z,8.0nm,1.1s							
BMAR	**Burnt Mountain**	**85.03**	**11**	P	**P**	**07 35 59.4**	**+0.6**
H03S2	**Juan Fernandez**	**85.29**	**124**	T	T	09 10 21.7	
baz=251,slow=75,SNR=7.2							
H03S1	**Juan Fernandez**	**85.31**	**124**	T	T	09 10 24.1	
baz=251,slow=75,SNR=6.4							
H03S3	**Juan Fernandez**	**85.31**	**124**	T	T	09 10 36.6	
baz=251,slow=75,SNR=5.7							
BJI	**Beijing**	**85.35**	**313**	P	**P**	**07 36 02.3**	**+1.4**
BJI				S	**S**	**07 46 27.7**	**-4.2**
BJI				pmax	pmax		
comp=Z,9.0nm,1.5s							
RSSD	**Black Hills**	**86.28**	**42**	P	**P**	**07 36 05.8**	**0.0**
237A	**Washetta, Mont**	**87.73**	**56**	P	**P**	**07 36 13.2**	**+0.4**
MAW	**Mawson**	**88.01**	**199**	P	**P**	**07 36 11.7**	**-1.8**
baz=88,SNR=11							
MAW	**Mawson**	**88.01**	**199**	P	**P**	**07 36 14.6**	**+1.2**
comp=Z,5.8nm,0.7s,baz=136,slow=7.8,SNR=22							
MAW	**Mawson**	**88.01**	**199**	P	**P**	**07 36 14.7**	**+1.2**
HHC	**Hu-ho-hao-te**	**88.91**	**313**	*e*P	**P**	**07 36 17.7**	**-0.6**
HHC				pmax	pmax		
comp=Z,16nm,0.7s							
HHC				pmax	pmax		
comp=Z,190nm,5.7s							
YKA	**Yellowknife Ar**	**89.89**	**23**	P	**P**	**07 36 21.6**	**-0.7**
comp=Z,2.0nm,0.8s,baz=247,slow=4.3,SNR=5.6							
WHAR	**Wooly Hollow**	**91.56**	**54**	IAmb	IAmb	07 36 39.9	
comp=Z,4.1nm,1.1s							
344A	**Westbrook Farm**	**91.68**	**58**	P	**P**	**07 36 31.7**	**+0.4**
FCAR	**Ozark Folk Cen**	**91.86**	**53**	P	**P**	**07 36 31.9**	**-0.2**
LCAR	**Lake Charles**	**92.67**	**53**	IAmb	IAmb	07 36 47.0	
comp=Z,2.4nm,1.0s							
SYO	**Syowa Base**	**92.82**	**191⇑**	*e*P	**P**	**07 36 36.2**	**+0.3**
SYO	**Syowa Base**	**92.82**	**191⇑**	*e*sP	sP	07 36 41.0	+1.8
T42A	**Van Buren**	**92.99**	**53**	IAmb	IAmb	07 36 47.5	
comp=Z,2.7nm,1.0s							
P40A	**Paris**	**92.99**	**50**	P	**P**	**07 36 36.8**	**-0.5**
VNA3	**Neumayer Olymp**	**93.07**	**175**	P	**P**	**07 36 40.5**	**+3.4**
SNAA	**Sanae**	**93.12**	**177**	P	**P**	**07 36 40.1**	**+2.7**
SNAA	**Sanae**	**93.12**	**177**	IAmb	IAmb	07 36 42.2	
comp=Z,3.7nm,1.1s							
LZH	**Lanzhou**	**93.13**	**306**	*e*P	**P**	**07 36 36.1**	**-2.1**
LZH				pP	PcP	07 36 39.5	+0.7
LZH				sP	pP	07 36 40.8	+0.2
LZH				*e*PP	**PP**	**07 40 22.0**	**+0.4**
LZH				pmax	pmax		
comp=Z,17nm,1.4s							
LZH				pmax	pmax		
comp=Z,81nm,9.2s							
LZH				LR	LR		
comp=Z,120nm,17.0s							
LZH				LR	LR		
comp=Z,120nm,16.8s							
LZH				LR	LR		
comp=Z,170nm,19.5s							
VNA2	**Neumayer--Watz**	**93.56**	**175**	P	**P**	**07 36 42.0**	**+2.6**
VNA1	**Neumayer--Stat**	**93.76**	**175**	P	**P**	**07 36 43.3**	**+3.1**
SONM	**Songino Array**	**94.71**	**318**	P	**P**	**07 36 43.4**	**-1.7**
comp=Z,0.4nm,0.5s,baz=101,slow=3.7,SNR=2.0							
SONM				PP	**PP**	**07 40 38.1**	**+4.5**
comp=Z,0.3nm,0.3s,baz=104,slow=6.3,SNR=4.6							
SONM	**Songino Array**	**94.71**	**318**	P	**P**	**07 36 43.5**	**-1.6**
PLAL	**Pickwick Lake**	**94.78**	**55**	IAmb	IAmb	07 36 48.7	
comp=Z,3.4nm,0.8s							
MKAR	**Makanchi Array**	**110.70**	**315**	PKiKP	**PKiKP**	**07 41 56.0**	**-0.6**
comp=Z,0.6nm,0.7s,baz=96,slow=2.9,SNR=3.9							
ARCES	**ARCESS Array B**	**124.40**	**352**	PKP	**PKiKP**	**07 42 22.9**	**+0.4**
comp=Z,3.4nm,0.7s,baz=90,slow=1.2,SNR=8.7							
GEYT	**Alibeck**	**129.41**	**307**	PKP	**PKiKP**	**07 42 33.9**	**+0.4**
comp=Z,0.8nm,0.4s,baz=294,slow=1.4,SNR=1.2							
FINES	**FINESS Array B**	**131.74**	**348**	PKP	**PKiKP**	**07 42 36.9**	**-0.4**
comp=Z,2.4nm,0.9s,baz=131,slow=5.8,SNR=4.2							
NOA	**NORSAR Array B**	**134.09**	**357**	PKP	**PKiKP**	**07 42 42.0**	**-0.2**
comp=Z,0.6nm,0.7s,baz=19,slow=3.9,SNR=2.3							
CLL	**Collm**	**143.60**	**353**	*e*PKPdf	**PKPdf**	**07 42 59.0**	**+0.5**
comp=Z,4.0nm,0.6s							
CLL				*i* PKiKP	**sPKPdf**	**07 43 03.3**	**+1.4**
comp=Z,6.0nm,0.7s							
BRG	**Berggiesshubel**	**143.92**	**352**	*e*PKP	**PKiKP**	**07 43 01.2**	**-1.3**
comp=Z,6.8nm,1.2s							
BRG				*e*		08 01 22.3	
comp=Z,3.9nm,0.6s							
KOLS	**Kolonicke sedl**	**143.98**	**342**	*e*PKP	**PKPdf**	**07 42 58.4**	**-0.8**
DPC	**Dobruska-Polom**	**144.06**	**349**	*e*PKP	**PKiKP**	**07 43 03.1**	**+0.2**
BURAR	**Bucovina Array**	**144.18**	**338**	⇑P	**PKPdf**	**07 43 00.0**	**+0.3**
MORC	**Moravsky Berou**	**144.37**	**348**	*e*PKP	**PKPdf**	**07 42 59.2**	**-0.7**
PRU	**Pruhonice**	**144.70**	**351**	*e*PKP	**PKiKP**	**07 43 05.9**	**+1.8**
GOPC	**GO Pecny, Ondr**	**144.73**	**351**	*e*PKP	**PKiKP**	**07 43 05.5**	**+1.2**
VRAC	**Vranov**	**145.01**	**349**	*e*PKP	**PKPdf**	**07 43 02.0**	**+1.0**
VRI	**Vrincioaia**	**145.07**	**335**	⇑P	**PKPdf**	**07 43 01.0**	**-0.3**
PLOR	**Plostina**	**145.11**	**335**	⇑P	**PKPdf**	**07 43 01.7**	**+0.4**
JAVC	**Velka Javorina**	**145.22**	**347**	*e*PKP	**PKiKP**	**07 43 03.5**	**-1.8**
KRUC	**Moravsky**	**145.28**	**349**	*e*PKP	**PKPdf**	**07 43 02.6**	**+1.1**
VYHS	**Vyhne**	**145.30**	**346**	*e*PKP	**PKPdf**	**07 43 02.2**	**+0.7**
HARR	**Harsova**	**145.50**	**333**	⇑P	**PKPab**	**07 43 03.5**	**+1.3**
DOPR	**Dopca**	**145.51**	**337**	⇑P	**PKPab**	**07 43 03.1**	**+0.9**
KMBO	**Kilima Mbogo**	**145.66**	**245**	PKPbc	**PKPab**	**07 43 04.3**	**+0.2**
comp=Z,1.0nm,0.3s,baz=42,slow=6.2,SNR=2.4							
KHC	**Kasperske Hory**	**145.67**	**352**	*e*PKP	**PKPab**	**07 43 02.7**	**-0.1**
MLR	**Muntele Rosu**	**145.69**	**336**	⇑P	**PKPab**	**07 43 03.7**	**+0.7**
ISR	**Istrita**	**145.75**	**335**	⇑P	**PKPdf**	**07 42 58.8**	**-3.7**
MODS	**Modra-Piesok**	**145.76**	**347**	*e*PKP	**PKPbc**	**07 43 02.7**	**0.0**
GERES	**GERESS Array B**	**145.94**	**352**	PKPbc	**PKPab**	**07 43 03.7**	**-0.1**
comp=Z,3.7nm,0.8s,baz=23,slow=4.4,SNR=17							
GERES	**GERESS Array B**	**145.94**	**352**		**PKPdf**	**07 43 03.0**	**+0.3**
BRTR	**Keskin Array B**	**146.01**	**321**	PKPbc	**PKPdf**	**07 43 03.5**	**+0.3**
comp=Z,12nm,0.7s,baz=118,slow=1.7,SNR=34							
BRTR	**Keskin Array B**	**146.01**	**321**	PKPdf	**PKPdf**	**07 43 02.9**	**-0.3**
VOIR		**146.08**	**337**	⇑P	**PKPab**	**07 43 04.2**	**-0.2**
ARR	**Arges**	**146.30**	**337**	⇑P	**PKPbc**	**07 43 04.9**	**+0.3**
CONA	**Conrad Observa**	**146.47**	**349**	*ep*PKPdf	**PKPab**	**07 43 06.0**	**+0.1**
comp=Z,25nm,1.5s							
SIRR	**Siria**	**146.55**	**341**	⇑P	**PKPab**	**07 43 06.5**	**+0.4**
LOT	**Lotru**	**146.55**	**338**	⇑P	**PKPab**	**07 43 06.5**	**+0.1**
MOA	**Molln**	**146.82**	**351**	*ep*PKPdf	**PKPdf**	**07 43 06.9**	**+2.7**
comp=Z,5.3nm,0.8s							
RAZG	**Razgrad**	**147.01**	**333**	⇑P	PKPdf	07 42 56.3	-8.3
BZS	**Buzias**	**147.15**	**340**	⇑P	**PKPbc**	**07 43 06.5**	**-0.4**
ARSA	**Arzberg**	**147.19**	**349**	*e*PKPab	**PKPbc**	**07 43 07.5**	**+0.5**
comp=Z,6.9nm,1.1s							
HERR	**Herculane**	**147.53**	**339**	⇑P	**PKPbc**	**07 43 07.7**	**-0.3**
RETA	**Reutte**	**147.61**	**355**	*e*PKPab	**PKPbc**	**07 43 09.0**	**+0.8**
comp=Z,23nm,1.4s							
WATA	**Walderalm**	**147.68**	**354**	*ep*PKPdf	**PKPdf**	**07 43 08.0**	**+2.2**
comp=Z,16nm,1.2s							
KBA	**Koelnbreinsper**	**147.71**	**351**	*ep*PKPdf	**PKPdf**	**07 43 08.4**	**+2.5**
comp=Z,6.5nm,0.9s							
MOTA	**Moosalm**	**147.72**	**354**	*e*PKPab	**PKPbc**	**07 43 09.3**	**+0.7**
comp=Z,27nm,1.5s							
WTTA	**Wattenberg**	**147.75**	**354**	*ep*PKPdf	**PKPbc**	**07 43 09.0**	**+0.3**
comp=Z,14nm,0.9s							
SOKA	**Soboth**	**147.83**	**349**	*e*PKPbc	**PKPdf**	**07 43 07.4**	**+1.4**
comp=Z,18nm,1.1s							
SQTA	**Sankt Quirin**	**147.83**	**354**	*ep*PKPdf	**PKPdf**	**07 43 08.4**	**+2.4**
comp=Z,14nm,1.0s							
MDVR	**Moldovita**	**147.85**	**340**	⇑P	**PKPbc**	**07 43 08.8**	**-0.1**
DAVA	**Damuels**	**147.88**	**356**	*e*PKPbc	**PKPbc**	**07 43 07.8**	**-1.3**
comp=Z,28nm,1.8s							
FETA	**Feichten**	**148.07**	**355**	*ep*PKPdf	**PKPbc**	**07 43 09.9**	**+0.4**
comp=Z,8.0nm,1.1s							
OBKA	**Obir**	**148.08**	**350**	*ep*PKPdf	**PKPdf**	**07 43 09.1**	**+2.8**
comp=Z,13nm,1.7s							
MYKA	**Terra Mystica**	**148.11**	**351**	*e*PKPbc	**PKPdf**	**07 43 08.0**	**+1.6**
comp=Z,9.8nm,1.0s							
ABTA	**Abfaltersbach**	**148.15**	**352**	*e*PKPbc	**PKPbc**	**07 43 08.8**	**-0.9**
comp=Z,6.4nm,0.7s							
PDG	**Podgorica**	**150.76**	**341**	⇑P	**PKiKP**	**07 43 17.2**	**+0.3**
ESDC	**Sonseca Array**	**153.89**	**19**	PKPbc	**PKiKP**	**07 43 24.2**	**+0.7**
comp=Z,0.8nm,0.7s,baz=344,slow=1.8,SNR=4.2							
ESDC				PKPab	**PKPab**	**07 43 36.2**	**-0.2**
comp=Z,1.0nm,0.7s,baz=325,slow=3.8,SNR=6.0							
MDT	**Midelt**	**159.69**	**28**	PKP	**PKPdf**	**07 43 24.3**	**+1.1**
comp=Z,2.4nm,0.9s,baz=255,slow=3.5,SNR=5.1							

IDC ***03*** *07:24:17.6±0.3, 36°.94N×139°.51E, h0km, mb4.8/35, mb1 4.9/40, mb1mx4.8/50, mbtmp4.8/40, ML4.2/5, MS4.3/24, Ms1 4.3/24, ms1mx4.0/72, Error ellipse: s-maj=10.0km s-min=7.7km az=118.0*

JMA ***03*** *07:24:18.9, 36°.87N×139°.52E, h7km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs=151.00000°, δ68.00000°, λ-4.00000°. NP2:φs=243.00000°, δ87.00000°, λ-158.00000°. Principal axes: T Plg13.0000°, Azm15.0000°; N Plg68.0000°, Azm251.0000°; P Plg18.0000°, Azm109.0000°;*

NIED ***03*** *07:24:18.9, 36°.87N×139°.52E, h7km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.25; Mθθ0.70; Mφφ-1.95; Mrθ2.32; Mθφ-1.54; Mφr1.15; Fault plane solution: M0 3.46000×10^16 NP1:φs58.00000°, δ77.00000°, λ123.00000°. NP2:φs168.00000°, δ35.00000°, λ23.00000°.*

BJI ***03*** *07:24:19.5±0.0, 36°.90N×139°.50E, h10km, mB5.0/52, mb4.7/67, Ms4.9/71, Ms7 4.8/66*

BGR ***03*** *07:24:20.3±0.0, 36°.90N×139°.83E, h10km, mb5.2, Ms4.5*

UNK ***03*** *07:24:20.1, 36°.90N×139°.45E, h15km*

GCMT ***03*** *07:24:20.9±0.3, 36°.96N±0°.02×139°.57E±0°.02, h19km±1km, MW5.0/84, Moment Tensor Solution. s44,c50; s84,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.94±.18; Mθθ0.92±.14; Mφφ-2.85±.14; Mrθ-0.19±.31; Mθφ-3.20±.10; Mφr0.10±.25; Best double couple: M0 3.74000×10^16 NP1:φs346.00000°, δ80.00000°, λ10.00000°. NP2: φs254.00000°, δ80.00000°, λ170.00000°. Principal axes: T 2.8000, Plg14.0000°, Azm210.0000°; N 1.8860, Plg76.0000°, Azm30.0000°; P -4.6800, Plg0.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***03*** *07:24:20.7±1.1, 36°.92N×139°.54E, h34km, mb5.3/65, MS4.3/21 Error ellipse: s-maj=5.5km s-min=3.7km az=99.8*

NEIC ***03*** *07:24:21.9±1.4, 36°.86N±0°.05×139°.43E±0°.07, h30km±2km, mb5.2/242, Error ellipse: s-maj=7.9km s-min=7.2km az=126.0*

ISC 03 07:24:19.9±0.5, 36°.87N±0°.02×139°.56E±0°.02, h15km±2km, h15km:pP-P, n825, σ1°37/807, mb5.1/248, MS4.5/52, 62C-20D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.27**	**248**	⇓P	**Pg**	**07 24 24.0**	**-1.7**
JKT				*e*S	**Sg**	**07 24 27.0**	**-2.6**
JSB	**Shiboa**	**0.31**	**71**	⇓P	**Pg**	**07 24 25.9**	**-0.5**
JAG	**Ashikaga**	**0.45**	**191**	⇑P	**Pg**	**07 24 27.7**	**-1.2**
JAG				S	**Sg**	**07 24 34.2**	**-0.8**
JFY	**Yanaizu**	**0.55**	**12**	⇑P	**Pg**	**07 24 29.5**	**-1.3**
JFY				S	**Sg**	**07 24 36.8**	**-1.4**
JHK	**Hiroka**	**0.57**	**312**	⇓P	**Pg**	**07 24 29.6**	**-1.7**
JHK				S	**Sg**	**07 24 37.2**	**-1.7**
JGK	**Kuni**	**0.80**	**248**	⇓P	**Pg**	**07 24 34.2**	**-1.2**
JFFD	**Fukushimafurud**	**0.84**	**74**	⇓P	**Pg**	**07 24 35.0**	**-1.2**
JHO	**Hitachi**	**0.85**	**107**	⇓P	**Pg**	**07 24 35.0**	**-1.5**
JFT	**Otama**	**0.90**	**44**	⇑P	**Pg**	**07 24 36.3**	**-1.1**
JIZZ	**Izumozaki**	**0.95**	**315**	⇓P	**Pn**	**07 24 37.8**	**-0.9**
JNS	**Sasagawa**	**0.97**	**349**	⇑P	**Pg**	**07 24 37.0**	**-1.7**
JNS				S	**Sg**	**07 24 49.7**	**-1.7**
JHYU	**Hitachinakayam**	**0.98**	**122**	⇓P	**Pg**	**07 24 37.4**	**-1.5**
JHYU				S	**Sg**	**07 24 51.3**	**-0.5**
JRY	**Ryogami san**	**1.00**	**212**	⇑P	**Pg**	**07 24 37.7**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.02**	**76**	⇓P	**Pg**	**07 24 38.2**	**-1.5**
MJAR	**Matsushiro Arr**	**1.13**	**254**	Pg	**Pg**	**07 24 40.1**	**-1.7**
137nm,0.3s,baz=70,slow=18,SNR=1216							
MJAR				Lg	Lg	07 24 53.9	
53nm,0.3s,baz=91,slow=32,SNR=10							
MJAR	**Matsushiro Arr**	**1.13**	**254**	P	**Pg**	**07 24 38.7**	**-3.0**
MJAR	**Matsushiro Arr**	**1.13**	**254**		**Pg**	**07 24 38.7**	**-3.0**
MAJO	**Matsushiro**	**1.13**	**254**	*d iP*	**Pg**	**07 24 40.0**	**-1.8**
MAJO	**Matsushiro**	**1.13**	**254**		**Pg**	**07 24 40.1**	**-1.6**
MAT	**Matsushiro**	**1.13**	**254**	P	**Pg**	**07 24 40.0**	**-1.8**
MAT				S	**Sg**	**07 24 54.5**	**-2.0**
MAT	**Matsushiro**	**1.13**	**254**	P	**Pg**	**07 24 40.0**	**-1.8**
JJN	**Nakama**	**1.14**	**282**	⇓P	**Pb**	**07 24 40.5**	**-0.8**
JYAR	**Yonezawaarcadi**	**1.14**	**24**	⇑P	**Pg**	**07 24 40.4**	**-1.6**
JFK	**Kawauchi**	**1.17**	**64**	⇓P	**Pg**	**07 24 40.8**	**-1.6**
TOK	**Tokyo**	**1.19**	**172**	P	**Pn**	**07 24 42.3**	**+0.3**
JIHU	**Itakohorinouch**	**1.19**	**139**	P	**Pb**	**07 24 41.3**	**-0.9**
JNG	**Nsakai**	**1.26**	**249**	⇓P	**Pg**	**07 24 42.4**	**-1.8**
JSGW	**Sagamiharawaka**	**1.29**	**193**	⇑P	**Pn**

USA0B	**Ussuriysk Arra**	**9.31 324**	P	**Pn**	**07 26 35.2 +1.6**
USA0B	**Ussuriysk Arra**	**9.31 324**	Pn	**Pn**	**07 26 35.2 +1.6**
USRK	**Ussuriysk Ar.**	**9.31 324**	Pn	**Pn**	**07 26 35.1 +1.5**
	baz=144,slow=14,SNR=30				
USRK			Sn	**Sn**	**07 28 16.6 -1.5**
	baz=132,slow=24,SNR=2.4				
USRK			LR	LR	07 29 59.1
	comp=N,2μm,18.6s,baz=124,slow=37				
USRK	**Ussuriysk Ar.**	**9.31 324**	P	**Pn**	**07 26 37.1 +3.5**
USRK					07 28 16.6
USRK	**Ussuriysk Ar.**	**9.31 324**	Pn	**Pn**	**07 26 37.1 +3.5**
KSAR	**Wonju Array Be**	**9.34 277**	P	**Pn**	**07 26 36.5 +2.6**
KSAR	**Wonju Array Be**	**9.34 277**		**Pn**	**07 26 36.5 +2.6**
KS19	**Wonju Array Si**	**9.35 277**		**Pn**	**07 26 36.5 +2.4**
TJN	**Taejon**	**9.81 271**	*i* P	**Pn**	**07 26 43.6 +3.1**
JCJ	**Chichijima**	**9.99 166**	Pn	**Pn**	**07 26 42.7 -0.3**
	comp=N,13nm,0.3s,baz=324,slow=17,SNR=9.4				
JCJ			Sn	**Sn**	**07 28 30.1 -4.8**
	comp=N,2.8nm,0.3s,baz=286,slow=19,SNR=1.9				
JCJ			LR	LR	07 30 55.8
	comp=N,1μm,18.6s,baz=358,slow=40				
JCJ	**Chichijima**	**9.99 166**	Pn	**Pn**	**07 26 41.6 -1.4**
YSS	**Yuzh-Sakhalins**	**10.36 12**	*ce*P	**Pn**	**07 26 48.5 +0.7**
YSS			*e*S	**Sn**	**07 28 40.9 -2.7**
YSS			pmax	pmax	
	comp=Z,90nm,0.9s				
YSS			MLR	MLR	
	comp=Z,3μm,16.0s				
YSS			MLR	MLR	
	comp=N,2μm,17.0s				
YSS			MLR	MLR	
	comp=E,2μm,14.0s				
YSS	**Yuzh-Sakhalins**	**10.36 12**	Pn	**Pn**	**07 26 50.3 +2.5**
KUR	**Kuril'sk**	**10.45 34**	*d i*P	**Pn**	**07 26 49.0 -0.1**
KUR			S	**Sn**	**07 28 47.2 +1.4**
KUR			pmax	pmax	
	comp=Z,177nm,0.9s				
KUR			MLR	MLR	
	comp=Z,1μm,10.0s				
KUR			MLR	MLR	
	comp=N,972nm,13.0s				
MDJ	**Mudanjiang**	**10.81 319**	P	Pn	07 26 59.4 +5.3
MDJ			pP		07 27 02.4
MDJ			sP		07 27 05.2
MDJ			S	**Sn**	**07 28 55.4 +0.6**
MDJ			pmax	pmax	
	comp=N,88nm,1.0s				
MDJ			pmax	pmax	
	comp=N,860nm,3.5s				
MDJ			LR	LR	
	comp=N,4μm,16.2s				
MDJ			LR	LR	
	comp=N,4μm,12.3s				
MDJ			LR	LR	
	comp=N,4μm,15.7s				
UGL	**Uglegorsk**	**12.34 8**	P	**Pn**	**07 27 18.3 +3.3**
UGL			S	**Sn**	**07 29 31.8 -0.4**
UGL			smax	smax	
	comp=E,600nm,6.2s				
UGL			MLR	MLR	
	comp=Z,2μm,17.0s				
UGL			MLR	MLR	
	comp=N,2μm,20.0s				
UGL			MLR	MLR	
	comp=E,700nm,12.0s				
CN2	**Changchun**	**12.79 307**	*e*P	**Pn**	**07 27 22.3 +1.1**
CN2			*e*PP	**PnPn**	**07 27 32.7 +3.8**
CN2			*e*S	**Sn**	**07 29 45.6 +2.4**
CN2			pmax	pmax	
	comp=E,50nm,1.4s				
CN2			pmax	pmax	
	comp=E,400nm,3.0s				
CN2			LR	LR	
	comp=E,3μm,14.0s				
CN2			LR	LR	
	comp=E,2μm,14.0s				
CN2			LR	LR	
	comp=E,3μm,14.0s				
SNY	**Shenyang**	**13.32 297**	⇑P	**P**	**07 27 33.9 -4.1**
SNY			pmax	pmax	
	comp=E,22nm,2.4s				
SNY			pmax	pmax	
	comp=E,420nm,6.3s				
SNY			LR	LR	
	comp=E,2μm,11.3s				
SNY			LR	LR	
	comp=E,2μm,13.7s				
SNY			LR	LR	
	comp=E,2μm,15.2s				
KLR	**Kul'dur**	**13.60 338**	Pn	**Pn**	**07 27 32.4 +0.2**
	comp=E,0.6nm,0.3s,baz=145,slow=12,SNR=70				
KLR			LR	LR	07 32 34.7
	comp=E,2μm,18.3s,baz=154,slow=37				
KLR	**Kul'dur**	**13.60 338**	*ce*P	**Pn**	**07 27 35.4 +3.2**
KLR			pmax	pmax	
	comp=Z,49nm,1.0s				
GRNR	**Gornyy**	**14.08 352**	⇓*i*P	**Pn**	**07 27 39.1 +0.4**
GRNR			*e*S	**Sn**	**07 30 16.8 +2.2**
GRNR			pmax	pmax	
	comp=N,20nm,0.9s				
GRNR			pmax	pmax	
	comp=Z,20nm,0.9s				
GRNR			smax	smax	
	comp=N,2.0nm,0.5s				
GRNR			MLR	MLR	
	comp=E,820nm,15.0s				
GRNR			MLR	MLR	
	comp=N,510nm,20.0s				
GRNR			MLR	MLR	
	comp=Z,870nm,16.0s				
TYV	**Tymovskoe**	**14.17 8**	*e*P	**Pn**	**07 27 39.1 -0.8**
TYV			*e*S	**Sn**	**07 30 16.1 -0.6**
TYV			pmax	pmax	
	comp=Z,400nm,2.8s				
TYV			pmax	pmax	
	comp=Z,71nm,1.2s				
TYV			smax	smax	
	comp=E,100nm,4.0s				
TYV			MLR	MLR	
	comp=N,2μm,18.0s				
TYV			MLR	MLR	
	comp=Z,2μm,18.0s				
DL2	**Dalian**	**14.31 284**	P	**P**	**07 27 47.6 -1.4**
DL2			S	S	07 30 31.2 -9.4
DL2			pmax	pmax	
	comp=Z,62nm,1.8s				
DL2			pmax	pmax	
	comp=Z,370nm,3.5s				
DL2			LR	LR	
	comp=Z,2μm,12.9s				
DL2			LR	LR	
	comp=Z,3μm,13.1s				
DL2			LR	LR	
	comp=Z,3μm,12.9s				
SSE	**Sheshan**	**16.28 255**	P	**P**	**07 28 09.7 -1.3**
SSE			pmax	pmax	
	comp=Z,15nm,0.7s				
SSE			pmax	pmax	
	comp=Z,130nm,4.1s				
SSE			LR	LR	
	comp=Z,2μm,17.6s				
SSE			LR	LR	
	comp=Z,2μm,18.8s				
OKH	**Okha**	**16.85 7**	*c i*P	**Pn**	**07 28 15.4 +0.3**
OKH			pmax	pmax	
	comp=Z,100nm,14.2s				
OKH			MLR	MLR	
	comp=E,2μm,14.0s				
OKH			MLR	MLR	
	comp=Z,600nm,14.0s				
OKH			MLR	MLR	
	comp=N,800nm,17.0s				
NJ2	**Nanjing**	**17.73 260**	*e*P	**P**	**07 28 28.4 +1.4**
NJ2			pP	**sP**	**07 28 31.2 -2.5**
NJ2			sP	**pP**	**07 28 37.0 +5.4**
NJ2			S	**Sn**	**07 31 43.3 -0.1**
NJ2			pmax	pmax	
	comp=N,14nm,0.5s				
NJ2			pmax	pmax	
	comp=N,320nm,3.5s				
NJ2			LR	LR	
	comp=N,1μm,13.3s				
NJ2			LR	LR	
	comp=N,2μm,14.7s				
NJ2			LR	LR	
	comp=N,2μm,14.2s				
TIA	**Tai'an**	**18.04 275**	P	**P**	**07 28 33.0 +2.6**
TIA			pmax	pmax	
	comp=N,74nm,1.3s				
TIA			pmax	pmax	
	comp=N,550nm,4.4s				
TIA			LR	LR	
	comp=N,2μm,13.7s				
TIA			LR	LR	
	comp=N,1μm,16.2s				
TIA			LR	LR	
	comp=N,2μm,16.7s				
SKR	**Severo-Kuril's**	**18.21 35**	*e*P	**Pn**	**07 28 31.9 -0.1**
SKR			pmax	pmax	
	comp=Z,300nm,3.8s				
SKR			MLR	MLR	
	comp=Z,400nm,16.0s				
SKR			MLR	MLR	
	comp=N,200nm,13.0s				
SKR			MLR	MLR	
	comp=E,600nm,12.0s				
BJI	**Beijing**	**18.57 287**	P	**Pn**	**07 28 37.4 +0.9**
BJI			S	**S**	**07 32 06.7 -0.9**
BJI			pmax	pmax	
	comp=E,45nm,1.2s				
BJI			LR	LR	
	comp=E,400nm,17.1s				
BJI			LR	LR	
	comp=E,940nm,12.4s				
BJI			LR	LR	
	comp=E,440nm,13.5s				
BJT	**Baijiatuau**	**18.58 287**	P	**Pn**	**07 28 38.1 +1.5**
BJT			pmax	pmax	
	comp=Z,131nm,1.6s				
BJT	**Baijiatuau**	**18.58 287**		**Pn**	**07 28 38.1 +1.5**
ZEA	**Zeya**	**18.91 337**	*e*P	**P**	**07 28 37.4 -2.5**
ZEA			pmax	pmax	
	comp=E,58nm,1.2s				
ZEA			pmax	pmax	
	comp=Z,64nm,1.0s				
ZEA			MLR	MLR	
	comp=E,2μm,15.0s				
ZEA			MLR	MLR	
	comp=Z,4μm,15.0s				
ZEA			MLR	MLR	
	comp=N,2μm,16.0s				
PEA0B	**Petropavlovsk-**	**20.60 32**	*ce*P	**P**	**07 28 58.6 +0.3**
PEA0B	**Petropavlovsk-**	**20.60 32**	P	Pn	07 28 59.7 -0.9
PETK	**Petropavlovsk-**	**20.60 32**	P	**P**	**07 28 58.5 +0.2**
	comp=N,30nm,1.1s,baz=219,slow=6.5,SNR=12				
PETK			LR	LR	07 37 24.9
	comp=N,364nm,18.0s,baz=219,slow=38				
SSLB	**Suanglung**	**20.63 236**	P	**P**	**07 28 56.4 -2.5**
SSLB				**S**	**07 32 49.6 +0.4**
YULB	**Yu-li**	**20.68 235**	P	**P**	**07 28 58.0 -1.4**
PET	**Petropavlovsk**	**20.96 34**	*c i*P	**P**	**07 29 03.0 +0.9**
PET			*e*S	**S**	**07 32 47.0 -8.1**
PET			pmax	pmax	
	comp=Z,300nm,9.4s				
PET			pmax	pmax	
	comp=Z,280nm,1.0s				
PET			MLR	MLR	
	comp=Z,600nm,14.0s				
PET			MLR	MLR	
	comp=Z,700nm,15.0s				
PET	**Petropavlovsk**	**20.96 34**	P	**P**	**07 29 02.1 -0.1**
PET			IAmb	IAmb	07 29 06.3
	comp=Z,127nm,1.2s				
TPUB	**Ta-pu**	**21.18 236**	P	**P**	**07 29 04.7 -0.2**
TWG	**Pinlang**	**21.23 234**	P	**P**	**07 29 05.9 +0.5**
TWG			IAmb	IAmb	07 29 11.9
	comp=Z,137nm,1.2s				
WHN	**Wuhan**	**21.86 261**	P	**P**	**07 29 18.1 +6.0**
WHN			S	**S**	**07 33 14.5 +1.2**
WHN			LR	LR	
	comp=Z,4μm,18.4s				
WHN			LR	LR	
	comp=Z,5μm,14.2s				
WHN			LR	LR	
	comp=Z,6μm,15.2s				
HHC	**Hu-ho-hao-te**	**22.12 289**	*e*P	**P**	**07 29 15.4 +0.5**
HHC			SS	**SnSn**	**07 33 48.5 +3.8**
HHC			pmax	pmax	
	comp=Z,32nm,0.7s				
HHC			pmax	pmax	
	comp=Z,95nm,7.6s				
HHC			LR	LR	
	comp=Z,1μm,11.8s				
HHC			LR	LR	
	comp=Z,1μm,12.4s				
HHC			LR	LR	
	comp=Z,2μm,12.4s				
GUMO	**Guam**	**23.66 167**	P	**P**	**07 29 31.6 +0.8**
	comp=Z,50nm,0.8s,baz=176,slow=11,SNR=4.5				
CIT	**Chita**	**23.78 318**	*e*P	P	07 29 23.4 -8.5
CIT			*e*		07 29 33.4
XAN	**Xi'an**	**25.06 273**	P	**P**	**07 29 49.8 +6.0**
XAN			pmax	pmax	
	comp=Z,17nm,1.2s				
YAK	**Yakutsk**	**25.93 349**	P	**P**	**07 29 49.8 -1.5**
	comp=Z,9.8nm,0.3s,baz=162,slow=0.5,SNR=7.1				
YAK			S	**S**	**07 34 23.8 +3.0**
	comp=Z,7.3nm,0.3s,baz=8.7,slow=2.1,SNR=1.5				
YAK			LR	LR	07 40 13.1
	comp=Z,1μm,18.2s,baz=154,slow=37				
YAK	**Yakutsk**	**25.93 349**	*e*P	**P**	**07 29 49.8 -1.5**
YAK			*e**PP	**sP**	**07 30 02.1 +3.9**
YAK			*e*PPP	PPP	07 30 37.4
YAK			*e*S	**S**	**07 34 14.9 -5.9**
YAK			*e**SS	**sS**	**07 34 32.7 +3.9**
YAK			*e*SSS	SSS	07 35 45.3
YAK			pmax	pmax	
	comp=Z,29nm,0.9s				
YAK			pmax	pmax	
	comp=N,25nm,1.2s				
YAK			pmax	pmax	
	comp=E,8.0nm,1.2s				
YAK			pmax	pmax	
	comp=Z,25nm,0.9s				
YAK			smax	smax	
	comp=E,4.0nm,0.4s				
YAK			MLR	MLR	
	comp=Z,1μm,14.0s				
YAK			MLR	MLR	
	comp=N,949nm,13.0s				
YAK			MLR	MLR	
	comp=E,372nm,17.0s				
YAK	**Yakutsk**	**25.93 349**	P	**P**	**07 29 50.3 -1.0**
YAK			IAmb	IAmb	07 29 55.6
	comp=Z,40nm,0.7s				
ULN	**Ulaanbaatar**	**26.22 305**	*i* P	**P**	**07 29 53.0 -1.3**
ULN			pmax	pmax	
	comp=Z,22nm,1.3s				
SONM	**Songino Array**	**26.65 305**	P	**P**	**07 29 57.0 -1.1**
	comp=Z,6.9nm,0.8s,baz=108,slow=9.3,SNR=3.6				
SONM			PcP	**PcP**	**07 33 21.1 -0.6**
	comp=Z,0.8nm,0.6s,baz=132,slow=2.1,SNR=2.2				
SONM			LR	LR	07 40 19.5
	comp=Z,522nm,19.8s,baz=105,slow=36				
BOD	**Bodaibo**	**26.89 329**	*e*P	**P**	**07 29 58.8 -1.2**
BOD			pmax	pmax	
	comp=Z,43nm,1.4s				
SEY	**Seymchan**	**27.26 13**	P	**P**	**07 30 02.0 -1.2**
	comp=Z,33nm,1.0s,baz=211,slow=8.5,SNR=25				
SEY			LR	LR	07 42 20.6
	comp=Z,816nm,18.2s,baz=201,slow=40				
SEY	**Seymchan**	**27.26 13**	*i* P	**P**	**07 30 03.5 +0.2**
LZH	**Lanzhou**	**28.63 279**	*e*P	**P**	**07 30 16.6 +0.6**
LZH			sP	sP	07 30 23.4 +0.3
LZH			*e*S	**S**	**07 35 06.0 +1.9**
LZH			sS	sS	07 35 10.6 -1.8
LZH			SS	**SnSn**	**07 36 28.4 +4.4**
LZH			pmax	pmax	
	comp=Z,32nm,1.2s				
LZH			pmax	pmax	
	comp=Z,140nm,4.7s				
LZH			LR	LR	
	comp=Z,1μm,13.1s				
LZH			LR	LR	
	comp=Z,2μm,13.3s				
LZH			LR	LR	
	comp=Z,2μm,15.2s				
ZAK	**Zakamensk**	**29.21 309**	*e*P	P	07 30 12.3 -8.7
ZAK			pmax	pmax	
	comp=Z,6.0nm,1.2s				
TLY	**Talaya**	**29.32 312**	P	**P**	**07 30 21.5 -0.3**
	comp=Z,2.3nm,0.5s,baz=12,slow=19,SNR=1.8				
TLY			LR	LR	07 41 26.0
	comp=Z,620nm,18.8s,baz=108,slow=35				
TLY	**Talaya**	**29.32 312**	*e*P	**P**	**07 30 21.9 +0.1**
TLY			pmax	pmax	
	comp=Z,13nm,0.8s				
TLY			MLR	MLR	
	comp=Z,2μm,13.0s				
GYA	**Guiyang**	**29.73 259**	*e*P	**P**	**07 30 25.8 0.0**
GYA			S	**S**	**07 35 24.1 +2.6**
GYA			SS	**SnSn**	**07 36 54.8 +3.8**
GYA			pmax	pmax	
	comp=Z,8.0nm,0.9s				
GYA			LR	LR	
	comp=Z,870nm,13.6s				
GYA			LR	LR	
	comp=Z,560nm,14.4s				
GYA			LR	LR	
	comp=Z,1μm,14.9s				
CD2	**Chengdu**	**30.18 269**	*e*P	**P**	**07 30 30.7 +1.0**
CD2			S	**S**	**07 35 27.0 -1.5**
CD2			pmax	pmax	
	comp=Z,100nm,5.0s				
CD2			LR	LR	
	comp=Z,2μm,14.1s				
CD2			LR	LR	
	comp=Z,2μm,16.5s				
CD2			LR	LR	
	comp=Z,2μm,15.3s				
GTA	**Gaotai**	**31.19 287**	P	**P**	**07 30 41.4 +2.8**
GTA			pP	sP	07 30 45.2 -0.6
GTA			sP	pP	07 30 48.4 +4.7
GTA			PP	**PnPn**	**07 31 42.2 +1.9**
GTA			S	**S**	**07 35 48.5 +4.3**
GTA			pmax	pmax	
	comp=Z,4.0nm,0.8s				
GTA			pmax	pmax	
	comp=Z,95nm,5.6s				
GTA			LR	LR	
	comp=Z,910nm,12.7s				
GTA			LR	LR	
	comp=Z,580nm,11.1s				
GTA			LR	LR	
	comp=Z,710nm,13.0s				
AMKA	**Amchitka**	**31.58 50**	P	**P**	**07 30 41.4 -0.3**
DAV	**Davao City (W)**	**32.28 207**	LR	LR	07 41 15.6
	comp=Z,356nm,21.8s,baz=8.5,slow=32				
KMI	**Kunming**	**33.47 260**	⇓*e*P	**P**	**07 30 59.1 +0.3**
KMI			pP	sP	07 31 04.3 -1.6
KMI			sP	pP	07 31 06.5 +2.6
KMI			S	**S**	**07 36 17.3 -2.8**
KMI			SS	**SnSn**	**07 38 20.7 -1.4**
KMI			pmax	pmax	
	comp=Z,12nm,0.5s				
KMI			pmax	pmax	
	comp=Z,83nm,4.2s				
KMI			LR	LR	
	comp=Z,1μm,14.7s				
KMI			LR	LR	
	comp=Z,1μm,16.8s				
KMI			LR	LR	
	comp=Z,1μm,16.0s				
ADK	**Adak**	**34.13 50**	P	**P**	**07 31 03.8 -0.2**
ADK			pmax	pmax	
	comp=Z,24nm,1.1s				
ADK	**Adak**	**34.13 50**	P	**P**	**07 31 03.8 -0.2**
ADK			IAmb	IAmb	07 31 05.2
	comp=Z,24nm,1.1s				
ATKA	**Atka Island**	**35.69 50**	P	**P**	**07 31 16.9 -0.6**
ATKA			IAmb	IAmb	07 31 20.9
	comp=Z,49nm,1.1s				
MYLDM	**Lahad Datu**	**36.97 217**	P	**P**	**07 31 27.2 -1.5**
DLV	**T Lat**	**37.34 236**	P	**P**	**07 31 30.2 -1.9**
SIJI	**Sorong**	**38.33 193**	LR	LR	07 44 21.2
	comp=Z,379nm,20.9s,baz=315,slow=31				
SMPI	**Sarmi**	**38.67 181**	P	**P**	**07 31 43.0 0.0**
	comp=Z,56nm,1.7s				
GTOI	**Gorontalo**	**39.17 207**	P	**P**	**07 31 46.0 -1.3**
	comp=Z,334nmcomp=Z,22nm,1.6s				
JAY	**Jayapura**	**39.20 178**	P	**P**	**07 31 47.7 +0.2**
	comp=Z,19nm,1.1s				
GENI	**Genyem**	**39.26 179**	P	**P**	**07 31 47.9 -0.1**
	comp=Z,2μmcomp=Z,79nm,1.1s				
DGZ	**Jazzator, Alta**	**39.28 306**	*i* P	**P**	**07 31 46.9 -1.2**
DGZ			pmax	pmax	
	comp=Z,13nm,0.9s				
WMQ	**Urumqi**	**39.59 297**	*e*P	**P**	**07 31 51.7 +1.1**
WMQ			pP	sP	07 31 56.6 -1.3
WMQ			pmax	pmax	
	comp=Z,13nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,62nm,4.7s				
WMQ			LR	LR	
	comp=Z,500nm,12.9s				
WMQ			LR	LR	
	comp=Z,310nm,16.1s				
CMAR	**Chiang Mai Arr**	**40.02 254**	P	**P**	**07 31 55.2 +0.8**
	comp=Z,0.7nm,0.3s,baz=46,slow=7.7,SNR=1.4				
CMAR			PcP	**PcP**	**07 34 00.3 +0.9**
	comp=Z,1.2nm,0.4s,baz=6.3,slow=3.0,SNR=5.9				
CMAR			LR	LR	07 48 23.6
	comp=Z,279nm,19.2s,baz=84,slow=36				
SANI	**Sanana**	**40.72 201**	P	**P**	**07 31 59.8 -0.4**
	comp=Z,22nm,0.9s				
ZALV	**Zalesovo Beam**	**40.93 313**	P	**P**	**07 32 00.2 -1.3**
	comp=Z,4.3nm,0.5s,baz=94,slow=6.6,SNR=19				
ZALV			PcP	**PcP**	**07 34 01.3 -0.4**
	comp=Z,3.4nm,0.7s,baz=108,slow=3.2,SNR=3.8				
ZALV			LR	LR	07 47 21.0
	comp=Z,294nm,20.9s,baz=90,slow=34				
ZALV	**Zalesovo Beam**	**40.93 313**	P	**P**	**07 32 00.0 -1.5**
ZALV	**Zalesovo Beam**	**40.93 313**	P	**P**	**07 32 00.0 -1.5**
ZSN	**Zaisan**	**41.12 303**	*e*P	**P**	**07 32 02.4 -0.8**
ZSN			LR	LR	07 49 25.4
	comp=Z,340nm,12.0s				
ZSN	**Zaisan**	**41.12 303**	*e*P	**P**	**07 32 02.4 -0.8**
ZSN			MLR	MLR	
	comp=Z,340nm,12.0s				
NRIK	**Noril'sk**	**42.80 336**	P	**P**	**07 32 15.5 -1.1**
	comp=Z,14nm,1.0s,baz=107,slow=9.0,SNR=10				
NRIK			PcP	**PcP**	**07 34 07.3 -0.3**
	comp=Z,12nm,1.0s,baz=98,slow=3.8,SNR=3.3				
NRIK			LR	LR	07 49 39.7
	comp=Z,444nm,19.1s,baz=44,slow=36				
MK31	**Makanchi Array**	**42.95 302**	P	**P**	**07 32 17.1 -1.0**
MK31			pmax	pmax	
	comp=Z,5.0nm,1.0s				
MK31	**Makanchi Array**	**42.95 302**	P	**P**	**07 32 17.1 -1.0**
MKAR	**Makanchi Array**	**42.95 302**	P	**P**	**07 32 17.0 -1.1**
	comp=Z,3.1nm,0.8s,baz=83,slow=9.9,SNR=15				
MKAR			PcP	**PcP**	**07 34 07.8 -0.8**
	comp=Z,0.5nm,0.4s,baz=132,slow=2.3,SNR=6.2				
MKAR			LR	LR	07 49 11.3
	comp=Z,471nm,21.3s,baz=84,slow=35				
MAKZ	**Makanchi**	**43.16 302**	P	**P**	**07 32 18.8 -1.0**
MAKZ			pmax	pmax	
	comp=Z,8.0nm,1.0s				
MAKZ	**Makanchi**	**43.16 302**	P	**P**	**07 32 18.8 -1.0**
RDOG	**Red Dog Mine**	**44.33 27**	P	**P**	**07 32 29.6 +0.6**
CNBA	**Chernabura Isl**	**44.50 46**	P	**P**	**07 32 29.8 -0.7**
KURK	**Kurchatov**	**44.86 308**	*ce*P	**P**	**07 32 32.3 -1.1**
KURK			pmax	pmax	
	comp=Z,76nm,2.5s				
KURK	**Kurchatov**	**44.86 308**	P	**P**	**07 32 32.6 -0.8**
KURK			IAmb	IAmb	07 32 33.7
	comp=Z,28nm,0.9s				
KURBB	**Kurchatov Arra**	**44.93 308**	P	**P**	**07 32 32.5 -1.5**
PDGK	**Podgornoye**	**45.53 298**	P	**P**	**07 32 38.2 -0.9**
KAPI	**Kappang**	**45.59 208**	P	**P**	**07 32 38.9 -0.6**
	comp=Z,9.2nm,0.4s,baz=20,slow=8.4,SNR=6.4				
KAPI	**Kappang**	**45.59 208**	P	**P**	**07 32 38.1 -1.4**
KAPI			pmax	pmax	
	comp=Z,47nm,1.1s				
KAPI	**Kappang**	**45.59 208**	P	**P**	**07 32 38.1 -1.4**
KAPI			IAmb	IAmb	07 32 42.1
	comp=Z,47nm,1.1s				
SHLS	**Shalkode**	**45.59 297**	*e*P	**P**	**07 32 36.5 -3.0**
	comp=Z,22nm,2.0s				
SHLS			LR	LR	07 52 12.4
	comp=Z,340nm,14.1s				
SHLS	**Shalkode**	**45.59 297**	*e*P	**P**	**07 32 36.5 -3.0**
SHLS			pmax	pmax	
	comp=Z,22nm,2.0s				
SHLS			MLR	MLR	
	comp=Z,340nm,14.0s				
UZB	**Uzynbulak**	**45.91 297**	*e*P	**P**	**07 32 41.0 -1.1**
	comp=Z,12nm,1.5s				

UZB LR LR 07 52 41.1
comp=Z,153nm,11.8s
UZB Uzynbulak 45.91 297 *eP* **P 07 32 41.0 -1.1**
UZB pmax pmax
comp=Z,12nm,1.5s
UZB MLR MLR
comp=Z,153nm,12.0s
TDK Taldyqorghan 45.93 300 *eP* **P 07 32 40.5 -1.5**
TDK LR LR 07 52 22.3
TDK Taldyqorghan 45.93 300 *eP* **P 07 32 40.5 -1.5**
KPKS Kokpek 46.08 298 *eP* **P 07 32 42.0 -1.4**
comp=Z,31nm,1.8s
KPKS LR LR 07 52 50.5
comp=Z,442nm,14.0s
KPKS Kokpek 46.08 298 *eP* **P 07 32 41.9 -1.4**
KPKS pmax pmax
comp=Z,31nm,1.8s
KPKS MLR MLR
comp=Z,441nm,14.0s
SATY Saty 46.37 298 *eP* **P 07 32 45.3 -0.3**
SATY LR LR 07 53 05.0
comp=Z,169nm,12.3s
SATY Saty 46.37 298 *eP* **P 07 32 45.3 -0.3**
SATY MLR MLR
comp=Z,169nm,12.0s
TTA Tatalina 46.41 35 P **P 07 32 45.8 +0.2**
TTA pmax pmax
comp=Z,16nm,1.2s
TTA Tatalina 46.41 35 P **P 07 32 45.8 +0.2**
SVW2 Sparrevohn 46.56 37 P **P 07 32 46.7 0.0**
SVW2 IAmb IAmb 07 32 49.8
comp=Z,29nm,1.2s
CHIR Chirikof Islan 46.71 45 P **P 07 32 51.2 +3.2**
CHKK Chushkaly 47.18 299 *eP* **P 07 32 50.8 -1.1**
CHKK Chushkaly 47.18 299 *eP* **P 07 32 50.7 -1.1**
MDOK Medeo 47.31 298 *eP* **P 07 32 51.8 -1.3**
MDOK LR LR 07 52 49.9
comp=Z,410nm,15.4s
MDOK Medeo 47.31 298 *eP* **P 07 32 51.7 -1.3**
MDOK MLR MLR
comp=Z,410nm,15.0s
AAA Alma-Ata 47.39 298 *eP* **P 07 32 52.7 -0.9**
AAA LR LR 07 52 59.3
comp=Z,298nm,14.2s
AAA Alma-Ata 47.39 298 *eP* **P 07 32 52.6 -0.9**
AAA MLR MLR
comp=Z,298nm,14.0s
IMAR Indian Mountai 47.55 31 P **P 07 32 55.0 +0.6**
KUU Kurty 47.62 299 *eP* **P 07 32 53.7 -1.6**
comp=Z,63nm,2.0s
KUU LR LR 07 53 17.1
comp=Z,400nm,12.2s
KUU Kurty 47.62 299 *eP* **P 07 32 53.6 -1.7**
KUU pmax pmax
comp=Z,63nm,2.0s
KUU MLR MLR
comp=Z,400nm,12.0s
PPLA Purkeypile 48.16 35 P **P 07 32 59.9 +0.6**
EDFI Ende, Flores 48.38 204 P **P 07 32 59.8 -1.6**
comp=Z,11nm,1.3s
TKM2 Tokmak 2 48.40 298 P **P 07 33 01.7 +0.2**
SNR=18
TKM2 Tokmak 2 48.40 298 P **P 07 33 01.4 -0.2**
BPAW Bear Paw Mtn. 48.68 33 P **P 07 33 03.8 +0.6**
BPAW IAmb IAmb 07 33 05.8
comp=Z,28nm,1.5s
KTH Kantishna Hill 48.72 34 P **P 07 33 04.1 +0.6**
BRZS Berezniki 48.74 308⇑ *iP* **P 07 33 02.5 -1.4**
comp=Z,45nm,1.9s
BRZS LR LR 07 54 01.9
comp=Z,391nm,13.8s
BRZS Berezniki 48.74 308*c iP* **P 07 33 02.4 -1.4**
BRZS pmax pmax
comp=Z,45nm,1.9s
BRZS MLR MLR
comp=Z,391nm,14.0s
KZA Kyzart 48.88 297 P **P 07 33 06.2 +0.7**
SNR=12
BTLS Baital 48.93 301⇑ *iP* **P 07 33 04.2 -1.1**
comp=Z,13nm,1.2s
BTLS LR LR 07 54 03.0
comp=Z,83nm,10.5s
BTLS Baital 48.93 301*c iP* **P 07 33 04.2 -1.1**
BTLS pmax pmax
comp=Z,13nm,1.2s
BTLS MLR MLR
comp=Z,83nm,11.0s
KBK Karagaybulak 48.93 298 P **P 07 33 06.1 +0.5**
SNR=10
SGDS Sogindy 48.94 299 *eP* **P 07 33 04.6 -1.0**
comp=Z,26nm,1.9s
SGDS Sogindy 48.94 299 *eP* **P 07 33 04.5 -1.0**
SGDS pmax pmax
comp=Z,26nm,1.9s
TRF Thorofare Moun 49.00 34 IAmb IAmb 07 34 43.6
comp=Z,9.4nm,0.5s
COLD Coldfoot 49.02 29 P **P 07 33 06.8 +1.1**
baz=269
COLD Coldfoot 49.02 29 P **P 07 33 06.7 +1.0**
COLD IAmb IAmb 07 33 08.3
comp=Z,40nm,1.6s
CUT Chulitna 49.06 35 P **P 07 33 06.0 -0.1**
baz=273
USP Ospenovka 49.08 299 P **P 07 33 06.7 +0.1**
SNR=8.3
KSH Kashi 49.11 294 P **P 07 33 10.0 +3.0**
KSH PcP **PcP 07 34 34.7 +4.3**
KSH PP **PP 07 35 06.1 +5.6**
KSH S **S 07 40 17.4 +5.7**
KSH sS sS 07 40 28.2 +8.0
KSH ScS **ScS 07 42 58.9 +0.1**
KSH SS **SS 07 43 46.3 +3.8**
KSH pmax pmax
comp=Z,17nm,1.1s
KSH pmax pmax
comp=Z,110nm,4.1s
KSH LR LR
comp=Z,360nm,14.1s
KSH LR LR
comp=Z,320nm,15.6s
KSH LR LR
comp=Z,290nm,10.8s
BATI Baumata 49.15 201 P **P 07 33 07.7 +0.4**
comp=Z,36nm,0.8s,baz=107,slow=17,SNR=2.6
AAK Ala-Archa 49.26 298 P **P 07 33 06.4 -1.7**
AAK Ala-Archa 49.26 298 P **P 07 33 06.6 -1.5**
TOLK Toolik Lake Re 49.30 27 P **P 07 33 08.6 +0.7**
baz=268
TOLK Toolik Lake Re 49.30 27 IAmb IAmb 07 33 10.3
comp=Z,49nm,1.4s
BWN Browne 49.34 33 P **P 07 33 08.9 +0.7**
NEA2 Nenana 49.50 33 P **P 07 33 10.4 +1.0**
baz=272,SNR=11
BRVK Borovoye 49.64 312 P **P 07 33 09.5 -1.1**
BRVK pmax pmax
comp=Z,34nm,1.1s
BRVK Borovoye 49.64 312 P **P 07 33 09.5 -1.1**
BRVK IAmb IAmb 07 33 14.0
comp=Z,34nm,1.1s
RND Reindeer 49.65 34 P **P 07 33 10.0 -0.7**
RND pmax pmax
comp=Z,39nm,1.2s
RND Reindeer 49.65 34 P **P 07 33 10.0 -0.7**
RND IAmb IAmb 07 33 12.3
comp=Z,39nm,1.2s
GHO Glory Hole Cre 49.73 36 P **P 07 33 11.3 0.0**
AML Almayashu 49.97 298 P **P 07 33 14.7 +0.9**
SNR=7.4
SML Sawmill 50.01 36 P **P 07 33 12.7 -0.7**
SML IAmb IAmb 07 33 25.4
comp=Z,33nm,1.1s
TCOL CIGO, UAF Yank 50.01 32 P **P 07 33 14.3 +1.0**
baz=273
COLA College 50.01 32 P **P 07 33 13.7 +0.4**
COLA pmax pmax
comp=Z,55nm,1.7s
COLA College 50.01 32 P **P 07 33 13.7 +0.4**
COLA IAmb IAmb 07 33 20.2
comp=Z,55nm,1.7s
CCB Clear Creek Bu 50.04 32 P **P 07 33 13.5 0.0**
POKR Poker Plat Res 50.18 32 P **P 07 33 16.0 +1.4**
baz=273,SNR=18
HDA Harding Lake 50.43 33 P **P 07 33 16.6 +0.1**
baz=274,SNR=20
HDA Harding Lake 50.43 33 P **P 07 33 15.6 -0.9**
HDA IAmb IAmb 07 33 17.8
comp=Z,34nm,1.1s
IL31 50.43 32 P **P 07 33 16.2 -0.2**
IL31 IAmb IAmb 07 33 17.9
comp=Z,22nm,1.1s
ILAR Eielson Array 50.43 32 P **P 07 33 16.6 +0.1**
comp=Z,10nm,0.8s,baz=272,slow=6.0,SNR=86
ILAR Eielson Array 50.43 32 P **P 07 33 16.1 -0.4**
ILAR Eielson Array 50.43 32 P **P 07 33 16.1 -0.4**
SCM Sheep Creek Mo 50.48 36 P **P 07 33 17.4 +0.4**
SCM pmax pmax
comp=Z,51nm,1.3s
SCM Sheep Creek Mo 50.48 36 P **P 07 33 17.4 +0.4**
SCM IAmb IAmb 07 33 19.1
comp=Z,51nm,1.3s
RGRI Rengat 50.58 232 P P 07 33 28.3 +10
COEN Coen 50.66 175 IAmb IAmb 07 33 22.3
comp=Z,26nm,1.1s
M24K Tolsona, Glenn 50.99 36 P **P 07 33 21.6 +0.8**
baz=277
FID Port Fidalgo 51.01 37 IAmb IAmb 07 33 32.6
comp=Z,28nm,1.1s
BSI Banda Aceh 51.05 243 P **P 07 33 19.6 -2.2**
KLU Klutina 51.18 36 IAmb IAmb 07 33 24.5
comp=Z,42nm,1.4s
BMAR Burnt Mountain 51.19 29 P **P 07 33 23.6 +1.4**
PAX Paxson 51.22 34 P **P 07 33 22.5 0.0**
PAX pmax pmax
comp=Z,19nm,1.4s
PAX Paxson 51.22 34 P **P 07 33 22.5 0.0**
DZA Taraz 51.41 299 *eP* **P 07 33 23.6 -0.7**
DZA LR LR 07 55 39.5
comp=Z,132nm,11.8s
DZA Taraz 51.41 299 *eP* **P 07 33 23.5 -0.7**
DZA MLR MLR
comp=Z,133nm,12.0s
MNSI Mandailing Nat 51.48 235 P P 07 33 32.1 +7.1
SDSI Sungai Dareh 51.60 232 P **P 07 33 25.6 -0.3**
SCRK Sand Creek 51.76 33 P **P 07 33 26.9 +0.2**
baz=277,SNR=36
DOT Dot Lake 51.77 34 P **P 07 33 26.6 0.0**
KK31 Karatay Array 51.92 300 *i* P **P 07 33 27.5 -0.5**
KK31 Karatay Array 51.92 300 P **P 07 33 27.5 -0.5**
KK31 IAmb IAmb 07 33 28.9
comp=Z,34nm,1.1s
KKAR Karatay Array 51.92 300 P **P 07 33 26.6 -1.4**
KKAR Karatay Array 51.92 300 P **P 07 33 26.6 -1.4**
KKAR Karatay Array 51.92 300 IAmb IAmb 07 33 28.9
comp=Z,34nm,1.1s
MENT Mentasta 52.02 34 IAmb IAmb 07 33 37.5
comp=Z,24nm,0.9s
VRDI Verde Repeater 52.40 37 IAmb IAmb 07 33 34.0
comp=Z,59nm,1.6s
IUG Iuzhnay 52.55 299 *eP* **P 07 33 32.5 -0.4**
comp=Z,33nm,1.4s
IUG LR LR 07 56 17.0
comp=Z,121nm,11.9s
IUG Iuzhnay 52.55 299 *eP* **P 07 33 32.4 -0.4**
IUG pmax pmax
comp=Z,33nm,1.4s
IUG MLR MLR
comp=Z,121nm,12.0s
MCARA McCarthy VSAT 52.58 36 IAmb IAmb 07 33 34.7
comp=Z,23nm,0.9s
K27K Chicken 52.59 33 P **P 07 33 33.7 +1.0**
baz=279
BTK Batken 52.69 296 IAmb IAmb 07 33 39.9
comp=Z,66nm,1.9s
MDSI Maura Dua 52.74 226 P **P 07 33 32.6 -1.7**
comp=Z,1μmcomp=Z,11nm,0.8s
LEM Lembang 52.75 221 P **P 07 33 34.2 -0.4**
comp=Z,23nm,0.5s,baz=336,slow=20,SNR=2.8
WAX Waxell Ridge 52.83 37 P **P 07 33 35.2 +0.7**
WAX IAmb IAmb 07 33 36.6
comp=Z,23nm,1.0s
BCAR Beaver Creek A 52.87 34 P **P 07 33 35.4 +0.6**
BALM Baldy 52.96 37 IAmb IAmb 07 33 37.7
comp=Z,24nm,1.2s
ISLE Juniper Island 53.05 37 IAmb IAmb 07 33 46.5
comp=Z,22nm,1.0s
NIL Nilore 53.25 288 P **P 07 33 38.4 +0.4**
NIL pmax pmax
comp=Z,21nm,1.1s
NIL Nilore 53.25 288 P **P 07 33 38.4 +0.4**
BARN Barnard Glacie 53.29 37 IAmb IAmb 07 33 40.4
comp=Z,52nm,1.7s
GAR Garm 53.42 295 IAmb IAmb 07 33 58.4
comp=Z,40nm,1.2s
CTGM Chitina Glacie 53.46 37 P **P 07 33 40.1 +0.8**
CTGM IAmb IAmb 07 33 41.6
comp=Z,27nm,1.3s
SVE Sverdlovsk 54.28 318 *eP* **P 07 33 45.4 +0.2**
SVE pmax pmax
comp=Z,37nm,1.2s
SVE MLR MLR
comp=Z,814nm,15.0s
EPYK Eagle Plains 54.41 30 P **P 07 33 47.1 +1.1**
baz=282
INK Inuvik 55.21 27 IAmb IAmb 07 33 53.6
comp=Z,27nm,1.1s
ARU Arti 55.50 318*c iP* **P 07 33 53.2 -0.8**
ARU S **S 07 41 39.3 +0.9**
ARU SS **SS 07 45 19.6 -3.1**
ARU pmax pmax
comp=Z,44nm,1.1s
ARU MLR MLR
comp=Z,716nm,16.0s
KBL Kabul 56.08 290 P **P 07 33 57.9 -0.9**
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 56.08 290 P **P 07 33 57.9 -0.9**
FITZ Fitzroy Crossi 56.23 196 P **P 07 34 00.1 +0.6**
comp=Z,13nm,1.0s,baz=0.1,slow=10,SNR=9.0
FITZ Fitzroy Crossi 56.23 196 P **P 07 33 59.8 +0.3**
WB0 Warramunga Arr 56.54 186 P **P 07 34 00.2 -1.5**
WRAB Tennant Creek 56.71 186 P **P 07 34 02.0 -1.0**
WRAB pmax pmax
comp=Z,30nm,0.9s
WRAB Tennant Creek 56.71 186 P **P 07 34 02.0 -1.0**
WRAB IAmb IAmb 07 34 06.7
comp=Z,30nm,0.9s
WB2 Warramunga Arr 56.72 186 P **P 07 34 02.6 -0.4**
WRA Warramunga Arr 56.72 186 P **P 07 34 02.3 -0.7**
comp=Z,26nm,0.8s,baz=3.6,slow=7.4,SNR=30
WRA Warramunga Arr 56.72 186 P **P 07 34 02.3 -0.7**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 56.72 186 IAmb IAmb 07 34 06.7
comp=Z,2.3nm,0.9s
WR0 Warramunga Arr 56.72 186 P **P 07 34 02.7 -0.3**
ABKAR Akbulak array 56.91 310 P **P 07 34 02.8 -1.3**
BESE Bessie Mountai 57.24 38 P **P 07 34 07.4 +1.0**
BESE IAmb IAmb 07 34 09.4
comp=Z,50nm,1.4s
JIS Juneau Island 57.57 39 IAmb IAmb 07 34 11.3
comp=Z,21nm,1.0s
C36M Paulatuk 58.20 25 P **P 07 34 13.2 +0.3**
baz=290
SANVU Saraoutou 58.20 148 P **P 07 34 15.8 +2.3**
SANVU IAmb IAmb 07 34 26.2
comp=Z,29nm,0.9s
DLBC Dease Lake 59.67 38 P **P 07 34 24.3 +0.8**
DLBC IAmb IAmb 07 34 26.8
comp=Z,26nm,1.2s
PRGR Permogore 60.09 327 *eP* **P 07 34 25.3 -0.8**
PRGR pmax pmax
comp=Z,71nm,1.5s
ASAR Alice Springs 60.44 186 P **P 07 34 28.9 0.0**
comp=Z,12nm,1.0s,baz=4.2,slow=5.3,SNR=15
ASAR Alice Springs 60.44 186 P **P 07 34 29.0 0.0**
KBS Kingsbay 60.56 350 *eP* **P 07 34 28.9 -0.3**
EUNU Eureka 60.57 8 P **P 07 34 29.6 +0.3**
EUNU IAmb IAmb 07 34 30.4
comp=Z,24nm,0.9s
NOR Nord 61.12 356 *i* P **P 07 34 32.2 -0.7**
comp=Z,33nm,1.2s
NOR Nord 61.12 356 *i* P **P 07 34 32.2 -0.7**
NOR pmax pmax
comp=Z,33nm,1.2s
HSPB Hornsund (broa 61.30 348 *eP* **P 07 34 33.7 -0.4**
APA Apatity 62.22 335⇓ *iP* **P 07 34 38.5 -2.0**
APA *e*S S 07 42 57.0 -8.3
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,1μm,17.0s
GEYT Alibeck 62.61 298 P **P 07 34 43.9 +0.3**
comp=Z,10nm,0.9s,baz=48,slow=2.2,SNR=18
GEYT LR LR 08 04 31.6
comp=Z,246nm,18.2s,baz=45,slow=39
GEYT Alibeck 62.61 298 P **P 07 34 43.5 -0.2**
GYA0B ALIBECK ARRAY 62.61 298 P **P 07 34 43.3 -0.3**
GYA0B IAmb IAmb 07 34 48.0
comp=Z,22nm,1.1s
KLMR Klimovskoe 63.10 327 *eP* **P 07 34 43.2 -3.2**
KLMR 07 37 02.0
KLMR pmax pmax
comp=Z,24nm,1.1s
KLMR Klimovskoe 63.10 327 *eP* **P 07 34 43.3 -3.2**
KLMR AMP 07 34 46.9
comp=Z,24nm,1.1s
KLMR PP **PP 07 37 02.0 -2.8**
KLMR LQ LQ 07 57 39.0
KLMR LQ LQ 07 57 39.0
KLMR LR LR 08 01 00.4
RES Resolute Bay 63.13 14 P **P 07 34 45.4 -1.0**
RES pmax pmax
comp=Z,46nm,1.0s
RES Resolute Bay 63.13 14 P **P 07 34 45.4 -1.0**
HAMF Hammerfest 63.48 340 *eP* **P 07 34 48.3 -0.5**
ARCES ARCESS Array B 63.62 339 P **P 07 34 49.5 -0.3**
comp=Z,5.0nm,0.8s,baz=55,slow=7.7,SNR=11
ARE0 ARCESS Array S 63.62 339 *eP* **P 07 34 49.0 -0.9**
DZM Mont Dzumac 63.88 152 P **P 07 34 54.6 +2.5**
comp=Z,25nm,1.2s,baz=317,slow=2.5,SNR=5.2
DZM Mont Dzumac 63.88 152 P **P 07 34 52.4 +0.3**
KTK1 Kautokeino 64.59 339 *eP* **P 07 34 56.3 +0.1**
YKA Yellowknife Ar 64.69 30 P **P 07 34 57.0 +0.1**
comp=Z,6.7nm,0.9s,baz=304,slow=6.9,SNR=17
YKA Yellowknife Ar 64.69 30 P **P 07 34 57.0 +0.1**
MOS Moscow 66.49 323 *eP* **P 07 35 06.4 -2.2**
MOS *e* 07 35 19.1
MOS *eS* **S 07 43 59.5 +1.1**
MOS pmax pmax
comp=Z,42nm,0.9s
VRH Novokhopyorsk 66.70 317 *eP* **P 07 35 08.3 -1.7**
VRH pmax pmax
comp=Z,30nm,0.9s
OBN Obninsk 67.33 323 LR LR 08 06 12.8
comp=Z,110nm,19.6s,baz=58,slow=37
OBN Obninsk 67.33 323 *i* P **P 07 35 12.5 -1.5**
OBN *i* 07 35 37.4
OBN *i* 07 37 39.3
OBN pmax pmax
comp=Z,26nm,1.1s
OBN MLR MLR
comp=Z,593nm,14.0s
LPSR Galich'ya Gora 67.47 320 *eP* **P 07 35 13.6 -1.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
FAUS Fauske 67.90 340 *eP* **P 07 35 16.6 -0.7**
AKT Akhty 67.98 306 *eP* **P 07 35 17.9 -0.6**
AKT *e* 07 35 44.0
AKT pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 68.07 318 *eP* **P 07 35 17.5 -1.2**
VSR pmax pmax
comp=Z,40nm,1.1s
FIA1 FINESS Array S 68.26 332 P **P 07 35 19.4 -0.3**
FINES FINESS Array B 68.26 332 P **P 07 35 18.6 -1.1**
comp=Z,19nm,0.9s,baz=57,slow=7.0,SNR=28
FINES LR LR 08 06 25.3
comp=Z,501nm,18.7s,baz=35,slow=37
FINES FINESS Array B 68.26 332 P **P 07 35 17.6 -2.1**
FINES FINESS Array B 68.26 332 P **P 07 35 17.6 -2.1**
D03D Eldon 68.30 46 P **P 07 35 21.4 +1.1**
baz=301
STKA Stephens Creek 68.41 178 P **P 07 35 21.8 +0.8**
comp=Z,3.6nm,0.8s,baz=314,slow=6.3,SNR=3.8
STKA Stephens Creek 68.41 178 P **P 07 35 21.3 +0.4**
STKA pmax pmax
comp=Z,9.0nm,1.9s
STKA Stephens Creek 68.41 178 P **P 07 35 21.3 +0.4**
B05A Bryant 68.49 45 P **P 07 35 22.3 +0.9**
baz=302
D04E Lakebay 68.67 47 P **P 07 35 24.0 +1.5**
baz=302
MOR8 Moi Rana 69.00 339 *eP* **P 07 35 22.9 -1.4**
E04D Cinebar 69.11 47 P **P 07 35 26.4 +1.0**
baz=302
MORW Morawa 69.21 202 P **P 07 35 25.5 -0.4**
G03D McMinnville, O 69.41 49 P **P 07 35 28.6 +1.4**
baz=302
LON Longmire 69.45 47 P **P 07 35 27.4 -0.2**
LON pmax pmax
comp=Z,17nm,1.4s
LON Longmire 69.45 47 P **P 07 35 27.4 -0.2**
ZEI Tsey 69.75 309 *eP* **P 07 35 29.9 +0.3**
ZEI pmax pmax
comp=Z,6.0nm,1.1s
VSU Vasula 69.84 329 *eP* **P 07 35 29.7 +0.2**
LTY Liberty 69.84 46 P **P 07 35 29.9 -0.1**
LTY IAmb IAmb 07 35 32.9
comp=Z,22nm,1.5s
KBZ Khabaz 69.87 310 P **P 07 35 30.0 0.0**
comp=Z,5.8nm,0.9s,baz=56,slow=4.3,SNR=7.4
KBZ LR LR 08 07 45.1
comp=Z,262nm,18.1s,baz=118,slow=37
KBZ Khabaz 69.87 310*ceP* **P 07 35 29.9 -0.2**
KBZ pmax pmax
comp=Z,1.0nm,0.5s
KIV Kislovodsk 69.88 310 *eP* **P 07 35 29.7 -0.6**
KIV pmax pmax
comp=Z,46nm,1.0s
KIV MLR MLR
comp=Z,1μm,18.0s
B08A Colville Reser 70.00 44 IAmb IAmb 07 35 33.0
comp=Z,29nm,1.3s
JMIC Jan Mayen 70.04 349 LR LR 08 08 32.6
comp=Z,98nm,19.0s,baz=34,slow=38
F05D White Salmon 70.12 47 P **P 07 35 32.8 +1.2**
baz=303
I03D Drain, OR 70.16 50 P **P 07 35 33.1 +1.3**
baz=302
H04A Detroit Lake 70.34 49 P **P 07 35 33.6 +0.6**
H04A IAmb IAmb 07 35 35.4
comp=Z,23nm,1.0s
K02D Willamette Mer 70.50 51 P **P 07 35 35.5 +1.4**
baz=302
I04A Tendick Farm, 70.68 49 P **P 07 35 36.2 +1.1**
baz=303
E07A Sunnyside 70.69 46 P **P 07 35 35.8 +0.7**
SUMG Summit 70.84 359 *i* P **P 07 35 36.4 +0.4**
comp=Z,117nm,1.1s
SUMG Summit 70.84 359 P **P 07 35 35.9 -0.1**
SUMG pmax pmax
comp=Z,38nm,1.0s
SUMG Summit 70.84 359 P **P 07 35 35.9 -0.1**
C09A Chrisman Ranch 70.90 44 IAmb IAmb 07 35 39.2
comp=Z,31nm,1.2s
NSS Namsos 70.91 339 *eP* **P 07 35 35.2 -0.8**
F07A Phinny Hill Vi 71.01 47 P **P 07 35 37.2 +0.2**
F07A IAmb IAmb 07 35 39.6
comp=Z,30nm,1.3s
I05D Terrebonne, OR 71.03 49 P **P 07 35 38.1 +0.8**
baz=303
J04D Umpqua Nationa 71.17 50 P **P 07 35 39.0 +0.8**
baz=303
NEW Newport 71.28 43 P **P 07 35 39.7 +1.0**
baz=305
NEW Newport 71.28 43 IAmb IAmb 07 35 40.8
comp=Z,26nm,1.3s
L04D Klamath Falls 71.60 51 P **P 07 35 42.0 +1.2**
baz=303
J05D Fort Rock, OR 71.68 49 P **P 07 35 42.4 +1.2**
baz=304
E09A Wood Farm, Sta 71.70 45 IAmb IAmb 07 35 43.6
comp=Z,36nm,1.3s
K04D Chiloquin, OR 71.72 50 P **P 07 35 42.7 +1.2**
baz=304
IZAR Zarasai 71.74 327 *eP* **P 07 35 42.7 +1.5**
MICGM Minsk 71.79 325 *e* **P 07 35 42.0 +0.5**
MNK Minsk 71.79 325 *eP* **P 07 35 42.0 +0.5**
IDID Didziasalis 71.80 326 *eP* **P 07 35 42.9 +1.4**
ISAL Salakas 71.91 327 *eP* **P 07 35 43.0 +0.8**
IIGN Ignalina 72.00 327 *eP* **P 07 35 43.2 +0.4**
N02D Trinity Center 72.03 52 P **P 07 35 45.0 +1.6**
baz=304
M04C Macdoel 72.13 51 P **P 07 35 45.3 +1.3**
baz=304
SLIT Slitere, Latvi 72.19 330 *eP* **P 07 35 42.9 -0.9**
WDC Whiskeytown Da 72.36 52 P **P 07 35 45.2 0.0**

WDC pmax pmax
comp=Z,19nm,1.2s
WDC Whiskeytown Da 72.36 52 P P 07 35 45.1 0.0
O02D Mt. Diablo Mer 72.42 53 P P 07 35 47.1 +1.4
baz=304
NWAO Narrogin (SRO) 72.50 200 P P 07 35 45.7 -0.2
comp=Z,10nm,1.0s,baz=38,slow=7.9
NWAO Narrogin (SRO) 72.50 200 P P 07 35 45.7 -0.2
NWAO pmax pmax
comp=Z,107nm,1.7s
NWAO Narrogin (SRO) 72.50 200 IAmb IAmb 07 35 50.9
comp=Z,107nm,1.7s
WALA Waterton Lakes 72.55 41 IAmb IAmb 07 35 48.5
comp=Z,25nm,1.2s
PABE Paberze 72.89 328 *e*P **P 07 35 48.2 +0.2**
O03E Paynes Creek 72.98 52 P P 07 35 49.4 +0.4
baz=304
BMO Blue Mountains 73.13 46 IAmb IAmb 07 35 52.2
comp=Z,30nm,1.4s
JTMT Jette 73.13 43 P P 07 35 51.4 +1.6
JTMT IAmb IAmb 07 35 52.3
comp=Z,30nm,1.2s
J08A Circle Bar Ran 73.30 48 IAmb IAmb 07 35 53.7
comp=Z,35nm,1.4s
AKASG Malin Array Be 73.51 322 P P 07 35 50.5 -1.3
comp=Z,16nm,0.9s,baz=48,slow=6.1,SNR=47
AKASG Malin Array Be 73.51 322 P P 07 35 50.8 -1.0
AKBB Malin Array Si 73.51 322 P P 07 35 49.7 -2.1
AKBB pmax pmax
comp=Z,28nm,1.1s
AKBB Malin Array Si 73.51 322 P P 07 35 49.7 -2.1
AKBB IAmb IAmb 07 35 52.2
comp=Z,28nm,1.1s
ORV Oroville 73.59 53 P P 07 35 53.6 +1.0
ORV pmax pmax
comp=Z,10.0nm,1.1s
ORV Oroville 73.59 53 P P 07 35 53.6 +1.0
DOMB Dombas 73.65 338 *e*P **P 07 35 52.3 -0.3**
NB2 NORSAR Subarra 73.76 337 P P 07 35 52.4 -0.8
comp=Z,45nm,1.1s,baz=41,slow=5.9
NB2 NORSAR Subarra 73.76 337 P P 07 35 52.4 -0.8
baz=41,slow=5.9
NOA NORSAR Array B 73.76 337 P P 07 35 52.6 -0.5
comp=Z,16nm,0.8s,baz=39,slow=5.8,SNR=44
MSO Missoula 73.87 43 P P 07 35 54.7 +0.6
baz=307
NC602 NORSAR Array S 73.88 336 *e*P **P 07 35 53.3 -0.6**
ILULI Ilulissat 73.94 4 *i* P **P 07 35 54.2 +0.2**
comp=Z,26nm,1.0s
ILULI Ilulissat 73.94 4 *i* P **P 07 35 54.2 +0.2**
ILULI pmax pmax
comp=Z,26nm,1.0s
ILULI Ilulissat 73.94 4 IAmb IAmb 07 35 55.1
comp=Z,28nm,1.0s
NAO01 NORSAR Array S 74.01 337 P P 07 35 52.9 -1.7
OSL Oslo 74.75 336 *e*P **P 07 35 59.0 +0.2**
MFID Camas Ranch 74.83 47 IAmb IAmb 07 36 02.4
comp=Z,42nm,1.6s
SKAR Skarslia 74.94 337 *e*P **P 07 36 00.4 +0.3**
HYA Hoyanger 75.19 339 *e*P **P 07 36 00.3 -1.1**
KONO Kongsberg 75.34 336 P P 07 36 01.2 -1.1
KONO pmax pmax
comp=Z,17nm,1.1s
KONO Kongsberg 75.34 336 P P 07 36 01.2 -1.1
KONO Kongsberg 75.34 336 *e*P **P 07 36 02.1 -0.2**
YERR Yerington 75.35 52 IAmb IAmb 07 36 05.4
comp=Z,22nm,0.9s
EGMT Eagleton 75.37 40 P P 07 36 03.7 +0.8
baz=309,SNR=16
HLID Hailey 75.57 46 P P 07 36 05.1 +1.0
baz=307
BOZ Bozeman (W) 75.89 43 P P 07 36 06.9 +1.0
baz=309,SNR=5.3
KIS Kishinev 76.05 319 *e*P P 07 35 57.0 -10
KIS Kishinev 76.05 319 *e*P P 07 35 57.0 -10
KIS *e*S **SKiKP 07 45 36.0 +10**
KIS MLR MLR
comp=Z,300nm,12.0s
SFJD Kangerlussuaq 76.17 4 P P 07 36 07.4 +0.5
SFJD pmax pmax
comp=Z,13nm,1.0s
SFJD Kangerlussuaq 76.17 4 P P 07 36 07.4 +0.5
MDPB Devils Postpil 76.25 53 P P 07 36 08.3 +0.1
NVAR Mina Array Bea 76.27 52 P P 07 36 09.7 +1.3
comp=Z,13nm,0.9s,baz=281,slow=6.1,SNR=21
NVAR Mina Array Bea 76.27 52 P P 07 36 09.5 +1.2
NV11 Mina Array Sit 76.36 52 IAmb IAmb 07 36 11.3
comp=Z,27nm,1.4s
MLAC Mammoth, Mammo 76.40 53 P P 07 36 10.1 +1.0
baz=306
BLS5 Blasjo 76.51 337 *e*P **P 07 36 08.3 -0.7**
PAGB Antelope Grade 76.60 55 P P 07 36 10.5 +0.5
PAGB IAmb IAmb 07 36 12.5
comp=Z,30nm,1.0s
LVV L'vov 76.63 323 *e*P **P 07 36 09.2 -0.6**
ILGA Ilgaz 76.98 312 P P 07 36 12.1 -0.2
H17A Grant Village 77.23 44 P P 07 36 15.2 +1.5
baz=310,SNR=8.8
H17A Grant Village 77.23 44 IAmb IAmb 07 36 18.4
comp=Z,38nm,1.1s
VES Vestal, Richgr 77.30 55 P P 07 36 14.5 +0.6
baz=306
PKM Mcpherson Peak 77.38 56 P P 07 36 15.8 +1.2
baz=306
KWP Kalwaria Pacla 77.39 324 *e*P **P 07 36 14.7 +0.5**
RLMT Red Lodge 77.48 43 P P 07 36 15.8 +0.7
baz=310
TESR Tescani 77.50 319 ⇑P **P 07 36 14.7 -0.1**
BIZ Bicaz 77.50 320 ⇑P **P 07 36 15.1 +0.2**
BURAR Bucovina Array 77.51 321 ⇑P **P 07 36 14.9 -0.1**
BURAR Bucovina Array 77.51 321 ⇑P **P 07 36 14.9 -0.1**
BURAR Bucovina Array 77.51 321 P P 07 36 14.8 -0.2
CWC Cottonwood Cre 77.59 54 P P 07 36 16.5 +0.7
baz=307
SBC Santa Barbara 77.71 56 P P 07 36 17.2 +1.0
baz=306
GRAC Grapevine Rang 77.72 53 P P 07 36 17.7 +1.4
baz=307,SNR=5.3
ISA Isabella, Lake 77.80 55 P P 07 36 17.6 +0.8
baz=307
BRTR Keskin Array B 77.84 311 P P 07 36 17.1 +0.1
comp=Z,5.8nm,1.1s,baz=94,slow=5.1,SNR=13
BRTR Keskin Array B 77.84 311 P P 07 36 15.9 -1.1
BRTR Keskin Array B 77.84 311 P P 07 36 15.9 -1.1
VRI Vrincioaia 77.88 319 ⇑P **P 07 36 18.2 +1.2**
VRI Vrincioaia 77.88 319 ⇑P **P 07 36 18.2 +1.2**
ARVC Arvin 77.89 55 P P 07 36 18.1 +0.9
baz=307
DGMT Dagmar 77.89 38 P P 07 36 17.5 +0.5
baz=313
MUD Monsted U'grnd 77.97 334 *i* P **P 07 36 16.7 -0.5**
comp=Z,16nm,1.0s
MUD Monsted U'grnd 77.97 334 *i* P **P 07 36 16.7 -0.5**
MUD pmax pmax
comp=Z,16nm,1.0s
R11A Troy Canyon, C 78.03 51 P P 07 36 19.3 +1.1
baz=308,SNR=11
R11A Troy Canyon, C 78.03 51 IAmb IAmb 07 36 20.6
comp=Z,30nm,1.4s
LAO LASA Array 78.06 40 P P 07 36 18.7 +0.7
baz=312
KOLS Kolonicke sedl 78.07 323 *e*P **P 07 36 16.9 -1.1**
KOLS pmax pmax
comp=Z,10.0nm,1.1s
KOLS Kolonicke sedl 78.07 323 *e*P **P 07 36 16.9 -1.1**
MPMC Manual Prospec 78.21 54 P P 07 36 20.1 +0.9
baz=307
OJC Ojcow 78.34 325 *e*P **P 07 36 19.6 +0.2**
FURC Furnace Creek, 78.36 53 P P 07 36 20.9 +1.1
baz=308,SNR=8.9
HWUT Hardware Ranch 78.43 46 P P 07 36 19.8 -0.5
HWUT IAmb IAmb 07 36 23.7
comp=Z,39nm,1.4s
TPNV Topopah Spring 78.46 52 P P 07 36 21.7 +1.1
baz=308,SNR=6.7
TPNV Topopah Spring 78.46 52 IAmb IAmb 07 36 22.8
comp=Z,21nm,1.0s
CRVS Cervenica-Dubn 78.48 324 *e*P **P 07 36 20.6 +0.3**
CRVS pmax pmax
comp=Z,54nm,1.7s
CRVS Cervenica-Dubn 78.48 324 *e*P **P 07 36 20.6 +0.3**
MLR Muntele Rosu 78.54 319 ⇑P **P 07 36 22.1 +1.3**
MLR Muntele Rosu 78.54 319 ⇑P **P 07 36 22.1 +1.3**
DUG Dugway, Tooele 78.58 48 P P 07 36 22.2 +1.0
baz=309
EDW2 Edwards Air Fo 78.58 55 P P 07 36 21.8 +0.7
baz=307
NIE Niedzica 78.67 324 *e*P **P 07 36 22.3 +1.0**
BW06 Boulder Array 78.84 45 P **P 07 36 23.1 +0.5**
baz=310
PDAR Pinedale Array 78.84 45 P P 07 36 23.1 +0.4
comp=Z,4.6nm,0.8s,baz=270,slow=3.0,SNR=9.4
SHOC Shoshone, Teco 79.08 53 P **P 07 36 24.7 +0.9**
baz=308
FMP Fort Macarthur 79.09 56 P P 07 36 24.5 +0.7
baz=307
GSC Goldstone, Bar 79.11 54 P P 07 36 24.5 +0.5
baz=308
BFSC Mount Baldy Ra 79.19 55 P P 07 36 25.1 +0.6
baz=307
CIS Catalina Islan 79.19 56 P P 07 36 25.0 +0.5
baz=307
ARR Arges 79.31 319 ⇑P **P 07 36 25.8 +0.9**
KSP Ksiaz 79.45 327 *e*P **P 07 36 25.9 +0.3**
BSEG Bad Segeberg 79.52 332 *e*P **P 07 36 25.6 -0.2**
comp=Z,27nm,0.9s,baz=39,slow=5.2
TUQ Turquoise Moun 79.59 53 P P 07 36 27.6 +0.9
baz=308,SNR=5.1
BBRC Big Bear Solar 79.66 55 P P 07 36 27.8 +0.5
baz=308
MORC Moravsky Berou 79.67 326 ⇑P **P 07 36 26.7 -0.1**
MORC Moravsky Berou 79.67 326 *e*P **P 07 36 26.7 -0.1**
MORC Moravsky Berou 79.67 326 ⇑P **P 07 36 26.7 -0.1**
OSTC Ostas 79.69 327 AMS AMS 08 19 30.0
comp=Z,600nm,12.4s
HEC Henri Ludlow 79.70 54 P P 07 36 28.1 +0.8
baz=308
CHVC Chvalec 79.74 327 *e*P **P 07 36 27.1 0.0**
DPC Dobruska-Polom 79.80 327 *e*P **P 07 36 27.9 +0.4**
DPC Dobruska-Polom 79.80 327 *e*P **P 07 36 27.9 +0.4**
KRLC Kraliky 79.80 327 *e*P **P 07 36 27.6 +0.1**
KRLC AMS AMS 08 15 50.0
comp=Z,600nm,14.1s
KRLC Kraliky 79.80 327 *e*P **P 07 36 27.6 +0.1**
KRLC MLR MLR
comp=Z,600nm,14.1s
UPC Upice 79.82 327 AMS AMS 08 17 40.0
comp=Z,600nm,12.2s
MURC Murrieta 79.88 56 P P 07 36 28.6 +0.3
baz=308
PSZ Piszkesteto 79.92 324 ⇑P **P 07 36 28.8 +0.6**
PSZ Piszkesteto 79.92 324 P P 07 36 28.0 -0.2
PSZ pmax pmax
comp=Z,30nm,1.2s
PSZ Piszkesteto 79.92 324 P P 07 36 28.0 -0.2
PSZ IAmb IAmb 07 36 29.7
comp=Z,30nm,1.2s
VYHS Vyhne 80.01 325 *e*P **P 07 36 28.7 +0.1**
VYHS pmax pmax
comp=Z,19nm,1.3s
VYHS Vyhne 80.01 325 *e*P **P 07 36 28.7 +0.1**
GMRC Granite Mounta 80.17 54 P **P 07 36 30.5 +0.7**
baz=308,SNR=5.3
JAVC Velka Javorina 80.28 325 *e*P **P 07 36 30.8 +0.7**
PFO Pinyon Flats O 80.36 55 P P 07 36 31.0 0.0
PFO pmax pmax
comp=Z,17nm,1.3s
PFO Pinyon Flats O 80.36 55 P P 07 36 31.5 +0.6
baz=308
PFO Pinyon Flats O 80.36 55 P P 07 36 31.0 0.0
Q16A Castle Valley 80.37 48 P P 07 36 32.7 +1.7
109C Camp Elliot, M 80.38 56 P P 07 36 31.7 +0.9
baz=308
BELC Belle Mtn. Jos 80.43 55 P P 07 36 31.7 +0.4
baz=308
BRG Berggiesshubel 80.43 329 *i* P **P 07 36 30.6 -0.2**
comp=Z,18nm,1.1s
BRG *e* 07 36 43.5
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 80.43 329 *e*P **P 07 36 30.6 -0.2**
comp=Z,18nm,1.1s,baz=39,slow=5.2
VRAC Vranov 80.44 326 ⇑P **P 07 36 31.5 +0.6**
VRAC Vranov 80.44 326 *e*P **P 07 36 30.7 -0.2**
VRAC Vranov 80.44 326 ⇑P **P 07 36 31.5 +0.6**
ULM Lac du Bonnet 80.45 32 P P 07 36 30.0 -0.9
comp=Z,16nm,1.0s,baz=330,slow=5.6,SNR=7.5
ULM Lac du Bonnet 80.45 32 IAmb IAmb 07 36 32.0
comp=Z,19nm,1.0s
CLL Collm 80.49 329 ⇑ *i*P **P 07 36 30.6 -0.5**
comp=Z,35nm,1.1s
CLL *e*PcP **PcP 07 36 38.0 0.0**
CLL *e*PP **PP 07 39 35.0 +1.3**
CLL LmH 08 08 00.0
comp=N,400nm,18.7s
CLL LmH 08 08 00.0
comp=E,500nm,20.2s
CLL Collm 80.49 329 P P 07 36 30.2 -0.9
CLL pmax pmax
comp=Z,27nm,1.0s
CLL Collm 80.49 329 *e*P **P 07 36 30.6 -0.5**
comp=Z,35nm,1.1s,baz=39,slow=5.2
CLL Collm 80.49 329 P P 07 36 30.2 -0.9
CLL IAmb IAmb 07 36 31.7
comp=Z,27nm,1.0s
MDND Maddock 80.53 36 P P 07 36 31.8 +0.4
baz=316
K22A Casper 80.60 43 P P 07 36 32.5 +0.4
baz=312
FBE Freiberg 80.64 329 *e*P **P 07 36 32.0 +0.1**
comp=Z,44nm,1.2s,baz=39,slow=5.2
SMOL Smolenice 80.64 325 *e*P **P 07 36 32.4 +0.4**
SMOL pmax pmax
comp=Z,13nm,1.3s
SMOL Smolenice 80.64 325 *e*P **P 07 36 32.4 +0.4**
KRUC Moravsky 80.71 326 *e*P **P 07 36 32.0 -0.3**
NRDL Niedersach Rie 80.72 331 *e*P **P 07 36 31.9 -0.3**
comp=Z,13nm,1.1s,baz=39,slow=5.2
GOPC GO Pecny, Ondr 80.79 327 *e*P **P 07 36 32.6 -0.2**
GOPC AMS AMS 08 16 30.0
comp=Z,600nm,15.6s
GOPC GO Pecny, Ondr 80.79 327 *e*P **P 07 36 32.6 -0.2**
GOPC MLR MLR
comp=Z,600nm,15.6s
ASSE Asse, Remlinge 80.79 331 *e*P **P 07 36 32.4 -0.2**
comp=Z,18nm,1.2s,baz=39,slow=5.2
MODS Modra-Piesok 80.81 325 *e*P **P 07 36 31.8 -1.1**
MODS pmax pmax
comp=Z,32nm,1.6s
MODS Modra-Piesok 80.81 325 *e*P **P 07 36 31.8 -1.1**
PRA Prague 80.82 328 AMS AMS 08 17 30.0
comp=Z,400nm,14.4s
MONP2 Monument Peak 80.83 56 P P 07 36 34.2 +0.7
baz=308,SNR=5.4
PRU Pruhonice 80.84 328 *e*P **P 07 36 33.1 +0.1**
PRU AMS AMS 08 15 40.0
comp=Z,600nm,18.1s
PRU Pruhonice 80.84 328 *e*P **P 07 36 33.1 +0.1**
PRU MLR MLR
comp=Z,600nm,18.1s
MMAI Mount Meron Ar 80.84 304 LR LR 08 15 28.1
comp=Z,173nm,18.2s,baz=50,slow=38
IRM Iron Mountain 80.89 54 P P 07 36 34.4 +0.8
baz=309
RSSD Black Hills 80.94 41 P P 07 36 34.0 +0.1
baz=314
TREC Trest 80.94 327 AMS AMS 08 16 30.0
comp=Z,900nm,15.1s
BC3 Big Chuckawall 81.00 55 P P 07 36 34.7 +0.3
baz=308
NEUB Neuenburg 81.06 330 *e*P **P 07 36 34.0 -0.2**
comp=Z,35nm,0.7s,baz=39,slow=5.2
CLZ Clausthal 81.13 331 *e*P **P 07 36 34.6 0.0**
comp=Z,40nm,1.2s,baz=39,slow=5.2
IKP In-Ko-Pah, Jac 81.19 56 P P 07 36 36.0 +0.7
baz=308
SWSC Sam W. Stewart 81.21 55 P P 07 36 35.7 +0.4
baz=308
MDVR Moldovita 81.22 320 ⇑P **P 07 36 34.8 -0.5**
O20A White River Ci 81.30 46 P P 07 36 36.4 +0.4
baz=312
TANN Tannenbergstha 81.39 329 *e*P **P 07 36 35.7 -0.3**
comp=Z,40nm,1.5s,baz=39,slow=5.2
WERD Werda 81.43 329 *e*P **P 07 36 35.9 -0.3**
comp=Z,16nm,1.2s,baz=39,slow=5.2
PDMCI Parker Dam,Lak 81.44 53 P P 07 36 37.3 +0.8
baz=309
PLN Plauen 81.46 329 *e*P **P 07 36 36.1 -0.2**
comp=Z,24nm,1.5s,baz=39,slow=5.2
GUNZ Gunzen 81.48 329 *e*P **P 07 36 36.4 -0.1**
comp=Z,25nm,1.3s,baz=39,slow=5.2
GTTG Gottingen 81.52 331 *e*P **P 07 36 36.5 -0.1**
comp=Z,32nm,1.2s,baz=39,slow=5.2
WERN Wernitzgruen 81.52 329 *e*P **P 07 36 36.7 0.0**
comp=Z,18nm,1.1s,baz=39,slow=5.2
NKC Novy Kostel 81.54 329 *e*P **P 07 36 37.2 +0.4**
NKC AMS AMS 08 16 30.0
comp=Z,700nm,12.1s
NKC Novy Kostel 81.54 329 *e*P **P 07 36 37.2 +0.4**
NKC MLR MLR
comp=Z,700nm,12.1s
MOX Moxa 81.56 329 *e*P **P 07 36 36.6 -0.2**
comp=Z,24nm,1.4s,baz=39,slow=5.2
MOX *e*L L 08 15 14.9
comp=Z,278nm,19.1s
IBBN Ibbenburen 81.76 332 *e*P **P 07 36 37.7 -0.2**
comp=Z,41nm,1.1s,baz=39,slow=5.2
GLA Glamis 81.78 55 P P 07 36 39.2 +0.8
baz=309
CONA Conrad Observa 81.78 326 *e*P **P 07 36 38.4 +0.2**
comp=Z,15nm,1.1s
MANZ Manzenberg 81.87 329 *e*P **P 07 36 38.3 -0.2**
comp=Z,13nm,1.0s,baz=39,slow=5.2
KHC Kasperske Hory 81.89 328 *e*P **P 07 36 38.6 -0.1**
KHC Kasperske Hory 81.89 328 P P 07 36 38.2 -0.5
KHC pmax pmax
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 81.89 328 P P 07 36 38.2 -0.5
AGMN Agassiz Nation 81.91 34 P P 07 36 39.4 +0.6
baz=318
PV21 Cone Mtn., Par 81.91 47 P P 07 36 39.8 +0.5
PV21 IAmb IAmb 07 36 41.5
comp=Z,22nm,1.1s
PV10 Paradox Valley 81.99 48 P P 07 36 40.4 +0.7
ROTZ Rotzenmuhle 81.99 329 *e*P **P 07 36 39.2 +0.1**
comp=Z,34nm,1.4s,baz=39,slow=5.2
PV22 Blue Mesa, Par 82.04 47 IAmb IAmb 07 36 43.2
comp=Z,19nm,1.1s
GEC2 GERESS Array S 82.06 327 *e*P **P 07 36 39.1 -0.5**
comp=Z,8.6nm,1.1s,baz=39,slow=5.2
GERES GERESS Array B 82.06 327 P P 07 36 39.1 -0.5
comp=Z,2.6nm,0.7s,baz=36,slow=5.0,SNR=18
GERES GERESS Array B 82.06 327 P P 07 36 38.9 -0.7
GERES GERESS Array B 82.06 327 P P 07 36 38.9 -0.7
PV20 West Nyswonger 82.06 48 P P 07 36 39.7 -0.2
PV20 IAmb IAmb 07 36 42.2
comp=Z,25nm,1.0s
PV19 Morning Glory 82.07 48 IAmb IAmb 07 36 42.4
comp=Z,38nm,1.1s
UBBA Unterbreizbach 82.08 330 *e*P **P 07 36 38.9 -0.5**
comp=Z,15nm,1.4s,baz=39,slow=5.2
N23A Red Feather La 82.10 44 P P 07 36 41.2 +1.0
baz=313
PV16 Nyswonger Mesa 82.11 48 IAmb IAmb 07 36 42.6
comp=Z,39nm,1.4s
PV18 Skein Mesa, Pa 82.16 48 IAmb IAmb 07 36 42.8
comp=Z,28nm,1.1s
WET Wettzell 82.19 328 *e*P **P 07 36 40.2 0.0**
comp=Z,15nm,1.2s,baz=39,slow=5.2
WUAZ Wupatki 82.43 51 P P 07 36 43.2 +1.2
baz=310,SNR=6.5
WUAZ Wupatki 82.43 51 P P 07 36 42.7 +0.8
ARSA Arzberg 82.44 325 *e*P **P 07 36 41.5 -0.1**
comp=Z,4.9nm,1.1s
GRF Grafenberg Arr 82.46 329 *e*P **P 07 36 42.0 +0.3**
comp=Z,71nm,1.4s,baz=39,slow=5.2
GRF *e*L L 08 15 05.4
comp=Z,153nm,21.8s
MOA Molln 82.56 326 P P 07 36 42.2 +0.1
comp=Z,14nm,1.4s
DIVS Divibare 82.58 321 IAmb IAmb 07 36 43.3
comp=Z,40nm,1.9s
BUG Bochum--Univer 82.64 332 *e*P **P 07 36 41.9 -0.5**
baz=39,slow=5.2
113A Mohawk Valley, 82.65 54 IAmb IAmb 07 36 45.1
comp=Z,40nm,1.9s
ESK Eskdalemuir 82.81 340 P P 07 36 42.9 -0.3
ESK pmax pmax
comp=Z,42nm,1.5s
ESK Eskdalemuir 82.81 340 P P 07 36 42.9 -0.3
ESK IAmb IAmb 07 36 44.2
comp=Z,42nm,1.5s
ISCO Idaho Springs 83.03 45 P P 07 36 45.6 +0.5
baz=313
MVCO Mesa Verde 83.08 48 P P 07 36 46.0 +0.6
baz=312
MVCO Mesa Verde 83.08 48 IAmb IAmb 07 36 47.7
comp=Z,39nm,1.6s
SOKA Soboth 83.09 325 P P 07 36 44.8 -0.3
comp=Z,29nm,1.1s,SNR=13
X16A Lo Mia Camp, P 83.09 52 IAmb IAmb 07 36 48.0
comp=Z,18nm,1.2s
TNS Taunus Mts 83.16 331 *e*P **P 07 36 45.1 -0.2**
comp=Z,21nm,1.2s,baz=39,slow=5.2
RJOB Jochberg 83.29 327 *e*P **P 07 36 45.1 -1.0**
comp=Z,24nm,1.0s,baz=39,slow=5.2
SUSD Miller 83.29 38 P P 07 36 46.1 +0.1
baz=317
AHRW Bad Neuenahr-A 83.43 332 *e*P **P 07 36 46.4 -0.2**
comp=Z,32nm,1.4s,baz=39,slow=5.2
KBA Koelnbreinsper 83.55 326 *e*P **P 07 36 47.1 -0.4**
comp=Z,14nm,1.2s
FUR Furstenfeldbru 83.62 328 *e*P **P 07 36 47.8 +0.1**
comp=Z,39nm,0.8s,baz=39,slow=5.2
W18A Petrified Fore 83.71 50 P P 07 36 49.3 +0.7
baz=311
S22A 4UR Ranch, Cre 83.71 47 P P 07 36 49.9 +1.2
baz=312
MYKA Terra Mystica 83.76 326 *e*P **P 07 36 47.4 -1.1**
comp=Z,14nm,1.2s
MEM Membach 83.78 332 P P 07 36 48.1 -0.3
214A Organ Pipe Nat 83.79 55 P P 07 36 49.0 +0.2
baz=310
214A Organ Pipe Nat 83.79 55 P P 07 36 48.5 -0.4
214A IAmb IAmb 07 36 51.0
comp=Z,14nm,1.1s
Q24A Divide 83.86 45 P P 07 36 49.9 +0.5
baz=313
STU Stuttgart 84.01 330 *e*P **P 07 36 49.5 -0.1**
comp=Z,51nm,1.2s,baz=39,slow=5.2
EYMN Ely 84.07 32 P P 07 36 49.7 -0.2
baz=321
EYMN Ely 84.07 32 IAmb IAmb 07 36 51.0
comp=Z,20nm,1.0s
WATA Walderalm 84.13 327 *e*PcP **P 07 36 50.7 +0.3**
comp=Z,5.3nm,0.6s
PDG Podgorica 84.14 320 ⇑P **P 07 36 50.0 -0.3**
WTTA Wattenberg 84.16 327 *e*P **P 07 36 50.0 -0.7**
ABTA Abfaltersbach 84.17 327 *e*P **P 07 36 49.9 -0.7**
comp=Z,13nm,1.2s
OGNE Ogallala 84.21 42 P P 07 36 51.1 +0.3
baz=315
BGES Gesves 84.30 333 P P 07 36 50.2 -0.8
BGES PcP **pP 07 36 53.5 -3.0**
MOTA Moosalm 84.33 328 *e*P **P 07 36 51.0 -0.5**
comp=Z,13nm,1.0s,SNR=5.2
RETA Reutte 84.36 328 *e*P **P 07 36 51.3 -0.3**
comp=Z,6.6nm,0.7s
SQTA Sankt Quirin 84.38 328 *e*P **P 07 36 50.9 -0.8**
comp=Z,5.5nm,0.7s
BMRD Maredsous 84.49 333 ⇓P **P 07 36 51.6 -0.4**
comp=Z,18nm,1.3s
SDCO Great Sand Dun 84.49 46 P P 07 36 53.4 +0.7
baz=313
UBR Ueberruh 84.49 328 *e*P **P 07 36 51.3 -0.8**
comp=Z,15nm,1.3s,baz=39,slow=5.2
WLF Walferdange 84.49 332 *e*P **P 07 36 51.9 -0.1**
comp=Z,46nm,1.8s,baz=39,slow=5.2
BFO Black Forest 84.71 330 P P 07 36 52.2 -1.0
BFO pmax pmax
comp=Z,37nm,1.2s
BFO Black Forest 84.71 330 *e*P **P 07 36 52.7 -0.5**
comp=Z,39nm,1.2s,baz=39,slow=5.2
BFO Black Forest 84.71 330 P P 07 36 52.2 -1.0
K31A O'Neill 84.72 39 P P 07 36 53.7 +0.4
DOU Dourbes 84.72 333 P P 07 36 52.7 -0.4
FETA Feichten 84.74 328 *e*P **P 07 36 52.8 -0.7**
comp=Z,11nm,1.1s
TUC Tucson 84.88 53 P P 07 36 54.7 +0.3
TUC pmax pmax
comp=Z,14nm,1.3s
TUC Tucson 84.88 53 P P 07 36 55.3 +0.9
baz=311
TUC Tucson 84.88 53 P P 07 36 54.7 +0.3
TUC IAmb IAmb 07 36 56.5
comp=Z,14nm,1.2s
DAVA Damuels 84.89 328 *e*PcP **P 07 36 54.0 -0.4**
comp=Z,14nm,0.7s
ECSD EROS Data Cent 84.96 37 P P 07 36 54.5 -0.1
baz=318

ECSD	EROS Data Cent	84.96	37	IAmb	IAmb	07 36 55.7		
	comp=Z,15nm,1.2s							
E38A	The Farm, Brul	85.09	33	IAmb	IAmb	07 36 56.0		
	comp=Z,24nm,1.1s							
CTI	Castel Tesino	85.09	327	IAmb	IAmb	07 36 54.7		
	comp=Z,16nm,1.2s							
KSCO	Kaye Shedlock'	85.24	44	P	P	07 36 56.4	+0.2	
	baz=315							
FUORN	Ofenpass-Fuorn	85.25	328	IAmb	IAmb	07 36 57.0		
	comp=Z,22nm,1.0s							
ECH	Echery	85.27	330	IAmb	IAmb	07 36 56.4		
	comp=Z,21nm,1.0s							
T25A	Trinidad	85.53	46	P	P	07 36 58.3	+0.5	
	baz=314							
SPMN	Marine on St.	85.61	34	P	P	07 36 57.6	-0.2	
	baz=321							
SPMN	Marine on St.	85.61	34	IAmb	IAmb	07 36 58.9		
	comp=Z,14nm,1.1s							
TUE	Stuetta	85.76	328	IAmb	IAmb	07 37 02.5		
	comp=Z,25nm,1.2s							
ANMO	Albuquerque	85.83	49	P	P	07 37 00.1	+0.8	
ANMO				pmax	pmax			
	comp=Z,13nm,1.2s							
ANMO	Albuquerque	85.83	49	P	P	07 37 00.0	+0.8	
	baz=313							
ANMO	Albuquerque	85.83	49	P	P	07 37 00.1	+0.8	
ANMO				IAmb	IAmb	07 37 01.7		
	comp=Z,12nm,1.1s							
SCHQ	Schefferville	85.89	15	P	P	07 36 59.0	0.0	
	comp=Z,7.1nm,0.6s,baz=64,slow=8.5,SNR=4.6							
BGNE	Belgrade	85.91	40	P	P	07 36 58.9	-0.4	
	baz=317							
121A	Cookes Peak, D	86.63	51	P	P	07 37 04.3	+1.1	
	baz=312							
G40A	Rib Lake	86.73	33	P	P	07 37 03.0	-0.3	
G40A				IAmb	IAmb	07 37 04.6		
	comp=Z,20nm,1.1s							
NRCA	Norcia	86.89	324	P	P	07 37 03.2	-1.0	
CBKS	Cedar Bluff	86.96	42	P	P	07 37 04.4	-0.2	
	baz=316							
MATQ	Matagami	87.68	23	P	P	07 37 07.9	+0.2	
	baz=331							
D46A	Sault St. Mari	87.92	28	P	P	07 37 08.6	-0.4	
	baz=327							
SCIA	State Center	87.97	36	P	P	07 37 09.7	+0.4	
	baz=320							
D47A	Chapleau	88.13	28	P	P	07 37 09.6	-0.4	
	baz=327							
E46A	Sault Ste Mari	88.25	29	IAmb	IAmb	07 37 11.3		
	comp=Z,20nm,1.1s							
I42A	Draeger Farm,	88.38	33	IAmb	IAmb	07 37 12.7		
	comp=Z,20nm,1.1s							
H43A	Windswept, Lux	88.40	32	P	P	07 37 11.0	-0.3	
KSU1	Kansas State U	88.41	40	P	P	07 37 11.2	-0.3	
	baz=318							
LSQQ	Lebel-sur-Quev	88.51	23	P	P	07 37 11.6	-0.1	
	baz=332							
CHGQ	Chibougamau	88.54	21	P	P	07 37 11.8	-0.1	
	baz=334,SNR=5.8							
JFWS	Jewell Farm	88.56	34	P	P	07 37 11.8	-0.3	
	baz=322							
E47A	Iron Bridge	88.57	28	P	P	07 37 11.8	-0.3	
	baz=327							
AMTX	Amarillo	88.69	46	P	P	07 37 13.1	+0.2	
	baz=316							
MNTX	Cornudas Mount	88.69	51	P	P	07 37 13.7	+0.8	
	baz=314							
MSTX	Muleshoe	88.70	47	P	P	07 37 13.2	+0.1	
	baz=315							
VLDQ	Val d'Or	89.19	24	P	P	07 37 14.4	-0.5	
F48A	Evansville	89.34	28	P	P	07 37 16.0	+0.3	
	baz=328							
P38A	Dawn	89.57	38	IAmb	IAmb	07 37 18.5		
	comp=Z,20nm,1.1s							
F49A	Sandfield	89.61	28	P	P	07 37 17.1	+0.2	
	baz=328							
D53A	Lac Vacive, Po	90.01	24	P	P	07 37 18.9	+0.1	
	baz=331,SNR=5.2							
D53A	Lac Vacive, Po	90.01	24	IAmb	IAmb	07 37 20.1		
	comp=Z,22nm,1.2s							
L44A	Lake County Fo	90.19	33	P	P	07 37 19.8	+0.1	
	baz=324							
D54A	Lac Fusel, La	90.29	24	P	P	07 37 20.1	0.0	
	baz=332							
OK029	Liberty Lake	90.41	43	IAmb	IAmb	07 37 22.6		
	comp=Z,17nm,1.0s							
WMOK	Wichita Mounta	90.45	45	P	P	07 37 21.4	+0.3	
	baz=317,SNR=5.0							
QUOK	Quay	90.54	42	IAmb	IAmb	07 37 25.5		
	comp=Z,13nm,0.9s							
OK025	Westminster Rd	90.63	43	IAmb	IAmb	07 37 23.6		
	comp=Z,16nm,0.9s							
E53A	Dumoine, Ponti	90.63	25	P	P	07 37 21.8	+0.1	
	baz=331							
E54A	Lac Daplat, Po	90.75	24	P	P	07 37 22.0	-0.2	
	baz=332							
M44A	Midewin, Midew	90.77	34	IAmb	IAmb	07 37 26.4		
	comp=Z,18nm,1.0s							
D55A	Sainte-Anne-du	90.78	23	P	P	07 37 22.5	+0.1	
	baz=333							
HDIL	Hopedale	90.87	35	P	P	07 37 23.3	+0.3	
	baz=323							
HDIL	Hopedale	90.87	35	P	P	07 37 23.1	+0.2	
ALGO	Algonquin Park	90.87	25	P	P	07 37 22.9	+0.1	
	baz=331							
D56A	ZEC Mazanza, M	90.98	23	P	P	07 37 23.7	+0.4	
	baz=333							
E55A	Montcerf-Lytto	91.10	24	P	P	07 37 24.1	+0.2	
	baz=332							
S39A	Bolivar	91.16	39	IAmb	IAmb	07 37 25.1		
	comp=Z,8.9nm,1.1s							
TUL1	Leonard	91.22	42	P	P	07 37 25.0	+0.3	
	baz=319							
R40A	Maddies Statio	91.23	38	P	P	07 37 24.8	+0.2	
R40A				IAmb	IAmb	07 37 25.9		
	comp=Z,11nm,1.1s							
D57A	Chemin Vers le	91.27	22	P	P	07 37 25.1	+0.4	
	baz=334,SNR=9.1							
E56A	St. Veronique	91.34	23	P	P	07 37 25.2	+0.2	
	baz=333,SNR=5.1							
G54A	Lake Saint Pet	91.34	25	P	P	07 37 25.1	+0.1	
	baz=331							
TX32	Lajitas Array	91.39	51	P	P	07 37 26.2	+0.5	
TXAR	Lajitas Array	91.39	51	P	P	07 37 26.6	+0.9	
	comp=Z,2.7nm,0.8s,baz=267,slow=1.2,SNR=8.9							
TXAR				PP	PP	07 41 02.8	0.0	
	comp=Z,0.2nm,0.5s,baz=298,slow=5.3,SNR=3.4							
TXAR	Lajitas Array	91.39	51	P	P	07 37 26.2	+0.5	
ABTX	Abilene, Hawle	91.49	46	P	P	07 37 26.2	+0.2	
	baz=317							
D58A	Chemin du LacG	91.50	22	P	P	07 37 25.7	-0.1	
	baz=335							
F55A	Otter Lake	91.55	24	P	P	07 37 25.7	-0.2	
	baz=332							
U38A	Gravette	91.57	41	IAmb	IAmb	07 37 27.4		
	comp=Z,9.8nm,1.1s							
I51A	Listowel	91.66	28	P	P	07 37 26.8	+0.2	
	baz=329							
E57A	Chemin Saint G	91.74	23	P	P	07 37 27.1	+0.2	
	baz=334							
L48A	N Adams	91.87	31	IAmb	IAmb	07 37 29.2		
	comp=Z,13nm,0.9s							
D59A	Saint-Raymond	91.89	21	P	P	07 37 27.8	+0.3	
	baz=335							
H53A	Bobcaygeon	91.89	26	P	P	07 37 27.3	-0.2	
	baz=330							
CCM	Cathedral Cave	91.92	38	P	P	07 37 27.8	0.0	
CCM				pmax	pmax			
	comp=Z,14nm,1.2s							
CCM	Cathedral Cave	91.92	38	P	P	07 37 27.7	0.0	
	baz=322							
CCM	Cathedral Cave	91.92	38	P	P	07 37 27.8	0.0	
CCM				IAmb	IAmb	07 37 29.2		
	comp=Z,14nm,1.1s							
G55A	Calabogie	91.94	25	P	P	07 37 27.6	-0.1	
	baz=332							
SFIN	Lafayette	92.01	34	P	P	07 37 28.4	+0.2	
	baz=324							
SFIN	Lafayette	92.01	34	IAmb	IAmb	07 37 29.7		
	comp=Z,10nm,1.0s							
E58A	La Victoria	92.04	22	P	P	07 37 28.0	-0.2	
	baz=334							
ORIO	Orleans, Innes	92.16	24	P	P	07 37 28.5	-0.2	
	baz=333							
D61A	St Aubert, Com	92.17	20	P	P	07 37 28.7	-0.1	
	baz=337							
N47A	Urbana	92.21	33	IAmb	IAmb	07 37 30.3		
	comp=Z,16nm,1.1s							
H55A	Tweed	92.40	25	P	P	07 37 29.9	0.0	
	baz=332							
U40A	Yellville	92.43	40	P	P	07 37 30.1	-0.1	
	baz=321,SNR=10							
E60A	Ste Agathe de	92.58	21	P	P	07 37 30.6	-0.1	
	baz=336							
D62A	Allapoint, All	92.58	19	P	P	07 37 30.4	-0.3	
	baz=338							
G57A	Newington	92.64	24	P	P	07 37 30.6	-0.4	
	baz=333							
F59A	Saint Guilaume	92.66	22	P	P	07 37 31.4	+0.3	
	baz=335							
T42A	Van Buren	92.79	38	P	P	07 37 31.5	-0.4	
T42A				IAmb	IAmb	07 37 33.1		
	comp=Z,12nm,1.1s							
W39A	Magazine	92.83	41	P	P	07 37 32.1	0.0	
	baz=320							
D63A	Stockholm	92.87	19	P	P	07 37 32.2	+0.1	
	baz=338							
G58A	Ormstown	92.90	23	P	P	07 37 32.1	0.0	
	baz=334							
JCT	Junction City	92.94	48	P	P	07 37 32.7	-0.1	
JCT				pmax	pmax			
	comp=Z,25nm,1.6s							
JCT	Junction City	92.94	48	P	P	07 37 32.7	-0.1	
	baz=316							
JCT	Junction City	92.94	48	P	P	07 37 32.7	-0.1	
H57A	Richville	93.08	24	P	P	07 37 33.0	0.0	
	baz=333							
FCAR	Ozark Folk Cen	93.16	40	P	P	07 37 33.7	+0.1	
FCAR				IAmb	IAmb	07 37 34.5		
	comp=Z,13nm,1.2s							
S44A	Carbondale	93.17	37	IAmb	IAmb	07 37 35.0		
	comp=Z,14nm,1.0s							
WHTX	Lake Whitney,	93.21	46	P	P	07 37 34.0	+0.1	
	baz=318							
J55A	Hilton	93.30	26	P	P	07 37 33.8	-0.3	
	baz=331							
F62A	Pittston Farm,	93.43	20	P	P	07 37 35.2	+0.6	
	baz=337							
MIAR	Mount Ida	93.44	41	P	P	07 37 35.0	+0.1	
	baz=320,SNR=7.3							
MIAR	Mount Ida	93.44	41	IAmb	IAmb	07 37 36.5		
	comp=Z,17nm,1.2s							
I57A	Carthage	93.45	25	P	P	07 37 35.4	+0.6	
	baz=333							
H59A	Cadyville	93.46	23	P	P	07 37 34.6	-0.2	
	baz=334							
ERPA	Erie	93.50	28	P	P	07 37 35.1	+0.1	
	baz=329							
H58A	Gabriels	93.51	23	P	P	07 37 35.1	0.0	
	baz=334							
E64A	Bridgewater	93.51	19	P	P	07 37 35.5	+0.4	
	baz=338							
WHAR	Wooly Hollow	93.54	40	IAmb	IAmb	07 37 36.4		
	comp=Z,12nm,1.1s							
K54A	Basilko Farm,	93.56	27	P	P	07 37 35.4	0.0	
	baz=330							
L54A	Sinclairville	93.65	28	P	P	07 37 35.9	+0.2	
	baz=330							
W41B	Gary Mavity, V	93.65	40	P	P	07 37 35.7	-0.2	
	baz=321							
K55A	Perry	93.68	27	P	P	07 37 35.6	-0.3	
	baz=331							
P49A	Miami Univ. Ec	93.75	33	P	P	07 37 36.0	-0.2	
	baz=326							
J57A	Williamstown	93.81	25	P	P	07 37 36.5	0.0	
	baz=332							
M53A	WI Miller and	93.81	29	P	P	07 37 36.5	-0.1	
	baz=329							
F63A	Nahmakanta, Br	93.84	20	P	P	07 37 35.7	-0.8	
	baz=338							
H60A	Morristown	93.85	22	P	P	07 37 36.7	+0.1	
	baz=335							
X40A	Basin Creek Fa	93.87	41	P	P	07 37 37.4	+0.5	
	baz=321							
G62A	West of Eustis	93.89	21	P	P	07 37 37.2	+0.4	
	baz=336							
F64A	Sherman	93.89	19	P	P	07 37 36.5	-0.2	
	baz=338							
ACSO	Alum Creek Sta	93.90	31	P	P	07 37 37.3	+0.3	
	baz=327							
K56A	Middlesex	93.97	26	P	P	07 37 37.1	-0.1	
	baz=331							
L55A	Hinsdale	94.02	27	P	P	07 37 38.3	+0.8	
	baz=330							
H61A	Lyndonville	94.11	22	P	P	07 37 38.2	+0.4	
	baz=335							
WCI	Wyandotte Cave	94.12	35	P	P	07 37 37.5	-0.5	
WCI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
WCI	Wyandotte Cave	94.12	35	P	P	07 37 38.1	+0.1	
	baz=325							
WCI	Wyandotte Cave	94.12	35	P	P	07 37 37.5	-0.5	
WCI				IAmb	IAmb	07 37 39.4		
	comp=Z,9.2nm,0.9s							
O51A	Pataskala	94.13	31	P	P	07 37 38.2	+0.2	
	baz=328							
PKME	Peaks-Kenny Pk	94.19	20	P	P	07 37 38.4	+0.2	
	baz=337							
KEST	Kesra	94.24	321	P	P	07 37 37.4	-1.3	
	comp=Z,4.2nm,0.9s,baz=59,slow=5.9,SNR=2.4							
G63A	Kingsbury	94.24	20	P	P	07 37 39.2	+0.8	
	baz=337							
J59A	Piesco	94.26	24	P	P	07 37 38.9	+0.3	
	baz=333							
H62A	Milan	94.30	21	P	P	07 37 38.6	0.0	
	baz=336							
I60A	Shoreham	94.31	23	P	P	07 37 38.7	0.0	
	baz=334							
O52A	Adamsville	94.47	31	P	P	07 37 39.6	+0.1	
	baz=328							
T47A	Sharon Grove	94.75	36	IAmb	IAmb	07 37 44.8		
	comp=Z,7.7nm,0.9s							
N55A	Marion Center	95.03	28	P	P	07 37 42.6	+0.5	
	baz=330							
WVT	Waverly	95.10	37	P	P	07 37 42.9	+0.4	
WVT				pmax	pmax			
	comp=Z,7.0nm,1.0s							
WVT	Waverly	95.10	37	P	P	07 37 42.9	+0.4	
	baz=324							
WVT	Waverly	95.10	37	P	P	07 37 42.9	+0.4	
WVT				IAmb	IAmb	07 37 43.7		
	comp=Z,6.8nm,1.0s							
P54A	Burton	95.46	30	P	P	07 37 44.5	+0.4	
	baz=329							
J63A	Strafford	95.50	22	P	P	07 37 44.4	+0.2	
	baz=336							
Q53A	Leroy	95.66	31	P	P	07 37 44.9	-0.2	
	baz=328							
K62A	Royalston	95.70	23	P	P	07 37 45.1	-0.1	
	baz=335							
U49A	Red Boiling Sp	95.75	35	IAmb	IAmb	07 37 46.6		
	comp=Z,8.6nm,1.1s							
X54A	Belton	98.93	34	P	P	07 37 59.8	0.0	
	baz=327							
W57A	Gilead	99.46	32	P	Pdif	07 38 01.8	-0.4	
	baz=329							
TORD	Torodi Ar. Bea	116.38	313	PKP	PKPdf	07 43 02.5	-1.0	
	comp=Z,0.7nm,0.7s,baz=321,slow=1.2,SNR=2.6							
MAW	Mawson	118.75	205	PKP	PKiKP	07 43 07.0	+0.6	
	comp=Z,0.5nm,0.3s,baz=330,slow=6.0,SNR=3.9							
QSPA	South Pole Qui	126.61	180		PKPdf	07 43 21.4	-0.2	
SNAA	Sanae	140.15	198	PKPdf	PKPdf	07 43 40.2	-6.7	
SNAA	Sanae	140.15	198	PKIKP	PKPdf	07 43 46.9	0.0	
SNAA	Sanae	140.15	198		PKPdf	07 43 46.9	0.0	
VNA2	Neumayer--Watz	141.74	197	PKPdf	PKPdf	07 43 46.3	-3.4	
VNA1	Neumayer--Stat	142.13	197	PKPdf	PKPdf	07 43 46.1	-4.2	
SAML	Samuel	145.39	42	PKIKP	PKPbc	07 43 57.5	-0.2	
SAML	Samuel	145.39	42		PKPbc	07 43 57.5	-0.2	
LPAZ	La Paz	148.05	57	PKPbc	PKPdf	07 44 04.0	+1.1	
	comp=Z,10nm,0.9s,baz=358,slow=6.5,SNR=20							
PB16	IPOC Station P	148.50	62		PKiKP	07 44 08.7	-0.1	
RCBR	Riachuelo	148.83	351	PKPbc	PKPbc	07 44 06.1	-1.4	
	comp=Z,14nm,1.1s,baz=270,slow=1.0,SNR=2.9							
PB11	IPOC Station P	149.32	64		PKPbc	07 44 09.3	+0.6	
LVC	Limon Verde	151.62	68	PKIKP	PKiKP	07 44 15.6	+0.8	
LVC	Limon Verde	151.62	68		PKiKP	07 44 15.6	+0.8	
SIV	San Ignacio	152.30	47	PKP	PKPdf	07 44 08.2	-0.8	
	comp=Z,1.2nm,0.9s,baz=258,slow=2.6,SNR=5.2							
SIV				PKPbc	PKPbc	07 44 15.9	+0.2	
	comp=Z,5.3nm,0.8s,baz=209,slow=1.0,SNR=18							
AC05	El Transito	153.77	81		PKiKP	07 44 20.2	+1.3	
PLCA	Paso Flores	156.28	109	PKPab	PKPab	07 44 43.1	+1.0	
	comp=Z,4.3nm,1.1s,baz=210,slow=4.6,SNR=3.2							
BDFB	Brasilia	157.81	20	PKPab	PKPab	07 44 48.0	-1.1	
	comp=Z,3.0nm,0.8s,baz=4.5,slow=26,SNR=4.1							
BDFB	Brasilia	157.81	20	PKP2	PKPab	07 44 48.0	-1.1	
CPUP	Villa Florida	162.22	59	PKPab	PKPab	07 45 08.0	0.0	
	comp=Z,2.4nm,0.9s,baz=214,slow=3.6,SNR=2.4							
CPUP	Villa Florida	162.22	59	PKP2	PKPab	07 45 08.0	0.0	

DDA 03 07:34:08.1, 39°.24N×25°.77E, h7km±3km, ML1.6, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.64	20	*i* P	Pg	07 34 20.1	-0.4
BOZC				*i* S	Sb	07 34 30.4	-0.4
BOZC				IAML		07 34 32.0	
	comp=N,31nm,0.3s						
AYVA	Ayvalik	0.72	84	*i* P	Pb	07 34 22.6	-0.3
AYVA				*i* S	Sb	07 34 32.2	-0.7
AYVA				IAML		07 34 33.0	
	comp=N,112nm,0.6s						
BAYC	CANAKKALE_Bayr	0.78	50	*i* P	Pg	07 34 22.8	-0.4
BAYC				*i* S	Sg	07 34 34.0	+0.7
BAYC				IAML		07 34 36.0	
	comp=E,23nm,0.1s						

BJI ***03*** *07:43:28.0±0.0, 15°.00S×173°.40W, h5km, mB6.1/63, mb5.5/59, Ms5.7/70, Ms7 5.5/65*

NEIC ***03*** *07:43:30.8±2.4, 15°.06S±0°.08×173°.38W±0°.07, h6km±1km, mb5.7/456, Ms_20 5.7/900, Mwb5.9/71, Mww5.8, Mwc5.8(GCMT), Error ellipse: s-maj=13.5km s-min=11.1km az=205.0*

IDC ***03*** *07:43:30.5±0.3, 15°.06S×173°.48W, h0km, mb5.1/38, mb1 5.2/38, mb1mx5.1/42, mbtmp5.1/38, MS5.4/41, Ms1 5.4/41, ms1mx5.3/50, Error ellipse: s-maj=12.7km s-min=10.2km az=150.0*

MOS ***03*** *07:43:31.0±1.4, 14°.99S×173°.54W, h10km, mb5.8/57, MS5.6/21, Error ellipse: s-maj=7.8km s-min=7.5km az=119.1*

INMG ***03*** *07:43:31.9, 15°.01S×173°.51W, h10km, Mb5.3*

UNK ***03*** *07:43:31.9, 15°.01S×173°.51W, h10km*

NEIC ***03*** *07:43:32.2, 15°.04S×173°.56W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.61; $M_{\theta\theta}$=2.47; $M_{\phi\phi}$=-1.86; $M_{r\theta}$=1.76; $M_{\theta\phi}$=2.45; $M_{\phi r}$=7.29; Fault plane solution: M_0=8.19000×10^{17} NP1:ϕ_s=104.40000°, δ=23.62000°, λ=-3.69000°. NP2:ϕ_s=197.78000°, δ=88.52000°, λ=-113.57000°. Principal axes: T 7.7349, Plg39.0000°, Azm309.0000°; N 0.8490, Plg24.0000°, Azm198.0000°; P -8.5839, Plg42.0000°, Azm85.0000°;*

NEIC ***03*** *07:43:32, 14°.91S×172°.79W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.01; $M_{\theta\theta}$=2.39; $M_{\phi\phi}$=-4.40; $M_{r\theta}$=1.06; $M_{\theta\phi}$=2.85; $M_{\phi r}$=4.91; Fault plane solution: M_0=6.92000×10^{17} NP1:ϕ_s=118.00000°, δ=37.00000°, λ=18.00000°. NP2:ϕ_s=14.00000°, δ=79.00000°, λ=126.00000°. Principal axes: T 6.1736, Plg44.0000°, Azm319.0000°; N 1.3106, Plg35.0000°, Azm187.0000°; P -7.4842, Plg26.0000°, Azm77.0000°;*

GCMT ***03*** *07:43:37.8±0.1, 14°.85S×173°.22W, h12km, MW5.8/167, Moment Tensor Solution. s153,c309; s167,c516; Duration: 1#9 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.61±.03; $M_{\theta\theta}$=3.07±.03; $M_{\phi\phi}$=-3.68±.03; $M_{r\theta}$=1.54±.08; $M_{\theta\phi}$=3.34±.03; $M_{\phi r}$=3.54±.08; Best double couple: M_0=6.14000×10^{17} NP1:ϕ_s=114.00000°, δ=51.00000°, λ=5.00000°. NP2:ϕ_s=21.00000°, δ=86.00000°, λ=141.00000°. Principal axes: T 6.0480, Plg30.0000°, Azm330.0000°; N 0.1890, Plg50.0000°, Azm196.0000°; P -6.2330, Plg24.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***03*** *07:43:37, 14°.82S×173°.20W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.56; $M_{\theta\theta}$=3.21; $M_{\phi\phi}$=-3.76; $M_{r\theta}$=1.16; $M_{\theta\phi}$=3.43; $M_{\phi r}$=4.39; Fault plane solution: M_0=6.69000×10^{17} NP1:ϕ_s=112.00000°, δ=47.00000°, λ=3.00000°. NP2:ϕ_s=20.00000°, δ=88.00000°, λ=137.00000°. Principal axes: T 6.2578, Plg31.0000°, Azm327.0000°; N 0.7939, Plg47.0000°, Azm198.0000°; P -7.0517, Plg27.0000°, Azm75.0000°;*

ISC 03 07:43:30.8±0.5, 15°.10S±0°.05×173°.42W±0°.04, h7km±2km, h8km:pP-P, n1364, σ1#55/974, mb5.7/283, MS5.7/514, 81C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.98	53	Pn	Pn	07 43 59.1	-5.7
	629nm,0.3s,baz=264,slow=10,SNR=146						
AFI				Sn	Sn	07 44 18.0	-12
	1μm,0.3s,baz=0.0,slow=20,SNR=6.0						
AFI	Afiamalu	1.98	53	P	Pn	07 43 59.4	-5.5
AFI	Afiamalu	1.98	53		Pn	07 43 59.4	-5.5
NIUE	Niue	5.17	140	P	Pn	07 44 47.2	-1.4
	baz=5.0,SNR=50						
NIUE				S	Sn	07 45 43.0	-5.6
	baz=5.0						
NIUE	Niue	5.17	140	Pn	Pn	07 44 47.3	-1.3
MSVF	Nonsavu	8.59	251	P	Pn	07 45 39.7	+3.9
MSVF	Nonsavu	8.59	251	Pn	Pn	07 45 39.7	+3.9
FUNA	Funafuti	9.74	311	Pn	Pn	07 45 48.4	-3.1
KNTN	Kanton	12.37	8	Pn	Pn	07 46 22.1	-5.3
RAR	Rarotonga	14.32	117	Pn	Pn	07 46 50.5	-3.5
	5.7nm,0.3s,baz=248,slow=6.5,SNR=10						
RAR				Sn	Sn	07 49 23.7	-9.5
	2.5nm,0.3s,baz=94,slow=20,SNR=1.9						
RAR				LR	LR	07 50 50.1	
	comp=Z,16μm,21.3s,baz=305,slow=31						
RAR	Rarotonga	14.32	117	P	Pn	07 46 49.6	-4.4
RAR	Rarotonga	14.32	117	Pn	Pn	07 46 49.6	-4.4
SANVU	Saraoutou	18.70	266	P	Pn	07 47 51.2	+1.0
SANVU				IAmb	IAmb	07 47 56.4	
	comp=Z,698nm,1.8s						
DZM	Mont Dzumac	20.29	247	*e*P	Pn	07 48 08.8	-0.6
	comp=Z,1μm,1.6s						
DZM				*e*LQ	LQ	07 52 04.9	
	comp=Z,13μm,26.9s						
DZM				*e*LR	LR	07 53 02.4	
	comp=Z,41μm,26.4s						
DZM	Mont Dzumac	20.29	247	P	P	07 48 07.8	+0.3
	comp=Z,23nm,1.0s,baz=56,slow=18,SNR=8.7						
DZM				LR	LR	07 54 42.8	
	comp=Z,22μm,20.3s,baz=84,slow=33						
DZM	Mont Dzumac	20.29	247	P	P	07 48 07.7	+0.3
DZM				IAmb	IAmb	07 48 15.4	
	comp=Z,780nm,1.6s						
TARA	Tarawa	21.21	319	P	P	07 48 12.5	-4.8
TARA				IAmb	IAmb	07 48 19.6	
	comp=Z,756nm,1.6s						
PPT	Papeete	23.01	99	P	P	07 48 36.2	-0.3
	comp=Z,191nm,1.1s,baz=163,slow=4.5,SNR=6.5						
PPT				LR	LR	07 54 58.5	
	comp=Z,10μm,21.2s,baz=268,slow=30						
PPT	Papeete	23.01	99	P	P	07 48 35.2

RUGZ	Raukumara Rang	24.10 197	P	P	07 48 52.4	+5.2	
MEH	Mehetia	24.46 100	eP	P	07 48 50.0	-0.6	
	comp=Z,123nm,1.4s						
MWZ	Matawai	24.48 197	P	P	07 48 52.0	+1.3	
KMRZ	Kaimai	24.53 201	P	P	07 48 57.1	+6.0	
URZ	Urewera	24.54 198	P	P	07 48 50.9	-0.1	
	comp=Z,15nm,0.7s,baz=22,slow=4.3,SNR=14						
URZ			LR	LR	07 57 37.3		
	comp=Z,21µm,20.4s,baz=18,slow=34						
URZ	Urewera	24.54 198	P	P	07 48 53.9	+2.9	
URZ	Urewera	24.54 198	P	P	07 48 51.0	-0.1	
URZ			IAMs_20	IAMs_20	07 57 15.9		
	comp=Z,21µm,20.0s						
TOZ	Tahuroa Road	24.58 201	P	P	07 48 55.3	+3.8	
PMOR	Pomariorio Ree	24.65 93	eP	P	07 48 51.7	-0.6	
	comp=Z,2µm,1.4s						
PMOR	Pomariorio Ree	24.65 93	eT	T	08 14 15.5		
	comp=Z,8.1nm,0.3s						
VAH	Vaihoa	24.89 94	eP	P	07 48 53.8	-0.7	
	comp=Z,1µm,1.3s						
VAH	Vaihoa	24.89 94	eT	T	08 14 32.9		
	comp=Z,26nm,0.4s						
MRHZ	Matea Rd	25.28 199	P	P	07 49 00.2	+2.4	
HIZ	Hauiti	25.51 202	P	P	07 49 03.7	+3.8	
HIZ	Hauiti	25.51 202	P	P	07 49 00.7	+0.8	
HIZ			IAmb	IAmb	07 49 22.9		
	comp=Z,178nm,1.2s						
BKZ	Black Stump Fm	25.56 198	P	P	07 49 02.4	+2.0	
BKZ	Black Stump Fm	25.56 198	P	P	07 49 01.2	+0.8	
BKZ			IAMs_20	IAMs_20	07 59 05.0		
	comp=Z,16µm,19.0s						
KWHZ	Kaweka Forest	25.82 198	P	P	07 49 03.1	+0.4	
OTVZ	Oturere	25.82 200	P	P	07 49 05.1	+2.3	
BHHZ	Black Hill Sta	25.99 199	P	P	07 49 06.8	+2.5	
PXZ	Pawanui	26.25 197	P	P	07 49 12.1	+5.6	
NEZ	North Egmont	26.45 202	P	P	07 49 14.3	+5.8	
HNR	Honiara	26.62 279	LR	LR	07 58 00.8		
	comp=Z,14µm,18.4s,baz=126,slow=33						
BFZ	Birch Farm	27.03 197	P	P	07 49 14.8	+1.2	
BFZ			IAMs_20	IAMs_20	07 59 37.8		
	comp=Z,16µm,18.0s						
MSWZ	Moikau Station	28.00 198	P	P	07 49 23.0	+0.7	
SNZO	South Karori	28.07 199	P	P	07 49 24.0	+1.1	
BHW	Baring Head	28.11 199	P	P	07 49 24.0	+0.8	
PLWZ	Palliser	28.14 198	P	P	07 49 24.9	+1.4	
QRZ	Quartz Range	28.39 203	P	P	07 49 26.3	+0.5	
QRZ	Quartz Range	28.39 203	P	P	07 49 26.6	+0.8	
QRZ			IAMs_20	IAMs_20	08 02 28.1		
	comp=Z,14µm,18.0s						
TUWZ	Tuamarina	28.43 200	P	P	07 49 27.4	+1.3	
NNZ	Nelson	28.43 201	P	P	07 49 27.7	+1.6	
THZ	Tophouse	29.08 201	P	P	07 49 33.0	+1.1	
THZ			IAMs_20	IAMs_20	08 00 32.2		
	comp=Z,15µm,20.0s						
KHZ	Kahutara	29.45 200	P	P	07 49 35.1	0.0	
KHZ	Kahutara	29.45 200	P	P	07 49 35.1	0.0	
LTZ	Lake Taylor	30.20 201	P	P	07 49 42.0	+0.1	
LTZ	Lake Taylor	30.20 201	IAMs_20	IAMs_20	08 01 06.8		
	comp=Z,16µm,20.0s						
KWAJ	Kwajalein Atol	30.29 320	IAMs_20	IAMs_20	07 58 33.4		
	comp=Z,15µm,20.0s						
OXZ	Oxford	30.76 201	IAMs_20	IAMs_20	08 01 34.3		
	comp=Z,12µm,20.0s						
RPZ	Rata Peaks	31.45 202	P	P	07 49 53.9	+1.0	
	comp=Z,7.7nm,0.7s,baz=261,slow=1.3,SNR=9.8						
RPZ	Rata Peaks	31.45 202	P	P	07 49 52.7	-0.1	
RPZ	Rata Peaks	31.45 202	P	P	07 49 55.3	+2.5	
RPZ			IAMs_20	IAMs_20	08 01 43.8		
	comp=Z,14µm,21.0s						
FOZ	Fox Glacier	31.75 203	P	P	07 49 55.8	+0.3	
FOZ			IAMs_20	IAMs_20	08 01 15.9		
	comp=Z,14µm,21.0s						
LBZ	Lake Benmore	32.34 202	IAMs_20	IAMs_20	08 02 10.5		
	comp=Z,12µm,20.0s						
TAOE	Nuku Hiva Isla	33.10 83	eP	P	07 50 07.0	-0.8	
	comp=Z,303nm,1.4s						
TAOE			eS	S	07 55 21.4	-6.2	
	comp=Z,2µm,26.7s						
TAOE			eLR	LR	07 58 54.0		
	comp=Z,19µm,23.8s						
TAOE	Nuku Hiva Isla	33.10 83	eT	T	08 24 43.7		
	comp=Z,57nm,0.2s						
TAOE	Nuku Hiva Isla	33.10 83	IAMs_20	IAMs_20	07 59 46.0		
	comp=Z,11µm,20.0s						
WKZ	Wanaka	33.15 203	P	P	07 50 09.0	+1.2	
WKZ			IAmb	IAmb	07 50 13.1		
	comp=Z,212nm,1.9s						
WKZ			IAMs_20	IAMs_20	08 03 14.0		
	comp=Z,14µm,19.0s						
MLZ	Mavora Lakes	33.95 204	IAmb	IAmb	07 50 28.9		
	comp=Z,98nm,1.4s						
MLZ			IAMs_20	IAMs_20	08 03 39.1		
	comp=Z,11µm,20.0s						
WHZ	Wether Hill Ro	34.46 203	P	P	07 50 19.7	+0.6	
WHZ			IAmb	IAmb	07 50 36.2		
	comp=Z,133nm,1.4s						
WHZ			IAMs_20	IAMs_20	08 04 04.5		
	comp=Z,10µm,19.0s						
EIDS	Eidsvold	34.74 247	P	P	07 50 21.6	-0.3	
ARMA	Armidale	35.48 239	P	P	07 50 27.7	-0.6	
PATS	Pohnpei	35.50 306	P	P	07 50 30.5	+2.0	
	baz=36,SNR=14						
PATS	Pohnpei	35.50 306	P	P	07 50 30.2	+1.7	
PATS			IAMs_20	IAMs_20	08 00 49.7		
	comp=Z,14µm,20.0s						
RMQ	Roma	37.00 246	P	P	07 50 42.5	+1.3	
	baz=37,SNR=4.4						
RKT	Rikitea	37.10 108	eS	S	07 56 25.6	-3.2	
	comp=Z,2µm,30.2s						
RKT			eLQ	LQ	07 59 13.0		
	comp=Z,7µm,27.0s						
RKT			eLR	LR	08 00 46.6		
	comp=Z,16µm,23.2s						
KHLU	Kahalu`u	38.55 27	P	P	07 50 56.9	+2.5	
KHLU			IAmb	IAmb	07 50 57.1		
	comp=Z,200nm,1.1s						
CTA	Charters Tower	38.69 257	P	P	07 50 55.5	-0.2	
	baz=39						
CTA	Charters Tower	38.69 257	P	P	07 50 54.9	-0.8	
	comp=Z,8.3nm,0.8s,baz=97,slow=7.9,SNR=6.6						
CTAO	Charters Tower	38.69 257	P	P	07 50 54.8	-0.8	
CTAO			pmax	pmax			
	comp=Z,30nm,1.2s						
CTAO	Charters Tower	38.69 257	P	P	07 50 54.8	-0.8	
H11S2	WAKE ISLAND Hy	38.70 329	T	T	08 31 51.8		
	baz=149,slow=76,SNR=27						
H11S3	WAKE ISLAND Hy	38.72 329	T	T	08 31 58.4		
	baz=149,slow=76,SNR=92						
H11S1	WAKE ISLAND Hy	38.72 329	T	T	08 31 58.8		
	baz=149,slow=76,SNR=93						
HMH	Humu'ula Sheep	38.74 28	P	P	07 50 58.5	+2.2	
HMH			IAmb	IAmb	07 50 59.3		
	comp=Z,255nm,1.2s						
PMG	Port Moresby	38.90 274	P	P	07 50 57.5	+0.1	
	comp=Z,16nm,0.7s,baz=273,slow=17,SNR=2.2						
PMG	Port Moresby	38.90 274	ceP	P	07 50 58.0	+0.6	
PMG			pmax	pmax			
	comp=Z,99nm,2.5s						
PMG	Port Moresby	38.90 274	IAmb	IAmb	07 51 03.1		
	comp=Z,211nm,1.9s						
CNB	Canberra Magne	38.92 232	P	P	07 50 57.4	0.0	
	baz=39						
KIP	Kipapa	39.32 23	ceP	P	07 51 02.0	+1.3	
KIP			pmax	pmax			
	comp=Z,114nm,0.8s						
WAKE	Wake Island	39.40 330	P	P	07 51 01.6	+0.2	
H11N3	WAKE ISLAND Hy	39.65 330	T	T	08 33 00.3		
	baz=150,slow=76,SNR=27						
H11N1	WAKE ISLAND Hy	39.65 330	T	T	08 33 01.1		
	baz=150,slow=76,SNR=42						
H11N2	WAKE ISLAND Hy	39.66 330	T	T	08 33 01.8		
	baz=150,slow=76,SNR=34						
MTSU	Mount Surprise	40.55 260	P	P	07 51 10.6	-0.6	
	baz=41,SNR=15						
CMSA	Cobar Meteorol	40.69 239	P	P	07 51 11.7	-0.4	
	baz=41,SNR=11						
COEN	Coen	41.98 266	P	P	07 51 23.6	+0.6	
	baz=42,SNR=8.6						
COEN	Coen	41.98 266	P	P	07 51 22.7	-0.2	
TOO	Toolangi	42.64 230	P	P	07 51 27.6	-0.5	
	baz=43,SNR=20						
TOO	Toolangi	42.64 230	P	P	07 51 26.9	-1.2	
TOO			pmax	pmax			
	comp=Z,87nm,1.1s						
TOO	Toolangi	42.64 230	P	P	07 51 26.9	-1.2	
STKA	Stephens Creek	44.17 240	P	P	07 51 40.0	-0.4	
	baz=44,SNR=11						
STKA	Stephens Creek	44.17 240	P	P	07 51 39.4	-1.1	
	comp=Z,15nm,1.2s,baz=88,slow=10,SNR=10						
STKA			LR	LR	08 07 52.8		
	comp=Z,5µm,20.5s,baz=72,slow=33						
STKA	Stephens Creek	44.17 240	P	P	07 51 39.8	-0.7	
QIS	Mount Isa	44.93 256	P	P	07 51 45.2	-1.5	
	baz=45,SNR=3.9						
HTT	Hallett	46.68 238	P	P	07 51 59.7	-0.8	
	baz=47,SNR=6.4						
JAY	Jayapura	46.91 281	P	P	07 52 02.5	0.0	
	comp=Z,29nm,1.0s,baz=62,slow=1.1,SNR=6.9						
JAY			LR	LR	08 10 11.7		
	comp=Z,7µm,20.0s,baz=91,slow=34						
JAY	Jayapura	46.91 281	P	P	07 52 01.8	-0.7	
	comp=Z,1µmcomp=Z,46nm,1.6s						
GENI	Genyem	47.40 281	P	P	07 52 08.0	+1.8	
	comp=Z,4µmcomp=Z,99nm,1.8s						
BBOO	Buckleboo	48.95 240	P	P	07 52 16.8	-1.1	
	baz=49,SNR=13						
BBOO	Buckleboo	48.95 240	P	P	07 52 16.9	-1.0	
BBOO			IAmb	IAmb	07 52 18.1		
	comp=Z,131nm,1.8s						
BBOO			IAMs_20	IAMs_20	08 10 28.2		
	comp=Z,6µm,20.0s						
WR0	Warramunga Arr	49.70 257	P	P	07 52 22.5	-1.4	
WR0			IAmb	IAmb	07 52 26.4		
	comp=Z,115nm,1.4s						
WR5	Warramunga Arr	49.81 257	IAMs_20	IAMs_20	08 10 48.9		
	comp=Z,6µm,21.0s						
WB0	Warramunga Arr	49.85 257	P	P	07 52 23.6	-1.5	
WB0			IAmb	IAmb	07 52 25.3		
	comp=Z,73nm,1.1s						
WB0			IAMs_20	IAMs_20	08 10 49.5		
	comp=Z,6µm,21.0s						
WB9	Warramunga Arr	49.86 257	IAMs_20	IAMs_20	08 10 50.3		
	comp=Z,6µm,21.0s						
WB8	Warramunga Arr	49.86 257	IAMs_20	IAMs_20	08 10 50.4		
	comp=Z,6µm,21.0s						
WB6	Warramunga Arr	49.87 257	IAMs_20	IAMs_20	08 10 50.6		
	comp=Z,6µm,20.0s						
WB4	Warramunga Arr	49.88 257	IAMs_20	IAMs_20	08 10 50.8		
	comp=Z,6µm,20.0s						
WB3	Warramunga Arr	49.88 257	IAMs_20	IAMs_20	08 10 50.8		
	comp=Z,6µm,21.0s						
WB2	Warramunga Arr	49.88 257	P	P	07 52 23.9	-1.4	
	baz=50						
WB2	Warramunga Arr	49.88 257	IAmb	IAmb	07 52 25.6		
	comp=Z,73nm,1.1s						
WB2			IAMs_20	IAMs_20	08 10 50.9		
	comp=Z,6µm,21.0s						
WRAB	Tennant Creek	49.88 257	c iP	P	07 52 23.5	-1.8	
WRAB			pmax	pmax			
	comp=Z,117nm,1.6s						
WRAB	Tennant Creek	49.88 257	P	P	07 52 24.4	-0.9	
WRAB			IAmb	IAmb	07 52 27.7		
	comp=Z,194nm,1.7s						
WRA	Warramunga Arr	49.90 257	P	P	07 52 24.3	-1.1	
	comp=Z,31nm,0.9s,baz=90,slow=7.3,SNR=53						
WRA			LR	LR	08 11 02.4		
	comp=Z,5µm,21.6s,baz=95,slow=33						
WRA	Warramunga Arr	49.90 257	P	P	07 52 23.8	-1.6	
WRA			pmax	pmax			
	comp=Z,5.0nm,1.1s						
WRA	Warramunga Arr	49.90 257	P	P	07 52 23.8	-1.6	
GUMO	Guam	50.16 303	P	P	07 52 28.7	+1.4	
	comp=Z,55nm,0.8s,baz=155,slow=4.8,SNR=8.2						
GUMO	Guam	50.16 303	P	P	07 52 28.4	+1.0	
GUMO			pmax	pmax			
	comp=Z,706nm,1.7s						
GUMO	Guam	50.16 303	P	P	07 52 28.4	+1.0	
ASAR	Alice Springs	50.19 252	P	P	07 52 26.1	-1.6	
	comp=Z,80nm,0.7s,baz=90,slow=7.4,SNR=268						
ASAR			LR	LR	08 11 44.5		
	comp=Z,11µm,21.2s,baz=90,slow=34						
ASAR	Alice Springs	50.19 252	P	P	07 52 25.9	-1.7	
ASAR	Alice Springs	50.19 252	P	P	07 52 25.9	-1.7	
KDU	Kakadu	52.48 265	P	P	07 52 43.9	-0.9	
	baz=53,SNR=5.9						
SAUI	Saumlaki	54.51 271	IAMs_20	IAMs_20	08 13 12.2		
	comp=Z,5µm,20.0s						
WRKA	Warakurna	55.28 250	P	P	07 53 03.7	-1.6	
	baz=55,SNR=24						
FORT	Forrest	55.53 243	P	P	07 53 05.5	-1.5	
	baz=56,SNR=12						
FORT	Forrest	55.53 243	P	P	07 53 04.4	-2.6	
KNRA	Kununurra	55.59 261	IAMs_20	IAMs_20	08 14 30.1		
	comp=Z,6µm,20.0s						
FITZ	Fitzroy Crossi	58.25 258	P	P	07 53 25.7	-0.8	
	baz=58,SNR=4.4						
FITZ	Fitzroy Crossi	58.25 258	LR	LR	08 16 17.0		
	comp=Z,4µm,21.1s,baz=269,slow=34						
NLAI	Namlea	59.72 275	P	P	07 53 36.8	+0.1	
	comp=Z,56nm,1.3s						
JCJ	Chichijima	60.14 314	P	P	07 53 39.2	-0.1	
	comp=Z,45nm,1.0s,baz=87,slow=7.5,SNR=3.8						
JCJ	Chichijima	60.14 314	IAMs_20	IAMs_20	08 14 24.3		
	comp=Z,4µm,21.0s						
RPN	Rapa Nui	60.42 113	P	P	07 53 41.7	+0.4	
	comp=Z,81nm,0.7s,baz=309,slow=3.0,SNR=4.6						
RPN			LR	LR	08 13 01.3		
	comp=Z,3µm,21.8s,baz=272,slow=29						
RPN	Rapa Nui	60.42 113	P	P	07 53 42.8	+1.5	
RPN	Rapa Nui	60.42 113	IAMs_20	IAMs_20	08 18 37.6		
	comp=Z,5µm,18.0s						
SOEI	Soe	60.92 267	P	P	07 53 45.1	0.0	
	comp=Z,2µmcomp=Z,94nm,1.2s						
SOEI	Soe	60.92 267	IAmb	IAmb	07 54 04.0		
	comp=Z,105nm,1.1s						
SANI	Sanana	61.11 276	P	P	07 53 46.2	0.0	
	comp=Z,5µmcomp=Z,1µmcomp=Z,35nm,1.6s						
BATI	Baumata	61.42 266	LR	LR	08 18 45.7		
	comp=Z,4µm,20.7s,baz=117,slow=34						
PSAC2	Pilbara Seismi	63.22 253	IAMs_20	IAMs_20	08 20 09.3		
	comp=Z,4µm,21.0s						
PSAB2	Pilbara Seismi	63.26 253	IAMs_20	IAMs_20	08 20 10.3		
	comp=Z,4µm,20.0s						
PSAB3	Pilbara Seismi	63.26 253	IAMs_20	IAMs_20	08 20 18.4		
	comp=Z,4µm,19.0s						
PSAA3	Pilbara Seismi	63.26 253	IAMs_20	IAMs_20	08 20 10.4		
	comp=Z,4µm,20.0s						
PSA00	Pilbara Seismi	63.27 253	IAmb	IAmb	07 54 09.3		
	comp=Z,120nm,1.9s						
PSA00			IAMs_20	IAMs_20	08 20 20.7		
	comp=Z,4µm,19.0s						
PSAA2	Pilbara Seismi	63.27 253	IAMs_20	IAMs_20	08 21 34.7		
	comp=Z,4µm,18.0s						
PSAC3	Pilbara Seismi	63.28 253	IAMs_20	IAMs_20	08 20 10.9		
	comp=Z,4µm,21.0s						
PSAB1	Pilbara Seismi	63.30 253	IAMs_20	IAMs_20	08 21 35.2		
	comp=Z,5µm,19.0s						
PSAC1	Pilbara Seismi	63.31 253	IAMs_20	IAMs_20	08 20 20.7		
	comp=Z,5µm,19.0s						
PSAD3	Pilbara Seismi	63.33 253	IAMs_20	IAMs_20	08 20 11.1		
	comp=Z,4µm,19.0s						
MBWA	Marble Bar	63.43 254	IAMs_20	IAMs_20	08 21 20.7		
	comp=Z,5µm,19.0s						
EDFI	Ende, Flores	63.62 268	P	P	07 54 01.8	-1.4	
	comp=Z,1µmcomp=Z,28nm,1.5s						
VNDA	Vanda	63.67 186	P	P	07 54 05.1	+2.8	
	comp=Z,8.2nm,1.1s,baz=9.8,slow=6.3,SNR=23						
VNDA			LR	LR	08 21 41.1		
	comp=Z,1µm,18.0s,baz=19,slow=36						
VNDA	Vanda	63.67 186	P	P	07 54 04.6	+2.3	
VNDA			pmax	pmax			
	comp=Z,57nm,1.6s						
VNDA	Vanda	63.67 186	P	P	07 54 04.6	+2.3	
VNDA			IAmb	IAmb	07 54 20.3		
	comp=Z,57nm,1.6s						
MEEK	Meekatharra	63.91 247	P	P	07 54 03.2	-1.6	
	baz=64,SNR=4.2						
DAV	Davao City (W)	64.34 286	LR	LR	08 20 20.2		
	comp=Z,3µm,18.9s,baz=104,slow=34						
DAV	Davao City (W)	64.34 286	IAMs_20	IAMs_20	08 21 12.3		
	comp=Z,4µm,18.0s						
KLBR	Kellerberrin	64.36 242	P	P	07 54 07.0	-0.6	
	baz=64,SNR=7.8						
NWAO	Narrogin (SRO)	64.75 240	P	P	07 54 08.9	-1.2	
	comp=Z,22nm,1.1s,baz=84,slow=2.8,SNR=2.7						
NWAO	Narrogin (SRO)	64.75 240	P	P	07 54 09.0	-1.2	
NWAO			pmax	pmax			
	comp=Z,45nm,1.3s						
NWAO	Narrogin (SRO)	64.75 240	IAmb	IAmb	07 54 19.7		
	comp=Z,44nm,1.2s						
MORW	Morawa	65.99 245	IAMs_20	IAMs_20	08 23 23.7		
	comp=Z,5µm,18.0s						
BNSI	Bone	66.16 272	P	P	07 54 23.2	+3.6	
KAPI	Kappang	66.35 271	LR	LR	08 20 32.8		
	comp=Z,777nm,21.6s,baz=100,slow=34						
ADK	Adak	66.77 358	IAmb	IAmb	07 54 29.4		
	comp=Z,76nm,1.2s						
MPSI	Mapaga	67.62 277	P	P	07 54 33.3	+4.4	
GIRL	Giralia	68.30 251	IAMs_20	IAMs_20	08 22 51.9		
	comp=Z,6µm,21.0s						
SMY	Shemya	68.41 352	IAMs_20	IAMs_20	08 17 22.9		
	comp=Z,6µm,22.0s						
MJAR	Matsushiro Arr	68.70 320	P	P	07 54 35.4	+0.2	
	comp=Z,44nm,1.2s,baz=158,slow=5.6,SNR=42						
MJAR			LR	LR	08 19 06.2		
	comp=Z,4µm,21.8s,baz=125,slow=31						
MJAR	Matsushiro Arr	68.70 320	P	P	07 54 34.5	-0.8	
MJAR			pmax	pmax			
	comp=Z,41nm,1.3s						
MJAR	Matsushiro Arr	68.70 320	P	P	07 54 34.5	-0.8	
MAJO	Matsushiro	68.70 320	IAMs_20	IAMs_20	08 18 33.0		
	comp=Z,6µm,22.0s						
MAT	Matsushiro	68.70 320	P	P	07 54 34.6	-0.7	
MAT			S	S	08 03 39.4	+0.5	
MJB9	Matsu-Tunnel	68.71 320	IAMs_20	IAMs_20	08 16 30.0		
	comp=Z,6µm,22.0s						
UNV	Unalaska Valle	68.92 4	IAmb	IAmb	07 54 45.7		
	comp=Z,123nm,1.9s						
ERM	Erimo	69.51 327	IAMs_20	IAMs_20	08 20 16.9		
	comp=Z,5µm,20.0s						
KUR	Kuril'sk	69.56 332	c iP	P	07 54 40.6	+0.3	
KUR			i		07 55 03.6		
KUR			ePPP	PPP	07 58 59.9		
KUR			eS	S	08 03 45.5	-3.0	
KUR			eSS	SS	08 08 17.1	+0.4	
KUR			pmax	pmax			
	comp=Z,2µm,5.9s						
KUR			pmax	pmax			
	comp=N,66nm,1.7s						
KUR			pmax	pmax			
	comp=Z,153nm,1.7s						
KUR			MLR	MLR			
	comp=Z,3µm,19.0s						
KUR			MLR	MLR			
	comp=N,2µm,17.0s						
KUR			MLR	MLR			
	comp=E,1µm,17.0s						
YUK	Yuzh-Kuril'sk	69.60 330	eP	P	07 54 39.5	-1.1	
YUK			e		07 55 02.6		
YUK			e		07 57 12.9		
YUK			ePPP	PPP	07 58 53.5		
YUK			eS	S	08 03 47.8	-1.3	
YUK			e		08 04 39.8		
YUK			eSS	SS	08 08 15.7	-1.7	
YUK			pmax	pmax			
	comp=Z,194nm,1.2s						
YUK			pmax	pmax			
	comp=E,152nm,1.0s						
YUK			pmax	pmax			
	comp=N,67nm,1.2s						
YUK			pmax	pmax			
	comp=Z,220nm,2.2s						
FALS	False Pass	70.20 6	IAMs_20	IAMs_20	08 23 04.2		
	comp=Z,3µm,18.0s						
SNCC	San Nicolas Is	70.39 46	P	P	07 54 46.4	+0.7	
	baz=236						
SNCC	San Nicolas Is	70.39 46	IAMs_20	IAMs_20	08 17 49.6		
	comp=Z,4µm,20.0s						
CNBA	Chernabura Isl	70.63 8	IAMs_20	IAMs_20	08 23 46.0		
	comp=Z,3µm,19.0s						
SCZ2	Santa Cruz Isl	70.73 45	P	P	07 54 48.5	+0.7	
	baz=236						
SKR	Severo-Kuril's	70.74 340	eP	P	07 54 46.8	-0.6	
SKR			ePPP	PPP	07 57 32.7		
SKR			eS	S	08 04 03.2	+1.0	
SKR			pmax	pmax			
	comp=Z,700nm,4.4s						
SKR			MLR	MLR			
	comp=Z,800nm,16.0s						
SCI2	San Clemente I	70.92 47	P	P	07 54 49.6	+0.6	
	baz=237						
SCI2			S	S	08 04 10.7	+5.7	
	baz=237						
SBC	Santa Barbara	70.93 45	P	P	07 54 49.5	+0.6	
	baz=236						
SDPT	Sand Point	71.03 8	IAmb	IAmb	07 54 55.4		
	comp=Z,57nm,1.1s						
MCCM	Marconi Confer	71.05 40	IAMs_20	IAMs_20	08 18 08.8		
	comp=Z,3µm,21.0s						
PKM	Mcpherson Peak	71.11 44	P	P	07 54 50.4	+0.1	
	baz=235						
PKM			S	S	08 04 10.4	+2.8	
	baz=235						
SAO	San Andreas Ge	71.12 42	IAMs_20	IAMs_20	08 19 22.9		
	comp=Z,3µm,20.0s						
PMPB	Monarch Peak	71.22 43	IAMs_20	IAMs_20	08 18 36.5		
	comp=Z,4µm,20.0s						
SMMC	Simmler	71.23 44	P	P	07 54 51.4	+0.5	
	baz=235						
SMMC			S	S	08 04 12.2	+3.5	
	baz=235						
CIS	Catalina Islan	71.25 46	P	P	07 54 51.0	0.0	
	baz=237						
CIS			S	S	08 04 11.5	+2.6	
	baz=237						
JKA	Kamikawa-asahi	71.28 328	P	P	07 54 51.4	+0.5	
JKA			IAmb	IAmb	07 54 53.0		
	comp=Z,51nm,1.1s						
ASAJ	Asahikawa	71.28 328	P	P	07 54 52.3	+1.4	
	comp=Z,14nm,0.8s,baz=196,slow=6.7,SNR=16						
ASAJ	Asahikawa	71.28 328	P	P	07 54 51.4	+0.5	
ASAJ			pmax	pmax			
	comp=Z,51nm,1.1s						
PAGB	Antelope Grade	71.30 43	P	P	07 54 51.0	-0.3	
PAGB			IAmb	IAmb	07 55 23.7		
	comp=Z,111nm,1.8s						
PAGB			IAMs_20	IAMs_20	08 18 28.7		
	comp=Z,4µm,20.0s						
HOPS	Hopland Field	71.45 39	IAMs_20	IAMs_20	08 20 22.5		
	comp=Z,4µm,20.0s						
FMP	Fort Macarthur	71.50 46	P	P	07 54 52.1	-0.4	
	baz=237						
GDXM	Geysers	71.51 40	IAMs_20	IAMs_20	08 21 02.0		
	comp=Z,5µm,18.0s						
KCPM	Cahto Peak	71.58 38	P	P	07 54 54.2	+1.3	
KCPM			IAmb	IAmb	07 56 33.1		
	comp=Z,133nm,1.6s						
KCPM			IAMs_20	IAMs_20	08 20 25.7		
	comp=Z,4µm,19.0s						
CCX	Cicese	71.67 49	IAmb	IAmb	07 54 55.7		
	comp=Z,60nm,1.5s						
CCX			IAMs_20	IAMs_20	08 18 25.7		
	comp=Z,4µm,21.0s						
OSI	Osito Audit: C	71.70 45	P	P	07 54 53.5	-0.2	
	baz=236						
OSI			S	S	08 04 16.5	+2.3	
	baz=236						
OSI	Osito Audit: C	71.70

PET				*i*S	S	08 04 17.7	+1.1
PET				*e*PS	PnS	08 05 04.0	+18
PET				pmax	pmax		
	comp=Z,136nm,1.0s						
PET				pmax	pmax		
	comp=Z,300nm,11.3s						
PET				MLR	MLR		
	comp=Z,2μm,18.0s						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
PET	**Petropavlovsk**	**71.99**	**343**	P	**P**	**07 54 55.2**	**+0.3**
PET				IAmb	IAmb	07 54 56.4	
	comp=Z,131nm,1.5s						
JCC	**Jacoby Creek,**	**72.03**	**37**	IAMs_20	IAMs_20	08 20 40.6	
	comp=Z,4μm,19.0s						
TKX	**Tecate**	**72.08**	**48**	IAMs_20	IAMs_20	08 18 49.5	
	comp=Z,5μm,20.0s						
BAR	**Barrett**	**72.09**	**48**	P	**P**	**07 54 56.6**	**+0.5**
BAR				IAMs_20	IAMs_20	08 18 49.8	
	comp=Z,5μm,20.0s						
SPX	**San Pedro Mart**	**72.12**	**50**	P	**P**	**07 54 57.1**	**+0.4**
SPX				IAMs_20	IAMs_20	08 18 10.7	
	comp=Z,4μm,22.0s						
VES	**Vestal, Richgr**	**72.14**	**44**	P	**P**	**07 54 56.4**	**+0.1**
	baz=236,SNR=7.5						
MURC	**Murrieta**	**72.21**	**47**	P	**P**	**07 54 56.9**	**+0.1**
	baz=238,SNR=7.0						
MURC				S	**S**	**08 04 23.0**	**+2.9**
	baz=238						
VOG	**Valley Oaks Go**	**72.22**	**43**	P	**P**	**07 54 56.8**	**+0.1**
	baz=235						
CHIR	**Chirikof Islan**	**72.23**	**10**	IAMs_20	IAMs_20	08 21 47.9	
	comp=Z,5μm,19.0s						
BFSC	**Mount Baldy Ra**	**72.23**	**46**	P	**P**	**07 54 56.8**	**-0.2**
	baz=237						
BFSC				S	**S**	**08 04 22.3**	**+1.9**
	baz=237						
KHMM	**Horse Mountain**	**72.24**	**37**	IAMs_20	IAMs_20	08 19 29.1	
	comp=Z,4μm,20.0s						
ESJX	**Sierra Juarez**	**72.26**	**49**	IAmb	IAmb	07 54 58.9	
	comp=Z,69nm,1.7s						
ESJX				IAMs_20	IAMs_20	08 18 33.3	
	comp=Z,5μm,21.0s						
PEA0B	**Petropavlovsk-**	**72.34**	**342**	*ce*P	**P**	**07 54 55.9**	**-1.2**
PETK	**Petropavlovsk-**	**72.34**	**342**	P	**P**	**07 54 57.2**	**+0.1**
	comp=Z,33nm,0.9s,baz=111,slow=8.3,SNR=52						
PETK				LR	LR	08 23 17.8	
	comp=Z,1μm,19.4s,baz=161,slow=33						
EDW2	**Edwards Air Fo**	**72.35**	**45**	P	**P**	**07 54 58.1**	**+0.4**
	baz=237,SNR=9.4						
EDW2				S	**S**	**08 04 23.7**	**+2.1**
	baz=237						
O02D	**Mt. Diablo Mer**	**72.36**	**38**	P	**P**	**07 54 57.8**	**+0.2**
	baz=232,SNR=11						
MONP2	**Monument Peak**	**72.38**	**48**	P	**P**	**07 54 58.4**	**+0.4**
	baz=238,SNR=12						
MONP2				S	**S**	**08 04 25.6**	**+3.2**
	baz=238						
ISA	**Isabella, Lake**	**72.45**	**44**	P	**P**	**07 54 58.7**	**+0.4**
	baz=236,SNR=11						
ISA				S	**S**	**08 04 25.2**	**+2.4**
	baz=236						
ISA	**Isabella, Lake**	**72.45**	**44**	IAMs_20	IAMs_20	08 19 15.2	
	comp=Z,4μm,20.0s						
IKP	**In-Ko-Pah, Jac**	**72.48**	**48**	P	**P**	**07 54 58.8**	**+0.3**
	baz=238,SNR=8.6						
IKP				S	**S**	**08 04 26.3**	**+3.1**
	baz=238						
KRMB	**Red Mountain**	**72.55**	**37**	IAMs_20	IAMs_20	08 19 18.3	
	comp=Z,3μm,19.0s						
SFX	**San Felipe**	**72.57**	**50**	IAMs_20	IAMs_20	08 18 02.7	
	comp=Z,3μm,21.0s						
PFO	**Pinyon Flats O**	**72.73**	**47**	P	**P**	**07 55 00.4**	**+0.4**
	comp=Z,5.6nm,1.1s,baz=228,slow=6.4,SNR=14						
PFO				LR	LR	08 18 59.9	
	comp=Z,6μm,21.2s,baz=241,slow=29						
PFO	**Pinyon Flats O**	**72.73**	**47**	P	**P**	**07 55 00.2**	**+0.2**
	baz=238,SNR=9.0						
PFO				S	**S**	**08 04 28.9**	**+2.7**
	baz=238						
PFO	**Pinyon Flats O**	**72.73**	**47**	IAmb	IAmb	07 55 02.3	
	comp=Z,82nm,1.9s						
PFO	**Pinyon Flats O**	**72.73**	**47**	IAMs_20	IAMs_20	08 18 24.8	
	comp=Z,6μm,21.0s						
XPFO	**Pion Flat**	**72.74**	**47**	IAMs_20	IAMs_20	08 18 24.8	
	comp=Z,6μm,21.0s						
BBRC	**Big Bear Solar**	**72.76**	**46**	P	**P**	**07 55 00.4**	**+0.1**
	baz=238						
BBRC				S	**S**	**08 04 29.2**	**+2.5**
	baz=238						
WDC	**Whiskeytown Da**	**72.76**	**38**	IAmb	IAmb	07 55 04.7	
	comp=Z,93nm,1.6s						
WDC				IAMs_20	IAMs_20	08 19 26.0	
	comp=Z,4μm,20.0s						
ORV	**Oroville**	**72.76**	**40**	P	**P**	**07 54 59.1**	**-0.8**
ORV				pmax	pmax		
	comp=Z,61nm,1.7s						
ORV	**Oroville**	**72.76**	**40**	P	**P**	**07 54 59.1**	**-0.8**
SRIG	**Santa Rosalia**	**72.78**	**55**	IAMs_20	IAMs_20	08 18 27.3	
	comp=Z,5μm,21.0s						
KKM	**Kota Kinabalu**	**72.80**	**281**	P	**P**	**07 55 00.2**	**-0.6**
SWSC	**Sam W. Stewart**	**72.85**	**48**	P	**P**	**07 55 00.6**	**0.0**
	baz=239,SNR=9.1						
LRMC	**Laurel Mtn Rad**	**72.89**	**45**	P	**P**	**07 55 01.0**	**+0.1**
	baz=237						
LPIG	**La Paz**	**72.90**	**59**	LR	LR	08 19 01.1	
	comp=Z,4μm,19.9s,baz=268,slow=29						
N02D	**Trinity Center**	**72.91**	**38**	P	**P**	**07 55 01.7**	**+0.8**
	baz=232,SNR=6.5						
CPBX	**Cerro Prieto**	**72.94**	**49**	IAMs_20	IAMs_20	08 19 04.3	
	comp=Z,3μm,20.0s						
UABX	**UABC, Campus M**	**72.95**	**48**	IAMs_20	IAMs_20	08 19 24.5	
	comp=Z,4μm,20.0s						
SLBS	**Sierra La Lagu**	**73.02**	**59**	IAmb	IAmb	07 55 04.5	
	comp=Z,182nm,1.9s						
SLBS				IAMs_20	IAMs_20	08 18 22.0	
	comp=Z,4μm,20.0s						
O03E	**Paynes Creek**	**73.03**	**39**	P	**P**	**07 55 01.5**	**-0.1**
	baz=232,SNR=14						
O03E				S	**S**	**08 04 31.4**	**+2.2**
	baz=232						
RRX	**Edison Barstow**	**73.03**	**46**	P	**P**	**07 55 01.7**	**0.0**
	baz=237						
GUVIX	**Guadalupe Vict**	**73.05**	**49**	IAMs_20	IAMs_20	08 19 51.8	
	comp=Z,3μm,21.0s						
M02C	**Callahan**	**73.08**	**37**	P	**P**	**07 55 03.0**	**+1.2**
	baz=231,SNR=7.4						
M02C				S	**S**	**08 04 32.2**	**+2.4**
	baz=231						
L02E	**Cave Junction**	**73.13**	**36**	P	**P**	**07 55 02.7**	**+0.7**
	baz=230						
L02E				S	**SKiKP**	**08 04 35.2**	**+0.1**
	baz=230						
CWC	**Cottonwood Cre**	**73.15**	**44**	P	**P**	**07 55 02.3**	**-0.2**
	baz=236						
CWC				S	**SKiKP**	**08 04 33.6**	**-2.0**
	baz=236						
MDPB	**Devils Postpil**	**73.17**	**42**	IAMs_20	IAMs_20	08 20 06.9	
	comp=Z,3μm,20.0s						
SII	**Sitkinak Islan**	**73.19**	**11**	IAMs_20	IAMs_20	08 20 08.2	
	comp=Z,3μm,20.0s						
OMMB	**Old Mammoth Mi**	**73.21**	**42**	IAMs_20	IAMs_20	08 20 08.0	
	comp=Z,3μm,20.0s						
YSS	**Yuzh-Sakhalins**	**73.22**	**330**	*αi*P	**P**	**07 55 03.3**	**+0.9**
YSS				*e**SP	**pwP**	**07 55 07.4**	**+0.1**
YSS				*e*		07 57 49.3	
YSS				*e*S	**S**	**08 04 31.8**	**+0.9**
YSS				*e*PS	**PnS**	**08 05 00.8**	**-1.6**
YSS				*e*		08 05 11.5	
YSS				*e*SS	**SS**	**08 09 12.6**	**-0.3**
YSS				*e*SSS	SSS	08 12 27.9	
YSS				pmax	pmax		
	comp=Z,40nm,1.2s						
YSS				pmax	pmax		
	comp=Z,2μm,4.0s						
YSS	**Yuzh-Sakhalins**	**73.22**	**330**	IAmb	IAmb	07 55 09.6	
	comp=Z,116nm,1.3s						
YSS				IAMs_20	IAMs_20	08 21 22.5	
	comp=Z,3μm,21.0s						
BELC	**Belle Mtn. Jos**	**73.27**	**47**	P	**P**	**07 55 03.4**	**+0.2**
	baz=238,SNR=14						
BELC				S	**SKiKP**	**08 04 34.9**	**-0.8**
	baz=238						
RUBR	**Rubicon Trail**	**73.30**	**41**	IAMs_20	IAMs_20	08 19 39.4	
	comp=Z,3μm,20.0s						
MLAC	**Mammoth, Mammo**	**73.32**	**42**	P	**P**	**07 55 03.6**	**0.0**
	baz=235						
MPMC	**Manual Prospec**	**73.34**	**44**	P	**P**	**07 55 03.6**	**-0.1**
	baz=237,SNR=13						
MPMC				S	**SKiKP**	**08 04 35.9**	**0.0**
	baz=237						
YBH	**Yreka Blue Hor**	**73.38**	**37**	P	**P**	**07 55 04.0**	**+0.4**
	comp=Z,14nm,1.0s,baz=168,slow=7.2,SNR=13						
YBH				LR	LR	08 19 46.8	
	comp=Z,3μm,21.4s,baz=234,slow=30						
YBH	**Yreka Blue Hor**	**73.38**	**37**	IAMs_20	IAMs_20	08 19 45.2	
	comp=Z,3μm,21.0s						
GSC	**Goldstone, Bar**	**73.39**	**45**	P	**P**	**07 55 03.6**	**-0.3**
	baz=237,SNR=9.3						
GSC	**Goldstone, Bar**	**73.39**	**45**	IAMs_20	IAMs_20	08 20 04.2	
	comp=Z,5μm,20.0s						
TIN	**Tinemaha, Big**	**73.39**	**43**	P	**P**	**07 55 03.6**	**-0.3**
	baz=236						
TIN				S	**SKiKP**	**08 04 36.9**	**+1.0**
	baz=236						
K02D	**Willamette Mer**	**73.43**	**36**	P	**P**	**07 55 04.4**	**+0.5**
	baz=230						
K02D				S	**SKiKP**	**08 04 38.1**	**+2.5**
	baz=230						
WAKR	**Walker**	**73.44**	**41**	IAMs_20	IAMs_20	08 19 25.0	
	comp=Z,3μm,20.0s						
HEC	**Hector,Ludlow**	**73.47**	**46**	P	**P**	**07 55 04.2**	**-0.1**
	baz=238						
HEC				S	**S**	**08 04 34.6**	**+0.2**
	baz=238						
BC3	**Big Chuckawall**	**73.47**	**48**	P	**P**	**07 55 04.8**	**+0.4**
	baz=239,SNR=14						
BC3				S	**SKiKP**	**08 04 37.5**	**+1.5**
	baz=239						
J01E	**Myrtle Point**	**73.58**	**35**	P	**P**	**07 55 04.7**	**+0.1**
	baz=230						
GLA	**Glamis**	**73.61**	**48**	P	**P**	**07 55 06.0**	**+0.9**
GLA				pmax	pmax		
	comp=Z,71nm,1.6s						
GLA	**Glamis**	**73.61**	**48**	P	**P**	**07 55 05.3**	**+0.1**
	baz=239						
GLA				S	**SKiKP**	**08 04 36.8**	**+0.6**
	baz=239						
GLA	**Glamis**	**73.61**	**48**	P	**P**	**07 55 06.0**	**+0.9**
GLA				IAmb	IAmb	07 55 07.6	
	comp=Z,71nm,1.6s						
GLA				IAMs_20	IAMs_20	08 19 46.0	
	comp=Z,5μm,20.0s						
PNTR	**Pine Nut**	**73.67**	**41**	IAMs_20	IAMs_20	08 20 02.3	
	comp=Z,3μm,20.0s						
VCNR	**Virginia City**	**73.76**	**41**	IAMs_20	IAMs_20	08 19 54.6	
	comp=Z,3μm,21.0s						
HUMO	**Hull Mountain**	**73.78**	**36**	IAmb	IAmb	07 55 18.8	
	comp=Z,63nm,1.4s						
YERR	**Yerington**	**73.84**	**41**	IAMs_20	IAMs_20	08 19 57.7	
	comp=Z,3μm,20.0s						
PIX	**Pinacate**	**73.86**	**50**	IAMs_20	IAMs_20	08 18 39.9	
	comp=Z,3μm,22.0s						
LHV	**Little Huntoon**	**73.89**	**42**	P	**P**	**07 55 07.5**	**+0.9**
LHV				IAMs_20	IAMs_20	08 20 52.1	
	comp=Z,3μm,20.0s						
GMRC	**Granite Mounta**	**73.91**	**46**	P	**P**	**07 55 07.2**	**+0.2**
	baz=238,SNR=16						
GMRC				S	**S**	**08 04 43.1**	**+3.5**
	baz=238						
L04D	**Klamath Falls**	**73.92**	**37**	P	**P**	**07 55 07.6**	**+0.8**
	baz=232,SNR=9.0						
L04D				S	**S**	**08 04 41.4**	**+2.1**
	baz=232						
M04C	**Macdoel**	**73.92**	**38**	P	**P**	**07 55 06.9**	**+0.1**
	baz=232,SNR=13						
GRAC	**Grapevine Rang**	**73.94**	**44**	P	**P**	**07 55 07.6**	**+0.6**
	baz=236,SNR=9.7						
GRAC				S	**S**	**08 04 42.9**	**+3.3**
	baz=236						
IRM	**Iron Mountain**	**73.95**	**47**	P	**P**	**07 55 07.1**	**+0.1**
	baz=239,SNR=22						
IRM				S	**S**	**08 04 41.7**	**+1.9**
	baz=239						
OHAK	**Old Harbor**	**73.98**	**11**	IAMs_20	IAMs_20	08 22 42.2	
	comp=Z,3μm,20.0s						
FURC	**Furnace Creek,**	**73.99**	**44**	P	**P**	**07 55 07.3**	**+0.1**
	baz=237,SNR=6.8						
TUQ	**Turquoise Moun**	**74.07**	**46**	P	**P**	**07 55 08.1**	**+0.2**
	baz=238,SNR=14						
TUQ				S	**S**	**08 04 43.2**	**+1.8**
	baz=238						
SHOC	**Shoshone, Teco**	**74.08**	**45**	P	**P**	**07 55 07.9**	**+0.1**
	baz=238						
RYN	**Ryan**	**74.09**	**42**	IAmb	IAmb	07 55 18.0	
	comp=Z,81nm,1.5s						
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**07 55 08.5**	**+0.3**
	comp=Z,21nm,1.1s,baz=227,slow=8.1,SNR=54						
NVAR				LR	LR	08 21 24.2	
	comp=Z,3μm,19.9s,baz=234,slow=31						
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**07 55 08.3**	**0.0**
PAHR	**Pah Rah Range**	**74.17**	**40**	IAMs_20	IAMs_20	08 20 18.4	
	comp=Z,3μm,21.0s						
NV11	**Mina Array Sit**	**74.22**	**42**	IAMs_20	IAMs_20	08 21 11.8	
	comp=Z,3μm,20.0s						
113A	**Mohawk Valley,**	**74.24**	**49**	IAmb	IAmb	07 55 11.9	
	comp=Z,79nm,1.6s						
113A				IAMs_20	IAMs_20	08 19 45.7	
	comp=Z,5μm,21.0s						
I02D	**Swisshome**	**74.24**	**35**	P	**P**	**07 55 08.5**	**0.0**
	baz=230						
I02D				S	**S**	**08 04 47.4**	**+4.9**
	baz=230						
I03D	**Drain, OR**	**74.25**	**35**	P	**P**	**07 55 08.9**	**+0.3**
	baz=230						
TWG	**Pinlang**	**74.36**	**299**	IAMs_20	IAMs_20	08 25 35.5	
	comp=Z,4μm,19.0s						
NACB	**Ninganchiao**	**74.48**	**301**	P	**P**	**07 55 08.8**	**-1.6**
NACB				IAmb	IAmb	07 55 12.3	
	comp=Z,158nm,1.4s						
K04D	**Chiloquin, OR**	**74.49**	**37**	P	**P**	**07 55 10.8**	**+0.7**
	baz=232,SNR=6.0						
K04D				S	**S**	**08 04 49.1**	**+3.4**
	baz=232						
214A	**Organ Pipe Nat**	**74.54**	**50**	P	**P**	**07 55 11.0**	**+0.4**
	baz=241,SNR=16						
214A				S	**S**	**08 04 47.9**	**+1.4**
	baz=241						
214A	**Organ Pipe Nat**	**74.54**	**50**	IAmb	IAmb	07 55 13.0	
	comp=Z,115nm,1.7s						
214A				IAMs_20	IAMs_20	08 20 25.7	
	comp=Z,4μm,20.0s						
HSIG		**74.57**	**54**	IAMs_20	IAMs_20	08 19 52.8	
	comp=Z,4μm,20.0s						
KDAK	**Kodiak Island**	**74.64**	**11**	P	**P**	**07 55 10.7**	**+0.3**
	comp=Z,18nm,1.0s,baz=137,slow=4.9,SNR=6.1						
KDAK				LR	LR	08 20 42.3	
	comp=Z,2μm,21.8s,baz=217,slow=30						
KDAK	**Kodiak Island**	**74.64**	**11**	P	**P**	**07 55 10.5**	**0.0**
KDAK				pmax	pmax		
	comp=Z,102nm,1.4s						
KDAK	**Kodiak Island**	**74.64**	**11**	P	**P**	**07 55 10.4**	**0.0**
KDAK				IAmb	IAmb	07 55 24.6	
	comp=Z,102nm,1.4s						
NEE2	**Needles Airpor**	**74.64**	**47**	P	**P**	**07 55 11.1**	**+0.1**
	baz=239						
TPNV	**Topopah Spring**	**74.66**	**44**	P	**P**	**07 55 11.5**	**+0.2**
	baz=237,SNR=8.8						
TPNV				S	**S**	**08 04 49.7**	**+1.7**
	baz=237						
TPNV	**Topopah Spring**	**74.66**	**44**	IAMs_20	IAMs_20	08 19 43.6	
	comp=Z,5μm,22.0s						
J04D	**Umpqua Nationa**	**74.66**	**36**	P	**P**	**07 55 11.6**	**+0.3**
	baz=232,SNR=9.3						
PDMCI	**Parker Dam,Lak**	**74.74**	**48**	P	**P**	**07 55 12.2**	**+0.6**
	baz=239,SNR=14						
I04A	**Tendick Farm,**	**74.84**	**36**	P	**P**	**07 55 12.4**	**+0.3**
	baz=231,SNR=7.7						
I04A				S	**S**	**08 04 51.7**	**+2.2**
	baz=231						
COR	**Corvallis**	**74.85**	**35**	P	**P**	**07 55 11.7**	**-0.3**
COR				pmax	pmax		
	comp=Z,220nm,1.6s						
COR				MLR	MLR		
	comp=Z,2μm,18.0s						
COR	**Corvallis**	**74.85**	**35**	P	**P**	**07 55 11.7**	**-0.3**
YHNB	**Yeheng**	**74.87**	**301**	IAMs_20	IAMs_20	08 24 14.1	
	comp=Z,3μm,20.0s						
MOD	**Modoc Plateau**	**74.90**	**38**	IAmb	IAmb	07 55 26.0	
	comp=Z,67nm,1.2s						
MOD				IAMs_20	IAMs_20	08 21 08.7	
	comp=Z,3μm,20.0s						
TPUB	**Ta-pu**	**74.93**	**300**	P	**P**	**07 55 11.3**	**-1.6**
TPUB				IAmb	IAmb	07 55 14.1	
	comp=Z,68nm,1.2s						
QSPA	**South Pole Qui**	**74.94**	**180**	IAmb	IAmb	07 55 31.1	
	comp=Z,58nm,1.1s						
QSPA	**South Pole Qui**	**74.94**	**180**	IAMs_20	IAMs_20	08 30 03.3	
	comp=Z,2μm,18.0s						
K05A	**Summer Lake**	**75.05**	**37**	IAMs_20	IAMs_20	08 20 52.6	
	comp=Z,4μm,20.0s						
TEY	**Ternei**	**75.06**	**326⇑**	*e*P	**P**	**07 55 13.6**	**+0.4**
TEY				pmax	pmax		
	comp=Z,400nm,4.9s						
TEY				pmax	pmax		
	comp=E,10.0nm,2.1s						
TEY				pmax	pmax		
	comp=Z,10.0nm,2.2s						
TEY				pmax	pmax		
	comp=N,10.0nm,2.3s						
H04D	**Lebanon**	**75.12**	**35**	P	**P**	**07 55 15.0**	**+1.4**
	baz=231,SNR=5.4						
H04D				S	**S**	**08 04 55.2**	**+2.9**
	baz=231						
SHPR	**Sheep Range**	**75.17**	**45**	IAmb	IAmb	07 55 24.4	
	comp=Z,91nm,1.7s						
SHPR				IAMs_20	IAMs_20	08 21 01.1	
	comp=Z,4μm,20.0s						
J05D	**Fort Rock, OR**	**75.19**	**37**	P	**P**	**07 55 15.0**	**+0.7**
	baz=232,SNR=34						
G03D	**McMinnville, O**	**75.27**	**34**	P	**P**	**07 55 14.4**	**0.0**
	baz=230						
W13A	**Hualapai Mount**	**75.32**	**47**	P	**P**	**07 55 15.3**	**0.0**
W13A				IAMs_20	IAMs_20	08 20 19.3	
	comp=Z,5μm,21.0s						
H04A	**Detroit Lake**	**75.52**	**35**	P	**P**	**07 55 15.9**	**-0.1**
H04A				IAmb	IAmb	07 55 18.6	
	comp=Z,108nm,1.5s						
PINE	**Pine Mountain**	**75.67**	**36**	IAmb	IAmb	07 55 30.4	
	comp=Z,122nm,1.2s						
PRN	**Pahroc Range**	**75.71**	**44**	IAmb	IAmb	07 55 27.7	
	comp=Z,102nm,1.8s						
PRN				IAMs_20	IAMs_20	08 21 31.5	
	comp=Z,5μm,20.0s						
I05D	**Terrebonne, OR**	**75.78**	**36**	P	**P**	**07 55 18.3**	**+0.8**
	baz=232,SNR=11						
I05D				S	**S**	**08 05 03.9**	**+4.0**
	baz=232						
R11A	**Troy Canyon, C**	**75.86**	**43**	P	**P**	**07 55 18.3**	**+0.1**
	baz=238,SNR=21						
R11A				S	**S**	**08 05 01.8**	**+0.6**
	baz=238						
R11A	**Troy Canyon, C**	**75.86**	**43**	IAMs_20	IAMs_20	08 21 16.3	
	comp=Z,3μm,20.0s						
KSRS	**Korea Array**	**75.94**	**316**	P	**P**	**07 55 20.1**	**+1.7**
	comp=Z,29nm,1.1s,baz=126,slow=5.8,SNR=28						
KSRS				LR	LR	08 22 41.7	
	comp=Z,2μm,22.0s,baz=106,slow=31						
KSAR	**Wonju Array Be**	**75.96**	**315**	P	**P**	**07 55 19.4**	**+0.8**
KSAR	**Wonju Array Be**	**75.96**	**315**	P	**P**	**07 55 19.4**	**+0.8**
F04D	**Rainier, OR**	**75.96**	**34**	P	**P**	**07 55 19.5**	**+1.1**
	baz=230						
KS19	**Wonju Array Si**	**76.00**	**316**	P	**P**	**07 55 19.1**	**+0.3**
TYV	**Tymovskoe**	**76.08**	**333**	*e*P	**P**	**07 55 19.1**	**+0.2**
TYV				*e*S	**S**	**08 05 02.0**	**-0.7**
TYV				pmax	pmax		
	comp=Z,51nm,1.3s						
TYV				pmax	pmax		
	comp=Z,1μm,3.8s						
TYV				smax	smax		
	comp=N,1μm,7.4s						
TYV				MLR	MLR		
	comp=N,2μm,19.0s						
TYV				MLR	MLR		
	comp=Z,3μm,19.0s						
F04A	**Amboy**	**76.19**	**34**	IAmb	IAmb	07 55 31.8	
	comp=Z,79nm,1.3s						
WVOR	**Wild Horse Val**	**76.21**	**39**	IAmb	IAmb	07 55 32.4	
	comp=Z,80nm,1.3s						
WVOR				IAMs_20	IAMs_20	08 23 20.4	
	comp=Z,4μm,19.0s						
TUC	**Tucson**	**76.22**	**51**	P	**P**	**07 55 21.3**	**+1.0**
	baz=242						
TUC				S	**S**	**08 05 07.5**	**+2.3**
	baz=242						
TUC	**Tucson**	**76.22**	**51**	IAmb	IAmb	07 55 31.5	
	comp=Z,86nm,1.5s						
TUC	**Tucson**	**76.22**	**51**	IAMs_20	IAMs_20	08 20 55.2	
	comp=Z,5μm,20.0s						
G05D	**Wamic, OR**	**76.36**	**35**	P	**P**	**07 55 21.1**	**+0.4**
	baz=232,SNR=6.1						
G05D				S	**S**	**08 05 08.8**	**+2.7**
	baz=232						
E04D	**Cinebar**	**76.50**	**33**	P	**P**	**07 55 22.6**	**+1.1**
	baz=230,SNR=9.2						
E04D				S	**S**	**08 05 09.5**	**+1.9**
	baz=230						
CNPM	**China Poot**	**76.52**	**11**	IAmb	IAmb	07 56 01.3	
	comp=Z,175nm,1.9s						
VLA	**Vladivostok**	**76.56**	**322**	*ci*P	**P**	**07 55 22.9**	**+1.1**
VLA				pmax	pmax		
	comp=Z,143nm,2.2s						
I07A	**Izee**	**76.67**	**37**	P	**P**	**07 55 22.9**	**+0.2**
I07A				IAmb	IAmb	07 55 35.7	
	comp=Z,45nm,1.1s						
I07A				IAMs_20	IAMs_20	08 21 54.5	
	comp=Z,3μm,20.0s						
F05D	**White Salmon**	**76.68**	**34**	P	**P**	**07 55 23.2**	**+0.7**
	baz=232,SNR=7.6						
F05D				S	**S**	**08 05 11.7**	**+2.1**
	baz=232						
X16A	**Lo Mia Camp, P**	**76.73**	**49**	IAMs_20	IAMs_20	08 21 22.8	
	comp=Z,4μm,20.0s						
D04E	**Lakebay**	**76.79**	**33**	P	**P**	**07 55 23.6**	**+0.6**
	baz=230						
BRLK	**Bradley Lake**	**76.81**	**11**	IAmb	IAmb	07 55 31.8	
	comp=Z,49nm,1.2s						
INCN	**Inchon**	**76.83**	**315**	P	**P**	**07 55 24.6**	**+1.1**
INCN				pmax	pmax		
	comp=Z,226nm,1.6s						
INCN	**Inchon**	**76.83**	**315**	P	**P**	**07 55 24.6**	**+1.1**
J08A	**Circle Bar Ran**	**76.85**	**38**	IAmb	IAmb	07 55 26.7	
	comp=Z,110nm,1.5s						
J08A				IAMs_20	IAMs_20	08 22 43.2	
	comp=Z,3μm,20.0s						
D03D	**Eldon**	**76.86**	**32**	P	**P**	**07 55 23.3**	**-0.1**
	baz=230						
D03D				S	**S**	**08 05 14.0**	**+2.6**
	baz=230						
319A	**Douglas**	**76.93**	**52**	IAmb	IAmb	07 55 35.4	
	comp=Z,64nm,1.1s						
CCUT	**Cedar City**	**76.94**	**45**	P	**P**	**07 55 25.1**	**+0.7**
CHJN	**Chongjin**	**77.08**	**320**	P	**P**	**07 55 21.6**	**-3.2**
U15A	**North Rim**	**77.11**	**46**	IAMs_20	IAMs_20	08 21 28.6	
	comp=Z,4μm,21.0s						
USA0B	**Ussuriysk Arra**	**77.14**	**323**	IAMs_20	IAMs_20	08 23 29.0	
	comp=Z,4μm,20.0s						
USRK	**Ussuriysk Ar.**	**77.14**	**323**	P	**P**	**07 55 26.1**	**+1.0**
	comp=Z,17nm,1.1s,baz=106,slow=4.2,SNR=36						
USRK				LR	LR	08 23 29.4	
	comp=Z,4μm,21.3s,baz=127,slow=31						
KSM

comp=Z,3μm,20.0s
HHU Hamhung 77.50 318 P **P** **07 55 29.0 +1.8**
HHU pP PcP 07 55 48.7 +11
HHU S **S** **08 05 24.4 +5.7**
F07A Phinny Hill Vi 77.53 35 IAmb IAmb 07 57 37.5
comp=Z,27nm,0.5s
BBB Bella Bella 77.63 27 LR LR 08 21 30.7
comp=Z,915nm,21.9s,baz=240,slow=29
O22K Cooper Landing 77.70 12 P **P** **07 55 28.5 +0.6**
baz=204
G08A Pilot Rock 77.71 36 IAmb IAmb 07 55 31.4
comp=Z,80nm,1.3s
HJU Haeju 77.73 315 P **P** **07 55 31.1 +2.6**
A04D Lummi Island 77.82 32 P **P** **07 55 29.4 +0.6**
baz=230
B05A Bryant 77.84 32 P **P** **07 55 29.1 +0.2**
baz=230,SNR=7.3
B05A S **S** **08 05 22.8 +0.8**
baz=230
LTY Liberty 77.96 34 P **P** **07 55 30.0 +0.3**
E07A Sunnyside 77.97 35 IAmb IAmb 07 55 32.7
comp=Z,66nm,1.4s
HAWA Hanford 78.05 35 IAmb IAmb 07 55 33.1
comp=Z,71nm,1.4s
PYAG Pyongyang 78.22 316 P **P** **07 55 33.5 +2.3**
PYAG S **S** **08 05 23.9 -2.6**
PYAG sS **ScS** **08 05 50.0 -1.8**
C06D Leavenworth 78.25 33 P **P** **07 55 31.7 +0.5**
baz=232
PYS Pyongsong 78.26 316 P **P** **07 55 33.9 +2.5**
HIN Hinchinbrook I 78.30 13 IAmb IAmb 07 56 11.7
comp=Z,92nm,1.5s
HIN IAMs_20 IAMs_20 08 22 36.4
comp=Z,3μm,20.0s
W18A Petrified Fore 78.30 49 P **P** **07 55 32.4 +0.3**
baz=242,SNR=17
W18A Petrified Fore 78.30 49 P **P** **07 55 32.7 +0.6**
W18A IAmb IAmb 07 55 42.4
comp=Z,78nm,1.5s
W18A IAMs_20 IAMs_20 08 22 11.3
comp=Z,4μm,21.0s
KAIM Kayak Island 78.36 14 IAMs_20 IAMs_20 08 26 06.1
comp=Z,4μm,18.0s
E08A Dider Farm, El 78.37 35 IAmb IAmb 07 55 34.8
comp=Z,74nm,1.4s
BMO Blue Mountains 78.40 37 IAmb IAmb 07 55 41.7
comp=Z,124nm,1.8s
BMO IAMs_20 IAMs_20 08 23 00.2
comp=Z,3μm,20.0s
SUA Susitna One 78.41 11 IAMs_20 IAMs_20 08 23 28.5
comp=Z,3μm,20.0s
NKL Nikolayevsk 78.57 334 *e*P P 07 55 27.0 -5.8
NKL *e*S **SKSac** **08 05 46.1 -1.9**
NKL pmax pmax
comp=N,15nm,1.1s
NKL pmax pmax
comp=Z,39nm,1.5s
121A Cookes Peak, D 78.58 52 P **P** **07 55 34.5 +0.8**
baz=244,SNR=35
121A Cookes Peak, D 78.58 52 IAmb IAmb 07 55 43.1
comp=Z,58nm,1.1s
FID Port Fidalgo 78.62 13 IAMs_20 IAMs_20 08 22 55.7
comp=Z,3μm,20.0s
KGE Kanggye 78.63 318 P P 07 55 26.0 -7.5
SUCK Suckling Hills 78.64 15 IAMs_20 IAMs_20 08 29 41.6
comp=Z,4μm,18.0s
DUG Dugway, Tooele 78.66 43 P **P** **07 55 34.2 +0.3**
baz=239,SNR=36
DUG Dugway, Tooele 78.66 43 IAMs_20 IAMs_20 08 22 25.4
comp=Z,3μm,21.0s
SKT Skwentna 78.75 10 P **P** **07 55 34.5 +0.8**
SKT IAMs_20 IAMs_20 08 24 20.5
comp=Z,3μm,20.0s
D08A Wollman Farm, 78.78 35 IAmb IAmb 07 55 43.9
comp=Z,82nm,1.5s
MDJ Mudanjiang 78.78 322 P **P** **07 55 35.0 +0.8**
MDJ pP pwP 07 55 39.4 +0.3
MDJ sP PcP 07 55 41.9 -1.1
MDJ PP **PP** **07 58 31.6 -1.2**
MDJ S **S** **08 05 33.1 +0.8**
MDJ SS **SS** **08 10 39.0 +1.7**
MDJ pmax pmax
comp=Z,54nm,1.6s
MDJ pmax pmax
comp=Z,2μm,3.7s
MDJ LR LR
comp=Z,2μm,20.4s
MDJ LR LR
comp=Z,3μm,21.6s
MDJ LR LR
comp=Z,6μm,24.5s
MDJ Mudanjiang 78.78 322 IAMs_20 IAMs_20 08 23 13.5
comp=Z,5μm,22.0s
KNK Knik Glacier 78.81 12 IAmb IAmb 07 55 54.3
comp=Z,69nm,1.4s
GRNR Gornyy 78.88 330⇑ *i*P **P** **07 55 35.3 +0.7**
GRNR pmax pmax
comp=Z,20nm,1.3s
ZAIG Zacatecas 78.88 63 IAmb IAmb 07 55 38.7
comp=Z,142nm,1.8s
TTA Tatalina 78.97 8 IAmb IAmb 07 55 48.6
comp=Z,61nm,1.3s
WRAK Wrangell Islan 79.08 22 P **P** **07 55 36.6 +1.1**
SML Sawmill 79.19 12 IAmb IAmb 07 56 29.9
comp=Z,118nm,2.0s
MESA MESA 79.19 15 IAMs_20 IAMs_20 08 28 03.2
comp=Z,4μm,19.0s
WAX Waxell Ridge 79.20 15 IAmb IAmb 07 55 43.8
comp=Z,77nm,1.2s
WAX IAMs_20 IAMs_20 08 29 42.3
comp=Z,4μm,18.0s
EPT El Paso 79.23 53 IAMs_20 IAMs_20 08 22 41.0
comp=Z,4μm,20.0s
CUT Chulitna 79.37 11 P **P** **07 55 37.5 +0.5**
baz=203,SNR=8.6
YAH Yahtse 79.41 15 IAmb IAmb 07 55 58.3
comp=Z,179nm,1.8s
YAH IAMs_20 IAMs_20 08 26 57.6
comp=Z,4μm,18.0s
HLID Hailey 79.41 39 P **P** **07 55 38.2 +0.2**
baz=237,SNR=84
HLID Hailey 79.41 39 IAmb IAmb 07 55 41.2
comp=Z,70nm,1.3s
SCM Sheep Creek Mo 79.42 12 P **P** **07 55 37.5 +0.1**
SCM pmax pmax
comp=Z,47nm,1.0s
SCM Sheep Creek Mo 79.42 12 P **P** **07 55 37.5 +0.1**
ISLE Juniper Island 79.46 15 IAmb IAmb 07 56 01.1
comp=Z,172nm,1.7s
ISLE IAMs_20 IAMs_20 08 29 24.2
comp=Z,3μm,18.0s
PPLA Purkeypile 79.50 10 IAMs_20 IAMs_20 08 28 42.2
comp=Z,3μm,19.0s
PCA Pinnacle 79.57 16 IAmb IAmb 07 55 51.3
comp=Z,75nm,1.4s
C09A Chrisman Ranch 79.58 34 IAmb IAmb 07 57 40.3
comp=Z,34nm,0.4s
SUJ Sinuiju 79.59 316 P **P** **07 55 39.9 +1.2**
SUJ pP PcP 07 55 58.2 +12
SUJ S **S** **08 05 40.4 -0.7**
TABL Table Mountain 79.63 16 IAMs_20 IAMs_20 08 27 13.6
comp=Z,3μm,18.0s
VRDI Verde Repeater 79.73 14 P **P** **07 55 39.4 +0.1**
VRDI IAmb IAmb 07 55 51.5
comp=Z,82nm,1.4s
VRDI IAMs_20 IAMs_20 08 27 48.5
comp=Z,3μm,19.0s
BALM Baldy 79.83 15 IAMs_20 IAMs_20 08 27 13.1
comp=Z,2μm,18.0s
M24K Tolsona, Glenn 79.90 13 P **P** **07 55 40.8 +0.8**
baz=207,SNR=9.4
Y22D IRIS PASSCAL I 79.90 51 P **P** **07 55 41.8 +1.0**
baz=244
Y22D IRIS PASSCAL I 79.90 51 IAMs_20 IAMs_20 08 23 15.8
comp=Z,4μm,21.0s
MCARA McCarthy VSAT 79.97 14 IAMs_20 IAMs_20 08 27 55.7
comp=Z,2μm,19.0s
NJ2 Nanjing 79.97 307⇓ *i*P **P** **07 55 43.3 +2.3**
NJ2 pP **pwP** **07 55 46.0 +0.2**
NJ2 sP **PcP** **07 55 51.3 +2.8**
NJ2 S **S** **08 05 49.0 +3.5**
NJ2 ScS **ScS** **08 06 04.8 -1.6**
NJ2 pmax pmax
comp=Z,43nm,1.5s
NJ2 pmax pmax
comp=Z,2μm,5.9s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,2μm,19.9s
NJ2 LR LR
comp=Z,3μm,24.6s
BARN Barnard Glacie 80.03 15 P **P** **07 55 41.1 +0.2**
BARN IAmb IAmb 07 55 53.9
comp=Z,94nm,1.3s
CTGM Chitina Glacie 80.03 15 IAMs_20 IAMs_20 08 29 51.2
comp=Z,2μm,18.0s
MNTX Cornudas Mount 80.06 53 P **P** **07 55 42.0 +0.4**
baz=246,SNR=48
MNTX Cornudas Mount 80.06 53 IAMs_20 IAMs_20 08 22 57.2
comp=Z,3μm,21.0s
HKPS Hong Kong Po S 80.08 296 IAMs_20 IAMs_20 08 26 19.3
comp=Z,3μm,21.0s
MVCO Mesa Verde 80.16 47 P **P** **07 55 42.3 +0.1**
baz=243,SNR=8.7
MVCO Mesa Verde 80.16 47 IAMs_20 IAMs_20 08 23 04.3
comp=Z,5μm,21.0s
HWUT Hardware Ranch 80.19 42 IAMs_20 IAMs_20 08 24 33.8
comp=Z,3μm,20.0s
KLR Kul'dur 80.26 327*c* *i*P **P** **07 55 42.3 +0.1**
KLR pmax pmax
comp=Z,93nm,2.7s
KLR MLR MLR
comp=Z,1μm,18.0s
PV10 Paradox Valley 80.32 46 IAmb IAmb 07 55 51.7
comp=Z,235nm,1.8s
KTH Kantishna Hill 80.33 10 IAMs_20 IAMs_20 08 25 21.0
comp=Z,3μm,20.0s
PV19 Morning Glory 80.33 46 IAmb IAmb 07 55 52.0
comp=Z,110nm,1.5s
PV19 IAMs_20 IAMs_20 08 23 31.8
comp=Z,4μm,22.0s
PV14 Lion Creek, Pa 80.33 46 IAmb IAmb 07 55 52.0
comp=Z,86nm,1.2s
TRF Thorofare Moun 80.34 10 IAMs_20 IAMs_20 08 24 30.3
comp=Z,4μm,20.0s
PV18 Skein Mesa, Pa 80.35 46 P **P** **07 55 44.1 +0.9**
PV18 IAmb IAmb 07 55 52.1
comp=Z,114nm,1.5s
PV18 IAMs_20 IAMs_20 08 23 32.9
comp=Z,4μm,21.0s
PV20 West Nyswonger 80.35 46 IAMs_20 IAMs_20 08 23 20.4
comp=Z,4μm,22.0s
PV13 Radium Mtn., P 80.37 46 IAmb IAmb 07 55 53.2
comp=Z,218nm,1.8s
PV13 IAMs_20 IAMs_20 08 23 32.9
comp=Z,4μm,21.0s
PV23 Carpenter Ridg 80.37 46 IAmb IAmb 07 55 52.4
comp=Z,126nm,1.4s
PV23 IAMs_20 IAMs_20 08 25 03.9
comp=Z,5μm,20.0s
PV16 Nyswonger Mesa 80.37 46 IAmb IAmb 07 55 52.2
comp=Z,194nm,1.8s
PV16 IAMs_20 IAMs_20 08 24 15.0
comp=Z,4μm,20.0s
PV03 Paradox Valley 80.39 46 IAmb IAmb 07 55 53.2
comp=Z,191nm,1.8s
PV11 David Mesa, Pa 80.40 46 IAmb IAmb 07 55 52.5
comp=Z,176nm,1.6s
PV04 Paradox Valley 80.42 46 IAmb IAmb 07 55 52.6
comp=Z,218nm,1.8s
PV04 IAMs_20 IAMs_20 08 24 17.2
comp=Z,5μm,20.0s
PV21 Cone Mtn., Par 80.45 46 IAmb IAmb 07 55 52.9
comp=Z,96nm,1.2s
PV02 Paradox Valley 80.45 46 IAmb IAmb 07 55 52.7
comp=Z,186nm,1.7s
TXAR Lajitas Array 80.46 56 P **P** **07 55 44.8 +0.9**
comp=Z,14nm,1.1s,baz=214,slow=4.2,SNR=60
TXAR LR LR 08 23 31.1
comp=Z,3μm,21.2s,baz=0.0,slow=30
TXAR Lajitas Array 80.46 56 P **P** **07 55 44.5 +0.6**
TXAR Lajitas Array 80.46 56 P **P** **07 55 44.5 +0.6**
NEW Newport 80.47 34 P **P** **07 55 44.1 +0.7**
NEW pmax pmax
comp=Z,51nm,1.8s
NEW Newport 80.47 34 P **P** **07 55 42.9 -0.5**
baz=235,SNR=6.9
NEW Newport 80.47 34 P **P** **07 55 44.1 +0.7**
PV01 Paradox Valley 80.53 46 P **P** **07 55 44.0 -0.3**
PV01 IAmb IAmb 07 55 53.1
comp=Z,156nm,1.5s
PV01 IAMs_20 IAMs_20 08 25 57.2
comp=Z,4μm,21.0s
RND Reindeer 80.55 11 IAmb IAmb 07 56 01.5
comp=Z,120nm,1.6s
RND IAMs_20 IAMs_20 08 25 56.0
comp=Z,3μm,20.0s
PV22 Blue Mesa, Par 80.57 46 IAmb IAmb 07 55 54.5
comp=Z,114nm,1.5s
PV22 IAMs_20 IAMs_20 08 24 23.1
comp=Z,4μm,20.0s
TLIG Tlapa 80.61 69 IAmb IAmb 07 55 48.3
comp=Z,167nm,1.9s
PV07 Paradox Valley 80.62 46 IAmb IAmb 07 55 53.6
comp=Z,85nm,1.6s
PV07 IAMs_20 IAMs_20 08 24 22.6
comp=Z,4μm,20.0s
ANMO Albuquerque 80.63 50 P **P** **07 55 45.6 +0.8**
comp=Z,0.9nm,1.1s,baz=35,slow=4.5,SNR=48
ANMO LR LR 08 23 50.0
comp=Z,231nm,21.3s,baz=46,slow=30
ANMO Albuquerque 80.63 50*d* *i*P **P** **07 55 45.7 +1.0**
ANMO pmax pmax
comp=Z,66nm,1.7s
ANMO Albuquerque 80.63 50 P **P** **07 55 45.3 +0.6**
baz=244
ANMO Albuquerque 80.63 50 IAmb IAmb 07 55 53.9
comp=Z,118nm,1.6s
ANMO Albuquerque 80.63 50 IAMs_20 IAMs_20 08 23 38.9
comp=Z,4μm,21.0s
PV15 Paradox Valley 80.69 46 IAmb IAmb 07 55 53.9
comp=Z,137nm,1.7s
MCK McKinley 80.84 11 IAmb IAmb 07 55 53.6
comp=Z,75nm,1.0s
MCK IAMs_20 IAMs_20 08 26 25.5
comp=Z,3μm,20.0s
CN2 Changchun 80.85 320 *e*P **P** **07 55 45.5 0.0**
CN2 *e*PP **PP** **07 58 47.7 -2.3**
CN2 *e*S **S** **08 05 50.3 -3.9**
CN2 pmax pmax
comp=Z,60nm,1.4s
CN2 pmax pmax
comp=Z,2μm,6.0s
CN2 LR LR
comp=Z,990nm,22.0s
CN2 LR LR
comp=Z,2μm,22.0s
CN2 LR LR
comp=Z,2μm,24.0s
HYT Haines Junctio 80.94 17 IAmb IAmb 07 55 59.2
comp=Z,60nm,1.3s
DL2 Dalian 80.96 314 P **P** **07 55 47.4 +1.2**
DL2 PP **PP** **07 58 48.8 -2.3**
DL2 S **S** **08 05 59.6 +4.0**
DL2 pmax pmax
comp=Z,97nm,1.5s
DL2 pmax pmax
comp=Z,1μm,4.1s
DL2 LR LR
comp=Z,1μm,22.3s
DL2 LR LR
comp=Z,1μm,22.3s
DL2 LR LR
comp=Z,2μm,24.5s
RDMU Red Mountain 81.00 44 P **P** **07 55 46.5 -0.1**
SNY Shenyang 81.05 318 ⇑P **P** **07 55 47.7 +1.2**
SNY S **SKSac** **08 06 02.0 -3.9**
SNY pmax pmax
comp=Z,98nm,1.8s
SNY pmax pmax
comp=Z,2μm,2.8s
SNY LR LR
comp=Z,1μm,18.6s
SNY LR LR
comp=Z,1μm,19.6s
SNY LR LR
comp=Z,2μm,18.4s
GZH Guangzhou 81.05 297⇑ *i*P **P** **07 55 47.4 +0.4**
GZH PP **PP** **07 58 51.9 -0.2**
GZH S **S** **08 05 57.4 +0.3**
GZH pmax pmax
comp=Z,1μm,4.7s
GZH LR LR
comp=Z,730nm,21.3s
GZH LR LR
comp=Z,2μm,19.8s
AHID Auburn Hatcher 81.07 41 IAmb IAmb 07 55 56.6
comp=Z,102nm,1.6s
BWN Browne 81.15 10 IAmb IAmb 07 56 39.2
comp=Z,136nm,1.3s
BWN IAMs_20 IAMs_20 08 29 54.5
comp=Z,4μm,19.0s
MENT Mentasta 81.17 13 IAmb IAmb 07 56 46.8
comp=Z,100nm,1.7s
DLBC Dease Lake 81.43 21 P **P** **07 55 48.4 +0.1**
comp=Z,10.0nm,1.0s,baz=232,slow=6.7,SNR=13
MSO Missoula 81.46 37 P **P** **07 55 48.2 -0.6**
baz=237,SNR=26
MSO Missoula 81.46 37 IAmb IAmb 07 55 51.6
comp=Z,80nm,1.4s
MSO IAMs_20 IAMs_20 08 24 45.1
comp=Z,2μm,20.0s
DLMT Dillon 81.47 38 IAMs_20 IAMs_20 08 25 51.5
comp=Z,3μm,20.0s
REDW Red Top Meadow 81.52 41 P **P** **07 55 50.1 +0.8**
REDW IAmb IAmb 07 56 03.4
comp=Z,102nm,1.3s
TPAW Teton Pass 81.53 41 IAmb IAmb 07 56 02.5
comp=Z,55nm,1.1s
FXWY Fox Creek 81.55 41 IAmb IAmb 07 55 59.6
comp=Z,88nm,1.4s
S22A 4UR Ranch, Cre 81.58 47 P **P** **07 55 51.0 +1.1**
baz=244,SNR=77
S22A 4UR Ranch, Cre 81.58 47 IAmb IAmb 07 56 00.5
comp=Z,165nm,1.5s
NEA2 Nenana 81.60 10 P **P** **07 55 49.3 +0.3**
baz=204,SNR=13
SNOW Snow King Moun 81.64 41 IAmb IAmb 07 55 60.0
comp=Z,132nm,1.5s
RIDG Independent Ri 81.64 12 IAmb IAmb 07 56 01.3
comp=Z,50nm,1.2s
WRH Wood River Hil 81.67 11 IAmb IAmb 07 55 52.0
comp=Z,93nm,1.1s
O20A White River Ci 81.69 45 P **P** **07 55 50.6 +0.4**
baz=242,SNR=24
O20A White River Ci 81.69 45 P **P** **07 55 50.4 +0.1**
O20A IAmb IAmb 07 56 27.6
comp=Z,145nm,1.6s
O20A IAMs_20 IAMs_20 08 24 42.6
comp=Z,4μm,20.0s
IMW Indian Meadow 81.74 40 IAmb IAmb 07 56 00.5
comp=Z,153nm,1.6s
LOHW Long Hollow 81.81 41 IAmb IAmb 07 56 00.6
comp=Z,149nm,1.8s
HDA Harding Lake 81.82 11 P **P** **07 55 50.4 +0.3**
baz=206,SNR=36
HDA Harding Lake 81.82 11 IAmb IAmb 07 56 01.4
comp=Z,51nm,1.0s
CCB Clear Creek Bu 81.88 11 IAmb IAmb 07 55 52.3
comp=Z,49nm,0.9s
FLWY Flagg Ranch 81.98 40 IAmb IAmb 07 56 00.9
comp=Z,132nm,1.4s
YHB Horse Butte 82.01 40 P **P** **07 55 52.5 +0.6**
SCRK Sand Creek 82.03 13 P **P** **07 55 51.9 +0.4**
baz=209,SNR=34
BW06 Boulder Array 82.06 42 P **P** **07 55 52.0 -0.2**
baz=241,SNR=58
BW06 Boulder Array 82.06 42 IAmb IAmb 07 56 01.5
comp=Z,82nm,1.4s
BW06 IAMs_20 IAMs_20 08 26 24.3
comp=Z,3μm,20.0s
PD31 Pinedale Array 82.06 42 IAmb IAmb 07 56 01.5
comp=Z,76nm,1.4s
PDAR Pinedale Array 82.06 42 P **P** **07 55 52.0 -0.2**
comp=Z,7.3nm,0.8s,baz=207,slow=2.6,SNR=55
PDAR PKKPbc **PKKPbc** **08 14 22.2 -1.2**
comp=Z,0.7nm,0.9s,baz=106,slow=5.4,SNR=3.9
PDAR LR LR 08 27 42.7
comp=Z,2μm,18.7s,baz=243,slow=32
TCOL CIGO, UAF Yank 82.07 11 P **P** **07 55 51.3 -0.1**
baz=205,SNR=31
COLA College 82.08 11*c* *i*P **P** **07 55 51.4 0.0**
COLA pmax pmax
comp=Z,98nm,1.0s
COLA College 82.08 11 IAmb IAmb 07 55 54.0
comp=Z,94nm,0.9s
COLA College 82.08 11 IAMs_20 IAMs_20 08 25 43.2
comp=Z,3μm,20.0s
MDM Murphy Dome 82.09 11 IAmb IAmb 07 56 03.4
comp=Z,50nm,1.2s
MDM IAMs_20 IAMs_20 08 28 11.6
comp=Z,3μm,20.0s
ILAR Eielson Array 82.16 11 P **P** **07 55 52.0 +0.1**
comp=Z,11nm,1.0s,baz=205,slow=6.0,SNR=47
ILAR LR LR 08 30 24.3
comp=Z,1μm,18.2s,baz=210,slow=34
BOZ Bozeman (W) 82.17 39 P **P** **07 55 53.3 +0.7**
baz=239,SNR=51
BOZ Bozeman (W) 82.17 39 IAmb IAmb 07 56 02.5
comp=Z,162nm,1.8s
BOZ IAMs_20 IAMs_20 08 26 13.1
comp=Z,3μm,20.0s
IMAR Indian Mountai 82.18 8 P **P** **07 55 51.6 -0.5**
H17A Grant Village 82.21 40 P **P** **07 55 54.7 +1.6**
baz=240,SNR=17
SEY Seymchan 82.23 345*c* *i*P **P** **07 55 52.5 +0.2**
POKR Poker Flat Res 82.37 11 P **P** **07 55 52.9 -0.2**
baz=205,SNR=30
LKWY Lake 82.41 40 P **P** **07 55 54.8 +0.8**
LKWY pmax pmax
comp=Z,77nm,1.2s
LKWY Lake 82.41 40 P **P** **07 55 54.8 +0.8**
LKWY IAmb IAmb 07 55 58.4
comp=Z,77nm,1.2s
K27K Chicken 82.49 13 P **P** **07 55 54.7 +1.0**
baz=210
SDCO Great Sand Dun 82.53 48 P **P** **07 55 55.1 +0.3**
baz=245,SNR=48
SDCO Great Sand Dun 82.53 48 IAmb IAmb 07 56 04.6
comp=Z,134nm,1.6s
SDCO IAMs_20 IAMs_20 08 26 11.2
comp=Z,3μm,20.0s
WALA Waterton Lakes 82.68 35 IAmb IAmb 07 56 04.4
comp=Z,104nm,1.6s
QIZ Qiongzhong 82.78 292 P **P** **07 55 57.8 +1.6**
QIZ PP **PP** **07 59 03.2 -3.3**
QIZ S **S** **08 06 18.4 +3.3**
QIZ SS **SS** **08 11 35.5 -2.5**
QIZ pmax pmax
comp=Z,16nm,1.2s
QIZ pmax pmax
comp=Z,740nm,6.5s
QIZ LR LR
comp=Z,660nm,15.5s
QIZ LR LR
comp=Z,1μm,20.8s
QIZ LR LR
comp=Z,2μm,23.5s
WHN Wuhan 82.91 304⇑ *i*P **P** **07 55 56.2 -0.4**
WHN PP **PP** **07 59 03.0 -4.3**
WHN S **S** **08 06 20.5 +4.4**
WHN pmax pmax
comp=Z,2μm,4.3s
WHN LR LR
comp=Z,2μm,13.7s
WHN LR LR
comp=Z,1μm,13.0s
WHN LR LR
comp=Z,4μm,18.3s
MSTX Muleshoe 82.99 52 P **P** **07 55 57.3 +0.1**
baz=247,SNR=36
MSTX Muleshoe 82.99 52 IAMs_20 IAMs_20 08 24 41.7
comp=Z,5μm,21.0s
TIA Tai'an 83.00 310 P **P** **07 55 58.4 +1.4**
TIA pmax pmax
comp=Z,35nm,1.3s
T25A Trinidad 83.06 49 P **P** **07 55 57.9 +0.3**
baz=245,SNR=12
T25A Trinidad 83.06 49 IAMs_20 IAMs_20 08 24 27.2
comp=Z,3μm,21.0s
RWWY Rawlins 83.09 44 P **P** **07 55 57.7 0.0**
PAYG Puerto Ayora 83.19 89 IAMs_20 IAMs_20 08 22 09.7
comp=Z,4μm,20.0s
RDOG Red Dog Mine 83.28 4 IAMs_20 IAMs_20 08 31 29.0
comp=Z,2μm,19.0s
Q24A Divide 83.30 47 P **P** **07 55 59.6 +0.7**
baz=245,SNR=27
EGAK Eagle 83.34 13 IAmb IAmb 07 56 10.6
comp=Z,46nm,1.3s
EGAK IAMs_20 IAMs_20 08 30 06.7
comp=Z,2μm,18.0s

ISCO	**Idaho Springs**	83.34	46	P	P	07 55 59.4	+0.4	
	baz=244,SNR=38							
ISCO	**Idaho Springs**	83.34	46	IAmb	IAmb	07 56 08.9		
	comp=Z,84nm,1.4s							
ISCO				IAMs_20	IAMs_20	08 27 59.4		
	comp=Z,3μm,19.0s							
RLMT	**Red Lodge**	83.38	40	P	P	07 55 59.8	+0.8	
	baz=241,SNR=33							
RLMT	**Red Lodge**	83.38	40	IAmb	IAmb	07 56 02.3		
	comp=Z,69nm,1.2s							
833A	**Chaparral WMA,**	83.56	59	P	P	07 56 00.2	+0.1	
	baz=249							
833A	**Chaparral WMA,**	83.56	59	IAMs_20	IAMs_20	08 24 54.2		
	comp=Z,4μm,22.0s							
N23A	**Red Feather La**	83.59	45	P	P	07 56 00.7	+0.5	
	baz=244,SNR=35							
N23A	**Red Feather La**	83.59	45	IAMs_20	IAMs_20	08 25 45.0		
	comp=Z,3μm,20.0s							
CMIG	**Matias Romero**	83.80	71	LR	LR	08 26 47.2		
	comp=Z,2μm,19.1s,baz=248,slow=31							
COLD	**Coldfoot**	83.86	9	P	P	07 56 01.7	+1.0	
	baz=203,SNR=16							
COLD	**Coldfoot**	83.86	9	IAmb	IAmb	07 56 04.7		
	comp=Z,36nm,1.1s							
K22A	**Casper**	83.98	43	P	P	07 56 02.2	0.0	
	baz=243,SNR=34							
JCT	**Junction City**	84.00	56	P	P	07 56 01.8	-0.5	
JCT				pmax	pmax			
	comp=Z,43nm,1.4s							
JCT	**Junction City**	84.00	56	P	P	07 56 01.4	-0.9	
	baz=249							
JCT	**Junction City**	84.00	56	P	P	07 56 01.8	-0.5	
JCT				IAmb	IAmb	07 56 12.9		
	comp=Z,43nm,1.4s							
JCT				IAMs_20	IAMs_20	08 26 12.7		
	comp=Z,3μm,20.0s							
PHWY	**Pilot Hill**	84.10	45	P	P	07 56 02.6	-0.3	
PHWY				IAMs_20	IAMs_20	08 25 52.5		
	comp=Z,3μm,21.0s							
AMTX	**Amarillo**	84.18	52	P	P	07 56 02.9	-0.3	
	baz=247							
AMTX	**Amarillo**	84.18	52	IAMs_20	IAMs_20	08 25 51.1		
	comp=Z,4μm,20.0s							
PMSA	**Palmer Station**	84.45	156	IAMs_20	IAMs_20	08 25 01.0		
	comp=Z,3μm,20.0s							
EGMT	**Eagleton**	84.51	37	P	P	07 56 04.7	+0.2	
	baz=240,SNR=19							
EGMT	**Eagleton**	84.51	37	IAMs_20	IAMs_20	08 26 42.8		
	comp=Z,2μm,20.0s							
KVTX	**Kingsville**	84.53	60	IAMs_20	IAMs_20	08 35 45.0		
	comp=Z,2μm,18.0s							
ABTX	**Abilene, Hawle**	84.91	54	P	P	07 56 06.9	0.0	
	baz=249,SNR=32							
735A	**Kenedy**	85.05	59	IAMs_20	IAMs_20	08 26 00.7		
	comp=Z,4μm,21.0s							
KSCO	**Kaye Shedlock'**	85.11	48	P	P	07 56 07.8	-0.1	
	baz=246,SNR=8.9							
KSCO	**Kaye Shedlock'**	85.11	48	IAMs_20	IAMs_20	08 26 18.4		
	comp=Z,3μm,21.0s							
GO09	**Cerro Castillo**	85.13	142	IAMs_20	IAMs_20	08 41 04.7		
	comp=Z,3μm,18.0s							
ZEA	**Zeya**	85.16	329	*c*eP	P	07 56 07.6	0.0	
ZEA				*e*S	SKSac	08 06 33.6	+1.0	
ZEA				*e*SS	PnS	08 07 32.0	-0.9	
ZEA				pmax	pmax			
	comp=N,210nm,2.0s							
ZEA				pmax	pmax			
	comp=Z,210nm,2.0s							
ZEA				pmax	pmax			
	comp=E,300nm,6.0s							
ZEA				pmax	pmax			
	comp=Z,1μm,6.0s							
ZEA				pmax	pmax			
	comp=N,600nm,5.0s							
ZEA				pmax	pmax			
	comp=Z,400nm,7.0s							
ZEA				smax	smax			
	comp=N,2μm,13.0s							
ZEA				MLR	MLR			
	comp=Z,2μm,19.0s							
ZEA				MLR	MLR			
	comp=N,1μm,21.0s							
BJI	**Beijing**	85.25	313	P	P	07 56 09.0	+0.7	
BJI				PP	PP	07 59 23.3	-3.0	
BJI				S	S	08 06 36.3	-2.8	
BJI				SS	SS	08 12 15.2	+1.4	
BJI				pmax	pmax			
	comp=N,71nm,2.0s							
BJI				pmax	pmax			
	comp=N,630nm,4.3s							
BJI				LR	LR			
	comp=N,650nm,19.2s							
BJI				LR	LR			
	comp=N,850nm,20.6s							
BJI				LR	LR			
	comp=N,1μm,23.3s							
TOLK	**Toolik Lake Re**	85.26	9	P	P	07 56 08.6	+0.8	
	baz=203,SNR=7.0							
TOLK	**Toolik Lake Re**	85.26	9	IAmb	IAmb	07 56 21.2		
	comp=Z,56nm,1.4s							
H03S2	**Juan Fernandez**	85.38	124	T	T	09 30 50.9		
	baz=251,slow=75,SNR=17							
H03S1	**Juan Fernandez**	85.39	124	T	T	09 30 51.8		
	baz=251,slow=75,SNR=13							
H03S3	**Juan Fernandez**	85.40	124	T	T	09 30 50.3		
	baz=251,slow=75,SNR=11							
H03N2	**Juan Fernandez**	85.48	123	T	T	09 30 44.5		
	baz=253,slow=74							
H03N3	**Juan Fernandez**	85.48	123	T	T	09 30 50.8		
	baz=253,slow=74							
H03N1	**Juan Fernandez**	85.49	123	T	T	09 30 50.9		
	baz=253							
EPYK	**Eagle Plains**	85.69	14	P	P	07 56 10.3	+0.3	
	baz=216,SNR=18							
EPYK	**Eagle Plains**	85.69	14	P	P	07 56 09.9	0.0	
435B	**Jarrell**	85.89	57	P	P	07 56 12.2	+0.4	
	baz=250,SNR=10							
435B	**Jarrell**	85.89	57	IAMs_20	IAMs_20	08 27 10.9		
	comp=Z,3μm,20.0s							
RTAL	**Retalhuleu**	85.98	74	IAMs_20	IAMs_20	08 26 00.1		
	comp=Z,3μm,21.0s							
LAO	**LASA Array**	85.99	40	P	P	07 56 12.8	+0.8	
	baz=243,SNR=26							
CCIG	**Comitan**	86.07	72	IAMs_20	IAMs_20	08 26 55.5		
	comp=Z,4μm,20.0s							
RSSD	**Black Hills**	86.26	42	P	P	07 56 13.1	-0.4	
	baz=245							
RSSD	**Black Hills**	86.26	42	IAmb	IAmb	07 56 22.4		
	comp=Z,118nm,1.4s							
RSSD	**Black Hills**	86.26	42	IAMs_20	IAMs_20	08 28 05.4		
	comp=Z,2μm,21.0s							
OGNE	**Ogallala**	86.30	46	P	P	07 56 12.8	-0.9	
	baz=247							
OGNE	**Ogallala**	86.30	46	IAMs_20	IAMs_20	08 26 58.9		
	comp=Z,3μm,22.0s							
WMOK	**Wichita Mounta**	86.34	53	P	P	07 56 13.2	-0.7	
	baz=249,SNR=22							
WMOK	**Wichita Mounta**	86.34	53	IAmb	IAmb	07 56 22.6		
	comp=Z,79nm,1.6s							
WMOK	**Wichita Mounta**	86.34	53	IAMs_20	IAMs_20	08 26 47.3		
	comp=Z,3μm,22.0s							
HUEH	**Huehuetenango**	86.38	73	IAmb	IAmb	07 56 20.0		
	comp=Z,98nm,1.4s							
HUEH				IAMs_20	IAMs_20	08 25 14.7		
	comp=Z,3μm,21.0s							
WHTX	**Lake Whitney,**	86.41	56	P	P	07 56 14.8	+0.5	
	baz=250,SNR=20							
WHTX				S	S	08 06 50.3	-0.6	
	baz=250							
MG01	**Puerto William**	86.57	146	IAMs_20	IAMs_20	08 25 25.5		
	comp=Z,4μm,21.0s							
ENH	**Enshi**	86.75	302	IAmb	IAmb	07 56 19.0		
	comp=Z,100nm,1.4s							
U32A	**Winter Ranch,**	86.76	51	P	P	07 56 16.5	+0.5	
U32A				IAmb	IAmb	07 56 20.5		
	comp=Z,80nm,1.3s							
HIA	**Hailar**	86.95	323	*c i*P	P	07 56 17.6	+1.0	
HIA				pmax	pmax			
	comp=Z,102nm,2.0s							
HIA	**Hailar**	86.95	323	IAmb	IAmb	07 56 21.1		
	comp=Z,85nm,1.6s							
HIA	**Hailar**	86.95	323	IAMs_20	IAMs_20	08 28 28.5		
	comp=Z,4μm,22.0s							
HKT	**Hockley**	87.04	58	IAMs_20	IAMs_20	08 28 08.3		
	comp=Z,3μm,20.0s							
CBKS	**Cedar Bluff**	87.11	49	P	P	07 56 17.1	-0.6	
	baz=248							
CBKS				S	S	08 06 57.7	+0.1	
	baz=248							
CBKS	**Cedar Bluff**	87.11	49	IAMs_20	IAMs_20	08 29 43.5		
	comp=Z,2μm,19.0s							
APG	**El Apazote**	87.26	74	PP	PP	07 59 42.7	-0.5	
	comp=Z,7.6nm,1.2s,baz=262,slow=16,SNR=3.9							
APG				LR	LR	08 27 08.4		
	comp=Z,2μm,21.0s,baz=256,slow=30							
OKCFA	**Oklahoma City**	87.60	52	IAMs_20	IAMs_20	08 27 48.6		
	comp=Z,3μm,21.0s							
R32A	**Long Quarter,**	87.72	49	IAmb	IAmb	07 56 30.3		
	comp=Z,94nm,1.5s							
R32A				IAMs_20	IAMs_20	08 28 36.6		
	comp=Z,4μm,20.0s							
OK029	**Liberty Lake**	87.73	52	P	P	07 56 20.9	+0.3	
OK029				IAmb	IAmb	07 59 29.9		
	comp=Z,23nm,0.4s							
OK029				IAMs_20	IAMs_20	08 27 52.0		
	comp=Z,4μm,21.0s							
237A	**Washetta, Mont**	87.73	56	P	P	07 56 21.4	+0.7	
237A				IAMs_20	IAMs_20	08 27 50.5		
	comp=Z,3μm,20.0s							
OK025	**Westminster Rd**	87.74	52	IAMs_20	IAMs_20	08 28 04.5		
	comp=Z,4μm,21.0s							
LL01	**San Ignacio de**	87.86	133	IAmb	IAmb	07 56 32.0		
	comp=Z,41nm,1.4s							
LL01				IAMs_20	IAMs_20	08 29 30.5		
	comp=Z,3μm,19.0s							
GYA	**Guiyang**	87.89	298	⇑P	P	07 56 22.4	+0.6	
GYA				sP	pwP	07 56 27.9	+1.3	
GYA				PP	PP	07 59 50.0	+1.9	
GYA				SKS	SKSac	08 06 50.7	-0.3	
GYA				S	S	08 07 07.9	+2.2	
GYA				pmax	pmax			
	comp=Z,39nm,1.5s							
GYA				pmax	pmax			
	comp=Z,1μm,4.3s							
GYA				LR	LR			
	comp=Z,380nm,21.0s							
GYA				LR	LR			
	comp=Z,580nm,18.3s							
GYA				LR	LR			
	comp=Z,830nm,16.3s							
INK	**Inuvik**	87.99	14	P	P	07 56 21.6	+0.5	
	comp=Z,22nm,1.0s,baz=188,slow=5.6,SNR=15							
INK				LR	LR	08 33 28.0		
	comp=Z,1μm,18.1s,baz=212,slow=34							
INK	**Inuvik**	87.99	14	IAmb	IAmb	07 56 23.9		
	comp=Z,43nm,1.2s							
INK				IAMs_20	IAMs_20	08 41 35.6		
	comp=Z,2μm,18.0s							
DGMT	**Dagmar**	88.01	39	P	P	07 56 22.0	+0.3	
	baz=245,SNR=14							
DGMT				S	S	08 07 06.4	+0.7	
	baz=245							
DGMT	**Dagmar**	88.01	39	IAMs_20	IAMs_20	08 29 17.5		
	comp=Z,4μm,20.0s							
MAW	**Mawson**	88.06	199	P	P	07 56 22.0	+0.4	
	baz=88,SNR=36							
MAW	**Mawson**	88.06	199	P	P	07 56 22.8	+1.1	
	comp=Z,29nm,0.9s,baz=117,slow=5.4,SNR=42							
MAW				LR	LR	08 33 06.7		
	comp=Z,4μm,20.4s,baz=121,slow=34							
MTO3	**Montecristo**	88.11	75	IAMs_20	IAMs_20	08 26 38.7		
	comp=Z,4μm,21.0s							
ESQI	**Esquipulas**	88.18	74	P	P	07 56 24.8	+1.5	
RPSI	**Rantau Prapat**	88.43	273	IAmb	IAmb	07 57 26.5		
	comp=Z,60nm,1.6s							
XAN	**Xi'an**	88.45	306	P	P	07 56 26.4	+2.3	
XAN				pP	pwP	07 56 34.0	+5.0	
XAN				SKS	SKSac	08 06 53.9	0.0	
XAN				pmax	pmax			
	comp=Z,52nm,1.4s							
XAN				pmax	pmax			
	comp=Z,1μm,6.5s							
XAN				LR	LR			
	comp=Z,1μm,20.8s							
XAN				LR	LR			
	comp=Z,1μm,19.8s							
XAN				LR	LR			
	comp=Z,2μm,21.0s							
XAN	**Xi'an**	88.45	306	P	P	07 56 25.0	+0.8	
XAN				pmax	pmax			
	comp=Z,94nm,1.5s							
XAN	**Xi'an**	88.45	306	P	P	07 56 25.0	+0.8	
XAN				IAmb	IAmb	07 56 27.2		
	comp=Z,94nm,1.5s							
NATX	**Nacogdoches**	88.58	57	P	P	07 56 25.6	+0.8	
	baz=251,SNR=14							
NATX				S	S	08 07 13.5	+1.8	
	baz=251							
NATX	**Nacogdoches**	88.58	57	IAMs_20	IAMs_20	08 29 26.0		
	comp=Z,3μm,20.0s							
SLVN	**Son La**	88.79	292	IAmb	IAmb	07 56 30.2		
	comp=Z,53nm,1.7s							
HHC	**Hu-ho-hao-te**	88.81	313	*e*P	P	07 56 27.1	+1.3	
HHC				pmax	pmax			
	comp=Z,83nm,1.6s							
HHC				pmax	pmax			
	comp=Z,500nm,7.6s							
HHC				LR	LR			
	comp=Z,600nm,17.1s							
HHC				LR	LR			
	comp=Z,950nm,19.9s							
HHC				LR	LR			
	comp=Z,1μm,18.9s							
YAK	**Yakutsk**	88.84	337	*e*P	P	07 56 24.1	-1.1	
YAK				*e*		07 59 51.1		
YAK				*e*S	SKSac	08 06 50.8	-4.0	
YAK				*e*		08 07 06.9		
YAK				pmax	pmax			
	comp=Z,21nm,0.9s							
YAK				pmax	pmax			
	comp=E,9.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,57nm,1.5s							
YAK				pmax	pmax			
	comp=N,47nm,1.7s							
YAK				pmax	pmax			
	comp=E,71nm,1.8s							
YAK				smax	smax			
	comp=N,799nm,4.7s							
YAK				smax	smax			
	comp=E,593nm,5.3s							
X37A	**Clayton**	88.93	54	IAmb	IAmb	07 56 36.0		
	comp=Z,58nm,1.6s							
TUL1	**Leonard**	89.04	52	P	P	07 56 26.4	-0.4	
	baz=251							
TUL1				S	S	08 07 15.8	-0.1	
	baz=251							
TUL1	**Leonard**	89.04	52	IAMs_20	IAMs_20	08 28 33.7		
	comp=Z,2μm,20.0s							
BGNE	**Belgrade**	89.19	47	P	P	07 56 26.9	-0.6	
	baz=249							
BGNE				S	S	08 07 18.0	+0.9	
	baz=249							
BGNE	**Belgrade**	89.19	47	P	P	07 56 28.6	+1.1	
BGNE				IAmb	IAmb	07 56 37.5		
	comp=Z,45nm,1.1s							
K31A	**O'Neill**	89.21	45	P	P	07 56 27.8	+0.3	
K31A				IAMs_20	IAMs_20	08 29 04.7		
	comp=Z,3μm,21.0s							
LC01	**Cunco**	89.36	130	IAmb	IAmb	07 56 35.1		
	comp=Z,53nm,1.3s							
LC01				IAMs_20	IAMs_20	08 29 40.8		
	comp=Z,2μm,19.0s							
E28A	**Huff**	89.40	41	P	P	07 56 27.6	-0.7	
E28A				IAmb	IAmb	07 56 36.9		
	comp=Z,41nm,1.3s							
E28A				IAMs_20	IAMs_20	08 33 00.6		
	comp=Z,2μm,19.0s							
441A	**DeRidder**	89.46	58	IAMs_20	IAMs_20	08 29 03.4		
	comp=Z,3μm,21.0s							
KSU1	**Kansas State U**	89.49	49	P	P	07 56 27.8	-1.1	
	baz=250							
KSU1				S	S	08 07 20.1	0.0	
	baz=250							
KSU1	**Kansas State U**	89.49	49	IAMs_20	IAMs_20	08 29 52.6		
	comp=Z,3μm,20.0s							
PLCA	**Paso Flores**	89.72	132	P	P	07 56 32.4	+2.3	
	comp=Z,6.8nm,1.1s,baz=257,slow=6.4,SNR=8.9							
PLCA				LR	LR	08 28 54.4		
	comp=Z,3μm,20.3s,baz=254,slow=30							
PLCA	**Paso Flores**	89.72	132	IAmb	IAmb	07 56 37.5		
	comp=Z,94nm,1.8s							
SUSD	**Miller**	89.73	44	P	P	07 56 28.7	-1.2	
	baz=249							
SUSD				S	S	08 07 21.4	-0.6	
	baz=249							
YKA	**Yellowknife Ar**	89.83	23	P	P	07 56 30.1	+0.2	
	comp=Z,13nm,0.9s,baz=244,slow=4.1,SNR=34							
YKA				LR	LR	08 29 00.2		
	comp=Z,774nm,21.2s,baz=0.0,slow=30							
TGUH	**Tegucigalpa,Un**	89.97	76	IAMs_20	IAMs_20	08 28 34.9		
	comp=Z,2μm,18.0s							
U38A	**Gravette**	90.28	52	IAMs_20	IAMs_20	08 28 50.8		
	comp=Z,3μm,22.0s							
MIAR	**Mount Ida**	90.32	54	P	P	07 56 33.0	+0.2	
	baz=252,SNR=7.7							
MIAR				S	S	08 07 28.6	+0.8	
	baz=252							
MIAR	**Mount Ida**	90.32	54	IAmb	IAmb	07 56 41.3		
	comp=Z,72nm,1.9s							
MIAR				IAMs_20	IAMs_20	08 29 22.8		
	comp=Z,3μm,20.0s							
342A	**Flagon Creek P**	90.36	58	P	P	07 56 33.9	+0.8	
342A				IAMs_20	IAMs_20	08 30 02.1		
	comp=Z,2μm,21.0s							
W39A	**Magazine**	90.36	54	P	P	07 56 32.9	-0.1	
	baz=252,SNR=5.6							
W39A				S	S	08 07 29.4	+1.2	
	baz=252							
W39A	**Magazine**	90.36	54	P	P	07 56 34.2	+1.2	
Z41A	**Richland Creek**	90.54	56	P	P	07 56 34.6	+0.7	
	baz=252							
Z41A				S	S	08 07 32.6	+2.7	
	baz=252							
Z41A	**Richland Creek**	90.54	56	IAmb	IAmb	07 56 38.8		
	comp=Z,96nm,1.4s							
BI02	**San Fabin de**	90.54	128	P	P	07 56 36.4	+2.3	
BI02				IAmb	IAmb	07 56 41.0		
	comp=Z,76nm,1.4s							
ESTN	**Estel**	90.57	77	IAMs_20	IAMs_20	08 27 07.7		
	comp=Z,3μm,22.0s							
GO05	**Huala**	90.57	126	IAMs_20	IAMs_20	08 28 10.6		
	comp=Z,3μm,20.0s							
HHAR	**Hobbs**	90.58	53	IAMs_20	IAMs_20	08 30 22.5		
	comp=Z,3μm,21.0s							
MDND	**Maddock**	90.58	40	P	P	07 56 32.9	-0.9	
	baz=248,SNR=5.7							
MDND	**Maddock**	90.58	40	IAmb	IAmb	07 56 35.6		
	comp=Z,44nm,1.1s							
L34A	**Svendsen Farm,**	90.63	47	IAMs_20	IAMs_20	08 29 31.5		
	comp=Z,3μm,21.0s							
TEIG	**Tepich**	90.70	69	LR	LR	08 30 31.3		
	comp=Z,2μm,20.8s,baz=226,slow=31							
TEIG	**Tepich**	90.70	69	P	P	07 56 36.9	+2.0	
TEIG				IAmb	IAmb	07 56 41.1		
	comp=Z,70nm,1.2s							
TEIG	**Tepich**	90.70	69	IAMs_20	IAMs_20	08 30 20.9		
	comp=Z,2μm,21.0s							
N35A	**Tabor**	90.78	48	P	P	07 56 36.0	+1.2	
N35A				IAmb	IAmb	07 56 43.2		
	comp=Z,34nm,1.1s							
N35A				IAMs_20	IAMs_20	08 30 29.6		
	comp=Z,3μm,21.0s							
KMI	**Kunming**	90.88	296	⇑*e*P	P	07 56 35.5	-0.5	
KMI				pP	sP	07 56 39.0	+0.9	
KMI				PP	PP	08 00 05.6	-6.5	
KMI				S	S	08 07 30.4	-3.5	
KMI				sS	ScS	08 07 42.7	+5.4	
KMI				SS	SS	08 13 37.2	+0.1	
KMI				pmax	pmax			
	comp=Z,15nm,0.5s							
KMI				pmax	pmax			
	comp=Z,710nm,6.4s							
KMI				LR	LR			
	comp=Z,790nm,18.8s							
KMI				LR	LR			
	comp=Z,1μm,17.8s							
KMI				LR	LR			
	comp=Z,1μm,18.6s							
X40A	**Basin Creek Fa**	90.88	55	P	P	07 56 35.8	+0.3	
	baz=252,SNR=7.2							
X40A				S	S	08 07 34.1	+1.0	
	baz=252							
X40A	**Basin Creek Fa**	90.88	55	P	P	07 56 35.7	+0.3	
X40A				IAMs_20	IAMs_20	08 29 38.8		
	comp=Z,2μm,20.0s							
MATN	**Matagalpa**	90.94	77	P	P	07 56 36.7	+0.5	
ECSD	**EROS Data Cent**	91.06	45	P	P	07 56 35.0	-1.1	
	baz=250,SNR=16							
ECSD				S	S	08 07 33.2	-1.2	
	baz=250							
C36M	**Paulatuk**	91.08	16	P	P	07 56 36.5	+0.9	
	baz=227							
JTS	**Las Juntas de**	91.17	80	P	P	07 56 39.3	+2.0	
	comp=Z,68nm,1.1s,baz=345,slow=2.7,SNR=18							
JTS	**Las Juntas de**	91.17	80	*d i*P	P	07 56 39.1	+1.8	
JTS				pmax	pmax			
	comp=Z,158nm,1.3s							
JTS	**Las Juntas de**	91.17	80	P	P	07 56 39.7	+2.4	
UALR	**University of**	91.36	54	IAmb	IAmb	07 56 42.5		
	comp=Z,50nm,1.3s							
UALR				IAMs_20	IAMs_20	08 30 48.3		
	comp=Z,3μm,21.0s							
ACON	**Acoyapa**	91.40	78	IAmb	IAmb	07 56 44.6		
	comp=Z,99nm,1.8s							
BO01	**Tunca**	91.43	126	P	P	07 56 38.7	+0.5	
BO01				IAmb	IAmb	07 56 44.9		
	comp=Z,66nm,1.4s							
BO01				IAMs_20	IAMs_20	08 29 51.4		
	comp=Z,3μm,18.0s							
U40A	**Yellville**	91.43	53	P	P	07 56 37.3	-0.7	
	baz=252,SNR=13							
U40A				S	S	08 07 37.5	-0.5	
	baz=252							
U40A	**Yellville**	91.43	53	IAmb	IAmb	07 56 42.0		
	comp=Z,82nm,1.9s							
S39A	**Bolivar**	91.48	51	P	P	07 56 37.8	-0.4	
S39A				IAmb	IAmb	07 56 46.9		
	comp=Z,66nm,1.8s							
143A	**Socs Landing,**	91.50	57	IAMs_20	IAMs_20	08 30 46.9		
	comp=Z,2μm,20.0s							
W41B	**Gary Mavity, V**	91.55	54	P	P	07 56 38.8	+0.3	
	baz=253,SNR=19							
W41B				S	S	08 07 41.4	+2.3	
	baz=253							
CD2	**Chengdu**	91.64	301	*e*P	P	07 56 39.6	+0.4	
CD2				SKS	SKSac	08 07 10.4	-2.3	
CD2				S	S	08 07 39.0	-1.2	
CD2				pmax	pmax			
	comp=Z,640nm,6.6s							
CD2				LR	LR			
	comp=Z,1μm,18.8s							
CD2				LR	LR			
	comp=Z,2μm,20.2s							
CD2				LR	LR			
	comp=Z,2μm,18.4s							
344A	**Westbrook Farm**	91.68	58	IAMs_20	IAMs_20	08 31 04.2		
	comp=Z,2μm,21.0s							
CIT	**Chita**	91.68	324	*e*P	P	07 56 40.1	+1.3	
CIT				pmax	pmax			
	comp=Z,260nm,2.0s							
FFC	**Flin Flon**	91.87	33	P	P	07 56 40.5	+0.9	
FFC				MLR	MLR			
	comp=Z,900nm,19.0s							
FFC	**Flin Flon**	91.87	33	P	P	07 56 40.5	+0.9	
FFC				IAmb	IAmb	07 56 48.1		
	comp=Z,46nm,1.6s							
HDC	**Heredia**	91.90	80	P	P	07 56 43.9	+3.1	
HDC				IAMs_20	IAMs_20	08 26 47.3		
	comp=Z,4μm,22.0s							
P38A	**Dawn**	91.92	50	IAmb	IAmb	07 56 43.7		
	comp=Z,104nm,1.9s							
P38A				IAMs_20	IAMs_20	08 31 17.8		
	comp=Z,4μm,20.0s							
D32A	**Dogwood Acres,**	91.96	42	IAMs_20	IAMs_20	08 31 40.2		
	comp=Z,2μm,20.0s							
F33A	**5 Mile Ranch,**	91.99	43	IAmb	IAmb	07 56 48.5		
	comp=Z,35nm,1.4s							
F33A				IAMs_20	IAMs_20	08 31 33.2		
	comp=Z,4μm,21.0s							
MT05

comp=Z,74nm,1.4s
VA03 IAMs_20 IAMs_20 08 29 41.9
comp=Z,3µm,21.0s
X43A Marvell 92.44 55 P **P 07 56 43.6 +1.0**
baz=254,SNR=9.8
X43A S **S 08 07 50.4 +3.4**
baz=254
X43A Marvell 92.44 55 IAMs_20 IAMs_20 08 31 28.9
comp=Z,3µm,20.0s
R40A Maddies Statio 92.46 51 IAMs_20 IAMs_20 08 32 02.2
comp=Z,4µm,20.0s
N38A Joes South For 92.49 48 IAMs_20 IAMs_20 08 33 47.9
comp=Z,3µm,19.0s
CMAR Chiang Mai Arr 92.51 288 P **P 07 56 43.6 +0.2**
comp=Z,1.4nm,0.5s,baz=94,slow=2.8,SNR=11
CMAR LR LR 08 32 36.1
comp=Z,1µm,22.0s,baz=138,slow=32
CMAR Chiang Mai Arr 92.51 288 P **P 07 56 46.3 +2.9**
CO02 Combarbal 92.55 123 IAMs_20 IAMs_20 08 34 31.2
comp=Z,3µm,19.0s
346A Big Creek Wild 92.70 58 P **P 07 56 43.6 -0.3**
SCIA State Center 92.84 47 P **P 07 56 44.1 -0.3**
baz=252
SCIA State Center 92.84 47 P **P 07 56 44.5 +0.1**
SCIA IAMs_20 IAMs_20 08 30 40.2
comp=Z,4µm,22.0s
SYO Syowa Base 92.88 191⇑ *e*P **P 07 56 43.3 -0.8**
SYO Syowa Base 92.88 191⇑ *e*pP **P 07 56 45.0 +0.9**
CO03 El Pedregal 92.92 123 IAmb IAmb 07 56 51.1
comp=Z,33nm,1.3s
ATAH Atahualpa 92.98 98 P **P 07 56 48.4 +2.2**
comp=Z,3.4nm,0.8s,baz=342,slow=3.2,SNR=2.2
T42A Van Buren 92.98 53 IAmb IAmb 07 56 47.1
comp=Z,49nm,1.4s
T42A IAMs_20 IAMs_20 08 30 13.3
comp=Z,2µm,22.0s
P40A Paris 92.98 50 IAmb IAmb 07 56 46.9
comp=Z,49nm,1.3s
LZH Lanzhou 93.04 306 ⇓P **P 07 56 47.7 +2.1**
LZH pP pwP 07 56 50.7 +0.2
LZH sP sP 07 56 53.0 +5.2
LZH PP **PP 08 00 26.8 -2.0**
LZH SKS **SKSac 08 07 19.6 -0.9**
LZH S **S 08 07 52.6 -0.1**
LZH sS sS 08 07 59.1 +3.7
LZH SS **SS 08 14 06.1 -1.4**
LZH pmax pmax
comp=Z,33nm,1.3s
LZH pmax pmax
comp=Z,610nm,9.2s
LZH LR LR
comp=Z,750nm,17.2s
LZH LR LR
comp=Z,1µm,17.5s
LZH LR LR
comp=Z,2µm,19.5s
GO04 Tololo Observa 93.05 122 IAMs_20 IAMs_20 08 30 13.5
comp=Z,3µm,18.0s
AGMN Agassiz Nation 93.08 41 P **P 07 56 44.1 -1.3**
baz=251,SNR=11
AGMN S **S 08 07 48.7 -3.6**
baz=251
AGMN Agassiz Nation 93.08 41 IAmb IAmb 07 56 53.2
comp=Z,73nm,1.6s
AGMN IAMs_20 IAMs_20 08 33 28.9
comp=Z,3µm,20.0s
NNA Nana 93.14 103 LR LR 08 28 51.8
comp=Z,3µm,21.2s,baz=268,slow=29
NNA Nana 93.14 103 IAMs_20 IAMs_20 08 28 28.0
comp=Z,4µm,20.0s
EFI East Falkland 93.15 146 *ce*P P 07 56 52.4 +6.7
EFI pmax pmax
comp=Z,52nm,1.7s
VNA3 Neumayer Olymp 93.15 175 P **P 07 56 47.5 +2.1**
CCM Cathedral Cave 93.16 52 P **P 07 56 45.4 -0.5**
CCM pmax pmax
comp=Z,29nm,1.3s
CCM Cathedral Cave 93.16 52 P **P 07 56 45.2 -0.7**
baz=254
CCM Cathedral Cave 93.16 52 P **P 07 56 45.4 -0.5**
CCM IAmb IAmb 07 56 53.9
comp=Z,29nm,1.2s
CCM Cathedral Cave 93.16 52 IAMs_20 IAMs_20 08 30 40.4
comp=Z,4µm,22.0s
SNAA Sanae 93.20 177 P **P 07 56 48.4 +2.8**
SNAA Sanae 93.20 177 P **P 07 56 47.4 +1.7**
SNAA pmax pmax
comp=Z,32nm,1.4s
SNAA MLR MLR
comp=Z,2µm,18.0s
SNAA Sanae 93.20 177 P **P 07 56 47.4 +1.7**
SNAA IAmb IAmb 07 56 57.5
comp=Z,32nm,1.4s
SNAA IAMs_20 IAMs_20 08 38 38.7
comp=Z,2µm,18.0s
Y45A Yeager Farm, C 93.32 56 P **P 07 56 48.2 +1.5**
MET Memphis--Engin 93.35 55 IAMs_20 IAMs_20 08 32 30.2
comp=Z,3µm,20.0s
I37A Lemond, Waseca 93.35 45 P **P 07 56 46.4 -0.3**
I37A IAmb IAmb 07 56 49.5
comp=Z,42nm,1.1s
I37A IAMs_20 IAMs_20 08 34 05.5
comp=Z,2µm,18.0s
146A Union 93.38 57 IAMs_20 IAMs_20 08 33 24.0
comp=Z,2µm,20.0s
K38A Parkersburg 93.38 47 IAMs_20 IAMs_20 08 31 17.3
comp=Z,3µm,21.0s
AC04 Llanos de Chal 93.47 120 IAMs_20 IAMs_20 08 27 59.7
comp=Z,3µm,21.0s
OXF Oxford 93.60 55 S **S 08 07 59.8 +2.4**
baz=254
VNA2 Neumayer--Watz 93.65 175 P **P 07 56 50.8 +3.2**
BOD Bodaibo 93.67 329 *e*P **P 07 56 47.5 -0.3**
BOD pmax pmax
comp=Z,22nm,1.9s
CO01 Juntas del Tor 93.69 122 IAMs_20 IAMs_20 08 34 31.5
comp=Z,3µm,20.0s
ULM Lac du Bonnet 93.72 39 P **P 07 56 48.0 -0.2**
comp=Z,12nm,1.0s,baz=249,slow=4.5,SNR=11
ULM LR LR 08 33 43.2
comp=Z,3µm,19.6s,baz=254,slow=32
ULM Lac du Bonnet 93.72 39 IAMs_20 IAMs_20 08 33 41.6
comp=Z,4µm,20.0s
FVM French Village 93.76 52 IAmb IAmb 07 56 51.0
comp=Z,59nm,1.3s
F36A Milaca 93.83 44 IAmb IAmb 07 56 57.5
comp=Z,44nm,1.5s
F36A IAMs_20 IAMs_20 08 34 04.9
comp=Z,2µm,19.0s
VNA1 Neumayer--Stat 93.84 175 P **P 07 56 51.9 +3.4**
PARMO Parma 93.92 53 P **P 07 56 50.1 +0.7**
PARMO IAMs_20 IAMs_20 08 31 03.9
comp=Z,4µm,22.0s
AC05 El Transito 93.93 121 P **P 07 56 50.7 +0.7**
W45A Hickory Valley 93.95 55 P **P 07 56 49.4 -0.3**
W45A IAMs_20 IAMs_20 08 32 18.0
comp=Z,3µm,20.0s
SLM Saint Louis 94.08 51 IAMs_20 IAMs_20 08 31 21.3
comp=Z,4µm,22.0s
SPMN Marine on St. 94.12 44 P **P 07 56 49.7 -0.5**
baz=253,SNR=8.2
SPMN Marine on St. 94.12 44 IAmb IAmb 07 56 58.8
comp=Z,77nm,1.5s
HENM Henderson Moun 94.15 53 IAMs_20 IAMs_20 08 32 54.7
comp=Z,3µm,19.0s
N41A Harden Midland 94.20 49 IAMs_20 IAMs_20 08 33 27.1
comp=Z,4µm,20.0s
ULN Ulaanbaatar 94.20 318 *ce*P **P 07 56 51.1 +0.4**
ULN pmax pmax
comp=Z,41nm,1.4s
ULN Ulaanbaatar 94.20 318 P **P 07 56 51.9 +1.2**
ULN IAmb IAmb 07 56 53.1
comp=Z,48nm,1.4s
NVL N'lazarevskaya 94.27 182 *e*P **P 07 56 50.1 -0.3**
NVL *e*S **SKSac 08 07 22.1 -3.6**
NVL *e*SS SS 08 14 39.7 +18
NVL *e*SSS SSS 08 18 04.7
NVL pmax pmax
comp=Z,7.0nm,1.0s
L40A Anamosa 94.31 48 IAmb IAmb 07 56 59.7
comp=Z,59nm,1.2s
L40A IAMs_20 IAMs_20 08 31 23.0
comp=Z,4µm,22.0s
S44A Carbondale 94.57 52 P **P 07 56 52.7 +0.3**
S44A IAmb IAmb 07 56 54.3
comp=Z,86nm,1.7s
S44A IAMs_20 IAMs_20 08 31 25.3
comp=Z,2µm,22.0s
SONM Songino Array 94.61 318 P **P 07 56 52.8 +0.2**
comp=Z,2.7nm,0.8s,baz=108,slow=1.9,SNR=18
SONM PP **PP 08 00 40.9 +0.1**
comp=Z,8.3nm,1.3s,baz=131,slow=4.1,SNR=8.5
SONM LR LR 08 34 23.7
comp=Z,2µm,21.7s,baz=110,slow=32
SONM Songino Array 94.61 318 P **P 07 56 52.1 -0.5**
SONM pmax pmax
comp=Z,28nm,1.9s
SONM Songino Array 94.61 318 P **P 07 56 52.1 -0.5**
BRAL Brewton 94.64 59 S **S 08 08 12.0 +5.3**
baz=255
PLAL Pickwick Lake 94.78 55 IAMs_20 IAMs_20 08 32 51.1
comp=Z,2µm,20.0s
LRAL Lakeview Retre 95.16 57 P **P 07 56 54.7 -0.6**
baz=256
LRAL S **S 08 08 13.3 +2.2**
baz=256
PB14 IPOC Station P 95.20 117 IAMs_20 IAMs_20 08 33 16.8
comp=Z,3µm,19.0s
JFWS Jewell Farm 95.24 47 P **P 07 56 54.7 -0.7**
baz=254,SNR=13
JFWS Jewell Farm 95.24 47 IAmb IAmb 07 56 57.1
comp=Z,47nm,1.1s
I40A Norwalk 95.24 46 IAmb IAmb 07 56 56.9
comp=Z,50nm,1.1s
I40A IAMs_20 IAMs_20 08 34 07.5
comp=Z,3µm,20.0s
WVT Waverly 95.27 54 P **P 07 56 56.1 +0.4**
WVT pmax pmax
comp=Z,43nm,1.4s
WVT Waverly 95.27 54 P **P 07 56 55.0 -0.7**
baz=255
WVT S **S 08 08 13.3 +1.4**
baz=255
WVT Waverly 95.27 54 P **P 07 56 56.1 +0.4**
WVT IAmb IAmb 07 56 58.0
comp=Z,43nm,1.4s
HDIL Hopedale 95.30 50 P **P 07 56 55.5 -0.2**
baz=255,SNR=10
HDIL Hopedale 95.30 50 IAMs_20 IAMs_20 08 34 03.3
comp=Z,3µm,20.0s
E38A The Farm, Brul 95.36 43 P **P 07 56 55.1 -0.7**
E38A IAMs_20 IAMs_20 08 35 10.2
comp=Z,3µm,20.0s
L42A Oliver, Polo 95.41 48 IAmb IAmb 07 56 57.7
comp=Z,48nm,1.1s
L42A IAMs_20 IAMs_20 08 33 22.1
comp=Z,2µm,21.0s
X48A Hartselle 95.47 56 IAmb IAmb 07 56 58.9
comp=Z,74nm,1.9s
OLIL Olney 95.72 52 IAmb IAmb 07 56 59.7
comp=Z,37nm,1.4s
OLIL IAMs_20 IAMs_20 08 31 58.7
comp=Z,4µm,22.0s
EYMN Ely 95.77 42 P **P 07 56 56.1 -1.5**
baz=254
EYMN Ely 95.77 42 IAMs_20 IAMs_20 08 33 42.0
comp=Z,3µm,21.0s
BCIP Isla Barro Col 95.77 82 IAMs_20 IAMs_20 08 29 10.9
comp=Z,2µm,18.0s
G40A Rib Lake 95.90 45 IAmb IAmb 07 57 06.8
comp=Z,57nm,1.5s
V48A Smith Brothers 95.97 55 P **P 07 56 58.4 -0.4**
V48A IAmb IAmb 07 57 01.0
comp=Z,42nm,1.6s
V48A IAMs_20 IAMs_20 08 33 19.4
comp=Z,4µm,21.0s
T47A Sharon Grove 96.05 53 P **P 07 56 59.5 +0.3**
T47A IAmb IAmb 07 57 01.8
comp=Z,63nm,1.6s
T47A IAMs_20 IAMs_20 08 33 01.5
comp=Z,3µm,20.0s
M44A Midewin, Midew 96.43 49 IAMs_20 IAMs_20 08 37 04.1
comp=Z,2µm,19.0s
I42A Draeger Farm, 96.43 46 IAmb IAmb 07 57 02.3
comp=Z,39nm,1.1s
I42A IAMs_20 IAMs_20 08 34 34.0
comp=Z,3µm,20.0s
CLTN Cedars of Leba 96.44 54 IAmb IAmb 07 57 08.8
comp=Z,27nm,1.5s
PB15 IPOC Station P 96.47 116 IAMs_20 IAMs_20 08 33 26.5
comp=Z,3µm,19.0s
SWET Sewanee 96.54 55 IAmb IAmb 07 57 09.1
comp=Z,31nm,1.4s
SWET IAMs_20 IAMs_20 08 34 34.7
comp=Z,3µm,20.0s
K43A Burlington 96.55 48 IAMs_20 IAMs_20 08 33 25.1
comp=Z,4µm,22.0s
553A Crawfordville 96.59 61 IAMs_20 IAMs_20 08 36 39.4
comp=Z,2µm,21.0s
PB07 IPOC Station P 96.59 114 IAMs_20 IAMs_20 08 32 53.9
comp=Z,2µm,20.0s
FPAL Fort Paine 96.64 56 IAmb IAmb 08 00 55.8
comp=Z,39nm,1.7s
FPAL IAMs_20 IAMs_20 08 33 58.3
comp=Z,3µm,20.0s
PATCX Punta Patache 96.65 114 IAMs_20 IAMs_20 08 32 56.4
comp=Z,2µm,20.0s
HQIL Hanson Quary C 96.67 49 IAMs_20 IAMs_20 08 36 32.4
comp=Z,2µm,19.0s
L44A Lake County Fo 96.72 48 P **P 07 57 00.9 -1.2**
baz=256
L44A Lake County Fo 96.72 48 P **P 07 57 01.9 -0.2**
L44A IAMs_20 IAMs_20 08 38 51.7
comp=Z,2µm,18.0s
SFIN Lafayette 96.88 50 P **P 07 57 02.5 -0.4**
baz=256,SNR=5.4
152A Waverly Hall 96.93 58 IAmb IAmb 07 57 07.1
comp=Z,41nm,1.5s
152A IAMs_20 IAMs_20 08 34 58.1
comp=Z,2µm,21.0s
U49A Red Boiling Sp 96.97 54 IAmb IAmb 07 57 11.8
comp=Z,29nm,1.4s
WCI Wyandotte Cave 96.97 52 P **P 07 57 01.9 -1.4**
baz=256
WCI Wyandotte Cave 96.97 52 IAMs_20 IAMs_20 08 34 02.8
comp=Z,3µm,20.0s
GTA Gaotai 96.98 309 P **P 07 57 05.1 +1.5**
GTA pP pwP 07 57 09.8 +1.4
GTA sP sP 07 57 12.4 +6.7
GTA PP **PP 08 00 59.3 -0.1**
GTA SKS **SKSac 08 07 40.0 -1.4**
GTA S **ScS 08 08 29.0 +1.7**
GTA sS sS 08 08 35.0 +5.5
GTA pmax pmax
comp=Z,13nm,1.5s
GTA pmax pmax
comp=Z,330nm,8.1s
GTA LR LR
comp=Z,790nm,19.0s
GTA LR LR
comp=Z,2µm,21.9s
GTA LR LR
comp=Z,3µm,21.6s
BLO Bloomington 97.02 51 IAMs_20 IAMs_20 08 33 00.0
comp=Z,4µm,22.0s
W50A Signal Mountai 97.03 56 IAMs_20 IAMs_20 08 34 58.7
comp=Z,3µm,21.0s
LVC Limon Verde 97.16 116 IAMs_20 IAMs_20 08 31 15.7
comp=Z,3µm,19.0s
PB01 IPOC Station P 97.17 114 IAMs_20 IAMs_20 08 30 30.1
comp=Z,2µm,19.0s
PB12 IPOC Station P 97.20 111 IAMs_20 IAMs_20 08 34 47.0
comp=Z,2µm,19.0s
X51A Calhoun 97.25 56 IAmb IAmb 07 57 10.2
comp=Z,28nm,1.4s
X51A IAMs_20 IAMs_20 08 34 18.5
comp=Z,3µm,21.0s
AP01 Chacalluta 97.26 111 IAMs_20 IAMs_20 08 32 11.7
comp=Z,2µm,21.0s
ZAK Zakamensk 97.28 320 *e*P **P 07 57 03.8 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
FCC Fort Churchill 97.34 31 IAMs_20 IAMs_20 08 38 35.9
comp=Z,2µm,19.0s
H43A Windswept, Lux 97.37 46 IAMs_20 IAMs_20 08 37 23.8
comp=Z,2µm,19.0s
TLY Talaya 97.39 321 *e*P **P 07 57 02.6 -2.4**
TLY *e* 08 00 59.6
TLY *e*S **SKSac 08 07 39.4 -3.3**
TLY pmax pmax
comp=Z,30nm,0.9s
TLY Talaya 97.39 321 IAMs_20 IAMs_20 08 37 50.0
comp=Z,2µm,20.0s
D41A Chassel 97.45 43 IAMs_20 IAMs_20 08 34 02.8
comp=Z,3µm,22.0s
TIGA Tifton 97.58 60 P **P 07 57 04.5 -1.7**
baz=257
TIGA S **S 08 08 35.4 +3.3**
baz=257
MNMC Minye Minye 97.69 112 IAMs_20 IAMs_20 08 30 01.0
comp=Z,3µm,21.0s
CPCT Cooper Cave 97.72 55 IAmb IAmb 07 57 10.7
comp=Z,17nm,1.3s
CPCT IAMs_20 IAMs_20 08 33 51.9
comp=Z,3µm,21.0s
PB08 IPOC Station P 97.76 113 IAMs_20 IAMs_20 08 32 57.7
comp=Z,3µm,21.0s
T50A Nancy 97.82 54 IAMs_20 IAMs_20 08 33 46.4
comp=Z,3µm,21.0s
L46A Eue Claire 97.85 49 IAmb IAmb 07 57 09.0
comp=Z,31nm,1.1s
L46A IAMs_20 IAMs_20 08 33 41.7
comp=Z,2µm,22.0s
R49A Shelbyville 97.85 53 IAmb IAmb 07 57 11.1
comp=Z,16nm,1.1s
GO01 Chusmiza 97.88 113 IAMs_20 IAMs_20 08 33 06.9
comp=Z,3µm,21.0s
FLOC Florencia 97.91 90 P **P 07 57 08.1 -0.2**
P48A Milroy 97.92 51 IAmb IAmb 07 57 09.0
comp=Z,14nm,1.1s
P48A IAMs_20 IAMs_20 08 33 27.7
comp=Z,3µm,22.0s
V51A Loudon 97.93 55 P **P 07 57 06.9 -0.9**
V51A IAmb IAmb 07 57 11.5
comp=Z,26nm,1.4s
V51A IAMs_20 IAMs_20 08 33 48.5
comp=Z,3µm,21.0s
656A Willston 98.01 62 IAMs_20 IAMs_20 08 36 09.1
comp=Z,2µm,21.0s
PB16 IPOC Station P 98.02 111 IAMs_20 IAMs_20 08 32 48.9
comp=Z,2µm,21.0s
N47A Urbana 98.03 50 IAmb IAmb 07 57 16.1
comp=Z,40nm,1.5s
W52A Murphy 98.11 56 IAmb IAmb 07 57 12.0
comp=Z,26nm,1.6s
W52A IAMs_20 IAMs_20 08 35 43.4
comp=Z,3µm,20.0s
GOGA Godfrey 98.12 58 P Pdif 07 57 08.8 +0.1
GOGA pmax pmax
comp=Z,33nm,1.6s
GOGA Godfrey 98.12 58 P **P 07 57 08.2 -0.5**
baz=257,SNR=7.3
GOGA S **S 08 08 38.0 +1.5**
baz=257
GOGA Godfrey 98.12 58 P Pdif 07 57 08.8 +0.1
GOGA IAmb IAmb 07 57 13.0
comp=Z,32nm,1.6s
GOGA Godfrey 98.12 58 IAMs_20 IAMs_20 08 34 42.6
comp=Z,2µm,22.0s
154A Montrose 98.24 59 IAMs_20 IAMs_20 08 35 57.9
comp=Z,3µm,21.0s
E43A Lone Tree Farm 98.34 44 P **P 07 57 08.5 -0.8**
TKL Tuckaleechee C 98.36 55 IAmb IAmb 07 57 13.5
comp=Z,31nm,1.4s
TKL IAMs_20 IAMs_20 08 34 43.8
comp=Z,3µm,20.0s
P49A Miami Univ. Ec 98.47 51 IAMs_20 IAMs_20 08 34 07.3
comp=Z,3µm,22.0s
R50A Paris 98.49 53 IAmb IAmb 07 57 13.6
comp=Z,40nm,1.6s
V52A Sevierville 98.54 55 IAmb IAmb 07 57 14.5
comp=Z,33nm,1.4s
V52A IAMs_20 IAMs_20 08 34 49.6
comp=Z,3µm,20.0s
061Z Ochoppi 98.66 66 IAMs_20 IAMs_20 08 33 45.4
comp=Z,2µm,22.0s
DWPF Disney Wildern 98.68 63 P **P 07 57 10.7 -0.6**
baz=258
TZTN Tazewell 98.73 55 P **P 07 57 10.5 -0.8**
baz=258
TZTN S **S 08 08 42.1 +0.4**
baz=258
TZTN Tazewell 98.73 55 IAmb IAmb 08 01 11.5
comp=Z,40nm,1.6s
456A Hilliard 98.74 61 IAMs_20 IAMs_20 08 37 22.2
comp=Z,3µm,20.0s
BG3 Lake Jocassee 98.89 56 IAMs_20 IAMs_20 08 36 26.9
comp=Z,2µm,20.0s
G45A Suttons Bay 98.97 46 IAMs_20 IAMs_20 08 34 34.1
comp=Z,3µm,22.0s
V53A Saluda 99.13 56 IAMs_20 IAMs_20 08 34 57.2
comp=Z,3µm,22.0s
N49A Columbus Grove 99.16 50 IAmb IAmb 07 57 15.2
comp=Z,21nm,1.2s
J47A Sunmer 99.18 48 IAMs_20 IAMs_20 08 34 22.7
comp=Z,3µm,22.0s
L48A N Adams 99.19 49 P **Pdif 07 57 13.0 -0.2**
L48A IAmb IAmb 07 57 16.9
comp=Z,25nm,1.2s
L48A IAMs_20 IAMs_20 08 37 17.2
comp=Z,2µm,18.0s
X54A Belton 99.25 57 P **Pdif 07 57 13.3 -0.4**
baz=258
HODGE Hodges 99.28 57 IAMs_20 IAMs_20 08 34 51.2
comp=Z,3µm,22.0s
GLMI Grayling 99.64 46 IAMs_20 IAMs_20 08 38 16.0
comp=Z,2µm,19.0s
P51A Williamsport 99.71 52 P **Pdif 07 57 14.9 -0.8**
baz=259
P51A Williamsport 99.71 52 IAMs_20 IAMs_20 08 35 20.2
comp=Z,3µm,21.0s
PAULI Pauline 99.75 57 IAMs_20 IAMs_20 08 36 06.8
comp=Z,3µm,21.0s
Z56A Williston 99.82 58 IAMs_20 IAMs_20 08 38 50.6
comp=Z,2µm,21.0s
AAM Ann Arbor 99.83 49 IAMs_20 IAMs_20 08 34 40.0
comp=Z,2µm,22.0s
257A Skidaway Islan 99.83 60 IAMs_20 IAMs_20 08 37 46.1
comp=Z,3µm,21.0s
V54A Nebo 99.84 56 P **Pdif 07 57 16.1 -0.2**
baz=259
ACSO Alum Creek Sta 99.92 51 P **Pdif 07 57 15.7 -0.9**
baz=259
ACSO Alum Creek Sta 99.92 51 IAMs_20 IAMs_20 08 35 21.6
comp=Z,3µm,21.0s
LPAZ La Paz 99.93 110 P **Pdif 07 57 18.8 +0.9**
comp=Z,0.4nm,0.7s,baz=228,slow=12,SNR=1.6
LPAZ LR LR 08 35 25.1
comp=Z,2µm,18.5s,baz=258,slow=31
LPAZ La Paz 99.93 110 P **Pdif 07 57 18.8 +0.9**
LPAZ pmax pmax
comp=Z,8.0nm,1.4s
LPAZ La Paz 99.93 110 IAmb IAmb 07 57 25.0
comp=Z,7.8nm,1.4s
157A Early Branch 100.00 59 P **Pdif 07 57 16.4 -0.7**
baz=259
ROSC El Rosal 100.02 88 IAMs_20 IAMs_20 08 32 11.5
comp=Z,2µm,21.0s
MTDJ Mount Denham 100.06 74 IAMs_20 IAMs_20 08 33 42.1
comp=Z,2µm,20.0s
S53A Williamson 100.07 54 P **Pdif 07 57 16.6 -0.7**
baz=259
U54A Nelsons Funny 100.09 55 P **Pdif 07 57 17.1 -0.4**
baz=259,SNR=6.2
JSC Jenkinsville 100.10 57 IAMs_20 IAMs_20 08 35 25.9
comp=Z,2µm,22.0s
O51A Pataskala 100.18 51 P **Pdif 07 57 16.1 -1.7**
baz=259
KMSC Kings Mountain 100.21 56 P **Pdif 07 57 17.2 -0.8**
baz=259
KMSC Kings Mountain 100.21 56 IAMs_20 IAMs_20 08 36 20.7
comp=Z,3µm,20.0s
Q52A Bidwell 100.21 52 P **Pdif 07 57 16.8 -1.1**
baz=259
X56A White Oak 100.32 57 P **Pdif 07 57 17.7 -0.7**
baz=259
R53A Hurricane 100.33 53 P **Pdif 07 57 17.1 -1.4**
baz=259
Z57A Bowman 100.36 58 P **Pdif 07 57 17.6 -1.0**
baz=259
T54A Tazewell 100.38 54 P **Pdif 07 57 17.4 -1.4**
baz=259
V55A Taylorsville 100.44 56 P **Pdif 07 57 17.8 -1.2**
baz=259
V55A Taylorsville 100.44 56 IAMs_20 IAMs_20 08 35 59.8
comp=Z,4µm,22.0s
P52A Corning 100.44 52 P **Pdif 07 57 18.1 -0.8**
baz=259,SNR=6.2
D46A Sault St. Mari 100.45 44 P **Pdif 07 57 18.2 -0.5**
baz=259,SNR=5.5
N51A Ashland 100.50 50 P **Pdif 07 57 18.8 -0.3**

baz=259
K50A Casco 100.67 49 IAMs_20 IAMs_20 08 35 07.2
comp=Z,2μm,22.0s
U55A TA2, Sparta 100.69 55 P **Pdif 07 57 19.6 -0.6**
baz=259
S54A Dingess, Beckl 100.73 54 P **Pdif 07 57 20.5 +0.3**
baz=259
I49A Point Hope 100.74 47 IAMs_20 IAMs_20 08 36 14.0
comp=Z,3μm,20.0s
Y57A Sumter 100.75 58 IAMs_20 IAMs_20 08 36 09.3
comp=Z,3μm,22.0s
NHSC New Hope 100.75 59 P **Pdif 07 57 20.3 -0.1**
baz=259
NHSC New Hope 100.75 59 IAMs_20 IAMs_20 08 40 05.5
comp=Z,2μm,18.0s
O52A Adamsville 100.76 51 P **Pdif 07 57 20.3 0.0**
baz=259
O52A Adamsville 100.76 51 IAMs_20 IAMs_20 08 36 21.9
comp=Z,3μm,21.0s
Q53A Leroy 100.76 53 P **Pdif 07 57 20.1 -0.2**
baz=259
W56A Indian Trail 100.81 56 P **Pdif 07 57 20.1 -0.5**
baz=259
BIRD Birdtown, Kers 100.81 57 IAMs_20 IAMs_20 08 36 48.9
comp=Z,3μm,20.0s
E47A Iron Bridge 100.88 45 P **Pdif 07 57 20.8 +0.2**
baz=260,SNR=5.3
N52A McGinn's Farm, 101.00 51 P **Pdif 07 57 21.4 0.0**
baz=260
V56A Mocksville 101.00 56 P **Pdif 07 57 21.3 -0.2**
baz=259
T55A Pulaski 101.02 54 P **Pdif 07 57 21.3 -0.2**
baz=260
R54A Victor 101.05 53 P **Pdif 07 57 21.3 -0.4**
baz=260
D47A Chapleau 101.10 44 P **Pdif 07 57 21.2 -0.4**
baz=260
F48A Evansville 101.22 45 P **Pdif 07 57 22.1 -0.1**
baz=260
O53A New Philadelph 101.25 51 P **Pdif 07 57 22.8 +0.4**
baz=260
O53A New Philadelph 101.25 51 IAMs_20 IAMs_20 08 36 36.6
comp=Z,3μm,21.0s
W57A Gilead 101.29 57 P **Pdif 07 57 22.8 +0.1**
baz=260
W57A Gilead 101.29 57 IAMs_20 IAMs_20 08 37 02.4
comp=Z,3μm,20.0s
Q54A Coxs Mills 101.31 53 P **Pdif 07 57 22.9 +0.1**
baz=260
BLA Blacksburg 101.32 54 IAMs_20 IAMs_20 08 38 40.0
comp=Z,3μm,20.0s
S55A Lewisburg 101.36 54 P **Pdif 07 57 23.4 +0.4**
baz=260
M52A Chesterland 101.37 50 P **Pdif 07 57 23.2 +0.3**
baz=260
T56A Rocky Mt 101.59 55 P **Pdif 07 57 24.2 +0.2**
baz=260
V57A Coltrane Farms 101.59 56 P **Pdif 07 57 24.9 +0.8**
baz=260
F49A Sandfield 101.61 46 P **Pdif 07 57 24.7 +0.8**
baz=260
N53A Lisbon 101.63 51 P **Pdif 07 57 24.7 +0.6**
baz=260
N53A Lisbon 101.63 51 IAMs_20 IAMs_20 08 36 25.9
comp=Z,3μm,21.0s
P54A Burton 101.69 52 P **Pdif 07 57 25.2 +0.8**
baz=260
X58A Rowland 101.71 57 IAMs_20 IAMs_20 08 38 06.6
comp=Z,3μm,21.0s
HOPE Hope Point 101.77 156 IAMs_20 IAMs_20 08 36 56.9
comp=Z,2μm,19.0s
Y59A Loris 101.99 58 IAMs_20 IAMs_20 08 37 07.0
comp=Z,3μm,22.0s
V58A Windy Hill, Pi 102.11 56 P **Pdif 07 57 27.1 +0.7**
baz=260
V58A Windy Hill, Pi 102.11 56 IAMs_20 IAMs_20 08 35 43.0
comp=Z,3μm,22.0s
MCWV Mont Chateau 102.19 52 IAMs_20 IAMs_20 08 36 45.8
comp=Z,2μm,22.0s
T57A Hurt 102.20 55 P **Pdif 07 57 27.2 +0.4**
baz=260
T57A Hurt 102.20 55 IAMs_20 IAMs_20 08 37 04.4
comp=Z,3μm,21.0s
M54A Oil Creek Stat 102.62 50 P **Pdif 07 57 28.5 0.0**
baz=261
O55A Ligonier 102.69 52 P **Pdif 07 57 29.4 +0.5**
baz=261
P56A Dayton Farm, R 102.93 52 P **Pdif 07 57 30.6 +0.7**
baz=261
O56A Blue Knob Stat 103.25 52 P **Pdif 07 57 32.0 +0.6**
baz=262
M55A Ridgway 103.28 50 P **Pdif 07 57 32.3 +0.8**
baz=262
SADO Sadowa 103.48 47 IAMs_20 IAMs_20 08 39 35.5
comp=Z,2μm,19.0s
K54A Basiliko Farm, 103.50 49 P **Pdif 07 57 33.3 +0.9**
baz=262
T59A Double "B" Far 103.54 55 IAMs_20 IAMs_20 08 38 14.9
comp=Z,3μm,20.0s
V60A Jim Taylor Roa 103.59 56 IAMs_20 IAMs_20 08 39 57.2
comp=Z,2μm,21.0s
J54A Appleton 103.63 48 IAMs_20 IAMs_20 08 37 22.7
comp=Z,3μm,22.0s
M56A Emporium 103.72 50 P **Pdif 07 57 33.6 +0.2**
baz=262
Q58A Fox Den Farm, 103.73 53 P **Pdif 07 57 34.2 +0.6**
baz=262
MEDO Medina 103.75 49 IAMs_20 IAMs_20 08 37 25.8
comp=Z,3μm,22.0s
SSPA Standing Stone 103.82 51 IAMs_20 IAMs_20 08 37 13.9
comp=Z,3μm,22.0s
K55A Perry 103.97 49 P **Pdif 07 57 34.6 +0.1**
baz=262
V61A Roper 104.14 56 IAMs_20 IAMs_20 08 37 39.9
comp=Z,2μm,22.0s
T60A Surry 104.21 55 IAMs_20 IAMs_20 08 39 42.3
comp=Z,3μm,20.0s
J55A Hilton 104.22 49 IAMs_20 IAMs_20 08 37 51.4
comp=Z,3μm,22.0s
G54A Lake Saint Pet 104.30 46 P **Pdif 07 57 35.9 0.0**
baz=263
SDMD Soldier's Deli 104.44 53 IAMs_20 IAMs_20 08 38 37.6
comp=Z,2μm,21.0s
K56A Middlesex 104.51 49 P **Pdif 07 57 37.5 +0.5**
baz=263
SDV Santo Domingo 104.53 85 IAMs_20 IAMs_20 08 36 06.2
comp=Z,2μm,20.0s
V62A Hyde County Ai 104.61 57 IAMs_20 IAMs_20 08 40 21.3
comp=Z,3μm,20.0s
E53A Dumoine, Ponti 104.71 45 P **Pdif 07 57 38.9 +1.2**
baz=264
D53A Lac Vacive, Po 104.76 45 P **Pdif 07 57 38.8 +0.9**
baz=264
S61A Accomac 105.12 55 IAMs_20 IAMs_20 08 38 21.8
comp=Z,3μm,21.0s
GRTK Grand Turk 106.61 72 IAMs_20 IAMs_20 08 37 39.5
comp=Z,2μm,21.0s
LONY Lake Ozonia 106.69 47 IAMs_20 IAMs_20 08 40 25.6
comp=Z,2μm,20.0s
SAML Samuel 106.86 104 IAMs_20 IAMs_20 08 36 57.6
comp=Z,2μm,21.0s
HATO Hato, Curacao 106.86 82 IAMs_20 IAMs_20 08 37 22.9
comp=Z,2μm,20.0s
NCB Newcomb 106.89 48 IAMs_20 IAMs_20 08 40 14.0
comp=Z,3μm,20.0s
WSPT Westport, CT 107.31 51 IAMs_20 IAMs_20 08 39 54.4
comp=Z,3μm,21.0s
YLE Yale 107.62 51 IAMs_20 IAMs_20 08 43 05.5
comp=Z,3μm,20.0s
TULEG Thule 107.98 14 IAMs_20 IAMs_20 08 44 14.0
comp=Z,2μm,20.0s
LATQ La Tuque 108.13 45 IAMs_20 IAMs_20 08 41 24.3
comp=Z,2μm,20.0s
ZSN Zaisan 108.86 315 *i* PP **PP 08 02 25.4 -2.6**
comp=Z,182nm,4.0s,baz=316
ZAA0 Zalesovo Array 108.98 322 IAMs_20 IAMs_20 08 44 39.4
comp=Z,2μm,20.0s
ZALV Zalesovo Beam 108.98 322 PKiKP **PKiKP 08 02 02.0 +1.1**
comp=Z,0.9nm,0.4s,baz=267,slow=39,SNR=2.4
F62A Pittston Farm, 110.02 46 IAMs_20 IAMs_20 08 43 46.4
comp=Z,2μm,19.0s
PKME Peaks-Kenny Pk 110.48 47 IAMs_20 IAMs_20 08 45 56.7
comp=Z,2μm,19.0s
MKAR Makanchi Array 110.61 315 PKiKP **PKiKP 08 02 07.1 +2.8**
comp=Z,1.6nm,0.8s,baz=85,slow=2.6,SNR=6.0
MKAR PP **PP 08 02 40.8 +0.1**
comp=Z,0.8nm,0.9s,baz=93,slow=6.1,SNR=3.8
F63A Nahmakanta, Br 110.61 47 IAMs_20 IAMs_20 08 41 07.3
comp=Z,2μm,22.0s

F64A Sherman 111.14 46 IAMs_20 IAMs_20 08 44 47.3
comp=Z,2μm,20.0s
G65A Princeton 111.70 47 IAMs_20 IAMs_20 08 47 09.0
comp=Z,2μm,20.0s
GGN Saint George 112.21 47 IAMs_20 IAMs_20 08 45 13.9
comp=Z,2μm,19.0s
PTGA Pitinga 112.40 97 IAMs_20 IAMs_20 08 42 33.9
comp=Z,2μm,19.0s
KURK Kurchatov 112.91 319*c i* PKiKP **PKiKP 08 02 08.5 0.0**
KURK pmax pmax
comp=Z,21nm,1.7s
KURK Kurchatov 112.91 319 IAMs_20 IAMs_20 08 48 52.5
comp=Z,2μm,19.0s
UZB Uzynbulak 112.94 311 *e*PKiKP **PKiKP 08 02 08.5 -0.6**
comp=Z,26nm,3.8s,baz=311
UZB *i* PP **PP 08 02 55.3 -2.4**
baz=311
UZB LR LR 08 52 09.3
comp=Z,168nm,16.9s,baz=311
UZB Uzynbulak 112.94 311 *i* PKiKP **PKiKP 08 02 08.4 -0.6**
UZB *i* 08 02 55.2
UZB pmax pmax
comp=Z,26nm,3.8s
KURBB Kurchatov Arra 112.97 319 PKiKP **PKiKP 08 02 08.3 -0.3**
comp=Z,5.9nm,1.0s,baz=90,slow=1.6,SNR=16
KURBB PP **PP 08 02 56.7 -0.7**
comp=Z,0.5nm,0.5s,baz=100,slow=3.9,SNR=5.7
KPKS Kokpek 113.18 311 *e*PP **PP 08 02 56.7 -2.6**
comp=Z,131nm,4.0s,baz=311
KPKS LR LR 08 49 17.9
comp=Z,466nm,18.0s,baz=311
SEUS St. Eustatius 113.53 77 IAMs_20 IAMs_20 08 41 01.3
comp=Z,1μm,21.0s
MDOK Medeo 114.38 311 *e*PP **PP 08 03 04.6 -3.3**
baz=311
MDOK LR LR 08 50 32.0
comp=Z,494nm,17.8s,baz=311
KUU Kurty 114.87 312 *e*PP **PP 08 03 08.5 -2.6**
comp=Z,74nm,2.3s,baz=312
KSH Kashi 115.28 307 PKP **PKiKP 08 02 15.1 +1.5**
KSH PP **PP 08 03 13.7 -0.7**
KSH AMB AMB
comp=Z,800nm,7.7s
GBN Guysborough 115.95 47 IAMs_20 IAMs_20 08 44 53.6
comp=Z,2μm,20.0s
BBGH Gun Hill 116.05 83 IAMs_20 IAMs_20 08 44 55.2
comp=Z,2μm,20.0s
FRU1 Bishkek 116.17 310 IAMs_20 IAMs_20 08 47 48.8
comp=Z,1μm,21.0s
AAK Ala-Archa 116.28 310*c i* PKiKP **PKiKP 08 02 17.2 +1.7**
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 116.28 310 IAMs_20 IAMs_20 08 50 27.7
comp=Z,1μm,20.0s
SFJD Kangerlussuaq 116.34 22 IAMs_20 IAMs_20 08 53 25.9
comp=Z,2μm,20.0s
BTLS Baital 116.43 313 *e*PKP **PKPdf 08 02 14.8 -0.7**
baz=313
BTLS *e*PP **PP 08 03 20.0 -2.0**
comp=Z,41nm,3.4s,baz=313
BTLS LR LR 08 49 38.7
comp=Z,157nm,17.7s,baz=313
BTLS Baital 116.43 313 *e*PKIKP **PKPdf 08 02 14.8 -0.7**
BTLS *e* 08 03 20.0
BTLS pmax pmax
comp=Z,41nm,3.4s
BTLS MLR MLR
comp=Z,157nm,18.0s
BRZS Berezniki 116.77 319 *e*PKP **PKPdf 08 02 15.3 -0.7**
baz=319
BRZS *e*PP **PP 08 03 21.8 -2.5**
comp=Z,99nm,2.4s,baz=319
BRZS LR LR 08 50 29.7
comp=Z,189nm,13.4s,baz=319
BRZS Berezniki 116.77 319 *e*PKIKP **PKPdf 08 02 15.3 -0.7**
BRZS *e* 08 03 21.7
BRZS pmax pmax
comp=Z,99nm,2.4s
BRZS MLR MLR
comp=Z,189nm,13.0s
SUMG Summit 116.91 14 IAMs_20 IAMs_20 08 52 17.7
comp=Z,2μm,20.0s
BVAR Borovoye Array 117.64 322 PKP **PKiKP 08 02 17.7 +0.1**
comp=Z,7.2nm,0.8s,baz=90,slow=3.0,SNR=14
BRVK Borovoye 117.69 322*c i* PKIKP **PKiKP 08 02 18.6 +0.9**
BRVK pmax pmax
comp=Z,33nm,1.7s
BRVK Borovoye 117.69 322 PKPdf **PKiKP 08 02 18.8 +1.2**
BRVK Borovoye 117.69 322 IAMs_20 IAMs_20 08 48 46.8
comp=Z,2μm,22.0s
BDFB Brasilia 118.02 117 PKP **PKiKP 08 02 20.2 +0.7**
comp=Z,1.8nm,0.7s,baz=228,slow=12,SNR=2.0
BDFB Brasilia 118.02 117 IAMs_20 IAMs_20 08 48 32.2
comp=Z,1μm,19.0s
DRLN Deer Lake 118.18 42 IAMs_20 IAMs_20 08 49 29.9
comp=Z,2μm,19.0s
DZA Taraz 118.58 311 *i* PKP **PKPdf 08 02 19.4 -0.3**
baz=311
DZA *e*PP **PP 08 03 34.9 -2.2**
baz=311
DZA Taraz 118.58 311 *i* PKIKP **PKPdf 08 02 19.4 -0.3**
DZA *e* 08 03 34.9
KKAR Karatay Array 119.16 311 PKIKP **PKPdf 08 02 20.3 -0.5**
KKAR Karatay Array 119.16 311 **PKPdf 08 02 20.2 -0.5**
IUG Iuzhnay 119.62 310 *e*PKP **PKPdf 08 02 21.1 -0.8**
baz=310
IUG *i* PP **PP 08 03 41.9 -2.5**
baz=310
IUG LR LR 08 57 41.7
comp=Z,147nm,15.8s,baz=310
IUG Iuzhnay 119.62 310 *e*PKIKP **PKPdf 08 02 21.0 -0.8**
IUG *i* 08 03 41.9
IVI Ivigtut 119.77 27 IAMs_20 IAMs_20 08 56 44.3
comp=Z,2μm,20.0s
CHGR Chuyangaron 120.62 306 IAMs_20 IAMs_20 09 03 05.1
comp=Z,2μm,19.0s
SVE Sverdlovsk 121.87 328 *i* PKIKP **PKiKP 08 02 26.4 +0.7**
SVE pmax pmax
comp=Z,45nm,1.4s
SVE MLR MLR
comp=Z,2μm,21.0s
ARU Arti 123.08 329 PKP **PKiKP 08 02 28.8 +0.7**
comp=Z,3.9nm,0.2s,baz=152,slow=2.4,SNR=14
ARU Arti 123.08 329 *i* PKIKP **PKiKP 08 02 28.5 +0.4**
ARU 08 04 10.0
ARU 08 09 31.3
ARU SP SP 08 13 57.7 -4.0
ARU MLR MLR
comp=Z,2μm,20.0s
ARU Arti 123.08 329 PKPdf **PKPdf 08 02 27.6 -0.3**
ARU IAMs_20 IAMs_20 08 58 59.1
comp=Z,2μm,19.0s
KEV Kevo 123.91 352 IAMs_20 IAMs_20 08 55 44.4
comp=Z,2μm,21.0s
LVZ Lovozero 124.21 348 IAMs_20 IAMs_20 08 57 01.6
comp=Z,2μm,20.0s
ARCES ARCESS Array B 124.32 352 PKP **PKiKP 08 02 30.5 +0.3**
comp=Z,16nm,0.9s,baz=90,slow=1.2,SNR=26
ARCES ARCESS Array B 124.32 352 PKPdf **PKiKP 08 02 30.8 +0.6**
APA Apatity 124.74 348⇑*i* PKIKP **PKiKP 08 02 32.2 +1.1**
APA pmax pmax
comp=Z,13nm,1.2s
ABKAR Akbulak array 124.98 320 PKPdf **PKPdf 08 02 31.7 0.0**
AKTO Aktyubinsk 125.74 322 PKP **PKiKP 08 02 33.5 -0.1**
comp=Z,11nm,1.1s,baz=86,slow=2.5,SNR=14
PRGR Permogore 125.86 338 *e*PKIKP **PKPdf 08 02 31.1 -1.9**
PRGR pmax pmax
comp=Z,86nm,1.1s
KIRV Kirov 126.27 334 PKP **PKiKP 08 02 35.1 +0.8**
comp=Z,41nm,1.1s,baz=63,slow=1.8,SNR=13
TMCR Tamitsa 126.43 343 *e*PKIKP **PKiKP 08 02 34.7 +0.2**
MSEY Mahe Island 127.73 252 IAMs_20 IAMs_20 08 51 40.6
comp=Z,2μm,21.0s
KLMR Klimovskoe 128.51 340 *e*PKIKP **PKPdf 08 02 37.5 -0.6**
KLMR *e* 08 04 40.6
KLMR *e*SS SS 08 21 56.0 -3.1
KLMR pmax pmax
comp=Z,106nm,1.4s
KLMR Klimovskoe 128.51 340 *e*PKPdf **PKPdf 08 02 37.5 -0.6**
KLMR AMP 08 02 43.3
comp=Z,106nm,1.4s
KLMR *e*PP **PP 08 04 40.6 -2.3**
KLMR *e*SS **SS 08 21 56.1 -3.0**
KLMR *e*SS **SS 08 21 56.1 -3.0**
KLMR LQ LQ 08 48 09.2
KLMR LQ LQ 08 48 09.2

KLMR LR LR 08 50 15.8
GEYT Alibeck 129.32 307 PKP **PKiKP 08 02 41.5 +0.4**
comp=Z,11nm,1.1s,baz=270,slow=3.0,SNR=12
FIA1 FINESS Array S 131.65 348 PKPdf **PKPdf 08 02 40.8 -3.2**
FINES FINESS Array B 131.65 348 PKP **PKiKP 08 02 45.8 +0.7**
comp=Z,5.1nm,0.8s,baz=354,slow=3.8,SNR=12
FINES FINESS Array B 131.65 348 PKPdf **PKiKP 08 02 45.7 +0.6**
MOS Moscow 132.97 337 *i* PKIKP **PKPdf 08 02 44.8 -1.9**
MOS pmax pmax
comp=Z,83nm,1.6s
OBN Obninsk 133.84 337 PKP **PKiKP 08 02 49.5 -0.2**
comp=Z,6.0nm,0.4s,baz=350,slow=16,SNR=5.2
OBN Obninsk 133.84 337 *i* PKIKP **PKiKP 08 02 49.8 +0.2**
OBN *i* 08 05 15.4
OBN pmax pmax
comp=Z,26nm,1.1s
OBN Obninsk 133.84 337 **PKPdf 08 02 48.6 +0.3**
OBN IAMs_20 IAMs_20 09 10 02.8
comp=Z,1μm,18.0s
NB2 NORSAR Subarra134.01 357 PKP **PKiKP 08 02 50.5 +0.5**
comp=Z,1.3nm,0.8s,baz=8.3,slow=2.5
NOA NORSAR Array B 134.01 357 PKP **PKiKP 08 02 50.4 +0.5**
comp=Z,5.0nm,1.1s,baz=14,slow=4.0,SNR=5.8
VSU Vasula 134.18 345 *e*P **PKiKP 08 02 52.0 +1.8**
VRH Novokhopyorsk 134.28 330 *e*PKIKP **PKPdf 08 02 47.2 -2.1**
VRH pmax pmax
comp=Z,30nm,0.4s
LPSR Galich'ya Gora 134.66 333 *e*PKIKP **PKiKP 08 02 51.0 -0.4**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR MLR MLR
comp=Z,2μm,18.0s
HFS Hagfors 134.74 355 PKP **PKiKP 08 02 51.1 -0.3**
comp=Z,4.2nm,0.8s,baz=288,slow=0.9,SNR=5.4
MAK Makhachkala 135.37 317 *e*P **Pdif 07 59 47.5 -6.6**
MAK *i* 08 02 49.1
MAK pmax pmax
comp=Z,231nm,1.1s
KONO Kongsberg 135.47 358*c i* PKIKP **PKiKP 08 02 55.7 +2.8**
KONO pmax pmax
comp=Z,18nm,1.3s
VSR Storozhevoye 135.50 331 *e*PKIKP **PKPdf 08 02 50.7 -0.9**
VSR pmax pmax
comp=Z,20nm,1.4s
GROC Groznyy 136.37 318 *e*PKIKP **PKPdf 08 02 50.3 -3.2**
GROC *e* 08 05 32.0
GROC pmax pmax
comp=Z,84nm,1.2s
IZAR Zarasai 136.71 344 *e*P **PKiKP 08 02 56.1 +0.6**
ISAL Salakas 136.90 344 *e*P **PKiKP 08 02 55.9 0.0**
IDID Didziasalis 136.95 343 *e*P **PKiKP 08 02 58.2 +2.2**
IIGN Ignalina 137.06 344 *e*P **PKiKP 08 02 57.4 +1.2**
MICGM Minsk 137.33 342 *e*PKP **PKPdf 08 02 55.0 +0.1**
MICGM *e*PP PP 08 05 12.0 -27
MICGM *e*PKS **PKSdf 08 06 32.0 +1.1**
MICGM *e*SKS **SKSdf 08 10 05.0 -1.1**
MICGM *e*SS **SS 08 23 40.0 -6.0**
MICGM *e*LR LR 08 50 46.0
MNK Minsk 137.33 342 *e*PKIKP **PKPdf 08 02 55.0 +0.1**
MNK *e* 08 10 05.0
MNK *e* 08 23 40.0
PABE Paberze 137.51 345 *e*P **PKiKP 08 02 57.7 +0.6**
ZEI Tsey 137.79 318 *i* PKIKP **PKiKP 08 02 58.3 -0.1**
ZEI pmax pmax
comp=Z,16nm,1.3s
KBZ Khabaz 137.95 320 PKP **PKiKP 08 02 58.6 +0.2**
comp=Z,3.5nm,0.8s,baz=320,slow=4.3,SNR=3.5
KIV Kislovodsk 137.96 321 *i* PKIKP **PKiKP 08 02 58.7 +0.1**
KIV *e* 08 05 43.1
KIV *e*SS SS 08 23 54.2 -0.9
KIV pmax pmax
comp=Z,40nm,1.1s
KIV Kislovodsk 137.96 321 IAMs_20 IAMs_20 09 09 13.2
comp=Z,1μm,19.0s
AKH Akhalkalaki 138.72 317 IAMs_20 IAMs_20 09 03 12.0
comp=Z,1μm,20.0s
SUW Suwalki 139.06 345 IAMs_20 IAMs_20 09 03 09.2
comp=Z,1μm,19.0s
EKA Eskdalemuir Ar 139.15 8 PKP **PKPdf 08 02 58.1 -0.2**
comp=Z,0.2nm,0.4s,baz=350,slow=2.2,SNR=2.0
ESK Eskdalemuir 139.16 9 IAMs_20 IAMs_20 09 03 59.7
comp=Z,2μm,20.0s
SOC Sochi 139.97 322 *e*PKIKP **PKPdf 08 02 58.9 -1.2**
SOC *i* 08 03 01.5
SOC *e* 08 05 54.9
SOC *e*SS SS 08 24 18.5 +0.2
SOC *e*SSS SSS 08 29 36.0
SOC pmax pmax
comp=Z,2.0nm,0.3s
SOC pmax pmax
comp=Z,3.0nm,0.4s
SOC MLR MLR
comp=Z,1μm,19.0s
RGN Rugen 140.29 354 IAMs_20 IAMs_20 09 05 45.5
comp=Z,1μm,20.0s
GEVA Gevas 140.43 313 IAMs_20 IAMs_20 09 04 47.6
comp=Z,1μm,22.0s
ANN Anapa 140.55 325 *e*PKHKP PKPpre 08 02 56.1
ANN *e* 08 03 03.6
ANN *e* 08 05 55.8
ANN *e*SS SS 08 24 25.7 +0.8
ANN pmax pmax
comp=Z,31nm,0.9s
ANN MLR MLR
comp=N,2μm,20.0s
ANN MLR MLR
comp=Z,1μm,20.0s
BSEG Bad Segeberg 141.15 356 *e*L L 09 08 40.9
comp=Z,1μm,21.2s
KOPT Kop Dagi 141.39 317 IAMs_20 IAMs_20 09 07 08.6
comp=Z,1μm,21.0s
RUE Ruedersdorf 142.28 353 *e*P **PKPdf 08 02 58.8 -5.2**
SORM Soroca 142.48 336⇑P **PKPdf 08 03 03.3 -1.2**
SORM Soroca 142.48 336⇑PKIKP **PKPdf 08 03 03.3 -1.2**
LVV L'vov 142.57 341 *e*PKIKP **PKPdf 08 03 00.8 -3.8**
LVV *e* 08 06 22.5
LSZ Lusaka 143.02 216 IAMs_20 IAMs_20 09 04 07.9
comp=Z,2μm,19.0s
KWP Kalwaria Pacla 143.14 342 *e*P PKPbc 08 03 03.8 +1.3
KIS Kishinev 143.20 334 *e*PKP PKPab 08 03 02.0 +0.6
comp=Z,210nm,6.0s
KIS Kishinev 143.20 334 *i* PP PP 08 06 20.0 +4.5
KIS *e*L L 09 07 56.0
KIS LRM MLR 09 11 24.0
comp=Z,480nm,20.0s
KIS Kishinev 143.20 334 *e*PKIKP PKPab 08 03 02.0 +0.6
KIS *i* 08 06 20.0
KIS pmax pmax
comp=Z,210nm,6.0s
OJC Ojcow 143.37 346 *e*P **PKPdf 08 03 04.7 -1.3**
OJC Ojcow 143.37 346 PKIKP PKPbc 08 03 03.9 +0.8
OJC Ojcow 143.37 346 PKPbc 08 03 03.9 +0.8
KSP Ksiaz 143.50 350 *e*P **PKPdf 08 03 06.8 +0.5**
CLL Collm 143.52 353 *e*PKPdf PKPbc 08 03 04.0 +0.6
CLL *e*PKiKP **PKPdf 08 03 07.0 +0.8**
CLL *e*(pPKiKP) 08 03 10.0
comp=Z,28nm,1.0s
CLL *e*SS SS 08 24 48.0 -10
CLL *e*PSPS 08 25 57.0
CLL *e*SSS SSS 08 30 29.0
CLL LmH 09 06 00.0
comp=N,1μm,21.2s
CLL LmH 09 06 00.0
comp=E,1μm,21.0s
CLL LmV 09 13 00.0
comp=N,800nm,20.2s
CLL LmV 09 13 00.0
comp=E,900nm,21.1s
CLL LmV 09 13 00.0
comp=Z,2μm,20.0s
CLL Collm 143.52 353 *e*L L 09 13 42.9
comp=Z,2μm,19.9s
DIKM Dikmen 143.76 323⇓P PKPbc 08 03 05.7 +1.2
CHVC Chvalec 143.79 350 *e*PKP **PKPdf 08 03 07.8 +1.0**
CHVC AMS AMS 09 05 10.0
comp=Z,2μm,22.5s
OSTC Ostas 143.79 350 AMS AMS 09 05 20.0
comp=Z,2μm,21.5s
BRG Berggiesshubel 143.83 352 *e*PKP PKPbc 08 03 04.7 +0.3
comp=Z,15nm,1.4s
BRG *e* 08 03 08.7
comp=Z,76nm,1.8s
UPC Upice 143.87 350 AMS AMS 09 05 10.0
comp=Z,2μm,21.0s
KOLS Kolonicke sedl 143.89 342 *e*PKIKP **PKPdf 08 03 06.6 -0.4**

KOLS Kolonicke sedl 143.89 342 *e*PKP **PKPdf 08 03 06.6 -0.4**
DPC Dobruska-Polom 143.97 349 *e*PKP **PKPdf 08 03 06.5 -0.6**
DPC AMS AMS 09 05 30.0
comp=Z,2μm,21.3s
DPC Dobruska-Polom 143.97 349 *e*PKIKP **PKPdf 08 03 06.5 -0.6**
DPC MLR MLR
comp=Z,2μm,21.3s
NIE Niedzica 143.99 345 *e*P **PKPdf 08 03 07.6 +0.4**
PVCC Panska Ves 144.08 351 AMS AMS 09 05 20.0
comp=Z,2μm,22.9s
BURAR Bucovina Array 144.09 338 ⇑P PKPbc 08 03 06.2 +0.8
BURAR Bucovina Array 144.09 338 ⇑PKIKP PKPbc 08 03 06.2 +0.8
BURAR Bucovina Array 144.09 338 PKPdf PKPbc 08 03 05.8 +0.4
KRLC Kraliky 144.15 349 *e*PKP **PKPdf 08 03 06.9 -0.6**
KRLC AMS AMS 09 03 20.0
comp=Z,2μm,23.0s
KRLC Kraliky 144.15 349 *e*PKIKP **PKPdf 08 03 06.9 -0.6**
KRLC MLR MLR
comp=Z,2μm,23.0s
CRVS Cervenica-Dubn 144.15 343 *e*PKIKP **PKPdf 08 03 07.5 +0.1**
CRVS Cervenica-Dubn 144.15 343 *e*PKP **PKPdf 08 03 07.5 +0.1**
UZH Uzhgorod 144.15 342 *e*PKHKP **PKPab 08 03 02.6 -2.4**
UZH *i* 08 03 06.6
TSUM Tsumeb 144.23 198 PKPdf **PKPdf 08 03 08.6 0.0**
MORC Moravsky Berou 144.28 348 ⇑P PKPbc 08 03 06.7 +0.9
MORC Moravsky Berou 144.28 348 *e*PKP **PKPdf 08 03 06.9 -0.8**
MORC Moravsky Berou 144.28 348 ⇑PKIKP PKPbc 08 03 06.7 +0.8
MORC Moravsky Berou 144.28 348 IAMs_20 IAMs_20 09 08 43.3
comp=Z,2μm,20.0s
MOX Moxa 144.32 355 *e*L L 09 08 58.2
comp=Z,1μm,21.1s
BIZ Bicaz 144.33 337 ⇓P **PKPdf 08 03 07.1 -0.8**
UCC Uccle 144.35 2 PKPdf PKPbc 08 03 06.8 +0.8
UCC Uccle 144.35 2 IAMs_20 IAMs_20 09 08 13.9
comp=Z,1μm,19.0s
BEBN Eben Emael 144.39 1 PKPdf **PKPdf 08 03 07.4 -0.4**
TESR Tescani 144.47 336 ⇑P PKPbc 08 03 07.1 +0.5
PRA Prague 144.55 351 AMS AMS 09 05 50.0
comp=Z,1μm,21.0s
MEM Membach 144.58 1 PKPdf PKPbc 08 03 07.3 +0.6
BSTI Sart Tilman 144.60 1 PKPdf **PKPdf 08 03 07.7 -0.5**
PRU Pruhonice 144.61 351 *e*PKP **PKPdf 08 03 08.8 +0.6**
PRU AMS AMS 09 05 40.0
comp=Z,3μm,21.4s
PRU Pruhonice 144.61 351 *e*PKIKP **PKPdf 08 03 08.8 +0.6**
PRU MLR MLR
comp=Z,3μm,21.4s
SNF Seneffe 144.64 3 PKPdf **PKPdf 08 03 08.0 -0.2**
NKC Novy Kostel 144.64 353 *e*PKP **PKPdf 08 03 09.2 +0.9**
NKC AMS AMS 09 08 20.0
comp=Z,3μm,44.7s
NKC Novy Kostel 144.64 353 *e*PKIKP **PKPdf 08 03 09.2 +0.9**
NKC MLR MLR
comp=Z,3μm,44.7s
GOPC GO Pecny, Ondr 144.65 351 *e*PKP **PKPdf 08 03 08.2 -0.1**
GOPC AMS AMS 09 06 00.0
comp=Z,2μm,22.1s
GOPC GO Pecny, Ondr 144.65 351 *e*PKIKP **PKPdf 08 03 08.2 -0.1**
GOPC MLR MLR
comp=Z,2μm,22.1s
BCLA Clavier 144.76 1 PKPdf **PKPdf 08 03 08.0 -0.4**
BGES Gesves 144.79 2 PKPdf **PKPdf 08 03 08.1 -0.4**
KECS Kecovo 144.80 344 *e*PKIKP **PKPdf 08 03 09.6 +1.0**
KECS Kecovo 144.80 344 *e*PKP **PKPdf 08 03 09.6 +1.0**
BHOU Houvegnez 144.84 1 PKPdf **PKPdf 08 03 08.6 0.0**
ARCR ARCALÍA 144.85 339 ⇑P **PKPdf 08 03 08.9 +0.2**
BMRD Maredsous 144.86 2 PKPdf **PKPdf 08 03 08.3 -0.3**
VRAC Vranov 144.92 349 PKP **PKPdf 08 03 08.6 -0.1**
comp=Z,24nm,1.1s,baz=21,slow=3.0,SNR=24
VRAC Vranov 144.92 349 ⇑P **PKPdf 08 03 08.7 -0.1**
VRAC Vranov 144.92 349 *e*PKP **PKPdf 08 03 08.6 -0.1**
CFR Carcaliu 144.93 333 ⇑P **PKPdf 08 03 08.6 -0.3**
CFR Carcaliu 144.93 333 ⇑PKIKP **PKPdf 08 03 08.6 -0.3**
TNS Taunus Mts 144.94 358 *e*L L 09 10 51.3
comp=Z,1μm,20.3s
VRI Vrincioaia 144.97 335 ⇑P **PKPdf 08 03 09.0 +0.1**
VRI Vrincioaia 144.97 335 ⇑PKIKP **PKPdf 08 03 09.0 +0.1**
PLOR Plostina 145.01 335 ⇑P **PKPdf 08 03 09.1 0.0**
PLOR Plostina 145.01 335 ⇑PKIKP **PKPdf 08 03 09.1 0.0**
GAZ Gaziantep 145.05 315 **PKPdf 08 03 09.6 +0.1**
GAZ IAMs_20 IAMs_20 09 06 59.7
comp=Z,1μm,22.0s
TOPG Topolog 145.06 333 ⇑P **PKPdf 08 03 10.6 +1.5**
DOU Dourbes 145.06 2 PKPdf **PKPdf 08 03 08.9 0.0**
JAVC Velka Javorina 145.13 347 *e*PKP **PKPdf 08 03 10.1 +0.9**
TREC Trest 145.13 350 AMS AMS 09 05 10.0
comp=Z,2μm,20.5s
KRUC Moravsky 145.19 349 *e*PKP **PKPdf 08 03 09.2 0.0**
VYHS Vyhne 145.21 346 *e*PKIKP **PKPdf 08 03 10.1 +0.8**
VYHS Vyhne 145.21 346 *e*PKP **PKPdf 08 03 10.0 +0.8**
GRA1 Grafenberg Arr 145.30 355 IAMs_20 IAMs_20 09 08 25.9
comp=Z,2μm,21.0s
GRF Grafenberg Arr 145.30 355 *e*PKPdf **PKPdf 08 03 10.1 +0.7**
baz=8.0,slow=3.0
GRF *e*L L 09 08 37.0
comp=Z,2μm,21.5s
TIRR Tirgusor 145.37 332 ⇓P **PKPdf 08 03 10.1 +0.5**
TIRR Tirgusor 145.37 332 PKIKP **PKPbc 08 03 09.1 -0.3**
TIRR MLR MLR
comp=Z,4μm,20.0s
TIRR Tirgusor 145.37 332 **PKPbc 08 03 09.1 -0.3**
HARR Harsova 145.40 333 ⇓P **PKPab 08 03 10.8 +1.0**
HARR Harsova 145.40 333 ⇓PKIKP **PKPab 08 03 10.8 +1.0**
DOPR Dopca 145.41 337 ⇑P **PKPab 08 03 10.6 +0.8**
CJR Cluj-Napoca 145.43 339 ⇑P **PKPab 08 03 10.7 +0.9**
CJR Cluj-Napoca 145.43 339 ⇑PKIKP **PKPab 08 03 10.7 +0.9**
TLBR Topalu 145.47 333 ⇑P **PKPab 08 03 11.4 +1.4**
PSZ Piszkesteto 145.47 344 ⇑P **PKPab 08 03 10.6 +0.6**
PSZ Piszkesteto 145.47 344 ⇑PKIKP **PKPab 08 03 10.6 +0.6**
PSZ Piszkesteto 145.47 344 IAMs_20 IAMs_20 09 07 36.0
comp=Z,2μm,21.0s
NEHR Nehoiu 145.50 335 ⇓P **PKPab 08 03 10.8 +0.7**
SMOL Smolenice 145.51 347 *e*PKIKP **PKPab 08 03 11.4 +1.4**
SMOL Smolenice 145.51 347 *e*PKP **PKPab 08 03 11.4 +1.4**
WLF Walferdange 145.53 0 PKPdf **PKPab 08 03 11.2 +1.1**
WLF Walferdange 145.53 0 PKIKP **PKPab 08 03 10.9 +0.8**
WLF MLR MLR
comp=Z,2μm,20.0s
WLF Walferdange 145.53 0 PKPdf **PKPab 08 03 10.9 +0.8**
WLF IAMs_20 IAMs_20 09 08 28.0
comp=Z,2μm,20.0s
KHC Kasperske Hory 145.59 352 *e*PKP **PKPab 08 03 11.2 +0.9**
KHC *ex* x 08 03 17.0
KHC AMS AMS 09 06 20.0
comp=Z,2μm,22.5s
KHC Kasperske Hory 145.59 352 *e*PKIKP **PKPab 08 03 11.2 +0.9**
KHC *e* 08 03 17.0
KHC MLR MLR
comp=Z,2μm,22.5s
MLR Muntele Rosu 145.59 336 PKPbc **PKPab 08 03 11.4 +0.8**
comp=Z,114nm,1.1s,baz=11,slow=3.9,SNR=61
MLR Muntele Rosu 145.59 336 ⇓P **PKPab 08 03 11.3 +0.7**
MLR Muntele Rosu 145.59 336 PKPdf **PKPbc 08 03 10.4 0.0**
KMBO Kilima Mbogo 145.65 245 PKPbc **PKiKP 08 03 13.7 -1.7**
comp=Z,20nm,1.1s,baz=81,slow=2.1,SNR=17
KMBO Kilima Mbogo 145.65 245 PKIKP **PKPdf 08 03 11.1 -0.3**
KMBO Kilima Mbogo 145.65 245 **PKPdf 08 03 11.1 -0.3**
KMBO Kilima Mbogo 145.65 245 IAMs_20 IAMs_20 09 03 58.5
comp=Z,1μm,20.0s
ISR Istrita 145.66 335 ⇓P **PKPab 08 03 11.6 +0.9**
ISR Istrita 145.66 335 ⇓PKIKP **PKPab 08 03 11.6 +0.9**
WET Wettzell 145.66 353 *e*L L 09 12 53.9
comp=Z,2μm,19.9s
MODS Modra-Piesok 145.67 347 *e*PKIKP **PKPab 08 03 10.7 0.0**
MODS Modra-Piesok 145.67 347 *e*PKP **PKPab 08 03 10.7 0.0**
MANR Mangalia 145.78 331 ⇑P **PKPab 08 03 12.0 +0.8**
GEC2 GERESS Array S 145.85 352 *e*L L 09 06 58.4
comp=Z,2μm,22.0s
GEC2 GERESS Array S 145.85 352 **PKPab 08 03 12.0 +0.6**
GERES GERESS Array B 145.85 352 PKPbc **PKPab 08 03 11.5 +0.1**
comp=Z,16nm,1.0s,baz=29,slow=3.0,SNR=73
GERES GERESS Array B 145.85 352 PKP2 **PKPdf 08 03 10.7 +0.2**
GERES GERESS Array B 145.85 352 **PKPdf 08 03 10.7 +0.2**
BR131 Keskin Array S 145.92 321 PKP2 **PKPab 08 03 12.3 +0.2**
BR131 Keskin Array S 145.92 321 **PKPab 08 03 12.3 +0.2**
BRTR Keskin Array B 145.92 321 PKPbc **PKPbc 08 03 11.7 +0.1**
comp=Z,71nm,1.0s,baz=132,slow=1.8,SNR=63
BRTR Keskin Array B 145.92 321 PKP2 **PKPdf 08 03 11.1 +0.2**
BRTR Keskin Array B 145.92 321 PKPdf **PKPdf 08 03 11.1 +0.2**
SECR 145.92 335 ⇑P **PKiKP 08 03 13.3 -1.4**
VOIR 145.99 337 ⇑P **PKPab 08 03 12.5 +0.5**
VOIR 145.99 337 ⇑PKP2 **PKPab 08 03 12.5 +0.5**
LEHL Lehliu 146.06 334 ⇑P **PKPab 08 03 13.0 +0.8**

PSN Preselentsi 146.07 331 P **PKPdf 08 03 11.2 +0.3**
ARR Arges 146.21 337 ⇑P **PKPab 08 03 13.9 +1.0**
STU Stuttgart 146.36 357 IAMs_20 IAMs_20 09 10 31.9
comp=Z,1μm,20.0s
CONA Conrad Observa 146.38 349 *e*PKPab **PKPbc 08 03 12.3 -0.3**
comp=Z,81nm,1.4s,SNR=38
DEV Deva 146.39 339 ⇑P **PKPab 08 03 13.8 +0.4**
DEV Deva 146.39 339 ⇑PKP2 **PKPab 08 03 13.8 +0.4**
SIRR Siria 146.46 341 ⇑P **PKPab 08 03 13.7 0.0**
MOA Molln 146.74 351 *es*PKPdf sPKPdf 08 03 14.0 -0.1
comp=Z,48nm,1.1s,SNR=22
FUR Furstenfeldbru 146.81 354 *e*L L 09 10 22.1
comp=Z,2μm,21.4s
PRD Provadia 146.81 332 P **PKPbc 08 03 13.3 -0.6**
BFO Black Forest 146.84 358 PKP2 **PKPbc 08 03 13.6 -0.3**
BFO MLR MLR
comp=Z,1μm,22.0s
BFO Black Forest 146.84 358 *e*L L 09 06 50.6
comp=Z,1μm,21.3s
BFO Black Forest 146.84 358 **PKPbc 08 03 13.6 -0.3**
BFO IAMs_20 IAMs_20 09 06 50.6
comp=Z,1μm,22.0s
MDUB Mudurnu 146.86 324 **PKPab 08 03 15.6 0.0**
RAZG Razgrad 146.92 333 ⇓P **PKPab 08 03 15.4 -0.1**
CLF Chambon-Foret 146.98 5 **PKPab 08 03 15.3 -0.3**
ECH Echery 146.98 359 PKP2 **PKPbc 08 03 14.5 +0.2**
ECH Echery 146.98 359 **PKPbc 08 03 14.4 +0.2**
ECH IAMs_20 IAMs_20 09 12 57.3
comp=Z,1μm,19.0s
BZS Buzias 147.05 340 ⇑P **PKPbc 08 03 15.2 +0.7**
BZS Buzias 147.05 340 ⇑PKP2 **PKPbc 08 03 15.2 +0.7**
ARSA Arzberg 147.10 349 *e*PKPbc **PKPdf 08 03 13.2 +0.7**
comp=Z,39nm,1.2s
ORH Orhaniye 147.21 326 P **PKPab 08 03 16.1 -0.7**
MORH Mrgy, Hungar 147.38 344 ⇑*i*P **PKPdf 08 03 13.3 +0.3**
HWQ Hawga 147.38 311 *e*P **PKPdf 08 03 12.1 -1.5**
HERR Herculane 147.43 339 ⇓P **PKPab 08 03 16.6 -0.9**
VLAD Vladila 147.44 336 ⇑P **PKPab 08 03 17.5 -0.1**
RETA Reutte 147.53 355 *ep*PKPdf **PKPdf 08 03 14.2 +0.9**
comp=Z,70nm,1.3s,SNR=16
WATA Walderalm 147.60 354 *e*PKPbc **PKPdf 08 03 14.7 +1.2**
comp=Z,81nm,1.4s,SNR=16
KBA Koelnbreinsper 147.63 351 *e*PKPdf **PKPdf 08 03 13.4 -0.3**
comp=Z,26nm,1.0s,SNR=9.3
MOTA Moosalm 147.63 354 *ep*PKPdf **PKPdf 08 03 14.6 +0.9**
comp=Z,66nm,1.2s,SNR=18
WTTA Wattenberg 147.66 354 *ep*PKPdf **PKPdf 08 03 14.4 +0.7**
comp=Z,77nm,1.2s,SNR=16
SOKA Soboth 147.74 349 *ep*PKPdf **PKPdf 08 03 14.0 +0.3**
comp=Z,130nm,1.4s,SNR=25
SQTA Sankt Quirin 147.75 354 *ep*PKPdf **PKPdf 08 03 14.2 +0.4**
comp=Z,92nm,1.4s,SNR=18
MDVR Moldovita 147.76 340 ⇑P **PKPbc 08 03 17.2 +0.7**
PERS Pernice 147.76 349 *i* PKPdf **PKPdf 08 03 13.8 +0.1**
BHL Bhannes 147.77 311 *e*P **PKPbc 08 03 16.9 -0.1**
DAVA Damuels 147.80 356 *ep*PKPdf **PKPdf 08 03 14.8 +0.9**
comp=Z,93nm,1.5s,SNR=14
OBKA Obir 147.99 350 *e*PKPbc **PKPbc 08 03 16.4 -0.8**
comp=Z,54nm,1.2s,SNR=6.0
FETA Feichten 147.99 355 *ep*PKPdf pPKPdf 08 03 15.2 -0.7
comp=Z,41nm,1.0s,SNR=16
MYKA Terra Mystica 148.02 351 *ep*PKPdf **PKPdf 08 03 14.2 0.0**
comp=Z,49nm,1.3s,SNR=12
FRGS Fruska Gora 148.02 342 ⇑*i*P **PKPdf 08 03 13.6 -0.6**
FURI Furi 148.03 263 IAMs_20 IAMs_20 09 05 53.9
comp=Z,1μm,20.0s
ABTA Abfaltersbach 148.06 352 *ep*PKPdf **PKPdf 08 03 14.6 +0.3**
comp=Z,69nm,1.2s
BOLV Bolvadin 148.17 322 **PKPdf 08 03 16.3 +1.6**
ZOU Zoufplan 148.19 352 **PKPdf 08 03 14.4 -0.3**
MPEP Malo Peshtene 148.25 336 P **PKPdf 08 03 14.6 0.0**
MMAI Mount Meron Ar 148.37 309 PKPbc **PKPbc 08 03 19.4 +0.8**
comp=Z,22nm,0.9s,baz=61,slow=3.9,SNR=15
FUORN Ofenpass-Fuorn 148.43 355 IAMs_20 IAMs_20 09 11 06.7
comp=Z,2μm,21.0s
LJU Ljubljana 148.44 349 *i* PKPdf **PKPdf 08 03 15.8 +1.0**
LJU Ljubljana 148.44 349 ⇑*i*P **PKPdf 08 03 14.4 -0.4**
CRES Cresnjev 148.48 348 ⇑*i*P **PKPdf 08 03 12.9 -2.0**
TEKS Tekeris 148.66 342 ⇑*i*P **PKPbc 08 03 18.7 -0.2**
CEY Cerknica 148.75 349 *e*P **PKPdf 08 03 16.4 +1.1**
SENIN Lac Senin/Sane 148.83 359 IAMs_20 IAMs_20 09 09 25.3
comp=Z,2μm,20.0s
CSS Mathiatis 148.89 314 **PKPbc 08 03 18.9 -0.9**
CSS IAMs_20 IAMs_20 09 09 35.3
comp=Z,1μm,22.0s
TRI Trieste 148.90 350 IAMs_20 IAMs_20 09 10 18.3
comp=Z,1μm,21.0s
DIVS Divibare 148.93 341 ⇑*i*P **PKPdf 08 03 15.3 -0.5**
ISP Isparta 149.00 321 PKIKP **PKPdf 08 03 18.0 +1.9**
ISP Isparta 149.00 321 **PKPdf 08 03 18.0 +1.9**
ISP Isparta 149.00 321 IAMs_20 IAMs_20 09 24 38.2
comp=Z,1μm,21.0s
VTS Vitosha 149.07 336 P PKPdf 08 03 01.6 -15
LEF Lefka 149.10 315 ⇑P **PKPbc 08 03 20.8 +0.5**
BLY Banja Luka 149.11 345 ⇑*i*P **PKPdf 08 03 16.2 +0.3**
RZN Rozhen 149.21 333 P **PKPdf 08 03 15.9 -0.5**
ALN Alexandroupoli 149.23 330 IAMs_20 IAMs_20 09 20 59.6
comp=Z,1μm,21.0s
SALO Salr 149.40 355 PKPdf **PKPbc 08 03 19.0 -1.8**
SALO IAMs_20 IAMs_20 09 13 54.4
comp=Z,1μm,20.0s
MGRS Mrkonjic Grad 149.45 345 *e*P PKPab 08 03 34.5 +8.8
MANT Manisa 149.70 324 **PKPdf 08 03 18.7 +1.3**
MMB Musomiste 149.72 334 P **PKPdf 08 03 15.5 -1.5**
KKB Krupnik 149.76 335 P **PKPdf 08 03 14.8 -2.3**
SSB Saint Sauveur 149.87 3 **PKPbc 08 03 20.0 -2.0**
SSB Saint Sauveur 149.87 3 IAMs_20 IAMs_20 09 15 09.9
comp=Z,1μm,19.0s
BNI Bardonecchia 150.15 360 IAMs_20 IAMs_20 09 24 51.1
comp=Z,1μm,19.0s
PGAV Gavieira, Arco 150.32 23 *e*PKP **PKiKP 08 03 25.5 +1.5**
PGAV Gavieira, Arco 150.32 23 *e*SS SS 08 26 21.7 +5.8
PGAV Gavieira, Arco 150.32 23 *e*LR LR 09 00 46.8
comp=Z,1μm,20.0s
VAY Valandovo 150.43 335 *i* P **PKPbc 08 03 20.9 -2.4**
BRY Bratogost 150.46 342 ⇑*i*P **PKPbc 08 03 23.6 0.0**
AKAS Kas 150.59 320 PKPdf **PKPdf 08 03 20.5 +1.8**
PCAB Cabril 150.63 23 *e*PKP **PKiKP 08 03 25.9 +1.3**
PDG Podgorica 150.66 341 ⇑P **PKiKP 08 03 24.5 -0.1**
PDG Podgorica 150.66 341 ⇑*i*P **PKPbc 08 03 24.2 +0.3**
MSSA Maissana 150.78 356 **PKPdf 08 03 20.6 +1.9**
HCY Herceg Novi 150.88 342 ⇑*i*P **PKPbc 08 03 24.0 -0.4**
DRME Dracevica, Mon 150.91 341 ⇑*i*P **PKPbc 08 03 23.6 -0.9**
PBRG Braganca 151.01 21 *e*PKP **PKiKP 08 03 26.6 +1.2**
PVRL Vila Real 151.12 23 *e*PKP **PKiKP 08 03 28.7 +3.1**
OHR Ohrid 151.29 337 *i* P **PKPbc 08 03 23.7 -1.8**
OSSC Osservatorio P 151.40 353 **PKPdf 08 03 18.9 -0.7**
TIR Tirane 151.43 339 ⇑P **PKiKP 08 03 26.2 0.0**
TIR Tirane 151.43 339 PKIKP **PKPbc 08 03 22.8 -2.9**
TIR Tirane 151.43 339 **PKPbc 08 03 22.8 -2.9**
MBAR Mbarara 151.47 239 PKIKP **PKPbc 08 03 25.3 -1.6**
MBAR Mbarara 151.47 239 **PKPbc 08 03 25.3 -1.6**
MVO Moncorvo 151.47 22 *e*PKP **PKiKP 08 03 27.7 +1.3**
MVO Moncorvo 151.47 22 *e*SS SS 08 26 32.3 +3.8
MVO Moncorvo 151.47 22 *e*LR LR 09 01 26.1
comp=Z,1μm,18.0s
LIT Litokhoron 151.48 334 IAMs_20 IAMs_20 09 15 19.9
comp=Z,1μm,20.0s
PVIS Viseu 151.54 23 *e*PKP **PKiKP 08 03 29.3 +2.8**
PCAS Casmilo, Conde 151.87 25 *e*PKP **PKiKP 08 03 30.1 +2.9**
MTE Manteigas 151.95 23 *e*SS SS 08 26 38.8 +4.9
MTE Manteigas 151.95 23 *e*LR LR 09 00 01.9
comp=Z,1μm,20.0s
CASP Castiglione de 152.16 353 PKPdf **PKPdf 08 03 22.7 +2.0**
SGRT San Giovanni R 152.29 345 IAMs_20 IAMs_20 09 10 54.2
comp=Z,2μm,21.0s
AGG Agios Georgios 152.44 333 PKIKP **PKPbc 08 03 25.1 -3.0**
AGG Agios Georgios 152.44 333 **PKPbc 08 03 25.1 -3.0**
PCBR Castelo Branco 152.46 24 *e*PKP **PKiKP 08 03 30.6 +2.2**
KARP Karpathos 152.53 322 IAMs_20 IAMs_20 09 14 50.7
comp=Z,885nm,20.0s
PMRV Marv??o 152.84 24 *e*PKP **PKiKP 08 03 31.9 +2.7**
PMRV Marv??o 152.84 24 *e*SS SS 08 26 42.1 -1.6
PMRV A A 09 06 41.0
comp=Z,2μm,20.0s
SANT Santorini 152.94 325 ⇑P **PKPbc 08 03 28.9 -0.4**
SANT Santorini 152.94 325 **PKPbc 08 03 28.8 -0.6**
SANT IAMs_20 IAMs_20 09 17 48.0
comp=Z,834nm,20.0s
EVO Evora 153.35 26 *e*PKP **PKiKP 08 03 30.4 +0.1**
PNCL Nicolau / Gran 153.47 27 *e*PKP **PKiKP 08 03 34.4 +3.9**
PAB San Pablo 153.83 19 PKIKP **PKPdf 08 03 20.9 -2.5**
PAB San Pablo 153.83 19 PKPdf **PKPdf 08 03 20.9 -2.5**
ESDC Sonseca Array 153.84 19 PKP **PKPdf 08 03 23.8 +0.5**

comp=Z,1.6nm,1.0s,baz=358,slow=2.0,SNR=7.8
ESDC PKPbc **pPKPbc 08 03 33.0 +0.1**
comp=Z,5.1nm,1.1s,baz=345,slow=3.4,SNR=12
IDI Anoyia 154.04 324 PKP **PKPdf 08 03 24.1 +0.3**
comp=Z,19nm,1.1s,baz=56,slow=13,SNR=4.2
IDI PKPbc **pPKPbc 08 03 33.1 -0.3**
comp=Z,27nm,1.1s,baz=206,slow=6.5,SNR=6.9
IDI Anoyia 154.04 324 **PKPdf 08 03 24.2 +0.5**
IDI IAMs_20 IAMs_20 09 15 20.3
comp=Z,1μm,21.0s
PCVE Castro Verde 154.09 27 *e*PKP **PKiKP 08 03 36.1 +4.3**
ITM Ithomi 154.13 331 IAMs_20 IAMs_20 09 15 30.4
comp=Z,1μm,20.0s
TIP Timpagrande 154.40 341 PKPdf **PKPdf 08 03 23.4 -0.7**
PVAQ Vaqueiros 154.42 27 PKPdf **PKPdf 08 03 26.5 +2.3**
PVAQ Vaqueiros 154.42 27 *e*SS SS 08 26 57.3 -3.7
PVAQ Vaqueiros 154.42 27 *e*LR LR 09 00 22.6
comp=Z,2μm,20.0s
VSL Villasalto 155.58 355 IAMs_20 IAMs_20 09 16 11.9
comp=Z,1μm,20.0s
SFS San Fernando 155.86 26 IAMs_20 IAMs_20 09 06 25.9
comp=Z,1μm,22.0s
CART Cartagena 156.62 15 IAMs_20 IAMs_20 09 07 01.0
comp=Z,1μm,22.0s
KEST Kesra 159.31 354 PKPab **PKPab 08 04 08.7 +1.0**
comp=Z,11nm,1.0s,baz=342,slow=5.0,SNR=5.3
MDT Midelt 159.65 28 PKP **PKPdf 08 03 31.6 +0.5**
comp=Z,3.0nm,0.9s,baz=60,slow=3.5,SNR=4.7
MDT PKPab **PKPab 08 04 09.8 +0.5**
comp=Z,4.2nm,0.9s,baz=331,slow=5.5,SNR=7.8
LIC Lamto 165.59 127 *e*PKP1 **PKPdf 08 03 38.7 +1.4**
comp=Z,59nm,1.3s
LIC Lamto 165.59 127 *e*PKP1 **PKPab 08 04 39.8 +4.0**
comp=Z,186nm,2.0s
TIC Toumodi 165.85 125 *e*PKP1 **PKPdf 08 03 38.9 +1.3**
TIC Toumodi 165.85 125 *e*PKP1 **PKPab 08 04 40.1 +3.1**
KIC Kosan Boka 165.89 127 *e*PKP1 **PKPdf 08 03 38.1 +0.5**
comp=Z,33nm,1.3s
KIC Kosan Boka 165.89 127 *e*PKP1 **PKPab 08 04 39.1 +1.9**
comp=Z,152nm,1.8s
DBIC Dimbokro 165.99 126 PKP **PKPdf 08 03 38.7 +1.1**
comp=Z,17nm,1.1s,baz=234,slow=1.5,SNR=5.1
DBIC PKPab **sPKPab 08 04 40.0 +0.2**
comp=Z,13nm,1.1s,baz=198,slow=6.1,SNR=3.7
DBIC Dimbokro 165.99 126 **PKPdf 08 03 39.2 +1.6**
TAM Tamanrasset 172.29 7 PKIKP **PKPdf 08 03 42.4 +0.9**
TAM Tamanrasset 172.29 7 **PKPdf 08 03 42.4 +0.9**
TOA0 Torodi Ar. Sit 174.88 112 **PKPdf 08 03 41.0 -1.4**
TORD Torodi Ar. Bea 174.88 112 PKP **PKPdf 08 03 43.6 +1.2**
comp=Z,8.8nm,1.1s,baz=333,slow=1.9,SNR=13
TORD PKPab **PKPab 08 05 16.9 -0.2**
comp=Z,7.9nm,1.2s,baz=259,slow=4.0,SNR=5.0
TORD PP **PP 08 09 09.4 -0.2**
comp=Z,3.0nm,1.1s,baz=308,slow=2.7,SNR=6.6
TORD Torodi Ar. Bea 174.88 112 **PKPdf 08 03 41.2 -1.3**

IDC 03 07:54:41.4±2.9, 53°.60N×87°.82E, h0km, mb1 3.0/2, mb1mx2.8/60, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.6km s-min=15.7km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**282**	*i*			08 06 35.0	
baz=97,slow=316,SNR=4.5								
ZALV	**Zalesovo Beam**	**1.82**	**282**	Pn	Pn	Pn	07 55 13.8	0.0
2.4nm,0.3s,baz=96,slow=14,SNR=16								
ZALV				Lg	Lg	Lg	07 55 39.7	
2.4nm,0.3s,baz=98,slow=24,SNR=8.2								
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn	Pn	Pn	07 56 17.5	0.0
0.1nm,0.3s,baz=62,slow=14,SNR=4.4								
KURBB				Lg	Lg	Lg	07 58 03.8	
0.1nm,0.3s,baz=64,slow=32,SNR=12								
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn	Pn	07 56 36.1	+1.7
0.2nm,0.3s,baz=28,slow=13,SNR=7.1								
MKAR				Sn	Sn	Sn	07 58 02.1	0.0
0.1nm,0.3s,baz=25,slow=28,SNR=2.7								
MKAR				Lg	Lg	Lg	07 58 41.4	
0.1nm,0.3s,baz=37,slow=29,SNR=4.1								

IDC 03 07:57:51.8±2.8, 53°.62N×87°.79E, h0km, mb1 3.4/2, mb1mx3.1/70, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=25.2km s-min=15.5km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**282**	*i*			08 09 47.1	
baz=97,slow=317,SNR=2.7								
ZALV	**Zalesovo Beam**	**1.79**	**282**	Pn	Pn	Pn	07 58 24.2	+0.2
7.7nm,0.3s,baz=101,slow=14,SNR=29								
ZALV				Lg	Lg	Lg	07 58 48.5	
5.4nm,0.3s,baz=95,slow=25,SNR=8.7								
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn	Pn	Pn	07 59 28.6	+0.8
0.2nm,0.3s,baz=62,slow=14,SNR=9.0								
KURBB				Lg	Lg	Lg	08 01 14.0	
0.1nm,0.3s,baz=58,slow=35,SNR=5.2								
MKAR	**Makanchi Array**	**7.69**	**209**	Pn	Pn	Pn	07 59 46.0	+1.0
0.3nm,0.3s,baz=30,slow=14,SNR=9.3								
MKAR				Sn	Sn	Sn	08 01 13.1	+0.3
0.1nm,0.3s,baz=32,slow=26,SNR=2.2								
MKAR				Lg	Lg	Lg	08 01 52.6	
0.1nm,0.3s,baz=42,slow=29,SNR=3.1								

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*NEIC **03** 08:00:45.6±2.4, 14°.8S±0°.1×173°.28W±0°.06, h10km±2km, mb4.2/6, Error ellipse: s-maj=18.5km s-min=6.8km az=339.0*

*IDC **03** 08:00:48.8±0.8, 14°.87S×173°.89W, h0km, mb3.8/8, mb1 4.2/8, mb1mx3.8/51, mbtmp3.8/8, Error ellipse: s-maj=41.8km s-min=21.0km az=139.0*

ISC 03 08:00:50.2±0.8, 15°.0S±0°.2×173°.7W±0°.2, h10km, n27, σ1§55/15, mb3.9/10, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**61**	Pn	Pn	Pn	08 01 16.6	-9.3
69nm,0.3s,baz=170,slow=1.5,SNR=25								
AFI				Sn	Sn	Sn	08 01 36.8	-16
311nm,0.3s,baz=15,slow=23,SNR=16								
NIUE	**Niue**	**5.47**	**139**			Pn	08 02 05.9	-5.9
MSVF	**Nonsavu**	**8.39**	**250**	Pn	Pn	**Pn**	**08 02 54.0**	**+2.1**
KNTN	**Kanton**	**12.25**	**9**	Pn	Pn	Pn	08 03 38.3	-6.6
BKZ	**Black Stump Fm**	**25.62**	**198**	**P**		**P**	**08 06 18.9**	**-1.1**
H11S2	**WAKE ISLAND Hy**	**38.42**	**329**	T		T	08 49 08.8	
baz=153,slow=74								
H11S3	**WAKE ISLAND Hy**	**38.44**	**329**	T		T	08 49 10.5	
baz=153								
H11S1	**WAKE ISLAND Hy**	**38.44**	**329**	T		T	08 49 04.1	
baz=153,slow=74								
H11N3	**WAKE ISLAND Hy**	**39.37**	**330**	T		T	08 50 22.4	
baz=150,slow=76,SNR=21								
H11N1	**WAKE ISLAND Hy**	**39.38**	**330**	T		T	08 50 19.4	
baz=150,slow=76,SNR=23								
H11N2	**WAKE ISLAND Hy**	**39.39**	**330**

comp=Z,1.4nm,0.6s,baz=84,slow=2.0,SNR=6.3
GERES GERESS Array B 145.65 351 PKPbc **PKPdf 08 20 27.6 -1.4**
comp=Z,0.6nm,0.5s,baz=34,slow=5.0,SNR=5.2

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*IDC **03** 08:03:09.3±2.1, 15°.43N×94°.78W, h0km, mb3.8/3, mb1 4.2/6, mb1mx3.7/47, mbtmp3.8/6, ML3.6/3, Error ellipse: s-maj=35.9km s-min=20.6km az=25.0*
*MEX **03** 08:03:10.0±0.7, 15°.08N×95°.04W, h16km±8km, MD4.3*
ISC 03 08:03:07.4±1.9, 15°.22N±0°.08×95°.03W±0°.04, h4km±12km, n17, σ2s30/27, mb3.8/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.17**	**298**	*eP*	**Pg**	**08 03 29.3**	**-0.6**
HUIG				*eS*	**Sg**	**08 03 43.5**	**-1.6**
PCIG		**1.81**	**74**	*eP*	**Pn**	**08 03 37.5**	**-1.9**
PCIG				*eS*	**Sn**	**08 03 58.5**	**-4.4**
CMIG	**Matias Romero**	**1.86**	**4**	Pn	**Pn**	**08 03 39.5**	**-0.6**
34nm,0.3s,baz=180,slow=15,SNR=396							
CMIG				Sn	**Sn**	**08 04 02.7**	**-1.6**
60nm,0.3s,baz=160,slow=21,SNR=14							
CMIG	**Matias Romero**	**1.86**	**4**	*eP*	**Pn**	**08 03 39.6**	**-0.6**
CMIG				*eS*	**Sn**	**08 04 03.3**	**-0.9**
PEIG	**Puerto Escondi**	**2.18**	**291**	*eP*	**Pn**	**08 03 43.8**	**-0.7**
PEIG				*eS*	**Sn**	**08 04 08.1**	**-3.9**
TGIG		**2.40**	**50**	*eP*	**Pn**	**08 03 47.4**	**-0.3**
TGIG				*eS*	**Sn**	**08 04 16.3**	**-1.3**
YOIG	**Yosondua**	**2.91**	**304**	*i P*	**Pn**	**08 03 54.5**	**-0.3**
YOIG				*eS*	**Sn**	**08 04 29.1**	**-1.3**
CCIG	**Comitan**	**2.98**	**69**	*eP*	**Pn**	**08 03 55.7**	**0.0**
PNIG	**Pinotepa**	**3.20**	**292**	*eP*	**Pn**	**08 03 58.5**	**0.0**
PNIG				*eS*	**Sn**	**08 04 32.5**	**-4.7**
TOIG	**Toxpalan**	**3.46**	**326**	*eP*	**Pn**	**08 04 03.1**	**+0.9**
APG	**El Apazote**	**4.42**	**92**	Pn	**Pn**	**08 04 16.2**	**+0.7**
1.3nm,0.3s,baz=276,slow=10,SNR=18							
APG				Sn	**Sn**	**08 05 06.4**	**-1.2**
3.6nm,0.3s,baz=285,slow=13,SNR=3.8							
TEIG	**Tepich**	**8.14**	**51**	Pn	**Pn**	**08 05 04.8**	**-1.6**
3.5nm,0.3s,baz=262,slow=7.1,SNR=50							
TEIG				Sn	**Sn**	**08 06 34.7**	**-4.3**
baz=15,slow=23,SNR=1.1							
TXAR	**Lajitas Array**	**16.15**	**332**	Pn	**Pn**	**08 06 58.2**	**+2.8**
0.1nm,0.3s,baz=145,slow=14,SNR=8.7							
ANMO	**Albuquerque**	**22.16**	**334**	P	**P**	**08 08 07.7**	**+3.0**
0.0nm,0.3s,baz=298,slow=13,SNR=3.5							
NVAR	**Mina Array Bea**	**30.91**	**323**	P	**P**	**08 09 28.8**	**+3.2**
0.9nm,0.8s,baz=127,slow=9.5,SNR=6.6							
YKA	**Yellowknife Ar**	**49.20**	**348**	P	**P**	**08 11 56.8**	**+0.2**
0.9nm,0.8s,baz=146,slow=6.8,SNR=4.0							
ESDC	**Sonseca Array**	**81.26**	**51**	P	**P**	**08 15 24.9**	**-0.3**
1.4nm,1.0s,baz=294,slow=5.8,SNR=4.0							

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*BJI **03** 08:13:25.0±0.0, 15°.10S×173°.60W, h8km, mB5.4/3, mb4.9/19, Ms5.3/4, Ms7 5.1/4*
*IDC **03** 08:13:26.6±0.5, 14°.85S×173°.77W, h0km, mb4.4/17, mb1 4.6/17, mb1mx4.4/45, mbtmp4.4/17, MS5.1/45, Ms1 5.0/45, ms1mx5.0/55, Error ellipse: s-maj=23.4km s-min=13.3km az=131.0*
*NEIC **03** 08:13:27.7±2.3, 15°.03S±0°.10×173°.52W±0°.10, h10km±1km, mb4.9/161, Mwc5.5(GCMT), Error ellipse: s-maj=18.6km s-min=13.8km az=315.0*
*NEIC **03** 08:13:34, 14°.84S×173°.15W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.10; $M_{\theta\theta}$1.45; $M_{\phi\phi}$-1.55; $M_{r\theta}$0.69; $M_{\theta\phi}$1.31; $M_{\phi r}$1.62; Fault plane solution: $M_0$2.66000×10^{17} NP1:ϕ_s115.00000°, δ48.00000°, λ2.00000°. NP2:ϕ_s24.00000°, δ89.0000°, λ138.00000°. Principal axes: T 2.6195, Plg29.0000°, Azm331.0000°; N 0.0778, Plg48.0000°, Azm202.0000°; P -2.6973, Plg27.0000°, Azm77.0000°;*
*GCMT **03** 08:13:34.7±0.1, 14°.85S±0°.01×173°.15W, h12km, MW5.5/157, Moment Tensor Solution. s112,c196; s157,c302; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.18±.02; $M_{\theta\theta}$1.26±.02; $M_{\phi\phi}$-1.45±.02; $M_{r\theta}$0.63±.05; $M_{\theta\phi}$1.25±.02; $M_{\phi r}$1.36±.05; Best double couple: $M_0$2.38000×10^{17} NP1:ϕ_s115.00000°, δ51.00000°, λ4.00000°. NP2:ϕ_s22.00000°, δ87.0000°, λ141.00000°. Principal axes: T 2.3550, Plg29.0000°, Azm331.0000°; N 0.0450, Plg51.0000°, Azm198.0000°; P -2.4060, Plg24.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 08:13:27.4±0.3, 15°.10S±0°.07×173°.42W±0°.07, h10km, n267, σ1§41/188, mb4.8/84, MS5.2/47, 5C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.98**	**54**	Pn	Pn	08 13 54.5	-6.5
220nm,0.3s,baz=220,slow=1.7,SNR=158							
AFI				Sn	Sn	08 14 14.4	-11
2μm,0.3s,baz=182,slow=23,SNR=12							
AFI				LR	LR	08 14 56.1	
comp=Z,35μm,21.4s,baz=244,slow=42							
NIUE	**Niue**	**5.18**	**140**	P	**Pn**	**08 14 42.2**	**-2.7**
baz=5.2,SNR=57							
NIUE	**Niue**	**5.18**	**140**	Pn	**Pn**	**08 14 42.5**	**-2.4**
RAR	**Rarotonga**	**14.32**	**117**	LR	LR	08 22 14.7	
comp=Z,6μm,18.6s,baz=306,slow=36							
RAR	**Rarotonga**	**14.32**	**117**	Pn	Pn	08 16 46.8	-3.5
DZM	**Mont Dzumac**	**20.30**	**247**	*eP*	Pn	08 18 10.9	+5.2
19nm,0.8s							
DZM				*eS*	Sn	08 21 59.4	+4.9
1μm,21.0s							
DZM				*eLQ*	LQ	08 22 13.4	
7μm,30.6s							
DZM				*eLR*	LR	08 23 07.4	
comp=Z,17μm,26.0s							
DZM	**Mont Dzumac**	**20.30**	**247**	P	Pn	08 18 08.2	+2.6
15nm,0.9s,baz=302,slow=24,SNR=2.6							
DZM				LR	LR	08 24 41.2	
comp=Z,9μm,21.4s,baz=88,slow=34							
DZM	**Mont Dzumac**	**20.30**	**247**	P	**P**	**08 17 60.0**	**-3.7**
DZM				IAmb	IAmb	08 18 15.7	
comp=Z,79nm,1.4s							
PPT	**Papeete**	**23.01**	**99**	LR	LR	08 24 53.4	
comp=Z,4μm,20.9s,baz=267,slow=29							
PAE	**Paea**	**23.01**	**100**	*eT*	T	08 41 57.6	
comp=Z,4.9nm,0.3s							
PPT2	**Papeete2**	**23.01**	**99**	*eLQ*	LQ	08 22 59.5	
comp=Z,19μm,28.0s							
PPT2				*eLR*	LR	08 24 00.5	
comp=Z,12μm,25.2s							
PPT2	**Papeete2**	**23.01**	**99**	*eT*	T	08 41 58.5	
comp=Z,4.6nm,0.3s							
OUZ	**Omahuta**	**23.19**	**208**	P	**P**	**08 18 36.2**	**+1.9**
TIAR	**Tiarei**	**23.23**	**99**	*eT*	T	08 42 13.2	
comp=Z,3.9nm,0.4s							
TVO	**Taravao**	**23.32**	**100**	*eT*	T	08 42 17.6	
comp=Z,1.7nm,0.3s							
URZ	**Urewera**	**24.55**	**198**	P	**P**	**08 18 49.6**	**+2.3**
comp=Z,6.4nm,0.8s,baz=26,slow=7.4,SNR=6.4							
URZ				LR	LR	08 27 33.0	
comp=Z,8μm,20.5s,baz=18,slow=34							
URZ	**Urewera**	**24.55**	**198**	P	**P**	**08 18 47.8**	**+0.6**
PMOR	**Pomariorio Ree**	**24.64**	**93**	*eP*	**P**	**08 18 44.8**	**-3.6**
comp=Z,201nm,1.2s							
PMOR	**Pomariorio Ree**	**24.64**	**93**	*eT*	T	08 43 54.1	
comp=Z,3.9nm,0.3s							
HIZ	**Hauiti**	**25.52**	**202**	P	**P**	**08 18 53.7**	**-2.4**
BKZ	**Black Stump Fm**	**25.57**	**198**	P	**P**	**08 18 57.0**	**+0.4**
HNR	**Honiara**	**26.62**	**279**	LR	LR	08 27 50.1	
comp=Z,6μm,20.4s,baz=123,slow=33							
QRZ	**Quartz Range**	**28.40**	**203**	P	**P**	**08 19 22.0**	**-0.1**
QRZ				IAmb	IAmb	08 19 39.2	
comp=Z,28nm,1.2s							
NNZ	**Nelson**	**28.44**	**201**	P	**P**	**08 19 23.6**	**+1.2**
LTZ	**Lake Taylor**	**30.21**	**201**	P	**P**	**08 19 37.6**	**-0.5**
RPZ	**Rata Peaks**	**31.45**	**202**	P	**P**	**08 19 51.6**	**+2.6**
comp=Z,4.6nm,0.7s,baz=59,slow=16,SNR=1.7							
RPZ	**Rata Peaks**	**31.45**	**202**	IAmb	IAmb	08 19 55.7	
comp=Z,13nm,1.2s							
FOZ	**Fox Glacier**	**31.76**	**203**	P	**P**	**08 19 51.6**	**0.0**
FOZ				IAmb	IAmb	08 20 01.1	
comp=Z,12nm,0.9s							
TAOE	**Nuku Hiva Isla**	**33.10**	**83**	*eS*	S	08 25 14.9	-8.5
comp=Z,399nm,25.6s							
TAOE				*eLR*	LR	08 28 34.6	
comp=Z,10μm,26.6s							
TAOE	**Nuku Hiva Isla**	**33.10**	**83**	*eT*	T	08 54 19.4	
comp=Z,32nm,0.2s							
MLZ	**Mavora Lakes**	**33.96**	**204**	P	**P**	**08 20 11.8**	**+0.9**
MLZ				IAmb	IAmb	08 20 15.0	
comp=Z,17nm,1.0s							
WHZ	**Wether Hill Ro**	**34.47**	**203**	P	**P**	**08 20 16.0**	**+0.7**
PATS	**Pohnpei**	**35.50**	**306**	P	**P**	**08 20 23.7**	**-0.9**
baz=36,SNR=3.2							
RKT	**Rikitea**	**37.10**	**108**	*eS*	**S**	**08 26 22.4**	**-2.3**
comp=Z,641nm,29.5s							
RKT				*eLQ*	LQ	08 28 58.5	
comp=Z,3μm,26.5s							
RKT				*eLR*	LR	08 30 31.4	
comp=Z,7μm,23.8s							
H11S2	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	09 02 03.0	
baz=147,slow=76,SNR=20							
H11S3	**WAKE ISLAND Hy**	**38.71**	**329**	T	T	09 02 03.9	
baz=147,slow=76,SNR=20							
H11S1	**WAKE ISLAND Hy**	**38.71**	**329**	T	T	09 02 03.0	
baz=147,slow=76,SNR=21							
H11N3	**WAKE ISLAND Hy**	**39.64**	**330**	T	T	09 03 05.0	
baz=149,slow=76,SNR=23							
H11N1	**WAKE ISLAND Hy**	**39.65**	**330**	T	T	09 03 07.2	
baz=149,slow=76,SNR=26							
H11N2	**WAKE ISLAND Hy**	**39.66**	**330**	T	T	09 03 11.6	
baz=149,slow=76,SNR=20							
MTSU	**Mount Surprise**	**40.55**	**260**	P	**P**	**08 21 07.0**	**-0.3**
baz=41,SNR=6.9							
QLP	**Quilpie**	**41.02**	**247**	P	**P**	**08 21 13.6**	**+2.5**
baz=41,SNR=4.8							
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**	**08 21 35.4**	**-1.2**
comp=Z,3.6nm,0.9s,baz=81,slow=9.7,SNR=4.9							
STKA				LR	LR	08 37 51.5	
comp=Z,2μm,21.6s,baz=72,slow=33							
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**	**08 21 34.2**	**-2.4**
JAY	**Jayapura**	**46.91**	**281**	LR	LR	08 40 10.1	
comp=Z,3μm,20.0s,baz=78,slow=34							
WR0	**Warramunga Arr**	**49.71**	**257**	P	**P**	**08 22 18.9**	**-1.2**
WB0	**Warramunga Arr**	**49.86**	**257**	P	**P**	**08 22 19.9**	**-1.3**
WB0				IAmb	IAmb	08 22 21.1	
comp=Z,11nm,0.9s							
WB2	**Warramunga Arr**	**49.89**	**257**	P	**P**	**08 22 20.5**	**-0.9**
WB2				IAmb	IAmb	08 22 24.4	
comp=Z,15nm,1.1s							
WRAB	**Tennant Creek**	**49.89**	**257**	P	**P**	**08 22 20.6**	**-0.8**
WRAB				IAmb	IAmb	08 22 24.4	
comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**49.90**	**257**	P	**P**	**08 22 19.8**	**-1.7**
comp=Z,5.6nm,0.7s,baz=91,slow=7.1,SNR=61							
WRA				LR	LR	08 41 11.1	
comp=Z,2μm,21.5s,baz=90,slow=34							
WRA	**Warramunga Arr**	**49.90**	**257**	P	**P**	**08 22 19.6**	**-2.0**
AS31	**Alice Springs**	**50.19**	**252**	P	**P**	**08 22 21.9**	**-1.9**
AS31				IAmb	IAmb	08 22 26.7	
comp=Z,12nm,0.8s							
ASAR	**Alice Springs**	**50.19**	**252**	P	**P**	**08 22 21.9**	**-1.9**
comp=Z,41nm,0.8s,baz=84,slow=8.6,SNR=115							
ASAR				LR	LR	08 41 43.0	
comp=Z,5μm,21.5s,baz=90,slow=34							
ASAR	**Alice Springs**	**50.19**	**252**	P	**P**	**08 22 20.8**	**-3.0**
WRKA	**Warakurna**	**55.28**	**250**	P	**P**	**08 23 00.3**	**-1.1**
baz=56,SNR=5.5							
SIJI	**Sorong**	**56.40**	**279**	LR	LR	08 46 22.2	
comp=Z,974nm,19.9s,baz=84,slow=35							
FITZ	**Fitzroy Crossi**	**58.26**	**258**	P	**P**	**08 23 20.1**	**-2.5**
comp=Z,1.5nm,0.8s,baz=358,slow=13,SNR=2.8							
FITZ				LR	LR	08 46 15.7	
comp=Z,2μm,21.5s,baz=180,slow=34							
BATI	**Baumata**	**61.42**	**266**	LR	LR	08 48 34.2	
comp=Z,2μm,19.3s,baz=114,slow=34							
VNDA	**Vanda**	**63.68**	**186**	P	**P**	**08 24 01.0**	**+2.5**
comp=Z,1.5nm,0.8s,baz=18,slow=6.9,SNR=13							
VNDA				LR	LR	08 47 25.1	
comp=Z,758nm,20.7s,baz=21,slow=32							
VNDA	**Vanda**	**63.68**	**186**	P	**P**	**08 24 01.5**	**+3.0**
DAV	**Davao City (W)**	**64.34**	**286**	LR	LR	08 50 38.0	
comp=Z,1μm,18.6s,baz=134,slow=35							
NWAO	**Narrogin (SRO)**	**64.75**	**240**	LR	LR	08 49 59.3	
comp=Z,2μm,21.3s,baz=90,slow=34							
JHJ	**Hachijo jima 2**	**65.53**	**318**	LR	LR	08 45 57.6	
comp=Z,824nm,22.0s,baz=101,slow=30							
KAPI	**Kappang**	**66.36**	**271**	LR	LR	08 52 22.5	
comp=Z,434nm,19.3s,baz=106,slow=35							
MJAR	**Matsushiro Arr**	**68.70**	**320**	LR	LR	08 49 04.3	
comp=Z,2μm,21.7s,baz=120,slow=31							
MAT	**Matsushiro**	**68.70**	**320**	P	**P**	**08 24 29.4**	**-1.9**
MAT				*eS*	**S**	**08 33 33.6**	**-1.1**
TGY	**Tagaytay City**	**71.11**	**291**	LR	LR	08 51 32.0	
comp=Z,1μm,20.4s,baz=105,slow=32							
ASAJ	**Asahikawa**	**71.28**	**328**	LR	LR	08 50 04.5	
comp=Z,826nm,21.4s,baz=159,slow=31							
JNU	**Nakatsue**	**71.58**	**313**	LR	LR	08 51 44.8	
comp=Z,572nm,19.1s,baz=124,slow=32							
ESJX	**Sierra Juarez**	**72.25**	**49**	P	**P**	**08 24 55.1**	**+1.8**
ESJX				IAmb	IAmb	08 25 07.3	
comp=Z,9.2nm,1.2s							
PEA0B	**Petropavlovsk-**	**72.34**	**342**	P	**P**	**08 24 53.7**	**+0.5**
PETK	**Petropavlovsk-**	**72.34**	**342**	P	**P**	**08 24 51.8**	**-1.3**
comp=Z,6.4nm,0.9s,baz=31,slow=18,SNR=6.6							
PETK				LR	LR	08 53 46.2	
comp=Z,413nm,19.1s,baz=156,slow=34							
ISA	**Isabella, Lake**	**72.45**	**44**		**PcP**	**08 25 06.9**	**-5.2**
CMB	**Columbia Colle**	**72.55**	**41**	P	**P**	**08 24 56.1**	**+1.3**
AFDM	**Forest Hills D**	**72.72**	**40**	P	**P**	**08 24 57.8**	**+2.0**
AFDM				IAmb	IAmb	08 25 11.3	
comp=Z,8.6nm,1.1s							
ORV	**Oroville**	**72.75**	**40**	P	**P**	**08 24 56.5**	**+0.5**
ORV					**PcP**	**08 25 08.2**	**-5.0**
LPIG	**La Paz**	**72.89**	**59**	LR	LR	08 48 35.8	
comp=Z,2μm,19.7s,baz=242,slow=29							
MDPB	**Devils Postpil**	**73.16**	**42**	P	**P**	**08 24 59.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**73.21**	**330**	P	**P**	**08 24 58.4**	**-0.1**
YBH	**Yreka Blue Hor**	**73.37**	**37**	P	**P**	**08 25 01.4**	**+1.7**
comp=Z,4.4nm,0.8s,baz=0.5,slow=0.9,SNR=4.7							
YBH	**Yreka Blue Hor**	**73.37**	**37**	IAmb	IAmb	08 25 12.9	
comp=Z,8.6nm,0.9s							
GSC	**Goldstone, Bar**	**73.39**	**45**	P	**P**	**08 25 00.2**	**+0.3**
GSC				IAmb	IAmb	08 25 14.4	
comp=Z,9.0nm,1.1s							
PNTR	**Pine Nut**	**73.66**	**41**	IAmb	IAmb	08 25 14.4	
comp=Z,18nm,1.2s							
VCNR	**Virginia City**	**73.75**	**41**	P	**P**	**08 25 03.1**	**+1.0**
YERR	**Yerington**	**73.83**	**41**	P	**P**	**08 25 04.2**	**+1.7**
YERR				IAmb	IAmb	08 25 17.2	
comp=Z,16nm,1.4s							
LHV	**Little Huntoon**	**73.88**	**42**	P	**P**	**08 25 04.3**	**+1.7**
LHV				IAmb	IAmb	08 25 21.6	
comp=Z,14nm,1.1s							
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**08 25 04.6**	**+0.3**
comp=Z,2.4nm,0.8s,baz=229,slow=11,SNR=14							
NVAR				LR	LR	08 51 20.6	
comp=Z,1μm,19.9s,baz=237,slow=31							
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**08 25 05.3**	**+1.1**
PAHR	**Pah Rah Range**	**74.16**	**40**	IAmb	IAmb	08 25 16.6	
comp=Z,9.3nm,1.1s							
NV11	**Mina Array Sit**	**74.21**	**42**	IAmb	IAmb	08 25 17.5	
comp=Z,16nm,1.4s							
113A	**Mohawk Valley,**	**74.23**	**49**	P	**P**	**08 25 05.8**	**+1.0**
214A	**Organ Pipe Nat**	**74.53**	**50**	P	**P**	**08 25 06.9**	**+0.3**
KVN	**Kaiserville**	**74.60**	**42**	P	**P**	**08 25 08.3**	**+1.2**
KDAK	**Kodiak Island**	**74.63**	**11**	LR	LR	08 50 50.7	
comp=Z,919nm,21.2s,baz=215,slow=30							
MOD	**Modoc Plateau**	**74.89**	**38**	IAmb	IAmb	08 25 23.4	
comp=Z,10nm,1.0s							
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**	**08 25 10.2**	**+1.6**
K05A	**Summer Lake**	**75.04**	**37**	P	**P**	**08 25 10.9**	**+1.4**
SHPR	**Sheep Range**	**75.16**	**45**	P	**P**	**08 25 11.3**	**+1.0**
PRN	**Pahroc Range**	**75.71**	**44**	IAmb	IAmb	08 25 33.3	
comp=Z,15nm,1.2s							
R11A	**Troy Canyon, C**	**75.85**	**43**	P	**P**	**08 25 13.8**	**-0.4**
R11A					**PcP**	**08 25 26.0**	**-0.8**
KSRS	**Korea Array**	**75.93**	**316**	P	**P**	**08 25 13.6**	**-0.8**
comp=Z,2.1nm,0.9s,baz=118,slow=9.7,SNR=2.4							
KSRS				LR	LR	08 57 20.5	
comp=Z,568nm,18.2s,baz=108,slow=35							
KSAR	**Wonju Array Be**	**75.95**	**315**	P	**P**	**08 25 15.3**	**+0.7**
WVOR	**Wild Horse Val**	**76.21**	**39**	IAmb	IAmb	08 25 28.8	
comp=Z,11nm,1.1s							
TUC	**Tucson**	**76.21**	**51**	P	**P**	**08 25 18.4**	**+2.1**
TUC				IAmb	IAmb	08 25 31.4	
comp=Z,11nm,1.1s							
LCMT	**Little Creek M**	**76.73**	**46**	P	**P**	**08 25 18.4**	**-0.8**
J08A	**Circle Bar Ran**	**76.84**	**38**	IAmb	IAmb	08 25 34.5	
comp=Z,16nm,1.2s							
319A	**Douglas**	**76.92**	**52**	P	**P**	**08 25 20.5**	**+0.1**
319A				IAmb	IAmb	08 25 32.6	
comp=Z,13nm,0.9s							
CCUT	**Cedar City**	**76.93**	**45**	P	**P**	**08 25 21.8**	**+1.3**
KNB	**Kanab**	**77.03**	**46**	P	**P**	**08 25 21.9**	**+0.9**
KNB					**pP**	**08 25 24.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**77.13**	**323**	P	**P**	**08 25 21.7**	**+0.5**
comp=Z,2.0nm,0.8s,baz=111,slow=3.2,SNR=4.4							
USRK				LR	LR	08 53 27.6	
comp=Z,2μm,21.2s,baz=123,slow=31							
USRK	**Ussuriysk Ar.**	**77.13**	**323**	P	**P**	**08 25 21.5**	**+0.4**
USRK					**pP**	**08 25 23.7**	**-0.1**
WUAZ	**Wupatki**	**77.31**	**48**	IAmb	IAmb	08 25 37.7	
comp=Z,12nm,1.2s							
PKCU	**Pink Cliffs**	**77.59**	**46**	P	**P**	**08 25 26.6**	**+2.3**
BBB	**Bella Bella**	**77.62**	**27**	LR	LR	08 54 50.3	
comp=Z,446nm,18.4s,baz=256,slow=32							
LEM	**Lembang**	**77.64**	**266**	LR	LR	08 57 57.7	
comp=Z,739nm,22.0s,baz=150,slow=34							
G08A	**Pilot Rock**	**77.70**	**36**	P	**P**	**08 25 26.5**	**+2.0**
G08A				IAmb	IAmb	08 25 28.5	
comp=Z,17nm,1.4s							
MTPU	**Mount Pierson**	**77.98**	**45**	P	**P**	**08 25 27.9**	**+1.4**
TCRU	**Three Creeks R**	**78.09**	**44**	P	**P**	**08 25 27.4**	**+0.4**
MSU	**Marysvale**	**78.22**	**45**	P	**P**	**08 25 28.3**	**+0.6**
MSU					**PcP**	**08 25 37.4**	**+0.3**
W18A	**Petrified Fore**	**78.29**	**49**	IAmb	IAmb	08 25 31.7	
comp=Z,13nm,1.4s							
121A	**Cookes Peak, D**	**78.57**	**52**	P	**P**	**08 25 27.6**	**-2.0**
121A				IAmb	IAmb	08 25 40.6	
comp=Z,7.8nm,0.9s							
DUG	**Dugway, Tooele**	**78.65**	**43**	P	**P**	**08 25 29.8**	**-0.1**
DUG				IAmb	IAmb	08 25 41.1	
comp=Z,9.6nm,1.1s							
D08A	**Wollman Farm,**	**78.77**	**35**	P	**P**	**08 25 27.8**	**-2.4**
TTA	**Tatalina**	**78.96**	**8**	P	**P**	**08 25 30.0**	**-0.9**
TTA				IAmb	IAmb	08 25 47.6	
comp=Z,12nm,1.3s							
Q16A	**Castle Valley**	**79.11**	**45**	P	**P**	**08 25 32.8**	**+0.3**
TMUT	**Trail Mountain**	**79.27**	**44**	P	**P**	**08 25 32.2**	**-1.3**
HLID	**Hailey**	**79.40**	**39**	P	**P**	**08 25 33.3**	**-0.7**
HLID				IAmb	IAmb	08 25 44.4	
comp=Z,11nm,1.2s							
SPUT	**South Promonto**	**79.46**	**42**	P	**P**	**08 25 33.6**	**-0.7**
SRU	**San Rafael Swe**	**79.64**	**45**	P	**P**	**08 25 36.0**	**+0.6**
P17A	**Butcher Ranch,**	**79.67**	**44**	P	**P**	**08 25 34.8**	**-0.7**
VRDI	**Verde Repeater**	**79.72**	**14**	P	**P**	**08 25 35.3**	**0.0**
VRDI				IAmb	IAmb	08 25 46.9	
comp=Z,18nm,1.2s							
NJ2	**Nanjing**	**79.97**	**307**	*eP*	**P**	**08 25 36.8**	**-0.3**
NJ2				pmax	pmax		
comp=Z,5.0nm,0.5s							
BARN	**Barnard Glacie**	**80.02**	**15**	P	**P**	**08 25 36.6**	**-0.3**
MNTX	**Cornudas Mount**	**80.06**	**53**	IAmb	IAmb	08 25 42.1	
comp=Z,15nm,1.4s							
KLR	**Kul'dur**	**80.26**	**327**	LR	LR	08 55 31.7	
comp=Z,950nm,21.7s,baz=144,slow=32							
PV19	**Morning Glory**	**80.32**	**46**	IAmb	IAmb	08 25 50.0	
comp=Z,14nm,1.1s							
PV14	**Lion Creek, Pa**	**80.32**	**46**	IAmb	IAmb	08 25 49.5	
comp=Z,12nm,1.1s							
PV18	**Skein Mesa, Pa**	**80.34**	**46**	P	**P**	**08 25 40.0**	**+0.7**
PV20	**West Nyswonger**	**80.34**	**46**	P	**P**	**08 25 39.2**	**-0.1**
PV20				IAmb	IAmb	08 25 55.9	
comp=Z,13nm,1.0s							
PV16	**Nyswonger Mesa**	**80.36**	**46**	P	**P**	**08 25 39.3**	**-0.1**
PV11	**David Mesa, Pa**	**80.39**	**46**	P	**P**	**08 25 39.1**	**-0.4**
PV11				IAmb	IAmb	08 25 52.1	
comp=Z,20nm,1.3s							
PV04	**Paradox Valley**	**80.41**	**46**	IAmb	IAmb	08 25 51.5	
comp=Z,8.7nm,0.9s							
PV21	**Cone Mtn., Par**	**80.44**	**46**	P	**P**	**08 25 39.0**	**-0.8**
PV12	**Saucer Basin,**	**80.45**	**46**	IAmb	IAmb	08 25 44.2	
comp=Z,15nm,1.2s							
TX31	**Lajitas Ar. Si**	**80.45**	**56**	P	**P**	**08 25 40.7**	**+0.8**
TX32	**Lajitas Array**	**80.45**	**56**	IAmb	IAmb	08 25 44.7	
comp=Z,22nm,1.4s							
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**08 25 41.9**	**+2.0**
comp=Z,2.4nm,0.9s,baz=225,slow=5.1,SNR=18							
TXAR				LR	LR	08 54 54.7	
comp=Z,1μm,19.0s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**08 25 41.3**	**+1.4**
PV01	**Paradox Valley**	**80.52**	**46**	IAmb	IAmb	08 25 50.0	
comp=Z,15nm,1.3s							
PV22	**Blue Mesa, Par**	**80.56**	**46**	P	**P**	**08 25 41.7**	**+1.3

BMAR	Burnt Mountain	84.96	11	P	P	08 26 02.5	+0.1
BJI	Beijing	85.25	313	P	P	08 26 05.5	+1.1
BJI				S	S	08 36 37.4	+2.5
BJI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
RSSD	Black Hills	86.25	42	P	P	08 26 10.2	+0.6
APG	El Apazote	87.25	74	P	P	08 26 17.2	+2.1
	comp=Z,11nm,1.1s,baz=260,slow=4.4,SNR=7.2						
237A	Washetta, Mont	87.73	56	P	P	08 26 18.2	+1.5
MAW	Mawson	88.08	199	P	P	08 26 17.9	+0.1
	baz=88,SNR=8.4						
MAW	Mawson	88.08	199	P	P	08 26 18.9	+1.2
	comp=Z,3.7nm,0.8s,baz=138,slow=7.2,SNR=8.1						
MAW				LR	LR	09 03 03.0	
	comp=Z,1μm,20.2s,baz=122,slow=34						
MAW	Mawson	88.08	199	P	P	08 26 18.2	+0.5
PSI	Prapat	88.46	273	LR	LR	09 05 36.9	
	comp=Z,286nm,21.1s,baz=91,slow=36						
HHC	Hu-ho-hao-te	88.81	313	eP	P	08 26 21.1	-0.8
PLCA	Paso Flores	89.72	132	LR	LR	08 58 59.2	
	comp=Z,1μm,19.6s,baz=219,slow=30						
YKA	Yellowknife Ar	89.83	23	P	P	08 26 25.5	-0.5
	comp=Z,4.0nm,1.0s,baz=248,slow=4.3,SNR=8.8						
YKA				LR	LR	08 58 13.4	
	comp=Z,542nm,21.8s,baz=0.0,slow=30						
WHAR	Wooly Hollow	91.55	54	IAmb	IAmb	08 26 37.8	
	comp=Z,6.5nm,1.1s						
344A	Westbrook Farm	91.68	58	P	P	08 26 36.6	+1.3
CMAR	Chiang Mai Arr	92.50	288	LR	LR	09 03 08.2	
	comp=Z,470nm,21.9s,baz=144,slow=32						
SYO	Syowa Base	92.89	191	eP	P	08 26 39.6	-0.6
SYO	Syowa Base	92.89	191	esP	sP	08 26 44.4	+0.7
ATAH	Atahualpa	92.98	98	LR	LR	08 59 31.9	
	comp=Z,2μm,19.4s,baz=273,slow=30						
LZH	Lanzhou	93.03	306	eP	P	08 26 43.0	+1.3
LZH				pP	sP	08 26 46.2	+1.1
LZH				sP	pwP	08 26 47.8	+0.2
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
LZH				pmax	pmax		
	comp=Z,92nm,9.3s						
LZH				LR	LR		
	comp=Z,150nm,17.0s						
LZH				LR	LR		
	comp=Z,160nm,17.3s						
LZH				LR	LR		
	comp=Z,250nm,19.6s						
NNA	Nana	93.14	103	LR	LR	08 58 37.5	
	comp=Z,730nm,20.0s,baz=256,slow=29						
VNA3	Neumayer Olymp	93.16	175	P	P	08 26 43.4	+2.0
SNAA	Sanae	93.21	177	P	P	08 26 44.7	+2.9
VNA2	Neumayer--Watz	93.66	175	P	P	08 26 45.7	+1.9
ULM	Lac du Bonnet	93.71	39	LR	LR	09 03 20.5	
	comp=Z,2μm,20.2s,baz=258,slow=32						
VNA1	Neumayer--Stat	93.85	175	P	P	08 26 45.9	+1.2
L40A	Anamosa	94.30	48	P	P	08 26 47.3	+0.2
SONM	Songino Array	94.61	318	LR	LR	09 04 10.8	
	comp=Z,820nm,21.9s,baz=108,slow=32						
PLAL	Pickwick Lake	94.78	55	P	P	08 26 50.1	+0.6
KLMR	Klimovskoe	128.50	340	ePKPdf	PKPdf	08 32 34.5	+0.3
KLMR				AMP		08 32 51.8	
	comp=Z,19nm,1.5s						
AKASG	Malin Array Be	140.05	338	PKP	PKPdf	08 32 56.7	+0.6
	comp=Z,0.3nm,0.3s,baz=18,slow=2.6,SNR=1.9						
CLL	Collm	143.51	353	ePKPdf	PKPdf	08 33 04.0	+1.7
BRG	Berggiesshubel	143.82	352	e(P)	PKiKP	08 33 05.6	-0.7
	comp=Z,4.2nm,0.9s						
KOLS	Kolonicke sedl	143.88	342	ePKP	PKPdf	08 33 04.5	+1.5
CRVS	Cervenica-Dubn	144.14	343	ePKP	PKPdf	08 33 04.5	+1.0
VRAC	Vranov	144.91	349	ePKP	PKPbc	08 33 04.6	+0.6
JAVC	Velka Javorina	145.12	347	ePKP	PKPdf	08 33 06.0	+0.7
KRUC	Moravsky	145.18	349	ePKP	PKPab	08 33 05.3	+0.4
VYHS	Vyhne	145.20	346	ePKP	PKPdf	08 33 05.7	+0.3
PSZ	Piszkesteto	145.47	344	⇓P	PKiKP	08 33 10.9	+1.0
WLF	Walferdange	145.52	0	PKPdf	PKPab	08 33 07.3	+1.2
KHC	Kasperske Hory	145.58	352	ePKP	PKPdf	08 33 06.0	0.0
KHC				ex	x	08 33 12.5	
MLR	Muntele Rosu	145.59	336	⇓P	PKPab	08 33 08.3	+1.6
KMBO	Kilima Mbogo	145.65	245	PKPbc	PKPab	08 33 08.7	+0.7
	comp=Z,0.7nm,0.3s,baz=36,slow=14,SNR=3.5						
MODS	Modra-Piesok	145.66	347	ePKP	PKPbc	08 33 06.8	+0.4
GERES	GERESS Array B	145.84	352	PKPbc	PKPbc	08 33 07.3	+0.3
	comp=Z,3.0nm,0.9s,baz=29,slow=3.0,SNR=17						
GERES	GERESS Array B	145.84	352		PKPdf	08 33 06.8	+0.2
BRTR	Keskin Array B	145.91	321	PKPbc	PKPbc	08 33 07.9	+0.3
	comp=Z,12nm,0.9s,baz=114,slow=1.8,SNR=26						
BRTR	Keskin Array B	145.91	321	PKPdf	PKPdf	08 33 07.4	+0.4
VOIR		145.98	337	⇑P	PKPab	08 33 08.7	+0.6
ARR	Arges	146.20	337	⇓P	PKPab	08 33 09.9	+1.0
CONA	Conrad Observa	146.37	349	ePKPbc	PKPdf	08 33 07.7	+0.3
	comp=Z,20nm,1.5s						
SIRR	Siria	146.45	341	⇑P	PKPab	08 33 10.3	+0.6
MOA	Molln	146.73	351	ePKPbc	PKPdf	08 33 08.9	+0.9
	comp=Z,10nm,1.1s						
BZS	Buzias	147.04	340	⇓P	PKPab	08 33 12.4	+0.3
ARSA	Arzberg	147.09	349	ePKPbc	PKPdf	08 33 09.8	+1.1
	comp=Z,12nm,1.8s						
HERR	Herculane	147.42	339	⇑P	PKPbc	08 33 12.1	+0.5
RETA	Reutte	147.52	355	ePKPbc	PKPdf	08 33 10.3	+0.9
	comp=Z,15nm,1.3s						
WATA	Walderalm	147.59	354	ePKPbc	PKPdf	08 33 11.4	+1.8
	comp=Z,3.2nm,0.5s						
KBA	Koelnbreinsper	147.62	351	ePKPdf	PKPdf	08 33 08.9	-0.8
	comp=Z,11nm,0.9s						
MOTA	Moosalm	147.63	354	ePKPbc	PKPbc	08 33 11.5	-0.8
	comp=Z,12nm,1.3s						
WTTA	Wattenberg	147.65	354	ePKPbc	PKPdf	08 33 10.6	+0.9
	comp=Z,6.9nm,0.6s						
SOKA	Soboth	147.73	349	ePKPdf	PKPdf	08 33 09.8	+0.1
	comp=Z,14nm,1.0s						
SQTA	Sankt Quirin	147.74	354	PKPbc	PKPdf	08 33 11.3	+1.5
	comp=Z,9.2nm,1.0s						
MDVR	Moldovita	147.75	340	⇓P	PKPbc	08 33 12.8	+0.2
DAVA	Damuels	147.79	356	epPKPdf	PKPbc	08 33 12.4	-0.4
	comp=Z,11nm,0.8s						
FETA	Feichten	147.98	355	ePKPbc	PKPdf	08 33 10.6	+0.3
	comp=Z,12nm,1.1s						
MYKA	Terra Mystica	148.01	351	ePKPdf	PKPdf	08 33 09.8	-0.4
	comp=Z,10nm,1.1s						
ABTA	Abfaltersbach	148.06	352	ePKPbc	PKPdf	08 33 10.8	+0.5
	comp=Z,10nm,1.3s						
PDG	Podgorica	150.66	341	⇑P	PKiKP	08 33 23.7	+3.1
MVO	Moncorvo	151.46	22	eP	PKiKP	08 33 24.1	+1.6
PMRV	Marv??o	152.83	24	eP	PKPab	08 33 35.5	-0.4
ESDC	Sonseca Array	153.83	19	PKPab	PKPab	08 33 38.9	-1.2
	comp=Z,1.9nm,0.9s,baz=329,slow=4.3,SNR=7.0						
TORD	Torodi Ar. Bea	174.88	112	PKP	PKPdf	08 33 38.5	-0.1
	comp=Z,2.1nm,1.2s,baz=270,slow=5.9,SNR=3.6						
TORD	Torodi Ar. Bea	174.88	112		PKPdf	08 33 38.0	-0.5

*IDC **03** 08:14:50.3±0.9, 4°.03S×104°.34W, h0km, mb4.2/17, mb1 4.4/17, mb1mx4.2/46, mbtmp4.2/17, MS4.9/3, Ms1 4.9/3, ms1mx4.2/31, Error ellipse: s-maj=29.4km s-min=15.2km az=56.0*

*NEIC **03** 08:14:51.8±1.9, 4°.0S±0°.1×104°.1W±0°.2, h10km±2km, mb4.6/141, Error ellipse: s-maj=31.1km s-min=21.8km az=237.0*

ISC 03 08:14:52.9±0.8, 4°.0S±0°.1×104°.2W±0°.1, h18km, n120, σ0°.94/67, mb4.5/73, MS4.9/3, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	22.92	23	P	P	08 19 57.6	+1.6
	3.7nm,0.8s,baz=229,slow=6.1,SNR=4.6						
HUEH	Huehuetenango	22.98	33	P	P	08 19 56.0	-0.9
HUEH				IAmb	IAmb	08 20 01.0	
	comp=Z,18nm,1.0s						
APG	El Apazote	23.31	36	P	P	08 20 01.4	+1.1
	comp=Z,3.3nm,0.8s,baz=68,slow=21,SNR=4.6						
CCIG	Comitan	23.45	30	P	P	08 20 00.6	-1.1
JTS	Las Juntas de	23.89	53	P	P	08 20 06.3	+0.5
	comp=Z,5.2nm,0.8s,baz=352,slow=8.0,SNR=5.0						
JTS	Las Juntas de	23.89	53	P	P	08 20 03.8	-2.0
JTS				IAmb	IAmb	08 20 12.8	
	comp=Z,11nm,0.9s						
BOAB	BOACO BROADBAND	24.66	48	P	P	08 20 12.8	0.0
ESPN	Las Esperanzas	25.54	51	P	P	08 20 22.1	+1.3
OTAV	Otavalo	26.10	81	P	P	08 20 26.7	+0.2
ROSC	El Rosal	31.15	74	LR	LR	08 30 16.1	
	comp=Z,916nm,20.5s,baz=254,slow=30						
RUSC	La Rusia	32.62	73	P	P	08 21 24.5	0.0
TXAR	Lajitas Array	33.17	1	P	P	08 21 28.4	-0.2
	comp=Z,1.1nm,1.0s,baz=180,slow=13,SNR=7.4						
TXAR	Lajitas Array	33.17	1	P	P	08 21 29.1	+0.5
MNTX	Cornudas Mount	35.54	358	P	P	08 21 46.8	-2.2
PB16	IPOC Station P	36.81	115	P	P	08 22 00.3	-0.4
PB16				IAmb	IAmb	08 22 06.1	
	comp=Z,9.6nm,0.9s						
PB11	IPOC Station P	37.15	118	P	P	08 22 01.5	-1.6
LPAZ	La Paz	37.48	112	P	P	08 22 07.3	+0.7
	comp=Z,1.4nm,0.7s,baz=154,slow=1.7,SNR=7.0						
LPAZ	La Paz	37.48	112	IAmb	IAmb	08 22 11.0	
	comp=Z,9.3nm,1.5s						
H03N2	Juan Fernandez	37.59	144	T	T	09 01 54.4	
	baz=318,slow=77,SNR=78						
H03N1	Juan Fernandez	37.60	144	T	T	09 01 55.2	
	baz=318,slow=77,SNR=83						
H03N3	Juan Fernandez	37.61	144	T	T	09 01 55.7	
	baz=318,slow=77,SNR=66						
Z35A	Perchaven, San	37.73	10	P	P	08 22 07.1	-0.6
MSTX	Muleshoe	37.81	2	P	P	08 22 07.4	-1.1
MSTX				IAmb	IAmb	08 22 16.0	
	comp=Z,7.3nm,0.9s						
LENM	Lemitar	38.07	356	P	P	08 22 11.3	+0.6
ANMO	Albuquerque	38.82	357	P	P	08 22 16.2	-0.8
LVC	Limon Verde	38.85	122	P	P	08 22 19.2	+1.4
	comp=Z,2.8nm,0.7s,baz=304,slow=7.1,SNR=2.7						
PFO	Pinyon Flats O	39.18	344	P	P	08 22 21.2	+1.1
	comp=Z,3.1nm,0.9s,baz=168,slow=2.9,SNR=5.9						
PFO	Pinyon Flats O	39.18	344	P	P	08 22 20.1	+0.1
W18A	Petrified Fore	39.28	353	P	P	08 22 21.4	+0.5
W35A	Tecumseh	39.58	9	P	P	08 22 22.1	-1.0
MIAR	Mount Ida	39.65	14	P	P	08 22 24.4	+0.6
MIAR				IAmb	IAmb	08 22 29.9	
	comp=Z,10nm,0.8s						
WUAZ	Wupatki	39.90	351	P	P	08 22 26.4	+0.3
BCOK	Bluff Creek, N	39.96	8	P	P	08 22 26.1	-0.2
W39A	Magazine	40.23	13	IAmb	IAmb	08 22 35.1	
	comp=Z,11nm,1.1s						
GSC	Goldstone, Bar	40.86	344	P	P	08 22 34.7	+0.7
152A	Waverly Hall	40.92	25	IAmb	IAmb	08 22 40.0	
	comp=Z,7.4nm,0.9s						
SAML	Samuel	41.05	99	P	P	08 22 30.3	-5.4
SAML				IAmb	IAmb	08 22 40.2	
	comp=Z,13nm,1.2s						
MVCO	Mesa Verde	41.22	355	P	P	08 22 36.9	-0.1
MVCO				IAmb	IAmb	08 22 39.7	
	comp=Z,8.2nm,0.9s						
W45A	Hickory Valley	41.46	19	P	P	08 22 38.5	-0.2
SHPR	Sheep Range	41.59	347	IAmb	IAmb	08 22 46.7	
	comp=Z,10nm,1.2s						
PLAL	Pickwick Lake	41.67	20	IAmb	IAmb	08 22 46.0	
	comp=Z,15nm,0.8s						
LCAR	Lake Charles	41.72	16	P	P	08 22 40.6	-0.3
FPAL	Fort Paine	42.18	23	IAmb	IAmb	08 22 50.4	
	comp=Z,7.3nm,0.9s						
PV14	Lion Creek, Pa	42.42	354	P	P	08 22 48.2	+1.4
PRN	Pahroc Range	42.43	347	IAmb	IAmb	08 22 53.7	
	comp=Z,10nm,1.1s						
X51A	Calhoun	42.50	24	IAmb	IAmb	08 22 52.8	
	comp=Z,9.9nm,0.8s						
T42A	Van Buren	42.64	16	IAmb	IAmb	08 22 58.1	
	comp=Z,14nm,1.4s						
V48A	Smith Brothers	42.79	21	IAmb	IAmb	08 22 55.1	
	comp=Z,8.8nm,0.9s						
WVT	Waverly	42.79	20	P	P	08 22 49.5	0.0
WVT				IAmb	IAmb	08 22 55.0	
	comp=Z,11nm,0.9s						
PSUT	Pine Spring	43.27	349	P	P	08 22 51.6	-2.1
CPCT	Cooper Cave	43.40	24	P	P	08 22 54.8	+0.2
CCM	Cathedral Cave	43.57	15	P	P	08 22 55.9	+0.1
CCM				IAmb	IAmb	08 23 01.4	
	comp=Z,8.3nm,0.9s						
BG3	Lake Jocassee	43.67	26	P	P	08 22 56.8	0.0
BG3				IAmb	IAmb	08 23 02.8	
	comp=Z,6.5nm,0.9s						
S44A	Carbondale	43.78	17	IAmb	IAmb	08 23 09.7	
	comp=Z,7.0nm,0.9s						
V51A	Loudon	43.78	24	IAmb	IAmb	08 23 03.2	
	comp=Z,7.5nm,0.9s						
T47A	Sharon Grove	43.81	20	IAmb	IAmb	08 23 03.1	
	comp=Z,6.3nm,0.8s						
TKL	Tuckaleechee C	43.89	24	P	P	08 22 59.4	+1.0
	comp=Z,2.5nm,0.7s,baz=165,slow=6.3,SNR=2.9						
TKL	Tuckaleechee C	43.89	24	P	P	08 22 58.8	+0.4
TKL				IAmb	IAmb	08 23 06.8	
	comp=Z,5.9nm,0.8s						
PAULI	Pauline	44.02	27	IAmb	IAmb	08 23 05.8	
	comp=Z,8.6nm,0.8s						
LHV	Little Huntoon	44.10	344	IAmb	IAmb	08 23 12.4	
	comp=Z,7.2nm,1.0s						
O20A	White River Ci	44.10	356	P	P	08 23 00.4	+0.1
O20A				IAmb	IAmb	08 23 08.5	
	comp=Z,17nm,1.2s						
NVAR	Mina Array Bea	44.21	344	P	P	08 23 00.9	-0.4
	comp=Z,1.6nm,0.9s,baz=166,slow=8.6,SNR=10						
V53A	Saluda	44.30	25	IAmb	IAmb	08 23 16.1	
	comp=Z,8.6nm,1.1s						
PTGA	Pitinga	44.34	87	P	P	08 23 02.2	-0.3
PTGA				IAmb	IAmb	08 23 07.3	
	comp=Z,8.3nm,0.9s						
RYN	Ryan	44.45	344	IAmb	IAmb	08 23 09.8	
	comp=Z,14nm,1.3s						
KMSC	Kings Mountain	44.50	27	IAmb	IAmb	08 23 08.9	
	comp=Z,7.2nm,0.9s						
WAKR	Walker	44.60	343	IAmb	IAmb	08 23 22.6	
	comp=Z,14nm,1.4s						
T50A	Nancy	44.66	22	IAmb	IAmb	08 23 09.7	
	comp=Z,6.0nm,0.9s						
DUG	Dugway, Tooele	44.70	351	IAmb	IAmb	08 23 12.7	
	comp=Z,7.4nm,1.1s						
N23A	Red Feather La	44.73	358	IAmb	IAmb	08 23 12.7	
	comp=Z,9.1nm,1.2s						
KVN	Kaiserville	44.74	345	IAmb	IAmb	08 23 07.9	
	comp=Z,9.3nm,1.5s						
TZTN	Tazewell	44.74	24	P	P	08 23 04.3	-1.0
TZTN				IAmb	IAmb	08 23 10.8	
	comp=Z,11nm,0.9s						
P40A	Paris	44.77	13	IAmb	IAmb	08 23 14.8	
	comp=Z,6.9nm,1.1s						
Q44A	Meyer Farm, Va	44.97	17	IAmb	IAmb	08 23 11.6	
	comp=Z,10nm,0.9s						
VCNR	Virginia City	45.39	343	IAmb	IAmb	08 23 14.4	
	comp=Z,8.5nm,0.9s						
BGU	Big Grassy Mou	45.45	351	P	P	08 23 10.7	-0.4
AFDM	Forest Hills D	45.47	342	IAmb	IAmb	08 23 13.9	
	comp=Z,4.5nm,1.0s						
RWWY	Rawlins	45.58	357	P	P	08 23 09.7	-2.4
RWWY				IAmb	IAmb	08 23 22.8	
	comp=Z,6.1nm,1.1s						
PAHR	Pah Rah Range	45.70	344	IAmb	IAmb	08 23 20.0	
	comp=Z,12nm,1.2s						
HWUT	Hardware Ranch	45.90	352	IAmb	IAmb	08 23 20.7	
	comp=Z,9.9nm,1.1s						
BW06	Boulder Array	46.82	355	IAmb	IAmb	08 23 26.4	
	comp=Z,6.0nm,1.1s						
PD31	Pinedale Array	46.82	355	IAmb	IAmb	08 23 26.4	
	comp=Z,5.4nm,1.1s						
PDAR	Pinedale Array	46.82	355	P	P	08 23 20.9	-1.1
	comp=Z,2.7nm,0.8s,baz=158,slow=8.0,SNR=22						
AHID	Auburn Hatcher	46.99	353	IAmb	IAmb	08 23 24.9	
	comp=Z,4.3nm,0.8s						
PLCA	Paso Flores	47.45	145	P	P	08 23 26.5	-0.2
	comp=Z,2.9nm,1.1s,baz=312,slow=12,SNR=3.1						
REDW	Red Top Meadow	47.55	353	IAmb	IAmb	08 23 39.1	
	comp=Z,5.8nm,1.0s						
TPAW	Teton Pass	47.68	353	IAmb	IAmb	08 23 34.1	
	comp=Z,6.4nm,0.9s						
LOHW	Long Hollow	47.77	354	IAmb	IAmb	08 23 44.2	
	comp=Z,5.2nm,1.1s						
FXWY	Fox Creek	47.84	353	IAmb	IAmb	08 23 45.5	
	comp=Z,6.1nm,1.2s						
RSSD	Black Hills	47.93	0	P	P	08 23 30.9	+0.5
RSSD				IAmb	IAmb	08 23 32.2	
	comp=Z,8.9nm,1.2s						
MOD	Modoc Plateau	48.00	344	P	P	08 23 31.3	+0.4
WVOR	Wild Horse Val	48.05	346	IAmb	IAmb	08 23 46.7	
	comp=Z,4.3nm,0.9s						
HLID	Hailey	48.25	350	IAmb	IAmb	08 23 39.0	
	comp=Z,5.3nm,1.0s						
MFID	Camas Ranch	48.37	349	IAmb	IAmb	08 23 49.0	
	comp=Z,4.8nm,1.1s						
H17A	Grant Village	48.54	354	IAmb	IAmb	08 23 45.0	
	comp=Z,11nm,1.4s						
YBH	Yreka Blue Hor	48.55	342	P	P	08 23 35.3	+0.1
	comp=Z,3.3nm,0.8s,baz=179,slow=7.8,SNR=3.0						
O53A	New Philadelph	48.86	23	P	P	08 23 36.0	-1.5
J08A	Circle Bar Ran	48.89	346	P	P	08 23 37.9	+0.2
J08A				IAmb	IAmb	08 23 44.0	
	comp=Z,7.4nm,1.1s						
RLMT	Red Lodge	49.13	355	IAmb	IAmb	08 23 42.5	
	comp=Z,6.7nm,0.9s						
CPUP	Villa Florida	50.02	121	P	P	08 23 47.6	+0.9
	comp=Z,3.4nm,0.9s,baz=307,slow=8.9,SNR=5.6						
LAO	LASA Array	50.52	358	P	P	08 23 49.9	-0.2
F10A	Beach Ranch, E	51.10	348	P	P	08 23 56.4	+1.9
F10A				IAmb	IAmb	08 23 58.6	
	comp=Z,7.9nm,1.3s						
NEW	Newport	53.28	349	P	P	08 24 09.6	-1.1
NEW				IAmb	IAmb	08 24 13.8	
	comp=Z,5.8nm,0.9s						
DLBC	Dease Lake	65.60	345	P	P	08 25 35.8	+0.2
	comp=Z,3.1nm,0.8s,baz=144,slow=5.2,SNR=6.0						
DLBC				LR	LR	08 52 07.0	
	comp=Z,807nm,19.7s,baz=164,slow=34						
DLBC	Dease Lake	65.60	345	P	P	08 25 36.0	+0.5
YKA	Yellowknife Ar	66.81	355	P	P	08 25 42.4	-0.7
	comp=Z,4.9nm,1.0s,baz=162,slow=5.7,SNR=10						
RCBR	Riachuelo	68.06	95	LR	LR	08 54 43.5	
	comp=Z,3μm,20.0s,baz=230,slow=35						
INK	Inuvik	75.00	349	P	P	08 26 33.0	+0.2
	comp=Z,8.6nm,1.1s,baz=131,slow=1.9,SNR=5.8						
INK	Inuvik	75.00	349	IAmb	IAmb	08 26 34.4	
	comp=Z,30nm,1.5s						
ILAR	Eielson Array	75.44	343	P	P	08 26 35.6	+0.2
	comp=Z,3.5nm,0.7s,baz=155,slow=5.6,SNR=12						
H11N3	WAKE ISLAND Hy 90.27	290		T	T	10 07 52.9	
	baz=95,slow=75,SNR=53						
H11N2	WAKE ISLAND Hy 90.28	290		T	T	10 07 50.5	
	baz=95,slow=75,SNR=82						
H11N1	WAKE ISLAND Hy 90.29	290		T	T	10 07 51.1	
	baz=95,slow=75,SNR=80						
H11S2	WAKE ISLAND Hy 90.38	288		T	T	10 07 54.4	
	baz=94,slow=75,SNR=129						
H11S1	WAKE ISLAND Hy 90.38	288		T	T	10 07 57.9	
	baz=94,slow=75,SNR=214						
H11S3	WAKE ISLAND Hy 90.39	288		T	T	10 07 58.7	
	baz=94,slow=75,SNR=157						
MKAR	Makanchi Array	137.02	353	PKP	PKiKP	08 34 15.8	-1.0
	comp=Z,0.7nm,0.8s,baz=0.0,slow=1.7,SNR=4.3						
MKAR	Makanchi Array	137.02	353		PKPdf	08 34 14.4	-0.6
GEYT	Alibeck	142.59	23	PKP	PKiKP	08 34 27.5	-1.0
	comp=Z,1.9nm,0.6s,baz=304,slow=3.3,SNR=1.9						
CMAR	Chiang Mai Arr	153.18	304	PKPbc	PKiKP	08 34 51.4	+0.5
	comp=Z,0.9nm,0.3s,baz=345,slow=1.3,SNR=5.5						
CMAR				PKPab	PKPab	08 35 02.3	+0.1
	comp=Z,0.8nm,0.3s,baz=86,slow=22,SNR=2.3						

*IDC **03** 08:42:14.9±2.1, 7°.33S×129°.33E, h125km±19km, mb3.7/7, mb1 4.1/12, mb1mx3.6/53, mbtmp4.4/12, MS4.1/1, Ms1 4.1/1, ms1mx3.4/52, Error ellipse: s-maj=26.5km s-min=15.0km az=75.0*

*NEIC **03** 08:42:16.3±2.6, 7°.36S±0°.08×129°.32E±0°.08, h143km±7km, mb4.4/11, Error ellipse: s-maj=13.2km s-min=10.7km az=217.0*

ISC 03 08:42:16.1±0.6, 7°.45S±0°.05×129°.39E±0°.06, h150km, n40, σ2°.66/43, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.97	106		Pn	08 42 52.7	+1.8
FAKI	Fak Fak	5.32	33		Pn	08 43 32.7	-1.2
SOEI	Soe	5.56	245		Pn	08 43 37.1	+0.1
MTN	Manton Dam	5.63	162	Pn	Pn	08 43 39.6	+1.6
BATI	Baumata	6.29	244	P	Pn	08 43 46.5	-0.1
	18nm,0.3s,baz=186,slow=3.2,SNR=21						
BATI				S	Sn	08 44 54.0	-3.6
	63nm,0.3s,baz=74,slow=13,SNR=22						
SIJI	Sorong	6.80	16	P	Pn	08 43 52.0	-1.5
	8.5nm,0.3s,baz=264,slow=23,SNR=34						
SIJI				S	Sn	08 45 02.2	-7.7
	6.7nm,0.3s,baz=257,slow=23,SNR=2.5						
KNRA	Kununurra	8.20	184	Pn	Pn	08 44 12.2	-0.1
FITZ	Fitzroy Crossi	11.20	199	P	Pn	08 44 50.7	-1.2
	9.4nm,0.3s,baz=359,slow=8.0,SNR=157						
FITZ				S	Sn	08 46 48.9	-7.0
	3.9nm,0.3s,baz=180,slow=4.2,SNR=3.0						
FITZ	Fitzroy Crossi	11.20	199		Pn	08 44 50.4	-1.6
WB0	Warramunga Arr	13.18	159		Pn	08 45 16.9	-0.8
WRAB	Tennant Creek	13.31	159		Pn	08 45 18.7	-0.7
WRA	Warramunga Arr	13.32	159	P	Pn	08 45 19.0	-0.5
	3.7nm,0.3s,baz=333,slow=14,SNR=158						
WRA				S	Sn	08 47 39.4	-7.5
	10nm,0.3s,baz=336,slow=22,SNR=13						
WRA	Warramunga Arr	13.32	159	Pn	Pn	08 45 20.7	+1.2
WB2	Warramunga Arr	13.32	159		Pn	08 45 18.9	-0.6
WR0	Warramunga Arr	13.41	159		Pn	08 45 19.9	-0.7
COEN	Coen	15.01	117

KSRS	Korea Array	6.57	165	Pg	Pg	08 47 44.0	-3.5
	0.2nm,0.3s,baz=353,slow=17,SNR=0.8						
KSRS				Lg	Lg	08 49 13.7	
	1.9nm,0.3s,baz=350,slow=28,SNR=13						
KLR	Kul'dur	6.79	35	Pn	Pn	08 47 20.3	-1.1
	0.2nm,0.3s,baz=229,slow=12,SNR=4.5						
KLR				Pg	Pb	08 47 44.3	+4.4
	0.3nm,0.3s,baz=230,slow=18,SNR=5.7						
KLR				Lg	Lg	08 49 14.6	
	0.7nm,0.3s,baz=319,slow=22,SNR=4.6						
KURBB	Kurchatov Arra	32.34	299	P	P	08 52 09.9	-1.0
	0.9nm,0.2s,baz=84,slow=9.2,SNR=4.1						
ILAR	Eielson Array	50.37	34	P	P	08 54 37.9	-0.6
	0.5nm,0.8s,baz=277,slow=7.8,SNR=5.3						

*IDC **03** 08:46:22.6±2.4, 29°.78S×68°.50W, h82km±22km, mb3.4/2, mb1 3.8/7, mb1mx3.5/32, mbtmp3.9/7, Error ellipse: s-maj=29.6km s-min=17.1km az=81.0*
*SJA **03** 08:46:24.6±0.7, 29°.75S×68°.45W, h116km±2km, ML4.0, MW3.9*
*NEIC **03** 08:46:24.2±2.6, 29°.72S±0°.06×68°.3W±0°.1, h100km±5km, mb4.2/4, Error ellipse: s-maj=14.2km s-min=8.6km az=90.0*
*GUC **03** 08:46:26.0±0.6, 29°.68S×68°.54W, h108km±5km, ML4.3*

ISC 03 08:46:24.7±0.7, 29°.71S±0°.03×68°.45W±0°.03, h115km±6km, n89, σ1§55/117, 5C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	GUANDACOL	0.22	350	eS	Sn	08 46 53.3	+0.2
AGUA				IAML		08 46 55.5	
	comp=Z,7μm,0.2s						
ACDV	Cuesta del Vie	0.74	231	eP	Pn	08 46 44.9	+0.8
ACDV				eS	Sn	08 46 59.7	+1.0
VCA	Vinchina	0.99	12	⇑iP	Pn	08 46 48.2	+1.8
VCA				i S	Sn	08 47 04.6	+1.9
VCA	Vinchina	0.99	12	eP	Pn	08 46 47.9	+1.6
VCA				eS	Sn	08 47 04.8	+2.1
VCA				IAML		08 47 06.7	
	comp=Z,8μm,0.7s						
AROD	Rodeo	1.00	242	eP	Pn	08 46 47.8	+1.1
AROD				eS	Sn	08 47 04.7	+1.5
ACCO	Cerro Coronel	1.03	211	eP	Pn	08 46 47.7	+0.7
ACCO				eS	Sn	08 47 04.0	+0.3
AMOG	MOGNA	1.23	182	eP	Pn	08 46 43.0	-5.8
AVFE	Valle Fertil	1.28	138	eP	Pn	08 46 49.9	+0.6
AVFE				eS	Sn	08 47 08.5	+0.4
ACLC	CERRO LA CRUZ	1.33	78	eS	Sn	08 47 10.6	+1.3
ACLC				IAML		08 47 11.9	
	comp=Z,4μm,0.3s						
CO01	Juntas del Tor	1.46	259	i P	Pn	08 46 53.5	+2.0
CO01				i S	Sn	08 47 13.9	+2.1
CO01	Juntas del Tor	1.46	259		Pn	08 46 53.4	+1.9
RTLL	Cerro Villicun	1.62	181	eP	Pn	08 46 53.7	+0.5
RTLL				eS	Sn	08 47 15.1	+0.1
RTLL				IAML		08 47 17.4	
	comp=Z,1μm,0.8s						
AC05	El Transito	1.81	298	⇑iP	Pn	08 46 57.9	+2.2
AC05				IAML		08 47 23.4	
	comp=E,2μm,0.4s						
AC05	El Transito	1.81	298		Pn	08 46 58.3	+2.6
ZON	Zonda	1.84	186	Pn	Pn	08 46 56.6	+0.6
ZON	Zonda	1.84	186	eP	Pn	08 46 56.5	+0.5
ZON				eS	Sn	08 47 20.4	+0.5
LCO	Las Campanas	2.08	289		Pn	08 47 00.3	+1.1
GO04	Tololo Observa	2.09	257	⇓iP	Pn	08 47 00.7	+1.4
GO04				i S	Sn	08 47 27.4	+1.6
GO04	Tololo Observa	2.09	257		Pn	08 47 00.8	+1.4
ACHE	Chepes	2.12	134	eP	Pn	08 47 00.6	+1.1
ACHE				eS	Sn	08 47 25.9	-0.2
RTCV	Cerro Valdivia	2.15	182	eP	Pn	08 47 00.8	+0.8
RTCV				eS	Sn	08 47 26.6	-0.1
RTCV				IAML		08 47 27.7	
	comp=Z,874nm,0.9s						
RTLS	Leoncito	2.21	199	eP	Pn	08 47 01.6	+0.7
RTLS				eS	Sn	08 47 29.4	+0.8
RTLS				IAML		08 47 30.5	
	comp=Z,347nm,0.3s						
CO03	El Pedregal	2.24	239	eP	Pn	08 47 02.5	+1.4
CO03				i S	Sn	08 47 30.6	+1.6
CO03	El Pedregal	2.24	239		Pn	08 47 02.2	+1.1
GO03	Copiap	2.62	323	⇑iP	Pn	08 47 07.3	+1.3
GO03				i S	Sn	08 47 38.8	+1.1
GO03				IAML		08 47 40.7	
	comp=E,1μm,0.2s						
GO03	Copiap	2.62	323		Pn	08 47 07.5	+1.6
GO03	Copiap	2.62	323	eP	Pn	08 47 07.3	+1.3
GO03				eS	Sn	08 47 39.1	+1.4
CYA	Choya	2.64	62	⇓iP	Pn	08 47 07.2	+1.1
CYA				i S	Sn	08 47 37.9	0.0
CYA	Choya	2.64	62	eP	Pn	08 47 07.2	+1.1
CYA				eS	Sn	08 47 38.5	+0.6
CYA				IAML		08 47 39.4	
	comp=Z,686nm,0.2s						
AUSP	Uspallata	2.64	198	eP	Pn	08 47 07.3	+0.9
CO02	Combarbal	2.66	235	⇓iP	Pn	08 47 06.8	+0.3
CO02				i S	Sn	08 47 38.3	-0.3
CO02				IAML		08 47 39.9	
	comp=E,2μm,0.4s						
CO02				IAML		08 47 41.4	
	comp=E,2μm,0.2s						
CO02	Combarbal	2.66	235		Pn	08 47 06.9	+0.4
AC04	Llanos de Chal	2.74	302	⇓iP	Pn	08 47 08.4	+1.0
AC04				eS	Sn	08 47 39.5	-0.9
AC04				IAML		08 47 46.5	
	comp=E,810nm,0.6s						
AC04	Llanos de Chal	2.74	302	Pn	Pn	08 47 08.4	+1.0
ACAN	Cantantal	2.78	157	eP	Pn	08 46 56.7	-11
ACAN				eS	Sn	08 47 40.8	-0.5
ACAN				IAML		08 48 14.5	
	comp=Z,317nm,1.2s						
ASAL	Salagasta	2.90	186	eP	Pn	08 47 10.3	+0.8
ASAL				IAML		08 47 46.0	
	comp=Z,282nm,0.5s						
AC02	Maricunga	2.92	348	⇑iP	Pn	08 47 13.1	+2.9
AC02				eS	Sn	08 47 48.5	+3.2
AC02				IAML		08 47 53.5	
	comp=E,403nm,0.3s						
AC02	Maricunga	2.92	348	Pn	Pn	08 47 13.2	+2.9
ARCO	CERRO ARCO	3.15	187	eP	Pn	08 47 13.7	+0.7
ARCO				IAML		08 47 54.2	
	comp=Z,238nm,0.4s						
AAGR	Agrelo	3.38	185	eP	Pn	08 47 16.7	+0.7
AAGR				IAML		08 47 58.6	
	comp=Z,164nm,0.3s						
VA03	San Esteban	3.54	210		Pn	08 47 18.6	+0.5
MRA	San Martin	3.58	140	eP	Pn	08 47 19.0	+0.4
MRA				eS	Sn	08 47 59.6	-0.7
MRA				IAML		08 48 22.6	
	comp=Z,334nm,0.6s						
PEL	Peldehue	3.92	209		Pn	08 47 22.7	-0.4
PEL	Peldehue	3.92	209	eP	Pn	08 47 23.2	+0.1
PEL				eS	Sn	08 48 08.2	-0.2
ROC1	El Roble	3.93	213		Pn	08 47 22.6	-0.8
AHML	Horco Molle	4.00	44	eP	Pn	08 47 25.1	+1.0
AHML				eS	Sn	08 48 11.4	+1.1
AHML				IAML		08 48 37.4	
	comp=Z,101nm,0.6s						
AC01	Pan de Azucar	4.02	331	⇑iP	Pn	08 47 24.8	+0.4
AC01				eS	Sn	08 48 06.9	-3.9
AC01	Pan de Azucar	4.02	331	Pn	Pn	08 47 25.2	+0.8
MT05	Renca	4.16	207	Pn	Pn	08 47 25.9	-0.5
FSA	Cafayete	4.19	32	eP	Pn	08 47 29.3	+2.3
GO02	Mina Guanaco	4.64	347	Pn	Pn	08 47 34.4	+1.4
RFA	San Rafael	5.05	180	eP	Pn	08 47 38.2	-0.1
RFA				IAML		08 49 02.4	
	comp=Z,69nm,0.4s						
PB14	IPOC Station P	5.35	341	Pn	Pn	08 47 43.0	+0.4
PB14	IPOC Station P	5.35	341	eP	Pn	08 47 43.0	+0.4
PB14				IAML		08 48 53.4	
	comp=Z,82nm,0.7s						
COIS	El Sosneado	5.47	190	eP	Pn	08 47 43.9	-0.1
SLA	San Lorenzo	5.61	29	eP	Pn	08 47 48.2	+2.2
SLA				eS	Sn	08 48 42.4	-7.0
SLA				IAML		08 49 32.5	
	comp=Z,30nm,1.0s						
PUMA	Malargue	5.84	188	eP	Pn	08 47 48.7	-0.1
GO05	Huala	6.05	208	Pn	Pn	08 47 48.3	-3.5
EDS3	Malargue	6.10	187	eP	Pn	08 47 52.6	0.0
AZAP	Zapla	6.24	30	eP	Pn	08 47 55.7	+1.2
AZAP				IAML		08 49 54.9	
	comp=Z,64nm,0.7s						
PB10	IPOC Station P	6.45	343	Pn	Pn	08 47 56.7	-0.5
PB10	IPOC Station P	6.45	343	eP	Pn	08 47 56.5	-0.7
PB10				eS	Sn	08 49 08.1	-1.3
PB10				IAML		08 49 24.4	
	comp=Z,39nm,2.2s						
PB15	IPOC Station P	6.54	352	eP	Pn	08 47 59.0	+0.5
PB15				eS	Sn	08 49 12.5	+0.7
PB15				IAML		08 49 23.8	
	comp=Z,142nm,0.2s						
ASTB	Santa Barbara	6.75	33	IAML		08 49 31.8	
	comp=Z,13nm,3.1s						
PB05	IPOC Station P	7.00	347	eS	Sn	08 49 20.6	-2.4
LVC	Limon Verde	7.08	357	P	Pn	08 48 06.2	+0.2
	comp=Z,9.0nm,0.3s,baz=176,slow=8.7,SNR=113						
LVC				S	Sn	08 49 23.9	-1.3
	comp=Z,2.3nm,0.3s,baz=200,slow=15,SNR=1.9						
BI02	San Fabin de	7.33	198	Pn	Pn	08 48 08.7	-0.4
PB04	IPOC Station P	7.50	348	Pn	Pn	08 48 09.9	-1.7
PB04	IPOC Station P	7.50	348	eP	Pn	08 48 10.9	-0.7
PB04				eS	Sn	08 49 32.9	-2.3
PB09	IPOC Station P	7.91	355		Pn	08 48 16.6	-0.5
PB08	IPOC Station P	9.54	356	Pn	Pn	08 48 38.3	-1.2
PB11	IPOC Station P	9.96	353	Pn	Pn	08 48 41.6	-3.2
GO01	Chusmiza	10.02	356		Pn	08 48 45.5	-0.4
PSGCX	Pisagua	10.18	351		Pn	08 48 44.7	-3.1
CPUP	Villa Florida	10.38	74	P	Pn	08 48 49.7	-0.7
	comp=Z,0.4nm,0.3s,baz=245,slow=11,SNR=8.5						
CPUP				S	Sn	08 50 44.8	0.0
	comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=1.7						
MNMC	Minye Minye	10.58	354	Pn	Pn	08 48 50.6	-2.7
PLCA	Paso Flores	11.14	188	P	Pn	08 48 57.5	-3.0
	comp=Z,0.2nm,0.3s,baz=11,slow=12,SNR=8.9						
PB16	IPOC Station P	11.36	355	Pn	Pn	08 49 03.0	-1.1
LPAZ	La Paz	13.36	1	P	Pn	08 49 31.0	+0.6
	comp=Z,0.5nm,0.3s,baz=180,slow=6.0,SNR=21						
LPAZ	La Paz	13.36	1	P	Pn	08 49 29.7	-0.6
SIV	San Ignacio	15.24	28	P	Pn	08 49 53.7	-0.2
	comp=Z,0.3nm,0.3s,baz=232,slow=9.9,SNR=9.4						
SAML	Samuel	21.23	14	P	P	08 51 01.4	-0.1
RUSC	La Rusia	35.67	352	P	P	08 53 13.1	+0.6
SNAA	Sanae	54.45	159	P	P	08 55 40.7	+0.9
	comp=Z,0.4nm,0.4s,baz=280,slow=5.3,SNR=9.6						
SNAA	Sanae	54.45	159	IAmb	IAmb	08 55 52.5	
	comp=Z,3.3nm,1.4s						
PDAR	Pinedale Array	81.42	331	P	P	08 58 30.8	+1.9
	comp=Z,0.6nm,0.7s,baz=128,slow=6.9,SNR=6.2						
WRA	Warramunga Arr	125.97	207	PKP	PKiKP	09 05 14.7	+0.4
	comp=Z,0.2nm,0.4s,baz=162,slow=1.8,SNR=1.5						
ZALV	Zalesovo Beam	148.98	31	PKPbc	PKiKP	09 06 01.1	+1.2
	comp=Z,0.8nm,0.4s,baz=278,slow=4.2,SNR=2.1						
MKAR	Makanchi Array	151.61	45	PKPbc	PKiKP	09 06 07.5	+1.8
	comp=Z,0.4nm,0.8s,baz=280,slow=4.2,SNR=1.7						

IDC 03 08:49:23.6±3.1, 54°.07N×87°.50E, h0km, mb1 3.1/2, mb1mx3.0/56, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=25.8km s-min=16.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.59	267	i		08 50 50.0	
	baz=80,slow=325,SNR=4.0						
ZALV	Zalesovo Beam	1.59	267	Pg	Pn	08 49 52.5	-0.5
	6.2nm,0.3s,baz=84,slow=11,SNR=18						
ZALV				Lg	Lg	08 50 14.1	
	6.0nm,0.3s,baz=83,slow=24,SNR=6.6						
KURBB	Kurchatov Arra	6.49	241	Pn	Pn	08 51 00.9	+0.7
	0.2nm,0.3s,baz=58,slow=14,SNR=1.5						
KURBB				Lg	Lg	08 52 50.5	
	0.2nm,0.3s,baz=58,slow=35,SNR=2.0						
MKAR	Makanchi Array	8.01	207	Pn	Pn	08 51 22.8	+1.6
	0.3nm,0.3s,baz=27,slow=14,SNR=9.7						
MKAR				Sn	Sn	08 52 49.6	-2.8
	0.2nm,0.3s,baz=24,slow=25,SNR=1.9						
MKAR				Lg	Lg	08 53 38.0	
	0.2nm,0.3s,baz=32,slow=36,SNR=1.5						

*IDC **03** 08:50:35.2±1.5, 6°.33S×154°.54E, h82km±13km, mb3.5/7, mb1 3.8/11, mb1mx3.6/49, mbtmp4.0/11, MS3.8/2, Ms1 3.8/2, ms1mx3.4/24, Error ellipse: s-maj=20.9km s-min=11.1km az=37.0*
*NEIC **03** 08:50:37.1±1.7, 6°.5S±0°.1×154°.52E±0°.10, h101km±7km, mb4.3/11, Error ellipse: s-maj=19.0km s-min=10.6km az=217.0*

ISC 03 08:50:36.4±0.6, 6°.50S±0°.08×154°.43E±0°.08, h100km, n26, σ1§57/28, mb4.0/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.22	315		Pn	08 51 26.7	+1.5
KRVT	Keravat (AS076	3.24	312	P	Pn	08 51 22.5	-2.9
	4.7nm,0.3s,baz=58,slow=20,SNR=3.1						
KRVT				S	Sn	08 52 01.9	-1.4
	17nm,0.3s,baz=92,slow=19,SNR=6.5						
HNR	Honiara	6.19	118	P	Pn	08 52 02.8	-2.6
	11nm,0.3s,baz=118,slow=3.9,SNR=2.4						
HNR				S	Sn	08 53 16.1	+1.3
	8.2nm,0.3s,baz=264,slow=11,SNR=2.8						
HNR				LR	LR	08 54 51.9	
	comp=Z,489nm,18.0s,baz=306,slow=42						
PMG	Port Moresby	7.76	248	P	Pn	08 52 25.9	-0.8
	1.0nm,0.3s,baz=56,slow=6.1,SNR=6.1						
COEN	Coen	13.32	235	Pn	P	08 53 45.8	-1.8
DZM	Mont Dzumac	19.34	144	P	P	08 54 54.5	+0.3
	0.3nm,0.3s,baz=44,slow=22,SNR=2.6						
DZM	Mont Dzumac	19.34	144	P	P	08 54 54.2	0.0
DZM				IAmb	IAmb	08 54 55.7	
	comp=Z,41nm,1.5s						
WR0	Warramunga Arr	23.49	233	P	P	08 55 38.6	+1.1
WR0				IAmb	IAmb	08 55 58.0	
	comp=Z,8.8nm,1.2s						
WB0	Warramunga Arr	23.51	234	P	P	08 55 38.3	+0.7
WRAB	Tennant Creek	23.63	234	P	P	08 55 36.2	-2.6
WRAB				IAmb	IAmb	08 55 53.6	
	comp=Z,5.7nm,0.7s						
WB2	Warramunga Arr	23.63	234	P	P	08 55 39.6	+0.8
WRA	Warramunga Arr	23.64	234	P	P	08 55 40.8	+1.9
	comp=Z,2.2nm,0.8s,baz=57,slow=9.6,SNR=7.2						
WRA				PcP	PcP	08 59 22.6	+1.6
	comp=Z,0.5nm,0.7s,baz=64,slow=2.2,SNR=9.6						
WRA	Warramunga Arr	23.64	234	P	P	08 55 40.0	+1.1
ASAR	Alice Springs	26.09	227	P	P	08 56 03.4	+2.4
	comp=Z,0.4nm,0.4s,baz=56,slow=9.4,SNR=4.8						
ASAR				PcP	PcP	08 59 28.4	+2.0
	comp=Z,0.8nm,0.6s,baz=51,slow=2.0,SNR=9.9						
URZ	Urewera	37.71	150	P	P	08 57 43.4	+1.1
BKZ	Black Stump Fm	38.13	152	P	P	08 57 45.7	-0.2
THZ	Tophouse	38.77	158	P	P	08 57 50.6	-0.7
THZ				IAmb	IAmb	08 57 52.4	
	comp=Z,9.3nm,1.0s						
LTZ	Lake Taylor	39.42	159	P	P	08 57 57.4	+0.8
LTZ				IAmb	IAmb	08 58 12.7	
	comp=Z,7.9nm,1.1s						
JNU	Nakatsue	45.31	332	LR	LR	09 13 49.8	
	comp=Z,143nm,19.6s,baz=90,slow=31						
CMAR	Chiang Mai Arr	60.07	296	P	P	09 00 34.9	+1.4
	comp=Z,1.3nm,0.6s,baz=109,slow=4.9,SNR=7.3						
SONM	Songino Array	68.62	327	P	P	09 01 30.1	+1.2
	comp=Z,0.6nm,0.6s,baz=132,slow=6.0,SNR=3.1						
SONM	Songino Array	68.62	327	IAmb	IAmb	09 01 33.6	
	comp=Z,1.6nm,1.2s						
MKAR	Makanchi Array	82.67	319	P	P	09 02 50.3	+1.3
	comp=Z,0.4nm,0.6s,baz=96,slow=8.6,SNR=2.7						
ILAR	Eielson Array	83.13	22	P	P	09 02 49.0	-1.9
	comp=Z,0.5nm,0.8s,baz=256,slow=4.6,SNR=6.4						
NVAR	Mina Array Bea	91.86	52	P	P	09 03 34.1	+0.2
	comp=Z,1.2nm,0.8s,baz=251,slow=6.4,SNR=9.4						
TORD	Torodi Ar. Bea	152.35	286	PKPbc	PKPbc	09 10 21.6	-0.2
	comp=Z,0.8nm,0.6s,baz=44,slow=2.5,SNR=3.9						

*MAN **03** 08:54:58.5, 3°.74N×127°.34E, h93km, mb4.8, ML3.7, MS3.7*
*NEIC **03** 08:55:05.0±1.4, 4°.49N±0°.10×127°.6E±0°.2, h89km±10km, mb4.1/14, Error ellipse: s-maj=31.4km s-min=13.5km az=80.0*
*IDC **03** 08:55:06.4±8.0, 4°.44N×127°.60E, h101km±77km, mb3.6/12, mb1 3.7/12, mb1mx3.5/42, mbtmp3.9/12, MS4.0/1, Ms1 4.0/1, ms1mx3.2/49, Error ellipse: s-maj=35.6km s-min=14.6km az=70.0*

ISC 03 08:55:06.5±0.6, 4°.45N±0°.07×127°.6E±0°.1, h104km, n30, σ0§72/30, mb3.9/16, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	3.55	316	⇓iP	Pn	08 55 58.6	-1.3
KCP				i S	Sn	08 56 42.4	+1.3
TNTI	Ternate	3.66	183	Pn	Pn	08 56 00.2	-1.0
LUWI	Luwuk	7.27	222	Pn	Pn	08 56 49.2	-1.0
YULB	Yu-li	19.79	343	P	P	08 59 27.6	-1.1
YULB				IAmb	IAmb	08 59 29.2	
	comp=Z,6.3nm,0.6s						
TPUB	Ta-pu	19.91	341	P	P	08 59 29.0	-1.1
KNRA	Kununurra	20.03	177	P	P	08 59 31.9	+0.5
KNRA				IAmb	IAmb	08 59 37.3	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	22.49	185	P	P	08 59 57.4	-0.1
	comp=Z,1.6nm,0.7s,baz=0.1,slow=11,SNR=2.8						
WB0	Warramunga Arr	24.98	165	P	P	09 00 20.6	-0.1
WB0				IAmb	IAmb	09 00 24.3	
	comp=Z,6.9nm,1.1s						
WRAB	Tennant Creek	25.13	165	P	P	09 00 22.4	+0.4
WRA	Warramunga Arr	25.13	165	P	P	09 00 21.8	-0.3
	comp=Z,2.0nm,0.6s,baz=343,slow=9.8,SNR=22						
WB2	Warramunga Arr	25.14	165	P	P	09 00 21.8	-0.3
WB2				IAmb	IAmb	09 00 25.2	
	comp=Z,4.1nm,0.7s						
WR0	Warramunga Arr	25.20	164	P	P	09 00 22.1	-0.6
WR0				IAmb	IAmb	09 00 23.2	
	comp=Z,6.0nm,1.1s						
AS31	Alice Springs	28.62	168	P	P	09 00 53.7	+0.4
ASAR	Alice Springs	28.62	168	P	P	09 00 53.4	0.0
	comp=Z,0.7nm,0.6s,baz=355,slow=8.3,SNR=15						
ASAR				PcP	PcP	09 04 02.3	+0.2
	comp=Z,0.3nm,0.8s,baz=350,slow=4.7,SNR=2.0						
ASAR	Alice Springs	28.62	168	P	P	09 00 53.0	-0.3
CMAR	Chiang Mai Arr	31.26	299	P	P	09 01 16.4	-0.4
	comp=Z,0.8nm,0.4s,baz=104,slow=7.7,SNR=1.7						
KSRS	Korea Array	32.85	0	P	P	09 01 30.8	+0.4
	comp=Z,1.6nm,0.7s,baz=194,slow=7.5,SNR=3.2						
KSRS				LR	LR	09 20 38.3	
	comp=Z,230nm,18.3s,baz=96,slow=47						
BBOO	Buckleboo	37.92	168	P	P	09 02 14.5	+0.7
STKA	Stephens Creek	38.51	161	P	P	09 02 18.9	+0.1
	comp=Z,1.3nm,0.5s,baz=340,slow=9.5,SNR=11						
STKA	Stephens Creek	38.51	161	IAmb	IAmb	09 02 21.4	
	comp=Z,1.1nm,1.2s						
SONM	Songino Array	46.90	341	P	P	09 03 27.0	+0.4
	comp=Z,0.5nm,0.5s,baz=152,slow=7.9,SNR=3.4						
PETK	Petropavlovsk-	54.45	22	P	P	09 04 23.1	0.0
	comp=Z,0.8nm,0.5s,baz=193,slow=4.4,SNR=2.5						
MK31	Makanchi Array	57.46	325	P	P	09 04 44.7	0.0
MK31				IAmb	IAmb	09 05 00.1	
	comp=Z,3.6nm,1.1s						
MKAR	Makanchi Array	57.46	325	P	P	09 04 45.3	+0.6
	comp=Z,1.5nm,0.6s,baz=126,slow=8.6,SNR=9.3						
KURK	Kurchatov	61.60	327	P	P	09 05 13.8	+0.8
KKAR	Karatay Array	63.30	317	P	P	09 05 24.8	+0.3
GEYT	Alibeck	71.11	308	P	P	09 06 15.0	+1.0
	comp=Z,1.1nm,0.3s,baz=129,slow=11,SNR=3.7						
GEYT	Alibeck	71.11	308	IAmb	IAmb	09 06 15.6	
	comp=Z,1.6nm,0.8s						
ILAR	Eielson Array	84.09	25	P	P	09 07 25.7	+0.1
	comp=Z,0.3nm,0.8s,baz=255,slow=6.4,SNR=3.5						
ARCES	ARCESS Array B	90.07	340	P	P	09 07 53.0	-1.4
	comp=Z,0.6nm,0.6s,baz=79,slow=6.3,SNR=3.9						

*NEIC **03** 09:13:28.1±2.0, 14°.94S±0°.06×173°.00W±0°.01, h10km±1km, mb4.5/34, Error ellipse: s-maj=9.6km s-min=2.8km az=178.0*
*IDC **03** 09:13:28.7±0.7, 15°.09S×173°.44W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.1/36, mbtmp4.1/11, MS4.1/13, Ms1 4.1/13, ms1mx3.8/46, Error ellipse: s-maj=29.2km s-min=18.4km az=124.0*

ISC 03 09:13:31.4±0.4, 14°.96S±0°.05×172°.96W±0°.07, h29km, n87, σ2§15/69, mb4.4/24, MS4.1/15, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.54	48	Pn	Pn	09 13 56.5	-0.6
	132nm,0.3s,baz=266,slow=16,SNR=151						
AFI				Sn	Sn	09 14 13.8	-2.5
	707nm,0.3s,baz=25,slow=24,SNR=11						
AFI				LR	LR	09 14 20.4	
	comp=Z,1μm,19.3s,baz=222,slow=26						
AFI	Afiamalu	1.54	48		Pn	09 13 56.6	-0.5
AFI					Sn	09 14 15.0	-1.2
NIUE	Niue	5.02	145		Pn	09 14 44.2	-0.6
NIUE				Sn	Sn	09 15 41.7	-0.2
MSVF	Nonsavu	9.06	251	Pn	Pn	09 15 38.8	-1.7
KNTN	Kanton	12.16	6	Pn	Pn	09 16 20.8	-2.1
RAR	Rarotonga	13.99	118	Pn	Pn	09 16 44.6	-3.2
	2.4nm,0.3s,baz=314,slow=2.4,SNR=3.2						
RAR	Rarotonga	13.99	118		Pn	09 16 45.0	-2.8
DZM	Mont Dzumac	20.76	247	eP	Pn	09 18 11.6	-1.2
	73nm,1.3s						
DZM	Mont Dzumac	20.76	247	LR	LR	09 24 19.9	
	comp=Z,752nm,19.1s,baz=97,slow=32						
DZM	Mont Dzumac	20.76	247	P	P	09 18 09.2	-1.1
DZM				IAmb	IAmb	09 18 30.6	
	comp=Z,34nm,1.4s						
PPT	Papeete	22.59	100	LR	LR	09 24 54.2	
	comp=Z,348nm,20.9s,baz=269,slow=30						
PPT2	Papeete2	22.59	100	eLQ	LQ	09 22 59.9	
	comp=Z,2μm,28.8s						
PPT2				eLR	LR	09 24 02.7	
	comp=Z,957nm,25.0s						
PPT

comp=Z,166nm,21.5s,baz=94,slow=34
BATI Baumata 61.87 266 LR LR 09 49 04.0
comp=Z,144nm,18.2s,baz=156,slow=35
VNDA Vanda 63.86 186 P **P** **09 24 01.6 +0.8**
comp=Z,1.6nm,1.0s,baz=357,slow=3.8,SNR=8.4
VNDA Vanda 63.86 186 P **P** **09 24 04.0 +3.2**
DAV Davao City (W) 64.73 285 LR LR 09 46 46.5
comp=Z,87nm,20.3s,baz=216,slow=31
LUWI Luwuk 64.90 276 P **P** **09 24 08.0 -0.8**
NWAO Narrogin (SRO) 65.21 240 LR LR 09 50 10.5
comp=Z,160nm,18.8s,baz=20,slow=34
MJAR Matsushiro Arr 68.88 319 P **P** **09 24 34.5 +0.9**
comp=Z,1.3nm,0.7s,baz=144,slow=5.2,SNR=4.5
PETK Petropavlovsk- 72.34 342 P **P** **09 24 56.4 +2.1**
comp=Z,1.7nm,0.7s,baz=126,slow=7.5,SNR=5.6
PETK Petropavlovsk- 72.34 342 P **P** **09 24 54.0 -0.4**
KBO Bosley Butte 72.42 36 P **P** **09 24 55.0 -0.2**
YBH Yreka Blue Hor 72.99 37 LR LR 09 52 11.5
comp=Z,93nm,18.3s,baz=80,slow=32
NVAR Mina Array Bea 73.71 42 P **P** **09 25 06.6 +3.6**
comp=Z,0.5nm,0.7s,baz=231,slow=7.9,SNR=5.0
NVAR Mina Array Bea 73.71 42 P **P** **09 25 03.5 +0.5**
QSPA South Pole Qui 75.09 180 P **P** **09 25 13.2 +2.7**
QSPA IAmb IAmb 09 25 17.0
comp=Z,4.3nm,1.0s
HLID Hailey 79.01 39 P **P** **09 25 33.0 0.0**
TXAR Lajitas Array 80.01 56 P **P** **09 25 43.0 +4.4**
comp=Z,0.9nm,1.0s,baz=198,slow=3.7,SNR=6.7
TXAR Lajitas Array 80.01 56 P **P** **09 25 37.9 -0.8**
MCMT McKenzie Canyo 80.64 39 P **P** **09 25 41.3 -0.5**
TPAW Teton Pass 81.12 41 P **P** **09 25 44.3 -0.2**
TPAW IAmb IAmb 09 25 55.1
comp=Z,3.4nm,0.8s
SNOW Snow King Moun 81.23 41 P **P** **09 25 44.2 -0.8**
SNOW IAmb IAmb 09 25 57.1
comp=Z,6.3nm,1.2s
IMW Indian Meadow 81.33 40 P **P** **09 25 44.5 -1.2**
IMW IAmb IAmb 09 25 59.2
comp=Z,4.3nm,1.1s
WRH Wood River Hil 81.44 11 P **P** **09 25 45.5 +0.2**
WRH IAmb IAmb 09 26 06.0
comp=Z,7.8nm,1.2s
PD31 Pinedale Array 81.65 42 P **P** **09 25 47.4 +0.1**
PDAR Pinedale Array 81.65 42 P **P** **09 25 50.4 +3.1**
comp=Z,0.7nm,0.8s,baz=205,slow=3.1,SNR=7.7
PDAR Pinedale Array 81.65 42 P **P** **09 25 47.6 +0.4**
YHL Hebgen Lake 81.67 39 P **P** **09 25 47.7 +0.3**
BOZ Bozeman (W) 81.78 38 P **P** **09 25 47.6 -0.1**
ILAR Eielson Array 81.93 11 P **P** **09 25 49.8 +1.9**
comp=Z,0.6nm,0.7s,baz=225,slow=5.7,SNR=4.3
ILAR Eielson Array 81.93 11 P **P** **09 25 48.7 +0.8**
HRY Holter Researc 82.24 37 P **P** **09 25 50.0 -0.1**
YNE Yellowstone No 82.47 40 P **P** **09 25 50.5 -1.0**
RWWY Rawlins 82.68 44 P **P** **09 25 51.1 -1.6**
Q24A Divide 82.88 47 P **P** **09 25 50.4 -3.5**
Q24A IAmb IAmb 09 26 06.3
comp=Z,6.1nm,1.0s
ISCO Idaho Springs 82.92 46 P **P** **09 25 53.8 -0.3**
GCMT Greycliff 83.06 39 P **P** **09 25 54.6 +0.2**
N23A Red Feather La 83.17 45 **P** **09 25 54.6 -0.7**
N23A IAmb IAmb 09 26 00.7
comp=Z,6.4nm,1.1s
ABTX Abilene, Hawle 84.46 54 **P** **09 26 00.7 -1.0**
RSSD Black Hills 85.84 42 P **P** **09 26 07.5 -1.1**
RSSD IAmb IAmb 09 26 13.1
comp=Z,6.8nm,1.4s
KAN10 Anthony SW Sta 87.27 51 P **P** **09 26 14.7 -0.9**
MAW Mawson 88.35 198 P **P** **09 26 20.0 -0.1**
comp=Z,2.2nm,1.0s,baz=127,slow=10,SNR=4.4
MAW Mawson 88.35 198 P **P** **09 26 21.1 +1.0**
GERES GERESS Array B 145.76 352 PKPbc **PKiKP** **09 33 11.3 -0.1**
comp=Z,1.6nm,0.7s,baz=35,slow=4.9,SNR=9.8
BRTR Keskin Array B 146.08 322 PKPbc **PKiKP** **09 33 11.7 -0.8**
comp=Z,6.2nm,0.8s,baz=75,slow=3.0,SNR=16
KMBO Kilima Mbogo 146.11 244 PKPbc **PKPab** **09 33 11.4 +0.7**
comp=Z,0.7nm,0.3s,baz=112,slow=5.4,SNR=1.4
CONA Conrad Observa 146.32 349 *e*pPKiKP **PKiKP** **09 33 16.1 +3.4**
comp=Z,5.4nm,0.9s
MOA Molln 146.66 351 *e*pPKiKP **PKiKP** **09 33 18.2 +5.0**
comp=Z,4.2nm,0.6s
RETA Reutte 147.42 355 *e*pPKiKP **PKiKP** **09 33 20.4 +5.5**
comp=Z,9.5nm,1.3s
ABTA Abfaltersbach 147.98 353 *e*pPKiKP **PKPab** **09 33 21.4 +4.5**
comp=Z,4.5nm,0.7s

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*ISN **03** 09:28:57.0±0.3, 37°.34N×42°.69E, h0km, ML2.4*
*DDA **03** 09:28:57.5, 37°.18N×42°.56E, h8km±3km, ML2.2*
*ISK **03** 09:28:59.1, 37°.35N×42°.62E, h2km, ML2.6/8*
ISC 03 09:28:60.0±1.1, 37°.34N±0°.04×42°.64E±0°.04, h10km±9km, n18, σ1§25/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sırnak**	**0.23**	**315**	PG	**Pg**	**09 29 03.9**	**-0.8**
SIRT				SG	**Sg**	**09 29 08.3**	**+0.4**
SIRN	**Sırnak**	**0.24**	**311**	*i* P	**Pg**	**09 29 04.0**	**-1.0**
SIRN				*i* S	**Sg**	**09 29 09.3**	**+1.0**
SIRN				IAML		09 29 13.0	
	comp=N,1μm,0.7s						
SIRN				IAML		09 29 15.0	
	comp=E,930nm,0.5s						
CUKT	**Cukurca**	**0.78**	**97**	PG	**Pb**	**09 29 15.5**	**-0.2**
SRTM	**Siirt_Merkez**	**0.86**	**319**	*i* P	**Pb**	**09 29 15.8**	**-1.4**
SRTM				*i* S	**Sn**	**09 29 30.5**	**-0.5**
SRTM				IAML		09 29 33.0	
	comp=E,46nm,0.4s						
SRTM				IAML		09 29 38.0	
	comp=N,62nm,0.5s						
HAKT	**HAKKARI**	**0.88**	**75**	*i* P	**Pb**	**09 29 16.7**	**-0.7**
HAKT				IAML		09 29 32.0	
	comp=N,16nm,0.4s						
HAKT				IAML		09 29 43.0	
	comp=E,23nm,0.6s						
MSL	**Mosul**	**1.01**	**158**	*e*Pg	**Pg**	**09 29 19.0**	**-0.5**
	baz=340						
MSL				*e*Sg	**Sn**	**09 29 34.4**	**-0.2**
MSL				AML	AML	09 29 38.1	
	comp=N,111nm,0.6s						
MSL				AML	AML	09 29 39.3	
	comp=E,114nm,0.6s						
AKDM	**Akdamar-Van**	**1.02**	**15**	PG	**Pb**	**09 29 19.2**	**-0.7**
BLIS	**Bitlis-Merkez**	**1.15**	**339**	*i* P	**Pn**	**09 29 22.0**	**-0.3**
BLIS				IAML		09 29 59.0	
	comp=N,96nm,1.2s						
BLIS				IAML		09 29 59.0	
	comp=E,101nm,0.9s						
BTMN	**Batman**	**1.22**	**297**	*i* P	**Pb**	**09 29 23.0**	**-0.2**
BTMN				IAML		09 29 43.0	
	comp=N,83nm,0.8s						
BTMN				*i* S	**Sg**	**09 29 43.3**	**+4.1**
BTMN				IAML		09 29 44.0	
	comp=E,230nm,0.5s						
GURO	**Guroymak-BITLI**	**1.30**	**339**	PN	**Pn**	**09 29 24.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.40**	**306**	PN	**Pb**	**09 29 26.1**	**-0.1**
SVAN				SN	**Sg**	**09 29 45.7**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.40**	**306**	*i* P	**Pb**	**09 29 25.9**	**-0.3**
MARD	**Mardin**	**1.48**	**269**	*i* P	**Pb**	**09 29 26.9**	**-0.8**
MARD				*i* S	**Sg**	**09 29 49.7**	**+2.0**
MARD				IAML		09 29 50.0	
	comp=E,282nm,0.9s						
MARD				IAML		09 29 52.0	
	comp=N,315nm,0.6s						
MUSM	**Mu-Merkez**	**1.64**	**328**	*i* P	**Pn**	**09 29 29.8**	**+0.8**
MUSM				*i* S	**Sg**	**09 29 54.1**	**+1.3**
MUSM				IAML		09 29 56.0	
	comp=N,13nm,0.3s						
MUSM				IAML		09 29 56.0	
	comp=E,8.8nm,0.3s						
MAZI	**Mazidag**	**1.75**	**275**	PN	**Pb**	**09 29 31.0**	**-1.2**
HANI	**Diyarbakir_Han**	**2.07**	**302**	*i* P	**Pn**	**09 29 34.2**	**-0.6**
AGRB	**Hanur-Agry**	**2.25**	**7**	PN	**Pn**	**09 29 38.6**	**+1.2**
SVRC	**Sivrice-ELAZID**	**2.83**	**292**	PN	**Pn**	**09 29 45.5**	**+0.1**

IDC 03 09:31:03.3±3.0, 15°.72S×173°.57W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.6/38, mbtmp3.4/5, MS3.4/1, Ms1 3.4/1, ms1mx3.0/16, Error ellipse: s-maj=263.2km s-min=26.3km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.50**	**44**	Pn	Pn	09 31 36.3	-9.0
	11nm,0.3s,baz=243,slow=7.1,SNR=15						
AFI				Sn	Sn	09 31 58.2	-18
	39nm,0.3s,baz=207,slow=22,SNR=11						
PPT	**Papeete**	**23.06**	**98**	LR	LR	09 43 38.8	
	comp=Z,105nm,20.2s,baz=337,slow=33						
WRA	**Warramunga Arr**	**49.61**	**257**	P	P	09 39 56.3	-0.6
	0.2nm,0.6s,baz=96,slow=7.7,SNR=1.4						
ASAR	**Alice Springs**	**49.86**	**252**	P	P	09 39 59.0	+0.3
	0.8nm,0.7s,baz=86,slow=7.9,SNR=7.7						
NVAR	**Mina Array Bea**	**74.67**	**42**	P	P	09 42 45.5	+0.4
	0.1nm,0.3s,baz=228,slow=5.6,SNR=3.8						
TXAR	**Lajitas Array**	**80.92**	**56**	P	P	09 43 20.0	-0.1
	0.4nm,1.0s,baz=244,slow=5.3,SNR=2.8						
PDAR	**Pinedale Array**	**82.61**	**42**	P	P	09 43 28.4	-0.4
	0.2nm,0.7s,baz=223,slow=6.2,SNR=1.8						

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*IDC **03** 09:37:17.2±4.9, 35°.72N×71°.31E, h74km±33km, mb3.7/7, mb1 3.7/12, mb1mx3.4/62, mbtmp4.0/12, Error ellipse: s-maj=56.9km s-min=26.4km az=146.0*
*NNC **03** 09:37:24.7±5.5, 36°.83N×70°.56E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=43.6km s-min=29.4km az=171.0*
ISC 03 09:37:25.2±0.8, 36°.26N±0°.07×71°.41E±0°.09, h150km, n45, σ1§93/49, mb3.9/6, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.22**	**136**	*e*P	**Pn**	**09 38 42.5**	**+0.9**
THN				*e*S	**Sn**	**09 39 40.0**	**-1.1**
AML	**Almayashu**	**6.12**	**16**	P	**Pn**	**09 38 53.1**	**-0.7**
	SNR=13						
UCH	**Uchtor**	**6.42**	**21**	P	**Pn**	**09 38 57.7**	**-0.3**
	SNR=27						
KZA	**Kyzart**	**6.53**	**26**	P	**Pn**	**09 38 59.3**	**0.0**
	SNR=18						
EKS2	**Erkin-Say**	**6.65**	**15**	P	**Pn**	**09 39 00.2**	**-0.4**
	SNR=24						
AAK	**Ala-Archa**	**6.80**	**20**	P	**Pn**	**09 39 02.5**	**-0.1**
	14nm,0.3s,baz=156,slow=5.9,SNR=38						
AAK				S	**Sn**	**09 40 17.7**	**-1.3**
	2.4nm,0.3s,baz=339,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.80**	**20**	P	**Pn**	**09 39 02.7**	**+0.1**
	SNR=25						
AAK	**Ala-Archa**	**6.80**	**20**	⇑P	**Pn**	**09 39 02.3**	**-0.3**
	14nm,0.3s						
AAK				⇓S	**Sn**	**09 40 17.7**	**-1.3**
	28nm,0.7s						
KK31	**Karatay Array**	**6.87**	**354**	⇑P	**Pn**	**09 39 00.8**	**-2.6**
	14nm,0.5s,baz=177,slow=12,SNR=280						
KK31				⇑S	**Sn**	**09 40 13.6**	**-6.8**
	20nm,0.4s,baz=185,slow=22,SNR=11						
KBK	**Karagaybulak**	**6.94**	**22**	P	**Pn**	**09 39 05.1**	**+0.5**
	SNR=8.0						
CHMS	**Chumysh**	**7.20**	**20**	P	**Pn**	**09 39 08.2**	**+0.3**
	SNR=36						
USP	**Ospenovka**	**7.39**	**18**	P	**Pn**	**09 39 10.3**	**-0.1**
	SNR=15						
TKM2	**Tokmak 2**	**7.39**	**25**	P	**Pn**	**09 39 11.1**	**+0.4**
	SNR=5.7						
TKM2	**Tokmak 2**	**7.39**	**25**	⇑P	**Pn**	**09 39 10.5**	**-0.1**
	7.4nm,0.4s						
TKM2				⇓S	**Sn**	**09 40 34.4**	**+1.1**
	12nm,0.9s						
GEYT	**Alibeck**	**10.75**	**283**	P	Pn	09 39 48.6	-6.5
	0.7nm,0.3s,baz=122,slow=11,SNR=4.3						
GEYT				S	Sn	09 41 40.8	-13
	1.1nm,0.3s,baz=68,slow=16,SNR=2.3						
MKAR	**Makanchi Array**	**13.29**	**34**	P	**Pn**	**09 40 29.0**	**+1.0**
	0.2nm,0.3s,baz=225,slow=14,SNR=6.0						
KOLN	**Koldanda**	**13.35**	**126**	*e*P	**Pn**	**09 40 27.1**	**-2.1**
KOLN	**Koldanda**	**13.35**	**126**	*e*P	**Pn**	**09 40 27.1**	**-2.1**
GKN	**Gorkha**	**13.89**	**123**	*e*P	**Pn**	**09 40 34.6**	**-1.4**
	18nm,0.3s						
GKN	**Gorkha**	**13.89**	**123**	*e*P	**Pn**	**09 40 34.6**	**-1.4**
	18nm,0.3s						
DMN	**Daman**	**14.46**	**123**	*e*P	**Pn**	**09 40 41.9**	**-1.3**
DMN	**Daman**	**14.46**	**123**	*e*P	**Pn**	**09 40 41.9**	**-1.3**
PKI	**Pulchoki**	**14.70**	**122**	*e*P	**Pn**	**09 40 44.8**	**-1.4**
	7.6nm,0.2s						
PKI	**Pulchoki**	**14.70**	**122**	*e*P	**Pn**	**09 40 44.8**	**-1.4**
	7.6nm,0.2s						
GUN	**Gumba**	**14.81**	**120**	*e*P	**Pn**	**09 40 45.8**	**-1.8**
GUN	**Gumba**	**14.81**	**120**	*e*P	**Pn**	**09 40 45.8**	**-1.8**
JIRN	**Jiri**	**15.18**	**120**	*e*P	**Pn**	**09 40 50.9**	**-1.4**
	50nm,0.4s						
JIRN	**Jiri**	**15.18**	**120**	*e*P	**Pn**	**09 40 50.9**	**-1.4**
	50nm,0.4s						
KURBB	**Kurchatov Arra**	**15.24**	**17**	P	**P**	**09 40 55.0**	**+1.1**
	0.2nm,0.3s,baz=207,slow=10,SNR=5.0						
AB31	**Akbulak array**	**15.45**	**331**	⇓P	**Pn**	**09 40 50.7**	**-4.4**
	1.2nm,0.2s,baz=232,slow=30,SNR=21						
AB31				S	Sn	09 43 34.4	-12
	2.4nm,0.2s,baz=148,slow=24,SNR=8.8						
RAMN	**Ramite**	**15.91**	**121**	*e*P	**Pn**	**09 41 00.1**	**-1.0**
RAMN	**Ramite**	**15.91**	**121**	*e*P	**Pn**	**09 41 00.1**	**-1.0**
TAPN	**Taplejung**	**16.44**	**118**	*e*P	**P**	**09 41 07.5**	**-0.2**
	27nm,0.5s						
TAPN	**Taplejung**	**16.44**	**118**	*e*P	**P**	**09 41 07.5**	**-0.2**
	27nm,0.5s						
BVAR	**Borovoye Array**	**16.77**	**358**	P	**Pn**	**09 41 13.5**	**+2.3**
	0.7nm,0.3s,baz=171,slow=14,SNR=11						
AKTO	**Aktyubinsk**	**17.15**	**330**	P	**P**	**09 41 16.5**	**+1.5**
	0.7nm,0.3s,baz=107,slow=16,SNR=11						
AKTO	**Aktyubinsk**	**17.15**	**330**	⇑P	**P**	**09 41 15.9**	**+0.9**
	6.1nm,0.8s						
AKTO				⇑S	S	09 44 16.7	-9.3
	9.1nm,1.3s						
ZALV	**Zalesovo Beam**	**19.99**	**24**	P	**Pn**	**09 41 48.8**	**-0.4**
	3.3nm,0.4s,baz=222,slow=10,SNR=8.5						
ARU	**Arti**	**21.96**	**341**	P	**P**	**09 42 09.8**	**+3.0**
	3.4nm,0.2s,baz=158,slow=6.1,SNR=11						
FINES	**FINESS Array B**	**37.87**	**326**	P	**P**	**09 44 29.9**	**+2.8**
	1.7nm,0.7s,baz=122,slow=9.3,SNR=6.5						
ARCES	**ARCESS Array B**	**41.49**	**338**	P	**P**	**09 45 00.3**	**+3.3**
	2.8nm,0.8s,baz=114,slow=8.2,SNR=12						
HFS	**Hagfors**	**43.46**	**322**	P	**P**	**09 45 16.4**	**+3.3**
	1.5nm,0.6s,baz=101,slow=15,SNR=4.7						
NB2	**NORSAR Subarra**	**44.77**	**323**	P	**P**	**09 45 25.6**	**+2.1**
	comp=Z,4.0nm,1.1s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.77**	**323**	P	**P**	**09 45 25.5**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**66.05**	**269**	P	**P**	**09 47 55.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=49,slow=5.4,SNR=4.0						

IDC 03 09:37:32.1±3.7, 54°.32N×87°.41E, h0km, mb1 2.7/2, mb1mx2.6/62, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=33.1km s-min=21.0km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**258**	*i*		09 46 40.0	
	baz=76,slow=324,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.57**	**258**	Pg	Pn	09 37 59.4	-1.8
	0.4nm,0.3s,baz=75,slow=17,SNR=7.9						
ZALV				Lg	Lg	09 38 22.4	
	1.2nm,0.3s,baz=78,slow=36,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.56**	**239**	Pn	Pn	09 39 10.3	+0.5
	0.0nm,0.3s,baz=56,slow=14,SNR=5.2						
MKAR	**Makanchi Array**	**8.20**	**205**	Pn	Pn	09 39 33.7	+1.4
	0.1nm,0.3s,baz=30,slow=12,SNR=1.6						

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*DDA **03** 09:40:38.0, 38°.52N×23°.80E, h8km±4km, ML3.6*
*IDC **03** 09:40:48.4±0.9, 38°.60N×24°.44E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.5/56, mbtmp3.6/12, ML3.3/4, Error ellipse: s-maj=18.0km s-min=13.4km az=86.0*
*ATH **03** 09:40:48.7, 38°.61N×24°.53E, h27km±1km, ML3.8/9, Error ellipse: s-maj=1.6km s-min=0.9km az=287.0*
*ISK **03** 09:40:48.3, 38°.64N×24°.52E, h10km, ML3.6/24*
*THE **03** 09:40:49.2, 38°.60N×24°.54E, h6km, ML3.6/16, Error ellipse: s-maj=0.9km s-min=0.5km az=234.0*
ISC 03 09:40:49.0±1.0, 38°.59N±0°.02×24°.54E±0°.02, h7km±8km, n125, σ1§14/160, mb3.7/8, 4C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.29**	**1**	P	**Pb**	**09 40 54.8**	**-1.7**
SKY				S	**Sg**	**09 40 59.2**	**+0.7**
	19μm,0.8s						
SKY	**Skiros Island**	**0.29**	**1**	P	**Pb**	**09 40 54.8**	**-1.7**
SKY				S	**Sb**	**09 41 00.4**	**-1.2**
SKY				AML	AML	09 41 04.7	
	comp=N,25929μm,0.3s						
SKY				AML	AML	09 41 04.9	
	comp=E,44278μm,0.7s						
KYMI	**Kymi, Euboea I**	**0.35**	**277**	P	**Pg**	**09 40 56.1**	**+0.3**
KYMI				S	**Sg**	**09 41 01.5**	**+1.0**
	comp=E,9μm,0.7s						
KYMI	**Kymi, Euboea I**	**0.35**	**277**	P	**Pg**	**09 40 56.1**	**+0.3**
KYMI				S	**Sg**	**09 41 01.8**	**+1.3**
KYMI				AML	AML	09 41 02.5	
	comp=E,22523μm,0.7s						
KYMI				AML	AML	09 41 04.6	
	comp=N,10226μm,0.5s						
KARY	**Karystos**	**0.56**	**189**	P	**Pb**	**09 41 00.3**	**-0.9**
KARY				S	**Sb**	**09 41 08.8**	**-0.7**
	comp=N,2μm,0.5s						
KARY	**Karystos**	**0.56**	**189**	P	**Pb**	**09 41 00.3**	**-0.9**
DION	**Dionisos Attik**	**0.70**	**223**	P	**Pb**	**09 41 02.4**	**-1.2**
DION				S	**Sb**	**09 41 12.5**	**-1.0**
	comp=N,48μm,0.5s						
DION	**Dionisos Attik**	**0.70**	**223**	P	**Pb**	**09 41 02.8**	**-0.8**
DION				S	**Sb**	**09 41 13.2**	**-0.3**
DION				AML	AML	09 41 16.1	
	comp=E,89240μm,0.5s						
DION				AML	AML	09 41 16.3	
ALNA	**Alonissos**	**0.77**	**317**	P	**Pg**	**09 41 03.6**	**-0.1**
ALNA				S	**Sg**	**09 41 14.1**	**+0.3**
ALNA				AML	AML	09 41 17.9	
	comp=E,17139μm,0.9s						
ALNA				AML	AML	09 41 24.6	
	comp=N,7924μm,0.9s						
AOS	**Alonnisos**	**0.78**	**318**	P	**Pg**	**09 41 03.6**	**-0.3**
AOS				S	**Sb**	**09 41 14.8**	**-0.8**
	comp=N,3μm,0.7s						
AOS	**Alonnisos**	**0.78**	**318**	P	**Pg**	**09 41 03.8**	**-0.1**
AOS				S	**Sg**	**09 41 14.6**	**+0.5**
AOS				AML	AML	09 41 18.8	
	comp=N,4513μm,0.6s						
AOS				AML	AML	09 41 19.1	
	comp=E,6079μm,0.9s						
AOS	**Alonnisos**	**0.78**	**318**	PG	**Pg**	**09 41 03.2**	**-0.7**
AOS				SG	**Sg**	**09 41 13.4**	**-0.6**
PSRA	**Psara**	**0.80**	**93**	P	**Pn**	**09 41 05.4**	**-1.3**
ATHU	**Athens Univers**	**0.86**	**224**	P	**Pg**	**09 41 05.2**	**-0.4**
ATHU	**Athens Univers**	**0.86**	**224**	P	**Pb**	**09 41 06.0**	**-0.3**
ATHU				S	**Sb**	**09 41 17.6**	**-0.5**
ATHU				AML	AML	09 41 19.9	
	comp=E,3875μm,0.5s						
ATHU				AML	AML	09 41 20.2	
	comp=N,16037μm,0.6s						
ATH	**Athens Observa**	**0.90**	**227**	P	**Pb**	**09 41 06.3**	**-0.6**
ATH				S	**Sb**	**09 41 18.9**	**-0.2**
	comp=N,7μm,0.6s						
ATH	**Athens Observa**	**0.90**	**227**	P	**Pn**	**09 41 06.9**	**-1.1**
ATH				S	**Sb**	**09 41 18.9**	**-0.2**
ATH				AML	AML	09 41 20.0	
	comp=N,9241μm,0.4s						
ATH				AML	AML	09 41 22.0	
	comp=E,15793μm,0.6s						
VLY	**Voula,Athens**	**0.94**	**219**	P	**Pb**	**09 41 07.1**	**-0.6**
VLY				S	**Sb**	**09 41 20.0**	**-0.4**
	comp=E,8μm,0.8s						
VLY	**Voula,Athens**	**0.94**	**219**	P	**Pn**	**09 41 08.1**	**-0.6**
VLY				S	**Sb**	**09 41 20.3**	**-0.1**
VLY				AML	AML	09 41 22.8	
	comp=N,15030μm,1.2s						
VLY				AML	AML	09 41 24.2	
	comp=E,16203μm,0.5s						
EFSA	**Agios Efstrati**	**1.01**	**20**	P	**Pb**	**09 41 08.3**	**-0.5**
VILL	**Villia**	**1.06**	**247**	P	**Pg**	**09 41 08.8**	**-0.5**
VILL				S	**Sb**	**09 41 24.2**	**+0.5**
	comp=E,9μm,0.6s						
VIL2	**Platees**	**1.07**	**250**	P	**Pn**	**09 41 09.7**	**-0.7**
VIL2				S	**Sb**	**09 41 24.5**	**+0.4**
VIL2				AML	AML	09 41 25.6	
	comp=E,13988μm,0.6s						
VIL2				AML	AML	09 41 25.7	
	comp=N,18123μm,0.6s						
TNSA	**Tinos**	**1.16**	**155**	P	**Pn**	**09 41 10.9**	**-0.7**
SIGR	**SIGRI**	**1.20**	**58**	P	**Pb**	**09 41 10.8**	**-1.2**
SIGR				S	**Sn**	**09 41 29.9**	**+1.2**
	comp=N,2μm,0.7s						
SIGR	**SIGRI**	**1.20**	**58**	P	**Pn**	**09 41 11.5**	**-0.6**
SIGR	**SIGRI**	**1.20**	**58**	PN	**Pn**	**09 41 11.4**	**-0.8**
SIGR				SN	**Sn**	**09 41 28.4**	**-0.3**
CHOS	**Chios island**	**1.20**	**99**	P	**Pn**	**09 41 11.6**	**-0.8**
CHOS				S	**Sn**	**09 41 28.5**	**-0.5**
	comp=N,2μm,0.9s						
CHOS	**Chios island**	**1.20**	**99**	P	**Pn**	**09 41 11.9**	**-0.5**
CHOS	**Chios island**	**1.20**	**99**	PN	**Pn**	**09 41 11.8**	**-0.5**
CHOS				SN	**Sn**	**09 41 29.6**	**+0.6**
LKR	**Lokris**	**1.21**	**273**	P	**Pg**	**09 41 11.0**	**-1.2**
LKR				S	**Sg**	**09 41 27.9**	**0.0**
	comp=N,1μm,0.7s						
LKR	**Lokris**	**1.21**	**273**	P	**Pg**	**09 41 11.4**	**-0.8**
NEO	**Neokhori**	**1.25**	**305**	P	**Pn**	**09 41 12.1**	**-0.9**
NEO				S	**Sn**	**09 41 30.4**	**+0.2**
	comp=N,2μm,0.7s						
NEO	**Neokhori**	**1.25**	**305**	P	**Pn**	**09 41 12.5**	**-0.6**
XOR	**Xorichti**	**1.31**	**307**	P	**Pn**	**09 41 12.6**	**-1.2**
XOR				S	**Sn**	**09 41 31.5**	**0.0**
XOR	**Xorichti**	**1.31**	**307**	P	**Pg**	**09 41 13.8**	**-0.2**
LTK	**Loutraki**	**1.36**	**246**	P	**Pn**	**09 41 13.8**	**-0.7**
LTK				S	**Sn**	**09 41 32.7**	**-0.2**
	comp=N,4μm,0.6s						
LTK	**Loutraki**	**1.36**	**246**	P	**Pn**	**09 41 13.8**	**-0.7**
LIA	**Limnos Island**	**1.40**	**21**	P	**Pn**	**09 41 13.4**	**-1.5**
LIA				S	**Sb**	**09 41 32.5**	**-1.0**
	comp=N,1μm,1.1s						
LIA	**Limnos Island**	**1.40**	**21**	P	**Pn**	**09 41 13.6**	**-1.4**
SERI	**Serifos**	**1.43**	**182**	P	**Pn**	**09 41 14.6**	**-0.8**
SERI	**Serifos**	**1.43**	**182**	P	**Pn**	**09 41 14.7**	**-0.8**
PAIG	**Paliouri**	**1.49**	**334**	P	**Pn**	**09 41 15.3**	**-1.0**
PAIG				S	**Sg**	**09 41 37.0**	**0.0**
	comp=N,902nm,1.2s						
PAIG	**Paliouri**	**1.49**	**334**	P	**Pn**	**09 41 15.4**	**-0.9**
DID	**Didima**	**1.50**	**224**	P	**Pn**	**09 41 15.5**	**-0.8**
DID	**Didima**	**1.50**	**224**	P	**Pn**	**09 41 15.5**	**-0.8**
DSF	**Desfina**	**1.59**	**264**	P	**Pn**	**09 41 16.9**	**-0.8**
DSF				S	**Sn**	**09 41 38.2**	**-0.4**
	comp=N,

SANT	Santorini	2.33	162	⇑P		Pb	09 41 29.4	-2.0
SANT	Santorini	2.33	162	PN		Pb	09 41 28.8	-2.6
GELI	Tayfur-Gelibol	2.34	39	PN		Pn	09 41 26.9	-1.1
LPK	Lapseki	2.47	43	PN		Pn	09 41 29.3	-0.4
ITM	Ithomi	2.50	237	PN		Pn	09 41 30.3	+0.1
ALN	Alexandroupoli	2.58	26	PN		Pn	09 41 30.6	-0.6
STEP	BALIKESIR_Sava	2.60	71	*i* P		Pb	09 41 34.4	-1.5
STEP				*i* S		Sg	09 42 15.2	+2.8
KTHA	Kythira Island	2.61	207	PN		Pn	09 41 32.1	+0.4
BALY	Balya	2.65	63	*i* P		Pn	09 41 32.0	-0.3
BALY				IAML			09 42 33.0	
	comp=N,192nm,0.8s							
RDO	Rodhopi	2.67	16	PN		Pn	09 41 32.2	-0.2
BODT	Bodrum	2.67	124	PN		Pn	09 41 32.7	+0.2
KESN	Edirne-Kesan	2.77	36	*i* P		Pn	09 41 31.6	-2.7
KESN				IAML			09 42 27.0	
	comp=E,180nm,0.7s							
KESN				IAML			09 42 42.0	
	comp=N,130nm,1.4s							
BALB	Balikesir	2.80	67	PN		Pn	09 41 34.5	+0.3
RKY	Sarkoy-Tekirda	2.92	43	PN		Pn	09 41 36.1	+0.2
UKOP	Uzunkopru-Edir	3.00	32	PN		Pn	09 41 36.9	-0.1
MAR3	Marsite Statio	3.02	44	PN		Pn	09 41 37.5	+0.2
DAT	Datca	3.04	127	PN		Pn	09 41 38.4	+0.7
MAR4	Marsite Statio	3.06	43	PN		Pn	09 41 37.9	0.0
VAY	Valandovo	3.12	332	*i* Pn		Pg	09 41 48.9	+0.1
KDZ	Kurdzhali	3.13	12	PN		Pn	09 41 37.8	-1.0
MANT	Manisa	3.15	91	*i* P		Pb	09 41 45.7	+0.2
MAR9	Marsite Statio	3.17	49	PN		Pn	09 41 39.8	+0.5
IDI	Anoyia	3.31	175	Pn		Pn	09 41 41.2	-0.1
	comp=N,2.1nm,0.3s,baz=354,slow=12,SNR=20							
IDI				Lg		Lg	09 42 35.3	
	comp=N,5.5nm,0.3s,baz=167,slow=21,SNR=5.4							
IDI	Anoyia	3.31	175	⇓P		Pn	09 41 41.2	-0.1
TURN	Turunc	3.45	121	PN		Pn	09 41 44.6	+1.4
STIP	Stip	3.59	331	*i* Pn		Pn	09 41 47.2	+2.1
EDRB	Edirne	3.66	27	PN		Pn	09 41 46.6	+0.5
OHR	Ohrid	3.83	312	*i* Pn		Pn	09 41 51.2	+2.8
ULDT	Uludag	3.88	65	*i* P		Pb	09 41 58.7	+0.8
TIP	Timpagrande	6.10	278	⇓P		Pn	09 42 20.9	+1.2
HERR	Herculane	6.48	346	⇓P		Pn	09 42 25.4	+0.5
ARR	Arges	6.77	1	⇑P		Pn	09 42 28.7	-0.2
VOIR		6.85	3	⇑P		Pn	09 42 29.1	-0.9
LOT	Lotru	6.88	355	⇑P		Pn	09 42 30.1	-0.3
MLR	Muntele Rosu	6.97	8	Pn		Pn	09 42 32.2	+0.5
	comp=N,0.2nm,0.3s,baz=282,slow=23,SNR=4.1							
MLR				Lg		Lg	09 44 33.5	
	comp=N,0.1nm,0.3s,baz=137,slow=20,SNR=3.1							
MLR	Muntele Rosu	6.97	8	⇓P		Pn	09 42 32.5	+0.8
BRTR	Keskin Array B	7.16	78	Pn		Pn	09 42 37.0	+2.7
	comp=N,0.2nm,0.3s,baz=270,slow=14,SNR=3.5							
GERES	GERESS Array B	12.89	326	Pn		Pn	09 43 52.4	-0.3
	comp=N,0.1nm,0.3s,baz=142,slow=12,SNR=5.5							
ESDC	Sonseca Array	22.11	282	P		P	09 45 44.4	-0.5
	comp=N,1.9nm,0.8s,baz=82,slow=11,SNR=14							
FINES	FINESS Array B	22.90	2	P		P	09 45 53.6	+0.5
	comp=N,2.2nm,0.8s,baz=157,slow=25,SNR=2.6							
NOA	NORSAR Array B	23.97	344	P		P	09 46 05.0	+1.2
	comp=N,1.6nm,0.9s,baz=149,slow=9.8,SNR=3.3							
EKA	Eskdalemuir Ar	25.01	321	P		P	09 46 13.0	-0.3
	comp=N,1.5nm,0.7s,baz=110,slow=9.8,SNR=6.5							
GEYT	Alibeck	26.29	81	P		P	09 46 27.8	+2.6
	comp=N,1.3nm,0.4s,baz=303,slow=6.6,SNR=1.3							
TORD	Torodi Ar. Bea	32.45	225	P		P	09 47 19.8	-0.2
	comp=N,0.8nm,0.7s,baz=39,slow=9.5,SNR=3.7							
KURBB	Kurchatov Arra	39.43	54	P		P	09 48 20.1	+0.6
	comp=N,0.3nm,0.4s,baz=268,slow=8.3,SNR=3.2							
MKAR	Makanchi Array	42.38	60	P		P	09 48 43.3	-0.6
	comp=N,0.5nm,0.7s,baz=290,slow=8.7,SNR=4.2							

WEL 03 09:42:28.7±0.7, 31°S±13°×18°0E±3°1, h231km±24km, M4.4/6, ML4.5/2, MLv4.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.93	47	P	Pn	09 43 18.4	-0.8
GLKZ				S	S	09 43 55.9	-3.0
MXZ	Matakaoa Point	6.36	189	S	S	09 45 17.1	+2.6
HAZ	Te Kaha	6.64	193	P	Pn	09 44 06.1	+1.6
HAZ				S	S	09 45 26.1	+5.2
RUGZ	Raukumara Rang	6.86	193	P	Pn	09 44 12.7	+5.2
RUGZ				S	S	09 45 25.9	-0.4
MWZ	Matawai	7.25	193	P	Pn	09 44 17.9	+5.6
MWZ				S	S	09 45 37.3	+2.1
URZ	Urewera	7.26	196	P	Pn	09 44 17.2	+4.7
URZ				S	S	09 45 39.7	+4.3
RTZ	Ruatahuna	7.63	196	P	Pn	09 44 19.1	+1.8
RTZ				S	S	09 45 47.4	+3.2
RITZ	Rihia Road	8.27	201	P	Pn	09 44 24.1	-1.3
RITZ				S	S	09 45 50.1	-9.0
KWHZ	Kaweka Forest	8.54	197	P	Pn	09 44 28.4	-0.3
KWHZ				S	S	09 46 07.9	+2.6
TSZ	Takapari Road	9.25	198	P	Pn	09 44 39.6	+1.7
TSZ				S	S	09 46 20.7	-1.4
BFZ	Birch Farm	9.77	195	P	Pn	09 44 47.1	+2.6
BFZ				S	S	09 46 33.2	-1.0
MRZ	Mangatainoka R	9.92	198	P	Pn	09 44 45.9	-0.4
MRZ				S	S	09 46 34.4	-3.3
TIWZ	Tintock	9.95	197	P	Pn	09 44 47.8	+1.1
TIWZ				S	S	09 46 36.0	-2.4
OGWZ	Otaki Gorge	10.18	199	P	Pn	09 44 51.8	+2.2
OGWZ				S	S	09 46 41.6	-2.2
CAW	Cannon Point	10.47	199	P	Pn	09 44 52.4	-1.0
CAW				S	S	09 46 49.5	-1.3
TUWZ	Tuamarina	11.11	203	P	Pn	09 45 01.2	-0.3
TUWZ				S	S	09 47 04.7	+0.2
QRZ	Quartz Range	11.12	209	P	P	09 45 05.0	-1.5
QRZ				P	S	09 47 08.5	+3.9
KHZ	Kahutara	12.13	202	P	Pn	09 45 15.9	+1.7
KHZ				S	S	09 47 22.2	-6.3
DSZ	Denniston Nort	12.18	209	P	Pn	09 45 12.3	-2.7

*JSN **03** 09:44:58.4±0.4, 18°.97N×81°.41W, h9km±999km, MD4.3*
*SSNC **03** 09:44:59.8±1.6, 18°.87N×81°.25W, h5km±15km, MD3.9, ML3.3, MW3.3*

ISC 03 09:45:00.7±2.0, 19°.1N±0°.1×81°.11W±0°.09, h10km, n9, σ1º09/15, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGV	Manicaragua	3.22	19	*e*P	Pn	09 45 51.9	+0.6
MGV				*e*S	Sn	09 46 31.1	+1.4
MGV				IAML		09 46 33.6	
	comp=E,69nm,0.3s						
MGV				IAML		09 46 33.8	
	comp=N,30nm,0.1s						
MCJ	Malvern	3.43	109	*i* P	Pn	09 45 54.5	+0.1
MCJ				*i* S	Sn	09 46 36.7	+1.4
LMGC	Las Mercedes	4.00	75	*e*P	Pn	09 46 02.0	0.0
LMGC				*e*S	Sn	09 46 48.7	-0.2
LMGC				IAML		09 46 53.6	
	comp=E,17nm,0.3s						
LMGC				IAML		09 46 54.0	
	comp=N,25nm,0.2s						
SOR	Soroa	4.12	335	*e*P	Pn	09 46 03.8	+0.1
SOR				*e*S	Sn	09 46 50.8	-1.2
SOR				IAML		09 46 56.5	
	comp=N,18nm,0.5s						
SOR				IAML		09 46 57.9	
	comp=E,26nm,0.5s						
STH	Stony Hill	4.19	103	*i* P	Pn	09 46 04.8	+0.1
HOJ	Hope	4.26	104	*i* P	Pn	09 46 05.8	+0.1
GWJ	Greenwich	4.27	103	*i* P	Pn	09 46 06.2	+0.2
RCC	Rio Carpintero	5.19	79	*e*P	Pn	09 46 18.2	-0.2
RCC				*e*S	Sn	09 47 15.8	-2.5
RCC				IAML		09 47 23.4	
	comp=E,3.4nm,0.5s						
RCC				IAML		09 47 23.6	
	comp=N,4.0nm,0.6s						
GTMO	Guantanamo	5.72	79	*e*P	Pn	09 46 26.6	+0.9
GTMO				*e*S	Sn	09 47 30.6	-0.9
GTMO				IAML		09 47 37.5	
	comp=E,164nm,0.2s						
GTMO				IAML		09 47 42.2	
	comp=N,204nm,0.9s						

*NEIC **03** 09:46:19.2±2.3, 5°.0S±0°.2×104°.90W±0°.04, h10km±2km, mb4.4/46, Error ellipse: s-maj=25.9km s-min=5.0km az=168.0*
*IDC **03** 09:46:19.7±8.0, 4°.68S×105°.02W, h0km, mb3.7/5, mb1 4.2/5, mb1mx3.7/32, mbtmp3.7/5, Error ellipse: s-maj=225.8km s-min=120.9km az=117.0*

ISC 03 09:46:19.2±2.3, 5°.0S±0°.3×104°.9W±0°.2, h10km, n60, σ1º18/54, mb4.3/22, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	Tlapa	23.29	15	P	P	09 51 27.2	-0.3
TLIG				IAmb	IAmb	09 51 32.6	
	comp=Z,7.5nm,1.1s						
HUEH	Huehuetenango	24.17	33	P	P	09 51 37.2	+1.0
CCIG	Comitan	24.64	31	P	P	09 51 39.4	-1.0
CCIG				IAmb	IAmb	09 51 41.8	
	comp=Z,15nm,1.2s						
ESQI	Esquipulas	24.82	38	P	P	09 51 42.8	+0.8
OTAV	Otavalo	26.92	80	P	P	09 52 00.7	-0.8
OTAV				IAmb	IAmb	09 52 16.5	
	comp=Z,14nm,1.4s						
ZAIG	Zacatecas	27.71	5	P	P	09 52 07.7	-0.5
ZAIG				IAmb	IAmb	09 52 10.9	
	comp=Z,4.7nm,1.1s						
BCIP	Isla Barro Col	28.68	61	P	P	09 52 15.6	-1.0
SLBS	Sierra La Lagu	28.95	350	P	P	09 52 18.9	-0.2
833A	Chaparral WMA,	33.57	9	P	P	09 52 58.1	-1.5
833A				IAmb	IAmb	09 52 59.3	
	comp=Z,7.0nm,1.0s						
TX31	Lajitas Ar. Si	34.17	2	P	P	09 53 04.2	-0.8
TX32	Lajitas Array	34.17	2	P	P	09 53 04.1	-0.9
TXAR	Lajitas Array	34.17	2	P	P	09 53 03.8	-1.2
	comp=Z,0.6nm,1.0s,baz=181,slow=12,SNR=4.4						
TXAR	Lajitas Array	34.17	2	P	P	09 53 04.1	-0.9
LCCY	Blossom Villag	34.60	44	P	P	09 53 09.4	+0.7
H03N2	Juan Fernandez	37.20	143	T	T	10 33 26.2	
	baz=318,slow=78,SNR=6.1						
H03N1	Juan Fernandez	37.21	143	T	T	10 33 28.0	
	baz=318,slow=78,SNR=7.9						
H03N3	Juan Fernandez	37.21	143	T	T	10 33 33.9	
	baz=318,slow=78,SNR=5.9						
MSTX	Muleshoe	38.83	3	P	P	09 53 46.4	+1.7
MSTX				IAmb	IAmb	09 53 52.0	
	comp=Z,8.9nm,1.4s						
W35A	Tecumseh	40.66	10	P	P	09 54 00.2	+0.4
W39A	Magazine	41.34	14	P	P	09 54 06.3	+0.9
SAML	Samuel	41.57	98	P	P	09 54 07.6	0.0
SAML				IAmb	IAmb	09 54 12.8	
	comp=Z,6.2nm,1.2s						
T25A	Trinidad	41.94	1	P	P	09 54 11.9	+1.4
MVCO	Mesa Verde	42.14	356	P	P	09 54 13.0	+0.8
SHPR	Sheep Range	42.41	348	P	P	09 54 14.9	+0.6
ISA	Isabella, Lake	42.43	344	P	P	09 54 14.5	+0.1
SDCO	Great Sand Dun	42.55	359	P	P	09 54 16.8	+1.2
S22A	4UR Ranch, Cre	42.58	358	P	P	09 54 14.8	-1.1
PLAL	Pickwick Lake	42.82	20	P	P	09 54 16.8	-0.7
PLAL				IAmb	IAmb	09 54 18.1	
	comp=Z,6.5nm,0.9s						
LCAR	Lake Charles	42.85	16	P	P	09 54 18.1	+0.4
LCAR				IAmb	IAmb	09 54 23.0	
	comp=Z,8.5nm,1.4s						
PRN	Pahroc Range	43.25	348	P	P	09 54 21.2	+0.1
PV15	Paradox Valley	43.27	356	P	P	09 54 20.5	-0.9
PV15				IAmb	IAmb	09 54 25.0	
	comp=Z,4.7nm,1.1s						
MTPU	Mount Pierson	43.37	352	P	P	09 54 22.7	+0.4
MLPR	Magueyes Islan	43.77	58	P	P	09 54 26.3	+0.9
SRU	San Rafael Swe	44.21	354	P	P	09 54 28.1	-0.8
R11A	Troy Canyon, C	44.27	348	P	P	09 54 29.5	+0.2
BG3	Lake Jocassee	44.85	26	P	P	09 54 34.2	+0.3
BG3				IAmb	IAmb	09 54 34.8	
	comp=Z,4.3nm,1.0s						
V51A	Loudon	44.95	24	P	P	09 54 35.9	+1.3
V51A				IAmb	IAmb	09 54 49.5	
	comp=Z,7.4nm,1.1s						
NVAR	Mina Array Bea	44.98	345	P	P	09 54 35.3	+0.2
	comp=Z,0.7nm,0.9s,baz=173,slow=7.8,SNR=4.8						
PNTR	Pine Nut	45.94	344	P	P	09 54 43.4	+0.7
HWUT	Hardware Ranch	46.80	353	P	P	09 54 48.1	-1.2
HWUT				IAmb	IAmb	09 54 53.8	
	comp=Z,2.8nm,0.9s						
ORV	Oroville	46.92	342	P	P	09 54 49.7	-0.5
ORV				IAmb	IAmb	09 54 52.0	
	comp=Z,5.6nm,1.3s						
BW06	Boulder Array	47.74	355	P	P	09 54 54.2	-2.6
BW06				IAmb	IAmb	09 55 06.2	
	comp=Z,5.0nm,1.4s						
PD31	Pinedale Array	47.74	355	P	P	09 54 53.4	-3.3
PD31				IAmb	IAmb	09 55 04.3	
	comp=Z,5.4nm,1.5s						
PDAR	Pinedale Array	47.74	355	P	P	09 54 54.2	-2.5
	comp=Z,0.7nm,0.9s,baz=168,slow=9.1,SNR=4.8						
PDAR	Pinedale Array	47.74	355	P	P	09 54 54.8	-2.0
P52A	Corning	49.14	23	P	P	09 55 05.5	-1.7
FLWY	Flagg Ranch	49.15	354	P	P	09 55 05.5	-2.0
MFID	Camas Ranch	49.21	349	P	P	09 55 07.0	-0.9
MFID				IAmb	IAmb	09 55 29.6	
	comp=Z,2.5nm,1.1s						
O52A	Adamsville	49.67	23	P	P	09 55 12.4	+1.1
YHH	Holmes Hill	49.87	354	P	P	09 55 12.6	-0.5
QLMT	Earthquake Lak	49.97	354	P	P	09 55 13.9	+0.1
YNE	Yellowstone No	50.01	355	P	P	09 55 15.3	+1.2
RLMT	Red Lodge	50.06	356	P	P	09 55 13.9	-0.6
RLMT				IAmb	IAmb	09 55 17.5	
	comp=Z,2.8nm,0.9s						
MCMT	McKenzie Canyo	50.13	353	P	P	09 55 14.3	-0.7
YKA	Yellowknife Ar	67.73	355	P	P	09 57 18.2	+1.5
	comp=Z,3.5nm,1.0s,baz=164,slow=5.4,SNR=6.7						
ILAR	Eielson Array	76.18	343	P	P	09 58 06.4	-1.0
	comp=Z,1.7nm,0.9s,baz=155,slow=5.6,SNR=7.3						
ILAR	Eielson Array	76.18	343	P	P	09 58 07.6	+0.3
H11N3	WAKE ISLAND Hy	89.97	290	T	T	11 39 31.1	
	baz=97,slow=74,SNR=6.2						
H11N2	WAKE ISLAND Hy	89.99	290	T	T	11 39 29.4	
	baz=97,slow=74,SNR=4.2						
H11N1	WAKE ISLAND Hy	89.99	290	T	T	11 39 31.0	
	baz=97,slow=74,SNR=4.8						

TAP 03 09:56:08.2, 25°.97N×119°.43E, h42km±1km, ML2.1, B, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHZQ	Yeshan	0.38	290	*e*P	Pn	09 56 17.7	+0.2
	baz=289						
MATB	Ma-tsu	0.50	69	P	Pn	09 56 19.5	+0.5
	baz=69						
PTTC	Pingtan	0.56	147	P	Pn	09 56 20.4	+0.5
	baz=146						
PTTC				*e*S	Sn	09 56 29.4	+1.3
	baz=146						
LYJJ	Jianjiangzhen	0.65	27	P	Pn	09 56 21.7	+0.6
	baz=27						
LYJJ				*e*S	Sn	09 56 31.3	+1.1
	baz=27						
PTMZ	Houxiangcun	0.97	197	*e*P	Pn	09 56 26.2	+0.9
	baz=196						
PTMZ				*e*S	Sn	09 56 38.6	+0.7
	baz=196						
VWUC	VWUC	0.98	179	P	Pn	09 56 26.1	+0.7
	baz=178						

TAP 03 09:56:11.1, 25°.75N×119°.74E, h8km±1km, ML2.2, 2C, C, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTTC	Pingtan	0.25	174	⇑P	Pg	09 56 17.2	+1.2
	baz=174						
PTTC				S	Sg	09 56 21.2	+1.8
	baz=174						
MATB	Ma-tsu	0.44	24	⇑P	Pb	09 56 20.6	-0.6
	baz=23						
MATB				S	Sb	09 56 27.3	-0.7
	baz=23						
MHZQ	Yeshan	0.73	299	*e*P	Pb	09 56 25.7	-0.4
	baz=298						
MHZQ				*e*S	Sb	09 56 36.8	+0.5
	baz=298						
MHZQ	Yeshan	0.73	299	S	Pg	09 56 25.2	0.0
	baz=289						
LYJJ	Jianjiangzhen	0.80	1	P	Pg	09 56 26.7	+0.2
	baz=1.0						
LYJJ				*e*S	Sn	09 56 40.0	-0.8
	baz=1.0						
VWUC	VWUC	0.80	199	P	Pn	09 56 28.2	-0.5
	baz=199						
VWUC				*e*S	Sn	09 56 40.3	-0.5
	baz=199						
PTMZ	Houxiangcun	0.90	219	P	Pb	09 56 29.0	0.0
	baz=218						
PTMZ				S	Sn	09 56 42.3	-1.0
	baz=218						
XPSS	Dashiqiu	1.24	19	P	Pg	09 56 35.0	0.0
	baz=18						
XPSS				*e*S	Sn	09 56 52.6	+0.8
	baz=18						
NHW	Xinwu Township	1.39	122	P	Pn	09 56 36.6	-0.2
	baz=122						
LIOB	Emei	1.59	133	*e*P	Pn	09 56 40.1	+0.5
	baz=133						
LIOB				*e*S	Sn	09 56 59.5	-0.9
	baz=133						
KNMB	Chin-men Tao	1.77	224	P	Pn	09 56 42.3	+0.2
	baz=223						
KNMB				S	Sn	09 57 05.5	+0.7
	baz=223						
KNM	Kinmen	1.78	222	*i* P	Pb	09 56 44.2	+0.2
	baz=224						
KNM				*i* S	Sg	09 57 08.5	+0.2
	baz=224						
AXDP	Jialang	1.81	243	P	Pn	09 56 43.0	+0.3
	baz=242						
AXDP				*e*S	Sn	09 57 06.0	+0.2
	baz=242						
TIPB	Shuangxi	2.04	112	*e*P	Pb	09 56 47.6	-0.9
	baz=112						

IDC 03 09:58:36.1±1.9, 7°.47S×129°.33E, h0km, mb4.0/2, mb1 3.8/4, mb1mx3.5/34, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=231.2km s-min=25.0km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.32	159	Pn	Pn	10 01 46.5	-0.2
	0.3nm,0.3s,baz=333,slow=14,SNR=29						
WRA				Sn	Sn	10 04 12.3	-3.3
	0.4nm,0.3s,baz=354,slow=22,SNR=5.3						
ASAR	Alice Springs	16.69	165	Pn	P	10 02 33.6	-0.5
	0.2nm,0.3s,baz=346,slow=14,SNR=9.9						
ASAR				Sn	Sn	10 05 33.8	-4.0
	0.1nm,0.3s,baz=357,slow=26,SNR=2.1						
STKA	Stephens Creek	26.84	156	P	P	10 04 17.7	-0.7
	1.6nm,1.0s,baz=0.0,slow=9.1,SNR=1.6						
MKAR	Makanchi Array	68.26	327	P	P	10 09 39.0	+0.1
	0.8nm,0.4s,baz=114,slow=7.6,SNR=15						

*BGR **03** 10:01:00.9±0.0, 18°.92N×83°.27W, h10km, mb5.0, Ms4.9*
*BJI **03** 10:01:02.0±0.0, 19°.00N×81°.40W, h5km, mB5.5/2, Ms5.4/6, Ms7 5.1/6*
*IDC **03** 10:01:03.8±0.4, 18°.85N×81°.42W, h0km, mb4.8/36, mb1 5.0/42, mb1mx4.9/59, mbtmp4.9/42, ML4.6/5, MS4.6/32, Ms1 4.6/32, ms1mx4.6/34, Error ellipse: s-maj=12.3km s-min=8.9km az=62.0*
*MOS **03** 10:01:03.7±1.1, 18°.86N×81°.45W, h10km, mb5.4/47, MS4.9/7, Error ellipse: s-maj=7.2km s-min=4.1km az=105.4*
*UNK **03** 10:01:04.1, 18°.97N×81°.34W, h10km*
*SSNC **03** 10:01:05.2±0.3, 18°.82N×81°.28W, h8km±8km, ML5.2*
*NEIC **03** 10:01:05.1±1.9, 18°.88N±0°.04×81°.32W±0°.05, h10km±1km, mb5.2/480, Mww5.2, Error ellipse: s-maj=8.5km s-min=6.0km az=298.0*
*JSN **03** 10:01:07.9±5.1, 15°.83N×80°.37W, h0km±999km*
*GCMT **03** 10:01:08.1±0.1, 18°.96N±0°.01×81°.42W±0°.01, h12km, MW5.3/142, Moment Tensor Solution. s91,c146; s142,c266; Duration: 1º1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.03±.01; $M_{\theta\theta}$-0.38±.01; $M_{\phi\phi}$0.35±.01; $M_{r\theta}$0.18±.04; $M_{\theta\phi}$0.93±.01; $M_{\phi r}$-0.10±.03; Best double couple: $M_0$1.02100×10^{17} NP1:ϕ_s350.00000°, δ82.00000°, λ-173.00000°. NP2:ϕ_s259.00000°, δ83.00000°, λ-8.00000°. Principal axes: T 0.9880, Plg1.0000°, Azm304.0000°; N 0.0680, Plg79.0000°, Azm41.0000°; P -1.0540, Plg11.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 10:01:08, 18°.96N×81°.34W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.40; $M_{\theta\theta}$-4.06; $M_{\phi\phi}$3.66; $M_{r\theta}$-3.15; $M_{\theta\phi}$7.42; $M_{\phi r}$-1.76; Fault plane solution: $M_0$9.11000×10^{16} NP1:ϕ_s165.00000°, δ68.00000°, λ174.00000°. NP2:ϕ_s257.00000°, δ84.00000°, λ22.00000°. Principal axes: T 9.2914, Plg20.0000°, Azm123.0000°; N -0.3692, Plg67.0000°, Azm271.0000°; P -8.9222, Plg11.0000°, Azm29.0000°;*
*OSPL **03** 10:01:09.1±2.0, 19°.82N×81°.13W, h0km±945km, ML5.0*
*INET **03** 10:01:13.2, 18°.69N×81°.88W, h15km, ML4.4*

ISC 03 10:01:04.8±0.4, 18°.86N±0°.03×81°.33W±0°.03, h9km±2km, h9km:pP-P, n1368, σ2º03/1392, mb5.2/279, MS4.7/41, 16C-15D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSCY	Frank Sound, G	0.47	17		Pb	10 01 15.4	+0.1
FSCY				Sg	Sb	10 01 21.4	-0.9
LCCY	Blossom Villag	1.43	55		Pn	10 01 29.4	-1.5
CBCY	The Bluff, Cay	1.72	59	Pn	Pn	10 01 33.3	-1.6
NEJ	Negril	2.91	102	*i* P	Pg	10 01 59.8	-0.7
MBJ	Montego Bay	3.32	97	⇑*i* P	Pn	10 01 54.9	-2.0
MGV	Manicaragua	3.47	21	*i* P	Pn	10 01 57.5	-1.5
MGV				*e*S	Sn	10 02 36.3	-4.0
MGV				IAML		10 02 39.0	
	comp=N,2μm,0.3s						
MGV				IAML		10 02 39.3	
	comp=E,4μm,0.3s						
MCJ	Malvern	3.58	104	⇑*i* P	Pn	10 01 59.3	-1.3
CVJ	Coleyville	3.65	99	⇑*i* P	Pn	10 02 00.3	-1.4
MTDJ	Mount Denham	3.65	99	Pn	Pn	10 02 00.2	-1.4
MTDJ				Sn	Sn	10 02 40.9	-4.1
PCJ	Portland Cotta	4.12	105	*i* P	Pn	10 02 06.8	-1.1
SOR	Soroa	4.22	338	*e*P	Pn	10 02 08.2	-1.1
SOR				*e*S	Sn	10 02 55.1	-3.6
SOR				IAML		10 03 02.9	
	comp=N,1μm,0.7s						
SOR				IAML		10 03 03.8	
	comp=E,2μm,0.6s						
LMGC	Las Mercedes	4.25	73	⇑*e*P	Pn	10 02 07.8	-2.0
LMGC				*e*S	Sn	10 02 53.8	-5.7
LMGC				IAML		10 02 58.8	
	comp=N,1μm,0.2s						
LMGC				IAML		10

ESQI Esquipulas 8.79 242 Pn Pn 10 03 12.7 +0.5
SNET Serv Nac Est T 9.17 237 Pn 10 03 16.8 -0.6
DWPF Disney Wildern 9.21 359 P **Pn 10 03 16.1 -1.7**
baz=179
DWPF Disney Wildern 9.21 359 Pn 10 03 16.5 -1.4
HDC Heredia 9.21 197 Pn 10 03 18.7 +0.6
JTS Las Juntas de 9.21 203 Pn **Pn 10 03 19.0 +1.0**
comp=Z,24nm,0.3s,baz=78,slow=12,SNR=137
JTS LR LR 10 06 51.3
comp=Z,7µm,18.0s,baz=96,slow=38
JTS Las Juntas de 9.21 203⇑ *eP* **Pn 10 03 19.1 +1.0**
JTS Las Juntas de 9.21 203 Pn **Pn 10 03 19.1 +1.1**
PLVR Palo Verde 9.31 205⇑ *eP* **Pn 10 03 20.6 +1.1**
ORTG Ortega, Santa 9.35 206⇑ *eP* **Pn 10 03 20.7 +0.9**
RIMA Rio Macho 9.37 196⇑ *eP* **Pn 10 03 20.9 +0.6**
LCR2 La Lucha 2 9.43 196⇑ *eP* **Pn 10 03 21.9 +0.8**
SDDR Presa de Saban 9.50 88 Pn **Pn 10 03 21.7 -0.3**
SDDR Presa de Saban 9.50 88 *i* P **Pn 10 03 22.1 +0.1**
SDDR IAML 10 05 10.1
comp=Z,71nm,1.9s
APG El Apazote 9.55 248 Pn **Pn 10 03 21.8 -0.9**
comp=Z,2.3nm,0.3s,baz=78,slow=12,SNR=50
APG Sn Sn 10 05 00.1 -10
comp=Z,2.5nm,0.3s,baz=90,slow=17,SNR=1.3
CDM Cerro de Muert 9.55 195⇑ *eP* **Pn 10 03 23.0 +0.1**
PEZE Perez Zeledon, 9.69 194 *eP* Pn 10 03 18.5 -6.1
BCIP Isla Barro Col 9.74 171 P **Pn 10 03 24.8 -0.5**
BCIP Isla Barro Col 9.74 171 *eP* Pn 10 03 14.8 -10
BCIP Isla Barro Col 9.74 171 Pn **Pn 10 03 24.8 -0.5**
UPA Univ. de Panam 9.97 170 *eP* Pn 10 03 15.2 -13
SC01 Santiago de lo 10.04 85 Pn 10 03 28.0 -1.2
SMRC Santa Marta, M 10.27 137 *eP* **Pn 10 03 30.0 -2.6**
HUEH Huehuetenango 10.35 252 Pn 10 03 33.0 -0.8
BANI BANI 10.41 91 Pn 10 03 34.8 +0.3
656A Willston 10.52 354 Pn 10 03 33.8 -2.1
CCIG Comitan 10.62 258 Pn 10 03 35.7 -1.7
SJCC San Jacinto, C 10.71 145 *eP* **Pn 10 03 37.1 -1.5**
RTAL Retalhuleu 10.83 248 Pn **Pn 10 03 40.9 +0.8**
SDD Santo Domingo 10.83 90 Pn 10 03 40.0 -0.1
ARGC Ariguani, Magd 11.27 142 *eP* **Pn 10 03 46.0 -0.2**
DR12 Loma Pena Alta 11.31 88 Pn 10 03 46.9 +0.1
CVALL Valledupar, Ce 11.39 136 *eP* **Pn 10 03 45.4 -2.5**
MOTC Monteria, Cord 11.43 151 *eP* **Pn 10 03 43.8 -4.5**
URIC Uribia, Colomb 11.47 127 *eP* **Pn 10 03 47.9 -1.1**
URIC Uribia, Colomb 11.47 127 Pn 10 03 47.8 -1.1
553A Crawfordville 11.63 347 Pn 10 03 49.3 -1.7
456A Hilliard 11.83 357 Pn 10 03 51.5 -2.2
SMLC San Martn de 12.23 144 *eP* **Pn 10 03 57.6 -1.7**
451A Vernon 12.37 342 Pn **Pn 10 04 01.3 +0.1**
UREC San Jos de Ur 12.39 152 *eP* **Pn 10 03 59.1 -2.5**
TIGA Tifton 12.69 351 P **Pn 10 04 04.3 -1.3**
baz=170,SNR=99
TIGA Tifton 12.69 351 Pn 10 04 04.3 -1.3
DBBC Dabeiba 12.78 156 *eP* **Pn 10 04 04.5 -2.4**
ZARC Zaragoza, Cauc 12.93 150 *eP* **Pn 10 04 06.5 -2.5**
352A Blakely 12.98 346 Pn 10 04 06.7 -2.8
CMIG Matias Romero 13.02 264 Pn **Pn 10 04 08.2 -1.8**
comp=Z,0.9nm,0.3s,baz=61,slow=11,SNR=17
CMIG Sn Sn 10 06 23.6 -12
comp=Z,1.7nm,0.3s,baz=342,slow=21,SNR=5.0
CMIG LR LR 10 09 05.4
comp=Z,2µm,19.4s,baz=76,slow=37
255A Hazlehurst 13.05 356 Pn **Pn 10 04 07.7 -2.8**
257A Skidaway Islan 13.06 1 Pn **Pn 10 04 06.7 -3.8**
OCAC Ocana 13.11 143 *eP* **Pn 10 04 09.2 -2.3**
BRAL Brewton 13.30 338 P **Pn 10 04 10.2 -3.7**
baz=156
BRAL Brewton 13.30 338 Pn **Pn 10 04 11.2 -2.7**
MPR Mayaguez 13.47 90 Pn 10 04 15.4 -0.9
CRPR Cabo Rojo, PR 13.52 91 Pn 10 04 15.3 -1.6
MLPR Magueyes Islan 13.59 91 Pn 10 04 16.2 -1.6
157A Early Branch 13.76 1 P **Pn 10 04 16.2 -4.0**
baz=181
154A Montrose 13.79 354 Pn 10 04 18.2 -2.4
250A Grady 13.80 342 Pn 10 04 17.8 -2.9
HELC Santa Helena 13.80 155 *eP* **Pn 10 04 19.1 -2.0**
AOPR Arecibo Observ 13.83 90 Pn 10 04 20.6 -0.5
BRRC Barranca, Sant 13.83 147 *eP* **Pn 10 04 19.0 -2.2**
158A Hollywood 13.86 4 P **Pn 10 04 16.7 -4.7**
baz=185
CBOC Ciudad Bolivar 13.92 157 *eP* **Pn 10 04 24.9 +2.3**
PTBC PUERTO BERRIO, 13.96 150 *eP* **Pn 10 04 20.0 -2.9**
OBIP Obispado Ponce 13.99 91 Pn 10 04 21.0 -2.3
152A Waverly Hall 14.09 348 Pn **Pn 10 04 21.8 -2.8**
CSU Charleston Sou 14.11 4 Pn **Pn 10 04 20.5 -4.5**
PAMC Pamplona, Colo 14.20 143 *eP* **Pn 10 04 25.8 -0.8**
NHSC New Hope 14.23 4 P **Pn 10 04 22.6 -3.9**
baz=184
NHSC New Hope 14.23 4 Pn Pn 10 04 18.7 -7.8
SDV Santo Domingo 14.35 132 Pn **Pn 10 04 26.2 -2.2**
comp=Z,39nm,0.3s,baz=327,slow=6.5,SNR=69
SDV LR LR 10 10 51.6
comp=Z,3µm,18.7s,baz=305,slow=41
SDV Santo Domingo 14.35 132 *eP* **Pn 10 04 25.2 -3.3**
SDV Santo Domingo 14.35 132 Pn 10 04 25.5 -2.9
Z57A Bowman 14.39 2 P **Pn 10 04 24.1 -4.6**
baz=182
Z56A Williston 14.41 360 P **Pn 10 04 26.4 -2.6**
baz=180,SNR=7.2
Z56A Williston 14.41 360 Pn 10 04 25.6 -3.4
Z59A Georgetown, SC 14.44 7 P Pn 10 04 24.6 -4.8
baz=188
GCPR Guaynabo City 14.46 90 Pn 10 04 27.9 -1.9
IGPR InterUniversit 14.47 91 Pn **Pn 10 04 30.6 +0.7**
346A Big Creek Wild 14.48 331 Pn **Pn 10 04 26.3 -3.7**
Z58A St. Stephen 14.48 5 P Pn 10 04 25.2 -4.8
baz=186
BARC Barichara 14.55 146 *eP* **Pn 10 04 29.3 -1.9**
PDPR Patillas Dam, 14.55 91 Pn 10 04 29.7 -1.3
GOGA Godfrey 14.62 353 P **Pn 10 04 30.5 -1.4**
GOGA Godfrey 14.62 353 P **Pn 10 04 29.1 -2.8**
baz=172,SNR=44
GOGA Godfrey 14.62 353 Pn 10 04 30.5 -1.4
NORC Norcasia 14.64 154 *eP* **Pn 10 04 29.1 -3.2**
CBYP Canovanas 14.68 90 Pn 10 04 31.6 -1.3
HUMP Col San Antoni 14.70 90 Pn 10 04 31.9 -1.2
PLMC San Jos del P 14.72 160 *eP* **P 10 04 38.7 -0.9**
GUY2C Guyana, Caldas 14.75 156 *eP* **Pn 10 04 31.6 -2.6**
Z51A Franklin 14.80 347 Pn **Pn 10 04 31.4 -3.0**
SPBC San Pablo de B 14.91 151 *eP* **Pn 10 04 34.8 -1.3**
MTP Monte Pirata 14.99 90 Pn 10 04 32.6 -4.3
LRAL Lakeview Retre 15.00 341 P **Pn 10 04 33.9 -3.2**
baz=159,SNR=23
LRAL Lakeview Retre 15.00 341 Pn 10 04 34.5 -2.6
Y55A Saluda 15.02 358 P **Pn 10 04 32.6 -4.8**
baz=178
Y57A Sumter 15.12 3 P **Pn 10 04 33.1 -5.5**
baz=183
Y57A Sumter 15.12 3 Pn **Pn 10 04 33.9 -4.8**
Y57A IAmb IAmb 10 05 18.1
comp=Z,78nm,0.7s
Y52A Lilburn 15.14 351 Pn **Pn 10 04 36.7 -2.3**
344A Westbrook Farm 15.14 328 Pn **Pn 10 04 34.9 -4.1**
RUSC La Rusia 15.19 147 *eP* **Pn 10 04 38.4 -1.7**
RUSC La Rusia 15.19 147 Pn **Pn 10 04 38.2 -1.9**
CUPR Culebra, Puert 15.22 89 Pn **Pn 10 04 40.6 +0.5**
Y59A Loris 15.23 8 P **Pn 10 04 34.1 -6.0**
baz=189
Y59A Loris 15.23 8 Pn **Pn 10 04 34.0 -6.1**
HODGE Hodges 15.33 357 Pn 10 04 39.0 -2.4
HODGE IAmb IAmb 10 05 30.5
comp=Z,61nm,0.8s
Y60A Bolivia 15.34 10 P **Pn 10 04 36.5 -5.0**
baz=191
TOLC Tolima 15.35 157 *eP* **Pn 10 04 43.9 +1.8**
JSC Jenkinsville 15.36 0 P **Pn 10 04 37.4 -4.4**
JSC pmax pmax
comp=Z,44nm,0.9s
JSC Jenkinsville 15.36 0 Pn 10 04 37.4 -4.4
146A Union 15.38 335 Pn 10 04 39.7 -2.4
ANIL Santa Ana 15.41 157 *eP* **P 10 04 52.4 +4.8**
TAMC Tame, Arauca 15.45 142 *eP* **Pn 10 04 41.7 -1.5**
Z47A Carrollton 15.51 338 Pn **Pn 10 04 41.9 -1.8**
Z47A IAmb IAmb 10 05 08.0
comp=Z,184nm,1.1s
ROSC El Rosal 15.52 153 Pn **Pn 10 04 43.3 -1.1**
comp=Z,2.1nm,0.3s,baz=8.5,slow=16,SNR=5.6
ROSC LR LR 10 10 43.4
comp=Z,3µm,21.6s,baz=351,slow=37
ROSC El Rosal 15.52 153 *eP* **Pn 10 04 44.1 -0.3**
ROSC El Rosal 15.52 153 P **Pn 10 04 44.9 +0.5**
ROSC IAmb IAmb 10 04 48.1
comp=Z,271nm,1.6s

STVI Saint Thomas 15.53 89 Pn **Pn 10 04 44.4 +0.3**
STVI IAmb IAmb 10 04 51.4
comp=Z,102nm,0.9s
X55A Gracelyn & Ava 15.55 359 P **Pn 10 04 39.7 -4.6**
baz=179,SNR=7.3
YOTC Yotoco, Valle 15.57 161 *eP* **Pn 10 04 45.5 +0.8**
X56A White Oak 15.57 1 P **Pn 10 04 40.1 -4.5**
baz=181,SNR=6.5
X57A Johnson Farm, 15.58 4 P **Pn 10 04 40.1 -4.6**
baz=184
Y49A Blount Mountai 15.61 344 Pn 10 04 44.3 -0.8
Y49A IAmb IAmb 10 05 11.1
comp=Z,104nm,0.9s
X54A Belton 15.65 357 P **Pn 10 04 42.4 -3.3**
baz=176,SNR=18
VBMS Vicksburg 15.66 330 P **Pn 10 04 42.0 -3.8**
baz=146,SNR=11
VBMS Vicksburg 15.66 330 Pn 10 04 42.7 -3.0
VBMS IAmb IAmb 10 05 02.2
comp=Z,126nm,0.8s
X58A Rowland 15.73 6 P **Pn 10 04 42.6 -4.0**
baz=187
BIRD Birdtown, Kers 15.74 3 Pn 10 04 42.8 -4.0
CDVI St. Croix 15.77 91 P **Pn 10 04 46.1 -1.1**
CDVI IAmb IAmb 10 04 52.9
comp=Z,94nm,0.7s
X59A McDuffie Farm, 15.84 8 P **Pn 10 04 43.6 -4.4**
baz=190
PAULI Pauline 15.90 359 P **Pn 10 04 47.8 -1.1**
342A Flagon Creek P 15.94 324 Pn 10 04 46.8 -2.5
342A IAmb IAmb 10 04 58.8
comp=Z,142nm,0.8s
X60A Albert Glenn T 15.94 10 P **Pn 10 04 45.5 -3.8**
baz=192
X51A Calhoun 15.96 349 Pn 10 04 49.0 -0.5
CHIC Chingaza 15.97 151 *eP* **Pn 10 04 49.2 -1.0**
ORTC Ortega, Tolima 16.00 157 *eP* **Pn 10 04 49.5 -0.8**
FPAL Fort Paine 16.08 347 Pn 10 04 51.5 +0.4
BG3 Lake Jocassee 16.13 355 Pn 10 04 50.1 -1.8
BG3 IAmb IAmb 10 05 09.4
comp=Z,327nm,1.8s
W54A Cherokee Point 16.18 357 P **Pn 10 04 50.0 -2.5**
baz=177,SNR=14
W58A Raeford 16.20 6 P **Pn 10 04 48.5 -4.2**
baz=187,SNR=11
KMSC Kings Mountain 16.22 360 P **Pn 10 04 49.1 -3.8**
baz=180,SNR=12
KMSC Kings Mountain 16.22 360 Pn **Pn 10 04 50.2 -2.7**
BAUV El Baul 16.22 126 *eP* **Pn 10 04 47.0 -6.1**
W56A Indian Trail 16.23 2 P **Pn 10 04 48.7 -4.4**
baz=183,SNR=14
W57A Gilead 16.27 4 P **Pn 10 04 49.3 -4.3**
baz=185
W57A Gilead 16.27 4 Pn **Pn 10 04 48.8 -4.8**
PRAC Prado 16.32 157 *eP* **Pn 10 04 55.1 +0.7**
X48A Hartselle 16.34 343 P **Pn 10 04 53.0 -1.5**
TLIG Tlapa 16.43 268 Pn **Pn 10 04 54.0 -1.9**
W59A Clinton 16.44 8 P **Pn 10 04 51.8 -4.0**
baz=190
W60A Pink Hill 16.45 11 P **Pn 10 04 50.6 -5.2**
baz=192
VILC Villavicencio, 16.45 152 *eP* **Pn 10 04 56.7 +0.6**
CNNC Cliffs of the 16.60 10 P **Pn 10 04 53.5 -4.2**
baz=192
CNNC Cliffs of the 16.60 10 Pn **Pn 10 04 54.3 -3.4**
Y45A Yeager Farm, C 16.65 335 Pn **Pn 10 04 56.6 -1.8**
Y45A IAmb IAmb 10 05 12.8
comp=Z,207nm,0.9s
W50A Signal Mountai 16.66 349 Pn 10 04 56.4 -2.1
W50A IAmb IAmb 10 05 08.6
comp=Z,72nm,0.6s
W61A Ground Anchor 16.70 12 P **Pn 10 04 54.3 -4.8**
baz=194
CPCT Cooper Cave 16.77 351 Pn 10 04 58.2 -1.7
SWET Sewanee 16.80 347 Pn 10 04 58.7 -1.7
V53A Saluda 16.80 356 Pn 10 04 59.0 -1.4
V53A IAmb IAmb 10 05 24.8
comp=Z,333nm,1.4s
POPC Popayan, Colom 16.85 164 *eP* **P 10 05 02.8 -0.6**
V54A Nebo 16.86 358 P **Pn 10 04 57.7 -3.5**
baz=178,SNR=20
TKL Tuckaleechee C 16.87 353 Pn **Pn 10 04 59.9 -1.4**
comp=Z,6.9nm,0.3s,baz=168,slow=15,SNR=117
TKL Sn **Sn 10 07 59.9 -9.0**
comp=Z,2.1nm,0.3s,baz=258,slow=0.4,SNR=4.3
TKL LR LR 10 11 06.2
comp=Z,3µm,19.5s,baz=173,slow=36
TKL Tuckaleechee C 16.87 353 Pn 10 04 59.7 -1.6
TKL IAmb IAmb 10 05 23.8
comp=Z,159nm,0.7s
V56A Mocksville 16.90 2 P **Pn 10 04 57.8 -3.8**
baz=183,SNR=26
V55A Taylorsville 16.93 0 P **Pn 10 04 58.4 -3.6**
baz=180,SNR=12
V55A Taylorsville 16.93 0 Pn 10 04 58.7 -3.2
V58A Windy Hill, Pi 16.98 6 P **Pn 10 04 57.2 -5.5**
baz=187,SNR=12
V58A Windy Hill, Pi 16.98 6 Pn 10 04 57.8 -4.8
V57A Coltrane Farms 17.02 4 P **Pn 10 04 57.5 -5.6**
baz=185,SNR=12
V52A Sevierville 17.04 354 Pn 10 05 01.6 -1.7
V52A IAmb IAmb 10 05 21.1
comp=Z,146nm,0.8s
V59A Middlesex 17.06 9 P **Pn 10 04 58.8 -4.8**
baz=190,SNR=13
BETC Betania 17.08 160 *eP* **Pn 10 05 03.9 -0.1**
V51A Loudon 17.09 352 Pn 10 05 02.5 -1.4
PCON Cinco Dias 17.12 163 *eP* **Pn 10 05 03.7 -1.4**
PLAL Pickwick Lake 17.14 341 Pn 10 05 02.3 -2.3
OXF Oxford 17.17 337 P **Pn 10 05 03.5 -1.5**
OXF pmax pmax
comp=Z,288nm,1.0s
OXF Oxford 17.17 337 Pn 10 05 03.5 -1.5
HKT Hockley 17.20 313 P **Pn 10 05 02.5 -2.8**
HKT pmax pmax
comp=Z,111nm,1.0s
HKT Hockley 17.20 313 Pn 10 05 02.5 -2.8
BBAC Balboa, Cauca 17.20 166 *eP* **P 10 05 07.5 +0.1**
V60A Jim Taylor Roa 17.22 11 P **Pn 10 05 00.5 -5.1**
baz=192
SMRT St. Maarten 17.34 90 *eP* **P 10 05 12.9 +4.3**
SMRT St. Maarten 17.34 90 Pn **Pn 10 05 05.3 -2.0**
SMRT IAmb IAmb 10 05 09.2
comp=Z,168nm,0.9s
V61A Roper 17.38 13 P **Pn 10 05 03.2 -4.4**
baz=195
V61A Roper 17.38 13 Pn 10 05 03.9 -3.7
V61A IAmb IAmb 10 05 23.8
comp=Z,306nm,1.3s
U56A King 17.44 3 P **Pn 10 05 04.5 -3.9**
baz=183
SEUS St. Eustatius 17.49 92 *eP* **Pn 10 05 08.7 -0.4**
V48A Smith Brothers 17.50 345 Pn 10 05 08.8 -0.4
V48A IAmb IAmb 10 05 19.0
comp=Z,100nm,0.8s
GARC Garzon, Huila 17.53 160 *eP* **Pn 10 05 10.0 +0.2**
U55A TA2, Sparta 17.58 1 P **Pn 10 05 06.5 -3.6**
baz=181,SNR=22
NATX Nacogdoches 17.59 319 P **Pn 10 05 06.4 -3.9**
baz=134
NATX Nacogdoches 17.59 319 Pn 10 05 08.5 -1.8
NATX IAmb IAmb 10 05 23.0
comp=Z,113nm,0.8s
U57A Blanch 17.59 5 P **Pn 10 05 05.5 -4.8**
baz=186
U54A Nelsons Funny 17.60 359 P **Pn 10 05 06.7 -3.7**
baz=178,SNR=16
U58A Oxford 17.64 7 P **Pn 10 05 06.6 -4.2**
baz=189,SNR=12
Z41A Richland Creek 17.64 327 P **Pn 10 05 08.3 -2.5**
baz=142,SNR=9.6
Z41A Richland Creek 17.64 327 P **Pn 10 05 09.2 -1.6**
Z41A IAmb IAmb 10 05 40.5
comp=Z,207nm,1.1s
CCAR Cane Creek 17.66 330 Pn 10 05 09.3 -1.7
CCAR IAmb IAmb 10 05 34.3
comp=Z,166nm,1.0s
U59A Littleton 17.70 9 P **Pn 10 05 07.9 -3.7**
baz=191
CLTN Cedars of Leba 17.72 347 P **Pn 10 05 10.4 -1.5**
TZTN Tazewell 17.73 354 P **Pn 10 05 10.2 -1.7**
baz=173,SNR=23
TZTN Tazewell 17.73 354 P **Pn 10 05 11.4 -0.5**
TZTN IAmb IAmb 10 05 29.2
comp=Z,114nm,0.9s

SKI Saint Kitts 17.74 92 *eP* **Pn 10 05 09.6 -2.6**
SKI Saint Kitts 17.74 92 P **Pn 10 05 11.7 -0.5**
SKI pmax pmax
comp=Z,264nm,1.0s
SKI Saint Kitts 17.74 92 Pn 10 05 11.7 -0.5
SKI IAmb IAmb 10 05 14.5
comp=Z,264nm,1.0s
SKOC St. Kitts, UWI 17.75 92 *eP* P 10 05 24.2 +11
X43A Marvell 17.76 333 P **Pn 10 05 09.7 -2.6**
baz=149
U60A Pendleton 17.93 11 P **Pn 10 05 11.0 -3.4**
baz=193
U61A Possum Corner 17.93 13 P **Pn 10 05 10.9 -3.5**
baz=195
GCUF Volcan Galeras 17.95 167 *eP* **Pn 10 05 15.5 +0.1**
U49A Red Boiling Sp 18.02 348 P **Pn 10 05 13.8 -1.7**
FLOC Florencia 18.05 161 *eP* **P 10 05 16.9 +0.4**
FLOC Florencia 18.05 161 P **Pn 10 05 16.1 0.0**
T53A Wise 18.09 357 P **Pn 10 05 14.5 -1.9**
baz=176,SNR=15
T54A Tazewell 18.14 359 P **Pn 10 05 14.3 -2.7**
baz=179,SNR=16
WLAR White Oak Lake 18.14 327 P **Pn 10 05 15.6 -1.4**
WLAR IAmb IAmb 10 05 27.4
comp=Z,228nm,1.1s
WVT Waverly 18.14 343 P **Pn 10 05 15.9 -1.1**
WVT pmax pmax
comp=Z,72nm,1.0s
WVT Waverly 18.14 343 P **Pn 10 05 14.5 -2.5**
baz=160
WVT Waverly 18.14 343 P **Pn 10 05 15.8 -1.1**
T56A Rocky Mt 18.14 3 P **Pn 10 05 14.0 -3.0**
baz=184,SNR=15
MACC Macarena, Meta 18.16 155 *eP* **Pn 10 05 17.0 -0.4**
T57A Hurt 18.16 5 P **Pn 10 05 13.2 -4.1**
baz=186,SNR=14
T57A Hurt 18.16 5 Pn 10 05 13.1 -4.2
T58A Grand View Acr 18.18 7 P **Pn 10 05 13.7 -3.8**
baz=189,SNR=14
T55A Pulaski 18.20 1 P **Pn 10 05 14.4 -3.3**
baz=182,SNR=12
BLA Blacksburg 18.30 2 P **Pn 10 05 16.0 -3.1**
BLA pmax pmax
comp=Z,91nm,0.8s
BLA Blacksburg 18.30 2 P **Pn 10 05 15.4 -3.7**
baz=183,SNR=9.8
BLA Blacksburg 18.30 2 P **Pn 10 05 15.9 -3.1**
BLA IAmb IAmb 10 05 40.9
comp=Z,91nm,0.8s
PCRV Puerto La Cruz 18.31 116 P **P 10 05 20.1 +0.8**
comp=Z,1.6nm,0.3s,baz=194,slow=5.8,SNR=7.5
PCRV LR LR 10 13 18.9
comp=Z,2µm,18.3s,slow=40
T59A Double "B" Far 18.35 10 P **Pn 10 05 16.7 -2.8**
baz=192,SNR=7.3
T59A Double "B" Far 18.35 10 Pn 10 05 17.5 -2.0
T59A IAmb IAmb 10 05 30.3
comp=Z,255nm,1.9s
MLYT Lee's Yard 18.35 94 *eP* **Pn 10 05 19.7 0.0**
PLCV Puerto La Cruz 18.35 116 P **P 10 05 20.1 +0.3**
T50A Nancy 18.35 351 Pn 10 05 19.3 -0.4
HALT Halls 18.40 339 P **Pn 10 05 19.1 -1.0**
LPAR Lepanto 18.47 336 P **P 10 05 19.4 -1.6**
237A Washetta, Mont 18.47 318 P **P 10 05 19.8 -1.2**
HBAR Harrisburg 18.57 335 P **P 10 05 19.5 -2.5**
HBAR IAmb IAmb 10 05 57.1
comp=Z,306nm,1.3s
RCRC Randolf Colleg 18.59 5 P **P 10 05 20.0 -2.3**
ANWB Willy Bob 18.60 91 *eP* P 10 05 09.0 -14
LNXT Lenox 18.62 339 P **P 10 05 22.2 -0.5**
LNXT IAmb IAmb 10 05 40.9
comp=Z,182nm,1.0s
UALR University of 18.63 331 P **P 10 05 21.9 -0.8**
X40A Basin Creek Fa 18.63 329 P **P 10 05 21.6 -1.2**
baz=144,SNR=34
X40A S **S 10 08 56.1 +0.9**
baz=144
X40A Basin Creek Fa 18.63 329 P **P 10 05 22.2 -0.5**
UTMT University of 18.64 341 P **P 10 05 22.7 -0.1**
T60A Surry 18.65 12 P **P 10 05 20.3 -2.6**
baz=194,SNR=5.6
T60A Surry 18.65 12 P **P 10 05 20.8 -2.1**
OTAV Otavalo 18.72 171 *eP* **Pn 10 05 26.1 +1.4**
OTAV Otavalo 18.72 171 P **P 10 05 24.0 -0.3**
OTAV pmax pmax
comp=Z,162nm,1.5s
OTAV Otavalo 18.72 171 P **P 10 05 24.0 -0.3**
OTAV IAmb IAmb 10 05 30.1
comp=Z,162nm,1.5s
OTAV Otavalo 18.72 171 *eP* **Pn 10 05 25.0 +0.3**
T47A Sharon Grove 18.76 345 P **P 10 05 23.7 -0.5**
T47A IAmb IAmb 10 05 45.0
comp=Z,83nm,0.8s
PEBM Pemiscott Bayo 18.76 338 P **P 10 05 24.0 -0.2**
S53A Williamson 18.77 358 P **P 10 05 22.2 -2.0**
baz=178,SNR=12
MOIG Morelia 18.77 276 Pn 10 05 25.5 +0.4
PUAC Puerto Asis, P 18.79 165 *eP* **Pn 10 05 26.7 +1.6**
S56A Natural Bridge 18.81 4 P **P 10 05 22.9 -1.9**
baz=185
S51A Beattyville 18.82 354 P **Pn 10 05 25.2 -0.1**
S51A IAmb IAmb 10 05 44.5
comp=Z,74nm,0.8s
Z38A Mt. Pleasant 18.84 322 P **P 10 05 24.9 -0.2**
Z38A IAmb IAmb 10 05 39.2
comp=Z,140nm,1.1s
S55A Lewisburg 18.86 2 P **P 10 05 23.6 -1.7**
baz=182
S54A Dingess, Beckl 18.87 0 P **P 10 05 22.9 -2.5**
baz=180,SNR=10
S58A Poland Farm, P 18.90 8 P **P 10 05 24.1 -1.6**
baz=190,SNR=5.9
S58A Poland Farm, P 18.90 8 P **P 10 05 25.6 -0.1**
435B Jarrell 18.91 312 P **P 10 05 24.0 -1.9**
baz=125,SNR=26
435B Jarrell 18.91 312 P **P 10 05 24.5 -1.4**
W41B Gary Mavity, V 18.91 331 P **P 10 05 23.9 -1.9**
baz=146,SNR=36
W41B S **S 10 09 01.8 +0.8**
baz=146
W41B Gary Mavity, V 18.91 331 P **P 10 05 25.6 -0.2**
HICK Hickman 18.94 340 P **P 10 05 26.3 +0.2**
S57A Dark Hollow, R 18.95 6 P **P 10 05 24.3 -1.9**
baz=187,SNR=17
S57A Dark Hollow, R 18.95 6 P **P 10 05 25.4 -0.8**
PENMO Penman 18.99 339 P **P 10 05 26.7 +0.1**
CBE Ff, Capester 19.02 95 *eP* **P 10 05 25.8 -1.4**
833A Chaparral WMA, 19.03 303 P **P 10 05 24.7 -2.5**
baz=116,SNR=11
833A Chaparral WMA, 19.03 303 P **P 10 05 25.4 -1.8**
833A IAmb IAmb 10 05 49.6
comp=Z,163nm,1.1s
WHAR Wooly Hollow 19.03 332 P **P 10 05 27.3 +0.1**
WHAR IAmb IAmb 10 05 43.9
comp=Z,174nm,1.2s
TDBA Terre de Bas, 19.03 96 *eP* **P 10 05 26.5 -0.8**
MIAR Mount Ida 19.05 328 P **P 10 05 27.0 -0.3**
MIAR pmax pmax
comp=Z,468nm,1.9s
MIAR Mount Ida 19.05 328 P **P 10 05 26.9 -0.3**
baz=142,SNR=67
MIAR S **S 10 09 03.7 +0.1**
baz=142
MIAR Mount Ida 19.05 328 P **P 10 05 27.0 -0.3**
ABD La Joyeuse, An 19.05 94 *eP* **P 10 05 20.9 -6.6**
S59A Mechanicsville 19.16 10 P **P 10 05 27.7 -0.8**
baz=192,SNR=7.9
HENM Henderson Moun 19.18 340 P **Pn 10 05 29.2 -0.4**
T45A Paducah 19.20 342 P **P 10 05 29.0 0.0**
LCAR Lake Charles 19.21 335 P **P 10 05 29.2 +0.1**
S60A Water View 19.22 11 P **P 10 05 28.4 -0.7**
baz=194
PARMO Parma 19.22 339 P **P 10 05 29.4 +0.2**
R54A Victor 19.25 1 P **P 10 05 28.6 -1.0**
baz=181,SNR=9.7
R58B Mineral 19.27 8 P **P 10 05 28.6 -1.1**
baz=190,SNR=16
R58B Mineral 19.27 8 P **P 10 05 29.2 -0.5**
DSLB Salisbury 19.32 97 *eP* **Pn 10 05 34.3 +2.7**
MAGL Barre de l'ile 19.34 96 *eP* **P 10 05 28.9 -1.8**
MDN Morne-Daniel 19.38 97 *eP* **Pn 10 05 37.6 +5.4**
R55A Marlinton 19.38 3 P **P 10 05 30.8 -0.2**
baz=184,SNR=14
R55A Marlinton 19.38 3 P **Pn 10 05 31.8 -0.4**
S61A Accomac 19.39 14 P **P 10 05 29.7 -1.4**

baz=196
R53A Hurricane 19.41 359 P P 10 05 30.5 -0.7
baz=178,SNR=10
R53A Hurricane 19.41 359 P Pn 10 05 31.9 -0.6
R53A IAmb IAmb 10 05 52.1
comp=Z,131nm,1.1s
FCAR Ozark Folk Cen 19.46 333 P P 10 05 32.2 +0.3
FCAR IAmb IAmb 10 05 48.0
comp=Z,118nm,0.8s
R57A Stanardsville 19.52 7 P P 10 05 31.7 -0.8
baz=188,SNR=9.5
R50A Paris 19.53 353 P Pn 10 05 34.4 +0.5
WHTX Lake Whitney, 19.54 315 P P 10 05 32.8 0.0
baz=128,SNR=30
WHTX Lake Whitney, 19.54 315 P P 10 05 33.0 +0.2
R56A Bull Pasture M 19.55 5 P P 10 05 33.0 +0.1
baz=186,SNR=10
CBN Corbin Frederi 19.58 9 P P 10 05 32.2 -0.9
baz=191
CBN Corbin Frederi 19.58 9 P P 10 05 33.3 +0.2
CBN IAmb IAmb 10 05 59.2
comp=Z,58nm,0.7s
R58A Rapidan 19.59 8 P P 10 05 33.2 0.0
baz=190,SNR=15
R59A King George, V 19.62 10 P P 10 05 33.1 -0.4
baz=192
PTLC Puerto Leguiza 19.65 160 *eP* **Pn 10 05 35.9 +0.5**
R49A Shelbyville 19.65 351 P **P 10 05 34.3 +0.4**
R49A IAmb IAmb 10 05 54.7
comp=Z,181nm,1.2s
W39A Magazine 19.66 328 P P 10 05 33.3 -0.8
baz=143,SNR=22
W39A S **Sn 10 09 18.7 +2.3**
baz=143
W39A Magazine 19.66 328 P P 10 05 34.7 +0.6
W39A IAmb IAmb 10 06 29.4
comp=Z,95nm,1.1s
FDF Fort de France 19.75 99 *eP* **Pn 10 05 36.9 +0.2**
FDF Fort de France 19.75 99 P **P 10 05 34.1 -1.1**
FDF pmax pmax
comp=Z,271nm,0.9s
FDF Fort de France 19.75 99 P P 10 05 34.1 -1.1
R60A Leonardtown, M 19.78 11 P P 10 05 34.5 -0.8
baz=193
WCI Wyandotte Cave 19.78 348 P P 10 05 35.1 -0.2
WCI pmax pmax
comp=Z,94nm,0.9s
WCI Wyandotte Cave 19.78 348 P P 10 05 34.4 -0.9
baz=166
WCI S **Sn 10 09 21.6 +2.4**
baz=166
WCI Wyandotte Cave 19.78 348 P P 10 05 35.1 -0.2
WCI IAmb IAmb 10 06 09.2
comp=Z,94nm,0.8s
BIM Bigot 19.88 99 *eP* **P 10 05 36.1 -0.4**
ORIV Oritupano 19.91 117 *eP* **P 10 05 37.0 +0.1**
Q53A Leroy 19.93 360 P **P 10 05 37.3 +0.3**
baz=180,SNR=21
S44A Carbondale 20.00 341 P **P 10 05 38.1 +0.4**
S44A IAmb IAmb 10 06 16.1
comp=Z,245nm,1.5s
T42A Van Buren 20.03 337 P **P 10 05 38.3 +0.2**
T42A IAmb IAmb 10 05 53.1
comp=Z,70nm,0.8s
X37A Clayton 20.03 324 P **P 10 05 38.5 +0.4**
Q52A Bidwell 20.05 358 P **P 10 05 37.3 -0.9**
baz=177,SNR=16
Q54A Coxs Mills 20.06 1 P **P 10 05 37.4 -0.9**
baz=181
Q54A Coxs Mills 20.06 1 P **P 10 05 39.1 +0.8**
GRHS Sauteurs 20.07 106 *eP* Pn 10 05 40.5 0.0
R61A Willards 20.09 14 P **P 10 05 39.4 +0.7**
baz=197
MPOM Morne Pois Mar 20.09 100 *eP* **P 10 05 35.5 -3.3**
GRGR Grenville 20.09 107 *eP* **P 10 05 38.8 -0.2**
GRGR Grenville 20.09 107 P **P 10 05 39.0 0.0**
Q55A Buckhannon 20.09 3 P **P 10 05 38.0 -0.8**
baz=184,SNR=9.7
SLBI Saint Lucia, B 20.10 101 *eP* **P 10 05 38.8 -0.2**
BBSR BB Station 20.11 45 P Pn 10 05 40.3 -0.4
BBSR IAmb IAmb 10 05 46.1
comp=Z,127nm,1.1s
FCV Fort Charlotte 20.11 103 *eP* P 10 05 27.3 -12
SLW Petit Monier 20.13 101 *eP* **P 10 05 38.5 -0.9**
U40A Yellville 20.17 332 P **P 10 05 39.4 -0.2**
baz=147,SNR=78
U40A S Sn 10 09 28.1 -0.6
baz=147
U40A Yellville 20.17 332 P P 10 05 39.4 -0.2
Q51A Peebles 20.17 355 P **P 10 05 40.4 +0.8**
Q51A IAmb IAmb 10 06 06.0
comp=Z,85nm,0.7s
GCMP Grenada, Carri 20.17 105 *eP* **P 10 05 37.5 -2.3**
Q56A Snyder Ridge, 20.20 5 P **P 10 05 38.8 -1.1**
baz=186
Q56A Snyder Ridge, 20.20 5 P P 10 05 37.8 -2.1
SLPA Patience 20.20 101 *eP* Pn 10 05 42.3 +0.3
SLAC Saint Lucia, A 20.21 101 *eP* Pn 10 05 41.4 -0.7
ZAIG Zacatecas 20.23 285 P **P 10 05 41.5 +0.8**
ZAIG IAmb IAmb 10 05 43.3
comp=Z,181nm,1.5s
Q58A Fox Den Farm, 20.26 8 P P 10 05 40.3 -0.2
baz=190,SNR=8.9
Q57A Strasburg 20.26 7 P P 10 05 41.1 +0.6
baz=188,SNR=14
Z35A Perchaven, San 20.27 318 P P 10 05 41.1 +0.4
Q59A Harwood 20.34 11 P **P 10 05 41.0 -0.4**
baz=193
JCT Junction City 20.36 308 P P 10 05 41.3 -0.4
JCT pmax pmax
comp=Z,67nm,1.0s
JCT Junction City 20.36 308 P P 10 05 41.6 -0.1
baz=120,SNR=25
JCT Junction City 20.36 308 P P 10 05 41.3 -0.4
P53A Whipple 20.56 360 P **P 10 05 42.7 -1.0**
baz=180
P53A Whipple 20.56 360 P P 10 05 44.5 +0.7
P53A IAmb IAmb 10 06 11.5
comp=Z,154nm,1.2s
MGMO Mountain Grove 20.60 334 P P 10 05 44.4 +0.1
P51A Williamsport 20.61 356 P **P 10 05 44.4 +0.1**
baz=175
HHAR Hobbs 20.61 330 P P 10 05 44.5 +0.1
HHAR IAmb IAmb 10 06 18.0
comp=Z,127nm,1.2s
P55A Reedsville 20.62 3 P P 10 05 44.3 -0.2
baz=184
P55A S Sn 10 09 41.4 +2.1
baz=184
Q61A Milford 20.62 13 P P 10 05 44.8 +0.4
baz=196
Q60A Greensboro 20.63 12 P P 10 05 44.8 +0.3
baz=195
FVM French Village 20.64 339 P P 10 05 45.1 +0.4
FVM pmax pmax
comp=Z,111nm,0.9s
FVM French Village 20.64 339 P P 10 05 45.1 +0.4
FVM IAmb IAmb 10 05 56.7
comp=Z,111nm,0.9s
OLIL Olney 20.66 345 P P 10 05 45.9 +1.0
P54A Burton 20.68 2 P **P 10 05 42.8 -2.3**
baz=182,SNR=6.7
P54A S Sn 10 09 40.5 -0.4
baz=182
P56A Dayton Farm, R 20.69 5 P P 10 05 42.0 -3.2
baz=187,SNR=8.0
P52A Corning 20.71 358 P P 10 05 43.2 -2.3
baz=176
P52A Corning 20.71 358 P P 10 05 45.9 +0.4
P52A IAmb IAmb 10 06 16.8
comp=Z,131nm,0.9s
BLO Bloomington 20.74 349 P Pn 10 05 47.8 -0.3
BLO pmax pmax
comp=Z,122nm,1.2s
BLO Bloomington 20.74 349 P Pn 10 05 47.8 -0.3
BLO IAmb IAmb 10 06 20.2
comp=Z,122nm,1.2s
P57A Homestead Farm 20.75 7 P **P 10 05 44.2 -1.7**
baz=189,SNR=5.3
P57A Homestead Farm 20.75 7 P Pn 10 05 47.2 -1.0
MCWV Mont Chateau 20.77 3 P **P 10 05 45.3 -0.8**
baz=184
P49A Miami Univ. Ec 20.81 353 P **P 10 05 45.1 -1.4**
baz=171,SNR=14
P49A Miami Univ. Ec 20.81 353 P **P 10 05 46.9 +0.4**
P48A Milroy 20.83 351 P **P 10 05 47.6 +0.8**
P48A IAmb IAmb 10 06 01.4
comp=Z,89nm,1.1s
SDMD Soldier's Deli 20.84 10 P **P 10 05 47.8 +1.0**
P58A Pank, Wackersv 20.85 9 P **P 10 05 46.2 -0.8**
baz=191
TRN Trinidad (W) 20.91 110 *eP* **P 10 05 47.8 0.0**
U38A Gravette 20.95 329 P **P 10 05 47.7 -0.4**
U38A IAmb IAmb 10 06 19.4
comp=Z,132nm,1.1s
CCM Cathedral Cave 20.99 338 P **P 10 05 48.7 +0.2**
CCM pmax pmax
comp=Z,115nm,0.9s
CCM Cathedral Cave 20.99 338 P **P 10 05 47.3 -1.2**
baz=153
CCM S Sn 10 09 45.6 -2.8
baz=153
CCM Cathedral Cave 20.99 338 P **P 10 05 48.7 +0.2**
CCM IAmb IAmb 10 06 02.4
comp=Z,115nm,0.8s
Q44A Meyer Farm, Va 21.06 343 P **P 10 05 49.5 +0.3**
P59A Jarrettsville 21.11 11 P **P 10 05 49.6 -0.1**
baz=193
SLM Saint Louis 21.17 340 P **P 10 05 51.1 +0.6**
SLM pmax pmax
comp=Z,77nm,0.8s
SLM Saint Louis 21.17 340 P **P 10 05 51.0 +0.6**
SLM IAmb IAmb 10 06 09.5
comp=Z,77nm,0.8s
O52A Adamsville 21.19 359 P **P 10 05 49.2 -1.4**
baz=179
O52A Adamsville 21.19 359 P **P 10 05 51.0 +0.5**
O52A IAmb IAmb 10 06 18.9
comp=Z,108nm,1.1s
O51A Pataskala 21.24 357 P **P 10 05 49.2 -2.0**
baz=177,SNR=12
TPR Prospect 21.25 108 *eP* **P 10 05 51.5 +0.1**
TUL1 Leonard 21.25 326 P **P 10 05 50.4 -0.9**
baz=139,SNR=31
TUL1 S **S 10 09 49.8 +2.2**
baz=139
TUL1 Leonard 21.25 326 P **P 10 05 50.9 -0.4**
TUL1 IAmb IAmb 10 06 20.4
comp=Z,104nm,0.9s
O54A Avella 21.27 2 P **P 10 05 49.1 -2.3**
baz=182,SNR=7.4
O54A Avella 21.27 2 P **P 10 05 51.1 -0.4**
O54A IAmb IAmb 10 06 06.5
comp=Z,114nm,0.9s
P46A Rosedale 21.30 347 P **P 10 05 54.0 +2.2**
P46A IAmb IAmb 10 06 11.3
comp=Z,96nm,0.8s
PAYG Puerto Ayora 21.31 205 P **P 10 05 52.1 0.0**
O53A New Philadelph 21.32 0 P **P 10 05 51.0 -1.0**
baz=180,SNR=12
O53A New Philadelph 21.32 0 P **P 10 05 53.0 +1.0**
ACSO Alum Creek Sta 21.35 357 P **P 10 05 52.4 +0.1**
baz=176
ACSO Alum Creek Sta 21.35 357 P **P 10 05 53.0 +0.7**
ACSO IAmb IAmb 10 06 12.7
comp=Z,106nm,1.1s
O55A Ligonier 21.35 4 P **P 10 05 52.4 +0.1**
baz=185
ABTX Abilene, Hawle 21.40 313 P **P 10 05 52.4 -0.6**
baz=125,SNR=26
ABTX Abilene, Hawle 21.40 313 P **P 10 05 53.2 +0.2**
ABTX IAmb IAmb 10 06 15.7
comp=Z,128nm,1.1s
O49A Covington 21.41 354 P **P 10 05 54.1 +1.1**
O49A IAmb IAmb 10 06 26.3
comp=Z,158nm,1.4s
P60A Greenville 21.45 12 P **P 10 05 52.4 -1.0**
baz=195
P60A S Sn 10 10 03.6 +4.3
baz=195
P60A Greenville 21.45 12 P **P 10 05 54.5 +1.1**
O56A Blue Knob Stat 21.47 6 P **P 10 05 54.3 +0.7**
baz=187,SNR=14
O56A S Sn 10 10 04.4 +4.6
baz=187
O56A Blue Knob Stat 21.47 6 P **P 10 05 55.0 +1.3**
O56A IAmb IAmb 10 06 09.7
comp=Z,89nm,1.1s
S39A Bolivar 21.49 333 P **P 10 05 54.0 0.0**
MVL Millersville 21.50 10 P **P 10 05 54.0 +0.1**
O57A Amberson 21.52 8 P **P 10 05 54.0 -0.1**
baz=190,SNR=9.2
O57A S Sn 10 10 04.9 +4.0
baz=190
O58A Lewisberry 21.53 9 P **P 10 05 53.8 -0.4**
baz=192,SNR=9.1
O58A S Sn 10 10 05.7 +4.5
baz=192
R40A Maddies Statio 21.58 336 P **P 10 05 54.5 -0.4**
PSUB Penn St. - Bra 21.60 12 P **P 10 05 55.6 +0.6**
PAGS Pennsylvania G 21.66 10 P **P 10 05 56.6 +1.0**
PAGS IAmb IAmb 10 06 10.2
comp=Z,107nm,1.0s
FNO Franklin 21.67 322 P **P 10 05 56.1 +0.3**
BBSP Saint Philip 21.78 102 *eP* P 10 06 05.3 +8.2
OKCFA Oklahoma City 21.81 322 P **P 10 05 56.8 -0.5**
OKCFA IAmb IAmb 10 06 04.0
comp=Z,103nm,1.2s
O59A Robesonia 21.83 11 P **P 10 05 54.9 -2.6**
baz=193
O59A S Sn 10 10 10.4 +1.9
baz=193
OK025 Westminster Rd 21.86 323 P **P 10 05 57.6 -0.3**
N53A Lisbon 21.88 1 P **P 10 05 56.3 -1.7**
baz=181
N53A Lisbon 21.88 1 P **P 10 05 58.4 +0.4**
N53A IAmb IAmb 10 06 31.0
comp=Z,80nm,0.9s
N52A McGinn's Farm, 21.88 359 P **P 10 05 55.8 -2.3**
baz=179
P43A Skaggs, Pawnee 21.89 343 P **P 10 05 59.4 +1.3**
SSPA Standing Stone 21.90 7 P **P 10 05 56.6 -1.6**
baz=189
SSPA S Sn 10 10 11.5 +1.3
baz=189
SSPA Standing Stone 21.90 7 P **P 10 05 59.2 +0.9**
SSPA IAmb IAmb 10 06 12.5
comp=Z,100nm,1.1s
QUOK Quay 21.94 325 P **P 10 05 58.0 -0.7**
QUOK IAmb IAmb 10 06 19.4
comp=Z,171nm,1.3s
N55A Marion Center 21.94 5 P **P 10 05 56.4 -2.3**
baz=186
N55A S Sn 10 10 13.2 +2.1
baz=186
O61A Allentown 21.95 14 P **P 10 05 55.0 -3.8**
baz=197
O60A Telford 21.98 12 P **P 10 05 56.6 -2.5**
baz=195
O60A S Sn 10 10 13.3 +1.2
baz=195
N51A Ashland 22.00 358 P **P 10 05 56.8 -2.6**
baz=177
N51A Ashland 22.00 358 P **P 10 05 59.8 +0.5**
SFIN Lafayette 22.01 348 P **P 10 05 56.5 -2.9**
baz=165,SNR=7.5
SFIN S **S 10 10 06.5 +4.1**
baz=165
SFIN Lafayette 22.01 348 P **P 10 06 01.2 +1.8**
SFIN IAmb IAmb 10 06 28.4
comp=Z,85nm,0.9s
N54A Moraine State 22.06 3 P **P 10 05 57.7 -2.3**
baz=183
N54A S **S 10 10 07.3 +3.9**
baz=183
N54A Moraine State 22.06 3 P **P 10 06 00.1 +0.2**
N54A IAmb IAmb 10 06 26.1
comp=Z,81nm,1.1s
N57A Milroy 22.06 8 P **P 10 05 58.9 -1.1**
baz=190
N57A S Sn 10 10 15.8 +1.8
baz=190
BCOK Bluff Creek, N 22.07 323 P **P 10 05 59.9 -0.3**
OK029 Liberty Lake 22.08 323 P **P 10 05 60.0 -0.3**
O44A Mansfield 22.09 345 P **P 10 06 01.5 +1.2**
N49A Columbus Grove 22.12 354 P **P 10 06 00.8 +0.1**
N49A IAmb IAmb 10 06 31.9
comp=Z,87nm,0.9s
N56A West Decatur 22.14 6 P **P 10 06 01.3 +0.4**
baz=188,SNR=9.2
N56A S Sn 10 10 17.4 +1.6
baz=188
WMOK Wichita Mounta 22.14 319 P **P 10 06 00.5 -0.5**
WMOK pmax pmax
comp=Z,90nm,1.1s
WMOK Wichita Mounta 22.14 319 P **P 10 05 59.5 -1.4**
baz=131,SNR=95
WMOK S **S 10 10 08.9 +3.8**
baz=131
WMOK Wichita Mounta 22.14 319 P **P 10 06 00.5 -0.5**
WMOK IAmb IAmb 10 06 06.2
comp=Z,90nm,1.1s
N58A Sunbury 22.26 9 P **P 10 06 02.5 +0.4**
baz=192,SNR=8.9
N58A S Sn 10 10 19.9 +1.1
baz=192
N58A Sunbury 22.26 9 P **P 10 06 02.7 +0.6**
N58A IAmb IAmb 10 06 33.2
comp=Z,90nm,1.0s
LUPA Lehigh Univers 22.26 12 P **P 10 06 02.8 +0.7**
N47A Urbana 22.27 351 P **P 10 06 01.6 -0.5**
N47A IAmb IAmb 10 06 21.1
comp=Z,61nm,0.8s
T35A Sooner Cattle 22.39 327 P **P 10 06 02.7 -0.8**
T35A IAmb IAmb 10 06 16.1
comp=Z,87nm,0.9s
M51A Elyria 22.41 358 P **P 10 06 03.7 0.0**
baz=178,SNR=7.1
N59A State Game Lan 22.50 11 P **P 10 06 02.9 -1.7**
baz=194,SNR=12
N59A S Sn 10 10 21.6 -2.8
baz=194
N59A State Game Lan 22.50 11 P **P 10 06 04.9 +0.3**
N59A IAmb IAmb 10 06 17.8
comp=Z,42nm,0.8s
BRNJ Basking Ridge 22.51 14 P **P 10 06 05.9 +1.1**
M53A WI Miller and 22.51 1 P **P 10 06 03.1 -1.7**
baz=182,SNR=12
M53A WI Miller and 22.51 1 P **P 10 06 05.3 +0.5**
M53A IAmb IAmb 10 06 26.4
comp=Z,117nm,1.0s
M50A Fremont 22.52 357 P **P 10 06 05.3 +0.5**
M50A IAmb IAmb 10 06 40.8
comp=Z,138nm,1.2s
N60A Cedar Hill Far 22.58 12 P **P 10 06 03.5 -2.0**
baz=196,SNR=9.9
N60A S Sn 10 10 22.6 -3.7
baz=196
P40A Paris 22.59 338 P **P 10 06 05.1 -0.6**
P40A IAmb IAmb 10 06 52.4
comp=Z,96nm,0.9s
M52A Chesterland 22.61 360 P **P 10 06 04.7 -1.1**
baz=180
M52A Chesterland 22.61 360 P **P 10 06 06.4 +0.6**
M52A IAmb IAmb 10 06 27.5
comp=Z,102nm,1.1s
M54A Oil Creek Stat 22.62 3 P **P 10 06 03.9 -2.0**
baz=184
M54A S Sn 10 10 21.6 -5.8
baz=184
M54A Oil Creek Stat 22.62 3 P **P 10 06 06.4 +0.4**
M54A IAmb IAmb 10 06 34.8
comp=Z,65nm,1.0s
N61A South Mountain 22.64 14 P **P 10 06 05.9 -0.2**
baz=198,SNR=7.0
M55A Ridgway 22.64 5 P **P 10 06 05.5 -0.7**
baz=186,SNR=11
M55A S Sn 10 10 22.1 -5.8
baz=186
M55A Ridgway 22.64 5 P **P 10 06 06.5 +0.3**
M55A IAmb IAmb 10 06 19.2
comp=Z,89nm,1.0s
HDIL Hopedale 22.68 344 P **P 10 06 05.1 -1.5**
baz=160
HDIL Hopedale 22.68 344 P **P 10 06 08.2 +1.6**
HDIL IAmb IAmb 10 06 38.2
comp=Z,72nm,0.8s
M57A Sunshine Farm, 22.69 8 P **P 10 06 05.0 -1.7**
baz=190
M57A S Sn 10 10 23.5 -5.6
baz=190
M57A Sunshine Farm, 22.69 8 P **P 10 06 07.1 +0.4**
M57A IAmb IAmb 10 06 20.1
comp=Z,109nm,1.2s
M56A Emporium 22.71 6 P **P 10 06 05.2 -1.7**
baz=188,SNR=9.6
M56A S Sn 10 10 22.8 -6.8
baz=188
M56A Emporium 22.71 6 P **P 10 06 07.5 +0.5**
M56A IAmb IAmb 10 06 40.5
comp=Z,76nm,1.0s
M58A Price's Panora 22.82 9 P **P 10 06 07.4 -0.7**
baz=192,SNR=6.6
M58A S Sn 10 10 26.2 -6.0
baz=192
TX31 Lajitas Ar. Si 22.86 301 P **P 10 06 08.0 -0.8**
TX32 Lajitas Array 22.86 301 P **P 10 06 08.0 -0.8**
TX32 IAmb IAmb 10 06 23.7
comp=Z,48nm,0.9s
TXAR Lajitas Array 22.86 301 P **P 10 06 07.8 -0.9**
comp=Z,9.1nm,0.7s,baz=116,slow=9.0,SNR=113
TXAR S **S 10 10 15.1 -3.6**
comp=Z,1.2nm,0.7s,baz=134,slow=3.6,SNR=4.2
TXAR LR LR 10 16 04.7
comp=Z,275nm,21.9s,baz=0.0,slow=40
TXAR Lajitas Array 22.86 301 P **P 10 06 07.6 -1.2**
CROK Carrier 22.88 324 P **P 10 06 07.8 -1.0**
ODNJ Ogdensburg 22.89 13 P **P 10 06 09.8 +1.1**
ODNJ IAmb IAmb 10 06 20.2
comp=Z,110nm,1.1s
PAL Palisades 22.97 15 P **P 10 06 09.1 -0.5**
PAL pmax pmax
comp=Z,111nm,1.2s
PAL Palisades 22.97 15 P **P 10 06 06.1 -3.4**
baz=198
PAL S **S 10 10 26.8 +6.7**
baz=198
PAL Palisades 22.97 15 P **P 10 06 09.1 -0.5**
PAL IAmb IAmb 10 06 22.2
comp=Z,111nm,1.2s
KAN13 South Haven SW 22.97 325 P **P 10 06 09.5 -0.3**
N62A Caumsett State 23.01 15 P **P 10 06 07.4 -2.5**
baz=199
L53A Girard 23.04 2 P **P 10 06 09.1 -1.2**
baz=183,SNR=5.1
M60A Port Jervis 23.11 13 P **P 10 06 08.9 -2.2**
baz=196
M60A S Sn 10 10 30.9 -8.3
baz=196
KSPA Keystone Colle 23.12 11 P **P 10 06 11.6 +0.5**
L48A N Adams 23.16 354 P **P 10 06 11.4 -0.2**
L48A IAmb IAmb 10 06 36.0
comp=Z,60nm,0.8s
M59A Waymart 23.16 11 P **P 10 06 10.3 -1.3**
baz=194,SNR=10.0
M59A S Sn 10 10 32.0 -8.3
baz=194
M44A Midewin, Midew 23.18 347 P **P 10 06 12.3 +0.5**
M44A IAmb IAmb 10 06 59.0
comp=Z,69nm,0.9s
ERPA Erie 23.21 3 P **P 10 06 09.9 -2.2**
baz=183
ERPA Erie 23.21 3 P **P 10 06 11.4 -0.7**
ERPA IAmb IAmb 10 06 39.8
comp=Z,71nm,1.0s
P38A Dawn 23.23 336 P **P 10 06 11.6 -0.7**
N41A Harden Midland 23.26 341 P **P 10 06 13.2 +0.6**
N41A IAmb IAmb 10 06 36.5
comp=Z,65nm,0.8s
WSPT Westport, CT 23.27 15 P **P 10 06 12.8 +0.2**
WSPT IAmb IAmb 10 06 24.6
comp=Z,51nm,0.9s
M61A Granite Spring 23.29 15 P **P 10 06 11.7 -1.2**
baz=198
M61A S **S 10 10 33.7 +8.2**
baz=198
L54A Sinclairville 23.36 4 P **P 10 06 13.3 -0.3**
baz=185,SNR=6.1
L55A Hinsdale 23.38 5 P **P 10 06 12.9 -0.9**
baz=187,SNR=14
L55A S **S 10 10 34.7 +7.7**
baz=187
L57A Andrews Acres 23.38 8 P **P 10 06 12.9 -0.9**
baz=191,SNR=9.0
U32A Winter Ranch, 23.38 322 P **P 10 06 13.3 -0.6**
U32A IAmb IAmb 10 06 26.7
comp=Z,85nm,0.9s
L56A Greenwood 23.42 7 P **P 10 06 14.3 0.0**
baz=189,SNR=9.0

L56A S S 10 10 35.7 +7.9
baz=189
L56A Greenwood 23.42 7 P P 10 06 14.4 +0.2
L56A IAmb IAmb 10 06 34.9
comp=Z,75nm,0.9s
AAM Ann Arbor 23.45 356 P P 10 06 15.1 +0.7
baz=174
KAN12 Harper NE Stat 23.46 325 P P 10 06 13.5 -1.2
L58A Harry Jones Me 23.58 10 P P 10 06 15.3 -0.5
baz=193,SNR=7.8
L58A S S 10 10 39.6 +9.5
baz=193
WVNY West Valley, N 23.59 5 P P 10 06 16.6 +0.7
M62A Hamden 23.64 16 P P 10 06 14.6 -1.7
baz=200
BINY Binghamton 23.70 10 P P 10 06 17.9 +0.9
baz=193,SNR=8.2
BINY S S 10 10 40.3 +8.1
baz=193
BINY Binghamton 23.70 10 P P 10 06 17.9 +0.9
KSCT Kent School, K 23.75 15 P P 10 06 18.5 +1.0
KSCT IAmb IAmb 10 06 30.8
comp=Z,57nm,1.2s
K54A Basiliko Farm, 23.78 5 P P 10 06 15.3 -2.4
baz=186
M63A Gales Ferry 23.83 17 P P 10 06 17.6 -0.6
baz=202
M63A S S 10 10 42.6 +8.5
baz=202
L60A Shokan 23.84 13 P P 10 06 17.9 -0.3
baz=197,SNR=7.5
L60A S S 10 10 43.9 +10
baz=197
L59A Walton 23.86 12 P P 10 06 16.7 -1.9
baz=195
L59A S S 10 10 44.2 +9.5
baz=195
L59A Walton 23.86 12 P P 10 06 19.6 +1.0
L59A IAmb IAmb 10 06 33.1
comp=Z,72nm,1.1s
L44A Lake County Fo 23.91 348 P P 10 06 17.0 -1.9
baz=164
K55A Perry 23.95 6 P P 10 06 20.1 +0.7
baz=188,SNR=6.8
K55A S S 10 10 43.7 +7.6
baz=188
MMNY Mt. Morris Dam 23.97 6 P P 10 06 19.5 0.0
MMNY IAmb IAmb 10 06 30.7
comp=Z,67nm,0.9s
K56A Middlesex 24.00 7 P P 10 06 20.4 +0.5
baz=189,SNR=7.0
K56A S S 10 10 46.5 +10
baz=189
AMTX Amarillo 24.10 316 P P 10 06 20.1 -0.9
baz=126
AMTX S S 10 10 47.7 +8.9
baz=126
AMTX Amarillo 24.10 316 P P 10 06 20.6 -0.4
KSU1 Kansas State U 24.13 330 P P 10 06 19.9 -1.2
baz=142,SNR=6.6
KSU1 S S 10 10 46.3 +7.2
baz=142
KSU1 Kansas State U 24.13 330 P P 10 06 20.7 -0.4
N38A Joes South For 24.13 337 P P 10 06 20.9 -0.1
L42A Oliver, Polo 24.14 345 P P 10 06 21.1 0.0
K57A Scipio Center 24.14 9 P P 10 06 21.3 +0.2
baz=191,SNR=7.2
K57A S S 10 10 50.2 +11
baz=191
L61A Hillsdale 1, H 24.18 14 P P 10 06 20.2 -1.3
baz=198
L61A S S 10 10 49.5 +10
baz=198
M64A Tiverton 24.21 19 P P 10 06 21.0 -0.7
baz=204
M64A S S 10 10 50.3 +10
baz=204
L62A Suffield 24.25 16 P P 10 06 20.5 -1.6
baz=200
M66A Nantucket 24.29 21 P P 10 06 21.8 -0.7
baz=207
K58A Earlville 24.31 10 P P 10 06 22.0 -0.8
baz=193
K58A S S 10 10 51.7 +10
baz=193
K58A Earlville 24.31 10 P P 10 06 23.4 +0.7
K58A IAmb IAmb 10 06 43.2
comp=Z,92nm,1.2s
MSTX Muleshoe 24.33 312 P P 10 06 22.2 -0.8
baz=123,SNR=23
MSTX S S 10 10 50.9 +8.4
baz=123
MSTX Muleshoe 24.33 312 P P 10 06 23.1 0.0
MEDO Medina 24.35 5 P P 10 06 23.6 +0.6
MEDO IAmb IAmb 10 06 34.3
comp=Z,64nm,0.8s
L63A North Scituate 24.38 18 P P 10 06 23.5 +0.2
baz=203
M65A Busby, Falmout 24.40 20 P P 10 06 21.5 -1.9
baz=205
J54A Appleton 24.44 5 P P 10 06 22.3 -1.6
baz=186
J54A Appleton 24.44 5 P P 10 06 24.4 +0.5
J54A IAmb IAmb 10 07 12.7
comp=Z,60nm,1.1s
K59A Cooperstown 24.46 12 P P 10 06 21.5 -2.6
baz=195
K59A S S 10 10 54.6 +10
baz=195
J47A Sunmer 24.48 354 P P 10 06 24.6 +0.4
J47A IAmb IAmb 10 06 35.5
comp=Z,55nm,0.8s
K43A Burlington 24.50 347 P P 10 06 24.4 0.0
K43A IAmb IAmb 10 07 13.2
comp=Z,53nm,0.9s
K60A Five Rivers En 24.51 13 P P 10 06 22.6 -1.9
baz=197
J55A Hilton 24.51 6 P P 10 06 22.0 -2.5
baz=188
J55A Hilton 24.51 6 P P 10 06 25.0 +0.5
J55A IAmb IAmb 10 06 51.0
comp=Z,38nm,0.9s
QUA2 Belchertown 24.56 16 P P 10 06 26.1 +1.1
QUA2 IAmb IAmb 10 06 37.4
comp=Z,60nm,0.9s
GDL2 Guadalupe Moun 24.60 307 P P 10 06 25.2 -0.4
L40A Anamosa 24.61 342 P P 10 06 25.4 -0.1
L40A IAmb IAmb 10 07 17.9
comp=Z,50nm,0.8s
J56A Wolcott 24.63 8 P P 10 06 23.7 -1.9
baz=190
J56A Wolcott 24.63 8 P P 10 06 26.8 +1.2
J56A IAmb IAmb 10 06 37.1
comp=Z,50nm,0.8s
L61B Northampton 24.64 15 P P 10 06 25.5 -0.1
baz=200,SNR=5.0
L61B S S 10 10 57.1 +10
baz=200
TRY Troy 24.67 14 P P 10 06 28.0 +2.1
TRY IAmb IAmb 10 06 39.0
comp=Z,70nm,0.9s
R32A Long Quarter, 24.67 326 P P 10 06 26.1 0.0
L64A Middleborough 24.68 19 P P 10 06 23.8 -2.2
baz=204
K61A Williamstown 24.70 14 P P 10 06 25.5 -0.7
baz=199,SNR=5.2
K61A S S 10 10 57.5 +9.3
baz=199
I51A Listowel 24.87 1 P P 10 06 28.1 +0.3
baz=181,SNR=7.6
J57A Williamstown 24.89 9 P P 10 06 26.9 -1.0
baz=192
J57A S S 10 11 04.0 +13
baz=192
J57A Williamstown 24.89 9 P P 10 06 29.1 +1.2
J57A IAmb IAmb 10 06 40.3
comp=Z,59nm,0.9s
WES Weston 24.94 18 P P 10 06 29.6 +1.2
WES pmax pmax
comp=Z,60nm,1.0s
WES Weston 24.94 18 P P 10 06 29.6 +1.2
WES IAmb IAmb 10 06 41.2
comp=Z,60nm,1.0s
K62A Royalston 24.95 16 P P 10 06 26.9 -1.6
baz=201
K62A Royalston 24.95 16 P P 10 06 31.4 +2.9
K62A IAmb IAmb 10 06 40.6
comp=Z,42nm,1.1s
J58A Remsen 24.95 10 P P 10 06 26.0 -2.5
baz=194
J58A S S 10 11 04.7 +13
baz=194
J58A Remsen 24.95 10 P P 10 06 29.0 +0.5
J58A IAmb IAmb 10 06 40.8
comp=Z,42nm,0.9s
HRV Adam Dziewonsk 24.99 17 P P 10 06 26.3 -2.5
baz=202
I49A Point Hope 25.04 357 P P 10 06 29.8 +0.5
SCIA State Center 25.11 339 P P 10 06 27.6 -2.3
baz=153
SCIA State Center 25.11 339 P P 10 06 30.6 +0.6
N35A Tabor 25.13 334 P P 10 06 29.7 -0.4
JFWS Jewell Farm 25.14 344 P P 10 06 30.1 -0.1
JFWS pmax pmax
comp=Z,129nm,0.7s
JFWS Jewell Farm 25.14 344 P P 10 06 29.9 -0.3
baz=160,SNR=17
JFWS Jewell Farm 25.14 344 P P 10 06 30.1 -0.1
MNTX Cornudas Mount 25.16 305 P P 10 06 29.4 -1.2
baz=115,SNR=16
MNTX S S 10 11 10.2 +14
baz=115
MNTX Cornudas Mount 25.16 305 P P 10 06 29.6 -1.0
K63A Dunstable 25.16 17 P P 10 06 30.3 0.0
baz=202
K63A S S 10 11 10.6 +15
baz=202
J59A Piesco 25.20 12 P P 10 06 31.3 +0.5
baz=195,SNR=14
J59A S S 10 11 03.3 +7.2
baz=195
J59A Piesco 25.20 12 P P 10 06 32.2 +1.5
J59A IAmb IAmb 10 06 43.1
comp=Z,69nm,0.9s
J60A Lant Hill Farm 25.21 14 P P 10 06 31.8 +1.0
baz=198,SNR=21
J60A S S 10 11 05.9 +10
baz=198
PECO Prince Edward 25.26 7 P P 10 06 31.9 +0.7
PECO IAmb IAmb 10 06 43.2
comp=Z,43nm,0.8s
ACCN Adirondack Com 25.29 13 P P 10 06 33.3 +1.8
ACCN IAmb IAmb 10 06 43.8
comp=Z,76nm,1.2s
I58A Old Forge 25.33 11 P P 10 06 32.6 +0.6
baz=194,SNR=15
I58A S S 10 11 06.1 +7.9
baz=194
I57A Carthage 25.45 10 P P 10 06 33.8 +0.8
baz=193,SNR=9.7
I57A S S 10 11 15.4 +15
baz=193
I55A Frankford 25.47 6 P P 10 06 32.8 -0.3
baz=188,SNR=10
I55A S S 10 11 16.2 +16
baz=188
CBKS Cedar Bluff 25.51 325 P P 10 06 33.5 -0.2
CBKS pmax pmax
comp=Z,70nm,1.0s
CBKS Cedar Bluff 25.51 325 P P 10 06 33.0 -0.7
baz=136,SNR=10
CBKS S S 10 11 16.0 +15
baz=136
CBKS Cedar Bluff 25.51 325 P P 10 06 33.5 -0.2
CBKS IAmb IAmb 10 06 53.0
comp=Z,70nm,0.9s
J61A Chester 25.51 15 P P 10 06 33.2 -0.4
baz=200
J62A Henniker 25.59 16 P P 10 06 34.6 +0.3
baz=201,SNR=6.7
K38A Parkersburg 25.62 340 P P 10 06 34.4 -0.1
I59A Olmsteadville 25.64 13 P P 10 06 35.3 +0.6
baz=196,SNR=14
I59A S S 10 11 13.0 +10
baz=196
NCB Newcomb 25.74 12 P P 10 06 37.1 +1.5
NCB IAmb IAmb 10 06 48.6
comp=Z,33nm,0.8s
H53A Bobcaygeon 25.74 5 P P 10 06 36.2 +0.6
baz=186,SNR=15
I42A Draeger Farm, 25.76 347 P P 10 06 35.9 +0.1
DELO Deloro Mine 25.77 6 P P 10 06 36.9 +1.0
DELO IAmb IAmb 10 06 46.7
comp=Z,30nm,0.8s
I60A Shoreham 25.81 13 P P 10 06 35.9 -0.3
baz=198,SNR=14
H55A Tweed 25.85 7 P P 10 06 37.0 +0.4
baz=189,SNR=7.6
SADO Sadowa 25.90 4 P P 10 06 38.0 +0.9
comp=Z,39nm,1.0s,baz=201,slow=8.7,SNR=16
SADO LR LR 10 16 19.9
comp=Z,2µm,18.8s,baz=196,slow=35
SADO Sadowa 25.90 4 P P 10 06 38.0 +0.9
ATAH Atahualpa 25.99 173 P P 10 06 40.6 +2.0
comp=Z,38nm,0.9s,baz=353,slow=8.7,SNR=14
ATAH LR LR 10 17 24.7
comp=Z,1µm,20.7s,baz=5.1,slow=38
H56A Elgin 26.01 8 P P 10 06 38.0 0.0
baz=191,SNR=9.7
H57A Richville 26.01 10 P P 10 06 38.0 0.0
baz=193,SNR=23
H43A Windswept, Lux 26.10 349 P P 10 06 39.0 +0.1
I61A Oroboro, Fairl 26.14 15 P P 10 06 38.6 -0.7
baz=200
I40A Norwalk 26.15 345 P P 10 06 39.4 0.0
H58A Gabriels 26.18 12 P P 10 06 39.2 -0.4
baz=196,SNR=5.6
LONY Lake Ozonia 26.30 11 P P 10 06 40.6 -0.1
baz=195,SNR=14
LONY Lake Ozonia 26.30 11 P P 10 06 40.9 +0.2
LONY IAmb IAmb 10 06 53.9
comp=Z,44nm,1.1s
I62A Tamworth 26.32 16 P P 10 06 39.6 -1.3
baz=202
PLVO Plevna 26.34 7 P P 10 06 41.8 +0.7
G45A Suttons Bay 26.35 353 P P 10 06 41.3 +0.1
L34A Svendsen Farm, 26.36 334 P P 10 06 40.9 -0.3
H59A Cadyville 26.49 12 P P 10 06 41.5 -1.0
baz=196,SNR=12
LBNH Lisbon 26.50 15 P P 10 06 42.8 +0.2
LBNH pmax pmax
comp=Z,60nm,1.3s
LBNH Lisbon 26.50 15 P P 10 06 41.0 -1.6
baz=200
LBNH Lisbon 26.50 15 P P 10 06 42.8 +0.2
LBNH IAmb IAmb 10 06 58.3
comp=Z,60nm,1.2s
G55A Calabogie 26.60 7 P P 10 06 43.0 -0.3
baz=190
G54A Lake Saint Pet 26.60 5 P P 10 06 42.8 -0.7
baz=187,SNR=5.3
H60A Morristown 26.62 14 P P 10 06 42.4 -1.3
baz=198,SNR=17
BGNE Belgrade 26.68 331 P P 10 06 43.0 -1.2
baz=142
BGNE Belgrade 26.68 331 P P 10 06 44.0 -0.2
I63A Otisfield 26.69 17 P P 10 06 44.1 -0.1
baz=203
FRNY Flat Rock 26.69 12 P P 10 06 44.9 +0.7
G57A Newington 26.70 10 P P 10 06 43.0 -1.2
baz=194
H61A Lyndonville 26.78 15 P P 10 06 45.3 +0.2
baz=200
F49A Sandfield 26.83 359 P P 10 06 45.8 +0.3
baz=178
I64A Boothbay 26.85 19 P P 10 06 45.6 0.0
baz=205
G58A Ormstown 26.91 11 P P 10 06 46.1 0.0
baz=195
F48A Evansville 26.91 358 P P 10 06 47.4 +1.2
baz=177
ORIO Orleans, Innes 26.95 9 P P 10 06 46.6 0.0
baz=192
ORIO Orleans, Innes 26.95 9 P P 10 06 47.4 +0.8
H62A Milan 27.01 16 P P 10 06 44.7 -2.5
baz=202
I37A Lemond, Waseca 27.05 341 P P 10 06 48.0 +0.5
SLBS Sierra La Lagu 27.07 285 P P 10 06 47.3 -0.7
SLBS IAmb IAmb 10 07 02.3
comp=Z,52nm,0.9s
ALGO Algonquin Park 27.16 5 P P 10 06 47.5 -0.9
baz=187,SNR=6.0
BNM Barren Site 27.18 309 P P 10 06 48.4 -0.7
T25A Trinidad 27.21 317 P P 10 06 47.4 -1.9
baz=126,SNR=20
T25A S S 10 11 37.2 +8.6
baz=126
T25A Trinidad 27.21 317 P P 10 06 50.6 +1.3
T25A IAmb IAmb 10 07 26.5
comp=Z,82nm,1.1s
F55A Otter Lake 27.21 8 P P 10 06 48.0 -0.9
baz=190
G60A Masonville 27.21 14 P P 10 06 48.3 -0.7
baz=199
KSCO Kaye Shedlock' 27.27 322 P P 10 06 49.2 -0.5
baz=131,SNR=6.9
KSCO Kaye Shedlock' 27.27 322 P P 10 06 49.6 -0.1
KSCO IAmb IAmb 10 07 00.6
comp=Z,27nm,0.8s
G40A Rib Lake 27.35 346 P P 10 06 50.4 +0.2
G40A IAmb IAmb 10 07 16.1
comp=Z,50nm,1.1s
121A Cookes Peak, D 27.36 305 P P 10 06 49.6 -1.1
baz=113
121A Cookes Peak, D 27.36 305 P P 10 06 50.4 -0.2
121A IAmb IAmb 10 07 41.6
comp=Z,40nm,1.1s
H63A New Sharon 27.40 18 P P 10 06 51.5 +0.9
baz=204
MOQ Mont Orford 27.44 14 P P 10 06 51.7 +0.7
ANMO Albuquerque 27.44 311 P P 10 06 51.4 +0.1
comp=Z,0.2nm,1.0s,baz=296,slow=12,SNR=8.3
ANMO Albuquerque 27.44 311 P P 10 06 51.4 +0.1
ANMO pmax pmax
comp=Z,20nm,1.3s
ANMO Albuquerque 27.44 311 P P 10 06 50.9 -0.5
baz=119
ANMO Albuquerque 27.44 311 P P 10 06 51.4 +0.1
LPIG La Paz 27.44 286 P P 10 06 50.5 -0.7
comp=Z,44nm,0.9s,baz=308,slow=1.2,SNR=4.5
LPIG LR LR 10 19 09.3
comp=Z,1µm,19.6s,baz=110,slow=40
E46A Sault Ste Mari 27.54 356 P P 10 06 50.5 -1.4
E46A IAmb IAmb 10 07 48.8
comp=Z,51nm,1.1s
E47A Iron Bridge 27.57 357 P P 10 06 52.4 +0.4
baz=176,SNR=6.6
G61A St-Isidore-de- 27.58 15 P P 10 06 53.1 +0.8
baz=200
E53A Dumoine, Ponti 27.61 5 P P 10 06 51.5 -0.9
baz=188
H64A Troy 27.63 19 P P 10 06 52.3 -0.4
baz=205
E54A Lac Daplat, Po 27.71 6 P P 10 06 54.0 +0.6
baz=188
CZSB Cruzeiro do Su 27.76 161 eP P 10 06 54.6 +0.5
G62A West of Eustis 27.78 17 P P 10 06 54.2 +0.2
baz=202
G62A West of Eustis 27.78 17 P P 10 06 54.2 +0.2
G62A IAmb IAmb 10 07 50.3
comp=Z,48nm,1.2s
E43A Lone Tree Farm 27.84 352 P P 10 06 54.4 -0.2
E43A IAmb IAmb 10 07 17.7
comp=Z,50nm,1.1s
K31A O'Neill 27.91 332 P P 10 06 55.1 -0.2
COWI Conover 27.92 348 P P 10 06 55.6 +0.3
COWI IAmb IAmb 10 07 46.9
comp=Z,20nm,0.8s
ECSD EROS Data Cent 27.93 336 P P 10 06 54.3 -1.1
baz=148,SNR=22
ECSD EROS Data Cent 27.93 336 P P 10 06 54.7 -0.7
SPMN Marine on St. 27.97 343 P P 10 06 54.7 -1.1
baz=156
SPMN Marine on St. 27.97 343 P P 10 06 55.5 -0.2
H65A Eastbrook 27.98 20 P P 10 06 54.5 -1.3
baz=207
D46A Sault St. Mari 28.05 356 P P 10 06 54.5 -1.9
baz=175
E56A St. Veronique 28.09 9 P P 10 06 54.9 -1.9
baz=193
E57A Chemin Saint G 28.11 11 P P 10 06 56.3 -0.7
baz=195
F60A Warwick 28.13 14 P P 10 06 56.4 -0.6
baz=199
D47A Chapleau 28.16 357 P P 10 06 56.4 -1.0
baz=176
PKME Peaks-Kenny Pk 28.17 18 P P 10 06 55.3 -2.2
baz=205
E58A La Victoria 28.23 12 P P 10 06 55.6 -2.5
baz=196
OGNE Ogallala 28.27 326 P P 10 06 56.5 -2.0
baz=135
SDCO Great Sand Dun 28.27 317 P P 10 06 59.5 +0.6
baz=125,SNR=21
SDCO S S 10 11 55.3 +10
baz=125
SDCO Great Sand Dun 28.27 317 P P 10 06 59.3 +0.4
SDCO IAmb IAmb 10 07 35.4
comp=Z,48nm,1.4s
D53A Lac Vacive, Po 28.30 5 P P 10 06 59.8 +1.2
D53A IAmb IAmb 10 07 53.9
comp=Z,26nm,0.9s
G64A Maxfield 28.32 19 P P 10 06 59.1 +0.2
baz=206
F61A St Evariste 28.36 15 P P 10 06 58.5 -0.7
baz=201
H66A Whiting 28.38 21 P P 10 06 58.9 -0.4
baz=209
D54A Lac Fusel, La 28.48 7 P P 10 07 00.7 +0.5
baz=189,SNR=5.6
D55A Sainte-Anne-du 28.49 8 P P 10 07 01.2 +0.8
baz=192,SNR=6.0
F63A Nahmakanta, Br 28.62 18 P P 10 07 01.2 -0.4
baz=205
PTGA Pitinga 28.62 131 P P 10 07 03.2 +1.3
comp=Z,19nm,0.8s,baz=312,slow=11,SNR=35
PTGA LR LR 10 20 33.3
comp=Z,1µm,18.5s,baz=336,slow=41
PTGA Pitinga 28.62 131 P P 10 07 03.1 +1.3
PTGA IAmb IAmb 10 07 03.7
comp=Z,24nm,0.9s
PTGA Pitinga 28.62 131 eP P 10 07 02.8 +0.9
D56A ZEC Mazanza, M 28.63 9 P P 10 07 02.4 +0.8
baz=193,SNR=6.8
D57A Chemin Vers le 28.74 11 P P 10 07 01.6 -1.0
baz=195
F36A Milaca 28.76 342 P P 10 07 02.3 -0.4
F36A IAmb IAmb 10 08 02.2
comp=Z,69nm,1.2s
Q24A Divide 28.77 319 P P 10 07 02.5 -0.8
baz=127
HSIG 28.83 296 P P 10 07 03.2 -0.4
E61A Lac Etchemin 28.91 16 P P 10 07 02.5 -1.6
baz=202
E38A The Farm, Brul 28.93 345 P P 10 07 03.8 -0.4
E38A IAmb IAmb 10 07 25.6
comp=Z,33nm,0.9s
F64A Sherman 28.99 19 P P 10 07 03.2 -1.6
baz=206
D58A Chemin du LacG 29.00 12 P P 10 07 04.5 -0.4
baz=197
S22A 4UR Ranch, Cre 29.14 316 P P 10 07 07.5 +0.9
baz=123,SNR=24
S22A 4UR Ranch, Cre 29.14 316 P P 10 07 07.5 +0.9
S22A IAmb IAmb 10 07 33.6
comp=Z,55nm,1.6s
D60A Saint Jean D'O 29.26 15 P P 10 07 08.2 +1.1
baz=200,SNR=5.4
LATQ La Tuque 29.30 12 P P 10 07 08.1 +0.6
baz=197
E62A Clayton Lake 29.34 17 P P 10 07 08.8 +0.9
baz=203,SNR=6.6
E62A Clayton Lake 29.34 17 P P 10 07 08.4 +0.5
E62A IAmb IAmb 10 07 19.9
comp=Z,30nm,0.9s
VLDQ Val d'Or 29.35 5 P P 10 07 08.8 +0.9
VLDQ IAmb IAmb 10 07 19.2
comp=Z,24nm,0.8s
SUSD Miller 29.46 334 P P 10 07 08.2 -0.9
baz=144
SUSD Miller 29.46 334 P P 10 07 08.0 -1.0
E63A Oxbow 29.48 18 P P 10 07 09.3 +0.2
baz=206
ISCO Idaho Springs 29.56 320 P P 10 07 10.7 +0.4
ISCO pmax pmax
comp=Z,40nm,1.5s
ISCO Idaho Springs 29.56 320 P P 10 07 10.5 +0.2
baz=128,SNR=16
ISCO Idaho Springs 29.56 320 P P 10 07 10.7 +0.4
ISCO IAmb IAmb 10 07 43.1
comp=Z,40nm,1.4s

SRIG	Santa Rosalia	29.60 292	P	P	10 07 10.8 +0.4
SRIG			IAmb	IAmb	10 07 24.9
comp=Z,73nm,1.6s					
F33A	5 Mile Ranch,	29.62 339	P	P	10 07 09.4 -1.0
TUC	Tucson	29.64 303	P	P	10 07 08.0 -2.9
TUC			pmax	pmax	
comp=Z,11nm,1.2s					
TUC	Tucson	29.64 303	P	P	10 07 09.2 -1.6
baz=110					
TUC	Tucson	29.64 303	P	P	10 07 08.0 -2.9
D61A	St Aubert, Com	29.71 15	P	P	10 07 10.2 -0.9
baz=202					
MACA	Manacapuru-AM	29.86 135	eP	P	10 07 13.6 +0.8
D62A	Allapoint, All	29.90 17	P	P	10 07 13.0 +0.3
baz=204					
D62A	Allapoint, All	29.90 17	P	P	10 07 14.7 +1.9
W18A	Petrified Fore	29.91 309	P	P	10 07 13.1 -0.2
baz=115,SNR=7.5					
W18A	Petrified Fore	29.91 309	P	P	10 07 12.9 -0.4
MVCO	Mesa Verde	29.99 313	P	P	10 07 14.5 +0.4
baz=120,SNR=9.0					
MVCO	Mesa Verde	29.99 313	P	P	10 07 14.0 -0.1
MVCO			IAmb	IAmb	10 07 52.2
comp=Z,38nm,1.4s					
D63A	Stockholm	30.12 18	P	P	10 07 14.5 -0.4
baz=206					
EYMN	Ely	30.17 346	P	P	10 07 15.5 +0.2
baz=161					
LSQQ	Lebel-sur-Quev	30.33 6	P	P	10 07 16.9 +0.3
baz=188					
PHWY	Pilot Hill	30.41 323	P	P	10 07 17.9 +0.1
N23A	Red Feather La	30.44 321	P	P	10 07 17.6 -0.4
baz=129					
N23A	Red Feather La	30.44 321	P	P	10 07 18.1 +0.1
N23A			IAmb	IAmb	10 08 14.4
comp=Z,41nm,1.4s					
PV01	Paradox Valley	30.51 315	P	P	10 07 19.8 +1.1
PV15	Paradox Valley	30.56 315	P	P	10 07 20.6 +1.5
PV15			IAmb	IAmb	10 07 32.3
comp=Z,31nm,1.0s					
PV02	Paradox Valley	30.66 315	P	P	10 07 21.0 +1.0
PV02			IAmb	IAmb	10 07 33.2
comp=Z,31nm,1.0s					
PV13	Radium Mtn., P	30.69 315	P	P	10 07 21.8 +1.5
PV13			IAmb	IAmb	10 07 33.3
comp=Z,36nm,1.0s					
PV07	Paradox Valley	30.72 315	P	P	10 07 21.5 +1.0
PV03	Paradox Valley	30.76 315	P	P	10 07 21.9 +1.0
PV03			IAmb	IAmb	10 07 33.8
comp=Z,41nm,1.0s					
PV12	Saucer Basin,	30.76 315	P	P	10 07 22.2 +1.4
PV18	Skein Mesa, Pa	30.80 315	P	P	10 07 22.0 +0.8
PV18			IAmb	IAmb	10 07 34.1
comp=Z,36nm,1.1s					
PV11	David Mesa, Pa	30.80 315	P	P	10 07 22.1 +0.9
PV16	Nyswonger Mesa	30.84 315	P	P	10 07 22.7 +1.1
PV17	East Wray Mesa	30.85 315	P	P	10 07 23.0 +1.4
PV17			IAmb	IAmb	10 07 34.5
comp=Z,49nm,1.1s					
PV22	Blue Mesa, Par	30.87 315	P	P	10 07 24.3 +2.5
PV22			IAmb	IAmb	10 07 35.6
comp=Z,24nm,1.0s					
PV04	Paradox Valley	30.87 315	P	P	10 07 23.3 +1.5
PV04			IAmb	IAmb	10 07 34.7
comp=Z,35nm,1.1s					
PV19	Morning Glory	30.88 315	P	P	10 07 23.2 +1.3
PV19			IAmb	IAmb	10 07 34.8
comp=Z,50nm,1.2s					
PV20	West Nyswonger	30.89 315	P	P	10 07 23.2 +1.3
PV20			IAmb	IAmb	10 07 34.8
comp=Z,29nm,1.0s					
X16A	Lo Mia Camp, P	30.91 306	P	P	10 07 23.0 +0.8
PV14	Lion Creek, Pa	30.94 315	P	P	10 07 23.8 +1.3
PV14			IAmb	IAmb	10 07 35.2
comp=Z,36nm,1.1s					
PV10	Paradox Valley	30.95 315	P	P	10 07 23.6 +1.0
PV10			IAmb	IAmb	10 07 45.0
comp=Z,40nm,1.0s					
MATQ	Matagami	30.97 5	P	P	10 07 21.9 -0.3
baz=187					
NNA	Nana	30.97 171	LR	LR	10 21 50.8
comp=Z,845nm,19.2s,baz=346,slow=40					
PV23	Carpenter Ridg	30.97 315	P	P	10 07 24.1 +1.3
PV23			IAmb	IAmb	10 07 49.3
comp=Z,20nm,0.8s					
PV21	Cone Mtn., Par	31.01 315	P	P	10 07 23.6 +0.5
214A	Organ Pipe Nat	31.16 301	P	P	10 07 23.6 -0.7
baz=107					
214A	Organ Pipe Nat	31.16 301	P	P	10 07 23.9 -0.4
WUAZ	Wupatki	31.29 308	P	P	10 07 25.9 +0.4
baz=114,SNR=34					
WUAZ	Wupatki	31.29 308	P	P	10 07 26.3 +0.8
WUAZ			IAmb	IAmb	10 07 39.8
comp=Z,35nm,1.0s					
O20A	White River Ci	31.39 318	P	P	10 07 27.0 +0.7
baz=125,SNR=10					
O20A	White River Ci	31.39 318	P	P	10 07 27.7 +1.4
O20A			IAmb	IAmb	10 08 08.9
comp=Z,27nm,1.1s					
CHGQ	Chibougamau	31.48 9	P	P	10 07 27.0 +0.3
baz=193					
RSSD	Black Hills	31.56 328	P	P	10 07 27.5 -0.3
RSSD			pmax	pmax	
comp=Z,32nm,1.2s					
RSSD	Black Hills	31.56 328	P	P	10 07 27.9 0.0
baz=136					
RSSD	Black Hills	31.56 328	P	P	10 07 27.5 -0.3
RSSD			IAmb	IAmb	10 07 55.7
comp=Z,32nm,1.1s					
AGMN	Agassiz Nation	31.65 341	P	P	10 07 27.8 -0.5
baz=153,SNR=8.9					
AGMN	Agassiz Nation	31.65 341	P	P	10 07 27.6 -0.7
AGMN			IAmb	IAmb	10 07 49.9
comp=Z,21nm,0.8s					
RWWY	Rawlins	31.68 321	P	P	10 07 29.5 +0.6
RWWY			IAmb	IAmb	10 07 40.9
comp=Z,30nm,0.8s					
K22A	Casper	31.89 324	P	P	10 07 30.9 +0.3
E28A	Huff	31.91 334	P	P	10 07 29.6 -1.0
ETMB	Extrema	32.16 151	eP	P	10 07 32.1 -0.9
SRU	San Rafael Swe	32.33 315	P	P	10 07 35.4 +0.8
SRU			pmax	pmax	
comp=Z,39nm,0.9s					
SRU	San Rafael Swe	32.33 315	P	P	10 07 35.4 +0.8
U15A	North Rim	32.34 309	P	P	10 07 35.6 +0.8
RDMU	Red Mountain	32.47 318	P	P	10 07 36.1 +0.2
MDND	Maddock	32.52 337	P	P	10 07 35.4 -0.6
baz=146					
MDND	Maddock	32.52 337	P	P	10 07 35.7 -0.3
P17A	Butcher Ranch,	32.65 315	P	P	10 07 38.0 +0.5
Q16A	Castle Valley	32.67 314	P	P	10 07 38.5 +0.9
PKCU	Pink Cliffs	32.79 311	P	P	10 07 38.7 -0.1
TMUT	Trail Mountain	32.88 315	P	P	10 07 40.8 +1.2
SAML	Samuel	32.92 146	P	P	10 07 39.8 +0.1
SAML			pmax	pmax	
comp=Z,32nm,1.2s					
SAML	Samuel	32.92 146	P	P	10 07 39.8 +0.1
SAML			IAmb	IAmb	10 07 58.3
comp=Z,32nm,1.1s					
SAML	Samuel	32.92 146	eP	P	10 07 38.6 -1.1
SAML			epP	pP	10 07 42.9 +1.6
PDMCI	Parker Dam,Lak	32.96 304	P	P	10 07 39.3 -0.7
baz=109					
MTPU	Mount Pierson	32.96 312	P	P	10 07 40.8 +0.4
KNB	Kanab	32.97 310	P	P	10 07 40.9 +0.6
KNB			pmax	pmax	
comp=Z,46nm,1.3s					
KNB	Kanab	32.97 310	P	P	10 07 40.9 +0.6
W13A	Hualapai Mount	33.03 306	P	P	10 07 41.7 +0.8
MSU	Marysvale	33.17 313	P	P	10 07 42.2 +0.2
MSU	Marysvale	33.17 313	P	P	10 07 42.2 +0.2
LCMT	Little Creek M	33.28 310	P	P	10 07 43.6 +0.6
ULM	Lac du Bonnet	33.40 343	P	P	10 07 43.9 +0.3
comp=Z,6.3nm,0.8s,baz=139,slow=13,SNR=4.9					
ULM			LR	LR	10 20 44.1
comp=Z,2μm,18.9s,baz=158,slow=35					
ULM	Lac du Bonnet	33.40 343	P	P	10 07 44.2 +0.6
ULM			pmax	pmax	
comp=Z,17nm,1.0s					
ULM	Lac du Bonnet	33.40 343	P	P	10 07 44.2 +0.6
CCUT	Cedar City	33.59 310	P	P	10 07 45.6 -0.1
MALB	Monte Alegre	33.64 125	eP	P	10 07 46.6 +0.5
IRM	Iron Mountain	33.70 304	P	P	10 07 45.7 -0.8
baz=108					
JLU	Jordanelle	33.70 316	P	P	10 07 47.5 +0.8
BW06	Boulder Array	33.72 321	P	P	10 07 46.5 -0.3
baz=126,SNR=30					
BW06	Boulder Array	33.72 321	P	P	10 07 46.5 -0.3
BW06			IAmb	IAmb	10 07 58.0
comp=Z,22nm,1.0s					
PD31	Pinedale Array	33.72 321	P	P	10 07 46.5 -0.3
PD31			IAmb	IAmb	10 07 58.0
comp=Z,20nm,1.0s					
PDAR	Pinedale Array	33.72 321	P	P	10 07 46.5 -0.3
comp=Z,9.5nm,0.9s,baz=123,slow=11,SNR=71					
PDAR			PcP	PcP	10 10 26.9 +0.5
comp=Z,1.6nm,0.8s,baz=118,slow=3.5,SNR=1.5					
PDAR			LR	LR	10 23 36.7
comp=Z,597nm,18.3s,baz=136,slow=40					
ESJX	Sierra Juarez	33.74 300	P	P	10 07 46.2 -0.8
BC3	Big Chuckawall	33.79 303	P	P	10 07 46.2 -1.2
baz=107					
SWSC	Sam W. Stewart	33.87 301	P	P	10 07 46.3 -1.6
baz=106					
TCUT	Toone Canyon	33.94 317	P	P	10 07 49.9 +1.2
IKP	In-Ko-Pah, Jac	34.04 301	P	P	10 07 47.8 -1.7
baz=105					
ITTB	Itaituba	34.18 130	eP	P	10 07 51.5 +0.7
GMRC	Granite Mounta	34.30 305	P	P	10 07 50.9 -0.9
baz=108					
HWUT	Hardware Ranch	34.30 318	P	P	10 07 51.9 +0.1
HWUT			IAmb	IAmb	10 08 03.1
comp=Z,25nm,0.9s					
BELC	Belle Mtn. Jos	34.32 303	P	P	10 07 52.1 +0.1
baz=107,SNR=9.2					
MONP2	Monument Peak	34.35 301	P	P	10 07 50.8 -1.6
baz=105					
PSUT	Pine Spring	34.36 312	P	P	10 07 53.7 +1.3
DUG	Dugway, Tooele	34.40 315	P	P	10 07 53.5 +0.9
DUG			pmax	pmax	
comp=Z,22nm,1.0s					
DUG	Dugway, Tooele	34.40 315	P	P	10 07 53.6 +0.9
baz=119,SNR=17					
DUG	Dugway, Tooele	34.40 315	P	P	10 07 53.5 +0.9
DUG			IAmb	IAmb	10 08 05.3
comp=Z,22nm,0.9s					
CBX	Cerro Bola	34.41 300	P	P	10 07 52.7 -0.1
LAO	LASA Array	34.47 329	P	P	10 07 51.4 -1.7
baz=135					
LAO	LASA Array	34.47 329	P	P	10 07 52.8 -0.3
SHPR	Sheep Range	34.50 308	P	P	10 07 54.5 +1.0
BAR	Barrett	34.50 301	P	P	10 07 53.1 -0.4
MCPB	Macapa, AP	34.51 120	eP	P	10 07 54.1 +0.5
PFO	Pinyon Flats O	34.58 302	P	P	10 07 53.7 -0.6
PFO			pmax	pmax	
comp=Z,15nm,1.3s					
PFO	Pinyon Flats O	34.58 302	P	P	10 07 54.3 0.0
baz=106					
PFO	Pinyon Flats O	34.58 302	P	P	10 07 53.7 -0.6
AHID	Auburn Hatcher	34.65 320	P	P	10 07 54.3 -0.5
SPUT	South Promonto	34.71 317	P	P	10 07 56.0 +0.7
TUQ	Turquoise Moun	34.71 305	P	P	10 07 56.0 +0.6
baz=109					
PRN	Pahroc Range	34.76 309	P	P	10 07 56.8 +1.1
LOHW	Long Hollow	34.83 322	P	P	10 07 56.4 0.0
LOHW			IAmb	IAmb	10 08 29.6
comp=Z,30nm,1.2s					
REDW	Red Top Meadow	34.84 321	P	P	10 07 56.6 +0.2
SNOW	Snow King Moun	34.84 321	P	P	10 07 56.9 +0.4
SNOW			IAmb	IAmb	10 08 20.2
comp=Z,54nm,1.1s					
HEC	Hector,Ludlow	34.84 304	P	P	10 07 56.8 +0.4
baz=108					
DGMT	Dagmar	34.87 333	P	P	10 07 55.7 -0.7
baz=140,SNR=16					
DGMT	Dagmar	34.87 333	P	P	10 07 56.0 -0.4
DGMT			IAmb	IAmb	10 08 06.1
comp=Z,38nm,0.9s					
BGU	Big Grassy Mou	34.90 316	P	P	10 07 58.0 +1.0
109C	Camp Elliot, M	34.91 301	P	P	10 07 56.5 -0.4
baz=105					
109C	Camp Elliot, M	34.91 301	P	P	10 07 56.8 -0.2
TPAW	Teton Pass	34.97 321	P	P	10 07 57.0 -0.7
TPAW			IAmb	IAmb	10 08 07.9
comp=Z,42nm,1.1s					
ECR	Eagle Creek	34.97 320	P	P	10 07 58.0 +0.4
RLMT	Red Lodge	34.99 325	P	P	10 07 57.1 -0.7
baz=129,SNR=8.4					
RLMT	Red Lodge	34.99 325	P	P	10 07 57.2 -0.5
RLMT			IAmb	IAmb	10 08 25.6
comp=Z,46nm,1.6s					
FXWY	Fox Creek	35.10 321	P	P	10 07 58.8 0.0
FXWY			IAmb	IAmb	10 08 10.3
comp=Z,19nm,0.9s					
BBRC	Big Bear Solar	35.13 303	P	P	10 07 59.0 -0.1
baz=107					
SHOC	Shoshone, Teco	35.14 306	P	P	10 07 59.4 +0.6
baz=110,SNR=6.8					
FLWY	Flagg Ranch	35.17 322	P	P	10 07 59.6 +0.4
FLWY			IAmb	IAmb	10 08 11.0
comp=Z,22nm,0.8s					
MURC	Murrieta	35.17 302	P	P	10 07 59.0 -0.2
baz=106					
IMW	Indian Meadow	35.20 322	P	P	10 07 59.6 0.0
YMP	Mirror Lake Pl	35.25 323	P	P	10 08 00.2 +0.1
H17A	Grant Village	35.28 323	P	P	10 08 00.4 +0.1
baz=127,SNR=7.2					
H17A	Grant Village	35.28 323	P	P	10 08 01.0 +0.7
YNE	Yellowstone No	35.33 324	P	P	10 08 00.0 -0.7
YPP	Pitchstone Pla	35.34 322	P	P	10 08 01.5 +0.7
GSC	Goldstone, Bar	35.35 305	P	P	10 08 01.5 +0.7
GSC			pmax	pmax	
comp=Z,33nm,1.8s					
GSC	Goldstone, Bar	35.35 305	P	P	10 08 00.3 -0.5
baz=108					
GSC	Goldstone, Bar	35.35 305	P	P	10 08 01.5 +0.7
TPNV	Topopah Spring	35.48 308	P	P	10 08 03.3 +1.3
TPNV			pmax	pmax	
comp=Z,37nm,1.2s					
TPNV	Topopah Spring	35.48 308	P	P	10 08 02.6 +0.6
baz=111,SNR=19					
TPNV	Topopah Spring	35.48 308	P	P	10 08 03.3 +1.3
TPNV			IAmb	IAmb	10 08 24.6
comp=Z,37nm,1.1s					
R11A	Troy Canyon, C	35.52 310	P	P	10 08 02.6 +0.3
baz=113,SNR=18					
R11A	Troy Canyon, C	35.52 310	P	P	10 08 03.3 +1.0
GCMT	Greycliff	35.64 325	P	P	10 08 03.3 0.0
YHH	Holmes Hill	35.67 323	P	P	10 08 03.9 +0.1
BFSC	Mount Baldy Ra	35.71 303	P	P	10 08 03.7 -0.3
baz=106					
FURC	Furnace Creek,	35.77 307	P	P	10 08 04.5 +0.2
baz=110					
DRLN	Deer Lake	35.87 27	P	P	10 08 06.9 +1.9
YHL	Hebgen Lake	35.90 323	P	P	10 08 05.8 +0.1
QLMT	Earthquake Lak	36.03 323	P	P	10 08 07.3 +0.6
CIS	Catalina Islan	36.10 301	P	P	10 08 04.9 -2.3
baz=104					
SCI2	San Clemente I	36.11 300	P	P	10 08 05.2 -2.0
baz=104					
PASC	Pasadena Art C	36.11 302	P	P	10 08 07.8 +0.5
EDW2	Edwards Air Fo	36.16 304	P	P	10 08 07.7 0.0
baz=106,SNR=7.0					
NPGB	Novo Progresso	36.31 133	eP	P	10 08 08.7 -0.4
BOZ	Bozeman (W)	36.60 324	P	P	10 08 11.5 0.0
baz=127,SNR=13					
CWC	Cottonwood Cre	36.69 306	P	P	10 08 11.1 -1.3
baz=108					
ISA	Isabella, Lake	36.76 305	P	P	10 08 13.3 +0.4
ISA			pmax	pmax	
comp=Z,11nm,1.1s					
ISA	Isabella, Lake	36.76 305	P	P	10 08 13.1 +0.2
baz=107,SNR=5.2					
ISA	Isabella, Lake	36.76 305	P	P	10 08 13.3 +0.4
MCMT	McKenzie Canyo	36.85 322	P	P	10 08 14.9 +1.1
ARVC	Arvin	36.88 304	P	P	10 08 14.4 +0.5
baz=106,SNR=7.6					
TIN	Tinemaha, Big	37.00 307	P	P	10 08 14.4 -0.6
baz=109					
DLMT	Dillon	37.01 323	P	P	10 08 15.5 +0.5
HLID	Hailey	37.12 319	P	P	10 08 16.3 +0.4
baz=121,SNR=40					
HLID			S	S	10 14 11.6 +9.1
baz=121					
HLID	Hailey	37.12 319	P	P	10 08 16.6 +0.7
HLID			IAmb	IAmb	10 08 28.3
comp=Z,33nm,1.0s					
EGMT	Eagleton	37.14 328	P	P	10 08 15.3 -0.6
baz=132,SNR=25					
EGMT	Eagleton	37.14 328	P	P	10 08 15.8 -0.1
EGMT			IAmb	IAmb	10 08 25.9
comp=Z,34nm,0.8s					
LRM	Limekiln Ridge	37.20 323	P	P	10 08 16.8 +0.1
LPAZ	La Paz	37.26 159	P	P	10 08 18.1 +0.2
comp=Z,8.3nm,1.0s,baz=344,slow=9.3,SNR=17					
LPAZ			LR	LR	10 26 08.4
comp=Z,616nm,18.6s,baz=324,slow=40					
LPAZ	La Paz	37.26 159	P	P	10 08 17.5 -0.4
LPAZ	La Paz	37.26 159	eP	P	10 08 17.4 -0.4
LPAZ			epP	pP	10 08 20.1 +0.7
VES	Vestal, Richgr	37.29 305	P	P	10 08 17.0 -0.3
baz=107,SNR=14					
HRY	Holter Researc	37.38 325	P	P	10 08 17.9 -0.2
NV11	Mina Array Sit	37.42 309	P	P	10 08 19.4 +0.9
NVAR	Mina Array Bea	37.53 309	P	P	10 08 20.3 +0.8
comp=Z,4.1nm,0.7s,baz=113,slow=8.4,SNR=37					
NVAR			PcP	PcP	10 10 40.0 +2.3
comp=Z,1.2nm,0.8s,baz=141,slow=3.5,SNR=2.2					
NVAR	Mina Array Bea	37.53 309	P	P	10 08 19.4 -0.1
SCHQ	Schefferville	37.58 14	P	P	10 08 20.6 +1.1
comp=Z,32nm,0.7s,baz=218,slow=7.8,SNR=24					
SCHQ			LR	LR	10 24 35.0
comp=Z,1μm,18.5s,baz=207,slow=38					
SCHQ	Schefferville	37.58 14	P	P	10 08 20.4 +0.9
PKM	Mcpherson Peak	37.60 303	P	P	10 08 18.8 -1.3
baz=105					
KVN	Kaiserville	37.60 310	P	P	10 08 20.6 +0.4
KVN			pmax	pmax	
comp=Z,17nm,1.0s					
KVN	Kaiserville	37.60 310	P	P	10 08 20.6 +0.4
LHV	Little Huntoon	37.61 309	P	P	10 08 20.7 +0.7
RYN	Ryan	37.76 309	P	P	10 08 22.2 +0.7
OMMB	Old Mammoth Mi	37.77 308	P	P	10 08 22.3 +0.6
MDPB	Devils Postpil	37.83 308	P	P	10 08 22.9 +0.8
SMMC	Simmler	37.85 304	P	P	10 08 21.9 -0.2
baz=105					
VILB	Vilhena	37.85 145	eP	P	10 08 22.6 +0.3
MFID	Camas Ranch	37.93 318	P	P	10 08 23.4 +0.6
MFID			IAmb	IAmb	10 08 34.9
comp=Z,33nm,1.1s					
PAGB	Antelope Grade	38.16 304	P	P	10 08 25.4 +0.6
PAGB			IAmb	IAmb	10 08 49.5
comp=Z,39nm,1.2s					
WAKR	Walker	38.39 309	P	P	10 08 27.2 +0.4
YERR	Yerington	38.41 310	P	P	10 08 27.4 +0.4
MSO	Missoula	38.62 324	P	P	10 08 27.8 -0.8
baz=125,SNR=11					
MSO	Missoula	38.62 324	P	P	10 08 28.5 -0.1
PNTR	Pine Nut	38.71 310	P	P	10 08 30.0 +0.5
PB16	IPOC Station P	38.74 162	P	P	10 08 30.9 +0.6
PAHR	Pah Rah Range	38.77 311	P	P	10 08 29.8 -0.2
PB12	IPOC Station P	38.78 163	P	P	10 08 30.8 +0.8
PB12			IAmb	IAmb	10 08 34.7
comp=Z,54nm,0.9s					
VCNR	Virginia City	38.82 310	P	P	10 08 31.0 +0.6
CLDB	Colider	38.82 138	eP	P	10 08 29.1 -1.2
CLDB			epP	sP	10 08 33.6 +1.7
TMAB	Tom-Au,PA,Br	38.90 119	eP	P	10 08 31.8 +0.7
CMB	Columbia Colle	38.94 308	P	P	10 08 31.1 -0.2
CMB			pmax	pmax	
comp=Z,9.0nm,1.1s					
CMB	Columbia Colle	38.94 308	P	P	10 08 31.1 -0.2
WVOR	Wild Horse Val	39.32 315	P	P	10 08 35.0 +0.5
WVOR			pmax	pmax	
comp=Z,69nm,1.1s					
WVOR	Wild Horse Val	39.32 315	P	P	10 08 35.0 +0.5
WVOR			IAmb	IAmb	10 08 47.0
comp=Z,69nm,1.1s					
JTMT	Jette	39.34 325	P	P	10 08 34.2 -0.3
MNMC	Minye Minye	39.47 162	P	P	10 08 36.9 +0.9
J08A	Circle Bar Ran	39.61 316	P	P	10 08 37.2 +0.3
AFDM	Forest Hills D	39.67 309	P	P	10 08 37.1 -0.2
PSGCX	Pisagua	39.77 163	P	P	10 08 38.4 +0.1
PSGCX			IAmb	IAmb	10 08 44.8
comp=Z,68nm,1.3s					
PRPB	Paraua pebas	39.79 126	eP	P	10 08 39.3 +0.7
WALA	Waterton Lakes	39.93 326	P	P	10 08 38.3 -1.1
SIV	San Ignacio	39.96 149	P	P	10 08 39.1 -0.8
comp=Z,31nm,0.8s,baz=338,slow=8.0,SNR=123					
PB11	IPOC Station P	40.05 163	P	P	10 08 41.4 +0.7
F10A	Beach Ranch, E	40.07 321		P	10 08 40.6 0.0
F10A			IAmb	IAmb	10 08 59.5
comp=Z,37nm,1.1s					
GO01	Chusmiza	40.10 162	P	P	10 08 43.0 +1.5
GO01			IAmb	IAmb	10 08 46.5
comp=Z,59nm,0.8s					
MOD	Modoc Plateau	40.24 313	P	P	10 08 41.9 -0.2
MOD			IAmb	IAmb	10 08 57.5
comp=Z,52nm,1.4s					
ORV	Oroville	40.25 309	P	P	10 08 42.9 +0.8
ORV			pmax	pmax	
comp=Z,73nm,2.0s					
ORV	Oroville	40.25 309	P	P	10 08 42.9 +0.8
ORV			IAmb	IAmb	10 09 08.7
comp=Z,73nm,2.0s					
PTLB	Pontes e Lacer	40.49 146	eP	P	10 08 43.7 -0.5
PTLB			epP	sP	10 08 47.5 +1.7
PB08	IPOC Station P	40.56 162	P	P	10 08 46.3 +1.2
I07A	Izee	40.60 317	P	P	10 08 44.9 -0.2
O03E	Paynes Creek	40.72 310	P	P	10 08 45.7 -0.3
baz=110					
G08A	Pilot Rock	40.80 319	P	P	10 08 46.5 -0.2
E09A	Wood Farm, Sta	40.89 321	P	P	10 08 46.9 -0.4
PATCX	Punta Patache	40.93 164	P	P	10 08 50.1 +2.2
PATCX			IAmb	IAmb	10 08 54.4
comp=Z,57nm,0.9s					
K05A	Summer Lake	40.96 314	P	P	10 08 48.7 +0.5
NEW	Newport	41.21 324	P	P	10 08 49.8 -0.1
NEW			pmax	pmax	
comp=Z,21nm,0.9s					
NEW	Newport	41.21 324	P	P	10 08 49.5 -0.5
baz=123,SNR=12					
NEW	Newport	41.21 324	P	P	10 08 49.8 -0.1
M04C	Macdoel	41.26 313	P	P	10 08 49.9 -0.6
baz=111					
PB01	IPOC Station P	41.32 163	P	P	10 08 52.0 +0.9
PB01			IAmb	IAmb	10 09 03.6
comp=Z,47nm,1.0s					
J05D	Fort Rock, OR	41.41 315	P	P	10 08 50.9 -0.9
baz=113,SNR=8.1					
PINE	Pine Mountain	41.42 316	P	P	10 08 51.8 -0.1
E08A	Dider Farm, El	41.43 320	P	P	10 08 51.2 -0.6
C09A	Chrisman Ranch	41.62 322	P	P	10 08 53.0 -0.3
C09A			IAmb	IAmb	10 09 04.5
comp=Z,40nm,0.9s					
D08A	Wollman Farm,	41.63 321	P	P	10 08 52.8 -0.6
HAWA	Hanford	41.67 320	P	P	10 08 53.4 -0.3
F07A	Phinny Hill Vi	41.68 319	P	P	10 08 53.5 -0.3
F07A			IAmb	IAmb	10 09 05.2
comp=Z,43nm,0.8s					
L04D	Klamath Falls	41.74 313	P	P	10 08 53.9 -0.6
baz=111					
PB07	IPOC Station P	41.86 164	P	P	10 08 56.3 +0.7
PB07			IAmb	IAmb	10 09 00.9
comp=Z,53nm,0.9s					
I05D	Terrebonne, OR	41.91 316	P	P	10 08 56.1 +0.4
baz=114					
E07A	Sunnyside	41.95 320	P	P	10 08 55.0 -1.0
J04D	Umpqua Nationa	41.98 314	P	P	10 08 56.1 -0.5
baz=112,SNR=5.9					
PB09	IPOC Station P	42.10 163	P	P	10 08 58.0 +0.4
PB09			IAmb	IAmb	10 09 19.7
comp=Z,49nm,1.0s					
G05D	Wamic, OR	42.27 318	P	P	10 08 59.1 +0.5
baz=115					
PB04	IPOC Station P	42.38 165	P	P	10 09 01.5 +1.6
PB04			IAmb	IAmb	10 09 05.0
comp=Z,51nm,0.9s					
I04A	Tendick Farm,	42.40 315	P	P	10 08 58.9 -0.8
baz=113					
ROSB	Rosrio	42.51 117	eP	P	10 09 01.7 +0.8
B08A	Colville Reser	42.52 323	P	P	10 09 00.2 -0.4
B08A			IAmb	IAmb	10 09 16.2
comp=Z,33nm,0.9s					
H04A	Detroit Lake	42.60 316	P	P	10 09 01.7 +0.3
H04A			IAmb	IAmb	10 09 13.2
comp=Z,47nm,0.8s					
F05D	White Salmon	42.64 318	P	P	10 09 01.5 -0.1
baz=116					
LTY	Liberty	42.77 321	P	P	10 09 03.1 +0.3
LTY

comp=Z,29nm,0.9s
H04D Lebanon 42.90 316 P **P 10 09 02.4 -1.3**
baz=113
LVC Limon Verde 42.97 163 P **P 10 09 06.0 +1.1**
comp=Z,19nm,0.8s,baz=326,slow=5.0,SNR=13
LVC Limon Verde 42.97 163 P **P 10 09 05.7 +0.9**
LVC pmax pmax
comp=Z,32nm,0.9s
LVC Limon Verde 42.97 163 P **P 10 09 05.7 +0.9**
LVC lAmb lAmb 10 09 18.1
comp=Z,32nm,0.8s
LVC Limon Verde 42.97 163 *eP* **P 10 09 06.2 +1.3**
I03D Drain, OR 42.99 315 P **P 10 09 03.7 -0.7**
baz=112
J01E Myrtle Point 43.20 314 P **P 10 09 05.7 -0.4**
baz=110
SMTB Santa Maria do 43.20 127 *eP* **P 10 09 07.1 +0.6**
LON Longmire 43.23 319 P **P 10 09 06.4 -0.1**
LON pmax pmax
comp=Z,23nm,0.9s
LON Longmire 43.23 319 P **P 10 09 06.4 -0.1**
PB15 IPOC Station P 43.38 164 P **P 10 09 09.8 +1.7**
I02D Swisshome 43.48 315 P **P 10 09 06.7 -1.6**
baz=112
G03D McMinnville, O 43.51 317 P **P 10 09 05.5 -3.2**
baz=113
D05A Enumclaw 43.54 320 P **P 10 09 08.8 0.0**
D05A lAmb lAmb 10 09 25.2
comp=Z,59nm,1.1s
E04D Cinebar 43.62 319 P **P 10 09 06.7 -2.8**
baz=115
B06A Marblemount 43.84 322 P **P 10 09 11.0 -0.2**
B06A lAmb lAmb 10 09 52.8
comp=Z,25nm,1.0s
B05A Bryant 44.09 321 P **P 10 09 11.7 -1.6**
baz=117
PB14 IPOC Station P 44.51 166 P **P 10 09 19.6 +2.4**
PB14 lAmb lAmb 10 09 53.9
comp=Z,60nm,1.3s
NLWA Neilton Lookou 44.78 319 P **P 10 09 18.7 -0.2**
NLWA lAmb lAmb 10 10 46.2
comp=Z,68nm,1.6s
ARAG Araguaiana, MT 44.99 138 *eP* **P 10 09 20.3 -0.5**
AQDB Aquidauana 46.47 146 *eP* **P 10 09 32.1 -0.3**
BDFB Brasilia 47.44 134 P **P 10 09 41.0 +0.8**
comp=Z,27nm,1.0s,baz=313,slow=8.0,SNR=18
BDFB LR LR 10 30 51.6
comp=Z,650nm,20.0s,baz=311,slow=38
BDFB Brasilia 47.44 134 P **P 10 09 40.4 +0.1**
SDBA SAO DESIDERIO 47.48 128 *eP* **P 10 09 40.5 0.0**
AC05 El Transito 48.60 167 P **P 10 09 50.1 +1.0**
AC05 lAmb lAmb 10 09 59.1
comp=Z,17nm,0.8s
ITRB Iturama 48.90 140 *eP* **P 10 09 52.5 +1.1**
IPMB Ipameri, GO 48.98 136 *eP* **P 10 09 52.5 +0.4**
NRS Narsarsuaq 49.24 22 *i P* **P 10 09 55.4 +2.0**
NRS *i* 10 10 03.6
NRS Narsarsuaq 49.24 22 *i P* **P 10 09 55.4 +2.0**
NRS *i* 10 10 03.6
YKA Yellowknife Ar 49.30 340 P **P 10 09 53.1 -0.7**
comp=Z,7.8nm,1.0s,baz=132,slow=8.1,SNR=14
YKA PcP **PcP 10 11 17.5 +1.0**
comp=Z,1.5nm,0.8s,baz=122,slow=3.0,SNR=2.0
YKA LR LR 10 30 19.1
comp=Z,785nm,19.6s,baz=0.0,slow=36
JANB Januaria 49.64 130 *eP* **P 10 09 57.4 +0.3**
PCMB Pacaembu 49.83 142 *eP* **P 10 09 58.5 +0.1**
CO03 El Pedregal 50.46 168 P **P 10 10 04.0 +0.8**
CO03 lAmb lAmb 10 10 13.5
comp=Z,31nm,1.2s
CPUP Villa Florida 50.61 152 P **P 10 10 01.6 -2.6**
comp=Z,2.9nm,0.9s,baz=358,slow=6.4,SNR=3.6
CPUP LR LR 10 34 22.7
comp=Z,545nm,18.4s,baz=337,slow=40
CPUP Villa Florida 50.61 152 P **P 10 10 01.4 -2.8**
CPUP pmax pmax
comp=Z,27nm,1.5s
CPUP Villa Florida 50.61 152 P **P 10 10 01.4 -2.8**
CPUP lAmb lAmb 10 10 22.9
comp=Z,27nm,1.5s
CO02 Combarbal 50.76 169 P **P 10 10 05.3 -0.1**
CO02 lAmb lAmb 10 10 13.3
comp=Z,34nm,1.1s
MC01 Montes Claros 51.00 132 *eP* **P 10 10 07.7 +0.2**
RCBR Riachuelo 51.04 114 P **P 10 10 08.9 +1.1**
comp=Z,45nm,0.9s,baz=288,slow=7.1,SNR=18
RCBR Riachuelo 51.04 114 P **P 10 10 08.5 +0.7**
RCBR Riachuelo 51.04 114 *eP* **P 10 10 08.5 +0.7**
BB19B Bebedouro 51.05 139 *eP* **P 10 10 08.4 +0.7**
PTGB Pitanga 51.85 146 *eP* **P 10 10 15.8 +2.1**
NBCP Cabaceiras do 51.99 124 *eP* **P 10 10 15.5 +0.7**
NBCP *ep*P **sP 10 10 17.7 +1.2**
SFJD Kangerlussuaq 52.02 15 P **P 10 10 15.2 +1.0**
comp=Z,6.2nm,0.7s,baz=178,slow=9.1,SNR=3.7
SFJD Kangerlussuaq 52.02 15 P **P 10 10 14.3 0.0**
FRTB Fartura 52.16 142 *eP* **P 10 10 16.3 +0.3**
GDU01 Guandu, BA 52.35 125 *eP* **P 10 10 17.4 -0.1**
GDU01 *ep*P **sP 10 10 21.0 +1.8**
RCLB Rio Claro- Sao 52.67 140 *eP* **P 10 10 20.1 +0.3**
BSCB Bom Sucesso 53.39 136 *eP* **P 10 10 25.7 +0.5**
VAO Valinhos 53.45 140 *eP* **P 10 10 26.8 +1.1**
SJMB Sao Joao De Ma 54.29 131 *eP* **P 10 10 32.3 +0.6**
NAN01 Guarapari, ES 54.49 130 *eP* **P 10 10 34.0 +0.8**
PARB Paraibuna 54.53 139 *eP* **P 10 10 32.5 -1.0**
BSFB Barra de Sao F 54.61 131 *eP* **P 10 10 34.8 +0.7**
ANGG Ammassalik, Gr 54.79 21 P **P 10 10 34.8 +0.2**
VAS01 Vassouras-RJ 55.17 136 *eP* **P 10 10 39.0 +0.9**
MAN01 Angra dos Reis 55.24 137 *eP* **P 10 10 42.0 +3.3**
RIB01 Linhares ES 55.25 131 *eP* **P 10 10 39.1 +0.4**
RES Resolute Bay 56.33 356 P **P 10 10 45.1 -0.5**
RES pmax pmax
comp=Z,31nm,0.7s
RES Resolute Bay 56.33 356 P **P 10 10 45.1 -0.5**
LC01 Cunco 58.13 171 P **P 10 10 58.6 -0.2**
LC01 lAmb lAmb 10 11 11.0
comp=Z,20nm,1.1s
PMOZ Porto Moniz, M 58.58 63 *eLQ* LQ 10 25 44.4
PMOZ *eLR* LR 10 28 27.3
comp=Z,411nm,22.0s
A36M Sachs Harbour 58.83 345 P **P 10 11 01.3 -2.0**
baz=130
SUMG Summit 58.97 14 *i P* **P 10 11 05.1 +0.3**
comp=Z,47nm,1.0s
SUMG *i* 10 11 14.3
SUMG Summit 58.97 14 *i P* **P 10 11 05.1 +0.3**
SUMG *i* 10 11 14.3
SUMG pmax pmax
comp=Z,47nm,1.0s
SUMG Summit 58.97 14 P **P 10 11 05.1 +0.3**
INK Inuvik 59.06 340 P **P 10 11 05.0 0.0**
INK pmax pmax
comp=Z,34nm,1.0s
INK Inuvik 59.06 340 P **P 10 11 05.0 0.0**
EPYK Eagle Plains 59.28 337 P **P 10 11 05.6 -1.0**
baz=115
BCAR Beaver Creek A 60.09 333 P **P 10 11 11.9 -0.3**
PLCA Paso Flores 60.13 171 P **P 10 11 12.5 -0.2**
comp=Z,5.0nm,0.7s,baz=346,slow=7.1,SNR=11
PLCA Paso Flores 60.13 171 P **P 10 11 13.0 +0.3**
PLCA pmax pmax
comp=Z,10.0nm,0.9s
PLCA Paso Flores 60.13 171 P **P 10 11 13.0 +0.3**
PLCA Paso Flores 60.13 171 *eP* **P 10 11 12.8 +0.1**
K27K Chicken 60.51 334 P **P 10 11 13.7 -1.3**
baz=108
MENT Mentasta 60.89 332 P **P 10 11 17.6 -0.1**
MENT lAmb lAmb 10 11 48.7
comp=Z,14nm,1.0s
DOT Dot Lake 61.24 333 P **P 10 11 20.1 0.0**
DOT lAmb lAmb 10 11 31.0
comp=Z,18nm,1.0s
EUNU Eureka 61.29 359 P **P 10 11 20.4 +0.2**
SCRK Sand Creek 61.30 333 P **P 10 11 20.2 -0.3**
baz=106,SNR=6.0
KLU Klutina 61.52 330 P **P 10 11 20.7 -1.3**
KLU lAmb lAmb 10 11 33.0
comp=Z,20nm,0.8s
RIDG Independent Ri 61.60 333 P **P 10 11 22.4 -0.1**
PAX Paxson 61.67 332 P **P 10 11 22.9 -0.2**
PAX pmax pmax
comp=Z,24nm,0.7s
PAX Paxson 61.67 332 P **P 10 11 22.9 -0.2**
M24K Tolsona, Glenn 61.78 331 P **P 10 11 23.8 0.0**
baz=103,SNR=5.4

DHY Denali Highway 62.54 332 P **P 10 11 28.1 -0.8**
DHY lAmb lAmb 10 11 44.4
comp=Z,18nm,0.8s
BMAR Burnt Mountain 62.55 337 P **P 10 11 27.9 -0.9**
HDA Harding Lake 62.66 334 P **P 10 11 29.1 -0.4**
baz=104,SNR=12
HDA Harding Lake 62.66 334 P **P 10 11 29.5 -0.1**
IL31 62.73 334 P **P 10 11 29.8 -0.1**
ILAR Eielson Array 62.73 334 P **P 10 11 29.4 -0.6**
comp=Z,3.5nm,0.7s,baz=103,slow=4.7,SNR=30
ILAR LR LR 10 38 59.7
comp=Z,499nm,21.1s,baz=106,slow=36
ILAR Eielson Array 62.73 334 P **P 10 11 29.5 -0.5**
POKR Poker Plat Res 63.04 334 P **P 10 11 31.0 -1.0**
baz=104
CCB Clear Creek Bu 63.08 334 P **P 10 11 31.3 -1.0**
CCB lAmb lAmb 10 11 42.5
comp=Z,16nm,0.9s
COLA College 63.15 334 P **P 10 11 32.4 -0.4**
COLA pmax pmax
comp=Z,18nm,0.8s
COLA College 63.15 334 P **P 10 11 32.4 -0.4**
TCOL CIGO, UAF Yank 63.16 334 P **P 10 11 31.8 -1.0**
baz=103
RND Reindeer 63.27 332 P **P 10 11 34.0 +0.3**
RND pmax pmax
comp=Z,85nm,0.8s
RND Reindeer 63.27 332 P **P 10 11 34.0 +0.3**
MDM Murphy Dome 63.33 334 P **P 10 11 33.8 -0.2**
MDM lAmb lAmb 10 11 59.0
comp=Z,14nm,0.9s
MCK McKinley 63.37 333 P **P 10 11 34.3 0.0**
MCK pmax pmax
comp=Z,40nm,1.2s
MCK McKinley 63.37 333 P **P 10 11 34.3 0.0**
NEA2 Nenana 63.60 334 P **P 10 11 34.8 -1.0**
baz=102,SNR=5.3
CUT Chulitna 63.72 331 P **P 10 11 36.3 -0.2**
baz=100,SNR=5.7
TRF Thorofare Moun 63.91 332 P **P 10 11 38.2 +0.1**
KTH Kantishna Hill 64.20 332 P **P 10 11 39.9 0.0**
BPAW Bear Paw Mtn. 64.33 333 P **P 10 11 40.4 -0.2**
COLD Coldfoot 64.61 336 P **P 10 11 41.9 -0.4**
baz=102
RSO Redoubt South 64.62 329 P **P 10 11 42.5 -0.3**
TOLK Toolik Lake Re 64.69 338 P **P 10 11 42.2 -0.8**
baz=103
PCAS Casmilo, Conde 65.13 54 *eP* **P 10 11 48.4 +2.1**
comp=Z,24nm,1.1s
PTEO Sao Teotonio 65.16 57 *eP* **P 10 11 48.9 +2.4**
comp=Z,42nm,1.9s
PGAV Gavieira, Arco 65.17 52 *eP* **P 10 11 48.8 +2.2**
comp=Z,54nm,1.8s
PGAV Gavieira, Arco 65.17 52 *eLQ* LQ 10 28 02.0
PGAV *eLR* LR 10 31 11.6
comp=Z,674nm,20.0s
MORF Marmelete 65.24 57 *eP* **P 10 11 48.9 +1.8**
MORF AMb AMB 10 11 59.4
comp=Z,36nm,1.2s
MORF Marmelete 65.24 57 *eP* **P 10 11 48.9 +1.8**
MORF pmax pmax
comp=Z,37nm,1.2s
MORF Marmelete 65.24 57 *eP* **P 10 11 48.8 +1.7**
comp=Z,35nm,1.2s
PNCL Nicolau / Gran 65.27 56 *eP* **P 10 11 48.8 +1.7**
comp=Z,20nm,1.3s
PCAB Cabril 65.37 52 *eP* **P 10 11 49.6 +1.8**
comp=Z,35nm,1.3s
PVIS Viseu 65.54 53 *eP* **P 10 11 49.5 +0.5**
comp=Z,38nm,1.7s
PVRL Vila Real 65.64 53 *eP* **P 10 11 46.4 -3.1**
comp=Z,25nm,1.6s
PCVE Castro Verde 65.70 57 *eP* **P 10 11 51.7 +1.7**
comp=Z,23nm,1.4s
IMAR Indian Mountai 65.78 335 P **P 10 11 49.0 -0.9**
PBEJ Beja 65.80 56 *eP* **P 10 11 52.4 +1.8**
comp=Z,15nm,1.6s
PBDV Barranco-do-Ve 65.82 57 *eP* **P 10 11 53.4 +2.6**
comp=Z,43nm,1.2s
MTE Manteigas 65.83 53 P **P 10 11 50.9 0.0**
MTE Manteigas 65.83 53 *eP* **P 10 11 52.2 +1.3**
comp=Z,32nm,0.8s
MTE Manteigas 65.83 53 *eLQ* LQ 10 28 08.6
MTE *eLR* LR 10 30 30.8
comp=Z,601nm,22.0s
PCBR Castelo Branco 65.93 54 *eP* **P 10 11 52.6 +1.2**
comp=Z,19nm,1.4s
PVAQ Vaqueiros 65.97 57 *eP* **P 10 11 53.5 +1.8**
comp=Z,19nm,0.9s
PVAQ Vaqueiros 65.97 57 *eLQ* LQ 10 27 56.8
PVAQ *eLR* LR 10 31 10.1
comp=Z,652nm,18.0s
PMRV Marv??o 66.03 55 *eP* **P 10 11 53.2 +1.1**
comp=Z,18nm,0.9s
PMRV Marv??o 66.03 55 *eLQ* LQ 10 28 46.6
PMRV *eLR* LR 10 29 35.0
comp=Z,432nm,22.0s
SVW2 Sparrevohn 66.06 329 P **P 10 11 51.6 -0.3**
MVO Moncorvo 66.16 53 *eP* **P 10 11 54.0 +1.0**
comp=Z,26nm,1.1s
MVO Moncorvo 66.16 53 *eLQ* LQ 10 28 56.3
MVO *eLR* LR 10 30 08.1
comp=Z,318nm,22.0s
PBRG Braganca 66.32 52 *eP* **P 10 11 54.9 +0.9**
comp=Z,52nm,1.8s
TTA Tatalina 66.41 331 P **P 10 11 53.7 -0.5**
TTA pmax pmax
comp=Z,35nm,1.2s
TTA Tatalina 66.41 331 P **P 10 11 53.7 -0.5**
ESK Eskdalemuir 67.97 37 P **P 10 12 05.0 +0.9**
ESK pmax pmax
comp=Z,24nm,0.7s
ESK Eskdalemuir 67.97 37 P **P 10 12 05.0 +0.9**
EKA Eskdalemuir Ar 68.00 37 P **P 10 12 04.8 +0.6**
comp=Z,24nm,0.9s,baz=274,slow=5.8,SNR=37
PAB San Pablo 68.36 54 P **P 10 12 07.5 +0.5**
PAB pmax pmax
comp=Z,21nm,1.2s
PAB San Pablo 68.36 54 P **P 10 12 07.5 +0.5**
PAB lAmb lAmb 10 12 32.3
comp=Z,21nm,1.1s
ESDC Sonseca Array 68.64 54 P **P 10 12 10.0 +1.3**
comp=Z,13nm,0.7s,baz=285,slow=6.3,SNR=41
ESDC LR LR 10 35 59.0
comp=Z,508nm,22.0s,baz=280,slow=30
ESBB Sonseca Array 68.64 54 P **P 10 12 09.6 +0.9**
ESBB lAmb lAmb 10 12 13.8
comp=Z,17nm,0.8s
MDT Midelt 69.12 61 P **P 10 12 12.9 +1.1**
comp=Z,8.8nm,1.0s,baz=302,slow=4.8,SNR=11
FOO Floro 71.89 30 *eP* **P 10 12 29.8 +1.8**
CLF Chambon-Foret 71.99 45 P **P 10 12 29.4 +0.5**
KBS Kingsbay 72.25 12 *i P* **P 10 12 31.7 +1.7**
KBS pmax pmax
comp=Z,23nm,1.0s
KBS Kingsbay 72.25 12 *eP* **P 10 12 30.5 +0.5**
KMY Karmoy 72.26 33 *eP* **P 10 12 30.4 +0.1**
HYA Hoyanger 72.49 31 *eP* **P 10 12 31.9 +0.3**
AKN Aaknes 72.74 29 *eP* **P 10 12 34.3 +1.1**
BLS5 Blasjo 72.85 32 *eP* **P 10 12 37.6 +3.7**
ODD1 Odda 72.87 32 *eP* P 10 12 41.6 +7.6
SNF Seneffe 72.93 42 x **sP 10 12 38.2 +1.9**
SNF x x 10 12 46.3
EFI East Falkland 73.12 165 *i P* **P 10 12 35.6 +0.2**
EFI pmax pmax
comp=Z,58nm,1.4s
DOU Dourbes 73.19 42 P **P 10 12 35.8 -0.2**
DOU x x 10 12 40.0
DOU x x 10 12 47.7
SPA0 Spitsbergen Ar 73.25 12 P **P 10 12 37.4 +1.5**
SPA0 Spitsbergen Ar 73.25 12 *eP* **P 10 12 36.9 +0.9**
SPITS Spitsbergen Ar 73.25 12 P **P 10 12 36.5 +0.6**
comp=Z,14nm,0.8s,baz=173,slow=7.2,SNR=4.5
BMRD Maredsous 73.27 42 pP **pP 10 12 37.2 -0.6**
BMRD x x 10 12 40.8
BMRD x x 10 12 48.1
BMRD PcP **PcP 10 12 51.5 -1.4**
HSPB Hornsund (broa 73.30 14 *eP* **P 10 12 36.7 +0.5**
BGES Gesves 73.46 42 P **P 10 12 36.3 -1.3**
BGES pP **sP 10 12 39.0 -0.5**
BGES x x 10 12 41.9
BGES x x 10 12 49.5
SKAR Skarslia 73.58 31 *eP* **P 10 12 39.3 +1.1**
BCLA Clavier 73.59 42 ⇑P **P 10 12 36.5 -1.8**
BCLA pP **sP 10 12 39.8 -0.4**

BCLA x x 10 12 42.8
BCLA x x 10 12 50.4
DOMB Dombas 73.72 29 *eP* **P 10 12 40.3 +1.3**
BSTI Sart Tilman 73.72 42 x **sP 10 12 43.8 +2.8**
BSTI x x 10 12 51.3
MEM Membach 74.00 41 pP **pP 10 12 41.9 -0.3**
MEM x x 10 12 44.6
MEM x x 10 12 51.8
SSB Saint Sauveur 74.00 47 P **P 10 12 40.5 -0.5**
SSB pmax pmax
comp=Z,14nm,0.9s
SSB Saint Sauveur 74.00 47 P **P 10 12 40.5 -0.5**
SSB lAmb lAmb 10 13 47.5
comp=Z,14nm,0.9s
BHOU Houvegnez 74.04 42 pP **pP 10 12 42.7 +0.3**
BHOU x x 10 12 45.9
BHOU x x 10 12 53.2
WLF Walferdange 74.26 42 pP **pP 10 12 43.5 -0.2**
WLF x x 10 12 47.0
WLF x x 10 12 53.2
WLF Walferdange 74.26 42 P **P 10 12 42.7 +0.4**
WLF pmax pmax
comp=Z,69nm,1.8s
WLF Walferdange 74.26 42 P **P 10 12 42.7 +0.4**
KONO Kongsberg 74.39 32 *eP* **P 10 12 44.5 +1.6**
OSL Oslo 74.90 31 *eP* **P 10 12 46.0 +0.2**
NB2 NORSAR Subarra 74.92 30 P **P 10 12 47.0 +1.0**
comp=Z,19nm,0.8s,baz=282,slow=5.9
NB2 NORSAR Subarra 74.92 30 P **P 10 12 47.0 +1.0**
baz=282,slow=5.9
NOA NORSAR Array B 74.92 30 P **P 10 12 47.0 +1.0**
comp=Z,15nm,1.0s,baz=283,slow=5.6,SNR=16
NOA LR LR 10 43 10.8
comp=Z,377nm,19.7s,baz=280,slow=34
TIC Toumodi 74.95 88 *eP* **P 10 12 46.4 -0.6**
LIC Lamto 75.07 88 *eP* **P 10 12 47.4 -0.3**
comp=Z,35nm,0.9s
DBIC Dimbokro 75.10 88 P **P 10 12 47.2 -0.6**
comp=Z,14nm,1.1s,baz=288,slow=3.3,SNR=5.3
DBIC LR LR 10 42 24.9
comp=Z,146nm,20.7s,baz=273,slow=33
DBIC Dimbokro 75.10 88 P **P 10 12 47.3 -0.6**
DBIC pmax pmax
comp=Z,31nm,1.4s
DBIC Dimbokro 75.10 88 lAmb lAmb 10 12 52.1
comp=Z,31nm,1.4s
NC602 NORSAR Array S 75.13 31 P **P 10 12 47.4 +0.2**
NC602 NORSAR Array S 75.13 31 *eP* **P 10 12 48.2 +1.0**
STEI Steigen 75.14 23 *eP* **P 10 12 47.7 +0.7**
ECH Echery 75.19 44 P **P 10 12 47.0 -0.8**
ECH pmax pmax
comp=Z,25nm,1.2s
ECH Echery 75.19 44 P **P 10 12 47.0 -0.8**
ECH lAmb lAmb 10 13 12.8
comp=Z,25nm,1.2s
FAUS Fauske 75.28 23 *eP* **P 10 12 48.4 +0.5**
KIC Kosan Boka 75.30 88 *eP* **P 10 12 48.6 -0.4**
comp=Z,79nm,1.2s
TNS Taunus Mts 75.60 42 *eL* L 10 41 30.0
comp=Z,563nm,20.5s
SENIN Lac Senin/Sane 75.67 46 P **P 10 12 50.6 -0.3**
SENIN lAmb lAmb 10 13 14.7
comp=Z,18nm,0.9s
BFO Black Forest 75.93 43 *eL* L 10 44 32.3
comp=Z,654nm,18.6s
BSEG Bad Segeberg 75.93 38 *eL* L 10 40 07.8
comp=Z,403nm,21.2s
TRO Tromso 76.00 21 *eP* **P 10 12 52.6 +0.7**
PPT Papeete 76.21 246 LR LR 10 38 48.4
comp=Z,171nm,18.2s,baz=40,slow=30
HFS Hagfors 76.31 31 P **P 10 12 54.4 +0.5**
comp=Z,8.8nm,1.0s,baz=255,slow=3.5,SNR=7.7
CLZ Clausthal 76.43 40 *eP* **P 10 12 56.5 +1.7**
comp=Z,30nm,1.2s,baz=278,slow=6.2
TUE Stuetta 77.03 45 P **P 10 12 58.3 -0.3**
TUE lAmb lAmb 10 13 18.5
comp=Z,38nm,1.5s
DAVA Damuels 77.19 44 *ep*P **P 10 12 59.1 -0.3**
comp=Z,11nm,0.9s
HAMF Hammerfest 77.22 19 *eP* **P 10 12 59.2 +0.3**
GRF Grafenberg Arr 77.47 42 *eP* **P 10 13 02.5 +1.8**
comp=Z,12nm,0.7s,baz=278,slow=6.2
GRF *eL* L 10 42 37.2
comp=Z,981nm,20.1s
MOX Moxa 77.48 41 *eP* **P 10 13 01.8 +1.1**
comp=Z,17nm,1.2s,baz=278,slow=6.2
MOX *eL* L 10 42 05.8
comp=Z,396nm,19.5s
FUORN Ofenpass-Fuorn 77.60 45 P **P 10 13 02.3 +0.5**
FUORN lAmb lAmb 10 13 15.5
comp=Z,20nm,0.9s
KTK1 Kautokeino 77.65 21 *eP* **P 10 13 02.1 +0.8**
RETA Reutte 77.72 44 *ep*P **P 10 13 03.3 +1.1**
comp=Z,10nm,0.8s
FETA Feichten 77.81 44 *ep*P **P 10 13 05.2 +2.3**
comp=Z,10.0nm,1.0s
FUR Furstenfeldbru 77.88 43 *eL* L 10 45 41.7
comp=Z,613nm,18.1s
MOTA Moosalm 77.98 44 *ep*P **P 10 13 05.7 +1.9**
comp=Z,19nm,1.0s
SQTA Sankt Quirin 78.08 44 *ep*P **P 10 13 06.3 +2.0**
comp=Z,16nm,1.1s
NKC Novy Kostel 78.10 41 *eP* **P 10 13 06.0 +1.8**
NKC AMS AMS 10 45 00.0
comp=Z,500nm,19.9s
NKC Novy Kostel 78.10 41 *eP* **P 10 13 06.0 +1.8**
NKC MLR MLR
comp=Z,500nm,19.9s
CLL Collm 78.16 40 *eP* **P 10 13 05.0 +0.5**
comp=Z,18nm,1.0s
CLL *i* PcP **PcP 10 13 15.5 +1.5**
CLL *e* 10 13 21.0
CLL *e*PP **PP 10 16 01.0 +0.3**
CLL *e*(S) S 10 22 48.0 -11
CLL *e*PS **PnS 10 23 40.0 +0.6**
CLL *e*SS SS 10 28 12.0 +12
CLL *e*SSSS 10 33 54.0
CLL LmV 10 47 00.0
comp=Z,300nm,18.1s
CLL Collm 78.16 40 *eL* L 10 47 51.0
comp=Z,326nm,18.0s
CLL Collm 78.16 40 *i* **PnS 10 23 40.3 +0.9**
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 78.21 20 P **P 10 13 05.1 +0.6**
comp=Z,12nm,0.6s,baz=284,slow=4.5,SNR=39
ARCES LR LR 10 48 30.8
comp=Z,241nm,18.2s,baz=326,slow=36
ARCES ARCESS Array B 78.21 20 P **P 10 13 04.4 -0.1**
ARE0 ARCESS Array S 78.21 20 *eP* **P 10 13 05.2 +0.7**
WATA Walderalm 78.29 44 *ep*P **P 10 13 07.0 +1.5**
comp=Z,3.1nm,0.6s
WTTA Wattenberg 78.35 44 *ep*P **P 10 13 07.3 +1.4**
comp=Z,3.0nm,0.5s
ADK Adak 78.62 321 P **P 10 13 05.9 -1.1**
ADK pmax pmax
comp=Z,65nm,1.2s
ADK Adak 78.62 321 P **P 10 13 05.9 -1.1**
WET Wettzell 78.65 42 *eP* **P 10 13 08.9 +1.6**
comp=Z,17nm,1.2s,baz=278,slow=6.2
WET *eL* L 10 41 55.2
comp=Z,747nm,21.5s
ABTA Abfaltersbach 79.07 44 *ep*P **P 10 13 10.5 +0.8**
comp=Z,28nm,1.7s
KHC Kasperske Hory 79.10 42 *eP* **P 10 13 11.4 +1.6**
KHC AMS AMS 10 43 00.0
comp=Z,700nm,18.8s
KHC Kasperske Hory 79.10 42 P **P 10 13 10.1 +0.3**
KHC pmax pmax
comp=Z,7.0nm,1.3s
KHC Kasperske Hory 79.10 42 P **P 10 13 10.1 +0.3**
CIMO Cimolais 79.14 45 P **P 10 13 09.4 -0.6**
CIMO lAmb lAmb 10 13 33.6
comp=Z,20nm,1.2s
GEC2 GERESS Array S 79.26 42 *eL* L 10 43 29.4
comp=Z,756nm,20.3s
GEC2 GERESS Array S 79.26 42 P **P 10 13 12.4 +1.7**
GEC2 lAmb lAmb 10 13 35.7
comp=Z,41nm,1.6s
GERES GERESS Array B 79.26 42 P **P 10 13 12.4 +1.7**
comp=Z,3.3nm,0.9s,baz=255,slow=4.0,SNR=20
GERES LR LR 10 43 50.3
comp=Z,603nm,20.6s,baz=290,slow=32
GERES GERESS Array B 79.26 42 P **P 10 13 12.0 +1.3**
GERES GERESS Array B 79.26 42 P **P 10 13 12.0 +1.3**
PVCC Panska Ves 79.32 40 AMS AMS 10 46 20.0

comp=Z,400nm,17.8s
TOA0 Torodi Ar. Sit 79.36 80 P **P 10 13 11.8 0.0**
TORD Torodi Ar. Bea 79.36 80 P **P 10 13 11.8 +0.1**
comp=Z,5.6nm,0.8s,baz=296,slow=5.1,SNR=13
TORD LR LR 10 43 59.2
comp=Z,188nm,21.7s,baz=310,slow=32
TORD Torodi Ar. Bea 79.36 80 P **P 10 13 11.4 -0.3**
PRA Prague 79.37 41 AMS AMS 10 45 40.0
comp=Z,300nm,17.9s
PRU Pruhonice 79.46 41 *e*P **P 10 13 13.3 +1.6**
PRU AMS AMS 10 43 50.0
comp=Z,800nm,21.8s
PRU Pruhonice 79.46 41 *e*P **P 10 13 13.3 +1.6**
PRU MLR MLR
comp=Z,800nm,21.8s
KBA Koelnbreinsper 79.52 44 *e*pP **P 10 13 13.9 +1.5**
comp=Z,14nm,1.1s
GOPC GO Pecny, Ondr 79.63 41 *e*P **P 10 13 14.4 +1.7**
GOPC AMS AMS 10 43 50.0
comp=Z,800nm,18.8s
GOPC GO Pecny, Ondr 79.63 41 *e*P **P 10 13 14.4 +1.7**
GOPC MLR MLR
comp=Z,800nm,18.8s
KEST Kesra 79.76 56 P **P 10 13 16.5 +2.8**
comp=Z,10nm,0.9s,baz=252,slow=7.1,SNR=6.7
MYKA Terra Mystica 79.84 44 *e*P **P 10 13 13.6 -0.3**
comp=Z,13nm,1.1s
PRED Cave del Predi 79.85 44 P **P 10 13 15.5 +1.5**
PRED IAmb IAmb 10 13 27.5
comp=Z,23nm,1.2s
MOA Molln 79.90 43 *e*pP **P 10 13 15.3 +1.2**
comp=Z,6.7nm,1.1s
TAM Tamanrasset 80.11 69 P **P 10 13 17.3 +1.4**
TAM pmax pmax
comp=Z,35nm,1.7s
TAM Tamanrasset 80.11 69 P **P 10 13 17.3 +1.4**
TAM IAmb IAmb 10 13 47.7
comp=Z,35nm,1.7s
UPC Upice 80.21 40 AMS AMS 10 41 10.0
comp=Z,400nm,23.2s
CHVC Chvalec 80.21 40 *e*P **P 10 13 17.5 +1.7**
TREC Trest 80.25 41 AMS AMS 10 42 30.0
comp=Z,800nm,20.6s
KSP Ksiaz 80.28 40 *e*P **P 10 13 14.3 -1.8**
OSTC Ostas 80.32 40 *e*P **P 10 13 18.2 +1.8**
DPC Dobruska-Polom 80.45 40 *e*P **P 10 13 17.9 +0.8**
DPC *e*pP **PcP 10 13 22.2 -1.9**
DPC Dobruska-Polom 80.45 40 *e*P **P 10 13 17.9 +0.8**
DPC *e* 10 13 22.2
OBKA Obir 80.48 44 *e*pP **P 10 13 18.2 +0.8**
comp=Z,19nm,1.1s
SOKA Soboth 80.75 44 *e*pP **P 10 13 20.2 +1.4**
comp=Z,7.2nm,1.0s
KRLC Kraliky 80.81 40 *e*P **P 10 13 20.6 +1.5**
KRLC AMS AMS 10 46 30.0
comp=Z,400nm,20.0s
KRLC Kraliky 80.81 40 *e*P **P 10 13 20.6 +1.5**
KRLC MLR MLR
comp=Z,400nm,20.0s
KRUC Moravsky 80.89 41 *e*P **P 10 13 20.5 +1.1**
CONA Conrad Observa 80.90 43 *e*pP **P 10 13 20.9 +1.2**
comp=Z,5.4nm,0.9s
VRAC Vranov 80.94 41 P **P 10 13 21.4 +1.8**
comp=Z,9.8nm,0.9s,baz=294,slow=5.5,SNR=8.7
VRAC Vranov 80.94 41 ⇑P **P 10 13 21.5 +1.8**
VRAC Vranov 80.94 41 *e*P **P 10 13 21.1 +1.4**
MORC Moravsky Berou 81.37 40 ⇓P **P 10 13 24.0 +1.9**
MORC Moravsky Berou 81.37 40 *e*P **P 10 13 23.6 +1.5**
MORC Moravsky Berou 81.37 40 P **P 10 13 23.4 +1.4**
MORC pmax pmax
comp=Z,32nm,1.4s
MORC Moravsky Berou 81.37 40 P **P 10 13 23.4 +1.4**
MORC IAmb IAmb 10 13 41.3
comp=Z,32nm,1.4s
FINES FINESS Array B 81.62 28 P **P 10 13 23.5 +0.4**
comp=Z,17nm,0.9s,baz=288,slow=1.8,SNR=22
FINES LR LR 10 46 21.9
comp=Z,497nm,20.3s,baz=298,slow=33
FINES FINESS Array B 81.62 28 P **P 10 13 23.1 +0.1**
MODS Modra-Piesok 81.66 42 *e*P **P 10 13 24.9 +1.3**
MODS pmax pmax
comp=Z,56nm,1.6s
MODS Modra-Piesok 81.66 42 *e*P **P 10 13 24.9 +1.3**
APA Apatity 81.68 21 ⇑*i*P **P 10 13 25.4 +2.2**
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,800nm,21.0s
SMOL Smolenice 81.71 42 *e*P **P 10 13 25.5 +1.7**
SMOL pmax pmax
comp=Z,12nm,0.9s
SMOL Smolenice 81.71 42 *e*P **P 10 13 25.5 +1.7**
JAVC Velka Javorina 81.75 41 *e*P **P 10 13 26.8 +2.7**
LVZ Lovozero 81.93 20 P **P 10 13 24.6 0.0**
LVZ pmax pmax
comp=Z,131nm,1.9s
LVZ Lovozero 81.93 20 P **P 10 13 24.6 0.0**
OJC Ojcow 82.60 39 *e*P **P 10 13 29.8 +1.4**
VYHS Vyhne 82.60 41 *e*P **P 10 13 30.6 +2.1**
VYHS pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 82.60 41 *e*P **P 10 13 30.6 +2.1**
PABE Paberze 82.98 34 *e*P **P 10 13 29.6 -0.6**
VSU Vasula 83.16 30 *e*P **P 10 13 30.8 -0.4**
VSU Vasula 83.16 30 *i*P **P 10 13 33.5 +2.4**
VSU pmax pmax
comp=Z,78nm,1.3s
NIE Niedzica 83.18 40 *e*P **P 10 13 34.3 +2.8**
PSZ Piszkesteto 83.47 42 ⇓P **P 10 13 35.5 +2.4**
PSZ Piszkesteto 83.47 42 ⇓P **P 10 13 35.5 +2.4**
PSZ Piszkesteto 83.47 42 P **P 10 13 35.2 +2.1**
IZAR Zarasai 84.07 33 *e*P **P 10 13 35.2 -0.6**
ISAL Salakas 84.08 33 *e*P **P 10 13 35.1 -0.8**
CRVS Cervenica-Dubn 84.08 40 *e*P **P 10 13 39.8 +3.7**
IIGN Ignalina 84.22 33 *e*P **P 10 13 35.8 -0.8**
TIP Timpagrande 84.34 51 ⇓P **P 10 13 37.5 -0.2**
PMSA Palmer Station 84.42 173 P **P 10 13 37.4 +0.2**
comp=Z,3.2nm,0.9s,baz=322,slow=6.0,SNR=5.4
PMSA Palmer Station 84.42 173 IAmb IAmb 10 16 23.0
comp=Z,9.1nm,0.6s
PMSA Palmer Station 84.42 173 *e*P **P 10 13 37.8 +0.6**
PMSA *e*pP **PcP 10 13 42.0 +1.2**
IDID Didziasalis 84.50 33 *e*P **P 10 13 37.2 -0.9**
KOLS Kolonicke sedl 84.57 40 *e*P **P 10 13 40.3 +1.7**
KOLS Kolonicke sedl 84.57 40 *e*P **P 10 13 40.3 +1.7**
UZH Uzhgorod 84.69 40 *e*P **P 10 13 40.1 +0.9**
DIVS Divibare 84.90 45 P **P 10 13 40.7 +0.2**
DIVS IAmb IAmb 10 13 53.5
comp=Z,16nm,1.0s
TMCR Tamitsa 85.10 23 *e*P **P 10 13 40.3 -0.6**
LVV L'vov 85.28 39 *e*P **P 10 13 43.4 +1.3**
BZS Buzias 85.41 43 ⇓P **P 10 13 44.4 +1.5**
BZS Buzias 85.41 43 ⇓P **P 10 13 44.4 +1.5**
MDVR Moldovita 85.79 44 ⇓P **P 10 13 46.7 +1.9**
HERR Herculane 86.21 44 ⇓P **P 10 13 49.3 +2.4**
LOT Lotru 86.87 43 ⇓P **P 10 13 51.2 +0.9**
BURAR Bucovina Array 86.89 41 ⇓P **P 10 13 52.5 +2.2**
BURAR Bucovina Array 86.89 41 ⇓P **P 10 13 52.5 +2.2**
BURAR Bucovina Array 86.89 41 P **P 10 13 51.7 +1.4**
ARR Arges 87.46 43 ⇑P **P 10 13 55.1 +2.0**
KLMR Klimovskoe 87.56 25 *e*P **P 10 13 54.7 +1.7**
KLMR *e* 10 17 19.8
KLMR pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 87.56 25 *e*P **P 10 13 54.8 +1.7**
KLMR AMP 10 14 10.9
comp=Z,20nm,1.1s
KLMR *e*PP **PP 10 17 19.9 +2.4**
VOIR 87.70 43 ⇑P **P 10 13 56.1 +1.9**
VOIR 87.70 43 ⇑P **P 10 13 56.1 +1.9**
BIZ Bicaz 87.73 41 ⇓P **P 10 13 56.2 +2.0**
AKASG Malin Array Be 87.90 37 LR LR 10 50 46.9
comp=Z,473nm,19.8s,baz=280,slow=34
MLR Muntele Rosu 88.25 42 P **P 10 13 56.5 -0.4**
comp=Z,22nm,1.2s,baz=9.1,slow=5.5,SNR=7.1
MLR Muntele Rosu 88.25 42 ⇓P **P 10 13 56.8 -0.1**
MLR Muntele Rosu 88.25 42 ⇓P **P 10 13 56.8 -0.1**
MLR Muntele Rosu 88.25 42 P **P 10 13 58.3 +1.4**
SEY Seymchan 88.32 338 P **P 10 13 56.7 0.0**
comp=Z,4.2nm,0.9s,baz=79,slow=2.6,SNR=8.3
SEY Seymchan 88.32 338 *i*P **P 10 13 57.6 +0.9**
PRGR Permogore 89.40 22 *e*P **P 10 14 04.7 +3.0**
PRGR pmax pmax
comp=Z,15nm,0.9s

OBN Obninsk 89.52 31 *i*P **P 10 14 03.5 +1.1**
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,289nm,17.0s
MOS Moscow 89.67 30 *e*P P 10 14 12.7 +10
MOS *e* 10 14 18.8
NRIK Noril'sk 91.68 4 LR LR 10 57 54.3
comp=Z,458nm,18.5s,baz=18,slow=37
NRIK Noril'sk 91.68 4 *i*P **P 10 14 14.2 +1.9**
NRIK pmax pmax
comp=Z,8.0nm,1.3s
LPSR Galich'ya Gora 92.09 32 *e*P **P 10 14 14.3 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 92.15 329 P **P 10 14 14.8 +0.1**
comp=Z,2.2nm,0.8s,baz=90,slow=10,SNR=5.4
PETK LR LR 10 59 26.3
comp=Z,225nm,18.2s,baz=39,slow=38
PETK Petropavlovsk- 92.15 329 P **P 10 14 15.4 +0.7**
VSR Storozhevoye 93.00 33 *e*P **P 10 14 16.9 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.5s
VORD Divnogorie 93.22 33 *e*P **P 10 14 18.3 -1.4**
VORD pmax pmax
comp=Z,3.0nm,0.5s
VRH Novokhopyorsk 94.31 32 *e*P **P 10 14 22.8 -1.9**
VRH pmax pmax
comp=Z,20nm,1.2s
ANN Anapa 95.67 39 *e*P **P 10 14 28.2 -2.8**
ANN MLR MLR
comp=Z,562nm,19.0s
YAK Yakutsk 95.70 346 *i*P **P 10 14 31.6 +0.8**
YAK pmax pmax
comp=Z,11nm,0.4s
BRTR Keskin Array B 95.95 45 P **P 10 14 33.3 +0.6**
comp=Z,0.7nm,0.7s,baz=34,slow=13,SNR=4.3
BRTR LR LR 10 56 18.9
comp=Z,116nm,19.3s,baz=285,slow=34
KIV Kislovodsk 99.23 37 *e*P **Pdif 10 14 47.6 +0.3**
KIV pmax pmax
comp=Z,24nm,1.1s
WMQ Urumqi 116.82 9 *e*PKP **PKPdf 10 19 48.7 -1.4**
WMQ LR LR
comp=Z,270nm,25.9s
WMQ LR LR
comp=Z,160nm,27.7s
WMQ LR LR
comp=Z,170nm,21.1s
HHC Hu-ho-hao-te 119.40 349 *e*PKP **PKPdf 10 19 50.0 -5.2**
NJ2 Nanjing 125.81 339 *e*PKP **PKPdf 10 20 04.3 -3.3**
MAW Mawson 126.23 164 PKP **PKPdf 10 20 06.8 -0.4**
comp=Z,1.5nm,1.0s,baz=252,slow=11,SNR=3.8
WHN Wuhan 128.62 343 PKP **PKPdf 10 20 10.0 -3.0**
KMI Kunming 136.10 355 *e*PKP **PKPdf 10 20 25.0 -2.6**
KMI LR LR
comp=Z,260nm,17.1s
KMI LR LR
comp=Z,120nm,17.4s
KMI LR LR
comp=Z,320nm,17.2s
STKA Stephens Creek 139.36 243 PKP **PKPdf 10 20 33.2 +0.2**
comp=Z,5.1nm,0.8s,baz=332,slow=3.0,SNR=9.3
STKA Stephens Creek 139.36 243 PKPdf **PKPdf 10 20 33.4 +0.4**
QIZ Qiongzhong 140.78 343 PKP **PKPdf 10 20 29.8 -6.2**
QIZ PP **PP 10 23 33.0 -1.2**
QIZ SS SS 10 41 57.8 -2.2
QIZ LR LR
comp=Z,200nm,19.1s
QIZ LR LR
comp=Z,170nm,13.7s
QIZ LR LR
comp=Z,350nm,19.6s
CMAR Chiang Mai Arr 142.91 360 PKP **PKPdf 10 20 40.6 +0.8**
comp=Z,3.4nm,0.9s,baz=344,slow=3.0,SNR=7.5
CMAR Chiang Mai Arr 142.91 360 PKIKP **PKPdf 10 20 38.8 -1.0**
CMAR Chiang Mai Arr 142.91 360 **PKPdf 10 20 38.8 -1.0**
WR0 Warramunga Arr 146.19 262 PKPdf **PKPdf 10 20 45.3 -0.1**
WRAB Tennant Creek 146.37 262 *ce*PKP2 **PKPdf 10 20 45.5 -0.2**
WRAB pmax pmax
comp=Z,15nm,0.8s
WRAB Tennant Creek 146.37 262 **PKPdf 10 20 44.1 -1.6**
WRA Warramunga Arr 146.38 262 PKIKP **PKPdf 10 20 44.6 -1.2**
WRA Warramunga Arr 146.38 262 **PKPdf 10 20 44.6 -1.2**
AS31 Alice Springs 146.87 255 PKPdf **PKPdf 10 20 46.2 -0.3**
ASAR Alice Springs 146.88 255 PKPbc **PKPbc 10 20 47.5 -0.9**
comp=Z,8.7nm,0.8s,baz=102,slow=3.5,SNR=22
ASAR Alice Springs 146.88 255 PKPdf **PKPdf 10 20 45.8 -0.7**
MYLDM Lahad Datu 149.14 319 **PKiKP 10 20 55.8 -0.1**
FORT Forrest 150.90 240 PKPdf **PKPdf 10 20 52.0 -0.7**

BJI ***03*** *10:11:10.7±0.0,35°.25N×141°.12E,h7km,mB4.8/41, mb4.7/64,Ms4.4/50,Ms7 4.2/45*
NEIC ***03*** *10:11:15.3±1.8,35°.32N±0°.05×141°.22E±0°.09,h24km±4km, mb4.8/77,Error ellipse: s-maj=10.3km s-min=6.6km az=100.0*
GCMT ***03*** *10:11:15.3±0.7,35°.16N±0°.03×141°.19E±0°.03,h28km±1km, MW4.9/65,Moment Tensor Solution. s12,c13; s65,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.79±.20; $M_{\theta\theta}$-2.10±.13; $M_{\phi\phi}$1.31±.13; $M_{r\theta}$0.09±.18; $M_{\theta\phi}$-1.56±.09; $M_{\phi r}$1.61±.23; Best double couple: $M_0$2.89800×10^{16} NP1:ϕ_s288.00000°,δ57.00000°,λ162.00000°. NP2: ϕ_s29.00000°,δ75.00000°,λ35.00000°. Principal axes: T 2.9510, Plg35.0000°, Azm254.0000°; N -0.1060, Plg52.0000°, Azm49.0000°; P -2.8460, Plg12.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NIED ***03*** *10:11:16.8,35°.40N×141°.09E,h37km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.04; $M_{\theta\theta}$-1.63; $M_{\phi\phi}$1.67; $M_{r\theta}$-0.93; $M_{\theta\phi}$-1.25; $M_{\phi r}$0.99; Fault plane solution: $M_0$2.45000×10^{16} NP1: ϕ_s296.00000°,δ85.00000°,λ149.00000°. NP2: ϕ_s29.00000°,δ60.00000°,λ6.00000°.*
JMA ***03*** *10:11:16.8±0.1,35°.40N×141°.09E,h37km±1km,M4.8*
JMA Felt II J1.
MOS ***03*** *10:11:16.2±1.3,35°.53N×141°.25E,h40km,mb4.9/38,Error ellipse: s-maj=7.5km s-min=4.6km az=105.9*
IDC ***03*** *10:11:19.2±1.5,35°.33N×140°.93E,h44km±15km,mb4.2/32, mb1 4.3/36,mb1mx4.2/53,mbtmp4.5/36,ML3.7/4,MS4.1/17, Ms1 4.2/17,ms1mx4.0/35,Error ellipse: s-maj=13.3km s-min=9.3km az=88.0*
ISC 03 10:11:16.8±0.3,35°.36N±0°.03×141°.22E±0°.04,h33km,n288, σ1º**95**/307,**mb4.7**/104,**MS4.1**/26,**14C-10D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.45**	**319**	⇓P	**Pb**	**10 11 25.4**	**-1.3**
CHOJ				S	**Sb**	**10 11 31.3**	**-2.2**
JSMT	**Sammumatsuo**	**0.69**	**295**	⇓P	**Pn**	**10 11 28.7**	**-1.5**
BSO1	**Boso 1**	**0.73**	**196**	⇓P	**Pb**	**10 11 30.5**	**-0.3**
KTR	**Katsuura**	**0.77**	**254**	⇑P	**Pn**	**10 11 30.1**	**-1.2**
KTR				*e*S	**Sn**	**10 11 38.4**	**-3.4**
BSO3	**Boso 3**	**0.81**	**227**	⇑P	**Pn**	**10 11 31.1**	**-0.5**
BSO4	**Boso 4**	**0.81**	**243**	⇑P	**Pn**	**10 11 31.0**	**-0.8**
JCN	**Nagara**	**0.83**	**274**	⇑P	**Pn**	**10 11 31.5**	**-0.7**
JYT	**Yasato**	**1.21**	**316**	⇓P	**Pn**	**10 11 36.1**	**-1.2**
JIM2	**Oshima 3**	**1.60**	**247**	⇑P	**Pn**	**10 11 40.6**	**-2.2**
JHJ2	**Mitsune**	**2.52**	**208**		**Pn**	**10 11 54.9**	**-0.6**
JHJ	**Hachijo jima 2**	**2.53**	**208**	P	**Pn**	**10 11 54.6**	**-0.9**
	103nm,0.3s,baz=342,slow=22,SNR=50						
JHJ				S	**Sn**	**10 12 24.9**	**-0.4**
	320nm,0.3s,baz=233,slow=22,SNR=6.8						
MJAR	**Matsushiro Arr**	**2.71**	**297**	P	**Pn**	**10 11 58.0**	**-0.1**
	10nm,0.3s,baz=67,slow=18,SNR=184						
MJAR				LR	LR	10 13 06.0	
	comp=Z,2μm,18.8s,baz=125,slow=43						
MJAR	**Matsushiro Arr**	**2.71**	**297**	P	**Pn**	**10 11 58.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.71**	**297**		**Pn**	**10 11 58.0**	**-0.1**
MAJO	**Matsushiro**	**2.72**	**297**	*c i*P	**Pn**	**10 11 59.0**	**+0.9**
MAJO	**Matsushiro**	**2.72**	**297**	Pn	**Pn**	**10 11 58.6**	**+0.5**
MAT	**Matsushiro**	**2.72**	**297**	P	**Pn**	**10 11 58.5**	**+0.4**
MAT				S	**Sn**	**10 12 30.7**	**+0.8**
ERM	**Erimo**	**6.82**	**12**	*ce*P	**Pn**	**10 12 53.2**	**-1.2**
ERM				pmax	pmax		
	comp=Z,58nm,0.7s						
ERM	**Erimo**	**6.82**	**12**	Pn	**Pn**	**10 12 53.6**	**-0.9**
ERM				Sn	**Sn**	**10 14 13.0**	**+2.2**

JCJ Chichijima 8.28 174 P **Pn 10 13 13.4 -1.1**
comp=Z,81nm,0.3s,baz=69,slow=9.3,SNR=117
JCJ S **Sn 10 14 40.5 -6.4**
comp=Z,42nm,0.3s,baz=281,slow=24,SNR=2.7
JCJ LR LR 10 16 44.7
comp=Z,863nm,21.7s,baz=342,slow=39
JCJ Chichijima 8.28 174 **Pn 10 13 13.1 -1.5**
JCJ **Sn 10 14 44.1 -2.8**
NMR Nemuro--Hokkai 8.73 22 ⇑*i*P **Pn 10 13 18.3 -2.3**
NMR *i*S **Sn 10 14 50.4 -7.4**
ASAJ Asahikawa 8.81 6 P **Pn 10 13 20.2 -1.6**
comp=Z,14nm,0.3s,baz=220,slow=8.6,SNR=98
ASAJ S **Sn 10 14 58.5 -1.4**
comp=Z,0.7nm,0.3s,baz=86,slow=13,SNR=4.2
JKA Kamikawa-asahi 8.81 6 Pn **Pn 10 13 20.1 -1.6**
JKA **Sn 10 15 02.5 +2.5**
JNU Nakatsue 8.85 258 P **Pn 10 13 20.6 -1.8**
comp=Z,1.6nm,0.3s,baz=50,slow=2.4,SNR=12
JNU LR LR 10 17 09.7
comp=Z,2μm,21.6s,baz=117,slow=41
JNU Nakatsue 8.85 258 Pn **Pn 10 13 20.0 -2.4**
GLVR Golovnino 9.00 20 *e*P **Pn 10 13 21.8 -2.6**
GLVR *e*S **Sn 10 14 57.8 -6.8**
GLVR pmax pmax
comp=E,20nm,0.2s
GLVR pmax pmax
comp=Z,45nm,0.2s
RUSJ Misakicho 9.27 18 ⇓*i*P **Pn 10 13 27.0 -1.0**
RUSJ *i*S **Sn 10 15 06.7 -4.4**
GRPR Tuman 9.31 21 *e*P **Pn 10 13 26.8 -1.8**
GRPR *e*S **Sn 10 15 04.5 -7.6**
GRPR pmax pmax
comp=Z,132nm,0.2s
YUK Yuzh-Kuril'sk 9.37 21 *d i*P **Pn 10 13 27.6 -1.9**
YUK *i*S **Sn 10 15 05.4 -8.2**
YUK pmax pmax
comp=Z,168nm,0.3s
YUK pmax pmax
comp=E,43nm,0.2s
YUK pmax pmax
comp=N,62nm,0.3s
YUK smax smax
comp=E,79nm,0.6s
YUK MLR MLR
comp=Z,725nm,18.0s
YUK MLR MLR
comp=N,511nm,17.0s
YUK MLR MLR
comp=E,557nm,16.0s
TEY Ternei 10.29 341 ⇓*e*P **Pn 10 13 41.6 -0.4**
TEY pmax pmax
comp=N,20nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,20nm,0.7s
KSRS Korea Array 10.92 285 P **Pn 10 13 52.8 +2.1**
comp=Z,0.7nm,0.3s,baz=102,slow=14,SNR=16
KSAR Wonju Array Be 10.95 285 P **Pn 10 13 51.3 +0.2**
KSAR Wonju Array Be 10.95 285 **Pn 10 13 51.3 +0.2**
KS19 Wonju Array Si 10.97 285 Pn **Pn 10 13 51.0 -0.4**
KUR Kuril'sk 11.09 25 *e*P **Pn 10 13 52.5 -0.4**
KUR *e*S **Sn 10 15 49.8 -5.9**
KUR pmax pmax
comp=Z,39nm,0.4s
KUR pmax pmax
comp=N,24nm,0.3s
KUR pmax pmax
comp=E,14nm,0.3s
KUR smax smax
comp=N,69nm,0.5s
KUR smax smax
comp=E,57nm,0.4s
KUR MLR MLR
comp=Z,815nm,19.0s
KUR MLR MLR
comp=E,834nm,11.0s
USA0B Ussuriysk Arra 11.32 324 P **Pn 10 13 55.7 -0.5**
USA0B Ussuriysk Arra 11.32 324 Pn **Pn 10 13 55.7 -0.5**
USRK Ussuriysk Ar. 11.32 324 P **Pn 10 13 56.9 +0.7**
baz=140,slow=12,SNR=12
USRK LR LR 10 18 12.4
comp=E,1μm,18.1s,baz=141,slow=37
USRK Ussuriysk Ar. 11.32 324 **Pn 10 13 56.1 -0.1**
YSS Yuzh-Sakhalins 11.64 5 *e*P **Pn 10 13 59.2 -1.3**
YSS *e*S **Sn 10 16 07.6 -1.7**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=N,1μm,19.0s
YSS MLR MLR
comp=E,900nm,17.0s
YSS Yuzh-Sakhalins 11.64 5 Pn **Pn 10 13 58.8 -1.7**
MDJ Mudanjiang 12.83 320 P **Pn 10 14 17.5 +0.7**
MDJ S **Sn 10 16 43.6 +5.2**
MDJ pmax pmax
comp=E,7.0nm,1.0s
MDJ pmax pmax
comp=E,140nm,3.5s
MDJ LR LR
comp=E,660nm,13.7s
MDJ LR LR
comp=E,780nm,14.7s
MDJ LR LR
comp=E,1μm,17.9s
MDJ Mudanjiang 12.83 320 Pn **Pn 10 14 16.2 -0.6**
UGL Uglegorsk 13.72 2 *e*P Pn 10 14 22.2 -6.7
UGL MLR MLR
comp=Z,2μm,18.0s
UGL MLR MLR
comp=N,2μm,19.0s
UGL MLR MLR
comp=E,800nm,9.0s
CN2 Changchun 14.78 310 *e*P **Pn 10 14 45.5 +2.1**
CN2 *e*PP **PnPn 10 14 57.2 +5.8**
CN2 *e*S **Sn 10 17 28.1 +2.1**
CN2 *es*S S 10 17 35.7 -8.0
CN2 pmax pmax
comp=E,10.0nm,1.3s
CN2 LR LR
comp=E,740nm,16.0s
CN2 LR LR
comp=E,550nm,16.0s
CN2 LR LR
comp=E,620nm,16.0s
KLR Kul'dur 15.51 336 P **Pn 10 14 50.0 -3.0**
comp=E,0.5nm,0.3s,baz=161,slow=15,SNR=7.6
KLR Kul'dur 15.51 336 *i*P **P 10 14 55.0 -2.0**
KLR pmax pmax
comp=Z,3.0nm,1.1s
TYV Tymovskoe 15.53 3 *e*P **Pn 10 14 50.1 -3.1**
TYV *e*S **Sn 10 17 39.9 -4.2**
TYV pmax pmax
comp=Z,100nm,3.4s
TYV pmax pmax
comp=Z,19nm,0.8s
TYV smax smax
comp=N,300nm,9.9s
TYV MLR MLR
comp=Z,1μm,18.0s
GRNR Gornyy 15.79 349 ⇓*i*P **Pn 10 14 52.2 -4.4**
GRNR pmax pmax
comp=Z,5.0nm,0.9s
DL2 Dalian 16.02 289 P **Pn 10 14 59.7 +0.1**
DL2 pmax pmax
comp=Z,43nm,1.2s
SKR Severo-Kuril's 18.74 31 *e*P **P 10 15 30.8 -1.8**
SKR *e*S **S 10 19 04.0 +0.1**
SKR pmax pmax
comp=Z,100nm,4.1s
SKR MLR MLR
comp=Z,200nm,14.0s
SKR MLR MLR
comp=N,200nm,17.0s
SKR MLR MLR
comp=E,100nm,11.0s
NJ2 Nanjing 18.89 266 *e*P **P 10 15 34.4 -0.1**
NJ2 pmax pmax
comp=E,14nm,0.5s
NJ2 LR LR
comp=E,1μm,17.1s
NJ2 LR LR
comp=E,1μm,19.9s
NJ2 LR LR

comp=E,920nm,20.8s
YHNB Yeheng 20.18 244 P **P 10 15 46.4 -2.3**
BJI Beijing 20.34 291 P **P 10 15 48.7 -1.5**
BJI S **S 10 19 37.8 +1.5**
BJI pmax pmax
comp=E,22nm,0.9s
BJI LR LR
comp=E,660nm,22.2s
BJI LR LR
comp=E,340nm,18.4s
BJT Baijiatuau 20.34 291 P **P 10 15 47.2 -3.0**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 20.34 291 P **P 10 15 47.2 -3.0**
ZEA Zeya 20.83 336 *e*P **P 10 15 55.6 +0.2**
ZEA *e*S **S 10 19 48.5 +2.6**
ZEA *i* 10 27 17.0
ZEA pmax pmax
comp=Z,26nm,1.0s
ZEA smax smax
comp=N,300nm,6.0s
HIA Hailar 21.01 318 P **P 10 15 57.1 -0.3**
HIA pmax pmax
comp=Z,8.0nm,0.7s
HIA Hailar 21.01 318 P **P 10 15 57.1 -0.3**
SSLB Suanglung 21.02 242 P **P 10 15 55.2 -2.5**
PEA0B Petropavlovsk- 21.22 28*ce*P **P 10 16 02.8 +3.1**
PEA0B Petropavlovsk- 21.22 28 P **P 10 16 01.4 +1.7**
PEA0B IAmb IAmb 10 16 12.7
comp=Z,42nm,1.2s
PETK Petropavlovsk- 21.22 28 P **P 10 16 02.8 +3.2**
comp=Z,3.9nm,0.5s,baz=226,slow=8.0,SNR=9.1
PETK LR LR 10 24 44.4
comp=Z,440nm,20.4s,baz=243,slow=38
PETK Petropavlovsk- 21.22 28 P **P 10 16 01.7 +2.0**
PET Petropavlovsk 21.54 30 *e*P **P 10 16 02.8 -0.2**
PET *e*S **S 10 19 56.1 -3.7**
PET MLR MLR
comp=Z,600nm,17.0s
PET Petropavlovsk 21.54 30 P **P 10 16 03.6 +0.6**
PET IAmb IAmb 10 16 22.8
comp=Z,35nm,1.1s
TPUB Ta-pu 21.55 242 P **P 10 16 00.3 -3.1**
GUMO Guam 21.92 170 P **P 10 16 08.6 +1.2**
comp=Z,12nm,0.4s,baz=297,slow=22,SNR=1.6
GUMO Guam 21.92 170 P **P 10 16 06.2 -1.2**
WHN Wuhan 23.02 266 P **P 10 16 16.8 -2.2**
WHN S **S 10 20 22.9 -4.5**
WHN pmax pmax
comp=Z,58nm,0.6s
WHN LR LR
comp=Z,1μm,8.9s
WHN LR LR
comp=Z,380nm,5.0s
WHN LR LR
comp=Z,2μm,15.7s
HHC Hu-ho-hao-te 23.91 292 *e*P **P 10 16 28.8 +1.1**
HHC S **S 10 20 45.4 +3.5**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,140nm,6.6s
HHC LR LR
comp=Z,310nm,15.0s
HHC LR LR
comp=Z,430nm,17.6s
XAN Xi'an 26.53 277 P **P 10 16 49.6 -1.9**
XAN pP pP 10 17 00.5 -0.3
XAN pmax pmax
comp=Z,22nm,1.3s
XAN pmax pmax
comp=Z,42nm,3.5s
XAN LR LR
comp=Z,710nm,18.6s
XAN LR LR
comp=Z,540nm,19.1s
XAN LR LR
comp=Z,740nm,19.6s
XAN Xi'an 26.53 277 P **P 10 16 49.4 -2.1**
XAN pmax pmax
comp=Z,22nm,1.0s
XAN Xi'an 26.53 277 P **P 10 16 49.4 -2.1**
XAN IAmb IAmb 10 16 51.0
comp=Z,22nm,1.0s
ENH Enshi 27.08 268 P **P 10 16 54.1 -2.4**
H11N2 WAKE ISLAND Hy 27.46 118 T T 10 45 59.8
baz=310,slow=75
H11N1 WAKE ISLAND Hy 27.47 118 T T 10 46 07.7
baz=310,slow=75
H11N3 WAKE ISLAND Hy 27.48 118 T T 10 46 01.2
baz=310,slow=75
YAK Yakutsk 27.67 348 P **P 10 17 02.6 +1.2**
comp=Z,13nm,0.4s,baz=172,slow=2.4,SNR=5.5
YAK Yakutsk 27.67 348 *e*P **P 10 17 01.7 +0.3**
YAK *e* 10 18 03.7
YAK *e*S **S 10 21 35.5 -5.5**
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.4s
YAK MLR MLR
comp=Z,472nm,19.0s
YAK MLR MLR
comp=N,482nm,16.0s
YAK MLR MLR
comp=E,257nm,15.0s
YAK Yakutsk 27.67 348 P **P 10 17 01.9 +0.6**
H11S1 WAKE ISLAND Hy 28.12 120 T T 10 46 54.5
baz=312,slow=76
H11S3 WAKE ISLAND Hy 28.12 120 T T 10 46 49.6
baz=312,slow=76
H11S2 WAKE ISLAND Hy 28.14 120 T T 10 46 50.0
baz=312,slow=76
ULN Ulaanbaatar 28.20 307*ce*P **P 10 17 07.8 +1.3**
ULN pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 28.20 307 P **P 10 17 06.3 -0.2**
SEY Seymchan 28.46 11 *i* P **P 10 17 10.4 +2.0**
comp=Z,7.1nm,0.7s,baz=195,slow=7.7,SNR=14
SEY Seymchan 28.46 11 *i* P **P 10 17 10.6 +2.2**
SONM Songino Array 28.62 307 P **P 10 17 09.3 -0.9**
comp=Z,1.7nm,0.6s,baz=99,slow=9.0,SNR=12
SONM LR LR 10 28 23.7
comp=Z,540nm,21.3s,baz=99,slow=36
SONM Songino Array 28.62 307 P **P 10 17 10.2 0.0**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 28.62 307 P **P 10 17 10.2 0.0**
BOD Bodaibo 28.88 330 *e*P **P 10 17 12.1 -0.1**
BOD pmax pmax
comp=Z,13nm,1.5s
LZH Lanzhou 30.23 282 *e*P **P 10 17 22.6 -2.1**
LZH pP pP 10 17 29.2 -4.9
LZH sP sP 10 17 32.3 -5.6
LZH PP **PnPn 10 18 21.5 -1.4**
LZH pmax pmax
comp=Z,31nm,1.3s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH LR LR
comp=Z,880nm,13.5s
LZH LR LR
comp=Z,440nm,13.4s
LZH LR LR
comp=Z,530nm,16.5s
GYA Guiyang 30.82 263 ||P **P 10 17 27.4 -2.5**
GYA pP pP 10 17 33.4 -6.0
GYA sP sP 10 17 37.9 -5.2
GYA S **S 10 22 33.0 +1.5**
GYA SS **ScP 10 24 08.1 +1.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA LR LR
comp=Z,310nm,12.6s
GYA LR LR
comp=Z,360nm,18.2s
GYA LR LR
comp=Z,480nm,20.4s
ZAK Zakamensk 31.21 311 *e*P **P 10 17 33.0 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TLY Talaya 31.34 313 P **P 10 17 34.9 +0.9**
comp=Z,4.5nm,0.8s,baz=283,slow=17,SNR=2.4
TLY Talaya 31.34 313 *i* P **P 10 17 35.9 +1.9**
TLY pmax pmax
comp=Z,9.0nm,1.1s
TLY Talaya 31.34 313 P **P 10 17 34.1 +0.1**
CD2 Chengdu 31.56 273 P **P 10 17 34.9 -1.3**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,40nm,5.2s
CD2 LR LR
comp=Z,1μm,19.7s
CD2 LR LR
comp=Z,2μm,16.9s
CD2 LR LR
comp=Z,2μm,17.9s
QIZ Qiongzhong 32.12 248 P **P 10 17 41.8 +0.6**
QIZ S **S 10 22 58.8 +7.1**
QIZ LR LR
comp=Z,250nm,16.2s
QIZ LR LR
comp=Z,340nm,17.7s
QIZ LR LR
comp=Z,240nm,22.1s
GTA Gaotai 32.94 290 P **P 10 17 50.0 +1.6**
GTA pP pP 10 17 57.1 -0.7
GTA sP sP 10 18 00.7 -0.9
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,34nm,4.2s
GTA LR LR
comp=Z,460nm,21.9s
GTA LR LR
comp=Z,390nm,19.0s
GTA LR LR
comp=Z,390nm,21.3s
KMI Kunming 34.59 264 *e*P **P 10 18 03.8 +0.9**
KMI pP pP 10 18 11.0 -1.5
KMI pmax pmax
comp=Z,12nm,0.8s
KMI pmax pmax
comp=Z,46nm,3.8s
KMI LR LR
comp=Z,270nm,19.4s
KMI LR LR
comp=Z,180nm,20.0s
KMI LR LR
comp=Z,250nm,18.2s
SLVN Son La 35.47 257 P **P 10 18 10.1 -0.3**
SMPI Sarmi 37.23 184 P **P 10 18 28.3 +3.0**
comp=Z,19nm,2.4s
GENI Genyem 37.76 182 P **P 10 18 32.2 +2.4**
comp=Z,43nm,0.9s
PBKT Sadao Pong 40.40 253 P **P 10 18 49.7 -2.2**
PBKT IAmb IAmb 10 18 53.5
comp=Z,11nm,0.9s
CHTO Chiang Mai 40.75 257 P **P 10 18 54.0 -0.8**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 40.75 257 P **P 10 18 54.0 -0.8**
CMAR Chiang Mai Arr 40.95 257 P **P 10 18 55.5 -0.9**
comp=Z,2.3nm,0.7s,baz=46,slow=8.0,SNR=10
CMAR LR LR 10 37 40.8
comp=Z,374nm,18.1s,baz=100,slow=39
CMAR Chiang Mai Arr 40.95 257 P **P 10 18 54.8 -1.7**
DGZ Jazzator, Alta 41.27 307 *i* P **P 10 18 59.6 +0.7**
DGZ pmax pmax
comp=Z,24nm,0.8s
WMQ Urumqi 41.48 299 *e*P **P 10 19 01.9 +1.3**
WMQ pP pP 10 19 09.4 -0.9
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,86nm,3.9s
WMQ LR LR
comp=Z,300nm,24.5s
WMQ LR LR
comp=Z,240nm,20.9s
WMQ LR LR
comp=Z,130nm,21.5s
LSA Lhasa 42.23 277 P **P 10 19 07.3 -0.1**
LSA pmax pmax
comp=Z,20nm,1.1s
LSA Lhasa 42.23 277 P **P 10 19 07.3 -0.1**
LSA IAmb IAmb 10 19 10.8
comp=Z,20nm,1.1s
ZAA0 Zalesovo Array 42.94 314 P **P 10 19 12.3 0.0**
ZAA0 IAmb IAmb 10 19 25.2
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 42.94 314 P **P 10 19 12.8 +0.5**
comp=Z,2.8nm,0.3s,baz=95,slow=7.4,SNR=11
ZALV Zalesovo Beam 42.94 314 P **P 10 19 12.6 +0.3**
SHL Shillong 43.26 271 P **P 10 19 13.6 -1.8**
SHL pmax pmax
comp=Z,7.0nm,0.7s
SHL Shillong 43.26 271 P **P 10 19 13.6 -1.8**
BNSI Bone 44.24 211 P **P 10 19 21.9 -1.3**
comp=Z,21nm,0.9s
NRIK Noril'sk 44.73 336 P **P 10 19 26.9 +0.4**
comp=Z,2.6nm,0.5s,baz=166,slow=5.1,SNR=3.6
MK31 Makanchi Array 44.89 304 P **P 10 19 27.6 -0.5**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 44.89 304 P **P 10 19 27.6 -0.5**
MK31 IAmb IAmb 10 19 43.1
comp=Z,7.9nm,0.8s
MKAR Makanchi Array 44.89 304 P **P 10 19 27.8 -0.3**
comp=Z,3.6nm,0.6s,baz=85,slow=9.2,SNR=21
MKAR LR LR 10 39 00.7
comp=Z,328nm,18.2s,baz=92,slow=37
MKAR Makanchi Array 44.89 304 *i* P **P 10 19 28.5 +0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 44.89 304 P **P 10 19 28.0 -0.1**
KAPI Kappang 44.95 211 LR LR 10 38 43.9
comp=Z,78nm,18.4s,baz=2.0,slow=37
MAKZ Makanchi 45.11 304 P **P 10 19 29.3 -0.5**
MAKZ pmax pmax
comp=Z,13nm,1.1s
MAKZ Makanchi 45.11 304 P **P 10 19 29.3 -0.5**
MAKZ IAmb IAmb 10 19 42.8
comp=Z,13nm,1.1s
TAPN Taplejung 45.92 275 *e*P **P 10 19 36.1 -0.8**
comp=Z,13nm,0.4s
TAPN Taplejung 45.92 275 *e*P **P 10 19 36.1 -0.8**
comp=Z,13nm,0.4s
ODAN Odare 46.38 275 *e*P **P 10 19 39.4 -1.0**
comp=Z,12nm,0.4s
ODAN Odare 46.38 275 *e*P **P 10 19 39.4 -1.0**
comp=Z,12nm,0.4s
KURK Kurchatov 46.86 309 P **P 10 19 43.9 +0.4**
KURK Kurchatov 46.86 309 P **P 10 19 43.5 0.0**
KURBB Kurchatov Arra 46.92 309 P **P 10 19 43.9 -0.1**
comp=Z,6.4nm,0.4s,baz=84,slow=8.0,SNR=44
RAMN Ramite 46.99 276 *e*P **P 10 19 44.3 -0.9**
comp=Z,34nm,0.6s
RAMN Ramite 46.99 276 *e*P **P 10 19 44.3 -0.9**
comp=Z,34nm,0.6s
JIRN Jiri 47.03 277 *e*P **P 10 19 45.3 -0.4**
comp=Z,45nm,0.4s
JIRN Jiri 47.03 277 *e*P **P 10 19 45.3 -0.4**
comp=Z,45nm,0.4s
GUN Gumba 47.19 277 *e*P **P 10 19 46.1 -0.7**
comp=Z,46nm,0.7s
GUN Gumba 47.19 277 *e*P **P 10 19 46.1 -0.7**
comp=Z,46nm,0.7s
EDFI Ende, Flores 47.59 207 P **P 10 19 49.2 -0.5**
comp=Z,11nm,1.1s
SOEI Soe 47.65 203 P **P 10 19 50.2 +0.1**
comp=Z,768nmcomp=Z,64nm,1.0s
SOEI Soe 47.65 203 P **P 10 19 49.4 -0.7**
PKI Pulchoki 47.70 277 *e*P **P 10 19 49.6 -1.2**
comp=Z,41nm,1.1s
PKI Pulchoki 47.70 277 *e*P **P 10 19 49.6 -1.2**
comp=Z,41nm,1.1s
DMN Daman 47.94 277 *e*P **P 10 19 52.3 -0.2**
DMN Daman 47.94 277 *e*P **P 10 19 52.3 -0.2**
IPM Ipoh 48.15 240 P **P 10 19 52.3 -1.7**
IPM IAmb IAmb 10 19 53.6
comp=Z,9.4nm,0.9s
GKN Gorkha 48.16 278 *e*P **P 10 19 53.4 -0.7**
GKN Gorkha 48.16 278 *e*P **P 10 19 53.4 -0.7**
BATI Baumata 48.26 203 P **P 10 19 55.6 +0.8**
comp=Z,26nm,1.4s
KDAK Kodiak Island 48.46 41 P **P 10 19 58.4 +2.6**
comp=Z,6.5nm,0.6s,baz=274,slow=3.4,SNR=7.2
KDAK Kodiak Island 48.46 41 P **P 10 19 57.8 +2.0**
MTN Manton Dam 48.88 193 P **P 10 19 58.3 -1.1**
SKT Skwentna 48.92 35 P **P 10 19 58.9 -0.5**
SKT IAmb IAmb 10 20 00.1
comp=Z,12nm,1.3s
COEN Coen 49.08 177 P **P 10 20 01.7 +0.7**
COEN IAmb IAmb 10 20 16.1
comp=Z,14nm,1.1s
KOLN Koldanda 49.09 278 *e*P **P 10 20 00.7 -0.7**
KOLN Koldanda 49.09 278 *e*P **P 10 20 00.7 -0.7**
KDJ Kajisay 49.37 298 P **P 10 20 02.8 -0.5**
KDJ pmax pmax
comp=Z,9.0nm,1.0s
KDJ Kajisay 49.37 298 P **P 10 20 02.8 -0.5**
KDJ IAmb IAmb 10 20 10.8
comp=Z,9.0nm,0.9s
BWN Browne 49.88 32 P **P 10 20 08.2 +1.6**
MDM Murphy Dome 50.42 31 P **P 10 20 10.6 -0.2**
MDM IAmb IAmb 10 20 16.5
comp=Z,22nm,1.4s
CCB Clear Creek Bu 50.60 32 P **P 10 20 11.6 -0.5**
PSI Prapat 50.81 240 LR LR 10 40 18.1
comp=Z,168nm,20.7s,baz=273,slow=34
KSH Kashi 50.96 295 P **P 10 20 19.1 +3.8**
KSH pP pP 10 20 26.0 +0.9
KSH pmax pmax
comp=Z,14nm,1.1s
HDA Harding Lake 50.98 32 P **P 10 20 17.0 +2.1**
HDA IAmb IAmb 10 20 19.5
comp=Z,13nm,1.4s
IL31 51.00 32 P **P 10 20 16.7 +1.8**
IL31 IAmb IAmb 10 20 19.3
comp=Z,5.0nm,0.7s
ILAR Eielson Array 51.00 32 P **P 10 20 17.2 +2.2**
comp=Z,3.2nm,0.6s,baz=263,slow=5.7,SNR=34
ILAR Eielson Array 51.00 32 P **P 10 20 16.6 +1.6**
KCSI Kotacane, Aceh 51.14 242 P **P 10 20 15.4 -1.4**
comp=Z,1μmcomp=Z,7.3nm,1.3s
AAK Ala-Archa 51.16 300*ce*P **P 10 20 17.1 +0.3**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 51.16 300 P **P 10 20 15.7 -1.2**
AAK IAmb IAmb 10 20 31.3
comp=Z,6.1nm,0.8s
BRVK Borovoye 51.65 313*ce*P **P 10 20 20.5 +0.4**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 51.65 313 P **P 10 20 19.8 -0.3**
BRVK IAmb IAmb 10 20 30.3
comp=Z,13nm,1.2s
SDSI Sungai Dareh 51.78 235 P **P 10 20 20.1 -1.4**
comp=Z,10nm,1.4s
BMAR Burnt Mountain 51.88 28 P **P 10 20 21.4 -0.3**
KNRA Kununurra 52.11 195 P **P 10 20 23.4 -0.4**
DOT Dot Lake 52.29 33 P **P 10 20 26.0 +1.2**
DOT IAmb IAmb 10 20 29.4
comp=Z,3.7nm,0.5s
KRJI Kerinci 52.62 234 P **P 10 20 26.1 -1.8**
comp=Z,238nm,0.6s
MDSI Maura Dua 52.72 229 P **P 10 20 27.0 -1.5**
comp=Z,414nmcomp=Z,18nm,0.9s
GSI Gunungsitoli 52.82 240 P **P 10 20 28.3 -0.9**
BCAR Beaver Creek A 53.37 34 P **P 10 20 34.1 +1.4**
EGAK Eagle 53.44 31 P **P 10 20 35.6 +2.4**
KK31 Karatay Array 53.84 301 P **P 10 20 36.7 +0.2**
KK31 pmax pmax
comp=Z,21nm,1.4s
KK31 Karatay Array 53.84 301 P **P 10 20 36.6 +0.2**
KK31 IAmb IAmb 10 20 45.9
comp=Z,21nm,1.4s
KKAR Karatay Array 53.84 301 P **P 10 20 36.2 -0.3**
KKAR pmax pmax
comp=Z,21nm,1.4s
KKAR Karatay Array 53.84 301 P **P 10 20 36.8 +0.3**
KKAR IAmb IAmb 10 20 45.9
comp=Z,21nm,1.4s
KKAR Karatay Array 53.84 301 **P 10 20 36.2 -0.3**
BTK Batken 54.57 297 P **P 10 20 40.8 -1.1**
BTK pmax pmax
comp=Z,14nm,1.4s
BTK Batken 54.57 297 P **P 10 20 40.8 -1.1**
BTK IAmb IAmb 10 20 58.7
comp=Z,14nm,1.4s
NIL Nilore 55.01 289 P **P 10 20 44.3 -0.8**
NIL pmax pmax
comp=Z,16nm,1.0s
NIL Nilore 55.01 289 P **P 10 20 44.3 -0.8**
EPYK Eagle Plains 55.06 29 P **P 10 20 48.7 +3.7**
EPYK IAmb IAmb 10 20 52.1
comp=Z,14nm,1.1s
FITZ Fitzroy Crossi 55.18 198 P **P 10 20 46.1 -0.2**
FITZ IAmb IAmb 10 20 49.1
comp=Z,7.8nm,0.8s
WB0 Warramunga Arr 55.20 188 P **P 10 20 45.9 -0.6**
GAR Garm 55.29 296 P **P 10 20 46.3 -0.9**
GAR IAmb IAmb 10 20 52.1
comp=Z,14nm,1.0s
CTA Charters Tower 55.35 174 LR LR 10 44 22.6
comp=Z,224nm,21.0s,baz=291,slow=36
WRA Warramunga Arr 55.38 188 P **P 10 20 48.2 +0.4**
comp=Z,13nm,0.5s,baz=3.6,slow=7.8,SNR=137
INK Inuvik 55.95 27 P **P 10 20 53.4 +2.1**
comp=Z,1.5nm,0.4s,baz=278,slow=4.6,SNR=8.7
CHGR Chuyangaron 56.26 296 **P 10 20 53.8 -0.4**
SVE Sverdlovsk 56.31 319 *e*P **P 10 20 55.5 +1.5**
SVE pmax pmax
comp=Z,16nm,0.9s
ARU Arti 57.52 319 P **P 10 21 02.6 0.0**
comp=Z,3.0nm,0.5s,baz=69,slow=3.2,SNR=9.2
ARU Arti 57.52 319*d i*P **P 10 21 02.6 0.0**
ARU 10 23 06.6
ARU S **S 10 29 00.8 +3.1**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 57.52 319 P **P 10 21 02.9 +0.3**
SIT Sitka 57.76 40 P **P 10 21 03.9 -0.4**
SIT pmax pmax
comp=Z,40nm,1.4s
SIT Sitka 57.76 40 P **P 10 21 03.9 -0.4**
KBL Kabul 57.88 292 P **P 10 21 04.4 -1.4**
KBL pmax pmax
comp=Z,7.0nm,1.0s
KBL Kabul 57.88 292 P **P 10 21 04.4 -1.4**
KBL IAmb IAmb 10 21 10.7
comp=Z,7.4nm,1.0s
ABKAR Akbulak array 58.91 311 P **P 10 21 12.4 0.0**
ASAR Alice Springs 59.11 188 P **P 10 21 14.9 +0.8**
comp=Z,9.4nm,1.0s,baz=105,slow=3.2,SNR=8.2
ASAR LR LR 10 47 07.9
comp=Z,91nm,18.2s,baz=304,slow=36
AKTO Aktyubinsk 59.69 313 P **P 10 21 18.3 +0.5**
comp=Z,3.3nm,0.7s,baz=68,slow=11,SNR=8.3
PSA00 Pilbara Seismi 60.14 203 P **P 10 21 20.6 -0.6**
KIRV Kirov 61.49 323 P **P 10 21 30.8 +0.9**
comp=Z,10nm,0.4s,baz=112,slow=5.4,SNR=4.4
HRA Herat 63.06 294 P **P 10 21 40.8 -0.3**
HRA IAmb IAmb 10 21 42.6
comp=Z,6.5nm,0.9s
TMCR Tamitsa 64.14 332 *e*P **P 10 21 45.0 -2.5**
GEYT Alibeck 64.52 300 P **P 10 21 50.6 +0.1**
comp=Z,1.5nm,0.4s,baz=63,slow=6.8,SNR=4.7
GEYT Alibeck 64.52 300 P **P 10 21 50.2 -0.2**
GYA0B ALIBECK ARRAY 64.52 300 P **P 10 21 48.6 -1.9**
GYA0B IAmb IAmb 10 21 56.7
comp=Z,9.6nm,1.0s
KEV Kevo 64.95 339 P **P 10 21 54.0 +1.3**
KEV pmax pmax
comp=Z,10.0nm,1.1s
KEV Kevo 64.95 339 P **P 10 21 54.0 +1.3**
KEV IAmb IAmb 10 22 09.3
comp=Z,10nm,1.1s
KLMR Klimovskoe 65.09 328 *e*P **P 10 21 53.6 -0.1**
KLMR pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 65.09 328 *e*P **P 10 21 53.7 0.0**
KLMR AMP 10 21 59.0
comp=Z,6.0nm,1.0s
KLMR LQ LQ 10 44 19.0
KLMR LQ LQ 10 44 19.0
KLMR LR LR 10 47 00.1
YKA Yellowknife Ar 65.33 30 P **P 10 21 56.1 +0.8**
comp=Z,1.0nm,0.8s,baz=309,slow=7.1,SNR=2.7
ARCES ARCESS Array B 65.51 340 P **P 10 21 55.4 -0.9**
comp=Z,1.9nm,0.7s,baz=49,slow=7.6,SNR=6.9

ARCES	ARCESS Array B	65.51	340	P		P	10 21 57.4 +1.1
ARCES	ARCESS Array B	65.51	340	P		P	10 21 57.4 +1.1
STKA	Stephens Creek	66.88	180	P		P	10 22 06.4 +0.9
	comp=Z,3.4nm,0.9s,baz=356,slow=9.9,SNR=4.8						
STKA	Stephens Creek	66.88	180	P		P	10 22 06.9 +1.4
FORT	Forrest	66.94	192	P		P	10 22 07.0 +1.1
LPSR	Galich'ya Gora	69.49	320	*e*P		P	10 22 22.0 +0.3
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	Storozhevoye	70.09	319	*e*P		P	10 22 24.6 -0.9
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
FINES	FINESS Array B	70.22	332	P		P	10 22 26.7 +0.6
	comp=Z,3.0nm,0.6s,baz=70,slow=5.8,SNR=14						
FINES	FINESS Array B	70.22	332	*i* P		P	10 22 27.2 +1.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PINE	Pine Mountain	71.55	49	P		P	10 22 36.8 +2.1
PINE				IAmb	IAmb		10 22 41.1
	comp=Z,8.4nm,1.0s						
ZEI	Tsey	71.75	310	*e*P		P	10 22 35.3 -0.7
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	Khabaz	71.88	311	P		P	10 22 37.6 +1.2
	comp=Z,7.4nm,0.9s,baz=270,slow=2.9,SNR=8.1						
KBZ	Khabaz	71.88	311	*ce*P		P	10 22 38.1 +1.7
KIV	Kislovodsk	71.89	311	P		P	10 22 36.4 -0.3
KIV				pmax	pmax		
	comp=Z,15nm,0.9s						
KIV	Kislovodsk	71.89	311	P		P	10 22 36.4 -0.3
SUMG	Summit	72.36	360	*i* P		P	10 22 43.0 +3.7
	comp=Z,32nm,1.0s						
SUMG	Summit	72.36	360	*i* P		P	10 22 43.0 +3.7
SUMG				pmax	pmax		
	comp=Z,32nm,1.0s						
SUMG	Summit	72.36	360	P		P	10 22 39.6 +0.2
SUMG				IAmb	IAmb		10 22 45.0
	comp=Z,12nm,1.0s						
AKH	Akhalkalaki	72.73	309	P		P	10 22 42.2 +0.4
AKH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AKH	Akhalkalaki	72.73	309	P		P	10 22 42.2 +0.4
AKH				IAmb	IAmb		10 22 53.5
	comp=Z,6.8nm,0.7s						
HRY	Holter Researc	75.28	43	P		P	10 22 57.1 +0.6
LRM	Limekiln Ridge	75.46	44	P		P	10 22 57.5 -0.3
AKBB	Malin Array Si	75.53	322	P		P	10 22 56.8 -0.9
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AKBB	Malin Array Si	75.53	322	P		P	10 22 56.8 -0.9
AKBB				IAmb	IAmb		10 23 02.8
	comp=Z,8.1nm,1.1s						
NC204	NORSAR Array S	75.63	338	P		P	10 22 57.3 -0.9
DLMT	Dillon	75.64	44	P		P	10 23 02.0 +3.3
DLMT				IAmb	IAmb		10 23 14.7
	comp=Z,11nm,1.4s						
NB2	NORSAR Subarra	75.67	337	P		P	10 22 59.1 +0.7
	comp=Z,9.4nm,1.2s,baz=41,slow=5.9						
NOA	NORSAR Array B	75.67	337	P		P	10 22 59.4 +0.9
	comp=Z,2.2nm,0.6s,baz=39,slow=5.8,SNR=10						
NOA				LR	LR		10 59 18.6
	comp=Z,410nm,19.6s,baz=275,slow=38						
NVAR	Mina Array Bea	76.12	53	P		P	10 23 04.8 +3.1
	comp=Z,1.5nm,0.7s,baz=295,slow=5.6,SNR=10						
NVAR	Mina Array Bea	76.12	53	P		P	10 23 05.5 +3.8
BW06	Boulder Array	78.95	45	P		P	10 23 21.4 +4.0
PD31	Pinedale Array	78.95	45	P		P	10 23 20.6 +3.2
PDAR	Pinedale Array	78.95	45	P		P	10 23 19.6 +2.2
	comp=Z,1.5nm,0.6s,baz=276,slow=1.4,SNR=22						
PDAR	Pinedale Array	78.95	45	P		P	10 23 17.7 +0.3
KWP	Kalwaria Pacla	79.40	324	P		P	10 23 20.3 +0.9
KWP				pmax	pmax		
	comp=Z,20nm,1.2s						
KWP	Kalwaria Pacla	79.40	324	P		P	10 23 20.3 +0.9
KWP				IAmb	IAmb		10 23 34.2
	comp=Z,20nm,1.2s						
BURAR	Bucovina Array	79.53	322	P		P	10 23 21.1 +0.8
BRTR	Keskin Array B	79.85	312	P		P	10 23 23.2 +1.0
	comp=Z,2.4nm,1.0s,baz=146,slow=2.4,SNR=6.7						
BRTR	Keskin Array B	79.85	312	P		P	10 23 22.0 -0.2
ULM	Lac du Bonnet	80.99	33	LR	LR		11 01 59.8
	comp=Z,84nm,19.3s,baz=338,slow=38						
VYHS	Vyhne	82.01	325	*e*P		P	10 23 34.7 +1.2
VYHS	Vyhne	82.01	325	*e*P		P	10 23 34.7 +1.2
PV13	Radium Mtn., P	82.27	48	P		P	10 23 35.2 -0.1
PV13				IAmb	IAmb		10 23 51.6
	comp=Z,11nm,1.3s						
CLL	Collm	82.47	330	*i* P		P	10 23 37.2 +1.5
	comp=Z,6.0nm,0.7s						
KHC	Kasperske Hory	83.89	328	*ce*P		P	10 23 45.5 +2.3
KHC				pmax	pmax		
	comp=Z,13nm,1.3s						
KHC	Kasperske Hory	83.89	328	P		P	10 23 43.8 +0.6
GERES	GERESS Array B	84.05	328	P		P	10 23 43.0 -1.1
	comp=Z,0.4nm,0.3s,baz=45,slow=4.0,SNR=6.5						
GERES	GERESS Array B	84.05	328	P		P	10 23 43.7 -0.4
GERES	GERESS Array B	84.05	328	P		P	10 23 43.6 -0.4
TUC	Tucson	84.69	54	P		P	10 23 48.6 +1.0
TUC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TUC	Tucson	84.69	54	P		P	10 23 48.6 +1.0
SCHQ	Schefferville	86.99	16	P		P	10 23 58.9 +0.4
	comp=Z,3.8nm,0.7s,baz=313,slow=8.3,SNR=1.8						
TXAR	Lajitas Array	91.27	52	P		P	10 24 22.1 +2.8
	comp=Z,0.6nm,0.7s,baz=304,slow=3.1,SNR=9.9						
TXAR				LR	LR		11 01 46.4
	comp=Z,117nm,20.1s,baz=0.0,slow=33						
TXAR	Lajitas Array	91.27	52	P		P	10 24 19.8 +0.6
U40A	Yellville	92.70	41	P		P	10 24 27.2 +1.6
U40A				IAmb	IAmb		10 24 39.1
	comp=Z,4.5nm,0.8s						
TKL	Tuckaleechee C	97.84	36	LR	LR		11 08 11.8
	comp=Z,63nm,20.0s,baz=340,slow=35						
ESDC	Sonseca Array	98.72	334	LR	LR		11 13 21.4
	comp=Z,212nm,20.3s,baz=5.0,slow=38						
TORD	Torodi Ar. Bea	118.39	314	PKP		PKPdf	10 30 01.1 -0.4
	comp=Z,0.8nm,0.7s,baz=46,slow=2.5,SNR=2.1						
TORD	Torodi Ar. Bea	118.39	314			PKiKP	10 30 01.7 +0.2
LPAZ	La Paz	147.65	62	PKPbc		PKPab	10 31 01.8 +0.5
	comp=Z,2.0nm,0.7s,baz=350,slow=2.6,SNR=9.7						
LPAZ	La Paz	147.65	62			PKPdf	10 30 54.8 -1.6

KRNET ***03*** *10:52:35.5±0.1, 40°.94N×71°.31E, h19km, mb3.3*
ISU ***03*** *10:52:36.9, 40°.93N×71°.23E, h10km*
SOME ***03*** *10:52:38.6, 40°.95N×71°.20E, h5km*
NNC ***03*** *10:52:38.5±2.4, 40°.85N×71°.28E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=19.1km s-min=7.5km az=15.0
ISC 03 10:52:37.1±1.1, 40°.94N±0°.02×71°.27E±0°.02, h5km±10km, n41, σ1$42/78, 25C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAM	Namangan	0.30	79	*e*P		Pb	10 52 45.9 +0.9
NAM				*e*S		Sb	10 52 52.8 +2.6
FRG	Fergana	0.44	117	*e*P		Pn	10 52 51.6 +1.5
FRG				*e*S		Sb	10 53 00.5 +6.3
CHMI	Chimion	0.69	164	*e*P		Pg	10 52 50.9 +0.5
CHMI				*e*S		Sb	10 53 01.5 0.0
BTK	Batken	0.94	202	⇓*i*P		Pg	10 52 53.4 -1.7
BTK	baz=3.0						
				⇓*i*S		Sg	10 53 06.9 -0.4
	baz=3.0						
BTK	Batken	0.94	202	*e*P		Pg	10 52 53.5 -1.7
BTK				*e*S		Sn	10 53 14.7 +3.9
CHMG	Chimgan	1.13	303	*e*P		Pn	10 52 59.3 -0.4
CHMG				*e*S		Sg	10 53 12.9 -0.6
OHH	Osh	1.22	109	⇑*i*P		Pb	10 52 58.0 -2.7
OHH	baz=10.0						
				⇑*i*S		Sb	10 53 14.0 -2.8
	baz=10.0						
OHH	Osh	1.22	109	*e*P		Pg	10 53 01.4 +0.8
OHH				*e*S		Sn	10 53 19.1 +1.3
IUG	Iuzhnay	1.53	323	*e*P		Pg	10 53 07.5 +1.1
IUG	111nm,0.3s						
				*e*S		Sg	10 53 28.1 +1.9
	324nm,0.7s						
IUG	Iuzhnay	1.53	323	P		Pg	10 53 07.5 +1.1
IUG	111nm,0.3s						
				S		Sg	10 53 28.1 +1.9
	324nm,0.7s						
TAS	Tashkent	1.54	285	⇑*i*P		Pn	10 53 04.3 -0.9
TAS	baz=85						
				⇑*i*S		Sb	10 53 25.6 -0.3
	baz=85						
TAS	Tashkent	1.54	285	*e*P		Pb	10 53 06.0 -0.1
TAS				*e*S		Sg	10 53 26.5 -0.1
YNGY	Yangiyul	1.69	277	*e*P		Pb	10 53 08.1 -0.6
YNGY				*e*S		Sb	10 53 30.9 +0.6
DZA	Taraz	1.96	1	*e*P		Pg	10 53 15.7 +1.1
DZA	54nm,0.1s						
				*e*S		Sg	10 53 42.2 +2.3
	606nm,0.3s						
GAR	Garm	2.07	201	⇑*i*P		Pn	10 53 12.8 +0.3
GAR	baz=2.0						
				⇑*i*S		Sb	10 53 40.0 -1.1
	baz=2.0						
AML	Almayashu	2.18	56	⇑*i*P		Pn	10 53 13.8 -0.5
AML	baz=56						
				⇑*i*S		Sb	10 53 42.3 -2.3
	baz=56						
KK31	Karatay Array	2.24	346	⇑Pn		Pb	10 53 18.5 +0.4
	13nm,0.6s,baz=174,slow=14,SNR=121						
KK31				⇑Sn		Sg	10 53 49.0 0.0
	46nm,0.3s,baz=168,slow=22,SNR=25						
MRKS	Merke	2.33	38	*e*P		Pg	10 53 23.0 +1.3
MRKS	8.9nm,0.3s						
				*e*S		Sg	10 53 54.2 +2.3
	103nm,0.4s						
BRLS	Borolday	2.35	333	*e*P		Pb	10 53 18.8 -1.1
BRLS	20nm,0.4s						
				*e*S		Sb	10 53 47.8 -1.5
	138nm,0.5s						
ARLS	Aral	2.48	67	⇓*i*P		Pn	10 53 18.2 0.0
ARLS	baz=67						
				⇓*i*S		Sn	10 53 49.4 +0.5
	baz=67						
EKS2	Erkin-Say	2.55	47	⇓*i*P		Pn	10 53 19.0 -0.2
EKS2	baz=46						
				⇓*i*S		Sn	10 53 50.8 +0.2
	baz=46						
UCH	Uchtor	2.76	61	⇑*i*P		Pn	10 53 21.8 -0.5
UCH	baz=61						
				⇑*i*S		Sn	10 53 56.2 0.0
	baz=61						
CHGR	Chuyangaron	2.80	216	⇑*i*P		Pn	10 53 23.1 +0.6
CHGR	baz=17						
				⇑*i*S		Sn	10 53 57.9 +1.3
	baz=17						
AAK	Ala-Archa	2.95	54	⇑*i*P		Pn	10 53 24.9 +0.2
AAK	baz=53						
				⇑*i*S		Sn	10 54 00.4 -0.2
	baz=53						
AAK	Ala-Archa	2.95	54	⇓Pg		Pg	10 53 32.6 -1.1
AAK	5.0nm,0.5s						
				⇓Lg		Lg	10 54 11.6
	8.5nm,0.6s						
FRU1	Bishkek	3.13	52	⇑*i*P		Pn	10 53 27.3 +0.2
FRU1	baz=52						
				⇑*i*S		Sn	10 54 05.0 +0.1
	baz=52						
KZA	Kyzart	3.20	68	⇑*i*P		Pn	10 53 28.3 -0.1
KZA	baz=68						
				⇑*i*S		Sn	10 54 06.6 -0.5
	baz=68						
KBK	Karagaybulak	3.25	57	⇓*i*P		Pn	10 53 28.9 +0.1
KBK	baz=57						
				⇓*i*S		Sn	10 54 07.4 -0.5
	baz=57						
CHMS	Chumysh	3.32	50	⇓*i*P		Pn	10 53 29.8 +0.2
CHMS	baz=50						
				⇓*i*S		Sn	10 54 09.2 -0.2
	baz=50						
USP	Ospenovka	3.35	45	⇓*i*P		Pn	10 53 30.2 +0.1
USP	baz=45						
				⇓*i*S		Sn	10 54 09.8 -0.4
	baz=45						
SGDS	Sogindy	3.54	44	Pg		Pg	10 53 44.4 -0.6
SGDS	3.4nm,0.5s						
				Lg		Lg	10 54 31.7
	11nm,0.3s						
TKM2	Tokmak 2	3.79	57	⇑*i*P		Pn	10 53 36.4 +0.1
TKM2	baz=57						
				⇑*i*S		Sn	10 54 20.5 -0.9
	baz=57						
TKM2	Tokmak 2	3.79	57	⇑Pg		Pg	10 53 47.7 -2.0
TKM2	10nm,1.5s						
				⇓Lg		Lg	10 54 37.5
	11nm,0.7s						
ULHL	Ulahol	3.95	69	⇑*i*P		Pn	10 53 38.4 -0.2
ULHL	baz=69						
				⇑*i*S		Sn	10 54 24.1 -1.3
	baz=69						
KST	Kastek	4.08	57	*e*P		Pg	10 53 55.4 +0.1
KST	4.1nm,0.3s						
				*e*S		Sg	10 54 50.3 +2.0
	15nm,0.6s						
KST	Kastek	4.08	57	Pg		Pg	10 53 55.4 +0.1
KST	4.1nm,0.3s						
				Lg		Lg	10 54 50.3
	15nm,0.6s						
KRBS	Karabastau	4.28	48	*e*P		Pg	10 53 57.8 -1.2
KRBS	2.2nm,0.5s						
				*e*S		Sg	10 54 53.7 -0.7
	5.2nm,0.5s						
BTLS	Baital	4.58	25	*e*P		Pg	10 54 03.5 -1.3
BTLS	2.3nm,0.5s						
				*e*S		Sg	10 55 04.1 -0.1
	18nm,0.6s						
KUU	Kurty	4.78	50	*e*P		Pg	10 54 07.8 -0.8
KUU	0.4nm,0.1s						
				*e*S		Sg	10 55 11.0 +0.5
	9.7nm,0.5s						
MDOK	Medeo	4.84	61	*e*P		Pg	10 54 08.4 -1.5
MDOK	1.7nm,0.3s						
				*e*S		Sg	10 55 12.6 -0.1
	6.4nm,0.6s						
KOTS	Kotyrbulak	4.92	60	*e*P		Pg	10 54 09.8 -1.5
KOTS	4.2nm,0.3s						
				*e*S		Sg	10 55 14.7 -0.3
	14nm,0.4s						

IDC ***03*** *10:57:21.1±6.4, 5°.85S×154°.83E, h160km±43km, mb3.5/4,*
mb1 3.6/6, mb1mx3.3/43, mbtmp3.9/6, MS2.9/1, Ms1 2.9/1,
ms1mx2.6/24, Error ellipse: s-maj=68.1km s-min=21.5km
az=96.0
ISC 03 10:57:19.5±1.5, 5°.8S±0°.1×155°.0E±0°.2, h150km, n7,
σ0$90/9, mb3.7/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.31	297	P		Pn	10 58 10.6 -0.1
KRVT	5.8nm,0.3s,baz=124,slow=2.0,SNR=16						
				S		Sn	10 58 50.4 -0.1
	18nm,0.3s,baz=337,slow=20,SNR=17						
PMG	Port Moresby	8.53	245	P		Pn	10 59 20.5 +0.5
	2.3nm,0.3s,baz=57,slow=8.2,SNR=6.1						
SIJI	Sorong	24.17	281	LR	LR		11 14 02.7
	comp=Z,25nm,19.3s,baz=142,slow=42						
WRA	Warramunga Arr	24.48	233	P		P	11 02 23.3 -1.6
	1.4nm,0.7s,baz=56,slow=9.6,SNR=15						
WRA				PcP		PcP	11 05 58.9 -0.8
	0.2nm,0.8s,baz=56,slow=2.8,SNR=5.0						
ASAR	Alice Springs	26.95	227	P		P	11 02 47.8 +0.7
	0.4nm,0.4s,baz=58,slow=9.2,SNR=7.2						
ASAR				PcP		PcP	11 06 04.8 -0.5
	0.1nm,0.6s,baz=38,slow=3.5,SNR=4.7						
SONM	Songino Array	68.35	327	P		P	11 08 05.3 +0.5
	0.7nm,0.4s,baz=123,slow=5.3,SNR=3.2						
MKAR	Makanchi Array	82.52	319	P		P	11 09 26.0 +0.5
	1.9nm,0.9s,baz=116,slow=5.5,SNR=8.3						

IDC ***03*** *11:23:01.8±13.0, 29°.30S×177°.25E, h0km, mb3.7/3,*
mb1 4.1/4, mb1mx3.6/31, mbtmp4.0/4, ML4.9/1, Error
ellipse: s-maj=269.9km s-min=42.7km az=60.0
ISC 03 11:23:18.3±1.0, 30°.93S±0°.08×179°.4W±0°.1, h400km, n31,
σ2$51/42, mb3.3/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.10	38	P		Pn	11 24 15.9 +1.0
GLKZ				S		S	11 24 59.7 -0.9
MXZ	Matakaoa Point	6.88	195	P		P	11 25 04.5 +3.4
MXZ				S		S	11 26 23.7 -0.3
KUZ	Kuaotunu	7.08	214	P		P	11 25 06.5 +3.3
WMGZ	Waiomatatini S	7.11	194	P		P	11 25 05.8 +2.2
HAZ	Te Kaha	7.20	198	P		Pn	11 25 05.5 +1.5
HAZ				S		S	11 26 27.2 -3.3
WCZ	Waipu Caves	7.23	225	P		P	11 25 07.8 +2.8
OUZ	Omahuta	7.27	232	P		P	11 25 07.7 +2.4
PUZ	Puketiti	7.38	195	P		P	11 25 08.3 +1.6
PUZ				S		S	11 26 31.7 -2.7
WIAZ	Waiheke Island	7.40	216	P		P	11 25 10.4 +3.5
RUGZ	Raukumara Rang	7.42	198	P		P	11 25 08.7 +1.5
RUGZ				S		S	11 26 31.3 -4.1
TGRZ	Tauranga	7.67	207	P		P	11 25 13.0 +3.2
MWZ	Matawai	7.81	198	P		Pn	11 25 12.4 +1.4
MWZ				S		S	11 26 41.7 -1.6
URZ	Urewera	7.86	200	Pn		Pn	11 25 12.5 +1.1
URZ	12nm,0.3s,baz=273,slow=2.2,SNR=68						
				Sn		S	11 26 43.0 -1.2
	5.0nm,0.3s,baz=59,slow=23,SNR=20						
URZ	Urewera	7.86	200	P		Pn	11 25 12.3 +0.8
URZ				S		S	11 26 42.4 -1.8
KMRZ	Kaimai	7.90	208	P		P	11 25 17.2 +4.7
TOZ	Tahuroa Road	7.99	210	P		P	11 25 17.7 +4.3
TARZ	Mount Tarawera	8.03	204	P		P	11 25 17.2 +3.2
MUGZ	Murupara	8.16	202	P		P	11 25 16.8 +1.5
MUGZ				S		S	11 26 48.6 -2.0
GRRZ	Galatos Road	8.27	205	P		P	11 25 20.3 +3.8
SNGZ	Shannon Statio	8.28	198	P		P	11 25 19.5 +2.9
PRRZ	Plateau Road	8.30	203	P		P	11 25 20.2 +3.3
PRRZ				S		S	11 26 53.7 0.0
WPRZ	Whakapapatarin	8.40	205	P		P	11 25 21.3 +3.3
KNZ	Kokohu	8.42	196	P		P	11 25 20.6 +2.4
MRHZ	Matea Rd	8.60	202	P		P	11 25 21.9 +1.7
MRHZ				S		S	11 26 58.8 -1.2
NMHZ	Naumai	8.72	200	P		P	11 25 23.2 +1.6
BKZ	Black Stump Fm	8.88	201	P		Pn	11 25 24.2 +1.0
TSZ	Takapari Road	9.86	201	P		P	11 25 33.3 -0.9
DUWZ	D'Urville Isla	11.24	207	P		P	11 25 47.4 -2.1
STKA	Stephens Creek	33.18	258	P		P	11 29 18.6 -0.9
	1.2nm,0.8s,baz=102,slow=11,SNR=1.7						
ASAR	Alice Springs	41.88	268	P		P	11 30 29.9 -1.7
	0.4nm,0.5s,baz=107,slow=7.3,SNR=9.4						
WRA	Warramunga Arr	42.91	273	P		P	11 30 38.0 -1.8
	0.7nm,0.4s,baz=111,slow=8.1,SNR=28						

IDC ***03*** *11:34:38.7±0.4, 15°.02S×173°.51W, h0km, mb4.5/24,*
mb1 4.6/24, mb1mx4.5/45, mbtmp4.5/24, MS5.2/28,
Ms1 5.2/28, ms1mx5.2/28, Error ellipse: s-maj=16.8km
s-min=13.1km az=139.0
BJI ***03*** *11:34:38.0±0.0, 15°.00S×173°.40W, h5km, mB5.6/46,*
mb5.1/39, Ms5.4/46, Ms7 5.2/41
NEIC ***03*** *11:34:40.1, 14°.92S×172°.90W, h9km, Moment Tensor*
Solution. Moment tensor: Scale 10^17Nm; Mrr=0.01;
Mθθ=2.37; Mϕϕ=-2.36; Mrθ=0.53; Mϕθ=1.32; Mϕr=2.64; Fault
plane solution: M0=3.82000×10^17 NP1:ϕs=115.78000°,
δ=47.17000°, λ=-4.17000°. NP2:ϕs=208.62000°, δ=86.94000°,
λ=-137.09000°. Principal axes: T 3.3024, Plg=26.0000°,
Azm=334.0000°; N 0.8755, Plg=47.0000°, Azm=212.0000°; P
=-4.1780, Plg=31.0000°, Azm=81.0000°;
UNK ***03*** *11:34:40.1, 14°.92S×172°.90W, h10km*
MOS ***03*** *11:34:40.5±1.1, 14°.90S×173°.04W, h19km, mb5.2/37,*
MS5.3/10, Error ellipse: s-maj=10.6km s-min=9.0km
az=73.3
NEIC ***03*** *11:34:40.5±1.5, 14°.89S±0°.06×173°.03W±0°.07, h10km±1km,*
mb5.1/138, Ms_20 5.5/848, Mwb5.7/79, Mww5.7,
Mwc5.7(GCMT), Error ellipse: s-maj=12.6km s-min=7.9km
az=130.0
GCMT ***03*** *11:34:47.5±0.1, 14°.89S±0°.01×173°.11W, h14km,*
MW5.7/162, Moment Tensor Solution. s141,c258;
s162,c332; Duration: 1!6 Moment tensor: Scale 10^17
Nm; Mrr=0.72±.03; Mθθ=1.56±.03; Mϕϕ=-2.28±.03;
Mrθ=0.80±.07; Mϕθ=2.33±.03; Mϕr=2.07±.11; Best double
couple: M0=3.79100×10^17 NP1:ϕs=112.00000°, δ=53.00000°,
λ=10.00000°. NP2:ϕs=16.00000°, δ=82.00000°, λ=142.00000°.
Principal axes: T 3.6530, Plg=32.0000°, Azm=327.0000°; N
0.2790, Plg=52.0000°, Azm=187.0000°; P -3.9290,
Plg=20.0000°, Azm=70.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
NEIC ***03*** *11:34:47, 14°.86S×173°.09W, h14km, Moment Tensor*
Solution. Moment tensor: Scale 10^17Nm; Mrr=0.63;
Mθθ=1.79; Mϕϕ=-2.42; Mrθ=0.51; Mϕθ=2.34; Mϕr=2.56; Fault
plane solution: M0=4.13000×10^17 NP1:ϕs=111.00000°,
δ=49.00000°, λ=6.00000°. NP2:ϕs=17.00000°, δ=86.00000°,
λ=139.00000°. Principal axes: T 3.7495, Plg=31.0000°,
Azm=326.0000°; N 0.6703, Plg=49.0000°, Azm=192.0000°; P
=-4.4198, Plg=24.0000°, Azm=71.0000°;
NEIC ***03*** *11:34:50, 14°.56S×173°.31W, h16km, Moment Tensor*
Solution. Moment tensor: Scale 10^17Nm; Mrr=0.17;
Mθθ=1.95; Mϕϕ=-2.12; Mrθ=2.67; Mϕθ=2.85; Mϕr=1.96; Fault
plane solution: M0=4.82000×10^17 NP1:ϕs=114.00000°,
δ=58.00000°, λ=15.00000°. NP2:ϕs=16.00000°, δ=77.00000°,
λ=147.00000°. Principal axes: T 5.4535, Plg=32.0000°,
Azm=331.0000°; N -1.7513, Plg=55.0000°, Azm=177.0000°;
P -3.7022, Plg=12.0000°, Azm=69.0000°;
ISC 03 11:34:39.9±0.2, 15°.03S±0°.04×173°.22W±0°.04, h10km,
n920, σ1$43/570, mb5.1/119, MS5.5/473, 22C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.79	52	Pn		Pn	11 35 05.7 -5.2
AFI	237nm,0.3s,baz=192,slow=1.8,SNR=58						
				Sn		Sn	11 35 25.1 -8.7
AFI	1μm,0.3s,baz=351,slow=23,SNR=10						
				LR		LR	11 35 38.2
AFI	comp=Z,30μm,18.5s,baz=254,slow=30						
AFI	Afiamalu	1.79	52	Pn		Pn	11 35 06.7 -4.3
AFI				Sn		Sn	11 35 27.4 -6.5
NIUE	Niue	5.11	142	Pn		Pn	11 35 53.9 -2.7
NIUE				Sn		Sn	11 36 53.9 -1.8
MSVF	Nonsavu	8.79	251	*i* P		Pn	11 36 52.3 +5.0
MSVF	Nonsavu	8.79	251	Pn		Pn	11 36 52.9 +5.6
KNTN	Kanton	12.27	7	Pn		Pn	11 37 32.2 -2.7
RAR	Rarotonga	14.18	118	Pn		Pn	11 37 57.5 -3.5
	2.6nm,0.3s,baz=247,slow=5.2,SNR=9.9						
RAR				Sn		Sn	11 40 28.0 -11
	0.9nm,0.3s,baz=316,slow=16,SNR=1.1						
RAR				LR		LR	11 41 56.0
	comp=Z,12μm,21.9s,baz=304,slow=30						
RAR	Rarotonga	14.18	118	P		Pn	11 37 59.8 -1.2
RAR	Rarotonga	14.18	118	Pn		Pn	11 37 59.8 -1.2
RAO	Raoul Island	14.80	196	LR		LR	11 42 31.4
	comp=Z,10μm,18.9s,baz=332,slow=32						
SANVU	Saraoutou	18.89	266	P		Pn	11 39 02.5 +1.2
SANVU				IAm

URZ LR LR 11 48 44.2
comp=Z,11µm,20.9s,baz=15,slow=34
URZ Urewera 24.66 198 P **P 11 40 02.6 +1.7**
URZ IAMs_20 IAMs_20 11 48 22.5
comp=Z,12µm,21.0s
VAH Vaihoa 24.71 94 *e*P **P 11 40 01.6 +0.1**
comp=Z,222nm,1.3s
BKZ Black Stump Fm 25.69 199 IAMs_20 IAMs_20 11 50 13.6
comp=Z,9µm,18.0s
HNR Honiara 26.79 279 LR LR 11 49 14.4
comp=Z,8µm,19.0s,baz=125,slow=33
LTZ Lake Taylor 30.34 201 IAMs_20 IAMs_20 11 52 14.9
comp=Z,10µm,19.0s
KWAJ Kwajalein Atol 30.36 320 IAMs_20 IAMs_20 11 50 17.9
comp=Z,8µm,20.0s
OXZ Oxford 30.89 201 IAMs_20 IAMs_20 11 52 41.6
comp=Z,7µm,18.0s
RPZ Rata Peaks 31.58 202 IAMs_20 IAMs_20 11 52 51.0
comp=Z,9µm,21.0s
FOZ Fox Glacier 31.89 204 P **P 11 41 06.4 +1.0**
FOZ IAMs_20 IAMs_20 11 53 28.2
comp=Z,9µm,18.0s
TAOE Nuku Hiva Isla 32.91 83 IAMs_20 IAMs_20 11 51 10.9
comp=Z,9µm,20.0s
WKZ Wanaka 33.29 203 P **P 11 41 19.0 +1.3**
WKZ IAMs_20 IAMs_20 11 54 22.3
comp=Z,9µm,19.0s
MLZ Mavora Lakes 34.09 204 P **P 11 41 25.2 +0.5**
MLZ IAmb IAmb 11 41 38.4
comp=Z,25nm,1.1s
MLZ IAMs_20 IAMs_20 11 54 34.5
comp=Z,7µm,21.0s
WHZ Wether Hill Ro 34.60 203 P **P 11 41 30.5 +1.5**
WHZ IAmb IAmb 11 41 39.2
comp=Z,36nm,1.0s
WHZ IAMs_20 IAMs_20 11 55 11.8
comp=Z,6µm,20.0s
PYZ Puysegur Point 35.32 204 IAMs_20 IAMs_20 11 55 10.0
comp=Z,7µm,20.0s
PATS Pohnpei 35.61 306 IAMs_20 IAMs_20 11 52 35.6
comp=Z,7µm,20.0s
KRVT Keravat (AS076 35.81 284 P **P 11 41 37.6 -2.3**
comp=Z,8.6nm,0.4s,baz=4.7,slow=1.9,SNR=8.8
KRVT LR LR 11 54 41.2
comp=Z,2µm,18.4s,baz=124,slow=34
RKT Rikitea 36.95 109 *e*S **S 11 47 33.2 -1.7**
comp=Z,997nm,29.5s
RKT *e*LQ LQ 11 50 15.5
comp=Z,5µm,27.0s
RKT *e*LR LR 11 51 43.3
comp=Z,13µm,23.5s
H11S2 WAKE ISLAND Hy 38.74 329 T T 12 23 15.0
baz=148,slow=75,SNR=15
H11S3 WAKE ISLAND Hy 38.75 329 T T 12 23 16.0
baz=148,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 38.75 329 T T 12 23 15.3
baz=148,slow=75,SNR=14
CTA Charters Tower 38.89 257 LR LR 11 55 34.4
comp=Z,3µm,21.2s,baz=80,slow=32
H11N3 WAKE ISLAND Hy 39.68 330 T T 12 24 29.7
baz=150,slow=76,SNR=15
H11N1 WAKE ISLAND Hy 39.68 330 T T 12 24 14.9
baz=150,slow=76,SNR=18
H11N2 WAKE ISLAND Hy 39.70 330 T T 12 24 27.1
baz=150,slow=76,SNR=16
COEN Coen 42.18 266 P **P 11 42 32.8 -0.4**
COEN IAmb IAmb 11 42 34.0
comp=Z,63nm,1.6s
TOO Toolangi 42.83 230 P **P 11 42 38.9 +0.6**
TOO pmax pmax
comp=Z,37nm,1.2s
TOO Toolangi 42.83 230 P **P 11 42 38.9 +0.6**
TOO IAmb IAmb 11 42 43.4
comp=Z,37nm,1.2s
TOO IAMs_20 IAMs_20 11 57 04.2
comp=Z,5µm,21.0s
TAU Tasmania Unive 43.70 223 IAMs_20 IAMs_20 11 58 29.9
comp=Z,6µm,19.0s
STKA Stephens Creek 44.37 240 P **P 11 42 48.5 -2.2**
comp=Z,10.0nm,1.1s,baz=106,slow=13,SNR=7.0
STKA LR LR 11 59 04.6
comp=Z,3µm,21.3s,baz=74,slow=33
STKA Stephens Creek 44.37 240 P **P 11 42 51.4 +0.7**
JAY Jayapura 47.08 281 P **P 11 43 09.6 -2.9**
comp=Z,6.5nm,0.8s,baz=92,slow=9.5,SNR=6.2
BBOO Buckleboo 49.14 240 IAMs_20 IAMs_20 12 01 40.7
comp=Z,4µm,21.0s
WR9 Warramunga Arr 49.93 256 IAMs_20 IAMs_20 12 02 08.3
comp=Z,3µm,20.0s
WR8 Warramunga Arr 49.94 256 IAMs_20 IAMs_20 12 01 58.6
comp=Z,4µm,21.0s
WR5 Warramunga Arr 50.01 256 IAMs_20 IAMs_20 12 01 59.4
comp=Z,4µm,21.0s
WR4 Warramunga Arr 50.03 256 IAMs_20 IAMs_20 12 02 15.0
comp=Z,4µm,21.0s
WR3 Warramunga Arr 50.05 256 IAMs_20 IAMs_20 12 02 12.5
comp=Z,4µm,21.0s
WB0 Warramunga Arr 50.05 257 P **P 11 43 33.3 -2.0**
WB0 IAmb IAmb 11 43 34.1
comp=Z,39nm,1.4s
WB0 IAMs_20 IAMs_20 12 02 01.6
comp=Z,4µm,21.0s
WB9 Warramunga Arr 50.06 257 IAMs_20 IAMs_20 12 02 11.7
comp=Z,4µm,22.0s
WB7 Warramunga Arr 50.06 257 IAMs_20 IAMs_20 12 02 01.2
comp=Z,4µm,21.0s
WB8 Warramunga Arr 50.06 257 IAMs_20 IAMs_20 12 02 01.8
comp=Z,4µm,21.0s
WC2 Warramunga Arr 50.07 256 IAMs_20 IAMs_20 12 02 14.3
comp=Z,4µm,20.0s
WB6 Warramunga Arr 50.07 257 IAMs_20 IAMs_20 12 02 02.4
comp=Z,4µm,21.0s
WB3 Warramunga Arr 50.08 256 IAMs_20 IAMs_20 12 02 13.3
comp=Z,4µm,22.0s
WB2 Warramunga Arr 50.08 256 P **P 11 43 33.0 -2.5**
WB2 IAmb IAmb 11 43 41.8
comp=Z,24nm,1.1s
WB2 IAMs_20 IAMs_20 12 02 13.4
comp=Z,4µm,21.0s
WRAB Tennant Creek 50.08 256 P **P 11 43 33.4 -2.1**
WRAB pmax pmax
comp=Z,52nm,1.6s
WRAB Tennant Creek 50.08 256 P **P 11 43 33.4 -2.1**
WRAB IAmb IAmb 11 43 34.4
comp=Z,52nm,1.6s
WRAB Tennant Creek 50.08 256 IAMs_20 IAMs_20 12 02 13.1
comp=Z,4µm,20.0s
WB1 Warramunga Ar. 50.09 256 IAMs_20 IAMs_20 12 02 13.4
comp=Z,4µm,21.0s
WC4 Warramunga Arr 50.09 256 IAMs_20 IAMs_20 12 02 14.6
comp=Z,4µm,20.0s
WRA Warramunga Arr 50.09 256 P **P 11 43 32.5 -3.1**
comp=Z,7.2nm,1.1s,baz=91,slow=7.4,SNR=22
WRA LR LR 12 02 25.0
comp=Z,4µm,21.0s,baz=90,slow=33
WRA Warramunga Arr 50.09 256 P **P 11 43 33.0 -2.6**
WC1 Warramunga Arr 50.09 256 IAMs_20 IAMs_20 12 02 13.7
comp=Z,4µm,21.0s
GUMO Guam 50.28 302 LR LR 12 01 15.4
comp=Z,994nm,20.7s,baz=84,slow=32
AS31 Alice Springs 50.39 252 P **P 11 43 36.0 -1.8**
ASAR Alice Springs 50.39 252 P **P 11 43 34.9 -2.9**
comp=Z,24nm,0.7s,baz=86,slow=7.8,SNR=139
ASAR LR LR 12 02 57.0
comp=Z,9µm,21.7s,baz=91,slow=34
ASAR Alice Springs 50.39 252 P **P 11 43 35.6 -2.2**
MTN Manton Dam 53.93 265 P **P 11 44 05.1 +0.9**
FORT Forrest 55.73 243 P **P 11 44 18.8 +1.7**
FORT IAmb IAmb 11 44 19.3
comp=Z,25nm,0.8s
FORT IAMs_20 IAMs_20 12 08 56.3
comp=Z,2µm,18.0s
KNRA Kununurra 55.79 261 IAMs_20 IAMs_20 12 06 21.5
comp=Z,4µm,20.0s
SIJI Sorong 56.57 279 P **P 11 44 19.9 -3.4**
comp=Z,8.8nm,0.7s,baz=90,slow=10,SNR=2.1
FITZ Fitzroy Crossi 58.45 258 P **P 11 44 34.8 -1.7**
comp=Z,0.5nm,0.5s,baz=90,slow=15,SNR=1.5
FITZ Fitzroy Crossi 58.45 258 P **P 11 44 37.3 +0.8**
FITZ IAMs_20 IAMs_20 12 06 34.1
comp=Z,5µm,22.0s
RPN Rapa Nui 60.27 113 IAMs_20 IAMs_20 12 04 05.1
comp=Z,3µm,20.0s
SOEI Soe 61.12 267 IAMs_20 IAMs_20 12 10 59.4
comp=Z,2µm,20.0s
PSAD2 Pilbara Seismi 63.36 253 IAMs_20 IAMs_20 12 17 00.4
comp=Z,4µm,20.0s
PSAC2 Pilbara Seismi 63.42 253 IAMs_20 IAMs_20 12 11 30.1
comp=Z,3µm,20.0s
PSAB2 Pilbara Seismi 63.46 253 IAMs_20 IAMs_20 12 11 30.1
comp=Z,3µm,19.0s
PSAB3 Pilbara Seismi 63.46 253 IAMs_20 IAMs_20 12 11 40.2
comp=Z,3µm,21.0s
PSAA3 Pilbara Seismi 63.46 253 IAMs_20 IAMs_20 12 11 31.2
comp=Z,3µm,19.0s
PSA00 Pilbara Seismi 63.47 253 IAMs_20 IAMs_20 12 11 41.4
comp=Z,3µm,20.0s
PSAA2 Pilbara Seismi 63.47 253 IAMs_20 IAMs_20 12 13 03.4
comp=Z,4µm,20.0s
PSAA1 Pilbara Seismi 63.48 253 IAMs_20 IAMs_20 12 13 37.7
comp=Z,4µm,18.0s
PSAC3 Pilbara Seismi 63.48 253 IAMs_20 IAMs_20 12 11 32.7
comp=Z,3µm,20.0s
PSAB1 Pilbara Seismi 63.50 253 IAMs_20 IAMs_20 12 11 41.0
comp=Z,3µm,20.0s
PSAC1 Pilbara Seismi 63.51 253 IAMs_20 IAMs_20 12 13 05.4
comp=Z,3µm,18.0s
PSAD3 Pilbara Seismi 63.53 253 IAMs_20 IAMs_20 12 11 32.8
comp=Z,3µm,20.0s
MBWA Marble Bar 63.63 254 IAMs_20 IAMs_20 12 12 50.5
comp=Z,3µm,18.0s
VNDA Vanda 63.76 186 P **P 11 45 12.5 +0.9**
comp=Z,4.0nm,0.9s,baz=5.1,slow=6.7,SNR=16
VNDA LR LR 12 12 20.1
comp=Z,900nm,18.1s,baz=20,slow=36
VNDA Vanda 63.76 186 P **P 11 45 12.6 +1.1**
DAV Davao City (W) 64.50 286 IAMs_20 IAMs_20 12 12 25.9
comp=Z,2µm,18.0s
NWAO Narrogin (SRO) 64.95 240 IAMs_20 IAMs_20 12 11 00.2
comp=Z,2µm,22.0s
MORW Morawa 66.19 245 IAMs_20 IAMs_20 12 11 57.3
comp=Z,3µm,20.0s
ATKA Atka Island 66.96 359 P **P 11 45 31.1 -1.4**
SMY Shemya 68.36 352 IAMs_20 IAMs_20 12 10 37.4
comp=Z,2µm,19.0s
GIRL Giralia 68.50 251 IAMs_20 IAMs_20 12 14 45.8
comp=Z,4µm,20.0s
MJAR Matsushiro Arr 68.77 320 LR LR 12 10 19.3
comp=Z,2µm,21.9s,baz=125,slow=31
MAJO Matsushiro 68.77 320 *i* P **P 11 45 45.0 +0.7**
MAJO pmax pmax
comp=Z,20nm,1.7s
MAJO Matsushiro 68.77 320 IAMs_20 IAMs_20 12 09 58.6
comp=Z,3µm,21.0s
MJB9 Matsu-Tunnel 68.77 320 IAMs_20 IAMs_20 12 08 07.6
comp=Z,4µm,22.0s
ERM Erimo 69.55 327 IAMs_20 IAMs_20 12 11 51.1
comp=Z,3µm,20.0s
KUR Kuril'sk 69.58 332 *c i*P **P 11 45 47.9 -1.2**
KUR *e* 11 46 11.6
KUR *e*S **S 11 54 59.1 +1.9**
KUR *i* 11 55 51.2
KUR *e*SS **SS 11 59 25.2 -0.3**
KUR pmax pmax
comp=Z,58nm,1.5s
KUR pmax pmax
comp=Z,363nm,5.0s
YUK Yuzh-Kuril'sk 69.63 330 *e*P **P 11 45 46.3 -3.1**
YUK *e* 11 46 10.2
YUK *e* 11 48 20.4
YUK *e*PPP PPP 11 49 59.9
YUK *e*S **S 11 54 55.6 -2.2**
YUK *e* 11 55 49.2
YUK *e*SS **SS 11 59 22.6 -3.6**
SNCC San Nicolas Is 70.20 46 P **P 11 45 54.6 +1.4**
baz=236
SNCC San Nicolas Is 70.20 46 IAMs_20 IAMs_20 12 08 38.3
comp=Z,4µm,21.0s
CNBA Chernabura Isl 70.53 8 IAMs_20 IAMs_20 12 15 42.0
comp=Z,2µm,19.0s
SCI2 San Clemente I 70.73 47 P **P 11 45 57.2 +0.7**
baz=236
SKR Severo-Kuril's 70.74 340 *e*P **P 11 45 53.3 -2.8**
SKR *e*S **S 11 55 08.4 -2.1**
SKR pmax pmax
comp=Z,200nm,5.9s
SKR MLR MLR
comp=Z,700nm,20.0s
MCCM Marconi Confer 70.87 40 IAMs_20 IAMs_20 12 09 50.0
comp=Z,2µm,20.0s
PKM Mcpherson Peak 70.93 44 P **P 11 45 59.1 +1.2**
baz=235
SAO San Andreas Ge 70.94 42 IAMs_20 IAMs_20 12 08 28.9
comp=Z,3µm,22.0s
PMPB Monarch Peak 71.04 43 IAMs_20 IAMs_20 12 09 45.5
comp=Z,3µm,20.0s
SMMC Simmler 71.05 44 P **P 11 45 59.3 +0.9**
baz=235
CIS Catalina Islan 71.06 46 P **P 11 45 59.5 +1.0**
baz=236
PAGB Antelope Grade 71.12 43 IAMs_20 IAMs_20 12 09 38.6
comp=Z,3µm,20.0s
HOPS Hopland Field 71.28 39 IAMs_20 IAMs_20 12 10 23.8
comp=Z,3µm,20.0s
GDXM Geysers 71.33 39 IAMs_20 IAMs_20 12 12 37.2
comp=Z,3µm,18.0s
KCPM Cahto Peak 71.40 38 IAMs_20 IAMs_20 12 09 57.1
comp=Z,3µm,20.0s
CCX Cicese 71.48 48 IAMs_20 IAMs_20 12 10 14.2
comp=Z,3µm,20.0s
OSI Osito Audit: C 71.52 45 P **P 11 46 02.3 +1.0**
baz=236
OSI Osito Audit: C 71.52 45 IAMs_20 IAMs_20 12 09 49.1
comp=Z,4µm,20.0s
TJX Tijuana 71.54 48 IAMs_20 IAMs_20 12 10 17.7
comp=Z,3µm,20.0s
DECC Green Verdugo 71.58 46 P **P 11 46 02.1 +0.4**
baz=236
PASC Pasadena Art C 71.64 46 IAMs_20 IAMs_20 12 09 42.4
comp=Z,4µm,21.0s
KMRM Mail Ridge 71.67 38 IAMs_20 IAMs_20 12 09 53.7
comp=Z,3µm,20.0s
109C Camp Elliot, M 71.70 47 P **P 11 46 02.9 +0.5**
baz=237
109C Camp Elliot, M 71.70 47 IAMs_20 IAMs_20 12 09 31.1
comp=Z,4µm,21.0s
CBX Cerro Bola 71.71 48 IAMs_20 IAMs_20 12 10 25.4
comp=Z,2µm,20.0s
ARVC Arvin 71.73 45 P **P 11 46 02.4 -0.1**
baz=236
MWC Mount Wilson 71.76 46 IAMs_20 IAMs_20 12 10 27.5
comp=Z,4µm,20.0s
JCC Jacoby Creek, 71.86 37 IAMs_20 IAMs_20 12 11 38.0
comp=Z,3µm,19.0s
TKX Tecate 71.89 48 IAMs_20 IAMs_20 12 10 00.0
comp=Z,3µm,20.0s
BAR Barrett 71.90 48 IAMs_20 IAMs_20 12 10 08.4
comp=Z,3µm,20.0s
SPX San Pedro Mart 71.93 50 IAMs_20 IAMs_20 12 09 07.1
comp=Z,3µm,22.0s
VES Vestal, Richgr 71.96 44 P **P 11 46 04.0 +0.1**
baz=235
PET Petropavlovsk 71.98 343 *c i*P **P 11 46 04.0 +0.5**
PET *i* S **S 11 55 26.9 +2.1**
PET *e*PS PnS 11 56 13.4 +19
PET *e*SS **SS 12 00 08.8 +6.8**
PET pmax pmax
comp=Z,200nm,12.0s
PET pmax pmax
comp=Z,300nm,10.6s
PET MLR MLR
comp=Z,1µm,18.0s
PET MLR MLR
comp=Z,1µm,17.0s
MURC Murrieta 72.02 47 P **P 11 46 04.5 +0.1**
baz=237
VOG Valley Oaks Go 72.03 43 P **P 11 46 04.5 +0.2**
baz=235
BFSC Mount Baldy Ra 72.04 46 P **P 11 46 04.5 -0.1**
baz=237
KHMM Horse Mountain 72.07 37 IAMs_20 IAMs_20 12 10 27.6
comp=Z,3µm,20.0s
ESJX Sierra Juarez 72.07 49 P **P 11 46 03.9 -0.9**
ESJX IAmb IAmb 11 46 06.8
comp=Z,36nm,2.0s
ESJX IAMs_20 IAMs_20 12 09 42.8
comp=Z,3µm,21.0s
CHIR Chirikof Islan 72.12 10 IAMs_20 IAMs_20 12 15 37.6
comp=Z,2µm,18.0s
EDW2 Edwards Air Fo 72.16 45 P **P 11 46 05.2 0.0**
baz=236
EDW2 S **S 11 55 32.1 +4.2**
baz=236
O02D Mt. Diablo Mer 72.19 38 P **P 11 46 05.5 +0.3**
baz=231
MONP2 Monument Peak 72.19 48 P **P 11 46 05.6 0.0**
baz=238
MONP2 S **S 11 55 34.2 +5.6**
baz=238
ISA Isabella, Lake 72.27 44 P **P 11 46 05.5 -0.3**
ISA pmax pmax
comp=Z,28nm,1.6s
ISA Isabella, Lake 72.27 44 P **P 11 46 06.4 +0.6**
baz=236
ISA S **S 11 55 35.7 +6.6**
baz=236
ISA Isabella, Lake 72.27 44 P **P 11 46 05.5 -0.3**
ISA IAmb IAmb 11 46 17.9
comp=Z,28nm,1.6s
IKP In-Ko-Pah, Jac 72.29 48 P **P 11 46 06.5 +0.5**
baz=238
PEA0B Petropavlovsk- 72.33 342 P **P 11 46 05.5 -0.2**
PEA0B pmax pmax
comp=Z,19nm,1.1s
PEA0B Petropavlovsk- 72.33 342 P **P 11 46 05.5 -0.2**
PEA0B IAmb IAmb 11 46 16.0
comp=Z,19nm,1.1s
PETK Petropavlovsk- 72.33 342 P **P 11 46 05.5 -0.2**
comp=Z,7.2nm,0.9s,baz=118,slow=8.9,SNR=10
PETK LR LR 12 15 19.6
comp=Z,740nm,19.4s,baz=160,slow=34
PETK Petropavlovsk- 72.33 342 P **P 11 46 05.3 -0.4**
PETK Petropavlovsk- 72.33 342 P **P 11 46 05.2 -0.4**
CMB Columbia Colle 72.38 41 P **P 11 46 05.4 -1.0**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 72.38 41 P **P 11 46 05.4 -1.0**
CMB IAMs_20 IAMs_20 12 09 22.8
comp=Z,2µm,22.0s
KRMB Red Mountain 72.38 37 IAMs_20 IAMs_20 12 10 27.8
comp=Z,2µm,20.0s
SFX San Felipe 72.38 50 IAMs_20 IAMs_20 12 09 53.1
comp=Z,3µm,22.0s
PFO Pinyon Flats O 72.55 47 P **P 11 46 08.0 +0.5**
baz=238
PFO S **SKiKP 11 55 39.1 -3.9**
baz=238
AFDM Forest Hills D 72.55 40 IAMs_20 IAMs_20 12 10 30.4
comp=Z,2µm,20.0s
BBRC Big Bear Solar 72.57 46 P **P 11 46 08.3 +0.5**
baz=237
SRIG Santa Rosalia 72.58 55 IAMs_20 IAMs_20 12 10 06.5
comp=Z,3µm,20.0s
WDC Whiskeytown Da 72.58 38 IAMs_20 IAMs_20 12 10 03.3
comp=Z,3µm,21.0s
KBO Bosley Butte 72.64 36 IAMs_20 IAMs_20 12 12 13.7
comp=Z,2µm,19.0s
SWSC Sam W. Stewart 72.67 48 P **P 11 46 08.2 +0.1**
baz=238
N02D Trinity Center 72.73 38 P **P 11 46 09.5 +1.1**
baz=231
UABX UABC, Campus M 72.76 48 IAMs_20 IAMs_20 12 10 34.1
comp=Z,3µm,20.0s
SLBS Sierra La Lagu 72.82 59 IAMs_20 IAMs_20 12 10 40.0
comp=Z,3µm,19.0s
RRX Edison Barstow 72.85 46 P **P 11 46 09.9 +0.7**
baz=237
M02C Callahan 72.91 37 P **P 11 46 10.9 +1.4**
baz=231
L02E Cave Junction 72.96 36 P **P 11 46 10.2 +0.6**
baz=230
CWC Cottonwood Cre 72.97 44 P **P 11 46 10.6 +0.6**
baz=236
CWC S **SKiKP 11 55 41.0 -2.6**
baz=236
MDPB Devils Postpil 72.98 42 P **P 11 46 08.8 -1.5**
MDPB IAMs_20 IAMs_20 12 10 05.9
comp=Z,3µm,21.0s
KEBM Edson Butte 73.00 35 IAMs_20 IAMs_20 12 11 56.4
comp=Z,2µm,19.0s
OMMB Old Mammoth Mi 73.03 42 P **P 11 46 10.2 -0.4**
OMMB IAMs_20 IAMs_20 12 10 06.0
comp=Z,3µm,22.0s
BELC Belle Mtn. Jos 73.08 47 P **P 11 46 11.4 +0.7**
baz=238
BELC S **SKiKP 11 55 43.2 -0.6**
baz=238
RUBR Rubicon Trail 73.12 41 IAMs_20 IAMs_20 12 10 58.6
comp=Z,2µm,20.0s
MLAC Mammoth, Mammo 73.14 42 P **P 11 46 12.2 +1.0**
baz=235
YBH Yreka Blue Hor 73.20 37 P **P 11 46 09.5 -1.8**
YBH pmax pmax
comp=Z,10.0nm,1.0s
YBH Yreka Blue Hor 73.20 37 P **P 11 46 09.5 -1.8**
YBH IAMs_20 IAMs_20 12 10 22.7
comp=Z,2µm,21.0s
GSC Goldstone, Bar 73.21 45 P **P 11 46 10.3 -1.1**
GSC pmax pmax
comp=Z,16nm,1.5s
GSC Goldstone, Bar 73.21 45 P **P 11 46 11.8 +0.4**
baz=237
GSC Goldstone, Bar 73.21 45 P **P 11 46 10.3 -1.1**
GSC IAMs_20 IAMs_20 12 11 02.9
comp=Z,4µm,20.0s
YSS Yuzh-Sakhalins 73.25 330 *e*P **P 11 46 11.2 0.0**
YSS *e**SP **sP 11 46 15.5 +0.9**
YSS *e* 11 46 23.2
YSS *e*S **S 11 55 39.2 -0.4**
YSS *e*PS **PnS 11 56 11.4 -0.1**
YSS *e* 11 56 26.8
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS pmax pmax
comp=Z,300nm,3.0s
YSS Yuzh-Sakhalins 73.25 330 IAMs_20 IAMs_20 12 12 46.3
comp=Z,2µm,20.0s
WAKR Walker 73.26 41 P **P 11 46 12.4 +0.6**
WAKR IAmb IAmb 11 46 14.7
comp=Z,36nm,1.9s
WAKR IAMs_20 IAMs_20 12 10 14.1
comp=Z,3µm,22.0s
K02D Willamette Mer 73.27 36 P **P 11 46 12.7 +1.2**
baz=230
HEC Hector,Ludlow 73.28 46 P **P 11 46 12.5 +0.6**
baz=237
BC3 Big Chuckawall 73.28 47 P **P 11 46 12.9 +0.9**
baz=238
J01E Myrtle Point 73.42 35 P **P 11 46 12.8 +0.5**
baz=230
GLA Glamis 73.42 48 P **P 11 46 13.2 +0.6**
baz=239
GLA S **SKiKP 11 55 46.7 +2.5**
baz=239
GLA Glamis 73.42 48 IAMs_20 IAMs_20 12 10 55.6
comp=Z,3µm,20.0s
PNTR Pine Nut 73.49 41 P **P 11 46 12.5 -0.7**
PNTR IAmb IAmb 11 46 30.0
comp=Z,25nm,1.4s
PNTR IAMs_20 IAMs_20 12 11 32.4
comp=Z,2µm,20.0s
VCNR Virginia City 73.58 41 IAMs_20 IAMs_20 12 11 34.7
comp=Z,2µm,20.0s
HUMO Hull Mountain 73.61 36 IAMs_20 IAMs_20 12 10 34.9
comp=Z,2µm,21.0s
YERR Yerington 73.66 41 P **P 11 46 14.4 +0.2**
YERR IAMs_20 IAMs_20 12 11 37.8
comp=Z,2µm,20.0s
PIX Pinacate 73.67 50 IAMs_20 IAMs_20 12 10 33.3
comp=Z,2µm,21.0s
LHV Little Huntoon 73.71 42 IAMs_20 IAMs_20 12 10 30.2
comp=Z,3µm,22.0s
GMRC Granite Mounta 73.73 46 P **P 11 46 15.1 +0.6**
baz=238
GMRC S **S 11 55 50.0 +4.1**
baz=238
L04D Klamath Falls 73.74 37 P **P 11 46 15.8 +1.3**
baz=231
M04C Macdoel 73.75 37 P **P 11 46 14.8 +0.3**
baz=232
GRAC Grapevine Rang 73.75 44 P **P 11 46 15.5 +0.9**
baz=236
IRM Iron Mountain 73.76 47 P **P 11 46 15.4 +0.8**
baz=238
IRM S **S 11 55 50.1 +4.1**
baz=238
FURC Furnace Creek, 73.80 44 P **P 11 46 14.7 0.0**
baz=237
TUQ Turquoise Moun 73.89 46 P **P 11 46 15.6 +0.1**
baz=238
SHOC Shoshone, Teco 73.89 45 P **P 11 46 16.0 +0.6**

baz=237
SHOC S **S** **11 55 51.1 +3.7**
baz=237
RYN Ryan 73.91 42 P **P** **11 46 14.1 -1.5**
RYN IAMs_20 IAMs_20 12 10 58.5
comp=Z,2μm,21.0s
NVAR Mina Array Bea 73.94 42 P **P** **11 46 17.1 +1.3**
comp=Z,2.4nm,0.8s,baz=229,slow=10,SNR=12
NVAR LR LR 12 11 02.4
comp=Z,3μm,22.0s,baz=234,slow=29
NVAR Mina Array Bea 73.94 42 P **P** **11 46 15.0 -0.8**
PAHR Pah Rah Range 73.99 40 IAMs_20 IAMs_20 12 11 48.6
comp=Z,2μm,20.0s
NV11 Mina Array Sit 74.04 42 P **P** **11 46 16.3 0.0**
NV11 IAMs_20 IAMs_20 12 10 50.9
comp=Z,3μm,21.0s
113A Mohawk Valley, 74.05 49 P **P** **11 46 16.2 -0.1**
113A IAmb IAmb 11 46 18.9
comp=Z,38nm,1.8s
113A IAMs_20 IAMs_20 12 10 32.2
comp=Z,3μm,21.0s
I02D Swisshome 74.07 35 P **P** **11 46 16.2 +0.1**
baz=229
I03D Drain, OR 74.08 35 P **P** **11 46 18.2 +2.0**
baz=230
K04D Chiloquin, OR 74.31 37 P **P** **11 46 18.7 +0.9**
baz=231
214A Organ Pipe Nat 74.35 50 P **P** **11 46 18.9 +0.8**
baz=240
214A S **S** **11 55 56.3 +3.6**
baz=240
214A Organ Pipe Nat 74.35 50 IAMs_20 IAMs_20 12 10 30.2
comp=Z,4μm,22.0s
HSIG 74.38 54 IAMs_20 IAMs_20 12 11 01.0
comp=Z,3μm,20.0s
KVN Kaiserville 74.42 42 P **P** **11 46 18.2 -0.4**
KVN pmax pmax
comp=Z,20nm,1.6s
KVN Kaiserville 74.42 42 P **P** **11 46 18.1 -0.4**
KVN IAMs_20 IAMs_20 12 11 13.0
comp=Z,2μm,21.0s
NEE2 Needles Airpor 74.45 47 P **P** **11 46 19.0 +0.4**
baz=239
TPNV Topopah Spring 74.48 44 P **P** **11 46 18.4 -0.5**
TPNV pmax pmax
comp=Z,19nm,1.5s
TPNV Topopah Spring 74.48 44 P **P** **11 46 19.9 +1.0**
baz=237
TPNV S **S** **11 55 58.5 +4.2**
baz=237
TPNV Topopah Spring 74.48 44 P **P** **11 46 18.4 -0.5**
TWG Pinlang 74.49 299 IAMs_20 IAMs_20 12 11 38.3
comp=Z,2μm,21.0s
J04D Umpqua Nationa 74.49 36 P **P** **11 46 19.8 +0.9**
baz=231
PDMCI Parker Dam,Lak 74.55 47 P **P** **11 46 20.1 +1.0**
baz=239
I04A Tendick Farm, 74.67 36 P **P** **11 46 19.8 +0.1**
baz=231
COR Corvallis 74.68 35 IAMs_20 IAMs_20 12 12 08.7
comp=Z,2μm,20.0s
MOD Modoc Plateau 74.73 38 P **P** **11 46 20.2 -0.1**
MOD IAMs_20 IAMs_20 12 11 47.0
comp=Z,3μm,21.0s
K05A Summer Lake 74.88 37 P **P** **11 46 19.8 -1.4**
K05A IAmb IAmb 11 46 31.8
comp=Z,34nm,1.3s
K05A IAMs_20 IAMs_20 12 12 13.0
comp=Z,3μm,20.0s
H04D Lebanon 74.95 35 P **P** **11 46 22.2 +0.9**
baz=230
SHPR Sheep Range 74.98 45 P **P** **11 46 22.2 +0.4**
SHPR IAmb IAmb 11 46 24.8
comp=Z,36nm,1.8s
SHPR IAMs_20 IAMs_20 12 12 30.9
comp=Z,3μm,20.0s
YHNB Yeheng 74.99 301 IAMs_20 IAMs_20 12 15 37.6
comp=Z,2μm,20.0s
QSPA South Pole Qui 75.01 180 P **P** **11 46 22.2 +0.6**
comp=Z,15nm,0.9s,baz=29,slow=2.3,SNR=42
QSPA South Pole Qui 75.01 180 P **P** **11 46 22.0 +0.5**
QSPA IAmb IAmb 11 46 31.6
comp=Z,21nm,1.1s
J05D Fort Rock, OR 75.02 37 P **P** **11 46 22.4 +0.5**
baz=232,SNR=7.2
G03D McMinnville, O 75.10 34 P **P** **11 46 24.0 +1.8**
baz=230
W13A Hualapai Mount 75.14 47 P **P** **11 46 22.8 0.0**
W13A IAmb IAmb 11 46 25.9
comp=Z,33nm,2.0s
W13A IAMs_20 IAMs_20 12 12 11.0
comp=Z,3μm,20.0s
PINE Pine Mountain 75.50 36 IAMs_20 IAMs_20 12 13 48.5
comp=Z,2μm,20.0s
I05D Terrebonne, OR 75.61 36 P **P** **11 46 26.6 +1.4**
baz=231
R11A Troy Canyon, C 75.68 43 P **P** **11 46 26.3 +0.5**
baz=237
R11A Troy Canyon, C 75.68 43 P **P** **11 46 25.2 -0.6**
R11A IAmb IAmb 11 46 39.0
comp=Z,26nm,1.9s
R11A IAMs_20 IAMs_20 12 12 04.2
comp=Z,3μm,21.0s
KSRS Korea Array 76.02 315 P **P** **11 46 28.4 +0.9**
comp=Z,4.3nm,1.0s,baz=126,slow=6.2,SNR=13
KSRS LR LR 12 13 43.5
comp=Z,1μm,21.9s,baz=104,slow=31
TUC Tucson 76.03 51 P **P** **11 46 29.2 +1.4**
baz=242
TUC Tucson 76.03 51 IAMs_20 IAMs_20 12 12 04.6
comp=Z,3μm,21.0s
KSAR Wonju Array Be 76.03 315 P **P** **11 46 28.3 +0.7**
KSAR Wonju Array Be 76.03 315 P **P** **11 46 28.3 +0.7**
WVOR Wild Horse Val 76.04 38 P **P** **11 46 27.3 -0.5**
WVOR pmax pmax
comp=Z,23nm,1.3s
WVOR Wild Horse Val 76.04 38 P **P** **11 46 27.2 -0.5**
WVOR IAmb IAmb 11 46 43.1
comp=Z,23nm,1.3s
WVOR IAMs_20 IAMs_20 12 13 49.8
comp=Z,3μm,20.0s
TYV Tymovskoe 76.10 333 *e*P **P** **11 46 27.4 -0.3**
TYV *e*S **S** **11 56 10.3 -1.0**
TYV pmax pmax
comp=Z,300nm,4.8s
TYV smax smax
comp=E,900nm,9.5s
TYV MLR MLR
comp=E,1μm,18.0s
TYV MLR MLR
comp=Z,2μm,18.0s
G05D Wamic, OR 76.19 35 P **P** **11 46 29.8 +1.4**
baz=231
E04D Cinebar 76.34 33 P **P** **11 46 30.5 +1.4**
baz=230
I07A Izee 76.50 37 IAMs_20 IAMs_20 12 13 14.0
comp=Z,2μm,20.0s
F05D White Salmon 76.51 34 P **P** **11 46 30.6 +0.4**
baz=231
X16A Lo Mia Camp, P 76.55 49 IAMs_20 IAMs_20 12 12 41.3
comp=Z,3μm,20.0s
LCMT Little Creek M 76.56 45 P **P** **11 46 30.5 -0.3**
D04E Lakebay 76.63 33 P **P** **11 46 32.3 +1.5**
baz=230
J08A Circle Bar Ran 76.68 38 P **P** **11 46 31.6 +0.3**
J08A IAmb IAmb 11 46 34.0
comp=Z,39nm,1.7s
J08A IAMs_20 IAMs_20 12 13 11.6
comp=Z,2μm,21.0s
U15A North Rim 76.92 46 P **P** **11 46 32.8 -0.4**
U15A IAMs_20 IAMs_20 12 12 47.3
comp=Z,3μm,20.0s
WUAZ Wupatki 77.12 48 P **P** **11 46 35.4 +1.3**
baz=241
WUAZ Wupatki 77.12 48 IAMs_20 IAMs_20 12 12 30.6
comp=Z,3μm,21.0s
USA0B Ussuriysk Arra 77.19 323 IAMs_20 IAMs_20 12 14 30.3
comp=Z,2μm,21.0s
USRK Ussuriysk Ar. 77.19 323 P **P** **11 46 34.7 +0.7**
comp=Z,3.4nm,0.9s,baz=108,slow=4.7,SNR=10
USRK LR LR 12 15 14.0
comp=Z,2μm,20.6s,baz=131,slow=32
Q23K Middleton Isla 77.35 14 P **P** **11 46 35.9 +1.4**
baz=206
F07A Phinny Hill Vi 77.36 35 IAMs_20 IAMs_20 12 13 34.6
comp=Z,2μm,20.0s
QZH Quanzhou 77.42 300⇑ *i*P **P** **11 46 36.0 +0.3**
QZH S **S** **11 56 30.1 +3.4**
QZH pmax pmax
comp=Z,360nm,7.0s
QZH LR LR
comp=Z,450nm,18.2s
QZH LR LR
comp=Z,360nm,16.5s
QZH LR LR
comp=Z,510nm,18.0s
G08A Pilot Rock 77.54 36 P **P** **11 46 35.8 -0.4**
G08A IAmb IAmb 11 46 53.7
comp=Z,18nm,1.2s
CAPN Captain Cook N 77.59 11 P **P** **11 46 37.2 +1.4**
baz=202
B05A Bryant 77.68 32 P **P** **11 46 37.8 +1.1**
baz=230
SSE Sheshan 77.87 307 P **P** **11 46 37.0 -1.1**
SSE S **S** **11 56 35.1 +3.7**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,160nm,6.0s
SSE LR LR
comp=Z,180nm,19.6s
SSE LR LR
comp=Z,380nm,21.8s
MSU Marysvale 78.05 45 P **P** **11 46 39.0 -0.3**
MSU Marysvale 78.05 45 P **P** **11 46 39.0 -0.3**
C06D Leavenworth 78.08 33 P **P** **11 46 39.8 +0.8**
baz=231
W18A Petrified Fore 78.11 49 P **P** **11 46 39.8 +0.2**
baz=242
W18A Petrified Fore 78.11 49 IAMs_20 IAMs_20 12 13 51.8
comp=Z,3μm,20.0s
E08A Dider Farm, El 78.20 35 IAMs_20 IAMs_20 12 14 00.9
comp=Z,2μm,20.0s
BMO Blue Mountains 78.23 37 P **P** **11 46 39.5 -0.5**
BMO pmax pmax
comp=Z,12nm,1.3s
BMO Blue Mountains 78.23 37 P **P** **11 46 39.5 -0.5**
BMO IAMs_20 IAMs_20 12 14 30.7
comp=Z,2μm,20.0s
121A Cookes Peak, D 78.39 52 P **P** **11 46 42.6 +1.4**
baz=244
DUG Dugway, Tooele 78.48 43 P **P** **11 46 40.5 -1.0**
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway, Tooele 78.48 43 P **P** **11 46 42.2 +0.7**
baz=239
DUG Dugway, Tooele 78.48 43 P **P** **11 46 40.5 -1.0**
DUG IAMs_20 IAMs_20 12 14 06.3
comp=Z,2μm,20.0s
RAGM Ragged Mountai 78.59 14 IAMs_20 IAMs_20 12 24 44.4
comp=Z,2μm,18.0s
NKL Nikolayevsk 78.59 334 *e*P **P** **11 46 38.7 -2.9**
NKL *e*S **S** **11 56 44.1 +5.9**
NKL pmax pmax
comp=N,11nm,1.0s
NKL pmax pmax
comp=Z,13nm,1.7s
NKL pmax pmax
comp=Z,37nm,2.2s
NKL smax smax
comp=N,30nm,3.1s
D08A Wollman Farm, 78.61 34 P **P** **11 46 41.4 -0.5**
D08A IAmb IAmb 11 46 46.6
comp=Z,32nm,1.6s
HMT Hamilton 78.64 14 IAMs_20 IAMs_20 12 24 02.8
comp=Z,2μm,18.0s
BGU Big Grassy Mou 78.71 42 P **P** **11 46 43.4 +0.6**
MDJ Mudanjiang 78.84 322 IAMs_20 IAMs_20 12 15 41.9
comp=Z,3μm,21.0s
TTA Tatalina 78.87 8 P **P** **11 46 42.3 -0.7**
TTA pmax pmax
comp=Z,21nm,1.3s
TTA MLR MLR
comp=Z,1μm,19.0s
TTA Tatalina 78.87 8 P **P** **11 46 42.3 -0.7**
TTA IAmb IAmb 11 46 58.7
comp=Z,21nm,1.3s
GRNR Gornyy 78.91 330 *e*P **P** **11 46 43.5 0.0**
GRNR pmax pmax
comp=Z,8.0nm,1.3s
F10A Beach Ranch, E 78.92 36 P **P** **11 46 44.4 +0.6**
F10A IAmb IAmb 11 46 55.0
comp=Z,56nm,1.9s
GHO Glory Hole Cre 78.93 12 P **P** **11 46 42.9 -0.5**
GHO IAmb IAmb 11 46 57.4
comp=Z,17nm,1.1s
EPT El Paso 79.03 53 IAMs_20 IAMs_20 12 14 00.3
comp=Z,3μm,20.0s
B08A Colville Reser 79.18 33 P **P** **11 46 44.5 -0.5**
B08A IAmb IAmb 11 46 54.8
comp=Z,30nm,1.8s
HLID Hailey 79.24 39 P **P** **11 46 46.2 +0.6**
baz=237,SNR=12
HLID Hailey 79.24 39 P **P** **11 46 45.4 -0.3**
HLID IAmb IAmb 11 46 57.6
comp=Z,19nm,1.3s
CUT Chulitna 79.27 11 P **P** **11 46 46.9 +1.8**
baz=202
YAH Yahtse 79.28 15 IAMs_20 IAMs_20 12 27 49.7
comp=Z,2μm,18.0s
SRU San Rafael Swe 79.46 45 P **P** **11 46 46.6 -0.4**
SRU pmax pmax
comp=Z,13nm,1.1s
SRU San Rafael Swe 79.46 45 P **P** **11 46 46.5 -0.4**
Y22D IRIS PASSCAL I 79.71 51 P **P** **11 46 49.4 +1.0**
baz=244
Y22D IRIS PASSCAL I 79.71 51 IAMs_20 IAMs_20 12 14 24.2
comp=Z,3μm,21.0s
GLB Gilahina Butte 79.72 14 P **P** **11 46 47.4 -0.4**
GLB IAmb IAmb 11 46 57.6
comp=Z,29nm,1.3s
M24K Tolsona, Glenn 79.79 13 P **P** **11 46 48.3 +0.2**
baz=206
TCUT Toone Canyon 79.86 43 P **P** **11 46 49.7 +0.5**
MNTX Cornudas Mount 79.87 53 P **P** **11 46 49.6 +0.4**
baz=245,SNR=12
MNTX Cornudas Mount 79.87 53 P **P** **11 46 48.5 -0.7**
MNTX IAmb IAmb 11 47 01.3
comp=Z,21nm,1.4s
MNTX IAMs_20 IAMs_20 12 14 26.5
comp=Z,2μm,21.0s
BARN Barnard Glacie 79.91 15 P **P** **11 46 49.3 +0.4**
BARN IAmb IAmb 11 46 59.0
comp=Z,45nm,1.4s
PV05 Paradox Valley 79.95 46 P **P** **11 46 49.6 -0.2**
PV05 IAmb IAmb 11 47 02.3
comp=Z,24nm,1.2s
MVCO Mesa Verde 79.97 47 P **P** **11 46 50.2 +0.3**
baz=242
MVCO Mesa Verde 79.97 47 P **P** **11 46 49.2 -0.7**
MVCO IAMs_20 IAMs_20 12 14 11.9
comp=Z,4μm,22.0s
HWUT Hardware Ranch 80.01 42 IAMs_20 IAMs_20 12 14 41.9
comp=Z,3μm,21.0s
NJ2 Nanjing 80.08 307 *e*P **P** **11 46 49.2 -1.0**
NJ2 pmax pmax
comp=Z,12nm,0.8s
PV19 Morning Glory 80.14 46 IAMs_20 IAMs_20 12 14 40.4
comp=Z,3μm,22.0s
PV14 Lion Creek, Pa 80.14 46 P **P** **11 46 50.6 -0.1**
PV14 IAmb IAmb 11 47 01.9
comp=Z,19nm,1.0s
PV18 Skein Mesa, Pa 80.16 46 IAMs_20 IAMs_20 12 14 42.0
comp=Z,3μm,21.0s
PV20 West Nyswonger 80.17 46 IAMs_20 IAMs_20 12 14 30.1
comp=Z,3μm,22.0s
PV13 Radium Mtn., P 80.18 46 IAMs_20 IAMs_20 12 14 30.6
comp=Z,4μm,22.0s
PV16 Nyswonger Mesa 80.19 46 P **P** **11 46 49.6 -1.4**
PV16 IAmb IAmb 11 47 02.2
comp=Z,31nm,1.5s
PV16 IAMs_20 IAMs_20 12 14 30.7
comp=Z,3μm,21.0s
PV03 Paradox Valley 80.21 46 P **P** **11 46 50.7 -0.4**
PV03 IAmb IAmb 11 47 03.0
comp=Z,30nm,1.4s
HKPS Hong Kong Po S 80.21 296 IAMs_20 IAMs_20 12 17 21.2
comp=Z,2μm,21.0s
TRF Thorofare Moun 80.23 10 IAMs_20 IAMs_20 12 15 51.0
comp=Z,2μm,21.0s
TX31 Lajitas Ar. Si 80.27 56 P **P** **11 46 50.9 -0.6**
TX32 Lajitas Array 80.27 56 P **P** **11 46 51.9 +0.4**
TXAR Lajitas Array 80.27 56 P **P** **11 46 53.0 +1.5**
comp=Z,1.1nm,0.7s,baz=222,slow=1.7,SNR=19
TXAR LR LR 12 14 39.2
comp=Z,2μm,21.2s,baz=0.0,slow=30
TXAR Lajitas Array 80.27 56 P **P** **11 46 50.3 -1.2**
TXAR Lajitas Array 80.27 56 P **P** **11 46 50.3 -1.2**
PV12 Saucer Basin, 80.27 46 P **P** **11 46 50.2 -1.2**
PV12 IAmb IAmb 11 47 01.9
comp=Z,33nm,1.4s
KLR Kul'dur 80.30 327 *ce*P **P** **11 46 51.3 +0.2**
NEW Newport 80.31 34 P **P** **11 46 51.1 -0.1**
baz=234
PV01 Paradox Valley 80.35 46 P **P** **11 46 52.0 +0.1**
PV01 IAmb IAmb 11 47 03.0
comp=Z,31nm,1.4s
PV22 Blue Mesa, Par 80.38 46 IAMs_20 IAMs_20 12 16 18.8
comp=Z,3μm,20.0s
PV07 Paradox Valley 80.43 46 IAMs_20 IAMs_20 12 15 11.3
comp=Z,4μm,22.0s
ANMO Albuquerque 80.44 50 P **P** **11 46 52.3 -0.1**
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 80.44 50 P **P** **11 46 52.8 +0.4**
baz=244
ANMO Albuquerque 80.44 50 P **P** **11 46 52.3 -0.1**
ANMO Albuquerque 80.44 50 IAMs_20 IAMs_20 12 14 58.4
comp=Z,3μm,20.0s
RND Reindeer 80.45 11 P **P** **11 46 51.8 +0.2**
RND pmax pmax
comp=Z,48nm,1.4s
RND Reindeer 80.45 11 P **P** **11 46 51.8 +0.2**
RND IAmb IAmb 11 47 01.5
comp=Z,48nm,1.4s
PV15 Paradox Valley 80.50 46 P **P** **11 46 53.0 +0.2**
PV15 IAMs_20 IAMs_20 12 15 03.1
comp=Z,3μm,20.0s
RDMU Red Mountain 80.81 44 P **P** **11 46 54.7 +0.4**
MCMT McKenzie Canyo 80.86 39 P **P** **11 46 54.6 +0.1**
GDL2 Guadalupe Moun 80.86 53 P **P** **11 46 54.5 -0.2**
AHID Auburn Hatcher 80.89 41 P **P** **11 46 54.8 +0.1**
CN2 Changchun 80.91 320 *e*P **P** **11 46 55.2 +0.7**
CN2 *e*S **S** **11 57 04.5 +1.3**
CN2 pmax pmax
comp=Z,20nm,1.6s
CN2 pmax pmax
comp=Z,430nm,8.0s
CN2 LR LR
comp=Z,330nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,18.0s
BWN Browne 81.04 10 IAMs_20 IAMs_20 12 17 48.2
comp=Z,2μm,20.0s
DL2 Dalian 81.05 314 P **P** **11 46 56.6 +1.3**
DL2 S **S** **11 57 08.4 +3.6**
DL2 pmax pmax
comp=Z,50nm,1.1s
DL2 pmax pmax
comp=Z,360nm,4.1s
DL2 LR LR
comp=Z,610nm,24.6s
DL2 LR LR
comp=Z,830nm,22.2s
DL2 LR LR
comp=Z,1μm,22.6s
GZH Guangzhou 81.19 297 P **P** **11 46 56.3 -0.1**
GZH PP **PP** **11 50 00.1 -1.8**
GZH S **S** **11 57 08.1 +1.2**
GZH pmax pmax
comp=Z,340nm,8.0s
GZH LR LR
comp=Z,490nm,19.2s
GZH LR LR
comp=Z,870nm,20.6s
MSO Missoula 81.28 37 P **P** **11 46 56.2 -0.3**
baz=237
MSO Missoula 81.28 37 P **P** **11 46 57.1 +0.6**
MSO IAmb IAmb 11 47 06.4
comp=Z,25nm,1.5s
MSO IAMs_20 IAMs_20 12 15 33.6
comp=Z,2μm,21.0s
DLMT Dillon 81.30 38 P **P** **11 46 56.3 -0.4**
REDW Red Top Meadow 81.35 41 P **P** **11 46 56.3 -0.8**
REDW IAmb IAmb 11 47 08.8
comp=Z,23nm,1.4s
TPAW Teton Pass 81.35 41 P **P** **11 46 56.4 -0.8**
TPAW IAmb IAmb 11 47 09.5
comp=Z,26nm,1.4s
FXWY Fox Creek 81.37 41 P **P** **11 46 55.9 -1.3**
S22A 4UR Ranch, Cre 81.40 47 P **P** **11 46 57.5 0.0**
baz=243,SNR=16
SNOW Snow King Moun 81.46 41 P **P** **11 46 57.1 -0.6**
SNOW IAmb IAmb 11 47 11.1
comp=Z,51nm,1.6s
NEA2 Nenana 81.50 10 P **P** **11 46 58.1 +1.0**
baz=203
O20A White River Ci 81.50 45 P **P** **11 46 58.6 +0.7**
baz=242
O20A White River Ci 81.50 45 P **P** **11 46 57.3 -0.6**
RIDG Independent Ri 81.53 12 P **P** **11 46 57.2 -0.1**
RIDG IAmb IAmb 11 47 07.3
comp=Z,37nm,1.3s
IMW Indian Meadow 81.56 40 P **P** **11 46 57.6 -0.7**
WRH Wood River Hil 81.56 11 P **P** **11 46 56.7 -0.7**
BCAR Beaver Creek A 81.61 14 P **P** **11 46 57.2 -0.6**
DOT Dot Lake 81.61 13 P **P** **11 46 58.0 +0.3**
DOT IAmb IAmb 11 47 07.7
comp=Z,32nm,1.2s
LRM Limekiln Ridge 81.62 38 P **P** **11 46 58.5 -0.1**
LOHW Long Hollow 81.63 41 P **P** **11 46 57.9 -0.6**
LOHW IAmb IAmb 11 47 08.0
comp=Z,22nm,1.4s
HDA Harding Lake 81.71 11 P **P** **11 46 58.7 +0.4**
baz=205
HDA Harding Lake 81.71 11 P **P** **11 46 57.5 -0.7**
HDA IAmb IAmb 11 47 07.3
comp=Z,27nm,1.3s
QLMT Earthquake Lak 81.73 39 P **P** **11 46 58.1 -1.0**
CCB Clear Creek Bu 81.77 11 P **P** **11 46 57.8 -0.7**
CCB IAmb IAmb 11 47 08.1
comp=Z,40nm,1.3s
FLWY Flagg Ranch 81.80 40 P **P** **11 46 58.3 -1.2**
BW06 Boulder Array 81.88 42 P **P** **11 47 00.1 +0.2**
baz=241,SNR=8.3
PD31 Pinedale Array 81.88 42 P **P** **11 46 59.8 -0.1**
PDAR Pinedale Array 81.88 42 P **P** **11 47 00.8 +0.8**
comp=Z,1.4nm,0.8s,baz=221,slow=4.4,SNR=11
PDAR LR LR 12 18 23.2
comp=Z,2μm,19.1s,baz=240,slow=32
PDAR Pinedale Array 81.88 42 P **P** **11 46 59.3 -0.6**
YHL Hebgen Lake 81.89 39 P **P** **11 46 59.3 -0.7**
SCRK Sand Creek 81.92 13 P **P** **11 46 59.4 -0.1**
baz=208
TCOL CIGO, UAF Yank 81.97 11 P **P** **11 46 59.7 +0.1**
baz=204
COLA College 81.97 11 P **P** **11 47 00.2 +0.7**
COLA pmax pmax
comp=Z,54nm,1.3s
COLA College 81.97 11 P **P** **11 47 00.2 +0.7**
MDM Murphy Dome 81.98 10 P **P** **11 46 59.0 -0.6**
MDM IAMs_20 IAMs_20 12 18 45.3
comp=Z,1μm,19.0s
BOZ Bozeman (W) 82.00 39 P **P** **11 46 59.4 -1.0**
BOZ pmax pmax
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 82.00 39 P **P** **11 47 01.0 +0.6**
baz=239
BOZ Bozeman (W) 82.00 39 P **P** **11 46 59.4 -1.0**
BOZ IAMs_20 IAMs_20 12 16 41.4
comp=Z,2μm,20.0s
H17A Grant Village 82.03 40 P **P** **11 47 02.3 +1.5**
baz=240
IL31 82.05 11 P **P** **11 46 59.5 -0.5**
IL31 IAmb IAmb 11 47 09.8
comp=Z,36nm,1.4s
ILAR Eielson Array 82.05 11 P **P** **11 46 59.8 -0.2**
comp=Z,1.5nm,0.7s,baz=224,slow=4.9,SNR=17
ILAR LR LR 12 21 24.7
comp=Z,562nm,18.2s,baz=206,slow=34
ILAR Eielson Array 82.05 11 P **P** **11 46 59.4 -0.6**
ILAR Eielson Array 82.05 11 P **P** **11 46 59.4 -0.6**
IMAR Indian Mountai 82.08 8 P **P** **11 47 00.1 -0.1**
SEY Seymchan 82.21 345 *i*P **P** **11 47 01.4 +0.5**
POKR Poker Plat Res 82.27 11 P **P** **11 47 01.8 +0.6**
baz=205

SDCO	Great Sand Dun	82.34	48	P	P	11 47 02.7	+0.2	
	baz=244,SNR=16							
SDCO	Great Sand Dun	82.34	48	P	P	11 47 02.8	+0.2	
SDCO				IAmb	IAmb	11 47 14.4		
	comp=Z,37nm,1.6s							
SDCO				IAMs_20	IAMs_20	12 17 20.8		
	comp=Z,2μm,20.0s							
K27K	Chicken	82.37	13	P	P	11 47 02.2	+0.5	
	baz=210							
HRY	Holter Researc	82.45	38	P	P	11 47 02.8	+0.1	
WALA	Waterton Lakes	82.52	35	P	P	11 47 03.7	+0.7	
WALA				IAmb	IAmb	11 47 14.1		
	comp=Z,26nm,1.6s							
MSTX	Muleshoe	82.80	52	P	P	11 47 05.2	+0.4	
	baz=246,SNR=7.3							
MSTX	Muleshoe	82.80	52	P	P	11 47 04.9	+0.1	
T25A	Trinidad	82.87	49	P	P	11 47 05.3	+0.1	
	baz=245							
T25A	Trinidad	82.87	49	P	P	11 47 05.1	-0.1	
T25A				IAMs_20	IAMs_20	12 16 28.8		
	comp=Z,2μm,20.0s							
RWWY	Rawlins	82.91	44	P	P	11 47 04.1	-1.3	
QIZ	Qiongzhong	82.93	292	P	P	11 47 01.3	-4.3	
QIZ				PP	PP	11 50 12.9	-3.5	
QIZ				S	S	11 57 23.6	-1.4	
QIZ				pmax	pmax			
	comp=Z,290nm,9.3s							
QIZ				LR	LR			
	comp=Z,350nm,17.2s							
QIZ				LR	LR			
	comp=Z,640nm,23.5s							
QIZ				LR	LR			
	comp=Z,980nm,24.0s							
DAWY	Dawson	83.02	14	P	P	11 47 04.7	-0.5	
WHN	Wuhan	83.03	304⇑	iP	P	11 47 06.6	+0.7	
WHN				S	S	11 57 18.1	-7.5	
WHN				pmax	pmax			
	comp=Z,470nm,5.6s							
WHN				LR	LR			
	comp=Z,1μm,17.8s							
WHN				LR	LR			
	comp=Z,960nm,15.2s							
WHN				LR	LR			
	comp=Z,3μm,20.5s							
Q24A	Divide	83.11	47	P	P	11 47 07.0	+0.5	
	baz=244,SNR=6.1							
Q24A	Divide	83.11	47	P	P	11 47 06.5	-0.1	
ISCO	Idaho Springs	83.15	46	P	P	11 47 06.6	-0.1	
ISCO				pmax	pmax			
	comp=Z,38nm,1.9s							
ISCO	Idaho Springs	83.15	46	P	P	11 47 07.6	+0.8	
	baz=244,SNR=8.2							
ISCO	Idaho Springs	83.15	46	P	P	11 47 06.6	-0.1	
ISCO				IAmb	IAmb	11 47 09.7		
	comp=Z,38nm,1.9s							
ISCO				IAMs_20	IAMs_20	12 17 52.2		
	comp=Z,2μm,20.0s							
RLMT	Red Lodge	83.20	40	P	P	11 47 07.2	+0.4	
	baz=241							
RLMT	Red Lodge	83.20	40	P	P	11 47 05.1	-1.6	
RLMT				IAmb	IAmb	11 47 18.6		
	comp=Z,12nm,1.1s							
EGAK	Eagle	83.22	13	P	P	11 47 05.5	-0.6	
EGAK				IAmb	IAmb	11 47 15.7		
	comp=Z,32nm,1.6s							
833A	Chaparral WMA,	83.36	58	P	P	11 47 08.2	+0.5	
	baz=249							
833A	Chaparral WMA,	83.36	58	IAMs_20	IAMs_20	12 16 13.2		
	comp=Z,3μm,21.0s							
N23A	Red Feather La	83.41	45	P	P	11 47 08.8	+0.9	
	baz=244,SNR=9.6							
N23A	Red Feather La	83.41	45	IAMs_20	IAMs_20	12 17 36.8		
	comp=Z,3μm,20.0s							
COLD	Coldfoot	83.75	9	P	P	11 47 09.3	+0.5	
	baz=202							
COLD	Coldfoot	83.75	9	P	P	11 47 08.8	0.0	
K22A	Casper	83.80	43	P	P	11 47 10.1	+0.3	
	baz=243							
K22A	Casper	83.80	43	IAMs_20	IAMs_20	12 16 49.2		
	comp=Z,2μm,22.0s							
JCT	Junction City	83.80	56	P	P	11 47 10.1	+0.1	
	baz=248							
JCT	Junction City	83.80	56	IAMs_20	IAMs_20	12 17 20.8		
	comp=Z,2μm,20.0s							
PHWY	Pilot Hill	83.92	45	P	P	11 47 10.2	-0.4	
PHWY				IAmb	IAmb	11 47 13.0		
	comp=Z,27nm,1.5s							
PHWY				IAMs_20	IAMs_20	12 16 51.3		
	comp=Z,2μm,22.0s							
AMTX	Amarillo	83.99	52	P	P	11 47 10.7	-0.1	
	baz=247							
AMTX	Amarillo	83.99	52	IAMs_20	IAMs_20	12 17 20.4		
	comp=Z,3μm,20.0s							
EGMT	Eagleton	84.33	37	P	P	11 47 12.6	+0.3	
	baz=240							
EGMT	Eagleton	84.33	37	P	P	11 47 12.1	-0.2	
EGMT				IAMs_20	IAMs_20	12 18 23.2		
	comp=Z,2μm,20.0s							
KVTX	Kingsville	84.34	60	IAMs_20	IAMs_20	12 24 08.0		
	comp=Z,2μm,19.0s							
BELA	Belgrano 2	84.34	172	P	P	11 47 11.9	+0.1	
PMSA	Palmer Station	84.44	156	P	P	11 47 12.6	+0.1	
PMSA				IAmb	IAmb	11 47 15.3		
	comp=Z,31nm,1.8s							
PMSA	Palmer Station	84.44	156	IAMs_20	IAMs_20	12 15 35.7		
	comp=Z,2μm,19.0s							
ABTX	Abilene, Hawle	84.71	54	P	P	11 47 14.9	+0.4	
	baz=248							
ABTX	Abilene, Hawle	84.71	54	P	P	11 47 14.3	-0.2	
735A	Kenedy	84.85	58	IAMs_20	IAMs_20	12 17 19.7		
	comp=Z,2μm,20.0s							
BMAR	Burnt Mountain	84.86	11	P	P	11 47 15.0	+0.5	
KSCO	Kaye Shedlock'	84.92	48	P	P	11 47 15.8	+0.3	
	baz=246							
KSCO	Kaye Shedlock'	84.92	48	IAMs_20	IAMs_20	12 17 15.0		
	comp=Z,2μm,21.0s							
GO09	Cerro Castillo	85.07	142	IAMs_20	IAMs_20	12 24 39.9		
	comp=Z,3μm,18.0s							
TOLK	Toolik Lake Re	85.16	8	P	P	11 47 16.9	+0.9	
	baz=203							
TOLK	Toolik Lake Re	85.16	8	P	P	11 47 16.5	+0.5	
ZEA	Zeya	85.19	329	eP	P	11 47 16.0	-0.4	
ZEA				eS	SKSac	11 57 43.0	+1.9	
ZEA				pmax	pmax			
	comp=Z,48nm,1.6s							
ZEA				pmax	pmax			
	comp=Z,300nm,8.0s							
ZEA				smax	smax			
	comp=E,1μm,9.0s							
ZEA				smax	smax			
	comp=N,1μm,11.0s							
BJT	Baijiatuau	85.34	313	P	P	11 47 18.2	+0.8	
BJT				pmax	pmax			
	comp=Z,35nm,1.5s							
BJT	Baijiatuau	85.34	313	P	P	11 47 18.1	+0.8	
BJI	Beijing	85.34	313	P	P	11 47 17.7	+0.3	
BJI				S	SKSac	11 57 43.0	+0.3	
BJI				pmax	pmax			
	comp=Z,23nm,1.9s							
BJI				LR	LR			
	comp=Z,390nm,22.1s							
BJI				LR	LR			
	comp=Z,520nm,23.5s							
BJI				LR	LR			
	comp=Z,890nm,22.6s							
EPYK	Eagle Plains	85.57	14	P	P	11 47 18.9	+0.9	
	baz=215							
435B	Jarrell	85.70	57	P	P	11 47 20.1	+0.7	
	baz=250							
435B	Jarrell	85.70	57	IAMs_20	IAMs_20	12 18 18.9		
	comp=Z,2μm,20.0s							
LAO	LASA Array	85.82	39	P	P	11 47 20.9	+1.1	
	baz=243							
CCIG	Comitan	85.87	72	IAMs_20	IAMs_20	12 17 06.2		
	comp=Z,3μm,20.0s							
RSSD	Black Hills	86.08	42	P	P	11 47 21.2	-0.1	
RSSD				pmax	pmax			
	comp=Z,19nm,1.4s							
RSSD	Black Hills	86.08	42	P	P	11 47 20.9	-0.4	
	baz=245							
RSSD	Black Hills	86.08	42	P	P	11 47 21.2	-0.1	
RSSD				IAmb	IAmb	11 47 23.9		
	comp=Z,19nm,1.4s							
RSSD	Black Hills	86.08	42	IAMs_20	IAMs_20	12 19 44.4		
	comp=Z,2μm,20.0s							
OGNE	Ogallala	86.12	46	IAMs_20	IAMs_20	12 18 06.6		
	comp=Z,2μm,21.0s							
WMOK	Wichita Mounta	86.14	53	P	P	11 47 20.3	-1.3	
WMOK				pmax	pmax			
	comp=Z,12nm,1.3s							
WMOK	Wichita Mounta	86.14	53	P	P	11 47 21.5	-0.1	
	baz=249							
WMOK	Wichita Mounta	86.14	53	P	P	11 47 20.2	-1.3	
WMOK	Wichita Mounta	86.14	53	IAMs_20	IAMs_20	12 17 55.6		
	comp=Z,2μm,21.0s							
HUEH	Huehuetenango	86.18	73	IAMs_20	IAMs_20	12 16 22.4		
	comp=Z,3μm,21.0s							
WHTX	Lake Whitney,	86.22	56	P	P	11 47 22.3	+0.3	
	baz=250							
WHTX	Lake Whitney,	86.22	56	P	P	11 47 21.9	-0.1	
MG01	Puerto William	86.53	146	IAMs_20	IAMs_20	12 16 20.7		
	comp=Z,3μm,21.0s							
HKT	Hockley	86.84	58	P	P	11 47 24.1	-0.9	
HKT				pmax	pmax			
	comp=Z,88nm,1.9s							
HKT	Hockley	86.84	58	P	P	11 47 24.1	-0.9	
HKT	Hockley	86.84	58	IAMs_20	IAMs_20	12 19 16.3		
	comp=Z,2μm,20.0s							
CBKS	Cedar Bluff	86.92	49	P	P	11 47 25.0	-0.4	
	baz=248							
CBKS				S	S	11 58 05.8	+1.7	
	baz=248							
CBKS	Cedar Bluff	86.92	49	IAMs_20	IAMs_20	12 20 16.0		
	comp=Z,2μm,20.0s							
HIA	Hailar	87.01	323	IAMs_20	IAMs_20	12 20 05.0		
	comp=Z,2μm,22.0s							
APG	El Apazote	87.06	74	P	P	11 47 27.7	+1.0	
	comp=Z,11nm,1.0s,baz=286,slow=6.5,SNR=8.3							
OKCFA	Oklahoma City	87.40	52	IAMs_20	IAMs_20	12 18 44.9		
	comp=Z,2μm,20.0s							
R32A	Long Quarter,	87.53	49	IAMs_20	IAMs_20	12 20 06.0		
	comp=Z,3μm,20.0s							
OK029	Liberty Lake	87.53	52	IAMs_20	IAMs_20	12 19 01.4		
	comp=Z,3μm,22.0s							
237A	Washetta, Mont	87.54	56	IAMs_20	IAMs_20	12 18 58.6		
	comp=Z,2μm,21.0s							
OK025	Westminster Rd	87.55	52	IAMs_20	IAMs_20	12 19 12.8		
	comp=Z,3μm,21.0s							
W35A	Tecumseh	87.76	53	P	P	11 47 29.0	-0.4	
LL01	San Ignacio de	87.78	133	IAMs_20	IAMs_20	12 22 49.1		
	comp=Z,2μm,18.0s							
DGMT	Dagmar	87.83	38	P	P	11 47 30.1	+0.6	
	baz=244							
DGMT				S	S	11 58 13.3	+0.9	
	baz=244							
DGMT	Dagmar	87.83	38	P	P	11 47 29.2	-0.3	
SNET	Serv Nac Est T	87.84	75	IAMs_20	IAMs_20	12 17 12.5		
	comp=Z,3μm,20.0s							
INK	Inuvik	87.87	14	P	P	11 47 28.0	-1.2	
INK				pmax	pmax			
	comp=Z,23nm,1.4s							
INK	Inuvik	87.87	14	P	P	11 47 28.0	-1.2	
INK				IAmb	IAmb	11 47 38.9		
	comp=Z,23nm,1.4s							
INK				IAMs_20	IAMs_20	12 32 44.8		
	comp=Z,1μm,18.0s							
MTO3	Montecristo	87.91	75	IAMs_20	IAMs_20	12 17 55.4		
	comp=Z,2μm,22.0s							
ESQI	Esquipulas	87.98	74	IAMs_20	IAMs_20	12 18 22.0		
	comp=Z,2μm,20.0s							
GYA	Guiyang	88.02	298	⇑P	P	11 47 31.8	+0.8	
GYA				SKS	SKSac	11 57 59.1	-1.0	
GYA				S	ScS	11 58 21.1	-0.5	
GYA				pmax	pmax			
	comp=Z,12nm,1.9s							
GYA				pmax	pmax			
	comp=Z,260nm,3.8s							
GYA				LR	LR			
	comp=Z,210nm,18.2s							
GYA				LR	LR			
	comp=Z,360nm,18.8s							
GYA				LR	LR			
	comp=Z,500nm,19.7s							
MAW	Mawson	88.19	199	P	P	11 47 30.7	-0.2	
	comp=Z,3.5nm,0.8s,baz=142,slow=8.8,SNR=11							
MAW				LR	LR	12 23 54.4		
	comp=Z,1μm,20.3s,baz=119,slow=34							
MAW	Mawson	88.19	199	P	P	11 47 31.9	+1.0	
NATX	Nacogdoches	88.38	57	P	P	11 47 33.2	+0.7	
	baz=251							
NATX	Nacogdoches	88.38	57	IAMs_20	IAMs_20	12 20 44.0		
	comp=Z,2μm,20.0s							
XAN	Xi'an	88.56	306	P	P	11 47 35.5	+2.2	
XAN				pP	pwP	11 47 41.1	+1.7	
XAN				PP	PP	11 51 03.7	+1.9	
XAN				SKS	SKSac	11 58 03.8	+0.9	
XAN				S	S	11 58 18.6	-1.3	
XAN				pmax	pmax			
	comp=Z,11nm,1.4s							
XAN				pmax	pmax			
	comp=Z,360nm,9.2s							
XAN				LR	LR			
	comp=Z,790nm,19.9s							
XAN				LR	LR			
	comp=Z,540nm,21.2s							
XAN				LR	LR			
	comp=Z,1μm,21.7s							
X37A	Clayton	88.73	54	IAMs_20	IAMs_20	12 19 50.2		
	comp=Z,3μm,20.0s							
TUL1	Leonard	88.84	52	P	P	11 47 34.5	-0.1	
	baz=250							
TUL1				S	S	11 58 23.3	+0.9	
	baz=250							
TUL1	Leonard	88.84	52	IAMs_20	IAMs_20	12 20 14.0		
	comp=Z,2μm,21.0s							
YAK	Yakutsk	88.84	337	eP	P	11 47 19.4	-14	
YAK				e		11 51 00.0		
YAK				pmax	pmax			
	comp=Z,83nm,13.2s							
YAK				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HHC	Hu-ho-hao-te	88.90	313	eP	P	11 47 36.7	+1.8	
HHC				pmax	pmax			
	comp=Z,29nm,1.5s							
HHC				pmax	pmax			
	comp=Z,270nm,6.6s							
HHC				LR	LR			
	comp=Z,1μm,14.7s							
HHC				LR	LR			
	comp=Z,2μm,9.5s							
HHC				LR	LR			
	comp=Z,560nm,12.2s							
BGNE	Belgrade	89.00	47	P	P	11 47 35.2	-0.1	
	baz=249							
BGNE	Belgrade	89.00	47	IAMs_20	IAMs_20	12 21 46.0		
	comp=Z,3μm,20.0s							
K31A	O'Neill	89.02	45	IAMs_20	IAMs_20	12 20 13.5		
	comp=Z,2μm,21.0s							
E28A	Huff	89.22	41	IAMs_20	IAMs_20	12 25 18.7		
	comp=Z,2μm,18.0s							
441A	DeRidder	89.26	58	IAMs_20	IAMs_20	12 20 11.4		
	comp=Z,2μm,21.0s							
LC01	Cunco	89.27	130	IAMs_20	IAMs_20	12 20 37.2		
	comp=Z,2μm,21.0s							
KSU1	Kansas State U	89.30	49	P	P	11 47 36.8	+0.2	
	baz=250							
KSU1	Kansas State U	89.30	49	IAMs_20	IAMs_20	12 20 52.1		
	comp=Z,3μm,21.0s							
SUSD	Miller	89.55	44	S	S	11 58 29.3	+0.6	
	baz=248							
CRIN	San Cristobal	89.62	77	IAMs_20	IAMs_20	12 17 20.1		
	comp=Z,2μm,22.0s							
PLCA	Paso Flores	89.63	132	LR	LR	12 20 10.0		
	comp=Z,2μm,19.7s,baz=232,slow=30							
YKA	Yellowknife Ar	89.69	23	P	P	11 47 38.6	+0.7	
	comp=Z,2.0nm,0.8s,baz=239,slow=4.3,SNR=5.9							
YKA				LR	LR	12 20 21.3		
	comp=Z,874nm,21.4s,baz=0.0,slow=30							
TGUH	Tegucigalpa,Un	89.77	75	IAMs_20	IAMs_20	12 18 32.6		
	comp=Z,2μm,20.0s							
BTO	Baotou	89.92	312	eP	P	11 47 41.7	+2.1	
U38A	Gravette	90.09	52	IAMs_20	IAMs_20	12 19 59.1		
	comp=Z,2μm,22.0s							
MIAR	Mount Ida	90.12	54	P	P	11 47 39.3	-1.3	
MIAR				pmax	pmax			
	comp=Z,32nm,1.8s							
MIAR	Mount Ida	90.12	54	P	P	11 47 40.6	0.0	
	baz=252							
MIAR				S	S	11 58 35.8	+1.4	
	baz=252							
MIAR	Mount Ida	90.12	54	P	P	11 47 39.3	-1.3	
MIAR				IAmb	IAmb	11 47 44.4		
	comp=Z,32nm,1.8s							
MIAR				IAMs_20	IAMs_20	12 20 53.0		
	comp=Z,2μm,21.0s							
342A	Flagon Creek P	90.16	58	IAMs_20	IAMs_20	12 20 48.1		
	comp=Z,2μm,21.0s							
W39A	Magazine	90.16	54	P	P	11 47 41.2	+0.5	
	baz=252							
W39A				S	S	11 58 37.8	+3.1	
	baz=252							
Z41A	Richland Creek	90.34	56	P	P	11 47 42.1	+0.5	
	baz=252							
ESTN	Estel	90.37	77	IAMs_20	IAMs_20	12 17 55.5		
	comp=Z,2μm,22.0s							
HHAR	Hobbs	90.38	53	IAMs_20	IAMs_20	12 21 41.8		
	comp=Z,2μm,21.0s							
MDND	Maddock	90.40	40	IAMs_20	IAMs_20	12 20 45.7		
	comp=Z,1μm,22.0s							
L34A	Svendsen Farm,	90.44	47	IAMs_20	IAMs_20	12 21 12.1		
	comp=Z,2μm,21.0s							
GO05	Huala	90.47	126	IAMs_20	IAMs_20	12 19 24.9		
	comp=Z,2μm,19.0s							
N35A	Tabor	90.59	48	IAMs_20	IAMs_20	12 20 43.2		
	comp=Z,2μm,21.0s							
X40A	Basin Creek Fa	90.69	55	P	P	11 47 43.0	-0.2	
	baz=252							
X40A				S	S	11 58 41.8	+2.2	
	baz=252							
X40A	Basin Creek Fa	90.69	55	IAMs_20	IAMs_20	12 21 18.0		
	comp=Z,2μm,21.0s							
ECSD	EROS Data Cent	90.88	45	S	S	11 58 40.5	-0.5	
	baz=250							
JTS	Las Juntas de	90.98	80	P	P	11 47 46.7	+1.7	
	comp=Z,7.0nm,0.9s,baz=7.5,slow=3.8,SNR=6.9							
JTS	Las Juntas de	90.98	80	P	P	11 47 43.9	-1.1	
JTS				pmax	pmax			
	comp=Z,64nm,1.6s							
JTS	Las Juntas de	90.98	80	P	P	11 47 43.9	-1.1	
KMI	Kunming	91.02	296⇓	eP	P	11 47 42.1	-3.2	
KMI				pP	PcP	11 47 47.2	+0.9	
KMI				sP	pP	11 47 48.6	+0.9	
KMI				SKS	SKSac	11 58 19.6	+1.6	
KMI				S	SKKSac	11 58 29.3	-3.7	
KMI				pmax	pmax			
	comp=Z,11nm,0.5s							
KMI				pmax	pmax			
	comp=Z,240nm,7.6s							
KMI				LR	LR			
	comp=Z,360nm,19.7s							
KMI				LR	LR			
	comp=Z,710nm,20.4s							
KMI				LR	LR			
	comp=Z,930nm,20.7s							
UALR	University of	91.16	54	IAMs_20	IAMs_20	12 21 56.5		
	comp=Z,2μm,21.0s							
ACON	Acoyapa	91.20	78	IAMs_20	IAMs_20	12 20 37.6		
	comp=Z,3μm,22.0s							
U40A	Yellville	91.24	53	P	P	11 47 45.4	-0.4	
	baz=252							
U40A				S	S	11 58 46.9	+2.3	
	baz=252							
U40A	Yellville	91.24	53	IAMs_20	IAMs_20	12 22 16.5		
	comp=Z,1μm,20.0s							
545A	Edgard	91.28	59	IAMs_20	IAMs_20	12 24 24.0		
	comp=Z,3μm,20.0s							
143A	Socs Landing,	91.30	57	IAMs_20	IAMs_20	12 22 16.2		
	comp=Z,2μm,20.0s							
BO01	Tunca	91.33	126	IAMs_20	IAMs_20	12 20 38.6		
	comp=Z,2μm,19.0s							
W41B	Gary Mavity, V	91.35	54	P	P	11 47 46.5	+0.2	
	baz=252							
W41B				S	S	11 58 49.3	+3.6	
	baz=252							
W41B	Gary Mavity, V	91.35	54	P	P	11 47 46.1	-0.2	
344A	Westbrook Farm	91.48	58	IAMs_20	IAMs_20	12 22 46.2		
	comp=Z,2μm,22.0s							
MT02	Curacav	91.65	125	IAMs_20	IAMs_20	12 19 07.3		
	comp=Z,2μm,20.0s							
FCAR	Ozark Folk Cen	91.66	53	P	P	11 47 47.2	-0.5	
HDC	Heredia	91.70	80	IAMs_20	IAMs_20	12 18 40.0		
	comp=Z,2μm,20.0s							
D32A	Dogwood Acres,	91.78	42	IAMs_20	IAMs_20	12 23 10.3		
	comp=Z,2μm,20.0s							
VBMS	Vicksburg	91.88	57	P	P	11 47 49.8	+1.0	
	baz=253							
VBMS	Vicksburg	91.88	57	IAMs_20	IAMs_20	12 23 32.6		
	comp=Z,2μm,21.0s							
MT05	Renca	91.92	125	IAMs_20	IAMs_20	12 19 04.5		
	comp=Z,2μm,22.0s							
MGMO	Mountain Grove	91.93	52	P	P	11 47 49.5	+0.6	
PEL	Peldehue	92.05	125	IAMs_20	IAMs_20	12 18 59.0		
	comp=Z,2μm,21.0s							
X43A	Marvell	92.24	55	P	P	11 47 50.8	+0.4	
	baz=253							
X43A				S	S	11 58 58.7	+5.1	
	baz=253							
X43A	Marvell	92.24	55	IAMs_20	IAMs_20	12 22 26.0		
	comp=Z,2μm,20.0s							
R40A	Maddies Statio	92.26	51	P	P	11 47 50.4	-0.1	
R40A				IAMs_20	IAMs_20	12 23 19.5		
	comp=Z,3μm,20.0s							
N38A	Joes South For	92.30	48	IAMs_20	IAMs_20	12 23 32.5		
	comp=Z,2μm,20.0s							
A36M	Sachs Harbour	92.50	13	P	P	11 47 51.1	+0.3	
	baz=226							
SCIA	State Center	92.66	47	P	P	11 47 52.5	+0.4	
	baz=252							
CMAR	Chiang Mai Arr	92.66	288	LR	LR	12 24 23.0		
	comp=Z,745nm,22.0s,baz=144,slow=32							
CMAR	Chiang Mai Arr	92.66	288	P	P	11 47 53.0	+0.3	
CMAR	Chiang Mai Arr	92.66	288	P	P	11 47 53.0	+0.3	
T42A	Van Buren	92.79	53	P	P	11 47 51.5	-1.3	
T42A				IAmb	IAmb	11 48 04.2		
	comp=Z,10nm,1.3s							
T42A				IAMs_20	IAMs_20	12 21 33.5		
	comp=Z,1μm,22.0s							
AGMN	Agassiz Nation	92.91	41	P	P	11 47 52.8	-0.4	
	baz=250							
GO04	Tololo Observa	92.93	122	IAMs_20	IAMs_20	12 20 09.2		
	comp=Z,2μm,20.0s							
CCM	Cathedral Cave	92.97	52	P	P	11 47 53.1	-0.6	
	baz=253							
CCM				S	S	11 58 59.1	-0.9	
	baz=253							
CCM	Cathedral Cave	92.97	52	IAMs_20	IAMs_20	12 22 10.2		
	comp=Z,2μm,21.0s							
NNA	Nana	92.97	103	IAMs_20	IAMs_20	12 20 45.3		
	comp=Z,1μm,19.0s							
SYO	Syowa Base	92.99	191⇓	eP	P	11 47 54.0	+0.8	
SYO	Syowa Base	92.99	191⇑	ePP	PP	11 51 36.6	+1.3	
EFI	East Falkland	93.10	146	IAMs_20	IAMs_20	12 19 50.6		
	comp=Z,3μm,22.0s							
LZH	Lanzhou	93.14	306	eP	P	11 47 53.8	-1.0	
LZH				pP	pP	11 47 57.1	-0.1	
LZH				sP	sP	11 47 58.6	+0.5	
LZH				ePP	PP	11 51 40.2	+1.9	
LZH				pmax	pmax			
	comp=Z,20nm,1.4s							
LZH				pmax	pmax			
	comp=Z,97nm,9.2s							
LZH				LR	LR			
	comp=Z,200nm,17.5s							
LZH				LR	LR			
	comp=Z,210nm,17.3s							
LZH				LR	LR			
	comp=Z,350nm,19.6s							
MET	Memphis--Engin	93.16	55	IAMs_20	IAMs_20	12 23 27.4		
	comp=Z,2μm,20.0s							
I37A	Lemond, Waseca	93.17	45	IAMs_20	IAMs_20	12 22 31.2		
	comp=Z,2μm,21.0s							
146A	Union	93.18	57	IAMs_20	IAMs_20	12 24 43.1		
	comp=Z,1μm,20.0s							
K38A	Parkersburg	93.19	47	IAMs_20	IAMs_20	12 22 38.0		
	comp=Z,3μm,22

comp=Z,3μm,19.7s,baz=254,slow=32
FVM French Village 93.57 52 IAMs_20 IAMs_20 12 23 10.0
comp=Z,3μm,20.0s
F36A Milaca 93.65 44 IAMs_20 IAMs_20 12 22 44.8
comp=Z,2μm,22.0s
BOD Bodaibo 93.70 329 *e*P **P 11 47 56.4 -0.2**
BOD pmax pmax
comp=Z,11nm,1.8s
VNA2 Neumayer--Watz 93.70 175 P **P 11 47 57.7 +1.2**
PARMO Parma 93.72 53 IAMs_20 IAMs_20 12 23 56.2
comp=Z,2μm,20.0s
W45A Hickory Valley 93.75 55 IAMs_20 IAMs_20 12 24 25.2
comp=Z,2μm,20.0s
VNA1 Neumayer--Stat 93.90 175 P **P 11 47 59.0 +1.6**
SPMN Marine on St. 93.94 44 P **P 11 47 58.0 0.0**
baz=253
HENM Henderson Moun 93.95 53 IAMs_20 IAMs_20 12 24 02.3
comp=Z,2μm,20.0s
L40A Anamosa 94.12 48 P **P 11 47 58.5 -0.4**
L40A IAmb IAmb 11 48 06.9
comp=Z,14nm,1.1s
L40A IAMs_20 IAMs_20 12 22 54.6
comp=Z,3μm,22.0s
ZON Zonda 94.19 124 IAMs_20 IAMs_20 12 21 45.3
comp=Z,2μm,20.0s
ULN Ulaanbaatar 94.27 318 P **P 11 47 59.3 -0.4**
ULN pmax pmax
comp=Z,14nm,1.4s
ULN Ulaanbaatar 94.27 318 P **P 11 47 59.3 -0.4**
ULN IAmb IAmb 11 48 02.4
comp=Z,14nm,1.4s
S44A Carbondale 94.38 52 IAMs_20 IAMs_20 12 23 04.6
comp=Z,1μm,21.0s
BRAL Brewton 94.44 59 IAMs_20 IAMs_20 12 24 35.6
comp=Z,1μm,22.0s
PLAL Pickwick Lake 94.59 55 P **P 11 47 59.7 -1.6**
PLAL IAMs_20 IAMs_20 12 24 20.3
comp=Z,2μm,20.0s
OTAV Otavalo 94.67 91 IAMs_20 IAMs_20 12 21 17.1
comp=Z,1μm,20.0s
SONM Songino Array 94.68 318 P **P 11 48 01.6 +0.1**
comp=Z,0.4nm,0.5s,baz=58,slow=3.6,SNR=2.2
SONM LR LR 12 25 25.8
comp=Z,1μm,22.0s,baz=110,slow=32
SONM Songino Array 94.68 318 P **P 11 48 01.5 0.0**
SONM pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 94.68 318 P **P 11 48 01.5 0.0**
LRAL Lakeview Retre 94.96 57 P **P 11 48 02.8 -0.1**
baz=255
LRAL S **S 11 59 20.6 +2.9**
baz=255
LRAL Lakeview Retre 94.96 57 IAMs_20 IAMs_20 12 25 47.1
comp=Z,1μm,20.0s
JFWS Jewell Farm 95.05 47 P **P 11 48 02.5 -0.6**
baz=254
I40A Norwalk 95.06 46 IAMs_20 IAMs_20 12 25 16.2
comp=Z,2μm,20.0s
WVT Waverly 95.08 54 P **P 11 48 03.2 -0.2**
WVT pmax pmax
comp=Z,30nm,1.9s
WVT Waverly 95.08 54 P **P 11 48 03.8 +0.3**
baz=255
WVT S **S 11 59 22.3 +3.8**
baz=255
WVT Waverly 95.08 54 P **P 11 48 03.2 -0.2**
HDIL Hopedale 95.11 50 P **P 11 48 03.4 -0.1**
baz=254
E38A The Farm, Brul 95.17 43 IAMs_20 IAMs_20 12 26 19.2
comp=Z,2μm,19.0s
L42A Oliver, Polo 95.22 48 IAMs_20 IAMs_20 12 24 19.7
comp=Z,2μm,21.0s
OLIL Olney 95.53 52 IAMs_20 IAMs_20 12 23 07.0
comp=Z,2μm,22.0s
EYMN Ely 95.58 42 IAMs_20 IAMs_20 12 24 51.0
comp=Z,2μm,21.0s
GO02 Mina Guanaco 95.59 118 IAMs_20 IAMs_20 12 20 14.6
comp=Z,2μm,22.0s
T47A Sharon Grove 95.86 53 IAMs_20 IAMs_20 12 23 48.7
comp=Z,3μm,22.0s
M44A Midewin, Midew 96.24 49 IAMs_20 IAMs_20 12 26 40.6
comp=Z,2μm,19.0s
PB15 IPOC Station P 96.34 116 IAMs_20 IAMs_20 12 26 12.4
comp=Z,2μm,18.0s
SWET Sewanee 96.35 55 IAMs_20 IAMs_20 12 25 32.9
comp=Z,2μm,20.0s
HQIL Hanson Quary C 96.48 49 IAMs_20 IAMs_20 12 27 31.9
comp=Z,1μm,19.0s
Z51A Franklin 96.51 57 IAMs_20 IAMs_20 12 26 30.2
comp=Z,1μm,21.0s
L44A Lake County Fo 96.53 48 IAMs_20 IAMs_20 12 24 19.3
comp=Z,1μm,22.0s
152A Waverly Hall 96.73 58 IAMs_20 IAMs_20 12 26 17.1
comp=Z,2μm,20.0s
BLO Bloomington 96.83 51 IAMs_20 IAMs_20 12 24 21.4
comp=Z,2μm,22.0s
W50A Signal Mountai 96.84 56 IAMs_20 IAMs_20 12 26 07.8
comp=Z,2μm,20.0s
X51A Calhoun 97.06 56 IAMs_20 IAMs_20 12 25 05.6
comp=Z,2μm,21.0s
GTA Gaotai 97.08 309 *e*P Pdif 11 48 16.4 +3.6
GTA pP pwP 11 48 19.4 +0.7
GTA sP sP 11 48 22.5 +6.5
GTA SKS **SKSac 11 58 49.7 -0.5**
GTA S **ScS 11 59 37.3 +0.9**
GTA sS sS 11 59 45.3 +4.4
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,88nm,5.7s
GTA LR LR
comp=Z,370nm,20.6s
GTA LR LR
comp=Z,960nm,21.3s
GTA LR LR
comp=Z,1μm,22.2s
FCC Fort Churchill 97.18 31 IAMs_20 IAMs_20 12 27 09.9
comp=Z,2μm,20.0s
H43A Windswept, Lux 97.19 46 IAMs_20 IAMs_20 12 27 37.5
comp=Z,2μm,19.0s
TIGA Tifton 97.38 60 P **P 11 48 14.1 +0.1**
baz=257
TLY Talaya 97.45 321 *i* P Pdif 11 48 14.5 +0.5
TLY pmax pmax
comp=Z,10.0nm,1.5s
TLY Talaya 97.45 321 IAMs_20 IAMs_20 12 29 02.4
comp=Z,1μm,19.0s
CPCT Cooper Cave 97.52 55 IAMs_20 IAMs_20 12 26 39.0
comp=Z,2μm,20.0s
Y52A Lilburn 97.54 57 IAMs_20 IAMs_20 12 26 25.4
comp=Z,3μm,21.0s
PB08 IPOC Station P 97.61 113 IAMs_20 IAMs_20 12 22 21.3
comp=Z,2μm,20.0s
T50A Nancy 97.63 54 IAMs_20 IAMs_20 12 25 56.6
comp=Z,2μm,20.0s
L46A Eue Claire 97.66 49 IAMs_20 IAMs_20 12 24 50.2
comp=Z,1μm,22.0s
P48A Milroy 97.72 51 IAMs_20 IAMs_20 12 24 48.1
comp=Z,2μm,22.0s
V51A Loudon 97.74 55 IAMs_20 IAMs_20 12 25 18.7
comp=Z,2μm,21.0s
PB16 IPOC Station P 97.88 111 IAMs_20 IAMs_20 12 26 18.2
comp=Z,2μm,19.0s
W52A Murphy 97.92 56 IAMs_20 IAMs_20 12 27 01.5
comp=Z,2μm,20.0s
GOGA Godfrey 97.92 58 P **P 11 48 16.4 0.0**
baz=257
GOGA S **S 11 59 46.1 +2.8**
baz=257
GOGA Godfrey 97.92 58 IAMs_20 IAMs_20 12 25 51.7
comp=Z,1μm,22.0s
154A Montrose 98.04 58 IAMs_20 IAMs_20 12 27 16.9
comp=Z,2μm,20.0s
TKL Tuckaleechee C 98.16 55 IAMs_20 IAMs_20 12 25 52.0
comp=Z,2μm,20.0s
P49A Miami Univ. Ec 98.28 51 IAMs_20 IAMs_20 12 25 15.7
comp=Z,2μm,22.0s
V52A Sevierville 98.34 55 IAMs_20 IAMs_20 12 25 36.7
comp=Z,2μm,22.0s
061Z Ochoppi 98.45 66 IAMs_20 IAMs_20 12 25 15.2
comp=Z,2μm,22.0s
TZTN Tazewell 98.53 55 P **P 11 48 18.8 -0.3**
baz=258
BG3 Lake Jocassee 98.69 56 IAMs_20 IAMs_20 12 27 36.0
comp=Z,1μm,20.0s
G45A Suttons Bay 98.78 46 IAMs_20 IAMs_20 12 25 44.8
comp=Z,2μm,22.0s
V53A Saluda 98.93 56 IAMs_20 IAMs_20 12 25 43.3
comp=Z,2μm,21.0s
J47A Sunmer 98.99 48 IAMs_20 IAMs_20 12 25 42.3
comp=Z,2μm,22.0s
L48A N Adams 99.00 49 IAMs_20 IAMs_20 12 28 54.6
comp=Z,2μm,19.0s
HODGE Hodges 99.08 57 IAMs_20 IAMs_20 12 25 59.3
comp=Z,3μm,22.0s
060A Indiantown 99.18 64 IAMs_20 IAMs_20 12 27 50.4
comp=Z,1μm,21.0s
T53A Wise 99.42 54 S **S 11 59 59.3 +3.4**
baz=258
GLMI Grayling 99.46 46 IAMs_20 IAMs_20 12 29 05.7
comp=Z,2μm,19.0s
Z56A Williston 99.62 58 IAMs_20 IAMs_20 12 27 25.7
comp=Z,1μm,21.0s
257A Skidaway Islan 99.63 59 IAMs_20 IAMs_20 12 28 44.0
comp=Z,1μm,20.0s
X55A Gracelyn & Ava 99.63 57 P **Pdif 11 48 24.1 0.0**
baz=258
AAM Ann Arbor 99.64 49 IAMs_20 IAMs_20 12 27 32.5
comp=Z,1μm,20.0s
V54A Nebo 99.64 56 P **Pdif 11 48 23.7 -0.4**
baz=258
ACSO Alum Creek Sta 99.72 51 IAMs_20 IAMs_20 12 26 42.0
comp=Z,2μm,21.0s
ROSC El Rosal 99.82 88 IAMs_20 IAMs_20 12 23 40.5
comp=Z,2μm,22.0s
MTDJ Mount Denham 99.86 74 IAMs_20 IAMs_20 12 24 26.8
comp=Z,1μm,21.0s
U54A Nelsons Funny 99.89 55 IAMs_20 IAMs_20 12 27 35.6
comp=Z,2μm,20.0s
JSC Jenkinsville 99.90 57 IAMs_20 IAMs_20 12 26 45.7
comp=Z,1μm,22.0s
KMSC Kings Mountain 100.01 56 IAMs_20 IAMs_20 12 27 18.8
comp=Z,2μm,20.0s
V55A Taylorsville 100.24 56 IAMs_20 IAMs_20 12 27 08.0
comp=Z,2μm,22.0s
K50A Casco 100.48 48 IAMs_20 IAMs_20 12 26 47.8
comp=Z,1μm,21.0s
I49A Point Hope 100.55 47 IAMs_20 IAMs_20 12 27 23.6
comp=Z,2μm,21.0s
Y57A Sumter 100.55 58 IAMs_20 IAMs_20 12 27 06.4
comp=Z,2μm,22.0s
NHSC New Hope 100.56 58 IAMs_20 IAMs_20 12 29 47.5
comp=Z,1μm,20.0s
O52A Adamsville 100.56 51 IAMs_20 IAMs_20 12 27 20.3
comp=Z,2μm,22.0s
BIRD Birdtown, Kers 100.62 57 IAMs_20 IAMs_20 12 28 17.0
comp=Z,2μm,20.0s
E47A Iron Bridge 100.69 45 P **Pdif 11 48 29.2 +0.7**
baz=259
F48A Evansville 101.03 45 P **Pdif 11 48 30.6 +0.6**
baz=260
O53A New Philadelph 101.06 51 IAMs_20 IAMs_20 12 27 56.3
comp=Z,2μm,21.0s
W57A Gilead 101.09 56 IAMs_20 IAMs_20 12 28 11.5
comp=Z,2μm,21.0s
BLA Blacksburg 101.12 54 IAMs_20 IAMs_20 12 28 14.2
comp=Z,2μm,20.0s
N53A Lisbon 101.44 51 IAMs_20 IAMs_20 12 28 46.3
comp=Z,2μm,20.0s
X58A Rowland 101.51 57 IAMs_20 IAMs_20 12 28 53.6
comp=Z,2μm,20.0s
HOPE Hope Point 101.76 156 IAMs_20 IAMs_20 12 25 52.6
comp=Z,1μm,22.0s
Y59A Loris 101.79 58 IAMs_20 IAMs_20 12 28 04.1
comp=Z,2μm,22.0s
V58A Windy Hill, Pi 101.91 56 IAMs_20 IAMs_20 12 26 51.1
comp=Z,2μm,22.0s
MCWV Mont Chateau 101.99 52 IAMs_20 IAMs_20 12 28 06.1
comp=Z,2μm,22.0s
T57A Hurt 102.00 55 IAMs_20 IAMs_20 12 29 20.6
comp=Z,2μm,20.0s
Y60A Bolivia 102.33 58 IAMs_20 IAMs_20 12 31 14.4
comp=Z,2μm,20.0s
S57A Dark Hollow, R 102.37 54 IAMs_20 IAMs_20 12 28 15.1
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 102.45 73 IAMs_20 IAMs_20 12 28 07.5
comp=Z,1μm,20.0s
SADO Sadowa 103.29 47 IAMs_20 IAMs_20 12 29 16.1
comp=Z,2μm,20.0s
T59A Double "B" Far 103.34 55 IAMs_20 IAMs_20 12 29 33.0
comp=Z,2μm,20.0s
V60A Jim Taylor Roa 103.39 56 IAMs_20 IAMs_20 12 30 02.3
comp=Z,2μm,20.0s
J54A Appleton 103.44 48 IAMs_20 IAMs_20 12 28 31.2
comp=Z,2μm,22.0s
MEDO Medina 103.56 49 IAMs_20 IAMs_20 12 28 47.3
comp=Z,2μm,21.0s
MMNY Mt. Morris Dam 103.90 49 IAMs_20 IAMs_20 12 31 01.4
comp=Z,2μm,20.0s
V61A Roper 103.94 56 IAMs_20 IAMs_20 12 29 00.0
comp=Z,2μm,22.0s
T60A Surry 104.02 55 IAMs_20 IAMs_20 12 28 30.8
comp=Z,2μm,22.0s
J55A Hilton 104.03 49 IAMs_20 IAMs_20 12 29 11.9
comp=Z,2μm,21.0s
SDMD Soldier's Deli 104.25 53 IAMs_20 IAMs_20 12 29 24.9
comp=Z,2μm,21.0s
SDV Santo Domingo 104.34 85 IAMs_20 IAMs_20 12 27 33.1
comp=Z,1μm,21.0s
V62A Hyde County Ai 104.41 57 IAMs_20 IAMs_20 12 30 51.4
comp=Z,2μm,20.0s
E53A Dumoine, Ponti 104.52 45 P **Pdif 11 48 46.3 +0.8**
baz=263
GRTK Grand Turk 106.40 72 IAMs_20 IAMs_20 12 28 11.2
comp=Z,969nm,21.0s
LONY Lake Ozonia 106.50 47 IAMs_20 IAMs_20 12 32 06.2
comp=Z,2μm,20.0s
SAML Samuel 106.70 104 IAMs_20 IAMs_20 12 29 41.0
comp=Z,1μm,20.0s
L61A Hillsdale 1, H 107.04 50 P **PKiKP 11 53 06.7 +0.3**
baz=265
PALK Pallekele 107.33 273 IAMs_20 IAMs_20 12 38 39.9
comp=Z,1μm,20.0s
M62A Hamden 107.47 51 P **PKiKP 11 53 07.2 +0.1**
baz=265
TULEG Thule 107.87 14 IAMs_20 IAMs_20 12 35 22.2
comp=Z,949nm,20.0s
ZAA0 Zalesovo Array 109.04 322 IAMs_20 IAMs_20 12 35 52.7
comp=Z,1μm,20.0s
G62A West of Eustis 109.41 47 IAMs_20 IAMs_20 12 35 42.1
comp=Z,2μm,19.0s
F62A Pittston Farm, 109.83 46 IAMs_20 IAMs_20 12 34 35.1
comp=Z,1μm,20.0s
E62A Clayton Lake 110.15 46 P **PKiKP 11 53 12.6 +0.5**
baz=263
PKME Peaks-Kenny Pk 110.29 47 IAMs_20 IAMs_20 12 34 21.3
comp=Z,1μm,20.0s
MKAR Makanchi Array 110.69 315 PKiKP **PKiKP 11 53 11.7 -1.4**
comp=Z,0.4nm,0.7s,baz=82,slow=3.1,SNR=2.8
F64A Sherman 110.96 46 IAMs_20 IAMs_20 12 35 56.0
comp=Z,1μm,20.0s
G65A Princeton 111.51 47 IAMs_20 IAMs_20 12 34 37.6
comp=Z,1μm,21.0s
SCHQ Schefferville 111.59 37 IAMs_20 IAMs_20 12 34 58.1
comp=Z,1μm,21.0s
KURK Kurchatov 112.97 319 *c i* PKiKP **PKiKP 11 53 18.8 +1.5**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 112.97 319 IAMs_20 IAMs_20 12 40 05.1
comp=Z,1μm,19.0s
SEUS St. Eustatius 113.33 77 IAMs_20 IAMs_20 12 32 08.0
comp=Z,1μm,20.0s
BBSR BB Station 113.40 61 IAMs_20 IAMs_20 12 34 28.7
comp=Z,948nm,21.0s
FDF Fort de France 114.61 80 IAMs_20 IAMs_20 12 33 26.3
comp=Z,938nm,21.0s
DLPL La Plaine 114.62 80 IAMs_20 IAMs_20 12 47 53.3
comp=Z,942nm,20.0s
GBN Guysborough 115.77 47 IAMs_20 IAMs_20 12 35 53.2
comp=Z,2μm,22.0s
SFJD Kangerlussuaq 116.20 22 IAMs_20 IAMs_20 12 44 25.5
comp=Z,1μm,19.0s
BRVK Borovoye 117.75 322 *c i* PKiKP **PKiKP 11 53 27.6 +1.2**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 117.75 322 IAMs_20 IAMs_20 12 40 10.2
comp=Z,1μm,21.0s
BDFB Brasilia 117.88 117 IAMs_20 IAMs_20 12 36 50.3
comp=Z,989nm,20.0s
DRLN Deer Lake 118.00 42 IAMs_20 IAMs_20 12 40 38.9
comp=Z,1μm,20.0s
IVI Ivigtut 119.61 27 IAMs_20 IAMs_20 12 47 50.7
comp=Z,1μm,19.0s
GAR Garm 119.80 306 IAMs_20 IAMs_20 12 45 28.2
comp=Z,1μm,20.0s
CHGR Chuyangaron 120.73 306 IAMs_20 IAMs_20 12 45 47.9
comp=Z,1μm,22.0s
ARU Arti 123.12 329 *i* PKIKP **PKiKP 11 53 38.0 +1.2**
ARU 11 55 16.4
ARU 12 00 49.7
ARU SP SP 12 05 08.7 -1.6
ARU MLR MLR
comp=Z,1μm,22.0s
ARU Arti 123.12 329 IAMs_20 IAMs_20 12 50 11.1
comp=Z,1μm,19.0s
ABKAR Akbulak array 125.04 320 PKPdf **PKPdf 11 53 40.3 -0.2**
MSEY Mahe Island 127.93 252 IAMs_20 IAMs_20 12 43 03.4
comp=Z,1μm,20.0s
KLMR Klimovskoe 128.50 340 *e*PKIKP **PKPdf 11 53 46.3 -0.4**
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 128.50 340 *e*PKPdf **PKPdf 11 53 46.3 -0.4**
KLMR AMP 11 53 55.7
comp=Z,16nm,1.3s
KLMR LQ LQ 12 39 45.6
KLMR LQ LQ 12 39 45.6
KLMR LR LR 12 47 54.8
OBN Obninsk 133.84 337 IAMs_20 IAMs_20 12 54 08.2
comp=Z,831nm,21.0s
KONO Kongsberg 135.41 358 IAMs_20 IAMs_20 12 55 20.5
comp=Z,905nm,20.0s
KIV Kislovodsk 138.03 321 *i* PKIKP **PKiKP 11 54 07.3 0.0**
KIV *e* 11 56 52.8
KIV *e*PS PS 12 07 20.1 -2.1
KIV *e*SS SS 12 15 04.3 +0.2
KIV *e*SSS SSS 12 20 11.8
KIV pmax pmax
comp=Z,25nm,1.1s
KIV Kislovodsk 138.03 321 IAMs_20 IAMs_20 13 00 44.7
comp=Z,758nm,19.0s
AKH Akhalkalaki 138.80 317 IAMs_20 IAMs_20 12 57 22.8
comp=Z,678nm,20.0s
SUW Suwalki 139.03 345 IAMs_20 IAMs_20 13 01 12.8
comp=Z,852nm,20.0s
SOC Sochi 140.02 322 *e*PKIKP **PKPdf 11 54 06.6 -2.2**
SOC *e* 11 57 01.8
SOC *e*SS SS 12 15 22.1 -5.3
SOC *e*SSS SSS 12 20 35.9
SOC MLR MLR
comp=Z,810nm,20.0s
RGN Rugen 140.24 354 IAMs_20 IAMs_20 13 00 25.7
comp=Z,812nm,20.0s
ANN Anapa 140.60 325 *e*PKIKP **PKPdf 11 54 08.9 -0.9**
ANN *e* 11 54 12.4
ANN pmax pmax
comp=Z,25nm,1.0s
ANN MLR MLR
comp=N,585nm,18.0s
ANN MLR MLR
comp=Z,505nm,18.0s
BSEG Bad Segeberg 141.08 357 *e*L L 12 58 42.3
comp=Z,698nm,21.1s
KWP Kalwaria Pacla 143.12 343 IAMs_20 IAMs_20 13 02 26.6
comp=Z,1μm,20.0s
LSZ Lusaka 143.19 216 IAMs_20 IAMs_20 12 55 26.3
comp=Z,1μm,19.0s
CLL Collm 143.47 353 *e*PKIKP **PKiKP 11 54 21.0 +2.9**
CLL *e*PSKS 12 07 44.0
CLL *e*PPS PPS 12 10 00.0
CLL *e*SS SS 12 16 10.0 +4.1
CLL *e*SSS SSS 12 21 41.0
CLL *e*SSSS 12 25 06.0
CLL Collm 143.47 353 *e*L L 12 58 32.6
comp=Z,576nm,22.0s
CLL Collm 143.47 353 IAMs_20 IAMs_20 13 11 32.2
comp=Z,627nm,18.0s
CHVC Chvalec 143.75 350 AMS AMS 13 01 50.0
comp=Z,800nm,17.5s
OSTC Ostas 143.75 350 AMS AMS 13 01 20.0
comp=Z,900nm,22.1s
UPC Upice 143.83 350 AMS AMS 13 01 10.0
comp=Z,900nm,18.2s
DPC Dobruska-Polom 143.93 350 *e*PKP **PKPdf 11 54 15.7 0.0**
DPC AMS AMS 12 56 20.0
comp=Z,800nm,19.4s
DPC Dobruska-Polom 143.93 350 *e*PKIKP **PKPdf 11 54 15.7 0.0**
DPC MLR MLR
comp=Z,800nm,19.4s
PVCC Panska Ves 144.04 352 AMS AMS 13 00 50.0
comp=Z,1μm,18.3s
BURAR Bucovina Array 144.09 339 ⇑P **PKPdf 11 54 15.8 -0.4**
BURAR Bucovina Array 144.09 339 ⇑PKIKP **PKPdf 11 54 15.8 -0.4**
KRLC Kraliky 144.11 349 AMS AMS 12 57 10.0
comp=Z,800nm,19.4s
UZH Uzhgorod 144.14 342 *e*PKIKP **PKPdf 11 54 15.6 -0.4**
MORC Moravsky Berou 144.25 348 ⇓P **PKiKP 11 54 21.4 +1.6**
MORC Moravsky Berou 144.25 348 *e*PKP **PKPdf 11 54 16.4 +0.1**
MORC Moravsky Berou 144.25 348 ⇓PKIKP **PKiKP 11 54 21.4 +1.6**
MORC Moravsky Berou 144.25 348 IAMs_20 IAMs_20 13 03 47.5
comp=Z,953nm,20.0s
MOX Moxa 144.26 355 *e*L L 13 05 20.8
comp=Z,781nm,19.5s
UCC Uccle 144.27 3 IAMs_20 IAMs_20 13 01 30.7
comp=Z,678nm,22.0s
BIZ Bicaz 144.34 337 ⇑P **PKPdf 11 54 16.6 +0.1**
PRA Prague 144.50 351 AMS AMS 13 01 40.0
comp=Z,600nm,18.5s
PRU Pruhonice 144.57 351 *e*PKP **PKPdf 11 54 17.4 +0.7**
PRU *ex* x 12 16 04.4
PRU AMS AMS 13 01 30.0
comp=Z,1μm,20.1s
PRU Pruhonice 144.57 351 *e*PKIKP **PKPdf 11 54 17.4 +0.7**
PRU MLR MLR
comp=Z,1μm,20.1s
NKC Novy Kostel 144.59 354 AMS AMS 13 08 20.0
comp=Z,800nm,18.0s
GOPC GO Pecny, Ondr 144.60 351 *ex* SS 12 16 05.9 -13
GOPC AMS AMS 12 57 00.0
comp=Z,1μm,20.7s
ATD Arta Tunnel 144.75 269 IAMs_20 IAMs_20 12 55 49.9
comp=Z,717nm,19.0s
BMRD Maredsous 144.78 2 PKPdf PKPbc 11 54 16.6 +0.6
BMRD PKiKP pPKPdf 11 54 20.3 +0.7
BMRD sPKiKP **PKiKP 11 54 24.7 +3.9**
TNS Taunus Mts 144.88 358 *e*L L 13 03 05.3
comp=Z,753nm,20.9s
VRAC Vranov 144.88 349 ⇓P **PKPdf 11 54 19.0 +1.7**
VRAC Vranov 144.88 349 *e*PKP **PKPdf 11 54 18.2 +0.9**
VRAC *e* 11 54 25.9
VRAC Vranov 144.88 349 ⇓PKIKP **PKPdf 11 54 19.0 +1.7**
VRI Vrincioaia 144.98 335 ⇑P **PKiKP 11 54 21.1 -0.4**
VRI Vrincioaia 144.98 335 ⇑PKIKP **PKiKP 11 54 21.1 -0.4**
DOU Dourbes 144.98 2 PKiKP **PKiKP 11 54 20.8 -0.5**
PLOR Plostina 145.03 336 ⇓P **PKiKP 11 54 24.2 +2.6**
PLOR Plostina 145.03 336 ⇓PKIKP **PKiKP 11 54 24.2 +2.6**
TREC Trest 145.09 350 AMS AMS 13 02 50.0
comp=Z,1μm,18.6s
JAVC Velka Javorina 145.10 347 *e*PKP **PKPdf 11 54 18.9 +1.1**
GAZ Gaziantep 145.13 315 IAMs_20 IAMs_20 12 58 02.0
comp=Z,726nm,22.0s
KRUC Moravsky 145.16 349 *e*PKP **PKPbc 11 54 17.3 0.0**
VYHS Vyhne 145.18 346 *e*PKIKP **PKPdf 11 54 18.8 +0.9**
VYHS Vyhne 145.18 346 *e*PKP **PKPdf 11 54 18.8 +0.9**
GRA1 Grafenberg Arr 145.24 355 IAMs_20 IAMs_20 13 04 10.9
comp=Z,708nm,20.0s
GRF Grafenberg Arr 145.24 355 *e*PKPdf **PKPdf 11 54 18.9 +0.9**
baz=7.5,slow=3.2
GRF *e*L L 12 59 48.1
comp=Z,695nm,21.8s
DOPR Dopca 145.42 337 ⇑P **PKPab 11 54 19.4 +0.9**
PSZ Piszkesteto 145.45 344 ⇓P **PKPab 11 54 18.8 +0.2**
PSZ Piszkesteto 145.45 344 PKIKP **PKPdf 11 54 18.3 -0.1**
PSZ Piszkesteto 145.45 344 **PKPdf 11 54 18.3 -0.1**
PSZ IAMs_20 IAMs_20 13 07 24.8
comp=Z,908nm,19.0s
WLF Walferdange 145.46 1 PKiKP **PKPab 11 54 20.2 +1.8**
WLF x x 11 54 23.0
WLF Walferdange 145.46 1 IAMs_20 IAMs_20 13 00 00.5
comp=Z,1μm,21.0s
NEHR Nehoiu 145.52 335 ⇑P **PKiKP 11 54 24.1 +1.6**
KHC Kasperske Hory 145.54 352 *e*PKP **PKPab 11 54 19.2 +0.4**
KHC *e*SS SS 12 16 31.2 +1.5
KHC AMS AMS 12 57 30.0
comp=Z,1μm,20.7s
KHC Kasperske Hory 145.54 352 PKIKP **PKPdf 11 54 18.5 0.0**
KHC MLR MLR
comp=Z,400nm,22.0s
KHC Kasperske Hory 145.54 352 **PKPdf 11 54 18.5 0.0**
MLR Muntele Rosu 145.60 336 ⇑P **PKPdf 11 54 18.9 +0.1**

MLR	Muntele Rosu	145.60 336	⇑PKIKP	PKPdf	11 54 18.9	+0.1
MLR	Muntele Rosu	145.60 336	PKPdf	PKPbc	11 54 19.4	+0.4
WET	Wettzell	145.61 353	eL	L	13 05 16.3	
	comp=Z,1μm,19.7s					
MODS	Modra-Piesok	145.64 348	ePKIKP	PKPab	11 54 20.0	+0.8
MODS	Modra-Piesok	145.64 348	ePKP	PKPab	11 54 20.0	+0.8
GEC2	GERESS Array S	145.80 352	eL	L	12 58 10.5	
	comp=Z,977nm,21.8s					
GEC2	GERESS Array S	145.80 352	IAMs_20	IAMs_20	12 58 11.1	
	comp=Z,1μm,21.0s					
GERES	GERESS Array B	145.80 352	PKPbc	PKPab	11 54 20.1	+0.3
	comp=Z,3.9nm,0.8s,baz=107,slow=1.4,SNR=14					
GERES	GERESS Array B	145.80 352	PKP2	PKPbc	11 54 19.8	+0.3
GERES	GERESS Array B	145.80 352		PKPbc	11 54 19.8	+0.3
KMBO	Kilima Mbogo	145.85 245	PKPbc	PKPbc	11 54 20.8	-0.1
	comp=Z,1.2nm,0.3s,baz=122,slow=3.0,SNR=7.8					
KMBO	Kilima Mbogo	145.85 245	IAMs_20	IAMs_20	12 54 58.7	
	comp=Z,821nm,20.0s					
BR131	Keskin Array S	145.98 321	PKP2	PKPbc	11 54 20.4	0.0
BR131	Keskin Array S	145.98 321	PKPdf	PKPbc	11 54 20.4	0.0
BRTR	Keskin Array B	145.98 321	PKPbc	PKPab	11 54 20.9	0.0
	comp=Z,11nm,0.9s,baz=123,slow=2.1,SNR=41					
BRTR	Keskin Array B	145.98 321	PKP2	PKPdf	11 54 19.6	-0.1
BRTR	Keskin Array B	145.98 321	PKPdf	PKPdf	11 54 19.6	-0.1
VOIR		146.00 337	⇓P	PKPab	11 54 21.7	+1.0
VOIR		146.00 337	⇓PKP2	PKPab	11 54 21.7	+1.0
ARR	Arges	146.21 337	⇑P	PKiKP	11 54 23.9	-0.2
STU	Stuttgart	146.29 357	IAMs_20	IAMs_20	13 07 42.6	
	comp=Z,759nm,19.0s					
CONA	Conrad Observa	146.34 349	ePKPab	PKPbc	11 54 21.7	+0.6
	comp=Z,19nm,1.4s					
SIRR	Siria	146.45 341	⇑P	PKiKP	11 54 29.5	+5.0
MOA	Molln	146.69 351	esPKPab	PKiKP	11 54 26.4	+1.5
	comp=Z,24nm,1.2s					
FUR	Furstenfeldbru	146.75 355	eL	L	13 01 43.3	
	comp=Z,1μm,20.5s					
BFO	Black Forest	146.77 358	eL	L	12 57 51.5	
	comp=Z,509nm,22.0s					
BFO	Black Forest	146.77 358	IAMs_20	IAMs_20	13 05 15.1	
	comp=Z,522nm,19.0s					
MDUB	Mudurnu	146.91 325		PKPbc	11 54 23.1	+0.1
ECH	Echery	146.91 360	IAMs_20	IAMs_20	13 04 06.6	
	comp=Z,752nm,19.0s					
BZS	Buzias	147.04 341	⇑P	PKPab	11 54 24.7	+0.1
BZS	Buzias	147.04 341	⇑PKP2	PKPab	11 54 24.7	+0.1
ARSA	Arzberg	147.06 349	esPKPdf	PKPab	11 54 24.7	0.0
	comp=Z,9.0nm,1.2s					
HERR	Herculane	147.43 339	⇓P	PKPbc	11 54 25.2	+1.0
RETA	Reutte	147.47 355	esPKPdf	PKPab	11 54 25.9	-0.4
	comp=Z,17nm,1.4s					
WATA	Walderalm	147.54 354	esPKPdf	PKPab	11 54 26.1	-0.6
	comp=Z,29nm,1.8s					
MOTA	Moosalm	147.58 355	ePKiKP	PKiKP	11 54 26.4	-0.5
	comp=Z,33nm,1.2s					
KBA	Koelnbreinsper	147.58 352	epPKPbc	PKPab	11 54 27.4	+0.5
	comp=Z,3.6nm,0.7s					
WTTA	Wattenberg	147.61 354	ePKiKP	PKiKP	11 54 26.5	-0.6
	comp=Z,16nm,1.0s					
SQTA	Sankt Quirin	147.69 354	ePKiKP	PKiKP	11 54 26.7	-0.4
	comp=Z,20nm,1.4s					
SOKA	Soboth	147.70 349	esPKPdf	PKPbc	11 54 26.0	+1.0
	comp=Z,14nm,1.6s					
DAVA	Damuels	147.74 356	epPKPdf	PKPbc	11 54 25.7	+0.4
	comp=Z,26nm,1.9s					
MDVR	Moldovita	147.75 340	⇓P	PKPab	11 54 25.6	+0.4
FETA	Feichten	147.94 355	ePKPab	PKiKP	11 54 27.2	-0.5
	comp=Z,22nm,1.4s					
ABTA	Abfaltersbach	148.02 353	pPKPbc	PKiKP	11 54 28.1	+0.4
	comp=Z,20nm,1.3s					
PRED	Cave del Predi	148.17 351		PKiKP	11 54 28.5	+0.5
PRED			IAMs_20	IAMs_20	13 00 39.8	
	comp=Z,1μm,22.0s					
BOLV	Bolvadin	148.22 323		PKPbc	11 54 27.6	+0.9
FURI	Furi	148.23 263	IAMs_20	IAMs_20	12 57 05.2	
	comp=Z,884nm,20.0s					
MPEP	Malo Peshtene	148.25 336	P	PKPdf	11 54 21.3	-1.9
FUORN	Ofenpass-Fuorn	148.37 355	IAMs_20	IAMs_20	13 03 23.7	
	comp=Z,1μm,21.0s					
CIMO	Cimolais	148.46 352	IAMs_20	IAMs_20	12 59 48.2	
	comp=Z,1μm,22.0s					
SENIN	Lac Senin/Sane	148.76 359	IAMs_20	IAMs_20	13 04 03.7	
	comp=Z,941nm,20.0s					
CTI	Castel Tesino	148.81 353	PKP2	PKPbc	11 54 28.9	+0.9
CTI	Castel Tesino	148.81 353	PKPbc	PKPbc	11 54 28.9	+0.9
TRI	Trieste	148.86 351	IAMs_20	IAMs_20	13 04 44.0	
	comp=Z,1μm,22.0s					
DIVS	Divibare	148.92 341	PKPbc	PKiKP	11 54 29.9	+0.2
DIVS			IAMs_20	IAMs_20	13 04 40.2	
	comp=Z,832nm,21.0s					
KDZ	Kurdzhali	148.95 332	P	PKPbc	11 54 28.1	-0.3
CSS	Mathiatis	148.97 315	IAMs_20	IAMs_20	13 10 38.6	
	comp=Z,557nm,20.0s					
ISP	Isparta	149.06 322	PKP2	PKiKP	11 54 30.0	-0.2
ISP	Isparta	149.06 322	PKPbc	PKiKP	11 54 30.0	-0.2
ISP	Isparta	149.06 322	IAMs_20	IAMs_20	13 15 57.6	
	comp=Z,719nm,21.0s					
VTS	Vitosha	149.08 336	P	PKPbc	11 54 29.0	+0.1
ALN	Alexandroupoli	149.26 331	IAMs_20	IAMs_20	13 09 46.3	
	comp=Z,626nm,21.0s					
MMB	Musomiste	149.74 334	P	PKPbc	11 54 29.9	-0.5
MANT	Manisa	149.75 325	PKPbc	PKiKP	11 54 32.2	+0.4
SSB	Saint Sauveur	149.79 3	IAMs_20	IAMs_20	13 02 44.6	
	comp=Z,795nm,20.0s					
BNI	Bardonecchia	150.07 0	IAMs_20	IAMs_20	13 03 05.4	
	comp=Z,924nm,19.0s					
PGAV	Gavieira, Arco	150.18 23	eSS	SS	12 17 31.0	+8.3
PGAV	Gavieira, Arco	150.18 23	eLR	LR	12 51 55.7	
	comp=Z,1μm,20.0s					
AKAS	Kas	150.65 320	PKPab	PKPab	11 54 40.5	+0.9
PDG	Podgorica	150.66 341	⇓P	PKiKP	11 54 36.2	+3.0
PDG	Podgorica	150.66 341	IAMs_20	IAMs_20	12 58 58.2	
	comp=Z,964nm,22.0s					
VLC	Villacollemand	150.81 355	IAMs_20	IAMs_20	13 01 00.1	
	comp=Z,998nm,22.0s					
MVO	Moncorvo	151.33 22	ePKP	PKPab	11 54 39.8	-2.4
MVO	Moncorvo	151.33 22	eSS	SS	12 17 39.3	+3.9
MVO	Moncorvo	151.33 22	eLR	LR	12 52 31.9	
	comp=Z,788nm,20.0s					
OSSC	Osservatorio P	151.35 353	PKPab	PKPab	11 54 41.5	-0.6
OSSC			IAMs_20	IAMs_20	13 02 48.6	
	comp=Z,1μm,21.0s					
PVIS	Viseu	151.40 24	ePKP	PKPab	11 54 44.0	+1.5
LIT	Litokhoron	151.50 334	PKIKP	PKPbc	11 54 34.4	-0.2
LIT	Litokhoron	151.50 334		PKPbc	11 54 34.4	-0.2
LIT			IAMs_20	IAMs_20	13 10 54.7	
	comp=Z,695nm,20.0s					
MTE	Manteigas	151.80 24	eSS	SS	12 17 44.2	+3.5
MTE	Manteigas	151.80 24	eLR	LR	12 51 29.7	
	comp=Z,1μm,22.0s					
INTR	Introdacqua	152.42 348	IAMs_20	IAMs_20	13 07 10.5	
	comp=Z,861nm,20.0s					
AGG	Agios Georgios	152.46 333	IAMs_20	IAMs_20	13 06 27.4	
	comp=Z,798nm,21.0s					
KARP	Karpathos	152.59 322	IAMs_20	IAMs_20	13 05 51.1	
	comp=Z,617nm,21.0s					
PMRV	Marv??o	152.70 24	eSS	SS	12 17 54.1	+3.7
PMRV	Marv??o	152.70 24	eLR	LR	12 52 42.1	
	comp=Z,1μm,20.0s					
SANT	Santorini	152.99 325	IAMs_20	IAMs_20	13 07 32.1	
	comp=Z,528nm,20.0s					
PAB	San Pablo	153.70 20	IAMs_20	IAMs_20	13 00 33.1	
	comp=Z,792nm,20.0s					
ESDC	Sonseca Array	153.71 19	PKPbc	PKiKP	11 54 41.2	+1.5
	comp=Z,1.1nm,0.9s,baz=340,slow=2.0,SNR=5.8					
PFVI	Vila Bisbo	153.98 29	IAMs_20	IAMs_20	12 53 22.0	
	comp=Z,1μm,21.0s					
IDI	Anoyia	154.09 324	IAMs_20	IAMs_20	13 12 48.5	
	comp=Z,504nm,20.0s					
PVAQ	Vaqueiros	154.27 27	eSS	SS	12 18 12.1	+4.4
PVAQ	Vaqueiros	154.27 27	eLR	LR	12 47 18.6	
	comp=Z,1μm,22.0s					
CEL	Celeste	155.50 342	IAMs_20	IAMs_20	13 06 41.1	
	comp=Z,908nm,22.0s					
VSL	Villasalto	155.52 355	IAMs_20	IAMs_20	13 19 49.9	
	comp=Z,665nm,19.0s					
CART	Cartagena	156.50 16	IAMs_20	IAMs_20	12 58 43.0	
	comp=Z,971nm,22.0s					
TORD	Torodi Ar. Bea	174.73 110	PKP	PKPdf	11 54 51.9	+0.8
	comp=Z,0.8nm,0.9s,baz=318,slow=1.9,SNR=2.4					
TORD			PKPab	PKPab	11 56 24.7	-0.3
	comp=Z,0.9nm,1.0s,baz=256,slow=5.8,SNR=1.9					

IDC 03 11:37:43.5±2.0, 1°.54N×125°.65E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/41, mbtmp3.5/4, ML3.4/1, MS3.7/1,

2014 SEP

Ms1 3.7/1, ms1mx2.9/28, Error ellipse: s-maj=123.6km s-min=26.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	11.83	190	LR	LR	11 45 22.6	
	comp=Z,356nm,20.5s,baz=263,slow=39						
FITZ	Fitzroy Crossi	19.51	180	P	Pn	11 42 13.5	-0.2
	0.1nm,0.3s,baz=0.4,slow=13,SNR=1.7						
WRA	Warramunga Arr	22.99	159	P	P	11 42 49.5	-0.5
	0.9nm,0.3s,baz=336,slow=10,SNR=44						
ASAR	Alice Springs	26.31	163	P	P	11 43 20.9	-0.1
	0.3nm,0.4s,baz=342,slow=7.2,SNR=9.6						
MKAR	Makanchi Array	58.75	327	P	P	11 47 43.5	+0.1
	0.3nm,0.5s,baz=134,slow=6.5,SNR=3.0						

*NEIC **03** 11:48:50.1±1.6, 18°.74N±0°.04×81°.45W±0°.05, h10km±1km, mb4.2/13, Error ellipse: s-maj=8.5km s-min=7.0km az=103.0*
*IDC **03** 11:48:53.1±1.6, 18°.29N×81°.77W, h0km, mb3.3/5, mb1 3.9/7, mb1mx3.6/31, mbtmp3.6/7, ML4.1/2, Error ellipse: s-maj=43.3km s-min=30.0km az=3.0*
*SSNC **03** 11:48:57.0±1.3, 18°.99N×81°.16W, h5km, MD4.1, ML3.5*

ISC 03 11:48:50.5±0.7, 18°.92N±0°.06×81°.44W±0°.05, h10km, n38, σ1§94/39, mb3.8/7, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSCY	Frank Sound, G	0.46	31		Pn	11 49 03.6	+0.4
LCCY	Blossom Villag	1.48	59		Pb	11 49 17.9	-0.2
CBCY	The Bluff, Cay	1.78	62		Pn	11 49 21.8	+0.4
MGV	Manicaragua	3.46	23	eP	Pn	11 49 45.9	+1.5
MGV				eS	Sn	11 50 24.3	-1.1
MGV				IAML		11 50 28.1	
	comp=N,76nm,0.3s						
MGV				IAML		11 50 30.4	
	comp=E,82nm,0.5s						
MTDJ	Mount Denham	3.76	100		Pn	11 49 49.5	+0.8
MTDJ				Sn	Sn	11 50 31.6	-1.6
SOR	Soroa	4.13	339	eP	Pb	11 49 59.3	-4.0
SOR				eS	Sb	11 50 48.5	-4.8
SOR				IAML		11 51 02.2	
	comp=E,47nm,0.8s						
SOR				IAML		11 51 12.8	
	comp=N,35nm,0.6s						
LMGC	Las Mercedes	4.33	74	eP	Pn	11 49 58.0	+1.6
LMGC				eS	Sn	11 50 44.2	-2.9
LMGC				IAML		11 50 49.9	
	comp=N,15nm,0.3s						
LMGC				IAML		11 50 51.3	
	comp=E,29nm,0.3s						
GTBY	Guantanamo Bay	6.05	79	Pn	Pn	11 50 21.2	+1.0
TEIG	Tepich	6.58	283	Pn	Pn	11 50 29.1	+1.8
	comp=E,8.4nm,0.3s,baz=123,slow=1.1,SNR=79						
TEIG				Sn	Sn	11 51 39.9	-2.6
	comp=E,2.1nm,0.3s,baz=6.5,slow=23,SNR=1.8						
TEIG	Tepich	6.58	283		Pn	11 50 29.7	+2.4
TEIG					Sn	11 51 42.8	+0.2
061Z	Ochoppi	6.94	4	Pn	Pn	11 50 34.2	+2.0
061Z				Sn	Sn	11 51 54.5	+3.3
553A	Crawfordville	11.55	347	Pn	Pn	11 51 38.5	+3.0
URIC	Uribia, Colomb	11.59	127	Pn	Pn	11 51 36.6	+0.5
TKL	Tuckaleechee C	16.81	353	P	P	11 52 57.6	+9.4
	comp=E,0.4nm,0.3s,baz=169,slow=16,SNR=5.7						
TKL	Tuckaleechee C	16.81	353		Pn	11 52 45.9	-0.1
TKL				IAmb	IAmb	11 53 11.9	
	comp=Z,13nm,0.9s						
V58A	Windy Hill, Pi	16.94	6	P	P	11 52 49.6	0.0
V52A	Sevierville	16.97	354	P	P	11 52 50.1	+0.2
V52A				IAmb	IAmb	11 53 14.1	
	comp=Z,5.8nm,0.9s						
KVTX	Kingsville	17.38	303	P	P	11 52 54.9	+0.3
X43A	Marvell	17.67	333	P	P	11 52 58.8	+1.2
T50A	Nancy	18.28	351	P	P	11 53 06.5	+2.0
HALT	Halls	18.31	339	P	P	11 53 06.8	+2.0
LCAR	Lake Charles	19.12	335	P	Pn	11 53 15.1	+0.6
LCAR				IAmb	IAmb	11 53 29.5	
	comp=Z,7.5nm,1.2s						
PARMO	Parma	19.13	339	P	Pn	11 53 14.9	+0.2
PARMO				IAmb	IAmb	11 53 24.8	
	comp=Z,32nm,0.8s						
HHAR	Hobbs	20.51	330	P	Pn	11 53 30.6	-0.5
TOSP	Speyside	21.54	108	P	P	11 53 36.8	-3.3
TOSP				IAmb	IAmb	11 53 38.9	
	comp=Z,30nm,0.9s						
TXAR	Lajitas Array	22.75	301	P	P	11 53 56.9	+3.8
	comp=Z,0.2nm,0.6s,baz=120,slow=11,SNR=2.8						
TXAR	Lajitas Array	22.75	301	P	P	11 53 54.0	+0.9
PDAR	Pinedale Array	33.61	321	P	P	11 55 38.1	+6.7
	comp=Z,0.1nm,0.5s,baz=111,slow=10,SNR=1.7						
PDAR	Pinedale Array	33.61	321	P	P	11 55 31.6	+0.2
VCNR	Virginia City	38.70	310	P	P	11 56 15.5	+0.5
VCNR				IAmb	IAmb	11 56 17.0	
	comp=Z,5.1nm,1.1s						
ILAR	Eielson Array	62.63	334	P	P	11 59 21.6	+6.7
	comp=Z,0.3nm,0.7s,baz=104,slow=3.8,SNR=1.8						
ILAR	Eielson Array	62.63	334	P	P	11 59 15.2	+0.3
ESDC	Sonseca Array	68.69	54	P	P	12 00 01.4	+6.8
	comp=Z,0.2nm,0.3s,baz=283,slow=6.5,SNR=1.5						
ESDC	Sonseca Array	68.69	54	P	P	11 59 55.1	+0.6
ARCES	ARCESS Array B	78.19	20	P	P	12 00 59.1	+9.2
	comp=Z,2.7nm,0.9s,baz=284,slow=7.3,SNR=5.0						
ARCES	ARCESS Array B	78.19	20	P	P	12 00 50.1	+0.3
WRA	Warramunga Arr	146.28	262	PKPbc	PKPab	12 08 33.8	+0.8
	comp=Z,0.3nm,0.7s,baz=87,slow=3.9,SNR=6.2						
ASAR	Alice Springs	146.79	256	PKPbc	PKiKP	12 08 37.1	+0.7
	comp=Z,0.4nm,0.9s,baz=99,slow=3.1,SNR=2.2						

IDC 03 11:51:39.6±1.8, 10°.66S×124°.20E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, ML3.1/3, Error ellipse: s-maj=77.7km s-min=16.9km az=49.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	0.69	311	Pn	Pn	11 51 57.0	+0.2
	46nm,0.3s,baz=122,slow=9.5,SNR=29						
BATI				Sn	Sn	11 52 08.4	+0.1
	51nm,0.3s,baz=52,slow=22,SNR=5.9						
FITZ	Fitzroy Crossi	7.52	169	Pn	Pn	11 53 31.5	+0.8
	0.2nm,0.3s,baz=359,slow=11,SNR=9.2						
FITZ				Sn	Sn	11 54 49.8	-7.0
	1.2nm,0.3s,baz=180,slow=9.0,SNR=11						
WRA	Warramunga Arr	13.44	135	Pn	Pn	11 54 50.7	-1.1
	0.1nm,0.3s,baz=309,slow=14,SNR=1.5						
WRA				Sn	Sn	11 57 12.9	-9.1
	0.3nm,0.3s,baz=186,slow=14,SNR=7.4						
ASAR	Alice Springs	15.90	146	Pn	Pn	11 55 24.1	-0.8
	0.1nm,0.3s,baz=319,slow=12,SNR=9.4						
ASAR				Sn	Sn	11 58 12.3	-10
	0.2nm,0.3s,baz=321,slow=24,SNR=8.2						
MKAR	Makanchi Array	68.34	330	P	P	12 02 43.1	+0.2
	0.4nm,0.7s,baz=122,slow=7.1,SNR=2.0						

WEL 03 11:55:30.4, 43°S±3°×17°1E±°, h5km±2km, M2.5/7, ML2.4/6, MLv2.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=76.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	Waitaha Valley	0.19	285	P	Pg	11 55 35.5	+1.5
GCSZ	Gaunt Creek Bo	0.52	248	P	Pb	11 55 41.5	-0.4
INZ	Inchbonnie	0.52	41	P	Pb	11 55 41.6	-0.3
RPZ	Rata Peaks	0.59	175	P	Pb	11 55 43.6	+0.3
ARCZ	Arundel	0.84	170	P	Pb	11 55 48.0	+0.6
FOZ	Fox Glacier	0.94	244	P	Pb	11 55 49.6	+0.4
LTZ	Lake Taylor	1.00	71	P	Pn	11 55 51.6	+0.4
MQZ	McQueen's Vall	1.35	116	P	Pn	11 55 52.5	-3.3
LBZ	Lake Benmore	1.39	204	P	Pg	11 55 58.0	+1.1
DSZ	Denniston Nort	1.50	24	P	Pg	11 56 00.2	+1.0
JCZ	Jackson Bay	1.86	238	P	Pg	11 56 05.6	-0.4
ODZ	Otahua Downs	1.94	187	P	Pb	11 56 05.3	-0.9
WKZ	Wanaka	2.22	219	P	Pg	11 56 13.8	+0.9
QRZ	Quartz Range	2.57	27	P	Pn	11 56 14.4	+1.8

WEL 03 12:31:46.0±1.2, 35°S±8°×17°9E±1°8, h33km, M3.8/22, mB4.4/1, ML3.9/22, MLv3.8/22, Mw(mB)3.6/1, Error ellipse: s-maj=0.0km s-min=0.0km az=102.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.07	197	P	Pn	12 32 35.5	+3.3
WMGZ	Waiomatatini S	3.29	194	P	Pn	12 32 38.9	+3.7
WMGZ				S	Sn	12 33 17.2	+4.0
HAZ	Te Kaha	3.40	203	P	Pn	12 32 39.2	+2.5
HAZ				S	Sn	12 33 18.4	+2.6
PUZ	Puketiti	3.57	195	P	Pn	12 32 41.6	+2.5
PUZ				S	Sn	12 33 21.0	+0.9
RUGZ	Raukumara Rang	3.62	203	P	Pn	12 32 42.1	+2.2
RUGZ				S	Sn	12 33 21.9	+0.3
KUZ	Kuaotunu	3.69	234	P	Pb	12 32 46.6	-3.9
OPRZ	Ohinepanea	3.97	215	P	Pn	12 32 47.2	+2.7
MWZ	Matawai	4.01	202	P	Pn	12 32 47.0	+1.9
MWZ				S	Sn	12 33 31.5	+0.6
TKGZ	Te Karaka	4.01	198	P	Pn	12 32 46.9	+1.7
TKGZ				S	Sn	12 33 32.9	+1.9
URZ	Urewera	4.08	207	P	Pn	12 32 47.8	+1.7
URZ				S	Sn	12 33 33.9	+1.2
MUGZ	Murupara	4.40	208	P	Pn	12 32 51.4	+0.9
KNZ	Kokohu	4.61	197	P	Pn	12 32 52.0	-1.3
RAHZ	Arahi	4.68	203	P	Pn	12 32 54.7	+0.4
RAHZ				S	Sn	12 33 46.6	-0.9
MTHZ	Maungataniwha	4.71	206	P	Pn	12 32 55.6	+0.9
MTHZ				S	Sn	12 33 46.4	-1.8
MRHZ	Matea Rd	4.85	209	P	Pn	12 32 56.8	+0.1
ARHZ	Aropaoanui	5.02	202	P	Pn	12 32 58.6	-0.4
BKZ	Black Stump Fm	5.11	207	P	Pn	12 32 59.9	-0.3
MCHZ	McNeill Hill	5.29	204	P	Pn	12 33 01.8	-0.8
HIZ	Hauiti	5.35	222	P	Pn	12 33 06.0	+2.4
KWHZ	Kaweka Forest	5.36	206	P	Pn	12 33 02.7	-1.1
KWHZ				S	Sn	12 34 01.5	-2.9
OTVZ	Oturere	5.44	213	P	Pn	12 33 04.3	-0.7
KAHZ	Kahuranaki	5.55	201	P	Pn	12 33 04.9	-1.4
KRHZ	Kereru	5.58	205	P	Pn	12 33 04.7	-2.0
TSZ	Takapari Road	6.09	206	P	Pn	12 33 10.9	-2.8
BFZ	Birch Farm	6.55	202	P	Pn	12 33 16.7	-3.3
TIWZ	Tintock	6.75	204	P	Pn	12 33 19.5	-3.3
MRZ	Mangatainoka R	6.76	206	P	Pn	12 33 18.9	-3.9
MRZ				S	Sn	12 34 29.7	-8.9
KIW	Kapiti Island	7.18	209	P	Pn	12 33 24.3	-4.4
KIW				S	Sn	12 34 39.8	-9.3
CAW	Cannon Point	7.33	207	P	Pn	12 33 25.7	-5.0

*SOME **03** 12:37:31.4, 40°.85N×70°.18E, h10km*
*KRNET **03** 12:37:35.0±0.1, 41°.01N×70°.06E, mb2.8*

ISC 03 12:37:35.0±3.2, 40°.9N±0°.1×69°.6E±0°.1, h28km±22km, n11, σ1§37/20, 8C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	1.27	15	eP	Pn	12 37 55.9	-1.1
IUG	35nm,0.2s			eS	Sn	12 38 13.9	+0.7
	85nm,0.3s						
ARK	Arkit	1.99	63	⇑iP	Pn	12 38 05.5	-1.4
ARK	baz=61			⇑iS	Sn	12 38 28.2	-2.7
	baz=61						
BRLS	Borolday	2.12	5	eP	Pn	12 38 07.3	-1.2
BRLS	22nm,0.4s			eS	Sn	12 38 33.5	-0.4
	14nm,0.3s						
KK31	Karatay Array	2.29	17	⇓Pg	Pn	12 38 12.1	+1.3
KK31	2.1nm,0.4s,baz=184,slow=14,SNR=17			⇓Lg	Lg	12 38 40.7	
	1.5nm,0.3s,baz=189,slow=29,SNR=6.2						
DZA	Taraz	2.36	33	eP	Pn	12 38 12.5	+0.6
DZA	156nm,0.1s			eS	Sn	12 38 42.2	+2.3
	122nm,0.1s						
OHH	Osh	2.46	98	⇓iP	Pn	12 38 14.3	+1.0
OHH	baz=2.0			⇓iS	Sn	12 38 42.4	0.0
	baz=2.0						
MRKS	Merke	3.27	55	eP	Pn	12 38 25.6	+1.1
MRKS	5.2nm,0.3s			eS	Sn	12 39 04.7	+2.2
	6.6nm,0.5s						
AML	Almayashu	3.31	67	⇑iP	Pn	12 38 25.5	+0.2
AML	baz=66			⇑iS	Sn	12 39 03.3	-0.5
	baz=66						
EKS2	Erkin-Say	3.58	60	⇓iP	Pn	12 38 28.7	0.0
EKS2	baz=58			⇓iS	Sn	12 39 08.8	-1.3
	baz=58						
UCH	Uchtor	3.91	69	⇑iP	Pn	12 38 34.0	+0.3
UCH	baz=69			⇑iS	Sn	12 39 17.9	-1.0
	baz=69						
AAK	Ala-Archa	4.04	63	⇑Pg	Pb	12 38 45.6	0.0
AAK	2.2nm,0.5s			⇑Lg	Lg	12 39 30.9	
	5.5nm,0.8s						

*SOME **03** 12:37:41.6, 40°.62N×78°.28E, h5km*
*KRNET **03** 12:37:42.8±0.1, 40°.74N×78°.45E, mb2.7*

NNC 03 12:37:42.0±1.9, 40°.61N×78°.25E, h0km, mb3.4, mpv3.1, 13C-3D, Error ellipse: s-maj=13.0km s-min=9.2km az=174.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	1.72	332	⇑iP	Pb	12 38 14.2	-0.4
KDJ	baz=26			⇑iS	Sb	12 38 37.0	+0.1
	baz=26						
PRZ	Przheval'sk	1.87	3	⇓iP	Pn	12 38 15.3	-0.3
PRZ	baz=59			⇓iS	Sn	12 38 39.1	-0.9
	baz=59						
ANVS	Anan'yevo	2.21

	8.0nm,0.6s						
IZV	**Izvestkoviy**	**2.72**	**334**	*e*P	Pb	12 38 32.6	+0.9
	4.6nm,0.4s						
IZV				*e*S	Sg	12 39 09.0	-0.3
	10nm,0.3s						
IZV	**Izvestkoviy**	**2.72**	**334**	Pg	Pb	12 38 32.6	+0.9
	4.6nm,0.4s						
IZV				Lg	Lg	12 39 09.0	
	10nm,0.3s						
KOTS	**Kotyrbulak**	**2.76**	**342**	*e*P	Pb	12 38 33.3	+1.0
	8.4nm,0.4s						
KOTS				*e*S	Sg	12 39 10.4	-0.2
	22nm,0.6s						
KOTS	**Kotyrbulak**	**2.76**	**342**	Pg	Pb	12 38 33.3	+1.0
	8.4nm,0.4s						
KOTS				Lg	Lg	12 39 10.4	
	22nm,0.6s						
PDGK	**Podgornoye**	**2.87**	**18**	Pg	Pb	12 38 33.0	-1.2
	1.6nm,0.4s						
PDGK				Lg	Lg	12 39 09.8	
	8.4nm,0.3s						
PDGK	**Podgornoye**	**2.87**	**18**	⇑Pg	Pb	12 38 32.9	-1.3
	1.4nm,0.4s						
PDGK				⇑Lg	Lg	12 39 09.9	
	12nm,0.5s						
KPKS	**Kokpek**	**2.87**	**6**	*e*P	Pb	12 38 35.0	+0.8
	8.6nm,0.5s						
KPKS				*e*S	Sg	12 39 13.1	-1.2
	22nm,0.6s						
KURS	**Kuram**	**2.88**	**359**	*e*P	Pb	12 38 35.4	+1.1
	6.3nm,1.0s						
KURS				*e*S	Sg	12 39 13.9	-0.5
	8.6nm,0.6s						
KURS	**Kuram**	**2.88**	**359**	Pg	Pb	12 38 35.4	+1.1
	6.3nm,1.0s						
KURS				Lg	Lg	12 39 13.9	
	8.6nm,0.6s						
KST	**Kastek**	**2.97**	**326**	*e*P	Pb	12 38 36.5	+0.5
	4.6nm,0.3s						
KST				*e*S	Sg	12 39 15.9	-1.7
	12nm,0.4s						
KST	**Kastek**	**2.97**	**326**	Pg	Pb	12 38 36.5	+0.5
	4.6nm,0.3s						
KST				Lg	Lg	12 39 15.9	
	7.6nm,0.9s						
TKM2	**Tokmak 2**	**3.05**	**320**	⇓Pg	Pn	12 38 34.0	+2.4
	3.3nm,0.9s						
TKM2				⇑Lg	Lg	12 39 17.6	
	6.1nm,0.5s						
ARLS	**Aral**	**3.22**	**294**	⇑*i*P	Pb	12 38 37.9	-2.2
	baz=91						
ARLS				⇑*i*S	Sb	12 39 18.2	-1.7
	baz=91						
KTMS	**Ketmen**	**3.23**	**28**	*e*P	Pb	12 38 41.7	+1.3
	0.2nm,0.0s						
KTMS				*e*S	Sg	12 39 24.9	-1.1
	6.0nm,0.2s						
KTMS	**Ketmen**	**3.23**	**28**	Pg	Pb	12 38 41.7	+1.3
	0.2nm,0.0s						
KTMS				Lg	Lg	12 39 24.9	
	6.0nm,0.2s						
KTBS	**Karatobe**	**3.31**	**340**	*e*P	Pb	12 38 42.8	+1.1
	3.2nm,0.3s						
KTBS				*e*S	Sg	12 39 26.7	-1.7
	9.5nm,0.3s						
KTBS	**Karatobe**	**3.31**	**340**	Pg	Pb	12 38 42.8	+1.1
	3.2nm,0.3s						
KTBS				Lg	Lg	12 39 26.7	
	9.5nm,0.3s						
DJR	**Jarkent**	**3.89**	**16**	*e*P	Pb	12 38 52.6	+1.0
	1.1nm,0.5s						
DJR				*e*S	Sg	12 39 43.6	-3.4
	3.5nm,0.4s						
DJR	**Jarkent**	**3.89**	**16**	Pg	Pb	12 38 52.6	+1.0
	1.1nm,0.5s						
DJR				Lg	Lg	12 39 43.6	
	3.5nm,0.4s						

IDC ***03*** *13:03:17.4±1.7, 60°.31S×27°.47W, h0km, mb4.3/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.3/4, Error ellipse: s-maj=58.2km s-min=37.2km az=5.0*
NEIC ***03*** *13:03:22.4±1.5, 60°.2S±0°.3×27°.5W±0°.4, h31km±9km, mb4.8/13, Error ellipse: s-maj=42.0km s-min=25.7km az=175.0*

ISC 03 13:03:19.1±1.2, 60°.2S±0°.3×27°.5W±0°.2, h10km, n23, σ1°22/23, mb4.6/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO09	**Cerro Castillo**	**26.28**	**270**	P	**P**	**13 08 54.6**	**+0.3**
GO09				IAmb	IAmb	13 09 17.9	
	comp=Z,41nm,1.5s						
GO05	**Huala**	**38.02**	**291**	P	**P**	**13 10 36.1**	**-1.1**
SPB	**Sao Paulo**	**39.11**	**330**	P	**P**	**13 10 44.3**	**-2.0**
CPUP	**Villa Florida**	**39.52**	**316**	P	**P**	**13 10 50.6**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=154,slow=6.9,SNR=5.4						
CPUP	**Villa Florida**	**39.52**	**316**	P	**P**	**13 10 50.7**	**+0.9**
CPUP				IAmb	IAmb	13 11 59.6	
	comp=Z,35nm,1.9s						
GO02	**Mina Guanaco**	**45.37**	**301**	P	**P**	**13 11 40.1**	**+2.4**
PB11	**IPOC Station P**	**50.19**	**305**	P	**P**	**13 12 14.8**	**-0.1**
MNMC	**Minye Minye**	**50.73**	**305**	P	**P**	**13 12 21.2**	**+2.0**
PB16	**IPOC Station P**	**51.41**	**306**	P	**P**	**13 12 26.9**	**+2.2**
PB16				IAmb	IAmb	13 12 33.9	
	comp=Z,20nm,1.8s						
LPAZ	**La Paz**	**52.70**	**308**	P	**P**	**13 12 35.9**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=90,slow=10,SNR=2.9						
LPAZ	**La Paz**	**52.70**	**308**	P	**P**	**13 12 35.5**	**+1.2**
SAML	**Samuel**	**57.64**	**317**	P	**P**	**13 13 09.2**	**-0.1**
SAML				IAmb	IAmb	13 13 09.9	
	comp=Z,4.9nm,1.2s						
DBIC	**Dimbokro**	**69.00**	**24**	P	**P**	**13 14 24.8**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=171,slow=7.1,SNR=1.3						
DBIC	**Dimbokro**	**69.00**	**24**	P	**P**	**13 14 24.7**	**+0.2**
TOA0	**Torodi Ar. Sit**	**76.75**	**29**	P	**P**	**13 15 10.9**	**+0.6**
TOA0				IAmb	IAmb	13 15 11.4	
	comp=Z,6.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.75**	**29**	P	**P**	**13 15 10.9**	**+0.5**
	comp=Z,4.3nm,0.4s,baz=198,slow=6.2,SNR=38						
TORD	**Torodi Ar. Bea**	**76.75**	**29**	P	**P**	**13 15 10.6**	**+0.3**
INK	**Inuvik**	**148.78**	**316**	PKPbc	**PKPbc**	**13 23 03.5**	**-1.4**
	comp=Z,3.5nm,0.8s,baz=92,slow=4.5,SNR=3.7						
INK	**Inuvik**	**148.78**	**316**		**PKPbc**	**13 23 03.9**	**-1.0**
SONM	**Songino Array**	**150.89**	**94**	PKPbc	**PKiKP**	**13 23 11.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=216,slow=4.6,SNR=2.6						
SONM	**Songino Array**	**150.89**	**94**		**PKPbc**	**13 23 11.2**	**+0.3**
KDAK	**Kodiak Island**	**152.27**	**290**	PKPbc	**PKPbc**	**13 23 12.9**	**-0.6**
	comp=Z,8.0nm,1.1s,baz=138,slow=3.6,SNR=8.2						
KDAK	**Kodiak Island**	**152.27**	**290**		**PKiKP**	**13 23 13.3**	**-0.5**

SNET ***03*** *13:04:45.8±0.7, 13°.43N×90°.07W, h55km±16km, ML2.7*
GCG ***03*** *13:04:51.0±0.3, 13°.70N×90°.05W, h16km, MD3.3*

ISC 03 13:04:46.9±3.3, 13°.5N±0°.2×90°.03W±0°.09, h58km, n9, σ1°11/12, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.51**	**29**	*e*P	**Pn**	**13 04 58.3**	**-0.7**
NUBE				*e*S	**Sn**	**13 05 07.4**	**-0.3**
NUBE				IAML		13 05 08.5	
	comp=Z,91nm,0.2s						
CEVE	**Cerro Verde**	**0.54**	**47**	*e*P	**Pn**	**13 04 58.9**	**-0.5**
CEVE				*e*S	**Sn**	**13 05 09.7**	**+1.1**
CEVE				IAML		13 05 10.9	
	comp=Z,1μm,0.2s						
IXG	**Ixpaco**	**0.82**	**331**	*e*P	**Pn**	**13 05 01.9**	**-0.8**
IXG	**Ixpaco**	**0.82**	**331**	*e*P	**Pn**	**13 05 03.0**	**+0.3**
IXG				*e*S	**Sn**	**13 05 12.4**	**-1.9**
QUEZ	**Alcaldia de Qu**	**0.83**	**63**	*e*S	**Sn**	**13 05 14.8**	**+0.6**
TACO	**Tacachico**	**0.83**	**52**	*e*S	**Sn**	**13 05 14.8**	**+0.5**
LFRS	**El Faro**	**0.96**	**80**	*e*P	**Pn**	**13 05 04.2**	**-0.2**
PCG	**Pacaya**	**1.09**	**329**	*e*S	**Sn**	**13 05 22.3**	**+1.6**
FUG	**Fuego 3**	**1.26**	**321**	*e*S	**Sn**	**13 05 25.9**	**+1.2**

IDC ***03*** *13:16:22.1±1.0, 36°.75N×139°.68E, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.5/55, mbtmp3.6/8, ML3.1/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/43, Error ellipse: s-maj=22.2km s-min=17.6km az=148.0*
NIED ***03*** *13:16:23.3, 36°.88N×139°.53E, h8km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.21; $M_{\theta\theta}$1.78; $M_{\phi\phi}$-2.99; $M_{r\theta}$3.59; $M_{\theta\phi}$-3.62; $M_{\phi r}$1.86; Fault plane solution: $M_0$5.95000×10^{14} NP1:ϕ_s67.00000°, δ83.00000°, λ135.00000°. NP2:ϕ_s164.00000°, δ45.00000°, λ9.00000°.*
JMA ***03*** *13:16:23.3, 36°.88N×139°.53E, h8km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕ_s162.00000°, δ57.00000°, λ14.00000°. NP2:ϕ_s64.00000°, δ78.00000°, λ146.00000°. Principal axes: T Plg32.0000°, Azm18.0000°; N Plg54.0000°, Azm227.0000°; P Plg14.0000°, Azm117.0000°;*
JMA Felt III J1.

ISC 03 13:16:22.4±1.5, 36°.83N±0°.04×139°.60E±0°.04, h2km±12km, n19, σ1°24/27, mb3.7/4, 5C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.29**	**257**	⇑P	**Pg**	**13 16 28.6**	**+0.7**
JKT				S	**Sg**	**13 16 32.1**	**+0.4**
JSB	**Shiboa**	**0.29**	**62**	⇓P	**Pb**	**13 16 30.2**	**-0.2**
JSB				S	**Sb**	**13 16 34.9**	**-0.8**
JAG	**Ashikaga**	**0.42**	**196**	⇑P	**Pb**	**13 16 32.3**	**-0.3**
JAG				S	**Sb**	**13 16 38.3**	**-1.2**
JFY	**Yanaizu**	**0.58**	**8**	⇑P	**Pg**	**13 16 33.8**	**+0.3**
JFY				S	**Sg**	**13 16 40.6**	**-0.4**
JHK	**Hiroka**	**0.62**	**312**	⇓P	**Pg**	**13 16 34.0**	**-0.3**
JHK				S	**Sg**	**13 16 41.4**	**-1.0**
JFT	**Otama**	**0.90**	**41**	P	**Pb**	**13 16 40.4**	**-0.4**
JFT				S	**Sb**	**13 16 52.1**	**-1.2**
JRY	**Ryogami san**	**0.99**	**215**	⇑P	**Pn**	**13 16 42.1**	**-1.2**
JIZZ	**Izumozaki**	**0.99**	**315**	⇓P	**Pg**	**13 16 41.7**	**+0.3**
JNS	**Sasagawa**	**1.01**	**347**	⇑P	**Pg**	**13 16 41.5**	**-0.2**
JNS				S	**Sg**	**13 16 53.7**	**-1.1**
MJAR	**Matsushiro Arr**	**1.15**	**256**	Pg	**Pb**	**13 16 44.1**	**-0.9**
	9.0nm,0.3s,baz=70,slow=17,SNR=262						
MJAR				LR	LR	13 17 12.8	
	comp=Z,47nm,18.7s,baz=100,slow=43						
MAT	**Matsushiro**	**1.16**	**256**	P	**Pb**	**13 16 44.5**	**-0.6**
MAT				S	**Sb**	**13 16 58.7**	**-1.9**
JHJ	**Hachijo jima 2**	**3.71**	**178**	Pn	**Pn**	**13 17 21.1**	**+0.4**
	12nm,0.3s,baz=42,slow=18,SNR=2.2						
ASAJ	**Asahikawa**	**7.62**	**16**	Pn	**Pn**	**13 18 15.8**	**+1.3**
	0.3nm,0.3s,baz=41,slow=31,SNR=2.3						
KSRS	**Korea Array**	**9.34**	**277**	Pn	**Pn**	**13 18 40.9**	**+2.8**
	0.4nm,0.3s,baz=90,slow=15,SNR=4.6						
USRK	**Ussuriysk Ar.**	**9.36**	**324**	Pn	**Pn**	**13 18 41.5**	**+3.3**
	baz=133,slow=13,SNR=5.2						
USRK				LR	LR	13 22 10.8	
	comp=Z,125nm,18.2s,baz=31,slow=37						
ILAR	**Eielson Array**	**50.44**	**32**	P	**P**	**13 25 20.2**	**-0.9**
	0.2nm,0.6s,baz=286,slow=6.5,SNR=2.3						
WRA	**Warramunga Arr**	**56.69**	**186**	P	**P**	**13 26 06.4**	**-0.9**
	1.2nm,0.7s,baz=0.9,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**60.41**	**186**	P	**P**	**13 26 33.1**	**-0.2**
	0.2nm,0.2s,baz=360,slow=4.1,SNR=2.8						
NVAR	**Mina Array Bea**	**76.27**	**52**	P	**P**	**13 28 13.4**	**+0.5**
	0.3nm,0.6s,baz=268,slow=4.8,SNR=4.1						

JMA ***03*** *13:30:52.2±0.1, 23°.45N×121°.67E, h45km±3km, M2.8*
TAP ***03*** *13:30:53.0, 23°.48N×121°.65E, h49km, ML3.2, C*

ISC 03 13:30:53.6±1.5, 23°.48N±0°.02×121°.70E±0°.02, h36km±1km, n119, σ0°97/225, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.25**	**273**	P	**Pn**	**13 31 01.3**	**-0.2**
	baz=272						
HGSD				*e*S	**Sn**	**13 31 07.2**	**-0.7**
	baz=272						
EGFH	**Guangfu**	**0.31**	**307**	P	**Pn**	**13 31 01.7**	**-0.1**
	baz=303						
EGFH				S	**Sn**	**13 31 08.4**	**+0.4**
	baz=303						
EHY	**Hungye**	**0.35**	**274**	P	**Pn**	**13 31 01.9**	**-0.2**
	baz=273						
EHY				*e*S	**Sn**	**13 31 09.0**	**+0.6**
	baz=273						
EYUL	**Yuli**	**0.37**	**249**	*e*P	**Pn**	**13 31 02.3**	**0.0**
	baz=256						
EYUL				*e*S	**Sn**	**13 31 09.5**	**+0.7**
	baz=256						
YULB	**Yu-li**	**0.38**	**257**	*i* P	**Pn**	**13 31 02.2**	**-0.2**
	baz=264						
YULB				S	**Sn**	**13 31 08.9**	**0.0**
	baz=264						
TWF1	**Yuli**	**0.39**	**251**	P	**Pn**	**13 31 02.4**	**-0.2**
	baz=257						
TWF1				*e*S	**Sn**	**13 31 09.8**	**+0.6**
	baz=257						
ESL	**Shilin**	**0.41**	**324**	P	**Pn**	**13 31 02.5**	**-0.4**
	baz=323						
ESL				S	**Sn**	**13 31 10.4**	**+0.8**
	baz=323						
FULB	**Fuli**	**0.47**	**233**	*e*P	**Pn**	**13 31 03.6**	**-0.1**
	baz=240						
FULB				*e*S	**Sn**	**13 31 11.5**	**+0.6**
	baz=240						
CHKT	**Chengkung**	**0.49**	**219**	*e*P	**Pn**	**13 31 03.7**	**-0.3**
	baz=206						
CHKT				S	**Sn**	**13 31 13.7**	**+2.4**
	baz=206						
HWA	**Hwalien**	**0.50**	**350**	P	**Pn**	**13 31 02.9**	**-1.4**
	baz=2.0						
HWA				S	**Sn**	**13 31 13.5**	**+1.8**
	baz=2.0						
VWDT	**VWDT**	**0.58**	**298**	P	**Pn**	**13 31 04.9**	**-0.5**
	baz=303						
VWDT				S	**Sn**	**13 31 14.2**	**+0.5**
	baz=303						
TWD	**Chiawan**	**0.60**	**351**	P	**Pn**	**13 31 05.4**	**-0.4**
	baz=5.0						
TWD				*e*S	**Sn**	**13 31 14.9**	**+0.6**
	baz=5.0						
EDH	**Donghe**	**0.62**	**216**	*e*P	**Pn**	**13 31 05.3**	**-0.7**
	baz=222						
EDH				S	**Sn**	**13 31 14.8**	**+0.1**
	baz=222						
YUS	**Yu-Shan**	**0.69**	**271**	P	**Pn**	**13 31 06.8**	**-0.5**
	baz=270						
ELDTW	**Lidau**	**0.69**	**245**	*e*P	**Pn**	**13 31 05.8**	**-1.3**
	baz=237						
ELDTW				S	**Sn**	**13 31 16.6**	**+0.1**
	baz=237						
NACB	**Ninganchiao**	**0.70**	**352**	P	**Pn**	**13 31 06.3**	**-0.7**
	baz=348						
NACB				S	**Sn**	**13 31 16.3**	**-0.3**
	baz=348						
SSLB	**Suanglung**	**0.75**	**294**	*i* P	**Pn**	**13 31 07.1**	**-0.6**
	baz=296						
SSLB				S	**Sn**	**13 31 18.3**	**+0.4**
	baz=296						
ETLH	**Xiulin Townshi**	**0.75**	**345**	*i* P	**Pn**	**13 31 07.1**	**-0.7**
	baz=342						
ETLH				S	**Sn**	**13 31 17.2**	**-0.8**
	baz=342						
CHGB	**Renai**	**0.75**	**320**	*i* P	**Pn**	**13 31 07.5**	**-0.5**
	baz=330						
CHGB				S	**Sn**	**13 31 18.8**	**+0.6**
	baz=330						
WHF	**Hehuan Shan**	**0.77**	**329**	P	**Pn**	**13 31 07.7**	**-0.7**
	baz=334						
WHF				S	**Sn**	**13 31 18.9**	**-0.2**
	baz=334						
LONT	**Longtian**	**0.78**	**223**	P	**Pn**	**13 31 07.4**	**-0.6**
	baz=225						
LONT				S	**Sn**	**13 31 18.6**	**+0.1**
	baz=225						
WHYT	**Xinyi Township**	**0.81**	**286**	*e*P	**Pn**	**13 31 08.4**	**-0.1**
	baz=284						
WHYT				*e*S	**Sn**	**13 31 20.3**	**+1.0**
	baz=284						
ALS	**Alishan**	**0.82**	**272**	P	**Pn**	**13 31 08.7**	**-0.2**
	baz=279						
ALS				S	**Sn**	**13 31 19.7**	**-0.4**
	baz=279						
LDUT	**Ludao**	**0.83**	**195**	P	**Pn**	**13 31 07.6**	**-1.2**
	baz=184						
LDUT				S	**Sn**	**13 31 19.7**	**-0.1**
	baz=184						
SMLT	**Sun Moon Lake**	**0.84**	**299**	P	**Pn**	**13 31 08.7**	**-0.3**
	baz=301						
SMLT				*e*S	**Sn**	**13 31 20.9**	**+0.7**
	baz=301						
FUSS	**Fushou**	**0.87**	**331**	P	**Pn**	**13 31 09.3**	**-0.3**
	baz=336						
FUSS				S	**Sn**	**13 31 21.3**	**+0.1**
	baz=336						
TWGBT	**Beinan**	**0.87**	**221**	*i* P	**Pn**	**13 31 08.3**	**-1.1**
	baz=223						
TWGBT				S	**Sn**	**13 31 20.3**	**-0.6**
	baz=223						
TWG	**Pinlang**	**0.87**	**222**	*e*P	**Pn**	**13 31 08.2**	**-1.2**
	baz=223						
TWG				S	**Sn**	**13 31 20.1**	**-0.8**
	baz=223						
TYC	**Yuchr**	**0.88**	**299**	P	**Pn**	**13 31 09.5**	**0.0**
	baz=301						
TYC				S	**Sn**	**13 31 21.4**	**+0.4**
	baz=301						
TTN	**Taitung**	**0.88**	**215**	*e*P	**Pn**	**13 31 09.7**	**+0.2**
	baz=219						
TTN				*e*S	**Sn**	**13 31 21.5**	**+0.3**
	baz=219						
TWT	**Tachien**	**0.91**	**328**	P	**Pn**	**13 31 09.9**	**-0.2**
	baz=335						
TWT				S	**Sn**	**13 31 20.9**	**-1.1**
	baz=335						
TDCB	**Techi**	**0.92**	**327**	*i* P	**Pn**	**13 31 09.9**	**-0.3**
	baz=333						
TDCB				S	**Sn**	**13 31 21.1**	**-1.1**
	baz=333						
STYT	**Tauyuan**	**0.92**	**250**	P	**Pn**	**13 31 09.9**	**-0.2**
	baz=244						
STYT				S	**Sn**	**13 31 22.3**	**+0.1**
	baz=244						
CHN5	**Tsauling**	**0.94**	**277**	P	**Pn**	**13 31 10.4**	**0.0**
	baz=277						
CHN5				*e*S	**Sn**	**13 31 23.7**	**+0.9**
	baz=277						
ENA	**Nanau**	**0.94**	**2**	*e*P	**Pn**	**13 31 10.0**	**-0.4**
	baz=17						
ENA				S	**Sn**	**13 31 23.2**	**+0.6**
	baz=17						
WJS	**Zhushan**	**0.95**	**291**	*e*P	**Pn**	**13 31 10.6**	**+0.1**
	baz=292						
WJS				S	**Sn**	**13 31 23.8**	**+0.9**
	baz=292						
ENAH	**Nanao**	**0.97**	**6**	P	**Pn**	**13 31 09.4**	**-1.3**
	baz=11						
ENAH				S	**Sn**	**13 31 23.7**	**+0.4**
	baz=11						
NNSB	**Datong**	**0.99**	**343**	P	**Pn**	**13 31 10.7**	**-0.4**
	baz=354						
NNSB				S	**Sn**	**13 31 23.1**	**-0.8**
	baz=354						
NNSH	**Datong**	**0.99**	**343**	P	**Pn**	**13 31 10.7**	**-0.4**
	baz=353						
NNSH				S	**Sn**	**13 31 23.0**	**-0.9**
	baz=353						
TPUB	**Ta-pu**	**1.00**	**260**	P	**Pn**	**13 31 11.4**	**+0.3**
	baz=258						
TPUB				S	**Sn**	**13 31 25.0**	**+1.0**
	baz=258						
WNT	**Mingjian**	**1.01**	**293**	P	**Pn**	**13 31 11.7**	**+0.4**
	baz=283						
WNT				*e*S	**Sn**	**13 31 25.2**	**+0.9**
	baz=283						
WTP	**Ta-pu**	**1.02**	**257**	P	**Pn**	**13 31 11.8**	**+0.3**
	baz=254						
WTP				*e*S	**Sn**	**13 31 25.2**	**+0.6**
	baz=254						
WHP	**Taichung City**	**1.05**	**319**	P	**Pn**	**13 31 12.4**	**+0.4**
	baz=322						
WHP				S	**Sn**	**13 31 27.2**	**+1.8**
	baz=322						
WGK	**Gukeng**	**1.06**	**281**	P	**Pn**	**13 31 11.9**	**-0.1**
	baz=281						
WGK				S	**Sn**	**13 31 26.5**	**+0.9**
	baz=281						
SLGT	**Liugui**	**1.08**	**244**	P	**Pn**	**13 31 12.8**	**+0.5**
	baz=240						
SLGT				S	**Sn**	**13 31 27.7**	**+1.7**
	baz=240						
WDLH	**Douliu**	**1.09**	**281**	P	**Pn**	**13 31 12.8**	**+0.5**
	baz=281						
WDLH				S	**Sn**	**13 31 27.1**	**+1.0**
	baz=281						
SGST	**Jiashian**	**1.10**	**249**	P	**Pn**	**13 31 12.4**	**-0.1**
	baz=246						
SGST				*e*S	**Sn**	**13 31 27.0**	**+0.5**
	baz=246						
ECL	**Taimali**	**1.11**	**218**	*e*P	**Pn**	**13 31 10.0**	**-2.7**
	baz=213						
ECL				S	**Sn**	**13 31 25.3**	**-1.5**
	baz=213						
CHN1	**Nanshi**	**1.12**	**255**	*e*P	**Pn**	**13 31 13.2**	**+0.5**
	baz=252						
CHN1				*e*S	**Sn**	**13 31 27.6**	**+0.8**
	baz=252						
NDT	**Datong Townshi**	**1.13**	**351**	*e*P	**Pn**	**13 31 12.8**	**-0.2**
	baz=357						
NDT				S	**Sn**	**13 31 27.8**	**+0.5**
	baz=357						
TWC	**Suao**	**1.13**	**7**	*e*P	**Pn**	**13 31 12.7**	**-0.3**
	baz=23						
TWC				S	**Sn**	**13 31 27.6**	**+0.4**
	baz=23						
SNST	**Tainan City**	**1.14**	**257**	P	**Pn**	**13 31 13.5**	**+0.5**
	baz=254						
SNST				S	**Sn**	**13 31 28.7**	**+1.4**
	baz=254						
TCU	**Taichung**	**1.15**	**306**	*e*P	**Pn**	**13 31 13.2**	**0.0**
	baz=308						
TCU				S	**Sn**	**13 31 28.7**	**+1.0**
	baz=308						
ENTT	**Nioudou**	**1.16**	**354**	P	**Pn**	**13 31 13.2**	**-0.2**
	baz=360						
ENTT				S	**Sn**	**13 31 28.1**	**+0.1**
	baz=360						
CHY	**Chiayi**	**1.17**	**271**	P	**Pn**	**13 31 13.9**	**+0.5**
	baz=270						
CHY				S	**Sn**	**13 31 29.4**	**+1.2**
	baz=270						
WCHH	**Zhanghua**	**1.20**	**300**	P	**Pn**	**13 31 14.5**	**+0.6**
	baz=301						
WCHH				*e*S	**Sn**	**13 31 30.3**	**+1.3**
	baz=301						
TWQ1	**Liyutan**	**1.21**	**316**	P	**Pn**	**13 31 14.3**	**+0.3**
	baz=319						
TWQ1				S	**Sn**	**13 31 30.3**	**+1.0**
	baz=319						
WTK	**Tuku**	**1.22**	**280**	P	**Pn**	**13 31 14.0**	**-0.2**
	baz=279						
WTK				S	**Sn**	**13 31 30.5**	**+1.0**
	baz=279						
YHNB	**Yeheng**	**1.22**	**346**	P	**Pn**	**13 31 14.2**	**-0.1**
	baz=360						
YHNB				S	**Sn**	**13 31 28.9**	**-0.7**
	baz=360						
SSD	**Sandimen**	**1.22**	**234**	*e*P	**Pn**	**13 31 15.2**	**+1.0**
	baz=239						
SSD				S	**Sn**	**13 31 31.4**	**+1.8**
	baz=239						
NSK	**Sanguang**	**1.23**	**345**	P	**Pn**	**13 31 14.3**	**-0.1**
	baz=359						
NSK				S	**Sn**	**13 31 29.6**	**-0.2**
	baz=359						
TWE	**Neicheng**	**1.24**	**359**	P	**Pn**	**13 31 14.2**	**-0.2**
	baz=356						
TWE				S	**Sn**	**13 31 30.3**	**+0.5**
	baz=356						
TSMG	**Majia**	**1.24**	**232**	*e*P	**Pn**	**13 31 15.1**	**+0.6**
	baz=225						
TSMG				*e*S	**Sn**	**13 31 30.5**	**+0.6**
	baz=225						
SCST	**Cishan**	**1.26**	**242**	*e*P	**Pn**	**13 31 14.5**	**-0.1**
	baz=238						
SCST				*e*S	**Sn**	**13 31 32.9**	**+2.6**
	baz=238						
NSY	**Sanyi**	**1.27**	**318**	P	**Pn**	**13 31 15.6**	**+0.8**
	baz=321						
NSY				S	**Sn**	**13 31 31.5**	**+0.9**
	baz=321						
WLGB	**Puzi**	**1.28**	**270**	*e*P	**Pn**	**13 31 16.6**	**+1.6**
	baz=269

WDJ	**Dajia District**	**1.30 312**	P	**Pn**	**13 31 15.4 +0.1**
	baz=314				
WDJ			S	**Sn**	**13 31 33.0 +1.7**
	baz=314				
NWLT	**Wulai**	**1.30 352**	P	**Pn**	**13 31 15.6 +0.2**
	baz=358				
NWLT			S	**Sn**	**13 31 31.5 0.0**
	baz=358				
MASBT	**Mashibuluo**	**1.31 229**	P	**Pn**	**13 31 15.2 -0.1**
	baz=222				
MASBT			S	**Sn**	**13 31 33.4 +1.8**
	baz=222				
ICHU	**Yijhu**	**1.31 265**	P	**Pn**	**13 31 15.4 0.0**
	baz=263				
ICHU			*e*S	**Sn**	**13 31 32.6 +1.0**
	baz=263				
NSTT	**Nanjuang**	**1.31 331**	P	**Pn**	**13 31 15.3 -0.1**
	baz=323				
NSTT			S	**Sn**	**13 31 32.6 +0.9**
	baz=323				
LIOB	**Emei**	**1.32 332**	*e*P	**Pn**	**13 31 16.2 +0.6**
	baz=324				
LIOB			*e*S	**Sn**	**13 31 33.0 +1.2**
	baz=324				
PTSB	**Yuanli**	**1.32 317**	*e*P	**Pn**	**13 31 15.3 -0.3**
	baz=320				
PTSB			*e*S	**Sn**	**13 31 33.6 +1.6**
	baz=320				
NMLH	**Miaoli**	**1.34 322**	*e*P	**Pn**	**13 31 16.0 +0.2**
	baz=325				
NMLH			S	**Sn**	**13 31 33.4 +0.9**
	baz=325				
EAST	**Anshuo**	**1.34 216**	*e*P	**Pn**	**13 31 15.0 -0.9**
	baz=205				
TWM1	**Shoushan**	**1.34 241**	P	**Pn**	**13 31 16.8 +0.9**
	baz=237				
TWM1			*e*S	**Sn**	**13 31 35.3 +2.8**
	baz=237				
WTCT	**Ta-ch'eng**	**1.36 287**	P	**Pn**	**13 31 16.9 +0.9**
	baz=276				
WTCT			S	**Sn**	**13 31 34.0 +1.2**
	baz=276				
WSF	**Szhu**	**1.36 277**	S	**Sn**	**13 31 32.6 -0.4**
	baz=276				
CHN8	**Yiju**	**1.37 265**	P	**Pn**	**13 31 14.4 -1.9**
	baz=263				
CHN8			S	**Sn**	**13 31 33.8 +0.6**
	baz=263				
NTC	**Toucheng**	**1.37 5**	*e*P	**Pn**	**13 31 17.7 +1.4**
	baz=21				
NTC			S	**Sn**	**13 31 35.5 +2.2**
	baz=21				
EGS		**1.38 9**	*e*P	**Pn**	**13 31 17.2 +0.9**
	baz=16				
EGS			S	**Sn**	**13 31 34.5 +1.3**
	baz=16				
SSPT	**Xinbi**	**1.44 227**	P	**Pn**	**13 31 18.8 +1.6**
	baz=211				
SSPT			*e*S	**Sn**	**13 31 36.1 +1.3**
	baz=211				
LAY	**Lan-yu**	**1.44 185**	P	**Pn**	**13 31 16.0 -1.2**
	baz=175				
LAY			S	**Sn**	**13 31 34.2 -0.6**
	baz=175				
SCZT	**Fangliau**	**1.48 222**	P	**Pn**	**13 31 19.4 +1.6**
	baz=209				
SCZT			S	**Sn**	**13 31 38.0 +2.1**
	baz=209				
TIPB	**Shuangxi**	**1.49 4**	*e*P	**Pn**	**13 31 17.9 0.0**
	baz=1.0				
TIPB			*e*S	**Sn**	**13 31 36.5 +0.3**
	baz=1.0				
JYNG	**Yonagunijimaku**	**1.50 49**	P	**Pn**	**13 31 18.3 +0.4**
JYNG			S	**Sn**	**13 31 37.1 +0.9**
TWA	**Mucha**	**1.50 356**	*e*P	**Pn**	**13 31 18.1 +0.1**
	baz=3.0				
TWA			*e*S	**Sn**	**13 31 38.9 +2.6**
	baz=3.0				
SLIU	**Shizi**	**1.51 214**	*e*P	**Pn**	**13 31 18.4 +0.3**
	baz=209				
SLIU			*e*S	**Sn**	**13 31 37.0 +0.4**
	baz=209				
YOJ	**Yonaguni jima**	**1.55 51**	P	**Pn**	**13 31 19.1 +0.5**
YOJ			S	**Sn**	**13 31 38.3 +0.8**
YM01	**YM01**	**1.66 356**	*e*P	**Pn**	**13 31 20.2 -0.1**
	baz=3.0				
YM01			S	**Sn**	**13 31 41.3 +0.9**
	baz=3.0				
YM04	**YM04**	**1.67 355**	*e*S	**Sn**	**13 31 40.3 -0.4**
	baz=2.0				
YM10	**YM10**	**1.67 356**	*e*P	**Pn**	**13 31 22.1 +1.6**
	baz=3.0				
YM10			*e*S	**Sn**	**13 31 41.5 +0.8**
	baz=3.0				
YM05	**YM05**	**1.68 356**	*e*P	**Pn**	**13 31 20.4 -0.2**
	baz=3.0				
YM05			*e*S	**Sn**	**13 31 40.4 -0.5**
	baz=3.0				
YM11	**YM11**	**1.68 356**	*e*S	**Sn**	**13 31 42.7 +1.7**
	baz=4.0				
YM03	**YM03**	**1.70 355**	*e*S	**Sn**	**13 31 40.9 -0.5**
	baz=2.0				
TSEB	**Hengchuen, Pin**	**1.74 205**	*e*P	**Pn**	**13 31 19.9 -1.3**
	baz=193				
TSEB			*e*S	**Sn**	**13 31 43.6 +1.4**
	baz=193				
TWKBT	**Hengchun**	**1.74 208**	*e*S	**Sn**	**13 31 43.0 +0.8**
	baz=203				
WDGT	**Dungji**	**1.89 264**	*e*P	**Pn**	**13 31 22.4 -0.9**
	baz=261				
WDGT			*e*S	**Sn**	**13 31 45.1 -0.8**
	baz=261				
PHUB	**P'eng-hu**	**1.95 271**	*e*P	**Pn**	**13 31 23.1 -1.1**
	baz=258				
PHUB			S	**Sn**	**13 31 45.7 -1.8**
	baz=258				
PNG	**Penghu**	**1.97 273**	P	**Pn**	**13 31 23.3 -1.1**
	baz=272				
PNG			S	**Sn**	**13 31 46.2 -1.7**
	baz=272				
HATJ	**Hateruma jima**	**2.01 73**	P	**Pn**	**13 31 25.3 +0.3**
HATJ			*e*S	**Sn**	**13 31 49.6 +0.6**
IRIF	**Iriomote-Funau**	**2.04 65**	P	**Pn**	**13 31 26.0 +0.5**
IRIF			S	**Sn**	**13 31 51.1 +1.4**
VCHM	**Qimei**	**2.10 263**	*e*P	**Pn**	**13 31 24.9 -1.4**
	baz=260				
VCHM			*e*S	**Sn**	**13 31 48.9 -2.4**
	baz=260				
JKRS	**Kuro-shima**	**2.25 70**	P	**Pn**	**13 31 28.7 +0.5**
JKRS			S	**Sn**	**13 31 56.0 +1.3**
JIJ	**Ishigaki jima**	**2.40 68**	P	**Pn**	**13 31 30.3 -0.1**
JIJ			S	**Sn**	**13 31 58.2 -0.4**
VWUC	**VWUC**	**2.55 307**	*e*P	**Pn**	**13 31 31.1 -1.3**
	baz=308				
JISG	**Ishigakijimahi**	**2.63 65**	P	**Pn**	**13 31 33.3 -0.2**
JISG			S	**Sn**	**13 32 03.2 -1.0**
PTTC	**Pingtan**	**2.67 319**	*e*P	**Pn**	**13 31 34.3 +0.2**
	baz=322				
PTMZ	**Houxiangcun**	**2.82 304**	*e*P	**Pn**	**13 31 35.5 -0.6**
	baz=304				
JTJ	**Tarama**	**2.98 67**	P	**Pn**	**13 31 38.4 +0.1**
JTJ			S	**Sn**	**13 32 12.9 +0.1**
MATB	**Ma-tsu**	**3.10 329**	*e*P	**Pn**	**13 31 38.6 -1.4**
	baz=333				
KNMB	**Chin-men Tao**	**3.18 289**	*e*P	**Pn**	**13 31 39.5 -1.6**
	baz=300				
JIRB	**Irabujima**	**3.44 66**	P	**Pn**	**13 31 45.0 +0.3**
JIRB			*e*S	**Sn**	**13 32 23.7 -0.6**
LYJJ	**Jianjiangzhen**	**3.53 330**	*e*S	**Sn**	**13 32 23.9 -2.4**
	baz=331				
JMJ	**Miyako jima 2**	**3.54 67**	*e*P	**Pn**	**13 31 46.9 +0.8**
	baz=68				
JMJ			*e*S	**Sn**	**13 32 25.9 -0.8**
	baz=68				
JMJ2	**Miyako jima3**	**3.54 69**	P	**Pn**	**13 31 46.6 +0.5**
JMJ2			*e*S	**Sn**	**13 32 27.4 +0.6**
MHZQ	**Yeshan**	**3.56 318**	*e*P	**Pn**	**13 31 45.4 -1.0**
	baz=317				
MHZQ			*e*S	**Sn**	**13 32 26.3 -0.9**
	baz=317				

*IDC **03** 13:31:54.4±2.4, 16°.83N×85°.67W, h0km, mb3.2/3, mb1 3.9/7, mb1mx3.6/38, mbtmp3.6/7, ML3.5/4, Error ellipse: s-maj=38.0km s-min=27.8km az=90.0*
*NEIC **03** 13:31:59.0±0.9, 16°.90N±0°.04×85°.75W±0°.07, h34km±6km, mb4.2/20, Error ellipse: s-maj=9.9km s-min=4.6km az=73.0*

ISC 03 13:31:58.4±0.7, 16°.91N±0°.06×85°.74W±0°.06, h28km, n47, σ0§93/45, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.20**	**208**		**Pn**	**13 32 47.1**	**0.0**
ESTN	**Estel**	**3.84**	**189**	Pn	**Pn**	**13 32 55.7**	**-0.1**
PETF	**Flores**	**3.95**	**271**	Pn	**Pn**	**13 32 57.1**	**-0.1**
MATN	**Matagalpa**	**3.96**	**183**		**Pn**	**13 32 57.4**	**-0.1**
TEIG	**Tepich**	**4.08**	**324**	Pn	**Pn**	**13 32 59.5**	**+0.5**
	66nm,0.3s,baz=76,slow=0.6,SNR=295						
TEIG				Sn	**Sn**	**13 33 42.9**	**-2.9**
	89nm,0.3s,baz=66,slow=21,SNR=25						
TEIG	**Tepich**	**4.08**	**324**		**Pn**	**13 32 59.4**	**+0.4**
BOAB	**BOACO BROADBAN**	**4.44**	**179**		**Pn**	**13 33 03.6**	**-0.3**
ESPN	**Las Esperanzas**	**4.89**	**163**	Pn	**Pn**	**13 33 10.6**	**+0.4**
APG	**El Apazote**	**4.92**	**248**	Pn	**Pn**	**13 33 10.4**	**-0.4**
	0.4nm,0.3s,baz=102,slow=11,SNR=6.3						
APG				Sn	**Sn**	**13 34 04.9**	**-2.1**
	2.5nm,0.3s,baz=216,slow=17,SNR=5.0						
ACON	**Acoyapa**	**4.95**	**174**	Pn	**Pn**	**13 33 10.6**	**-0.4**
FSCY	**Frank Sound, G**	**4.95**	**60**	Pn	**Pn**	**13 33 11.1**	**+0.1**
LCCY	**Blossom Villag**	**6.04**	**62**	Pn	**Pn**	**13 33 25.7**	**-0.2**
CCIG	**Comitan**	**6.16**	**265**		**Pn**	**13 33 27.7**	**-0.1**
CBCY	**The Bluff, Cay**	**6.34**	**63**	Pn	**Pn**	**13 33 29.6**	**-0.5**
JTS	**Las Juntas de**	**6.63**	**173**	Pn	**Pn**	**13 33 32.1**	**-2.0**
	1.7nm,0.3s,baz=346,slow=22,SNR=4.1						
JTS				Lg	Lg	13 35 15.7	
	1.1nm,0.3s,baz=204,slow=20,SNR=4.6						
JTS	**Las Juntas de**	**6.63**	**173**		**Pn**	**13 33 33.6**	**-0.5**
CMIG	**Matias Romero**	**8.75**	**272**	Pn	**Pn**	**13 34 03.2**	**0.0**
	0.3nm,0.3s,baz=91,slow=17,SNR=2.7						
CMIG				Sn	**Sn**	**13 35 43.6**	**+2.7**
	0.6nm,0.3s,baz=40,slow=11,SNR=3.0						
061Z	**Ochoppi**	**9.98**	**26**	Pn	**Pn**	**13 34 20.1**	**0.0**
GTBY	**Guantanamo Bay**	**10.53**	**72**	Pn	**Pn**	**13 34 28.2**	**+0.7**
060A	**Indiantown**	**11.24**	**25**	Pn	**Pn**	**13 34 37.2**	**0.0**
656A	**Willston**	**12.74**	**13**	Pn	**Pn**	**13 34 57.6**	**-0.2**
553A	**Crawfordville**	**13.27**	**5**	Pn	**Pn**	**13 35 04.5**	**-0.5**
456A	**Hilliard**	**14.16**	**13**	P	**P**	**13 35 23.8**	**-0.6**
250A	**Grady**	**15.01**	**358**	Pn	**Pn**	**13 35 28.3**	**-0.4**
250A				IAmb	IAmb	13 35 38.1	
	comp=Z,26nm,0.6s						
441A	**DeRidder**	**15.36**	**335**	Pn	**Pn**	**13 35 34.1**	**+0.8**
LRAL	**Lakeview Retre**	**16.09**	**356**		**Pn**	**13 35 42.9**	**+0.1**
Z51A	**Franklin**	**16.34**	**2**	P	**P**	**13 35 47.9**	**-0.7**
Z47A	**Carrollton**	**16.35**	**353**	P	**P**	**13 35 47.9**	**-0.8**
Z47A				IAmb	IAmb	13 35 50.5	
	comp=Z,21nm,0.6s						
Y49A	**Blount Mountai**	**16.89**	**358**	P	**P**	**13 35 54.9**	**+0.2**
833A	**Chaparral WMA,**	**16.95**	**314**		**P**	**13 35 54.6**	**-0.8**
833A				IAmb	IAmb	13 35 57.6	
	comp=Z,25nm,0.7s						
Z41A	**Richland Creek**	**17.48**	**340**	P	**Pn**	**13 36 00.6**	**+0.4**
Z41A				IAmb	IAmb	13 36 31.4	
	comp=Z,16nm,0.5s						
FPAL	**Fort Paine**	**17.55**	**0**	P	**P**	**13 36 01.8**	**-0.3**
JSC	**Jenkinsville**	**17.76**	**12**	P	**P**	**13 36 05.6**	**+1.3**
TKL	**Tuckaleechee C**	**18.75**	**5**	Pn	**Pn**	**13 36 17.1**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=181,slow=14,SNR=4.9						
TKL				Sn	Sn	13 39 32.8	-12
	comp=Z,0.2nm,0.3s,baz=142,slow=22,SNR=4.4						
TKL	**Tuckaleechee C**	**18.75**	**5**	IAmb	IAmb	13 36 31.2	
	comp=Z,18nm,1.6s						
WVT	**Waverly**	**19.23**	**355**	P	**P**	**13 36 20.6**	**+0.1**
U49A	**Red Boiling Sp**	**19.52**	**360**	P	**P**	**13 36 23.9**	**+0.2**
U49A				IAmb	IAmb	13 36 50.0	
	comp=Z,17nm,1.8s						
TXAR	**Lajitas Array**	**20.57**	**310**	P	Pn	13 36 37.9	+0.2
	comp=Z,1.4nm,0.6s,baz=134,slow=11,SNR=23						
TXAR	**Lajitas Array**	**20.57**	**310**	Pn	Pn	13 36 36.6	-1.0
TX31	**Lajitas Ar. Si**	**20.57**	**310**		Pn	13 36 37.6	0.0
TX31				IAmb	IAmb	13 36 53.7	
	comp=Z,7.9nm,0.8s						
TX32	**Lajitas Array**	**20.57**	**310**		Pn	13 36 37.3	-0.3
TX32				IAmb	IAmb	13 36 59.8	
	comp=Z,5.3nm,1.2s						
MNTX	**Cornudas Mount**	**23.12**	**313**	P	**P**	**13 37 03.5**	**+1.1**
MNTX				IAmb	IAmb	13 37 04.8	
	comp=Z,12nm,1.8s						
PDAR	**Pinedale Array**	**32.80**	**327**	P	**P**	**13 38 29.5**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=122,slow=8.6,SNR=1.8						
NVAR	**Mina Array Bea**	**35.65**	**314**	P	**P**	**13 38 55.3**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=105,slow=9.5,SNR=1.9						
MOD	**Modoc Plateau**	**38.66**	**317**	P	**P**	**13 39 19.7**	**-0.1**
MOD				IAmb	IAmb	13 39 20.9	
	comp=Z,5.5nm,1.3s						
AC01	**Pan de Azucar**	**45.27**	**161**	P	**P**	**13 40 14.4**	**+0.7**
AC02	**Maricunga**	**46.38**	**159**	P	**P**	**13 40 22.8**	**-0.3**

*ISN **03** 13:36:54.8±0.7, 32°.60N×47°.81E, h14km±4km, ML2.6*
*TEH **03** 13:36:55.1, 32°.58N×47°.79E, h10km, ML2.8*

ISC 03 13:36:56.0±1.2, 32°.60N±0°.07×47°.78E±0°.05, h15km, n10, σ1§00/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.43**	**282**	*e*Sg	**Sb**	**13 37 11.4**	**0.0**
DHL1				*e*Pg	**Pg**	**13 37 03.3**	**-1.2**
IKMR	**Kamar-syah**	**1.05**	**29**	*e*Pg	**Pg**	**13 37 15.6**	**-0.7**
IKMR				*e*		13 37 33.4	
IDOB	**Doab**	**1.23**	**16**	*e*Pg	**Pg**	**13 37 19.0**	**-0.8**
IDOB				*e*		13 37 39.3	
BMDN	**Meydan**	**1.39**	**39**	*e*Pg	**Pg**	**13 37 22.4**	**-0.3**
IKOM	**Komasi**	**1.59**	**352**	*e*Pg	**Pg**	**13 37 25.3**	**-1.3**
IKOM				*e*		13 37 51.5	
IBDR	**Badra**	**1.64**	**289**	*e*Pg	**Pb**	**13 37 25.0**	**-0.8**
IBDR				*e*Sg	**Sb**	**13 37 47.0**	**+0.7**
IBDR				AML	AML	13 37 52.0	
	comp=E,98nm,0.5s						
IBDR				AML	AML	13 37 52.2	
	comp=N,58nm,0.4s						
HSAM	**Samen**	**1.75**	**23**	*e*Pn	**Pb**	**13 37 27.5**	**-0.5**
HSAM				*e*		13 37 56.1	
IBZA	**Bozab**	**1.87**	**2**	*e*Pn	**Pb**	**13 37 29.7**	**-0.3**
IBZA				*e*		13 38 04.2	
NSR	**Nassriya**	**2.11**	**222**	*e*Pn	**Pn**	**13 37 31.0**	**+0.3**
NSR				*e*Sn	**Sn**	**13 37 57.0**	**+0.4**
BHD	**Baghdad**	**2.93**	**284**	*e*Pn	**Pn**	**13 37 43.0**	**+1.0**
BHD				*e*Sn	**Sn**	**13 38 19.0**	**+2.0**

*IDC **03** 13:37:20.4±1.8, 16°.37N×123°.19E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/40, mbtmp3.6/3, Error ellipse: s-maj=304.6km s-min=28.2km az=72.0*
*NEIC **03** 13:37:26.1±0.6, 15°.8N±0°.3×121°.4E±0°.5, h43km±11km, mb4.1/7, Error ellipse: s-maj=78.5km s-min=21.2km az=63.0*

ISC 03 13:37:25.3±1.1, 15°.8N±0°.3×121°.4E±0°.5, h35km, n10, σ0§46/10, mb3.7/5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**34.28**	**342**	P	**P**	**13 44 08.5**	**+0.3**
	0.5nm,0.5s,baz=167,slow=8.6,SNR=1.9						
PMG	**Port Moresby**	**35.73**	**133**	P	**P**	**13 44 20.8**	**-0.1**
WB0	**Warramunga Arr**	**37.56**	**160**	P	**P**	**13 44 36.6**	**+0.2**
WB0				IAmb	IAmb	13 44 45.8	
	comp=Z,3.6nm,1.1s						
WRA	**Warramunga Arr**	**37.71**	**160**	P	**P**	**13 44 38.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=343,slow=9.1,SNR=7.4						
WRA	**Warramunga Arr**	**37.71**	**160**	P	**P**	**13 44 37.0**	**-0.7**
WB2	**Warramunga Arr**	**37.71**	**160**	P	**P**	**13 44 37.8**	**+0.1**
WB2				IAmb	IAmb	13 44 44.4	
	comp=Z,2.6nm,1.1s						
WR0	**Warramunga Arr**	**37.79**	**160**	P	**P**	**13 44 38.7**	**+0.3**
ASAR	**Alice Springs**	**41.06**	**162**	P	**P**	**13 45 06.3**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=347,slow=6.8,SNR=7.5						
ASAR	**Alice Springs**	**41.06**	**162**	P	**P**	**13 45 05.5**	**-0.2**
GEC2	**GERESS Array S**	**89.45**	**321**	P	**P**	**13 50 18.5**	**-0.4**

*BJI **03** 13:43:57.0±0.0, 15°.18N×122°.60E, h9km, mB5.1/67, mb4.7/76, Ms5.0/89, Ms7 4.7/84*
*NEIC **03** 13:43:58.3±1.6, 15°.17N±0°.06×122°.44E±0°.07, h10km±1km, mb5.2/173, Error ellipse: s-maj=11.8km s-min=9.2km az=113.0*
*UNK **03** 13:43:58.1, 15°.14N×122°.35E, h10km*
*MOS **03** 13:43:59.4±1.0, 15°.07N×122°.51E, h30km, mb5.3/81, MS4.4/17, Error ellipse: s-maj=7.0km s-min=4.0km az=112.5*
*MAN **03** 13:43:59.5, 15°.16N×122°.43E, h12km, MS5.5*
MAN Intensity IV - Jomalig Island; Patnanungan Panukulan and Polilio Quezon; Intensity III - Quezon City; Mandaluyong City; Guinayangan Quezon; Gapan Nueva Ecija; Malolos and Obando Bulacan; Cainta and Montalban Rizal; Antipolo City; Marikina City; San Mateo Rizal; Daet Camarines Norte; Intensity II- Santa Rosa and Santa Cruz Laguna; Tanza Cavite; Makati City; Muntinlupa City; Taguig City; Malabon City.
*GCMT **03** 13:44:00.3±0.1, 15°.27N±0°.01×122°.46E±0°.01, h19km, MW5.3/142, Moment Tensor Solution. s94,c152; s142,c262; Duration: 1§1 Moment tensor: Scale 10^17 Nm; M_{rr}=0.78±.02; $M_{\theta\theta}$=0.77±.01; $M_{\phi\phi}$=0.00±.01; $M_{r\theta}$=0.62±.03; $M_{\phi\phi}$=0.11±.01; $M_{\phi r}$=0.08±.03; Best double couple: M_0=1.00300×10^17 NP1:ϕ_s=82.00000°, δ=26.00000°, λ=-91.00000°. NP2:ϕ_s=263.00000°, δ=64.00000°, λ=-90.00000°. Principal axes: T 1.0070, Plg19.0000°, Azm352.0000°; N -0.0100, Plg0.0000°, Azm83.0000°; P -0.9980, Plg71.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **03** 13:44:03.9±1.5, 15°.09N×122°.60E, h51km±13km, mb4.6/35, mb1 4.7/36, mb1mx4.6/41, mbtmp4.8/36, ML4.2/1, MS4.4/35, Ms1 4.4/35, ms1mx4.3/45 Error ellipse: s-maj=10.5km s-min=7.6km az=100.0*
*BGR **03** 13:44:03.7±0.0, 15°.74N×121°.42E, h10km, mb5.0, Ms4.8*

ISC 03 13:43:59.1±0.4, 15°.14N±0°.02×122°.46E±0°.03, h12km±2km, h12km:pP-P, n651, σ1§58/719, mb5.1/200, MS4.5/77, 40C-15D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.65**	**231**	*e*P	**Pg**	**13 44 11.8**	**+0.1**
POLP				*e*S	**Sb**	**13 44 21.1**	**-0.2**
BALP	**Baler**	**1.04**	**305**	*e*P	**Pb**	**13 44 18.0**	**-1.0**
BALP				*e*S	**Sn**	**13 44 33.6**	**-0.3**
GQP	**Guinayangan**	**1.23**	**181**	⇑*i*P	**Pb**	**13 44 22.3**	**0.0**
GQP				*i* S	**Sn**	**13 44 39.8**	**+1.1**
LQP	**Lukban**	**1.36**	**221**	⇑*e*P	**Pn**	**13 44 24.1**	**+0.1**
LQP				*i* S	**Sn**	**13 44 42.2**	**+0.1**
BOAC	**Boac**	**1.77**	**200**	*e*P	**Pb**	**13 44 30.8**	**-0.8**
BOAC				*e*S	**Sg**	**13 44 57.2**	**+1.0**
TGY	**Tagaytay City**	**1.80**	**235**	P	**Pb**	**13 44 32.5**	**+0.5**
	6μm,0.3s,baz=62,slow=2.3,SNR=136						
TGY				S	**Sg**	**13 44 57.7**	**+0.7**
	13μm,0.3s,baz=327,slow=24,SNR=5.5						
TGY	**Tagaytay City**	**1.80**	**235**	⇑*i*P	**Pb**	**13 44 32.8**	**+0.8**
TGY				*i* S	**Sg**	**13 44 58.7**	**+1.7**
CAUP	**Cauayan**	**1.89**	**341**	*e*P	**Pn**	**13 44 30.8**	**-0.5**
CAUP				*e*S	**Sn**	**13 44 54.9**	**-0.2**
SMPP	**San Manuel, Pa**	**1.99**	**301**	*e*P	**Pn**	**13 44 32.1**	**-0.4**
SMPP				*e*S	**Sn**	**13 44 57.1**	**-0.3**
PGP	**Puerto Galera**	**2.19**	**222**	⇓*e*P	**Pn**	**13 44 36.1**	**+0.8**
PGP				*e*S	**Sb**	**13 45 06.8**	**+1.0**
PVCP	**Virac**	**2.25**	**133**	*e*P	**Pn**	**13 44 35.9**	**-0.3**
PVCP				*e*S	**Sb**	**13 45 09.3**	**+1.8**
CVP	**Callao Caves**	**2.62**	**347**	⇑*i*P	**Pn**	**13 44 42.2**	**+0.9**
CVP				*i* S	**Sn**	**13 45 15.1**	**+2.1**
BOLP	**Bolinao**	**2.74**	**297**	*e*P	**Pn**	**13 44 43.1**	**+0.1**
BOLP				*e*S	**Sb**	**13 45 22.4**	**+0.7**
OTRP	**Odiongan**	**2.79**	**189**	*e*P	**Pn**	**13 44 45.2**	**+1.6**
OTRP				*e*S	**Sb**	**13 45 24.4**	**+1.2**
APYP	**Conner**	**2.95**	**337**	*e*P	**Pn**	**13 44 45.1**	**-0.7**
APYP				*e*S	**Sn**	**13 45 23.9**	**+2.8**
ABRA	**Dolores**	**3.00**	**326**	*e*P	**Pn**	**13 44 47.3**	**+0.7**
ABRA				*e*S	**Sn**	**13 45 21.2**	**-1.3**
SIPP	**Brgy, Tapao**	**3.37**	**326**	⇑*i*P	**Pn**	**13 44 54.6**	**+3.1**
SIPP				*e*S	**Sb**	**13 45 39.9**	**+0.2**
CNP	**Catarman**	**3.38**	**140**	*e*P	**Pn**	**13 44 53.0**	**+1.3**
JAP	**San Jose, Anti**	**4.39**	**187**	⇓*e*P	**Pn**	**13 45 08.9**	**+3.2**
OCLP	**Ormoc**	**4.57**	**152**	*e*P	**Pn**	**13 45 09.6**	**+1.4**
OCLP				*e*S	**Sn**	**13 46 04.2**	**+2.9**
LLP	**Lapu-Lapu**	**5.01**	**163**	⇓*e*P	**Pn**	**13 45 16.7**	**+2.5**
LLP				*e*S	**Sb**	**13 46 27.5**	**+0.3**
CNOP	**Candoni, Negro**	**5.28**	**178**	*e*P	**Pn**	**13 45 21.6**	**+3.7**
TWG	**Pinlang**	**7.75**	**350**		**Pn**	**13 45 50.3**	**-1.6**
YULB	**Yu-li**	**8.28**	**353**		**Pn**	**13 45 57.4**	**-1.8**
TPUB	**Ta-pu**	**8.30**	**348**	Pn	**Pn**	**13 45 58.3**	**-1.1**
KCP	**Kidapawan**	**8.48**	**162**	⇓*e*P	Pn	13 46 08.2	+6.2
DAV	**Davao City (W)**	**8.59**	**159**	LR	LR	13 49 26.5	
	comp=Z,4μm,18.7s,baz=26,slow=38						
DAV	**Davao City (W)**	**8.59**	**159**	⇓*e*P	Pn	13 46 14.7	+11
SSLB	**Suanglung**	**8.72**	**351**	Pn	**Pn**	**13 46 03.9**	**-1.2**
NACB	**Ningancbiao**	**9.02**	**355**		**Pn**	**13 46 07.5**	**-1.8**
YOJ	**Yonaguni jima**	**9.29**	**3**	P	**Pn**	**13 46 11.8**	**-1.1**
YOJ	**Yonaguni jima**	**9.29**	**3**	Pn	**Pn**	**13 46 11.8**	**-1.1**
YHNB	**Yeheng**	**9.53**	**354**	Pn	**Pn**	**13 46 15.0**	**-1.3**
TATO	**Taipei**	**9.83**	**355**		**Pn**	**13 46 19.3**	**-1.0**
QZH	**Quanzhou**	**10.40**	**340**	⇑*i*P	**Pn**	**13 46 27.3**	**-0.9**
QZH				S	**Sn**	**13 48 25.6**	**+0.8**
QZH				pmax	pmax		
	comp=Z,290nm,9.0s						
QZH				LR	LR		
	comp=N,1μm,14.7s						
QZH				LR	LR		
	comp=E,2μm,14.7s						
QZH				LR	LR		
	comp=Z,3μm,13.7s						
KKM	**Kota Kinabalu**	**10.92**	**215**	Pn	**Pn**	**13 46 33.6**	**-1.8**
QIZ	**Qiongzhong**	**12.66**	**290**	P	**Pn**	**13 47 02.0**	**+2.8**
QIZ				S	**Sn**	**13 49 19.0**	**-1.3**
QIZ				pmax	pmax		
	comp=Z,180nm,12.3s						
QIZ				LR	LR		
	comp=N,2μm,18.1s						
QIZ				LR	LR		
	comp=E,2μm,15.7s						
QIZ				LR	LR		
	comp=Z,2μm,15.7s						
QIZ	**Qiongzhong**	**12.66**	**290**	Pn	**Pn**	**13 46 55.4**	**-3.8**
GTOI	**Gorontalo**	**14.42**	**178**	P	**Pn**	**13 47 26.2**	**+3.0**
	1μm52nm,1.2s						
KMSI	**Cibinong**	**14.55**	**174**	P	**P**	**13 47 32.2**	**+0.7**
	3μm215nm,0.9s						
MPSI	**Mapaga**	**14.93**	**190**	P	**Pn**	**13 47 31.2**

comp=Z,2μm,16.1s
NJ2 LR LR
comp=Z,2μm,18.6s
SANI Sanana 17.43 168 P **Pn 13 48 01.8 -0.5**
comp=Z,2μmcomp=Z,1μmcomp=Z,52nm,0.9s
MTKI Muara Teweh, K 17.64 206 P **P 13 48 08.0 +2.1**
comp=Z,2μmcomp=Z,3μmcomp=Z,132nm,0.6s
KSM Kuching 18.12 223 **Pn 13 48 10.0 -0.8**
SIJI Sorong 18.14 151 P **P 13 48 14.9 +3.6**
comp=Z,0.9nm,0.3s,baz=329,slow=16,SNR=2.6
GYA Guiyang 18.55 310 ⇓P **Pn 13 48 18.6 +2.5**
GYA S **S 13 51 49.6 +2.1**
GYA SS **SnSn 13 52 02.6 +5.1**
GYA pmax pmax
comp=Z,15nm,1.4s
GYA pmax pmax
comp=Z,370nm,3.5s
GYA LR LR
comp=Z,2μm,13.2s
GYA LR LR
comp=Z,1μm,16.0s
GYA LR LR
comp=Z,2μm,14.2s
SLVN Son La 18.66 292 P **P 13 48 17.0 -0.2**
NLAI Namlea 18.83 166 P **Pn 13 48 23.0 +3.5**
comp=Z,2μmcomp=Z,46nm,1.0s
SPSI Sidrap Palu 19.17 188 P **Pn 13 48 25.6 +2.1**
comp=Z,868nmcomp=Z,46nm,2.3s
ENH Enshi 19.21 324 P **P 13 48 22.4 -0.6**
KBKI Kotabaru 19.35 199 P **Pn 13 48 27.0 +1.2**
comp=Z,80nm,0.7s
MSAI Masohi 19.45 160 P **Pn 13 48 29.6 +2.6**
JNU Nakatsue 19.46 22 P **Pn 13 48 26.9 -0.1**
comp=Z,0.5nm,0.3s,baz=184,slow=3.5,SNR=11
JNU Nakatsue 19.46 22 Pn **Pn 13 48 26.7 -0.4**
JNU IAmb IAmb 13 48 31.1
comp=Z,131nm,1.2s
KAPI Kappang 20.20 188 P Pn 13 48 35.7 -0.1
comp=Z,19nm,0.5s,baz=274,slow=3.0,SNR=5.7
KAPI LR LR 13 56 54.3
comp=Z,938nm,19.6s,baz=358,slow=38
KAPI Kappang 20.20 188 P **P 13 48 33.0 -1.0**
KAPI pmax pmax
comp=Z,108nm,1.5s
KAPI Kappang 20.20 188 P **P 13 48 33.0 -1.0**
FAKI Fak Fak 20.39 151 **P 13 48 36.4 +0.4**
PBKT Sadao Pong 20.72 277 **P 13 48 40.6 +1.0**
KMI Kunming 20.98 301⇓*e*P **P 13 48 40.5 -2.2**
KMI pP pP 13 48 45.4 0.0
KMI sP pwP 13 48 50.8 +2.6
KMI S **S 13 52 31.1 -5.4**
KMI sS sS 13 52 41.4 +0.4
KMI SS **SnSn 13 53 01.7 +4.2**
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI pmax pmax
comp=Z,320nm,3.6s
KMI LR LR
comp=Z,2μm,12.0s
KMI LR LR
comp=Z,1μm,13.6s
KMI LR LR
comp=Z,1μm,14.4s
TIA Tai'an 21.52 348 P **P 13 48 48.1 0.0**
TIA S **S 13 52 46.8 +0.3**
TIA pmax pmax
comp=Z,84nm,1.3s
TIA pmax pmax
comp=Z,360nm,3.6s
TIA LR LR
comp=Z,950nm,13.7s
TIA LR LR
comp=Z,920nm,14.6s
TIA LR LR
comp=Z,2μm,14.5s
TJN Taejon 21.60 11*ce*P **P 13 48 48.8 -0.1**
GUMO Guam 21.76 91 P **P 13 48 50.6 -0.2**
comp=Z,62nm,0.9s,baz=211,slow=9.5,SNR=5.0
GUMO LR LR 13 56 30.7
comp=Z,879nm,18.5s,baz=252,slow=34
GUMO Guam 21.76 91 P **P 13 48 50.3 -0.6**
GUMO pmax pmax
comp=Z,395nm,1.4s
GUMO Guam 21.76 91 P **P 13 48 50.3 -0.6**
JCJ Chichijima 21.88 54 P **P 13 48 51.6 -0.3**
comp=Z,70nm,0.6s,baz=300,slow=20,SNR=7.1
JCJ LR LR 13 56 55.9
comp=Z,986nm,18.9s,baz=242,slow=35
JCJ Chichijima 21.88 54 P **P 13 48 52.8 +0.8**
JCJ IAmb IAmb 13 49 20.1
comp=Z,156nm,1.1s
XAN Xi'an 22.44 329 P **P 13 48 58.2 +0.2**
XAN pP pwP 13 49 03.4 -0.3
XAN S **S 13 53 02.1 -2.3**
XAN SS **SnSn 13 53 35.7 +2.8**
XAN pmax pmax
comp=Z,46nm,1.5s
XAN pmax pmax
comp=Z,440nm,3.6s
XAN LR LR
comp=Z,1μm,16.3s
XAN LR LR
comp=Z,3μm,16.0s
XAN LR LR
comp=Z,4μm,16.8s
XAN Xi'an 22.44 329 P **P 13 48 56.9 -1.2**
XAN pmax pmax
comp=Z,98nm,1.1s
XAN Xi'an 22.44 329 P **P 13 48 56.9 -1.2**
XAN IAmb IAmb 13 49 00.7
comp=Z,98nm,1.1s
INCN Inchon 22.56 9 P **P 13 48 57.5 -1.7**
INCN pmax pmax
comp=Z,54nm,0.9s
INCN Inchon 22.56 9 P **P 13 48 57.5 -1.7**
INCN IAmb IAmb 13 49 14.6
comp=Z,54nm,0.9s
KSAR Wonju Array Be 22.73 11 P **P 13 48 59.7 -1.3**
KSAR Wonju Array Be 22.73 11 P **P 13 48 59.7 -1.3**
CM31 Chiang Mai Arr 22.75 282 P **P 13 49 00.6 -0.8**
CMAR Chiang Mai Arr 22.75 282 P **P 13 49 03.1 +1.7**
comp=Z,16nm,0.5s,baz=93,slow=7.4,SNR=98
CMAR PcP **PcP 13 52 54.7 +1.3**
comp=Z,2.1nm,0.9s,baz=48,slow=1.3,SNR=4.2
CMAR LR LR 13 58 43.8
comp=Z,612nm,18.0s,baz=140,slow=38
KSRS Korea Array 22.75 11 P **P 13 49 01.1 -0.1**
comp=Z,13nm,0.5s,baz=196,slow=11,SNR=68
CHTO Chiang Mai 22.78 283 P **P 13 49 01.0 -0.7**
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 22.78 283 P **P 13 49 01.0 -0.7**
KS19 Wonju Array Si 22.78 11 P **P 13 49 00.4 -1.2**
CD2 Chengdu 23.24 316 P **P 13 49 07.2 +0.8**
CD2 S **S 13 53 14.8 -3.7**
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 pmax pmax
comp=Z,760nm,6.7s
CD2 LR LR
comp=Z,4μm,14.2s
CD2 LR LR
comp=Z,3μm,12.7s
CD2 LR LR
comp=Z,3μm,19.8s
KULM Kulim 23.56 248 P **P 13 49 08.6 -1.1**
KULM IAmb IAmb 13 49 18.9
comp=Z,64nm,1.3s
IPM Ipoh 23.60 246 P **P 13 49 09.0 -1.1**
MMRI Maumere 23.62 181 P **P 13 49 09.7 -0.6**
MMRI IAmb IAmb 13 49 28.3
comp=Z,58nm,0.8s
DL2 Dalian 23.68 358 P **P 13 49 09.9 -0.8**
DL2 S **S 13 53 25.9 +0.5**
DL2 pmax pmax
comp=Z,17nm,0.6s
DL2 pmax pmax
comp=Z,260nm,3.5s
DL2 LR LR
comp=Z,910nm,19.6s
DL2 LR LR
comp=Z,1μm,16.7s
DL2 LR LR
comp=Z,2μm,16.2s
JHJ Hachijo jima 2 23.82 38 LR LR 13 57 23.9
comp=Z,1μm,18.7s,baz=254,slow=34

PYAG Pyongyang 24.00 6 P **P 13 49 14.2 +0.6**
PYAG pP **pP 13 49 15.9 -0.7**
PYAG sP **pwP 13 49 20.4 +1.0**
PYAG S **S 13 53 33.0 +2.7**
PYS Pyongsong 24.20 6 P **P 13 49 16.7 +1.1**
PYS pP **pP 13 49 17.8 -0.7**
SOEI Soe 24.80 176 P **P 13 49 19.8 -1.5**
JAGI Jajag, Banyuwa 24.86 200 P **P 13 49 20.2 -1.6**
SUJ Sinuiju 24.93 4 P **P 13 49 23.9 +1.7**
SUJ pP **sP 13 49 26.0 -0.6**
SUJ sP **pwP 13 49 28.5 +0.5**
SUJ S **S 13 53 52.6 +7.2**
HHU Hamhung 25.09 9 P **P 13 49 25.9 +2.3**
HHU pP **sP 13 49 27.9 -0.1**
HHU sP pwP 13 49 40.1 +11
HHU S **S 13 53 51.4 +3.5**
JAY Jayapura 25.18 133 P **P 13 49 24.3 -0.4**
comp=Z,16nm,0.9s,baz=290,slow=2.4,SNR=3.0
BATI Baumata 25.21 177 P **P 13 49 23.6 -1.4**
comp=Z,42nm,0.4s,baz=317,slow=1.5,SNR=12
BJT Baijiatuau 25.39 349 P **P 13 49 25.1 -1.2**
BJT pmax pmax
comp=Z,29nm,0.7s
BJT Baijiatuau 25.39 349 P **P 13 49 25.1 -1.2**
BJT IAmb IAmb 13 49 35.7
comp=Z,29nm,0.7s
BJI Beijing 25.41 349 P **P 13 49 26.4 -0.1**
BJI S **S 13 53 52.7 -0.3**
BJI pmax pmax
comp=Z,28nm,0.9s
BJI LR LR
comp=Z,1μm,15.1s
BJI LR LR
comp=Z,590nm,14.5s
BJI LR LR
comp=Z,600nm,17.3s
MAJO Matsushiro 25.52 30 *i* P **P 13 49 28.7 +1.1**
MAJO pmax pmax
comp=Z,18nm,1.1s
MAJO Matsushiro 25.52 30 P **P 13 49 25.3 -2.3**
MAJO IAmb IAmb 13 49 43.5
comp=Z,72nm,1.3s
MAT Matsushiro 25.52 30 P **P 13 49 25.9 -1.7**
MAT S **S 13 53 55.6 +0.6**
MJAR Matsushiro Arr 25.52 30 P **P 13 49 26.8 -0.9**
comp=Z,4.4nm,0.6s,baz=206,slow=9.0,SNR=13
MJAR LR LR 13 59 34.7
comp=Z,466nm,19.5s,baz=135,slow=36
MJAR Matsushiro Arr 25.52 30 P **P 13 49 26.0 -1.6**
MJAR pmax pmax
comp=Z,24nm,1.1s
MJAR Matsushiro Arr 25.52 30 P **P 13 49 26.0 -1.6**
PSI Prapat 26.24 244 P **P 13 49 34.3 -0.2**
comp=Z,6.3nm,0.8s,baz=0.5,slow=6.2,SNR=12
PSI LR LR 13 59 46.1
comp=Z,690nm,20.5s,baz=90,slow=36
PSI Prapat 26.24 244 P **P 13 49 34.3 -0.2**
PSI pmax pmax
comp=Z,31nm,0.9s
RPSI Rantau Prapat 26.29 244 P **P 13 49 33.0 -1.8**
RPSI Rantau Prapat 26.29 244 P **P 13 49 34.3 -0.5**
LEM Lembang 26.32 215 P **P 13 49 35.2 0.0**
comp=Z,44nm,0.7s,baz=71,slow=3.6,SNR=6.0
SNY Shenyang 26.61 2 ⇑P **P 13 49 38.9 +1.5**
SNY S **S 13 54 10.6 -1.4**
SNY pmax pmax
comp=Z,19nm,1.1s
SNY pmax pmax
comp=Z,210nm,5.1s
SNY LR LR
comp=Z,1μm,13.7s
SNY LR LR
comp=Z,2μm,16.7s
SNY LR LR
comp=Z,2μm,14.5s
LZH Lanzhou 26.68 325 *e*P **P 13 49 39.3 +1.0**
LZH pP sP 13 49 42.7 0.0
LZH sP pwP 13 49 46.0 +1.8
LZH S **S 13 54 12.5 -1.1**
LZH sS sS 13 54 19.4 +1.0
LZH SS **SnSn 13 55 23.2 +6.5**
LZH pmax pmax
comp=Z,46nm,1.1s
LZH pmax pmax
comp=Z,290nm,5.4s
LZH LR LR
comp=Z,3μm,12.1s
LZH LR LR
comp=Z,2μm,12.5s
LZH LR LR
comp=Z,2μm,14.3s
CISI Cisompet, Garu 26.82 214 P **P 13 49 38.0 -1.6**
HHC Hu-ho-hao-te 27.31 342 *e*P **P 13 49 44.0 +0.1**
HHC S **S 13 54 17.3 -6.1**
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,270nm,6.6s
HHC LR LR
comp=Z,3μm,16.6s
HHC LR LR
comp=Z,1μm,17.1s
HHC LR LR
comp=Z,2μm,18.0s
BTO Baotou 27.59 339 *e*P **P 13 49 49.3 +3.0**
SAIH SAIHA 28.80 289 *e*P **P 13 49 56.4 -1.0**
SAIH IAmb IAmb 13 50 06.0
comp=Z,26nm,1.2s
MTN Manton Dam 29.10 162 P **P 13 49 57.6 -2.2**
TEZP TEZPUR 29.90 297 *e*P **P 13 50 06.7 -0.2**
TEZP IAmb IAmb 13 50 12.1
comp=Z,14nm,0.8s
MDJ Mudanjiang 30.00 10 P **P 13 50 07.8 +0.2**
MDJ pP sP 13 50 12.0 0.0
MDJ sP pwP 13 50 14.3 +0.9
MDJ PP **PnPn 13 51 06.3 +2.1**
MDJ S **S 13 55 09.3 +4.0**
MDJ pmax pmax
comp=Z,29nm,1.4s
MDJ pmax pmax
comp=Z,240nm,3.7s
MDJ LR LR
comp=Z,990nm,14.5s
MDJ LR LR
comp=Z,1μm,16.9s
MDJ LR LR
comp=Z,2μm,18.2s
MDJ Mudanjiang 30.00 10 P **P 13 50 06.7 -0.9**
MDJ IAmb IAmb 13 50 21.5
comp=Z,73nm,1.5s
USRK Ussuriysk Ar. 30.08 14 P **P 13 50 09.3 +1.1**
comp=Z,5.8nm,0.6s,baz=193,slow=8.8,SNR=12
USRK LR LR 14 04 02.5
comp=Z,456nm,18.3s,baz=158,slow=40
USRK Ussuriysk Ar. 30.08 14 P **P 13 50 07.8 -0.5**
USRK Ussuriysk Ar. 30.08 14 P **P 13 50 07.8 -0.5**
SHL Shillong 30.41 295 *e*P **P 13 50 11.3 -0.4**
SHL IAmb IAmb 13 50 13.6
comp=Z,13nm,0.4s
SHL Shillong 30.41 295 P **P 13 50 11.1 -0.6**
SHL pmax pmax
comp=Z,32nm,0.5s
SHL Shillong 30.41 295 P **P 13 50 11.1 -0.6**
KNRA Kununurra 31.25 168 P **P 13 50 16.9 -1.9**
KNRA IAmb IAmb 13 50 36.8
comp=Z,15nm,0.7s
GTA Gaotai 31.28 325 P **P 13 50 19.9 +0.7**
GTA pP pwP 13 50 28.0 +2.8
GTA sP sP 13 50 32.0 +8.4
GTA S **S 13 55 26.8 +0.9**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,130nm,6.5s
GTA LR LR
comp=Z,590nm,15.9s
GTA LR LR
comp=Z,920nm,13.6s
GTA LR LR
comp=Z,1μm,14.3s
TEY Ternei 32.11 19 *e*P **P 13 50 25.7 -0.5**
LSA Lhasa 32.24 302 P **P 13 50 29.8 +1.7**
LSA S **S 13 55 42.7 +1.0**
LSA LR LR
comp=Z,2μm,15.3s

LSA LR LR
comp=Z,3μm,16.0s
LSA Lhasa 32.24 302 P **P 13 50 24.9 -3.2**
LSA pmax pmax
comp=Z,27nm,1.1s
LSA Lhasa 32.24 302 P **P 13 50 24.9 -3.2**
LSA IAmb IAmb 13 50 42.7
comp=Z,27nm,1.1s
FITZ Fitzroy Crossi 33.18 174 P **P 13 50 34.0 -1.8**
FITZ IAmb IAmb 13 50 36.3
comp=Z,27nm,1.1s
ASAJ Asahikawa 33.58 27 P **P 13 50 36.2 -2.9**
ASAJ pmax pmax
comp=Z,16nm,0.9s
JKA Kamikawa-asahi 33.58 27 P **P 13 50 36.2 -2.9**
TAPN Taplejung 34.47 296 *e*P **P 13 50 47.9 +0.5**
comp=Z,33nm,0.5s
TAPN Taplejung 34.47 296 *e*P **P 13 50 47.9 +0.5**
comp=Z,33nm,0.5s
PMG Port Moresby 34.55 133 P **P 13 50 46.6 -1.3**
PMG pmax pmax
comp=Z,42nm,1.1s
PMG Port Moresby 34.55 133 P **P 13 50 46.6 -1.3**
PMG IAmb IAmb 13 50 55.2
comp=Z,42nm,1.1s
ODAN Odare 34.64 295 *e*P **P 13 50 49.2 +0.4**
comp=Z,107nm,0.7s
ODAN Odare 34.64 295 *e*P **P 13 50 49.2 +0.4**
comp=Z,107nm,0.7s
KLR Kul'dur 34.84 11 *c i*P **P 13 50 50.1 +0.2**
comp=Z,10nm,0.8s,baz=202,slow=6.8,SNR=30
KLR Kul'dur 34.84 11 *c i*P **P 13 50 50.2 +0.2**
KLR pmax pmax
comp=Z,66nm,1.7s
ULN Ulaanbaatar 35.03 342 *c i*P **P 13 50 52.4 +0.6**
ULN pmax pmax
comp=Z,33nm,1.3s
ULN Ulaanbaatar 35.03 342 P **P 13 50 51.3 -0.6**
ULN **P 13 50 51.9 +0.1**
ULN IAmb IAmb 13 51 00.7
comp=Z,21nm,0.7s
RABL Rabaul 35.14 121 P **P 13 50 53.3 +0.3**
SONM Songino Array 35.21 341 P **P 13 50 53.7 +0.4**
comp=Z,9.0nm,0.6s,baz=162,slow=10,SNR=31
SONM LR LR 14 07 19.3
comp=Z,2μm,18.1s,baz=144,slow=40
SONM Songino Array 35.21 341 P **P 13 50 53.4 +0.1**
SONM **P 13 50 53.8 +0.5**
BWNR Bhubaneshwar 35.24 284 *ex* P 13 50 45.1 -8.6
BWNR *ex* x 13 50 45.9
BWNR IAmb IAmb 13 50 51.1
comp=Z,33nm,0.8s
RAMN Ramite 35.35 295 *e*P **P 13 50 55.6 +0.7**
comp=Z,92nm,0.6s
RAMN Ramite 35.35 295 *e*P **P 13 50 55.6 +0.7**
comp=Z,92nm,0.6s
COEN Coen 35.44 144 P **P 13 50 53.8 -1.7**
COEN IAmb IAmb 13 50 56.8
comp=Z,31nm,0.8s
BOK Bokaro 35.46 290 *ex* **P 13 50 56.3 +0.6**
BOK IAmb IAmb 13 51 03.0
comp=Z,23nm,0.4s
JIRN Jiri 35.86 296 *e*P **P 13 50 59.9 +0.5**
comp=Z,168nm,0.6s
JIRN Jiri 35.86 296 *e*P **P 13 50 59.9 +0.5**
comp=Z,168nm,0.6s
YSS Yuzh-Sakhalins 35.95 24 *e*P **P 13 50 58.7 -0.8**
YSS *e**SP **pwP 13 51 09.2 +3.9**
YSS *e*PPP PPP 13 52 16.6
YSS *e*S **S 13 56 34.1 -3.5**
YSS *e*SSS SSS 13 59 02.0
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS pmax pmax
comp=Z,100nm,3.1s
YSS MLR MLR
comp=Z,600nm,15.0s
YSS MLR MLR
comp=N,300nm,14.0s
YSS MLR MLR
comp=E,300nm,17.0s
YSS Yuzh-Sakhalins 35.95 24 P **P 13 50 59.1 -0.4**
YSS IAmb IAmb 13 51 18.1
comp=Z,73nm,1.5s
PATS Pohnpei 36.11 99 P **P 13 51 01.0 -0.2**
GUN Gumba 36.18 297 *e*P **P 13 51 02.6 +0.4**
comp=Z,129nm,0.6s
GUN Gumba 36.18 297 *e*P **P 13 51 02.6 +0.4**
comp=Z,129nm,0.6s
PKI Pulchoki 36.51 296 *e*P **P 13 51 04.9 -0.1**
comp=Z,184nm,1.1s
PKI Pulchoki 36.51 296 *e*P **P 13 51 04.9 -0.1**
comp=Z,184nm,1.1s
PSA00 Pilbara Seismi 36.58 184 P **P 13 51 03.8 -1.3**
PSA00 IAmb IAmb 13 51 06.9
comp=Z,28nm,0.9s
WB0 Warramunga Arr 36.62 161 P **P 13 51 03.2 -2.4**
WB0 IAmb IAmb 13 51 04.3
comp=Z,35nm,0.9s
KKN Kakani 36.67 296 *e*P **P 13 51 06.3 +0.1**
KKN Kakani 36.67 296 *e*P **P 13 51 06.3 +0.1**
WRAB Tennant Creek 36.76 161 *d i*P **P 13 51 04.1 -2.7**
WRAB pmax pmax
comp=Z,83nm,1.7s
WRAB Tennant Creek 36.76 161 P **P 13 51 04.5 -2.3**
WRAB IAmb IAmb 13 51 05.7
comp=Z,39nm,0.9s
WRA Warramunga Arr 36.77 161 P **P 13 51 04.1 -2.7**
comp=Z,24nm,0.8s,baz=344,slow=9.1,SNR=120
WRA LR LR 14 09 00.4
comp=Z,230nm,18.9s,baz=345,slow=41
WRA Warramunga Arr 36.77 161 P **P 13 51 04.0 -2.8**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 36.77 161 P **P 13 51 04.0 -2.8**
WB2 Warramunga Arr 36.77 161 P **P 13 51 04.3 -2.5**
WB2 IAmb IAmb 13 51 06.3
comp=Z,45nm,0.9s
DMN Daman 36.78 296 *e*P **P 13 51 07.3 0.0**
DMN Daman 36.78 296 *e*P **P 13 51 07.3 0.0**
WR0 Warramunga Arr 36.85 161 P **P 13 51 05.0 -2.5**
WR0 IAmb IAmb 13 51 07.0
comp=Z,34nm,0.8s
CHLP Challavanipeta 36.86 281 *e*P **P 13 51 07.0 -0.6**
KUR Kuril'sk 36.87 30 P **P 13 51 07.8 +0.5**
KUR 13 53 32.6
KUR pmax pmax
comp=Z,109nm,1.3s
GKN Gorkha 37.27 296 *e*P **P 13 51 11.1 -0.2**
comp=Z,72nm,0.5s
GKN Gorkha 37.27 296 *e*P **P 13 51 11.1 -0.2**
comp=Z,72nm,0.5s
GRNR Gornyy 37.29 15⇑*i*P **P 13 51 11.6 +0.7**
GRNR *e* 13 52 31.6
GRNR *e*S **S 13 57 02.4 +4.4**
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR smax smax
comp=E,1.0nm,0.6s
GRNR MLR MLR
comp=E,140nm,14.0s
GRNR MLR MLR
comp=N,190nm,18.0s
GRNR MLR MLR
comp=Z,380nm,16.0s
KOLN Koldanda 38.12 296 *e*P **P 13 51 18.5 -0.1**
comp=Z,141nm,1.1s
KOLN Koldanda 38.12 296 *e*P **P 13 51 18.5 -0.1**
comp=Z,141nm,1.1s
GIRL Giralia 38.41 192 P **P 13 51 19.2 -1.4**
ZAK Zakamensk 38.43 340 *e*P **P 13 51 19.4 -1.3**
ZAK pmax pmax
comp=Z,14nm,1.3s
ZEA Zeya 38.69 5 *e*P **P 13 51 22.8 +0.1**
ZEA *e* 13 52 52.5
ZEA *e*PPP PPP 13 53 24.0
ZEA *e*S **S 13 57 19.0 -0.3**
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA pmax pmax
comp=Z,300nm,6.0s
ZEA pmax pmax
comp=Z,300nm,6.0s
ZEA smax smax
comp=N,700nm,9.0s
ZEA MLR MLR

comp=Z,2μm,16.0s
PYUN Piuthan 38.72 296 *e*P **P 13 51 23.9 +0.3**
comp=Z,87nm,0.5s
PYUN Piuthan 38.72 296 *e*P **P 13 51 23.9 +0.3**
comp=Z,87nm,0.5s
TYV Tymovskoe 39.18 20 *e*P **P 13 51 27.9 +1.1**
TYV *e*S **S 13 57 30.0 +3.3**
TYV pmax pmax
comp=Z,300nm,4.1s
TYV pmax pmax
comp=Z,17nm,1.2s
TYV smax smax
comp=N,300nm,9.3s
PVM Polavaram 39.22 279 *e*P **P 13 51 28.9 +1.3**
TLY Talaya 39.44 342 P **P 13 51 29.4 +0.3**
comp=N,11nm,0.5s,baz=75,slow=5.5,SNR=7.8
TLY Talaya 39.44 342 *e*P **P 13 51 29.5 +0.4**
TLY *e* 13 53 05.5
TLY *e*S **S 13 57 30.0 -0.7**
TLY pmax pmax
comp=Z,70nm,0.9s
TLY MLR MLR
comp=Z,3μm,16.0s
TLY Talaya 39.44 342 P **P 13 51 27.9 -1.1**
TLY IAmb IAmb 13 51 38.2
comp=Z,22nm,0.6s
IRK Irkutsk 39.75 343 *e*P **P 13 51 31.9 +0.3**
IRK pmax pmax
comp=Z,88nm,2.6s
AS31 Alice Springs 40.16 164 P **P 13 51 33.4 -1.9**
ASAR Alice Springs 40.16 164 P **P 13 51 33.5 -1.9**
comp=Z,18nm,0.7s,baz=343,slow=6.8,SNR=89
ASAR S **S 13 57 36.1 -5.8**
comp=Z,0.5nm,0.7s,baz=355,slow=19,SNR=2.7
ASAR Alice Springs 40.16 164 P **P 13 51 33.3 -2.0**
MYLAV Mylavaram 40.20 278 *e*P **P 13 51 36.1 +0.3**
MOY Mondy 40.29 339 *e*P **P 13 51 37.1 +0.9**
MOY pmax pmax
comp=Z,78nm,2.6s
NKL Nikolayevsk 40.56 17 *e*P **P 13 51 36.0 -2.3**
NKL *e*S **S 13 57 43.8 -3.5**
NKL pmax pmax
comp=N,10.0nm,1.1s
NKL pmax pmax
comp=Z,24nm,1.5s
NKL smax smax
comp=N,31nm,5.9s
NKL MLR MLR
comp=N,438nm,18.0s
NKL MLR MLR
comp=Z,494nm,15.0s
ADKI Addanki 40.90 277 *e*P **P 13 51 41.3 -0.3**
WMQ Urumqi 41.12 321 *e*P **P 13 51 43.3 +0.2**
WMQ pP sP 13 51 47.3 -0.3
WMQ sP pwP 13 51 49.0 -0.2
WMQ S **S 13 57 56.5 +0.4**
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,180nm,4.1s
WMQ LR LR
comp=Z,1μm,19.7s
WMQ LR LR
comp=Z,740nm,16.9s
WMQ LR LR
comp=Z,550nm,22.7s
SKHT Srikalahasti 41.38 274 *e*P **P 13 51 46.7 +1.2**
NJS Nagarjunasagar 41.48 278 *e*P **P 13 51 46.3 -0.1**
NGP Nagpur 41.58 285 *e*P **P 13 51 44.2 -2.9**
PALK Pallekele 41.64 264 P **P 13 51 46.1 -1.7**
PALK pmax pmax
comp=Z,36nm,1.4s
PALK Pallekele 41.64 264 P **P 13 51 46.1 -1.7**
CUPL Choutuppal 41.80 279 *e*P **P 13 51 47.2 -1.8**
CTAO Charters Tower 42.11 146 P **P 13 51 50.7 -0.7**
CTAO pmax pmax
comp=Z,43nm,1.0s
CTAO Charters Tower 42.11 146 P **P 13 51 50.7 -0.7**
CTAO IAmb IAmb 13 51 52.6
comp=Z,43nm,1.0s
HYB Hyderabad 42.14 279 *i* P **P 13 51 56.0 +4.2**
HYBB Hyderabad (bro 42.14 279 *e*P **P 13 51 51.0 -0.8**
SRSP Sriramsagar 42.27 282 *e*P **P 13 51 53.1 +0.3**
H11S3 WAKE ISLAND Hy 42.39 79 T T 14 37 06.8
baz=272,slow=75,SNR=541
H11S1 WAKE ISLAND Hy 42.40 79 T T 14 37 04.5
baz=272,slow=75,SNR=260
H11S2 WAKE ISLAND Hy 42.41 79 T T 14 37 06.4
baz=272,slow=75,SNR=298
H11N1 WAKE ISLAND Hy 42.55 77 T T 14 37 16.4
baz=271,slow=75,SNR=25
H11N2 WAKE ISLAND Hy 42.55 77 T T 14 37 19.6
baz=271,slow=75,SNR=81
H11N3 WAKE ISLAND Hy 42.57 77 T T 14 37 22.7
baz=271,slow=75,SNR=77
BOD Bodaibo 43.07 353 *e*P **P 13 51 59.0 +0.2**
BOD pmax pmax
comp=Z,29nm,1.7s
BHPL Bhopal 43.15 288 *e*P **P 13 51 57.3 -2.7**
URV Uravakonda 43.59 276 *e*P **P 13 52 04.4 +0.8**
KLRI Killari 43.96 280 *e*P **P 13 52 06.0 -0.6**
SMLA Simla 44.27 299 *e*P **P 13 52 08.7 -0.1**
SMLA IAmb IAmb 13 52 14.3
comp=Z,28nm,0.8s
MORW Morawa 44.38 188 P **P 13 52 07.5 -2.1**
MORW IAmb IAmb 13 52 09.2
comp=Z,37nm,1.1s
HNR Honiara 44.45 121 LR LR 14 07 59.2
comp=Z,619nm,21.9s,baz=284,slow=32
SKR Severo-Kuril's 44.63 30 *e*P P 13 51 56.9 -14
SKR *e*PPP PPP 13 54 40.1
SKR *e*S **S 13 58 45.4 -1.9**
SKR pmax pmax
comp=Z,100nm,3.7s
SKR MLR MLR
comp=Z,200nm,18.0s
DGZ Jazzator, Alta 44.69 328⇑ *i*P **P 13 52 13.3 +1.2**
DGZ pmax pmax
comp=Z,23nm,0.8s
BHK Bhakra 44.95 299 *ex* **P 13 52 19.0 +4.7**
DHRM DHARAMSHALA 45.20 301 *e*P **P 13 52 15.9 -0.6**
DHRM IAmb IAmb 13 52 17.8
comp=Z,16nm,0.6s
MK31 Makanchi Array 45.92 322 *e*P **P 13 52 22.7 +0.9**
MK31 Makanchi Array 45.92 322 P **P 13 52 22.2 +0.5**
MK31 IAmb IAmb 13 52 33.2
comp=Z,26nm,0.8s
MKAR Makanchi Array 45.92 322 P **P 13 52 22.5 +0.7**
comp=Z,18nm,0.7s,baz=120,slow=8.3,SNR=109
MKAR LR LR 14 14 56.5
comp=Z,563nm,18.2s,baz=127,slow=40
MKAR Makanchi Array 45.92 322 P **P 13 52 22.1 +0.3**
FORT Forrest 45.97 173 P **P 13 52 20.8 -1.4**
SHLS Shalkode 46.07 316 *e*P **P 13 52 21.9 -1.2**
comp=Z,26nm,1.6s,baz=316
SHLS *i* S **S 13 59 06.8 -1.8**
comp=Z,66nm,2.5s,baz=316
SHLS LR LR 14 11 20.2
comp=Z,57nm,8.6s,baz=316
SHLS Shalkode 46.07 316 *e*P **P 13 52 21.9 -1.2**
SHLS *i* S **S 13 59 06.8 -1.8**
SHLS pmax pmax
comp=Z,26nm,1.6s
SHLS smax smax
comp=N,66nm,2.5s
SHLS MLR MLR
comp=Z,57nm,9.0s
MAKZ Makanchi 46.12 322 P **P 13 52 23.7 +0.4**
MAKZ pmax pmax
comp=Z,53nm,1.3s
MAKZ Makanchi 46.12 322 P **P 13 52 23.7 +0.4**
PDGK Podgornoye 46.12 316 P **P 13 52 24.1 +0.6**
UZB Uzynbulak 46.36 316 *e*P **P 13 52 26.3 +0.9**
comp=Z,28nm,2.1s,baz=316
UZB *i* S **S 13 59 15.1 +2.2**
comp=Z,67nm,4.0s,baz=316
UZB LR LR 14 12 03.3
comp=Z,179nm,15.7s,baz=316
UZB Uzynbulak 46.36 316 *e*P **P 13 52 26.3 +0.9**
UZB *i* S **S 13 59 15.0 +2.2**
UZB pmax pmax
comp=Z,28nm,2.1s
UZB smax smax
comp=E,67nm,4.0s
UZB MLR MLR
comp=Z,179nm,16.0s
KPKS Kokpek 46.71 316 *e*P **P 13 52 28.9 +0.7**
comp=Z,33nm,1.8s,baz=316
KPKS LR LR 14 11 17.0
comp=Z,471nm,17.5s,baz=316
KPKS Kokpek 46.71 316 *e*P **P 13 52 28.8 +0.7**
KPKS pmax pmax
comp=Z,33nm,1.8s
KPKS MLR MLR
comp=Z,471nm,18.0s
SATY Saty 46.74 316 *e*P **P 13 52 29.0 +0.5**
comp=Z,6.3nm,1.1s,baz=316
SATY *e*S **S 13 59 20.2 +1.9**
comp=Z,81nm,4.8s,baz=316
SATY LR LR 14 12 00.1
comp=Z,172nm,16.1s,baz=316
SATY Saty 46.74 316 *e*P **P 13 52 28.9 +0.5**
SATY *e*S **S 13 59 20.2 +1.9**
SATY pmax pmax
comp=Z,6.0nm,1.1s
SATY smax smax
comp=N,81nm,4.8s
SATY MLR MLR
comp=Z,172nm,16.0s
PEA0B Petropavlovsk- 46.95 28 *c e*P **P 13 52 30.0 +0.3**
PEA0B Petropavlovsk- 46.95 28 P **P 13 52 29.6 -0.1**
PETK Petropavlovsk- 46.95 28 P **P 13 52 29.9 +0.2**
comp=Z,18nm,0.5s,baz=197,slow=3.0,SNR=177
PETK LR LR 14 14 13.9
comp=Z,266nm,19.6s,baz=224,slow=39
PETK Petropavlovsk- 46.95 28 P **P 13 52 29.7 0.0**
PETK Petropavlovsk- 46.95 28 P **P 13 52 29.7 0.0**
YAK Yakutsk 47.11 5 *e*P **P 13 52 30.5 -0.3**
YAK *e**PP **sP 13 52 34.7 -0.6**
YAK *e* 13 54 20.3
YAK *e*S **S 13 59 20.2 -2.4**
YAK *e**SS **pS 13 59 25.7 -0.3**
YAK *e* 14 02 18.6
YAK *e*SSS SSS 14 04 00.7
YAK pmax pmax
comp=Z,40nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=N,43nm,1.2s
YAK pmax pmax
comp=Z,30nm,1.5s
YAK pmax pmax
comp=N,45nm,1.4s
YAK smax smax
comp=E,37nm,3.0s
YAK smax smax
comp=N,85nm,2.8s
YAK MLR MLR
comp=Z,853nm,16.0s
YAK MLR MLR
comp=N,713nm,17.0s
YAK MLR MLR
comp=E,223nm,17.0s
YAK Yakutsk 47.11 5 P **P 13 52 30.2 -0.6**
KDJ Kajisay 47.24 314 P **P 13 52 31.0 -1.4**
KDJ pmax pmax
comp=Z,17nm,1.0s
KDJ Kajisay 47.24 314 P **P 13 52 31.0 -1.4**
KDJ IAmb IAmb 13 52 50.0
comp=Z,17nm,1.0s
KSH Kashi 47.25 310 P **P 13 52 35.4 +3.0**
KSH pP pwP 13 52 39.7 +1.1
KSH ScP **ScP 13 57 59.1 +1.4**
KSH S **S 13 59 29.6 +4.0**
KSH ScS **ScS 14 02 29.4 +2.5**
KSH pmax pmax
comp=Z,15nm,1.0s
KSH pmax pmax
comp=Z,200nm,3.6s
KSH LR LR
comp=Z,240nm,18.3s
KSH LR LR
comp=Z,270nm,16.7s
KSH LR LR
comp=Z,2μm,18.0s
PET Petropavlovsk 47.34 29 *e*P **P 13 52 34.6 +1.9**
PET *e*S **S 13 59 23.9 -2.3**
PET MLR MLR
comp=Z,300nm,19.0s
PET Petropavlovsk 47.34 29 P **P 13 52 32.0 -0.7**
TDK Taldyqorghan 47.52 318 *e*P **P 13 52 35.0 +0.7**
comp=Z,17nm,0.8s,baz=318
TDK Taldyqorghan 47.52 318 *e*P **P 13 52 35.0 +0.7**
TDK pmax pmax
comp=Z,17nm,0.8s
MDOK Medeo 47.70 315 *e*P **P 13 52 36.3 +0.4**
baz=315
MDOK *i* S **S 13 59 33.5 +1.4**
comp=Z,438nm,5.0s,baz=315
MDOK LR LR 14 12 39.3
comp=Z,436nm,16.4s,baz=315
MDOK Medeo 47.70 315 *e*P **P 13 52 36.3 +0.4**
MDOK *i* S **S 13 59 33.4 +1.4**
MDOK smax smax
comp=N,438nm,5.0s
MDOK MLR MLR
comp=Z,436nm,16.0s
TNSS Tian-Shan 47.72 315 *e*P **P 13 52 37.1 +0.6**
baz=315
TNSS Tian-Shan 47.72 315 *e*P **P 13 52 37.0 +0.6**
AAA Alma-Ata 47.81 315 *e*P **P 13 52 37.2 +0.6**
baz=315
AAA *e*S **S 13 59 35.1 +1.7**
baz=315
AAA LR LR 14 13 05.7
comp=Z,321nm,16.7s,baz=315
AAA Alma-Ata 47.81 315 *e*P **P 13 52 37.2 +0.6**
AAA *e*S **S 13 59 35.0 +1.7**
AAA MLR MLR
comp=Z,321nm,17.0s
NIL Nilore 47.98 302 P **P 13 52 38.0 -0.1**
NIL pmax pmax
comp=Z,77nm,1.5s
NIL Nilore 47.98 302 P **P 13 52 38.0 -0.1**
CHKK Chushkaly 48.00 316 *e*P **P 13 52 38.2 +0.1**
baz=316
CHKK Chushkaly 48.00 316 *e*P **P 13 52 38.1 0.0**
NWAO Narrogin (SRO) 48.06 186 P **P 13 52 36.8 -1.7**
NWAO pmax pmax
comp=Z,80nm,1.5s
NWAO Narrogin (SRO) 48.06 186 P **P 13 52 36.6 -1.9**
NWAO Narrogin (SRO) 48.06 186 P **P 13 52 36.8 -1.7**
NWAO IAmb IAmb 13 52 43.6
comp=Z,80nm,1.4s
KUU Kurty 48.45 316 *e*P **P 13 52 42.2 +0.6**
comp=Z,59nm,2.0s,baz=316
KUU *e*S **S 13 59 44.1 +1.8**
baz=316
KUU LR LR 14 13 16.1
comp=Z,181nm,15.1s,baz=316
KUU Kurty 48.45 316 *e*P **P 13 52 42.1 +0.6**
KUU *e*S **S 13 59 44.1 +1.8**
KUU pmax pmax
comp=Z,59nm,2.0s
KUU MLR MLR
comp=Z,181nm,15.0s
KZA Kyzart 48.57 313 P **P 13 52 45.2 +2.3**
SNR=6.3
ZAA0 Zalesovo Array 48.59 331 P **P 13 52 42.1 -0.3**
ZALV Zalesovo Beam 48.59 331 P **P 13 52 42.5 0.0**
comp=Z,12nm,0.4s,baz=125,slow=6.6,SNR=57
ZALV LR LR 14 15 29.6
comp=Z,482nm,19.5s,baz=110,slow=39
ZALV Zalesovo Beam 48.59 331 P **P 13 52 42.0 -0.4**
TKM2 Tokmak 2 48.61 314 P **P 13 52 42.9 -0.1**
EIDS Eidsvold 48.98 145 P **P 13 52 44.9 -0.9**
UCH Uchtor 49.14 313 P **P 13 52 48.6 +1.2**
SNR=11
AAK Ala-Archa 49.28 314 LR LR 14 14 44.1
comp=Z,1μm,21.4s,baz=78,slow=37
AAK Ala-Archa 49.28 314 P **P 13 52 49.5 +1.4**
AAK Ala-Archa 49.28 314 P **P 13 52 47.4 -0.7**
BBOO Buckleboo 49.42 165 P **P 13 52 47.7 -1.3**
SGDS Sogindy 49.45 315 *e*P **P 13 52 49.5 +0.1**
comp=Z,35nm,2.3s,baz=315
SGDS *e*S **S 13 59 58.0 +1.4**
baz=315
SGDS Sogindy 49.45 315 *e*P **P 13 52 49.4 +0.1**
SGDS *e*S **S 13 59 58.0 +1.4**
SGDS pmax pmax
comp=Z,35nm,2.3s
USP Ospenovka 49.48 314 P **P 13 52 51.0 +1.5**
SNR=6.1
AML Almayashu 49.69 313 P **P 13 52 53.0 +1.5**
SNR=7.8
EKS2 Erkin-Say 49.79 313 P **P 13 52 53.6 +1.6**
SNR=6.3
KURK Kurchatov 49.97 325 *c e*P **P 13 52 53.6 +0.6**
KURK pmax pmax
comp=Z,106nm,1.3s
KURK Kurchatov 49.97 325 P **P 13 52 53.5 +0.5**
KURBB Kurchatov Arra 49.98 325 P **P 13 52 53.3 +0.3**
STKA Stephens Creek 50.22 159 P **P 13 52 54.3 -0.8**
comp=Z,33nm,0.7s,baz=333,slow=7.3,SNR=62
STKA Stephens Creek 50.22 159 P **P 13 52 54.0 -1.1**
STKA pmax pmax
comp=Z,9.0nm,0.9s
STKA Stephens Creek 50.22 159 P **P 13 52 54.0 -1.1**
BTLS Baital 50.39 317 *e*P **P 13 52 56.6 +0.3**
comp=Z,15nm,2.3s,baz=316
BTLS *e*S **S 14 00 11.0 +1.5**
baz=316
BTLS LR LR 14 14 15.2
comp=Z,71nm,11.5s,baz=316
BTLS Baital 50.39 317 *e*P **P 13 52 56.6 +0.3**
BTLS *e*S **S 14 00 10.9 +1.5**
BTLS pmax pmax
comp=Z,15nm,2.3s
BTLS MLR MLR
comp=Z,71nm,12.0s
BTK Batken 51.22 309 P **P 13 53 01.9 -0.8**
BTK pmax pmax
comp=Z,17nm,1.4s
BTK Batken 51.22 309 P **P 13 53 01.9 -0.8**
GAR Garm 51.35 308 P **P 13 53 02.7 -1.1**
KBL Kabul 51.56 302 P **P 13 53 04.7 -0.9**
KBL pmax pmax
comp=Z,45nm,1.4s
KBL Kabul 51.56 302 P **P 13 53 04.7 -0.9**
KBL IAmb IAmb 13 53 11.6
comp=Z,46nm,1.4s
DZA Taraz 51.58 313 *e*P **P 13 53 06.0 +0.6**
baz=313
DZA Taraz 51.58 313 *e*P **P 13 53 05.9 +0.6**
SEY Seymchan 52.14 17 *c i*P **P 13 53 10.3 +1.2**
CHGR Chuyangaron 52.17 307 P **P 13 53 09.5 -0.4**
CHGR IAmb IAmb 13 53 22.3
comp=Z,27nm,0.6s
KK31 Karatay Array 52.22 313 *i* P **P 13 53 10.7 +0.6**
KK31 Karatay Array 52.22 313 P **P 13 53 09.8 -0.3**
KKAR Karatay Array 52.22 313 P **P 13 53 09.9 -0.2**
KKAR pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 52.22 313 P **P 13 53 09.7 -0.4**
KKAR Karatay Array 52.22 313 P **P 13 53 09.9 -0.2**
KKAR IAmb IAmb 13 53 31.5
comp=Z,11nm,0.9s
IUG Iuzhnay 52.31 312 *e*P **P 13 53 11.6 +0.7**
comp=Z,34nm,2.2s,baz=312
IUG *e*S **S 14 00 38.1 +1.9**
baz=312
IUG LR LR 14 15 31.9
comp=Z,219nm,16.2s,baz=312
IUG Iuzhnay 52.31 312 *e*P **P 13 53 11.6 +0.7**
IUG *e*S **S 14 00 38.1 +1.9**
IUG pmax pmax
comp=Z,34nm,2.2s
IUG MLR MLR
comp=Z,219nm,16.0s
BRZS Berezniki 53.07 322 *e*P **P 13 53 16.9 +0.6**
comp=Z,49nm,1.8s,baz=322
BRZS Berezniki 53.07 322 *e*P **P 13 53 16.9 +0.6**
BRZS pmax pmax
comp=Z,49nm,1.8s
ARMA Armidale 53.30 148 P **P 13 53 19.0 +0.7**
ARMA IAmb IAmb 13 53 46.8
comp=Z,42nm,1.4s
BRVK Borovoye 55.64 325 *i* P **P 13 53 35.1 +0.2**
BRVK pmax pmax
comp=Z,26nm,0.9s
BRVK Borovoye 55.64 325 P **P 13 53 34.8 -0.1**
CAN Canberra 56.14 154 P **P 13 53 38.9 +0.1**
CAN pmax pmax
comp=Z,66nm,1.2s
CAN Canberra 56.14 154 P **P 13 53 38.9 +0.1**
TIXI Tiksi 56.62 2 *c e*P **P 13 53 41.3 -0.3**
TIXI pmax pmax
comp=Z,64nm,1.3s
TOO Toolangi 56.73 158 P **P 13 53 42.1 -0.8**
TOO pmax pmax
comp=Z,38nm,0.9s
TOO Toolangi 56.73 158 P **P 13 53 42.1 -0.8**
DZM Mont Dzumac 56.80 130 *e*P **P 13 53 41.6 -2.1**
comp=Z,82nm,1.7s
DZM Mont Dzumac 56.80 130 P **P 13 53 44.3 +0.6**
DZM IAmb IAmb 13 53 45.2
comp=Z,28nm,1.0s
AMKA Amchitka 57.77 38 P **P 13 53 49.8 -0.3**
NRIK Noril'sk 58.42 346 P **P 13 53 54.3 0.0**
comp=Z,17nm,0.8s,baz=128,slow=5.0,SNR=20
NRIK LR LR 14 21 33.6
comp=Z,859nm,18.4s,baz=189,slow=38
ADK Adak 60.32 39 P **P 13 54 06.7 -1.0**
ADK pmax pmax
comp=Z,42nm,1.3s
ADK Adak 60.32 39 P **P 13 54 06.7 -1.0**
WSAR Wadi Sarin 60.42 288 P **P 13 54 08.1 -0.8**
comp=Z,3.7nm,0.5s,baz=137,slow=3.5,SNR=9.0
GEYT Alibeck 60.69 305 P **P 13 54 11.4 +0.9**
comp=Z,11nm,0.8s,baz=153,slow=1.7,SNR=13
GEYT LR LR 14 24 14.6
comp=Z,336nm,19.8s,baz=80,slow=40
GEYT Alibeck 60.69 305 P **P 13 54 10.6 0.0**
GYA0B ALIBECK ARRAY 60.69 305 P **P 13 54 10.6 0.0**
GYA0B IAmb IAmb 13 54 16.7
comp=Z,19nm,0.8s
GSTR Great Sitkin T 60.74 38 P **P 13 54 09.6 -1.1**
ABKAR Akbulak array 60.78 318 P **P 13 54 10.4 -0.5**
ATKA Atka Island 61.89 39 P **P 13 54 18.0 -0.3**
TAU Tasmania Unive 62.12 160 P **P 13 54 19.6 -0.3**
TAU pmax pmax
comp=Z,51nm,1.4s
TAU Tasmania Unive 62.12 160 P **P 13 54 19.6 -0.3**
SVE Sverdlovsk 62.13 327‖ *e*P **P 13 54 20.4 +0.5**
SVE *e*S **S 14 02 48.3 +3.5**
SVE pmax pmax
comp=Z,38nm,1.2s
AKTO Aktyubinsk 62.23 319 LR LR 14 21 32.5
comp=Z,597nm,19.7s,baz=107,slow=36
ARU Arti 63.14 326 LR LR 14 21 18.5
comp=Z,491nm,20.4s,baz=105,slow=35
ARU Arti 63.14 326 *c i*P **P 13 54 26.0 -0.6**
ARU 13 55 00.5
ARU 13 56 42.7
ARU S **S 14 03 00.3 +2.8**
ARU SS **SS 14 07 02.4 -0.9**
ARU pmax pmax
comp=Z,17nm,0.6s
ARU Arti 63.14 326 P **P 13 54 25.6 -1.0**
MSVF Nonsavu 63.80 119 P **P 13 54 34.0 +2.3**
MSVF pmax pmax
comp=Z,53nm,1.2s
MSVF Nonsavu 63.80 119 P **P 13 54 34.0 +2.3**
NIKH Nikolski High 65.23 38 P **P 13 54 40.1 -0.4**
GAMB Gambell 65.91 26 P **P 13 54 44.8 +0.2**
SOCY Socotra 66.36 277 P **P 13 54 46.9 -1.6**
UNV Unalaska Valle 66.73 38 P **P 13 54 49.6 -0.5**
KIRV Kirov 68.37 327 LR LR 14 28 15.7
comp=Z,526nm,18.9s,baz=99,slow=39
AKT Akhty 68.75 309 *e*P **P 13 55 02.4 -0.9**
AKT *e* 13 55 27.1
AKT pmax pmax
comp=Z,41nm,1.1s
GROC Groznyy 70.12 311 *e*P **P 13 55 12.0 +0.4**
GROC *e* 13 57 49.3
GROC *e*S **S 14 04 24.6 +1.9**
GROC pmax pmax
comp=Z,74nm,1.3s
CNBA Chernabura Isl 70.83 37 P **P 13 55 14.9 -0.7**
CNBA IAmb IAmb 13 55 32.5
comp=Z,24nm,0.9s
ZEI Tsey 71.53 310 *e*P **P 13 55 19.5 -0.9**
ZEI pmax pmax
comp=Z,35nm,1.4s
KBZ Khabaz 72.20 312 P **P 13 55 24.6 +0.5**

comp=Z,8.7nm,0.8s,baz=75,slow=6.7,SNR=12
KBZ LR LR 14 29 23.5
comp=Z,338nm,19.1s,baz=82,slow=38
KBZ Khabaz 72.20 312 *ce*P **P 13 55 24.4 +0.3**
KIV Kislovodsk 72.34 312 *e*P **P 13 55 26.0 +0.9**
KIV pmax pmax
comp=Z,105nm,1.0s
KIV MLR MLR
comp=Z,642nm,18.0s
KIV Kislovodsk 72.34 312 P **P 13 55 24.6 -0.5**
KIV IAmb IAmb 13 55 36.1
comp=Z,26nm,0.9s
QRZ Quartz Range 72.46 142 P **P 13 55 25.8 +0.2**
HIZ Hauiti 72.46 139 P **P 13 55 25.5 -0.1**
VRH Novokhopyorsk 72.57 319 *e*P **P 13 55 24.9 -1.2**
VRH pmax pmax
comp=Z,60nm,1.6s
TTA Tatalina 72.79 28 P **P 13 55 26.5 -0.9**
TTA pmax pmax
comp=Z,7.0nm,0.8s
TTA Tatalina 72.79 28 P **P 13 55 26.5 -0.9**
SVW2 Sparrevohn 72.99 30 P **P 13 55 28.9 +0.3**
CHIR Chirikof Islan 73.09 36 P **P 13 55 29.2 0.0**
WKZ Wanaka 73.13 147 P **P 13 55 27.6 -1.9**
NNZ Nelson 73.21 142 P **P 13 55 29.1 -0.9**
NNZ IAmb IAmb 13 55 40.2
comp=Z,27nm,1.0s
THZ Tophouse 73.27 143 P **P 13 55 28.8 -1.7**
THZ IAmb IAmb 13 55 30.5
comp=Z,17nm,1.0s
KLMR Klimovskoe 73.47 330 *e*P **P 13 55 28.9 -2.4**
KLMR pmax pmax
comp=Z,49nm,1.4s
KLMR Klimovskoe 73.47 330 *e*P **P 13 55 28.9 -2.4**
KLMR AMP 13 55 37.8
comp=Z,49nm,1.4s
KLMR LQ LQ 14 22 41.2
KLMR LQ LQ 14 22 41.2
KLMR LR LR 14 25 16.5
RPZ Rata Peaks 73.48 145 P **P 13 55 30.8 -0.7**
LTZ Lake Taylor 73.55 144 P **P 13 55 31.5 -0.6**
LTZ IAmb IAmb 13 55 41.7
comp=Z,27nm,1.2s
URZ Urewera 73.75 138 P **P 13 55 32.2 -1.0**
BSWZ Blackbirch Sta 73.81 142 P **P 13 55 33.3 -0.3**
SII Sitkinak Islan 73.86 35 P **P 13 55 33.7 0.0**
SII IAmb IAmb 13 55 56.4
comp=Z,18nm,0.8s
BKZ Black Stump Fm 73.88 139 P **P 13 55 33.5 -0.6**
TMCR Tamitsa 74.07 333 *e*P **P 13 55 31.2 -3.5**
VORD Divnogorie 74.11 319 *e*P **P 13 55 34.3 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 74.17 320 *e*P **P 13 55 33.9 -1.7**
VSR pmax pmax
comp=Z,30nm,1.2s
LPSR Galich'ya Gora 74.21 321 *e*P **P 13 55 35.4 -0.4**
LPSR pmax pmax
comp=Z,40nm,1.2s
OHAK Old Harbor 74.31 34 P **P 13 55 35.9 -0.4**
PPLA Purkeypile 74.54 28 P **P 13 55 37.6 -0.1**
PPLA IAmb IAmb 13 55 58.6
comp=Z,17nm,1.0s
BFZ Birch Farm 74.61 140 P **P 13 55 38.0 -0.2**
KDAK Kodiak Island 74.65 34 P **P 13 55 37.9 -0.4**
KDAK pmax pmax
comp=Z,50nm,1.5s
KDAK Kodiak Island 74.65 34 P **P 13 55 37.9 -0.4**
KDAK IAmb IAmb 13 55 53.4
comp=Z,50nm,1.4s
MOS Moscow 74.74 324 *e*P **P 13 55 36.7 -2.1**
MOS pmax pmax
comp=Z,51nm,0.9s
MOS MLR MLR
comp=Z,600nm,20.0s
SKT Skwentna 74.90 29 P **P 13 55 39.1 -0.5**
SKT IAmb IAmb 13 55 54.2
comp=Z,31nm,1.4s
BPAW Bear Paw Mtn. 75.01 27 P **P 13 55 40.7 +0.4**
KTH Kantishna Hill 75.07 28 P **P 13 55 41.8 +1.0**
KTH IAmb IAmb 13 55 53.5
comp=Z,14nm,0.9s
COLD Coldfoot 75.14 24 P **P 13 55 42.3 +1.4**
baz=274
COLD Coldfoot 75.14 24 P **P 13 55 41.7 +0.8**
CNPM China Poot 75.22 32 P **P 13 55 41.0 -0.6**
CNPM IAmb IAmb 13 55 54.9
comp=Z,24nm,1.0s
SUA Susitna One 75.31 30 P **P 13 55 41.7 -0.4**
SUA IAmb IAmb 13 55 53.7
comp=Z,25nm,1.0s
BRLK Bradley Lake 75.38 31 P **P 13 55 42.1 -0.4**
BRLK IAmb IAmb 13 55 55.8
comp=Z,34nm,1.2s
OBN Obninsk 75.39 324 LR LR 14 31 03.5
comp=Z,89nm,20.3s,baz=82,slow=37
OBN Obninsk 75.39 324 *i* P **P 13 55 41.6 -1.0**
OBN *i* 13 55 55.3
OBN pmax pmax
comp=Z,21nm,1.1s
OBN MLR MLR
comp=Z,352nm,20.0s
APA Apatity 75.77 337 ⇓*i* P **P 13 55 43.4 -1.1**
APA *i* 13 55 57.5
APA *i* S **S 14 05 24.0 -2.0**
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,800nm,15.0s
O22K Cooper Landing 75.89 31 P **P 13 55 44.8 -0.5**
baz=276
RND Reindeer 76.01 28 P **P 13 55 45.6 -0.5**
RND pmax pmax
comp=Z,49nm,1.4s
RND Reindeer 76.01 28 P **P 13 55 45.6 -0.5**
PMR Palmer 76.07 30 P **P 13 55 46.1 -0.2**
PMR pmax pmax
comp=Z,11nm,0.8s
PMR Palmer 76.07 30 P **P 13 55 46.1 -0.2**
PMR IAmb IAmb 13 55 54.8
comp=Z,11nm,0.8s
SEW Seward 76.07 31 P **P 13 55 46.0 -0.4**
MDM Murphy Dome 76.12 26 P **P 13 55 46.1 -0.6**
GHO Glory Hole Cre 76.15 29 P **P 13 55 46.1 -0.8**
GHO IAmb IAmb 13 56 09.1
comp=Z,18nm,0.9s
WRH Wood River Hil 76.24 26 P **P 13 55 47.6 +0.3**
WRH IAmb IAmb 13 55 48.9
comp=Z,9.5nm,0.5s
COLA College 76.29 26 *i* P **P 13 55 47.9 +0.4**
CCB Clear Creek Bu 76.34 26 P **P 13 55 47.6 -0.2**
KNK Knik Glacier 76.41 30 P **P 13 55 48.5 +0.1**
KNK IAmb IAmb 13 55 52.4
comp=Z,19nm,0.9s
SML Sawmill 76.42 29 P **P 13 55 48.5 +0.1**
POKR Poker Plat Res 76.44 26 P **P 13 55 48.9 +0.4**
baz=277
DHY Denali Highway 76.71 28 P **P 13 55 49.3 -0.9**
IL31 76.72 26 P **P 13 55 49.1 -0.8**
ILAR Eielson Array 76.72 26 P **P 13 55 48.7 -1.3**
comp=Z,1.5nm,0.6s,baz=242,slow=4.0,SNR=20
ILAR LR LR 14 33 22.7
comp=Z,80nm,18.1s,baz=317,slow=39
ILAR Eielson Array 76.72 26 P **P 13 55 48.6 -1.4**
ILAR Eielson Array 76.72 26 P **P 13 55 48.6 -1.4**
HDA Harding Lake 76.73 26 P **P 13 55 49.5 -0.7**
baz=277
HDA Harding Lake 76.73 26 P **P 13 55 49.0 -1.1**
HDA IAmb IAmb 13 55 50.2
comp=Z,13nm,0.5s
SCM Sheep Creek Mo 76.89 29 P **P 13 55 51.2 0.0**
SCM pmax pmax
comp=Z,32nm,1.0s
SCM Sheep Creek Mo 76.89 29 P **P 13 55 51.2 0.0**
GLI Glacier Island 77.13 30 P **P 13 55 52.4 0.0**
GLI IAmb IAmb 13 55 53.7
comp=Z,15nm,0.6s
M24K Tolsona, Glenn 77.39 29 P **P 13 55 55.0 +1.0**
baz=278
HIN Hinchinbrook I 77.49 31 P **P 13 55 54.2 -0.3**
PAX Paxson 77.59 28 P **P 13 55 55.3 +0.2**
PAX pmax pmax
comp=Z,25nm,1.2s
PAX Paxson 77.59 28 P **P 13 55 55.3 +0.2**
PAX IAmb IAmb 13 56 09.8
comp=Z,25nm,1.2s
KLU Klutina 77.61 29 P **P 13 55 55.4 +0.2**
KLU IAmb IAmb 13 55 56.4
comp=Z,11nm,0.5s
RIDG Independent Ri 77.75 27 P **P 13 55 55.3 -0.5**
RIDG IAmb IAmb 13 56 11.3
comp=Z,31nm,1.1s
KEV Kevo 77.80 339 P **P 13 55 55.6 -0.3**
KEV pmax pmax
comp=Z,10.0nm,0.9s
KEV Kevo 77.80 339 P **P 13 55 55.6 -0.3**
EYAK Cordova Ski Ar 77.83 30 P **P 13 55 55.5 -0.8**
EYAK IAmb IAmb 13 56 08.8
comp=Z,29nm,1.2s
SCRK Sand Creek 78.08 27 P **P 13 55 57.8 0.0**
baz=280
DOT Dot Lake 78.11 27 P **P 13 55 57.8 0.0**
DOT IAmb IAmb 13 56 09.8
comp=Z,19nm,1.2s
ARCES ARCESS Array B 78.35 339 P **P 13 55 58.9 -0.2**
comp=Z,5.3nm,0.5s,baz=75,slow=7.0,SNR=65
ARCES LR LR 14 36 25.7
comp=Z,301nm,18.8s,baz=128,slow=40
ARE0 ARCESS Array S 78.35 339 P **P 13 55 58.5 -0.5**
ARE0 ARCESS Array S 78.35 339 *e*P **P 13 55 59.1 0.0**
MENT Mentasta 78.38 28 P **P 13 55 59.3 -0.1**
MENT IAmb IAmb 13 56 01.4
comp=Z,11nm,0.5s
RAGM Ragged Mountai 78.39 30 P **P 13 55 60.0 +0.5**
RAGM IAmb IAmb 13 56 15.1
comp=Z,30nm,1.2s
SPA0 Spitsbergen Ar 78.53 348 P **P 13 55 59.8 -0.2**
KAIM Kayak Island 78.59 31 P **P 13 56 00.9 +0.4**
GLB Gilahina Butte 78.61 29 P **P 13 56 01.0 +0.2**
GLB IAmb IAmb 13 56 16.1
comp=Z,31nm,1.2s
VRDI Verde Repeater 78.82 29 P **P 13 56 02.1 0.0**
K27K Chicken 78.90 27 P **P 13 56 03.3 +1.1**
baz=282
KBS Kingsbay 79.09 349 P **P 13 56 03.0 0.0**
KBS pmax pmax
comp=Z,21nm,0.9s
KBS Kingsbay 79.09 349 P **P 13 56 03.0 0.0**
KBS IAmb IAmb 13 56 04.5
comp=Z,21nm,0.9s
EGAK Eagle 79.13 26 P **P 13 56 03.8 +0.3**
EGAK IAmb IAmb 13 56 18.0
comp=Z,31nm,1.4s
KTK1 Kautokeino 79.26 339 *e*P **P 13 56 05.3 +1.3**
BALM Baldy 79.39 30 P **P 13 56 05.5 +0.4**
BRTR Keskin Array B 79.60 308 P **P 13 56 08.7 +2.0**
comp=Z,1.0nm,0.7s,baz=274,slow=20,SNR=4.7
BRTR LR LR 14 36 16.3
comp=Z,144nm,19.6s,baz=42,slow=39
BRTR Keskin Array B 79.60 308 P **P 13 56 06.0 -0.7**
BRTR Keskin Array B 79.60 308 P **P 13 56 06.0 -0.7**
BARN Barnard Glacie 79.71 29 P **P 13 56 07.6 +0.7**
BARN IAmb IAmb 13 56 16.2
comp=Z,23nm,1.2s
FIA1 FINESS Array S 79.86 331 P **P 13 56 07.2 -0.3**
FIA1 IAmb IAmb 13 56 17.1
comp=Z,26nm,1.2s
FINES FINESS Array B 79.86 331 P **P 13 56 07.1 -0.3**
comp=Z,4.2nm,0.5s,baz=57,slow=5.6,SNR=46
FINES LR LR 14 36 22.9
comp=Z,541nm,18.4s,baz=78,slow=39
FINES FINESS Array B 79.86 331 P **P 13 56 06.6 -0.8**
CTGM Chitina Glacie 79.89 30 P **P 13 56 08.8 +1.0**
CTGM IAmb IAmb 13 56 21.4
comp=Z,34nm,1.1s
VSU Vasula 80.20 328 *i* P **P 13 56 08.7 -0.6**
VSU pmax pmax
comp=Z,134nm,1.3s
MICGM Minsk 80.45 324 *e* **P 13 56 11.0 +0.2**
MNK Minsk 80.45 324 *e*P **P 13 56 11.0 +0.2**
AKASG Malin Array Be 80.46 320 P **P 13 56 09.2 -1.7**
comp=Z,7.4nm,0.8s,baz=66,slow=5.4,SNR=14
AKASG LR LR 14 35 21.1
comp=Z,218nm,18.5s,baz=65,slow=38
AKASG Malin Array Be 80.46 320 *i* P **P 13 56 09.6 -1.3**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 80.46 320 P **P 13 56 09.5 -1.4**
EPYK Eagle Plains 80.53 24 P **P 13 56 11.5 +0.4**
baz=286
EPYK Eagle Plains 80.53 24 P **P 13 56 10.9 -0.2**
EPYK IAmb IAmb 13 56 19.9
comp=Z,27nm,1.2s
NACGM Naroch 80.98 324 *e* **P 13 56 14.0 +0.4**
INK Inuvik 81.14 21 P **P 13 56 14.2 0.0**
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 81.14 21 P **P 13 56 14.2 0.0**
HYT Haines Junctio 81.73 29 P **P 13 56 18.3 +0.7**
TLCR 81.94 315 ⇑P **P 13 56 18.7 -0.2**
TLCR 81.94 315 ⇑P **P 13 56 18.7 -0.2**
STEI Steigen 82.40 339 *e*P **P 13 56 20.3 -0.5**
CFR Carcaliu 82.41 315 ⇑P **P 13 56 22.5 +1.1**
CFR Carcaliu 82.41 315 ⇑P **P 13 56 22.5 +1.1**
FAUS Fauske 82.58 338 *e*P **P 13 56 20.8 -1.0**
TESR Tescani 83.10 316 ⇑P **P 13 56 24.0 -0.9**
VRI Vrincioaia 83.21 316 ⇑P **P 13 56 24.8 -0.7**
VRI Vrincioaia 83.21 316 ⇑P **P 13 56 24.8 -0.7**
SUW Suwalki 83.24 324 *e*P **P 13 56 25.5 0.0**
PLOR Plostina 83.26 316 ⇓P **P 13 56 30.1 +4.2**
PLOR Plostina 83.26 316 ⇓P **P 13 56 30.1 +4.2**
MOR8 Moi Rana 83.35 337 *e*P **P 13 56 24.4 -1.4**
BIZ Bicaz 83.35 317 ⇓P **P 13 56 27.6 +1.4**
BURAR Bucovina Array 83.75 318 ⇑P **P 13 56 28.6 +0.2**
BURAR Bucovina Array 83.75 318 ⇑P **P 13 56 28.6 +0.2**
BURAR Bucovina Array 83.75 318 P **P 13 56 28.5 +0.1**
BUR08 Bucovina Ar. S 83.76 318 P **P 13 56 28.7 +0.3**
BUR08 IAmb IAmb 13 56 37.0
comp=Z,12nm,0.7s
MLR Muntele Rosu 83.83 315 ⇑P **P 13 56 29.3 +0.4**
MLR Muntele Rosu 83.83 315 ⇑P **P 13 56 29.3 +0.4**
MLR Muntele Rosu 83.83 315 P **P 13 56 28.9 0.0**
LVV L'vov 83.91 320 *e*P **P 13 56 29.1 +0.1**
VOIR 84.45 315 ⇑P **P 13 56 31.2 -0.8**
VOIR 84.45 315 ⇑P **P 13 56 31.2 -0.8**
ARCR ARCALIA 84.46 317 ⇓P **P 13 56 28.7 -3.3**
KWP Kalwaria Pacla 84.79 320 *e*P **P 13 56 33.8 +0.3**
KOLS Kolonicke sedl 85.27 319 *e*P **P 13 56 35.6 -0.3**
KOLS pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 85.27 319 *e*P **P 13 56 35.6 -0.3**
LOT Lotru 85.32 316 ⇓P **P 13 56 37.2 +0.8**
UZH Uzhgorod 85.34 319 *e*P **P 13 56 33.4 -2.9**
UZH *i* 13 56 39.7
KMBO Kilima Mbogo 85.66 268 P **P 13 56 40.2 +1.4**
comp=Z,1.5nm,0.3s,baz=52,slow=7.5,SNR=7.2
KMBO LR LR 14 33 52.0
comp=Z,151nm,19.1s,baz=92,slow=35
KMBO Kilima Mbogo 85.66 268 P **P 13 56 37.5 -1.3**
KMBO pmax pmax
comp=Z,15nm,1.3s
KMBO Kilima Mbogo 85.66 268 P **P 13 56 37.5 -1.3**
KMBO IAmb IAmb 13 56 49.1
comp=Z,15nm,1.2s
WRAK Wrangell Islan 85.69 33 P **P 13 56 38.1 +0.3**
WRAK IAmb IAmb 13 56 47.4
comp=Z,14nm,0.9s
CRVS Cervenica-Dubn 85.79 319 *e*P **P 13 56 39.3 +0.8**
CRVS pmax pmax
comp=Z,102nm,1.1s
CRVS Cervenica-Dubn 85.79 319 *e*P **P 13 56 39.3 +0.8**
DLBC Dease Lake 86.11 30 P **P 13 56 39.6 -0.4**
DLBC IAmb IAmb 13 56 52.5
comp=Z,13nm,1.1s
NIE Niedzica 86.35 320 *e*P **P 13 56 42.1 +0.9**
OJC Ojcow 86.39 321 *e*P **P 13 56 41.2 -0.2**
OJC Ojcow 86.39 321 P **P 13 56 40.4 -1.1**
OJC pmax pmax
comp=Z,22nm,0.9s
OJC Ojcow 86.39 321 P **P 13 56 40.4 -1.1**
OJC IAmb IAmb 13 56 46.6
comp=Z,22nm,0.9s
HERR Herculane 86.40 315 ⇑P **P 13 56 41.8 +0.2**
NC405 NORSAR Array S 86.51 333 P **P 13 56 41.2 -0.6**
KECS Kecovo 86.53 319 *e*P **P 13 56 42.5 +0.3**
KECS pmax pmax
comp=Z,14nm,0.8s
KECS Kecovo 86.53 319 *e*P **P 13 56 42.5 +0.3**
NC303 NORSAR Array S 86.62 333 P **P 13 56 41.6 -0.8**
NB201 NORSAR Array S 86.72 333 P **P 13 56 42.0 -0.9**
NC602 NORSAR Array S 86.75 333 P **P 13 56 41.9 -1.1**
NC602 NORSAR Array S 86.75 333 *e*P **P 13 56 41.3 -1.7**
NB2 NORSAR Subarra 86.76 333 P **P 13 56 41.9 -1.2**
comp=Z,15nm,0.9s,baz=64,slow=4.8
NB2 NORSAR Subarra 86.76 333 P **P 13 56 41.9 -1.2**
baz=64,slow=4.8
NOA NORSAR Array B 86.76 333 P **P 13 56 42.4 -0.8**
comp=Z,7.5nm,0.6s,baz=65,slow=4.8,SNR=41
NOA LR LR 14 39 46.9
comp=Z,510nm,18.9s,baz=60,slow=38
NC204 NORSAR Array S 86.86 333 P **P 13 56 42.7 -0.9**
MDVR Moldovita 86.91 316 ⇑P **P 13 56 42.4 -1.7**
NAO01 NORSAR Array S 86.99 333 P **P 13 56 42.7 -1.5**
PSZ Piszkesteto 87.09 319 ⇑P **P 13 56 46.0 +1.0**
PSZ Piszkesteto 87.09 319 ⇑P **P 13 56 46.0 +1.0**
PSZ Piszkesteto 87.09 319 P **P 13 56 43.9 -1.2**
DOMB Dombas 87.24 334 *e*P **P 13 56 45.7 +0.3**
VYHS Vyhne 87.56 320 *e*P **P 13 56 47.6 +0.4**
VYHS pmax pmax
comp=Z,33nm,1.7s
VYHS Vyhne 87.56 320 *e*P **P 13 56 47.6 +0.4**
MORC Moravsky Berou 87.91 321 *e*P **P 13 56 48.9 0.0**
JAVC Velka Javorina 88.16 320 *e*P **P 13 56 50.3 +0.2**
KRLC Kraliky 88.26 322 *e*P **P 13 56 53.9 +3.3**
KRLC Kraliky 88.26 322 *e*P **P 13 56 53.9 +3.3**
OSTC Ostas 88.42 322 AMS AMS 14 42 30.0
comp=Z,400nm,16.2s
DPC Dobruska-Polom 88.43 322 *e*P **P 13 56 51.9 +0.5**
DPC AMS AMS 14 41 50.0
comp=Z,400nm,20.3s
DPC Dobruska-Polom 88.43 322 *e*P **P 13 56 51.9 +0.5**
DPC MLR MLR
comp=Z,400nm,20.3s
UPC Upice 88.56 322 AMS AMS 14 42 20.0
comp=Z,400nm,15.7s
MODS Modra-Piesok 88.58 320 *e*P **P 13 56 51.7 -0.4**
MODS pmax pmax
comp=Z,32nm,2.2s
MODS Modra-Piesok 88.58 320 *e*P **P 13 56 51.7 -0.4**
VRAC Vranov 88.66 321 ⇑P **P 13 56 54.4 +2.0**
VRAC Vranov 88.66 321 *e*P **P 13 56 52.3 -0.1**
VRAC Vranov 88.66 321 ⇑P **P 13 56 54.4 +2.0**
KRUC Moravsky 88.87 321 *e*P **P 13 56 52.2 -1.2**
TREC Trest 89.33 321 AMS AMS 14 43 00.0
comp=Z,400nm,16.1s
GOPC GO Pecny, Ondr 89.51 322 AMS AMS 14 43 00.0
comp=Z,400nm,14.5s
CONA Conrad Observa 89.62 320 *i* pP **P 13 56 58.1 +1.1**
comp=Z,8.4nm,1.3s
PRU Pruhonice 89.63 322 AMS AMS 14 42 50.0
comp=Z,400nm,14.1s
PRA Prague 89.66 322 AMS AMS 14 39 30.0
comp=Z,200nm,17.9s
CLL Collm 89.99 324 *e*P **P 13 56 58.0 -0.6**
comp=Z,12nm,1.3s
CLL *e*PP **PP 14 00 30.0 -1.1**
CLL *e*S **S 14 07 57.0 +5.6**
CLL *e*SP **SP 14 08 54.0 -2.4**
CLL *e*SS **SS 14 13 54.0 +5.4**
CLL *e*SSSS 14 20 48.0
CLL Collm 89.99 324 *e*P **P 13 56 57.8 -0.8**
comp=Z,30nm,2.0s,baz=65,slow=4.7
CLL *e*L L 14 43 38.3
comp=Z,543nm,18.4s
ARSA Arzberg 90.09 319 *i* pP **P 13 56 59.8 +0.6**
comp=Z,9.0nm,1.4s
BSEG Bad Segeberg 90.34 327 *e*L L 14 41 49.6
comp=Z,445nm,18.9s
KHC Kasperske Hory 90.55 322 *e*P **P 13 57 01.1 -0.2**
KHC *e*S **S 14 07 50.2 -6.5**
KHC AMS AMS 14 43 20.0
comp=Z,400nm,16.2s
KHC Kasperske Hory 90.55 322 *ce*P **P 13 57 02.0 +0.7**
KHC pmax pmax
comp=Z,11nm,1.3s
GEC2 GERESS Array S 90.59 321 *e*P **P 13 57 01.3 -0.2**
comp=Z,16nm,1.7s,baz=65,slow=4.7
GEC2 *e*L L 14 44 30.3
comp=Z,354nm,18.2s
GEC2 GERESS Array S 90.59 321 P **P 13 57 00.0 -1.5**
GERES GERESS Array B 90.59 321 P **P 13 57 01.6 0.0**
comp=Z,0.7nm,0.4s,baz=72,slow=4.3,SNR=8.4
GERES LR LR 14 38 40.4
comp=Z,199nm,19.9s,baz=84,slow=36
GERES GERESS Array B 90.59 321 P **P 13 56 59.6 -1.9**
GERES GERESS Array B 90.59 321 P **P 13 56 59.6 -1.9**
SOKA Soboth 90.62 319 *i* PcP **P 13 57 02.0 +0.3**
comp=Z,8.0nm,1.0s
MOA Molln 90.64 320 *i* PcP **P 13 57 02.0 +0.2**
comp=Z,17nm,1.4s
TANN Tannenbergstha 90.67 323 *e*P **P 13 57 01.8 -0.1**
comp=Z,24nm,1.6s,baz=65,slow=4.7
WERD Werda 90.75 323 *e*P **P 13 57 02.2 0.0**
comp=Z,5.9nm,1.3s,baz=65,slow=4.7
NKC Novy Kostel 90.76 323 AMS AMS 14 40 10.0
comp=Z,400nm,15.4s
GUNZ Gunzen 90.77 323 *e*P **P 13 57 02.4 +0.1**
comp=Z,18nm,1.7s,baz=65,slow=4.7
WERN Wernitzgruen 90.78 323 *e*P **P 13 57 02.8 +0.4**
comp=Z,26nm,1.9s,baz=65,slow=4.7
YKA Yellowknife Ar 90.80 23 P **P 13 57 02.3 +0.2**
comp=Z,2.7nm,0.6s,baz=308,slow=4.8,SNR=13
YKA LR LR 14 40 42.1
comp=Z,58nm,19.1s,baz=0.0,slow=37
PLN Plauen 90.82 323 *e*P **P 13 57 02.0 -0.5**
baz=65,slow=4.7
ASSE Asse, Remlinge 90.95 325 *e*P **P 13 57 03.7 +0.7**
baz=65,slow=4.7
WET Wettzell 90.96 322 *e*P **P 13 57 03.1 -0.1**
comp=Z,29nm,2.2s,baz=65,slow=4.7
WET *e*L L 14 44 00.7
comp=Z,284nm,19.7s
OBKA Obir 91.00 319 *i* pP **P 13 57 04.0 +0.5**
comp=Z,18nm,1.6s
MANZ Manzenberg 91.06 323 *e*P **P 13 57 04.0 +0.3**
comp=Z,9.1nm,1.3s,baz=65,slow=4.7
MOX Moxa 91.07 323 *e*P **P 13 57 03.7 +0.1**
comp=Z,14nm,1.8s,baz=65,slow=4.7
MOX *e*L L 14 44 11.1
comp=Z,529nm,18.3s
NRDL Niedersach Rie 91.10 326 *e*P **P 13 57 03.9 +0.3**
baz=65,slow=4.7
ROTZ Rotzenmuhle 91.10 323 *e*P **P 13 57 04.2 +0.4**
comp=Z,11nm,1.5s,baz=65,slow=4.7
CLZ Clausthal 91.24 325 *e*P **P 13 57 04.8 +0.3**
baz=65,slow=4.7
SUMG Summit 91.57 354 *i* P **P 13 57 06.0 0.0**
comp=Z,91nm,1.4s
SUMG Summit 91.57 354 *i* P **P 13 57 06.0 0.0**
SUMG pmax pmax
comp=Z,91nm,1.4s
SUMG Summit 91.57 354 P **P 13 57 06.0 0.0**
GTTG Gottingen 91.60 325 *e*P **P 13 57 06.6 +0.5**
baz=65,slow=4.7
GRF Grafenberg Arr 91.71 323 *e*L L 14 38 11.5
comp=Z,345nm,21.5s
UBBA Unterbreizbach 91.91 324 *e*P **P 13 57 07.4 0.0**
comp=Z,29nm,2.0s,baz=65,slow=4.7
ABTA Abfaltersbach 92.18 320 *i* PcP **P 13 57 08.6 -0.3**
comp=Z,10nm,1.0s
FUR Furstenfeldbru 92.34 321 *e*L L 14 45 31.9
comp=Z,268nm,18.8s
IBBN Ibbenburen 92.46 326 *e*P **P 13 57 10.2 +0.2**
baz=65,slow=4.7
WTTA Wattenberg 92.51 320 *i* pP **P 13 57 10.8 +0.2**
comp=Z,12nm,0.9s
WATA Walderalm 92.51 320 *i* pP **P 13 57 10.9 +0.4**
comp=Z,8.8nm,0.8s
PPT Papeete 92.59 107 LR LR 14 31 37.0
comp=Z,72nm,20.6s,baz=288,slow=31
PPT2 Papeete2 92.59 107 *e*LQ LQ 14 22 55.9
comp=Z,280nm,25.8s
PPT2 *e*LR LR 14 26 58.4
comp=Z,228nm,25.2s
SQTA Sankt Quirin 92.79 321 *i* pP **P 13 57 12.0 +0.2**
comp=Z,21nm,1.6s
MOTA Moosalm 92.80 321 *i* PcP **P 13 57 11.9 0.0**
comp=Z,5.9nm,0.8s
MAW Mawson 93.00 199 P **P 13 57 11.4 -0.6**
comp=Z,2.7nm,0.6s,baz=46,slow=5.7,SNR=7.1
MAW LR LR 14 35 42.5
comp=Z,140nm,21.2s,baz=59,slow=33
MAW Mawson 93.00 199 P **P 13 57 10.8 -1.2**
MAW Mawson 93.00 199 P **P 13 57 10.8 -1.2**

TNS	**Taunus Mts**	**93.07**	**324**	*e*L		L	14 39 26.2	
	comp=Z,237nm,22.0s							
FETA	**Feichten**	**93.17**	**320**	*i* pP		**P**	**13 57 14.3**	**+0.6**
	comp=Z,11nm,1.0s							
UBR	**Ueberruh**	**93.26**	**321**	*e*P		**P**	**13 57 13.9**	**0.0**
	comp=Z,15nm,1.3s,baz=65,slow=4.7							
BFO	**Black Forest**	**94.02**	**322**	*e*P		**P**	**13 57 16.9**	**-0.5**
	comp=Z,5.6nm,1.1s,baz=65,slow=4.7							
BFO				*e*L		L	14 46 21.7	
	comp=Z,505nm,18.2s							
VNDA	**Vanda**	**95.22**	**172**	P		**P**	**13 57 21.2**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=346,slow=17,SNR=22							
VNDA	**Vanda**	**95.22**	**172**	P		**P**	**13 57 20.7**	**-1.3**
VNDA				pmax		pmax		
	comp=Z,9.0nm,1.4s							
VNDA	**Vanda**	**95.22**	**172**	P		**P**	**13 57 20.7**	**-1.3**
VNDA				IAmb		IAmb	13 57 30.3	
	comp=Z,8.9nm,1.4s							
B08A	**Colville Reser**	**96.38**	**36**	P		**P**	**13 57 27.6**	**-0.6**
B08A				IAmb		IAmb	13 57 29.8	
	comp=Z,11nm,1.4s							
KEST	**Kesra**	**99.06**	**311**	LR		LR	14 50 27.5	
	comp=Z,119nm,19.0s,baz=324,slow=40							
SYO	**Syowa Base**	**101.47**	**201**	⇓*e*pPKiKP		**PKiKP**	**14 02 17.2**	**+3.0**
NVAR	**Mina Array Bea**	**102.11**	**45**	P		**Pdif**	**13 57 54.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=286,slow=5.2,SNR=4.9							
PDAR	**Pinedale Array**	**105.19**	**37**	PKKP			14 14 02.3	
	comp=Z,0.3nm,0.5s,baz=110,slow=6.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**114.99**	**293**	PKP		PKPdf	14 02 40.8	-0.3
	comp=Z,1.5nm,0.9s,baz=82,slow=2.0,SNR=4.4							
TORD				PP		PP	14 03 30.9	-9.1
	comp=Z,1.6nm,0.9s,baz=69,slow=9.7,SNR=4.5							
TX31	**Lajitas Ar. Si**	**117.25**	**45**			**PKPdf**	**14 02 44.0**	**-1.2**
TX32	**Lajitas Array**	**117.25**	**45**	PKPdf		**PKPdf**	**14 02 44.2**	**-1.0**
TXAR	**Lajitas Array**	**117.25**	**45**	PKP		**PKPdf**	**14 02 45.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=179,slow=1.2,SNR=10							
TXAR				PKKPbc		**PKKPbc**	**14 13 11.0**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=126,slow=8.5,SNR=3.8							
TXAR	**Lajitas Array**	**117.25**	**45**	PKIKP		**PKPdf**	**14 02 44.6**	**-0.7**
TXAR	**Lajitas Array**	**117.25**	**45**			**PKPdf**	**14 02 44.5**	**-0.7**
S39A	**Bolivar**	**117.61**	**32**			**PKPdf**	**14 02 44.9**	**-0.7**
DBIC	**Dimbokro**	**123.47**	**289**	PKP		**PKPdf**	**14 02 57.1**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=173,slow=18,SNR=1.5							
MTP	**Monte Pirata**	**146.04**	**14**	PKPbc		**PKPab**	**14 03 40.1**	**-0.2**
MOTC	**Monteria, Cord**	**150.21**	**38**	*e*P		**PKPbc**	**14 03 50.4**	**-0.7**
SMLC	**San Martn de**	**151.12**	**36**	*e*P		**PKPbc**	**14 03 52.6**	**-0.7**
ZARC	**Zaragoza, Cauc**	**151.71**	**39**	*e*P		**PKPbc**	**14 03 52.0**	**-2.7**
OCAC	**Ocana**	**152.00**	**35**	*e*P		**PKPdf**	**14 03 47.8**	**-1.2**
PLCA	**Paso Flores**	**152.10**	**159**	PKPbc		**PKiKP**	**14 03 55.2**	**0.0**
	comp=Z,5.9nm,0.8s,baz=185,slow=3.1,SNR=11							
PLCA	**Paso Flores**	**152.10**	**159**	PKIKP		**PKPbc**	**14 03 54.1**	**-0.8**
PLCA	**Paso Flores**	**152.10**	**159**			**PKPbc**	**14 03 54.0**	**-0.8**
PLCA	**Paso Flores**	**152.10**	**159**	*e*P		**PKPbc**	**14 03 55.0**	**+0.1**
CBOC	**Ciudad Bolivar**	**152.24**	**43**	*e*P		**PKPbc**	**14 03 55.4**	**-0.7**
BRRC	**Barranca, Sant**	**152.70**	**37**	*e*P		**PKPbc**	**14 03 55.5**	**-1.4**
PTBC	**PUERTO BERRIO**	**152.70**	**39**	*e*P		**PKPdf**	**14 03 49.8**	**-0.1**
SDV	**Santo Domingo**	**152.83**	**29**	*e*P		**PKPbc**	**14 03 54.5**	**-2.9**
PAMC	**Pamplona, Colo**	**153.08**	**35**	*e*P		**PKiKP**	**14 03 58.8**	**+0.3**
GUY2C	**Guyana, Caldas**	**153.14**	**42**	*e*P		**PKiKP**	**14 03 58.8**	**+0.2**
NORC	**Norcasia**	**153.20**	**41**	*e*P		**PKPbc**	**14 03 57.4**	**-0.7**
YOTC	**Yotoco, Valle**	**153.39**	**46**	*e*P		**PKPdf**	**14 03 51.3**	**+0.3**
BARC	**Barichara**	**153.42**	**37**	*e*P		**PKPbc**	**14 03 58.3**	**-0.5**
TOLC	**Tolima**	**153.65**	**43**	*e*P		**PKPdf**	**14 03 55.3**	**+3.6**
RUSC	**La Rusia**	**154.04**	**38**	*e*P		**PKPdf**	**14 03 51.3**	**-1.1**
BBAC	**Balboa, Cauca**	**154.09**	**50**	*e*P		**PKPbc**	**14 03 58.2**	**-2.0**
ORTC	**Ortega, Tolima**	**154.20**	**44**	*e*P		**PKPbc**	**14 03 59.4**	**-0.8**
OTAV	**Otavalo**	**154.30**	**55**	*e*P		**PKPbc**	**14 03 57.4**	**-3.6**
CHIC	**Chingaza**	**154.64**	**40**	*e*P		**PKPdf**	**14 03 55.4**	**+2.2**
RCBR	**Riachuelo**	**156.82**	**291**	*e*P		**PKPdf**	**14 04 01.2**	**+5.6**
SJMB	**Sao Joao De Ma**	**163.95**	**255**	*e*P		**PKPdf**	**14 04 09.6**	**+6.4**
VAO	**Valinhos**	**167.31**	**230**	*e*P		**PKPdf**	**14 04 11.9**	**+5.9**
CPUP	**Villa Florida**	**168.86**	**181**	PKPab		**PKPab**	**14 05 16.8**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=220,slow=0.7,SNR=3.6							
CPUP	**Villa Florida**	**168.86**	**181**	*e*P		**PKPdf**	**14 04 12.3**	**+5.5**
LPAZ	**La Paz**	**169.74**	**98**	PKP		**PKPdf**	**14 04 08.3**	**-0.1**
	comp=Z,5.9nm,1.1s,baz=31,slow=0.5,SNR=14							
SIV	**San Ignacio**	**176.49**	**104**	PKP		**PKPdf**	**14 04 09.8**	**-0.5**
	comp=Z,6.3nm,1.1s,baz=321,slow=2.3,SNR=10							

*NNC **03** 14:12:54.2±0.7, 44°.42N×81°.17E, h0km, mb4.2, mpv3.9,*
Error ellipse: s-maj=7.1km s-min=3.3km az=117.0
*SOME **03** 14:12:54.5, 44°.33N×81°.13E, h5km*
ISC 03 14:12:53.2±1.4, 44°.34N±0°.03×81°.19E±0°.04, h2km±11km,
n49, σ1°73/79, 12C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.00**	**270**	⇓*i* P	**Pn**	**14 13 15.0**	**+0.6**
	54nm,0.2s						
DJR				⇑*i* S	**Sn**	**14 13 28.9**	**-0.2**
	196nm,0.3s						
KTMS	**Ketmen**	**1.08**	**214**	*e*P	**Pb**	**14 13 16.3**	**+1.6**
	60nm,0.4s						
KTMS				*e*S	**Sb**	**14 13 31.6**	**+2.2**
	718nm,0.4s						
PDGK	**Podgornoye**	**1.59**	**231**	P	**Pb**	**14 13 24.6**	**+1.2**
	59nm,0.3s						
PDGK				S	**Sg**	**14 13 46.3**	**+1.9**
	224nm,0.4s						
PDGK	**Podgornoye**	**1.59**	**231**	⇑P	**Pb**	**14 13 24.5**	**+1.0**
	79nm,0.5s						
PDGK				⇑S	**Sg**	**14 13 46.2**	**+1.8**
	653nm,0.8s						
KAPS	**Kapalarasan**	**1.61**	**306**	*e*P	**Pg**	**14 13 24.7**	**+0.7**
	289nm,0.4s						
KAPS				*e*S	**Sg**	**14 13 46.3**	**+1.5**
	459nm,0.3s						
KAPS	**Kapalarasan**	**1.61**	**306**	P	**Pg**	**14 13 24.5**	**+0.4**
	289nm,0.4s						
KAPS				S	**Sg**	**14 13 46.1**	**+1.3**
	323nm,0.3s						
SHLS	**Shalkode**	**1.72**	**227**	⇓*i* P	**Pn**	**14 13 23.5**	**-0.8**
	288nm,0.2s						
SHLS				⇓*i* S	**Sn**	**14 13 44.7**	**-2.3**
	783nm,0.4s						
SHLS	**Shalkode**	**1.72**	**227**	P	**Pn**	**14 13 23.5**	**-0.8**
	288nm,0.2s						
SHLS				S	**Sn**	**14 13 44.5**	**-2.5**
	783nm,0.4s						
UZB	**Uzynbulak**	**1.97**	**233**	*e*P	**Pb**	**14 13 30.2**	**+0.2**
	44nm,0.4s						
UZB				*e*S	**Sb**	**14 13 56.6**	**+1.6**
	280nm,0.5s						
UZB	**Uzynbulak**	**1.97**	**233**	Pg	**Pb**	**14 13 30.2**	**+0.2**
	44nm,0.4s						
UZB				Lg	Lg	14 13 56.6	
	280nm,0.5s						
KPKS	**Kokpek**	**2.01**	**245**	*e*P	**Pb**	**14 13 31.4**	**+0.8**
	187nm,0.3s						
KPKS				*e*S	**Sg**	**14 13 58.2**	**+0.4**
	867nm,0.7s						
MNBS	**Baschi**	**2.02**	**263**	*e*P	**Pb**	**14 13 31.0**	**+0.3**
	32nm,0.1s						
MNBS				*e*S	**Sg**	**14 13 57.7**	**-0.4**
	843nm,0.4s						
MNBS	**Baschi**	**2.02**	**263**	Pg	**Pb**	**14 13 31.0**	**+0.3**
	32nm,0.3s						
MNBS				Lg	Lg	14 13 57.7	
	843nm,0.4s						
TDK	**Taldyqorghan**	**2.09**	**289**	*e*P	**Pg**	**14 13 33.0**	**-0.3**
	190nm,0.3s						
TDK				*e*S	**Sg**	**14 13 59.8**	**-0.6**
	809nm,0.4s						
TDK	**Taldyqorghan**	**2.09**	**289**	Pg	**Pg**	**14 13 33.0**	**-0.3**
	190nm,0.3s						
TDK				Lg	Lg	14 13 59.8	
	928nm,0.6s						
KURS	**Kuram**	**2.34**	**250**	*e*P	**Pb**	**14 13 37.2**	**+1.1**
	15nm,0.5s						
KURS				*e*S	**Sg**	**14 14 08.4**	**-0.1**
	115nm,0.7s						
KURS	**Kuram**	**2.34**	**250**	Pg	**Pb**	**14 13 37.2**	**+1.1**
	15nm,0.5s						
KURS				Lg	Lg	14 14 08.4	
	115nm,0.7s						
SATY	**Saty**	**2.39**	**238**	*e*P	**Pb**	**14 13 38.0**	**+0.9**
	52nm,0.3s						
SATY				*e*S	**Sb**	**14 14 09.4**	**+2.3**
	394nm,0.3s						
SATY	**Saty**	**2.39**	**238**	Pg	**Pb**	**14 13 38.0**	**+0.9**
	52nm,0.3s						
SATY				Lg	Lg	14 14 09.4	
	394nm,0.3s						
ARXS	**Arharly**	**2.42**	**268**	*e*P	**Pb**	**14 13 38.5**	**+1.0**
	46nm,0.3s						
ARXS				*e*S	**Sg**	**14 14 10.0**	**-0.9**
	188nm,0.8s						
ARXS	**Arharly**	**2.42**	**268**	Pg	**Pb**	**14 13 38.4**	**+1.0**
	46nm,0.3s						
ARXS				Lg	Lg	14 14 10.0	
	188nm,0.8s						
MAKZ	**Makanchi**	**2.53**	**12**	⇑Pn	**Pn**	**14 13 35.8**	**+0.6**
	14nm,0.5s						
MAKZ				⇑Lg	Lg	14 14 10.0	
	48nm,0.3s						
MK31	**Makanchi Array**	**2.57**	**17**	⇑Pn	**Pn**	**14 13 36.6**	**+0.7**
	16nm,0.6s,baz=201,slow=13,SNR=237						
MK31				Lg	Lg	14 14 10.8	
	28nm,0.3s,baz=198,slow=30,SNR=14						
CHKK	**Chushkaly**	**3.06**	**262**	*e*P	**Pb**	**14 13 50.5**	**+2.0**
	6.9nm,0.3s						
CHKK				*e*S	**Sg**	**14 14 30.2**	**-1.4**
	95nm,0.3s						
MDOK	**Medeo**	**3.22**	**250**	*e*P	**Pg**	**14 13 54.0**	**-0.9**
	18nm,0.7s						
MDOK				*e*S	**Sg**	**14 14 36.4**	**-0.3**
	79nm,0.5s						
MDOK	**Medeo**	**3.22**	**250**	Pg	**Pg**	**14 13 54.0**	**-0.9**
	18nm,0.7s						
MDOK				Lg	Lg	14 14 36.4	
	79nm,0.5s						
KNDC	**Almaty**	**3.26**	**251**	⇑Pg	**Pg**	**14 13 54.9**	**-0.7**
	28nm,0.6s						
KNDC				⇑Lg	Lg	14 14 35.4	
	132nm,0.6s						
AAA	**Alma-Ata**	**3.30**	**251**	*e*P	**Pb**	**14 13 54.6**	**+2.2**
	31nm,0.2s						
AAA				*e*S	**Sg**	**14 14 37.9**	**-1.2**
	51nm,0.3s						
AAA	**Alma-Ata**	**3.30**	**251**	Pg	**Pb**	**14 13 54.6**	**+2.2**
	31nm,0.2s						
AAA				Lg	Lg	14 14 37.9	
	51nm,0.3s						
KTBS	**Karatobe**	**3.31**	**261**	*e*P	**Pb**	**14 13 54.0**	**+1.4**
	11nm,0.4s						
KTBS				*e*S	**Sb**	**14 14 36.5**	**+3.1**
	145nm,0.5s						
KTBS	**Karatobe**	**3.31**	**261**	Pg	**Pb**	**14 13 54.0**	**+1.4**
	11nm,0.4s						
KTBS				Lg	Lg	14 14 36.5	
	145nm,0.5s						
TNSS	**Tian-Shan**	**3.34**	**248**	*e*P	**Pb**	**14 13 55.9**	**+2.5**
	15nm,0.5s						
TNSS				*e*S	**Sg**	**14 14 40.0**	**-0.6**
	86nm,0.7s						
KUU	**Kurty**	**3.52**	**264**	*e*P	**Pb**	**14 13 57.6**	**+1.3**
	6.8nm,0.3s						
KUU				*e*S	**Sb**	**14 14 42.6**	**+3.1**
	118nm,0.6s						
KUU	**Kurty**	**3.52**	**264**	Pg	**Pb**	**14 13 57.6**	**+1.3**
	6.8nm,0.3s						
KUU				Lg	Lg	14 14 42.6	
	118nm,0.6s						
IZV	**Izvestkoviy**	**3.57**	**250**	*e*P	**Pb**	**14 13 59.3**	**+2.2**
	13nm,0.5s						
IZV				*e*S	**Sg**	**14 14 45.9**	**-1.9**
	112nm,0.5s						
IZV	**Izvestkoviy**	**3.57**	**250**	Pg	**Pb**	**14 13 59.3**	**+2.2**
	13nm,0.5s						
IZV				Lg	Lg	14 14 45.9	
	112nm,0.5s						
MTBS	**Maitube**	**3.66**	**252**	*e*P	**Pb**	**14 14 01.4**	**+2.9**
	9.7nm,0.4s						
MTBS				*e*S	**Sg**	**14 14 48.9**	**-1.8**
	90nm,0.5s						
MTBS	**Maitube**	**3.66**	**252**	Pg	**Pb**	**14 14 01.4**	**+2.9**
	9.7nm,0.4s						
MTBS				Lg	Lg	14 14 48.9	
	90nm,0.5s						
KST	**Kastek**	**4.01**	**253**	*e*P	**Pg**	**14 14 08.3**	**-1.6**
	20nm,0.7s						
KST				*e*S	**Sg**	**14 15 01.8**	**-0.1**
	56nm,0.7s						
KRBS	**Karabastau**	**4.03**	**263**	*e*P	**Pb**	**14 14 08.1**	**+3.2**
	4.5nm,0.4s						
KRBS				*e*S	**Sg**	**14 14 60.0**	**-2.7**
	13nm,0.6s						
ZSN	**Zaisan**	**4.03**	**38**	*e*P	**Pb**	**14 14 04.7**	**-0.2**
	3.9nm,0.2s						
ZSN				*e*S	**Sb**	**14 14 56.1**	**+2.1**
	80nm,0.8s						
TKM2	**Tokmak 2**	**4.30**	**253**	⇓Pg	**Pb**	**14 14 12.6**	**+3.0**
	8.1nm,0.6s						
TKM2				⇓Lg	Lg	14 15 10.8	
	31nm,0.5s						
WMQ	**Urumqi**	**4.72**	**94**	*e*Pn	**Pn**	**14 14 06.4**	**+1.0**
WMQ				Sn	**Sn**	**14 15 00.5**	**-0.2**
WMQ				smax	smax		
	comp=N,27nm,1.1s						
WMQ				smax	smax		
	comp=E,22nm,1.1s						
BTLS	**Baital**	**5.14**	**280**	*e*P	**Pg**	**14 14 28.4**	**-3.3**
	comp=E,2.6nm,0.3s						
BTLS				*e*S	**Sg**	**14 15 35.3**	**-2.9**
	comp=E,13nm,0.6s						
AAK	**Ala-Archa**	**5.16**	**253**	⇑Pg	**Pg**	**14 14 29.3**	**-2.8**
	comp=E,4.4nm,0.6s						
AAK				⇑Lg	Lg	14 15 35.9	
	comp=E,30nm,0.7s						
MRKS	**Merke**	**6.00**	**257**	*e*P	**Pg**	**14 14 45.7**	**-2.5**
	comp=E,2.8nm,0.3s						
MRKS				*e*S	**Sg**	**14 16 05.1**	**-0.9**
	comp=E,15nm,0.8s						
KURBB	**Kurchatov Arra**	**6.53**	**345**	⇓Pn	**Pn**	**14 14 29.9**	**-0.3**
	comp=E,3.8nm,0.8s						
KURBB				⇑Sn	**Sn**	**14 15 41.9**	**-3.4**
	comp=E,15nm,0.7s						
KURBB				⇓Lg	Lg	14 16 17.2	
	comp=E,79nm,0.7s						
KURK	**Kurchatov**	**6.61**	**346**	⇓Pn	**Pn**	**14 14 31.0**	**-0.3**
	comp=E,1.2nm,0.3s						
KURK				⇓Sn	**Sn**	**14 15 44.2**	**-2.9**
	comp=E,9.8nm,0.6s						
KURK				⇑Lg	Lg	14 16 17.9	
	comp=E,66nm,0.8s						
KK31	**Karatay Array**	**7.83**	**265**	⇓Pg	Pb	14 15 15.8	+6.1
	comp=E,1.1nm,0.6s,baz=77,slow=17,SNR=6.5						
KK31				⇓Lg	Lg	14 16 58.5	
	comp=E,5.0nm,0.6s,baz=76,slow=28,SNR=9.7						

*IDC **03** 14:25:52.1±3.2, 42°.84N×146°.00E, h0km, mb3.8/4,*
mb1 3.8/6, mb1mx3.5/38, mbtmp3.7/6, ML3.5/2, Error
ellipse: s-maj=62.5km s-min=39.9km az=130.0
*MOS **03** 14:25:58.0±1.3, 42°.81N×145°.65E, h56km, mb4.4/1, Error*
ellipse: s-maj=19.4km s-min=10.2km az=86.2
*NIED **03** 14:25:59.0, 42°.90N×145°.47E, h46km, MW3.5, Moment*
Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm;
M_{rr}0.56; $M_{\theta\theta}$0.89; $M_{\phi\phi}$-1.45; $M_{r\theta}$-0.02; $M_{\phi\phi}$-0.87; $M_{\phi r}$1.93;
Fault plane solution: $M_0$2.36000×10^{14} NP1:
ϕ_s350.00000°, δ80.00000°, λ61.00000°. NP2:
ϕ_s243.00000°, δ30.00000°, λ160.00000°.
*JMA **03** 14:25:59.8±0.1, 42°.90N×145°.47E, h46km±1km, M3.6*
JMA Felt I J1.
*SKHL **03** 14:26:00.5±0.4, 42°.90N×145°.45E, h50km±3km, mb4.0/4*
ISC 03 14:26:00.1±1.5, 42°.90N±0°.06×145°.49E±0°.04, h38km±1km,
n31, σ0°93/50, mb3.7/4, 3C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.30**	**308**	P	**Pn**	**14 26 08.6**	**+0.2**
JKHN				*e*S	**Sn**	**14 26 14.7**	**-0.6**
AKK	**Akkeshi**	**0.49**	**284**	*i* P	**Pn**	**14 26 10.5**	**0.0**
AKK				*e*S	**Sn**	**14 26 18.0**	**+0.2**
NEM2	**Nemuro 2**	**0.50**	**22**	P	**Pn**	**14 26 10.8**	**0.0**
NEM2				*e*S	**Sn**	**14 26 18.2**	**0.0**
NMR	**Nemuro--Hokkai**	**0.50**	**21**	*i* P	**Pn**	**14 26 10.9**	**+0.1**
NMR				*e*S	**Sn**	**14 26 18.3**	**0.0**
NMR	**Nemuro--Hokkai**	**0.50**	**21**	⇑*i* pPN	**Pn**	**14 26 10.8**	**0.0**
NMR				*e*S	**Sn**	**14 26 18.3**	**0.0**
JAK	**Akkeshi**	**0.59**	**280**	P	**Pn**	**14 26 11.8**	**-0.3**
JAK				*e*S	**Sn**	**14 26 20.5**	**+0.1**
GLVR	**Golovnino**	**0.84**	**2**	*e*P	**Pn**	**14 26 15.2**	**-0.2**
GLVR				AMB	AMB	14 26 17.0	
	30nm,0.2s						
GLVR				AMB	AMB	14 26 17.0	
	40nm,0.2s						
GLVR				*e*S	**Sn**	**14 26 26.7**	**+0.1**
GLVR				A	A	14 26 27.0	
	510nm,0.2s						
GLVR				A	A	14 26 27.0	
	350nm,0.2s						
GLVR	**Golovnino**	**0.84**	**2**	*e*PN	**Pn**	**14 26 15.2**	**-0.2**
GLVR				*e*S	**Sn**	**14 26 26.7**	**+0.1**
GLVR				pmax	pmax		
	comp=E,25nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,374nm,0.1s						
GLVR				smax	smax		
	comp=N,5μm,0.3s						
GLVR				smax	smax		
	comp=E,3μm,0.2s						
JNK	**Nakash**	**0.89**	**321**	P	**Pn**	**14 26 15.8**	**-0.3**
JNK				*e*S	**Sn**	**14 26 27.1**	**-0.6**
JRA	**Rausu**	**1.07**	**346**	P	**Pn**	**14 26 18.6**	**0.0**
JRA				*e*S	**Sn**	**14 26 32.5**	**+0.3**
GRPR	**Tuman**	**1.11**	**11**	*i* P	**Pn**	**14 26 18.9**	**-0.3**
GRPR				AMB	AMB	14 26 22.0	
	comp=E,30nm,0.2s						
GRPR				*e*S	**Sn**	**14 26 32.6**	**-0.6**
GRPR				A	A	14 26 33.0	
	comp=E,290nm,0.2s						
GRPR				A	A	14 26 33.0	
	comp=E,280nm,0.2s						
GRPR	**Tuman**	**1.11**	**11**	*d i* PN	**Pn**	**14 26 18.9**	**-0.3**
GRPR				*e*S	**Sn**	**14 26 32.6**	**-0.6**
GRPR				pmax	pmax		
	comp=Z,271nm,0.2s						
GRPR				pmax	pmax		
	comp=N,121nm,0.1s						
GRPR				pmax	pmax		
	comp=E,115nm,0.2s						
GRPR				smax	smax		
	comp=N,3μm,0.2s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.17**	**13**	*i* P	**Pn**	**14 26 19.9**	**0.0**
YUK				AMB	AMB	14 26 23.5	
	comp=E,60nm,0.2s						
YUK				*i* S	**Sn**	**14 26 34.2**	**-0.4**
YUK				A	A	14 26 34.9	
	comp=E,650nm,0.5s						
YUK				A	A	14 26 34.9	
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.17**	**13**	*c i* PN	**Pn**	**14 26 19.8**	**-0.1**
YUK				*i* S	**Sn**	**14 26 34.2**	**-0.4**
YUK				pmax	pmax		
	comp=N,40nm,0.1s						
YUK				pmax	pmax		
	comp=E,57nm,0.1s						
YUK				pmax	pmax		
	comp=Z,295nm,0.1s						
YUK				smax	smax		
	comp=N,652nm,0.5s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
JOB	**Onbets**	**1.21**	**271**	P	**Pn**	**14 26 20.1**	**-0.4**
JOB				*e*S	**Sn**	**14 26 35.5**	**-0.2**
RUSJ	**Misakicho**	**1.22**	**352**	⇓*i* pPN	**Pn**	**14 26 21.2**	**+0.6**
RUSJ				*i* S	**Sn**	**14 26 36.6**	**+0.8**
JAR	**Ashorobuto**	**1.32**	**288**	P	**Pn**	**14 26 21.8**	**-0.2**
JTKR	**Abashiri--Toko**	**1.57**	**314**	P	**Pn**	**14 26 26.0**	**+0.6**
JCH	**Churui**	**1.59**	**260**	P	**Pn**	**14 26 25.1**	**-0.6**
ERM	**Erimo**	**1.94**	**244**	*i* PN	**Pn**	**14 26 32.5**	**+2.1**
JKA	**Kamikawa-asahi**	**2.43**	**301**	*i* P	**Pn**	**14 26 39.0**	**+1.8**
ASAJ	**Asahikawa**	**2.43**	**301**	Pn	**Pn**	**14 26 39.0**	**+1.7**
	comp=E,14nm,0.3s,baz=135,slow=8.5,SNR=78						
ASAJ				Sn	**Sn**	**14 27 08.6**	**+2.9**
	comp=E,6.0nm,0.3s,baz=218,slow=32,SNR=6.2						
ASAJ	**Asahikawa**	**2.43**	**301**	PN	**Pn**	**14 26 39.0**	**+1.7**
KUR	**Kuril'sk**	**2.90**	**36**	*i* P	**Pn**	**14 26 45.5**	**+1.9**
KUR				AMB	AMB	14 26 47.0	
	comp=E,20nm,0.3s						
KUR				*e*S	**Sn**	**14 27 18.6**	**+1.4**
KUR				A	A	14 27 25.0	
	comp=E,50nm,0.3s						
KUR				A	A	14 27 25.0	
	comp=E,80nm,0.3s						
KUR	**Kuril'sk**	**2.90**	**36**	⇑*i* pPN	**Pn**	**14 26 45.5**	**+1.9**
KUR				*e*S	**Sn**	**14 27 18.5**	**+1.4**
KUR				pmax	pmax		
	comp=Z,15nm,0.2s						
KUR				smax	smax		
	comp=N,52nm,0.2s						
KUR				smax	smax		
	comp=E,77nm,0.4s						
MJAR	**Matsushiro Arr**	**8.47**	**224**	Pn	**Pn**	**14 27 59.6**	**-0.6**
	comp=E,0.1nm,0.3s,baz=33,slow=14,SNR=4.4						
SONM	**Songino Array**	**27.69**	**294**	P	**P**	**14 31 44.9**	**+0.3**
	comp=E,0.7nm,0.5s,baz=98,slow=10,SNR=2.0						
MKAR	**Makanchi Array**	**43.91**	**298**	P	**P**	**14 34 02.4**	**-0.6**
	comp=E,0.3nm,0.4s,baz=82,slow=8.9,SNR=6.7						
FINES	**FINESS Array B**	**65.07**	**333**	P	**P**	**14 36 35.6**	**-0.6**
	comp=E,1.1nm,0.5s,baz=53,slow=9.8,SNR=9.0						
NB2	**NORSAR Subarra**	**69.95**	**338**	P	**P**	**14 37 06.5**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.95**	**338**	P	**P**	**14 37 06.1**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=33,slow=6.4,SNR=4.1						

*STR **03** 14:37:58.6±1.2, 44°.N×3°.×±1°.2, h0km, MLv2.6/2, MLv2.5/4,*
smi:scs/0.6/LOCSAT earthModelID
smi:scs/0.6/haslach_taup-2.11 preliminary
*MDD **03** 14:38:00.1±0.7, 44°.27N×1°.70W, h0km, mbLg2.0/5, Error*
ellipse: s-maj=7.8km s-min=3.0km az=13.0, PRXIMO
ISC 03 14:37:58.3±1.9, 44°.28N±0°.05×1°.74W±0°.05, h15km±16km,
n13, σ0°81/21, 2C, France

| Code | Station

URZ	**Urewera**	**1.66 191**	P	Pn	14 52 21.1	0.0
URZ			S	S	14 52 49.4	-1.0
MWZ	**Matawai**	**1.70 180**	P	Pn	14 52 21.7	+0.2
MWZ			S	S	14 52 49.4	-1.8
TKGZ	**Te Karaka**	**1.82 172**	P	Pn	14 52 23.1	+0.5
TKGZ			S	S	14 52 51.9	-1.1
WIAZ	**Waiheke Island**	**1.92 264**	P	Pn	14 52 23.9	+0.3
MUGZ	**Murupara**	**1.94 198**	P	Pn	14 52 23.9	+0.2
MUGZ			S	S	14 52 54.3	-0.6
TOZ	**Tahuroa Road**	**1.95 235**	P	Pn	14 52 25.0	+1.2
RTZ	**Ruatahuna**	**2.02 192**	P	Pn	14 52 24.6	0.0
RTZ			S	S	14 52 55.2	-1.4
RIGZ	**Rimuhau**	**2.08 175**	P	Pn	14 52 25.6	+0.6
ETAZ	**East Tamaki Re**	**2.10 260**	P	Pn	14 52 26.2	+1.0
SNGZ	**Shannon Statio**	**2.15 184**	P	Pn	14 52 26.1	+0.4
SNGZ			S	S	14 52 58.2	-0.5
MTHZ	**Maungataniwha**	**2.28 193**	P	Pn	14 52 27.4	+0.3
RAHZ	**Arahi**	**2.31 188**	P	Pn	14 52 28.0	+0.7
TLZ	**Tolley Road**	**2.31 222**	P	Pn	14 52 28.9	+1.5
MRHZ	**Matea Rd**	**2.37 201**	P	Pn	14 52 28.2	+0.3
KNZ	**Kokohu**	**2.39 177**	P	Pn	14 52 28.3	+0.2
WHHZ	**Waihua**	**2.45 185**	P	Pn	14 52 29.1	+0.3
HATZ	**Hinemaiaia**	**2.52 206**	P	Pn	14 52 30.1	+0.6
NMHZ	**Naumai**	**2.52 193**	P	Pn	14 52 30.6	+1.0
MHGZ	**Mahia Peninsul**	**2.54 173**	P	Pn	14 52 30.4	+0.7
BKZ	**Black Stump Fm**	**2.66 197**	P	Pn	14 52 30.9	-0.2
ARHZ	**Aropaoanui**	**2.66 189**	P	Pn	14 52 31.5	+0.6
HIZ	**Hauiti**	**2.83 228**	P	Pn	14 52 34.5	+1.6
TMVZ	**Te Maari**	**2.87 210**	P	Pn	14 52 34.1	+0.7
ETVZ	**East Tongariro**	**2.88 209**	P	Pn	14 52 34.2	+0.7
MCHZ	**McNeill Hill**	**2.88 193**	P	Pn	14 52 33.9	+0.5
KWHZ	**Kaweka Forest**	**2.92 197**	P	Pn	14 52 34.0	+0.1
OTVZ	**Oturere**	**2.92 210**	P	Pn	14 52 34.7	+0.6
NGZ	**Ngauruhoe**	**2.96 210**	P	Pn	14 52 35.1	+0.6
TUVZ	**Tukino**	**3.02 209**	P	Pn	14 52 35.4	+0.3
FWVZ	**Far West T-bar**	**3.04 210**	P	Pn	14 52 35.9	+0.4
BHHZ	**Black Hill Sta**	**3.08 201**	P	Pn	14 52 35.3	-0.4
WNVZ	**Wahianoa**	**3.09 209**	P	Pn	14 52 36.0	0.0
KRHZ	**Kereru**	**3.14 196**	P	Pn	14 52 36.1	-0.3
PKVZ	**Pokaka**	**3.16 212**	P	Pn	14 52 36.9	+0.3
KAHZ	**Kahuranaki**	**3.20 189**	P	Pn	14 52 37.2	+0.1
PXZ	**Pawanui**	**3.43 188**	P	Pn	14 52 39.3	-0.4
PNHZ	**Pukenui**	**3.44 197**	P	Pn	14 52 39.2	-0.6
WPHZ	**Waipukurau**	**3.53 194**	P	Pn	14 52 40.4	-0.5
TSZ	**Takapari Road**	**3.63 199**	P	Pn	14 52 41.2	-0.9
PRHZ	**Porangahau**	**3.69 191**	P	Pn	14 52 41.0	-1.8
WAZ	**Wanganui**	**3.70 212**	P	Pn	14 52 42.9	0.0
DVHZ	**Dannevirke**	**3.81 196**	P	Pn	14 52 43.1	-1.2
ANWZ	**Angora Road**	**3.91 192**	P	Pn	14 52 45.1	-0.2
POWZ	**Post Office Ro**	**4.00 200**	P	Pn	14 52 45.5	-1.0
PRWZ	**Pori Road**	**4.10 197**	P	Pn	14 52 46.8	-0.8
BFZ	**Birch Farm**	**4.16 193**	P	Pn	14 52 47.4	-1.1
MRZ	**Mangatainoka R**	**4.30 200**	P	Pn	14 52 48.6	-1.5
TIWZ	**Tintock**	**4.33 197**	P	Pn	14 52 49.4	-1.1
HOWZ	**Holdsworth Sta**	**4.54 200**	P	Pn	14 52 51.3	-1.7
OGWZ	**Otaki Gorge**	**4.56 203**	P	Pn	14 52 51.8	-1.6
TMWZ	**Te Maipa**	**4.64 195**	P	Pn	14 52 53.1	-1.3
KIW	**Kapiti Island**	**4.69 205**	P	Pn	14 52 53.0	-1.9
MTW	**Mount Morrison**	**4.79 199**	P	Pn	14 52 54.0	-2.1
CAW	**Cannon Point**	**4.86 202**	P	Pn	14 52 55.0	-2.0
MSWZ	**Moikau Station**	**5.09 200**	P	Pn	14 52 57.7	-2.3
WEL	**Wellington**	**5.12 204**	P	Pn	14 52 58.1	-2.1
BHW	**Baring Head**	**5.20 203**	P	Pn	14 52 58.8	-2.4
TCW	**Tory Channel**	**5.22 208**	P	Pn	14 52 59.2	-2.3
PLWZ	**Palliser**	**5.24 199**	P	Pn	14 52 59.4	-2.4
TUWZ	**Tuamarina**	**5.54 209**	P	Pn	14 53 03.1	-2.4
KHZ	**Kahutara**	**6.54 207**	P	Pn	14 53 15.6	-2.6
GVZ	**Greta Valley S**	**7.21 207**	P	Pn	14 53 23.9	-2.8
LTZ	**Lake Taylor**	**7.35 212**	P	Pn	14 53 25.9	-2.7
INZ	**Inchbonnie**	**7.68 216**	P	Pn	14 53 30.6	-2.1
MQZ	**McQueen's Vall**	**7.99 206**	P	Pn	14 53 33.1	-3.6

*IDC **03** 14:54:52.2±5.4, 5.28S×133.24E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.4/35, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=318.5km s-min=32.5km az=77.0*
*NEIC **03** 14:54:53.1±1.0, 5.05S±0.07×133.7E±0.1, h10km±1km, mb4.1/7, Error ellipse: s-maj=24.4km s-min=5.6km az=243.0*

ISC 03 14:54:54.6±0.7, **5.24S**±0.06×**133.6E**±0.1, **h25**km, **n23**, σ1§**81**/25, **mb4.2**/3, **Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.65**	**330**		**Pn**	**14 55 34.9**	**-0.9**
MTN	**Manton Dam**	**7.93**	**197**	Pn	**Pn**	**14 56 52.2**	**+3.8**
KNRA	**Kununurra**	**11.39**	**204**		**Pn**	**14 57 39.1**	**+3.2**
KNRA					**Sn**	**14 59 43.4**	**+0.9**
COEN	**Coen**	**12.83**	**133**	Pn	**Pn**	**14 57 54.1**	**-1.5**
PMG	**Port Moresby**	**14.10**	**108**	Pn	**Pn**	**14 58 14.4**	**+1.5**
WB0	**Warramunga Arr**	**14.46**	**177**	Pn	**Pn**	**14 58 17.1**	**-0.8**
WB2	**Warramunga Arr**	**14.63**	**177**	Pn	**Pn**	**14 58 19.5**	**-0.7**
WRA	**Warramunga Arr**	**14.63**	**177**	Pn	**Pn**	**14 58 18.8**	**-1.4**
	0.3nm,0.3s,baz=352,slow=14,SNR=33						
WRA				Sn	**Sn**	**15 00 57.2**	**-4.5**
	0.3nm,0.3s,baz=356,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**14.63**	**177**		**Pn**	**14 58 18.3**	**-1.9**
WR0	**Warramunga Arr**	**14.66**	**176**	Pn	**Pn**	**14 58 19.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**14.95**	**211**	Pn	**Pn**	**14 58 25.2**	**+0.8**
AS31	**Alice Springs**	**18.32**	**179**	P	**Pn**	**14 59 08.6**	**+1.4**
AS31				IAmb	IAmb	14 59 24.0	
	comp=Z,1.7nm,0.8s						
ASAR	**Alice Springs**	**18.32**	**179**	P	**P**	**14 59 08.3**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=6.2,slow=12,SNR=29						
ASAR	**Alice Springs**	**18.32**	**179**	P	**Pn**	**14 59 08.7**	**+1.5**
KSAR	**Wonju Array Be**	**42.79**	**353**	P	**P**	**15 02 49.3**	**-0.9**
KS19	**Wonju Array Si**	**42.85**	**353**	P	**P**	**15 02 49.7**	**-1.1**
ERM	**Erimo**	**47.84**	**10**	P	**P**	**15 03 29.6**	**-0.6**
DCZ	**Deep Cove**	**49.59**	**149**	P	**P**	**15 03 45.0**	**+1.3**
MLZ	**Mavora Lakes**	**50.02**	**149**	P	**P**	**15 03 48.5**	**+1.5**
MK31	**Makanchi Array**	**68.77**	**325**	P	**P**	**15 05 57.2**	**+0.6**
MK31				IAmb	IAmb	15 06 16.2	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**68.77**	**325**	P	**P**	**15 05 57.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=120,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**68.77**	**325**	P	**P**	**15 05 56.9**	**+0.3**
MAKZ	**Makanchi**	**68.96**	**325**	P	**P**	**15 05 58.5**	**+0.7**
MAKZ				IAmb	IAmb	15 06 16.2	
	comp=Z,2.1nm,1.1s						

*KRNET **03** 15:07:38.3±0.1, 40.79N×71.39E, h12km, mb3.2*
*ISU **03** 15:07:39.0, 40.90N×71.15E, h10km*
*SOME **03** 15:07:39.4, 40.90N×71.17E, h15km*
*NNC **03** 15:07:41.3±0.9, 41.01N×71.20E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.9km s-min=2.8km az=12.0*

ISC 03 15:07:37.8±1.2, **40.76N**±0.03×**71.12E**±0.03, **h3**km±11km, **n34**, σ2§**32**/60, **16C-9D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAM	**Namangan**	**0.47**	**60**	*eP*	**Pg**	**15 07 46.6**	**-0.2**
NAM				*i* S	**Sg**	**15 07 53.4**	**+0.5**
FRG	**Fergana**	**0.50**	**92**	*eP*	**Pn**	**15 07 53.3**	**+1.3**
FRG				*eS*	**Sn**	**15 08 02.9**	**+1.7**
CHMI	**Chimion**	**0.58**	**148**	*eP*	**Pn**	**15 07 51.9**	**-1.1**
CHMI				*eS*	**Sn**	**15 08 01.5**	**-1.5**
BTK	**Batken**	**0.74**	**198**	⇑*iP*	**Pn**	**15 07 54.7**	**-0.6**
	baz=11						
BTK				⇑*iS*	**Sn**	**15 08 06.7**	**-0.4**
	baz=11						
BTK	**Batken**	**0.74**	**198**	*eP*	**Pn**	**15 07 54.7**	**-0.6**
BTK				*eS*	Sn	15 08 16.3	+9.2
CHMG	**Chimgan**	**1.15**	**314**	*eP*	**Pb**	**15 07 59.1**	**-1.4**
CHMG				*eS*	**Sn**	**15 08 19.9**	**+2.5**
ARK	**Arkit**	**1.22**	**31**	⇑*iP*	**Pn**	**15 07 59.1**	**-2.8**
	baz=24						
ARK				⇑*iS*	**Sb**	**15 08 13.9**	**-3.9**
	baz=24						
ARK	**Arkit**	**1.22**	**31**	*eP*	**Pn**	**15 07 59.5**	**-2.4**
ARK				*eS*	**Sn**	**15 08 19.0**	**0.0**
OHH	**Osh**	**1.29**	**100**	⇑*iP*	**Pn**	**15 07 59.2**	**-3.6**
	baz=4.0						
OHH				⇑*iS*	**Sb**	**15 08 14.2**	**-5.5**
	baz=4.0						
OHH	**Osh**	**1.29**	**100**	*eP*	**Pg**	**15 08 02.8**	**+0.3**
OHH				*eS*	**Sb**	**15 08 17.2**	**-2.5**
IUG	**Iuzhnay**	**1.61**	**330**	*eP*	**Pb**	**15 08 07.4**	**-0.9**
	326nm,0.3s						
IUG				*eS*	**Sn**	**15 08 27.9**	**-0.8**
	130nm,0.4s						
IUG	**Iuzhnay**	**1.61**	**330**	P	**Pb**	**15 08 07.4**	**-0.9**
	326nm,0.3s						
IUG				S	**Sn**	**15 08 27.9**	**-0.8**
	130nm,0.4s						
GAR	**Garm**	**1.86**	**200**	⇓*iP*	**Pg**	**15 08 15.2**	**+1.7**
	baz=5.0						
GAR				⇓*iS*	**Sg**	**15 08 42.0**	**+4.3**
	baz=5.0						
DZA	**Taraz**	**2.14**	**4**	*eP*	**Pb**	**15 08 16.7**	**-0.5**
	74nm,0.1s						
DZA				*eS*	**Sb**	**15 08 44.1**	**-0.1**
	189nm,0.1s						
AML	**Almayashu**	**2.37**	**54**	⇑*iP*	**Pn**	**15 08 18.6**	**+0.6**
	baz=52						
AML				⇑*iS*	**Sn**	**15 08 47.2**	**-0.6**
	baz=52						
KK31	**Karatay Array**	**2.39**	**349**	Pn	**Pn**	**15 08 18.9**	**+1.0**
	7.3nm,0.3s,baz=174,slow=16,SNR=67						
KK31				⇑Lg	Lg	15 08 50.0	
	16nm,0.3s,baz=168,slow=27,SNR=4.7						
BRLS	**Borolday**	**2.46**	**338**	*eP*	**Pn**	**15 08 19.3**	**+0.3**
	19nm,0.3s						
BRLS				*eS*	**Sn**	**15 08 48.4**	**-1.2**
	45nm,0.3s						
BRLS	**Borolday**	**2.46**	**338**	Pg	**Pn**	**15 08 19.3**	**+0.3**
	19nm,0.3s						
BRLS				Lg	Lg	15 08 48.4	
	45nm,0.3s						
MRKS	**Merke**	**2.53**	**38**	*eP*	**Pb**	**15 08 23.2**	**-0.8**
	23nm,0.4s						
MRKS				*eS*	**Sb**	**15 08 55.1**	**-0.6**
	27nm,0.4s						
MRKS	**Merke**	**2.53**	**38**	Pg	**Pb**	**15 08 23.2**	**-0.8**
	23nm,0.4s						
MRKS				Lg	Lg	15 08 55.1	
	27nm,0.4s						
CHGR	**Chuyangaron**	**2.59**	**216**	⇑*iP*	**Pg**	**15 08 25.6**	**-1.8**
	baz=20						
CHGR				⇑*iS*	**Sg**	**15 08 59.9**	**-1.1**
	baz=20						
ARLS	**Aral**	**2.65**	**64**	⇓*eP*	**Pn**	**15 08 21.8**	**+0.1**
	baz=63						
ARLS				⇓*eS*	**Sn**	**15 08 53.3**	**-1.1**
	baz=63						
EKS2	**Erkin-Say**	**2.75**	**45**	⇓*iP*	**Pn**	**15 08 24.0**	**+1.0**
	baz=43						
EKS2				⇓*iS*	**Sn**	**15 08 56.8**	**0.0**
	baz=43						
UCH	**Uchtor**	**2.94**	**59**	⇓*iP*	**Pn**	**15 08 25.8**	**-0.1**
	baz=57						
UCH				⇓*iS*	**Sn**	**15 09 00.6**	**-1.4**
	baz=57						
AAK	**Ala-Archa**	**3.15**	**52**	⇑Pg	**Pb**	**15 08 35.4**	**+0.9**
	6.8nm,0.7s						
AAK				⇓Lg	Lg	15 09 14.1	
	16nm,0.7s						
KZA	**Kyzart**	**3.37**	**66**	⇑*iP*	**Pn**	**15 08 32.5**	**+0.7**
	baz=65						
KZA				⇑*iS*	**Sn**	**15 09 12.1**	**-0.5**
	baz=65						
TKM2	**Tokmak 2**	**3.98**	**56**	⇑Pg	**Pb**	**15 08 51.5**	**+2.7**
	1.8nm,0.4s						
TKM2				⇑Lg	Lg	15 09 40.5	
	6.5nm,0.7s						
KST	**Kastek**	**4.27**	**56**	*eP*	**Pb**	**15 08 56.1**	**+2.4**
	1.9nm,0.3s						
KST				*eS*	**Sg**	**15 09 51.5**	**-3.6**
	9.4nm,0.9s						
KST	**Kastek**	**4.27**	**56**	Pg	**Pb**	**15 08 56.1**	**+2.4**
	1.1nm,0.2s						
KST				Lg	Lg	15 09 51.5	
	9.4nm,0.9s						
KRBS	**Karabastau**	**4.48**	**48**	*eP*	**Pb**	**15 08 58.9**	**+1.7**
	2.0nm,0.5s						
KRBS				*eS*	**Sb**	**15 09 55.4**	**+3.8**
	5.5nm,0.8s						
BTLS	**Baital**	**4.79**	**26**	*eP*	**Pb**	**15 09 05.1**	**+2.7**
	1.7nm,0.3s						
BTLS				*eS*	**Sb**	**15 10 06.2**	**+5.8**
	7.5nm,0.6s						
MDOK	**Medeo**	**5.03**	**60**	*eP*	**Pb**	**15 09 09.8**	**+3.2**
	1.0nm,0.3s						
MDOK				*eS*	**Sg**	**15 10 14.7**	**-4.6**
	3.9nm,0.8s						
KTBS	**Karatobe**	**5.07**	**53**	*eP*	**Pb**	**15 09 09.6**	**+2.3**
	1.8nm,0.6s						
KTBS				*eS*	**Sb**	**15 10 14.4**	**+5.7**
	8.6nm,0.6s						
KTBS	**Karatobe**	**5.07**	**53**	Pg	**Pb**	**15 09 09.6**	**+2.3**
	1.8nm,0.6s						
KTBS				Lg	Lg	15 10 14.4	
	8.6nm,0.6s						

*ECX **03** 15:14:24.3±0.5, 28.09N×112.21W, h10km±999km, MD2.8*
*MEX **03** 15:14:25.1±0.5, 28.08N×112.24W, h7km±6km, MD3.5*

ISC 03 15:14:23.8±1.7, **28.03N**±0.08×**112.2W**±0.1, **h22**km±12km, **n7**, σ0§**61**/12, **Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.71**	**184**	*eP*	**Pb**	**15 14 37.9**	**+0.4**
SRIG				*eS*	**Sn**	**15 14 48.4**	**-0.4**
SRIG	**Santa Rosalia**	**0.71**	**184**	*eP*	**Pb**	**15 14 37.8**	**+0.2**
SRIG				*eS*	**Sn**	**15 14 48.2**	**-0.6**
GUYB	**Guaymas**	**1.17**	**96**	*eP*	**Pb**	**15 14 44.9**	**-0.3**
GUYB				*eS*	**Sn**	**15 14 60.0**	**-0.1**
GUYB	**Guaymas**	**1.17**	**96**	*eP*	**Pb**	**15 14 45.0**	**-0.3**
GUYB				*eS*	**Sn**	**15 15 01.4**	**+1.3**
HSIG		**1.47**	**48**	*i P*	**Pn**	**15 14 48.6**	**-0.3**
HSIG				*eS*	**Sn**	**15 15 07.2**	**-0.3**
HSIG		**1.47**	**48**	*eP*	**Pn**	**15 14 49.1**	**+0.2**
HSIG				*i S*	**Sn**	**15 15 08.0**	**+0.5**
BAHB	**Baha de los**	**2.25**	**328**	*eS*	Pg	15 15 09.1	

*MOS **03** 15:14:51.2±1.3, 10.91S×162.05E, h33km, mb5.1/24, MS4.9/6, Error ellipse: s-maj=8.0km s-min=7.4km az=102.5*
*BJI **03** 15:14:51.2±0.0, 11.21S×162.01E, h36km, mB5.2/47, mb4.8/43, Ms5.1/49, Ms7 4.9/45*
*NEIC **03** 15:14:52.7±1.9, 10.91S±0.07×162.11E±0.07, h37km±5km, mb5.1/97, Error ellipse: s-maj=11.0km s-min=8.5km az=224.0*
*UNK **03** 15:14:52.8, 10.90S×162.10E, h39km*
*IDC **03** 15:14:53.6±1.9, 10.91S×162.05E, h37km±14km, mb4.4/21, mb1 4.6/26, mb1mx4.5/32, mbtmp4.7/26, ML4.4/4, MS5.0/23, Ms1 5.0/23, ms1mx5.0/23, Error ellipse: s-maj=15.0km s-min=11.3km az=74.0*
*GCMT **03** 15:14:54.7±0.1, 10.98S±0.01×161.91E±0.01, h31km, MW5.5/150, Moment Tensor Solution. s138,c262; s150,c279; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.31±.03; $M_{\theta\theta}$-1.68±.02; $M_{\phi\phi}$-0.63±.02; $M_{r\theta}$0.22±.04; $M_{\theta\phi}$1.27±.02; $M_{\phi r}$-1.11±.04; Best double couple: $M_0$2.67700×10^{17} NP1:ϕ_s287.00000°, δ39.00000°, λ62.00000°. NP2:ϕ_s141.00000°, δ57.00000°, λ111.00000°. Principal axes: T 2.6920, Plg70.0000°, Azm99.0000°; N -0.0290, Plg17.0000°, Azm309.0000°; P -2.6630, Plg10.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 15:14:53.4±0.3, **10.98S**±0.04×**162.05E**±0.04, **h36**km, **n326**, σ1§**74**/332, **mb5.0**/91, **MS5.1**/58, **6C-4D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.58**	**306**	Pn	**Pn**	**15 15 33.1**	**+0.4**
	212nm,0.3s,baz=156,slow=8.0,SNR=22						
HNR				Sn	**Sn**	**15 16 01.5**	**-1.3**
	582nm,0.3s,baz=242,slow=14,SNR=7.0						
HNR				LR	LR	15 16 43.8	
	comp=Z,39μm,18.8s,baz=132,slow=44						
HNR	**Honiara**	**2.58**	**306**	P	**Pn**	**15 15 32.0**	**-0.7**
HNR						15 16 01.5	
HNR	**Honiara**	**2.58**	**306**		**Pn**	**15 15 32.0**	**-0.7**
SANVU	**Saraoutou**	**6.70**	**132**	Pn	**Pn**	**15 16 28.7**	**-0.6**
DZM	**Mont Dzumac**	**11.81**	**160**	*e*Pn	**Pn**	**15 17 40.3**	**+0.9**
	18nm,0.2s						
DZM				*e*Sn	Sn	15 19 39.3	-11
	5.0nm,0.3s						
DZM				*e*LQ	LQ	15 19 53.6	
	7μm,25.1s						
DZM				*e*LR	LR	15 20 20.2	
	comp=Z,15μm,22.4s						
DZM	**Mont Dzumac**	**11.81**	**160**	Pn	**Pn**	**15 17 40.3**	**+0.9**
	1.4nm,0.3s,baz=31,slow=9.9,SNR=69						
DZM				Sn	**Sn**	**15 19 46.1**	**-3.9**
	0.8nm,0.3s,baz=31,slow=20,SNR=1.5						
DZM				LR	LR	15 21 42.4	
	comp=Z,12μm,18.9s,baz=337,slow=34						
DZM	**Mont Dzumac**	**11.81**	**160**	Pn	**Pn**	**15 17 40.1**	**+0.7**
RABL	**Rabaul**	**11.89**	**304**	Pn	**Pn**	**15 17 41.4**	**+0.8**
KRVT	**Keravat (AS076**	**11.94**	**303**	Pn	**Pn**	**15 17 42.9**	**+1.6**
	0.8nm,0.3s,baz=343,slow=23,SNR=3.6						
KRVT				LR	LR	15 22 30.7	
	comp=Z,6μm,19.8s,baz=123,slow=38						
PMG	**Port Moresby**	**14.74**	**275**	Pn	**Pn**	**15 18 20.8**	**+1.4**
	0.5nm,0.3s,baz=76,slow=5.4,SNR=2.5						
PMG	**Port Moresby**	**14.74**	**275**	P	**Pn**	**15 18 19.4**	**0.0**
PMG	**Port Moresby**	**14.74**	**275**	Pn	**Pn**	**15 18 19.4**	**0.0**
TARA	**Tarawa**	**16.34**	**42**	P	**Pn**	**15 18 40.4**	**+0.1**
MSVF	**Nonsavu**	**16.89**	**115**	P	**Pn**	**15 18 46.2**	**-1.0**
MSVF				pmax	pmax		
	comp=Z,154nm,1.3s						
MSVF	**Nonsavu**	**16.89**	**115**	Pn	**Pn**	**15 18 46.2**	**-1.0**
MSVF				IAmb	IAmb	15 18 52.5	
	comp=Z,154nm,1.2s						
FUNA	**Funafuti**	**17.07**	**83**	Pn	**Pn**	**15 18 47.8**	**-1.7**
FUNA				IAmb	IAmb	15 19 02.2	
	comp=Z,248nm,1.5s						
EIDS	**Eidsvold**	**17.69**	**215**	P	**P**	**15 18 59.2**	**+1.6**
	baz=18,SNR=9.3						
EIDS	**Eidsvold**	**17.69**	**215**		**P**	**15 18 57.3**	**-0.3**
CTA	**Charters Tower**	**17.70**	**237**	P	**P**	**15 18 58.3**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=67,slow=13,SNR=41						
CTAO	**Charters Tower**	**17.70**	**237**	P	**P**	**15 18 57.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,59nm,0.9s						
CTAO	**Charters Tower**	**17.70**	**237**		**P**	**15 18 57.7**	**-0.1**
PATS	**Pohnpei**	**18.09**	**348**	P	**P**	**15 19 03.9**	**+1.8**
	baz=18,SNR=6.2						
PATS	**Pohnpei**	**18.09**	**348**		**Pn**	**15 19 00.0**	**-2.0**
MTSU	**Mount Surprise**	**18.57**	**245**	P	**Pn**	**15 19 09.2**	**+1.3**
	baz=18,SNR=22						
COEN	**Coen**	**18.67**	**259**	P	**Pn**	**15 19 09.6**	**+0.5**
	baz=19,SNR=14						
COEN	**Coen**	**18.67**	**259**		**P**	**15 19 08.4**	**-0.2**
COEN				IAmb	IAmb	15 19 35.5	
	comp=Z,110nm,1.1s						
RMQ	**Roma**	**19.88**	**217**	P	**Pn**	**15 19 25.0**	**+1.5**
	baz=20,SNR=16						
KWAJ	**Kwajalein Atol**	**20.41**	**16**	P	**P**	**15 19 28.3**	**+0.7**
KWAJ				pmax	pmax		
	comp=Z,388nm,1.1s						
KWAJ	**Kwajalein Atol**	**20.41**	**16**	Pn	**P**	**15 19 28.3**	**+0.7**
ARMA	**Armidale**	**21.63**	**205**	P	**P**	**15 19 41.9**	**+1.2**
	baz=22,SNR=4.6						
ARMA	**Armidale**	**21.63**	**205**	P	**P**	**15 19 41.2**	**+0.5**
ARMA				IAmb	IAmb	15 19 45.1	
	comp=Z,73nm,1.2s						
JAY	**Jayapura**	**22.79**	**290**	P	**P**	**15 19 54.0**	**+0.8**
	comp=Z,18nm,0.8s,baz=160,slow=6.8,SNR=6.1						
GENI	**Genyem**	**23.25**	**289**	P	**P**	**15 19 59.0**	**+1.1**
	comp=Z,2μmcomp=Z,70nm,0.9s						
QIS	**Mount Isa**	**23.58**	**243**	P	**P**	**15 20 02.8**	**+1.7**
	baz=24,SNR=7.7						
AFI	**Afiamalu**	**25.72**	**99**	P	**P**	**15 20 22.2**	**+1.5**
	comp=Z,41nm,0.9s,baz=59,slow=21,SNR=3.8						
AFI	**Afiamalu**	**25.72**	**99**	P	**P**	**15 20 22.2**	**+1.5**
AFI				pmax	pmax		
	comp=Z,57nm,1.0s						
AFI	**Afiamalu**	**25.72**	**99**	IAmb	IAmb	15 20 25.9	
	comp=Z,57nm,1.0s						
CAN	**Canberra**	**26.98**	**204**	P	**P**	**15 20 32.8**	**+0.8**
CAN				pmax	pmax		
	comp=Z,72nm,1.5s						
CAN	**Canberra**	**26.98**	**204**	P	**P**	**15 20 32.8**	**+0.8**
CAN				IAmb	IAmb	15 20 56.5	
	comp=Z,72nm,1.5s						
WR0	**Warramunga Arr**	**27.94**	**248**	P	**P**	**15 20 41.1**	**+0.5**
WB0	**Warramunga Arr**	**28.03**	**248**	P	**P**	**15 20 40.5**	**-0.9**
STKA	**Stephens Creek**	**28.10**	**219**	P	**P**	**15 20 44.2**	**+2.3**
	baz=28,SNR=7.7						
STKA	**Stephens Creek**	**28.10**	**219**	P	**P**	**15 20 41.5**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=65,slow=9.1,SNR=8.9						
STKA				PcP	**PcP**	**15 23 55.5**	**-0.2**
	comp=Z,9.0nm,1.0s,baz=340,slow=2.4,SNR=3.9						
STKA				ScP	**ScP**	**15 27 35.0**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=89,slow=6.0,SNR=3.3						
STKA				LR	LR	15 31 47.1	
	comp=Z,9μm,18.7s,baz=28,slow=36						
STKA	**Stephens Creek**	**28.10**	**219**	P	**P**	**15 20 41.4**	**-0.5**
WRAB	**Tennant Creek**	**28.11**	**248**	*i P*	**P**	**15 20 41.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**28.11**	**248**	P	**P**	**15 20 41.5**	**-0.6**
WB2	**Warramunga Arr**	**28.11**	**248**

BBOO IAmb IAmb 15 21 22.0
comp=Z,19nm,0.8s
BHW Baring Head 32.34 162 P **P 15 21 19.2 -0.1**
PLWZ Palliser 32.61 161 P **P 15 21 20.8 -0.9**
KNRA Kununurra 32.70 258 P **P 15 21 22.1 -0.7**
baz=33,SNR=25
KNRA Kununurra 32.70 258 P **P 15 21 22.0 -0.8**
KHZ Kahutara 32.89 164 P **P 15 21 24.1 0.0**
KHZ IAmb IAmb 15 21 52.0
comp=Z,30nm,1.1s
LTZ Lake Taylor 32.91 166 P **P 15 21 24.2 -0.2**
LTZ IAmb IAmb 15 21 28.4
comp=Z,32nm,1.1s
FOZ Fox Glacier 33.13 170 P **P 15 21 25.8 -0.3**
FOZ IAmb IAmb 15 21 30.2
comp=Z,38nm,1.1s
OXZ Oxford 33.38 167 P **P 15 21 27.8 -0.5**
RPZ Rata Peaks 33.54 168 P **P 15 21 31.4 +1.7**
comp=Z,23nm,0.8s,baz=360,slow=2.8,SNR=15
RPZ Rata Peaks 33.54 168 P **P 15 21 29.7 -0.1**
RPZ IAmb IAmb 15 21 33.4
comp=Z,35nm,0.9s
MQZ McQueen's Vall 33.88 166 P **P 15 21 32.5 -0.2**
MLZ Mavora Lakes 34.66 172 P **P 15 21 40.1 +0.7**
MLZ IAmb IAmb 15 22 06.2
comp=Z,36nm,1.4s
FITZ Fitzroy Crossi 35.90 254 P **P 15 21 48.7 -1.8**
baz=36,SNR=25
FITZ Fitzroy Crossi 35.90 254 P **P 15 21 49.0 -1.4**
FORT Forrest 37.15 233 P **P 15 22 01.7 +0.7**
SOEI Soe 37.17 268 P **P 15 22 04.4 +2.9**
comp=Z,46nm,1.0s
SOEI Soe 37.17 268 P **P 15 22 01.5 0.0**
SOEI IAmb IAmb 15 22 25.8
comp=Z,24nm,0.8s
BATI Baumata 37.72 267 P **P 15 22 09.9 +3.8**
comp=Z,624nmcomp=Z,79nm,0.7s
MMRI Maumere 39.28 270 P **P 15 22 21.7 +2.6**
comp=Z,1µmcomp=Z,97nm,1.2s
MMRI Maumere 39.28 270 P **P 15 22 16.7 -2.5**
KMSI Cibinong 39.55 284 P **P 15 22 23.8 +2.5**
comp=Z,4µmcomp=Z,125nm,1.0s
LUWI Luwuk 40.24 281 P **P 15 22 28.5 +1.4**
comp=Z,2µmcomp=Z,89nm,1.1s
LUWI Luwuk 40.24 281 P **P 15 22 24.9 -2.2**
GTOI Gorontalo 40.49 284 P **P 15 22 31.8 +2.6**
comp=Z,28nm,1.2s
PSA00 Pilbara Seismi 41.74 250 P **P 15 22 38.5 -0.9**
PSA00 Pilbara Seismi 41.74 250 P **P 15 22 38.5 -0.9**
BNSI Bone 42.04 276 P **P 15 22 43.9 +2.0**
comp=Z,846nmcomp=Z,98nm,1.2s
KAPI Kappang 42.27 275 P **P 15 22 42.5 -1.3**
KAPI pmax pmax
comp=Z,98nm,1.4s
KAPI Kappang 42.27 275 P **P 15 22 42.5 -1.3**
SPSI Sidrap Palu 42.46 276 P **P 15 22 47.0 +1.7**
MEEK Meekatharra 43.73 243 P **P 15 22 56.2 +0.7**
baz=44,SNR=14
MYLDM Lahad Datu 46.22 288 P **P 15 23 14.2 -1.2**
BLDU Ballidu 46.30 238 P **P 15 23 15.4 -0.5**
baz=46,SNR=9.1
MORW Morawa 46.49 240 P **P 15 23 18.2 +0.8**
baz=46,SNR=9.0
MORW Morawa 46.49 240 P **P 15 23 17.2 -0.2**
MORW IAmb IAmb 15 23 26.2
comp=Z,56nm,1.5s
NWAO Narrogin (SRO) 46.51 235 P **P 15 23 18.5 +1.0**
baz=46,SNR=4.0
NWAO Narrogin (SRO) 46.51 235 P **P 15 23 17.8 +0.3**
NWAO pmax pmax
comp=Z,28nm,1.3s
NWAO Narrogin (SRO) 46.51 235 P **P 15 23 17.7 +0.3**
NWAO IAmb IAmb 15 23 20.4
comp=Z,32nm,1.2s
NWAO Narrogin (SRO) 46.51 235 P **P 15 23 17.8 +0.3**
NWAO IAmb IAmb 15 23 20.4
comp=Z,28nm,1.2s
GIRL Giralia 47.03 249 P **P 15 23 22.8 +1.1**
baz=47,SNR=4.7
GIRL Giralia 47.03 249 P **P 15 23 22.5 +0.8**
MUN Mundaring 47.07 236 P **P 15 23 22.6 +0.7**
baz=47,SNR=4.6
PPT Papeete 47.23 104 LR LR 15 40 18.4
comp=Z,1µm,18.2s,baz=270,slow=32
PPT2 Papeete2 47.24 104 *e*S **S 15 30 20.1 +5.6**
comp=Z,512nm,26.8s
PPT2 *e*LQ LQ 15 34 51.7
comp=Z,4µm,27.5s
PPT2 *e*LR LR 15 36 50.0
comp=Z,3µm,25.0s,baz=278
JAGI Jajag, Banyuwa 47.24 269 P **P 15 23 20.8 -2.7**
KKM Kota Kinabalu 48.66 288 P **P 15 23 35.4 +0.9**
KKM IAmb IAmb 15 23 51.3
comp=Z,18nm,0.9s
UGM Wanagama 50.87 269 P **P 15 23 49.9 -1.4**
MJAR Matsushiro Arr 52.33 336 P **P 15 24 02.5 +0.7**
comp=Z,2.9nm,0.9s,baz=169,slow=8.3,SNR=4.5
MJAR LR LR 15 45 01.4
comp=Z,548nm,21.8s,baz=160,slow=35
MJAR Matsushiro Arr 52.33 336 P **P 15 24 00.5 -1.3**
MJAR pmax pmax
comp=Z,3.0nm,1.0s
MJAR Matsushiro Arr 52.33 336 P **P 15 24 00.5 -1.3**
MAT Matsushiro 52.33 336 P **P 15 23 58.0 -3.8**
MAT S **S 15 31 22.8 -2.1**
MJB9 Matsu-Tunnel 52.33 336 P **P 15 24 00.3 -1.5**
JNU Nakatsue 52.98 327 P **P 15 24 05.2 -1.5**
CISI Cisompet, Garu 53.58 269 P **P 15 24 11.0 -0.5**
QZH Quanzhou 55.41 311 P **P 15 24 24.0 -0.5**
QZH S **S 15 32 05.2 -1.7**
QZH pmax pmax
comp=Z,210nm,7.7s
QZH LR LR
comp=Z,700nm,20.3s
QZH LR LR
comp=Z,470nm,16.4s
QZH LR LR
comp=Z,560nm,20.7s
YUK Yuzh-Kuril'sk 56.70 346*c i*P P 15 24 28.0 -5.3
YUK *e* 15 25 32.8
YUK *e* 15 26 37.0
YUK *e*S **S 15 32 17.5 -5.8**
YUK *e*SS **SS 15 36 10.4 -1.4**
TAOE Nuku Hiva Isla 56.91 93 *e*S **S 15 32 34.2 +6.8**
comp=Z,453nm,25.8s
TAOE *e*LR LR 15 41 20.5
comp=Z,2µm,23.8s
SSE Sheshan 57.33 318 P **P 15 24 37.2 -0.8**
SSE S **S 15 32 31.5 -0.7**
SSE pmax pmax
comp=Z,14nm,0.6s
SSE pmax pmax
comp=Z,83nm,4.7s
SSE LR LR
comp=Z,170nm,17.9s
SSE LR LR
comp=Z,260nm,16.5s
KUR Kuril'sk 57.40 348 *e*P **P 15 24 41.3 +3.1**
KUR S **S 15 32 33.6 +1.1**
KUR MLR MLR
comp=Z,428nm,18.0s
JKA Kamikawa-asahi 57.61 344 P **P 15 24 39.2 -0.6**
ASAJ Asahikawa 57.61 343 P **P 15 24 39.2 -0.6**
ASAJ pmax pmax
comp=Z,37nm,1.0s
KSRS Korea Array 57.84 328 P **P 15 24 42.0 +0.5**
comp=Z,2.6nm,1.0s,baz=142,slow=9.0,SNR=5.4
KSRS LR LR 15 47 37.3
comp=Z,1µm,20.3s,baz=132,slow=34
NJ2 Nanjing 59.47 318 *e*P **P 15 24 54.0 +1.0**
NJ2 S **S 15 33 00.3 +0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,740nm,18.0s
NJ2 LR LR
comp=Z,450nm,16.1s
NJ2 LR LR
comp=Z,870nm,21.8s
QIZ Qiongzhong 59.47 300 P **P 15 24 55.0 +1.8**
QIZ S **S 15 33 02.4 +1.9**
QIZ sS **sS 15 33 21.8 +4.8**
QIZ SS **SS 15 36 54.6 -1.8**
QIZ pmax pmax
comp=Z,8.0nm,1.4s
QIZ pmax pmax
comp=Z,160nm,13.9s
QIZ LR LR
comp=Z,440nm,20.6s
QIZ LR LR
comp=Z,550nm,25.5s
QIZ LR LR
comp=Z,1µm,25.5s
YSS Yuzh-Sakhalins 60.20 345 *e*P P 15 24 49.1 -8.5
YSS *e**SP pP 15 25 00.6 -7.9
YSS *e* 15 27 11.2
YSS *e*PS **S 15 33 01.7 -7.1**
YSS *e*SS **SS 15 37 04.1 -2.7**
YSS pmax pmax
comp=Z,100nm,4.4s
YSS MLR MLR
comp=N,800nm,19.0s
YSS MLR MLR
comp=Z,1µm,19.0s
YSS MLR MLR
comp=E,300nm,17.0s
YSS Yuzh-Sakhalins 60.20 345 P **P 15 24 56.4 -1.2**
YSS IAmb IAmb 15 25 02.1
comp=Z,17nm,1.0s
RKT Rikitea 61.01 110 *e*LQ LQ 15 40 38.5
comp=Z,978nm,33.0s
RKT *e*LR LR 15 43 13.2
comp=Z,4µm,25.5s
USRK Ussuriysk Ar. 61.33 336 P **P 15 25 06.2 +0.8**
comp=Z,13nm,0.9s,baz=164,slow=7.7,SNR=13
USRK LR LR 15 48 04.8
comp=Z,642nm,21.9s,baz=132,slow=32
SKR Severo-Kuril's 61.62 356 *e*P **P 15 25 02.6 -4.6**
SKR *e*S **S 15 33 25.6 -1.2**
SKR pmax pmax
comp=Z,100nm,6.8s
SKR MLR MLR
comp=Z,500nm,18.0s
WHN Wuhan 61.67 314⇓*i*P P 15 25 13.0 +5.0
WHN S **S 15 33 24.9 -3.4**
WHN pmax pmax
comp=Z,320nm,3.5s
WHN LR LR
comp=Z,2µm,17.0s
WHN LR LR
comp=Z,680nm,17.3s
WHN LR LR
comp=Z,2µm,20.2s
DL2 Dalian 62.30 325 P P 15 25 17.1 +5.1
DL2 pmax pmax
comp=Z,120nm,5.3s
DL2 LR LR
comp=Z,710nm,17.6s
DL2 LR LR
comp=Z,440nm,17.7s
DL2 LR LR
comp=Z,930nm,20.0s
IPM Ipoh 62.64 281 P **P 15 25 13.1 -1.8**
IPM IAmb IAmb 15 25 37.2
comp=Z,14nm,1.2s
MDJ Mudanjiang 62.66 334 P **P 15 25 15.4 +1.0**
MDJ S **S 15 33 42.7 +2.5**
MDJ pmax pmax
comp=Z,31nm,2.2s
MDJ pmax pmax
comp=Z,250nm,4.3s
MDJ LR LR
comp=Z,950nm,21.1s
MDJ LR LR
comp=Z,1µm,20.1s
PET Petropavlovsk 63.81 358*c i*P **P 15 25 20.9 -0.9**
PET *e*S **S 15 33 57.2 +3.0**
PET *e*SS **SS 15 38 09.5 +6.4**
PET pmax pmax
comp=Z,200nm,13.7s
PET pmax pmax
comp=Z,88nm,1.0s
PET MLR MLR
comp=Z,500nm,17.0s
PET MLR MLR
comp=Z,500nm,20.0s
TYV Tymovskoe 63.86 346 *e*P **P 15 25 23.5 +1.4**
TYV *e* 15 33 58.7
TYV pmax pmax
comp=Z,14nm,1.4s
TYV pmax pmax
comp=Z,200nm,6.4s
AMKA Amchitka 63.88 12 P **P 15 25 21.2 -1.1**
CN2 Changchun 63.88 331 *e*P P 15 25 27.8 +5.3
CN2 *e*sP sP 15 25 41.6 +3.8
CN2 *e*S **S 15 33 54.7 -0.8**
CN2 *e*sS sS 15 34 16.4 +3.6
CN2 *e*SS **SS 15 38 05.3 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,220nm,7.0s
CN2 LR LR
comp=Z,820nm,21.0s
CN2 LR LR
comp=Z,710nm,21.0s
CN2 LR LR
comp=Z,1µm,22.0s
PEA0B Petropavlovsk- 63.94 357*ce*P **P 15 25 22.4 -0.3**
PEA0B Petropavlovsk- 63.94 357 P **P 15 25 22.0 -0.6**
PETK Petropavlovsk- 63.94 357 P **P 15 25 21.4 -1.2**
comp=Z,22nm,1.1s,baz=159,slow=8.7,SNR=22
PETK LR LR 15 50 04.0
comp=Z,1µm,20.7s,baz=165,slow=33
PETK Petropavlovsk- 63.94 357 P **P 15 25 21.3 -1.4**
PETK Petropavlovsk- 63.94 357 P **P 15 25 21.3 -1.4**
GSI Gunungsitoli 65.25 277 P **P 15 25 30.8 -1.2**
GSI IAmb IAmb 15 25 52.9
comp=Z,14nm,0.8s
ADK Adak 65.25 14 P **P 15 25 30.9 -0.3**
ADK pmax pmax
comp=Z,26nm,1.1s
ADK Adak 65.25 14 P **P 15 25 30.9 -0.3**
ADK IAmb IAmb 15 25 46.1
comp=Z,26nm,1.1s
GYA Guiyang 65.41 306⇓P **P 15 25 33.6 +0.6**
GYA pP sP 15 25 49.2 +1.3
GYA S **S 15 34 12.5 -2.7**
GYA sS sS 15 34 38.4 +5.8
GYA pmax pmax
comp=Z,160nm,11.8s
GYA LR LR
comp=Z,220nm,18.0s
GYA LR LR
comp=Z,500nm,20.6s
GYA LR LR
comp=Z,560nm,20.2s
GRNR Gornyy 65.42 342⇓*i*P **P 15 25 34.6 +2.2**
GRNR pmax pmax
comp=Z,5.0nm,1.2s
KLR Kul'dur 65.61 339*ce*P **P 15 25 33.2 -0.5**
KLR pmax pmax
comp=Z,7.0nm,1.4s
ATKA Atka Island 66.17 16 P **P 15 25 34.9 -2.2**
PBKT Sadao Pong 66.31 294 P **P 15 25 37.4 -1.3**
NKL Nikolayevsk 66.44 346 *e*P **P 15 25 36.1 -2.7**
NKL *e*S S 15 34 16.1 -10
NKL pmax pmax
comp=N,16nm,1.1s
NKL pmax pmax
comp=Z,17nm,1.6s
NKL smax smax
comp=N,21nm,2.9s
VNDA Vanda 66.53 180 P **P 15 25 40.1 +0.9**
comp=N,11nm,0.9s,baz=346,slow=6.8,SNR=26
VNDA LR LR 15 50 37.1
comp=N,1µm,18.8s,baz=352,slow=32
VNDA Vanda 66.53 180 P **P 15 25 38.7 -0.5**
VNDA pmax pmax
comp=Z,22nm,1.1s
VNDA Vanda 66.53 180 P **P 15 25 38.7 -0.5**
VNDA IAmb IAmb 15 25 42.8
comp=Z,22nm,1.1s
XAN Xi'an 67.43 314 P **P 15 25 45.8 +0.1**
XAN S **S 15 34 39.2 -0.2**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,230nm,10.1s
XAN LR LR
comp=Z,300nm,18.0s
XAN LR LR
comp=Z,890nm,18.6s
XAN LR LR
comp=Z,2µm,18.5s
CMAR Chiang Mai Arr 68.77 295 P **P 15 25 53.7 -0.6**
comp=Z,1.2nm,0.6s,baz=111,slow=4.5,SNR=8.1
CMAR PKPPKP **P'P'df 15 54 08.1 -0.6**
comp=Z,1.3nm,1.1s,baz=302,slow=4.0,SNR=4.2
CMAR LR LR 15 57 37.3
comp=Z,138nm,18.9s,baz=137,slow=37
CMAR Chiang Mai Arr 68.77 295 P **P 15 25 52.9 -1.5**
CMAR Chiang Mai Arr 68.77 295 P **P 15 25 52.9 -1.5**
CHTO Chiang Mai 68.89 295 P **P 15 25 54.1 -1.0**
CHTO pmax pmax
comp=Z,13nm,1.5s
CHTO Chiang Mai 68.89 295 P **P 15 25 54.1 -1.0**
HHC Hu-ho-hao-te 69.47 321 *e*P **P 15 25 58.5 +0.1**
HHC S **S 15 35 08.0 +4.5**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,290nm,5.7s
HHC LR LR
comp=Z,660nm,20.2s
HHC LR LR
comp=Z,550nm,18.8s
HHC LR LR
comp=Z,870nm,19.9s
CD2 Chengdu 69.70 309 *e*P **P 15 26 00.4 +0.5**
CD2 PP **PP 15 28 36.9 +2.3**
CD2 S **S 15 35 03.5 -3.0**
CD2 SS **SS 15 39 36.4 +0.8**
CD2 pmax pmax
comp=Z,220nm,10.0s
CD2 LR LR
comp=Z,690nm,19.1s
CD2 LR LR
comp=Z,540nm,18.1s
CD2 LR LR
comp=Z,600nm,19.8s
UNV Unalaska Valle 69.88 19 P **P 15 25 59.8 -0.6**
UNV IAmb IAmb 15 26 12.6
comp=Z,22nm,1.2s
ZEA Zeya 70.92 339 *e*P **P 15 26 08.2 +1.4**
ZEA *e*S **S 15 35 26.0 +6.2**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA smax smax
comp=N,300nm,14.0s
LZH Lanzhou 72.06 314 *e*P **P 15 26 13.3 -1.0**
LZH pP pP 15 26 25.0 -0.3
LZH sP sP 15 26 30.2 +0.8
LZH sS sS 15 35 52.3 +0.4
LZH SS **SS 15 40 11.8 0.0**
LZH pmax pmax
comp=N,28nm,1.4s
LZH pmax pmax
comp=N,210nm,8.2s
LZH LR LR
comp=N,560nm,16.8s
LZH LR LR
comp=N,750nm,17.9s
LZH LR LR
comp=N,1µm,18.1s
SEY Seymchan 74.06 355 *i*P **P 15 26 26.5 +1.2**
ULN Ulaanbaatar 76.15 325 P **P 15 26 37.6 -0.3**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 76.15 325 P **P 15 26 37.6 -0.3**
GTA Gaotai 76.42 315 *e*P **P 15 26 38.7 -0.9**
GTA pP pP 15 26 47.8 -2.9
GTA sP pwP 15 26 52.2 +1.5
GTA S **S 15 36 22.3 -0.5**
GTA SS **SS 15 41 16.0 -2.1**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,6.3s
GTA LR LR
comp=Z,440nm,19.4s
GTA LR LR
comp=Z,590nm,21.3s
GTA LR LR
comp=Z,610nm,22.5s
SONM Songino Array 76.50 325 P **P 15 26 40.0 +0.2**
comp=Z,3.9nm,0.7s,baz=139,slow=5.1,SNR=12
SONM LR LR 15 58 22.0
comp=Z,899nm,22.0s,baz=116,slow=34
SONM Songino Array 76.50 325 P **P 15 26 38.5 -1.4**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 76.50 325 P **P 15 26 38.5 -1.4**
YAK Yakutsk 77.05 345 *e*P **P 15 26 42.9 +0.5**
YAK *e**PP **PcP 15 26 52.9 -0.3**
YAK *e*S **S 15 36 28.8 +0.5**
YAK *e**SS **sS 15 36 45.4 0.0**
YAK *e*SS **SS 15 41 26.5 +0.2**
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK smax smax
comp=E,33nm,2.8s
YAK Yakutsk 77.05 345 P **P 15 26 41.1 -1.3**
OHAK Old Harbor 77.22 23 P **P 15 26 42.3 -1.2**
OHAK IAmb IAmb 15 26 54.0
comp=Z,19nm,1.1s
KDAK Kodiak Island 77.89 23 P **P 15 26 47.0 -0.2**
KDAK pmax pmax
comp=Z,33nm,1.3s
KDAK Kodiak Island 77.89 23 P **P 15 26 47.0 -0.2**
KDAK IAmb IAmb 15 27 08.6
comp=Z,33nm,1.3s
BOD Bodaibo 78.96 336 *e*P **P 15 26 53.6 +0.4**
BOD pmax pmax
comp=Z,9.0nm,1.6s
QSPA South Pole Qui 79.02 180 P **P 15 26 53.6 -0.1**
QSPA IAmb IAmb 15 26 56.7
comp=Z,37nm,1.1s
SVW2 Sparrevohn 79.22 19 P **P 15 26 54.6 +0.1**
SVW2 IAmb IAmb 15 27 12.6
comp=Z,19nm,0.9s
ZAK Zakamensk 79.60 326 *e*P **P 15 26 53.5 -3.5**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
TTA Tatalina 80.45 18 P **P 15 27 01.1 -0.1**
TTA pmax pmax
comp=Z,10.0nm,1.2s
TTA Tatalina 80.45 18 P **P 15 27 01.1 -0.1**
SCM Sheep Creek Mo 82.58 22 P **P 15 27 10.4 -2.2**
SCM pmax pmax
comp=Z,20nm,1.0s
SCM Sheep Creek Mo 82.58 22 P **P 15 27 10.4 -2.2**
SCM IAmb IAmb 15 27 31.1
comp=Z,20nm,1.0s
RND Reindeer 83.08 20 P **P 15 27 14.0 -1.1**
RND pmax pmax
comp=Z,16nm,1.2s
RND Reindeer 83.08 20 P **P 15 27 14.0 -1.1**
RND IAmb IAmb 15 27 39.9
comp=Z,16nm,1.2s
M24K Tolsona, Glenn 83.18 22 P **P 15 27 16.6 +1.0**
baz=231
MCK McKinley 83.27 20 P **P 15 27 13.9 -2.2**
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 83.27 20 P **P 15 27 13.9 -2.2**
MCK IAmb IAmb 15 27 32.8
comp=Z,19nm,1.0s
MAW Mawson 83.41 202 P **P 15 27 18.8 +2.1**
baz=83,SNR=10
MAW Mawson 83.41 202 P **P 15 27 16.2 -0.5**
comp=Z,8.7nm,1.0s,baz=88,slow=6.3,SNR=16
MAW LR LR 16 02 16.5
comp=Z,317nm,18.2s,baz=74,slow=34
MAW Mawson 83.41 202 P **P 15 27 17.0 +0.3**
MAW pmax pmax
comp=Z,7.0nm,1.4s
MAW Mawson 83.41 202 P **P 15 27 17.0 +0.3**
NEA2 Nenana 83.81 19 P **P 15 27 18.6 -0.1**
baz=228
WRH Wood River Hil 84.04 19 P **P 15 27 19.9 0.0**
WRH IAmb IAmb 15 27 21.1
comp=Z,9.9nm,1.0s
CCB Clear Creek Bu 84.25 19 P **P 15 27 19.5 -1.5**

MDM	**Murphy Dome**	**84.32**	**19**	P	**P**	**15 27 20.1**	**-1.3**
MDM				IAmb	IAmb	15 27 32.6	
	comp=Z,9.7nm,1.0s						
HDA	**Harding Lake**	**84.38**	**20**	P	**P**	**15 27 20.9**	**-0.7**
	baz=230						
HDA	**Harding Lake**	**84.38**	**20**	P	**P**	**15 27 19.6**	**-2.1**
HDA				IAmb	IAmb	15 27 27.9	
	comp=Z,15nm,0.8s						
COLA	**College**	**84.39**	**19**	*i* P	**P**	**15 27 21.5**	**-0.1**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
H02N1	**VAN INLET T-PH**	**84.59**	**33**	T	T	17 00 32.9	
	SNR=134						
H02S1	**DAWSON INLET T**	**84.60**	**33**	T	T	17 00 36.4	
	SNR=262						
IL31		**84.63**	**20**	P	**P**	**15 27 21.1**	**-1.8**
ILAR	**Eielson Array**	**84.63**	**20**	P	**P**	**15 27 21.6**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=240,slow=4.9,SNR=14						
ILAR				LR	LR	16 00 47.6	
	comp=Z,2μm,20.1s,baz=232,slow=33						
RIDG	**Independent Ri**	**84.68**	**21**	P	**P**	**15 27 22.2**	**-1.0**
RIDG				IAmb	IAmb	15 27 47.2	
	comp=Z,12nm,0.9s						
POKR	**Poker Plat Res**	**84.68**	**19**	P	**P**	**15 27 22.0**	**-1.1**
	baz=230						
DOT	**Dot Lake**	**84.90**	**21**	P	**P**	**15 27 23.5**	**-0.8**
DOT				IAmb	IAmb	15 27 41.4	
	comp=Z,7.7nm,0.8s						
SCRK	**Sand Creek**	**85.12**	**21**	P	**P**	**15 27 26.3**	**+0.8**
	baz=233						
K27K	**Chicken**	**85.83**	**21**	P	**P**	**15 27 29.9**	**+1.0**
	baz=234						
WMQ	**Urumqi**	**86.50**	**316**	*e*P	**P**	**15 27 32.9**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,66nm,5.9s						
WMQ				LR	LR		
	comp=Z,310nm,21.7s						
WMQ				LR	LR		
	comp=Z,160nm,18.7s						
WMQ				LR	LR		
	comp=Z,210nm,25.3s						
EGAK	**Eagle**	**86.59**	**21**	P	**P**	**15 27 31.5**	**-1.2**
CMB	**Columbia Colle**	**87.08**	**51**	P	**P**	**15 27 33.5**	**-2.3**
CMB				pmax	pmax		
	comp=Z,13nm,1.5s						
CMB	**Columbia Colle**	**87.08**	**51**	P	**P**	**15 27 33.5**	**-2.3**
CMB				IAmb	IAmb	15 27 37.7	
	comp=Z,13nm,1.5s						
J05D	**Fort Rock, OR**	**87.97**	**45**	P	**P**	**15 27 40.8**	**+0.8**
	baz=253						
EDW2	**Edwards Air Fo**	**88.10**	**54**	P	**P**	**15 27 41.7**	**+1.0**
	baz=255						
PINE	**Pine Mountain**	**88.32**	**45**	P	**P**	**15 27 40.0**	**-1.7**
PINE				IAmb	IAmb	15 27 49.8	
	comp=Z,13nm,1.4s						
NVAR	**Mina Array Bea**	**88.77**	**51**	P	**P**	**15 27 43.9**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=232,slow=7.8,SNR=13						
NVAR				LR	LR	16 02 16.5	
	comp=Z,1μm,19.1s,baz=278,slow=32						
NV11	**Mina Array Sit**	**88.88**	**51**	P	**P**	**15 27 42.8**	**-1.7**
NV11				IAmb	IAmb	15 28 05.3	
	comp=Z,11nm,1.5s						
MONP2	**Monument Peak**	**88.89**	**56**	P	**P**	**15 27 45.9**	**+1.2**
	baz=256						
EPYK	**Eagle Plains**	**89.01**	**21**	P	**P**	**15 27 45.8**	**+1.6**
	baz=239						
EPYK	**Eagle Plains**	**89.01**	**21**	P	**P**	**15 27 43.1**	**-1.2**
KVN	**Kaiserville**	**89.08**	**50**	P	**P**	**15 27 43.3**	**-2.1**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KVN	**Kaiserville**	**89.08**	**50**	P	**P**	**15 27 43.3**	**-2.1**
BELC	**Belle Mtn. Jos**	**89.49**	**55**	P	**P**	**15 27 46.9**	**-0.5**
	baz=256						
TPNV	**Topopah Spring**	**89.98**	**52**	P	**P**	**15 27 49.4**	**-0.2**
	baz=256						
SHPR	**Sheep Range**	**90.73**	**53**	P	**P**	**15 27 50.6**	**-2.6**
SHPR				IAmb	IAmb	15 28 19.8	
	comp=Z,11nm,1.4s						
SYO	**Syowa Base**	**90.77**	**198**	‖ *e*pP	pP	15 28 01.5	-1.7
BELA	**Belgrano 2**	**90.80**	**177**	P	**P**	**15 27 51.8**	**-0.7**
R11A	**Troy Canyon, C**	**90.82**	**51**	P	**P**	**15 27 53.8**	**+0.3**
	baz=257						
R11A	**Troy Canyon, C**	**90.82**	**51**	P	**P**	**15 27 51.6**	**-2.0**
MKAR	**Makanchi Array**	**91.00**	**317**	P	**P**	**15 27 51.8**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=95,slow=7.4,SNR=7.2						
MKAR				LR	LR	16 09 33.9	
	comp=Z,463nm,20.4s,baz=86,slow=36						
MKAR	**Makanchi Array**	**91.00**	**317**	P	**P**	**15 27 52.3**	**-1.7**
MKAR	**Makanchi Array**	**91.00**	**317**	P	**P**	**15 27 52.3**	**-1.7**
PRN	**Pahroc Range**	**91.02**	**52**	P	**P**	**15 27 52.5**	**-1.9**
PRN				IAmb	IAmb	15 28 17.2	
	comp=Z,11nm,1.0s						
BMO	**Blue Mountains**	**91.11**	**45**	P	**P**	**15 27 52.0**	**-2.7**
BMO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BMO	**Blue Mountains**	**91.11**	**45**	P	**P**	**15 27 52.0**	**-2.7**
BMO				IAmb	IAmb	15 28 17.7	
	comp=Z,5.7nm,1.0s						
ZALV	**Zalesovo Beam**	**91.39**	**325**	LR	LR	16 06 49.9	
	comp=Z,292nm,21.9s,baz=96,slow=34						
PSUT	**Pine Spring**	**92.19**	**51**	P	**P**	**15 27 58.2**	**-1.7**
NRIK	**Noril'sk**	**94.80**	**340**	LR	LR	16 09 34.7	
	comp=Z,624nm,21.4s,baz=120,slow=35						
PDAR	**Pinedale Array**	**96.18**	**48**	P	**P**	**15 28 17.6**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=160,slow=6.5,SNR=7.7						
PDAR				LR	LR	16 05 51.6	
	comp=Z,560nm,20.4s,baz=285,slow=32						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**15 28 19.1**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=267,slow=3.9,SNR=4.1						
YKA				LR	LR	16 09 56.9	
	comp=Z,717nm,18.1s,baz=0.0,slow=34						
SNAA	**Sanae**	**96.92**	**185**	P	**P**	**15 28 23.1**	**+2.3**
SNAA	**Sanae**	**96.92**	**185**	P	**P**	**15 28 21.1**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SNAA	**Sanae**	**96.92**	**185**	P	**P**	**15 28 21.1**	**+0.3**
SNAA				IAmb	IAmb	15 28 27.4	
	comp=Z,4.8nm,1.1s						
ANMO	**Albuquerque**	**97.41**	**56**	LR	LR	16 06 15.4	
	comp=Z,40nm,19.7s,baz=102,slow=32						
VNA3	**Neumayer Olymp**	**97.78**	**183**	P	**P**	**15 28 24.3**	**-0.2**
TXAR	**Lajitas Array**	**98.99**	**62**	LR	LR	16 07 58.4	
	comp=Z,764nm,18.7s,baz=0.0,slow=32						
ARCES	**ARCESS Array B**	**115.33**	**344**	PKP	**PKiKP**	**15 33 28.2**	**-2.5**
	comp=Z,1.3nm,0.6s,baz=48,slow=1.8,SNR=6.5						
KIV	**Kislovodsk**	**118.59**	**314**	*i* PKIKP	**PKPdf**	**15 33 35.3**	**-2.6**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIV				MLR	MLR		
	comp=Z,848nm,22.0s						
FINES	**FINESS Array B**	**120.34**	**337**	PKP	**PKPdf**	**15 33 38.6**	**-1.9**
	comp=Z,2.4nm,1.0s,baz=358,slow=34,SNR=1.7						
ANN	**Anapa**	**122.01**	**316**	*i* PKIKP	**PKiKP**	**15 33 51.7**	**+7.3**
ANN				pmax	pmax		
	comp=Z,78nm,1.3s						
ANN				MLR	MLR		
	comp=Z,516nm,23.0s						
BOSA	**Boshof**	**122.62**	**226**	PKP	**PKPdf**	**15 33 44.4**	**-1.8**
	comp=Z,6.8nm,0.6s,baz=134,slow=2.6,SNR=15						
LPAZ	**La Paz**	**123.44**	**118**	PKP	**PKPdf**	**15 33 48.3**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=215,slow=2.9,SNR=3.5						
KMBO	**Kilima Mbogo**	**123.82**	**261**	PKP	**PKiKP**	**15 33 50.6**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=70,slow=3.3,SNR=3.1						
LBTB	**Lobatse**	**124.48**	**229**	PKP	**PKPdf**	**15 33 49.5**	**-0.3**
	comp=Z,5.3nm,0.6s,baz=188,slow=1.7,SNR=8.8						
MATP	**Matopo**	**124.67**	**236**	PKP	**PKPdf**	**15 33 49.7**	**-0.6**
	comp=Z,6.3nm,1.0s,baz=143,slow=3.8,SNR=7.7						
AKASG	**Malin Array Be**	**124.78**	**325**	PKP	**PKPdf**	**15 33 48.8**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=65,slow=1.9,SNR=11						
AKASG	**Malin Array Be**	**124.78**	**325**	*c i* PKIKP	**PKiKP**	**15 33 50.2**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**124.78**	**325**		**PKPdf**	**15 33 49.1**	**-0.2**
NOA	**NORSAR Array B**	**125.63**	**343**	PKP	**PKPdf**	**15 33 49.5**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=36,slow=2.0,SNR=3.8						
BRTR	**Keskin Array B**	**126.22**	**311**	PKP	**PKPdf**	**15 33 52.4**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=151,slow=2.8,SNR=6.5						
BRTR	**Keskin Array B**	**126.22**	**311**	*c i* PKIKP	**PKPdf**	**15 33 52.7**	**0.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CPUP	**Villa Florida**	**126.70**	**135**	PKP	**PKPdf**	**15 33 53.9**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=320,slow=9.3,SNR=3.3						
LSZ	**Lusaka**	**127.38**	**241**	PKP	**PKiKP**	**15 33 56.0**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=64,slow=1.7,SNR=5.3						
LSZ	**Lusaka**	**127.38**	**241**	PKIKP	**PKiKP**	**15 33 57.3**	**+1.2**
LSZ	**Lusaka**	**127.38**	**241**		**PKiKP**	**15 33 57.3**	**+1.2**
OSTC	**Ostas**	**131.60**	**331**	AMS	AMS	16 33 30.0	
	comp=Z,600nm,18.6s						
VYHS	**Vyhne**	**131.64**	**328**	*e*PKIKP	**PKPdf**	**15 34 02.7**	**+0.1**
VYHS	**Vyhne**	**131.64**	**328**	*e*PKP	**PKPdf**	**15 34 02.7**	**+0.1**
KRLC	**Kraliky**	**131.66**	**331**	AMS	AMS	16 29 40.0	
	comp=Z,600nm,22.2s						
CHVC	**Chvalec**	**131.66**	**332**	AMS	AMS	16 33 30.0	
	comp=Z,600nm,19.2s						
DPC	**Dobruska-Polom**	**131.69**	**331**	AMS	AMS	16 36 30.0	
	comp=Z,400nm,15.3s						
UPC	**Upice**	**131.73**	**331**	AMS	AMS	16 33 30.0	
	comp=Z,600nm,20.3s						
PVCC	**Panska Ves**	**132.38**	**332**	AMS	AMS	16 33 40.0	
	comp=Z,600nm,15.2s						
BRG	**Berggiesshubel**	**132.42**	**333**	*e*PKP	**PKiKP**	**15 34 04.7**	**-0.4**
	comp=Z,4.0nm,1.1s						
BRG				SKP		15 37 32.5	
	comp=Z,6.7nm,1.1s						
CLL	**Collm**	**132.52**	**334**	*i* (PKiKP)		15 34 06.9	
CLL				*e*PP	PP	15 36 29.0	+1.6
CLL				*e*SKPbc	**SKPbc**	**15 37 28.0**	**-0.4**
CLL				*e*PSKS		15 46 30.0	
CLL				*e*PPS	PPS	15 48 18.0	
CLL				*e*PPPrev		15 50 11.0	
CLL				*e*SS	**SS**	**15 54 12.0**	**+7.9**
CLL				*e*SSS	SSS	15 59 18.0	
CLL				Lm	MLR	16 34 00.0	
	comp=N,500nm,21.2s						
CLL				Lm	MLR	16 34 00.0	
	comp=E,400nm,21.5s						
CLL				Lm	MLR	16 34 00.0	
	comp=Z,700nm,20.3s						
GOPC	**GO Pecny, Ondr**	**132.71**	**332**	AMS	AMS	16 34 20.0	
	comp=Z,600nm,17.4s						
PRA	**Prague**	**132.77**	**332**	AMS	AMS	16 33 50.0	
	comp=Z,300nm,20.0s						
PRU	**Pruhonice**	**132.78**	**332**	AMS	AMS	16 34 00.0	
	comp=Z,700nm,22.0s						
TREC	**Trest**	**132.80**	**331**	AMS	AMS	16 30 00.0	
	comp=Z,600nm,23.1s						
NKC	**Novy Kostel**	**133.55**	**333**	AMS	AMS	16 34 50.0	
	comp=Z,600nm,19.1s						
KHC	**Kasperske Hory**	**133.82**	**332**	*e*SKP	**SKPab**	**15 37 34.8**	**-0.7**
KHC				AMS	AMS	16 35 00.0	
	comp=Z,700nm,18.2s						
TSUM	**Tsumeb**	**133.89**	**230**	PKP	**PKPdf**	**15 34 07.7**	**-0.2**
	comp=Z,5.1nm,1.0s,baz=128,slow=4.6,SNR=5.7						
TSUM	**Tsumeb**	**133.89**	**230**	PKPdf	**PKPdf**	**15 34 06.3**	**-1.6**
GERES	**GERESS Array B**	**133.97**	**331**	PKP	**PKPdf**	**15 34 07.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=198,slow=1.3,SNR=5.6						
FUORN	**Ofenpass-Fuorn**	**137.18**	**331**	PKPdf	**PKPdf**	**15 34 12.4**	**-0.9**
KEST	**Kesra**	**145.08**	**319**	PKPbc	**PKPbc**	**15 34 26.8**	**-0.3**
	comp=Z,8.2nm,1.0s,baz=108,slow=1.5,SNR=4.9						
PGAV	**Gavieira, Arco**	**147.99**	**346**	*e*PKP	**PKPab**	**15 34 38.6**	**+0.5**
PGAV	**Gavieira, Arco**	**147.99**	**346**	*e*LR	LR	16 31 21.3	
	comp=Z,458nm,20.0s						
MVO	**Moncorvo**	**148.43**	**344**	*e*PKP	**PKPbc**	**15 34 35.3**	**-1.3**
MVO	**Moncorvo**	**148.43**	**344**	*e*LR	LR	16 29 34.2	
	comp=Z,382nm,18.0s						
PVRL	**Vila Real**	**148.50**	**345**	*e*PKP	**PKiKP**	**15 34 38.3**	**0.0**
ESDC	**Sonseca Array**	**148.84**	**339**	PKPbc	**PKPbc**	**15 34 36.8**	**-0.9**
	comp=Z,2.6nm,1.0s,baz=2.3,slow=2.7,SNR=10.0						
ESDC	**Sonseca Array**	**148.84**	**339**	PKPbc	**PKPbc**	**15 34 36.9**	**-0.8**
PVIS	**Viseu**	**149.08**	**345**	*e*PKP	**PKiKP**	**15 34 39.0**	**-0.5**
MTE	**Manteigas**	**149.28**	**344**	*e*PKP	**PKPbc**	**15 34 39.1**	**+0.3**
MTE	**Manteigas**	**149.28**	**344**	*e*LR	LR	16 37 19.5	
	comp=Z,381nm,20.0s						
PCBR	**Castelo Branco**	**149.79**	**344**	*e*PKP	**PKiKP**	**15 34 41.2**	**+0.3**
PMRV	**Marv??o**	**150.15**	**343**	*e*PKP	**PKiKP**	**15 34 42.6**	**+0.9**
PMRV	**Marv??o**	**150.15**	**343**	*e*LR	LR	16 37 20.9	
	comp=Z,430nm,20.0s						
EVO	**Evora**	**151.16**	**344**	*e*PKP	**PKiKP**	**15 34 44.9**	**+1.1**
PBEJ	**Beja**	**151.59**	**343**	*e*PKP	**PKiKP**	**15 34 46.1**	**+1.4**
PNCL	**Nicolau / Gran**	**151.69**	**344**	*e*PKP	**PKiKP**	**15 34 46.1**	**+1.2**
PCVE	**Castro Verde**	**152.00**	**343**	*e*PKP	**PKiKP**	**15 34 47.4**	**+1.8**
PVAQ	**Vaqueiros**	**152.12**	**342**	*e*LR	LR	16 34 18.1	
	comp=Z,391nm,20.0s						
TORD	**Torodi Ar. Bea**	**160.67**	**278**	PKP	**PKPdf**	**15 34 48.4**	**-2.2**
	comp=Z,4.3nm,1.0s,baz=23,slow=1.2,SNR=8.4						
TORD				PKPab	**PKPab**	**15 35 32.9**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=90,slow=3.4,SNR=1.5						

*TEH **03** 15:24:27.3, 32°.70N×47°.46E, h17km, ML3.2*
*ISN **03** 15:24:28.5±0.8, 32°.68N×47°.48E, h29km±5km, ML3.5*
ISC 03 15:24:28.2±1.1, 32°.66N±0°.05×47°.48E±0°.04, h9km±8km, n26, σ0s94/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.17**	**278**	*e*Pg	**Pg**	**15 24 30.7**	**-1.1**
DHL1				*e*Sg	**Sg**	**15 24 34.9**	**+0.6**
IKMR	**Kamar-syah**	**1.14**	**41**	*e*Pg	**Pn**	**15 24 47.9**	**-2.5**
IKMR				*e*		15 25 13.9	
IDOB	**Doab**	**1.27**	**27**	*e*Pg	**Pn**	**15 24 50.9**	**-1.4**
IBDR	**Badra**	**1.38**	**290**	*e*Pg	**Pn**	**15 24 53.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**15 25 12.0**	**+0.2**
IBDR				AML	AML	15 25 17.5	
	comp=N,993nm,0.4s						
IBDR				AML	AML	15 25 17.7	
	comp=E,820nm,0.8s						
IKOM	**Komasi**	**1.51**	**1**	*e*Pg	**Pn**	**15 24 55.8**	**+0.2**
IKOM				*e*		15 24 58.8	
BMDN	**Meydan**	**1.52**	**48**	*e*Pg	**Pn**	**15 24 55.1**	**-0.6**
BMDN				*e*		15 25 27.0	
KCHF	**Cheshme Sefid,**	**1.65**	**347**	*e*Pg	**Pn**	**15 24 57.8**	**+0.2**
KCHF				*e*		15 25 22.8	
AHWZ	**Ahwaz**	**1.66**	**143**	*e*Pg	**Pb**	**15 24 59.7**	**+0.9**
AHWZ				*e*Sg	**Sg**	**15 25 22.9**	**+1.5**
KER	**Kermanshah**	**1.75**	**351**	*e*Pg	**Pn**	**15 24 59.9**	**+1.1**
HSAM	**Samen**	**1.81**	**31**	*e*Pg	**Pn**	**15 25 00.4**	**+0.6**
HSAM				*e*		15 25 29.3	
IGHG	**Ghaleghazi**	**1.83**	**336**	*e*Pg	**Pn**	**15 25 00.2**	**+0.1**
IGHG				*e*		15 25 41.5	
IBZA	**Bozab**	**1.83**	**10**	*e*Pg	**Pn**	**15 25 00.5**	**+0.3**
IBZA				*e*		15 25 31.0	
IVIS	**Veis**	**1.94**	**344**	*e*Pn	**Pn**	**15 25 02.3**	**+0.9**
IVIS				*e*		15 25 33.4	
NSR	**Nassriya**	**2.00**	**215**	*e*Pn	**Pn**	**15 25 02.0**	**-0.1**
NSR				*e*Sn	**Sn**	**15 25 26.0**	**-1.2**
IDHR	**Dehrash**	**2.23**	**336**	*e*		15 25 43.5	
IDHR				*e*Pn	**Pn**	**15 25 06.0**	**+0.5**
IALM	**Almabolaq**	**2.27**	**14**	*e*Pn	**Pn**	**15 25 06.8**	**+0.6**
ILIN	**Lien**	**2.29**	**349**	*e*Pn	**Pn**	**15 25 07.0**	**+0.5**
ILIN				*e*		15 26 01.6	
HAGD	**Aghdareh**	**2.56**	**32**	*e*Pn	**Pn**	**15 25 10.6**	**+0.4**
HAGD				*e*		15 25 52.1	
HSRG	**Sareghieh**	**2.66**	**14**	*e*Pn	**Pn**	**15 25 13.1**	**+1.6**
HSRG				*e*		15 25 53.4	
BHD	**Baghdad**	**2.67**	**284**	*e*Pn	**Pn**	**15 25 12.0**	**+0.6**
BHD				*e*Sn	**Sn**	**15 25 43.0**	**-0.9**
JHBN	**Jahan bin**	**2.73**	**98**	*e*Pn	**Pn**	**15 25 12.6**	**+0.1**
IPIR	**Pirpir**	**2.88**	**89**	*e*Pn	**Pn**	**15 25 14.7**	**+0.1**
IRAZ	**Razeghan**	**3.41**	**36**	*e*Pn	**Pn**	**15 25 20.7**	**-1.1**
QABG	**Abgarm-Qazvin**	**3.51**	**29**	*e*Pn	**Pn**	**15 25 23.7**	**+0.6**
QSDN	**Sirdan**	**4.08**	**20**	*e*Pn	**Pn**	**15 25 31.3**	**+0.3**
QALM	**Alamut, Qazvin**	**4.58**	**34**	*e*Pn	**Pn**	**15 25 38.2**	**+0.3**

JMA 03 15:34:41.6±0.2, 25°.12N×122°.60E, h158km±3km, M1.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.74**	**155**	P	Pn	15 35 05.4	+0.2
JYNG				*e*S	Sn	15 35 23.9	+0.7
YOJ	**Yonaguni jima**	**0.75**	**150**	P	Pn	15 35 05.7	+0.4
YOJ				*e*S	Sn	15 35 23.5	+0.1
IRIF	**Iriomote-Funau**	**1.29**	**127**	P	Pn	15 35 09.8	+0.1
IRIF				*e*S	Sn	15 35 30.7	-0.5
HATJ	**Hateruma jima**	**1.52**	**134**	P	Pn	15 35 12.7	+0.7
JKRS	**Kuro-shima**	**1.55**	**124**	P	Pn	15 35 12.3	0.0
JKRS				S	Sn	15 35 36.2	+0.3
JIJ	**Ishigaki jima**	**1.59**	**118**	P	Pn	15 35 12.9	+0.2
JIJ				S	Sn	15 35 36.5	-0.1
JISG	**Ishigakijimahi**	**1.64**	**108**	P	Pn	15 35 13.4	+0.2
JISG				S	Sn	15 35 37.2	-0.3
JTJ	**Tarama**	**1.97**	**104**	P	Pn	15 35 17.3	+0.5
JTJ				*e*S	Sn	15 35 44.1	+0.2
JIRB	**Irabujima**	**2.35**	**97**	P	Pn	15 35 22.0	+0.7
JIRB				*e*S	Sn	15 35 52.0	0.0

TAP 03 15:35:23.8, 24°.61N×121°.44E, h16km±1km, ML0.6, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDT	**Datong Townshi**	**0.07**	**99**	S	Sg	15 35 30.1	+1.1
	baz=98						
YHNB	**Yeheng**	**0.08**	**314**	*e*S	Sg	15 35 29.9	+0.6
	baz=314						
NSK	**Sanguang**	**0.10**	**310**	S	Sg	15 35 30.3	+0.8
	baz=312						
ENTT	**Nioudou**	**0.12**	**77**	*e*S	Sg	15 35 30.0	+0.1
	baz=78						
NWLT	**Wulai**	**0.17**	**19**	*e*P	Pg	15 35 28.4	+0.2
	baz=19						
NWLT				*e*S	Sg	15 35 31.4	+0.3
	baz=19						
NNS	**Nan Shan**	**0.18**	**199**	*e*P	Pb	15 35 29.4	+0.5
	baz=196						
NNS				S	Sb	15 35 32.6	+0.3
	baz=196						
NNSB	**Datong**	**0.19**	**196**	*e*P	Pb	15 35 30.0	+0.9
	baz=195						
NNSB				*e*S	Sb	15 35 32.3	-0.2
	baz=195						
NNSH	**Datong**	**0.19**	**196**	*e*P	Pb	15 35 29.0	0.0
	baz=195						
NNSH				S	Sb	15 35 32.3	-0.2
	baz=195						
LIOB	**Emei**	**0.39**	**275**	*e*P	Pb	15 35 32.5	+0.2
	baz=275						
ETLH	**Xiulin Townshi**	**0.41**	**174**	*e*P	Pb	15 35 32.6	-0.1
	baz=174						
TDCB	**Techi**	**0.44**	**216**	*e*P	Pb	15 35 33.5	+0.2
	baz=215						

DJA 03 16:09:45.3±0.4, 3°.5S±3°.3×10°.3E±°, h219km±4km, M3.7/18, mB4.6/1, mb3.9/6, MLv3.6/18, Mw(mB)3.9/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.73**	**248**	P	Pn	16 10 17.2	+1.6
MASI				S	S	16 10 41.7	+2.5
KSI	**Kapahiang**	**0.85**	**203**	P	Pn	16 10 17.1	+0.8
KSI				S	S	16 10 42.3	+1.8
LHSI	**Lahat**	**1.13**	**148**	P	Pn	16 10 18.6	+0.7
LHSI				S	S	16 10 43.7	+0.4
MNAI	**Manna**	**1.49**	**179**	P	Pn	16 10 21.4	+0.7
MNAI				S	S	16 10 48.4	+0.2
KRJI	**Kerinci**	**1.65**	**298**	P	Pn	16 10 22.6	+0.5
KRJI				S	S	16 10 53.6	+3.0
MDSI	**Maura Dua**	**2.05**	**142**	P	Pn	16 10 26.2	+0.5
MDSI				S	S	16 10 56.8	-0.3
LWLI	**Liwa**	**2.43**	**152**	P	Pn	16 10 29.6	-0.2
SDSI	**Sungai Dareh**	**2.43**	**322**	P	Pn	16 10 30.1	+0.5
KLSI		**2.56**	**135**	P	Pn	16 10 31.7	+0.6
PPSI	**Pulau Pagai**	**2.91**	**272**	P	Pn	16 10 36.2	+1.3
PPSI				S	S	16 11 12.5	-1.0
PDSI	**Padang**	**3.13**	**308**	P	Pn	16 10 37.8	+0.3
PPBI	**Pangkal Pinang**	**3.29**	**78**	P	Pn	16 10 39.5	+0.2
SISI	**Saibi**	**4.12**	**292**	P	Pn	16 10 47.5	-1.8
MNSI	**Mandailing Nat**	**4.93**	**317**	P	Pn	16 11 00.0	+0.6
GSI	**Gunungsitoli**	**6.76**	**308**	P	Pn	16 11 22.3	-0.3
	0.2nm43nm,0.5s						
TPTI		**8.36**	**317**	P	Pn	16 11 42.0	-1.2
	9.3nm,0.6s						

*IDC **03** 16:24:22.5±5.3, 29°.42S×178°.76W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.4/17, mbtmp3.3/2, Error ellipse: s-maj=259.3km s-min=81.3km az=165.0*
ISC 03 16:25:11.8±2.5, 29°.0S±0°.2×179°.8E±0°.3, h400km, n13, σ1s20/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**8.92**	**190**	P	**P**	**16 27 17.9**	**+0.6**
RUGZ	**Raukumara Rang**	**9.14**	**191**	P	**Pn**	**16 27 20.1**	**+0.2**
PUZ	**Puketiti**	**9.17**	**188**	P	**Pn**	**16 27 20.5**	**+0.4**
KMRZ	**Kaimai**	**9.42**	**199**	P	**P**	**16 27 22.6**	**-0.3**
TOZ	**Tahuroa Road**	**9.45**	**201**	P	**Pn**	**16 27 25.1**	**+1.8**
MWZ	**Matawai**	**9.53**	**191**	P	**P**	**16 27 23.8**	**-0.3**
URZ	**Urewera**	**9.53**	**193**	P	**P**	**16 27 22.2**	**-1.8**
MUGZ	**Murupara**	**9.81**	**194**	P	**P**	**16 27 25.7**	**-1.5**
TLZ	**Tolley Road**	**9.99**	**200**	P	**Pn**	**16 27 30.9**	**+1.3**
**OTVZ

SVKR	**Severomuysk**	**2.58**	**67**	*e*Pg	Pb	16 52 20.8	-0.8
SVKR				*e*		16 52 31.0	
SVKR				*e*Sg	Sb	16 52 54.2	+0.4
SVKR				max			
	43nm,0.2s						
SVKR				Smax			
	392nm,0.5s						
ZRHB	**Zarechye**	**2.92**	**207**	*e*Pg	Pb	16 52 27.9	+0.5
ZRHB				*e*Sg	Sb	16 53 05.4	+1.7
ZRHB				Pmax			
	33nm,0.8s						
ZRHB				Smax			
	340nm,1.3s						
TRG	**Tyrgan**	**2.99**	**217**	*e*Pn	Pn	16 52 23.2	+0.1
TRG				*e*		16 52 30.6	
TRG				*e*		16 52 58.9	
TRG				*e*Sg	Sb	16 53 06.2	+0.6
TRG				max			
	14nm,0.2s						
TRG				Smax			
	120nm,0.4s						
UUDB	**Ulan-Yde**	**3.46**	**197**	*e*Pg	Pb	16 52 35.7	-0.8
UUDB				*e*		16 53 16.1	
UUDB				*e*Sg	Sb	16 53 21.0	+1.9
UUDB				Pmax			
	15nm,0.8s						
UUDB				Smax			
	53nm,0.7s						
FFNB	**Fofonovo**	**3.48**	**207**	*e*	Pn	16 52 16.1	-14
FFNB				*e*		16 53 18.1	
FFNB				*e*Sg	Sb	16 53 21.4	+1.6
STDB	**Stepnoy Dvoret**	**3.48**	**212**	*e*Sg	Sb	16 53 21.2	+1.3
BOD	**Bodaibo**	**3.71**	**42**	*e*	Sn	16 53 07.2	-10
BOD				Sg	Sb	16 53 28.9	+2.6
BOD				Smax			
	68nm,0.7s						
HRMR	**Khuramsha**	**3.82**	**203**	*e*Pn	Pn	16 52 33.5	-1.1
HRMR				*e*Pg	Pb	16 52 43.0	+0.2
HRMR				*e*		16 52 48.5	
HRMR				*e*		16 53 29.0	
HRMR				*e*Sg	Sb	16 53 32.7	+3.1
HRMR				max			
	28nm,0.5s						
HRMR				Smax			
	208nm,0.4s						
BGT	**Bolshoye Golou**	**3.91**	**218**	*e*Pn	Pn	16 52 35.2	-0.5
BGT				*e*Pg	Pb	16 52 43.8	-0.4
BGT				*e*Sg	Sb	16 53 34.9	+2.9
BGT				*e*		16 53 38.4	
BGT				Pmax			
	11nm,0.4s						
BGT				max			
	59nm,0.2s						
CIT	**Chita**	**4.03**	**140**	*e*	Pn	16 52 40.2	+2.7
CIT				*e*Pg	Pb	16 52 46.3	-0.1
CIT				*e*		16 53 00.7	
CIT				*e*		16 53 31.3	
CIT				*e*Sg	Sb	16 53 38.3	+2.6
CIT				*e*		16 53 44.5	
CIT				Pmax			
	38nm,0.4s						
CIT				max			
	129nm,1.1s						
IRK	**Irkutsk**	**4.20**	**228**	*e*	Pg	16 52 58.8	+3.9
IRK				*e*Sg	Sb	16 53 44.5	+4.1
IRK				max			
	33nm,0.2s						
IRK				Smax			
	212nm,0.4s						
LSTR	**Listvyanka**	**4.26**	**221**	*e*Pn	Pn	16 52 41.0	+0.4
LSTR				*e*Pg	Pb	16 52 51.8	+1.6
LSTR				*e*Sg	Sb	16 53 46.5	+4.3
LSTR				Pmax			
	3.0nm,0.3s						
LSTR				Smax			
	41nm,1.0s						
IVK	**Ivanovka**	**4.47**	**223**	*e*Pn	Pn	16 52 42.4	-1.1
IVK				*e*		16 52 44.8	
IVK				*e*Pg	Pb	16 52 53.8	-0.1
IVK				*e*Sn	Sn	16 53 33.5	-2.7
IVK				*e*Sg	Sb	16 53 51.9	+3.6
IVK				*e*		16 53 55.0	
IVK				Pmax			
	6.0nm,0.6s						
IVK				max			
	48nm,0.7s						
TLY	**Talaya**	**4.88**	**227**	*e*	Pn	16 52 45.3	-3.8
TLY				*e*		16 53 03.7	
TLY				*e*Sg	Sg	16 54 05.9	-5.1
TLY				max			
	11nm,0.5s						
TLY				Smax			
	36nm,0.3s						
ARS	**Arshan**	**5.25**	**235**	*e*Pn	Pn	16 52 53.3	-0.9
ARS				*e*		16 53 02.8	
ARS				*e*Pg	Pb	16 53 09.6	+2.5
ARS				*e*Sn	Sn	16 53 51.7	-3.7
ARS				*e*Sg	Sg	16 54 17.2	-5.8
ARS				*e*		16 54 20.7	
ARS				*e*		16 54 23.5	
ARS				Pmax			
	14nm,0.4s						
ARS				max			
	129nm,0.6s						
KPC	**Khapcheranga**	**5.78**	**160**	*e*Pn	Pn	16 53 00.0	-1.6
KPC				*e*		16 53 09.5	
KPC				*e*Pg	Pb	16 53 19.3	+3.1
KPC				*e*Sg	Sg	16 54 34.1	-6.0
KPC				Pmax			
	6.0nm,0.6s						
KPC				Smax			
	42nm,1.2s						
ZAK	**Zakamensk**	**6.04**	**220**	*e*	Pg	16 53 28.0	-2.1
ZAK				*e*Sg	Sb	16 54 40.4	+7.0
ZAK				max			
	3.0nm,0.4s						
ZAK				Smax			
	21nm,1.0s						
MOY	**Mondy**	**6.09**	**238**	*e*	Pn	16 53 08.7	+2.8
MOY				*e*		16 53 38.9	
MOY				*e*		16 54 13.2	
MOY				*e*Sg	Sg	16 54 43.2	-6.9
MOY				max			
	5.0nm,0.5s						
MOY				Smax			
	26nm,1.0s						
TUP	**Tupik**	**6.19**	**93**	*e*	Pg	16 53 41.7	+8.7
TUP				*e*		16 54 31.4	
TUP				*e*Sg	Sg	16 54 46.6	-6.6
TUP				*e*		16 54 48.9	
TUP				max			
	32nm,0.6s						
TUP				max			
	386nm,0.9s						
ORL	**Orlik**	**6.22**	**249**	*e*Pn	Pn	16 53 08.0	+0.4
ORL				*e*		16 53 14.3	
ORL				*e*		16 54 16.4	
ORL				*e*		16 54 19.8	
ORL				*e*Sg	Sg	16 54 48.0	-6.1
ORL				max			
	4.0nm,1.0s						
ORL				Smax			
	42nm,1.2s						
TDJR	**Todzha**	**8.31**	**256**	*e*Sg	Sg	16 55 51.2	-10
TDJR				*e*		16 55 54.3	
KNGR	**Kungurtug, Tuv**	**8.48**	**242**	*e*		16 55 46.4	
KNGR				*e*Sg	Sg	16 55 57.7	-8.8
ARDR	**Aradan**	**9.74**	**261**	*e*		16 56 33.0	
ARDR				*e*Sg	Sn	16 56 36.1	+50

IDC 03 16:52:14.2±2.7, 29°.81N×139°.00E, h398km±100km, mb2.5/2, mb1 2.8/5, mb1mx2.5/42, mbtmp3.6/5, Error ellipse: s-maj=260.6km s-min=19.5km az=70.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.37**	**11**	P	Pn	16 53 21.6	+1.3
	9.3nm,0.3s,baz=58,slow=23,SNR=1.0						
JCJ	**Chichijima**	**3.89**	**133**	P	Pn	16 53 25.1	-0.1
	3.0nm,0.3s,baz=285,slow=20,SNR=20						
JCJ				S	S	16 54 22.8	+0.1
	12nm,0.3s,baz=304,slow=22,SNR=18						
USRK	**Ussuriysk Ar.**	**15.41**	**341**	P	P	16 55 29.2	-1.8
	baz=129,slow=11,SNR=1.7						
WRA	**Warrumunga Arr**	**49.66**	**186**	P	P	17 00 27.6	0.0
	0.1nm,0.3s,baz=4.7,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**53.39**	**186**	P	P	17 00 54.8	0.0
	0.2nm,0.3s,baz=360,slow=6.2,SNR=13						

YARS 03 16:52:36.0±0.0, 58°.62N×121°.12E, h11km, ML3.6/13, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLMR	**Olekminsk**	**1.79**	**349**	*e*Pn	Pb	16 53 08.4	-0.3
	2.3nm,0.2s,baz=350						
OLMR				*i* Pg	Pg	16 53 09.6	-0.7
	116nm,0.2s,baz=350						
OLMR				*e*Sg	Sg	16 53 33.3	-0.2
	2μm,0.2s,baz=350						
OLMR				*i* Sg	Sb	16 53 33.5	+2.3
	2μm,0.2s,baz=350						
KHN	**Khani**	**1.85**	**203**	*e*Pg	Pb	16 53 09.8	0.0
	324nm,0.2s,baz=200						
KHN				*i* Sn	Sn	16 53 31.6	+0.6
	baz=200						
KHN				*i* Sg	Sb	16 53 33.3	+0.4
	4μm,0.2s,baz=200						
KHN				*i* Sg	Sb	16 53 33.3	+0.4
	8μm,0.1s,baz=200						
YKLR	**Yuktali**	**2.06**	**172**	*i* Pg	Pb	16 53 13.3	0.0
	218nm,0.3s,baz=171						
YKLR				*i* Sg	Sb	16 53 40.1	+1.3
	777nm,0.2s,baz=171						
ALDR	**Aldan**	**2.24**	**88**	*i* Pn	Pn	16 53 13.9	+0.9
	0.9nm,0.1s,baz=88						
ALDR				*i* Pg	Pb	16 53 16.1	-0.4
	45nm,0.1s,baz=88						
ALDR				*i* Sn	Sn	16 53 41.5	+0.8
	baz=88						
ALDR				*i* Sg	Sg	16 53 46.2	-1.8
	4μm,0.2s,baz=88						
ALDR				*i* Sg	Sg	16 53 46.2	-1.8
	1μm,0.2s,baz=88						
CRS	**Chara**	**2.31**	**223**	*e*Pn	Pn	16 53 15.5	+1.6
	baz=223						
CRS				*e*Pg	Pb	16 53 18.2	+0.7
	186nm,0.5s,baz=223						
CRS				*e*Sn	Sn	16 53 44.0	+1.7
	354nm,0.7s,baz=223						
CLNS	**Chul'man**	**2.70**	**130**	*i* Pn	Pn	16 53 20.7	+1.4
	2.5nm,0.2s,baz=130						
CLNS				*i* Pg	Pb	16 53 23.1	-1.1
	74nm,0.2s,baz=130						
CLNS				*e*Sg	Sg	16 54 00.2	-2.4
	323nm,0.3s,baz=130						
CLNS				*e*Sg	Sg	16 54 00.2	-2.4
	308nm,0.3s,baz=130						
TNDR	**Tynda**	**4.00**	**149**	*i* Pn	Pn	16 53 37.8	+0.6
	24nm,0.2s,baz=149						
TNDR				*i* Pg	Pb	16 53 48.2	+1.7
	141nm,0.5s,baz=149						
TNDR				*i* Sn	Sn	16 54 24.2	+0.2
	22nm,0.2s,baz=149						
TNDR				*i* Sg	Sg	16 54 40.8	-3.6
	104nm,0.2s,baz=149						
TNDR				*i* Sg	Sg	16 54 40.8	-3.6
	140nm,0.2s,baz=149						
TUP	**Tupik**	**4.26**	**189**	*e*Pn	Pn	16 53 42.3	+1.6
	baz=189						
TUP				*e*Pg	Pb	16 53 52.5	+1.7
	32nm,0.6s,baz=189						
TUP				*e*Sn	Sn	16 54 29.9	-0.4
	baz=189						
TUP				*e*Sg	Sb	16 54 45.8	+3.7
	390nm,0.8s,baz=189						
VTMR	**Vitim**	**4.50**	**284**	Sg	Pb	16 53 58.0	+3.0
VTMR	**Vitim**	**4.50**	**284**	*i* Pn	Pn	16 53 45.4	+1.4
	81nm,0.2s,baz=284						
VTMR				*i* Pg	Pb	16 53 57.9	+2.9
	117nm,0.2s,baz=284						
VTMR				*i* Sn	Sn	16 54 37.5	+1.2
	203nm,0.2s,baz=284						
VTMR				*i* Sg	Sg	16 54 57.8	-2.7
	1μm,0.4s,baz=284						
BLSR	**Buluus**	**4.83**	**52**	*e*Pn	Pn	16 53 50.0	+1.5
	72nm,0.1s,baz=52						
BLSR				*i* Pg	Pb	16 54 02.9	+2.5
	586nm,0.3s,baz=52						
BLSR				*e*Sn	Sn	16 54 44.2	-0.1
	197nm,0.2s,baz=52						
BLSR				*e*Sg	Sg	16 55 05.1	-5.7
	1μm,0.4s,baz=52						
CGD	**Chagda**	**4.96**	**84**	*e*Pn	Pn	16 53 53.1	+2.9
	7.9nm,0.2s,baz=84						
CGD				*i* Sn	Sn	16 54 47.5	+0.1
	142nm,0.3s,baz=84						
CGD				*i* Sg	Sg	16 55 10.4	-4.5
	827nm,0.4s,baz=84						
CGD				*i* Sg	Sg	16 55 10.4	-4.5
	447nm,0.3s,baz=84						
KROS	**Kirovskiy**	**5.30**	**140**	*e*Pn	Pn	16 53 57.1	+2.1
	5.0nm,0.2s,baz=140						
KROS				*i* Sn	Sn	16 54 56.2	+0.2
	baz=140						
KROS				*i* Sg	Sg	16 55 21.3	-4.7
	170nm,0.3s,baz=140						
TBGR	**Tabaga**	**5.32**	**49**	*e*Pn	Pn	16 53 56.6	+1.4
	124nm,0.2s,baz=49						
TBGR				*i* Pg	Pb	16 54 12.1	+3.3
	763nm,0.5s,baz=49						
TBGR				*i* Sn	Sn	16 54 56.7	+0.3
	285nm,0.2s,baz=49						
TBGR				*i* Sg	Sg	16 55 22.2	-4.3
	3μm,0.6s,baz=49						
YAK	**Yakutsk**	**5.46**	**48**	*e*Pn	Pn	16 53 57.2	+0.1
	6.4nm,0.4s,baz=48						
YAK				*e*Pg	Pb	16 54 14.9	+3.8
	64nm,0.5s,baz=48						
YAK				*i* Sn	Sn	16 55 00.1	+0.3
	39nm,0.6s,baz=48						
YAK				*i* Sg	Sg	16 55 26.5	-4.4
	144nm,0.4s,baz=48						
YAK				*i* Sg	Sg	16 55 26.5	-4.4
	204nm,0.6s,baz=48						
BMKR	**Bomnak**	**5.79**	**129**	*i* Pn	Pn	16 54 03.5	+1.8
	24nm,0.2s,baz=129						
BMKR				*i* Pg	Pb	16 54 21.1	+4.4
	26nm,0.2s,baz=129						
BMKR				*i* Sn	Sn	16 55 08.8	+0.9
	41nm,0.2s,baz=129						
BMKR				*i* Sg	Sg	16 55 37.2	-4.2
	86nm,0.4s,baz=129						
YCRN	**Chernyshevskiy**	**6.11**	**320**	*i* Pn	Pn	16 54 06.0	0.0
	3.2nm,0.1s,baz=320						
YCRN				*i* Pg	Pb	16 54 25.6	+3.4
	20nm,1.0s,baz=320						
YCRN				*e*Sn	Sn	16 55 12.3	-3.4
	36nm,0.8s,baz=320						
YCRN				*e*Sg	Sg	16 55 46.7	-5.0
	78nm,1.0s,baz=320						
YCRN				*e*Sg	Sg	16 55 46.7	-5.0
	57nm,0.8s,baz=320						

*IDC **03** 17:12:50.3±0.9, 14°.88N×119°.58E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/37, mbtmp3.7/7, MS3.0/2, Ms1 3.1/2, ms1mx2.6/43, Error ellipse: s-maj=33.9km s-min=15.4km az=50.0*
*MAN **03** 17:12:53.9, 15°.06N×119°.90E, h1km, mb4.9, ML3.8, MS3.8*
*NEIC **03** 17:12:57.4±1.9, 14°.8N±0°.2×119°.6E±0°.1, h60km±5km, mb4.3/9, Error ellipse: s-maj=25.6km s-min=12.8km az=217.0*

ISC 03 17:12:55.9±0.8, 15°.0N±0°.1×119°.6E±0°.1, h39km, n24, σ2s11/25, mb4.0/10, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.58**	**123**	Pn	**Pn**	**17 13 20.8**	**-0.6**
	182nm,0.3s,baz=299,slow=3.6,SNR=17						
TGY				Sn	**Sn**	**17 13 42.1**	**+1.5**
	218nm,0.3s,baz=316,slow=16,SNR=6.9						
PGP	**Puerto Galera**	**1.98**	**137**	*e*P	**Pn**	**17 13 27.0**	**+0.1**
PGP				*i* S	**Sn**	**17 13 55.7**	**+5.2**
DAV	**Davao City (W)**	**9.81**	**142**	LR	LR	17 19 50.9	
	comp=Z,108nm,18.9s,baz=340,slow=43						
CMAR	**Chiang Mai Arr**	**20.06**	**283**	P	**P**	**17 17 27.1**	**+1.1**
	0.2nm,0.3s,baz=93,slow=8.1,SNR=2.1						
CMAR				LR	LR	17 25 06.4	
	comp=Z,27nm,18.7s,baz=305,slow=37						
WB0	**Warramunga Arr**	**37.47**	**157**	P	**P**	**17 20 03.2**	**-2.7**
WB0				IAmb	IAmb	17 20 04.7	
	comp=Z,4.1nm,1.1s						
WRAB	**Tennant Creek**	**37.60**	**157**	P	**P**	**17 20 03.7**	**-3.4**
WRAB				IAmb	IAmb	17 20 11.6	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**37.61**	**157**	P	**P**	**17 20 05.2**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=330,slow=10.0,SNR=27						
WRA	**Warramunga Arr**	**37.61**	**157**	P	**P**	**17 20 03.2**	**-3.9**
WB2	**Warramunga Arr**	**37.61**	**157**	P	**P**	**17 20 05.2**	**-2.0**
WR0	**Warramunga Arr**	**37.70**	**157**	P	**P**	**17 20 05.7**	**-2.1**
AS31	**Alice Springs**	**40.87**	**160**	P	**P**	**17 20 31.4**	**-2.9**
ASAR	**Alice Springs**	**40.88**	**160**	P	**P**	**17 20 33.2**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=335,slow=6.9,SNR=52						
ASAR	**Alice Springs**	**40.88**	**160**	P	**P**	**17 20 32.8**	**-1.5**
MKAR	**Makanchi Array**	**44.37**	**323**	P	**P**	**17 21 04.3**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=112,slow=12,SNR=1.9						
PETK	**Petropavlovsk-**	**48.46**	**30**	P	**P**	**17 21 33.9**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=192,slow=1.4,SNR=3.6						
PETK	**Petropavlovsk-**	**48.46**	**30**	P	**P**	**17 21 34.2**	**-0.2**
TTA	**Tatalina**	**74.26**	**28**	P	**P**	**17 24 28.9**	**+0.1**
TTA				IAmb	IAmb	17 24 47.2	
	comp=Z,2.7nm,1.3s						
IMAR	**Indian Mountai**	**75.10**	**25**	P	**P**	**17 24 34.0**	**+0.5**
BKZ	**Black Stump Fm**	**75.60**	**138**	P	**P**	**17 24 35.7**	**-1.2**
BKZ				IAmb	IAmb	17 24 43.9	
	comp=Z,7.6nm,1.2s						
ARCES	**ARCESS Array B**	**77.52**	**339**	P	**P**	**17 24 47.5**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=87,slow=7.4,SNR=6.1						
FINES	**FINESS Array B**	**78.65**	**331**	P	**P**	**17 24 54.8**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=63,slow=5.1,SNR=10						
FINES	**FINESS Array B**	**78.65**	**331**	P	**P**	**17 24 54.3**	**+0.7**
MCARA	**McCarthy VSAT**	**80.50**	**29**	P	**P**	**17 25 02.1**	**-1.7**
BCAR	**Beaver Creek A**	**80.66**	**27**	P	**P**	**17 25 04.7**	**+0.2**

MAN 03 17:18:05.4, 16°.35N×122°.41E, h26km, mb4.0, ML2.8, MS2.4, Luzon

MEX 03 17:20:18.9±7.8, 31°.05N×115°.31W, h3km, MD2.8, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.14**	**268**	*i* P	Pg	17 20 21.6	-0.1
	baz=188,slow=3.3						
SPIG				*e*S	Sg	17 20 23.2	-0.3
SPIG	**San Pedro Mart**	**0.14**	**268**	*e*P	Pg	17 20 21.6	-0.1
	baz=131,slow=22						
SPIG				*e*S	Sg	17 20 23.3	-0.2
SPX	**San Pedro Mart**	**0.14**	**264**	*e*P	Pg	17 20 21.4	-0.3
SPX				*e*S	Sg	17 20 23.3	-0.2

*IDC **03** 17:25:55.0±4.7, 51°.96N×178°.68E, h92km±43km, mb3.5/14, mb1 3.7/16, mb1mx3.5/50, mbtmp3.9/16, Error ellipse: s-maj=30.0km s-min=11.4km az=171.0*
*NEIC **03** 17:25:56.4±0.9, 51°.9N±0°.1×178°.65E±0°.04, h108km±4km, Error ellipse: s-maj=17.7km s-min=2.7km az=185.0*
*AEIC **03** 17:25:56±1.1, 51°.8N±0°.1×178°.58E±0°.08, h110km±3km, ML3.5, mb4.1/39(NEIC), Error ellipse: s-maj=17.3km s-min=6.8km az=181.0*

ISC 03 17:25:56.2±0.7, 51°.88N±0°.10×178°.63E±0°.04, h109km±5km, n89, σ0s95/91, mb3.9/22, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.06**	**326**		**Pn**	**17 26 11.6**	**+0.4**
LSPA	**Little Sitkin**	**0.08**	**337**		**Pn**	**17 26 11.3**	**+0.2**
LSPA					**Sn**	**17 26 22.0**	**-0.4**
LSSA	**Little Sitkin**	**0.10**	**314**		**Pn**	**17 26 11.3**	**+0.1**
LSSA					**Sn**	**17 26 22.3**	**-0.2**
LSNW	**Little Sitkin**	**0.11**	**323**		**Pn**	**17 26 11.3**	**+0.1**
CETU	**Semis' Tuman**	**0.54**	**81**		**Pn**	**17 26 13.4**	**+0.2**
CESW	**Semis' Southwe**	**0.58**	**88**		**Pn**	**17 26 13.1**	**-0.3**
CEAP	**Semis' Anvil P**	**0.60**	**78**		**Pn**	**17 26 13.7**	**+0.1**
CERB	**Semis' Cerberu**	**0.62**	**85**		**Pn**	**17 26 13.9**	**+0.1**
CERB					**Sn**	**17 26 29.3**	**+2.4**
AMKA	**Amchitka**	**0.66**	**140**		**Pn**	**17 26 13.8**	**-0.1**
AMKA					**Sn**	**17 26 26.9**	**-0.5**
CERAA	**Semis' Rag'd T**	**0.66**	**87**		**Pn**	**17 26 13.9**	**-0.1**
GALAA	**Gareloi Lava P**	**1.62**	**93**		**Pn**	**17 26 24.6**	**+0.3**
GAEA	**Gareloi East**	**1.63**	**92**		**Pn**	**17 26 24.6**	**+0.2**
TASE	**Tanaga Southea**	**2.07**	**90**		**Pn**	**17 26 30.0**	**0.0**
TAFP	**Tanaga Falls P**	**2.10**	**88**		**Pn**	**17 26 30.1**	**-0.2**
TAFP					**Sn**	**17 26 55.7**	**-0.8**
KIMD	**Kanaga Island**	**2.57**	**91**		**Pn**	**17 26 36.3**	**-0.1**
KICM	**Kanaga Island**	**2.59**	**88**		**Pn**	**17 26 36.7**	**+0.1**
KIKV	**Kanaga Island**	**2.60**	**88**		**Pn**	**17 26 36.6**	**-0.3**
SMY	**Shemya**	**2.91**	**289**		**Pn**	**17 26 40.6**	**-0.2**
SMY					**Sn**	**17 27 15.6**	**+0.4**
ADK	**Adak**	**2.91**	**88**		**Pn**	**17 26 40.2**	**-0.6**
ADAG	**Mount Adagdak**	**2.96**	**86**		**Pn**	**17 26 40.8**	**-0.6**
GSTD	**Great Sitkin T**	**3.24**	**85**		**Pn**	**17 26 44.5**	**-0.8**
GSTR	**Great Sitkin T**	**3.29**	**84**		**Pn**	**17 26 45.5**	**-0.5**
GSMY	**Great Sitkin M**	**3.29**	**85**		**Pn**	**17 26 45.3**	**-0.7**
ATKA	**Atka Island**	**4.44**	**83**		**Pn**	**17 27 01.5**	**+0.2**
ATKA					**Sn**	**17 27 50.8**	**-1.2**
NIKH	**Nikolski High**	**7.73**	**77**	Pn	**Pn**	**17 27 47.3**	**+1.4**
SPIA	**Saint Paul Isl**	**8.36**	**46**	Pn	**Pn**	**17 27 56.3**	**+2.0**
PETK	**Petropavlovsk-**	**12.81**	**284**	P	**Pn**	**17 28 54.8**	**+0.7**
	0.1nm,0.3s,baz=97,slow=18,SNR=3.1						
PETK				S	**Sn**	**17 31 09.7**	**-5.1**
	0.1nm,0.3s,baz=90,slow=40,SNR=1.7						
SII	**Sitkinak Islan**	**16.52**	**63**	Pn	**Pn**	**17 29 39.5**	**-1.6**
SII				IAmb	IAmb	17 29 40.8	
	comp=Z,13nm,1.0s						
SVW2	**Sparrevohn**	**16.86**	**47**		**P**	**17 29 45.6**	**+0.1**
OHAK	**Old Harbor**	**17.07**	**61**	P	**Pn**	**17 29 45.3**	**-2.5**
TTA	**Tatalina**	**17.44**	**41**	P	**Pn**	**17 29 52.7**	**+0.4**
KDAK	**Kodiak Island**	**17.52**	**59**	P	**P**	**17 29 50.7**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=168,slow=3.0,SNR=47						
KDAK	**Kodiak Island**	**17.52**	**59**	IAmb	IAmb	17 29 59.6	
	comp=Z,22nm,1.2s						
RSO	**Redoubt South**	**17.97**	**50**	Pn	**Pn**	**17 29 59.6**	**+0.7**
CNPM	**China Poot**	**18.49**	**54**		**Pn**	**17 30 04.6**	**-0.3**
SKT	**Skwentna**	**18.98**	**46**	P	**Pn**	**17 30 10.4**	**-0.3**
SKT				IAmb	IAmb	17 30 15.9	
	comp=Z,8.1nm,1.0s						
PPLA	**Purkeypile**	**19.02**	**43**	P	**P**	**17 30 09.2**	**-0.1**
PPLA				IAmb	IAmb	17 30 24.8	
	comp=Z,7.3nm,1.0s						
SUA	**Susitna One**	**19.19**	**48**		**Pn**	**17 30 12.4**	**-0.7**
SUA				IAmb	IAmb	17 30 14.4	
	comp=Z,16nm,1.2s						
SEW	**Seward**	**19.49**	**53**	P	**P**	**17 30 14.0**	**-0.2**
SEW				IAmb	IAmb	17 30 33.0	
	comp=Z,19nm,1.2s						
IMAR	**Indian Mountai**	**19.82**	**34**	P	**P**	**17 30 18.6**	**+0.7**
BPAW	**Bear Paw Mtn.**	**19.98**	**41**	P	**P**	**17 30 20.1**	**+0.5**
KNK	**Knik Glacier**	**20.24**	**49**	P	**P**	**17 30 22.5**	**+0.1**
KNK				IAmb	IAmb	17 30 27.8	
	comp=Z,9.0nm,1.0s						
SML	**Sawmill**	**20.39**	**48**	P	**P**	**17 30 24.3**	**+0.2**
SML				IAmb	IAmb	17 30 26.9	
	comp=Z,8.8nm,0.9s						
GLI	**Glacier Island**	**20.78**	**51**	P	**P**	**17 30 27.8**	**-0.3**
GLI				IAmb	IAmb	17 30 28.7	
	comp=Z,10.0nm,0.8s						
SCM	**Sheep Creek Mo**	**20.86**	**48**	P	**P**	**17 30 29.3**	**+0.2**
SCM				IAmb	IAmb	17 30 31.9	
	comp=Z,9.8nm,1.0s						
FID	**Port Fidalgo**	**21.05**	**51**	P	**P**	**17 30 30.6**	**-0.5**
DHY	**Denali Highway**	**21.15**	**45**	P	**P**

TOLK				IAmb	IAmb	17 30 49.4	
	comp=Z,7.3nm,0.9s						
MENT	**Mentasta**	**22.74**	**46**	P	**P**	**17 30 49.8**	**+1.1**
DOT	**Dot Lake**	**22.74**	**44**	P	**P**	**17 30 47.9**	**-0.9**
ISLE	**Juniper Island**	**23.06**	**52**	P	**P**	**17 30 52.0**	**0.0**
ISLE				IAmb	IAmb	17 31 07.0	
	comp=Z,8.7nm,0.9s						
BARN	**Barnard Glacie**	**23.43**	**51**	P	**P**	**17 30 55.8**	**+0.3**
CTGM	**Chitina Glacie**	**23.58**	**52**	P	**P**	**17 30 56.8**	**0.0**
BCAR	**Beaver Creek A**	**23.63**	**46**	P	**P**	**17 30 57.1**	**0.0**
TABL	**Table Mountain**	**23.64**	**53**	P	**P**	**17 30 57.1**	**-0.3**
TABL				IAmb	IAmb	17 31 04.0	
	comp=Z,11nm,1.0s						
BMAR	**Burnt Mountain**	**23.72**	**35**	P	**P**	**17 30 58.6**	**+0.7**
PCA	**Pinnacle**	**24.06**	**54**	P	**P**	**17 31 01.1**	**0.0**
EGAK	**Eagle**	**24.24**	**42**	P	**P**	**17 31 02.5**	**0.0**
EGAK				IAmb	IAmb	17 31 03.9	
	comp=Z,5.9nm,0.9s						
BCPM	**Bancas Point**	**24.37**	**54**	P	**P**	**17 31 03.8**	**0.0**
JKA	**Kamikawa-asahi**	**25.12**	**266**	P	**P**	**17 31 10.9**	**+0.3**
ASAJ	**Asahikawa**	**25.12**	**266**	P	**P**	**17 31 13.3**	**+2.6**
	comp=Z,5.3nm,1.0s,baz=56,slow=7.3,SNR=2.5						
HYT	**Haines Junctio**	**25.44**	**52**	P	**P**	**17 31 13.9**	**+0.3**
HYT				IAmb	IAmb	17 31 17.5	
	comp=Z,9.9nm,1.1s						
DLBC	**Dease Lake**	**29.42**	**57**	P	**P**	**17 31 50.4**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=294,slow=19,SNR=1.8						
DLBC	**Dease Lake**	**29.42**	**57**	IAmb	IAmb	17 32 08.8	
	comp=Z,5.4nm,1.2s						
KLR	**Kul'dur**	**29.50**	**284**	P	**P**	**17 31 50.8**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=59,slow=8.6,SNR=9.7						
USRK	**Ussuriysk Ar.**	**31.65**	**275**	P	**P**	**17 32 09.3**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=58,slow=8.3,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**33.38**	**200**	T	T	18 07 50.6	
	baz=11,slow=76,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**33.39**	**200**	T	T	18 07 54.2	
	baz=11,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**33.40**	**200**	T	T	18 07 58.4	
	baz=11,slow=76,SNR=6.5						
YKA	**Yellowknife Ar**	**36.05**	**46**	P	**P**	**17 32 46.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=98,slow=20,SNR=4.5						
SONM	**Songino Array**	**44.98**	**295**	P	**P**	**17 34 01.4**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=86,slow=23,SNR=2.4						
SONM	**Songino Array**	**44.98**	**295**	IAmb	IAmb	17 34 09.1	
	comp=Z,0.7nm,0.6s						
NVAR	**Mina Array Bea**	**45.07**	**82**	P	**P**	**17 34 01.6**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=295,slow=7.7,SNR=7.6						
PDAR	**Pinedale Array**	**47.67**	**71**	P	**P**	**17 34 20.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=298,slow=3.2,SNR=7.6						
PV13	**Radium Mtn., P**	**51.00**	**75**	P	**P**	**17 34 46.5**	**-0.5**
ZALV	**Zalesovo Beam**	**52.51**	**312**	P	**P**	**17 34 57.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=35,slow=5.3,SNR=2.0						
MKAR	**Makanchi Array**	**58.45**	**307**	P	**P**	**17 35 40.3**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=53,slow=6.6,SNR=17						
TXAR	**Lajitas Array**	**60.15**	**80**	P	**P**	**17 35 52.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=316,slow=5.5,SNR=8.8						
WRA	**Warramunga Arr**	**81.29**	**222**	P	**P**	**17 38 00.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=31,slow=6.0,SNR=6.7						
ASAR	**Alice Springs**	**84.80**	**220**	P	**P**	**17 38 19.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=20,slow=5.1,SNR=16						
MAW	**Mawson**	**145.90**	**218**	PKPbc	**PKPab**	**17 45 22.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=115,slow=5.0,SNR=6.5						
BOSA	**Boshof**	**149.43**	**309**	PKPbc	**PKiKP**	**17 45 32.8**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=336,slow=3.4,SNR=4.4						

*IDC **03** 18:03:52.8±2.4, 17°.19S×179°.11W, h503km±31km, mb3.0/7, mb1 3.4/8, mb1mx3.1/24, mbtmp3.9/8, Error ellipse: s-maj=87.8km s-min=14.8km az=152.0*

ISC 03 18:03:52.7±1.1, 17°.2S±0°.5×179°.1W±0°.3, h500km, n9, σ0°.40/10, mb3.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**66**	P	**P**	**18 05 46.4**	**-0.4**
	1.6nm,0.3s,baz=240,slow=20,SNR=2.0						
AFI				S	S	18 07 07.8	-13
	0.3nm,0.3s,baz=53,slow=21,SNR=1.7						
HNR	**Honiara**	**21.79**	**288**	S	S	18 11 20.6	-13
	29nm,0.8s,baz=278,slow=4.5,SNR=2.1						
STKA	**Stephens Creek**	**38.42**	**240**	P	**P**	**18 10 30.8**	**-0.1**
	1.2nm,0.4s,baz=94,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**44.13**	**259**	P	**P**	**18 11 15.8**	**-0.6**
	0.6nm,0.6s,baz=84,slow=7.4,SNR=16						
WRA				PcP	**pP**	18 12 48.5	+0.3
	0.2nm,0.6s,baz=90,slow=4.8,SNR=1.1						
ASAR	**Alice Springs**	**44.37**	**254**	P	**P**	**18 11 18.4**	**+0.1**
	6.4nm,0.6s,baz=89,slow=7.9,SNR=216						
ASAR				PcP	**pP**	18 12 50.5	+0.2
	0.2nm,0.5s,baz=110,slow=4.5,SNR=2.3						
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**18 15 06.8**	**+0.2**
	0.5nm,0.7s,baz=217,slow=9.2,SNR=4.6						
ILAR	**Eielson Array**	**85.33**	**13**	P	**P**	**18 15 36.0**	**0.0**
	0.2nm,0.4s,baz=204,slow=8.8,SNR=1.9						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**18 15 41.5**	**+0.5**
	0.2nm,0.6s,baz=190,slow=6.4,SNR=4.3						
PDAR	**Pinedale Array**	**87.28**	**44**	P	**P**	**18 15 46.0**	**-0.1**
	0.2nm,0.5s,baz=222,slow=4.7,SNR=2.5						

*TEH **03** 18:15:51.7, 33°.81N×45°.64E, h18km, ML2.6*
*ISN **03** 18:15:51.1±0.5, 33°.77N×45°.68E, h16km±3km, ML2.5*

ISC 03 18:15:50.1±1.0, 33°.66N±0°.05×45°.71E±0°.05, h13km, n9, σ0°.53/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.58**	**162**	*e*Pg	**Pn**	**18 16 04.0**	**0.0**
IBDR				*e*Sg	**Sn**	**18 16 14.0**	**+0.7**
IBDR				AML	AML	18 16 20.2	
	comp=E,60nm,0.6s						
IBDR				AML	AML	18 16 20.4	
	comp=N,58nm,0.6s						
IGHG	**Ghaleghazi**	**0.97**	**46**	*e*		18 16 17.9	
IGHG				*e*Pg	**Pn**	**18 16 09.6**	**-0.2**
IDHR	**Dehrash**	**1.18**	**28**	*e*Pg	**Pg**	**18 16 12.4**	**-0.5**
IDHR				*e*		18 16 32.9	
BHD	**Baghdad**	**1.18**	**251**	*e*Pg	**Pg**	**18 16 13.0**	**+0.1**
BHD				*e*Sg	**Sn**	**18 16 29.0**	**+0.7**
IVIS	**Veis**	**1.28**	**47**	*e*Pg	**Pg**	**18 16 15.2**	**+0.4**
IVIS				*e*		18 16 35.8	
IKOM	**Komasi**	**1.58**	**71**	*e*Pn	**Pg**	**18 16 20.8**	**+0.3**
IKOM				*e*		18 16 53.8	
ILIN	**Lien**	**1.63**	**39**	*e*Pg	**Pg**	**18 16 20.8**	**-0.6**
ILIN				*e*		18 16 21.5	
ILIN				*e*Sg	**Sg**	**18 16 43.1**	**+0.5**
IBZA	**Bozab**	**1.96**	**65**	*e*Pn	**Pb**	**18 16 25.7**	**-0.1**
IBZA				*e*		18 16 29.2	
NSR	**Nassriya**	**2.67**	**172**	*e*Pn	**Pb**	**18 16 37.0**	**-0.7**
NSR				*e*Sn	**Sb**	**18 17 10.0**	**-0.3**
NSR				AML	AML	18 17 14.1	
	comp=E,434nm,0.3s						

*TEH **03** 18:43:39.1, 33°.62N×45°.65E, h14km, ML2.9*
*ISN **03** 18:43:39.2±0.8, 33°.57N×45°.62E, h7km±4km, ML2.6*

ISC 03 18:43:37.8±0.9, 33°.54N±0°.05×45°.70E±0°.05, h13km, n10, σ1°.07/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.47**	**155**	*e*Pg	**Pn**	**18 43 50.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**18 43 57.0**	**-1.5**
IBDR				AML	AML	18 44 09.7	
	comp=E,137nm,0.6s						
IBDR				AML	AML	18 44 09.9	
	comp=N,132nm,0.6s						
IGHG	**Ghaleghazi**	**1.07**	**43**	*e*Pg	**Pn**	**18 43 58.8**	**0.0**
IGHG				*e*		18 44 04.9	
BHD	**Baghdad**	**1.13**	**256**	*e*Pg	**Pg**	**18 44 00.0**	**+0.3**
BHD				*e*Sg	**Sn**	**18 44 15.0**	**+0.2**
IDHR	**Dehrash**	**1.29**	**26**	*e*		18 44 04.2	
IDHR				*e*Pg	**Pg**	**18 44 02.7**	**0.0**
IVIS	**Veis**	**1.37**	**44**	*e*Sg	**Sg**	**18 44 23.9**	**+1.8**
IVIS				*e*Pg	**Pg**	**18 44 05.0**	**+0.8**
IVIS				*e*		18 44 27.9	
IKOM	**Komasi**	**1.64**	**67**	*e*Pg	**Pg**	**18 44 10.2**	**+0.9**
IKOM				*e*		18 44 12.0	
ILIN	**Lien**	**1.73**	**37**	*e*Pg	**Pg**	**18 44 10.5**	**-0.5**
ILIN				*e*		18 44 11.0	
IBZA	**Bozab**	**2.02**	**62**	*e*Pn	**Pb**	**18 44 14.2**	**-0.4**
IBZA				*e*		18 44 18.6	
NSR	**Nassriya**	**2.55**	**171**	*e*Pn	**Pb**	**18 44 23.0**	**-0.5**
NSR				*e*Sn	**Sb**	**18 44 56.0**	**+1.2**
NSR				AML	AML	18 44 57.5	
	comp=E,214nm,0.3s						
HSRG	**Sareghieh**	**2.73**	**51**	*e*Pn	**Pb**	**18 44 24.9**	**-1.8**
HSRG				*e*		18 44 30.6	

*NEIC **03** 19:23:00.7±2.1, 11°.1S±0°.2×162°.0E±0°.1, h10km±2km, mb4.5/9, Error ellipse: s-maj=31.4km s-min=13.1km az=40.0*
*IDC **03** 19:23:04.3±3.1, 10°.89S×162°.22E, h64km±25km, mb3.5/6, mb1 3.8/9, mb1mx3.5/41, mbtmp3.9/9, ML4.1/2, MS3.2/7, Ms1 3.2/7, ms1mx2.8/27, Error ellipse: s-maj=27.9km s-min=18.3km az=72.0*

ISC 03 19:23:02.2±0.8, 10.93S±0°.09×162°.2E±0°.1, h36km, n28, σ1°.72/23, mb3.9/10, MS3.2/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.68**	**304**	P	**Pn**	**19 23 44.0**	**+1.1**
	71nm,0.3s,baz=139,slow=7.6,SNR=12						
HNR				S	**Sn**	**19 24 17.1**	**+3.0**
	233nm,0.3s,baz=348,slow=22,SNR=12						
HNR				LR	LR	19 24 52.1	
	comp=Z,307nm,18.4s,baz=180,slow=40						
HNR	**Honiara**	**2.68**	**304**		**Pn**	**19 23 42.7**	**-0.1**
SANVU	**Saraoutou**	**6.61**	**133**	Pn	**Pn**	**19 24 40.0**	**+3.1**
DZM	**Mont Dzumac**	**11.79**	**160**	P	**Pn**	**19 25 50.9**	**+2.9**
	baz=339,slow=16,SNR=1.1						
DZM				S	**Sn**	**19 27 56.4**	**-2.0**
	0.2nm,0.3s,baz=195,slow=21,SNR=1.8						
DZM				LR	LR	19 29 53.8	
	comp=Z,92nm,19.4s,baz=350,slow=35						
PMG	**Port Moresby**	**14.90**	**274**	LR	LR	19 31 55.7	
	comp=Z,93nm,19.9s,baz=78,slow=36						
CTA	**Charters Tower**	**17.86**	**237**	P	**P**	**19 27 10.6**	**+2.3**
	0.2nm,0.3s,baz=72,slow=13,SNR=5.0						
PATS	**Pohnpei**	**18.07**	**347**	P	**P**	**19 27 12.2**	**+1.5**
WR0	**Warramunga Arr**	**28.11**	**248**	P	**P**	**19 28 50.8**	**-0.1**
WB0	**Warramunga Arr**	**28.19**	**248**	P	**P**	**19 28 51.0**	**-0.6**
WB0				IAmb	IAmb	19 29 02.4	
	comp=Z,11nm,1.5s						
STKA	**Stephens Creek**	**28.23**	**219**	P	**P**	**19 28 51.9**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=18,slow=16,SNR=2.5						
STKA				LR	LR	19 39 48.5	
	comp=Z,74nm,20.2s,baz=24,slow=36						
WB2	**Warramunga Arr**	**28.27**	**248**	P	**P**	**19 28 52.9**	**+0.5**
WB2				IAmb	IAmb	19 29 09.6	
	comp=Z,7.7nm,1.2s						
WRA	**Warramunga Arr**	**28.29**	**248**	P	**P**	**19 28 51.6**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=78,slow=9.3,SNR=16						
WRA				PcP	**PcP**	**19 32 05.8**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=106,slow=1.8,SNR=2.0						
WRA				LR	LR	19 40 19.5	
	comp=Z,109nm,18.8s,baz=55,slow=37						
WRA	**Warramunga Arr**	**28.29**	**248**	P	**P**	**19 28 52.7**	**+0.2**
H11S2	**WAKE ISLAND Hy**	**29.57**	**9**	T	T	20 00 01.9	
	baz=188,slow=76,SNR=298						
H11S3	**WAKE ISLAND Hy**	**29.57**	**9**	T	T	20 00 01.8	
	baz=188,slow=76,SNR=204						
H11S1	**WAKE ISLAND Hy**	**29.59**	**9**	T	T	20 00 04.5	
	baz=188,slow=76,SNR=230						
ASAR	**Alice Springs**	**29.78**	**241**	P	**P**	**19 29 04.5**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=80,slow=9.8,SNR=6.2						
ASAR				LR	LR	19 40 12.2	
	comp=Z,48nm,19.6s,slow=34						
GUMO	**Guam**	**29.83**	**324**	LR	LR	19 40 22.0	
	comp=Z,23nm,18.4s,baz=109,slow=35						
H11N1	**WAKE ISLAND Hy**	**30.80**	**9**	T	T	20 01 35.5	
	baz=188,slow=76,SNR=142						
H11N3	**WAKE ISLAND Hy**	**30.81**	**9**	T	T	20 01 36.6	
	baz=188,slow=76,SNR=172						
H11N2	**WAKE ISLAND Hy**	**30.82**	**9**	T	T	20 01 37.5	
	baz=188,slow=76,SNR=116						
BBOO	**Buckleboo**	**32.44**	**224**	P	**P**	**19 29 27.0**	**-2.1**
BBOO				IAmb	IAmb	19 29 50.5	
	comp=Z,18nm,1.3s						
KNRA	**Kununurra**	**32.87**	**258**	P	**P**	**19 29 32.3**	**-0.6**
KNRA				IAmb	IAmb	19 29 39.6	
	comp=Z,6.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**36.06**	**254**	P	**P**	**19 29 59.7**	**-1.0**
JAGI	**Jajag, Banyuwa**	**47.40**	**269**	P	**P**	**19 31 31.5**	**-1.9**
SONM	**Songino Array**	**76.56**	**325**	P	**P**	**19 34 46.7**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=132,slow=4.3,SNR=2.5						
ILAR	**Eielson Array**	**84.54**	**20**	P	**P**	**19 35 29.6**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=234,slow=4.7,SNR=5.7						
MKAR	**Makanchi Array**	**91.08**	**317**	P	**P**	**19 36 02.7**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=104,slow=7.1,SNR=4.4						

*JMA **03** 19:39:36.9±0.2, 24°.69N×121°.96E, h84km±3km, M2.1*
*TAP **03** 19:39:37.2, 24°.73N×121°.93E, h84km, ML3.0, B*

ISC 03 19:39:37.3±1.4, 24°.72N±0°.04×121°.98E±0°.03, h84km±7km, n91, σ0°.89/166, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.13**	**339**	*i* P	**Pn**	**19 39 49.9**	**+0.6**
	baz=17						
EGS				*e*S	**Sn**	**19 39 58.7**	**+0.5**
	baz=17						
TWC	**Suao**	**0.17**	**227**	P	**Pn**	**19 39 49.7**	**+0.3**
	baz=207						
TWC				*e*S	**Sn**	**19 39 58.5**	**+0.2**
	baz=207						
ILA	**Ilan**	**0.22**	**281**	*e*P	**Pn**	**19 39 49.9**	**+0.4**
	baz=290						
ILA				*e*S	**Sn**	**19 39 59.2**	**+0.5**
	baz=290						
TIPB	**Shuangxi**	**0.29**	**330**	P	**Pn**	**19 39 49.7**	**-0.3**
	baz=339						
TIPB				*e*S	**Sn**	**19 39 58.4**	**-0.9**
	baz=339						
TWE	**Neicheng**	**0.29**	**270**	P	**Pn**	**19 39 50.2**	**+0.3**
	baz=267						
TWE				*e*S	**Sn**	**19 39 59.5**	**+0.3**
	baz=267						
ENAH	**Nanao**	**0.31**	**210**	P	**Pn**	**19 39 50.4**	**+0.3**
	baz=194						
ENAH				*e*S	**Sn**	**19 40 00.4**	**+0.9**
	baz=194						
ENA	**Nanau**	**0.37**	**217**	P	**Pn**	**19 39 50.8**	**+0.4**
	baz=204						
ENA				*e*S	**Sn**	**19 40 01.5**	**+1.4**
	baz=204						
ENTT	**Nioudou**	**0.39**	**258**	P	**Pn**	**19 39 51.1**	**+0.5**
	baz=261						
ENTT				*e*S	**Sn**	**19 40 00.6**	**+0.2**
	baz=261						
NWF	**Wu-fen Shan**	**0.39**	**332**	*e*P	**Pn**	**19 39 50.3**	**-0.4**
	baz=345						
NWF				*e*S	**Sn**	**19 40 00.0**	**-0.6**
	baz=345						
WFSB	**Wu-fen Shan**	**0.39**	**332**	*e*P	**Pn**	**19 39 50.4**	**-0.2**
	baz=345						
WFSB				*e*S	**Sn**	**19 39 59.9**	**-0.5**
	baz=345						
NWLT	**Wulai**	**0.44**	**277**	P	**Pn**	**19 39 50.8**	**-0.1**
	baz=286						
NWLT				*e*S	**Sn**	**19 40 00.3**	**-0.7**
	baz=286						
NDT	**Datong Townshi**	**0.44**	**254**	P	**Pn**	**19 39 51.3**	**+0.4**
	baz=262						
NDT				*e*S	**Sn**	**19 40 01.5**	**+0.4**
	baz=262						
TWA	**Mucha**	**0.44**	**305**	*e*P	**Pn**	**19 39 50.7**	**-0.3**
	baz=313						
TWA				*e*S	**Sn**	**19 40 00.7**	**-0.4**
	baz=313						
YHNB	**Yeheng**	**0.55**	**265**	P	**Pn**	**19 39 51.8**	**-0.2**
	baz=263						
YHNB				*e*S	**Sn**	**19 40 02.4**	**-0.5**
	baz=263						
YM01	**YM01**	**0.56**	**318**	P	**Pn**	**19 39 51.3**	**-0.7**
	baz=327						
YM01				*e*S	**Sn**	**19 40 01.9**	**-1.0**
	baz=327						
NSK	**Sanguang**	**0.57**	**265**	*i* P	**Pn**	**19 39 51.5**	**-0.5**
	baz=264						
NSK				S	**Sn**	**19 40 02.6**	**-0.5**
	baz=264						
YM10	**YM10**	**0.58**	**318**	*e*P	**Pn**	**19 39 51.3**	**-0.9**
	baz=327						
YM10				*e*S	**Sn**	**19 40 02.7**	**-0.4**
	baz=327						
YM11	**YM11**	**0.58**	**320**	*e*P	**Pn**	**19 39 50.3**	**-1.9**
	baz=329						
YM11				*e*S	**Sn**	**19 40 04.1**	**+0.9**
	baz=329						
YM05	**YM05**	**0.58**	**319**	*e*P	**Pn**	**19 39 51.7**	**-0.5**
	baz=328						
YM05				*e*S	**Sn**	**19 40 02.9**	**-0.4**
	baz=328						
YM08	**YM08**	**0.58**	**322**	*e*P	**Pn**	**19 39 51.2**	**-1.0**
	baz=333						
YM04	**YM04**	**0.59**	**317**	*e*P	**Pn**	**19 39 51.9**	**-0.3**
	baz=327						
YM04				*e*S	**Sn**	**19 40 02.7**	**-0.6**
	baz=327						
YM03	**YM03**	**0.61**	**319**	*e*P	**Pn**	**19 39 52.7**	**+0.3**
	baz=322						
NNSB	**Datong**	**0.62**	**242**	*i* P	**Pn**	**19 39 52.8**	**+0.2**
	baz=245						
NNSB				S	**Sn**	**19 40 04.6**	**+0.6**
	baz=245						
NNSH	**Datong**	**0.62**	**242**	P	**Pn**	**19 39 52.8**	**+0.2**
	baz=244						
NNSH				*e*S	**Sn**	**19 40 03.8**	**-0.2**
	baz=244						
NNS	**Nan Shan**	**0.62**	**243**	P	**Pn**	**19 39 52.8**	**+0.2**
	baz=244						
NNS				*e*S	**Sn**	**19 40 04.2**	**+0.2**
	baz=244						
ANP	**Anpu**	**0.62**	**318**	*e*P	**Pn**	**19 39 52.6**	**0.0**
	baz=321						
TWS1	**Kuangyinshan**	**0.64**	**306**	*e*P	**Pn**	**19 39 52.0**	**-0.6**
	baz=316						
TWS1				*e*S	**Sn**	**19 40 04.1**	**+0.1**
	baz=316						
NACB	**Ninganchiao**	**0.65**	**213**	P	**Pn**	**19 39 52.4**	**-0.4**
	baz=209						
NACB				*e*S	**Sn**	**19 40 04.5**	**+0.2**
	baz=209						
NTST	**Danshui**	**0.65**	**312**	*e*P	**Pn**	**19 39 52.5**	**-0.2**
	baz=320						
NTST				*e*S	**Sn**	**19 40 03.9**	**-0.4**
	baz=320						
ETLH	**Xiulin Townshi**	**0.69**	**222**	P	**Pn**	**19 39 53.0**	**-0.2**
	baz=227						
ETLH				*e*S	**Sn**	**19 40 04.9**	**-0.2**
	baz=227						
TWD	**Chiawan**	**0.73**	**209**	*e*P	**Pn**	**19 39 52.9**	**-0.6**
	baz=214						
TWD				*e*S	**Sn**	**19 40 05.0**	**-0.6**
	baz=214						
NCUH	**Zhongli**	**0.77**	**289**	*e*S	**Sn**	**19 40 06.4**	**+0.1**
	baz=281						
HWA	**Hwalien**	**0.82**	**205**	*e*P	**Pn**	**19 39 54.4**	**-0.1**
	baz=189						
FUSS	**Fushou**	**0.82**	**235**	P	**Pn**	**19 39 55.2**	**+0.4**
	baz=225						
FUSS				*e*S	**Sn**	**19 40 08.1**	**+0.2**
	baz=225						
TWT	**Tachien**	**0.87**	**238**	P	**Pn**	**19 39 56.0**	**+0.8**
	baz=229						
TWT				*e*S	**Sn**	**19 40 09.2**	**+0.5**
	baz=229						
WHF	**Hehuan Shan**	**0.87**	**229**	P	**Pn**	**19 39 55.7**	**+0.2**
	baz=220						
WHF				*e*S	**Sn**	**19 40 09.1**	**0.0**
	baz=220						
LIOB	**Emei**	**0.88**	**265**	P	**Pn**	**19 39 55.0**	**-0.2**
	baz=264						
LIOB				*e*S	**Sn**	**19 40 08.3**	**-0.3**
	baz=264						
TDCB	**Techi**	**0.88**	**238**	*e*P	**Pn**	**19 39 56.0**	**+0.6**
	baz=229						
TDCB				S	**Sn**	**19 40 09.2**	**+0.3**
	baz=229						
NSTT	**Nanjuang**	**0.90**	**264**	*e*P	**Pn**	**19 39 55.0**	**-0.4**
	baz=263						
NSTT				S	**Sn**	**19 40 08.2**	**-0.7**
	baz=263						
JYNG	**Yonagunijimaku**	**0.92**	**107**	P	**Pn**	**19 39 55.7**	**+0.1**
JYNG				S	**Sn**	**19 40 09.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.97**	**105**	*e*P	**Pn**	**19 39 56.3**	**+0.1**
	baz=101						
YOJ				*e*S	**Sn**	**19 40 10.3**	**-0.1**
	baz=101						
YOJ	**Yonaguni jima**	**0.97**	**105**	P	**Pn**	**19 39 56.3**	**+0.1**
YOJ				S	**Sn**	**19 40 10.5**	**+0.1**
CHGB	**Renai**	**0.99**	**228**	P	**Pn**	**19 39 57.2**	**+0.6**
	baz=225						
CHGB				S	**Sn**	**19 40 11.3**	**+0.2**
	baz=225						
ESL	**Shilin**	**1.03**	**209**	*e*P	**Pn**	**19 39 56.0**	**-1.0**
	baz=206						
ESL				*e*S	**Sn**	**19 40 10.4**	**-1.3**
	baz=206						
WHP	**Taichung City**	**1.04**	**245**	P	**Pn**	**19 39 57.6**	**+0.5**
	baz=252						
WHP				*e*S	**Sn**	**19 40 12.3**	**+0.3**
	baz=252						
NSY	**Sanyi**	**1.15**	**255**	*e*S	**Sn**	**19 40 13.6**	**-0.7**
	baz=253						
TWQ1	**Liyutan**	**1.16**	**252**	*e*P	**Pn**	**19 39 58.3**	**-0.2**
	baz=249						
TWQ1				*e*S	**Sn**	**19 40 14.7**	**+0.2**
	baz=249						
EGFH	**Guangfu**	**1.17**	**206**	*e*P	**Pn**	**19 39 57.6**	**-1.0**
	baz=208						
EGFH				*e*S	**Sn**	**19 40 14.0**	**-0.5**
	baz=208						
VWDT	**VWDT**	**1.23**	**219**	*e*P	**Pn**	**19 40 00.3**	**+0.9**
	baz=210						
VWDT				*e*S	**Sn**	**19 40 16.6**	**+0.6**
	baz=210						
WDJ	**Dajia District**	**1.28**	**253**	*e*S	**Sn**	**19 40 15.7**	**-1.3**
	baz=252						
SMLT	**Sun Moon Lake**	**1.29**	**230**	P	**Pn**	**19 40 00.8**	**+0.5**
	baz=235						
SMLT				*e*S	**Sn**	**19 40 19.5**	**+2.0**
	baz=235						
SSLB	**Suanglung**	**1.32**	**225**	P	**Pn**	**19 40 01.2**	**+0.6**
	baz=223						
SSLB				*e*S	**Sn**	**19 40 18.7**	**+0.7**
	baz=223						
HGSD	**Ruisui**	**1.33**	**203**	*e*P	**Pn**	**19 39 59.8**	**-0.7**
	baz=208						
HGSD				*e*S	**Sn**	**19 40 19.2**	**+1.1**
	baz

WDLH				*e*S		**Sn**	**19 40 26.9 +0.9**
	baz=239						
RLNB	**Erlin**	**1.70 241**	*e*P			**Pn**	**19 40 05.3 0.0**
	baz=239						
RLNB				*e*S		**Sn**	**19 40 26.7 +0.2**
	baz=239						
CHKT	**Chengkung**	**1.71 199**	*e*P			**Pn**	**19 40 05.0 -0.5**
	baz=197						
CHKT				*e*S		**Sn**	**19 40 25.3 -1.5**
	baz=197						
ELDTW	**Lidau**	**1.76 210**	*e*P			**Pn**	**19 40 05.9 -0.4**
	baz=202						
WTK	**Tuku**	**1.78 235**	P			**Pn**	**19 40 06.5 +0.1**
	baz=232						
WTK				*e*S		**Sn**	**19 40 28.9 +0.3**
	baz=232						
HATJ	**Hateruma jima**	**1.79 111**	P			**Pn**	**19 40 05.8 -0.7**
HATJ			eS			**Sn**	**19 40 28.7 0.0**
EDH	**Donghe**	**1.85 200**	P			**Pn**	**19 40 06.8 -0.5**
	baz=198						
EDH				*e*S		**Sn**	**19 40 28.5 -1.7**
	baz=198						
TPUB	**Ta-pu**	**1.88 221**	*e*P			**Pn**	**19 40 07.9 +0.2**
	baz=219						
TPUB				*e*S		**Sn**	**19 40 32.6 +1.8**
	baz=219						
JKRS	**Kuro-shima**	**1.91 104**	P			**Pn**	**19 40 08.7 +0.7**
JKRS			S			**Sn**	**19 40 32.3 +0.8**
STYT	**Tauyuan**	**1.92 216**	*e*P			**Pn**	**19 40 08.6 +0.3**
	baz=223						
STYT				*e*S		**Sn**	**19 40 34.7 +2.9**
	baz=223						
WTP	**Ta-pu**	**1.93 221**	*e*P			**Pn**	**19 40 09.1 +0.7**
	baz=228						
JIJ	**Ishigaki jima**	**2.00 100**	P			**Pn**	**19 40 09.3 0.0**
JIJ			S			**Sn**	**19 40 34.0 +0.3**
CHN1	**Nanshi**	**2.03 221**	*e*P			**Pn**	**19 40 10.4 +0.7**
	baz=219						
CHN1				*e*S		**Sn**	**19 40 34.6 +0.2**
	baz=219						
TWG	**Pinlang**	**2.07 204**	*e*P			**Pn**	**19 40 07.9 -2.3**
	baz=193						
TWG				*e*S		**Sn**	**19 40 33.4 -1.9**
	baz=193						
TWGBT	**Beinan**	**2.07 204**	*e*P			**Pn**	**19 40 09.1 -1.1**
	baz=193						
TWGBT				*e*S		**Sn**	**19 40 33.2 -2.1**
	baz=193						
SGST	**Jiashian**	**2.08 218**	*e*P			**Pn**	**19 40 09.4 -0.9**
	baz=226						
LDUT	**Ludao**	**2.09 193**	P			**Pn**	**19 40 09.1 -1.4**
	baz=186						
LDUT				*e*S		**Sn**	**19 40 33.2 -2.6**
	baz=186						
SLGT	**Liugui**	**2.11 216**	*e*P			**Pn**	**19 40 12.0 +1.2**
	baz=223						
SLGT				*e*S		**Sn**	**19 40 38.2 +1.8**
	baz=223						
JISG	**Ishigakijimahi**	**2.12 93**	P			**Pn**	**19 40 11.2 +0.3**
JISG			S			**Sn**	**19 40 36.9 +0.3**
ECL	**Taimali**	**2.32 204**	*e*P			**Pn**	**19 40 12.4 -1.1**
	baz=195						
ECL				*e*S		**Sn**	**19 40 39.4 -1.8**
	baz=195						
SSD	**Sandimen**	**2.32 212**	*e*P			**Pn**	**19 40 15.1 +1.5**
	baz=222						
TSMG	**Majia**	**2.35 212**	*e*P			**Pn**	**19 40 14.4 +0.4**
	baz=222						
MASBT	**Mashibuluo**	**2.44 211**	*e*P			**Pn**	**19 40 16.1 +0.9**
	baz=208						
MASBT				*e*S		**Sn**	**19 40 45.9 +1.8**
	baz=208						
JTJ	**Tarama**	**2.48 91**	P			**Pn**	**19 40 16.3 +0.7**
JTJ			S			**Sn**	**19 40 45.5 +0.5**
EAST	**Anshuo**	**2.55 204**	*e*P			**Pn**	**19 40 17.2 +0.5**
	baz=194						
LAY	**Lan-yu**	**2.70 189**	*e*P			**Pn**	**19 40 17.3 -1.4**
	baz=186						

NEIC ***03*** *19:52:36.5±0.8, 17°.7S±0°.2×173°.2W±0°.3, h27km±14km, mb4.5/14, Error ellipse: s-maj=51.6km s-min=20.1km az=120.0*

IDC ***03*** *19:52:46.9±4.0, 18°.44S×174°.96W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.6/30, mbtmp4.2/3, Error ellipse: s-maj=172.6km s-min=82.5km az=158.0*

ISC 03 19:52:37.1±1.5, 17°.8S±0°.2×173°.1W±0°.3, h26km, n20, σ2°.53/22, mb4.4/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.06**	**19**		**Pn**	**19 53 35.7**	**-1.8**
RAO	**Raoul Island**	**12.24**	**200**	Pn	**Pn**	**19 55 28.1**	**-1.6**
CTAO	**Charters Tower**	**38.45**	**260**	P	**P**	**19 59 57.1**	**+0.1**
TOO	**Toolangi**	**41.22**	**233**	P	**P**	**20 00 19.6**	**-0.4**
STKA	**Stephens Creek**	**43.14**	**242**	P	**P**	**20 00 34.1**	**-1.5**
	1.8nm,0.8s,baz=120,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**43.14**	**242**	P	**P**	**20 00 34.1**	**-1.5**
BBOO	**Buckleboo**	**47.90**	**242**	P	**P**	**20 01 12.5**	**-0.8**
WR0	**Warramunga Arr**	**49.42**	**259**	P	**P**	**20 01 24.3**	**-0.9**
WR0				IAmb	IAmb	20 01 43.3	
	comp=Z,4.8nm,1.2s						
WB0	**Warramunga Arr**	**49.59**	**259**	P	**P**	**20 01 25.5**	**-1.0**
WB0				IAmb	IAmb	20 01 26.6	
	comp=Z,9.5nm,1.5s						
WB2	**Warramunga Arr**	**49.60**	**259**	P	**P**	**20 01 25.2**	**-1.4**
WRAB	**Tennant Creek**	**49.61**	**259**	P	**P**	**20 01 25.9**	**-0.7**
WRAB				IAmb	IAmb	20 01 51.5	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**49.62**	**259**	P	**P**	**20 01 25.9**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=98,slow=7.3,SNR=71						
WRA				PcP	**PcP**	**20 02 55.2**	**+7.1**
	comp=Z,0.5nm,1.0s,baz=96,slow=5.1,SNR=1.4						
WRA	**Warramunga Arr**	**49.62**	**259**	P	**P**	**20 01 25.5**	**-1.2**
AS31	**Alice Springs**	**49.68**	**254**	P	**P**	**20 01 26.1**	**-1.1**
AS31				IAmb	IAmb	20 01 27.8	
	comp=Z,1.4nm,0.3s						
ASAR	**Alice Springs**	**49.68**	**254**	P	**P**	**20 01 26.4**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=86,slow=7.9,SNR=40						
ASAR				PcP	**PcP**	**20 02 55.2**	**+7.0**
	comp=Z,0.2nm,0.5s,baz=103,slow=4.5,SNR=1.7						
ASAR	**Alice Springs**	**49.68**	**254**	P	**P**	**20 01 26.1**	**-1.0**
MTN	**Manton Dam**	**53.85**	**267**	P	**P**	**20 01 57.0**	**-1.3**
KNRA	**Kununurra**	**55.52**	**263**	P	**P**	**20 02 10.9**	**+0.5**
KNRA				IAmb	IAmb	20 02 13.3	
	comp=Z,6.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**58.02**	**259**	P	**P**	**20 02 28.5**	**+0.3**
PSA00	**Pilbara Seismi**	**62.82**	**254**	P	**P**	**20 03 00.6**	**-0.4**
PSA00				IAmb	IAmb	20 03 01.6	
	comp=Z,3.5nm,0.7s						

MEX ***03*** *20:20:00.4±0.8, 27°.33N×111°.35W, h16km±14km, MD3.8*

ECX 03 20:20:00.5±0.8, 27°.59N×111°.50W, h10km±10km, MD3.0, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.63**	**61**	*e*P		20 20 11.5	-1.3
GUYB				*i* S		20 20 20.6	-0.5
GUYB	**Guaymas**	**0.63**	**61**	*e*P		20 20 11.3	-1.4
GUYB				*i* S		20 20 20.5	-0.6
SRIG	**Santa Rosalia**	**0.71**	**248**	*i* P		20 20 12.8	-1.5
SRIG				*e*S		20 20 22.8	-0.8
SRIG	**Santa Rosalia**	**0.71**	**248**	⇑*i* P		20 20 12.9	-1.4
SRIG				*i* S		20 20 22.9	-0.8
HSIG		**1.50**	**19**	*e*P		20 20 27.1	-0.5
HSIG				*e*S		20 20 46.1	-1.1
HSIG		**1.50**	**19**	*e*P		20 20 27.0	-0.6
HSIG				*e*S		20 20 45.8	-1.4

IDC ***03*** *20:28:20.3±0.4, 26°.59S×114°.93W, h0km, mb4.6/28, mb1 4.7/29, mb1mx4.6/44, mbtmp4.5/29, ML3.8/1, MS5.3/3, Ms1 5.3/3, ms1mx4.3/49, Error ellipse: s-maj=14.8km s-min=13.6km az=104.0*

MOS ***03*** *20:28:21.6±0.9, 26°.46S×114°.74W, h10km, mb5.2/8, Error ellipse: s-maj=12.0km s-min=7.5km az=82.9*

NEIC ***03*** *20:28:22.4±1.4, 26°.6S±0°.1×114°.8W±0°.1, h10km±1km, mb5.2/263, Error ellipse: s-maj=17.7km s-min=15.9km az=167.0*

UNK ***03*** *20:28:22.4, 26°.64S×114°.82W, h10km*

GCMT ***03*** *20:28:27.4±0.2, 26°.82S±0°.01×114°.67W±0°.01, h12km, MW5.5/138, Moment Tensor Solution. s112,c168; s138,c235; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr=1.11±.04; Mθθ=1.27±.04; Mφφ=-0.16±.05; Mrθ=0.18±.10; Mrφ=-1.99±.04; Mθφ=-0.61±.10; Best double couple: M0=2.26900×10^17 NP1:φs=83.00000°, δ=62.00000°, λ=-162.00000°. NP2:φs=344.00000°, δ=74.00000°, λ=-29.00000°. Principal axes: T 2.7360, Plg8.0000°, Azm36.0000°; N -0.9340, Plg57.0000°, Azm138.0000°; P -1.8020, Plg32.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***03*** *20:28:27.5±0.0, 26°.50S×115°.10W, h25km, mB5.6/5, Ms5.7/6, Ms7 5.5/6*

ISC 03 20:28:22.4±0.3, 26°.58S±0°.07×114°.98W±0°.06, h10km, n704, σ1°.18/674, mb5.2/168, MS5.3/9, 18C-11D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.08**	**97**	Pn	**Pn**	**20 29 36.8**	**-1.7**
	3.3nm,0.3s,baz=318,slow=5.2,SNR=2.7						
RPN	**Rapa Nui**	**5.08**	**97**	P	**Pn**	**20 29 36.2**	**-2.3**
RPN	**Rapa Nui**	**5.08**	**97**		**Pn**	**20 29 36.2**	**-2.3**
RKT	**Rikitea**	**18.46**	**276**	*e*LQ	LQ	20 36 13.5	
	11μm,26.4s						
RKT				*e*LR	LR	20 37 01.0	
	comp=Z,4μm,22.1s						
TAOE	**Nuku Hiva Isla**	**29.65**	**302**	*e*S	**S**	**20 39 22.9**	**-1.4**
	565nm,28.6s						
TAOE				*e*LR	LR	20 42 04.0	
	comp=Z,11μm,29.1s						
TBI	**Tubuai**	**31.37**	**268**	*e*S	**S**	**20 39 55.2**	**+4.4**
	508nm,33.0s						
TBI				*e*LQ	LQ	20 41 42.6	
	4μm,34.0s						
TBI				*e*LR	LR	20 43 01.1	
	comp=Z,2μm,26.2s						
TBI	**Tubuai**	**31.37**	**268**	*e*T	T	21 07 47.5	
	75nm,0.3s						
H03N2	**Juan Fernandez**	**31.84**	**111**	T	T	21 07 56.6	
	baz=277,slow=74						
H03N3	**Juan Fernandez**	**31.85**	**111**	T	T	21 07 57.9	
	baz=277,slow=74						
H03N1	**Juan Fernandez**	**31.86**	**111**	T	T	21 07 57.7	
	baz=277,slow=74,SNR=8416						
PPT2	**Papeete2**	**33.19**	**278**	*e*S	**S**	**20 40 21.5**	**+1.9**
	364nm,23.5s						
PPT2				*e*LQ	LQ	20 42 24.0	
	3μm,26.2s						
PPT2				*e*LR	LR	20 43 49.7	
	comp=Z,4μm,24.5s,baz=111						
LC01	**Cunco**	**37.95**	**120**	P	**P**	**20 35 41.3**	**+1.1**
GO04	**Tololo Observa**	**38.86**	**106**	P	**P**	**20 35 46.0**	**-2.3**
LCO	**Las Campanas**	**39.08**	**104**	P	**P**	**20 35 49.9**	**-0.2**
LCO				pmax	pmax		
	comp=Z,21nm,0.9s						
LCO	**Las Campanas**	**39.08**	**104**	P	**P**	**20 35 49.9**	**-0.2**
PLCA	**Paso Flores**	**39.17**	**123**	P	**P**	**20 35 50.5**	**-0.1**
	comp=Z,38nm,1.0s,baz=274,slow=9.3,SNR=30						
PLCA	**Paso Flores**	**39.17**	**123**	P	**P**	**20 35 50.7**	**+0.1**
PLCA				pmax	pmax		
	comp=Z,51nm,1.1s						
PLCA	**Paso Flores**	**39.17**	**123**	P	**P**	**20 35 50.6**	**+0.1**
PLCA				IAmb	IAmb	20 35 53.9	
	comp=Z,51nm,1.1s						
PLCA	**Paso Flores**	**39.17**	**123**	*e*P	**P**	**20 35 53.1**	**+2.6**
AC05	**El Transito**	**39.47**	**104**	P	**P**	**20 35 51.4**	**-1.9**
AC05				IAmb	IAmb	20 36 06.1	
	comp=Z,54nm,1.1s						
CO01	**Juntas del Tor**	**39.49**	**106**	P	**P**	**20 35 53.2**	**-0.4**
ATAH	**Atahualpa**	**39.79**	**68**	P	**P**	**20 35 58.0**	**+1.6**
	comp=Z,7.8nm,0.8s,baz=273,slow=11,SNR=7.8						
PB14	**IPOC Station P**	**40.10**	**97**	P	**P**	**20 35 56.0**	**-2.8**
GO09	**Cerro Castillo**	**40.53**	**139**	P	**P**	**20 36 01.1**	**-0.5**
ZON	**Zonda**	**40.55**	**108**	P	**P**	**20 36 00.2**	**-1.9**
ZON				pmax	pmax		
	comp=Z,30nm,1.3s						
ZON	**Zonda**	**40.55**	**108**	P	**P**	**20 36 00.2**	**-1.9**
GO02	**Mina Guanaco**	**40.71**	**98**	P	**P**	**20 36 01.8**	**-2.0**
PB07	**IPOC Station P**	**41.27**	**93**	P	**P**	**20 36 08.4**	**+0.1**
PB07				IAmb	IAmb	20 36 39.5	
	comp=Z,116nm,1.7s						
PB09	**IPOC Station P**	**41.83**	**94**	P	**P**	**20 36 13.6**	**+0.8**
PB09				IAmb	IAmb	20 36 19.6	
	comp=Z,78nm,1.6s						
LVC	**Limon Verde**	**41.91**	**95**	P	**P**	**20 36 13.6**	**-0.1**
	comp=Z,11nm,1.1s,baz=262,slow=10.0,SNR=3.6						
LVC	**Limon Verde**	**41.91**	**95**	P	**P**	**20 36 13.5**	**-0.2**
LVC				pmax	pmax		
	comp=Z,57nm,1.6s						
LVC	**Limon Verde**	**41.91**	**95**	P	**P**	**20 36 13.5**	**-0.2**
OTAV	**Otavalo**	**44.14**	**59**	P	**P**	**20 36 32.1**	**+0.2**
OTAV				pmax	pmax		
	comp=Z,16nm,1.0s						
OTAV	**Otavalo**	**44.14**	**59**	P	**P**	**20 36 32.1**	**+0.2**
OTAV	**Otavalo**	**44.14**	**59**	*e*P	**P**	**20 36 33.1**	**+1.2**
CZSB	**Cruzeiro do Su**	**44.27**	**73**	*e*P	**P**	**20 36 33.2**	**+0.8**
LPAZ	**La Paz**	**44.59**	**87**	P	**P**	**20 36 34.6**	**-1.1**
	comp=Z,3.4nm,0.8s,baz=201,slow=2.5,SNR=2.5						
LPAZ	**La Paz**	**44.59**	**87**	P	**P**	**20 36 34.7**	**-1.0**
LPAZ				pmax	pmax		
	comp=Z,17nm,1.3s						
LPAZ	**La Paz**	**44.59**	**87**	P	**P**	**20 36 34.7**	**-1.0**
LPAZ	**La Paz**	**44.59**	**87**	*e*P	**P**	**20 36 35.6**	**-0.1**
GCUF	**Volcan Galeras**	**45.61**	**59**	*e*P	**P**	**20 36 45.6**	**+1.9**
BBAC	**Balboa, Cauca**	**46.20**	**58**	*e*P	**P**	**20 36 46.8**	**-1.2**
TLIG	**Tlapa**	**46.69**	**22**	P	**P**	**20 36 53.0**	**+1.3**
TLIG				IAmb	IAmb	20 37 05.9	
	comp=Z,31nm,1.0s						
JTS	**Las Juntas de**	**46.85**	**42**	P	**P**	**20 36 53.2**	**+0.4**
	comp=Z,19nm,1.0s,baz=293,slow=3.1,SNR=7.0						
JTS				LR	LR	20 51 25.0	
	comp=Z,3μm,21.0s,baz=94,slow=30						
JTS	**Las Juntas de**	**46.85**	**42**	*e*P	**P**	**20 36 54.1**	**+1.3**
JTS	**Las Juntas de**	**46.85**	**42**	P	**P**	**20 36 53.2**	**+0.4**
JTS				pmax	pmax		
	comp=Z,27nm,1.1s						
JTS	**Las Juntas de**	**46.85**	**42**	P	**P**	**20 36 53.2**	**+0.4**
JTS				IAmb	IAmb	20 36 57.2	
	comp=Z,27nm,1.1s						
PTLC	**Puerto Leguiza**	**46.94**	**62**	*e*P	**P**	**20 36 53.0**	**-0.6**
POPC	**Popayan, Colom**	**46.97**	**58**	*e*P	**P**	**20 36 52.3**	**-1.8**
PCON	**Cinco Dias**	**47.04**	**58**	*e*P	P	20 37 03.1	+8.0
FLOC	**Florencia**	**47.14**	**60**	*e*P	**P**	**20 36 56.5**	**+1.3**
FLOC	**Florencia**	**47.14**	**60**	P	**P**	**20 36 54.7**	**-0.5**
CMIG	**Matias Romero**	**47.60**	**26**	P	**P**	**20 36 59.0**	**+0.4**
	comp=Z,4.3nm,1.0s,baz=220,slow=11,SNR=3.9						
APG	**El Apazote**	**47.72**	**33**	P	**P**	**20 37 00.5**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=213,slow=16,SNR=5.5						
MTO3	**Montecristo**	**47.75**	**34**	P	**P**	**20 36 59.5**	**-0.6**
BETC	**Betania**	**48.00**	**59**	*e*P	**P**	**20 37 03.2**	**+1.3**
YOTC	**Yotoco, Valle**	**48.16**	**57**	*e*P	**P**	**20 37 04.5**	**+1.2**
TGUH	**Tegucigalpa,Un**	**48.55**	**37**	*e*P	**P**	**20 37 08.5**	**+2.3**
ETMB	**Extrema**	**48.92**	**79**	*e*P	**P**	**20 37 12.4**	**+3.4**
ORTC	**Ortega, Tolima**	**48.94**	**58**	*e*P	**P**	**20 37 10.5**	**+1.4**
PRAC	**Prado**	**49.09**	**58**	*e*P	**P**	**20 37 09.2**	**-1.1**
ANIL	**Santa Ana**	**49.20**	**57**	*e*P	**P**	**20 37 12.3**	**+0.9**
TOLC	**Tolima**	**49.32**	**57**	*e*P	**P**	**20 37 12.5**	**+0.1**
PETF	**Flores**	**49.65**	**32**	P	**P**	**20 37 14.4**	**0.0**
CBOC	**Ciudad Bolivar**	**49.65**	**55**	*e*P	**P**	**20 37 15.3**	**+0.6**
GUY2C	**Guyana, Caldas**	**49.71**	**56**	*e*P	**P**	**20 37 14.1**	**-1.4**
PMSA	**Palmer Station**	**49.91**	**154**	P	**P**	**20 37 16.3**	**+0.5**
	comp=Z,2.9nm,1.0s,baz=298,slow=12,SNR=2.3						
PMSA	**Palmer Station**	**49.91**	**154**	P	**P**	**20 37 16.8**	**+1.0**
GUVC	**San Jose del G**	**50.10**	**61**	*e*P	**P**	**20 37 19.0**	**+1.0**
ROSC	**El Rosal**	**50.24**	**58**	P	**P**	**20 37 19.6**	**+0.2**
ROSC				IAmb	IAmb	20 37 42.1	
	comp=Z,27nm,1.1s						
VILC	**Villavicencio,**	**50.25**	**59**	*e*P	**P**	**20 37 20.6**	**+1.3**
CHIC	**Chingaza**	**50.55**	**58**	*e*P	**P**	**20 37 22.0**	**+0.2**
SPBC	**San Pablo de B**	**50.95**	**57**	*e*P	**P**	**20 37 23.9**	**-0.6**
SIV	**San Ignacio**	**51.01**	**89**	P	**P**	**20 37 23.6**	**-1.3**
	comp=Z,3.6nm,0.9s,baz=244,slow=10,SNR=11						
CPUP	**Villa Florida**	**51.22**	**103**	P	**P**	**20 37 25.1**	**-1.2**
	comp=Z,3.3nm,0.9s,baz=217,slow=14,SNR=2.8						
PTBC	**PUERTO BERRIO,**	**51.25**	**56**	*e*P	**P**	**20 37 27.3**	**+0.7**
UREC	**San Jos de Ur**	**51.27**	**54**	*e*P	**P**	**20 37 27.3**	**+0.5**
RUSC	**La Rusia**	**51.86**	**58**	*e*P	**P**	**20 37 30.0**	**-1.7**
RUSC	**La Rusia**	**51.86**	**58**	P	**P**	**20 37 31.3**	**-0.4**
MOTC	**Monteria, Cord**	**51.88**	**53**	*e*P	**P**	**20 37 29.9**	**-1.4**
SAML	**Samuel**	**51.98**	**80**	*e*P	**P**	**20 37 35.4**	**+3.2**
SAML	**Samuel**	**51.98**	**80**	P	**P**	**20 37 31.8**	**-0.3**
SAML				pmax	pmax		
	comp=Z,13nm,1.2s						
SAML	**Samuel**	**51.98**	**80**	P	**P**	**20 37 31.8**	**-0.3**
SAML	**Samuel**	**51.98**	**80**	*e*P	**P**	**20 37 34.5**	**+2.4**
BARC	**Barichara**	**52.23**	**57**	*e*P	P	20 37 29.3	-4.9
PTLB	**Pontes e Lacer**	**52.94**	**90**	*e*P	**P**	**20 37 41.3**	**+2.1**
VILB	**Vilhena**	**52.95**	**86**	*e*P	**P**	**20 37 41.3**	**+2.0**
SJCC	**San Jacinto, C**	**53.00**	**52**	*e*P	**P**	**20 37 40.1**	**+0.4**
SMLC	**San Martn de**	**53.04**	**54**	*e*P	**P**	**20 37 40.1**	**+0.2**
PAMC	**Pamplona, Colo**	**53.08**	**57**	*e*P	**P**	**20 37 42.1**	**+1.2**
OCAC	**Ocana**	**53.22**	**55**	*e*P	**P**	**20 37 42.1**	**+0.7**
TEIG	**Tepich**	**53.26**	**32**	P	**P**	**20 37 40.5**	**-0.8**
	comp=Z,8.9nm,0.7s,baz=209,slow=13,SNR=4.0						
TEIG	**Tepich**	**53.26**	**32**	P	**P**	**20 37 40.3**	**-1.1**
TEIG				IAmb	IAmb	20 38 59.8	
	comp=Z,72nm,1.6s						
CPSB	**Cacapava Do Su**	**53.65**	**109**	*e*P	**P**	**20 37 47.4**	**+3.1**
AQDB	**Aquidauana**	**54.29**	**97**	*e*P	**P**	**20 37 50.9**	**+1.8**
HSIG		**55.42**	**4**	P	**P**	**20 37 57.5**	**+0.5**
SDV	**Santo Domingo**	**55.64**	**57**	P	**P**	**20 37 59.0**	**-0.1**
	comp=Z,10.0nm,0.3s,baz=146,slow=2.9,SNR=3.3						
URIC	**Uribia, Colomb**	**56.50**	**53**	P	**P**	**20 38 04.9**	**-0.1**
833A	**Chaparral WMA,**	**56.61**	**16**	P	**P**	**20 38 04.8**	**-0.7**
	baz=196						
833A	**Chaparral WMA,**	**56.61**	**16**	P	**P**	**20 38 06.1**	**+0.6**
833A				IAmb	IAmb	20 38 14.2	
	comp=Z,19nm,0.9s						
TX32	**Lajitas Array**	**56.65**	**12**	P	**P**	**20 38 06.2**	**+0.4**
TXAR	**Lajitas Array**	**56.65**	**12**	P	**P**	**20 38 06.4**	**+0.5**
	comp=Z,2.1nm,1.0s,baz=186,slow=10,SNR=16						
TXAR	**Lajitas Array**	**56.65**	**12**	P	**P**	**20 38 05.9**	**0.0**
TXAR	**Lajitas Array**	**56.65**	**12**	P	**P**	**20 38 05.9**	**0.0**
TX31	**Lajitas Ar. Si**	**56.65**	**12**	P	**P**	**20 38 06.4**	**+0.5**
TX31				IAmb	IAmb	20 38 34.6	
	comp=Z,64nm,1.7s						
MACA	**Manacapuru-AM**	**56.90**	**75**	*e*P	**P**	**20 38 10.8**	**+2.9**
SPX	**San Pedro Mart**	**57.30**	**360**	P	**P**	**20 38 11.6**	**+0.8**
URZ	**Urewera**	**57.34**	**240**	P	**P**	**20 38 09.8**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=190,slow=12,SNR=1.7						
URZ				LR	LR	20 57 41.3	
	comp=Z,5μm,20.1s,baz=192,slow=31						
BKZ	**Black Stump Fm**	**57.67**	**239**	P	**P**	**20 38 14.8**	**+1.6**
BKZ				IAmb	IAmb	20 38 37.8	
	comp=Z,26nm,1.3s						
CLDB	**Colider**	**57.73**	**86**	*e*P	**P**	**20 38 17.4**	**+3.6**
PIX	**Pinacate**	**57.84**	**2**	P	**P**	**20 38 16.8**	**+2.7**
319A	**Douglas**	**57.89**	**6**	P	**P**	**20 38 14.6**	**0.0**
319A				IAmb	IAmb	20 38 42.2	
	comp=Z,40nm,1.2s						
MSWZ	**Moikau Station**	**58.25**	**236**	P	**P**	**20 38 19.2**	**+2.1**
214A	**Organ Pipe Nat**	**58.25**	**2**	P	**P**	**20 38 16.4**	**-0.7**
	baz=182						
214A	**Organ Pipe Nat**	**58.25**	**2**	P	**P**	**20 38 17.9**	**+0.8**
214A				IAmb	IAmb	20 38 20.4	
	comp=Z,27nm,1.3s						
JCT	**Junction City**	**58.57**	**15**	P	**P**	**20 38 19.6**	**+0.3**
JCT				pmax	pmax		
	comp=Z,49nm,0.9s						
JCT	**Junction City**	**58.57**	**15**	P	**P**	**20 38 19.4**	**+0.1**
	baz=196						
JCT	**Junction City**	**58.57**	**15**	P	**P**	**20 38 19.6**	**+0.3**
MNTX	**Cornudas Mount**	**58.68**	**10**	P	**P**	**20 38 21.1**	**+1.1**
	baz=190						
MNTX	**Cornudas Mount**	**58.68**	**10**	P	**P**	**20 38 19.9**	**-0.2**
TUC	**Tucson**	**58.70**	**4**	P	**P**	**20 38 21.8**	**+1.5**
TUC				pmax	pmax		
	comp=Z,12nm,1.1s						
TUC	**Tucson**	**58.70**	**4**	P	**P**	**20 38 21.0**	**+0.7**
	baz=184						
TUC	**Tucson**	**58.70**	**4**	P	**P**	**20 38 21.8**	**+1.5**
PTGA	**Pitinga**	**58.73**	**73**	P	**P**	**20 38 19.2**	**-1.7**
	comp=Z,4.6nm,0.9s,baz=258,slow=5.0,SNR=2.7						
PTGA	**Pitinga**	**58.73**	**73**	P	**P**	**20 38 19.4**	**-1.4**
PTGA				IAmb	IAmb	20 38 25.8	
	comp=Z,23nm,1.4s						
PTGA	**Pitinga**	**58.73**	**73**	*e*P	**P**	**20 38 24.7**	**+3.9**
RMX	**La Rumorosa**	**58.87**	**359**	P	**P**	**20 38 20.9**	**-0.6**
RMX				IAmb	IAmb	20 38 23.8	
	comp=Z,16nm,1.0s						
IKP	**In-Ko-Pah, Jac**	**58.91**	**359**	P	**P**	**20 38 22.3**	**+0.6**
	baz=179,SNR=6.6						
BAR	**Barrett**	**58.96**	**358**	P	**P**	**20 38 21.8**	**-0.2**
BAR				IAmb	IAmb	20 38 25.2	
	comp=Z,30nm,1.3s						
113A	**Mohawk Valley,**	**59.03**	**1**	P	**P**	**20 38 23.9**	**+1.5**
113A				IAmb	IAmb	20 38 32.1	
	comp=Z,19nm,1.0s						
HKT	**Hockley**	**59.13**	**19**	P	**P**	**20 38 23.4**	**+0.3**
HKT				pmax	pmax		
	comp=Z,142nm,2.0s						
HKT	**Hockley**	**59.13**	**19**	P	**P**	**20 38 23.4**	**+0.3**
MONP2	**Monument Peak**	**59.16**	**359**	P	**P**	**20 38 23.9**	**+0.3**
	baz=178,SNR=7.2						
109C	**Camp Elliot, M**	**59.18**	**358**	P	**P**	**20 38 23.7**	**+0.3**
	baz=178						
121A	**Cookes Peak, D

baz=179,SNR=11
237A Washetta, Mont 61.06 19 P **P 20 38 37.0 +0.6**
HEC Hector,Ludlow 61.09 359 P **P 20 38 37.4 +0.8**
baz=178
NATX Nacogdoches 61.17 20 P **P 20 38 37.1 0.0**
baz=200
EDW2 Edwards Air Fo 61.20 357 P **P 20 38 38.2 +0.9**
baz=177,SNR=5.9
MSTX Muleshoe 61.33 12 P **P 20 38 38.1 -0.2**
baz=192
MSTX Muleshoe 61.33 12 P **P 20 38 38.0 -0.4**
MSTX IAmb IAmb 20 38 46.1
comp=Z,22nm,0.8s
W13A Hualapai Mount 61.36 1 P **P 20 38 39.9 +1.2**
ARVC Arvin 61.48 356 P **P 20 38 39.9 +0.7**
baz=176
GSC Goldstone, Bar 61.57 358 P **P 20 38 40.3 +0.4**
GSC pmax pmax
comp=Z,22nm,1.2s
GSC Goldstone, Bar 61.57 358 P **P 20 38 40.7 +0.8**
baz=178,SNR=10
GSC Goldstone, Bar 61.57 358 P **P 20 38 40.3 +0.4**
GSC IAmb IAmb 20 39 44.8
comp=Z,22nm,1.1s
TUQ Turquoise Moun 61.69 359 P **P 20 38 40.6 -0.1**
baz=179
ANMO Albuquerque 61.73 8 P **P 20 38 40.3 -0.8**
comp=Z,0.3nm,1.0s,baz=86,slow=14,SNR=8.9
ANMO Albuquerque 61.73 8 P **P 20 38 41.5 +0.4**
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 61.73 8 P **P 20 38 41.5 +0.4**
SMMC Simmler 61.74 355 P **P 20 38 40.4 -0.6**
baz=175
LRMC Laurel Mtn Rad 61.78 358 P **P 20 38 43.0 +1.6**
baz=177,SNR=7.9
WUAZ Wupatki 61.86 3 P **P 20 38 42.7 +0.8**
WUAZ IAmb IAmb 20 40 02.2
comp=Z,16nm,1.0s
ISA Isabella, Lake 62.00 357 P **P 20 38 43.7 +1.0**
baz=176
MSVF Nonsavu 62.05 263 P **P 20 38 43.7 +0.1**
MSVF pmax pmax
comp=Z,45nm,1.2s
MSVF Nonsavu 62.05 263 P **P 20 38 43.7 +0.1**
SHOC Shoshone, Teco 62.16 359 P **P 20 38 44.7 +1.0**
baz=178
BELA Belgrano 2 62.18 166 P **P 20 38 42.4 -1.0**
MPMC Manual Prospec 62.35 358 P **P 20 38 45.6 +0.3**
baz=177,SNR=12
AMTX Amarillo 62.42 12 P **P 20 38 45.8 +0.1**
baz=193
AMTX Amarillo 62.42 12 P **P 20 38 45.7 +0.1**
U15A North Rim 62.73 2 P **P 20 38 47.7 -0.2**
U15A IAmb IAmb 20 38 57.6
comp=Z,24nm,1.0s
FURC Furnace Creek, 62.74 358 P **P 20 38 48.9 +1.4**
baz=178,SNR=7.2
SHPR Sheep Range 62.75 360 P **P 20 38 49.3 +1.4**
CWC Cottonwood Cre 62.75 357 P **P 20 38 48.3 +0.4**
baz=177
VNDA Vanda 62.77 194 P **P 20 38 47.2 -0.2**
comp=Z,2.0nm,0.9s,baz=132,slow=1.5,SNR=6.2
VNDA Vanda 62.77 194 P **P 20 38 47.8 +0.4**
VNDA pmax pmax
comp=Z,11nm,1.3s
VNDA Vanda 62.77 194 P **P 20 38 47.8 +0.4**
BDFB Brasilia 62.82 95 P **P 20 38 47.9 -0.9**
comp=Z,3.7nm,0.8s,baz=211,slow=5.1,SNR=4.6
WMOK Wichita Mounta 62.89 15 P **P 20 38 47.1 -1.6**
WMOK pmax pmax
comp=Z,8.0nm,1.1s
WMOK Wichita Mounta 62.89 15 P **P 20 38 47.9 -0.7**
baz=196
WMOK Wichita Mounta 62.89 15 P **P 20 38 47.1 -1.6**
VBMS Vicksburg 62.95 23 P **P 20 38 50.3 +1.2**
baz=204
VBMS Vicksburg 62.95 23 P **P 20 38 48.0 -1.1**
143A Socs Landing, 63.09 22 P **P 20 38 49.6 -0.3**
Z41A Richland Creek 63.14 21 P **P 20 38 49.8 -0.5**
baz=202
Z41A Richland Creek 63.14 21 P **P 20 38 50.1 -0.2**
TPNV Topopah Spring 63.20 359 P **P 20 38 52.8 +1.9**
TPNV pmax pmax
comp=Z,23nm,1.2s
TPNV Topopah Spring 63.20 359 P **P 20 38 52.3 +1.4**
baz=179,SNR=9.9
TPNV Topopah Spring 63.20 359 P **P 20 38 52.8 +1.9**
TPNV IAmb IAmb 20 39 01.0
comp=Z,23nm,1.1s
DWPF Disney Wildern 63.22 33 P **P 20 38 52.6 +1.7**
baz=213
GRAC Grapevine Rang 63.28 358 P **P 20 38 51.8 +0.5**
baz=178
TIN Tinemaha, Big 63.37 357 P **P 20 38 53.8 +1.9**
baz=177
WLAR White Oak Lake 63.44 20 P **P 20 38 52.8 +0.5**
QSPA South Pole Qui 63.58 180 P **P 20 38 53.0 -0.2**
X37A Clayton 63.62 18 P **P 20 38 53.0 -0.5**
X37A IAmb IAmb 20 39 00.9
comp=Z,16nm,0.8s
PRN Pahroc Range 63.65 360 P **P 20 38 54.6 +0.8**
MVCO Mesa Verde 63.75 6 P **P 20 38 54.1 -0.4**
baz=186
W35A Tecumseh 63.75 16 P **P 20 38 54.4 0.0**
CCUT Cedar City 63.81 1 P **P 20 38 55.8 +0.9**
SZCU Shurtz Canyon 63.86 2 P **P 20 38 55.6 +0.3**
PEXB Peixe 63.93 91 *e*P **P 20 38 58.1 +2.0**
MLAC Mammoth, Mammo 63.98 357 P **P 20 38 55.9 -0.1**
baz=176
MDPB Devils Postpil 63.99 356 P **P 20 38 57.1 +0.9**
BCOK Bluff Creek, N 64.04 16 P **P 20 38 56.6 +0.3**
MIAR Mount Ida 64.09 20 P **P 20 38 56.2 -0.4**
MIAR pmax pmax
comp=Z,12nm,0.9s
MIAR Mount Ida 64.09 20 P **P 20 38 55.3 -1.3**
baz=201,SNR=8.7
MIAR Mount Ida 64.09 20 P **P 20 38 56.2 -0.4**
MIAR IAmb IAmb 20 39 04.2
comp=Z,12nm,0.8s
T25A Trinidad 64.16 9 P **P 20 38 56.6 -0.6**
baz=190
T25A Trinidad 64.16 9 P **P 20 38 56.3 -0.9**
T25A IAmb IAmb 20 38 59.6
comp=Z,27nm,1.4s
OK029 Liberty Lake 64.22 16 P **P 20 38 57.2 -0.2**
X40A Basin Creek Fa 64.26 20 P **P 20 38 56.8 -0.9**
baz=202
X40A Basin Creek Fa 64.26 20 P **P 20 38 57.8 +0.1**
250A Grady 64.35 27 P **P 20 38 58.8 +0.4**
TPH Tonopah 64.35 358 P **P 20 38 59.3 +0.8**
TPH pmax pmax
comp=Z,40nm,0.8s
TPH Tonopah 64.35 358 P **P 20 38 59.3 +0.8**
U32A Winter Ranch, 64.41 14 P **P 20 38 58.2 -0.5**
S22A 4UR Ranch, Cre 64.45 7 P **P 20 38 59.6 +0.3**
baz=188
CMB Columbia Colle 64.48 355 P **P 20 39 00.7 +1.6**
CMB pmax pmax
comp=Z,20nm,1.1s
CMB Columbia Colle 64.48 355 P **P 20 39 00.7 +1.6**
CMB IAmb IAmb 20 39 08.7
comp=Z,20nm,1.1s
R11A Troy Canyon, C 64.59 359 P **P 20 39 00.5 +0.5**
baz=179,SNR=7.6
R11A Troy Canyon, C 64.59 359 P **P 20 39 01.2 +1.1**
R11A IAmb IAmb 20 39 10.2
comp=Z,23nm,1.2s
SDCO Great Sand Dun 64.61 8 P **P 20 38 59.6 -0.7**
baz=189
SDCO Great Sand Dun 64.61 8 P **P 20 39 01.4 +1.1**
SDCO IAmb IAmb 20 39 09.1
comp=Z,23nm,1.2s
W39A Magazine 64.64 19 P **P 20 38 59.8 -0.3**
baz=201
W39A Magazine 64.64 19 P **P 20 38 59.9 -0.3**
W39A IAmb IAmb 20 39 08.0
comp=Z,14nm,0.9s
UALR University of 64.68 21 P **P 20 39 00.4 0.0**
Z47A Carrollton 64.73 25 P **P 20 39 00.7 -0.1**
NV11 Mina Array Sit 64.74 357 P **P 20 39 01.8 +0.8**
NV11 IAmb IAmb 20 39 10.8
comp=Z,27nm,1.1s
TUL1 Leonard 64.75 17 P **P 20 39 00.5 -0.3**
TUL1 IAmb IAmb 20 39 08.4
comp=Z,17nm,0.9s

NVAR Mina Array Bea 64.75 357 P **P 20 39 01.9 +0.8**
comp=Z,11nm,1.0s,baz=183,slow=8.2,SNR=33
PSUT Pine Spring 64.78 1 P **P 20 39 02.9 +1.5**
X43A Marvell 64.92 22 P **P 20 39 02.4 +0.4**
baz=204
RYN Ryan 64.95 357 P **P 20 39 03.3 +0.9**
RYN IAmb IAmb 20 39 12.1
comp=Z,26nm,1.5s
TIGA Tifton 65.02 29 P **P 20 39 03.1 +0.4**
baz=211
PRPB Parauapebas 65.08 84 *e*P **P 20 39 07.4 +3.8**
W41B Gary Mavity, V 65.08 20 P **P 20 39 03.0 -0.1**
baz=202,SNR=13
W41B Gary Mavity, V 65.08 20 P **P 20 39 02.9 -0.1**
WHAR Wooly Hollow 65.17 20 P **P 20 39 03.8 +0.1**
WHAR IAmb IAmb 20 39 11.7
comp=Z,21nm,0.8s
YERR Yerington 65.35 356 P **P 20 39 06.5 +1.5**
YERR IAmb IAmb 20 39 14.8
comp=Z,23nm,1.1s
KVN Kaiserville 65.36 357 P **P 20 39 06.3 +1.3**
KVN pmax pmax
comp=Z,33nm,1.4s
KVN Kaiserville 65.36 357 P **P 20 39 06.3 +1.3**
KVN IAmb IAmb 20 39 14.7
comp=Z,33nm,1.4s
AFDM Forest Hills D 65.43 355 P **P 20 39 06.3 +1.1**
AFDM IAmb IAmb 20 39 09.3
comp=Z,32nm,1.6s
PNTR Pine Nut 65.47 356 P **P 20 39 08.3 +2.6**
SRU San Rafael Swe 65.48 4 P **P 20 39 06.4 +0.6**
SRU pmax pmax
comp=Z,28nm,1.1s
SRU San Rafael Swe 65.48 4 P **P 20 39 06.4 +0.6**
T35A Sooner Cattle 65.51 16 P **P 20 39 05.8 0.0**
T35A IAmb IAmb 20 39 14.0
comp=Z,19nm,0.8s
HHAR Hobbs 65.60 19 P **P 20 39 05.9 -0.5**
HHAR IAmb IAmb 20 39 14.1
comp=Z,28nm,1.5s
MCPB Macapa, AP 65.78 78 *e*P **P 20 39 10.4 +2.3**
FCAR Ozark Folk Cen 65.78 20 P **P 20 39 07.0 -0.6**
P17A Butcher Ranch, 65.83 4 P **P 20 39 08.5 +0.5**
Q24A Divide 65.85 8 P **P 20 39 08.2 -0.2**
baz=189
Y49A Blount Mountai 65.95 26 P **P 20 39 08.1 -0.6**
Y49A IAmb IAmb 20 39 16.3
comp=Z,14nm,0.9s
U40A Yellville 65.99 19 P **P 20 39 07.2 -1.7**
baz=201,SNR=8.5
U40A Yellville 65.99 19 P **P 20 39 08.5 -0.4**
U40A IAmb IAmb 20 39 16.8
comp=Z,26nm,0.9s
PAHR Pah Rah Range 66.08 356 P **P 20 39 12.0 +2.4**
PAHR IAmb IAmb 20 39 19.2
comp=Z,42nm,1.8s
ORV Oroville 66.08 354 P **P 20 39 11.0 +1.6**
ORV pmax pmax
comp=Z,21nm,1.5s
ORV Oroville 66.08 354 P **P 20 39 11.0 +1.6**
ORV IAmb IAmb 20 39 12.9
comp=Z,21nm,1.5s
W45A Hickory Valley 66.08 23 P **P 20 39 09.2 -0.3**
X48A Hartselle 66.23 25 P **P 20 39 09.9 -0.6**
154A Montrose 66.23 29 P **P 20 39 09.8 -0.7**
LCAR Lake Charles 66.25 21 P **P 20 39 10.1 -0.4**
LCAR IAmb IAmb 20 39 18.3
comp=Z,20nm,1.4s
NLU North Lily Min 66.25 2 P **P 20 39 11.9 +1.1**
KSCO Kaye Shedlock' 66.27 10 P **P 20 39 11.7 +0.9**
baz=192
KSCO Kaye Shedlock' 66.27 10 P **P 20 39 10.6 -0.3**
PLAL Pickwick Lake 66.32 24 P **P 20 39 09.5 -1.5**
PLAL IAmb IAmb 20 40 15.0
comp=Z,13nm,0.9s
JANB Januaria 66.34 96 *e*P P 20 39 16.7 +4.9
DUG Dugway, Tooele 66.47 2 P **P 20 39 13.4 +1.4**
DUG pmax pmax
comp=Z,20nm,1.1s
DUG Dugway, Tooele 66.47 2 P **P 20 39 13.5 +1.5**
baz=182,SNR=8.5
DUG Dugway, Tooele 66.47 2 P **P 20 39 13.4 +1.4**
DUG IAmb IAmb 20 39 21.6
comp=Z,20nm,1.1s
CBKS Cedar Bluff 66.60 13 P **P 20 39 11.8 -1.0**
baz=195
ISCO Idaho Springs 66.62 8 P **P 20 39 12.6 -0.6**
baz=189
O20A White River Ci 66.67 6 P **P 20 39 13.1 -0.4**
baz=186
GOGA Godfrey 66.76 28 P **P 20 39 13.3 -0.6**
GOGA pmax pmax
comp=Z,12nm,1.1s
GOGA Godfrey 66.76 28 P **P 20 39 14.0 +0.1**
baz=210
GOGA Godfrey 66.76 28 P **P 20 39 13.3 -0.6**
FPAL Fort Paine 66.86 26 P **P 20 39 13.7 -0.9**
Y52A Lilburn 66.90 28 P **P 20 39 13.5 -1.3**
MGMO Mountain Grove 66.90 20 P **P 20 39 14.6 -0.1**
JLU Jordanelle 66.92 3 P **P 20 39 15.8 +0.7**
RDMU Red Mountain 67.00 4 P **P 20 39 15.4 -0.2**
S39A Bolivar 67.09 19 P **P 20 39 15.7 -0.3**
S39A IAmb IAmb 20 39 23.8
comp=Z,24nm,1.2s
T42A Van Buren 67.15 21 P **P 20 39 15.6 -0.7**
T42A IAmb IAmb 20 39 23.8
comp=Z,14nm,0.8s
X51A Calhoun 67.18 27 P **P 20 39 15.7 -0.9**
WDC Whiskeytown Da 67.19 354 P **P 20 39 17.2 +0.7**
WDC pmax pmax
comp=Z,34nm,1.3s
WDC Whiskeytown Da 67.19 354 P **P 20 39 17.2 +0.7**
WDC IAmb IAmb 20 39 19.1
comp=Z,34nm,1.3s
157A Early Branch 67.23 31 P **P 20 39 16.4 -0.5**
baz=213
SWET Sewanee 67.33 26 P **P 20 39 16.8 -0.7**
WVT Waverly 67.43 24 P **P 20 39 17.3 -0.8**
WVT pmax pmax
comp=Z,11nm,0.8s
WVT Waverly 67.43 24 P **P 20 39 17.1 -1.0**
baz=206
WVT Waverly 67.43 24 P **P 20 39 17.3 -0.8**
WVT IAmb IAmb 20 39 25.2
comp=Z,11nm,0.8s
V48A Smith Brothers 67.45 25 P **P 20 39 17.3 -1.0**
V48A IAmb IAmb 20 39 25.4
comp=Z,13nm,0.8s
W50A Signal Mountai 67.56 26 P **P 20 39 18.3 -0.7**
KSU1 Kansas State U 67.56 15 P **P 20 39 18.8 -0.1**
baz=198
KSU1 Kansas State U 67.56 15 P **P 20 39 19.1 +0.2**
Z56A Williston 67.61 30 P **P 20 39 18.6 -0.7**
baz=212
SJMB Sao Joao De Ma 67.75 100 *e*P **P 20 39 24.3 +3.7**
Z57A Bowman 67.88 31 P **P 20 39 20.0 -1.0**
baz=213
Y55A Saluda 67.91 29 P **P 20 39 20.7 -0.5**
baz=212
CLTN Cedars of Leba 67.95 25 P **P 20 39 20.5 -0.9**
R40A Maddies Statio 67.95 19 P **P 20 39 21.0 -0.4**
R40A IAmb IAmb 20 39 29.1
comp=Z,22nm,0.9s
NHSC New Hope 67.97 31 P **P 20 39 20.9 -0.6**
baz=213
W52A Murphy 68.02 27 P **P 20 39 21.4 -0.5**
W52A IAmb IAmb 20 39 29.5
comp=Z,17nm,1.1s
Y56A Pelion 68.03 30 P **P 20 39 22.2 +0.3**
baz=212
CCM Cathedral Cave 68.05 20 P **P 20 39 21.4 -0.5**
CCM pmax pmax
comp=Z,22nm,0.9s
CCM Cathedral Cave 68.05 20 P **P 20 39 21.2 -0.8**
baz=203
CCM Cathedral Cave 68.05 20 P **P 20 39 21.4 -0.5**
CCM IAmb IAmb 20 39 29.6
comp=Z,22nm,0.8s
CPCT Cooper Cave 68.09 26 P **P 20 39 21.6 -0.7**
CPCT IAmb IAmb 20 40 34.6
comp=Z,35nm,1.6s
FVM French Village 68.23 21 P **P 20 39 22.8 -0.3**
FVM pmax pmax
comp=Z,13nm,0.8s
FVM French Village 68.23 21 P **P 20 39 22.8 -0.3**

FVM IAmb IAmb 20 39 31.0
comp=Z,13nm,0.8s
OGNE Ogallala 68.25 11 P **P 20 39 22.8 -0.5**
baz=192
TMAB Tom-Au,PA,Br 68.32 81 *e*P **P 20 39 27.8 +3.6**
MOD Modoc Plateau 68.32 356 P **P 20 39 24.9 +1.1**
MOD IAmb IAmb 20 39 33.2
comp=Z,18nm,0.8s
BG3 Lake Jocassee 68.34 28 P **P 20 39 23.5 -0.4**
BG3 IAmb IAmb 20 39 39.5
comp=Z,37nm,1.9s
S44A Carbondale 68.35 22 P **P 20 39 23.8 -0.1**
JSC Jenkinsville 68.46 30 P **P 20 39 24.5 -0.1**
JSC pmax pmax
comp=Z,20nm,0.9s
JSC Jenkinsville 68.46 30 P **P 20 39 24.5 -0.1**
JSC IAmb IAmb 20 41 22.5
comp=Z,20nm,0.9s
T47A Sharon Grove 68.46 24 P **P 20 39 23.8 -0.8**
T47A IAmb IAmb 20 39 32.1
comp=Z,24nm,0.8s
V51A Loudon 68.46 26 P **P 20 39 24.0 -0.6**
U49A Red Boiling Sp 68.53 25 P **P 20 39 24.2 -0.8**
TKL Tuckaleechee C 68.57 27 P **P 20 39 24.7 -0.6**
TKL pmax pmax
comp=Z,11nm,1.1s
TKL Tuckaleechee C 68.57 27 P **P 20 39 24.7 -0.6**
Y57A Sumter 68.63 30 P **P 20 39 25.3 -0.4**
baz=213
X56A White Oak 68.74 30 P **P 20 39 25.9 -0.5**
baz=212
W54A Cherokee Point 68.74 28 P **P 20 39 25.0 -1.3**
baz=211
WVOR Wild Horse Val 68.75 357 P **P 20 39 27.4 +0.9**
WVOR pmax pmax
comp=Z,26nm,1.3s
WVOR Wild Horse Val 68.75 357 P **P 20 39 27.4 +0.9**
WVOR IAmb IAmb 20 39 29.8
comp=Z,26nm,1.3s
P38A Dawn 68.84 18 P **P 20 39 26.7 -0.2**
V53A Saluda 68.97 28 P **P 20 39 27.1 -0.7**
V53A IAmb IAmb 20 40 30.9
comp=Z,24nm,1.1s
AHID Auburn Hatcher 69.10 3 P **P 20 39 28.0 -0.6**
AHID IAmb IAmb 20 39 37.3
comp=Z,20nm,1.1s
BIRD Birdtown, Kers 69.12 30 P **P 20 39 28.8 +0.1**
BIRD IAmb IAmb 20 40 42.0
comp=Z,28nm,1.3s
X57A Johnson Farm, 69.14 30 P **P 20 39 28.4 -0.4**
baz=213
K04D Chiloquin, OR 69.14 355 P **P 20 39 29.5 +0.6**
baz=173
KMSC Kings Mountain 69.15 29 P **P 20 39 28.7 -0.2**
baz=212
KMSC Kings Mountain 69.15 29 P **P 20 39 29.3 +0.3**
KMSC IAmb IAmb 20 40 31.9
comp=Z,16nm,1.2s
P40A Paris 69.17 19 P **P 20 39 29.3 +0.4**
P40A IAmb IAmb 20 39 36.4
comp=Z,12nm,0.8s
K05A Summer Lake 69.18 355 P **P 20 39 30.5 +1.3**
BW06 Boulder Array 69.19 4 P **P 20 39 29.8 +0.6**
baz=185
BW06 Boulder Array 69.19 4 P **P 20 39 29.5 +0.2**
BW06 IAmb IAmb 20 39 37.0
comp=Z,21nm,1.3s
PD31 Pinedale Array 69.19 4 P **P 20 39 29.1 -0.1**
PD31 IAmb IAmb 20 39 37.0
comp=Z,22nm,1.4s
PDAR Pinedale Array 69.19 4 P **P 20 39 28.1 -1.2**
comp=Z,6.5nm,1.1s,baz=176,slow=4.5,SNR=6.8
PDAR Pinedale Array 69.19 4 P **P 20 39 28.7 -0.5**
HUMO Hull Mountain 69.24 354 P **P 20 39 30.4 +1.1**
K22A Casper 69.33 7 P **P 20 39 29.7 -0.4**
baz=188
K22A Casper 69.33 7 P **P 20 39 30.4 +0.3**
T50A Nancy 69.33 25 P **P 20 39 29.2 -0.8**
T50A IAmb IAmb 20 39 37.9
comp=Z,52nm,1.9s
ECR Eagle Creek 69.37 3 P **P 20 39 31.7 +1.3**
BGNE Belgrade 69.42 13 P **P 20 39 30.5 0.0**
baz=196
BGNE Belgrade 69.42 13 P **P 20 39 30.9 +0.4**
TZTN Tazewell 69.43 27 P **P 20 39 30.8 +0.1**
baz=210
TZTN Tazewell 69.43 27 P **P 20 39 30.7 +0.1**
V54A Nebo 69.43 28 P **P 20 39 29.8 -0.9**
baz=211
N35A Tabor 69.47 16 P **P 20 39 31.4 +0.6**
W56A Indian Trail 69.48 30 P **P 20 39 30.5 -0.4**
baz=212
Q44A Meyer Farm, Va 69.53 21 P **P 20 39 31.4 +0.2**
X58A Rowland 69.56 31 P **P 20 39 30.4 -1.0**
baz=214
Y60A Bolivia 69.63 32 P **P 20 39 30.4 -1.5**
baz=215
MFID Camas Ranch 69.66 359 P **P 20 39 32.7 +0.7**
J08A Circle Bar Ran 69.67 357 P **P 20 39 33.3 +1.2**
J08A IAmb IAmb 20 40 37.2
comp=Z,28nm,1.2s
W57A Gilead 69.75 30 P **P 20 39 30.8 -1.9**
baz=213
W57A Gilead 69.75 30 P **P 20 39 32.3 -0.3**
HLID Hailey 69.80 0 P **P 20 39 31.8 -1.2**
baz=180
HLID Hailey 69.80 0 P **P 20 39 33.6 +0.6**
V55A Taylorsville 69.81 29 P **P 20 39 32.1 -0.9**
baz=212
V55A Taylorsville 69.81 29 P **P 20 39 33.2 +0.3**
V55A IAmb IAmb 20 40 36.0
comp=Z,17nm,1.1s
TPAW Teton Pass 69.83 3 P **P 20 39 33.0 -0.3**
TPAW IAmb IAmb 20 39 40.6
comp=Z,20nm,1.1s
VNA3 Neumayer Olymp 69.84 161 P **P 20 39 30.8 -2.0**
WCI Wyandotte Cave 69.86 24 P **P 20 39 31.7 -1.5**
baz=207
X59A McDuffie Farm, 69.91 31 P **P 20 39 32.2 -1.4**
baz=214
LOHW Long Hollow 69.97 3 P **P 20 39 34.4 +0.3**
FXWY Fox Creek 69.97 3 P **P 20 39 34.3 +0.2**
FXWY IAmb IAmb 20 39 43.2
comp=Z,31nm,1.3s
W58A Raeford 69.99 31 P **P 20 39 32.7 -1.4**
baz=214
N38A Joes South For 70.01 17 P **P 20 39 33.8 -0.3**
N38A IAmb IAmb 20 39 41.9
comp=Z,19nm,0.8s
V56A Mocksville 70.08 29 P **P 20 39 33.4 -1.3**
baz=212
X60A Albert Glenn T 70.21 32 P **P 20 39 36.5 +1.0**
baz=215
T53A Wise 70.21 27 P **P 20 39 34.7 -0.8**
baz=210
PINE Pine Mountain 70.24 355 P **P 20 39 36.6 +0.9**
R49A Shelbyville 70.32 25 P **P 20 39 34.9 -1.2**
U55A TA2, Sparta 70.43 29 P **P 20 39 35.5 -1.4**
baz=212
FLWY Flagg Ranch 70.43 3 P **P 20 39 37.6 +0.7**
FLWY IAmb IAmb 20 39 39.1
comp=Z,28nm,1.1s
I07A Izee 70.44 357 P **P 20 39 37.5 +0.7**
I07A IAmb IAmb 20 40 41.8
comp=Z,20nm,1.1s
V57A Coltrane Farms 70.47 30 P **P 20 39 35.6 -1.4**
baz=213
VNA1 Neumayer--Stat 70.50 160 P **P 20 39 35.5 -1.3**
U56A King 70.58 29 P **P 20 39 37.8 +0.1**
baz=212
R50A Paris 70.63 25 P **P 20 39 36.8 -1.2**
R50A IAmb IAmb 20 39 40.9
comp=Z,22nm,1.2s
VNA2 Neumayer--Watz 70.65 161 P **P 20 39 36.1 -1.7**
T54A Tazewell 70.68 28 P **P 20 39 38.4 +0.1**
baz=211
V58A Windy Hill, Pi 70.68 30 P **P 20 39 37.4 -0.9**
baz=214
V58A Windy Hill, Pi 70.68 30 P **P 20 39 37.5 -0.9**
V58A IAmb IAmb 20 39 54.0
comp=Z,28nm,1.6s
W60A Pink Hill 70.72 32 P **P 20 39 38.5 -0.1**
baz=215
H17A Grant Village 70.75 3 P **P 20 39 40.4 +1.5**
baz=184
CNNC Cliffs of the 70.79 32 P **P 20 39 38.9 0.0**

baz=215
HDIL Hopedale 70.94 20 P P 20 39 40.3 +0.5
HDIL IAmb IAmb 20 39 47.6
comp=Z,25nm,0.8s
V59A Middlesex 71.06 31 P P 20 39 40.6 0.0
baz=214
RSSD Black Hills 71.07 8 P P 20 39 40.3 -0.5
baz=190
GDU01 Guandu, BA 71.09 96 *e*P P 20 39 46.7 +5.3
MCMT McKenzie Canyo 71.09 2 P P 20 39 41.8 +0.9
YHH Holmes Hill 71.13 3 P P 20 39 41.5 +0.2
BLA Blacksburg 71.29 29 P P 20 39 40.3 -1.8
baz=212
T56A Rocky Mt 71.31 29 P P 20 39 41.3 -0.9
baz=212
SFIN Lafayette 71.49 22 P P 20 39 41.8 -1.4
baz=206
V60A Jim Taylor Roa 71.51 32 P P 20 39 42.4 -1.0
baz=215
RLMT Red Lodge 71.55 4 P P 20 39 43.3 -0.4
baz=185
RLMT Red Lodge 71.55 4 P P 20 39 43.3 -0.4
P49A Miami Univ. Ec 71.58 24 P P 20 39 41.3 -2.4
baz=208
ROSB Rosrio 71.60 84 *e*P **P 20 39 48.9 +4.4**
SNAA Sanae 71.61 162 P P 20 39 41.8 -1.9
SNAA Sanae 71.61 162 P P 20 39 41.8 -1.9
SNAA pmax pmax
comp=Z,16nm,1.0s
SNAA Sanae 71.61 162 P P 20 39 41.8 -1.9
G08A Pilot Rock 71.62 357 P P 20 39 45.3 +1.3
G08A IAmb IAmb 20 39 53.6
comp=Z,23nm,0.9s
DLMT Dillon 71.63 2 P P 20 39 44.1 0.0
DLMT IAmb IAmb 20 39 53.6
comp=Z,45nm,1.6s
Q51A Peebles 71.66 25 P P 20 39 43.7 -0.5
L40A Anamosa 71.75 18 P P 20 39 44.9 +0.2
U59A Littleton 71.75 31 P P 20 39 41.9 -2.8
baz=214
BOZ Bozeman (W) 71.90 2 P P 20 39 46.9 +1.2
BOZ pmax pmax
comp=Z,20nm,1.5s
BOZ Bozeman (W) 71.90 2 P P 20 39 46.9 +1.2
ECSD EROS Data Cent 71.98 14 P P 20 39 41.3 -4.7
baz=197
ECSD EROS Data Cent 71.98 14 P P 20 39 45.6 -0.4
ECSD IAmb IAmb 20 39 47.4
comp=Z,21nm,1.2s
Q52A Bidwell 72.02 26 P P 20 39 44.3 -2.1
baz=210
S56A Natural Bridge 72.05 29 P P 20 39 43.9 -2.7
baz=213
M44A Midewin, Midew 72.09 21 P P 20 39 46.4 -0.3
M44A IAmb IAmb 20 41 04.5
comp=Z,50nm,1.5s
L42A Oliver, Polo 72.15 20 P P 20 39 46.7 -0.3
L42A IAmb IAmb 20 40 49.7
comp=Z,19nm,0.9s
SUSD Miller 72.19 12 P P 20 39 45.4 -1.8
baz=195
F10A Beach Ranch, E 72.24 358 P P 20 39 49.0 +1.4
F10A IAmb IAmb 20 41 11.8
comp=Z,32nm,1.6s
T59A Double "B" Far 72.36 31 P P 20 39 47.9 -0.6
baz=215
Q54A Coxs Mills 72.62 27 P P 20 39 48.7 -1.2
baz=212
P52A Corning 72.65 26 P P 20 39 49.2 -0.9
baz=210
R56A Bull Pasture M 72.73 29 P P 20 39 49.9 -0.8
baz=213
I37A Lemond, Waseca 72.99 16 P P 20 39 52.5 +0.4
R58B Mineral 73.03 30 P P 20 39 52.1 -0.2
baz=214
MSO Missoula 73.07 1 P P 20 39 51.1 -1.5
baz=181
MSO Missoula 73.07 1 P P 20 39 53.0 +0.4
MSO IAmb IAmb 20 40 01.4
comp=Z,22nm,1.2s
E04D Cinebar 73.12 355 P P 20 39 53.4 +0.8
baz=173
S59A Mechanicsville 73.13 30 P P 20 39 52.4 -0.5
baz=215
O52A Adamsville 73.18 26 P P 20 39 52.1 -1.1
baz=210
O52A Adamsville 73.18 26 P P 20 39 53.1 -0.2
O52A IAmb IAmb 20 40 56.3
comp=Z,24nm,1.0s
LAO LASA Array 73.36 6 P P 20 39 54.5 +0.3
LAO IAmb IAmb 20 40 02.5
comp=Z,23nm,1.0s
Q56A Snyder Ridge, 73.36 28 P P 20 39 53.5 -0.8
baz=213
S60A Water View 73.38 31 P P 20 39 54.0 -0.4
baz=215
D08A Wollman Farm, 73.38 357 P P 20 39 54.6 +0.3
O53A New Philadelph 73.54 26 P P 20 39 55.4 0.0
O53A IAmb IAmb 20 40 58.8
comp=Z,22nm,1.1s
R59A King George, V 73.57 30 P P 20 39 55.1 -0.4
baz=215
MCWV Mont Chateau 73.60 28 P P 20 39 55.5 -0.2
I40A Norwalk 73.61 18 P P 20 39 55.4 -0.3
I40A IAmb IAmb 20 41 05.8
comp=Z,23nm,1.2s
N51A Ashland 73.67 25 P P 20 39 56.4 +0.3
N51A IAmb IAmb 20 40 59.1
comp=Z,26nm,0.9s
LTY Liberty 73.67 356 P P 20 39 56.9 +0.9
Q57A Strasburg 73.69 29 P P 20 39 56.8 +0.6
baz=214
Q58A Fox Den Farm, 73.93 29 P P 20 39 57.3 -0.3
baz=214
E28A Huff 73.95 10 P P 20 39 58.1 +0.4
JTMT Jette 73.99 0 P P 20 39 58.1 +0.1
JTMT IAmb IAmb 20 40 06.8
comp=Z,23nm,1.0s
F33A 5 Mile Ranch, 74.05 13 P P 20 39 58.2 -0.1
F33A IAmb IAmb 20 40 06.0
comp=Z,29nm,1.4s
I42A Draeger Farm, 74.09 19 P P 20 39 59.2 +0.6
C09A Chrisman Ranch 74.10 358 P P 20 39 58.9 +0.4
N53A Lisbon 74.17 26 P P 20 39 59.3 +0.3
N53A IAmb IAmb 20 41 02.5
comp=Z,31nm,1.1s
P57A Homestead Farm 74.23 29 P P 20 39 59.5 +0.1
P57A IAmb IAmb 20 41 14.4
comp=Z,41nm,1.7s
SPMN Marine on St. 74.27 16 P P 20 39 58.4 -1.1
baz=200
SPMN Marine on St. 74.27 16 P P 20 39 59.4 -0.1
AAM Ann Arbor 74.39 24 P P 20 40 00.5 +0.2
AAM Ann Arbor 74.39 24 P P 20 40 00.5 +0.2
AAM IAmb IAmb 20 40 08.3
comp=Z,34nm,1.1s
EGMT Eagleton 74.41 4 P P 20 40 00.4 0.0
baz=185
EGMT Eagleton 74.41 4 P P 20 40 01.2 +0.8
EGMT IAmb IAmb 20 40 03.4
comp=Z,39nm,1.2s
NEW Newport 74.53 359 P P 20 40 01.3 +0.3
NEW pmax pmax
comp=Z,47nm,1.4s
NEW Newport 74.53 359 P P 20 40 00.9 -0.1
baz=178
NEW Newport 74.53 359 P P 20 40 01.3 +0.3
NEW IAmb IAmb 20 40 10.8
comp=Z,47nm,1.4s
N54A Moraine State 74.64 27 P P 20 40 01.9 +0.1
N54A IAmb IAmb 20 40 10.2
comp=Z,39nm,1.3s
O56A Blue Knob Stat 74.64 28 P P 20 40 01.9 0.0
O56A IAmb IAmb 20 40 23.2
comp=Z,40nm,1.6s
F36A Milaca 74.69 15 P P 20 40 01.8 -0.2
F36A IAmb IAmb 20 40 10.3
comp=Z,31nm,0.8s
B08A Colville Reser 74.70 357 P P 20 40 02.0 0.0
M53A WI Miller and 74.77 26 P P 20 40 02.4 -0.1
M53A IAmb IAmb 20 40 04.1
comp=Z,33nm,1.1s
G40A Rib Lake 74.99 18 P P 20 40 03.7 0.0
WALA Waterton Lakes 75.30 1 P P 20 40 06.2 +0.6
WALA IAmb IAmb 20 40 14.7
comp=Z,32nm,1.4s

DGMT Dagmar 75.33 7 P P 20 40 06.3 +0.7
L53A Girard 75.37 26 P P 20 40 05.6 -0.4
baz=212
ERPA Erie 75.62 26 P P 20 40 06.1 -1.3
baz=212
M56A Emporium 75.82 28 P P 20 40 08.4 -0.2
M56A IAmb IAmb 20 40 10.1
comp=Z,37nm,1.4s
E38A The Farm, Brul 75.87 16 P P 20 40 09.7 +0.9
E38A IAmb IAmb 20 40 10.4
comp=Z,36nm,1.4s
COWI Conover 76.05 18 P P 20 40 09.8 +0.1
COWI IAmb IAmb 20 40 18.9
comp=Z,57nm,1.6s
AGMN Agassiz Nation 76.49 13 P P 20 40 12.9 +0.7
AGMN IAmb IAmb 20 40 20.5
comp=Z,37nm,1.5s
L56A Greenwood 76.62 28 P P 20 40 13.8 +0.7
L56A IAmb IAmb 20 40 21.2
comp=Z,28nm,1.1s
M59A Waymart 77.04 29 P P 20 40 17.2 +1.7
baz=216
EYMN Ely 77.14 16 P P 20 40 16.5 +0.7
baz=201
EYMN Ely 77.14 16 P P 20 40 15.9 0.0
EYMN IAmb IAmb 20 40 23.9
comp=Z,17nm,0.9s
BINY Binghamton 77.33 29 P P 20 40 17.0 -0.2
BINY IAmb IAmb 20 41 20.6
comp=Z,23nm,1.0s
F48A Evansville 77.84 23 P P 20 40 19.5 -0.3
baz=209
K58A Earlville 77.94 29 P P 20 40 20.8 +0.3
baz=215
SADO Sadowa 78.19 25 P P 20 40 21.7 -0.1
PECO Prince Edward 78.34 27 P P 20 40 22.3 -0.3
PECO IAmb IAmb 20 41 25.6
comp=Z,20nm,1.1s
ULM Lac du Bonnet 78.35 12 P P 20 40 21.4 -1.1
comp=Z,7.9nm,0.8s,baz=239,slow=3.3,SNR=5.1
ULM Lac du Bonnet 78.35 12 P P 20 40 21.8 -0.7
ULM pmax pmax
comp=Z,18nm,1.1s
ULM Lac du Bonnet 78.35 12 P P 20 40 21.8 -0.7
DELO Deloro Mine 78.57 26 P P 20 40 24.1 +0.2
NCB Newcomb 79.53 29 P P 20 40 28.8 -0.4
LONY Lake Ozonia 79.90 28 P P 20 40 31.1 -0.1
LONY IAmb IAmb 20 40 43.3
comp=Z,44nm,1.6s
FFC Flin Flon 81.75 8 P P 20 40 41.5 +0.7
FFC pmax pmax
comp=Z,21nm,1.3s
FFC Flin Flon 81.75 8 P P 20 40 41.5 +0.7
SYO Syowa Base 82.89 171⇑ *e*pP **P 20 40 47.0 +0.2**
SYO Syowa Base 82.89 171⇑ *e*PP PP 20 43 54.0 -2.4
WRAK Wrangell Islan 83.98 350 P P 20 40 53.7 +1.3
WRAK IAmb IAmb 20 41 56.5
comp=Z,18nm,1.1s
DLBC Dease Lake 85.62 352 P P 20 41 01.5 +0.8
MAW Mawson 86.09 179 P P 20 41 01.9 -1.1
comp=Z,4.0nm,0.9s,baz=234,slow=3.5,SNR=11
MAW Mawson 86.09 179 P P 20 41 02.9 -0.1
MAW Mawson 86.09 179 P P 20 41 02.9 -0.1
BESE Bessie Mountai 86.44 350 P P 20 41 04.5 -0.2
STKA Stephens Creek 86.73 236 P P 20 41 05.8 -1.1
comp=Z,2.9nm,0.8s,baz=145,slow=12,SNR=2.0
H11S2 WAKE ISLAND Hy 88.17 292 T T 22 19 06.1
baz=119,slow=76,SNR=193
H11S1 WAKE ISLAND Hy 88.19 292 T T 22 19 09.2
baz=119,slow=76,SNR=199
H11S3 WAKE ISLAND Hy 88.19 292 T T 22 19 16.5
baz=119,slow=76,SNR=114
H11N3 WAKE ISLAND Hy 88.59 293 T T 22 19 33.9
baz=116,slow=78,SNR=64
H11N1 WAKE ISLAND Hy 88.60 293 T T 22 19 45.7
baz=116,slow=78,SNR=90
H11N2 WAKE ISLAND Hy 88.61 293 T T 22 19 35.2
baz=116,slow=78,SNR=66
CTA Charters Tower 88.64 248 P P 20 41 17.4 +1.1
comp=Z,2.7nm,0.8s,baz=98,slow=4.4,SNR=3.4
YKA Yellowknife Ar 88.77 0 P P 20 41 14.9 -0.8
comp=Z,8.1nm,1.0s,baz=176,slow=4.1,SNR=12
HYT Haines Junctio 89.01 349 P P 20 41 17.7 +0.6
HYT IAmb IAmb 20 42 21.0
comp=Z,13nm,1.0s
OHAK Old Harbor 89.50 340 P P 20 41 19.6 +0.3
KDAK Kodiak Island 89.76 341 P P 20 41 19.9 -0.5
comp=Z,12nm,1.1s,baz=2.9,slow=6.2,SNR=5.0
CTGM Chitina Glacie 89.83 347 P P 20 41 21.4 +0.4
CTGM IAmb IAmb 20 42 24.8
comp=Z,19nm,1.1s
BARN Barnard Glacie 89.98 347 P P 20 41 22.4 +0.6
BARN IAmb IAmb 20 41 30.3
comp=Z,21nm,0.9s
BCAR Beaver Creek A 91.85 348 P P 20 41 29.9 -0.2
M24K Tolsona, Glenn 91.86 346 P P 20 41 31.6 +1.3
baz=152
RSO Redoubt South 92.06 342 P P 20 41 31.9 +0.5
PMR Palmer 92.09 344 P P 20 41 31.5 +0.3
PMR pmax pmax
comp=Z,12nm,1.0s
PMR Palmer 92.09 344 P P 20 41 31.5 +0.3
PMR IAmb IAmb 20 41 39.4
comp=Z,12nm,1.0s
MENT Mentasta 92.10 347 P P 20 41 32.0 +0.7
GHO Glory Hole Cre 92.20 345 P P 20 41 32.1 +0.2
GHO IAmb IAmb 20 41 40.6
comp=Z,17nm,1.0s
SKT Skwentna 93.02 344 P P 20 41 35.5 -0.1
RIDG Independent Ri 93.05 347 P P 20 41 35.8 +0.1
RIDG IAmb IAmb 20 41 43.8
comp=Z,12nm,0.9s
SVW2 Sparrevohn 93.37 342 P P 20 41 36.8 -0.4
RND Reindeer 93.60 345 P P 20 41 38.3 0.0
RND pmax pmax
comp=Z,21nm,1.4s
RND Reindeer 93.60 345 P P 20 41 38.3 0.0
RND IAmb IAmb 20 42 42.5
comp=Z,22nm,1.4s
MCK McKinley 93.90 346 P P 20 41 39.4 -0.2
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 93.90 346 P P 20 41 39.4 -0.2
MCK IAmb IAmb 20 41 40.9
comp=Z,13nm,1.0s
PPLA Purkeypile 93.95 344 P P 20 41 39.8 -0.2
TRF Thorofare Moun 93.97 345 P P 20 41 39.7 -0.4
KTH Kantishna Hill 94.20 345 P P 20 41 41.0 0.0
WRH Wood River Hil 94.36 346 P P 20 41 41.7 0.0
WRH IAmb IAmb 20 41 43.4
comp=Z,14nm,1.2s
ILAR Eielson Array 94.38 347 P P 20 41 41.2 -0.6
comp=Z,1.7nm,1.0s,baz=194,slow=4.3,SNR=9.6
ILAR Eielson Array 94.38 347 P P 20 41 41.5 -0.2
ILAR Eielson Array 94.38 347 P P 20 41 41.5 -0.2
CCB Clear Creek Bu 94.46 346 P P 20 41 41.7 -0.4
COLA College 94.67 347 *i* P **P 20 41 43.0 0.0**
COLA pmax pmax
comp=Z,14nm,1.3s
COLA College 94.67 347 P P 20 41 43.4 +0.4
BPAW Bear Paw Mtn. 94.69 345 P P 20 41 42.7 -0.5
POKR Poker Plat Res 94.79 347 P P 20 41 43.0 -0.7
baz=151
MDM Murphy Dome 94.82 346 P P 20 41 43.7 -0.1
ADK Adak 94.94 327 P P 20 41 44.7 +0.1
ADK pmax pmax
comp=Z,35nm,1.2s
ADK Adak 94.94 327 P P 20 41 44.7 +0.1
TTA Tatalina 94.97 342 P P 20 41 44.9 +0.3
TTA pmax pmax
comp=Z,7.0nm,1.2s
TTA Tatalina 94.97 342 P P 20 41 44.9 +0.3
ASAR Alice Springs 96.78 239 P P 20 41 54.5 +0.6
comp=Z,0.4nm,0.9s,baz=119,slow=4.6,SNR=2.8
ASAR PKKP **PKKPbc 20 58 35.7 +0.1**
comp=Z,0.7nm,0.9s,baz=21,slow=3.2,SNR=4.2
WRAB Tennant Creek 98.42 243 *i* P Pdif 20 42 03.9 +2.5
WRAB pmax pmax
comp=Z,3.0nm,1.2s
WRA Warramunga Arr 98.43 243 P Pdif 20 42 02.2 +0.9
comp=Z,1.0nm,1.0s,baz=121,slow=4.6,SNR=5.1
H01W1 Cape Leeuwin H 103.19 220 T T 22 37 48.0
baz=138,slow=75,SNR=11
H01W2 Cape Leeuwin H 103.19 220 T T 22 37 40.1
baz=138,slow=75,SNR=7.7

H01W3 Cape Leeuwin H 103.20 220 T T 22 37 50.8
baz=138,slow=75,SNR=10
TORD Torodi Ar. Bea 119.49 89 PKP PKPdf 20 47 11.4 -1.6
comp=Z,1.6nm,1.0s,baz=285,slow=2.9,SNR=4.4
TORD Torodi Ar. Bea 119.49 89 PKPdf 20 47 11.1 -2.0
ESDC Sonseca Array 122.07 58 PKP PKPdf 20 47 15.5 -1.9
comp=Z,1.1nm,1.0s,baz=299,slow=2.6,SNR=5.6
ESDC Sonseca Array 122.07 58 PKPdf PKPdf 20 47 16.8 -0.6
EKA Eskdalemuir Ar 123.75 40 PKP PKPdf 20 47 19.3 -0.6
comp=Z,0.4nm,0.7s,baz=253,slow=4.8,SNR=2.3
KLR Kul'dur 124.61 313 PKP PKPdf 20 47 21.6 -0.2
comp=Z,1.8nm,0.9s,baz=133,slow=1.8,SNR=4.2
KSRS Korea Array 126.45 298 PKP PKiKP 20 47 27.0 +0.9
comp=Z,1.0nm,1.0s,baz=345,slow=5.0,SNR=2.7
LEM Lembang 127.01 237 P Pdif 20 44 12.1 +3.3
NOA NORSAR Array B 130.26 31 PKP PKPdf 20 47 29.6 -2.7
comp=Z,0.7nm,1.0s,baz=248,slow=5.1,SNR=1.4
FUORN Ofenpass-Fuorn 132.74 50 PKPdf PKPdf 20 47 37.9 +0.1
FETA Feichten 133.02 49 *i* PKiKP **PKiKP 20 47 39.7 +0.4**
comp=Z,14nm,1.9s
MOTA Moosalm 133.24 49 *i* PKiKP **PKiKP 20 47 40.0 +0.3**
comp=Z,11nm,1.2s
WATA Walderalm 133.56 49 *i* PKiKP **PKiKP 20 47 40.6 +0.2**
comp=Z,5.9nm,1.1s
WTTA Wattenberg 133.61 49 *i* PKiKP **PKiKP 20 47 41.0 +0.4**
comp=Z,9.3nm,1.4s
BOD Bodaibo 133.67 326 *e*PKIKP **PKPdf 20 47 37.7 -1.1**
BOD pmax pmax
comp=Z,11nm,1.7s
CLL Collm 133.82 43 *e*PKPdf **PKPdf 20 47 39.0 -0.3**
comp=Z,21nm,2.1s
CLL *i* 20 47 51.0
KHC Kasperske Hory 134.61 46 *e*P PKPpre 20 47 30.5
KHC Kasperske Hory 134.61 46 *e*PKHKP PKPpre 20 47 30.5
GERES GERESS Array B 134.74 47 PKP PKPdf 20 47 40.0 -1.2
comp=Z,0.4nm,0.7s,baz=211,slow=2.3,SNR=3.6
KMR Kremsmunster 135.16 48 P Pdif 20 44 53.3 +9.4
KMR pmax pmax
comp=Z,459nm,1.9s
KMR MLR MLR
comp=Z,3μm,19.0s
FINES FINESS Array B 136.47 26 PKP PKPdf 20 47 41.5 -2.4
comp=Z,0.9nm,0.7s,baz=37,slow=5.6,SNR=1.7
WHN Wuhan 136.76 287 PKPbc PKiKP 20 47 57.5 +10
MODS Modra-Piesok 137.16 47 *e*PKIKP **PKPdf 20 47 45.0 -0.6**
MODS Modra-Piesok 137.16 47 *e*PKP **PKPdf 20 47 45.0 -0.6**
VYHS Vyhne 138.14 46 *e*PKIKP **PKPdf 20 47 47.6 +0.2**
VYHS Vyhne 138.14 46 *e*PKP **PKPdf 20 47 47.6 +0.2**
KOLS Kolonicke sedl 140.20 44 *e*PKIKP **PKiKP 20 47 52.5 -1.2**
KOLS Kolonicke sedl 140.20 44 *e*PKP **PKiKP 20 47 52.5 -1.2**
SONM Songino Array 141.41 314 PKhKP PKPpre 20 47 49.2
comp=Z,3.9nm,0.9s,baz=57,slow=1.8,SNR=11
SONM PKP **PKPdf 20 47 53.2 -0.4**
comp=Z,3.9nm,0.9s,baz=65,slow=0.8,SNR=12
KMBO Kilima Mbogo 141.59 131 PKP PKiKP 20 47 56.8 -1.1
comp=Z,1.9nm,0.8s,baz=315,slow=4.3,SNR=4.4
KLMR Klimovskoe 141.61 20 *e*PKIKP **PKPdf 20 47 52.5 -0.8**
KLMR *e* 20 50 54.5
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 141.61 20 *e*PKPdf **PKPdf 20 47 52.5 -0.8**
KLMR AMP 20 48 05.7
comp=Z,21nm,1.1s
KLMR *e*PP **PP 20 50 54.5 -2.3**
ZAK Zakamensk 142.38 319 *e*PKIKP **PKPdf 20 47 51.8 -3.4**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
BURAR Bucovina Array 142.49 45 ⇑P PKPdf 20 47 54.4 -1.1
BURAR Bucovina Array 142.49 45 ⇑PKIKP **PKPdf 20 47 54.4 -1.1**
PRGR Permogore 142.60 15 *e*PKIKP **PKPdf 20 47 50.6 -4.4**
PRGR pmax pmax
comp=Z,24nm,1.0s
GYA Guiyang 142.85 279 *e*PKP **PKPdf 20 47 57.0 +0.2**
VOIR 143.06 49 ⇑P PKPdf 20 47 58.0 +1.5
VOIR 143.06 49 ⇑PKIKP **PKPdf 20 47 58.0 +1.5**
DOPR Dopca 143.13 48 ⇑P PKPbc 20 47 54.9 +1.5
MLR Muntele Rosu 143.65 48 PKP PKPab 20 47 54.5 +0.3
comp=Z,15nm,1.1s,baz=259,slow=1.1,SNR=9.6
MLR Muntele Rosu 143.65 48 ⇓P PKPbc 20 47 55.5 +0.5
MLR Muntele Rosu 143.65 48 ⇓PKIKP PKPbc 20 47 55.5 +0.4
MLR Muntele Rosu 143.65 48 PKPdf PKPbc 20 47 55.0 -0.1
AKASG Malin Array Be 143.65 39 PKP PKPbc 20 47 54.9 +0.2
comp=Z,0.3nm,0.2s,baz=287,slow=3.4,SNR=1.9
VRI Vrincioaia 144.05 48 ⇑P PKPdf 20 47 58.8 +0.6
VRI Vrincioaia 144.05 48 ⇑PKIKP **PKPdf 20 47 58.8 +0.6**
BISRR Bisoca 144.14 48 ⇓P PKPdf 20 47 57.5 -0.9
SORM Soroca 144.26 43 ⇓P PKPbc 20 47 56.5 -0.2
SORM Soroca 144.26 43 ⇓PKIKP PKPbc 20 47 56.5 -0.1
IDI Anoyia 144.70 66 PKP **PKPab 20 47 58.2 -0.3**
comp=Z,42nm,0.9s,baz=311,slow=4.5,SNR=18
IDI Anoyia 144.70 66 ⇓P PKPbc 20 47 59.1 +0.5
IDI Anoyia 144.70 66 PKPdf **PKPab 20 47 58.4 -0.1**
OBN Obninsk 144.75 28 *i* PKIKP PKPbc 20 47 58.2 +0.3
OBN pmax pmax
comp=Z,25nm,1.1s
MOS Moscow 144.76 27 *e*PKHKP **PKPab 20 47 54.9 -3.0**
MOS pmax pmax
comp=Z,43nm,1.4s
VARL Varlezi 144.78 47 ⇑P PKPab 20 47 58.2 0.0
ALN Alexandroupoli 144.89 56 PKIKP **PKPab 20 47 58.3 -0.6**
ALN Alexandroupoli 144.89 56 PKPdf **PKPab 20 47 58.3 -0.6**
MILM Milestii Mici 145.02 45 ⇑P PKPab 20 47 58.5 -0.7
APE Apeiranthos 145.08 63 ⇓P PKPbc 20 47 58.0 -1.7
APE Apeiranthos 145.08 63 ⇓PKIKP **PKPbc 20 47 58.0 -1.7**
SANT Santorini 145.09 64 ⇓P PKPbc 20 47 58.9 -0.9
SANT Santorini 145.09 64 PKPdf **PKPbc 20 47 58.6 -1.1**
CFR Carcaliu 145.21 48 ⇑P PKPbc 20 47 58.2 -1.6
CFR Carcaliu 145.21 48 ⇑PKIKP **PKPbc 20 47 58.2 -1.6**
PBKT Sadao Pong 145.22 261 PKPab 20 48 01.1 +0.4
HARR Harsova 145.24 49 ⇑P PKPab 20 48 00.1 +0.1
HARR Harsova 145.24 49 ⇑PKIKP **PKPab 20 48 00.1 +0.1**
TOPG Topolog 145.47 48 ⇓P PKPbc 20 47 58.6 -2.0
TIRR Tirgusor 145.64 49 ⇑P PKPdf 20 48 00.7 -0.2
TIRR Tirgusor 145.64 49 ⇑PKIKP **PKPdf 20 48 00.7 -0.2**
LZH Lanzhou 145.70 296 *e*PKPbc **PKPbc 20 48 02.3 +0.4**
LZH pPKP sPKPab 20 48 13.3 +7.7
LZH sPKP 20 48 17.9
LZH LR LR
comp=Z,260nm,16.3s
LZH LR LR
comp=Z,250nm,17.4s
LZH LR LR
comp=Z,290nm,16.8s
PURM Purcari 145.85 45 ⇑P PKiKP 20 48 03.8 -1.4
CD2 Chengdu 145.88 287 *e*PKPbc **PKPbc 20 48 02.6 +0.2**
KMI Kunming 146.10 276 ⇓*i*PKPbc **PKPab 20 48 04.8 +0.7**
KMI AMB AMB
comp=Z,140nm,4.3s
KMI LR LR
comp=Z,680nm,20.9s
KMI LR LR
comp=Z,700nm,20.8s
KMI LR LR
comp=Z,2μm,23.4s
KIRV Kirov 146.19 15 PKPbc **PKPdf 20 48 01.3 0.0**
comp=Z,14nm,1.0s,baz=344,slow=5.4,SNR=13
LPSR Galich'ya Gora 147.49 30 *e*PKP2 **PKPbc 20 48 05.8 -0.5**
LPSR pmax pmax
comp=Z,40nm,1.1s
CMAR Chiang Mai Arr 147.71 263 PKPbc **PKPbc 20 48 08.4 +0.5**
comp=Z,16nm,1.1s,baz=135,slow=0.7,SNR=28
CMAR Chiang Mai Arr 147.71 263 PKP2 **PKPbc 20 48 07.9 -0.1**
CMAR Chiang Mai Arr 147.71 263 PKPbc 20 48 07.9 -0.1
CHTO Chiang Mai 147.83 263 PKP2 **PKPbc 20 48 08.7 +0.4**
CHTO Chiang Mai 147.83 263 PKPbc 20 48 08.7 +0.4
VORR Voronezh 148.24 31 PKHKP **PKPdf 20 48 03.0 -2.0**
VORR pmax pmax
comp=Z,250nm,2.0s
GTA Gaotai 148.33 303 PKPbc **PKPbc 20 48 09.7 +0.5**
GTA pPKP sPKPab 20 48 17.0 +1.3
GTA sPKP 20 48 21.6
AKAS Kas 148.43 63 PKPbc 20 48 09.4 -0.1
VSR Storozhevoye 148.53 32 *e*PKP2 **PKPbc 20 48 08.4 -0.7**
VSR pmax pmax
comp=Z,40nm,1.2s
ELL Elmali 148.60 62 PKP2 **PKPbc 20 48 10.2 +0.2**
ELL Elmali 148.60 62 PKPbc 20 48 10.2 +0.2
VORD Divnogorie 148.75 32 *e*PKIKP **PKPdf 20 48 07.6 +1.7**
VORD pmax pmax
comp=Z,10.0nm,0.9s
ZAA0 Zalesovo Array 148.99 337 PKPdf **PKPdf 20 48 06.3 +0.1**
ZALV Zalesovo Beam 148.99 337 PKPbc **PKPbc 20 48 09.6 -0.6**
comp=Z,6.4nm,0.6s,baz=29,slow=3.4,SNR=21
ZALV Zalesovo Beam 148.99 337 PKIKP **PKPdf 20 48 05.8 -0.4**

ZALV	**Zalesovo Beam**	**148.99**	**337**		**PKPdf**	**20 48 05.8**	**-0.4**
SVE	**Sverdlovsk**	**149.62**	**5**	*e*PKHKP	**PKPdf**	**20 48 07.8**	**+0.7**
SVE				pmax	pmax		
	comp=Z,39nm,1.7s						
VRH	**Novokhopyorsk**	**149.70**	**30**	*e*PKP2	**PKPbc**	**20 48 11.3**	**-0.8**
VRH				pmax	pmax		
	comp=Z,50nm,0.9s						
ARU	**Arti**	**149.82**	**7**	PKPbc	**PKPbc**	**20 48 10.8**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=17,slow=3.6,SNR=4.9						
ARU	**Arti**	**149.82**	**7**	PKPdf	**PKPdf**	**20 48 07.0**	**-0.4**
ILGA	**Ilgaz**	**150.44**	**53**		**PKPbc**	**20 48 14.2**	**-0.3**
BR131	**Keskin Array S**	**150.80**	**55**	PKIKP	**PKPbc**	**20 48 13.8**	**-1.5**
BR131	**Keskin Array S**	**150.80**	**55**		**PKPbc**	**20 48 13.8**	**-1.5**
BRTR	**Keskin Array B**	**150.80**	**55**	PKPbc	**PKPbc**	**20 48 12.8**	**-2.5**
	comp=Z,10nm,0.9s,baz=222,slow=1.7,SNR=29						
BRTR	**Keskin Array B**	**150.80**	**55**	PKIKP	**PKPbc**	**20 48 13.8**	**-1.5**
BRTR	**Keskin Array B**	**150.80**	**55**		**PKPbc**	**20 48 13.8**	**-1.5**
ANN	**Anapa**	**151.36**	**43**	*e*PKIKP	**PKPdf**	**20 48 11.2**	**+1.0**
ANN				pmax	pmax		
	comp=Z,90nm,1.2s						
CSS	**Mathiatis**	**151.61**	**65**		**PKPbc**	**20 48 16.0**	**-1.2**
BRVK	**Borovoye**	**153.26**	**353**	PKIKP	**PKPdf**	**20 48 13.4**	**+0.6**
BRVK	**Borovoye**	**153.26**	**353**	PKPdf	**PKPdf**	**20 48 13.4**	**+0.6**
BVAR	**Borovoye Array**	**153.28**	**353**	PKP	**PKPdf**	**20 48 12.8**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=11,slow=1.5,SNR=7.2						
BVAR				PKPbc	**PKPbc**	**20 48 19.1**	**-1.3**
	comp=Z,6.2nm,0.9s,baz=349,slow=0.3,SNR=21						
MMAI	**Mount Meron Ar**	**153.57**	**69**	PKP	**PKPdf**	**20 48 14.3**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=191,slow=2.9,SNR=3.2						
KURK	**Kurchatov**	**153.75**	**340**	PKIKP	**PKPdf**	**20 48 14.1**	**+0.6**
KURK	**Kurchatov**	**153.75**	**340**		**PKPdf**	**20 48 14.1**	**+0.6**
ASF	**Jabal al Asfar**	**154.91**	**70**	PKP	**PKPdf**	**20 48 16.7**	**+0.8**
	comp=Z,2.1nm,1.0s,baz=321,slow=1.4,SNR=3.8						
ASF				PKPbc	**PKPbc**	**20 48 23.0**	**-1.6**
	comp=Z,2.5nm,0.9s,baz=350,slow=1.4,SNR=4.3						
KIV	**Kislovodsk**	**154.97**	**40**	*e*PKIKP	**PKPdf**	**20 48 14.6**	**-1.0**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KBZ	**Khabaz**	**155.23**	**41**	PKP	**PKPdf**	**20 48 14.6**	**-1.2**
	comp=Z,3.3nm,1.0s,baz=353,slow=1.4,SNR=4.6						
KBZ				PKPbc	PKPbc	20 48 25.2	
	comp=Z,7.4nm,0.9s,baz=279,slow=1.2,SNR=4.5						
MKAR	**Makanchi Array**	**155.63**	**330**	PKP	**PKPdf**	**20 48 13.9**	**-2.4**
	comp=Z,1.1nm,1.0s,baz=336,slow=2.7,SNR=6.2						
MKAR				PKPbc	PKPbc	20 48 25.6	
	comp=Z,1.6nm,0.8s,baz=31,slow=5.0,SNR=8.0						
MKAR	**Makanchi Array**	**155.63**	**330**	PKIKP	**PKPdf**	**20 48 15.7**	**-0.6**
MKAR	**Makanchi Array**	**155.63**	**330**	PKPdf	**PKPdf**	**20 48 15.7**	**-0.6**
ABKAR	**Akbulak array**	**157.02**	**9**		**PKPdf**	**20 48 18.0**	**0.0**
KKAR	**Karatay Array**	**162.92**	**346**	PKIKP	**PKPdf**	**20 48 24.0**	**-0.9**
KKAR	**Karatay Array**	**162.92**	**346**	PKPdf	**PKPdf**	**20 48 24.0**	**-0.9**
GEYT	**Alibeck**	**167.28**	**26**		**PKPdf**	**20 48 28.3**	**-0.5**
CHGR	**Chuyangaron**	**167.47**	**345**	PKPdf	**PKPdf**	**20 48 29.3**	**+0.3**
CHGR					**PKPab**	**20 49 34.3**	**0.0**

MOS ***03*** *20:33:57.7±0.7, 26°.56S×114°.73W, h10km, mb5.8/18, MS5.6/94, Error ellipse: s-maj=9.0km s-min=5.9km az=82.6*

IDC ***03*** *20:33:57.5±0.3, 26°.59S×114°.77W, h0km, mb5.0/39, mb1 5.1/39, mb1mx5.1/42, mbtmp5.0/39, MS5.6/37, Ms1 5.6/37, ms1mx5.4/45, Error ellipse: s-maj=11.9km s-min=10.2km az=147.0*

NEIC ***03*** *20:33:59.3±1.2, 26°.64S±0°.10×114°.74W±0°.09, h10km±1km, mb5.9/642, Ms_20 5.7/897, Mwb5.9/83, Mww5.9, Mwc6.0(GCMT), Error ellipse: s-maj=16.6km s-min=13.7km az=182.0*

UNK ***03*** *20:33:59.3, 26°.64S×114°.73W, h10km*

NEIC ***03*** *20:34:00.2, 26°.53S×114°.68W, h9km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=3.24; Mθθ=4.42; Mφφ=-1.19; Mrθ=1.25; Mrφ=-6.74; Mθφ=0.18; Fault plane solution: M0=7.93000×1017 NP1:φs=167.83000°, δ=74.43000°, λ=-9.54000°. NP2:φs=260.42000°, δ=80.81000°, λ=-164.22000°. Principal axes: T 8.9962, Plg=4.0000°, Azm=33.0000°; N -3.0425, Plg=72.0000°, Azm=290.0000°; P -5.9537, Plg=18.0000°, Azm=125.0000°;*

BJI ***03*** *20:34:01.0±0.0, 26°.50S×114°.80W, h15km, mB5.9/49, Ms5.9/57, Ms7 5.7/54*

GCMT ***03*** *20:34:04.3±0.1, 26°.83S×114°.67W, h12km, MW6.0/164, Moment Tensor Solution. s148, c289; s164, c553; Duration: ≥4 Moment tensor: Scale 1018Nm; Mrr=0.86±.01; Mθθ=0.64±.01; Mφφ=0.21±.01; Mrθ=0.10±.02; Mθφ=-0.84±.01; Mφr=0.27±.02; Best double couple: M0=1.13100×1018 NP1:φs=110.00000°, δ=41.00000°, λ=-117.00000°. NP2:φs=324.00000°, δ=54.00000°, λ=-68.00000°. Principal axes: T 1.3270, Plg=6.0000°, Azm=39.0000°; N -0.3910, Plg=17.0000°, Azm=131.0000°; P -0.9350, Plg=72.0000°, Azm=289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***03*** *20:34:04, 26°.85S×114°.68W, h12km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.89; Mθθ=0.68; Mφφ=0.22; Mrθ=-0.06; Mθφ=-0.87; Mφr=-0.04; Fault plane solution: M0=1.19000×1018 NP1:φs=316.00000°, δ=45.00000°, λ=-77.00000°. NP2:φs=119.00000°, δ=46.00000°, λ=-102.00000°. Principal axes: T 1.3439, Plg=1.0000°, Azm=218.0000°; N -0.4393, Plg=9.0000°, Azm=127.0000°; P -0.9046, Plg=81.0000°, Azm=311.0000°;*

NEIC ***03*** *20:34:07, 25°.75S×114°.74W, h12km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.06; Mθθ=0.37; Mφφ=0.43; Mrθ=-0.18; Mθφ=-0.85; Mφr=0.36; Fault plane solution: M0=1.03000×1018 NP1:φs=281.00000°, δ=74.00000°, λ=168.00000°. NP2:φs=14.00000°, δ=79.00000°, λ=16.00000°. Principal axes: T 1.1150, Plg=19.0000°, Azm=238.0000°; N -0.2008, Plg=71.0000°, Azm=48.0000°; P -0.9142, Plg=3.0000°, Azm=147.0000°;*

ISC 03 20:34:00.1±0.2, 26°.74S±0°.04×114°.72W±0°.04, h14km, n1993, σ1965/2141, mb5.8/363, MS5.8/530, 43C-57D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.82**	**96**	Pn	**Pn**	**20 35 14.7**	**+2.5**
	14nm,0.3s,baz=9.6,slow=1.7,SNR=4.0						
RPN	**Rapa Nui**	**4.82**	**96**	P	**Pn**	**20 35 11.4**	**-0.9**
RPN	**Rapa Nui**	**4.82**	**96**		**Pn**	**20 35 11.4**	**-0.9**
RKT	**Rikitea**	**18.72**	**277**	*e*S	**Sn**	**20 41 48.3**	**+0.2**
	56μm,28.8s						
RKT				*e*LR	LR	20 42 40.9	
	comp=Z,33μm,27.2s						
TAOE	**Nuku Hiva Isla**	**29.94**	**302**	eLR	LR	20 47 42.9	
	comp=Z,14μm,24.0s,baz=134						
TAOE	**Nuku Hiva Isla**	**29.94**	**302**	IAMs_20	IAMs_20	20 49 08.0	
	comp=Z,13μm,18.0s						
H03N2	**Juan Fernandez**	**31.56**	**111**	T	T	21 13 41.4	
	baz=277,slow=75,SNR=179						
H03N3	**Juan Fernandez**	**31.57**	**111**	T	T	21 13 42.7	
	baz=277,slow=75,SNR=154						
H03N1	**Juan Fernandez**	**31.58**	**111**	T	T	21 13 42.5	
	baz=277,slow=75,SNR=156						
TBI	**Tubuai**	**31.60**	**268**	eLQ	LQ	20 47 21.1	
	comp=Z,20μm,32.8s						
TBI				eLR	LR	20 48 25.6	
	comp=Z,21μm,29.2s						
TBI	**Tubuai**	**31.60**	**268**	*e*T	T	21 13 25.5	
	comp=Z,83nm,0.3s						
VA04	**Juan Fernndez**	**31.66**	**111**	IAMs_20	IAMs_20	20 49 34.2	
	comp=Z,13μm,18.0s						
VAH	**Vaihoa**	**32.69**	**284**	*e*P	**P**	**20 40 33.6**	**+1.3**
PMOR	**Pomariorio Ree**	**33.03**	**284**	*e*P	**P**	**20 40 36.4**	**+1.2**
	comp=Z,242nm,1.3s						
TVO	**Taravao**	**33.10**	**278**	*e*P	**P**	**20 40 38.0**	**+2.1**
	comp=Z,38nm,1.2s						
TIAR	**Tiarei**	**33.26**	**279**	*e*P	**P**	**20 40 39.3**	**+2.0**
	comp=Z,29nm,1.0s						
PAE	**Paea**	**33.43**	**278**	*e*P	**P**	**20 40 40.9**	**+2.2**
	comp=Z,23nm,1.1s						
PPTF	**Pamatai, Papee**	**33.45**	**279**	P	**P**	**20 40 38.4**	**-0.5**
PPTF				IAmb	IAmb	20 40 51.9	
	comp=Z,272nm,1.2s						
PPTF				IAMs_20	IAMs_20	20 50 01.1	
	comp=Z,15μm,20.0s						
PPT2	**Papeete2**	**33.45**	**279**	*e*P	**P**	**20 40 41.2**	**+2.2**
	comp=Z,238nm,1.4s						
PPT2				eLQ	LQ	20 48 05.7	
	comp=Z,18μm,32.0s						
PPT2				eLR	LR	20 49 30.4	
	comp=Z,32μm,24.5s,baz=109						
PPT	**Papeete**	**33.46**	**279**	P	**P**	**20 40 38.3**	**-0.7**
	comp=Z,59nm,0.9s,baz=132,slow=8.7,SNR=3.7						
PPT				LR	LR	20 50 21.7	
	comp=Z,15μm,19.0s,baz=104,slow=30						
GO05	**Huala**	**37.41**	**113**	IAMs_20	IAMs_20	20 52 07.8	
	comp=Z,10μm,21.0s						
LC01	**Cunco**	**37.67**	**120**	P	**P**	**20 41 15.9**	**+0.9**
LL01	**San Ignacio de**	**37.76**	**125**	P	**P**	**20 41 15.2**	**-0.5**
BI02	**San Fabin de**	**37.99**	**116**	P	**P**	**20 41 17.7**	**0.0**
MT02	**Curacav**	**38.09**	**111**	P	**P**	**20 41 17.9**	**-0.6**
MT02				IAMs_20	IAMs_20	20 52 38.5	
	comp=Z,11μm,20.0s						
BO01	**Tunca**	**38.10**	**112**	*e*P	**P**	**20 41 17.7**	**-1.0**
BO01	**Tunca**	**38.10**	**112**	P	**P**	**20 41 20.7**	**+2.0**
BO01				IAMs_20	IAMs_20	20 52 38.2	
	comp=Z,9μm,20.0s						
CO02	**Combarbal**	**38.32**	**107**	*e*P	P	20 41 15.6	-5.1
CO02	**Combarbal**	**38.32**	**107**	P	**P**	**20 41 21.9**	**+1.2**
BO02	**Sierra Bellavi**	**38.35**	**113**	P	**P**	**20 41 20.2**	**-0.7**
MT05	**Renca**	**38.41**	**111**	P	**P**	**20 41 20.1**	**-1.3**
MT05				IAMs_20	IAMs_20	20 52 35.3	
	comp=Z,12μm,21.0s						
NNA	**Nana**	**38.46**	**75**	P	**P**	**20 41 20.5**	**-1.4**
	comp=Z,3.4nm,0.3s,baz=231,slow=12,SNR=1.4						
NNA				LR	LR	20 52 53.9	
	comp=Z,17μm,21.9s,baz=244,slow=30						
NNA	**Nana**	**38.46**	**75**	P	**P**	**20 41 21.3**	**-0.6**
NNA				pmax	pmax		
	comp=Z,100nm,1.4s						
NNA				MLR	MLR		
	comp=Z,14μm,20.0s						
NNA	**Nana**	**38.46**	**75**		**P**	**20 41 21.3**	**-0.6**
NNA	**Nana**	**38.46**	**75**	IAMs_20	IAMs_20	20 52 40.7	
	comp=Z,14μm,20.0s						
PEL	**Peldehue**	**38.47**	**110**	P	**P**	**20 41 21.0**	**-0.8**
PEL				pmax	pmax		
	comp=Z,222nm,2.0s						
PEL				MLR	MLR		
	comp=Z,9μm,19.0s						
PEL	**Peldehue**	**38.47**	**110**	P	**P**	**20 41 21.0**	**-0.8**
PEL				IAMs_20	IAMs_20	20 53 08.9	
	comp=Z,9μm,19.0s						
GO04	**Tololo Observa**	**38.59**	**106**	P	**P**	**20 41 23.8**	**+0.7**
AC04	**Llanos de Chal**	**38.59**	**102**	*e*P	**P**	**20 41 25.6**	**+2.7**
AC04	**Llanos de Chal**	**38.59**	**102**	P	**P**	**20 41 22.1**	**-0.8**
AC04				IAMs_20	IAMs_20	20 52 59.3	
	comp=Z,12μm,19.0s						
VA03	**San Esteban**	**38.60**	**110**	*e*P	**P**	**20 41 24.9**	**+1.9**
VA03	**San Esteban**	**38.60**	**110**	P	**P**	**20 41 23.6**	**+0.6**
CO03	**El Pedregal**	**38.62**	**107**	P	**P**	**20 41 23.5**	**+0.4**
LCO	**Las Campanas**	**38.81**	**104**	P	**P**	**20 41 24.6**	**-0.4**
LCO				pmax	pmax		
	comp=Z,147nm,1.5s						
LCO				MLR	MLR		
	comp=Z,8μm,20.0s						
LCO	**Las Campanas**	**38.81**	**104**	P	**P**	**20 41 24.6**	**-0.4**
PLCA	**Paso Flores**	**38.89**	**123**	P	**P**	**20 41 25.6**	**+0.4**
	comp=Z,40nm,1.0s,baz=279,slow=8.6,SNR=29						
PLCA				LR	LR	20 53 23.5	
	comp=Z,5μm,20.7s,baz=275,slow=30						
PLCA	**Paso Flores**	**38.89**	**123**	*e*P	**P**	**20 41 24.8**	**-0.5**
PLCA	**Paso Flores**	**38.89**	**123**	P	**P**	**20 41 27.2**	**+1.9**
PLCA				pmax	pmax		
	comp=Z,337nm,1.5s						
PLCA	**Paso Flores**	**38.89**	**123**	P	**P**	**20 41 27.2**	**+1.9**
PLCA				IAmb	IAmb	20 41 32.7	
	comp=Z,337nm,1.4s						
PLCA	**Paso Flores**	**38.89**	**123**	*e*P	**P**	**20 41 27.2**	**+1.9**
GO08	**Villa O'Higgin**	**39.18**	**135**	*e*P	**P**	**20 41 27.1**	**-0.4**
AC05	**El Transito**	**39.20**	**104**	*e*P	**P**	**20 41 30.4**	**+2.2**
AC05	**El Transito**	**39.20**	**104**	P	**P**	**20 41 28.6**	**+0.4**
AC05				IAMs_20	IAMs_20	20 53 19.6	
	comp=Z,9μm,21.0s						
CO01	**Juntas del Tor**	**39.22**	**105**	P	**P**	**20 41 29.7**	**+1.3**
CO01				IAMs_20	IAMs_20	20 53 12.1	
	comp=Z,10μm,22.0s						
AC01	**Pan de Azucar**	**39.36**	**99**	*e*P	**P**	**20 41 28.8**	**-0.5**
AC01	**Pan de Azucar**	**39.36**	**99**	IAMs_20	IAMs_20	20 53 26.3	
	comp=Z,9μm,18.0s						
GO03	**Copiap**	**39.42**	**102**	*e*P	**P**	**20 41 33.5**	**+3.6**
GO03	**Copiap**	**39.42**	**102**	P	**P**	**20 41 31.1**	**+1.1**
ATAH	**Atahualpa**	**39.62**	**67**	P	**P**	**20 41 28.8**	**-3.3**
	comp=Z,26nm,0.3s,baz=348,slow=6.1,SNR=51						
ATAH				LR	LR	20 53 46.9	
	comp=Z,16μm,19.9s,baz=241,slow=30						
PB14	**IPOC Station P**	**39.84**	**97**	P	**P**	**20 41 34.4**	**+0.7**
PB10	**IPOC Station P**	**39.97**	**95**	IAMs_20	IAMs_20	20 53 37.1	
	comp=Z,11μm,19.0s						
GO09	**Cerro Castillo**	**40.25**	**139**	P	**P**	**20 41 39.1**	**+2.7**
ZON	**Zonda**	**40.27**	**108**	P	**P**	**20 41 38.9**	**+2.0**
ZON				pmax	pmax		
	comp=Z,140nm,1.4s						
ZON				MLR	MLR		
	comp=Z,7μm,19.0s						
ZON	**Zonda**	**40.27**	**108**	P	**P**	**20 41 38.9**	**+2.0**
PB05	**IPOC Station P**	**40.44**	**95**	*e*P	**P**	**20 41 39.1**	**+0.6**
GO02	**Mina Guanaco**	**40.45**	**98**	*e*P	**P**	**20 41 38.1**	**-0.6**
GO02	**Mina Guanaco**	**40.45**	**98**	P	**P**	**20 41 40.6**	**+1.9**
GO02				IAmb	IAmb	20 41 45.8	
	comp=Z,372nm,1.8s						
AC02	**Maricunga**	**40.52**	**101**	P	**P**	**20 41 40.2**	**+0.6**
AC02				IAMs_20	IAMs_20	20 54 17.3	
	comp=Z,14μm,18.0s						
PB04	**IPOC Station P**	**40.63**	**94**	P	**P**	**20 41 40.8**	**+0.8**
PB04				IAMs_20	IAMs_20	20 53 44.5	
	comp=Z,14μm,22.0s						
PB15	**IPOC Station P**	**41.01**	**95**	*e*P	**P**	**20 41 44.5**	**+1.2**
PB15	**IPOC Station P**	**41.01**	**95**	P	**P**	**20 41 43.5**	**+0.3**
PB15				IAMs_20	IAMs_20	20 54 09.6	
	comp=Z,14μm,20.0s						
PB07	**IPOC Station P**	**41.02**	**93**	*e*P	**P**	**20 41 38.7**	**-4.7**
PB07	**IPOC Station P**	**41.02**	**93**	P	**P**	**20 41 44.4**	**+1.0**
PB07				IAMs_20	IAMs_20	20 53 56.0	
	comp=Z,16μm,22.0s						
PB06	**IPOC Station P**	**41.04**	**95**	P	**P**	**20 41 42.5**	**-1.0**
PB06				IAMs_20	IAMs_20	20 54 08.6	
	comp=Z,11μm,20.0s						
PATCX	**Punta Patache**	**41.05**	**92**	P	**P**	**20 41 44.2**	**+0.8**
PATCX				IAmb	IAmb	20 41 48.8	
	comp=Z,366nm,1.9s						
PATCX				IAMs_20	IAMs_20	20 54 04.4	
	comp=Z,11μm,18.0s						
PB03	**IPOC Station P**	**41.06**	**93**	*e*P	**P**	**20 41 40.1**	**-3.6**
TA01	**Diego Aracena**	**41.09**	**91**	P	**P**	**20 41 44.9**	**+1.1**
TA01				IAMs_20	IAMs_20	20 54 06.7	
	comp=Z,12μm,19.0s						
PB02	**IPOC Station P**	**41.13**	**92**	*e*P	P	20 41 36.2	-7.9
RAR	**Rarotonga**	**41.38**	**268**	LR	LR	20 54 01.4	
	comp=Z,8μm,20.2s,baz=109,slow=29						
RAR	**Rarotonga**	**41.38**	**268**	IAMs_20	IAMs_20	20 53 49.9	
	comp=Z,9μm,19.0s						
PSGCX	**Pisagua**	**41.44**	**90**	P	**P**	**20 41 46.5**	**-0.2**
PSGCX				IAMs_20	IAMs_20	20 54 15.8	
	comp=Z,16μm,21.0s						
PB01	**IPOC Station P**	**41.58**	**92**	*e*P	**P**	**20 41 47.9**	**+0.1**
PB01	**IPOC Station P**	**41.58**	**92**	P	**P**	**20 41 46.8**	**-1.0**
PB01				IAMs_20	IAMs_20	20 54 39.5	
	comp=Z,9μm,20.0s						
PB12	**IPOC Station P**	**41.58**	**88**	*e*P	P	20 41 41.4	-6.5
PB12	**IPOC Station P**	**41.58**	**88**	P	**P**	**20 41 47.4**	**-0.4**
PB12				IAMs_20	IAMs_20	20 54 18.3	
	comp=Z,14μm,20.0s						
PB09	**IPOC Station P**	**41.58**	**93**	*e*P	**P**	**20 41 50.2**	**+2.2**
PB09	**IPOC Station P**	**41.58**	**93**	P	**P**	**20 41 48.2**	**+0.3**
PB09				IAMs_20	IAMs_20	20 54 42.7	
	comp=Z,12μm,20.0s						
AP01	**Chacalluta**	**41.65**	**88**	IAMs_20	IAMs_20	20 54 20.1	
	comp=Z,13μm,21.0s						
LVC	**Limon Verde**	**41.66**	**95**	P	**P**	**20 41 48.3**	**-0.5**
	comp=Z,12nm,1.1s,baz=261,slow=9.7,SNR=5.6						
LVC				LR	LR	20 54 49.5	
	comp=Z,11μm,19.6s,baz=258,slow=30						
LVC	**Limon Verde**	**41.66**	**95**	P	**P**	**20 41 48.9**	**+0.1**
LVC				pmax	pmax		
	comp=Z,123nm,1.5s						
LVC				MLR	MLR		
	comp=Z,13μm,21.0s						
LVC	**Limon Verde**	**41.66**	**95**	P	**P**	**20 41 48.9**	**+0.1**
LVC	**Limon Verde**	**41.66**	**95**	IAMs_20	IAMs_20	20 54 27.8	
	comp=Z,13μm,21.0s						
LVC	**Limon Verde**	**41.66**	**95**	*e*P	**P**	**20 41 49.1**	**+0.3**
PB11	**IPOC Station P**	**41.81**	**90**	*e*P	**P**	**20 41 48.3**	**-1.5**
PB11	**IPOC Station P**	**41.81**	**90**	P	**P**	**20 41 48.0**	**-1.8**
PB11				IAMs_20	IAMs_20	20 54 27.6	
	comp=Z,16μm,22.0s						
MNMC	**Minye Minye**	**42.06**	**89**	P	**P**	**20 41 51.4**	**-0.6**
PB08	**IPOC Station P**	**42.14**	**91**	*e*P	**P**	**20 41 51.3**	**-1.5**
PB08	**IPOC Station P**	**42.14**	**91**	P	**P**	**20 41 52.5**	**-0.2**
PB08				IAMs_20	IAMs_20	20 54 39.4	
	comp=Z,17μm,21.0s						
GO01	**Chusmiza**	**42.25**	**90**	*e*P	**P**	**20 41 55.4**	**+1.6**
GO01	**Chusmiza**	**42.25**	**90**	P	**P**	**20 41 53.7**	**-0.2**
GO01				IAMs_20	IAMs_20	20 54 42.3	
	comp=Z,17μm,22.0s						
PB16	**IPOC Station P**	**42.41**	**88**	*e*P	P	20 41 48.1	-7.1
PB16	**IPOC Station P**	**42.41**	**88**	P	**P**	**20 41 53.5**	**-1.6**
PB16				IAMs_20	IAMs_20	20 54 46.2	
	comp=Z,14μm,22.0s						
USHA	**Ushuaia**	**43.73**	**143**	P	**P**	**20 42 07.2**	**+2.5**
	comp=Z,8.2nm,0.4s,baz=272,slow=8.0,SNR=4.2						
USHA				LR	LR	20 56 06.2	
	comp=Z,3μm,19.1s,baz=290,slow=30						
OTAV	**Otavalo**	**44.01**	**58**	*e*P	**P**	**20 42 09.2**	**+1.2**
OTAV	**Otavalo**	**44.01**	**58**	P	**P**	**20 42 08.5**	**+0.5**
OTAV				pmax	pmax		
	comp=Z,115nm,1.5s						
OTAV				MLR	MLR		
	comp=Z,14μm,20.0s						
OTAV	**Otavalo**	**44.01**	**58**	P	**P**	**20 42 08.5**	**+0.5**
OTAV	**Otavalo**	**44.01**	**58**	IAMs_20	IAMs_20	20 55 34.8	
	comp=Z,14μm,20.0s						
CZSB	**Cruzeiro do Su**	**44.08**	**72**	*e*P	**P**	**20 42 08.5**	**+0.4**
LPAZ	**La Paz**	**44.36**	**86**	P	**P**	**20 42 11.9**	**+0.9**
	comp=Z,11nm,1.1s,baz=237,slow=7.1,SNR=20						
LPAZ				LR	LR	20 56 32.0	
	comp=Z,8μm,20.6s,baz=249,slow=30						
LPAZ	**La Paz**	**44.36**	**86**	*e*P	**P**	**20 42 11.9**	**+0.9**
LPAZ	**La Paz**	**44.36**	**86**	P	**P**	**20 42 11.3**	**+0.3**
LPAZ				pmax	pmax		
	comp=Z,34nm,1.1s						
LPAZ	**La Paz**	**44.36**	**86**		**P**	**20 42 11.3**	**+0.3**
LPAZ	**La Paz**	**44.36**	**86**	*e*P	**P**	**20 42 12.1**	**+1.1**
GCUF	**Volcan Galeras**	**45.49**	**58**	*e*P	**P**	**20 42 21.7**	**+1.8**
PUAC	**Puerto Asis, P**	**45.65**	**60**	*e*P	**P**	**20 42 21.6**	**+1.0**
BBAC	**Balboa, Cauca**	**46.08**	**58**	*e*P	**P**	**20 42 24.6**	**+0.4**
SOTA	**Rioblanco**	**46.63**	**58**	*e*P	**P**	**20 42 30.7**	**+1.7**
TLIG	**Tlapa**	**46.74**	**21**	P	**P**	**20 42 29.6**	**+0.4**
TLIG				IAmb	IAmb	20 42 42.1	
	comp=Z,123nm,1.2s						
JTS	**Las Juntas de**	**46.80**	**42**	P	**P**	**20 42 30.2**	**+0.6**
	comp=Z,54nm,1.0s,baz=314,slow=3.4,SNR=22						
JTS	**Las Juntas de**	**46.80**	**42**	*e*P	**P**	**20 42 31.0**	**+1.4**
JTS	**Las Juntas de**	**46.80**	**42**	P	**P**	**20 42 29.9**	**+0.3**
JTS				pmax	pmax		
	comp=Z,175nm,1.4s						
JTS				MLR	MLR		
	comp=Z,22μm,22.0s						
JTS	**Las Juntas de**	**46.80**	**42**	P	**P**	**20 42 29.9**	**+0.3**
JTS				IAmb	IAmb	20 42 43.1	
	comp=Z,175nm,1.4s						
PTLC	**Puerto Leguiza**	**46.80**	**62**	*e*P	**P**	**20 42 28.8**	**-0.8**
POPC	**Popayan, Colom**	**46.85**	**58**	*e*P	**P**	**20 42 30.2**	**-0.1**
PCON	**Cinco Dias**	**46.92**	**58**	*e*P	**P**	**20 42 32.1**	**+0.9**
FLOC	**Florencia**	**47.01**	**59**	*e*P	**P**	**20 42 32.3**	**+1.0**
FLOC	**Florencia**	**47.01**	**59**	P	**P**	**20 42 31.6**	**+0.3**
HDC	**Heredia**	**47.08**	**43**	P	**P**	**20 42 32.3**	**+0.4**
SNET	**Serv Nac Est T**	**47.20**	**35**	IAMs_20	IAMs_20	20 57 04.3	
	comp=Z,10μm,21.0s						
HUEH	**Huehuetenango**	**47.50**	**31**	P	**P**	**20 42 35.6**	**+0.4**
HUEH				IAMs_20	IAMs_20	20 57 51.1	
	comp=Z,8μm,22.0s						
GARC	**Garzon, Huila**	**47.52**	**59**	*e*P	**P**	**20 42 36.4**	**+0.9**
CRIN	**San Cristobal**	**47.53**	**38**	IAMs_20	IAMs_20	20 57 43.4	
	comp=Z,6μm,19.0s						
CMIG	**Matias Romero**	**47.63**	**26**	P	**P**	**20 42 35.6**	**-0.4**
	comp=Z,18nm,0.9s,baz=203,slow=6.2,SNR=24						
CMIG				LR	LR	20 57 57.7	
	comp=Z,12μm,21.2s,baz=169,slow=30						
APG	**El Apazote**	**47.72**	**32**	P	**P**	**20 42 37.5**	**+0.6**
	comp=Z,12nm,0.8s,baz=223,slow=14,SNR=15						
APG				LR	LR	20 57 47.6	
	comp=Z,11μm,20.6s,baz=189,slow=30						
MTO3	**Montecristo**	**47.74**	**34**	P	**P**	**20 42 35.4**	**-1.7**
BETC	**Betania**	**47.88**	**58**	*e*P	**P**	**20 42 39.1**	**+1.0**
ESQI	**Esquipulas**	**47.89**	**34**	P	**P**	**20 42 38.5**	**+0.4**
**AZ

comp=Z,11µm,20.7s,baz=146,slow=30
SIV San Ignacio 50.77 89 P **P 20 42 59.8 -0.5**
comp=Z,6.1nm,1.1s,baz=257,slow=9.3,SNR=12
SIV LR LR 20 58 26.1
comp=Z,808nm,21.4s,baz=268,slow=29
SPBC San Pablo de B 50.84 57‖*eP* **P 20 43 01.3 +0.5**
CPUP Villa Florida 50.95 103 P **P 20 43 00.6 -0.9**
comp=Z,2.6nm,0.8s,baz=268,slow=8.8,SNR=5.0
CPUP LR LR 21 01 20.1
comp=Z,5µm,18.7s,baz=262,slow=32
CPUP Villa Florida 50.95 103 P **P 20 43 03.4 +2.0**
CPUP pmax pmax
comp=Z,103nm,1.9s
CPUP Villa Florida 50.95 103 P **P 20 43 03.4 +2.0**
CPUP Villa Florida 50.95 103 *eP* **P 20 43 05.1 +3.7**
PTBC PUERTO BERRIO, 51.14 56‖*eP* **P 20 43 03.1 +0.2**
UREC San Jos de Ur 51.17 53‖*eP* **P 20 43 03.3 +0.2**
LCBC Los crdobas, 51.34 52 *eP* **P 20 43 06.8 +2.4**
ZARC Zaragoza, Cauc 51.48 54‖*eP* **P 20 43 05.6 +0.1**
RUSC La Rusia 51.73 57‖*eP* **P 20 43 08.0 +0.1**
RUSC La Rusia 51.73 57 P **P 20 43 07.7 -0.3**
SAML Samuel 51.77 80‖*eP* **P 20 43 06.8 -0.9**
SAML Samuel 51.77 80 P **P 20 43 07.3 -0.4**
SAML pmax pmax
comp=Z,67nm,1.2s
SAML MLR MLR
comp=Z,10µm,20.0s
SAML Samuel 51.77 80 P **P 20 43 07.3 -0.4**
SAML Samuel 51.77 80 IAms_20 IAms_20 21 01 03.2
comp=Z,10µm,20.0s
SAML Samuel 51.77 80 *eP* **P 20 43 07.8 +0.1**
MOTC Monteria, Cord 51.78 52 *eP* **P 20 43 04.2 -3.5**
BRRC Barranca, Sant 52.06 56 *eP* **P 20 43 10.5 +0.7**
BARC Barichara 52.12 57 *eP* **P 20 43 10.7 +0.2**
PTLB Pontes e Lacer 52.70 89 *eP* **P 20 43 15.2 +0.6**
VILB Vilhena 52.72 86 *eP* **P 20 43 15.5 +0.7**
SJCC San Jacinto, C 52.90 52‖*eP* **P 20 43 16.3 +0.2**
SMLC San Martn de 52.94 54‖*eP* **P 20 43 15.5 -0.8**
PLTB Pedras Altas 52.95 111 *eP* **P 20 43 18.1 +1.8**
PAMC Pamplona, Colo 52.97 56 *eP* **P 20 43 16.6 -0.5**
TAMC Tame, Arauca 53.06 58 *eP* **P 20 43 15.7 -1.6**
OCAC Ocana 53.11 55 *eP* **P 20 43 15.4 -2.3**
TEIG Tepich 53.26 31 P **P 20 43 17.0 -1.4**
comp=Z,57nm,1.0s,baz=191,slow=6.9,SNR=14
TEIG LR LR 21 01 24.9
comp=Z,8µm,21.0s,baz=202,slow=31
TEIG Tepich 53.26 31‖*eP* **P 20 43 17.9 -0.6**
TEIG Tepich 53.26 31 P **P 20 43 17.4 -1.1**
TEIG IAmb IAmb 20 43 30.1
comp=Z,153nm,1.3s
TEIG Tepich 53.26 31 IAms_20 IAms_20 21 01 04.0
comp=Z,7µm,21.0s
ARGC Ariguani, Magd 53.54 53 *eP* **P 20 43 17.3 -3.4**
SRIG Santa Rosalia 53.80 3 P **P 20 43 21.5 -0.8**
SRIG IAmb IAmb 20 43 27.9
comp=Z,315nm,1.8s
AQDB Aquidauana 54.04 97 *eP* **P 20 43 26.1 +1.8**
SMRC Santa Marta, M 54.46 52‖*eP* **P 20 43 27.1 -0.3**
AFI Afiamalu 54.62 272 P **P 20 43 28.4 -0.3**
comp=Z,92nm,1.0s,baz=206,slow=7.1,SNR=7.0
AFI LR LR 20 58 57.5
comp=Z,928nm,20.9s,baz=110,slow=28
AFI Afiamalu 54.62 272 P **P 20 43 29.9 +1.2**
AFI IAmb IAmb 20 43 33.1
comp=Z,217nm,1.2s
ITAB Concordia 55.23 106 *eP* **P 20 43 35.5 +2.6**
SDV Santo Domingo 55.52 57 P **P 20 43 35.1 -0.2**
comp=Z,22nm,0.6s,baz=219,slow=5.8,SNR=9.8
SDV Santo Domingo 55.52 57 *eP* **P 20 43 33.4 -2.0**
SDV Santo Domingo 55.52 57 P **P 20 43 34.9 -0.4**
SDV IAmb IAmb 20 43 42.5
comp=Z,115nm,1.2s
SDV Santo Domingo 55.52 57 *eP* **P 20 43 35.2 -0.2**
HSIG 55.56 4 P **P 20 43 33.3 -1.8**
HSIG IAms_20 IAms_20 21 01 40.4
comp=Z,6µm,22.0s
PTGB Pitanga 55.96 103 *eP* **P 20 43 40.1 +1.7**
TRCB Terra Rica 56.03 101 *eP* **P 20 43 40.0 +1.1**
KVTX Kingsville 56.34 18 IAms_20 IAms_20 21 04 27.4
comp=Z,4µm,18.0s
URIC Uribia, Colomb 56.40 53 *eP* P 20 43 35.0 -6.4
URIC Uribia, Colomb 56.40 53 P **P 20 43 40.5 -0.9**
833A Chaparral WMA, 56.69 16 P **P 20 43 43.2 0.0**
baz=196,SNR=11
833A S **S 20 51 36.6 +1.3**
baz=196
833A Chaparral WMA, 56.69 16 P **P 20 43 42.7 -0.5**
833A IAmb IAmb 20 43 49.7
comp=Z,382nm,2.0s
MACA Manacapuru-AM 56.70 75 *eP* **P 20 43 43.4 -0.3**
TX31 Lajitas Ar. Si 56.75 12 P **P 20 43 43.1 -0.6**
TX32 Lajitas Array 56.75 12 P **P 20 43 43.1 -0.6**
TXAR Lajitas Array 56.75 12 P **P 20 43 43.1 -0.6**
comp=Z,8.5nm,0.9s,baz=193,slow=9.8,SNR=38
TXAR LR LR 21 03 37.0
comp=Z,8µm,18.3s,baz=0.0,slow=31
TXAR Lajitas Array 56.75 12 P **P 20 43 42.8 -0.9**
MTDJ Mount Denham 57.45 43 *eP* **P 20 43 46.6 -2.3**
SFX San Felipe 57.45 360 P **P 20 43 48.0 -0.5**
SFX IAmb IAmb 20 43 53.7
comp=Z,148nm,1.8s
SPX San Pedro Mart 57.45 359 P **P 20 43 49.2 +0.2**
URZ Urewera 57.47 240 P **P 20 43 48.7 -0.1**
comp=Z,23nm,1.1s,baz=63,slow=3.9,SNR=11
URZ Urewera 57.47 240 P **P 20 43 47.2 -1.6**
CLDB Colider 57.49 86 *eP* **P 20 43 48.2 -1.1**
PCMB Pacaembu 57.60 100 *eP* **P 20 43 50.9 +0.9**
735A Kenedy 57.61 18 IAms_20 IAms_20 21 05 22.8
comp=Z,8µm,18.0s
BKZ Black Stump Fm 57.79 239 P **P 20 43 53.1 +2.0**
PIX Pinacate 57.98 1 P **P 20 43 52.3 +0.1**
319A Douglas 58.02 5 **P 20 43 52.5 -0.2**
319A IAmb IAmb 20 44 01.1
comp=Z,184nm,1.4s
319A IAms_20 IAms_20 21 03 26.6
comp=Z,5µm,21.0s
CCX Cicese 58.31 358 P **P 20 43 54.0 -0.5**
CCX IAmb IAmb 20 44 04.8
comp=Z,152nm,1.8s
214A Organ Pipe Nat 58.40 2 P **P 20 43 55.4 +0.2**
baz=182,SNR=19
214A S **S 20 52 02.1 +4.4**
baz=182
214A Organ Pipe Nat 58.40 2 P **P 20 43 55.0 -0.2**
214A IAmb IAmb 20 44 03.6
comp=Z,155nm,1.6s
ESJX Sierra Juarez 58.43 359 P **P 20 43 53.9 -1.7**
PTGA Pitinga 58.55 73 P **P 20 43 55.4 -1.2**
comp=Z,17nm,1.1s,baz=242,slow=6.8,SNR=19
PTGA Pitinga 58.55 73 P **P 20 43 55.4 -1.2**
PTGA IAmb IAmb 20 44 04.5
comp=Z,104nm,1.4s
PTGA Pitinga 58.55 73 *eP* **P 20 43 56.5 -0.1**
JCT Junction City 58.66 15 P **P 20 43 56.3 -0.7**
JCT pmax pmax
comp=Z,182nm,1.0s
JCT MLR MLR
comp=Z,10µm,22.0s
JCT Junction City 58.66 15 P **P 20 43 56.6 -0.4**
baz=196,SNR=30
JCT S **S 20 52 02.5 +1.3**
baz=196
JCT Junction City 58.66 15 P **P 20 43 56.3 -0.7**
JCT IAms_20 IAms_20 21 04 36.5
comp=Z,10µm,22.0s
CBX Cerro Bola 58.75 358 P **P 20 43 57.1 -0.6**
MNTX Cornudas Mount 58.79 9 P **P 20 43 56.9 -1.0**
baz=190,SNR=34
MNTX S **S 20 52 05.9 +3.1**
baz=190
MNTX Cornudas Mount 58.79 9 P **P 20 43 56.7 -1.2**
MNTX IAmb IAmb 20 44 02.6
comp=Z,201nm,2.0s
MNTX IAms_20 IAms_20 21 04 08.0
comp=Z,9µm,21.0s
CPBX Cerro Prieto 58.83 359 P **P 20 43 55.9 -2.2**
TUC Tucson 58.84 4 P **P 20 43 58.2 -0.2**
TUC pmax pmax
comp=Z,52nm,1.3s
TUC MLR MLR
comp=Z,6µm,21.0s
TUC Tucson 58.84 4 P **P 20 43 58.2 -0.2**
baz=184
TUC S **S 20 52 07.5 +4.0**
baz=184

TUC Tucson 58.84 4 P **P 20 43 58.1 -0.2**
TUC Tucson 58.84 4 IAms_20 IAms_20 21 03 37.3
comp=Z,5µm,21.0s
HATO Hato, Curacao 58.92 55 IAms_20 IAms_20 21 06 19.5
comp=Z,4µm,20.0s
TKX Tecate 59.01 358 P **P 20 43 59.2 -0.2**
TKX IAmb IAmb 20 44 00.1
comp=Z,96nm,1.2s
RMX La Rumorosa 59.03 359 P **P 20 43 58.1 -1.6**
RMX IAmb IAmb 20 44 01.3
comp=Z,70nm,1.1s
ITRB Iturama 59.03 98 *eP* **P 20 44 02.3 +2.3**
IKP In-Ko-Pah, Jac 59.07 359 P **P 20 43 59.9 -0.1**
baz=179,SNR=26
IKP S **S 20 52 10.4 +3.8**
baz=179
BAR Barrett 59.12 358 P **P 20 44 00.2 0.0**
BAR IAmb IAmb 20 44 05.5
comp=Z,235nm,1.8s
ARAG Araguaiana, MT 59.16 93 *eP* **P 20 44 02.1 +1.2**
113A Mohawk Valley, 59.18 1 P **P 20 43 59.4 -1.2**
113A IAmb IAmb 20 44 09.0
comp=Z,181nm,1.6s
HKT Hockley 59.20 19 P **P 20 44 00.2 -0.4**
HKT pmax pmax
comp=Z,444nm,2.0s
HKT MLR MLR
comp=Z,7µm,19.0s
HKT Hockley 59.20 19 P **P 20 44 00.2 -0.4**
HKT Hockley 59.20 19 IAms_20 IAms_20 21 06 52.2
comp=Z,7µm,19.0s
121A Cookes Peak, D 59.31 7 P **P 20 44 01.3 -0.4**
baz=187,SNR=54
121A S **S 20 52 14.4 +4.5**
baz=187
121A Cookes Peak, D 59.31 7 P **P 20 44 00.8 -1.0**
121A IAmb IAmb 20 44 03.6
comp=Z,96nm,1.0s
121A IAms_20 IAms_20 21 03 57.8
comp=Z,8µm,22.0s
MONP2 Monument Peak 59.32 358 P **P 20 44 01.8 0.0**
baz=178,SNR=28
MONP2 S **S 20 52 13.9 +3.9**
baz=178
109C Camp Elliot, M 59.34 358 P **P 20 44 01.6 -0.1**
baz=178
109C S **S 20 52 14.7 +4.8**
baz=178
109C Camp Elliot, M 59.34 358 P **P 20 44 01.0 -0.7**
109C IAmb IAmb 20 44 09.5
comp=Z,109nm,1.6s
SWSC Sam W. Stewart 59.36 359 P **P 20 44 01.7 -0.1**
baz=179,SNR=5.8
SWSC S **S 20 52 16.0 +5.9**
baz=179
GDL2 Guadalupe Moun 59.44 10 P **P 20 44 00.8 -1.8**
GLA Glamis 59.46 360 P **P 20 44 02.5 -0.1**
GLA pmax pmax
comp=Z,107nm,1.4s
GLA MLR MLR
comp=Z,3µm,19.0s
GLA Glamis 59.46 360 P **P 20 44 02.5 -0.1**
baz=180,SNR=8.7
GLA S **S 20 52 16.1 +4.6**
baz=180
GLA Glamis 59.46 360 P **P 20 44 02.5 -0.1**
GLA IAmb IAmb 20 44 10.8
comp=Z,107nm,1.4s
KNTN Kanton 59.47 283 IAms_20 IAms_20 21 04 02.5
comp=Z,4µm,19.0s
435B Jarell 59.49 17 P **P 20 44 02.7 -0.1**
baz=198,SNR=8.7
435B S **S 20 52 16.7 +4.7**
baz=198
435B Jarrell 59.49 17 P **P 20 44 02.3 -0.5**
SCI2 San Clemente I 59.50 356 P **P 20 44 02.5 -0.3**
baz=176,SNR=5.7
SCI2 S **S 20 52 15.8 +3.9**
baz=176
NPGB Novo Progresso 59.54 82 *eP* **P 20 44 03.0 -0.6**
SNCC San Nicolas Is 59.83 355 P **P 20 44 04.5 -0.5**
baz=175
SNCC S **S 20 52 21.6 +5.5**
baz=175
SNCC San Nicolas Is 59.83 355 IAms_20 IAms_20 21 03 21.6
comp=Z,6µm,21.0s
CIS Catalina Islan 59.91 356 P **P 20 44 05.2 -0.4**
baz=176
CIS S **S 20 52 22.2 +4.9**
baz=176
TPFO Pinon Flats 60.03 358 S **S 20 52 24.2 +5.2**
baz=178
THZ Tophouse 60.04 235 P **P 20 44 10.4 +3.7**
THZ IAmb IAmb 20 44 58.1
comp=Z,102nm,1.4s
PFO Pinyon Flats O 60.04 358 P **P 20 44 05.5 -1.2**
comp=Z,16nm,1.0s,baz=171,slow=6.5,SNR=21
PFO LR LR 21 04 24.6
comp=Z,3µm,18.1s,baz=173,slow=30
PFO Pinyon Flats O 60.04 358 P **P 20 44 06.9 +0.2**
baz=178,SNR=13
PFO S **S 20 52 24.3 +5.1**
baz=178
PFO Pinyon Flats O 60.04 358 P **P 20 44 04.4 -2.2**
MURC Murrieta 60.05 358 P **P 20 44 06.5 -0.1**
baz=178
MURC S **S 20 52 25.0 +5.9**
baz=178
BC3 Big Chuckawall 60.06 359 P **P 20 44 06.9 +0.1**
baz=179,SNR=30
BC3 S **S 20 52 24.4 +5.0**
baz=179
FMP Fort Macarthur 60.21 357 P **P 20 44 07.5 -0.1**
baz=176
GTBY Guantanamo Bay 60.22 44 *eP* **P 20 44 06.1 -1.9**
GTBY Guantanamo Bay 60.22 44 P **P 20 44 05.8 -2.2**
GTBY IAmb IAmb 20 44 30.1
comp=Z,125nm,1.2s
LTZ Lake Taylor 60.32 234 P **P 20 44 11.0 +2.4**
SPB Sao Paulo 60.34 103 IAms_20 IAms_20 21 07 07.0
comp=Z,6µm,19.0s
PUH Pauahi 60.37 315 P **P 20 44 07.8 -1.4**
BELC Belle Mtn. Jos 60.42 359 P **P 20 44 09.5 +0.2**
baz=179,SNR=34
BELC S **S 20 52 31.0 +7.0**
baz=179
RIM Rim 60.42 315 P **P 20 44 08.7 -0.8**
RIM IAmb IAmb 20 44 09.9
comp=Z,112nm,0.9s
BYL Byron's Ledge 60.42 315 P **P 20 44 08.7 -0.8**
SDHHI Sand Hill 60.43 315 P **P 20 44 08.5 -1.1**
ITTB Itaituba 60.44 79 *eP* **P 20 44 08.7 -1.1**
OBL Observatory Le 60.44 315 P **P 20 44 08.1 -1.7**
OBL IAmb IAmb 20 44 26.2
comp=Z,118nm,1.0s
UWB Uwekahuna B 60.45 315 P **P 20 44 07.9 -1.8**
UWE Uwekahuna 60.45 315 P **P 20 44 09.3 -0.5**
AIN Ainahou 60.52 315 P **P 20 44 08.7 -1.6**
IRM Iron Mountain 60.56 360 P **P 20 44 10.1 0.0**
baz=180,SNR=19
IRM S **S 20 52 30.8 +5.2**
baz=180
MLH Mauna Loa 60.56 315 P **P 20 44 09.1 -1.6**
SCZ2 Santa Cruz Isl 60.58 355 P **P 20 44 09.7 -0.5**
baz=175
SCZ2 S **S 20 52 29.8 +4.0**
baz=175
PASC Pasadena Art C 60.66 357 P **P 20 44 10.3 -0.4**
PASC IAmb IAmb 20 44 16.2
comp=Z,226nm,1.9s
PASC Pasadena Art C 60.66 357 IAms_20 IAms_20 21 03 31.7
comp=Z,6µm,21.0s
WHTX Lake Whitney, 60.68 17 P **P 20 44 09.9 -1.0**
baz=198,SNR=9.9
WHTX S **S 20 52 28.4 +1.3**
baz=198
WHTX Lake Whitney, 60.68 17 P **P 20 44 09.7 -1.1**
BBRC Big Bear Solar 60.70 358 P **P 20 44 11.3 0.0**
baz=178
BBRC S **S 20 52 33.0 +5.2**
baz=178
BFSC Mount Baldy Ra 60.71 357 P **P 20 44 10.7 -0.6**
baz=177,SNR=17
BFSC S **S 20 52 33.0 +5.4**
baz=177
HMH Humu'ula Sheep 60.71 315 P **P 20 44 12.1 +0.4**

PDMCI Parker Dam,Lak 60.71 1 P **P 20 44 11.5 +0.4**
baz=181,SNR=23
PDMCI S **S 20 52 33.0 +5.6**
baz=181
MWC Mount Wilson 60.71 357 P **P 20 44 08.3 -3.0**
MWC pmax pmax
comp=Z,73nm,1.2s
MWC MLR MLR
comp=Z,5µm,20.0s
MWC Mount Wilson 60.71 357 P **P 20 44 08.3 -3.0**
MWC IAmb IAmb 20 44 15.6
comp=Z,73nm,1.2s
MWC IAms_20 IAms_20 21 03 34.9
comp=Z,5µm,20.0s
MLOA Mauna Loa Obse 60.72 315 P **P 20 44 11.2 -0.7**
ABTX Abilene, Hawle 60.75 15 P **P 20 44 10.6 -0.8**
baz=195,SNR=18
ABTX S **S 20 52 30.7 +2.6**
baz=195
ABTX Abilene, Hawle 60.75 15 P **P 20 44 10.1 -1.3**
ABTX IAmb IAmb 20 44 12.3
comp=Z,118nm,1.1s
ABTX IAms_20 IAms_20 21 05 50.0
comp=Z,6µm,20.0s
441A DeRidder 60.76 21 P **P 20 44 11.4 0.0**
441A IAmb IAmb 20 44 13.5
comp=Z,92nm,0.9s
DECC Green Verdugo 60.76 357 P **P 20 44 11.2 -0.2**
baz=176
DECC S **S 20 52 32.8 +4.7**
baz=176
LGNH Logne 60.77 47 P **P 20 44 11.8 +0.1**
OUZ Omahuta 60.86 243 P **P 20 44 14.0 +1.7**
OUZ IAmb IAmb 20 44 16.4
comp=Z,111nm,1.5s
PCRV Puerto La Cruz 60.89 60 P **P 20 44 12.4 -0.4**
comp=Z,17nm,0.8s,baz=301,slow=4.6,SNR=6.8
X16A Lo Mia Camp, P 60.90 3 P **P 20 44 12.0 -0.6**
PLCV Puerto La Cruz 60.92 60 P **P 20 44 12.4 -0.6**
Y22D IRIS PASSCAL I 60.93 7 P **P 20 44 13.3 +0.6**
baz=188
Y22D IRIS PASSCAL I 60.93 7 P **P 20 44 12.3 -0.5**
Y22D IAms_20 IAms_20 21 05 22.7
comp=Z,8µm,20.0s
PAPH Port-au-Prince 60.98 47 P **P 20 44 11.6 -1.6**
LENM Lemitar 61.01 7 P **P 20 44 12.1 -1.2**
RPZ Rata Peaks 61.03 233 P **P 20 44 14.5 +1.2**
comp=Z,20nm,1.1s,baz=158,slow=2.2,SNR=6.4
RPZ Rata Peaks 61.03 233 P **P 20 44 13.9 +0.5**
RPZ IAmb IAmb 20 44 56.5
comp=Z,226nm,2.0s
SBC Santa Barbara 61.03 355 P **P 20 44 12.8 -0.5**
baz=175
BNM Barren Site 61.04 8 P **P 20 44 13.4 -0.2**
ODZ Otahua Downs 61.08 231 P **P 20 44 13.6 -0.1**
237A Washetta, Mont 61.13 18 P **P 20 44 13.5 -0.5**
OSI Osito Audit: C 61.14 356 P **P 20 44 13.8 -0.2**
baz=176
OSI S **S 20 52 36.6 +3.6**
baz=176
OSI Osito Audit: C 61.14 356 P **P 20 44 13.0 -1.0**
OSI IAms_20 IAms_20 21 04 14.2
comp=Z,6µm,20.0s
NEE2 Needles Airpor 61.17 0 P **P 20 44 14.5 +0.3**
baz=180,SNR=5.9
NEE2 S **S 20 52 39.8 +6.5**
baz=180
GMRC Granite Mounta 61.19 359 P **P 20 44 14.8 +0.2**
baz=179,SNR=33
GMRC S **S 20 52 39.9 +6.0**
baz=179
NATX Nacogdoches 61.24 19 P **P 20 44 14.6 0.0**
baz=200,SNR=6.9
NATX S **S 20 52 38.1 +3.9**
baz=200
NATX Nacogdoches 61.24 19 P **P 20 44 14.5 -0.2**
NATX IAms_20 IAms_20 21 07 51.0
comp=Z,6µm,20.0s
HEC Hector,Ludlow 61.25 358 P **P 20 44 14.8 0.0**
baz=178,SNR=16
HEC S **S 20 52 39.7 +5.2**
baz=178
RRX Edison Barstow 61.32 358 P **P 20 44 14.9 -0.3**
baz=178
RRX S **S 20 52 39.0 +3.8**
baz=178
EDW2 Edwards Air Fo 61.36 357 P **P 20 44 15.0 -0.6**
baz=177,SNR=30
EDW2 S **S 20 52 40.5 +4.6**
baz=177
MSTX Muleshoe 61.43 11 P **P 20 44 14.9 -1.3**
baz=192,SNR=28
MSTX Muleshoe 61.43 11 P **P 20 44 14.2 -1.9**
MSTX IAms_20 IAms_20 21 06 05.9
comp=Z,5µm,21.0s
PKM Mcpherson Peak 61.48 355 P **P 20 44 16.5 0.0**
baz=175,SNR=11
PKM S **S 20 52 40.7 +3.1**
baz=175
W13A Hualapai Mount 61.51 1 P **P 20 44 16.3 -0.4**
IPMB Ipameri, GO 61.53 97 *eP* **P 20 44 18.0 +0.8**
342A Flagon Creek P 61.61 22 P **P 20 44 15.7 -1.5**
ARVC Arvin 61.65 356 P **P 20 44 17.3 -0.1**
baz=176
ARVC S **S 20 52 43.6 +4.2**
baz=176
W18A Petrified Fore 61.70 5 P **P 20 44 17.8 -0.2**
baz=185,SNR=6.0
W18A S **S 20 52 46.9 +6.5**
baz=185
W18A Petrified Fore 61.70 5 P **P 20 44 17.9 -0.2**
W18A IAmb IAmb 20 44 30.4
comp=Z,96nm,1.2s
W18A IAms_20 IAms_20 21 05 31.1
comp=Z,5µm,20.0s
GSC Goldstone, Bar 61.73 358 P **P 20 44 17.5 -0.6**
GSC pmax pmax
comp=Z,76nm,1.2s
GSC MLR MLR
comp=Z,3µm,22.0s
GSC Goldstone, Bar 61.73 358 P **P 20 44 18.2 +0.1**
baz=178,SNR=42
GSC S **S 20 52 44.2 +3.6**
baz=178
GSC Goldstone, Bar 61.73 358 P **P 20 44 17.5 -0.6**
GSC IAmb IAmb 20 44 20.0
comp=Z,76nm,1.1s
ANMO Albuquerque 61.84 8 LR LR 21 06 13.2
comp=Z,484nm,20.1s,baz=5.5,slow=31
ANMO Albuquerque 61.84 8 P **P 20 44 18.4 -0.6**
ANMO pmax pmax
comp=Z,29nm,1.2s
ANMO MLR MLR
comp=Z,8µm,21.0s
ANMO Albuquerque 61.84 8 P **P 20 44 18.4 -0.6**
baz=188
ANMO S **S 20 52 46.0 +3.8**
baz=188
ANMO Albuquerque 61.84 8 P **P 20 44 18.4 -0.6**
ANMO Albuquerque 61.84 8 IAms_20 IAms_20 21 05 52.9
comp=Z,8µm,21.0s
TUQ Turquoise Moun 61.85 359 P **P 20 44 19.2 +0.3**
baz=179,SNR=14
TUQ S **S 20 52 46.7 +4.6**
baz=179
SMMC Simmler 61.92 355 P **P 20 44 19.0 -0.3**
baz=175
LRMC Laurel Mtn Rad 61.95 357 P **P 20 44 19.6 +0.1**
baz=177,SNR=5.4
LRMC S **S 20 52 46.8 +3.4**
baz=177
FOZ Fox Glacier 61.95 233 P **P 20 44 21.1 +1.6**
BELA Belgrano 2 61.97 166 P **P 20 44 19.5 +0.3**
SDDR Presa de Saban 61.97 47 P **P 20 44 19.4 -0.5**
SDDR IAmb IAmb 20 44 27.7
comp=Z,90nm,1.4s
SDDR IAms_20 IAms_20 21 04 39.8
comp=Z,7µm,22.0s
WUAZ Wupatki 62.00 3 P **P 20 44 20.2 +0.2**
baz=183,SNR=21
WUAZ S **S 20 52 50.1 +6.0**
baz=183
WUAZ Wupatki 62.00 3 P **P 20 44 19.8 -0.2**
WUAZ IAmb IAmb 20 44 28.4
comp=Z,165nm,1.6s
Z35A Perchaven, San 62.00 17 P **P 20 44 19.1 -0.7**
ISA Isabella, Lake 62.16 357 P **P 20 44 20.2 -0.8**

ISA pmax pmax
comp=Z,104nm,1.6s
ISA MLR MLR
comp=Z,7μm,20.0s
ISA Isabella, Lake 62.16 357 P **P 20 44 20.7 -0.3**
baz=176,SNR=9.5
ISA Isabella, Lake 62.16 357 P **P 20 44 20.2 -0.8**
ISA IAmb IAmb 20 44 29.2
comp=Z,104nm,1.6s
ISA IAMs_20 IAMs_20 21 04 47.4
comp=Z,7μm,20.0s
344A Westbrook Farm 62.23 23 P **P 20 44 21.9 +0.5**
MSVF Nonsavu 62.27 263 *i* P **P 20 44 22.7 +0.5**
MSVF pmax pmax
comp=Z,159nm,1.4s
MSVF Nonsavu 62.27 263 P **P 20 44 23.2 +1.0**
MSVF IAmb IAmb 20 44 26.7
comp=Z,179nm,1.4s
SHOC Shoshone, Teco 62.32 359 P **P 20 44 21.8 -0.1**
baz=178,SNR=23
SHOC S **S 20 52 54.1 +6.3**
baz=178
PAGB Antelope Grade 62.35 355 P **P 20 44 21.8 -0.4**
PAGB IAmb IAmb 20 44 34.5
comp=Z,95nm,1.4s
PAGB IAMs_20 IAMs_20 21 04 48.4
comp=Z,5μm,20.0s
VES Vestal, Richgr 62.38 356 P **P 20 44 21.9 -0.4**
baz=176
MPMC Manual Prospec 62.51 357 P **P 20 44 23.7 +0.2**
baz=177,SNR=44
MPMC S **S 20 52 56.6 +5.9**
baz=177
AMTX Amarillo 62.52 12 P **P 20 44 22.5 -0.9**
baz=193
AMTX S **S 20 52 52.9 +2.3**
baz=193
AMTX Amarillo 62.52 12 P **P 20 44 22.5 -0.9**
AMTX IAmb IAmb 20 44 24.1
comp=Z,86nm,1.1s
AMTX IAMs_20 IAMs_20 21 07 01.7
comp=Z,6μm,19.0s
Z38A Mt. Pleasant 62.55 19 P **P 20 44 23.5 0.0**
Z38A IAmb IAmb 20 44 24.6
comp=Z,76nm,1.0s
BDFB Brasilia 62.57 94 P **P 20 44 24.2 -0.1**
comp=Z,16nm,1.1s,baz=259,slow=11,SNR=7.0
BDFB LR LR 21 08 06.7
comp=Z,5μm,21.9s,baz=260,slow=33
BDFB Brasilia 62.57 94 P **P 20 44 24.8 +0.5**
BDFB pmax pmax
comp=Z,164nm,1.8s
BDFB MLR MLR
comp=Z,5μm,21.0s
BDFB Brasilia 62.57 94 P **P 20 44 24.8 +0.5**
BDFB IAmb IAmb 20 44 29.6
comp=Z,164nm,1.8s
BDFB IAMs_20 IAMs_20 21 07 43.5
comp=Z,5μm,21.0s
346A Big Creek Wild 62.62 24 P **P 20 44 24.1 +0.1**
346A IAmb IAmb 20 44 25.8
comp=Z,78nm,0.8s
SC01 Santiago de lo 62.66 48 IAMs_20 IAMs_20 21 05 36.0
comp=Z,6μm,20.0s
VNDA Vanda 62.67 194 P **P 20 44 23.9 +0.1**
comp=Z,7.7nm,1.0s,baz=87,slow=6.0,SNR=21
VNDA LR LR 21 05 45.9
comp=Z,9μm,18.1s,baz=88,slow=30
VNDA Vanda 62.67 194 P **P 20 44 25.0 +1.1**
VNDA pmax pmax
comp=Z,92nm,1.8s
VNDA Vanda 62.67 194 P **P 20 44 25.0 +1.1**
VNDA IAmb IAmb 20 45 08.6
comp=Z,92nm,1.8s
WHZ Wether Hill Ro 62.80 230 P **P 20 44 28.1 +3.0**
U15A North Rim 62.87 2 P **P 20 44 25.8 -0.1**
U15A IAmb IAmb 20 44 43.4
comp=Z,99nm,1.2s
VOG Valley Oaks Go 62.88 356 P **P 20 44 25.0 -0.6**
baz=175
PMPB Monarch Peak 62.88 354 P **P 20 44 25.3 -0.4**
PMPB IAmb IAmb 20 44 40.9
comp=Z,173nm,1.6s
PMPB IAMs_20 IAMs_20 21 04 49.3
comp=Z,4μm,21.0s
FURC Furnace Creek, 62.90 358 P **P 20 44 25.8 +0.1**
baz=178,SNR=27
FURC S **S 20 53 00.4 +5.4**
baz=178
SHPR Sheep Range 62.91 360 P **P 20 44 26.3 +0.3**
SHPR IAmb IAmb 20 44 28.4
comp=Z,140nm,1.1s
CWC Cottonwood Cre 62.92 357 P **P 20 44 26.4 +0.3**
baz=177
CWC S **S 20 53 00.5 +4.8**
baz=177
MALB Monte Alegre 62.92 78 *e*P **P 20 44 27.1 +0.7**
WMOK Wichita Mounta 62.98 15 P **P 20 44 24.9 -1.5**
WMOK pmax pmax
comp=Z,15nm,0.8s
WMOK MLR MLR
comp=Z,7μm,21.0s
WMOK Wichita Mounta 62.98 15 P **P 20 44 24.6 -1.7**
baz=196,SNR=14
WMOK S **S 20 52 58.3 +2.1**
baz=196
WMOK Wichita Mounta 62.98 15 P **P 20 44 24.9 -1.5**
WMOK Wichita Mounta 62.98 15 IAMs_20 IAMs_20 21 07 09.9
comp=Z,7μm,21.0s
VBMS Vicksburg 63.00 23 P **P 20 44 26.6 +0.1**
baz=204
VBMS S **S 20 53 00.7 +4.2**
baz=204
VBMS Vicksburg 63.00 23 P **P 20 44 26.1 -0.4**
143A Socs Landing, 63.14 22 P **P 20 44 28.2 +0.8**
Z41A Richland Creek 63.20 21 P **P 20 44 27.3 -0.4**
baz=202,SNR=7.1
Z41A S **S 20 53 03.2 +4.3**
baz=202
Z41A Richland Creek 63.20 21 P **P 20 44 27.6 -0.2**
Z41A IAMs_20 IAMs_20 21 09 26.9
comp=Z,5μm,19.0s
DWPF Disney Wildern 63.22 33 P **P 20 44 27.9 -0.2**
baz=213
DWPF Disney Wildern 63.22 33 P **P 20 44 27.1 -0.9**
DWPF Disney Wildern 63.22 33 IAMs_20 IAMs_20 21 08 21.8
comp=Z,5μm,18.0s
BRAL Brewton 63.35 26 P **P 20 44 28.8 -0.1**
baz=208
BRAL S **S 20 53 03.0 +2.0**
baz=208
BRAL Brewton 63.35 26 P **P 20 44 29.4 +0.5**
TPNV Topopah Spring 63.36 359 P **P 20 44 29.4 +0.4**
TPNV pmax pmax
comp=Z,146nm,1.5s
TPNV MLR MLR
comp=Z,3μm,21.0s
TPNV Topopah Spring 63.36 359 P **P 20 44 29.1 0.0**
baz=178,SNR=39
TPNV S **S 20 53 06.4 +5.2**
baz=178
TPNV Topopah Spring 63.36 359 P **P 20 44 29.4 +0.4**
TPNV IAmb IAmb 20 44 42.1
comp=Z,146nm,1.4s
451A Vernon 63.40 28 P **P 20 44 29.1 -0.1**
451A IAMs_20 IAMs_20 21 08 08.5
comp=Z,7μm,20.0s
LCMT Little Creek M 63.42 1 P **P 20 44 28.9 -0.5**
QSPA South Pole Qui 63.43 180 P **P 20 44 30.2 +1.0**
QSPA South Pole Qui 63.43 180 IAMs_20 IAMs_20 21 06 54.5
comp=Z,8μm,21.0s
KNB Kanab 63.44 2 P **P 20 44 29.3 -0.3**
KNB Kanab 63.44 2 P **P 20 44 29.2 -0.3**
GRAC Grapevine Rang 63.44 358 P **P 20 44 30.2 +0.8**
baz=177
GRAC S **S 20 53 06.4 +4.4**
baz=177
SAO San Andreas Ge 63.48 354 P **P 20 44 29.4 -0.2**
SAO pmax pmax
comp=Z,53nm,1.4s
SAO MLR MLR
comp=Z,5μm,21.0s
SAO San Andreas Ge 63.48 354 P **P 20 44 29.4 -0.2**
SAO IAMs_20 IAMs_20 21 05 05.3
comp=Z,5μm,21.0s
WLAR White Oak Lake 63.50 20 P **P 20 44 29.5 -0.3**

WLAR IAMs_20 IAMs_20 21 09 29.9
comp=Z,5μm,19.0s
TIN Tinemaha, Big 63.54 357 P **P 20 44 30.3 +0.1**
baz=176
TIN S **S 20 53 09.4 +6.1**
baz=176
553A Crawfordville 63.59 29 IAMs_20 IAMs_20 21 07 02.6
comp=Z,7μm,22.0s
KIP Kipapa 63.65 315 *i* P **P 20 44 30.7 -0.3**
KIP pmax pmax
comp=Z,38nm,1.1s
X37A Clayton 63.69 18 P **P 20 44 29.7 -1.3**
X37A IAmb IAmb 20 44 37.8
comp=Z,216nm,1.8s
PEXB Peixe 63.69 91 *e*P **P 20 44 32.2 +0.6**
FNO Franklin 63.80 16 P **P 20 44 32.2 +0.4**
PRN Pahroc Range 63.80 360 P **P 20 44 32.1 +0.1**
PRN IAmb IAmb 20 44 50.4
comp=Z,152nm,1.3s
W35A Tecumseh 63.83 16 P **P 20 44 30.6 -1.3**
MVCO Mesa Verde 63.88 6 P **P 20 44 32.2 -0.3**
baz=186,SNR=35
MVCO S **S 20 53 11.0 +3.2**
baz=186
MVCO Mesa Verde 63.88 6 P **P 20 44 31.6 -1.0**
MVCO IAMs_20 IAMs_20 21 07 02.7
comp=Z,5μm,21.0s
PKCU Pink Cliffs 63.88 2 P **P 20 44 33.4 +0.8**
GRTK Grand Turk 63.89 46 IAMs_20 IAMs_20 21 06 54.5
comp=Z,7μm,20.0s
146A Union 63.90 24 P **P 20 44 33.2 +0.7**
OKCFA Oklahoma City 63.94 16 P **P 20 44 32.4 -0.3**
CCUT Cedar City 63.96 1 P **P 20 44 32.9 -0.2**
SZCU Shurtz Canyon 64.01 1 P **P 20 44 33.4 0.0**
OK025 Westminster Rd 64.12 16 P **P 20 44 32.9 -1.0**
BCOK Bluff Creek, N 64.13 15 P **P 20 44 34.0 0.0**
CRPR Cabo Rojo, PR 64.13 51 P **P 20 44 32.8 -1.4**
CCAR Cane Creek 64.13 21 P **P 20 44 33.9 -0.1**
CCAR IAMs_20 IAMs_20 21 10 19.7
comp=Z,3μm,18.0s
MLAC Mammoth, Mammo 64.14 356 P **P 20 44 34.1 -0.2**
baz=176
MLPR Magueyes Islan 64.15 51 P **P 20 44 33.7 -0.7**
MIAR Mount Ida 64.16 19 P **P 20 44 33.1 -1.0**
MIAR pmax pmax
comp=Z,33nm,0.9s
MIAR MLR MLR
comp=Z,8μm,21.0s
MIAR Mount Ida 64.16 19 P **P 20 44 32.8 -1.3**
baz=201,SNR=16
MIAR S **S 20 53 12.0 +1.2**
baz=201
MIAR Mount Ida 64.16 19 P **P 20 44 33.1 -1.0**
MIAR IAMs_20 IAMs_20 21 09 02.3
comp=Z,8μm,21.0s
MDPB Devils Postpil 64.16 356 P **P 20 44 33.5 -0.9**
MDPB IAMs_20 IAMs_20 21 05 51.2
comp=Z,5μm,20.0s
T25A Trinidad 64.27 9 P **P 20 44 34.3 -0.8**
baz=190,SNR=16
T25A S **S 20 53 16.5 +3.9**
baz=190
T25A Trinidad 64.27 9 P **P 20 44 34.7 -0.4**
T25A IAmb IAmb 20 44 42.0
comp=Z,94nm,1.5s
OK029 Liberty Lake 64.30 16 P **P 20 44 34.5 -0.6**
OK029 IAmb IAmb 20 44 36.0
comp=Z,124nm,1.1s
X40A Basin Creek Fa 64.33 20 P **P 20 44 33.9 -1.3**
baz=202,SNR=15
X40A S **S 20 53 15.5 +2.6**
baz=202
X40A Basin Creek Fa 64.33 20 P **P 20 44 34.7 -0.5**
X40A IAmb IAmb 20 44 42.3
comp=Z,78nm,1.4s
250A Grady 64.38 27 P **P 20 44 35.1 -0.6**
250A IAMs_20 IAMs_20 21 10 12.4
comp=Z,4μm,19.0s
GRGR Grenville 64.40 60 IAMs_20 IAMs_20 21 09 05.5
comp=Z,4μm,20.0s
MTPU Mount Pierson 64.48 2 P **P 20 44 36.2 -0.4**
352A Blakely 64.50 28 P **P 20 44 35.5 -0.9**
352A IAMs_20 IAMs_20 21 08 09.5
comp=Z,7μm,22.0s
U32A Winter Ranch, 64.50 14 P **P 20 44 35.5 -0.9**
TPH Tonopah 64.51 358 P **P 20 44 36.7 +0.1**
TPH pmax pmax
comp=Z,1μm,2.0s
TPH Tonopah 64.51 358 P **P 20 44 36.7 +0.1**
S22A 4UR Ranch, Cre 64.57 7 P **P 20 44 36.7 -0.4**
baz=188,SNR=9.7
S22A 4UR Ranch, Cre 64.57 7 P **P 20 44 36.5 -0.7**
S22A IAmb IAmb 20 44 45.0
comp=Z,105nm,1.5s
AOPR Arecibo Observ 64.61 51 P **P 20 44 36.3 -1.1**
AOPR IAmb IAmb 20 44 40.6
comp=Z,140nm,1.6s
CMB Columbia Colle 64.65 355 P **P 20 44 37.0 -0.4**
CMB pmax pmax
comp=Z,100nm,1.3s
CMB MLR MLR
comp=Z,5μm,21.0s
CMB Columbia Colle 64.65 355 P **P 20 44 37.0 -0.4**
CMB IAmb IAmb 20 44 45.5
comp=Z,100nm,1.3s
CMB IAMs_20 IAMs_20 21 05 59.2
comp=Z,5μm,21.0s
PV05 Paradox Valley 64.69 5 P **P 20 44 37.9 0.0**
W39A Magazine 64.70 19 P **P 20 44 36.6 -1.1**
baz=201,SNR=19
W39A S **S 20 53 18.6 +1.0**
baz=201
W39A Magazine 64.70 19 P **P 20 44 36.4 -1.3**
SDCO Great Sand Dun 64.72 8 P **P 20 44 37.5 -0.6**
baz=189,SNR=55
SDCO S **S 20 53 21.9 +3.5**
baz=189
SDCO Great Sand Dun 64.72 8 P **P 20 44 36.9 -1.2**
SDCO IAmb IAmb 20 44 39.5
comp=Z,65nm,1.2s
UALR University of 64.74 20 P **P 20 44 37.3 -0.6**
UALR IAmb IAmb 20 44 38.9
comp=Z,96nm,1.1s
R11A Troy Canyon, C 64.75 359 P **P 20 44 38.7 +0.5**
baz=179,SNR=77
R11A S **S 20 53 24.5 +6.1**
baz=179
R11A Troy Canyon, C 64.75 359 P **P 20 44 38.0 -0.2**
R11A IAmb IAmb 20 44 45.2
comp=Z,144nm,1.6s
Z47A Carrollton 64.77 25 P **P 20 44 37.3 -0.8**
TOSP Speyside 64.77 62 IAMs_20 IAMs_20 21 09 07.9
comp=Z,6μm,20.0s
PV01 Paradox Valley 64.79 5 P **P 20 44 37.2 -1.3**
PV01 IAmb IAmb 20 44 46.1
comp=Z,76nm,1.4s
PV01 IAMs_20 IAMs_20 21 07 40.8
comp=Z,4μm,20.0s
PV13 Radium Mtn., P 64.79 5 P **P 20 44 37.8 -0.7**
PV13 IAmb IAmb 20 44 44.5
comp=Z,215nm,1.8s
PV13 IAMs_20 IAMs_20 21 07 19.9
comp=Z,4μm,21.0s
TUL1 Leonard 64.82 17 P **P 20 44 37.2 -1.2**
baz=199,SNR=5.7
TUL1 S **S 20 53 21.2 +2.2**
baz=199
TUL1 Leonard 64.82 17 P **P 20 44 37.1 -1.4**
Y45A Yeager Farm, C 64.83 23 P **P 20 44 38.1 -0.4**
Y45A IAMs_20 IAMs_20 21 11 01.3
comp=Z,5μm,21.0s
QUOK Quay 64.84 16 P **P 20 44 37.5 -1.0**
QUOK IAmb IAmb 20 44 45.5
comp=Z,80nm,1.0s
PV02 Paradox Valley 64.85 5 P **P 20 44 39.0 +0.1**
PV02 IAMs_20 IAMs_20 21 07 20.3
comp=Z,5μm,22.0s
PRPB Parauapebas 64.85 84 *e*P **P 20 44 38.5 -0.7**
CROK Carrier 64.85 15 P **P 20 44 37.6 -1.0**
PV18 Skein Mesa, Pa 64.87 5 P **P 20 44 37.9 -1.1**
PV18 IAmb IAmb 20 44 44.9
comp=Z,201nm,1.7s
PV18 IAMs_20 IAMs_20 21 07 21.0
comp=Z,4μm,20.0s
PV03 Paradox Valley 64.88 5 P **P 20 44 37.1 -2.0**
PV03 IAmb IAmb 20 44 46.6

comp=Z,76nm,1.2s
PV03 IAMs_20 IAMs_20 21 07 20.4
comp=Z,4μm,21.0s
PV17 East Wray Mesa 64.90 5 P **P 20 44 39.2 0.0**
PV17 IAMs_20 IAMs_20 21 07 21.8
comp=Z,5μm,21.0s
NV11 Mina Array Sit 64.91 357 P **P 20 44 38.5 -0.6**
NV11 IAMs_20 IAMs_20 21 06 30.0
comp=Z,6μm,20.0s
NVAR Mina Array Bea 64.91 357 P **P 20 44 38.9 -0.4**
comp=Z,45nm,1.0s,baz=183,slow=8.5,SNR=94
NVAR LR LR 21 06 50.7
comp=Z,6μm,19.1s,baz=180,slow=30
PV11 David Mesa, Pa 64.93 5 P **P 20 44 38.9 -0.5**
PV11 IAMs_20 IAMs_20 21 07 22.5
comp=Z,5μm,20.0s
PV19 Morning Glory 64.93 5 P **P 20 44 38.4 -1.0**
PV19 IAmb IAmb 20 44 46.0
comp=Z,83nm,1.1s
PV19 IAMs_20 IAMs_20 21 07 23.5
comp=Z,4μm,20.0s
PSUT Pine Spring 64.93 1 P **P 20 44 39.2 -0.2**
PV16 Nyswonger Mesa 64.94 5 P **P 20 44 39.4 0.0**
PV16 IAmb IAmb 20 44 47.0
comp=Z,206nm,1.7s
MVU Marysvale 64.94 2 P **P 20 44 39.5 0.0**
PV12 Saucer Basin, 64.95 5 P **P 20 44 39.2 -0.3**
PV12 IAMs_20 IAMs_20 21 07 23.1
comp=Z,5μm,21.0s
MSU Marysvale 64.95 2 P **P 20 44 39.5 0.0**
MSU Marysvale 64.95 2 P **P 20 44 39.5 0.0**
PV20 West Nyswonger 64.96 5 P **P 20 44 39.5 0.0**
X43A Marvell 64.97 22 P **P 20 44 39.2 -0.2**
baz=204
X43A S **S 20 53 24.5 +3.6**
baz=204
X43A Marvell 64.97 22 P **P 20 44 39.1 -0.3**
X43A IAMs_20 IAMs_20 21 11 11.0
comp=Z,4μm,18.0s
PV14 Lion Creek, Pa 64.99 5 P **P 20 44 38.8 -1.0**
PV14 IAmb IAmb 20 44 41.1
comp=Z,127nm,1.2s
PV14 IAMs_20 IAMs_20 21 07 26.1
comp=Z,5μm,20.0s
PV10 Paradox Valley 64.99 5 P **P 20 44 39.2 -0.6**
MCCM Marconi Confer 64.99 353 IAMs_20 IAMs_20 21 05 44.3
comp=Z,4μm,22.0s
PV15 Paradox Valley 65.00 5 P **P 20 44 39.5 -0.4**
PV15 IAmb IAmb 20 44 41.1
comp=Z,78nm,1.1s
PV15 IAMs_20 IAMs_20 21 07 38.4
comp=Z,4μm,22.0s
PV04 Paradox Valley 65.02 5 P **P 20 44 39.5 -0.4**
PV04 IAMs_20 IAMs_20 21 07 39.8
comp=Z,4μm,19.0s
TIGA Tifton 65.03 29 P **P 20 44 39.4 -0.6**
baz=211
TIGA S **S 20 53 23.5 +1.7**
baz=211
TIGA Tifton 65.03 29 P **P 20 44 39.5 -0.4**
TIGA IAmb IAmb 20 44 47.2
comp=Z,142nm,1.2s
TIGA IAMs_20 IAMs_20 21 07 57.8
comp=Z,5μm,22.0s
TCRU Three Creeks R 65.04 2 P **P 20 44 40.1 -0.1**
WAKR Walker 65.05 356 P **P 20 44 40.4 +0.3**
WAKR IAMs_20 IAMs_20 21 06 17.8
comp=Z,6μm,21.0s
PV23 Carpenter Ridg 65.07 5 P **P 20 44 39.8 -0.5**
PV23 IAmb IAmb 20 44 41.7
comp=Z,126nm,1.2s
PV07 Paradox Valley 65.08 5 P **P 20 44 39.4 -1.0**
PV07 IAMs_20 IAMs_20 21 07 26.7
comp=Z,4μm,22.0s
RYN Ryan 65.12 357 P **P 20 44 40.8 +0.2**
RYN IAmb IAmb 20 44 49.0
comp=Z,140nm,1.6s
RYN IAMs_20 IAMs_20 21 06 36.7
comp=Z,6μm,20.0s
W41B Gary Mavity, V 65.14 20 P **P 20 44 40.1 -0.4**
baz=202,SNR=39
W41B S **S 20 53 25.0 +2.1**
baz=202
W41B Gary Mavity, V 65.14 20 P **P 20 44 39.5 -1.0**
W41B IAmb IAmb 20 44 41.7
comp=Z,148nm,1.2s
W41B IAMs_20 IAMs_20 21 10 08.4
comp=Z,6μm,20.0s
PV22 Blue Mesa, Par 65.17 5 P **P 20 44 41.0 +0.1**
PV22 IAmb IAmb 20 44 49.6
comp=Z,216nm,1.8s
PV21 Cone Mtn., Par 65.18 5 P **P 20 44 40.6 -0.5**
WHAR Wooly Hollow 65.24 20 P **P 20 44 40.2 -0.9**
WHAR IAMs_20 IAMs_20 21 10 09.9
comp=Z,6μm,20.0s
Q16A Castle Valley 65.40 3 P **P 20 44 42.2 -0.2**
SVB Belmont 65.40 59 IAMs_20 IAMs_20 21 09 23.1
comp=Z,6μm,21.0s
KAN10 Anthony SW Sta 65.42 15 P **P 20 44 42.3 0.0**
KAN13 South Haven SW 65.45 15 P **P 20 44 42.0 -0.6**
OXF Oxford 65.47 23 P **P 20 44 42.0 -0.6**
OXF pmax pmax
comp=Z,131nm,1.2s
OXF MLR MLR
comp=Z,3μm,21.0s
OXF Oxford 65.47 23 P **P 20 44 42.0 -0.6**
OXF IAmb IAmb 20 44 49.5
comp=Z,131nm,1.1s
YERR Yerington 65.52 356 P **P 20 44 43.1 -0.1**
YERR IAmb IAmb 20 44 51.7
comp=Z,145nm,1.4s
YERR IAMs_20 IAMs_20 21 06 34.1
comp=Z,5μm,21.0s
KVN Kaiserville 65.52 357 P **P 20 44 43.0 -0.2**
KVN pmax pmax
comp=Z,124nm,1.5s
KVN MLR MLR
comp=Z,6μm,20.0s
KVN Kaiserville 65.52 357 P **P 20 44 43.0 -0.2**
KVN IAmb IAmb 20 44 51.6
comp=Z,124nm,1.5s
KVN IAMs_20 IAMs_20 21 07 09.2
comp=Z,6μm,20.0s
MCPB Macapa, AP 65.57 77 *e*P **P 20 44 43.9 0.0**
T35A Sooner Cattle 65.59 16 P **P 20 44 42.8 -0.7**
T35A IAmb IAmb 20 44 44.4
comp=Z,77nm,1.0s
AFDM Forest Hills D 65.61 355 P **P 20 44 43.3 -0.2**
AFDM IAmb IAmb 20 44 49.7
comp=Z,170nm,1.8s
152A Waverly Hall 65.62 28 P **P 20 44 43.0 -0.7**
152A IAmb IAmb 20 44 51.1
comp=Z,94nm,1.2s
152A IAMs_20 IAMs_20 21 09 16.1
comp=Z,6μm,20.0s
CUPR Culebra, Puert 65.62 52 P **P 20 44 43.2 -0.8**
CUPR IAmb IAmb 20 44 50.0
comp=Z,62nm,1.1s
SRU San Rafael Swe 65.62 4 P **P 20 44 43.1 -0.7**
SRU pmax pmax
comp=Z,94nm,1.1s
SRU San Rafael Swe 65.62 4 P **P 20 44 43.1 -0.7**
GDXM Geysers 65.64 353 IAMs_20 IAMs_20 21 06 16.4
comp=Z,5μm,20.0s
PNTR Pine Nut 65.64 356 P **P 20 44 44.1 +0.1**
PNTR IAMs_20 IAMs_20 21 06 35.5
comp=Z,4μm,21.0s
RUBR Rubicon Trail 65.64 355 IAMs_20 IAMs_20 21 06 42.5
comp=Z,4μm,20.0s
SMTB Santa Maria do 65.67 88 *e*P **P 20 44 45.4 +0.9**
HHAR Hobbs 65.67 18 P **P 20 44 42.7 -1.3**
HHAR IAmb IAmb 20 44 51.0
comp=Z,66nm,1.2s
U38A Gravette 65.70 18 P **P 20 44 43.0 -1.1**
TMUT Trail Mountain 65.77 3 P **P 20 44 44.2 -0.7**
MC01 Montes Claros 65.79 97 *e*P **P 20 44 47.2 +1.9**
FCAR Ozark Folk Cen 65.84 20 P **P 20 44 44.1 -1.0**
FCAR IAMs_20 IAMs_20 21 10 17.9
comp=Z,5μm,20.0s
VCNR Virginia City 65.85 356 P **P 20 44 44.5 -0.9**
VCNR IAMs_20 IAMs_20 21 07 12.0
comp=Z,4μm,20.0s
HOPS Hopland Field 65.85 353 P **P 20 44 46.1 +1.0**
HOPS IAMs_20 IAMs_20 21 06 11.1
comp=Z,5μm,22.0s
STVI Saint Thomas 65.88 53 P **P 20 44 44.4 -1.3**

STVI IAmb IAmb 20 44 52.2
comp=Z,75nm,1.1s
255A Hazlehurst 65.94 30 P **P** **20 44 44.7 -1.1**
Q24A Divide 65.97 8 P **P** **20 44 45.4 -0.9**
baz=189,SNR=6.2
Q24A Divide 65.97 8 P **P** **20 44 44.9 -1.3**
P17A Butcher Ranch, 65.97 3 P **P** **20 44 45.2 -0.9**
Y49A Blount Mountai 65.98 26 P **P** **20 44 45.1 -0.9**
Y49A IAmb IAmb 20 44 53.3
comp=Z,221nm,1.9s
Y49A IAMs_20 IAMs_20 21 11 11.7
comp=Z,4μm,19.0s
Z51A Franklin 65.99 27 P **P** **20 44 45.3 -0.8**
Z51A IAmb IAmb 20 44 53.4
comp=Z,115nm,1.3s
Z51A IAMs_20 IAMs_20 21 09 53.1
comp=Z,5μm,20.0s
HBAR Harrisburg 66.00 21 IAMs_20 IAMs_20 21 11 14.0
comp=Z,7μm,19.0s
U40A Yellville 66.05 19 P **P** **20 44 45.5 -0.9**
baz=201,SNR=40
U40A S **S** **20 53 34.5 +0.4**
baz=201
U40A Yellville 66.05 19 P **P** **20 44 45.1 -1.4**
U40A IAmb IAmb 20 44 47.2
comp=Z,97nm,1.1s
JANB Januaria 66.09 95 *e*P **P** **20 44 48.4 +1.1**
W45A Hickory Valley 66.13 23 P **P** **20 44 45.9 -1.1**
W45A IAMs_20 IAMs_20 21 12 14.5
comp=Z,4μm,18.0s
LPAR Lepanto 66.16 22 P **P** **20 44 46.3 -0.8**
PAHR Pah Rah Range 66.24 356 P **P** **20 44 47.8 0.0**
PAHR IAmb IAmb 20 44 53.4
comp=Z,225nm,1.9s
PAHR IAMs_20 IAMs_20 21 07 53.5
comp=Z,4μm,18.0s
154A Montrose 66.25 29 P **P** **20 44 46.4 -1.4**
154A IAMs_20 IAMs_20 21 08 47.0
comp=Z,5μm,22.0s
ORV Oroville 66.25 354 P **P** **20 44 47.6 0.0**
ORV pmax pmax
comp=Z,111nm,1.7s
ORV MLR MLR
comp=Z,3μm,18.0s
ORV Oroville 66.25 354 P **P** **20 44 47.6 0.0**
ORV IAmb IAmb 20 44 54.2
comp=Z,111nm,1.7s
X48A Hartselle 66.27 25 P **P** **20 44 46.7 -1.2**
X48A IAmb IAmb 20 44 54.8
comp=Z,52nm,1.0s
X48A IAMs_20 IAMs_20 21 12 15.3
comp=Z,4μm,19.0s
LCAR Lake Charles 66.31 21 P **P** **20 44 46.7 -1.3**
LCAR IAMs_20 IAMs_20 21 10 57.3
comp=Z,6μm,20.0s
PLAL Pickwick Lake 66.36 24 P **P** **20 44 47.0 -1.4**
KSCO Kaye Shedlock' 66.38 10 P **P** **20 44 47.9 -0.7**
baz=192
KSCO S **S** **20 53 39.7 +1.5**
baz=192
KSCO Kaye Shedlock' 66.38 10 P **P** **20 44 48.3 -0.3**
KSCO IAmb IAmb 20 44 50.0
comp=Z,147nm,1.3s
KSCO IAMs_20 IAMs_20 21 09 02.9
comp=Z,8μm,20.0s
NLU North Lily Min 66.39 2 P **P** **20 44 48.3 -0.5**
R32A Long Quarter, 66.53 14 P **P** **20 44 48.4 -1.1**
R32A IAmb IAmb 20 44 56.7
comp=Z,192nm,1.6s
R32A IAMs_20 IAMs_20 21 09 52.0
comp=Z,6μm,18.0s
GNAR Gosnell 66.58 22 P **P** **20 44 49.2 -0.6**
KCPM Cahto Peak 66.60 353 IAMs_20 IAMs_20 21 06 08.8
comp=Z,3μm,18.0s
SDBA SAO DESIDERIO 66.61 93 *e*P **P** **20 44 51.8 +1.2**
DUG Dugway, Tooele 66.61 2 P **P** **20 44 49.8 -0.3**
DUG pmax pmax
comp=Z,92nm,1.2s
DUG MLR MLR
comp=Z,2μm,21.0s
DUG Dugway, Tooele 66.61 2 P **P** **20 44 50.0 -0.1**
baz=182,SNR=50
DUG S **S** **20 53 46.7 +5.7**
baz=182
DUG Dugway, Tooele 66.61 2 P **P** **20 44 49.8 -0.3**
DUG IAmb IAmb 20 44 54.6
comp=Z,92nm,1.2s
CBKS Cedar Bluff 66.70 13 P **P** **20 44 50.0 -0.5**
CBKS pmax pmax
comp=Z,276nm,1.8s
CBKS MLR MLR
comp=Z,7μm,18.0s
CBKS Cedar Bluff 66.70 13 P **P** **20 44 49.6 -0.9**
baz=195
CBKS S **S** **20 53 44.7 +2.8**
baz=195
CBKS Cedar Bluff 66.70 13 P **P** **20 44 50.0 -0.5**
ISCO Idaho Springs 66.74 8 P **P** **20 44 51.2 +0.1**
ISCO pmax pmax
comp=Z,59nm,0.8s
ISCO MLR MLR
comp=Z,8μm,21.0s
ISCO Idaho Springs 66.74 8 P **P** **20 44 50.5 -0.6**
baz=189,SNR=21
ISCO S **S** **20 53 44.4 +1.5**
baz=189
ISCO Idaho Springs 66.74 8 P **P** **20 44 51.2 +0.1**
ISCO IAmb IAmb 20 46 44.3
comp=Z,59nm,0.8s
ISCO IAMs_20 IAMs_20 21 08 57.4
comp=Z,8μm,21.0s
HALT Halls 66.76 22 IAMs_20 IAMs_20 21 12 05.2
comp=Z,5μm,18.0s
PEBM Pemiscott Bayo 66.77 22 P **P** **20 44 50.5 -0.4**
PEBM IAMs_20 IAMs_20 21 11 40.4
comp=Z,6μm,19.0s
GOGA Godfrey 66.78 28 P **P** **20 44 49.8 -1.3**
GOGA pmax pmax
comp=Z,143nm,1.7s
GOGA MLR MLR
comp=Z,8μm,22.0s
GOGA Godfrey 66.78 28 P **P** **20 44 50.2 -0.9**
baz=210,SNR=12
GOGA S **S** **20 53 46.1 +3.1**
baz=210
GOGA Godfrey 66.78 28 P **P** **20 44 49.8 -1.3**
GOGA IAmb IAmb 20 44 58.3
comp=Z,143nm,1.6s
GOGA Godfrey 66.78 28 IAMs_20 IAMs_20 21 09 05.0
comp=Z,8μm,22.0s
O20A White River Ci 66.80 5 P **P** **20 44 50.7 -0.7**
baz=186,SNR=11
O20A S **S** **20 53 45.5 +2.0**
baz=186
O20A White River Ci 66.80 5 P **P** **20 44 51.4 0.0**
O20A IAmb IAmb 20 45 21.6
comp=Z,87nm,1.3s
SKI Saint Kitts 66.82 55 IAMs_20 IAMs_20 21 10 55.5
comp=Z,4μm,20.0s
LNXT Lenox 66.88 22 IAMs_20 IAMs_20 21 11 20.4
comp=Z,5μm,20.0s
FPAL Fort Paine 66.89 26 P **P** **20 44 50.5 -1.4**
FPAL IAmb IAmb 20 44 58.8
comp=Z,51nm,0.9s
FPAL IAMs_20 IAMs_20 21 11 24.9
comp=Z,4μm,20.0s
Y52A Lilburn 66.92 27 P **P** **20 44 50.8 -1.3**
Y52A IAMs_20 IAMs_20 21 09 45.8
comp=Z,7μm,20.0s
MGMO Mountain Grove 66.97 19 P **P** **20 44 51.3 -1.0**
O02D Mt. Diablo Mer 66.99 353 P **P** **20 44 52.3 -0.2**
baz=172,SNR=12
O02D S **S** **20 53 51.0 +5.5**
baz=172
O03E Paynes Creek 67.01 354 P **P** **20 44 51.9 -0.6**
baz=173,SNR=9.5
O03E S **S** **20 53 48.7 +3.0**
baz=173
SMRT St. Maarten 67.03 54 IAMs_20 IAMs_20 21 10 13.1
comp=Z,5μm,20.0s
JLU Jordanelle 67.06 3 P **P** **20 44 52.5 -0.6**
PVMO Portageville 67.09 22 IAMs_20 IAMs_20 21 11 49.1
comp=Z,6μm,19.0s
GLAT Glass 67.10 22 P **P** **20 44 52.8 -0.3**
GLAT IAMs_20 IAMs_20 21 12 13.3
comp=Z,6μm,18.0s
RDMU Red Mountain 67.14 4 P **P** **20 44 52.3 -1.2**
KMRM Mail Ridge 67.14 353 P **P** **20 44 53.3 -0.1**
KMRM IAMs_20 IAMs_20 21 06 56.6
comp=Z,3μm,19.0s
CTU Camp Tracy 67.14 2 P **P** **20 44 53.3 -0.2**
S39A Bolivar 67.16 18 P **P** **20 44 52.6 -0.9**
S39A IAmb IAmb 20 44 54.3
comp=Z,84nm,1.1s
T42A Van Buren 67.21 20 P **P** **20 44 52.5 -1.3**
X51A Calhoun 67.21 26 P **P** **20 44 52.9 -1.0**
X51A IAmb IAmb 20 45 00.9
comp=Z,132nm,1.8s
X51A IAMs_20 IAMs_20 21 10 23.4
comp=Z,4μm,20.0s
157A Early Branch 67.24 31 P **P** **20 44 53.5 -0.5**
baz=212,SNR=7.1
157A S **S** **20 53 48.4 -0.1**
baz=212
UTMT University of 67.31 22 P **P** **20 44 54.5 +0.1**
BGU Big Grassy Mou 67.34 1 P **P** **20 44 54.0 -0.8**
SWET Sewanee 67.36 25 P **P** **20 44 53.7 -1.2**
SWET IAMs_20 IAMs_20 21 11 45.4
comp=Z,4μm,19.0s
WDC Whiskeytown Da 67.37 354 P **P** **20 44 54.2 -0.5**
WDC pmax pmax
comp=Z,114nm,1.3s
WDC MLR MLR
comp=Z,4μm,21.0s
WDC Whiskeytown Da 67.37 354 P **P** **20 44 54.2 -0.5**
WDC IAmb IAmb 20 44 56.0
comp=Z,114nm,1.2s
WVT Waverly 67.48 23 P **P** **20 44 54.0 -1.5**
WVT pmax pmax
comp=Z,257nm,1.8s
WVT MLR MLR
comp=Z,4μm,21.0s
WVT Waverly 67.48 23 P **P** **20 44 54.3 -1.2**
baz=206
WVT S **S** **20 53 51.9 +0.6**
baz=206
WVT Waverly 67.48 23 P **P** **20 44 54.0 -1.5**
WVT IAMs_20 IAMs_20 21 12 03.3
comp=Z,4μm,21.0s
SJMB Sao Joao De Ma 67.48 100 *e*P **P** **20 44 57.4 +1.3**
V48A Smith Brothers 67.49 24 P **P** **20 44 54.4 -1.3**
V48A IAmb IAmb 20 45 02.4
comp=Z,208nm,1.6s
V48A IAMs_20 IAMs_20 21 12 37.8
comp=Z,4μm,19.0s
TCUT Toone Canyon 67.58 3 P **P** **20 44 55.5 -0.8**
W50A Signal Mountai 67.59 26 P **P** **20 44 55.3 -1.0**
W50A IAmb IAmb 20 45 03.2
comp=Z,158nm,1.6s
W50A IAMs_20 IAMs_20 21 11 19.3
comp=Z,4μm,21.0s
Z56A Williston 67.62 30 P **P** **20 44 56.2 -0.3**
baz=212
Z56A S **S** **20 53 57.4 +4.3**
baz=212
Z56A Williston 67.62 30 P **P** **20 44 56.1 -0.3**
KSU1 Kansas State U 67.65 15 P **P** **20 44 56.0 -0.6**
baz=198,SNR=14
KSU1 S **S** **20 53 55.5 +2.2**
baz=198
KSU1 Kansas State U 67.65 15 P **P** **20 44 56.1 -0.5**
KSU1 Kansas State U 67.65 15 IAMs_20 IAMs_20 21 10 07.6
comp=Z,6μm,21.0s
158A Hollywood 67.66 31 P **P** **20 44 56.4 -0.3**
baz=213
158A S **S** **20 53 55.8 +2.3**
baz=213
ANWB Willy Bob 67.73 55 IAMs_20 IAMs_20 21 10 47.6
comp=Z,4μm,20.0s
BSFB Baa de Sao F 67.73 101 *e*P **P** **20 44 59.2 +1.5**
N02D Trinity Center 67.77 353 P **P** **20 44 57.3 -0.1**
baz=172,SNR=6.1
N02D S **S** **20 54 00.1 +5.2**
baz=172
N23A Red Feather La 67.78 7 P **P** **20 44 57.2 -0.4**
baz=188,SNR=18
N23A S **S** **20 53 58.8 +3.5**
baz=188
N23A Red Feather La 67.78 7 P **P** **20 44 56.9 -0.7**
N23A IAmb IAmb 20 46 59.5
comp=Z,93nm,1.1s
N23A IAMs_20 IAMs_20 21 10 08.0
comp=Z,3μm,18.0s
KHMM Horse Mountain 67.79 353 P **P** **20 44 57.9 +0.4**
MDP Montagnes des 67.81 72 P **P** **20 44 57.3 -0.8**
comp=Z,15nm,0.9s,baz=228,slow=8.0,SNR=8.2
Z57A Bowman 67.89 30 P **P** **20 44 57.3 -0.9**
baz=213
Z57A S **S** **20 53 59.1 +2.7**
baz=213
Y55A Saluda 67.92 29 P **P** **20 44 57.6 -0.7**
baz=212,SNR=12
Y55A S **S** **20 53 57.5 +0.8**
baz=212
CSU Charleston Sou 67.92 31 P **P** **20 44 58.2 -0.1**
NHSC New Hope 67.97 31 P **P** **20 44 58.3 -0.4**
baz=213
NHSC S **S** **20 53 58.4 +1.1**
baz=213
NHSC New Hope 67.97 31 P **P** **20 44 58.3 -0.4**
CLTN Cedars of Leba 67.99 25 P **P** **20 44 57.9 -0.8**
CLTN IAmb IAmb 20 45 05.6
comp=Z,139nm,1.7s
T45A Paducah 68.00 22 P **P** **20 44 58.5 -0.3**
T45A IAMs_20 IAMs_20 21 12 29.9
comp=Z,4μm,19.0s
HODGE Hodges 68.00 29 P **P** **20 44 57.9 -0.9**
HODGE IAmb IAmb 20 45 06.2
comp=Z,62nm,1.1s
HODGE IAMs_20 IAMs_20 21 09 50.3
comp=Z,5μm,22.0s
R40A Maddies Statio 68.02 19 P **P** **20 44 57.9 -1.0**
R40A IAmb IAmb 20 44 59.6
comp=Z,97nm,1.1s
Y56A Pelion 68.04 30 P **P** **20 44 58.4 -0.7**
baz=212
Y56A S **S** **20 53 58.3 +0.1**
baz=212
W52A Murphy 68.05 27 P **P** **20 44 58.4 -0.8**
W52A IAMs_20 IAMs_20 21 10 12.4
comp=Z,6μm,21.0s
HWUT Hardware Ranch 68.06 3 P **P** **20 44 58.7 -0.7**
TMAB Tom-Au,PA,Br 68.10 81 *e*P **P** **20 45 01.4 +1.4**
CCM Cathedral Cave 68.11 20 P **P** **20 44 58.2 -1.2**
CCM pmax pmax
comp=Z,307nm,1.8s
CCM MLR MLR
comp=Z,9μm,20.0s
CCM Cathedral Cave 68.11 20 P **P** **20 44 58.7 -0.8**
baz=202
CCM S **S** **20 54 01.9 +3.1**
baz=202
CCM Cathedral Cave 68.11 20 P **P** **20 44 58.2 -1.2**
CPCT Cooper Cave 68.12 26 P **P** **20 44 59.3 -0.3**
CPCT IAmb IAmb 20 45 06.7
comp=Z,129nm,1.4s
HVU Hansel Valley 68.19 2 P **P** **20 44 59.4 -0.7**
HVU pmax pmax
comp=Z,63nm,1.4s
HVU Hansel Valley 68.19 2 P **P** **20 44 59.4 -0.7**
M02C Callahan 68.20 353 P **P** **20 45 00.3 +0.2**
baz=172,SNR=12
M02C S **S** **20 54 04.6 +4.6**
baz=172
X54A Belton 68.22 28 P **P** **20 44 59.3 -0.9**
baz=211,SNR=8.4
PHWY Pilot Hill 68.24 7 P **P** **20 44 59.5 -1.1**
PHWY IAMs_20 IAMs_20 21 09 45.1
comp=Z,4μm,22.0s
FVM French Village 68.29 20 P **P** **20 44 59.8 -0.8**
FVM pmax pmax
comp=Z,46nm,0.9s
FVM MLR MLR
comp=Z,8μm,19.0s
FVM French Village 68.29 20 P **P** **20 44 59.8 -0.8**
FVM IAmb IAmb 20 45 08.0
comp=Z,46nm,0.8s
Z58A St. Stephen 68.33 31 P **P** **20 45 00.2 -0.7**
baz=213,SNR=6.8
Z58A S **S** **20 54 04.2 +2.7**
baz=213
OGNE Ogallala 68.36 10 P **P** **20 45 00.7 -0.3**
baz=192
OGNE S **S** **20 54 07.2 +5.3**
baz=192
OGNE Ogallala 68.36 10 P **P** **20 45 00.5 -0.6**
OGNE IAmb IAmb 20 45 08.8
comp=Z,121nm,1.1s
OGNE IAMs_20 IAMs_20 21 10 16.4
comp=Z,7μm,20.0s
BG3 Lake Jocassee 68.37 28 P **P** **20 45 00.7 -0.5**
BG3 IAmb IAmb 20 45 08.6
comp=Z,68nm,1.2s
BG3 IAMs_20 IAMs_20 21 10 28.0
comp=Z,5μm,22.0s
S44A Carbondale 68.40 22 P **P** **20 45 00.7 -0.6**
S44A IAMs_20 IAMs_20 21 12 24.8
comp=Z,5μm,19.0s
RWWY Rawlins 68.44 6 P **P** **20 45 00.6 -1.1**
RWWY IAMs_20 IAMs_20 21 09 52.3
comp=Z,4μm,21.0s
KRMB Red Mountain 68.45 353 P **P** **20 45 00.8 -0.9**
X55A Gracelyn & Ava 68.47 29 P **P** **20 45 00.9 -0.9**
baz=212,SNR=5.3
X55A S **S** **20 54 04.0 +0.7**
baz=212
JSC Jenkinsville 68.47 29 P **P** **20 45 00.9 -0.9**
JSC pmax pmax
comp=Z,40nm,1.0s
JSC MLR MLR
comp=Z,1μm,20.0s
JSC Jenkinsville 68.47 29 P **P** **20 45 00.9 -0.9**
MOD Modoc Plateau 68.49 356 P **P** **20 45 01.8 -0.1**
MOD IAmb IAmb 20 45 03.8
comp=Z,175nm,1.5s
MOD IAMs_20 IAMs_20 21 08 32.8
comp=Z,4μm,20.0s
M04C Macdoel 68.49 354 P **P** **20 45 01.7 -0.2**
baz=173,SNR=23
V51A Loudon 68.49 26 P **P** **20 45 01.2 -0.8**
V51A IAmb IAmb 20 45 13.2
comp=Z,58nm,1.1s
V51A IAMs_20 IAMs_20 21 11 23.1
comp=Z,5μm,20.0s
Z59A Georgetown, SC 68.50 31 P **P** **20 45 01.7 -0.3**
baz=214
Z59A S **S** **20 54 04.1 +0.5**
baz=214
T47A Sharon Grove 68.50 24 P **P** **20 45 00.9 -1.0**
T47A IAmb IAmb 20 45 09.6
comp=Z,95nm,0.8s
T47A IAMs_20 IAMs_20 21 12 54.5
comp=Z,4μm,19.0s
YBH Yreka Blue Hor 68.53 354 LR LR 21 08 13.1
comp=Z,4μm,21.9s,baz=176,slow=30
YBH Yreka Blue Hor 68.53 354 P **P** **20 45 01.5 -0.6**
YBH pmax pmax
comp=Z,95nm,1.8s
YBH MLR MLR
comp=Z,4μm,21.0s
YBH Yreka Blue Hor 68.53 354 P **P** **20 45 01.5 -0.6**
YBH IAmb IAmb 20 45 06.9
comp=Z,95nm,1.8s
YBH IAMs_20 IAMs_20 21 08 02.8
comp=Z,4μm,21.0s
U49A Red Boiling Sp 68.57 25 P **P** **20 45 01.7 -0.7**
U49A IAmb IAmb 20 45 09.3
comp=Z,169nm,1.6s
TKL Tuckaleechee C 68.60 27 P **P** **20 45 00.8 -1.8**
comp=Z,8.6nm,0.6s,baz=190,slow=7.0,SNR=10
TKL LR LR 21 11 33.1
comp=Z,6μm,19.7s,baz=181,slow=33
TKL Tuckaleechee C 68.60 27 P **P** **20 45 01.1 -1.5**
TKL pmax pmax
comp=Z,54nm,1.2s
TKL MLR MLR
comp=Z,6μm,20.0s
TKL Tuckaleechee C 68.60 27 P **P** **20 45 01.1 -1.5**
TKL IAMs_20 IAMs_20 21 11 12.1
comp=Z,6μm,20.0s
Y57A Sumter 68.64 30 P **P** **20 45 02.3 -0.5**
baz=213
Y57A S **S** **20 54 06.8 +1.6**
baz=213
Y57A Sumter 68.64 30 P **P** **20 45 01.3 -1.6**
Y57A IAmb IAmb 20 45 10.3
comp=Z,63nm,1.1s
PAULI Pauline 68.69 29 P **P** **20 45 02.5 -0.7**
PAULI IAmb IAmb 20 45 10.6
comp=Z,82nm,1.1s
PAULI IAMs_20 IAMs_20 21 11 54.6
comp=Z,4μm,19.0s
NAN01 Guarapari, ES 68.74 100 *e*P **P** **20 45 06.5 +2.6**
X56A White Oak 68.75 29 P **P** **20 45 03.0 -0.6**
baz=212,SNR=7.5
X56A S **S** **20 54 07.5 +0.9**
baz=212
W54A Cherokee Point 68.76 28 P **P** **20 45 02.7 -0.9**
baz=211,SNR=10
W54A S **S** **20 54 08.2 +1.5**
baz=211
V52A Sevierville 68.83 27 IAMs_20 IAMs_20 21 11 08.2
comp=Z,6μm,20.0s
P38A Dawn 68.91 17 P **P** **20 45 03.3 -1.1**
WVOR Wild Horse Val 68.92 357 P **P** **20 45 04.6 0.0**
WVOR pmax pmax
comp=Z,319nm,1.9s
WVOR MLR MLR
comp=Z,5μm,20.0s
WVOR Wild Horse Val 68.92 357 P **P** **20 45 04.5 0.0**
WVOR IAMs_20 IAMs_20 21 09 25.2
comp=Z,5μm,20.0s
SLM Saint Louis 68.95 20 P **P** **20 45 03.8 -0.9**
SLM pmax pmax
comp=Z,177nm,1.8s
SLM MLR MLR
comp=Z,9μm,20.0s
SLM Saint Louis 68.95 20 P **P** **20 45 03.8 -0.9**
SLM IAmb IAmb 20 45 16.3
comp=Z,177nm,1.8s
L04D Klamath Falls 68.97 354 P **P** **20 45 03.8 -1.1**
baz=173,SNR=13
V53A Saluda 69.00 27 P **P** **20 45 04.2 -0.9**
V53A IAMs_20 IAMs_20 21 10 59.7
comp=Z,7μm,21.0s
L02E Cave Junction 69.04 353 P **P** **20 45 05.1 -0.1**
baz=172,SNR=8.1
L02E S **S** **20 54 14.0 +4.2**
baz=172
BIRD Birdtown, Kers 69.13 30 P **P** **20 45 05.3 -0.6**
BIRD IAmb IAmb 20 45 13.4
comp=Z,111nm,1.2s
X57A Johnson Farm, 69.15 30 P **P** **20 45 05.5 -0.5**
baz=213
X57A S **S** **20 54 12.3 +1.1**
baz=213
KBO Bosley Butte 69.17 352 P **P** **20 45 06.7 +0.6**
KMSC Kings Mountain 69.17 29 P **P** **20 45 05.1 -1.0**
baz=212,SNR=8.5
KMSC S **S** **20 54 13.1 +1.6**
baz=212
KMSC Kings Mountain 69.17 29 P **P** **20 45 05.2 -1.0**
KMSC IAmb IAmb 20 45 13.5
comp=Z,69nm,1.2s
P40A Paris 69.24 19 P **P** **20 45 04.9 -1.5**
P40A IAmb IAmb 20 45 14.3
comp=Z,248nm,1.9s
P40A IAMs_20 IAMs_20 21 11 29.7
comp=Z,7μm,20.0s
AHID Auburn Hatcher 69.24 3 P **P** **20 45 04.8 -1.9**
AHID IAmb IAmb 20 45 11.8
comp=Z,91nm,1.4s
Y59A Loris 69.31 31 P **P** **20 45 06.0 -1.0**
baz=214
Y59A S **S** **20 54 17.5 +4.3**
baz=214
Y59A Loris 69.31 31 P **P** **20 45 06.4 -0.6**
Y59A IAMs_20 IAMs_20 21 12 45.1
comp=Z,4μm,18.0s
BW06 Boulder Array 69.32 4 P **P** **20 45 05.8 -1.4**
baz=185,SNR=6.4
BW06 Boulder Array 69.32 4 P **P** **20 45 05.5 -1.7**
K04D Chiloquin, OR 69.32 354 P **P** **20 45 06.9 -0.2**
baz=173
PD31 Pinedale Array 69.32 4 P **P** **20 45 05.6 -1.6**
PD31 IAmb IAmb 20 45 18.2
comp=Z,84nm,1.4s
PDAR Pinedale Array 69.32 4 P **P** **20 45 05.0 -2.2**
comp=Z,20nm,1.0s,baz=165,slow=6.2,SNR=54

PDAR LR LR 21 10 28.2
comp=Z,2µm,21.6s,baz=193,slow=32
PDAR Pinedale Array 69.32 4 P **P** **20 45 05.2 -2.0**
K05A Summer Lake 69.35 355 P **P** **20 45 07.4 +0.1**
K05A IAmb IAmb 20 45 24.8
comp=Z,177nm,1.3s
T50A Nancy 69.37 25 P **P** **20 45 06.9 -0.5**
T50A IAmb IAmb 20 45 14.1
comp=Z,165nm,1.6s
T50A IAMs_20 IAMs_20 21 11 59.4
comp=Z,4µm,21.0s
HUMO Hull Mountain 69.42 354 P **P** **20 45 07.5 -0.1**
HUMO IAmb IAmb 20 45 09.2
comp=Z,100nm,1.3s
HUMO IAMs_20 IAMs_20 21 08 31.4
comp=Z,4µm,22.0s
V54A Nebo 69.45 28 P **P** **20 45 06.8 -1.1**
baz=211,SNR=8.0
V54A S **S** **20 54 14.9 0.0**
baz=211
K22A Casper 69.45 6 P **P** **20 45 06.9 -1.0**
baz=188,SNR=24
K22A S **S** **20 54 17.0 +2.1**
baz=188
K22A Casper 69.45 6 P **P** **20 45 07.0 -1.0**
K22A IAMs_20 IAMs_20 21 11 35.3
comp=Z,3µm,19.0s
TZTN Tazewell 69.46 26 P **P** **20 45 07.4 -0.5**
baz=210,SNR=7.4
TZTN S **S** **20 54 18.5 +3.6**
baz=210
TZTN Tazewell 69.46 26 P **P** **20 45 07.0 -0.9**
TZTN IAmb IAmb 20 45 15.2
comp=Z,123nm,1.2s
TZTN IAMs_20 IAMs_20 21 11 49.8
comp=Z,5µm,20.0s
W56A Indian Trail 69.49 29 P **P** **20 45 07.4 -0.7**
baz=212,SNR=14
W56A S **S** **20 54 16.9 +1.6**
baz=212
ECR Eagle Creek 69.51 3 P **P** **20 45 08.0 -0.3**
BGNE Belgrade 69.52 13 P **P** **20 45 07.4 -0.8**
baz=196,SNR=7.7
BGNE S **S** **20 54 16.7 +1.3**
baz=196
BGNE Belgrade 69.52 13 P **P** **20 45 07.9 -0.3**
BGNE IAMs_20 IAMs_20 21 11 06.1
comp=Z,4µm,21.0s
N35A Tabor 69.55 15 P **P** **20 45 08.3 0.0**
X58A Rowland 69.56 31 P **P** **20 45 08.2 -0.4**
baz=214
X58A Rowland 69.56 31 P **P** **20 45 08.2 -0.4**
X58A IAmb IAmb 20 45 16.3
comp=Z,73nm,0.9s
K02D Willamette Mer 69.58 353 P **P** **20 45 08.4 -0.3**
baz=172,SNR=12
K02D S **S** **20 54 20.9 +4.7**
baz=172
Q44A Meyer Farm, Va 69.58 21 P **P** **20 45 07.9 -0.7**
VNA3 Neumayer Olymp 69.61 161 P **P** **20 45 08.2 -0.4**
Y60A Bolivia 69.63 32 P **P** **20 45 07.9 -1.1**
baz=214
Y60A S **S** **20 54 17.7 +0.7**
baz=214
Y60A Bolivia 69.63 32 P **P** **20 45 08.4 -0.5**
Y60A IAmb IAmb 20 45 17.0
comp=Z,107nm,0.8s
Y60A IAMs_20 IAMs_20 21 12 52.6
comp=Z,5µm,18.0s
OLIL Olney 69.73 22 P **P** **20 45 09.0 -0.5**
OLIL IAmb IAmb 20 45 10.4
comp=Z,87nm,1.1s
OLIL IAMs_20 IAMs_20 21 13 16.9
comp=Z,4µm,18.0s
W57A Gilead 69.77 30 P **P** **20 45 09.0 -0.8**
baz=213,SNR=13
W57A S **S** **20 54 20.4 +1.8**
baz=213
W57A Gilead 69.77 30 P **P** **20 45 09.0 -0.8**
W57A IAmb IAmb 20 45 17.1
comp=Z,88nm,1.1s
MFID Camas Ranch 69.81 359 P **P** **20 45 09.7 -0.4**
V55A Taylorsville 69.83 29 P **P** **20 45 09.3 -0.9**
baz=212,SNR=7.7
V55A S **S** **20 54 20.8 +1.5**
baz=212
V55A Taylorsville 69.83 29 P **P** **20 45 09.5 -0.6**
V55A IAmb IAmb 20 45 17.6
comp=Z,115nm,1.2s
V55A IAMs_20 IAMs_20 21 10 56.5
comp=Z,5µm,22.0s
KEBM Edson Butte 69.83 352 P **P** **20 45 10.1 -0.1**
KEBM IAmb IAmb 20 45 11.9
comp=Z,169nm,1.3s
J08A Circle Bar Ran 69.83 357 P **P** **20 45 10.4 +0.2**
J08A IAMs_20 IAMs_20 21 09 36.4
comp=Z,5µm,19.0s
REDW Red Top Meadow 69.84 3 P **P** **20 45 09.0 -1.4**
REDW IAmb IAmb 20 45 36.7
comp=Z,128nm,1.5s
WCI Wyandotte Cave 69.90 24 P **P** **20 45 09.3 -1.3**
WCI pmax pmax
comp=Z,190nm,2.0s
WCI MLR MLR
comp=Z,3µm,18.0s
WCI Wyandotte Cave 69.90 24 P **P** **20 45 09.2 -1.4**
baz=207
WCI S **S** **20 54 23.1 +3.1**
baz=207
WCI Wyandotte Cave 69.90 24 P **P** **20 45 09.3 -1.3**
WCI IAmb IAmb 20 45 14.5
comp=Z,190nm,2.0s
WCI IAMs_20 IAMs_20 21 13 51.5
comp=Z,3µm,18.0s
X59A McDuffie Farm, 69.92 31 P **P** **20 45 10.3 -0.5**
baz=214
X59A S **S** **20 54 22.5 +2.2**
baz=214
J05D Fort Rock, OR 69.93 355 P **P** **20 45 11.0 +0.1**
baz=174,SNR=29
SNOW Snow King Moun 69.95 3 P **P** **20 45 10.2 -0.9**
SNOW IAmb IAmb 20 45 17.7
comp=Z,132nm,1.6s
HLID Hailey 69.95 0 P **P** **20 45 10.8 -0.2**
baz=180,SNR=72
HLID S **S** **20 54 25.0 +4.1**
baz=180
HLID Hailey 69.95 0 P **P** **20 45 10.5 -0.5**
HLID IAmb IAmb 20 45 12.8
comp=Z,105nm,1.2s
J04D Umpqua Nationa 69.96 354 P **P** **20 45 10.6 -0.5**
baz=173,SNR=6.5
TPAW Teton Pass 69.97 3 P **P** **20 45 08.9 -2.4**
TPAW IAmb IAmb 20 45 11.1
comp=Z,92nm,1.2s
TPAW IAMs_20 IAMs_20 21 11 19.9
comp=Z,3µm,18.0s
W58A Raeford 70.00 30 P **P** **20 45 11.0 -0.2**
baz=214,SNR=26
W58A S **S** **20 54 23.6 +2.3**
baz=214
J01E Myrtle Point 70.07 353 P **P** **20 45 11.5 0.0**
baz=171
J01E S **S** **20 54 28.1 +6.4**
baz=171
N38A Joes South For 70.09 17 P **P** **20 45 10.5 -1.2**
P43A Skaggs, Pawnee 70.09 20 P **P** **20 45 10.7 -1.1**
V56A Mocksville 70.10 29 P **P** **20 45 10.7 -1.1**
baz=212,SNR=16
V56A S **S** **20 54 24.8 +2.4**
baz=212
LOHW Long Hollow 70.11 3 P **P** **20 45 10.6 -1.4**
LOHW IAmb IAmb 20 45 16.3
comp=Z,198nm,1.8s
LOHW IAMs_20 IAMs_20 21 11 35.5
comp=Z,3µm,18.0s
FXWY Fox Creek 70.11 3 P **P** **20 45 11.1 -0.9**
FXWY IAmb IAmb 20 45 13.1
comp=Z,88nm,1.3s
U54A Nelsons Funny 70.14 28 P **P** **20 45 11.1 -1.1**
baz=211
U54A S **S** **20 54 24.5 +1.4**
baz=211
U54A Nelsons Funny 70.14 28 P **P** **20 45 11.2 -1.0**
U54A IAmb IAmb 20 47 30.2
comp=Z,60nm,0.8s
U54A IAMs_20 IAMs_20 21 10 59.9
comp=Z,6µm,22.0s
X60A Albert Glenn T 70.21 32 P **P** **20 45 12.2 -0.4**
baz=215
X60A S **S** **20 54 26.1 +2.3**
baz=215
T53A Wise 70.24 27 P **P** **20 45 12.0 -0.8**
baz=210
T53A S **S** **20 54 25.1 +0.9**
baz=210
VNA1 Neumayer--Stat 70.28 160 P **P** **20 45 12.6 +0.1**
R49A Shelbyville 70.36 24 P **P** **20 45 12.1 -1.3**
R49A IAmb IAmb 20 45 20.1
comp=Z,171nm,1.4s
R49A IAMs_20 IAMs_20 21 13 57.7
comp=Z,4µm,19.0s
IMW Indian Meadow 70.37 3 P **P** **20 45 12.8 -0.9**
IMW IAmb IAmb 20 45 18.1
comp=Z,135nm,1.4s
S51A Beattyville 70.39 26 P **P** **20 45 12.7 -0.9**
S51A IAMs_20 IAMs_20 21 12 52.5
comp=Z,5µm,20.0s
PINE Pine Mountain 70.42 355 P **P** **20 45 13.4 -0.5**
PINE IAmb IAmb 20 45 15.8
comp=Z,107nm,1.2s
VNA2 Neumayer--Watz 70.42 161 P **P** **20 45 13.1 -0.4**
L34A Svendsen Farm, 70.43 14 P **P** **20 45 13.0 -0.8**
U55A TA2, Sparta 70.45 28 P **P** **20 45 13.2 -0.9**
baz=212
U55A S **S** **20 54 25.8 -0.9**
baz=212
V57A Coltrane Farms 70.48 30 P **P** **20 45 13.1 -1.1**
baz=213,SNR=15
V57A S **S** **20 54 27.7 +0.8**
baz=213
W59A Clinton 70.48 31 P **P** **20 45 13.5 -0.7**
baz=214
W59A S **S** **20 54 28.3 +1.4**
baz=214
I03D Drain, OR 70.53 353 P **P** **20 45 14.2 -0.1**
baz=172
I04A Tendick Farm, 70.54 354 P **P** **20 45 13.7 -0.8**
baz=173,SNR=7.1
I04A S **S** **20 54 34.0 +6.6**
baz=173
K31A O'Neill 70.57 12 P **P** **20 45 14.0 -0.6**
FLWY Flagg Ranch 70.57 3 P **P** **20 45 14.3 -0.5**
FLWY IAmb IAmb 20 45 15.9
comp=Z,97nm,1.1s
FLWY IAMs_20 IAMs_20 21 11 49.8
comp=Z,4µm,18.0s
U56A King 70.60 29 P **P** **20 45 14.0 -0.9**
baz=212
U56A S **S** **20 54 31.5 +3.2**
baz=212
U56A King 70.60 29 P **P** **20 45 14.1 -0.9**
U56A IAmb IAmb 20 45 22.3
comp=Z,92nm,1.3s
U56A IAMs_20 IAMs_20 21 15 22.0
comp=Z,3µm,20.0s
I07A Izee 70.61 356 P **P** **20 45 14.8 -0.2**
I07A IAmb IAmb 20 45 20.6
comp=Z,248nm,1.8s
I07A IAMs_20 IAMs_20 21 09 57.9
comp=Z,3µm,19.0s
BLO Bloomington 70.66 23 P **P** **20 45 14.6 -0.6**
BLO pmax pmax
comp=Z,166nm,1.8s
BLO MLR MLR
comp=Z,4µm,18.0s
BLO Bloomington 70.66 23 P **P** **20 45 14.6 -0.6**
BLO IAmb IAmb 20 45 22.0
comp=Z,166nm,1.8s
BLO IAMs_20 IAMs_20 21 14 13.3
comp=Z,4µm,18.0s
R50A Paris 70.67 25 P **P** **20 45 14.4 -0.9**
R50A IAmb IAmb 20 45 21.8
comp=Z,176nm,1.5s
R50A IAMs_20 IAMs_20 21 14 50.8
comp=Z,6µm,18.0s
N41A Harden Midland 70.67 19 P **P** **20 45 15.2 0.0**
V58A Windy Hill, Pi 70.70 30 P **P** **20 45 14.4 -1.1**
baz=213,SNR=12
V58A S **S** **20 54 30.8 +1.4**
baz=213
V58A Windy Hill, Pi 70.70 30 P **P** **20 45 14.2 -1.3**
T54A Tazewell 70.70 28 P **P** **20 45 14.2 -1.4**
baz=211
T54A S **S** **20 54 30.3 +0.7**
baz=211
W60A Pink Hill 70.73 32 P **P** **20 45 15.2 -0.5**
baz=215
W60A S **S** **20 54 32.2 +2.4**
baz=215
YPP Pitchstone Pla 70.75 3 P **P** **20 45 15.4 -0.7**
CNNC Cliffs of the 70.80 31 P **P** **20 45 15.6 -0.5**
baz=214
CNNC Cliffs of the 70.80 31 IAMs_20 IAMs_20 21 13 47.5
comp=Z,6µm,18.0s
P46A Rosedale 70.83 22 P **P** **20 45 15.1 -1.1**
GDU01 Guandu, BA 70.83 96 *e*P **P** **20 45 17.3 +0.4**
DZM Mont Dzumac 70.87 254 *e*P **P** **20 45 20.5 +3.3**
comp=Z,143nm,1.6s
DZM *e*S **S** **20 54 36.6 +4.2**
comp=Z,5µm,30.0s
DZM Mont Dzumac 70.87 254 *e*LR LR 21 06 54.8
comp=Z,15µm,27.2s
DZM Mont Dzumac 70.87 254 P **P** **20 45 17.6 +0.4**
comp=Z,25nm,1.0s,baz=103,slow=9.0,SNR=6.0
DZM LR LR 21 09 12.0
comp=Z,4µm,21.5s,baz=110,slow=30
DZM Mont Dzumac 70.87 254 IAMs_20 IAMs_20 21 08 16.8
comp=Z,5µm,22.0s
H17A Grant Village 70.89 3 P **P** **20 45 16.6 -0.2**
baz=184
H17A S **S** **20 54 35.4 +3.6**
baz=184
H17A Grant Village 70.89 3 IAMs_20 IAMs_20 21 11 27.2
comp=Z,5µm,20.0s
O44A Mansfield 70.89 21 P **P** **20 45 15.9 -0.7**
O44A IAmb IAmb 20 45 23.8
comp=Z,104nm,1.4s
I05D Terrebonne, OR 70.99 355 P **P** **20 45 17.4 +0.3**
baz=174,SNR=5.9
I05D S **S** **20 54 38.5 +5.9**
baz=174
I02D Swisshome 70.99 353 P **P** **20 45 16.9 -0.2**
baz=171
HDIL Hopedale 71.00 20 P **P** **20 45 16.3 -1.0**
baz=204,SNR=7.8
HDIL S **S** **20 54 37.6 +4.9**
baz=204
HDIL Hopedale 71.00 20 P **P** **20 45 16.7 -0.6**
S53A Williamson 71.01 27 P **P** **20 45 16.6 -0.9**
baz=211
S53A S **S** **20 54 35.8 +2.7**
baz=211
LKWY Lake 71.07 3 IAMs_20 IAMs_20 21 12 26.0
comp=Z,5µm,19.0s
V59A Middlesex 71.07 31 P **P** **20 45 16.7 -1.0**
baz=214,SNR=11
V59A S **S** **20 54 35.5 +1.8**
baz=214
T55A Pulaski 71.08 28 P **P** **20 45 17.2 -0.7**
baz=212
T55A S **S** **20 54 35.0 +1.1**
baz=212
U57A Blanch 71.13 30 P **P** **20 45 16.9 -1.2**
baz=213,SNR=11
U57A S **S** **20 54 35.3 +0.9**
baz=213
SCIA State Center 71.14 17 P **P** **20 45 17.7 -0.3**
baz=200
SCIA S **S** **20 54 37.3 +3.1**
baz=200
SCIA State Center 71.14 17 P **P** **20 45 17.3 -0.7**
YMR Madison River 71.14 3 P **P** **20 45 17.5 -0.8**
W61A Ground Anchor 71.17 32 P **P** **20 45 17.9 -0.5**
baz=215
W61A S **S** **20 54 37.2 +2.4**
baz=215
RSSD Black Hills 71.19 8 P **P** **20 45 17.7 -0.9**
RSSD pmax pmax
comp=Z,83nm,1.3s
RSSD MLR MLR
comp=Z,10µm,20.0s
RSSD Black Hills 71.19 8 P **P** **20 45 17.5 -1.1**
baz=190
RSSD S **S** **20 54 37.8 +2.5**
baz=190
RSSD Black Hills 71.19 8 P **P** **20 45 17.7 -0.9**
RSSD IAmb IAmb 20 45 19.3
comp=Z,82nm,1.2s
YNR Norris Junctio 71.20 3 P **P** **20 45 19.2 +0.5**
YHB Horse Butte 71.22 3 P **P** **20 45 18.3 -0.5**
MCMT McKenzie Canyo 71.24 1 P **P** **20 45 17.8 -1.1**
YHH Holmes Hill 71.27 3 P **P** **20 45 18.3 -0.9**
BMO Blue Mountains 71.28 358 P **P** **20 45 18.5 -0.5**
BMO pmax pmax
comp=Z,189nm,1.8s
BMO MLR MLR
comp=Z,3µm,20.0s
BMO Blue Mountains 71.28 358 P **P** **20 45 18.5 -0.5**
BMO IAmb IAmb 20 45 27.0
comp=Z,189nm,1.8s
BMO IAMs_20 IAMs_20 21 10 26.7
comp=Z,3µm,20.0s
QLMT Earthquake Lak 71.28 2 P **P** **20 45 18.7 -0.5**
H04D Lebanon 71.29 354 P **P** **20 45 19.1 +0.1**
baz=172
BLA Blacksburg 71.31 28 P **P** **20 45 18.9 -0.4**
BLA pmax pmax
comp=Z,361nm,1.9s
BLA MLR MLR
comp=Z,4µm,22.0s
BLA Blacksburg 71.31 28 P **P** **20 45 19.0 -0.4**
baz=212
BLA S **S** **20 54 38.2 +1.6**
baz=212
BLA Blacksburg 71.31 28 P **P** **20 45 18.9 -0.4**
BLA IAMs_20 IAMs_20 21 12 05.1
comp=Z,4µm,22.0s
YHL Hebgen Lake 71.31 3 P **P** **20 45 19.7 +0.2**
T56A Rocky Mt 71.33 29 P **P** **20 45 18.8 -0.5**
baz=212
T56A S **S** **20 54 38.9 +2.1**
baz=212
ROSB Rosrio 71.38 84 *e*P **P** **20 45 21.0 +0.8**
SNAA Sanae 71.39 162 P **P** **20 45 18.9 -0.5**
SNAA Sanae 71.39 162 P **P** **20 45 19.7 +0.3**
SNAA pmax pmax
comp=Z,168nm,1.6s
SNAA Sanae 71.39 162 P **P** **20 45 19.7 +0.3**
SNAA IAmb IAmb 20 45 24.1
comp=Z,168nm,1.6s
H04A Detroit Lake 71.40 354 P **P** **20 45 19.0 -0.6**
H04A IAmb IAmb 20 45 20.7
comp=Z,81nm,1.3s
COR Corvallis 71.41 354 P **P** **20 45 20.1 +0.5**
COR pmax pmax
comp=Z,438nm,1.7s
COR Corvallis 71.41 354 P **P** **20 45 20.1 +0.5**
S54A Dingess, Beckl 71.44 27 P **P** **20 45 19.3 -0.8**
baz=211
S54A S **S** **20 54 38.4 +0.3**
baz=211
S54A Dingess, Beckl 71.44 27 P **P** **20 45 19.7 -0.3**
S54A IAMs_20 IAMs_20 21 12 24.4
comp=Z,5µm,21.0s
U58A Oxford 71.45 30 P **P** **20 45 18.8 -1.2**
baz=214,SNR=10
U58A S **S** **20 54 37.8 -0.3**
baz=214
V60A Jim Taylor Roa 71.52 31 P **P** **20 45 19.8 -0.7**
baz=215
V60A S **S** **20 54 39.4 +0.5**
baz=215
V60A Jim Taylor Roa 71.52 31 P **P** **20 45 19.8 -0.7**
V60A IAmb IAmb 20 45 28.0
comp=Z,82nm,0.9s
V60A IAMs_20 IAMs_20 21 14 56.6
comp=Z,5µm,18.0s
YNE Yellowstone No 71.53 4 P **P** **20 45 20.1 -0.6**
SFIN Lafayette 71.55 22 P **P** **20 45 19.3 -1.2**
baz=206,SNR=7.7
SFIN S **S** **20 54 40.9 +1.9**
baz=206
SFIN Lafayette 71.55 22 P **P** **20 45 19.6 -0.9**
SFIN IAMs_20 IAMs_20 21 14 04.0
comp=Z,6µm,18.0s
P49A Miami Univ. Ec 71.62 24 P **P** **20 45 19.4 -1.6**
baz=208
P49A S **S** **20 54 40.8 +0.7**
baz=208
P49A Miami Univ. Ec 71.62 24 P **P** **20 45 19.7 -1.3**
P49A IAMs_20 IAMs_20 21 15 02.0
comp=Z,4µm,19.0s
R53A Hurricane 71.64 27 P **P** **20 45 20.8 -0.3**
baz=211
R53A S **S** **20 54 42.0 +1.7**
baz=211
R53A Hurricane 71.64 27 P **P** **20 45 20.5 -0.7**
R53A IAmb IAmb 20 45 28.7
comp=Z,69nm,1.0s
R53A IAMs_20 IAMs_20 21 12 34.5
comp=Z,6µm,20.0s
T57A Hurt 71.64 29 P **P** **20 45 20.0 -1.2**
baz=213,SNR=7.5
T57A S **S** **20 54 41.3 +1.0**
baz=213
T57A Hurt 71.64 29 P **P** **20 45 20.5 -0.7**
RLMT Red Lodge 71.69 4 P **P** **20 45 20.3 -1.3**
baz=185,SNR=6.6
RLMT S **S** **20 54 42.0 +1.0**
baz=185
RLMT Red Lodge 71.69 4 P **P** **20 45 19.0 -2.6**
Q51A Peebles 71.69 25 IAMs_20 IAMs_20 21 13 27.9
comp=Z,5µm,20.0s
S55A Lewisburg 71.75 28 P **P** **20 45 21.1 -0.9**
baz=212
S55A S **S** **20 54 42.7 +0.9**
baz=212
U59A Littleton 71.76 31 P **P** **20 45 20.9 -1.0**
baz=214,SNR=12
U59A S **S** **20 54 43.2 +1.6**
baz=214
U59A Littleton 71.76 31 P **P** **20 45 20.7 -1.2**
U59A IAmb IAmb 20 45 29.3
comp=Z,68nm,1.0s
DLMT Dillon 71.78 2 P **P** **20 45 21.5 -0.6**
DLMT IAmb IAmb 20 45 26.8
comp=Z,240nm,1.9s
G08A Pilot Rock 71.79 357 P **P** **20 45 21.4 -0.6**
G08A IAMs_20 IAMs_20 21 10 57.0
comp=Z,5µm,19.0s
L40A Anamosa 71.82 18 P **P** **20 45 21.4 -0.8**
L40A IAMs_20 IAMs_20 21 12 45.1
comp=Z,6µm,22.0s
V61A Roper 71.86 32 P **P** **20 45 21.4 -1.1**
baz=216
V61A S **S** **20 54 44.4 +1.6**
baz=216
V61A Roper 71.86 32 P **P** **20 45 22.3 -0.3**
V61A IAmb IAmb 20 45 30.7
comp=Z,161nm,1.1s
V61A IAMs_20 IAMs_20 21 14 02.7
comp=Z,6µm,18.0s
G05D Wamic, OR 71.89 355 P **P** **20 45 22.3 -0.3**
baz=174
R54A Victor 71.90 27 P **P** **20 45 22.0 -0.8**
baz=211
R54A S **S** **20 54 44.8 +1.5**
baz=211
T58A Grand View Acr 71.91 30 P **P** **20 45 21.4 -1.4**
baz=214,SNR=13
T58A S **S** **20 54 44.2 +0.7**
baz=214
K38A Parkersburg 71.94 17 P **P** **20 45 22.2 -0.7**
K38A IAmb IAmb 20 45 34.6
comp=Z,233nm,1.6s
V62A Hyde County Ai 71.97 32 P **P** **20 45 23.3 +0.1**
baz=216
V62A S **S** **20 54 46.3 +2.1**
baz=216
V62A Hyde County Ai 71.97 32 IAMs_20 IAMs_20 21 13 49.6
comp=Z,3µm,18.0s
RCRC Randolf Colleg 71.99 29 P **P** **20 45 22.3 -1.0**
G03D McMinnville, O 72.03 354 P **P** **20 45 23.3 0.0**
baz=172
BOZ Bozeman (W) 72.04 2 P **P** **20 45 22.7 -0.9**
BOZ pmax pmax
comp=Z,217nm,1.9s
BOZ MLR MLR
comp=Z,2µm,21.0s

BOZ	Bozeman (W)	72.04	2	P	P	20 45 22.9	-0.7	
	baz=183,SNR=23							
BOZ				S	S	20 54 45.4	+0.4	
	baz=183							
BOZ	Bozeman (W)	72.04	2	P	P	20 45 22.7	-0.9	
BOZ				IAmb	IAmb	20 45 31.1		
	comp=Z,217nm,1.9s							
Q52A	Bidwell	72.06	26	P	P	20 45 22.4	-1.2	
	baz=210,SNR=14							
ECSD	EROS Data Cent	72.07	14	P	P	20 45 22.4	-1.3	
	baz=197,SNR=28							
ECSD				S	S	20 54 46.0	+1.0	
	baz=197							
ECSD	EROS Data Cent	72.07	14	P	P	20 45 22.5	-1.1	
ECSD	EROS Data Cent	72.07	14	IAms_20	IAms_20	21 13 32.6		
	comp=Z,4µm,20.0s							
S56A	Natural Bridge	72.07	29	P	P	20 45 22.9	-0.9	
	baz=213							
S56A				S	S	20 54 45.8	+0.4	
	baz=213							
U60A	Pendleton	72.14	31	P	P	20 45 23.4	-0.8	
	baz=215							
U60A				S	S	20 54 46.1	+0.1	
	baz=215							
M44A	Midewin, Midew	72.15	21	P	P	20 45 23.4	-0.8	
M44A				IAmb	IAmb	20 45 31.3		
	comp=Z,72nm,1.1s							
P51A	Williamsport	72.20	25	P	P	20 45 22.8	-1.6	
	baz=210							
P51A				S	S	20 54 46.6	0.0	
	baz=210							
P51A	Williamsport	72.20	25	IAMs_20	IAMs_20	21 15 00.3		
	comp=Z,5µm,20.0s							
L42A	Oliver, Polo	72.21	19	P	P	20 45 23.4	-1.2	
L42A				IAmb	IAmb	20 45 24.8		
	comp=Z,91nm,1.1s							
LRM	Limekiln Ridge	72.24	2	P	P	20 45 24.2	-0.8	
Q53A	Leroy	72.26	27	P	P	20 45 24.2	-0.7	
	baz=211,SNR=11							
Q53A				S	S	20 54 48.7	+1.3	
	baz=211							
SUSD	Miller	72.29	12	P	P	20 45 24.2	-0.8	
	baz=195							
SUSD				S	S	20 54 48.5	+1.0	
	baz=195							
SUSD	Miller	72.29	12	P	P	20 45 24.1	-0.9	
SUSD				IAMs_20	IAMs_20	21 12 52.4		
	comp=Z,5µm,19.0s							
O49A	Covington	72.34	24	IAMs_20	IAMs_20	21 14 27.0		
	comp=Z,4µm,20.0s							
R55A	Marlinton	72.35	28	P	P	20 45 24.9	-0.6	
	baz=212							
R55A				S	S	20 54 50.4	+1.8	
	baz=212							
R55A	Marlinton	72.35	28	IAMs_20	IAMs_20	21 12 38.4		
	comp=Z,5µm,21.0s							
U61A	Possum Corner	72.36	32	P	P	20 45 24.5	-1.0	
	baz=216							
U61A				S	S	20 54 51.0	+2.4	
	baz=216							
U61A	Possum Corner	72.36	32	IAMs_20	IAMs_20	21 14 26.9		
	comp=Z,5µm,19.0s							
T59A	Double "B" Far	72.37	31	P	P	20 45 24.5	-1.1	
	baz=214,SNR=7.0							
T59A				S	S	20 54 49.9	+1.2	
	baz=214							
T59A	Double "B" Far	72.37	31	P	P	20 45 24.6	-1.1	
F10A	Beach Ranch, E	72.40	358	P	P	20 45 25.6	-0.1	
F10A				IAmb	IAmb	20 45 35.9		
	comp=Z,244nm,2.0s							
S57A	Dark Hollow, R	72.41	29	P	P	20 45 24.8	-1.0	
	baz=213							
S57A				S	S	20 54 50.7	+1.6	
	baz=213							
S57A	Dark Hollow, R	72.41	29	P	P	20 45 25.3	-0.5	
F07A	Phinny Hill Vi	72.44	356	P	P	20 45 25.5	-0.2	
F07A				IAmb	IAmb	20 45 34.1		
	comp=Z,95nm,1.3s							
N47A	Urbana	72.47	23	P	P	20 45 24.5	-1.6	
N47A				IAmb	IAmb	20 45 32.5		
	comp=Z,77nm,1.1s							
N47A				IAMs_20	IAMs_20	21 14 57.4		
	comp=Z,6µm,18.0s							
F05D	White Salmon	72.54	355	P	P	20 45 26.5	+0.1	
	baz=174							
HQIL	Hanson Quary C	72.58	21	P	P	20 45 26.3	-0.4	
HQIL				IAmb	IAmb	20 45 38.4		
	comp=Z,156nm,1.1s							
Q54A	Coxs Mills	72.65	27	P	P	20 45 26.4	-0.8	
	baz=211,SNR=7.4							
Q54A				S	S	20 54 53.4	+1.6	
	baz=211							
Q54A	Coxs Mills	72.65	27	P	P	20 45 26.8	-0.4	
Q54A				IAmb	IAmb	20 45 34.9		
	comp=Z,112nm,1.1s							
F04A	Amboy	72.66	354	P	P	20 45 26.6	-0.5	
F04A				IAmb	IAmb	20 45 34.7		
	comp=Z,118nm,1.3s							
S58A	Poland Farm, P	72.68	30	P	P	20 45 26.5	-0.8	
	baz=214,SNR=9.7							
S58A				S	S	20 54 56.5	+4.3	
	baz=214							
S58A	Poland Farm, P	72.68	30	P	P	20 45 26.6	-0.8	
P52A	Corning	72.69	26	P	P	20 45 26.8	-0.6	
	baz=210,SNR=7.6							
P52A				S	S	20 54 54.9	+2.6	
	baz=210							
P52A	Corning	72.69	26	P	P	20 45 26.6	-0.8	
P52A				IAmb	IAmb	20 45 34.7		
	comp=Z,176nm,1.4s							
P52A				IAMs_20	IAMs_20	21 13 22.3		
	comp=Z,7µm,22.0s							
SANVU	Saraoutou	72.75	261	IAMs_20	IAMs_20	21 14 34.0		
	comp=Z,3µm,18.0s							
R56A	Bull Pasture M	72.75	28	P	P	20 45 27.5	-0.5	
	baz=213,SNR=14							
R56A				S	S	20 54 55.8	+2.6	
	baz=213							
P53A	Whipple	72.85	26	P	P	20 45 27.6	-0.8	
	baz=211,SNR=8.1							
P53A				S	S	20 54 55.8	+1.7	
	baz=211							
P53A	Whipple	72.85	26	P	P	20 45 28.0	-0.4	
P53A				IAmb	IAmb	20 45 36.2		
	comp=Z,157nm,1.2s							
P53A				IAMs_20	IAMs_20	21 13 13.7		
	comp=Z,6µm,22.0s							
F04D	Rainier, OR	72.86	354	P	P	20 45 28.8	+0.5	
	baz=172							
ACSO	Alum Creek Sta	72.88	25	P	P	20 45 27.1	-1.4	
	baz=209							
ACSO				S	S	20 54 54.8	+0.4	
	baz=209							
ACSO	Alum Creek Sta	72.88	25	P	P	20 45 27.6	-0.9	
ACSO				IAMs_20	IAMs_20	21 14 52.3		
	comp=Z,4µm,20.0s							
JFWS	Jewell Farm	72.88	19	P	P	20 45 27.8	-0.7	
JFWS				pmax	pmax			
	comp=Z,43nm,1.0s							
JFWS				MLR	MLR			
	comp=Z,5µm,21.0s							
JFWS	Jewell Farm	72.88	19	P	P	20 45 27.2	-1.2	
	baz=203,SNR=6.2							
JFWS				S	S	20 54 57.3	+3.0	
	baz=203							
JFWS	Jewell Farm	72.88	19	P	P	20 45 27.8	-0.7	
JFWS	Jewell Farm	72.88	19	IAMs_20	IAMs_20	21 13 41.1		
	comp=Z,5µm,21.0s							
T60A	Surry	72.89	31	P	P	20 45 28.2	-0.4	
	baz=215							
T60A				S	SKiKP	20 55 00.7	-1.1	
	baz=215							
T60A	Surry	72.89	31	IAMs_20	IAMs_20	21 17 17.8		
	comp=Z,4µm,18.0s							
L44A	Lake County Fo	72.91	21	P	P	20 45 27.8	-0.8	
	baz=205							
L44A				S	S	20 54 55.0	+0.5	
	baz=205							
L44A	Lake County Fo	72.91	21	P	P	20 45 27.8	-0.8	
HAWA	Hanford	72.92	357	P	P	20 45 28.7	+0.1	
HAWA				IAmb	IAmb	20 45 36.0		
	comp=Z,186nm,1.9s							
O51A	Pataskala	72.95	25	P	P	20 45 28.1	-0.9	
	baz=210							
O51A				S	S	20 54 55.2	0.0	
	baz=210							
Q55A	Buckhannon	72.97	28	P	P	20 45 28.6	-0.5	
	baz=212							
Q55A				S	S	20 54 57.1	+1.5	
	baz=212							
E09A	Wood Farm, Sta	72.97	358	P	P	20 45 28.3	-0.6	
E09A				IAmb	IAmb	20 45 36.4		
	comp=Z,209nm,1.7s							
E09A				IAMs_20	IAMs_20	21 11 46.4		
	comp=Z,5µm,19.0s							
E08A	Dider Farm, El	72.99	357	P	P	20 45 29.1	+0.1	
E08A				IAmb	IAmb	20 46 35.4		
	comp=Z,66nm,0.5s							
E08A				IAMs_20	IAMs_20	21 11 33.9		
	comp=Z,3µm,20.0s							
N49A	Columbus Grove	73.04	24	P	P	20 45 28.8	-0.7	
N49A				IAMs_20	IAMs_20	21 15 33.6		
	comp=Z,5µm,18.0s							
R57A	Stanardsville	73.04	29	P	P	20 45 28.6	-1.0	
	baz=214,SNR=8.7							
R57A				S	S	20 54 58.7	+2.4	
	baz=214							
R58B	Mineral	73.05	30	P	P	20 45 28.8	-0.7	
	baz=214,SNR=7.8							
R58B				S	SKiKP	20 54 59.3	-2.7	
	baz=214							
R58B	Mineral	73.05	30	P	P	20 45 29.3	-0.3	
I37A	Lemond, Waseca	73.07	16	P	P	20 45 29.2	-0.4	
E07A	Sunnyside	73.10	356	P	P	20 45 29.5	-0.2	
S59A	Mechanicsville	73.14	30	P	P	20 45 29.3	-0.8	
	baz=215							
S59A				S	S	20 54 58.7	+1.2	
	baz=215							
HRY	Holter Researc	73.15	2	P	P	20 45 29.8	-0.3	
O52A	Adamsville	73.22	26	P	P	20 45 29.5	-1.1	
	baz=210,SNR=8.6							
O52A				S	S	20 54 59.2	+0.9	
	baz=210							
O52A	Adamsville	73.22	26	P	P	20 45 30.0	-0.5	
MSO	Missoula	73.22	1	P	P	20 45 29.6	-1.0	
	baz=181,SNR=26							
MSO	Missoula	73.22	1	P	P	20 45 30.2	-0.4	
K43A	Burlington	73.25	20	P	P	20 45 30.1	-0.6	
K43A				IAmb	IAmb	20 45 38.4		
	comp=Z,100nm,0.9s							
R58A	Rapidan	73.27	29	P	P	20 45 30.0	-0.8	
	baz=214,SNR=9.5							
R58A				S	SKiKP	20 55 01.2	-1.1	
	baz=214							
L46A	Eue Claire	73.28	22	P	P	20 45 29.9	-1.0	
L46A				IAmb	IAmb	20 45 37.9		
	comp=Z,88nm,1.1s							
E04D	Cinebar	73.29	354	P	P	20 45 31.1	+0.3	
	baz=173,SNR=11							
E04D				S	SKiKP	20 55 06.0	+3.9	
	baz=173							
P54A	Burton	73.32	27	P	P	20 45 31.1	-0.1	
	baz=212,SNR=33							
P54A				S	SKiKP	20 55 02.1	-0.3	
	baz=212							
E03A	Lebam	73.38	354	P	P	20 45 32.0	+0.7	
E03A				IAmb	IAmb	20 45 32.9		
	comp=Z,164nm,1.2s							
Q56A	Snyder Ridge,	73.38	28	P	P	20 45 31.2	-0.4	
	baz=213,SNR=8.3							
Q56A				S	SKiKP	20 55 02.5	0.0	
	baz=213							
Q56A	Snyder Ridge,	73.38	28	P	P	20 45 30.4	-1.2	
Q56A				IAmb	IAmb	20 45 39.4		
	comp=Z,137nm,1.5s							
Q56A				IAMs_20	IAMs_20	21 14 50.7		
	comp=Z,4µm,20.0s							
S60A	Water View	73.39	31	P	P	20 45 30.7	-0.9	
	baz=215							
S60A				S	SKiKP	20 55 03.1	+0.6	
	baz=215							
LON	Longmire	73.42	355	P	P	20 45 31.0	-0.7	
LON				pmax	pmax			
	comp=Z,112nm,1.5s							
LON				MLR	MLR			
	comp=Z,2µm,20.0s							
LON	Longmire	73.42	355	P	P	20 45 31.0	-0.7	
LON				IAmb	IAmb	20 45 38.3		
	comp=Z,112nm,1.5s							
CBN	Corbin Frederi	73.47	30	P	P	20 45 31.2	-0.8	
	baz=214							
CBN				S	SKiKP	20 55 06.0	+3.3	
	baz=214							
CBN	Corbin Frederi	73.47	30	P	P	20 45 30.1	-2.0	
LAO	LASA Array	73.48	6	P	P	20 45 31.3	-0.7	
	baz=188,SNR=19							
LAO				S	SKiKP	20 55 04.6	+2.1	
	baz=188							
LAO	LASA Array	73.48	6	P	P	20 45 31.1	-1.0	
LAO				IAmb	IAmb	20 45 33.0		
	comp=Z,86nm,1.1s							
P55A	Reedsville	73.50	27	P	P	20 45 32.1	-0.2	
	baz=212,SNR=22							
P55A				S	SKiKP	20 55 02.6	-0.1	
	baz=212							
D08A	Wollman Farm,	73.55	357	P	P	20 45 32.3	-0.1	
D08A				IAmb	IAmb	20 45 40.3		
	comp=Z,142nm,1.5s							
D08A				IAMs_20	IAMs_20	21 11 59.6		
	comp=Z,3µm,19.0s							
O53A	New Philadelph	73.58	26	P	P	20 45 32.3	-0.4	
	baz=211,SNR=14							
O53A				S	SKiKP	20 55 03.7	+0.9	
	baz=211							
O53A	New Philadelph	73.58	26	P	P	20 45 32.5	-0.2	
O53A				IAMs_20	IAMs_20	21 13 57.8		
	comp=Z,6µm,20.0s							
R59A	King George, V	73.58	30	P	P	20 45 32.2	-0.5	
	baz=215							
R59A				S	SKiKP	20 55 03.6	+0.9	
	baz=215							
MCWV	Mont Chateau	73.62	27	P	P	20 45 32.5	-0.4	
	baz=212,SNR=8.6							
MCWV				S	S	20 55 06.9	+4.1	
	baz=212							
MCWV	Mont Chateau	73.62	27	P	P	20 45 32.5	-0.4	
I40A	Norwalk	73.68	18	P	P	20 45 32.2	-0.9	
N51A	Ashland	73.70	25	P	P	20 45 32.6	-0.8	
	baz=210,SNR=10							
N51A				S	SKiKP	20 55 03.3	+0.3	
	baz=210							
N51A	Ashland	73.70	25	P	P	20 45 32.1	-1.3	
N51A				IAmb	IAmb	20 45 41.3		
	comp=Z,128nm,1.1s							
N51A				IAMs_20	IAMs_20	21 14 47.2		
	comp=Z,4µm,19.0s							
Q57A	Strasburg	73.70	29	P	P	20 45 33.2	-0.3	
	baz=213,SNR=10							
Q57A				S	S	20 55 05.0	+1.2	
	baz=213							
S61A	Accomac	73.82	31	P	P	20 45 34.3	+0.1	
	baz=216							
S61A				S	S	20 55 07.4	+2.3	
	baz=216							
LTY	Liberty	73.84	356	P	P	20 45 33.3	-0.9	
L48A	N Adams	73.85	23	P	P	20 45 33.3	-1.0	
L48A				IAmb	IAmb	20 45 41.6		
	comp=Z,260nm,1.6s							
O54A	Avella	73.85	27	P	P	20 45 33.6	-0.7	
	baz=212,SNR=9.1							
O54A				S	S	20 55 07.7	+2.2	
	baz=212							
O54A	Avella	73.85	27	P	P	20 45 34.0	-0.3	
O54A				IAmb	IAmb	20 45 42.0		
	comp=Z,241nm,1.7s							
O54A				IAMs_20	IAMs_20	21 15 31.1		
	comp=Z,5µm,20.0s							
D05A	Enumclaw	73.87	355	P	P	20 45 34.0	-0.3	
D05A				IAmb	IAmb	20 45 42.2		
	comp=Z,276nm,1.5s							
N52A	McGinn's Farm,	73.87	26	P	P	20 45 33.7	-0.7	
	baz=210							
N52A				S	S	20 55 06.0	+0.4	
	baz=210							
M50A	Fremont	73.88	24	P	P	20 45 33.7	-0.7	
M50A				IAMs_20	IAMs_20	21 15 00.7		
	comp=Z,4µm,20.0s							
R60A	Leonardtown, M	73.88	30	P	P	20 45 34.0	-0.5	
	baz=215							
R60A				S	S	20 55 07.8	+2.0	
	baz=215							
P56A	Dayton Farm, R	73.91	28	P	P	20 45 34.4	-0.2	
	baz=213,SNR=20							
P56A				S	S	20 55 07.4	+1.3	
	baz=213							
D04E	Lakebay	73.93	354	P	P	20 45 34.8	+0.3	
	baz=172							
Q58A	Fox Den Farm,	73.94	29	P	P	20 45 34.1	-0.7	
	baz=214,SNR=16							
Q58A				S	S	20 55 08.2	+1.7	
	baz=214							
E28A	Huff	74.06	10	P	P	20 45 34.4	-1.1	
E28A				IAMs_20	IAMs_20	21 14 51.3		
	comp=Z,5µm,18.0s							
M51A	Elyria	74.13	25	P	P	20 45 34.9	-1.0	
	baz=210							
M51A				S	S	20 55 09.4	+0.8	
	baz=210							
JTMT	Jette	74.14	0	P	P	20 45 35.0	-0.9	
JTMT				IAmb	IAmb	20 45 43.6		
	comp=Z,309nm,1.7s							
F33A	5 Mile Ranch,	74.15	13	P	P	20 45 35.0	-0.9	
F33A				IAMs_20	IAMs_20	21 14 17.6		
	comp=Z,5µm,19.0s							
I42A	Draeger Farm,	74.16	19	P	P	20 45 35.5	-0.6	
I42A				IAMs_20	IAMs_20	21 14 20.1		
	comp=Z,7µm,22.0s							
N53A	Lisbon	74.20	26	P	P	20 45 35.6	-0.8	
	baz=211,SNR=20							
N53A				S	S	20 55 10.3	+1.0	
	baz=211							
N53A	Lisbon	74.20	26	P	P	20 45 35.7	-0.6	
N53A				IAMs_20	IAMs_20	21 14 06.3		
	comp=Z,6µm,21.0s							
NLWA	Neilton Lookou	74.24	354	P	P	20 45 36.5	0.0	
NLWA				IAmb	IAmb	20 45 44.6		
	comp=Z,154nm,1.4s							
P57A	Homestead Farm	74.25	29	P	P	20 45 35.9	-0.7	
	baz=214,SNR=9.6							
P57A				S	S	20 55 14.1	+4.3	
	baz=214							
P57A	Homestead Farm	74.25	29	P	P	20 45 36.3	-0.3	
P57A				IAMs_20	IAMs_20	21 16 14.7		
	comp=Z,5µm,20.0s							
C09A	Chrisman Ranch	74.26	358	P	P	20 45 35.9	-0.6	
C09A				IAmb	IAmb	20 45 44.5		
	comp=Z,95nm,1.1s							
C09A				IAMs_20	IAMs_20	21 12 43.5		
	comp=Z,4µm,19.0s							
O55A	Ligonier	74.31	27	P	P	20 45 36.2	-0.8	
	baz=212,SNR=5.6							
O55A				S	S	20 55 11.5	+0.9	
	baz=212							
D03D	Eldon	74.31	354	P	P	20 45 36.6	-0.2	
	baz=172,SNR=10							
D03D				S	S	20 55 12.6	+2.3	
	baz=172							
Q59A	Harwood	74.33	30	P	P	20 45 36.5	-0.6	
	baz=215							
Q59A				S	S	20 55 11.0	+0.2	
	baz=215							
SPMN	Marine on St.	74.35	16	P	P	20 45 36.2	-0.9	
	baz=200,SNR=7.0							
SPMN				S	S	20 55 13.2	+2.3	
	baz=200							
SPMN	Marine on St.	74.35	16	P	P	20 45 36.2	-0.9	
SPMN				IAmb	IAmb	20 45 45.5		
	comp=Z,318nm,2.0s							
AAM	Ann Arbor	74.44	23	P	P	20 45 37.1	-0.6	
AAM				pmax	pmax			
	comp=Z,142nm,1.2s							
AAM				MLR	MLR			
	comp=Z,3µm,22.0s							
AAM	Ann Arbor	74.44	23	P	P	20 45 37.2	-0.4	
	baz=209							
AAM				S	S	20 55 14.2	+2.3	
	baz=209							
AAM	Ann Arbor	74.44	23	P	P	20 45 37.1	-0.6	
AAM				IAmb	IAmb	20 45 38.8		
	comp=Z,142nm,1.1s							
R61A	Willards	74.50	31	P	P	20 45 37.8	-0.3	
	baz=216							
EGMT	Eagleton	74.55	3	P	P	20 45 38.0	-0.3	
	baz=185,SNR=16							
EGMT				S	S	20 55 16.9	+3.7	
	baz=185							
EGMT	Eagleton	74.55	3	P	P	20 45 38.5	+0.2	
P58A	Pank, Wackersv	74.56	29	P	P	20 45 37.7	-0.7	
	baz=214,SNR=8.3							
P58A				S	S	20 55 16.0	+2.6	
	baz=214							
M52A	Chesterland	74.63	25	P	P	20 45 38.3	-0.5	
	baz=211,SNR=7.4							
M52A				S	S	20 55 15.2	+1.1	
	baz=211							
M52A	Chesterland	74.63	25	P	P	20 45 38.5	-0.3	
M52A				IAmb	IAmb	20 45 46.5		
	comp=Z,166nm,1.4s							
M52A				IAMs_20	IAMs_20	21 14 43.6		
	comp=Z,5µm,20.0s							
O56A	Blue Knob Stat	74.67	28	P	P	20 45 38.7	-0.4	
	baz=213,SNR=15							
O56A				S	S	20 55 16.6	+1.9	
	baz=213							
O56A	Blue Knob Stat	74.67	28	P	P	20 45 38.7	-0.4	
O56A				IAmb	IAmb	20 45 47.0		
	comp=Z,124nm,1.2s							
O56A				IAMs_20	IAMs_20	21 17 25.8		
	comp=Z,4µm,19.0s							
N54A	Moraine State	74.67	27	P	P	20 45 38.7	-0.3	
	baz=212,SNR=25							
N54A				S	S	20 55 16.6	+2.0	
	baz=212							
N54A	Moraine State	74.67	27	P	P	20 45 38.9	-0.2	
N54A				IAmb	IAmb	20 45 47.1		
	comp=Z,102nm,0.9s							
NEW	Newport	74.69	358	P	P	20 45 38.8	-0.2	
NEW				pmax	pmax			
	comp=Z,200nm,1.5s							
NEW				MLR	MLR			
	comp=Z,5µm,19.0s							
NEW	Newport	74.69	358	P	P	20 45 38.4	-0.6	
	baz=178,SNR=31							
NEW				S	S	20 55 18.3	+3.7	
	baz=178							
NEW	Newport	74.69	358	P	P	20 45 38.8	-0.2	
NEW				IAmb	IAmb	20 45 46.9		
	comp=Z,200nm,1.4s							
NEW	Newport	74.69	358	IAMs_20	IAMs_20	21 12 42.8		
	comp=Z,5µm,19.0s							
SDMD	Soldier's Deli	74.70	30	P	P	20 45 38.5	-0.7	
F36A	Milaca	74.78	15	P	P	20 45 38.7	-0.9	
F36A				IAmb	IAmb	20 45 40.7		
	comp=Z,206nm,1.2s							
F36A				IAMs_20	IAMs_20	21 15 31.3		
	comp=Z,5µm,19.0s							
M53A	WI Miller and	74.80	26	P	P	20 45 39.1	-0.8	
	baz=211,SNR=15							
M53A				S	S	20 55 17.4	+1.4	
	baz=211							
M53A	WI Miller and	74.80	26	P	P	20 45 39.0	-0.8	
M53A				IAmb	IAmb	20 45 47.5		
	comp=Z,93nm,0.9s							
M53A				IAMs_20	IAMs_20	21 14 25.3		
	comp=Z,6µm,22.0s							
Q60A	Greensboro	74.81	30	P	P	20 45 39.1	-0.7	
	baz=216							
Q60A				S	S	20 55 19.2	+3.0	
	baz=216							
J47A	Sunmer	74.86	22	P	P	20 45 39.3	-0.8	
J47A				IAmb	IAmb	20 45 52.1		
	comp=Z,94nm,1.0s							
B08A	Colville Reser	74.86	357	P	P	20 45 39.2	-0.9	
TARA	Tarawa	74.91	279	IAMs_20	IAMs_20	21 12 17.9		
	comp=Z,4µm,19.0s							
N55A	Marion Center	74.92	27	P	P	20 45 40.2	-0.4	
	baz=213,SNR=19							
N55A				S	S	20 55 19.3	+1.8	
	baz=213							
Q61A	Milford	74.95	31	P	P	20 45 40.7	+0.1	
	baz=216							
Q61A				S	S	20 55 20.0	+2.3	
	baz=216							
B05A	Bryant	74.95	355	P	P	20 45 39.8	-0.6	
	baz=173,SNR=12							
B05A				S	S	20 55 21.6	+4.3	
	baz=173							
O57A	Amberson	75.01	29	P	P	20 45 40.1	-0.9	
	baz=214,SNR=12							
O57A				S	S	20 55 21.6	+3.1	
	baz=214							

H43A Windswept, Lux 75.03 20 P **P** **20 45 40.3 -0.7**
H43A IAMs_20 IAMs_20 21 15 00.0
comp=Z,5µm,22.0s
P59A Jarrettsville 75.04 30 P **P** **20 45 40.7 -0.5**
baz=215,SNR=19
P59A S **S** **20 55 21.7 +3.0**
baz=215
G40A Rib Lake 75.06 18 P **P** **20 45 40.7 -0.5**
G40A IAMs_20 IAMs_20 21 15 20.9
comp=Z,6µm,19.0s
I45A Fountain 75.11 21 P **P** **20 45 40.9 -0.6**
I45A IAmb IAmb 20 45 49.1
comp=Z,256nm,1.4s
B06A Marblemount 75.16 355 P **P** **20 45 40.9 -0.7**
B06A IAmb IAmb 20 46 09.4
comp=Z,132nm,1.5s
ALLY Alegheny Colle 75.19 26 P **P** **20 45 41.5 -0.6**
ALLY IAmb IAmb 20 45 43.1
comp=Z,110nm,1.3s
ALLY IAMs_20 IAMs_20 21 14 24.6
comp=Z,7µm,22.0s
K50A Casco 75.22 24 P **P** **20 45 41.8 -0.4**
K50A IAmb IAmb 20 45 43.0
comp=Z,111nm,1.2s
K50A IAMs_20 IAMs_20 21 15 52.4
comp=Z,6µm,21.0s
D32A Dogwood Acres, 75.25 12 P **P** **20 45 41.6 -0.6**
D32A IAmb IAmb 20 45 48.6
comp=Z,312nm,1.9s
D32A IAMs_20 IAMs_20 21 14 42.6
comp=Z,5µm,19.0s
O58A Lewisberry 75.25 29 P **P** **20 45 41.6 -0.8**
baz=214,SNR=8.0
O58A S **S** **20 55 24.1 +3.0**
baz=214
SSPA Standing Stone 75.26 28 P **P** **20 45 41.9 -0.5**
baz=214
SSPA S **S** **20 55 23.0 +1.8**
baz=214
SSPA Standing Stone 75.26 28 P **P** **20 45 42.0 -0.5**
SSPA IAmb IAmb 20 45 50.0
comp=Z,98nm,1.3s
SSPA Standing Stone 75.26 28 IAMs_20 IAMs_20 21 16 59.4
comp=Z,5µm,20.0s
M54A Oil Creek Stat 75.26 26 P **P** **20 45 41.9 -0.5**
baz=212,SNR=8.5
M54A S **S** **20 55 22.4 +1.2**
baz=212
M54A Oil Creek Stat 75.26 26 P **P** **20 45 42.1 -0.3**
M54A IAMs_20 IAMs_20 21 17 38.4
comp=Z,5µm,19.0s
N56A West Decatur 75.32 28 P **P** **20 45 42.5 -0.4**
baz=213,SNR=5.9
N56A S **S** **20 55 24.6 +2.6**
baz=213
MVL Millersville 75.40 30 P **P** **20 45 42.5 -0.7**
L53A Girard 75.41 26 P **P** **20 45 42.4 -0.8**
baz=212
L53A S **S** **20 55 26.9 +4.1**
baz=212
PAGS Pennsylvania G 75.42 29 P **P** **20 45 42.7 -0.7**
PAGS IAmb IAmb 20 45 50.7
comp=Z,124nm,1.5s
PAGS IAMs_20 IAMs_20 21 17 32.8
comp=Z,3µm,19.0s
PGC Sidney 75.45 354 P **P** **20 45 43.2 -0.1**
A04D Lummi Island 75.45 355 P **P** **20 45 43.4 +0.1**
baz=173,SNR=6.6
DGMT Dagmar 75.45 7 P **P** **20 45 42.8 -0.7**
baz=190,SNR=11
DGMT S **S** **20 55 26.2 +3.1**
baz=190
DGMT Dagmar 75.45 7 P **P** **20 45 43.0 -0.4**
DGMT IAmb IAmb 20 45 44.8
comp=Z,182nm,1.1s
DGMT Dagmar 75.45 7 IAMs_20 IAMs_20 21 14 28.1
comp=Z,6µm,21.0s
WALA Waterton Lakes 75.45 1 P **P** **20 45 43.4 -0.1**
WALA IAmb IAmb 20 45 49.0
comp=Z,104nm,1.4s
MDND Maddock 75.48 10 P **P** **20 45 42.4 -1.2**
baz=194
MDND Maddock 75.48 10 P **P** **20 45 43.0 -0.6**
MDND IAMs_20 IAMs_20 21 14 37.2
comp=Z,4µm,20.0s
N57A Milroy 75.50 28 P **P** **20 45 43.0 -0.8**
baz=214,SNR=8.9
N57A S **S** **20 55 26.8 +2.9**
baz=214
P60A Greenville 75.56 30 P **P** **20 45 42.9 -1.3**
baz=216
P60A S **S** **20 55 29.5 +5.0**
baz=216
P60A Greenville 75.56 30 P **P** **20 45 43.8 -0.4**
M55A Ridgway 75.59 27 P **P** **20 45 43.6 -0.8**
baz=213,SNR=8.5
M55A S **S** **20 55 29.1 +4.2**
baz=213
M55A Ridgway 75.59 27 P **P** **20 45 43.8 -0.6**
M55A IAMs_20 IAMs_20 21 14 32.2
comp=Z,4µm,21.0s
ERPA Erie 75.65 26 P **P** **20 45 43.9 -0.7**
baz=212
ERPA S **S** **20 55 26.5 +1.0**
baz=212
ERPA Erie 75.65 26 P **P** **20 45 44.0 -0.7**
ERPA IAMs_20 IAMs_20 21 14 49.7
comp=Z,6µm,22.0s
BBSR BB Station 75.65 42 P **P** **20 45 44.0 -0.9**
BBSR IAmb IAmb 20 45 53.5
comp=Z,101nm,1.2s
BBSR BB Station 75.65 42 IAMs_20 IAMs_20 21 12 06.5
comp=Z,5µm,22.0s
PSUB Penn St. - Bra 75.74 30 P **P** **20 45 44.4 -0.8**
NVL N'lazarevskaya 75.78 164 *e*P **P** **20 45 44.7 -0.4**
NVL *e* 20 48 31.3
NVL *e*S **S** **20 55 27.1 +0.8**
NVL *e*SS **SS** **21 00 22.4 +5.3**
NVL pmax pmax
comp=Z,132nm,1.8s
P61A Hammonton 75.83 31 P **P** **20 45 44.3 -1.4**
baz=216
M56A Emporium 75.84 27 P **P** **20 45 45.1 -0.7**
baz=213,SNR=15
M56A S **S** **20 55 29.9 +2.3**
baz=213
M56A Emporium 75.84 27 P **P** **20 45 45.0 -0.7**
M56A IAmb IAmb 20 45 53.4
comp=Z,97nm,1.1s
M56A IAMs_20 IAMs_20 21 14 37.9
comp=Z,4µm,22.0s
N58A Sunbury 75.93 29 P **P** **20 45 45.7 -0.6**
baz=214,SNR=11
N58A S **S** **20 55 30.4 +1.9**
baz=214
N58A Sunbury 75.93 29 P **P** **20 45 45.5 -0.7**
N58A IAmb IAmb 20 45 53.8
comp=Z,106nm,1.2s
N58A IAMs_20 IAMs_20 21 18 25.2
comp=Z,3µm,18.0s
E38A The Farm, Brul 75.95 16 P **P** **20 45 45.6 -0.6**
E38A IAmb IAmb 20 45 54.4
comp=Z,123nm,1.2s
L54A Sinclairville 76.01 26 P **P** **20 45 46.0 -0.7**
baz=212,SNR=5.9
L54A S **S** **20 55 29.7 +0.3**
baz=212
O60A Telford 76.08 30 P **P** **20 45 46.8 -0.3**
baz=216,SNR=12
O60A S **S** **20 55 30.0 -0.1**
baz=216
F42A Maple Grove Fa 76.09 19 P **P** **20 45 46.6 -0.5**
COWI Conover 76.12 18 P **P** **20 45 46.8 -0.5**
COWI IAMs_20 IAMs_20 21 16 03.9
comp=Z,5µm,18.0s
M57A Sunshine Farm, 76.16 28 P **P** **20 45 47.2 -0.4**
baz=214,SNR=7.0
M57A S **S** **20 55 31.7 +0.6**
baz=214
M57A Sunshine Farm, 76.16 28 P **P** **20 45 47.3 -0.3**
M57A IAMs_20 IAMs_20 21 18 38.3
comp=Z,5µm,18.0s
G45A Suttons Bay 76.19 21 P **P** **20 45 47.8 +0.1**
G45A IAmb IAmb 20 45 55.7
comp=Z,149nm,1.1s
O61A Allentown 76.28 31 P **P** **20 45 47.3 -0.9**
baz=216
O61A S **S** **20 55 33.6 +1.2**
baz=216
LUPA Lehigh Univers 76.32 30 P **P** **20 45 47.9 -0.6**
LUPA IAMs_20 IAMs_20 21 18 59.6
comp=Z,4µm,19.0s
L55A Hinsdale 76.32 27 P **P** **20 45 48.2 -0.3**
baz=213,SNR=16
L55A S **S** **20 55 34.5 +1.5**
baz=213
N59A State Game Lan 76.40 29 P **P** **20 45 48.7 -0.3**
baz=215,SNR=11
N59A S **S** **20 55 35.5 +1.7**
baz=215
N59A State Game Lan 76.40 29 P **P** **20 45 48.7 -0.3**
N59A IAMs_20 IAMs_20 21 19 03.7
comp=Z,4µm,18.0s
WVNY West Valley, N 76.44 27 P **P** **20 45 48.8 -0.4**
WVNY IAmb IAmb 20 45 56.9
comp=Z,103nm,1.2s
WVNY IAMs_20 IAMs_20 21 17 47.7
comp=Z,5µm,20.0s
M58A Price's Panora 76.47 29 P **P** **20 45 48.6 -0.8**
baz=215,SNR=20
M58A S **S** **20 55 36.5 +1.9**
baz=215
K54A Basiliko Farm, 76.58 27 P **P** **20 45 49.3 -0.6**
baz=213
K54A S **S** **20 55 37.1 +1.4**
baz=213
AGMN Agassiz Nation 76.58 13 P **P** **20 45 49.5 -0.4**
AGMN IAMs_20 IAMs_20 21 15 50.5
comp=Z,4µm,18.0s
L56A Greenwood 76.64 27 P **P** **20 45 50.1 -0.2**
baz=214,SNR=16
L56A S **S** **20 55 39.3 +2.8**
baz=214
L56A Greenwood 76.64 27 P **P** **20 45 50.0 -0.4**
L56A IAmb IAmb 20 45 58.1
comp=Z,108nm,1.2s
L56A IAMs_20 IAMs_20 21 16 36.1
comp=Z,4µm,21.0s
N60A Cedar Hill Far 76.66 30 P **P** **20 45 49.3 -1.1**
baz=216,SNR=8.3
N60A S **S** **20 55 39.9 +3.3**
baz=216
I51A Listowel 76.70 24 P **P** **20 45 50.2 -0.4**
baz=211,SNR=13
I51A S **S** **20 55 39.6 +2.7**
baz=211
BRNJ Basking Ridge 76.75 30 P **P** **20 45 51.0 +0.1**
BRNJ IAMs_20 IAMs_20 21 15 57.9
comp=Z,4µm,19.0s
L57A Andrews Acres 76.83 28 P **P** **20 45 51.2 -0.2**
baz=214,SNR=13
L57A S **S** **20 55 39.7 +1.2**
baz=214
N61A South Mountain 76.92 30 P **P** **20 45 50.8 -1.2**
baz=216
N61A S **S** **20 55 41.4 +2.0**
baz=216
KSPA Keystone Colle 76.92 29 P **P** **20 45 51.5 -0.5**
KSPA IAmb IAmb 20 46 00.2
comp=Z,258nm,1.9s
KSPA IAMs_20 IAMs_20 21 18 42.5
comp=Z,4µm,18.0s
K55A Perry 76.93 27 P **P** **20 45 51.1 -0.9**
baz=213,SNR=8.7
K55A S **S** **20 55 43.3 +3.8**
baz=213
E43A Lone Tree Farm 76.98 19 P **P** **20 45 51.4 -0.8**
E43A IAmb IAmb 20 45 59.9
comp=Z,148nm,1.3s
E43A IAMs_20 IAMs_20 21 16 17.8
comp=Z,6µm,20.0s
MMNY Mt. Morris Dam 77.00 27 P **P** **20 45 51.8 -0.5**
MMNY IAmb IAmb 20 45 59.7
comp=Z,202nm,1.6s
MMNY IAMs_20 IAMs_20 21 15 27.4
comp=Z,4µm,22.0s
ODNJ Ogdensburg 77.05 30 P **P** **20 45 51.7 -0.9**
ODNJ IAMs_20 IAMs_20 21 19 30.0
comp=Z,4µm,19.0s
M59A Waymart 77.06 29 P **P** **20 45 52.1 -0.6**
baz=216,SNR=9.9
M59A S **S** **20 55 44.5 +3.6**
baz=216
CPNY Central Park 77.11 31 P **P** **20 45 52.0 -0.9**
CPNY IAmb IAmb 20 45 60.0
comp=Z,216nm,2.0s
MEDO Medina 77.14 26 P **P** **20 45 53.2 +0.1**
MEDO IAmb IAmb 20 46 01.1
comp=Z,128nm,1.4s
MEDO IAMs_20 IAMs_20 21 15 43.2
comp=Z,6µm,22.0s
J54A Appleton 77.16 26 P **P** **20 45 52.6 -0.6**
baz=213
J54A S **S** **20 55 44.6 +2.7**
baz=213
J54A Appleton 77.16 26 P **P** **20 45 52.5 -0.7**
J54A IAmb IAmb 20 46 00.6
comp=Z,183nm,1.6s
D41A Chassel 77.16 18 P **P** **20 45 52.7 -0.4**
D41A IAmb IAmb 20 46 00.8
comp=Z,96nm,1.1s
D41A IAMs_20 IAMs_20 21 16 00.4
comp=Z,3µm,21.0s
K56A Middlesex 77.21 27 P **P** **20 45 53.0 -0.6**
baz=214
K56A S **S** **20 55 46.6 +4.1**
baz=214
EYMN Ely 77.22 16 P **P** **20 45 52.7 -0.7**
baz=201,SNR=16
EYMN S **S** **20 55 45.7 +3.3**
baz=201
EYMN Ely 77.22 16 P **P** **20 45 52.7 -0.7**
EYMN IAmb IAmb 20 46 00.7
comp=Z,275nm,1.8s
M60A Port Jervis 77.24 30 P **P** **20 45 52.5 -1.2**
baz=216
M60A S **S** **20 55 45.6 +2.7**
baz=216
L58A Harry Jones Me 77.29 29 P **P** **20 45 53.6 -0.4**
baz=215,SNR=12
L58A S **S** **20 55 47.0 +3.6**
baz=215
PAL Palisades 77.30 30 P **P** **20 45 53.2 -0.8**
baz=217
PAL S **S** **20 55 45.3 +1.8**
baz=217
BINY Binghamton 77.36 28 P **P** **20 45 54.0 -0.4**
baz=215,SNR=12
BINY S **S** **20 55 46.2 +2.1**
baz=215
BINY Binghamton 77.36 28 P **P** **20 45 53.9 -0.5**
BINY IAMs_20 IAMs_20 21 18 45.9
comp=Z,5µm,19.0s
RCBR Riachuelo 77.42 90 P **P** **20 45 56.0 +0.5**
comp=Z,13nm,1.0s,baz=255,slow=7.9,SNR=7.1
RCBR Riachuelo 77.42 90 P **P** **20 45 56.0 +0.5**
RCBR pmax pmax
comp=Z,72nm,1.4s
RCBR MLR MLR
comp=Z,3µm,18.0s
RCBR Riachuelo 77.42 90 P **P** **20 45 56.0 +0.5**
RCBR Riachuelo 77.42 90 IAMs_20 IAMs_20 21 20 21.0
comp=Z,3µm,18.0s
RCBR Riachuelo 77.42 90 *e*P **P** **20 45 56.8 +1.4**
J55A Hilton 77.48 27 P **P** **20 45 54.0 -0.9**
baz=213
J55A S **S** **20 55 45.2 -0.2**
baz=213
J55A Hilton 77.48 27 P **P** **20 45 54.7 -0.2**
J55A IAmb IAmb 20 46 02.3
comp=Z,145nm,1.5s
J55A IAMs_20 IAMs_20 21 17 56.2
comp=Z,3µm,20.0s
K57A Scipio Center 77.57 28 P **P** **20 45 54.7 -0.8**
baz=214,SNR=7.7
K57A S **S** **20 55 46.8 +0.4**
baz=214
M61A Granite Spring 77.61 30 P **P** **20 45 55.1 -0.7**
baz=217
M61A S **S** **20 55 47.6 +0.7**
baz=217
WSPT Westport, CT 77.70 31 IAMs_20 IAMs_20 21 17 41.1
comp=Z,3µm,20.0s
L59A Walton 77.75 29 P **P** **20 45 56.2 -0.4**
baz=216,SNR=12
L59A S **S** **20 55 49.6 +1.1**
baz=216
L59A Walton 77.75 29 P **P** **20 45 56.1 -0.5**
L59A IAmb IAmb 20 46 04.4
comp=Z,77nm,0.9s
L59A IAMs_20 IAMs_20 21 19 33.5
comp=Z,3µm,19.0s
E46A Sault Ste Mari 77.81 21 P **P** **20 45 56.4 -0.3**
J56A Wolcott 77.88 27 P **P** **20 45 56.4 -0.8**
baz=214,SNR=6.9
J56A S **S** **20 55 49.8 +0.1**
baz=214
J56A Wolcott 77.88 27 P **P** **20 45 56.6 -0.5**
J56A IAmb IAmb 20 46 04.5
comp=Z,172nm,1.6s
F48A Evansville 77.89 22 P **P** **20 45 56.8 -0.3**
baz=209,SNR=7.0
F48A S **S** **20 55 51.7 +2.0**
baz=209
L60A Shokan 77.95 30 P **P** **20 45 57.0 -0.7**
baz=216
L60A S **S** **20 55 51.9 +1.3**
baz=216
K58A Earlville 77.96 28 P **P** **20 45 57.4 -0.3**
baz=215,SNR=8.3
K58A S **S** **20 55 51.4 +0.7**
baz=215
K58A Earlville 77.96 28 P **P** **20 45 57.0 -0.7**
K58A IAmb IAmb 20 46 05.4
comp=Z,68nm,0.9s
K58A IAMs_20 IAMs_20 21 19 39.0
comp=Z,5µm,18.0s
KSCT Kent School, K 78.07 30 P **P** **20 45 57.6 -0.7**
M62A Hamden 78.11 31 P **P** **20 45 57.7 -0.8**
baz=218
M62A S **S** **20 55 52.8 +0.5**
baz=218
E47A Iron Bridge 78.22 22 P **P** **20 45 58.5 -0.6**
baz=208,SNR=12
E47A S **S** **20 55 54.1 +0.9**
baz=208
SADO Sadowa 78.23 25 LR LR 21 18 21.5
comp=Z,5µm,19.3s,baz=204,slow=34
SADO Sadowa 78.23 25 P **P** **20 45 58.2 -0.9**
SADO IAmb IAmb 20 46 06.5
comp=Z,79nm,1.1s
SADO IAMs_20 IAMs_20 21 17 50.9
comp=Z,5µm,20.0s
H53A Bobcaygeon 78.27 25 P **P** **20 45 58.9 -0.5**
baz=213,SNR=18
H53A S **S** **20 55 56.2 +2.2**
baz=213
K59A Cooperstown 78.31 29 P **P** **20 45 59.2 -0.5**
baz=216,SNR=13
K59A S **S** **20 55 56.3 +1.8**
baz=216
I55A Frankford 78.33 26 P **P** **20 45 59.0 -0.7**
baz=213,SNR=15
I55A S **S** **20 55 55.8 +1.4**
baz=213
J57A Williamstown 78.34 28 P **P** **20 45 59.0 -0.7**
baz=215
J57A S **S** **20 55 55.9 +1.2**
baz=215
J57A Williamstown 78.34 28 P **P** **20 45 58.8 -1.0**
J57A IAMs_20 IAMs_20 21 19 22.1
comp=Z,4µm,18.0s
D46A Sault St. Mari 78.36 21 P **P** **20 45 59.5 -0.3**
baz=208,SNR=14
D46A S **S** **20 55 57.9 +3.1**
baz=208
PECO Prince Edward 78.37 27 P **P** **20 45 59.2 -0.7**
PECO IAmb IAmb 20 46 07.3
comp=Z,236nm,1.6s
PECO IAMs_20 IAMs_20 21 15 20.6
comp=Z,5µm,22.0s
ULM Lac du Bonnet 78.45 12 P **P** **20 45 59.1 -1.0**
comp=Z,44nm,1.0s,baz=216,slow=6.1,SNR=23
ULM LR LR 21 16 41.0
comp=Z,3µm,19.1s,baz=191,slow=33
ULM Lac du Bonnet 78.45 12 P **P** **20 45 59.2 -1.0**
ULM pmax pmax
comp=Z,396nm,1.9s
ULM MLR MLR
comp=Z,3µm,20.0s
ULM Lac du Bonnet 78.45 12 P **P** **20 45 59.1 -1.0**
ULM IAMs_20 IAMs_20 21 16 09.4
comp=Z,3µm,20.0s
M63A Gales Ferry 78.47 31 P **P** **20 45 59.6 -0.9**
baz=218
M63A S **S** **20 55 57.2 +1.0**
baz=218
J58A Remsen 78.60 28 P **P** **20 46 00.8 -0.4**
baz=215,SNR=13
J58A S **S** **20 55 57.9 +0.4**
baz=215
J58A Remsen 78.60 28 P **P** **20 46 00.9 -0.4**
J58A IAmb IAmb 20 46 09.0
comp=Z,126nm,1.4s
K60A Five Rivers En 78.60 29 P **P** **20 46 00.1 -1.1**
baz=217
K60A S **S** **20 56 01.5 +4.0**
baz=217
DELO Deloro Mine 78.60 26 P **P** **20 46 00.5 -0.7**
DELO IAMs_20 IAMs_20 21 16 17.9
comp=Z,5µm,22.0s
L62A Suffield 78.69 31 P **P** **20 46 00.9 -0.8**
baz=218
L62A S **S** **20 56 00.1 +1.7**
baz=218
TRY Troy 78.79 30 IAMs_20 IAMs_20 21 20 10.0
comp=Z,3µm,19.0s
D47A Chapleau 78.80 21 P **P** **20 46 01.8 -0.5**
baz=208,SNR=24
D47A S **S** **20 56 00.9 +1.4**
baz=208
H55A Tweed 78.80 26 P **P** **20 46 01.6 -0.7**
baz=214,SNR=14
H55A S **S** **20 55 59.1 -0.5**
baz=214
I57A Carthage 78.92 28 P **P** **20 46 02.1 -0.9**
baz=215,SNR=11
I57A S **S** **20 56 03.2 +2.4**
baz=215
K61A Williamstown 78.92 30 P **P** **20 46 02.4 -0.6**
baz=217,SNR=5.5
K61A S **S** **20 56 02.6 +1.7**
baz=217
M64A Tiverton 78.98 32 P **P** **20 46 02.8 -0.5**
baz=219
M64A S **S** **20 56 02.9 +1.4**
baz=219
I58A Old Forge 79.00 28 P **P** **20 46 02.8 -0.7**
baz=216,SNR=13
I58A S **S** **20 56 03.1 +1.3**
baz=216
L61B Northampton 79.01 30 P **P** **20 46 02.4 -1.0**
baz=218
L61B S **S** **20 56 02.5 +0.6**
baz=218
J59A Piesco 79.02 29 P **P** **20 46 02.5 -1.0**
baz=216,SNR=9.6
J59A S **S** **20 56 02.0 0.0**
baz=216
J59A Piesco 79.02 29 P **P** **20 46 03.5 -0.1**
J59A IAmb IAmb 20 46 11.1
comp=Z,140nm,1.5s
J59A IAMs_20 IAMs_20 21 19 43.0
comp=Z,4µm,20.0s
QUA2 Belchertown 79.02 31 P **P** **20 46 03.2 -0.3**
QUA2 IAMs_20 IAMs_20 21 20 49.1
comp=Z,3µm,18.0s
L63A North Scituate 79.04 31 P **P** **20 46 02.6 -1.1**
baz=218
L63A S **S** **20 56 03.2 +1.1**
baz=218
BRYW Bryant College 79.11 31 IAMs_20 IAMs_20 21 15 46.4
comp=Z,3µm,21.0s
G54A Lake Saint Pet 79.16 25 P **P** **20 46 03.4 -0.8**
baz=213,SNR=24
G54A S **S** **20 56 06.4 +3.0**
baz=213
H56A Elgin 79.21 27 P **P** **20 46 03.7 -0.8**
baz=214,SNR=10
H56A S **S** **20 56 07.2 +3.4**
baz=214
PLVO Plevna 79.25 26 P **P** **20 46 03.8 -0.9**

PLVO IAmb IAmb 20 46 12.3
comp=Z,306nm,1.9s
PLVO IAMs_20 IAMs_20 21 16 59.0
comp=Z,4μm,21.0s
M65A Busby, Falmout 79.25 32 IAMs_20 IAMs_20 21 19 07.4
comp=Z,5μm,18.0s
J60A Lant Hill Farm 79.31 29 P **P** **20 46 04.8 -0.3**
baz=217,SNR=11
J60A S **S** **20 56 07.8 +2.7**
baz=217
ACCN Adirondack Com 79.31 29 P **P** **20 46 04.6 -0.5**
ACCN IAmb IAmb 20 46 12.8
comp=Z,213nm,1.6s
ACCN IAMs_20 IAMs_20 21 19 50.8
comp=Z,4μm,20.0s
K62A Royalston 79.38 30 P **P** **20 46 05.2 -0.3**
baz=218
K62A S **S** **20 56 09.3 +3.5**
baz=218
K62A Royalston 79.38 30 IAMs_20 IAMs_20 21 20 57.6
comp=Z,4μm,18.0s
L64A Middleborough 79.45 32 P **P** **20 46 04.6 -1.3**
baz=219
L64A S **S** **20 56 08.5 +1.9**
baz=219
BBB Bella Bella 79.46 352 P **P** **20 46 05.3 -0.3**
BBB IAmb IAmb 20 46 17.4
comp=Z,186nm,1.4s
H57A Richville 79.46 27 P **P** **20 46 04.7 -1.2**
baz=215,SNR=6.5
H57A S **S** **20 56 10.4 +3.9**
baz=215
NCB Newcomb 79.55 28 P **P** **20 46 05.9 -0.5**
NCB IAMs_20 IAMs_20 21 19 56.0
comp=Z,3μm,19.0s
I59A Olmsteadville 79.56 29 P **P** **20 46 05.2 -1.2**
baz=216,SNR=6.8
I59A S **S** **20 56 07.9 +0.2**
baz=216
HRV Adam Dziewonsk 79.56 31 P **P** **20 46 06.1 -0.4**
HRV pmax pmax
comp=Z,213nm,1.9s
HRV MLR MLR
comp=Z,3μm,20.0s
HRV Adam Dziewonsk 79.56 31 P **P** **20 46 06.1 -0.4**
baz=218
HRV S **S** **20 56 09.7 +1.9**
baz=218
HRV Adam Dziewonsk 79.56 31 P **P** **20 46 06.1 -0.4**
HRV IAmb IAmb 20 46 14.1
comp=Z,213nm,1.9s
HRV Adam Dziewonsk 79.56 31 IAMs_20 IAMs_20 21 20 51.5
comp=Z,3μm,20.0s
G55A Calabogie 79.57 26 P **P** **20 46 06.1 -0.3**
baz=214,SNR=8.9
G55A S **S** **20 56 07.4 -0.3**
baz=214
WES Weston 79.58 31 P **P** **20 46 05.3 -1.3**
WES pmax pmax
comp=Z,171nm,1.6s
WES MLR MLR
comp=Z,3μm,20.0s
WES Weston 79.58 31 P **P** **20 46 05.3 -1.3**
WES IAmb IAmb 20 46 14.2
comp=Z,171nm,1.6s
WES IAMs_20 IAMs_20 21 20 54.9
comp=Z,3μm,20.0s
BCX Boston College 79.61 31 P **P** **20 46 05.7 -1.0**
ALGO Algonquin Park 79.64 25 P **P** **20 46 05.8 -1.0**
baz=213,SNR=7.4
ALGO S **S** **20 56 10.2 +1.8**
baz=213
K63A Dunstable 79.72 31 P **P** **20 46 06.9 -0.5**
baz=218
K63A S **S** **20 56 11.2 +1.8**
baz=218
J61A Chester 79.77 30 P **P** **20 46 07.4 -0.2**
baz=218
J61A S **S** **20 56 12.1 +2.1**
baz=218
I60A Shoreham 79.85 29 P **P** **20 46 07.2 -0.8**
baz=217,SNR=11
I60A S **S** **20 56 12.5 +1.8**
baz=217
L65A Cape Cod Natio 79.90 32 P **P** **20 46 07.7 -0.6**
baz=220
LONY Lake Ozonia 79.92 28 P **P** **20 46 08.2 -0.2**
baz=216,SNR=13
LONY S **S** **20 56 15.9 +4.4**
baz=216
LONY Lake Ozonia 79.92 28 P **P** **20 46 07.7 -0.7**
LONY IAMs_20 IAMs_20 21 20 24.8
comp=Z,3μm,18.0s
H58A Gabriels 79.92 28 P **P** **20 46 08.0 -0.5**
baz=216,SNR=13
H58A S **S** **20 56 14.7 +3.1**
baz=216
J62A Henniker 80.01 30 P **P** **20 46 08.6 -0.4**
baz=218,SNR=5.5
J62A S **S** **20 56 15.1 +2.6**
baz=218
E53A Dumoine, Ponti 80.14 25 P **P** **20 46 09.5 -0.1**
baz=213,SNR=16
E53A S **S** **20 56 15.9 +2.2**
baz=213
G57A Newington 80.15 27 P **P** **20 46 09.1 -0.5**
baz=215,SNR=7.7
G57A S **S** **20 56 16.5 +2.7**
baz=215
HNH Hanover 80.18 30 P **P** **20 46 09.4 -0.4**
HNH IAmb IAmb 20 46 17.9
comp=Z,305nm,1.9s
HNH IAMs_20 IAMs_20 21 20 30.7
comp=Z,3μm,20.0s
F55A Otter Lake 80.19 26 P **P** **20 46 09.0 -0.8**
baz=214
F55A S **S** **20 56 15.6 +1.3**
baz=214
ORIO Orleans, Innes 80.22 27 P **P** **20 46 09.3 -0.7**
baz=215
FFD Franklin Falls 80.28 30 P **P** **20 46 10.1 -0.2**
FFD IAmb IAmb 20 46 18.5
comp=Z,137nm,1.1s
FFD IAMs_20 IAMs_20 21 20 40.3
comp=Z,4μm,19.0s
H59A Cadyville 80.32 28 P **P** **20 46 10.3 -0.2**
baz=216,SNR=10
H59A S **S** **20 56 18.0 +2.3**
baz=216
E54A Lac Daplat, Po 80.37 25 P **P** **20 46 10.4 -0.3**
baz=214,SNR=14
E54A S **S** **20 56 17.7 +1.6**
baz=214
J63A Strafford 80.39 31 P **P** **20 46 10.9 0.0**
baz=219
J63A S **S** **20 56 16.5 +0.1**
baz=219
I61A Oroboro, Fairl 80.39 30 P **P** **20 46 11.0 0.0**
baz=218,SNR=9.6
I61A S **S** **20 56 19.0 +2.5**
baz=218
VT1 Waterbury 80.47 29 P **P** **20 46 11.2 -0.1**
FRNY Flat Rock 80.51 28 P **P** **20 46 11.2 -0.4**
FRNY IAmb IAmb 20 46 20.4
comp=Z,176nm,1.8s
FRNY IAMs_20 IAMs_20 21 18 31.5
comp=Z,3μm,20.0s
G58A Ormstown 80.57 28 P **P** **20 46 11.8 0.0**
baz=216,SNR=6.1
G58A S **S** **20 56 19.9 +1.7**
baz=216
H60A Morristown 80.67 29 P **P** **20 46 12.5 0.0**
baz=217,SNR=8.8
H60A S **S** **20 56 20.5 +1.0**
baz=217
D53A Lac Vacive, Po 80.72 25 P **P** **20 46 12.0 -0.7**
baz=213,SNR=19
D53A S **S** **20 56 25.0 +5.2**
baz=213
D53A Lac Vacive, Po 80.72 25 P **P** **20 46 12.1 -0.5**
I62A Tamworth 80.73 30 P **P** **20 46 12.0 -0.8**
baz=218,SNR=8.1
I62A S **S** **20 56 23.8 +3.7**
baz=218
I62A Tamworth 80.73 30 P **P** **20 46 12.7 -0.1**
I62A IAmb IAmb 20 46 21.4
comp=Z,126nm,1.2s
I62A IAMs_20 IAMs_20 21 21 01.5
comp=Z,4μm,19.0s
LBNH Lisbon 80.76 30 P **P** **20 46 12.7 -0.2**
LBNH pmax pmax
comp=Z,81nm,1.3s
LBNH MLR MLR
comp=Z,3μm,19.0s
LBNH Lisbon 80.76 30 P **P** **20 46 12.6 -0.4**
baz=218,SNR=8.7
LBNH S **S** **20 56 22.7 +2.4**
baz=218
LBNH Lisbon 80.76 30 P **P** **20 46 12.7 -0.2**
LBNH IAMs_20 IAMs_20 21 21 22.1
comp=Z,3μm,19.0s
E55A Montcerf-Lytto 80.82 26 P **P** **20 46 12.5 -0.7**
baz=214
E55A S **S** **20 56 21.3 +0.5**
baz=214
F57A Harrington 80.84 27 P **P** **20 46 12.6 -0.7**
baz=216
F57A S **S** **20 56 23.2 +2.1**
baz=216
G59A Clarenceville 80.88 28 P **P** **20 46 13.3 -0.3**
baz=217
H61A Lyndonville 80.99 29 P **P** **20 46 14.0 -0.1**
baz=218,SNR=10
H61A S **S** **20 56 24.6 +1.8**
baz=218
DIB Dawson Inlet, 81.09 349 P **P** **20 46 13.7 -0.7**
CASY Casey 81.11 197 P **P** **20 46 16.6 +2.0**
D54A Lac Fusel, La 81.17 25 P **P** **20 46 13.9 -1.1**
baz=214,SNR=11
D54A S **S** **20 56 26.2 +1.7**
baz=214
I63A Otisfield 81.21 31 P **P** **20 46 14.6 -0.7**
baz=219,SNR=5.4
I63A S **S** **20 56 27.5 +2.5**
baz=219
I63A Otisfield 81.21 31 P **P** **20 46 14.9 -0.5**
I63A IAmb IAmb 20 46 23.3
comp=Z,78nm,1.1s
I63A IAMs_20 IAMs_20 21 21 09.2
comp=Z,4μm,20.0s
F58A St-Lin Laurent 81.25 28 P **P** **20 46 14.7 -0.7**
baz=216
MIDW Midway 81.25 308 IAMs_20 IAMs_20 21 18 40.5
comp=Z,3μm,18.0s
G60A Masonville 81.26 29 P **P** **20 46 15.2 -0.3**
baz=218
G60A S **S** **20 56 27.2 +1.7**
baz=218
E56A St. Veronique 81.30 26 P **P** **20 46 14.7 -1.1**
baz=215,SNR=7.4
E56A S **S** **20 56 27.4 +1.6**
baz=215
H62A Milan 81.36 30 P **P** **20 46 16.2 +0.1**
baz=218,SNR=10.0
H62A S **S** **20 56 29.5 +2.9**
baz=218
H62A Milan 81.36 30 P **P** **20 46 16.1 -0.1**
H62A IAMs_20 IAMs_20 21 19 41.1
comp=Z,3μm,19.0s
MOQ Mont Orford 81.46 29 P **P** **20 46 16.4 -0.4**
D55A Sainte-Anne-du 81.52 26 P **P** **20 46 16.1 -0.8**
baz=215,SNR=9.4
D55A S **S** **20 56 29.8 +1.7**
baz=215
I64A Boothbay 81.55 31 P **P** **20 46 17.2 +0.1**
baz=220
I64A S **S** **20 56 29.3 +0.8**
baz=220
E57A Chemin Saint G 81.55 27 P **P** **20 46 16.2 -0.9**
baz=216,SNR=9.9
E57A S **S** **20 56 30.0 +1.4**
baz=216
F59A Saint Guilaume 81.67 28 P **P** **20 46 16.8 -0.8**
baz=217
F59A S **S** **20 56 32.9 +3.3**
baz=217
VLDQ Val d'Or 81.67 24 P **P** **20 46 17.1 -0.6**
VLDQ IAmb IAmb 20 46 24.7
comp=Z,134nm,1.4s
G61A St-Isidore-de- 81.75 29 P **P** **20 46 17.5 -0.7**
baz=218,SNR=6.6
G61A S **S** **20 56 31.0 +0.4**
baz=218
D56A ZEC Mazanza, M 81.82 26 P **P** **20 46 18.0 -0.5**
baz=215,SNR=8.9
D56A S **S** **20 56 33.2 +1.9**
baz=215
FFC Flin Flon 81.87 7 P **P** **20 46 17.2 -1.3**
FFC MLR MLR
comp=Z,6μm,20.0s
FFC MLR MLR
comp=Z,105μm,1.5s
FFC Flin Flon 81.87 7 P **P** **20 46 17.2 -1.3**
FFC IAmb IAmb 20 46 25.7
comp=Z,105nm,1.4s
E58A La Victoria 81.88 28 P **P** **20 46 18.4 -0.4**
baz=217,SNR=9.6
E58A S **S** **20 56 32.8 +1.1**
baz=217
H63A New Sharon 81.94 30 P **P** **20 46 19.1 0.0**
baz=219,SNR=7.1
H63A S **S** **20 56 34.9 +2.5**
baz=219
WVL Waterville 82.03 31 P **P** **20 46 19.1 -0.5**
WVL IAmb IAmb 20 46 27.7
comp=Z,94nm,1.0s
WVL IAMs_20 IAMs_20 21 21 23.8
comp=Z,4μm,20.0s
F60A Warwick 82.11 29 P **P** **20 46 19.6 -0.4**
baz=218,SNR=5.6
F60A S **S** **20 56 35.3 +1.0**
baz=218
G62A West of Eustis 82.14 30 P **P** **20 46 20.1 -0.1**
baz=219
G62A S **S** **20 56 37.8 +3.2**
baz=219
G62A West of Eustis 82.14 30 P **P** **20 46 20.2 0.0**
G62A IAMs_20 IAMs_20 21 20 03.7
comp=Z,3μm,19.0s
D57A Chemin Vers le 82.14 27 P **P** **20 46 19.8 -0.4**
baz=216,SNR=8.2
E59A St. Maurice 82.28 28 P **P** **20 46 20.4 -0.5**
baz=217
E59A S **S** **20 56 39.7 +3.8**
baz=217
H64A Troy 82.29 31 P **P** **20 46 20.9 -0.1**
baz=220,SNR=5.4
H64A S **S** **20 56 38.6 +2.4**
baz=220
EIDS Eidsvold 82.45 246 P **P** **20 46 23.2 +0.7**
EIDS IAmb IAmb 20 46 27.0
comp=Z,186nm,1.9s
EIDS IAMs_20 IAMs_20 21 16 47.2
comp=Z,5μm,21.0s
G63A Kingsbury 82.47 30 P **P** **20 46 21.5 -0.5**
baz=220,SNR=5.4
G63A S **S** **20 56 40.1 +2.1**
baz=220
F61A St Evariste 82.53 29 P **P** **20 46 21.2 -1.0**
baz=218
F61A S **S** **20 56 41.0 +2.5**
baz=218
D58A Chemin du LacG 82.62 27 P **P** **20 46 22.3 -0.4**
baz=217,SNR=14
D58A S **S** **20 56 42.1 +2.7**
baz=217
LSQQ Lebel-sur-Quev 82.64 24 P **P** **20 46 22.0 -0.8**
baz=214
LSQQ S **S** **20 56 42.8 +3.4**
baz=214
E60A Ste Agathe de 82.64 29 P **P** **20 46 22.2 -0.6**
baz=218,SNR=5.9
E60A S **S** **20 56 42.8 +3.2**
baz=218
SYO Syowa Base 82.70 171⇑ *e*P **P** **20 46 21.1 -1.8**
SYO Syowa Base 82.70 171 ⇓*i*pP pP 20 46 25.0 -1.7
SYO Syowa Base 82.70 171 ⇓*i*sP sP 20 46 27.2 -0.9
SYO Syowa Base 82.70 171⇑ *i*PP PP 20 49 29.0 -3.0
PKME Peaks-Kenny Pk 82.74 30 P **P** **20 46 23.2 -0.1**
baz=220
PKME S **S** **20 56 45.1 +4.4**
baz=220
PKME Peaks-Kenny Pk 82.74 30 P **P** **20 46 22.8 -0.5**
PKME IAMs_20 IAMs_20 21 22 02.4
comp=Z,4μm,18.0s
H65A Eastbrook 82.78 31 P **P** **20 46 23.1 -0.5**
baz=221
H65A S **S** **20 56 42.3 +1.2**
baz=221
LATQ La Tuque 82.89 27 P **P** **20 46 23.4 -0.6**
baz=217,SNR=6.5
LATQ S **S** **20 56 44.1 +2.0**
baz=217
LATQ La Tuque 82.89 27 P **P** **20 46 23.5 -0.6**
F62A Pittston Farm, 82.92 30 P **P** **20 46 24.1 -0.1**
baz=219,SNR=9.4
F62A S **S** **20 56 46.0 +3.5**
baz=219
F62A Pittston Farm, 82.92 30 P **P** **20 46 23.7 -0.6**
F62A IAmb IAmb 20 46 32.3
comp=Z,234nm,1.7s
F62A IAMs_20 IAMs_20 21 20 36.3
comp=Z,4μm,19.0s
G64A Maxfield 82.97 31 P **P** **20 46 23.9 -0.6**
baz=220,SNR=8.6
G64A S **S** **20 56 46.9 +3.8**
baz=220
D59A Saint-Raymond 82.98 28 P **P** **20 46 24.0 -0.5**
baz=218
MATQ Matagami 82.99 23 P **P** **20 46 23.9 -0.6**
baz=213,SNR=10
MATQ S **S** **20 56 44.7 +1.6**
baz=213
E61A Lac Etchemin 83.11 29 P **P** **20 46 24.7 -0.6**
baz=219,SNR=6.3
E61A S **S** **20 56 48.2 +3.7**
baz=219
F63A Nahmakanta, Br 83.16 30 P **P** **20 46 25.2 -0.3**
baz=220,SNR=14
F63A S **S** **20 56 49.0 +4.1**
baz=220
F63A Nahmakanta, Br 83.16 30 P **P** **20 46 25.2 -0.3**
F63A IAMs_20 IAMs_20 21 22 47.6
comp=Z,3μm,18.0s
EMMW East Machias 83.16 32 P **P** **20 46 25.8 +0.3**
EMMW IAmb IAmb 20 46 34.2
comp=Z,208nm,1.6s
EMMW IAMs_20 IAMs_20 21 22 50.6
comp=Z,4μm,18.0s
H66A Whiting 83.29 32 P **P** **20 46 25.7 -0.5**
baz=222
H66A S **S** **20 56 47.3 +1.0**
baz=222
D60A Saint Jean D'O 83.30 29 P **P** **20 46 25.5 -0.6**
baz=218
D60A S **S** **20 56 52.1 +5.9**
baz=218
G65A Princeton 83.48 31 P **P** **20 46 26.7 -0.5**
baz=221
G65A S **S** **20 56 51.9 +3.7**
baz=221
G65A Princeton 83.48 31 P **P** **20 46 26.4 -0.7**
G65A IAmb IAmb 20 46 34.9
comp=Z,83nm,1.1s
G65A IAMs_20 IAMs_20 21 22 22.2
comp=Z,5μm,18.0s
F64A Sherman 83.62 31 P **P** **20 46 27.7 -0.1**
baz=221,SNR=8.3
F64A S **S** **20 56 53.8 +4.2**
baz=221
F64A Sherman 83.62 31 P **P** **20 46 27.5 -0.4**
F64A IAmb IAmb 20 46 35.8
comp=Z,114nm,1.1s
F64A IAMs_20 IAMs_20 21 22 27.8
comp=Z,4μm,19.0s
E62A Clayton Lake 83.67 29 P **P** **20 46 27.9 -0.3**
baz=220,SNR=14
E62A S **S** **20 56 55.3 +5.1**
baz=220
E62A Clayton Lake 83.67 29 P **P** **20 46 27.8 -0.3**
E62A IAMs_20 IAMs_20 21 19 37.2
comp=Z,4μm,21.0s
GGN Saint George 83.76 32 P **P** **20 46 28.2 -0.3**
GGN IAmb IAmb 20 46 36.1
comp=Z,74nm,1.2s
GGN IAMs_20 IAMs_20 21 23 25.8
comp=Z,4μm,18.0s
D61A St Aubert, Com 83.83 29 P **P** **20 46 27.9 -1.0**
baz=219
D61A S **S** **20 56 57.3 +5.6**
baz=219
E63A Oxbow 84.01 30 P **P** **20 46 29.0 -0.8**
baz=220
E63A S **S** **20 56 57.0 +3.5**
baz=220
E63A Oxbow 84.01 30 P **P** **20 46 29.3 -0.6**
E63A IAmb IAmb 20 46 37.6
comp=Z,87nm,1.1s
WRAK Wrangell Islan 84.17 350 P **P** **20 46 30.0 -0.4**
WRAK Wrangell Islan 84.17 350 IAMs_20 IAMs_20 21 15 27.8
comp=Z,3μm,21.0s
D62A Allapoint, All 84.24 29 P **P** **20 46 30.5 -0.5**
baz=220,SNR=9.3
D62A S **S** **20 56 59.3 +3.6**
baz=220
D62A Allapoint, All 84.24 29 P **P** **20 46 30.0 -1.0**
D62A IAmb IAmb 20 46 39.2
comp=Z,75nm,1.0s
D62A IAMs_20 IAMs_20 21 21 26.1
comp=Z,3μm,19.0s
E64A Bridgewater 84.28 31 P **P** **20 46 30.2 -1.1**
baz=221
E64A S **S** **20 56 59.5 +3.3**
baz=221
CHGQ Chibougamau 84.30 25 P **P** **20 46 30.1 -1.2**
baz=216,SNR=18
CHGQ S **S** **20 56 59.7 +3.4**
baz=216
PQI Presque Isle 84.38 30 P **P** **20 46 30.9 -0.8**
PQI IAmb IAmb 20 46 39.3
comp=Z,92nm,1.0s
D63A Stockholm 84.62 30 P **P** **20 46 32.2 -0.7**
baz=221,SNR=16
D63A S **S** **20 57 01.2 +1.7**
baz=221
HAL Halifax 84.99 34 IAMs_20 IAMs_20 21 17 05.2
comp=Z,3μm,22.0s
SIT Sitka 85.27 349 P **P** **20 46 35.6 -0.3**
SIT pmax pmax
comp=Z,142nm,1.2s
SIT MLR MLR
comp=Z,900nm,18.0s
SIT Sitka 85.27 349 P **P** **20 46 35.6 -0.3**
SIT IAmb IAmb 20 46 37.4
comp=Z,142nm,1.2s
BATG Bathurst New B 85.73 31 P **P** **20 46 37.1 -1.4**
BATG IAmb IAmb 20 46 45.7
comp=Z,55nm,1.0s
BATG IAMs_20 IAMs_20 21 20 52.6
comp=Z,3μm,20.0s
DLBC Dease Lake 85.81 352 LR LR 21 17 15.1
comp=Z,1μm,21.0s,baz=146,slow=30
DLBC Dease Lake 85.81 352 P **P** **20 46 38.3 -0.4**
MAW Mawson 85.93 179 P **P** **20 46 39.3 -0.1**
comp=Z,11nm,1.0s,baz=211,slow=4.3,SNR=14
MAW LR LR 21 21 20.4
comp=Z,10μm,19.2s,baz=174,slow=33
MAW Mawson 85.93 179 P **P** **20 46 39.8 +0.5**
JIS Juneau Island 86.27 350 P **P** **20 46 39.9 -0.9**
JIS IAmb IAmb 20 46 42.1
comp=Z,68nm,1.1s
BESE Bessie Mountai 86.64 350 P **P** **20 46 41.9 -0.9**
BESE IAmb IAmb 20 46 43.9
comp=Z,147nm,1.3s
STKA Stephens Creek 86.84 236 P **P** **20 46 45.4 +0.8**
comp=Z,6.0nm,0.8s,baz=74,slow=5.5,SNR=7.9
STKA LR LR 21 19 51.2
comp=Z,6μm,19.2s,baz=135,slow=32
STKA Stephens Creek 86.84 236 P **P** **20 46 45.0 +0.4**
STKA pmax pmax
comp=Z,11nm,1.4s
STKA MLR MLR
comp=Z,1μm,20.0s
STKA Stephens Creek 86.84 236 P **P** **20 46 45.0 +0.4**
FCC Fort Churchill 86.89 11 IAMs_20 IAMs_20 21 22 38.6
comp=Z,4μm,19.0s
SKAG Skagway 87.55 350 P **P** **20 46 47.3 +0.2**
H11S2 WAKE ISLAND Hy 88.45 291 T T 22 24 41.2
baz=119,slow=76,SNR=71
H11S1 WAKE ISLAND Hy 88.47 291 T T 22 24 44.4
baz=119,slow=76,SNR=143
H11S3 WAKE ISLAND Hy 88.47 291 T T 22 24 48.6

baz=119,slow=76,SNR=90
WHY Whitehorse 88.63 350 P P 20 46 51.7 -0.7
WHY IAmb IAmb 20 46 59.5
comp=Z,118nm,1.8s
BCPM Bancas Point 88.77 348 P P 20 46 52.7 -0.2
BCPM IAmb IAmb 20 46 56.2
comp=Z,50nm,1.0s
CTA Charters Tower 88.81 248 LR LR 21 19 07.4
comp=Z,3µm,21.8s,baz=126,slow=30
CTAO Charters Tower 88.81 248 P P 20 46 55.9 +1.7
CTAO pmax pmax
comp=Z,147nm,1.8s
CTAO MLR MLR
comp=Z,4µm,22.0s
CTAO Charters Tower 88.81 248 P P 20 46 55.9 +1.7
CTAO IAmb IAmb 20 46 59.4
comp=Z,147nm,1.8s
CTAO Charters Tower 88.81 248 IAMs_20 IAMs_20 21 19 05.6
comp=Z,4µm,22.0s
H11N3 WAKE ISLAND Hy 88.87 293 T T 22 25 14.5
baz=115,slow=78,SNR=71
WAKE Wake Island 88.88 292 IAMs_20 IAMs_20 21 20 16.0
comp=Z,2µm,19.0s
H11N1 WAKE ISLAND Hy 88.89 293 T T 22 25 15.4
baz=115,slow=78,SNR=185
H11N2 WAKE ISLAND Hy 88.89 293 T T 22 25 27.9
baz=115,slow=78,SNR=105
YKA Yellowknife Ar 88.92 0 P P 20 46 52.5 -1.0
comp=Z,21nm,0.9s,baz=173,slow=3.9,SNR=39
YKA LR LR 21 22 27.5
comp=Z,4µm,18.5s,baz=0.0,slow=33
PCA Pinnacle 89.03 348 P P 20 46 54.1 -0.1
PCA IAmb IAmb 20 46 55.1
comp=Z,68nm,1.3s
HYT Haines Junctio 89.20 349 P P 20 46 54.6 -0.5
HYT IAmb IAmb 20 46 56.3
comp=Z,74nm,1.2s
MESA MESA 89.44 347 P P 20 46 56.0 -0.3
MESA IAmb IAmb 20 46 59.0
comp=Z,81nm,1.0s
SII Sitkinak Islan 89.45 339 P P 20 46 55.8 -0.4
TABL Table Mountain 89.52 347 P P 20 46 56.4 -0.3
TABL IAmb IAmb 20 46 60.0
comp=Z,97nm,1.2s
YAH Yahtse 89.56 347 P P 20 46 56.3 -0.6
YAH IAmb IAmb 20 47 09.3
comp=Z,77nm,1.0s
OHAK Old Harbor 89.72 340 P P 20 46 56.5 -0.9
KAIM Kayak Island 89.74 346 P P 20 46 57.8 +0.4
Q23K Middleton Isla 89.74 344 P P 20 46 56.2 -1.2
baz=152
ISLE Juniper Island 89.90 347 P P 20 46 57.7 -0.7
ISLE IAmb IAmb 20 47 10.4
comp=Z,79nm,1.0s
KDAK Kodiak Island 89.98 341 P P 20 46 56.9 -1.7
comp=Z,39nm,1.1s,baz=132,slow=4.0,SNR=14
KDAK Kodiak Island 89.98 341 P P 20 46 57.4 -1.2
KDAK pmax pmax
comp=Z,106nm,1.3s
KDAK Kodiak Island 89.98 341 P P 20 46 57.4 -1.2
KDAK IAmb IAmb 20 46 59.5
comp=Z,106nm,1.2s
CTGM Chitina Glacie 90.03 347 P P 20 46 58.6 -0.4
CTGM IAmb IAmb 20 47 00.0
comp=Z,95nm,1.2s
HMT Hamilton 90.07 346 P P 20 46 59.1 +0.1
BARN Barnard Glacie 90.19 347 P P 20 46 58.9 -0.9
BARN IAmb IAmb 20 47 03.2
comp=Z,106nm,1.1s
BALM Baldy 90.30 347 P P 20 46 59.5 -0.7
BALM IAmb IAmb 20 47 12.3
comp=Z,48nm,1.0s
VRDI Verde Repeater 90.70 347 P P 20 47 02.2 0.0
VRDI IAmb IAmb 20 47 09.3
comp=Z,63nm,1.5s
MCARA McCarthy VSAT 90.75 347 P P 20 47 02.5 +0.3
MCARA IAmb IAmb 20 47 03.2
comp=Z,64nm,1.4s
RABL Rabaul 90.92 265 P P 20 47 04.6 +0.4
FID Port Fidalgo 90.94 345 P P 20 47 02.9 -0.2
FID IAmb IAmb 20 47 03.5
comp=Z,43nm,1.1s
GLB Gilahina Butte 90.97 346 P P 20 47 02.8 -0.5
GLB IAmb IAmb 20 47 07.3
comp=Z,88nm,1.9s
KRVT Keravat (AS076 90.99 265 LR LR 21 20 41.3
comp=Z,1µm,21.7s,baz=125,slow=31
SCHQ Schefferville 91.03 25 P P 20 47 01.4 -2.2
comp=Z,7.4nm,0.8s,baz=255,slow=4.8,SNR=3.8
SCHQ Schefferville 91.03 25 IAMs_20 IAMs_20 21 25 47.6
comp=Z,3µm,19.0s
CNPM China Poot 91.07 342 P P 20 47 03.0 -0.7
SEW Seward 91.10 343 P P 20 47 03.0 -0.7
BRLK Bradley Lake 91.18 343 P P 20 47 04.1 -0.1
BRLK IAmb IAmb 20 47 11.3
comp=Z,102nm,1.5s
DRLN Deer Lake 91.19 33 IAMs_20 IAMs_20 21 26 28.2
comp=Z,4µm,19.0s
GLI Glacier Island 91.20 345 P P 20 47 03.4 -0.8
GLI IAmb IAmb 20 47 06.9
comp=Z,56nm,1.1s
HOM Homer 91.30 342 P P 20 47 03.9 -0.8
baz=148
KLU Klutina 91.47 346 P P 20 47 05.0 -0.6
KLU IAmb IAmb 20 47 10.8
comp=Z,136nm,1.8s
KNK Knik Glacier 91.99 344 P P 20 47 07.3 -0.6
KNK IAmb IAmb 20 47 15.1
comp=Z,90nm,1.3s
BCAR Beaver Creek A 92.05 348 P P 20 47 06.2 -2.0
M24K Tolsona, Glenn 92.07 346 P P 20 47 07.7 -0.7
baz=152
M24K S S 20 58 12.9 +3.1
baz=152
SCM Sheep Creek Mo 92.09 345 P P 20 47 07.7 -0.7
SCM pmax pmax
comp=Z,107nm,1.6s
SCM MLR MLR
comp=Z,800nm,20.0s
SCM Sheep Creek Mo 92.09 345 P P 20 47 07.7 -0.7
SCM IAmb IAmb 20 47 16.9
comp=Z,107nm,1.6s
RSO Redoubt South 92.28 342 P P 20 47 08.1 -1.4
PMR Palmer 92.30 344 P P 20 47 08.3 -1.0
PMR pmax pmax
comp=Z,60nm,1.2s
PMR Palmer 92.30 344 P P 20 47 08.3 -1.0
PMR IAmb IAmb 20 47 16.4
comp=Z,60nm,1.2s
MENT Mentasta 92.31 347 P P 20 47 08.1 -1.3
GHO Glory Hole Cre 92.41 344 P P 20 47 09.0 -1.0
GHO IAmb IAmb 20 47 12.9
comp=Z,77nm,1.0s
SUA Susitna One 92.59 344 P P 20 47 09.7 -1.1
SUA IAmb IAmb 20 47 10.7
comp=Z,31nm,1.0s
PAX Paxson 92.69 346 P P 20 47 10.2 -1.0
PAX pmax pmax
comp=Z,35nm,1.4s
PAX MLR MLR
comp=Z,700nm,21.0s
PAX Paxson 92.69 346 P P 20 47 10.2 -1.0
PMG Port Moresby 92.98 258 LR LR 21 21 46.0
comp=Z,992nm,20.9s,baz=117,slow=31
PMG Port Moresby 92.98 258 *i* P P 20 47 14.0 +0.3
PMG pmax pmax
comp=Z,21nm,1.2s
PMG Port Moresby 92.98 258 IAMs_20 IAMs_20 21 28 13.8
comp=Z,2µm,18.0s
DOT Dot Lake 93.01 347 P P 20 47 11.5 -1.1
DOT IAmb IAmb 20 47 16.6
comp=Z,48nm,1.4s
DHY Denali Highway 93.19 346 P P 20 47 12.8 -0.8
SKT Skwentna 93.23 344 P P 20 47 12.5 -1.1
SKT IAmb IAmb 20 47 15.6
comp=Z,65nm,0.9s
RIDG Independent Ri 93.25 347 P P 20 47 12.6 -1.1
RIDG IAmb IAmb 20 47 15.7
comp=Z,58nm,1.0s
CUT Chulitna 93.28 344 P P 20 47 12.5 -1.3
baz=149
SCRK Sand Creek 93.30 348 P P 20 47 12.2 -1.8
baz=154
EGAK Eagle 93.51 349 P P 20 47 13.6 -1.2
SVW2 Sparrevohn 93.59 341 P P 20 47 13.8 -1.5
RND Reindeer 93.81 345 P P 20 47 15.9 -0.4
RND pmax pmax
comp=Z,120nm,1.6s
RND MLR MLR
comp=Z,800nm,20.0s
RND Reindeer 93.81 345 P P 20 47 15.9 -0.4
RND IAmb IAmb 20 47 24.0
comp=Z,120nm,1.6s
MCK McKinley 94.11 345 P P 20 47 16.5 -1.2
MCK pmax pmax
comp=Z,62nm,1.2s
MCK MLR MLR
comp=Z,1µm,22.0s
MCK McKinley 94.11 345 P P 20 47 16.5 -1.2
MCK IAmb IAmb 20 47 17.9
comp=Z,62nm,1.2s
PPLA Purkeypile 94.17 344 P P 20 47 16.8 -1.3
TRF Thorofare Moun 94.18 345 P P 20 47 17.0 -1.2
HDA Harding Lake 94.28 347 P P 20 47 16.6 -1.8
baz=151
HDA S S 20 58 30.7 +1.7
baz=151
HDA S S 20 58 30.7 +1.7
baz=151
HDA Harding Lake 94.28 347 P P 20 47 17.6 -0.7
EPYK Eagle Plains 94.32 351 P P 20 47 16.5 -2.0
baz=160
EPYK Eagle Plains 94.32 351 P P 20 47 17.4 -1.2
KTH Kantishna Hill 94.42 345 P P 20 47 17.8 -1.4
WRH Wood River Hil 94.57 346 P P 20 47 18.8 -0.9
WRH IAmb IAmb 20 47 22.7
comp=Z,56nm,1.2s
IL31 94.58 347 P P 20 47 18.4 -1.3
ILAR Eielson Array 94.58 347 P P 20 47 18.1 -1.6
comp=Z,3.6nm,0.7s,baz=192,slow=4.7,SNR=23
ILAR LR LR 21 20 51.9
comp=Z,623nm,21.6s,baz=125,slow=30
ILAR Eielson Array 94.58 347 P P 20 47 18.1 -1.7
BWN Browne 94.61 345 P P 20 47 18.6 -1.3
BWN IAmb IAmb 20 47 27.2
comp=Z,81nm,1.0s
CCB Clear Creek Bu 94.66 346 P P 20 47 18.6 -1.6
COLA College 94.87 346 P P 20 47 19.9 -1.2
COLA pmax pmax
comp=Z,62nm,1.2s
COLA MLR MLR
comp=Z,800nm,20.0s
COLA College 94.87 346 P P 20 47 19.9 -1.2
COLA IAmb IAmb 20 47 27.9
comp=Z,62nm,1.2s
TCOL CIGO, UAF Yank 94.87 346 P P 20 47 19.6 -1.4
baz=151
TCOL S S 20 58 37.6 +3.4
baz=151
NEA2 Nenana 94.89 346 P P 20 47 19.7 -1.5
baz=150
NEA2 S S 20 58 37.1 +2.7
baz=150
BPAW Bear Paw Mtn. 94.90 345 P P 20 47 19.6 -1.6
BPAW IAmb IAmb 20 47 32.5
comp=Z,55nm,0.8s
POKR Poker Plat Res 95.00 347 P P 20 47 20.8 -0.9
baz=151
POKR S S 20 58 38.8 +3.4
baz=151
MDM Murphy Dome 95.03 346 P P 20 47 20.5 -1.4
MDM IAmb IAmb 20 47 22.4
comp=Z,84nm,1.2s
TTA Tatalina 95.19 342 P P 20 47 21.3 -1.4
TTA pmax pmax
comp=Z,28nm,1.2s
TTA MLR MLR
comp=Z,1µm,20.0s
TTA Tatalina 95.19 342 P P 20 47 21.3 -1.4
ADK Adak 95.20 327 P P 20 47 21.6 -1.3
ADK pmax pmax
comp=Z,130nm,1.3s
ADK Adak 95.20 327 P P 20 47 21.6 -1.3
INK Inuvik 95.78 353 P P 20 47 22.1 -3.0
comp=Z,13nm,0.9s,baz=164,slow=9.1,SNR=9.5
INK Inuvik 95.78 353 P P 20 47 23.5 -1.6
INK pmax pmax
comp=Z,31nm,1.2s
INK MLR MLR
comp=Z,2µm,19.0s
INK Inuvik 95.78 353 P P 20 47 23.5 -1.6
INK IAMs_20 IAMs_20 21 29 03.5
comp=Z,2µm,19.0s
C36M Paulatuk 96.05 357 P P 20 47 24.7 -1.7
baz=172
BMAR Burnt Mountain 96.51 349 P P 20 47 27.8 -0.8
ASAR Alice Springs 96.91 239 P P 20 47 30.2 -1.4
comp=Z,1.1nm,1.1s,baz=123,slow=3.4,SNR=5.7
ASAR PP **PP 20 51 28.4 +1.8**
comp=Z,0.4nm,0.8s,baz=243,slow=38,SNR=2.7
ASAR PKKP **PKKPbc 21 04 12.6 +0.3**
comp=Z,1.8nm,0.8s,baz=301,slow=1.8,SNR=14
ASAR LR LR 21 26 40.6
comp=Z,14µm,19.4s,baz=129,slow=33
IMAR Indian Mountai 97.12 345 P P 20 47 29.6 -1.7
COLD Coldfoot 97.40 347 P P 20 47 32.1 -0.4
baz=148
COLD S S 20 59 00.9 +5.0
baz=148
COLD Coldfoot 97.40 347 P Pdif 20 47 32.7 +0.1
COLD IAmb IAmb 20 47 36.4
comp=Z,34nm,1.2s
TOLK Toolik Lake Re 98.48 348 P P 20 47 36.8 -0.7
baz=149
WRAB Tennant Creek 98.57 243 *i* P Pdif 20 47 39.4 +0.3
WRAB pmax pmax
comp=Z,10.0nm,1.2s
WRA Warramunga Arr 98.57 243 P **P 20 47 38.8 -0.3**
comp=Z,2.8nm,0.9s,baz=123,slow=4.5,SNR=11
WRA PP **PP 20 51 40.5 +1.1**
comp=Z,1.6nm,1.1s,baz=121,slow=7.1,SNR=5.7
WRA PKKP **PKKPbc 21 04 07.3 -0.3**
comp=Z,1.1nm,0.8s,baz=308,slow=1.9,SNR=8.3
A36M Sachs Harbour 98.73 357 P **P 20 47 36.8 -1.6**
baz=170
IVI Ivigtut 102.66 27 IAMs_20 IAMs_20 21 32 45.0
comp=Z,3µm,19.0s
MBO M'Bour 103.15 80 IAMs_20 IAMs_20 21 31 05.8
comp=Z,3µm,18.0s
H01W1 Cape Leeuwin H 103.22 219 T T 22 43 32.2
baz=138,slow=76,SNR=11
H01W2 Cape Leeuwin H 103.23 219 T T 22 43 29.3
baz=138,slow=76,SNR=8.4
H01W3 Cape Leeuwin H 103.24 219 T T 22 43 32.2
baz=138,slow=76,SNR=12
ROSA Rosais 103.64 53 *e*PP **PP 20 52 17.1 -0.8**
ROSA Rosais 103.64 53 *e*LR LR 21 24 01.7
comp=Z,586nm,22.7s
NRS Narsarsuaq 103.77 28 IAMs_20 IAMs_20 21 30 10.4
comp=Z,3µm,19.0s
PGRA Graciosa 103.94 53 *e*PP **PP 20 52 19.8 -0.4**
PGRA Graciosa 103.94 53 *e*LQ LQ 21 19 13.9
PGRA *i* LR LR 21 23 36.8
comp=Z,546nm,20.9s
PSET Sete Cidades 105.12 55 *e*PP **PP 20 52 25.3 -3.7**
PSET Sete Cidades 105.12 55 *e*LR LR 21 23 52.0
comp=Z,351nm,20.8s
CMLA Cha da Macela 105.24 55 *e*PP **PP 20 52 27.1 -2.8**
CMLA Cha da Macela 105.24 55 *e*LQ LQ 21 18 49.9
CMLA *e*LR LR 21 23 48.3
comp=Z,376nm,17.5s
PSMN Pico do Norte, 105.30 56 *e*PP **PP 20 52 30.6 +0.3**
PSMN Pico do Norte, 105.30 56 *e*LQ LQ 21 19 30.2
PSMN *e*LR LR 21 23 57.2
PSMN *e*LR LR 21 24 22.0
CRZF Crozet Islands 106.17 170 IAMs_20 IAMs_20 21 30 30.2
comp=Z,2µm,21.0s
ANGG Ammassalik, Gr 108.91 25 IAMs_20 IAMs_20 21 34 20.1
comp=Z,3µm,21.0s
FAKI Fak Fak 109.08 257 IAMs_20 IAMs_20 21 32 51.3
comp=Z,4µm,22.0s
PMOZ Porto Moniz, M 109.87 63 A A 21 32 40.8
comp=Z,1µm,22.0s
SUMG Summit 111.27 18 IAMs_20 IAMs_20 21 38 25.8
comp=Z,3µm,19.0s
MMRI Maumere 114.55 246 IAMs_20 IAMs_20 21 43 33.7
comp=Z,2µm,18.0s
YUK Yuzh-Kuril'sk 114.56 309 PKIKP PKPpre 20 52 33.5
YUK *i* 20 53 34.2
YUK *e*PPP PPP 20 56 03.5
YUK *e*PS **PS 21 03 10.5 -4.9**
YUK *e*SS SS 21 09 29.2 -1.1
SEY Seymchan 114.75 330 *i* PKIKP **PKiKP 20 52 40.3 +0.8**
BORG Borgarnes 115.27 28 IAMs_20 IAMs_20 21 37 57.4
comp=Z,3µm,20.0s
ERM Erimo 116.00 306 IAMs_20 IAMs_20 21 29 58.8
comp=Z,3µm,22.0s
JKA Kamikawa-asahi 116.86 308 IAMs_20 IAMs_20 21 31 30.4
comp=Z,2µm,22.0s
YSS Yuzh-Sakhalins 117.32 311 IAMs_20 IAMs_20 21 31 34.7
comp=Z,2µm,22.0s
PFVI Vila Bisbo 117.69 60 IAMs_20 IAMs_20 21 35 58.0
comp=Z,2µm,21.0s
PFVI Vila Bisbo 117.69 60 *e*LQ LQ 21 50 05.7
MORF Marmelete 117.86 60 *e*PP PP 20 53 59.6 -1.0
MORF *e*SS SS 21 10 13.7 -0.3
MORF AMS AMS 21 36 54.8
comp=E,1µm,13.6s
LUWI Luwuk 118.20 253 IAMs_20 IAMs_20 21 43 17.1
comp=Z,3µm,19.0s
MJAR Matsushiro Arr 118.47 299 PP PP 20 54 04.4 -0.4
comp=Z,0.8nm,0.5s,baz=256,slow=26,SNR=1.4
MAJO Matsushiro 118.48 299 IAMs_20 IAMs_20 21 33 03.3
comp=Z,3µm,22.0s
MAT Matsushiro 118.48 299 *e*PKP **PKPdf 20 52 46.3 -1.3**
PCAS Casmilo, Conde 118.59 57 *e*P **PKiKP 20 52 48.4 +0.7**
PVAQ Vaqueiros 118.61 60 IAMs_20 IAMs_20 21 43 01.2
comp=Z,1µm,19.0s
PVAQ Vaqueiros 118.61 60 *e*PP PP 20 54 09.1 +3.4
PVAQ Vaqueiros 118.61 60 *e*SS SS 21 10 42.0 +18
PVAQ Vaqueiros 118.61 60 *e*LQ LQ 21 22 23.4
PVAQ *e*LR LR 21 30 38.3
comp=Z,1µm,22.0s
COI Coimbra 118.69 57 IAMs_20 IAMs_20 21 35 51.1
comp=Z,2µm,22.0s
PGAV Gavieira, Arco 119.14 55 *e*PP PP 20 54 13.1 +3.7
PGAV Gavieira, Arco 119.14 55 *e*SS SS 21 10 41.0 +11
PGAV Gavieira, Arco 119.14 55 *e*LR LR 21 30 36.7
comp=Z,1µm,20.0s
PVIS Viseu 119.17 56 *e*P **PKPdf 20 52 48.7 -0.1**
TOB4 Torodi Ar. Sit 119.24 89 IAMs_20 IAMs_20 21 38 22.8
comp=Z,3µm,22.0s
TOA3 Torodi Ar. Sit 119.25 89 IAMs_20 IAMs_20 21 38 24.0
comp=Z,3µm,21.0s
TOA0 Torodi Ar. Sit 119.25 89 PKPdf **PKPdf 20 52 48.3 -1.3**
TOA0 IAMs_20 IAMs_20 21 38 23.1
comp=Z,3µm,21.0s
TORD Torodi Ar. Bea 119.25 89 PKP **PKPdf 20 52 48.6 -1.1**
comp=Z,4.1nm,0.8s,baz=302,slow=2.8,SNR=12
TORD PP **PP 20 54 10.4 -0.1**
comp=Z,4.5nm,1.0s,baz=260,slow=8.9,SNR=5.4
TORD Torodi Ar. Bea 119.25 89 PKPdf **PKPdf 20 52 47.7 -1.9**
TOB1 Torodi Ar. Sit 119.25 89 IAMs_20 IAMs_20 21 38 22.2
comp=Z,3µm,21.0s
TOB3 Torodi Ar. Sit 119.25 89 IAMs_20 IAMs_20 21 38 22.2
comp=Z,3µm,21.0s
TOC3 Torodi Ar. Sit 119.27 89 IAMs_20 IAMs_20 21 38 23.6
comp=Z,3µm,22.0s
TOC2 Torodi Ar. Sit 119.28 89 IAMs_20 IAMs_20 21 38 23.8
comp=Z,3µm,22.0s
PMRV Marv??o 119.30 58 *e*P **PKiKP 20 52 50.6 +1.5**
PMRV Marv??o 119.30 58 *e*PP PP 20 54 09.9 -0.5
PMRV Marv??o 119.30 58 *e*LR LR 21 29 35.5
comp=Z,1µm,22.0s
MTE Manteigas 119.38 57 IAMs_20 IAMs_20 21 37 10.0
comp=Z,2µm,22.0s
MTE Manteigas 119.38 57 *e*PP PP 20 54 13.9 +2.9
MTE Manteigas 119.38 57 *e*LR LR 21 30 16.8
comp=Z,2µm,22.0s
DAV Davao City (W) 119.64 263 IAMs_20 IAMs_20 21 40 24.2
comp=Z,2µm,20.0s
MVO Moncorvo 119.90 56 *e*PP PP 20 54 21.9 +7.3
MVO Moncorvo 119.90 56 *e*LR LR 21 30 59.8
comp=Z,1µm,20.0s
MDT Midelt 120.02 66 PKP **PKPdf 20 52 48.1 -2.6**
comp=Z,2.8nm,0.9s,baz=1.7,slow=2.0,SNR=3.0
MDT PP **PP 20 54 19.9 +4.2**
comp=Z,1.8nm,0.9s,baz=256,slow=7.9,SNR=4.6
PBRG Braganca 120.23 55 *e*P **PKPdf 20 52 50.3 -0.5**
PAB San Pablo 121.63 58 PKIKP **PKPdf 20 52 52.9 -0.7**
PAB MLR MLR
comp=Z,2µm,21.0s
PAB San Pablo 121.63 58 PKPdf 20 52 52.9 -0.7
PAB San Pablo 121.63 58 IAMs_20 IAMs_20 21 38 48.8
comp=Z,2µm,21.0s
ES15 SONSECA Array 121.92 58 IAMs_20 IAMs_20 21 38 45.4
comp=Z,2µm,22.0s
ES14 SONSECA Array 121.92 58 IAMs_20 IAMs_20 21 38 45.6
comp=Z,2µm,22.0s
ES16 SONSECA Array 121.92 58 IAMs_20 IAMs_20 21 38 45.6
comp=Z,2µm,21.0s
ES13 SONSECA Array 121.94 58 IAMs_20 IAMs_20 21 38 48.0
comp=Z,2µm,22.0s
ES17 SONSECA Array 121.94 58 IAMs_20 IAMs_20 21 38 38.1
comp=Z,2µm,22.0s
ESDC Sonseca Array 121.94 58 PKP **PKPdf 20 52 53.6 -0.6**
comp=Z,3.8nm,0.9s,baz=280,slow=2.4,SNR=16
ESDC PKKPbc **PKKPbc 21 02 53.5 +1.4**
comp=Z,0.7nm,0.9s,baz=49,slow=3.3,SNR=5.5
ES05 SONSECA Array 121.95 58 IAMs_20 IAMs_20 21 38 59.2
comp=Z,2µm,21.0s
ESBB Sonseca Array 121.95 58 PKPdf 20 52 54.2 0.0
ESBB IAMs_20 IAMs_20 21 38 58.2
comp=Z,2µm,21.0s
ES06 SONSECA Array 121.95 58 IAMs_20 IAMs_20 21 38 37.4
comp=Z,2µm,22.0s
ES12 SONSECA Array 121.95 58 IAMs_20 IAMs_20 21 38 47.5
comp=Z,2µm,22.0s
ES01 SONSECA Array 121.96 58 IAMs_20 IAMs_20 21 38 37.5
comp=Z,2µm,22.0s
ES07 SONSECA Array 121.96 58 IAMs_20 IAMs_20 21 38 37.5
comp=Z,2µm,22.0s
ES04 SONSECA Array 121.96 58 IAMs_20 IAMs_20 21 38 59.5
comp=Z,2µm,21.0s
ES18 SONSECA Array 121.96 58 IAMs_20 IAMs_20 21 38 37.6
comp=Z,2µm,22.0s
ES02 SONSECA Array 121.97 58 IAMs_20 IAMs_20 21 38 37.8
comp=Z,2µm,22.0s
ES03 SONSECA Array 121.97 58 IAMs_20 IAMs_20 21 38 37.8
comp=Z,2µm,22.0s
ES11 SONSECA Array 121.97 58 IAMs_20 IAMs_20 21 38 49.0
comp=Z,2µm,22.0s
ES08 SONSECA Array 121.98 58 IAMs_20 IAMs_20 21 39 00.0
comp=Z,2µm,21.0s
ES10 SONSECA Array 121.99 58 IAMs_20 IAMs_20 21 38 59.3
comp=Z,2µm,21.0s
ES09 SONSECA Array 121.99 58 IAMs_20 IAMs_20 21 38 48.5
comp=Z,2µm,22.0s
ES19 SONSECA Array 122.00 58 IAMs_20 IAMs_20 21 38 48.6
comp=Z,2µm,21.0s
TIXI Tiksi 123.40 340 *i* PKIKP **PKiKP 20 52 56.7 +0.6**
ESK Eskdalemuir 123.68 40 IAMs_20 IAMs_20 21 38 45.9
comp=Z,2µm,21.0s
EKA Eskdalemuir Ar 123.71 40 PKP **PKPdf 20 52 54.8 -2.2**
comp=Z,2.2nm,0.8s,baz=325,slow=1.0,SNR=8.6
USRK Ussuriysk Ar. 124.42 307 PKP **PKPdf 20 52 57.5 -1.2**
comp=Z,4.6nm,1.0s,baz=151,slow=4.4,SNR=5.2
LSZ Lusaka 124.84 135 PKP **PKiKP 20 53 01.2 +0.3**
comp=Z,0.8nm,0.2s,baz=129,slow=4.1,SNR=3.6
LSZ Lusaka 124.84 135 IAMs_20 IAMs_20 21 46 11.1
comp=Z,1µm,19.0s
KLR Kul'dur 124.89 313 *i* PKIKP **PKiKP 20 53 00.2 +0.4**
KLR pmax pmax
comp=Z,10.0nm,1.2s
YAK Yakutsk 125.23 329 PKP **PKPdf 20 52 57.6 -2.1**
comp=Z,6.2nm,0.3s,baz=310,slow=1.3,SNR=5.6
YAK Yakutsk 125.23 329 *e*PKIKP **PKPdf 20 52 57.5 -2.1**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK Yakutsk 125.23 329 PKPdf 20 52 57.2 -2.5
TAM Tamanrasset 126.01 80 PKIKP **PKPdf 20 53 01.7 -0.9**
TAM MLR MLR
comp=Z,4µm,20.0s
TAM Tamanrasset 126.01 80 PKPdf **PKPdf 20 53 01.7 -0.9**
MDJ Mudanjiang 126.17 307 PKP **PKiKP 20 53 03.8 +1.3**
MDJ Mudanjiang 126.17 307 IAMs_20 IAMs_20 21 46 24.5
comp=Z,2µm,19.0s
KSRS Korea Array 126.73 298 PKP **PKPdf 20 53 02.3 -1.0**
comp=Z,2.7nm,0.9s,baz=121,slow=2.9,SNR=7.0
KSAR Wonju Array Be 126.76 298 PKIKP **PKPdf 20 53 02.0 -1.4**
KSAR Wonju Array Be 126.76 298 PKPdf 20 53 02.0 -1.4
CLF Chambon-Foret 127.16 49 IAMs_20 IAMs_20 21 48 40.8
comp=Z,2µm,19.0s
KKM Kota Kinabalu 127.40 256 IAMs_20 IAMs_20 21 48 34.9
comp=Z,2µm,20.0s
ZEA Zeya 127.57 319 *e*PKIKP **PKPdf 20 53 04.0 -0.4**
ZEA *e* 20 55 04.0
ZEA *e* 21 05 09.0

ZEA				pmax	pmax			
	comp=Z,48nm,1.8s							
INCN	**Inchon**	**127.75**	**298**	IAMs_20	IAMs_20	21 40 20.2		
	comp=Z,2μm,20.0s							
YOJ	**Yonaguni jima**	**128.28**	**281**	IAMs_20	IAMs_20	21 41 35.2		
	comp=Z,1μm,21.0s							
DOU	**Dourbes**	**128.63**	**46**	PKPdf	**PKPdf**	**20 53 05.9**	**-0.7**	
DOU	**Dourbes**	**128.63**	**46**	x	x	20 53 08.6		
SSB	**Saint Sauveur**	**128.72**	**52**	IAMs_20	IAMs_20	21 48 52.6		
	comp=Z,2μm,21.0s							
BMRD	**Maredsous**	**128.73**	**46**	PKPdf	**PKPdf**	**20 53 06.9**	**+0.1**	
BMRD				PKiKP	**PKiKP**	**20 53 07.5**	**+0.1**	
BGES	**Gesves**	**128.93**	**46**	x	**PKPdf**	**20 53 09.9**	**+2.8**	
BGES				x	x	20 53 18.5		
SBUM	**Sibu**	**128.98**	**250**	IAMs_20	IAMs_20	21 43 29.1		
	comp=Z,2μm,22.0s							
BCLA	**Clavier**	**129.06**	**46**	PKPdf	**PKPdf**	**20 53 06.6**	**-0.7**	
NACB	**Ninganchiao**	**129.44**	**280**	IAMs_20	IAMs_20	21 39 25.5		
	comp=Z,2μm,22.0s							
MEM	**Membach**	**129.49**	**45**	PKPdf	**PKPdf**	**20 53 08.4**	**+0.2**	
MEM				x	x	20 53 10.5		
BHOU	**Houvegnez**	**129.51**	**46**	PKiKP	**PKiKP**	**20 53 09.1**	**0.0**	
BHOU				x	x	20 53 19.7		
WLF	**Walferdange**	**129.66**	**46**	PKiKP	**PKiKP**	**20 53 09.4**	**+0.1**	
WLF				x	x	20 53 20.2		
WLF	**Walferdange**	**129.66**	**46**	PKIKP	**PKPdf**	**20 53 08.5**	**0.0**	
WLF				MLR	MLR			
	comp=Z,2μm,22.0s							
WLF	**Walferdange**	**129.66**	**46**		**PKPdf**	**20 53 08.5**	**0.0**	
WLF				IAMs_20	IAMs_20	21 38 59.9		
	comp=Z,2μm,22.0s							
YHNB	**Yeheng**	**129.76**	**281**	IAMs_20	IAMs_20	21 39 27.0		
	comp=Z,1μm,22.0s							
KONO	**Kongsberg**	**129.90**	**33**	IAMs_20	IAMs_20	21 44 56.9		
	comp=Z,2μm,21.0s							
KSM	**Kuching**	**130.04**	**247**	IAMs_20	IAMs_20	21 48 01.4		
	comp=Z,2μm,20.0s							
TPUB	**Ta-pu**	**130.06**	**279**	IAMs_20	IAMs_20	21 40 17.8		
	comp=Z,1μm,21.0s							
BNI	**Bardonecchia**	**130.23**	**52**	PKIKP	**PKiKP**	**20 53 10.8**	**0.0**	
BNI				MLR	MLR			
	comp=Z,2μm,21.0s							
BNI	**Bardonecchia**	**130.23**	**52**	PKPdf	**PKiKP**	**20 53 10.8**	**0.0**	
BNI				IAMs_20	IAMs_20	21 50 00.7		
	comp=Z,2μm,21.0s							
NB2	**NORSAR Subarra**	**130.26**	**31**	PKPdf	**PKPdf**	**20 53 08.5**	**-0.9**	
	comp=Z,67nm,2.0s,baz=289,slow=1.9							
NB2	**NORSAR Subarra**	**130.26**	**31**	PKPdf	**PKPdf**	**20 53 08.5**	**-0.9**	
	baz=289,slow=1.9							
NOA	**NORSAR Array B**	**130.26**	**31**	PKP	**PKPdf**	**20 53 08.1**	**-1.3**	
	comp=Z,2.9nm,0.9s,baz=296,slow=2.1,SNR=7.0							
ECH	**Echery**	**130.43**	**48**	PKIKP	**PKPdf**	**20 53 10.0**	**-0.1**	
ECH				MLR	MLR			
	comp=Z,3μm,19.0s							
ECH	**Echery**	**130.43**	**48**	PKPdf	**PKPdf**	**20 53 10.0**	**-0.1**	
NC602	**NORSAR Array S**	**130.51**	**31**		**PKiKP**	**20 53 11.2**	**+0.5**	
SENIN	**Lac Senin/Sane**	**130.63**	**51**	PKPdf	**PKiKP**	**20 53 11.4**	**-0.2**	
SENIN				IAMs_20	IAMs_20	21 42 02.9		
	comp=Z,2μm,21.0s							
TNS	**Taunus Mts**	**131.09**	**46**	*e*PKPdf	**PKiKP**	**20 53 11.9**	**-0.4**	
	baz=279,slow=1.8							
TNS				*e*L	L	21 40 57.7		
	comp=Z,2μm,21.6s							
BFO	**Black Forest**	**131.20**	**48**	*e*PKPdf	**PKiKP**	**20 53 12.1**	**-0.4**	
	baz=279,slow=1.8							
BFO				*e*L	L	21 48 39.1		
	comp=Z,2μm,21.1s							
BFO	**Black Forest**	**131.20**	**48**	IAMs_20	IAMs_20	21 48 38.7		
	comp=Z,2μm,21.0s							
SSE	**Sheshan**	**131.30**	**289**	PKP	**PKPdf**	**20 53 11.9**	**-0.3**	
SSE				AMB	AMB			
	comp=Z,150nm,3.5s							
SSE				LR	LR			
	comp=Z,220nm,22.9s							
ARCES	**ARCESS Array B**	**131.35**	**17**	PKP	**PKiKP**	**20 53 11.7**	**-0.4**	
	comp=Z,5.1nm,1.0s,baz=349,slow=4.9,SNR=5.0							
KEV	**Kevo**	**131.60**	**17**	IAMs_20	IAMs_20	21 47 22.9		
	comp=Z,2μm,22.0s							
BSEG	**Bad Segeberg**	**131.64**	**40**	*e*PKPdf	**PKiKP**	**20 53 13.2**	**+0.1**	
	baz=279,slow=1.8							
BSEG				*e*L	L	21 44 38.6		
	comp=Z,2μm,20.9s							
NRDL	**Niedersach Rie**	**131.78**	**42**	*e*PKPdf	**PKiKP**	**20 53 13.2**	**-0.2**	
	baz=279,slow=1.8							
DL2	**Dalian**	**131.81**	**299**	PKP	**PKiKP**	**20 53 13.7**	**-0.2**	
DL2				PP	**PP**	**20 55 32.0**	**-1.8**	
DL2				*e*SS	SS	21 13 08.6	-0.8	
DL2				AMB	AMB			
	comp=Z,280nm,10.0s							
DL2				LR	LR			
	comp=Z,380nm,16.3s							
DL2				LR	LR			
	comp=Z,1μm,19.6s							
DL2				LR	LR			
	comp=Z,2μm,20.8s							
KEST	**Kesra**	**131.89**	**65**	IAMs_20	IAMs_20	21 54 52.4		
	comp=Z,2μm,19.0s							
UBBA	**Unterbreizbach**	**131.99**	**45**	*e*PKPdf	**PKiKP**	**20 53 13.9**	**+0.1**	
	baz=279,slow=1.8							
TUE	**Stuetta**	**132.04**	**50**	PKPdf	**PKPdf**	**20 53 13.8**	**+0.4**	
CLZ	**Clausthal**	**132.06**	**43**	*e*PKPdf	**PKiKP**	**20 53 14.0**	**-0.1**	
	baz=279,slow=1.8							
MNAI	**Manna**	**132.22**	**235**	IAMs_20	IAMs_20	21 50 05.5		
	comp=Z,2μm,20.0s							
QZH	**Quanzhou**	**132.28**	**280**	*e*PKP	**PKiKP**	**20 53 15.6**	**+0.3**	
QZH				PP	**PP**	**20 55 35.9**	**-1.3**	
QZH				PKS	**PKSdf**	**20 56 44.0**	**-6.8**	
QZH				AMB	AMB			
	comp=Z,230nm,7.5s							
QZH				LR	LR			
	comp=Z,540nm,18.3s							
QZH				LR	LR			
	comp=Z,800nm,19.9s							
QZH				LR	LR			
	comp=Z,1μm,20.8s							
DAVA	**Damuels**	**132.33**	**49**	*i* pPKiKP	**PKiKP**	**20 53 18.7**	**+3.7**	
	comp=Z,4.1nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**132.66**	**50**	PKPdf	**PKPdf**	**20 53 12.8**	**-1.9**	
HIA	**Hailar**	**132.74**	**313**	IAMs_20	IAMs_20	21 41 23.4		
	comp=Z,1μm,22.0s							
PRMA	**PARMA**	**132.82**	**53**	IAMs_20	IAMs_20	21 54 26.3		
	comp=Z,2μm,18.0s							
VLC	**Villacollemand**	**132.91**	**54**	IAMs_20	IAMs_20	21 54 30.6		
	comp=Z,1μm,18.0s							
SALO	**Salr**	**132.91**	**52**	IAMs_20	IAMs_20	21 49 31.6		
	comp=Z,2μm,20.0s							
GRA1	**Grafenberg Arr**	**132.93**	**46**		**PKPdf**	**20 53 14.8**	**0.0**	
GRA1				IAMs_20	IAMs_20	21 43 59.3		
	comp=Z,2μm,22.0s							
GRF	**Grafenberg Arr**	**132.93**	**46**	PKIKP	**PKPdf**	**20 53 14.8**	**0.0**	
GRF				MLR	MLR			
	comp=Z,2μm,22.0s							
GRF	**Grafenberg Arr**	**132.93**	**46**	*e*PKPdf	**PKiKP**	**20 53 15.5**	**-0.4**	
	baz=279,slow=1.8							
GRF				*e*L	L	21 42 04.7		
	comp=Z,2μm,21.7s							
FETA	**Feichten**	**132.94**	**50**	*i* PKPdf	**PKPdf**	**20 53 15.2**	**+0.2**	
	comp=Z,5.5nm,0.9s							
MOX	**Moxa**	**133.03**	**45**	*e*L	L	21 42 19.5		
	comp=Z,2μm,21.8s							
MOTA	**Moosalm**	**133.16**	**49**	*i* PKiKP	**PKiKP**	**20 53 16.8**	**+0.1**	
	comp=Z,11nm,0.7s							
FUR	**Furstenfeldbru**	**133.18**	**48**	*e*L	L	21 44 58.9		
	comp=Z,2μm,20.5s							
RGN	**Rugen**	**133.22**	**39**	*e*P	**PKiKP**	**20 53 18.1**	**+1.9**	
RGN	**Rugen**	**133.22**	**39**	IAMs_20	IAMs_20	21 46 45.9		
	comp=Z,2μm,21.0s							
SQTA	**Sankt Quirin**	**133.24**	**49**	*i* PKPdf	**PKPdf**	**20 53 15.8**	**+0.2**	
	comp=Z,9.8nm,0.7s							
ZCCA	**Zocca**	**133.32**	**53**	PKPdf	**PKPdf**	**20 53 15.3**	**-0.4**	
ZCCA				IAMs_20	IAMs_20	21 54 39.5		
	comp=Z,2μm,18.0s							
PLN	**Plauen**	**133.40**	**45**	*e*PKPdf	**PKiKP**	**20 53 16.4**	**-0.4**	
	baz=279,slow=1.8							
NJ2	**Nanjing**	**133.42**	**290**	*e*PKP	**PKPdf**	**20 53 16.8**	**+0.6**	
NJ2				PKS	**PKSdf**	**20 56 53.4**	**+0.8**	
NJ2				AMB	AMB			
	comp=Z,580nm,4.4s							
NJ2				LR	LR			
	comp=Z,510nm,22.3s							
NJ2				LR	LR			
	comp=Z,1μm,19.9s							
NJ2				LR	LR			
	comp=Z,1μm,22.7s							
MANZ	**Manzenberg**	**133.45**	**45**	*e*PKPdf	**PKiKP**	**20 53 16.5**	**-0.5**	
	baz=279,slow=1.8							
WERD	**Werda**	**133.50**	**45**	*e*PKPdf	**PKiKP**	**20 53 16.5**	**-0.5**	
	baz=279,slow=1.8							
WTTA	**Wattenberg**	**133.53**	**49**	*i* PKiKP	**PKiKP**	**20 53 17.0**	**-0.4**	
	comp=Z,10.0nm,0.7s							
GUNZ	**Gunzen**	**133.53**	**45**	*e*PKPdf	**PKiKP**	**20 53 16.8**	**-0.4**	
	baz=279,slow=1.8							
ROTZ	**Rotzenmuhle**	**133.55**	**46**	*e*PKPdf	**PKPdf**	**20 53 16.3**	**+0.4**	
	baz=279,slow=1.8							
WERN	**Wernitzgruen**	**133.57**	**45**	*e*PKPdf	**PKiKP**	**20 53 16.8**	**-0.4**	
	baz=279,slow=1.8							
TANN	**Tannenbergstha**	**133.60**	**45**	*e*PKPdf	**PKiKP**	**20 53 16.9**	**-0.4**	
	baz=279,slow=1.8							
NKC	**Novy Kostel**	**133.63**	**45**	*e*SKP	**SKPbc**	**20 56 44.2**	**-0.1**	
NKC				AMS	AMS	21 42 20.0		
	comp=Z,2μm,23.3s							
CTI	**Castel Tesino**	**133.66**	**51**	PKIKP	**PKPdf**	**20 53 15.5**	**-0.9**	
CTI				MLR	MLR			
	comp=Z,3μm,20.0s							
CTI	**Castel Tesino**	**133.66**	**51**	PKPdf	**PKPdf**	**20 53 15.5**	**-0.9**	
CLL	**Collm**	**133.77**	**43**	⇑*i* PKPdf	**PKPdf**	**20 53 16.6**	**+0.4**	
	comp=Z,59nm,1.8s							
CLL				*i*		20 53 27.8		
CLL				*e*PPIp		20 55 45.0		
CLL				*e*		20 55 57.0		
CLL				*i*		20 56 00.8		
CLL				*i*		20 56 03.9		
CLL				*e*SKPdf	**SKPdf**	**20 56 50.0**	**-1.0**	
CLL				*e*PPP	PPP	20 58 48.0		
CLL				*e*SKKSac	**SKKSac**	**21 02 44.0**	**+3.2**	
CLL				*e*PSKS		21 05 48.0		
CLL				*e*PPS	PPS	21 07 48.0		
CLL				*e*		21 11 18.0		
CLL				*e*SS	**SS**	**21 13 36.0**	**+3.7**	
CLL				*e*SSS	SSS	21 18 24.0		
CLL				*e*SSSS		21 22 06.0		
CLL				LmV		21 44 00.0		
	comp=Z,2μm,21.3s							
CLL	**Collm**	**133.77**	**43**	PKIKP	**PKPdf**	**20 53 15.7**	**-0.5**	
CLL				MLR	MLR			
	comp=Z,2μm,20.0s							
CLL	**Collm**	**133.77**	**43**	*e*PKPdf	**PKPdf**	**20 53 16.5**	**+0.2**	
	baz=279,slow=1.8							
CLL				*e*L	L	21 44 32.9		
	comp=Z,2μm,21.3s							
CLL	**Collm**	**133.77**	**43**	PKPdf	**PKPdf**	**20 53 15.7**	**-0.5**	
CLL				IAMs_20	IAMs_20	21 48 30.2		
	comp=Z,2μm,20.0s							
BOD	**Bodaibo**	**133.93**	**326**	*e*PKIKP	**PKPdf**	**20 53 14.8**	**-1.5**	
BOD				pmax	pmax			
	comp=Z,27nm,1.7s							
RUE	**Ruedersdorf**	**133.99**	**42**	*e*P	**PKiKP**	**20 53 17.3**	**-0.6**	
FBE	**Freiberg**	**134.06**	**44**	*e*PKPdf	**PKiKP**	**20 53 17.5**	**-0.6**	
	baz=279,slow=1.8							
WET	**Wettzell**	**134.09**	**46**	*e*PKPdf	**PKPdf**	**20 53 17.1**	**+0.1**	
	baz=279,slow=1.8							
WET				*e*L	L	21 45 12.8		
	comp=Z,2μm,21.7s							
ABTA	**Abfaltersbach**	**134.18**	**50**	*i* pPKPdf	**PKiKP**	**20 53 19.7**	**+1.1**	
	comp=Z,3.1nm,0.6s							
CIMO	**Cimolais**	**134.18**	**50**	PKPdf	**PKPdf**	**20 53 13.6**	**-3.6**	
BRG	**Berggiesshubel**	**134.44**	**44**	*e*PKPdf	**PKPdf**	**20 53 17.9**	**+0.3**	
	baz=279,slow=1.8							
MURB	**Monte Urbino**	**134.50**	**55**	IAMs_20	IAMs_20	21 46 22.0		
	comp=Z,1μm,22.0s							
ZOU	**Zoufplan**	**134.52**	**50**	IAMs_20	IAMs_20	21 51 30.4		
	comp=Z,2μm,21.0s							
KHC	**Kasperske Hory**	**134.54**	**46**	*e*PKPpre	PKPpre	20 53 11.5		
KHC				*e*PKPDF	**PKPdf**	**20 53 17.5**	**-0.4**	
KHC				*ex*	x	20 55 47.8		
KHC				*e*SKP		20 56 47.4		
KHC				AMS	AMS	21 40 40.0		
	comp=Z,3μm,24.9s							
KHC	**Kasperske Hory**	**134.54**	**46**	*e*PKIKP	**PKPdf**	**20 53 17.5**	**-0.4**	
KHC				*e*		20 55 47.8		
KHC				MLR	MLR			
	comp=Z,3μm,24.9s							
KHC	**Kasperske Hory**	**134.54**	**46**	PKPdf	**PKPdf**	**20 53 17.4**	**-0.4**	
GEC2	**GERESS Array S**	**134.67**	**47**	*e*PKPdf	**PKPdf**	**20 53 18.4**	**+0.3**	
	baz=279,slow=1.8							
GEC2				*e*L	L	21 43 06.9		
	comp=Z,2μm,21.6s							
GEC2	**GERESS Array S**	**134.67**	**47**	PKPdf	**PKPdf**	**20 53 17.1**	**-1.0**	
GEC2				IAMs_20	IAMs_20	21 41 39.4		
	comp=Z,2μm,22.0s							
GERES	**GERESS Array B**	**134.67**	**47**	PKhKP	PKPpre	20 53 09.3		
	comp=Z,0.2nm,0.4s,baz=355,slow=9.9,SNR=4.1							
GERES				PKP	**PKPdf**	**20 53 17.4**	**-0.7**	
	comp=Z,1.6nm,0.8s,baz=276,slow=2.5,SNR=8.3							
GERES				PP	**PP**	**20 55 48.9**	**-2.9**	
	comp=Z,0.2nm,0.3s,baz=266,slow=40,SNR=2.6							
GERES	**GERESS Array B**	**134.67**	**47**		PKPpre	20 53 07.0		
KBA	**Koelnbreinsper**	**134.71**	**49**	*i* PKiKP	**PKiKP**	**20 53 19.9**	**+0.1**	
	comp=Z,4.4nm,0.8s							
APA	**Apatity**	**134.80**	**17**	⇑*i* PKIKP	PKiKP	20 53 28.2	+9.1	
APA				*i*		20 55 50.0		
APA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
LVZ	**Lovozero**	**134.86**	**16**	IAMs_20	IAMs_20	21 48 48.2		
	comp=Z,2μm,21.0s							
PVCC	**Panska Ves**	**134.90**	**44**	*e*PKPDF	**PKiKP**	**20 53 21.7**	**+1.8**	
PVCC				AMS	AMS	21 42 40.0		
	comp=Z,2μm,22.6s							
PVCC	**Panska Ves**	**134.90**	**44**	*e*PKIKP	**PKiKP**	**20 53 21.7**	**+1.8**	
PVCC				MLR	MLR			
	comp=Z,2μm,22.6s							
PRA	**Prague**	**134.91**	**45**	*e*PKPDF	**PKPdf**	**20 53 13.8**	**-4.6**	
PRA				*e*PP	**PP**	**20 55 46.9**	**-6.3**	
PRA				AMS	AMS	21 42 10.0		
	comp=Z,1μm,22.9s							
PRA	**Prague**	**134.91**	**45**	*e*PKIKP	**PKPdf**	**20 53 13.8**	**-4.6**	
PRA				MLR	MLR			
	comp=Z,1μm,22.9s							
PRED	**Cave del Predi**	**134.94**	**50**	IAMs_20	IAMs_20	21 48 48.0		
	comp=Z,2μm,21.0s							
PRU	**Pruhonice**	**135.00**	**45**	*e*PKPDF	**PKPdf**	**20 53 19.0**	**+0.4**	
PRU				*e*PP	**PP**	**20 55 49.8**	**-3.9**	
PRU				*e*SKP		20 56 50.6		
PRU				AMS	AMS	21 42 30.0		
	comp=Z,3μm,22.3s							
PRU	**Pruhonice**	**135.00**	**45**	*e*PKIKP	**PKPdf**	**20 53 19.0**	**+0.4**	
PRU				*e*		20 55 49.8		
PRU				MLR	MLR			
	comp=Z,3μm,22.3s							
GOPC	**GO Pecny, Ondr**	**135.17**	**45**	*e*PKPDF	**PKPdf**	**20 53 17.5**	**-1.5**	
GOPC				AMS	AMS	21 42 30.0		
	comp=Z,3μm,23.7s							
GOPC	**GO Pecny, Ondr**	**135.17**	**45**	*e*PKIKP	**PKPdf**	**20 53 17.5**	**-1.5**	
GOPC				MLR	MLR			
	comp=Z,3μm,23.7s							
TRI	**Trieste**	**135.17**	**51**	IAMs_20	IAMs_20	21 52 23.1		
	comp=Z,2μm,21.0s							
GORS	**Gorjuse**	**135.25**	**50**	*e*PKPdf	**PKPdf**	**20 53 19.9**	**+0.6**	
NRIK	**Noril'sk**	**135.40**	**349**	PKP	**PKPdf**	**20 53 19.1**	**+0.3**	
	comp=Z,4.2nm,0.8s,baz=336,slow=0.3,SNR=6.2							
INTR	**Introdacqua**	**135.59**	**56**		**PKPdf**	**20 53 19.4**	**-0.7**	
INTR				IAMs_20	IAMs_20	21 53 34.5		
	comp=Z,2μm,20.0s							
OBKA	**Obir**	**135.60**	**50**	*i* PKiKP	**PKiKP**	**20 53 21.2**	**-0.3**	
	comp=Z,2.2nm,0.6s							
TREC	**Trest**	**135.74**	**46**	*e*PP	PP	20 55 53.4	-5.1	
TREC				AMS	AMS	21 43 30.0		
	comp=Z,2μm,23.4s							
GKP	**Gorka Klasztor**	**135.80**	**40**	*e*P	**PKiKP**	**20 53 23.9**	**+2.4**	
UPC	**Upice**	**135.80**	**44**	*e*SKP	**SKPab**	**20 56 56.6**	**+0.4**	
UPC				AMS	AMS	21 43 00.0		
	comp=Z,2μm,23.0s							
CHVC	**Chvalec**	**135.81**	**44**	*e*PKPDF	**PKPdf**	**20 53 19.5**	**-0.7**	
CHVC				AMS	AMS	21 43 00.0		
	comp=Z,2μm,22.8s							
KSP	**Ksiaz**	**135.90**	**43**	*e*P	**PKPdf**	**20 53 21.0**	**+0.7**	
SOKA	**Soboth**	**135.91**	**50**	*i* PKPdf	**PKPdf**	**20 53 20.8**	**+0.3**	
	comp=Z,2.9nm,0.6s							
OSTC	**Ostas**	**135.92**	**44**	*e*PKP	**PKPdf**	**20 53 20.3**	**0.0**	
OSTC				AMS	AMS	21 43 00.0		
	comp=Z,2μm,23.5s							
PDKS	**Podkum**	**135.98**	**50**	*e*PKPdf	**PKiKP**	**20 53 21.7**	**-0.6**	
PDKS				*e*		20 56 10.6		
PDKS				*e*		20 56 54.8		
DPC	**Dobruska-Polom**	**136.03**	**44**	*e*PKPDF	**PKPdf**	**20 53 20.7**	**+0.1**	
DPC				*e*PP	**PP**	**20 55 58.1**	**-2.2**	
DPC				AMS	AMS	21 43 10.0		
	comp=Z,2μm,21.8s							
DPC	**Dobruska-Polom**	**136.03**	**44**	*e*PKIKP	**PKPdf**	**20 53 20.7**	**+0.1**	
DPC				*e*		20 55 58.1		
DPC				MLR	MLR			
	comp=Z,2μm,21.8s							
BJI	**Beijing**	**136.04**	**301**	PKP	**PKPdf**	**20 53 20.4**	**-0.4**	
BJI				SS	SS	21 14 04.4	+3.9	
BJI				LR	LR			
	comp=Z,340nm,19.8s							
BJI				LR	LR			
	comp=Z,1μm,21.2s							
BJI				LR	LR			
	comp=Z,1μm,24.9s							
BJT	**Baijiatuau**	**136.05**	**301**	IAMs_20	IAMs_20	21 42 01.1		
	comp=Z,1μm,22.0s							
ARSA	**Arzberg**	**136.15**	**49**	*i* PKPdf	**PKPdf**	**20 53 20.1**	**-0.8**	
	comp=Z,7.9nm,0.8s							
CONA	**Conrad Observa**	**136.25**	**48**	*i* PKPdf	**PKPdf**	**20 53 20.5**	**-0.6**	
	comp=Z,8.9nm,0.8s							
KRUC	**Moravsky**	**136.37**	**46**	*e*PKP	**PKPdf**	**20 53 20.8**	**-0.4**	
KRUC				*e*PP	**PP**	**20 55 59.0**	**-3.4**	
KRUC				*e*SS	SS	21 14 21.5	+18	
KRLC	**Kraliky**	**136.39**	**44**	*e*PKPDF	**PKPdf**	**20 53 21.4**	**+0.1**	
KRLC				AMS	AMS	21 43 30.0		
	comp=Z,2μm,23.4s							
KRLC	**Kraliky**	**136.39**	**44**	*e*PKIKP	**PKPdf**	**20 53 21.4**	**+0.1**	
KRLC				MLR	MLR			
	comp=Z,2μm,23.4s							
VRAC	**Vranov**	**136.44**	**46**	PKP	**PKPdf**	**20 53 20.8**	**-0.5**	
	comp=Z,6.4nm,1.0s,baz=346,slow=4.4,SNR=6.6							
VRAC	**Vranov**	**136.44**	**46**	*e*PKP	**PKPdf**	**20 53 20.7**	**-0.7**	
VRAC				*e*PP	**PP**	**20 55 57.3**	**-5.6**	
VRAC				*e*SS	SS	21 14 28.5	+24	
FIA1	**FINESS Array S**	**136.50**	**26**	PKPdf	**PKPdf**	**20 53 21.1**	**0.0**	
FINES	**FINESS Array B**	**136.50**	**26**	PKP	**PKPdf**	**20 53 19.9**	**-1.1**	
	comp=Z,7.3nm,0.9s,baz=77,slow=2.5,SNR=10							
FINES				PP	**PP**	**20 55 59.3**	**-3.2**	
	comp=Z,3.3nm,1.0s,baz=350,slow=10,SNR=4.8							
FINES	**FINESS Array B**	**136.50**	**26**		**PKPdf**	**20 53 19.1**	**-1.9**	
SLIT	**Slitere, Latvi**	**136.81**	**32**	*e*P	**PKPdf**	**20 53 21.7**	**+0.1**	
DLV	**T Lat**	**136.88**	**259**	IAMs_20	IAMs_20	21 49 11.5		
	comp=Z,1μm,22.0s							
MORC	**Moravsky Berou**	**136.94**	**45**	⇑P	**PKPdf**	**20 53 22.2**	**-0.1**	
MORC	**Moravsky Berou**	**136.94**	**45**	*e*PKP	**PKPdf**	**20 53 22.5**	**+0.2**	
MORC				*e*SS	SS	21 14 35.5	+25	
MORC	**Moravsky Berou**	**136.94**	**45**	PKIKP	**PKPdf**	**20 53 21.6**	**-0.7**	
MORC				MLR	MLR			
	comp=Z,2μm,21.0s							
MORC	**Moravsky Berou**	**136.94**	**45**	PKPdf	**PKPdf**	**20 53 21.6**	**-0.7**	
MORC				IAMs_20	IAMs_20	21 44 28.1		
	comp=Z,2μm,21.0s							
WHN	**Wuhan**	**137.04**	**287**	PKP	**PKPdf**	**20 53 23.0**	**0.0**	
WHN				PP	**PP**	**20 56 11.6**	**+4.3**	
WHN				PKS	**PKSdf**	**20 56 58.1**	**-1.1**	
WHN				LR	LR			
	comp=Z,2μm,20.0s							
WHN				LR	LR			
	comp=Z,1μm,18.6s							
WHN				LR	LR			
	comp=Z,3μm,20.7s							
MBAR	**Mbarara**	**137.04**	**124**	IAMs_20	IAMs_20	22 03 43.1		
	comp=Z,2μm,19.0s							
MODS	**Modra-Piesok**	**137.09**	**47**	*e*PKIKP	**PKPdf**	**20 53 21.4**	**-1.2**	
MODS	**Modra-Piesok**	**137.09**	**47**	*e*PKP	**PKPdf**	**20 53 21.3**	**-1.3**	
SMOL	**Smolenice**	**137.16**	**46**	*e*PKIKP	**PKPdf**	**20 53 23.3**	**+0.6**	
SMOL	**Smolenice**	**137.16**	**46**	*e*PKP	**PKPdf**	**20 53 23.3**	**+0.6**	
JAVC	**Velka Javorina**	**137.24**	**46**	*e*PKP	**PKPdf**	**20 53 23.0**	**+0.1**	
JAVC				*e*SS	SS	21 14 18.0	+3.9	
PBUR	**Paburge**	**137.34**	**35**	*e*P	**PKPdf**	**20 53 22.1**	**-0.6**	
TIP	**Timpagrande**	**137.89**	**60**	IAMs_20	IAMs_20	21 57 25.6		
	comp=Z,2μm,20.0s							
VYHS	**Vyhne**	**138.07**	**46**	*e*PKIKP	**PKPdf**	**20 53 25.0**	**+0.6**	
VYHS	**Vyhne**	**138.07**	**46**	*e*PKP	**PKPdf**	**20 53 25.0**	**+0.6**	
OJC	**Ojcow**	**138.22**	**43**	*e*P	**PKPdf**	**20 53 24.0**	**-0.6**	
OJC	**Ojcow**	**138.22**	**43**	PKIKP	**PKPdf**	**20 53 22.4**	**-2.2**	
OJC	**Ojcow**	**138.22**	**43**	PKPdf	**PKPdf**	**20 53 22.4**	**-2.2**	
QIZ	**Qiongzhong**	**138.41**	**269**	PKP	**PKPdf**	**20 53 24.8**	**-1.1**	
QIZ				SS	SS	21 14 30.0	+0.5	
QIZ				AMB	AMB			
	comp=Z,230nm,10.3s							
QIZ				LR	LR			
	comp=Z,580nm,17.

KLMR e 20 56 32.6
KLMR pmax pmax
comp=Z,64nm,1.5s
KLMR Klimovskoe 141.67 20 *e*PKPdf **PKPdf 20 53 29.7 -0.8**
KLMR AMP 20 53 34.1
comp=Z,64nm,1.5s
KLMR *e*PP **PP 20 56 32.6 -1.7**
KLMR LQ LQ 21 41 29.2
KLMR LQ LQ 21 41 29.2
KLMR LR LR 21 46 34.2
SONM Songino Array 141.69 314 PKhKP PKPpre 20 53 23.9
comp=Z,7.3nm,0.8s,baz=94,slow=1.8,SNR=12
SONM PKP **PKPdf 20 53 29.6 -1.6**
comp=Z,8.3nm,0.8s,baz=128,slow=1.6,SNR=20
SONM Songino Array 141.69 314 PKPpre 20 53 23.6
STIP Stip 141.77 56 *i* P **PKPdf 20 53 26.6 -4.8**
TLY Talaya 141.89 321 PKP **PKPdf 20 53 28.5 -2.7**
comp=Z,2.3nm,0.7s,baz=239,slow=4.3,SNR=3.1
TLY Talaya 141.89 321 *i* PKHKP PKPpre 20 53 20.7
TLY pmax pmax
comp=Z,86nm,2.0s
TLY Talaya 141.89 321 PKPpre 20 53 21.5
TLY IAMs_20 IAMs_20 21 47 45.0
comp=Z,2μm,22.0s
XAN Xi'an 141.89 292 PKP **PKPdf 20 53 27.6 -4.2**
XAN AMB AMB
comp=Z,560nm,8.2s
XAN LR LR
comp=Z,570nm,18.0s
XAN LR LR
comp=Z,1μm,18.8s
XAN LR LR
comp=Z,2μm,24.9s
XAN Xi'an 141.89 292 IAMs_20 IAMs_20 22 11 03.1
comp=Z,1μm,18.0s
ITM Ithomi 142.05 63 IAMs_20 IAMs_20 22 00 04.2
comp=Z,2μm,21.0s
LOT Lotru 142.11 49 ⇓P **PKPdf 20 53 30.5 -1.5**
LOT Lotru 142.11 49 ⇑P **PKPdf 20 53 30.9 -1.0**
AGG Agios Georgios 142.23 60 PKHKP PKPpre 20 53 26.1
AGG MLR MLR
comp=Z,1μm,20.0s
AGG Agios Georgios 142.23 60 PKPpre 20 53 26.1
AGG IAMs_20 IAMs_20 21 58 21.4
comp=Z,1μm,20.0s
LIT Litokhoron 142.23 58 PKHKP PKPpre 20 53 24.5
LIT MLR MLR
comp=Z,1μm,21.0s
LIT Litokhoron 142.23 58 PKPpre 20 53 24.5
LIT IAMs_20 IAMs_20 21 56 55.0
comp=Z,1μm,21.0s
VTS Vitosha 142.38 54 *i* P **PKPdf 20 53 26.5 -6.1**
BUR08 Bucovina Ar. S 142.41 46 **PKPdf 20 53 28.4 -4.0**
KKB Krupnik 142.41 55 *i* P **PKPdf 20 53 26.5 -6.0**
BURAR Bucovina Array 142.43 46 ⇑P **PKPdf 20 53 29.5 -2.9**
BURAR Bucovina Array 142.43 46 ⇑PKIKP **PKPdf 20 53 29.5 -2.9**
BURAR Bucovina Array 142.43 46 PKPpre **PKPdf 20 53 28.4 -4.0**
ZAK Zakamensk 142.65 319 *e*PKIKP **PKPdf 20 53 28.0 -4.7**
ZAK pmax pmax
comp=Z,16nm,1.5s
ZAK pmax pmax
comp=Z,10.0nm,2.5s
PRGR Permogore 142.69 15 ⇑*i*PKIKP **PKPdf 20 53 27.2 -5.1**
PRGR pmax pmax
comp=Z,148nm,1.5s
ARR Arges 142.72 49 ⇓P **PKPdf 20 53 30.4 -2.5**
MMB Musomiste 142.93 56 *i* P **PKPdf 20 53 27.6 -5.8**
VOIR 142.98 49 ⇑P **PKPdf 20 53 31.3 -2.1**
VOIR 142.98 49 ⇑PKIKP **PKPdf 20 53 31.3 -2.1**
DOPR Dopca 143.06 48 ⇓P PKPbc 20 53 30.8 +0.5
PGB Panagyurishte 143.07 54 *i* P PKPbc 20 53 29.8 -0.7
GYA Guiyang 143.12 279 ⇓PKP **PKPdf 20 53 33.2 -1.1**
GYA pPKP PKiKP 20 53 35.4 -2.2
GYA PP **PP 20 56 50.6 +5.7**
GYA AMB AMB
comp=Z,290nm,7.1s
GYA LR LR
comp=Z,580nm,20.1s
GYA LR LR
comp=Z,530nm,18.2s
GYA LR LR
comp=Z,1μm,21.0s
OZUR 143.28 48 ⇓P PKPbc 20 53 31.3 +0.3
MOY Mondy 143.36 322 *e*PKIKP PKPab 20 53 30.5 +0.5
MOY pmax pmax
comp=Z,92nm,3.9s
MLR Muntele Rosu 143.57 49 PKhKP PKPab 20 53 30.9 -0.1
comp=Z,63nm,1.2s,baz=355,slow=2.6,SNR=28
MLR Muntele Rosu 143.57 49 ⇑P PKPbc 20 53 32.0 +0.1
MLR Muntele Rosu 143.57 49 ⇑PKIKP PKPbc 20 53 32.0 +0.1
MLR Muntele Rosu 143.57 49 PKPdf PKPab 20 53 31.1 +0.1
MLR IAMs_20 IAMs_20 21 51 12.1
comp=Z,2μm,22.0s
AKASG Malin Array Be 143.62 39 PKhKP PKPab 20 53 30.5 -0.3
AKASG PKP **PKPdf 20 53 34.3 0.0**
comp=Z,4.0nm,0.6s,baz=291,slow=3.2,SNR=5.6
AKASG Malin Array Be 143.62 39 PKPab 20 53 28.1 -2.7
RZN Rozhen 143.64 55 *i* P PKPab 20 53 30.5 -1.0
ZIMR 143.67 52 ⇑P PKPbc 20 53 32.6 +0.5
ZIMR 143.67 52 ⇑PKIKP PKPbc 20 53 32.6 +0.5
NEHR Nehoiu 143.82 49 ⇓P PKPab 20 53 32.1 +0.2
PLOR Plostina 143.93 48 ⇑P PKPbc 20 53 32.7 -0.2
PLOR Plostina 143.93 48 ⇑PKIKP PKPbc 20 53 32.7 -0.2
VRI Vrincioaia 143.98 48 ⇓P PKPbc 20 53 32.8 -0.2
VRI Vrincioaia 143.98 48 ⇓PKIKP PKPbc 20 53 32.8 -0.2
SULR 144.02 50 ⇑P **PKPdf 20 53 34.1 -1.0**
BISRR Bisoca 144.06 48 ⇓P PKPbc 20 53 33.5 +0.2
KDZ Kurdzhali 144.16 55 *i* P **PKPab 20 53 32.0 -1.3**
SZH Strazhica 144.17 52 *i* P **PKPab 20 53 33.4 +0.2**
SORM Soroca 144.20 43 ⇑P PKPbc 20 53 33.6 +0.1
SORM Soroca 144.20 43 ⇑PKIKP PKPbc 20 53 33.6 +0.1
GHRR 144.36 47 ⇑P PKPbc 20 53 34.9 +0.8
SLVN Son La 144.42 270 PKPdf PKPbc 20 53 35.2 +0.1
SLVN IAMs_20 IAMs_20 22 00 12.3
comp=Z,2μm,20.0s
LEHL Lehliu 144.46 50 ⇑P **PKPdf 20 53 35.3 -0.6**
RAZG Razgrad 144.50 52 ⇑P PKPbc 20 53 34.7 +0.1
IDI Anoyia 144.54 66 PKP PKPbc 20 53 35.1 0.0
comp=Z,252nm,0.8s,baz=286,slow=3.9,SNR=59
IDI Anoyia 144.54 66 ⇓P PKPbc 20 53 35.6 +0.4
IDI Anoyia 144.54 66 PKPdf **PKPab 20 53 34.7 -0.2**
VARL Varlezi 144.70 47 ⇓P **PKPab 20 53 34.9 -0.2**
OBN Obninsk 144.77 29 PKP PKPbc 20 53 35.4 +0.3
comp=Z,5.9nm,0.5s,baz=337,slow=1.7,SNR=21
OBN Obninsk 144.77 29 *d* *i* PKIKP **PKPab 20 53 33.8 -1.2**
OBN pmax pmax
comp=Z,116nm,1.3s
OBN Obninsk 144.77 29 PKPdf **PKPab 20 53 34.6 -0.4**
ALN Alexandroupoli 144.78 56 PKIKP **PKPab 20 53 34.7 -0.8**
ALN MLR MLR
comp=Z,1μm,19.0s
ALN Alexandroupoli 144.78 56 PKPdf **PKPab 20 53 34.7 -0.8**
ALN IAMs_20 IAMs_20 22 01 08.3
comp=Z,1μm,19.0s
MOS Moscow 144.79 27 *e*PKHKP **PKPab 20 53 31.6 -3.4**
MOS *e* 20 56 52.6
MOS pmax pmax
comp=Z,170nm,2.0s
MOS pmax pmax
comp=Z,2μm,3.6s
MOS MLR MLR
comp=N,2μm,20.0s
MOS MLR MLR
comp=E,800nm,20.0s
MOS MLR MLR
comp=Z,2μm,20.0s
SCHL Schela 144.82 48 ⇑P **PKPab 20 53 35.5 0.0**
JMB Yambol 144.83 53 *i* P **PKPab 20 53 35.2 -0.5**
APE Apeiranthos 144.94 63 ⇑P **PKPab 20 53 35.2 -1.1**
APE Apeiranthos 144.94 63 ⇑PKIKP **PKPab 20 53 35.2 -1.1**
KIS Kishinev 144.94 45 *e*PKHKP PKHKP 20 53 29.0
KIS Kishinev 144.94 45 ⇓*i*PKIKP **PKPab 20 53 35.0 -0.9**
KIS Kishinev 144.94 45 *e*PKHKP PKPpre 20 53 29.0
KIS *i* 20 53 35.0
KIS pmax pmax
comp=Z,1μm,3.3s
SANT Santorini 144.94 64 ⇓P **PKPab 20 53 35.8 -0.5**
SANT Santorini 144.94 64 PKPdf **PKPab 20 53 35.2 -1.1**
SANT IAMs_20 IAMs_20 21 55 33.8
comp=Z,1μm,20.0s
MILM Milestii Mici 144.96 45 ⇓P **PKPab 20 53 34.8 -1.2**
CFR Carcaliu 145.13 48 ⇓P **PKPbc 20 53 36.0 -0.6**
CFR Carcaliu 145.13 48 ⇓PKIKP **PKPbc 20 53 36.0 -0.6**
HARR Harsova 145.15 49 ⇑P **PKPbc 20 53 35.8 -0.9**
HARR Harsova 145.15 49 ⇑PKIKP **PKPbc 20 53 35.8 -0.9**
PRD Provadia 145.22 52 *i* P **PKPbc 20 53 36.3 -0.6**
TLBR Topalu 145.28 49 ⇑P **PKPbc 20 53 36.5 -0.6**
DGAR Diego Garcia 145.35 193 *c* *i* PKIKP **PKiKP 20 53 43.4 +1.0**
DGAR pmax pmax
comp=Z,765nm,2.5s
TOPG Topolog 145.40 49 ⇓P **PKPbc 20 53 36.1 -1.3**
PBKT Sadao Pong 145.43 260 **PKPbc 20 53 36.8 -1.5**
TIRR Tirgusor 145.55 49 ⇑P **PKPdf 20 53 36.4 -1.4**
TIRR Tirgusor 145.55 49 ⇑PKIKP **PKPdf 20 53 36.4 -1.4**
TIRR Tirgusor 145.55 49 **PKPdf 20 53 36.3 -1.5**
TLCR 145.59 48 ⇑P **PKPdf 20 53 36.9 -0.9**
TLCR 145.59 48 ⇑PKIKP **PKPdf 20 53 36.9 -0.9**
LZH Lanzhou 145.98 296 ⇓PKPbc **PKPdf 20 53 39.2 +0.1**
LZH LR LR
comp=Z,1μm,19.5s
LZH LR LR
comp=Z,1μm,19.0s
LZH LR LR
comp=Z,1μm,20.6s
CD2 Chengdu 146.15 286 PKPbc **PKPbc 20 53 39.9 -0.5**
CD2 SS SS 21 15 59.9 +0.7
CD2 AMB AMB
comp=Z,1μm,9.4s
CD2 LR LR
comp=Z,840nm,20.7s
CD2 LR LR
comp=Z,1μm,20.8s
CD2 LR LR
comp=Z,2μm,23.5s
KIRV Kirov 146.28 15 PKPbc **PKPdf 20 53 37.8 -0.8**
comp=Z,36nm,1.0s,baz=312,slow=1.6,SNR=42
KMI Kunming 146.35 276 PKPbc **PKPab 20 53 41.8 -0.4**
KMI Kunming 146.35 276 IAMs_20 IAMs_20 22 01 40.7
comp=Z,2μm,20.0s
KARP Karpathos 146.38 65 **PKPbc 20 53 40.3 -0.6**
MSEY Mahe Island 147.36 162 P **PKPdf 20 53 42.4 +0.4**
LPSR Galich'ya Gora 147.50 30 *e*PKP2 **PKPbc 20 53 42.8 -0.6**
LPSR pmax pmax
comp=Z,210nm,1.1s
ORH Orhaniye 147.76 55 P PKPdf 20 53 28.7 -13
CM31 Chiang Mai Arr 147.93 262 **PKPdf 20 53 43.5 +0.9**
CMAR Chiang Mai Arr 147.93 262 PKPbc **PKPbc 20 53 44.4 -1.3**
comp=Z,12nm,0.9s,baz=115,slow=1.3,SNR=28
CMAR Chiang Mai Arr 147.93 262 **PKPdf 20 53 43.9 +1.3**
CHTO Chiang Mai 148.05 263 PKIKP **PKPdf 20 53 42.3 -0.5**
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 148.05 263 PKPdf **PKPdf 20 53 42.3 -0.5**
CHTO IAMs_20 IAMs_20 21 59 02.1
comp=Z,2μm,20.0s
VORR Voronezh 148.25 31 *e*PKIKP **PKPdf 20 53 40.0 -2.1**
VORR pmax pmax
comp=Z,500nm,2.4s
AKAS Kas 148.28 64 **PKPdf 20 53 42.3 -0.6**
ELL Elmali 148.46 63 PKP2 **PKPdf 20 53 44.3 +1.2**
ELL Elmali 148.46 63 **PKPdf 20 53 44.3 +1.2**
VSR Storozhevoye 148.53 32 *e*PKP2 **PKPbc 20 53 44.9 -1.3**
VSR pmax pmax
comp=Z,210nm,1.6s
GTA Gaotai 148.62 303 PKPbc **PKPdf 20 53 43.4 +0.1**
GTA PP **PP 20 57 15.2 -1.9**
GTA AMB AMB
comp=Z,610nm,5.2s
GTA LR LR
comp=Z,510nm,21.6s
GTA LR LR
comp=Z,1μm,20.0s
GTA LR LR
comp=Z,2μm,21.3s
MDUB Mudurnu 148.69 55 **PKPdf 20 53 43.2 -0.2**
ISP Isparta 148.76 61 PKIKP **PKPdf 20 53 44.4 +0.8**
ISP MLR MLR
comp=Z,1μm,20.0s
ISP Isparta 148.76 61 **PKPdf 20 53 44.4 +0.8**
ISP Isparta 148.76 61 IAMs_20 IAMs_20 22 00 59.1
comp=Z,984nm,20.0s
BOLV Bolvadin 148.92 59 **PKPdf 20 53 43.8 0.0**
BOLV IAMs_20 IAMs_20 22 02 58.5
comp=Z,1μm,19.0s
SIM Simferopol' 149.14 46 *i* PKP2 **PKPdf 20 53 45.9 +2.1**
SIM pmax pmax
comp=Z,143nm,1.5s
ZAA0 Zalesovo Array 149.22 337 PKPdf **PKPdf 20 53 43.2 -0.4**
ZAA0 IAMs_20 IAMs_20 22 02 19.8
comp=Z,1μm,21.0s
ZALV Zalesovo Beam 149.22 337 PKP **PKPdf 20 53 42.0 -1.6**
comp=Z,20nm,0.7s,baz=4.1,slow=2.1,SNR=42
ZALV PKPbc **pPKPdf 20 53 46.4 -1.1**
comp=Z,25nm,0.7s,baz=27,slow=2.0,SNR=42
ZALV Zalesovo Beam 149.22 337 **PKPdf 20 53 42.9 -0.7**
VRH Novokhopyorsk 149.72 30 *e*PKP2 **PKPbc 20 53 48.2 -1.0**
VRH pmax pmax
comp=Z,190nm,0.9s
SVE Sverdlovsk 149.75 5 *e*PKHKP **PKPdf 20 53 44.7 +0.3**
SVE pmax pmax
comp=Z,115nm,1.8s
ARU Arti 149.94 7 PKP **PKPdf 20 53 43.3 -1.4**
comp=Z,3.1nm,0.8s,baz=339,slow=3.1,SNR=8.4
ARU PKPbc **PKPbc 20 53 49.4 -0.2**
comp=Z,8.9nm,0.9s,baz=333,slow=2.1,SNR=13
ARU Arti 149.94 7 PKPdf **PKPdf 20 53 43.5 -1.2**
BR231 Keskin MP Arra 150.02 56 **PKPdf 20 53 46.7 +1.1**
BZK Bozkurt 150.24 51 ⇓P **PKPdf 20 53 44.4 -1.3**
ANKE Ethiopia-Afar 150.43 120 *e*P **PKPdf 20 53 47.1 -0.2**
BR131 Keskin Array S 150.69 56 PKIKP **PKPdf 20 53 46.1 -0.5**
BR131 Keskin Array S 150.69 56 PKPdf **PKPdf 20 53 46.1 -0.5**
BRTR Keskin Array B 150.69 56 PKP **PKPdf 20 53 45.0 -1.6**
comp=Z,14nm,0.9s,baz=206,slow=2.8,SNR=23
BRTR PKPbc **sPKPdf 20 53 51.4 -0.5**
comp=Z,39nm,0.9s,baz=220,slow=1.0,SNR=32
BRTR Keskin Array B 150.69 56 **PKPdf 20 53 45.8 -0.8**
DIKM Dikmen 151.23 51 ⇑P **PKPdf 20 53 46.1 -1.1**
ANN Anapa 151.30 44 *e*PKIKP **PKPdf 20 53 47.7 +0.5**
ANN *e* 20 53 50.5
ANN *e* 20 57 31.0
ANN *e*SS SS 21 16 54.8 -0.4
ANN pmax pmax
comp=Z,154nm,1.2s
CSS Mathiatis 151.46 65 PKPdf **PKPdf 20 53 47.8 +0.1**
CSS IAMs_20 IAMs_20 22 17 30.7
comp=Z,1μm,21.0s
TOKA Tokat 152.57 53 IAMs_20 IAMs_20 22 18 27.9
comp=Z,1μm,21.0s
TEND Ethiopian Broa 152.76 118 *e*P **PKPdf 20 53 51.1 +0.8**
EIL Elat 153.14 77 PKP **PKPdf 20 53 48.4 -2.0**
comp=Z,8.1nm,1.0s,baz=33,slow=5.2,SNR=3.7
EIL PKPbc **PKPbc 20 53 57.4 -0.4**
comp=Z,13nm,0.9s,baz=266,slow=2.6,SNR=9.6
SOC Sochi 153.33 44 *d* *i* PKIKP **PKPdf 20 53 49.6 -0.6**
SOC *i* 20 53 57.1
SOC *e* 20 57 42.4
SOC *e*PPP PPP 21 01 08.7
SOC *e*SS SS 21 17 12.1 -5.5
SOC pmax pmax
comp=Z,26nm,1.1s
SOC pmax pmax
comp=Z,24nm,0.8s
MMAI Mount Meron Ar 153.40 69 PKP **PKPdf 20 53 50.4 -0.4**
comp=Z,10nm,1.0s,baz=348,slow=3.7,SNR=12
MMAI PKPbc **PKPbc 20 53 57.5 -0.9**
comp=Z,13nm,0.9s,baz=328,slow=3.0,SNR=9.9
BRVK Borovoye 153.45 353 *c* *i* PKIKP **PKPdf 20 53 50.4 +0.3**
BRVK pmax pmax
comp=Z,45nm,2.5s
BRVK Borovoye 153.45 353 PKPdf **PKPdf 20 53 49.1 -1.0**
BRVK Borovoye 153.45 353 IAMs_20 IAMs_20 22 08 04.4
comp=Z,1μm,19.0s
BVAR Borovoye Array 153.47 353 PKP **PKPdf 20 53 48.9 -1.3**
comp=Z,4.9nm,1.0s,baz=333,slow=0.7,SNR=12
BVAR PKPbc **PKPbc 20 53 56.8 -1.0**
comp=Z,8.8nm,0.7s,baz=331,slow=0.6,SNR=18
KURK Kurchatov 153.98 340 *c* *i* PKIKP **PKPdf 20 53 51.2 +0.3**
KURK pmax pmax
comp=Z,54nm,2.5s
KURK Kurchatov 153.98 340 PKPdf **PKPdf 20 53 50.4 -0.5**
ATD Arta Tunnel 154.03 121 IAMs_20 IAMs_20 22 13 06.2
comp=Z,1μm,20.0s
KURBB Kurchatov Arra 154.09 340 PKP **PKPdf 20 53 50.3 -0.7**
comp=Z,5.2nm,0.9s,baz=3.4,slow=1.4,SNR=14
KURBB PKPbc **PKPbc 20 53 58.1 -1.0**
comp=Z,20nm,1.1s,baz=34,slow=2.1,SNR=14
KURBB PP **PP 20 57 51.8 +4.8**
comp=Z,0.9nm,1.0s,baz=322,slow=43,SNR=4.3
GAZ Gaziantep 154.09 59 **PKPdf 20 53 51.4 -0.3**
GOF Gofitskoye 154.47 38 ⇑*e*PKIKP **PKPdf 20 53 52.4 +0.6**
GOF pmax pmax
comp=Z,23nm,0.9s
ASF Jabal al Asfar 154.73 71 PKP **PKPdf 20 53 51.4 -1.3**
comp=Z,8.7nm,1.1s,baz=261,slow=0.9,SNR=16
ASF PKPbc **PKiKP 20 54 01.5 +0.1**
comp=Z,11nm,1.0s,baz=182,slow=2.2,SNR=11
KIV Kislovodsk 154.93 41 *i* P **PKPdf 20 53 52.1 -0.5**
SNR=5.8
KIV Kislovodsk 154.93 41 *e*PKIKP **PKPdf 20 53 50.9 -1.7**
KIV *e* 20 57 50.7
KIV *e*SS SS 21 17 33.9 -1.1
KIV *e*SSS SSS 21 23 27.4
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,3μm,26.0s
KIV Kislovodsk 154.93 41 IAMs_20 IAMs_20 22 02 18.9
comp=Z,906nm,20.0s
WMQ Urumqi 155.12 319 PKPbc PKPbc 20 53 52.6
WMQ pPKP sPKPdf 20 54 01.6 +3.5
WMQ sPKP 20 54 04.2
WMQ PKPab **PKPab 20 54 17.1 -0.4**
WMQ PP **PP 20 57 52.8 -0.7**
WMQ AMB AMB
comp=Z,330nm,4.9s
WMQ LR LR
comp=Z,520nm,20.7s
WMQ LR LR
comp=Z,520nm,18.9s
WMQ LR LR
comp=Z,770nm,20.7s
WMQ Urumqi 155.12 319 PKIKP **PKPdf 20 53 51.4 -1.5**
WMQ MLR MLR
comp=Z,2μm,20.0s
WMQ Urumqi 155.12 319 **PKPdf 20 53 51.4 -1.5**
KBZ Khabaz 155.19 41 PKP **PKPdf 20 53 52.4 -0.5**
comp=Z,13nm,0.9s,baz=301,slow=1.2,SNR=16
KBZ PKPbc PKPbc 20 54 06.4
comp=Z,8.9nm,0.9s,baz=316,slow=3.3,SNR=3.9
KBZ PKPab **PKPab 20 54 15.9 -1.7**
comp=Z,14nm,0.9s,baz=333,slow=2.6,SNR=5.6
KOPT Kop Dagi 155.52 51 IAMs_20 IAMs_20 22 18 32.8
comp=Z,2μm,22.0s
AKTO Aktyubinsk 155.69 11 PKP **PKPdf 20 53 53.2 -0.1**
comp=Z,2.5nm,0.9s,baz=2.1,slow=3.8,SNR=8.4
MK31 Makanchi Array 155.88 331 PKIKP **PKPdf 20 53 52.1 -1.7**
MK31 Makanchi Array 155.88 331 PKPdf **PKPdf 20 53 52.1 -1.7**
MKAR Makanchi Array 155.88 331 PKP **PKPdf 20 53 52.2 -1.6**
comp=Z,4.4nm,1.0s,baz=47,slow=2.3,SNR=11
MKAR PP **PP 20 58 00.4 +3.1**
comp=Z,1.8nm,1.0s,baz=90,slow=1.2,SNR=3.6
MKAR Makanchi Array 155.88 331 *c* *i* PKIKP **PKPdf 20 53 53.0 -0.7**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 155.88 331 PKPdf **PKPdf 20 53 51.5 -2.2**
MAKZ Makanchi 156.01 331 PKIKP **PKPdf 20 53 52.9 -1.0**
MAKZ MLR MLR
comp=Z,2μm,20.0s
MAKZ Makanchi 156.01 331 **PKPdf 20 53 52.9 -1.0**
MAKZ IAMs_20 IAMs_20 22 10 52.3
comp=Z,2μm,20.0s
BRZS Berezniki 156.10 348 *i* PKP **PKPdf 20 53 52.9 -1.1**
comp=Z,136nm,3.3s,baz=348
BRZS *i* PP **PP 20 57 56.5 -1.6**
baz=348
BRZS LR LR 22 06 16.0
comp=Z,309nm,17.7s,baz=348
BRZS Berezniki 156.10 348 *i* PKIKP **PKPdf 20 53 52.8 -1.1**
BRZS *i* 20 57 56.5
BRZS pmax pmax
comp=Z,136nm,3.3s
SHL Shillong 156.11 273 PKIKP **PKPdf 20 53 53.5 -1.4**
SHL MLR MLR
comp=Z,2μm,21.0s
SHL Shillong 156.11 273 **PKPdf 20 53 53.5 -1.4**
ZEI Tsey 156.33 42 *i* PKIKP **PKPdf 20 53 48.6 -6.1**
ZEI pmax pmax
comp=Z,25nm,1.8s
MARD Mardin 156.76 57 PKPdf **PKPdf 20 53 55.0 -0.3**
MARD IAMs_20 IAMs_20 22 15 55.0
comp=Z,2μm,22.0s
AKH Akhalkalaki 156.85 45 ⇓P **PKPdf 20 53 53.5 -1.8**
AKH Akhalkalaki 156.85 45 PKIKP **PKPdf 20 53 55.0 -0.4**
AKH MLR MLR
comp=Z,2μm,22.0s
AKH Akhalkalaki 156.85 45 PKPdf **PKPdf 20 53 55.0 -0.4**
AKH IAMs_20 IAMs_20 22 19 27.3
comp=Z,2μm,22.0s
LSA Lhasa 157.03 283 PKP **PKPdf 20 53 56.5 +0.2**
LSA LR LR
comp=Z,2μm,29.9s
LSA LR LR
comp=Z,2μm,30.6s
LSA LR LR
comp=Z,3μm,28.5s
LSA Lhasa 157.03 283 *i* P **PKPdf 20 53 55.0 -1.3**
SNR=8.5
LSA Lhasa 157.03 283 PKIKP **PKPdf 20 53 56.0 -0.3**
LSA MLR MLR
comp=Z,1μm,21.0s
LSA Lhasa 157.03 283 PKPdf **PKPdf 20 53 56.0 -0.3**
LSA IAMs_20 IAMs_20 22 06 24.1
comp=Z,1μm,21.0s
ABKAR Akbulak array 157.14 9 PKPdf **PKPdf 20 53 54.9 -0.3**
GROC Groznyy 157.18 39 *e*PKIKP **PKPdf 20 53 55.6 +0.1**
GROC *e* 20 58 07.3
GROC pmax pmax
comp=Z,36nm,1.1s
TBLG Delisi 157.45 43 PKIKP **PKPdf 20 53 55.1 -0.8**
TBLG Delisi 157.45 43 PKPdf **PKPdf 20 53 55.0 -0.8**
MAK Makhachkala 158.28 37 *c* *i* PKIKP **PKPdf 20 53 51.7 -5.1**
MAK *e* 20 58 06.3
MAK *e* 21 00 55.0
MAK *e*SS SS 21 18 02.2 -8.3
MAK *e*SSS SSS 21 24 07.6
MAK pmax pmax
comp=Z,206nm,1.0s
TDK Taldyqorghan 158.95 333 *e*PKP **PKPdf 20 53 56.2 -1.5**
comp=Z,24nm,2.1s,baz=334
TDK *e*PP **PP 20 58 11.0 -3.1**
baz=334
TDK Taldyqorghan 158.95 333 *e*PKIKP **PKPdf 20 53 56.1 -1.5**
TDK *e* 20 58 11.0
TDK pmax pmax
comp=Z,24nm,2.1s
AKT Akhty 159.38 40 *e*PKIKP **PKPdf 20 53 57.9 -0.5**
AKT *e* 20 58 20.0
AKT pmax pmax
comp=Z,22nm,1.4s
SHLS Shalkode 159.96 328 *i* PKP **PKPdf 20 53 56.6 -2.4**
comp=Z,70nm,2.4s,baz=328
SHLS *i* PP **PP 20 58 16.1 -3.8**
baz=328
SHLS Shalkode 159.96 328 *i* PKIKP **PKPdf 20 53 56.6 -2.4**
SHLS *i* 20 58 16.1
SHLS pmax pmax
comp=Z,70nm,2.4s
KPKS Kokpek 160.08 330 *e*PKP **PKPdf 20 53 56.8 -2.3**
comp=Z,109nm,2.5s,baz=331
KPKS Kokpek 160.08 330 *e*PKIKP **PKPdf 20 53 56.8 -2.3**
KPKS pmax pmax
comp=Z,109nm,2.5s
UZB Uzynbulak 160.18 329 *e*PKP **PKPdf 20 53 57.1 -2.2**
comp=Z,113nm,3.7s,baz=330
UZB *i* PP **PP 20 58 17.6 -3.5**
baz=330
UZB Uzynbulak 160.18 329 *e*PKIKP **PKPdf 20 53 57.1 -2.2**
UZB *i* 20 58 17.5
UZB pmax pmax
comp=Z,113nm,3.7s
BTLS Baital 160.43 341 *e*PKP **PKPdf 20 53 58.2 -1.1**
comp=Z,91nm,3.6s,baz=342
BTLS *i* PP **PP 20 58 17.9 -3.9**
baz=342
BTLS Baital 160.43 341 *e*PKIKP **PKPdf 20 53 58.2 -1.1**
BTLS *i* 20 58 17.9
BTLS pmax pmax
comp=Z,91nm,3.6s
SATY Saty 160.52 330 *e*PKP **PKPdf 20 53 57.1 -2.5**
comp=Z,74nm,3.1s,baz=331
SATY *i* PP **PP 20 58 19.8 -3.1**
baz=331
SATY Saty 160.52 330 *e*PKIKP **PKPdf 20 53 57.9 -1.7**

SATY			*i*			20 58 19.7	
SATY			pmax	pmax			
	comp=Z,74nm,3.1s						
KUU	**Kurty**	**160.68 335**	*e*PKP	**PKPdf**		**20 53 58.4**	**-1.2**
	comp=Z,160nm,3.3s,baz=336						
KUU			*e*PP	**PP**		**20 58 19.0**	**-4.4**
	baz=336						
KUU	**Kurty**	**160.68 335**	*e*PKIKP	**PKPdf**		**20 53 58.4**	**-1.2**
KUU			*e*			20 58 19.0	
KUU			pmax	pmax			
	comp=Z,160nm,3.3s						
CHLP	**Challavanipeta**	**160.85 249**	*e*PKPab	**PKPab**		**20 54 41.7**	**-1.1**
MDOK	**Medeo**	**161.02 333**	*e*PKP	**PKPdf**		**20 53 58.4**	**-1.8**
	baz=333						
MDOK	**Medeo**	**161.02 333**	*e*PKIKP	**PKPdf**		**20 53 58.4**	**-1.8**
AAA	**Alma-Ata**	**161.04 333**	*e*PKP	**PKPdf**		**20 53 59.5**	**-0.7**
	baz=334						
AAA	**Alma-Ata**	**161.04 333**	*e*PKIKP	**PKPdf**		**20 53 59.4**	**-0.7**
SKHT	**Srikalahasti**	**161.31 229**	*e*PKPab	**PKPab**		**20 54 44.7**	**-0.1**
SGDS	**Sogindy**	**161.68 338**	*e*PKP	**PKPdf**		**20 53 59.5**	**-1.3**
	comp=Z,172nm,3.6s,baz=338						
SGDS	**Sogindy**	**161.68 338**	*e*PKIKP	**PKPdf**		**20 53 59.4**	**-1.3**
SGDS			pmax	pmax			
	comp=Z,172nm,3.6s						
TKM2	**Tokmak 2**	**161.80 335**	P	**PKPab**		**20 54 45.6**	**-1.0**
	SNR=7.5						
USP	**Ospenovka**	**161.88 338**	P	**PKPab**		**20 54 45.9**	**-0.8**
	SNR=5.4						
CHMS	**Chumysh**	**162.03 337**	P	**PKPab**		**20 54 47.3**	**0.0**
	SNR=7.0						
PVM	**Polavaram**	**162.16 241**	*e*PKPdf	**PKPdf**		**20 54 00.9**	**-1.0**
PVM			*e*PKPab	**PKPab**		**20 54 48.4**	**-0.2**
FRU1	**Bishkek**	**162.24 337**	PKP2	**PKPab**		**20 54 47.4**	**-0.9**
FRU1						21 54 01.3	
FRU1	**Bishkek**	**162.24 337**	PKPdf	**PKPdf**		**20 54 01.3**	**-0.1**
FRU1			PKPab	**PKPab**		**20 54 47.4**	**-0.9**
KBK	**Karagaybulak**	**162.26 336**	P	**PKPab**		**20 54 47.7**	**-0.8**
	SNR=5.9						
AAK	**Ala-Archa**	**162.44 337**	PKP	**PKPdf**		**20 54 01.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=5.4,slow=2.2						
AAK			PKPab	**PKPab**		**20 54 49.2**	**-0.1**
	comp=Z,5.0nm,0.7s,baz=337,slow=1.2,SNR=2.9						
AAK	**Ala-Archa**	**162.44 337**	*i* P	**PKPdf**		**20 54 00.6**	**-1.1**
	SNR=6.3						
AAK	**Ala-Archa**	**162.44 337**		**PKPdf**		**20 54 01.2**	**-0.5**
AAK				**PKPab**		**20 54 48.7**	**-0.6**
ADKI	**Addanki**	**162.56 235**	*e*PKPab	**PKPab**		**20 54 50.6**	**+0.3**
MYLAV	**Mylavaram**	**162.64 238**	*e*PKPdf	**PKPdf**		**20 54 02.4**	**0.0**
MYLAV			*e*PKPab	**PKPab**		**20 54 51.2**	**+0.5**
KK31	**Karatay Array**	**163.13 347**	PKP2	**PKPab**		**20 54 49.8**	**-2.2**
KK31						21 54 00.7	
KK31	**Karatay Array**	**163.13 347**	PKPdf	**PKPdf**		**20 54 00.7**	**-1.5**
KK31			PKPab	**PKPab**		**20 54 49.8**	**-2.2**
KKAR	**Karatay Array**	**163.13 347**	PKIKP	**PKPdf**		**20 54 00.1**	**-2.0**
KKAR						20 54 50.1	
KKAR	**Karatay Array**	**163.13 347**	PKPdf	**PKPdf**		**20 54 00.1**	**-2.0**
KKAR			PKPab	**PKPab**		**20 54 49.8**	**-2.2**
KKAR	**Karatay Array**	**163.13 347**	PKPdf	**PKPdf**		**20 54 00.1**	**-2.0**
KKAR				**PKPab**		**20 54 50.1**	**-2.0**
DZA	**Taraz**	**163.15 345**	*e*PKP	**PKPdf**		**20 54 00.8**	**-1.5**
	baz=345						
DZA			LR	LR		22 07 57.3	
	comp=Z,335nm,17.4s,baz=345						
DZA	**Taraz**	**163.15 345**	*e*PKIKP	**PKPdf**		**20 54 00.7**	**-1.5**
AML	**Almayashu**	**163.17 338**	P	**PKPab**		**20 54 52.6**	**-0.2**
	SNR=6.2						
NJS	**Nagarjunasagar**	**163.51 235**	*e*PKPdf	**PKPdf**		**20 54 02.6**	**-0.6**
NJS			*e*PKPab	**PKPab**		**20 54 54.7**	**+0.2**
SRLM	**Srisailam**	**163.51 233**	*e*PKPab	**PKPab**		**20 54 54.7**	**+0.2**
IUG	**Iuzhnay**	**164.14 347**	*e*PKP	**PKPdf**		**20 54 02.2**	**-1.1**
	comp=Z,48nm,2.5s,baz=347						
IUG	**Iuzhnay**	**164.14 347**	*e*PKIKP	**PKPdf**		**20 54 02.1**	**-1.1**
IUG			pmax	pmax			
	comp=Z,48nm,2.5s						
CUPL	**Choutuppal**	**164.26 236**	*e*PKPab	**PKPab**		**20 54 57.8**	**-0.1**
HYB	**Hyderabad**	**164.61 236**	*i* PKP	**PKPdf**		**20 54 02.0**	**-2.3**
HYBB	**Hyderabad (bro**	**164.61 236**	*e*PKPab	**PKPab**		**20 54 57.8**	**-1.6**
SRSP	**Sriramsagar**	**165.68 240**	*e*PKPdf	**PKPdf**		**20 54 02.4**	**-2.8**
SRSP			*e*PKPab	**PKPab**		**20 55 04.0**	**-0.1**
BTK	**Batken**	**165.94 342**	PKP2	**PKPab**		**20 55 01.8**	**-2.8**
BTK						21 54 03.5	
BTK	**Batken**	**165.94 342**		**PKPdf**		**20 54 03.5**	**-1.4**
BTK			PKPab	**PKPab**		**20 55 01.8**	**-2.8**
KLRI	**Killari**	**166.45 233**	*e*PKPab	**PKPab**		**20 55 06.7**	**-0.8**
GAR	**Garm**	**167.06 342**		**PKPdf**		**20 54 04.7**	**-1.1**
GAR			PKPab	**PKPab**		**20 55 08.1**	**-1.6**
GEYT	**Alibeck**	**167.31 27**	PKP	**PKPdf**		**20 54 05.7**	**-0.2**
	comp=Z,6.3nm,0.9s,baz=318,slow=2.0,SNR=13						
GEYT			PKPab	**PKPab**		**20 55 10.9**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=262,slow=7.0,SNR=1.5						
GEYT			PP	**PP**		**20 58 58.2**	**-0.1**
	comp=Z,3.5nm,1.0s,baz=320,slow=10,SNR=5.3						
GEYT	**Alibeck**	**167.31 27**		**PKPdf**		**20 54 06.0**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**167.31 27**		**PKPdf**		**20 54 06.1**	**+0.2**
SHAO	**Shalim**	**167.55 132**	P	**PKPdf**		**20 54 05.0**	**-1.6**
CHGR	**Chuyangaron**	**167.68 346**	PKPdf	**PKPdf**		**20 54 04.6**	**-1.6**
CHGR			PKPab	**PKPab**		**20 55 10.0**	**-2.3**
NIL	**Nilore**	**170.26 317**	PKIKP	**PKPdf**		**20 54 06.0**	**-1.9**
NIL	**Nilore**	**170.26 317**		**PKPdf**		**20 54 06.0**	**-1.9**
ALNE	**Al Ain**	**170.98 105**	*i* P	**PKPdf**		**20 54 07.3**	**-1.3**
	SNR=6.9						
FAQ	**Al Faqa, Dubai**	**171.04 101**	P	**PKPdf**		**20 54 07.6**	**-0.9**
NAZ	**Nazwa, Dubai**	**171.16 99**	*i* P	**PKPdf**		**20 54 08.9**	**+0.3**
	SNR=7.0						
ASHO	**Ashiyiah**	**171.43 102**	*i* P	**PKPdf**		**20 54 07.5**	**-1.3**
	SNR=7.2						
HATD	**Hatta, Dubai**	**171.53 101**	*i* P	**PKPdf**		**20 54 07.9**	**-1.0**
	SNR=7.9						
UOSS	**Minazif**	**171.63 100**	P	**PKPdf**		**20 54 07.0**	**-1.9**
SOHO	**SOHO**	**171.68 106**	*i* P	**PKPdf**		**20 54 08.0**	**-0.9**
	SNR=9.6						
MSFE	**Esma-Masafi**	**171.68 97**	*i* P	**PKPdf**		**20 54 07.5**	**-1.4**
	SNR=7.2						
SHME	**Shamm**	**171.77 93**	*i* P	**PKPdf**		**20 54 07.8**	**-1.1**
	SNR=8.1						
MDH	**Madha**	**171.79 98**	*i* P	**PKPdf**		**20 54 07.0**	**-1.9**
	SNR=5.9						
BANOM	**Banah**	**171.90 94**	P	**PKPdf**		**20 54 07.7**	**-1.2**
HRA	**Herat**	**171.94 18**		**PKPdf**		**20 54 08.4**	**-0.6**

IDC ***03*** *20:34:36.8±0.6, 36°.83N×139°.44E, h0km, mb4.0/14, mb1 4.1/20, mb1mx4.0/63, mbtmp4.0/20, ML3.3/6, MS3.5/11, Ms1 3.5/11, ms1mx3.4/54, Error ellipse: s-maj=14.4km s-min=9.6km az=150.0*

NIED ***03*** *20:34:36.8, 36°.88N×139°.51E, h7km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.80; $M_{\theta\theta}$2.56; $M_{\phi\phi}$-3.36; $M_{r\theta}$0.54; $M_{\theta\phi}$-2.73; $M_{\phi r}$0.21; Fault plane solution: $M_0$4.07000×10^{15} NP1:ϕ_s66.00000°, δ87.00000°, λ171.00000°. NP2:ϕ_s156.00000°, δ81.00000°, λ3.00000°.*

JMA ***03*** *20:34:36.7, 36°.87N×139°.51E, h7km±1km, M4.5 Broadband fault plane solution: P waves. NP1: ϕ_s154.00000°, δ77.00000°, λ4.00000°. NP2:ϕ_s63.00000°, δ86.00000°, λ167.00000°. Principal axes: T Plg12.0000°, Azm18.0000°; N Plg77.0000°, Azm225.0000°; P Plg6.0000°, Azm109.0000°;*

JMA Felt IV J1.

NEIC ***03*** *20:34:38.5±1.4, 36°.79N±0°.06×139°.43E±0°.07, h10km±1km, mb4.7/14 Error ellipse: s-maj=10.3km s-min=9.0km az=160.0*

ISC 03 20:34:36.7±1.2,**36°.86N**±0°.03×**139°.51E**±0°.03,**h0**km±8km, **n75**,σ1^{s}**06**/**74**,**mb4.4**/21,**MS3.4**/6,**5C-4D**,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.23**	**246**	⇓P	**Pg**	**20 34 41.7**	**+0.7**
JKT				S	**Sg**	**20 34 45.1**	**+1.2**
JSB	**Shiboa**	**0.35**	**71**	⇓P	**Pg**	**20 34 43.9**	**+0.5**
JSB				S	**Sg**	**20 34 48.8**	**+0.8**
JAG	**Ashikaga**	**0.43**	**186**	⇑P	**Pg**	**20 34 45.4**	**+0.4**
JAG				S	**Sg**	**20 34 51.6**	**+1.0**
JHK	**Hiroka**	**0.55**	**315**	⇓P	**Pg**	**20 34 47.4**	**+0.1**
JHK				S	**Sg**	**20 34 54.6**	**+0.1**
JFY	**Yanaizu**	**0.57**	**16**	⇑P	**Pg**	**20 34 47.5**	**-0.2**
JFY				S	**Sg**	**20 34 54.6**	**-0.5**
JIZZ	**Izumozaki**	**0.93**	**317**	⇓P	**Pb**	**20 34 55.4**	**-0.2**
JFT	**Otama**	**0.94**	**45**	⇑P	**Pg**	**20 34 54.2**	**-0.5**
JFT				S	**Sg**	**20 35 06.4**	**-0.4**
JRY	**Ryogami san**	**0.97**	**210**	⇑P	**Pg**	**20 34 55.4**	**+0.1**
JNS	**Sasagawa**	**0.97**	**351**	⇑P	**Pg**	**20 34 54.7**	**-0.6**
JNS				S	**Sg**	**20 35 07.3**	**-0.6**
MJAR	**Matsushiro Arr**	**1.09**	**254**	Pg	**Pg**	**20 34 57.1**	**-0.4**
	32nm,0.3s,baz=72,slow=17,SNR=725						
MJAR				Lg	Lg	20 35 10.1	
	19nm,0.3s,baz=117,slow=20,SNR=8.0						
MJAR	**Matsushiro Arr**	**1.09**	**254**		**Pg**	**20 34 56.2**	**-1.4**
MAJO	**Matsushiro**	**1.09**	**254**	Pg	**Pg**	**20 34 57.5**	**-0.1**
MAT	**Matsushiro**	**1.09**	**254**	P	**Pg**	**20 34 57.5**	**-0.1**
MAT				S	**Sg**	**20 35 11.7**	**0.0**
JHJ	**Hachijo jima 2**	**3.74**	**176**	Pn	**Pn**	**20 35 35.5**	**0.0**
	52nm,0.3s,baz=323,slow=20,SNR=8.9						
JHJ				Sn	**Sn**	**20 36 18.7**	**-1.5**
	20nm,0.3s,baz=64,slow=19,SNR=1.3						
JHJ2	**Mitsune**	**3.75**	**176**	Pn	**Pn**	**20 35 34.2**	**-1.5**
ERM	**Erimo**	**5.88**	**28**	Pn	**Pn**	**20 36 05.5**	**+0.5**
ASAJ	**Asahikawa**	**7.62**	**17**	Pn	**Pn**	**20 36 29.9**	**+1.0**
	1.1nm,0.3s,baz=193,slow=12,SNR=12						
ASAJ				LR	LR	20 40 17.6	
	comp=Z,225nm,21.7s,baz=198,slow=44						
JKA	**Kamikawa-asahi**	**7.62**	**17**		**Pn**	**20 36 30.1**	**+1.1**
JNU	**Nakatsue**	**8.00**	**245**	Pn	**Pn**	**20 36 33.9**	**-0.3**
	0.2nm,0.3s,baz=168,slow=21,SNR=3.3						
JNU	**Nakatsue**	**8.00**	**245**		**Pn**	**20 36 33.7**	**-0.5**
KSRS	**Korea Array**	**9.27**	**277**	Pn	**Pn**	**20 36 53.2**	**+1.8**
	0.7nm,0.3s,baz=93,slow=14,SNR=6.5						
KSRS				LR	LR	20 40 13.2	
	comp=Z,337nm,20.1s,baz=82,slow=36						
USA0B	**Ussuriysk Arra**	**9.30**	**324**	Pn	**Pn**	**20 36 52.3**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.30**	**324**	Pn	**Pn**	**20 36 52.3**	**+0.4**
	baz=140,slow=13,SNR=7.4						
USRK				LR	LR	20 40 18.0	
	comp=Z,328nm,18.4s,baz=130,slow=37						
JCJ	**Chichijima**	**9.99**	**166**	Pn	**Pn**	**20 36 58.0**	**-3.6**
	3.7nm,0.3s,baz=84,slow=21,SNR=7.1						
JCJ				Sn	**Sn**	**20 38 51.0**	**-3.4**
	1.5nm,0.3s,baz=247,slow=16,SNR=1.8						
JCJ				LR	LR	20 41 13.6	
	comp=Z,178nm,19.8s,baz=20,slow=40						
JCJ	**Chichijima**	**9.99**	**166**		**Pn**	**20 36 58.7**	**-2.9**
YSS	**Yuzh-Sakhalins**	**10.37**	**12**	Pn	**Pn**	**20 37 07.7**	**+1.0**
KLR	**Kul'dur**	**13.59**	**338**	Pn	**Pn**	**20 37 50.5**	**-0.1**
	0.1nm,0.3s,baz=127,slow=15,SNR=4.3						
KLR				LR	LR	20 42 44.3	
	comp=Z,198nm,19.0s,baz=156,slow=36						
BJT	**Baijiatuan**	**18.54**	**287**	P	**Pn**	**20 38 55.0**	**+0.1**
PETK	**Petropavlovsk-**	**20.63**	**32**	P	Pn	20 39 19.1	-0.7
	2.9nm,0.9s,baz=226,slow=6.0,SNR=5.7						
PETK				LR	LR	20 47 15.0	
	comp=Z,72nm,18.7s,baz=214,slow=37						
PETK	**Petropavlovsk-**	**20.63**	**32**	P	Pn	20 39 17.7	-2.0
GUMO	**Guam**	**23.66**	**167**	LR	LR	20 47 30.6	
	comp=Z,103nm,19.3s,baz=340,slow=33						
SONM	**Songino Array**	**26.62**	**305**	P	**P**	**20 40 15.6**	**-1.3**
	0.3nm,0.4s,baz=110,slow=8.3,SNR=2.3						
SONM				LR	LR	20 51 13.4	
	comp=Z,141nm,19.6s,baz=110,slow=38						
SEY	**Seymchan**	**27.28**	**13**	P	**P**	**20 40 23.6**	**+1.1**
	1.9nm,0.7s,baz=189,slow=7.2,SNR=6.1						
SEY				LR	LR	20 52 56.7	
	comp=Z,65nm,18.4s,baz=174,slow=40						
TLY	**Talaya**	**29.30**	**312**	LR	LR	20 53 47.1	
	comp=Z,158nm,18.9s,baz=109,slow=39						
H11N2	**WAKE ISLAND Hy**	**29.39**	**118**	T	T	21 10 47.7	
	baz=312,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**29.40**	**118**	T	T	21 10 48.6	
	baz=312,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**29.41**	**118**	T	T	21 10 49.2	
	baz=312,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**30.07**	**120**	T	T	21 11 36.0	
	baz=314,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hy**	**30.07**	**120**	T	T	21 11 38.0	
	baz=314,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**30.09**	**120**	T	T	21 11 38.1	
	baz=314,slow=75,SNR=8.7						
ZALV	**Zalesovo Beam**	**40.91**	**313**	P	**P**	**20 42 19.7**	**-0.7**
	1.4nm,0.6s,baz=98,slow=6.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**40.91**	**313**	P	**P**	**20 42 20.3**	**-0.1**
MKAR	**Makanchi Array**	**42.92**	**302**	P	**P**	**20 42 37.4**	**+0.4**
	0.4nm,0.6s,baz=83,slow=9.9,SNR=4.2						
MKAR	**Makanchi Array**	**42.92**	**302**	P	**P**	**20 42 37.5**	**+0.6**
KURK	**Kurchatov**	**44.84**	**308**	P	**P**	**20 42 51.3**	**-1.0**
KDAK	**Kodiak Island**	**48.25**	**42**	P	**P**	**20 43 19.9**	**+0.9**
	7.3nm,0.9s,baz=234,slow=7.2,SNR=4.5						
KDAK	**Kodiak Island**	**48.25**	**42**	P	**P**	**20 43 20.0**	**+1.1**
AAK	**Ala-Archa**	**49.22**	**298**	LR	LR	21 05 16.5	
	comp=Z,147nm,20.2s,baz=80,slow=37						
HNR	**Honiara**	**49.89**	**153**	P	**P**	**20 43 32.9**	**+0.9**
	41nm,0.3s,baz=231,slow=9.5,SNR=2.7						
ILAR	**Eielson Array**	**50.46**	**32**	P	**P**	**20 43 36.9**	**+1.1**
	2.5nm,1.1s,baz=264,slow=5.5,SNR=7.0						
KK31	**Karatay Array**	**51.89**	**300**	P	**P**	**20 43 46.5**	**-0.3**
KKAR	**Karatay Array**	**51.89**	**300**	P	**P**	**20 43 46.6**	**-0.3**
KKAR				IAmb	IAmb	20 43 59.2	
	comp=Z,6.2nm,1.1s						
KKAR	**Karatay Array**	**51.89**	**300**	P	**P**	**20 43 45.9**	**-1.0**
MCARA	**McCarthy VSAT**	**52.61**	**36**	P	**P**	**20 43 52.7**	**+0.8**
MCARA				IAmb	IAmb	20 43 55.3	
	comp=Z,6.5nm,0.8s						
BCAR	**Beaver Creek A**	**52.90**	**34**	P	**P**	**20 43 54.9**	**+0.8**
KNRA	**Kununurra**	**53.23**	**193**	P	**P**	**20 43 57.5**	**+0.6**
KNRA				IAmb	IAmb	20 44 01.3	
	comp=Z,7.1nm,0.8s						
CHGR	**Chuyangaron**	**54.36**	**295**	P	**P**	**20 44 05.9**	**+0.6**
CHGR				IAmb	IAmb	20 44 19.0	
	comp=Z,7.7nm,0.8s						
WB0	**Warramunga Arr**	**56.52**	**186**	P	**P**	**20 44 20.8**	**0.0**
WB0				IAmb	IAmb	20 44 27.3	
	comp=Z,6.6nm,0.8s						
WRAB	**Tennant Creek**	**56.69**	**186**	P	**P**	**20 44 22.3**	**+0.3**
WRAB				IAmb	IAmb	20 44 24.2	
	comp=Z,8.3nm,0.9s						
WB2	**Warramunga Arr**	**56.70**	**186**	P	**P**	**20 44 22.1**	**0.0**
WRA	**Warramunga Arr**	**56.70**	**186**	P	**P**	**20 44 20.4**	**-1.7**
	comp=Z,6.1nm,0.8s,baz=1,9,slow=7.3,SNR=38						
WRA	**Warramunga Arr**	**56.70**	**186**	P	**P**	**20 44 22.3**	**+0.2**
WR0	**Warramunga Arr**	**56.70**	**186**	P	**P**	**20 44 22.2**	**+0.2**
WR0				IAmb	IAmb	20 44 23.9	
	comp=Z,6.4nm,0.8s						
ABKAR	**Akbulak array**	**56.88**	**310**	P	**P**	**20 44 23.2**	**+0.1**
AKTO	**Aktyubinsk**	**57.65**	**312**	P	**P**	**20 44 27.7**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=53,slow=10						
ASAR	**Alice Springs**	**60.43**	**186**	P	**P**	**20 44 48.1**	**+0.1**
	comp=Z,5.3nm,1.0s,baz=13,slow=5.3,SNR=21						
ASAR	**Alice Springs**	**60.43**	**186**	P	**P**	**20 44 48.2**	**+0.2**
EUNU	**Eureka**	**60.58**	**8**	P	**P**	**20 44 49.6**	**+1.1**
FINES	**FINESS Array B**	**68.25**	**332**	P	**P**	**20 45 38.1**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=44,slow=8.4,SNR=3.0						
FINES	**FINESS Array B**	**68.25**	**332**	P	**P**	**20 45 40.3**	**+1.5**
NB2	**NORSAR Subarra**	**73.75**	**337**	P	**P**	**20 46 10.9**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**73.75**	**337**	P	**P**	**20 46 10.8**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=39,slow=5.8,SNR=4.3						
NVAR	**Mina Array Bea**	**76.31**	**52**	P	**P**	**20 46 28.2**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=310,slow=5.6,SNR=1.0						
TXAR	**Lajitas Array**	**91.43**	**51**	P	**P**	**20 47 46.5**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=284,slow=3.6,SNR=3.3						
TXAR	**Lajitas Array**	**91.43**	**51**	P	**P**	**20 47 46.1**	**+1.0**

IDC ***03*** *20:36:48.8±0.8, 36°.68N×139°.50E, h0km, mb3.7/9, mb1 4.0/15, mb1mx3.7/66, mbtmp3.9/15, ML3.6/4, Error ellipse: s-maj=16.1km s-min=11.1km az=163.0*

JMA ***03*** *20:36:48.7, 36°.87N×139°.51E, h7km±1km, M4.3 Broadband fault plane solution: P waves. NP1: ϕ_s156.00000°, δ44.00000°, λ11.00000°. NP2:ϕ_s58.00000°, δ82.00000°, λ134.00000°. Principal axes: T Plg37.0000°, Azm6.0000°; N Plg43.0000°, Azm231.0000°; P Plg24.0000°, Azm116.0000°;*

JMA Felt III J1.

NIED ***03*** *20:36:48.7, 36°.87N×139°.51E, h7km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.40; $M_{\theta\theta}$1.02; $M_{\phi\phi}$-1.42; $M_{r\theta}$0.46; $M_{\theta\phi}$-1.09; $M_{\phi r}$0.20; Fault plane solution: $M_0$1.72000×10^{15} NP1:ϕ_s65.00000°, δ84.00000°, λ161.00000°. NP2:ϕ_s157.00000°, δ71.00000°, λ6.00000°.*

NEIC ***03*** *20:36:49.5±1.7, 36°.68N±0°.02×139°.52E±0°.07, h8km±5km, mb4.6/6 Error ellipse: s-maj=8.5km s-min=3.0km az=86.0*

ISC 03 20:36:49.8±0.6,**36°.82N**±0°.03×**139°.52E**±0°.03,**h10**km,**n49**, σ1^{s}**61**/**50**,**mb4.0**/11,**4C-4D**,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.23**	**256**	⇓P	**Pg**	**20 36 53.7**	**-0.8**
JSB	**Shiboa**	**0.35**	**65**	⇓P	**Pg**	**20 36 55.8**	**-1.0**
JSB				S	**Sg**	**20 37 00.8**	**-0.7**
JAG	**Ashikaga**	**0.40**	**188**	⇑P	**Pb**	**20 36 57.5**	**-1.5**
JAG				*e*S	**Sb**	**20 37 03.7**	**-1.4**
JHK	**Hiroka**	**0.59**	**317**	⇓P	**Pg**	**20 36 59.3**	**-1.9**
JHK				S	**Sg**	**20 37 06.5**	**-2.4**
JFY	**Yanaizu**	**0.60**	**14**	⇑P	**Pg**	**20 36 59.4**	**-2.1**
JFY				S	**Sg**	**20 37 06.6**	**-2.9**
JRY	**Ryogami san**	**0.94**	**212**	P	**Pb**	**20 37 07.4**	**-0.9**
JFT	**Otama**	**0.95**	**43**	⇑P	**Pg**	**20 37 06.2**	**-2.0**
JIZZ	**Izumozaki**	**0.96**	**318**	⇓P	**Pg**	**20 37 07.5**	**-0.8**
JNS	**Sasagawa**	**1.01**	**351**	⇑P	**Pg**	**20 37 06.7**	**-2.5**
JNS				*e*S	**Sg**	**20 37 19.5**	**-2.9**
MJAR	**Matsushiro Arr**	**1.09**	**256**	Pg	**Pg**	**20 37 08.6**	**-2.2**
	64nm,0.3s,baz=72,slow=17,SNR=46						
MJAR				Lg	Lg	20 37 22.4	
	24nm,0.3s,baz=325,slow=39,SNR=6.9						
MAJO	**Matsushiro**	**1.09**	**256**	Pg	**Pg**	**20 37 09.9**	**-0.9**
MAT	**Matsushiro**	**1.09**	**256**	P	**Pg**	**20 37 09.5**	**-1.3**
MAT				S	**Sg**	**20 37 23.6**	**-1.4**
JHJ	**Hachijo jima 2**	**3.70**	**177**	Pn	**Pn**	**20 37 45.9**	**-1.1**
	27nm,0.3s,baz=276,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**20 38 31.9**	**+1.2**
	9.2nm,0.3s,baz=73,slow=19,SNR=1.0						
JHJ2	**Mitsune**	**3.71**	**176**	Pn	**Pn**	**20 37 45.9**	**-1.2**
ERM	**Erimo**	**5.90**	**27**	Pn	**Pn**	**20 38 19.0**	**+1.8**
ASAJ	**Asahikawa**	**7.66**	**17**	Pn	**Pn**	**20 38 42.0**	**+0.7**
	0.9nm,0.3s,baz=188,slow=14,SNR=3.2						
JKA	**Kamikawa-asahi**	**7.66**	**17**		**Pn**	**20 38 42.6**	**+1.3**
KSRS	**Korea Array**	**9.28**	**277**	Pn	**Pn**	**20 39 04.2**	**+0.5**
	1.0nm,0.3s,baz=87,slow=14,SNR=8.5						
KSAR	**Wonju Array Be**	**9.31**	**277**	Pn	**Pn**	**20 39 05.4**	**+1.3**
KS19	**Wonju Array Si**	**9.33**	**278**		**Pn**	**20 39 05.5**	**+1.2**
USA0B	**Ussuriysk Arra**	**9.34**	**324**	Pn	**Pn**	**20 39 05.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**9.34**	**324**	Pn	**Pn**	**20 39 07.1**	**+2.7**
	baz=141,slow=13,SNR=7.2						
JCJ	**Chichijima**	**9.96**	**166**	Pn	**Pn**	**20 39 10.5**	**-2.5**
	5.0nm,0.3s,baz=263,slow=18,SNR=1.4						
KLR	**Kul'dur**	**13.63**	**338**	Pn	**Pn**	**20 40 05.8**	**+2.7**
	0.1nm,0.3s,baz=137,slow=11,SNR=4.2						
PETK	**Petropavlovsk-**	**20.65**	**32**	P	**P**	**20 41 31.1**	**+1.6**
	1.0nm,0.6s,baz=225,slow=6.1,SNR=2.9						
PETK	**Petropavlovsk-**	**20.65**	**32**	P	**P**	**20 41 31.0**	**+1.5**
H11N2	**WAKE ISLAND Hy**	**29.37**	**118**	T	T	21 12 57.3	
	baz=313,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**29.37**	**118**	T	T	21 12 57.1	
	baz=313,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**29.38**	**118**	T	T	21 12 57.9	
	baz=313,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**30.04**	**120**	T	T	21 13 49.1	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**30.04**	**120**	T	T	21 13 40.9	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy**	**30.06**	**120**	T	T	21 13 51.0	
	baz=314						
ZALV	**Zalesovo Beam**	**40.94**	**313**	P	**P**	**20 44 34.2**	**+2.0**
	0.7

SANVU				S	Sn	21 13 39.5	-0.2
MSVF	Nonsavu	8.46	82	Pn	Pn	21 13 47.4	+3.4
HNR	Honiara	13.25	316	Pn	Pn	21 14 45.9	+0.6
OUZ	Omahuta	16.43	167	P	Pn	21 15 25.7	+1.6
EIDS	Eidsvold	17.92	247	P	Pn	21 15 41.6	-0.2
ARMA	Armidale	19.50	232	P	Pn	21 15 58.9	-1.7
ARMA				IAmb	IAmb	21 16 04.3	
comp=Z,11nm,0.9s							
CTA	Charters Tower	21.70	264	P	P	21 16 21.3	+1.3
comp=Z,9.9nm,0.6s,baz=95,slow=12,SNR=15							
CTAO	Charters Tower	21.70	264	P	P	21 16 20.9	+0.8
CTAO				IAmb	IAmb	21 16 22.3	
comp=Z,11nm,0.7s							
CAN	Canberra	24.07	224	P	P	21 16 43.2	+1.4
CAN				IAmb	IAmb	21 16 50.8	
comp=Z,9.3nm,1.0s							
STKA	Stephens Creek	27.90	238	P	P	21 17 17.6	+1.5
comp=Z,7.8nm,0.5s,baz=72,slow=10.0,SNR=20							
BBOO	Buckleboo	32.64	239	P	P	21 17 57.8	0.0
BBOO				IAmb	IAmb	21 17 59.1	
comp=Z,9.3nm,0.7s							
WR0	Warramunga Arr	32.70	263	P	P	21 17 57.9	-0.6
WR0				IAmb	IAmb	21 17 58.7	
comp=Z,9.3nm,0.9s							
WB2	Warramunga Arr	32.88	263	P	P	21 17 59.1	-0.9
WB2				IAmb	IAmb	21 18 02.3	
comp=Z,6.8nm,0.8s							
WRA	Warramunga Arr	32.89	263	P	P	21 17 59.4	-0.8
comp=Z,5.5nm,0.4s,baz=83,slow=6.6,SNR=91							
WRA				PcP	PcP	21 20 39.8	-0.2
comp=Z,0.4nm,0.5s,baz=92,slow=4.2,SNR=1.6							
WRA	Warramunga Arr	32.89	263	P	P	21 17 58.5	-1.7
ASAR	Alice Springs	33.17	256	P	P	21 18 02.6	0.0
comp=Z,66nm,0.6s,baz=83,slow=9.0,SNR=766							
ASAR				S	S	21 23 03.9	-3.5
comp=Z,1.1nm,0.9s,baz=86,slow=18,SNR=6.9							
ASAR				ScP	ScP	21 24 04.2	-2.0
comp=Z,0.8nm,0.8s,baz=77,slow=4.1,SNR=5.6							
ASAR	Alice Springs	33.17	256	P	P	21 18 01.5	-1.1
MTN	Manton Dam	37.14	274	P	P	21 18 36.5	0.0
KNRA	Kununurra	38.75	269	P	P	21 18 49.9	-0.1
FITZ	Fitzroy Crossi	41.28	264	P	P	21 19 11.1	+0.4
FITZ				IAmb	IAmb	21 19 12.2	
comp=Z,7.7nm,0.6s							
PSA00	Pilbara Seismi	46.24	258	P	P	21 19 49.9	-0.3
VNDA	Vanda	58.49	182	P	P	21 21 19.7	+0.4
comp=Z,0.3nm,0.5s,baz=352,slow=7.2,SNR=2.2							
VNDA	Vanda	58.49	182	P	P	21 21 19.3	-0.1
YOJ	Yonaguni jima	62.55	312	P	P	21 21 47.3	-0.2
MJAR	Matsushiro Arr	62.72	332	P	P	21 21 48.3	-0.2
comp=Z,2.1nm,0.8s,baz=166,slow=7.1,SNR=6.5							
QSPA	South Pole Qui	70.87	180		P	21 22 39.5	-0.2
USRK	Ussuriysk Arr.	71.70	333	P	P	21 22 44.8	+0.1
comp=Z,2.5nm,0.7s,baz=132,slow=6.5,SNR=5.2							
ADK	Adak	71.82	9	P	P	21 22 44.7	-0.5
ADK				IAmb	IAmb	21 22 45.2	
comp=Z,6.9nm,0.8s							
WHN	Wuhan	72.33	312	P	P	21 22 51.1	+2.3
PETK	Petropavlovsk-	72.69	353	P	P	21 22 50.9	+0.6
comp=Z,5.2nm,0.7s,baz=151,slow=9.4,SNR=19							
PETK	Petropavlovsk-	72.69	353	P	P	21 22 50.6	+0.2
KLR	Kul'dur	75.83	336	P	P	21 23 09.1	+0.5
comp=Z,3.2nm,0.7s,baz=130,slow=4.9,SNR=9.9							
BELA	Belgrano 2	82.15	175	P	P	21 23 41.2	-1.4
KDAK	Kodiak Island	82.97	19	P	P	21 23 47.5	+0.6
comp=Z,9.9nm,0.8s,baz=219,slow=4.9,SNR=11							
KDAK	Kodiak Island	82.97	19	P	P	21 23 47.5	+0.6
KDAK				IAmb	IAmb	21 23 48.1	
comp=Z,10nm,0.8s							
CNPM	China Poot	84.80	19	P	P	21 23 56.4	+0.2
SVW2	Sparrevohn	84.84	16	P	P	21 23 57.0	+0.6
KCPM	Cahto Peak	85.67	45	P	P	21 24 01.6	+0.5
ULN	Ulaanbaatar	86.84	323	P	P	21 24 06.6	-0.1
ULN				IAmb	IAmb	21 24 07.9	
comp=Z,6.6nm,1.0s							
AFDM	Forest Hills D	87.11	47	P	P	21 24 08.4	+0.4
AFDM				IAmb	IAmb	21 24 09.4	
comp=Z,9.1nm,1.1s							
GTA	Gaotai	87.11	313	eP	P	21 24 08.7	+0.5
GTA				pP	PcP	21 24 13.1	+3.1
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
SONM	Songino Array	87.19	323	P	P	21 24 08.7	+0.3
comp=Z,3.4nm,0.8s,baz=147,slow=6.4,SNR=21							
SONM	Songino Array	87.19	323	P	P	21 24 08.0	-0.4
PAHR	Pah Rah Range	88.55	47	P	P	21 24 14.8	-0.1
PAHR				IAmb	IAmb	21 24 16.6	
comp=Z,4.8nm,0.9s							
NVAR	Mina Array Bea	88.74	48	P	P	21 24 16.6	+0.6
comp=Z,3.3nm,1.0s,baz=228,slow=7.6,SNR=15							
NVAR	Mina Array Bea	88.74	48	P	P	21 24 16.2	+0.2
NV11	Mina Array Sit	88.85	49	P	P	21 24 16.7	+0.3
KVN	Kaiserville	89.15	48	P	P	21 24 17.7	-0.2
KVN				IAmb	IAmb	21 24 19.2	
comp=Z,6.4nm,1.2s							
SNAA	Sanae	89.22	182	P	P	21 24 16.6	-0.9
SNAA	Sanae	89.22	182	P	P	21 24 16.8	-0.7
PINE	Pine Mountain	89.36	43	P	P	21 24 19.5	+0.8
IMAR	Indian Mountai	89.37	14	P	P	21 24 18.0	0.0
TPNV	Topopah Spring	89.59	51	P	P	21 24 20.1	+0.2
TPNV				IAmb	IAmb	21 24 21.5	
comp=Z,7.4nm,1.0s							
VNA3	Neumayer Olymp	89.81	180	P	P	21 24 19.0	-1.2
VNA2	Neumayer--Watz	90.10	181	P	P	21 24 20.6	-0.9
ILAR	Eielson Array	90.17	17	P	P	21 24 20.1	-1.7
comp=Z,1.7nm,0.7s,baz=234,slow=5.6,SNR=14							
SHPR	Sheep Range	90.21	51	P	P	21 24 23.4	+0.5
SHPR				IAmb	IAmb	21 24 24.6	
comp=Z,5.3nm,1.1s							
DLBC	Dease Lake	91.98	27	P	P	21 24 30.6	+0.2
comp=Z,4.0nm,0.8s,baz=264,slow=7.2,SNR=4.9							
TXAR	Lajitas Array	96.71	61	P	P	21 24 53.1	+0.4
comp=Z,0.2nm,0.5s,baz=228,slow=5.6,SNR=3.6							
MKAR	Makanchi Array	101.72	316	P	Pdif	21 25 15.6	+1.0
comp=Z,0.2nm,0.5s,baz=96,slow=5.1,SNR=5.4							
BOSA	Boshof	121.12	217	PKP	PKPdf	21 30 13.6	-0.8
comp=Z,1.9nm,0.8s,baz=104,slow=4.2,SNR=2.1							
BOSA	Boshof	121.12	217		PKPdf	21 30 13.9	-0.5
ARCES	ARCESS Array B	125.02	345	PKP	PKPdf	21 30 19.3	-1.1
comp=Z,1.3nm,0.3s,baz=86,slow=1.9,SNR=19							
ARCES	ARCESS Array B	125.02	345		PKPdf	21 30 18.9	-1.5
FINES	FINESS Array B	130.55	338	PKP	PKPdf	21 30 30.6	-0.5
comp=Z,1.8nm,0.9s,baz=41,slow=4.4,SNR=3.7							
FINES				SKPbc	SKPbc	21 33 33.2	-2.7
comp=Z,1.5nm,0.7s,baz=87,slow=4.2,SNR=6.9							
NOA	NORSAR Array B	135.40	345	PKP	PKPdf	21 30 40.1	-0.2
comp=Z,0.3nm,0.6s,baz=38,slow=4.3,SNR=1.8							
BSEG	Bad Segeberg	141.72	340	eL	L	22 39 24.5	
comp=Z,444nm,21.5s							
CLL	Collm	142.88	335	eL	L	22 40 01.8	
comp=Z,552nm,19.8s							
TANN	Tannenbergstha	143.79	335	ePKPbc	PKPab	21 30 53.2	-0.1
baz=37,slow=3.0							
WERD	Werda	143.83	335	ePKPbc	PKPab	21 30 53.6	+0.1
baz=37,slow=3.0							
PLN	Plauen	143.86	335	ePKPbc	PKPab	21 30 53.9	+0.3
baz=37,slow=3.0							
GUNZ	Gunzen	143.88	335	ePKPbc	PKPab	21 30 54.1	+0.4
baz=37,slow=3.0							
WERN	Wernitzgruen	143.92	335	ePKPbc	PKPab	21 30 54.1	+0.3
baz=37,slow=3.0							
MOX	Moxa	143.94	336	ePKPbc	PKPab	21 30 54.0	+0.1
baz=37,slow=3.0							
MOX				eL	L	22 29 06.4	
comp=Z,568nm,21.9s							
CONA	Conrad Observa	144.11	329	i PKPdf	PKPdf	21 30 56.5	-0.1
comp=Z,1.1nm,0.4s							
MANZ	Manzenberg	144.27	335	ePKPbc	PKPab	21 30 55.1	0.0
baz=37,slow=3.0							
ROTZ	Rotzenmuhle	144.40	334	ePKPbc	PKPab	21 30 55.8	+0.2
baz=37,slow=3.0							
GEC2	GERESS Array S	144.46	332	ePKPbc	PKPab	21 30 55.7	-0.3
baz=37,slow=3.0							
GEC2				eL	L	22 32 39.0	
comp=Z,602nm,21.8s							
GERES	GERESS Array B	144.46	332	PKP	PKPab	21 30 55.9	-0.1
comp=Z,4.8nm,0.6s,baz=37,slow=4.4,SNR=46							
GERES	GERESS Array B	144.46	332		PKPab	21 30 55.3	-0.7
WET	Wettzell	144.59	333	ePKPbc	PKPab	21 30 56.1	-0.3
baz=37,slow=3.0							
WET				eL	L	22 41 05.5	
comp=Z,557nm,20.8s							
ARSA	Arzberg	144.75	329	i PKPdf	PKPbc	21 30 57.0	-0.1
comp=Z,1.6nm,0.5s							
GRF	Grafenberg Arr	144.85	335	ePKPbc	PKPbc	21 30 57.3	0.0
baz=37,slow=3.0							
GRF				eL	L	22 33 55.0	
comp=Z,638nm,20.7s							
MOA	Molln	144.93	330	i PKPdf	PKPbc	21 30 57.6	0.0
comp=Z,13nm,0.7s							
SOKA	Soboth	145.38	328	i PKPab	PKPbc	21 30 58.9	-0.2
comp=Z,4.2nm,0.4s,SNR=7.6							
TNS	Taunus Mts	145.46	338	eL	L	22 35 23.3	
comp=Z,557nm,21.6s							
OBKA	Obir	145.74	328	i PKPab	PKPab	21 31 00.8	-0.1
comp=Z,2.2nm,0.5s							
FUR	Furstenfeldbru	146.03	333	eL	L	22 30 07.7	
comp=Z,603nm,21.5s							
MYKA	Terra Mystica	146.10	329	i PKPab	PKPdf	21 31 00.5	+0.5
comp=Z,3.1nm,0.5s							
ABTA	Abfaltersbach	146.55	331	i PKPbc	PKPdf	21 31 01.4	+0.6
comp=Z,2.9nm,0.5s,SNR=7.9							
WTTA	Wattenberg	146.56	332	i PKPab	PKPbc	21 31 02.1	-0.7
comp=Z,1.7nm,0.3s							
MOTA	Moosalm	146.73	333	i PKPbc	PKPbc	21 31 02.5	-0.7
comp=Z,5.9nm,0.7s,SNR=8.0							
SQTA	Sankt Quirin	146.78	332	i PKPbc	PKPbc	21 31 02.7	-0.6
comp=Z,5.3nm,0.5s,SNR=6.2							
UBR	Ueberruh	146.90	334	ePKPbc	PKPbc	21 31 03.0	-0.5
baz=37,slow=3.0							
BFO	Black Forest	147.08	336	ePKPbc	PKPbc	21 31 03.2	-0.8
baz=37,slow=3.0							
BFO				eL	L	22 39 57.0	
comp=Z,424nm,20.6s							
FETA	Feichten	147.15	333	i PKPbc	PKPbc	21 31 04.0	-0.4
comp=Z,4.5nm,0.5s							
DAVA	Damuels	147.30	334	i PKPbc	PKPbc	21 31 04.2	-0.6
comp=Z,2.8nm,0.6s							

JMA ***03*** *21:14:59.5±0.1, 24°.95N×122°.48E, h37km±3km, M1.7*
TAP ***03*** *21:14:59.1, 24°.94N×122°.44E, h14km, ML2.8, C*
ISC 03 21:14:59.5±1.2, 24°.91N±0°.05×122°.46E±0°.03, h23km±13km, n46, σ0s75/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.48	263	i P	Pb	21 15 08.8	-0.6
baz=246							
EGS				eS	Sb	21 15 15.0	-1.1
baz=246							
NTC	Toucheng	0.58	265	eP	Pb	21 15 11.0	0.0
baz=261							
TIPB	Shuangxi	0.58	276	eP	Pb	21 15 10.8	-0.2
baz=273							
TIPB				S	Sb	21 15 18.8	-0.2
baz=273							
TWC	Suao	0.63	242	i P	Pb	21 15 11.7	-0.2
baz=238							
TWC				eS	Sb	21 15 20.1	-0.2
baz=238							
JYNG	Yonaguni jima	0.63	136	P	Pb	21 15 12.1	+0.2
JYNG				S	Sn	21 15 21.7	-0.7
NWF	Wu-fen Shan	0.64	285	i P	Pb	21 15 12.3	+0.2
baz=282							
NWF				i S	Sb	21 15 21.1	+0.5
baz=282							
WFSB	Wu-fen Shan	0.64	285	eP	Pn	21 15 12.3	-0.8
baz=282							
WFSB				i S	Sb	21 15 21.1	+0.5
baz=282							
YOJ	Yonaguni jima	0.67	132	i P	Pb	21 15 12.7	+0.1
baz=122							
YOJ				S	Sb	21 15 22.2	+0.8
baz=122							
YOJ	Yonaguni jima	0.67	132	P	Pb	21 15 12.6	+0.1
YOJ				S	Sb	21 15 21.9	+0.5
TWE	Neicheng	0.75	256	i P	Pb	21 15 13.8	-0.1
baz=242							
TWE				eS	Sb	21 15 23.4	-0.1
baz=242							
ENAH	Nanao	0.75	232	P	Pb	21 15 14.0	+0.2
baz=230							
ENAH				eS	Sn	21 15 24.6	-0.6
baz=230							
PCYT	Pengchaiyu	0.80	334	P	Pn	21 15 14.8	-0.5
baz=334							
TWA	Mucha	0.80	275	eP	Pn	21 15 15.1	-0.3
baz=273							
ENA	Nanau	0.81	234	P	Pb	21 15 15.1	+0.1
baz=230							
ENA				i S	Sb	21 15 25.9	+0.4
baz=230							
YM08	YM08	0.84	290	eP	Pn	21 15 15.8	-0.1
baz=287							
YM01	YM01	0.84	286	P	Pn	21 15 15.5	-0.4
baz=284							
YM11	YM11	0.84	288	eP	Pn	21 15 17.0	+1.0
baz=286							
YM05	YM05	0.85	288	eP	Pn	21 15 16.3	+0.2
baz=285							
YM10	YM10	0.85	287	i P	Pn	21 15 15.8	-0.3
baz=285							
ENTT	Nioudou	0.86	252	eP	Pn	21 15 16.1	0.0
baz=249							
YM04	YM04	0.87	286	eP	Pn	21 15 16.4	0.0
baz=284							
YM03	YM03	0.88	288	eP	Pn	21 15 16.6	+0.2
baz=286							
NWLT	Wulai	0.88	262	P	Pn	21 15 16.5	0.0
baz=259							
NWLT				eS	Sn	21 15 27.9	-0.6
baz=259							
ANP	Anpu	0.90	288	eP	Pn	21 15 16.9	+0.1
baz=286							
NDT	Datong Townshi	0.92	251	P	Pn	21 15 17.0	+0.1
baz=241							
NACB	Ninganchiao	1.08	227	eP	Pb	21 15 19.4	0.0
baz=225							
NNSB	Datong	1.09	244	i P	Pb	21 15 19.9	+0.1
baz=242							
NNSH	Datong	1.09	244	eP	Pb	21 15 20.4	+0.7
baz=242							
NNS	Nan Shan	1.09	245	eP	Pb	21 15 20.6	+0.7
baz=242							
ETLH	Xiulin Townshi	1.13	232	eP	Pb	21 15 21.6	+1.1
baz=230							
IRIF	Iriomote-Funau	1.29	116	P	Pn	21 15 21.9	-0.1
IRIF				eS	Sn	21 15 38.5	0.0
FUSS	Fushou	1.29	240	eP	Pb	21 15 24.2	+1.0
baz=227							
WHF	Hehuan Shan	1.33	235	eP	Pb	21 15 24.7	+0.7
baz=233							
LIOB	Emei	1.34	259	eP	Pb	21 15 25.5	+1.6
baz=257							
TDCB	Techi	1.35	241	eP	Pb	21 15 24.4	+0.1
baz=230							
NSTT	Nanjuang	1.36	259	eP	Pb	21 15 26.5	+2.2
baz=256							
CHGB	Renai	1.45	234	eP	Pb	21 15 26.8	+0.9
baz=232							
CHGB				eS	Sb	21 15 46.4	+2.4
baz=232							
WHP	Taichung City	1.52	246	eP	Pb	21 15 28.1	+1.1
baz=259							
VWDT	VWDT	1.67	227	eP	Pb	21 15 29.8	+0.3
baz=206							
HGSD	Ruisui	1.70	214	eP	Pb	21 15 30.8	+0.7
baz=197							
SSLB	Suanglung	1.77	231	eP	Pb	21 15 31.7	+0.3
baz=212							
YULB	Yu-li	1.85	215	eP	Pb	21 15 32.4	-0.2
baz=213							
CHN5	Tsauling	2.09	232	eP	Pb	21 15 36.3	-0.4
baz=229							
TPUB	Ta-pu	2.32	227	eP	Pb	21 15 39.5	-1.2
baz=208							
WTP	Ta-pu	2.37	226	eP	Pb	21 15 41.2	-0.3
baz=208							
SLGT	Liugui	2.53	221	eP	Pb	21 15 42.5	-1.7
baz=204							

NEIC ***03*** *21:21:18.3±1.5, 18°.73N±0°.04×81°.30W±0°.07, h10km±2km, mb4.1/13, Error ellipse: s-maj=11.4km s-min=5.6km az=285.0*
IDC ***03*** *21:21:19.3±2.0, 18°.91N×81°.50W, h0km, mb3.3/4, mb1 3.9/6, mb1mx3.6/43, mbtmp3.6/6, ML4.0/2, Error ellipse: s-maj=52.1km s-min=30.4km az=4.0*
SSNC ***03*** *21:21:24.0±2.8, 18°.98N×81°.18W, h5km, ML3.8, MW3.6*
ISC 03 21:21:18.2±0.9, 18°.75N±0°.07×81°.36W±0°.05, h10km, n37, σ2s14/47, mb3.8/7, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSCY	Frank Sound, G	0.58	16		Pb	21 21 30.5	0.0
FSCY				Sg	Sb	21 21 37.5	-1.2
LCCY	Blossom Villag	1.51	53		Pn	21 21 44.8	-0.5
LCCY				Sn	Sn	21 22 04.4	-0.6
CBCY	The Bluff, Cay	1.80	57		Pn	21 21 48.2	-1.1
CBCY				Sn	Sn	21 22 09.1	-3.1
MGV	Manicaragua	3.58	21	eP	Pn	21 22 12.8	-1.0
MGV				eS	Sn	21 22 50.8	-5.3
MGV				IAML		21 22 55.6	
comp=N,140nm,0.3s							
MGV				IAML		21 22 57.5	
comp=E,154nm,0.5s							
MTDJ	Mount Denham	3.67	98		Pn	21 22 15.9	+0.8
MTDJ				Sn	Sn	21 22 56.1	-2.3
SOR	Soroa	4.30	339	eP	Pn	21 22 25.5	+1.7
SOR				eS	Sn	21 23 12.7	-1.4
SOR				IAML		21 23 35.1	
comp=E,97nm,0.5s							
SOR				IAML		21 23 39.4	
comp=N,45nm,0.7s							
LMGC	Las Mercedes	4.31	72	eP	Pn	21 22 25.1	+1.3
LMGC				eS	Sn	21 23 10.3	-3.9
LMGC				IAML		21 23 18.5	
comp=N,59nm,0.7s							
LMGC				IAML		21 23 22.2	
comp=E,60nm,0.6s							
RCC	Rio Carpintero	5.49	76	eP	Pn	21 22 37.7	-2.3
RCC				eS	Sn	21 23 36.4	-6.8
RCC				IAML		21 23 54.8	
comp=N,17nm,0.6s							
RCC				IAML		21 23 54.8	
comp=E,12nm,0.6s							
GTBY	Guantanamo Bay	6.01	78	Pn	Pn	21 22 48.0	+0.8
GTMO	Guantanamo	6.01	76	eP	Pn	21 22 51.3	+4.1
GTMO				eS	Sn	21 23 56.4	+0.2
GTMO				IAML		21 24 08.8	
comp=E,48nm,0.6s							
GTMO				IAML		21 24 13.0	
comp=N,56nm,0.8s							
TEIG	Tepich	6.69	284	Pn	Pn	21 22 55.9	-0.7
comp=N,9.1nm,0.3s,baz=192,slow=0.4,SNR=79							
TEIG				Sn	Sn	21 24 06.6	-6.2
comp=N,1.3nm,0.3s,baz=4.1,slow=20,SNR=1.3							
TEIG	Tepich	6.69	284		Pn	21 22 55.4	-1.2
061Z	Ochoppi	7.09	3	Pn	Pn	21 23 02.9	+0.8
TIGA	Tifton	12.79	351		Pn	21 24 20.7	+0.5
152A	Waverly Hall	14.18	348		Pn	21 24 39.1	-0.1
GOGA	Godfrey	14.72	353		Pn	21 24 48.2	+1.6
BG3	Lake Jocassee	16.24	355	Pn	Pn	21 25 07.3	+0.9
W52A	Murphy	16.44	353	P	Pn	21 25 10.2	+1.2
W52A				IAmb	IAmb	21 25 18.8	
comp=Z,15nm,0.9s							
CPCT	Cooper Cave	16.87	351	P	P	21 25 16.5	0.0
TKL	Tuckaleechee C	16.98	353	Pn	Pn	21 25 15.5	-0.3
comp=Z,0.2nm,0.3s,baz=174,slow=14,SNR=6.3							
TKL	Tuckaleechee C	16.98	353	P	P	21 25 17.0	-0.7
TZTN	Tazewell	17.83	354	P	P	21 25 27.0	-0.1
TZTN				IAmb	IAmb	21 25 45.6	
comp=Z,13nm,1.1s							
T42A	Van Buren	20.12	337	P	P	21 25 52.9	+0.7
MGMO	Mountain Grove	20.68	335	P	P	21 25 58.9	+0.4
MGMO				IAmb	IAmb	21 26 14.0	
comp=Z,12nm,1.1s							
FVM	French Village	20.73	339	P	P	21 26 00.1	+1.1
FVM				IAmb	IAmb	21 26 12.5	
comp=Z,5.1nm,0.8s							
R40A	Maddies Statio	21.67	336	P	P	21 26 08.9	-0.1
R40A				IAmb	IAmb	21 26 13.7	
comp=Z,6.6nm,0.9s							
P43A	Skaggs, Pawnee	21.98	343	P	P	21 26 12.8	+0.5
P43A				IAmb	IAmb	21 26 28.5	
comp=Z,8.4nm,0.9s							
TXAR	Lajitas Array	22.90	302	P	P	21 26 23.0	+0.6
comp=Z,0.3nm,0.7s,baz=121,slow=11,SNR=3.1							
TXAR	Lajitas Array	22.90	302	P	P	21 26 23.2	+0.8
TX31	Lajitas Ar. Si	22.90	302	P	P	21 26 22.6	+0.3
P38A	Dawn	23.31	336	P	P	21 26 26.5	+0.1
P38A				IAmb	IAmb	21 26 36.7	
comp=Z,6.1nm,0.8s							
AMTX	Amarillo	24.16	316	P	P	21 26 35.3	+0.6
PDAR	Pinedale Array	33.78	321	P	P	21 28 01.7	+1.1
comp=Z,0.1nm,0.3s,baz=111,slow=12,SNR=2.0							
PDAR	Pinedale Array	33.78	321	P	P	21 28 01.1	+0.6
ILAR	Eielson Array	62.81	334	P	P	21 31 44.8	+1.0
comp=Z,0.4nm,0.6s,baz=80,slow=5.9,SNR=2.3							
ESDC	Sonseca Array	68.73	54	P	P	21 32 25.2	+2.7
comp=Z,0.4nm,0.8s,baz=297,slow=6.5,SNR=4.8							
WRA	Warramunga Arr	146.34	262	PKPbc	PKPab	21 41 02.0	+1.1
comp=Z,0.8nm,0.9s,baz=82,slow=3.6,SNR=4.9							

JMA ***03*** *21:34:13.7±0.1, 43°.41N×145°.63E, h102km±1km, M3.2*
SKHL ***03*** *21:34:14.4±0.4, 43°.11N×146°.06E, h65km±14km, mb4.2/3*
ISC 03 21:34:13.7±1.8, 43°.40N±0°.07×145°.62E±0°.06, h102km±10km, n16, σ0s38/30, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.09	111	P	Pn	21 34 27.9	0.0
NEM2				eS	Sn	21 34 38.3	-0.1
GLVR	Golovnino	0.35	347	i P	Pn	21 34 29.0	+0.3
GLVR				AMB	AMB	21 34 29.2	
50nm,0.2s							
GLVR				eS	Sn	21 34 39.8	-0.2
GLVR				A	A	21 34 41.3	
310nm,0.4s							
GLVR				A	A	21 34 41.3	
1μm,0.4s							
JKHN	Kushirohamanak	0.46	227	P	Pn	21 34 29.7	+0.3
JKHN				eS	Sn	21 34 41.5	+0.3
JNSB	Nemuroshibetsu	0.59	310	P	Pn	21 34 30.6	+0.3
JNSB				eS	Sn	21 34 43.4	+0.6
GRPR	Tuman	0.60	10	i P	Pn	21 34 30.6	+0.1
GRPR				AMB	AMB	21 34 30.8	
320nm,0.4s							
GRPR				i S	Sn	21 34 42.6	-0.5
GRPR				A	A	21 34 43.5	
220nm,0.3s							
GRPR				A	A	21 34 43.5	
2μm,0.3s							
JRA	Rausu	0.65	326	P	Pn	21 34 30.9	+0.1
JRA				eS	Sn	21 34 43.7	0.0
Y

JYRO	**Yoronjima**	**0.79**	**124**	P	**Pn**	**21 44 39.3 0.0**
JYRO				S	**Sn**	**21 44 52.6 -0.2**
JOW	**Kunigami**	**0.80**	**142**	P	**Pn**	**21 44 39.8 +0.3**
JOW				S	**Sn**	**21 44 53.6 +0.4**
JAGN	**Aguni-jima**	**0.97**	**206**	P	**Pn**	**21 44 41.5 +0.2**
JAGN				S	**Sn**	**21 44 56.4 +0.1**
JNTH	**Nagotoyohara**	**0.98**	**164**	P	**Pn**	**21 44 41.9 +0.5**
JNTH				S	**Sn**	**21 44 56.4 0.0**
JTK	**Tokunoshima**	**1.14**	**74**	P	**Pn**	**21 44 43.1 +0.1**
JTK				S	**Sn**	**21 44 58.9 -0.6**
JJT3	**Tamagusuku3**	**1.32**	**178**	P	**Pn**	**21 44 46.4 +1.1**
JKE	**Kume jima 2**	**1.41**	**217**	P	**Pn**	**21 44 46.6 +0.3**
JKE				S	**Sn**	**21 45 04.8 -0.5**
JAMN	**Amaminishikomi**	**1.50**	**59**	P	**Pn**	**21 44 47.4 0.0**
JAMN				S	**Sn**	**21 45 05.6 -1.6**
JAM	**Amami Oshima**	**1.91**	**60**	P	**Pn**	**21 44 52.9 +0.3**
JAM				S	**Sn**	**21 45 16.5 0.0**
JTAJ	**Takarajima**	**2.13**	**38**	P	**Pn**	**21 44 56.3 +0.9**
JTAJ				S	**Sn**	**21 45 21.9 +0.4**
JZK	**Kikaishima**	**2.16**	**67**	P	**Pn**	**21 44 56.4 +0.5**
JZK				S	**Sn**	**21 45 23.7 +1.4**
SONM	**Songino Array**	**26.27**	**326**	P	**P**	**21 49 48.7 +1.2**
	0.6nm,0.5s,baz=140,slow=9.1,SNR=4.6					
MKAR	**Makanchi Array**	**40.38**	**311**	P	**P**	**21 51 48.4 -1.0**
	0.3nm,0.6s,baz=94,slow=12,SNR=4.6					
ZALV	**Zalesovo Beam**	**40.99**	**322**	P	**P**	**21 51 54.1 -0.2**
	0.6nm,0.6s,baz=118,slow=8.3,SNR=2.3					
WRA	**Warramunga Arr**	**47.56**	**172**	P	**P**	**21 52 46.5 -0.6**
	0.4nm,0.7s,baz=354,slow=8.3,SNR=3.0					

*NEIC **03** 21:54:02.4±1.1, 26°.9N±0°.1×143°.69E±0°.08, h10km±2km, mb4.2/10, Error ellipse: s-maj=18.8km s-min=12.2km az=185.0*
*IDC **03** 21:54:02.1±1.4, 26°.80N×143°.62E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/44, mbtmp3.7/9, ML3.0/3, MS3.9/1, Ms1 3.9/1, ms1mx3.2/42, Error ellipse: s-maj=33.1km s-min=17.5km az=67.0*
ISC 03 21:54:02.7±0.9, 26°.9N±0°.1×143°.68E±0°.07, h10km, n25, σ0s91/26, mb4.1/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.35**	**279**	Pn	**Pb**	**21 54 28.0**	**-0.1**
	43nm,0.3s,baz=271,slow=23,SNR=54						
JCJ				Sn	**Sg**	**21 54 46.5**	**+0.3**
	87nm,0.3s,baz=113,slow=23,SNR=15						
JCJ	**Chichijima**	**1.35**	**279**		**Pn**	**21 54 27.8**	**+0.2**
JCJ				Sn	**Sb**	**21 54 45.2**	**-0.2**
MJAR	**Matsushiro Arr**	**10.68**	**336**	Pn	**Pn**	**21 56 35.6**	**-0.2**
	0.1nm,0.3s,baz=160,slow=9.9,SNR=11						
MJAR	**Matsushiro Arr**	**10.68**	**336**		**Pn**	**21 56 33.4**	**-2.4**
MAJO	**Matsushiro**	**10.69**	**336**	Pn	**Pn**	**21 56 34.1**	**-1.7**
KSRS	**Korea Array**	**16.97**	**312**	Pn	**P**	**21 58 02.0**	**-0.1**
	0.2nm,0.3s,baz=124,slow=11,SNR=5.8						
USRK	**Ussuriysk Ar.**	**19.68**	**334**	P	**Pn**	**21 58 34.5**	**+1.3**
	baz=167,slow=11,SNR=1.6						
SSLB	**Suanglung**	**20.77**	**266**	P	**P**	**21 58 43.5**	**-0.5**
TPUB	**Ta-pu**	**21.18**	**265**	P	**P**	**21 58 47.9**	**-0.4**
TPUB				IAmb	IAmb	21 59 05.3	
	comp=Z,13nm,1.4s						
KLR	**Kul'dur**	**24.14**	**341**	P	**P**	**21 59 20.9**	**+2.2**
	comp=Z,1.0nm,0.6s,baz=158,slow=10.0,SNR=4.1						
HIA	**Hailar**	**29.00**	**327**	P	**P**	**22 00 02.2**	**-0.4**
SONM	**Songino Array**	**35.79**	**316**	P	**P**	**22 01 02.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=127,slow=9.3,SNR=2.6						
SONM	**Songino Array**	**35.79**	**316**	P	**P**	**22 01 02.4**	**+0.3**
PMG	**Port Moresby**	**36.24**	**174**	LR	LR	22 14 34.1	
	comp=Z,171nm,19.6s,baz=36,slow=34						
CM31	**Chiang Mai Arr**	**41.95**	**268**	P	**P**	**22 01 53.7**	**-0.3**
CM31				IAmb	IAmb	22 01 58.3	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**47.43**	**192**	P	**P**	**22 02 37.6**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=12,slow=8.2,SNR=8.0						
WRA	**Warramunga Arr**	**47.43**	**192**	P	**P**	**22 02 36.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**48.03**	**203**	P	**P**	**22 02 43.1**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=356,slow=19,SNR=2.0						
FITZ	**Fitzroy Crossi**	**48.03**	**203**	P	**P**	**22 02 42.5**	**+0.3**
FITZ				IAmb	IAmb	22 02 43.7	
	comp=Z,5.2nm,1.4s						
ASAR	**Alice Springs**	**51.15**	**192**	P	**P**	**22 03 05.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=7.9,slow=6.2,SNR=4.5						
MKAR	**Makanchi Array**	**51.63**	**310**	P	**P**	**22 03 09.9**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=92,slow=9.5,SNR=5.3						
KURK	**Kurchatov**	**54.08**	**315**	P	**P**	**22 03 27.5**	**+0.1**
KURK				IAmb	IAmb	22 03 40.3	
	comp=Z,2.9nm,1.2s						
VRDI	**Verde Repeater**	**58.59**	**33**	P	**P**	**22 03 59.3**	**-0.4**
KKAR	**Karatay Array**	**60.28**	**306**	P	**P**	**22 04 11.6**	**+0.1**
KKAR	**Karatay Array**	**60.28**	**306**	P	**P**	**22 04 11.3**	**-0.2**
KKAR				IAmb	IAmb	22 04 12.6	
	comp=Z,1.3nm,0.8s						

*SOME **03** 21:54:11.7, 40°.08N×71°.22E, h30km*
*NNC **03** 21:54:18.8±9.9, 40°.47N×71°.29E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=72.0km s-min=49.2km az=13.0*
*KRNET **03** 21:54:26.9±0.1, 40°.92N×71°.09E, h14km, mb2.4*
ISC 03 21:54:20.0±2.8, 40°.5N±0°.1×71°.34E±0°.06, h16km±13km, n13, σ1s19/19, 7C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.62**	**220**	⇑*i*P	Pn	21 54 43.4	+9.1
	baz=94						
BTK				⇑*i*S	Sn	21 54 55.6	+12
	baz=94						
OHH	**Osh**	**1.10**	**90**	⇓*i*P	Pg	21 54 51.9	+11
	baz=6.0						
OHH				⇓*i*S	Sn	21 55 09.7	+14
	baz=6.0						
ARK	**Arkit**	**1.35**	**20**	⇓*i*P	**Pg**	**21 54 47.0**	**+1.0**
	baz=38						
ARK				⇓*i*S	**Sb**	**21 55 02.0**	**-0.1**
	baz=38						
IUG	**Iuzhnay**	**1.89**	**329**	*e*P	**Pn**	**21 54 51.2**	**-0.5**
	7.6nm,0.3s						
IUG				*e*S	**Sg**	**21 55 19.9**	**-0.8**
	59nm,0.7s						
IUG	**Iuzhnay**	**1.89**	**329**	Pg	**Pn**	**21 54 51.3**	**-0.5**
	7.6nm,0.3s						
IUG				Lg	Lg	21 55 19.9	
	59nm,0.7s						
AML	**Almayashu**	**2.38**	**47**	⇑*i*P	**Pg**	**21 55 06.9**	**+1.1**
	baz=57						
AML				⇑*i*S	**Sg**	**21 55 36.0**	**-0.8**
	baz=57						
ARLS	**Aral**	**2.61**	**59**	⇑*i*P	**Pg**	**21 55 11.0**	**+0.9**
	baz=68						
ARLS				⇑*i*S	**Sg**	**21 55 43.1**	**-0.9**
	baz=68						
MRKS	**Merke**	**2.62**	**32**	*e*P	**Pb**	**21 55 05.2**	**-1.5**
	0.6nm,0.1s						
MRKS				*e*S	**Sg**	**21 55 43.8**	**-0.5**
	5.3nm,0.4s						
MRKS	**Merke**	**2.62**	**32**	Pg	**Pb**	**21 55 05.2**	**-1.5**
	0.6nm,0.1s						
MRKS				Lg	Lg	21 55 43.6	
	5.3nm,0.4s						
KK31	**Karatay Array**	**2.64**	**347**	⇓Pn	**Pb**	**21 55 07.3**	**+0.3**
	0.4nm,0.3s,baz=165,slow=17,SNR=7.1						
KK31				⇑Sn	**Sb**	**21 55 39.4**	**+0.3**
	3.6nm,0.3s,baz=173,slow=23,SNR=14						
BRLS	**Borolday**	**2.73**	**336**	*e*P	**Pn**	**21 55 01.8**	**-1.5**
	1.5nm,0.4s						
BRLS				*e*S	**Sn**	**21 55 37.8**	**+1.7**
	10.0nm,0.6s						
BRLS	**Borolday**	**2.73**	**336**	Pg	**Pn**	**21 55 01.8**	**-1.5**
	1.5nm,0.4s						
BRLS				Lg	Lg	21 55 37.8	
	10.0nm,0.6s						
EKS2	**Erkin-Say**	**2.80**	**40**	⇓*i*P	**Pb**	**21 55 11.6**	**+1.8**
	baz=48						
EKS2				⇓*i*S	**Sb**	**21 55 44.3**	**+0.3**
	baz=48						

*IDC **03** 22:16:47.9±0.9, 0°.82N×146°.27E, h0km, mb4.0/10, mb1 4.3/11, mb1mx4.0/35, mbtmp4.0/11, ML4.2/1, MS3.9/4, Ms1 3.9/4, ms1mx3.3/49, Error ellipse: s-maj=28.2km s-min=18.2km az=95.0*
*NEIC **03** 22:16:49.2±1.3, 0°.7N±0°.1×146°.5E±0°.1, h15km±4km, mb4.4/14, Error ellipse: s-maj=20.6km s-min=16.8km az=64.0*
ISC 03 22:16:49.1±0.6, 0°.8N±0°.1×146°.36E±0°.10, h10km, n38, σ1s15/33, mb4.1/16, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**7.57**	**132**	Pn	**Pn**	**22 18 42.9**	**+3.2**
	3.3nm,0.3s,baz=42,slow=1.3,SNR=4.4						
KRVT				LR	LR	22 21 25.3	
	comp=Z,374nm,18.5s,baz=335,slow=36						
RABL	**Rabaul**	**7.60**	**130**	Pn	**Pn**	**22 18 36.1**	**-4.0**
PATS	**Pohnpei**	**13.36**	**63**	Pn	**Pn**	**22 19 58.6**	**-0.3**
HNR	**Honiara**	**16.90**	**127**	LR	LR	22 26 34.1	
	comp=Z,280nm,18.9s,baz=308,slow=34						
WR0	**Warramunga Arr**	**23.63**	**209**	P	**P**	**22 21 59.9**	**-0.8**
WR0				IAmb	IAmb	22 22 01.6	
	comp=Z,8.0nm,0.8s						
WB2	**Warramunga Arr**	**23.71**	**209**	P	**P**	**22 22 00.9**	**-0.5**
WB2				IAmb	IAmb	22 22 02.7	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**23.71**	**209**	P	**P**	**22 22 01.1**	**-0.3**
	comp=Z,8.7nm,0.8s,baz=31,slow=11,SNR=57						
WRA	**Warramunga Arr**	**23.71**	**209**	P	**P**	**22 22 00.5**	**-0.9**
KNRA	**Kununurra**	**23.86**	**226**	P	**P**	**22 22 01.5**	**-1.3**
KNRA				IAmb	IAmb	22 22 10.0	
	comp=Z,7.2nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.62**	**47**	T	T	22 50 35.7	
	baz=219,slow=74,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**26.63**	**47**	T	T	22 50 40.3	
	baz=219						
H11S1	**WAKE ISLAND Hy**	**26.64**	**47**	T	T	22 50 29.1	
	baz=219,slow=74,SNR=2.5						
AS31	**Alice Springs**	**27.13**	**206**	P	**P**	**22 22 32.0**	**-0.7**
ASAR	**Alice Springs**	**27.14**	**206**	P	**P**	**22 22 33.1**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=35,slow=9.1,SNR=28						
ASAR	**Alice Springs**	**27.14**	**206**	P	**P**	**22 22 32.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.69**	**226**	P	**P**	**22 22 37.1**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=358,slow=6.1,SNR=8.4						
FITZ				LR	LR	22 33 50.7	
	comp=Z,280nm,19.9s,baz=272,slow=37						
FITZ	**Fitzroy Crossi**	**27.69**	**226**	P	**P**	**22 22 37.1**	**-0.6**
TGY	**Tagaytay City**	**28.43**	**299**	LR	LR	22 33 43.6	
	comp=Z,426nm,21.0s,baz=11,slow=36						
CMAR	**Chiang Mai Arr**	**49.73**	**294**	P	**P**	**22 25 42.8**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=116,slow=5.9,SNR=7.0						
CMAR	**Chiang Mai Arr**	**49.73**	**294**	P	**P**	**22 25 42.4**	**+0.4**
ULN	**Ulaanbaatar**	**57.95**	**330**	P	**P**	**22 26 42.4**	**+0.5**
ULN				IAmb	IAmb	22 26 43.0	
	comp=Z,3.3nm,1.0s						
SHL	**Shillong**	**57.97**	**300**	P	**P**	**22 26 42.5**	**0.0**
SONM	**Songino Array**	**58.26**	**329**	P	**P**	**22 26 44.3**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=148,slow=6.8,SNR=6.9						
SONM	**Songino Array**	**58.26**	**329**	P	**P**	**22 26 44.1**	**0.0**
MK31	**Makanchi Array**	**71.94**	**319**	P	**P**	**22 28 11.9**	**-1.0**
MKAR	**Makanchi Array**	**71.94**	**319**	P	**P**	**22 28 12.9**	**0.0**
	comp=Z,0.8nm,0.8s,baz=116,slow=6.8,SNR=6.2						
MKAR	**Makanchi Array**	**71.94**	**319**	P	**P**	**22 28 12.6**	**-0.3**
ZALV	**Zalesovo Beam**	**73.01**	**327**	P	**P**	**22 28 17.9**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=125,slow=7.3,SNR=2.2						
TTA	**Tatalina**	**75.12**	**24**	P	**P**	**22 28 31.1**	**-0.2**
TTA				IAmb	IAmb	22 28 40.1	
	comp=Z,5.3nm,1.4s						
KURK	**Kurchatov**	**75.47**	**323**	P	**P**	**22 28 32.8**	**-0.6**
KURK				IAmb	IAmb	22 28 33.9	
	comp=Z,4.0nm,1.2s						
NIL	**Nilore**	**75.55**	**304**	P	**P**	**22 28 34.1**	**-0.2**
IMAR	**Indian Mountai**	**77.44**	**21**	P	**P**	**22 28 44.7**	**+0.3**
VNDA	**Vanda**	**78.66**	**177**	P	**P**	**22 28 52.0**	**+1.2**
	comp=Z,0.7nm,1.0s,baz=346,slow=6.2,SNR=2.6						
CHGR	**Chuyangaron**	**79.54**	**309**	P	**P**	**22 28 56.0**	**-0.6**
ILAR	**Eielson Array**	**79.57**	**24**	P	**P**	**22 28 55.5**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=248,slow=5.4,SNR=9.1						
ILAR	**Eielson Array**	**79.57**	**24**	P	**P**	**22 28 55.3**	**-0.8**
BCAR	**Beaver Creek A**	**81.16**	**26**	P	**P**	**22 29 05.4**	**+0.6**
NVAR	**Mina Array Bea**	**93.72**	**52**	P	**P**	**22 30 08.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=264,slow=7.0,SNR=2.5						

*IDC **03** 22:31:27.3±1.0, 34°.82N×26°.61E, h0km, mb3.8/7, mb1 3.7/12, mb1mx3.5/48, mbtmp3.6/12, ML3.5/5, MS3.8/1, Ms1 3.8/1, ms1mx3.1/46, Error ellipse: s-maj=23.5km s-min=14.1km az=2.0*
*NIC **03** 22:31:28.5±0.0, 34°.86N×26°.68E, h0km±8km, Ml4.0/3*
*ATH **03** 22:31:28.9, 34°.99N×26°.56E, h24km±1km, ML3.6/7, Error ellipse: s-maj=3.9km s-min=0.9km az=343.0*
*ISK **03** 22:31:29.7, 35°.06N×26°.55E, h9km, ML3.5/21*
*THE **03** 22:31:30.4, 35°.03N×26°.50E, h0km±1km, ML3.5/11, Error ellipse: s-maj=3.1km s-min=0.9km az=160.0*
*DDA **03** 22:31:30.0, 34°.81N×26°.52E, h38km±161km, ML3.2*
*GII **03** 22:31:34.2±0.0, 34°.77N×27°.13E, h6km, MD3.6/2*
ISC 03 22:31:28.2±1.2, 34°.87N±0°.04×26°.59E±0°.02, h7km±8km, n142, σ1s44/195, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.39**	**308**	P	**Pg**	**22 31 35.5**	**-0.3**
ZKR				S	**Sg**	**22 31 40.3**	**-0.6**
	16μm,0.3s						
ZKR	**Zakros**	**0.39**	**308**	P	**Pg**	**22 31 35.7**	**-0.1**
ZKR				S	**Sg**	**22 31 40.3**	**-0.6**
ZKR				AML	AML	22 31 40.7	
	comp=N,21298μm,0.3s						
ZKR				AML	AML	22 31 41.1	
	comp=E,41704μm,0.3s						
ZKR	**Zakros**	**0.39**	**308**	PG	**Pg**	**22 31 35.4**	**-0.3**
ZKR				SG	**Sg**	**22 31 40.3**	**-0.6**
STIA	**Sitia Lasithi**	**0.52**	**309**	P	**Pg**	**22 31 38.0**	**-0.3**
STIA				S	**Sg**	**22 31 44.4**	**-0.8**
FRMA	**Ierapetra Chan**	**0.72**	**282**	P	**Pg**	**22 31 40.3**	**-1.7**
FRMA				S	**Sg**	**22 31 49.5**	**-1.8**
	comp=E,2μm,0.3s						
KARP	**Karpathos**	**0.82**	**35**	P	**Pg**	**22 31 43.8**	**-0.2**
KARP				S	**Sg**	**22 31 56.5**	**+1.9**
	comp=E,7μm,0.3s						
KARP	**Karpathos**	**0.82**	**35**	P	**Pg**	**22 31 43.5**	**-0.4**
KARP				S	**Sg**	**22 31 55.3**	**+0.7**
KARP				AML	AML	22 31 58.1	
	comp=E,16135μm,0.3s						
KARP				AML	AML	22 31 58.1	
	comp=N,12585μm,0.3s						
KARP	**Karpathos**	**0.82**	**35**	PG	**Pg**	**22 31 43.7**	**-0.2**
KARP				SG	**Sg**	**22 31 53.9**	**-0.7**
KARP	**Karpathos**	**0.82**	**35**	P	**Pg**	**22 31 43.6**	**-0.3**
KARP				S	**Sg**	**22 31 56.4**	**+1.7**
KARP				AML	AML	22 31 57.5	
	comp=N,16nm,0.3s						
KARP				AML	AML	22 31 57.5	
	comp=N,16nm,0.3s						
KARP				AML	AML	22 31 57.7	
	comp=N,13nm,0.3s						
KARP				AML	AML	22 31 57.7	
	comp=N,13nm,0.3s						
NPS	**Neapolis**	**0.89**	**296**	P	**Pg**	**22 31 44.7**	**-0.6**
NPS				S	**Sg**	**22 31 57.1**	**+0.2**
	comp=N,4μm,0.5s						
NPS	**Neapolis**	**0.89**	**296**	P	**Pg**	**22 31 44.8**	**-0.5**
NPS				S	**Sg**	**22 31 57.2**	**+0.2**
NPS				AML	AML	22 32 03.1	
	comp=N,6472μm,0.5s						
NPS				AML	AML	22 32 03.4	
	comp=E,8978μm,0.6s						
LAST	**Lasithi**	**0.96**	**288**	P	**Pg**	**22 31 45.9**	**-0.7**
LAST				S	**Sb**	**22 32 00.6**	**+0.5**
	comp=E,3μm,0.7s						
LAST	**Lasithi**	**0.96**	**288**	P	**Pg**	**22 31 45.9**	**-0.7**
LAST				S	**Sg**	**22 31 59.9**	**+0.9**
LAST				AML	AML	22 32 08.2	
	comp=N,4263μm,0.5s						
LAST				AML	AML	22 32 08.3	
	comp=E,6939μm,0.6s						
KSTL	**Kastelli Herak**	**1.32**	**289**	P	Pn	22 31 48.6	-4.5
IDI	**Anoyia**	**1.45**	**287**	Pn	**Pn**	**22 31 55.5**	**+0.5**
	comp=E,29nm,0.3s,baz=108,slow=12,SNR=102						
IDI				Sn	**Sg**	**22 32 15.5**	**+0.5**
	comp=E,41nm,0.3s,baz=117,slow=10,SNR=10						
IDI	**Anoyia**	**1.45**	**287**	P	**Pn**	**22 31 55.2**	**+0.2**
IDI	**Anoyia**	**1.45**	**287**	P	**Pn**	**22 31 55.2**	**+0.2**
IDI	**Anoyia**	**1.45**	**287**	PN	**Pn**	**22 31 55.3**	**+0.2**
IDI				SN	**Sb**	**22 32 14.7**	**+0.3**
SIVA	**Sivas**	**1.47**	**276**	P	**Pn**	**22 31 55.4**	**+0.2**
SIVA				S	**Sb**	**22 32 14.9**	**+0.1**
	comp=E,2μm,0.6s						
SIVA	**Sivas**	**1.47**	**276**	P	**Pn**	**22 31 55.2**	**+0.1**
SIVA				AML	AML	22 32 25.9	
	comp=E,6074μm,0.6s						
SIVA				AML	AML	22 32 31.6	
	comp=N,5655μm,0.7s						
ANAF	**Anafi Island**	**1.62**	**336**	P	**Pn**	**22 31 57.0**	**-0.3**
ANAF				S	**Sn**	**22 32 15.7**	**-2.8**
	comp=N,4μm,0.3s						
ANAF	**Anafi Island**	**1.62**	**336**	P	**Pn**	**22 31 55.9**	**-1.4**
SANT	**Santorini**	**1.75**	**329**	P	**Pn**	**22 31 58.2**	**-0.9**
SANT				S	**Sn**	**22 32 20.9**	**-0.9**
	comp=N,832nm,0.4s						
SANT	**Santorini**	**1.75**	**329**	P	**Pn**	**22 31 58.3**	**-0.9**
SANT	**Santorini**	**1.75**	**329**	PN	**Pn**	**22 31 58.4**	**-0.8**
SANT				SN	**Sn**	**22 32 19.5**	**-2.3**
SAP1	**Santorini-Akro**	**1.77**	**327**	P	**Pn**	**22 31 58.5**	**-0.9**
PRNS	**Prines Rethymn**	**1.78**	**287**	P	**Pb**	**22 32 02.3**	**+1.1**
PRNS				S	**Sb**	**22 32 23.8**	**0.0**
NISR	**Nisiros**	**1.79**	**14**	P	**Pn**	**22 31 58.9**	**-0.6**
NISR				S	**Sn**	**22 32 23.4**	**+0.8**
	comp=N,962nm,0.4s						
NISR	**Nisiros**	**1.79**	**14**	P	**Pn**	**22 31 59.0**	**-0.6**
SNT1	**Gialos, Santor**	**1.81**	**329**	P	**Pn**	**22 31 58.8**	**-1.0**
SNT1	**Gialos, Santor**	**1.81**	**329**	P	**Pn**	**22 31 59.2**	**-0.6**
THT2	**Imerovigli**	**1.83**	**329**	P	**Pn**	**22 31 59.7**	**-0.4**
THT2	**Imerovigli**	**1.83**	**329**	PN	**Pn**	**22 31 59.6**	**-0.5**
ARG	**Arkhangelos**	**1.83**	**43**	P	**Pb**	**22 32 02.1**	**0.0**
ARG				S	**Sn**	**22 32 24.4**	**+0.7**
	comp=N,905nm,0.8s						
ARG	**Arkhangelos**	**1.83**	**43**	P	**Pn**	**22 32 01.9**	**+1.7**
ARG				S	**Sn**	**22 32 22.2**	**-1.5**
ARG				AML	AML	22 32 32.2	
	comp=N,1844μm,0.7s						
ARG				AML	AML	22 32 34.6	
	comp=E,1791μm,0.9s						
ARG	**Arkhangelos**	**1.83**	**43**	PN	**Pn**	**22 32 01.4**	**+1.2**
ARG	**Arkhangelos**	**1.83**	**43**	P	**Pn**	**22 32 01.6**	**+1.4**
ARG				S	**Sb**	**22 32 25.3**	**0.0**
CMBO	**Columbo, Santo**	**1.86**	**329**	P	**Pn**	**22 32 00.7**	**+0.1**
CMBO	**Columbo, Santo**	**1.86**	**329**	P	**Pn**	**22 32 00.4**	**-0.2**
CMBO				AML	AML	22 32 32.0	
	comp=N,3636μm,0.6s						
CMBO				AML	AML	22 32 33.2	
	comp=E,3517μm,0.5s						
KOSK	**Kos Island**	**1.90**	**9**	P	**Pn**	**22 32 02.8**	**+1.7**
KOSK	**Kos Island**	**1.90**	**9**	PN	**Pn**	**22 32 00.4**	**-0.7**
DAT	**Datca**	**2.02**	**23**	P	**Pn**	**22 32 02.9**	**+0.1**
DAT	**Datca**	**2.02**	**23**	PN	**Pn**	**22 32 02.5**	**-0.4**
DAT	**Datca**	**2.02**	**23**	*i* P	**Pn**	**22 32 03.0**	**+0.1**
DAT				*i* S	**Sn**	**22 32 26.2**	**-2.2**
VAM	**Vamos**	**2.03**	**286**	P	**Pb**	**22 32 04.8**	**-0.7**
VAM				S	**Sn**	**22 32 28.9**	**+0.4**
	comp=E,690nm,0.5s						
AMGA	**Amorgos Island**	**2.03**	**344**	P	**Pn**	**22 32 02.1**	**-0.9**
AMGA	**Amorgos Island**	**2.03**	**344**	P	**Pn**	**22 32 02.1**	**-0.9**
GVD	**Gavdhos**	**2.06**	**270**	P	**Pb**	**22 32 05.5**	**-0.4**
GVD	**Gavdhos**	**2.06**	**270**	P	**Pn**	**22 32 04.5**	**+1.3**
GVD	**Gavdhos**	**2.06**	**270**	PN	**Pb**	**22 32 05.2**	**-0.7**
IMMV	**Iera Moni Meta**	**2.22**	**286**	P	**Pn**	**22 32 06.7**	**+1.2**
IMMV	**Iera Moni Meta**	**2.22**	**286**	PN	**Pn**	**22 32 06.9**	**+1.4**
MRSB	**Marmaris-Mugla**	**2.26**	**35**	PN	**Pn**	**22 32 06.5**	**+0.5**
BODT	**Bodrum**	**2.26**	**15**	P	**Pn**	**22 32 06.0**	**-0.2**
BODT	**Bodrum**	**2.26**	**15**	PN	**Pn**	**22 32 05.9**	**-0.2**
TURN	**Turunc**	**2.33**	**35**	PN	**Pn**	**22 32 07.4**	**+0.4**
TURN	**Turunc**	**2.33**	**35**	*i* P	**Pn**	**22 32 07.8**	**+0.9**
TURN				*i* S	**Sn**	**22 32 36.6**	**+0.8**
TURN				IAML		22 32 50.0	
	comp=E,164nm,0.4s						
TURN				IAML		22 32 51.0	
	comp=N,127nm,0.6s						
APE	**Apeiranthos**	**2.35**	**339**	P	**Pn**	**22 32 06.8**	**-0.6**
APE	**Apeiranthos**	**2.35**	**339**	P	**Pn**	**22 32 06.7**	**-0.6**
APE	**Apeiranthos**	**2.35**	**339**	PN	**Pn**	**22 32 07.1**	**-0.3**
KNDR	**Palaiochora Ch**	**2.41**	**279**	PN	**Pb**	**22 32 10.5**	**-1.4**
RODP	**Rodopos**	**2.42**	**287**	P	**Pn**	**22 32 09.3**	**+1.1**
RODP	**Rodopos**	**2.42**	**287**	PN	**Pn**	**22 32 09.5**	**+1.3**
MHLO	**Agia Marina, M**	**2.54**	**316**	P	**Pn**	**22 32 09.8**	**-0.1**
DALY	**Dalyan (Mula)**	**2.56**	**40**	PN	**Pn**	**22 32 11.1**	**+0.9**
DALY	**Dalyan (Mula)**	**2.56**	**40**	*i* P	**Pn**	**22 32 11.5**	**+1.2**
DALY				*i* S	**Sb**	**22 32 45.4**	**-1.0**
DALY				IAML		22 32 57.0	
	comp=N,117nm,0.7s						
DALY				IAML		22 32 58.0	
	comp=E,114nm,0.6s						
YER	**Yerkesik**	**2.64**	**31**	P	**Pn**	**22 32 12.4**	**+1.0**
YER				S	**Sn**	**22 32 44.2**	**+0.5**
YER	**Yerkesik**	**2.64**	**31**	PN	**Pn**	**22 32 12.2**	**+0.8**
FETY	**Fethiye**	**2.68**	**48**	P	**Pn**	**22 32 12.5**	**+0.6**
FETY	**Fethiye**	**2.68**	**48**	PN	**Pn**	**22 32 12.5**	**+0.6**

SZAC Souni 5.18 90 P **Pn 22 32 46.3 +0.1**
ASGA Asgata 5.48 89 P **Pn 22 32 50.5 +0.2**
CSS Mathiatis 5.54 87 Pn **Pn 22 32 51.1 -0.1**
MVOU Mavrovouni 5.79 87 P **Pn 22 32 54.8 +0.3**
BRTR Keskin Array B 7.42 47 Pn **Pn 22 33 20.7 +3.6**
comp=N,0.2nm,0.3s,baz=220,slow=13,SNR=2.3
SLTI Sal'it 7.53 108 Pn **Pn 22 33 18.8 +0.3**
MMAI Mount Meron Ar 7.55 102 Pn **Pn 22 33 18.8 -0.1**
comp=N,1.4nm,0.3s,baz=304,slow=11,SNR=12
MMAI Sn **Sn 22 34 43.2 -1.7**
comp=N,1.5nm,0.3s,baz=286,slow=17,SNR=1.7
KZIT Kziot 7.67 119 Pn **Pn 22 33 19.5 -0.9**
KZIT Sn **Sn 22 34 43.2 -4.3**
AMAZ Amatzia 7.73 113 Pn **Pn 22 33 21.6 +0.3**
AMAZ Sn **Sn 22 34 45.1 -4.1**
MMLI Mount Malkishu 7.75 106 Pn **Pn 22 33 22.3 +0.7**
HMDT Nahal Hemdat 7.90 107 Pn **Pn 22 33 24.4 +0.8**
YTIR Yattir 7.96 114 Pn **Pn 22 33 24.6 +0.1**
DSI Dead Sea 8.07 112 Pn **Pn 22 33 26.3 +0.4**
KRMI Paran Flat 8.35 122 Pn **Pn 22 33 30.4 +0.7**
KRMI Sn **Sn 22 34 59.9 -4.4**
PRNI Paran 8.41 120 Pn **Pn 22 33 30.2 -0.4**
PRNI Sn **Sn 22 35 01.5 -4.3**
HRFI Mount Harif 8.61 122 Pn **Pn 22 33 34.4 +1.0**
HRFI Sn **Sn 22 35 06.5 -4.3**
MBRI Mt Berech 8.67 123 Pn **Pn 22 33 35.6 +1.3**
MBRI Sn **Sn 22 35 09.7 -2.7**
EIL Elat 8.78 124 Pn **Pn 22 33 35.5 0.0**
comp=N,0.4nm,0.3s,baz=296,slow=3.0,SNR=12
EIL Sn **Sn 22 35 11.3 -3.5**
comp=N,1.5nm,0.3s,baz=268,slow=0.4,SNR=5.5
EIL Elat 8.78 124 Pn **Pn 22 33 35.6 0.0**
EIL Sn **Sn 22 35 11.0 -3.8**
ASF Jabal al Asfar 9.02 104 LR LR 22 38 20.7
comp=N,515nm,19.2s,baz=84,slow=46
VYHS Vyhne 14.78 339 *e* **P 22 35 05.4 +1.7**
AKASG Malin Array Be 15.94 6 Pn **Pn 22 35 13.9 +1.1**
comp=N,0.7nm,0.3s,baz=194,slow=11,SNR=1.6
GERES GERESS Array B 16.91 330 Pn **P 22 35 27.5 +0.1**
comp=N,0.1nm,0.3s,baz=133,slow=11,SNR=1.8
ESDC Sonseca Array 24.71 290 P **P 22 36 49.1 -1.0**
comp=N,0.3nm,0.7s,baz=88,slow=9.5,SNR=4.3
EKA Eskdalemuir Ar 28.95 324 P **P 22 37 28.8 +0.7**
comp=N,0.4nm,0.7s,baz=122,slow=12,SNR=1.8
TORD Torodi Ar. Bea 31.22 232 P **P 22 37 49.1 +0.6**
comp=N,1.7nm,0.6s,baz=30,slow=8.8,SNR=9.6
ARCES ARCESS Array B 34.72 359 P **P 22 38 19.1 +0.6**
comp=N,2.0nm,0.8s,baz=173,slow=11,SNR=2.2
MKAR Makanchi Array 42.95 56 P **P 22 39 28.1 +0.2**
comp=N,0.8nm,0.5s,baz=268,slow=8.8,SNR=9.8
ZALV Zalesovo Beam 44.36 46 P **P 22 39 38.1 -0.9**
comp=N,1.7nm,0.4s,baz=268,slow=9.3,SNR=7.9
SONM Songino Array 58.76 51 P **P 22 41 27.0 0.0**
comp=N,0.3nm,0.4s,baz=279,slow=7.7,SNR=3.6

IDC ***03*** *22:34:42.6±3.0, 36°.02S×179°.35E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/33, mbtmp3.8/3, ML3.7/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/24, Error ellipse: s-maj=68.7km s-min=43.3km az=120.0*
WEL ***03*** *22:34:47.5, 36°S±15°×17°9E±1°1, h33km, M3.5/12, ML3.8/12, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=9.6*
ISC 03 22:34:45.3±3.6, 36°.27S±0°.08×179°.2E±0°.1, h10km±22km, n23, σ1°.45/30, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.49**	**210**	P	**Pn**	**22 35 12.1**	**0.0**
MXZ				S	**Sn**	**22 35 31.0**	**-0.7**
HAZ	**Te Kaha**	**1.88**	**218**	P	**Pn**	**22 35 18.3**	**+0.7**
PUZ	**Puketiti**	**1.96**	**203**	P	**Pb**	**22 35 20.5**	**-0.6**
RUGZ	**Raukumara Rang**	**2.10**	**216**	P	**Pb**	**22 35 23.2**	**-0.4**
RUGZ				S	**Sb**	**22 35 49.1**	**-0.7**
WHRZ	**Whale Island**	**2.40**	**228**	P	**Pb**	**22 35 28.0**	**-0.7**
TKGZ	**Te Karaka**	**2.43**	**207**	P	**Pn**	**22 35 25.8**	**+0.7**
TKGZ				S	**Sn**	**22 35 55.0**	**+0.1**
MWZ	**Matawai**	**2.47**	**213**	P	**Pn**	**22 35 27.6**	**+1.9**
MWZ				S	**Sn**	**22 35 57.7**	**+1.7**
URZ	**Urewera**	**2.61**	**220**	Pn	**Pn**	**22 35 28.9**	**+1.4**
	10nm,0.3s,baz=277,slow=4.0,SNR=57						
URZ				Sn	**Sn**	**22 36 00.7**	**+1.4**
	12nm,0.3s,baz=131,slow=17,SNR=5.9						
URZ	**Urewera**	**2.61**	**220**	P	**Pn**	**22 35 28.9**	**+1.4**
URZ				S	**Sn**	**22 35 58.6**	**-0.7**
OPRZ	**Ohinepanea**	**2.66**	**233**	P	**Pn**	**22 35 30.6**	**+2.4**
MARZ	**Manawahe**	**2.67**	**229**	P	**Pn**	**22 35 30.1**	**+1.7**
TGRZ	**Tauranga**	**2.79**	**238**	P	**Pn**	**22 35 31.6**	**+1.6**
KUZ	**Kuaotunu**	**2.87**	**259**	P	**Pn**	**22 35 32.7**	**+1.7**
KUZ				S	**Sn**	**22 36 03.2**	**-2.4**
RTZ	**Ruatahuna**	**2.95**	**217**	P	**Pn**	**22 35 33.0**	**+0.7**
RTZ				S	**Sn**	**22 36 08.9**	**+1.1**
MUGZ	**Murupara**	**2.95**	**221**	P	**Pn**	**22 35 33.6**	**+1.4**
MUGZ				S	**Sn**	**22 36 06.6**	**-1.1**
KNZ	**Kokohu**	**3.01**	**204**	P	**Pn**	**22 35 33.4**	**+0.3**
TOZ	**Tahuroa Road**	**3.32**	**243**	P	**Pn**	**22 35 38.9**	**+1.6**
RAR	**Rarotonga**	**23.67**	**56**	LR	LR	22 50 14.9	
	comp=Z,40nm,18.1s,baz=294,slow=40						
ASAR	**Alice Springs**	**40.88**	**275**	P	**P**	**22 42 27.4**	**-0.4**
	0.9nm,0.4s,baz=118,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**42.41**	**280**	P	**P**	**22 42 39.2**	**-1.1**
	0.4nm,0.3s,baz=120,slow=7.8,SNR=10.0						
JNU	**Nakatsue**	**82.51**	**321**	LR	LR	23 17 00.3	
	comp=Z,122nm,20.3s,baz=300,slow=31						
PET	**Petropavlovsk**	**90.71**	**348**	*eP*	**PKiKP**	**22 52 44.2**	**+2.5**
FINES	**FINESS Array B**	**149.66**	**335**	PKPbc	**PKPbc**	**22 54 32.4**	**-1.9**
	1.2nm,0.8s,baz=357,slow=4.2,SNR=5.3						

BJI ***03*** *22:49:32.0±0.0, 42°.66N×142°.76E, h41km, mB4.8/38, mb4.5/56, Ms4.1/34, Ms7 3.9/32*
BGR ***03*** *22:49:34.8±0.0, 43°.43N×145°.38E, h33km, mb4.7, Ms4.0*
MOS ***03*** *22:49:34.6±1.0, 42°.72N×142°.69E, h54km, mb4.9/26, Error ellipse: s-maj=5.3km s-min=4.2km az=95.7*
SKHL ***03*** *22:49:34.1±0.3, 42°.65N×142°.55E, h55km±4km, mb5.3/3, Ms4.2/3, msh4.9/2*
NEIC ***03*** *22:49:35.8±1.1, 42°.79N±0°.04×142°.71E±0°.09, h49km±6km, mb4.8/140, Error ellipse: s-maj=10.2km s-min=5.7km az=82.0*
UNK ***03*** *22:49:35.6, 42°.81N×142°.67E, h42km*
NIED ***03*** *22:49:35.4, 42°.77N×142°.67E, h28km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.18; $M_{\theta\theta}$0.64; $M_{\phi\phi}$-0.83; $M_{r\theta}$0.40; $M_{\theta\phi}$-0.49; $M_{\phi r}$-0.35; Fault plane solution: $M_0$1.04000×10^{16} NP1: ϕ_s155.00000°, δ78.00000°, λ30.00000°. NP2:ϕ_s58.00000°, δ61.00000°, λ166.00000°.*
JMA ***03*** *22:49:35.3±0.1, 42°.77N×142°.67E, h28km±2km, M4.7 Broadband fault plane solution: P waves. NP1: ϕ_s21.00000°, δ42.00000°, λ129.00000°. NP2: ϕ_s153.00000°, δ59.00000°, λ60.00000°. Principal axes: T Plg63.0000°, Azm12.0000°; N Plg25.0000°, Azm170.0000°; P Plg9.0000°, Azm264.0000°;*
JMA Felt III J1.
IDC ***03*** *22:49:36.7±1.4, 42°.83N×142°.66E, h51km±10km, mb4.2/30, mb1 4.4/35, mb1mx4.2/56, mbtmp4.5/35, MS3.8/15, Ms1 3.8/15, ms1mx3.6/40 Error ellipse: s-maj=11.9km s-min=9.1km az=122.0*
ISC 03 22:49:35.7±0.4, 42°.74N±0°.03×142°.69E±0°.03, h47km±3km, h48km:pP-P, n681, σ1°.18/706, mb4.7/142, MS3.8/15, 33C-17D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.24**	**279**	⇑P	**Pn**	**22 49 41.0**	**-3.1**
JBT2				*e*S	**Sn**	**22 49 46.3**	**-3.7**
JSHD	**Hidakashinhida**	**0.37**	**206**	⇑P	**Pn**	**22 49 43.6**	**-1.7**
JFR	**Furan**	**0.43**	**351**	⇑P	**Pn**	**22 49 43.5**	**-2.5**
JFR				*e*S	**Sn**	**22 49 50.6**	**-2.7**
JNBK	**Urakawa-nobuka**	**0.46**	**174**	⇑P	**Pn**	**22 49 45.2**	**-1.2**
JCH	**Churui**	**0.51**	**104**	⇓P	**Pn**	**22 49 45.8**	**-1.1**
JCH				*e*S	**Sn**	**22 49 54.0**	**-1.0**
JIAM	**Iburiatsuma**	**0.58**	**258**	⇓P	**Pn**	**22 49 47.3**	**-0.5**
JTHR	**Tokachihiroo**	**0.64**	**135**	⇓P	**Pn**	**22 49 47.2**	**-1.3**
JTHR				S	**Sn**	**22 49 56.1**	**-1.6**
ERM	**Erimo**	**0.80**	**154**	PN	**Pn**	**22 49 49.8**	**-0.9**
ERM						22 50 02.6	
ERM	**Erimo**	**0.80**	**154**		**Pn**	**22 49 49.8**	**-0.9**
ERM				Sn	**Sn**	**22 50 02.6**	**+1.0**
JAB	**Ashibetsu**	**0.84**	**336**	⇑P	**Pn**	**22 49 49.7**	**-1.5**
JOB	**Onbets**	**0.86**	**79**	⇓P	**Pn**	**22 49 51.0**	**-0.4**
JEW	**Eniwo**	**0.92**	**277**	⇓P	**Pn**	**22 49 51.2**	**-1.0**
JAR	**Ashorobuto**	**0.97**	**55**	⇓P	**Pn**	**22 49 52.1**	**-0.8**
JISS	**Ishikarishitsu**	**1.07**	**300**	⇓P	**Pn**	**22 49 53.5**	**-0.9**
JKK2	**Kamakawa 2**	**1.13**	**2**	⇑P	**Pn**	**22 49 54.5**	**-0.7**
JKA	**Kamikawa-asahi**	**1.38**	**357**		**Pn**	**22 49 57.7**	**-0.8**
JKA				Sn	**Sn**	**22 50 15.0**	**-0.6**
ASAJ	**Asahikawa**	**1.38**	**357**	P	**Pn**	**22 49 58.0**	**-0.6**
	2μm,0.3s,baz=215,slow=12,SNR=1134						
ASAJ				S	**Sn**	**22 50 14.9**	**-0.7**
	518nm,0.3s,baz=15,slow=29,SNR=13						
ASAJ				LR	LR	22 50 20.0	
	comp=Z,632nm,18.9s,baz=60,slow=34						
AKK	**Akkeshi**	**1.61**	**79**	*i* P	**Pn**	**22 50 00.2**	**-1.4**
AKK				*e*S	**Sn**	**22 50 20.0**	**-1.2**
GLVR	**Golovnino**	**2.30**	**63**	*i* P	**Pn**	**22 50 11.1**	**+0.1**
GLVR				AMB	AMB	22 50 13.0	
	740nm,0.3s						
GLVR				AMB	AMB	22 50 13.0	
	1μm,0.3s						
GLVR				AMB	AMB	22 50 13.0	
	1μm,0.3s						
GLVR				*i* S	**Sn**	**22 50 38.6**	**+0.5**
GLVR				A	A	22 50 40.0	
	9μm,0.5s						
GLVR				A	A	22 50 40.0	
	8μm,0.5s						
GLVR	**Golovnino**	**2.30**	**63**	⇓*i*PN	**Pn**	**22 50 11.1**	**+0.1**
GLVR				*i* S	**Sn**	**22 50 38.6**	**+0.5**
GLVR				pmax	pmax		
	comp=E,1μm,0.3s						
GLVR				pmax	pmax		
	comp=Z,1μm,0.3s						
GLVR				pmax	pmax		
	comp=N,734nm,0.2s						
GLVR				smax	smax		
	comp=N,9μm,0.4s						
GLVR				smax	smax		
	comp=E,8μm,0.4s						
RUSJ	**Misakicho**	**2.31**	**53**	⇑*i*PN	**Pn**	**22 50 12.9**	**+1.7**
RUSJ				*i* S	**Sn**	**22 50 42.2**	**+3.8**
NMR	**Nemuro--Hokkai**	**2.31**	**73**	*i* P	**Pn**	**22 50 10.0**	**-1.3**
NMR				*i* S	**Sn**	**22 50 36.2**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.31**	**73**	⇓*i*PN	**Pn**	**22 50 10.0**	**-1.3**
NMR				*i* S	**Sn**	**22 50 36.2**	**-2.3**
GRPR	**Tuman**	**2.57**	**60**	*i* P	**Pn**	**22 50 15.3**	**+0.4**
GRPR				AMB	AMB	22 50 25.0	
	comp=E,1μm,0.5s						
GRPR				*i* S	**Sn**	**22 50 46.8**	**+1.9**
GRPR				A	A	22 50 49.1	
	comp=E,4μm,0.5s						
GRPR				A	A	22 50 49.1	
	comp=E,4μm,0.5s						
GRPR	**Tuman**	**2.57**	**60**	⇓*i*PN	**Pn**	**22 50 15.3**	**+0.4**
GRPR				*i* S	**Sn**	**22 50 46.8**	**+1.9**
GRPR				pmax	pmax		
	comp=E,2μm,0.5s						
GRPR				pmax	pmax		
	comp=Z,1μm,0.5s						
GRPR				pmax	pmax		
	comp=N,441nm,0.3s						
GRPR				smax	smax		
	comp=N,4μm,0.5s						
GRPR				smax	smax		
	comp=E,4μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.65**	**60**	*i* P	**Pn**	**22 50 17.1**	**+1.2**
YUK				AMB	AMB	22 50 20.0	
	comp=E,620nm,0.3s						
YUK				AMB	AMB	22 50 20.0	
	comp=E,1μm,0.3s						
YUK				AMB	AMB	22 50 22.0	
	comp=E,1μm,2.0s						
YUK				*i* S	**Sn**	**22 50 48.4**	**+1.6**
YUK				A	A	22 50 57.0	
	comp=E,4μm,0.5s						
YUK				A	A	22 50 57.0	
	comp=E,2μm,0.5s						
YUK				A	A	22 50 59.0	
	comp=E,4μm,1.0s						
YUK				A	A	22 50 59.0	
	comp=E,6μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.65**	**60**	*c*i PN	**Pn**	**22 50 17.1**	**+1.2**
YUK				*i* S	**Sn**	**22 50 48.8**	**+2.0**
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,599nm,0.2s						
YUK				pmax	pmax		
	comp=E,619nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,2.3s						
YUK				smax	smax		
	comp=N,4μm,0.5s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK				smax	smax		
	comp=N,4μm,0.8s						
YUK				smax	smax		
	comp=E,6μm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.21**	**1**	*e*P	**Pn**	**22 50 37.7**	**+0.4**
YSS				AMB	AMB	22 50 39.7	
	comp=E,130nm,0.8s						
YSS				*e*S	**Sn**	**22 51 24.4**	**-0.8**
YSS				AMS	AMS	22 52 39.0	
	comp=E,1μm,14.0s						
YSS				AMS	AMS	22 52 39.0	
	comp=E,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.21**	**1**	*c*ePN	**Pn**	**22 50 37.8**	**+0.4**
YSS				*e*S	**Sn**	**22 51 24.4**	**-0.8**
YSS				pmax	pmax		
	comp=Z,110nm,0.9s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=N,1μm,17.0s						
YSS	**Yuzh-Sakhalins**	**4.21**	**1**		**Pn**	**22 50 37.3**	**0.0**
KUR	**Kuril'sk**	**4.49**	**55**	*i* P	**Pn**	**22 50 43.0**	**+1.9**
KUR				AMB	AMB	22 50 53.0	
	comp=N,140nm,0.6s						
KUR				AMB	AMB	22 50 53.0	
	comp=N,230nm,0.6s						
KUR				AMB	AMB	22 50 53.0	
	comp=N,590nm,0.6s						
KUR				AMB	AMB	22 51 00.0	
	comp=N,860nm,1.7s						
KUR				*i* S	**Sn**	**22 51 34.4**	**+2.3**
KUR				A	A	22 51 38.0	
	comp=N,390nm,0.5s						
KUR				A	A	22 51 38.0	
	comp=N,690nm,0.5s						
KUR				A	A	22 51 57.0	
	comp=N,3μm,3.0s						
KUR	**Kuril'sk**	**4.49**	**55**	*c*i PN	**Pn**	**22 50 43.6**	**+2.5**
KUR				*i* S	**Sn**	**22 51 36.3**	**+4.2**
KUR				pmax	pmax		
	comp=E,249nm,0.6s						
KUR				pmax	pmax		
	comp=Z,667nm,0.6s						
KUR				pmax	pmax		
	comp=N,219nm,0.4s						
KUR				pmax	pmax		
	comp=Z,858nm,1.7s						
KUR				smax	smax		
	comp=N,363nm,0.3s						
KUR				smax	smax		
	comp=E,770nm,0.5s						
KUR				smax	smax		
	comp=N,1μm,0.9s						
KUR				smax	smax		
	comp=E,2μm,1.3s						
TEY	**Ternei**	**4.96**	**300**	*e*P	**Pn**	**22 50 44.7**	**-2.9**
TEY				AMB	AMB	22 50 45.1	
	comp=E,50nm,1.0s						
TEY				A	A	22 50 54.7	
	comp=E,100nm,0.8s						
TEY				A	A	22 50 54.7	
	comp=E,280nm,0.8s						
TEY	**Ternei**	**4.96**	**300**	⇑*e*PN	**Pn**	**22 50 44.3**	**-3.3**
TEY				pmax	pmax		
	comp=Z,50nm,1.2s						
UGL	**Uglegorsk**	**6.35**	**356**	*e*P	**Pn**	**22 51 08.4**	**+1.7**
UGL				AMB	AMB	22 51 09.0	
	comp=Z,120nm,0.9s						
UGL				*e*S	**Sn**	**22 52 16.0**	**-1.8**
UGL				AMS	AMS	22 54 28.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	22 54 28.0	
	comp=Z,2μm,15.0s						
UGL	**Uglegorsk**	**6.35**	**356**	*e*PN	**Pn**	**22 51 08.4**	**+1.7**
UGL				pmax	pmax		
	comp=Z,120nm,0.9s						
UGL				MLR	MLR		
	comp=Z,2μm,13.0s						
UGL				MLR	MLR		
	comp=E,1μm,16.0s						
MAJO	**Matsushiro**	**7.09**	**211**	PN	**Pn**	**22 51 17.9**	**+1.0**
MAJO	**Matsushiro**	**7.09**	**211**	Pn	**Pn**	**22 51 17.9**	**+1.0**
MAT	**Matsushiro**	**7.09**	**211**	P	**Pn**	**22 51 17.3**	**+0.4**
MAT				*e*S	**Sn**	**22 52 41.9**	**+5.8**
MJAR	**Matsushiro Arr**	**7.09**	**211**	P	**Pn**	**22 51 18.5**	**+1.7**
	comp=E,0.3nm,0.3s,baz=20,slow=14,SNR=14						
MJAR				LR	LR	22 54 33.7	
	comp=E,1μm,19.5s,baz=5.0,slow=42						
MJAR	**Matsushiro Arr**	**7.09**	**211**		**Pn**	**22 51 18.2**	**+1.3**
USA0B	**Ussuriysk Arra**	**7.92**	**284**	PN	**Pn**	**22 51 27.4**	**-0.8**
USA0B	**Ussuriysk Arra**	**7.92**	**284**	Pn	**Pn**	**22 51 27.4**	**-0.8**
USRK	**Ussuriysk Ar.**	**7.92**	**284**	P	**Pn**	**22 51 27.9**	**-0.3**
	baz=85,slow=16,SNR=10.0						
USRK				LR	LR	22 54 38.3	
	comp=E,675nm,18.0s,baz=88,slow=38						
TYV	**Tymovskoe**	**8.12**	**360**	*e*P	**Pn**	**22 51 32.4**	**+1.4**
TYV				AMB	AMB	22 51 33.9	
	comp=E,30nm,0.7s						
TYV				AMB	AMB	22 51 35.5	
	comp=E,100nm,2.0s						
TYV				*e*S	**Sn**	**22 53 00.1**	**-1.3**
TYV				A	A	22 53 02.9	
	comp=E,10.0nm,1.0s						
TYV				A	A	22 53 04.1	
	comp=E,200nm,6.0s						
TYV				AMS	AMS	22 55 13.0	
	comp=E,2μm,17.0s						
TYV	**Tymovskoe**	**8.12**	**360**	*e*PN	**Pn**	**22 51 33.3**	**+2.3**
TYV				pmax	pmax		
	comp=Z,26nm,0.7s						
TYV				pmax	pmax		
	comp=Z,100nm,1.7s						
TYV				MLR	MLR		
	comp=Z,2μm,18.0s						
GRNR	**Gornyy**	**9.11**	**334**	*e*P	**Pn**	**22 51 47.2**	**+2.8**
GRNR				AMB	AMB	22 51 47.8	
	comp=Z,20nm,0.8s						
GRNR				AMS	AMS	22 55 35.0	
	comp=Z,2μm,13.0s						
GRNR				AMS	AMS	22 55 35.0	
	comp=Z,400nm,13.0s						
GRNR				AMS	AMS	22 55 35.0	
	comp=Z,300nm,13.0s						
GRNR	**Gornyy**	**9.11**	**334**	⇓*i*PN	**Pn**	**22 51 47.2**	**+2.8**
GRNR				*e*S	**Sn**	**22 53 32.9**	**+7.4**
GRNR				pmax	pmax		
	comp=N,20nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.8s						
GRNR				smax	smax		
	comp=N,4.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,370nm,10.0s						
GRNR				MLR	MLR		
	comp=N,2μm,15.0s						
GRNR				MLR	MLR		
	comp=Z,330nm,13.0s						
MDJ	**Mudanjiang**	**9.67**	**286**	P	**Pn**	**22 51 51.4**	**-0.8**
MDJ				S	**Sn**	**22 53 42.1**	**+2.7**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MDJ				pmax	pmax		
	comp=Z,220nm,3.5s						
MDJ				LR	LR		
	comp=Z,470nm,3.8s						
MDJ				LR	LR		
	comp=Z,430nm,4.0s						
MDJ				LR	LR		
	comp=Z,980nm,14.1s						
JHJ2	**Mitsune**	**9.88**	**194**	Pn	**Pn**	**22 51 55.0**	**0.0**
KLR	**Kul'dur**	**10.00**	**314**	P	**Pn**	**22 51 56.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=114,slow=14,SNR=7.7						
KLR				LR	LR	22 56 03.3	
	comp=Z,183nm,21.6s,baz=210,slow=39						
KLR	**Kul'dur**	**10.00**	**314**	*e*P	**Pn**	**22 51 57.5**	**+0.9**
KLR	**Kul'dur**	**10.00**	**314**	*ce*PN	**Pn**	**22 51 59.8**	**+3.2**
KLR				pmax	pmax		
	comp=Z,32nm,1.0s						
NKL	**Nikolayevsk**	**10.50**	**353**	*e*P	**Pn**	**22 52 04.6**	**+1.2**
NKL				AMB	AMB	22 52 06.3	
	comp=Z,40nm,0.8s						
SKR	**Severo-Kuril's**	**12.15**	**45**	*e*P	**Pn**	**22 52 26.9**	**+0.9**
SKR				AMB	AMB	22 52 30.5	
	comp=Z,100nm,3.0s						
SKR				AMB	AMB	22 52 32.7	
	comp=Z,20nm,0.8s						
SKR				AMS	AMS	22 58 56.6	
	comp=Z,300nm,17.0s						
SKR	**Severo-Kuril's**	**12.15**	**45**	*e*PN	**Pn**	**22 52 29.0**	**+3.0**
SKR				pmax	pmax		
	comp=Z,100nm,2.9s						
SKR				MLR	MLR		
	comp=Z,300nm,17.0s						
EKMR	**Ekimchan**	**12.21**	**331**	*e*P	**Pn**	**22 52 26.6**	**-0.3**
EKMR				AMB	AMB	22 52 31.0	
	comp=Z,10.0nm,1.0s						
KSRS	**Korea Array**	**12.47**	**250**	P	**Pn**	**22 52 32.1**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=64,slow=13,SNR=22						
KSRS				LR	LR	22 57 03.0	
	comp=Z,369nm,19.1s,baz=30,slow=36						
KS19	**Wonju Array Si**	**12.49**	**250**		**Pn**	**22 52 31.8**	**+1.1**
KSAR	**Wonju Array Be**	**12.51**	**250**	PN	**Pn**	**22 52 31.6**	**+0.7**
KSAR	**Wonju Array Be**	**12.51**	**250**		**Pn**	**22 52 31.6**	**+0.7**
JNU	**Nakatsue**	**13.37**	**228**	LR	LR	22 57 48.9	
	comp=Z,292nm,21.6s,baz=28,slow=37						
JNU	**Nakatsue**	**13.37**	**228**	Pn	**Pn**	**22 52 43.4**	**+0.6**
PEA0B	**Petropavlovsk-**	**14.42**	**39**	*i* P	**Pn**	**22 52 55.4**	**-1.4**
PEA0B	**Petropavlovsk-**	**14.42**	**39**	Pn	**Pn**	**22 52 55.7**	**-1.1**
PETK	**Petropavlovsk-**	**14.42**	**39**	P	**Pn**	**22 52 58.0**	**+1.2**
	baz=213,slow=7.9,SNR=14						
PETK				LR	LR	22 59 22.4	
	comp=Z,516nm,18.8s,baz=212,slow=41						
PETK	**Petropavlovsk-**	**14.42**	**39**	P	**Pn**	**22 52 58.0**	**+1.2**
PETK	**Petropavlovsk-**	**14.42**	**39**	Pn	**Pn**	**22 52 56.5**	**-0.3**
PET	**Petropavlovsk**	**14.81**	**41**	pmax	pmax		
	comp=Z,112nm,0.5s						
PET	**Petropavlovsk**	**14.81**	**41**	MLR	MLR		
	comp=Z,400nm,15.0s						
PET	**Petropavlovsk**	**14.81**	**41**	MLR	MLR		
	comp=Z,200nm,15.0s						
ZEA	**Zeya**	**15.02**	**322**	*e*P	**Pn**	**22 53 01.2**	**-3.5**
ZEA				AMB	AMB	22 53 12.4	
	comp=Z,30nm,1.0s						
ZEA				AMS	AMS	22 59 39.0	
	comp=Z,700nm,12.0s						
ZEA	**Zeya**	**15.02**	**322**	*e*P	**Pn**	**22 53 05.4**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,12.0s						
BMKR	**Bomnak**	**15.03**	**328**	*e*P	**Pn**	**22 53 02.8**	**-2.0**
BMKR				AMB	AMB	22 53 10.0	
	comp=Z,6.0nm,0.9s						
KROS	**Kirovskiy**	**15.61**	**324**	*e*P	**Pn**	**22 53 09.0**	**-3.3**
KROS				AMB	AMB	22 53 14.0	
	comp=Z,10.0nm,1.0s						
JCJ	**Chichijima**	**15.62**	**182**	P	**Pn**	**22 53 10.5**	**-2.1**
	comp=Z,5.0nm,0.3s,baz=277,slow=23,SNR=10						
JCJ				S	Sn	22 55 53.3	-11
	comp=

comp=Z,200nm,14.1s
BJT Baijiatuau 20.06 271 P **P** **22 54 02.8 -2.1**
BJT pmax pmax
comp=Z,16nm,0.9s
BJT Baijiatuau 20.06 271 P **P** **22 54 02.8 -2.1**
TIA Tai'an 20.74 260 P **P** **22 54 09.7 -2.6**
TIA pmax pmax
comp=Z,27nm,0.8s
YAK Yakutsk 20.81 343 *e*P Pn 22 54 14.7 -1.0
YAK Yakutsk 20.81 343 *e*P **P** **22 54 13.0 +0.2**
YAK *e**PP **sP** **22 54 28.1 -2.0**
YAK *e*S **S** **22 58 00.4 -1.7**
YAK *e**SS **sS** **22 58 24.9 +4.2**
YAK *e* 22 58 25.5
YAK pmax pmax
comp=Z,33nm,1.0s
YAK pmax pmax
comp=N,32nm,1.1s
YAK pmax pmax
comp=E,23nm,1.4s
YAK smax smax
comp=N,51nm,1.3s
YAK smax smax
comp=E,43nm,1.5s
YAK Yakutsk 20.81 343 P **P** **22 54 10.0 -2.8**
YAK IAmb IAmb 22 54 19.9
comp=Z,39nm,0.9s
SEY Seymchan 21.01 12 P **P** **22 54 13.9 -1.0**
comp=Z,49nm,0.8s,baz=194,slow=6.4,SNR=82
SEY LR LR 23 03 56.4
comp=Z,318nm,18.6s,baz=220,slow=41
NJ2 Nanjing 21.66 248 *e*P **P** **22 54 20.2 -2.0**
NJ2 pmax pmax
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 23.22 276 *e*P **P** **22 54 38.6 0.0**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,100nm,6.6s
HHC LR LR
comp=Z,290nm,15.2s
HHC LR LR
comp=Z,220nm,16.1s
HHC LR LR
comp=Z,230nm,15.2s
BOD Bodaibo 23.49 320 *e*P **P** **22 54 39.0 -2.0**
BOD Bodaibo 23.49 320 *e*P **P** **22 54 39.0 -2.0**
BOD pmax pmax
comp=Z,6.0nm,1.7s
YOJ Yonaguni jima 24.41 228 P **P** **22 54 48.2 -1.5**
YOJ pmax pmax
comp=Z,17nm,1.1s
YOJ Yonaguni jima 24.41 228 P **P** **22 54 48.2 -1.5**
ULN Ulaanbaatar 25.43 294 *i* P **P** **22 55 01.1 +2.1**
ULN pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 25.43 294 P **P** **22 54 56.9 -2.1**
SONM Songino Array 25.87 294 P **P** **22 55 02.2 -0.8**
comp=Z,4.9nm,0.8s,baz=84,slow=8.0,SNR=14
SONM ScP **ScP** **23 02 07.1 +0.8**
comp=Z,0.5nm,0.8s,baz=90,slow=0.4,SNR=3.6
SONM LR LR 23 06 03.5
comp=Z,232nm,20.2s,baz=152,slow=38
SONM Songino Array 25.87 294 P **P** **22 55 01.5 -1.5**
AMKA Amchitka 26.16 58 P **P** **22 55 03.0 -2.4**
TWG Pinlang 26.79 229 P **P** **22 55 10.9 -0.4**
TLY Talaya 27.70 302 LR LR 23 07 12.1
comp=Z,158nm,19.2s,baz=96,slow=38
TLY Talaya 27.70 302 *e*P **P** **22 55 20.5 +1.3**
TLY Talaya 27.70 302 *i* P **P** **22 55 20.5 +1.3**
TLY pmax pmax
comp=Z,5.0nm,0.9s
XAN Xi'an 27.71 263 P **P** **22 55 17.7 -1.7**
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN Xi'an 27.71 263 P **P** **22 55 17.8 -1.7**
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN Xi'an 27.71 263 P **P** **22 55 17.8 -1.7**
ZAK Zakamensk 27.89 300 *e*P **P** **22 55 19.6 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
ADK Adak 28.69 57 P **P** **22 55 26.4 -1.6**
ADK pmax pmax
comp=Z,36nm,1.5s
ADK Adak 28.69 57 P **P** **22 55 26.4 -1.6**
ADK IAmb IAmb 22 55 28.3
comp=Z,36nm,1.4s
GUMO Guam 29.11 176 LR LR 23 07 24.1
comp=Z,105nm,19.8s,baz=340,slow=37
MOY Mondy 29.35 302 *e*P **P** **22 55 34.3 +0.3**
MOY Mondy 29.35 302 *e*P **P** **22 55 34.3 +0.3**
TIXI Tiksi 29.77 351 *e*P **P** **22 55 39.5 +2.2**
TIXI Tiksi 29.77 351 *i* P **P** **22 55 39.5 +2.2**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
LZH Lanzhou 30.54 271 *e*P **P** **22 55 44.3 -0.4**
LZH pP pP 22 55 55.2 -2.0
LZH sP sP 22 56 00.5 -2.3
LZH *e*PP **PnPn** **22 56 45.0 0.0**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,89nm,5.0s
LZH LR LR
comp=Z,430nm,13.0s
LZH LR LR
comp=Z,440nm,13.2s
LZH LR LR
comp=Z,530nm,16.3s
H11N2 WAKE ISLAND Hy 30.70 131 T T 23 27 26.6
baz=324,slow=75,SNR=88
H11N1 WAKE ISLAND Hy 30.71 131 T T 23 27 31.2
baz=324,slow=75,SNR=76
H11N3 WAKE ISLAND Hy 30.71 131 T T 23 27 28.0
baz=324,slow=75,SNR=66
H11S1 WAKE ISLAND Hy 31.58 132 T T 23 28 34.7
baz=307,slow=80,SNR=243
H11S3 WAKE ISLAND Hy 31.58 133 T T 23 28 37.4
baz=307,slow=80,SNR=208
H11S2 WAKE ISLAND Hy 31.59 133 T T 23 28 37.7
baz=307,slow=80,SNR=194
GTA Gaotai 32.24 279 P **P** **22 56 00.0 +0.4**
GTA pP pP 22 56 12.9 +0.7
GTA sP sP 22 56 17.2 -0.6
GTA PcP **PcP** **22 58 49.6 +2.5**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,84nm,4.4s
GTA LR LR
comp=Z,110nm,15.2s
GTA LR LR
comp=Z,230nm,15.9s
GTA LR LR
comp=Z,230nm,15.6s
GYA Guiyang 33.51 253 *e*P **P** **22 56 08.0 -2.8**
GYA pmax pmax
comp=Z,6.0nm,1.2s
QIZ Qiongzhong 36.42 240 P **P** **22 56 36.8 +1.0**
QIZ S **S** **23 02 20.2 +6.1**
QIZ pmax pmax
comp=Z,6.0nm,1.2s
QIZ pmax pmax
comp=Z,99nm,2.7s
QIZ LR LR
comp=Z,110nm,13.9s
QIZ LR LR
comp=Z,170nm,16.9s
QIZ LR LR
comp=Z,140nm,24.5s
KMI Kunming 37.11 255 ⇑ *i* P **P** **22 56 42.4 +0.5**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,67nm,3.7s
KMI Kunming 37.11 255 P **P** **22 56 40.6 -1.3**
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI Kunming 37.11 255 P **P** **22 56 40.6 -1.3**
KMI IAmb IAmb 22 56 44.8
comp=Z,9.1nm,1.0s
DGZ Jazzator, Alta 38.10 300 *i* P **P** **22 56 51.1 +1.1**
DGZ pmax pmax
comp=Z,19nm,0.9s
SLVN Son La 38.74 249 P **P** **22 56 55.1 -0.4**
SLVN IAmb IAmb 22 56 58.3
comp=Z,9.8nm,0.9s
ZAA0 Zalesovo Array 39.01 307 P **P** **22 56 56.6 -0.7**
ZALV Zalesovo Beam 39.01 307 P **P** **22 56 56.9 -0.4**
comp=Z,3.3nm,0.5s,baz=84,slow=8.2,SNR=14
ZALV PcP **PcP** **22 59 06.8 +0.1**
comp=Z,2.8nm,0.6s,baz=74,slow=2.5,SNR=5.6
ZALV ScP **ScP** **23 02 51.5 +0.6**
comp=Z,3.3nm,0.7s,baz=88,slow=4.7,SNR=11
ZALV Zalesovo Beam 39.01 307 P **P** **22 56 56.5 -0.8**
WMQ Urumqi 39.42 291 *e*P **P** **22 57 01.8 +0.8**
WMQ pP pP 22 57 15.2 +1.4
WMQ sP sP 22 57 21.2 +1.8
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,78nm,4.9s
WMQ LR LR
comp=Z,150nm,13.7s
WMQ LR LR
comp=Z,250nm,18.1s
WMQ LR LR
comp=Z,82nm,18.1s
WMQ Urumqi 39.42 291 P **P** **22 57 01.7 +0.8**
WMQ pmax pmax
comp=Z,11nm,0.5s
WMQ Urumqi 39.42 291 P **P** **22 57 01.7 +0.7**
WMQ IAmb IAmb 22 57 05.8
comp=Z,11nm,0.5s
TTA Tatalina 40.26 38 P **P** **22 57 07.3 -0.4**
TTA pmax pmax
comp=Z,15nm,1.4s
TTA Tatalina 40.26 38 P **P** **22 57 07.3 -0.4**
TTA IAmb IAmb 22 57 09.2
comp=Z,15nm,1.4s
SVW2 Sparrevohn 40.49 41 P **P** **22 57 09.8 +0.3**
SVW2 IAmb IAmb 22 57 11.7
comp=Z,14nm,1.2s
IMAR Indian Mountai 41.30 34 P **P** **22 57 15.6 -0.5**
UBPT Khong Chiam 41.99 241 P **P** **22 57 22.2 -0.1**
PPLA Purkeypile 42.01 38 P **P** **22 57 22.6 +0.5**
PPLA IAmb IAmb 22 57 27.3
comp=Z,31nm,1.3s
MK31 Makanchi Array 42.15 297 P **P** **22 57 23.3 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 42.15 297 P **P** **22 57 23.3 -0.1**
MKAR Makanchi Array 42.15 297 P **P** **22 57 23.5 +0.1**
comp=Z,9.6nm,0.8s,baz=79,slow=8.9,SNR=25
MKAR PcP **PcP** **22 59 16.8 -0.2**
comp=Z,0.9nm,0.6s,baz=100,slow=2.9,SNR=3.0
MKAR Makanchi Array 42.15 297 P **P** **22 57 22.1 -1.3**
KDAK Kodiak Island 42.31 46 P **P** **22 57 23.7 -0.8**
KDAK pmax pmax
comp=Z,15nm,1.3s
KDAK Kodiak Island 42.31 46 P **P** **22 57 23.7 -0.8**
MAKZ Makanchi 42.35 297 P **P** **22 57 24.8 -0.2**
MAKZ pmax pmax
comp=Z,13nm,0.9s
MAKZ Makanchi 42.35 297 P **P** **22 57 24.8 -0.2**
MAKZ IAmb IAmb 22 57 29.1
comp=Z,12nm,0.8s
BPAW Bear Paw Mtn. 42.49 37 P **P** **22 57 26.0 +0.2**
KTH Kantishna Hill 42.54 37 P **P** **22 57 26.4 0.0**
KTH IAmb IAmb 22 57 28.2
comp=Z,31nm,1.0s
COLD Coldfoot 42.74 32 P **P** **22 57 27.5 -0.4**
baz=270
COLD Coldfoot 42.74 32 P **P** **22 57 26.9 -0.9**
CNPM China Poot 42.77 43 P **P** **22 57 27.5 -0.7**
CNPM IAmb IAmb 22 57 32.1
comp=Z,15nm,1.0s
TRF Thorofare Moun 42.83 37 P **P** **22 57 28.4 -0.4**
BRLK Bradley Lake 42.92 43 P **P** **22 57 29.5 +0.1**
BRLK IAmb IAmb 22 57 33.8
comp=Z,11nm,0.8s
LSA Lhasa 42.94 270 *e*P **P** **22 57 30.3 -0.2**
LSA Lhasa 42.94 270 P **P** **22 57 30.3 -0.2**
LSA pmax pmax
comp=Z,15nm,1.2s
LSA Lhasa 42.94 270 P **P** **22 57 30.3 -0.2**
TOLK Toolik Lake Re 42.99 30 P **P** **22 57 29.4 -0.6**
baz=269
BWN Browne 43.15 36 P **P** **22 57 31.7 +0.5**
NEA2 Nenana 43.29 36 P **P** **22 57 32.4 +0.1**
baz=274,SNR=19
KURK Kurchatov 43.38 304 *e*P **P** **22 57 33.1 -0.1**
KURK Kurchatov 43.38 304 *ce*P **P** **22 57 33.1 -0.1**
KURK pmax pmax
comp=Z,14nm,0.7s
KURK Kurchatov 43.38 304 P **P** **22 57 32.8 -0.4**
KURK IAmb IAmb 22 57 36.2
comp=Z,13nm,0.8s
MCK McKinley 43.42 37 P **P** **22 57 32.7 -0.7**
MCK pmax pmax
comp=Z,12nm,0.8s
MCK McKinley 43.42 37 P **P** **22 57 32.7 -0.7**
MCK IAmb IAmb 22 57 34.4
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 43.46 304 P **P** **22 57 32.9 -1.0**
comp=Z,12nm,0.7s,baz=74,slow=8.7,SNR=47
RND Reindeer 43.48 37 P **P** **22 57 33.3 -0.7**
RND pmax pmax
comp=Z,11nm,0.7s
RND Reindeer 43.48 37 P **P** **22 57 33.3 -0.7**
RND IAmb IAmb 22 57 34.6
comp=Z,11nm,0.7s
GHO Glory Hole Cre 43.62 40 P **P** **22 57 34.4 -0.8**
GHO IAmb IAmb 22 57 38.1
comp=Z,30nm,1.1s
MDM Murphy Dome 43.62 35 P **P** **22 57 34.7 -0.4**
WRH Wood River Hil 43.72 36 P **P** **22 57 35.5 -0.3**
TCOL CIGO, UAF Yank 43.79 35 P **P** **22 57 36.6 +0.3**
baz=275
COLA College 43.79 35 *i* P **P** **22 57 36.1 -0.2**
COLA pmax pmax
comp=Z,24nm,0.9s
CCB Clear Creek Bu 43.83 36 P **P** **22 57 35.9 -0.8**
CHTO Chiang Mai 43.87 251 P **P** **22 57 37.4 -0.1**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 43.87 251 P **P** **22 57 37.4 -0.1**
POKR Poker Plat Res 43.95 35 P **P** **22 57 38.1 +0.5**
baz=275
PBKT Sadao Pong 44.03 247 P **P** **22 57 39.1 +0.4**
CM31 Chiang Mai Arr 44.11 251 P **P** **22 57 39.6 +0.1**
CMAR Chiang Mai Arr 44.11 251 P **P** **22 57 40.6 +1.1**
comp=Z,3.4nm,0.9s,baz=41,slow=6.8,SNR=16
CMAR ScP **ScP** **23 03 13.4 +1.6**
comp=Z,0.3nm,0.3s,baz=38,slow=2.5,SNR=5.1
CMAR LR LR 23 17 38.8
comp=Z,188nm,18.2s,baz=88,slow=38
CMAR Chiang Mai Arr 44.11 251 P **P** **22 57 40.0 +0.6**
DHY Denali Highway 44.18 38 P **P** **22 57 39.2 -0.5**
DHY IAmb IAmb 22 57 40.5
comp=Z,13nm,0.7s
IL31 44.21 35 P **P** **22 57 39.3 -0.4**
IL31 IAmb IAmb 22 57 40.4
comp=Z,13nm,0.8s
ILAR Eielson Array 44.21 35 P **P** **22 57 39.2 -0.5**
comp=Z,11nm,0.9s,baz=268,slow=6.5,SNR=68
HDA Harding Lake 44.22 36 P **P** **22 57 39.1 -0.7**
baz=276,SNR=11
HDA Harding Lake 44.22 36 P **P** **22 57 39.4 -0.4**
HDA IAmb IAmb 22 57 40.3
comp=Z,8.7nm,0.6s
SMPI Sarmi 44.67 186 P **P** **22 57 45.9 +2.1**
SHL Shillong 44.70 264 P **P** **22 57 43.3 -1.1**
SHL pmax pmax
comp=Z,7.0nm,0.6s
SHL Shillong 44.70 264 P **P** **22 57 43.3 -1.1**
SHL IAmb IAmb 22 57 59.4
comp=Z,7.4nm,0.6s
M24K Tolsona, Glenn 44.86 39 P **P** **22 57 45.0 0.0**
baz=279
BMAR Burnt Mountain 44.91 31 P **P** **22 57 44.8 -0.5**
KLU Klutina 45.08 40 P **P** **22 57 46.7 -0.1**
KLU IAmb IAmb 22 57 48.1
comp=Z,22nm,1.2s
SHLS Shalkode 45.27 293 *e*P **P** **22 57 47.8 -0.9**
baz=293
SHLS Shalkode 45.27 293 *e*P **P** **22 57 47.7 -0.9**
TDK Taldyqorghan 45.30 296 *i* P **P** **22 57 49.3 +0.6**
comp=Z,14nm,0.8s,baz=296
TDK Taldyqorghan 45.30 296 *i* P **P** **22 57 49.2 +0.6**
TDK pmax pmax
comp=Z,14nm,0.8s
SCRK Sand Creek 45.56 36 P **P** **22 57 50.1 -0.5**
baz=279,SNR=19
UZB Uzynbulak 45.58 293 *e*P **P** **22 57 51.0 -0.1**
baz=293
UZB Uzynbulak 45.58 293 *e*P **P** **22 57 50.9 -0.1**
KPKS Kokpek 45.68 294 *e*P **P** **22 57 52.3 +0.5**
baz=294
KPKS Kokpek 45.68 294 *e*P **P** **22 57 52.3 +0.5**
MENT Mentasta 45.85 38 P **P** **22 57 53.3 +0.5**
MENT IAmb IAmb 22 58 12.3
comp=Z,7.9nm,0.8s
SATY Saty 46.03 293 *e*P **P** **22 57 55.3 +0.7**
baz=293
SATY Saty 46.03 293 *e*P **P** **22 57 55.2 +0.7**
VRDI Verde Repeater 46.30 40 P **P** **22 57 56.6 +0.1**
VRDI IAmb IAmb 22 57 58.1
comp=Z,11nm,1.1s
K27K Chicken 46.38 36 P **P** **22 57 57.3 +0.4**
baz=280
FAKI Fak Fak 46.42 194 P **P** **22 57 59.2 +1.5**
MCARA McCarthy VSAT 46.47 40 P **P** **22 57 57.9 +0.3**
MCARA IAmb IAmb 22 57 59.6
comp=Z,16nm,0.9s
EGAK Eagle 46.64 35 P **P** **22 57 58.3 -0.6**
EGAK IAmb IAmb 22 58 00.7
comp=Z,14nm,1.0s
CHKK Chushkaly 46.67 295 *e*P **P** **22 58 00.3 +0.8**
baz=295
CHKK Chushkaly 46.67 295 *e*P **P** **22 58 00.3 +0.8**
BCAR Beaver Creek A 46.70 37 P **P** **22 57 59.7 +0.2**
MDOK Medeo 46.90 294 *i* P **P** **22 58 02.2 +0.8**
baz=294
MDOK Medeo 46.90 294 *i* P **P** **22 58 02.2 +0.8**
TNSS Tian-Shan 47.02 294 *e*P **P** **22 58 04.1 +1.4**
baz=294
TNSS Tian-Shan 47.02 294 *e*P **P** **22 58 04.0 +1.4**
KUU Kurty 47.09 295 *e*P **P** **22 58 03.0 +0.3**
comp=Z,5.6nm,0.8s,baz=295
KUU Kurty 47.09 295 *e*P **P** **22 58 03.0 +0.3**
KUU pmax pmax
comp=Z,6.0nm,0.8s
BRZS Berezniki 47.23 304 *e*P **P** **22 58 04.7 +0.9**
comp=Z,8.5nm,1.0s,baz=304
BRZS Berezniki 47.23 304 *e*P **P** **22 58 04.7 +0.9**
BRZS pmax pmax
comp=Z,9.0nm,1.0s
ODAN Odare 47.27 269 *e*P **P** **22 58 06.0 +1.4**
ODAN Odare 47.27 269 *e*P **P** **22 58 06.0 +1.4**
CTGM Chitina Glacie 47.36 40 P **P** **22 58 05.2 +0.4**
BVAR Borovoye Array 47.61 309 P **P** **22 58 06.9 +0.2**
comp=Z,3.1nm,0.4s,baz=79,slow=8.9,SNR=30
BVAR PcP **PcP** **22 59 35.9 +0.2**
comp=Z,2.4nm,0.6s,baz=79,slow=2.2,SNR=4.8
BVAR ScP **ScP** **23 03 26.5 +0.7**
comp=Z,1.2nm,0.8s,baz=117,slow=5.2,SNR=5.8
BRVK Borovoye 47.66 309 *e*P **P** **22 58 07.7 +0.7**
BRVK Borovoye 47.66 309 *ce*P **P** **22 58 07.7 +0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.4s
BRVK Borovoye 47.66 309 P **P** **22 58 07.0 +0.1**
JIRN Jiri 47.71 271 *e*P **P** **22 58 08.9 +0.8**
JIRN Jiri 47.71 271 *e*P **P** **22 58 08.9 +0.8**
RAMN Ramite 47.80 270 *e*P **P** **22 58 09.4 +0.7**
comp=Z,30nm,0.7s
RAMN Ramite 47.80 270 *e*P **P** **22 58 09.4 +0.7**
comp=Z,30nm,0.7s
EPYK Eagle Plains 48.13 32 P **P** **22 58 10.7 +0.2**
baz=283
EPYK Eagle Plains 48.13 32 P **P** **22 58 10.3 -0.3**
EPYK IAmb IAmb 22 58 11.5
comp=Z,13nm,0.8s
PKI Pulchoki 48.33 271 *e*P **P** **22 58 13.0 +0.1**
PKI Pulchoki 48.33 271 *e*P **P** **22 58 13.0 +0.1**
DMN Daman 48.53 271 *e*P **P** **22 58 14.6 +0.2**
comp=Z,16nm,0.6s
DMN Daman 48.53 271 *e*P **P** **22 58 14.6 +0.2**
comp=Z,16nm,0.6s
GKN Gorkha 48.66 272 *e*P **P** **22 58 14.7 -0.6**
comp=Z,12nm,0.3s
GKN Gorkha 48.66 272 *e*P **P** **22 58 14.7 -0.6**
comp=Z,12nm,0.3s
AAK Ala-Archa 48.83 294 P **P** **22 58 17.5 +1.1**
comp=Z,2.0nm,0.5s,baz=143,slow=4.5,SNR=5.5
AAK Ala-Archa 48.83 294 *ce*P **P** **22 58 18.8 +2.4**
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 48.83 294 P **P** **22 58 16.2 -0.1**
HYT Haines Junctio 49.20 40 P **P** **22 58 19.6 +0.7**
PYUN Piuthan 49.82 273 *e*P **P** **22 58 24.7 +0.5**
PYUN Piuthan 49.82 273 *e*P **P** **22 58 24.7 +0.5**
KSM Kuching 50.27 224 P **P** **22 58 27.9 +0.5**
KSM IAmb IAmb 22 58 46.3
comp=Z,8.9nm,1.0s
A36M Sachs Harbour 50.62 24 P **P** **22 58 29.3 0.0**
baz=288
DZA Taraz 50.83 296 *e*P **P** **22 58 32.4 +1.0**
baz=296
DZA Taraz 50.83 296 *e*P **P** **22 58 32.3 +0.9**
KK31 Karatay Array 51.28 297 P **P** **22 58 34.2 -0.6**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KK31 Karatay Array 51.28 297 P **P** **22 58 34.2 -0.6**
KK31 IAmb IAmb 22 58 37.9
comp=Z,5.4nm,0.7s
KKAR Karatay Array 51.28 297 P **P** **22 58 33.7 -1.1**
KKAR Karatay Array 51.28 297 P **P** **22 58 33.7 -1.1**
SVE Sverdlovsk 51.62 316 *e*P **P** **22 58 38.1 +1.0**
SVE Sverdlovsk 51.62 316 *e*P **P** **22 58 38.1 +1.0**
SVE pmax pmax
comp=Z,24nm,1.1s
C36M Paulatuk 51.87 27 P **P** **22 58 38.1 -0.6**
IUG Iuzhnay 52.02 296 *e*P **P** **22 58 41.3 +0.8**
baz=296
IUG Iuzhnay 52.02 296 *e*P **P** **22 58 41.2 +0.8**
KULM Kulim 52.64 237 P **P** **22 58 45.5 +0.4**
KULM IAmb IAmb 22 58 49.5
comp=Z,8.1nm,0.7s
ARU Arti 52.83 316 P **P** **22 58 46.4 +0.3**
comp=Z,0.8nm,0.4s,baz=63,slow=6.1,SNR=11
ARU Arti 52.83 316 *e*P **P** **22 58 46.2 +0.1**
ARU Arti 52.83 316 *d i*P **P** **22 58 46.5 +0.4**
ARU S **S** **23 06 15.7 +4.7**
ARU SS **SS** **23 09 45.6 -4.0**
ARU pmax pmax
comp=Z,15nm,1.1s
ARU Arti 52.83 316 P **P** **22 58 46.3 +0.3**
ARU IAmb IAmb 22 58 48.7
comp=Z,14nm,1.1s
GAR Garm 53.30 292 P **P** **22 58 49.6 -0.3**
GAR IAmb IAmb 22 58 53.2
comp=Z,14nm,1.3s
NIL Nilore 53.93 285 P **P** **22 58 54.8 +0.3**
NIL pmax pmax
comp=Z,9.0nm,0.8s
NIL Nilore 53.93 285 P **P** **22 58 54.8 +0.3**
NIL IAmb IAmb 22 58 58.6
comp=Z,9.3nm,0.8s
CHGR Chuyangaron 54.25 292 P **P** **22 58 56.8 0.0**
EUNU Eureka 54.40 9 P **P** **22 58 56.3 -1.1**
EUNU IAmb IAmb 22 58 57.0
comp=Z,8.8nm,0.8s
ABKAR Akbulak array 55.12 308 P **P** **22 59 02.7 -0.2**
AKTO Aktyubinsk 55.69 310 P **P** **22 59 05.8 -1.1**
comp=Z,3.0nm,0.8s,baz=66,slow=9.7,SNR=6.2
KIRV Kirov 56.36 321 P **P** **22 59 11.9 +0.4**
comp=Z,3.6nm,0.4s,baz=314,slow=4.7,SNR=5.3
KBL Kabul 56.43 288 P **P** **22 59 12.0 -0.8**
KBL pmax pmax
comp=Z,7.0nm,1.0s
KBL Kabul 56.43 288 P **P** **22 59 12.0 -0.8**
KBL IAmb IAmb 22 59 29.2
comp=Z,6.5nm,1.0s
PRGR Permogore 56.57 325 *e*P **P** **22 59 11.9 -1.1**
PRGR pmax pmax
comp=Z,28nm,1.1s
RES Resolute Bay 56.84 16 P **P** **22 59 13.4 -1.4**
RES pmax pmax
comp=Z,16nm,1.0s
RES Resolute Bay 56.84 16 P **P** **22 59 13.4 -1.4**
LVZ Lovozero 57.34 335 P **P** **22 59 18.1 -0.4**
LVZ pmax pmax
comp=Z,28nm,1.4s
LVZ Lovozero 57.34 335 P **P** **22 59 18.1 -0.4**

GSI Gunungsitoli 57.65 237 P P 22 59 21.7 +0.5
YKA Yellowknife Ar 58.42 32 P P 22 59 26.0 0.0
comp=Z,5.7nm,0.9s,baz=306,slow=7.6,SNR=9.8
ARCES ARCESS Array B 59.03 339 P P 22 59 29.1 -1.0
comp=Z,4.0nm,0.9s,baz=54,slow=6.2,SNR=9.5
ARCES ARCESS Array B 59.03 339 P P 22 59 28.8 -1.3
KLMR Klimovskoe 59.50 326 eP P 22 59 30.9 -2.6
KLMR pmax pmax
comp=Z,11nm,1.2s
KLMR Klimovskoe 59.50 326 eP P 22 59 31.0 -2.6
KLMR AMP 22 59 35.7
comp=Z,11nm,1.2s
KNRA Kununurra 59.52 196 P P 22 59 34.5 +0.4
HRA Herat 61.23 292 P P 22 59 45.4 -0.6
HRA IAmb IAmb 22 59 49.8
comp=Z,5.3nm,0.8s
GEYT Alibeck 62.03 297 P P 22 59 51.9 +0.8
comp=Z,3.3nm,0.8s,baz=48,slow=4.4,SNR=8.2
GEYT Alibeck 62.03 297 P P 22 59 51.3 +0.1
GYA0B ALIBECK ARRAY 62.03 297 P P 22 59 50.9 -0.3
FITZ Fitzroy Crossi 62.54 198 P P 22 59 55.2 +0.7
CTAO Charters Tower 62.60 176 P P 22 59 56.1 +1.2
CTAO pmax pmax
comp=Z,6.0nm,1.1s
CTAO Charters Tower 62.60 176 P P 22 59 56.1 +1.2
CTAO IAmb IAmb 23 00 14.3
comp=Z,6.1nm,1.1s
WB0 Warramunga Arr 62.66 189 P P 22 59 55.8 +0.4
WB0 IAmb IAmb 23 00 13.9
comp=Z,5.5nm,0.8s
B05A Bryant 62.72 48 P P 22 59 56.4 +0.9
baz=304
WB2 Warramunga Arr 62.84 189 P P 22 59 57.3 +0.8
WB2 IAmb IAmb 22 59 59.1
comp=Z,19nm,1.5s
WRA Warramunga Arr 62.84 189 P P 22 59 57.0 +0.5
comp=Z,4.2nm,1.0s,baz=6.6,slow=7.0,SNR=22
WRA Warramunga Arr 62.84 189 P P 22 59 56.8 +0.2
E04D Cinebar 63.42 50 P P 23 00 01.6 +1.4
baz=305
VRH Novokhopyorsk 64.06 317 eP P 23 00 03.4 -0.9
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 64.15 322 eP P 23 00 03.7 -1.2
OBN Obninsk 64.15 322 i P P 23 00 03.7 -1.2
OBN i 23 00 44.6
OBN pmax pmax
comp=Z,6.0nm,0.8s
FIA1 FINESS Array S 64.25 332 P P 23 00 04.2 -1.1
FIA1 IAmb IAmb 23 00 24.1
comp=Z,7.9nm,0.8s
FINES FINESS Array B 64.25 332 P P 23 00 04.2 -1.1
comp=Z,4.8nm,0.5s,baz=48,slow=7.3,SNR=53
FINES LR LR 23 29 08.8
comp=Z,102nm,18.7s,baz=58,slow=37
F05D White Salmon 64.44 50 P P 23 00 08.3 +1.3
baz=306
H04D Lebanon 64.50 52 P P 23 00 08.6 +1.2
baz=306
J01E Myrtle Point 64.59 54 P P 23 00 09.6 +1.7
baz=306
LPSR Galich'ya Gora 64.60 319 eP P 23 00 06.5 -1.3
LPSR pmax pmax
comp=Z,10.0nm,1.0s
I03D Drain, OR 64.62 53 P P 23 00 09.3 +1.2
baz=306
H04A Detroit Lake 64.73 52 P P 23 00 08.9 0.0
G05D Wamic, OR 64.90 51 P P 23 00 11.2 +1.2
baz=306
SUMG Summit 64.98 0 i P P 23 00 10.4 -0.1
comp=Z,34nm,0.9s
SUMG Summit 64.98 0 i P P 23 00 10.4 -0.1
SUMG pmax pmax
comp=Z,34nm,0.9s
SUMG Summit 64.98 0 P P 23 00 09.8 -0.7
SUMG IAmb IAmb 23 00 13.2
comp=Z,13nm,0.9s
K02D Willamette Mer 65.02 54 P P 23 00 11.8 +0.9
baz=306
I04A Tendick Farm, 65.12 53 P P 23 00 12.5 +1.0
baz=306
F07A Phinny Hill Vi 65.30 50 P P 23 00 13.5 +0.9
VSR Storozhevoye 65.33 318 eP P 23 00 13.2 +0.6
VSR pmax pmax
comp=Z,9.0nm,0.5s
NEW Newport 65.42 46 P P 23 00 13.8 +0.5
baz=307,SNR=5.5
I05D Terrebonne, OR 65.42 52 P P 23 00 14.4 +1.0
baz=306
VORD Divnogorie 65.42 317 eP P 23 00 12.6 -0.6
VORD pmax pmax
comp=Z,10.0nm,1.0s
E08A Dider Farm, El 65.43 49 P P 23 00 13.5 +0.2
J04D Umpqua Nationa 65.62 53 P P 23 00 16.2 +1.3
baz=306
E09A Wood Farm, Sta 65.92 48 P P 23 00 17.1 +0.6
PINE Pine Mountain 65.97 52 P P 23 00 17.8 +0.6
VSU Vasula 66.06 329 eP P 23 00 16.1 -1.0
J05D Fort Rock, OR 66.11 53 P P 23 00 19.3 +1.3
baz=307,SNR=6.5
L04D Klamath Falls 66.11 54 P P 23 00 19.1 +1.1
baz=307
YBH Yreka Blue Hor 66.16 55 P P 23 00 19.4 +1.2
comp=Z,3.3nm,0.7s,baz=0.0,slow=6.1,SNR=3.4
M02C Callahan 66.28 55 P P 23 00 20.5 +1.5
baz=307
AKT Akhty 66.52 305 eP P 23 00 21.7 +1.1
AKT e 23 00 50.3
AKT pmax pmax
comp=Z,13nm,0.9s
ASAR Alice Springs 66.57 189 P P 23 00 23.1 +2.2
comp=Z,2.2nm,0.9s,baz=7.9,slow=6.0,SNR=16
ASAR Alice Springs 66.57 189 P P 23 00 21.3 +0.4
WALA Waterton Lakes 66.61 44 P P 23 00 20.5 -0.6
WALA IAmb IAmb 23 00 22.5
comp=Z,6.8nm,0.9s
N02D Trinity Center 66.61 55 P P 23 00 22.6 +1.4
baz=307
I07A Izee 66.63 51 P P 23 00 21.2 -0.1
I07A IAmb IAmb 23 00 23.3
comp=Z,7.1nm,1.0s
M04C Macdoel 66.65 54 P P 23 00 22.8 +1.3
baz=307
O02D Mt. Diablo Mer 67.04 56 P P 23 00 25.3 +1.3
baz=307
GOF Gofitskoye 67.07 311⇑eP P 23 00 24.0 +0.1
JTMT Jette 67.24 45 P P 23 00 25.6 +0.5
JTMT IAmb IAmb 23 00 27.0
comp=Z,10nm,1.0s
BMO Blue Mountains 67.40 49 P P 23 00 26.4 +0.3
BMO pmax pmax
comp=Z,9.0nm,1.1s
BMO Blue Mountains 67.40 49 P P 23 00 26.4 +0.3
BMO IAmb IAmb 23 00 28.0
comp=Z,8.7nm,1.1s
O03E Paynes Creek 67.57 55 P P 23 00 27.8 +0.5
baz=308
KIV Kislovodsk 67.96 310 eP P 23 00 30.0 +0.4
KIV Kislovodsk 67.96 310 eP P 23 00 30.0 +0.4
KIV pmax pmax
comp=Z,99nm,1.1s
KIV Kislovodsk 67.96 310 P P 23 00 30.1 +0.4
KBZ Khabaz 67.98 310 P P 23 00 30.3 +0.7
comp=Z,12nm,0.8s,baz=46,slow=6.7,SNR=21
KBZ Khabaz 67.98 310 eP P 23 00 30.6 +1.0
KBZ Khabaz 67.98 310 ceP P 23 00 30.6 +1.0
ZEI Tsey 67.99 308 eP P 23 00 30.2 +0.2
ZEI pmax pmax
comp=Z,10.0nm,1.0s
MSO Missoula 68.00 46 P P 23 00 30.2 +0.4
baz=310,SNR=6.1
MSO Missoula 68.00 46 P P 23 00 30.2 +0.4
MSO IAmb IAmb 23 00 31.4
comp=Z,12nm,1.2s
WVOR Wild Horse Val 68.14 52 P P 23 00 30.7 -0.1
WVOR pmax pmax
comp=Z,7.0nm,1.1s
WVOR Wild Horse Val 68.14 52 P P 23 00 30.7 -0.1
WVOR IAmb IAmb 23 00 33.3
comp=Z,7.2nm,1.1s
IZAR Zarasai 68.14 327 eP P 23 00 31.0 +0.6
TBLG Delisi 68.15 307 P P 23 00 31.1 +0.3
TBLG pmax pmax
comp=Z,8.0nm,0.7s
TBLG Delisi 68.15 307 P P 23 00 31.1 +0.3
TBLG IAmb IAmb 23 00 33.3
comp=Z,7.7nm,0.7s
ORV Oroville 68.21 56 P P 23 00 31.2 0.0
ORV pmax pmax
comp=Z,6.0nm,0.9s
ORV Oroville 68.21 56 P P 23 00 31.2 0.0
ORV IAmb IAmb 23 00 32.2
comp=Z,5.9nm,0.9s
IDID Didziasalis 68.25 326 eP P 23 00 31.6 +0.4
ISAL Salakas 68.32 327 eP P 23 00 31.9 +0.4
IIGN Ignalina 68.44 327 eP P 23 00 32.2 -0.1
AKH Akhalkalaki 69.08 307 P P 23 00 37.0 +0.2
AKH pmax pmax
comp=Z,5.0nm,0.9s
AKH Akhalkalaki 69.08 307 P P 23 00 37.0 +0.2
NC405 NORSAR Array S 69.11 337 P P 23 00 35.2 -1.3
MFID Camas Ranch 69.13 50 P P 23 00 36.9 -0.1
MFID IAmb IAmb 23 00 38.9
comp=Z,16nm,1.5s
HRY Holter Researc 69.18 45 P P 23 00 37.5 +0.2
PABE Paberze 69.22 328 eP P 23 00 36.7 -0.5
NB2 NORSAR Subarra 69.31 337 P P 23 00 36.6 -1.1
comp=Z,3.9nm,0.7s,baz=37,slow=6.5
NOA NORSAR Array B 69.31 337 P P 23 00 36.8 -0.9
comp=Z,3.3nm,0.7s,baz=36,slow=6.2,SNR=20
NOA LR LR 23 35 29.7
comp=Z,80nm,19.6s,baz=15,slow=40
LRM Limekiln Ridge 69.44 46 P P 23 00 38.5 -0.5
PBUR Paburge 69.63 329 eP P 23 00 39.4 -0.3
HLID Hailey 69.83 49 P P 23 00 42.2 +0.8
baz=310,SNR=7.5
CMB Columbia Colle 69.83 57 P P 23 00 41.5 +0.2
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 69.83 57 P P 23 00 41.5 +0.2
BOZ Bozeman (W) 70.02 46 P P 23 00 42.8 +0.3
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 70.02 46 P P 23 00 43.1 +0.6
baz=311,SNR=21
BOZ Bozeman (W) 70.02 46 P P 23 00 42.8 +0.3
BOZ IAmb IAmb 23 00 44.1
comp=Z,11nm,0.9s
AKASG Malin Array Be 70.41 322 P P 23 00 43.6 -0.8
comp=Z,2.6nm,0.5s,baz=40,slow=6.1,SNR=9.6
AKASG Malin Array Be 70.41 322 P P 23 00 43.7 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 70.41 322 P P 23 00 43.7 -0.8
AKBB Malin Array Si 70.41 322 P P 23 00 44.1 -0.5
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 70.41 322 P P 23 00 44.0 -0.5
AKBB IAmb IAmb 23 00 48.1
comp=Z,7.0nm,0.9s
KVN Kaiserville 70.58 55 P P 23 00 46.3 +0.2
KVN pmax pmax
comp=Z,8.0nm,1.0s
KVN Kaiserville 70.58 55 P P 23 00 46.3 +0.2
KVN IAmb IAmb 23 00 48.0
comp=Z,7.6nm,1.0s
NVAR Mina Array Bea 70.85 55 P P 23 00 48.7 +0.9
comp=Z,4.1nm,0.8s,baz=289,slow=6.3,SNR=27
NVAR Mina Array Bea 70.85 55 P P 23 00 48.0 +0.2
GCMT Greycliff 70.92 45 P P 23 00 48.4 +0.4
YHH Holmes Hill 70.97 46 P P 23 00 48.3 -0.2
UOSS Minazif 71.06 287 P P 23 00 49.0 0.0
UOSS IAmb IAmb 23 00 56.2
comp=Z,10nm,0.9s
RLMT Red Lodge 71.58 45 P P 23 00 52.9 +0.8
baz=313
RLMT Red Lodge 71.58 45 P P 23 00 52.3 +0.3
RLMT IAmb IAmb 23 00 53.9
comp=Z,17nm,1.5s
PKM Mcpherson Peak 72.18 59 P P 23 00 56.9 +1.1
baz=310
CWC Cottonwood Cre 72.27 57 P P 23 00 56.8 +0.6
baz=310
GRAC Grapevine Rang 72.34 56 P P 23 00 57.4 +0.9
baz=311
R11A Troy Canyon, C 72.54 54 P P 23 00 58.4 +0.5
baz=311,SNR=8.5
MPMC Manual Prospec 72.88 57 P P 23 01 00.4 +0.5
baz=311,SNR=8.2
DUG Dugway, Tooele 72.94 51 P P 23 01 00.4 +0.2
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway, Tooele 72.94 51 P P 23 01 01.1 +1.0
baz=312,SNR=8.6
DUG Dugway, Tooele 72.94 51 P P 23 01 00.4 +0.2
DUG IAmb IAmb 23 01 02.1
comp=Z,10nm,1.1s
FURC Furnace Creek, 72.99 56 P P 23 01 01.3 +1.0
baz=311,SNR=9.2
BW06 Boulder Array 73.02 47 P P 23 01 01.1 +0.4
baz=313
PD31 Pinedale Array 73.02 47 P P 23 01 00.5 -0.2
PD31 IAmb IAmb 23 01 02.0
comp=Z,12nm,1.2s
PDAR Pinedale Array 73.02 47 P P 23 01 01.0 +0.3
comp=Z,4.3nm,0.6s,baz=318,slow=2.0,SNR=31
PDAR Pinedale Array 73.02 47 P P 23 01 00.6 -0.1
TPNV Topopah Spring 73.05 55 P P 23 01 01.5 +0.6
baz=311,SNR=8.2
MARD Mardin 73.32 305 P P 23 01 02.2 -0.3
MARD IAmb IAmb 23 01 06.7
comp=Z,7.4nm,0.7s
EDW2 Edwards Air Fo 73.33 58 P P 23 01 03.2 +0.7
baz=311
GSC Goldstone, Bar 73.79 57 P P 23 01 06.0 +0.9
baz=311
BFSC Mount Baldy Ra 73.95 58 P P 23 01 07.0 +0.7
baz=311
SHPR Sheep Range 74.00 55 P P 23 01 06.3 -0.2
KWP Kalwaria Pacla 74.08 324 P P 23 01 06.4 -0.1
KWP pmax pmax
comp=Z,15nm,1.2s
KWP Kalwaria Pacla 74.08 324 P P 23 01 06.4 -0.1
KWP IAmb IAmb 23 01 10.5
comp=Z,15nm,1.2s
ULM Lac du Bonnet 74.23 35 P P 23 01 06.2 -1.1
comp=Z,5.1nm,0.7s,baz=310,slow=5.0,SNR=4.4
HEC Hector,Ludlow 74.39 57 P P 23 01 09.5 +0.8
baz=312,SNR=5.3
BUR08 Bucovina Ar. S 74.44 321 P P 23 01 08.5 -0.3
BURAR Bucovina Array 74.45 321 ⇓P P 23 01 08.9 +0.1
BURAR Bucovina Array 74.45 321 ⇓P P 23 01 09.0 +0.1
BURAR Bucovina Array 74.45 321 P P 23 01 08.2 -0.7
KOLS Kolonicke sedl 74.79 324 eP sP 23 01 28.4 -1.6
GMRC Granite Mounta 74.84 57 P P 23 01 12.0 +0.7
baz=312
OJC Ojcow 74.86 326 P P 23 01 10.2 -0.8
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 74.86 326 P P 23 01 10.2 -0.8
OJC IAmb IAmb 23 01 26.2
comp=Z,10nm,0.8s
RSSD Black Hills 74.96 43 P P 23 01 11.2 -0.8
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 74.96 43 P P 23 01 12.0 0.0
baz=316
RSSD Black Hills 74.96 43 P P 23 01 11.2 -0.8
RSSD IAmb IAmb 23 01 13.0
comp=Z,7.0nm,0.8s
VRI Vrincioaia 75.02 319 ⇑P P 23 01 12.4 +0.4
VRI Vrincioaia 75.02 319 ⇑P P 23 01 12.5 +0.4
PFO Pinyon Flats O 75.12 58 P P 23 01 11.9 -1.1
comp=Z,2.5nm,1.1s,baz=19,slow=4.7,SNR=3.9
PFO Pinyon Flats O 75.12 58 P P 23 01 13.3 +0.3
baz=312
BELC Belle Mtn. Jos 75.15 57 P P 23 01 13.7 +0.5
baz=312
GAZ Gaziantep 75.53 307 P P 23 01 15.9 +0.6
O20A White River Ci 75.54 48 P P 23 01 15.8 +0.4
baz=314
IRM Iron Mountain 75.57 57 P P 23 01 16.3 +0.9
baz=312
DOPR Dopca 75.59 320 ⇑P P 23 01 16.1 +0.7
MONP2 Monument Peak 75.62 59 P P 23 01 16.4 +0.5
baz=312
MLR Muntele Rosu 75.67 320 ⇑P P 23 01 11.7 -4.3
MLR Muntele Rosu 75.67 320 ⇑P P 23 01 11.7 -4.3
BR131 Keskin Array S 75.82 311 P P 23 01 16.6 -0.3
BR131 pmax pmax
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 75.82 311 P P 23 01 16.6 -0.3
BRTR Keskin Array B 75.82 311 P P 23 01 16.7 -0.2
comp=Z,1.6nm,0.7s,baz=105,slow=2.9,SNR=5.6
BRTR LR LR 23 37 55.3
comp=Z,36nm,18.3s,baz=352,slow=38
BRTR Keskin Array B 75.82 311 P P 23 01 16.1 -0.8
BRTR Keskin Array B 75.82 311 P P 23 01 16.1 -0.8
IKP In-Ko-Pah, Jac 75.97 59 P P 23 01 18.1 +0.2
baz=312
OSTC Ostas 76.03 328 eP P 23 01 19.2 +1.5
CHVC Chvalec 76.06 328 eP P 23 01 19.3 +1.3
PDMCI Parker Dam,Lak 76.09 56 P P 23 01 19.2 +0.9
baz=313
MORC Moravsky Berou 76.12 327 ⇓P P 23 01 18.7 +0.4
MORC Moravsky Berou 76.12 327 eP P 23 01 21.2 +2.9
MORC e 23 01 32.9
MORC Moravsky Berou 76.12 327 ⇓P P 23 01 18.7 +0.4
MORC Moravsky Berou 76.12 327 P P 23 01 18.1 -0.2
VOIR 76.14 320 ⇑P P 23 01 15.0 -3.6
VOIR 76.14 320 ⇑P P 23 01 15.0 -3.6
DPC Dobruska-Polom 76.15 328 eP P 23 01 20.0 +1.5
DPC Dobruska-Polom 76.15 328 eP P 23 01 20.0 +1.5
KRLC Kraliky 76.19 327 eP P 23 01 17.9 -0.8
KRLC epP pP 23 01 34.5 +1.9
KRLC Kraliky 76.19 327 eP P 23 01 17.9 -0.8
KRLC e 23 01 34.5
N23A Red Feather La 76.26 47 P P 23 01 20.0 +0.5
baz=315
ARR Arges 76.39 320 ⇑P P 23 01 20.4 +0.4
GLA Glamis 76.51 57 P P 23 01 21.5 +0.7
baz=312
VYHS Vyhne 76.59 325 eP P 23 01 22.0 +1.1
VYHS Vyhne 76.59 325 eP P 23 01 22.0 +1.1
CLL Collm 76.64 330 ⇓ i P P 23 01 20.8 -0.3
comp=Z,12nm,1.3s
CLL i 23 01 23.2
comp=Z,9.0nm,0.9s
CLL epP pP 23 01 36.0 +0.8
CLL i sP sP 23 01 43.2 +2.5
CLL LmV 23 38 00.0
comp=Z,100nm,18.4s
CLL Collm 76.64 330 P P 23 01 20.6 -0.5
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 76.64 330 eL L 23 38 24.8
comp=Z,117nm,18.4s
CLL Collm 76.64 330 P P 23 01 20.6 -0.5
CLL IAmb IAmb 23 01 24.3
comp=Z,11nm,1.0s
BRG Berggiesshubel 76.64 329 eP P 23 01 22.6 +1.5
comp=Z,7.2nm,1.2s
BRG e 23 01 38.6
comp=Z,2.6nm,0.8s
JAVC Velka Javorina 76.79 326 eP P 23 01 24.2 +2.1
JAVC e 23 01 37.7
VRAC Vranov 76.87 327 ⇑P P 23 01 23.6 +1.1
VRAC Vranov 76.87 327 eP P 23 01 23.0 +0.5
VRAC e 23 01 37.1
VRAC Vranov 76.87 327 ⇑P P 23 01 23.6 +1.1
WUAZ Wupatki 76.93 54 P P 23 01 24.2 +0.9
baz=314
WUAZ Wupatki 76.93 54 P P 23 01 22.7 -0.6
PRU Pruhonice 77.13 329 eP P 23 01 24.1 +0.2
PRU Pruhonice 77.13 329 eP P 23 01 24.1 +0.2
KRUC Moravsky 77.14 327 eP P 23 01 24.0 0.0
KRUC e 23 01 38.2
ISCO Idaho Springs 77.21 47 P P 23 01 25.2 +0.2
ISCO pmax pmax
comp=Z,13nm,1.5s
ISCO Idaho Springs 77.21 47 P P 23 01 25.7 +0.7
baz=316
ISCO Idaho Springs 77.21 47 P P 23 01 25.2 +0.2
ISCO IAmb IAmb 23 01 27.0
comp=Z,13nm,1.5s
SUSD Miller 77.22 40 P P 23 01 24.5 -0.1
baz=318
SUSD Miller 77.22 40 P P 23 01 24.1 -0.5
MVCO Mesa Verde 77.44 51 P P 23 01 27.0 +0.8
baz=315,SNR=5.3
BZS Buzias 77.59 322 ⇑P P 23 01 23.8 -2.8
BZS Buzias 77.59 322 ⇑P P 23 01 23.8 -2.8
MOX Moxa 77.69 331 eP P 23 01 28.9 +1.9
comp=Z,80nm,3.1s,baz=30,slow=4.7
MOX eL L 23 39 39.3
comp=Z,57nm,20.0s
WERN Wernitzgruen 77.70 330 eP P 23 01 29.1 +1.9
comp=Z,5.3nm,1.2s,baz=30,slow=4.7
EYMN Ely 77.83 34 P P 23 01 27.5 -0.4
baz=322
S22A 4UR Ranch, Cre 78.00 49 P P 23 01 30.1 +0.7
baz=315
Q24A Divide 78.06 48 P P 23 01 30.2 +0.4
baz=316
W18A Petrified Fore 78.18 53 P P 23 01 31.2 +0.9
baz=314
MDVR Moldovita 78.19 321 ⇑P sP 23 01 48.6 -0.8
KHC Kasperske Hory 78.19 329 eP P 23 01 30.1 +0.2
KHC epP pP 23 01 44.2 +0.3
KHC Kasperske Hory 78.19 329 ceP P 23 01 30.7 +0.8
KHC pmax pmax
comp=Z,15nm,1.3s
KHC Kasperske Hory 78.19 329 P P 23 01 28.8 -1.1
GEC2 GERESS Array S 78.38 328 eP P 23 01 33.2 +2.1
comp=Z,5.2nm,1.6s,baz=30,slow=4.7
GEC2 eL L 23 40 11.3
comp=Z,88nm,20.5s
GERES GERESS Array B 78.38 328 P P 23 01 32.0 +1.0
comp=Z,1.1nm,0.7s,baz=32,slow=5.3,SNR=5.8
GERES LR LR 23 40 12.0
comp=Z,97nm,18.1s,baz=16,slow=39
GERES GERESS Array B 78.38 328 P P 23 01 32.0 +1.0
GERES GERESS Array B 78.38 328 P P 23 01 29.5 -1.5
WET Wettzell 78.45 329 eL L 23 38 52.7
comp=Z,88nm,19.7s
214A Organ Pipe Nat 78.50 57 P P 23 01 32.5 +0.6
baz=314
GRA1 Grafenberg Arr 78.61 330 P 23 01 31.8 -0.4
GRA1 IAmb IAmb 23 01 37.2
comp=Z,9.1nm,0.8s
GRF Grafenberg Arr 78.61 330 P P 23 01 31.8 -0.4
GRF pmax pmax
comp=Z,9.0nm,0.8s
GRF Grafenberg Arr 78.61 330 eP P 23 01 33.9 +1.7
comp=Z,10.0nm,1.0s,baz=30,slow=4.7
GRF eL L 23 37 44.5
comp=Z,68nm,20.0s
SDCO Great Sand Dun 78.74 49 P P 23 01 34.0 +0.5
baz=316
ECSD EROS Data Cent 78.86 39 P P 23 01 33.5 -0.2
baz=320
E38A The Farm, Brul 78.87 35 P P 23 01 32.7 -1.0
TUC Tucson 79.50 56 P P 23 01 37.6 +0.1
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC Tucson 79.50 56 P P 23 01 38.4 +1.0
baz=314
TUC Tucson 79.50 56 P P 23 01 37.6 +0.1
SCHQ Schefferville 79.59 17 P P 23 01 37.2 -0.3
comp=Z,6.4nm,0.9s,baz=7.1,slow=8.1,SNR=2.9
SOKA Soboth 79.60 326 i PcP PcP 23 01 45.0 -0.5
comp=Z,5.2nm,1.0s
T25A Trinidad 79.78 48 P P 23 01 39.6 +0.5
baz=317,SNR=8.5
T25A Trinidad 79.78 48 P P 23 01 39.1 +0.1
T25A IAmb IAmb 23 01 40.6
comp=Z,13nm,0.9s
ANMO Albuquerque 80.20 51 ceP P 23 01 41.3 -0.1
ANMO pmax pmax
comp=Z,10.0nm,1.7s
ANMO Albuquerque 80.20 51 P P 23 01 42.2 +0.8
baz=316
ANMO Albuquerque 80.20 51 P P 23 01 41.8 +0.4
BMRD Maredsous 80.31 334 P P 23 01 40.9 -0.5
WATA Walderalm 80.43 329 i P P 23 01 43.1 +0.8
comp=Z,5.8nm,1.1s
MOTA Moosalm 80.60 329 i P P 23 01 43.5 +0.2
comp=Z,8.5nm,1.1s
RETA Reutte 80.61 329 i P P 23 01 43.3 +0.1
comp=Z,6.2nm,1.3s
SQTA Sankt Quirin 80.67 329 i P P 23 01 43.7 +0.1
comp=Z,5.7nm,1.3s
BNM Barren Site 80.67 52 P P 23 01 44.4 +0.4
BFO Black Forest 80.80 331 eL L 23 41 05.8
comp=Z,59nm,19.5s

DAVA	Damuels	81.11	330	*i* P		P	23 01 46.0	+0.1
	comp=Z,7.2nm,1.0s							
121A	Cookes Peak, D	81.15	54	P		P	23 01 47.6	+1.2
	baz=316							
MATQ	Matagami	81.34	25	P		P	23 01 45.6	-1.3
	baz=331							
FUORN	Ofenpass-Fuorn	81.53	329	P		P	23 01 48.0	-0.3
FUORN				IAmb		IAmb	23 01 50.4	
	comp=Z,7.9nm,0.9s							
D46A	Sault St. Mari	81.62	30	P		P	23 01 47.4	-1.1
	baz=327							
D47A	Chapleau	81.82	30	P		P	23 01 48.6	-1.0
	baz=328							
LSQQ	Lebel-sur-Quev	82.17	25	P		P	23 01 50.6	-0.7
	baz=332							
CHGQ	Chibougamau	82.19	23	P		P	23 01 50.6	-0.8
	baz=334							
E47A	Iron Bridge	82.27	30	P		P	23 01 51.0	-0.8
	baz=328							
VLDQ	Val d'Or	82.85	26	P		P	23 01 53.0	-1.8
MNTX	Cornudas Mount	83.16	53	P		P	23 01 57.5	+0.7
	baz=317							
D53A	Lac Vacive, Po	83.67	26	P		P	23 01 58.5	-0.6
	baz=331							
D54A	Lac Fusel, La	83.95	26	P		P	23 01 59.6	-0.9
	baz=332							
E53A	Dumoine, Ponti	84.30	27	P		P	23 02 01.3	-1.1
	baz=332							
E54A	Lac Daplat, Po	84.41	26	P		P	23 02 02.2	-0.7
	baz=332							
D55A	Sainte-Anne-du	84.44	25	P		P	23 02 02.1	-0.9
	baz=333							
ALGO	Algonquin Park	84.55	27	P		P	23 02 02.3	-1.2
	baz=331							
WMOK	Wichita Mounta	84.62	47	P		P	23 02 04.3	+0.1
	baz=320							
D56A	ZEC Mazanza, M	84.64	25	P		P	23 02 03.7	-0.3
	baz=333,SNR=6.2							
HDIL	Hopedale	84.71	37	P		P	23 02 04.2	-0.3
	baz=324							
HDIL	Hopedale	84.71	37	P		P	23 02 04.0	-0.5
D57A	Chemin Vers le	84.93	24	P		P	23 02 05.1	-0.4
	baz=334							
E56A	St. Veronique	85.00	25	P		P	23 02 05.2	-0.7
	baz=333							
G54A	Lake Saint Pet	85.02	28	P		P	23 02 05.5	-0.5
	baz=331							
F55A	Otter Lake	85.21	26	P		P	23 02 06.0	-0.9
	baz=332							
TUL1	Leonard	85.28	44	P		P	23 02 07.7	+0.2
	baz=321							
I51A	Listowel	85.36	30	P		P	23 02 07.7	0.0
	baz=329							
E57A	Chemin Saint G	85.40	25	P		P	23 02 07.5	-0.4
	baz=334,SNR=6.1							
H53A	Bobcaygeon	85.57	28	P		P	23 02 08.1	-0.6
	baz=331							
G55A	Calabogie	85.61	27	P		P	23 02 07.9	-1.0
	baz=332							
L48A	N Adams	85.62	33	P		P	23 02 08.6	-0.5
E58A	La Victoria	85.70	24	P		P	23 02 08.8	-0.5
	baz=334							
SFIN	Lafayette	85.81	36	P		P	23 02 09.7	-0.3
	baz=326							
ORIO	Orleans, Innes	85.83	26	P		P	23 02 09.0	-0.9
	baz=333							
CCM	Cathedral Cave	85.83	40	P		P	23 02 09.6	-0.5
CCM				pmax		pmax		
	comp=Z,12nm,0.9s							
CCM	Cathedral Cave	85.83	40	P		P	23 02 09.7	-0.5
	baz=324							
CCM	Cathedral Cave	85.83	40	P		P	23 02 09.6	-0.5
D60A	Saint Jean D'O	85.89	22	P		P	23 02 09.2	-1.0
	baz=336							
TX31	Lajitas Ar. Si	85.89	53	P		P	23 02 10.7	0.0
TXAR	Lajitas Array	85.89	53	P		P	23 02 11.5	+0.8
	comp=Z,6.0nm,0.8s,baz=292,slow=3.7,SNR=47							
TXAR	Lajitas Array	85.89	53	P		P	23 02 10.7	0.0
TXAR	Lajitas Array	85.89	53	P		P	23 02 10.7	0.0
HHAR	Hobbs	85.93	43	P		P	23 02 10.4	-0.3
HHAR				IAmb		IAmb	23 02 11.2	
	comp=Z,7.0nm,0.9s							
N47A	Urbana	85.99	35	P		P	23 02 10.4	-0.5
MGMO	Mountain Grove	86.06	41	P		P	23 02 10.3	-1.0
MGMO				IAmb		IAmb	23 02 11.8	
	comp=Z,8.3nm,0.9s							
H55A	Tweed	86.07	27	P		P	23 02 10.6	-0.6
	baz=332							
I55A	Frankford	86.19	28	P		P	23 02 11.0	-0.8
	baz=332							
D62A	Allapoint, All	86.24	21	P		P	23 02 11.3	-0.7
	baz=337							
G57A	Newington	86.30	26	P		P	23 02 11.7	-0.6
	baz=333							
P46A	Rosedale	86.39	36	P		P	23 02 12.5	-0.3
U40A	Yellville	86.41	42	P		P	23 02 12.7	-0.3
	baz=323,SNR=11							
E62A	Clayton Lake	86.54	22	P		P	23 02 12.9	-0.6
	baz=337							
N49A	Columbus Grove	86.58	34	P		P	23 02 13.2	-0.6
H57A	Richville	86.74	26	P		P	23 02 13.5	-1.0
	baz=333							
W39A	Magazine	86.86	43	P		P	23 02 15.3	+0.1
	baz=322							
G59A	Clarenceville	86.89	25	P		P	23 02 14.5	-0.7
	baz=334							
MOQ	Mont Orford	86.96	24	P		P	23 02 15.1	-0.5
J55A	Hilton	86.98	28	P		P	23 02 15.3	-0.4
	baz=332							
E63A	Oxbow	87.02	21	P		P	23 02 15.2	-0.6
	baz=338							
S44A	Carbondale	87.05	39	P		P	23 02 15.7	-0.4
F62A	Pittston Farm,	87.09	22	P		P	23 02 15.5	-0.6
	baz=337							
FCAR	Ozark Folk Cen	87.14	42	P		P	23 02 15.4	-1.1
H58A	Gabriels	87.17	25	P		P	23 02 16.2	-0.5
	baz=334							
E64A	Bridgewater	87.18	21	P		P	23 02 16.5	0.0
	baz=338							
G61A	St-Isidore-de-	87.20	23	P		P	23 02 16.7	0.0
	baz=336							
J56A	Wolcott	87.31	28	P		P	23 02 16.6	-0.7
	baz=332							
N51A	Ashland	87.31	32	P		P	23 02 16.7	-0.7
	baz=329							
L54A	Sinclairville	87.35	30	P		P	23 02 17.3	-0.3
	baz=331							
K55A	Perry	87.36	29	P		P	23 02 16.9	-0.7
	baz=331							
MIAR	Mount Ida	87.48	43	P		P	23 02 18.4	+0.1
	baz=322,SNR=6.5							
M53A	WI Miller and	87.53	31	P		P	23 02 18.9	+0.6
	baz=330							
ALLY	Alegheny Colle	87.55	31	P		P	23 02 17.7	-0.8
W41B	Gary Mavity, V	87.65	42	P		P	23 02 18.6	-0.4
	baz=323							
K56A	Middlesex	87.65	28	P		P	23 02 18.5	-0.5
	baz=332							
J58A	Remsen	87.76	27	P		P	23 02 18.7	-0.7
	baz=333							
H61A	Lyndonville	87.76	24	P		P	23 02 19.0	-0.4
	baz=335							
I59A	Olmsteadville	87.83	26	P		P	23 02 19.0	-0.7
	baz=334							
M54A	Oil Creek Stat	87.85	30	P		P	23 02 19.8	-0.1
	baz=330							
O51A	Pataskala	87.88	33	P		P	23 02 19.5	-0.5
	baz=329							
X40A	Basin Creek Fa	87.90	43	P		P	23 02 20.2	0.0
	baz=323							
G63A	Kingsbury	87.90	22	P		P	23 02 19.3	-0.7
	baz=337							
K57A	Scipio Center	87.90	28	P		P	23 02 19.3	-0.8
	baz=332							
J59A	Piesco	87.92	26	P		P	23 02 19.5	-0.8
	baz=334							
WCI	Wyandotte Cave	87.94	36	P		P	23 02 20.4	0.0
	baz=326							
H62A	Milan	87.95	23	P		P	23 02 19.8	-0.5
	baz=336							
I60A	Shoreham	87.97	25	P		P	23 02 20.1	-0.3
	baz=334							
N53A	Lisbon	88.01	32	P		P	23 02 20.5	-0.2
	baz=330							
G64A	Maxfield	88.01	22	P		P	23 02 20.2	-0.4
	baz=338							
L56A	Greenwood	88.06	29	P		P	23 02 20.6	-0.4
	baz=332							
K58A	Earlville	88.17	27	P		P	23 02 21.0	-0.4
	baz=333							
N54A	Moraine State	88.20	31	P		P	23 02 21.6	0.0
	baz=330							
O52A	Adamsville	88.21	33	P		P	23 02 21.6	0.0
	baz=329							
M55A	Ridgway	88.21	30	P		P	23 02 21.7	0.0
	baz=331							
I61A	Oroboro, Fairl	88.22	24	P		P	23 02 21.7	+0.1
	baz=335							
P51A	Williamsport	88.26	34	P		P	23 02 22.0	+0.1
	baz=328							
O53A	New Philadelph	88.34	32	P		P	23 02 22.3	0.0
	baz=329,SNR=5.9							
G65A	Princeton	88.38	21	P		P	23 02 22.4	+0.1
	baz=338							
M56A	Emporium	88.41	29	P		P	23 02 22.4	-0.2
	baz=331							
K59A	Cooperstown	88.43	27	P		P	23 02 22.3	-0.4
	baz=333							
Q51A	Peebles	88.53	34	P		P	23 02 23.1	-0.1
I63A	Otisfield	88.60	23	P		P	23 02 23.6	+0.2
	baz=336							
O54A	Avella	88.72	32	P		P	23 02 24.4	+0.3
	baz=330,SNR=5.4							
N55A	Marion Center	88.73	30	P		P	23 02 24.1	0.0
	baz=331							
L58A	Harry Jones Me	88.74	28	P		P	23 02 24.2	+0.1
	baz=333							
N56A	West Decatur	88.87	30	P		P	23 02 25.0	+0.2
	baz=331							
L59A	Walton	88.88	27	P		P	23 02 24.8	0.0
	baz=333							
M57A	Sunshine Farm,	88.92	29	P		P	23 02 25.0	0.0
	baz=332							
P53A	Whipple	88.93	33	P		P	23 02 25.0	0.0
	baz=329							
WVT	Waverly	88.98	39	P		P	23 02 25.1	-0.2
	baz=326							
Q52A	Bidwell	89.02	33	P		P	23 02 25.1	-0.4
	baz=329							
K61A	Williamstown	89.03	26	P		P	23 02 25.6	+0.1
	baz=334							
O55A	Ligonier	89.11	31	P		P	23 02 25.9	0.0
	baz=331,SNR=5.7							
M58A	Price's Panora	89.12	28	P		P	23 02 26.1	+0.1
	baz=332							
P54A	Burton	89.19	32	P		P	23 02 26.6	+0.3
	baz=330,SNR=5.1							
SSPA	Standing Stone	89.26	30	P		P	23 02 26.6	0.0
	baz=332							
N57A	Milroy	89.28	29	P		P	23 02 26.7	0.0
	baz=332,SNR=7.0							
M59A	Waymart	89.33	28	P		P	23 02 26.5	-0.4
	baz=333							
O56A	Blue Knob Stat	89.33	30	P		P	23 02 26.4	-0.6
	baz=331							
L60A	Shokan	89.34	27	P		P	23 02 27.0	+0.1
	baz=334							
L61A	Hillsdale 1, H	89.37	26	P		P	23 02 27.4	+0.3
	baz=334							
Q53A	Leroy	89.41	33	P		P	23 02 27.6	+0.2
	baz=329,SNR=6.0							
N58A	Sunbury	89.51	29	P		P	23 02 27.8	+0.1
	baz=332							
P55A	Reedsville	89.52	32	P		P	23 02 28.3	+0.5
	baz=330,SNR=5.7							
Q54A	Coxs Mills	89.58	32	P		P	23 02 28.4	+0.3
	baz=330,SNR=6.2							
R53A	Hurricane	89.69	34	P		P	23 02 28.3	-0.3
	baz=329							
N59A	State Game Lan	89.77	28	P		P	23 02 29.2	+0.2
	baz=333,SNR=5.7							
Q55A	Buckhannon	89.86	32	P		P	23 02 29.5	0.0
	baz=330							
P56A	Dayton Farm, R	89.90	31	P		P	23 02 29.7	+0.2
	baz=331							
O58A	Lewisberry	90.06	29	P		P	23 02 30.5	+0.1
	baz=332							
M61A	Granite Spring	90.10	27	P		P	23 02 30.4	-0.1
	baz=334							
O59A	Robesonia	90.16	29	P		P	23 02 30.4	-0.4
	baz=333							
Q56A	Snyder Ridge,	90.17	31	P		P	23 02 30.9	0.0
	baz=331							
R54A	Victor	90.21	33	P		P	23 02 30.8	-0.3
	baz=330							
L64A	Middleborough	90.46	24	P		P	23 02 32.1	0.0
	baz=336							
P58A	Pank, Wackersv	90.48	30	P		P	23 02 32.3	0.0
	baz=332							
TZTN	Tazewell	90.54	36	P		P	23 02 32.7	0.0
	baz=328							
M63A	Gales Ferry	90.57	25	P		P	23 02 32.3	-0.3
	baz=335							
S55A	Lewisburg	90.75	33	P		P	23 02 33.4	-0.3
	baz=330							
T54A	Tazewell	90.93	34	P		P	23 02 34.5	-0.1
	baz=329							
T55A	Pulaski	91.20	33	P		P	23 02 35.7	-0.1
	baz=330							
U54A	Nelsons Funny	91.29	34	P		P	23 02 36.0	-0.2
	baz=329							
S57A	Dark Hollow, R	91.37	32	P		P	23 02 36.2	-0.2
	baz=331							
U55A	TA2, Sparta	91.63	34	P		P	23 02 37.1	-0.7
	baz=330							
U57A	Blanch	92.38	33	P		P	23 02 41.3	+0.2
	baz=331							
V56A	Mocksville	92.45	34	P		P	23 02 41.5	0.0
	baz=330							
V57A	Coltrane Farms	92.67	33	P		P	23 02 41.9	-0.6
	baz=330							
X54A	Belton	92.74	36	P		P	23 02 43.1	+0.3
	baz=329							
X55A	Gracelyn & Ava	93.12	35	P		P	23 02 44.1	-0.5
	baz=329							
TORD	Torodi Ar. Bea	113.88	318	PP		PP	23 08 58.0	-4.6
	comp=Z,1.7nm,1.0s,baz=13,slow=8.5,SNR=4.5							
H03N2	Juan Fernandez	146.24	88	T		T	01 52 33.2	
	baz=300,slow=77,SNR=10.0							
H03N3	Juan Fernandez	146.25	88	T		T	01 52 42.2	
	baz=300,slow=77,SNR=9.7							
H03N1	Juan Fernandez	146.26	88	T		T	01 52 31.3	
	baz=300,slow=77,SNR=15							
VNA2	Neumayer--Watz	148.06	198	PKPbc		PKiKP	23 09 16.7	+0.2
VNA3	Neumayer Olymp	148.32	197	PKPbc		PKiKP	23 09 17.0	0.0
VNA1	Neumayer--Stat	148.45	198	PKPbc		PKiKP	23 09 17.7	+0.5
BDFB	Brasilia	151.47	22	PKPbc		PKPbc	23 09 25.0	+0.2
	comp=Z,3.0nm,0.8s,baz=312,slow=3.5,SNR=3.6							
BDFB	Brasilia	151.47	22	PKIKP		PKPbc	23 09 25.0	+0.2

SJA ***03*** *23:00:41.7±0.7,27.°97S×66.°76W,h182^{km}±3^{km},ML4.5, MW4.2*
NEIC ***03*** *23:00:42.0±2.0,27.°87S±0.°06×66.°84W±0.°10,h155^{km}±2^{km}, mb4.5/26,Md4.2(SJA),Error ellipse: s-maj=12.7km s-min=9.0km az=94.0*
IDC ***03*** *23:00:43.8±0.8,27.°77S×66.°70W,h166^{km}±6^{km},mb3.9/11, mb1 4.0/16,mb1mx3.8/29,mbtmp4.4/16,Error ellipse: s-maj=17.1km s-min=11.2km az=85.0*
VAO ***03*** *23:00:46.2±0.6,27.°71S×66.°77W,h196^{km}±7^{km},mb4.5*
ISC 03 23:00:42.6±0.6,**27.°89S**±0.°03×**66.°87W**±0.°04,**h162**^{km}±5^{km}, **n166,**σ1$**27**/190,**mb4.4**/19,**2C-1D,Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	Choya	1.09	121	*e*P	Pn	23 01 10.5	+1.2
CYA				*e*S	Sn	23 01 30.4	+0.6
VCA	Vinchina	1.45	234	*e*P	Pn	23 01 14.2	+1.5
VCA				*e*S	Sn	23 01 38.9	+2.9
VCA				IAML		23 01 40.5	
	comp=Z,3μm,0.6s						
ACLC	CERRO LA CRUZ	1.53	183	*e*P	Pn	23 01 14.7	+1.1
ACLC				*e*S	Sn	23 01 38.0	+0.4
ACLC				IAML		23 01 39.2	
	comp=Z,2μm,0.5s						
AHML	Horco Molle	1.75	51	*e*P	Pn	23 01 16.6	+0.8
AHML				*e*S	Sn	23 01 42.7	+1.3
FSA	Cafayete	1.94	24	*e*P	Pn	23 01 19.5	+1.4
AGUA	GUANDACOL	2.14	222	*e*P	Pn	23 01 21.2	+1.1
AGUA				*e*S	Sn	23 01 50.6	+1.4
AGUA				IAML		23 01 51.8	
	comp=Z,2μm,0.2s						
AC02	Maricunga	2.27	297	Pn	Pn	23 01 23.7	+1.5
APLL	PUNTA DE LOS L	2.51	173	*e*P	Pn	23 01 25.2	+0.7
APLL				IAML		23 02 04.2	
	comp=Z,4μm,3.1s						
AVFE	Valle Fertil	2.81	190	*e*P	Pn	23 01 28.4	+0.3
AVFE				*e*S	Sn	23 02 02.1	-1.4
GO03	Copiap	3.00	275		Pn	23 01 31.1	+0.6
GO03	Copiap	3.00	275	*e*P	Pn	23 01 31.1	+0.6
ACDV	Cuesta del Vie	3.01	220	*e*P	Pn	23 01 31.7	+1.0
ACDV				IAML		23 02 13.0	
	comp=Z,500nm,0.6s						
AC05	El Transito	3.15	252	Pn	Pn	23 01 33.3	+0.9
AROD	Rodeo	3.22	225	*e*P	Pn	23 01 34.6	+1.1
AROD				*e*S	Sn	23 02 14.4	+1.4
ACHE	Chepes	3.26	177	*e*P	Pn	23 01 34.2	+0.4
ACHE				*e*S	Sn	23 02 11.7	-2.0
ACCO	Cerro Coronel	3.30	215	*e*P	Pn	23 01 35.1	+0.6
ACCO				*e*S	Sn	23 02 15.8	+0.9
ACCO				IAML		23 02 17.4	
	comp=Z,954nm,0.5s						
SLA	San Lorenzo	3.39	21	*e*P	Pn	23 01 37.1	+1.6
CO01	Juntas del Tor	3.51	233		Pn	23 01 38.0	+0.9
LCO	Las Campanas	3.56	251	Pn	Pn	23 01 37.8	+0.1
GO02	Mina Guanaco	3.65	317	Pn	Pn	23 01 40.4	+1.4
RTLL	Cerro Villicun	3.70	202	*e*P	Pn	23 01 39.6	+0.3
RTLL				*e*S	Sn	23 02 22.1	-1.5
RTLL				IAML		23 02 23.7	
	comp=Z,990nm,0.3s						
AC04	Llanos de Chal	3.73	264	Pn	Pn	23 01 39.0	-0.7
AC01	Pan de Azucar	3.76	297	Pn	Pn	23 01 40.0	-0.1
ZON	Zonda	3.97	203	Pn	Pn	23 01 42.7	-0.1
ZON	Zonda	3.97	203	*e*P	Pn	23 01 43.0	+0.2
ZON				*e*S	Sn	23 02 28.4	-1.4
ZON				IAML		23 02 31.4	
	comp=Z,263nm,0.2s						
AZAP	Zapla	4.00	24	*e*P	Pn	23 01 44.2	+0.9
GO04	Tololo Observa	4.13	236	Pn	Pn	23 01 44.9	-0.1
RTLS	Leoncito	4.43	208	*e*P	Pn	23 01 49.3	+0.3
RTLS				*e*S	Sn	23 02 40.1	-0.7
RTLS				IAML		23 02 42.9	
	comp=Z,354nm,0.3s						
CO03	El Pedregal	4.45	228	Pn	Pn	23 01 48.8	-0.2
ASTB	Santa Barbara	4.49	29	*e*P	Pn	23 01 50.6	+0.9
PB14	IPOC Station P	4.55	315	Pn	Pn	23 01 51.2	+0.6
PB14	IPOC Station P	4.55	315	*e*P	Pn	23 01 51.4	+0.8
PB14				*e*S	Sn	23 02 43.7	0.0
AUSP	Uspallata	4.84	206	*e*P	Pn	23 01 54.5	+0.1
AUSP				*e*S	Sn	23 02 49.5	-0.9
CO02	Combarbal	4.88	227		Pn	23 01 54.0	-0.7
PB15	IPOC Station P	5.22	333		Pn	23 02 00.2	+0.8
PB15	IPOC Station P	5.22	333	*e*P	Pn	23 01 60.0	+0.6
PB15				*e*S	Sn	23 02 59.6	+0.1
PB15				IAML		23 03 03.4	
	comp=Z,203nm,0.2s						
ARCO	CERRO ARCO	5.25	199	*e*P	Pn	23 01 59.7	+0.1
ARCO				*e*S	Sn	23 02 57.3	-2.5
ARCO				IAML		23 03 02.7	
	comp=Z,273nm,0.6s						
AAGR	Agrelo	5.45	198	*e*P	Pn	23 02 01.9	-0.2
AAGR				*e*S	Sn	23 03 02.8	-1.7
AAGR				IAML		23 03 06.3	
	comp=Z,198nm,0.5s						
PB10	IPOC Station P	5.49	322		Pn	23 02 02.8	+0.2
PB10	IPOC Station P	5.49	322	*e*P	Pn	23 02 03.4	+0.8
LVC	Limon Verde	5.58	340	P	Pn	23 02 04.7	+0.6
	comp=Z,15nm,0.3s,baz=134,slow=11,SNR=109						
LVC				S	Sn	23 03 06.8	-1.2
	comp=Z,9.8nm,0.3s,baz=287,slow=19,SNR=19						
LVC	Limon Verde	5.58	340	Pn	Pn	23 02 04.8	+0.7
LVC	Limon Verde	5.58	340	*e*S	Sn	23 03 06.0	-2.0
LVC	Limon Verde	5.58	340	*e*P	Pn	23 02 04.8	+0.6
PB06	IPOC Station P	5.71	334		Pn	23 02 06.1	+0.2
PB06	IPOC Station P	5.71	334	*e*S	Sn	23 03 08.4	-2.6
VA03	San Esteban	5.81	212		Pn	23 02 06.7	-0.2
PEL	Peldehue	6.18	211		Pn	23 02 11.2	-0.6
PEL	Peldehue	6.18	211	*e*P	Pn	23 02 11.5	-0.4
PEL				*e*S	Sn	23 03 19.7	-2.2
ROC1	El Roble	6.21	214		Pn	23 02 10.2	-2.2
ROC1	El Roble	6.21	214	*e*P	Pn	23 02 10.1	-2.2
PB04	IPOC Station P	6.28	331		Pn	23 02 12.3	-1.0
PB04	IPOC Station P	6.28	331	*e*P	Pn	23 02 12.9	-0.4
PB04				*e*S	Sn	23 03 24.4	-0.2
MT05	Renca	6.42	210	Pn	Pn	23 02 14.2	-0.8
PB09	IPOC Station P	6.44	340		Pn	23 02 15.3	-0.2
MT02	Curacav	6.49	214		Pn	23 02 14.2	-1.7
PB07	IPOC Station P	6.72	335		Pn	23 02 18.0	-1.2
RFA	San Rafael	6.99	191	*e*P	Pn	23 02 21.2	-1.4
RFA				*e*S	Sn	23 03 37.1	-4.1
RFA				IAML		23 03 39.4	
	comp=Z,127nm,0.7s						
PB01	IPOC Station P	7.22	340		Pn	23 02 24.5	-1.3
LAMA	Las Malvinas	7.30	195	*e*P	Pn	23 02 25.6	-1.0
LAMA				*e*S	Sn	23 03 46.1	-2.4
BO01	Tunca	7.42	208	Pn	Pn	23 02 25.3	-2.8
BO02	Sierra Bellavi	7.65	205		Pn	23 02 29.6	-1.8
PATCX	Punta Patache	7.65	336	Pn	Pn	23 02 27.8	-3.6
PUMA	Malargue	7.89	196	*e*S	Sn	23 03 50.5	-12
TA01	Diego Aracena	7.90	337	Pn	Pn	23 02 32.5	-2.1
PB08	IPOC Station P	7.99	344		Pn	23 02 35.2	-1.1
GO05	Huala	8.31	210	Pn	Pn	23 02 36.9	-3.1
GO01	Chusmiza	8.46	345		Pn	23 02 41.0	-1.5
PB11	IPOC Station P	8.49	342	Pn	Pn	23 02 40.4	-2.3
CPUP	Villa Florida	8.64	82	P	Pn	23 02 42.3	-2.1
	comp=Z,0.5nm,0.3s,baz=268,slow=12,SNR=12						
CPUP	Villa Florida	8.64	82	Pn	Pn	23 02 43.0	-1.4
PSGCX	Pisagua	8.78	339	Pn	Pn	23 02 43.3	-3.1
MNMC	Minye Minye	9.07	343		Pn	23 02 48.8	-1.7
BI02	San Fabin de	9.51	202	Pn	Pn	23 02 54.5	-1.4
PB12	IPOC Station P	9.77	340	Pn	Pn	23 02 56.6	-2.9
PB16	IPOC Station P	9.82	345		Pn	23 02 59.5	-1.1
LPAZ	La Paz	11.61	354	P	Pn	23 03 23.8	-0.3
	comp=Z,4.0nm,0.3s,baz=169,slow=11,SNR=62						
LPAZ	La Paz	11.61	354	Pn	Pn	23 03 23.6	-0.5
LPAZ	La Paz	11.61	354	*e*P	Pn	23 03 24.2	+0.1
LC01	Cunco	11.74	200		Pn	23 03 22.5	-2.6
SIV	San Ignacio	13.00	26	P	Pn	23 03 40.3	-1.2
	comp=Z,0.5nm,0.3s,baz=220,slow=13,SNR=43						
PLCA	Paso Flores	13.16	192	P	Pn	23 03 45.0	+1.6
	comp=Z,0.4nm,0.3s,baz=24,slow=16,SNR=8.6						
PLCA	Paso Flores	13.16	192	Pn	Pn	23 03 43.8	+0.4
PLCA	Paso Flores	13.16	192	*e*P	P	23 03 48.5	+1.0
PTGB	Pitanga	13.65	80	*e*P	P	23 03 52.3	-0.7
TRCB	Terra Rica	13.83	72	*e*P	Pn	23 03 51.8	-0.1
CNLB	Can

PRPB	Parauapebas	26.99	40	eP		P	23 06 07.3	-2.1
PTGA	Pitinga	27.80	15	P		P	23 06 16.0	-0.7
	comp=Z,9.4nm,0.3s,baz=198,slow=10,SNR=37							
PTGA	Pitinga	27.80	15	P		P	23 06 16.2	-0.5
PTGA	Pitinga	27.80	15	eP		P	23 06 15.8	-0.8
MALB	Monte Alegre	28.56	27	eP		P	23 06 21.9	-1.4
GDU01	Guandu, BA	29.06	67	eP		P	23 06 26.6	-1.2
RUSC	La Rusia	34.12	349	P		P	23 07 12.4	-0.2
PMSA	Palmer Station	36.94	178	P		P	23 07 36.7	+1.3
	comp=Z,2.7nm,0.9s,baz=6.8,slow=7.9,SNR=4.5							
PMSA	Palmer Station	36.94	178	P		P	23 07 36.4	+0.9
GRGR	Grenville	40.11	8	P		P	23 08 03.8	+1.3
TEIG	Tepich	52.13	334	P		P	23 09 36.4	+0.1
TEIG				IAmb		IAmb	23 09 37.6	
	comp=Z,19nm,1.4s							
SNAA	Sanae	55.66	160	P		P	23 10 02.4	+1.0
SNAA				IAmb		IAmb	23 10 03.1	
	comp=Z,4.9nm,0.7s							
QSPA	South Pole Qui	62.33	180	P		P	23 10 48.4	+1.0
WVT	Waverly	66.67	342	P		P	23 11 15.5	-0.3
WVT				IAmb		IAmb	23 11 16.2	
	comp=Z,4.1nm,0.7s							
DBIC	Dimbokro	68.96	70	P		P	23 11 29.9	-0.7
	comp=Z,4.4nm,0.7s,baz=209,slow=7.4,SNR=6.9							
DBIC	Dimbokro	68.96	70	P		P	23 11 29.6	-1.0
S39A	Bolivar	69.80	338	P		P	23 11 35.6	+0.4
S39A				IAmb		IAmb	23 11 36.7	
	comp=Z,4.4nm,0.7s							
SYO	Syowa Base	69.89	158	⇑eP		P	23 11 35.0	-0.4
SYO	Syowa Base	69.89	158	⇓eP		P	23 11 43.2	+7.8
VNDA	Vanda	70.90	190	P		P	23 11 43.9	+2.4
	comp=Z,1.4nm,0.8s,baz=134,slow=6.3,SNR=6.5							
VNDA	Vanda	70.90	190	P		P	23 11 43.1	+1.7
TSUM	Tsumeb	76.52	105	P		P	23 12 16.0	+0.6
	comp=Z,1.3nm,0.7s,baz=254,slow=7.8,SNR=2.1							
TSUM	Tsumeb	76.52	105	P		P	23 12 15.8	+0.4
MAW	Mawson	77.70	162	P		P	23 12 21.7	+0.9
	comp=Z,4.3nm,0.8s,baz=223,slow=6.1,SNR=11							
MAW	Mawson	77.70	162	P		P	23 12 21.9	+1.1
TOA0	Torodi Ar. Sit	77.88	68	P		P	23 12 22.4	-0.3
TOA0				IAmb		IAmb	23 12 23.1	
	comp=Z,8.3nm,0.7s							
TORD	Torodi Ar. Bea	77.88		P		P	23 12 22.4	-0.3
	comp=Z,6.5nm,0.6s,baz=261,slow=5.3,SNR=25							
TORD				pP		pP	23 13 04.6	+1.6
	comp=Z,0.7nm,0.6s,baz=251,slow=4.5,SNR=1.5							
TORD	Torodi Ar. Bea	77.88	68	P		P	23 12 22.0	-0.7
BOSA	Boshof	78.88	116	P		P	23 12 28.7	+0.4
	comp=Z,7.0nm,0.7s,baz=265,slow=3.7,SNR=20							
BOSA	Boshof	78.88	116	P		P	23 12 28.5	+0.2
BOSA				IAmb		IAmb	23 12 29.2	
	comp=Z,6.3nm,0.7s							
PDAR	Pinedale Array	80.55	330	P		P	23 12 37.1	+0.2
	comp=Z,0.3nm,0.6s,baz=134,slow=4.3,SNR=2.1							
LBTB	Lobatse	80.72	113	P		P	23 12 38.5	+0.2
LBTB				IAmb		IAmb	23 12 39.4	
	comp=Z,8.1nm,0.8s							
PCVE	Castro Verde	85.36	43	eP		P	23 13 02.3	+0.8
PVAQ	Vaqueiros	85.41	43	eP		P	23 13 02.6	+0.9
TAM	Tamanrasset	86.11	62	P		P	23 13 06.6	+0.9
PSBE	So Bento	86.15	41	eP		P	23 13 06.9	+1.6
PCAS	Casmilo, Conde	86.67	41	eP		P	23 13 09.9	+2.1
PMRV	Marv??o	86.91	42	eP		P	23 13 10.5	+1.5
PCBR	Castelo Branco	87.13	42	eP		P	23 13 11.3	+1.3
MTE	Manteigas	87.45	41	P		P	23 13 13.5	+1.8
MTE				IAmb		IAmb	23 13 14.7	
	comp=Z,4.3nm,0.9s							
MTE	Manteigas	87.45	41	eP		P	23 13 13.4	+1.8
PVIS	Viseu	87.45	41	eP		P	23 13 13.0	+1.4
ESDC	Sonseca Array	89.12	43	P		P	23 13 20.9	+1.4
	comp=Z,0.4nm,0.6s,baz=257,slow=3.3,SNR=4.6							
ASAR	Alice Springs	124.97	203	PKP		PKPdf	23 19 24.1	+0.1
	comp=Z,0.8nm,0.7s,baz=139,slow=1.9,SNR=8.9							
ASAR	Alice Springs	124.97	203			PKPdf	23 19 23.7	-0.3
WRA	Warramunga Arr	128.21	206	PKP		PKiKP	23 19 30.8	-0.1
	comp=Z,0.9nm,0.6s,baz=160,slow=1.6,SNR=14							
WRA	Warramunga Arr	128.21	206			PKPdf	23 19 30.5	+0.2
ZALV	Zalesovo Beam	146.72	31	PKP		PKPdf	23 20 03.3	+0.4
	comp=Z,5.2nm,0.5s,baz=310,slow=3.4,SNR=22							
ZALV				PKPbc		PKPab	23 20 05.6	-0.8
	comp=Z,5.3nm,0.5s,baz=316,slow=3.5,SNR=18							
ZALV				pPKPbc		pPKPbc	23 20 48.2	+0.6
	comp=Z,2.2nm,0.7s,baz=304,slow=4.8,SNR=3.1							
ZALV	Zalesovo Beam	146.72	31			PKPbc	23 20 03.9	-0.9
MKAR	Makanchi Array	149.34	44	PKPbc		PKiKP	23 20 12.8	-0.3
	comp=Z,2.8nm,0.6s,baz=304,slow=2.8,SNR=26							
MKAR				pPKPbc		pPKPbc	23 20 54.4	-0.5
	comp=Z,1.3nm,0.7s,baz=63,slow=5.6,SNR=3.1							
LZH	Lanzhou	168.65	42	⇑PKP		PKPdf	23 20 28.3	-2.0
LZH				pPKP		pPKPdf	23 21 09.0	-4.8
LZH				sPKP			23 21 24.0	
LZH				PKP		PKPab	23 21 41.5	+0.3

ISC 03 23:24:35.4±1.2,**43°.88N**±0°.03×**16°.86E**±0°.03,**h5**km±11km,
n11,σ0°.96/22,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	Kijevo	0.35	291	ePg	Pg	23 24 41.8	-0.5
KIJV				Sg	Sg	23 24 46.9	+0.1
RICI	Ricice	0.43	153	ePg	Pg	23 24 43.6	-0.1
RICI				Sg	Sb	23 24 50.6	-1.7
MAKA	Makarska	0.60	169	ePg	Pg	23 24 46.5	-0.4
MAKA				Sg	Sb	23 24 56.7	-0.5
HVAR	Hvar	0.76	203	ePg	Pg	23 24 49.2	-0.8
HVAR				Sg	Sb	23 25 01.4	-0.4
BLY	Banja Luka	0.90	15	ePg	Pg	23 24 52.0	-0.6
BLY				eSg	Sg	23 25 04.2	-0.1
ZIRJ	Zirje	0.91	256	ePg	Pg	23 24 52.5	-0.3
ZIRJ				Sg	Sb	23 25 05.9	-0.2
LSTV	Lastovo	1.11	179	ePg	Pg	23 24 55.5	-1.1
LSTV				Sg	Sn	23 25 13.1	-0.1
STON	Ston	1.18	148	ePg	Pn	23 24 58.4	-0.1
STON				Sg	Sn	23 25 15.6	+0.7
DUGI	Dugi Otok	1.31	276	ePg	Pg	23 24 59.5	-0.9
DUGI				Sg	Sn	23 25 19.1	+0.9
DBRK	Dubrovnik	1.53	142	ePn	Pg	23 25 04.6	-0.1
DBRK				Sn	Sg	23 25 27.1	+2.6
NVLJ	Novalja	1.59	296	ePg	Pg	23 25 06.3	+0.5
NVLJ				Sn	Sg	23 25 27.5	+1.2

ISN ***03*** *23:26:49.5±1.2,32°.76N×47°.70E,h15km±6km, ML2.7*
TEH ***03*** *23:26:50.7,32°.80N×47°.61E,h14km, ML2.9*
THR ***03*** *23:26:52.5±0.7,32°.91N×47°.71E,h14km±9km,ML3.0*
ISC 03 23:26:50.3±1.4,**32°.76N**±0°.04×**47°.64E**±0°.03,**h2**km±12km,
n29,σ0°.90/35,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.32	255	ePg	Pg	23 26 56.5	+0.1
DHL1				eSg	Sg	23 27 01.9	+1.4
IKMR	Kamar-syah	0.97	39	e		23 27 27.9	
IKMR				ePg	Pg	23 27 08.4	-0.6
IDOB	Doab	1.11	23	ePg	Pg	23 27 10.9	-0.8
SHGR	Shooshtar-Gavs	1.18	123	ePg	Pn	23 27 14.8	+1.0
SHGR				eSg	Sn	23 27 31.9	+1.5
SHGR				IAML		23 27 34.4	
	comp=N,277nm,0.8s						
SHGR	Shooshtar-Gavs	1.18	123	ePg	Pn	23 27 14.8	+1.0
BMDN	Meydan	1.34	47	ePg	Pn	23 27 15.4	-0.9
BMDN				e		23 27 39.0	
IKOM	Komasi	1.41	355	ePg	Pn	23 27 16.9	-0.3
IKOM				e		23 27 44.2	
IBDR	Badra	1.48	284	ePg	Pn	23 27 17.0	-1.0
IBDR				eSg	Sn	23 27 38.0	+0.1
IBDR				AML	AML	23 27 43.3	
	comp=E,66nm,0.4s						
IBDR				AML	AML	23 27 47.4	
	comp=N,128nm,0.5s						
KCHF	Cheshme Sefid,	1.59	342	ePg	Pn	23 27 19.6	-0.1
KCHF				e		23 27 44.2	
HSAM	Samen	1.65	29	ePg	Pb	23 27 21.6	-0.1
KER	Kermanshah	1.67	345	ePg	Pn	23 27 21.7	+0.9
IBZA	Bozab	1.71	6	ePg	Pb	23 27 22.3	-0.4
IBZA				e		23 27 54.7	
IGHG	Ghaleghazi	1.80	330	ePg	Pb	23 27 24.4	+0.2
IGHG				e		23 28 01.7	
IVIS	Veis	1.88	340	ePn	Pn	23 27 24.8	+1.2
IVIS				e		23 28 04.6	
NSR	Nassriya	2.17	217	ePn	Pn	23 27 27.0	-0.4
NSR				eSn	Sn	23 27 53.0	-1.8
NSR				AML	AML	23 27 59.0	
	comp=E,140nm,0.3s						
KHMZ	Khomeyn	2.17	63	ePn	Pb	23 27 29.2	-1.2
KHMZ	Khomeyn	2.17	63	ePn	Pb	23 27 29.2	-1.2
IDHR	Dehrash	2.20	332	ePn	Pn	23 27 28.3	+0.2
IDHR				e		23 28 06.5	
ILIN	Lien	2.22	345	ePn	Pn	23 27 29.3	+0.8
ILIN				e		23 28 08.2	
SNGE	Sanandaj	2.34	354	ePn	Pn	23 27 30.6	+0.6
SNGE	Sanandaj	2.34	354	ePn	Pn	23 27 30.6	+0.6
HAGD	Aghdareh	2.40	31	ePn	Pn	23 27 31.7	+0.8
HAGD				e		23 28 10.4	
JHBN	Jahan bin	2.61	101	ePn	Pn	23 27 34.1	+0.3
JHBN				e		23 28 21.6	
ASAO	Ashtian	2.67	47	ePn	Pn	23 27 35.5	+1.0
ASAO				eSg	Sb	23 28 11.7	-0.5
ASAO	Ashtian	2.67	47	ePn	Pn	23 27 35.5	+1.0
IPIR	Pirpir	2.74	91	ePn	Pn	23 27 36.3	+0.7
IPIR				e		23 28 24.4	
BHD	Baghdad	2.79	281	ePn	Pn	23 27 36.0	0.0
BHD				eSn	Sn	23 28 11.0	+0.8
ROKH	ROKH	2.89	97	ePn	Pn	23 27 38.1	+0.5
ROKH				e		23 28 36.3	
QABG	Abgarm-Qazvin	3.35	28	ePn	Pn	23 27 45.1	+1.2

IDC ***03*** *23:27:58.6±1.1,1°.57S×134°.99E,h0km,mb3.9/6,*
mb1 4.2/9,mb1mx3.9/32,mbtmp4.0/9,ML4.2/3,MS3.1/3,
Ms1 3.1/3,ms1mx2.7/32,Error ellipse: s-maj=25.1km
s-min=15.7km az=40.0
DJA ***03*** *23:28:00.8±2.9,1°.S±9°×13°.5E±°,h18km±31km,M4.5/5,*
MLv4.5/5
NEIC ***03*** *23:28:03.4±1.5,1°.66S±0°.09×134°.9E±0°.1,h35km±9km,*
mb4.1/12,Error ellipse: s-maj=16.1km s-min=12.2km
az=54.0
ISC 03 23:28:00.4±0.7,**1°.67S**±0°.07×**134°.99E**±0°.05,**h10**km,**n32**,
σ1°.30/34,**mb4.0**/8,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	1.26	99	P	Pn	23 28 24.1	0.0
SRPI				S	Sg	23 28 42.0	+0.9
KMPI	Kaimana, Papua	2.36	213	P	Pb	23 28 44.2	+1.2
FAKI	Fak Fak	3.01	246	P	Pn	23 28 48.1	-0.1
FAKI	Fak Fak	3.01	246		Pn	23 28 48.0	-0.1
FAKI				Sn	Sn	23 29 21.3	-3.0
SIJI	Sorong	3.81	282	Pn	Pn	23 28 58.7	-0.5
	8.2nm,0.3s,baz=237,slow=22,SNR=9.9						
SIJI				Pg	Pb	23 29 09.2	+1.4
	13nm,0.3s,baz=243,slow=22,SNR=9.0						
SIJI				Sn	Sn	23 29 45.3	+1.2
	21nm,0.3s,baz=266,slow=23,SNR=7.1						
SIJI				Lg	Lg	23 29 57.8	
	12nm,0.3s,baz=285,slow=22,SNR=5.3						
MTN	Manton Dam	11.74	199		Pn	23 30 48.2	0.0
PMG	Port Moresby	14.34	123	LR	LR	23 38 03.6	
	comp=Z,46nm,20.4s,baz=266,slow=42						
BNSI	Bone	15.11	259	P	P	23 31 43.4	+4.0
KNRA	Kununurra	15.21	203		Pn	23 31 34.9	-0.6
KNRA				IAmb	IAmb	23 31 41.5	
	comp=Z,15nm,0.6s						
WB0	Warramunga Arr	18.00	182		Pn	23 32 08.9	-1.9
WRAB	Tennant Creek	18.16	182	P	Pn	23 32 12.6	-0.3
WRAB				IAmb	IAmb	23 32 13.7	
	comp=Z,7.0nm,0.5s						
WB2	Warramunga Arr	18.17	182	P	Pn	23 32 11.4	-1.6
WB2				IAmb	IAmb	23 32 13.8	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	18.17	182	P	Pn	23 32 13.2	+0.1
	comp=Z,1.4nm,0.3s,baz=3.8,slow=12,SNR=75						
WRA	Warramunga Arr	18.17	182	P	Pn	23 32 11.4	-1.7
FITZ	Fitzroy Crossi	18.73	209	P	P	23 32 19.2	-0.2
	comp=Z,0.4nm,0.3s,baz=2.1,slow=7.6,SNR=11						
FITZ				LR	LR	23 40 42.0	
	comp=Z,57nm,18.8s,baz=280,slow=41						
FITZ	Fitzroy Crossi	18.73	209	P	P	23 32 19.1	-0.3
MTKI	Muara Teweh, K	20.11	272	P	P	23 32 24.1	-10
CTA	Charters Tower	21.36	150	P	P	23 32 50.1	+2.0
	comp=Z,3.4nm,0.8s,baz=306,slow=19,SNR=2.0						
AS31	Alice Springs	21.89	183	P	P	23 32 53.6	-0.2
AS31				IAmb	IAmb	23 32 54.5	
	comp=Z,4.7nm,0.5s						
ASAR	Alice Springs	21.89	183	P	P	23 32 54.0	+0.2
	comp=Z,7.8nm,0.5s,baz=7.7,slow=12,SNR=106						
ASAR				LR	LR	23 41 47.5	
	comp=Z,72nm,18.7s,baz=1.5,slow=38						
ASAR	Alice Springs	21.89	183	P	P	23 32 53.3	-0.5
KSM	Kuching	24.88	277	P	P	23 33 23.1	-0.6
STKA	Stephens Creek	30.69	169	P	P	23 34 16.1	+0.6
	comp=Z,1.3nm,0.5s,baz=350,slow=7.7,SNR=5.2						
STKA	Stephens Creek	30.69	169	P	P	23 34 15.4	0.0
STKA				IAmb	IAmb	23 34 26.5	
	comp=Z,2.9nm,1.5s						
MKAR	Makanchi Array	66.73	323	P	P	23 38 51.2	-0.6
	comp=Z,0.5nm,0.6s,baz=108,slow=7.4,SNR=7.2						
MKAR	Makanchi Array	66.73	323	P	P	23 38 50.2	-1.6
CASY	Casey	66.76	191	P	P	23 38 50.9	-0.7
VNDA	Vanda	77.16	174	P	P	23 39 53.9	+0.1
	comp=Z,0.8nm,0.7s,baz=332,slow=6.7,SNR=6.5						
VNDA	Vanda	77.16	174	P	P	23 39 54.0	+0.1
VNDA				IAmb	IAmb	23 39 55.4	
	comp=Z,2.4nm,1.2s						
ILAR	Eielson Array	86.44	25	P	P	23 40 41.4	-1.6
	comp=Z,0.4nm,0.6s,baz=279,slow=5.9,SNR=2.9						
QSPA	South Pole Qui	88.27	180	P	P	23 40 51.9	-0.1
QSPA				IAmb	IAmb	23 40 52.3	
	comp=Z,2.9nm,1.4s						
CPUP	Villa Florida	149.73	158	PKPbc	PKiKP	23 47 51.9	-0.5
	comp=Z,2.4nm,0.8s,baz=344,slow=1.7,SNR=3.6						

MEX ***03*** *23:31:07.6±0.8,31°.13N×115°.95W,h10km,MD3.7*
ECX ***03*** *23:31:07.3±0.8,31°.24N×115°.93W,h5km±3km,MD2.8,*
ML3.0
ISC 03 23:31:06.7±1.0,**31°.23N**±0°.03×**115°.95W**±0°.03,**h10**km±8km,
n20,σ1°.29/37,**3C-3D**,**Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	Valle De La Tr	0.21	41	eP	Pg	23 31 11.1	0.0
VTX				eS	Sg	23 31 14.2	0.0
VTX				IAML		23 31 14.6	
	comp=N,3μm,0.2s						
VTX				e		23 31 14.6	
SVX	San Vicente	0.28	290	⇑iP	Pg	23 31 12.7	+0.5
SVX				i S	Sg	23 31 16.8	+0.7
SPIG	San Pedro Mart	0.45	114	i P	Pg	23 31 15.5	-0.1
SPIG				eS	Sg	23 31 21.1	-0.5
SPIG	San Pedro Mart	0.45	114	eP	Pg	23 31 15.1	-0.5
SPIG				i S	Sg	23 31 21.4	-0.2
SPX	San Pedro Mart	0.46	115	eP	Pg	23 31 15.7	+0.1
SPX				eS	Sg	23 31 21.3	-0.4
SPX	San Pedro Mart	0.46	115	eP	Pg	23 31 15.5	-0.1
SPX				i S	Sg	23 31 21.5	-0.2
SPX				⇓e		23 31 21.9	
SPX				IAML		23 31 21.9	
	comp=N,645nm,0.4s						
SJX	San Joaquin	0.53	359	⇓iP	Pb	23 31 20.1	+2.0
SJX				eS	Sn	23 31 30.1	+0.8
SQX	San Quintin	0.66	175	eP	Pg	23 31 18.9	-0.5
SQX				i S	Sg	23 31 27.9	0.0
SQX				⇓e		23 31 32.3	
SQX				IAML		23 31 32.3	
	comp=N,1μm,0.6s						
ECBX	El Chinero	0.80	72	⇑iP	Pg	23 31 21.9	-0.3
ECBX				eS	Sg	23 31 31.8	-0.8
CCX	Cicese	0.88	316	eP	Pg	23 31 22.3	-1.3
CCX				eS	Sg	23 31 34.5	-0.7
SFX	San Felipe	0.96	101	eP	Pg	23 31 24.9	-0.2
SFX				eS	Sg	23 31 37.8	+0.2
CBX	Cerro Bola	1.24	331	eP	Pn	23 31 28.8	-1.4
CBX				eS	Sb	23 31 44.1	-2.2
CBX	Cerro Bola	1.24	331	eP	Pn	23 31 28.8	-1.4
CBX				eS	Sb	23 31 45.6	-0.8
CBX				⇑e		23 31 47.5	
CBX				IAML		23 31 47.5	
	comp=N,405nm,0.3s						
MBIG	Mexicali	1.33	28	i P	Pn	23 31 30.5	-0.9
MBIG				eS	Sb	23 31 47.6	-1.4
TJIG	Tijuana	1.35	333	eP	Pn	23 31 30.5	-1.1
TJIG				eS	Sb	23 31 47.4	-2.0
RMX	La Rumorosa	1.37	355	eP	Pn	23 31 30.6	-1.5
RMX				eS	Sb	23 31 47.4	-2.8
BAR	Barrett	1.57	337	eP	Pn	23 31 34.1	-0.6
MONP2	Monument Peak	1.71	346	eP	Pn	23 31 37.0	+0.3
SDRC	San Diego Road	1.72	331	eP	Pn	23 31 36.5	-0.2
SLH	Sleepy Hollow	1.97	352	i P	Pn	23 31 42.6	+2.4
SLH				eS	Sn	23 32 08.3	+3.3

IDC ***03*** *23:34:14.0±0.4,18°.85N×81°.42W,h0km,mb4.5/33,*
mb1 4.6/38,mb1mx4.6/47,mbtmp4.5/38,ML3.8/5,MS4.7/39,
Ms1 4.7/39,ms1mx4.6/44,Error ellipse: s-maj=13.8km
s-min=9.0km az=59.0
MOS ***03*** *23:34:13.1±1.3,18°.83N×81°.54W,h10km,mb5.4/14,*
MS5.0/6,Error ellipse: s-maj=8.9km s-min=4.9km
az=100.2
BJI ***03*** *23:34:14.0±0.0,18°.90N×81°.40W,h5km,mB5.4/8,*
Ms5.5/15,Ms7 5.2/14
UNK ***03*** *23:34:14.7,18°.90N×81°.32W,h10km*
NEIC ***03*** *23:34:14.1±1.2,18°.87N±0°.04×81°.34W±0°.05,h10km±1km,*
mb5.2/223,Mww5.2,Error ellipse: s-maj=8.8km
s-min=6.1km az=295.0
JSN ***03*** *23:34:17.1±2.7,15°.47N×80°.21W,h0km±999km*
NEIC ***03*** *23:34:18,18°.90N×81°.32W,h12km,Moment Tensor*
Solution. Moment tensor: Scale 10^16Nm; M_{rr}-1.09;
$M_{\theta\theta}$-4.17; $M_{\phi\phi}$5.26; $M_{r\theta}$0.74; $M_{\theta\phi}$7.94; $M_{\phi r}$-0.27; Fault
plane solution: $M_0$9.31000×10^16 NP1:ϕ_s345.00000°,
δ85.00000°,λ-176.00000°. NP2:ϕ_s254.00000°,
δ86.00000°,λ-4.00000°. Principal axes: T 9.7798,
Plg1.0000°, Azm300.0000°; N -1.0152, Plg84.0000°,
Azm36.0000°; P -8.7646, Plg6.0000°, Azm210.0000°;
GCMT ***03*** *23:34:18.1±0.1,18°.96N±0°.01×81°.39W±0°.01,h12km,*
MW5.3/147,Moment Tensor Solution. s93,c142;
s147,c280; Duration: 1±1 Moment tensor: Scale 10^17
Nm; M_{rr}-0.08±.01; $M_{\theta\theta}$-0.42±.01; $M_{\phi\phi}$0.49±.01;
$M_{r\theta}$0.20±.04; $M_{\theta\phi}$0.95±.01; $M_{\phi r}$-0.25±.04; Best double
couple: $M_0$1.10600×10^17 NP1:ϕ_s256.00000°,δ75.00000°,
λ-8.00000°. NP2:ϕ_s348.00000°,δ82.00000°,
λ-165.00000°. Principal axes: T 1.1050, Plg5.0000°,
Azm121.0000°; N 0.0010, Plg73.0000°, Azm15.0000°; P
-1.1060, Plg17.0000°, Azm213.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
OSPL ***03*** *23:34:19.7±2.4,19°.53N×81°.18W,h0km±669km,ML5.0*
BGR ***03*** *23:34:29.8±0.0,19°.30N×80°.48W,h10km,mb5.4,Ms5.0*
ISC 03 23:34:15.2±0.2,**18°.86N**±0°.03×**81°.29W**±0°.04,**h10**km,
n1071,σ2°.07/1064,**mb5.2**/153,**MS4.8**/61,**37C-10D**,**North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSCY	Frank Sound, G	0.46	12		Pb	23 34 24.8	-0.7
FSCY				Sg	Sg	23 34 31.4	+0.9
LCCY	Blossom Villag	1.40	55		Pn	23 34 39.0	-1.8
LCCY				Sn	Sn	23 34 56.2	-3.0
CBCY	The Bluff, Cay	1.69	59		Pn	23 34 42.7	-2.1
CBCY				Sn	Sn	23 35 03.6	-2.9
NEJ	Negril	2.87	102	i P	Pg	23 35 10.0	-0.3
MBJ	Montego Bay	3.28	97	⇑iP	Pn	23 35 04.5	-2.2
MCJ	Malvern	3.54	105	⇓iP	Pn	23 35 09.4	-0.9
MTDJ	Mount Denham	3.62	99	⇑eP	Pn	23 35 09.9	-1.4
MTDJ	Mount Denham	3.62	99	Pn	Pn	23 35 09.7	-1.7
MTDJ				Sn	Sn	23 35 49.0	-5.3
PCJ	Portland Cotta	4.08	105	⇑iP	Pn	23 35 16.4	-1.3
STH	Stony Hill	4.32	100	⇓iP	Pn	23 35 20.1	-0.9
HOJ	Hope	4.39	100	⇓iP	Pn	23 35 21.5	-0.5
HOJ				i S	Sn	23 36 08.9	-4.4
GWJ	Greenwich	4.40	99	i P	Pn	23 35 21.3	-0.9
PRVC	Isla de Provid	5.45	181	eP	Pn	23 35 34.4	-2.1
PRVC				eS	Sn	23 36 40.5	+1.1
GTBY	Guantanamo Bay	5.93	79	eP	Pn	23 35 41.2	-1.9
GTBY	Guantanamo Bay	5.93	79	Pn	Pn	23 35 41.6	-1.5
GTBY	Guantanamo Bay	5.93	79	i P	Pn	23 35 43.1	+0.1
GTBY				eS	Sn	23 36 45.3	-5.8
GTBY				IAML		23 36 57.1	
	comp=Z,560nm,0.9s						
TEIG	Tepich	6.73	283	Pn	Pn	23 35 50.5	-3.6
	comp=Z,122nm,0.3s,baz=342,slow=0.6,SNR=313						
TEIG				Sn	Sn	23 37 00.2	-11
	comp=Z,56nm,0.3s,baz=43,slow=20,SNR=8.3						
TEIG				LR	LR	23 38 23.5	
	comp=Z,11μm,18.7s,baz=94,slow=38						
TEIG	Tepich	6.73	283	eP	Pn	23 35 50.0	-4.1
TEIG				eS	Sn	23 36 58.3	-13
TEIG	Tepich	6.73	283	Pn	Pn	23 35 50.4	-3.7
061Z	Ochoppi	6.98	3	Pn	Pn	23 35 51.0	-0.6
ESPN	Las Esperanzas	7.23	204		Pn	23 36 00.4	-0.6
MATN	Matagalpa	7.39	218		Pn	23 36 02.2	-1.1
TGUH	Tegucigalpa,Un	7.47	231	eP	Pn	23 35 58.7	-5.6
TGUH	Tegucigalpa,Un	7.47	231	Pn	Pn	23 36 03.3	-1.1
ESTN	Estel	7.53	221	Pn	Pn	23 36 04.1	-1.1
BOAB	BOACO BROADBAN	7.64	214		Pn	23 36 05.8	-0.8

comp=Z,0.9nm,0.3s,baz=94,slow=9.6,SNR=1.4
CMIG LR LR 23 42 15.1
comp=Z,2µm,19.7s,baz=77,slow=37
255A Hazlehurst 13.06 356 Pn 23 37 20.1 -0.7
257A Skidaway Islan 13.06 1 Pn 23 37 19.4 -1.4
OCAC Ocana 13.09 143 *eP* **Pn 23 37 19.3 -2.2**
BRAL Brewton 13.32 338 P Pn 23 37 20.7 -3.6
baz=156
MPR Mayaguez 13.44 90 Pn **Pn 23 37 25.6 -0.4**
CRPR Cabo Rojo, PR 13.48 91 Pn 23 37 25.5 -1.2
MLPR Magueyes Islan 13.55 91 Pn **Pn 23 37 26.5 -1.1**
157A Early Branch 13.77 1 P **Pn 23 37 27.4 -3.0**
baz=181
HELC Santa Helena 13.78 155 *eP* **Pn 23 37 28.4 -2.8**
AOPR Arecibo Observ 13.79 90 Pn 23 37 30.1 -0.8
154A Montrose 13.79 354 Pn 23 37 28.6 -2.3
BRRC Barranca, Sant 13.81 147 *eP* **Pn 23 37 29.5 -1.7**
250A Grady 13.81 342 Pn **Pn 23 37 28.8 -2.4**
158A Hollywood 13.86 4 P **Pn 23 37 28.3 -3.4**
baz=184
CBOC Ciudad Bolivar 13.90 158 *eP* **Pn 23 37 32.3 -0.3**
PTBC PUERTO BERRIO, 13.93 151 *eP* **Pn 23 37 30.3 -2.6**
OBIP Obispado Ponce 13.96 91 Pn 23 37 31.5 -1.7
152A Waverly Hall 14.09 348 Pn 23 37 32.5 -2.4
CSU Charleston Sou 14.11 4 Pn 23 37 31.4 -3.8
PAMC Pamplona, Colo 14.17 143 *eP* **Pn 23 37 36.0 -0.6**
NHSC New Hope 14.22 4 P **Pn 23 37 33.5 -3.3**
baz=184
NHSC New Hope 14.22 4 Pn 23 37 33.9 -2.9
SDV Santo Domingo 14.32 132 Pn **Pn 23 37 35.9 -2.4**
comp=Z,12nm,0.3s,baz=328,slow=8.6,SNR=13
SDV LR LR 23 44 01.5
comp=Z,4µm,19.3s,baz=302,slow=41
SDV Santo Domingo 14.32 132 *eP* **Pn 23 37 35.1 -3.2**
SDV Santo Domingo 14.32 132 Pn 23 37 35.8 -2.5
Z57A Bowman 14.39 2 P **Pn 23 37 35.4 -3.6**
baz=182
Z56A Williston 14.41 360 P **Pn 23 37 36.1 -3.2**
baz=180
Z56A Williston 14.41 360 Pn 23 37 37.2 -2.1
GCPR Guaynabo City 14.43 90 Pn 23 37 37.9 -1.7
Z58A St. Stephen 14.48 5 P **Pn 23 37 36.0 -4.2**
baz=186
PDPR Patillas Dam, 14.51 91 Pn 23 37 40.1 -0.6
BARC Barichara 14.52 146 *eP* **Pn 23 37 41.8 +0.6**
NORC Norcasia 14.62 154 *eP* Pn 23 37 34.9 -7.5
GOGA Godfrey 14.62 353 P **Pn 23 37 39.4 -2.8**
baz=172,SNR=37
HUMP Col San Antoni 14.66 90 Pn 23 37 43.2 +0.3
PLMC San Jos del P 14.70 160 *eP* **Pn 23 37 45.0 +1.5**
GUY2C Guyana, Caldas 14.73 156 *eP* **Pn 23 37 43.2 -1.0**
Z51A Franklin 14.81 347 Pn 23 37 43.4 -1.4
SPBC San Pablo de B 14.89 151 *eP* **Pn 23 37 42.3 -3.8**
MTP Monte Pirata 14.95 90 Pn **Pn 23 37 46.0 -0.7**
Y55A Saluda 15.03 358 P **Pn 23 37 44.5 -3.1**
baz=178,SNR=12
Y58A Scranton 15.06 5 P **Pn 23 37 44.9 -3.2**
baz=186
Y57A Sumter 15.12 3 Pn **Pn 23 37 45.9 -3.0**
Y57A IAmb IAmb 23 38 13.2
comp=Z,76nm,0.8s
Y52A Lilburn 15.15 351 Pn 23 37 47.9 -1.4
Y52A IAmb IAmb 23 38 13.1
comp=Z,105nm,0.8s
344A Westbrook Farm 15.17 328 Pn 23 37 48.6 -0.9
RUSC La Rusia 15.17 147 *eP* **Pn 23 37 47.8 -2.2**
RUSC La Rusia 15.17 147 Pn 23 37 48.0 -2.1
Y59A Loris 15.22 8 P **Pn 23 37 46.2 -4.1**
baz=189
Y60A Bolivia 15.33 10 P **Pn 23 37 48.7 -3.0**
baz=191
Y60A Bolivia 15.33 10 Pn **Pn 23 37 50.9 -0.8**
Y60A IAmb IAmb 23 38 13.3
comp=Z,92nm,0.8s
TOLC Tolima 15.34 157 *eP* **Pn 23 37 51.0 -1.1**
HODGE Hodges 15.34 357 Pn 23 37 51.3 -0.5
HODGE IAmb IAmb 23 38 28.5
comp=Z,108nm,1.1s
JSC Jenkinsville 15.36 0 P **Pn 23 37 49.1 -3.0**
JSC pmax pmax
comp=Z,45nm,0.9s
JSC Jenkinsville 15.36 0 Pn 23 37 49.1 -3.0
ANIL Santa Ana 15.39 157 *eP* **P 23 37 55.8 -1.7**
146A Union 15.39 335 Pn 23 37 51.1 -1.4
146A IAmb IAmb 23 38 27.9
comp=Z,117nm,0.8s
TAMC Tame, Arauca 15.43 142 *eP* **Pn 23 37 51.2 -1.9**
STVI Saint Thomas 15.49 89 Pn **Pn 23 37 53.2 -0.7**
ROSC El Rosal 15.50 153 Pn **P 23 37 57.1 -1.8**
comp=Z,1.4nm,0.3s,baz=11,slow=12,SNR=17
ROSC LR LR 23 44 03.2
comp=Z,4µm,20.2s,baz=352,slow=38
ROSC El Rosal 15.50 153 *eP* **P 23 37 56.2 -2.7**
ROSC El Rosal 15.50 153 Pn **Pn 23 37 53.4 -1.0**
ROSC IAmb IAmb 23 38 20.2
comp=Z,206nm,1.6s
Z47A Carrollton 15.52 338 Pn 23 37 51.7 -2.5
X55A Gracelyn & Ava 15.55 359 P **Pn 23 37 50.6 -4.1**
baz=179
YOTC Yotoco, Valle 15.55 161 *eP* **Pn 23 37 55.0 +0.1**
X56A White Oak 15.57 1 P **Pn 23 37 51.6 -3.2**
baz=181
X57A Johnson Farm, 15.58 4 P **Pn 23 37 51.3 -3.7**
baz=184
Y49A Blount Mountai 15.62 344 Pn **Pn 23 37 54.1 -1.5**
Y49A IAmb IAmb 23 38 23.6
comp=Z,270nm,1.7s
X54A Belton 15.66 357 P **Pn 23 37 53.3 -2.7**
baz=176
VBMS Vicksburg 15.68 330 P **Pn 23 37 52.4 -4.0**
baz=146
VBMS Vicksburg 15.68 330 Pn 23 37 53.4 -2.9
X58A Rowland 15.73 6 P **Pn 23 37 53.8 -3.1**
baz=187
BIRD Birdtown, Kers 15.74 3 Pn 23 37 53.9 -3.2
X59A McDuffie Farm, 15.83 8 P **Pn 23 37 55.8 -2.4**
baz=189
PAULI Pauline 15.91 358 Pn 23 37 56.7 -2.5
X60A Albert Glenn T 15.93 10 P **Pn 23 37 55.9 -3.6**
baz=192
CHIC Chingaza 15.95 152 *eP* **Pn 23 38 01.2 +1.0**
342A Flagon Creek P 15.96 323 Pn **Pn 23 37 57.4 -2.5**
342A IAmb IAmb 23 38 28.0
comp=Z,180nm,1.1s
ORTC Ortega, Tolima 15.99 158 *eP* **Pn 23 38 01.3 +0.9**
441A DeRidder 16.01 320 Pn 23 37 59.2 -1.3
FPAL Fort Paine 16.09 347 Pn **Pn 23 38 00.2 -1.4**
BG3 Lake Jocassee 16.14 355 Pn **Pn 23 37 60.0 -2.2**
W54A Cherokee Point 16.18 357 P **Pn 23 38 01.0 -1.8**
baz=177
BAUV El Baul 16.19 126 *eP* **Pn 23 37 57.6 -5.3**
W58A Raeford 16.20 6 P **Pn 23 38 01.4 -1.6**
baz=187
KMSC Kings Mountain 16.22 360 P **Pn 23 38 00.8 -2.4**
baz=180
KMSC Kings Mountain 16.22 360 Pn **Pn 23 38 00.6 -2.6**
W56A Indian Trail 16.23 2 P **Pn 23 37 60.0 -3.3**
baz=182
W57A Gilead 16.27 4 P **Pn 23 38 00.9 -3.0**
baz=184
W57A Gilead 16.27 4 Pn **Pn 23 37 59.9 -4.0**
PRAC Prado 16.30 157 *eP* **Pn 23 38 04.8 +0.3**
X48A Hartselle 16.36 343 Pn 23 38 03.0 -1.9
VILC Villavicencio, 16.43 152 *eP* **Pn 23 38 06.5 +0.3**
W60A Pink Hill 16.44 10 P **Pn 23 38 02.6 -3.4**
baz=192
W59A Clinton 16.44 8 P **Pn 23 38 03.1 -2.9**
baz=190
TLIG Tiapa 16.47 268 P **P 23 38 08.8 -0.6**
W61A Ground Anchor 16.70 12 P **Pn 23 38 05.8 -3.5**
baz=194
V53A Saluda 16.80 356 Pn 23 38 09.0 -1.7
V53A IAmb IAmb 23 38 38.1
comp=Z,150nm,1.1s
SWET Sewanee 16.81 347 Pn 23 38 09.6 -1.2
POPC Popayan, Colom 16.83 164 *eP* **P 23 38 13.8 +0.2**
V54A Nebo 16.86 358 P **Pn 23 38 08.3 -3.1**
baz=178,SNR=26
TKL Tuckaleechee C 16.88 353 Pn **Pn 23 38 08.4 -3.2**
comp=Z,3.2nm,0.3s,baz=170,slow=14,SNR=26
TKL LR LR 23 44 15.7
comp=Z,3µm,19.4s,baz=173,slow=36
TKL Tuckaleechee C 16.88 353 P **Pn 23 38 09.9 -1.7**
TKL pmax pmax
comp=Z,309nm,1.0s
TKL Tuckaleechee C 16.88 353 Pn 23 38 09.9 -1.7
TKL IAmb IAmb 23 38 33.5
comp=Z,309nm,0.9s
V56A Mocksville 16.90 2 P **Pn 23 38 08.9 -3.0**
baz=183,SNR=12
V55A Taylorsville 16.93 0 P **Pn 23 38 10.0 -2.2**
baz=180,SNR=11
V55A Taylorsville 16.93 0 Pn 23 38 09.6 -2.6
V58A Windy Hill, Pi 16.98 6 P **Pn 23 38 09.0 -3.9**
baz=187
V57A Coltrane Farms 17.02 4 P **Pn 23 38 09.2 -4.1**
baz=185
V52A Sevierville 17.04 354 Pn 23 38 11.8 -1.9
V52A IAmb IAmb 23 38 38.2
comp=Z,144nm,0.9s
V59A Middlesex 17.06 8 P **Pn 23 38 11.1 -2.7**
baz=190,SNR=7.6
BETC Betania 17.07 160 *eP* **Pn 23 38 13.6 -0.6**
PCON Cinco Dias 17.11 163 *eP* **P 23 38 18.1 +1.1**
PLAL Pickwick Lake 17.15 341 Pn **Pn 23 38 13.1 -1.9**
OXF Oxford 17.18 337 P **Pn 23 38 12.1 -3.3**
OXF pmax pmax
comp=Z,334nm,1.2s
OXF Oxford 17.18 337 P **Pn 23 38 11.3 -4.2**
baz=153
OXF Oxford 17.18 337 Pn 23 38 12.1 -3.3
OXF IAmb IAmb 23 38 31.4
comp=Z,334nm,1.1s
BBAC Balboa, Cauca 17.19 166 *eP* **P 23 38 17.8 +0.3**
V60A Jim Taylor Roa 17.21 11 Pn **Pn 23 38 14.1 -1.7**
HKT Hockley 17.23 313 P **Pn 23 38 12.8 -3.1**
HKT pmax pmax
comp=Z,77nm,1.0s
HKT Hockley 17.23 313 Pn 23 38 12.8 -3.1
SOTA Rioblanco 17.24 164 *eP* **P 23 38 19.6 +1.3**
SMRT St. Maarten 17.30 90 *eP* **Pn 23 38 15.6 -1.4**
SMRT St. Maarten 17.30 90 Pn 23 38 14.8 -2.2
SMRT IAmb IAmb 23 38 30.6
comp=Z,299nm,1.2s
V61A Roper 17.37 13 P **Pn 23 38 13.5 -4.3**
baz=195
V61A Roper 17.37 13 Pn 23 38 17.1 -0.7
V61A IAmb IAmb 23 38 46.1
comp=Z,453nm,1.3s
U56A King 17.44 2 P **Pn 23 38 14.7 -4.0**
baz=183
U56A King 17.44 2 Pn **Pn 23 38 15.6 -3.0**
SEUS St. Eustatius 17.45 92 *eP* **Pn 23 38 14.3 -4.5**
GARC Garzon, Huila 17.51 160 *eP* **Pn 23 38 14.3 -5.6**
V48A Smith Brothers 17.51 345 Pn 23 38 17.1 -2.4
U55A TA2, Sparta 17.58 1 P **Pn 23 38 17.7 -2.7**
baz=181,SNR=14
U57A Blanch 17.59 5 P **Pn 23 38 17.8 -2.7**
baz=186
U54A Nelsons Funny 17.60 359 P **Pn 23 38 18.9 -1.8**
baz=178,SNR=7.0
U54A Nelsons Funny 17.60 359 Pn **Pn 23 38 18.4 -2.4**
NATX Nacogdoches 17.62 319 P **Pn 23 38 17.0 -3.9**
baz=134
NATX Nacogdoches 17.62 319 Pn 23 38 17.6 -3.2
NATX IAmb IAmb 23 38 45.7
comp=Z,414nm,1.7s
U58A Oxford 17.64 7 P **Pn 23 38 18.2 -2.8**
baz=189
Z41A Richland Creek 17.66 327 P **Pn 23 38 18.6 -2.7**
baz=142
Z41A Richland Creek 17.66 327 Pn 23 38 18.7 -2.7
Z41A IAmb IAmb 23 38 44.9
comp=Z,301nm,1.4s
U59A Littleton 17.70 9 P **Pn 23 38 18.8 -3.0**
baz=191
SKI Saint Kitts 17.70 92 *eP* **P 23 38 26.0 +3.1**
TZTN Tazewell 17.73 354 P **Pn 23 38 20.4 -1.9**
baz=173,SNR=9.1
X43A Marvell 17.78 333 P **Pn 23 38 19.7 -3.2**
baz=149
U60A Pendleton 17.92 11 P **Pn 23 38 21.7 -2.8**
baz=193
GCUF Volcan Galeras 17.94 167 *eP* **P 23 38 28.4 +2.4**
U49A Red Boiling Sp 18.03 348 P **Pn 23 38 24.9 -0.9**
FLOC Florencia 18.04 162 *eP* **P 23 38 28.1 +1.5**
FLOC Florencia 18.04 162 P **P 23 38 26.1 -0.5**
T53A Wise 18.09 357 P **Pn 23 38 24.6 -2.1**
baz=176,SNR=11
T54A Tazewell 18.14 359 P **Pn 23 38 24.5 -2.8**
baz=179
T56A Rocky Mt 18.14 3 P **Pn 23 38 24.4 -2.8**
baz=184,SNR=7.6
MACC Macarena, Meta 18.14 155 *eP* **Pn 23 38 25.5 -1.9**
WVT Waverly 18.15 343 P **Pn 23 38 25.4 -2.0**
WVT pmax pmax
comp=Z,192nm,1.4s
WVT Waverly 18.15 343 P **Pn 23 38 25.3 -2.1**
baz=160
WVT Waverly 18.15 343 P **Pn 23 38 25.4 -2.0**
WVT IAmb IAmb 23 38 50.0
comp=Z,192nm,1.4s
WLAR White Oak Lake 18.16 327 P **Pn 23 38 25.1 -2.4**
WLAR IAmb IAmb 23 38 51.0
comp=Z,256nm,1.1s
T58A Grand View Acr 18.18 7 P **Pn 23 38 24.7 -3.0**
baz=188
T55A Pulaski 18.20 1 P **Pn 23 38 24.9 -3.1**
baz=182
PCRV Puerto La Cruz 18.27 116 P **P 23 38 31.5 +2.3**
comp=Z,2.1nm,0.3s,baz=253,slow=20,SNR=3.9
PCRV LR LR 23 46 19.2
comp=Z,3µm,18.6s,slow=39
GUVC San Jose del G 18.30 151 *eP* **Pn 23 38 27.7 -1.6**
BLA Blacksburg 18.30 2 P **Pn 23 38 26.4 -2.9**
BLA pmax pmax
comp=Z,82nm,0.9s
BLA Blacksburg 18.30 2 P **Pn 23 38 26.4 -2.9**
baz=183
BLA Blacksburg 18.30 2 Pn 23 38 26.4 -2.9
MLYT Lee's Yard 18.31 94 *eP* **P 23 38 29.8 +0.2**
T59A Double "B" Far 18.34 10 P **Pn 23 38 26.6 -3.1**
baz=191
T59A Double "B" Far 18.34 10 Pn 23 38 26.0 -3.7
VWCC Virginia Weste 18.36 3 P **Pn 23 38 27.7 -2.2**
HALT Halls 18.42 339 P **P 23 38 29.1 -1.5**
237A Washetta, Mont 18.50 318 P **P 23 38 29.3 -2.3**
237A IAmb IAmb 23 38 45.3
comp=Z,486nm,1.7s
ANWB Willy Bob 18.56 91 *eP* **P 23 38 30.3 -2.0**
HBAR Harrisburg 18.58 335 P **P 23 38 31.3 -1.1**
HBAR IAmb IAmb 23 39 06.4
comp=Z,359nm,1.3s
RCRC Randolf Colleg 18.59 5 P **P 23 38 30.7 -1.8**
LNXT Lenox 18.64 339 P **P 23 38 31.7 -1.4**
LNXT IAmb IAmb 23 38 49.0
comp=Z,223nm,1.2s
T60A Surry 18.65 11 P **P 23 38 30.7 -2.5**
baz=194
UALR University of 18.65 330 P **P 23 38 31.8 -1.4**
UALR IAmb IAmb 23 39 05.4
comp=Z,358nm,2.0s
X40A Basin Creek Fa 18.65 329 P **P 23 38 31.8 -1.4**
baz=144,SNR=14
X40A S **S 23 42 06.9 +1.1**
baz=144
X40A Basin Creek Fa 18.65 329 P **P 23 38 31.0 -2.2**
UTMT University of 18.65 341 P **P 23 38 31.6 -1.6**
GNAR Gosnell 18.70 337 P **P 23 38 32.3 -1.5**
GNAR IAmb IAmb 23 38 57.9
comp=Z,350nm,1.3s
OTAV Otavalo 18.71 171 *eP* **Pn 23 38 37.5 +2.6**
OTAV Otavalo 18.71 171 P **Pn 23 38 34.9 0.0**
OTAV pmax pmax
comp=Z,80nm,1.1s
OTAV Otavalo 18.71 171 P **Pn 23 38 34.9 0.0**
GLAT Glass 18.72 339 P **P 23 38 32.2 -1.8**
GLAT IAmb IAmb 23 38 49.0
comp=Z,312nm,1.2s
S53A Williamson 18.77 358 P **P 23 38 32.6 -1.9**
baz=178
T47A Sharon Grove 18.77 345 P **P 23 38 33.5 -1.0**
T47A IAmb IAmb 23 38 58.6
comp=Z,183nm,1.1s
PUAC Puerto Asis, P 18.77 165 *eP* **Pn 23 38 36.6 +1.5**
MOIG Morelia 18.81 276 P **Pn 23 38 34.1 -1.7**
MOIG IAmb IAmb 23 39 06.1
comp=Z,205nm,1.6s
S56A Natural Bridge 18.81 4 P **P 23 38 32.6 -2.4**
baz=185
S55A Lewisburg 18.86 2 P **P 23 38 33.5 -2.0**
baz=182
S54A Dingess, Beckl 18.87 360 P **P 23 38 33.2 -2.5**
baz=180
S54A S **S 23 42 14.3 +4.0**
baz=180
S54A Dingess, Beckl 18.87 360 P **P 23 38 33.6 -2.1**
S58A Poland Farm, P 18.90 8 P **P 23 38 33.3 -2.6**
baz=190
S58A Poland Farm, P 18.90 8 P 23 38 34.9 -1.1
W41B Gary Mavity, V 18.93 331 P **P 23 38 35.5 -0.8**
baz=146,SNR=17
W41B S **S 23 42 13.8 +2.3**
baz=146
435B Jarrell 18.94 312 P **P 23 38 33.6 -2.9**
baz=125
435B Jarrell 18.94 312 P P 23 38 34.4 -2.0
435B IAmb IAmb 23 39 00.7
comp=Z,154nm,1.1s
S57A Dark Hollow, R 18.94 6 P **P 23 38 34.8 -1.6**
baz=187,SNR=8.5
S57A Dark Hollow, R 18.94 6 P P 23 38 34.8 -1.6
CBE Ff, Capester 18.98 95 *eP* **P 23 38 35.6 -1.4**
TDBA Terre de Bas, 19.00 96 *eP* **P 23 38 34.8 -2.3**
ABD La Joyeuse, An 19.02 94 *eP* **P 23 38 36.5 -0.8**
WHAR Wooly Hollow 19.05 331 P **P 23 38 36.8 -0.8**
WHAR IAmb IAmb 23 39 05.2
comp=Z,238nm,1.4s
833A Chaparral WMA, 19.06 303 P **P 23 38 34.8 -3.0**
baz=116
833A Chaparral WMA, 19.06 303 P P 23 38 33.9 -3.9
833A IAmb IAmb 23 39 05.3
comp=Z,188nm,1.4s
MIAR Mount Ida 19.07 327 P **P 23 38 36.6 -1.2**
baz=142,SNR=30
MIAR S **S 23 42 14.4 +0.2**
baz=142
S59A Mechanicsville 19.16 10 P **P 23 38 36.3 -2.5**
baz=192
S60A Water View 19.21 11 P **P 23 38 36.3 -3.0**
baz=194
LCAR Lake Charles 19.23 335 P **P 23 38 38.2 -1.3**
LCAR IAmb IAmb 23 39 18.3
comp=Z,179nm,1.6s
R54A Victor 19.25 1 P **P 23 38 38.3 -1.5**
baz=181,SNR=7.6
R58B Mineral 19.27 8 P **P 23 38 38.5 -1.5**
baz=190,SNR=8.2
R58B Mineral 19.27 8 P P 23 38 38.5 -1.5
DSLB Salisbury 19.29 97 *eP* **P 23 38 39.0 -1.4**
MAGL Barre de l'ile 19.31 96 *eP* **P 23 38 39.5 -1.1**
MDN Morne-Daniel 19.34 97 *eP* **P 23 38 38.0 -2.9**
R55A Marlinton 19.38 3 P **P 23 38 40.5 -0.8**
baz=183
R53A Hurricane 19.41 358 P **P 23 38 40.2 -1.4**
baz=178
R53A Hurricane 19.41 358 P P 23 38 40.1 -1.4
R53A IAmb IAmb 23 39 06.1
comp=Z,260nm,1.5s
R57A Stanardsville 19.52 7 P **P 23 38 40.8 -1.9**
baz=188,SNR=9.3
R56A Bull Pasture M 19.55 4 P **P 23 38 40.8 -2.4**
baz=185
WHTX Lake Whitney, 19.57 315 P **P 23 38 42.1 -1.2**
baz=128,SNR=6.3
WHTX S **S 23 42 27.8 +3.4**
baz=128
WHTX Lake Whitney, 19.57 315 P P 23 38 41.9 -1.4
WHTX IAmb IAmb 23 39 00.8
comp=Z,144nm,1.1s
CBN Corbin Frederi 19.58 9 P **P 23 38 41.3 -2.0**
baz=191
CBN Corbin Frederi 19.58 9 P P 23 38 42.3 -1.0
R58A Rapidan 19.58 8 P **Pn 23 38 43.6 -1.1**
baz=189,SNR=6.0
R59A King George, V 19.61 10 P **P 23 38 43.3 -0.4**
baz=192
PTLC Puerto Leguiza 19.63 160 *eP* **Pn 23 38 49.4 +3.9**
W39A Magazine 19.68 328 P **P 23 38 43.4 -1.2**
baz=143
W39A S **Sn 23 42 28.4 +1.3**
baz=143
FDF Fort de France 19.71 99 *eP* **P 23 38 44.8 -0.2**
FDF Fort de France 19.71 99 P **P 23 38 44.8 -0.2**
FDF pmax pmax
comp=Z,193nm,0.8s
FDF Fort de France 19.71 99 P 23 38 44.8 -0.2
R60A Leonardtown, M 19.77 11 P **P 23 38 44.5 -1.0**
baz=193
WCI Wyandotte Cave 19.79 348 P **P 23 38 44.6 -1.0**
WCI pmax pmax
comp=Z,570nm,1.9s
WCI Wyandotte Cave 19.79 348 P **P 23 38 45.0 -0.7**
baz=166
WCI S **Sn 23 42 32.3 +2.7**
baz=166
WCI Wyandotte Cave 19.79 348 P P 23 38 44.6 -1.0
BIM Bigot 19.84 100 *eP* **P 23 38 47.0 +0.6**
Q53A Leroy 19.93 359 P **P 23 38 46.6 -0.6**
baz=179,SNR=18
ILAM Ilet Lapin Mar 19.96 99 *eP* **P 23 38 45.6 -2.1**
SVB Belmont 20.03 103 *eP* **P 23 38 48.8 +0.3**
SVB Belmont 20.03 103 *eS* Sn 23 42 36.8 +1.0
SVB Belmont 20.03 103 P **P 23 38 47.3 -1.2**
SVB IAmb IAmb 23 39 08.2
comp=Z,233nm,1.1s
T42A Van Buren 20.05 337 P **P 23 38 46.8 -1.7**
T42A IAmb IAmb 23 39 13.4
comp=Z,117nm,1.1s
SLDE Delcer 20.05 102 *eP* Pn 23 38 51.8 +1.4
Q52A Bidwell 20.05 358 P **P 23 38 47.6 -0.9**
baz=177,SNR=14
MPOM Morne Pois Mar 20.05 100 *eP* **P 23 38 42.3 -6.5**
GRGR Grenville 20.06 107 *eP* **P 23 38 48.5 -0.3**
GRGR Grenville 20.06 107 P P 23 38 48.4 -0.4
Q54A Coxs Mills 20.06 1 P **P 23 38 47.6 -1.0**
baz=181
SLBI Saint Lucia, B 20.06 101 *eP* **P 23 38 47.9 -0.9**
R61A Willards 20.08 14 P **P 23 38 48.1 -0.8**
baz=197
BBSR BB Station 20.09 45 P **P 23 38 48.9 0.0**
Q55A Buckhannon 20.09 3 P **P 23 38 48.0 -1.1**
baz=183
SLW Petit Monier 20.10 101 *eP* Pn 23 38 50.5 -0.5
SVCV St. Vincent, C 20.13 103 *eP* Pn 23 38 52.1 +0.7
GCMP Grenada, Carri 20.14 105 *eP* **P 23 38 48.3 -1.3**
SLPA Patience 20.16 101 *eP* Pn 23 38 52.7 +0.9
SLAC Saint Lucia, A 20.17 101 *eP* **P 23 38 49.9 -0.1**
Q51A Peebles 20.18 355 P **P 23 38 49.9 -0.1**
Q51A IAmb IAmb 23 39 20.4
comp=Z,158nm,1.0s
MCLT Moule a Chique 20.18 102 *eP* Pn 23 38 51.6 -0.5
U40A Yellville 20.19 332 P **P 23 38 49.5 -0.6**
baz=147,SNR=34
U40A S **S 23 42 34.8 -1.9**
baz=147
Q56A Snyder Ridge, 20.20 5 P **P 23 38 48.9 -1.3**
baz=186
Q56A Snyder Ridge, 20.20 5 P **P 23 38 48.3 -1.8**
Q56A IAmb IAmb 23 39 19.5
comp=Z,101nm,1.1s
Q58A Fox Den Farm, 20.26 8 P **P 23 38 50.1 -0.6**
baz=190
Q57A Strasburg 20.26 6 P **P 23 38 49.9 -0.9**
baz=188,SNR=5.3
ZAIG Zacatecas 20.27 285 P **P 23 38 49.3 -2.0**
Z35A Perchaven, San 20.29 318 P **P 23 38 49.8 -1.4**
Z35A IAmb IAmb 23 39 22.6
comp=Z,191nm,1.2s
Q59A Harwood 20.34 10 P **P 23 38 50.4 -1.2**
baz=193
JCT Junction City 20.39 308 P **P 23 38 51.0 -1.3**
JCT pmax pmax
comp=Z,139nm,1.5s
JCT Junction City 20.39 308 P **P 23 38 51.0 -1.3**
baz=120
JCT Junction City 20.39 308 P **P 23 38 51.0 -1.3**
JCT IAmb IAmb 23 39 39.3
comp=Z,139nm,1.5s
P53A Whipple 20.56 360 P **P 23 38 53.2 -0.8**
baz=180
P53A Whipple 20.56 360 P **P 23 38 52.9 -1.1**
P53A IAmb IAmb 23 39 34.3
comp=Z,256nm,1.4s
P51A Williamsport 20.61 356 P **P 23 38 53.9 -0.7**

baz=175
Q61A Milford 20.61 13 P **P 23 38 53.6 -1.0**
baz=196
P55A Reedsville 20.62 3 P **P 23 38 54.0 -0.7**
baz=184
P55A S Sn 23 42 50.9 +1.3
baz=184
Q60A Greensboro 20.62 12 P **P 23 38 53.4 -1.3**
baz=195
Q60A Greensboro 20.62 12 P **P 23 38 53.8 -0.9**
HHAR Hobbs 20.63 330 P **P 23 38 53.5 -1.3**
HHAR IAmb IAmb 23 39 18.4
comp=Z,139nm,1.1s
P54A Burton 20.68 2 P **P 23 38 54.2 -1.3**
baz=182,SNR=6.9
P54A S Sn 23 42 51.0 -0.2
baz=182
P56A Dayton Farm, R 20.68 5 P **P 23 38 55.0 -0.4**
baz=187,SNR=5.7
P52A Corning 20.72 358 P **P 23 38 55.2 -0.6**
baz=178,SNR=6.9
P52A S Sn 23 42 51.9 0.0
baz=178
P57A Homestead Farm 20.75 7 P **P 23 38 55.1 -1.0**
baz=189,SNR=8.7
P57A Homestead Farm 20.75 7 P **P 23 38 54.7 -1.4**
MCWV Mont Chateau 20.77 3 P **P 23 38 55.6 -0.7**
baz=184
MCWV S Sn 23 42 54.6 +1.5
baz=184
MCWV Mont Chateau 20.77 3 P **P 23 38 55.3 -1.0**
MCWV IAmb IAmb 23 39 24.6
comp=Z,269nm,1.9s
P49A Miami Univ. Ec 20.82 353 P **P 23 38 56.0 -0.8**
baz=171
SDMD Soldier's Deli 20.84 10 P **P 23 38 56.2 -0.9**
P58A Pank, Wackersv 20.85 9 P **P 23 38 55.8 -1.3**
baz=191
TRN Trinidad (W) 20.87 110 *e*P Pn 23 38 59.2 -0.9
CCM Cathedral Cave 21.01 338 P **P 23 38 57.3 -1.6**
CCM pmax pmax
comp=Z,392nm,1.7s
CCM Cathedral Cave 21.01 338 P **P 23 38 57.4 -1.5**
baz=153
CCM S Sn 23 42 55.7 -3.2
baz=153
CCM Cathedral Cave 21.01 338 P **P 23 38 57.3 -1.6**
P59A Jarrettsville 21.10 10 P **P 23 38 59.2 -0.7**
baz=193,SNR=6.1
O52A Adamsville 21.19 359 P **P 23 38 59.7 -1.1**
baz=179
TPR Prospect 21.21 108 *e*P **P 23 39 07.1 +5.8**
O51A Pataskala 21.25 357 P **P 23 39 00.3 -1.1**
baz=177,SNR=6.6
O54A Avella 21.27 2 P **P 23 39 00.6 -1.1**
baz=182,SNR=6.6
O54A Avella 21.27 2 P **P 23 39 01.5 -0.2**
O54A IAmb IAmb 23 39 29.3
comp=Z,151nm,1.1s
TUL1 Leonard 21.27 326 P **P 23 38 59.3 -2.5**
baz=139
TUL1 S Sn 23 43 00.5 -4.8
baz=139
TUL1 Leonard 21.27 326 P **P 23 38 59.9 -1.9**
TUL1 IAmb IAmb 23 39 21.1
comp=Z,87nm,1.0s
O53A New Philadelph 21.32 0 P **P 23 39 00.2 -2.0**
baz=180
O55A Ligonier 21.35 4 P **P 23 39 01.9 -0.7**
baz=185,SNR=5.8
O55A S Sn 23 43 07.8 +0.8
baz=185
ACSO Alum Creek Sta 21.35 356 P **P 23 39 01.2 -1.4**
baz=176
TOSP Speyside 21.39 108 *e*P **P 23 39 07.8 +4.7**
TOSP Speyside 21.39 108 P **P 23 39 02.5 -0.6**
O49A Covington 21.42 354 P **P 23 39 01.8 -1.5**
ABTX Abilene, Hawle 21.43 313 P **P 23 39 02.3 -1.3**
baz=125,SNR=5.1
ABTX Abilene, Hawle 21.43 313 P **P 23 39 02.4 -1.2**
ABTX IAmb IAmb 23 39 38.0
comp=Z,156nm,1.1s
P60A Greenville 21.44 12 P **P 23 39 02.5 -1.1**
baz=195
P60A Greenville 21.44 12 P **P 23 39 01.9 -1.7**
P60A IAmb IAmb 23 39 30.0
comp=Z,123nm,1.2s
O56A Blue Knob Stat 21.47 6 P **P 23 39 02.9 -1.0**
baz=187,SNR=8.1
P61A Hammonton 21.49 14 P **P 23 39 03.1 -0.9**
baz=197
MVL Millersville 21.50 10 P **P 23 39 03.1 -1.0**
MVL IAmb IAmb 23 39 29.8
comp=Z,183nm,1.5s
O57A Amberson 21.51 8 P **P 23 39 03.8 -0.5**
baz=190
O57A S Sn 23 43 09.5 -1.5
baz=190
S39A Bolivar 21.51 333 P **P 23 39 02.4 -1.9**
S39A IAmb IAmb 23 39 23.5
comp=Z,132nm,1.1s
O58A Lewisberry 21.52 9 P **P 23 39 03.8 -0.6**
baz=191
O58A S Sn 23 43 15.8 +4.5
baz=191
PSUB Penn St. - Bra 21.59 12 P **P 23 39 04.0 -1.2**
PSUB IAmb IAmb 23 39 31.0
comp=Z,146nm,1.6s
BBGH Gun Hill 21.64 102 *e*P P 23 39 14.8 +8.9
O59A Robesonia 21.83 11 P **P 23 39 07.3 -0.4**
baz=193
O59A S Sn 23 43 20.5 +1.9
baz=193
N53A Lisbon 21.88 1 P **P 23 39 07.4 -0.9**
baz=181
OK025 Westminster Rd 21.88 323 P **P 23 39 06.0 -2.4**
SSPA Standing Stone 21.90 7 P **P 23 39 07.7 -0.7**
baz=189
SSPA S Sn 23 43 22.6 +2.3
baz=189
SSPA Standing Stone 21.90 7 P **P 23 39 07.6 -0.9**
SSPA IAmb IAmb 23 39 37.8
comp=Z,144nm,1.3s
N55A Marion Center 21.94 5 P **P 23 39 07.9 -1.0**
baz=186,SNR=6.8
N55A S Sn 23 43 23.5 +2.2
baz=186
O61A Allentown 21.95 14 P **P 23 39 08.2 -0.7**
baz=197
O60A Telford 21.98 12 P **P 23 39 08.4 -0.9**
baz=195
O60A S Sn 23 43 22.7 +0.5
baz=195
N51A Ashland 22.01 358 P **P 23 39 09.6 0.0**
baz=177
SFIN Lafayette 22.02 348 P **P 23 39 09.5 -0.3**
baz=165
SFIN S **S 23 43 12.0 -0.8**
baz=165
N54A Moraine State 22.06 3 P **P 23 39 09.5 -0.7**
baz=183
N54A S **S 23 43 17.1 +3.6**
baz=183
N57A Milroy 22.06 8 P **P 23 39 09.9 -0.3**
baz=190
N57A S Sn 23 43 25.7 +1.5
baz=190
N56A West Decatur 22.14 6 P **P 23 39 10.6 -0.5**
baz=188,SNR=5.1
N56A S Sn 23 43 27.7 +1.7
baz=188
WMOK Wichita Mounta 22.17 319 P **P 23 39 09.7 -1.8**
WMOK pmax pmax
comp=Z,60nm,1.1s
WMOK Wichita Mounta 22.17 319 P **P 23 39 10.4 -1.1**
baz=131,SNR=15
WMOK S **S 23 43 19.8 +4.0**
baz=131
WMOK Wichita Mounta 22.17 319 P **P 23 39 09.7 -1.8**
LUPA Lehigh Univers 22.26 12 P **P 23 39 11.9 -0.4**
LUPA IAmb IAmb 23 39 25.5
comp=Z,130nm,1.0s
N58A Sunbury 22.26 9 P **P 23 39 11.4 -0.9**
baz=192
N58A S Sn 23 43 25.0 -3.8
baz=192
N58A Sunbury 22.26 9 P **P 23 39 10.9 -1.4**

T35A Sooner Cattle 22.41 326 P **P 23 39 12.3 -1.7**
T35A IAmb IAmb 23 39 40.3
comp=Z,80nm,1.1s
M51A Elyria 22.41 358 P **P 23 39 13.6 -0.3**
baz=178
N59A State Game Lan 22.49 11 P **P 23 39 13.6 -1.3**
baz=194,SNR=7.7
M53A Wt Miller and 22.51 1 P **P 23 39 14.0 -1.0**
baz=182
M53A S Sn 23 43 29.1 -5.9
baz=182
N60A Cedar Hill Far 22.57 12 P **P 23 39 15.2 -0.4**
baz=196,SNR=10
N60A S Sn 23 43 32.4 -4.0
baz=196
M52A Chesterland 22.61 360 P **P 23 39 14.7 -1.4**
baz=180
M54A Oil Creek Stat 22.62 3 P **P 23 39 15.4 -0.8**
baz=184
M54A S Sn 23 43 31.4 -6.2
baz=184
M54A Oil Creek Stat 22.62 3 P **P 23 39 14.9 -1.3**
M54A IAmb IAmb 23 39 38.2
comp=Z,133nm,1.2s
N61A South Mountain 22.63 14 P **P 23 39 15.6 -0.6**
baz=198,SNR=6.2
M55A Ridgway 22.64 5 P **P 23 39 15.5 -0.9**
baz=186,SNR=5.5
M55A S **S 23 43 26.5 +2.1**
baz=186
M55A Ridgway 22.64 5 P **P 23 39 15.6 -0.9**
M55A IAmb IAmb 23 39 29.0
comp=Z,70nm,1.0s
M57A Sunshine Farm, 22.69 8 P **P 23 39 16.2 -0.7**
baz=190
M57A S Sn 23 43 33.5 -5.7
baz=190
M56A Emporium 22.71 6 P **P 23 39 15.7 -1.5**
baz=188
CPNY Central Park 22.75 15 P **P 23 39 16.3 -1.2**
CPNY IAmb IAmb 23 39 36.9
comp=Z,107nm,1.4s
M58A Price's Panora 22.82 9 P **P 23 39 17.1 -1.3**
baz=192
M58A S Sn 23 43 36.0 -6.3
baz=192
TXAR Lajitas Array 22.90 301 P **P 23 39 18.0 -1.4**
comp=Z,1.9nm,0.7s,baz=111,slow=9.0,SNR=20
TXAR Lajitas Array 22.90 301 P **P 23 39 17.3 -2.1**
TXAR Lajitas Array 22.90 301 P **P 23 39 17.3 -2.1**
TX31 Lajitas Ar. Si 22.90 301 P **P 23 39 17.4 -2.0**
PAL Palisades 22.96 14 P **P 23 39 18.3 -1.5**
PAL pmax pmax
comp=Z,102nm,1.2s
PAL Palisades 22.96 14 P **P 23 39 18.6 -1.2**
baz=198
PAL S Sn 23 43 38.0 -7.7
baz=198
PAL Palisades 22.96 14 P **P 23 39 18.3 -1.5**
PAL IAmb IAmb 23 39 38.4
comp=Z,102nm,1.1s
N62A Caumsett State 23.00 15 P **P 23 39 18.2 -2.0**
baz=199
L53A Girard 23.04 2 P **P 23 39 19.7 -0.9**
baz=183,SNR=5.9
M60A Port Jervis 23.11 13 P **P 23 39 21.0 -0.3**
baz=196
M60A S **S 23 43 40.7 +8.1**
baz=196
KSPA Keystone Colle 23.11 11 P **P 23 39 20.8 -0.5**
KSPA IAmb IAmb 23 39 33.9
comp=Z,122nm,1.0s
M59A Waymart 23.16 11 P **P 23 39 21.4 -0.4**
baz=194,SNR=9.0
M59A S Sn 23 43 42.2 -8.3
baz=194
ERPA Erie 23.21 2 P **P 23 39 21.3 -1.0**
baz=183,SNR=5.4
WSPT Westport, CT 23.26 15 P **P 23 39 21.6 -1.2**
WSPT IAmb IAmb 23 39 52.6
comp=Z,86nm,1.1s
M61A Granite Spring 23.29 14 P **P 23 39 22.7 -0.4**
baz=198
M61A S **S 23 43 44.3 +8.8**
baz=198
L54A Sinclairville 23.36 4 P **P 23 39 22.9 -1.0**
baz=185,SNR=7.1
L57A Andrews Acres 23.38 8 P **P 23 39 22.7 -1.3**
baz=191
L55A Hinsdale 23.38 5 P **P 23 39 23.5 -0.5**
baz=187,SNR=8.7
L56A Greenwood 23.42 7 P **P 23 39 24.2 -0.3**
baz=189,SNR=6.3
L58A Harry Jones Me 23.57 10 P **P 23 39 25.5 -0.5**
baz=193
WVNY West Valley, N 23.59 5 P **P 23 39 24.9 -1.2**
M62A Hamden 23.63 16 P **P 23 39 26.2 -0.2**
baz=200,SNR=6.7
BINY Binghamton 23.70 10 P **P 23 39 26.9 -0.3**
baz=193,SNR=5.3
BINY S **S 23 43 48.0 +5.7**
baz=193
K54A Basiliko Farm, 23.78 5 P **P 23 39 27.0 -0.9**
baz=186,SNR=7.4
M63A Gales Ferry 23.82 17 P **P 23 39 27.2 -1.2**
baz=202
L60A Shokan 23.83 13 P **P 23 39 27.4 -1.1**
baz=197,SNR=5.6
L60A S **S 23 43 50.2 +5.9**
baz=197
L59A Walton 23.86 12 P **P 23 39 27.7 -1.0**
baz=195
L59A S **S 23 43 53.9 +9.1**
baz=195
L44A Lake County Fo 23.92 348 P **P 23 39 27.2 -2.1**
baz=164
K55A Perry 23.95 6 P **P 23 39 27.9 -1.7**
baz=188,SNR=5.9
K56A Middlesex 24.00 7 P **P 23 39 29.2 -0.9**
baz=189,SNR=6.9
AMTX Amarillo 24.13 316 P **P 23 39 30.0 -1.5**
baz=126
AMTX S **S 23 43 58.4 +9.0**
baz=126
AMTX Amarillo 24.13 316 P **P 23 39 29.7 -1.8**
AMTX IAmb IAmb 23 40 09.9
comp=Z,122nm,1.1s
K57A Scipio Center 24.14 9 P **P 23 39 30.6 -0.8**
baz=191,SNR=5.8
K57A S S 23 43 60.0 +11
baz=191
L42A Oliver, Polo 24.15 345 P **P 23 39 29.7 -1.8**
KSU1 Kansas State U 24.15 330 P **P 23 39 30.0 -1.5**
baz=142
KSU1 Kansas State U 24.15 330 P **P 23 39 30.1 -1.4**
KSU1 IAmb IAmb 23 39 47.8
comp=Z,60nm,0.7s
L61A Hillsdale 1, H 24.17 14 P **P 23 39 31.0 -0.7**
baz=198
L61A S **S 23 43 58.5 +8.8**
baz=198
M64A Tiverton 24.20 19 P **P 23 39 31.2 -0.7**
baz=204,SNR=8.1
M64A S **S 23 43 59.0 +8.9**
baz=204
K58A Earlville 24.30 10 P **P 23 39 31.8 -1.1**
baz=193
K58A S S 23 44 03.2 +11
baz=193
MSTX Muleshoe 24.36 312 P **P 23 39 32.0 -1.6**
baz=123
MSTX Muleshoe 24.36 312 P **P 23 39 31.8 -1.8**
L63A North Scituate 24.37 18 P **P 23 39 33.2 -0.3**
baz=203
L63A S **S 23 44 03.3 +10**
baz=203
M65A Busby, Falmout 24.39 20 P **P 23 39 32.6 -1.0**
baz=205
J54A Appleton 24.44 5 P **P 23 39 33.2 -0.9**
baz=186
K59A Cooperstown 24.46 11 P **P 23 39 33.6 -0.7**
baz=195,SNR=6.7
K59A S **S 23 44 04.5 +10**
baz=195
K60A Five Rivers En 24.50 13 P **P 23 39 33.6 -1.0**
baz=197
J55A Hilton 24.51 6 P **P 23 39 33.7 -1.0**
baz=188

L61B Northampton 24.63 15 P **P 23 39 34.5 -1.3**
baz=200
L61B S **S 23 44 06.0 +8.9**
baz=200
J56A Wolcott 24.63 8 P **P 23 39 34.8 -1.0**
baz=190,SNR=5.2
J56A Wolcott 24.63 8 P **P 23 39 34.5 -1.3**
J56A IAmb IAmb 23 39 59.9
comp=Z,59nm,1.1s
L64A Middleborough 24.66 19 P **P 23 39 35.2 -0.9**
baz=204
K61A Williamstown 24.69 14 P **P 23 39 36.5 +0.1**
baz=198,SNR=6.5
I51A Listowel 24.87 0 P **P 23 39 36.8 -1.3**
baz=181,SNR=8.0
J57A Williamstown 24.88 9 P **P 23 39 37.4 -0.6**
baz=192
K62A Royalston 24.94 16 P **P 23 39 38.2 -0.4**
baz=201
K62A Royalston 24.94 16 P **P 23 39 37.4 -1.3**
K62A IAmb IAmb 23 39 50.6
comp=Z,51nm,1.1s
J58A Remsen 24.95 10 P **P 23 39 37.1 -1.6**
baz=194,SNR=6.0
J58A S S 23 44 13.8 +12
baz=194
J58A Remsen 24.95 10 P **P 23 39 36.9 -1.8**
HRV Adam Dziewonsk 24.98 17 P **P 23 39 38.5 -0.4**
baz=202
SCIA State Center 25.12 339 P **P 23 39 39.9 -0.4**
baz=153
SCIA State Center 25.12 339 P **P 23 39 39.0 -1.3**
JFWS Jewell Farm 25.15 344 P **P 23 39 39.2 -1.4**
baz=160,SNR=7.7
K63A Dunstable 25.16 17 P **P 23 39 39.9 -0.6**
baz=202
K63A S S 23 44 20.9 +15
baz=202
J59A Piesco 25.19 12 P **P 23 39 40.4 -0.6**
baz=195,SNR=5.6
MNTX Cornudas Mount 25.19 305 P **P 23 39 39.6 -1.5**
baz=115
MNTX Cornudas Mount 25.19 305 P **P 23 39 39.3 -1.8**
J60A Lant Hill Farm 25.20 14 P **P 23 39 40.9 -0.1**
baz=198,SNR=8.4
ACCN Adirondack Com 25.28 13 P **P 23 39 41.4 -0.3**
ACCN IAmb IAmb 23 39 54.4
comp=Z,71nm,1.1s
I58A Old Forge 25.32 11 P **P 23 39 41.9 -0.2**
baz=194,SNR=8.7
I57A Carthage 25.45 9 P **P 23 39 42.9 -0.3**
baz=192,SNR=8.4
I57A S S 23 44 26.0 +16
baz=192
I55A Frankford 25.46 6 P **P 23 39 43.4 +0.1**
baz=188,SNR=7.8
J61A Chester 25.50 15 P **P 23 39 42.6 -1.1**
baz=200
CBKS Cedar Bluff 25.53 325 P **P 23 39 42.8 -1.3**
CBKS pmax pmax
comp=Z,76nm,1.0s
CBKS Cedar Bluff 25.53 325 P **P 23 39 43.4 -0.7**
baz=136
CBKS Cedar Bluff 25.53 325 P **P 23 39 42.8 -1.3**
CBKS IAmb IAmb 23 40 12.1
comp=Z,76nm,1.0s
J62A Henniker 25.58 16 P **P 23 39 44.9 +0.5**
baz=201,SNR=8.3
I59A Olmsteadville 25.63 12 P **P 23 39 45.3 +0.4**
baz=196,SNR=8.1
H53A Bobcaygeon 25.74 4 P **P 23 39 45.9 +0.1**
baz=186,SNR=6.1
I60A Shoreham 25.80 13 P **P 23 39 46.6 +0.2**
baz=198,SNR=8.5
J63A Strafford 25.83 17 P **P 23 39 46.2 -0.4**
baz=203
H55A Tweed 25.85 7 P **P 23 39 46.9 +0.1**
baz=189
SADO Sadowa 25.90 4 P **P 23 39 49.4 +2.1**
comp=Z,24nm,1.1s,baz=193,slow=9.5,SNR=11
SADO LR LR 23 49 29.5
comp=Z,3μm,18.8s,baz=196,slow=35
SADO Sadowa 25.90 4 P **P 23 39 46.6 -0.7**
SADO IAmb IAmb 23 40 00.5
comp=Z,65nm,0.9s
ATAH Atahualpa 25.98 173 P **P 23 39 50.7 +1.9**
comp=Z,26nm,1.1s,baz=355,slow=6.2,SNR=12
ATAH LR LR 23 50 34.6
comp=Z,2μm,20.9s,baz=9.1,slow=38
H56A Elgin 26.00 8 P **P 23 39 48.6 +0.4**
baz=191
H57A Richville 26.00 10 P **P 23 39 48.2 0.0**
baz=193,SNR=9.2
I61A Oroboro, Fairl 26.14 15 P **P 23 39 48.9 -0.5**
baz=200
H58A Gabriels 26.17 12 P **P 23 39 50.2 +0.3**
baz=195
LONY Lake Ozonia 26.29 11 P **P 23 39 50.6 -0.3**
baz=194
I62A Tamworth 26.31 16 P **P 23 39 50.1 -0.9**
baz=202
PLVO Plevna 26.34 7 P **P 23 39 50.4 -1.0**
H59A Cadyville 26.48 12 P **P 23 39 52.7 0.0**
baz=196
LBNH Lisbon 26.50 15 P **P 23 39 53.1 +0.4**
baz=200
G55A Calabogie 26.59 7 P **P 23 39 54.1 +0.5**
baz=190
G54A Lake Saint Pet 26.60 5 P **P 23 39 53.8 +0.1**
baz=187
H60A Morristown 26.62 14 P **P 23 39 54.2 +0.3**
baz=198,SNR=7.3
G57A Newington 26.69 10 P **P 23 39 54.8 +0.3**
baz=193
BGNE Belgrade 26.70 331 P **P 23 39 53.2 -1.4**
baz=142
BGNE Belgrade 26.70 331 P **P 23 39 52.7 -1.9**
H61A Lyndonville 26.77 15 P **P 23 39 55.2 0.0**
baz=200
ORIO Orleans, Innes 26.95 9 P **P 23 39 56.6 -0.1**
baz=192
G59A Clarenceville 27.01 13 P **P 23 39 56.8 -0.5**
baz=197
SLBS Sierra La Lagu 27.11 285 P **P 23 39 57.0 -1.5**
SLBS IAmb IAmb 23 40 20.8
comp=Z,79nm,1.1s
ALGO Algonquin Park 27.15 5 P **P 23 39 57.9 -0.7**
baz=187
G60A Masonville 27.21 14 P **P 23 39 58.9 -0.2**
baz=199
T25A Trinidad 27.24 317 P **P 23 39 59.0 -0.8**
baz=126,SNR=15
T25A Trinidad 27.24 317 P **P 23 39 58.1 -1.7**
KSCO Kaye Shedlock' 27.30 322 P **P 23 39 59.4 -0.8**
baz=131
121A Cookes Peak, D 27.39 305 P **P 23 40 00.5 -0.7**
baz=113
121A Cookes Peak, D 27.39 305 P **P 23 39 59.3 -1.9**
ANMO Albuquerque 27.47 311 P **P 23 40 02.0 +0.2**
comp=Z,0.1nm,0.7s,baz=312,slow=9.5,SNR=3.6
ANMO Albuquerque 27.47 311 *ce*P **P 23 39 59.9 -1.9**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 27.47 311 P **P 23 40 01.2 -0.6**
baz=119
ANMO Albuquerque 27.47 311 P **P 23 40 00.4 -1.4**
LPIG La Paz 27.48 286 LR LR 23 52 19.2
comp=Z,1μm,19.9s,baz=105,slow=40
E47A Iron Bridge 27.57 357 P **P 23 40 02.3 -0.1**
baz=176
G61A St-Isidore-de- 27.57 15 P **P 23 40 02.4 0.0**
baz=200
E53A Dumoine, Ponti 27.61 5 P **P 23 40 02.5 -0.2**
baz=188
E54A Lac Daplat, Po 27.71 6 P **P 23 40 03.5 -0.1**
baz=188
CZSB Cruzeiro do Su 27.74 161 *e*P **P 23 40 06.1 +1.9**
G62A West of Eustis 27.77 16 P **P 23 40 04.4 +0.2**
baz=202
G63A Kingsbury 27.93 18 P **P 23 40 05.8 +0.2**
baz=204
K31A O'Neill 27.93 332 P **P 23 40 02.8 -2.9**
ECSD EROS Data Cent 27.95 336 P **P 23 40 04.6 -1.2**
baz=148,SNR=18
ECSD EROS Data Cent 27.95 336 P **P 23 40 03.5 -2.3**
ECSD IAmb IAmb 23 40 28.9
comp=Z,54nm,1.1s

D46A	Sault St. Mari	28.05	356	P	P	23 40 06.7	0.0
	baz=174						
E57A	Chemin Saint G	28.10	11	P	P	23 40 07.4	+0.2
	baz=194						
F60A	Warwick	28.12	14	P	P	23 40 07.9	+0.6
	baz=199						
D47A	Chapleau	28.16	357	P	P	23 40 07.3	-0.3
	baz=176						
E58A	La Victoria	28.23	12	P	P	23 40 08.3	+0.1
	baz=196						
OGNE	Ogallala	28.29	326	P	P	23 40 08.7	-0.2
	baz=135						
SDCO	Great Sand Dun	28.30	317	P	P	23 40 08.6	-0.8
	baz=125,SNR=18						
SDCO				S	S	23 45 04.0	+8.1
	baz=125						
SDCO	Great Sand Dun	28.30	317	P	P	23 40 07.8	-1.5
SDCO				IAmb	IAmb	23 40 37.9	
	comp=Z,89nm,1.7s						
F61A	St Evariste	28.35	15	P	P	23 40 09.7	+0.4
	baz=201						
D54A	Lac Fusel, La	28.47	7	P	P	23 40 11.0	+0.6
	baz=189						
D55A	Sainte-Anne-du	28.49	8	P	P	23 40 11.0	+0.4
	baz=192,SNR=6.9						
PTGA	Pitinga	28.59	131	P	P	23 40 13.4	+1.6
	comp=Z,11nm,0.9s,baz=318,slow=9.8,SNR=17						
PTGA				LR	LR	23 53 12.8	
	comp=Z,1µm,19.1s,baz=330,slow=40						
PTGA	Pitinga	28.59	131	P	P	23 40 11.3	-0.5
PTGA				IAmb	IAmb	23 40 21.9	
	comp=Z,43nm,0.8s						
PTGA	Pitinga	28.59	131	eP	P	23 40 13.0	+1.2
D56A	ZEC Mazanza, M	28.62	9	P	P	23 40 12.0	+0.3
	baz=193,SNR=6.5						
D57A	Chemin Vers le	28.73	11	P	P	23 40 13.2	+0.5
	baz=195						
HSIG		28.86	296	P	P	23 40 12.4	-1.7
S22A	4UR Ranch, Cre	29.17	315	P	P	23 40 17.1	0.0
	baz=123						
S22A	4UR Ranch, Cre	29.17	315	P	P	23 40 15.6	-1.5
S22A				IAmb	IAmb	23 40 37.1	
	comp=Z,58nm,1.4s						
E62A	Clayton Lake	29.33	17	P	P	23 40 19.0	+0.9
	baz=203						
ISCO	Idaho Springs	29.59	320	P	P	23 40 19.6	-1.2
	baz=128,SNR=5.7						
MACA	Manacapuru-AM	29.83	135	eP	P	23 40 23.2	+0.4
EYMN	Ely	30.18	346	P	P	23 40 25.7	+0.1
	baz=161						
PV03	Paradox Valley	30.79	315	P	P	23 40 29.4	-1.9
PV03				IAmb	IAmb	23 40 54.7	
	comp=Z,30nm,1.1s						
MATQ	Matagami	30.97	5	P	P	23 40 32.6	+0.2
	baz=187						
MDP	Montagnes des	31.11	112	P	P	23 40 34.7	+0.5
	comp=Z,14nm,1.2s,baz=309,slow=8.8,SNR=4.0						
WUAZ	Wupatki	31.32	308	P	P	23 40 35.4	-0.6
	baz=114						
WUAZ	Wupatki	31.32	308	P	P	23 40 34.6	-1.4
WUAZ				IAmb	IAmb	23 40 56.3	
	comp=Z,61nm,1.4s						
O20A	White River Ci	31.41	318	P	P	23 40 35.2	-1.6
O20A				IAmb	IAmb	23 41 03.5	
	comp=Z,38nm,1.3s						
RSSD	Black Hills	31.59	328	P	P	23 40 36.8	-1.5
RSSD				pmax	pmax		
	comp=Z,28nm,1.2s						
RSSD	Black Hills	31.59	328	P	P	23 40 37.7	-0.6
	baz=136						
RSSD	Black Hills	31.59	328	P	P	23 40 36.8	-1.5
RSSD				IAmb	IAmb	23 40 55.2	
	comp=Z,28nm,1.1s						
ETMB	Extrema	32.14	151	eP	P	23 40 43.2	+0.1
SRU	San Rafael Swe	32.35	315	P	P	23 40 43.8	-1.3
SRU				pmax	pmax		
	comp=Z,54nm,1.1s						
SRU	San Rafael Swe	32.35	315	P	P	23 40 43.8	-1.3
SAML	Samuel	32.90	146	P	P	23 40 48.9	-0.9
SAML				pmax	pmax		
	comp=Z,78nm,1.1s						
SAML	Samuel	32.90	146	P	P	23 40 48.9	-0.9
SAML	Samuel	32.90	146	eP	P	23 40 50.0	+0.3
KNB	Kanab	33.00	310	P	P	23 40 49.0	-1.8
KNB				pmax	pmax		
	comp=Z,47nm,1.3s						
KNB	Kanab	33.00	310	P	P	23 40 49.0	-1.8
ULM	Lac du Bonnet	33.42	343	P	P	23 40 53.3	-0.7
	comp=Z,3.5nm,0.7s,baz=154,slow=12,SNR=2.2						
ULM				LR	LR	23 53 53.4	
	comp=Z,2µm,19.5s,baz=158,slow=35						
MALB	Monte Alegre	33.61	125	eP	P	23 40 56.8	+0.8
IRM	Iron Mountain	33.73	304	P	P	23 40 56.0	-0.9
	baz=108						
PD31	Pinedale Array	33.74	321	P	P	23 40 55.3	-1.9
PD31				IAmb	IAmb	23 41 22.5	
	comp=Z,28nm,1.1s						
PDAR	Pinedale Array	33.74	321	P	P	23 40 56.5	-0.7
	comp=Z,6.7nm,0.9s,baz=130,slow=10.0,SNR=17						
PDAR				PcP	PcP	23 43 37.4	+0.7
	comp=Z,2.8nm,1.0s,baz=140,slow=4.4,SNR=2.3						
PDAR				LR	LR	23 56 53.7	
	comp=Z,480nm,18.4s,baz=137,slow=40						
PDAR	Pinedale Array	33.74	321	P	P	23 40 56.0	-1.2
ITTB	Itaituba	34.15	130	eP	P	23 41 00.7	0.0
DUG	Dugway, Tooele	34.43	315	P	P	23 41 02.6	-0.5
	baz=119						
MCPB	Macapa, AP	34.48	120	eP	P	23 41 03.5	-0.1
SNOW	Snow King Moun	34.86	321	P	P	23 41 04.6	-2.3
DGMT	Dagmar	34.88	333	P	P	23 41 07.0	+0.2
	baz=140						
RLMT	Red Lodge	35.02	325	P	P	23 41 07.8	-0.4
	baz=129						
TPNV	Topopah Spring	35.51	308	P	P	23 41 11.0	-1.5
TPNV				pmax	pmax		
	comp=Z,30nm,1.2s						
TPNV	Topopah Spring	35.51	308	P	P	23 41 11.3	-1.2
	baz=111						
TPNV	Topopah Spring	35.51	308	P	P	23 41 11.0	-1.5
R11A	Troy Canyon, C	35.55	310	P	P	23 41 12.0	-0.8
	baz=114						
FURC	Furnace Creek,	35.80	307	P	P	23 41 14.3	-0.5
	baz=110						
NPGB	Novo Progresso	36.28	133	eP	P	23 41 19.0	-0.1
BOZ	Bozeman (W)	36.62	324	P	P	23 41 20.2	-1.7
BOZ				pmax	pmax		
	comp=Z,47nm,1.4s						
BOZ	Bozeman (W)	36.62	324	P	P	23 41 21.3	-0.6
	baz=127,SNR=16						
BOZ	Bozeman (W)	36.62	324	P	P	23 41 20.2	-1.7
BOZ				IAmb	IAmb	23 41 43.0	
	comp=Z,47nm,1.4s						
ISA	Isabella, Lake	36.79	305	P	P	23 41 23.5	+0.1
	baz=107						
HLID	Hailey	37.14	319	P	P	23 41 24.9	-1.5
	baz=121,SNR=18						
EGMT	Eagleton	37.16	328	P	P	23 41 26.0	-0.3
	baz=132						
EGMT	Eagleton	37.16	328	P	P	23 41 25.6	-0.8
EGMT				IAmb	IAmb	23 41 50.3	
	comp=Z,36nm,0.9s						
LPAZ	La Paz	37.25	159	P	P	23 41 26.8	-1.2
	comp=Z,2.2nm,1.0s,baz=5.7,slow=10,SNR=6.0						
LPAZ				LR	LR	23 59 17.1	
	comp=Z,893nm,18.6s,baz=326,slow=40						
LPAZ	La Paz	37.25	159	P	P	23 41 26.3	-1.7
LPAZ				pmax	pmax		
	comp=Z,91nm,1.9s						
LPAZ	La Paz	37.25	159	P	P	23 41 26.3	-1.7
LPAZ				IAmb	IAmb	23 41 37.3	
	comp=Z,91nm,1.9s						
LPAZ	La Paz	37.25	159	eP	P	23 41 28.1	+0.1
VES	Vestal, Richgr	37.32	305	P	P	23 41 27.4	-0.4
	baz=107						
NV11	Mina Array Sit	37.45	309	P	P	23 41 28.1	-0.9
NVAR	Mina Array Bea	37.56	309	P	P	23 41 30.6	+0.5
	comp=Z,1.0nm,0.7s,baz=116,slow=9.2,SNR=6.9						
NVAR				PcP	PcP	23 43 49.6	+1.6
	comp=Z,1.1nm,0.7s,baz=120,slow=3.6,SNR=2.3						
NVAR	Mina Array Bea	37.56	309	P	P	23 41 28.6	-1.5
SCHQ	Schefferville	37.57	14	P	P	23 41 30.6	+0.9
	comp=Z,16nm,0.7s,baz=183,slow=5.9,SNR=10						
SCHQ				LR	LR	23 57 12.2	
	comp=Z,2µm,20.4s,baz=208,slow=37						
VILB	Vilhena	37.83	145	eP	P	23 41 32.9	+0.7
MDPB	Devils Postpil	37.86	308	P	P	23 41 30.2	-2.5
MSO	Missoula	38.65	324	P	P	23 41 38.2	-0.7
	baz=125						
MSO	Missoula	38.65	324	P	P	23 41 37.6	-1.4
PB16	IPOC Station P	38.73	162	P	P	23 41 39.0	-1.4
PB12	IPOC Station P	38.76	163	P	P	23 41 39.2	-0.9
PB12				IAmb	IAmb	23 41 49.8	
	comp=Z,75nm,0.9s						
CLDB	Colider	38.79	138	eP	P	23 41 40.2	-0.2
TMAB	Tom-Au,PA,Br	38.87	119	eP	P	23 41 42.2	+1.2
MNMC	Minye Minye	39.46	162	P	P	23 41 45.0	-1.2
BMO	Blue Mountains	39.59	319	P	P	23 41 45.0	-1.9
BMO				pmax	pmax		
	comp=Z,61nm,1.6s						
BMO	Blue Mountains	39.59	319	P	P	23 41 45.0	-1.9
PSGCX	Pisagua	39.76	163	P	P	23 41 47.2	-1.2
PRPB	Parauapebas	39.76	126	eP	P	23 41 49.6	+1.1
SIV	San Ignacio	39.94	149	P	P	23 41 49.0	-0.9
	comp=Z,22nm,0.9s,baz=338,slow=8.0,SNR=34						
PB11	IPOC Station P	40.04	163	P	P	23 41 50.0	-0.8
GO01	Chusmiza	40.08	162	P	P	23 41 50.8	-0.8
ORV	Oroville	40.28	309	P	P	23 41 51.5	-1.1
ORV				pmax	pmax		
	comp=Z,62nm,1.8s						
ORV	Oroville	40.28	309	P	P	23 41 51.5	-1.1
PB08	IPOC Station P	40.54	162	P	P	23 41 54.2	-1.1
G08A	Pilot Rock	40.83	319	P	P	23 41 56.3	-0.9
G08A				IAmb	IAmb	23 42 24.8	
	comp=Z,66nm,1.6s						
PATCX	Punta Patache	40.91	164	P	P	23 41 56.7	-1.3
PATCX				IAmb	IAmb	23 42 08.4	
	comp=Z,70nm,1.0s						
E09A	Wood Farm, Sta	40.92	321	P	P	23 41 56.7	-1.1
NEW	Newport	41.23	324	P	P	23 41 59.5	-0.9
	comp=Z,7.9nm,0.9s,baz=122,slow=12,SNR=10						
NEW	Newport	41.23	324	P	P	23 41 58.8	-1.6
NEW				pmax	pmax		
	comp=Z,43nm,1.3s						
NEW	Newport	41.23	324	P	P	23 41 59.7	-0.7
	baz=123						
NEW	Newport	41.23	324	P	P	23 41 58.8	-1.6
PB01	IPOC Station P	41.30	163	P	P	23 42 01.2	0.0
PB01				IAmb	IAmb	23 42 11.5	
	comp=Z,117nm,1.4s						
J05D	Fort Rock, OR	41.44	315	P	P	23 42 01.4	-0.9
	baz=113						
PB07	IPOC Station P	41.85	164	P	P	23 42 04.7	-1.1
PB07				IAmb	IAmb	23 42 16.0	
	comp=Z,85nm,1.0s						
ROSB	Rosrio	42.47	117	eP	P	23 42 12.3	+1.4
B08A	Colville Reser	42.54	323	P	P	23 42 09.8	-1.3
B08A				IAmb	IAmb	23 42 34.6	
	comp=Z,46nm,1.1s						
LVC	Limon Verde	42.95	163	P	P	23 42 16.8	+1.9
	comp=Z,13nm,1.1s,baz=300,slow=6.6,SNR=5.8						
LVC	Limon Verde	42.95	163	eP	P	23 42 15.7	+0.7
LVC	Limon Verde	42.95	163	P	P	23 42 14.7	-0.3
LVC	Limon Verde	42.95	163	eP	P	23 42 16.9	+1.9
I03D	Drain, OR	43.02	315	P	P	23 42 14.8	-0.2
	baz=112						
SMTB	Santa Maria do	43.16	127	eP	P	23 42 17.0	+0.6
D05A	Enumclaw	43.56	320	P	P	23 42 18.5	-0.8
D05A				IAmb	IAmb	23 42 52.3	
	comp=Z,68nm,1.2s						
PB14	IPOC Station P	44.50	166	P	P	23 42 25.9	-1.4
PB14				IAmb	IAmb	23 42 50.2	
	comp=Z,62nm,1.3s						
PEXB	Peixe	44.77	131	eP	P	23 42 30.5	+1.1
ARAG	Araguaiana, MT	44.96	138	eP	P	23 42 32.1	+1.3
NBMO	Morrinhos-CE	46.18	114	eP	P	23 42 41.7	+1.2
AC02	Maricunga	46.93	165	P	P	23 42 45.6	-1.2
AC02				IAmb	IAmb	23 43 04.5	
	comp=Z,26nm,0.9s						
GO03	Copiap	47.40	167	P	P	23 42 49.7	-0.3
GO03				IAmb	IAmb	23 43 09.2	
	comp=Z,29nm,0.8s						
BDFB	Brasilia	47.41	134	P	P	23 42 51.3	+1.0
	comp=Z,14nm,1.1s,baz=311,slow=13,SNR=6.9						
BDFB				LR	LR	00 04 39.2	
	comp=Z,936nm,18.1s,baz=313,slow=38						
BDFB	Brasilia	47.41	134	P	P	23 42 49.4	-0.9
BDFB				pmax	pmax		
	comp=Z,54nm,1.2s						
BDFB	Brasilia	47.41	134	P	P	23 42 49.4	-0.9
SDBA	SAO DESIDERIO	47.45	128	eP	P	23 42 50.9	+0.4
IVI	Ivigtut	48.31	21	P	P	23 42 55.8	-0.7
LCO	Las Campanas	48.67	168	eP	P	23 42 59.7	-0.3
LCO	Las Campanas	48.67	168	P	P	23 42 58.7	-1.3
LCO				IAmb	IAmb	23 44 35.0	
	comp=Z,22nm,0.8s						
ITRB	Iturama	48.88	140	eP	P	23 43 03.2	+1.7
IPMB	Ipameri, GO	48.95	136	eP	P	23 43 04.4	+2.3
YKA	Yellowknife Ar	49.31	340	P	P	23 43 03.6	-0.6
	comp=Z,4.4nm,0.8s,baz=132,slow=7.7,SNR=12						
YKA				LR	LR	00 03 28.9	
	comp=Z,923nm,20.3s,baz=0.0,slow=36						
JANB	Januaria	49.61	130	eP	P	23 43 07.8	+0.6
CO01	Juntas del Tor	49.74	167	P	P	23 43 07.6	-0.5
CO01				IAmb	IAmb	23 43 46.8	
	comp=Z,29nm,1.5s						
PCMB	Pacaembu	49.81	142	eP	P	23 43 10.9	+2.4
TRCB	Terra Rica	49.98	145	eP	P	23 43 11.7	+1.8
CO03	El Pedregal	50.45	168	P	P	23 43 12.2	-1.1
CO03				IAmb	IAmb	23 43 30.4	
	comp=Z,29nm,1.1s						
CPUP	Villa Florida	50.59	152	P	P	23 43 14.6	+0.3
	comp=Z,4.9nm,0.8s,baz=303,slow=8.6,SNR=3.1						
CPUP				LR	LR	00 06 50.9	
	comp=Z,527nm,18.6s,baz=336,slow=39						
CPUP	Villa Florida	50.59	152	P	P	23 43 13.4	-0.9
CPUP				pmax	pmax		
	comp=Z,13nm,1.1s						
CPUP	Villa Florida	50.59	152	P	P	23 43 13.4	-0.9
CPUP	Villa Florida	50.59	152	eP	P	23 43 16.3	+2.0
CO02	Combarbal	50.75	169	P	P	23 43 14.8	-0.7
CO02				IAmb	IAmb	23 43 23.9	
	comp=Z,40nm,1.2s						
MC01	Montes Claros	50.98	132	eP	P	23 43 17.5	+0.1
RCBR	Riachuelo	51.00	114	P	P	23 43 18.4	+0.6
	comp=Z,21nm,0.8s,baz=287,slow=8.7,SNR=5.6						
RCBR	Riachuelo	51.00	114	P	P	23 43 17.5	-0.2
RCBR				pmax	pmax		
	comp=Z,61nm,0.9s						
RCBR	Riachuelo	51.00	114	P	P	23 43 17.5	-0.2
RCBR	Riachuelo	51.00	114	eP	P	23 43 19.8	+2.0
BB19B	Bebedouro	51.03	139	eP	P	23 43 19.6	+1.8
PTGB	Pitanga	51.83	146	eP	P	23 43 26.7	+2.9
SFJD	Kangerlussuaq	52.01	15	P	P	23 43 24.5	+0.1
	comp=Z,5.9nm,0.8s,baz=189,slow=8.2,SNR=2.1						
SFJD	Kangerlussuaq	52.01	15	i P	P	23 43 24.9	+0.5
SFJD				i		23 43 33.4	
SFJD	Kangerlussuaq	52.01	15	i P	P	23 43 24.9	+0.5
SFJD				i		23 43 33.4	
SFJD	Kangerlussuaq	52.01	15	P	P	23 43 24.2	-0.2
SFJD				IAmb	IAmb	23 43 41.2	
	comp=Z,54nm,1.2s						
GDU01	Guandu, BA	52.32	125	eP	P	23 43 27.8	+0.3
ROC1	El Roble	52.47	169	P	P	23 43 26.7	-1.9
BSCB	Bom Sucesso	53.37	136	eP	P	23 43 38.0	+2.8
VAO	Valinhos	53.43	140	eP	P	23 43 37.4	+1.7
SPB	Sao Paulo	53.59	141	eP	P	23 43 40.5	+3.8
ITAB	Concordia	53.84	147	eP	P	23 43 41.1	+2.7
TIJ01	Guaruva-PR	53.99	143	eP	P	23 43 42.9	+3.1
PET01	Itanhaem-SP	54.21	141	eP	P	23 43 44.0	+2.7
SJMB	Sao Joao De Ma	54.26	131	eP	P	23 43 44.6	+2.9
PARB	Paraibuna	54.51	139	eP	P	23 43 45.8	+2.2
BSFB	Barra de Sao F	54.58	131	eP	P	23 43 44.7	+0.7
VAS01	Vassouras-RJ	55.14	136	eP	P	23 43 49.9	+1.8
MAN01	Angra dos Reis	55.22	137	eP	P	23 43 51.8	+3.1
RIB01	Linhares ES	55.22	131	eP	P	23 43 49.0	+0.3
BI02	San Fabin de	56.02	170	P	P	23 43 53.8	-0.5
BI02				IAmb	IAmb	23 44 10.2	
	comp=Z,25nm,1.2s						
CNLB	Canela	56.18	148	eP	P	23 43 58.5	+3.0
RES	Resolute Bay	56.34	356	P	P	23 43 55.8	-0.1
	comp=Z,8.0nm,0.8s,baz=170,slow=11,SNR=4.6						
RES	Resolute Bay	56.34	356	P	P	23 43 55.2	-0.7
RES				pmax	pmax		
	comp=Z,23nm,0.9s						
RES	Resolute Bay	56.34	356	P	P	23 43 55.2	-0.7
RES				IAmb	IAmb	23 44 18.6	
	comp=Z,23nm,0.9s						
LC01	Cunco	58.12	171	P	P	23 44 08.5	-0.5
LC01				IAmb	IAmb	23 44 44.3	
	comp=Z,56nm,1.6s						
PMOZ	Porto Moniz, M	58.55	63	A	A	00 03 39.1	
	comp=Z,466nm,19.8s						
SUMG	Summit	58.96	14	i P	P	23 44 14.9	0.0
SUMG				i		23 44 24.0	
SUMG	Summit	58.96	14	i P	P	23 44 14.9	0.0
SUMG				i		23 44 24.0	
SUMG	Summit	58.96	14	P	P	23 44 13.5	-1.5
INK	Inuvik	59.08	340	P	P	23 44 16.2	+0.9
	comp=Z,8.2nm,0.9s,baz=102,slow=9.5,SNR=4.8						
EPYK	Eagle Plains	59.30	337	P	P	23 44 15.7	-1.3
	baz=115,SNR=5.9						
BCAR	Beaver Creek A	60.10	333	P	P	23 44 21.7	-0.9
PLCA	Paso Flores	60.12	171	P	P	23 44 23.7	+0.8
	comp=Z,3.0nm,0.8s,baz=354,slow=8.1,SNR=6.6						
PLCA	Paso Flores	60.12	171	eP	P	23 44 23.1	+0.2
PLCA	Paso Flores	60.12	171	P	P	23 44 21.9	-1.0
PLCA				IAmb	IAmb	23 44 32.0	
	comp=Z,16nm,0.9s						
PLCA	Paso Flores	60.12	171	eP	P	23 44 26.9	+4.0
BORG	Borgarnes	60.42	25	LR	LR	00 10 18.6	
	comp=Z,561nm,18.3s,baz=253,slow=36						
RIDG	Independent Ri	61.62	333	P	P	23 44 32.5	-0.3
FID	Port Fidalgo	61.64	330	P	P	23 44 32.1	-0.9
M24K	Tolsona, Glenn	61.80	331	P	P	23 44 31.9	-2.2
	baz=103,SNR=5.8						
BMAR	Burnt Mountain	62.57	337	P	P	23 44 37.8	-1.4
HDA	Harding Lake	62.68	334	P	P	23 44 39.2	-0.8
	baz=104,SNR=6.0						
IL31		62.74	334	P	P	23 44 39.4	-0.9
ILAR	Eielson Array	62.74	334	P	P	23 44 40.1	-0.2
	comp=Z,1.5nm,0.7s,baz=112,slow=4.3,SNR=15						
ILAR				LR	LR	00 12 54.5	
	comp=Z,776nm,18.2s,baz=106,slow=37						
ILAR	Eielson Array	62.74	334	P	P	23 44 39.5	-0.8
ILAR	Eielson Array	62.74	334	P	P	23 44 39.5	-0.8
COLA	College	63.17	334	i P	P	23 44 43.4	+0.3
TRF	Thorofare Moun	63.93	332	P	P	23 44 47.2	-1.2
BPAW	Bear Paw Mtn.	64.35	333	P	P	23 44 50.1	-0.9
COLD	Coldfoot	64.62	336	P	P	23 44 51.6	-1.1
	baz=102,SNR=5.4						
PPLA	Purkeypile	64.69	331	P	P	23 44 53.1	-0.2
PFVI	Vila Bisbo	65.09	57	eP	P	23 44 58.6	+2.4
	comp=Z,59nm,1.6s						
PCAS	Casmilo, Conde	65.10	54	eP	P	23 44 58.5	+2.2
	comp=Z,72nm,1.4s						
PTEO	Sao Teotonio	65.13	57	eP	P	23 44 59.0	+2.5
PTEO				eLQ	LQ	23 45 06.4	
PGAV	Gavieira, Arco	65.15	52	eP	P	23 44 58.4	+1.7
PGAV				eLQ	LQ	23 45 05.9	
PGAV	Gavieira, Arco	65.15	52	eLQ	LQ	00 01 13.3	
PGAV				eLR	LR	00 03 01.8	
	comp=Z,795nm,20.1s						
MORF	Marmelete	65.21	57	eP	P	23 44 58.7	+1.5
MORF				AMb	AMB	23 45 09.1	
	comp=Z,77nm,1.8s						
MORF	Marmelete	65.21	57	eP	P	23 44 58.6	+1.5
MORF				pmax	pmax		
	comp=Z,77nm,1.8s						
MORF	Marmelete	65.21	57	eP	P	23 44 59.6	+2.5
	comp=Z,80nm,1.6s						
MORF				eLQ	LQ	23 45 06.9	
PNCL	Nicolau / Gran	65.24	56	eP	P	23 44 59.3	+2.1
	comp=Z,47nm,0.9s						
PNCL				eLQ	LQ	23 45 06.8	
PCAB	Cabril	65.34	52	eP	P	23 44 59.7	+1.8
PCAB				eLQ	LQ	23 45 07.1	
PVIS	Viseu	65.51	53	eP	P	23 45 00.8	+1.8
	comp=Z,58nm,1.9s						
PVIS				eLQ	LQ	23 45 08.3	
EVO	Evora	65.60	56	eP	P	23 45 01.3	+1.7
	comp=Z,72nm,1.1s						
EVO				eLQ	LQ	23 45 09.0	
PVRL	Vila Real	65.61	53	eP	P	23 45 01.4	+1.8
	comp=Z,43nm,1.1s						
PVRL				eLQ	LQ	23 45 08.8	
PBDV	Barranco-do-Ve	65.79	57	eLQ	LQ	23 45 09.9	
PBDV				A	A	23 45 13.1	
	comp=Z,95nm,1.3s						
IMAR	Indian Mountai	65.80	335	P	P	23 44 59.0	-1.3
MTE	Manteigas	65.80	53	P	P	23 45 01.1	+0.1
MTE	Manteigas	65.80	53	eP	P	23 45 02.2	+1.3
	comp=Z,78nm,1.4s						
MTE				eLQ	LQ	23 45 10.1	
MTE	Manteigas	65.80	53	eLQ	LQ	00 01 24.5	
MTE				eLR	LR	00 02 55.4	
	comp=Z,730nm,23.8s						
PCBR	Castelo Branco	65.90	54	eP	P	23 45 03.3	+1.9
	comp=Z,54nm,1.7s						
PCBR				eLQ	LQ	23 45 10.8	
PVAQ	Vaqueiros	65.94	57	eLQ	LQ	23 45 11.5	
PVAQ	Vaqueiros	65.94	57	eLR	LR	00 03 55.7	
	comp=Z,809nm,25.6s						
PMRV	Marv??o	66.00	55	eP	P	23 45 03.9	+1.7
	comp=Z,45nm,1.3s						
PMRV	Marv??o	66.00	55	eLQ	LQ	00 01 56.8	
PMRV				eLR	LR	00 03 49.2	
	comp=Z,531nm,16.4s						
SVW2	Sparrevohn	66.09	329	P	P	23 45 01.5	-0.8
SVW2				IAmb	IAmb	23 45 18.3	
	comp=Z,29nm,1.4s						
MVO	Moncorvo	66.13	53	eP	P	23 45 04.9	+1.9
	comp=Z,43nm,0.8s						
MVO				eLQ	LQ	23 45 12.3	
MVO	Moncorvo	66.13	53	eLQ	LQ	00 01 28.7	
MVO				eLR	LR	00 02 51.2	
	comp=Z,371nm,18.3s						
CLGH	Cloghs, Cushen	66.29	37	eP	P	23 45 04.4	+0.8
CLGH				IAmb	IAmb	23 45 09.4	
	comp=Z,32nm,1.2s						
PBRG	Braganca	66.30	52	eP	P	23 45 06.5	+2.5
	comp=Z,60nm,1.1s						
PBRG				eLQ	LQ	23 45 13.6	
TTA	Tatalina	66.43	331	P	P	23 45 03.5	-1.0
TTA				pmax	pmax		
	comp=Z,23nm,1.1s						
TTA	Tatalina	66.43	331	P	P	23 45 03.5	-1.0
TTA				IAmb	IAmb	23 45 21.4	
	comp=Z,23nm,1.1s						
LAWE	Loch Awe, Argy	66.71	36	eP	P	23 45 06.7	+0.4

comp=Z,1µm,16.8s
PAB San Pablo 68.33 54 P **P 23 45 16.5 -0.5**
PAB pmax pmax
comp=Z,51nm,1.2s
PAB San Pablo 68.33 54 P **P 23 45 16.5 -0.5**
ESDC Sonseca Array 68.61 54 P **P 23 45 20.8 +2.1**
comp=Z,13nm,0.8s,baz=286,slow=6.2,SNR=101
ESDC LR LR 00 09 08.8
comp=Z,574nm,22.0s,baz=280,slow=30
ESDC PKPPKP P'P'df 00 13 45.1 +7.2
comp=Z,1.1nm,1.1s,baz=33,slow=3.4,SNR=5.6
ESDC Sonseca Array 68.61 54 P **P 23 45 18.2 -0.5**
ESBB Sonseca Array 68.61 54 P **P 23 45 19.2 +0.5**
ZGR Zagora 68.68 64 P P 23 45 30.0 +11
SNR=5.4
CZD Col de Zad 68.69 61 P P 23 45 30.0 +10
SNR=5.6
STRD Stroud 68.73 41 *e*P **P 23 45 20.9 +1.8**
STRD IAMs_20 IAMs_20 00 11 08.5
comp=Z,1µm,17.2s
LBWR Ladybower, Pea 68.90 39 *e*P **P 23 45 21.6 +1.4**
LBWR IAmb IAmb 23 45 24.6
comp=Z,21nm,0.9s
MDT Midelt 69.08 61 LR LR 00 09 05.9
comp=Z,534nm,21.8s,baz=291,slow=30
MDT Midelt 69.08 61 P P 23 45 31.4 +10
SNR=6.1
CWF Charnwood Fore 69.19 40 *e*P **P 23 45 23.1 +1.1**
CWF IAMs_20 IAMs_20 00 08 20.6
comp=Z,807nm,23.5s
GDLE Glaisdale, N Y 69.37 38 *e*P **P 23 45 24.1 +1.1**
GDLE IAmb IAmb 23 45 27.0
comp=Z,44nm,0.9s
ARF Arif 69.64 63 P P 23 45 36.0 +11
SNR=5.8
ARF P P 23 45 36.0 +11
SNR=5.8
JBK JBK 70.51 59 P P 23 45 40.1 +9.3
SNR=6.7
CLF Chambon-Foret 71.97 45 P **P 23 45 38.6 -0.5**
KBS Kingsbay 72.25 12 *i* P **P 23 45 42.2 +2.0**
KBS pmax pmax
comp=Z,32nm,0.9s
SNF Seneffe 72.91 42 x pP 23 45 53.4 +7.1
UCC Uccle 72.91 41 pP **P 23 45 45.2 +0.7**
UCC x x 23 45 53.0
DOU Dourbes 73.17 42 pP **P 23 45 46.8 +0.7**
DOU x x 23 45 54.8
DOU PcP **PcP 23 46 00.3 -2.4**
BMRD Maredsous 73.24 42 pP **pP 23 45 47.5 -0.7**
BMRD x x 23 45 55.3
BMRD PcP **PcP 23 46 00.5 -2.6**
BGES Gesves 73.43 42 x x 23 45 56.7
BGES PcP **PcP 23 46 01.9 -1.9**
BSTI Sart Tilman 73.70 42 pP **pP 23 45 50.8 -0.2**
BSTI x x 23 45 58.4
BSTI PcP2 23 46 03.6
BEBN Eben Emael 73.73 41 x x 23 45 58.5
SSB Saint Sauveur 73.97 47 P **P 23 45 50.7 -0.4**
SSB pmax pmax
comp=Z,22nm,1.0s
SSB Saint Sauveur 73.97 47 P **P 23 45 50.6 -0.4**
SSB IAmb IAmb 23 46 01.1
comp=Z,22nm,1.0s
MEM Membach 73.97 41 pP **pP 23 45 52.0 -0.6**
MEM x x 23 45 59.5
BHOU Houvegnez 74.02 42 pP **pP 23 45 52.2 -0.6**
BHOU x x 23 46 00.2
BHOU PcP **PcP 23 46 05.5 -1.0**
WLF Walferdange 74.23 42 pP **P 23 45 52.7 +0.3**
WLF x x 23 46 01.7
WLF Walferdange 74.23 42 *e*P **PcP 23 46 02.0 -5.4**
comp=Z,44nm,1.0s,baz=284,slow=5.7
KONO Kongsberg 74.38 32 *i* P **P 23 45 54.0 +1.0**
KONO pmax pmax
comp=Z,21nm,1.8s
BUG Bochum--Univer 74.60 40 *e*P **PcP 23 46 03.7 -5.1**
comp=Z,41nm,1.1s,baz=284,slow=5.7
NC204 NORSAR Array S 74.64 30 P **P 23 45 53.8 -0.8**
AHRW Bad Neuenahr-A 74.66 41 *e*P **PcP 23 46 04.3 -4.8**
comp=Z,51nm,1.1s,baz=284,slow=5.7
IBBN Ibbenburen 74.73 40 *e*P **PcP 23 46 04.5 -4.9**
comp=Z,58nm,1.1s,baz=284,slow=5.7
NAO01 NORSAR Array S 74.78 30 P **P 23 45 54.7 -0.7**
NB2 NORSAR Subarra 74.90 30 P **P 23 45 57.5 +1.4**
comp=Z,75nm,1.7s,baz=282,slow=5.9
NB2 NORSAR Subarra 74.90 30 P **P 23 45 57.5 +1.4**
baz=282,slow=5.9
NOA NORSAR Array B 74.90 30 P **P 23 45 56.6 +0.5**
comp=Z,0.7nm,0.8s,baz=269,slow=5.4,SNR=9.2
NOA LR LR 00 16 20.3
comp=Z,505nm,19.7s,baz=270,slow=34
TIC Toumodi 74.92 88 *e*P **P 23 45 57.6 +0.6**
LIC Lamto 75.03 88 *e*P **P 23 45 58.5 +0.8**
comp=Z,179nm,1.8s
DBIC Dimbokro 75.06 88 P **P 23 45 58.4 +0.6**
comp=Z,15nm,1.1s,baz=268,slow=3.1,SNR=4.4
DBIC LR LR 00 15 23.4
comp=Z,172nm,20.7s,baz=272,slow=33
DBIC Dimbokro 75.06 88 P **P 23 45 57.7 -0.2**
DBIC pmax pmax
comp=Z,26nm,1.1s
DBIC Dimbokro 75.06 88 P **P 23 45 57.7 -0.2**
DBIC IAmb IAmb 23 46 06.7
comp=Z,26nm,1.1s
ECH Echery 75.17 44 P **P 23 45 57.1 -0.8**
ECH pmax pmax
comp=Z,28nm,1.0s
ECH Echery 75.17 44 P **P 23 45 57.1 -0.8**
ECH IAmb IAmb 23 46 07.7
comp=Z,28nm,1.0s
KIC Kosan Boka 75.27 88 *e*P **P 23 46 00.0 +1.0**
comp=Z,75nm,1.1s
BNI Bardonecchia 75.50 47 P **P 23 45 59.7 -0.3**
BNI Bardonecchia 75.50 47 P **P 23 45 59.7 -0.3**
TNS Taunus Mts 75.58 42 *e*P **PcP 23 46 09.5 -3.7**
comp=Z,38nm,1.2s,baz=284,slow=5.7
TNS *e*L L 00 14 39.4
comp=Z,752nm,20.1s
SENIN Lac Senin/Sane 75.64 46 P **P 23 46 01.0 +0.1**
BFO Black Forest 75.91 43 *e*P **PcP 23 46 10.7 -3.9**
comp=Z,15nm,1.0s,baz=284,slow=5.7
BFO *e*L L 00 17 42.1
comp=Z,828nm,18.2s
BSEG Bad Segeberg 75.91 38 *e*P **PcP 23 46 11.2 -3.3**
comp=Z,130nm,2.3s,baz=284,slow=5.7
BSEG *e*L L 00 16 23.3
comp=Z,382nm,20.6s
NRDL Niedersach Rie 76.11 39 *e*P **PcP 23 46 12.5 -2.8**
comp=Z,116nm,2.0s,baz=284,slow=5.7
GTTG Gottingen 76.23 40 *e*P **PcP 23 46 13.2 -2.6**
comp=Z,37nm,1.1s,baz=284,slow=5.7
PPT Papeete 76.24 246 LR LR 00 11 58.8
comp=Z,179nm,18.5s,baz=52,slow=30
PPT2 Papeete2 76.25 246 *e*LQ LQ 00 06 17.9
comp=Z,585nm,26.0s
PPT2 *e*LR LR 00 09 33.6
comp=Z,248nm,23.5s
HFS Hagfors 76.29 31 LR LR 00 15 29.9
comp=Z,485nm,21.5s,baz=279,slow=32
STU Stuttgart 76.37 43 *e*P **PcP 23 46 13.7 -2.9**
comp=Z,22nm,0.9s,baz=284,slow=5.7
CLZ Clausthal 76.41 40 *e*P **PcP 23 46 14.4 -2.4**
comp=Z,42nm,1.2s,baz=284,slow=5.7
UBBA Unterbreizbach 76.42 41 *e*P **PcP 23 46 14.0 -2.6**
comp=Z,40nm,1.6s,baz=284,slow=5.7
ASSE Asse, Remlinge 76.53 39 *e*P **PcP 23 46 14.9 -2.1**
comp=Z,39nm,1.1s,baz=284,slow=5.7
DAVA Damuels 77.16 44 *i* pP **P 23 46 09.8 +0.3**
comp=Z,4.7nm,0.8s
DAVA *i* PcP **PcP 23 46 18.7 -1.5**
comp=Z,14nm,0.9s,SNR=5.1
CTEI Djebel Teioual 77.34 56 P **PcP 23 46 20.3 -0.9**
NEUB Neuenburg 77.41 40 *e*P **PcP 23 46 19.9 -1.1**
comp=Z,48nm,1.1s,baz=284,slow=5.7
GRF Grafenberg Arr 77.44 42 *e*P **PcP 23 46 20.0 -1.2**
comp=Z,26nm,1.1s,baz=284,slow=5.7
GRF *e*L L 00 15 46.7
comp=Z,1µm,19.9s
MOX Moxa 77.45 41 *e*P **PcP 23 46 19.8 -1.4**
comp=Z,26nm,1.1s,baz=284,slow=5.7
MOX *e*L L 00 15 57.9
comp=Z,475nm,20.6s
CKFL Kef-Lekhel 77.50 56 P **PcP 23 46 20.7 -1.2**
FUORN Ofenpass-Fuorn 77.58 45 P **P 23 46 10.9 -1.0**
RETA Reutte 77.69 44 *i* pP **P 23 46 14.5 +2.1**
comp=Z,8.2nm,0.9s
RETA *i* PcP **PcP 23 46 21.1 -1.3**
comp=Z,36nm,0.9s,SNR=6.4
FETA Feichten 77.79 44 *i* pP **P 23 46 15.2 +2.2**
comp=Z,5.5nm,0.8s
FETA *i* PcP **PcP 23 46 22.4 -0.6**
comp=Z,23nm,0.9s,SNR=5.8
PLN Plauen 77.83 41 *e*P **PcP 23 46 22.1 -0.7**
comp=Z,28nm,1.0s,baz=284,slow=5.7
FUR Furstenfeldbru 77.86 43 *e*P **PcP 23 46 22.4 -0.7**
comp=Z,28nm,1.1s,baz=284,slow=5.7
FUR *e*L L 00 18 51.0
comp=Z,762nm,18.3s
MANZ Manzenberg 77.93 41 *e*P **PcP 23 46 22.8 -0.6**
comp=Z,18nm,1.1s,baz=284,slow=5.7
WERD Werda 77.93 41 *e*P **PcP 23 46 22.7 -0.7**
comp=Z,25nm,1.1s,baz=284,slow=5.7
MOTA Moosalm 77.95 44 *i* pP **P 23 46 15.9 +2.0**
comp=Z,7.3nm,0.9s
MOTA *i* PcP **PcP 23 46 23.1 -0.6**
comp=Z,30nm,1.0s,SNR=5.6
GUNZ Gunzen 77.97 41 *e*P **PcP 23 46 23.0 -0.5**
comp=Z,24nm,1.0s,baz=284,slow=5.7
CMAH Djebel Manchou 77.99 55 P **PcP 23 46 22.7 -1.2**
TANN Tannenbergstha 78.03 41 *e*P **PcP 23 46 23.3 -0.5**
comp=Z,63nm,1.1s,baz=284,slow=5.7
ROTZ Rotzenmuhle 78.04 41 *e*P **PcP 23 46 23.5 -0.3**
comp=Z,27nm,1.2s,baz=284,slow=5.7
SQTA Sankt Quirin 78.06 44 *i* PcP **PcP 23 46 24.1 0.0**
comp=Z,16nm,0.9s
NKC Novy Kostel 78.07 41 AMS AMS 00 17 30.0
comp=Z,500nm,17.3s
CLL Collm 78.13 40 *e*(P) **P 23 46 16.0 +1.4**
comp=Z,9.0nm,1.2s
CLL *i* PcP **PcP 23 46 23.5 -0.6**
comp=Z,29nm,1.1s
CLL *e*PP **PP 23 49 13.0 +2.3**
CLL *e*S **S 23 56 14.0 +5.0**
CLL *e*SSSS 00 07 00.0
CLL LmH 00 16 00.0
comp=N,300nm,20.0s
CLL LmH 00 16 00.0
comp=E,300nm,20.2s
CLL Collm 78.13 40 P **P 23 46 14.1 -0.5**
CLL pmax pmax
comp=Z,22nm,1.0s
CLL Collm 78.13 40 *e*P **PcP 23 46 23.6 -0.5**
comp=Z,29nm,1.1s,baz=284,slow=5.7
CLL *e*L L 00 22 08.2
comp=Z,427nm,18.0s
CLL Collm 78.13 40 P **P 23 46 14.1 -0.5**
CLL IAmb IAmb 23 46 24.9
comp=Z,22nm,1.0s
ARCES ARCESS Array B 78.20 20 P **P 23 46 15.3 +0.7**
comp=Z,5.5nm,0.6s,baz=281,slow=4.7,SNR=27
ARCES LR LR 00 21 40.2
comp=Z,326nm,18.3s,baz=330,slow=36
ARCES ARCESS Array B 78.20 20 P **P 23 46 14.8 +0.2**
ARCES ARCESS Array B 78.20 20 P **P 23 46 14.8 +0.2**
WATA Walderalm 78.27 44 *e*pP **P 23 46 17.0 +1.4**
comp=Z,4.3nm,1.1s
WATA *i* PcP **PcP 23 46 24.5 -0.5**
comp=Z,21nm,1.3s,SNR=5.5
VLC Villacollemand 78.28 47 P **P 23 46 15.0 -0.6**
WTTA Wattenberg 78.33 44 *i* P **P 23 46 15.0 -1.0**
comp=Z,4.5nm,1.1s
WTTA *i* PcP **PcP 23 46 25.6 +0.2**
comp=Z,19nm,1.4s
FBE Freiberg 78.45 40 *e*P **PcP 23 46 25.9 +0.3**
comp=Z,41nm,1.1s,baz=284,slow=5.7
WET Wettzell 78.63 42 *e*P **PcP 23 46 26.9 +0.5**
comp=Z,41nm,1.1s,baz=284,slow=5.7
WET *e*L L 00 15 04.7
comp=Z,847nm,21.9s
TBI Tubuai 78.64 240 *e*LQ LQ 00 07 27.5
comp=Z,564nm,31.2s
TBI *e*LR LR 00 10 38.3
comp=Z,209nm,32.2s
CTI Castel Tesino 78.65 45 P **P 23 46 17.7 0.0**
CTI pmax pmax
comp=Z,22nm,1.0s
CTI Castel Tesino 78.65 45 P **P 23 46 17.7 0.0**
CTI IAmb IAmb 23 46 26.9
comp=Z,22nm,1.0s
BRG Berggiesshubel 78.82 40 *e*P **P 23 46 20.3 +1.9**
comp=Z,32nm,2.0s
BRG *e* 23 46 27.4
comp=Z,33nm,1.2s
comp=Z,580nm,17.2s
comp=N,270nm,22.9s
comp=E,470nm,22.9s
BRG Berggiesshubel 78.82 40 *e*P **PcP 23 46 27.6 +0.5**
comp=E,33nm,1.2s,baz=284,slow=5.7
ABTA Abfaltersbach 79.04 44 *i* pP **P 23 46 22.0 +2.2**
comp=E,5.1nm,0.9s
ABTA *i* PcP **PcP 23 46 28.7 +0.4**
comp=E,27nm,1.0s,SNR=6.3
KHC Kasperske Hory 79.08 42 *e*P **P 23 46 22.0 +2.1**
KHC *e*PCP **PcP 23 46 29.4 +1.0**
KHC *e*S **S 23 56 24.5 +5.2**
KHC AMS AMS 00 16 20.0
comp=E,900nm,19.9s
KHC Kasperske Hory 79.08 42 *e*P **P 23 46 22.0 +2.1**
KHC *e* 23 46 29.4
KHC *e*S **S 23 56 24.5 +5.2**
KHC MLR MLR
comp=Z,900nm,19.9s
KHC Kasperske Hory 79.08 42 P **P 23 46 19.9 0.0**
GEC2 GERESS Array S 79.23 42 *e*P **PcP 23 46 30.0 +0.9**
comp=Z,31nm,1.2s,baz=284,slow=5.7
GEC2 *e*L L 00 16 38.9
comp=Z,929nm,20.1s
GERES GERESS Array B 79.23 42 P **P 23 46 22.1 +1.3**
comp=Z,1.0nm,0.8s,baz=284,slow=4.0,SNR=3.7
GERES LR LR 00 16 59.7
comp=Z,770nm,20.6s,baz=282,slow=32
GERES GERESS Array B 79.23 42 P **P 23 46 20.6 -0.2**
GERES GERESS Array B 79.23 42 P **P 23 46 20.6 -0.2**
PVCC Panska Ves 79.30 40 AMS AMS 00 21 20.0
comp=Z,400nm,16.0s
TOA0 Torodi Ar. Sit 79.32 80 P **P 23 46 21.2 -0.5**
TOA0 IAmb IAmb 23 46 30.5
comp=Z,22nm,1.1s
TORD Torodi Ar. Bea 79.32 80 P **P 23 46 21.9 +0.2**
comp=Z,3.9nm,0.8s,baz=297,slow=4.4,SNR=12
TORD LR LR 00 19 26.1
comp=Z,210nm,18.5s,baz=285,slow=34
TORD Torodi Ar. Bea 79.32 80 P **P 23 46 21.1 -0.7**
PRA Prague 79.35 41 AMS AMS 00 16 50.0
comp=Z,400nm,18.1s
PRU Pruhonice 79.44 41 *e*P **P 23 46 23.9 +2.1**
PRU *e*PCP **PcP 23 46 31.3 +1.5**
PRU *e*S **S 23 56 28.4 +5.4**
PRU AMS AMS 00 17 00.0
comp=Z,900nm,18.6s
PRU Pruhonice 79.44 41 *e*P **P 23 46 23.9 +2.1**
PRU *e* 23 46 31.3
PRU *e*S **S 23 56 28.4 +5.4**
PRU MLR MLR
comp=Z,900nm,18.6s
KBA Koelnbreinsper 79.50 44 *i* pP **P 23 46 23.5 +1.1**
comp=Z,4.7nm,1.0s
KBA *i* PcP **PcP 23 46 31.5 +1.1**
comp=Z,26nm,1.2s,SNR=5.5
GOPC GO Pecny, Ondr 79.61 41 *e*P **P 23 46 24.6 +1.8**
GOPC *e*x x 23 46 32.1
GOPC AMS AMS 00 17 00.0
comp=Z,1µm,20.9s
GOPC GO Pecny, Ondr 79.61 41 *e*P **P 23 46 24.6 +1.8**
GOPC *e* 23 46 32.1
GOPC MLR MLR
comp=Z,1µm,20.9s
KEST Kesra 79.73 56 P **P 23 46 25.2 +1.4**
comp=Z,8.9nm,0.9s,baz=186,slow=5.4,SNR=9.7
KEST LR LR 00 18 57.3
comp=Z,256nm,19.0s,baz=259,slow=34
MYKA Terra Mystica 79.82 44 *i* PcP **PcP 23 46 32.6 +1.0**
comp=Z,18nm,1.1s
MOA Molln 79.88 43 *i* pP **P 23 46 26.2 +2.0**
comp=Z,4.4nm,0.8s,SNR=4.8
MOA *i* PcP **PcP 23 46 33.1 +1.3**
comp=Z,21nm,0.9s,SNR=6.6
GKP Gorka Klasztor 80.06 37 *e*P P 23 46 30.1 +5.0
UPC Upice 80.19 40 AMS AMS 00 17 40.0
comp=Z,300nm,18.9s
CHVC Chvalec 80.19 40 *e*P **P 23 46 27.7 +1.8**
CHVC *e*x x 23 46 35.0
CHVC AMS AMS 00 17 40.0
comp=Z,400nm,16.0s
TREC Trest 80.23 41 AMS AMS 00 17 10.0
comp=Z,1µm,20.0s
KSP Ksiaz 80.26 40 *e*P **PcP 23 46 35.5 +2.1**
OSTC Ostas 80.30 40 *e*P **P 23 46 28.1 +1.6**
OSTC *e*x x 23 46 35.6
OSTC AMS AMS 00 17 50.0
comp=Z,300nm,15.0s
DPC Dobruska-Polom 80.42 40 *e*P **P 23 46 29.1 +1.9**
DPC *e*x x 23 46 36.7
DPC AMS AMS 00 19 10.0
comp=Z,300nm,16.9s
OBKA Obir 80.45 44 *i* PcP **PcP 23 46 36.3 +1.8**
comp=Z,23nm,1.2s
SOKA Soboth 80.72 44 *i* pP **P 23 46 30.3 +1.4**
comp=Z,7.7nm,0.9s
SOKA *i* PcP **PcP 23 46 37.3 +1.7**
comp=Z,25nm,1.0s,SNR=5.3
KRLC Kralicky 80.79 40 AMS AMS 00 18 00.0
comp=Z,500nm,17.1s
KRUC Moravsky 80.87 41 *e*P **P 23 46 30.1 +0.6**
KRUC *e* 23 46 38.3
ARSA Arzberg 80.87 43 *i* pP **P 23 46 32.2 +2.6**
comp=Z,2.5nm,0.7s
ARSA *i* PcP **PcP 23 46 38.9 +2.7**
comp=Z,13nm,1.0s,SNR=5.6
CONA Conrad Observa 80.88 43 *i* pP **P 23 46 29.6 -0.1**
comp=Z,3.4nm,0.9s
CONA *i* PcP **PcP 23 46 39.0 +2.7**
comp=Z,15nm,0.9s,SNR=6.9
VRAC Vranov 80.91 41 LR LR 00 18 04.4
comp=Z,907nm,20.7s,baz=280,slow=32
VRAC Vranov 80.91 41 ⇑P **P 23 46 31.7 +1.9**
VRAC Vranov 80.91 41 *e*P **P 23 46 29.9 +0.1**
VRAC *e* 23 46 38.6
VRAC Vranov 80.91 41 ⇑P **P 23 46 31.7 +1.9**
SLIT Slitere, Latvi 81.30 32 *e*P **P 23 46 32.5 +0.9**
MORC Moravsky Berou 81.35 40 ⇓P **P 23 46 32.5 +0.4**
MORC Moravsky Berou 81.35 40 *e*P **P 23 46 32.1 -0.1**
MORC Moravsky Berou 81.35 40 ⇓P **P 23 46 32.5 +0.4**
FINES FINESS Array B 81.61 28 P **P 23 46 33.9 +0.8**
comp=Z,3.2nm,0.5s,baz=277,slow=3.4,SNR=45
FINES LR LR 00 19 41.6
comp=Z,626nm,20.3s,baz=284,slow=33
FINES FINESS Array B 81.61 28 P **P 23 46 32.8 -0.4**
FINES FINESS Array B 81.61 28 P **P 23 46 32.8 -0.4**
FIA1 FINESS Array S 81.61 28 P **P 23 46 33.3 +0.1**
MODS Modra-Piesok 81.64 42 *e*P **P 23 46 35.3 +1.6**
MODS *e* 23 46 42.2
MODS pmax pmax
comp=Z,67nm,1.4s
MODS Modra-Piesok 81.64 42 *e*P **P 23 46 35.3 +1.6**
MODS *e* 23 46 42.2
APA Apatity 81.67 21 ⇑ *i* P **P 23 46 35.5 +2.1**
APA pmax pmax
comp=Z,12nm,1.0s
SMOL Smolenice 81.69 42 *e*P **P 23 46 36.5 +2.6**
SMOL *e* 23 46 43.7
SMOL pmax pmax
comp=Z,21nm,1.1s
SMOL Smolenice 81.69 42 *e*P **P 23 46 36.5 +2.6**
SMOL *e* 23 46 43.7
PBUR Paburge 81.70 34 *e*P **P 23 46 34.5 +0.8**
JAVC Velka Javorina 81.73 41 *e*P **P 23 46 31.9 -2.3**
LVZ Lovozero 81.92 20 *i* P **P 23 46 35.1 +0.3**
LVZ pmax pmax
comp=Z,6.0nm,0.8s
LVZ Lovozero 81.92 20 P **P 23 46 34.1 -0.7**
LVZ IAmb IAmb 23 46 54.7
comp=Z,45nm,1.2s
SRO Srobarova 82.48 42 *e*P **PcP 23 46 47.7 +4.5**
SRO Srobarova 82.48 42 *e* **PcP 23 46 47.7 +4.5**
SRO2 Moca 82.55 42 *e*P **PcP 23 46 47.1 +3.6**
SRO2 Moca 82.55 42 *e* **PcP 23 46 47.1 +3.6**
OJC Ojcow 82.57 39 *e*P **PcP 23 46 48.0 +4.4**
VYHS Vyhne 82.58 41 *e*P **P 23 46 39.7 +1.1**
VYHS *e* 23 46 48.0
VYHS pmax pmax
comp=Z,153nm,2.4s
VYHS Vyhne 82.58 41 *e*P **P 23 46 39.7 +1.1**
VYHS *e* 23 46 48.0
PABE Paberze 82.97 34 *e*P **P 23 46 41.0 +0.6**
VAE Valguarnera 83.12 53 LR LR 00 17 42.4
comp=Z,838nm,20.6s,baz=263,slow=31
VSU Vasula 83.15 30 *e*P **P 23 46 41.9 +0.6**
VSU Vasula 83.15 30 *i* P **P 23 46 42.1 +0.8**
VSU pmax pmax
comp=Z,13nm,0.8s
NIE Niedzica 83.16 40 *e*P **PcP 23 46 51.6 +5.4**
PSZ Piszkesteto 83.44 42 ⇑P **P 23 46 43.8 +0.6**
PSZ Piszkesteto 83.44 42 ⇑P **P 23 46 43.8 +0.6**
PSZ Piszkesteto 83.44 42 P **P 23 46 42.4 -0.8**
KECS Kecovo 83.61 41 *e*P **PcP 23 46 54.0 +5.9**
KECS Kecovo 83.61 41 *e* **PcP 23 46 54.0 +5.9**
CRVS Cervenica-Dubn 84.06 40 *e*P **PcP 23 46 54.8 +4.7**
CRVS Cervenica-Dubn 84.06 40 *e* **PcP 23 46 54.8 +4.7**
ISAL Salakas 84.06 33 *e*P **P 23 46 47.2 +1.1**
IIGN Ignalina 84.20 33 *e*P **P 23 46 47.6 +0.9**
TIP Timpagrande 84.31 51 ⇓P **P 23 46 47.9 +0.1**
TIP Timpagrande 84.31 51 P **P 23 46 47.4 -0.4**
TIP IAmb IAmb 23 46 56.0
comp=Z,26nm,1.0s
PMSA Palmer Station 84.42 173 P **P 23 46 47.3 -0.1**
PMSA IAmb IAmb 23 47 15.7
comp=Z,19nm,1.2s
PMSA Palmer Station 84.42 173 *e*P **PcP 23 46 54.1 +3.1**
IDID Didziasalis 84.49 33 *e*P **P 23 46 49.3 +1.1**
KOLS Kolonicke sedl 84.54 40 *e*P **P 23 46 51.1 +2.4**
KOLS *e* 23 46 57.3
KOLS pmax pmax
comp=Z,16nm,1.2s
KOLS Kolonicke sedl 84.54 40 *e*P **P 23 46 51.1 +2.4**
KOLS *e* 23 46 57.3
UZH Uzhgorod 84.67 40 *e*P **P 23 46 52.7 +3.4**
UZH *e* 23 46 57.8
DIVS Divibare 84.87 45 P **P 23 46 49.3 -1.3**
PDG Podgorica 84.97 47 ⇑P **P 23 46 52.2 +1.3**
LVV L'vov 85.25 39 *e*P sP 23 46 57.3 +2.8
BZS Buzias 85.39 43 ⇑P **P 23 46 54.0 +1.1**
BZS Buzias 85.39 43 ⇑P **P 23 46 54.0 +1.1**
MICGM Minsk 85.44 34 *e* **PcP 23 47 02.0 +6.0**
MICGM *e*LR LR 00 18 38.0
MNK Minsk 85.44 34 *e*P sP 23 47 02.0 +6.7
MDVR Moldovita 85.77 44 ⇑P **P 23 46 56.6 +1.6**
HERR Herculane 86.19 44 ⇓P **P 23 46 56.6 -0.4**
CJR Cluj-Napoca 86.23 42 ⇓P sP 23 47 06.0 +6.5
CJR Cluj-Napoca 86.23 42 ⇓P sP 23 47 06.0 +6.5
ARCR ARCALIA 86.56 41 ⇑P sP 23 47 07.4 +6.4
LOT Lotru 86.85 43 ⇑P sP 23 47 09.2 +6.5
BUR08 Bucovina Ar. S 86.85 40 P **P 23 46 59.3 -1.0**
BURAR Bucovina Array 86.87 41 ⇑P sP 23 47 05.7 +3.0
BURAR Bucovina Array 86.87 41 ⇑P sP 23 47 05.7 +3.0
BURAR Bucovina Array 86.87 41 P **P 23 46 58.9 -1.5**
STIP Stip 87.27 47 *i* P sP 23 47 12.0 +7.3
TIXI Tiksi 87.40 351 *i* P **P 23 47 03.5 +1.2**
TIXI pmax pmax
comp=Z,11nm,0.9s
ARR Arges 87.44 43 ⇑P **PcP 23 47 03.9 -1.2**
KLMR Klimovskoe 87.55 25 *e*P **P 23 47 04.8 +1.6**
KLMR *e* 23 50 28.9
KLMR pmax pmax
comp=Z,25nm,1.4s
KLMR Klimovskoe 87.55 25 *e*P **P 23 47 04.9 +1.7**
KLMR AMP 23 47 23.1
comp=Z,25nm,1.4s
KLMR *e*PP **PP 23 50 29.0 +1.4**
KLMR LQ LQ 00 18 50.9
KLMR LQ LQ 00 18 50.9
KLMR LR LR 00 20 28.8
VTS Vitosha 87.62 46 P **P 23 47 04.8 +0.6**
DOPR Dopca 87.67 42 ⇑P **P 23 47 03.4 -0.7**
VOIR 87.67 43 ⇑P **P 23 47 04.7 +0.4**
VOIR 87.67 43 ⇑P **P 23 47 04.7 +0.4**
BIZ Bicaz 87.70 41 ⇑P **PcP 23 47 11.1 +4.9**
KKB Krupnik 87.82 46 P **P 23 47 06.5 +1.5**
AKASG Malin Array Be 87.88 37 P **P 23 47 04.9 -0.1**
comp=Z,0.2nm,0.3s,baz=284,slow=3.7,SNR=1.3
AKASG LR LR 00 23 36.7
comp=Z,638nm,20.0s,baz=295,slow=34
AKASG Malin Array Be 87.88 37 P **P 23 47 04.1 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,1.3s

AKASG	Malin Array Be	87.88	37	P		P	23 47 04.1	-1.0
HUMR	Humele	88.01	43	⇑P		P	23 47 07.4	+1.6
MLR	Muntele Rosu	88.22	42	⇑P		P	23 47 06.8	-0.2
MLR	Muntele Rosu	88.22	42	⇑P		P	23 47 06.8	-0.2
MLR	Muntele Rosu	88.22	42	P		P	23 47 07.1	+0.1
PGB	Panagyurishte	88.28	45	P		sP	23 47 11.2	+1.7
SEY	Seymchan	88.34	338	*i* P		P	23 47 07.0	+0.1
MMB	Musomiste	88.37	46	P		sP	23 47 10.6	+0.6
PLOR	Plostina	88.51	42	⇑P		sP	23 47 17.4	+6.8
PLOR	Plostina	88.51	42	⇑P		sP	23 47 17.4	+6.8
VRI	Vrincioaia	88.56	42	⇑P		sP	23 47 17.9	+7.2
VRI	Vrincioaia	88.56	42	⇑P		sP	23 47 17.9	+7.2
RZN	Rozhen	89.01	46	P		P	23 47 12.2	+1.4
PRGR	Permogore	89.39	22	*e*P		P	23 47 12.0	+0.1
PRGR				pmax	pmax			
	comp=Z,17nm,0.7s							
OBN	Obninsk	89.50	31	*i* P		P	23 47 14.3	+1.8
OBN				*i*			23 50 45.3	
OBN				pmax	pmax			
	comp=Z,10.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,266nm,18.0s							
KDZ	Kurdzhali	89.50	46	P		sP	23 47 20.6	+5.4
MOS	Moscow	89.66	30	*e*P		P	23 47 13.9	+0.6
JMB	Yambol	89.94	45	P		sP	23 47 23.8	+6.6
NRIK	Noril'sk	91.68	4	LR		LR	00 29 06.6	
	comp=Z,608nm,21.2s,baz=18,slow=36							
NRIK	Noril'sk	91.68	4	*i* P		P	23 47 23.6	+1.1
NRIK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
PETK	Petropavlovsk-	92.17	329	P		P	23 47 25.6	+0.5
	comp=Z,1.5nm,0.8s,baz=78,slow=15,SNR=4.9							
PETK				LR	LR		00 30 40.0	
	comp=Z,269nm,21.8s,baz=41,slow=37							
SKR	Severo-Kuril's	94.40	327	*e*P		P	23 47 19.2	-16
SKR				*e*S		SKSac	23 58 11.4	+0.7
SKR				MLR	MLR			
	comp=Z,100nm,16.0s							
ANN	Anapa	95.64	39	*e*P		P	23 47 36.0	-5.2
ANN				pmax	pmax			
	comp=Z,55nm,1.0s							
ANN				MLR	MLR			
	comp=N,673nm,19.0s							
ANN				MLR	MLR			
	comp=Z,601nm,19.0s							
BRTR	Keskin Array B	95.93	45	P		P	23 47 42.6	-0.2
	comp=Z,0.8nm,0.8s,baz=270,slow=4.3,SNR=3.3							
BRTR				LR	LR		00 27 26.5	
	comp=Z,157nm,20.0s,baz=276,slow=33							
BRTR	Keskin Array B	95.93	45	P		P	23 47 41.7	-1.1
BRTR	Keskin Array B	95.93	45	P		P	23 47 41.7	-1.1
ARU	Arti	97.76	21	P		Pdif	23 47 52.6	+2.0
ARU							23 51 53.2	
ARU				S		SKSac	23 58 30.5	+2.3
ARU				SS		SS	00 06 08.8	+14
ARU				MLR	MLR			
	comp=Z,468nm,19.0s							
KIV	Kislovodsk	99.20	37	*e*P		Pdif	23 47 57.3	-0.1
KIV				pmax	pmax			
	comp=Z,14nm,1.1s							
MAK	Makhachkala	102.55	36	*e*P		Pdif	23 48 09.3	-2.9
MAK				*i*			23 52 29.5	
MAK				*e*PPP	PPP		23 54 33.3	
MAK				pmax	pmax			
	comp=Z,100nm,0.8s							
ZALV	Zalesovo Beam	106.51	9	PP		PP	23 52 55.4	+2.0
	comp=Z,1.2nm,0.7s,baz=332,slow=5.0,SNR=5.4							
MKAR	Makanchi Array	113.00	12	PP		PP	23 53 44.4	+4.0
	comp=Z,1.5nm,1.0s,baz=352,slow=7.4,SNR=5.2							
SONM	Songino Array	113.26	354	PP		PP	23 53 44.4	+2.1
	comp=Z,0.2nm,0.5s,baz=0.0,slow=7.4,SNR=1.7							
SONM				PKKPbc		PKKPab	00 03 52.9	+4.0
	comp=Z,1.7nm,0.9s,baz=194,slow=4.3,SNR=7.2							
WMQ	Urumqi	116.82	9	*e*PKP		PKiKP	23 52 59.9	-0.4
WMQ				LR	LR			
	comp=Z,290nm,19.1s							
WMQ				LR	LR			
	comp=Z,170nm,20.1s							
WMQ				LR	LR			
	comp=Z,210nm,20.1s							
KSRS	Korea Array	117.60	334	PKP		PKiKP	23 53 04.1	+2.2
	comp=Z,0.5nm,0.4s,baz=69,slow=4.0,SNR=1.5							
SYO	Syowa Base	118.35	159⇓	*e*P		Pdif	23 49 12.8	-8.9
SYO	Syowa Base	118.35	159⇑	*e*Pdiff		Pdif	23 49 19.4	-2.3
SYO	Syowa Base	118.35	159⇑	*e*pPdiff		pPdif	23 49 23.0	-0.3
HHC	Hu-ho-hao-te	119.41	349	*e*PKP		PKPdf	23 53 00.1	-5.4
GTA	Gaotai	122.03	359	*e*PKP		PKiKP	23 53 14.8	+4.1
GTA				LR	LR			
	comp=Z,370nm,19.0s							
GTA				LR	LR			
	comp=Z,310nm,18.7s							
GTA				LR	LR			
	comp=Z,500nm,17.8s							
LZH	Lanzhou	125.14	355	*e*PKP		PKPdf	23 53 14.0	-2.7
LZH				sPKP			23 53 18.5	
LZH				LR	LR			
	comp=Z,550nm,18.3s							
LZH				LR	LR			
	comp=Z,630nm,17.9s							
LZH				LR	LR			
	comp=Z,590nm,20.1s							
NJ2	Nanjing	125.82	339	*e*PKP		PKPdf	23 53 16.3	-1.5
MAW	Mawson	126.22	164	PKP		PKiKP	23 53 19.6	+1.8
	comp=Z,1.2nm,0.8s,baz=270,slow=6.1,SNR=2.7							
KMI	Kunming	136.11	355	PKP		PKPpre	23 53 32.3	
KMI				sPKP			23 53 40.4	
KMI				AMB	AMB			
	comp=Z,63nm,4.1s							
KMI				LR	LR			
	comp=Z,320nm,16.3s							
KMI				LR	LR			
	comp=Z,280nm,20.8s							
KMI				LR	LR			
	comp=Z,300nm,18.1s							
STKA	Stephens Creek	139.39	243	PKP		PKPdf	23 53 42.2	-1.1
	comp=Z,2.4nm,0.7s,baz=347,slow=8.6,SNR=4.3							
STKA	Stephens Creek	139.39	243	PKIKP		PKPdf	23 53 41.8	-1.5
STKA	Stephens Creek	139.39	243	PKPdf		PKPdf	23 53 41.8	-1.5
QIZ	Qiongzhong	140.79	343	PKP		PKPdf	23 53 43.7	-2.5
QIZ				SS	SS		00 15 08.6	-1.7
QIZ				LR	LR			
	comp=Z,280nm,18.6s							
QIZ				LR	LR			
	comp=Z,180nm,20.2s							
QIZ				LR	LR			
	comp=Z,430nm,18.6s							
CMAR	Chiang Mai Arr	142.92	360	PKP		PKPdf	23 53 49.6	-0.5
	comp=Z,1.1nm,0.3s,baz=339,slow=3.2,SNR=5.5							
CMAR	Chiang Mai Arr	142.92	360	PKIKP		PKPdf	23 53 47.8	-2.2
CMAR	Chiang Mai Arr	142.92	360			PKPdf	23 53 47.8	-2.2
WR0	Warramunga Arr	146.23	262			PKPdf	23 53 54.7	-1.0
WB0	Warramunga Arr	146.35	262	PKPdf		PKPdf	23 53 54.7	-1.2
WB2	Warramunga Arr	146.41	262	PKPdf		PKPdf	23 53 54.7	-1.4
WRAB	Tennant Creek	146.41	262	PKP2		PKPdf	23 53 54.6	-1.4
WRAB	Tennant Creek	146.41	262			PKPdf	23 53 54.5	-1.4
WRA	Warramunga Arr	146.42	262	PKPbc		PKPbc	23 53 56.5	-0.9
	comp=Z,7.4nm,0.9s,baz=86,slow=3.1,SNR=35							
WRA	Warramunga Arr	146.42	262	PKIKP		PKPdf	23 53 53.8	-2.3
WRA	Warramunga Arr	146.42	262			PKPdf	23 53 53.8	-2.3
AS31	Alice Springs	146.91	255	PKPdf		PKPbc	23 53 57.7	-1.1
ASAR	Alice Springs	146.91	255	PKPbc		PKPdf	23 53 55.9	-1.0
	comp=Z,4.2nm,0.8s,baz=103,slow=3.8,SNR=22							
ASAR	Alice Springs	146.91	255	PKIKP		PKPdf	23 53 54.0	-2.8
ASAR	Alice Springs	146.91	255			PKPdf	23 53 54.0	-2.8
FORT	Forrest	150.93	240	PKPdf		PKPdf	23 54 01.4	-1.7

NEIC ***03*** *23:47:36.9±1.5, 18°.74N±0°.04×81°.34W±0°.04, h10km±1km, mb4.0/15, Error ellipse: s-maj=8.0km s-min=6.7km az=147.0*
IDC ***03*** *23:47:36.9±1.5, 18°.88N×81°.44W, h0km, mb3.7/6, mb1 4.1/8, mb1mx3.7/32, mbtmp3.9/8, ML4.5/2, Error ellipse: s-maj=41.5km s-min=27.0km az=178.0*
JSN ***03*** *23:47:38.4±1.4, 18°.51N×81°.25W, h0km±999km, MD4.4*
SSNC ***03*** *23:47:42.1±3.0, 19°.16N×80°.91W, h5km±25km, MD3.7, ML3.9*

ISC 03 23:47:36.8±0.6, 18°.78N±0°.06×81°.31W±0°.05, h10km, n58, σ1s57/65, mb4.0/9, 3D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSCY	Frank Sound, G	0.55	12	Pg	Pb	23 47 48.6	+0.2
LCCY	Blossom Villag	1.46	52		Pn	23 48 02.5	-0.6
CBCY	The Bluff, Cay	1.75	57	Pn	Pn	23 48 06.2	-0.9
MCJ	Malvern	3.54	103	*i* P	Pn	23 48 32.2	+0.3
MCJ				*i* S	Sn	23 49 12.8	-1.0
MGV	Manicaragua	3.54	20	*e*P	Pn	23 48 30.9	-1.0
MGV				*e*S	Sn	23 49 09.4	-4.4
MGV				IAML		23 49 13.8	
	comp=N,213nm,0.4s						
MGV				IAML		23 49 17.1	
	comp=E,266nm,0.4s						
MTDJ	Mount Denham	3.62	98	*e*P	Pn	23 48 31.7	-1.4
MTDJ				*e*S	Sn	23 49 12.1	-3.8
MTDJ	Mount Denham	3.62	98	Pn	Pn	23 48 32.7	-0.3
PCJ	Portland Cotta	4.07	104	⇓*i*P	Pn	23 48 39.7	+0.6
SOR	Soroa	4.30	339	*e*P	Pn	23 48 44.1	+1.8
SOR				*e*S	Sn	23 49 31.2	-1.4
STH	Stony Hill	4.32	99	⇓*i*P	Pn	23 48 43.6	+1.0
HOJ	Hope	4.39	99	*i* P	Pn	23 48 42.9	-0.6
GWJ	Greenwich	4.40	98	⇓*i*P	Pn	23 48 44.8	+1.0
RCC	Rio Carpintero	5.43	76	*e*P	Pn	23 48 57.1	-0.7
RCC				*e*S	Sn	23 49 58.1	-2.3
GTBY	Guantanamo Bay	5.96	78	*e*P	Pn	23 49 08.0	+2.9
GTBY	Guantanamo Bay	5.96	78	Pn	Pn	23 49 05.8	+0.7
GTMO	Guantanamo	5.96	76	*e*P	Pn	23 49 07.3	+2.2
GTMO				*e*S	Sn	23 50 10.7	-2.8
GTMO				IAML		23 50 33.4	
	comp=N,426nm,0.6s						
GTMO				IAML		23 50 35.8	
	comp=E,391nm,0.5s						
TEIG	Tepich	6.73	284	Pn	Pn	23 49 15.2	-0.5
	comp=E,23nm,0.3s,baz=73,slow=2.9,SNR=79						
TEIG				Sn	Sn	23 50 26.1	-6.4
	baz=351,slow=23,SNR=0.9						
TEIG	Tepich	6.73	284	*e*P	Pn	23 49 15.0	-0.7
061Z	Ochoppi	7.07	3	Pn	Pn	23 49 20.4	+0.1
LGNH	Logne	8.25	90	Pn	Pn	23 49 36.7	+0.2
060A	Indiantown	8.27	6	Pn	Pn	23 49 36.9	+0.1
SDDR	Presa de Saban	9.48	87	Pn	Pn	23 49 54.7	+1.1
SMRC	Santa Marta, M	10.20	137	*e*P	Pn	23 50 04.0	+0.7
656A	Willston	10.61	354	Pn	Pn	23 50 10.6	+1.8
SJCC	San Jacinto, C	10.63	145	*e*P	Pn	23 50 11.2	+1.8
DR12	Loma Pena Alta	11.29	88	Pn	Pn	23 50 19.8	+1.4
SMLC	San Martn de	12.15	144	*e*P	Pn	23 50 30.9	+0.9
PTBC	PUERTO BERRIO,	13.87	150	*e*P	Pn	23 50 52.4	-1.2
152A	Waverly Hall	14.17	348		Pn	23 50 57.6	0.0
GOGA	Godfrey	14.70	353		Pn	23 51 03.7	-1.2
RUSC	La Rusia	15.11	147		Pn	23 51 10.6	-0.3
Y49A	Blount Mountai	15.70	344	Pn	Pn	23 51 18.8	+0.7
BG3	Lake Jocassee	16.22	355	Pn	Pn	23 51 24.8	+0.1
BG3				IAmb	IAmb	23 51 35.3	
	comp=Z,6.4nm,1.0s						
W52A	Murphy	16.42	352		Pn	23 51 28.1	+0.8
W52A				IAmb	IAmb	23 51 37.6	
	comp=Z,10nm,0.8s						
W50A	Signal Mountai	16.74	349		Pn	23 51 31.2	-0.2
W50A				IAmb	IAmb	23 51 42.0	
	comp=Z,4.5nm,0.6s						
CPCT	Cooper Cave	16.85	351	Pn	Pn	23 51 32.6	-0.2
V53A	Saluda	16.88	356		Pn	23 51 33.8	+0.6
V53A				IAmb	IAmb	23 51 52.7	
	comp=Z,16nm,1.4s						
SWET	Sewanee	16.88	347	Pn	Pn	23 51 33.7	+0.5
TKL	Tuckaleechee C	16.96	353	Pn	Pn	23 51 33.3	-0.8
	comp=Z,0.6nm,0.3s,baz=184,slow=11,SNR=7.3						
TKL	Tuckaleechee C	16.96	353		Pn	23 51 34.8	+0.7
U40A	Yellville	20.25	332		P	23 52 12.9	+0.6
U40A				IAmb	IAmb	23 52 19.7	
	comp=Z,6.2nm,0.8s						
CCM	Cathedral Cave	21.08	338	P	P	23 52 21.4	+0.2
CCM				IAmb	IAmb	23 52 39.9	
	comp=Z,6.9nm,0.8s						
S39A	Bolivar	21.58	333	P	P	23 52 26.4	-0.2
S39A				IAmb	IAmb	23 52 31.7	
	comp=Z,5.5nm,0.8s						
R40A	Maddies Statio	21.66	336	P	P	23 52 26.9	-0.6
R40A				IAmb	IAmb	23 52 38.2	
	comp=Z,7.6nm,1.0s						
TXAR	Lajitas Array	22.93	301	P	P	23 52 39.2	-2.0
	comp=Z,0.1nm,0.3s,baz=203,slow=34,SNR=4.2						
TXAR	Lajitas Array	22.93	301	P	P	23 52 40.8	-0.4
P38A	Dawn	23.31	336	P	P	23 52 45.4	+0.5
PDAR	Pinedale Array	33.80	321	P	P	23 54 20.0	+0.7
	comp=Z,0.4nm,0.7s,baz=120,slow=8.9,SNR=4.0						
PDAR	Pinedale Array	33.80	321	P	P	23 54 19.6	+0.3
ILAR	Eielson Array	62.81	334	P	P	23 58 04.2	+1.9
	comp=Z,0.2nm,0.6s,baz=111,slow=4.6,SNR=2.6						
ILAR	Eielson Array	62.81	334	P	P	23 58 03.0	+0.7
ESDC	Sonseca Array	68.67	54	P	P	23 58 42.1	+1.4
	comp=Z,0.5nm,0.5s,baz=314,slow=5.4,SNR=3.0						
ARCES	ARCESS Array B	78.28	20	P	P	23 59 37.9	+1.3
	comp=Z,4.3nm,1.0s,baz=300,slow=4.9,SNR=4.4						
FINES	FINESS Array B	81.69	28	P	P	23 59 57.0	+1.8
	comp=Z,0.8nm,0.5s,baz=286,slow=4.3,SNR=9.0						
FINES	FINESS Array B	81.69	28	P	P	23 59 56.5	+1.3
FIA1	FINESS Array S	81.69	28	P	P	23 59 56.1	+0.9
WRA	Warramunga Arr	146.39	262	PKPbc	PKPab	00 07 20.1	+0.4
	comp=Z,0.6nm,0.8s,baz=87,slow=3.8,SNR=6.5						
ASAR	Alice Springs	146.88	255	PKPbc	PKPbc	00 07 20.8	+0.6
	comp=Z,0.7nm,0.8s,baz=113,slow=3.4,SNR=5.3						

SFS ***04*** *00:03:49.5, 36°.30N×2°.90W, h10km, ML3.5, GOLFO DE CADIZ*
CNRM ***04*** *00:03:49.6±0.9, 36°.24N×8°.23W, h62km±32km, Error ellipse: s-maj=6.8km s-min=4.7km az=133.0*
IGIL ***04*** *00:03:51.1, 36°.21N×8°.10W, h30km, ML3.6*
INMG ***04*** *00:03:52.0±2.6, 36°.24N×8°.10W, h31km±6km, ML3.6, Error ellipse: s-maj=3.4km s-min=2.6km az=81.0*
LDG ***04*** *00:03:53.6±0.2, 36°.47N×7°.90W, h10km, Ml3.6/22, Error ellipse: s-maj=4.2km s-min=2.8km az=41.0*
MDD ***04*** *00:03:53.2±0.1, 36°.32N×8°.04W, h43km±3km, mb4.6/54, Error ellipse: s-maj=1.6km s-min=0.6km az=39.0, PRXIMO*

ISC 04 00:03:49.1±0.8, 36°.31N±0°.03×8°.07W±0°.04, h35km, n162, σ2s68/279, 9C-20D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	0.93	7	⇓*i*P	Pn	00 04 08.3	+2.6
PBDV				*e*S	Sn	00 04 21.3	+3.4
PBDV				A	A	00 04 26.9	
	722nm,0.5s						
PFVI	Vila Bisbo	1.02	323	⇓P	Pn	00 04 08.9	+2.0
	202nm,0.1s,SNR=18						
PFVI				S	Sn	00 04 21.5	+1.6
	563nm,0.1s,SNR=8.2						
PFVI	Vila Bisbo	1.02	323	P	Pn	00 04 08.9	+2.0
PFVI				S	Sn	00 04 19.8	-0.2
PFVI	Vila Bisbo	1.02	323	⇓*i*P	Pn	00 04 08.9	+2.0
PFVI				*e*S	Sn	00 04 21.8	+1.8
PFVI				A	A	00 04 28.5	
	438nm,0.1s						
MORF	Marmelete	1.09	335	*e*P	Pn	00 04 10.4	+2.4
MORF				*e*S	Sn	00 04 24.1	+2.2
MORF				AML	AML	00 04 29.1	
	comp=N,986nm,0.3s						
MORF	Marmelete	1.09	335	P	Pn	00 04 10.4	+2.4
MORF				S	Sn	00 04 24.1	+2.2
	comp=N,986nm,0.3s						
MORF	Marmelete	1.09	335	⇓*i*P	Pn	00 04 10.4	+2.4
MORF				A	A	00 04 30.0	
	comp=N,664nm,0.1s						
PVAQ	Vaqueiros	1.12	14	P	Pn	00 04 11.5	+3.2
PVAQ				S	Sn	00 04 26.9	+4.3
PVAQ	Vaqueiros	1.12	14	*e*P	Pn	00 04 11.0	+2.7
PVAQ				*e*S	Sn	00 04 24.9	+2.4
PVAQ				A	A	00 04 39.4	
	comp=N,436nm,0.3s						
EGRO	El Granado	1.30	21	⇑P	Pn	00 04 13.6	+2.8
	comp=N,38nm,0.1s,SNR=18						
EGRO				S	Sn	00 04 28.4	+1.4
	comp=N,181nm,0.1s,SNR=11						
PCVE	Castro Verde	1.31	1	⇓*i*Pn	Pn	00 04 13.8	+2.8
PCVE				*e*Sn	Sn	00 04 29.8	+2.5
PCVE				A	A	00 04 42.1	
	comp=N,381nm,0.5s						
PTEO	Sao Teotonio	1.34	337	⇓*i*Pn	Pn	00 04 13.9	+2.7
PTEO				*e*Sn	Sn	00 04 30.4	+2.6
PTEO				A	A	00 04 42.5	
	comp=N,442nm,0.4s						
SFS	San Fernando	1.51	84	P	Pn	00 04 17.8	+4.2
SFS				S	Sn	00 04 37.1	+5.0
SFS	San Fernando	1.51	84	⇓*i*P	Pn	00 04 17.8	+4.2
SFS				*e*S	Sn	00 04 37.1	+5.0
PBEJ	Beja	1.72	5	*e*Pn	Pn	00 04 19.0	+2.5
PBEJ				*e*Sn	Sn	00 04 39.4	+2.2
PBEJ				A	A	00 04 42.6	
	comp=N,284nm,0.2s						
EMIN	Mina Concepcio	1.83	37	⇑P	Pn	00 04 20.4	+2.4
	comp=N,2.3nm,0.1s,SNR=18						
EMIN				S	Sn	00 04 39.8	-0.2
	comp=N,60nm,0.1s,SNR=9.3						
PNCL	Nicolau / Gran	1.83	349	⇓*i*Pn	Pn	00 04 20.6	+2.6
PNCL				*e*Sn	Sn	00 04 41.9	+1.9
PNCL				A	A	00 04 50.8	
	comp=N,218nm,0.2s						
ESPR	Espera	1.86	72	⇑P	Pn	00 04 21.0	+2.5
	comp=N,39nm,0.2s,SNR=18						
ESPR				S	Sn	00 04 41.9	+1.1
	comp=N,422nm,0.3s,SNR=7.6						
PBAR	Barrancos	2.03	24	*e*Pn	Pn	00 04 23.5	+2.7
PBAR				*e*Sn	Sn	00 04 47.2	+2.3
PBAR				A	A	00 05 06.6	
	comp=N,117nm,0.3s						
EVO	Evora	2.21	1	P	Pn	00 04 25.8	+2.5
EVO				S	Sn	00 04 51.0	+1.5
EVO	Evora	2.21	1	⇓*i*P	Pn	00 04 25.8	+2.5
EVO				*e*S	Sn	00 04 51.0	+1.5
EVO	Evora	2.21	1	*e*Pn	Pn	00 04 25.9	+2.6
EVO				*e*Sn	Sn	00 04 50.9	+1.5
EVO				A	A	00 04 54.2	
	comp=N,316nm,0.4s						
ECEU	Ceuta	2.22	100	P	Pn	00 04 26.3	+2.9
	comp=N,36nm,0.2s,SNR=57						
ECEU				S	Sn	00 04 51.9	+2.3
	comp=N,45nm,0.2s,SNR=4.0						
CEU	Ceuta	2.22	100	P	Pn	00 04 26.9	+3.6
CEU				S	Sn	00 04 53.7	+4.1
CEU	Ceuta	2.22	100	⇓*i*P	Pn	00 04 26.9	+3.6
CEU				*e*S	Sn	00 04 53.7	+4.1
SMIR	Smir Dam	2.27	105	P	Pn	00 04 26.9	+2.8
SMIR				S	Sn	00 04 54.9	+4.1
CHEFC	Chefchaouen	2.53	118	P	Pn	00 04 29.8	+2.1
CHEFC				S	Sn	00 05 00.4	+3.1
LIS	Lisbon	2.55	341	*e*Sn	Sn	00 05 01.4	+3.8
LIS				A	A	00 05 03.8	
	comp=N,176nm,0.3s						
INMG	Instituto de M	2.59	341	*e*Pn	Pn	00 04 32.5	+4.0
EMIJ	Mijas	2.67	84	⇓P	Pn	00 04 31.6	+2.0
	comp=N,12nm,0.3s,SNR=18						
EMIJ				S	Sn	00 05 01.0	+0.3
	comp=N,40nm,0.2s,SNR=10						
HORN	Hornachuelos	2.72	55	P	Pn	00 04 33.5	+3.3
HORN				S	Sn	00 05 08.6	+6.8
ECAB	El Cabril	2.75	49	⇑P	Pn	00 04 32.8	+2.1
	comp=N,1.6nm,0.1s,SNR=18						
ECAB				S	Sn	00 05 01.4	-1.4
	comp=N,53nm,0.2s,SNR=11						
PMAFR	Mafra	2.81	340	P	Pn	00 04 34.3	+2.8
	comp=N,78nm,0.1s,SNR=215						
PMAFR				S	Sn	00 05 06.5	+2.4
	comp=N,468nm,0.3s,SNR=16						
PMAFR	Mafra	2.81	340	*e*Pn	Pn	00 04 34.3	+2.8
PMAFR				*e*Sn	Sn	00 05 07.1	+3.0
PMAFR				A	A	00 05 07.6	
	comp=N,428nm,0.3s						
EMAL	Malaga-Limoner	2.96	80	P	Pn	00 04 36.4	+2.8
EMAL				S	Sn	00 05 09.6	+1.6
EMAL	Malaga-Limoner	2.96	80	⇑*i*P	Pn	00 04 36.4	+2.8
EMAL				*e*S	Sn	00 05 09.6	+1.6
AVE	Averroes	3.06	170	P	Pn	00 04 36.4	+1.5
AVE				S	Sn	00 05 10.2	-0.1
AVE	Averroes	3.06	170	⇓*i*P	Pn	00 04 36.0	+1.0
AVE				*e*S	Sn	00 05 08.6	-1.6
SICH	Sidi Chahed	3.15	134	P	Pn	00 04 37.8	+1.5
SICH				S	Sn	00 05 15.5	+2.9
PMRV	Marv??o	3.15	10	⇓*e*Pn	Pn	00 04 38.8	+2.5
PMRV				*e*Sn	Sn	00 05 14.6	+1.9
PMRV				A	A	00 05 17.2	
	comp=N,147nm,0.3s						
PSBE	So Bento	3.25	350	⇓*e*Pn	Pn	00 04 40.0	+2.5
PSBE				*e*Sn	Sn	00 05 16.9	+2.0
PSBE				A	A	00 05 18.7	
	comp=N,239nm,0.2s						
PVLZ	Peæn de	3.27	109	P	Pn	00 04 39.0	+1.2
PVLZ				S	Sn	00 05 15.5	+0.1
PVLZ	Peæn de	3.27	109	⇑*i*P	Pn	00 04 39.0	+1.2
PVLZ				*e*S	Sn	00 05 15.5	+0.1
EGOR	Sierra Gorda,	3.28	75	P	Pn	00 04 41.0	+2.9
	comp=N,4.5nm,0.2s,SNR=7.9						
EGOR				S	Sn	00 05 15.2	-0.8
	comp=N,62nm,0.4s,SNR=7.9						
EADA	Adamuz	3.34	55	⇑P	Pn	00 04 41.4	+2.5
	comp=N,30nm,0.2s,SNR=18						
EADA				S	Sn	00 05 15.8	-1.5
	comp=N,15nm,0.1s,SNR=15						
PALE	Palemas	3.53	107	P	Pn	00 04 43.5	+2.1
PALE				S	Sn	00 05 23.7	+1.7
PCBR	Castelo Branco	3.55	7	⇓*e*Pn	Pn	00 04 44.3	+2.6
PCBR				*e*Sn	Sn	00 05 23.6	+1.2
PCBR				A	A	00 05 25.6	
	comp=N,146nm,0.5s						
ELGU	Los Guajares,	3.62	80	P	Pn	00 04 44.0	+1.3
	comp=N,5.8nm,0.2s,SNR=7.9						
ELGU				S	Sn	00 05 25.6	+1.4
	comp=N,65nm,0.3s,SNR=7.9						
IFR	Ifrane	3.69	138	⇓*i*P	Pn	00 04 44.7	+0.9
IFR				*e*S	Sn

ESDC				S	Sn	00 05 47.1	-2.8
	comp=N,26nm,0.3s,baz=226,slow=23,SNR=13						
ENIJ	**Nijar**	**4.76**	**80**	P	**Pn**	**00 05 00.3**	**+1.9**
	comp=N,2.9nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**00 05 50.1**	**-2.2**
	comp=N,25nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**4.76**	**66**	P	**Pn**	**00 05 00.1**	**+1.6**
	comp=N,15nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**00 05 51.5**	**-1.0**
	comp=N,28nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**4.76**	**66**	P	**Pn**	**00 05 01.5**	**+3.0**
SESP				S	**Sn**	**00 05 54.8**	**+2.3**
EAH	**EAH**	**4.82**	**196**	P	**Pn**	**00 04 59.3**	**+0.1**
EAH				S	**Sn**	**00 05 51.5**	**-2.3**
PTO	**Porto**	**4.83**	**355**	*e*Pn	**Pn**	**00 05 02.0**	**+2.7**
PTO				*e*Sn	**Sn**	**00 05 53.4**	**-0.6**
PTO				A	A	00 05 56.3	
	comp=N,172nm,0.1s						
TAF	**Taforalt**	**4.85**	**106**	P	**Pn**	**00 05 00.9**	**+1.3**
TAF				S	**Sn**	**00 05 55.7**	**+1.3**
MVO	**Moncorvo**	**4.91**	**9**	P	**Pn**	**00 05 02.5**	**+2.1**
	comp=N,6.5nm,0.1s,SNR=45						
MVO				S	**Sn**	**00 05 54.9**	**-1.2**
	comp=N,22nm,0.1s,SNR=17						
MVO	**Moncorvo**	**4.91**	**9**	*e*Pn	**Pn**	**00 05 02.8**	**+2.4**
MVO				*e*Sn	**Sn**	**00 05 55.1**	**-0.9**
MVO				A	A	00 05 59.5	
	comp=N,78nm,0.5s						
JBK	**JBK**	**4.91**	**112**	P	**Pn**	**00 05 01.5**	**+0.9**
JBK				S	**Sn**	**00 05 56.8**	**+0.6**
PVRL	**Vila Real**	**4.96**	**3⇓**	*e*Pn	**Pn**	**00 05 03.4**	**+2.3**
PVRL				*e*Sn	**Sn**	**00 05 58.2**	**+0.9**
PVRL				A	A	00 05 59.6	
	comp=N,80nm,0.3s						
OUK	**Oukaimeden**	**5.10**	**178**	P	**Pn**	**00 05 04.0**	**+0.7**
OUK				S	**Sn**	**00 06 01.3**	**+0.2**
GUD	**Guadarrama**	**5.30**	**34**	P	**Pn**	**00 05 09.3**	**+3.4**
	comp=N,5.0nm,0.2s,SNR=32						
GUD				S	**Sn**	**00 06 05.6**	**-0.2**
	comp=N,17nm,0.3s,SNR=7.7						
PCAB	**Cabril**	**5.39**	**0**	*e*Pn	**Pn**	**00 05 09.3**	**+2.3**
PCAB				*e*Sn	**Sn**	**00 06 07.7**	**-0.1**
PCAB				A	A	00 06 10.6	
	comp=N,54nm,0.4s						
OUZM	**OUZ**	**5.50**	**168**	P	**Pn**	**00 05 09.5**	**+0.9**
OUZM				S	**Sn**	**00 06 11.7**	**+1.0**
UCM	**Universidad Co**	**5.50**	**42**	P	**Pn**	**00 05 11.8**	**+3.2**
UCM				S	**Sn**	**00 06 09.7**	**-0.9**
UCM	**Universidad Co**	**5.50**	**42⇓**	*i*P	**Pn**	**00 05 11.8**	**+3.2**
UCM				*e*S	**Sn**	**00 06 09.7**	**-0.9**
ELOB	**Lobios**	**5.54**	**0**	P	**Pn**	**00 05 11.4**	**+2.2**
	comp=N,8.0nm,0.1s,SNR=86						
ELOB				S	**Sn**	**00 06 10.2**	**-1.5**
	comp=N,27nm,0.2s,SNR=15						
PBRG	**Braganca**	**5.58**	**10**	*e*Pn	**Pn**	**00 05 11.9**	**+2.3**
PBRG				*e*Sn	**Sn**	**00 06 12.1**	**-0.4**
PBRG				A	A	00 06 14.4	
	comp=N,24nm,0.2s						
PGAV	**Gavieira, Arco**	**5.64**	**358**	*e*Pn	**Pn**	**00 05 12.8**	**+2.3**
PGAV				*e*Sn	**Sn**	**00 06 13.3**	**-0.9**
PGAV				A	A	00 06 17.2	
	comp=N,34nm,0.4s						
EMUR	**La Murta**	**5.67**	**72**	P	**Pn**	**00 05 12.8**	**+2.0**
	comp=N,7.8nm,0.3s,SNR=22						
EMUR				S	**Sn**	**00 06 12.4**	**-2.3**
	comp=N,75nm,0.4s,SNR=14						
ETOB	**Tobarra**	**5.68**	**64**	P	**Pn**	**00 05 12.6**	**+1.5**
	comp=N,8.0nm,0.2s,SNR=65						
ETOB				S	**Sn**	**00 06 13.2**	**-1.9**
	comp=N,8.7nm,0.1s,SNR=4.6						
ECAL	**Calabor**	**5.71**	**10**	P	**Pn**	**00 05 13.6**	**+2.2**
	comp=N,4.9nm,0.1s,SNR=48						
ECAL				S	**Sn**	**00 06 14.5**	**-1.4**
	comp=N,96nm,0.4s,SNR=8.2						
EZAM	**Zamans**	**5.85**	**355**	P	**Pn**	**00 05 15.4**	**+2.2**
	comp=N,7.4nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**00 06 17.1**	**-1.9**
	comp=N,30nm,0.2s,SNR=7.9						
ETRV	**Los Montesinos**	**6.08**	**72**	P	**Pn**	**00 05 17.9**	**+1.5**
	comp=N,5.7nm,0.2s,SNR=4.0						
ETRV				S	**Sn**	**00 06 22.3**	**-2.4**
	comp=N,11nm,0.2s,SNR=7.9						
AFON	**Font Roja**	**6.43**	**66**	P	**Pn**	**00 05 22.8**	**+1.5**
	comp=N,6.4nm,0.3s,SNR=17						
AFON				S	**Sn**	**00 06 30.8**	**-2.7**
	comp=N,27nm,0.3s						
EAGO	**Agolada(Pontev**	**6.48**	**360**	P	**Pn**	**00 05 24.1**	**+2.1**
	comp=N,4.5nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**00 06 30.7**	**-4.0**
	comp=N,14nm,0.3s,SNR=7.9						
ECHE	**Chera**	**6.49**	**58**	P	**Pn**	**00 05 24.2**	**+2.0**
	comp=N,1.3nm,0.1s,SNR=7.9						
ECHE				S	**Sn**	**00 06 32.8**	**-2.3**
	comp=N,8.8nm,0.3s,SNR=7.9						
ETOR	**Torete**	**6.51**	**45**	P	**Pn**	**00 05 25.0**	**+2.5**
	comp=N,26nm,0.2s,SNR=88						
ETOR				S	**Sn**	**00 06 32.4**	**-3.1**
	comp=N,65nm,0.4s,SNR=6.1						
EMAZ	**Mazaricos**	**6.66**	**354**	P	**Pn**	**00 05 26.1**	**+1.6**
	comp=N,7.4nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	**00 06 35.4**	**-3.7**
	comp=N,18nm,0.2s,SNR=7.9						
EBEN2	**Beniarda presa**	**6.69**	**67**	P	**Pn**	**00 05 26.0**	**+1.2**
	comp=N,3.7nm,0.2s,SNR=7.9						
EBEN2				S	**Sn**	**00 06 35.7**	**-4.2**
	comp=N,40nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.04**	**5**	P	**Pn**	**00 05 31.8**	**+2.2**
	comp=N,0.6nm,0.1s,SNR=6.6						
EPON				S	**Sn**	**00 06 47.9**	**-0.4**
	comp=N,4.9nm,0.2s						
EMOS	**Mosqueruela**	**7.21**	**54**	P	**Pn**	**00 05 35.0**	**+2.9**
	comp=N,1.6nm,0.2s,SNR=14						
EMOS				S	**Sn**	**00 06 48.5**	**-4.3**
	comp=N,3.0nm,0.2s						
EARI	**Arriondas**	**7.32**	**17**	P	**Pn**	**00 05 36.4**	**+2.9**
	comp=N,0.2nm,0.1s,SNR=6.1						
EARI				S	**Sn**	**00 06 52.4**	**-2.8**
	comp=N,6.1nm,0.3s,SNR=5.1						
PMPST	**Porto Santo, M**	**7.53**	**247**	*e*Pn	**Pn**	**00 05 38.4**	**+2.0**
PMPST				*e*Sn	**Sn**	**00 06 53.7**	**-6.9**
PMPST				A	A	00 06 59.7	
	comp=N,24nm,0.8s						
PMPS	**Porto Santo**	**7.54**	**247**	*e*Pn	**Pn**	**00 05 39.0**	**+2.5**
PMPS				*e*Sn	**Sn**	**00 06 54.9**	**-5.9**
ELAN	**Lanestosa**	**7.77**	**26**	P	**Pn**	**00 05 41.3**	**+1.6**
	comp=N,0.2nm,0.1s,SNR=7.9						
ELAN				S	**Sn**	**00 07 01.6**	**-4.9**
	comp=N,5.9nm,0.3s,SNR=5.8						
EIBI	**Ibiza**	**7.94**	**67**	P	**Pn**	**00 05 43.3**	**+1.4**
	comp=N,2.1nm,0.2s,SNR=6.5						
EIBI				S	**Sn**	**00 07 06.2**	**-4.3**
	comp=N,3.3nm,0.2s,SNR=7.0						
ESAC	**San Caprasio**	**8.01**	**45**	P	**Pn**	**00 05 46.4**	**+3.5**
	comp=N,12nm,0.2s,SNR=9.5						
ESAC				S	**Sn**	**00 07 10.6**	**-1.7**
	comp=N,30nm,0.4s,SNR=4.0						
ERTA	**Horta de San J**	**8.04**	**52**	P	**Pn**	**00 05 47.1**	**+3.7**
	comp=N,0.3nm,0.1s,SNR=4.0						
ERTA				S	**Sn**	**00 07 14.0**	**+0.9**
	comp=N,1.2nm,0.2s,SNR=4.0						
PMAR	**Madeira**	**8.13**	**246**	*e*Sn	**Sn**	**00 07 09.3**	**-6.2**
EARA	**Aranguren**	**8.17**	**36**	P	**Pn**	**00 05 48.5**	**+3.4**
	comp=N,11nm,0.2s,SNR=9.7						
EARA				S	**Sn**	**00 07 12.0**	**-4.0**
	comp=N,5.7nm,0.3s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**8.29**	**248**	*e*Sn	**Sn**	**00 07 12.4**	**-7.1**
EORO	**Oroz-Betelu**	**8.39**	**36**	P	**Pn**	**00 05 50.9**	**+2.7**
	comp=N,4.1nm,0.2s,SNR=45						
EORO				S	**Sn**	**00 07 16.5**	**-5.1**
	comp=N,6.6nm,0.3s						
EALK	**Alkurruntz**	**8.55**	**34**	P	**Pn**	**00 05 52.8**	**+2.4**
	comp=N,4.1nm,0.3s,SNR=25						
EALK				S	**Sn**	**00 07 21.1**	**-4.5**
	comp=N,26nm,0.4s,SNR=6.6						
SJPF	**Ste Jean**	**8.59**	**36**	*e*Pn	**Pn**	**00 05 53.4**	**+2.5**
SJPF				*e*Sn	**Sn**	**00 07 21.8**	**-4.8**
	comp=N,29nm,0.7s						
SJPF	**Ste Jean**	**8.59**	**36**	P	**Pn**	**00 05 53.4**	**+2.5**
SJPF				S	**Sn**	**00 07 21.8**	**-4.8**
	comp=N,15nm,0.7s						
EPOB	**Poblet**	**8.73**	**52**	P	**Pn**	**00 05 55.0**	**+2.2**
	comp=N,0.6nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**8.76**	**39**	*e*Pn	**Pn**	**00 05 55.8**	**+2.5**
ETSF				*e*Sn	**Sn**	**00 07 24.8**	**-6.0**
	comp=N,6.5nm,0.4s						
ETSF	**Etsaut**	**8.76**	**39**	P	**Pn**	**00 05 55.8**	**+2.5**
ETSF				S	**Sn**	**00 07 24.8**	**-6.0**
	comp=N,3.2nm,0.4s						
ATE	**Arette**	**8.83**	**38**	P	**Pn**	**00 05 56.9**	**+2.8**
	comp=N,1.3nm,0.2s,SNR=7.9						
ATE				S	**Sn**	**00 07 28.1**	**-4.2**
	comp=N,5.5nm,0.3s,SNR=7.9						
ECHI	**Chisagues Biel**	**9.00**	**43**	P	**Pn**	**00 05 59.0**	**+2.4**
	comp=N,1.9nm,0.2s,SNR=7.9						
ECHI				S	**Sn**	**00 07 30.9**	**-5.8**
	comp=N,3.3nm,0.3s,SNR=7.9						
CFUE	**Fuerteventura**	**9.11**	**215**	S	Sn	00 07 30.6	-8.7
	comp=N,2.3nm,0.1s,SNR=4.0						
ETOS	**Mallorca**	**9.25**	**65**	P	**Pn**	**00 06 01.2**	**+1.2**
	comp=N,1.0nm,0.4s,SNR=7.9						
ETOS				S	**Sn**	**00 07 35.9**	**-6.8**
	comp=N,0.4nm,0.3s,SNR=4.0						
EPF	**Esparros**	**9.32**	**41**	*e*Pn	**Pn**	**00 06 03.5**	**+2.5**
EPF				*e*Sn	**Sn**	**00 07 38.4**	**-6.2**
	comp=N,7.9nm,0.4s						
EPF	**Esparros**	**9.32**	**41**	P	**Pn**	**00 06 03.5**	**+2.5**
EPF				S	**Sn**	**00 07 38.4**	**-6.2**
	comp=N,4.0nm,0.4s						
CSOR	**Sort**	**9.35**	**47**	P	**Pn**	**00 06 03.3**	**+1.9**
	comp=N,1.0nm,0.2s,SNR=9.9						
CSOR				S	**Sn**	**00 07 41.4**	**-3.9**
	comp=N,0.9nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**9.81**	**53**	P	**Pn**	**00 06 10.1**	**+2.4**
	comp=N,1.2nm,0.2s,SNR=7.5						
CLLI	**Llivia**	**9.91**	**49**	P	**Pn**	**00 06 11.4**	**+2.3**
	comp=N,0.4nm,0.2s,SNR=6.9						
CLLI				S	**Sn**	**00 07 54.4**	**-4.7**
	comp=N,0.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**10.46**	**51**	P	**Pn**	**00 06 18.2**	**+1.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**10.57**	**45**	*e*Pn	**Pn**	**00 06 20.2**	**+2.2**
MTLF				*e*Sn	Sn	00 08 08.1	-6.9
	comp=N,1.8nm,0.4s						
MTLF	**Montolieu**	**10.57**	**45**	P	**Pn**	**00 06 20.2**	**+2.2**
MTLF				S	Sn	00 08 08.1	-6.9
	comp=N,0.9nm,0.4s						
LFF	**La Frestale**	**10.90**	**35**	*e*Pn	**Pn**	**00 06 24.3**	**+1.8**
LFF				*e*Sn	Sn	00 08 16.0	-7.2
	comp=N,4.0nm,0.4s						
LFF	**La Frestale**	**10.90**	**35**	P	**Pn**	**00 06 24.3**	**+1.8**
LFF				S	Sn	00 08 16.0	-7.2
	comp=N,2.0nm,0.4s						
CAF	**Calviac**	**11.54**	**39**	*e*Pn	**Pn**	**00 06 33.1**	**+1.9**
CAF				*e*Sn	Sn	00 08 31.3	-7.5
	comp=N,4.4nm,0.5s						
CAF	**Calviac**	**11.54**	**39**	P	**Pn**	**00 06 33.1**	**+1.9**
CAF				S	Sn	00 08 31.3	-7.5
	comp=N,2.2nm,0.5s						
RJF	**Les Rejaudoux**	**11.54**	**36**	*e*Pn	**Pn**	**00 06 32.8**	**+1.5**
RJF				*e*Sn	Sn	00 08 31.5	-7.3
	comp=N,2.5nm,0.4s						
RJF	**Les Rejaudoux**	**11.54**	**36**	P	**Pn**	**00 06 32.8**	**+1.5**
RJF				S	Sn	00 08 31.5	-7.3
	comp=N,1.2nm,0.4s						
MFF	**Saint Martin d**	**11.87**	**28**	*e*Pn	**Pn**	**00 06 38.3**	**+2.6**
MFF				*e*Sn	Sn	00 08 39.5	-7.2
	comp=N,2.9nm,0.4s						
MFF	**Saint Martin d**	**11.87**	**28**	P	**Pn**	**00 06 38.3**	**+2.6**
MFF				S	Sn	00 08 39.5	-7.2
	comp=N,1.4nm,0.4s						
LASF	**Ste Croix**	**11.96**	**46**	*e*Pn	**Pn**	**00 06 38.8**	**+1.8**
LASF				*e*Sn	Sn	00 08 41.8	-7.3
	comp=N,1.7nm,0.5s						
LASF	**Ste Croix**	**11.96**	**46**	P	**Pn**	**00 06 38.8**	**+1.8**
LASF				S	Sn	00 08 41.8	-7.3
	comp=N,0.9nm,0.5s						
QUIF	**Quistinic**	**12.15**	**16**	*e*Pn	**Pn**	**00 06 41.2**	**+1.7**
QUIF				*e*Sn	Sn	00 08 46.0	-7.6
	comp=N,2.6nm,0.4s						
QUIF	**Quistinic**	**12.15**	**16**	P	**Pn**	**00 06 41.2**	**+1.7**
QUIF				S	Sn	00 08 46.0	-7.6
	comp=N,1.3nm,0.4s						
ROSF	**Rostrenen**	**12.52**	**15**	*e*Pn	**Pn**	**00 06 47.2**	**+2.6**
ROSF				*e*Sn	Sn	00 08 55.6	-7.2
	comp=N,1.0nm,0.2s						
ROSF	**Rostrenen**	**12.52**	**15**	P	**Pn**	**00 06 47.2**	**+2.6**
ROSF				S	Sn	00 08 55.6	-7.2
	comp=N,0.5nm,0.2s						
TCF	**Toulx Ste Croi**	**12.60**	**35**	*e*Pn	**Pn**	**00 06 47.4**	**+1.7**
TCF				*e*Sn	Sn	00 08 56.4	-8.3
	comp=N,0.9nm,0.4s						
TCF	**Toulx Ste Croi**	**12.60**	**35**	P	**Pn**	**00 06 47.4**	**+1.7**
TCF				S	Sn	00 08 56.4	-8.3
	comp=N,0.4nm,0.4s						
BGF	**Bois d'Agland**	**13.09**	**35**	*e*Pn	**Pn**	**00 06 53.5**	**+1.1**
BGF				*e*Sn	Sn	00 09 08.1	-8.6
	comp=N,4.7nm,0.5s						
BGF	**Bois d'Agland**	**13.09**	**35**	P	**Pn**	**00 06 53.5**	**+1.1**
BGF				S	Sn	00 09 08.1	-8.6
	comp=N,2.3nm,0.5s						
GRR	**Gorron**	**13.18**	**22**	*e*Pn	**Pn**	**00 06 55.8**	**+2.2**
GRR				*e*Sn	Sn	00 09 11.3	-7.6
	comp=N,2.3nm,0.4s						
GRR	**Gorron**	**13.18**	**22**	P	**Pn**	**00 06 55.8**	**+2.2**
GRR				S	Sn	00 09 11.3	-7.6
	comp=N,1.2nm,0.4s						
AVF	**Avril sur Loir**	**13.50**	**36**	*e*Pn	**Pn**	**00 06 59.5**	**+1.5**
AVF				*e*Sn	Sn	00 09 18.5	-8.2
	comp=N,0.7nm,0.5s						
AVF	**Avril sur Loir**	**13.50**	**36**	P	**Pn**	**00 06 59.5**	**+1.5**
AVF				S	Sn	00 09 18.5	-8.2
	comp=N,0.3nm,0.5s						
HYF	**Humbligny**	**13.53**	**33**	*e*Pn	**Pn**	**00 07 00.2**	**+1.7**
HYF				*e*Sn	Sn	00 09 19.7	-7.8
HYF	**Humbligny**	**13.53**	**33**	P	**Pn**	**00 07 00.2**	**+1.7**
HYF				S	Sn	00 09 19.7	-7.8
LDF	**La Druitiere**	**13.59**	**23**	*e*Pn	**Pn**	**00 07 01.3**	**+2.1**
LDF				*e*Sn	Sn	00 09 20.7	-8.1
	comp=N,1.6nm,0.5s						
FLN	**La Foliniere**	**13.63**	**22**	*e*Pn	**Pn**	**00 07 01.6**	**+1.9**
FLN				*e*Sn	Sn	00 09 21.8	-8.0
	comp=N,2.7nm,0.5s						
FLN	**La Foliniere**	**13.63**	**22**	P	**Pn**	**00 07 01.6**	**+1.9**
FLN				S	Sn	00 09 21.8	-8.0
	comp=N,1.4nm,0.5s						
SMF	**Signal de Mont**	**13.63**	**37**	*e*Pn	**Pn**	**00 07 01.6**	**+1.8**
SMF				*e*Sn	Sn	00 09 21.6	-8.3
	comp=N,0.7nm,0.4s						
SMF	**Signal de Mont**	**13.63**	**37**	P	**Pn**	**00 07 01.6**	**+1.8**
SMF				S	Sn	00 09 21.6	-8.3
	comp=N,0.3nm,0.4s						
SSF	**Saint Saulge**	**13.77**	**35**	*e*Pn	**Pn**	**00 07 03.1**	**+1.4**
SSF				*e*Sn	Sn	00 09 25.0	-8.3
	comp=N,1.0nm,0.4s						
SSF	**Saint Saulge**	**13.77**	**35**	P	**Pn**	**00 07 03.1**	**+1.4**
SSF				S	Sn	00 09 25.0	-8.3
	comp=N,0.0nm,0.4s						
LOR	**Lormes**	**14.09**	**35**	*e*Pn	**Pn**	**00 07 07.7**	**+1.7**
LOR				*e*Sn	Sn	00 09 32.8	-8.2
	comp=N,0.7nm,0.4s						
LOR	**Lormes**	**14.09**	**35**	P	**Pn**	**00 07 07.7**	**+1.7**
LOR				S	Sn	00 09 32.8	-8.2
	comp=N,0.3nm,0.4s						

MAN 04 00:10:22.6, 15.09N×122.25E, h19km, mb3.8, ML2.5, MS2.0, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.46**	**220**	*e*P	Pb	00 10 33.0	+0.8
POLP				*e*S	Sn	00 10 43.0	+1.0
BALP	**Baler**	**0.92**	**315**	*e*P	Pb	00 10 39.0	-0.9
BALP				*e*S	Sn	00 10 53.9	+0.7
GQP	**Guinayangan**	**1.19**	**171⇓**	*i*P	Pn	00 10 43.5	-0.8
GQP				*i* S	Sn	00 11 00.5	+0.5
SMPP	**San Manuel, Pa**	**1.84**	**305**	*e*P	Pn	00 10 53.3	0.0

IDC 04 00:10:26.8±2.2, 6.81S×129.15E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.5/33, mbtmp3.6/4, ML3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/26, Error ellipse: s-maj=76.4km s-min=29.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.73**	**197**	Pn	Pn	00 13 15.9	+0.3
	0.3nm,0.3s,baz=3.0,slow=8.5,SNR=12						
FITZ				Sn	Sn	00 15 11.1	-16
	0.4nm,0.3s,baz=1.1,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**14.00**	**159**	Pn	Pn	00 13 46.3	-0.4
	0.5nm,0.3s,baz=338,slow=12,SNR=22						
WRA				Sn	Sn	00 16 08.1	-15
	0.6nm,0.3s,baz=325,slow=23,SNR=8.8						
ASAR	**Alice Springs**	**17.38**	**165**	P	Pn	00 14 30.8	-0.1
	0.2nm,0.3s,baz=342,slow=11,SNR=14						
ASAR				Sn	Sn	00 17 30.3	-15
	0.2nm,0.3s,baz=342,slow=27,SNR=3.5						
DZM	**Mont Dzumac**	**39.04**	**117**	LR	LR	00 36 09.7	
	comp=Z,154nm,18.1s,baz=41,slow=40						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	00 21 25.5	0.0
	0.3nm,0.6s,baz=116,slow=7.8,SNR=2.8						

ECX ***04*** *00:13:50.6±1.4, 31.52N×115.71W, h5km±12km, MD2.0, ML2.2*
MEX ***04*** *00:13:51.1±0.3, 31.52N×115.58W, h9km±2km, MD3.5*
ISC 04 00:13:49.6±1.1, 31.49N±0.04×115.71W±0.04, h18km±4km, n14, σ0.29/25, 3C, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	**0.12**	**213⇑**	*i*P	**Pg**	**00 13 53.8**	**+0.3**
VTX				*e*S	**Sg**	**00 13 55.7**	**-0.4**
VTX				*e*		00 13 56.5	
VTX				IAML		00 13 56.5	
	comp=N,932nm,0.1s						
SJX	**San Joaquin**	**0.34**	**322**	*e*P	**Pn**	**00 13 59.2**	**-0.4**
SJX				*e*S	**Sn**	**00 14 06.0**	**-0.2**
SPIG	**San Pedro Mart**	**0.49**	**155**	*e*P	**Pb**	**00 14 00.1**	**+0.3**
SPIG				*i* S	**Sb**	**00 14 07.1**	**+0.3**
SPIG	**San Pedro Mart**	**0.49**	**155**	*e*P	**Pb**	**00 13 59.9**	**+0.1**
SPIG				*e*S	**Sb**	**00 14 06.8**	**0.0**
SPX	**San Pedro Mart**	**0.50**	**155**	*e*P	**Pb**	**00 14 00.0**	**0.0**
SPX				*e*S	**Sb**	**00 14 06.9**	**-0.1**
SPX	**San Pedro Mart**	**0.50**	**155⇑**	*e*P	**Pb**	**00 14 00.2**	**+0.3**
SPX				*e*S	**Sb**	**00 14 07.2**	**+0.1**
ECBX	**El Chinero**	**0.56**	**92⇑**	*i*P	**Pb**	**00 14 00.9**	**+0.1**
ECBX				*e*S	**Sb**	**00 14 08.3**	**-0.2**
SFX	**San Felipe**	**0.86**	**121**	*e*P	**Pg**	**00 14 06.5**	**+0.1**
SFX				*e*S	**Sn**	**00 14 18.6**	**-0.3**
SQX	**San Quintin**	**0.92**	**189**	*e*P	**Pb**	**00 14 07.1**	**+0.1**
SQX				*e*S	**Sn**	**00 14 20.1**	**-0.3**
SQX				IAML		00 14 21.5	
	comp=N,73nm,0.2s						
SQX				*e*		00 14 21.5	
CBX	**Cerro Bola**	**1.15**	**316**	*e*P	**Pn**	**00 14 10.6**	**-0.4**
CBX				*i* S	**Sb**	**00 14 25.9**	**+0.1**
CBX	**Cerro Bola**	**1.15**	**316**	*e*P	**Pn**	**00 14 10.9**	**-0.1**
CBX				*e*S	**Sb**	**00 14 25.8**	**0.0**
CBX				IAML		00 14 32.0	
	comp=E,50nm,0.7s						
IKP	**In-Ko-Pah, Jac**	**1.21**	**344**	*e*P	**Pn**	**00 14 12.0**	**+0.4**
BAR	**Barrett**	**1.44**	**326**	*e*P	**Pn**	**00 14 15.4**	**+0.6**
MONP2	**Monument Peak**	**1.52**	**337**	*e*P	**Pb**	**00 14 17.4**	**0.0**

IDC ***04*** *00:48:18.7±6.0, 27.46N×92.05E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/47, mbtmp3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/22, Error ellipse: s-maj=476.9km s-min=30.4km az=62.0*
NDI ***04*** *00:48:28.8±1.6, 28.56N×94.12E, h10km, ML3.8*
ISC 04 00:48:24.7±1.3, 28.70N±0.08×94.29E±0.06, h10km, n12, σ1.06/15, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**1.23**	**198**	*ex*	**Pg**	**00 48 47.4**	**-0.9**
ZIRO				*e*S	**Sb**	**00 49 03.8**	**-0.4**
ZIRO				IAML		00 49 07.1	
	comp=N,11μm,0.5s						
ZIRO				IAML		00 49 07.3	
	comp=E,8μm,0.2s						
ITAN	**ITANAGAR**	**1.63**	**198**	*e*P	**Pb**	**00 48 55.3**	**+0.5**
ITAN				*e*S	**Sb**	**00 49 15.3**	**-0.1**
ITAN				IAML		00 49 19.1	
	comp=N,2μm,0.1s						
ITAN				IAML		00 49 19.2	
	comp=E,1μm,0.3s						
LKP	**Lekhapani**	**1.94**	**134**	*e*P	**Pg**	**00 49 01.9**	**0.0**
LKP				*e*S	**Sg**	**00 49 27.8**	**+0.8**
LKP				IAML		00 49 31.5	
	comp=E,1μm,0.3s						
LKP				IAML		00 49 32.9	
	comp=N,711nm,0.5s						
JORH	**JORHAT**	**1.95**	**181**	*ex*	Pn	00 48 51.5	-6.3
JORH				*e*S	**Sb**	**00 49 24.5**	**-0.2**
TAWA	**Tawang**	**2.40**	**243**	*e*P	**Pn**	**00 49 06.6**	**+2.1**
TAWA				*e*S	**Sn**	**00 49 33.8**	**-0.4**
TAWA				IAML		00 49 38.6	
	comp=N,707nm,0.4s						
TAWA				IAML		00 49 39.0	
	comp=E,822nm,0.4s						
TAWA				IAML		00 49 39.1	
	comp=N,1μm,0.3s						
TEZP	**TEZPUR**	**2.46**	**213**	*e*P	**Pn**	**00 49 05.2**	**+0.3**
TEZP				*i* x	x	00 49 07.7	
TEZP				*e*S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESO	**Esso**	**3.90**	**341**	*eP*	**Pn**	**01 08 18.6**	**+3.4**
KRSR	**Krestovskiy**	**3.97**	**357**	*eP*	**Pn**	**01 08 18.3**	**+2.1**
KBTR	**Krutoberegovo**	**4.10**	**15**	*eP*	**Pn**	**01 08 20.2**	**+2.2**
SRDR	**Sredinnyy**	**4.12**	**351**	*eP*	**Pn**	**01 08 21.9**	**+3.6**
BKI	**Bering**	**4.20**	**43**	*eP*	**Pn**	**01 08 20.4**	**+1.1**
BKI				*eS*	**Sn**	**01 09 06.7**	**-1.8**
SRKR	**Sorokina**	**4.40**	**2**	*eP*	**Pn**	**01 08 26.2**	**+4.0**
ILAR	**Eielson Array**	**29.05**	**44**	LR	LR	01 24 25.0	
	comp=Z,35nm,20.9s,baz=322,slow=36						
H11N2	**WAKE ISLAND Hy**	**32.80**	**170**	T	T	01 49 32.2	
	baz=352,slow=74						
H11N3	**WAKE ISLAND Hy**	**32.82**	**170**	T	T	01 49 23.1	
	baz=352						
H11N1	**WAKE ISLAND Hy**	**32.82**	**170**	T	T	01 49 16.9	
	baz=352,slow=74						
H11S1	**WAKE ISLAND Hy**	**33.99**	**170**	T	T	01 51 01.9	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**34.00**	**170**	T	T	01 51 02.3	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**34.01**	**170**	T	T	01 51 00.8	
	baz=352						
MKAR	**Makanchi Array**	**48.98**	**297**	P	**P**	**01 16 00.6**	**-1.2**
	0.2nm,0.4s,baz=55,slow=7.4,SNR=2.5						
FINES	**FINESS Array B**	**61.08**	**337**	P	**P**	**01 17 29.5**	**+0.5**
	1.2nm,0.8s,baz=24,slow=8.3,SNR=5.2						

*SJA **04** 01:07:57.1±0.6,23°.98S×66°.91W,h220km±4km,ML4.6, MW4.3*
*NEIC **04** 01:07:57.3±1.1,23°.98S±0°.06×66°.85W±0°.09,h196km±6km, mb4.1/20,Md4.0(SJA),Error ellipse: s-maj=12.3km s-min=8.1km az=98.0*
*IDC **04** 01:07:57.8±0.9,23°.92S×66°.78W,h193km±9km,mb3.5/10, mb1 3.8/16,mb1mx3.7/26,mbtmp4.2/16,Error ellipse: s-maj=13.2km s-min=12.9km az=152.0*
*VAO **04** 01:07:59.4±0.4,23°.91S×66°.99W,h227km±5km,mb4.4*
*GUC **04** 01:07:59.2±0.5,23°.99S×67°.23W,h238km±7km,ML5.0*

ISC 04 01:07:58.0±0.6,23°.98S±0°.04×66°.95W±0°.03,h206km±6km, n165,σ1°13/211,mb4.0/15,12C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.51**	**120**	*eP*	**Pn**	**01 08 33.2**	**+0.7**
SLA				*eS*	**S**	**01 08 59.9**	**+0.8**
AZAP	**Zapla**	**1.74**	**99**	*eP*	**Pn**	**01 08 34.9**	**+0.2**
AZAP				*eS*	**S**	**01 09 03.9**	**+1.1**
YJA	**Yavi**	**2.23**	**37**	*eP*	**Pn**	**01 08 40.7**	**+0.9**
YJA				*eS*	**S**	**01 09 12.8**	**+1.0**
LVC	**Limon Verde**	**2.26**	**307**	P	**Pn**	**01 08 41.4**	**+1.3**
	159nm,0.3s,baz=108,slow=7.8,SNR=1229						
LVC				S	**S**	**01 09 12.7**	**+0.5**
	165nm,0.3s,baz=33,slow=22,SNR=32						
LVC	**Limon Verde**	**2.26**	**307**	⇓*iP*	**Pn**	**01 08 41.4**	**+1.3**
LVC				*eS*	**S**	**01 09 13.5**	**+1.3**
LVC	**Limon Verde**	**2.26**	**307**	Pn	**Pn**	**01 08 40.7**	**+0.6**
LVC				S	**S**	**01 09 12.1**	**-0.1**
LVC	**Limon Verde**	**2.26**	**307**	*eP*	**Pn**	**01 08 41.3**	**+1.3**
LVC				*eS*	**S**	**01 09 14.3**	**+2.1**
LVC	**Limon Verde**	**2.26**	**307**	*eP*	**Pn**	**01 08 41.5**	**+1.5**
ASTB	**Santa Barbara**	**2.29**	**90**	*eP*	**Pn**	**01 08 40.3**	**+0.2**
FSA	**Cafayete**	**2.30**	**158**	*eP*	**Pn**	**01 08 40.9**	**+0.6**
PB15	**IPOC Station P**	**2.44**	**288**	⇑*iP*	**Pn**	**01 08 43.2**	**+1.3**
PB15				*i* S	**S**	**01 09 16.1**	**+0.8**
PB15	**IPOC Station P**	**2.44**	**288**		**Pn**	**01 08 42.5**	**+0.7**
PB15	**IPOC Station P**	**2.44**	**288**	*eP*	**Pn**	**01 08 43.1**	**+1.3**
PB15				*eS*	**S**	**01 09 16.3**	**+1.0**
GO02	**Mina Guanaco**	**2.68**	**243**	⇑*iP*	**Pn**	**01 08 45.6**	**+1.0**
GO02				*i* S	**S**	**01 09 21.4**	**+1.0**
GO02	**Mina Guanaco**	**2.68**	**243**	Pn	**Pn**	**01 08 45.6**	**+1.0**
PB06	**IPOC Station P**	**2.72**	**297**	⇑*iP*	**Pn**	**01 08 46.1**	**+1.2**
PB06				*i* S	**S**	**01 09 21.2**	**+0.2**
PB06				IAML		01 09 23.4	
	comp=N,4μm,0.4s						
PB06	**IPOC Station P**	**2.72**	**297**		**Pn**	**01 08 45.6**	**+0.6**
PB06				Sn	**S**	**01 09 21.2**	**+0.2**
PB06	**IPOC Station P**	**2.72**	**297**	*eP*	**Pn**	**01 08 46.0**	**+1.0**
PB06				*eS*	**S**	**01 09 21.6**	**+0.6**
PB06				IAML		01 09 25.5	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**3.03**	**315**	⇑*iP*	**Pn**	**01 08 50.1**	**+1.6**
PB09				*i* S	**S**	**01 09 28.4**	**+1.0**
PB09				IAML		01 09 30.4	
	comp=E,2μm,0.5s						
PB09	**IPOC Station P**	**3.03**	**315**		**Pn**	**01 08 47.9**	**-0.6**
PB09	**IPOC Station P**	**3.03**	**315**	*eP*	**Pn**	**01 08 49.6**	**+1.1**
PB09				*eS*	**S**	**01 09 28.9**	**+1.5**
PB09				IAML		01 09 30.9	
	comp=Z,1μm,0.3s						
AHML	**Horco Molle**	**3.16**	**153**	*eP*	**Pn**	**01 08 50.0**	**+0.2**
AHML				*eS*	**S**	**01 09 29.1**	**-0.9**
PB05	**IPOC Station P**	**3.19**	**290**	*eP*	**Pn**	**01 08 51.0**	**+0.7**
PB05				*eS*	**S**	**01 09 30.2**	**-0.5**
PB05				IAML		01 09 34.8	
	comp=Z,657nm,0.6s						
PB03	**IPOC Station P**	**3.22**	**306**	⇑*iP*	**Pn**	**01 08 51.5**	**+0.8**
PB03				*i* S	**S**	**01 09 31.1**	**-0.2**
PB03	**IPOC Station P**	**3.22**	**306**	*eP*	**Pn**	**01 08 51.4**	**+0.7**
PB03				*eS*	**S**	**01 09 31.1**	**-0.2**
PB03				IAML		01 09 35.4	
	comp=Z,2μm,0.3s						
PB14	**IPOC Station P**	**3.22**	**258**	⇑*iP*	**Pn**	**01 08 51.4**	**+0.6**
PB14				*i* S	**S**	**01 09 30.8**	**-0.8**
PB14	**IPOC Station P**	**3.22**	**258**	Pn	**Pn**	**01 08 50.9**	**+0.1**
PB14	**IPOC Station P**	**3.22**	**258**	*eP*	**Pn**	**01 08 51.6**	**+0.8**
PB14				*eS*	**S**	**01 09 31.5**	**-0.1**
PB14				IAML		01 09 35.5	
	comp=Z,925nm,0.4s						
PB10	**IPOC Station P**	**3.33**	**277**	⇑*iP*	**Pn**	**01 08 52.1**	**+0.2**
PB10				*i* S	**S**	**01 09 32.6**	**-0.9**
PB10	**IPOC Station P**	**3.33**	**277**	Pn	**Pn**	**01 08 52.4**	**+0.5**
PB10				Sn	**S**	**01 09 33.8**	**+0.2**
PB10	**IPOC Station P**	**3.33**	**277**	*eP*	**Pn**	**01 08 52.9**	**+1.0**
PB10				*eS*	**S**	**01 09 33.9**	**+0.3**
PB10				IAML		01 09 36.3	
	comp=Z,405nm,0.3s						
PB04	**IPOC Station P**	**3.37**	**298**	⇑*iP*	**Pn**	**01 08 53.4**	**+0.9**
PB04				*i* S	**S**	**01 09 34.1**	**-0.5**
PB04	**IPOC Station P**	**3.37**	**298**		**Pn**	**01 08 52.6**	**+0.1**
PB04	**IPOC Station P**	**3.37**	**298**	*eP*	**Pn**	**01 08 53.4**	**+0.9**
PB04				*eS*	**S**	**01 09 34.5**	**-0.1**
PB04				IAML		01 09 38.1	
	comp=Z,1μm,0.2s						
PB07	**IPOC Station P**	**3.51**	**309**	⇑*iP*	**Pn**	**01 08 54.9**	**+0.5**
PB07				*i* S	**S**	**01 09 36.9**	**-0.9**
PB07	**IPOC Station P**	**3.51**	**309**		**Pn**	**01 08 54.3**	**0.0**
PB07	**IPOC Station P**	**3.51**	**309**	*eP*	**Pn**	**01 08 54.8**	**+0.5**
PB07				*eS*	**S**	**01 09 37.0**	**-0.7**
PB07				IAML		01 09 38.6	
	comp=Z,2μm,0.4s						
PB01	**IPOC Station P**	**3.74**	**321**	*eP*	**Pn**	**01 08 57.3**	**+0.3**
PB01				*i* S	**S**	**01 09 41.7**	**-1.1**
PB01	**IPOC Station P**	**3.74**	**321**		**Pn**	**01 08 57.0**	**0.0**
PB02	**IPOC Station P**	**3.79**	**314**	⇑*iP*	**Pn**	**01 08 58.0**	**+0.4**
AC01	**Pan de Azucar**	**3.95**	**236**	⇑*iP*	**Pn**	**01 08 58.9**	**-0.5**
AC01				*i* S	**S**	**01 09 45.4**	**-1.8**
AC01	**Pan de Azucar**	**3.95**	**236**	Pn	**Pn**	**01 08 59.4**	**0.0**
AC01				Sn	**S**	**01 09 45.0**	**-2.2**
PATCX	**Punta Patache**	**4.32**	**316**		**Pn**	**01 09 04.0**	**0.0**
PB08	**IPOC Station P**	**4.33**	**331**	*eP*	**Pn**	**01 09 05.4**	**+0.9**
PB08				*i* S	**S**	**01 09 56.4**	**+0.1**
PB08	**IPOC Station P**	**4.33**	**331**		**Pn**	**01 09 04.1**	**-0.5**
TA01	**Diego Aracena**	**4.52**	**318**	Pn	**Pn**	**01 09 06.8**	**+0.2**
CYA	**Choya**	**4.57**	**167**	*eP*	**Pn**	**01 09 07.2**	**+0.1**
CYA				*eS*	**S**	**01 10 01.4**	**+0.2**
GO03	**Copiap**	**4.66**	**219**	⇑*iP*	**Pn**	**01 09 07.8**	**-0.6**
GO03				*eS*	**S**	**01 10 01.8**	**-1.7**
GO03	**Copiap**	**4.66**	**219**		**Pn**	**01 09 07.6**	**-0.7**
GO03	**Copiap**	**4.66**	**219**	*eP*	**Pn**	**01 09 07.9**	**-0.4**
GO03				*eS*	**S**	**01 10 01.7**	**-1.7**
GO01	**Chusmiza**	**4.76**	**334**		**Pn**	**01 09 09.6**	**-0.5**
VCA	**Vinchina**	**4.87**	**193**	*eP*	**Pn**	**01 09 12.8**	**+1.7**
VCA				*eS*	**S**	**01 10 10.2**	**+1.8**
PB11	**IPOC Station P**	**4.89**	**329**	*eP*	**Pn**	**01 09 10.7**	**-0.7**
PB11				*i* S	**S**	**01 10 07.2**	**-1.6**
PB11	**IPOC Station P**	**4.89**	**329**	Pn	**Pn**	**01 09 11.0**	**-0.4**
PSGCX	**Pisagua**	**5.26**	**325**	Pn	**Pn**	**01 09 14.8**	**-1.2**
MNMC	**Minye Minye**	**5.41**	**332**		**Pn**	**01 09 17.9**	**-0.3**
MNMC				Sn	**S**	**01 10 19.6**	**-1.4**
ACLC	**CERRO LA CRUZ**	**5.43**	**180**	*eP*	**Pn**	**01 09 18.1**	**0.0**
ACLC				*eS*	**S**	**01 10 21.5**	**+0.2**
AC04	**Llanos de Chal**	**5.61**	**220**	Pn	**Pn**	**01 09 19.1**	**-1.3**
AC05	**El Transito**	**5.68**	**211**	Pn	**Pn**	**01 09 21.0**	**-0.4**
LCO	**Las Campanas**	**6.04**	**213**		**Pn**	**01 09 24.9**	**-1.1**
PB16	**IPOC Station P**	**6.10**	**336**		**Pn**	**01 09 27.4**	**+0.1**
PB12	**IPOC Station P**	**6.19**	**329**		**Pn**	**01 09 27.8**	**-0.2**
APLL	**PUNTA DE LOS L**	**6.41**	**177**	*eP*	**Pn**	**01 09 30.2**	**-0.4**
APLL				IAML		01 10 43.3	
	comp=Z,55nm,2.3s						
CO01	**Juntas del Tor**	**6.60**	**204**		**Pn**	**01 09 33.4**	**0.0**
ACCO	**Cerro Coronel**	**6.85**	**195**	*eP*	**Pn**	**01 09 37.2**	**+0.6**
ACCO				*eS*	**S**	**01 10 53.5**	**-1.3**
ACCO				IAML		01 10 54.8	
	comp=Z,56nm,0.4s						
GO04	**Tololo Observa**	**7.06**	**208**		**Pn**	**01 09 37.6**	**-1.6**
RTLL	**Cerro Villicun**	**7.45**	**190**	*eP*	**Pn**	**01 09 43.8**	**-0.3**
RTLL				*eS*	**S**	**01 11 03.8**	**-4.8**
CO03	**El Pedregal**	**7.60**	**205**	Pn	**Pn**	**01 09 44.7**	**-1.4**
ZON	**Zonda**	**7.70**	**191**		**Pn**	**01 09 47.0**	**-0.4**
LPAZ	**La Paz**	**7.73**	**352**	P	**Pn**	**01 09 48.7**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=153,slow=4.0,SNR=88						
LPAZ				S	**S**	**01 11 14.1**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=13,slow=9.6,SNR=8.3						
LPAZ	**La Paz**	**7.73**	**352**	Pn	**Pn**	**01 09 47.5**	**-0.9**
LPAZ					**S**	**01 11 14.8**	**-1.3**
LPAZ	**La Paz**	**7.73**	**352**	*eP*	**Pn**	**01 09 49.0**	**+0.6**
LPAZ				*eS*	**S**	**01 11 15.5**	**-0.6**
CO02	**Combarbal**	**8.05**	**206**	Pn	**Pn**	**01 09 50.0**	**-1.9**
RTLS	**Leoncito**	**8.06**	**194**	*eP*	**Pn**	**01 09 52.0**	**-0.3**
RTLS				*eS*	**S**	**01 11 20.8**	**-2.7**
RTLS				IAML		01 11 22.0	
	comp=Z,28nm,0.6s						
CPUP	**Villa Florida**	**9.03**	**107**	P	**Pn**	**01 10 02.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=293,slow=12,SNR=12						
CPUP	**Villa Florida**	**9.03**	**107**	*eP*	**Pn**	**01 10 02.9**	**-1.7**
VA03	**San Esteban**	**9.31**	**199**		**Pn**	**01 10 08.5**	**+0.2**
SIV	**San Ignacio**	**9.67**	**36**	P	**Pn**	**01 10 11.3**	**-1.8**
	comp=Z,2.7nm,0.3s,baz=227,slow=13,SNR=36						
SIV				S	S	01 11 46.8	-15
	baz=240,slow=16,SNR=3.2						
AQDB	**Aquidauana**	**10.99**	**74**	*eP*	**Pn**	**01 10 31.5**	**+1.6**
BO01	**Tunca**	**10.99**	**198**		**Pn**	**01 10 30.1**	**+0.3**
PTLB	**Pontes e Lacer**	**11.22**	**42**	*eP*	**Pn**	**01 10 33.2**	**+0.3**
BO02	**Sierra Bellavi**	**11.28**	**196**		**Pn**	**01 10 33.9**	**+0.2**
VILB	**Vilhena**	**12.69**	**31**	*eP*	**P**	**01 10 53.2**	**-1.9**
BI02	**San Fabin de**	**13.18**	**195**		**P**	**01 11 00.1**	**-0.3**
PTGB	**Pitanga**	**13.59**	**96**	*eP*	**P**	**01 11 06.3**	**+1.2**
ITAB	**Concordia**	**13.76**	**107**	*eP*	**P**	**01 11 07.0**	**+0.2**
ETMB	**Extrema**	**14.10**	**3**	*eP*	**Pn**	**01 11 08.8**	**-0.3**
PCMB	**Pacaembu**	**14.66**	**84**	*eP*	**P**	**01 11 18.2**	**+1.3**
CNLB	**Canela**	**15.34**	**114**	*eP*	**Pn**	**01 11 25.9**	**+1.7**
SAML	**Samuel**	**15.37**	**14**	P	**Pn**	**01 11 24.5**	**-0.1**
SAML	**Samuel**	**15.37**	**14**	*eP*	**Pn**	**01 11 24.5**	**-0.1**
LC01	**Cunco**	**15.45**	**195**		**P**	**01 11 23.0**	**-2.5**
LC01				IAmb	IAmb	01 11 30.7	
	comp=Z,14nm,1.1s						
FRTB	**Fartura**	**15.95**	**91**	*eP*	**Pn**	**01 11 31.5**	**0.0**
ITRB	**Iturama**	**15.98**	**78**	*eP*	**Pn**	**01 11 33.0**	**+1.1**
ARAG	**Araguaiana, MT**	**16.44**	**63**	*eP*	**Pn**	**01 11 38.2**	**+0.8**
CLDB	**Colider**	**16.81**	**41**	*eP*	**P**	**01 11 39.7**	**-0.9**
PLCA	**Paso Flores**	**16.98**	**189**	P	**Pn**	**01 11 43.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=9.1,slow=12,SNR=10						
PLCA	**Paso Flores**	**16.98**	**189**	P	**Pn**	**01 11 42.8**	**-0.9**
PLCA				IAmb	IAmb	01 11 51.3	
	comp=Z,7.7nm,0.7s						
PLCA	**Paso Flores**	**16.98**	**189**	*eP*	**Pn**	**01 11 43.5**	**-0.2**
BB19B	**Bebedouro**	**17.27**	**84**	*eP*	**Pn**	**01 11 45.5**	**-1.8**
SPB	**Sao Paulo**	**17.87**	**93**	*eP*	**Pn**	**01 11 52.9**	**-1.4**
PET01	**Itanhaem-SP**	**17.96**	**95**	*eP*	**Pn**	**01 11 53.2**	**-2.2**
VAO	**Valinhos**	**18.36**	**91**	*eP*	**Pn**	**01 11 57.4**	**-2.7**
IPMB	**Ipameri, GO**	**18.48**	**75**	*eP*	**Pn**	**01 11 59.2**	**-2.4**
LL01	**San Ignacio de**	**18.91**	**193**	P	**Pn**	**01 12 03.8**	**-2.4**
PARB	**Paraibuna**	**19.55**	**92**	*eP*	**P**	**01 12 10.6**	**+0.2**
BDFB	**Brasilia**	**19.64**	**69**	P	**P**	**01 12 10.7**	**-0.6**
	comp=Z,5.6nm,0.3s,baz=242,slow=11,SNR=86						
BDFB	**Brasilia**	**19.64**	**69**	P	**P**	**01 12 10.1**	**-1.2**
NPGB	**Novo Progresso**	**20.18**	**35**	*eP*	**P**	**01 12 15.2**	**-1.9**
BSCB	**Bom Sucesso**	**20.70**	**86**	*eP*	**P**	**01 12 22.9**	**+0.2**
PEXB	**Peixe**	**21.27**	**60**	*eP*	**P**	**01 12 27.8**	**-0.8**
MACA	**Manacapuru-AM**	**21.56**	**17**	*eP*	**P**	**01 12 30.5**	**-1.0**
VAS01	**Vassouras-RJ**	**21.68**	**90**	*eP*	**P**	**01 12 32.6**	**-0.1**
ITTB	**Itaituba**	**22.29**	**31**	*eP*	**P**	**01 12 37.7**	**-0.9**
MC01	**Montes Claros**	**22.73**	**76**	*eP*	**P**	**01 12 41.6**	**-1.1**
JANB	**Januaria**	**23.08**	**72**	*eP*	**P**	**01 12 45.3**	**-0.5**
SMTB	**Santa Maria do**	**23.84**	**54**	*eP*	**P**	**01 12 51.9**	**-0.8**
SDBA	**SAO DESIDERIO**	**23.86**	**65**	*eP*	**P**	**01 12 52.2**	**-0.7**
PTGA	**Pitinga**	**24.08**	**17**	P	**P**	**01 12 54.5**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=203,slow=13,SNR=7.3						
PTGA	**Pitinga**	**24.08**	**17**	P	**P**	**01 12 54.7**	**-0.1**
PTGA				IAmb	IAmb	01 12 55.2	
	comp=Z,2.4nm,0.6s						
PTGA	**Pitinga**	**24.08**	**17**	*eP*	**P**	**01 12 54.4**	**-0.4**
PRPB	**Parauapebas**	**24.18**	**46**	*eP*	**P**	**01 12 55.3**	**-0.5**
SJMB	**Sao Joao De Ma**	**24.55**	**83**	*eP*	**P**	**01 12 59.2**	**+0.2**
BSFB	**Barra de Sao F**	**24.82**	**83**	*eP*	**P**	**01 13 00.5**	**-1.0**
RIB01	**Linhares ES**	**25.10**	**85**	*eP*	**P**	**01 13 03.3**	**-0.7**
MALB	**Monte Alegre**	**25.19**	**31**	*eP*	**P**	**01 13 04.2**	**-0.7**
NAN01	**Guarapari, ES**	**25.77**	**81**	*eP*	**P**	**01 13 09.2**	**-0.9**
GO09	**Cerro Castillo**	**27.57**	**187**	P	**P**	**01 13 25.4**	**-0.3**
GO09				IAmb	IAmb	01 13 34.0	
	comp=Z,2.5nm,0.7s						
GDU01	**Guandu, BA**	**27.79**	**73**	*eP*	**P**	**01 13 27.2**	**-1.0**
PMSA	**Palmer Station**	**40.84**	**178**	P	**P**	**01 15 20.6**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=319,slow=5.2,SNR=3.9						
PMSA	**Palmer Station**	**40.84**	**178**	P	**P**	**01 15 20.0**	**+0.8**
BELA	**Belgrano 2**	**56.06**	**172**	P	**P**	**01 17 16.1**	**+1.0**
VNA3	**Neumayer Olymp**	**57.16**	**161**	P	**P**	**01 17 24.6**	**+1.7**
VNA1	**Neumayer--Stat**	**57.36**	**160**	P	**P**	**01 17 26.3**	**+2.1**
VNA2	**Neumayer--Watz**	**57.73**	**160**	P	**P**	**01 17 28.6**	**+1.7**
SNAA	**Sanae**	**59.36**	**161**	P	**P**	**01 17 39.7**	**+1.5**
SNAA	**Sanae**	**59.36**	**161**	P	**P**	**01 17 39.2**	**+1.0**
SNAA				IAmb	IAmb	01 17 40.8	
	comp=Z,4.5nm,1.0s						
TXAR	**Lajitas Array**	**63.68**	**324**	P	**P**	**01 18 09.3**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=148,slow=7.3,SNR=3.8						
TXAR	**Lajitas Array**	**63.68**	**324**	P	**P**	**01 18 08.4**	**+0.7**
QSPA	**South Pole Qui**	**66.23**	**180**	P	**P**	**01 18 24.5**	**+0.8**
DBIC	**Dimbokro**	**67.75**	**72**	P	**P**	**01 18 34.0**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=207,slow=6.7,SNR=5.4						
DBIC	**Dimbokro**	**67.75**	**72**	P	**P**	**01 18 33.4**	**-0.5**
DBIC				IAmb	IAmb	01 18 40.0	
	comp=Z,3.5nm,0.9s						
121A	**Cookes Peak, D**	**68.39**	**324**	P	**P**	**01 18 38.5**	**+0.8**
121A				IAmb	IAmb	01 18 41.5	
	comp=Z,3.6nm,0.9s						
KNB	**Kanab**	**74.48**	**323**	P	**P**	**01 19 14.8**	**+0.8**
VNDA	**Vanda**	**74.73**	**190**	P	**P**	**01 19 16.4**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=46,slow=6.5,SNR=5.2						
CCUT	**Cedar City**	**75.17**	**323**	P	**P**	**01 19 18.8**	**+0.7**
TOA0	**Torodi Ar. Sit**	**76.52**	**69**	P	**P**	**01 19 25.4**	**-0.4**
TOA0				IAmb	IAmb	01 19 36.2	
	comp=Z,4.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**01 19 25.7**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=259,slow=5.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**01 19 25.4**	**-0.4**
PDAR	**Pinedale Array**	**77.15**	**329**	P	**P**	**01 19 30.9**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=131,slow=9.7,SNR=2.5						
PDAR	**Pinedale Array**	**77.15**	**329**	P	**P**	**01 19 29.9**	**+0.8**
BOSA	**Boshof**	**80.70**	**117**	P	**P**	**01 19 48.5**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=3.6,slow=16,SNR=3.8						
MAW	**Mawson**	**81.45**	**163**	P	**P**	**01 19 52.5**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=219,slow=9.9,SNR=5.1						
MAW	**Mawson**	**81.45**	**163**	P	**P**	**01 19 52.7**	**+1.0**
TAM	**Tamanrasset**	**84.34**	**62**	P	**P**	**01 20 07.3**	**-0.3**
TAM				IAmb	IAmb	01 20 10.3	
	comp=Z,3.3nm,1.1s						
ESDC	**Sonseca Array**	**86.35**	**44**	P	**P**	**01 20 17.3**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=248,slow=4.7,SNR=4.7						
ESDC	**Sonseca Array**	**86.35**	**44**	P	**P**	**01 20 17.2**	**+0.2**
ASAR	**Alice Springs**	**128.50**	**205**	PKP	**PKiKP**	**01 26 42.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=119,slow=2.8,SNR=6.9						
ASAR	**Alice Springs**	**128.50**	**205**		**PKiKP**	**01 26 41.1**	**-0.6**
WRA	**Warramunga Arr**	**131.67**	**207**	PKP	**PKiKP**	**01 26 48.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=154,slow=2.0,SNR=28						
WRA				SKPbc	**SKPab**	**01 29 55.2**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=152,slow=3.8,SNR=4.5						
WRA	**Warramunga Arr**	**131.67**	**207**		**PKiKP**	**01 26 47.2**	**-1.0**
ZALV	**Zalesovo Beam**	**143.35**	**28**	PKP	**PKiKP**	**01 27 07.2**	**-3.6**
	comp=Z,1.4nm,0.3s,baz=298,slow=3.1,SNR=1.4						
MKAR	**Makanchi Array**	**146.48**	**40**	PKPbc	**PKiKP**	**01 27 15.4**	**-2.1**
	comp=Z,1.6nm,0.7s,baz=308,slow=2.7,SNR=11						
MKAR	**Makanchi Array**	**146.48**	**40**	PKPdf	**PKPab**	**01 27 13.8**	**-2.4**
KLR	**Kul'dur**	**150.82**	**334**	PKPbc	**PKiKP**	**01 27 26.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=157,slow=3.6,SNR=4.5						

IDC 04 01:08:32.0±2.5,6°.60S×129°.79E,h0km,mb3.5/1, mb1 3.6/4,mb1mx3.4/29,mbtmp3.4/4,ML3.5/3,Error ellipse: s-maj=105.6km s-min=30.1km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.12**	**199**	Pn	Pn	01 11 27.1	+0.9
	0.2nm,0.3s,baz=1.4,slow=11,SNR=17						
FITZ				Sn	Sn	01 13 27.6	-15
	0.1nm,0.3s,baz=1.0,slow=5.1,SNR=2.1						
WRA	**Warramunga Arr**	**13.98**	**162**	Pn	Pn	01 11 50.9	-0.7
	0.2nm,0.3s,baz=335,slow=14,SNR=12						
WRA				Sn	Sn	01 14 13.9	-14
	0.3nm,0.3s,baz=332,slow=22,SNR=7.0						
ASAR	**Alice Springs**	**17.42**	**167**	P	Pn	01 12 36.5	-0.3
	0.2nm,0.3s,baz=341,slow=8.9,SNR=7.9						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	01 19 31.8	0.0
	0.2nm,0.4s,baz=119,slow=8.3,SNR=2.6						

*NEIC **04** 01:22:30.7±1.9,53°.7N±0°.6×171°.3E±0°.2,h23km±9km, ML3.5/2,Error ellipse: s-maj=87.3km s-min=11.7km az=187.0*
*IDC **04** 01:22:34.5±2.7,53°.66N×170°.54E,h0km,mb3.1/2, mb1 3.6/3,mb1mx3.2/42,mbtmp3.2/3,ML2.6/1,Error ellipse: s-maj=105.9km s-min=27.7km az=170.0*

ISC 04 01:22:33.1±1.1,52°.6N±0°.3×170°.96E±0°.06,h35km,n13, σ0°99/11,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.92**	**85**	Pn	**Pn**	**01 23 02.8**	**-0.5**
SMY				Sn	**Sn**	**01 23 26.1**	**+0.1**
SMY				IAML		01 23 28.3	
	comp=N,339nm,0.6s						
SMY				IAML		01 23 32.4	
	comp=E,415nm,0.6s						
AMKA	**Amchitka**	**5.30**	**100**	Pn	**Pn**	**01 23 50.7**	**+1.0**
AMKA				Sn	**Sn**	**01 24 47.9**	**-1.5**
PEA0B	**Petropavlovsk-**	**8.05**	**279**	Pn	**Pn**	**01 24 27.7**	**+0.3**
PEA0B				Sn	**Sn**	**01 25 55.5**	**-1.5**
PETK	**Petropavlovsk-**	**8.05**	**279**	Pn	**Pn**	**01 24 28.3**	**+0.9**
	comp=E,0.4nm,0.3s,baz=83,slow=20,SNR=7.8	

	baz=307						
FUSS	**Fushou**	**0.64**	**345**	*e*P	**Pb**	**01 22 53.9**	**-0.4**
	baz=350						
FUSS				*e*S	**Sb**	**01 23 01.8**	**-1.2**
	baz=350						
EDH	**Donghe**	**0.66**	**190**	*e*P	**Pb**	**01 22 53.0**	**-1.4**
	baz=183						
EDH				*e*S	**Sn**	**01 23 05.0**	**-1.0**
	baz=183						
TWT	**Tachien**	**0.66**	**340**	⇓*i*P	**Pb**	**01 22 54.3**	**-0.3**
	baz=337						
TWT				*e*S	**Sb**	**01 23 02.6**	**-1.0**
	baz=337						
WJS	**Zhushan**	**0.67**	**287**	⇓P	**Pb**	**01 22 54.8**	**+0.2**
	baz=287						
WJS				*e*S	**Sb**	**01 23 04.1**	**+0.6**
	baz=287						
TDCB	**Techi**	**0.67**	**339**	⇓*i*P	**Pb**	**01 22 54.4**	**-0.3**
	baz=337						
TDCB				*e*S	**Sb**	**01 23 02.3**	**-1.5**
	baz=337						
CHN5	**Tsauling**	**0.69**	**268**	⇓P	**Pb**	**01 22 54.8**	**-0.2**
	baz=260						
CHN5				*e*S	**Sb**	**01 23 03.4**	**-0.7**
	baz=260						
WNT	**Mingjian**	**0.72**	**290**	⇓P	**Pb**	**01 22 56.0**	**+0.5**
	baz=292						
WNT				*e*S	**Sg**	**01 23 06.3**	**+1.1**
	baz=292						
LONT	**Longtian**	**0.77**	**201**	*e*P	**Pb**	**01 22 55.9**	**-0.4**
	baz=195						
LONT				*e*S	**Sb**	**01 23 06.4**	**0.0**
	baz=195						
STYT	**Tauyuan**	**0.77**	**233**	*i* P	**Pb**	**01 22 55.6**	**-0.7**
	baz=228						
STYT				*e*S	**Sb**	**01 23 05.8**	**-0.7**
	baz=228						
WHP	**Taichung City**	**0.78**	**326**	⇓P	**Pb**	**01 22 56.1**	**-0.4**
	baz=334						
WHP				*e*S	**Sb**	**01 23 05.6**	**-1.3**
	baz=334						
WGK	**Gukeng**	**0.79**	**274**	P	**Pb**	**01 22 57.0**	**+0.3**
	baz=272						
WGK				S	**Sg**	**01 23 08.1**	**+0.8**
	baz=272						
NNSB	**Datong**	**0.80**	**357**	⇑*i*P	**Pb**	**01 22 56.2**	**-0.7**
	baz=13						
NNSB				S	**Sb**	**01 23 07.0**	**-0.5**
	baz=13						
NNSH	**Datong**	**0.80**	**357**	⇑P	**Pb**	**01 22 56.2**	**-0.7**
	baz=6.0						
NNSH				S	**Sb**	**01 23 06.7**	**-0.7**
	baz=6.0						
TPUB	**Ta-pu**	**0.80**	**246**	⇑*i*P	**Pb**	**01 22 56.6**	**-0.3**
	baz=242						
TPUB				S	**Sb**	**01 23 07.0**	**-0.3**
	baz=242						
NNS	**Nan Shan**	**0.81**	**357**	*i* P	**Pb**	**01 22 56.5**	**-0.6**
	baz=13						
NNS				S	**Sb**	**01 23 07.4**	**-0.4**
	baz=13						
WDLH	**Douliu**	**0.81**	**274**	P	**Pb**	**01 22 57.2**	**+0.1**
	baz=272						
WDLH				S	**Sb**	**01 23 07.8**	**0.0**
	baz=272						
WTP	**Ta-pu**	**0.83**	**243**	⇑*i*P	**Pb**	**01 22 57.2**	**-0.2**
	baz=247						
WTP				*e*S	**Sb**	**01 23 08.4**	**0.0**
	baz=247						
ENA	**Nanau**	**0.85**	**20**	P	**Pb**	**01 22 56.2**	**-1.5**
	baz=25						
ENA				*e*S	**Sb**	**01 23 09.2**	**+0.5**
	baz=25						
TCU	**Taichung**	**0.86**	**307**	P	**Pb**	**01 22 58.5**	**+0.7**
	baz=311						
TCU				*e*S	**Sg**	**01 23 10.6**	**+1.2**
	baz=311						
TWGBT	**Beinan**	**0.87**	**201**	P	**Pb**	**01 22 57.3**	**-0.7**
	baz=184						
TWGBT				*e*S	**Sg**	**01 23 09.9**	**+0.2**
	baz=184						
CHN2	**Minshiung**	**0.88**	**264**	*e*P	**Pn**	**01 22 59.3**	**+0.4**
	baz=261						
CHN2				*e*S	**Sg**	**01 23 11.0**	**+1.0**
	baz=261						
ENAH	**Nanao**	**0.89**	**23**	*e*P	**Pb**	**01 22 57.7**	**-0.7**
	baz=19						
ENAH				*e*S	**Sb**	**01 23 10.5**	**+0.6**
	baz=19						
WCHH	**Zhanghua**	**0.91**	**300**	*i* P	**Pb**	**01 22 59.0**	**+0.3**
	baz=302						
WCHH				S	**Sg**	**01 23 12.1**	**+0.9**
	baz=302						
CHY	**Chiayi**	**0.93**	**262**	P	**Pb**	**01 22 59.0**	**0.0**
	baz=269						
CHY				*e*S	**Sg**	**01 23 12.0**	**+0.4**
	baz=269						
TWQ1	**Liyutan**	**0.93**	**320**	P	**Pb**	**01 22 59.8**	**+0.7**
	baz=333						
TWQ1				*e*S	**Sg**	**01 23 12.8**	**+1.0**
	baz=333						
CHN1	**Nanshi**	**0.93**	**242**	P	**Pb**	**01 22 59.1**	**0.0**
	baz=237						
CHN1				*e*S	**Sb**	**01 23 11.5**	**+0.3**
	baz=237						
SNST	**Tainan City**	**0.94**	**245**	P	**Pb**	**01 22 59.2**	**0.0**
	baz=249						
SNST				S	**Sb**	**01 23 12.0**	**+0.6**
	baz=249						
SGST	**Jiashian**	**0.94**	**235**	P	**Pb**	**01 22 58.5**	**-0.8**
	baz=230						
SGST				*e*S	**Sb**	**01 23 11.5**	**-0.1**
	baz=230						
LDUT	**Ludao**	**0.95**	**177**	P	**Pb**	**01 22 57.5**	**-1.9**
	baz=172						
LDUT				*e*S	**Sb**	**01 23 10.5**	**-1.2**
	baz=172						
WTK	**Tuku**	**0.95**	**274**	*e*P	**Pb**	**01 22 59.7**	**+0.3**
	baz=271						
WTK				*e*S	**Sb**	**01 23 12.1**	**+0.4**
	baz=271						
SLGT	**Liugui**	**0.95**	**229**	P	**Pb**	**01 22 59.1**	**-0.4**
	baz=217						
SLGT				*e*S	**Sb**	**01 23 11.4**	**-0.4**
	baz=217						
NDT	**Datong Townshi**	**0.97**	**5**	P	**Pb**	**01 23 00.2**	**+0.4**
	baz=17						
NDT				*e*S	**Sb**	**01 23 12.8**	**+0.4**
	baz=17						
NSY	**Sanyi**	**0.99**	**322**	*i* P	**Pg**	**01 23 01.3**	**+0.6**
	baz=336						
NSY				*e*S	**Sg**	**01 23 15.6**	**+1.9**
	baz=336						
RLNB	**Erlin**	**1.01**	**285**	*e*P	**Pb**	**01 23 00.4**	**0.0**
	baz=284						
RLNB				*e*S	**Sb**	**01 23 14.2**	**+0.8**
	baz=284						
WDJ	**Dajia District**	**1.01**	**315**	P	**Pb**	**01 23 00.6**	**+0.1**
	baz=319						
WDJ				*e*S	**Sg**	**01 23 15.7**	**+1.3**
	baz=319						
ENTT	**Nioudou**	**1.02**	**7**	P	**Pb**	**01 22 59.5**	**-1.0**
	baz=21						
ENTT				S	**Sb**	**01 23 13.9**	**+0.2**
	baz=21						
YHNB	**Yeheng**	**1.04**	**358**	P	**Pb**	**01 23 00.7**	**-0.2**
	baz=3.0						
YHNB				*e*S	**Sb**	**01 23 14.1**	**-0.3**
	baz=3.0						
NSK	**Sanguang**	**1.04**	**357**	P	**Pb**	**01 23 00.9**	**-0.2**
	baz=2.0						
NSK				*e*S	**Sb**	**01 23 14.4**	**-0.1**
	baz=2.0						
PTSB	**Yuanli**	**1.05**	**321**	P	**Pn**	**01 23 02.0**	**+0.7**
	baz=338						
PTSB				*e*S	**Sg**	**01 23 16.7**	**+1.2**
	baz=338						
TWC	**Suao**	**1.05**	**22**	P	**Pb**	**01 23 00.5**	**-0.6**
	baz=18						
TWC				*e*S	**Sn**	**01 23 15.9**	**+0.3**
	baz=18						
NSTT	**Nanjuang**	**1.07**	**339**	P	**Pb**	**01 23 01.9**	**+0.5**
	baz=344						
NSTT				*e*S	**Sb**	**01 23 15.0**	**-0.2**
	baz=344						
NMLH	**Miaoli**	**1.07**	**328**	P	**Pn**	**01 23 02.3**	**+0.6**
	baz=332						
NMLH				*e*S	**Sg**	**01 23 17.4**	**+1.1**
	baz=332						
LIOB	**Emei**	**1.08**	**340**	P	**Pb**	**01 23 02.1**	**+0.4**
	baz=345						
LIOB				*e*S	**Sb**	**01 23 16.0**	**+0.5**
	baz=345						
ICHU	**Yijhu**	**1.08**	**256**	*e*P	**Pb**	**01 23 02.1**	**+0.5**
	baz=251						
ICHU				*e*S	**Sn**	**01 23 16.8**	**+0.4**
	baz=251						
WSF	**Szhu**	**1.10**	**271**	*e*P	**Pn**	**01 23 01.5**	**-0.5**
	baz=267						
WSF				*e*S	**Sb**	**01 23 16.6**	**+0.6**
	baz=267						
TWE	**Neicheng**	**1.11**	**11**	*e*P	**Pb**	**01 23 02.7**	**+0.5**
	baz=30						
TWE				*e*S	**Sn**	**01 23 17.5**	**+0.5**
	baz=30						
ECL	**Taimali**	**1.11**	**203**	P	**Pn**	**01 23 01.6**	**-0.6**
	baz=189						
ECL				*e*S	**Sb**	**01 23 16.1**	**-0.2**
	baz=189						
SCST	**Cishan**	**1.13**	**229**	P	**Pb**	**01 23 03.0**	**+0.6**
	baz=224						
SCST				*e*S	**Sg**	**01 23 20.4**	**+2.4**
	baz=224						
SSD	**Sandimen**	**1.14**	**220**	P	**Pn**	**01 23 01.9**	**-0.6**
	baz=210						
SSD				*e*S	**Sn**	**01 23 18.2**	**+0.4**
	baz=210						
NWLT	**Wulai**	**1.15**	**4**	*e*P	**Pn**	**01 23 02.8**	**+0.1**
	baz=19						
NWLT				*e*S	**Sb**	**01 23 15.9**	**-1.5**
	baz=19						
CHN8	**Yiju**	**1.15**	**256**	*e*P	**Pn**	**01 23 02.4**	**-0.2**
	baz=251						
CHN8				*e*S	**Sg**	**01 23 18.9**	**+0.3**
	baz=251						
TSMG	**Majia**	**1.17**	**218**	P	**Pn**	**01 23 02.4**	**-0.5**
	baz=209						
TSMG				*e*S	**Sn**	**01 23 18.9**	**+0.5**
	baz=209						
TWM1	**Shoushan**	**1.22**	**229**	*e*P	**Pg**	**01 23 06.5**	**+1.5**
	baz=213						
MASBT	**Mashibuluo**	**1.25**	**216**	P	**Pn**	**01 23 03.9**	**-0.1**
	baz=208						
MASBT				*e*S	**Sb**	**01 23 20.0**	**-0.2**
	baz=208						
NTC	**Toucheng**	**1.28**	**17**	*e*P	**Pn**	**01 23 03.9**	**-0.5**
	baz=24						
EGS		**1.30**	**21**	*e*P	**Pn**	**01 23 05.0**	**+0.3**
	baz=29						
TATO	**Taipei**	**1.34**	**2**	*e*P	**Pn**	**01 23 05.2**	**-0.1**
	baz=23						
EAST	**Anshuo**	**1.35**	**203**	*e*P	**Pb**	**01 23 06.2**	**-0.1**
	baz=187						
EAST				*e*S	**Sb**	**01 23 23.6**	**+0.4**
	baz=187						
TWA	**Mucha**	**1.35**	**6**	*e*P	**Pb**	**01 23 07.4**	**+1.1**
	baz=22						
SSPT	**Xinbi**	**1.39**	**215**	*e*P	**Pb**	**01 23 07.3**	**+0.6**
	baz=202						
TIPB	**Shuangxi**	**1.39**	**15**	P	**Pn**	**01 23 05.1**	**-0.9**
	baz=20						
TIPB				*e*S	**Sn**	**01 23 21.7**	**-2.2**
	baz=20						
SCZT	**Fangliau**	**1.45**	**211**	*e*P	**Pb**	**01 23 07.8**	**-0.2**
	baz=201						
SCZT				*e*S	**Sb**	**01 23 27.4**	**+1.3**
	baz=201						
TWS1	**Kuangyinshan**	**1.47**	**360**	*e*P	**Pb**	**01 23 08.4**	**+0.2**
	baz=18						
TWS1				*e*S	**Sg**	**01 23 28.6**	**-0.2**
	baz=18						
NWF	**Wu-fen Shan**	**1.47**	**13**	*e*P	**Pn**	**01 23 08.2**	**+0.9**
	baz=33						
WFSB	**Wu-fen Shan**	**1.47**	**13**	*e*P	**Pn**	**01 23 07.9**	**+0.8**
	baz=32						
YM01	**YM01**	**1.52**	**5**	*e*P	**Pn**	**01 23 07.8**	**0.0**
	baz=26						
YM01				*e*S	**Sn**	**01 23 27.7**	**+0.5**
	baz=26						
SLIU	**Shizi**	**1.52**	**202**	*e*P	**Pb**	**01 23 09.4**	**+0.3**
	baz=184						
YM04	**YM04**	**1.52**	**4**	*e*P	**Pn**	**01 23 07.7**	**-0.2**
	baz=33						
YM10	**YM10**	**1.53**	**5**	*e*P	**Pn**	**01 23 08.0**	**+0.1**
	baz=34						
YM05	**YM05**	**1.54**	**5**	*e*P	**Pn**	**01 23 08.5**	**+0.4**
	baz=34						
YM11	**YM11**	**1.54**	**5**	*e*P	**Pb**	**01 23 09.8**	**+0.3**
	baz=34						
ANP	**Anpu**	**1.55**	**3**	*e*P	**Pb**	**01 23 09.8**	**0.0**
	baz=32						
LAY	**Lan-yu**	**1.59**	**176**	*e*P	**Pn**	**01 23 06.3**	**-2.4**
	baz=168						
WLCH	**Liuqiu**	**1.59**	**217**	*e*P	**Pb**	**01 23 11.2**	**+0.8**
	baz=209						
WDGT	**Dungji**	**1.66**	**258**	*e*P	**Pn**	**01 23 09.1**	**-0.6**
	baz=254						
YOJ	**Yonaguni jima**	**1.67**	**60**	*e*P	**Pn**	**01 23 09.8**	**-0.1**
	baz=64						
YOJ	**Yonaguni jima**	**1.67**	**60**	P	**Pn**	**01 23 09.8**	**-0.1**
YOJ				*e*S	**Sn**	**01 23 31.1**	**+0.2**
PHUB	**P'eng-hu**	**1.70**	**267**	*e*P	**Pn**	**01 23 10.7**	**+0.4**
	baz=264						
PNG	**Penghu**	**1.71**	**268**	*e*P	**Pn**	**01 23 09.5**	**-0.9**
	baz=266						
TWK1	**Hengchun**	**1.77**	**199**	*e*P	**Pn**	**01 23 11.6**	**+0.3**
	baz=184						
TWKBT	**Hengchun**	**1.77**	**199**	*e*P	**Pn**	**01 23 11.9**	**+0.7**
	baz=184						
HATJ	**Hateruma jima**	**2.22**	**78**	P	**Pn**	**01 23 17.2**	**-0.2**
HATJ				*e*S	**Sn**	**01 23 44.6**	**+0.1**
IRIF	**Iriomote-Funau**	**2.22**	**71**	P	**Pn**	**01 23 17.7**	**+0.3**
IRIF				*e*S	**Sn**	**01 23 45.3**	**+0.8**
VWUC	**VWUC**	**2.25**	**307**	*e*P	**Pn**	**01 23 17.4**	**-0.5**
	baz=308						
JKRS	**Kuro-shima**	**2.44**	**75**	P	**Pn**	**01 23 21.0**	**+0.5**
JKRS				*e*S	**Sn**	**01 23 51.0**	**+1.1**
PTMZ	**Houxiangcun**	**2.53**	**304**	*e*P	**Pn**	**01 23 22.0**	**+0.3**
	baz=304						
JIJ	**Ishigaki jima**	**2.59**	**73**	P	**Pn**	**01 23 22.2**	**-0.3**
JIJ				*e*S	**Sn**	**01 23 53.5**	**-0.1**
JISG	**Ishigakijimahi**	**2.81**	**70**	P	**Pn**	**01 23 25.0**	**-0.5**
JISG				S	**Sn**	**01 23 59.0**	**+0.1**
MATB	**Ma-tsu**	**2.85**	**332**	*e*P	**Pn**	**01 23 25.7**	**-0.4**
	baz=334						
KNMB	**Chin-men Tao**	**2.90**	**287**	*e*P	**Pn**	**01 23 25.7**	**-1.0**
	baz=288						
JTJ	**Tarama**	**3.16**	**71**	P	**Pn**	**01 23 30.3**	**0.0**
JTJ				S	**Sn**	**01 24 08.1**	**+0.5**
LYJJ	**Jianjiangzhen**	**3.28**	**333**	*e*P	**Pn**	**01 23 31.6**	**-0.3**
	baz=335						
MHZQ	**Yeshan**	**3.28**	**319**	*e*P	**Pn**	**01 23 32.0**	**-0.1**
	baz=319						
AXDP	**Jialang**	**3.40**	**293**	*e*P	**Pn**	**01 23 32.8**	**-0.8**
	baz=290						
XPSS	**Dashiqiu**	**3.47**	**341**	*e*P	**Pn**	**01 23 34.5**	**-0.1**
	baz=345						

IDC 04 01:23:05.7±6.0, 39.42N×110.79E, $h0^{km}$, mb3.5/3, mb1 3.7/4, mb1mx3.3/37, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=127.2km s-min=29.4km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.00**	**341**	Pn	Pn	01 25 16.8	-0.1
	0.2nm,0.3s,baz=158,slow=14,SNR=12						
SONM				Lg	Lg	01 27 41.3	
	0.2nm,0.3s,baz=155,slow=32,SNR=2.6						
MKAR	**Makanchi Array**	**21.99**	**299**	P	P	01 28 01.2	0.0
	1.9nm,1.0s,baz=88,slow=11,SNR=5.9						
CMAR	**Chiang Mai Arr**	**23.27**	**210**	P	P	01 28 14.9	-0.1
	1.6nm,0.8s,baz=10,slow=9.8,SNR=8.2						
KURBB	**Kurchatov Arra**	**25.21**	**307**	P	P	01 28 33.0	+0.1
	1.4nm,1.0s,baz=106,slow=9.4,SNR=6.1						

*NEIC **04** 01:44:24.7±1.7, 9.9S±0.4×158.2E±0.2, h39^{km}±15^{km}, mb4.0/4, Error ellipse: s-maj=59.9km s-min=14.6km az=157.0*
*IDC **04** 01:44:27.3±1.7, 7.40S×155.54E, $h0^{km}$, mb3.8/5, mb1 4.1/7, mb1mx3.8/27, mbtmp3.9/7, ML3.9/2, MS3.4/1, Ms1 3.3/1, ms1mx2.3/25, Error ellipse: s-maj=48.5km s-min=26.8km az=122.0*

ISC 04 01:44:27.8±1.2, 7.5S±0.1×155.7E±0.2, $h10^{km}$, n17, σ1.25/17, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.85**	**311**	Pn	Pn	**01 45 39.1**	**-1.9**
	5.2nm,0.3s,baz=45,slow=12,SNR=1.5						
KRVT				Sn	**Sn**	**01 46 38.9**	**+1.7**
	10nm,0.3s,baz=181,slow=10,SNR=3.9						
CTA	**Charters Tower**	**15.49**	**215**	Pn	Pn	**01 48 06.4**	**-0.2**
	0.3nm,0.3s,baz=47,slow=18,SNR=1.9						
CTA	**Charters Tower**	**15.49**	**215**	P	Pn	**01 48 06.4**	**-0.2**
WR0	**Warramunga Arr**	**23.95**	**237**	P	P	**01 49 42.3**	**-0.2**
WR0				IAmb	IAmb	01 49 58.1	
	comp=Z,5.4nm,1.1s						
WB0	**Warramunga Arr**	**23.98**	**237**	P	P	**01 49 44.1**	**+1.3**
WB0				IAmb	IAmb	01 49 51.8	
	comp=Z,4.7nm,1.1s						
WB2	**Warramunga Arr**	**24.10**	**237**	P	P	**01 49 44.1**	**+0.2**
WB2				IAmb	IAmb	01 49 53.3	
	comp=Z,3.2nm,1.0s						
WRA	**Warramunga Arr**	**24.11**	**237**	P	P	**01 49 43.4**	**-0.6**
	comp=Z,2.5nm,1.2s,baz=59,slow=9.6,SNR=5.2						
WRA	**Warramunga Arr**	**24.11**	**237**	P	P	**01 49 46.2**	**+2.2**
ASAR	**Alice Springs**	**26.36**	**230**	P	P	**01 50 06.2**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=54,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**26.36**	**230**	P	P	**01 50 02.6**	**-1.9**
STKA	**Stephens Creek**	**27.57**	**207**	LR	LR	02 01 07.7	
	comp=Z,80nm,19.0s,baz=25,slow=36						
CMAR	**Chiang Mai Arr**	**61.64**	**296**	P	P	**01 54 46.2**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=106,slow=4.5,SNR=5.5						
IMAR	**Indian Mountai**	**81.99**	**19**	P	P	**01 56 48.1**	**+0.4**
ILAR	**Eielson Array**	**83.60**	**21**	P	P	**01 56 57.0**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=257,slow=5.2,SNR=10.0						
ILAR	**Eielson Array**	**83.60**	**21**	P	P	**01 56 55.4**	**-0.7**
MKAR	**Makanchi Array**	**84.25**	**319**	P	P	**01 56 59.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=85,slow=3.5,SNR=1.8						
TORD	**Torodi Ar. Bea**	**153.84**	**284**	PKPbc	**PKiKP**	**02 04 29.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=101,slow=2.9,SNR=2.2						

*THE **04** 02:11:37.5, 40.77N×19.68E, h4^{km}±1^{km}, ML1.9/3, Error ellipse: s-maj=1.5km s-min=0.7km az=289.0*
*TIR **04** 02:11:37.2, 40.73N×19.54E, h12^{km}±2^{km}, Md3.4, Ml2.4*

ISC 04 02:11:37.4±1.1, 40.75N±0.02×19.61E±0.03, $h9^{km}$±9^{km}, n24, σ0.81/39, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.29**	**197**	P	**Pg**	**02 11 43.3**	**+0.1**
VLO				S	**Sb**	**02 11 48.9**	**-0.7**
VLO	**Vlora**	**0.29**	**197**	P	**Pg**	**02 11 43.1**	**-0.1**
	baz=188						
VLO				S	**Sg**	**02 11 46.7**	**-0.4**
	baz=188						
VLO				AMP			
	comp=E,9.8nm,0.3s,baz=188						
TIR	**Tirane**	**0.63**	**18**	P	**Pg**	**02 11 48.9**	**-0.7**
TIR	**Tirane**	**0.63**	**18**	P	**Pb**	**02 11 50.0**	**-0.5**
	baz=21						
TIR				S	**Sn**	**02 12 01.1**	**-1.5**
	baz=21						
TIR				AMP			
	comp=N,0.5nm,0.7s,baz=21						
SRN	**Sarande**	**0.92**	**161**	P	**Pg**	**02 11 55.0**	**0.0**
SRN				S	**Sb**	**02 12 08.4**	**+0.8**
	comp=N,58nm,0.5s						
SRN	**Sarande**	**0.92**	**161**	P	**Pg**	**02 11 54.9**	**0.0**
	baz=157						
SRN				S	**Sn**	**02 12 09.3**	**-0.3**
	baz=157						
SRN				AMP			
	comp=N,0.1nm,0.6s,baz=157						
LSK	**Leskovik**	**0.96**	**128**	P	**Pb**	**02 11 56.7**	**+0.5**
	baz=125						
LSK				S	**Sn**	**02 12 11.8**	**+0.8**
	baz=125						
LSK				AMP			
	comp=N,0.4nm,0.8s,baz=125						
SCTE	**Santa Cesarea**	**1.10**	**233**	P	**Pg**	**02 11 58.3**	**-0.2**
	baz=232						
PHP	**Peshkopia**	**1.13**	**34**	P	**Pn**	**02 12 00.3**	**+1.0**
	baz=35						
PHP				S	**Sn**	**02 12 17.1**	**+2.1**
	baz=35						
PHP				AMP			
	comp=N,0.2nm,0.5s,baz=35						
NEST	**Nestorio**	**1.15**	**106**	P	**Pg**	**02 11 57.9**	**-1.5**
NEST				S	**Sg**	**02 12 14.2**	**-0.1**
	comp=N,48nm,0.5s						
PUK	**Puka**	**1.31**	**9**	P	**Pg**	**02 12 02.5**	**0.0**
	baz=11						
PUK				AMP			
	comp=N,0.2nm,0.6s,baz=11						
IGT	**Igoumenitsa**	**1.33**	**155**	P	**Pn**	**02 12 01.9**	**-0.2**
IGT				S	**Sg**	**02 12 20.8**	**+0.5**
	comp=N,58nm,0.7s						
IGT	**Igoumenitsa**	**1.33**	**155**	P	**Pb**	**02 12 02.6**	**+0.1**
	baz=152						
JAN	**Janina**	**1.45**	**138**	P	**Pn**	**02 12 03.7**	**0.0**
KPRO	**Kipourio**	**1.56**	**120**	P	**Pn**	**02 12 05.1**	**-0.2**
BCI	**Bajram Curri**	**1.65**	**12**	P	**Pg**	**02 12 08.5**	**-0.6**
	baz=13						
BCI				S	**Sg**	**02 12 33.1**	**+2.5**
	baz=13						
BCI				AMP			
	comp=N,0.2nm,0.9s,baz=13						
TSLK	**Tsoukalades, L**	**2.08**	**157**	P	**Pn**	**02 12 12.3**	**-0.1**
LKD2	**Lefkada island**	**2.12**	**157**	P	**Pn**	**02 12 12.7**	**-0.2**
STIP	**Stip**	**2.16**	**63**	*i* Pn	**Pg**	**02 12 17.7**	**-1.1**
STON	**Ston**	**2.56**	**327**	*e*Pn	**Pn**	**02 12 18.3**	**-0.6**
STON				Sn	**Sn**	**02 12 50.0**	**-0.1**
LSTV	**Lastovo**	**2.86**	**316**	*e*Pn	**Pn**	**02 12 22.8**	**-0.4**
LSTV				Sn	**Sn**	**02 12 57.1**	**-0.6**
MAKA	**Makarska**	**3.19**	**324**	*e*Pn	**Pn**	**02 12 27.9**	**+0.3**
MAKA				Sn	**Sn**	**02 13 06.0**	**+0.3**
RICI	**Ricice**	**3.31**	**327**	*e*Pn	**Pn**	**02 12 29.0**	**-0.3**
RICI				Sn	**Sn**	**02 13 08.9**	**+0.3**
DUGI	**Dugi Otok**	**4.68**	**315**	*i* Pn	**Pn**	**02 12 47.5**	**-0.5**
DUGI				Sn	**Sn**	**02 13 42.8**	**+0.4**

IDC 04 02:16:59.0±2.1, 2.38N×128.02E, $h0^{km}$, mb3.3/4, mb1 3.6/4, mb1mx3.4/46, mbtmp3.4/4, Error ellipse: s-maj=110.4km s-min=25.2km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.48**	**186**	P	P	02 21 39.4	+0.8
	0.5nm,0.6s,baz=2.6,slow=11,SNR=1.2						
WRA	**Warramunga Arr**	**23.03**	**165**	P	P	02 22 06.7	+0.7
	0.4nm,0.3s,baz=344,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.51**	**168**	P	P	02 22 37.1	-1.4
	0.3nm,0.5s,baz=352,slow=7.7,SNR=6.1						
MKAR	**Makanchi Array**	**59.39**	**325**	P	P	02 27 03.6	+0.2
	0.4nm,0.5s,baz=111,slow=8.3,SNR=4.7						

IDC 04 02:19:25.9±1.4, 2.32S×139.03E, $h0^{km}$, mb3.4/3, mb1 3.7/4, mb1mx3.5/36, mbtmp3.5/4, ML3.6/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/23, Error ellipse: s-maj=27.4km s-min=14.7km az=5.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.68**	**97**	Pg	Pb	02 19 57.5	-0.2
	13nm,0.3s,baz=273,slow=15,SNR=43						
JAY				Lg	Lg	02 20 18.5	
	13nm,0.3s,baz=125,slow=20,SNR=13						
WRA	**Warramunga Arr**	**18.11**	**194**	P	Pn	02 23 38.5	-0.6
	0.2nm,0.3s,baz=17,slow=13,SN

ISC 04 02:22:03.4±1.3, 31°.47N±0°.03×115°.46W±0°.03, h16km±10km, n15, σ0s69/28, 6C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	**0.29**	**255**	⇑*iP*	**Pb**	**02 22 10.1**	**-0.2**
VTX				*eS*	**Sg**	**02 22 13.8**	**0.0**
VTX				⇓*e*		02 22 14.4	
VTX				IAML		02 22 14.4	
	comp=N,606nm,0.1s						
VTX				⇑*e*		02 22 15.0	
VTX				IAML		02 22 15.0	
	comp=E,530nm,0.1s						
ECBX	**El Chinero**	**0.35**	**89**	⇑*iP*	**Pb**	**02 22 11.8**	**+0.5**
ECBX				*eS*	**Sb**	**02 22 17.0**	**+0.4**
SPIG	**San Pedro Mart**	**0.42**	**181**	*eP*	**Pb**	**02 22 13.4**	**+0.6**
SPIG				*i S*	**Sg**	**02 22 17.2**	**-0.7**
SPIG	**San Pedro Mart**	**0.42**	**181**	*eP*	**Pb**	**02 22 13.1**	**+0.3**
SPIG				*eS*	**Sb**	**02 22 19.8**	**+0.8**
SPX	**San Pedro Mart**	**0.43**	**181**	*eP*	**Pb**	**02 22 13.2**	**+0.3**
SPX				*eS*	**Sg**	**02 22 17.6**	**-0.5**
SPX	**San Pedro Mart**	**0.43**	**181**	⇑*eP*	**Pb**	**02 22 13.4**	**+0.6**
SPX				*eS*	**Sb**	**02 22 19.9**	**+0.6**
SPX				⇑*e*		02 22 20.6	
SPX				IAML		02 22 20.6	
	comp=N,184nm,0.1s						
SJX	**San Joaquin**	**0.52**	**305**	⇑*eP*	**Pb**	**02 22 14.9**	**+0.8**
SJX				*eS*	**Sb**	**02 22 23.4**	**+1.9**
SFX	**San Felipe**	**0.68**	**129**	*eP*	**Pn**	**02 22 18.1**	**-0.3**
SFX				*eS*	**Sn**	**02 22 27.5**	**-1.1**
SQX	**San Quintin**	**0.96**	**202**	*eP*	**Pn**	**02 22 22.1**	**-0.1**
SQX				*eS*	**Sn**	**02 22 35.8**	**+0.2**
MBIG	**Mexicali**	**0.96**	**13**	*i* P	**Pn**	**02 22 22.3**	**0.0**
MBIG				*i* S	**Sb**	**02 22 34.8**	**+0.5**
IKP	**In-Ko-Pah, Jac**	**1.30**	**335**	*eP*	**Pn**	**02 22 26.8**	**-0.4**
CBX	**Cerro Bola**	**1.33**	**310**	*eP*	**Pn**	**02 22 27.4**	**-0.1**
CBX				*eS*	**Sb**	**02 22 44.1**	**-0.8**
CBX	**Cerro Bola**	**1.33**	**310**	*eP*	**Pn**	**02 22 27.4**	**-0.1**
CBX				*eS*	**Sb**	**02 22 44.1**	**-0.8**
CBX				IAML		02 22 45.2	
	comp=E,105nm,0.2s						
CBX				⇓*e*		02 22 45.2	
CBX				⇓*e*		02 22 45.2	
CBX				IAML		02 22 45.2	
	comp=N,98nm,0.2s						
TJIG	**Tijuana**	**1.41**	**313**	*eP*	**Pn**	**02 22 28.8**	**+0.2**
TJIG				*i* S	**Sn**	**02 22 45.9**	**-1.0**
BAR	**Barrett**	**1.59**	**320**	*eP*	**Pn**	**02 22 31.4**	**+0.4**

*INET **04** 02:23:01.4, 12°.89N×88°.56W, h13km, ML3.2*
*UCR **04** 02:23:01.5±0.9, 12°.74N×88°.66W, h49km±19km, ML3.7*
*SNET **04** 02:23:01.2±0.9, 12°.73N×88°.66W, h47km±20km, ML3.7*

ISC 04 02:23:00.8±2.7, 12°.7N±0°.1×88°.66W±0°.05, h35km, n49, σ0s32/57, 6C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.67**	**8**	⇑*eP*	**Pn**	**02 23 13.6**	**-0.3**
ALJI				*eS*	**Sn**	**02 23 23.6**	**+0.4**
ALJI				IAML		02 23 28.9	
	comp=Z,3μm,0.2s						
ALJI	**Alcalda de J**	**0.67**	**8**	⇑*eP*	**Pn**	**02 23 13.6**	**-0.3**
ALJI				*eS*	**Sn**	**02 23 23.6**	**+0.4**
ALJI				IAML		02 23 28.9	
	comp=Z,3μm,0.2s						
LCY	**Lacayo**	**0.84**	**25**	*eP*	**Pn**	**02 23 16.6**	**+0.3**
LCY	**Lacayo**	**0.84**	**25**	*eP*	**Pn**	**02 23 16.6**	**+0.3**
COEB	**Comit de Eme**	**0.85**	**9**	*eP*	**Pn**	**02 23 16.0**	**-0.4**
COEB				*eS*	**Sn**	**02 23 27.5**	**-0.2**
COEB	**Comit de Eme**	**0.85**	**9**	*eP*	**Pn**	**02 23 16.0**	**-0.4**
COEB				*eS*	**Sn**	**02 23 27.5**	**-0.2**
TECA	**Tecapa**	**0.85**	**11**	*eP*	**Pn**	**02 23 16.1**	**-0.4**
TECA	**Tecapa**	**0.85**	**11**	*eP*	**Pn**	**02 23 16.1**	**-0.4**
PACA	**Pacayal**	**0.87**	**22**	*eP*	**Pn**	**02 23 17.1**	**+0.3**
PACA	**Pacayal**	**0.87**	**22**	*eP*	**Pn**	**02 23 17.1**	**+0.3**
BLLM	**Bellamira**	**0.88**	**28**	*eP*	**Pn**	**02 23 16.9**	**+0.1**
BLLM	**Bellamira**	**0.88**	**28**	*eP*	**Pn**	**02 23 16.9**	**+0.1**
COEG	**Centro de Oper**	**0.98**	**348**	⇓*eP*	**Pn**	**02 23 17.7**	**-0.5**
COEG				IAML		02 23 35.8	
	comp=Z,3μm,0.3s						
COEG	**Centro de Oper**	**0.98**	**348**	⇓*eP*	**Pn**	**02 23 17.7**	**-0.5**
COEG				IAML		02 23 35.8	
	comp=Z,3μm,0.3s						
LCND	**La Caada**	**0.99**	**49**	⇓*eP*	**Pn**	**02 23 17.8**	**-0.5**
LCND				*eS*	**Sn**	**02 23 31.3**	**+0.2**
LCND				IAML		02 23 34.2	
	comp=Z,3μm,0.3s						
LCND	**La Caada**	**0.99**	**49**	⇓*eP*	**Pn**	**02 23 17.8**	**-0.5**
LCND				*eS*	**Sn**	**02 23 31.3**	**+0.2**
LCND				IAML		02 23 34.2	
	comp=Z,3μm,0.3s						
CNCH	**Conchagua**	**1.02**	**53**	*eP*	**Pn**	**02 23 18.6**	**-0.1**
CNCH	**Conchagua**	**1.02**	**53**	*eP*	**Pn**	**02 23 18.6**	**-0.1**
LFRS	**El Faro**	**1.04**	**338**	⇓*iP*	**Pn**	**02 23 18.4**	**-0.6**
LFRS	**El Faro**	**1.04**	**338**	⇓*iP*	**Pn**	**02 23 18.4**	**-0.6**
PAVA	**Las Pavas**	**1.08**	**346**	*eP*	**Pn**	**02 23 19.4**	**-0.2**
PAVA				*eS*	**Sn**	**02 23 33.5**	**-0.1**
PAVA	**Las Pavas**	**1.08**	**346**	*eP*	**Pn**	**02 23 19.4**	**-0.2**
PAVA				*eS*	**Sn**	**02 23 33.5**	**-0.1**
LBRS	**Las Brisas**	**1.14**	**341**	⇑*iP*	**Pn**	**02 23 20.3**	**-0.1**
LBRS	**Las Brisas**	**1.14**	**341**	⇑*iP*	**Pn**	**02 23 20.3**	**-0.1**
SNET	**Serv Nac Est T**	**1.16**	**332**	*eP*	**Pn**	**02 23 20.4**	**-0.4**
SNET				IAML		02 23 37.8	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**1.16**	**332**	*eP*	**Pn**	**02 23 20.4**	**-0.4**
SNET				IAML		02 23 37.8	
	comp=Z,2μm,0.2s						
FAGO	**Alcalda de S**	**1.17**	**28**	⇑*eP*	**Pn**	**02 23 20.8**	**+0.1**
FAGO	**Alcalda de S**	**1.17**	**28**	⇑*eP*	**Pn**	**02 23 20.8**	**+0.1**
LFU	**La Fuente**	**1.17**	**338**	*eP*	**Pn**	**02 23 20.6**	**-0.2**
LFU	**La Fuente**	**1.17**	**338**	*eP*	**Pn**	**02 23 20.6**	**-0.2**
UEES	**Universidad Ev**	**1.19**	**332**	*eP*	**Pn**	**02 23 20.7**	**-0.4**
UEES	**Universidad Ev**	**1.19**	**332**	*eP*	**Pn**	**02 23 20.7**	**-0.4**
BOQS	**Boqueron**	**1.23**	**331**	*eP*	**Pn**	**02 23 21.6**	**-0.1**
BOQS	**Boqueron**	**1.23**	**331**	*eP*	**Pn**	**02 23 21.6**	**-0.1**
TACO	**Tacachico**	**1.47**	**333**	*eP*	**Pn**	**02 23 24.8**	**-0.1**
TACO	**Tacachico**	**1.47**	**333**	*eP*	**Pn**	**02 23 24.8**	**-0.1**
CEVE	**Cerro Verde**	**1.49**	**321**	*eP*	**Pn**	**02 23 25.7**	**+0.3**
CEVE	**Cerro Verde**	**1.49**	**321**	*eP*	**Pn**	**02 23 25.7**	**+0.3**
SBLS	**San Blas**	**1.50**	**322**	*eP*	**Pn**	**02 23 25.7**	**+0.2**
SBLS	**San Blas**	**1.50**	**322**	*eP*	**Pn**	**02 23 25.7**	**+0.2**
SNJE	**San Jose**	**1.51**	**323**	*eP*	**Pn**	**02 23 25.7**	**0.0**
SNJE	**San Jose**	**1.51**	**323**	*eP*	**Pn**	**02 23 25.7**	**0.0**
RTR	**El Retiro**	**1.56**	**322**	*eP*	**Pn**	**02 23 26.7**	**+0.4**
RTR	**El Retiro**	**1.56**	**322**	*eP*	**Pn**	**02 23 26.7**	**+0.4**
NUBE	**Las Nubes**	**1.65**	**319**	⇓*iP*	**Pn**	**02 23 27.3**	**-0.2**
NUBE				IAML		02 23 49.5	
	comp=Z,746nm,0.2s						
NUBE	**Las Nubes**	**1.65**	**319**	⇓*iP*	**Pn**	**02 23 27.3**	**-0.2**
NUBE				IAML		02 23 49.5	
	comp=Z,746nm,0.2s						
MTO3	**Montecristo**	**1.86**	**339**	*eP*	**Pn**	**02 23 30.6**	**+0.1**
MTO3	**Montecristo**	**1.86**	**339**	*eP*	**Pn**	**02 23 30.6**	**+0.1**
ESQI	**Esquipulas**	**2.00**	**341**	*eP*	**Pn**	**02 23 33.0**	**+0.7**

IDC 04 02:24:09.5±15.0, 49°.02S×121°.10E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/31, mbtmp3.6/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/14, Error ellipse: s-maj=740.8km s-min=30.9km az=95.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**23.05**	**50**	LR	LR	02 37 57.7	
	comp=Z,46nm,18.7s,baz=204,slow=36						
ASAR	**Alice Springs**	**27.25**	**26**	P	P	02 29 55.0	-0.4
	0.9nm,0.8s,baz=203,slow=9.1,SNR=4.0						
WRA	**Warramunga Arr**	**30.90**	**25**	P	P	02 30 28.2	+0.4
	0.3nm,0.8s,baz=194,slow=9.2,SNR=1.3						
VNDA	**Vanda**	**32.52**	**165**	P	P	02 30 41.4	0.0
	1.0nm,0.9s,baz=302,slow=9.1,SNR=1.8						
VNDA				LR	LR	02 42 43.1	
	comp=Z,54nm,20.5s,baz=312,slow=34						
H08S2	**Diego Garcia H**	**57.93**	**299**	T	T	03 36 25.8	
	baz=144,slow=76,SNR=4.3						
H08S1	**Diego Carcia H**	**57.94**	**299**	T	T	03 36 26.9	
	baz=144,slow=76,SNR=3.5						
H08S3	**Diego Garcia H**	**57.95**	**299**	T	T	03 36 32.4	
	baz=144,slow=76,SNR=4.5						

*IDC **04** 02:27:12.6±2.3, 72°.38N×3°.65E, h0km, mb3.2/2, mb1 3.5/8, mb1mx3.3/42, mbtmp3.4/8, ML2.9/6, MS2.9/7, Ms1 2.9/7, ms1mx2.6/33, Error ellipse: s-maj=30.4km s-min=22.6km az=111.0*
*BER **04** 02:27:18.2±1.9, 72°.51N×3°.69E, h27km±44km, ML2.2, Confirmed Earthquake*

ISC 04 02:27:13.8±1.3, 72°.45N±0°.08×4°.0E±0°.1, h10km, n30, σ1s55/28, MS2.8/4, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**4.75**	**57**	*eP*	**Pn**	**02 28 25.2**	**-0.2**
N2VI	**Vinje**	**5.39**	**135**	*eP*	**Pn**	**02 28 36.0**	**+1.9**
N2VI				*eS*	**Sn**	**02 29 33.4**	**-2.6**
LOF	**Lofoten**	**5.41**	**139**	*eP*	**Pn**	**02 28 35.8**	**+1.4**
LOF				IAmb	IAmb	02 28 42.1	
	comp=Z,104nm,1.3s						
LOF				IAML		02 29 38.4	
	comp=Z,8.5nm,0.7s						
TRO	**Tromso**	**5.63**	**113**	*eP*	**Pn**	**02 28 38.9**	**+1.4**
TRO				*eS*	**Sn**	**02 29 39.7**	**-2.3**
TRO				IAML		02 29 41.8	
	comp=Z,3.3nm,0.8s						
N2VA	**Vr.y**	**5.65**	**144**	*eP*	**Pn**	**02 28 39.5**	**+1.7**
STEI	**Steigen**	**5.93**	**134**	*eP*	**Pn**	**02 28 43.3**	**+1.7**
STEI				IAML		02 29 46.6	
	comp=Z,4.5nm,1.1s						
FAUS	**Fauske**	**6.40**	**137**	*eP*	**Pn**	**02 28 49.0**	**+1.0**
NBB30	**Finnes**	**6.46**	**144**	*eP*	**Pn**	**02 28 50.8**	**+2.0**
HAMF	**Hammerfest**	**6.50**	**97**	*eP*	**Pn**	**02 28 50.2**	**+0.8**
SPA0	**Spitsbergen Ar**	**6.54**	**23**	*eP*	**Pn**	**02 28 50.0**	**+0.1**
SPITS	**Spitsbergen Ar**	**6.54**	**23**	Pn	**Pn**	**02 28 49.2**	**-0.8**
	baz=203,slow=17,SNR=7.9						
KIF	**Kilpisjarvi**	**6.54**	**114**	*eP*	**Pn**	**02 28 51.8**	**+1.9**
NBB40	**Tonnes**	**6.75**	**148**	*eP*	**Pn**	**02 28 53.9**	**+1.2**
KONS	**Konsvik**	**6.78**	**147**	*eP*	**Pn**	**02 28 53.8**	**+0.7**
KONS				IAmb	IAmb	02 29 01.8	
	comp=Z,43nm,1.3s						
KONS				IAML		02 30 17.4	
	comp=Z,3.8nm,0.7s						
KTK1	**Kautokeino**	**7.23**	**109**	*eP*	**Pn**	**02 29 01.5**	**+2.1**
MOR8	**Moi Rana**	**7.30**	**144**	*eP*	**Pn**	**02 29 02.5**	**+2.1**
ARCES	**ARCESS Array B**	**7.59**	**102**	Pn	**Pn**	**02 29 04.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=307,slow=11,SNR=7.0						
ARCES				Sn	**Sn**	**02 30 30.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=297,slow=18,SNR=1.8						
ARE0	**ARCESS Array B**	**7.59**	**102**	*eP*	**Pn**	**02 29 07.5**	**+3.2**
NSS	**Namsos**	**8.47**	**156**	*eP*	**Pn**	**02 29 16.8**	**+0.4**
NOA	**NORSAR Array B**	**11.80**	**163**	Pn	**Pn**	**02 30 03.0**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=352,slow=13,SNR=1.1						
HFS	**Hagfors**	**12.94**	**158**	Pn	**Pn**	**02 30 17.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=353,slow=11,SNR=8.0						
HFS				LR	LR	02 34 50.2	
	comp=Z,52nm,18.3s,baz=335,slow=35						
FINES	**FINESS Array B**	**13.90**	**131**	Pn	**Pn**	**02 30 31.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=337,slow=14,SNR=7.9						
FINES				LR	LR	02 35 43.8	
	comp=Z,62nm,18.2s,baz=325,slow=37						
EKA	**Eskdalemuir Ar**	**17.44**	**194**	P	**Pn**	**02 31 16.4**	**-0.5**
	baz=357,slow=12,SNR=2.5						
SFJD	**Kangerlussuaq**	**19.04**	**281**	LR	LR	02 37 57.2	
	comp=Z,57nm,18.4s,baz=359,slow=34						
KIRV	**Kirov**	**22.61**	**104**	LR	LR	02 39 29.1	
	comp=Z,21nm,19.2s,baz=334,slow=32						
VRAC	**Vranov**	**23.91**	**159**	LR	LR	02 41 49.9	
	comp=Z,25nm,18.0s,baz=350,slow=37						
GERES	**GERESS Array B**	**24.09**	**164**	P	**P**	**02 32 28.9**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=355,slow=9.9,SNR=3.7						
AKASG	**Malin Array Be**	**24.51**	**139**	P	**P**	**02 32 33.9**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=341,slow=10,SNR=1.7						
KBZ	**Khabaz**	**34.16**	**126**	LR	LR	02 48 02.8	
	comp=Z,24nm,18.9s,baz=12,slow=37						
BRTR	**Keskin Array B**	**35.92**	**139**	LR	LR	02 49 36.5	
	comp=Z,15nm,18.7s,baz=328,slow=37						

TRN 04 02:34:12.8, 10°.96N×62°.12W, h26km, MD3.8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.76**	**114**	*eP*	Pn	02 34 28.0	+0.1
TRN				*eS*	Sn	02 34 38.8	+0.2
GRGR	**Grenville**	**1.25**	**21**	*eP*	Pn	02 34 34.0	-0.7
GRGR				*eS*	Sb	02 34 51.3	-0.3
GRHS	**Sauteurs**	**1.34**	**20**	*eP*	Pn	02 34 35.6	-0.3
GRHS				*eS*	Sn	02 34 52.8	-0.1
TOSP	**Speyside**	**1.59**	**77**	*eP*	Pn	02 34 38.8	-0.5
TOSP				*eS*	Sn	02 34 59.7	+0.7
GCMP	**Grenada, Carri**	**1.66**	**24**	*eP*	Pn	02 34 39.6	-0.7
GCMP				*eS*	Sn	02 35 00.7	-0.2
ORIV	**Oritupano**	**2.27**	**214**	*eS*	Sn	02 35 11.5	-4.3
SVB	**Belmont**	**2.45**	**20**	*eP*	Pn	02 34 51.3	+0.1
SVB				*eS*	Sn	02 35 20.8	+0.4
SVCV	**St. Vincent, C**	**2.49**	**22**	*eP*	Pn	02 34 52.9	+1.2
SVCV				*eS*	Sn	02 35 21.1	-0.2
SVV	**Soufriere Volc**	**2.51**	**20**	*eP*	Pn	02 34 52.4	+0.5
SVV				*eS*	Sn	02 35 21.4	-0.3
MCLT	**Moule a Chique**	**2.97**	**23**	*eP*	Pn	02 34 58.8	+0.5
MCLT				*eS*	Sn	02 35 31.8	-1.2
SLB	**Belfond**	**3.04**	**20**	*eP*	Pn	02 34 59.9	+0.6
SLB				*eS*	Sn	02 35 35.4	+0.4
SLAC	**Saint Lucia, A**	**3.16**	**22**	*eP*	Pn	02 35 01.1	+0.2
SLAC				*eS*	Sn	02 35 37.0	-0.7
SLBI	**Saint Lucia, B**	**3.25**	**20**	*eP*	Pn	02 35 01.9	-0.1
SLBI				*eS*	Sn	02 35 38.8	-1.1
MPOM	**Morne Pois Mar**	**3.68**	**19**	*eP*	Pn	02 35 08.4	+0.3
MPOM				*eS*	Sn	02 35 49.9	-0.7
BIM	**Bigot**	**3.68**	**16**	*eP*	Pn	02 35 08.3	+0.1
BIM				*eS*	Sn	02 35 50.2	-0.6
LPMF	**Morne Lapointe**	**3.77**	**17**	*eP*	Pn	02 35 09.4	+0.2
PML	**Morne Lenard**	**3.91**	**13**	*eP*	Pn	02 35 13.4	+2.2
GBMF	**Grand Be**	**3.93**	**14**	*eP*	Pn	02 35 12.0	+0.4
PCM	**Pelee Case Pet**	**3.94**	**13**	*eP*	Pn	02 35 13.6	+2.0
PCM	**Pelee Case Pet**	**3.94**	**13**	*eP*	Pn	02 35 13.8	+2.2
BAMF	**Morne Balai**	**3.95**	**14**	*eP*	Pn	02 35 13.5	+1.6
DSLB	**Salisbury**	**4.51**	**9**	*eP*	Pn	02 35 20.3	+0.8
TDBA	**Terre de Bas,**	**4.89**	**5**	*eP*	Pn	02 35 25.2	+0.5
MAGL	**Barre de l'ile**	**5.03**	**9**	*eP*	Pn	02 35 27.2	+0.6
CBE	**Ff, Capester**	**5.11**	**5**	*eP*	Pn	02 35 28.0	+0.3
ABD	**La Joyeuse, An**	**5.52**	**6**	*eP*	Pn	02 35 34.4	+1.1
MLYT	**Lee's Yard**	**5.73**	**359**	*eP*	Pn	02 35 36.4	+0.1
ANWB	**Willy Bob**	**6.68**	**3**	*eP*	Pn	02 35 51.4	+2.0

*JMA **04** 02:42:33.4±0.3, 36°.73N×142°.19E, h25km, M3.2*
*IDC **04** 02:42:33.5±2.8, 37°.26N×142°.13E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, ML2.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/29, Error ellipse: s-maj=53.6km s-min=35.8km az=38.0*

ISC 04 02:42:37.4±1.5, 36°.92N±0°.07×141°.90E±0°.08, h19km, n20, σ1s22/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.90**	**282**	P	**Pb**	**02 42 54.0**	**-0.5**
JFK	**Kawauchi**	**0.94**	**299**	P	**Pn**	**02 42 55.4**	**-0.1**
JHO	**Hitachi**	**1.12**	**254**	P	**Pn**	**02 42 56.3**	**-1.7**
JHYU	**Hitachinakayam**	**1.21**	**242**	P	**Pn**	**02 42 57.4**	**-1.8**
JFT	**Otama**	**1.39**	**296**	P	**Pb**	**02 43 02.7**	**0.0**
JFT				*eS*	**Sg**	**02 43 22.8**	**+0.6**
JIO	**Ouri**	**1.59**	**344**	P	**Pn**	**02 43 03.7**	**-0.8**
JOU	**Okura**	**1.75**	**326**	P	**Pb**	**02 43 07.9**	**-0.9**
JAG	**Ashikaga**	**2.03**	**257**	P	**Pn**	**02 43 09.7**	**-0.9**
JMK	**Ichinoseki**	**2.10**	**345**	P	**Pn**	**02 43 11.2**	**-0.3**
MJAR	**Matsushiro Arr**	**2.99**	**264**	Pn	**Pn**	**02 43 23.5**	**-0.3**
	1.0nm,0.3s,baz=85,slow=14,SNR=20						
MJAR				Sn	**Sb**	**02 44 05.4**	**-0.9**
	0.1nm,0.3s,baz=118,slow=28,SNR=1.7						
MAT	**Matsushiro**	**2.99**	**264**	P	**Pn**	**02 43 24.9**	**+1.1**
MAT				*eS*	**Sn**	**02 44 01.1**	**+1.9**
H11N2	**WAKE ISLAND Hy**	**27.75**	**121**	T	T	03 17 03.0	
	baz=314,slow=75,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**27.76**	**121**	T	T	03 16 54.4	
	baz=314,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**27.77**	**121**	T	T	03 16 55.9	
	baz=314,slow=75,SNR=4.3						
SONM	**Songino Array**	**28.17**	**304**	P	**P**	**02 48 27.5**	**-1.1**
	0.4nm,0.5s,baz=114,slow=8.3,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	03 17 51.7	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	03 17 51.0	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	03 17 51.5	
	baz=314						
ARU	**Arti**	**56.70**	**319**	LR	LR	03 16 40.7	
	comp=Z,10nm,18.8s,baz=335,slow=36						
WRA	**Warramunga Arr**	**57.01**	**188**	P	**P**	**02 52 23.8**	**+1.9**
	0.1nm,0.4s,baz=21,slow=7.0,SNR=4.8						

*MOS **04** 03:07:04.5±1.1, 43°.00N×145°.33E, h99km, mb4.2/8, Error ellipse: s-maj=13.5km s-min=8.2km az=104.0*
*NIED **04** 03:07:05.7, 43°.00N×145°.28E, h87km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.82; $M_{\theta\theta}$3.37; $M_{\phi\phi}$-0.55; $M_{r\theta}$3.72; $M_{\theta\phi}$0.44; $M_{\phi r}$2.46; Fault plane solution: $M_0$5.47000×10^{14} NP1: ϕ_s=242.00000°, δ74.00000°, λ-105.00000°. NP2: ϕ_s=106.00000°, δ22.00000°, λ-48.00000°.*
*JMA **04** 03:07:05.6±0.1, 43°.00N×145°.28E, h87km±1km, M3.6*
JMA Felt II J1.
*SKHL **04** 03:07:05.5±0.2, 43°.08N×145°.32E, h105km±6km, mb5.2/4, msh6.0/4*
*NEIC **04** 03:07:07.1±0.8, 42°.96N±0°.08×145°.2E±0°.1, h105km±5km, mb4.2/7, Error ellipse: s-maj=12.5km s-min=11.8km az=70.0*
*IDC **04** 03:07:07.4±2.1, 42°.98N×145°.10E, h103km±16km, mb3.8/15, mb1 3.9/16, mb1mx3.6/53, mbtmp4.1/16, MS3.0/3, Ms1 3.0/3, ms1mx2.5/47, Error ellipse: s-maj=19.6km s-min=17.0km az=67.0*

ISC 04 03:07:05.4±0.7, 43°.00N±0°.05×145°.29E±0°.04, h87km±5km, n84, σ0s87/101, mb4.0/21, 7C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.12**	**309**	P	**Pn**	**03 07 18.3**	**+0.5**
JKHN				*eS*	**Sn**	**03 07 27.6**	**+0.7**
JAK	**Akkeshi**	**0.44**	**269**	P	**Pn**	**03 07 19.5**	**+0.2**
JAK				*eS*	**Sn**	**03 07 29.9**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.48**	**41**	*i* P	**Pn**	**03 07 19.9**	**+0.2**
NMR				*i* S	**Sn**	**03 07 30.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.48**	**41**	⇓*i*PN	**Pn**	**03 07 19.9**	**+0.2**
NMR				*i* S	**Sn**	**03 07 30.2**	**-0.1**
NEM2	**Nemuro 2**	**0.49**	**42**	P	**Pn**	**03 07 19.9**	**+0.2**
NEM2				*eS*	**Sn**	**03 07 30.2**	**-0.1**
JNK	**Nakash**	**0.72**	**324**	P	**Pn**	**03 07 21.7**	**-0.1**
JNK				*eS*	**Sn**	**03 07 33.6**	**-0.4**
GLVR	**Golovnino**	**0.75**	**13**	*i P*	**Pn**	**03 07 22.6**	**+0.4**
GLVR				AMB	AMB	03 07 22.8	
	2μm,0.3s						
GLVR				*i* S	**Sn**	**03 07 35.5**	**+0.9**
GLVR				A	A	03 07 35.9	
	13μm,0.5s						
GLVR				A	A	03 07 35.9	
	17μm,0.5s						
GLVR	**Golovnino**	**0.75**	**13**	⇓*i*PN	**Pn**	**03 07 22.6**	**+0.4**
GLVR				*i* S	**Sn**	**03 07 35.5**	**+0.9**
GLVR				pmax	pmax		
	comp=N,241nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,2μm,0.2s						
GLVR				pmax	pmax		
	comp=E,244nm,0.3s						
GLVR				smax	smax		
	comp=N,13μm,0.4s						
GLVR				smax	smax		
	comp=E,17μm,0.3s						
JRA	**Rausu**	**0.94**	**352**	P	**Pn**	**03 07 24.6**	**+0.4**
JRA				*eS*	**Sn**	**03 07 38.7**	**+0.4**
GRPR	**Tuman**	**1.05**	**19**	*i P*	**Pn**	**03 07 25.7**	**+0.2**
GRPR				AMB	AMB	03 07 26.0	
	comp=E,370nm,0.3s						
GRPR				*eS*	**Sn**	**03 07 40.3**	**-0.2**
GRPR				A	A	03 07 42.0	
	comp=E,6μm,0.5s						
GRPR				A	A	03 07 42.0	
	comp=E,4μm,0.5s						
GRPR	**Tuman**	**1.05**	**19**	⇓*i*PN	**Pn**	**03 07 25.7**	**+0.2**
GRPR				*eS*	**Sn**	**03 07 40.3**	**-0.2**
GRPR				pmax	pmax		
	comp=N,97nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,374nm,0.2s						
GRPR				pmax	pmax		
	comp=E,44nm,0.1s						
GRPR				smax	smax		
	comp=N,6μm,0.2s

YSS				smax	smax		
	comp=E,30nm,1.1s						
YSS				smax	smax		
	comp=N,20nm,0.6s						
KLR	**Kul'dur**	**11.27**	**308**	*e*P	**Pn**	**03 09 43.2**	**-0.1**
KLR	**Kul'dur**	**11.27**	**308**	*ce*PN	**Pn**	**03 09 43.2**	**-0.1**
ULN	**Ulaanbaatar**	**27.07**	**294**	*e*P	**P**	**03 12 40.6**	**+0.7**
ULN	**Ulaanbaatar**	**27.07**	**294**	*ce*P	**P**	**03 12 40.6**	**+0.7**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ULN	**Ulaanbaatar**	**27.07**	**294**	P	**P**	**03 12 37.8**	**-2.0**
SONM	**Songino Array**	**27.52**	**294**	P	**P**	**03 12 43.6**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=85,slow=8.6,SNR=13						
SONM	**Songino Array**	**27.52**	**294**	P	**P**	**03 12 42.9**	**-0.9**
SSLB	**Suanglung**	**27.77**	**234**	P	**P**	**03 12 44.2**	**-1.9**
SSLB				IAmb	IAmb	03 12 55.1	
	comp=Z,4.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**29.48**	**135**	T	T	03 44 09.4	
	baz=328,slow=76,SNR=385						
H11N1	**WAKE ISLAND Hy**	**29.49**	**135**	T	T	03 44 15.0	
	baz=328,slow=76,SNR=289						
H11N3	**WAKE ISLAND Hy**	**29.49**	**135**	T	T	03 44 10.7	
	baz=328,slow=76,SNR=268						
H11S1	**WAKE ISLAND Hy**	**30.40**	**137**	T	T	03 45 20.4	
	baz=329,slow=76,SNR=497						
H11S3	**WAKE ISLAND Hy**	**30.41**	**137**	T	T	03 45 15.8	
	baz=329,slow=76,SNR=319						
H11S2	**WAKE ISLAND Hy**	**30.42**	**137**	T	T	03 45 24.4	
	baz=329,slow=76,SNR=345						
DGZ	**Jazzator, Alta**	**39.62**	**300**	*i* P	**P**	**03 14 29.8**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**40.37**	**307**	P	**P**	**03 14 34.0**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=89,slow=9.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**40.37**	**307**	*i* P	**P**	**03 14 34.2**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.37**	**307**	P	**P**	**03 14 33.6**	**-0.8**
ILAR	**Eielson Array**	**42.89**	**36**	P	**P**	**03 14 56.6**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=257,slow=5.7,SNR=16						
MK31	**Makanchi Array**	**43.73**	**298**	P	**P**	**03 15 01.5**	**-0.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**43.73**	**298**	P	**P**	**03 15 01.5**	**-0.4**
MK31				IAmb	IAmb	03 15 02.2	
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**43.73**	**298**	P	**P**	**03 15 01.6**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=82,slow=10,SNR=13						
MKAR	**Makanchi Array**	**43.73**	**298**	P	**P**	**03 15 01.0**	**-0.9**
KURK	**Kurchatov**	**44.83**	**304**	*e*P	**P**	**03 15 09.4**	**-1.1**
KURK	**Kurchatov**	**44.83**	**304**	*ce*P	**P**	**03 15 09.4**	**-1.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**44.83**	**304**	P	**P**	**03 15 10.1**	**-0.4**
KURK				IAmb	IAmb	03 15 11.7	
	comp=Z,4.5nm,0.6s						
KURBB	**Kurchatov Arra**	**44.91**	**304**	P	**P**	**03 15 10.7**	**-0.5**
	comp=Z,3.9nm,0.5s,baz=69,slow=8.6,SNR=9.2						
BCAR	**Beaver Creek A**	**45.32**	**38**	P	**P**	**03 15 15.0**	**+0.7**
BVAR	**Borovoye Array**	**48.93**	**309**	P	**P**	**03 15 42.3**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=78,slow=7.7,SNR=6.6						
BRVK	**Borovoye**	**48.98**	**309**	*e*P	**P**	**03 15 42.7**	**-0.1**
BRVK	**Borovoye**	**48.98**	**309**	*ce*P	**P**	**03 15 42.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ARU	**Arti**	**53.96**	**317**	P	**P**	**03 16 19.5**	**-0.5**
	comp=Z,2.4nm,0.2s,baz=24,slow=5.7,SNR=4.2						
ARU	**Arti**	**53.96**	**317**	*c i* P	**P**	**03 16 19.4**	**-0.5**
ARU				S	**S**	**03 23 48.5**	**-0.2**
ARU				SS	**SS**	**03 27 31.0**	**+0.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARU	**Arti**	**53.96**	**317**	P	**P**	**03 16 19.4**	**-0.5**
AKTO	**Aktyubinsk**	**56.99**	**310**	P	**P**	**03 16 43.0**	**+1.3**
	comp=Z,1.5nm,0.4s,baz=63,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**63.44**	**192**	P	**P**	**03 17 25.5**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=14,slow=7.0,SNR=3.7						
WRA	**Warramunga Arr**	**63.44**	**192**	P	**P**	**03 17 24.4**	**-1.6**
FINES	**FINESS Array B**	**64.92**	**332**	P	**P**	**03 17 34.4**	**-0.8**
	comp=Z,5.7nm,0.7s,baz=47,slow=7.1,SNR=30						
FINES	**FINESS Array B**	**64.92**	**332**	P	**P**	**03 17 34.6**	**-0.6**
FINES	**FINESS Array B**	**64.92**	**332**	P	**P**	**03 17 34.6**	**-0.6**
ASAR	**Alice Springs**	**67.16**	**191**	P	**P**	**03 17 49.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=9,9,slow=5.9,SNR=7.0						
ASAR	**Alice Springs**	**67.16**	**191**	P	**P**	**03 17 49.9**	**-0.1**
NVAR	**Mina Array Bea**	**69.12**	**57**	P	**P**	**03 18 03.7**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=294,slow=4.7,SNR=5.3						
NVAR	**Mina Array Bea**	**69.12**	**57**	P	**P**	**03 18 02.0**	**-0.5**
NB2	**NORSAR Subarra**	**69.80**	**338**	P	**P**	**03 18 05.1**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.80**	**338**	P	**P**	**03 18 05.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=38,slow=5.1,SNR=12						
HFS	**Hagfors**	**69.84**	**337**	P	**P**	**03 18 05.6**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=53,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**71.37**	**323**	P	**P**	**03 18 15.0**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=40,slow=6.0,SNR=4.4						
AKASG	**Malin Array Be**	**71.37**	**323**	P	**P**	**03 18 15.0**	**-0.7**
CLL	**Collm**	**77.34**	**332**	*i* P	**P**	**03 18 52.8**	**+2.5**
IDI	**Anoyia**	**85.00**	**315**	LR	LR	04 00 12.8	
	comp=Z,7.1nm,20.0s,baz=86,slow=38						
VAE	**Valguarnera**	**88.29**	**323**	LR	LR	04 02 57.3	
	comp=Z,27nm,18.7s,baz=224,slow=38						
H03N2	**Juan Fernandez**	**144.32**	**90**	T	T	06 07 46.4	
	baz=300,slow=76,SNR=3.6						
H03N3	**Juan Fernandez**	**144.34**	**90**	T	T	06 07 45.4	
	baz=300,slow=76,SNR=3.2						
H03N1	**Juan Fernandez**	**144.34**	**90**	T	T	06 07 52.5	
	baz=300,slow=76,SNR=5.0						

IDC 04 03:25:44.2±5.9, 20°.62S×176°.71W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/25, mbtmp3.8/3, Error ellipse: s-maj=275.5km s-min=34.0km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.67**	**257**	P	P	03 34 07.4	+0.3
	1.0nm,0.5s,baz=95,slow=7.9,SNR=19						
WRA	**Warramunga Arr**	**45.78**	**262**	P	P	03 34 07.5	-0.5
	0.4nm,0.4s,baz=97,slow=7.8,SNR=22						
ILAR	**Eielson Array**	**88.17**	**12**	P	P	03 38 36.9	+0.3
	0.2nm,0.4s,baz=215,slow=6.0,SNR=5.2						
EKA	**Eskdalemuir Ar**	**145.00**	**6**	PKPbc	PKPab	03 45 20.9	-1.5
	0.4nm,0.5s,baz=338,slow=3.6,SNR=3.9						

*NNC **04** 03:41:04.1±0.9, 48°.62N×83°.52E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=8.9km s-min=3.9km az=62.0*
*SOME **04** 03:41:06.0, 48°.48N×83°.10E, h5km*
*ASRS **04** 03:41:07.6±0.7, 49°.N±3°.×8°.4E±°, h10km, MLh3.1/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*

ISC 04 03:41:04.0±1.4, 48°.66N±0°.04×83°.96E±0°.04, h7km±12km, n27, σ2°10/35, 5C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.35**	**153**	*e*P	**Pn**	**03 41 30.5**	**+1.2**
	100nm,0.2s						
ZSN				*e*S	**Sn**	**03 41 45.1**	**-2.4**
	201nm,0.2s						
ZSN	**Zaisan**	**1.35**	**153**	P	**Pn**	**03 41 30.4**	**+1.1**
	100nm,0.2s						
ZSN				S	**Sn**	**03 41 45.3**	**-2.2**
	157nm,0.6s						
TUNR	**Tungur**	**2.16**	**45**	Pg	**Pn**	**03 41 42.1**	**+1.6**
TUNR				Sg	**Sb**	**03 42 10.9**	**+0.4**
MK31	**Makanchi Array**	**2.18**	**212**	⇑Pn	Pn	03 41 39.0	-1.7
	1.1nm,0.3s,baz=266,slow=20,SNR=229						
MK31				Sn	**Sn**	**03 42 06.0**	**-1.9**
	36nm,0.4s,baz=40,slow=33,SNR=15						
MAKZ	**Makanchi**	**2.28**	**217**	⇑Pn	Pn	03 41 40.2	-1.9
	0.9nm,0.3s						
MAKZ				⇑Sn	**Sn**	**03 42 08.5**	**-1.9**
	29nm,0.5s						
UKR	**Ust'-Kan**	**2.34**	**13**	Pg	**Pn**	**03 41 45.2**	**+2.2**
UKR				Sg	**Sb**	**03 42 16.8**	**+1.0**
DGZ	**Jazzator, Alta**	**2.51**	**64**	Pg	**Pb**	**03 41 49.4**	**-0.1**
DGZ				Sg	**Sb**	**03 42 19.8**	**-0.8**
CHBI	**Chibit, Altay**	**2.85**	**53**	Pn	**Pn**	**03 41 51.3**	**+1.3**
CHBI				Pg	**Pb**	**03 41 57.0**	**+1.8**
CHBI				Sg	**Sg**	**03 42 34.7**	**-0.7**
ULGR	**Ulagan, Altay**	**3.26**	**51**	Pn	**Pn**	**03 41 57.8**	**+2.1**
ULGR				Pg	**Pg**	**03 42 05.9**	**-0.6**
ULGR				Sg	**Sg**	**03 42 48.2**	**-0.6**
ARTR	**Artybash**	**3.80**	**33**	Pg	**Pb**	**03 42 14.5**	**+3.1**
ARTR				Sg	**Sg**	**03 43 04.1**	**-1.9**
KURK	**Kurchatov**	**4.03**	**303**	⇓Pn	Pn	03 42 04.5	-1.6
	1.4nm,0.5s						
KURK				⇑Pg	Pb	03 42 13.3	-2.0
	1.4nm,0.5s						
KURK				⇓Sn	**Sn**	**03 42 49.6**	**-3.9**
	4.3nm,0.4s						
KURK				⇑Lg	Lg	03 43 06.1	
	21nm,0.5s						
KURBB	**Kurchatov Arra**	**4.04**	**301**	⇓Pn	Pn	03 42 04.9	-1.3
	1.7nm,0.4s						
KURBB				⇓Pg	Pb	03 42 13.4	-2.0
	1.5nm,0.3s						
KURBB				⇓Sn	**Sn**	**03 42 50.5**	**-3.2**
	24nm,0.8s						
KURBB				⇓Lg	Lg	03 43 06.1	
	53nm,0.5s						
TEL	**Teeli**	**4.68**	**57**	Pg	**Pg**	**03 42 31.5**	**-2.1**
TEL				Sg	**Sg**	**03 43 29.7**	**-4.6**
TASR	**Tashtagol**	**4.81**	**30**	Pg	**Pb**	**03 42 31.7**	**+3.2**
TASR				Sg	**Sg**	**03 43 36.1**	**-2.1**
DJR	**Jarkent**	**5.19**	**215**	*e*P	Pn	03 42 33.3	+11
	1.8nm,0.1s						
DJR				*e*S	Sn	03 43 35.0	+13
	3.9nm,0.6s						
DJR	**Jarkent**	**5.19**	**215**	Pg	Pn	03 42 33.3	+11
	1.8nm,0.1s						
DJR				Lg	Lg	03 43 35.0	
	3.9nm,0.6s						
LUZB	**Luzhba, Kemero**	**5.90**	**30**	Sg	**Sg**	**03 44 11.4**	**-1.8**
MNBS	**Baschi**	**5.98**	**222**	*e*P	Pb	03 42 47.9	-0.6
	0.9nm,0.2s						
MNBS				*e*S	**Sb**	**03 43 59.5**	**-0.8**
	7.2nm,0.4s						
MNBS	**Baschi**	**5.98**	**222**	Pg	Pb	03 42 47.9	-0.6
	0.9nm,0.2s						
MNBS				Lg	Lg	03 43 59.5	
	7.2nm,0.4s						
ARXS	**Arharly**	**6.14**	**226**	*e*P	Pb	03 42 51.3	+0.1
	3.2nm,0.3s						
ARXS				*e*S	**Sb**	**03 44 05.4**	**+0.5**
	11nm,0.7s						
ARXS	**Arharly**	**6.14**	**226**	Pg	Pb	03 42 51.3	+0.1
	3.2nm,0.3s						
ARXS				Lg	Lg	03 44 05.4	
	11nm,0.7s						
DJO	**Djoy, Khakassi**	**6.19**	**45**	Sg	**Sg**	**03 44 22.0**	**-0.6**
SHRR	**Shira**	**7.01**	**31**	Sg	**Sg**	**03 44 47.6**	**-1.1**
KTBS	**Karatobe**	**7.06**	**228**	Pg	**Pb**	**03 43 08.3**	**+1.3**
	0.8nm,0.4s						
KTBS				Lg	Lg	03 44 34.8	
	9.5nm,0.3s						
KUU	**Kurty**	**7.11**	**231**	Pg	**Pb**	**03 43 09.4**	**+1.6**
	0.9nm,0.1s						
KUU				Lg	Lg	03 44 36.2	
	8.5nm,0.3s						
ARDR	**Aradan**	**7.19**	**53**	Sg	**Sg**	**03 44 53.1**	**-1.7**
ERNS	**Erzin**	**7.47**	**73**	Pg	Pb	03 43 19.5	+5.5
ERNS				Sg	**Sg**	**03 45 01.5**	**-2.3**

*DJA **04** 03:44:10.4±0.3, 9°.S±4°.×11°.9E±°, h58km±13km, M4.5/16, mB5.0/2, mb4.8/6, MLv4.4/16, Mw(mB)4.3/2*
*IDC **04** 03:44:13.0±3.9, 9°.03S×119°.47E, h117km±32km, mb3.8/6, mb1 3.8/9, mb1mx3.5/56, mbtmp4.2/9, MS2.8/3, Ms1 2.8/3, ms1mx2.4/42, Error ellipse: s-maj=51.4km s-min=10.2km az=59.0*

ISC 04 03:44:08.8±0.7, 9°.37S±0°.05×119°.20E±0°.04, h100km, n29, σ2°61/31, mb3.9/5, 1C, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.33**	**146**	P	**Pn**	**03 44 22.4**	**-1.3**
WSI	**Waingapu**	**1.12**	**106**	P	**Pn**	**03 44 30.7**	**+0.1**
PLAI	**Plampang**	**1.51**	**291**	P	**Pn**	**03 44 34.9**	**-0.3**
BASI	**Baing, Sumba**	**1.60**	**122**	P	**Pn**	**03 44 37.9**	**+1.6**
BASI				S	**Sn**	**03 44 59.0**	**+1.8**
TWSI	**Taliwang, Sumb**	**2.38**	**285**	P	**Pn**	**03 44 47.4**	**+1.1**
TWSI				S	**Sn**	**03 45 15.5**	**+0.4**
EDFI	**Ende, Flores**	**2.53**	**76**	P	**Pn**	**03 44 48.9**	**+0.4**
EDFI				S	**Sn**	**03 45 18.2**	**-0.7**
MMRI	**Maumere**	**3.08**	**77**	P	**Pn**	**03 44 56.8**	**+1.1**
BKSI	**Bulukumba**	**4.12**	**13**	P	**Pn**	**03 45 09.1**	**-0.6**
KAPI	**Kappang**	**4.36**	**7**	P	**Pn**	**03 45 12.8**	**-0.1**
	10nm,0.3s,baz=179,slow=8.1,SNR=20						
KAPI				S	**Sn**	**03 45 59.2**	**-3.4**
	22nm,0.3s,baz=200,slow=17,SNR=10						
KAPI				LR	LR	03 47 09.4	
	comp=Z,92nm,19.9s,baz=212,slow=44						
BATI	**Baumata**	**4.47**	**101**	P	**Pn**	**03 45 16.4**	**+1.9**
	72nm,0.3s,baz=298,slow=0.7,SNR=30						
BATI				S	**Sn**	**03 46 06.1**	**+0.5**
	47nm,0.3s,baz=39,slow=20,SNR=9.4						
BATI	**Baumata**	**4.47**	**101**	P	**Pn**	**03 45 16.4**	**+1.9**
SOEI	**Soe**	**5.01**	**95**	P	**Pn**	**03 45 23.6**	**+1.8**
	0.8nm2μm151nm,0.9s						
BNSI	**Bone**	**5.02**	**10**	P	**Pn**	**03 45 22.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**5.07**	**280**	P	**Pn**	**03 45 21.4**	**-1.1**
	0.5nm2μm69nm,0.4s						
SPSI	**Sidrap Palu**	**5.40**	**6**	P	**Pn**	**03 45 27.6**	**+0.6**
	0.2nm51nm,1.0s						
GMJI	**Gumukmas**	**5.79**	**280**	P	**Pn**	**03 45 33.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**10.69**	**145**	P	**Pn**	**03 46 39.2**	**+0.1**
	2.3nm,0.3s,baz=0.7,slow=7.4,SNR=98						
FITZ				S	**Sn**	**03 48 30.9**	**-5.9**
	3.4nm,0.3s,baz=180,slow=17,SNR=19						
DAV	**Davao City (W)**	**17.52**	**21**	LR	LR	03 56 35.8	
	comp=Z,20nm,18.1s,baz=176,slow=43						
WRA	**Warramunga Arr**	**18.01**	**127**	P	**Pn**	**03 48 14.6**	**+1.8**
	0.3nm,0.3s,baz=297,slow=13,SNR=19						
WRA				S	**S**	**03 51 23.7**	**-10**
	0.4nm,0.3s,baz=306,slow=25,SNR=6.5						
ASAR	**Alice Springs**	**19.99**	**137**	P	**Pn**	**03 48 37.4**	**+1.2**
	2.6nm,0.5s,baz=312,slow=9.8,SNR=22						
ASAR				LR	LR	03 57 34.2	
	comp=Z,45nm,19.2s,baz=66,slow=40						
STKA	**Stephens Creek**	**30.54**	**140**	P	**P**	**03 50 16.9**	**+4.0**
	1.6nm,0.7s,baz=322,slow=18,SNR=3.3						
WHN	**Wuhan**	**39.95**	**353**	⇑P	P	03 51 42.9	+9.4
H08S2	**Diego Garcia H**	**46.20**	**268**	T	T	04 42 01.1	
	baz=96,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**46.21**	**268**	T	T	04 41 57.3	
	baz=96,slow=76,SNR=11						
H08S1	**Diego Garcia H**	**46.22**	**268**	T	T	04 42 00.9	
	baz=96,slow=76,SNR=9.4						
USRK	**Ussuriysk Ar.**	**54.56**	**11**	P	**P**	**03 53 26.6**	**0.0**
	2.0nm,0.6s,baz=191,slow=4.9,SNR=5.1						
SONM	**Songino Array**	**58.07**	**350**	P	**P**	**03 53 52.2**	**+0.5**
	3.0nm,0.7s,baz=169,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**64.87**	**333**	P	**P**	**03 54 38.6**	**+1.3**
	1.2nm,0.7s,baz=157,slow=6.4,SNR=6.8						
ZALV	**Zalesovo Beam**	**69.45**	**339**	P	**P**	**03 55 06.1**	**0.0**
	0.7nm,0.3s,baz=136,slow=4.4,SNR=3.2						

*REY **04** 03:44:47.6, 64°.68N×17°.47W, h8km*
*IDC **04** 03:44:48.2±0.8, 64°.58N×17°.76W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.6/63, mbtmp3.7/8, ML3.8/1, MS2.6/2, Ms1 2.6/2, ms1mx2.3/41, Error ellipse: s-maj=29.3km s-min=14.9km az=29.0*
*NEIC **04** 03:44:49.3±0.8, 64°.55N±0°.10×17°.8W±0°.2, h7km±4km, mb4.3/11, Error ellipse: s-maj=14.8km s-min=8.9km az=194.0*

ISC 04 03:44:49.3±0.5, 64°.64N±0°.03×17°.52W±0°.03, h10km, n68, σ1°91/64, mb3.9/11, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**286**	P	**Pg**	**03 44 50.3**	**-1.7**
	baz=269						
IDYN	**Dyngjuhals**	**0.16**	**24**	P	**Pg**	**03 44 50.6**	**-2.3**
	baz=22						
IDYN				S	**Sg**	**03 44 53.3**	**-2.1**
	baz=22						
IDJK	**Dyngjujokull**	**0.19**	**139**	P	**Pg**	**03 44 51.6**	**-1.7**
	baz=149						
IURH	**Urdarhals**	**0.24**	**42**	P	**Pg**	**03 44 51.9**	**-2.3**
	baz=44						
IHUS	**Husbondi**	**0.35**	**189**	P	**Pg**	**03 44 55.1**	**-1.2**
	baz=192						
IKVE	**Kverkfjoll**	**0.36**	**84**	P	**Pg**	**03 44 54.3**	**-2.2**
	baz=89						
IBJK	**Bruarjokull**	**0.38**	**118**	P	**Pg**	**03 44 54.5**	**-2.3**
	baz=123						
ISKR	**Skrokkalda**	**0.38**	**258**	P	**Pg**	**03 44 55.2**	**-1.6**
	baz=254						
IVOT	**Vottur**	**0.40**	**158**	P	**Pg**	**03 44 55.6**	**-1.6**
	baz=163						
IJOK	**Jokulheimar**	**0.45**	**223**	P	**Pg**	**03 44 56.2**	**-1.8**
	baz=222						
IKRE	**Kreppuhraun**	**0.51**	**73**	P	**Pg**	**03 44 56.2**	**-3.0**
	baz=76						
IASK	**Askja**	**0.55**	**42**	P	Pg	03 44 57.0	-3.1
	baz=43						
IMKO	**Mokollar**	**0.61**	**56**	P	Pg	03 44 58.0	-3.1
	baz=58						
IIEY	**Innrieyrar**	**0.61**	**206**	P	**Pg**	**03 44 59.2**	**-1.8**
	baz=206						
IKSK	**Karasker**	**0.67**	**136**	P	**Pg**	**03 44 59.2**	**-2.9**
	baz=140						
IKAL	**Kalfafell**	**0.70**	**186**	P	**Pb**	**03 45 02.3**	**-1.3**
	baz=187						
ISVA	**Svartarkot**	**0.70**	**9**	P	Pg	03 44 59.8	-3.1
	baz=7.9						
ISVA				S	**Sg**	**03 45 09.4**	**-2.6**
	baz=7.9						
IVAT	**Vatnsfell**	**0.76**	**233**	P	**Pg**	**03 45 01.7**	**-2.2**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.79**	**77**	P	Pg	03 45 01.0	-3.5
	baz=79						
IFAG	**Fagurholsmyri**	**0.86**	**153**	P	**Pg**	**03 45 03.0**	**-2.8**
	baz=156						
IHVE	**Hveravellir**	**0.91**	**285**	P	**Pg**	**03 45 03.5**	**-3.2**
	baz=283						
IADA	**Aoalbol**	**0.91**	**65**	P	Pg	03 45 02.9	-3.9
	baz=66						
IMEL	**Melhnausar**	**1.00**	**21**	P	Pg	03 45 04.4	-4.1
	baz=21						
ISNB	**Snabyli**	**1.03**	**209**	P	**Pg**	**03 45 06.6**	**-2.5**
	baz=209						
IREN	**Reynihlio**	**1.04**	**14**	P	Pb	03 45 05.2	-4.1
	baz=14						
IKVO	**Krokottuvotn**	**1.11**	**14**	P	Pb	03 45 06.3	-4.2
	baz=13						
IGRS	**Grimsstaoir**	**1.16**	**30**	P	Pn	03 45 07.3	-4.3
	baz=30						
IGRS				S	**Sb**	**03 45 23.0**	**-3.5**
	baz=30						
BORG	**Borgarnes**	**1.64**	**275**	Pn	**Pn**	**03 45 15.5**	**-2.6**
	30nm,0.3s,baz=101,slow=10,SNR=104						
BORG				Sn	**Sb**	**03 45 39.2**	**-1.0**
	16nm,0.3s,baz=16,slow=11,SNR=4.0						
BORG	**Borgarnes**	**1.64**	**275**	Pn	**Pn**	**03 45 15.6**	**-2.5**
BORG					**Sn**	**03 45 37.5**	**-1.7**
SCO	**Scoresbysund**	**6.10**	**346**	*i* P	**Pn**	**03 46 19.5**	**+0.1**
SCO				*i* S	**Sg**	**03 48 10.9**	**+6.0**
SCO	**Scoresbysund**	**6.10**	**346**	Pn	**Pn**	**03 46 19.2**	**-0.1**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**	**03 47 37.2**	**+0.5**
	baz=331,slow=13,SNR=19						
ESK	**Eskdalemuir**	**11.75**	**136**	Pn	**Pn**	**03 47 36.9**	**+0.2**
HFS	**Hagfors**	**15.05**	**93**	LR	LR	03 54 29.1	
	comp=Z,15nm,20.1s,baz=310,slow=38						
CLL	**Collm**	**20.70**	**116**	*e*P	P	**03 49 30.0**	**+0.7**
CLL				*e*PPP	PPP	03 49 57.0	
ECH	**Echery**	**21.15**	**129**	P	**P**	**03 49 33.4**	**-0.7**
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P	**P**	**03 49 38.0**	**+1.0**
	6.3nm,1.1s						
BRG				*e*		04 25 00.6	
	3.6nm,1.0s						
CHVC	**Chvalec**	**22.47**	**113**	*e*P	**P**	**03 49 51.8**	**+3.5**
OSTC	**Ostas**	**22.56**	**113**	*e*P	**P**	**03 49 52.9**	**+3.7**
KHC	**Kasperske Hory**	**22.67**	**118**	*e*P	**P**	**03 49 52.4**	**+1.9**
KHC				*ex*	x	03 50 01.9	
KHC	**Kasperske Hory**	**22.67**	**118**	P	**P**	**03 49 51.4**	**+0.9**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**03 49 52.5**	**+1.1**
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**03 49 54.9**	**+1.4**
	1.0nm,0.8s,baz=317,slow=9.6,SNR=7.3						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**03 49 54.5**	**+1.0**
VYHS	**Vyhne**	**25.23**	**112**	*e*P	**P**	**03 50 16.6**	**+1.6**
ESDC	**Sonseca Array**	**26.24**	**156**	P	**P**	**03 50 24.9**	**+0.7**
	0.8nm,0.9s,baz=354,slow=8.8,SNR=7.4						
ESDC	**Sonseca Array**	**26.24**	**156**	P	**P**	**03 50 24.5**	**+0.3**
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P	**P**	**03 50 26.2**	**+1.8**
AKTO	**Aktyubinsk**	**40.30**	**73**	LR	LR	04 09 31.3	
	comp=Z,13nm,21.0s,baz=298,slow=37						
K50A	**Casco**	**41.91**	**271**	P	**P**	**03 52 39.3**	**-0.2**
ABKAR	**Abkulak array**	**42.01**	**73**	P	**P**	**03 52 41.2**	**+1.0**
ILAR	**Eielson Array**	**45.70**	**332**	P	**P**	**03 53 11.0**	**+1.3**
	1.5nm,1.1s,baz=32,slow=5.3,SNR=8.8						
ILAR				PcP	**PcP**	**03 54 47.2**	**-0.1**
	0.6nm,0.9s,baz=8.9,slow=4.3,SNR=5.1						
ILAR	**Eielson Array**	**45.70**	**332**	P	**P**	**03 53 10.8**	**+1.1**
MDM	**Murphy Dome**	**45.80**	**333**	P	**P**	**03

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PB09                                   i S          Sn     03 50 02.5 +0.6
PB07  IPOC Station P      1.82 213     i P          Pn     03 49 41.9 +0.2
PB07                                   i S          Sn     03 50 05.3 -0.4
PB07                                     IAML               03 50 09.5
        comp=E,932nm,0.8s
PB03  IPOC Station P      2.04 205⇑    iP           Pn     03 49 44.9 +0.6
PB03                                   eS           Sn     03 50 10.3 -0.1
PB03                                     IAML               03 50 11.8
        comp=E,713nm,0.2s
PB12  IPOC Station P      2.12 318⇑    iP           Pn     03 49 45.7 +0.3
PB12                                   i S          Sn     03 50 11.8 -0.5
PB12                                     IAML               03 50 19.3
        comp=E,699nm,0.3s
LVC   Limon Verde         2.40 182     P            Pn     03 49 50.6 +1.4
        comp=E,11nm,0.3s,baz=5.1,slow=11,SNR=89
LVC                                    S            Sn     03 50 19.9 +0.9
        comp=E,41nm,0.3s,baz=264,slow=18,SNR=18
LVC   Limon Verde         2.40 182     eS           Sn     03 50 19.9 +0.9
PB04  IPOC Station P      2.46 210     eP           Pn     03 49 50.1 +0.4
PB04                                   i S          Sn     03 50 17.8 -2.2
PB04                                     IAML               03 50 29.7
        comp=N,461nm,0.1s
PB06  IPOC Station P      2.59 196⇓    iP           Pn     03 49 51.8 +0.4
PB06                                   i S          Sn     03 50 21.8 -1.3
PB15  IPOC Station P      3.05 191     eP           Pn     03 49 58.2 +0.7
PB15                                   i S          Sn     03 50 32.3 -1.6
LPAZ  La Paz              3.94  10     P            Pn     03 50 12.5 +2.8
        comp=N,2.8nm,0.3s,baz=183,slow=8.8,SNR=104
SIV   San Ignacio         8.47  62     P            Pn     03 51 08.1 -2.1
        comp=N,1.8nm,0.3s,baz=260,slow=11,SNR=33
SIV                                    S            Sn     03 52 40.7 -3.5
        baz=183,slow=8.9,SNR=3.8
VILB  Vilhena            10.96  50     eP           Pn     03 51 46.0 +2.3
CPUP  Villa Florida      12.20 122     P            Pn     03 51 59.1 -0.8
        comp=N,0.2nm,0.3s,baz=300,slow=12,SNR=11
TRCB  Terra Rica         15.29 103     eP           P      03 52 41.4 -0.3
PTGB  Pitanga            16.13 109     eP           P      03 52 52.9 +1.9
ARAG  Araguaiana, MT     16.79  77     eP           P      03 52 58.3  0.0
ITAB  Concordia          16.80 118     eP           P      03 52 59.4 +1.0
NPGB  Novo Progresso     18.48  47     eP           P      03 53 15.6 -1.2
CNLB  Canela             18.65 123     eP           P      03 53 19.1 +0.4
BB19B Bebedouro          19.02  96     eP           P      03 53 22.8 +0.1
IPMB  Ipameri, GO        19.60  87     eP           P      03 53 28.9 -0.2
ITTB  Itaituba           20.25  41     eP           P      03 53 35.2 -0.9
BDFB  Brasília           20.31  80     P            P      03 53 36.6 -0.2
        comp=N,2.0nm,0.4s,baz=256,slow=9.8,SNR=7.1
VAO   Valinhos           20.51 102     eP           P      03 53 37.8 -1.1
PLCA  Paso Flores        20.52 184     P            Pn     03 53 40.8 -1.4
        comp=N,2.0nm,0.7s,baz=6.0,slow=11,SNR=7.3
JANB  Januaria           23.90  82     eP           P      03 54 12.0 -1.0
CMIG  Matias Romero      45.03 324     LR           LR     04 14 34.1
        comp=N,67nm,21.9s,baz=256,slow=34
TORD  Torodi Ar. Bea     76.84  71     P            P      04 00 48.8 -0.4
        comp=N,0.7nm,0.3s,baz=256,slow=5.6,SNR=8.3
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MOS ***04*** *03:53:00.4±0.9, 41˚.76N×32˚.45E, h10km, mb4.4/8, Error ellipse: s-maj=6.0km s-min=4.3km az=99.6*

MED_RC ***04*** *03:53:01.0±0.8, 41˚.64N×32˚.51E, h10km, MW4.1/11, Moment Tensor Solution. Mantle waves: s11, c12; Duration: 1ꝏ Moment tensor: Scale 10^{15}Nm; M_{rr}1.41±.24; $M_{\theta\theta}$-1.20±.26; $M_{\phi\phi}$-0.20±.08; $M_{r\theta}$-0.63±.43; $M_{\theta\phi}$-0.28±.14; $M_{\phi r}$-0.71±.32; Best double couple: $M_0$1.63000×10^{15} NP1:ϕ_s87.00000°, δ31.00000°, λ115.00000°. NP2:ϕ_s238.00000°, δ62.00000°, λ76.00000°. Principal axes: T 1.7600, Plg69.0000°, Azm119.0000°; N -0.2500, Plg13.0000°, Azm245.0000°; P -1.5000, Plg16.0000°, Azm339.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

IDC ***04*** *03:53:01.8±1.7, 41˚.67N×32˚.53E, h9km±13km, mb3.9/7, mb1 4.0/12, mb1mx3.7/46, mbtmp4.0/12, ML4.0/5, MS2.6/5, Ms1 2.6/5, ms1mx2.3/46 Error ellipse: s-maj=12.7km s-min=9.0km az=59.0*

DDA ***04*** *03:53:01.9, 41˚.62N×32˚.49E, h17km, MW4.1*

ISK ***04*** *03:53:01.3, 41˚.64N×32˚.51E, h4km, ML4.0/33*

NEIC ***04*** *03:53:02.3±1.1, 41˚.70N±0˚.03×32˚.51E±0˚.04, h10km±4km, Error ellipse: s-maj=5.1km s-min=3.6km az=51.0*

BEO ***04*** *03:53:42.2±0.7, 43˚.57N×28˚.90E, h0km, ML3.7/12*

ISC 04 03:53:02.2±0.7, 41˚.69N±0˚.02×32˚.50E±0˚.02, h13km±4km, n376, σ1$20/450, mb4.0/14, 46C-53D, Turkey

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Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op   ISC          h m s     ISC
MASR  Amasra-Bartin       0.07 343   PG   Pg           03 53 04.6 -0.3
MASR                                 SG   Sg           03 53 06.7 -0.1
MASR  Amasra-Bartin       0.07 343   Pg   Pg           03 53 04.6 -0.3
MASR                                 Sg   Sg           03 53 06.7 -0.1
BTIN  Bartın              0.19 253   ⇓iP  Pg           03 53 06.6 +0.1
BTIN                                 iP   Pg           03 53 06.6 +0.1
BTIN                                 i S  Sg           03 53 09.9 +0.4
BTIN                                 i S  Sb           03 53 10.3 -1.0
BTIN                                   IAML               03 53 11.0
        comp=N,33µm,0.5s
BTIN                                   IAML               03 53 15.0
        comp=E,39µm,0.5s
KURC  Kurucasile-Bar      0.24  51   PG   Pg           03 53 06.8 -0.5
KURC  Kurucasile-Bar      0.24  51   Pg   Pg           03 53 06.8 -0.5
KBUK  KARABUK-Merkez      0.47 168   ⇑iP  Pg           03 53 10.1 -1.4
KBUK                                   IAML               03 53 16.0
        comp=N,12µm,0.5s
KBUK                                 i S  Sg           03 53 16.2 -1.5
KBUK                                   IAML               03 53 19.0
        comp=E,8µm,0.4s
SAFT  Safranbolu          0.48 162   PG   Pg           03 53 10.0 -1.6
SAFT                                 SG   Sg           03 53 15.9 -2.0
SAFT  Safranbolu          0.48 162   Pg   Pg           03 53 10.0 -1.6
SAFT                                 Sg   Sg           03 53 16.0 -2.0
PELI  Kastamonı-Ara       0.73 122   ⇑iP  Pg           03 53 14.5 -1.9
PELI                                 i S  Sg           03 53 25.7 -0.3
PELI                                   IAML               03 53 26.0
        comp=N,6µm,0.8s
PELI                                   IAML               03 53 26.0
        comp=E,8µm,0.5s
KDZE  Karadeniz Ereo      0.88 245   PG   Pg           03 53 18.5 -0.7
KDZE  Karadeniz Ereo      0.88 245   Pg   Pg           03 53 18.5 -0.7
BCAM  Yenicaga            0.94 200   ⇑iP  Pg           03 53 18.9 -1.4
BCAM                                 i S  Sg           03 53 31.6 -1.0
BCAM                                   IAML               03 53 35.0
        comp=N,1µm,0.3s
BCAM                                   IAML               03 53 38.0
        comp=E,2µm,0.5s
KMON  Kastamonu           1.02 108   PG   Pb           03 53 20.6 -1.2
YIGI  Dzce                1.07 228   ⇑iP  Pb           03 53 21.2 -1.5
YIGI                                 i S  Sb           03 53 35.2 -1.5
YIGI                                   IAML               03 53 40.0
        comp=E,2µm,0.4s
YIGI                                   IAML               03 53 42.0
        comp=N,1µm,0.6s
KAST  KASTAMONU           1.09 100   i P  Pb           03 53 20.4 -2.7
KAST                                 i S  Sb           03 53 38.0 +0.7
KAST                                   IAML               03 53 46.0
        comp=E,2µm,0.5s
ILGA  Ilgaz               1.12 125   ⇓iP  Pb           03 53 22.0 -1.6
ILGA                                 i S  Sb           03 53 38.3  0.0
ILGA                                   IAML               03 53 41.0
        comp=N,3µm,0.4s
ILGA                                   IAML               03 53 42.0
        comp=E,5µm,0.5s
ILGA  Ilgaz               1.12 125        Pb           03 53 22.1 -1.6
ILGA                                     Sb           03 53 38.2  0.0
BZK   Bozkurt             1.16  76   ⇓P   Pn           03 53 23.8 -0.3
BZK   Bozkurt             1.16  76   ⇓S   Sn           03 53 40.3 +0.4
BZK   Bozkurt             1.16  76   PN   Pn           03 53 24.3 +0.1
BZK   Bozkurt             1.16  76   Pn   Pn           03 53 24.2 +0.1
BZK   Bozkurt             1.16  76        Sn           03 53 40.3 +0.4
CMDR  Camlidere-ANKA      1.20 181   ⇑iP  Pn           03 53 24.0 -0.9
CMDR                                 i S  Sb           03 53 40.5 +0.2
CMDR                                   IAML               03 53 44.0
        comp=N,4µm,0.7s
CMDR                                   IAML               03 53 49.0
        comp=E,4µm,0.7s
TOS   Tosya               1.32 119   PN   Pn           03 53 26.2 -0.4
TOS   Tosya               1.32 119   Pn   Pn           03 53 26.2 -0.4
KIBS  BOLU                1.36 201   ⇑iP  Pn           03 53 26.8 -0.3
KIBS                                 i S  Sg           03 53 45.8 -0.3
KIBS                                   IAML               03 53 49.0
        comp=E,2µm,0.7s
KIBS                                   IAML               03 53 53.0
        comp=N,2µm,0.8s
CANT  Cankiri             1.38 142   PN   Pn           03 53 27.3  0.0
CANT  Cankiri             1.38 142   Pn   Pn           03 53 27.3  0.0
YUVA  Yuva-Kibriscik      1.44 205   PN   Pn           03 53 28.2 +0.1
YUVA  Yuva-Kibriscik      1.44 205   Pn   Pn           03 53 28.2 +0.1
SAHE  Sakarya_HENDEK      1.50 236   ⇓iP  Pn           03 53 29.0 +0.2
SAHE                                 i S  Sg           03 53 50.4  0.0
KAGI  orum-Kargı          1.59 110   i P  Pn           03 53 30.2  0.0
KAGI                                 i S  Sb           03 53 52.9 +1.3
KAGI                                   IAML               03 53 55.0
        comp=N,2µm,0.5s
KAGI                                   IAML               03 54 00.0
        comp=E,684nm,0.7s
LOD   Lodumlu             1.81 173   PN   Pn           03 53 33.7 +0.4
LOD   Lodumlu             1.81 173   Pn   Pn           03 53 33.7 +0.4
KAND  Kocaeli-Kandir      1.83 252   i P  Pn           03 53 33.6 +0.2
KAND                                 i S  Sn           03 53 57.0 +0.5
KAND                                   IAML               03 54 00.0
        comp=N,723nm,0.5s
KAND                                   IAML               03 54 02.0
        comp=E,603nm,0.4s
SAUV  Serdivan-Sakar      1.89 240   PN   Pn           03 53 35.2 +0.9
SAUV  Serdivan-Sakar      1.89 240   Pn   Pn           03 53 35.2 +0.9
SPNC  Sapanca-Adapaz      1.93 239   PN   Pn           03 53 35.6 +0.8
SPNC  Sapanca-Adapaz      1.93 239   Pn   Pn           03 53 35.6 +0.8
GULT  Gulveren            1.96 231   PN   Pn           03 53 35.9 +0.6
GULT  Gulveren            1.96 231   Pn   Pn           03 53 35.9 +0.6
AUMIH MIHALICIK           1.98 203   PN   Pn           03 53 35.9 +0.3
AUMIH MIHALICIK           1.98 203   i P  Pn           03 53 36.0 +0.4
AUMIH                                 i S  Sg           03 54 04.9 -1.0
AUMIH                                   IAML               03 54 09.0
        comp=E,543nm,0.6s
AUMIH                                   IAML               03 54 11.0
        comp=N,381nm,0.5s
DELI  KIRIKKALE           2.01 147   ⇑iP  Pn           03 53 36.0  0.0
DELI                                 i S  Sb           03 54 02.7 -1.0
DELI                                   IAML               03 54 11.0
        comp=E,295nm,0.9s
CTAK  Corum_Osmancik      2.02 120   i P  Pn           03 53 36.8 +0.5
CTAK                                 i S  Sb           03 54 04.8 +0.6
CTAK                                   IAML               03 54 11.0
        comp=E,461nm,0.5s
CTAK                                   IAML               03 54 16.0
        comp=N,493nm,0.9s
SINO  SINOP_Merkez        2.05  80   ⇑iP  Pn           03 53 37.1 +0.7
SINO                                 i S  Sb           03 54 04.8 +0.1
SINO                                   IAML               03 54 14.0
        comp=N,400nm,0.7s
SINO                                   IAML               03 54 21.0
        comp=E,286nm,0.7s
SNOP  Sinop               2.05  80   PN   Pn           03 53 37.5 +1.1
SNOP  Sinop               2.05  80   Pn   Pn           03 53 37.5 +1.1
GEYV  SAKARYA_Geyve       2.06 235   ⇑iP  Pn           03 53 37.4 +0.9
GEYV                                 i S  Sb           03 54 03.0 -1.9
GEYV                                   IAML               03 54 08.0
        comp=E,610nm,0.5s
GEYV                                   IAML               03 54 12.0
        comp=N,724nm,0.6s
DIKM  Dikmen              2.07  90   ⇓P   Pn           03 53 37.9 +1.1
DIKM  Dikmen              2.07  90   ⇑S   Sb           03 54 05.4 +0.1
DIKM  Dikmen              2.07  90   PN   Pn           03 53 37.8 +1.1
DIKM  Dikmen              2.07  90   Pn   Pn           03 53 37.8 +1.1
DIKM  Dikmen              2.07  90        Sb           03 54 05.4 +0.1
BR131 Keskin Array S      2.15 156   P    Pn           03 53 38.1 +0.1
BR131                                    Sn           03 54 04.0
BR131 Keskin Array S      2.15 156        Pn           03 53 38.0 +0.1
BR131                                    Sn           03 54 04.0 -0.6
BRTR  Keskin Array B      2.15 156   Pn   Pn           03 53 37.8 -0.1
        comp=N,6.5nm,0.3s,baz=339,slow=12,SNR=96
BRTR                                     Pg           03 53 41.3 +0.2
        comp=N,36nm,0.3s,baz=334,slow=12,SNR=109
BRTR                                     Lg           03 54 10.5
        comp=N,38nm,0.3s,baz=345,slow=24,SNR=13
BRTR  Keskin Array B      2.15 156   PN   Pn           03 53 38.1 +0.1
BRTR  Keskin Array B      2.15 156   i P  Pb           03 53 40.2 -0.9
BRTR                                   pmax pmax
        comp=Z,117nm,0.5s
BRTR  Keskin Array B      2.15 156   Pn   Pn           03 53 38.0 +0.1
GPA   Golpazari           2.17 230   PN   Pn           03 53 38.8 +0.7
GPA   Golpazari           2.17 230   P    Pn           03 53 38.8 +0.7
GPA   Golpazari           2.17 230   Pn   Pn           03 53 38.8 +0.7
SRCK  Saricakaya, Es      2.18 221   PN   Pn           03 53 38.9 +0.8
SRCK  Saricakaya, Es      2.18 221   Pn   Pn           03 53 39.0 +0.8
BBAL  Bala                2.20 167   i P  Pn           03 53 39.9 +1.3
BBAL                                 i S  Sg           03 54 13.5 +0.5
BBAL                                   IAML               03 54 24.0
        comp=N,445nm,0.8s
BBAL                                   IAML               03 54 27.0
        comp=E,329nm,0.6s
SILT  Sile                2.21 257   PN   Pn           03 53 39.7 +1.1
SILT  Sile                2.21 257   Pn   Pn           03 53 39.7 +1.1
CORM  Corum               2.21 132   PN   Pn           03 53 39.1 +0.3
CORM  Corum               2.21 132   Pn   Pn           03 53 39.1 +0.3
AFSR  Afar-Bala (An       2.29 169   PN   Pn           03 53 40.3 +0.5
AFSR  Afar-Bala (An       2.29 169   Pn   Pn           03 53 40.3 +0.5
HRT   Hereke              2.30 249   PN   Pn           03 53 40.7 +0.7
HRTX  Hereke-Izmit        2.31 248   Pn   Pn           03 53 40.7 +0.7
SVRH  Sivrihisar-ESK      2.36 199   PN   Pn           03 53 41.3 +0.5
SVRH  Sivrihisar-ESK      2.36 199   Pn   Pn           03 53 41.3 +0.5
AUSIV SIVRIHISAR          2.37 198   PN   Pn           03 53 41.3 +0.4
AUSIV SIVRIHISAR          2.37 198   i P  Pb           03 53 44.8  0.0
AUSIV                                 i S  Sg           03 54 20.2 +1.9
AUSIV                                   IAML               03 54 23.0
        comp=E,179nm,0.9s
AUSIV                                   IAML               03 54 26.0
        comp=N,247nm,0.8s
COAL  Corum-Alaca         2.37 127   ⇑iP  Pn           03 53 41.7 +0.8
COAL                                 i S  Sb           03 54 16.3 +2.2
COAL                                   IAML               03 54 20.0
        comp=E,300nm,0.9s
COAL                                   IAML               03 54 26.0
        comp=N,279nm,1.5s
BORA  Eskisehir           2.38 221   PN   Pn           03 53 41.5 +0.4
BORA  Eskisehir           2.38 221   i P  Pn           03 53 41.1  0.0
BORA                                 i S  Sb           03 54 12.8 -1.7
ADVT  Abdulvahap          2.44 240   PN   Pn           03 53 42.7 +1.0
ADVT  Abdulvahap          2.44 240   Pn   Pn           03 53 42.7 +1.0
CAVI  Cavuskoy            2.50 234   PN   Pn           03 53 43.6 +0.9
CAVI  Cavuskoy            2.50 234   Pn   Pn           03 53 43.6 +0.9
HAVZ  Havza               2.50 103   i P  Pn           03 53 43.9 +1.2
HAVZ                                 i S  Sg           03 54 21.0 -1.6
HAVZ                                   IAML               03 54 28.0
        comp=N,598nm,0.6s
HAVZ                                   IAML               03 54 29.0
        comp=E,533nm,0.8s
CDAG  Cicekdag            2.51 145   ⇑iP  Pn           03 53 43.3 +0.4
CDAG                                 i S  Sb           03 54 20.8 +2.6
CDAG                                   IAML               03 54 22.0
        comp=E,432nm,0.6s
CDAG                                   IAML               03 54 30.0
        comp=N,212nm,0.6s
KKUL  Konya-Kulu          2.54 173   i P  Pb           03 53 47.7  0.0
KKUL                                 i S  Sg           03 54 25.4 +1.6
KKUL                                   IAML               03 54 29.0
        comp=E,601nm,0.8s
KKUL                                   IAML               03 54 40.0
        comp=N,317nm,1.5s
KAYA  Kayacik-Havza(      2.56 106   PN   Pn           03 53 44.0 +0.5
YLVH  Yalova              2.56 248   PN   Pn           03 53 44.5 +1.0
YLVH  Yalova              2.56 248   Pn   Pn           03 53 44.5 +1.0
CIFT  Cifteler, Eski      2.57 206   PN   Pn           03 53 44.2 +0.5
CIFT  Cifteler, Eski      2.57 206   Pn   Pn           03 53 44.2 +0.5
AUBOZ BOZOYUK             2.58 227   PN   Pn           03 53 44.8 +1.0
AUBOZ BOZOYUK             2.58 227   i P  Pn           03 53 44.2 +0.4
AUBOZ                                 i S  Sb           03 54 21.8 +1.6
AUBOZ                                   IAML               03 54 34.0
        comp=N,342nm,0.8s
AUBOZ                                   IAML               03 54 34.0
        comp=E,330nm,0.7s
TUZL  Tuzla-Istanbul      2.59 251   PN   Pn           03 53 45.2 +1.3
TUZL  Tuzla-Istanbul      2.59 251   Pn   Pn           03 53 45.1 +1.3
CFTB  Yalova              2.62 248   PN   Pn           03 53 45.5 +1.2
KLYT  Kilyos              2.63 261   PN   Pn           03 53 45.9 +1.5
KLYT  Kilyos              2.63 261   Pn   Pn           03 53 46.0 +1.5
KAVV  Kandilli-Istan      2.66 257   PN   Pn           03 53 46.1 +1.3
KAVV  Kandilli-Istan      2.66 257   Pn   Pn           03 53 46.1 +1.3
GULF  Gulfidan-Ladik      2.67 106   PN   Pn           03 53 45.8 +0.8
KULU  Kulu                2.68 172   PN   Pn           03 53 45.9 +0.8
KULU  Kulu                2.68 172   Pn   Pn           03 53 46.0 +0.8
TRML  Termal-Yalova       2.73 248   PN   Pn           03 53 46.9 +1.1
KVT   Kavak               2.74 102   PN   Pn           03 53 46.9 +0.9
KIRS  Kırehir-Merke       2.78 157   i P  Pn           03 53 46.8 +0.2
KIRS                                 i S  Sb           03 54 28.5 +2.7
KIRS                                   IAML               03 54 36.0
        comp=E,188nm,1.0s
KIRS                                   IAML               03 54 44.0
        comp=N,171nm,0.9s
TSVK  Tesvikiye-Yalo      2.79 249   PN   Pn           03 53 47.8 +1.3
GEMT  Gemlik              2.80 244   PN   Pn           03 53 47.7 +1.0
GEMT  Gemlik              2.80 244   Pn   Pn           03 53 47.7 +1.0
KÜPE  Kupecik-Ladik(      2.80 106   PN   Pn           03 53 47.9 +1.1
AUKIR Kırka- Seyitga      2.84 212   i P  Pn           03 53 48.2 +0.8
AUKIR                                 i S  Sb           03 54 24.8 -2.8
AUKIR                                   IAML               03 54 46.0
        comp=E,372nm,1.0s
AUKIR                                   IAML               03 55 01.0
        comp=N,176nm,1.1s
HVHR  Bakirkoy-Istan      2.84 256   PN   Pn           03 53 48.9 +1.6
HVHR  Bakirkoy-Istan      2.84 256   Pn   Pn           03 53 49.0 +1.6
BGKT  Bogazkoy            2.85 261   PN   Pn           03 53 48.7 +1.3
BGKT  Bogazkoy            2.85 261   Pn   Pn           03 53 48.7 +1.3
KIZT  Kizilcal            2.85 190   PN   Pn           03 53 47.9 +0.3
KIZT  Kizilcal            2.85 190   Pn   Pn           03 53 47.9 +0.3
AVCI  Avcilar-stanb       2.92 257   PN   Pn           03 53 49.9 +1.4
YAYX  Yaylak              2.93 160   PN   Pn           03 53 49.5 +0.8
YAYX  Yaylak              2.93 160   Pn   Pn           03 53 49.5 +0.8
YOZ   Yozgat              2.97 133   PN   Pn           03 53 49.9 +0.7
YOZ   Yozgat              2.97 133   Pn   Pn           03 53 49.9 +0.7
ULDT  Uludag              2.98 240   i P  Pn           03 53 50.0 +0.6
ULDT                                 i S  Sn           03 54 24.9 -0.2
ULDT                                   IAML               03 54 52.0
        comp=E,139nm,1.3s
ULDT                                   IAML               03 54 55.0
        comp=N,131nm,0.7s
YAL   Yalta               3.04  23   eP   Pn           03 53 50.1  0.0
YAL                                  eS   Sn           03 54 24.8 -1.6
SIRC  Yozgat              3.10 138   i P  Pn           03 53 52.0 +0.9
SIRC                                   IAML               03 54 40.0
        comp=N,108nm,1.3s
SIRC                                   IAML               03 54 41.0
        comp=E,92nm,0.8s
ELBA  Catalca             3.11 261   i P  Pn           03 53 51.2 +0.2
ELBA                                 i S  Sn           03 54 25.5 -2.5
ELBA                                   IAML               03 54 31.0
        comp=E,84nm,0.4s
ELBA                                   IAML               03 54 45.0
        comp=N,76nm,0.5s
KDHN  Kadinhani           3.18 185   i P  Pn           03 53 52.5 +0.3
AKSY  AKSARAY - Alti      3.19 162   i P  Pn           03 53 52.8 +0.6
AKSY                                 i S  Sb           03 54 39.7 +2.0
AKSY                                   IAML               03 54 53.0
        comp=N,142nm,0.7s
AKSY                                   IAML               03 54 57.0
        comp=E,148nm,1.0s
BOLV  Bolvadin            3.20 202   i P  Pn           03 53 53.3 +0.9
BOLV                                 i S  Sb           03 54 36.7 -1.3
BOLV                                   IAML               03 54 59.0
        comp=E,214nm,0.8s
BOLV                                   IAML               03 55 00.0
        comp=N,105nm,0.6s
BOLV  Bolvadin            3.20 202        Pn           03 53 53.0 +0.6
ALU   Alushta             3.30  24   eP   Pn           03 53 53.8 +0.3
ALU                                  eS   Sn           03 54 31.2 -1.4
TOKA  Tokat               3.31 113   i P  Pn           03 53 56.4 +2.6
TOKA                                   IAML               03 54 56.0
        comp=N,445nm,0.9s
AVNS  Nevsehir-Avano      3.40 147   i P  Pn           03 53 56.2 +1.1
AVNS                                   IAML               03 54 54.0
        comp=E,740nm,0.8s
AVNS                                   IAML               03 54 59.0
        comp=N,641nm,0.9s
SIM   Simferopol'         3.46  19   eP   Pn           03 53 57.4 +1.6
SIM                                  eS   Sn           03 54 36.4 -0.3
SIM                                    pmax pmax
        comp=Z,51nm,0.4s
SIM                                    smax smax
        comp=E,124µm,0.4s
GDZ   Gediz               3.48 222   i P  Pn           03 53 56.2  0.0
TSMN  Mangalia Port-      3.56 308   ⇓P   Pn           03 53 57.8 +0.6
TSMN  Mangalia Port-      3.56 308   ⇓S   Sn           03 54 40.1 +0.9
TSMN  Mangalia Port-      3.56 308        Pn           03 53 57.8 +0.6
TSMN                                     Sn           03 54 40.1 +0.9
MANR  Mangalia            3.58 308   ⇑P   Pn           03 53 57.9 +0.6
MANR  Mangalia            3.58 308   ⇑S   Sn           03 54 39.5 +0.1
MANR  Mangalia            3.58 308        Pn           03 53 57.9 +0.6
MANR                                     Sn           03 54 39.5 +0.1
GUNE  Kayseri             3.67 138   i P  Pn           03 54 01.1 +2.2
GUNE                                   IAML               03 55 03.0
        comp=N,558nm,0.8s
GUNE                                   IAML               03 55 04.0
        comp=E,436nm,0.6s
SUDU  Sudak               3.68  29   ⇓iP  Pn           03 53 59.0 +0.2
SUDU                                 eS   Sn           03 54 40.9 -1.2
DURS  Dursunbey           3.71 237   i P  Pn           03 53 59.6 +0.3
DURS                                 i S  Sn           03 54 40.5 -2.4
DURS                                   IAML               03 54 47.0
        comp=E,99nm,0.4s
DURS                                   IAML               03 55 02.0
        comp=N,102nm,0.5s
EFOR  EFORIE              3.71 311   ⇑P   Pn           03 53 59.6 +0.4
EFOR  EFORIE              3.71 311   ⇑S   Sn           03 54 41.8 -0.9
EFOR  EFORIE              3.71 311        Pn           03 53 59.6 +0.4
EFOR                                     Sn           03 54 41.8 -0.9
TSCT  Constanta Port      3.74 312   ⇓P   Pn           03 54 00.1 +0.4
TSCT  Constanta Port      3.74 312   ⇓S   Sn           03 54 41.8 -1.8
TSCT  Constanta Port      3.74 312        Pn           03 54 00.1 +0.4
TSCT                                     Sn           03 54 41.8 -1.8
MFTR  Murfatlar           3.89 311   ⇑P   Pn           03 54 02.2 +0.6
MFTR  Murfatlar           3.89 311   ⇓S   Sn           03 54 46.9 -0.3
MFTR  Murfatlar           3.89 311        Pn           03 54 02.2 +0.6
MFTR                                     Sn           03 54 46.9 -0.3
BAGO  Egridir - ISPA      3.93 200   i P  Pn           03 54 01.8 -0.5
FEO   Feodosiya           3.94  31   eP   Pn           03 54 04.6 +2.3
FEO                                  eS   Sn           03 54 50.9 +2.5
KIRK  Kırklareli          4.04 273   i P  Pn           03 54 03.6 -0.2
KIRK                                   IAML               03 54 52.0
        comp=N,69nm,0.3s
JURR  Jurilovca           4.05 320   ⇓P   Pn           03 54 04.1 +0.2
TIRR  Tirgusor            4.07 314   ⇓P   Pn           03 54 03.8 -0.4
TIRR  Tirgusor            4.07 314   ⇓S   Sn           03 54 49.1 -2.6
TIRR  Tirgusor            4.07 314   P    Pn           03 54 03.9 -0.3
TIRR                                     Sn           03 54 49.9
TIRR  Tirgusor            4.07 314        Pn           03 54 03.9 -0.3
TIRR                                     Sn           03 54 49.9 -1.9
TIRR  Tirgusor            4.07 314        Pn           03 54 03.8 -0.3
TIRR                                     Sn           03 54 49.1 -2.6
CVDA  Cernavoda           4.20 310   ⇓P   Pn           03 54 06.3 +0.3
CVDA  Cernavoda           4.20 310   ⇑S   Sn           03 54 53.6 -1.3
CVDA  Cernavoda           4.20 310        Pn           03 54 06.3 +0.3
CVDA                                     Sn           03 54 53.6 -1.3
ICOR  Ion Corvin          4.21 307   ⇓P   Pn           03 54 06.4 +0.3
ICOR  Ion Corvin          4.21 307   ⇓S   Sn           03 54 54.2 -1.0
ICOR  Ion Corvin          4.21 307        Pn           03 54 06.4 +0.3
ICOR                                     Sn           03 54 54.2 -1.0
TLBR  Topalu              4.33 313   ⇓P   Pn           03 54 07.7 -0.1
TLBR  Topalu              4.33 313   ⇓S   Sn           03 54 57.3 -0.8
TOPG  Topolog             4.38 318   ⇓P   Pn           03 54 07.5 -0.9
TOPG  Topolog             4.38 318   ⇑S   Sn           03 54 56.4 -2.8
TLCR                      4.40 324   ⇑P   Pn           03 54 07.7 -1.0
TLCR                      4.40 324   ⇑S   Sn           03 54 57.1 -2.7
TLCR                      4.40 324   P    Pn           03 54 07.7 -1.0
TLCR                                     03 54 57.1
TLCR                      4.40 324        Pn           03 54 07.7 -1.0
TLCR                                     Sn           03 54 57.1 -2.7
BRDR  BURDUR-Merkez       4.41 206   i P  Pn           03 54 08.3 -0.7
HARR  Harsova             4.48 313   ⇓P   Pn           03 54 09.6 -0.3
HARR  Harsova             4.48 313   P    Pn           03 54 09.6 -0.3
HARR  Harsova             4.48 313        Pn           03 54 09.6 -0.3
KERU  Kerch               4.62  37   eP   Pn           03 54 12.4 +0.6
RASA  Rasa                4.66 304   ⇓P   Pn           03 54 13.0 +0.6
RASA  Rasa                4.66 304   ⇓S   Sn           03 55 05.5 -0.8
RASA  Rasa                4.66 304        Pn           03 54 13.0 +0.6
RASA                                     Sn           03 55 05.5 -0.8
CFR   Carcaliu            4.71 319   ⇓P   Pn           03 54 12.3 -0.7
CFR   Carcaliu            4.71 319   ⇓S   Sn           03 55 05.1 -2.3
CFR   Carcaliu            4.71 319   P    Pn           03 54 12.3 -0.7
CFR                                      03 55 05.1
CFR   Carcaliu            4.71 319        Pn           03 54 12.3 -0.7
CFR                                      Sn           03 55 05.1 -2.3
ANN   Anapa               4.76  48   eP   Pn           03 54 13.4 -0.2
ANN                                  eS   Sn           03 55 06.8 -1.8
ANN                                    pmax pmax
        comp=Z,34nm,0.6s
AMRR  Amara               4.77 309   ⇓P   Pn           03 54 14.0 +0.2
AMRR  Amara               4.77 309   ⇓S   Sn           03 55 08.3 -0.6
AMRR  Amara               4.77 309        Pn           03 54 14.0 +0.2
AMRR                                     Sn           03 55 08.3 -0.6
RAZG  Razgrad             4.80 295   ⇑P   Pn           03 54 13.9 -0.3
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RAZG Razgrad 4.80 295 ⇓S Sn 03 55 11.3 +1.6
RAZG Razgrad 4.80 295 Pn 03 54 13.9 -0.3
RAZG Sn 03 55 11.3 +1.6
ALN Alexandroupoli 4.92 263 P Pn 03 54 16.2 +0.3
ALN Alexandroupoli 4.92 263 Pn 03 54 16.2 +0.3
TUDR 5.24 320 ⇓P Pn 03 54 20.6 +0.4
TUDR 5.24 320 ⇑S Sn 03 55 19.0 -1.5
TUDR 5.24 320 Pn 03 54 20.6 +0.4
TUDR Sn 03 55 19.0 -1.5
ELL Elmali 5.33 203 P Pn 03 54 22.7 +1.0
ELL Elmali 5.33 203 Pn 03 54 22.6 +1.0
SGRR Singureni 5.41 300 ⇓P Pn 03 54 23.2 +0.6
SGRR Singureni 5.41 300 ⇑S Sn 03 55 23.7 -1.0
SGRR Singureni 5.41 300 Pn 03 54 23.2 +0.6
SGRR Sn 03 55 23.7 -1.0
BUC1 Bucharest 5.43 301 ⇓S Sn 03 55 23.8 -1.4
BUC1 Bucharest 5.43 301 Sn 03 55 23.8 -1.4
SULR 5.45 305 ⇑P Pn 03 54 24.1 +0.9
SULR 5.45 305 ⇑S Sn 03 55 23.8 -1.9
SULR 5.45 305 Pn 03 54 24.1 +0.9
SULR Sn 03 55 23.8 -1.9
ISR Istrita 5.52 310 ⇓P Pn 03 54 25.1 +0.9
ISR Istrita 5.52 310 P Pn 03 54 25.1 +0.9
ISR Istrita 5.52 310 Pn 03 54 25.1 +0.9
ZIMR 5.61 293 ⇓P Pn 03 54 26.1 +0.7
ZIMR 5.61 293 P Pn 03 54 26.1 +0.7
ZIMR 5.61 293 Pn 03 54 26.1 +0.7
SOC Sochi 5.65 68 *eP* **Pn 03 54 26.8 +0.9**
SOC *e* 03 55 33.4
SOC pmax pmax
comp=Z,15nm,0.8s
SOC MLR MLR
comp=Z,35nm,11.0s
ODBI Odobesti 5.66 318 ⇑P Pn 03 54 27.1 +1.1
ODBI Odobesti 5.66 318 ⇑S Sn 03 55 30.8 -0.2
ODBI Odobesti 5.66 318 Pn 03 54 27.1 +1.1
ODBI Sn 03 55 30.8 -0.2
SECR 5.75 308 ⇑P Pn 03 54 28.7 +1.3
SECR 5.75 308 Pn 03 54 28.7 +1.3
BIR Birlad 5.76 324 ⇑S Sn 03 55 30.3 -3.1
BIR Birlad 5.76 324 Sn 03 55 30.3 -3.1
GAZ Gaziantep 5.81 140 Pn 03 54 28.4 +0.3
NEHR Nehoiu 5.85 312 ⇑P Pn 03 54 29.6 +0.9
COPA Copaceanca 5.87 297 ⇑P Pn 03 54 29.5 +0.5
COPA Copaceanca 5.87 297 Pn 03 54 29.5 +0.5
AKAS Kas 5.90 203 Pn **Pn 03 54 30.3 +0.8**
VRI Vrincioaia 5.90 317 ⇑P Pn 03 54 29.8 +0.4
VRI Vrincioaia 5.90 317 ⇓S Sn 03 55 36.3 -0.5
VRI Vrincioaia 5.90 317 P Pn 03 54 29.8 +0.4
VRI 03 55 36.3
VRI Vrincioaia 5.90 317 Pn 03 54 29.8 +0.4
VRI **Sn 03 55 36.3 -0.5**
PLOR Plostina 5.93 316 ⇑P Pn 03 54 30.0 +0.2
PLOR Plostina 5.93 316 P Pn 03 54 30.0 +0.2
PLOR Plostina 5.93 316 Pn 03 54 30.0 +0.2
VASR Vaslui 5.99 327 ⇓P Pn 03 54 30.6 0.0
VASR Vaslui 5.99 327 ⇓S Sn 03 55 36.1 -2.9
MLR Muntele Rosu 6.08 311 Pn **Pn 03 54 32.5 +0.5**
comp=Z,4.3nm,0.3s,baz=9.0,slow=4.0,SNR=34
MLR Sn **Sn 03 55 42.2 +0.7**
comp=Z,12nm,0.3s,baz=281,slow=22,SNR=6.9
MLR Muntele Rosu 6.08 311 ⇑P Pn 03 54 32.6 +0.6
MLR Muntele Rosu 6.08 311 ⇓S Sn 03 55 41.3 -0.2
MLR Muntele Rosu 6.08 311 Pn 03 54 31.8 -0.2
MLR Sn **Sn 03 55 41.3 -0.2**
HUMR Humele 6.19 300 ⇓P Pn 03 54 34.1 +0.9
HUMR Humele 6.19 300 ⇑S Sn 03 55 43.2 -0.7
HUMR Humele 6.19 300 Pn 03 54 34.1 +0.9
HUMR **Sn 03 55 43.2 -0.7**
KOPT Kop Dagi 6.29 103 Pn **Pn 03 54 35.0 -0.1**
TESR Tescani 6.39 321 ⇓P Pn 03 54 36.1 -0.1
TESR Tescani 6.39 321 ⇓S Sn 03 55 47.7 -1.3
TESR Tescani 6.39 321 Pn 03 54 36.1 -0.1
TESR **Sn 03 55 47.7 -1.3**
OZUR 6.54 314 ⇑P Pn 03 54 38.1 -0.1
OZUR 6.54 314 ⇓S Sn 03 55 51.9 -0.9
OZUR 6.54 314 Pn 03 54 38.1 -0.1
OZUR **Sn 03 55 51.9 -0.9**
VOIR 6.58 307 ⇑P Pn 03 54 39.2 +0.5
VOIR 6.58 307 ⇓S Sn 03 55 53.7 +0.1
VOIR 6.58 307 P Pn 03 54 39.2 +0.5
VOIR 03 55 53.7
VOIR 6.58 307 Pn 03 54 39.2 +0.5
VOIR **Sn 03 55 53.7 +0.1**
DOPR Dopca 6.68 312 ⇓P Pn 03 54 39.6 -0.5
DOPR Dopca 6.68 312 Pn 03 54 39.6 -0.5
ARXR Arkhyz 6.74 71 *i* P **Pn 03 54 42.3 +1.3**
ARR Arges 6.79 305 ⇑P Pn 03 54 42.0 +0.4
ARR Arges 6.79 305 ⇓S Sn 03 55 57.4 -1.5
ARR Arges 6.79 305 Pn 03 54 42.0 +0.4
ARR **Sn 03 55 57.4 -1.5**
BIZ Bicaz 6.96 321 ⇓P Pn 03 54 44.0 +0.1
BIZ Bicaz 6.96 321 ⇓S Sn 03 56 03.2 +0.2
BIZ Bicaz 6.96 321 Pn 03 54 44.0 +0.1
BIZ **Sn 03 56 03.2 +0.2**
CHVG Ch'k'valeri 7.19 79 ⇑P Pn 03 54 47.9 +0.8
CHVG Ch'k'valeri 7.19 79 P Pn 03 54 47.9 +0.8
CHVG Ch'k'valeri 7.19 79 Pn 03 54 47.9 +0.8
LOT Lotru 7.36 304 ⇓P Pn 03 54 50.3 +0.7
LOT Lotru 7.36 304 Pn 03 54 50.3 +0.7
ZAPS Zavoj 7.46 286 *ePn* **Pn 03 54 51.0 +0.2**
BOSS Bosilegrad 7.49 279 *ePn* **Pn 03 54 54.5 +3.3**
STIP Stip 7.72 273 *i* Pn **Pn 03 54 53.8 -0.5**
KIV Kislovodsk 7.82 70 *eP* **Pn 03 54 56.2 +0.4**
KIV pmax pmax
comp=Z,22nm,0.8s
KIV MLR MLR
comp=Z,30nm,9.0s
KVAR Kislovodsk Arr 7.83 70 Sn **Sn 03 56 25.8 +1.3**
baz=178,slow=2.2,SNR=3.9
ZAGS Zajecar 7.84 289 *ePn* **Pn 03 54 54.8 -1.2**
BURAR Bucovina Array 7.87 321 ⇑P Pn 03 54 56.7 +0.3
BURAR Bucovina Array 7.87 321 ⇓S Sn 03 56 25.5 +0.1
BURAR Bucovina Array 7.87 321 Pn **Pn 03 54 56.4 0.0**
BURAR Sn **Sn 03 56 25.0 -0.4**
BURAR Bucovina Array 7.87 321 Pn 03 54 56.7 +0.3
BURAR **Sn 03 56 25.5 +0.1**
BUR08 Bucovina Ar. S 7.90 321 Pn **Pn 03 54 56.9 0.0**
KBZ Khabaz 7.92 72 Pn **Pn 03 54 58.0 +0.8**
comp=Z,0.3nm,0.3s,baz=246,slow=16,SNR=2.9
KBZ Khabaz 7.92 72 *i* P **Pn 03 54 58.3 +1.2**
BARS Barje 8.00 282 *ePn* **Pn 03 55 00.8 +2.6**
HERR Herculane 8.01 297 ⇑P Pn 03 54 57.5 -0.9
HERR Herculane 8.01 297 Pn 03 54 57.5 -0.9
DEV Deva 8.10 304 ⇑P Pn 03 55 00.2 +0.6
DEV Deva 8.10 304 ⇑S Sn 03 56 29.4 -1.6
DEV Deva 8.10 304 P **Pn 03 55 00.2 +0.6**
DEV 03 56 29.4
DEV Deva 8.10 304 Pn 03 55 00.2 +0.6
DEV **Sn 03 56 29.4 -1.6**
CJR Cluj-Napoca 8.12 311 ⇑P Pn 03 54 59.5 -0.4
CJR Cluj-Napoca 8.12 311 P **Pn 03 54 59.5 -0.4**
CJR Cluj-Napoca 8.12 311 Pn 03 54 59.5 -0.4
BOVS Bovan 8.19 287 *ePn* **Pn 03 55 00.8 +0.1**
MDVR Moldovita 8.46 295 ⇓P Pn 03 55 04.4 -0.1
MDVR Moldovita 8.46 295 Pn 03 55 04.4 -0.1
ZEI Tsey 8.53 79 *eP* **Pn 03 55 06.1 +0.4**
ZEI pmax pmax
comp=Z,7.0nm,0.5s
SELS Selova 8.55 284 *ePn* **Pn 03 55 06.1 +0.4**
SVIS Svilajnac 8.66 291 *ePn* **Pn 03 55 05.5 -1.7**
BZS Buzias 8.81 300 *ePn* **Pn 03 55 08.4 -0.7**
BZS Buzias 8.81 300 ⇑P Pn 03 55 08.5 -0.7
BZS Buzias 8.81 300 P **Pn 03 55 08.5 -0.7**
BZS Buzias 8.81 300 Pn 03 55 08.5 -0.7
GRUS Gruza 8.94 288 *ePn* **Pn 03 55 11.8 +0.8**
MMAI Mount Meron Ar 8.97 164 LR LR 03 59 18.4
comp=Z,46nm,20.7s,baz=20,slow=42
SIRR Siria 9.05 304 ⇓P Pn 03 55 13.3 +0.7
SIRR Siria 9.05 304 Pn 03 55 13.2 +0.7
TRUS Trudelj 9.22 290 *ePn* **Pn 03 55 14.5 -0.4**
AKASG Malin Array Be 9.29 347 Pn **Pn 03 55 13.9 -1.9**
comp=Z,8.1nm,0.3s,baz=159,slow=12,SNR=20
AKASG Sn Sn 03 56 49.8 -10
comp=Z,6.7nm,0.3s,baz=155,slow=23,SNR=4.3
AKASG Malin Array Be 9.29 347 Pn 03 55 12.5 -3.3
AKBB Malin Array Si 9.29 347 P Pn **03 55 14.2 -1.6**
AKBB Malin Array Si 9.29 347 Pn Pn **03 55 14.2 -1.6**
SJES Sjenica 9.39 284 *ePn* **Pn 03 55 18.5 +1.2**
DIVS Divibare 9.49 289 *ePn* **Pn 03 55 18.5 -0.1**

DIVS Divibare 9.49 289 Pn **Pn 03 55 18.6 0.0**
FRGS Fruska Gora 9.86 295 *ePn* **Pn 03 55 19.6 -4.0**
BBLS Lazići 9.87 287 *ePn* **Pn 03 55 23.2 -0.6**
TEKS Tekeris 9.90 291 *ePn* **Pn 03 55 23.4 -0.8**
LVV L'vov 10.04 327 *eP* **Pn 03 55 28.3 +2.2**
LVV *e* 03 57 18.6
KOLS Kolonicke sedl 10.20 319 *eP* **Pn 03 55 26.7 -1.6**
KOLS Kolonicke sedl 10.20 319 *ePN* **Pn 03 55 26.6 -1.7**
BTLR Botlikh 10.24 80 *i* P **Pn 03 55 30.2 +1.3**
TREB Trebinje 10.55 280 *ePn* **Pn 03 55 34.5 +1.4**
VSR Storozhevoye 10.57 23 *eP* **Pn 03 55 34.2 +0.8**
VSR pmax pmax
comp=Z,20nm,1.0s
CRVS Cervenica-Dubn 10.59 317 *eP* **Pn 03 55 32.8 -0.9**
CRVS Cervenica-Dubn 10.59 317 *ePN* **Pn 03 55 32.8 -0.9**
KECS Kecovo 10.86 313 *eP* **Pn 03 55 37.6 +0.2**
KECS Kecovo 10.86 313 *ePN* **Pn 03 55 37.6 +0.2**
VRH Novokhopyorsk 11.43 31 *eP* **Pn 03 55 45.5 +0.4**
VRH pmax pmax
comp=Z,10.0nm,0.4s
LPSR Galich'ya Gora 11.75 20 *eP* **Pn 03 55 50.8 +1.3**
LPSR pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 11.80 310 *eP* **Pn 03 55 50.0 -0.2**
VYHS *e* 03 57 53.4
VYHS Vyhne 11.80 310 *ePN* **Pn 03 55 50.0 -0.2**
VYHS Vyhne 11.80 310 *eSN* **Sn 03 57 53.4 -8.3**
VRAC Vranov 13.49 310 LR LR 04 02 24.9
comp=Z,29nm,18.6s,baz=174,slow=42
OBN Obninsk 13.70 10⇓ *eP* **Pn 03 56 16.3 +0.3**
OBN S **Sn 03 58 47.0 -0.8**
OBN pmax pmax
comp=Z,7.0nm,0.8s
MOS Moscow 14.45 12 *eP* **Pn 03 56 23.1 -3.2**
MOS *e* 03 58 58.4
GERES GERESS Array B 15.02 305 LR LR 04 03 26.7
comp=Z,21nm,18.3s,baz=86,slow=42
VSU Vasula 17.18 350 *i* P **Pn 03 56 58.2 -3.5**
VSU pmax pmax
comp=Z,49nm,0.6s
BNI Bardonecchia 19.04 289 P **P 03 57 24.2 +0.1**
BNI pmax pmax
comp=Z,7.0nm,1.0s
BNI Bardonecchia 19.04 289 P 03 57 24.2 +0.1
KLMR Klimovskoe 19.66 10 *eP* **P 03 57 27.9 -2.6**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 19.66 10 *eP* **P 03 57 28.0 -2.6**
KLMR AMP 03 57 46.0
comp=Z,9.0nm,0.8s
AKTO Aktyubinsk 19.67 55 P **P 03 57 31.6 +0.7**
comp=Z,0.4nm,0.3s,baz=225,slow=6.7,SNR=3.8
GEYT Alibeck 20.01 92 P Pn 03 57 36.9 +0.4
comp=Z,0.2nm,0.3s,baz=291,slow=12,SNR=6.4
GEYT Alibeck 20.01 92 P **P 03 57 34.9 +0.2**
FINES FINESS Array B 20.16 351 P **P 03 57 33.7 -2.3**
comp=Z,5.6nm,0.8s,baz=157,slow=13,SNR=17
FINES LR LR 04 05 23.6
comp=Z,6.0nm,19.2s,baz=242,slow=37
FINES FINESS Array B 20.16 351 *i* P Pn 03 57 37.2 -0.7
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 20.16 351 P **P 03 57 35.4 -0.6**
PRGR Permogore 21.48 17 *eP* **P 03 57 51.6 +1.3**
PRGR *e* 04 01 51.9
PRGR pmax pmax
comp=Z,16nm,0.7s
HFS Hagfors 21.79 334 P **P 03 57 54.4 +0.7**
comp=Z,3.2nm,0.6s,baz=134,slow=11,SNR=11
HFS LR LR 04 06 38.6
comp=Z,24nm,19.9s,baz=132,slow=37
ARU Arti 22.37 40 *d i* P **P 03 58 02.6 +2.7**
ARU 03 58 24.1
ARU SS Sn 04 02 41.0 +23
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 22.37 40 P 03 58 00.1 +0.1
ARU IAmb IAmb 03 58 10.2
comp=Z,10nm,1.0s
NB2 NORSAR Subarra 23.29 333 P **P 03 58 12.9 +3.4**
comp=Z,12nm,1.7s,baz=137,slow=11
NOA NORSAR Array B 23.29 333 P **P 03 58 10.6 +1.1**
comp=Z,0.5nm,0.6s,baz=135,slow=12,SNR=6.9
ESDC Sonseca Array 27.59 278 P **P 03 58 49.6 +0.4**
comp=Z,1.2nm,0.7s,baz=68,slow=9.1,SNR=8.5
ESDC Sonseca Array 27.59 278 IAmb IAmb 03 58 50.1
comp=Z,1.4nm,1.1s
BRVK Borovoye 27.68 53 *i* P **P 03 58 50.6 +0.9**
BRVK pmax pmax
comp=Z,3.0nm,1.2s
ARCES ARCESS Array B 28.14 355 P **P 03 58 57.2 +3.4**
comp=Z,2.2nm,0.7s,baz=165,slow=7.5,SNR=5.0
ARCES ARCESS Array B 28.14 355 P **P 03 58 54.2 +0.4**
ARCES ARCESS Array B 28.14 355 P **P 03 58 54.2 +0.4**
AAK Ala-Archa 30.91 74 *i* P **P 03 59 19.8 +1.0**
AAK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 32.70 58 *i* P **P 03 59 35.5 +1.3**
KURK pmax pmax
comp=Z,3.0nm,1.5s
MKAR Makanchi Array 35.55 65 P **P 04 00 00.2 +1.3**
comp=Z,0.8nm,0.6s,baz=279,slow=7.3,SNR=8.6
MKAR PcP **PcP 04 02 27.6 -0.2**
comp=Z,0.5nm,0.7s,baz=277,slow=4.9,SNR=3.6
MKAR Makanchi Array 35.55 65 P **P 03 59 59.2 +0.2**
MKAR 04 02 28.0
MKAR Makanchi Array 35.55 65 P **P 03 59 59.2 +0.2**
MKAR **PcP 04 02 28.0 +0.2**
TOA0 Torodi Ar. Sit 39.07 232 P **P 04 00 28.9 -0.2**
TOA0 IAmb IAmb 04 00 30.1
comp=Z,6.2nm,1.1s
TORD Torodi Ar. Bea 39.07 232 P **P 04 00 29.1 +0.1**
comp=Z,2.1nm,0.7s,baz=37,slow=9.0,SNR=8.1
TORD Torodi Ar. Bea 39.07 232 P **P 04 00 29.3 +0.2**
DBIC Dimbokro 48.10 234 P **P 04 01 41.9 0.0**
comp=Z,5.3nm,0.7s,baz=13,slow=5.3,SNR=6.2
DBIC Dimbokro 48.10 234 P **P 04 01 42.2 +0.4**
DBIC pmax pmax
comp=Z,6.0nm,0.9s
DBIC Dimbokro 48.10 234 P **P 04 01 42.2 +0.4**
DBIC IAmb IAmb 04 01 46.0
comp=Z,6.4nm,0.9s
BOSA Boshof 70.28 187 P **P 04 04 15.3 +0.1**
comp=Z,2.1nm,0.6s,baz=344,slow=4.3,SNR=4.0
BOSA Boshof 70.28 187 P **P 04 04 15.4 +0.1**
BOSA pmax pmax
comp=Z,8.0nm,1.1s
BOSA Boshof 70.28 187 P **P 04 04 15.4 +0.1**
BOSA IAmb IAmb 04 04 23.6
comp=Z,7.7nm,1.1s

IDC ***04*** *04:05:36.5±0.8, 24°.09S×115°.62W, h0km, mb4.5/8, mb1 4.7/8, mb1mx4.3/30, mbtmp4.5/8, MS4.6/21, Ms1 4.6/21, ms1mx4.5/24, Error ellipse: s-maj=32.6km s-min=22.6km az=46.0*
NEIC ***04*** *04:05:38.6±0.8, 24°.0S±0°.1×115°.6W±0°.1, h10km±1km, mb4.9/238, Error ellipse: s-maj=20.1km s-min=17.2km az=202.0*
UNK ***04*** *04:05:38.6, 24°.01S×115°.55W, h10km*
GCMT ***04*** *04:05:41.6±0.1, 24°.28S±0°.01×115°.50W±0°.01, h16km, MW5.3/147, Moment Tensor Solution. s113,c179; s147,c268; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.03±.01; Mθθ-0.64±.01; Mφφ0.60±.01; Mrθ-0.14±.03; Mφφ0.79±.01; Mθφ0.04±.04; Best double couple: Mo1.01300×10^17 NP1:φ161.00000°, δ83.00000°, λ-176.00000°. NP2:φ71.00000°, δ86.00000°, λ-7.00000°. Principal axes: T 0.9870, Plg2.0000°, Azm116.0000°; N 0.0530, Plg82.0000°, Azm218.0000°; P -1.0400, Plg8.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 04:05:38.5±0.4, 24°.04S±0°.08×115°.45W±0°.08, h10km, n422, σ1$34/308, mb4.9/113, MS4.7/24, 4C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.32**	**120**	LR	LR	04 08 57.3	
	comp=Z,12μm,18.7s,baz=341,slow=31						
RPN	**Rapa Nui**	**6.32**	**120**	Pn	**Pn**	**04 07 13.6**	**+1.9**
RKT	**Rikitea**	**17.93**	**269**	*e*LQ	LQ	04 13 00.0	
	7μm,27.0s						
RKT				*e*LR	LR	04 13 44.7	
	comp=Z,8μm,25.8s						
TAOE	**Nuku Hiva Isla**	**28.02**	**298**	*e*S	S	04 16 02.0	-13
	274nm,25.7s						
TAOE				*e*LR	LR	04 18 19.3	
	comp=Z,6μm,25.9s,baz=132						
TBI	**Tubuai**	**31.11**	**264**	*e*S	S	04 16 54.5	-8.5
	513nm,31.8s						
TBI				*e*LQ	LQ	04 18 33.3	
	1μm,34.0s						
TBI				*e*LR	LR	04 19 52.5	
	comp=Z,2μm,27.2s,baz=101						
TBI	**Tubuai**	**31.11**	**264**	*e*T	T	04 44 19.3	
	4.3nm,0.3s						
TIAR	**Tiarei**	**32.28**	**275**	*e*T	T	04 45 52.5	
	3.4nm,0.3s						
PPT2	**Papeete2**	**32.48**	**275**	*e*S	S	04 17 14.8	-10
	347nm,25.2s						
PPT2				*e*LQ	LQ	04 19 05.7	
	2μm,25.5s						
PPT2				*e*LR	LR	04 20 27.4	
	comp=Z,3μm,27.8s,baz=108						
PPT	**Papeete**	**32.49**	**275**	LR	LR	04 19 58.7	
	comp=Z,140nm,19.6s,baz=104,slow=27						
H03N2	**Juan Fernandez**	**33.22**	**115**	T	T	04 47 14.0	
	baz=281,slow=75,SNR=99						
H03N3	**Juan Fernandez**	**33.22**	**115**	T	T	04 47 15.2	
	baz=281,slow=75,SNR=126						
H03N1	**Juan Fernandez**	**33.23**	**115**	T	T	04 47 15.1	
	baz=281,slow=75,SNR=114						
BO01	**Tunca**	**39.80**	**115**	P	**P**	**04 13 12.6**	**+0.7**
GO04	**Tololo Observa**	**40.02**	**109**	P	**P**	**04 13 15.3**	**+1.3**
BO02	**Sierra Bellavi**	**40.07**	**116**	P	**P**	**04 13 15.5**	**+1.3**
BO02				IAmb	IAmb	04 13 33.6	
	comp=Z,58nm,1.8s						
VA03	**San Esteban**	**40.19**	**113**	P	**P**	**04 13 16.6**	**+1.3**
VA03				IAmb	IAmb	04 13 21.8	
	comp=Z,23nm,1.1s						
AC05	**El Transito**	**40.55**	**107**	P	**P**	**04 13 19.4**	**+1.1**
AC05				IAmb	IAmb	04 13 29.4	
	comp=Z,42nm,1.4s						
RAR	**Rarotonga**	**40.89**	**265**	LR	LR	04 25 22.5	
	comp=Z,630nm,20.5s,baz=104,slow=29						
PLCA	**Paso Flores**	**40.93**	**125**	P	**P**	**04 13 21.6**	**+0.3**
	comp=Z,9.2nm,1.0s,baz=290,slow=6.6,SNR=9.0						
PLCA				LR	LR	04 25 58.2	
	comp=Z,2μm,21.3s,baz=281,slow=30						
PLCA	**Paso Flores**	**40.93**	**125**	P	**P**	**04 13 22.0**	**+0.7**
PLCA	**Paso Flores**	**40.93**	**125**	*e*S	**S**	**04 19 28.8**	**-4.4**
ZON	**Zonda**	**41.79**	**111**	P	**P**	**04 13 29.6**	**+1.2**
ZON				IAmb	IAmb	04 13 36.1	
	comp=Z,35nm,1.2s						
PB09	**IPOC Station P**	**42.47**	**97**	P	**P**	**04 13 35.4**	**+1.1**
PB09				IAmb	IAmb	04 13 41.1	
	comp=Z,26nm,1.1s						
LVC	**Limon Verde**	**42.61**	**98**	P	**P**	**04 13 36.3**	**+0.7**
LVC				IAmb	IAmb	04 13 43.3	
	comp=Z,66nm,1.9s						
LVC	**Limon Verde**	**42.61**	**98**	*e*P	**P**	**04 13 34.3**	**-1.3**
MNMC	**Minye Minye**	**42.77**	**93**	P	**P**	**04 13 37.7**	**+0.9**
MNMC				IAmb	IAmb	04 13 52.7	
	comp=Z,24nm,1.3s						
PB08	**IPOC Station P**	**42.92**	**94**	P	**P**	**04 13 39.0**	**+0.9**
PB08				IAmb	IAmb	04 13 49.0	
	comp=Z,60nm,1.8s						
GO01	**Chusmiza**	**43.00**	**94**	P	**P**	**04 13 39.6**	**+0.7**
GO01				IAmb	IAmb	04 13 43.4	
	comp=Z,37nm,1.8s						
PB16	**IPOC Station P**	**43.06**	**92**	P	**P**	**04 13 40.1**	**+0.6**
PB16				IAmb	IAmb	04 13 46.7	
	comp=Z,56nm,1.7s						
OTAV	**Otavalo**	**43.24**	**61**	*e*P	**P**	**04 13 40.9**	**+0.1**
OTAV	**Otavalo**	**43.24**	**61**	P	**P**	**04 13 41.1**	**+0.3**
LPAZ	**La Paz**	**44.91**	**89**	P	**P**	**04 13 55.1**	**+0.6**
	comp=Z,9.0nm,0.9s,baz=270,slow=6.1,SNR=25						
LPAZ				LR	LR	04 28 16.6	
	comp=Z,630nm,19.5s,baz=250,slow=30						
LPAZ	**La Paz**	**44.91**	**89**	P	**P**	**04 13 54.9**	**+0.5**
BBAC	**Balboa, Cauca**	**45.26**	**60**	*e*P	**P**	**04 13 56.8**	**0.0**
JTS	**Las Juntas de**	**45.30**	**45**	P	**P**	**04 13 57.4**	**+0.6**
POPC	**Popayan, Colom**	**46.03**	**60**	*e*P	**P**	**04 14 01.5**	**-1.3**
PTLC	**Puerto Leguiza**	**46.17**	**65**	*e*P	P	04 13 57.1	-6.7
FLOC	**Florencia**	**46.28**	**62**	*e*P	**P**	**04 14 05.1**	**+0.4**
FLOC	**Florencia**	**46.28**	**62**	P	**P**	**04 14 05.5**	**+0.9**
YOTC	**Yotoco, Valle**	**47.17**	**59**	*e*P	**P**	**04 14 08.5**	**-3.1**
TRQA	**Tornquist**	**47.29**	**120**	*e*P	**P**	**04 14 15.0**	**+2.8**
ORTC	**Ortega, Tolima**	**47.99**	**60**	*e*P	**P**	**04 14 18.2**	**+0.2**
PRAC	**Prado**	**48.16**	**61**	*e*P	**P**	**04 14 19.1**	**-0.2**
TOLC	**Tolima**	**48.34**	**59**	*e*P	**P**	**04 14 19.1**	**-1.9**
CBOC	**Ciudad Bolivar**	**48.59**	**57**	*e*P	**P**	**04 14 24.6**	**+1.8**
GUY2C	**Guyana, Caldas**	**48.70**	**59**	*e*P	**P**	**04 14 24.6**	**+0.7**
ETMB	**Extrema**	**48.93**	**82**	*e*P	**P**	**04 14 25.4**	**+0.2**
HELC	**Santa Helena**	**49.17**	**57**	*e*P	**P**	**04 14 27.7**	**+0.2**
ROSC	**El Rosal**	**49.28**	**60**	P	**P**	**04 14 30.3**	**+2.0**
	comp=Z,5.7nm,0.6s,baz=232,slow=2.0,SNR=11						
ROSC				LR	LR	04 32 34.6	
	comp=Z,487nm,18.7s,baz=220,slow=33						
ROSC	**El Rosal**	**49.28**	**60**	*e*P	**P**	**04 14 28.7**	**+0.4**
ROSC	**El Rosal**	**49.28**	**60**	P	**P**	**04 14 28.7**	**+0.4**
NORC	**Norcasia**	**49.29**	**59**	*e*P	**P**	**04 14 26.1**	**-1.9**
VILC	**Villavicencio,**	**49.35**	**61**	*e*P	**P**	**04 14 26.1**	**-2.4**
SPBC	**San Pablo de B**	**49.97**	**59**	*e*P	**P**	**04 14 31.4**	**-1.8**
PTBC	**PUERTO BERRIO,**	**50.22**	**58**	*e*P	**P**	**04 14 35.3**	**+0.3**
BRRC	**Barranca, Sant**	**51.15**	**58**	*e*P	**P**	**04 14 42.2**	**+0.2**
SJCC	**San Jacinto, C**	**51.81**	**54**	*e*P	**P**	**04 14 42.8**	**-4.2**
SAML	**Samuel**	**52.02**	**82**	P	**P**	**04 14 47.8**	**-0.7**
SAML				IAmb	IAmb	04 14 54.0	
	comp=Z,16nm,1.1s						
SAML	**Samuel**	**52.02**	**82**	*e*P	**P**	**04 14 47.4**	**-1.1**
CPUP	**Villa Florida**	**52.26**	**105**	LR	LR	04 32 46.9	
	comp=Z,857nm,21.7s,baz=259,slow=31						
CPUP	**Villa Florida**	**52.26**	**105**	*e*P	**P**	**04 14 51.5**	**+1.3**
PMSA	**Palmer Station**	**52.38**	**155**	*e*P	P	04 15 01.2	+11
VILB	**Vilhena**	**53.25**	**88**	*e*P	**P**	**04 14 56.7**	**-1.0**
PTLB	**Pontes e Lacer**	**53.40**	**92**	*e*P	**P**	**04 14 58.9**	**+0.2**
TXAR	**Lajitas Array**	**54.26**	**13**	P	**P**	**04 15 05.2**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=202,slow=8.9,SNR=7.1						
TXAR	**Lajitas Array**	**54.26**	**13**	P	**P**	**04 15 05.1**	**+0.2**
833A	**Chaparral WMA,**	**54.31**	**17**	P	**P**	**04 15 04.7**	**-0.4**
	baz=198						
PLTB	**Pedras Altas**	**54.57**	**113**	*e*P	**P**	**04 15 09.3**	**+2.1**
SDV	**Santo Domingo**	**54.64**	**59**	P	**P**	**04 15 08.5**	**+0.5**
SDV	**Santo Domingo**	**54.64**	**59**	*e*P	**P**	**04 15 07.2**	**-0.8**
SPX	**San Pedro Mart**	**54.77**	**360**	IAmb	IAmb	04 15 21.9	
	comp=Z,12nm,1.1s						
CPSB	**Cacapava Do Su**	**54.92**	**111**	*e*P	**P**	**04 15 12.0**	**+2.3**
CPSB				*ep*P	**pwP**	**04 15 14.6**	**-1.1**
AQDB	**Aquidauana**	**55.06**	**99**	*e*P	**P**	**04 15 10.3**	**-0.5**
PIX	**Pinacate**	**55.32**	**2**	IAmb	IAmb	04 15 29.8	
	comp=Z,14nm,1.2s						
214A	**Organ Pipe Nat**	**55.74**	**3**	P	**P**	**04 15 16.4**	**+1.0**
	baz=183						
TUC	**Tucson**	**56.21**	**5**	P	**P**	**04 15 19.6**	**+0.7**
	baz=185						
JCT	**Junction City**	**56.25**	**16**	P	**P**	**04 15 19.2**	**+0.1**
	baz=197,SNR=11						
MNTX	**Cornudas Mount**	**56.26**	**10**	P	**P**	**04 15 19.1**	**0.0**
	baz=191,SNR=8.7						
IKP	**In-Ko-Pah, Jac**	**56.38**	**359**	P	**P**	**04 15 21.1**	**+1.1**
	baz=179						
BAR	**Barrett**	**56.41**	**359**	P	**P**	**04 15 20.3**	**+0.1**
MONP2	**Monument Peak**	**56.62**	**359**	P	**P**	**04 15 22.8**	**+0.9**
	baz=179						
109C	**Camp Elliot, M**	**56.63**	**358**	P	**P**	**04 15 23.5**	**+1.8**
	baz=178						
SWSC	**Sam W. Stewart**	**56.67**	**360**	P	**P**	**04 15 23.1**	**+1.1**
	baz=180						
MACA	**Manacap

comp=Z,23nm,1.4s
MURC Murrieta 57.34 358 P P 04 15 27.9 +1.1
baz=178
BC3 Big Chuckawall 57.38 360 P P 04 15 28.0 +0.8
baz=180
BELC Belle Mtn. Jos 57.72 359 P P 04 15 30.1 +0.5
baz=180,SNR=10
IRM Iron Mountain 57.88 0 P P 04 15 31.3 +0.7
baz=180
BFSC Mount Baldy Ra 58.00 358 P P 04 15 32.0 +0.5
baz=178
MWC Mount Wilson 58.00 357 IAmb IAmb 04 15 34.9
comp=Z,18nm,1.1s
CLDB Colider 58.01 88 eP P 04 15 31.9 -0.1
PDMCI Parker Dam,Lak 58.04 1 P P 04 15 32.2 +0.6
baz=182
DECC Green Verdugo 58.04 357 P P 04 15 32.3 +0.6
baz=177
WHTX Lake Whitney, 58.31 18 P P 04 15 33.3 -0.3
baz=199
ABTX Abilene, Hawle 58.33 16 P P 04 15 33.6 -0.2
baz=197
ABTX Abilene, Hawle 58.33 16 IAmb IAmb 04 15 49.9
comp=Z,15nm,1.1s
Y22D IRIS PASSCAL I 58.36 8 P P 04 15 34.3 +0.2
baz=189
PTGA Pitinga 58.45 75 P P 04 15 34.2 -0.9
PTGA IAmb IAmb 04 15 42.5
comp=Z,9.4nm,1.1s
PTGA Pitinga 58.45 75 eP P 04 15 34.4 -0.6
PTGA epP pP 04 15 37.0 -0.3
GMRC Granite Mounta 58.50 360 P P 04 15 36.0 +1.0
baz=180
BKZ Black Stump Fm 58.64 238 P P 04 15 35.4 -0.7
EDW2 Edwards Air Fo 58.65 358 P P 04 15 36.5 +0.5
baz=177
PCMB Pacaembu 58.75 102 eP P 04 15 38.4 +1.3
PKM Mcpherson Peak 58.75 356 P P 04 15 37.0 +0.1
baz=176
W13A Hualapai Mount 58.84 1 IAmb IAmb 04 15 45.9
comp=Z,12nm,1.1s
ARVC Arvin 58.93 357 P P 04 15 38.5 +0.6
baz=176
MSTX Muleshoe 58.94 12 P P 04 15 37.2 -0.9
baz=194
GSC Goldstone, Bar 59.03 359 P P 04 15 39.5 +0.8
baz=179,SNR=7.9
GSC Goldstone, Bar 59.03 359 IAmb IAmb 04 15 42.1
comp=Z,8.1nm,0.9s
W18A Petrified Fore 59.08 5 P P 04 15 39.6 +0.5
baz=186
W18A Petrified Fore 59.08 5 IAmb IAmb 04 15 59.9
comp=Z,8.7nm,0.9s
TUQ Turquoise Moun 59.15 360 P P 04 15 40.4 +0.8
baz=180
LRMC Laurel Mtn Rad 59.23 358 P P 04 15 41.0 +0.9
baz=178
ANMO Albuquerque 59.28 9 P P 04 15 40.8 +0.2
baz=190
ANMO Albuquerque 59.28 9 P P 04 15 40.5 0.0
WUAZ Wupatki 59.36 4 P P 04 15 41.5 +0.5
baz=184
WUAZ Wupatki 59.36 4 IAmb IAmb 04 15 44.6
comp=Z,10nm,1.1s
ISA Isabella, Lake 59.45 357 P P 04 15 42.5 +1.0
baz=177
ISA Isabella, Lake 59.45 357 P P 04 15 41.5 0.0
SHOC Shoshone, Teco 59.62 359 P P 04 15 43.4 +0.8
baz=179
VES Vestal, Richgr 59.66 357 P P 04 15 43.9 +1.1
baz=176
MPMC Manual Prospec 59.80 358 P P 04 15 44.6 +0.5
baz=178,SNR=11
NPGB Novo Progresso 59.88 84 eP P 04 15 44.2 -0.7
ARAG Araguaiana, MT 60.00 95 eP P 04 15 45.9 +0.2
AMTX Amarillo 60.04 13 P P 04 15 45.3 -0.3
baz=195
ITRB Iturama 60.09 100 eP P 04 15 47.3 +0.9
ITRB eS S 04 23 51.8 -8.0
FURC Furnace Creek, 60.20 359 P P 04 15 47.4 +0.9
baz=179,SNR=7.8
CWC Cottonwood Cre 60.21 358 P P 04 15 47.7 +0.9
baz=177
U15A North Rim 60.22 3 IAmb IAmb 04 15 58.5
comp=Z,8.1nm,1.1s
WMOK Wichita Mounta 60.56 16 P P 04 15 48.3 -0.8
baz=198
ITTB Itaituba 60.63 81 eP P 04 15 48.6 -1.5
TPNV Topopah Spring 60.67 359 P P 04 15 51.3 +1.3
baz=179,SNR=12
TPNV Topopah Spring 60.67 359 IAmb IAmb 04 16 03.0
comp=Z,8.8nm,1.1s
GRAC Grapevine Rang 60.74 358 P P 04 15 51.5 +1.2
baz=178
Z41A Richland Creek 60.93 22 P P 04 15 51.3 -0.4
baz=204
MVCO Mesa Verde 61.27 6 P P 04 15 54.5 +0.3
baz=187
BB19B Bebedouro 61.34 102 eP P 04 15 56.6 +1.6
X37A Clayton 61.34 19 IAmb IAmb 04 16 10.1
comp=Z,9.8nm,1.1s
SPB Sao Paulo 61.63 105 eP P 04 15 58.5 +1.8
T25A Trinidad 61.73 10 P P 04 15 57.1 -0.2
baz=192
MIAR Mount Ida 61.85 20 P P 04 15 57.1 -0.8
baz=203
CCAR Cane Creek 61.88 22 P P 04 15 58.6 +0.5
CMB Columbia Colle 61.92 356 IAmb IAmb 04 16 01.6
comp=Z,6.7nm,1.0s
MSVF Nonsavu 61.96 262 P P 04 15 58.0 -1.2
S22A 4UR Ranch, Cre 61.99 8 P P 04 15 59.1 0.0
baz=189
S22A 4UR Ranch, Cre 61.99 8 IAmb IAmb 04 16 16.1
comp=Z,7.4nm,1.1s
X40A Basin Creek Fa 62.04 21 P P 04 15 58.5 -0.6
baz=204
R11A Troy Canyon, C 62.06 360 P P 04 16 00.5 +1.1
baz=180,SNR=22
R11A Troy Canyon, C 62.06 360 IAmb IAmb 04 16 03.3
comp=Z,9.2nm,1.1s
PV05 Paradox Valley 62.08 6 IAmb IAmb 04 16 02.8
comp=Z,8.4nm,1.1s
SDCO Great Sand Dun 62.16 9 P P 04 16 00.1 -0.2
baz=190,SNR=21
NV11 Mina Array Sit 62.20 358 IAmb IAmb 04 16 13.3
comp=Z,8.2nm,1.0s
VAO Valinhos 62.20 104 eP P 04 16 02.8 +2.1
NVAR Mina Array Bea 62.20 357 P P 04 16 01.3 +0.9
comp=Z,4.4nm,0.8s,baz=187,slow=8.5,SNR=30
NVAR LR LR 04 36 42.0
comp=Z,486nm,21.5s,baz=172,slow=30
NVAR Mina Array Bea 62.20 357 P P 04 16 00.2 -0.1
PV03 Paradox Valley 62.27 6 IAmb IAmb 04 16 20.0
comp=Z,6.8nm,1.1s
PV19 Morning Glory 62.32 6 IAmb IAmb 04 16 09.6
comp=Z,12nm,1.1s
PV12 Saucer Basin, 62.34 6 IAmb IAmb 04 16 19.5
comp=Z,7.4nm,1.0s
W39A Magazine 62.39 20 P P 04 16 01.2 -0.2
baz=202
PV15 Paradox Valley 62.40 6 IAmb IAmb 04 16 10.0
comp=Z,11nm,1.2s
RYN Ryan 62.41 357 IAmb IAmb 04 16 06.1
comp=Z,10nm,1.1s
PV04 Paradox Valley 62.41 6 IAmb IAmb 04 16 18.7
comp=Z,13nm,1.2s
352A Blakely 62.46 29 IAmb IAmb 04 16 11.8
comp=Z,10nm,0.9s
IPMB Ipameri, GO 62.55 99 eP P 04 16 03.5 +0.4
PV22 Blue Mesa, Par 62.56 6 IAmb IAmb 04 16 06.5
comp=Z,6.8nm,1.0s
PV21 Cone Mtn., Par 62.57 6 IAmb IAmb 04 16 10.5
comp=Z,12nm,1.0s
Y45A Yeager Farm, C 62.64 24 IAmb IAmb 04 16 15.9
comp=Z,6.7nm,0.9s
KVN Kaiserville 62.81 358 IAmb IAmb 04 16 17.4
comp=Z,7.6nm,1.1s
W41B Gary Mavity, V 62.86 21 P P 04 16 03.4 -1.2
baz=204
W41B Gary Mavity, V 62.86 21 IAmb IAmb 04 16 24.0
comp=Z,12nm,1.1s
AFDM Forest Hills D 62.87 355 P P 04 16 04.7 +0.1
LRAL Lakeview Retre 62.91 27 P P 04 16 03.2 -1.8
baz=209
MALB Monte Alegre 63.03 79 eP P 04 16 06.3 +0.1
VCNR Virginia City 63.13 356 IAmb IAmb 04 16 28.8
comp=Z,10nm,1.2s

T35A Sooner Cattle 63.20 17 IAmb IAmb 04 16 25.3
comp=Z,10nm,1.1s
PARB Paraibuna 63.29 105 eP P 04 16 10.7 +2.7
BDFB Brasilia 63.48 96 LR LR 04 41 22.8
comp=Z,525nm,18.3s,baz=283,slow=34
ORV Oroville 63.52 355 IAmb IAmb 04 16 29.0
comp=Z,9.7nm,1.1s
U40A Yellville 63.75 20 P P 04 16 09.6 -0.9
baz=203
U40A Yellville 63.75 20 IAmb IAmb 04 16 12.3
comp=Z,8.9nm,1.1s
DUG Dugway, Tooele 63.95 2 P P 04 16 12.3 +0.4
baz=183
ISCO Idaho Springs 64.17 8 P P 04 16 13.5 0.0
baz=190
O20A White River Ci 64.20 6 P P 04 16 13.7 +0.1
baz=187
O02D Mt. Diablo Mer 64.25 354 P P 04 16 13.8 0.0
baz=173
O03E Paynes Creek 64.28 355 P P 04 16 14.9 +1.0
baz=174
WDC Whiskeytown Da 64.63 354 IAmb IAmb 04 16 19.0
comp=Z,8.4nm,1.1s
MGMO Mountain Grove 64.67 20 IAmb IAmb 04 16 31.9
comp=Z,11nm,1.1s
BSCB Bom Sucesso 64.72 103 eP P 04 16 19.2 +1.8
GOGA Godfrey 64.75 29 P P 04 16 15.3 -1.8
baz=212
N02D Trinity Center 65.03 354 P P 04 16 19.5 +0.6
baz=173
VNDA Vanda 65.12 194 LR LR 04 38 19.8
comp=Z,599nm,18.7s,baz=88,slow=30
N23A Red Feather La 65.20 8 P P 04 16 19.7 -0.6
baz=190,SNR=6.6
N23A Red Feather La 65.20 8 IAmb IAmb 04 16 28.3
comp=Z,11nm,0.9s
SWET Sewanee 65.23 26 IAmb IAmb 04 16 37.6
comp=Z,7.8nm,1.1s
WVT Waverly 65.29 24 P P 04 16 19.4 -1.2
baz=208
WVT Waverly 65.29 24 P P 04 16 20.3 -0.2
WVT IAmb IAmb 04 16 26.6
comp=Z,8.5nm,1.1s
VAS01 Vassouras-RJ 65.52 105 eP P 04 16 25.0 +2.5
MCPB Macapa, AP 65.67 79 eP P 04 16 23.5 0.0
R40A Maddies Statio 65.71 20 IAmb IAmb 04 16 40.8
comp=Z,9.0nm,1.1s
M04C Macdoel 65.76 355 P P 04 16 23.7 0.0
baz=174
CCM Cathedral Cave 65.82 21 P P 04 16 22.6 -1.3
baz=204
CCM Cathedral Cave 65.82 21 P P 04 16 23.7 -0.2
CCM IAmb IAmb 04 16 30.4
comp=Z,8.9nm,1.1s
Y55A Saluda 65.92 30 P P 04 16 22.4 -2.2
baz=214
NHSC New Hope 66.03 32 P P 04 16 22.7 -2.7
baz=215
QSPA South Pole Qui 66.11 180 P P 04 16 26.4 +0.7
QSPA IAmb IAmb 04 16 38.8
comp=Z,12nm,1.1s
L04D Klamath Falls 66.23 354 P P 04 16 26.7 0.0
baz=173
SMTB Santa Maria do 66.26 89 eP P 04 16 28.1 +0.7
T47A Sharon Grove 66.32 25 IAmb IAmb 04 16 32.8
comp=Z,14nm,1.1s
X55A Gracelyn & Ava 66.46 30 P P 04 16 25.7 -2.5
baz=214
P38A Dawn 66.56 18 IAmb IAmb 04 16 29.2
comp=Z,11nm,1.1s
Z59A Georgetown, SC 66.58 33 P P 04 16 25.7 -3.1
baz=216
AHID Auburn Hatcher 66.59 3 IAmb IAmb 04 16 44.9
comp=Z,11nm,1.1s
HUMO Hull Mountain 66.67 354 IAmb IAmb 04 16 32.6
comp=Z,11nm,1.0s
BW06 Boulder Array 66.69 5 P P 04 16 29.1 -0.7
baz=186
BW06 Boulder Array 66.69 5 IAmb IAmb 04 16 32.3
comp=Z,6.7nm,1.0s
PDAR Pinedale Array 66.69 5 P P 04 16 28.8 -1.0
comp=Z,2.2nm,0.7s,baz=168,slow=7.2,SNR=14
PDAR LR LR 04 41 32.9
comp=Z,237nm,18.0s,baz=180,slow=32
PDAR Pinedale Array 66.69 5 P P 04 16 29.1 -0.7
W54A Cherokee Point 66.72 29 P P 04 16 28.1 -1.7
baz=213
X56A White Oak 66.76 31 P P 04 16 27.9 -2.1
baz=214
MC01 Montes Claros 66.82 99 eP P 04 16 32.5 +1.5
K22A Casper 66.87 7 P P 04 16 30.2 -0.6
baz=189,SNR=14
V53A Saluda 66.94 29 IAmb IAmb 04 16 50.2
comp=Z,11nm,1.1s
JANB Januaria 67.03 97 eP P 04 16 33.1 +0.7
J08A Circle Bar Ran 67.12 358 IAmb IAmb 04 16 45.6
comp=Z,8.4nm,1.1s
MFID Camas Ranch 67.12 360 IAmb IAmb 04 16 35.9
comp=Z,11nm,1.1s
REDW Red Top Meadow 67.20 4 IAmb IAmb 04 16 49.3
comp=Z,9.9nm,1.1s
J05D Fort Rock, OR 67.20 355 P P 04 16 33.6 +0.7
baz=174,SNR=8.7
HLID Hailey 67.28 1 P P 04 16 33.8 +0.4
baz=181,SNR=40
SNOW Snow King Moun 67.31 4 IAmb IAmb 04 16 48.6
comp=Z,9.5nm,1.1s
TZTN Tazewell 67.36 27 P P 04 16 32.5 -1.3
baz=212
Y59A Loris 67.38 32 P P 04 16 32.1 -1.8
baz=216
V54A Nebo 67.41 29 P P 04 16 32.7 -1.5
baz=213
SDBA SAO DESIDERIO 67.42 94 eP P 04 16 35.3 +0.5
LOHW Long Hollow 67.47 4 IAmb IAmb 04 16 44.4
comp=Z,8.1nm,1.1s
FXWY Fox Creek 67.47 3 IAmb IAmb 04 16 43.1
comp=Z,9.4nm,1.1s
W56A Indian Trail 67.50 30 P P 04 16 33.3 -1.4
baz=214
X58A Rowland 67.61 32 P P 04 16 33.5 -1.9
baz=216
IMW Indian Meadow 67.73 4 IAmb IAmb 04 16 46.3
comp=Z,9.8nm,1.1s
W57A Gilead 67.78 31 P P 04 16 35.2 -1.3
baz=215
V55A Taylorsville 67.80 30 P P 04 16 35.2 -1.4
baz=214
V55A Taylorsville 67.80 30 IAmb IAmb 04 16 55.5
comp=Z,10nm,1.0s
I04A Tendick Farm, 67.80 355 P P 04 16 36.5 -0.1
baz=173
I07A Izee 67.89 357 IAmb IAmb 04 16 45.4
comp=Z,15nm,1.2s
W58A Raeford 68.04 32 P P 04 16 36.4 -1.8
baz=216
U54A Nelsons Funny 68.09 29 P P 04 16 36.8 -1.7
baz=213
V56A Mocksville 68.09 30 P P 04 16 37.0 -1.5
baz=214
T53A Wise 68.16 28 P P 04 16 37.6 -1.4
baz=212
R49A Shelbyville 68.20 25 IAmb IAmb 04 16 56.2
comp=Z,9.3nm,1.1s
I05D Terrebonne, OR 68.26 355 P P 04 16 40.6 +1.2
baz=174
TMAB Tom-Au,PA,Br 68.38 83 eP P 04 16 41.6 +0.8
U55A TA2, Sparta 68.41 29 P P 04 16 38.9 -1.7
baz=214
V57A Coltrane Farms 68.49 31 P P 04 16 39.9 -1.0
baz=215
R50A Paris 68.53 26 IAmb IAmb 04 16 54.0
comp=Z,6.5nm,0.9s
BMO Blue Mountains 68.58 359 IAmb IAmb 04 16 44.5
comp=Z,8.3nm,1.1s
RSSD Black Hills 68.63 9 P P 04 16 41.3 -0.6
baz=191
RSSD Black Hills 68.63 9 P P 04 16 41.4 -0.5
RSSD IAmb IAmb 04 16 49.3
comp=Z,11nm,1.1s
T54A Tazewell 68.64 29 P P 04 16 40.8 -1.2
baz=213
V58A Windy Hill, Pi 68.72 31 P P 04 16 41.3 -1.1
baz=216
RLMT Red Lodge 69.06 5 P P 04 16 44.2 -0.4
baz=186
RLMT Red Lodge 69.06 5 IAmb IAmb 04 16 54.4
comp=Z,8.8nm,1.1s

G08A Pilot Rock 69.07 357 P P 04 16 44.1 -0.4
V59A Middlesex 69.11 32 P P 04 16 43.1 -1.7
baz=216
DLMT Dillon 69.12 2 IAmb IAmb 04 16 55.6
comp=Z,13nm,1.1s
U57A Blanch 69.14 31 P P 04 16 43.4 -1.6
baz=215
RIB01 Linhares ES 69.15 102 eP P 04 16 47.5 +1.9
G05D Wamic, OR 69.16 356 P P 04 16 45.9 +1.0
baz=174
W61A Ground Anchor 69.26 33 P P 04 16 43.7 -2.0
baz=217
BOZ Bozeman (W) 69.39 3 P P 04 16 46.3 -0.2
baz=184
P49A Miami Univ. Ec 69.46 25 P P 04 16 46.1 -0.7
baz=210
U58A Oxford 69.47 31 P P 04 16 45.7 -1.4
baz=216
L40A Anamosa 69.48 19 IAmb IAmb 04 17 05.2
comp=Z,7.9nm,1.0s
ECSD EROS Data Cent 69.62 14 P P 04 16 47.2 -0.6
baz=198
ECSD EROS Data Cent 69.62 14 IAmb IAmb 04 17 03.6
comp=Z,7.9nm,1.1s
F10A Beach Ranch, E 69.70 359 IAmb IAmb 04 16 54.9
comp=Z,9.1nm,1.0s
S55A Lewisburg 69.71 29 P P 04 16 47.3 -1.2
baz=214
T58A Grand View Acr 69.93 31 P P 04 16 48.9 -1.0
baz=216
Q52A Bidwell 69.95 27 P P 04 16 48.9 -1.0
baz=212
V62A Hyde County Ai 70.08 33 P P 04 16 48.6 -2.2
baz=218
Q53A Leroy 70.17 28 P P 04 16 50.0 -1.3
baz=213
E09A Wood Farm, Sta 70.26 358 IAmb IAmb 04 16 58.8
comp=Z,16nm,1.2s
MSO Missoula 70.55 1 P P 04 16 54.3 +0.8
baz=182
MSO Missoula 70.55 1 IAmb IAmb 04 17 04.5
comp=Z,9.2nm,1.1s
E04D Cinebar 70.56 355 P P 04 16 55.5 +2.0
baz=173
P52A Corning 70.57 27 IAmb IAmb 04 16 56.2
comp=Z,10nm,1.1s
Q54A Coxs Mills 70.57 28 P P 04 16 53.3 -0.4
baz=213
Q54A Coxs Mills 70.57 28 IAmb IAmb 04 17 12.4
comp=Z,14nm,1.1s
I37A Lemond, Waseca 70.68 17 IAmb IAmb 04 17 10.5
comp=Z,15nm,1.1s
R56A Bull Pasture M 70.72 29 P P 04 16 54.1 -0.7
baz=215
P53A Whipple 70.76 27 P P 04 16 54.1 -0.7
baz=213
P53A Whipple 70.76 27 IAmb IAmb 04 17 01.2
comp=Z,14nm,1.1s
D08A Wollman Farm, 70.83 357 IAmb IAmb 04 17 02.8
comp=Z,14nm,1.2s
LAO LASA Array 70.89 7 P P 04 16 55.9 +0.3
baz=189
LAO LASA Array 70.89 7 IAmb IAmb 04 16 57.7
comp=Z,12nm,0.9s
R57A Stanardsville 71.03 30 P P 04 16 55.9 -0.7
baz=216
P54A Burton 71.24 28 P P 04 16 57.3 -0.5
baz=214
P55A Reedsville 71.44 28 P P 04 16 58.3 -0.7
baz=214
D03D Eldon 71.57 355 P P 04 17 00.6 +1.0
baz=173
O54A Avella 71.76 28 P P 04 17 00.5 -0.5
baz=214
O54A Avella 71.76 28 IAmb IAmb 04 17 07.9
comp=Z,15nm,1.0s
ROSB Rosrio 71.77 85 eP P 04 17 03.3 +1.7
P56A Dayton Farm, R 71.87 29 P P 04 17 00.7 -0.9
baz=215
Q58A Fox Den Farm, 71.94 30 P P 04 17 01.3 -0.7
baz=216
NEW Newport 71.99 359 P P 04 17 02.3 +0.1
baz=178,SNR=14
NEW Newport 71.99 359 IAmb IAmb 04 17 04.9
comp=Z,10nm,1.1s
B08A Colville Reser 72.15 357 IAmb IAmb 04 17 10.1
comp=Z,12nm,1.1s
B05A Bryant 72.22 355 P P 04 17 05.1 +1.6
baz=174
VNA3 Neumayer Olymp 72.37 161 P P 04 17 02.9 -1.4
N54A Moraine State 72.58 27 P P 04 17 04.8 -1.1
baz=214
N54A Moraine State 72.58 27 IAmb IAmb 04 17 24.4
comp=Z,13nm,1.0s
O56A Blue Knob Stat 72.62 29 P P 04 17 05.3 -0.8
baz=215
A04D Lummi Island 72.72 355 P P 04 17 07.9 +1.5
baz=173
WALA Waterton Lakes 72.78 1 IAmb IAmb 04 17 19.3
comp=Z,9.1nm,1.1s
N55A Marion Center 72.85 28 P P 04 17 07.0 -0.5
baz=215
DGMT Dagmar 72.88 8 P P 04 17 07.9 +0.4
baz=191
VNA1 Neumayer--Stat 73.03 161 P P 04 17 05.5 -2.7
P59A Jarrettsville 73.05 31 P P 04 17 06.7 -1.9
baz=217
VNA2 Neumayer--Watz 73.18 161 P P 04 17 07.0 -2.1
O58A Lewisberry 73.24 30 P P 04 17 08.7 -1.1
baz=216
N56A West Decatur 73.27 29 P P 04 17 08.8 -1.1
baz=215
N57A Milroy 73.46 29 P P 04 17 09.8 -1.3
baz=216
M56A Emporium 73.78 28 P P 04 17 12.0 -1.0
baz=215
COWI Conover 73.78 19 IAmb IAmb 04 17 26.6
comp=Z,14nm,0.8s
N58A Sunbury 73.91 30 P P 04 17 12.6 -1.1
baz=216
SNAA Sanae 74.15 162 P P 04 17 15.8 +0.9
SNAA Sanae 74.15 162 P P 04 17 15.8 +0.9
SNAA IAmb IAmb 04 17 20.3
comp=Z,24nm,1.7s
M58A Price's Panora 74.45 29 P P 04 17 16.0 -0.9
baz=217
I51A Listowel 74.54 25 P P 04 17 16.9 -0.4
baz=212
K56A Middlesex 75.14 28 P P 04 17 19.0 -1.8
baz=216
M60A Port Jervis 75.25 31 P P 04 17 19.3 -2.1
baz=218
BINY Binghamton 75.32 29 P P 04 17 21.1 -0.7
baz=217
BINY Binghamton 75.32 29 IAmb IAmb 04 17 38.3
comp=Z,14nm,1.1s
L59A Walton 75.74 30 P P 04 17 21.7 -2.6
baz=218
L59A Walton 75.74 30 IAmb IAmb 04 17 31.3
comp=Z,13nm,1.1s
ULM Lac du Bonnet 75.97 13 P P 04 17 25.3 -0.1
comp=Z,2.3nm,0.5s,baz=199,slow=3.5,SNR=3.1
ULM LR LR 04 46 54.5
comp=Z,294nm,19.5s,baz=182,slow=33
ULM Lac du Bonnet 75.97 13 IAmb IAmb 04 17 31.7
comp=Z,14nm,1.1s
H53A Bobcaygeon 76.15 26 P P 04 17 25.6 -0.9
baz=214
I55A Frankford 76.22 27 P P 04 17 25.6 -1.3
baz=215
K59A Cooperstown 76.29 30 P P 04 17 25.6 -1.8
baz=218
J58A Remsen 76.56 29 P P 04 17 27.9 -1.0
baz=217
H55A Tweed 76.70 27 P P 04 17 28.4 -1.2
baz=216
K61A Williamstown 76.93 31 P P 04 17 30.1 -0.9
baz=219
G54A Lake Saint Pet 77.02 26 P P 04 17 30.8 -0.7
baz=215
J60A Lant Hill Farm 77.31 30 P P 04 17 32.2 -0.9
baz=219
H57A Richville 77.39 28 P P 04 17 32.7 -0.8
baz=217
I60A Shoreham 77.83 30 P P 04 17 35.2 -0.8
baz=219
LONY Lake Ozonia 77.87 29 P P 04 17 35.1 -1.1
baz=218

H58A	Gabriels	77.88	29	P	P	04 17 34.9	-1.5
	baz=218						
E53A	Dumoine, Ponti	78.00	26	P	P	04 17 35.3	-1.6
	baz=215						
E54A	Lac Daplat, Po	78.23	26	P	P	04 17 37.4	-0.8
	baz=215						
H59A	Cadyville	78.28	29	P	P	04 17 36.8	-1.7
	baz=218						
I61A	Oroboro, Fairl	78.40	30	P	P	04 17 37.6	-1.5
	baz=220						
G59A	Clarenceville	78.84	29	P	P	04 17 40.2	-1.4
	baz=219						
D55A	Sainte-Anne-du	79.40	27	P	P	04 17 43.0	-1.6
	baz=217						
D56A	ZEC Mazanza, M	79.72	27	P	P	04 17 44.4	-2.0
	baz=217						
G61A	St-Isidore-de-	79.74	30	P	P	04 17 44.6	-1.9
	baz=220						
E58A	La Victoria	79.81	28	P	P	04 17 44.7	-2.2
	baz=219						
F60A	Warwick	80.08	29	P	P	04 17 46.7	-1.6
	baz=220						
D58A	Chemin du LacG	80.55	28	P	P	04 17 49.3	-1.5
	baz=219						
SYO	Syowa Base	85.46	171⇑	eP	P	04 18 15.6	-0.5
SYO	Syowa Base	85.46	171⇑	epP	P	04 18 18.2	+2.2
SYO	Syowa Base	85.46	171⇑	eP	P	04 18 15.5	-0.5
YKA	Yellowknife Ar	86.24	0	P	P	04 18 19.4	-0.3
	comp=Z,5.2nm,0.9s,baz=174,slow=4.3,SNR=14						
YKA				LR	LR	04 51 32.4	
	comp=Z,291nm,20.7s,baz=0.0,slow=32						
H11S2	WAKE ISLAND Hy	86.85	292	T	T	05 54 35.7	
	baz=118,slow=75,SNR=352						
H11S1	WAKE ISLAND Hy	86.86	292	T	T	05 54 27.1	
	baz=118,slow=75,SNR=277						
H11S3	WAKE ISLAND Hy	86.87	292	T	T	05 54 28.7	
	baz=118,slow=75,SNR=260						
H11N3	WAKE ISLAND Hy	87.22	293	T	T	05 54 56.0	
	baz=118,slow=75,SNR=52						
H11N1	WAKE ISLAND Hy	87.24	293	T	T	05 54 50.5	
	baz=118,slow=75,SNR=37						
H11N2	WAKE ISLAND Hy	87.24	293	T	T	05 54 56.8	
	baz=118,slow=75,SNR=104						
STKA	Stephens Creek	87.80	236	LR	LR	04 53 43.2	
	comp=Z,401nm,18.2s,baz=114,slow=33						
MAW	Mawson	88.62	179	LR	LR	04 52 55.0	
	comp=Z,562nm,21.9s,baz=202,slow=32						
KLU	Klutina	88.71	346	IAmb	IAmb	04 18 42.9	
	comp=Z,9.2nm,0.9s						
SCHQ	Schefferville	88.89	26	LR	LR	04 56 57.5	
	comp=Z,199nm,19.0s,baz=255,slow=35						
BCAR	Beaver Creek A	89.29	348	P	P	04 18 34.5	+0.1
PMR	Palmer	89.54	345	IAmb	IAmb	04 18 43.3	
	comp=Z,12nm,1.2s						
GHO	Glory Hole Cre	89.65	345	IAmb	IAmb	04 18 55.4	
	comp=Z,12nm,1.1s						
DOT	Dot Lake	90.25	348	IAmb	IAmb	04 18 53.7	
	comp=Z,8.0nm,1.2s						
SKT	Skwentna	90.47	344	IAmb	IAmb	04 18 51.8	
	comp=Z,5.9nm,0.9s						
KRVT	Keravat (AS076	90.57	265	LR	LR	04 55 19.7	
	comp=Z,232nm,18.1s,baz=79,slow=33						
RND	Reindeer	91.05	346	IAmb	IAmb	04 18 55.7	
	comp=Z,6.2nm,1.2s						
TRF	Thorofare Moun	91.42	345	IAmb	IAmb	04 19 00.1	
	comp=Z,5.0nm,1.0s						
WRH	Wood River Hil	91.81	346	IAmb	IAmb	04 19 00.4	
	comp=Z,6.5nm,1.1s						
BPAW	Bear Paw Mtn.	92.13	345	IAmb	IAmb	04 18 51.4	
	comp=Z,9.3nm,1.2s						
MDM	Murphy Dome	92.26	347	IAmb	IAmb	04 19 02.4	
	comp=Z,8.3nm,1.0s						
BMAR	Burnt Mountain	93.75	349	P	P	04 18 55.3	+0.2
FRB	Frobisher Bay	94.88	19	LR	LR	04 59 07.4	
	comp=Z,226nm,20.2s,baz=208,slow=34						
ASAR	Alice Springs	97.70	240	LR	LR	04 58 57.0	
	comp=Z,430nm,19.8s,baz=138,slow=33						
WRA	Warramunga Arr	99.20	243	LR	LR	05 02 25.1	
	comp=Z,265nm,18.1s,baz=185,slow=34						
RES	Resolute Bay	99.38	5	LR	LR	05 01 11.2	
	comp=Z,165nm,18.1s,baz=196,slow=34						
TORD	Torodi Ar. Bea	119.86	88	PKP	PKPdf	04 24 29.0	-0.9
	comp=Z,1.4nm,1.0s,baz=321,slow=1.8,SNR=3.2						
TORD	Torodi Ar. Bea	119.86	88		PKPdf	04 24 29.1	-0.9
CLL	Collm	132.24	42	ePS	PS	04 37 31.0	-0.1
CLL				ePPS	PPS	04 39 12.0	
CLL				eSS	SS	04 44 54.0	+0.9
CLL				e		04 51 30.0	
CLL				eSSSS		04 53 30.0	
MODS	Modra-Piesok	135.69	45	ePKP	PKiKP	04 25 03.8	+3.1
VYHS	Vyhne	136.64	44	ePKP	PKiKP	04 25 04.3	+1.7
KOLS	Kolonicke sedl	138.64	42	ePKP	PKiKP	04 25 10.5	+3.8
AKASG	Malin Array Be	141.90	37	PKP	PKPdf	04 25 10.1	-0.3
	comp=Z,0.3nm,0.3s,baz=279,slow=2.8,SNR=6.3						
AKASG	Malin Array Be	141.90	37		PKPdf	04 25 10.3	-0.1
KMBO	Kilima Mbogo	143.55	129	PKP	PKPdf	04 25 14.5	-0.2
	comp=Z,6.3nm,0.9s,baz=285,slow=2.5,SNR=6.2						
KMI	Kunming	145.33	280⇑	PKPbc	PKiKP	04 25 21.5	+0.1
KMI				sPKP		04 25 26.1	
KMI				PP	PP	04 28 32.9	-4.5
KMI				SKKS		04 35 21.1	
ZALV	Zalesovo Beam	146.48	338	PKPbc	PKPdf	04 25 18.8	+0.5
	comp=Z,5.2nm,0.9s,baz=9.9,slow=3.5,SNR=12						
ZALV	Zalesovo Beam	146.48	338	PKPdf	PKPdf	04 25 18.4	+0.2
GTA	Gaotai	146.56	306	P	PKPdf	04 25 20.2	+1.2
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,170nm,5.4s						
GTA				LR	LR		
	comp=N,160nm,22.5s						
GTA				LR	LR		
	comp=E,230nm,22.2s						
GTA				LR	LR		
	comp=Z,390nm,24.8s						
ARU	Arti	147.35	6	PKPbc	PKPdf	04 25 20.8	+1.2
	comp=Z,2.7nm,0.2s,baz=313,slow=8.0,SNR=6.2						
ARU	Arti	147.35	6	PKPdf	PKPdf	04 25 19.9	+0.2
CMAR	Chiang Mai Arr	147.53	267	PKPbc	PKPbc	04 25 23.4	-0.3
	comp=Z,1.1nm,0.4s,baz=97,slow=1.6,SNR=8.6						
CMAR	Chiang Mai Arr	147.53	267		PKPdf	04 25 22.6	+1.6
BRTR	Keskin Array B	149.63	52	PKPbc	PKPbc	04 25 27.4	-1.3
	comp=Z,3.6nm,0.8s,baz=220,slow=2.9,SNR=12						
BRTR	Keskin Array B	149.63	52		PKPbc	04 25 28.0	-0.7
BVAR	Borovoye Array	150.72	353	PKPbc	PKPbc	04 25 29.9	-0.8
	comp=Z,3.2nm,0.7s,baz=341,slow=3.1,SNR=8.3						
KURK	Kurchatov	151.22	341	PKPdf	PKPdf	04 25 26.1	+0.1
KURK					PKPbc	04 25 31.9	0.0
KURBB	Kurchatov Arra	151.33	341	PKP	PKPdf	04 25 26.3	+0.2
	comp=Z,0.8nm,0.9s,baz=32,slow=1.5,SNR=4.6						
KURBB				PKPbc	sPKPdf	04 25 31.2	+1.8
	comp=Z,3.9nm,1.1s,baz=22,slow=1.7,SNR=18						
AKTO	Aktyubinsk	153.17	9	PKPbc	PKPbc	04 25 36.7	+0.4
	comp=Z,1.2nm,0.5s,baz=74,slow=3.2,SNR=4.3						
MKAR	Makanchi Array	153.21	332	PKPbc	PKPbc	04 25 35.9	-0.7
	comp=Z,1.2nm,0.7s,baz=48,slow=1.8,SNR=8.7						
MKAR	Makanchi Array	153.21	332	PKPdf	PKPdf	04 25 29.1	0.0

*SOME **04** 04:09:40.2, 40.°83N×79.°12E, h10km*
*NNC **04** 04:09:42.4±0.9, 40.°92N×79.°05E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=6.3km s-min=4.6km az=163.0
*KRNET **04** 04:09:43.1±0.1, 40.°94N×78.°99E, mb3.1*
ISC 04 04:09:45.4±1.9, **41.°02N**±0.°08×**79.°05E**±0.°05, **h10**km, **n50,**
σ1§18/78, 22C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	1.54	342⇓	iP	Pn	04 10 13.0	-0.1
PRZ	baz=45			⇓iS	Sg	04 10 35.4	+0.4
KDJ	Kajisay	1.79	309⇑	eP	Pn	04 10 16.5	0.0
KDJ	baz=12			⇑iS	Sb	04 10 41.2	+0.3
ANVS	Anan'yevo	2.04	330⇑	iP	Pb	04 10 21.5	-1.2
ANVS	baz=32			⇑iS	Sb	04 10 49.6	+1.4
SATY	Saty	2.09	347	eP	Pb	04 10 22.9	-0.6
SATY	40nm,0.3s			eS	Sg	04 10 53.9	+1.3
SATY	Saty	2.09	347	Pg	Pb	04 10 22.9	-0.6
SATY	40nm,0.3s						
SATY	39nm,0.6s			Lg	Lg	04 10 53.9	
UZB	Uzynbulak	2.12	359	eP	Pb	04 10 23.0	-1.1
UZB	18nm,0.2s			eS	Sg	04 10 53.8	+0.1
UZB	Uzynbulak	2.12	359	Pg	Pb	04 10 23.0	-1.1
UZB	18nm,0.2s						
UZB	17nm,0.3s			Lg	Lg	04 10 53.8	
SHLS	Shalkode	2.16	8	eP	Pb	04 10 24.2	-0.4
SHLS	25nm,0.3s			eS	Sg	04 10 55.8	+1.0
SHLS	Shalkode	2.16	8	Pg	Pb	04 10 24.2	-0.4
SHLS	25nm,0.3s						
SHLS	56nm,0.7s			Lg	Lg	04 10 55.8	
PDGK	Podgornoye	2.33	8	⇑Pn	Pn	04 10 24.7	+0.8
PDGK	9.2nm,0.6s			⇑Lg	Lg	04 10 59.1	
ULHL	Ulahol	2.43	301⇑	eP	Pn	04 10 26.5	+1.1
ULHL	baz=3.0			⇑iS	Sb	04 10 57.9	-1.6
KPKS	Kokpek	2.46	354	eP	Pb	04 10 28.2	-1.5
KPKS	28nm,0.3s			eS	Sg	04 11 03.0	-1.4
TNSS	Tian-Shan	2.55	323⇑	iP	Pb	04 10 30.8	-0.7
TNSS	12nm,0.5s			eS	Sg	04 11 07.7	+0.3
TNSS	Tian-Shan	2.55	323	Pg	Pb	04 10 30.8	-0.7
TNSS	12nm,0.5s						
TNSS	37nm,0.6s			Lg	Lg	04 11 07.7	
MDOK	Medeo	2.61	326	eP	Pb	04 10 30.7	-1.6
MDOK	9.1nm,0.6s			eS	Sg	04 11 07.6	-1.5
MDOK	Medeo	2.61	326	Pg	Pb	04 10 30.7	-1.6
MDOK	9.1nm,0.6s						
MDOK	30nm,0.9s			Lg	Lg	04 11 07.6	
KTMS	Ketmen	2.61	21	eP	Pb	04 10 31.1	-1.3
KTMS	0.3nm,0.1s			eS	Sg	04 11 07.7	-1.6
KTMS	Ketmen	2.61	21	Pg	Pb	04 10 31.1	-1.3
KTMS	0.3nm,0.1s						
KTMS	44nm,0.7s			Lg	Lg	04 11 07.7	
KOTS	Kotyrbulak	2.64	328	eP	Pb	04 10 32.2	-0.7
KOTS	26nm,0.6s			eS	Sg	04 11 09.6	-0.6
KOTS	Kotyrbulak	2.64	328	Pg	Pb	04 10 32.2	-0.7
KOTS	26nm,0.6s						
KOTS	36nm,0.6s			Lg	Lg	04 11 09.6	
IZV	Izvestkoviy	2.71	319	eP	Pb	04 10 32.9	-1.2
IZV	10nm,0.6s			eS	Sg	04 11 11.1	-1.4
IZV	Izvestkoviy	2.71	319	Pg	Pb	04 10 32.9	-1.2
IZV	10nm,0.6s						
IZV	174nm,0.3s			Lg	Lg	04 11 11.1	
BOOM	Boomskoye usch	2.75	303⇓	eP	Pn	04 10 30.7	+1.0
BOOM	baz=5.0			⇓iS	Sn	04 11 05.5	+2.4
MTBS	Maitube	2.87	318	eP	Pb	04 10 36.8	0.0
MTBS	4.4nm,0.1s			eS	Sg	04 11 17.4	-0.2
MTBS	Maitube	2.87	318	Pg	Pb	04 10 36.8	0.0
MTBS	4.4nm,0.1s						
MTBS	14nm,0.4s			Lg	Lg	04 11 17.5	
KZA	Kyzart	3.04	292⇓	iP	Pn	04 10 34.5	+0.6
KZA	baz=93			⇓iS	Sn	04 11 12.4	+1.8
KST	Kastek	3.06	312	eP	Pb	04 10 38.7	-1.3
KST	14nm,0.6s			eS	Sg	04 11 21.0	-2.7
KST	Kastek	3.06	312	Pg	Pb	04 10 38.7	-1.3
KST	14nm,0.6s						
KST	20nm,0.6s			Lg	Lg	04 11 21.0	
MNBS	Baschi	3.09	351	eP	Pb	04 10 40.2	-0.4
MNBS	7.8nm,0.3s			eS	Sg	04 11 23.3	-1.4
MNBS	Baschi	3.09	351	Pg	Pb	04 10 40.2	-0.4
MNBS	7.8nm,0.3s						
MNBS	32nm,0.4s			Lg	Lg	04 11 23.3	
TKM2	Tokmak 2	3.20	308⇑	iP	Pn	04 10 37.0	+1.1
TKM2	baz=9.0			⇑iS	Sn	04 11 16.5	+2.3
TKM2	Tokmak 2	3.20	308	⇑Pn	Pn	04 10 35.9	0.0
TKM2	3.1nm,0.6s			⇑Lg	Lg	04 11 26.0	
KTBS	Karatobe	3.21	328	eP	Pb	04 10 42.1	-0.4
KTBS	3.2nm,0.4s			eS	Sg	04 11 26.8	-1.7
KTBS	Karatobe	3.21	328	Pg	Pb	04 10 42.1	-0.4
KTBS	3.2nm,0.4s						
KTBS	17nm,0.6s			Lg	Lg	04 11 26.8	
CHKK	Chushkaly	3.21	332	eP	Pb	04 10 42.1	-0.6
CHKK	3.3nm,0.2s			eS	Sg	04 11 26.7	-2.0
CHKK	Chushkaly	3.21	332	Pg	Pb	04 10 42.1	-0.6
CHKK	3.3nm,0.2s						
CHKK	14nm,0.2s			Lg	Lg	04 11 26.7	
ARXS	Arharly	3.31	345	eP	Pb	04 10 44.0	-0.3
ARXS	13nm,0.5s			eS	Sg	04 11 30.2	-1.6
ARXS	Arharly	3.31	345	Pg	Pb	04 10 44.0	-0.3
ARXS	13nm,0.5s						
ARXS	21nm,0.5s			Lg	Lg	04 11 30.2	
DJR	Jarkent	3.35	9	eP	Pb	04 10 44.4	-0.6
DJR	2.2nm,0.4s			eS	Sg	04 11 30.5	-2.6
DJR	Jarkent	3.35	9	Pg	Pb	04 10 44.4	-0.6
DJR	2.2nm,0.4s						
DJR	9.2nm,0.4s			Lg	Lg	04 11 30.5	
KUU	Kurty	3.50	326	eP	Pb	04 10 47.6	+0.1
KUU	2.3nm,0.4s			⇓iS	Sg	04 11 35.9	-1.9
KUU	Kurty	3.50	326	Pg	Pb	04 10 47.6	+0.1
KUU	2.3nm,0.4s						
KUU	9.1nm,0.4s			Lg	Lg	04 11 35.9	
UCH	Uchtor	3.61	291⇑	eP	Pn	04 10 42.5	+0.7
UCH	baz=92			⇑iS	Sn	04 11 25.6	+1.0
ARLS	Aral	3.65	285⇑	eP	Pn	04 10 42.8	+0.7
ARLS	baz=86			⇑iS	Sn	04 11 26.2	+0.9
KRBS	Karabastau	3.66	318	eP	Pb	04 10 50.3	+0.1
KRBS	2.1nm,0.3s			eS	Sg	04 11 40.7	-2.2
KRBS	Karabastau	3.66	318	Pg	Pb	04 10 50.3	+0.1
KRBS	2.1nm,0.3s						
KRBS	3.8nm,0.5s			Lg	Lg	04 11 40.7	
AAK	Ala-Archa	3.77	297	Pg	Pb	04 10 50.6	-1.5
AAK	2.5nm,0.7s						
AAK	10nm,0.8s			⇑Lg	Lg	04 11 44.1	
USP	Ospenovka	4.06	305⇑	iP	Pn	04 10 48.8	+1.2
USP	baz=6.0			⇑iS	Sn	04 11 36.6	+1.4
AML	Almayashu	4.17	287⇑	iP	Pn	04 10 50.3	+0.9
AML	baz=88			⇑iS	Sn	04 11 38.8	+0.4
KK31	Karatay Array	6.69	291	⇓Lg	Lg	04 13 16.4	
	0.3nm,0.4s,baz=100,slow=31,SNR=4.7						

*UPA **04** 04:10:05.2±1.4, 8.°88N×82.°86W, h15km±2km, MW3.9*
*UCR **04** 04:10:06.1±1.9, 8.°82N×82.°90W, h23km±4km, MD3.6*
ISC 04 04:10:05.8±0.9, **8.°86N**±0.°03×**82.°88W**±0.°02, **h19**km±2km,
n45, σ0§85/69, 9C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	Monte Lirio, C	0.08	141	iP	Pg	04 10 10.2	+0.7
MLIR3				eS	Sg	04 10 12.3	+0.2
EDSV	San Vito	0.10	250	eP	Pg	04 10 10.6	+0.8
EDSV				iS	Sg	04 10 14.6	+2.2
BRU2	Volcan	0.19	108⇑	iP	Pg	04 10 11.1	+0.2
BRU2				eS	Sg	04 10 14.2	-0.1
BRU2	Volcan	0.19	108	eP	Pg	04 10 11.0	+0.2
BRU2				eS	Sg	04 10 15.4	+1.1
BC3P	Paso Ancho	0.27	98⇑	iP	Pb	04 10 11.9	-0.2
BC3P				eS	Sb	04 10 16.0	-0.1
CDITO	Canoas	0.28	180	eP	Pb	04 10 12.2	0.0
CDITO				eS	Sb	04 10 17.9	+1.4
BCO2	Palmira	0.37	112⇑	iP	Pg	04 10 13.7	-0.1
BCO2				eS	Sb	04 10 19.6	+0.1
PTAR3	Potrerillos Ar	0.41	113⇑	iP	Pg	04 10 14.3	-0.1
PTAR3				eS	Sg	04 10 20.1	-0.1
LESP3	La Esperanza,	0.45	169	iP	Pg	04 10 14.9	-0.3
LESP3				eS	Sb	04 10 22.1	+0.4
EDBA	Buenos Aires	0.50	308	iP	Pb	04 10 16.2	+0.1
EDBA				iS	Sb	04 10 24.5	+1.4
BAGA3	Bagala, Chiriq	0.52	138	eP	Pg	04 10 16.1	-0.2
PTJ1	Puerto Jimnez	0.53	233⇑	iP	Pg	04 10 16.1	-0.4
PTJ1				eS	Sb	04 10 24.4	+0.7
PTJ1	Puerto Jimnez	0.53	233	eP	Pg	04 10 15.7	-0.8
DRK0	Durika	0.55	318⇑	iP	Pb	04 10 16.0	-0.9
DRK0				eS	Sg	04 10 23.9	-0.4
DRK0	Durika	0.55	318	eP	Pb	04 10 16.0	-0.9
PSOM3	Paja de Sombre	0.57	107⇑	iP	Pb	04 10 16.4	-0.9
EDPN	Palmar Norte	0.58	281	eP	Pb	04 10 16.8	-0.6
EDPN				iS	Sg	04 10 25.7	+0.3
DVD	David	0.59	135⇓	iP	Pb	04 10 17.2	-0.3
DVD				iS	Sg	04 10 25.9	+0.3
LOCO3	Loma Colorada,	0.63	134	eP	Pb	04 10 18.0	-0.3
LOCO3				eS	Sg	04 10 26.6	-0.2
PIRO	Carate, Puerto	0.64	226⇓	iP	Pb	04 10 17.4	-1.0
PIRO				eS	Sn	04 10 28.8	-0.8
PIRO	Carate, Puerto	0.64	226	eP	Pb	04 10 17.4	-1.0
RIOS	Rincon, Osa	0.65	256	eP	Pb	04 10 17.1	-1.5
GUAL3	Gualaca, Chiri	0.66	119⇑	iP	Pb	04 10 18.1	-0.6
CHIR3	Chiriqui UPA,	0.71	130⇑	iP	Pb	04 10 19.0	-0.6
CHGR2	Aguacate	0.73	83	eP	Pb	04 10 18.8	-1.1
CHGR2				eS	Sb	04 10 28.7	-0.8
RGM0	Gandoca	0.78	20	eP	Pn	04 10 21.5	-0.3
EDLM	Las Mercedes	0.82	301	eP	Pb	04 10 20.9	-0.7
PEZE	Perez Zeledon,	0.95	304	eP	Pb	04 10 22.6	-1.2
EDDO	Dominical	1.05	292	eP	Pb	04 10 24.4	-1.1
CDM	Cerro de Muert	1.12	308	eP	Pb	04 10 25.4	-1.5
REME3	Remedios, Chir	1.21	121	eP	Pn	04 10 26.8	-0.9
REME3				eS	Sg	04 10 44.6	-0.5
BATAN	Batan	1.33	338	eP	Pb	04 10 29.8	-0.4
RIMA	Rio Macho	1.33	313	eP	Pn	04 10 28.6	-1.1
LCR2	La Lucha 2	1.42	308	eP	Pn	04 10 29.9	-0.9
CVTR	Volcan Turrial	1.45	323	eP	Pn	04 10 31.3	-0.1
HDC	Heredia	1.67	313	eP	Pn	04 10 34.8	+0.5
HDC				eS	Sb	04 10 57.1	+0.2
HDC	Heredia	1.67	313	eP	Pn	04 10 34.7	+0.5
JACO	JACO, Garabito	1.94	295	eP	Pn	04 10 37.8	0.0
GMAL	Guarumal, Vera	1.95	124	eP	Pn	04 10 37.1	-0.9
GMAL				eS	Sn	04 11 00.9	-1.2
ARE1	Arenal 1	2.42	311	eP	Pn	04 10 45.3	+0.8
CACAO	El Cacao, Vera	2.50	127	eP	Pn	04 10 46.9	+1.4
CACAO				eS	Sn	04 11 14.6	-0.8
JTS	Las Juntas de	2.50	305	iP	Pn	04 10 46.4	+0.9
JTS				eS	Sn	04 11 16.2	+0.6
JTS	Las Juntas de	2.50	305	eP	Pn	04 10 46.4	+0.9
PNME	Penonome	2.55	98	eP	Pn	04 10 46.3	+0.1
PNME				eS	Sn	04 11 17.6	+0.9
VTON	El Valle, Cocl	2.74	95	eP	Pn	04 10 49.8	+0.8
VTON				eS	Sn	04 11 23.8	+2.1

*SOME **04** 04:24:26.0, 41.°25N×83.°32E, h5km*
*NNC **04** 04:24:28.5±1.6, 41.°28N×83.°23E, h0km, mb4.1, mpv3.7,*
Error ellipse: s-maj=11.8km s-min=9.8km az=6.0
ISC 04 04:24:20.9±3.2, **41.°1N**±0.°1×**83.°43E**±0.°09, **h10**km, **n29,**
σ1§20/38, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	3.25	316	eP	Pg	04 25 23.2	0.0
KTMS	9.6nm,0.3s			eS	Sg	04 26 04.6	-0.8
KTMS	Ketmen	3.25	316	Pg	Pg	04 25 23.2	0.0
KTMS	9.6nm,0.3s						
KTMS	26nm,0.2s			Lg	Lg	04 26 04.6	
SHLS	Shalkode	3.58	306	eP	Pb	04 25 25.3	+0.9
SHLS	28nm,0.5s			eS	Sb	04 26 08.4	+0.4
SHLS	Shalkode	3.58	306	Pg	Pb	04 25 25.3	+0.9
SHLS	28nm,0.5s						
SHLS	49nm,0.6s			Lg	Lg	04 26 08.4	
PDGK	Podgornoye	3.66	308	Pg	Pg	04 25 30.3	-0.8
PDGK	6.8nm,0.5s			Lg	Lg	04 26 16.8	
PDGK	Podgornoye	3.66	308	⇓Pg	Pg	04 25 31.0	-0.1
PDGK	12nm,0.7s			⇑Lg	Lg	04 26 16.9	
UZB	Uzynbulak	3.85	303	eP	Pg	04 25 33.6	-1.1
UZB	6.9nm,0.7s			eS	Sg	04 26 22.7	-1.8
UZB	Uzynbulak	3.85	303	Pg	Pg	04 25 33.6	-1.1
UZB	6.9nm,0.7s						
UZB	13nm,0.4s			Lg	Lg	04 26 22.7	
DJR	Jarkent	4.18	321	eP	Pg	04 25 41.4	+0.4
DJR	5.3nm,0.6s			eS	Sg	04 26 35.5	+0.5
DJR	Jarkent	4.18	321	Pg	Pg	04 25 41.4	+0.4
DJR	5.3nm,0.6s						
DJR	12nm,0.6s			Lg	Lg	04 26 35.5	
SATY	Saty	4.21	299	eP	Pg	04 25 42.7	+1.2
SATY	9.6nm,0.3s			eS	Sg	04 26 38.1	+2.1
SATY	Saty	4.21	299	Pg	Pg	04 25 42.7	+1.2
SATY	9.6nm,0.3s						
SATY	30nm,0.3s			Lg	Lg	04 26 38.1	
KPKS	Kokpek	4.23	305	eP	Pg	04 25 41.9	0.0
KPKS	15nm,0.3s			eS	Sg	04 26 36.0	-0.6
MNBS	Baschi	4.74	310	eP	Pg	04 25 51.2	-0.5
MNBS	8.5nm,0.7s			eS	Sg	04 26 52.6	-0.6
MNBS	Baschi	4.74	310	Pg	Pg	04 25 51.2	-0.5
MNBS	8.5nm,0.7s						
MNBS	13nm,0.4s			Lg	Lg	04 26 52.6	
ARXS	Arharly	5.16	309	eP	Pg	04 25 59.4	-0.2
ARXS	6.3nm,0.5s			eS	Sg	04 27 07.0	+0.6
ARXS	8.9nm,0.4s						

ARXS	**Arharly**	**5.16 309**	Pg	**Pg**	**04 25 59.4**	**-0.2**
	6.3nm,0.5s					
ARXS			Lg	Lg	04 27 07.0	
	8.9nm,0.4s					
MDOK	**Medeo**	**5.16 295**	*e*P	**Pg**	**04 25 57.8**	**-2.0**
	3.5nm,0.3s					
MDOK			*e*S	**Sg**	**04 27 03.8**	**-2.9**
	5.0nm,0.4s					
MDOK	**Medeo**	**5.16 295**	Pg	**Pg**	**04 25 57.8**	**-2.0**
	3.5nm,0.3s					
MDOK			Lg	Lg	04 27 03.8	
	5.0nm,0.4s					
TNSS	**Tian-Shan**	**5.19 294**	*e*P	**Pg**	**04 26 01.0**	**+0.7**
	4.1nm,0.4s					
TNSS			*e*S	**Sg**	**04 27 09.1**	**+1.6**
	10nm,0.7s					
TNSS	**Tian-Shan**	**5.19 294**	Pg	**Pg**	**04 26 01.0**	**+0.7**
	4.1nm,0.4s					
TNSS			Lg	Lg	04 27 09.1	
	10nm,0.7s					
KTBS	**Karatobe**	**5.62 300**	*e*P	**Pg**	**04 26 08.1**	**-0.5**
	2.7nm,0.5s					
KTBS			*e*S	**Sg**	**04 27 21.6**	**+0.2**
	19nm,0.6s					
KTBS	**Karatobe**	**5.62 300**	Pg	**Pg**	**04 26 08.1**	**-0.5**
	2.7nm,0.5s					
KTBS			Lg	Lg	04 27 21.5	
	19nm,0.6s					
MK31	**Makanchi Array**	**5.72 352**	⇊Lg	Lg	04 27 24.9	
	14nm,0.7s,baz=168,slow=28,SNR=4.6					
MAKZ	**Makanchi**	**5.78 350**	⇑Lg	Lg	04 27 26.3	
	9.9nm,0.8s					
KUU	**Kurty**	**5.92 300**	*e*P	**Pg**	**04 26 12.5**	**-1.9**
	1.0nm,0.2s					
KUU			*e*S	**Sg**	**04 27 29.0**	**-2.1**
	5.2nm,0.4s					
KUU	**Kurty**	**5.92 300**	Pg	**Pg**	**04 26 12.5**	**-1.9**
	1.0nm,0.2s					
KUU			Lg	Lg	04 27 29.0	
	5.2nm,0.4s					
ZSN	**Zaisan**	**6.41 9**	Pg	**Pg**	**04 26 22.7**	**-0.8**
	4.0nm,0.2s					
ZSN			Lg	Lg	04 27 45.9	
	15nm,0.8s					
KURBB	**Kurchatov Arra**	**10.09 342**	⇊Lg	Lg	04 29 44.3	
	6.1nm,0.7s					

*DDA **04** 04:39:12.5,37.'31N×29.'23E,h7km±7km,ML1.3*
ISK 04 04:39:17.9,36.'80N×27.'41E,h12km±1km,ML1.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.15**	**119**	PG	Pg	04 39 21.9	+0.4
DAT				SG	Sg	04 39 24.6	+0.5
BODT	**Bodrum**	**0.27**	**342**	PG	Pg	04 39 23.9	+0.4
BODT				SG	Sb	04 39 28.4	-1.0
TURN	**Turunc**	**0.67**	**92**	PG	Pb	04 39 31.4	-0.1
TURN				SG	Sb	04 39 41.2	+0.5
TURN	**Turunc**	**0.67**	**92**	*i* P	Pb	04 39 32.0	+0.6
TURN				*i* S	Sb	04 39 41.0	+0.2
TURN				IAML		04 39 52.0	
	comp=N,8.3nm,0.3s						
GCAM	**G?zelcaml?**	**0.91**	**351**	PG	Pn	04 39 36.1	-0.4
GCAM				SG	Sn	04 39 49.1	-0.4
AYDN	**Tasoluk**	**0.93**	**23**	*i* P	Pn	04 39 37.0	0.0
AYDN				*i* S	Sn	04 39 50.3	0.0
AYDN				IAML		04 39 58.0	
	comp=E,6.3nm,0.6s						

*IDC **04** 04:55:40.1±1.3,2.'45S×139.'96E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/30,mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=27.0km s-min=10.3km az=178.0*
*DJA **04** 04:55:41.4±2.4,2.'5±49.'×14.'0E±.',h17km±53km,M3.2/3, MLv3.2/3*
ISC 04 04:55:42.5±1.0,2.'38S±0.'09×140.'13E±0.'06,h25km,n8, σ1$20/10,mb3.5/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.22**	**169**	P	**Pn**	**04 55 49.0**	**-1.2**
GENI				S	**Sb**	**04 55 54.5**	**+2.1**
JAY	**Jayapura**	**0.59**	**104**	Pg	**Pn**	**04 55 54.5**	**-0.9**
	186nm,0.3s,baz=255,slow=12,SNR=154						
JAY				Lg	Lg	04 56 04.7	
	171nm,0.3s,baz=149,slow=23,SNR=22						
JAY	**Jayapura**	**0.59**	**104**	P	**Pb**	**04 55 54.4**	**+0.1**
JAY				S	**Sn**	**04 56 03.9**	**-0.4**
SMPI	**Sarmi**	**1.47**	**285**	P	**Pn**	**04 56 06.4**	**-0.9**
WRA	**Warramunga Arr**	**18.35**	**198**	P	**P**	**04 59 54.6**	**-0.8**
	0.2nm,0.3s,baz=17,slow=12,SNR=13						
FITZ	**Fitzroy Crossi**	**21.12**	**221**	P	**P**	**05 00 24.9**	**-0.7**
	2.1nm,1.1s,baz=301,slow=2.2,SNR=3.7						
ASAR	**Alice Springs**	**22.01**	**195**	P	**P**	**05 00 35.6**	**+0.5**
	1.0nm,0.6s,baz=27,slow=11,SNR=15						
MKAR	**Makanchi Array**	**70.39**	**322**	P	**P**	**05 06 55.6**	**+1.1**
	0.9nm,0.7s,baz=101,slow=9.2,SNR=6.7						

MAN 04 05:03:57.6,15.'20N×122.'37E,h5km,mb4.0,ML2.8,MS2.4, 1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.63**	**222**	*e*P	Pg	05 04 09.8	+0.1
POLP				*e*S	Sb	05 04 20.0	-0.2
BALP	**Baler**	**0.94**	**305**	*e*P	Pb	05 04 16.1	-0.3
BALP				*e*S	Sn	05 04 30.7	-0.7
GQP	**Guinayangan**	**1.29**	**177**	⇑*i*P	Pn	05 04 20.6	-1.7
GQP				*i* S	Sg	05 04 37.9	-1.1
LQP	**Lukban**	**1.35**	**217**	⇊*e*P	Pn	05 04 23.1	-0.2
LQP				*i* S	Sn	05 04 41.6	-0.1
BOAC	**Boac**	**1.80**	**197**	*e*P	Pb	05 04 30.9	-0.2
BOAC				*e*S	Sg	05 04 55.3	-0.3
CAUP	**Cauayan**	**1.82**	**343**	*e*P	Pn	05 04 28.7	-0.8
CAUP				*e*S	Sn	05 04 52.3	-0.7
SMPP	**San Manuel, Pa**	**1.89**	**300**	*e*P	Pn	05 04 30.9	+0.4
SMPP				*e*S	Sn	05 04 55.2	+0.4

*IDC **04** 05:28:37.2±1.4,4.'08S×140.'61E,h0km,mb3.6/4, mb1 4.1/5,mb1mx3.7/33,mbtmp3.9/5,ML4.0/1,Error ellipse: s-maj=48.2km s-min=13.0km az=201.0*
*NEIC **04** 05:28:37.7±2.1,4.'17S±0.'08×141.'1E±0.'1,h41km±14km, mb4.1/11,Error ellipse: s-maj=16.2km s-min=10.3km az=59.0*
ISC 04 05:28:39.2±0.8,4.'26S±0.'07×141.'07E±0.'10,h35km,n22, σ1$53/24,mb3.6/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.77**	**348**	Pg	**Pn**	**05 29 04.5**	**-2.9**
	72nm,0.3s,baz=182,slow=10,SNR=15						
JAY				Lg	Lg	05 29 26.9	
	100nm,0.3s,baz=332,slow=8.0,SNR=10						
JAY				LR	LR	05 29 46.3	
	comp=Z,416nm,19.0s,baz=159,slow=44						
PMG	**Port Moresby**	**7.92**	**131**	Pn	**Pn**	**05 30 30.7**	**-1.2**
COEN	**Coen**	**9.86**	**168**	Pn	**Pn**	**05 30 59.4**	**+0.8**
COEN				Sn	**Sn**	**05 32 47.7**	**-0.4**
MTN	**Manton Dam**	**13.01**	**228**	Pn	**Pn**	**05 31 42.9**	**+1.2**
MTN					**Sn**	**05 34 04.3**	**-1.0**
KNRA	**Kununurra**	**16.59**	**226**		**Pn**	**05 32 29.4**	**+0.1**
KNRA				IAmb	IAmb	05 32 53.2	
	comp=Z,22nm,1.1s						
WB0	**Warramunga Arr**	**16.73**	**202**	P	**Pn**	**05 32 31.4**	**+0.3**
WR0	**Warramunga Arr**	**16.86**	**202**	P	**Pn**	**05 32 33.5**	**+0.9**
WR0				IAmb	IAmb	05 32 50.5	
	comp=Z,7.5nm,0.7s						
WRAB	**Tennant Creek**	**16.90**	**202**	P	**Pn**	**05 32 33.5**	**+0.3**
WRAB				IAmb	IAmb	05 32 55.7	
	comp=Z,8.8nm,0.7s						
WB2	**Warramunga Arr**	**16.91**	**202**	P	**Pn**	**05 32 34.2**	**+0.8**
WB2				IAmb	IAmb	05 32 56.3	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**16.91**	**202**	Pn	**Pn**	**05 32 34.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=21,slow=11,SNR=34						
WRA	**Warramunga Arr**	**16.91**	**202**	P	**Pn**	**05 32 33.2**	**-0.1**
SOEI	**Soe**	**17.54**	**251**		**Pn**	**05 32 39.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**20.43**	**226**	P	**P**	**05 33 15.3**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=0.4,slow=6.6,SNR=15						
FITZ	**Fitzroy Crossi**	**20.43**	**226**	P	**P**	**05 33 14.4**	**+0.8**
AS31	**Alice Springs**	**20.50**	**199**	P	**P**	**05 33 13.9**	**-0.5**
ASAR	**Alice Springs**	**20.50**	**199**	P	**P**	**05 33 15.8**	**+1.3**
	comp=Z,2.9nm,0.5s,baz=26,slow=11,SNR=54						
ASAR	**Alice Springs**	**20.50**	**199**		**P**	**05 33 13.9**	**-0.5**
EIDS	**Eidsvold**	**23.09**	**156**	P	**P**	**05 33 39.9**	**-2.1**
MORW	**Morawa**	**34.24**	**221**	P	**P**	**05 35 21.2**	**-0.7**
MKAR	**Makanchi Array**	**72.45**	**322**	P	**P**	**05 40 03.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=99,slow=8.9,SNR=3.1						
VNDA	**Vanda**	**74.05**	**175**	P	**P**	**05 40 10.5**	**-0.6**
VNDA				IAmb	IAmb	05 40 31.7	
	comp=Z,3.9nm,1.4s						
ILAR	**Eielson Array**	**86.26**	**24**	P	**P**	**05 41 21.1**	**+4.0**
	comp=Z,0.3nm,0.8s,baz=266,slow=5.2,SNR=3.3						

*SJA **04** 05:29:43.6±0.6,23.'91S×66.'70W,h223km±4km,ML4.6, MW4.2*
*NEIC **04** 05:29:44.1±2.1,23.'92S±0.'06×66.'68W±0.'08,h207km±7km, mb4.4/42,Md3.9(SJA),Error ellipse: s-maj=11.0km s-min=8.7km az=107.0*
*VAO **04** 05:29:44.9±0.4,23.'82S×66.'55W,h209km±4km,mb4.2*
*IDC **04** 05:29:44.4±0.9,23.'82S×66.'58W,h204km±9km,mb3.7/12, mb1 3.9/18,mb1mx3.8/33,mbtmp4.3/18,MS2.6/1, Ms1 2.6/1,ms1mx2.4/33,Error ellipse: s-maj=12.2km s-min=10.8km az=82.0*
*GUC **04** 05:29:45.6±0.6,23.'89S×67.'09W,h253km±9km,ML5.0*
ISC 04 05:29:44.3±0.6,23.'88S±0.'04×66.'72W±0.'04,h212km±6km, n179,σ1$27/209,mb4.3/27,15C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.39**	**127**	*e*P	**Pn**	**05 30 19.0**	**+0.7**
SLA				*e*S	**S**	**05 30 45.1**	**+0.4**
AZAP	**Zapla**	**1.55**	**103**	*e*P	**Pn**	**05 30 20.0**	**+0.2**
AZAP				*e*S	**S**	**05 30 48.7**	**+1.6**
YJA	**Yavi**	**2.03**	**34**	*e*P	**Pn**	**05 30 25.6**	**+1.1**
YJA				*e*S	**S**	**05 30 57.2**	**+1.8**
ASTB	**Santa Barbara**	**2.08**	**92**	*e*P	**Pn**	**05 30 24.8**	**+0.2**
FSA	**Cafayete**	**2.32**	**163**	*e*P	**Pn**	**05 30 27.4**	**+0.2**
LVC	**Limon Verde**	**2.38**	**302**	P	**Pn**	**05 30 29.2**	**+1.2**
	166nm,0.3s,baz=122,slow=7.5,SNR=1389						
LVC				S	**S**	**05 31 02.8**	**+1.1**
	60nm,0.3s,baz=167,slow=6.9,SNR=5.4						
LVC				LR	LR	05 31 20.1	
	comp=Z,124nm,20.9s,baz=171,slow=39						
LVC	**Limon Verde**	**2.38**	**302**	⇊*i*P	**Pn**	**05 30 29.3**	**+1.2**
LVC				*i* S	**S**	**05 31 03.0**	**+1.4**
LVC	**Limon Verde**	**2.38**	**302**		**Pn**	**05 30 29.1**	**+1.2**
LVC				Sn	**S**	**05 31 03.6**	**+1.9**
LVC	**Limon Verde**	**2.38**	**302**	*e*P	**Pn**	**05 30 29.3**	**+1.2**
LVC				*e*S	**S**	**05 31 04.1**	**+2.4**
LVC	**Limon Verde**	**2.38**	**302**	*e*P	**Pn**	**05 30 29.0**	**+1.0**
PB15	**IPOC Station P**	**2.61**	**284**	⇑*i*P	**Pn**	**05 30 31.5**	**+1.1**
PB15				*i* S	**S**	**05 31 06.2**	**+0.3**
PB15	**IPOC Station P**	**2.61**	**284**		**Pn**	**05 30 31.4**	**+1.1**
PB15				Sn	**S**	**05 31 05.6**	**-0.3**
PB15	**IPOC Station P**	**2.61**	**284**	*e*P	**Pn**	**05 30 31.5**	**+1.1**
PB15				*e*S	**S**	**05 31 06.2**	**+0.3**
PB06	**IPOC Station P**	**2.87**	**293**	⇑*i*P	**Pn**	**05 30 34.3**	**+1.0**
PB06				*i* S	**S**	**05 31 10.9**	**-0.2**
PB06				IAML		05 31 13.9	
	comp=E,3μm,0.3s						
PB06	**IPOC Station P**	**2.87**	**293**		**Pn**	**05 30 34.2**	**+1.0**
PB06				Sn	**S**	**05 31 10.9**	**-0.2**
PB06	**IPOC Station P**	**2.87**	**293**	*e*P	**Pn**	**05 30 34.3**	**+1.0**
PB06				*e*S	**S**	**05 31 11.2**	**+0.2**
PB06				IAML		05 31 12.6	
	comp=Z,1μm,0.3s						
GO02	**Mina Guanaco**	**2.91**	**243**	⇑*i*P	**Pn**	**05 30 34.5**	**+0.7**
GO02				*i* S	**S**	**05 31 12.4**	**+0.3**
GO02	**Mina Guanaco**	**2.91**	**243**		**Pn**	**05 30 34.5**	**+0.7**
GO02				Sn	**S**	**05 31 12.1**	**0.0**
PB09	**IPOC Station P**	**3.11**	**311**	⇑*i*P	**Pn**	**05 30 37.5**	**+1.4**
PB09				*i* S	**S**	**05 31 16.7**	**+0.5**
PB09				IAML		05 31 22.1	
	comp=E,1μm,0.5s						
PB09	**IPOC Station P**	**3.11**	**311**		**Pn**	**05 30 37.4**	**+1.3**
PB09				Sn	**S**	**05 31 17.2**	**+1.0**
PB09	**IPOC Station P**	**3.11**	**311**	*e*P	**Pn**	**05 30 37.6**	**+1.5**
PB09				*e*S	**S**	**05 31 17.3**	**+1.0**
PB09				IAML		05 31 26.0	
	comp=Z,778nm,0.3s						
AHML	**Horco Molle**	**3.15**	**157**	*e*P	**Pn**	**05 30 36.5**	**+0.1**
AHML				*e*S	**S**	**05 31 15.5**	**-1.5**
PB03	**IPOC Station P**	**3.33**	**303**	⇑*i*P	**Pn**	**05 30 39.4**	**+0.7**
PB03				*i* S	**S**	**05 31 19.9**	**-1.0**
PB03	**IPOC Station P**	**3.33**	**303**	*e*P	**Pn**	**05 30 39.3**	**+0.7**
PB03				*e*S	**S**	**05 31 20.0**	**-0.9**
PB03				IAML		05 31 22.2	
	comp=Z,2μm,0.4s						
PB05	**IPOC Station P**	**3.36**	**287**	*e*P	**Pn**	**05 30 39.3**	**+0.4**
PB05				*e*S	**S**	**05 31 20.7**	**-0.6**
PB05				IAML		05 31 28.4	
	comp=Z,599nm,0.3s						
PB14	**IPOC Station P**	**3.44**	**257**	Pn	**Pn**	**05 30 40.2**	**+0.1**
PB14					**S**	**05 31 22.6**	**-0.8**
PB14	**IPOC Station P**	**3.44**	**257**	*e*P	**Pn**	**05 30 40.7**	**+0.6**
PB14				*e*S	**S**	**05 31 22.9**	**-0.5**
PB14				IAML		05 31 25.2	
	comp=Z,1μm,0.2s						
PB04	**IPOC Station P**	**3.51**	**295**	⇑*i*P	**Pn**	**05 30 41.3**	**+0.6**
PB04				*i* S	**S**	**05 31 23.2**	**-1.4**
PB04	**IPOC Station P**	**3.51**	**295**		**Pn**	**05 30 41.4**	**+0.6**
PB04	**IPOC Station P**	**3.51**	**295**	*e*P	**Pn**	**05 30 41.3**	**+0.6**
PB04				*e*S	**S**	**05 31 24.4**	**-0.2**
PB04				IAML		05 31 29.9	
	comp=Z,1μm,0.3s						
PB10	**IPOC Station P**	**3.53**	**275**	⇑*i*P	**Pn**	**05 30 41.3**	**+0.5**
PB10				*i* S	**S**	**05 31 22.5**	**-2.3**
PB10	**IPOC Station P**	**3.53**	**275**	Pn	**Pn**	**05 30 41.2**	**+0.5**
PB10	**IPOC Station P**	**3.53**	**275**	*e*P	**Pn**	**05 30 41.3**	**+0.5**
PB10				*e*S	**S**	**05 31 24.1**	**-0.7**
PB10				IAML		05 31 29.5	
	comp=Z,554nm,0.3s						
PB07	**IPOC Station P**	**3.62**	**306**	⇑*i*P	**Pn**	**05 30 42.6**	**+0.5**
PB07	**IPOC Station P**	**3.62**	**306**		**Pn**	**05 30 42.5**	**+0.4**
AC02	**Maricunga**	**3.66**	**216**	Pn	**Pn**	**05 30 43.3**	**+0.4**
PB01	**IPOC Station P**	**3.81**	**317**	⇑*i*P	**Pn**	**05 30 44.5**	**+0.2**
PB01				*i* S	**S**	**05 31 30.1**	**-1.0**
PB01	**IPOC Station P**	**3.81**	**317**		**Pn**	**05 30 44.7**	**+0.4**
PB02	**IPOC Station P**	**3.88**	**310**	⇑*i*P	**Pn**	**05 30 45.4**	**+0.1**
PB02				*i* S	**S**	**05 31 31.2**	**-1.6**
AC01	**Pan de Azucar**	**4.18**	**236**	⇑*i*P	**Pn**	**05 30 47.8**	**-0.9**
AC01				*i* S	**S**	**05 31 35.8**	**-3.4**
AC01	**Pan de Azucar**	**4.18**	**236**	Pn	**Pn**	**05 30 47.8**	**-0.9**
PB08	**IPOC Station P**	**4.35**	**328**	⇑*i*P	**Pn**	**05 30 52.3**	**+1.0**
PB08	**IPOC Station P**	**4.35**	**328**		**Pn**	**05 30 51.9**	**+0.6**
PATCX	**Punta Patache**	**4.40**	**313**	⇑*i*P	**Pn**	**05 30 51.0**	**-0.6**
PATCX				*i* S	**S**	**05 31 42.3**	**-1.9**
PATCX	**Punta Patache**	**4.40**	**313**		**Pn**	**05 30 50.9**	**-0.6**
TA01	**Diego Aracena**	**4.60**	**315**	Pn	**Pn**	**05 30 53.1**	**-0.8**
CYA	**Choya**	**4.62**	**170**	*e*P	**Pn**	**05 30 54.8**	**+0.6**
CYA				*e*S	**S**	**05 31 48.8**	**-0.4**
GO01	**Chusmiza**	**4.78**	**331**	⇑*i*P	**Pn**	**05 30 57.1**	**+0.4**
GO01				*i* S	**S**	**05 31 52.7**	**-0.8**
GO01	**Chusmiza**	**4.78**	**331**		**Pn**	**05 30 57.1**	**+0.4**
GO03	**Copiap**	**4.87**	**220**		**Pn**	**05 30 56.3**	**-1.0**
PB11	**IPOC Station P**	**4.92**	**326**	*e*P	**Pn**	**05 30 57.5**	**-0.6**
PB11				*i* S	**S**	**05 31 54.1**	**-2.2**
PB11	**IPOC Station P**	**4.92**	**326**	Pn	**Pn**	**05 30 57.6**	**-0.6**
PSGC	**Pisagua**	**5.30**	**323**	*e*P	**Pn**	**05 31 01.4**	**-1.6**
PSGC				*i* S	**S**	**05 32 00.2**	**-4.8**
PSGCX	**Pisagua**	**5.30**	**323**	Pn	**Pn**	**05 31 01.6**	**-1.4**
MNMC	**Minye Minye**	**5.43**	**330**	⇑*i*P	**Pn**	**05 31 04.7**	**-0.1**
MNMC	**Minye Minye**	**5.43**	**330**		**Pn**	**05 31 04.9**	**+0.1**
AC04	**Llanos de Chal**	**5.82**	**221**	Pn	**Pn**	**05 31 07.8**	**-1.6**
AC05	**El Transito**	**5.88**	**212**	Pn	**Pn**	**05 31 09.3**	**-0.9**
PB16	**IPOC Station P**	**6.10**	**334**		**Pn**	**05 31 14.0**	**+0.4**
PB12	**IPOC Station P**	**6.22**	**327**		**Pn**	**05 31 14.4**	**-0.4**
LCO	**Las Campanas**	**6.23**	**214**	Pn	**Pn**	**05 31 13.5**	**-1.5**
CO01	**Juntas del Tor**	**6.78**	**206**		**Pn**	**05 31 21.5**	**-0.5**
GO04	**Tololo Observa**	**7.25**	**209**	Pn	**Pn**	**05 31 25.8**	**-2.2**
LPAZ	**La Paz**	**7.67**	**350**	P	**Pn**	**05 31 34.4**	**+0.6**
	comp=Z,3.7nm,0.3s,baz=166,slow=6.8,SNR=151						
LPAZ				S	**S**	**05 32 60.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=212,slow=24,SNR=4.4						
LPAZ	**La Paz**	**7.67**	**350**		**Pn**	**05 31 34.9**	**+1.0**
LPAZ					**S**	**05 33 00.7**	**-0.4**
LPAZ	**La Paz**	**7.67**	**350**	*e*P	**Pn**	**05 31 34.5**	**+0.6**
LPAZ				*e*S	**S**	**05 33 00.3**	**-0.8**
LPAZ	**La Paz**	**7.67**	**350**	*e*P	**Pn**	**05 31 33.7**	**-0.2**
CO03	**El Pedregal**	**7.78**	**206**	Pn	**Pn**	**05 31 33.0**	**-1.7**
CO02	**Combarbal**	**8.22**	**207**		**Pn**	**05 31 38.7**	**-1.8**
CPUP	**Villa Florida**	**8.86**	**108**	P	**Pn**	**05 31 46.9**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=293,slow=15,SNR=53						
CPUP	**Villa Florida**	**8.86**	**108**		**Pn**	**05 31 47.1**	**-1.5**
CPUP	**Villa Florida**	**8.86**	**108**	*e*P	**Pn**	**05 31 46.5**	**-2.1**
VA03	**San Esteban**	**9.47**	**200**	Pn	**Pn**	**05 31 55.9**	**-0.7**
SIV	**San Ignacio**	**9.47**	**35**	P	**Pn**	**05 31 55.0**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=224,slow=13,SNR=48						
ROC1	**El Roble**	**9.82**	**202**	Pn	**Pn**	**05 32 01.4**	**+0.1**
MT02	**Curacav**	**10.12**	**202**	Pn	**Pn**	**05 32 02.1**	**-2.8**
AQDB	**Aquidauana**	**10.76**	**74**	*e*P	**Pn**	**05 32 11.7**	**-1.4**
PTLB	**Pontes e Lacer**	**11.01**	**42**	*e*P	**Pn**	**05 32 15.2**	**-1.2**
BO01	**Tunca**	**11.15**	**199**		**Pn**	**05 32 15.1**	**-2.9**
BO02	**Sierra Bellavi**	**11.44**	**197**		**Pn**	**05 32 21.2**	**-0.5**
VILB	**Vilhena**	**12.50**	**31**	*e*P	**Pn**	**05 32 33.5**	**-1.8**
TRCB	**Terra Rica**	**12.99**	**88**	*e*P	**Pn**	**05 32 40.5**	**-0.9**
TRCB				*e*S	**S**	**05 35 02.4**	**-3.0**
ITAB	**Concordia**	**13.59**	**107**	*e*P	**Pn**	**05 32 47.8**	**-0.9**
ETMB	**Extrema**	**13.99**	**2**	*e*P	**Pn**	**05 32 53.8**	**0.0**
PLTB	**Pedras Altas**	**14.01**	**127**	*e*P	**Pn**	**05 32 52.3**	**-1.5**
PCMB	**Pacaembu**	**14.44**	**84**	*e*P	**Pn**	**05 32 57.9**	**-1.4**
TRQA	**Tornquist**	**14.70**	**165**	*e*P	**P**	**05 33 05.2**	**+2.1**
CNLB	**Canela**	**15.19**	**114**	*e*P	**Pn**	**05 33 07.1**	**-1.3**
SAML	**Samuel**	**15.23**	**13**	P	**Pn**	**05 33 08.7**	**-0.2**
SAML	**Samuel**	**15.23**	**13**	*e*P	**Pn**	**05 33 08.1**	**-0.8**
LC01	**Cunco**	**15.60**	**195**	Pn	**P**	**05 33 12.5**	**-0.5**
FRTB	**Fartura**	**15.74**	**92**	*e*P	**P**	**05 33 14.7**	**+0.1**
ITRB	**Iturama**	**15.75**	**78**	*e*P	**P**	**05 33 14.4**	**-0.4**
ARAG	**Araguaiana, MT**	**16.21**	**63**	*e*P	**P**	**05 33 18.5**	**-1.4**
CLDB	**Colider**	**16.60**	**41**	*e*P	**P**	**05 33 23.5**	**-0.7**
BB19B	**Bebedouro**	**17.05**	**84**	*e*P	**P**	**05 33 28.0**	**-1.1**
CZSB	**Cruzeiro do Su**	**17.05**	**339**	*e*P	**Pn**	**05 33 30.5**	**-0.2**
PLCA	**Paso Flores**	**17.11**	**190**	P	**P**	**05 33 30.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=12,slow=12,SNR=11						
PLCA	**Paso Flores**	**17.11**	**190**	P	**P**	**05 33 30.4**	**+0.7**
PLCA				IAmb	IAmb	05 33 37.4	
	comp=Z,11nm,0.8s						
PLCA	**Paso Flores**	**17.11**	**190**	*e*P	**Pn**	**05 33 30.5**	**-0.7**
SPB	**Sao Paulo**	**17.67**	**93**	*e*P	**P**	**05 33 35.0**	**-0.8**
PET01	**Itanhaem-SP**	**17.76**	**95**	*e*P	**P**	**05 33 36.5**	**-0.3**
VAO	**Valinhos**	**18.15**	**91**	*e*P	**P**	**05 33 40.4**	**-0.7**
IPMB	**Ipameri, GO**	**18.25**	**75**	*e*P	**P**	**05 33 42.0**	**-0.2**
LL01	**San Ignacio de**	**19.05**	**193**	P	**P**	**05 33 50.0**	**-0.5**
LL01				IAmb	IAmb	05 33 54.1	
	comp=Z,11nm,0.6s						
PARB	**Paraibuna**	**19.34**	**93**	*e*P	**P**	**05 33 54.1**	**+0.1**
BDFB	**Brasilia**	**19.41**	**68**	P	**P**	**05 33 54.4**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=245,slow=11,SNR=29						
BDFB	**Brasilia**	**19.41**	**68**	P	**P**	**05 33 54.7**	**0.0**
BSCB	**Bom Sucesso**	**20.49**	**86**	*e*P	**P**	**05 34 06.3**	**+0.1**
ITTB	**Itaituba**	**22.11**	**30**	*e*P	**P**	**05 34 20.2**	**-2.4**
MC01	**Montes Claros**	**22.51**	**76**	*e*P	**P**	**05 34 25.2**	**-1.3**
JANB	**Januaria**	**22.85**	**72**	*e*P	**P**	**05 34 28.4**	**-1.1**
SMTB	**Santa Maria do**	**23.62**	**54**	*e*P	**P**	**05 34 35.9**	**-0.4**
SDBA	**SAO DESIDERIO**	**23.63**	**65**	*e*P	**P**	**05 34 35.8**	**-0.8**
PTGA	**Pitinga**	**23.93**	**17**	P	**P**	**05 34 38.7**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=199,slow=14,SNR=8.2						
PTGA	**Pitinga**	**23.93**	**17**	P	**P**	**05 34 38.9**	**-0.3**
PTGA	**Pitinga**	**23.93**	**17**	*e*P	**P**	**05 34 40.1**	**+0.9**
PRPB	**Paraiapebas**	**23.96**	**45**	*e*P	**P**	**05 34 38.4**	**-1.1**
SJMB	**Sao Joao De Ma**	**24.33**	**83**	*e*P	**P**	**05 34 42.8**	**0.0**
BSFB	**Barra de Sao F**	**24.60**	**83**	*e*P	**P**	**05 34 44.7**	**-0.6**
RIB01	**Linhares ES**	**24.88**	**85**	*e*P	**P**	**05 34 47.0**	**-0.8**
MALB	**Monte Alegre**	**25.00**	**31**	*e*P	**P**	**05 34 49.3**	**+0.4**
NAN01	**Guarapari, ES**	**25.55**	**81**	*e*P	**P**	**05 34 53.0**	**-0.8**
FLOC	**Florencia**	**26.76**	**340**	P	**P**	**05 35 06.0**

MKAR Makanchi Array 146.27 40 PKPbc **PKPbc 05 48 59.7 -0.2**
comp=Z,4.3nm,0.7s,baz=76,slow=5.1,SNR=8.4
MKAR Makanchi Array 146.27 40 PKPdf **PKPdf 05 48 53.7 -4.7**

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*IDC **04** 05:33:44.8±0.3,21°.40S×173°.37W,h0km,mb5.5/35, mb1 5.6/37,mb1mx5.6/46,mbtmp5.5/37,ML5.8/3,MS5.4/46, Ms1 5.5/46,ms1mx5.4/51,Error ellipse: s-maj=12.2km s-min=10.2km az=149.0*
*BJI **04** 05:33:45.0±0.0,21°.39S×173°.26W,h10km,mB6.2/78, mb5.6/73,Ms5.8/93,Ms7 5.7/84*
*UNK **04** 05:33:46.4,21°.40S×173°.26W,h12km*
*MOS **04** 05:33:47.9±0.9,21°.36S×173°.44W,h27km,mb6.0/87, MS5.6/34,Error ellipse: s-maj=7.3km s-min=6.0km az=70.3*
*BGR **04** 05:33:48.3±0.0,21°.66S×173°.25W,h33km,Ms6.0*
*NEIC **04** 05:33:49.4,21°.40S×173°.26W,h35km,Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.08; Mθθ0.34; Mφφ-1.42; Mrθ0.19; Mrφ-0.37; Mθr-0.42; Fault plane solution: M0 1.41000×1018 NP1:φs174.74000°, δ55.63000°,λ68.21000°. NP2:φs30.05000°,δ39.97000°, λ118.50000°. Principal axes: T 1.2190, Plg70.0000°, Azm34.0000°; N 0.3300, Plg18.0000°, Azm187.0000°; P -1.5490, Plg8.0000°, Azm280.0000°;*
*NEIC **04** 05:33:50.4±1.8,21°.39S±0°.05×173°.32W±0°.06,h35km±1km, mb5.9/483,Ms_20 5.9/830,Mwb6.0/92,Mww6.0, Mwc6.0(GCMT) Error ellipse: s-maj=10.2km s-min=8.5km az=95.0*
*GCMT **04** 05:33:52.3±0.1,21°.53S×173°.15W,h46km,MW6.0/171, Moment Tensor Solution. s171,c393; s169,c574; Duration: 2s5 Moment tensor: Scale 1018Nm; Mrr1.21±.01; Mθθ0.08±.01; Mφφ-1.29±.01; Mrθ0.21±.01; Mφθ-0.35±.01; Mφr-0.38±.01; Best double couple: M0 1.36900×1018 NP1:φs28.00000°,δ40.00000°, λ112.00000°. NP2:φs180.00000°,δ54.00000°,λ73.00000°. Principal axes: T 1.3220, Plg74.0000°, Azm39.0000°; N 0.0920, Plg14.0000°, Azm190.0000°; P -1.4150, Plg7.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 05:33:52,21°.54S×173°.12W,h46km,Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.21; Mθθ0.12; Mφφ-1.33; Mrθ0.20; Mφθ-0.35; Mφr-0.35; Fault plane solution: M0 1.38000×1018 NP1:φs27.00000°, δ40.00000°,λ111.00000°. NP2:φs180.00000°,δ53.00000°, λ73.00000°. Principal axes: T 1.3083, Plg75.0000°, Azm37.0000°; N 0.1368, Plg13.0000°, Azm190.0000°; P -1.4451, Plg7.0000°, Azm282.0000°;*
*NEIC **04** 05:33:53,21°.40S×173°.15W,h36km,Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.14; Mθθ0.16; Mφφ-1.29; Mrθ0.25; Mφφ-0.22; Mφr-0.70; Fault plane solution: M0 1.45000×1018 NP1:φs25.00000°, δ33.00000°,λ117.00000°. NP2:φs173.00000°,δ61.00000°, λ73.00000°. Principal axes: T 1.3941, Plg69.0000°, Azm48.0000°; N 0.0998, Plg14.0000°, Azm182.0000°; P -1.4939, Plg14.0000°, Azm275.0000°;*
ISC 04 05:33:49.0±0.3,21°.52S±0°.03×173°.19W±0°.03,h32km±2km, h32km:pP-P,n2124,σ1°60/2063,mb5.9/352,MS5.8/530, 117C-15D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.91**	**52**	P		**Pn**		**05 34 45.7**	**-1.1**
	baz=3.8								
NIUE				S		**Sn**		**05 35 25.4**	**-6.3**
	baz=3.8								
NIUE	**Niue**	**3.91**	**52**			**Pn**		**05 34 45.5**	**-1.4**
NIUE					Sn	**Sn**		**05 35 26.4**	**-5.3**
AFI	**Afiamalu**	**7.69**	**10**	Pn		**Pn**		**05 35 35.2**	**-3.7**
	42nm,0.3s,baz=78,slow=3.1,SNR=33								
AFI					Sn	Sn		05 36 54.4	-10
	787nm,0.3s,baz=238,slow=23,SNR=11								
AFI	**Afiamalu**	**7.69**	**10**	P		**Pn**		**05 35 37.2**	**-1.7**
AFI								05 37 01.5	
AFI	**Afiamalu**	**7.69**	**10**			**Pn**		**05 35 37.2**	**-1.7**
AFI					Sn	**Sn**		**05 37 01.5**	**-3.4**
RIZ	**Raoul Island**	**8.80**	**208**	P		**Pn**		**05 35 54.7**	**+0.6**
RIZ						S		**Sn**	**05 37 26.3**	**-6.0**
RAO	**Raoul Island**	**8.81**	**208**	Pn		**Pn**		**05 35 54.0**	**-0.1**
	512nm,0.3s,baz=86,slow=8.2,SNR=27								
RAO					Sn	**Sn**		**05 37 27.6**	**-4.7**
	1μm,0.3s,baz=102,slow=23,SNR=29								
RAO	**Raoul Island**	**8.81**	**208**	Pn		**Pn**		**05 35 54.9**	**+0.8**
RAO					Sn	**Sn**		**05 37 31.2**	**-1.1**
GLKZ	**Green Lake**	**8.82**	**208**	P		**Pn**		**05 35 55.7**	**+1.4**
GLKZ						S		**Sn**	**05 37 26.8**	**-5.6**
MSVF	**Nonsavu**	**9.07**	**293**	*d*P		**Pn**		**05 36 00.4**	**+2.5**
RAR	**Rarotonga**	**12.51**	**91**	Pn		**Pn**		**05 36 42.0**	**-2.9**
	44nm,0.3s,baz=244,slow=5.0,SNR=67								
RAR					LR	LR		05 40 35.5	
	comp=Z,30μm,19.2s,baz=230,slow=32								
RAR	**Rarotonga**	**12.51**	**91**	P		**Pn**		**05 36 42.2**	**-2.6**
RAR	**Rarotonga**	**12.51**	**91**	Pn		**Pn**		**05 36 42.2**	**-2.6**
FUNA	**Funafuti**	**14.85**	**329**			**Pn**		**05 37 16.1**	**-0.7**
MXZ	**Matakaoa Point**	**17.60**	**203**	P		**Pn**		**05 37 49.2**	**-2.6**
MXZ						S	Sn	05 40 51.5	-15
WMGZ	**Waiomatatini S**	**17.79**	**202**	P		**P**		**05 37 56.0**	**+1.2**
WMGZ						S	Sn	05 40 58.7	-13
OUZ	**Omahuta**	**17.91**	**217**	P		**Pn**		**05 37 55.7**	**+0.2**
OUZ	**Omahuta**	**17.91**	**217**	P		**P**		**05 37 56.5**	**+0.5**
HAZ	**Te Kaha**	**17.97**	**204**	P		**Pn**		**05 37 52.3**	**-4.0**
KUZ	**Kuaotunu**	**17.98**	**210**	P		**P**		**05 38 01.9**	**+5.1**
WCZ	**Waipu Caves**	**18.03**	**214**	P		**P**		**05 37 59.8**	**+2.4**
PUZ	**Puketiti**	**18.07**	**202**	P		**Pn**		**05 37 51.4**	**-6.2**
PUZ						S	Sn	05 41 02.6	-16
NFK	**Norfolk Island**	**18.62**	**242**	P		**Pn**		**05 38 06.1**	**+1.7**
	baz=19,SNR=8.5								
URZ	**Urewera**	**18.66**	**204**	P		**P**		**05 38 00.3**	**-4.0**
	0.5nm,0.3s,baz=23,slow=19,SNR=5.6								
URZ						S	Sn	05 41 18.9	-14
	15nm,0.3s,baz=254,slow=21,SNR=14								
URZ						LR	LR	05 45 53.2	
	comp=Z,5μm,20.9s,baz=34,slow=39								
URZ	**Urewera**	**18.66**	**204**	P		**P**		**05 37 59.5**	**-4.7**
URZ						S	Sn	05 41 17.1	-15
URZ	**Urewera**	**18.66**	**204**	P		**Pn**		**05 38 05.6**	**+0.8**
KNTN	**Kanton**	**18.68**	**5**	P		**P**		**05 38 04.8**	**+0.1**
TOZ	**Tahuroa Road**	**18.89**	**209**	P		**P**		**05 38 03.2**	**-3.5**
DZM	**Mont Dzumac**	**18.92**	**265**	*e*Pn		**P**		**05 38 07.7**	**+0.3**
	1μm,1.2s								
DZM				*e*S		**Sn**		**05 41 32.9**	**-6.3**
	21μm,21.5s								
DZM				*e*LQ		LQ		05 41 46.3	
	44μm,29.5s								
DZM				*e*LR		LR		05 42 36.5	
	comp=Z,44μm,25.8s								
DZM	**Mont Dzumac**	**18.92**	**265**	P		**P**		**05 38 07.0**	**-0.3**
	27nm,0.3s,baz=88,slow=14,SNR=175								
DZM					LR	LR		05 45 12.7	
	comp=Z,27μm,18.0s,baz=100,slow=37								
DZM	**Mont Dzumac**	**18.92**	**265**	P		**P**		**05 38 07.2**	**-0.1**
NMHZ	**Naumai**	**19.51**	**204**	P		**P**		**05 38 13.4**	**-0.3**
NMHZ						S		05 41 38.1	-14
SANVU	**Saraoutou**	**19.54**	**285**			**P**		**05 38 12.5**	**-1.6**
ARHZ	**Aropaoanui**	**19.59**	**203**	P		**P**		**05 38 15.6**	**+1.2**
ARHZ						S		05 41 36.5	-17
BKZ	**Black Stump Fm**	**19.69**	**204**	P		**P**		**05 38 16.2**	**+0.6**
BKZ	**Black Stump Fm**	**19.69**	**204**	P		**P**		**05 38 16.7**	**+1.1**
HIZ	**Hauiti**	**19.82**	**209**	P		**P**		**05 38 17.8**	**+0.9**
MCHZ	**McNeill Hill**	**19.86**	**204**	P		**Pn**		**05 38 19.0**	**-0.1**
MCHZ						S		05 41 42.9	-16
CKHZ	**Cape Kidnapper**	**19.90**	**203**	P		**Pn**		**05 38 20.0**	**+0.4**
KWHZ	**Kaweka Forest**	**19.94**	**204**	P		**P**		**05 38 19.1**	**+0.8**
KAHZ	**Kahuranaki**	**20.10**	**203**	P		**P**		**05 38 20.1**	**0.0**
BHHZ	**Black Hill Sta**	**20.14**	**205**	P		**P**		**05 38 18.5**	**-2.0**
KRHZ	**Kereru**	**20.15**	**204**	P		**P**		**05 38 21.2**	**+0.6**
WNVZ	**Wahianoa**	**20.18**	**206**	P		**P**		**05 38 20.0**	**-1.1**
MOVZ	**Moawhango**	**20.19**	**205**	P		**P**		**05 38 22.3**	**+1.2**
PXZ	**Pawanui**	**20.31**	**202**	P		**P**		**05 38 21.5**	**-0.8**
PNHZ	**Pukenui**	**20.45**	**204**	P		**P**		**05 38 23.5**	**-0.4**
WPHZ	**Waipukurau**	**20.49**	**203**	P		Pn		05 38 28.1	+1.5
PRHZ	**Porangahau**	**20.60**	**203**	P		**P**		**05 38 26.9**	**+1.4**
TSZ	**Takapari Road**	**20.67**	**204**	P		Pn		05 38 28.3	-0.4
DVHZ	**Dannevirke**	**20.80**	**203**	P		**P**		**05 38 26.6**	**-1.0**
ANWZ	**Angora Road**	**20.83**	**203**	P		**P**		**05 38 29.3**	**+1.4**
ANWZ						S		05 42 07.1	-11
POWZ	**Post Office Ro**	**21.03**	**204**	P		**P**		**05 38 27.7**	**-2.4**
POWZ						S		**05 42 13.1**	**-9.4**
PRWZ	**Pori Road**	**21.09**	**203**	P		**P**		**05 38 31.0**	**+0.2**
PRWZ						S		05 42 09.6	-14
BFZ	**Birch Farm**	**21.11**	**203**	P		**P**		**05 38 32.4**	**+1.5**
BFZ						S		05 42 11.0	-13
BFZ	**Birch Farm**	**21.11**	**203**	P		**P**		**05 38 32.9**	**+2.0**
TIWZ	**Tintock**	**21.32**	**203**	P		**P**		**05 38 36.4**	**+3.1**
TIWZ						S		05 42 15.4	-13
TBI	**Tubuai**	**22.01**	**99**	*e*P		**P**		**05 38 42.7**	**+2.0**
	1μm,1.1s								
TBI				*e*S		**S**		**05 42 38.2**	**-3.7**
	33μm,24.5s								
TBI				*e*LQ		LQ		05 42 54.6	
	9μm,26.8s								
TBI				*e*LR		LR		05 44 00.4	
	comp=Z,51μm,25.0s,baz=274								
TBI	**Tubuai**	**22.01**	**99**	*e*T		T		06 01 32.3	
	25nm,0.3s								
MSWZ	**Moikau Station**	**22.11**	**204**	P		**P**		**05 38 43.1**	**+1.4**
SNZO	**South Karori**	**22.23**	**205**	P		**P**		**05 38 41.4**	**-1.5**
PLWZ	**Palliser**	**22.24**	**203**	P		**P**		**05 38 44.5**	**+1.3**
BHW	**Baring Head**	**22.25**	**204**	P		**P**		**05 38 44.4**	**+1.3**
PAE	**Paea**	**22.57**	**84**	*e*P		**P**		**05 38 47.7**	**+1.0**
	86nm,1.1s								
PAE	**Paea**	**22.57**	**84**	*e*T		T		06 02 12.7	
	15nm,0.3s								
PPT2	**Papeete2**	**22.59**	**84**	*e*P		**P**		**05 38 47.9**	**+0.8**
	558nm,1.3s								
PPT2				*e*S		**S**		**05 42 47.5**	**-5.3**
	27μm,26.8s								
PPT2				*e*LQ		LQ		05 43 10.4	
	39μm,27.5s								
PPT2				*e*LR		LR		05 44 10.9	
	comp=Z,57μm,24.2s,baz=251								
PPT2	**Papeete2**	**22.59**	**84**	*e*T		T		06 02 15.2	
	13nm,0.3s								
PPT	**Papeete**	**22.59**	**84**	LR		LR		05 45 02.7	
	comp=Z,24μm,21.2s,baz=246,slow=30								
TIAR	**Tiarei**	**22.81**	**84**	*e*P		**P**		**05 38 50.4**	**+1.1**
	116nm,1.0s								
TIAR	**Tiarei**	**22.81**	**84**	*e*T		T		06 02 30.3	
	5.0nm,0.3s								
TVO	**Taravao**	**22.84**	**85**	*e*P		**P**		**05 38 50.4**	**+0.7**
	215nm,1.3s								
TVO	**Taravao**	**22.84**	**85**	*e*T		T		06 02 32.7	
	3.6nm,0.3s								
KHZ	**Kahutara**	**23.63**	**205**	P		**P**		**05 38 57.5**	**+0.3**
MEH	**Mehetia**	**23.92**	**86**	*e*P		**P**		**05 39 00.9**	**+0.6**
	130nm,1.4s								
MEH	**Mehetia**	**23.92**	**86**	*e*T		T		06 03 53.5	
	63nm,0.2s								
LTZ	**Lake Taylor**	**24.45**	**207**	P		**P**		**05 39 05.0**	**+0.1**
PMOR	**Pomariorio Ree**	**24.86**	**79**	*e*P		**P**		**05 39 09.7**	**+0.8**
	227nm,1.3s								
PMOR	**Pomariorio Ree**	**24.86**	**79**	*e*T		T		06 05 03.4	
	5.8nm,0.3s								
OXZ	**Oxford**	**24.99**	**206**	P		**P**		**05 39 09.1**	**-0.7**
OXZ						IAmb	IAmb	05 39 23.4	
	comp=Z,182nm,0.6s								
VAH	**Vaihoa**	**25.03**	**80**	*e*P		**P**		**05 39 11.1**	**+0.7**
	comp=Z,292nm,1.4s								
VAH	**Vaihoa**	**25.03**	**80**	*e*T		T		06 05 16.0	
	comp=Z,16nm,0.2s								
MQZ	**McQueen's Vall**	**25.06**	**205**	P		**P**		**05 39 11.1**	**+0.6**
RPZ	**Rata Peaks**	**25.72**	**207**	P		**P**		**05 39 17.9**	**+1.5**
	comp=Z,21nm,0.6s,baz=209,slow=2.5,SNR=19								
RPZ						LR	LR	05 50 26.8	
	comp=Z,6μm,19.4s,baz=46,slow=39								
RPZ	**Rata Peaks**	**25.72**	**207**	P		**P**		**05 39 18.2**	**+1.8**
TARA	**Tarawa**	**26.48**	**327**	P		**P**		**05 39 22.6**	**-0.9**
TARA						IAmb	IAmb	05 39 40.0	
	comp=Z,344nm,0.9s								
MLZ	**Mavora Lakes**	**28.31**	**208**	P		**P**		**05 39 40.2**	**+0.5**
HNR	**Honiara**	**28.48**	**291**	P		**P**		**05 39 41.0**	**-0.5**
	comp=Z,692nm,0.9s,baz=234,slow=2.3,SNR=8.4								
HNR						LR	LR	05 50 26.4	
	comp=Z,7μm,18.6s,baz=146,slow=35								
HNR	**Honiara**	**28.48**	**291**	P		**P**		**05 39 40.7**	**-0.8**
HNR						pmax	pmax		
	comp=Z,713nm,0.9s								
HNR	**Honiara**	**28.48**	**291**	P		**P**		**05 39 40.7**	**-0.8**
WHZ	**Wether Hill Ro**	**28.79**	**208**	P		**P**		**05 39 44.8**	**+0.8**
DCZ	**Deep Cove**	**28.82**	**209**	P		**P**		**05 39 44.5**	**+0.3**
ARMA	**Armidale**	**32.74**	**247**	P		**P**		**05 40 19.5**	**+0.4**
	baz=33,SNR=33								
ARMA	**Armidale**	**32.74**	**247**	P		**P**		**05 40 19.2**	**+0.1**
ARMA						IAmb	IAmb	05 40 22.8	
	comp=Z,140nm,1.1s								
EIDS	**Eidsvold**	**32.94**	**256**	P		**P**		**05 40 19.3**	**-1.5**
	baz=33,SNR=41								
EIDS	**Eidsvold**	**32.94**	**256**	P		**P**		**05 40 19.3**	**-1.5**
EIDS						IAmb	IAmb	05 40 20.7	
	comp=Z,247nm,1.2s								
MGCD	**Mangrove Creek**	**33.62**	**242**	P		**P**		**05 40 27.4**	**+0.7**
	baz=34,SNR=20								
TAOE	**Nuku Hiva Isla**	**34.20**	**73**	*e*S		**S**		**05 45 55.9**	**-0.8**
	comp=Z,6μm,26.5s								
TAOE				*e*LR		LR		05 49 28.4	
	comp=Z,32μm,25.8s,baz=245								
RMQ	**Roma**	**35.02**	**254**	P		**P**		**05 40 38.5**	**-0.4**
	baz=35,SNR=67								
RKT	**Rikitea**	**35.33**	**100**	*e*S		**S**		**05 46 13.3**	**-0.5**
	comp=Z,4μm,30.2s								
RKT				*e*LQ		LQ		05 48 43.3	
	comp=Z,3μm,29.5s								
RKT				*e*LR		LR		05 50 01.5	
	comp=Z,41μm,26.2s								
CNB	**Canberra Magne**	**35.47**	**239**	P		**P**		**05 40 43.5**	**+0.8**
	baz=36,SNR=4.0								
KWAJ	**Kwajalein Atol**	**35.54**	**326**	P		**P**		**05 40 42.1**	**-1.2**
KWAJ						pmax	pmax		
	comp=Z,453nm,1.3s								
KWAJ	**Kwajalein Atol**	**35.54**	**326**	P		**P**		**05 40 42.1**	**-1.2**
CAN	**Canberra**	**35.76**	**239**	P		**P**		**05 40 45.8**	**+0.6**
	baz=36								
CAN	**Canberra**	**35.76**	**239**	P		**P**		**05 40 44.2**	**-1.0**
CAN						pmax	pmax		
	comp=Z,117nm,1.0s								
CAN						MLR	MLR		
	comp=Z,10μm,18.0s								
CAN	**Canberra**	**35.76**	**239**	P		**P**		**05 40 44.2**	**-1.0**
CAN						IAmb	IAmb	05 40 49.7	
	comp=Z,117nm,1.0s								
YNG	**Young**	**36.04**	**241**	P		**P**		**05 40 49.1**	**+1.5**
	baz=36,SNR=15								
KRVT	**Keravat (AS076**	**37.83**	**292**	LR		LR		05 55 41.3	
	comp=Z,7μm,21.4s,baz=111,slow=35								
CTA	**Charters Tower**	**37.86**	**265**	P		**P**		**05 41 01.6**	**-1.6**
	comp=Z,80nm,0.7s,baz=94,slow=11,SNR=88								
CTA						LR	LR	05 54 55.5	
	comp=Z,5μm,20.9s,baz=100,slow=34								
CTAO	**Charters Tower**	**37.86**	**265**	P		**P**		**05 41 01.7**	**-1.6**
CTAO						pmax	pmax		
	comp=Z,113nm,0.9s								
CTAO	**Charters Tower**	**37.86**	**265**	P		**P**		**05 41 01.6**	**-1.6**
CTAO						IAmb	IAmb	05 41 02.4	
	comp=Z,114nm,0.8s								
CMSA	**Cobar Meteorol**	**37.93**	**246**	P		**P**		**05 41 03.6**	**0.0**
	baz=38,SNR=63								
JOHN	**Johnston Islan**	**38.18**	**6**	P		**P**		**05 41 05.0**	**-0.8**
TOO	**Toolangi**	**39.01**	**236**	P		**P**		**05 41 13.4**	**+0.7**
	baz=39,SNR=33								
TOO	**Toolangi**	**39.01**	**236**	P		**P**		**05 41 12.9**	**+0.2**
TOO						pmax	pmax		
	comp=Z,66nm,0.9s								
TOO						MLR	MLR		
	comp=Z,7μm,18.0s								
TOO	**Toolangi**	**39.01**	**236**	P		**P**		**05 41 12.9**	**+0.2**
QLP	**Quilpie**	**39.07**	**254**	P		**P**		**05 41 12.1**	**-1.2**
	baz=39,SNR=26								
MOO	**Moorlands**	**39.09**	**228**	P		**P**		**05 41 16.0**	**+2.7**
	baz=39,SNR=6.6								
TAU	**Tasmania Unive**	**39.16**	**228**	P		**P**		**05 41 15.2**	**+1.4**
TAU						pmax	pmax		
	comp=Z,57nm,0.7s								
TAU	**Tasmania Unive**	**39.16**	**228**	P		**P**		**05 41 15.2**	**+1.4**
PMG	**Port Moresby**	**39.95**	**281**	P		**P**		**05 41 18.7**	**-2.0**
	comp=Z,87nm,0.5s,baz=109,slow=5.8,SNR=16								
PMG						LR	LR	05 56 28.1	
	comp=Z,8μm,18.3s,baz=120,slow=34								
PMG	**Port Moresby**	**39.95**	**281**	*d*P		**P**		**05 41 19.0**	**-1.7**
PMG						pmax	pmax		
	comp=Z,173nm,1.3s								
PMG						MLR	MLR		
	comp=Z,15μm,17.0s								
PMG	**Port Moresby**	**39.95**	**281**	P		**P**		**05 41 19.4**	**-1.3**
PMG						IAmb	IAmb	05 41 33.2	
	comp=Z,206nm,1.1s								
MTSU	**Mount Surprise**	**40.03**	**267**	P		**P**		**05 41 19.6**	**-1.7**
	baz=40,SNR=70								
STKA	**Stephens Creek**	**41.43**	**246**	P		**P**		**05 41 32.5**	**-0.3**
	baz=41,SNR=46								
STKA	**Stephens Creek**	**41.43**	**246**	P		**P**		**05 41 32.4**	**-0.4**
	comp=Z,52nm,0.7s,baz=92,slow=10,SNR=97								
STKA						LR	LR	05 57 42.7	
	comp=Z,8μm,19.5s,baz=81,slow=35								
STKA	**Stephens Creek**	**41.43**	**246**	P		**P**		**05 41 32.5**	**-0.3**
ARPS	**Mount Arapiles**	**41.73**	**238**	P		**P**		**05 41 35.2**	**+0.1**
	baz=42,SNR=19								
COEN	**Coen**	**42.12**	**273**	P		**P**		**05 41 37.3**	**-1.4**
	baz=42,SNR=30								
COEN	**Coen**	**42.12**	**273**	P		**P**		**05 41 37.3**	**-1.4**
COEN						IAmb	IAmb	05 41 39.1	
	comp=Z,161nm,1.0s								
HTT	**Hallett**	**43.77**	**244**	P		**P**		**05 41 51.3**	**-0.5**
	baz=44,SNR=64								
QIS	**Mount Isa**	**43.94**	**262**	P		**P**		**05 41 51.1**	**-2.1**
	baz=44,SNR=16								
KHU	**Kahuku**	**44.01**	**24**	P		**P**		**05 41 53.9**	**-0.1**
KHU						pmax	pmax		
	comp=Z,338nm,1.2s								
KHU	**Kahuku**	**44.01**	**24**	P		**P**		**05 41 53.9**	**-0.1**
KHU						IAmb	IAmb	05 41 55.2	
	comp=Z,338nm,1.2s								
KHLU	**Kahalu`u**	**44.22**	**24**	P		**P**		**05 41 56.0**	**+0.5**
PUH	**Pauahi**	**44.28**	**25**	P		**P**		**05 41 56.1**	**+0.1**
MLH	**Mauna Loa**	**44.33**	**24**	P		**P**		**05 41 56.6**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**44.37**	**332**	T		T		06 30 10.9	
	baz=148,slow=76,SNR=8.9								
H11S3	**WAKE ISLAND Hy**	**44.38**	**332**	T		T		06 30 11.3	
	baz=148,slow=76,SNR=38								
H11S1	**WAKE ISLAND Hy**	**44.38**	**332**	T		T		06 30 13.7	
	baz=148,slow=76,SNR=9.4								
POHA	**Pohakuloa**	**44.51**	**24**	P		**P**		**05 41 57.9**	**-0.1**
HPAH	**Hawaii Prepara**	**44.70**	**24**	P		**P**		**05 41 59.8**	**+0.5**
HON	**Honolulu**	**45.09**	**20**	P		**P**		**05 42 02.4**	**+0.1**
HON						pmax	pmax		
	comp=Z,454nm,0.9s								
HON	**Honolulu**	**45.09**	**20**	P		**P**		**05 42 02.4**	**+0.1**
HLK	**Haleakala**	**45.16**	**23**	P		**P**		**05 42 01.8**	**-1.3**
KIP	**Kipapa**	**45.18**	**20**	*c*P		**P**		**05 42 03.8**	**+0.8**
KIP						pmax	pmax		
	comp=Z,693nm,1.2s								
KIP	**Kipapa**	**45.18**	**20**	P		**P**		**05 42 03.9**	**+0.9**
KEKH	**Kekaha**	**45.19**	**18**	P		**P**		**05 42 03.9**	**+0.8**
KHLH	**Kahului Airpor**	**45.23**	**22**	P		**P**		**05 42 04.5**	**+1.2**
H11N3	**WAKE ISLAND Hy**	**45.37**	**333**	T		T		06 31 22.3	
	baz=148,slow=76,SNR=10								
H11N1	**WAKE ISLAND Hy**	**45.37**	**333**	T		T		06 31 25.6	
	baz=148,slow=76,SNR=12								
H11N2	**WAKE ISLAND Hy**	**45.38**	**333**	T		T		06 31 24.5	
	baz=148,slow=76,SNR=10								
OPA	**Opana**	**45.43**	**20**	P		**P**		**05 42 05.1**	**+0.2**
OPA						pmax	pmax		
	comp=Z,269nm,1.4s								
OPA	**Opana**	**45.43**	**20**	P		**P**		**05 42 05.1**	**+0.2**
OPA						IAmb	IAmb	05 42 17.7	
	comp=Z,269nm,1.4s								
BBOO	**Buckleboo**	**46.15**	**245**	P		**P**		**05 42 10.0**	**-0.7**
	baz=46,SNR=41								
BBOO	**Buckleboo**	**46.15**	**245**	P		**P**		**05 42 09.9**	**-0.7**
BBOO						IAmb	IAmb	05 42 12.5	
	comp=Z,97nm,0.9s								
BBOO						IAMs_20	IAMs_20	05 59 34.0	
	comp=Z,9μm,20.0s								
JAY	**Jayapura**	**48.63**	**286**	P		**P**		**05 42 29.2**	**-1.1**
	comp=Z,189nm,0.5s,baz=125,slow=5.6,SNR=68								
JAY						LR	LR	06 01 20.7	
	comp=Z,5μm,21.8s,baz=100,slow=34								
JAY	**Jayapura**	**48.63**	**286**	P		**P**		**05 42 30.3**	**0.0**
	comp=Z,4μmcomp=Z,202nm,0.7s								
AS31	**Alice Springs**	**48.66**	**257**	P		**P**		**05 42 29.1**	**-1.4**
ASAR	**Alice Springs**	**48.66**	**257**	P		**P**		**05 42 29.1**	**-1.3**
	comp=Z,76nm,0.8s,baz=89,slow=8.1,SNR=185								
ASAR						S		**S**	**05 49 25.6**	**-5.3**
	comp=Z,12nm,1.0s,baz=93,slow=16,SNR=14								
ASAR						LR	LR	06 02 58.6	
	comp=Z,6μm,18.0s,baz=103,slow=36								
ASAR				PKPPKP		**P'P'df**		**06 13 37.0**	**-1.1**
	comp=Z,0.9nm,1.0s,baz=302,slow=2.1,SNR=3.9								
ASAR	**Alice Springs**	**48.66**	**257**	P		**P**		**05 42 28.6**	**-1.8**
ASAR	**Alice Springs**	**48.66**	**257**	P		**P**		**05 42 28.6**	**-1.8**
WR0	**Warramunga Arr**	**48.72**	**262**	P		**P**	

BNDI	Bandanaira	57.63	279		P	P	05 43 40.3 +3.8
	comp=Z,8μmcomp=Z,17μmcomp=Z,627nm,1.3s						
SIJI	Sorong	57.84	283		P	P	05 43 37.0 -1.1
	comp=Z,152nm,0.9s,baz=79,slow=6.1,SNR=14						
RPN	Rapa Nui	57.93	109		IAMs_20	IAMs_20	06 03 39.8
	comp=Z,11μm,19.0s						
KMBL	Kambalda	58.24	246		P	P	05 43 40.7 +0.1
	baz=58,SNR=13						
MSAI	Masohi	58.98	279		P	P	05 43 49.6 +3.7
	comp=Z,1μmcomp=Z,49nm,1.1s						
NLAI	Namlea	60.70	279		P	P	05 43 59.0 +1.2
	comp=Z,4μmcomp=Z,122nm,0.8s						
SOEI	Soe	61.01	271		P	P	05 44 00.7 +0.6
	comp=Z,9μmcomp=Z,8μmcomp=Z,408nm,0.7s						
SOEI	Soe	61.01	271		P	P	05 44 00.6 +0.6
LBMI	Labuha	61.36	282		P	P	05 44 08.7 +6.4
	comp=Z,4μmcomp=Z,252nm,1.1s						
BATI	Baumata	61.43	270		P	P	05 44 02.4 -0.3
	comp=Z,76nm,0.6s,baz=191,slow=3.5,SNR=8.0						
BATI					LR	LR	06 11 24.7
	comp=Z,4μm,18.1s,baz=130,slow=37						
BATI	Baumata	61.43	270		P	P	05 44 05.2 +2.4
	comp=Z,6μmcomp=Z,3μmcomp=Z,62nm,1.2s						
KLBR	Kellerberrin	61.70	245		P	P	05 44 04.8 +0.5
	baz=62,SNR=47						
PSA00	Pilbara Seismi	61.80	256		P	P	05 44 04.7 -0.5
PSA00					IAmb	IAmb	05 44 06.0
	comp=Z,96nm,1.1s						
PSA00	Pilbara Seismi	61.80	256		P	P	05 44 03.9 -1.4
PSA00					IAmb	IAmb	05 44 05.2
	comp=Z,63nm,1.1s						
MEEK	Meekatharra	61.82	251		P	P	05 44 05.0 -0.3
	baz=62,SNR=39						
RKGY	Rocky Gully	61.90	241		P	P	05 44 05.1 -0.6
	baz=62,SNR=5.1						
NWAO	Narrogin (SRO)	61.93	243		P	P	05 44 06.8 +0.9
	baz=62,SNR=14						
NWAO	Narrogin (SRO)	61.93	243		P	P	05 44 06.8 +0.9
	comp=Z,15nm,0.6s,baz=106,slow=4.5,SNR=11						
NWAO	Narrogin (SRO)	61.93	243		P	P	05 44 08.4 +2.5
NWAO					IAmb	IAmb	05 44 19.0
	comp=Z,157nm,1.4s						
TNTI	Ternate	62.06	283		P	P	05 44 08.2 +1.2
	comp=Z,4μmcomp=Z,4μmcomp=Z,199nm,1.0s						
TNTI	Ternate	62.06	283		P	P	05 44 05.8 -1.2
SANI	Sanana	62.18	279		P	P	05 44 07.8 0.0
	comp=Z,7μmcomp=Z,4μmcomp=Z,180nm,1.0s						
BLDU	Ballidu	62.74	246		P	P	05 44 11.7 +0.3
	baz=63,SNR=40						
MUN	Mundaring	62.93	244		P	P	05 44 13.4 +0.8
	baz=63,SNR=11						
MMRI	Maumere	63.27	271		P	P	05 44 21.7 +6.6
	comp=Z,7μmcomp=Z,105nm,0.6s						
MMRI	Maumere	63.27	271		P	P	05 44 14.1 -1.0
MMRI					IAmb	IAmb	05 44 16.1
	comp=Z,143nm,1.2s						
MORW	Morawa	63.59	247		P	P	05 44 17.6 +0.6
	baz=64,SNR=29						
MORW	Morawa	63.59	247		P	P	05 44 17.7 +0.6
MORW					IAMs_20	IAMs_20	06 08 29.8
	comp=Z,7μm,22.0s						
EDFI	Ende, Flores	63.74	271		P	P	05 44 17.1 -1.2
	comp=Z,2μmcomp=Z,59nm,0.8s						
JCJ	Chichijima	64.81	316		LR	LR	06 06 55.8
	comp=Z,1μm,21.1s,baz=108,slow=31						
CASY	Casey	64.98	206		P	P	05 44 27.1 +1.7
CASY					IAmb	IAmb	05 44 38.1
	comp=Z,138nm,0.9s						
LUWI	Luwuk	65.53	279		P	P	05 44 31.8 +1.9
	comp=Z,6μmcomp=Z,5μmcomp=Z,242nm,1.2s						
LUWI	Luwuk	65.53	279		P	P	05 44 30.0 +0.1
WBSI	Waikabubak, Su	65.59	269		P	P	05 44 31.4 +1.1
	comp=Z,3μmcomp=Z,106nm,1.1s						
BKSI	Bulukumba	66.39	274		P	P	05 44 38.2 +2.8
	comp=Z,5μmcomp=Z,2μmcomp=Z,44nm,1.1s						
DAV	Davao City (W)	66.41	288		LR	LR	06 13 03.5
	comp=Z,2μm,18.6s,baz=136,slow=36						
GIRL	Giralia	66.60	254		P	P	05 44 37.5 +0.9
	baz=66,SNR=19						
GIRL	Giralia	66.60	254		P	P	05 44 38.8 +2.2
BNSI	Bone	66.73	275		P	P	05 44 38.0 +0.4
	comp=Z,3μmcomp=Z,64nm,0.8s						
KAPI	Kappang	66.84	274		P	P	05 44 38.0 -0.3
	comp=Z,12nm,0.4s,baz=52,slow=4.1,SNR=3.8						
KAPI					LR	LR	06 12 58.0
	comp=Z,2μm,21.5s,baz=116,slow=35						
KAPI	Kappang	66.84	274		P	P	05 44 38.0 -0.3
KAPI					pmax	pmax	
	comp=Z,40nm,1.1s						
SPSI	Sidrap Palu	67.20	275		P	P	05 44 40.3 -0.3
	comp=Z,2μmcomp=Z,53nm,1.2s						
PLAI	Plampang	67.36	269		P	P	05 44 41.4 -0.2
	comp=Z,6μmcomp=Z,5μmcomp=Z,206nm,1.1s						
TWSI	Taliwang, Sumb	68.22	269		P	P	05 44 47.1 +0.1
	comp=Z,2μmcomp=Z,70nm,1.0s						
QSPA	South Pole Qui	68.56	180		P	P	05 44 50.6 +2.2
	comp=Z,184nm,0.9s,baz=43,slow=1.9,SNR=334						
QSPA	South Pole Qui	68.56	180		P	P	05 44 50.7 +2.2
QSPA	South Pole Qui	68.56	180		IAMs_20	IAMs_20	06 10 28.0
	comp=Z,6μm,20.0s						
MPSI	Mapaga	68.71	279		P	P	05 44 50.5 +0.4
	comp=Z,6μmcomp=Z,3μmcomp=Z,104nm,0.9s						
KBKI	Kotabaru	70.79	274		P	P	05 45 05.2 +2.3
JAGI	Jajag, Banyuwa	70.86	268		P	P	05 45 03.1 -0.2
	comp=Z,5μmcomp=Z,3μmcomp=Z,131nm,1.1s						
JAGI	Jajag, Banyuwa	70.86	268		P	P	05 45 02.7 -0.6
JAGI					IAmb	IAmb	05 45 03.9
	comp=Z,120nm,1.0s						
GMJI	Gumukmas	71.58	268		P	P	05 45 08.0 +0.3
	comp=Z,3μmcomp=Z,91nm,1.0s						
MYLDM	Lahad Datu	71.94	283		P	P	05 45 12.2 +2.4
MYLDM					IAmb	IAmb	05 45 31.0
	comp=Z,97nm,1.0s						
BBKI	Banjar Baru	71.96	273		P	P	05 45 12.3 +2.3
	comp=Z,84nm,1.3s						
MTKI	Muara Teweh, K	72.84	276		P	P	05 45 17.4 +2.2
	comp=Z,4μmcomp=Z,36nm,0.7s						
ADK	Adak	73.15	358		P	P	05 45 16.1 0.0
ADK					pmax	pmax	
	comp=Z,328nm,1.3s						
ADK	Adak	73.15	358		P	P	05 45 16.1 0.0
GSTR	Great Sitkin T	73.34	358		P	P	05 45 17.9 +0.7
ATKA	Atka Island	73.41	359		P	P	05 45 17.5 -0.1
INU	Inuyama	73.66	319		P	P	05 45 19.8 +0.2
NGJI	Ngawi	73.73	268		P	P	05 45 23.4 +2.9
	comp=Z,6μmcomp=Z,121nm,0.9s						
MJAR	Matsushiro Arr	73.75	321		P	P	05 45 20.1 -0.1
	comp=Z,68nm,1.0s,baz=161,slow=6.0,SNR=37						
MJAR					LR	LR	06 12 44.8
	comp=Z,827nm,22.0s,baz=120,slow=32						
MJAR	Matsushiro Arr	73.75	321		P	P	05 45 20.4 +0.3
MAJO	Matsushiro	73.76	321 ⇑	*i*	P	P	05 45 20.2 +0.1
MAJO					pmax	pmax	
	comp=Z,17nm,0.8s						
MAJO	Matsushiro	73.76	321		P	P	05 45 20.3 +0.2
MAT	Matsushiro	73.76	321		P	P	05 45 20.2 +0.1
MAT					S	S	05 54 49.0 -0.1
WOJI	Wonogiri, Jawa	74.07	268		P	P	05 45 23.0 +0.5
	comp=Z,4μmcomp=Z,3μmcomp=Z,134nm,1.3s						
NIKH	Nikolski High	74.27	3		P	P	05 45 22.9 +0.3
KKM	Kota Kinabalu	74.36	283		P	P	05 45 23.8 -0.5
UGM	Wanagama	74.42	268		P	P	05 45 25.2 +0.6
	comp=Z,7μmcomp=Z,4μmcomp=Z,192nm,0.9s						
UGM	Wanagama	74.42	268		P	P	05 45 25.8 +1.2
UGM					IAmb	IAmb	05 45 36.9
	comp=Z,94nm,0.7s						
SNCC	San Nicolas Is	74.73	44		P	P	05 45 27.9 +2.1
	baz=231						
SNCC	San Nicolas Is	74.73	44		IAMs_20	IAMs_20	06 11 20.1
	comp=Z,4μm,20.0s						
SMY	Shemya	74.75	352		P	P	05 45 25.4 -0.1
SMY					pmax	pmax	
	comp=Z,387nm,1.3s						
SMY	Shemya	74.75	352		P	P	05 45 25.4 -0.1
SMY					IAMs_20	IAMs_20	06 11 12.9
	comp=Z,6μm,22.0s						
SMRI	Semarang	74.79	268		P	PcP	05 45 40.8 +0.1
ERM	Erimo	75.00	328	*i*	P	P	05 45 28.7 +1.6
ERM					pmax	pmax	
	comp=Z,49nm,1.0s						
ERM	Erimo	75.00	328		IAMs_20	IAMs_20	06 12 18.4
	comp=Z,5μm,21.0s						
SCZ2	Santa Cruz Isl	75.13	44		P	P	05 45 30.2 +2.1
	baz=231,SNR=8.3						
PBKI	Pangkalan Bun	75.19	273		P	P	05 45 32.1 +3.1
	comp=Z,314nm,1.1s						
SCI2	San Clemente I	75.21	45		P	P	05 45 30.5 +1.9
	baz=232,SNR=11						
YUK	Yuzh-Kuril'sk	75.25	331	*d*	iP	P	05 45 15.8 -13
YUK					*e*PPP	PPP	05 50 07.2
YUK					MLR	MLR	
	comp=Z,3μm,21.0s						
YUK					MLR	MLR	
	comp=E,2μm,19.0s						
YUK					MLR	MLR	
	comp=N,3μm,20.0s						
UNV	Unalaska Valle	75.27	4		P	P	05 45 28.0 -0.4
UNV					IAmb	IAmb	05 45 30.3
	comp=Z,189nm,1.2s						
KUR	Kuril'sk	75.30	333	*c*	iP	P	05 45 29.0 +0.2
KUR					*e*		05 48 26.5
KUR					*e*PPP	PPP	05 50 07.2
KUR					*i* S	S	05 55 08.2 +2.3
KUR					*e*SS	SS	05 59 59.7 +2.9
KUR					pmax	pmax	
	comp=Z,2μm,3.4s						
KUR					pmax	pmax	
	comp=Z,308nm,1.6s						
KUR					MLR	MLR	
	comp=E,640nm,16.0s						
KUR					MLR	MLR	
	comp=Z,2μm,16.0s						
SBC	Santa Barbara	75.36	43		P	P	05 45 31.6 +2.1
	baz=231						
CIS	Catalina Islan	75.56	45		P	P	05 45 32.2 +1.5
	baz=232,SNR=9.8						
PKM	Mcpherson Peak	75.58	43		P	P	05 45 33.1 +2.2
	baz=230,SNR=25						
SMMC	Simmler	75.74	43		P	P	05 45 33.9 +2.3
	baz=230,SNR=42						
SAO	San Andreas Ge	75.78	41		P	P	05 45 33.7 +1.9
SAO					pmax	pmax	
	comp=Z,174nm,1.1s						
SAO	San Andreas Ge	75.78	41		P	P	05 45 33.7 +1.9
SAO					IAmb	IAmb	05 45 47.2
	comp=Z,174nm,1.1s						
SAO					IAMs_20	IAMs_20	06 11 30.5
	comp=Z,6μm,20.0s						
CCX	Cicese	75.80	47		P	P	05 45 32.7 +0.7
PMPB	Monarch Peak	75.82	41		P	P	05 45 34.2 +2.1
PMPB					IAmb	IAmb	05 45 45.5
	comp=Z,260nm,1.4s						
PMPB					IAMs_20	IAMs_20	06 12 11.5
	comp=Z,5μm,20.0s						
FMP	Fort Macarthur	75.83	45		P	P	05 45 33.8 +1.6
	baz=232						
PAGB	Antelope Grade	75.84	42		P	P	05 45 34.5 +2.3
PAGB					IAmb	IAmb	05 45 47.7
	comp=Z,148nm,1.1s						
PAGB					IAMs_20	IAMs_20	06 11 53.4
	comp=Z,5μm,20.0s						
TJX	Tijuana	75.92	46		P	P	05 45 34.9 +2.2
CBX	Cerro Bola	76.06	47		P	P	05 45 35.5 +1.8
OSI	Osito Audit: C	76.11	44		P	P	05 45 35.6 +1.8
	baz=231						
OSI	Osito Audit: C	76.11	44		P	P	05 45 35.4 +1.6
OSI					IAmb	IAmb	05 45 36.5
	comp=Z,165nm,1.4s						
OSI					IAMs_20	IAMs_20	06 12 22.5
	comp=Z,4μm,20.0s						
109C	Camp Elliot, M	76.11	46		P	P	05 45 35.2 +1.4
	baz=233,SNR=8.9						
109C	Camp Elliot, M	76.11	46		P	P	05 45 35.4 +1.6
LPIG	La Paz	76.13	57		LR	LR	06 10 33.4
	comp=Z,9μm,21.6s,baz=214,slow=29						
SPX	San Pedro Mart	76.13	48		P	P	05 45 36.3 +1.9
SPX					IAMs_20	IAMs_20	06 10 53.7
	comp=Z,7μm,20.0s						
DECC	Green Verdugo	76.13	44		P	P	05 45 35.4 +1.5
	baz=232,SNR=8.3						
JNU	Nakatsue	76.15	314		P	P	05 45 34.1 +0.1
	comp=Z,43nm,1.2s,baz=348,slow=2.9,SNR=6.4						
JNU					LR	LR	06 12 43.3
	comp=Z,751nm,19.5s,baz=125,slow=31						
JNU	Nakatsue	76.15	314		P	P	05 45 34.2 +0.1
JNU					IAmb	IAmb	05 45 47.0
	comp=Z,266nm,1.5s						
PASC	Pasadena Art C	76.18	44		P	P	05 45 35.8 +1.7
PASC					IAmb	IAmb	05 45 38.1
	comp=Z,105nm,1.2s						
SLBS	Sierra La Lagu	76.20	57		P	P	05 45 36.6 +2.0
SLBS					IAmb	IAmb	05 45 37.4
	comp=Z,172nm,1.4s						
BAR	Barrett	76.28	46		P	P	05 45 36.2 +1.4
MWC	Mount Wilson	76.30	44		P	P	05 45 36.6 +1.5
MWC					pmax	pmax	
	comp=Z,148nm,1.3s						
MWC	Mount Wilson	76.30	44		P	P	05 45 36.6 +1.5
MWC					IAmb	IAmb	05 45 39.0
	comp=Z,148nm,1.2s						
HOPS	Hopland Field	76.31	38		P	P	05 45 37.0 +2.2
HOPS					IAMs_20	IAMs_20	06 11 57.2
	comp=Z,4μm,20.0s						
GDXM	Geysers	76.34	38		P	P	05 45 37.3 +2.2
GDXM					IAmb	IAmb	05 45 55.2
	comp=Z,160nm,1.4s						
GDXM					IAMs_20	IAMs_20	06 15 15.1
	comp=Z,5μm,18.0s						
ARVC	Arvin	76.36	43		P	P	05 45 36.8 +1.7
	baz=231,SNR=14						
SRIG	Santa Rosalia	76.36	53		P	P	05 45 37.0 +1.7
SRIG					IAmb	IAmb	05 45 40.0
	comp=Z,233nm,1.3s						
SRIG					IAMs_20	IAMs_20	06 11 40.0
	comp=Z,7μm,20.0s						
ESJX	Sierra Juarez	76.37	47		P	P	05 45 36.5 +1.0
ESJX					IAmb	IAmb	05 45 38.0
	comp=Z,101nm,1.1s						
ESJX					IAMs_20	IAMs_20	06 11 10.7
	comp=Z,4μm,20.0s						
CMJI	Cimerak	76.39	267		P	P	05 45 37.4 +1.6
	comp=Z,3μmcomp=Z,2μmcomp=Z,119nm,1.1s						
MURC	Murrieta	76.48	45		P	P	05 45 37.5 +1.6
	baz=233,SNR=46						
KCPM	Cahto Peak	76.49	37		P	P	05 45 38.2 +2.3
KCPM					IAMs_20	IAMs_20	06 12 23.7
	comp=Z,5μm,20.0s						
FALS	False Pass	76.52	6		IAMs_20	IAMs_20	06 11 23.3
	comp=Z,5μm,22.0s						
SFX	San Felipe	76.56	49		P	P	05 45 37.5 +1.1
SFX					IAMs_20	IAMs_20	06 11 26.9
	comp=Z,7μm,21.0s						
BFSC	Mount Baldy Ra	76.56	45		P	P	05 45 38.0 +1.5
	baz=232,SNR=31						
MONP2	Monument Peak	76.57	46		P	P	05 45 38.4 +1.8
	baz=233,SNR=51						
SBUM	Sibu	76.60	278		P	P	05 45 37.9 +1.0
SBUM	Sibu	76.60	278		P	P	05 45 38.0 +1.0
RMX	La Rumorosa	76.63	47		P	P	05 45 38.5 +1.6
RMX					IAmb	IAmb	05 45 41.1
	comp=Z,156nm,1.1s						
RMX					IAMs_20	IAMs_20	06 11 39.8
	comp=Z,5μm,21.0s						
IKP	In-Ko-Pah, Jac	76.64	47		P	P	05 45 38.6 +1.7
	baz=234,SNR=40						
VES	Vestal, Richgr	76.64	43		P	P	05 45 38.4 +1.7
	baz=231,SNR=74						
EDW2	Edwards Air Fo	76.74	44		P	P	05 45 39.3 +1.9
	baz=232,SNR=86						
VOG	Valley Oaks Go	76.76	42		P	P	05 45 38.9 +1.5
	baz=230						
KMRM	Mail Ridge	76.78	37		P	P	05 45 40.1 +2.6
KMRM					IAMs_20	IAMs_20	06 12 32.4
	comp=Z,5μm,20.0s						
SKR	Severo-Kuril's	76.82	341	*e*	P	P	05 45 37.0 -0.3
SKR					*e*		05 45 47.2
SKR					*e*PPP	PPP	05 50 20.3
SKR					*e*S	S	05 55 21.4 -0.9
SKR					*e*SSS	SSS	06 00 16.2
SKR					pmax	pmax	
	comp=Z,1μm,4.9s						
SKR					pmax	pmax	
	comp=Z,77nm,1.1s						
SKR					pmax	pmax	
	comp=Z,400nm,6.0s						
CNBA	Chernabura Isl	76.92	8		P	P	05 45 37.9 +0.1
CNBA					IAmb	IAmb	05 45 40.7
	comp=Z,123nm,1.1s						
ISA	Isabella, Lake	76.92	43		P	P	05 45 40.2 +1.8
ISA					pmax	pmax	
	comp=Z,179nm,1.3s						
ISA	Isabella, Lake	76.92	43		P	P	05 45 40.3 +1.9
	baz=231,SNR=86						
ISA	Isabella, Lake	76.92	43		P	P	05 45 40.2 +1.8
ISA					IAmb	IAmb	05 45 53.7
	comp=Z,179nm,1.2s						
ISA					IAMs_20	IAMs_20	06 12 39.9
	comp=Z,4μm,20.0s						
PFO	Pinyon Flats O	76.98	46		P	P	05 45 40.5 +1.7
	comp=Z,80nm,1.1s,baz=242,slow=4.5,SNR=60						
PFO					LR	LR	06 12 10.0
	comp=Z,3μm,20.7s,baz=236,slow=30						
PFO	Pinyon Flats O	76.98	46		P	P	05 45 40.5 +1.7
PFO					pmax	pmax	
	comp=Z,194nm,1.4s						
PFO	Pinyon Flats O	76.98	46		P	P	05 45 40.5 +1.7
	baz=233,SNR=65						
PFO	Pinyon Flats O	76.98	46		P	P	05 45 40.5 +1.7
PFO					IAmb	IAmb	05 45 43.7
	comp=Z,194nm,1.4s						
SWSC	Sam W. Stewart	77.02	47		P	P	05 45 40.5 +1.6
	baz=234,SNR=28						
YOJ	Yonaguni jima	77.03	303		P	P	05 45 38.6 -0.5
YOJ					pmax	pmax	
	comp=Z,214nm,1.3s						
YOJ	Yonaguni jima	77.03	303		P	P	05 45 38.6 -0.5
YOJ					IAmb	IAmb	05 45 51.7
	comp=Z,214nm,1.3s						
CPBX	Cerro Prieto	77.05	47		P	P	05 45 39.9 +0.8
CPBX					IAmb	IAmb	05 45 42.5
	comp=Z,203nm,1.2s						
CISI	Cisompet, Garu	77.06	267		P	P	05 45 38.8 -0.9
	comp=Z,5μmcomp=Z,6μmcomp=Z,219nm,1.1s						
CISI	Cisompet, Garu	77.06	267		P	P	05 45 39.9 +0.2
CISI					IAmb	IAmb	05 45 51.5
	comp=Z,181nm,1.0s						
BBRC	Big Bear Solar	77.06	45		P	P	05 45 41.1 +1.6
	baz=233,SNR=13						
GUVIX	Guadalupe Vict	77.14	48		IAMs_20	IAMs_20	06 11 15.1
	comp=Z,4μm,21.0s						
KHMM	Horse Mountain	77.22	36		P	P	05 45 41.9 +1.9
KHMM					IAmb	IAmb	05 45 55.7
	comp=Z,189nm,1.2s						
KHMM					IAMs_20	IAMs_20	06 13 07.2
	comp=Z,4μm,20.0s						
CMB	Columbia Colle	77.25	40		P	P	05 45 41.9 +1.8
CMB					pmax	pmax	
	comp=Z,153nm,1.3s						
CMB	Columbia Colle	77.25	40		P	P	05 45 41.9 +1.8
CMB					IAmb	IAmb	05 45 44.3
	comp=Z,154nm,1.2s						
CMB					IAMs_20	IAMs_20	06 12 37.3
	comp=Z,5μm,20.0s						
O02D	Mt. Diablo Mer	77.27	37		P	P	05 45 42.7 +2.5
	baz=227,SNR=21						
LRMC	Laurel Mtn Rad	77.31	44		P	P	05 45 42.4 +1.7
	baz=232,SNR=14						
SDPT	Sand Point	77.32	7		P	P	05 45 39.6 -0.5
RRX	Edison Barstow	77.39	44		P	P	05 45 42.7 +1.7
	baz=232						
AFDM	Forest Hills D	77.49	39		P	P	05 45 43.0 +1.5
AFDM					IAmb	IAmb	05 45 56.5
	comp=Z,108nm,1.1s						
AFDM					IAMs_20	IAMs_20	06 13 03.8
	comp=Z,4μm,20.0s						
LEM	Lembang	77.50	268		P	P	05 45 43.0 +0.7
	comp=Z,92nm,0.7s,baz=130,slow=5.0,SNR=10.0						
LEM					LR	LR	06 19 10.6
	comp=Z,2μm,21.8s,baz=98,slow=35						
BELC	Belle Mtn. Jos	77.52	46		P	P	05 45 43.6 +1.7
	baz=233,SNR=86						
KRMB	Red Mountain	77.57	36		P	P	05 45 44.0 +2.1
KRMB					IAmb	IAmb	05 45 57.6
	comp=Z,157nm,1.2s						
KRMB					IAMs_20	IAMs_20	06 13 26.4
	comp=Z,4μm,20.0s						
ORV	Oroville	77.59	38		P	P	05 45 43.5 +1.5
ORV					pmax	pmax	
	comp=Z,142nm,1.3s						
ORV	Oroville	77.59	38		P	P	05 45 43.5 +1.5
ORV					IAmb	IAmb	05 45 56.9
	comp=Z,142nm,1.2s						
CWC	Cottonwood Cre	77.65	43		P	P	05 45 44.5 +1.9
	baz=231						
BC3	Big Chuckawall	77.68	46		P	P	05 45 44.8 +2.0
	baz=234,SNR=59						
WDC	Whiskeytown Da	77.68	37		P	P	05 45 44.3 +1.8
WDC	Whiskeytown Da	77.68	37		P	P	05 45 44.3 +1.8
WDC					IAmb	IAmb	05 45 47.7
	comp=Z,257nm,1.4s						
WDC					IAMs_20	IAMs_20	06 13 13.5
	comp=Z,4μm,20.0s						
TWG	Pinlang	77.73	301		P	P	05 45 43.2 +0.1
TWG					IAmb	IAmb	05 46 00.6
	comp=Z,126nm,0.8s						
GLA	Glamis	77.75	47		P	P	05 45 45.3 +2.2
GLA					pmax	pmax	
	comp=Z,209nm,1.3s						
GLA	Glamis	77.75	47		P	P	05 45 45.2 +2.2
	baz=234,SNR=50						
GLA	Glamis	77.75	47		P	P	05 45 45.3 +2.2
GLA					IAmb	IAmb	05 45 48.4
	comp=Z,209nm,1.2s						
GSC	Goldstone, Bar	77.77	44		P	P	05 45 44.7 +1.5
GSC					pmax	pmax	
	comp=Z,114nm,1.2s						
GSC	Goldstone, Bar	77.77	44		P	P	05 45 45.0 +1.8
	baz=232,SNR=63						
GSC	Goldstone, Bar	77.77	44		P	P	05 45 44.7 +1.5
GSC					IAmb	IAmb	05 45 47.3
	comp=Z,114nm,1.1s						
MDPB	Devils Postpil	77.78	41		P	P	05 45 45.2 +1.8
MDPB					IAmb	IAmb	05 45 47.7
	comp=Z,130nm,1.2s						
MDPB					IAMs_20	IAMs_20	06 12 33.6
	comp=Z,4μm,20.0s						
HEC	Hector,Ludlow	77.79	45		P	P	05 45 44.8 +1.5
	baz=233,SNR=71						
MPMC	Manual Prospec	77.79	43		P	P	05 45 45.5 +2.1
	baz=232,SNR=117						
PIX	Pinacate	77.83	49		P	P	05 45 45.0 +1.5
PIX					IAmb	IAmb	05 45 48.0
	comp=Z,119nm,1.2s						
PIX					IAMs_20	IAMs_20	06 11 54.7
	comp=Z,5μm,20.0s						
YULB	Yu-li	77.84	301		P	P	05 45 43.6 -0.1
N02D	Trinity Center	77.85	37		P	P	05 45 45.8 +2.3
	baz=227,SNR=23						
KBO	Bosley Butte	77.88	35		P	P	05 45 46.1 +2.5
KBO					IAmb	IAmb	05 45 46.9
	comp=Z,269nm,1.5s						
KBO					IAMs_20	IAMs_20	06 13 25.5
	comp=Z,5μm,20.0s						
O03E	Paynes Creek	77.91	38		P	P	05 45 45.4 +1.6
	baz=228,SNR=42						
MLAC	Mammoth, Mammo	77.93	41		P	P	05 45 46.4 +2.2
	baz=231,SNR=

PET pmax pmax
comp=Z,900nm,12.3s
PET pmax pmax
comp=Z,600nm,14.1s
PET MLR MLR
comp=Z,1μm,17.0s
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 78.15 343 P **P** **05 45 44.3 -0.5**
PET IAmb IAmb 05 45 55.5
comp=Z,140nm,1.5s
L02E Cave Junction 78.17 35 P **P** **05 45 47.4 +2.2**
baz=226,SNR=8.9
IRM Iron Mountain 78.18 46 P **P** **05 45 47.5 +2.1**
baz=234,SNR=91
GMRC Granite Mounta 78.21 45 P **P** **05 45 47.4 +1.7**
baz=233,SNR=55
HSIG 78.24 52 P **P** **05 45 46.9 +1.1**
HSIG IAmb IAmb 05 45 47.9
comp=Z,105nm,1.2s
HSIG IAMs_20 IAMs_20 06 12 46.7
comp=Z,5μm,20.0s
KEBM Edson Butte 78.28 34 P **P** **05 45 47.5 +1.8**
KEBM IAMs_20 IAMs_20 06 13 37.0
comp=Z,5μm,20.0s
SSLB Suanglung 78.31 301 P **P** **05 45 44.5 -1.8**
113A Mohawk Valley, 78.31 48 P **P** **05 45 47.8 +1.7**
113A IAmb IAmb 05 45 48.7
comp=Z,108nm,1.1s
113A IAMs_20 IAMs_20 06 12 20.2
comp=Z,7μm,21.0s
TPUB Ta-pu 78.33 301 P **P** **05 45 45.2 -1.3**
TPUB IAmb IAmb 05 45 56.1
comp=Z,77nm,0.8s
CBJI Citeko 78.35 268 P **P** **05 45 48.2 +1.4**
comp=Z,7μmcomp=Z,8μmcomp=Z,339nm,0.9s
YBH Yreka Blue Hor 78.36 36 P **P** **05 45 48.5 +2.1**
comp=Z,45nm,1.0s,baz=191,slow=2.4,SNR=34
YBH LR LR 06 12 03.4
comp=Z,3μm,21.8s,baz=239,slow=29
YBH Yreka Blue Hor 78.36 36 P **P** **05 45 48.3 +2.0**
YBH pmax pmax
comp=Z,203nm,1.3s
YBH Yreka Blue Hor 78.36 36 P **P** **05 45 48.3 +2.0**
YBH IAmb IAmb 05 46 01.8
comp=Z,203nm,1.3s
PNTR Pine Nut 78.40 40 P **P** **05 45 48.7 +2.0**
PNTR IAMs_20 IAMs_20 06 13 23.7
comp=Z,6μm,20.0s
YHNB Yeheng 78.41 302 P **P** **05 45 47.1 +0.1**
YHNB IAmb IAmb 05 45 59.2
comp=Z,130nm,1.3s
SKJI Sukabumi 78.42 267 P pP 05 45 59.8 +4.5
TUQ Turquoise Moun 78.42 45 P **P** **05 45 48.6 +1.8**
baz=233,SNR=37
SPIA Saint Paul Isl 78.43 2 P **P** **05 45 46.1 -0.1**
FURC Furnace Creek, 78.44 43 P **P** **05 45 48.6 +1.9**
baz=232,SNR=33
GRAC Grapevine Rang 78.45 43 P **P** **05 45 49.1 +2.2**
baz=232,SNR=76
CHIR Chirikof Islan 78.47 10 IAMs_20 IAMs_20 06 12 50.0
comp=Z,5μm,22.0s
SHOC Shoshone, Teco 78.47 44 P **P** **05 45 48.7 +1.7**
baz=233,SNR=18
TATO Taipei 78.48 303 P **P** **05 45 49.7 +2.5**
PEA0B Petropavlovsk- 78.49 343 *d iP* **P** **05 45 46.9 +0.3**
PEA0B Petropavlovsk- 78.49 343 P **P** **05 45 47.0 +0.3**
PEA0B IAmb IAmb 05 45 47.7
comp=Z,186nm,1.2s
PETK Petropavlovsk- 78.49 343 P **P** **05 45 46.8 +0.2**
comp=Z,82nm,1.0s,baz=111,slow=8.1,SNR=98
PETK LR LR 06 14 43.9
comp=Z,2μm,21.6s,baz=159,slow=31
PETK Petropavlovsk- 78.49 343 P **P** **05 45 46.7 +0.1**
PETK Petropavlovsk- 78.49 343 P **P** **05 45 46.7 +0.1**
VCNR Virginia City 78.50 40 P **P** **05 45 49.2 +1.9**
VCNR IAmb IAmb 05 46 02.6
comp=Z,197nm,1.2s
VCNR IAMs_20 IAMs_20 06 13 27.4
comp=Z,5μm,20.0s
K02D Willamette Mer 78.51 35 P **P** **05 45 49.1 +2.0**
baz=226,SNR=9.9
214A Organ Pipe Nat 78.51 49 P **P** **05 45 49.0 +1.7**
baz=236
214A Organ Pipe Nat 78.51 49 P **P** **05 45 49.1 +1.8**
214A IAmb IAmb 05 45 52.4
comp=Z,165nm,1.2s
214A IAMs_20 IAMs_20 06 12 36.7
comp=Z,7μm,20.0s
PMSA Palmer Station 78.54 156 P **P** **05 45 48.6 +1.7**
PMSA Palmer Station 78.54 156 IAMs_20 IAMs_20 06 15 49.9
comp=Z,4μm,19.0s
YERR Yerington 78.55 40 P **P** **05 45 49.4 +1.8**
YERR IAmb IAmb 05 46 02.7
comp=Z,256nm,1.4s
YERR IAMs_20 IAMs_20 06 13 58.7
comp=Z,6μm,20.0s
J01E Myrtle Point 78.69 34 P **P** **05 45 50.0 +2.0**
baz=226
RYN Ryan 78.75 41 P **P** **05 45 50.4 +1.8**
RYN IAMs_20 IAMs_20 06 13 07.2
comp=Z,4μm,20.0s
NVAR Mina Array Bea 78.76 41 P **P** **05 45 50.5 +1.7**
comp=Z,108nm,1.1s,baz=223,slow=8.5,SNR=268
NVAR PKKPbc **PKKPbc** **06 04 44.0 -0.8**
comp=Z,0.4nm,0.8s,baz=107,slow=2.8,SNR=3.5
NVAR PKPPKP **P'P'df** **06 12 48.8 +4.9**
comp=Z,1.6nm,1.1s,baz=92,slow=3.4,SNR=4.9
NVAR LR LR 06 14 11.1
comp=Z,5μm,19.8s,baz=234,slow=31
HUMO Hull Mountain 78.83 35 P **P** **05 45 51.0 +2.2**
HUMO IAmb IAmb 05 46 04.5
comp=Z,272nm,1.4s
NV11 Mina Array Sit 78.85 41 P **P** **05 45 50.9 +1.7**
NV11 IAmb IAmb 05 46 04.5
comp=Z,226nm,1.2s
NV11 IAMs_20 IAMs_20 06 13 49.9
comp=Z,4μm,20.0s
M04C Macdoel 78.88 37 P **P** **05 45 51.2 +1.9**
baz=228,SNR=16
YSS Yuzh-Sakhalins 78.89 331 *α iP* **P** **05 45 49.9 +1.0**
YSS *e* 05 45 57.7
YSS *e* 05 48 54.2
YSS *e*S **S** **05 55 45.4 +0.6**
YSS *e* 05 56 11.0
YSS *e*SS **SS** **06 00 51.4 +0.5**
YSS *e*SSS SSS 06 04 03.0
YSS pmax pmax
comp=Z,2μm,3.3s
YSS pmax pmax
comp=N,600nm,3.1s
YSS pmax pmax
comp=E,300nm,2.8s
YSS pmax pmax
comp=Z,120nm,1.1s
YSS pmax pmax
comp=Z,1μm,7.2s
YSS smax smax
comp=N,1μm,11.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,1μm,16.0s
YSS MLR MLR
comp=E,600nm,20.0s
YSS Yuzh-Sakhalins 78.89 331 P **P** **05 45 49.9 +1.0**
YSS IAmb IAmb 05 46 01.3
comp=Z,181nm,1.2s
YSS IAMs_20 IAMs_20 06 14 13.3
comp=Z,5μm,22.0s
NEE2 Needles Airpor 78.89 46 P **P** **05 45 51.3 +2.0**
baz=234,SNR=13
TPI Tanjungpandan 78.91 271 P **P** **05 45 51.5 +1.6**
comp=Z,6μmcomp=Z,3μmcomp=Z,96nm,1.1s
L04D Klamath Falls 78.92 36 P **P** **05 45 51.3 +1.9**
baz=227,SNR=16
PAHR Pah Rah Range 78.92 39 P **P** **05 45 51.3 +1.7**
PAHR IAmb IAmb 05 46 04.8
comp=Z,220nm,1.2s
PAHR IAMs_20 IAMs_20 06 13 50.6
comp=Z,5μm,20.0s
PDMCI Parker Dam,Lak 78.94 46 P **P** **05 45 51.5 +1.9**
baz=234,SNR=78
TPNV Topopah Spring 79.13 43 P **P** **05 45 52.6 +1.9**
TPNV pmax pmax
comp=Z,98nm,1.2s
TPNV Topopah Spring 79.13 43 P **P** **05 45 52.6 +1.9**
baz=233,SNR=71
TPNV Topopah Spring 79.13 43 P **P** **05 45 52.6 +1.9**
TPNV IAMs_20 IAMs_20 06 14 11.3
comp=Z,5μm,20.0s
SBJI Serang 79.13 268 P **P** **05 45 53.7 +2.6**
comp=Z,7μmcomp=Z,405nm,1.5s
KVN Kaiserville 79.27 41 P **P** **05 45 53.1 +1.6**
KVN pmax pmax
comp=Z,244nm,1.5s
KVN Kaiserville 79.27 41 P **P** **05 45 53.1 +1.6**
KVN IAmb IAmb 05 46 06.7
comp=Z,244nm,1.5s
KVN IAMs_20 IAMs_20 06 13 32.9
comp=Z,4μm,20.0s
I03D Drain, OR 79.37 34 P **P** **05 45 53.6 +2.0**
baz=226,SNR=11
I02D Swisshome 79.39 34 P **P** **05 45 53.8 +2.1**
baz=226
SII Sitkinak Islan 79.41 11 IAMs_20 IAMs_20 06 15 31.0
comp=Z,4μm,20.0s
K04D Chiloquin, OR 79.49 36 P **P** **05 45 54.4 +1.8**
baz=228,SNR=5.7
SHPR Sheep Range 79.56 44 P **P** **05 45 55.2 +2.1**
W13A Hualapai Mount 79.57 46 P **P** **05 45 55.1 +1.8**
J04D Umpqua Nationa 79.72 35 P **P** **05 45 55.7 +1.9**
baz=227,SNR=20
MOD Modoc Plateau 79.82 37 P **P** **05 45 55.8 +1.4**
MOD IAmb IAmb 05 46 08.8
comp=Z,76nm,0.8s
MOD IAMs_20 IAMs_20 06 14 33.1
comp=Z,4μm,20.0s
I04A Tendick Farm, 79.93 35 P **P** **05 45 56.2 +1.4**
baz=227,SNR=16
K05A Summer Lake 80.03 36 P **P** **05 45 57.6 +2.1**
K05A IAMs_20 IAMs_20 06 15 19.7
comp=Z,4μm,20.0s
TUC Tucson 80.14 50 IAMs_20 IAMs_20 06 13 55.8
comp=Z,7μm,20.0s
PRN Pahroc Range 80.17 43 P **P** **05 45 58.5 +2.2**
PRN IAmb IAmb 05 46 02.0
comp=Z,256nm,1.4s
PRN IAMs_20 IAMs_20 06 14 43.9
comp=Z,5μm,20.0s
OHAK Old Harbor 80.20 11 P **P** **05 45 56.1 +0.3**
OHAK IAmb IAmb 05 45 57.3
comp=Z,163nm,1.4s
OHAK IAMs_20 IAMs_20 06 15 54.8
comp=Z,3μm,20.0s
J05D Fort Rock, OR 80.22 36 P **P** **05 45 58.4 +1.9**
baz=228,SNR=73
H04D Lebanon 80.25 34 P **P** **05 45 58.2 +1.8**
baz=227,SNR=16
R11A Troy Canyon, C 80.39 42 P **P** **05 45 59.1 +1.5**
baz=233,SNR=52
R11A Troy Canyon, C 80.39 42 P **P** **05 45 59.0 +1.4**
R11A IAMs_20 IAMs_20 06 14 21.3
comp=Z,4μm,20.0s
TJN Taejon 80.40 315 *c iP* **P** **05 45 57.2 -0.2**
G03D McMinnville, O 80.46 33 P **P** **05 45 59.4 +1.8**
baz=226,SNR=7.6
PPBI Pangkal Pinang 80.53 271 P **P** **05 46 01.3 +2.6**
H04A Detroit Lake 80.65 34 P **P** **05 45 59.9 +1.3**
H04A IAmb IAmb 05 46 11.2
comp=Z,124nm,1.1s
H04A IAMs_20 IAMs_20 06 15 23.9
comp=Z,6μm,20.0s
KSRS Korea Array 80.67 316 P **P** **05 46 00.0 +1.2**
comp=Z,21nm,1.1s,baz=136,slow=5.8,SNR=46
KSRS LR LR 06 16 11.4
comp=Z,2μm,21.9s,baz=133,slow=32
KSAR Wonju Array Be 80.69 316 P **P** **05 46 00.1 +1.2**
KSAR Wonju Array Be 80.69 316 P **P** **05 46 00.1 +1.2**
PINE Pine Mountain 80.72 35 P **P** **05 46 01.2 +2.0**
PINE IAMs_20 IAMs_20 06 15 29.7
comp=Z,4μm,20.0s
319A Douglas 80.72 51 P **P** **05 46 01.4 +2.0**
319A IAmb IAmb 05 46 04.7
comp=Z,149nm,1.2s
KS19 Wonju Array Si 80.73 316 P **P** **05 46 00.8 +1.5**
QZH Quanzhou 80.75 301 ⇑ *iP* **P** **05 46 00.1 +0.6**
QZH S **S** **05 56 02.9 -2.6**
QZH pmax pmax
comp=Z,70nm,1.1s
QZH pmax pmax
comp=Z,2μm,4.8s
QZH LR LR
comp=Z,930nm,17.6s
QZH LR LR
comp=Z,870nm,19.3s
QZH LR LR
comp=Z,1μm,17.6s
USHA Ushuaia 80.78 145 LR LR 06 14 18.1
comp=Z,2μm,21.6s,baz=262,slow=30
F03A Seaside 80.81 33 P **P** **05 46 00.9 +1.5**
F03A IAmb IAmb 05 46 02.0
comp=Z,173nm,1.2s
F03A IAMs_20 IAMs_20 06 15 11.8
comp=Z,4μm,19.0s
X16A Lo Mia Camp, P 80.84 48 P **P** **05 46 02.2 +2.1**
X16A IAMs_20 IAMs_20 06 13 48.2
comp=Z,5μm,20.0s
KDAK Kodiak Island 80.85 11 LR LR 06 16 06.2
comp=Z,4μm,21.1s,baz=214,slow=32
KDAK Kodiak Island 80.85 11 P **P** **05 46 00.2 +0.9**
KDAK pmax pmax
comp=Z,176nm,1.4s
KDAK Kodiak Island 80.85 11 P **P** **05 46 00.2 +0.9**
KDAK IAmb IAmb 05 46 13.3
comp=Z,176nm,1.4s
KDAK Kodiak Island 80.85 11 IAMs_20 IAMs_20 06 16 15.1
comp=Z,4μm,20.0s
I05D Terrebonne, OR 80.87 35 P **P** **05 46 01.5 +1.7**
baz=228,SNR=22
KLSI 80.94 269 P **P** **05 46 01.7 +0.8**
comp=Z,2μmcomp=Z,1μmcomp=Z,18nm,1.0s
LCMT Little Creek M 81.10 45 P **P** **05 46 03.4 +2.0**
WVOR Wild Horse Val 81.11 38 P **P** **05 46 02.7 +1.4**
WVOR pmax pmax
comp=Z,227nm,1.4s
WVOR Wild Horse Val 81.11 38 P **P** **05 46 02.6 +1.4**
WVOR IAmb IAmb 05 46 16.4
comp=Z,227nm,1.4s
WVOR IAMs_20 IAMs_20 06 15 15.2
comp=Z,4μm,20.0s
MG01 Puerto William 81.16 146 P **P** **05 46 03.5 +2.3**
F04D Rainier, OR 81.19 33 P **P** **05 46 03.6 +2.2**
baz=226
E03A Lebam 81.23 32 P **P** **05 46 03.6 +2.0**
E03A IAMs_20 IAMs_20 06 15 34.0
comp=Z,5μm,20.0s
CCUT Cedar City 81.34 44 P **P** **05 46 04.9 +2.2**
KNB Kanab 81.38 45 P **P** **05 46 05.1 +2.2**
KNB pmax pmax
comp=Z,201nm,1.4s
KNB Kanab 81.38 45 P **P** **05 46 05.1 +2.2**
F04A Amboy 81.38 33 P **P** **05 46 03.9 +1.5**
F04A IAMs_20 IAMs_20 06 16 04.1
comp=Z,4μm,19.0s
U15A North Rim 81.39 45 P **P** **05 46 05.3 +2.2**
U15A IAmb IAmb 05 46 19.1
comp=Z,135nm,1.1s
MOIG Morelia 81.43 65 P **P** **05 46 05.0 +1.4**
MOIG IAmb IAmb 05 46 05.8
comp=Z,106nm,1.0s
LWLI Liwa 81.44 268 P **P** **05 46 06.8 +3.1**
comp=Z,637μmcomp=Z,162nm,0.8s
G05D Wamic, OR 81.48 34 P **P** **05 46 04.7 +1.6**
baz=228,SNR=11
WUAZ Wupatki 81.50 47 P **P** **05 46 05.7 +2.1**
baz=236
WUAZ Wupatki 81.50 47 P **P** **05 46 05.7 +2.1**
WUAZ IAmb IAmb 05 46 19.2
comp=Z,101nm,1.1s
WUAZ IAMs_20 IAMs_20 06 14 01.5
comp=Z,4μm,21.0s
INCN Inchon 81.52 316 P **P** **05 46 04.1 +0.7**
INCN pmax pmax
comp=Z,95nm,1.2s
INCN Inchon 81.52 316 P **P** **05 46 04.1 +0.7**
MDSI Maura Dua 81.52 269 P **P** **05 46 03.5 -0.5**
comp=Z,3μmcomp=Z,78nm,0.9s
SZCU Shurtz Canyon 81.54 44 P **P** **05 46 06.0 +2.2**
PSUT Pine Spring 81.59 43 P **P** **05 46 05.7 +1.7**
NLWA Neilton Lookou 81.67 31 P **P** **05 46 06.0 +1.9**
NLWA IAmb IAmb 05 46 19.5
comp=Z,207nm,1.4s
NLWA IAMs_20 IAMs_20 06 16 06.6
comp=Z,5μm,20.0s
ZAIG Zacatecas 81.67 62 P **P** **05 46 06.6 +1.7**
I07A Izee 81.69 36 P **P** **05 46 05.8 +1.5**
I07A IAmb IAmb 05 46 06.8
comp=Z,129nm,1.5s
H03S2 Juan Fernandez 81.69 123 T T 07 18 56.4
baz=248,slow=75,SNR=207
H03S1 Juan Fernandez 81.71 123 T T 07 18 57.5
baz=248,slow=75,SNR=172
H03S3 Juan Fernandez 81.71 123 T T 07 18 56.1
baz=248,slow=75,SNR=148
E04D Cinebar 81.74 33 P **P** **05 46 06.3 +2.0**
baz=227,SNR=22
J08A Circle Bar Ran 81.79 37 P **P** **05 46 06.3 +1.5**
J08A IAmb IAmb 05 46 19.9
comp=Z,271nm,1.5s
J08A IAMs_20 IAMs_20 06 16 10.2
comp=Z,4μm,20.0s
SSE Sheshan 81.82 308 P **P** **05 46 05.5 +0.4**
SSE S **S** **05 56 18.6 +2.3**
SSE pmax pmax
comp=Z,26nm,0.7s
SSE pmax pmax
comp=Z,390nm,4.8s
SSE LR LR
comp=Z,430nm,22.4s
H03N2 Juan Fernandez 81.83 123 T T 07 18 46.2
baz=257,slow=71,SNR=129
H03N3 Juan Fernandez 81.83 123 T T 07 18 58.4
baz=257,slow=71,SNR=108
H03N1 Juan Fernandez 81.84 123 T T 07 19 02.7
baz=257,slow=71,SNR=114
F05D White Salmon 81.84 34 P **P** **05 46 06.5 +1.5**
baz=228,SNR=20
TYV Tymovskoe 81.88 334 *e*P **P** **05 46 05.1 +0.2**
TYV *e*S **S** **05 56 16.4 +0.3**
TYV pmax pmax
comp=Z,2μm,3.4s
TYV pmax pmax
comp=Z,66nm,1.6s
TYV smax smax
comp=N,1μm,7.1s
PKCU Pink Cliffs 81.96 45 P **P** **05 46 09.0 +2.9**
D04E Lakebay 82.06 32 P **P** **05 46 08.5 +2.5**
baz=226,SNR=15
MAW Mawson 82.09 199 P **P** **05 46 07.8 +1.8**
baz=82,SNR=29
MAW Mawson 82.09 199 P **P** **05 46 07.7 +1.8**
comp=N,64nm,0.9s,baz=124,slow=6.1,SNR=122
MAW LR LR 06 18 37.5
comp=N,3μm,21.9s,baz=127,slow=33
MAW Mawson 82.09 199 P **P** **05 46 07.8 +1.8**
D03D Eldon 82.15 32 P **P** **05 46 08.4 +1.9**
baz=226,SNR=18
LON Longmire 82.25 33 P **P** **05 46 08.2 +1.1**
LON pmax pmax
comp=Z,139nm,1.5s
LON Longmire 82.25 33 P **P** **05 46 08.2 +1.1**
LON IAmb IAmb 05 46 26.4
comp=Z,139nm,1.5s
LON IAMs_20 IAMs_20 06 16 21.0
comp=Z,3μm,20.0s
DIB Dawson Inlet, 82.34 23 P **P** **05 46 08.6 +1.3**
H02S1 DAWSON INLET T 82.34 23 P **P** **05 46 08.3 +1.0**
SNR=5.5
H02N1 VAN INLET T-PH 82.36 23 P **P** **05 46 08.9 +1.4**
SNR=5.5
LHSI Lahat 82.37 269 P **P** **05 46 10.6 +2.2**
comp=Z,9μmcomp=Z,4μmcomp=Z,95nm,1.0s
HHU Hamhung 82.38 318 P **P** **05 46 09.3 +1.5**
HHU pP **sP** **05 46 19.2 +0.3**
HHU S **S** **05 56 25.4 +3.7**
HHU sS **SKSac** **05 56 27.6 +1.3**
MTPU Mount Pierson 82.38 44 P **P** **05 46 11.1 +2.8**
USA0B Ussuriysk Arra 82.38 324 P **P** **05 46 09.4 +1.6**
USA0B pmax pmax
comp=Z,107nm,1.2s
USA0B Ussuriysk Arra 82.38 324 P **P** **05 46 09.4 +1.6**
USA0B IAmb IAmb 05 46 22.7
comp=Z,107nm,1.2s
USRK Ussuriysk Ar. 82.38 324 P **P** **05 46 08.6 +0.9**
comp=Z,12nm,1.0s,baz=106,slow=4.2,SNR=11
USRK LR LR 06 18 41.7
comp=Z,2μm,19.4s,baz=118,slow=33
USRK Ussuriysk Ar. 82.38 324 P **P** **05 46 08.8 +1.0**
W18A Petrified Fore 82.40 48 P **P** **05 46 10.0 +1.7**
baz=237
W18A Petrified Fore 82.40 48 P **P** **05 46 10.2 +1.9**
W18A IAmb IAmb 05 46 11.2
comp=Z,149nm,1.5s
W18A IAMs_20 IAMs_20 06 14 48.4
comp=Z,5μm,20.0s
121A Cookes Peak, D 82.40 51 P **P** **05 46 10.6 +2.2**
baz=239,SNR=32
121A Cookes Peak, D 82.40 51 P **P** **05 46 10.5 +2.1**
121A IAmb IAmb 05 46 24.0
comp=Z,128nm,1.3s
D05A Enumclaw 82.46 32 P **P** **05 46 10.2 +2.1**
D05A IAMs_20 IAMs_20 06 16 23.5
comp=Z,3μm,20.0s
DSRI Dabo 82.59 272 P **P** **05 46 13.0 +3.4**
comp=Z,4μmcomp=Z,2μmcomp=Z,37nm,1.2s
F07A Phinny Hill Vi 82.65 34 P **P** **05 46 10.7 +1.6**
F07A IAmb IAmb 05 46 24.1
comp=Z,180nm,1.4s
F07A IAMs_20 IAMs_20 06 16 46.7
comp=Z,6μm,20.0s
MSU Marysvale 82.65 44 P **P** **05 46 12.1 +2.5**
MSU Marysvale 82.65 44 P **P** **05 46 12.1 +2.5**
CNPM China Poot 82.74 11 P **P** **05 46 09.9 +0.7**
CNPM IAmb IAmb 05 46 12.2
comp=Z,168nm,1.2s
CNPM IAMs_20 IAMs_20 06 17 14.9
comp=Z,5μm,20.0s
TLIG Tlapa 82.75 68 P **P** **05 46 12.2 +1.7**
TLIG IAmb IAmb 05 46 13.4
comp=Z,114nm,1.3s
TLIG IAMs_20 IAMs_20 06 14 16.5
comp=Z,5μm,20.0s
PGC Sidney 82.75 31 P **P** **05 46 11.2 +1.7**
G08A Pilot Rock 82.77 35 P **P** **05 46 11.3 +1.4**
G08A IAMs_20 IAMs_20 06 16 34.9
comp=Z,3μm,20.0s
HOM Homer 82.79 11 P **P** **05 46 10.4 +0.9**
baz=200,SNR=6.1
EPT El Paso 82.94 52 IAMs_20 IAMs_20 06 14 25.3
comp=Z,6μm,21.0s
UNM Universidad Na 82.98 66 P **P** **05 46 13.3 +1.5**
UNM pmax pmax
comp=Z,326nm,1.4s
UNM Universidad Na 82.98 66 P **P** **05 46 13.3 +1.5**
UNM IAMs_20 IAMs_20 06 14 31.4
comp=Z,7μm,20.0s
PYAG Pyongyang 82.98 317 P **P** **05 46 12.2 +1.2**
PYAG pP **sP** **05 46 22.6 +0.5**
PYAG S **S** **05 56 32.7 +4.8**
PYAG sS **ScS** **05 56 50.6 +8.5**
BRLK Bradley Lake 83.02 11 P **P** **05 46 11.3 +0.5**
BRLK IAmb IAmb 05 46 13.7
comp=Z,188nm,1.2s
PYS Pyongsong 83.04 317 P **P** **05 46 13.4 +2.1**
E07A Sunnyside 83.12 34 P **P** **05 46 13.3 +1.7**
B05A Bryant 83.14 32 P **P** **05 46 13.2 +1.6**
baz=227,SNR=47
A04D Lummi Island 83.16 31 P **P** **05 46 13.5 +1.9**
baz=226,SNR=82
LTY Liberty 83.17 33 P **P** **05 46 12.9 +1.1**
LTY IAmb IAmb 05 46 26.5
comp=Z,172nm,1.2s
LTY IAMs_20 IAMs_20 06 16 50.3
comp=Z,4μm,20.0s
HAWA Hanford 83.18 34 P **P** **05 46 13.5 +1.6**
HAWA IAMs_20 IAMs_20 06 17 12.8
comp=Z,7μm,20.0s
DUG Dugway, Tooele 83.22 42 P **P** **05 46 13.5 +1.1**
DUG pmax pmax
comp=Z,96nm,1.5s
DUG Dugway, Tooele 83.22 42 P **P** **05 46 14.0 +1.6**
baz=235
DUG Dugway, Tooele 83.22 42 P **P** **05 46 13.5 +1.1**
BBB Bella Bella 83.25 26 LR LR 06 16 19.4
comp=Z,3μm,19.7s,baz=223,slow=31
BBB Bella Bella 83.25 26 P **P** **05 46 13.5 +1.5**
BBB IAmb IAmb 05 46 15.8

comp=Z,174nm,1.2s
BBB IAMs_20 IAMs_20 06 16 47.9
comp=Z,3μm,20.0s
KSI Kapahiang 83.30 269 P P 05 46 15.9 +2.6
comp=Z,4μmcomp=Z,168nm,0.9s
MFID Camas Ranch 83.33 38 P P 05 46 14.1 +1.2
MFID IAmb IAmb 05 46 27.8
comp=Z,113nm,1.1s
LL01 San Ignacio de 83.35 133 P P 05 46 14.6 +1.6
RSO Redoubt South 83.36 10 P P 05 46 12.6 -0.1
BMO Blue Mountains 83.39 36 P P 05 46 14.0 +0.9
BMO pmax pmax
comp=Z,61nm,1.1s
BMO Blue Mountains 83.39 36 P P 05 46 14.0 +0.9
BMO IAMs_20 IAMs_20 06 17 48.5
comp=Z,4μm,20.0s
E08A Dider Farm, El 83.49 34 P P 05 46 15.0 +1.5
E08A IAmb IAmb 05 46 28.4
comp=Z,135nm,1.1s
E08A IAMs_20 IAMs_20 06 17 23.1
comp=Z,7μm,19.0s
C06D Leavenworth 83.50 32 P P 05 46 14.7 +1.2
baz=228
BGU Big Grassy Mou 83.51 41 P P 05 46 14.6 +0.7
Q16A Castle Valley 83.53 44 P P 05 46 16.5 +2.4
SVW2 Sparrevohn 83.54 9 P P 05 46 13.4 0.0
SEW Seward 83.61 12 P P 05 46 14.1 +0.4
SEW IAmb IAmb 05 46 14.8
comp=Z,99nm,1.0s
SEW IAMs_20 IAMs_20 06 17 57.0
comp=Z,3μm,20.0s
B06A Marblemount 83.61 32 P P 05 46 15.1 +1.1
B06A IAmb IAmb 05 46 28.5
comp=Z,110nm,1.1s
B06A IAMs_20 IAMs_20 06 17 10.5
comp=Z,5μm,20.0s
Q23K Middleton Isla 83.61 13 P P 05 46 14.6 +0.9
baz=205
TMUT Trail Mountain 83.72 44 P P 05 46 17.6 +2.3
MNTX Cornudas Mount 83.74 53 P P 05 46 16.8 +1.7
baz=240,SNR=89
MNTX Cornudas Mount 83.74 53 P P 05 46 16.5 +1.4
MNTX IAmb IAmb 05 46 17.6
comp=Z,113nm,1.4s
MNTX IAMs_20 IAMs_20 06 14 39.3
comp=Z,4μm,22.0s
Y22D IRIS PASSCAL I 83.82 50 P P 05 46 18.1 +2.5
baz=239
Y22D IRIS PASSCAL I 83.82 50 P P 05 46 18.2 +2.6
Y22D IAmb IAmb 05 46 23.4
comp=Z,163nm,1.2s
Y22D IAMs_20 IAMs_20 06 16 16.2
comp=Z,6μm,20.0s
TX31 Lajitas Ar. Si 83.88 55 P P 05 46 17.6 +1.6
TX32 Lajitas Array 83.88 55 P P 05 46 17.6 +1.6
TX32 IAmb IAmb 05 46 18.7
comp=Z,131nm,1.4s
TXAR Lajitas Array 83.88 55 P P 05 46 17.6 +1.6
comp=Z,31nm,1.0s,baz=216,slow=6.2,SNR=143
TXAR PKPPKP **P'P'df 06 12 42.9 +6.9**
comp=Z,0.5nm,0.8s,baz=30,slow=5.6,SNR=4.1
TXAR LR LR 06 16 09.7
comp=Z,4μm,20.6s,baz=0.0,slow=30
O22K Cooper Landing 83.91 11 P P 05 46 15.4 +0.2
baz=202
CAPN Captain Cook N 83.92 11 P P 05 46 16.7 +1.5
baz=201
D08A Wollman Farm, 83.93 34 P P 05 46 17.1 +1.4
D08A IAMs_20 IAMs_20 06 17 35.7
comp=Z,7μm,20.0s
MDJ Mudanjiang 83.98 323 P P 05 46 17.2 +1.2
MDJ S **S 05 56 39.4 +1.6**
MDJ pmax pmax
comp=Z,61nm,1.9s
MDJ pmax pmax
comp=Z,2μm,6.8s
MDJ LR LR
comp=Z,1μm,21.3s
MDJ LR LR
comp=Z,2μm,25.6s
MDJ LR LR
comp=Z,4μm,23.3s
MDJ Mudanjiang 83.98 323 P P 05 46 17.5 +1.5
MDJ IAmb IAmb 05 46 30.3
comp=Z,137nm,1.0s
E09A Wood Farm, Sta 83.99 35 P P 05 46 17.1 +1.1
E09A IAmb IAmb 05 46 30.6
comp=Z,130nm,1.1s
E09A IAMs_20 IAMs_20 06 17 29.2
comp=Z,4μm,20.0s
NJ2 Nanjing 84.02 308 ⇑P **P 05 46 17.6 +1.1**
NJ2 pP **PcP 05 46 21.9 +1.5**
NJ2 sP **sP 05 46 26.9 -0.7**
NJ2 S **S 05 56 38.5 -0.2**
NJ2 sS **ScS 05 56 50.9 -0.1**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,1μm,5.7s
NJ2 LR LR
comp=Z,660nm,18.9s
NJ2 LR LR
comp=Z,670nm,19.0s
NJ2 LR LR
comp=Z,2μm,22.7s
SRU San Rafael Swe 84.06 44 P P 05 46 18.4 +1.6
SRU pmax pmax
comp=Z,220nm,1.3s
SRU San Rafael Swe 84.06 44 P P 05 46 18.4 +1.6
BNM Barren Site 84.07 50 P P 05 46 18.9 +1.9
SPUT South Promonto 84.08 41 P P 05 46 18.1 +1.2
P17A Butcher Ranch, 84.12 44 P P 05 46 19.0 +1.9
F10A Beach Ranch, E 84.14 36 P P 05 46 17.5 +0.6
F10A IAMs_20 IAMs_20 06 17 39.2
comp=Z,3μm,20.0s
GZH Guangzhou 84.15 297 P P 05 46 18.6 +1.2
GZH SKS **S 05 56 39.1 -1.3**
GZH S **SKKSac 05 56 43.4 -0.6**
GZH pmax pmax
comp=Z,890nm,6.0s
GZH LR LR
comp=Z,1μm,23.8s
GZH LR LR
comp=Z,1μm,21.0s
HVU Hansel Valley 84.16 41 P P 05 46 18.7 +1.5
HVU pmax pmax
comp=Z,84nm,1.2s
HVU Hansel Valley 84.16 41 P P 05 46 18.6 +1.5
CTU Camp Tracy 84.17 42 P P 05 46 18.7 +1.4
HLID Hailey 84.23 39 P P 05 46 19.2 +1.6
baz=233
HLID Hailey 84.23 39 P P 05 46 19.1 +1.6
HLID IAmb IAmb 05 46 32.8
comp=Z,118nm,1.2s
JLU Jordanelle 84.30 42 P P 05 46 19.5 +1.4
MVCO Mesa Verde 84.36 46 P P 05 46 20.0 +1.5
baz=238
MVCO Mesa Verde 84.36 46 P P 05 46 20.0 +1.5
MVCO IAMs_20 IAMs_20 06 16 23.3
comp=Z,4μm,20.0s
SUJ Sinuiju 84.38 317 P P 05 46 19.4 +1.3
SUJ pP **sP 05 46 29.2 0.0**
SUJ S **SKSac 05 56 38.2 -1.3**
SUJ sS **SKKSac 05 56 46.7 +1.7**
NKL Nikolayevsk 84.40 334 *i* P **P 05 46 13.2 -4.7**
HIN Hinchinbrook I 84.46 13 P P 05 46 18.7 +0.6
HIN IAMs_20 IAMs_20 06 17 16.7
comp=Z,4μm,20.0s
SIT Sitka 84.48 20 P P 05 46 18.9 +0.7
SIT pmax pmax
comp=Z,91nm,1.2s
SIT Sitka 84.48 20 P P 05 46 18.9 +0.7
SIT IAmb IAmb 05 46 21.9
comp=Z,91nm,1.2s
KAIM Kayak Island 84.49 14 P P 05 46 19.3 +1.1
KAIM IAMs_20 IAMs_20 06 17 22.5
comp=Z,4μm,20.0s
GRNR Gornyy 84.53 331 ⇑*i*P **P 05 46 19.2 +0.5**
GRNR *e* 05 49 41.2
GRNR pmax pmax
comp=Z,30nm,1.4s
B08A Colville Reser 84.57 33 P P 05 46 19.6 +0.6
B08A IAmb IAmb 05 46 33.2
comp=Z,128nm,1.2s
ANMO Albuquerque 84.59 49 P P 05 46 21.5 +1.9
ANMO pmax pmax
comp=Z,158nm,1.1s
ANMO Albuquerque 84.59 49 P P 05 46 21.5 +1.9
baz=239
ANMO Albuquerque 84.59 49 P P 05 46 21.5 +1.9
ANMO Albuquerque 84.59 49 IAMs_20 IAMs_20 06 16 21.7
comp=Z,7μm,20.0s
TCUT Toone Canyon 84.62 42 P P 05 46 21.3 +1.6
PV10 Paradox Valley 84.63 45 P P 05 46 21.2 +1.4
PV10 IAmb IAmb 05 46 35.5
comp=Z,81nm,1.0s
PV17 East Wray Mesa 84.63 45 P P 05 46 21.1 +1.3
PV17 IAmb IAmb 05 46 35.6
comp=Z,92nm,1.1s
PV19 Morning Glory 84.63 45 P P 05 46 21.4 +1.6
PV19 IAmb IAmb 05 46 35.6
comp=Z,103nm,1.1s
PV14 Lion Creek, Pa 84.64 45 P P 05 46 21.3 +1.5
PV14 IAmb IAmb 05 46 35.0
comp=Z,164nm,1.3s
SUA Susitna One 84.64 11 P P 05 46 19.3 +0.2
SUA IAMs_20 IAMs_20 06 18 40.3
comp=Z,4μm,20.0s
PV18 Skein Mesa, Pa 84.64 45 P P 05 46 21.3 +1.4
PV18 IAmb IAmb 05 46 34.9
comp=Z,113nm,1.1s
PV13 Radium Mtn., P 84.66 46 P P 05 46 21.3 +1.4
PV13 IAmb IAmb 05 46 35.1
comp=Z,147nm,1.2s
PV16 Nyswonger Mesa 84.67 45 P P 05 46 21.4 +1.4
PV16 IAmb IAmb 05 46 36.6
comp=Z,81nm,1.3s
PV23 Carpenter Ridg 84.69 45 P P 05 46 21.8 +1.7
PV23 IAmb IAmb 05 46 35.4
comp=Z,161nm,1.3s
PV03 Paradox Valley 84.69 45 P P 05 46 21.2 +1.2
PV03 IAmb IAmb 05 46 22.4
comp=Z,122nm,1.5s
PV11 David Mesa, Pa 84.70 45 P P 05 46 21.6 +1.5
PV11 IAmb IAmb 05 46 36.0
comp=Z,104nm,1.2s
PV04 Paradox Valley 84.73 45 P P 05 46 21.7 +1.5
PV04 IAmb IAmb 05 46 38.5
comp=Z,128nm,1.4s
GDL2 Guadalupe Moun 84.74 53 P P 05 46 22.1 +1.8
PV02 Paradox Valley 84.74 46 P P 05 46 21.7 +1.4
PV02 IAmb IAmb 05 46 35.5
comp=Z,116nm,1.3s
C09A Chrisman Ranch 84.75 34 P P 05 46 20.7 +0.8
PV12 Saucer Basin, 84.75 45 P P 05 46 21.8 +1.5
EYAK Cordova Ski Ar 84.76 13 P P 05 46 20.1 +0.6
EYAK IAmb IAmb 05 46 22.5
comp=Z,95nm,1.1s
EYAK IAMs_20 IAMs_20 06 17 13.5
comp=Z,4μm,20.0s
SUCK Suckling Hills 84.77 14 P P 05 46 20.9 +1.3
SUCK IAMs_20 IAMs_20 06 17 41.8
comp=Z,4μm,20.0s
PV21 Cone Mtn., Par 84.77 45 P P 05 46 22.2 +1.7
PV21 IAmb IAmb 05 46 35.7
comp=Z,98nm,0.9s
GLI Glacier Island 84.78 12 P P 05 46 19.9 +0.2
GLI IAMs_20 IAMs_20 06 17 59.1
comp=Z,3μm,20.0s
FID Port Fidalgo 84.79 13 P P 05 46 19.9 +0.2
FID IAmb IAmb 05 46 20.8
comp=Z,150nm,1.3s
FID IAMs_20 IAMs_20 06 17 46.1
comp=Z,4μm,20.0s
HWUT Hardware Ranch 84.80 41 P P 05 46 21.4 +0.9
HWUT IAmb IAmb 05 46 35.0
comp=Z,121nm,1.4s
HWUT IAMs_20 IAMs_20 06 16 41.4
comp=Z,4μm,20.0s
PV01 Paradox Valley 84.81 46 P P 05 46 22.0 +1.3
PV01 IAmb IAmb 05 46 35.7
comp=Z,128nm,1.2s
RAGM Ragged Mountai 84.84 14 IAMs_20 IAMs_20 06 20 52.9
comp=Z,5μm,19.0s
PV22 Blue Mesa, Par 84.88 45 P P 05 46 23.6 +2.6
PV22 IAmb IAmb 05 46 37.3
comp=Z,185nm,1.4s
HMT Hamilton 84.89 14 P P 05 46 21.1 +0.8
HMT IAmb IAmb 05 46 23.4
comp=Z,106nm,1.2s
HMT IAMs_20 IAMs_20 06 17 56.1
comp=Z,5μm,20.0s
PV07 Paradox Valley 84.92 45 P P 05 46 22.6 +1.4
PV07 IAmb IAmb 05 46 36.3
comp=Z,137nm,1.3s
WRAK Wrangell Islan 84.94 21 P P 05 46 22.2 +1.7
WRAK IAmb IAmb 05 46 24.5
comp=Z,108nm,1.1s
PV15 Paradox Valley 84.98 46 P P 05 46 23.0 +1.4
PV15 IAmb IAmb 05 46 36.6
comp=Z,92nm,1.1s
SKT Skwentna 84.99 10 P P 05 46 20.0 -0.8
SKT IAmb IAmb 05 46 33.4
comp=Z,118nm,1.2s
SKT IAMs_20 IAMs_20 06 19 02.6
comp=Z,4μm,20.0s
KNK Knik Glacier 85.00 12 P P 05 46 21.4 +0.6
GAMB Gambell 85.02 1 P P 05 46 22.2 +1.5
PMR Palmer 85.05 11 P P 05 46 21.3 +0.4
PMR pmax pmax
comp=Z,208nm,1.4s
PMR Palmer 85.05 11 P P 05 46 21.3 +0.4
LC01 Cunco 85.10 130 IAMs_20 IAMs_20 06 17 50.5
comp=Z,5μm,19.0s
GHO Glory Hole Cre 85.25 11 P P 05 46 22.7 +0.6
TTA Tatalina 85.25 8 P P 05 46 23.0 +0.9
TTA pmax pmax
comp=Z,126nm,1.2s
TTA Tatalina 85.25 8 P P 05 46 23.0 +0.9
TTA IAmb IAmb 05 46 24.0
comp=Z,126nm,1.2s
PLCA Paso Flores 85.29 132 P P 05 46 24.8 +1.8
comp=Z,27nm,1.2s,baz=238,slow=5.2,SNR=22
PLCA PKKPbc **PKKPbc 06 04 29.1 +0.6**
comp=Z,3.1nm,0.9s,baz=194,slow=3.1,SNR=4.2
PLCA LR LR 06 18 39.4
comp=Z,4μm,18.5s,baz=252,slow=32
PLCA Paso Flores 85.29 132 P **P 05 46 24.9 +1.8**
PLCA IAmb IAmb 05 46 25.6
comp=Z,84nm,1.4s
YKU2 Yakutat 85.29 16 IAMs_20 IAMs_20 06 17 34.9
comp=Z,3μm,20.0s
MESA MESA 85.29 15 IAMs_20 IAMs_20 06 17 26.8
comp=Z,4μm,20.0s
SDSI Sungai Dareh 85.36 271 P P 05 46 23.0 -0.7
comp=Z,15μmcomp=Z,2μmcomp=Z,31nm,1.1s
QIZ Qiongzhong 85.38 292 P P 05 46 23.4 -0.3
QIZ S **SKSac 05 56 46.8 0.0**
QIZ pmax pmax
comp=Z,16nm,1.2s
QIZ pmax pmax
comp=Z,540nm,3.5s
QIZ LR LR
comp=Z,340nm,24.7s
QIZ LR LR
comp=Z,400nm,21.0s
QIZ LR LR
comp=Z,590nm,23.3s
QIZ Qiongzhong 85.38 292 P P 05 46 24.2 +0.5
SML Sawmill 85.39 12 P P 05 46 23.2 +0.4
SML IAmb IAmb 05 46 36.6
comp=Z,134nm,1.3s
RDMU Red Mountain 85.47 43 P P 05 46 25.0 +1.0
YAH Yahtse 85.50 15 P P 05 46 24.9 +1.3
YAH IAMs_20 IAMs_20 06 17 13.3
comp=Z,4μm,20.0s
ISLE Juniper Island 85.57 15 P P 05 46 24.8 +1.0
ISLE IAMs_20 IAMs_20 06 17 37.2
comp=Z,4μm,20.0s
KLU Klutina 85.58 13 P P 05 46 24.2 +0.4
KLU IAmb IAmb 05 46 27.6
comp=Z,126nm,1.1s
KLU IAMs_20 IAMs_20 06 18 02.2
comp=Z,4μm,20.0s
COCO West Island 85.59 259 IAMs_20 IAMs_20 06 22 21.4
comp=Z,4μm,22.0s
DL2 Dalian 85.59 315 ⇑*i*P **P 05 46 25.3 +1.1**
DL2 SKS **SKSac 05 56 46.1 -1.1**
DL2 S **SKKSac 05 56 57.5 +3.4**
DL2 pmax pmax
comp=Z,67nm,0.9s
DL2 pmax pmax
comp=Z,2μm,3.5s
DL2 LR LR
comp=Z,930nm,23.5s
DL2 LR LR
comp=Z,1μm,22.9s
DL2 LR LR
comp=Z,2μm,25.7s
CUT Chulitna 85.60 10 P P 05 46 24.2 +0.5
baz=201,SNR=6.9
SCM Sheep Creek Mo 85.61 12 P P 05 46 24.6 +0.7
SCM pmax pmax
comp=Z,178nm,1.1s
SCM Sheep Creek Mo 85.61 12 P P 05 46 24.6 +0.7
NEW Newport 85.64 34 P P 05 46 24.4 +0.1
NEW pmax pmax
comp=Z,46nm,1.5s
NEW Newport 85.64 34 P P 05 46 25.0 +0.6
baz=231,SNR=12
NEW Newport 85.64 34 P P 05 46 24.4 +0.1
PCA Pinnacle 85.64 16 P P 05 46 24.9 +0.8
PCA IAmb IAmb 05 46 27.5
comp=Z,112nm,1.2s
PCA IAMs_20 IAMs_20 06 17 28.1
comp=Z,3μm,20.0s
TABL Table Mountain 85.72 15 P P 05 46 25.6 +1.0
TABL IAMs_20 IAMs_20 06 17 51.1
comp=Z,4μm,20.0s
ECR Eagle Creek 85.74 40 P P 05 46 24.6 -0.6
AHID Auburn Hatcher 85.74 41 P P 05 46 26.3 +1.1
AHID IAmb IAmb 05 46 40.1
comp=Z,107nm,1.2s
AHID IAMs_20 IAMs_20 06 18 21.2
comp=Z,4μm,20.0s
KLR Kul'dur 85.74 327 PKKPbc PKKPbc 06 04 27.2 -1.6
comp=Z,1.0nm,0.6s,baz=280,slow=3.8,SNR=4.7
KLR Kul'dur 85.74 327*c i*P **P 05 46 25.4 +0.7**
KLR pmax pmax
comp=Z,162nm,3.5s
KLR MLR MLR
comp=Z,950nm,17.0s
PPLA Purkeypile 85.75 9 P P 05 46 24.0 -0.7
PPLA IAMs_20 IAMs_20 06 17 12.6
comp=Z,4μm,22.0s
CMIG Matias Romero 85.76 70 LR LR 06 15 07.3
comp=Z,6μm,21.9s,baz=240,slow=29
JIS Juneau Island 85.77 19 P P 05 46 26.0 +1.4
JIS IAmb IAmb 05 46 39.3
comp=Z,93nm,1.4s
S22A 4UR Ranch, Cre 85.78 47 P P 05 46 27.3 +1.7
baz=239,SNR=62
S22A 4UR Ranch, Cre 85.78 47 P P 05 46 27.2 +1.7
S22A IAmb IAmb 05 46 39.0
comp=Z,76nm,1.1s
S22A IAMs_20 IAMs_20 06 16 29.7
comp=Z,4μm,21.0s
VRDI Verde Repeater 85.87 14 P P 05 46 26.1 +0.8
VRDI IAMs_20 IAMs_20 06 18 08.0
comp=Z,3μm,20.0s
BESE Bessie Mountai 85.87 19 P P 05 46 26.1 +0.9
BESE IAmb IAmb 05 46 29.0
comp=Z,105nm,1.2s
MCMT McKenzie Canyo 85.89 38 P P 05 46 27.2 +1.2
CN2 Changchun 85.89 320 *e*P **P 05 46 26.2 +0.6**
CN2 pmax pmax
comp=Z,2μm,6.3s
CN2 LR LR
comp=Z,630nm,14.6s
CN2 LR LR
comp=Z,740nm,17.8s
SNY Shenyang 85.92 318 ⇑P **P 05 46 26.6 +0.8**
SNY S **S 05 57 02.5 +5.4**
SNY SS **SS 06 02 33.0 -2.7**
SNY pmax pmax
comp=Z,1μm,4.9s
SNY LR LR
comp=Z,1μm,17.7s
SNY LR LR
comp=Z,1μm,18.0s
SNY LR LR
comp=Z,3μm,16.7s
BALM Baldy 85.95 14 P P 05 46 26.6 +1.0
BALM IAMs_20 IAMs_20 06 18 10.2
comp=Z,3μm,20.0s
GLB Gilahina Butte 85.98 14 P P 05 46 26.5 +0.7
GLB IAmb IAmb 05 46 27.3
comp=Z,114nm,1.2s
ANM Nome 86.02 3 P P 05 46 26.5 +0.8
ANM pmax pmax
comp=Z,37nm,1.4s
ANM Nome 86.02 3 P P 05 46 26.5 +0.8
M24K Tolsona, Glenn 86.08 12 P P 05 46 27.6 +1.4
baz=205
O20A White River Ci 86.09 44 P P 05 46 28.0 +1.0
baz=238,SNR=15
O20A White River Ci 86.09 44 P P 05 46 28.0 +1.0
MCARA McCarthy VSAT 86.10 14 P P 05 46 27.2 +1.0
MCARA IAmb IAmb 05 46 29.7
comp=Z,128nm,1.1s
MCARA IAMs_20 IAMs_20 06 18 15.2
comp=Z,3μm,20.0s
CTGM Chitina Glacie 86.13 15 P P 05 46 27.5 +1.0
CTGM IAMs_20 IAMs_20 06 17 54.5
comp=Z,3μm,20.0s
BARN Barnard Glacie 86.13 15 P P 05 46 27.6 +1.0
BARN IAMs_20 IAMs_20 06 18 16.0
comp=Z,3μm,20.0s
REDW Red Top Meadow 86.23 40 P P 05 46 28.6 +0.9
REDW IAmb IAmb 05 46 42.4
comp=Z,107nm,1.4s
REDW IAMs_20 IAMs_20 06 18 35.0
comp=Z,4μm,20.0s
TPAW Teton Pass 86.24 40 P P 05 46 27.9 +0.2
TPAW IAMs_20 IAMs_20 06 19 04.4
comp=Z,3μm,20.0s
PDSI Padang 86.27 270 P P 05 46 30.3 +2.0
comp=Z,2μmcomp=Z,15nm,0.9s
FXWY Fox Creek 86.28 40 P P 05 46 28.8 +1.0
SNOW Snow King Moun 86.34 40 P P 05 46 29.3 +1.1
SNOW IAmb IAmb 05 46 33.3
comp=Z,120nm,1.4s
SNOW IAMs_20 IAMs_20 06 18 40.1
comp=Z,3μm,20.0s
DLMT Dillon 86.35 38 P P 05 46 29.2 +1.2
SKAG Skagway 86.45 18 P P 05 46 30.0 +2.0
MSO Missoula 86.46 36 P P 05 46 28.8 +0.3
baz=233,SNR=7.6
MSO Missoula 86.46 36 P P 05 46 28.4 -0.1
MSO IAMs_20 IAMs_20 06 19 06.5
comp=Z,5μm,20.0s
IMW Indian Meadow 86.48 40 P P 05 46 29.9 +1.0
LOHW Long Hollow 86.52 40 P P 05 46 29.8 +0.8
LOHW IAMs_20 IAMs_20 06 19 04.7
comp=Z,3μm,20.0s
KTH Kantishna Hill 86.57 10 P P 05 46 28.2 -0.5
KTH IAmb IAmb 05 46 29.1
comp=Z,108nm,1.2s
KTH IAMs_20 IAMs_20 06 20 25.2
comp=Z,4μm,20.0s
TRF Thorofare Moun 86.58 10 P P 05 46 28.7 0.0
TRF IAMs_20 IAMs_20 06 20 14.4
comp=Z,6μm,20.0s
GO05 Huala 86.62 126 P P 05 46 30.8 +1.2
GO05 IAMs_20 IAMs_20 06 17 39.1
comp=Z,5μm,20.0s
SYO Syowa Base 86.67 191 ‖*i*P **P 05 46 28.4 -0.7**
SYO Syowa Base 86.67 191 ‖*i*PcP **P 05 46 31.0 +1.9**
SYO Syowa Base 86.67 191 ‖*i*pP pP 05 46 39.0 +1.6
SDCO Great Sand Dun 86.68 47 P P 05 46 31.2 +1.1
baz=240,SNR=20
SDCO Great Sand Dun 86.68 47 P P 05 46 31.0 +1.0
SDCO IAMs_20 IAMs_20 06 17 28.7
comp=Z,4μm,21.0s
BW06 Boulder Array 86.69 41 P P 05 46 30.4 +0.5
baz=237,SNR=40
BW06 Boulder Array 86.69 41 P P 05 46 30.2 +0.3
BW06 IAMs_20 IAMs_20 06 18 02.2
comp=Z,4μm,20.0s
PD31 Pinedale Array 86.69 41 P P 05 46 30.4 +0.5
PDAR Pinedale Array 86.69 41 P P 05 46 30.2 +0.3
comp=Z,29nm,1.1s,baz=204,slow=3.3,SNR=72
PDAR PKKPbc **PKKPbc 06 04 25.2 -1.2**
comp=Z,0.4nm,0.6s,baz=63,slow=4.0,SNR=5.1
PDAR PKPPKP **P'P'df 06 12 36.5 +6.9**
comp=Z,0.3nm,0.7s,baz=293,slow=0.7,SNR=3.2
PDAR LR LR 06 18 24.5

comp=Z,3µm,20.6s,baz=240,slow=31
WHN Wuhan 86.69 305 ⇑P **P 05 46 31.2 +1.3**
WHN sP **pP 05 46 37.3 -0.7**
WHN SKS **SKSac 05 56 54.0 -0.5**
WHN S **S 05 57 07.7 +2.6**
WHN pmax pmax
comp=Z,130nm,1.2s
WHN pmax pmax
comp=Z,2µm,4.1s
WHN LR LR
comp=Z,2µm,15.7s
WHN LR LR
comp=Z,1µm,14.9s
WHN LR LR
comp=Z,6µm,28.1s
LRM Limekiln Ridge 86.70 38 P **P 05 46 30.6 +0.8**
QLMT Earthquake Lak 86.72 39 P **P 05 46 31.6 +1.6**
FLWY Flagg Ranch 86.72 40 P **P 05 46 31.5 +1.5**
FLWY IAmb IAmb 05 46 45.3
comp=Z,75nm,1.4s
833A Chaparral WMA, 86.73 58 P **P 05 46 31.2 +1.1**
baz=244
833A Chaparral WMA, 86.73 58 P **P 05 46 31.2 +1.1**
833A IAmb IAmb 05 46 32.0
comp=Z,104nm,1.1s
833A IAMs_20 IAMs_20 06 16 56.2
comp=Z,5µm,21.0s
DHY Denali Highway 86.74 11 P **P 05 46 29.8 +0.3**
DHY IAmb IAmb 05 46 30.8
comp=Z,103nm,1.3s
MSTX Muleshoe 86.76 52 P **P 05 46 31.5 +1.2**
baz=242,SNR=38
MSTX Muleshoe 86.76 52 P **P 05 46 31.5 +1.2**
YPP Pitchstone Pla 86.77 40 P **P 05 46 31.8 +1.5**
RND Reindeer 86.78 11 P **P 05 46 30.0 +0.4**
RND pmax pmax
comp=Z,428nm,1.3s
RND Reindeer 86.78 11 P **P 05 46 30.0 +0.4**
RND IAMs_20 IAMs_20 06 19 44.7
comp=Z,4µm,20.0s
VNA3 Neumayer Olymp 86.78 175 P **P 05 46 30.4 +0.7**
YHB Horse Butte 86.81 39 P **P 05 46 31.8 +1.3**
SNAA Sanae 86.82 177 P **P 05 46 30.7 +0.7**
SNAA Sanae 86.82 177 P **P 05 46 30.6 +0.7**
comp=Z,50nm,1.1s,baz=204,slow=5.0,SNR=78
SNAA Sanae 86.82 177 P **P 05 46 30.7 +0.7**
JTMT Jette 86.82 35 P **P 05 46 30.1 -0.2**
JTMT IAMs_20 IAMs_20 06 19 39.2
comp=Z,4µm,20.0s
YHL Hebgen Lake 86.87 39 P **P 05 46 32.5 +1.7**
YMR Madison River 86.90 39 P **P 05 46 32.6 +1.7**
H17A Grant Village 86.97 40 P **P 05 46 33.4 +2.1**
baz=236
H17A Grant Village 86.97 40 P **P 05 46 32.3 +1.0**
HYT Haines Junctio 86.98 17 P **P 05 46 32.1 +1.4**
HYT IAmb IAmb 05 46 34.6
comp=Z,141nm,1.3s
PAX Paxson 87.01 12 P **P 05 46 30.9 +0.1**
PAX pmax pmax
comp=Z,94nm,1.3s
PAX Paxson 87.01 12 P **P 05 46 30.9 +0.1**
PAX IAmb IAmb 05 46 31.9
comp=Z,94nm,1.3s
YHH Holmes Hill 87.03 39 P **P 05 46 33.1 +1.5**
BOZ Bozeman (W) 87.04 38 P **P 05 46 32.4 +1.0**
BOZ pmax pmax
comp=Z,25nm,1.1s
BOZ Bozeman (W) 87.04 38 P **P 05 46 32.6 +1.1**
baz=235,SNR=27
BOZ Bozeman (W) 87.04 38 P **P 05 46 32.4 +1.0**
MCK McKinley 87.07 11 P **P 05 46 31.3 +0.4**
MCK pmax pmax
comp=Z,276nm,1.1s
MCK McKinley 87.07 11 P **P 05 46 31.3 +0.4**
MCK IAMs_20 IAMs_20 06 19 55.3
comp=Z,4µm,20.0s
BPAW Bear Paw Mtn. 87.08 10 P **P 05 46 30.3 -0.7**
BPAW IAmb IAmb 05 46 31.2
comp=Z,77nm,1.4s
BPAW IAMs_20 IAMs_20 06 17 41.5
comp=Z,4µm,22.0s
T25A Trinidad 87.13 48 P **P 05 46 33.1 +0.9**
baz=240
T25A Trinidad 87.13 48 P **P 05 46 33.2 +1.1**
T25A IAMs_20 IAMs_20 06 18 12.7
comp=Z,4µm,20.0s
VNA2 Neumayer--Watz 87.27 175 P **P 05 46 33.0 +0.9**
DLBC Dease Lake 87.30 21 LR LR 06 19 12.4
comp=Z,1µm,20.8s,baz=180,slow=31
DLBC Dease Lake 87.30 21 P **P 05 46 33.6 +1.4**
DLBC IAmb IAmb 05 46 34.6
comp=Z,92nm,1.3s
TIA Tai'an 87.31 311 P **P 05 46 33.6 +0.8**
TIA pmax pmax
comp=Z,56nm,1.2s
TIA pmax pmax
comp=Z,1µm,5.7s
TIA LR LR
comp=Z,590nm,25.1s
TIA LR LR
comp=Z,1µm,22.9s
TIA LR LR
comp=Z,2µm,26.3s
MENT Mentasta 87.33 13 P **P 05 46 33.4 +1.1**
MENT IAmb IAmb 05 46 35.9
comp=Z,114nm,1.1s
MENT IAMs_20 IAMs_20 06 19 19.7
comp=Z,3µm,20.0s
JCT Junction City 87.38 56 P **P 05 46 33.8 +0.5**
JCT pmax pmax
comp=Z,96nm,1.3s
JCT Junction City 87.38 56 P **P 05 46 33.8 +0.5**
baz=243,SNR=20
JCT Junction City 87.38 56 P **P 05 46 33.8 +0.5**
JCT IAmb IAmb 05 46 36.3
comp=Z,96nm,1.2s
JCT IAMs_20 IAMs_20 06 17 09.0
comp=Z,5µm,21.0s
BWN Browne 87.39 10 P **P 05 46 32.9 +0.5**
BWN IAMs_20 IAMs_20 06 20 28.6
comp=Z,5µm,20.0s
YMP Mirror Lake Pl 87.42 39 P **P 05 46 33.6 +0.2**
VNA1 Neumayer--Stat 87.47 175 P **P 05 46 34.1 +1.1**
BO01 Tunca 87.50 126 P **P 05 46 35.0 +1.1**
BO01 IAMs_20 IAMs_20 06 18 08.6
comp=Z,5µm,20.0s
Q24A Divide 87.53 46 P **P 05 46 35.2 +1.1**
baz=240,SNR=8.2
Q24A Divide 87.53 46 IAMs_20 IAMs_20 06 17 50.2
comp=Z,5µm,21.0s
HRY Holter Researc 87.56 37 P **P 05 46 34.7 +0.8**
WHY Whitehorse 87.56 18 P **P 05 46 35.0 +1.4**
WHY IAmb IAmb 05 46 35.8
comp=Z,109nm,1.4s
BO02 Sierra Bellavi 87.57 126 P **P 05 46 35.6 +1.3**
BO02 IAmb IAmb 05 46 36.4
comp=Z,49nm,1.0s
BO02 IAMs_20 IAMs_20 06 18 29.2
comp=Z,5µm,20.0s
RWWY Rawlins 87.58 43 P **P 05 46 34.8 +0.5**
RWWY IAmb IAmb 05 46 47.0
comp=Z,73nm,1.2s
RWWY IAMs_20 IAMs_20 06 19 38.1
comp=Z,6µm,20.0s
ISCO Idaho Springs 87.64 45 P **P 05 46 35.7 +1.0**
ISCO pmax pmax
comp=Z,22nm,1.4s
ISCO Idaho Springs 87.64 45 P **P 05 46 35.6 +0.9**
baz=240,SNR=10
ISCO Idaho Springs 87.64 45 P **P 05 46 35.7 +1.0**
YNE Yellowstone No 87.65 39 P **P 05 46 36.0 +1.4**
MNSI Mandailing Nat 87.71 272 P **P 05 46 35.4 +0.2**
comp=Z,4µmcomp=Z,65nm,0.7s
IPM Ipoh 87.71 276 P **P 05 46 36.0 +0.8**
IPM IAmb IAmb 05 46 48.6
comp=Z,77nm,1.3s
IPM Ipoh 87.71 276 P **P 05 46 37.0 +1.8**
UBPT Khong Chiam 87.72 287 P **P 05 46 36.0 +0.8**
UBPT IAmb IAmb 05 46 47.1
comp=Z,60nm,1.3s
EFI East Falkland 87.76 146*ce*P **P 05 46 36.1 +1.4**
EFI pmax pmax
comp=Z,130nm,0.8s
EFI MLR MLR
comp=Z,1µm,17.0s
EFI East Falkland 87.76 146 P **P 05 46 36.3 +1.5**
WALA Waterton Lakes 87.81 34 P **P 05 46 35.6 +0.6**
WALA IAmb IAmb 05 46 47.2
comp=Z,116nm,1.5s
WALA IAMs_20 IAMs_20 06 20 25.2
comp=Z,4µm,19.0s
RIDG Independent Ri 87.82 12 P **P 05 46 35.2 +0.6**
RIDG IAMs_20 IAMs_20 06 19 46.6
comp=Z,3µm,20.0s
NEA2 Nenana 87.84 10 P **P 05 46 34.6 -0.1**
baz=202,SNR=46
CCIG Comitan 87.85 72 P **P 05 46 37.8 +1.8**
CCIG IAmb IAmb 05 46 38.8
comp=Z,106nm,1.4s
CCIG IAMs_20 IAMs_20 06 15 20.9
comp=Z,4µm,22.0s
BCAR Beaver Creek A 87.86 14 P **P 05 46 35.8 +0.9**
WRH Wood River Hil 87.89 11 P **P 05 46 35.2 +0.3**
WRH IAMs_20 IAMs_20 06 20 00.3
comp=Z,3µm,21.0s
DOT Dot Lake 87.90 13 P **P 05 46 35.7 +0.7**
NVL N'lazarevskaya 87.90 182*e*P **P 05 46 31.0 -4.1**
NVL *e*S **SKSac 05 56 55.4 -5.3**
NVL pmax pmax
comp=Z,17nm,0.9s
MT02 Curacav 87.93 125 P **P 05 46 37.8 +1.8**
MT02 IAmb IAmb 05 46 40.1
comp=Z,48nm,1.1s
N23A Red Feather La 87.98 44 P **P 05 46 37.2 +0.9**
baz=239,SNR=15
N23A Red Feather La 87.98 44 P **P 05 46 37.2 +0.9**
AMTX Amarillo 87.98 51 P **P 05 46 37.2 +1.1**
baz=242
AMTX Amarillo 87.98 51 P **P 05 46 36.8 +0.6**
AMTX IAmb IAmb 05 46 50.8
comp=Z,93nm,1.2s
HDA Harding Lake 88.04 11 P **P 05 46 36.2 +0.6**
baz=204,SNR=88
HDA Harding Lake 88.04 11 P **P 05 46 36.0 +0.5**
HUEH Huehuetenango 88.04 73 IAMs_20 IAMs_20 06 16 05.0
comp=Z,4µm,22.0s
CCB Clear Creek Bu 88.11 11 P **P 05 46 36.1 +0.2**
ROC1 El Roble 88.14 125 P **P 05 46 37.4 +0.1**
RLMT Red Lodge 88.15 40 P **P 05 46 38.1 +1.2**
baz=237,SNR=8.0
RLMT Red Lodge 88.15 40 P **P 05 46 38.0 +1.1**
MT05 Renca 88.18 125 P **P 05 46 38.9 +1.6**
MT05 IAmb IAmb 05 46 41.6
comp=Z,97nm,1.1s
MT05 IAMs_20 IAMs_20 06 18 54.1
comp=Z,6µm,19.0s
SCRK Sand Creek 88.21 12 P **P 05 46 37.8 +1.2**
baz=207
735A Kenedy 88.22 58 IAMs_20 IAMs_20 06 18 14.6
comp=Z,6µm,21.0s
GCMT Greycliff 88.28 39 P **P 05 46 38.5 +1.1**
TCOL CIGO, UAF Yank 88.30 11 P **P 05 46 37.1 +0.3**
baz=204,SNR=42
COLA College 88.31 11*c i*P **P 05 46 37.2 +0.4**
COLA pmax pmax
comp=Z,202nm,1.3s
COLA College 88.31 11 P **P 05 46 37.1 +0.4**
COLA College 88.31 11 IAMs_20 IAMs_20 06 20 23.1
comp=Z,4µm,21.0s
MDM Murphy Dome 88.32 10 P **P 05 46 37.0 +0.1**
MDM IAMs_20 IAMs_20 06 20 35.5
comp=Z,4µm,21.0s
PEL Peldehue 88.32 125 P **P 05 46 39.1 +1.2**
PEL pmax pmax
comp=Z,120nm,1.2s
PEL Peldehue 88.32 125 P **P 05 46 39.1 +1.2**
KULM Kulim 88.35 276 P **P 05 46 38.0 -0.3**
KULM Kulim 88.35 276 P **P 05 46 40.0 +1.7**
IL31 88.38 11 P **P 05 46 37.4 +0.3**
ILAR Eielson Array 88.38 11 P **P 05 46 37.3 +0.1**
comp=Z,58nm,1.1s,baz=213,slow=5.1,SNR=166
ILAR PKPPKP **P'P'df 06 12 26.2 +2.2**
comp=Z,0.9nm,1.0s,baz=316,slow=2.6,SNR=5.4
ILAR LR LR 06 19 32.0
comp=Z,2µm,21.5s,baz=222,slow=31
ILAR Eielson Array 88.38 11 P **P 05 46 37.5 +0.3**
SEY Seymchan 88.45 345 LR LR 06 27 27.4
comp=Z,427nm,18.2s,baz=146,slow=36
SEY Seymchan 88.45 345*c i*P **P 05 46 38.0 +0.5**
ABTX Abilene, Hawle 88.46 54 P **P 05 46 39.3 +0.9**
baz=243,SNR=26
ABTX Abilene, Hawle 88.46 54 P **P 05 46 39.2 +0.9**
IMAR Indian Mountai 88.47 8 P **P 05 46 37.9 +0.3**
PHWY Pilot Hill 88.51 44 P **P 05 46 39.0 +0.2**
K22A Casper 88.52 43 P **P 05 46 39.2 +0.6**
baz=239,SNR=13
K22A Casper 88.52 43 P **P 05 46 39.1 +0.6**
K22A IAmb IAmb 05 46 54.1
comp=Z,50nm,1.1s
K22A IAMs_20 IAMs_20 06 20 07.8
comp=Z,5µm,20.0s
VA03 San Esteban 88.58 125 P **P 05 46 40.5 +1.3**
VA03 IAmb IAmb 05 46 41.4
comp=Z,62nm,1.1s
VA03 IAMs_20 IAMs_20 06 18 17.3
comp=Z,6µm,22.0s
POKR Poker Plat Res 88.60 11 P **P 05 46 38.5 +0.3**
baz=204,SNR=27
K27K Chicken 88.65 13 P **P 05 46 40.0 +1.5**
baz=209
CO02 Combarbal 88.88 123 P **P 05 46 42.4 +1.7**
CO02 IAMs_20 IAMs_20 06 15 57.3
comp=Z,4µm,21.0s
RPSI Rantau Prapat 89.01 273 P **P 05 46 41.1 -0.3**
RPSI IAmb IAmb 05 46 59.2
comp=Z,41nm,1.0s
RPSI Rantau Prapat 89.01 273 P **P 05 46 41.2 -0.1**
PSI Prapat 89.05 273 P **P 05 46 41.2 -0.5**
comp=Z,17nm,0.9s,baz=180,slow=3.7,SNR=17
PSI Prapat 89.05 273 P **P 05 46 41.1 -0.6**
PSI pmax pmax
comp=Z,41nm,1.0s
435B Jarrell 89.23 56 P **P 05 46 42.8 +0.8**
baz=244
435B Jarrell 89.23 56 P **P 05 46 43.1 +1.1**
435B IAmb IAmb 05 46 44.8
comp=Z,54nm,1.1s
KSCO Kaye Shedlock' 89.27 47 P **P 05 46 43.3 +1.1**
baz=241
KSCO Kaye Shedlock' 89.27 47 P **P 05 46 43.2 +1.1**
CO03 El Pedregal 89.28 123 P **P 05 46 43.8 +1.3**
CO03 IAmb IAmb 05 46 44.6
comp=Z,48nm,0.9s
CO03 IAMs_20 IAMs_20 06 19 37.7
comp=Z,3µm,20.0s
SNET Serv Nac Est T 89.46 75 IAMs_20 IAMs_20 06 16 12.6
comp=Z,4µm,22.0s
GO04 Tololo Observa 89.47 122 P **P 05 46 45.0 +1.3**
GO04 IAMs_20 IAMs_20 06 16 56.8
comp=Z,4µm,21.0s
EGMT Eagleton 89.47 37 P **P 05 46 43.6 +0.8**
baz=236
EGMT Eagleton 89.47 37 P **P 05 46 43.5 +0.6**
EGMT IAMs_20 IAMs_20 06 21 02.4
comp=Z,4µm,20.0s
EGAK Eagle 89.50 13 P **P 05 46 43.4 +1.0**
RDOG Red Dog Mine 89.63 4 P **P 05 46 43.5 +0.5**
RDOG IAmb IAmb 05 46 46.2
comp=Z,100nm,1.3s
RDOG IAMs_20 IAMs_20 06 20 09.6
comp=Z,3µm,22.0s
ESQI Esquipulas 89.69 74 P **P 05 46 45.8 +1.2**
GSI Gunungsitoli 89.76 271 P **P 05 46 47.3 +2.4**
comp=Z,5µmcomp=Z,7µmcomp=Z,203nm,0.8s
GSI Gunungsitoli 89.76 271 P **P 05 46 46.4 +1.5**
GSI IAMs_20 IAMs_20 06 26 57.6
comp=Z,4µm,21.0s
BJT Baijiatuau 89.80 314 P **P 05 46 45.0 +0.6**
BJT pmax pmax
comp=Z,84nm,1.5s
BJT Baijiatuau 89.80 314 P **P 05 46 45.0 +0.6**
BJT IAmb IAmb 05 46 59.5
comp=Z,84nm,1.5s
BJI Beijing 89.81 314 P **P 05 46 45.1 +0.7**
BJI S **S 05 57 38.9 +4.6**
BJI pmax pmax
comp=Z,44nm,2.5s
BJI pmax pmax
comp=Z,1µm,3.9s
BJI LR LR
comp=Z,670nm,20.8s
BJI LR LR
comp=Z,940nm,22.9s
BJI LR LR
comp=Z,2µm,25.2s
WHTX Lake Whitney, 89.84 55 P **P 05 46 45.8 +0.9**
baz=244
WHTX Lake Whitney, 89.84 55 P **P 05 46 45.8 +0.9**
WHTX IAmb IAmb 05 47 00.3
comp=Z,73nm,1.4s
LCO Las Campanas 90.03 121 P **P 05 46 48.2 +1.9**
LCO pmax pmax
comp=Z,75nm,1.1s
LCO Las Campanas 90.03 121 P **P 05 46 48.2 +1.9**
LCO IAmb IAmb 05 46 48.9
comp=Z,75nm,1.1s
LCO Las Campanas 90.03 121 IAMs_20 IAMs_20 06 18 59.7
comp=Z,6µm,20.0s
WMOK Wichita Mounta 90.04 52 P **P 05 46 45.9 +0.1**
WMOK pmax pmax
comp=Z,12nm,1.3s
WMOK Wichita Mounta 90.04 52 P **P 05 46 46.2 +0.4**
baz=244,SNR=9.6
WMOK Wichita Mounta 90.04 52 P **P 05 46 45.9 +0.1**
WMOK Wichita Mounta 90.04 52 IAMs_20 IAMs_20 06 18 43.3
comp=Z,5µm,22.0s
AC04 Llanos de Chal 90.06 120 P **P 05 46 47.2 +1.1**
AC04 IAmb IAmb 05 46 48.5
comp=Z,52nm,1.1s
CO01 Juntas del Tor 90.10 122 P **P 05 46 48.0 +1.4**
CO01 IAMs_20 IAMs_20 06 19 33.2
comp=Z,4µm,20.0s
PETF Flores 90.11 72 IAMs_20 IAMs_20 06 17 45.6
comp=Z,3µm,21.0s
COLD Coldfoot 90.12 9 P **P 05 46 46.5 +1.2**
baz=201
COLD Coldfoot 90.12 9 P **P 05 46 46.7 +1.3**
HKT Hockley 90.24 58 P **P 05 46 47.8 +1.1**
HKT pmax pmax
comp=Z,129nm,1.5s
HKT Hockley 90.24 58 P **P 05 46 47.8 +1.1**
HKT IAmb IAmb 05 46 51.7
comp=Z,129nm,1.4s
HKT Hockley 90.24 58 IAMs_20 IAMs_20 06 19 19.2
comp=Z,5µm,21.0s
ENH Enshi 90.35 302 P **P 05 46 48.4 +1.1**
KCSI Kotacane, Aceh 90.38 274 P **P 05 46 49.0 +1.2**
comp=Z,2µmcomp=Z,31nm,1.3s
AC05 El Transito 90.44 121 P **P 05 46 49.7 +1.7**
AC05 IAmb IAmb 05 46 51.0
comp=Z,72nm,1.0s
ZON Zonda 90.54 124 P **P 05 46 50.3 +2.0**
ZON pmax pmax
comp=Z,67nm,1.2s
ZON Zonda 90.54 124 P **P 05 46 50.3 +2.0**
ZON IAmb IAmb 05 46 50.9
comp=Z,67nm,1.2s
Z35A Perchaven, San 90.57 54 IAMs_20 IAMs_20 06 19 40.5
comp=Z,6µm,21.0s
OGNE Ogallala 90.59 46 P **P 05 46 48.9 +0.6**
baz=242
OGNE Ogallala 90.59 46 IAMs_20 IAMs_20 06 19 28.0
comp=Z,4µm,22.0s
U32A Winter Ranch, 90.61 51 P **P 05 46 49.6 +1.3**
U32A IAmb IAmb 05 47 03.1
comp=Z,100nm,1.1s
ZEA Zeya 90.75 329*ce*P **P 05 46 49.2 +0.7**
ZEA *e* 05 50 32.0
ZEA *e*S **SKSac 05 57 19.0 +1.4**
ZEA *e* 05 57 42.0
ZEA *e* 05 58 59.0
ZEA pmax pmax
comp=Z,330nm,2.0s
ZEA pmax pmax
comp=Z,1µm,5.0s
ZEA pmax pmax
comp=Z,500nm,7.0s
ZEA smax smax
comp=E,600nm,8.0s
LAO LASA Array 90.78 39 P **P 05 46 50.7 +1.7**
baz=239
LAO LASA Array 90.78 39 P **P 05 46 49.9 +0.9**
LAO IAmb IAmb 05 46 51.5
comp=Z,114nm,1.5s
RSSD Black Hills 90.82 42 P **P 05 46 49.9 +0.5**
RSSD pmax pmax
comp=Z,50nm,1.1s
RSSD Black Hills 90.82 42 P **P 05 46 50.1 +0.7**
baz=240
RSSD Black Hills 90.82 42 P **P 05 46 49.9 +0.5**
RSSD IAmb IAmb 05 47 03.5
comp=Z,50nm,1.1s
RSSD Black Hills 90.82 42 IAMs_20 IAMs_20 06 21 50.8
comp=Z,4µm,20.0s
TPTI 90.83 273 P **P 05 46 50.9 +1.0**
comp=Z,2µmcomp=Z,20nm,0.7s
GO03 Copiap 90.99 120 P **P 05 46 52.0 +1.4**
GO03 IAmb IAmb 05 46 53.2
comp=Z,39nm,1.1s
GO03 IAMs_20 IAMs_20 06 18 00.8
comp=Z,4µm,21.0s
GYA Guiyang 91.07 298 ⇑P **P 05 46 51.8 +0.9**
GYA pP sP 05 47 02.6 +0.6
GYA SKS **SKSac 05 57 20.9 -0.1**
GYA S **ScS 05 57 52.6 +2.6**
GYA pmax pmax
comp=Z,26nm,1.2s
GYA pmax pmax
comp=Z,680nm,4.4s
GYA LR LR
comp=Z,830nm,19.8s
GYA LR LR
comp=Z,780nm,22.4s
GYA LR LR
comp=Z,2µm,22.7s
237A Washetta, Mont 91.12 56 P **P 05 46 52.3 +1.5**
237A IAMs_20 IAMs_20 06 19 45.1
comp=Z,5µm,21.0s
CBKS Cedar Bluff 91.17 49 P **P 05 46 50.7 -0.2**
CBKS pmax pmax
comp=Z,42nm,1.1s
CBKS Cedar Bluff 91.17 49 P **P 05 46 51.8 +0.8**
baz=243
CBKS Cedar Bluff 91.17 49 P **P 05 46 50.7 -0.2**
CBKS IAmb IAmb 05 47 06.0
comp=Z,42nm,1.1s
BMAR Burnt Mountain 91.19 11 P **P 05 46 52.0 +1.7**
FNO Franklin 91.29 53 P **P 05 46 52.7 +1.1**
AC01 Pan de Azucar 91.30 119 P **P 05 46 53.4 +1.5**
AC01 IAmb IAmb 05 46 54.6
comp=Z,41nm,1.1s
AC01 IAMs_20 IAMs_20 06 20 14.1
comp=Z,5µm,20.0s
BCOK Bluff Creek, N 91.31 52 P **P 05 46 51.7 +0.1**
OKCFA Oklahoma City 91.32 52 P **P 05 46 52.3 +0.7**
OKCFA IAmb IAmb 05 46 53.5
comp=Z,80nm,1.1s
OKCFA IAMs_20 IAMs_20 06 20 58.1
comp=Z,5µm,20.0s
TGUH Tegucigalpa,Un 91.36 76 P **P 05 46 53.4 +1.0**
TGUH IAMs_20 IAMs_20 06 16 59.0
comp=Z,3µm,22.0s
CROK Carrier 91.40 51 P **P 05 46 51.1 -1.0**
CROK IAmb IAmb 05 47 07.0
comp=Z,63nm,1.1s
SLVN Son La 91.41 292 P **P 05 46 54.1 +1.6**
NNA Nana 91.46 103 LR LR 06 17 49.2
comp=Z,3µm,21.5s,baz=226,slow=29
NNA Nana 91.46 103 IAMs_20 IAMs_20 06 19 21.2
comp=Z,4µm,20.0s
OK025 Westminster Rd 91.47 52 P **P 05 46 52.9 +0.5**
OK025 IAmb IAmb 05 47 05.4
comp=Z,98nm,1.4s
OK025 IAMs_20 IAMs_20 06 21 13.2
comp=Z,5µm,20.0s
OK029 Liberty Lake 91.48 52 P **P 05 46 52.5 +0.1**
OK029 IAmb IAmb 05 47 06.7
comp=Z,35nm,1.0s
OK029 IAMs_20 IAMs_20 06 21 41.3
comp=Z,5µm,20.0s
TOLK Toolik Lake Re 91.53 8 P **P 05 46 53.0 +1.1**
baz=202
TOLK Toolik Lake Re 91.53 8 P **P 05 46 52.6 +0.7**
TOLK IAmb IAmb 05 46 53.6
comp=Z,78nm,1.5s
W35A Tecumseh 91.63 53 P **P 05 46 54.2 +1.1**
R32A Long Quarter, 91.72 49 P **P 05 46 54.6 +1.1**

LHMI	Lhok Sumawe	91.76	275	P	pP	05 47 07.5	+5.1
EPYK	Eagle Plains	91.83	14	P	P	05 46 54.1	+0.8
	baz=214						
EPYK	Eagle Plains	91.83	14	P	P	05 46 54.3	+1.0
NATX	Nacogdoches	91.91	57	P	P	05 46 55.6	+1.1
	baz=246						
NATX	Nacogdoches	91.91	57	P	P	05 46 55.5	+1.1
NATX				IAmb	IAmb	05 46 56.4	
	comp=Z,81nm,1.4s						
NATX				IAMs_20	IAMs_20	06 20 39.1	
	comp=Z,5μm,20.0s						
MLSI	Meulaboh, Aceh	91.92	274	P	P	05 46 55.7	+0.8
	comp=Z,3μmcomp=Z,214nm,0.8s						
KAN13	South Haven SW	91.99	51	P	P	05 46 55.6	+0.9
PB14	IPOC Station P	92.09	117	P	P	05 46 55.0	-1.0
PB14				IAmb	IAmb	05 46 58.9	
	comp=Z,56nm,1.1s						
PB14				IAMs_20	IAMs_20	06 20 50.2	
	comp=Z,5μm,19.0s						
JTS	Las Juntas de	92.10	80	*c iP*	P	05 46 57.9	+2.2
JTS				pmax	pmax		
	comp=Z,275nm,3.0s						
JTS				MLR	MLR		
	comp=Z,1μm,17.0s						
JTS	Las Juntas de	92.10	80	P	P	05 46 58.0	+2.2
JTS	Las Juntas de	92.10	80	IAMs_20	IAMs_20	06 19 49.8	
	comp=Z,3μm,20.0s						
MATN	Matagalpa	92.17	77	P	P	05 46 55.9	-0.2
MATN				IAmb	IAmb	05 46 58.3	
	comp=Z,79nm,1.2s						
HIA	Hailar	92.17	323	IAMs_20	IAMs_20	06 22 01.2	
	comp=Z,3μm,22.0s						
QUOK	Quay	92.19	52	P	P	05 46 55.7	0.0
QUOK				IAmb	IAmb	05 46 57.9	
	comp=Z,63nm,1.3s						
QUOK				IAMs_20	IAMs_20	06 21 49.0	
	comp=Z,5μm,21.0s						
AC02	Maricunga	92.20	120	P	P	05 46 59.1	+2.4
AC02				IAmb	IAmb	05 47 00.6	
	comp=Z,47nm,1.0s						
BOAB	BOACO BROADBAND	92.23	78	P	P	05 46 57.6	+1.4
BOAB				IAMs_20	IAMs_20	06 17 46.1	
	comp=Z,5μm,21.0s						
Z38A	Mt. Pleasant	92.27	55	P	P	05 46 57.5	+1.4
XAN	Xi'an	92.34	306	P	P	05 46 57.8	+1.3
XAN				pP	pP	05 47 04.8	+0.2
XAN				SKS	SKSac	05 57 23.9	-3.8
XAN				S	ScS	05 58 02.2	+2.1
XAN				pmax	pmax		
	comp=Z,59nm,1.4s						
XAN				pmax	pmax		
	comp=Z,920nm,6.3s						
XAN				LR	LR		
	comp=Z,900nm,23.1s						
XAN				LR	LR		
	comp=Z,2μm,24.1s						
XAN				LR	LR		
	comp=Z,3μm,25.0s						
XAN	Xi'an	92.34	306	P	P	05 46 57.8	+1.3
XAN				pmax	pmax		
	comp=Z,62nm,0.9s						
XAN	Xi'an	92.34	306	P	P	05 46 57.8	+1.3
XAN				IAmb	IAmb	05 47 10.1	
	comp=Z,62nm,0.9s						
PB10	IPOC Station P	92.43	116	IAMs_20	IAMs_20	06 20 59.1	
	comp=Z,4μm,18.0s						
X37A	Clayton	92.52	54	P	P	05 46 57.9	+0.6
X37A				IAmb	IAmb	05 46 58.6	
	comp=Z,41nm,1.2s						
GO02	Mina Guanaco	92.54	118	P	P	05 46 57.3	-0.7
GO02				IAmb	IAmb	05 47 01.0	
	comp=Z,38nm,1.1s						
GO02				IAMs_20	IAMs_20	06 20 24.9	
	comp=Z,6μm,20.0s						
T35A	Sooner Cattle	92.64	51	P	P	05 46 58.6	+0.9
T35A				IAmb	IAmb	05 47 00.1	
	comp=Z,59nm,1.1s						
T35A				IAMs_20	IAMs_20	06 21 57.0	
	comp=Z,6μm,20.0s						
441A	DeRidder	92.66	58	IAMs_20	IAMs_20	06 21 29.0	
	comp=Z,4μm,20.0s						
TEIG	Tepich	92.74	69	P	P	05 46 57.6	-0.9
TEIG				IAmb	IAmb	05 47 02.5	
	comp=Z,57nm,1.2s						
TEIG	Tepich	92.74	69	IAMs_20	IAMs_20	06 21 29.3	
	comp=Z,3μm,20.0s						
TUL1	Leonard	92.75	52	P	P	05 46 59.2	+0.9
	baz=246,SNR=12						
TUL1	Leonard	92.75	52	P	P	05 46 59.1	+0.9
TUL1				IAmb	IAmb	05 46 59.9	
	comp=Z,48nm,1.2s						
DGMT	Dagmar	92.87	38	P	P	05 46 59.8	+1.3
	baz=241						
DGMT	Dagmar	92.87	38	P	P	05 46 59.9	+1.3
PB04	IPOC Station P	93.26	115	P	P	05 47 02.0	+0.8
PB04				IAmb	IAmb	05 47 05.3	
	comp=Z,76nm,1.1s						
HHC	Hu-ho-hao-te	93.31	313	*eP*	P	05 47 01.3	+0.5
HHC				PP	PP	05 50 46.6	+1.3
HHC				SKS	SKSac	05 57 29.7	-3.2
HHC				S	S	05 58 03.7	-2.5
HHC				SS	SS	06 04 21.9	-1.3
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,820nm,5.6s						
HHC				LR	LR		
	comp=Z,1μm,19.6s						
HHC				LR	LR		
	comp=Z,1μm,18.7s						
HHC				LR	LR		
	comp=Z,2μm,19.6s						
BGNE	Belgrade	93.41	47	P	P	05 47 02.5	+1.3
	baz=244						
BGNE	Belgrade	93.41	47	P	P	05 47 02.1	+0.9
BGNE				IAMs_20	IAMs_20	06 22 16.8	
	comp=Z,4μm,20.0s						
PB15	IPOC Station P	93.46	116	P	P	05 47 01.7	-0.5
PB15				IAmb	IAmb	05 47 06.3	
	comp=Z,42nm,1.1s						
PB15				IAMs_20	IAMs_20	06 21 12.4	
	comp=Z,5μm,19.0s						
KSU1	Kansas State U	93.49	49	P	P	05 47 02.5	+0.9
	baz=245						
KSU1	Kansas State U	93.49	49	P	P	05 47 02.4	+0.8
K31A	O'Neill	93.53	45	P	P	05 47 02.6	+0.8
K31A				IAMs_20	IAMs_20	06 23 50.9	
	comp=Z,3μm,20.0s						
342A	Flagon Creek P	93.58	58	IAMs_20	IAMs_20	06 22 45.6	
	comp=Z,3μm,20.0s						
PB06	IPOC Station P	93.58	116	P	P	05 47 05.3	+2.5
PB06				IAmb	IAmb	05 47 06.7	
	comp=Z,49nm,1.0s						
PB06				IAMs_20	IAMs_20	06 20 40.8	
	comp=Z,4μm,20.0s						
N33A	J Bar K, Exete	93.60	48	IAMs_20	IAMs_20	06 21 40.9	
	comp=Z,3μm,20.0s						
PB07	IPOC Station P	93.73	115	P	P	05 47 04.2	+0.8
KMI	Kunming	93.83	295	⇑*iP*	P	05 47 05.6	+1.8
KMI				pP	PcP	05 47 07.8	+3.6
KMI				sP	sP	05 47 16.7	+1.8
KMI				PP	PP	05 50 50.6	+0.8
KMI				SKS	SKSac	05 57 33.9	-2.7
KMI				S	ScS	05 58 12.5	-0.7
KMI				sS	pS	05 58 20.5	-1.6
KMI				pmax	pmax		
	comp=Z,37nm,1.3s						
KMI				pmax	pmax		
	comp=Z,510nm,3.6s						
KMI				LR	LR		
	comp=Z,1μm,22.8s						
KMI				LR	LR		
	comp=Z,3μm,24.7s						
KMI				LR	LR		
	comp=Z,5μm,25.7s						
KMI	Kunming	93.83	295	IAMs_20	IAMs_20	06 23 17.8	
	comp=Z,4μm,22.0s						
MIAR	Mount Ida	93.86	54	P	P	05 47 03.4	0.0
MIAR				pmax	pmax		
	comp=Z,27nm,1.3s						
MIAR	Mount Ida	93.86	54	P	P	05 47 04.1	+0.7
	baz=247,SNR=8.2						
MIAR	Mount Ida	93.86	54	P	P	05 47 03.4	0.0
MIAR				IAMs_20	IAMs_20	06 21 56.5	
	comp=Z,5μm,20.0s						
WLAR	White Oak Lake	93.87	55	P	P	05 47 03.5	+0.1
WLAR				IAmb	IAmb	05 47 18.1	
	comp=Z,50nm,1.0s						
Z41A	Richland Creek	93.94	56	P	P	05 47 04.8	+1.0
	baz=247						
Z41A	Richland Creek	93.94	56	P	P	05 47 04.9	+1.0
Z41A				IAMs_20	IAMs_20	06 21 45.9	
	comp=Z,5μm,21.0s						
W39A	Magazine	93.96	54	P	P	05 47 04.7	+0.9
	baz=247,SNR=11						
W39A	Magazine	93.96	54	P	P	05 47 04.9	+1.1
U38A	Gravette	94.01	52	P	P	05 47 04.5	+0.5
E28A	Huff	94.06	41	P	P	05 47 04.6	+0.6
E28A				IAmb	IAmb	05 47 18.1	
	comp=Z,61nm,1.1s						
E28A				IAMs_20	IAMs_20	06 23 25.4	
	comp=Z,3μm,20.0s						
INK	Inuvik	94.13	14	LR	LR	06 23 30.7	
	comp=Z,2μm,19.9s,baz=175,slow=32						
INK	Inuvik	94.13	14	P	P	05 47 04.3	+0.5
INK				pmax	pmax		
	comp=Z,50nm,1.2s						
INK	Inuvik	94.13	14	P	P	05 47 04.2	+0.5
INK				IAmb	IAmb	05 47 17.8	
	comp=Z,50nm,1.1s						
INK				IAMs_20	IAMs_20	06 26 47.4	
	comp=Z,3μm,19.0s						
LVC	Limon Verde	94.18	116	P	P	05 47 09.4	+3.7
LVC				pmax	pmax		
	comp=Z,47nm,1.1s						
LVC	Limon Verde	94.18	116	P	P	05 47 09.4	+3.7
LVC				IAmb	IAmb	05 47 10.4	
	comp=Z,47nm,1.1s						
LVC	Limon Verde	94.18	116	IAMs_20	IAMs_20	06 21 38.5	
	comp=Z,4μm,20.0s						
SUSD	Miller	94.20	44	P	P	05 47 05.1	+0.4
	baz=244						
SUSD	Miller	94.20	44	P	P	05 47 05.3	+0.5
SUSD				IAmb	IAmb	05 47 18.9	
	comp=Z,80nm,1.1s						
PB09	IPOC Station P	94.24	115	P	P	05 47 08.9	+3.2
PB09				IAmb	IAmb	05 47 09.8	
	comp=Z,44nm,1.2s						
BTO	Baotou	94.27	312	*eP*	P	05 47 06.9	+1.6
HHAR	Hobbs	94.27	53	P	P	05 47 03.1	-2.2
PB01	IPOC Station P	94.35	114	P	P	05 47 07.6	+1.4
X40A	Basin Creek Fa	94.40	55	P	P	05 47 06.3	+0.5
	baz=247						
X40A	Basin Creek Fa	94.40	55	IAMs_20	IAMs_20	06 22 00.8	
	comp=Z,6μm,21.0s						
PSGCX	Pisagua	94.41	113	IAMs_20	IAMs_20	06 21 26.9	
	comp=Z,3μm,20.0s						
OTAV	Otavalo	94.50	92	P	P	05 47 08.0	+0.6
OTAV				pmax	pmax		
	comp=Z,15nm,1.5s						
OTAV	Otavalo	94.50	92	P	P	05 47 08.0	+0.6
OTAV	Otavalo	94.50	92	IAMs_20	IAMs_20	06 18 47.8	
	comp=Z,4μm,22.0s						
CMAR	Chiang Mai Arr	94.69	288	P	P	05 47 09.2	+1.6
	comp=Z,8.2nm,1.0s,baz=116,slow=2.9,SNR=36						
CMAR				PP	PP	05 50 56.1	-0.3
	comp=Z,1.2nm,0.3s,baz=129,slow=7.1,SNR=3.7						
CMAR				PKKPbc	PKKPdf	06 04 06.5	+1.5
	comp=Z,2.5nm,0.7s,baz=287,slow=4.3,SNR=12						
CMAR				LR	LR	06 31 55.5	
	comp=Z,536nm,18.0s,baz=192,slow=37						
PB11	IPOC Station P	94.74	113	P	P	05 47 10.4	+2.4
PB11				IAmb	IAmb	05 47 11.2	
	comp=Z,54nm,1.0s						
PB11				IAMs_20	IAMs_20	06 19 42.7	
	comp=Z,5μm,21.0s						
YAK	Yakutsk	94.78	337	*eP*	P	05 47 05.2	-1.7
YAK				*e*PP*	pP	05 47 16.1	+1.0
YAK				*e*		05 50 51.6	
YAK				*e*PPP	PPP	05 52 57.9	
YAK				*e*S	SKSac	05 57 40.4	+0.9
YAK				*e*		05 58 23.8	
YAK				*e*SS	SS	06 04 38.4	-4.5
YAK				*e*SSS	SSS	06 08 23.7	
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,257nm,2.7s						
YAK				pmax	pmax		
	comp=N,203nm,3.0s						
YAK				pmax	pmax		
	comp=E,128nm,3.2s						
YAK				smax	smax		
	comp=N,86nm,4.0s						
YAK				smax	smax		
	comp=E,89nm,4.0s						
YAK				MLR	MLR		
	comp=Z,668nm,19.0s						
YAK				MLR	MLR		
	comp=N,344nm,18.0s						
YAK				MLR	MLR		
	comp=E,565nm,18.0s						
143A	Socs Landing,	94.81	57	IAMs_20	IAMs_20	06 23 30.1	
	comp=Z,5μm,20.0s						
CHTO	Chiang Mai	94.82	288	P	P	05 47 09.4	+1.3
L34A	Svendsen Farm,	94.85	47	P	P	05 47 07.9	+0.1
L34A				IAmb	IAmb	05 47 10.4	
	comp=Z,33nm,0.9s						
L34A				IAMs_20	IAMs_20	06 21 38.9	
	comp=Z,3μm,22.0s						
344A	Westbrook Farm	94.87	58	IAMs_20	IAMs_20	06 26 01.7	
	comp=Z,4μm,19.0s						
UALR	University of	94.88	55	P	P	05 47 09.1	+1.0
UALR				IAMs_20	IAMs_20	06 22 48.7	
	comp=Z,5μm,20.0s						
N35A	Tabor	94.90	48	P	P	05 47 08.8	+0.8
N35A				IAmb	IAmb	05 47 22.5	
	comp=Z,51nm,1.1s						
N35A				IAMs_20	IAMs_20	06 23 29.3	
	comp=Z,4μm,20.0s						
CCAR	Cane Creek	94.99	56	P	P	05 47 09.8	+1.2
PB08	IPOC Station P	95.02	114	P	P	05 47 10.5	+0.9
MNMC	Minye Minye	95.06	113	P	P	05 47 12.2	+2.5
MNMC				IAmb	IAmb	05 47 13.1	
	comp=Z,42nm,1.1s						
MNMC				IAMs_20	IAMs_20	06 22 38.1	
	comp=Z,3μm,19.0s						
W41B	Gary Mavity, V	95.11	54	P	P	05 47 10.0	+0.9
	baz=247,SNR=6.6						
W41B	Gary Mavity, V	95.11	54	P	P	05 47 10.3	+1.3
U40A	Yellville	95.11	53	P	P	05 47 09.5	+0.4
	baz=247,SNR=7.9						
U40A	Yellville	95.11	53	P	P	05 47 09.3	+0.2
WHAR	Wooly Hollow	95.12	54	P	P	05 47 10.1	+0.9
CD2	Chengdu	95.14	301	*eP*	P	05 47 10.4	+1.0
CD2				PP	PP	05 51 05.0	+5.3
CD2				SKS	SKSac	05 57 41.4	-1.7
CD2				S	S	05 58 22.2	-0.3
CD2				SS	SS	06 04 52.6	+3.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,620nm,6.4s						
CD2				LR	LR		
	comp=Z,1μm,17.1s						
CD2				LR	LR		
	comp=Z,1μm,20.6s						
CD2				LR	LR		
	comp=Z,1μm,19.7s						
GO01	Chusmiza	95.18	113	P	P	05 47 13.1	+2.6
GO01				IAMs_20	IAMs_20	06 21 34.2	
	comp=Z,5μm,20.0s						
S39A	Bolivar	95.28	52	P	P	05 47 10.2	+0.3
S39A				IAMs_20	IAMs_20	06 21 45.9	
	comp=Z,5μm,22.0s						
MDND	Maddock	95.30	40	P	P	05 47 09.8	+0.1
	baz=244						
MDND	Maddock	95.30	40	IAMs_20	IAMs_20	06 24 06.0	
	comp=Z,3μm,20.0s						
VBMS	Vicksburg	95.33	58	P	P	05 47 11.1	+0.9
	baz=248						
VBMS	Vicksburg	95.33	58	IAMs_20	IAMs_20	06 23 58.7	
	comp=Z,4μm,20.0s						
ECSD	EROS Data Cent	95.42	45	P	P	05 47 10.8	+0.4
	baz=246						
ECSD	EROS Data Cent	95.42	45	P	P	05 47 10.8	+0.4
ECSD	EROS Data Cent	95.42	45	IAMs_20	IAMs_20	06 22 21.9	
	comp=Z,3μm,22.0s						
PB16	IPOC Station P	95.46	112	P	P	05 47 15.0	+3.1
PB16				IAmb	IAmb	05 47 15.7	
	comp=Z,48nm,1.4s						
FCAR	Ozark Folk Cen	95.48	54	P	P	05 47 11.1	+0.3
YKA	Yellowknife Ar	95.60	23	P	P	05 47 11.1	+0.4
	comp=Z,11nm,0.9s,baz=244,slow=4.1,SNR=21						
YKA				PP	PP	05 50 55.0	-7.5
	comp=Z,3.0nm,1.1s,baz=243,slow=6.7,SNR=4.5						
YKA				PKKPbc	PKKPbc	06 04 02.2	-1.9
	comp=Z,1.9nm,0.8s,baz=31,slow=2.7,SNR=5.2						
YKA				LR	LR	06 23 43.7	
	comp=Z,3μm,20.8s,baz=0.0,slow=31						
MGMO	Mountain Grove	95.85	52	P	P	05 47 12.9	+0.4
346A	Big Creek Wild	95.85	59	IAMs_20	IAMs_20	06 23 32.7	
	comp=Z,4μm,22.0s						
HOPE	Hope Point	95.85	156	IAMs_20	IAMs_20	06 23 39.0	
	comp=Z,5μm,19.0s						
P38A	Dawn	95.89	50	P	P	05 47 12.4	-0.2
P38A				IAmb	IAmb	05 47 26.2	
	comp=Z,33nm,1.1s						
GCUF	Volcan Galeras	95.89	91	*eP*	P	05 47 09.8	-4.0
X43A	Marvell	95.90	55	P	P	05 47 13.5	+0.7
	baz=248						
BBAC	Balboa, Cauca	96.27	90	*eP*	P	05 47 07.7	-7.5
LCAR	Lake Charles	96.27	54	P	P	05 47 14.2	-0.2
R40A	Maddies Statio	96.28	51	P	P	05 47 14.5	+0.1
R40A				IAMs_20	IAMs_20	06 24 09.3	
	comp=Z,4μm,20.0s						
F33A	5 Mile Ranch,	96.50	43	P	P	05 47 15.5	+0.3
F33A				IAmb	IAmb	05 47 29.2	
	comp=Z,57nm,1.1s						
F33A				IAMs_20	IAMs_20	06 24 35.1	
	comp=Z,4μm,20.0s						
N38A	Joes South For	96.55	49	P	P	05 47 15.8	+0.3
N38A				IAmb	IAmb	05 47 30.1	
	comp=Z,26nm,0.9s						
146A	Union	96.63	58	IAMs_20	IAMs_20	06 24 20.2	
	comp=Z,4μm,21.0s						
T42A	Van Buren	96.67	53	P	P	05 47 15.9	-0.3
T42A				IAMs_20	IAMs_20	06 23 31.9	
	comp=Z,5μm,21.0s						
Y45A	Yeager Farm, C	96.69	56	P	P	05 47 17.5	+1.2
Y45A				IAMs_20	IAMs_20	06 24 02.7	
	comp=Z,3μm,20.0s						
HDBT	Hernando Brdge	96.77	55	IAMs_20	IAMs_20	06 24 22.5	
	comp=Z,5μm,22.0s						
MET	Memphis--Engin	96.85	55	IAMs_20	IAMs_20	06 24 28.8	
	comp=Z,5μm,20.0s						
P40A	Paris	96.91	50	P	P	05 47 17.0	-0.2
CCM	Cathedral Cave	96.94	52	P	P	05 47 17.1	-0.3
CCM				pmax	pmax		
	comp=Z,12nm,1.3s						
CCM	Cathedral Cave	96.94	52	P	P	05 47 17.4	0.0
	baz=248						
CCM	Cathedral Cave	96.94	52	P	P	05 47 17.1	-0.3
LZH	Lanzhou	96.98	306	⇑P	P	05 47 17.8	0.0
LZH				pP	PcP	05 47 21.4	+3.5
LZH				PP	PP	05 51 18.4	+4.4
LZH				SKS	SKSac	05 57 51.7	-1.1
LZH				S	S	05 58 36.1	-2.4
LZH				sS	ScS	05 58 43.7	+4.9
LZH				SS	SS	06 05 15.3	-0.4
LZH				pmax	pmax		
	comp=Z,32nm,1.4s						
LZH				pmax	pmax		
	comp=Z,570nm,9.2s						
LZH				LR	LR		
	comp=Z,750nm,17.0s						
LZH				LR	LR		
	comp=Z,1μm,17.2s						
LZH				LR	LR		
	comp=Z,2μm,19.0s						
SCIA	State Center	96.99	48	IAMs_20	IAMs_20	06 24 27.6	
	comp=Z,4μm,20.0s						
OXF	Oxford	97.03	56	P	P	05 47 18.1	+0.2
OXF				pmax	pmax		
	comp=Z,23nm,1.2s						
OXF	Oxford	97.03	56	P	P	05 47 17.7	-0.1
	baz=249						
OXF	Oxford	97.03	56	P	P	05 47 18.1	+0.2
FFC	Flin Flon	97.07	34	P	Pdif	05 47 18.0	+0.4
FFC				pmax	pmax		
	comp=Z,10.0nm,1.5s						
FFC	Flin Flon	97.07	34	P	Pdif	05 47 18.0	+0.4
C36M	Paulatuk	97.17	16	P	P	05 47 17.5	-0.1
	baz=225						
C36M	Paulatuk	97.17	16	IAMs_20	IAMs_20	06 24 37.7	
	comp=Z,3μm,21.0s						
W45A	Hickory Valley	97.43	55	P	P	05 47 19.7	+0.1
W45A				IAmb	IAmb	05 47 33.3	
	comp=Z,33nm,1.1s						
W45A				IAMs_20	IAMs_20	06 24 55.2	
	comp=Z,5μm,20.0s						
LPAZ	La Paz	97.51	111	P	Pdif	05 47 23.5	+2.1
	comp=Z,5.3nm,0.9s,baz=254,slow=1.5,SNR=16						
LPAZ				PKKPbc	PKKPbc	06 03 55.4	-2.2
	comp=Z,0.6nm,0.6s,baz=65,slow=4.4,SNR=5.1						
LPAZ				LR	LR	06 23 57.0	
	comp=Z,6μm,18.9s,baz=278,slow=31						
LPAZ	La Paz	97.51	111	P	P	05 47 21.7	+0.4
LPAZ				pmax	pmax		
	comp=Z,14nm,1.2s						
LPAZ	La Paz	97.51	111	P	P	05 47 21.7	+0.4
K38A	Parkersburg	97.58	47	IAMs_20	IAMs_20	06 24 28.1	
	comp=Z,5μm,20.0s						
FLOC	Florencia	97.59	91	*eP*	P	05 47 17.3	-3.6
FLOC	Florencia	97.59	91	P	Pdif	05 47 21.8	+0.7
Z47A	Carrollton	97.61	57	IAMs_20	IAMs_20	06 25 18.0	
	comp=Z,5μm,20.0s						
I37A	Lemond, Waseca	97.67	46	P	Pdif	05 47 21.2	+0.6
I37A				IAmb	IAmb	05 47 35.0	
	comp=Z,26nm,0.8s						
I37A				IAMs_20	IAMs_20	06 25 47.9	
	comp=Z,3μm,19.0s						
BRAL	Brewton	97.71	60	IAMs_20	IAMs_20	06 25 39.9	
	comp=Z,3μm,21.0s						
YOTC	Yotoco, Valle	97.81	89	*eP*	P	05 47 18.7	-3.3
PTLC	Puerto Leguiza	97.88	93	*eP*	P	05 47 17.2	-5.0
PBA	Port Blair	97.92	279	IAMs_20	IAMs_20	06 35 31.0	
	comp=Z,3μm,22.0s						
BETC	Betania	98.19	90	*eP*	P	05 47 21.6	-2.0
PLAL	Pickwick Lake	98.22	56	P	P	05 47 23.4	+0.2
S44A	Carbondale	98.28	53	IAMs_20	IAMs_20	06 24 11.4	
	comp=Z,5μm,21.0s						
F36A	Milaca	98.29	44	P	Pdif	05 47 24.5	+1.2
F36A				IAmb	IAmb	05 47 37.7	
	comp=Z,34nm,1.1s						
F36A				IAMs_20	IAMs_20	06 25 15.5	
	comp=Z,3μm,20.0s						
LRAL	Lakeview Retre	98.39	58	P	P	05 47 23.9	-0.1
	baz=250						
LRAL	Lakeview Retre	98.39	58	IAMs_20	IAMs_20	06 25 55.9	
	comp=Z,5μm,21.0s						
L40A	Anamosa	98.43	48	P	P	05 47 24.0	0.0
L40A				IAMs_20	IAMs_20	06 24 28.7	
	comp=Z,4μm,21.0s						
SPMN	Marine on St.	98.52	45	P	Pdif	05 47 24.7	+0.4
	baz=248						
SPMN	Marine on St.	98.52	45	P	Pdif	05 47 25.1	+0.8
SPMN				IAMs_20	IAMs_20	06 24 41.7	
	comp=Z,3μm,21.0s						
ULM	Lac du Bonnet	98.53	39	P	P	05 47 24.0	-0.2
	comp=Z,4.6nm,0.7s,baz=239,slow=6.3,SNR=3.9						
ULM				LR	LR	06 26 09.9	
	comp=Z,3μm,20.6s,baz=246,slow=32						
ULM	Lac du Bonnet	98.53	39	P	P	05 47 24.0	-0.2
ULM	Lac du Bonnet	98.53	39	P	P	05 47 24.5	+0.3
ULM				IAMs_20	IAMs_20	06 25 47.4	
	comp=Z,3μm,21.0s						
P43A	Skaggs, Pawnee	98.77	51	IAMs_20	IAMs_20	06 25 37.1	
	comp=Z,3μm,20.0s						
A36M	Sachs Harbour	98.77	14	P	Pdif	05 47 25.7	+0.9
	baz=224						
X48A	Hartselle	98.84	57	IAMs_20	IAMs_20	06 25 18.5	
	comp=Z,4μm,20.0s						
ULN	Ulaanbaatar	99.09	318	*c iP*	Pdif	05 47 27.4	+0.4
ULN				pmax	pmax

HELC	Santa Helena	99.35	87	eP		Pdif	05 47 25.5	-3.8
JFWS	Jewell Farm	99.40	48	P		Pdif	05 47 28.3	0.0
	baz=250							
JFWS	Jewell Farm	99.40	48	IAMs_20	IAMs_20		06 25 01.5	
	comp=Z,4µm,21.0s							
V48A	Smith Brothers	99.44	55	IAMs_20	IAMs_20		06 25 46.5	
	comp=Z,5µm,20.0s							
MACC	Macarena, Meta	99.48	91	eP		Pdif	05 47 25.5	-3.9
L42A	Oliver, Polo	99.49	49	IAMs_20	IAMs_20		06 25 30.4	
	comp=Z,4µm,20.0s							
I40A	Norwalk	99.49	47	IAMs_20	IAMs_20		06 25 36.7	
	comp=Z,4µm,20.0s							
OLIL	Olney	99.49	52	IAMs_20	IAMs_20		06 24 48.4	
	comp=Z,5µm,21.0s							
SONM	Songino Array	99.50	318	P		Pdif	05 47 28.3	-0.5
	comp=Z,0.4nm,0.5s,baz=74,slow=2.1,SNR=2.9							
SONM				PP		PP	05 51 32.0	-0.9
	comp=Z,3.9nm,1.1s,baz=137,slow=7.1,SNR=4.9							
SONM	Songino Array	99.50	318	P		Pdif	05 47 28.3	-0.5
SONM				pmax	pmax			
	comp=Z,7.0nm,1.1s							
O44A	Mansfield	99.71	51	IAMs_20	IAMs_20		06 24 22.9	
	comp=Z,4µm,22.0s							
NORC	Norcasia	99.75	88	eP		Pdif	05 47 25.5	-5.1
E38A	The Farm, Brul	99.83	44	IAMs_20	IAMs_20		06 28 07.4	
	comp=Z,3µm,19.0s							
UREC	San Jos de Ur	99.89	86	eP		Pdif	05 47 23.0	-8.2
Z51A	Franklin	99.93	58	IAMs_20	IAMs_20		06 26 53.5	
	comp=Z,4µm,20.0s							
CLTN	Cedars of Leba	99.94	55	IAMs_20	IAMs_20		06 26 12.5	
	comp=Z,5µm,20.0s							
SWET	Sewanee	99.96	56	IAMs_20	IAMs_20		06 25 30.1	
	comp=Z,5µm,21.0s							
FPAL	Fort Paine	99.98	57	IAMs_20	IAMs_20		06 29 09.9	
	comp=Z,4µm,19.0s							
ROSC	El Rosal	100.00	89	IAMs_20	IAMs_20		06 26 00.6	
	comp=Z,5µm,19.0s							
152A	Waverly Hall	100.08	59	IAMs_20	IAMs_20		06 26 25.6	
	comp=Z,4µm,21.0s							
G40A	Rib Lake	100.25	45	IAMs_20	IAMs_20		06 27 45.7	
	comp=Z,2µm,20.0s							
EYMN	Ely	100.34	43	P		Pdif	05 47 32.8	+0.4
	baz=250							
EYMN	Ely	100.34	43	IAMs_20	IAMs_20		06 26 10.7	
	comp=Z,4µm,20.0s							
W50A	Signal Mountai	100.43	56	IAMs_20	IAMs_20		06 28 54.7	
	comp=Z,5µm,20.0s							
ZARC	Zaragoza, Cauc	100.43	86	eP		Pdif	05 47 20.9	-13
PTBC	PUERTO BERRIO	100.47	87	eP		Pdif	05 47 28.4	-5.3
U49A	Red Boiling Sp	100.50	55	IAMs_20	IAMs_20		06 26 30.3	
	comp=Z,5µm,20.0s							
X51A	Calhoun	100.58	57	IAMs_20	IAMs_20		06 24 48.7	
	comp=Z,3µm,22.0s							
TIGA	Tifton	100.59	60	P		Pdif	05 47 34.3	+0.5
	baz=251							
I42A	Draeger Farm,	100.65	47	IAMs_20	IAMs_20		06 27 11.4	
	comp=Z,5µm,20.0s							
K43A	Burlington	100.66	48	IAMs_20	IAMs_20		06 25 56.7	
	comp=Z,3µm,21.0s							
WCI	Wyandotte Cave	100.66	53	P		Pdif	05 47 33.9	-0.2
	baz=251							
SFIN	Lafayette	100.77	51	IAMs_20	IAMs_20		06 24 56.1	
	comp=Z,5µm,22.0s							
BLO	Bloomington	100.80	52	IAMs_20	IAMs_20		06 26 32.0	
	comp=Z,5µm,20.0s							
061Z	Ochoppi	101.05	67	IAMs_20	IAMs_20		06 28 57.1	
	comp=Z,3µm,19.0s							
GTA	Gaotai	101.11	308	eP		Pdif	05 47 40.4	+4.2
GTA				pP	pP		05 47 45.0	+0.5
GTA				sP	sPdif		05 47 47.3	-0.1
GTA				PP	PP		05 51 49.0	+3.6
GTA				SKS	SKSac		05 58 12.1	-1.1
GTA				S	Sdif		05 59 16.9	+3.8
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,170nm,6.4s							
GTA				LR	LR			
	comp=Z,560nm,23.2s							
GTA				LR	LR			
	comp=Z,1µm,24.4s							
GTA				LR	LR			
	comp=Z,2µm,23.8s							
CPCT	Cooper Cave	101.12	56	IAMs_20	IAMs_20		06 26 28.0	
	comp=Z,5µm,21.0s							
COWI	Conover	101.23	45	IAMs_20	IAMs_20		06 25 19.6	
	comp=Z,3µm,22.0s							
GOGA	Godfrey	101.31	59	P		Pdif	05 47 36.6	-0.4
	baz=252							
GOGA	Godfrey	101.31	59	IAMs_20	IAMs_20		06 26 38.2	
	comp=Z,4µm,21.0s							
154A	Montrose	101.35	59	IAMs_20	IAMs_20		06 27 57.3	
	comp=Z,3µm,20.0s							
V51A	Loudon	101.36	56	IAMs_20	IAMs_20		06 26 36.4	
	comp=Z,5µm,21.0s							
W52A	Murphy	101.47	57	IAMs_20	IAMs_20		06 27 30.3	
	comp=Z,4µm,20.0s							
RUSC	La Rusia	101.52	88	eP		Pdif	05 47 35.2	-3.9
SMLC	San Martn de	101.61	85	eP		Pdif	05 47 32.9	-5.9
H43A	Windswept, Lux	101.62	47	IAMs_20	IAMs_20		06 26 41.0	
	comp=Z,5µm,20.0s							
P48A	Milroy	101.70	52	IAMs_20	IAMs_20		06 26 28.7	
	comp=Z,5µm,20.0s							
TKL	Tuckaleechee C	101.77	56	IAMs_20	IAMs_20		06 27 20.1	
	comp=Z,4µm,20.0s							
060A	Indiantown	101.88	66	IAMs_20	IAMs_20		06 25 50.0	
	comp=Z,3µm,22.0s							
N47A	Urbana	101.94	51	IAMs_20	IAMs_20		06 25 53.0	
	comp=Z,5µm,22.0s							
V52A	Sevierville	101.96	56	IAMs_20	IAMs_20		06 27 15.2	
	comp=Z,5µm,21.0s							
TZTN	Tazewell	102.21	55	P		Pdif	05 47 40.7	-0.3
	baz=252							
TZTN	Tazewell	102.21	55	IAMs_20	IAMs_20		06 27 12.7	
	comp=Z,4µm,20.0s							
BG3	Lake Jocassee	102.22	57	IAMs_20	IAMs_20		06 26 01.1	
	comp=Z,3µm,22.0s							
P49A	Miami Univ. Ec	102.24	52	P		Pdif	05 47 41.3	+0.3
	baz=252							
ZAK	Zakamensk	102.29	319	eP		Pdif	05 47 49.8	+8.7
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ZAK				pmax	pmax			
	comp=Z,9.0nm,2.0s							
TLY	Talaya	102.49	321	eP		Pdif	05 47 39.6	-2.3
TLY				eS		Sdif	05 59 23.9	0.0
TLY				e			06 01 07.0	
TLY				pmax	pmax			
	comp=Z,4.0nm,0.4s							
TLY				MLR	MLR			
	comp=Z,3µm,16.0s							
V53A	Saluda	102.52	57	IAMs_20	IAMs_20		06 26 29.9	
	comp=Z,4µm,21.0s							
I45A	Fountain	102.53	48	IAMs_20	IAMs_20		06 26 46.2	
	comp=Z,4µm,21.0s							
FCC	Fort Churchill	102.68	32	IAMs_20	IAMs_20		06 30 01.2	
	comp=Z,3µm,19.0s							
O49A	Covington	102.72	52	IAMs_20	IAMs_20		06 27 59.7	
	comp=Z,5µm,20.0s							
E43A	Lone Tree Farm	102.73	45	IAMs_20	IAMs_20		06 26 16.2	
	comp=Z,4µm,22.0s							
Z56A	Williston	102.96	59	P		Pdif	05 47 44.8	+0.5
	baz=253							
Z56A	Williston	102.96	59	IAMs_20	IAMs_20		06 28 30.9	
	comp=Z,3µm,20.0s							
PAULI	Pauline	103.04	58	IAMs_20	IAMs_20		06 27 00.0	
	comp=Z,4µm,22.0s							
N49A	Columbus Grove	103.05	51	IAMs_20	IAMs_20		06 26 59.3	
	comp=Z,4µm,20.0s							
157A	Early Branch	103.06	60	P		Pdif	05 47 45.2	+0.4
	baz=253							
T53A	Wise	103.12	55	P		Pdif	05 47 45.5	+0.5
	baz=253							
SHL	Shillong	103.22	292	eP		Pdif	05 47 45.7	-0.3
J47A	Sunmer	103.27	49	IAMs_20	IAMs_20		06 28 07.0	
	comp=Z,5µm,20.0s							
KMSC	Kings Mountain	103.52	57	IAMs_20	IAMs_20		06 27 14.5	
	comp=Z,4µm,22.0s							
U54A	Nelsons Funny	103.53	56	P		Pdif	05 47 46.9	0.0
	baz=253							
U54A	Nelsons Funny	103.53	56	IAMs_20	IAMs_20		06 28 34.8	
	comp=Z,4µm,20.0s							
ACSO	Alum Creek Sta	103.72	52	IAMs_20	IAMs_20		06 28 32.3	
	comp=Z,5µm,20.0s							
SIV	San Ignacio	103.73	113	PKKPbc	PKKPbc		06 03 39.4	+0.2
	comp=Z,2.0nm,1.0s,baz=152,slow=3.1,SNR=6.2							
V55A	Taylorsville	103.81	57	IAMs_20	IAMs_20		06 28 23.2	
	comp=Z,4µm,21.0s							
NHSC	New Hope	103.85	60	IAMs_20	IAMs_20		06 28 40.5	
	comp=Z,3µm,20.0s							
GLMI	Grayling	103.87	47	IAMs_20	IAMs_20		06 28 09.6	
	comp=Z,5µm,21.0s							
T54A	Tazewell	103.88	55	P		Pdif	05 47 48.3	-0.1
	baz=254							
Q52A	Bidwell	103.89	53	P		Pdif	05 47 49.3	+0.9
	baz=254							
Y57A	Sumter	103.94	59	IAMs_20	IAMs_20		06 32 42.8	
	comp=Z,3µm,18.0s							
O51A	Pataskala	103.97	52	P		Pdif	05 47 48.8	0.0
	baz=254							
W56A	Indian Trail	104.10	58	P		Pdif	05 47 48.9	-0.5
	baz=254							
U55A	TA2, Sparta	104.12	56	P		Pdif	05 47 49.8	+0.2
	baz=254							
N51A	Ashland	104.36	51	P		Pdif	05 47 51.3	+0.8
	baz=254							
N51A	Ashland	104.36	51	IAMs_20	IAMs_20		06 27 40.1	
	comp=Z,4µm,21.0s							
V56A	Mocksville	104.36	57	P		Pdif	05 47 51.6	+1.1
	baz=254							
E46A	Sault Ste Mari	104.51	46	IAMs_20	IAMs_20		06 27 30.4	
	comp=Z,3µm,22.0s							
W57A	Gilead	104.57	58	IAMs_20	IAMs_20		06 28 17.5	
	comp=Z,4µm,21.0s							
P53A	Whipple	104.69	53	P		Pdif	05 47 52.7	+0.8
	baz=254							
BLA	Blacksburg	104.81	56	P		Pdif	05 47 53.4	+0.8
	baz=254							
BLA	Blacksburg	104.81	56	IAMs_20	IAMs_20		06 31 32.4	
	comp=Z,3µm,19.0s							
D46A	Sault St. Mari	104.83	45	P		Pdif	05 47 53.3	+1.0
	baz=254							
SDV	Santo Domingo	104.83	86	IAMs_20	IAMs_20		06 25 30.6	
	comp=Z,2µm,21.0s							
I49A	Point Hope	104.86	48	IAMs_20	IAMs_20		06 28 57.0	
	comp=Z,5µm,20.0s							
S55A	Lewisburg	104.89	55	P		PKiKP	05 52 08.2	+0.2
	baz=254							
T56A	Rocky Mt	105.06	56	P		PKiKP	05 52 08.5	+0.2
	baz=254							
W58A	Raeford	105.13	58	P		PKiKP	05 52 09.7	+1.3
	baz=254							
E47A	Iron Bridge	105.22	46	P		PKiKP	05 52 08.3	+0.1
	baz=255							
M52A	Chesterland	105.27	51	P		PKiKP	05 52 10.5	+2.0
	baz=255							
R55A	Marlinton	105.32	55	P		PKiKP	05 52 10.3	+1.5
	baz=255							
P54A	Burton	105.40	53	P		PKiKP	05 52 10.5	+1.6
	baz=255							
U57A	Blanch	105.43	57	P		PKiKP	05 52 10.8	+1.8
	baz=255							
V58A	Windy Hill, Pi	105.44	57	IAMs_20	IAMs_20		06 28 33.3	
	comp=Z,5µm,22.0s							
N53A	Lisbon	105.45	52	P		PKiKP	05 52 08.9	0.0
	baz=255							
N53A	Lisbon	105.45	52	IAMs_20	IAMs_20		06 28 46.1	
	comp=Z,4µm,20.0s							
D47A	Chapleau	105.49	45	P		PKiKP	05 52 09.6	+0.8
	baz=255							
F48A	Evansville	105.50	47	P		PKiKP	05 52 09.0	+0.3
	baz=255							
X59A	McDuffie Farm,	105.51	59	P		PKiKP	05 52 10.4	+1.3
	baz=254							
Q55A	Buckhannon	105.54	54	P		PKiKP	05 52 10.2	+1.1
	baz=255							
S56A	Natural Bridge	105.58	55	P		PKiKP	05 52 10.0	+0.8
	baz=255							
T57A	Hurt	105.65	56	IAMs_20	IAMs_20		06 29 40.8	
	comp=Z,4µm,21.0s							
M53A	WI Miller and	105.73	51	P		PKiKP	05 52 10.5	+1.2
	baz=255							
M53A	WI Miller and	105.73	51	IAMs_20	IAMs_20		06 29 35.5	
	comp=Z,4µm,20.0s							
W59A	Clinton	105.80	58	P		PKiKP	05 52 10.4	+0.8
	baz=255							
P55A	Reedsville	105.86	53	P		PKiKP	05 52 11.3	+1.6
	baz=255							
MCWV	Mont Chateau	105.89	53	P		PKiKP	05 52 11.4	+1.7
	baz=255							
MCWV	Mont Chateau	105.89	53	IAMs_20	IAMs_20		06 29 10.8	
	comp=Z,4µm,20.0s							
R56A	Bull Pasture M	105.90	55	P		PKiKP	05 52 11.1	+1.3
	baz=255							
X60A	Albert Glenn T	106.01	59	P		PKiKP	05 52 11.3	+1.3
	baz=255							
U58A	Oxford	106.03	57	P		PKiKP	05 52 09.8	-0.3
	baz=255							
S57A	Dark Hollow, R	106.08	55	P		PKiKP	05 52 09.6	-0.5
	baz=255							
S57A	Dark Hollow, R	106.08	55	IAMs_20	IAMs_20		06 29 24.0	
	comp=Z,4µm,21.0s							
I51A	Listowel	106.08	49	P		PKiKP	05 52 10.4	+0.5
	baz=256							
N54A	Moraine State	106.11	52	P		PKiKP	05 52 09.1	-1.0
	baz=256							
N54A	Moraine State	106.11	52	IAMs_20	IAMs_20		06 29 17.6	
	comp=Z,4µm,20.0s							
V59A	Middlesex	106.11	57	P		PKiKP	05 52 10.7	+0.5
	baz=255							
L53A	Girard	106.17	51	P		PKiKP	05 52 11.6	+1.5
	baz=256							
T58A	Grand View Acr	106.19	56	P		PKiKP	05 52 09.0	-1.3
	baz=255							
Q56A	Snyder Ridge,	106.22	54	P		PKiKP	05 52 12.5	+2.1
	baz=255							
CNNC	Cliffs of the	106.25	58	P		PKiKP	05 52 12.0	+1.6
	baz=255							
CNNC	Cliffs of the	106.25	58	IAMs_20	IAMs_20		06 35 24.1	
	comp=Z,3µm,18.0s							
ERPA	Erie	106.40	51	P		PKiKP	05 52 12.3	+1.7
	baz=256							
O55A	Ligonier	106.43	53	P		PKiKP	05 52 11.3	+0.6
	baz=256							
M54A	Oil Creek Stat	106.49	51	P		PKiKP	05 52 09.8	-0.9
	baz=256							
M54A	Oil Creek Stat	106.49	51	IAMs_20	IAMs_20		06 30 08.4	
	comp=Z,4µm,20.0s							
R57A	Stanardsville	106.54	55	P		PKiKP	05 52 11.8	+0.8
	baz=256							
P56A	Dayton Farm, R	106.60	54	P		PKiKP	05 52 11.1	+0.1
	baz=256							
U59A	Littleton	106.61	57	IAMs_20	IAMs_20		06 29 07.5	
	comp=Z,5µm,22.0s							
S58A	Poland Farm, P	106.73	56	P		PKiKP	05 52 13.7	+2.4
	baz=256							
S58A	Poland Farm, P	106.73	56	IAMs_20	IAMs_20		06 30 24.4	
	comp=Z,4µm,20.0s							
N55A	Marion Center	106.81	52	P		PKiKP	05 52 12.8	+1.4
	baz=256							
Q57A	Strasburg	106.81	54	P		PKiKP	05 52 13.3	+1.9
	baz=256							
V60A	Jim Taylor Roa	106.88	58	P		PKiKP	05 52 13.5	+1.9
	baz=256							
V60A	Jim Taylor Roa	106.88	58	IAMs_20	IAMs_20		06 29 58.7	
	comp=Z,3µm,21.0s							
L54A	Sinclairville	106.91	51	P		PKiKP	05 52 13.8	+2.2
	baz=256							
R58A	Rapidan	106.94	55	P		PKiKP	05 52 14.4	+2.7
	baz=256							
R58B	Mineral	106.95	55	IAMs_20	IAMs_20		06 30 12.2	
	comp=Z,4µm,21.0s							
T59A	Double "B" Far	106.95	56	P		PKiKP	05 52 11.2	-0.5
	baz=256							
T59A	Double "B" Far	106.95	56	IAMs_20	IAMs_20		06 30 49.4	
	comp=Z,3µm,20.0s							
O56A	Blue Knob Stat	106.99	53	P		PKiKP	05 52 11.3	-0.5
	baz=256							
M55A	Ridgway	107.13	52	IAMs_20	IAMs_20		06 29 58.5	
	comp=Z,4µm,20.0s							
P57A	Homestead Farm	107.22	54	P		PKiKP	05 52 12.2	+0.1
	baz=256							
Q58A	Fox Den Farm,	107.34	54	P		PKiKP	05 52 13.2	+0.9
	baz=256							
N56A	West Decatur	107.35	52	P		PKiKP	05 52 14.1	+1.7
	baz=256							
CBN	Corbin Frederi	107.39	55	P		PKiKP	05 52 13.6	+1.1
	baz=256							
CBN	Corbin Frederi	107.39	55	IAMs_20	IAMs_20		06 30 46.9	
	comp=Z,4µm,20.0s							
V61A	Roper	107.43	58	IAMs_20	IAMs_20		06 34 24.1	
	comp=Z,3µm,18.0s							
SDDR	Presa de Saban	107.44	76	IAMs_20	IAMs_20		06 26 45.1	
	comp=Z,3µm,22.0s							
K54A	Basiliko Farm,	107.45	50	P		PKiKP	05 52 13.2	+0.7
	baz=257							
ODAN	Odare	107.46	293	eP		PKiKP	05 52 13.5	+0.2
ODAN	Odare	107.46	293	eP		PKiKP	05 52 13.5	+0.2
RES	Resolute Bay	107.54	16	IAMs_20	IAMs_20		06 31 07.8	
	comp=Z,3µm,20.0s							
M56A	Emporium	107.56	52	IAMs_20	IAMs_20		06 29 29.9	
	comp=Z,4µm,21.0s							
PALK	Pallekele	107.58	271	IAMs_20	IAMs_20		06 35 56.6	
	comp=Z,2µm,22.0s							
SADO	Sadowa	107.62	48	IAMs_20	IAMs_20		06 30 32.1	
	comp=Z,5µm,20.0s							
T60A	Surry	107.63	56	IAMs_20	IAMs_20		06 29 28.4	
	comp=Z,4µm,22.0s							
U61A	Possum Corner	107.66	57	IAMs_20	IAMs_20		06 30 21.3	
	comp=Z,5µm,22.0s							
S60A	Water View	107.83	56	P		PKiKP	05 52 14.2	+0.8
	baz=256							
N57A	Milroy	107.86	53	P		PKiKP	05 52 14.2	+0.9
	baz=257							
V62A	Hyde County Ai	107.86	58	IAMs_20	IAMs_20		06 33 38.7	
	comp=Z,3µm,19.0s							
K55A	Perry	107.92	50	P		PKiKP	05 52 16.3	+2.9
	baz=257							
SC01	Santiago de lo	108.07	76	IAMs_20	IAMs_20		06 27 05.9	
	comp=Z,4µm,22.0s							
SDMD	Soldier's Deli	108.08	54	IAMs_20	IAMs_20		06 30 07.0	
	comp=Z,3µm,21.0s							
Q59A	Harwood	108.10	55	P		PKiKP	05 52 15.5	+1.7
	baz=257							
RAMN	Ramite	108.16	292	eP		PKiKP	05 52 14.3	-0.3
	comp=Z,19nm,0.8s							
RAMN	Ramite	108.16	292	eP		PKiKP	05 52 14.3	-0.3
	comp=Z,19nm,0.8s							
J55A	Hilton	108.22	50	P		PKiKP	05 52 17.4	+3.5
	baz=258							
N58A	Sunbury	108.50	53	P		PKiKP	05 52 15.7	+1.2
	baz=257							
S61A	Accomac	108.58	56	IAMs_20	IAMs_20		06 34 06.4	
	comp=Z,3µm,19.0s							
DELO	Deloro Mine	108.63	49	IAMs_20	IAMs_20		06 31 10.8	
	comp=Z,4µm,20.0s							
L57A	Andrews Acres	108.65	51	P		PKiKP	05 52 18.7	+3.9
	baz=258							
JIRN	Jiri	108.70	293	eP		PKiKP	05 52 15.3	-0.5
JIRN	Jiri	108.70	293	eP		PKiKP	05 52 15.3	-0.5
M58A	Price's Panora	108.80	52	P		PKiKP	05 52 16.8	+1.7
	baz=258							
R61A	Willards	108.98	55	IAMs_20	IAMs_20		06 31 44.0	
	comp=Z,3µm,20.0s							
GUN	Gumba	109.03	293	eP		PKiKP	05 52 15.8	-0.6
GUN	Gumba	109.03	293	eP		PKiKP	05 52 15.8	-0.6
P60A	Greenville	109.08	54	P		PKiKP	05 52 19.6	+4.0
	baz=258							
D53A	Lac Vacive, Po	109.09	46	IAMs_20	IAMs_20		06 34 09.7	
	comp=Z,4µm,20.0s							
BINY	Binghamton	109.32	51	P		PKiKP	05 52 16.6	+0.6
	baz=258							
PKI	Pulchoki	109.34	293	eP		PKiKP	05 52 16.1	-0.8
	comp=Z,26nm,0.8s							
PKI	Pulchoki	109.34	293	eP		PKiKP	05 52 16.1	-0.8
	comp=Z,26nm,0.8s							
DGAR	Diego Garcia	109.52	253	IAMs_20	IAMs_20		06 33 40.9	
	comp=Z,3µm,21.0s							
J57A	Williamstown	109.55	50	P		PKiKP	05 52 17.6	+1.2
	baz=259							
M59A	Waymart	109.59	52	P		PKiKP	05 52 18.3	+1.7
	baz=258							
DMN	Daman	109.61	293	eP		PKiKP	05 52 16.6	-0.8
DMN	Daman	109.61	293	eP		PKiKP	05 52 16.6	-0.8
K58A	Earlville	109.68	51	P		PKiKP	05 52 13.9	-2.8
	baz=259							
F55A	Otter Lake	109.77	48	P		PKiKP	05 52 19.2	+2.4
	baz=259							
ORIO	Orleans, Innes	110.28	48	P		PKiKP	05 52 16.8	-0.9
	baz=260							
ORIO	Orleans, Innes	110.28	48	IAMs_20	IAMs_20		06 32 12.4	
	comp=Z,2µm,20.0s							
D55A	Sainte-Anne-du	110.58	46	P		PKiKP	05 52 20.7	+2.5
	baz=260							
G57A	Newington	110.58	48	P		PKiKP	05 52 20.7	+2.4
	baz=260							
LONY	Lake Ozonia	110.78	49	IAMs_20	IAMs_20		06 34 02.8	
	comp=Z,3µm,20.0s							
E56A	St. Veronique	110.80	47	P		PKiKP	05 52 20.5	+1.9
	baz=260							
NCB	Newcomb	110.92	50	IAMs_20	IAMs_20		06 32 41.6	
	comp=Z,4µm,20.0s							
KOLN	Koldanda	110.95	293	eP		PKiKP	05 52 18.7	-1.1
	comp=Z,45nm,1.1s							
KOLN	Koldanda	110.95	293	eP		PKiKP	05 52 18.7	-1.1
	comp=Z,45nm,1.1s							
WMQ	Urumqi	111.00	310	ePKP		PKiKP	05 52 18.9	-0.3
WMQ				PP		PP	05 53 01.0	+2.8
WMQ				SS		SS	06 08 25.3	-2.5
WMQ				AMB		AMB		
	comp=Z,310nm,6.5s							
WMQ				LR		LR		
	comp=Z,310nm,21.7s							
WMQ				LR		LR		
	comp=Z,600nm,22.9s							
WMQ				LR		LR		
	comp=Z,960nm,24.1s							
D56A	ZEC Mazanza, M	111.07	46	P		PKiKP	05 52 21.0	+1.9
	baz=261							
E57A	Chemin Saint G	111.38	47	P		PKiKP	05 52 21.6	+1.8
	baz=261							
FRNY	Flat Rock	111.52	49	IAMs_20	IAMs_20		06 32 18.2	
	comp=Z,4µm,22.0s							
PYUN	Piuthan	111.55	293	eP		PKiKP	05 52 20.3	-0.6
	comp=Z,42nm,0.5s							
PYUN	Piuthan	111.55	293	eP		PKiKP	05 52 20.3	-0.6
	comp=Z,42nm,0.5s							
I60A	Shoreham	111.56	50	P		PKiKP	05 52 19.7	-0.4
	baz=261							
VT1	Waterbury	112.03	50	IAMs_20	IAMs_20		06 33 24.8	
	comp=Z,4µm,20.0s							
M63A	Gales Ferry	112.06	53	P		PKiKP	05 52 21.8	+0.6
	baz=260							
DGZ	J

BBGH Gun Hill 116.49 86 IAMs_20 IAMs_20 06 36 11.4
comp=Z,3μm,22.0s
SHLS Shalkode 116.85 308 *i* PKP **PKPdf** **05 52 29.4 -1.1**
SHLS LR LR 06 40 44.7
comp=Z,319nm,21.4s
SHLS Shalkode 116.85 308 *i* PKIKP **PKPdf** **05 52 29.4 -1.1**
SHLS MLR MLR
comp=Z,319nm,21.0s
SMLA Simla 117.13 295 *e*P **PKiKP** **05 52 31.9 +0.7**
UZB Uzynbulak 117.17 308⇑ *i*PKP **PKPdf** **05 52 30.6 -0.6**
comp=Z,18nm,1.4s
UZB Uzynbulak 117.17 308*c* *i*PKIKP **PKPdf** **05 52 30.6 -0.6**
UZB pmax pmax
comp=Z,18nm,1.4s
KPKS Kokpek 117.44 309 *i* PKP **PKPdf** **05 52 31.2 -0.4**
KPKS *e*PP **PP** **05 53 41.8 -2.0**
KPKS LR LR 06 39 40.3
comp=Z,493nm,18.2s
KPKS Kokpek 117.44 309 *i* PKIKP **PKPdf** **05 52 31.2 -0.4**
KPKS *e* 05 53 41.8
KPKS MLR MLR
comp=Z,493nm,18.0s
SATY Saty 117.61 308⇑ *i*PKP **PKPdf** **05 52 31.7 -0.3**
comp=Z,35nm,2.5s
SATY Saty 117.61 308*c* *i*PKIKP **PKPdf** **05 52 31.7 -0.3**
SATY pmax pmax
comp=Z,35nm,2.5s
TDK Taldyqorghan 117.74 310 *i* PKP **PKPdf** **05 52 31.3 -0.8**
TDK LR LR 06 40 53.9
comp=Z,714nm,19.2s
TDK Taldyqorghan 117.74 310 *i* PKIKP **PKPdf** **05 52 31.2 -0.8**
TDK MLR MLR
comp=Z,714nm,19.0s
LMN Caledonia Moun 117.78 49 IAMs_20 IAMs_20 06 36 52.9
comp=Z,4μm,20.0s
KURK Kurchatov 117.79 317*c* *i*PKIKP **PKPdf** **05 52 30.9 -1.0**
KURK Kurchatov 117.79 317 PKPdf **PKPdf** **05 52 31.0 -0.9**
KURBB Kurchatov Arra 117.85 317 PKP **PKPdf** **05 52 31.2 -0.8**
comp=Z,13nm,1.0s,baz=93,slow=1.9,SNR=52
KURBB PP **PP** **05 53 41.9 -4.3**
comp=Z,4.9nm,1.2s,baz=86,slow=7.4,SNR=6.2
KURBB Kurchatov Arra 117.85 317 PKIKP **PKPdf** **05 52 30.9 -1.1**
DHRM DHARAMSHALA 118.04 296 *e*P **PKPdf** **05 52 33.2 -0.1**
MDOK Medeo 118.61 308 *i* PKP **PKPdf** **05 52 33.5 -0.4**
MDOK LR LR 06 40 59.6
comp=Z,426nm,21.5s
MDOK Medeo 118.61 308 *i* PKIKP **PKPdf** **05 52 33.5 -0.4**
MDOK MLR MLR
comp=Z,426nm,22.0s
TNSS Tian-Shan 118.68 308 *i* PKP **PKPdf** **05 52 33.9 -0.5**
TNSS Tian-Shan 118.68 308 *i* PKIKP **PKPdf** **05 52 33.9 -0.5**
CHKK Chushkaly 118.69 309 *i* PKP **PKPdf** **05 52 32.5 -1.4**
CHKK Chushkaly 118.69 309 *i* PKIKP **PKPdf** **05 52 32.5 -1.4**
AAA Alma-Ata 118.71 308 *i* PKP **PKPdf** **05 52 33.7 -0.4**
AAA LR LR 06 42 58.0
comp=Z,398nm,18.2s
AAA Alma-Ata 118.71 308 *i* PKIKP **PKPdf** **05 52 33.6 -0.4**
AAA MLR MLR
comp=Z,398nm,18.0s
MTBS Maitube 119.06 308 *i* PKP **PKPdf** **05 52 33.8 -1.0**
MTBS Maitube 119.06 308 *i* PKIKP **PKPdf** **05 52 33.7 -1.0**
ULHL Ulahol 119.15 307 P **PKPdf** **05 52 35.3 +0.2**
SNR=8.5
KSH Kashi 119.16 304 PKP **PKiKP** **05 52 35.6 +0.5**
KSH PP **PP** **05 54 02.2 +6.3**
KSH SS SS 06 10 21.6 +6.2
KSH AMB AMB
comp=Z,960nm,6.8s
KSH LR LR
comp=Z,800nm,16.6s
KSH LR LR
comp=Z,2μm,21.1s
KSH LR LR
comp=Z,3μm,20.2s
KUU Kurty 119.17 309⇑ *i*PKP **PKPdf** **05 52 33.9 -1.0**
comp=Z,76nm,2.3s
KUU *e*PP **PP** **05 53 53.4 -2.2**
KUU LR LR 06 37 59.2
comp=Z,491nm,19.1s
KUU Kurty 119.17 309*c* *i*PKIKP **PKPdf** **05 52 33.8 -1.0**
KUU *e* 05 53 53.4
KUU pmax pmax
comp=Z,76nm,2.3s
BOOM Boomskoye usch 119.39 308 PKIKP **PKPdf** **05 52 35.5 0.0**
BOOM Boomskoye usch 119.39 308 **PKPdf** **05 52 35.5 0.0**
TKM2 Tokmak 2 119.66 308 P **PKPdf** **05 52 35.5 -0.5**
SNR=21
TKM2 Tokmak 2 119.66 308 PKIKP **PKPdf** **05 52 35.2 -0.9**
KZA Kyzart 119.88 307 P **PKiKP** **05 52 37.1 +0.2**
SNR=5.7
KBK Karagaybulak 120.13 308 P **PKPdf** **05 52 36.4 -0.5**
SNR=8.6
CHMS Chumysh 120.29 308 P **PKPdf** **05 52 36.9 -0.2**
SNR=8.0
SGDS Sogindy 120.39 309⇑ *i*PKP **PKPdf** **05 52 36.6 -0.7**
comp=Z,44nm,2.8s
SGDS Sogindy 120.39 309*c* *i*PKIKP **PKPdf** **05 52 36.5 -0.7**
SGDS pmax pmax
comp=Z,44nm,2.8s
UCH Uchtor 120.43 307 P **PKiKP** **05 52 38.3 +0.3**
SNR=23
AAK Ala-Archa 120.46 308 PKP **PKPdf** **05 52 37.0 -0.5**
comp=Z,9.2nm,0.8s,baz=165,slow=1.7,SNR=17
AAK Ala-Archa 120.46 308 P **PKPdf** **05 52 37.4 -0.1**
SNR=7.4
AAK Ala-Archa 120.46 308 *i* P **PKPdf** **05 52 37.3 -0.3**
SNR=7.5
AAK Ala-Archa 120.46 308*c* *i*PKIKP **PKPdf** **05 52 37.3 -0.3**
AAK pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 120.46 308 PKPdf **PKPdf** **05 52 37.4 -0.1**
USP Ospenovka 120.48 308 P **PKPdf** **05 52 37.1 -0.3**
SNR=10
NIL Nilore 120.77 297 PKIKP **PKPdf** **05 52 37.9 -0.3**
NIL Nilore 120.77 297 PKPdf **PKPdf** **05 52 37.9 -0.3**
BTLS Baital 120.84 310⇑ *i*PKP **PKPdf** **05 52 37.5 -0.5**
comp=Z,18nm,1.4s
BTLS Baital 120.84 310*c* *i*PKIKP **PKPdf** **05 52 37.5 -0.5**
BTLS pmax pmax
comp=Z,18nm,1.4s
EKS2 Erkin-Say 120.99 308 P **PKPdf** **05 52 38.4 -0.1**
SNR=13
AML Almayashu 121.04 307 P **PKPdf** **05 52 39.1 +0.2**
SNR=6.9
ILULI Ilulissat 121.14 21 *i* P **PKPdf** **05 52 36.3 -1.5**
ILULI *i* 05 54 07.2
comp=Z,2μm,21.0s
ILULI Ilulissat 121.14 21 *i* PKIKP **PKPdf** **05 52 36.3 -1.5**
ILULI *i* 05 54 07.2
ILULI MLR MLR
comp=Z,2μm,21.0s
ILULI Ilulissat 121.14 21 IAMs_20 IAMs_20 06 40 20.9
comp=Z,2μm,20.0s
BRZS Berezniki 121.62 316⇑ *i*PKP **PKPdf** **05 52 38.4 -0.9**
comp=Z,26nm,1.4s
BRZS *e*PP **PP** **05 54 10.3 -1.8**
BRZS Berezniki 121.62 316*c* *i*PKIKP **PKPdf** **05 52 38.4 -0.9**
BRZS *e* 05 54 10.3
BRZS pmax pmax
comp=Z,26nm,1.4s
SFJD Kangerlussuaq 122.16 23 IAMs_20 IAMs_20 06 37 53.1
comp=Z,2μm,21.0s
KBS Kingsbay 122.48 359 *e*PP PP 05 54 17.6 +0.6
KBS *e*SP SP 06 04 10.0 +3.1
KBS *e*SS SS 06 11 01.2 +6.0
KBS IVMs_BB IVMs_BB 06 39 24.3
comp=Z,876nm,3.5s
DZA Taraz 122.80 308 *i* PKP **PKPdf** **05 52 41.5 -0.4**
DZA *i* PP **PP** **05 54 19.1 -1.4**
DZA Taraz 122.80 308 *i* PKIKP **PKPdf** **05 52 41.4 -0.4**
DZA *i* 05 54 19.0
BRVK Borovoye 122.80 320 P **PKPdf** **05 52 40.8 -0.7**
BRVK Borovoye 122.80 320*c* *i*PKIKP **PKPdf** **05 52 41.3 -0.1**
BRVK pmax pmax
comp=Z,44nm,1.2s
BRVK Borovoye 122.80 320 PKPdf **PKPdf** **05 52 41.4 -0.1**
BRVK Borovoye 122.80 320 IAMs_20 IAMs_20 06 43 18.5
comp=Z,3μm,22.0s
SUMG Summit 123.03 15 *i* P **PKiKP** **05 52 43.7 +1.6**
SUMG *i* 05 54 21.0
comp=Z,10μm,24.0s
SUMG Summit 123.03 15 PKIKP **PKPdf** **05 52 41.8 -0.1**
SUMG Summit 123.03 15 PKPdf **PKPdf** **05 52 41.8 -0.1**
SUMG IAMs_20 IAMs_20 06 39 39.2
comp=Z,3μm,22.0s

SPA0 Spitsbergen Ar 123.10 358 *e*PKPdf **PKPdf** **05 52 41.7 +0.2**
KK31 Karatay Array 123.39 308 *i* PKIKP **PKPdf** **05 52 41.7 -1.3**
KK31 Karatay Array 123.39 308 PKPdf **PKPdf** **05 52 42.6 -0.4**
KKAR Karatay Array 123.39 308 PKIKP **PKPdf** **05 52 42.7 -0.3**
KKAR Karatay Array 123.39 308 PKPdf **PKPdf** **05 52 42.7 -0.3**
KKAR Karatay Array 123.39 308 PKPdf **PKPdf** **05 52 42.5 -0.5**
GAR Garm 123.52 303 PKPdf **PKiKP** **05 52 43.9 +0.2**
ABPO Ambohimpanom 123.54 227 IAMs_20 IAMs_20 06 46 55.5
comp=Z,2μm,18.0s
IUG Iuzhnay 123.76 307⇑ *i*PKP **PKPdf** **05 52 44.0 +0.2**
comp=Z,80nm,2.5s
IUG Iuzhnay 123.76 307*c* *i*PKIKP **PKPdf** **05 52 44.0 +0.2**
IUG pmax pmax
comp=Z,79nm,2.5s
HSPB Hornsund (broa 124.30 358 *e*PKPdf **PKiKP** **05 52 45.1 +1.1**
HSPB *e*PP **PP** **05 54 30.0 +0.8**
KBL Kabul 124.33 298 P **PKPdf** **05 52 45.6 +0.4**
SNR=30
KBL Kabul 124.33 298 PKIKP **PKiKP** **05 52 45.8 +0.2**
KBL Kabul 124.33 298 PKPdf **PKiKP** **05 52 45.8 +0.2**
CHGR Chuyangaron 124.41 303 PKPdf **PKPdf** **05 52 45.1 -0.1**
SUR Sutherland 124.76 194 PKP **PKiKP** **05 52 47.4 +0.8**
comp=Z,23nm,1.0s,baz=141,slow=2.6,SNR=7.1
SUR Sutherland 124.76 194 PKPdf **PKiKP** **05 52 47.5 +0.9**
IVI Ivigtut 125.29 29 IAMs_20 IAMs_20 06 42 52.7
comp=Z,2μm,19.0s
MSEY Mahe Island 125.69 247 IAMs_20 IAMs_20 06 41 47.4
comp=Z,2μm,20.0s
NRS Narsarsuaq 126.55 28 IAMs_20 IAMs_20 06 41 15.7
comp=Z,2μm,20.0s
BJO1 Bjornoya 126.58 356 *e*PP PP 05 54 44.4 0.0
BJO1 *e*SS SS 06 11 49.9 +3.1
BJO1 IVMs_BB IVMs_BB 06 45 12.1
comp=Z,2μm,3.4s
BOSA Boshof 127.08 200 PKP **PKiKP** **05 52 51.4 +0.2**
comp=Z,35nm,1.2s,baz=146,slow=3.5,SNR=16
SVE Sverdlovsk 127.35 326 *i* PKIKP **PKPdf** **05 52 50.0 -0.1**
SVE pmax pmax
comp=Z,65nm,1.4s
SVE MLR MLR
comp=Z,2μm,21.0s
ANGG Ammassalik, Gr 127.42 21 IAMs_20 IAMs_20 06 49 13.0
comp=Z,2μm,21.0s
ARU Arti 128.57 326 *i* PKIKP **PKPdf** **05 52 52.3 -0.1**
ARU 05 54 57.1
ARU PPP PPP 05 57 50.2
ARU 06 00 03.2
ARU MLR MLR
comp=Z,2μm,22.0s
ARU Arti 128.57 326 PKPdf **PKPdf** **05 52 52.3 -0.1**
ARU IAMs_20 IAMs_20 06 46 12.4
comp=Z,2μm,22.0s
HAMF Hammerfest 129.86 353 *e*PKPdf **PKiKP** **05 52 55.3 +0.1**
HAMF *e*PP **PP** **05 55 04.5 -1.5**
HAMF *e*PS **PS** **06 05 17.3 +0.2**
HAMF *e*SS SS 06 12 26.4 -1.0
HAMF IVMs_BB IVMs_BB 06 44 10.1
comp=Z,893nm,3.7s
ABKAR Akbulak array 129.90 317 PKPdf **PKPdf** **05 52 55.2 0.0**
HRA Herat 129.93 297 **PKPdf** **05 52 55.8 -0.2**
LBTB Lobatse 130.28 203 PKIKP **PKPdf** **05 52 57.2 +0.3**
LBTB Lobatse 130.28 203 PKPdf **PKPdf** **05 52 57.2 +0.3**
ARCES ARCESS Array B 130.66 351 PKP **PKPdf** **05 52 55.8 -0.3**
comp=Z,17nm,0.6s,baz=8.3,slow=1.6,SNR=46
ARCES ARCESS Array B 130.66 351 **PKPdf** **05 52 56.1 +0.1**
ARE0 ARCESS Array S 130.66 351 PKPdf **PKPdf** **05 52 56.3 +0.3**
ARE0 ARCESS Array S 130.66 351 *e*PKPdf **PKiKP** **05 52 57.0 +0.1**
ARE0 *e*PP **PP** **05 55 10.6 -0.7**
ARE0 *e*SS SS 06 12 36.2 -1.1
ARE0 IVMs_BB IVMs_BB 06 42 58.1
comp=Z,690nm,3.8s
APA Apatity 131.01 347⇑ *i*PKIKP **PKPdf** **05 52 54.2 -2.5**
APA pmax pmax
comp=Z,12nm,1.0s
APA MLR MLR
comp=Z,2μm,19.0s
TRO Tromso 131.32 354 *e*PKPdf **PKPdf** **05 52 57.7 +0.4**
TRO *e*PP **PP** **05 55 15.6 +0.2**
TRO *e*SS SS 06 12 45.7 +0.4
TRO IVMs_BB IVMs_BB 06 37 15.9
comp=Z,1μm,4.2s
KTK1 Kautokeino 131.45 352 *e*PKPdf **PKPdf** **05 52 57.4 -0.1**
KTK1 *e*SKPdf **SKiKP** **05 56 33.8 +1.6**
KTK1 *e*SS **SS** **06 12 49.4 +2.5**
PRGR Permogore 131.82 336 *e*PKIKP **PKPdf** **05 52 54.3 -4.1**
PRGR pmax pmax
comp=Z,55nm,1.4s
WSAR Wadi Sarin 132.26 282 P **PKPdf** **05 52 59.8 -0.7**
TMCR Tamitsa 132.58 342 *e*PKIKP **PKPdf** **05 52 56.5 -3.2**
BIDO Bidbid 132.76 283 P **PKiKP** **05 53 02.3 -0.2**
SNR=7.4
GEYT Alibeck 133.12 302 PKP **PKPdf** **05 53 01.9 +0.2**
comp=Z,17nm,0.9s,baz=292,slow=0.8,SNR=19
GYA0B ALIBECK ARRAY 133.12 302 PKPdf **PKPdf** **05 53 01.9 +0.3**
GYA0B IAMs_20 IAMs_20 06 56 17.6
comp=Z,2μm,22.0s
LOF Lofoten 133.20 357 *e*PKPdf **PKiKP** **05 53 02.4 +0.4**
LOF *e*PP **PP** **05 55 27.6 +0.1**
LOF *e*SKPdf **SKiKP** **05 56 37.6 +1.9**
LOF *e*SS **SS** **06 13 12.8 +4.7**
LOF IVMs_BB IVMs_BB 06 51 32.3
comp=Z,2μm,4.2s
STEI Steigen 133.29 356 *e*PP PP 05 55 28.8 +0.8
HOQ Hoqain 133.51 283 P **PKPdf** **05 53 02.1 -0.7**
FAUS Fauske 133.83 355 *e*PKPdf **PKPdf** **05 53 02.6 +0.6**
FAUS *e*PP **PP** **05 55 31.3 -0.1**
FAUS *e*SKPdf **SKiKP** **05 56 38.3 +1.2**
FAUS *e*SS **SS** **06 13 18.3 +2.6**
FAUS IVMs_BB IVMs_BB 06 39 10.4
comp=Z,2μm,4.8s
SOHO SOHO 134.28 283 *i* P **PKPdf** **05 53 03.3 -0.9**
SNR=16
KLMR Klimovskoe 134.55 338 *e*PKIKP **PKPdf** **05 53 02.8 -0.8**
KLMR *e*SS SS 06 13 27.7 +2.8
KLMR pmax pmax
comp=Z,39nm,1.2s
KLMR Klimovskoe 134.55 338 *e*PKPdf **PKPdf** **05 53 02.8 -0.8**
KLMR AMP 05 53 05.4
comp=Z,39nm,1.2s
KLMR *e*PP **PP** **05 55 31.8 -4.5**
KLMR *e*PKS **PKSdf** **05 56 38.0 -1.5**
KLMR *e*PKS **PKSdf** **05 56 38.0 -1.5**
KLMR *e*SS **SS** **06 13 27.7 +2.8**
KLMR *e*SS **SS** **06 13 27.7 +2.8**
KLMR LQ LQ 06 40 37.4
KLMR LQ LQ 06 40 37.4
KLMR LR LR 06 42 38.3
MDH Madha 134.63 285 *i* P **PKPdf** **05 53 03.2 -1.6**
SNR=10
UOSS Minazif 134.67 284 *i* P **PKPdf** **05 53 03.5 -1.5**
SNR=7.7
UOSS Minazif 134.67 284 PKPdf **PKPdf** **05 53 04.4 -0.5**
BANOM Banah 134.69 286 P **PKPdf** **05 53 04.2 -0.8**
HATD Hatta, Dubai 134.73 284 *i* P **PKPdf** **05 53 04.3 -0.8**
SNR=12
HATD Hatta, Dubai 134.73 284 P **PKiKP** **05 53 07.1 +0.6**
SNR=9.7
MSFE Esma-Masafi 134.76 285 *i* P **PKPdf** **05 53 04.3 -0.8**
SNR=6.9
ASHO Ashiyiah 134.78 284 *i* P **PKPdf** **05 53 04.0 -1.2**
SNR=9.2
ASHO Ashiyiah 134.78 284 P **PKPdf** **05 53 04.6 -0.6**
SNR=8.6
SHME Shamm 134.84 286 P **PKPdf** **05 53 04.4 -0.8**
ALNE Al Ain 134.98 283 *i* P **PKPdf** **05 53 03.6 -1.9**
SNR=6.3
MOR8 Moi Rana 135.08 356 *e*PKPdf **PKPdf** **05 53 05.0 +0.6**
MOR8 *e*PP **PP** **05 55 38.9 -0.6**
MOR8 *e*SKPdf **SKiKP** **05 56 39.9 +0.2**
MOR8 *e*SS **SS** **06 13 34.3 +3.4**
MOR8 IVMs_BB IVMs_BB 06 40 14.9
comp=Z,1μm,4.8s
NAZ Nazwa, Dubai 135.17 284 *i* P **PKPdf** **05 53 05.3 -0.6**
SNR=6.4
LSZ Lusaka 137.85 212 IAMs_20 IAMs_20 06 51 27.6
comp=Z,3μm,21.0s
FINES FINESS Array B 137.91 346 PKhKP PKPpre 05 52 57.8
comp=Z,2.9nm,0.8s,baz=77,slow=4.1,SNR=5.1
FINES PKP **PKPdf** **05 53 08.6 -1.2**
comp=Z,7.4nm,0.6s,baz=207,slow=0.4,SNR=8.0
TSUM Tsumeb 138.18 195 IAMs_20 IAMs_20 06 45 56.1
comp=Z,2μm,22.0s
PUL Pulkovo 138.29 342 *e*P **PKPdf** **05 53 09.6 -0.9**
MOS Moscow 138.85 334 *e*PKIKP **PKPdf** **05 53 08.5 -3.2**

MOS MLR MLR
comp=Z,900nm,19.0s
MOL Molde 138.97 359 *e*PKPdf **PKiKP** **05 53 13.4 -0.5**
MOL *e*PP **PP** **05 56 04.5 +0.8**
MOL *e*SS SS 06 14 24.2 +7.2
AKN Aaknes 139.37 360 *e*PKPdf **PKPdf** **05 53 07.5 -5.0**
AKN *e*PP **PP** **05 56 07.3 +1.1**
AKN *e*PKSdf **PKSdf** **05 56 50.4 +2.2**
AKN IVMs_BB IVMs_BB 06 44 51.8
comp=Z,1μm,3.8s
DOMB Dombas 139.47 358 *e*PKPdf **PKPdf** **05 53 11.0 -1.7**
DOMB *e*PP **PP** **05 56 08.3 +1.5**
DOMB *e*SS SS 06 14 27.4 +4.4
DOMB IVMs_BB IVMs_BB 06 39 28.0
comp=Z,1μm,4.4s
OBN Obninsk 139.72 334*c* *e*PKIKP **PKPdf** **05 53 13.2 -0.1**
OBN *i* 05 53 16.6
OBN *e* 05 56 11.2
OBN *e*PS 06 06 42.9
OBN *e*SS SS 06 14 25.2 -1.3
OBN *e*SSS SSS 06 19 33.0
OBN pmax pmax
comp=Z,54nm,1.5s
OBN pmax pmax
comp=Z,73nm,2.0s
OBN MLR MLR
comp=Z,1μm,20.0s
VRH Novokhopyorsk 139.80 326 *e*PKIKP **PKPdf** **05 53 09.1 -4.5**
VRH pmax pmax
comp=Z,10.0nm,1.2s
FOO Floro 139.93 1 *e*PKPdf **PKPdf** **05 53 09.5 -4.0**
FOO *e*PP **PP** **05 56 08.4 -1.1**
FOO *e*SS SS 06 14 31.3 +3.1
FOO IVMs_BB IVMs_BB 06 42 44.3
comp=Z,1μm,4.6s
MAK Makhachkala 139.98 312 *e*P **Pdif** **05 50 23.8 -5.0**
MAK *i* 05 53 11.4
MAK *e* 06 00 22.5
MAK *e*SS SS 06 14 26.5 -4.5
MAK *e*SSS SSS 06 19 41.8
MAK pmax pmax
comp=Z,425nm,1.8s
NC204 NORSAR Array S 140.18 357 **PKPdf** **05 53 14.2 +0.2**
LPSR Galich'ya Gora 140.35 329 *e*PKHKP **PKPdf** **05 53 09.1 -5.4**
LPSR pmax pmax
comp=Z,30nm,1.1s
VSU Vasula 140.38 344 *e*P **PKPdf** **05 53 08.4 -6.0**
NB2 NORSAR Subarra 140.39 357 PKP PKPdf 05 53 06.4 -8.0
comp=Z,38nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra 140.39 357 PKPab PKPdf 05 53 06.4 -8.0
baz=17,slow=2.6
NOA NORSAR Array B 140.39 357 PKhKP PKPdf 05 53 06.3 -8.1
comp=Z,4.8nm,0.9s,baz=4.5,slow=2.3,SNR=8.8
SUE Sulen 140.47 2 *e*PKPdf **PKPdf** **05 53 13.8 -0.6**
SUE *e*PP **PP** **05 56 12.6 -0.2**
SUE *e*PKSdf **PKSdf** **05 56 51.3 +1.2**
SUE *e*SS SS 06 14 37.8 +3.3
SUE IVMs_BB IVMs_BB 06 46 50.9
comp=Z,1μm,4.0s
NC602 NORSAR Array S 140.67 356 *e*PKPdf **PKPdf** **05 53 13.4 -1.5**
NC602 *e*PP **PP** **05 56 10.5 -3.6**
NC602 *e*SKPdf **SKiKP** **05 56 50.9 -0.4**
NC602 *e*SS **SS** **06 14 35.5 -1.4**
NC602 IVMs_BB IVMs_BB 06 42 23.6
comp=Z,899nm,4.2s
VORR Voronezh 140.80 328 PKIKP **PKPdf** **05 53 13.0 -2.3**
VORR pmax pmax
comp=Z,250nm,1.2s
SKAR Skarslia 140.85 359 *e*PKPdf **PKPdf** **05 53 15.3 0.0**
SKAR *e*PP **PP** **05 56 15.4 0.0**
SKAR *e*SS SS 06 14 44.7 +5.4
SKAR IVMs_BB IVMs_BB 06 40 28.5
comp=Z,642nm,4.4s
GROC Groznyy 141.07 313 *e*PKIKP **PKPdf** **05 53 16.4 +0.3**
GROC pmax pmax
comp=Z,135nm,1.7s
VSR Storozhevoye 141.09 328 *e*PKIKP **PKPdf** **05 53 14.7 -1.2**
VSR pmax pmax
comp=Z,40nm,1.3s
BER Bergen 141.15 1 *e*PKPdf **PKPdf** **05 53 16.4 +0.7**
BER *e*PP **PP** **05 56 18.1 +1.0**
BER *e*SS SS 06 14 46.4 +3.9
BER IVMs_BB IVMs_BB 06 43 50.7
comp=Z,1μm,4.2s
ODD1 Odda 141.64 0 *e*PKPdf **PKPdf** **05 53 17.2 +0.5**
ODD1 *e* 05 56 21.1
KONO Kongsberg 141.85 358 IAMs_20 IAMs_20 07 02 03.5
comp=Z,1μm,21.0s
KONO Kongsberg 141.85 358 *e*PKPdf **PKPdf** **05 53 17.1 +0.1**
KONO *e*SS SS 06 14 53.7 +3.1
KONO IVMs_BB IVMs_BB 06 47 12.0
comp=Z,884nm,4.7s
BLS5 Blasjo 142.13 0 *e*PKPdf **PKPdf** **05 53 14.4 -3.2**
BLS5 *e*PP **PP** **05 56 20.2 -2.8**
BLS5 *e*SS SS 06 14 57.5 +3.5
BLS5 IVMs_BB IVMs_BB 06 52 20.6
comp=Z,827nm,4.7s
GOF Gofitskoye 142.15 317⇑ *e*PKHKP PKPpre 05 52 57.2
GOF pmax pmax
comp=Z,29nm,0.5s
SLIT Slitere, Latvi 142.20 346 *e*P PKPdf 05 53 09.1 -8.5
KMY Karmoy 142.33 1 *e*PKPdf **PKPdf** **05 53 15.4 -2.4**
TBLG Delisi 142.33 311 P PKPdf 05 53 10.9 -7.6
TBLG Delisi 142.33 311 PKIKP **PKPdf** **05 53 18.6 +0.1**
TBLG Delisi 142.33 311 PKPdf **PKPdf** **05 53 18.6 +0.1**
ZEI Tsey 142.52 313 *i* PKHKP **PKPdf** **05 53 13.5 -5.5**
ZEI pmax pmax
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 142.70 237 PKP **PKPdf** **05 53 18.2 -2.1**
comp=Z,16nm,0.8s,baz=60,slow=3.0,SNR=25
KBZ Khabaz 142.81 315 PKhKP **PKPdf** **05 53 15.6 -3.6**
comp=Z,9.0nm,1.0s,baz=168,slow=1.8,SNR=8.6
KIV Kislovodsk 142.85 315 P **PKPdf** **05 53 14.2 -5.2**
KIV Kislovodsk 142.85 315 *i* PKIKP **PKPdf** **05 53 21.1 +1.7**
KIV *e* 05 56 26.8
KIV *e*SS SS 06 15 05.2 +0.8
KIV pmax pmax
comp=Z,55nm,1.0s
IZAR Zarasai 142.87 342 *e*P **PKPdf** **05 53 15.8 -3.1**
KAC Achnashellach 142.98 11 *e*P **PKPdf** **05 53 15.1 -4.0**
H07N1 FLORES T-PHASE 143.00 52 *e*PKP PKPab 05 53 15.7 +0.7
H07S1 FLORES T-PHASE 143.03 53 *e*PKP **PKiKP** **05 53 21.8 -1.2**
ISAL Salakas 143.05 342 *e*P PKPbc 05 53 16.3 +0.2
KPL Plockton 143.07 11 *e*P PKPab 05 53 15.0 +0.4
IDID Didziasalis 143.09 341 *e*P PKPab 05 53 15.6 +0.8
IIGN Ignalina 143.22 342 *e*P PKPbc 05 53 16.6 0.0
SNART Snartemo 143.22 360 *e*PKPdf PKPbc 05 53 17.1 +0.6
SNART *e*PP **PP** **05 56 30.6 +1.0**
MCD Coleburn Disti 143.23 9 *e*P PKPab 05 53 15.8 +0.5
HOMB Homborsund 143.27 358 *e*PKPdf PKPbc 05 53 16.6 0.0
HOMB *e*SS SS 06 15 06.6 -0.4
HOMB IVMs_BB IVMs_BB 06 50 12.5
comp=Z,643nm,4.7s
TASB TASBURUN-IGDIR 143.28 309 P PKPab 05 53 16.9 +0.8
AKH Akhalkalaki 143.32 311 ⇑P PKPbc 05 53 18.2 +0.6
AKH Akhalkalaki 143.32 311 P PKPab 05 53 16.5 +0.1
MICGM Minsk 143.41 339 *e*PKP PKPbc 05 53 17.0 -0.1
MICGM *e*PP PP 05 56 16.0 -15
MICGM *e*PPP PPP 05 59 00.0
MICGM *e*LR LR 06 46 30.0
MICGM LRM MLR 06 50 08.0
comp=Z,3.5nm,22.0s
MNK Minsk 143.41 339 *e*PKIKP PKPbc 05 53 17.0 -0.1
NACGM Naroch 143.43 341 *e*PKP PKPab 05 53 14.0 -2.1
NACGM *e*PKP PKPbc 05 53 17.0 -0.2
NACGM *e*PP **PP** **05 56 29.0 -2.1**
NACGM *e*SKS **SKSdf** **06 00 22.0 -5.0**
NACGM *e*SS **SS** **06 15 19.0 +10**
NACGM *e*LQ LQ 06 40 22.0
NACGM *e*LR LR 06 47 00.0
NACGM LRM MLR 06 56 23.0
comp=Z,2.9nm,23.0s
PABE Paberze 143.71 344 *e*P PKPab 05 53 16.5 -0.7
PBUR Paburge 143.75 346 *e*P PKPab 05 53 16.1 -1.3
CHVG Ch'k'valeri 143.77 314 ⇑P PKPbc 05 53 19.8 +1.2
CLDR Caldiran 143.78 307 P PKPab 05 53 18.4 +0.1
KARS Kars 143.89 310 P PKPbc 05 53 19.9 +0.7
ASCN Ascension 144.11 142 PKPdf **PKPdf** **05 53 22.3 -0.1**
ATD Arta Tunnel 144.13 260 **PKPdf** **05 53 22.9 +0.4**
LAWE Loch Awe, Argy 144.14 12 *e*P **PKPab** **05 53 18.7 -0.1**
LAWE IAMs_20 IAMs_20 06 55 56.4
comp=Z,2μm,22.9s
INVG Invergeldie, C 144.22 10 *e*P **PKPab** **05 53 19.0 -0.1**

ELO	**Logie Almond**	**144.23**	**10**	*e*P	**PKPab**	**05 53 19.0**	**-0.2**
AGRB	**Hanur-Agry**	**144.32**	**309**	P	PKPbc	05 53 21.1	+0.5
VANB	**Van**	**144.34**	**307**	P	**PKPab**	**05 53 19.9**	**-0.4**
EAB	**Aberfoyle**	**144.40**	**11**	*e*P	**PKPab**	**05 53 19.7**	**-0.1**
SENK	**Senkaya-Erzuru**	**144.43**	**310**	P	PKPbc	05 53 21.5	+0.5
CUKT	**Cukurca**	**144.56**	**304**	P	**PKPab**	**05 53 21.4**	**+0.2**
GEVA	**Gevas**	**144.67**	**306**	PKPdf	PKPbc	05 53 22.5	+0.7
AKDM	**Akdamar-Van**	**144.72**	**307**	P	PKPbc	05 53 22.3	+0.3
PGBU	**Glenifferbraes**	**144.73**	**11**	*e*P	**PKPab**	**05 53 20.7**	**-0.3**
PGBU				IAMs_20	IAMs_20	06 52 11.2	
	comp=Z,2μm,20.1s						
MLAZ	**Malazgirt-MUS**	**144.78**	**308**	P	**PKPdf**	**05 53 23.2**	**+0.1**
EDI	**Edinburgh**	**144.84**	**10**	*e*P	**PKPab**	**05 53 21.2**	**-0.2**
EDI				IAMs_20	IAMs_20	06 59 08.6	
	comp=Z,2μm,26.2s						
ESY	**Stoneypath**	**144.94**	**9**	*e*P	**PKPab**	**05 53 21.6**	**-0.2**
SOC	**Sochi**	**144.94**	**317**	*c i*PKIKP	**PKPab**	**05 53 21.8**	**-0.4**
SOC				*i*		05 53 26.7	
SOC				*e*		05 56 41.0	
SOC				*e*PPP	PPP	05 59 50.2	
SOC				*e*SS	SS	06 15 21.8	-6.3
SOC				*e*SSS	SSS	06 20 57.0	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SOC				pmax	pmax		
	comp=Z,27nm,0.9s						
KOPR	**Koprukoy-ERZUR**	**144.99**	**310**	P	**PKPdf**	**05 53 23.6**	**+0.2**
EBL	**Broad Law**	**145.01**	**10**	*e*P	**PKPab**	**05 53 21.9**	**-0.2**
MUD	**Monsted U'grnd**	**145.06**	**358**	*i* P	**PKPdf**	**05 53 23.6**	**+0.9**
	comp=Z,2μm,27.0s						
MUD	**Monsted U'grnd**	**145.06**	**358**	*i* PKIKP	**PKPdf**	**05 53 23.6**	**+0.9**
MUD				MLR	MLR		
	comp=Z,2μm,27.0s						
CLGH	**Cloghs, Cushen**	**145.10**	**13**	*e*P	**PKPbc**	**05 53 21.9**	**-0.5**
CLGH				IAMs_20	IAMs_20	06 57 58.5	
	comp=Z,1μm,15.6s						
PCED	**Cedros**	**145.12**	**53**	*e*PKP	**PKPdf**	**05 53 24.3**	**+0.9**
SUW	**Suwalki**	**145.25**	**343**	*e*PKP	**PKPbc**	**05 53 22.6**	**-0.2**
SUW	**Suwalki**	**145.25**	**343**	PKIKP	**PKPbc**	**05 53 22.9**	**0.0**
SUW				MLR	MLR		
	comp=Z,2μm,22.0s						
SUW	**Suwalki**	**145.25**	**343**		**PKPbc**	**05 53 22.9**	**0.0**
SUW				IAMs_20	IAMs_20	06 57 58.5	
	comp=Z,2μm,22.0s						
PCAN	**Candelaria**	**145.34**	**53**	*e*PKP	**PKPab**	**05 53 24.3**	**+0.4**
CHOM	**Cayeli-Rize**	**145.34**	**312**	P	**PKPab**	**05 53 23.9**	**+0.1**
GURO	**Guroymak-BITLI**	**145.36**	**307**	P	**PKPdf**	**05 53 24.8**	**+0.7**
PICO	**Pico**	**145.37**	**53**	*e*PKP	**PKPab**	**05 53 24.7**	**+0.6**
SIRT	**Sirnak**	**145.38**	**305**	P	**PKPbc**	**05 53 24.2**	**+0.2**
ESK	**Eskdalemuir**	**145.42**	**10**	*e*P	**PKPbc**	**05 53 22.5**	**-0.9**
ESK				IAMs_20	IAMs_20	06 59 38.5	
	comp=Z,2μm,17.2s						
ESK	**Eskdalemuir**	**145.42**	**10**	PKIKP	**PKPbc**	**05 53 23.2**	**-0.2**
ESK				MLR	MLR		
	comp=Z,2μm,19.0s						
ESK	**Eskdalemuir**	**145.42**	**10**		**PKPbc**	**05 53 23.1**	**-0.2**
ESK	**Eskdalemuir**	**145.42**	**10**	IAMs_20	IAMs_20	06 59 52.4	
	comp=Z,2μm,19.0s						
ROSA	**Rosais**	**145.43**	**52**	PKPdf	**PKPab**	**05 53 24.7**	**+0.5**
ROSA	**Rosais**	**145.43**	**52**	*e*PKP	**PKPdf**	**05 53 24.3**	**+0.3**
NEWG	**New Galloway**	**145.44**	**11**	*e*P	**PKPbc**	**05 53 22.7**	**-0.7**
NEWG				IAMs_20	IAMs_20	06 58 51.0	
	comp=Z,2μm,21.6s						
PGRA	**Graciosa**	**145.52**	**52**	*e*PKP	**PKPdf**	**05 53 24.3**	**+0.2**
PMAN	**Manadas**	**145.57**	**52**	*e*PKP	**PKPdf**	**05 53 23.2**	**-1.0**
VRTB	**Varto-Mus**	**145.58**	**309**	P	**PKPab**	**05 53 25.6**	**+0.6**
GAL1	**Galloway**	**145.59**	**12**	*e*P	**PKPdf**	**05 53 23.6**	**0.0**
GAL1				IAMs_20	IAMs_20	06 58 53.0	
	comp=Z,3μm,19.8s						
KARO	**Karliova-Bingo**	**145.82**	**309**	P	**PKPab**	**05 53 25.9**	**0.0**
KOPT	**Kop Dagi**	**145.95**	**310**		**PKPbc**	**05 53 26.3**	**+0.4**
AKASG	**Malin Array Be**	**145.98**	**334**	PKPbc	**PKPdf**	**05 53 23.9**	**-0.6**
	comp=Z,22nm,0.5s,baz=41,slow=2.5,SNR=101						
AKBB	**Malin Array Si**	**145.98**	**334**	PKP2	**PKPbc**	**05 53 25.1**	**-0.1**
AKBB	**Malin Array Si**	**145.98**	**334**	PKPdf	**PKPbc**	**05 53 25.1**	**-0.1**
KTUT	**Trabzon**	**146.07**	**312**	⇓P	**PKPab**	**05 53 26.8**	**+0.4**
KTUT	**Trabzon**	**146.07**	**312**	P	**PKPdf**	**05 53 25.1**	**+0.1**
EDMD	**Edmundbyers**	**146.08**	**9**	*e*P	**PKPdf**	**05 53 25.3**	**+0.7**
EDMD				IAMs_20	IAMs_20	07 00 20.0	
	comp=Z,2μm,19.1s						
YEDI	**Yedisu-Bingol**	**146.14**	**309**	P	**PKPdf**	**05 53 25.9**	**+0.5**
KESW	**Keswick, Cumbr**	**146.14**	**10**	*e*P	**PKPdf**	**05 53 24.5**	**-0.2**
KESW				IAMs_20	IAMs_20	06 54 55.1	
	comp=Z,2μm,19.5s						
ADH	**Angra Heroismo**	**146.19**	**52**	*e*PKP	**PKPab**	**05 53 27.2**	**+0.2**
PSCM	**Serra do Cume**	**146.27**	**52**	*e*PKP	**PKPbc**	**05 53 26.8**	**+0.2**
WIM	**Isle of Man**	**146.27**	**12**	*e*P	**PKPdf**	**05 53 24.9**	**0.0**
GDLE	**Glaisdale, N Y**	**146.64**	**8**	*e*P	**PKPdf**	**05 53 25.7**	**+0.2**
GDLE				IAMs_20	IAMs_20	07 01 30.5	
	comp=Z,2μm,17.8s						
RGN	**Rugen**	**146.65**	**353**	*e*P	**PKPdf**	**05 53 26.1**	**+0.6**
RGN	**Rugen**	**146.65**	**353**	IAMs_20	IAMs_20	07 00 33.0	
	comp=Z,2μm,21.0s						
ERZN	**Erzincan**	**146.67**	**310**	P	**PKPdf**	**05 53 27.1**	**+0.9**
MARD	**Mardin**	**146.70**	**306**		**PKPdf**	**05 53 26.0**	**-0.4**
MARD				PKPbc	**PKPab**	**05 53 29.1**	**-0.1**
DSB	**Dublin**	**146.75**	**14**	PKPdf	**PKPdf**	**05 53 25.9**	**+0.2**
DSB				PKPbc	**PKPbc**	**05 53 27.9**	**+0.4**
ESPY	**Espiye-Giresun**	**146.81**	**313**	P	**PKPbc**	**05 53 27.8**	**-0.3**
LODK	**Lodwar**	**146.94**	**241**	P	**PKPdf**	**05 53 28.6**	**+1.2**
	SNR=50						
DYBB	**Diyarbakir**	**146.96**	**307**	P	**PKPdf**	**05 53 27.2**	**+0.5**
HPK	**Haverah Park**	**146.98**	**9**	*e*P	**PKPdf**	**05 53 25.8**	**-0.3**
HPK				IAMs_20	IAMs_20	06 57 14.5	
	comp=Z,2μm,18.9s						
WME	**Myndd Eilian**	**147.06**	**12**	*e*P	**PKPdf**	**05 53 25.5**	**-0.7**
WLF1	**Llynfaes**	**147.14**	**12**	*e*P	**PKPdf**	**05 53 25.8**	**-0.6**
WLF1				IAMs_20	IAMs_20	06 57 23.4	
	comp=Z,5μm,22.0s						
YRC	**Rhoscolyn**	**147.14**	**13**	*i* P	**PKPdf**	**05 53 26.6**	**+0.3**
PTK	**Pertek**	**147.17**	**309**	P	**PKPdf**	**05 53 27.9**	**+0.7**
GKP	**Gorka Klasztor**	**147.31**	**348**	*e*PKP	**PKPdf**	**05 53 26.7**	**+0.1**
YLL	**Llanberis**	**147.32**	**12**	*e*P	**PKPdf**	**05 53 28.0**	**+1.3**
SVRC	**Sivrice-ELAZID**	**147.43**	**308**	P	**PKPdf**	**05 53 28.1**	**+0.5**
LBWR	**Ladybower, Pea**	**147.50**	**10**	*e*P	**PKPdf**	**05 53 27.1**	**0.0**
LBWR				IAMs_20	IAMs_20	07 00 38.9	
	comp=Z,3μm,19.8s						
BSEG	**Bad Segeberg**	**147.52**	**356**	*e*PKPdf	**PKPdf**	**05 53 27.4**	**+0.5**
	baz=8.8,slow=1.6						
BSEG				*e*PKPbc	**PKPbc**	**05 53 30.2**	**+0.6**
	baz=8.8,slow=1.6						
BSEG				*e*L	L	07 04 36.0	
	comp=Z,1μm,20.6s						
SIM	**Simferopol'**	**147.59**	**323**	*e*PKP2	**PKPbc**	**05 53 29.4**	**-0.7**
SIM				pmax	pmax		
	comp=Z,103nm,1.1s						
PSET	**Sete Cidades**	**147.60**	**53**	*e*PKP	**PKPdf**	**05 53 27.9**	**+0.2**
PDA	**Ponta Delgada**	**147.67**	**53**	*e*PKP	**PKPdf**	**05 53 26.1**	**-1.7**
STNC	**Stoke**	**147.73**	**10**	*e*P	**PKPdf**	**05 53 27.4**	**0.0**
STNC				IAMs_20	IAMs_20	07 01 00.8	
	comp=Z,2μm,22.5s						
GRON	**Grota Negra**	**147.76**	**53**	*e*PKP	**PKPdf**	**05 53 28.3**	**+0.3**
CMLA	**Cha da Macela**	**147.77**	**53**	PKP2	**PKPbc**	**05 53 31.7**	**+0.8**
CMLA	**Cha da Macela**	**147.77**	**53**	PKPdf	**PKPdf**	**05 53 28.0**	**0.0**
CMLA					**PKPbc**	**05 53 31.7**	**+0.8**
CMLA	**Cha da Macela**	**147.77**	**53**	*e*PKP	**PKPdf**	**05 53 24.3**	**-3.7**
PCALD	**Caldeiras da R**	**147.79**	**53**	*e*PKP	**PKPdf**	**05 53 29.0**	**+1.0**
BEL	**Belsk**	**147.84**	**344**	*e*PKP	**PKPdf**	**05 53 28.6**	**+1.0**
ARPR	**Arapgir-MALATY**	**147.85**	**310**	P	**PKPdf**	**05 53 28.9**	**+0.6**
MBAR	**Mbarara**	**147.91**	**230**	P	**PKPdf**	**05 53 30.2**	**+1.1**
MBAR	**Mbarara**	**147.91**	**230**	PKIKP	**PKPdf**	**05 53 28.8**	**-0.3**
MBAR						05 53 33.7	
MBAR				MLR	MLR		
	comp=Z,3μm,20.0s						
MBAR	**Mbarara**	**147.91**	**230**		**PKPdf**	**05 53 28.8**	**-0.3**
MBAR				PKPbc	**PKiKP**	**05 53 33.7**	**-0.4**
RSDY	**Resadiye-TOKAT**	**148.00**	**313**	P	**PKPdf**	**05 53 28.5**	**+0.2**
BART	**Pico Bartolome**	**148.03**	**52**	*e*PKP	**PKPdf**	**05 53 28.6**	**+0.1**
MALT	**Malatya**	**148.09**	**309**	P	**PKPdf**	**05 53 29.0**	**+0.4**
URFA	**Urfa**	**148.12**	**307**	P	**PKPdf**	**05 53 29.1**	**+0.4**
HLM1	**Long Mynd**	**148.16**	**11**	*e*P	**PKPdf**	**05 53 28.0**	**-0.1**
HLM1				IAMs_20	IAMs_20	07 00 10.9	
	comp=Z,3μm,20.8s						
CWF	**Charnwood Fore**	**148.21**	**9**	*e*P	**PKPdf**	**05 53 27.7**	**-0.5**
CWF				IAMs_20	IAMs_20	06 58 00.3	
	comp=Z,3μm,20.4s						
SORM	**Soroca**	**148.31**	**332**	⇑P	**PKPbc**	**05 53 32.0**	**+0.1**
SORM	**Soroca**	**148.31**	**332**	⇑PKP2	**PKPbc**	**05 53 32.0**	**+0.1**
RSBS	**Rosebush, Pemb**	**148.32**	**14**	*e*P	**PKPdf**	**05 53 27.7**	**-0.7**
RSBS				IAMs_20	IAMs_20	06 57 12.7	
	comp=Z,2μm,18.8s						
PSMA	**Santa Maria**	**148.34**	**54**	*e*PKP	**PKPbc**	**05 53 31.1**	**-1.2**
PSMN	**Pico do Norte,**	**148.38**	**54**	*e*PKP	**PKPdf**	**05 53 30.0**	**+1.0**
SVSK	**Karacayir**	**148.44**	**312**	P	**PKPdf**	**05 53 29.5**	**+0.6**
KVT	**Kavak**	**148.53**	**315**	P	**PKPdf**	**05 53 29.4**	**+0.2**
TOKT	**Tokat**	**148.56**	**313**	P	**PKPdf**	**05 53 29.1**	**-0.1**
RUE	**Ruedersdorf**	**148.62**	**352**	*e*P	**PKPdf**	**05 53 28.3**	**-0.5**
RUE	**Ruedersdorf**	**148.62**	**352**	*e*PKPbc	**PKPbc**	**05 53 33.2**	**+0.7**
	baz=8.8,slow=1.6						
MCH1	**Michaelchurch**	**148.64**	**12**	*e*P	**PKPdf**	**05 53 28.1**	**-0.8**
MCH1				IAMs_20	IAMs_20	06 58 59.3	
	comp=Z,3μm,21.8s						
LVV	**L'vov**	**148.64**	**338**	*i* PKP2	**PKPbc**	**05 53 32.8**	**+0.1**
LVV				*e*		05 56 59.8	
LVV				*e*PPP	PPP	06 00 29.0	
DIKM	**Dikmen**	**148.76**	**316**	⇑P	**PKPdf**	**05 53 30.7**	**+1.3**
DIKM	**Dikmen**	**148.76**	**316**	P	**PKPdf**	**05 53 28.7**	**-0.7**
PURM	**Purcari**	**148.79**	**329**	⇑P	**PKiKP**	**05 53 35.4**	**+0.8**
MONM	**Monmouth**	**148.82**	**12**	*e*P	**PKPdf**	**05 53 28.2**	**-0.9**
MONM				IAMs_20	IAMs_20	06 59 25.6	
	comp=Z,3μm,20.3s						
KIS	**Kishinev**	**148.95**	**330**	*i* PKiKP	**PKPdf**	**05 53 28.0**	**-1.6**
KIS	**Kishinev**	**148.95**	**330**	PKPM		05 53 35.0	
	comp=Z,750nm,5.0s						
KIS				*i* pPKP	pPKPdf	05 54 02.0	+24
KIS				*i* sPKP		05 54 15.0	
KIS	**Kishinev**	**148.95**	**330**	MLR	MLR		
	comp=Z,600nm,23.0s						
KIS				MLR	MLR		
	comp=N,700nm,23.0s						
NRDL	**Niedersach Rie**	**148.97**	**356**	*e*PKPdf	**PKPdf**	**05 53 29.7**	**+0.4**
	baz=8.8,slow=1.6						
NRDL				*e*PKPbc	**PKPbc**	**05 53 34.0**	**+0.6**
	baz=8.8,slow=1.6						
STRD	**Stroud**	**149.00**	**11**	*e*P	**PKPdf**	**05 53 28.9**	**-0.6**
STRD				IAMs_20	IAMs_20	06 59 17.8	
	comp=Z,3μm,19.5s						
MILM	**Milestii Mici**	**149.01**	**330**	⇑P	**PKPbc**	**05 53 33.7**	**0.0**
KWP	**Kalwaria Pacla**	**149.24**	**340**	*e*PKP	**PKPdf**	**05 53 28.9**	**-1.0**
KWP	**Kalwaria Pacla**	**149.24**	**340**	IAMs_20	IAMs_20	06 59 13.3	
	comp=Z,2μm,22.0s						
IBBN	**Ibbenburen**	**149.26**	**359**	*e*PKPdf	**PKPdf**	**05 53 30.3**	**+0.5**
	baz=8.8,slow=1.6						
IBBN				*e*PKPbc	**PKPbc**	**05 53 34.8**	**+0.6**
	baz=8.8,slow=1.6						
ASSE	**Asse, Remlinge**	**149.29**	**355**	*e*PKPdf	**PKPdf**	**05 53 30.1**	**+0.2**
	baz=8.8,slow=1.6						
SWN1	**Swindon**	**149.32**	**11**	*e*P	**PKPdf**	**05 53 30.5**	**+0.5**
SWN1				IAMs_20	IAMs_20	06 59 36.0	
	comp=Z,3μm,16.7s						
BZK	**Bozkurt**	**149.38**	**318**	⇑P	**PKPbc**	**05 53 35.6**	**+0.8**
BZK	**Bozkurt**	**149.38**	**318**	P	**PKPdf**	**05 53 30.2**	**-0.2**
GAZ	**Gaziantep**	**149.41**	**307**	P	**PKPdf**	**05 53 30.8**	**0.0**
GAZ	**Gaziantep**	**149.41**	**307**	PKPdf	**PKPdf**	**05 53 31.2**	**+0.5**
GAZ				PKPbc	**PKiKP**	**05 53 36.3**	**0.0**
SARI	**SarD1z-Kayseri**	**149.50**	**310**	P	**PKPdf**	**05 53 31.3**	**+0.3**
KMRS	**Kahramanmaras**	**149.52**	**308**	P	**PKPdf**	**05 53 30.8**	**-0.1**
OJC	**Ojcow**	**149.58**	**343**	*e*PKP	**PKPdf**	**05 53 30.8**	**+0.3**
OJC	**Ojcow**	**149.58**	**343**	PKPdf	**PKPdf**	**05 53 30.7**	**+0.3**
CLZ	**Clausthal**	**149.60**	**356**	*e*PKPdf	**PKPdf**	**05 53 31.0**	**+0.5**
	baz=8.8,slow=1.6						
CLZ				*e*PKPbc	**PKiKP**	**05 53 35.9**	**-0.3**
	baz=8.8,slow=1.6						
WOL	**Wolverton**	**149.60**	**10**	*e*P	**PKPdf**	**05 53 30.2**	**-0.3**
WOL				IAMs_20	IAMs_20	06 59 48.3	
	comp=Z,3μm,19.2s						
VASR	**Vaslui**	**149.69**	**331**	⇑P	**PKPbc**	**05 53 35.5**	**0.0**
BNN	**Bunyan**	**149.71**	**311**	P	**PKPdf**	**05 53 31.1**	**-0.1**
YOZ	**Yozgat**	**149.71**	**313**	P	**PKPdf**	**05 53 30.8**	**-0.4**
KSP	**Ksiaz**	**149.80**	**348**	*e*PKP	**PKPdf**	**05 53 31.9**	**+1.1**
PRAR	**RASCA**	**149.82**	**333**	⇑P	**PKiKP**	**05 53 36.7**	**0.0**
CLL	**Collm**	**149.87**	**352**	⇑*i*PKPdf	**PKPdf**	**05 53 30.9**	**0.0**
	comp=Z,46nm,1.4s						
CLL				⇑*i*PKPbc	**PKPbc**	**05 53 36.0**	**+0.2**
	comp=Z,235nm,1.3s						
CLL				⇓*i*PKPab	**PKPab**	**05 53 41.5**	**+0.3**
CLL				*e*PKPlp		05 53 44.0	
	comp=Z,2μm,22.8s						
CLL				*i* pPKPbc	**sPKPbc**	**05 53 47.1**	**+0.1**
CLL				*e*PP	**PP**	**05 57 07.0**	**-1.9**
CLL				*e*PPP	PPP	06 00 33.0	
CLL				*e*		06 01 42.0	
CLL				*e*SKKSac	SKKSac	06 04 00.0	+1.9
CLL				*e*		06 04 42.0	
CLL				*e*PSKS		06 07 25.0	
CLL				*e*PPS	PPS	06 09 56.0	
CLL				*e*		06 12 24.0	
CLL				*e*SS	SS	06 16 18.0	-4.0
CLL				*e*PSPS		06 17 36.0	
CLL				*e*		06 21 39.0	
CLL				*e*SSS	SSS	06 22 06.0	
CLL				*e*SSSS		06 26 24.0	
CLL				Lm	MLR	07 06 00.0	
	comp=N,1μm,19.7s						
CLL				Lm	MLR	07 06 00.0	
	comp=E,1μm,19.8s						
CLL				Lm	MLR	07 06 00.0	
	comp=Z,2μm,20.5s						
CLL	**Collm**	**149.87**	**352**	PKP2	**PKPbc**	**05 53 35.9**	**+0.2**
CLL	**Collm**	**149.87**	**352**	*e*PKPdf	**PKPdf**	**05 53 31.1**	**+0.2**
	baz=8.8,slow=1.6						
CLL				*e*PKPbc	**PKPbc**	**05 53 36.2**	**+0.5**
	baz=8.8,slow=1.6						
CLL				*e*L	L	07 06 55.2	
	comp=Z,2μm,20.5s						
CLL	**Collm**	**149.87**	**352**	PKPdf	**PKPdf**	**05 53 31.1**	**+0.2**
CLL				PKPbc	**PKPbc**	**05 53 35.9**	**+0.1**
CLL				IAMs_20	IAMs_20	07 06 54.6	
	comp=Z,2μm,20.0s						
CORM	**Corum**	**149.91**	**314**	P	**PKPdf**	**05 53 31.8**	**+0.3**
DYA	**Yadsworthy**	**149.93**	**14**	*e*P	**PKPdf**	**05 53 30.4**	**-0.6**
DYA				IAMs_20	IAMs_20	06 55 49.8	
	comp=Z,2μm,21.2s						
GTTG	**Gottingen**	**149.93**	**356**	*e*PKPdf	**PKPdf**	**05 53 31.3**	**+0.3**
	baz=8.8,slow=1.6						
GTTG				*e*PKPbc	**PKiKP**	**05 53 36.6**	**-0.2**
	baz=8.8,slow=1.6						
KOLS	**Kolonicke sedl**	**149.99**	**339**	*e*PKP	**PKPdf**	**05 53 30.9**	**-0.3**
KOLS				*e*		05 53 35.7	
BUR08	**Bucovina Ar. S**	**150.01**	**335**	PKPdf	**PKPdf**	**05 53 31.4**	**0.0**
BURAR	**Bucovina Array**	**150.03**	**335**	⇑P	**PKPbc**	**05 53 34.3**	**-2.1**
BURAR	**Bucovina Array**	**150.03**	**335**	PKPdf	**PKPdf**	**05 53 31.5**	**+0.1**
ILGA	**Ilgaz**	**150.06**	**317**	PKPdf	**PKPdf**	**05 53 32.0**	**+0.1**
ILGA				PKPbc	**PKiKP**	**05 53 37.9**	**+0.2**
OSTC	**Ostas**	**150.09**	**348**	*e*PKPDF	**PKPdf**	**05 53 31.8**	**+0.5**
OSTC				⇑*e*PKP	**PKiKP**	**05 53 37.1**	**-0.1**
OSTC				*e*PP	**PP**	**05 57 06.0**	**-4.2**
OSTC				AMS	AMS	06 59 50.0	
	comp=Z,2μm,21.4s						
CHVC	**Chvalec**	**150.09**	**348**	*e*PKPDF	**PKPdf**	**05 53 31.6**	**+0.3**
CHVC				*ex*	x	05 53 37.0	
CHVC				*e*PP	**PP**	**05 57 07.1**	**-3.1**
CHVC				AMS	AMS	06 56 10.0	
	comp=Z,2μm,25.3s						
NEUB	**Neuenburg**	**150.11**	**354**	*e*PKPdf	**PKPdf**	**05 53 31.8**	**+0.5**
	baz=8.8,slow=1.6						
NEUB				*e*PKPbc	**PKiKP**	**05 53 37.1**	**-0.1**
	baz=8.8,slow=1.6						
BUG	**Bochum--Univer**	**150.13**	**359**	*e*PKPdf	**PKPdf**	**05 53 31.5**	**+0.2**
	baz=8.8,slow=1.6						
BUG				*e*PKPbc	**PKPbc**	**05 53 36.6**	**+0.3**
	baz=8.8,slow=1.6						
NIE	**Niedzica**	**150.16**	**342**	*e*PKP	**PKPdf**	**05 53 32.4**	**+0.9**
BRG	**Berggiesshubel**	**150.17**	**351**	*i* PKP	**PKPdf**	**05 53 31.7**	**+0.3**
	comp=Z,56nm,1.4s						
BRG				*i*		05 53 37.1	
	comp=Z,210nm,1.4s						
BRG				*e*		05 53 42.8	
	comp=Z,117nm,1.3s						
BRG				*e*		05 53 48.5	
	comp=Z,243nm,1.7s						
BRG				*e*		05 53 56.4	
	comp=Z,109nm,1.3s						
BRG				SKP		05 57 10.0	
BRG				*e*		06 07 24.0	
BRG				*e*		06 10 11.0	
BRG				*e*	**SS**	**06 16 20.0**	**-5.3**
BRG				SS	**SS**	**06 16 20.0**	**-5.3**
	comp=Z,2μm,24.1s						
	comp=N,1μm,25.7s						
	comp=E,1μm,25.7s						
BRG	**Berggiesshubel**	**150.17**	**351**	*e*PKPdf	**PKPdf**	**05 53 31.7**	**+0.3**
	baz=8.8,slow=1.6						
BRG				*e*PKPbc	**PKiKP**	**05 53 37.3**	**-0.1**
	baz=8.8,slow=1.6						
UPC	**Upice**	**150.17**	**348**	*e*PKPDF	**PKPdf**	**05 53 32.0**	**+0.6**
UPC				⇑*e*PKP	**PKiKP**	**05 53 37.3**	**-0.1**
UPC				AMS	AMS	06 55 50.0	
	comp=E,2μm,21.8s						
UPC	**Upice**	**150.17**	**348**	MLR	MLR		
	comp=Z,2μm,21.8s						
BIZ	**Bicaz**	**150.20**	**333**	⇑P	**PKPdf**	**05 53 33.2**	**+1.6**
FBE	**Freiberg**	**150.21**	**352**	*e*PKPdf	**PKPdf**	**05 53 32.2**	**+0.7**
	baz=8.8,slow=1.6						
FBE				*e*PKPbc	**PKiKP**	**05 53 37.7**	**+0.3**
	baz=8.8,slow=1.6						
UZH	**Uzhgorod**	**150.25**	**339**	*e*PKIKP	**PKPdf**	**05 53 30.0**	**-1.6**
UZH				*i*		05 53 35.5	
UZH				*e*		05 53 43.8	
UZH				*e*		05 57 06.4	
UZH				pmax	pmax		
	comp=Z,12nm,1.1s						
DPC	**Dobruska-Polom**	**150.26**	**348**	*e*PKPDF	**PKPdf**	**05 53 32.0**	**+0.4**
DPC				⇑*e*PKP	**PKiKP**	**05 53 37.7**	**+0.1**
DPC				*ex*	x	05 53 53.8	
DPC				*e*PP	**PP**	**05 57 09.4**	**-1.9**
DPC				AMS	AMS	06 59 50.0	
	comp=Z,20.8s						
DPC	**Dobruska-Polom**	**150.26**	**348**	*e*PKIKP	**PKPdf**	**05 53 32.0**	**+0.4**
DPC				*e*		05 53 37.7	
DPC				*e*		05 57 09.4	
DPC				MLR	MLR		
	comp=Z,20.8s						
TLCR		**150.26**	**328**	⇑P	**PKPbc**	**05 53 37.0**	**+0.2**
TLCR		**150.26**	**328**	⇑PKIKP	**PKPbc**	**05 53 37.0**	**+0.2**
CRVS	**Cervenica-Dubn**	**150.28**	**340**	*e*PKIKP	**PKPdf**	**05 53 31.9**	**+0.2**
CRVS				*e*		05 53 37.5	
CRVS	**Cervenica-Dubn**	**150.28**	**340**	*e*PKP	**PKPdf**	**05 53 31.9**	**+0.2**
CRVS				*e*		05 53 37.5	
TESR	**Tescani**	**150.30**	**332**	⇑P	**PKPdf**	**05 53 32.5**	**+0.7**
KOZT	**Kozan**	**150.31**	**309**	P	**PKPdf**	**05 53 31.9**	**-0.2**
OKC	**Ostrava-Krasne**	**150.34**	**345**	⇑*e*PKP	**PKiKP**	**05 53 37.6**	**-0.1**
OKC				*e*PKPAB	**pPKPbc**	**05 53 44.5**	**-0.8**
OKC	**Ostrava-Krasne**	**150.34**	**345**	*e*PKIKP	**PKiKP**	**05 53 37.6**	**-0.1**
OKC				*e*		05 53 44.5	
CANT	**Cankiri**	**150.36**	**316**	P	**PKPdf**	**05 53 31.8**	**-0.3**
PVCC	**Panska Ves**	**150.41**	**350**	⇑*e*PKP	**PKiKP**	**05 53 37.9**	**+0.1**
PVCC				*ex*	x	05 53 48.6	
PVCC				*e*PP	**PP**	**05 57 06.0**	**-6.0**
PVCC				AMS	AMS	06 56 40.0	
	comp=Z,2μm,24.1s						
PVCC	**Panska Ves**	**150.41**	**350**	*e*PKIKP	**PKiKP**	**05 53 37.9**	**+0.1**
PVCC				*e*		05 53 48.6	
PVCC				MLR	MLR		
	comp=Z,2μm,24.1s						
SACV	**Santiago Islan**	**150.42**	**98**	PKPdf	**PKPdf**	**05 53 32.3**	**-0.6**
SACV				PKPbc	**PKPbc**	**05 53 38.5**	**+0.3**
SACV	**Santiago Islan**	**150.42**	**98**	IAMs_20	IAMs_20	07 01 23.9	
	comp=Z,2μm,20.0s						
KRLC	**Kraliky**	**150.43**	**347**	*e*PKPDF	**PKPdf**	**05 53 32.2**	**+0.3**
KRLC

GOPC MLR MLR
comp=Z,3µm,20.8s
BSTI Sart Tilman 150.97 2 PKiKP **PKPbc 05 53 38.9 +0.5**
TIRR Tirgusor 150.98 327 ⇑P **PKPbc 05 53 36.4 -2.2**
TIRR Tirgusor 150.98 327 ⇑PKIKP **PKPbc 05 53 36.4 -2.2**
NKC Novy Kostel 151.00 353 *e*PKPDF **PKPdf 05 53 33.2 +0.5**
NKC ⇑*e*PKP **PKiKP 05 53 39.2 +0.1**
NKC *e*PKPAB **pPKPbc 05 53 46.6 -0.3**
NKC AMS AMS 07 04 00.0
comp=Z,2µm,20.2s
NKC Novy Kostel 151.00 353 *e*PKIKP **PKPdf 05 53 33.2 +0.5**
NKC *e* 05 53 39.2
NKC *e* 05 53 46.6
NKC MLR MLR
comp=Z,2µm,20.2s
SNF Seneffe 151.00 3 PKPdf **PKPdf 05 53 33.6 +1.0**
SNF PKiKP **PKPbc 05 53 38.9 +0.4**
SNF x x 05 53 51.1
OZUR 151.00 332 ⇑P **PKiKP 05 53 39.6 +0.3**
AHRW Bad Neuenahr-A 151.03 360 *e*PKPbc **PKiKP 05 53 39.0 0.0**
baz=8.8,slow=1.6
GULA Gulagac 151.06 312 P **PKPdf 05 53 32.5 -0.8**
YAYX Yaylak 151.07 313 P **PKPdf 05 53 32.5 -0.8**
BCLA Clavier 151.13 2 x x 05 53 59.3
BCLA Clavier 151.13 2 PKPdf **PKPdf 05 53 32.8 -0.1**
BCLA Clavier 151.13 2 PKiKP **PKPbc 05 53 38.8 +0.1**
BCLA Clavier 151.13 2 x x 05 53 46.8
BGES Gesves 151.16 2 x x 05 53 58.5
BGES Gesves 151.16 2 PKPdf **PKPdf 05 53 33.1 +0.1**
BGES Gesves 151.16 2 PKiKP **PKPbc 05 53 38.9 0.0**
BGES Gesves 151.16 2 pPKPbc **PKiKP 05 53 41.6 +2.2**
BGES Gesves 151.16 2 x x 05 53 47.2
VRAC Vranov 151.19 347 PKP **PKPdf 05 53 32.9 -0.2**
comp=Z,1.4nm,0.3s,baz=345,slow=1.0,SNR=10.0
VRAC PKPbc **PKiKP 05 53 39.6 +0.1**
comp=Z,44nm,1.1s,baz=22,slow=2.1,SNR=27
VRAC Vranov 151.19 347 ⇑P **PKiKP 05 53 39.6 +0.1**
VRAC Vranov 151.19 347 *e*PKP **PKPdf 05 53 32.8 -0.2**
VRAC *e* 05 53 39.2
BHOU Houvegnez 151.21 1 x x 05 53 58.4
BHOU Houvegnez 151.21 1 PKPdf **PKPdf 05 53 33.4 +0.3**
BHOU Houvegnez 151.21 1 PKiKP **PKiKP 05 53 39.6 +0.1**
BHOU Houvegnez 151.21 1 pPKPbc **PKiKP 05 53 41.8 +2.3**
BHOU Houvegnez 151.21 1 pPKPab **PKPab 05 53 49.2 +2.4**
BMRD Maredsous 151.23 3 pPKPab **PKPab 05 53 49.1 +2.2**
BMRD Maredsous 151.23 3 PKPdf **PKPdf 05 53 33.3 +0.2**
BMRD Maredsous 151.23 3 PKiKP **PKPbc 05 53 39.3 +0.3**
BMRD Maredsous 151.23 3 pPKPbc **PKiKP 05 53 41.8 +2.3**
DOPR Dopca 151.27 332 ⇓P **PKPbc 05 53 39.4 +0.1**
MANZ Manzenberg 151.28 353 *e*PKPdf **PKPdf 05 53 33.5 +0.3**
baz=8.8,slow=1.6
MANZ *e*PKPbc **PKiKP 05 53 39.9 +0.2**
baz=8.8,slow=1.6
LOD Lodumlu 151.29 315 P **PKPdf 05 53 33.4 -0.2**
BR231 Keskin MP Arra 151.31 315 PKPdf **PKPdf 05 53 33.8 +0.1**
BR231 **PKiKP 05 53 40.5 +0.3**
PBCC Pribram 151.32 350 *e*PKP **PKPbc 05 53 39.7 +0.5**
PBCC *ex* x 05 53 51.8
AFSR Afar-Bala (An 151.32 314 P **PKPdf 05 53 33.5 -0.2**
TNS Taunus Mts 151.32 358 *e*PKPdf **PKPdf 05 53 33.5 +0.2**
baz=8.8,slow=1.6
TNS *e*PKPbc **PKiKP 05 53 39.9 +0.1**
baz=8.8,slow=1.6
TNS *e*L L 07 04 49.6
comp=Z,3µm,21.0s
JAVC Velka Javorina 151.37 345 *e*PKP **PKPdf 05 53 34.2 +0.8**
JAVC *e* 05 53 40.8
MLR Muntele Rosu 151.40 331 PKP **PKPdf 05 53 33.3 -0.4**
comp=Z,14nm,1.2s,baz=339,slow=3.3,SNR=9.7
MLR PKPbc **PKPbc 05 53 40.0 +0.2**
comp=Z,82nm,1.2s,baz=28,slow=2.6,SNR=30
MLR Muntele Rosu 151.40 331 ⇑P **PKPdf 05 53 33.3 -0.4**
MLR Muntele Rosu 151.40 331 PKPdf **PKPdf 05 53 33.3 -0.4**
MLR PKPbc **PKPbc 05 53 40.0 +0.2**
MLR IAMs_20 IAMs_20 07 09 02.0
comp=Z,3µm,22.0s
CJR Cluj-Napoca 151.40 335 ⇑P **PKiKP 05 53 40.4 +0.3**
CJR Cluj-Napoca 151.40 335 ⇑PKIKP **PKiKP 05 53 40.4 +0.3**
VYHS Vyhne 151.41 343 *e*PKIKP **PKPdf 05 53 33.1 -0.3**
VYHS *e* 05 53 40.2
VYHS Vyhne 151.41 343 *e*PKP **PKPdf 05 53 33.1 -0.3**
VYHS *e* 05 53 40.2
VYHS *e* 05 53 48.4
DOU Dourbes 151.43 3 x x 05 53 52.6
DOU Dourbes 151.43 3 PKPdf **PKPdf 05 53 33.3 -0.1**
DOU Dourbes 151.43 3 PKiKP **PKiKP 05 53 40.0 +0.1**
DOU Dourbes 151.43 3 pPKPbc **PKiKP 05 53 42.0 +2.1**
DOU Dourbes 151.43 3 pPKPab **PKPab 05 53 49.7 +2.1**
TREC Trest 151.43 348⇑*e*PKP **PKPbc 05 53 39.9 +0.4**
TREC *ex* x 05 53 50.6
TREC AMS AMS 07 06 50.0
comp=Z,3µm,20.4s
TREC Trest 151.43 348 *e*PKIKP **PKPbc 05 53 39.9 +0.4**
TREC *e* 05 53 50.6
TREC MLR MLR
comp=Z,3µm,20.4s
KRUC Moravsky 151.47 347 *e*PKP **PKPdf 05 53 33.2 -0.3**
KRUC *e* 05 53 39.9
JSA Saint Aubin 151.48 12 *e*P **PKPdf 05 53 33.5 +0.1**
JSA IAMs_20 IAMs_20 06 57 38.8
comp=Z,3µm,22.4s
ROTZ Rotzenmuhle 151.49 353 *e*PKPdf **PKPdf 05 53 33.5 0.0**
baz=8.8,slow=1.6
ROTZ *e*PKPbc **PKiKP 05 53 40.2 +0.1**
baz=8.8,slow=1.6
PSZ Piszkesteto 151.63 341 ⇑P **PKiKP 05 53 40.6 +0.1**
PSZ Piszkesteto 151.63 341 PKIKP **PKPdf 05 53 33.8 -0.1**
PSZ Piszkesteto 151.63 341 PKPdf **PKPdf 05 53 33.8 -0.1**
PSZ IAMs_20 IAMs_20 07 06 54.4
comp=Z,3µm,22.0s
SULT Sultanhani-AKS 151.63 312 P **PKPdf 05 53 32.9 -1.3**
GRA1 Grafenberg Arr 151.67 354 PKPdf **PKPdf 05 53 33.4 -0.4**
GRA1 **PKPbc 05 53 40.4 +0.4**
GRA1 IAMs_20 IAMs_20 07 03 39.0
comp=Z,3µm,21.0s
GRF Grafenberg Arr 151.67 354 PKIKP **PKPdf 05 53 33.4 -0.4**
GRF 05 53 40.4
GRF Grafenberg Arr 151.67 354 *e*PKPdf **PKPdf 05 53 34.2 +0.4**
baz=8.8,slow=1.6
GRF *e*PKPbc **PKiKP 05 53 40.7 +0.2**
baz=8.8,slow=1.6
GRF *e*L L 07 03 50.0
comp=Z,3µm,21.6s
YESY Yesilyurt 151.67 311 P **PKPdf 05 53 32.7 -1.6**
SECR 151.69 330 ⇑P **PKPbc 05 53 40.6 +0.4**
BHL Bhannes 151.74 302 *e*P **PKPdf 05 53 34.4 -0.1**
SMOL Smolenice 151.75 345 *e*PKIKP **PKiKP 05 53 41.5 +0.8**
SMOL *e* 05 53 50.7
SMOL Smolenice 151.75 345 *e*PKP **PKiKP 05 53 41.5 +0.8**
SMOL *e* 05 53 50.7
VOIR 151.84 332 ⇑P **PKiKP 05 53 41.4 +0.3**
VOIR 151.84 332 ⇑PKIKP **PKiKP 05 53 41.4 +0.3**
SHBL Chebaa 151.84 301 *e*P **PKPdf 05 53 34.9 +0.2**
CHBY Cihanbeyli 151.88 313 P **PKPdf 05 53 33.6 -1.0**
WLF Walferdange 151.91 1 PKPdf **PKPdf 05 53 34.8 +0.7**
WLF PKiKP **PKiKP 05 53 41.5 +0.6**
WLF x x 05 53 54.5
WLF Walferdange 151.91 1 *e*PKPdf **PKPdf 05 53 35.1 +1.0**
baz=8.8,slow=1.6
WLF *e*PKPbc **PKiKP 05 53 41.7 +0.8**
baz=8.8,slow=1.6
WLF Walferdange 151.91 1 PKPdf **PKPdf 05 53 34.9 +0.8**
WLF PKPbc **PKiKP 05 53 41.6 +0.7**
MODS Modra-Piesok 151.92 345 *e*PKIKP **PKPdf 05 53 33.7 -0.5**
MODS *e* 05 53 40.8
MODS Modra-Piesok 151.92 345 *e*PKP **PKPdf 05 53 33.7 -0.5**
MODS *e* 05 53 40.8
MODS *e* 05 53 50.2
KHC Kasperske Hory 151.92 351 *e*PKPDF **PKPdf 05 53 34.4 +0.2**
KHC ⇑*e*PKP **PKPbc 05 53 40.9 +0.2**
KHC *e*PKPAB **pPKPbc 05 53 49.5 +0.4**
KHC *ex* x 05 53 57.5
KHC *ex* x 05 54 00.3
KHC *e*PP **PP 05 57 18.7 -2.0**
KHC AMS AMS 07 03 30.0
comp=Z,3µm,20.7s
KHC Kasperske Hory 151.92 351 *e*PKIKP **PKPdf 05 53 34.4 +0.2**
KHC *e* 05 53 40.9
KHC *e* 05 53 49.5
KHC *e* 05 57 18.7
KHC MLR MLR
comp=Z,3µm,20.7s
KHC Kasperske Hory 151.92 351 PKPdf **PKPdf 05 53 34.2 0.0**
KHC PKPbc **PKiKP 05 53 41.2 +0.1**
KIZK Mersin 151.95 308 P **PKPdf 05 53 33.7 -0.9**
WET Wettzell 152.01 351 *e*PKPdf **PKPdf 05 53 34.4 +0.1**
baz=8.8,slow=1.6
WET *e*PKPbc **PKiKP 05 53 41.4 +0.2**
baz=8.8,slow=1.6
WET *e*L L 07 04 05.4
comp=Z,3µm,21.1s
ARR Arges 152.07 333 ⇑P **PKPdf 05 53 35.2 +0.6**
AUMIH MIHALICIK 152.13 317 P **PKPdf 05 53 33.7 -1.3**
SILI Silifke-Mersin 152.16 308 P **PKPdf 05 53 34.2 -0.7**
GEC2 GERESS Array S 152.18 350 *e*PKPdf **PKPdf 05 53 34.6 -0.1**
baz=8.8,slow=1.6
GEC2 *e*PKPbc **PKPbc 05 53 41.7 +0.3**
baz=8.8,slow=1.6
GEC2 *e*L L 07 04 23.6
comp=Z,3µm,21.4s
GEC2 GERESS Array S 152.18 350 PKPdf **PKPdf 05 53 35.3 +0.6**
GEC2 PKPbc **PKiKP 05 53 42.0 +0.3**
GERES GERESS Array B 152.18 350 PKP **PKPdf 05 53 34.2 -0.4**
comp=Z,4.8nm,1.1s,baz=70,slow=1.6,SNR=22
GERES PKPbc **PKPbc 05 53 41.6 +0.3**
comp=Z,24nm,0.9s,baz=45,slow=2.1,SNR=55
GERES PKPab **sPKPbc 05 53 52.2 -0.5**
comp=Z,38nm,1.0s,baz=38,slow=2.2,SNR=16
GERES GERESS Array B 152.18 350 **PKPdf 05 53 34.7 0.0**
EREN Erenkoy 152.31 306 P **PKPdf 05 53 34.4 -0.7**
AUSIV SIVRIHISAR 152.33 316 P **PKPdf 05 53 34.6 -0.6**
MMLI Mount Malkishu 152.36 299 P **PKPdf 05 53 35.5 +0.1**
LOT Lotru 152.37 334 ⇑P **PKPdf 05 53 35.2 +0.1**
IKL Isikli 152.38 308 P **PKPdf 05 53 34.5 -0.7**
PRD Provadia 152.39 326 P **PKPdf 05 53 35.1 +0.1**
SPNC Sapanca-Adapaz 152.40 319 P **PKPdf 05 53 34.7 -0.4**
KIZT Kizilcal 152.41 314 P **PKPdf 05 53 34.7 -0.7**
GULT Gulveren 152.42 318 P **PKPdf 05 53 34.6 -0.7**
LADK Ladik-KONYA 152.43 313 P **PKPdf 05 53 34.3 -1.1**
ORH Orhaniye 152.43 320 P **PKPdf 05 53 33.6 -1.6**
TEVE Tevekalti-Mers 152.48 309 P **PKPdf 05 53 34.5 -1.0**
SIRR Siria 152.50 337 ⇑P **PKiKP 05 53 42.6 +0.3**
KONT Konya--Tatoy 152.55 312 P **PKPdf 05 53 34.5 -1.0**
SRCK Saricakaya, Es 152.58 318 P **PKPdf 05 53 34.5 -0.9**
CONA Conrad Observa 152.66 347 *i* PKPdf **PKPdf 05 53 35.4 0.0**
comp=Z,24nm,1.4s,SNR=11
CONA *i* PKiKP **PKiKP 05 53 43.1 +0.4**
comp=Z,76nm,1.4s
CONA *i* pPKiKP **sPKPbc 05 53 54.6 +0.9**
comp=Z,51nm,0.9s
CIFT Cifteler, Eski 152.68 316 P **PKPdf 05 53 34.8 -0.9**
HRT Hereke 152.70 320 P **PKPdf 05 53 34.5 -1.1**
BORA Eskisehir 152.78 318 P **PKPdf 05 53 35.3 -0.5**
TEKE Tekeli-Mersin 152.84 308 P **PKPdf 05 53 33.7 -2.2**
ADVT Abdulvahap 152.89 319 P **PKPdf 05 53 34.5 -1.4**
CAVI Cavuskoy 152.97 319 P **PKPdf 05 53 34.7 -1.3**
BGKT Bogazkoy 153.00 322 P **PKPdf 05 53 35.5 -0.5**
AUBOZ BOZOYUK 153.02 318 P **PKPdf 05 53 35.1 -1.1**
MOA Molln 153.05 349 *i* PKPdf **PKPdf 05 53 36.1 +0.2**
comp=Z,13nm,1.3s,SNR=5.6
BZS Buzias 153.07 337 ⇑P **PKPdf 05 53 36.9 +1.0**
BZS Buzias 153.07 337 ⇑PKIKP **PKPdf 05 53 36.9 +1.0**
SZH Strazhica 153.08 328 P **PKPdf 05 53 35.6 -0.5**
BOLV Bolvadin 153.11 315 PKPdf **PKPdf 05 53 36.6 +0.2**
BOLV **pPKPdf 05 53 44.7 -0.3**
CTKS Kestanelik-??a 153.12 322 P **PKPdf 05 53 34.5 -1.6**
CSS Mathiatis 153.16 306 P **PKPdf 05 53 35.2 -1.3**
CSS Mathiatis 153.16 306 PKPdf **PKPdf 05 53 35.5 -1.0**
CSS **PKPbc 05 53 44.0 +0.1**
CSS IAMs_20 IAMs_20 07 02 49.9
comp=Z,1µm,22.0s
TSVK Tesvikiye-Yalo 153.17 320 P **PKPdf 05 53 35.1 -1.1**
FUR Furstenfeldbru 153.17 353 *e*PKPbc **PKiKP 05 53 43.8 +0.2**
baz=8.8,slow=1.6
FUR *e*L L 07 03 35.2
comp=Z,3µm,21.6s
SEYD Seydisehir-KON 153.18 312 P **PKPdf 05 53 35.9 -0.6**
BFO Black Forest 153.22 358 PKIKP **PKPdf 05 53 36.0 -0.1**
BFO 05 53 44.0
BFO Black Forest 153.22 358 *e*PKPdf **PKPdf 05 53 36.1 -0.1**
baz=8.8,slow=1.6
BFO *e*PKPbc **PKiKP 05 53 43.9 +0.2**
baz=8.8,slow=1.6
BFO *e*L L 07 02 25.1
comp=Z,2µm,20.8s
BFO Black Forest 153.22 358 PKPdf **PKPdf 05 53 36.0 -0.1**
BFO PKPbc **PKiKP 05 53 44.0 +0.2**
BFO IAMs_20 IAMs_20 07 01 40.1
comp=Z,2µm,22.0s
GEMT Gemlik 153.22 320 P **PKPdf 05 53 35.9 -0.4**
HRFI Mount Harif 153.26 294 P **PKPdf 05 53 36.5 -0.3**
CLF Chambon-Foret 153.30 7 PKPdf **PKPdf 05 53 37.6 +1.5**
CLF PKPbc **pPKPdf 05 53 44.6 0.0**
JMB Yambol 153.33 326 P **PKPdf 05 53 36.0 -0.4**
ARMT Armutlu 153.34 320 P **PKPdf 05 53 35.9 -0.6**
ECH Echery 153.36 359 PKIKP **PKPdf 05 53 36.7 +0.4**
ECH Echery 153.36 359 PKPdf **PKPdf 05 53 36.7 +0.4**
ECH IAMs_20 IAMs_20 07 06 16.6
comp=Z,1µm,20.0s
ARSA Arzberg 153.38 347 *i* PKPdf **PKPdf 05 53 36.1 -0.3**
comp=Z,17nm,1.3s,SNR=6.6
ARSA *i* PKiKP **PKiKP 05 53 44.4 +0.3**
comp=Z,33nm,1.3s
ARSA *i* PKPab **sPKPbc 05 53 55.4 +0.1**
comp=Z,51nm,1.4s
HERR Herculane 153.38 335 ⇑P **PKPdf 05 53 34.5 -2.0**
GAZI Gazipasa 153.38 309 P **PKPdf 05 53 34.9 -1.8**
EIL Elat 153.40 294 PKP **PKPdf 05 53 36.5 -0.4**
baz=39,slow=4.2
EIL PKPbc **pPKPdf 05 53 45.7 +0.3**
baz=90,slow=3.2
EIL PKPab **PKPab 05 53 56.6 -0.1**
baz=31,slow=0.6
EIL Elat 153.40 294 P **PKPdf 05 53 37.1 +0.2**
LEF Lefka 153.43 306 ⇑P **PKPbc 05 53 44.6 +0.2**
LEF Lefka 153.43 306 P **PKPdf 05 53 36.0 -0.8**
MDNY Mudanya-Bursa 153.45 320 P **PKPdf 05 53 35.9 -0.7**
SHUT Suhut-Afyon 153.46 315 P **PKPdf 05 53 36.6 -0.3**
KZIT Kziot 153.60 296 P **PKPdf 05 53 37.1 -0.1**
TVSB Tavsanli 153.65 318 P **PKPdf 05 53 36.5 -0.6**
EDRB Edirne 153.69 325 P **PKPdf 05 53 35.9 -1.1**
MDVR Moldovita 153.74 336 ⇑P **PKPdf 05 53 37.7 +0.7**
ISP Isparta 153.87 314 P **PKPdf 05 53 35.9 -1.6**
ISP Isparta 153.87 314 IAMs_20 IAMs_20 07 16 00.4
comp=Z,2µm,22.0s
RETA Reutte 153.89 354 *i* PKPdf **PKPdf 05 53 37.5 +0.3**
comp=Z,2.0nm,0.4s
RETA *i* PKPbc **PKPbc 05 53 45.3 +0.1**
comp=Z,38nm,1.3s
RETA *i* PKPab **sPKPbc 05 53 57.5 +1.0**
comp=Z,45nm,1.1s
KBA Koelnbreinsper 153.95 350 *i* PKPdf **PKPdf 05 53 37.3 -0.1**
comp=Z,20nm,1.2s,SNR=11
KBA *i* PKPbc **PKPbc 05 53 45.4 0.0**
comp=Z,34nm,1.2s
WATA Walderalm 153.95 353 *i* PKPdf **PKPdf 05 53 37.5 +0.1**
comp=Z,14nm,1.2s
WATA *i* PKPbc **PKPbc 05 53 45.4 0.0**
comp=Z,47nm,1.4s
WATA *i* PKPab **sPKPbc 05 53 57.7 +1.0**
comp=Z,55nm,1.4s
MOTA Moosalm 154.00 353 *i* PKPdf **PKPdf 05 53 37.2 -0.3**
comp=Z,22nm,1.1s,SNR=7.6
MOTA *i* PKPbc **PKPbc 05 53 45.3 -0.1**
comp=Z,42nm,1.1s
MOTA *i* pPKPbc **sPKPbc 05 53 56.3 -0.5**
comp=Z,52nm,1.4s
WTTA Wattenberg 154.02 352 *i* PKPdf **PKPdf 05 53 37.9 +0.4**
comp=Z,21nm,1.4s,SNR=5.8
WTTA *i* PKiKP **PKiKP 05 53 45.9 +0.2**
comp=Z,39nm,0.6s
WTTA *i* pPKPbc **sPKPbc 05 53 57.2 +0.3**
comp=Z,31nm,0.7s
SOKA Soboth 154.02 347 *i* PKPdf **PKPdf 05 53 37.5 +0.1**
comp=Z,25nm,1.4s,SNR=7.9
SOKA *i* PKiKP **pPKPdf 05 53 46.1 +0.3**
comp=Z,28nm,1.1s
SOKA *i* PKPab **PKPab 05 53 59.2 +0.4**
comp=Z,64nm,1.2s
BISS Bistriski jare 154.03 347 *e*PKPdf **PKPdf 05 53 36.5 -0.8**
MRMT Marmara Adasi 154.06 322 P **PKPdf 05 53 35.8 -1.8**
EDC Edincik 154.07 321 P **PKPdf 05 53 36.6 -1.0**
MAR4 Marsite Statio 154.10 323 P **PKPdf 05 53 36.9 -0.8**
SQTA Sankt Quirin 154.11 353 *i* PKPdf **PKPdf 05 53 37.9 +0.4**
comp=Z,19nm,1.3s
SQTA *i* PKiKP **PKiKP 05 53 46.1 +0.3**
comp=Z,32nm,1.3s
MAR3 Marsite Statio 154.13 322 P **PKPdf 05 53 36.7 -0.9**
SIMA Simav-Kutahya 154.17 318 P **PKPdf 05 53 37.4 -0.5**
DAVA Damuels 154.17 355 *i* PKPdf **PKPdf 05 53 37.7 0.0**
comp=Z,4.2nm,0.6s
DAVA *i* PKiKP **pPKPdf 05 53 46.8 +0.6**
comp=Z,46nm,1.1s
DAVA *i* pPKiKP **sPKPbc 05 53 58.0 +0.9**
comp=Z,59nm,1.4s
RKY Sarkoy-Tekirda 154.24 322 P **PKPdf 05 53 36.2 -1.7**
OBKA Obir 154.28 348 *i* PKPdf **PKPdf 05 53 37.3 -0.5**
comp=Z,13nm,1.4s
OBKA *i* PKPbc **PKPbc 05 53 45.5 -0.5**
comp=Z,21nm,1.6s
OBKA *i* PKPab **PKPab 05 53 59.6 -0.3**
comp=Z,22nm,1.2s
MYKA Terra Mystica 154.34 349 *i* PKPdf **PKPdf 05 53 37.7 -0.1**
comp=Z,13nm,1.2s
MYKA *i* PKPbc **PKPbc 05 53 46.0 -0.1**
comp=Z,18nm,1.2s
MYKA *i* pPKPbc **sPKPbc 05 53 56.7 -0.7**
comp=Z,25nm,1.3s
FETA Feichten 154.36 354 *i* PKPdf **PKPdf 05 53 38.1 +0.1**
comp=Z,22nm,1.2s,SNR=8.2
FETA *i* PKiKP **pPKPdf 05 53 47.5 +1.1**
comp=Z,17nm,0.8s
FETA *i* pPKiKP **sPKPbc 05 53 58.6 +1.0**
comp=Z,52nm,1.6s
ABTA Abfaltersbach 154.41 351 *i* PKPdf **PKPdf 05 53 37.3 -0.7**
comp=Z,25nm,1.0s,SNR=10
ABTA *i* PKPbc **PKPbc 05 53 46.3 0.0**
comp=Z,47nm,1.0s
ABTA *i* pPKPbc **sPKPbc 05 53 57.6 0.0**
KORT Korkueli 154.41 312 P **PKPdf 05 53 37.7 -0.6**
BALB Balikesir 154.50 320 P **PKPdf 05 53 37.2 -1.0**
ZOU Zoufplan 154.52 350 **PKPdf 05 53 38.0 -0.3**
ZOU IAMs_20 IAMs_20 07 01 46.0
comp=Z,2µm,22.0s
KDZ Kurdzhali 154.53 326 P **PKPdf 05 53 38.0 -0.2**
GOLS Golise 154.53 346 *i* PKPdf **PKPdf 05 53 38.0 -0.1**
GOLS *e*PKPbc **pPKPdf 05 53 46.5 0.0**
PRED Cave del Predi 154.53 349 **PKPdf 05 53 37.9 -0.2**
PRED PKPab **PKPab 05 54 00.1 -0.9**
PLD Plovdiv 154.55 328 P **PKPdf 05 53 37.2 -1.0**
LPK Lapseki 154.69 322 P **PKPbc 05 53 46.7 -0.3**
KULA Kula-Manisa 154.70 317 P **PKPdf 05 53 37.9 -0.7**
CADS Cadrg 154.71 349 *e*PKPdf **PKPdf 05 53 37.7 -0.7**
CADS *e* 05 57 32.6
ALN Alexandroupoli 154.72 324 P **PKPdf 05 53 37.2 -1.2**
ALN Alexandroupoli 154.72 324 PKIKP **PKPdf 05 53 41.6 +3.2**
ALN Alexandroupoli 154.72 324 PKPdf **PKPdf 05 53 41.6 +3.2**
ALN IAMs_20 IAMs_20 07 09 56.8
comp=Z,2µm,21.0s
LJU Ljubljana 154.73 347 *i* PKPdf **PKPdf 05 53 38.5 +0.2**
LJU *i* PKPbc **pPKPdf 05 53 47.0 +0.3**
LJU *e*PKPab **sPKPbc 05 53 58.0 -0.2**
LJU *e* 05 57 31.9
FUORN Ofenpass-Fuorn 154.80 354 PKPdf **PKPdf 05 53 39.0 +0.3**
FUORN IAMs_20 IAMs_20 07 02 21.9
comp=Z,2µm,22.0s
RDO Rodhopi 154.82 325 P **PKPdf 05 53 36.2 -2.4**
GELI Tayfur-Gelibol 154.83 323 P **PKPbc 05 53 46.9 -0.3**
ELL Elmali 154.84 312 P **PKPdf 05 53 38.4 -0.5**
ELL Elmali 154.84 312 PKIKP **PKPbc 05 53 47.6 0.0**
ELL Elmali 154.84 312 **PKPbc 05 53 47.6 0.0**
CIMO Cimolais 154.84 351 PKPdf **PKPdf 05 53 37.5 -1.0**
STAL STALIGIAL 154.85 350 **PKPdf 05 53 38.4 -0.1**
RZN Rozhen 154.85 327 P **PKPdf 05 53 38.0 -0.9**
VTS Vitosha 154.86 331 P **PKPdf 05 53 38.1 -0.7**
DIVS Divibare 154.97 337 PKPdf **PKPdf 05 53 38.5 -0.3**
DIVS IAMs_20 IAMs_20 07 02 15.0
comp=Z,2µm,22.0s
TUE Stuetta 155.02 356 PKPdf **PKPdf 05 53 38.9 -0.1**
BOJS Bojanci 155.09 346 *e*PKPdf **PKPdf 05 53 38.9 +0.1**
BOJS *i* PKPbc **pPKPdf 05 53 47.9 +0.7**
TRI Trieste 155.21 348 IAMs_20 IAMs_20 07 09 11.4
comp=Z,2µm,20.0s
SENIN Lac Senin/Sane 155.21 359 PKPdf **PKPdf 05 53 39.8 +0.5**
CTI Castel Tesino 155.21 352 PKIKP **PKPdf 05 53 39.2 +0.1**
CTI Castel Tesino 155.21 352 PKPdf **PKPdf 05 53 39.2 +0.1**
CTI IAMs_20 IAMs_20 07 06 04.8
comp=Z,2µm,22.0s
GADA Gvkgeada 155.29 323 P **PKPdf 05 53 38.4 -0.8**
EZN Ezine 155.30 322 P **PKPdf 05 53 38.2 -1.0**
AKAS Kas 155.31 311 P **PKPdf 05 53 38.2 -1.4**
AKAS Kas 155.31 311 PKPdf 05 53 48.4 +8.8
MMB Musomiste 155.42 328 P **PKPdf 05 53 38.0 -1.4**
BOZC Bozcaada 155.44 322 P **PKPdf 05 53 38.2 -1.3**
DKL Dikili 155.45 320 P **PKPdf 05 53 38.2 -1.3**
FETY Fethiye 155.47 313 P **PKPdf 05 53 39.4 -0.2**
KKB Krupnik 155.52 330 P **PKPdf 05 53 38.9 -0.6**
DALY Dalyan (Mula) 155.66 314 P **PKPdf 05 53 37.7 -2.1**
YER Yerkesik 155.74 315 P **PKPdf 05 53 38.9 -1.1**
SALO Salr 155.77 354 PKPdf **PKPdf 05 53 38.9 -0.9**
SALO **PKPab 05 54 06.7 +0.4**
BLCB Balcova 155.80 318 P **PKPdf 05 53 38.8 -1.2**
PLE Pljevlja 155.85 337⇑*i* PKP **PKPdf 05 53 40.0 -0.1**
PMOZ Porto Moniz, M 155.91 57 *e*LR LR 06 50 47.9
comp=Z,1µm,24.0s
TURN Turunc 155.96 314 P **PKPdf 05 53 39.7 -0.5**
SIGR SIGRI 155.98 321 P **PKPdf 05 53 39.1 -1.1**
PGAV Gavieira, Arco 155.99 28 *e*PKPdf **PKPdf 05 53 40.7 +0.4**
PGAV *i* LQ LQ 05 53 51.4
PGAV Gavieira, Arco 155.99 28 *e*PP PP 05 57 44.9 +0.8
PGAV Gavieira, Arco 155.99 28 *e*LR LR 06 46 41.1
comp=Z,4µm,20.0s
IVA Berane 156.06 336⇑*i* PKP **PKPdf 05 53 39.7 -0.6**
STIP Stip 156.07 331 *i* P **PKPdf 05 53 39.1 -1.2**
URLA Izmir 156.09 319 P **PKPdf 05 53 38.7 -1.7**
GCAM G?zelcaml? 156.09 317 P **PKPdf 05 53 39.7 -0.7**
UPM Unac-Piva 156.13 338⇑*i* PKP **PKPdf 05 53 39.4 -1.1**
PMAR Madeira 156.17 57 *e*PKPdf **PKPdf 05 53 41.6 +0.7**
PMAR *i* LQ LQ 05 53 54.0
PMAR Madeira 156.17 57 *e*PKPab **PKPab 05 54 09.0 +0.3**
SKO Skopje 156.18 332 *i* P **PKPdf 05 53 40.1 -0.3**
KOME Kolasin 156.22 336⇑*i* PKP **PKPdf 05 53 40.1 -0.4**
OUR Ouranopolis 156.23 326 P **PKPdf 05 53 38.9 -1.6**
SSB Saint Sauveur 156.23 4 PKIKP **PKPdf 05 53 40.6 +0.2**
SSB Saint Sauveur 156.23 4 PKPdf **PKPdf 05 53 40.6 +0.2**
SSB Saint Sauveur 156.23 4 IAMs_20 IAMs_20 06 59 05.7
comp=Z,2µm,22.0s
PVY Plav 156.27 335⇑*i* PKP **PKPdf 05 53 39.6 -1.1**
PCAB Cabril 156.30 28 *e*PKPdf **PKPdf 05 53 41.5 +0.9**
PCAB *i* LQ LQ 05 53 52.4
PCAB Cabril 156.30 28 *e*PP PP 05 57 46.1 +0.3
ARG Arkhangelos 156.34 313 P **PKPdf 05 53 39.9 -0.9**
CHOS Chios island 156.40 320 P **PKPdf 05 53 39.7 -1.2**
DAT Datca 156.43 315 P **PKPdf 05 53 39.2 -1.8**
NKY Niksic 156.44 337⇑*i* PKP **PKPdf 05 53 40.2 -0.6**
HORT Hortiatis 156.48 328 P **PKPdf 05 53 39.3 -1.6**
NKME Niksic 156.50 337⇑*i* PKP **PKPdf 05 53 40.1 -0.7**
BNI Bardonecchia 156.53 0 PKIKP **PKPdf 05 53 41.6 +0.7**
BNI Bardonecchia 156.53 0 PKPdf **PKPdf 05 53 41.6 +0.7**
BNI IAMs_20 IAMs_20 07 05 15.4
comp=Z,2µm,21.0s
BRY Bratogost 156.53 338⇑*i* PKP **PKPdf 05 53 40.1 -0.9**
PDG Podgorica 156.68 336 ⇑P **PKPab 05 54 10.0 -0.2**
PDG Podgorica 156.68 336 PKPdf **PKPdf 05 53 40.5 -0.5**
PDG PKPab **PKPab 05 54 09.7 -0.5**
PDG IAMs_20 IAMs_20 07 07 47.3
comp=Z,2µm,22.0s
TTG Podgorica 156.68 336⇑*i* PKP **PKPdf 05 53 40.5 -0.5**
CEME Cevo 156.70 337⇑*i* PKP **PKPdf 05 53 40.3 -0.8**
PBRG Braganca 156.77 26 *e*PKPdf **PKPdf 05 53 41.3 +0.1**
PBRG Braganca 156.77 26 *e*PP PP 05 57 48.4 +0.1
PVRL Vila Real 156.79 29 *e*PKPdf **PKPdf 05 53 42.1 +0.8**
PVRL *i* LQ LQ 05 53 52.8
PVRL Vila Real 156.79 29 *e*PKPab **PKPab 05 54 11.8 +1.0**
PVRL Vila Real 156.79 29 *e*PP PP 05 57 48.7 +0.2
DRME Dracevica, Mon 156.91 336⇑*i* PKP **PKPdf 05 53 40.7 -0.6**
BUM Brajici-Budva 156.92 337⇑*i* PKP **PKPdf 05 53 40.5 -0.9**
HCY Herceg Novi 156.94 337⇑*i* PKP **PKPdf 05 53 40.6 -0.8**
ULC Ulcinj 157.08 336⇑*i* PKP **PKPdf 05 53 41.2 -0.4**
PVIS Viseu 157.15 30 *e*PKPdf **PKPdf 05 53 42.3 +0.5**
PVIS *i* LQ LQ 05 53 53.3
PVIS Viseu 157.15 30 *e*PKPab **PKPab 05 54 13.7 +1.3**
PVIS Viseu 157.15 30 *e*PP PP 05 57 51.5 +0.9
OHR Ohrid 157.16 332 *i* P **PKPdf 05 53 41.5 -0.3**
LIT Litokhoron 157.16 328 PKIKP **PKPdf 05 53 41.3 -0.4**
LIT Litokhoron 157.16 328 PKPdf **PKPdf 05 53 41.3 -0.4**
LIT IAMs_20 IAMs_20 07 13 30.9
comp=Z,2µm,22.0s

MVO	**Moncorvo**	**157.18**	**28**	*e*PKPdf	**PKPdf**	**05 53 42.5**	**+0.7**
MVO				*i* LQ	LQ	05 53 54.1	
MVO	**Moncorvo**	**157.18**	**28**	*e*PKPab	**PKPab**	**05 54 13.9**	**+1.4**
MVO	**Moncorvo**	**157.18**	**28**	*e*PP	PP	05 57 50.8	+0.1
MVO	**Moncorvo**	**157.18**	**28**	*e*LR	LR	06 47 36.3	
	comp=Z,3μm,20.0s						
VLC	**Villacollemand**	**157.22**	**353**	IAMs_20	IAMs_20	07 03 23.6	
	comp=Z,2μm,22.0s						
COI	**Coimbra**	**157.31**	**31**	IAMs_20	IAMs_20	06 55 43.8	
	comp=Z,2μm,22.0s						
COI	**Coimbra**	**157.31**	**31**	*e*PKPdf	**PKPdf**	**05 53 40.7**	**-1.2**
COI				*i* LQ	LQ	05 53 53.4	
COI	**Coimbra**	**157.31**	**31**	*e*PKPab	**PKPab**	**05 54 14.0**	**+1.0**
COI	**Coimbra**	**157.31**	**31**	*e*PP	PP	05 57 52.8	+1.4
KARP	**Karpathos**	**157.37**	**313**	P	**PKPdf**	**05 53 40.6**	**-1.6**
KARP	**Karpathos**	**157.37**	**313**	IAMs_20	IAMs_20	07 16 59.2	
	comp=Z,2μm,22.0s						
PCAS	**Casmilo, Conde**	**157.38**	**32**	*e*PKPdf	**PKPdf**	**05 53 41.7**	**-0.3**
PCAS				*i* LQ	LQ	05 53 54.5	
PCAS	**Casmilo, Conde**	**157.38**	**32**	*e*PKPab	**PKPab**	**05 54 14.4**	**+1.0**
MTE	**Manteigas**	**157.57**	**30**	PKPdf	**PKPdf**	**05 53 43.0**	**+0.7**
MTE				PKPab	**PKPab**	**05 54 14.3**	**+0.1**
MTE				IAMs_20	IAMs_20	06 55 33.4	
	comp=Z,3μm,22.0s						
MTE	**Manteigas**	**157.57**	**30**	*e*PKPdf	**PKPdf**	**05 53 42.7**	**+0.4**
MTE				*i* LQ	LQ	05 53 54.2	
MTE	**Manteigas**	**157.57**	**30**	*e*PP	PP	05 57 53.8	+0.9
MTE	**Manteigas**	**157.57**	**30**	*e*LR	LR	06 47 43.6	
	comp=Z,2μm,22.0s						
PSBE	**So Bento**	**157.64**	**33**	*e*PKPdf	**PKPdf**	**05 53 42.2**	**-0.2**
PSBE				*i* LQ	LQ	05 53 53.6	
PSBE	**So Bento**	**157.64**	**33**	*e*PKPab	**PKPab**	**05 54 15.1**	**+0.5**
PSBE	**So Bento**	**157.64**	**33**	*e*PP	PP	05 57 57.2	+3.9
OSSC	**Osservatorio P**	**157.75**	**351**	IAMs_20	IAMs_20	07 05 02.8	
	comp=Z,2μm,22.0s						
PMAFR	**Mafra**	**157.80**	**35**	*e*PKPdf	**PKPdf**	**05 53 41.2**	**-1.4**
PMAFR	**Mafra**	**157.80**	**35**	*e*PKPab	**PKPab**	**05 54 14.8**	**-0.4**
SANT	**Santorini**	**158.03**	**316**	PKPdf	**PKPdf**	**05 53 41.9**	**-1.1**
SANT					**PKPab**	**05 54 15.7**	**-0.6**
SANT				IAMs_20	IAMs_20	07 21 48.2	
	comp=Z,1μm,21.0s						
PCBR	**Castelo Branco**	**158.04**	**31**	*e*PKPdf	**PKPdf**	**05 53 42.8**	**0.0**
PCBR	**Castelo Branco**	**158.04**	**31**	*e*PKPab	**PKPab**	**05 54 17.7**	**+1.5**
PCBR	**Castelo Branco**	**158.04**	**31**	*e*PP	PP	05 57 59.1	+3.7
LIS	**Lisbon**	**158.05**	**35**	*e*PKPdf	**PKPdf**	**05 53 42.5**	**-0.4**
LIS				*e*PP	**PP**	**05 57 56.0**	**+0.5**
LIS				AMS	AMS	06 58 47.0	
	comp=Z,4μm,21.8s						
LIS	**Lisbon**	**158.05**	**35**	*e*PKIKP	**PKPdf**	**05 53 42.4**	**-0.4**
LIS				*e*		05 57 56.0	
LIS	**Lisbon**	**158.05**	**35**	*e*PKPdf	**PKPdf**	**05 53 43.5**	**+0.7**
LIS	**Lisbon**	**158.05**	**35**	*e*PKPab	**PKPab**	**05 54 16.9**	**+0.6**
LIS	**Lisbon**	**158.05**	**35**	*e*PP	PP	05 57 59.9	+4.3
AGG	**Agios Georgios**	**158.05**	**326**	P	**PKPdf**	**05 53 41.4**	**-1.5**
AGG	**Agios Georgios**	**158.05**	**326**	PKIKP	**PKPdf**	**05 53 43.2**	**+0.3**
AGG	**Agios Georgios**	**158.05**	**326**	PKPdf	**PKPdf**	**05 53 43.2**	**+0.3**
AGG				IAMs_20	IAMs_20	07 10 05.6	
	comp=Z,2μm,22.0s						
NRCA	**Norcia**	**158.10**	**347**		**PKPdf**	**05 53 42.8**	**-0.1**
NRCA					**PKPab**	**05 54 17.2**	**+0.8**
NRCA				IAMs_20	IAMs_20	07 04 39.3	
	comp=Z,1μm,22.0s						
PMRV	**Marv??o**	**158.41**	**31**	*e*PKPdf	**PKPdf**	**05 53 44.1**	**+0.8**
PMRV				*i* LQ	LQ	05 53 55.3	
PMRV	**Marv??o**	**158.41**	**31**	*e*PKPab	**PKPab**	**05 54 18.3**	**+0.5**
PMRV	**Marv??o**	**158.41**	**31**	*e*PP	PP	05 57 58.3	+0.9
PMRV	**Marv??o**	**158.41**	**31**	*e*LR	LR	06 47 26.9	
	comp=Z,2μm,22.0s						
INTR	**Introdacqua**	**158.71**	**345**	PKPdf	**PKPdf**	**05 53 43.1**	**-0.5**
EVO	**Evora**	**158.78**	**34**	PKP1	**PKPdf**	**05 53 44.0**	**+0.3**
EVO	**Evora**	**158.78**	**34**	*e*PKPdf	**PKPdf**	**05 53 44.0**	**+0.3**
EVO				*i* LQ	LQ	05 53 55.9	
EVO	**Evora**	**158.78**	**34**	*e*PKPab	**PKPab**	**05 54 19.9**	**+0.4**
EVO	**Evora**	**158.78**	**34**	*e*PP	PP	05 58 03.0	+3.4
PNCL	**Nicolau / Gran**	**158.82**	**35**	*e*PKPdf	**PKPdf**	**05 53 44.0**	**+0.2**
PNCL				*i* LQ	LQ	05 53 56.5	
PNCL	**Nicolau / Gran**	**158.82**	**35**	*e*PKPab	**PKPab**	**05 54 19.0**	**-0.6**
PNCL	**Nicolau / Gran**	**158.82**	**35**	*e*PP	PP	05 58 00.6	+0.8
IDI	**Anoyia**	**159.04**	**315**	PKP	**PKPdf**	**05 53 43.7**	**-0.5**
	comp=Z,18nm,1.1s,baz=257,slow=2.8,SNR=3.3						
IDI	**Anoyia**	**159.04**	**315**	P	**PKPdf**	**05 53 43.7**	**-0.5**
PTEO	**Sao Teotonio**	**159.12**	**37**	*e*PKPdf	**PKPdf**	**05 53 44.1**	**-0.1**
PTEO				*i* LQ	LQ	05 53 57.1	
PTEO	**Sao Teotonio**	**159.12**	**37**	*e*PKPab	**PKPab**	**05 54 22.7**	**+1.7**
PTEO	**Sao Teotonio**	**159.12**	**37**	*e*PP	PP	05 58 04.5	+3.0
PBEJ	**Beja**	**159.24**	**34**	*e*PKPdf	**PKPdf**	**05 53 45.3**	**+1.0**
PBEJ				*i* LQ	LQ	05 53 57.1	
PBEJ	**Beja**	**159.24**	**34**	*e*PKPab	**PKPab**	**05 54 22.7**	**+1.2**
PBEJ	**Beja**	**159.24**	**34**	*e*PP	PP	05 58 07.5	+5.4
MORF	**Marmelete**	**159.34**	**37**	*e*PKPdf	**PKPdf**	**05 53 44.1**	**-0.5**
MORF				AMS	AMS	07 00 49.2	
	comp=Z,3μm,19.0s						
MORF	**Marmelete**	**159.34**	**37**	*e*PKIKP	**PKPdf**	**05 53 44.0**	**-0.5**
MORF	**Marmelete**	**159.34**	**37**	*e*PKPdf	**PKPdf**	**05 53 44.5**	**0.0**
MORF				*i* LQ	LQ	05 53 57.2	
MORF	**Marmelete**	**159.34**	**37**	*e*PKPab	**PKPab**	**05 54 22.5**	**+0.5**
MORF	**Marmelete**	**159.34**	**37**	*e*PP	PP	05 58 05.7	+2.9
PFVI	**Vila Bisbo**	**159.36**	**38**	P	**PKPdf**	**05 53 46.6**	**+2.1**
	SNR=6.1						
PFVI	**Vila Bisbo**	**159.36**	**38**	*e*PKPdf	**PKPdf**	**05 53 45.6**	**+1.1**
PFVI				*i* LQ	LQ	05 53 56.7	
PFVI	**Vila Bisbo**	**159.36**	**38**	*e*PKPab	**PKPab**	**05 54 22.5**	**+0.5**
UCM	**Universidad Co**	**159.41**	**22**	PKP1	**PKPdf**	**05 53 45.9**	**+1.4**
PCVE	**Castro Verde**	**159.44**	**35**	*e*PKPdf	**PKPdf**	**05 53 45.5**	**+1.0**
PCVE				*i* LQ	LQ	05 53 57.7	
PCVE	**Castro Verde**	**159.44**	**35**	*e*PKPab	**PKPab**	**05 54 22.1**	**-0.2**
PCVE	**Castro Verde**	**159.44**	**35**	*e*PP	PP	05 58 06.3	+3.1
PAOL	**Paolisi**	**159.46**	**343**	IAMs_20	IAMs_20	07 14 00.6	
	comp=Z,2μm,22.0s						
IMMV	**Iera Moni Meta**	**159.53**	**316**	P	**PKPdf**	**05 53 44.7**	**0.0**
ITM	**Ithomi**	**159.62**	**323**	P	**PKPdf**	**05 53 44.3**	**-0.5**
ITM	**Ithomi**	**159.62**	**323**	IAMs_20	IAMs_20	07 12 34.4	
	comp=Z,2μm,22.0s						
PAB	**San Pablo**	**159.65**	**25**	PKIKP	**PKPdf**	**05 53 46.0**	**+1.1**
PAB	**San Pablo**	**159.65**	**25**	PKPdf	**PKPdf**	**05 53 46.0**	**+1.1**
ES18	**SONSECA Array**	**159.67**	**24**	IAMs_20	IAMs_20	07 00 06.2	
	comp=Z,3μm,21.0s						
ESBB	**Sonseca Array**	**159.69**	**25**		**PKPdf**	**05 53 46.2**	**+1.4**
ESBB				PKPab	**PKPab**	**05 54 24.5**	**+1.1**
ESBB				IAMs_20	IAMs_20	07 01 20.9	
	comp=Z,2μm,20.0s						
ESDC	**Sonseca Array**	**159.69**	**25**	PKP	**PKPdf**	**05 53 45.7**	**+0.8**
	comp=Z,5.4nm,1.1s,baz=343,slow=3.0,SNR=26						
ESDC				PKPab	**PKPab**	**05 54 24.2**	**+0.7**
	comp=Z,14nm,1.0s,baz=318,slow=4.3,SNR=17						
ESDC				PP	**PP**	**05 58 04.6**	**+0.3**
	comp=Z,5.9nm,1.2s,baz=326,slow=5.5,SNR=6.1						
ESDC	**Sonseca Array**	**159.69**	**25**	PKPdf	**PKPdf**	**05 53 45.6**	**+0.8**
ESDC				PKPab	**PKPab**	**05 54 23.9**	**+0.4**
ES06	**SONSECA Array**	**159.70**	**25**	IAMs_20	IAMs_20	07 00 29.0	
	comp=Z,2μm,20.0s						
ES02	**SONSECA Array**	**159.70**	**25**	IAMs_20	IAMs_20	07 01 24.1	
	comp=Z,2μm,20.0s						
ES03	**SONSECA Array**	**159.71**	**25**	IAMs_20	IAMs_20	06 59 22.4	
	comp=Z,2μm,22.0s						
ES09	**SONSECA Array**	**159.72**	**24**	IAMs_20	IAMs_20	06 59 22.4	
	comp=Z,2μm,22.0s						
ES10	**SONSECA Array**	**159.73**	**24**	IAMs_20	IAMs_20	07 01 25.9	
	comp=Z,2μm,20.0s						
ES12	**SONSECA Array**	**159.73**	**25**	IAMs_20	IAMs_20	07 01 10.7	
	comp=Z,2μm,20.0s						
PVAQ	**Vaqueiros**	**159.78**	**35**	P	**PKPdf**	**05 53 46.8**	**+1.9**
	SNR=9.5						
PVAQ	**Vaqueiros**	**159.78**	**35**		**PKPdf**	**05 53 46.2**	**+1.3**
PVAQ					**PKPab**	**05 54 24.9**	**+1.1**
PVAQ	**Vaqueiros**	**159.78**	**35**	*e*PKPdf	**PKPdf**	**05 53 46.1**	**+1.2**
PVAQ				*i* LQ	LQ	05 53 56.9	
PVAQ	**Vaqueiros**	**159.78**	**35**	*e*PKPab	**PKPab**	**05 54 24.3**	**+0.5**
PVAQ	**Vaqueiros**	**159.78**	**35**	*e*PP	PP	05 58 09.1	+4.1
PVAQ	**Vaqueiros**	**159.78**	**35**	*e*LR	LR	06 48 04.8	
	comp=Z,2μm,20.0s						
PBDV	**Barranco-do-Ve**	**159.78**	**36**	*e*PKPdf	**PKPdf**	**05 53 46.2**	**+1.2**
PBDV				*i* LQ	LQ	05 53 58.0	
PBDV	**Barranco-do-Ve**	**159.78**	**36**	*e*PKPab	**PKPab**	**05 54 25.6**	**+1.7**
PBDV	**Barranco-do-Ve**	**159.78**	**36**	*e*PP	PP	05 58 08.9	+3.8
GVD	**Gavdhos**	**159.84**	**315**	P	**PKPdf**	**05 53 42.7**	**-2.4**
TIP	**Timpagrande**	**160.44**	**336**	⇑P	**PKPdf**	**05 53 46.8**	**+1.1**
TIP	**Timpagrande**	**160.44**	**336**	PKPdf	**PKPdf**	**05 53 45.4**	**-0.3**
TIP				PKPab	**PKPab**	**05 54 27.2**	**+0.5**
HORN	**Hornachuelos**	**160.67**	**30**	P	**PKPdf**	**05 53 46.8**	**+0.9**
	SNR=8.0						
LIC	**Lamto**	**160.97**	**141**	*e*PKIKP	**PKPdf**	**05 53 46.3**	**-0.6**
	comp=Z,129nm,1.5s						
KIC	**Kosan Boka**	**161.24**	**142**	*e*PKIKP	**PKPdf**	**05 53 46.6**	**-0.7**
	comp=Z,178nm,1.6s						
SFS	**San Fernando**	**161.28**	**34**	PKP1	**PKPdf**	**05 53 48.2**	**+1.6**
TIC	**Toumodi**	**161.31**	**141**	*e*PKIKP	**PKPdf**	**05 53 46.9**	**-0.4**
DBIC	**Dimbokro**	**161.42**	**141**	PKP	**PKPdf**	**05 53 47.4**	**0.0**
	comp=Z,21nm,1.1s,baz=293,slow=1.1,SNR=9.9						
DBIC				PKPab	**PKPab**	**05 54 32.2**	**+0.6**
	comp=Z,19nm,0.8s,baz=196,slow=6.3,SNR=7.5						
MAHO	**Mahon**	**161.55**	**6**	PKP1	**PKPdf**	**05 53 47.0**	**+0.2**
SESP	**Santiago Espad**	**161.59**	**24**	P	**PKPdf**	**05 53 48.1**	**+1.0**
	SNR=13						
EMAL	**Malaga-Limoner**	**161.94**	**30**	PKP1	**PKPdf**	**05 53 46.1**	**-1.2**
VSL	**Villasalto**	**161.94**	**354**	PKPdf	**PKPdf**	**05 53 47.4**	**+0.2**
VSL				PKPab	**PKPab**	**05 54 32.4**	**-0.7**
CEU	**Ceuta**	**162.15**	**34**	PKP1	**PKPdf**	**05 53 48.1**	**+0.6**
EAH	**EAH**	**162.22**	**52**	P	**PKPdf**	**05 53 52.0**	**+4.2**
	SNR=5.3						
CART	**Cartagena**	**162.62**	**21**	PKP1	**PKPdf**	**05 53 48.1**	**+0.1**
RSA	**Sarsar**	**162.67**	**37**	P	**PKPdf**	**05 53 51.0**	**+2.8**
	SNR=8.3						
RTC	**Rabat Centre**	**162.69**	**41**	P	**PKPdf**	**05 53 51.4**	**+3.3**
	SNR=5.2						
AVE	**Averroes**	**162.78**	**44**	P	**PKPdf**	**05 53 50.0**	**+1.8**
	SNR=6.8						
AVE	**Averroes**	**162.78**	**44**	PKP1	**PKPdf**	**05 53 48.9**	**+0.7**
PVLZ	**Peæn de**	**163.26**	**33**	PKP1	**PKPdf**	**05 53 47.8**	**-0.8**
OUK	**Oukaimeden**	**163.70**	**51**	P	**PKPdf**	**05 53 53.0**	**+3.3**
	SNR=9.7						
MELI	**Melilla**	**163.83**	**30**	PKP1	**PKPdf**	**05 53 48.6**	**-0.6**
IFR	**Ifrane**	**164.05**	**39**	PKP1	**PKPdf**	**05 53 50.9**	**+1.3**
CZD	**Col de Zad**	**164.44**	**40**	P	**PKPdf**	**05 53 52.0**	**+1.8**
	SNR=8.8						
OUZM	**OUZ**	**164.66**	**50**	P	**PKPdf**	**05 53 54.0**	**+3.7**
	SNR=9.8						
JBK	**JBK**	**164.79**	**31**	P	**PKPdf**	**05 53 52.0**	**+1.6**
	SNR=25						
MDT	**Midelt**	**164.85**	**40**	PKP	**PKPdf**	**05 53 51.6**	**+1.3**
	comp=Z,11nm,1.1s,baz=279,slow=1.7,SNR=16						
MDT				PKPab	**PKPab**	**05 54 47.3**	**+1.0**
	comp=Z,13nm,1.1s,baz=323,slow=1.5,SNR=5.0						
MDT	**Midelt**	**164.85**	**40**	P	**PKPdf**	**05 53 52.0**	**+1.7**
	SNR=15						
GOLM	**Goulmima**	**165.40**	**44**	P	**PKPdf**	**05 53 54.1**	**+3.3**
	SNR=11						
KEST	**Kesra**	**165.66**	**352**	PKP	**PKPdf**	**05 53 51.4**	**+0.6**
	comp=Z,12nm,1.0s,baz=131,slow=2.9,SNR=9.0						
KEST				PKPab	**PKPab**	**05 54 50.1**	**+0.5**
	comp=Z,8.3nm,0.9s,baz=292,slow=11,SNR=3.7						
ZGR	**Zagora**	**165.92**	**50**	P	**PKPdf**	**05 53 54.0**	**+2.8**
	SNR=6.5						
ARF	**Arif**	**166.04**	**43**	P	**PKPdf**	**05 53 55.0**	**+3.6**
	SNR=11						
TDRA	**Tendrara**	**166.10**	**32**	P	**PKPdf**	**05 53 54.0**	**+2.5**
	SNR=6.0						
TOA0	**Torodi Ar. Sit**	**170.35**	**149**	P	**PKPdf**	**05 53 54.5**	**-0.1**
	SNR=6.1						
TOA0	**Torodi Ar. Sit**	**170.35**	**149**		**PKPdf**	**05 53 53.8**	**-0.8**
TOA0				PKPab	**PKPab**	**05 55 11.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**170.35**	**149**	PKP	**PKPdf**	**05 53 53.9**	**-0.7**
	comp=Z,20nm,1.0s,baz=324,slow=1.8,SNR=49						
TORD				PKPab	**PKPab**	**05 55 11.7**	**+0.9**
	comp=Z,5.4nm,0.8s,baz=235,slow=3.3,SNR=5.9						
TORD				PP	**PP**	**05 59 00.5**	**+0.5**
	comp=Z,3.5nm,1.2s,baz=259,slow=2.9,SNR=3.6						
TAM	**Tamanrasset**	**178.26**	**43**	PKIKP	**PKPdf**	**05 53 57.9**	**+0.8**
TAM	**Tamanrasset**	**178.26**	**43**		**PKPdf**	**05 53 57.9**	**+0.8**

MAN 04 05:43:45.6, 10.°17N×126.°05E, h19km, mb4.8, ML3.7, MS3.7, 1C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.39**	**169**	*e*P	Pg	05 43 53.6	-0.2
GLSP				*e*S	Sb	05 43 59.7	-0.1
MSLP	**Maasin**	**1.17**	**268**	*e*P	Pn	05 44 06.7	-0.3
MSLP				*e*S	Sg	05 44 24.4	+0.6
OCLP	**Ormoc**	**1.67**	**302**	*e*P	Pb	05 44 15.0	-0.7
LLP	**Lapu-Lapu**	**2.06**	**274**	⇓*i*P	Pn	05 44 19.9	+0.7
LLP				*e*S	Sn	05 44 45.0	+0.6
TBP	**Tagbilaran**	**2.21**	**258**	⇓*e*P	Pn	05 44 21.9	+0.7
TBP				*i* S	Sn	05 44 47.2	-0.9
BUKP	**Musuan**	**2.48**	**203**	*e*P	Pn	05 44 25.5	+0.5
BUKP				*e*S	Sn	05 44 56.4	+1.6
CNP	**Catarman**	**2.69**	**330**	*e*P	Pn	05 44 27.8	-0.2
CNP				*e*S	Sn	05 45 02.1	+2.0
DAV	**Davao City (W)**	**3.12**	**189**	⇓*i*P	Pb	05 44 41.1	+0.6
KCP	**Kidapawan**	**3.28**	**197**	⇑*i*P	Pn	05 44 37.3	+1.2
KCP				*i* S	Sn	05 45 16.0	+1.3
CNOP	**Candoni, Negro**	**3.38**	**265**	*e*P	Pn	05 44 38.1	+0.8
CNOP				*e*S	Sn	05 45 16.1	-0.8
PVCP	**Virac**	**3.88**	**332**	*e*P	Pn	05 44 45.7	+1.5
SKMP	**Bagumbayan, Su**	**3.92**	**202**	*e*P	Pn	05 44 39.1	-5.8
CUYO	**Cuyo Island**	**5.00**	**278**	*e*P	Pn	05 45 00.8	+1.2
PGP	**Puerto Galera**	**5.99**	**304**	⇓*e*P	Pb	05 45 26.0	-3.4
BALP	**Baler**	**7.05**	**322**	*e*P	Pn	05 45 27.2	-0.6
CAUP	**Cauayan**	**7.89**	**329**	*e*P	Pn	05 45 38.6	-0.8

*ISK **04** 05:50:43.4, 38.°75N×26.°04E, h18km, ML2.7/22*
*ATH **04** 05:50:43.5, 38.°72N×26.°00E, h29km±1km, ML2.5/3, Error ellipse: s-maj=1.6km s-min=1.0km az=102.0*
*THE **04** 05:50:44.8, 38.°72N×26.°04E, h13km, ML2.6/4, Error ellipse: s-maj=1.0km s-min=0.3km az=114.0*
*DDA **04** 05:50:45.3, 38.°81N×26.°11E, h33km±2km, ML2.6*

ISC 04 05:50:44.2±0.8, 38.°74N±0.°02×26.°03E±0.°02, h17km±7km, n66, σ0.°41/95, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.35**	**177**	P	**Pg**	**05 50 51.5**	**0.0**
CHOS				S	**Sg**	**05 50 56.6**	**+0.1**
	2μm,0.2s						
CHOS	**Chios island**	**0.35**	**177**	P	**Pg**	**05 50 51.5**	**0.0**
CHOS				S	**Sg**	**05 50 56.9**	**+0.4**
CHOS				AML	AML	05 50 58.4	
	comp=N,2416μm,0.2s						
CHOS				AML	AML	05 50 58.4	
	comp=E,5540μm,0.2s						
CHOS	**Chios island**	**0.35**	**177**	PG	**Pg**	**05 50 51.6**	**0.0**
CHOS				SG	**Sg**	**05 50 56.9**	**+0.4**
PSRA	**Psara**	**0.41**	**242**	P	**Pg**	**05 50 52.2**	**-0.4**
PSRA				S	**Sg**	**05 50 58.6**	**+0.3**
KRBN	**Karaburun**	**0.43**	**109**	PG	**Pg**	**05 50 52.8**	**-0.2**
KRBN				SG	**Sg**	**05 50 59.2**	**+0.3**
CESE	**eme**	**0.46**	**152**	PG	**Pg**	**05 50 53.1**	**-0.3**
CESE				SG	**Sg**	**05 50 59.8**	**+0.2**
SIGR	**SIGRI**	**0.49**	**344**	P	**Pg**	**05 50 53.8**	**-0.3**
SIGR				S	**Sb**	**05 51 02.7**	**+1.4**
SIGR	**SIGRI**	**0.49**	**344**	P	**Pg**	**05 50 53.7**	**-0.3**
SIGR				AML	AML	05 51 04.6	
	comp=E,860μm,0.3s						
SIGR				AML	AML	05 51 04.6	
	comp=N,1381μm,0.3s						
SIGR	**SIGRI**	**0.49**	**344**	PG	**Pg**	**05 50 53.8**	**-0.3**
SIGR				SG	**Sg**	**05 51 00.4**	**-0.4**
PRK	**Paraskevi**	**0.54**	**20**	P	**Pb**	**05 50 55.5**	**+0.3**
PRK				S	**Sb**	**05 51 03.9**	**+1.1**
	comp=N,472nm,0.4s						
PRK	**Paraskevi**	**0.54**	**20**	P	**Pb**	**05 50 55.8**	**+0.6**
PRK				S	**Sb**	**05 51 03.4**	**+0.6**
PRK				AML	AML	05 51 04.5	
	comp=N,994μm,0.5s						
PRK				AML	AML	05 51 06.9	
	comp=E,920μm,0.3s						
URLA	**Izmir**	**0.58**	**130**	PG	**Pg**	**05 50 55.7**	**0.0**
URLA				SG	**Sb**	**05 51 04.1**	**+0.3**
URLA	**Izmir**	**0.58**	**130**	*i* P	**Pg**	**05 50 55.6**	**0.0**
URLA				*i* S	**Sg**	**05 51 03.4**	**0.0**
DKL	**Dikili**	**0.76**	**64**	PG	**Pg**	**05 50 59.2**	**+0.1**
DKL				SG	**Sg**	**05 51 09.3**	**+0.2**
AYVA	**Ayvalik**	**0.77**	**42**	*i* P	**Pb**	**05 50 59.2**	**+0.2**
AYVA				*i* S	**Sb**	**05 51 09.0**	**-0.2**
ZEDA	**zmir-Bergama**	**0.85**	**74**	*i* P	**Pb**	**05 51 00.5**	**+0.1**
ZEDA				*i* S	**Sb**	**05 51 11.0**	**-0.5**
BLCB	**Balcova**	**0.87**	**113**	P	**Pb**	**05 51 00.6**	**-0.1**
BLCB				S	**Sn**	**05 51 13.4**	**-0.3**
BLCB	**Balcova**	**0.87**	**113**	PG	**Pb**	**05 51 00.6**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.08**	**22**	*i* P	**Pb**	**05 51 04.5**	**0.0**
BAYC				*i* S	**Sb**	**05 51 18.0**	**-0.3**
BAYC				IAML		05 51 22.0	
	comp=E,148nm,0.5s						
BOZC	**Bozcaada**	**1.11**	**1**	PN	**Pb**	**05 51 04.5**	**-0.3**
BOZC				SN	**Sn**	**05 51 19.6**	**-0.1**
BOZC	**Bozcaada**	**1.11**	**1**	*i* P	**Pb**	**05 51 04.6**	**-0.3**
BOZC				*i* S	**Sb**	**05 51 18.9**	**0.0**
BOZC				IAML		05 51 21.0	
	comp=N,148nm,0.3s						
BOZC				IAML		05 51 25.0	
	comp=E,127nm,0.4s						
EZN	**Ezine**	**1.11**	**12**	P	**Pn**	**05 51 04.7**	**-0.2**
EZN				S	**Sg**	**05 51 20.8**	**+0.5**
	comp=E,305nm,0.5s						
EZN	**Ezine**	**1.11**	**12**	PN	**Pn**	**05 51 04.6**	**-0.3**
SMG	**Samos**	**1.21**	**148**	P	**Pn**	**05 51 05.8**	**-0.5**
SMG				S	**Sn**	**05 51 22.4**	**+0.2**
LIA	**Limnos Island**	**1.33**	**331**	P	**Pn**	**05 51 08.3**	**+0.3**
LIA				S	**Sg**	**05 51 26.9**	**-0.4**
	comp=E,215nm,0.5s						
LIA	**Limnos Island**	**1.33**	**331**	P	**Pb**	**05 51 08.5**	**-0.2**
GCAM	**G?zelcaml?**	**1.40**	**137**	PN	**Pn**	**05 51 08.7**	**-0.2**
GCAM	**G?zelcaml?**	**1.40**	**137**	*i* P	**Pg**	**05 51 11.0**	**-0.2**
GCAM				*i* S	**Sg**	**05 51 29.3**	**-0.2**
GCAM				IAML		05 51 32.0	
	comp=E,71nm,0.4s						
GCAM				IAML		05 51 38.0	
	comp=N,102nm,0.4s						
KARY	**Karystos**	**1.44**	**241**	P	**Pn**	**05 51 09.3**	**-0.1**
KARY	**Karystos**	**1.44**	**241**	P	**Pn**	**05 51 09.1**	**-0.2**
GOKA	**anakkale-Gk**	**1.46**	**356**	*i* P	**Pb**	**05 51 11.0**	**+0.2**
GOKA				*i* S	**Sn**	**05 51 28.2**	**-0.1**
GOKA				IAML		05 51 32.0	
	comp=N,200nm,0.4s						
GOKA				IAML		05 51 32.0	
	comp=E,208nm,0.4s						
GADA	**Gvkgeada**	**1.46**	**356**	P	**Pn**	**05 51 10.1**	**+0.4**
GADA	**Gvkgeada**	**1.46**	**356**	PN	**Pn**	**05 51 09.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.46**	**63**	*i* P	**Pn**	**05 51 10.3**	**+0.5**
STEP				*i* S	**Sb**	**05 51 29.7**	**+0.5**
STEP				IAML		05 51 35.0	
	comp=N,78nm,0.4s						
STEP				IAML		05 51 40.0	
	comp=E,94nm,0.7s						
KYMI	**Kymi, Euboea I**	**1.51**	**267**	P	**Pn**	**05 51 10.9**	**+0.4**
BALY	**Balya**	**1.59**	**50**	*i* P	**Pn**	**05 51 11.7**	**+0.1**
BALY				*i* S	**Sb**	**05 51 32.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.70**	**12**	PN	**Pn**	**05 51 12.7**	**-0.3**
BALB	**Balikesir**	**1.70**	**57**	PN	**Pn**	**05 51 12.8**	**-0.2**
APE	**Apeiranthos**	**1.71**	**194**	P	**Pn**	**05 51 13.1**	**-0.1**
APE	**Apeiranthos**	**1.71**	**194**	P	**Pn**	**05 51 13.1**	**-0.1**
APE	**Apeiranthos**	**1.71**	**194**	PN	**Pn**	**05 51 13

IBJK	Bruarjokull	0.35	125	P	Pb	06 18 09.2	-1.7
baz=126							
IBJK				S	Sb	06 18 14.8	-1.7
baz=126							
IHUS	Husbondi	0.39	195	P	Pb	06 18 10.4	-1.1
baz=195							
IVOT	Vottur	0.42	166	P	Pb	06 18 10.5	-1.4
baz=166							
IVOT				S	Sb	06 18 16.6	-1.7
baz=166							
ISKR	Skrokkalda	0.43	255	P	Pb	06 18 10.7	-1.4
baz=255							
IKRE	Kreppuhraun	0.46	76	P	Pb	06 18 11.1	-1.5
baz=76							
IKRE				S	Sb	06 18 17.7	-1.7
baz=76							
IASK	Askja	0.50	40	P	Pb	06 18 11.8	-1.5
baz=41							
IJOK	Jokulheimar	0.50	225	P	Pb	06 18 12.1	-1.2
baz=224							
IMKO	Mokollar	0.55	56	P	Pb	06 18 12.8	-1.4
baz=56							
IIEY	Innrieyrar	0.66	208	P	Pb	06 18 14.5	-1.4
baz=208							
IKSK	Karasker	0.66	141	P	Pg	06 18 13.9	-1.2
baz=141							
ISVA	Svartarkot	0.67	6	P	Pb	06 18 14.7	-1.5
baz=5.9							
IVSH	V-Sauoahnukur	0.74	79	P	Pb	06 18 15.7	-1.7
baz=79							
IVSH				S	Sb	06 18 25.7	-1.8
baz=79							
IVAT	Vatnsfell	0.81	234	P	Pb	06 18 17.5	-1.1
baz=234							
IADA	Aoalbol	0.86	65	P	Pg	06 18 17.7	-1.3
baz=66							
IADA				S	Sb	06 18 29.7	-1.3
baz=66							
IFAG	Fagurholsmyri	0.87	157	P	Pg	06 18 17.9	-1.2
baz=157							
IHVE	Hveravellir	0.94	283	P	Pb	06 18 19.1	-1.7
baz=283							
IMEL	Melhnausar	0.96	19	P	Pb	06 18 19.4	-1.6
baz=19							
IMEL				S	Sb	06 18 32.3	-1.5
baz=19							
IREN	Reynihlio	1.00	12	P	Pb	06 18 20.2	-1.6
baz=12							
IKVO	Krokottuvotn	1.07	12	P	Pb	06 18 21.3	-1.7
baz=12							
ISNB	Snabyli	1.08	210	P	Pb	06 18 21.9	-1.3
baz=210							
ISNB				S	Sg	06 18 35.8	-1.4
baz=210							
IGRS	Grimsstaoir	1.11	29	P	Pn	06 18 22.2	-1.8
baz=29							
IFED	Fedgar	1.19	238	P	Pn	06 18 23.8	-1.3
baz=238							
IRJU	Rjupnafell	1.20	208	P	Pn	06 18 23.9	-1.2
baz=208							
ISKI	Skildingahlsh	1.21	8	P	Pn	06 18 23.7	-1.7
baz=7.6							
IGHA	Grjothals	1.22	15	P	Pb	06 18 23.7	-1.8
baz=15							
IGYG	Gygjarholskot	1.27	253	P	Pg	06 18 25.4	-1.5
baz=253							
IDIM	Dimmadalss	1.31	9	P	Pn	06 18 25.1	-1.6
baz=8.8							
BORG	Borgarnes	1.68	274	Pn	Pb	06 18 31.4	-2.0
12nm,0.3s,baz=101,slow=11,SNR=53							
BORG				Sn	Sg	06 18 54.9	-1.5
6.6nm,0.3s,baz=181,slow=22,SNR=5.1							
EKA	Eskdalemuir Ar	11.74	136	Pn	Pn	06 20 51.6	+1.9
baz=326,slow=13,SNR=6.4							
NOA	NORSAR Array B	13.50	92	LR	LR	06 25 53.1	
comp=Z,69nm,21.0s,baz=10.0,slow=34							
ESDC	Sonseca Array	26.25	156	P	P	06 23 40.5	+3.1
0.6nm,0.8s,baz=349,slow=8.3,SNR=4.5							
ILAR	Eielson Array	45.70	332	P	P	06 26 26.6	+3.7
0.9nm,1.0s,baz=30,slow=6.5,SNR=6.3							
MKAR	Makanchi Array	52.69	58	P	P	06 27 19.4	+2.8
0.6nm,0.8s,baz=345,slow=3.8,SNR=5.0							
PDAR	Pinedale Array	53.21	293	P	P	06 27 23.2	+2.5
0.9nm,0.8s,baz=69,slow=8.1,SNR=7.4							

IDC 04 06:34:46.0±3.4, 54°.53N×87°.11E, h0km, mb1 3.0/2, mb1mx2.9/49, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=31.2km s-min=20.5km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.46	248	i		06 43 20.0	
baz=65,slow=313,SNR=1.9							
ZALV	Zalesovo Beam	1.46	248	Pg	Pn	06 35 11.3	-2.2
1.6nm,0.3s,baz=67,slow=17,SNR=11							
ZALV				Lg	Lg	06 35 32.5	
2.4nm,0.3s,baz=68,slow=25,SNR=7.8							
KURBB	Kurchatov Arra	6.53	237	Pn	Pn	06 36 24.0	+0.8
0.1nm,0.3s,baz=54,slow=14,SNR=14							
MKAR	Makanchi Array	8.32	203	Pn	Pn	06 36 48.9	+1.1
0.1nm,0.3s,baz=27,slow=14,SNR=5.4							

IDC 04 06:48:42.6±1.7, 3°.32S×147°.92E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/35, mbtmp3.8/4, Error ellipse: s-maj=107.0km s-min=26.2km az=124.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.18	218	P	P	06 53 29.8	-0.1
3.5nm,0.9s,baz=46,slow=10.0,SNR=16							
ASAR	Alice Springs	24.35	213	P	P	06 54 03.5	+1.0
3.4nm,1.0s,baz=40,slow=8.2,SNR=16							
FITZ	Fitzroy Crossi	26.31	234	P	P	06 54 19.4	-1.0
1.7nm,0.9s,baz=356,slow=3.0,SNR=4.3							
H11S3	WAKE ISLAND Hy 28.49	40		T	T	07 24 50.3	
baz=223,slow=76,SNR=381							
H11S2	WAKE ISLAND Hy 28.50	40		T	T	07 24 52.4	
baz=223,slow=76,SNR=125							
H11S1	WAKE ISLAND Hy 28.50	40		T	T	07 24 51.9	
baz=223,slow=76,SNR=261							
H11N1	WAKE ISLAND Hy 29.52	38		T	T	07 26 10.0	
baz=222,slow=76,SNR=65							
H11N3	WAKE ISLAND Hy 29.53	38		T	T	07 26 08.3	
baz=222,slow=76,SNR=137							
H11N2	WAKE ISLAND Hy 29.54	38		T	T	07 26 11.2	
baz=222,slow=76,SNR=94							
ILAR	Eielson Array	82.67	23	P	P	07 01 07.8	0.0
0.5nm,0.7s,baz=246,slow=4.9,SNR=4.7							

*JMA **04** 06:59:31.8±0.1, 38°.01N×141°.93E, h51km±1km, M4.2*
JMA Felt II J1.
*NEIC **04** 06:59:32.5±2.2, 37°.94N±0°.05×142°.1E±0°.1, h53km±7km, mb4.4/16, Error ellipse: s-maj=13.9km s-min=2.0km az=123.0*
*IDC **04** 06:59:33.5±2.6, 37°.95N×141°.93E, h62km±25km, mb3.7/11, mb1 4.0/15, mb1mx3.7/59, mbtmp4.1/15, ML3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/52, Error ellipse: s-maj=21.0km s-min=15.4km az=84.0*

ISC 04 06:59:31.2±1.1, 37°.96N±0°.04×142°.05E±0°.07, h43km±11km, n77, σ1°35/81, mb4.2/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.58	307	P	Pn	06 59 42.9	-0.2
JIKH				S	Sn	06 59 50.7	-0.8
JIO	Ouri	0.74	312	P	Pn	06 59 44.9	-0.3
JIO				eS	Sn	06 59 54.1	-1.2
JMST	Minamisoumatoc	0.95	256	P	Pn	06 59 47.9	-0.2
JMST				S	Sn	06 59 59.4	-1.1
JKMT	Kesennumamotoy	0.96	332	P	Pn	06 59 47.9	-0.3
JKMT				S	Sn	06 59 59.6	-1.1
JMM	Marumori	1.00	265	P	Pn	06 59 48.4	-0.4
JMM				S	Sn	07 00 00.5	-1.1
JFK	Kawauchi	1.11	238	P	Pn	06 59 50.2	-0.1
JFK				eS	Sn	07 00 03.3	-1.1
JOU	Okura	1.16	291	P	Pn	06 59 50.8	-0.2
JOU				S	Sn	07 00 04.5	-1.3
JMK	Ichinoseki	1.18	327	P	Pn	06 59 51.1	-0.2
JMK				S	Sn	07 00 05.7	-0.5
JFT	Otama	1.43	252	P	Pn	06 59 55.3	+0.6
JFT				S	Sn	07 00 12.3	0.0
JYS	Shirataka	1.59	280	P	Pn	06 59 56.8	0.0
JYS				S	Sn	07 00 15.7	-0.4
JOM	Ohasama	1.62	339	P	Pn	06 59 57.5	+0.2
JYK	Kaneyama	1.63	306	P	Pn	06 59 57.3	-0.2
JRG	Rokugo	1.81	323	P	Pn	07 00 00.0	+0.1
JFY	Yanaizu	1.94	254	P	Pn	07 00 02.3	+0.6
JFY				S	Sn	07 00 24.7	-0.2
JYA	Atsumi	1.94	290	P	Pn	07 00 01.6	-0.1
MJAR	Matsushiro Arr	3.38	246	P	Pn	07 00 23.0	+1.6
1.7nm,0.3s,baz=48,slow=9.9,SNR=38							
MJAR				LR	LR	07 01 56.2	
comp=Z,376nm,21.1s,baz=5.0,slow=44							
MJAR	Matsushiro Arr	3.38	246		Pn	07 00 23.2	+1.8
MAJO	Matsushiro	3.38	246		Pn	07 00 23.5	+2.0
MAT	Matsushiro	3.38	246	P	Pn	07 00 23.0	+1.6
MAT				S	Sn	07 01 05.7	+5.4
ERM	Erimo	4.13	12	Pn	Pn	07 00 32.1	+0.3
INU	Inuyama	4.81	239	Pn	Pn	07 00 43.8	+2.6
JHJ2	Mitsune	5.17	201	Pn	Pn	07 00 46.3	+0.2
JHJ	Hachijo jima 2	5.17	202	P	Pn	07 00 46.4	+0.3
34nm,0.3s,baz=283,slow=23,SNR=6.9							
JHJ				S	Sn	07 01 41.2	-3.3
20nm,0.3s,baz=84,slow=23,SNR=4.6							
JKA	Kamikawa-asahi	6.16	4	Pn	Pn	07 01 02.5	+2.9
USA0B	Ussuriysk Arra	9.82	313	Pn	Pn	07 01 50.9	+1.2
USRK	Ussuriysk Ar.	9.82	313	P	Pn	07 01 50.4	+0.7
baz=124,slow=14,SNR=11							
USRK	Ussuriysk Ar.	9.82	313	Pn	Pn	07 01 51.3	+1.6
JNU	Nakatsue	10.30	245	Pn	Pn	07 01 57.5	+1.1
JCJ	Chichijima	10.84	179	P	Pn	07 02 01.2	-2.6
4.2nm,0.3s,baz=302,slow=21,SNR=6.4							
JCJ				S	Sn	07 03 55.4	-8.3
4.1nm,0.3s,baz=284,slow=23,SNR=4.7							
JCJ	Chichijima	10.84	179		Pn	07 02 04.6	+0.8
KSRS	Korea Array	11.20	272	P	Pn	07 02 11.7	+3.0
0.3nm,0.3s,baz=85,slow=14,SNR=9.0							
KSAR	Wonju Array Be	11.24	272	Pn	Pn	07 02 11.0	+1.8
SEY	Seymchan	25.78	11	P	P	07 04 59.0	+1.3
2.5nm,0.8s,baz=180,slow=14,SNR=6.9							
SMY	Shemya	26.66	46	P	P	07 05 04.3	-1.4
XAN	Xi'an	27.00	272	P	P	07 05 06.9	-2.2
XAN				IAmb	IAmb	07 05 12.4	
comp=Z,8.2nm,1.1s							
SONM	Songino Array	27.70	302	P	P	07 05 15.3	-0.1
comp=Z,1.6nm,0.8s,baz=102,slow=9.2,SNR=7.2							
SONM	Songino Array	27.70	302	P	P	07 05 14.4	-0.9
ENH	Enshi	27.93	264	P	P	07 05 16.6	-0.8
ENH				IAmb	IAmb	07 05 19.1	
comp=Z,10nm,0.7s							
H11N2	WAKE ISLAND Hy 28.21	123		T	T	07 35 42.6	
baz=316,slow=76,SNR=456							
H11N1	WAKE ISLAND Hy 28.22	123		T	T	07 35 42.8	
baz=316,slow=76,SNR=563							
H11N3	WAKE ISLAND Hy 28.23	123		T	T	07 35 43.5	
baz=316,slow=76,SNR=489							
H11S1	WAKE ISLAND Hy 28.96	125		T	T	07 36 42.3	
baz=318,slow=76,SNR=298							
H11S3	WAKE ISLAND Hy 28.96	125		T	T	07 36 42.3	
baz=318,slow=76,SNR=370							
H11S2	WAKE ISLAND Hy 28.98	125		T	T	07 36 37.3	
baz=318,slow=76,SNR=263							
ZALV	Zalesovo Beam	41.67	312	P	P	07 07 14.5	-0.8
comp=Z,1.3nm,0.3s,baz=79,slow=7.0,SNR=5.3							
MKAR	Makanchi Array	44.06	301	P	P	07 07 35.1	+0.3
comp=Z,1.2nm,0.5s,baz=84,slow=10,SNR=2.3							
KURK	Kurchatov	45.76	307	P	P	07 07 47.1	-1.1
KURBB	Kurchatov Arra	45.83	307	P	P	07 07 47.8	-1.0
comp=Z,1.4nm,0.4s,baz=82,slow=8.0,SNR=18							
BPAW	Bear Paw Mtn.	46.67	34	P	P	07 07 57.0	+1.8
BPAW				IAmb	IAmb	07 08 19.3	
comp=Z,5.7nm,1.4s							
WRH	Wood River Hil	47.93	33	P	P	07 08 06.5	+1.5
SCM	Sheep Creek Mo	48.42	37	P	P	07 08 10.1	+1.2
SCM				IAmb	IAmb	07 08 10.7	
comp=Z,7.3nm,1.0s							
HDA	Harding Lake	48.43	33	P	P	07 08 09.4	+0.6
HDA				IAmb	IAmb	07 08 10.4	
comp=Z,3.2nm,1.0s							
IL31		48.44	33	P	P	07 08 09.8	+0.9
IL31				IAmb	IAmb	07 08 10.1	
comp=Z,2.2nm,0.8s							
ILAR	Eielson Array	48.44	33	P	P	07 08 09.0	+0.1
comp=Z,1.5nm,0.7s,baz=270,slow=6.6,SNR=20							
ILAR	Eielson Array	48.44	33	P	P	07 08 09.8	+0.8
BCAR	Beaver Creek A	50.84	35	P	P	07 08 27.9	+0.6
KKAR	Karatay Array	53.10	300	P	P	07 08 43.1	-1.2
ABKAR	Akbulak array	57.73	310	P	P	07 09 16.2	-1.3
WB0	Warramunga Arr	57.87	189	P	P	07 09 17.6	-1.1
WRA	Warramunga Arr	58.05	189	P	P	07 09 19.9	-0.1
comp=Z,1.7nm,0.7s,baz=6.3,slow=7.5,SNR=14							
WRA	Warramunga Arr	58.05	189	P	P	07 09 19.2	-0.7
ASAR	Alice Springs	61.78	188	P	P	07 09 45.7	+0.2
comp=Z,0.8nm,0.8s,baz=21,slow=8.0,SNR=6.4							
ASAR	Alice Springs	61.78	188	P	P	07 09 44.9	-0.6
FINES	FINESS Array B	68.23	332	P	P	07 10 26.7	-0.2
comp=Z,1.9nm,1.0s,baz=74,slow=6.8,SNR=3.9							
FINES	FINESS Array B	68.23	332	P	P	07 10 26.9	0.0
BOZ	Bozeman (W)	73.72	45	P	P	07 11 00.8	0.0
NVAR	Mina Array Bea	74.03	54	P	P	07 11 03.9	+1.1
comp=Z,1.0nm,0.9s,baz=270,slow=3.0,SNR=6.4							
NVAR	Mina Array Bea	74.03	54	P	P	07 11 03.2	+0.4
IMW	Indian Meadow	75.16	46	P	P	07 11 11.9	+2.6
IMW				IAmb	IAmb	07 11 12.2	
comp=Z,3.2nm,0.8s							
TPAW	Teton Pass	75.41	46	P	P	07 11 11.9	+1.1
TXAR	Lajitas Array	89.16	53	P	P	07 12 23.1	+0.6
comp=Z,0.8nm,0.7s,baz=311,slow=3.4,SNR=13							
TXAR	Lajitas Array	89.16	53	P	P	07 12 23.3	+0.7
LPAZ	La Paz	145.78	59	PKPbc	PKPdf	07 19 06.9	+0.6
comp=Z,2.7nm,0.9s,baz=352,slow=3.3,SNR=6.0							
LPAZ	La Paz	145.78	59		PKPbc	07 19 07.0	+0.2
H03N2	Juan Fernandez	146.61	95	T	T	10 03 50.5	
baz=291,slow=76,SNR=11							
H03N3	Juan Fernandez	146.62	95	T	T	10 03 37.3	
baz=291,slow=76,SNR=12							
H03N1	Juan Fernandez	146.62	95	T	T	10 03 49.4	
baz=291,slow=76,SNR=12							

*NEIC **04** 07:02:03.8±2.5, 67°.31N±0°.06×19°.1W±0°.3, h10km±1km, mb4.3/5, Error ellipse: s-maj=18.8km s-min=10.1km az=85.0*
*IDC **04** 07:02:03.9±1.0, 67°.15N×19°.02W, h0km, mb3.6/5, mb1 4.0/9, mb1mx3.6/49, mbtmp3.8/9, ML3.4/4, Error ellipse: s-maj=23.9km s-min=18.9km az=51.0*

ISC 04 07:02:03.8±0.6, 67°.31N±0°.06×18°.93W±0°.08, h10km, n24, σ1°48/26, mb3.6/6, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	2.75	202	Pn	Pn	07 02 46.7	-1.2
16nm,0.3s,baz=19,slow=6.1,SNR=79							
BORG				Sn	Sn	07 03 20.8	-0.4
6.6nm,0.3s,baz=264,slow=24,SNR=3.5							
BORG	Borgarnes	2.75	202		Pn	07 02 46.8	-1.2
BORG					Sn	07 03 19.6	-1.5
SCO	Scoresbysund	3.37	342	i P	Pn	07 02 53.8	-2.6
SCO	Scoresbysund	3.37	342	Pn	Pn	07 02 53.0	-3.4
SUMG	Summit	8.50	317	Pn	Pn	07 04 07.6	+0.4
SPITS	Spitsbergen Ar	14.73	28	Pn	P	07 05 35.6	-2.4
baz=217,slow=12,SNR=9.5							
HFS	Hagfors	15.96	101		Pn	07 05 49.6	+1.6
0.2nm,0.3s,baz=340,slow=13,SNR=4.4							
FINES	FINESS Array B	19.93	85	P	Pn	07 06 36.6	-0.4
0.2nm,0.3s,baz=320,slow=8.5,SNR=6.8							
FINES	FINESS Array B	19.93	85	P	P	07 06 35.6	+0.2
FIA1	FINESS Array S	19.93	85	P	P	07 06 35.9	+0.5
FIA1				IAmb	IAmb	07 06 40.9	
comp=Z,17nm,1.2s							
CLL	Collm	22.46	120	i P	P	07 07 03.1	+0.4
comp=Z,9.0nm,1.4s							
CLL				i pP	sP	07 07 06.0	-0.6
CLL	Collm	22.46	120	P	P	07 07 03.2	+0.5
CLL				IAmb	IAmb	07 07 07.4	
comp=Z,15nm,1.4s							
GEC2	GERESS Array S	24.80	122	P	P	07 07 26.4	+0.7
GERES	GERESS Array B	24.80	122	P	P	07 07 26.0	+0.3
comp=Z,0.5nm,0.7s,baz=312,slow=10,SNR=2.7							
GERES	GERESS Array B	24.80	122	P	P	07 07 26.0	+0.3
MORC	Moravsky Berou	25.31	116	P	P	07 07 29.8	-0.5
ESDC	Sonseca Array	28.91	156	P	P	07 08 03.8	+1.0
comp=Z,1.1nm,0.9s,baz=350,slow=11,SNR=5.5							
ESDC	Sonseca Array	28.91	156	IAmb	IAmb	07 08 05.2	
comp=Z,5.3nm,1.4s							
YKA	Yellowknife Ar	37.01	310	P	P	07 09 15.1	+2.1
comp=Z,1.7nm,0.9s,baz=24,slow=9.4,SNR=3.4							
ILAR	Eielson Array	43.08	330	P	P	07 10 06.0	+2.7
comp=Z,1.0nm,1.1s,baz=28,slow=8.3,SNR=5.7							
ILAR	Eielson Array	43.08	330	P	P	07 10 02.9	-0.3
BCAR	Beaver Creek A	43.56	326	P	P	07 10 06.8	-0.4
PDAR	Pinedale Array	51.65	290	P	P	07 11 12.1	+1.5
comp=Z,0.9nm,0.9s,baz=39,slow=8.7,SNR=5.2							
PDAR	Pinedale Array	51.65	290	P	P	07 11 11.5	+1.0

*NNC **04** 07:09:13.3±0.8, 41°.51N×73°.78E, h0km, mb3.3, mpv3.2, Error ellipse: s-maj=6.4km s-min=3.4km az=177.0*
*SOME **04** 07:09:15.5, 41°.68N×73°.90E, h0km*
*KRNET **04** 07:09:17.2±0.1, 41°.77N×73°.98E, h12km, mb2.2*

ISC 04 07:09:16.7±1.2, 41°.73N±0°.05×73°.92E±0°.02, h5km±11km, n33, σ1°12/55, 20C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	Aral	0.33	66	⇑iP	Pg	07 09 22.7	-0.5
baz=68							
ARLS				⇑iS	Sg	07 09 27.0	-0.6
baz=68							
AML	Almayashu	0.44	338	⇑iP	Pg	07 09 25.6	+0.4
baz=30							
AML				⇑iS	Sg	07 09 31.9	+0.9
baz=30							
UCH	Uchtor	0.67	41	⇑iP	Pg	07 09 29.2	-0.4
baz=41							
UCH				⇑iS	Sg	07 09 37.8	-0.5
baz=41							
EKS2	Erkin-Say	0.94	354	⇓iP	Pg	07 09 34.5	-0.2
baz=51							
EKS2				⇓iS	Sg	07 09 47.3	+0.4
baz=51							
AAK	Ala-Archa	1.00	25	⇑iP	Pg	07 09 35.4	-0.6
baz=24							
AAK				⇑iS	Sg	07 09 48.9	-0.2
baz=24							
KZA	Kyzart	1.05	70	⇑iP	Pg	07 09 36.3	-0.6
baz=71							
KZA				⇑iS	Sg	07 09 50.4	-0.2
baz=71							
MRKS	Merke	1.14	333	eP	Pb	07 09 38.4	-0.6
6.1nm,0.4s							
MRKS				eS	Sn	07 09 54.6	-0.9
16nm,0.4s							
MRKS	Merke	1.14	333	P	Pb	07 09 37.3	-1.6
7.3nm,0.3s							
MRKS				S	Sn	07 09 55.5	0.0
16nm,0.4s							
KBK	Karagaybulak	1.20	39	⇑iP	Pb	07 09 39.0	-1.1
baz=39							
KBK				⇑iS	Sb	07 09 55.1	-0.9
baz=39							
ARK	Arkit	1.47	273	⇑iP	Pg	07 09 45.4	+0.6
baz=71							
ARK				⇑iS	Sg	07 10 06.1	+2.3
baz=71							
USP	Ospenovka	1.60	15	⇑iP	Pb	07 09 46.2	-0.6
baz=14							
USP				⇑iS	Sb	07 10 07.3	0.0
baz=14							
BOOM	Boomskoye usch	1.69	62	⇓iP	Pb	07 09 47.6	-0.8
baz=63							
BOOM				⇓iS	Sb	07 10 10.0	0.0
baz=63							
TKM2	Tokmak 2	1.72	46	⇑eP	Pb	07 09 48.4	-0.6
baz=46							
TKM2				⇑iS	Sb	07 10 11.3	+0.2
baz=46							
TKM2	Tokmak 2	1.72	46	⇑Pg	Pg	07 09 49.2	-0.6
3.8nm,0.8s							
TKM2				⇑Lg	Lg	07 10 16.9	
7.2nm,0.7s							
SGDS	Sogindy	1.80	17	Pg	Pg	07 09 50.8	-0.5
8.1nm,0.3s							
SGDS				Lg	Lg	07 10 18.5	
4.3nm,0.6s							
ULHL	Ulahol	1.81	73	⇓iP	Pb	07 09 49.9	-0.5
baz=73							
ULHL				⇓iS	Sg	07 10 13.8	-1.0
baz=73							
KST	Kastek	2.00	48	eP	Pg	07 09 55.8	+0.6
6.7nm,0.1s							
KST				eS	Sg	07 10 25.5	+4.4
24nm,0.9s							
KST	Kastek	2.00	48	Pg	Pg	07 09 54.7	-0.4
6.7nm,0.1s							
KST				Lg	Lg	07 10 25.5	
24nm,0.9s							
TNSS	Tian-Shan	2.60	59	eP	Pg	07 10 05.9	-0.6
4.0nm,0.4s							
TNSS				eS	Sg	07 10 42.7	+2.6
11nm,0.7s							
TNSS	Tian-Shan	2.60	59	Pg	Pb	07 10 04.8	+0.8
4.3nm,0.4s							
TNSS				Lg	Lg	07 10 42.7	
10nm,0.7s							
MDOK	Medeo	2.72	57	eP	Pb	07 10 06.3	+0.3
3.8nm,0.5s							
MDOK				eS	Sg	07 10 42.7	-1.5
9.1nm,0.8s							
MDOK	Medeo	2.72	57	Pg	Pb	07 10 06.9	+0.8
3.8nm,0.5s							
MDOK				Lg	Lg	07 10 46.2	
9.1nm,0.8s							
KOTS	Kotyrbulak	2.80	56	eP	Pb	07 10 08.4	+1.0
11nm,0.4s							
KOTS				eS	Sg	07 10 47.3	+0.6
11nm,0.6s							
KOTS	Kotyrbulak	2.80	56	Pg	Pb	07 10 08.0	+0.7
11nm,0.4s							
KOTS				Lg	Lg	07 10 48.1	
11nm,0.6s							
KUU	Kurty	2.80	39	eP	Pb	07 10 08.5	+1.2
2.4nm,0.1s							
KUU				eS	Sg	07 10 47.0	+0.2
5.6nm,0.5s							
KUU	Kurty	2.80	39	Pg	Pb	07 10 08.5	+1.2
2.4nm,0.1s							
KUU				Lg	Lg	07 10 49.2	
5.6nm,0.5s							
KTBS	Karatobe	2.84	45	eP	Pb	07 10 08.6	+0.6
1.6nm,0.2s							
KTBS				eS	Sg	07 10 47.1	-0.9
9.3nm,0.8s							
KTBS	Karatobe	2.84	45	Pg	Pb	07 10 08.4	+0.4
1.6nm,0.2s							
KTBS				Lg	Lg	07 10 48.5	
9.3nm,0.8s							
KK31	Karatay Array	2.87	300	Pg	Pb	07 10 08.1	-0.3
1.1nm,0.3s,baz=120,slow=16,SNR=8.9							
KK31				⇓Lg	Lg	07 10 47.5	
0.9nm,0.3s,baz=122,slow=28,SNR=7.1							
IUG	Iuzhn

RPSI			Sn	Sn	07 29 23.6	+0.4
RPSI	**Rantau Prapat**	**0.81 353**		**Pn**	**07 29 08.4**	**+1.1**
RPSI				**Sn**	**07 29 23.7**	**+0.5**
PSI	**Prapat**	**0.91 354**	P	**Pn**	**07 29 08.4**	**0.0**
	85nm,0.3s,baz=360,slow=11,SNR=225					
PSI			S	**Sn**	**07 29 23.7**	**-1.4**
	30nm,0.3s,baz=0.4,slow=16,SNR=29					
MNSI	**Mandailing Nat**	**1.22 153**	P	**Pn**	**07 29 12.9**	**+1.7**
GSI	**Gunungsitoli**	**1.56 248**	P	**Pn**	**07 29 16.0**	**+1.1**
GSI	**Gunungsitoli**	**1.56 248**		**Pn**	**07 29 16.3**	**+1.4**
GSI			Sn	**Sn**	**07 29 36.9**	**+0.2**
KCSI	**Kotacane, Aceh**	**2.05 322**	P	**Pn**	**07 29 21.3**	**+0.5**
KCSI			S	**Sn**	**07 29 46.4**	**-0.8**
PBSI	**Pulau Batu**	**2.07 201**	P	**Pn**	**07 29 21.9**	**+0.9**
PBSI			S	**Sn**	**07 29 47.5**	**-0.1**
TPTI		**2.29 307**	P	**Pn**	**07 29 24.7**	**+1.0**
TPTI			S	**Sn**	**07 29 51.4**	**-1.1**
BKNI	**Bangkinang**	**2.55 128**	P	**Pn**	**07 29 28.9**	**+1.9**
BKNI	**Bangkinang**	**2.55 128**		**Pn**	**07 29 29.2**	**+2.2**
PDSI	**Padang**	**3.13 153**	P	**Pn**	**07 29 35.9**	**+1.3**
SISI	**Saibi**	**3.19 179**	P	**Pn**	**07 29 35.3**	**-0.1**
MLSI	**Meulaboh, Aceh**	**3.52 312**	P	**Pn**	**07 29 40.4**	**+0.7**
KULM	**Kulim**	**3.75 26**		**Pn**	**07 29 43.8**	**+1.1**
MNAI	**Manna**	**7.35 148**	Pn	**Pn**	**07 30 29.0**	**-2.1**
CISI	**Cisompet, Garu**	**12.85 137**	Pn	**Pn**	**07 31 43.4**	**-1.1**
PBKT	**Sadao Pong**	**14.71 7**	Pn	**Pn**	**07 32 06.5**	**-1.8**
CMAR	**Chiang Mai Arr**	**16.47 360**	P	**P**	**07 32 31.9**	**+1.5**
	1.3nm,0.3s,baz=188,slow=12,SNR=10					
LUWI	**Luwuk**	**23.93 97**	P	**P**	**07 33 47.2**	**-1.6**
NACB	**Ninganchiao**	**31.10 43**	P	**P**	**07 34 51.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**32.89 128**	P	**P**	**07 35 07.8**	**-0.6**
FITZ			IAmb	IAmb	07 35 33.2	
	comp=Z,7.6nm,1.5s					
WB0	**Warramunga Arr**	**40.84 124**	P	**P**	**07 36 15.8**	**0.0**
WB0			IAmb	IAmb	07 36 18.9	
	comp=Z,3.8nm,0.6s					
WRA	**Warramunga Arr**	**40.88 124**	P	**P**	**07 36 16.2**	**+0.1**
	comp=Z,4.3nm,0.4s,baz=302,slow=9.0,SNR=41					
WRA			PcP	**PcP**	**07 38 15.1**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=313,slow=2.6,SNR=3.3					
WRA	**Warramunga Arr**	**40.88 124**	P	**P**	**07 36 15.1**	**-1.0**
WRAB	**Tennant Creek**	**40.88 124**	P	**P**	**07 36 14.9**	**-1.3**
WRAB			IAmb	IAmb	07 36 19.4	
	comp=Z,7.5nm,0.5s					
WB2	**Warramunga Arr**	**40.89 124**	P	**P**	**07 36 16.3**	**+0.1**
WB2			IAmb	IAmb	07 36 19.4	
	comp=Z,6.5nm,0.5s					
WR0	**Warramunga Arr**	**41.05 124**	P	**P**	**07 36 14.9**	**-2.6**
WR0			IAmb	IAmb	07 36 20.8	
	comp=Z,9.6nm,0.5s					
AS31	**Alice Springs**	**42.38 129**	P	**P**	**07 36 27.6**	**-0.7**
ASAR	**Alice Springs**	**42.38 129**	P	**P**	**07 36 27.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=304,slow=7.7,SNR=16					
ASAR			PcP	**PcP**	**07 38 20.0**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=307,slow=2.0,SNR=5.5					
ASAR	**Alice Springs**	**42.38 129**	P	**P**	**07 36 25.8**	**-2.6**
KBL	**Kabul**	**42.85 323**	P	**P**	**07 36 30.9**	**-1.3**
KBL			IAmb	IAmb	07 36 36.2	
	comp=Z,6.3nm,0.5s					
SOCY	**Socotra**	**45.77 285**	P	**P**	**07 36 56.4**	**+0.8**
SONM	**Songino Array**	**46.21 7**	P	**P**	**07 37 01.8**	**+3.2**
	comp=Z,0.5nm,0.4s,baz=171,slow=8.8,SNR=2.5					
MK31	**Makanchi Array**	**47.05 344**	P	**P**	**07 37 05.8**	**+0.9**
MKAR	**Makanchi Array**	**47.05 344**	P	**P**	**07 37 06.2**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=161,slow=7.8,SNR=27					
MKAR	**Makanchi Array**	**47.05 344**	P	**P**	**07 37 05.6**	**+0.7**
MAKZ	**Makanchi**	**47.14 344**	P	**P**	**07 37 06.2**	**+0.5**
KKAR	**Karatay Array**	**48.28 332**	P	**P**	**07 37 13.6**	**-0.9**
KURBB	**Kurchatov Arra**	**51.57 343**	P	**P**	**07 37 40.5**	**+1.3**
	comp=Z,3.2nm,0.2s,baz=165,slow=7.1,SNR=4.1					
ZALV	**Zalesovo Beam**	**53.19 350**	P	**P**	**07 37 51.8**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=178,slow=5.5,SNR=5.6					
BVAR	**Borovoye Array**	**56.22 340**	P	**P**	**07 38 13.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=152,slow=10,SNR=4.2					
BRVK	**Borovoye**	**56.28 340**	P	**P**	**07 38 12.3**	**-1.1**
BRVK			IAmb	IAmb	07 38 15.8	
	comp=Z,1.6nm,0.6s					
ABKAR	**Akbulak array**	**57.79 331**	P	**P**	**07 38 24.2**	**+0.2**
FINES	**FINESS Array B**	**80.24 332**	P	**P**	**07 40 41.7**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=97,slow=7.1,SNR=1.9					
QSPA	**South Pole Qui**	**91.83 180**	P	**P**	**07 41 40.2**	**+0.5**
QSPA			IAmb	IAmb	07 41 54.5	
	comp=Z,2.5nm,1.2s					
SNAA	**Sanae**	**95.51 198**	P	**P**	**07 41 57.1**	**+0.6**

*IDC **04** 07:30:45.6±4.2, 23°.86N×94°.25E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/57, mbtmp3.5/3, Error ellipse: s-maj=353.8km s-min=29.0km az=60.0*
*NEIC **04** 07:30:46.2±2.7, 23°.9N±0°.2×94°.1E±0°.2, h10km±1km, mb4.4/6, Error ellipse: s-maj=47.9km s-min=10.2km az=226.0*

ISC 04 07:30:44.6±1.0, 23°.7N±0°.3×93°.7E±0°.4, h10km, n14, σ1§59/15, mb4.2/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.49**	**320**		**Pb**	**07 31 29.0**	**-0.6**
SHL				Sn	**Sb**	**07 31 59.0**	**-1.4**
LSA	**Lhasa**	**6.42**	**340**	Pn	**Pn**	**07 32 18.8**	**-0.9**
CM31	**Chiang Mai Arr**	**7.15**	**135**	Pn	**Pn**	**07 32 27.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**7.15**	**135**	Pn	**Pn**	**07 32 27.0**	**-2.3**
MK31	**Makanchi Array**	**24.83**	**341**	P	**P**	**07 36 08.1**	**+1.1**
MKAR	**Makanchi Array**	**24.83**	**341**	P	**P**	**07 36 09.4**	**+2.5**
	0.3nm,0.4s,baz=148,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**24.83**	**341**	P	**P**	**07 36 08.2**	**+1.2**
WB0	**Warramunga Arr**	**58.65**	**134**	P	**P**	**07 40 43.5**	**+1.1**
WB0				IAmb	IAmb	07 40 51.8	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**58.74**	**134**	P	**P**	**07 40 44.0**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=322,slow=7.4,SNR=18						
WB2	**Warramunga Arr**	**58.75**	**134**	P	**P**	**07 40 44.3**	**+1.2**
WB2				IAmb	IAmb	07 40 56.4	
	comp=Z,4.8nm,1.4s						
WR0	**Warramunga Arr**	**58.89**	**134**	P	**P**	**07 40 46.1**	**+2.1**
ASAR	**Alice Springs**	**61.16**	**137**	P	**P**	**07 41 00.5**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=320,slow=6.6,SNR=7.6						
ASAR	**Alice Springs**	**61.16**	**137**	P	**P**	**07 40 59.4**	**-0.1**
GEC2	**GERESS Array S**	**66.09**	**315**	P	**P**	**07 41 33.3**	**+1.2**
GEC2				IAmb	IAmb	07 41 33.9	
	comp=Z,2.1nm,0.8s						

TAP 04 07:35:16.9, 24°.25N×121°.68E, h6km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.11**	**228**	P	Pg	07 35 19.7	+0.5
NACB	baz=228						
				S	Sg	07 35 21.7	+0.9
	baz=228						
TWD	**Chiawan**	**0.18**	**206**	P	Pg	07 35 21.5	+0.9
TWD	baz=203						
				S	Sg	07 35 24.9	+1.9
	baz=203						
ENA	**Nanau**	**0.19**	**16**	P	Pg	07 35 21.5	+0.9
ENA	baz=18						
				S	Sg	07 35 25.1	+2.0
	baz=18						
ETLH	**Xiulin Townshi**	**0.19**	**258**	*e*P	Pg	07 35 21.5	+0.8
ETLH	baz=257						
				S	Sg	07 35 25.5	+2.3
	baz=257						
ENAH	**Nanao**	**0.23**	**30**	*e*P	Pg	07 35 22.8	+1.4
ENAH	baz=29						
				*e*S	Sg	07 35 26.3	+1.8
	baz=29						
HWA	**Hwalien**	**0.28**	**195**	*e*P	Pb	07 35 23.7	-0.6
HWA	baz=193						
				*e*S	Sb	07 35 28.4	-0.9
	baz=193						
NNSB	**Datong**	**0.33**	**303**	*e*S	Sb	07 35 30.1	-0.8
	baz=303						
NNSH	**Datong**	**0.33**	**303**	*e*P	Pg	07 35 24.3	+1.0
NNSH	baz=303						
				*e*S	Sb	07 35 30.0	-0.9
	baz=303						
NNS	**Nan Shan**	**0.34**	**304**	S	Sb	07 35 31.0	-0.3
	baz=304						
NDT	**Datong Townshi**	**0.39**	**336**	*e*P	Pb	07 35 25.9	-0.3
NDT	baz=336						
				*e*S	Sb	07 35 32.0	-0.5
	baz=336						
TWC	**Suao**	**0.39**	**23**	*e*P	Pb	07 35 25.9	-0.4
TWC	baz=23						
				*e*S	Sb	07 35 32.4	-0.1
	baz=23						
WHF	**Hehuan Shan**	**0.40**	**255**	P	Pb	07 35 25.9	-0.8
WHF	baz=254						
				*e*S	Sb	07 35 31.9	-1.2
	baz=254						
FUSS	**Fushou**	**0.40**	**270**	*e*P	Pb	07 35 25.8	-0.8
FUSS	baz=270						
				*e*S	Sb	07 35 32.8	-0.3
	baz=270						
ENTT	**Nioudou**	**0.41**	**345**	*e*S	Sb	07 35 32.7	-0.4
	baz=345						

*NEIC **04** 07:42:43.0±2.8, 14°.50N±0°.08×92°.78W±0°.06, h35km±2km, mb4.1/45, Md3.9(MEX), Error ellipse: s-maj=14.1km s-min=8.7km az=200.0*
*MEX **04** 07:42:45.8±0.6, 14°.50N×92°.68W, h41km±16km, MD3.9*
*IDC **04** 07:42:46.9±2.5, 14°.78N×92°.61W, h75km±21km, mb3.6/5, mb1 3.9/9, mb1mx3.5/45, mbtmp3.9/9, MS4.3/1, Ms1 4.3/1, ms1mx3.1/25, Error ellipse: s-maj=34.8km s-min=16.3km az=16.0*
*SNET **04** 07:42:47.1±1.2, 14°.58N×92°.48W, h64km±15km, ML4.2*
*UCR **04** 07:42:47.1±1.3, 14°.58N×92°.48W, h63km±17km, ML4.0, mb4.1(NEIC)*
*INET **04** 07:42:48.9, 14°.10N×92°.45W, h15km, ML4.4*
*GCG **04** 07:42:49.9±0.6, 14°.65N×92°.60W, h33km±446km, MD4.3*

ISC 04 07:42:45.4±1.0, 14°.69N±0°.06×92°.69W±0°.05, h53km±11km, n113, σ1§68/119, mb4.1/15, 1C-4D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.46**	**62**	*e*P	**Pn**	**07 42 56.1**	**-0.3**
THIG				*e*P		07 42 56.2	
RTAL	**Retalhuleu**	**0.97**	**100**	||*i*P	**Pn**	**07 43 01.9**	**-0.9**
RTAL				*e*S	**Sn**	**07 43 14.6**	**-1.1**
RTAL				IAML		07 43 16.6	
	comp=Z,3μm,0.4s						
RTAL	**Retalhuleu**	**0.97**	**100**		**Pn**	**07 43 01.9**	**-0.9**
PCIG		**1.13**	**333**	*i*P	**Pn**	**07 43 06.2**	**+1.2**
PCIG				*i*S	**Sn**	**07 43 21.8**	**+2.3**
HUEH	**Huehuetenango**	**1.30**	**61**	||*e*P	**Pn**	**07 43 08.4**	**+0.9**
HUEH				*e*S	**Sn**	**07 43 26.2**	**+2.2**
HUEH				IAML		07 43 30.5	
	comp=Z,8μm,0.5s						
HUEH	**Huehuetenango**	**1.30**	**61**		**Pn**	**07 43 08.2**	**+0.8**
CCIG	**Comitan**	**1.67**	**18**	*e*P	**Pn**	**07 43 14.2**	**+1.7**
CCIG				*i*S	**Sn**	**07 43 35.6**	**+2.8**
CCIG	**Comitan**	**1.67**	**18**	Pn	**Pn**	**07 43 14.9**	**+2.5**
FUG	**Fuego 3**	**1.80**	**97**	||*e*P	**Pn**	**07 43 17.9**	**+3.7**
PCG	**Pacaya**	**2.03**	**98**	||*e*P	**Pn**	**07 43 21.7**	**+4.2**
PCG				*e*S	**Sn**	**07 43 46.3**	**+4.4**
TGIG		**2.12**	**349**	*e*P	**Pn**	**07 43 19.4**	**+0.9**
TGIG				*i*S	**Sn**	**07 43 46.0**	**+2.4**
APG	**El Apazote**	**2.17**	**81**	P	**Pn**	**07 43 18.9**	**-0.4**
	comp=Z,29nm,0.3s,baz=248,slow=9.0,SNR=1319						
APG				S	**Sn**	**07 43 46.2**	**+1.0**
	comp=Z,72nm,0.3s,baz=305,slow=21,SNR=29						
IXG	**Ixpaco**	**2.23**	**103**	*e*P	**Pn**	**07 43 23.9**	**+3.8**
NBG	**Las Nubes**	**2.27**	**92**	*e*P	**Pn**	**07 43 25.3**	**+4.7**
NUBE	**Las Nubes**	**2.92**	**105**	*e*P	**Pn**	**07 43 28.9**	**-0.7**
NUBE	**Las Nubes**	**2.92**	**105**	*e*P	**Pn**	**07 43 28.9**	**-0.7**
MRL	**Marmol**	**2.93**	**82**	||*e*P	**Pn**	**07 43 33.9**	**+4.2**
SBLS	**San Blas**	**3.09**	**106**	*e*P	**Pn**	**07 43 31.8**	**-0.1**
SBLS	**San Blas**	**3.09**	**106**	*e*P	**Pn**	**07 43 31.8**	**-0.1**
CEVE	**Cerro Verde**	**3.09**	**106**	*e*P	**Pn**	**07 43 31.4**	**-0.6**
CEVE				IAML		07 44 17.2	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**3.09**	**106**	*e*P	**Pn**	**07 43 31.4**	**-0.6**
CEVE				IAML		07 44 17.2	
	comp=Z,2μm,0.3s						
CMIG	**Matias Romero**	**3.19**	**319**	P	**Pn**	**07 43 34.7**	**+1.6**
	comp=Z,7.2nm,0.3s,baz=149,slow=14,SNR=90						
CMIG				S	**Sn**	**07 44 09.8**	**-0.1**
	comp=Z,29nm,0.3s,baz=89,slow=15,SNR=7.4						
CMIG	**Matias Romero**	**3.19**	**319**	*e*P	**Pn**	**07 43 34.6**	**+1.6**
CMIG				*i*S	**Sn**	**07 44 12.2**	**+2.3**
MTO3	**Montecristo**	**3.23**	**95**	Pn	**Pn**	**07 43 32.9**	**-0.9**
ESQI	**Esquipulas**	**3.24**	**92**		**Pn**	**07 43 33.0**	**-0.9**
TACO	**Tacachico**	**3.31**	**102**	*e*P	**Pn**	**07 43 33.3**	**-1.4**
TACO	**Tacachico**	**3.31**	**102**	*e*P	**Pn**	**07 43 33.3**	**-1.4**
CEDA	**San Andres**	**3.31**	**105**	*e*P	**Pn**	**07 43 34.7**	**-0.1**
CEDA				IAML		07 44 27.3	
	comp=Z,501nm,0.5s						
CEDA	**San Andres**	**3.31**	**105**	*e*P	**Pn**	**07 43 34.7**	**-0.1**
CEDA				IAML		07 44 27.3	
	comp=Z,501nm,0.5s						
BOQS	**Boqueron**	**3.44**	**106**	*e*P	**Pn**	**07 43 37.0**	**+0.3**
BOQS	**Boqueron**	**3.44**	**106**	*e*P	**Pn**	**07 43 37.0**	**+0.3**
HUIG	**Huatulco**	**3.47**	**288**	*i*P	**Pn**	**07 43 36.2**	**-0.7**
HUIG				*i*S	**Sn**	**07 44 13.2**	**-3.7**
SNET	**Serv Nac Est T**	**3.50**	**106**	*e*P	**Pn**	**07 43 36.9**	**-0.5**
SNET	**Serv Nac Est T**	**3.50**	**106**	*e*P	**Pn**	**07 43 36.9**	**-0.5**
SNET	**Serv Nac Est T**	**3.50**	**106**	Pn	**Pn**	**07 43 36.2**	**-1.1**
PETF	**Flores**	**3.50**	**50**	*e*P	**Pn**	**07 43 37.8**	**+0.4**
PETF	**Flores**	**3.50**	**50**	Pn	**Pn**	**07 43 37.7**	**+0.4**
LFRS	**El Faro**	**3.67**	**106**	*e*P	**Pn**	**07 43 39.4**	**-0.4**
LFRS	**El Faro**	**3.67**	**106**	*e*P	**Pn**	**07 43 39.4**	**-0.4**
COEG	**Centro de Oper**	**3.84**	**106**	*e*P	**Pn**	**07 43 41.4**	**-0.7**
COEG				IAML		07 44 30.3	
	comp=Z,436nm,0.4s						
COEG	**Centro de Oper**	**3.84**	**106**	*e*P	**Pn**	**07 43 41.4**	**-0.7**
COEG				IAML		07 44 30.3	
	comp=Z,436nm,0.4s						
COEB	**Comit de Eme**	**4.20**	**106**	*e*P	**Pn**	**07 43 46.6**	**-0.5**
COEB	**Comit de Eme**	**4.20**	**106**	*e*P	**Pn**	**07 43 46.6**	**-0.5**
TGUH	**Tegucigalpa,Un**	**5.28**	**96**	Pn	**Pn**	**07 44 01.2**	**-0.7**
CRIN	**San Cristobal**	**5.82**	**109**	Pn	**Pn**	**07 44 07.3**	**-2.0**
ESTN	**Estel**	**6.33**	**104**	Pn	**Pn**	**07 44 17.1**	**+0.9**
TLIG	**Tlapa**	**6.33**	**298**	Pn	**Pn**	**07 44 12.9**	**-3.4**
MATN	**Matagalpa**	**6.79**	**104**	Pn	**Pn**	**07 44 22.0**	**-0.6**
TEIG	**Tepich**	**6.93**	**37**	P	**Pn**	**07 44 23.2**	**-1.2**
	comp=Z,72nm,0.3s,baz=224,slow=2.3,SNR=314						
TEIG				S	**Sn**	**07 45 37.2**	**-4.6**
	comp=Z,28nm,0.3s,baz=32,slow=20,SNR=15						
TEIG	**Tepich**	**6.93**	**37**	*e*P	**Pn**	**07 44 23.1**	**-1.2**
TEIG	**Tepich**	**6.93**	**37**	Pn	**Pn**	**07 44 23.5**	**-0.8**
BOAB	**BOACO BROADBAN**	**7.18**	**107**		**Pn**	**07 44 26.9**	**-0.9**
ACON	**Acoyapa**	**7.79**	**109**		**Pn**	**07 44 35.4**	**-0.8**
ESPN	**Las Esperanzas**	**8.53**	**106**	Pn	**Pn**	**07 44 44.3**	**-2.0**
JTS	**Las Juntas de**	**8.72**	**119**	P	**Pn**	**07 44 50.2**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=0.0,slow=11,SNR=13						
JTS				S	**Sn**	**07 46 25.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=12,slow=20,SNR=1.7						
JTS	**Las Juntas de**	**8.72**	**119**	Pn	**Pn**	**07 44 50.5**	**+1.4**
061Z	**Ochoppi**	**15.66**	**43**	Pn	**Pn**	**07 46 21.2**	**-1.5**
553A	**Crawfordville**	**17.20**	**25**		**P**	**07 46 43.6**	**+0.7**
656A	**Willston**	**17.36**	**31**	Pn	**Pn**	**07 46 44.0**	**0.0**
656A				IAmb	IAmb	07 46 44.4	
	comp=Z,33nm,1.2s						
TX31	**Lajitas Ar. Si**	**17.76**	**327**	P	**Pn**	**07 46 46.8**	**-2.3**
TX31				IAmb	IAmb	07 46 55.0	
	comp=Z,18nm,1.3s						
TXAR	**Lajitas Array**	**17.76**	**327**	P	**P**	**07 46 49.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=154,slow=11,SNR=14						
TXAR	**Lajitas Array**	**17.76**	**327**	P	**P**	**07 46 50.7**	**+1.5**
143A	**Socs Landing,**	**17.97**	**4**	P	**Pn**	**07 46 52.7**	**+1.3**
352A	**Blakely**	**18.16**	**22**	P	**P**	**07 46 52.2**	**-1.2**
352A				IAmb	IAmb	07 46 55.8	
	comp=Z,13nm,0.9s						
146A	**Union**	**18.17**	**10**	P	**Pn**	**07 46 55.9**	**+2.0**
146A				IAmb	IAmb	07 47 18.1	
	comp=Z,11nm,0.7s						
250A	**Grady**	**18.18**	**18**	P	**Pn**	**07 46 54.3**	**+0.3**
250A				IAmb	IAmb	07 47 09.9	
	comp=Z,24nm,1.4s						
Z41A	**Richland Creek**	**18.49**	**360**	P	**Pn**	**07 46 57.8**	**+0.1**
Z41A				IAmb	IAmb	07 47 01.2	
	comp=Z,10nm,0.7s						
Z38A	**Mt. Pleasant**	**18.61**	**354**	P	**Pn**	**07 47 00.9**	**+1.8**
Z38A				IAmb	IAmb	07 47 07.9	
	comp=Z,9.6nm,0.6s						
LRAL	**Lakeview Retre**	**18.98**	**15**	P	**Pn**	**07 47 03.8**	**+0.1**
LRAL				IAmb	IAmb	07 47 09.7	
	comp=Z,10nm,1.2s						
Y45A	**Yeager Farm, C**	**19.30**	**8**	P	**Pn**	**07 47 08.4**	**+1.0**
MIAR	**Mount Ida**	**19.79**	**358**	P	**P**	**07 47 11.1**	**-0.2**
X43A	**Marvell**	**19.81**	**4**	P	**P**	**07 47 12.2**	**+0.7**
Y49A	**Blount Mountai**	**19.91**	**15**	P	**P**	**07 47 11.9**	**-0.8**
OXF	**Oxford**	**19.96**	**8**	P	Pn	07 47 15.1	-0.1
X37A	**Clayton**	**19.96**	**353**	P	Pn	07 47 15.1	-0.2
X37A				IAmb	IAmb	07 47 20.0	
	comp=Z,9.8nm,1.1s						
UALR	**University of**	**20.00**	**1**	P	Pn	07 47 15.3	-0.5
UALR				IAmb	IAmb	07 47 16.2	
	comp=Z,12nm,1.3s						
X48A	**Hartselle**	**20.32**	**14**	P	**P**	**07 47 18.3**	**+1.2**
W39A	**Magazine**	**20.44**	**357**	P	Pn	07 47 21.4	+0.4
W39A				IAmb	IAmb	07 47 25.9	
	comp=Z,9.1nm,1.2s						
MNTX	**Cornudas Mount**	**20.53**	**328**	P	**P**	**07 47 20.4**	**+1.0**
W45A	**Hickory Valley**	**20.62**	**8**	P	**P**	**07 47 21.8**	**+1.5**
Y52A	**Lilburn**	**20.63**	**21**	P	**P**	**07 47 19.4**	**-1.0**
Y52A				IAmb	IAmb	07 47 21.9	
	comp=Z,5.3nm,0.7s						
PLAL	**Pickwick Lake**	**20.63**	**11**	P	Pn	07 47 22.5	-0.6
FPAL	**Fort Paine**	**20.77**	**17**	P	**P**	**07 47 20.5**	**-1.5**
CPCT	**Cooper Cave**	**21.93**	**18**	P	**P**	**07 47 32.9**	**-1.6**
BG3	**Lake Jocassee**	**22.04**	**22**	P	**P**	**07 47 35.3**	**-0.3**
PBMO	**Poplar Bluff**	**22.09**	**5**	P	**P**	**07 47 34.6**	**-1.4**
PBMO				IAmb	IAmb	07 47 43.5	
	comp=Z,4.7nm,0.7s						
SDV	**Santo Domingo**	**22.34**	**103**	LR	LR	07 57 19.0	
	comp=Z,707nm,18.3s,baz=66,slow=39						
TKL	**Tuckaleechee C**	**22.36**	**19**	P	**P**	**07 47 36.6**	**-2.5**
	comp=Z,2.8nm,0.8s,baz=202,slow=15,SNR=5.3						
TKL	**Tuckaleechee C**	**22.36**	**19**	P	**P**	**07 47 37.4**	**-1.7**
TKL				IAmb	IAmb	07 47 55.3	
	comp=Z,4.4nm,0.8s						
V53A	**Saluda**	**22.69**	**21**	P	**P**	**07 47 40.9**	**-1.7**
BIRD	**Birdtown, Kers**	**22.72**	**27**	P	**P**	**07 47 40.8**	**-2.1**
T47A	**Sharon Grove**	**22.76**	**12**	P	**P**	**07 47 42.2**	**-1.0**
T47A				IAmb	IAmb	07 47 42.5	
	comp=Z,5.0nm,0.7s						
ANMO	**Albuquerque**	**23.68**	**331**	P	**P**	**07 47 52.0**	**-0.4**
U54A	**Nelsons Funny**	**23.81**	**22**	P	**P**	**07 47 52.1**	**-1.4**
U54A				IAmb	IAmb	07 47 52.2	
	comp=Z,5.9nm,0.7s						
WCI	**Wyandotte Cave**	**24.12**	**12**	P	**P**	**07 47 53.7**	**-2.5**
WCI				IAmb	IAmb	07 47 55.0	
	comp=Z,7.3nm,0.8s						
V58A	**Windy Hill, Pi**	**24.28**	**28**	P	**P**	**07 47 55.2**	**-2.6**
V58A				IAmb	IAmb	07 47 55.3	
	comp=Z,5.1nm,0.8s						
R55A	**Marlinton**	**26.00**	**23**	P	**P**	**07 48 10.9**	**-2.5**
R55A				IAmb	IAmb	07 48 23.1	
	comp=Z,8.1nm,1.2s						
MVCO	**Mesa Verde**	**26.48**	**331**	P	**P**	**07 48 18.7**	**+0.8**
MVCO				IAmb	IAmb	07 48 36.3	
	comp=Z,4.3nm,0.9s						
PV13	**Radium Mtn., P**	**27.39**	**332**	P	**P**	**07 48 27.6**	**+1.5**
PV13				IAmb	IAmb	07 48 44.6	
	comp=Z,4.8nm,1.0s						
PV12	**Saucer Basin,**	**27.51**	**332**	P	**P**	**07 48 29.0**	**+1.7**
PV12				IAmb	IAmb	07 48 45.3	
	comp=Z,6.5nm,1.0s						
SNOW	**Snow King Moun**	**32.58**	**335**	P	**P**	**07 49 12.8**	**+0.7**
SNOW				IAmb	IAmb	07 49 30.9	
	comp=Z,4.8nm,1.1s						
NVAR	**Mina Array Bea**	**32.72**	**321**	P	**P**	**07 49 13.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=135,slow=9.0,SNR=5.5						
NVAR	**Mina Array Bea**	**32.72**	**321**	P	**P**	**07 49 14.5**	**+1.2**
HLID	**Hailey**	**34.26**	**331**	P	**P**	**07 49 27.2**	**+0.7**
F10A	**Beach Ranch, E**	**37.39**	**332**	P	**P**	**07 49 53.7**	**+0.4**
DLBC	**Dease Lake**	**51.76**	**336**	P	**P**	**07 51 47.3**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=133,slow=8.8,SNR=3.5						
DLBC	**Dease Lake**	**51.76**	**336**	P	**P**	**07 51 48.8**	**+1.4**
BCAR	**Beaver Creek A**	**59.14**	**336**	P	**P**	**07 52 41.0**	**+0.6**
INK	**Inuvik**	**59.59**	**344**	P	**P**	**07 52 41.5**	**-1.9**
	comp=Z,1.6nm,0.4s,baz=123,slow=6.4,SNR=6.9						
INK	**Inuvik**	**59.59**	**344**	P	**P**	**07 52 42.5**	**-0.9**
ILAR	**Eielson Array**	**61.95**	**337**	P	**P**	**07 52 58.2**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=137,slow=4.8,SNR=7.4						
BMAR	**Burnt Mountain**	**62.42**	**340**	P	**P**	**07 53 02.6**	**0.0**
WRA	**Warramunga

FRGS	**Fruska Gora**	**2.63**	**74**	*e*Pn	**Pn**	**08 24 04.1**	**+1.0**
FRGS				*e*Sn	**Sn**	**08 24 36.2**	**+0.5**
DIVS	**Divibare**	**2.71**	**97**	*e*Pn	**Pn**	**08 24 04.8**	**+0.5**
DIVS				*e*Sn	**Sn**	**08 24 38.4**	**+0.5**
DIVS	**Divibare**	**2.71**	**97**	*e*Pn	**Pn**	**08 24 04.5**	**+0.2**
DIVS				*e*Sn	**Sn**	**08 24 38.1**	**+0.2**
ARSA	**Arzberg**	**2.83**	**350**	*e*Pn	**Pn**	**08 24 06.0**	**+0.1**
	comp=Z,1.5nm,0.2s						
DRME	**Dracevica, Mon**	**3.13**	**136**	*e*Pn	**Pn**	**08 24 10.9**	**+0.9**
DRME				*e*Sn	**Sn**	**08 24 48.1**	**+0.1**

*MEX **04** 08:25:57.6±0.9, 15°.21N×92°.53W, h115km±8km, MD3.8*
*GCG **04** 08:26:02.4±0.3, 15°.23N×92°.28W, h178km±17km, MD4.4*
ISC 04 08:26:00.7±1.3, 15°.36N±0°.08×92°.79W±0°.05, h97km, n10, σ2§03/15, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.54**	**310**	*e*P	**Pn**	**08 26 16.2**	**-0.2**
PCIG				*e*S	**Sn**	**08 26 30.8**	**+2.6**
THIG		**0.68**	**131**	*e*P	Pn	08 26 13.0	-4.6
THIG				*i* S	**Sn**	**08 26 25.7**	**-4.6**
CCIG	**Comitan**	**1.11**	**34**	*e*P	**Pn**	**08 26 21.2**	**-1.2**
CCIG				*i* S	**Sn**	**08 26 37.5**	**-1.2**
TGIG		**1.45**	**347**	*e*P	**Pn**	**08 26 25.6**	**-0.6**
FUG	**Fuego 3**	**2.09**	**115**	*e*P	**Pn**	**08 26 36.1**	**+1.6**
FUG				*e*S	**Sn**	**08 27 02.3**	**+2.0**
NBG	**Las Nubes**	**2.48**	**108**	*e*P	**Pn**	**08 26 40.5**	**+0.8**
IXG	**Ixpaco**	**2.56**	**117**	*e*P	**Pn**	**08 26 41.2**	**+0.5**
CMIG	**Matias Romero**	**2.65**	**311**	*e*P	**Pn**	**08 26 42.2**	**+0.5**
CMIG				*i* S	**Sn**	**08 27 15.8**	**+2.7**
MRL	**Marmol**	**3.01**	**95**	*e*P	**Pn**	**08 26 46.6**	**-0.2**
HUIG	**Huatulco**	**3.22**	**278**	*i* P	**Pn**	**08 26 48.2**	**-1.1**
HUIG				*i* S	**Sn**	**08 27 25.4**	**-1.5**

*ISN **04** 08:57:08.4±0.8, 33°.59N×45°.72E, h2km±3km, ML2.7*
*TEH **04** 08:57:13.4, 33°.74N×45°.98E, h14km, ML3.0*
ISC 04 08:57:10.4±0.9, 33°.62N±0°.04×45°.72E±0°.05, h10km, n19, σ1§30/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.54**	**161**	*e*Pg	**Pg**	**08 57 19.0**	**-1.9**
IBDR				*e*Sg	**Sg**	**08 57 27.0**	**-1.0**
IBDR				AML	AML	08 57 46.8	
	comp=E,223nm,0.3s						
IBDR				AML	AML	08 57 47.5	
	comp=N,231nm,0.3s						
IGHG	**Ghaleghazi**	**1.00**	**45**	*e*Pg	**Pg**	**08 57 27.7**	**-1.9**
BHD	**Baghdad**	**1.17**	**253**	*e*Pg	**Pb**	**08 57 32.0**	**-0.7**
BHD				*e*Sg	**Sn**	**08 57 50.0**	**+1.1**
BHD				AML	AML	08 57 54.8	
	comp=E,798nm,0.6s						
IDHR	**Dehrash**	**1.21**	**27**	*e*Pg	**Pn**	**08 57 33.0**	**-0.5**
IDHR				*e*		08 57 52.1	
KCHF	**Cheshme Sefid,**	**1.28**	**59**	*e*Pg	**Pn**	**08 57 33.2**	**-1.2**
KCHF				*e*		08 57 56.4	
IVIS	**Veis**	**1.30**	**46**	*e*Pg	**Pn**	**08 57 33.8**	**-0.9**
IVIS				*e*		08 57 54.9	
KER	**Kermanshah**	**1.40**	**57**	*e*Pg	**Pn**	**08 57 36.4**	**+0.3**
IKOM	**Komasi**	**1.59**	**69**	*e*Pg	**Pn**	**08 57 39.0**	**+0.3**
IKOM				*e*		08 58 04.7	
DHL1	**Dehloran**	**1.61**	**125**	*e*Pg	**Pg**	**08 57 41.8**	**+0.5**
IBZA	**Bozab**	**1.97**	**64**	*e*Pg	**Pn**	**08 57 45.2**	**+1.2**
IBZA				*e*		08 57 47.9	
IDOB	**Doab**	**2.06**	**85**	*e*Pn	**Pn**	**08 57 46.3**	**+1.1**
IKMR	**Kamar-syah**	**2.22**	**92**	*e*Pn	**Pn**	**08 57 48.8**	**+1.5**
IKMR				*e*		08 58 30.0	
IALM	**Almabolaq**	**2.37**	**58**	*e*Pn	**Pn**	**08 57 51.0**	**+1.4**
IALM				*e*		08 58 29.5	
HSAM	**Samen**	**2.47**	**75**	*e*Pn	**Pn**	**08 57 51.9**	**+1.0**
NSR	**Nassriya**	**2.63**	**172**	*e*Pn	**Pn**	**08 57 53.0**	**+0.2**
NSR				*e*Sn	**Sn**	**08 58 26.0**	**+1.2**
HSRG	**Sareghieh**	**2.66**	**52**	*e*Pn	**Pn**	**08 57 55.1**	**+1.5**
HSRG				*e*		08 58 37.9	
HAGD	**Aghdareh**	**3.08**	**66**	*e*Pn	**Pn**	**08 58 00.3**	**+1.1**
HAGD				*e*		08 58 53.4	
MSL	**Mosul**	**3.50**	**323**	*e*Pn	**Pn**	**08 58 06.0**	**+1.1**
MSL				*e*Sn	**Sn**	**08 58 49.0**	**+2.6**
QABG	**Abgarm-Qazvin**	**3.80**	**56**	*e*Pn	**Pn**	**08 58 09.5**	**+0.3**

*THE **04** 09:01:19.9, 38°.33N×21°.88E, h1km±1km, ML3.0/10, Error ellipse: s-maj=1.0km s-min=0.3km az=353.0*
*ATH **04** 09:01:19.5, 38°.34N×21°.89E, h17km±1km, ML3.0/30, Error ellipse: s-maj=1.4km s-min=0.7km az=290.0*
*IDC **04** 09:01:25.3±2.5, 38°.30N×21°.85E, h52km±30km, mb3.3/8, mb1 3.4/11, mb1mx3.3/44, mbtmp3.5/11, ML3.4/3, Error ellipse: s-maj=21.0km s-min=16.2km az=65.0*
ISC 04 09:01:20.1±0.8, 38°.33N±0°.02×21°.88E±0°.02, h9km±6km, n92, σ0§88/117, mb3.8/7, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.10**	**13**	P	**Pg**	**09 01 22.1**	**-0.5**
EFP	**Efpalio**	**0.10**	**13**	P	**Pg**	**09 01 22.2**	**-0.3**
EFP				S	**Sg**	**09 01 24.4**	**+0.1**
EFP				AML	AML	09 01 24.5	
	comp=E,69632μm,0.3s						
EFP				AML	AML	09 01 24.6	
	comp=N,80734μm,0.5s						
ALIK	**Aliki, Aigiali**	**0.20**	**111**	P	**Pg**	**09 01 24.1**	**0.0**
ANX	**Ano Chora**	**0.27**	**7**	P	**Pg**	**09 01 25.3**	**-0.1**
ANX	**Ano Chora**	**0.27**	**7**	P	**Pg**	**09 01 25.4**	**-0.1**
ANX				S	**Sg**	**09 01 29.0**	**-0.1**
ANX				AML	AML	09 01 32.0	
	comp=E,20837μm,0.4s						
ANX				AML	AML	09 01 32.2	
	comp=N,30372μm,0.5s						
KLV	**Kalavryta, Ach**	**0.36**	**143**	P	**Pg**	**09 01 26.6**	**-0.6**
KLV				S	**Sg**	**09 01 32.4**	**+0.5**
KLV	**Kalavryta, Ach**	**0.36**	**143**	P	**Pg**	**09 01 26.7**	**-0.5**
KLV				S	**Sg**	**09 01 32.6**	**+0.7**
KLV				AML	AML	09 01 35.7	
	comp=N,3350μm,0.5s						
KLV				AML	AML	09 01 36.7	
	comp=E,3230μm,0.4s						
PVO	**Paravola**	**0.40**	**316**	P	**Pg**	**09 01 27.8**	**-0.1**
PVO	**Paravola**	**0.40**	**316**	P	**Pg**	**09 01 27.9**	**-0.1**
PVO				AML	AML	09 01 40.2	
	comp=N,4801μm,0.6s						
PVO				AML	AML	09 01 42.0	
	comp=E,4854μm,0.4s						
DRO	**Drossia**	**0.40**	**199**	P	**Pg**	**09 01 27.8**	**-0.1**
DRO				S	**Sg**	**09 01 33.3**	**+0.1**
DRO	**Drossia**	**0.40**	**199**	P	**Pg**	**09 01 27.9**	**0.0**
DRO				S	**Sb**	**09 01 34.7**	**-0.9**
DRO				AML	AML	09 01 35.3	
	comp=N,14123μm,0.3s						
DRO				AML	AML	09 01 35.6	
	comp=E,16793μm,0.2s						
RLS	**Riolos of Patr**	**0.42**	**230**	P	**Pg**	**09 01 28.3**	**0.0**
RLS				S	**Sg**	**09 01 34.6**	**+0.7**
	comp=E,2μm,0.3s						
RLS	**Riolos of Patr**	**0.42**	**230**	P	**Pg**	**09 01 28.4**	**0.0**
RLS				S	**Sg**	**09 01 35.0**	**+1.1**
RLS				AML	AML	09 01 37.9	
	comp=N,3563μm,0.3s						
RLS				AML	AML	09 01 40.9	
	comp=E,3107μm,0.5s						
DLFA	**Delphi**	**0.51**	**73**	P	**Pg**	**09 01 29.1**	**-0.9**
DLFA				S	**Sg**	**09 01 35.9**	**-0.7**
DLFA				AML	AML	09 01 42.4	
	comp=E,4061μm,0.6s						
DLFA				AML	AML	09 01 45.5	
	comp=N,4291μm,0.7s						
DSF	**Desfina**	**0.52**	**81**	P	**Pg**	**09 01 29.5**	**-0.6**
DSF	**Desfina**	**0.52**	**81**	P	**Pg**	**09 01 29.2**	**-0.9**
DSF				AML	AML	09 01 42.4	
	comp=E,1689μm,0.5s						
DSF				AML	AML	09 01 43.1	
	comp=N,2480μm,0.3s						
GUR	**Goura**	**0.54**	**137**	P	**Pg**	**09 01 29.9**	**-0.6**
GUR				S	**Sg**	**09 01 37.7**	**+0.1**
	comp=N,4μm,0.3s						
GUR	**Goura**	**0.54**	**137**	P	**Pg**	**09 01 30.0**	**-0.6**
GUR				S	**Sb**	**09 01 38.6**	**-1.1**
GUR				AML	AML	09 01 38.9	
	comp=N,9618μm,0.4s						
GUR				AML	AML	09 01 44.0	
	comp=E,6691μm,0.5s						
EVR	**Evrytania**	**0.59**	**355**	P	**Pg**	**09 01 31.0**	**-0.5**
EVR	**Evrytania**	**0.59**	**355**	P	**Pg**	**09 01 31.2**	**-0.4**
EVR				AML	AML	09 01 44.7	
	comp=E,3418μm,0.7s						
EVR				AML	AML	09 01 46.1	
	comp=N,3110μm,0.8s						
VTN	**Vitineika**	**0.69**	**233**	P	**Pb**	**09 01 34.1**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.71**	**16**	P	**Pg**	**09 01 33.5**	**-0.3**
MAKR				S	**Sg**	**09 01 43.6**	**+0.5**
	comp=N,2μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.71**	**16**	P	**Pg**	**09 01 33.6**	**-0.2**
MAKR				AML	AML	09 01 48.1	
	comp=E,5585μm,0.4s						
MAKR				AML	AML	09 01 48.9	
	comp=N,3866μm,0.6s						
AXAR	**Agios Charalam**	**0.75**	**54**	P	**Pg**	**09 01 33.7**	**-0.9**
AXAR	**Agios Charalam**	**0.75**	**54**	P	**Pg**	**09 01 33.4**	**-1.2**
AXAR				S	**Sg**	**09 01 44.2**	**-0.1**
AXAR				AML	AML	09 01 55.4	
	comp=E,8965μm,0.8s						
AXAR				AML	AML	09 01 59.7	
	comp=N,8627μm,0.6s						
AGG	**Agios Georgios**	**0.78**	**27**	P	**Pg**	**09 01 34.1**	**-1.0**
AGG				S	**Sb**	**09 01 46.0**	**-0.6**
	comp=N,1μm,0.7s						
AGG	**Agios Georgios**	**0.78**	**27**	P	**Pg**	**09 01 34.3**	**-0.8**
AGG				AML	AML	09 01 52.1	
	comp=N,2364μm,0.7s						
AGG				AML	AML	09 01 54.7	
	comp=E,1880μm,0.7s						
AMT	**Artemida-Makis**	**0.81**	**190**	P	**Pg**	**09 01 35.4**	**-0.2**
AMT				S	**Sb**	**09 01 46.8**	**-0.6**
	comp=E,2μm,0.3s						
AMT	**Artemida-Makis**	**0.81**	**190**	P	**Pg**	**09 01 35.4**	**-0.2**
AMT				AML	AML	09 01 52.7	
	comp=N,4311μm,0.4s						
AMT				AML	AML	09 01 52.8	
	comp=E,4087μm,0.3s						
TRIP	**Tripoli**	**0.86**	**159**	P	**Pg**	**09 01 35.8**	**-0.8**
TRIP	**Tripoli**	**0.86**	**159**	P	**Pg**	**09 01 35.9**	**-0.7**
TRIP				AML	AML	09 01 54.9	
	comp=E,1321μm,0.5s						
TRIP				AML	AML	09 01 58.5	
	comp=N,1978μm,0.6s						
LTK	**Loutraki**	**0.91**	**109**	P	**Pg**	**09 01 37.3**	**-0.3**
LTK				S	**Sb**	**09 01 50.3**	**-0.1**
	comp=N,525nm,0.5s						
LTK	**Loutraki**	**0.91**	**109**	P	**Pg**	**09 01 37.3**	**-0.3**
LTK				AML	AML	09 01 54.2	
	comp=E,1118μm,0.5s						
LTK				AML	AML	09 01 54.8	
	comp=N,974μm,0.5s						
MGNA	**Meganis**	**0.91**	**291**	P	**Pg**	**09 01 36.8**	**-0.9**
LKR	**Lokris**	**0.94**	**70**	P	**Pg**	**09 01 37.5**	**-0.6**
LKR	**Lokris**	**0.94**	**70**	P	**Pg**	**09 01 37.2**	**-0.9**
LKR				AML	AML	09 01 55.5	
	comp=E,1108μm,0.3s						
LKR				AML	AML	09 01 55.9	
	comp=N,1315μm,0.4s						
EVGI	**Lefkada island**	**1.00**	**287**	P	**Pg**	**09 01 38.4**	**-1.0**
EVGI	**Lefkada island**	**1.00**	**287**	P	**Pg**	**09 01 38.7**	**-0.7**
VLS	**Valsamata**	**1.03**	**262**	P	**Pg**	**09 01 38.7**	**-1.1**
VLS				S	**Sb**	**09 01 53.9**	**+0.2**
VLS	**Valsamata**	**1.03**	**262**	P	**Pg**	**09 01 38.9**	**-0.9**
VLS				S	**Sb**	**09 01 53.5**	**-0.2**
VLS				AML	AML	09 01 58.6	
	comp=N,1326μm,0.5s						
VLS				AML	AML	09 02 05.4	
	comp=E,1108μm,0.5s						
VLX	**Vlachokerasia**	**1.04**	**157**	P	**Pg**	**09 01 39.2**	**-0.8**
VLX				S	**Sb**	**09 01 54.5**	**+0.4**
	comp=E,1μm,0.6s						
VLX	**Vlachokerasia**	**1.04**	**157**	P	**Pg**	**09 01 39.0**	**-1.1**
VLX				S	**Sb**	**09 01 54.0**	**-0.1**
VLX				AML	AML	09 02 05.6	
	comp=E,1976μm,0.6s						
VLX				AML	AML	09 02 08.2	
	comp=N,2192μm,0.6s						
FSK	**Fiskardo**	**1.04**	**278**	P	**Pg**	**09 01 39.1**	**-1.1**
FSK				S	**Sb**	**09 01 54.8**	**+0.7**
	comp=N,512nm,0.6s						
FSK	**Fiskardo**	**1.04**	**278**	P	**Pg**	**09 01 39.0**	**-1.1**
FSK				AML	AML	09 02 04.8	
	comp=N,1016μm,0.6s						
FSK				AML	AML	09 02 07.7	
	comp=E,1072μm,0.6s						
LKD2	**Lefkada island**	**1.06**	**296**	P	**Pg**	**09 01 39.7**	**-0.8**
LKD2	**Lefkada island**	**1.06**	**296**	P	**Pg**	**09 01 39.8**	**-0.8**
LKD2				AML	AML	09 02 04.4	
	comp=E,1498μm,0.6s						
LKD2				AML	AML	09 02 04.7	
	comp=N,831μm,0.7s						
VLMS	**Volimes, Zakyn**	**1.06**	**245**	P	**Pg**	**09 01 39.8**	**-0.6**
VLMS				S	**Sb**	**09 01 55.2**	**+0.5**
VLMS				AML	AML	09 01 59.2	
	comp=E,2902μm,0.3s						
VLMS				AML	AML	09 02 00.6	
	comp=N,3769μm,0.3s						
VIL2	**Platees**	**1.10**	**96**	P	**Pn**	**09 01 41.8**	**0.0**
VIL2				AML	AML	09 02 02.5	
	comp=N,1433μm,0.5s						
VIL2				AML	AML	09 02 03.6	
	comp=E,1986μm,0.8s						
KEF5	**Kardakata, Kep**	**1.11**	**268**	P	**Pg**	**09 01 40.2**	**-1.2**
VILL	**Villia**	**1.14**	**98**	P	**Pg**	**09 01 41.6**	**-0.4**
ITM	**Ithomi**	**1.15**	**178**	P	**Pg**	**09 01 41.2**	**-1.0**
ITM				S	**Sn**	**09 01 58.2**	**-0.1**
	comp=E,358nm,0.4s						
ITM	**Ithomi**	**1.15**	**178**	P	**Pg**	**09 01 41.4**	**-0.7**
ITM				AML	AML	09 02 04.4	
	comp=N,665μm,0.4s						
ITM				AML	AML	09 02 09.8	
	comp=E,704μm,0.5s						
KEF3	**Kipouria, Keph**	**1.21**	**264**	P	**Pb**	**09 01 42.2**	**-1.0**
THL	**Klokotos Trika**	**1.24**	**5**	P	**Pn**	**09 01 43.0**	**-0.6**
THL	**Klokotos Trika**	**1.24**	**5**	P	**Pn**	**09 01 43.2**	**-0.4**
VOL3	**Nea Ionia, Vol**	**1.33**	**38**	P	**Pn**	**09 01 42.7**	**-2.2**
VOL2	**Volos**	**1.33**	**39**	P	**Pg**	**09 01 45.8**	**+0.1**
DID	**Didima**	**1.35**	**127**	P	**Pn**	**09 01 45.2**	**-0.1**
DID				S	**Sg**	**09 02 04.6**	**+1.0**
	comp=E,648nm,0.5s						
DID	**Didima**	**1.35**	**127**	P	**Pb**	**09 01 45.3**	**-0.3**
DID				AML	AML	09 02 09.4	
	comp=E,1145μm,0.6s						
DID				AML	AML	09 02 10.3	
	comp=N,1325μm,0.5s						
NEO	**Neokhori**	**1.43**	**47**	P	**Pn**	**09 01 46.4**	**0.0**
PYL	**PYLOS**	**1.44**	**184**	P	**Pn**	**09 01 46.0**	**-0.4**
PYL	**PYLOS**	**1.44**	**184**	P	**Pn**	**09 01 46.1**	**-0.3**
XOR	**Xorichti**	**1.46**	**44**	P	**Pn**	**09 01 46.6**	**-0.1**
XOR				AML	AML	09 02 16.0	
	comp=N,974μm,0.6s						
XOR				AML	AML	09 02 20.6	
	comp=E,486μm,0.7s						
ATH	**Athens Observa**	**1.49**	**103**	P	**Pg**	**09 01 48.2**	**-0.5**
MEV	**Metsovon**	**1.54**	**341**	P	**Pn**	**09 01 47.2**	**-0.7**
ATHU	**Athens Univers**	**1.55**	**103**	P	**Pn**	**09 01 47.5**	**-0.4**
ATHU				AML	AML	09 02 13.3	
	comp=N,208μm,0.8s						
ATHU				AML	AML	09 02 21.3	
	comp=E,146μm,0.7s						
JAN	**Janina**	**1.55**	**329**	P	**Pn**	**09 01 47.4**	**-0.6**
VLY	**Voula,Athens**	**1.58**	**107**	P	**Pn**	**09 01 48.5**	**+0.1**
VLY	**Voula,Athens**	**1.58**	**107**	P	**Pn**	**09 01 48.4**	**-0.1**
PTL	**Penteli**	**1.59**	**100**	P	**Pn**	**09 01 47.9**	**-0.6**
DION	**Dionisos Attik**	**1.64**	**98**	P	**Pn**	**09 01 49.6**	**+0.4**
DION				AML	AML	09 02 13.8	
	comp=E,1806μm,0.4s						
DION				AML	AML	09 02 14.1	
	comp=N,1496μm,0.5s						
KPRO	**Kipourio**	**1.67**	**346**	P	**Pb**	**09 01 51.2**	**0.0**
KYMI	**Kymi, Euboea I**	**1.77**	**79**	P	**Pn**	**09 01 50.6**	**-0.4**
KYMI				AML	AML	09 02 25.6	
	comp=E,385μm,0.6s						
KYMI				AML	AML	09 02 26.9	
	comp=N,303μm,0.6s						
AOS	**Alonnisos**	**1.78**	**61**	P	**Pn**	**09 01 50.3**	**-0.7**
VLI	**Veliai**	**1.82**	**152**	P	**Pn**	**09 01 51.9**	**+0.3**
VLI	**Veliai**	**1.82**	**152**	P	**Pb**	**09 01 53.2**	**-0.4**
LIT	**Litokhoron**	**1.83**	**15**	P	**Pb**	**09 01 53.3**	**-0.5**
KZN	**Kozani**	**1.98**	**358**	P	**Pn**	**09 01 55.0**	**+1.1**
KARY	**Karystos**	**2.04**	**98**	P	**Pn**	**09 01 54.8**	**+0.2**
KARY				AML	AML	09 02 23.2	
	comp=E,188μm,0.6s						
KARY				AML	AML	09 02 34.9	
	comp=N,229μm,0.8s						
KTHA	**Kythira Island**	**2.27**	**155**	P	**Pb**	**09 01 60.0**	**-1.4**
SERI	**Serifos**	**2.37**	**119**	P	**Pn**	**09 01 59.5**	**+0.2**
IDI	**Anoyia**	**3.88**	**141**	P	**Pn**	**09 02 21.6**	**+1.5**
	comp=N,0.6nm,0.3s,baz=299,slow=10,SNR=1.2						
IDI				S	**Sn**	**09 03 06.6**	**+0.8**
	comp=N,1.4nm,0.3s,baz=322,slow=19,SNR=1.7						
MLR	**Muntele Rosu**	**7.77**	**22**	P	**Pn**	**09 03 17.8**	**+4.3**
	comp=N,0.4nm,0.3s,baz=168,slow=9.3,SNR=2.1						
BRTR	**Keskin Array B**	**9.26**	**78**	P	**Pn**	**09 03 37.7**	**+3.7**
	comp=N,0.3nm,0.3s,baz=267,slow=15,SNR=2.3						
ESDC	**Sonseca Array**	**20.11**	**282**	P	**P**	**09 05 54.9**	**+0.6**
	comp=N,0.9nm,0.7s,baz=80,slow=10,SNR=5.1						
HFS	**Hagfors**	**22.43**	**349**	P	**P**	**09 06 21.3**	**+2.2**
	comp=N,1.0nm,0.5s,baz=165,slow=13,SNR=1.9						
FINES	**FINESS Array B**	**23.29**	**5**	P	**P**	**09 06 27.2**	**-0.7**
	comp=N,3.5nm,1.1s,baz=192,slow=13,SNR=2.2						
NOA	**NORSAR Array B**	**23.69**	**347**	P	**P**	**09 06 31.4**	**-0.7**
	comp=N,0.9nm,0.8s,baz=157,slow=12,SNR=4.0						
EKA	**Eskdalemuir Ar**	**23.93**	**323**	P	**P**	**09 06 33.2**	**-1.1**
	comp=N,1.9nm,0.8s,baz=114,slow=10,SNR=6.0						
TORD	**Torodi Ar. Bea**	**30.83**	**221**	P	**P**	**09 07 37.3**	**+0.7**
	comp=N,0.2nm,0.4s,baz=25,slow=10,SNR=1.5						
MKAR	**Makanchi Array**	**44.31**	**59**	P	**P**	**09 09 30.5**	**+0.1**
	comp=N,0.9nm,0.5s,baz=276,slow=7.1,SNR=10						
ZALV	**Zalesovo Beam**	**44.79**	**48**	P	**P**	**09 09 34.0**	**0.0**
	comp=N,1.0nm,0.5s,baz=289,slow=9.0,SNR=3.6						

IDC 04 09:01:30.3±1.7, 7°.25S×155°.12E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/30, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=39.6km s-min=26.5km az=107.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.25**	**313**	Pn	Pn	09 02 37.9	+1.5
	5.4nm,0.3s,baz=194,slow=4.2,SNR=2.3						
KRVT				Sn	Sn	09 03 25.8	-0.9
	9.2nm,0.3s,baz=270,slow=5.5,SNR=3.7						
WRA	**Warramunga Arr**	**23.77**	**236**	P	P	09 06 43.6	-1.2
	2.0nm,0.9s,baz=62,slow=9.4,SNR=6.2						
ASAR	**Alice Springs**	**26.10**	**229**	P	P	09 07 06.2	+0.2
	0.6nm,0.8s,baz=63,slow=9.2,SNR=7.5						
STKA	**Stephens Creek**	**27.56**	**205**	P	P	09 07 19.8	+0.7
	2.9nm,1.0s,baz=21,slow=14,SNR=3.3						
ILAR	**Eielson Array**	**83.57**	**21**	P	P	09 14 00.1	0.0
	0.4nm,0.5s,baz=253,slow=5.0,SNR=5.4						

*IDC **04** 09:04:07.9±0.8, 34°.82N×24°.09E, h0km, mb4.2/13, mb1 4.2/23, mb1mx4.1/50, mbtmp4.1/23, ML3.9/10, MS3.3/12, Ms1 3.3/12, ms1mx3.0/42, Error ellipse: s-maj=18.1km s-min=15.0km az=6.0*
*MOS **04** 09:04:07.7±1.2, 34°.69N×24°.02E, h14km, mb4.6/14, Error ellipse: s-maj=10.7km s-min=5.5km az=70.9*
*HLW **04** 09:04:09.2, 34°.72N×24°.01E, h10km±22km, Md4.1, Ml4.3*
*NEIC **04** 09:04:12.7±2.3, 34°.70N±0°.08×24°.13E±0°.07, h32km±6km, mb4.4/13, ML3.9(ATH), ML4.2(ISK), Error ellipse: s-maj=11.4km s-min=8.5km az=200.0*
*ATH **04** 09:04:13.2, 34°.82N×24°.15E, h24km, ML3.9/19, Error ellipse: s-maj=2.4km s-min=1.0km az=193.0*
*ISK **04** 09:04:13.2, 34°.83N×24°.21E, h19km, ML4.0/18*
*THE **04** 09:04:14.9, 34°.90N×24°.18E, h0km, ML3.9/10, Error ellipse: s-maj=0.8km s-min=0.4km az=208.0*
*GII **04** 09:04:20.7±0.0, 34°.75N×25°.13E, h13km, mb4.3/3, MD4.1/3*
ISC 04 09:04:11.7±0.7, 34°.70N±0°.04×24°.08E±0°.03, h26km±4km, n201, σ1§60/217, mb4.4/29, MS3.2/9, 4C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.14**	**2**	P	**Pb**	**09 04 17.3**	**+0.4**
GVD				S	**Sb**	**09 04 19.8**	**-0.6**
	226μm,0.2s						
GVD	**Gavdhos**	**0.14**	**2**	P	**Pb**	**09 04 17.0**	**+0.2**
GVD				S	**Sb**	**09 04 20.5**	**+0.1**
GVD				AML	AML	09 04 21.1	
GVD				AML	AML	09 04 21.3	
GVD	**Gavdhos**	**0.14**	**2**	PG	**Pb**	**09 04 17.1**	**+0.2**
GVD				SG	**Sb**	**09 04 20.5**	**+0.1**
GVDS	**Gavdos**	**0.15**	**2**	P	**Pb**	**09 04 17.4**	**+0.4**
GVDS				S	**Sb**	**09 04 20.5**	**0.0**
	139μm,0.2s						
GVDS	**Gavdos**	**0.15**	**2**	PG	**Pb**	**09 04 17.3**	**+0.3**
GVDS				SG	**Sb**	**09 04 20.7**	**+0.2**
KNDR	**Palaiochora Ch**	**0.63**	**329**	PG	**Pn**	**09 04 25.3**	**+0.4**
KNDR				SG	**Sn**	**09 04 35.7**	**+1.6**
TMBK	**Timbaki Herakl**	**0.68**	**56**	P	**Pb**	**09 04 25.2**	**+0.3**
TMBK				S	**Sb**	**09 04 33.2**	**-0.7**
	15μm,0.4s						
SIVA	**Sivas**	**0.68**	**62**	P	**Pb**	**09 04 25.4**	**+0.4**
SIVA				S	**Sb**	**09 04 34.3**	**+0.3**
	51μm,0.5s						
SIVA	**Sivas**	**0.68**	**62**	P	**Pb**	**09 04 25.3**	**+0.4**
SIVA				S	**Sb**	**09 04 33.8**	**-0.2**
SIVA				AML	AML	09 04 44.4	
	comp=N,94433μm,0.7s						
SIVA				AML	AML	09 04 47.2	
VAM	**Vamos**	**0.72**	**8**	P	**Pb**	**09 04 25.1**	**-0.5**
VAM				S	**Sb**	**09 04 33.1**	**-2.0**
	comp=N,15μm,0.5s						
VAM	**Vamos**	**0.72**	**8**	P	**Pb**	**09 04 25.3**	**-0.3**
VAM				S	**Sb**	**09 04 34.1**	**-0.9**
VAM				AML	AML	09 04 42.3	
	comp=E,31531μm,0.5s						
VAM				AML	AML	09 04 43.7	
	comp=N,30420μm,0.5s						
PRNS	**Prines Rethymn**	**0.75**	**27**	P	**Pb**

NPS S **Sb** **09 04 56.3 +2.3**
comp=E,4μm,0.9s
NPS **Neapolis** **1.38 65** P **Pb** **09 04 38.0 +1.2**
NPS AML AML 09 05 05.8
comp=N,8404μm,1.2s
NPS AML AML 09 05 14.8
comp=E,8770μm,0.9s
STIA **Sitia Lasithi** **1.73 72** P **Pb** **09 04 43.1 +0.4**
KTHA **Kythira Island** **1.77 332** P **Pb** **09 04 44.0 +0.6**
KTHA S **Sb** **09 05 06.6 +1.4**
comp=E,2μm,0.8s
KTHA **Kythira Island** **1.77 332** P **Pb** **09 04 44.3 +0.9**
KTHA AML AML 09 05 17.1
comp=N,3219μm,0.9s
KTHA AML AML 09 05 30.9
comp=E,4146μm,0.9s
KTHA **Kythira Island** **1.77 332** PN **Pb** **09 04 43.3 -0.1**
ZKR **Zakros** **1.80 76** P **Pb** **09 04 44.3 +0.3**
ZKR **Zakros** **1.80 76** P **Pb** **09 04 44.4 +0.4**
ZKR AML AML 09 05 21.1
comp=E,4654μm,0.7s
ZKR AML AML 09 05 27.7
comp=N,2367μm,0.6s
ZKR **Zakros** **1.80 76** PN **Pn** **09 04 42.7 +1.6**
SAP1 **Santorini-Akro** **1.97 32** P **Pn** **09 04 44.9 +1.5**
MHLO **Agia Marina, M** **2.01 7** P **Pn** **09 04 45.9 +2.0**
MHLO **Agia Marina, M** **2.01 7** P **Pn** **09 04 45.9 +2.0**
MHLO AML AML 09 05 22.5
comp=E,11170μm,1.2s
MHLO AML AML 09 05 28.6
comp=N,10310μm,0.6s
SANT **Santorini** **2.01 33** P **Pn** **09 04 45.9 +1.9**
SANT **Santorini** **2.01 33** P **Pn** **09 04 45.9 +1.9**
SANT AML AML 09 05 23.1
comp=N,1784μm,0.9s
SANT AML AML 09 05 27.4
comp=E,5356μm,0.5s
SANT **Santorini** **2.01 33** PN **Pn** **09 04 45.6 +1.6**
SANT **Santorini** **2.01 33** **Pn** **09 04 45.4 +1.4**
SNT1 **Gialos, Santor** **2.04 32** P **Pb** **09 04 46.6 -1.4**
THT2 **Imerovigli** **2.05 32** PN **Pn** **09 04 45.7 +1.2**
MHLA **Plaka, Milos I** **2.06 8** P **Pn** **09 04 46.8 +2.2**
MHLA AML AML 09 05 33.0
comp=N,6467μm,0.8s
MHLA AML AML 09 05 47.9
comp=E,5486μm,1.1s
ANAF **Anafi Island** **2.16 39** P **Pn** **09 04 47.8 +1.8**
ANAF **Anafi Island** **2.16 39** P **Pn** **09 04 47.7 +1.8**
ANAF AML AML 09 05 26.4
comp=E,8954μm,0.4s
ANAF AML AML 09 05 30.8
comp=N,8617μm,0.4s
VLI **Veliai** **2.22 336** P **Pb** **09 04 49.8 -1.4**
VLI **Veliai** **2.22 336** P **Pb** **09 04 50.1 -1.1**
VLI AML AML 09 05 32.2
comp=N,1364μm,1.2s
VLI AML AML 09 05 46.1
comp=E,1650μm,0.8s
SERI **Serifos** **2.48 7** P **Pn** **09 04 52.6 +2.2**
SERI **Serifos** **2.48 7** P **Pn** **09 04 52.8 +2.4**
APE **Apeiranthos** **2.64 26** P **Pn** **09 04 53.9 +1.2**
APE AML AML 09 05 43.7
comp=N,728μm,0.6s
APE AML AML 09 05 47.1
comp=E,979μm,0.8s
APE **Apeiranthos** **2.64 26** PN **Pn** **09 04 53.9 +1.2**
APE **Apeiranthos** **2.64 26** *c iP* **Pn** **09 04 53.6 +0.9**
KARP **Karpathos** **2.66 71** P **Pn** **09 04 56.0 +3.1**
KARP **Karpathos** **2.66 71** P **Pn** **09 04 55.9 +3.1**
KARP AML AML 09 05 52.4
comp=N,1919μm,0.5s
KARP AML AML 09 05 58.6
comp=E,1592μm,0.6s
KARP **Karpathos** **2.66 71** PN **Pn** **09 04 55.1 +2.2**
KARP **Karpathos** **2.66 71** **Pn** **09 04 55.4 +2.5**
DID **Didima** **2.89 347** P **Pn** **09 04 57.9 +1.9**
DID AML AML 09 05 46.3
comp=E,726μm,0.5s
DID AML AML 09 05 59.1
comp=N,455μm,0.7s
PYL **PYLOS** **2.91 320** P **Pn** **09 04 58.7 +2.5**
VLX **Vlachokerasia** **3.00 333** P **Pn** **09 05 01.1 +3.4**
ITM **Ithomi** **3.03 325** P **Pn** **09 05 00.5 +2.5**
ITM **Ithomi** **3.03 325** PN **Pn** **09 05 01.4 +3.4**
ITM **Ithomi** **3.03 325** Pn **Pn** **09 05 00.8 +2.8**
KOSK **Kos Island** **3.12 48** PN **Pn** **09 05 00.6 +1.4**
NISR **Nisiros** **3.13 52** P **Pn** **09 05 00.9 +1.6**
VLY **Voula,Athens** **3.16 356** P **Pn** **09 05 01.7 +2.0**
TRIP **Tripoli** **3.18 333** P **Pn** **09 05 03.8 +3.7**
ATHU **Athens Univers** **3.27 356** P **Pn** **09 05 02.9 +1.7**
KARY **Karystos** **3.34 5** P **Pn** **09 05 03.3 +1.1**
PTL **Penteli** **3.35 357** P **Pn** **09 05 04.0 +1.6**
DION **Dionisos Attik** **3.38 358** P **Pn** **09 05 04.5 +1.8**
AMT **Artemida-Makis** **3.42 327** P **Pn** **09 05 07.8 +4.5**
LTK **Loutraki** **3.44 345** P **Pn** **09 05 05.7 +2.1**
DAT **Datca** **3.49 53** PN **Pn** **09 05 06.4 +2.0**
GUR **Goura** **3.53 337** P **Pn** **09 05 08.3 +3.4**
BODT **Bodrum** **3.53 47** PN **Pn** **09 05 06.6 +1.8**
VIL2 **Platees** **3.57 350** P **Pn** **09 05 06.1 +0.8**
ARG **Arkhangelos** **3.63 64** P **Pn** **09 05 08.7 +2.5**
ARG **Arkhangelos** **3.63 64** PN **Pn** **09 05 07.8 +1.6**
KLV **Kalavryta, Ach** **3.69 336** P **Pn** **09 05 09.2 +2.2**
SMG **Samos** **3.74 36** P **Pn** **09 05 09.3 +1.6**
DRO **Drossia** **3.77 330** P **Pn** **09 05 11.6 +3.5**
DSF **Desfina** **3.91 342** P **Pn** **09 05 12.4 +2.3**
KYMI **Kymi, Euboea I** **3.93 0** P **Pn** **09 05 11.9 +1.6**
GCAM **G?zelcaml?** **3.94 39** PN **Pn** **09 05 11.9 +1.6**
TURN **Turunc** **3.97 57** PN **Pn** **09 05 12.0 +1.2**
CHOS **Chios island** **4.01 23** PN **Pn** **09 05 12.5 +1.0**
EFP **Efpalio** **4.12 335** P **Pn** **09 05 17.4 +4.5**
URLA **Izmir** **4.18 28** PN **Pn** **09 05 15.2 +1.4**
YER **Yerkesik** **4.19 53** PN **Pn** **09 05 15.2 +1.3**
ANX **Ano Chora** **4.26 337** P **Pn** **09 05 18.5 +3.6**
DALY **Dalyan (Mula)** **4.28 59** PN **Pn** **09 05 16.6 +1.6**
BLCB **Balcova** **4.39 32** PN **Pn** **09 05 18.1 +1.6**
AOS **Alonnisos** **4.47 358** PN **Pn** **09 05 19.5 +1.8**
FETY **Fethiye** **4.51 63** PN **Pn** **09 05 19.8 +1.5**
AGG **Agios Georgios** **4.54 342** PN **Pn** **09 05 20.9 +2.2**
AGG **Agios Georgios** **4.54 342** P **Pn** **09 05 20.6 +1.9**
AGG **Agios Georgios** **4.54 342** Pn **Pn** **09 05 20.6 +1.9**
AKAS **Kas** **4.76 70** Pn **Pn** **09 05 22.9 +1.0**
ELL **Elmali** **5.16 65** P **Pn** **09 05 28.7 +1.4**
ELL **Elmali** **5.16 65** **Pn** **09 05 28.7 +1.4**
LIT **Litokhoron** **5.54 347** P **Pn** **09 05 33.1 +0.6**
LIT **Litokhoron** **5.54 347** Pn **Pn** **09 05 33.1 +0.6**
SWA2 **5.56 168** P **Pn** **09 05 34.4 +1.7**
baz=166
SWA2 AMP 09 06 00.0
baz=166
ALN **Alexandroupoli** **6.38 14** P **Pn** **09 05 45.3 +1.3**
ALN **Alexandroupoli** **6.38 14** Pn **Pn** **09 05 45.3 +1.3**
SCTE **Santa Cesarea** **6.98 322** Pn **Pn** **09 05 52.4 +0.2**
TIP **Timpagrande** **7.38 309** Pn **Pn** **09 05 58.9 +1.2**
HNAT **Natroun** **7.49 131** P **Pn** **09 05 59.0 -0.3**
baz=130
HNAT S **Sn** **09 07 20.0 -3.4**
baz=130
HMYD **Mayadein** **7.50 129** P **Pn** **09 06 01.2 +1.9**
baz=129
CSS **Mathiatis** **7.61 85** Pn **Pn** **09 05 59.5 -1.4**
CSS **Mathiatis** **7.61 85** Pn **Pn** **09 06 00.1 -0.8**
HSAF **As Saff** **8.11 127** P **Pn** **09 06 09.0 +1.3**
baz=126
GLL **Jalalah** **8.23 126** P **Pn** **09 06 10.1 +0.6**
baz=126
HFRF **Wahat Farafira** **8.35 153** P **Pn** **09 06 11.5 +0.5**
baz=152
HFRF S **Sn** **09 07 41.5 -3.0**
baz=152
NBNS **Bani Suef** **8.62 133** P **Pn** **09 06 15.9 +1.1**
baz=132
BR131 **Keskin Array S** **9.12 54** P **Pn** **09 06 23.5 +1.7**
BR131 **Keskin Array S** **9.12 54** Pn **Pn** **09 06 23.5 +1.7**
BRTR **Keskin Array B** **9.12 54** Pn **Pn** **09 06 22.6 +0.8**
comp=N,0.2nm,0.3s,baz=236,slow=14,SNR=5.9
BRTR LR LR 09 10 35.0
comp=N,190nm,19.0s,baz=217,slow=43
KZIT **Kziot** **9.47 111** Pn **Pn** **09 06 26.8 +0.5**
MMAI **Mount Meron Ar** **9.56 97** Pn **Pn** **09 06 27.8 0.0**
comp=N,2.9nm,0.3s,baz=295,slow=12,SNR=5.0
MMAI Sn **Sn** **09 08 10.4 -3.9**
comp=N,4.7nm,0.3s,baz=278,slow=24,SNR=3.3
YTIR **Yattir** **9.84 107** Pn **Pn** **09 06 32.2 +0.7**

YTIR Sn Sn 09 08 13.5 -7.7
DSI **Dead Sea** **9.97 105** Pn **Pn** **09 06 32.5 -0.7**
KRMI **Paran Flat** **10.09 114** Pn **Pn** **09 06 35.1 +0.3**
PRNI **Paran** **10.19 112** Pn **Pn** **09 06 35.8 -0.4**
PRNI Sn Sn 09 08 21.5 -8.1
HDK1 **Dakhla** **10.22 152** P **Pn** **09 06 37.1 +0.5**
baz=151
HRFI **Mount Harif** **10.36 114** Pn **Pn** **09 06 39.2 +0.6**
EIL **Elat** **10.48 116** Pn **Pn** **09 06 40.4 +0.2**
comp=N,1.1nm,0.3s,baz=337,slow=17,SNR=2.2
EIL Sn Sn 09 08 29.8 -7.0
comp=N,1.3nm,0.3s,baz=347,slow=18,SNR=2.6
EIL **Elat** **10.48 116** Pn **Pn** **09 06 40.5 +0.2**
MLR **Muntele Rosu** **10.88 7** Pn **Pn** **09 06 45.8 +0.1**
comp=N,0.3nm,0.3s,baz=151,slow=21,SNR=3.1
MLR LR LR 09 11 27.6
comp=N,168nm,20.9s,baz=123,slow=41
ASF **Jabal al Asfar** **11.00 100** Pn Pn 09 06 44.8 -2.6
comp=N,0.3nm,0.3s,baz=284,slow=4.2,SNR=1.3
ASF Sn **Sn** **09 08 47.0 -2.6**
comp=N,0.4nm,0.3s,baz=108,slow=19,SNR=1.8
KEST **Kesra** **12.10 279** Pn **Pn** **09 07 02.0 -0.4**
comp=N,0.3nm,0.3s,baz=0.0,slow=16,SNR=2.3
SOC **Sochi** **15.01 49** *eP* **Pn** **09 07 41.4 -0.6**
SOC *e* 09 10 31.1
SOC pmax pmax
comp=Z,11nm,0.6s
SOC MLR MLR
comp=Z,58nm,10.0s
VRAC **Vranov** **15.61 342** Pn **Pn** **09 07 50.0 +0.2**
comp=Z,0.2nm,0.3s,baz=174,slow=14,SNR=1.3
GERES **GERESS Array B** **16.10 335** Pn **Pn** **09 07 54.2 -1.9**
comp=Z,0.2nm,0.3s,baz=163,slow=14,SNR=2.2
KHC **Kasperske Hory** **16.38 335** *cePP* **Pn** **09 07 59.2 -0.5**
KHC pmax pmax
comp=Z,15nm,1.3s
AKASG **Malin Array Be** **16.43 12** Pn **Pn** **09 07 58.2 -2.0**
comp=Z,2.5nm,0.3s,baz=203,slow=10,SNR=9.1
AKASG **Malin Array Be** **16.43 12** **Pn** **09 08 01.4 +1.2**
KIV **Kislovodsk** **17.08 52** *eP* **P** **09 08 11.4 +1.2**
KIV pmax pmax
comp=Z,49nm,1.0s
KIV MLR MLR
comp=Z,61nm,13.0s
KBZ **Khabaz** **17.11 53** P **Pn** **09 08 08.0 -0.9**
comp=Z,0.3nm,0.3s,baz=255,slow=7.2,SNR=19
KBZ LR LR 09 16 34.8
comp=Z,84nm,18.6s,baz=271,slow=44
ZEI **Tsey** **17.42 56** *eP* **Pn** **09 08 13.2 +0.2**
ZEI pmax pmax
comp=Z,11nm,1.0s
OBN **Obninsk** **22.18 19** LR LR 09 19 00.8
comp=Z,15nm,18.4s,baz=200,slow=40
OBN **Obninsk** **22.18 19** ⇓ *eP* **P** **09 09 08.5 +2.9**
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,55nm,16.0s
ESDC **Sonseca Array** **22.84 291** P **P** **09 09 12.2 -0.6**
comp=Z,0.7nm,0.7s,baz=79,slow=9.1,SNR=4.0
MDT **Midelt** **23.90 274** LR LR 09 20 04.7
comp=Z,53nm,20.3s,baz=117,slow=40
HFS **Hagfors** **26.34 348** P **P** **09 09 43.9 -1.2**
comp=Z,3.4nm,0.6s,baz=142,slow=13,SNR=6.9
FINES **FINESS Array B** **26.80 2** P **P** **09 09 47.1 -2.2**
comp=Z,2.3nm,0.8s,baz=163,slow=14,SNR=4.6
FINES LR LR 09 21 42.7
comp=Z,103nm,18.2s,baz=168,slow=40
FINES **FINESS Array B** **26.80 2** P **P** **09 09 47.6 -1.7**
NB2 **NORSAR Subarra** **27.63 346** P **P** **09 09 56.5 -0.4**
comp=Z,1.0nm,0.5s,baz=154,slow=9.3
NOA **NORSAR Array B** **27.63 346** P **P** **09 09 56.2 -0.7**
comp=Z,1.3nm,0.6s,baz=153,slow=11,SNR=7.7
NOA LR LR 09 22 44.1
comp=Z,17nm,19.9s,baz=165,slow=41
NBO00 **NORSAR Array S** **27.71 346** P **P** **09 09 56.8 -0.7**
EKA **Eskdalemuir Ar** **27.92 326** P **P** **09 09 59.2 -0.3**
comp=Z,0.3nm,0.4s,baz=125,slow=9.7,SNR=2.4
KLMR **Klimovskoe** **28.00 16** *eP* **P** **09 09 57.5 -2.6**
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR **Klimovskoe** **28.00 16** *eP* **P** **09 09 57.6 -2.6**
KLMR AMP 09 09 59.2
comp=Z,11nm,1.1s
AKTO **Aktyubinsk** **29.21 47** P **P** **09 10 10.8 -0.2**
comp=Z,3.7nm,0.8s,baz=263,slow=11,SNR=10
KIRV **Kirov** **29.22 27** LR LR 09 22 40.8
comp=Z,45nm,18.9s,baz=268,slow=38
TOA0 **Torodi Ar. Sit** **29.52 229** P **P** **09 10 15.2 +1.2**
TORD **Torodi Ar. Bea** **29.52 229** P **P** **09 10 15.6 +1.6**
comp=Z,2.1nm,0.4s,baz=34,slow=8.5,SNR=16
TORD **Torodi Ar. Bea** **29.52 229** P **P** **09 10 16.1 +2.2**
ABKAR **Abkulak array** **30.05 50** P **P** **09 10 18.4 0.0**
PRGR **Permogore** **30.25 20** *eP* P 09 10 16.0 -4.0
PRGR pmax pmax
comp=Z,19nm,0.7s
ARU **Arti** **31.95 36** *d iP* **P** **09 10 34.3 -0.8**
ARU 09 11 35.0
ARU S **S** **09 15 45.7 +1.1**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARCES **ARCESS Array B** **34.90 1** P **P** **09 10 58.2 -2.4**
comp=Z,1.4nm,0.5s,baz=178,slow=9.7,SNR=7.3
ARCES LR LR 09 25 27.4
comp=Z,101nm,19.4s,baz=224,slow=37
BRVK **Borovoye** **37.25 46** P **P** **09 11 21.6 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK **Borovoye** **37.25 46** P **P** **09 11 21.6 +0.7**
BRVK IAmb IAmb 09 11 22.6
comp=Z,6.2nm,1.0s
KMBO **Kilima Mbogo** **37.71 158** *i P* P 09 11 20.0 -5.5
KMBO pmax pmax
comp=Z,1.0nm,0.3s
AAK **Ala-Archa** **39.66 63** P **P** **09 11 41.7 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK **Ala-Archa** **39.66 63** P **P** **09 11 41.7 +0.2**
NIL **Nilore** **40.37 77** P **P** **09 11 49.0 +1.6**
NIL pmax pmax
comp=Z,8.0nm,0.9s
NIL **Nilore** **40.37 77** P **P** **09 11 49.0 +1.6**
NIL IAmb IAmb 09 11 49.4
comp=Z,7.7nm,0.8s
KURK **Kurchatov** **42.16 50** *ceP* **P** **09 12 01.3 -0.4**
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURK **Kurchatov** **42.16 50** P **P** **09 12 01.4 -0.4**
KURK IAmb IAmb 09 12 02.7
comp=Z,6.7nm,0.8s
MAKZ **Makanchi** **44.55 56** P **P** **09 12 21.9 +0.7**
MAKZ pmax pmax
comp=Z,7.0nm,1.2s
MAKZ **Makanchi** **44.55 56** P **P** **09 12 21.9 +0.7**
MAKZ IAmb IAmb 09 12 22.7
comp=Z,6.6nm,1.2s
MKAR **Makanchi Array** **44.77 56** P **P** **09 12 23.3 +0.4**
comp=Z,7.1nm,0.8s,baz=279,slow=7.1,SNR=34
ZALV **Zalesovo Beam** **45.96 46** P **P** **09 12 31.7 -0.5**
comp=Z,13nm,0.4s,baz=269,slow=9.0,SNR=43
ZALV LR LR 09 34 34.1
comp=Z,26nm,19.5s,baz=180,slow=40
ZALV **Zalesovo Beam** **45.96 46** P **P** **09 12 31.5 -0.7**
ZALV **Zalesovo Beam** **45.96 46** P **P** **09 12 31.5 -0.7**
DGZ **Jazzator, Alta** **47.86 51** *i P* **P** **09 12 46.7 -0.7**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
NRIK **Noril'sk** **48.67 25** *i P* **P** **09 12 52.9 -0.2**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
ZAK **Zakamensk** **57.71 48** *eP* **P** **09 13 59.7 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
SONM **Songino Array** **60.46 50** P **P** **09 14 18.9 -0.3**
comp=Z,1.9nm,0.6s,baz=285,slow=8.0,SNR=10
SONM **Songino Array** **60.46 50** P **P** **09 14 18.9 -0.3**
SONM pmax pmax
comp=Z,6.0nm,1.4s
SONM **Songino Array** **60.46 50** IAmb IAmb 09 14 21.0
comp=Z,6.4nm,1.4s
ULN **Ulaanbaatar** **60.87 50** *ceP* **P** **09 14 22.1 +0.1**
ULN pmax pmax
comp=Z,3.0nm,0.8s
BOD **Bodaibo** **61.36 38** *eP* **P** **09 14 24.6 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.6s

KLR **Kul'dur** **74.69 40** *i* P P 09 15 46.3 -2.5
KLR pmax pmax
comp=Z,3.0nm,1.0s
USRK **Ussuriysk Ar.** **77.79 44** P **P** **09 16 04.7 -1.8**
comp=Z,2.1nm,0.7s,baz=344,slow=2.1,SNR=3.4
KSRS **Korea Array** **79.27 52** P **P** **09 16 15.2 +0.4**
comp=Z,1.7nm,0.8s,baz=320,slow=4.6,SNR=3.1
KSRS LR LR 09 58 32.6
comp=Z,29nm,18.7s,baz=45,slow=41
ILAR **Eielson Array** **80.61 356** P **P** **09 16 21.6 +0.1**
comp=Z,0.4nm,0.8s,baz=0.6,slow=8.1,SNR=4.0
PETK **Petropavlovsk-** **83.72 26** LR LR 09 56 23.9
comp=Z,25nm,18.9s,baz=241,slow=38
WRA **Warramunga Arr** **117.42 96** PKP **PKPdf** **09 22 55.0 -0.3**
comp=Z,0.2nm,0.7s,baz=307,slow=1.9,SNR=1.6
WRA **Warramunga Arr** **117.42 96** PKIKP **PKPdf** **09 22 55.0 -0.3**
ASAR **Alice Springs** **118.84 100** PKP **PKiKP** **09 22 58.3 +0.3**
comp=Z,0.3nm,0.7s,baz=319,slow=1.3,SNR=6.0

ISU ***04*** *09:14:26.0, 39°.30N×71°.50E, h5km*
KRNET ***04*** *09:14:31.3±0.1, 39°.35N×71°.78E, mb3.3*
SOME ***04*** *09:14:32.8, 39°.63N×71°.42E, h10km*
NNC ***04*** *09:14:35.9±2.0, 39°.78N×71°.34E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=15.2km s-min=8.4km az=8.0
ISC 04 09:14:38.1±1.7, 39°.73N±0°.09×71°.60E±0°.03, h10km, n35,
σ1§93/57, 17C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMI	**Chimion**	**0.54**	**354**	*eP*	**Pg**	**09 14 46.2**	**-2.4**
CHMI				*eS*	**Sn**	**09 15 01.9**	**+0.8**
BTK	**Batken**	**0.68**	**299**	⇓ *iP*	**Pg**	**09 14 50.9**	**-0.4**
	baz=14						
BTK				⇓ *iS*	**Sn**	**09 15 05.6**	**+1.0**
	baz=14						
BTK	**Batken**	**0.68**	**299**	*i* P	Pg	09 14 45.4	-5.9
BTK				*i* S	**Sg**	**09 14 59.9**	**-0.3**
OHH	**Osh**	**1.21**	**49**	⇑ *iP*	**Pb**	**09 14 58.3**	**-2.8**
	baz=33						
OHH				⇑ *iS*	**Sg**	**09 15 17.4**	**+0.4**
	baz=33						
OHH	**Osh**	**1.21**	**49**	*eP*	**Pb**	**09 14 58.5**	**-2.6**
OHH				*i* S	**Sn**	**09 15 20.9**	**+3.3**
ARK	**Arkit**	**2.08**	**8**	⇓ *iP*	**Pn**	**09 15 14.5**	**+1.3**
	baz=4.0						
ARK				⇓ *iS*	**Sg**	**09 15 46.3**	**+1.3**
	baz=4.0						
CHMG	**Chimgan**	**2.18**	**327**	*eP*	**Pb**	**09 15 16.8**	**-0.9**
CHMG				*eS*	**Sg**	**09 15 48.6**	**+0.4**
IUG	**Iuzhnay**	**2.69**	**334**	*eP*	**Pn**	**09 15 22.4**	**+0.9**
	65nm,0.5s						
IUG				*eS*	**Sb**	**09 15 58.2**	**-1.2**
	140nm,0.5s						
IUG	**Iuzhnay**	**2.69**	**334**	Pg	**Pn**	**09 15 22.4**	**+0.9**
	65nm,0.5s						
IUG				Lg	Lg	09 15 58.2	
	140nm,0.5s						
AML	**Almayashu**	**2.88**	**33**	⇑ *iP*	**Pn**	**09 15 24.5**	**+0.1**
	baz=27						
AML				⇑ *iS*	**Sb**	**09 16 03.6**	**-1.5**
	baz=27						
AML	**Almayashu**	**2.88**	**33**	P	**Pn**	**09 15 24.9**	**+0.5**
	SNR=13						
ARLS	**Aral**	**2.97**	**43**	⇑ *iP*	**Pn**	**09 15 25.1**	**-0.3**
	baz=37						
ARLS				⇑ *iS*	**Sn**	**09 16 04.2**	**+3.0**
	baz=37						
MRKS	**Merke**	**3.25**	**22**	*eP*	**Pb**	**09 15 34.2**	**-1.8**
	3.4nm,0.2s						
MRKS				*eS*	**Sb**	**09 16 18.5**	**+2.9**
	23nm,0.5s						
MRKS	**Merke**	**3.25**	**22**	Pg	**Pb**	**09 15 34.2**	**-1.8**
	13nm,0.5s						
MRKS				Lg	Lg	09 16 18.5	
	23nm,0.5s						
UCH	**Uchtor**	**3.33**	**41**	⇑ *iP*	**Pn**	**09 15 30.3**	**-0.4**
	baz=35						
UCH				⇑ *iS*	**Sn**	**09 16 13.3**	**+2.8**
	baz=35						
UCH	**Uchtor**	**3.33**	**41**	P	**Pn**	**09 15 30.9**	**+0.2**
	SNR=12						
EKS2	**Erkin-Say**	**3.36**	**29**	⇓ *iP*	**Pn**	**09 15 31.2**	**+0.4**
	baz=24						
EKS2				⇓ *iS*	**Sb**	**09 16 15.2**	**-3.5**
	baz=24						
EKS2	**Erkin-Say**	**3.36**	**29**	P	**Pn**	**09 15 31.9**	**+1.2**
	SNR=6.5						
KK31	**Karatay Array**	**3.46**	**347**	Pn	**Pn**	**09 15 30.6**	**-1.5**
	1.5nm,0.3s,baz=172,slow=12,SNR=54						
KK31				⇑ Pg	**Pb**	**09 15 38.3**	**-1.3**
	1.6nm,0.3s,baz=172,slow=14,SNR=12						
KK31				⇓ Lg	Lg	09 16 23.6	
	7.5nm,0.4s,baz=174,slow=21,SNR=7.7						
BRLS	**Borolday**	**3.55**	**339**	*eP*	**Pn**	**09 15 33.9**	**+0.6**
	0.6nm,0.2s						
BRLS				*eS*	**Sn**	**09 16 18.2**	**+2.8**
	17nm,0.5s						
BRLS	**Borolday**	**3.55**	**339**	Pg	**Pn**	**09 15 33.9**	**+0.6**
	3.4nm,0.3s						
BRLS				Lg	Lg	09 16 18.2	
	17nm,0.5s						
KZA	**Kyzart**	**3.63**	**49**	⇑ *iP*	**Pn**	**09 15 33.6**	**-1.1**
	baz=43						
KZA				⇑ *iS*	**Sn**	**09 16 19.1**	**+1.3**
	baz=43						
KZA	**Kyzart**	**3.63**	**49**	P	**Pn**	**09 15 35.2**	**+0.5**
	SNR=5.6						
AAK	**Ala-Archa**	**3.63**	**36**	⇓ *iP*	**Pn**	**09 15 34.4**	**-0.2**
	baz=31						
AAK				⇓ *iS*	**Sn**	**09 16 20.8**	**+3.2**
	baz=31						
AAK	**Ala-Archa**	**3.63**	**36**	⇑ Pn	**Pn**	**09 15 34.6**	**0.0**
AAK				⇑ Sn	**Sn**	**09 16 21.8**	**+4.2**
	17nm,0.7s						
KBK	**Karagaybulak**	**3.86**	**40**	⇑ *iP*	**Pn**	**09 15 37.6**	**-0.2**
	baz=35						
KBK				⇑ *iS*	**Sn**	**09 16 25.7**	**+2.4**
	baz=35						
CHMS	**Chumysh**	**4.04**	**35**	⇓ *iP*	**Pn**	**09 15 40.1**	**+0.1**
	baz=31						
CHMS				⇓ *iS*	**Sn**	**09 16 30.1**	**+2.8**
	baz=31						
CHMS	**Chumysh**	**4.04**	**35**	P	**Pn**	**09 15 40.6**	**+0.6**
	SNR=5.0						
USP	**Ospenovka**	**4.15**	**31**	⇓ *iP*	**Pn**	**09 15 41.9**	**+0.3**
	baz=27						
USP				⇓ *iS*	**Sn**	**09 16 33.6**	**+3.4**
	baz=27						
SGDS	**Sogindy**	**4.36**	**31**	Pg	**Pb**	**09 15 55.1**	**+0.3**
	4.3nm,0.3s						
SGDS				Lg	Lg	09 16 54.0	
	4.4nm,0.8s						
TKM2	**Tokmak 2**	**4.38**	**42**	⇑ Pn	**Pn**	**09 15 45.4**	**+0.4**
	3.0nm,0.7s						
TKM2				⇑ Lg	Lg	09 17 00.4	
	7.4nm,0.8s						
KST	**Kastek**	**4.66**	**43**	*eP*	**Pb**	**09 16 00.9**	**+0.9**
	4.2nm,0.3s						
KST				*eS*	**Sg**	**09 17 03.7**	**-4.1**
	8.0nm,0.6s						
KST	**Kastek**	**4.66**	**43**	Pg	**Pb**	**09 16 00.9**	**+0.9**
	4.2nm,0.3s						
KST				Lg	Lg	09 17 03.7	
	8.0nm,0.6s						
KUU	**Kurty**	**5.46**	**39**	*eP*	**Pb**	**09 16 16.8**	**+3.2**
	2.2nm,0.3s						
KUU				*eS*	**Sg**	**09 17 31.6**	**-1.8**
	5.4nm,0.3s						
KUU	**Kurty**	**5.46**	**39**	Pg	**Pb**	**09 16 16.8**	**+3.2**
	2.2nm,0.3s						
KUU				Lg	Lg	09 17 31.6	
	5.4nm,0.3s						

IDC ***04*** *09:26:47.8±0.3, 20°.61S×70°.14W, h0km, mb4.8/29,*
mb1 4.9/31, mb1mx4.8/41, mbtmp4.8/31, ML4.0/2, MS4.2/24,
Ms1 4.1/24, ms1mx4.1/32, Error ellipse: s-maj=16.2km
s-min=9.6km az=70.0
VAO ***04*** *09:26:49.8±0.6, 20°.59S×70°.35W, h13km±3km, mb5.1*
MOS ***04*** *09:26:51.9±1.4, 20°.68S×70°.14W, h33km, mb5.3/30, Error*
ellipse: s-maj=13.2km s-min=7.5km az=104.3
SJA ***04*** *09:26:52.1±0.7, 20°.74S×70°.29W, h36km±1km, ML5.1,*
MW4.9
NEIC ***04*** *09:26:53.1, 20°.72S×70°.39W, h35km, Moment Tensor*

Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.49; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-1.35; $M_{r\theta}$0.22; $M_{\theta\phi}$0.45; $M_{\phi r}$-0.61; Fault plane solution: $M_0$1.63000×10^{16} NP1:ϕ_s161.20000°, δ56.75000°, λ89.33000°. NP2:ϕ_s342.43000°, δ33.26000°, λ91.03000°. Principal axes: T 1.6270, Plg78.0000°, Azm69.0000°; N 0.0088, Plg1.0000°, Azm162.0000°; P -1.6358, Plg12.0000°, Azm252.0000°;

*UNK **04** 09:26:53.2, 20.°72S×70.°31W, h32^{km}*

*GUC **04** 09:26:53.6±0.6, 20.°71S×70.°35W, h34^{km}±1^{km}, ML5.0*

*NEIC **04** 09:26:53.4±2.4, 20.°69S±0.°04×70.°31W±0.°06, h35^{km}±1^{km}, mb5.1/279, Mwr4.7/50, Mww4.9, ML5.1(GUC), Error ellipse: s-maj=10.3km s-min=6.3km az=83.0*

*BJI **04** 09:26:54.0±0.0, 20.°70S×70.°30W, h34^{km}, mB5.5/8, Ms5.3/7, Ms7 5.0/7*

*GCMT **04** 09:26:56.4±0.3, 20.°78S±0.°02×70.°71W±0.°03, h38^{km}±1^{km}, MW5.0/75, Moment Tensor Solution. s47,c49; s75,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.53±.20; $M_{\theta\theta}$0.07±.13; $M_{\phi\phi}$-3.60±.14; $M_{r\theta}$0.93±.10; $M_{\theta\phi}$0.78±.09; $M_{\phi r}$-1.84±.13; Best double couple: $M_0$4.18900×10^{16} NP1:ϕ_s357.00000°, δ31.00000°, λ104.00000°. NP2: ϕ_s161.00000°, δ60.00000°, λ82.00000°. Principal axes: T 4.1080, Plg74.0000°, Azm50.0000°; N 0.1620, Plg7.0000°, Azm165.0000°; P -4.2700, Plg14.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 09:26:57, 20.°72S×70.°20W, h24^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.50; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.53; $M_{r\theta}$0.72; $M_{\theta\phi}$0.78; $M_{\phi r}$-2.67; Fault plane solution: $M_0$3.25000×10^{16} NP1:ϕ_s328.00000°, δ16.00000°, λ74.00000°. NP2:ϕ_s164.00000°, δ74.00000°, λ94.00000°. Principal axes: T 3.0744, Plg60.0000°, Azm81.0000°; N 0.3202, Plg4.0000°, Azm343.0000°; P -3.3946, Plg29.0000°, Azm251.0000°;*

ISC 04 09:26:51.9±0.5, 20.°68S±0.°02×70.°39W±0.°04, h28^{km}±3^{km}, n827, σ1^{s}20/781, mb5.1/172, MS4.4/22, 9C-12D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.22**	**60**	⇓*iP*	**Pn**	**09 26 59.5**	**+0.2**
TA01				*i* S	**Sb**	**09 27 04.2**	**+1.7**
TA01				IAML		09 27 05.2	
	comp=E,572μm,0.5s						
TA01	**Diego Aracena**	**0.22**	**60**		**Pn**	**09 26 59.6**	**+0.2**
PATCX	**Punta Patache**	**0.26**	**123**	⇑*iP*	**Pn**	**09 26 59.5**	**-0.4**
PATCX				*i* S	**Sb**	**09 27 04.5**	**+1.1**
PATCX				IAML		09 27 05.3	
	comp=E,341μm,0.5s						
PATCX	**Punta Patache**	**0.26**	**123**		**Pb**	**09 26 59.1**	**+0.4**
PATCX	**Punta Patache**	**0.26**	**123**	*eP*	**Pn**	**09 26 59.3**	**-0.7**
TA02	**Huaiquique**	**0.47**	**30**	⇓*iP*	**Pn**	**09 27 03.1**	**+0.3**
TA02				*i* S	**Sn**	**09 27 10.0**	**-0.2**
TA02				IAML		09 27 11.2	
	comp=N,225μm,0.6s						
PB02	**IPOC Station P**	**0.78**	**144**	*eP*	**Pb**	**09 27 06.7**	**-0.4**
PB02				*eS*	**Sn**	**09 27 17.2**	**-0.9**
PB02				IAML		09 27 17.8	
	comp=Z,122μm,0.4s						
PB01	**IPOC Station P**	**0.91**	**114**	⇓*iP*	**Pn**	**09 27 08.5**	**-0.4**
PB01				*i* S	**Sn**	**09 27 20.3**	**-1.0**
PB01				IAML		09 27 23.9	
	comp=N,56μm,0.7s						
PB01	**IPOC Station P**	**0.91**	**114**		**Pb**	**09 27 08.8**	**-0.5**
PB01	**IPOC Station P**	**0.91**	**114**	*eP*	**Pn**	**09 27 08.6**	**-0.4**
PB01				*eS*	**Sn**	**09 27 20.5**	**-0.8**
PSGC	**Pisagua**	**1.10**	**13**	⇓*iP*	**Pb**	**09 27 12.5**	**0.0**
PSGC				*i* S	**Sb**	**09 27 27.0**	**+0.5**
PSGC				IAML		09 27 29.9	
	comp=N,69μm,0.5s						
PSGCX	**Pisagua**	**1.10**	**13**		**Pb**	**09 27 12.9**	**+0.4**
PSGCX	**Pisagua**	**1.10**	**13**	*eP*	**Pb**	**09 27 12.8**	**+0.4**
PB11	**IPOC Station P**	**1.14**	**37**	⇓*iP*	**Pb**	**09 27 13.1**	**0.0**
PB11				*i* S	**Sb**	**09 27 28.2**	**+0.6**
PB11	**IPOC Station P**	**1.14**	**37**	Pn	**Pb**	**09 27 13.2**	**+0.1**
PB11	**IPOC Station P**	**1.14**	**37**	*eP*	**Pb**	**09 27 13.4**	**+0.3**
PB11				*eS*	**Sb**	**09 27 28.5**	**+0.9**
PB11				IAML		09 27 29.7	
	comp=Z,95μm,0.4s						
PB07	**IPOC Station P**	**1.14**	**156**	⇑*iP*	**Pn**	**09 27 12.1**	**-0.1**
PB07				*i* S	**Sb**	**09 27 27.0**	**-0.7**
PB07				IAML		09 27 28.1	
	comp=E,38μm,0.7s						
PB07	**IPOC Station P**	**1.14**	**156**		**Pb**	**09 27 12.7**	**-0.5**
PB07	**IPOC Station P**	**1.14**	**156**	*eP*	**Pn**	**09 27 12.6**	**+0.4**
PB07				*eS*	**Sb**	**09 27 27.0**	**-0.7**
PB07				IAML		09 27 29.6	
	comp=Z,36μm,0.6s						
PB08	**IPOC Station P**	**1.27**	**65**	⇓*iP*	**Pb**	**09 27 15.0**	**-0.5**
PB08				*i* S	**Sb**	**09 27 31.9**	**+0.3**
PB08				IAML		09 27 33.2	
	comp=N,47μm,0.3s						
PB08	**IPOC Station P**	**1.27**	**65**		**Pb**	**09 27 14.9**	**-0.6**
PB08	**IPOC Station P**	**1.27**	**65**	*eP*	**Pb**	**09 27 15.3**	**-0.2**
PB08				*eS*	**Sb**	**09 27 32.1**	**+0.5**
PB08				IAML		09 27 33.0	
	comp=Z,20μm,0.2s						
PB03	**IPOC Station P**	**1.48**	**157**	⇑*iP*	**Pn**	**09 27 17.5**	**+0.6**
PB03				*i* S	**Sn**	**09 27 35.3**	**-0.2**
PB03	**IPOC Station P**	**1.48**	**157**	*eP*	**Pn**	**09 27 17.3**	**+0.4**
PB03				*eS*	**Sb**	**09 27 37.7**	**+0.2**
PB03				IAML		09 27 48.3	
	comp=Z,13μm,0.8s						
GO01	**Chusmiza**	**1.50**	**48**	⇓*iP*	**Pb**	**09 27 18.9**	**-0.6**
GO01				*i* S	**Sb**	**09 27 39.2**	**+0.9**
GO01	**Chusmiza**	**1.50**	**48**		**Pb**	**09 27 19.1**	**-0.3**
PB09	**IPOC Station P**	**1.54**	**136**	*i* P	**Pb**	**09 27 18.8**	**-1.1**
PB09				*i* S	**Sb**	**09 27 39.1**	**0.0**
PB09				IAML		09 27 42.2	
	comp=E,40μm,0.6s						
PB09	**IPOC Station P**	**1.54**	**136**		**Pb**	**09 27 19.1**	**-0.8**
PB09	**IPOC Station P**	**1.54**	**136**	*eP*	**Pb**	**09 27 19.1**	**-0.8**
PB09				*eS*	**Sb**	**09 27 39.4**	**+0.3**
PB09				IAML		09 27 42.4	
	comp=Z,36μm,1.0s						
PB04	**IPOC Station P**	**1.66**	**172**	⇓*iP*	**Pn**	**09 27 19.2**	**-0.1**
PB04				*i* S	**Sn**	**09 27 40.7**	**+0.9**
PB04				IAML		09 27 48.5	
	comp=N,22μm,0.6s						
PB04	**IPOC Station P**	**1.66**	**172**		**Pn**	**09 27 19.4**	**+0.1**
PB04	**IPOC Station P**	**1.66**	**172**	*eP*	**Pn**	**09 27 19.3**	**0.0**
PB04				*eS*	**Sb**	**09 27 41.9**	**-0.7**
PB04				IAML		09 27 52.5	
	comp=Z,19μm,0.6s						
MNMC	**Minye Minye**	**1.71**	**26**	⇓*iP*	**Pb**	**09 27 21.9**	**-1.0**
MNMC				*i* S	**Sb**	**09 27 44.0**	**0.0**
MNMC	**Minye Minye**	**1.71**	**26**		**Pb**	**09 27 22.1**	**-0.8**
MNMCX	**Minye Minye**	**1.71**	**26**	*eP*	**Pb**	**09 27 21.9**	**-0.9**
MNMCX				*eP*	**Pn**	**09 27 22.1**	**+2.0**
PB12	**IPOC Station P**	**2.06**	**2**	⇑*iP*	**Pn**	**09 27 26.2**	**+1.5**
PB12				*i* S	**Sb**	**09 27 52.1**	**-1.7**
PB12				IAML		09 28 01.3	
	comp=E,25μm,0.6s						
PB12	**IPOC Station P**	**2.06**	**2**		**Pn**	**09 27 26.4**	**+1.7**
PB12	**IPOC Station P**	**2.06**	**2**	*eP*	**Pn**	**09 27 26.2**	**+1.5**
PB12				*eS*	**Sb**	**09 27 53.5**	**-0.3**
PB12				IAML		09 27 57.5	
	comp=Z,20μm,0.7s						
PB06	**IPOC Station P**	**2.15**	**160**	*i* P	**Pn**	**09 27 26.5**	**+0.4**
PB06				*i* S	**Sn**	**09 27 53.3**	**+1.3**
PB06				IAML		09 28 01.6	
	comp=E,12μm,0.5s						
PB06	**IPOC Station P**	**2.15**	**160**		**Pn**	**09 27 26.5**	**+0.4**
PB06	**IPOC Station P**	**2.15**	**160**	*eP*	**Pn**	**09 27 26.6**	**+0.4**
PB06				*eS*	**Sn**	**09 27 53.4**	**+1.3**
PB06				IAML		09 28 10.8	
	comp=Z,11μm,0.8s						
PB05	**IPOC Station P**	**2.17**	**176**	*eP*	**Pn**	**09 27 25.8**	**-0.5**
PB05				*eS*	Sn	09 27 41.7	-11
PB05				IAML		09 28 08.2	
	comp=Z,8μm,0.7s						
AP01	**Chacalluta**	**2.30**	**1**	⇓*iP*	**Pn**	**09 27 30.4**	**+2.5**
AP01				*i* S	**Sb**	**09 27 58.9**	**-1.7**
AP01	**Chacalluta**	**2.30**	**1**	Pn	**Pb**	**09 27 30.7**	**-2.0**
LVC	**Limon Verde**	**2.36**	**145**	Pn	**Pb**	**09 27 31.8**	**-2.2**
	comp=Z,504nm,0.3s,baz=309,slow=9.9,SNR=1060						
LVC				Sn	**Sb**	**09 28 00.6**	**-2.2**
	comp=Z,780nm,0.3s,baz=214,slow=18,SNR=5.6						
LVC				LR	LR	09 28 29.4	
	comp=Z,5μm,18.7s,baz=360,slow=44						
LVC	**Limon Verde**	**2.36**	**145**	⇑*iP*	**Pb**	**09 27 31.5**	**-2.5**
LVC				*i* S	**Sn**	**09 27 59.4**	**+2.0**
LVC	**Limon Verde**	**2.36**	**145**	P	**Pn**	**09 27 31.1**	**+2.0**
LVC	**Limon Verde**	**2.36**	**145**	Pn	**Pn**	**09 27 31.2**	**+2.0**
LVC	**Limon Verde**	**2.36**	**145**	*eP*	**Pb**	**09 27 31.5**	**-2.5**
LVC				*eS*	**Sb**	**09 28 03.8**	**+0.9**
PB16	**IPOC Station P**	**2.47**	**20**	⇑*iP*	**Pn**	**09 27 33.1**	**+2.2**
PB16				*i* S	**Sb**	**09 28 04.2**	**-2.1**
PB16				IAML		09 28 16.1	
	comp=E,7μm,0.4s						
PB16	**IPOC Station P**	**2.47**	**20**		**Pn**	**09 27 33.2**	**+2.3**
PB16	**IPOC Station P**	**2.47**	**20**	*eP*	**Pn**	**09 27 33.4**	**+2.5**
PB16				*eS*	**Sb**	**09 28 06.2**	**-0.1**
PB16				IAML		09 28 17.6	
	comp=Z,11μm,0.6s						
PB15	**IPOC Station P**	**2.66**	**162**	*eP*	**Pn**	**09 27 33.3**	**+0.2**
PB15				*i* S	**Sb**	**09 28 10.5**	**-0.7**
PB15	**IPOC Station P**	**2.66**	**162**		**Pn**	**09 27 33.5**	**+0.4**
PB15	**IPOC Station P**	**2.66**	**162**	*eP*	**Pn**	**09 27 33.4**	**+0.4**
PB15				*eS*	**Sb**	**09 28 10.8**	**-0.4**
PB15				IAML		09 28 16.4	
	comp=Z,22μm,1.0s						
PB10	**IPOC Station P**	**2.83**	**183**	Pn	**Pn**	**09 27 34.0**	**-1.1**
PB10	**IPOC Station P**	**2.83**	**183**	*eP*	**Pn**	**09 27 34.1**	**-1.1**
PB10				*eS*	**Sb**	**09 28 17.3**	**+1.4**
PB14	**IPOC Station P**	**3.93**	**180**	Pn	**Pn**	**09 27 49.3**	**-1.3**
PB14	**IPOC Station P**	**3.93**	**180**	*eP*	**Pn**	**09 27 50.0**	**-0.7**
PB14				*eS*	**Sb**	**09 28 48.1**	**+0.2**
PB14				IAML		09 29 04.1	
	comp=Z,2μm,1.0s						
GO02	**Mina Guanaco**	**4.52**	**171**	Pn	**Pn**	**09 27 58.9**	**0.0**
LPAZ	**La Paz**	**4.86**	**26**	Pn	Pn	09 28 08.8	+5.1
	comp=Z,28nm,0.3s,baz=219,slow=4.9,SNR=361						
LPAZ				LR	LR	09 30 14.9	
	comp=Z,3μm,18.4s,baz=222,slow=44						
LPAZ	**La Paz**	**4.86**	**26**	P	**Pn**	**09 28 08.3**	**+4.5**
LPAZ	**La Paz**	**4.86**	**26**	Pn	**Pn**	**09 28 08.2**	**+4.5**
AC01	**Pan de Azucar**	**5.45**	**182**	Pn	**Pn**	**09 28 10.2**	**-1.1**
SLA	**San Lorenzo**	**6.04**	**133**	*eP*	**Pn**	**09 28 23.1**	**+3.6**
AC04	**Llanos de Chal**	**7.52**	**185**	Pn	**Pn**	**09 28 36.4**	**-3.4**
AC05	**El Transito**	**8.12**	**179**	Pn	**Pn**	**09 28 46.2**	**-1.9**
LCO	**Las Campanas**	**8.30**	**182**	P	**Pn**	**09 28 50.3**	**-0.4**
LCO	**Las Campanas**	**8.30**	**182**	Pn	**Pn**	**09 28 50.3**	**-0.4**
CO01	**Juntas del Tor**	**9.26**	**178**		**Pn**	**09 29 02.5**	**-1.3**
GO04	**Tololo Observa**	**9.46**	**182**	Pn	**Pn**	**09 29 03.8**	**-2.8**
SIV	**San Ignacio**	**10.00**	**64**	Pn	**Pn**	**09 29 13.5**	**-0.2**
	comp=Z,35nm,0.3s,baz=270,slow=9.0,SNR=359						
SIV				LR	LR	09 33 43.2	
	comp=Z,1μm,19.5s,baz=266,slow=43						
CO03	**El Pedregal**	**10.12**	**181**	Pn	**Pn**	**09 29 12.4**	**-3.1**
CO02	**Combarbal**	**10.50**	**183**	Pn	**Pn**	**09 29 18.8**	**-1.8**
NNA	**Nana**	**10.63**	**323**	Pn	**Pn**	**09 29 22.3**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=140,slow=7.9,SNR=1.8						
NNA				Sn	**Sn**	**09 31 13.1**	**-7.6**
	comp=Z,1.4nm,0.3s,baz=32,slow=13,SNR=0.9						
NNA				LR	LR	09 33 29.7	
	comp=Z,496nm,21.3s,baz=156,slow=38						
ETMB	**Extrema**	**11.52**	**21**	*eP*	**Pn**	**09 29 34.1**	**-0.6**
PTLB	**Pontes e Lacer**	**11.89**	**66**	*eP*	**Pn**	**09 29 39.0**	**-0.7**
VA03	**San Esteban**	**12.04**	**181**	Pn	**Pn**	**09 29 43.9**	**+2.2**
ROC1	**El Roble**	**12.26**	**182**	Pn	**Pn**	**09 29 45.9**	**+1.0**
VILB	**Vilhena**	**12.41**	**53**	*eP*	**Pn**	**09 29 46.4**	**-0.4**
MT02	**Curacav**	**12.55**	**183**	Pn	**Pn**	**09 29 48.8**	**0.0**
CZSB	**Cruzeiro do Su**	**13.07**	**350**	*eP*	**Pn**	**09 29 54.2**	**-1.6**
CPUP	**Villa Florida**	**13.23**	**118**	Pn	**Pn**	**09 29 56.2**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=291,slow=14,SNR=7.3						
CPUP				LR	LR	09 35 58.9	
	comp=Z,892nm,21.7s,baz=296,slow=42						
CPUP	**Villa Florida**	**13.23**	**118**	P	**Pn**	**09 29 56.1**	**-1.9**
CPUP	**Villa Florida**	**13.23**	**118**		**Pn**	**09 29 56.0**	**-1.9**
CPUP	**Villa Florida**	**13.23**	**118**	*eP*	**Pn**	**09 29 56.9**	**-1.0**
SAML	**Samuel**	**13.58**	**32**	P	**Pn**	**09 30 01.5**	**-1.2**
SAML	**Samuel**	**13.58**	**32**		**Pn**	**09 30 01.5**	**-1.2**
SAML	**Samuel**	**13.58**	**32**	*eP*	**Pn**	**09 30 01.2**	**-1.5**
BO01	**Tunca**	**13.67**	**182**		**Pn**	**09 30 05.7**	**+1.8**
AQDB	**Aquidauana**	**13.76**	**92**	*eP*	**Pn**	**09 30 04.7**	**-0.5**
BO02	**Sierra Bellavi**	**14.06**	**181**		**Pn**	**09 30 10.9**	**+1.6**
GO05	**Huala**	**14.34**	**185**	Pn	**Pn**	**09 30 12.8**	**-0.3**
H03N1	**Juan Fernandez**	**14.80**	**209**	T	T	09 45 25.2	
	baz=34,slow=72,SNR=1975						
H03N2	**Juan Fernandez**	**14.81**	**209**	T	T	09 45 25.1	
	baz=34,slow=72,SNR=2492						
H03N3	**Juan Fernandez**	**14.81**	**209**	T	T	09 45 24.2	
	baz=34,slow=72,SNR=1721						
TRCB	**Terra Rica**	**16.63**	**101**	*eP*	**Pn**	**09 30 43.5**	**+0.4**
CLDB	**Colider**	**17.08**	**57**	*eP*	**Pn**	**09 30 47.9**	**-0.9**
PTGB	**Pitanga**	**17.37**	**107**	*eP*	**Pn**	**09 30 51.4**	**-1.1**
PCMB	**Pacaembu**	**17.86**	**96**	*eP*	**Pn**	**09 30 57.5**	**-1.0**
ITAB	**Concordia**	**17.91**	**115**	*eP*	**P**	**09 30 59.5**	**+0.1**
LC01	**Cunco**	**18.20**	**184**	P	**P**	**09 31 02.9**	**+0.3**
ARAG	**Araguaiana, MT**	**18.32**	**77**	*eP*	**P**	**09 31 03.4**	**-0.6**
PLTB	**Pedras Altas**	**18.64**	**130**	*eP*	**Pn**	**09 31 07.9**	**-0.1**
ITRB	**Iturama**	**18.82**	**91**	*eP*	**Pn**	**09 31 09.8**	**-0.4**
FRTB	**Fartura**	**19.49**	**102**	*eP*	**P**	**09 31 16.2**	**-0.6**
CNLB	**Canela**	**19.66**	**120**	*eP*	**P**	**09 31 18.1**	**-0.6**
MACA	**Manacapuru-AM**	**19.81**	**30**	*eP*	**P**	**09 31 19.6**	**-0.8**
NPGB	**Novo Progresso**	**19.89**	**49**	*eP*	**P**	**09 31 19.2**	**-2.1**
PLCA	**Paso Flores**	**19.99**	**180**	P	**P**	**09 31 22.7**	**+0.5**
	comp=Z,18nm,0.7s,baz=0.6,slow=11,SNR=19						
PLCA				PcP	**PcP**	**09 35 37.9**	**0.0**
	comp=Z,6.1nm,0.9s,baz=322,slow=4.2,SNR=4.5						
PLCA				LR	LR	09 39 35.3	
	comp=Z,387nm,18.1s,baz=0.5,slow=38						
PLCA	**Paso Flores**	**19.99**	**180**	P	**P**	**09 31 23.1**	**+0.8**
PLCA				pmax	pmax		
	comp=Z,25nm,0.8s						
PLCA	**Paso Flores**	**19.99**	**180**		**P**	**09 31 23.1**	**+0.8**
PLCA	**Paso Flores**	**19.99**	**180**	*eP*	**P**	**09 31 23.1**	**+0.8**
BB19B	**Bebedouro**	**20.43**	**95**	*eP*	**P**	**09 31 27.6**	**+0.5**
IPMB	**Ipameri, GO**	**21.09**	**86**	*eP*	**P**	**09 31 33.6**	**-0.8**
PTLC	**Puerto Leguiza**	**21.17**	**348**	*eP*	**P**	**09 31 31.7**	**-3.4**
SPB	**Sao Paulo**	**21.45**	**102**	IAmb	IAmb	09 31 54.1	
	comp=Z,121nm,1.3s						
SPB	**Sao Paulo**	**21.45**	**102**	*eP*	**P**	**09 31 40.2**	**+2.1**
ITTB	**Itaituba**	**21.59**	**43**	*eP*	**P**	**09 31 37.6**	**-2.0**
ITTB				epP	**pP**	**09 31 41.5**	**-5.7**
LL01	**San Ignacio de**	**21.70**	**184**		**P**	**09 31 41.0**	**+0.4**
BDFB	**Brasilia**	**21.83**	**80**	P	**P**	**09 31 39.4**	**-2.9**
	comp=Z,27nm,0.9s,baz=255,slow=10,SNR=7.8						
BDFB				LR	LR	09 41 30.6	
	comp=Z,2μm,18.8s,baz=288,slow=41						
BDFB	**Brasilia**	**21.83**	**80**	P	**P**	**09 31 39.6**	**-2.8**
BDFB				pmax	pmax		
	comp=Z,66nm,1.0s						
BDFB	**Brasilia**	**21.83**	**80**	P	**P**	**09 31 39.6**	**-2.8**
BDFB				IAmb	IAmb	09 31 59.8	
	comp=Z,66nm,1.0s						
VAO	**Valinhos**	**21.86**	**100**	*eP*	**P**	**09 31 41.6**	**-1.0**
PUAC	**Puerto Asis, P**	**21.95**	**343**	*eP*	**P**	**09 31 45.0**	**+1.5**
OTAV	**Otavalo**	**22.24**	**338**	P	**P**	**09 31 51.2**	**+4.1**
OTAV				pmax	pmax		
	comp=Z,35nm,1.0s						
OTAV	**Otavalo**	**22.24**	**338**	*eP*	**P**	**09 31 45.6**	**-1.5**
PTGA	**Pitinga**	**22.29**	**28**	P	**P**	**09 31 45.1**	**-2.0**
	comp=Z,86nm,0.6s,baz=211,slow=14,SNR=61						
PTGA				LR	LR	09 41 08.3	
	comp=Z,1μm,18.3s,baz=204,slow=39						
PTGA	**Pitinga**	**22.29**	**28**	P	**P**	**09 31 45.1**	**-2.0**
PTGA	**Pitinga**	**22.29**	**28**	*eP*	**P**	**09 31 45.4**	**-1.7**
FLOC	**Florencia**	**22.72**	**346**	*eP*	**P**	**09 31 52.6**	**+0.8**
FLOC				*eP*	**P**	**09 31 54.3**	**+2.5**
FLOC	**Florencia**	**22.72**	**346**	P	**P**	**09 31 54.0**	**+2.2**
PARB	**Paraibuna**	**23.10**	**101**	*eP*	**P**	**09 31 55.4**	**-0.4**
GARC	**Garzon, Huila**	**23.27**	**347**	*eP*	**P**	**09 31 58.3**	**+0.6**
BBAC	**Balboa, Cauca**	**23.54**	**343**	*eP*	**P**	**09 32 02.9**	**+2.6**
BETC	**Betania**	**23.74**	**347**	*eP*	**P**	**09 32 04.2**	**+2.3**
POPC	**Popayan, Colom**	**23.89**	**344**	*eP*	**P**	**09 32 05.6**	**+2.0**
BSCB	**Bom Sucesso**	**23.93**	**95**	*eP*	**P**	**09 32 02.7**	**-1.2**
MALB	**Monte Alegre**	**24.45**	**42**	*eP*	**P**	**09 32 06.9**	**-1.6**
PRPB	**Parauapebas**	**24.61**	**57**	*eP*	**P**	**09 32 08.4**	**-1.6**
PRAC	**Prado**	**24.64**	**349**	*eP*	**P**	**09 32 10.2**	**-0.1**
VILC	**Villavicencio,**	**24.85**	**352**	*eP*	**P**	**09 32 13.7**	**+1.4**
ORTC	**Ortega, Tolima**	**24.90**	**348**	*eP*	**P**	**09 32 13.6**	**+0.9**
SMTB	**Santa Maria do**	**24.94**	**65**	*eP*	**P**	**09 32 12.1**	**-1.0**
YOTC	**Yotoco, Valle**	**25.20**	**346**	*eP*	**P**	**09 32 13.6**	**-1.9**
MC01	**Montes Claros**	**25.34**	**85**	*eP*	**P**	**09 32 15.9**	**-0.8**
CHIC	**Chingaza**	**25.36**	**352**	*eP*	**P**	**09 32 18.5**	**+1.2**
JANB	**Januaria**	**25.42**	**82**	*eP*	**P**	**09 32 15.6**	**-1.9**
ROSC	**El Rosal**	**25.65**	**351**	P	**P**	**09 32 19.2**	**-0.7**
	comp=Z,26nm,0.5s,baz=182,slow=5.5,SNR=12						
ROSC				LR	LR	09 43 35.1	
	comp=Z,481nm,20.9s,baz=194,slow=39						
ROSC	**El Rosal**	**25.65**	**351**	*eP*	**P**	**09 32 23.5**	**+3.7**
ROSC	**El Rosal**	**25.65**	**351**	P	**P**	**09 32 22.2**	**+2.3**
ROSC				pmax	pmax		
	comp=Z,28nm,0.8s						
ROSC	**El Rosal**	**25.65**	**351**	P	**P**	**09 32 22.2**	**+2.3**
ROSC				IAmb	IAmb	09 32 23.9	
	comp=Z,28nm,0.8s						
SDBA	**SAO DESIDERIO**	**25.75**	**75**	*eP*	**P**	**09 32 18.8**	**-1.6**
PLMC	**San Jos del P**	**26.08**	**347**	*eP*	**P**	**09 32 26.2**	**+2.8**
GUY2C	**Guyana, Caldas**	**26.20**	**349**	*eP*	**P**	**09 32 28.8**	**+3.9**
SPBC	**San Pablo de B**	**26.42**	**352**	*eP*	**P**	**09 32 26.2**	**-0.3**
NORC	**Norcasia**	**26.45**	**350**	*eP*	**P**	**09 32 25.5**	**-1.2**
RUSC	**La Rusia**	**26.54**	**354**	*eP*	**P**	**09 32 28.8**	**+0.9**
RUSC	**La Rusia**	**26.54**	**354**	P	**P**	**09 32 29.3**	**+1.3**
CBOC	**Ciudad Bolivar**	**26.95**	**348**	*eP*	**P**	**09 32 31.9**	**+0.5**
TAMC	**Tame, Arauca**	**26.98**	**357**	*eP*	**P**	**09 32 31.5**	**0.0**
MCPB	**Macapa, AP**	**27.00**	**44**	*eP*	**P**	**09 32 31.0**	**-0.6**
PTBC	**PUERTO BERRIO,**	**27.34**	**351**	*eP*	**P**	**09 32 33.5**	**-1.2**
SJMB	**Sao Joao De Ma**	**27.55**	**91**	*eP*	**P**	**09 32 36.7**	**+0.1**
BSFB	**Barra de Sao F**	**27.84**	**91**	*eP*	**P**	**09 32 39.1**	**-0.2**
ZARC	**Zaragoza, Cauc**	**28.34**	**351**	*eP*	**P**	**09 32 42.8**	**-0.8**
TMAB	**Tom-Au,PA,Br**	**28.35**	**53**	*eP*	**P**	**09 32 43.2**	**-0.5**
SOCV	**Socops**	**28.79**	**359**	*eP*	**P**	**09 32 46.8**	**-0.8**
SDV	**Santo Domingo**	**29.38**	**360**	P	**P**	**09 32 51.8**	**-1.2**
	comp=Z,22nm,0.7s,baz=193,slow=2.3,SNR=7.7						
SDV				LR	LR	09 45 49.0	
	comp=Z,1μm,18.8s,baz=130,slow=39						
SDV	**Santo Domingo**	**29.38**	**360**	*eP*	**P**	**09 32 52.6**	**-0.5**
SMLC	**San Martn de**	**29.52**	**353**	*eP*	**P**	**09 32 52.8**	**-1.3**
GDU01	**Guandu, BA**	**30.20**	**82**	*eP*	**P**	**09 32 58.9**	**-1.3**
SJCC	**San Jacinto, C**	**30.75**	**351**	*eP*	**P**	**09 33 04.7**	**-0.3**
ROSB	**Rosrio**	**31.10**	**59**	*eP*	**P**	**09 33 07.0**	**-1.1**
URIC	**Uribia, Colomb**	**32.22**	**357**	P	**P**	**09 33 15.1**	**-2.7**
EFI	**East Falkland**	**32.40**	**166**	P	**P**	**09 33 19.0**	**-0.1**
EFI				pmax	pmax		
	comp=Z,23nm,0.8s						
EFI	**East Falkland**	**32.40**	**166**	P	**P**	**09 33 19.0**	**-0.1**
EFI				IAmb	IAmb	09 33 29.1	
	comp=Z,23nm,0.8s						
TOSP	**Speyside**	**33.22**	**18**	P	**P**	**09 33 27.4**	**+0.7**
USHA	**Ushuaia**	**34.13**	**178**	P	**P**	**09 33 34.6**	**+0.5**
	comp=Z,12nm,0.6s,baz=71,slow=0.1,SNR=2.5						
FDF	**Fort de France**	**36.34**	**15**	P	**P**	**09 33 51.8**	**-1.9**
FDF				pmax	pmax		
	comp=Z,73nm,1.0s						
FDF	**Fort de France**	**36.34**	**15**	P	**P**	**09 33 51.8**	**-1.9**
RCBR	**Riachuelo**	**36.55**	**71**	P	**P**	**09 33 55.4**	**-0.2**
RCBR				pmax	pmax		
	comp=Z,29nm,0.7s		

baz=167,SNR=5.1
V59A **Middlesex** 56.63 352 P P 09 36 32.8 +0.4
baz=171,SNR=11
X51A **Calhoun** 56.64 346 IAmb IAmb 09 36 42.7
comp=Z,13nm,0.9s
V58A **Windy Hill, Pi** 56.77 352 P P 09 36 33.6 +0.2
baz=170
V58A **Windy Hill, Pi** 56.77 352 IAmb IAmb 09 36 44.8
comp=Z,24nm,1.2s
V57A **Coltrane Farms** 56.96 351 P P 09 36 34.9 +0.2
baz=170
U61A **Possum Corner** 56.99 354 P P 09 36 34.9 0.0
baz=173
V56A **Mocksville** 56.99 350 P P 09 36 35.4 +0.4
baz=169,SNR=5.7
X48A **Hartselle** 57.07 344 IAmb IAmb 09 36 45.6
comp=Z,12nm,0.8s
NATX **Nacogdoches** 57.10 335 P P 09 36 36.5 +0.7
baz=153
V55A **Taylorsville** 57.15 350 P P 09 36 36.4 +0.3
baz=168,SNR=6.0
V55A **Taylorsville** 57.15 350 IAmb IAmb 09 36 47.6
comp=Z,17nm,0.9s
U59A **Littleton** 57.15 353 P P 09 36 36.4 +0.4
baz=172,SNR=6.5
U60A **Pendleton** 57.20 354 P P 09 36 36.5 +0.1
baz=172
V54A **Nebo** 57.21 349 P P 09 36 36.6 0.0
baz=167,SNR=7.4
Y45A **Yeager Farm, C** 57.23 341 IAmb IAmb 09 36 37.8
comp=Z,18nm,0.9s
V53A **Saluda** 57.27 348 P P 09 36 36.0 -1.0
U58A **Oxford** 57.29 352 P P 09 36 37.5 +0.5
baz=171,SNR=5.9
CPCT **Cooper Cave** 57.41 346 IAmb IAmb 09 36 48.8
comp=Z,14nm,1.0s
U57A **Blanch** 57.43 351 P P 09 36 38.3 +0.3
baz=170,SNR=6.9
TKL **Tuckaleechee C** 57.45 347 P P 09 36 37.5 -0.7
comp=Z,11nm,0.9s,baz=161,slow=8.8,SNR=17
TKL **Tuckaleechee C** 57.45 347 IAmb IAmb 09 36 48.8
comp=Z,16nm,0.9s
435B **Jarrell** 57.46 332 P P 09 36 38.6 +0.3
baz=150
U56A **King** 57.50 350 P P 09 36 38.7 +0.2
baz=169
U56A **King** 57.50 350 IAmb IAmb 09 36 49.9
comp=Z,17nm,1.0s
SWET **Sewanee** 57.51 345 IAmb IAmb 09 36 48.7
comp=Z,17nm,0.7s
V52A **Sevierville** 57.59 347 IAmb IAmb 09 36 49.9
comp=Z,27nm,0.9s
V51A **Loudon** 57.71 347 IAmb IAmb 09 36 50.7
comp=Z,10nm,0.8s
T59A **Double "B" Far** 57.74 353 P P 09 36 40.7 +0.5
baz=172,SNR=11
T59A **Double "B" Far** 57.74 353 IAmb IAmb 09 36 41.8
comp=Z,27nm,0.8s
Z41A **Richland Creek** 57.75 338 P P 09 36 40.9 +0.5
baz=155
U55A **TA2, Sparta** 57.76 350 P P 09 36 40.6 +0.2
baz=168
OXF **Oxford** 57.79 341 P P 09 36 40.1 -0.6
OXF pmax pmax
comp=Z,22nm,0.9s
OXF **Oxford** 57.79 341 P P 09 36 39.4 -1.3
baz=159,SNR=8.1
OXF **Oxford** 57.79 341 P P 09 36 40.1 -0.6
OXF IAmb IAmb 09 36 41.7
comp=Z,22nm,0.9s
T60A **Surry** 57.82 354 P P 09 36 41.1 +0.4
baz=173
T58A **Grand View Acr** 57.83 352 P P 09 36 41.2 +0.4
baz=171,SNR=10
U54A **Nelsons Funny** 57.91 349 P P 09 36 41.3 -0.2
baz=167
T57A **Hurt** 57.97 352 P P 09 36 42.1 +0.3
baz=170,SNR=5.7
T57A **Hurt** 57.97 352 IAmb IAmb 09 36 53.5
comp=Z,35nm,1.4s
T56A **Rocky Mt** 58.11 351 P P 09 36 43.6 +0.7
baz=169
JCT **Junction City** 58.20 330 P P 09 36 43.6 0.0
baz=147
X43A **Marvell** 58.25 340 P P 09 36 44.0 +0.2
baz=157
TZTN **Tazewell** 58.26 348 P P 09 36 43.4 -0.5
baz=166
S61A **Accomac** 58.26 355 P P 09 36 44.5 +0.7
baz=174
T55A **Pulaski** 58.32 350 P P 09 36 44.9 +0.6
baz=168,SNR=8.8
S60A **Water View** 58.37 354 P P 09 36 44.9 +0.3
baz=173
T54A **Tazewell** 58.39 349 P P 09 36 44.8 -0.1
baz=168
S58A **Poland Farm, P** 58.43 353 P P 09 36 45.1 +0.1
baz=172
WHTX **Lake Whitney,** 58.44 333 P P 09 36 45.4 +0.2
baz=150,SNR=5.2
WHTX **Lake Whitney,** 58.44 333 P P 09 36 46.0 +0.8
WHTX IAmb IAmb 09 36 46.9
comp=Z,17nm,0.9s
CLTN **Cedars of Leba** 58.44 345 IAmb IAmb 09 36 55.9
comp=Z,14nm,0.9s
T53A **Wise** 58.49 349 P P 09 36 45.2 -0.3
baz=167,SNR=6.4
S59A **Mechanicsville** 58.49 354 P P 09 36 45.8 +0.3
baz=172
S56A **Natural Bridge** 58.68 351 P P 09 36 47.1 +0.2
baz=170
S57A **Dark Hollow, R** 58.68 352 P P 09 36 47.3 +0.5
baz=171,SNR=8.3
U49A **Red Boiling Sp** 58.71 346 P P 09 36 46.6 -0.5
U49A IAmb IAmb 09 36 57.0
comp=Z,10nm,0.8s
R58B **Mineral** 58.75 353 P P 09 36 47.8 +0.5
baz=172,SNR=6.8
WVT **Waverly** 58.86 344 P P 09 36 46.4 -1.7
WVT pmax pmax
comp=Z,15nm,0.8s
WVT **Waverly** 58.86 344 P P 09 36 47.1 -1.0
baz=161
WVT **Waverly** 58.86 344 P P 09 36 46.4 -1.7
WVT IAmb IAmb 09 36 57.7
comp=Z,15nm,0.8s
R61A **Willards** 58.88 355 P P 09 36 47.3 -0.9
baz=174
R59A **King George, V** 58.91 354 P P 09 36 49.0 +0.7
baz=179
S55A **Lewisburg** 58.91 351 P P 09 36 49.1 +0.6
baz=169,SNR=7.8
S54A **Dingess, Beckl** 59.07 350 P P 09 36 49.5 -0.1
baz=168,SNR=6.2
S54A **Dingess, Beckl** 59.07 350 P P 09 36 49.4 -0.1
S54A IAmb IAmb 09 37 00.2
comp=Z,15nm,0.8s
S53A **Williamson** 59.09 349 P P 09 36 49.5 -0.2
baz=167
R58A **Rapidan** 59.10 353 P P 09 36 50.4 +0.7
baz=172,SNR=7.3
R57A **Stanardsville** 59.16 353 P P 09 36 50.9 +0.8
baz=171,SNR=8.6
TX31 **Lajitas Ar. Si** 59.18 326 P P 09 36 50.6 +0.1
TX31 IAmb IAmb 09 37 41.5
comp=Z,9.3nm,0.8s
TXAR **Lajitas Array** 59.18 326 P P 09 36 51.0 +0.5
comp=Z,1.6nm,0.8s,baz=149,slow=9.0,SNR=15
TXAR PcP PcP 09 37 39.6 +0.8
comp=Z,1.8nm,0.7s,baz=155,slow=5.4,SNR=7.5
TXAR LR LR 10 02 42.5
comp=Z,62nm,18.7s,baz=0.0,slow=36
TXAR **Lajitas Array** 59.18 326 P P 09 36 51.3 +0.8
MIAR **Mount Ida** 59.18 338 P P 09 36 50.5 +0.1
baz=155,SNR=13
MIAR **Mount Ida** 59.18 338 IAmb IAmb 09 36 51.6
comp=Z,31nm,1.2s
W41B **Gary Mavity, V** 59.30 339 P P 09 36 51.0 -0.1
baz=156,SNR=6.3
R55A **Marlinton** 59.36 351 P P 09 36 52.1 +0.5
baz=169
R55A **Marlinton** 59.36 351 P P 09 36 52.1 +0.5
R55A IAmb IAmb 09 37 03.1
comp=Z,33nm,1.4s
R56A **Bull Pasture M** 59.38 352 P P 09 36 52.3 +0.6
baz=170
R54A **Victor** 59.39 350 P P 09 36 52.0 +0.2
baz=168

WHAR **Wooly Hollow** 59.42 339 IAmb IAmb 09 37 02.5
comp=Z,14nm,1.0s
Q59A **Harwood** 59.52 354 P P 09 36 52.9 +0.3
baz=173
Q60A **Greensboro** 59.59 355 P P 09 36 53.5 +0.5
baz=174
HICK **Hickman** 59.63 342 P P 09 36 54.8 +1.4
R53A **Hurricane** 59.69 349 P P 09 36 53.7 -0.1
baz=167
Q58A **Fox Den Farm,** 59.70 353 P P 09 36 54.3 +0.5
baz=172,SNR=6.5
LCAR **Lake Charles** 59.77 341 IAmb IAmb 09 36 54.8
comp=Z,12nm,1.1s
W39A **Magazine** 59.84 338 P P 09 36 55.6 +0.7
baz=155,SNR=9.6
Q57A **Strasburg** 59.87 353 P P 09 36 56.2 +1.1
baz=171,SNR=14
X37A **Clayton** 59.88 336 P P 09 36 55.5 +0.4
ABTX **Abilene, Hawle** 59.93 332 P P 09 36 56.1 +0.4
baz=148,SNR=8.3
ABTX **Abilene, Hawle** 59.93 332 IAmb IAmb 09 36 57.1
comp=Z,26nm,0.9s
Q56A **Snyder Ridge,** 59.98 352 P P 09 36 56.7 +1.0
baz=170,SNR=11
Q55A **Buckhannon** 60.05 351 P P 09 36 57.3 +1.0
baz=170
R50A **Paris** 60.09 347 IAmb IAmb 09 37 06.7
comp=Z,15nm,1.1s
Q53A **Leroy** 60.14 350 P P 09 36 57.0 +0.2
baz=168
Q54A **Coxs Mills** 60.15 351 P P 09 36 57.8 +0.9
baz=169
P58A **Pank, Wackersv** 60.20 354 P P 09 36 57.8 +0.6
baz=172,SNR=5.9
PBMO **Poplar Bluff** 60.20 342 IAmb IAmb 09 37 07.4
comp=Z,13nm,0.7s
P59A **Jarrettsville** 60.24 355 P P 09 36 58.3 +0.8
baz=173,SNR=7.6
P57A **Homestead Farm** 60.27 353 P P 09 36 58.9 +1.2
baz=172
Q52A **Bidwell** 60.36 349 P P 09 36 58.3 -0.1
baz=167
P60A **Greenville** 60.37 355 P P 09 36 58.8 +0.4
baz=174
P60A **Greenville** 60.37 355 IAmb IAmb 09 36 59.8
comp=Z,14nm,0.9s
P56A **Dayton Farm, R** 60.39 352 P P 09 36 59.6 +1.1
baz=171,SNR=6.9
WCI **Wyandotte Cave** 60.47 346 P P 09 36 58.6 -0.5
WCI pmax pmax
comp=Z,12nm,0.9s
WCI **Wyandotte Cave** 60.47 346 P P 09 36 58.2 -0.9
baz=163
WCI **Wyandotte Cave** 60.47 346 P P 09 36 58.6 -0.5
WCI IAmb IAmb 09 36 59.3
comp=Z,12nm,0.9s
P55A **Reedsville** 60.52 352 P P 09 36 59.7 +0.2
baz=170
U40A **Yellville** 60.58 339 P P 09 36 59.7 -0.3
baz=156,SNR=9.5
U40A **Yellville** 60.58 339 IAmb IAmb 09 37 00.7
comp=Z,15nm,0.9s
MVL **Millersville** 60.62 355 IAmb IAmb 09 37 02.3
comp=Z,13nm,0.8s
MCWV **Mont Chateau** 60.67 352 P P 09 37 00.8 +0.4
baz=170
P54A **Burton** 60.70 351 P P 09 37 01.1 +0.3
baz=169
S44A **Carbondale** 60.72 343 IAmb IAmb 09 37 10.9
comp=Z,19nm,0.7s
P53A **Whipple** 60.73 350 P P 09 37 00.8 0.0
baz=168,SNR=5.6
P53A **Whipple** 60.73 350 IAmb IAmb 09 37 47.2
comp=Z,16nm,0.8s
O58A **Lewisberry** 60.79 354 P P 09 37 01.9 +0.6
baz=173
X34A **Smith Ranch, M** 60.86 334 IAmb IAmb 09 37 03.3
comp=Z,22nm,0.8s
O60A **Telford** 60.86 356 P P 09 37 02.2 +0.5
baz=175
HHAR **Hobbs** 60.88 338 IAmb IAmb 09 37 03.1
comp=Z,23nm,1.3s
O59A **Robesonia** 60.91 355 P P 09 37 02.7 +0.5
baz=174
O57A **Amberson** 60.95 354 P P 09 37 03.2 +0.8
baz=172,SNR=7.0
P52A **Corning** 60.99 350 P P 09 37 02.4 -0.3
baz=167
P51A **Williamsport** 61.01 349 P P 09 37 02.5 -0.3
baz=166
O56A **Blue Knob Stat** 61.11 353 P P 09 37 04.3 +0.8
baz=171,SNR=12
O55A **Ligonier** 61.14 352 P P 09 37 04.3 +0.6
baz=170,SNR=9.3
TUL1 **Leonard** 61.21 337 P P 09 37 04.3 +0.1
baz=153,SNR=8.7
N61A **South Mountain** 61.22 357 P P 09 37 04.7 +0.5
baz=176
VNA3 **Neumayer Olymp** 61.29 161 P P 09 37 04.8 +0.4
FVM **French Village** 61.32 342 IAmb IAmb 09 37 05.6
comp=Z,29nm,1.1s
N62A **Caumsett State** 61.36 357 P P 09 37 05.0 -0.1
baz=177
WMOK **Wichita Mounta** 61.37 333 P P 09 37 04.7 -0.6
baz=150,SNR=5.8
N60A **Cedar Hill Far** 61.39 356 P P 09 37 05.7 +0.4
baz=175
SSPA **Standing Stone** 61.40 354 P P 09 37 05.9 +0.5
baz=172
SSPA **Standing Stone** 61.40 354 P P 09 37 06.1 +0.8
SSPA IAmb IAmb 09 37 07.2
comp=Z,16nm,1.1s
PAL **Palisades** 61.45 357 P P 09 37 06.0 +0.3
baz=176
N57A **Milroy** 61.48 354 P P 09 37 06.5 +0.6
baz=172,SNR=8.3
N59A **State Game Lan** 61.48 355 P P 09 37 06.4 +0.4
baz=174
N58A **Sunbury** 61.48 355 P P 09 37 06.5 +0.5
baz=173,SNR=9.9
N58A **Sunbury** 61.48 355 P P 09 37 06.3 +0.4
N58A IAmb IAmb 09 37 07.8
comp=Z,21nm,1.0s
VNA1 **Neumayer--Stat** 61.52 160 P P 09 37 06.8 +0.9
O51A **Pataskala** 61.58 349 P P 09 37 06.1 -0.5
baz=167
CCM **Cathedral Cave** 61.63 341 P P 09 37 06.4 -0.6
CCM pmax pmax
comp=Z,15nm,1.1s
CCM **Cathedral Cave** 61.63 341 P P 09 37 06.7 -0.2
baz=158
CCM **Cathedral Cave** 61.63 341 P P 09 37 06.4 -0.6
CCM IAmb IAmb 09 37 17.2
comp=Z,15nm,1.1s
N55A **Marion Center** 61.66 353 P P 09 37 08.0 +0.7
baz=171,SNR=15
N56A **West Decatur** 61.72 353 P P 09 37 08.1 +0.5
baz=172,SNR=5.5
ACSO **Alum Creek Sta** 61.72 349 P P 09 37 07.1 -0.5
baz=167,SNR=5.3
M61A **Granite Spring** 61.75 357 P P 09 37 08.1 +0.3
baz=176
M63A **Gales Ferry** 61.78 359 P P 09 37 08.4 +0.5
baz=178
M60A **Port Jervis** 61.81 356 P P 09 37 08.6 +0.4
baz=175
M62A **Hamden** 61.85 358 P P 09 37 09.0 +0.7
baz=177
VNA2 **Neumayer--Watz** 61.88 161 P P 09 37 08.8 +0.4
M64A **Tiverton** 61.92 359 P P 09 37 09.2 +0.3
baz=179
S39A **Bolivar** 61.94 339 IAmb IAmb 09 37 19.7
comp=Z,18nm,0.8s
MNTX **Cornudas Mount** 61.95 326 P P 09 37 09.4 +0.1
baz=143,SNR=13
MNTX **Cornudas Mount** 61.95 326 P P 09 37 09.4 +0.1
MNTX PcP 09 37 49.7 -0.2
N54A **Moraine State** 61.97 352 P P 09 37 09.8 +0.5
baz=170,SNR=6.8
M58A **Price's Panora** 61.99 355 P P 09 37 10.2 +0.8
baz=174,SNR=8.9
M57A **Sunshine Farm,** 62.02 354 P P 09 37 10.5 +1.0
baz=173
M57A **Sunshine Farm,** 62.02 354 IAmb IAmb 09 37 11.0
comp=Z,24nm,1.2s
M59A **Waymart** 62.08 356 P P 09 37 10.6 +0.6
baz=175,SNR=11
KSCT **Kent School, K** 62.15 357 IAmb IAmb 09 37 12.1

comp=Z,11nm,1.1s
R40A **Maddies Statio** 62.16 341 IAmb IAmb 09 37 20.7
comp=Z,13nm,0.8s
L63A **North Scituate** 62.23 359 P P 09 37 11.6 +0.7
baz=179,SNR=13
M56A **Emporium** 62.27 353 P P 09 37 11.8 +0.6
baz=172,SNR=6.9
N51A **Ashland** 62.29 350 P P 09 37 11.7 +0.4
baz=167
L64A **Middleborough** 62.30 360 P P 09 37 11.8 +0.4
baz=179,SNR=7.6
M55A **Ridgway** 62.32 353 P P 09 37 12.1 +0.5
baz=171,SNR=9.9
M55A **Ridgway** 62.32 353 P P 09 37 11.9 +0.3
T35A **Sooner Cattle** 62.37 337 IAmb IAmb 09 37 13.9
comp=Z,24nm,1.1s
L60A **Shokan** 62.45 357 P P 09 37 13.2 +0.7
baz=176
M54A **Oil Creek Stat** 62.47 352 P P 09 37 12.8 +0.2
baz=170,SNR=6.0
M54A **Oil Creek Stat** 62.47 352 P P 09 37 11.8 -0.8
MSTX **Muleshoe** 62.49 330 P P 09 37 13.2 +0.1
baz=146,SNR=19
M53A **WI Miller and** 62.53 351 P P 09 37 14.0 +1.0
baz=169
L58A **Harry Jones Me** 62.61 355 P P 09 37 14.4 +0.9
baz=174,SNR=8.0
L61A **Hillsdale 1, H** 62.62 357 P P 09 37 14.1 +0.6
baz=177
L57A **Andrews Acres** 62.65 355 P P 09 37 14.5 +0.7
baz=173
M51A **Elyria** 62.66 350 P P 09 37 13.6 -0.2
baz=168
L59A **Walton** 62.70 356 P P 09 37 15.0 +0.8
baz=175,SNR=15
SFIN **Lafayette** 62.71 346 P P 09 37 12.7 -1.5
baz=162
BINY **Binghamton** 62.77 355 P P 09 37 15.4 +0.8
baz=174,SNR=7.4
BINY **Binghamton** 62.77 355 IAmb IAmb 09 37 17.0
comp=Z,19nm,0.9s
L61B **Northampton** 62.85 358 P P 09 37 15.6 +0.6
baz=178,SNR=7.2
L56A **Greenwood** 62.85 354 P P 09 37 15.7 +0.6
baz=172,SNR=6.9
L56A **Greenwood** 62.85 354 IAmb IAmb 09 37 16.8
comp=Z,22nm,1.1s
HRV **Adam Dziewonsk** 62.88 359 P P 09 37 16.3 +1.0
HRV pmax pmax
comp=Z,33nm,0.9s
HRV **Adam Dziewonsk** 62.88 359 P P 09 37 16.0 +0.7
baz=179
HRV **Adam Dziewonsk** 62.88 359 P P 09 37 16.3 +1.0
L53A **Girard** 62.98 352 P P 09 37 15.9 -0.1
baz=170
L55A **Hinsdale** 62.99 353 P P 09 37 16.6 +0.5
baz=172,SNR=5.4
K62A **Royalston** 63.05 358 P P 09 37 16.8 +0.4
baz=178
K62A **Royalston** 63.05 358 P P 09 37 17.2 +0.8
K62A IAmb IAmb 09 38 06.0
comp=Z,33nm,1.6s
K63A **Dunstable** 63.06 359 P P 09 37 16.9 +0.5
baz=179
K61A **Williamstown** 63.09 358 P P 09 37 17.1 +0.5
baz=177
ERPA **Erie** 63.11 352 P P 09 37 17.0 +0.1
baz=170
L54A **Sinclairville** 63.14 353 P P 09 37 17.5 +0.4
baz=171,SNR=8.6
P40A **Paris** 63.23 341 IAmb IAmb 09 37 27.9
comp=Z,14nm,0.8s
K59A **Cooperstown** 63.27 356 P P 09 37 18.7 +0.8
baz=175,SNR=15
K58A **Earlville** 63.31 356 P P 09 37 18.8 +0.6
baz=174,SNR=10.0
K57A **Scipio Center** 63.34 355 P P 09 37 18.6 +0.2
baz=174
K56A **Middlesex** 63.38 354 P P 09 37 18.9 +0.3
baz=173
HDIL **Hopedale** 63.41 344 P P 09 37 17.8 -1.0
baz=160
K54A **Basiliko Farm,** 63.44 353 P P 09 37 19.1 +0.1
baz=171
K55A **Perry** 63.49 354 P P 09 37 19.5 +0.2
baz=172,SNR=5.3
SNAA **Sanae** 63.50 161 P P 09 37 19.5 +0.2
SNAA **Sanae** 63.50 161 P P 09 37 19.3 0.0
comp=Z,25nm,0.8s,baz=280,slow=6.9,SNR=165
SNAA **Sanae** 63.50 161 P P 09 37 19.6 +0.4
SNAA pmax pmax
comp=Z,28nm,0.8s
SNAA **Sanae** 63.50 161 P P 09 37 19.6 +0.4
J62A **Henniker** 63.60 359 P P 09 37 20.7 +0.7
baz=178
J63A **Strafford** 63.64 359 P P 09 37 20.7 +0.4
baz=179
J60A **Lant Hill Farm** 63.66 358 P P 09 37 21.3 +0.8
baz=177
J61A **Chester** 63.74 358 P P 09 37 21.9 +1.0
baz=178
P38A **Dawn** 63.77 340 P P 09 37 21.3 0.0
P38A IAmb IAmb 09 37 31.7
comp=Z,15nm,0.8s
319A **Douglas** 63.80 323 IAmb IAmb 09 37 24.6
comp=Z,17nm,0.9s
121A **Cookes Peak, D** 63.87 325 P P 09 37 22.3 0.0
baz=141,SNR=5.6
J58A **Remsen** 63.88 356 P P 09 37 22.1 +0.2
baz=175
J56A **Wolcott** 63.91 355 P P 09 37 22.2 +0.1
baz=173,SNR=5.5
J56A **Wolcott** 63.91 355 IAmb IAmb 09 37 23.1
comp=Z,27nm,1.1s
J59A **Piesco** 63.94 357 P P 09 37 22.8 +0.5
baz=176,SNR=10
J59A **Piesco** 63.94 357 P P 09 37 23.3 +1.0
J59A IAmb IAmb 09 37 24.2
comp=Z,26nm,1.1s
J57A **Williamstown** 63.98 355 P P 09 37 22.5 0.0
baz=174
J57A **Williamstown** 63.98 355 P P 09 37 22.4 -0.2
J55A **Hilton** 63.99 354 P P 09 37 22.8 +0.2
baz=172
J54A **Appleton** 64.08 353 P P 09 37 23.5 +0.3
baz=171
I58A **Old Forge** 64.19 356 P P 09 37 24.4 +0.4
baz=175,SNR=5.6
I59A **Olmsteadville** 64.24 357 P P 09 37 24.9 +0.6
baz=176,SNR=8.7
I62A **Tamworth** 64.24 359 P P 09 37 24.8 +0.6
baz=179
I62A **Tamworth** 64.24 359 P P 09 37 25.0 +0.8
I62A IAmb IAmb 09 37 26.3
comp=Z,18nm,1.1s
I60A **Shoreham** 64.26 358 P P 09 37 25.2 +0.9
baz=177,SNR=12
I64A **Boothbay** 64.28 1 P P 09 37 25.4 +0.9
baz=181
I61A **Oroboro, Fairl** 64.31 359 P P 09 37 25.9 +1.2
baz=178,SNR=9.3
I63A **Otisfield** 64.41 360 P P 09 37 25.7 +0.4
baz=180
I63A **Otisfield** 64.41 360 P P 09 37 26.8 +1.5
I63A IAmb IAmb 09 37 37.8
comp=Z,19nm,1.0s
NCB **Newcomb** 64.43 357 IAmb IAmb 09 37 54.0
comp=Z,42nm,1.8s
I57A **Carthage** 64.48 356 P P 09 37 26.0 +0.1
baz=174
LBNH **Lisbon** 64.61 359 P P 09 37 27.6 +0.9
baz=178,SNR=7.0
LBNH **Lisbon** 64.61 359 IAmb IAmb 09 37 28.9
comp=Z,15nm,0.9s
H58A **Gabriels** 64.87 357 P P 09 37 28.9 +0.5
baz=176,SNR=8.5
H61A **Lyndonville** 64.91 359 P P 09 37 29.8 +1.1
baz=178,SNR=6.6
I55A **Frankford** 64.92 354 P P 09 37 28.9 +0.3
baz=172
H62A **Milan** 64.94 359 P P 09 37 29.0 +0.2
baz=179
H60A **Morristown** 64.95 358 P P 09 37 28.9 -0.1
baz=178
H57A **Richville** 64.98 356 P P 09 37 29.4 +0.4
baz=175,SNR=5.3
H64A **Troy** 65.01 1 P P 09 37 29.8 +0.6
baz=181

H63A New Sharon 65.02 0 P P 09 37 30.4 +1.0
baz=180,SNR=7.1
ANMO Albuquerque 65.07 328 P P 09 37 30.8 +0.7
comp=Z,0.3nm,1.0s,baz=334,slow=8.0,SNR=20
ANMO Albuquerque 65.07 328 P P 09 37 31.4 +1.3
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 65.07 328 P P 09 37 31.1 +1.0
baz=143
ANMO Albuquerque 65.07 328 P P 09 37 31.4 +1.3
H59A Cadyville 65.08 357 P P 09 37 30.3 +0.6
baz=176,SNR=6.8
H65A Eastbrook 65.08 2 P P 09 37 30.5 +0.8
baz=182
LONY Lake Ozonia 65.09 357 P P 09 37 30.4 +0.6
baz=176,SNR=5.2
H56A Elgin 65.17 355 P P 09 37 30.8 +0.5
baz=174
H66A Whiting 65.21 2 P P 09 37 31.1 +0.7
baz=183
DELO Deloro Mine 65.21 354 P P 09 37 30.4 -0.1
DELO IAmb IAmb 09 37 41.3
comp=Z,33nm,1.6s
FRNY Flat Rock 65.26 357 IAmb IAmb 09 37 32.7
comp=Z,22nm,1.0s
CBKS Cedar Bluff 65.26 335 P P 09 37 31.6 +0.5
baz=150
H53A Bobcaygeon 65.36 354 P P 09 37 31.5 -0.1
baz=172
G63A Kingsbury 65.48 1 P P 09 37 32.8 +0.5
baz=181
G60A Masonville 65.48 358 P P 09 37 33.3 +1.0
baz=178
GGN Saint George 65.56 3 IAmb IAmb 09 37 35.2
comp=Z,28nm,1.1s
N35A Tabor 65.58 339 IAmb IAmb 09 37 33.7
comp=Z,16nm,0.9s
G62A West of Eustis 65.58 360 P P 09 37 34.2 +1.3
baz=180,SNR=11
G58A Ormstown 65.59 357 P P 09 37 34.2 +1.2
baz=176
G57A Newington 65.60 356 P P 09 37 33.5 +0.4
baz=175
G65A Princeton 65.61 2 P P 09 37 33.7 +0.6
baz=183
G65A Princeton 65.61 2 IAmb IAmb 09 37 45.1
comp=Z,16nm,1.0s
SADO Sadowa 65.62 353 P P 09 37 33.8 +0.6
comp=Z,8.9nm,0.9s,baz=205,slow=7.8,SNR=7.0
SADO Sadowa 65.62 353 IAmb IAmb 09 37 34.0
comp=Z,12nm,0.9s
G64A Maxfield 65.63 1 P P 09 37 33.7 +0.5
baz=182,SNR=5.6
PKME Peaks-Kenny Pk 65.63 1 P P 09 37 33.8 +0.6
baz=181
PKME Peaks-Kenny Pk 65.63 1 P P 09 37 33.5 +0.2
PKME IAmb IAmb 09 37 35.0
comp=Z,23nm,1.1s
G61A St-Isidore-de- 65.65 359 P P 09 37 34.7 +1.3
baz=179,SNR=6.4
SCIA State Center 65.76 341 P P 09 37 34.1 -0.1
baz=156
T25A Trinidad 65.85 331 P P 09 37 36.3 +1.1
baz=145,SNR=6.0
G55A Calabogie 65.87 355 P P 09 37 34.7 -0.1
baz=179
JFWS Jewell Farm 65.87 344 P P 09 37 34.3 -0.5
baz=160
JFWS Jewell Farm 65.87 344 IAmb IAmb 09 38 18.8
comp=Z,13nm,0.7s
ORIO Orleans, Innes 65.98 356 P P 09 37 35.9 +0.4
baz=175
G54A Lake Saint Pet 66.13 354 P P 09 37 36.9 +0.4
baz=172
F64A Sherman 66.25 2 P P 09 37 37.9 +0.7
baz=182
F64A Sherman 66.25 2 P P 09 37 37.6 +0.4
F64A IAmb IAmb 09 37 39.1
comp=Z,15nm,0.8s
214A Organ Pipe Nat 66.26 321 P P 09 37 39.0 +1.3
baz=136,SNR=6.3
F62A Pittston Farm, 66.26 0 P P 09 37 38.1 +0.8
baz=180
F57A Harrington 66.29 357 P P 09 37 37.6 +0.2
baz=176
F61A St Evariste 66.34 360 P P 09 37 38.2 +0.4
baz=179
F60A Warwick 66.34 359 P P 09 37 38.3 +0.5
baz=178
LMN Caledonia Moun 66.41 4 P P 09 37 38.4 +0.2
KSCO Kaye Shedlock' 66.61 333 P P 09 37 40.8 +0.9
baz=147,SNR=9.1
ALGO Algonquin Park 66.68 354 P P 09 37 40.0 0.0
baz=172
E60A Ste Agathe de 66.74 359 P P 09 37 40.9 +0.6
baz=179
E58A La Victoria 66.78 358 P P 09 37 41.1 +0.5
baz=177
E61A Lac Etchemin 66.79 360 P P 09 37 41.3 +0.6
baz=180
E63A Oxbow 66.81 1 P P 09 37 41.6 +0.8
baz=182
E63A Oxbow 66.81 1 P P 09 37 41.8 +1.1
E63A IAmb IAmb 09 37 42.5
comp=Z,14nm,1.1s
E64A Bridgewater 66.82 2 P P 09 37 41.6 +0.7
baz=182
SDCO Great Sand Dun 66.85 330 P P 09 37 42.9 +1.3
baz=144,SNR=39
SDCO Great Sand Dun 66.85 330 IAmb IAmb 09 37 44.1
comp=Z,18nm,1.0s
E57A Chemin Saint G 66.86 357 P P 09 37 41.5 +0.4
baz=176
W18A Petrified Fore 66.89 326 P P 09 37 43.4 +1.6
baz=140,SNR=7.8
BGNE Belgrade 66.93 338 P P 09 37 41.9 +0.2
baz=152,SNR=5.3
E62A Clayton Lake 66.98 1 P P 09 37 42.7 +0.8
baz=181,SNR=6.4
E62A Clayton Lake 66.98 1 IAmb IAmb 09 37 44.0
comp=Z,24nm,1.1s
E56A St. Veronique 67.04 357 P P 09 37 42.5 +0.2
baz=175,SNR=6.6
E53A Dumoine, Ponti 67.06 355 P P 09 37 42.4 0.0
baz=173
E54A Lac Daplat, Po 67.08 355 P P 09 37 42.3 -0.2
baz=173
D60A Saint Jean D'O 67.28 360 P P 09 37 44.6 +0.8
baz=179
D59A Saint-Raymond 67.38 359 P P 09 37 44.9 +0.5
baz=178
D63A Stockholm 67.43 2 P P 09 37 45.7 +1.0
baz=182
D57A Chemin Vers le 67.45 357 P P 09 37 45.5 +0.6
baz=176,SNR=5.8
D62A Allapoint, All 67.45 1 P P 09 37 45.5 +0.7
baz=181,SNR=7.0
D62A Allapoint, All 67.45 1 IAmb IAmb 09 37 46.7
comp=Z,30nm,1.1s
S22A 4UR Ranch, Cre 67.47 329 P P 09 37 46.6 +1.0
baz=143,SNR=12
D58A Chemin du LacG 67.49 358 P P 09 37 45.7 +0.6
baz=177,SNR=7.4
D56A ZEC Mazanza, M 67.52 357 P P 09 37 45.4 0.0
baz=176
D55A Sainte-Anne-du 67.54 356 P P 09 37 45.5 +0.1
baz=175
Q24A Divide 67.68 331 P P 09 37 48.0 +1.1
baz=145,SNR=8.0
BATG Bathurst New B 67.75 3 P P 09 37 47.0 +0.2
BATG IAmb IAmb 09 37 48.9
comp=Z,25nm,1.1s
D54A Lac Fusel, La 67.75 355 P P 09 37 46.5 -0.2
baz=174
D53A Lac Vacive, Po 67.76 355 P P 09 37 46.5 -0.4
baz=173
MVCO Mesa Verde 67.87 328 P P 09 37 49.3 +1.3
baz=142,SNR=17
MVCO Mesa Verde 67.87 328 IAmb IAmb 09 37 50.5
comp=Z,14nm,0.8s
E46A Sault Ste Mari 67.91 350 P P 09 37 47.1 -0.6
E46A IAmb IAmb 09 38 22.8
comp=Z,33nm,1.6s
OGNE Ogallala 68.00 335 P P 09 37 49.1 +0.5
baz=148
TAOE Nuku Hiva Isla 68.05 269 eT T 10 51 49.8
comp=Z,21nm,0.2s
WUAZ Wupatki 68.06 325 P P 09 37 51.2 +2.0
baz=139,SNR=15
NVL N'lazarevskaya 68.08 159 ‖iP P 09 37 48.3 -0.4
NVL pmax pmax
comp=Z,37nm,1.0s
ECSD EROS Data Cent 68.47 340 P P 09 37 51.3 -0.1
baz=154,SNR=7.3
ECSD EROS Data Cent 68.47 340 IAmb IAmb 09 37 52.4
comp=Z,12nm,1.1s
ISCO Idaho Springs 68.57 331 P P 09 37 53.6 +1.2
baz=145,SNR=14
PV01 Paradox Valley 68.62 328 IAmb IAmb 09 37 55.5
comp=Z,15nm,0.9s
SPMN Marine on St. 68.69 343 P P 09 37 52.2 -0.6
baz=158
IKP In-Ko-Pah, Jac 68.72 320 P P 09 37 54.5 +1.3
baz=134
PDMCI Parker Dam,Lak 68.72 322 P P 09 37 54.6 +1.5
baz=136
PV15 Paradox Valley 68.74 329 P P 09 37 55.0 +1.4
PV15 IAmb IAmb 09 37 57.0
comp=Z,29nm,0.9s
PV02 Paradox Valley 68.76 328 P P 09 37 54.9 +1.3
PV13 Radium Mtn., P 68.77 328 IAmb IAmb 09 37 56.2
comp=Z,16nm,0.9s
CBX Cerro Bola 68.82 319 P P 09 37 55.8 +1.8
PV03 Paradox Valley 68.85 328 P P 09 37 55.6 +1.5
PV12 Saucer Basin, 68.88 328 P P 09 37 56.0 +1.6
BC3 Big Chuckawall 69.03 321 P P 09 37 57.2 +2.0
baz=135,SNR=8.5
MONP2 Monument Peak 69.08 320 P P 09 37 57.6 +2.0
baz=134
IRM Iron Mountain 69.20 321 P P 09 37 58.3 +2.1
baz=135,SNR=13
U15A North Rim 69.24 325 IAmb IAmb 09 38 00.1
comp=Z,14nm,1.1s
D41A Chassel 69.39 347 IAmb IAmb 09 37 58.0
comp=Z,28nm,0.9s
F36A Milaca 69.48 343 IAmb IAmb 09 37 58.1
comp=Z,13nm,0.9s
109C Camp Elliot, M 69.49 319 P P 09 37 59.7 +1.8
baz=133
LIC Lamto 69.49 75 eP P 09 37 55.9 -2.5
comp=Z,6.6nm,0.5s
QSPA South Pole Qui 69.51 180 P P 09 37 58.7 +1.0
comp=Z,18nm,0.5s,baz=297,slow=0.4,SNR=301
QSPA South Pole Qui 69.51 180 P P 09 37 59.1 +1.4
BELC Belle Mtn. Jos 69.59 321 P P 09 38 00.7 +2.0
baz=134,SNR=5.5
PFO Pinyon Flats O 69.59 320 P P 09 38 00.6 +1.8
comp=Z,7.0nm,0.9s,baz=116,slow=5.2,SNR=12
PFO Pinyon Flats O 69.59 320 P P 09 38 01.2 +2.5
PFO pmax pmax
comp=Z,8.0nm,1.0s
PFO Pinyon Flats O 69.59 320 P P 09 38 00.9 +2.1
baz=134,SNR=6.5
N23A Red Feather La 69.60 332 P P 09 38 00.0 +1.2
baz=144,SNR=11
N23A Red Feather La 69.60 332 IAmb IAmb 09 38 01.1
comp=Z,13nm,0.9s
LSQQ Lebel-sur-Quev 69.67 355 P P 09 37 58.9 +0.2
baz=173
TIC Toumodi 69.67 74 eP P 09 37 57.0 -2.5
KIC Kosan Boka 69.81 75 eP P 09 37 59.0 -1.3
comp=Z,51nm,1.1s
DBIC Dimbokro 69.83 74 P P 09 37 58.8 -1.7
comp=Z,24nm,0.9s,baz=219,slow=6.1,SNR=19
DBIC LR LR 10 07 18.1
comp=Z,285nm,20.3s,baz=230,slow=35
DBIC Dimbokro 69.83 74 P P 09 37 59.0 -1.4
DBIC pmax pmax
comp=Z,21nm,0.9s
DBIC Dimbokro 69.83 74 P P 09 37 59.0 -1.4
DBIC IAmb IAmb 09 38 00.3
comp=Z,21nm,0.8s
GMRC Granite Mounta 69.94 321 P P 09 38 03.0 +2.2
baz=135,SNR=15
KNB Kanab 69.96 325 P P 09 38 03.6 +2.6
KNB pmax pmax
comp=Z,28nm,1.2s
KNB Kanab 69.96 325 P P 09 38 03.6 +2.6
MURC Murrieta 70.03 320 P P 09 38 02.9 +1.6
baz=134
O20A White River Ci 70.04 330 P P 09 38 02.8 +1.4
baz=142,SNR=11
O20A White River Ci 70.04 330 IAmb IAmb 09 38 04.0
comp=Z,19nm,1.0s
CHGQ Chibougamau 70.36 357 P P 09 38 02.7 -0.2
baz=176
HEC Hector,Ludlow 70.37 321 P P 09 38 05.8 +2.3
baz=134,SNR=7.7
MATQ Matagami 70.42 355 P P 09 38 02.9 -0.4
baz=173
TUQ Turquoise Moun 70.55 322 P P 09 38 06.2 +1.6
baz=135
DRLN Deer Lake 70.56 9 P P 09 38 04.3 +0.2
MSU Marysvale 70.73 326 P P 09 38 07.5 +1.8
MSU Marysvale 70.73 326 P P 09 38 07.5 +1.8
MVU Marysvale 70.75 326 P P 09 38 08.1 +2.3
BFSC Mount Baldy Ra 70.75 320 P P 09 38 07.4 +1.6
baz=133,SNR=7.9
SHPR Sheep Range 70.88 323 P P 09 38 08.1 +1.5
EYMN Ely 70.89 345 P P 09 38 05.9 -0.3
baz=159
GSC Goldstone, Bar 70.97 321 P P 09 38 09.2 +2.1
baz=134,SNR=5.1
MWC Mount Wilson 70.98 320 P P 09 38 09.7 +2.4
MWC pmax pmax
comp=Z,10.0nm,1.0s
SHOC Shoshone, Teco 71.08 322 P P 09 38 09.5 +1.9
baz=135,SNR=6.4
K22A Casper 71.28 333 P P 09 38 10.2 +1.3
baz=144,SNR=6.7
EDW2 Edwards Air Fo 71.39 320 P P 09 38 11.2 +1.6
baz=133,SNR=8.2
RSSD Black Hills 71.47 335 P P 09 38 11.4 +1.3
RSSD pmax pmax
comp=Z,12nm,1.0s
RSSD Black Hills 71.47 335 P P 09 38 11.1 +1.0
baz=147
LRMC Laurel Mtn Rad 71.61 321 P P 09 38 12.9 +1.9
baz=134
PSUT Pine Spring 71.63 325 P P 09 38 12.9 +1.8
TPNV Topopah Spring 71.81 323 P P 09 38 14.6 +2.4
baz=135,SNR=17
FURC Furnace Creek, 71.82 322 P P 09 38 14.3 +2.3
baz=134,SNR=6.9
ISA Isabella, Lake 72.21 320 P P 09 38 16.8 +2.3
baz=133,SNR=13
ISA Isabella, Lake 72.21 320 IAmb IAmb 09 38 17.8
comp=Z,12nm,0.9s
DUG Dugway, Tooele 72.32 327 P P 09 38 17.5 +2.3
DUG pmax pmax
comp=Z,18nm,1.1s
DUG Dugway, Tooele 72.32 327 P P 09 38 17.1 +2.0
baz=138,SNR=15
DUG Dugway, Tooele 72.32 327 P P 09 38 17.4 +2.3
DUG IAmb IAmb 09 38 18.2
comp=Z,18nm,1.1s
E28A Huff 72.33 339 IAmb IAmb 09 38 16.3
comp=Z,25nm,0.8s
R11A Troy Canyon, C 72.43 324 P P 09 38 18.1 +2.2
baz=136,SNR=18
R11A Troy Canyon, C 72.43 324 P P 09 38 17.9 +1.9
TBI Tubuai 72.46 251 eLR LR 10 00 31.7
comp=Z,251nm,27.0s
TBI Tubuai 72.46 251 eT T 10 56 29.3
comp=Z,5.3nm,0.3s
PKM Mcpherson Peak 72.50 319 P P 09 38 18.6 +2.2
baz=132,SNR=10
CWC Cottonwood Cre 72.51 321 P P 09 38 18.5 +2.1
baz=134
VES Vestal, Richgr 72.69 320 P P 09 38 19.2 +1.9
baz=133,SNR=6.1
BW06 Boulder Array 72.72 331 P P 09 38 18.2 +0.6
baz=142,SNR=6.0
PDAR Pinedale Array 72.72 331 P P 09 38 18.2 +0.6
comp=Z,1.9nm,0.5s,baz=137,slow=7.3,SNR=24
PDAR LR LR 10 12 48.6
comp=Z,58nm,18.7s,baz=153,slow=38
PDAR Pinedale Array 72.72 331 P P 09 38 18.4 +0.8
HWUT Hardware Ranch 72.77 329 P P 09 38 19.0 +1.1
HWUT IAmb IAmb 09 38 21.8
comp=Z,21nm,0.8s
SMMC Simmler 72.89 319 P P 09 38 20.9 +2.3
baz=132,SNR=10
MDND Maddock 73.08 340 P P 09 38 20.1 +0.8
baz=152,SNR=7.7
AHID Auburn Hatcher 73.43 330 P P 09 38 23.3 +1.5
AHID IAmb IAmb 09 38 23.9
comp=Z,26nm,0.9s
MLAC Mammoth, Mammo 73.76 322 P P 09 38 25.9 +2.0
baz=133
REDW Red Top Meadow 73.78 330 P P 09 38 25.4 +1.5
REDW IAmb IAmb 09 38 26.2
comp=Z,13nm,0.9s
TVO Taravao 73.81 257 eT T 10 58 57.3
comp=Z,0.4nm,0.2s
SNOW Snow King Moun 73.81 331 IAmb IAmb 09 38 26.5
comp=Z,15nm,0.8s
MDPB Devils Postpil 73.90 322 P P 09 38 26.8 +2.1
TPAW Teton Pass 73.92 330 IAmb IAmb 09 38 26.2
comp=Z,14nm,0.8s
PMPB Monarch Peak 73.98 320 P P 09 38 26.0 +1.0
PMPB IAmb IAmb 09 38 28.4
comp=Z,16nm,1.0s
NVAR Mina Array Bea 74.00 323 P P 09 38 26.9 +1.7
comp=Z,6.5nm,0.8s,baz=154,slow=6.8,SNR=33
NVAR Mina Array Bea 74.00 323 P P 09 38 26.7 +1.4
ULM Lac du Bonnet 74.13 343 P P 09 38 25.0 -0.4
comp=Z,5.1nm,0.6s,baz=146,slow=6.5,SNR=4.8
ULM LR LR 10 13 47.3
comp=Z,36nm,18.5s,baz=108,slow=38
ULM Lac du Bonnet 74.13 343 pP 09 38 35.2 +0.9
PPT2 Papeete2 74.16 257 eS S 09 47 59.5 +1.0
comp=Z,101nm,27.0s
PPT2 Papeete2 74.16 257 eLR LR 10 01 13.5
comp=Z,240nm,24.0s
IMW Indian Meadow 74.23 331 IAmb IAmb 09 38 29.0
comp=Z,13nm,0.8s
RYN Ryan 74.27 323 P P 09 38 28.5 +1.8
KVN Kaiserville 74.32 323 IAmb IAmb 09 38 29.7
comp=Z,15nm,1.0s
RLMT Red Lodge 74.45 333 P P 09 38 29.0 +1.3
baz=142,SNR=18
RLMT Red Lodge 74.45 333 P P 09 38 29.3 +1.6
RLMT IAmb IAmb 09 38 30.1
comp=Z,16nm,0.8s
LAO LASA Array 74.46 335 P P 09 38 28.6 +1.1
baz=145
YNE Yellowstone No 74.68 332 P P 09 38 30.8 +1.7
YHH Holmes Hill 74.88 331 P P 09 38 32.3 +2.0
YHB Horse Butte 75.01 331 P P 09 38 32.6 +1.7
YHL Hebgen Lake 75.08 331 P P 09 38 33.3 +1.9
DGMT Dagmar 75.18 337 P P 09 38 32.9 +1.3
baz=147,SNR=5.2
PNTR Pine Nut 75.19 322 IAmb IAmb 09 38 35.4
comp=Z,14nm,0.8s
SCHQ Schefferville 75.26 2 P P 09 38 31.9 0.0
comp=Z,6.3nm,0.7s,baz=233,slow=15,SNR=3.5
SCHQ LR LR 10 13 19.7
comp=Z,46nm,19.4s,baz=226,slow=37
PAHR Pah Rah Range 75.49 323 IAmb IAmb 09 38 37.0
comp=Z,23nm,0.9s
HLID Hailey 75.62 329 P P 09 38 36.4 +1.9
baz=138,SNR=30
HLID Hailey 75.62 329 IAmb IAmb 09 38 37.6
comp=Z,13nm,0.8s
MCMT McKenzie Canyo 75.83 330 P P 09 38 37.7 +2.1
BOZ Bozeman (W) 75.86 331 P P 09 38 37.0 +1.3
baz=140,SNR=14
DLMT Dillon 76.11 331 P P 09 38 38.7 +1.5
DLMT IAmb IAmb 09 38 40.0
comp=Z,18nm,1.2s
LRM Limekiln Ridge 76.40 331 P P 09 38 40.3 +1.4
EGMT Eagleton 76.95 334 P P 09 38 42.7 +0.9
baz=142
O03E Paynes Creek 77.26 322 P P 09 38 44.2 +0.5
baz=131
VNDA Vanda 77.41 190 P P 09 38 45.2 +1.2
comp=Z,1.7nm,0.8s,baz=133,slow=4.1,SNR=10.0
MOD Modoc Plateau 77.50 324 P P 09 38 46.6 +1.6
SYO Syowa Base 77.75 160 ‖eP P 09 38 45.0 -0.9
SYO Syowa Base 77.75 160 ‖ePcP PcP 09 38 55.0 -0.9
MSO Missoula 77.84 331 P P 09 38 48.3 +1.5
baz=139,SNR=6.7
BMO Blue Mountains 77.99 328 P P 09 38 49.2 +1.5
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 77.99 328 P P 09 38 49.2 +1.5
N02D Trinity Center 78.23 322 P P 09 38 49.5 +0.4
baz=131
M04C Macdoel 78.27 323 P P 09 38 50.9 +1.6
baz=132,SNR=7.1
K05A Summer Lake 78.38 325 IAmb IAmb 09 38 53.2
comp=Z,18nm,0.9s
TORD Torodi Ar. Bea 78.39 71 P P 09 38 49.1 -1.2
comp=Z,23nm,0.6s,baz=252,slow=5.3,SNR=109
TORD LR LR 10 13 04.1
comp=Z,297nm,18.3s,baz=240,slow=36
TORD Torodi Ar. Bea 78.39 71 P P 09 38 49.2 -1.2
YBH Yreka Blue Hor 78.72 323 P P 09 38 52.0 +0.2
comp=Z,5.0nm,0.9s,baz=122,slow=2.2,SNR=9.4
L04D Klamath Falls 78.82 323 P P 09 38 53.3 +1.0
baz=131
J05D Fort Rock, OR 78.94 325 P P 09 38 54.6 +1.6
baz=132,SNR=7.8
PINE Pine Mountain 79.12 325 IAmb IAmb 09 38 57.2
comp=Z,18nm,1.0s
KRMB Red Mountain 79.27 322 P P 09 38 57.1 +2.3
J04D Umpqua Nationa 79.38 324 P P 09 38 56.3 +0.8
baz=132
HUMO Hull Mountain 79.44 323 P P 09 38 56.6 +1.0
WALA Waterton Lakes 79.50 333 IAmb IAmb 09 38 58.2
comp=Z,17nm,1.0s
L02E Cave Junction 79.51 323 P P 09 38 57.3 +1.3
baz=130
I05D Terrebonne, OR 79.70 325 P P 09 38 59.0 +2.0
baz=132,SNR=19
FFC Flin Flon 79.82 342 P P 09 38 57.8 +0.4
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 79.82 342 P P 09 38 57.8 +0.4
K02D Willamette Mer 79.89 323 P P 09 38 59.8 +1.7
baz=130
I04A Tendick Farm, 79.92 325 P P 09 38 59.3 +1.1
baz=132
F07A Phinny Hill Vi 80.03 327 P P 09 39 01.0 +2.3
F07A IAmb IAmb 09 39 02.2
comp=Z,36nm,1.7s
SUR Sutherland 80.18 121 P P 09 39 00.9 +0.7
SUR IAmb IAmb 09 39 02.4
comp=Z,19nm,0.8s
G05D Wamic, OR 80.30 326 P P 09 39 02.3 +2.0
baz=132,SNR=6.1
NEW Newport 80.35 330 P P 09 39 01.5 +1.0
baz=136
I03D Drain, OR 80.36 324 P P 09 39 02.5 +2.0
baz=131
H04A Detroit Lake 80.39 325 IAmb IAmb 09 39 02.6
comp=Z,15nm,0.8s
H04D Lebanon 80.57 325 P P 09 39 02.5 +0.8
baz=131
F05D White Salmon 80.81 327 P P 09 39 04.5 +1.6
baz=132,SNR=5.6
COR Corvallis 80.92 325 P P 09 39 06.0 +2.5
COR pmax pmax
comp=Z,41nm,1.0s
COR Corvallis 80.92 325 P P 09 39 06.0 +2.5
F04A Amboy 81.34 326 P P 09 39 07.1 +1.4
LTY Liberty 81.34 328 IAmb IAmb 09 39 08.1
comp=Z,19nm,1.1s
FCC Fort Churchill 81.53 348 P P 09 39 06.8 +0.4
FCC pmax pmax
comp=Z,22nm,1.1s
FCC Fort Churchill 81.53 348 P P 09 39 06.8 +0.4
FCC IAmb IAmb 09 39 07.7
comp=Z,22nm,1.1s
TSUM Tsumeb 81.60 107 P P 09 39 08.4 +0.5
TSUM IAmb IAmb 09 39 09.5
comp=Z,17nm,1.1s
MORF Marmelete 81.85 45 eP P 09 39 09.0 +0.3
MORF Marmelete 81.85 45 eP P 09 39 10.0 +1.2
MORF Marmelete 81.85 45 eP P 09 39 09.9 +1.2
PTEO Sao Teotonio 81.94 45 eP P 09 39 10.4 +1.3
comp=Z,37nm,1.6s
RAR Rarotonga 82.21 250 LR LR 10 07 34.7
comp=Z,83nm,18.8s,baz=120,slow=30
PBDV Barranco-do-Ve 82.30 46 eP P 09 39 11.8 +0.8
E03A Lebam 82.34 326 IAmb IAmb 09 39 13.5
comp=Z,27nm,0.9s
PNCL Nicolau / Gran 82.38 45 eP P 09 39 11.9 +0.5
PCVE Castro Verde 82.44 45 eP P 09 39 12.3 +0.6
comp=Z,14nm,1.3s

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PVAQ Vaqueiros          82.53  46 eP        P        09 39 12.8 +0.6
PVAQ Vaqueiros          82.53  46 eLR       LR       10 07 10.9
     comp=Z,141nm,24.0s
B06A Marblemount        82.60 329 IAmb      IAmb     09 39 13.8
     comp=Z,25nm,1.0s
B05A Bryant             82.73 328 P         P        09 39 13.5 +0.5
     baz=132,SNR=9.8
D03D Eldon              82.75 327 P         P        09 39 13.7 +0.7
     baz=131
PBEJ Beja               82.77  45 eP        P        09 39 14.1 +0.7
     comp=Z,12nm,1.5s
A04D Lummi Island       83.34 328 P         P        09 39 17.2 +1.1
     baz=132,SNR=7.3
IVI  Ivigtut            83.54  11 P         P        09 39 17.9 +1.1
PGC  Sidney             83.66 328 IAmb      IAmb     09 39 20.1
     comp=Z,19nm,0.9s
PMRV Marv??o            83.84  44 eLR       LR       10 09 54.5
     comp=Z,103nm,20.0s
PCBR Castelo Branco     84.01  44 eP        P        09 39 20.2 +0.4
     comp=Z,15nm,1.7s
PVIS Viseu              84.22  43 eP        P        09 39 21.4 +0.5
MTE  Manteigas          84.27  43 eP        P        09 39 21.2  0.0
     comp=Z,17nm,1.4s
MTE  Manteigas          84.27  43 eLR       LR       10 09 46.3
     comp=Z,195nm,16.0s
PGAV Gavieira, Arco     84.68  41 eLR       LR       10 11 09.6
     comp=Z,181nm,20.0s
PCAB Cabril             84.69  42 eP        P        09 39 23.4 +0.2
     comp=Z,20nm,1.9s
MVO  Moncorvo           85.02  43 eP        P        09 39 25.1 +0.2
     comp=Z,18nm,1.5s
MVO  Moncorvo           85.02  43 eLR       LR       10 11 09.6
     comp=Z,173nm,20.0s
BOSA Boshof             85.05 119 P         P        09 39 25.3  -0.3
     comp=Z,17nm,1.0s,baz=252,slow=5.2,SNR=13
BOSA                              LR        LR       10 14 13.4
     comp=Z,147nm,20.5s,baz=226,slow=34
BOSA Boshof             85.05 119 P         P        09 39 25.6  0.0
BOSA                              *PP       pP       09 39 35.6 +1.0
BOSA                              pmax      pmax
     comp=Z,30nm,1.2s
BOSA Boshof             85.05 119 P         P        09 39 25.6  0.0
BOSA                              pmax      pP       09 39 35.5 +1.0
MAW  Mawson             85.50 164 P         P        09 39 27.6 +0.7
     comp=Z,7.3nm,0.6s,baz=217,slow=6.2,SNR=17
MAW                               LR        LR       10 17 40.6
     comp=Z,159nm,19.6s,baz=236,slow=36
MAW  Mawson             85.50 164 P         P        09 39 27.3 +0.4
MAW                               pmax      pmax
     comp=Z,5.0nm,1.3s
MAW  Mawson             85.50 164 P         P        09 39 27.3 +0.4
PBRG Braganca           85.55  42 eP        P        09 39 27.6 +0.1
     comp=Z,15nm,1.3s
TAM  Tamanrasset        85.69  64 P         P        09 39 29.4 +0.6
TAM                               AP        pP       09 39 39.4 +1.6
ESDC Sonseca Array      86.22  45 P         P        09 39 30.4  -0.6
     comp=Z,2.8nm,1.0s,baz=243,slow=5.9,SNR=15
ESDC                              LR        LR       10 14 36.9
     comp=Z,170nm,21.9s,baz=255,slow=33
LBTB Lobatse            86.61 115 P         P        09 39 33.6 +0.2
LBTB                              pmax      pmax
     comp=Z,16nm,1.0s
LBTB Lobatse            86.61 115 P         P        09 39 33.6 +0.2
LBTB                              IAmb      IAmb     09 39 34.6
     comp=Z,16nm,1.0s
YKA  Yellowknife Ar     89.96 341 P         P        09 39 48.0  -0.1
     comp=Z,18nm,0.9s,baz=133,slow=4.0,SNR=20
YKA                               LR        LR       10 23 54.1
     comp=Z,111nm,19.7s,baz=0.0,slow=38
YKA  Yellowknife Ar     89.96 341 P         P        09 39 48.0  -0.1
DLBC Dease Lake         92.85 333 IAmb      IAmb     09 40 04.6
     comp=Z,9.9nm,0.9s
CASY Casey              93.31 180 P         P        09 40 05.4 +1.6
CASY                              IAmb      IAmb     09 40 06.2
     comp=Z,8.3nm,1.0s
URZ  Urewera            93.76 227 LR        LR       10 14 36.2
     comp=Z,182nm,18.1s,baz=186,slow=30
KEST Kesra              93.92  53 P         P        09 40 07.5 +0.3
     comp=Z,4.6nm,0.9s,baz=296,slow=5.1,SNR=4.1
RAO  Raoul Island       94.35 237 LR        LR       10 12 19.8
     comp=Z,59nm,21.8s,baz=346,slow=29
STKA Stephens Creek     119.42 211 PKP      PKPdf    09 45 39.4 +0.1
     comp=Z,1.3nm,0.7s,baz=132,slow=3.5,SNR=5.0
KBZ  Khabaz             120.67  51 PKP      PKiKP    09 45 41.4 +0.2
     comp=Z,6.3nm,0.9s,baz=130,slow=1.9,SNR=8.8
ZEI  Tsey               121.41  52 i PKIKP  PKPdf    09 45 42.9  0.0
ZEI                               pmax      pmax
     comp=Z,6.0nm,0.9s
ARU  Arti               128.24  33 PKP      PKPdf    09 45 55.6 +0.3
     comp=Z,1.8nm,0.3s,baz=200,slow=1.8,SNR=8.2
ARU  Arti               128.24  33 PKIKP    PKiKP    09 45 56.2 +0.3
SEY  Seymchan           128.80 337 PKP      PKiKP    09 45 57.2 +0.3
     comp=Z,8.5nm,0.9s,baz=115,slow=1.9,SNR=24
AKTO Aktyubinsk         129.93  41 PKP      PKiKP    09 45 59.2  -0.3
     comp=Z,3.3nm,0.8s,baz=344,slow=3.3,SNR=9.9
ASAR Alice Springs      129.97 209 PKP      PKPdf    09 45 59.6  -0.1
     comp=Z,4.5nm,0.8s,baz=146,slow=2.4,SNR=35
ASAR                              PKKP      PKKPdf   09 56 00.8  -1.0
     comp=Z,0.4nm,0.9s,baz=338,slow=1.0,SNR=4.6
PETK Petropavlovsk-     131.09 323 PKP      PKPdf    09 46 01.0 +0.2
     comp=Z,5.6nm,0.9s,baz=94,slow=5.9,SNR=10
PETK Petropavlovsk-     131.09 323 PKIKP    PKPdf    09 46 01.4 +0.6
GEYT Alibeck            132.52  57 PKP      PKPdf    09 46 04.2 +0.1
     comp=Z,1.5nm,0.5s,baz=222,slow=1.9,SNR=2.4
WRA  Warramunga Arr     132.93 213 PKhKP    PKPpre   09 45 51.8
     comp=Z,0.4nm,0.6s,baz=130,slow=1.8,SNR=7.2
WRA                               PKP       PKPdf    09 46 05.6 +0.2
     comp=Z,3.6nm,0.8s,baz=157,slow=1.6,SNR=45
BVAR Borovoye Array     135.88  33 PKP      PKPdf    09 46 09.7  -0.1
     comp=Z,6.2nm,0.8s,baz=285,slow=2.9,SNR=22
KKAR Karatay Array      140.46  47 PKIKP    PKPdf    09 46 18.8 +0.2
KURBB Kurchatov Arra    141.39  32 PKhKP    PKPpre   09 46 14.6
     comp=Z,1.9nm,0.8s,baz=305,slow=3.1,SNR=17
KURBB                             PKP       PKPdf    09 46 20.2 +0.2
     comp=Z,4.9nm,0.9s,baz=310,slow=2.6,SNR=18
ZALV Zalesovo Beam      141.78  24 PKhKP    PKPpre   09 46 13.9
     comp=Z,1.4nm,0.4s,baz=324,slow=4.2,SNR=6.1
ZALV                              PKP       PKPdf    09 46 20.6  0.0
     comp=Z,11nm,0.6s,baz=298,slow=2.5,SNR=33
BOD  Bodaibo            142.77 356 eP PKHKP PKPpre   09 46 17.9
BOD                               pmax      pmax
     comp=Z,8.0nm,0.7s
AAK  Ala-Archa          143.33  45 PKP      PKPbc    09 46 21.8 +0.7
     comp=Z,2.3nm,0.5s,baz=194,slow=1.4,SNR=5.6
ZEA  Zeya               144.34 342 eP PKIKP PKPbc    09 46 24.0 +0.5
ZEA                               pmax      pmax
     comp=Z,17nm,1.0s
KDJ  Kajisay            145.33  45 PKIKP    PKPdf    09 46 28.6 +1.1
NIL  Nilore             145.34  60 PKIKP    PKPbc    09 46 27.5 +0.1
MAKZ Makanchi           145.58  34 PKIKP    PKPbc    09 46 27.9 +0.2
GUMO Guam               145.64 264 PKPbc    PKPdf    09 46 28.8 +0.3
     comp=Z,60nm,0.8s,baz=152,slow=6.2,SNR=7.2
GUMO Guam               145.64 264 PKP2     PKPbc    09 46 29.1 +0.3
GUMO Guam               145.64 264 PKPdf    PKPbc    09 46 29.1 +0.3
KSH  Kashi              145.64  49 ⇑i PKPbc PKPdf    09 46 28.0  0.0
KSH                               PKS       PKSdf    09 50 02.0  -1.5
KSH                               SKS       SKSdf    09 53 34.9  -0.5
KSH                               SKKS      SKKSac   09 56 36.7  -2.8
KSH                               SS        SS       10 08 38.4  -2.3
KSH                               AMB       AMB
     comp=Z,180nm,4.8s
KSH                               LR        LR
     comp=Z,430nm,5.4s
KSH                               LR        LR
     comp=Z,290nm,5.3s
MKAR Makanchi Array     145.75  34 PKPbc    PKPbc    09 46 28.4 +0.1
     comp=Z,38nm,0.8s,baz=320,slow=3.2,SNR=187
MOY  Mondy              148.35  10 ePKP2    PKiKP    09 46 37.0  -0.2
MOY                               pmax      pmax
     comp=Z,51nm,1.2s
TLY  Talaya             148.71   7 PKPbc    PKPbc    09 46 36.3  -0.1
     comp=Z,14nm,0.7s,baz=220,slow=18,SNR=4.2
TLY  Talaya             148.71   7 PKP2     PKiKP    09 46 37.8  0.0
JCJ  Chichijima         149.60 288 PKPbc    PKPbc    09 46 38.4  -0.9
     comp=Z,47nm,0.8s,baz=303,slow=14,SNR=2.7
SIJI Sorong             149.87 227 PKPbc    PKPbc    09 46 40.8 +0.3
     comp=Z,22nm,0.7s,baz=328,slow=15,SNR=3.6
ZAK  Zakamensk          149.94   8 ePKP2    PKPbc    09 46 40.0 +0.4
ZAK                               pmax      pmax
     comp=Z,23nm,1.1s
USA0B Ussuriysk Arra    150.07 327 PKIKP    PKiKP    09 46 41.2 +0.4
USRK Ussuriysk Ar.      150.07 327 PKPbc    PKiKP    09 46 40.8  -0.1
     comp=Z,26nm,0.8s,baz=18,slow=0.7,SNR=47
USRK                              PKPab     PKPab    09 46 46.7 +0.8
     comp=Z,17nm,0.8s,baz=33,slow=3.0,SNR=8.0
USRK Ussuriysk Ar.      150.07 327 PKIKP    PKiKP    09 46 40.6  -0.2
USRK Ussuriysk Ar.      150.07 327 PKIKP    PKiKP    09 46 40.6  -0.2
HYB  Hyderabad          150.48  91 i PKP    PKPbc    09 46 41.5  -0.3
MJAR Matsushiro Arr     150.48 309 PKPbc    PKiKP    09 46 41.9  -0.1
     comp=Z,19nm,0.8s,baz=73,slow=0.8,SNR=40
MJAR                              PKPab     PKPab    09 46 48.5 +0.6
     comp=Z,14nm,0.9s,baz=158,slow=0.4,SNR=8.7
MAJO Matsushiro         150.49 309 PKIKP    PKPbc    09 46 41.0  -0.3
WMQ  Urumqi             150.57  33 ePKPbc   PKPdf    09 46 36.2 +0.3
WMQ                               pPKP      pPKPdf   09 46 46.3 +1.1
WMQ                               LR        LR
     comp=Z,320nm,22.5s
WMQ                               LR        LR
     comp=Z,320nm,21.5s
WMQ                               LR        LR
     comp=Z,45nm,26.7s
SONM Songino Array      152.78   5 PKP      PKPdf    09 46 40.1 +0.9
     comp=Z,2.6nm,0.8s,baz=302,slow=0.6,SNR=12
SONM                              PKPbc     PKiKP    09 46 46.8 +0.2
     comp=Z,7.2nm,0.6s,baz=315,slow=1.4,SNR=25
SONM                              PKPab     PKPab    09 46 56.7  -0.4
     comp=Z,5.4nm,0.8s,baz=318,slow=3.1,SNR=7.3
ULN  Ulaanbaatar        152.80   4 PKIKP    PKiKP    09 46 47.3 +0.7
KSRS Korea Array        156.93 320 PKP      PKPdf    09 46 45.6 +0.7
     comp=Z,2.9nm,0.9s,baz=35,slow=1.1,SNR=12
KSRS                              PKPab     PKPab    09 47 15.8 +0.8
     comp=Z,3.3nm,0.9s,baz=36,slow=3.7,SNR=7.5
KSAR Wonju Array Be     156.96 320 PKIKP    PKPdf    09 46 45.3 +0.3
PSI  Prapat             159.40 148 PKP2     PKPab    09 47 26.0  -0.4
GTA  Gaotai             159.52  22 PKP      PKPdf    09 46 49.3 +1.0
GTA                               pPKP      pPKPdf   09 46 59.5 +1.9
GTA                               sPKP      09 47 03.6
GTA                               LR        LR
     comp=Z,51nm,19.4s
GTA                               LR        LR
     comp=Z,120nm,19.0s
GTA                               LR        LR
     comp=Z,85nm,18.4s
HHC Hu-ho-hao-te        159.82 356 ePKP     PKPdf    09 46 48.5  -0.1
LZH Lanzhou             163.84  17 ePKP     PKPdf    09 46 51.3  -1.6
LZH                               pPKP      pPKPdf   09 47 02.1  -0.2
LZH                               sPKP      09 47 05.2
LZH                               PKPab     PKPab    09 47 46.0 +0.8
LZH                               LR        LR
     comp=Z,150nm,18.0s
LZH                               LR        LR
     comp=Z,160nm,18.3s
LZH                               LR        LR
     comp=Z,190nm,20.1s
NJ2 Nanjing             165.98 326 ePKP     PKPdf    09 46 54.1  -0.5
CD2 Chengdu             168.53  26 PKP      PKPdf    09 46 56.0  -0.6
CMAR Chiang Mai Arr     169.70 101 PKP      PKPdf    09 46 57.4  -0.2
     comp=Z,2.4nm,0.9s,baz=296,slow=2.2,SNR=9.8
CMAR                              PKPab     PKPab    09 48 10.6  -1.1
     comp=Z,1.2nm,0.7s,baz=253,slow=6.2,SNR=4.3
KMI Kunming             172.27  54 ⇑i PKP   PKPdf    09 47 02.2 +3.1
KMI                               pPKP      sPKPdf   09 47 12.2 +0.6
```

IDC 04 09:28:06.4±19.0, 31°.04S×179°.81E, h189km±201km, mb3.3/2, mb1 3.5/3, mb1mx3.0/44, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=212.9km s-min=50.3km az=2.0, Kermadec Islands region

```
Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
URZ  Urewera             7.54 196   P     Pn          09 29 53.5  0.0
     0.8nm,0.3s,baz=14,slow=17,SNR=8.2
URZ                                 S     Sn          09 31 07.3  -11
     0.8nm,0.3s,baz=146,slow=15,SNR=1.4
ASAR Alice Springs      41.20 269   P     P           09 35 32.3  -0.4
     0.5nm,0.5s,baz=106,slow=7.2,SNR=14
WRA  Warramunga Arr     42.25 274   P     P           09 35 41.4 +0.2
     0.9nm,0.3s,baz=114,slow=7.9,SNR=16
FINES FINESS Array B    145.06 338  PKPbc PKPbc       09 47 19.3  -0.9
     2.5nm,1.0s,baz=57,slow=5.9,SNR=3.8
```

PRE ***04*** *09:30:27.0±1.2, 26°.97S×26°.78E, h2km, ML2.5*
EAF ***04*** *09:30:27.6±0.4, 27°.04S×27°.07E, h9km±4km, MD3.7*
ISC 04 09:30:27.5±1.4, 26°.97S±0°.03×26°.83E±0°.04, h11km±11km, n18, σ2°35/36, South Africa

```
Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
PRYS Parys               0.48  85   eP    Pb          09 30 37.3  -0.8
PRYS                                eS    Sb          09 30 44.5  -0.6
PRYS                                AML   AML         09 30 54.5
     comp=Z,119nm,0.2s
WDLM Western Deep L      0.76  44   eP    Pb          09 30 42.6  -0.4
WDLM                                eS    Sb          09 30 52.6  -0.8
WDLM                                AML   AML         09 31 00.8
     comp=Z,260nm,0.3s
KSR  Koster              1.12   3   eP    Pg          09 30 49.2 +0.1
KSR                                 eS    Sg          09 31 03.2  -0.5
KSR                                 AML   AML         09 31 08.3
     comp=Z,581nm,0.2s
SWZ  Schweizer           1.35 261   eP    Pn          09 30 52.0  -0.4
SWZ                                 eS    Sb          09 31 09.3  -0.9
SWZ                                 AML   AML         09 31 14.2
     comp=Z,168nm,0.3s
ERPM east rand prop      1.41  64   eP    Pg          09 30 55.7 +1.0
ERPM                                eS    Sn          09 31 15.8 +3.8
ERPM                                AML   AML         09 31 16.7
     comp=Z,48nm,0.2s
SLR  Silverton           1.79  47   eP    Pb          09 30 60.0  -0.5
SLR                                 eS    Sg          09 31 24.1  -1.2
SLR                                 AML   AML         09 31 26.4
     comp=Z,121nm,0.4s
BOSA Boshof              2.15 220   i P   Pn          09 31 05.5 +2.1
BOSA                                i S   Sn          09 31 31.7 +1.6
BOSA Boshof              2.15 220   eP    Pn          09 31 04.3 +0.8
BOSA                                eS    Sn          09 31 31.2 +1.1
BOSA                                AML   AML         09 31 36.6
     comp=Z,34nm,0.4s
BOSA Boshof              2.15 220   i P   Pn          09 31 04.8 +1.4
BOSA                                i S   Sn          09 31 31.7 +1.6
LBTB Lobatse             2.24 330   i P   Pn          09 31 07.0 +2.4
LBTB                                i S   Sn          09 31 35.9 +3.5
LBTB Lobatse             2.24 330   eP    Pn          09 31 06.0 +1.4
LBTB                                eS    Sn          09 31 34.4 +2.0
LBTB                                AML   AML         09 31 38.0
     comp=Z,114nm,0.5s
LBTB Lobatse             2.24 330   i P   Pn          09 31 07.0 +2.4
LBTB                                i S   Sn          09 31 35.9 +3.5
UPI  Upington            5.13 253   eP    Pn          09 31 45.5 +1.0
UPI                                 eS    Sn          09 32 41.4  -2.4
UPI                                 AML   AML         09 33 13.6
     comp=Z,4.8nm,0.4s
SOE  Somerset East       5.83 191   eP    Pn          09 31 55.6 +1.7
SOE                                 eS    Sn          09 32 59.2  -1.6
SOE                                 AML   AML         09 33 17.0
     comp=Z,5.2nm,0.2s
GRAN Grantham            6.68 216   eP    Pn          09 32 06.9 +1.2
GRAN                                eS    Sn          09 33 19.3  -2.5
GRAN                                AML   AML         09 33 30.1
     comp=Z,2.8nm,0.5s
BLWY Bulawayo            6.99  14   i P   Pn          09 32 08.7  -1.4
BLWY                                i S   Sn          09 33 24.0  -5.7
BLWY Bulawayo            6.99  14   i P   Pn          09 32 09.3  -0.8
BLWY                                i S   Sn          09 33 24.0  -5.7
CVNA Calvinia            7.63 232   eP    Pn          09 32 20.6 +1.8
CVNA                                eS    Sn          09 33 42.1  -3.3
CVNA                                AML   AML         09 34 01.0
     comp=Z,4.5nm,0.6s
```

IDC 04 09:33:52.6±11.0, 6°.69S×154°.30E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/40, mbtmp3.6/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/18, Error ellipse: s-maj=187.5km s-min=99.7km az=22.0, Bougainville-Solomon Islands region

```
Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
WRA  Warramunga Arr     23.43 234   P     P           09 39 04.4 +0.7
     0.9nm,0.8s,baz=59,slow=10,SNR=4.9
ASAR Alice Springs      25.86 227   P     P           09 39 25.6  -0.7
     0.5nm,0.8s,baz=61,slow=9.6,SNR=3.6
STKA Stephens Creek     27.73 204   P     P           09 39 43.0  0.0
     2.3nm,0.9s,baz=5.7,slow=10,SNR=4.1
PPT  Papeete            55.75 107   LR    LR          10 02 47.0
     comp=Z,103nm,21.4s,baz=128,slow=31
```

ROM 04 09:49:05.3±0.2, 43°.142N±0°.009×11°.06E±0°.01, h5km, ML1.7/2, Error ellipse: s-maj=1.1km s-min=0.7km az=320.0, hypocenter, Central Italy

```
Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
FROS Frosini             0.10  46   P     Pg          09 49 07.7 +0.2
FROS                                S     Sg          09 49 09.2 +0.4
FROS                                AML   AML
     comp=N,634μm,0.2s
FROS                                AML   AML
     comp=N,633μm,0.2s
FROS                                AML   AML
     comp=E,738μm,0.1s
TRIF Trifonti            0.12 257   P     Pg          09 49 08.2 +0.4
TRIF                                S     Sg          09 49 10.2 +0.7
TRIF                                AML   AML
     comp=N,919μm,0.2s
TRIF                                AML   AML
     comp=E,618μm,0.1s
TRIF                                AML   AML
     comp=N,919μm,0.2s
TRIF                                AML   AML
     comp=N,918μm,0.2s
CASP Castiglione de      0.38 202   P     Pb          09 49 14.1  -0.5
CASP                                S     Sb          09 49 19.7  -1.0
ARCI Arcidosso           0.42 134   P     Pb          09 49 15.5 +0.2
ARCI                                S     Sb          09 49 21.3  -0.7
```

ASRS 04 10:13:24.0, 56°N±15°×9°5E±°, h0km±33km, MLh3.3/5, Error ellipse: s-maj=0.0km s-min=0.0km az=162.7, smi:org.gfz-potsdam.de/geofon/NonLinLoc earthModelID smi:org.gfz-potsdam.de/geofon/iaspei91 confirmed, Southwestern Siberia

```
Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
ORY  Orie                0.68 157   Pg    Pg          10 13 37.2 +0.1
ORY                                 Sg    Sg          10 13 45.5  -0.4
GZLN Zheleznogorsk       0.90 327   Pg    Pn          10 13 45.1 +1.3
GZLN                                S     Sn          10 13 58.3 +0.7
SHTK Zheleznogorsk-      0.92 321   P     Pg          10 13 41.4  -0.2
SHTK                                Pg    Pb          10 13 41.7  -1.1
SHTK                                Sg    Sg          10 13 54.1 +0.7
ABNR Abakan              2.67 226   Sg    Sn          10 14 42.1 +0.8
SHRR Shira               2.82 248   Pn    Pn          10 14 09.7  -0.6
SHRR                                Pg    Pg          10 14 17.8  -0.3
SHRR                                Sg    Sn          10 14 44.7  -0.4
ARDR Aradan              3.14 194   Pg    Pb          10 14 19.9  -0.8
ARDR                                Sg    Sn          10 14 55.2 +2.2
TDJR Todzha              3.35 165   Pn    Pb          10 14 23.2  -1.0
TDJR                                Pg    Pg          10 14 30.6 +2.4
TDJR                                Sg    Sb          10 15 02.1  -3.5
CERR Cheremushki         3.37 216   Pg    Pn          10 14 21.0 +3.1
CERR                                Sg    Sn          10 15 00.9 +2.4
DJOS Djoyskaya Sosn      3.42 215   Pg    Pb          10 14 22.1  -3.4
DJOS                                Sg    Sn          10 15 03.3 +3.4
DJO  Djoy, Khakassi      3.50 217   Pn    Pb          10 14 24.1  -2.6
DJO                                 Sg    Sn          10 15 05.6 +4.0
TBTR Tabat               3.56 222   Pn    Pb          10 14 24.6  -3.1
TBTR                                Pg    Pg          10 14 33.1 +1.0
TBTR                                Sg    Sb          10 15 07.5  -3.9
```

JMA ***04*** *10:14:44.0±0.1, 24°.14N×121°.73E, h51km±1km, M2.9*
TAP ***04*** *10:14:44.6, 24°.21N×121°.71E, h49km, ML3.7, C*
ISC 04 10:14:45.2±1.2, 24°.20N±0°.02×121°.76E±0°.02, h44km±5km, n127, σ1°08/207, 14C, Taiwan

```
Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
NACB Ninganchiao         0.15 261   ⇑i P  Pn          10 14 52.4  -0.2
     baz=253
NACB                                S     Sn          10 14 56.8  -1.0
     baz=253
TWD  Chiawan             0.19 232   ⇑i P  Pn          10 14 52.7  -0.1
     baz=232
TWD                                 eS    Sn          10 14 58.4 +0.1
     baz=232
ENA  Nanau               0.23 355   i P   Pn          10 14 53.2  0.0
     baz=2.0
ENA                                 eS    Sn          10 15 00.2 +1.4
     baz=2.0
ENAH Nanao               0.25  10   i P   Pn          10 14 53.6 +0.2
     baz=24
ENAH                                S     Sn          10 15 00.9 +1.8
     baz=24
ETLH Xiulin Townshi      0.26 272   i P   Pn          10 14 53.2  -0.4
     baz=264
ETLH                                S     Sn          10 14 59.0  -0.4
     baz=264
HWA  Hwalien             0.26 213   eP    Pn          10 14 53.8 +0.3
     baz=191
HWA                                 eS    Sn          10 15 02.2 +3.0
     baz=191
NNSB Datong              0.41 304   ⇑i P  Pn          10 14 54.8  -0.4
     baz=306
NNSB                                eS    Sn          10 15 02.0  -0.3
     baz=306
NNSH Datong              0.41 304   ⇑P    Pn          10 14 54.8  -0.4
     baz=310
NNSH                                S     Sn          10 15 01.6  -0.7
     baz=310
TWC  Suao                0.42  11   i P   Pn          10 14 55.3 +0.1
     baz=22
TWC                                 S     Sn          10 15 04.6 +2.5
     baz=22
NNS  Nan Shan            0.43 304   ⇑i P  Pn          10 14 54.9  -0.5
     baz=307
NNS                                 eS    Sn          10 15 02.2  -0.4
     baz=307
WHF  Hehuan Shan         0.46 263   ⇑i P  Pn          10 14 55.5  -0.5
     baz=257
WHF                                 S     Sn          10 15 03.0  -0.6
     baz=257
NDT  Datong Townshi      0.46 331   ⇑i P  Pn          10 14 55.5  -0.2
     baz=334
NDT                                 i S   Sn          10 15 03.2 +0.1
     baz=334
ENTT Nioudou             0.47 338   ⇑i P  Pn          10 14 55.7  -0.2
     baz=339
ENTT                                i S   Sn          10 15 03.5 +0.1
     baz=339
FUSS Fushou              0.47 276   ⇑i P  Pn          10 14 56.0  -0.1
     baz=275
FUSS                                eS    Sn          10 15 03.1  -0.7
     baz=275
ESL  Shilin              0.49 218   P     Pn          10 14 54.8  -1.3
     baz=218
ESL                                 eS    Sn          10 15 01.6  -2.0
     baz=218
TWE  Neicheng            0.53 351   i P   Pn          10 14 56.4  -0.1
     baz=351
TWE                                 S     Sn          10 15 05.7 +1.2
     baz=351
TDCB Techi               0.55 276   P     Pn          10 14 56.9  -0.1
     baz=275
TDCB                                S     Sn          10 15 05.0  -0.3
     baz=275
CHGB Renai               0.55 256   P     Pn          10 14 56.8  -0.3
     baz=250
CHGB                                eS    Sn          10 15 05.0  -0.5
     baz=250
ILA  Ilan                0.56 359   P     Pn          10 14 57.5 +0.5
     baz=358
ILA                                 S     Sn          10 15 08.1 +2.7
     baz=358
OWD  Renai               0.59 246   eP    Pn          10 14 57.3  -0.1
     baz=240
OWD                                 eS    Sn          10 15 04.7  -1.5
     baz=240
NSK  Sanguang            0.60 322   ⇑i P  Pn          10 14 57.1  -0.4
     baz=324
NSK                                 S     Sn          10 15 05.8  -0.6
     baz=324
EGFH Guangfu             0.61 210   eP    Pn          10 14 57.2  -0.4
     baz=214
NWLT Wulai               0.62 338   ⇑i P  Pn          10 14 57.6  -0.2
     baz=333
NWLT                                eS    Sn          10 15 06.1  -0.7
     baz=333
NTC  Toucheng            0.66   5   ⇑i P  Pn          10 14 58.5 +0.3
     baz=359
NTC                                 eS    Sn          10 15 08.7 +1.2
     baz=359
```

EGS		**0.66**	**14**	⇑ *i* P	**Pn**	**10 14 58.9**	**+0.6**
EGS	baz=28			*e*S	**Sn**	**10 15 09.8**	**+2.1**
VWDT	**VWDT** baz=223	**0.72**	**232**	*i* P	**Pn**	**10 14 58.7**	**-0.3**
VWDT	baz=223			S	**Sn**	**10 15 08.6**	**-0.4**
HGSD	**Ruisui** baz=210	**0.77**	**204**	*i* P	**Pn**	**10 14 59.3**	**-0.4**
HGSD	baz=210			*e*S	**Sn**	**10 15 10.8**	**+0.6**
TIPB	**Shuangxi** baz=359	**0.77**	**4**	⇑ P	**Pn**	**10 15 00.2**	**+0.4**
TIPB	baz=359			S	**Sn**	**10 15 11.5**	**+1.1**
TWA	**Mucha** baz=339	**0.80**	**348**	P	**Pn**	**10 14 59.9**	**-0.2**
TWA	baz=339			*e*S	**Sn**	**10 15 10.7**	**-0.2**
EHY	**Hungye** baz=206	**0.80**	**210**	*e*P	**Pn**	**10 14 58.3**	**-1.8**
EHY	baz=206			*e*S	**Sn**	**10 15 09.6**	**-1.3**
LIOB	**Emei** baz=304	**0.81**	**303**	*i* P	**Pn**	**10 15 00.4**	**+0.1**
LIOB	baz=304			*e*S	**Sn**	**10 15 11.8**	**+0.5**
TATO	**Taipei** baz=344	**0.81**	**342**	*e*P	**Pn**	**10 14 60.0**	**-0.3**
TATO	baz=344			*e*S	**Sn**	**10 15 11.1**	**-0.2**
NSTT	**Nanjuang** baz=302	**0.82**	**302**	P	**Pn**	**10 15 00.3**	**0.0**
NSTT	baz=302			S	**Sn**	**10 15 11.6**	**+0.2**
SSLB	**Suanglung** baz=238	**0.84**	**241**	P	**Pn**	**10 15 00.1**	**-0.7**
SSLB	baz=238			S	**Sn**	**10 15 12.6**	**+0.5**
SMLT	**Sun Moon Lake** baz=242	**0.85**	**248**	P	**Pn**	**10 15 01.1**	**+0.2**
SMLT	baz=242			*e*S	**Sn**	**10 15 12.8**	**+0.5**
NWF	**Wu-fen Shan** baz=347	**0.87**	**1**	P	**Pn**	**10 15 01.2**	**+0.1**
WFSB	**Wu-fen Shan** baz=348	**0.87**	**1**	P	**Pn**	**10 15 01.3**	**+0.2**
WFSB	baz=348			*e*S	**Sn**	**10 15 13.3**	**+0.7**
TYC	**Yuchr** baz=244	**0.88**	**251**	*i* P	**Pn**	**10 15 01.4**	**+0.2**
TYC	baz=244			S	**Sn**	**10 15 14.0**	**+1.2**
YULB	**Yu-li** baz=204	**0.91**	**208**	P	**Pn**	**10 14 59.8**	**-1.8**
TWQ1	**Liyutan** baz=279	**0.91**	**280**	P	**Pn**	**10 15 01.8**	**+0.1**
TWQ1	baz=279			*e*S	**Sn**	**10 15 15.3**	**+1.5**
SBCB	**Hsinchu** baz=310	**0.92**	**310**	*e*P	**Pn**	**10 15 02.7**	**+0.9**
SBCB	baz=310			*e*S	**Sn**	**10 15 15.1**	**+1.2**
NCU	**National Centr** baz=326	**0.93**	**326**	P	**Pn**	**10 15 01.9**	**0.0**
NCU	baz=326			S	**Sn**	**10 15 15.3**	**+1.2**
NCUH	**Zhongli** baz=325	**0.93**	**326**	P	**Pn**	**10 15 01.2**	**-0.7**
NCUH	baz=325			*e*S	**Sn**	**10 15 13.9**	**-0.2**
NSY	**Sanyi** baz=283	**0.94**	**284**	P	**Pn**	**10 15 02.1**	**+0.1**
EYUL	**Yuli** baz=211	**0.94**	**206**	P	**Pn**	**10 15 01.5**	**-0.6**
EYUL	baz=211			*e*S	**Sn**	**10 15 12.1**	**-2.2**
HSN	**Hsinchu** baz=313	**0.94**	**310**	*e*S	**Sn**	**10 15 14.8**	**+0.5**
TWF1	**Yuli** baz=211	**0.94**	**207**	P	**Pn**	**10 15 01.1**	**-1.0**
NMLH	**Miaoli** baz=291	**0.95**	**291**	P	**Pn**	**10 15 02.2**	**0.0**
NMLH	baz=291			*e*S	**Sn**	**10 15 16.4**	**+1.8**
TWS1	**Kuangyinshan** baz=341	**0.95**	**341**	*e*P	**Pn**	**10 15 01.7**	**-0.5**
TWS1	baz=341			*e*S	**Sn**	**10 15 14.5**	**-0.1**
YM01	**YM01** baz=339	**0.96**	**350**	*e*P	**Pn**	**10 15 01.5**	**-0.8**
YM01	baz=339			*e*S	**Sn**	**10 15 14.4**	**-0.5**
WHYT	**Xinyi Township** baz=238	**0.97**	**239**	P	**Pn**	**10 15 03.2**	**+0.7**
WHYT	baz=238			*e*S	**Sn**	**10 15 17.1**	**+1.9**
YM10	**YM10** baz=338	**0.97**	**349**	*e*P	**Pn**	**10 15 02.1**	**-0.4**
YM04	**YM04** baz=347	**0.97**	**348**	*e*P	**Pn**	**10 15 02.2**	**-0.4**
YM05	**YM05** baz=339	**0.98**	**350**	P	**Pn**	**10 15 01.9**	**-0.8**
YM05	baz=339			*e*S	**Sn**	**10 15 14.5**	**-0.9**
YM11	**YM11** baz=339	**0.98**	**350**	P	**Pn**	**10 15 02.1**	**-0.5**
YM11	baz=339			*e*S	**Sn**	**10 15 13.5**	**-1.9**
TCU	**Taichung** baz=266	**0.99**	**267**	P	**Pn**	**10 15 02.9**	**+0.1**
TCU	baz=266			*e*S	**Sn**	**10 15 17.0**	**+1.4**
PTSB	**Yuanli** baz=284	**0.99**	**285**	P	**Pn**	**10 15 02.8**	**0.0**
YM03	**YM03** baz=347	**1.00**	**348**	*e*P	**Pn**	**10 15 00.8**	**-2.1**
YM08	**YM08** baz=339	**1.00**	**351**	*e*P	**Pn**	**10 15 02.0**	**-0.9**
WJS	**Zhushan** baz=248	**1.02**	**249**	P	**Pn**	**10 15 03.7**	**+0.6**
WJS	baz=248			*e*S	**Sn**	**10 15 17.9**	**+1.7**
WDJ	**Dajia District** baz=278	**1.03**	**279**	P	**Pn**	**10 15 03.3**	**0.0**
WDJ	baz=278			*e*S	**Sn**	**10 15 17.1**	**+0.5**
WNT	**Mingjian** baz=251	**1.03**	**252**	P	**Pn**	**10 15 03.9**	**+0.6**
WNT	baz=251			S	**Sn**	**10 15 18.5**	**+1.9**
TWY	**Chenhua** baz=341	**1.08**	**352**	P	**Pn**	**10 15 04.1**	**+0.1**
FULB	**Fuli** baz=208	**1.08**	**203**	*e*P	**Pn**	**10 15 03.3**	**-0.7**
WCHH	**Zhanghua** baz=263	**1.11**	**264**	*e*P	**Pn**	**10 15 04.6**	**+0.4**
WCHH	baz=263			*e*S	**Sn**	**10 15 19.6**	**+1.2**
JYNG	**Yonagunijimaku**	**1.11**	**77**	P	**Pn**	**10 15 04.1**	**-0.2**
JYNG				S	**Sn**	**10 15 18.6**	**+0.2**
ALS	**Alishan** baz=223	**1.11**	**232**	P	**Pn**	**10 15 04.9**	**+0.3**
ALS	baz=223			*e*S	**Sn**	**10 15 19.9**	**+0.9**
CHKT	**Chengkung** baz=184	**1.15**	**198**	*e*P	**Pn**	**10 15 03.9**	**-1.0**
CHN5	**Tsauling** baz=238	**1.16**	**239**	P	**Pn**	**10 15 05.6**	**+0.5**
CHN5	baz=238			*e*S	**Sn**	**10 15 21.4**	**+1.6**
YOJ	**Yonaguni jima**	**1.17**	**77**	P	**Pn**	**10 15 05.0**	**-0.1**
YOJ				*e*S	**Sn**	**10 15 20.0**	**+0.1**
WGK	**Gukeng** baz=244	**1.21**	**245**	*e*P	**Pn**	**10 15 06.8**	**+1.1**
WGK	baz=244			*e*S	**Sn**	**10 15 23.2**	**+2.3**
ELDTW	**Lidau** baz=202	**1.22**	**214**	P	**Pn**	**10 15 04.6**	**-1.3**
ELDTW	baz=202			*e*S	**Sn**	**10 15 20.4**	**-0.9**
WDLH	**Douliu** baz=245	**1.23**	**246**	*e*P	**Pn**	**10 15 06.4**	**+0.4**
WDLH	baz=245			*e*S	**Sn**	**10 15 23.6**	**+2.2**
EDH	**Donghe** baz=196	**1.29**	**199**	*e*P	**Pn**	**10 15 06.3**	**-0.6**
RLNB	**Erlin** baz=257	**1.32**	**257**	*e*P	**Pn**	**10 15 07.5**	**+0.3**
CHN2	**Minshiung** baz=240	**1.35**	**241**	*e*P	**Pn**	**10 15 09.2**	**+1.5**
CHN2	baz=240			*e*S	**Sn**	**10 15 27.9**	**+3.5**
WTK	**Tuku** baz=261	**1.35**	**248**	*e*P	**Pn**	**10 15 08.1**	**+0.4**
WTK	baz=261			*e*S	**Sn**	**10 15 25.8**	**+1.3**
TPUB	**Ta-pu** baz=219	**1.37**	**229**	P	**Pn**	**10 15 08.4**	**+0.5**
TPUB	baz=219			S	**Sn**	**10 15 26.4**	**+1.6**
STYT	**Tauyuan** baz=222	**1.38**	**222**	*e*P	**Pn**	**10 15 08.1**	**0.0**
WTCT	**Ta-ch'eng** baz=256	**1.39**	**256**	*e*S	**Sn**	**10 15 26.2**	**+0.7**
CHY	**Chiayi** baz=240	**1.41**	**241**	*e*P	**Pn**	**10 15 09.0**	**+0.6**
CHY	baz=240			*e*S	**Sn**	**10 15 28.4**	**+2.6**
LONT	**Longtian** baz=191	**1.41**	**204**	*e*P	**Pn**	**10 15 07.0**	**-1.5**
WTP	**Ta-pu** baz=227	**1.42**	**228**	*e*P	**Pn**	**10 15 09.1**	**+0.5**
WTP	baz=227			*e*S	**Sn**	**10 15 28.2**	**+2.2**
PCYT	**Pengchaiyu** baz=13	**1.45**	**11**	*e*P	**Pn**	**10 15 09.1**	**+0.1**
PCYT	baz=13			*e*S	**Sn**	**10 15 28.6**	**+1.8**
TWG	**Pinlang** baz=192	**1.51**	**205**	*e*P	**Pn**	**10 15 08.3**	**-1.5**
TWGBT	**Beinan** baz=192	**1.51**	**205**	*e*P	**Pn**	**10 15 08.2**	**-1.7**
CHN1	**Nanshi** baz=228	**1.52**	**229**	*e*P	**Pn**	**10 15 10.7**	**+0.8**
CHN1	baz=228			*e*S	**Sn**	**10 15 30.4**	**+1.9**
WSF	**Szhu** baz=259	**1.52**	**249**	*e*P	**Pn**	**10 15 09.8**	**-0.1**
WSF	baz=259			*e*S	**Sn**	**10 15 29.2**	**+0.8**
LDUT	**Ludao** baz=179	**1.54**	**190**	*e*P	**Pn**	**10 15 08.3**	**-2.0**
SGST	**Jiashian** baz=215	**1.55**	**224**	P	**Pn**	**10 15 10.2**	**-0.2**
SGST	baz=215			*e*S	**Sn**	**10 15 30.3**	**+1.0**
SLGT	**Liugui** baz=210	**1.58**	**221**	*e*P	**Pn**	**10 15 11.7**	**+0.9**
SLGT	baz=210			*e*S	**Sn**	**10 15 32.1**	**+2.1**
ICHU	**Yijhu** baz=227	**1.59**	**239**	*e*P	**Pn**	**10 15 11.7**	**+0.7**
ICHU	baz=227			*e*S	**Sn**	**10 15 32.0**	**+1.6**
SCST	**Cishan** baz=222	**1.75**	**222**	*e*P	**Pn**	**10 15 14.8**	**+1.7**
ECL	**Taimali** baz=194	**1.76**	**205**	*e*P	**Pn**	**10 15 13.0**	**-0.3**
SSD	**Sandimen** baz=202	**1.78**	**216**	*e*P	**Pn**	**10 15 14.3**	**+0.8**
IRIF	**Iriomote-Funau**	**1.80**	**85**	P	**Pn**	**10 15 13.5**	**-0.3**
IRIF				S	**Sn**	**10 15 34.8**	**-0.7**
TSMG	**Majia** baz=202	**1.81**	**215**	*e*P	**Pn**	**10 15 15.0**	**+1.1**
HATJ	**Hateruma jima**	**1.87**	**94**	P	**Pn**	**10 15 15.3**	**+0.5**
HATJ				S	**Sn**	**10 15 37.6**	**+0.4**
MASBT	**Mashibuluo** baz=214	**1.89**	**214**	*e*P	**Pn**	**10 15 15.3**	**+0.2**
EAST	**Anshuo** baz=193	**1.99**	**205**	*e*P	**Pn**	**10 15 16.5**	**0.0**
TAW	**Tawu** baz=192	**2.00**	**204**	*e*P	**Pn**	**10 15 16.5**	**0.0**
JKRS	**Kuro-shima**	**2.05**	**88**	P	**Pn**	**10 15 17.5**	**+0.2**
JKRS				S	**Sn**	**10 15 42.2**	**+0.6**
SCZT	**Fangliau** baz=197	**2.10**	**210**	*e*P	**Pn**	**10 15 19.1**	**+1.2**
PNG	**Penghu** baz=254	**2.12**	**253**	*e*P	**Pn**	**10 15 16.8**	**-1.4**
PHUB	**P'eng-hu** baz=252	**2.12**	**252**	*e*P	**Pn**	**10 15 16.5**	**-1.6**
WDGT	**Dunjji** baz=245	**2.14**	**245**	*e*P	**Pn**	**10 15 17.6**	**-0.9**
LAY	**Lan-yu** baz=182	**2.16**	**185**	*e*P	**Pn**	**10 15 17.5**	**-1.3**
SLIU	**Shizi** baz=197	**2.16**	**204**	*e*P	**Pn**	**10 15 18.7**	**-0.1**
JIJ	**Ishigaki jima**	**2.18**	**85**	P	**Pn**	**10 15 18.6**	**-0.4**
JIJ				S	**Sn**	**10 15 44.2**	**-0.6**
PTTC	**Pingtan** baz=305	**2.23**	**306**	*e*P	**Pn**	**10 15 17.7**	**-1.9**
WLCH	**Liuqiu** baz=229	**2.24**	**215**	*e*P	**Pn**	**10 15 19.7**	**-0.1**
VWUC	**VWUC** baz=291	**2.25**	**291**	*e*P	**Pn**	**10 15 18.1**	**-1.9**
JISG	**Ishigakijimahi**	**2.36**	**80**	P	**Pn**	**10 15 21.6**	**+0.2**
JISG				*e*S	**Sn**	**10 15 47.9**	**-1.2**
TWK1	**Hengchun** baz=191	**2.41**	**202**	*e*P	**Pn**	**10 15 23.1**	**+0.9**
TWKBT	**Hengchun** baz=193	**2.41**	**201**	*e*P	**Pn**	**10 15 22.6**	**+0.4**
PTMZ	**Houxiangcun** baz=289	**2.55**	**290**	*e*P	**Pn**	**10 15 22.4**	**-1.6**
MATB	**Ma-tsu** baz=317	**2.55**	**320**	*e*P	**Pn**	**10 15 22.0**	**-2.1**
JTJ	**Tarama**	**2.72**	**80**	P	**Pn**	**10 15 26.6**	**+0.2**
JTJ				S	**Sn**	**10 15 57.1**	**-0.9**
LYJJ	**Jianjiangzhen** baz=319	**2.96**	**323**	*e*P	**Pn**	**10 15 27.7**	**-2.1**
KNM	**Kinmen** baz=275	**3.04**	**275**	*e*P	**Pn**	**10 15 30.9**	**0.0**
XPSS	**Dashiqiu** baz=327	**3.07**	**333**	*e*P	**Pn**	**10 15 29.3**	**-2.0**
KNMB	**Chin-men Tao** baz=276	**3.09**	**276**	*e*P	**Pn**	**10 15 29.5**	**-2.0**
JIRB	**Irabujima**	**3.17**	**78**	P	**Pn**	**10 15 32.8**	**+0.2**
JIRB				S	**Sn**	**10 16 09.0**	**-0.2**
JIKM	**Ikemajima**	**3.25**	**76**	P	**Pn**	**10 15 34.1**	**+0.3**
JIKM				*e*S	**Sn**	**10 16 11.0**	**-0.3**
JMJ2	**Miyako jima3**	**3.29**	**80**	P	**Pn**	**10 15 35.0**	**+0.7**
JMJ2				*e*S	**Sn**	**10 16 12.6**	**+0.3**
JOGS	**Gusukube**	**3.37**	**80**	P	**Pn**	**10 15 36.1**	**+0.8**
JOGS				S	**Sn**	**10 16 15.4**	**+1.3**
AXDP	**Jialang** baz=282	**3.52**	**282**	*e*P	**Pn**	**10 15 35.6**	**-1.9**

TRN 04 10:15:05.9, 11°.19N×61°.87W, h68km, MD3.7, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.70**	**140**	*e*P	Pn	10 15 20.8	+0.1
TRN				*e*S	Sn	10 15 31.9	+0.3
GRGR	**Grenville**	**0.96**	**12**	*e*P	Pn	10 15 23.6	-0.2
GRGR				*e*S	Sn	10 15 37.1	0.0
GRHS	**Sauteurs**	**1.05**	**12**	*e*P	Pn	10 15 25.4	+0.4
GRHS				*e*S	Sn	10 15 39.9	+0.7
TPR	**Prospect**	**1.07**	**90**	*e*S	Sn	10 15 39.3	-0.2
TOSP	**Speyside**	**1.31**	**85**	*e*P	Pn	10 15 28.4	+0.1
TOSP				*e*S	Sn	10 15 45.1	+0.1
GCMP	**Grenada, Carri**	**1.36**	**18**	*e*P	Pn	10 15 29.0	0.0
GCMP				*e*S	Sn	10 15 45.7	-0.5
SVB	**Belmont**	**2.16**	**16**	*e*P	Pn	10 15 40.5	+0.8
SVB				*e*S	Sn	10 16 04.8	-0.6
SVCV	**St. Vincent, C**	**2.19**	**19**	*e*P	Pn	10 15 41.1	+1.0
SVV	**Soufriere Volc**	**2.21**	**17**	*e*P	Pn	10 15 40.9	+0.5
SVV				*e*S	Sn	10 16 05.6	-1.2
MCLT	**Moule a Chique**	**2.67**	**20**	*e*P	Pn	10 15 46.6	0.0
MCLT				*e*S	Sn	10 16 17.2	-0.6
SLB	**Belfond**	**2.75**	**17**	*e*S	Sn	10 16 17.7	-2.1
SLAC	**Saint Lucia, A**	**2.85**	**19**	*e*P	Pn	10 15 49.6	+0.4
SLAC				*e*S	Sn	10 16 21.4	-1.0
SLBI	**Saint Lucia, B**	**2.95**	**17**	*e*P	Pn	10 15 50.9	+0.5
SLBI				*e*S	Sn	10 16 24.7	0.0
BAUV	**El Baul**	**6.48**	**250**	*e*P	Pn	10 16 39.9	+1.2
BAUV	**El Baul**	**6.48**	**250**	*e*S	Sn	10 17 46.9	-4.3

*JMA **04** 10:15:34.3±0.2, 23°.23N×120°.54E, h0km, M3.5*
*ASIES **04** 10:15:34.8, 23°.20N×120°.56E, h16km, MW3.3*
*TAP **04** 10:15:34.0, 23°.18N×120°.54E, h10km, ML3.8, B*

ISC 04 10:15:34.9±0.8, 23°.21N±0°.01×120°.54E±0°.01, h10km±4km, n122, σ0.92/222, 6C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN1	**Nanshi** baz=323	**0.03**	**205**	⇑ *i* P	**Pg**	**10 15 36.3**	**-0.5**
CHN1	baz=323			*i* S	**Sg**	**10 15 37.7**	**-0.3**
SNST	**Tainan City** baz=322	**0.04**	**283**	⇓ *i* P	**Pg**	**10 15 36.6**	**-0.2**
SNST	baz=322			S	**Sg**	**10 15 38.4**	**+0.3**
WTP	**Ta-pu** baz=48	**0.08**	**62**	⇓ *i* P	**Pg**	**10 15 37.5**	**+0.3**
WTP	baz=48			S	**Sg**	**10 15 39.9**	**+1.0**
TPUB	**Ta-pu** baz=34	**0.12**	**42**	⇑ *i* P	**Pg**	**10 15 38.1**	**+0.3**
TPUB	baz=34			*i* S	**Sg**	**10 15 41.0**	**+1.1**
SGST	**Jiashian** baz=151	**0.13**	**163**	⇓ *i* P	**Pg**	**10 15 36.8**	**-1.1**
SGST	baz=151			*i* S	**Sg**	**10 15 39.5**	**-0.7**
STYT	**Tauyuan** baz=93	**0.20**	**103**	⇓ *i* P	**Pg**	**10 15 39.5**	**+0.4**
STYT	baz=93			S	**Sg**	**10 15 43.7**	**+1.6**
CHN3	**Shinhua** baz=245	**0.21**	**230**	P	**Pg**	**10 15 39.6**	**+0.4**
CHN3	baz=245			*i* S	**Sg**	**10 15 44.0**	**+1.8**
SLGT	**Liugui** baz=144	**0.24**	**156**	⇓ *i* P	**Pg**	**10 15 39.9**	**+0.2**
SLGT	baz=144			*i* S	**Sg**	**10 15 43.9**	**+0.9**
ICHU	**Yijhu** baz=309	**0.28**	**302**	P	**Pb**	**10 15 41.2**	**-0.9**
ICHU	baz=309			*e*S	**Sb**	**10 15 47.7**	**+0.8**
CHY	**Chiayi** baz=344	**0.30**	**339**	P	**Pb**	**10 15 41.9**	**-0.6**
CHY	baz=344			S	**Sb**	**10 15 48.3**	**+0.7**
SCLT	**Jiali** baz=270	**0.32**	**264**	P	**Pb**	**10 15 41.8**	**-1.0**
SCLT	baz=270			*e*S	**Sb**	**10 15 48.7**	**+0.6**
CHN2	**Minshiung** baz=351	**0.33**	**349**	P	**Pb**	**10 15 42.4**	**-0.4**
CHN2	baz=351			*e*S	**Sb**	**10 15 48.9**	**+0.7**
SCST	**Cishan** baz=188	**0.33**	**188**	*e*P	**Pb**	**10 15 41.9**	**-1.0**
SCST	baz=188			S	**Sb**	**10 15 48.5**	**+0.3**
CHN8	**Yiju** baz=302	**0.33**	**294**	P	**Pb**	**10 15 41.9**	**-1.1**
CHN8	baz=302			*e*S	**Sb**	**10 15 48.9**	**+0.6**
TAI1	**Yung-k'ang** baz=249	**0.34**	**240**	*e*P	**Pb**	**10 15 42.4**	**-0.6**
TAI1	baz=249			*e*S	**Sb**	**10 15 49.5**	**+1.1**
ALS	**Alishan** baz=46	**0.39**	**39**	P	**Pb**	**10 15 43.0**	**-1.1**
ALS	baz=46			S	**Sb**	**10 15 49.8**	**-0.3**
TWM1	**Shoushan** baz=182	**0.40**	**196**	*e*P	**Pb**	**10 15 44.3**	**+0.2**
TWM1	baz=182			S	**Sb**	**10 15 50.8**	**+0.5**
CHN5	**Tsauling** baz=17	**0.41**	**18**	P	**Pb**	**10 15 43.3**	**-0.9**
CHN5	baz=17			*e*S	**Sb**	**10 15 51.0**	**+0.5**
ELDTW	**Lidau** baz=86	**0.44**	**93**	*i* P	**Pb**	**10 15 43.8**	**-1.1**
ELDTW	baz=86			S	**Sb**	**10 15 50.9**	**-0.6**
YUS	**Yu-Shan** baz=50	**0.47**	**54**	*i* P	**Pb**	**10 15 44.7**	**-0.9**
SSD	**Sandimen** baz=154	**0.47**	**170**	P	**Pb**	**10 15 44.3**	**-1.0**
SSD	baz=154			S	**Sb**	**10 15 51.5**	**-0.8**
WGK	**Gukeng** baz=3.0	**0.47**	**2**	*e*P	**Pb**	**10 15 45.1**	**-0.3**
WGK	baz=3.0			*e*S	**Sb**	**10 15 53.9**	**+1.4**
WDLH	**Douliu** baz=360	**0.48**	**360**	*i* P	**Pb**	**10 15 45.2**	**-0.2**
WDLH	baz=360			*e*S	**Sb**	**10 15 53.3**	**+0.8**
SGLT	**Jiouru** baz=184	**0.48**	**185**	*e*P	**Pb**	**10 15 45.4**	**-0.1**
SGLT	baz=184			*e*S	**Sb**	**10 15 55.3**	**+2.5**
SNJT	**Kaohsiung City** baz=205	**0.49**	**203**	*e*P	**Pb**	**10 15 45.4**	**-0.3**
SNJT	baz=205			*e*S	**Sb**	**10 15 55.6**	**+2.7**
WTK	**Tuku** baz=346	**0.49**	**344**	*e*P	**Pb**	**10 15 45.7**	**0.0**
WTK	baz=346			S	**Sb**	**10 15 54.2**	**+1.2**
TSMG	**Majia** baz=159	**0.51**	**169**	⇓ *i* P	**Pb**	**10 15 44.9**	**-1.1**
TSMG	baz=159			S	**Sb**	**10 15 52.2**	**-1.3**
WSF	**Szhu** baz=330	**0.52**	**325**	*i* P	**Pb**	**10 15 45.1**	**-0.9**
WSF	baz=330			S	**Sb**	**10 15 54.2**	**+0.5**
WHYT	**Xinyi Township** baz=29	**0.56**	**31**	P	**Pb**	**10 15 46.2**	**-0.7**
WHYT	baz=29			*e*S	**Sb**	**10 15 55.2**	**+0.2**
MASBT	**Mashibuluo** baz=160	**0.60**	**172**	*i* P	**Pb**	**10 15 46.5**	**-1.1**
MASBT	baz=160			S	**Sb**	**10 15 55.0**	**-1.1**
LONT	**Longtian** baz=103	**0.62**	**119**	*e*P	**Pb**	**10 15 47.1**	**-0.8**
LONT	baz=103			*e*S	**Sb**	**10 15 56.3**	**-0.3**
TWG	**Pinlang** baz=124	**0.62**	**128**	⇓ P	**Pb**	**10 15 47.4**	**-0.5**
TWG	baz=124			S	**Sb**	**10 15 56.8**	**+0.1**
TWGBT	**Beinan** baz=124	**0.63**	**128**	⇓ P	**Pb**	**10 15 47.4**	**-0.7**
TWGBT	baz=124			*e*S	**Sb**	**10 15 56.7**	**-0.3**
WJS	**Zhushan** baz=15	**0.63**	**16**	P	**Pb**	**10 15 47.8**	**-0.3**
WJS	baz=15			*e*S	**Sb**	**10 15 58.1**	**+1.1**
WMLT	**Mailiao** baz=336	**0.66**	**334**	*e*P	**Pb**	**10 15 47.9**	**-0.6**
WMLT	baz=336			S	**Sb**	**10 15 58.4**	**+0.6**
WNT	**Mingjian** baz=11	**0.68**	**11**	⇑ *i* P	**Pb**	**10 15 48.7**	**-0.2**
WNT	baz=11			S	**Sn**	**10 15 59.9**	**-1.4**
SSLB	**Suanglung** baz=39	**0.69**	**33**	P	**Pg**	**10 15 48.1**	**-0.1**
SSLB	baz=39			*e*S	**Sb**	**10 15 58.6**	**-0.1**
FULB	**Fuli** baz=78	**0.69**	**91**	P	**Pb**	**10 15 48.9**	**-0.2**
FULB	baz=78			*e*S	**Sn**	**10 15 59.9**	**-1.8**
WTCT	**Ta-ch'eng** baz=342	**0.69**	**340**	*i* P	**Pb**	**10 15 48.5**	**-0.6**
WTCT	baz=342			*e*S	**Sb**	**10 15 59.1**	**+0.3**
RLNB	**Erlin** baz=348	**0.70**	**346**	P	**Pb**	**10 15 48.4**	**-0.8**
RLNB	baz=348			*e*S	**Sb**	**10 15 59.9**	**+1.1**
TWF1	**Yuli** baz=75	**0.71**	**78**	*i* P	**Pb**	**10 15 48.8**	**-0.6**
TWF1	baz=75			S	**Sb**	**10 15 58.5**	**-0.8**
YULB	**Yu-li** baz=71	**0.72**	**75**	P	**Pg**	**10 15 48.6**	**-0.2**

YULB					eS	Sb	10 15 58.5	-1.0
	baz=71								
ECL	**Taimali**	**0.72**	**148**	P		Pb	10 15 48.7	-0.8
	baz=145								
ECL					eS	Sb	10 15 59.2	-0.3
	baz=145								
TTN	**Taitung**	**0.72**	**129**	eP		Pn	10 15 49.9	-1.3
	baz=125								
TTN					eS	Sn	10 16 01.6	-0.6
	baz=125								
SSPT	**Xinbi**	**0.72**	**178**	eP		Pb	10 15 49.5	-0.1
	baz=162								
SSPT					eS	Sn	10 16 00.9	-1.4
	baz=162								
EYUL	**Yuli**	**0.73**	**79**	P		Pb	10 15 49.1	-0.6
	baz=75								
EYUL					S	Sb	10 15 59.1	-0.6
	baz=75								
EDH	**Donghe**	**0.74**	**108**	P		Pb	10 15 49.8	-0.1
	baz=105								
EDH					eS	Sb	10 15 59.8	-0.3
	baz=105								
SMLT	**Sun Moon Lake**	**0.75**	**26⇑**	i P		Pb	10 15 49.8	-0.3
	baz=25								
SMLT					eS	Sn	10 16 02.0	-1.2
	baz=25								
TYC	**Yuchr**	**0.75**	**23⇑**	i P		Pb	10 15 49.8	-0.2
	baz=22								
TYC					S	Sn	10 16 01.5	-1.5
	baz=22								
CHKT	**Chengkung**	**0.77**	**98**	eP		Pb	10 15 50.4	+0.1
	baz=94								
CHKT					eS	Sn	10 16 03.3	-0.1
	baz=94								
VWDT	**VWDT**	**0.77**	**45**	P		Pb	10 15 50.0	-0.5
	baz=52								
VWDT					i S	Sb	10 16 01.0	0.0
	baz=52								
EHY	**Hungye**	**0.78**	**68**	P		Pb	10 15 50.1	-0.5
	baz=74								
EHY					eS	Sb	10 16 01.0	-0.1
	baz=74								
WDGT	**Dungji**	**0.81**	**274**	P		Pg	10 15 49.8	-0.7
	baz=278								
WDGT					eS	Sb	10 16 01.8	-0.4
	baz=278								
SCZT	**Fangliau**	**0.84**	**175**	P		Pg	10 15 50.5	-0.6
	baz=162								
SCZT					eS	Sn	10 16 04.8	-0.4
	baz=162								
HGSD	**Ruisui**	**0.86**	**71**	P		Pn	10 15 52.1	-1.0
	baz=67								
HGSD					S	Sn	10 16 05.8	+0.1
	baz=67								
WCHH	**Zhanghua**	**0.86**	**1**	P		Pb	10 15 51.6	-0.5
	baz=1.0								
WCHH					eS	Sn	10 16 04.6	-1.3
	baz=1.0								
WLCH	**Liuqiu**	**0.87**	**190**	eP		Pn	10 15 53.8	+0.6
	baz=190								
WLCH					eS	Sn	10 16 08.1	+2.1
	baz=190								
EAST	**Anshuo**	**0.87**	**161**	P		Pb	10 15 51.6	-0.6
	baz=159								
EAST					eS	Sn	10 16 04.2	-1.9
	baz=159								
TWP	**Hsiaoliuchiu**	**0.88**	**191**	P		Pn	10 15 53.2	-0.1
	baz=190								
TWP					eS	Sn	10 16 07.4	+1.3
	baz=190								
TAW	**Tawu**	**0.91**	**159**	P		Pb	10 15 52.3	-0.5
	baz=156								
TAW					eS	Sb	10 16 04.6	-0.4
	baz=156								
EGFH	**Guangfu**	**0.93**	**61**	P		Pn	10 15 53.2	-0.9
	baz=57								
EGFH					S	Sb	10 16 05.8	+0.1
	baz=57								
PHUB	**P'eng-hu**	**0.94**	**289**	eP		Pg	10 15 52.4	-0.6
	baz=293								
PHUB					eS	Sg	10 16 04.7	-0.6
	baz=293								
TCU	**Taichung**	**0.94**	**8**	eP		Pb	10 15 53.3	-0.1
	baz=354								
TCU					eS	Sn	10 16 07.3	-0.5
	baz=354								
OWD	**Renai**	**0.94**	**38**	P		Pb	10 15 53.1	-0.3
	baz=24								
OWD					eS	Sn	10 16 07.3	-0.7
	baz=24								
PNG	**Penghu**	**0.97**	**292**	P		Pg	10 15 52.1	-1.6
	baz=296								
PNG					S	Sg	10 16 05.5	-0.8
	baz=296								
LDUT	**Ludao**	**1.01**	**122**	P		Pb	10 15 53.8	-0.7
	baz=107								
LDUT					eS	Sn	10 16 08.2	-1.2
	baz=107								
ESL	**Shilin**	**1.01**	**54**	i P		Pn	10 15 54.5	-0.8
	baz=51								
ESL					S	Sn	10 16 08.7	-0.9
	baz=51								
SLIU	**Shizi**	**1.02**	**166**	P		Pb	10 15 54.1	-0.5
	baz=151								
SLIU					eS	Sb	10 16 08.0	-0.1
	baz=151								
CHGB	**Renai**	**1.03**	**34**	i P		Pg	10 15 54.2	-0.5
	baz=32								
CHGB					S	Sn	10 16 09.6	-0.6
	baz=32								
WDJ	**Dajia District**	**1.14**	**5**	⇓P		Pn	10 15 56.4	-0.5
	baz=4.0								
WDJ					eS	Sn	10 16 13.1	+0.6
	baz=4.0								
WHF	**Hehuan Shan**	**1.14**	**35**	i P		Pb	10 15 56.8	-0.3
	baz=34								
WHF					eS	Sn	10 16 13.2	-0.1
	baz=34								
TWQ1	**Liyutan**	**1.15**	**11⇑**	i P		Pb	10 15 56.6	-0.4
	baz=358								
TWQ1					S	Sn	10 16 13.7	+0.7
	baz=358								
TDCB	**Techi**	**1.18**	**28**	P		Pb	10 15 56.8	-0.8
	baz=27								
TDCB					eS	Sn	10 16 14.2	+0.2
	baz=27								
HEN	**Hengchun**	**1.21**	**171**	eP		Pb	10 15 56.2	-1.8
	baz=156								
HEN					eS	Sn	10 16 16.7	+2.3
	baz=156								
FUSS	**Fushou**	**1.22**	**32**	P		Pg	10 15 58.0	-0.3
	baz=30								
FUSS					eS	Sn	10 16 16.5	+1.5
	baz=30								
NSY	**Sanyi**	**1.22**	**9**	i P		Pg	10 15 58.0	-0.3
	baz=358								
NSY					eS	Sn	10 16 15.0	+0.3
	baz=358								
HWA	**Hwalien**	**1.24**	**52**	P		Pg	10 15 58.7	0.0
	baz=49								
HWA					eS	Sn	10 16 15.4	+0.3
	baz=49								
PTSB	**Yuanli**	**1.24**	**7**	eP		Pb	10 15 58.1	-0.4
	baz=6.0								
PTSB					eS	Sn	10 16 16.3	+1.1
	baz=6.0								
TWK1	**Hengchun**	**1.28**	**169**	eP		Pn	10 15 57.5	-1.4
	baz=167								
TWK1					eS	Sn	10 16 16.2	0.0
	baz=167								
TWKBT	**Hengchun**	**1.29**	**169**	eP		Pg	10 16 00.1	+0.5
	baz=165								
TWD	**Chiawan**	**1.30**	**48**	P		Pg	10 15 59.2	-0.6
	baz=56								
TWD					eS	Sg	10 16 16.3	-0.4
	baz=56								
ETLH	**Xiulin Townshi**	**1.31**	**41**	P		Pb	10 15 59.3	-0.5
	baz=30								
ETLH					eS	Sg	10 16 18.1	+0.8
	baz=30								
NMLH	**Miaoli**	**1.34**	**10**	P		Pn	10 15 59.3	-0.4
	baz=358								
NMLH					eS	Sg	10 16 19.7	+1.7
	baz=358								
TSEB	**Hengchuen, Pin**	**1.35**	**166**	eP		Pg	10 16 01.4	+0.7
	baz=165								
TSEB					eS	Sg	10 16 19.7	+1.5
	baz=165								
NACB	**Ninganchiao**	**1.36**	**45**	P		Pb	10 16 00.1	-0.4
	baz=43								
NACB					eS	Sg	10 16 18.5	-0.3
	baz=43								
NNSB	**Datong**	**1.44**	**32**	P		Pn	10 16 00.5	-0.6
	baz=31								
NNSH	**Datong**	**1.44**	**32**	i P		Pb	10 16 01.2	-0.6
	baz=31								
NNS	**Nan Shan**	**1.44**	**32**	i P		Pb	10 16 01.5	-0.5
	baz=31								
NSTT	**Nanjuang**	**1.48**	**16**	i P		Pn	10 16 01.3	-0.3
	baz=17								
LIOB	**Emei**	**1.49**	**17**	i P		Pn	10 16 01.4	-0.4
	baz=16								
LIOB					S	Sg	10 16 23.9	+0.9
	baz=16								
LAY	**Lan-yu**	**1.49**	**141**	eP		Pn	10 16 01.6	-0.3
	baz=137								
SBCB	**Hsinchu**	**1.63**	**14**	eP		Pn	10 16 03.0	-0.7
	baz=15								
ENA	**Nanau**	**1.64**	**42**	P		Pb	10 16 05.0	-0.2
	baz=54								
ENA					eS	Sg	10 16 28.5	+1.0
	baz=54								
NSK	**Sanguang**	**1.64**	**27**	P		Pg	10 16 05.8	-0.5
	baz=10.0								
NSK					eS	Sb	10 16 26.2	+0.1
	baz=10.0								
NDT	**Datong Townshi**	**1.65**	**32**	i P		Pb	10 16 04.7	-0.7
	baz=21								
NDT					eS	Sg	10 16 29.4	+1.5
	baz=21								
ENAH	**Nanao**	**1.69**	**43**	P		Pb	10 16 05.8	-0.4
	baz=59								
ENTT	**Nioudou**	**1.70**	**33**	P		Pb	10 16 05.7	-0.7
	baz=33								
NWLT	**Wulai**	**1.79**	**29**	eP		Pn	10 16 05.8	-0.1
	baz=28								
NWLT					eS	Sg	10 16 33.3	+0.8
	baz=28								
TWE	**Neicheng**	**1.82**	**34**	eP		Pb	10 16 07.2	-1.1
	baz=34								
TWC	**Suao**	**1.84**	**40**	i P		Pb	10 16 08.5	-0.1
	baz=25								
TWC					eS	Sg	10 16 34.2	+0.2
	baz=25								
NTC	**Toucheng**	**2.02**	**35**	eP		Pb	10 16 10.2	-1.5
	baz=16								
NTC					S	Sg	10 16 40.5	+0.7
	baz=16								
VWUC	**VWUC**	**2.03**	**331**	eP		Pb	10 16 10.3	-1.7
	baz=334								
EGS		**2.06**	**38**	eP		Pb	10 16 11.9	-0.6
	baz=54								
TIPB	**Shuangxi**	**2.11**	**34**	P		Pn	10 16 10.8	+0.4
	baz=17								
YM04	**YM04**	**2.14**	**25**	P		Pn	10 16 10.3	-0.4
	baz=8.0								
YM01	**YM01**	**2.14**	**26**	eP		Pn	10 16 09.9	-0.9
	baz=10.0								
YM10	**YM10**	**2.15**	**25**	P		Pn	10 16 11.0	+0.1
	baz=11								
YM05	**YM05**	**2.16**	**25**	P		Pn	10 16 10.8	-0.2
	baz=11								
ANP	**Anpu**	**2.16**	**24**	P		Pn	10 16 10.4	-0.7
	baz=8.0								
NWF	**Wu-fen Shan**	**2.17**	**31**	eP		Pb	10 16 13.1	-1.3
	baz=31								
WFSB	**Wu-fen Shan**	**2.17**	**31**	eP		Pn	10 16 10.9	-0.3
	baz=31								
JYNG	**Yonagunijimaku**	**2.52**	**60**	P		Pn	10 16 16.8	+0.8
JYNG				S		Sb	10 16 49.2	-2.3
YOJ	**Yonaguni jima**	**2.58**	**61**	P		Pn	10 16 17.8	+1.0
YOJ				eS		Sb	10 16 51.0	-2.1
HATJ	**Hateruma jima**	**3.11**	**74**	P		Pn	10 16 25.2	+1.2
HATJ				eS		Sn	10 17 02.7	+1.4
IRIF	**Iriomote-Funau**	**3.13**	**68**	P		Pn	10 16 25.4	+1.1
IRIF				S		Sn	10 17 04.1	+2.4
JKRS	**Kuro-shima**	**3.34**	**71**	P		Pn	10 16 28.6	+1.4
JKRS				S		Sn	10 17 09.0	+2.1
JIJ	**Ishigaki jima**	**3.49**	**70**	P		Pn	10 16 29.9	+0.6
JIJ				S		Sn	10 17 11.4	+0.6
JISG	**Ishigakijimahi**	**3.71**	**68**	P		Pn	10 16 33.1	+0.8
JISG				eS		Sn	10 17 15.8	-0.4
JTJ	**Tarama**	**4.07**	**69**	P		Pn	10 16 38.2	+1.0
JTJ				eS		Sn	10 17 26.9	+2.0
JIRB	**Irabujima**	**4.53**	**68**	P		Pn	10 16 45.3	+1.7
JIRB				eS		Sn	10 17 36.8	+0.4
JIKM	**Ikemajima**	**4.63**	**67**	eS		Sn	10 17 38.6	-0.1
JMJ2	**Miyako jima3**	**4.63**	**70**	P		Sn	10 16 47.5	+2.5
JMJ2				S		Sn	10 17 40.1	+1.2

*IDC **04** 10:28:59.6±0.8, 64°.56N×17°.64W, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/49, mbtmp3.7/9, ML3.4/2, Error ellipse: s-maj=24.5km s-min=11.3km az=9.0*
*REY **04** 10:28:59.8, 64°.67N×17°.46W, h5km*
ISC 04 10:28:59.5±0.9, 64°.66N±0°.02×17°.49W±0°.02, h7km±6km, n47, σ1s60/63, mb3.7/7, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**279**	P	**Pg**	**10 29 02.5**	**+0.5**
	baz=272						
IVON				S	**Sg**	**10 29 04.8**	**+0.9**
	baz=272						
IDYN	**Dyngjuhals**	**0.14**	**20**	P	**Pg**	**10 29 02.7**	**+0.1**
	baz=18						
IDJK	**Dyngjujokull**	**0.19**	**145**	P	**Pg**	**10 29 03.8**	**+0.5**
	baz=150						
IURH	**Urdarhals**	**0.22**	**41**	P	**Pg**	**10 29 04.0**	**+0.1**
	baz=41						
IURH				S	**Sg**	**10 29 07.0**	**+0.1**
	baz=41						
IGRF	**Grimsfjall**	**0.27**	**159**	P	**Pg**	**10 29 05.2**	**+0.4**
	baz=163						
IKVE	**Kverkfjoll**	**0.35**	**86**	P	**Pg**	**10 29 06.3**	**0.0**
	baz=88						
IKVE				S	**Sg**	**10 29 11.2**	**+0.3**
	baz=88						
IBJK	**Bruarjokull**	**0.37**	**120**	P	**Pg**	**10 29 06.5**	**-0.2**
	baz=123						
IBJK				S	**Sg**	**10 29 12.2**	**+0.7**
	baz=123						
IHUS	**Husbondi**	**0.37**	**192**	P	**Pb**	**10 29 07.2**	**-1.1**
	baz=193						
ISKR	**Skrokkalda**	**0.40**	**257**	P	**Pb**	**10 29 07.5**	**-1.4**
	baz=255						
IVOT	**Vottur**	**0.41**	**161**	P	**Pb**	**10 29 07.7**	**-1.3**
	baz=163						
IJOK	**Jokulheimar**	**0.47**	**224**	P	**Pb**	**10 29 08.6**	**-1.4**
	baz=223						
IKRE	**Kreppuhraun**	**0.49**	**74**	P	**Pg**	**10 29 08.3**	**-0.6**
	baz=76						
IKRE				S	**Sg**	**10 29 15.3**	**0.0**
	baz=76						
IASK	**Askja**	**0.54**	**42**	P	**Pg**	**10 29 09.1**	**-0.7**
	baz=42						
IASK				S	**Sg**	**10 29 16.4**	**-0.4**
	baz=42						
IMKO	**Mokollar**	**0.59**	**56**	P	**Pg**	**10 29 10.2**	**-0.6**
	baz=57						
IMKO				S	**Sg**	**10 29 18.6**	**+0.2**
	baz=57						
IIEY	**Innrieyrar**	**0.63**	**207**	P	**Pb**	**10 29 11.3**	**-1.4**
	baz=207						
IIEY				S	**Sn**	**10 29 20.2**	**-4.8**
	baz=207						
ISVA	**Svartarkot**	**0.69**	**8**	P	**Pg**	**10 29 11.8**	**-0.9**
	baz=7.2						
ISVA				S	**Sg**	**10 29 21.5**	**-0.3**
	baz=7.2						
IKAL	**Kalfafell**	**0.72**	**187**	P	**Pn**	**10 29 14.2**	**-1.7**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.77**	**78**	P	**Pg**	**10 29 13.0**	**-1.3**
	baz=79						
IVSH				S	**Sg**	**10 29 23.5**	**-0.7**
	baz=79						
IVAT	**Vatnsfell**	**0.78**	**234**	P	**Pb**	**10 29 14.0**	**-1.3**
	baz=233						
IFAG	**Fagurholsmyri**	**0.86**	**155**	P	**Pg**	**10 29 15.1**	**-1.0**
	baz=156						
IADA	**Aoalbol**	**0.89**	**65**	P	**Pg**	**10 29 15.0**	**-1.6**
	baz=66						
IADA				S	**Sg**	**10 29 27.4**	**-0.8**
	baz=66						
IHVE	**Hveravellir**	**0.92**	**285**	P	**Pg**	**10 29 15.7**	**-1.4**
	baz=284						
IHVE				S	**Sb**	**10 29 28.8**	**-1.3**
	baz=284						
IMEL	**Melhnausar**	**0.98**	**20**	P	**Pb**	**10 29 16.6**	**-2.2**
	baz=20						
IMEL				S	**Sg**	**10 29 30.1**	**-1.0**
	baz=20						
IREN	**Reynihlio**	**1.02**	**14**	P	**Pb**	**10 29 17.4**	**-2.2**
	baz=13						
ISNB	**Snabyli**	**1.05**	**209**	P	**Pn**	**10 29 18.5**	**-2.1**
	baz=209						
IKVO	**Krokottuvotn**	**1.09**	**13**	P	**Pb**	**10 29 18.4**	**-2.2**
	baz=13						
IGRS	**Grimsstaoir**	**1.14**	**30**	P	**Pn**	**10 29 19.3**	**-2.5**
	baz=30						
IGRS				S	**Sb**	**10 29 34.5**	**-2.0**
	baz=30						
IFED	**Fedgar**	**1.15**	**238**	P	**Pn**	**10 29 20.1**	**-1.8**
	baz=237						
IFED				S	**Sn**	**10 29 35.1**	**-2.7**
	baz=237						
IRJU	**Rjupnafell**	**1.17**	**207**	P	**Pn**	**10 29 20.5**	**-1.6**
	baz=207						
ISKI	**Skildingahlsh**	**1.23**	**9**	P	**Pn**	**10 29 20.8**	**-2.3**
	baz=8.3						
IGYG	**Gygjarholskot**	**1.24**	**254**	P	**Pb**	**10 29 21.4**	**-1.8**
	baz=253						
IGHA	**Grjothals**	**1.24**	**16**	P	**Pn**	**10 29 20.8**	**-2.4**
	baz=16						
IHAU	**Haukadalur**	**1.28**	**239**	P	**Pn**	**10 29 22.0**	**-1.7**
	baz=238						
IHVO	**Lagu-Hvolar**	**1.28**	**208**	P	**Pg**	**10 29 22.5**	**-1.5**
	baz=209						
IGOD	**Go?ʔabunga**	**1.28**	**220**	P	**Pn**	**10 29 23.1**	**-0.7**
	baz=220						
IDIM	**Dimmadalss**	**1.33**	**10**	P	**Pn**	**10 29 22.3**	**-2.1**
	baz=9.4						
BORG	**Borgarnes**	**1.65**	**275**	Pg	**Pn**	**10 29 27.5**	**-1.3**
	18nm,0.3s,baz=96,slow=8.6,SNR=12						
BORG				Lg	Lg	10 29 50.9	
	14nm,0.3s,baz=12,slow=21,SNR=16						
SCO	**Scoresbysund**	**6.10**	**346**	i P	**Pn**	**10 30 31.5**	**+1.7**
SCO				eS	**Sn**	**10 31 42.6**	**+2.9**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**	**10 31 47.8**	**+0.6**
	baz=331,slow=13,SNR=7.7						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**10 33 31.1**	**+0.8**
	0.1nm,0.3s,baz=277,slow=11,SNR=2.3						
ESDC	**Sonseca Array**	**26.24**	**156**	P	**P**	**10 34 35.3**	**+0.5**
	0.7nm,0.8s,baz=344,slow=9.2,SNR=4.3						
BVAR	**Borovoye Array**	**43.20**	**62**	P	**P**	**10 37 03.0**	**+2.5**
	0.6nm,0.4s,baz=316,slow=8.3,SNR=6.6						
ILAR	**Eielson Array**	**45.70**	**332**	P	**P**	**10 37 22.1**	**+1.8**
	1.7nm,1.2s,baz=28,slow=6.1,SNR=8.3						
KURBB	**Kurchatov Arra**	**48.16**	**58**	P	**P**	**10 37 41.7**	**+2.1**
	1.4nm,0.8s,baz=330,slow=7.0,SNR=8.5						
MKAR	**Makanchi Array**	**52.73**	**58**	P	**P**	**10 38 15.4**	**+1.1**
	0.7nm,0.9s,baz=318,slow=1.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P	**P**	**10 38 18.8**	**+1.2**
	0.8nm,0.8s,baz=346,slow=11,SNR=3.0						
PDAR	**Pinedale Array**	**53.19**	**293**	P	**P**	**10 38 19.1**	**+1.1**
	1.1nm,0.8s,baz=54,slow=7.5,SNR=12						

*IDC **04** 10:33:37.9±2.0, 4°.20N×128°.20E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/38, mbtmp3.5/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/23, Error ellipse: s-maj=106.2km s-min=27.4km az=69.0*
ISC 04 10:33:43.9±1.8, 4°.3N±0°.3×128°.4E±0°.4, h46km, n7, σ0s78/6, mb3.6/5, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**4.29**	**310⇓**	eP	**Pn**	**10 34 46.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**22.39**	**187**	P	**P**	**10 38 38.0**	**-0.5**
	0.8nm,0.6s,baz=350,slow=6.3,SNR=2.0						
PMG	**Port Moresby**	**23.09**	**126**	LR	LR	10 49 14.6	
	comp=Z,68nm,18.5s,baz=138,slow=40						
WRA	**Warramunga Arr**	**24.75**	**167**	P	**P**	**10 39 00.5**	**-0.8**
	2.2nm,0.8s,baz=344,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**28.27**	**169**	P	**P**	**10 39 34.0**	**+0.9**
	0.3nm,0.8s,baz=350,slow=7.5,SNR=2.2						
STKA	**Stephens Creek**	**38.07**	**162**	P	**P**	**10 40 58.0**	**-0.1**
	0.6nm,0.4s,baz=354,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**58.09**	**324**	P	**P**	**10 43 32.6**	**-0.1**
	0.2nm,0.4s,baz=106,slow=7.9,SNR=2.5						

*IDC **04** 10:36:34.9±4.1, 27°.50N×111°.88W, h0km, mb1 3.6/3, mb1mx3.4/31, mbtmp3.1/3, ML4.1/2, Error ellipse: s-maj=51.2km s-min=18.3km az=19.0*
*ECX **04** 10:36:39.5±0.7, 27°.82N×111°.83W, h20km±19km, MD3.6*
*MEX **04** 10:36:40.6±0.4, 27°.72N×111°.75W, h10km, MD4.2*
ISC 04 10:36:39.6±1.2, 27°.78N±0°.10×111°.78W±0°.06, h9km±14km, n12, σ2s45/20, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.61**	**222**	eP	**Pg**	**10 36 50.9**	**-0.6**
SRIG				eS	**Sg**	**10 36 59.0**	**-0.5**
SRIG	**Santa Rosalia**	**0.61**	**222⇑**	eP	**Pg**	**10 36 50.9**	**-0.6**
SRIG				i S	**Sg**	**10 36 59.2**	**-0.3**
GUYB	**Guaymas**	**0.81**	**81**	eP	**Pg**	**10 36 54.0**	**-1.2**
GUYB				eS	**Sg**	**10 37 04.0**	**-1.8**
GUYB	**Guaymas**	**0.81**	**81⇑**	eP	**Pg**	**10 36 54.0**	**-1.2**
HSIG		**1.44**	**30**	i P	**Pn**	**10 37 03.7**	**-2.1**
HSIG				eS	**Sn**	**10 37 21.5**	**-3.3**
HSIG		**1.44**	**30**	eP	**Pn**	**10 37 03.6**	**-2.1**
HSIG				eS	**Sn**	**10 37 22.7**	**-2.1**
NZIG	**Nacozari, Sono**	**3.24**	**36**	eP	**Pb**	**10 37 39.1**	**+1.8**
NZIG				eS	**Sb**	**10 38 20.7**	**+3.8**
CGIG		**4.21**	**51**	eP	**Pb**	**10 37 57.8**	**+4.0**
CGIG				eS	**Sb**	**10 38 49.6**	**+4.7**
TUC	**Tucson**	**4.60**	**11**	eP	**Pn**	**10 37 48.1**	**-1.3**
TXAR	**Lajitas Array**	**7.30**	**76**	Pn	**Pn**	**10 38 26.8**	**+0.3**
	0.9nm,0.3s,baz=254,slow=13,SNR=74						
TXAR				Sn	**Sn**	**10 39 46.9**	**-2.7**
	baz=255,slow=25,SNR=1.1						
TXAR				Lg	Lg	10 40 29.7	
	0.6nm,0.3s,baz=248,slow=32,SNR=3.1						
NVAR	**Mina Array Bea**	**11.94**	**334**	Pn	**Pn**	**10 39 30.2**	**0.0**
	0.0nm,0.3s,baz=151,slow=14,SNR=1.5						
PDAR	**Pinedale Array**	**15.06**	**6**	Pn	**P**	**10 40 18.6**	**+0.4**
	0.1nm,0.3s,baz=179,slow=11,SNR=4.4						
PDAR				Lg	Lg	10 44 39.4	
	0.1nm,0.3s,baz=187,slow=21,SNR=2.1						

*IDC **04** 11:11:03.2±0.8, 4°.86N×16°.94E, h0km, mb4.0/11, mb1 4.0/12, mb1mx3.8/34, mbtmp4.0/12, ML3.1/1, Error ellipse: s-maj=24.7km s-min=16.3km az=77.0*
ISC 04 11:11:04.8±0.7, 4°.9N±0°.1×16°.9E±0°.1, h10km, n16, σ1s02/15, mb4.1/12, Central African Republic

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**17.09**	**300**	P	**Pn**	**11 15 04.5**	**+0.4**
	0.1nm,0.3s,baz=108,slow=9.3,SNR=2.3						
TORD				Lg	Lg	11 20 06.3	
	0.1nm,0.3s,baz=127,slow=26,SNR=7.1						
KMBO	**Kilima Mbogo**	**21.21**	**106**	P	**P**	**11 15 53.2**	**+2.0**
	0.8nm,0.3s,baz=290,slow=23,SNR=1.4						
DBIC	**Dimbokro**	**21.70**	**276**	P	**P**	**11 15 57.4**	**+1.2**
	2.3nm,0.9s,baz=88,slow=13,SNR=1.8						
DBIC				Lg	Lg	11 22 33.9	
	2.2nm,1.0s,baz=289,slow=7.0,SNR=1.5						
LSZ	**Lusaka**	**22.94**	**151**	P	**P**	**11 16 08.5**	**-1.1**
	9.0nm,0.9s,baz=346,slow=9.8,SNR=7.7						
LSZ				Lg	Lg	11 23 11.0	
	1.5nm,0.4s,baz=101,slow=20,

0.5nm,0.3s,baz=265,slow=6.8,SNR=4.8
SONM Songino Array 86.10 42 P **P 11 23 45.5 -0.9**
0.6nm,0.9s,baz=224,slow=4.0,SNR=1.6
ASAR Alice Springs 116.67 114 PKP **PKPdf 11 29 50.3 0.0**
0.3nm,0.9s,baz=316,slow=2.0,SNR=4.5
WRA Warramunga Arr 117.44 110 PKP **PKPdf 11 29 51.4 -0.5**
0.1nm,0.5s,baz=279,slow=1.8,SNR=4.7

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*IDC **04** 11:31:29.5±1.2, 29°.27N×77°.76E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/48, mbtmp3.6/8, ML3.5/1, Error ellipse: s-maj=52.8km s-min=18.7km az=54.0*
*NDI **04** 11:31:31.5±3.2, 29°.24N×77°.44E, h8km±11km, MD3.4, ML3.6*
ISC 04 11:31:31.1±0.6, 29°.23N±0°.04×77°.46E±0°.05, h9km, n31, σ1§78/51, mb3.6/7, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONA	**Sohna**	**1.03**	**199**	*e*P	**Pg**	**11 31 51.4**	**+0.4**
SONA				*e*S	**Sg**	**11 32 05.9**	**+1.5**
SONA				IAML		11 32 09.4	
	comp=N,599nm,0.2s						
SONA				IAML		11 32 09.6	
	comp=E,730nm,0.3s						
DDI	**Dehra Dun**	**1.21**	**25**	*e*P	**Pb**	**11 31 53.9**	**-0.3**
DDI				*e*S	**Sn**	**11 32 10.3**	**-0.5**
DDI				IAML		11 32 11.6	
	comp=N,1μm,0.1s						
DDI				IAML		11 32 12.1	
	comp=E,2μm,0.4s						
SMLA	**Simla**	**1.91**	**353**	*e*P	**Pn**	**11 32 03.4**	**-0.4**
SMLA				*e*S	**Sn**	**11 32 27.5**	**-0.5**
SMLA				IAML		11 32 32.6	
	comp=N,512nm,0.5s						
SMLA				IAML		11 32 32.6	
	comp=E,746nm,0.6s						
BHK	**Bhakra**	**2.36**	**338**	*e*P	**Pb**	**11 32 14.8**	**+1.0**
BHK				*e*S	**Sb**	**11 32 43.2**	**+0.2**
DHRM	**DHARAMSHALA**	**3.17**	**342**	*e*P	**Pb**	**11 32 25.1**	**-2.7**
DHRM				*e*S	**Sb**	**11 33 06.3**	**-0.3**
DHRM				IAML		11 33 18.7	
	comp=E,448nm,0.4s						
DHRM				IAML		11 33 21.3	
	comp=N,470nm,0.4s						
THN	**Thein Dam**	**3.52**	**335**	*e*P	**Pb**	**11 32 35.0**	**+1.3**
THN				*e*S	**Sb**	**11 33 16.5**	**-0.1**
PYUN	**Piuthan**	**4.99**	**102**	*e*Pn	**Pn**	**11 32 49.3**	**+2.8**
PYUN				*e*Sn	**Sn**	**11 33 45.9**	**+1.5**
PYUN	**Piuthan**	**4.99**	**102**	*e*Pn	**Pn**	**11 32 49.3**	**+2.8**
PYUN				*e*Sn	**Sn**	**11 33 45.9**	**+1.5**
	comp=N,183nm,0.3s						
KOLN	**Koldanda**	**5.60**	**104**	*e*Pn	**Pn**	**11 32 57.8**	**+3.0**
KOLN				*e*Sn	**Sn**	**11 34 01.2**	**+1.8**
	comp=N,69nm,0.4s						
KOLN	**Koldanda**	**5.60**	**104**	*e*Pn	**Pn**	**11 32 57.8**	**+3.0**
KOLN				*e*Sn	**Sn**	**11 34 01.2**	**+1.8**
	comp=N,69nm,0.4s						
BHPL	**Bhopal**	**5.97**	**180**	*e*S	**Sn**	**11 34 05.1**	**-3.1**
GKN	**Gorkha**	**6.43**	**99**	*e*Pn	**Pn**	**11 33 08.7**	**+2.5**
GKN				*e*Sn	**Sn**	**11 34 19.4**	**-0.4**
	comp=N,108nm,0.3s						
GKN	**Gorkha**	**6.43**	**99**	*e*Pn	**Pn**	**11 33 08.7**	**+2.5**
GKN				*e*Sn	**Sn**	**11 34 19.4**	**-0.4**
	comp=N,108nm,0.3s						
PKI	**Pulchoki**	**7.20**	**101**	*e*Pn	**Pn**	**11 33 18.7**	**+1.8**
PKI				*e*Sn	**Sn**	**11 34 38.8**	**-0.1**
	comp=N,69nm,0.4s						
PKI	**Pulchoki**	**7.20**	**101**	*e*Pn	**Pn**	**11 33 18.7**	**+1.8**
PKI				*e*Sn	**Sn**	**11 34 38.8**	**-0.1**
	comp=N,69nm,0.4s						
GUN	**Gumba**	**7.52**	**98**	*e*Pn	**Pn**	**11 33 23.1**	**+1.7**
GUN				*e*Sn	**Sn**	**11 34 46.3**	**-0.7**
	comp=N,63nm,0.4s						
GUN	**Gumba**	**7.52**	**98**	*e*Pn	**Pn**	**11 33 23.1**	**+1.7**
GUN				*e*Sn	**Sn**	**11 34 46.3**	**-0.7**
	comp=N,63nm,0.4s						
JIRN	**Jiri**	**7.85**	**99**	*e*Pn	**Pn**	**11 33 28.1**	**+2.3**
JIRN				*e*Sn	**Sn**	**11 34 54.8**	**-0.2**
	comp=N,85nm,0.3s						
JIRN	**Jiri**	**7.85**	**99**	*e*Pn	**Pn**	**11 33 28.1**	**+2.3**
JIRN				*e*Sn	**Sn**	**11 34 54.8**	**-0.2**
	comp=N,85nm,0.3s						
NGP	**Nagpur**	**8.18**	**169**	*ex*	Pn	11 33 35.6	+5.6
	comp=Z,17nm,0.9s						
NGP				*e*S	**Sn**	**11 34 57.6**	**-5.0**
RAMN	**Ramite**	**8.39**	**104**	*e*Pn	**Pn**	**11 33 34.6**	**+1.4**
RAMN				*e*Sn	**Sn**	**11 35 07.0**	**-1.2**
	comp=Z,67nm,0.3s						
RAMN	**Ramite**	**8.39**	**104**	*e*Pn	**Pn**	**11 33 34.6**	**+1.4**
RAMN				*e*Sn	**Sn**	**11 35 07.0**	**-1.2**
	comp=Z,67nm,0.3s						
MKAR	**Makanchi Array**	**17.94**	**11**	P	**Pn**	**11 35 38.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=200,slow=16,SNR=3.2						
KURBB	**Kurchatov Arra**	**21.38**	**2**	P	**P**	**11 36 18.1**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=193,slow=9.9,SNR=5.6						
CMAR	**Chiang Mai Arr**	**22.35**	**114**	P	**P**	**11 36 27.9**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=306,slow=12,SNR=5.0						
AKTO	**Aktyubinsk**	**25.76**	**331**	P	**P**	**11 37 02.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=120,slow=8.1,SNR=2.0						
FINES	**FINESS Array B**	**46.51**	**329**	P	**P**	**11 39 58.9**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=108,slow=12,SNR=4.2						
ARCES	**ARCESS Array B**	**49.89**	**339**	P	**P**	**11 40 25.8**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=108,slow=7.8,SNR=3.8						
WRA	**Warramunga Arr**	**73.47**	**125**	P	**P**	**11 43 02.6**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=320,slow=6.1,SNR=7.1						
ASAR	**Alice Springs**	**75.58**	**128**	P	**P**	**11 43 15.2**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=311,slow=5.6,SNR=8.2						
LPAZ	**La Paz**	**145.89**	**285**	PKPbc	**PKPdf**	**11 51 12.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=0.0,slow=4.0,SNR=2.8						

ROM 04 11:34:21.5±0.1, 44°.136N±0°.006×11°.022E±0°.007, h11km, Md1.2/7, Error ellipse: s-maj=0.6km s-min=0.5km az=158.0, hypocenter, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNVD	**Fontana Vidola**	**0.08**	**67**	P	Pg	11 34 24.2	+0.1
FNVD				S	Sg	11 34 26.2	+0.2
FNVD				END			
MTCR	**Monte La Croce**	**0.11**	**189**	P	Pg	11 34 25.0	+0.5
MTCR				S	Sg	11 34 27.5	+0.8
MTCR				AML	AML		
	comp=E,31400μm,0.2s						
MTCR				AML	AML		
	comp=N,13900μm,1.5s						
MTCR				AML	AML		
	comp=E,31350μm,0.2s						
MTCR				AML	AML		
	comp=N,13850μm,1.5s						
MTCR				END			
PTF	**Prato**	**0.18**	**169**	P	Pg	11 34 25.9	+0.5
PTF				S	Sg	11 34 29.4	+1.2
PTF				END			
POPM	**Popiglio**	**0.21**	**245**	P	Pg	11 34 26.3	+0.3
POPM				S	Sg	11 34 29.9	+0.8
POPM				AML	AML		
	comp=E,4670μm,0.7s						
POPM				AML	AML		
	comp=E,4675μm,0.7s						
POPM				AML	AML		
	comp=N,5465μm,0.4s						
POPM				END			
ZCCA	**Zocca**	**0.22**	**351**	P	Pb	11 34 27.0	-0.5
ZCCA				AML	AML		
	comp=N,4365μm,0.4s						
ZCCA				AML	AML		
	comp=E,5415μm,0.3s						
ZCCA				AML	AML		
	comp=N,4170μm,0.4s						
ZCCA				AML	AML		
	comp=E,4465μm,0.3s						
ZCCA				END			
SEI	**Scarperia**	**0.26**	**109**	P	Pg	11 34 27.0	+0.3
SEI				S	Sb	11 34 31.5	-1.0
SEI				AML	AML		
	comp=E,4670μm,1.0s						
SEI				AML	AML		
	comp=N,8550μm,0.3s						
SEI				AML	AML		
	comp=E,5240μm,0.4s						
SEI				END			
BDI	**Bagni Di Lucca**	**0.32**	**257**	P	Pg	11 34 27.8	0.0
BDI				S	Sg	11 34 32.7	+0.6
BDI				AML	AML		
	comp=E,2265μm,1.0s						
BDI				AML	AML		
	comp=N,3405μm,0.7s						
BDI				AML	AML		
	comp=E,2015μm,0.8s						
BDI				AML	AML		
	comp=N,3505μm,0.7s						
BDI				END			
VLC	**Villacollemand**	**0.46**	**273**	P	Pg	11 34 30.6	+0.1
VLC				S	Sb	11 34 37.6	-0.7
VLC				AML	AML		
	comp=E,470μm,0.4s						
VLC				AML	AML		
	comp=E,484μm,0.7s						
VLC				AML	AML		
	comp=N,1444μm,0.4s						
VLC				AML	AML		
	comp=N,1458μm,0.4s						
RUFI	**Rufina**	**0.46**	**130**	AML	AML		
	comp=E,732μm,0.9s						
RUFI				AML	AML		
	comp=N,380μm,0.8s						
ERBM	**Eremo**	**0.52**	**303**	P	Pg	11 34 32.0	+0.4
ERBM				AML	AML		
	comp=E,384μm,0.8s						
ERBM				AML	AML		
	comp=N,298μm,1.4s						
ERBM				AML	AML		
	comp=E,385μm,0.8s						
ERBM				AML	AML		
	comp=N,418μm,0.6s						
APEC	**Apecchio**	**1.17**	**119**	AML	AML		
	comp=E,153μm,1.3s						
APEC				AML	AML		
	comp=N,135μm,0.5s						

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*GEN **04** 11:34:45.3, 44°.17N×11°.04E, h10km±5km, Ml2.5*
*LDG **04** 11:34:45.6±0.1, 44°.13N×11°.03E, h10km, Ml2.6/14, Error ellipse: s-maj=1.9km s-min=1.6km az=21.0*
ROM 04 11:34:45.1±0.1, 44°.142N±0°.006×11°.000E±0°.006, h11km, ML2.5/25, Error ellipse: s-maj=0.6km s-min=0.5km az=25.0, hypocenter, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNVD	**Fontana Vidola**	**0.09**	**73**	P	Pg	11 34 47.8	0.0
FNVD				S	Sg	11 34 49.8	0.0
FNVD				AML	AML		
	comp=E,20050μm,0.4s						
FNVD				AML	AML		
	comp=N,11960μm,1.1s						
FNVD				AML	AML		
	comp=E,20050μm,0.4s						
FNVD				AML	AML		
	comp=N,11960μm,1.1s						
FNVD				AML	AML		
	comp=E,20050μm,0.4s						
FNVD				AML	AML		
	comp=N,11960μm,1.1s						
FNVD				AML	AML		
	comp=E,20050μm,0.4s						
FNVD				AML	AML		
	comp=N,11960μm,1.1s						
MTCR	**Monte La Croce**	**0.11**	**181**	P	Pg	11 34 48.7	+0.6
MTCR				S	Sg	11 34 51.2	+0.9
MTCR				AML	AML		
	comp=E,31400μm,0.2s						
MTCR				AML	AML		
	comp=N,13900μm,1.5s						
PTF	**Prato**	**0.19**	**165**	P	Pg	11 34 49.6	+0.5
PTF				S	Sg	11 34 53.0	+1.0
POPM	**Popiglio**	**0.20**	**241**	P	Pg	11 34 49.9	+0.6
POPM				S	Sg	11 34 53.7	+1.4
POPM	**Popiglio**	**0.20**	**241**	P	Pg	11 34 49.9	+0.5
POPM				S	Sg	11 34 53.7	+1.4
POPM				AML	AML		
	comp=E,4670μm,0.7s						
POPM				AML	AML		
	comp=N,5465μm,0.4s						
POPM				AML	AML		
	comp=E,4675μm,0.7s						
POPM				AML	AML		
	comp=N,5465μm,0.4s						
POPM				AML	AML		
	comp=N,5465μm,0.4s						
POPM				AML	AML		
	comp=E,4670μm,0.7s						
POPM				AML	AML		
	comp=N,5465μm,0.4s						
POPM				AML	AML		
	comp=E,4675μm,0.7s						
ZCCA	**Zocca**	**0.21**	**355**	P	Pb	11 34 50.5	-0.6
ZCCA				AML	AML		
	comp=E,4465μm,0.3s						
ZCCA				AML	AML		
	comp=N,4365μm,0.4s						
ZCCA				AML	AML		
	comp=E,5415μm,0.3s						
ZCCA				AML	AML		
	comp=N,4170μm,0.4s						
ZCCA				AML	AML		
	comp=E,4465μm,0.3s						
ZCCA				AML	AML		
	comp=N,4365μm,0.4s						
ZCCA				AML	AML		
	comp=E,5415μm,0.3s						
ZCCA				AML	AML		
	comp=N,4170μm,0.4s						
ZCCA				AML	AML		
	comp=E,5415μm,0.3s						
ZCCA				AML	AML		
	comp=N,4365μm,0.4s						
ZCCA				AML	AML		
	comp=E,4465μm,0.3s						
ZCCA				AML	AML		
	comp=N,4170μm,0.4s						
SEI	**Scarperia**	**0.27**	**109**	P	Pg	11 34 50.6	0.0
SEI				S	Sg	11 34 55.1	+0.8
SEI				AML	AML		
	comp=E,5240μm,0.4s						
SEI				AML	AML		
	comp=N,8550μm,0.3s						
SEI				AML	AML		
	comp=E,5240μm,0.4s						
SEI				AML	AML		
	comp=N,8550μm,0.3s						
SEI				AML	AML		
	comp=E,5240μm,0.4s						
SEI				AML	AML		
	comp=N,8550μm,0.3s						
SEI				AML	AML		
	comp=N,8545μm,0.3s						
SEI				AML	AML		
	comp=E,5240μm,0.4s						
SEI				AML	AML		
	comp=N,8550μm,0.3s						
SEI				AML	AML		
	comp=E,5240μm,0.4s						
BDI	**Bagni Di Lucca**	**0.30**	**255**	P	Pg	11 34 51.4	+0.2
BDI				S	Sg	11 34 56.3	+1.0
BDI				AML	AML		
	comp=E,2265μm,1.0s						
BDI				AML	AML		
	comp=N,3405μm,0.7s						
BDI				AML	AML		
	comp=E,2015μm,0.8s						
BDI				AML	AML		
	comp=N,3505μm,0.7s						
BDI				AML	AML		
	comp=E,2265μm,1.0s						
BDI				AML	AML		
	comp=N,3405μm,0.7s						
BDI				AML	AML		
	comp=E,2015μm,0.8s						
BDI				AML	AML		
	comp=N,3505μm,0.7s						
BDI				AML	AML		
	comp=E,2015μm,0.8s						
BDI				AML	AML		
	comp=E,2265μm,1.0s						
BDI				AML	AML		
	comp=N,3505μm,0.7s						
BDI				AML	AML		
	comp=N,3400μm,0.7s						
BDI				AML	AML		
	comp=E,2015μm,0.8s						
BDI				AML	AML		
	comp=E,2265μm,1.0s						
BDI				AML	AML		
	comp=N,3505μm,0.7s						
BDI				AML	AML		
	comp=N,3405μm,0.7s						
CRMI	**Carmignano**	**0.35**	**184**	P	Pg	11 34 52.6	+0.4
CRMI				S	Sb	11 34 58.1	-0.8
CRMI				AML	AML		
	comp=E,2425μm,0.4s						
CRMI				AML	AML		
	comp=N,1955μm,0.4s						
CRMI				AML	AML		
	comp=E,992μm,0.4s						
CRMI				AML	AML		
	comp=N,852μm,0.4s						
CRMI				AML	AML		
	comp=E,2425μm,0.4s						
CRMI				AML	AML		
	comp=N,1960μm,0.4s						
CRMI				AML	AML		
	comp=E,992μm,0.4s						
CRMI				AML	AML		
	comp=N,852μm,0.4s						
CRMI				AML	AML		
	comp=E,992μm,0.4s						
CRMI				AML	AML		
	comp=N,852μm,0.4s						
CRMI				AML	AML		
	comp=N,852μm,0.4s						
CRMI				AML	AML		
	comp=E,992μm,0.4s						
CRMI				AML	AML		
	comp=E,992μm,0.4s						
CRMI				AML	AML		
	comp=N,852μm,0.4s						
CARD	**Cardoso**	**0.39**	**253**	P	Pg	11 34 52.9	0.0
CARD				S	Sg	11 34 58.9	+0.8
CARD	**Cardoso**	**0.39**	**253**	P	Pg	11 34 52.6	-0.2
CARD				S	Sg	11 34 58.9	+0.9
CARD				AML	AML		
	comp=E,1068μm,0.6s						
CARD				AML	AML		
	comp=N,1355μm,0.4s						
CARD				AML	AML		
	comp=E,1069μm,0.6s						
CARD				AML	AML		
	comp=N,1355μm,0.4s						
CARD				AML	AML		
	comp=E,1068μm,0.6s						
CARD				AML	AML		
	comp=N,1355μm,0.4s						
CARD				AML	AML		
	comp=N,1355μm,0.4s						
CARD				AML	AML		
	comp=E,1068μm,0.6s						
CARD				AML	AML		
	comp=N,1355μm,0.4s						
CARD				AML	AML		
	comp=E,1068μm,0.6s						
MTRZ	**Monterenzio**	**0.41**	**55**	P	Pg	11 34 52.9	-0.3
MTRZ				AML	AML		
	comp=E,1030μm,0.9s						
MTRZ				AML	AML		
	comp=N,994μm,1.0s						
MTRZ				AML	AML		
	comp=E,1070μm,0.9s						
MTRZ				AML	AML		
	comp=N,1000μm,1.0s						
MTRZ				AML	AML		
	comp=E,1035μm,0.9s						
MTRZ				AML	AML		
	comp=N,996μm,1.0s						
MTRZ				AML	AML		
	comp=E,1070μm,0.9s						
MTRZ				AML	AML		
	comp=N,1000μm,1.0s						
MTRZ				AML	AML		
	comp=E,1035μm,0.9s						
MTRZ				AML	AML		
	comp=N,994μm,1.0s						
MTRZ				AML	AML		
	comp=E,1070μm,0.9s						
MTRZ				AML	AML		
	comp=N,1000μm,1.0s						
MTRZ				AML	AML		
	comp=E,1035μm,0.9s						
MTRZ				AML	AML		
	comp=E,1070μm,0.9s						
MTRZ				AML	AML		
	comp=N,994μm,1.0s						
MTRZ				AML	AML		
	comp=N,1000μm,1.0s						
MAIM	**Mastiano**	**0.43**	**238**	P	Pg	11 34 53.4	-0.2
MAIM				S	Sb	11 35 00.5	-0.7
MAIM	**Mastiano**	**0.43**	**238**	P	Pg	11 34 53.4	-0.2
MAIM				S	Sb	11 35 00.4	-0.9
MAIM				AML	AML		
	comp=E,346μm,0.7s						
MAIM				AML	AML		
	comp=N,362μm,0.2s						
MAIM				AML	AML		
	comp=E,346μm,0.7s						
MAIM				AML	AML		
	comp=N,362μm,0.2s						
MAIM				AML	AML		
	comp=E,346μm,0.7s						
MAIM				AML	AML		
	comp=N,362μm,0.2s						
MAIM				AML	AML		
	comp=N,362μm,0.2s						
MAIM				AML	AML		
	comp=E,346μm,0.7s						
MAIM				AML	AML		
	comp=N,362μm,0.2s						
MAIM				AML	AML		
	comp=E,346μm,0.7s						
SARO	**Sassorosso**	**0.43**	**276**	P	Pg	11 34 53.8	+0.1
SARO				S	Sb	11 35 00.4	-1.0
SARO	**Sassorosso**	**0.43**	**276**	P	Pg	11 34 53.7	0.0
SARO				S	Sg	11 35 00.3	+0.9
SARO				AML	AML		
	comp=E,350μm,0.4s						
SARO				AML	AML		
	comp=N,764μm,0.5s						
SARO				AML	AML		
	comp=E,350μm,0.4s						
SARO				AML	AML		
	comp=N,764μm,0.5s						
SARO				AML	AML		
	comp=E,350μm,0.4s						
SARO				AML	AML		
	comp=N,764μm,0.5s						
SARO				AML	AML		
	comp=N,764μm,0.5s						
SARO				AML	AML		
	comp=E,350μm,0.4s						
SARO				AML	AML		
	comp=N,764μm,0.5s						
SARO				AML	AML		
	comp=E,350μm,0.4s						
VLC	**Villacollemand**	**0.44**	**273**	P	Pg	11 34 53.9	+0.1
VLC				S	Sb	11 35 00.8	-0.8
VLC				AML	AML		
	comp=E,484μm,0.7s						
VLC				AML	AML		
	comp=N,1441μm,0.4s						
VLC				AML	AML		
	comp=E,470μm,0.4s						

VLC			AML	AML		
	comp=N,1458μm,0.4s					
VLC			AML	AML		
	comp=E,484μm,0.7s					
VLC			AML	AML		
	comp=N,1444μm,0.4s					
VLC			AML	AML		
	comp=E,470μm,0.4s					
VLC			AML	AML		
	comp=N,1458μm,0.4s					
VLC			AML	AML		
	comp=N,1458μm,0.4s					
VLC			AML	AML		
	comp=N,1444μm,0.4s					
VLC			AML	AML		
	comp=E,484μm,0.7s					
VLC			AML	AML		
	comp=E,470μm,0.4s					
VLC			AML	AML		
	comp=N,1458μm,0.4s					
VLC			AML	AML		
	comp=N,1444μm,0.4s					
VLC			AML	AML		
	comp=E,484μm,0.7s					
VLC			AML	AML		
	comp=E,470μm,0.4s					
RUFI	**Rufina**	**0.48 129**	P	Pg	11 34 54.4	0.0
ERBM	**Eremo**	**0.51 304**	P	Pb	11 34 55.5	-0.5
ERBM			AML	AML		
	comp=E,384μm,0.8s					
ERBM			AML	AML		
	comp=N,418μm,0.6s					
ERBM			AML	AML		
	comp=E,385μm,0.8s					
ERBM			AML	AML		
	comp=N,418μm,0.6s					
ERBM			AML	AML		
	comp=E,385μm,0.8s					
ERBM			AML	AML		
	comp=N,418μm,0.6s					
ERBM			AML	AML		
	comp=N,418μm,0.6s					
ERBM			AML	AML		
	comp=E,385μm,0.8s					
ERBM			AML	AML		
	comp=N,418μm,0.6s					
ERBM			AML	AML		
	comp=E,385μm,0.8s					
PII	**Pisa**	**0.54 219**	P	Pg	11 34 55.6	0.0
PII			AML	AML		
	comp=E,773μm,0.7s					
PII			AML	AML		
	comp=N,918μm,1.0s					
PII			AML	AML		
	comp=E,773μm,0.7s					
PII			AML	AML		
	comp=N,918μm,1.0s					
PII			AML	AML		
	comp=E,773μm,0.7s					
PII			AML	AML		
	comp=N,918μm,1.0s					
PII			AML	AML		
	comp=E,773μm,0.7s					
PII			AML	AML		
	comp=N,918μm,1.0s					
EQUI	**Equi**	**0.61 273**	P	Pg	11 34 57.2	+0.3
EQUI			S	Sg	11 35 05.0	0.0
OSSC	**Osservatorio P**	**0.64 164**	P	Pb	11 34 58.6	+0.2
OSSC			AML	AML		
	comp=E,988μm,0.6s					
OSSC			AML	AML		
	comp=N,760μm,1.3s					
OSSC			AML	AML		
	comp=E,924μm,0.6s					
OSSC			AML	AML		
	comp=N,776μm,1.3s					
OSSC			AML	AML		
	comp=E,986μm,0.6s					
OSSC			AML	AML		
	comp=N,760μm,1.3s					
OSSC			AML	AML		
	comp=E,924μm,0.6s					
OSSC			AML	AML		
	comp=N,776μm,1.3s					
OSSC			AML	AML		
	comp=E,986μm,0.6s					
OSSC			AML	AML		
	comp=N,776μm,1.3s					
OSSC			AML	AML		
	comp=N,760μm,1.3s					
OSSC			AML	AML		
	comp=E,924μm,0.6s					
OSSC			AML	AML		
	comp=E,986μm,0.6s					
OSSC			AML	AML		
	comp=N,776μm,1.3s					
OSSC			AML	AML		
	comp=N,760μm,1.3s					
OSSC			AML	AML		
	comp=E,924μm,0.6s					
SFI	**Santa Sofia**	**0.66 111**	P	Pg	11 34 57.9	+0.1
SFI			AML	AML		
	comp=E,462μm,0.4s					
SFI			AML	AML		
	comp=N,354μm,0.7s					
SFI			AML	AML		
	comp=E,404μm,0.3s					
SFI			AML	AML		
	comp=N,432μm,0.6s					
SFI			AML	AML		
	comp=E,462μm,0.4s					
SFI			AML	AML		
	comp=N,354μm,0.7s					
SFI			AML	AML		
	comp=E,405μm,0.3s					
SFI			AML	AML		
	comp=N,432μm,0.6s					
SFI			AML	AML		
	comp=E,462μm,0.4s					
SFI			AML	AML		
	comp=N,432μm,0.6s					
SFI			AML	AML		
	comp=E,405μm,0.3s					
SFI			AML	AML		
	comp=N,354μm,0.7s					
SFI			AML	AML		
	comp=E,462μm,0.4s					
SFI			AML	AML		
	comp=N,432μm,0.6s					
SFI			AML	AML		
	comp=E,405μm,0.3s					
SFI			AML	AML		
	comp=N,354μm,0.7s					
ASQU	**Asqua**	**0.67 121**	P	Pb	11 34 58.4	-0.4
ASQU			AML	AML		
	comp=E,360μm,0.5s					
ASQU			AML	AML		
	comp=N,341μm,0.5s					
ASQU			AML	AML		
	comp=E,360μm,0.5s					
ASQU			AML	AML		
	comp=N,341μm,0.5s					
ASQU			AML	AML		
	comp=N,341μm,0.5s					
ASQU			AML	AML		
	comp=E,360μm,0.5s					
ASQU			AML	AML		
	comp=N,341μm,0.5s					
ASQU			AML	AML		
	comp=E,360μm,0.5s					
GRAM	**Graiana**	**0.76 298**	P	Pb	11 35 00.1	-0.3
GRAM			S	Sb	11 35 11.9	+1.2
GRAM	**Graiana**	**0.76 298**	P	Pg	11 34 60.0	+0.2
GRAM			AML	AML		
	comp=E,1110μm,0.4s					
GRAM			AML	AML		
	comp=N,830μm,0.4s					
GRAM			AML	AML		
	comp=E,1110μm,0.4s					
GRAM			AML	AML		
	comp=N,830μm,0.4s					
GRAM			AML	AML		
	comp=N,830μm,0.4s					
GRAM			AML	AML		
	comp=E,1110μm,0.4s					
GRAM			AML	AML		
	comp=N,830μm,0.4s					
GRAM			AML	AML		
	comp=E,1110μm,0.4s					
PLMA	**Palmaria, Port**	**0.83 264**	P	Pg	11 35 01.2	+0.1
PLMA			AML	AML		
	comp=E,170μm,0.3s					
PLMA			AML	AML		
	comp=N,303μm,0.5s					
PLMA			AML	AML		
	comp=E,170μm,0.3s					
PLMA			AML	AML		
	comp=N,303μm,0.5s					
PLMA			AML	AML		
	comp=N,303μm,0.5s					
PLMA			AML	AML		
	comp=E,170μm,0.3s					
PLMA			AML	AML		
	comp=N,303μm,0.5s					
PLMA			AML	AML		
	comp=E,170μm,0.3s					
PARC	**Parchiule**	**1.02 118**	P	Pg	11 35 04.8	0.0
PARC			AML	AML		
	comp=E,103μm,1.6s					
PARC			AML	AML		
	comp=N,121μm,1.6s					
PARC			AML	AML		
	comp=E,103μm,1.6s					
PARC			AML	AML		
	comp=N,121μm,1.6s					
PARC			AML	AML		
	comp=N,121μm,1.6s					
PARC			AML	AML		
	comp=E,103μm,1.6s					
PARC			AML	AML		
	comp=N,121μm,1.6s					
PARC			AML	AML		
	comp=E,103μm,1.6s					
CAFI	**Castiglion Fio**	**1.07 139**	P	Pb	11 35 05.4	-0.3
CAFI			AML	AML		
	comp=E,92μm,0.5s					
CAFI			AML	AML		
	comp=N,105μm,0.6s					
CAFI			AML	AML		
	comp=E,92μm,0.5s					
CAFI			AML	AML		
	comp=N,105μm,0.6s					
CAFI			AML	AML		
	comp=E,92μm,0.5s					
CAFI			AML	AML		
	comp=N,105μm,0.6s					
CAFI			AML	AML		
	comp=E,92μm,0.5s					
CAFI			AML	AML		
	comp=N,105μm,0.6s					
MGAB	**Montegabbione**	**1.47 146**	P	Pn	11 35 10.7	-0.9
MGAB			AML	AML		
	comp=E,78μm,0.7s					
MGAB			AML	AML		
	comp=N,88μm,0.6s					
MGAB			AML	AML		
	comp=E,78μm,0.7s					
MGAB			AML	AML		
	comp=N,88μm,0.6s					
MGAB			AML	AML		
	comp=N,88μm,0.6s					
MGAB			AML	AML		
	comp=E,78μm,0.7s					
MGAB			AML	AML		
	comp=N,88μm,0.6s					
MGAB			AML	AML		
	comp=E,78μm,0.7s					
PGF	**Pioggiola**	**2.16 223**	*e*Pn	Pn	11 35 20.7	-0.4
PGF			*e*Sn	Sn	11 35 45.1	-2.9
	comp=E,4.4nm,0.4s					
SBF	**Sospel**	**2.59 265**	*e*Pn	Pn	11 35 26.3	-0.7
SBF	**Sospel**	**2.59 265**	*e*Pg	Pg	11 35 34.3	-0.4
SBF			*e*Sn	Sn	11 35 56.0	-2.4
	comp=E,15nm,0.5s					
DUGI	**Dugi Otok**	**2.93 92**	*e*Pn	Pn	11 35 33.0	+1.4
DUGI			Sn	Sn	11 36 07.1	+0.3
MBDF	**Montbardon**	**3.08 282**	*e*P	Pn	11 35 36.0	+2.1
MBDF			*e*Sn	Sn	11 36 08.1	-2.8
	comp=E,7.4nm,0.6s					
FRF	**La Foret Royal**	**3.20 261**	*e*Pn	Pn	11 35 34.6	-0.8
FRF			*e*Sn	Sn	11 36 10.6	-2.9
	comp=E,9.4nm,0.4s					
LPG	**La Plagne**	**3.31 296**	*e*P	Pn	11 35 39.4	+2.2
LPL	**La Plagne**	**3.33 296**	*e*P	Pn	11 35 40.0	+2.6
LPL			*e*Sn	Sn	11 36 14.5	-2.6
	comp=E,3.4nm,0.6s					
LMR	**La Mourre**	**3.35 258**	*e*Pn	Pn	11 35 36.9	-0.5
LMR			*e*Sn	Sn	11 36 14.8	-2.4
	comp=E,7.0nm,0.3s					
ZIRJ	**Zirje**	**3.39 97**	*i* Pn	Pn	11 35 39.1	+1.2
ZIRJ			Sn	Sn	11 36 14.7	-3.5
ORIF	**Oris-en-Rattie**	**3.74 284**	*e*Pn	Pn	11 35 42.3	-0.6
ORIF			*e*Sn	Sn	11 36 24.1	-2.9
	comp=E,3.3nm,0.4s					
KIJV	**Kijevo**	**3.90 90**	*e*Pn	Pn	11 35 48.2	+3.3
KIJV			Sn	Sn	11 36 33.3	+2.6
SMRF	**Simiane la Rot**	**3.91 269**	*e*P	Pn	11 35 47.4	+2.2
SMRF			*e*Sn	Sn	11 36 28.2	-2.9
	comp=E,2.2nm,0.4s					
CABF	**La Chapelle**	**4.25 307**	*e*P	Pn	11 35 52.1	+2.2
CABF			*e*Sn	Sn	11 36 36.6	-2.9
	comp=E,2.1nm,0.4s					
LSTV	**Lastovo**	**4.50 106**	*e*Pn	Pn	11 35 54.2	+1.0
LSTV			Sn	Sn	11 36 45.5	-0.1
CDF	**Champ du Feu**	**4.99 330**	*e*Pn	Pn	11 35 59.4	-0.6
HAU	**Haudompre**	**5.04 322**	*e*Pn	Pn	11 35 59.8	-0.8
HAU			*e*Sn	Sn	11 36 55.5	-3.4
	comp=E,3.8nm,0.2s					
LOR	**Lormes**	**5.90 305**	*e*Pn	Pn	11 36 11.6	-0.8
	baz=123					
LOR			*e*Sn	Sn	11 37 15.4	-4.6
	comp=E,4.5nm,0.5s					
GIVF	**Givet**	**7.30 327**	*e*Pn	Pn	11 36 31.1	-0.5

GEN ***04*** *11:35:41.2, 44°.18N×11°.04E, h11km±5km, Ml2.1*
ROM 04 11:35:41.2±0.1, 44°.134N±0°.006×11°.009E±0°.005, h12km±1km, ML2.2/1, Error ellipse: s-maj=0.6km s-min=0.4km az=13.0, hypocenter, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNVD	**Fontana Vidola**	**0.09**	**68**	P	Pg	11 35 44.0	0.0
FNVD				S	Sg	11 35 46.0	0.0
MTCR	**Monte La Croce**	**0.11**	**184**	P	Pg	11 35 44.8	+0.5
MTCR				S	Sg	11 35 47.2	+0.8
MTCR				AML	AML		
	comp=E,7640μm,0.3s						
MTCR				AML	AML		
	comp=N,2925μm,1.5s						
MTCR				AML	AML		
	comp=E,7635μm,0.3s						
MTCR				AML	AML		
	comp=N,2915μm,1.5s						
PTF	**Prato**	**0.18**	**166**	P	Pg	11 35 45.8	+0.5
PTF				S	Sg	11 35 49.3	+1.3
POPM	**Popiglio**	**0.20**	**244**	P	Pg	11 35 46.0	+0.4
POPM				S	Sg	11 35 49.7	+1.1
POPM	**Popiglio**	**0.20**	**244**	P	Pg	11 35 46.0	+0.4
POPM				S	Sg	11 35 49.7	+1.1
POPM				AML	AML		
	comp=E,1735μm,0.1s						
POPM				AML	AML		
	comp=N,1655μm,0.4s						
ZCCA	**Zocca**	**0.22**	**354**	P	Pb	11 35 46.7	-0.5
ZCCA				AML	AML		
	comp=N,1525μm,0.3s						
ZCCA				AML	AML		
	comp=E,2140μm,0.3s						
ZCCA				AML	AML		
	comp=N,1435μm,0.4s						
ZCCA				AML	AML		
	comp=N,1525μm,0.3s						
ZCCA				AML	AML		
	comp=E,2450μm,0.3s						
SEI	**Scarperia**	**0.26**	**108**	P	Pg	11 35 46.9	+0.1
SEI				S	Sg	11 35 51.2	+0.8
SEI				AML	AML		
	comp=N,2655μm,0.2s						
SEI				AML	AML		
	comp=E,1670μm,0.4s						
BDI	**Bagni Di Lucca**	**0.30**	**257**	P	Pg	11 35 47.7	+0.2
BDI				S	Sg	11 35 52.6	+1.0
BDI				AML	AML		
	comp=N,982μm,0.7s						
BDI				AML	AML		
	comp=N,1084μm,0.7s						
BDI				AML	AML		
	comp=E,664μm,1.0s						
BDI				AML	AML		
	comp=E,679μm,1.0s						
CARD	**Cardoso**	**0.40**	**254**	P	Pg	11 35 49.3	+0.2
CARD				S	Sg	11 35 55.1	+0.8
MTRZ	**Monterenzio**	**0.41**	**53**	P	Pg	11 35 49.1	-0.2
MAIM	**Mastiano**	**0.43**	**240**	P	Pg	11 35 49.5	-0.3
MAIM				S	Sb	11 35 56.7	-0.6
MAIM	**Mastiano**	**0.43**	**240**	P	Pg	11 35 49.7	-0.1
MAIM				S	Sg	11 35 56.3	+0.8
MAIM				AML	AML		
	comp=N,95μm,0.9s						
MAIM				AML	AML		
	comp=E,106μm,0.7s						
SARO	**Sassorosso**	**0.44**	**277**	P	Pg	11 35 50.1	+0.1
SARO				S	Sg	11 35 56.5	+0.7
SARO	**Sassorosso**	**0.44**	**277**	P	Pg	11 35 50.0	0.0
SARO				AML	AML		
	comp=E,102μm,0.4s						
SARO				AML	AML		
	comp=N,214μm,0.5s						
VLC	**Villacollemand**	**0.45**	**273**	P	Pg	11 35 50.4	+0.3
VLC				S	Sg	11 35 56.9	+0.8
VLC				AML	AML		
	comp=N,412μm,0.4s						
VLC				AML	AML		
	comp=E,176μm,1.3s						
VLC				AML	AML		
	comp=E,164μm,1.3s						
VLC				AML	AML		
	comp=N,428μm,0.4s						
RUFI	**Rufina**	**0.47**	**129**	P	Pg	11 35 50.4	0.0
ERBM	**Eremo**	**0.51**	**304**	P	Pg	11 35 51.6	+0.2
PII	**Pisa**	**0.54**	**220**	P	Pg	11 35 51.7	0.0
PII				AML	AML		
	comp=N,238μm,0.9s						
PII				AML	AML		
	comp=E,192μm,0.3s						
SFI	**Santa Sofia**	**0.65**	**110**	P	Pb	11 35 54.3	-0.3
SFI				AML	AML		
	comp=N,130μm,0.7s						
SFI				AML	AML		
	comp=E,135μm,0.4s						
ASQU	**Asqua**	**0.66**	**121**	P	Pb	11 35 54.7	0.0
ASQU				AML	AML		
	comp=E,90μm,0.3s						
ASQU				AML	AML		
	comp=N,91μm,0.5s						
GRAM	**Graiana**	**0.77**	**298**	P	Pg	11 35 56.1	+0.1
GRAM				AML	AML		
	comp=E,274μm,0.4s						
GRAM				AML	AML		
	comp=N,240μm,0.4s						
PLMA	**Palmaria, Port**	**0.84**	**265**	AML	AML		
	comp=N,74μm,0.4s						
PLMA				AML	AML		
	comp=E,63μm,0.8s						
BOB	**Bobbio (Coli)**	**1.28**	**300**	AML			
	comp=N,226μm,1.1s						
BOB				AML			
	comp=N,226μm,1.1s						
BOB				AML			
	comp=E,157μm,0.8s						
GORR	**Gorreto**	**1.32**	**292**	AML			
	comp=E,261μm,1.5s						
GORR				AML			
	comp=N,211μm,0.9s						
CASP	**Castiglione de**	**1.35**	**184**	AML			
	comp=E,74μm,0.5s						
CASP				AML			
	comp=N,53μm,0.5s						
CASP				AML			
	comp=E,74μm,0.5s						
ATTE	**AVT- Monte Tez**	**1.36**	**133**	AML			
	comp=N,68μm,1.6s						
ATTE				AML			
	comp=E,79μm,1.1s						

PRE ***04*** *11:40:54.2±1.2, 26°.44S×27°.63E, h2km, ML2.4*
EAF ***04*** *11:40:55.6±2.9, 26°.50S×27°.74E, h10km, MD3.7*
ISC 04 11:40:53.7±0.8, 26°.34S±0°.02×27°.59E±0°.03, h13km±5km, n25, σ1.83/55, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.02**	**112**	*e*P	**Pg**	**11 40 56.4**	**+0.1**
KLOF				*e*S	**Sg**	**11 40 57.2**	**-0.9**
KLOF				AML	AML	11 40 57.8	
	comp=Z,11μm,0.3s						
WDLM	**Western Deep L**	**0.17**	**240**	*e*P	**Pg**	**11 40 58.4**	**+0.6**
WDLM				*e*S	**Sg**	**11 40 59.8**	**-0.8**
WDLM				AML	AML	11 41 02.9	
	comp=Z,958nm,0.3s						
ERPM	**east rand prop**	**0.59**	**90**	*e*P	**Pg**	**11 41 05.6**	**+0.4**
ERPM				*e*S	**Sg**	**11 41 13.1**	**0.0**
ERPM				AML	AML	11 41 13.7	
	comp=Z,79nm,0.1s						
PRYS	**Parys**	**0.62**	**199**	*e*P	**Pg**	**11 41 05.3**	**-0.5**
PRYS				*e*S	**Sg**	**11 41 11.4**	**-2.6**
PRYS				AML	AML	11 41 18.2	
	comp=Z,43nm,0.2s						
KSR	**Koster**	**0.79**	**308**	*e*P	**Pn**	**11 41 10.7**	**+0.1**
KSR				*e*S	**Sn**	**11 41 22.8**	**+0.4**
KSR				AML	AML	11 41 28.7	
	comp=Z,453nm,0.2s						
SLR	**Silverton**	**0.87**	**46**	*e*P	**Pb**	**11 41 11.8**	**+1.0**
SLR				*e*S	**Sb**	**11 41 24.3**	**+2.0**
SLR				AML	AML	11 41 29.2	
	comp=Z,54nm,0.5s						
SWZ	**Schweizer**	**2.18**	**247**	*e*P	**Pb**	**11 41 32.6**	**-0.5**
SWZ				*e*S	**Sb**	**11 42 00.5**	**+0.4**
SWZ				AML	AML	11 42 03.1	
	comp=Z,36nm,0.1s						
LBTB	**Lobatse**	**2.23**	**306**	*i* P	**Pg**	**11 41 35.7**	**-0.7**
LBTB				*i* S	**Sg**	**11 42 05.2**	**-0.1**
LBTB	**Lobatse**	**2.23**	**306**	*i* P	**Pn**	**11 41 32.3**	**+1.9**
LBTB				*i* S	**Sg**	**11 42 05.2**	**-0.1**
LBTB	**Lobatse**	**2.23**	**306**	*i* P	**Pg**	**11 41 35.7**	**-0.7**
LBTB				*i* S	**Sg**	**11 42 05.1**	**-0.1**
LBTB	**Lobatse**	**2.23**	**306**	*e*P	**Pb**	**11 41 34.5**	**+0.7**
LBTB				*e*S	**Sg**	**11 42 03.4**	**-1.9**
LBTB				AML	AML	11 42 07.0	
	comp=Z,37nm,0.1s						
LBTB	**Lobatse**	**2.23**	**306**	*i* P	**Pg**	**11 41 35.7**	**-0.7**
LBTB				*i* S	**Sg**	**11 42 05.2**	**-0.1**
LBTB	**Lobatse**	**2.23**	**306**	*i* P	**Pn**	**11 41 32.3**	**+1.9**
LBTB				*i* P	**Pg**	**11 41 35.7**	**-0.7**
LBTB				*i* S	**Sg**	**11 42 05.1**	**-0.1**
LBTB				*i* S	**Sg**	**11 42 05.2**	**-0.1**
BOSA	**Boshof**	**3.07**	**222**	*i* P	**Pn**	**11 41 43.1**	**+1.1**
BOSA				*i* S	**Sb**	**11 42 25.6**	**0.0**
BOSA	**Boshof**	**3.07**	**222**	*i* P	**Pn**	**11 41 43.3**	**+1.4**
BOSA				*i* S	**Sb**	**11 42 26.3**	**+0.8**
BOSA	**Boshof**	**3.07**	**222**	*i* P	**Pn**	**11 41 43.1**	**+1.1**
BOSA				*i* S	**Sn**	**11 42 19.9**	**+1.3**
BOSA	**Boshof**	**3.07**	**222**	*e*P	**Pn**	**11 41 43.0**	**+1.0**
BOSA				*e*S	**Sn**	**11 42 19.5**	**+0.9**
BOSA				AML	AML	11 42 31.4	
	comp=Z,16nm,0.3s						
BOSA	**Boshof**	**3.07**	**222**	*i* P	**Pn**	**11 41 43.1**	**+1.1**
BOSA				*i* S	**Sb**	**11 42 25.6**	**0.0**
BOSA	**Boshof**	**3.07**	**222**	*i* P	**Pn**	**11 41 43.1**	**+1.1**
BOSA				*i* P	Pb	11 41 43.3	-4.9
BOSA				*i* S	**Sn**	**11 42 19.9**	**+1.3**
BOSA				*i* S	**Sb**	**11 42 26.3**	**+0.8**
POGA	**Pongola**	**3.82**	**106**	*e*P	**Pn**	**11 41 53.1**	**+1.0**
POGA				*e*S	**Sn**	**11 42 37.5**	**+0.6**
POGA				AML	AML	11 42 55.4	
	comp=Z,18nm,0.5s						
MATP	**Matopo**	**5.95**	**8**	*i* P	**Pb**	**11 42 36.3**	**-1.0**
MATP				*i* S	**Sg**	**11 43 58.5**	**-6.2**
MATP	**Matopo**	**5.95**	**8**	*i* P	**Pn**	**11 42 24.2**	**+2.7**
MATP				*i* S	**Sn**	**11 43 32.2**	**+2.6**
MATP	**Matopo**	**5.95**	**8**	*i* P	**Pn**	**11 42 24.2**	**+2.7**
MATP				*i* P	**Pb**	**11 42 36.3**	**-1.0**
MATP				*i* S	**Sn**	**11 43 32.2**	**+2.6**
MATP				*i* S	**Sg**	**11 43 58.5**	**-6.2**
SUR	**Sutherland**	**8.43**	**223**	*i* P	**Pn**	**11 42 56.8**	**+1.1**
SUR				*i* S	**Sn**	**11 44 27.9**	**-3.0**

SUR	**Sutherland**	**8.43 223**	*i* P	**Pn**	**11 42 56.8**	**+1.1**
SUR			*i* S	**Sn**	**11 44 27.9**	**-3.0**

*ANF **04** 11:41:20.6±0.4,36°.56N×97°.56W,h0km,ML4.0/12,Error ellipse: s-maj=4.4km s-min=3.7km az=33.0*
*NEIC **04** 11:41:20.8±0.9,36°.566N±0°.008×97°.61W±0°.06,h5km±2km, Error ellipse: s-maj=8.5km s-min=3.0km az=86.0*
*TUL **04** 11:41:20.4±0.9,36°.58N±0°.01×97°.61W±0°.06,h5km±7km, ML3.4,Error ellipse: s-maj=6.4km s-min=1.2km az=79.0*
*UNK **04** 11:41:21.2,36°.55N×97°.58W,h5km*

ISC 04 11:41:21.1±1.2,36°.57N±0°.02×97°.57W±0°.03,h1km±11km, n53,σ1§20/62,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.34**	**260**	Pg	**Pg**	**11 41 26.9**	**-0.7**
KAN13	**South Haven SW**	**0.45**	**9**	Pg	**Pg**	**11 41 29.4**	**-0.4**
KAN13				Sg	**Sg**	**11 41 35.7**	**0.0**
KAN10	**Anthony SW Sta**	**0.70**	**323**		**Pg**	**11 41 33.5**	**-1.1**
OK029	**Liberty Lake**	**0.77**	**173**		**Pg**	**11 41 35.8**	**-0.1**
QUOK	**Quay**	**0.80**	**119**	Pg	**Pg**	**11 41 36.4**	**0.0**
BCOK	**Bluff Creek, N**	**0.91**	**182**		**Pg**	**11 41 38.0**	**-0.5**
BCOK				Sg	**Sg**	**11 41 50.5**	**+0.3**
T35A	**Sooner Cattle**	**0.92**	**67**		**Pg**	**11 41 38.4**	**-0.3**
OK025	**Westminster Rd**	**1.00**	**169**		**Pg**	**11 41 39.4**	**-0.8**
OK025				Sg	**Sg**	**11 41 53.8**	**+0.6**
OKCFA	**Oklahoma City**	**1.15**	**175**		**Pg**	**11 41 42.3**	**-0.9**
OKCFA				Sg	**Sg**	**11 41 57.8**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**1.16**	**175**		**Pg**	**11 41 42.6**	**-0.8**
U32A	**Winter Ranch,**	**1.17**	**261**		**Pg**	**11 41 42.0**	**-1.6**
FNO	**Franklin**	**1.31**	**174**		**Pn**	**11 41 45.8**	**-0.8**
W35A	**Tecumseh**	**1.52**	**158**		**Pn**	**11 41 48.5**	**-0.9**
TUL1	**Leonard**	**1.57**	**114**	P	**Pn**	**11 41 49.7**	**-0.5**
TUL1	baz=294			S	**Sb**	**11 42 11.4**	**0.0**
TUL1	**Leonard**	**1.57**	**114**		**Pn**	**11 41 49.7**	**-0.5**
X34A	**Smith Ranch, M**	**1.97**	**186**	Pn	**Pn**	**11 41 55.8**	**+0.2**
R32A	**Long Quarter,**	**2.07**	**334**		**Pn**	**11 41 56.9**	**-0.1**
WMOK	**Wichita Mounta**	**2.08**	**209**	P	**Pn**	**11 41 56.6**	**-0.5**
WMOK	**Wichita Mounta**	**2.08**	**209**	Pn	**Pn**	**11 41 56.3**	**-0.8**
U38A	**Gravette**	**2.56**	**92**		**Pn**	**11 42 04.5**	**+0.7**
KSU1	**Kansas State U**	**2.64**	**16**	Pb	**Pb**	**11 42 09.8**	**+0.6**
KSU1	**Kansas State U**	**2.64**	**16**		**Pn**	**11 42 05.1**	**+0.2**
X37A	**Clayton**	**2.66**	**137**		**Pn**	**11 42 05.1**	**0.0**
CBKS	**Cedar Bluff**	**2.83**	**323**	Pb	**Pb**	**11 42 12.7**	**+0.3**
CBKS	baz=142			Sb	**Sb**	**11 42 48.1**	**+0.4**
HHAR	**Hobbs**	**2.94**	**94**		**Pn**	**11 42 08.9**	**-0.1**
Z35A	**Perchaven, San**	**3.24**	**175**		**Pn**	**11 42 13.4**	**+0.3**
W39A	**Magazine**	**3.36**	**113**	Pb	**Pb**	**11 42 22.3**	**+0.8**
W39A	**Magazine**	**3.36**	**113**		**Pn**	**11 42 14.6**	**-0.1**
S39A	**Bolivar**	**3.57**	**70**	Pn	**Pn**	**11 42 17.4**	**-0.3**
AMTX	**Amarillo**	**3.75**	**245**	Pb	**Pb**	**11 42 27.8**	**-0.3**
AMTX	baz=62			Sb	**Sb**	**11 43 16.8**	**+2.8**
U40A	**Yellville**	**3.80**	**92**	Pn	**Pn**	**11 42 20.6**	**-0.3**
MIAR	**Mount Ida**	**3.83**	**121**	P	**Pn**	**11 42 21.6**	**+0.5**
MIAR	**Mount Ida**	**3.83**	**121**		**Pn**	**11 42 21.7**	**+0.5**
Z38A	**Mt. Pleasant**	**3.92**	**147**	Pn	**Pn**	**11 42 23.3**	**+0.9**
N33A	**J Bar K, Exete**	**4.17**	**1**	Pn	**Pn**	**11 42 25.0**	**-0.9**
P38A	**Dawn**	**4.41**	**45**	Pn	**Pn**	**11 42 29.3**	**+0.1**
W41B	**Gary Mavity, V**	**4.54**	**106**	S	**Sn**	**11 43 22.4**	**-1.8**
W41B	**Gary Mavity, V**	**4.54**	**106**	Pn	**Pn**	**11 42 30.1**	**-0.8**
N35A	**Tabor**	**4.55**	**19**		**Pn**	**11 42 30.8**	**-0.3**
R40A	**Maddies Statio**	**4.55**	**66**	Pn	**Pn**	**11 42 30.7**	**-0.4**
WHTX	**Lake Whitney,**	**4.56**	**179**	P	**Pn**	**11 42 30.8**	**-0.5**
WHTX	baz=359			Sb	**Sb**	**11 43 40.3**	**+2.8**
WHTX	**Lake Whitney,**	**4.56**	**179**	Pn	**Pn**	**11 42 30.9**	**-0.4**
UALR	**University of**	**4.61**	**111**	Pn	**Pn**	**11 42 30.9**	**-1.1**
KSCO	**Kaye Shedlock'**	**4.70**	**303**	Pn	**Pn**	**11 42 32.1**	**-1.1**
237A	**Washetta, Mont**	**4.78**	**162**	Pn	**Pn**	**11 42 33.1**	**-1.2**
BGNE	**Belgrade**	**4.86**	**355**	P	**Pn**	**11 42 34.4**	**-0.9**
Z41A	**Richland Creek**	**5.12**	**129**	S	**Sn**	**11 43 36.1**	**-2.5**
CCM	**Cathedral Cave**	**5.25**	**72**	P	**Pn**	**11 42 40.9**	**+0.1**
CCM	**Cathedral Cave**	**5.25**	**72**	Pn	**Pn**	**11 42 40.7**	**0.0**
T25A	**Trinidad**	**5.52**	**278**	P	**Pn**	**11 42 43.3**	**-1.4**
T25A	baz=94			Sb	**Sb**	**11 44 11.0**	**+5.7**
T25A	**Trinidad**	**5.52**	**278**		**Pn**	**11 42 43.4**	**-1.3**
FVM	**French Village**	**5.87**	**74**	Pn	**Pn**	**11 42 49.0**	**-0.2**
ECSD	**EROS Data Cent**	**7.20**	**6**	Pn	**Pn**	**11 43 06.5**	**-1.0**

*IDC **04** 12:04:13.3±1.6,17°.73S×178°.58W,h530km±19km, mb3.3/10,mb1 3.5/12,mb1mx3.3/35,mbtmp4.2/12,Error ellipse: s-maj=26.0km s-min=12.3km az=145.0*
*NEIC **04** 12:04:15.2±2.0,17°.7S±0°.1×178°.6W±0°.1,h560km±10km, mb4.3/30,Error ellipse: s-maj=20.5km s-min=15.2km az=164.0*

ISC 04 12:04:14.4±0.5,17°.70S±0°.10×178°.60W±0°.08,h547km, n56,σ1§01/56,mb4.2/25,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.20**	**269**		P	12 05 36.1	+5.6
AFI	**Afiamalu**	**7.57**	**61**	P	**P**	**12 06 05.3**	**-2.7**
AFI	1.5nm,0.3s,baz=318,slow=18,SNR=1.3			S	**S**	**12 07 40.5**	**-0.5**
	1.7nm,0.3s,baz=252,slow=20,SNR=2.0						
AFI	**Afiamalu**	**7.57**	**61**	P	**P**	**12 06 06.6**	**-1.4**
NIUE	**Niue**	**8.35**	**101**	P	**P**	**12 06 17.0**	**+1.5**
SANVU	**Saraoutou**	**13.80**	**277**	P	**P**	**12 07 13.0**	**+1.4**
DZM	**Mont Dzumac**	**14.72**	**250**	P	**P**	**12 07 20.9**	**-0.4**
	0.4nm,0.3s,baz=131,slow=20,SNR=2.5						
OUZ	**Omahuta**	**18.78**	**200**	P	**P**	**12 08 00.8**	**+1.4**
URZ	**Urewera**	**20.83**	**190**	P	**P**	**12 08 16.1**	**-1.8**
	3.1nm,0.6s,baz=292,slow=16,SNR=1.3						
URZ	**Urewera**	**20.83**	**190**	P	**P**	**12 08 16.5**	**-1.5**
BKZ	**Black Stump Fm**	**21.81**	**190**	P	**P**	**12 08 24.8**	**-2.1**
BKZ	comp=Z,13nm,1.2s			IAmb	IAmb	12 08 42.6	
LTZ	**Lake Taylor**	**26.18**	**195**	P	**P**	**12 09 04.8**	**-0.8**
LTZ	comp=Z,12nm,1.4s			IAmb	IAmb	12 09 23.2	
FOZ	**Fox Glacier**	**27.56**	**198**	P	**P**	**12 09 16.4**	**-1.2**
FOZ	comp=Z,14nm,1.1s			IAmb	IAmb	12 09 27.3	
WKZ	**Wanaka**	**28.97**	**198**	P	**P**	**12 09 28.6**	**-1.4**
EIDS	**Eidsvold**	**29.17**	**250**	P	**P**	**12 09 31.1**	**-0.8**
EIDS	comp=Z,6.2nm,0.9s			IAmb	IAmb	12 09 33.0	
MLZ	**Mavora Lakes**	**29.73**	**199**	P	**P**	**12 09 34.8**	**-1.8**
ARMA	**Armidale**	**29.89**	**239**	P	**P**	**12 09 38.7**	**+0.5**
WHZ	**Wether Hill Ro**	**30.26**	**199**	P	**P**	**12 09 41.1**	**0.0**
CTAO	**Charters Tower**	**33.30**	**260**	P	**P**	**12 10 07.8**	**+0.3**
CTAO	comp=Z,6.5nm,0.7s			IAmb	IAmb	12 10 08.2	
COEN	**Coen**	**36.92**	**270**	P	**P**	**12 10 38.3**	**+0.7**
COEN	comp=Z,6.7nm,0.6s			IAmb	IAmb	12 10 39.1	
TOO	**Toolangi**	**37.16**	**230**	P	**P**	**12 10 39.5**	**+0.3**
TOO	comp=Z,9.9nm,0.8s			IAmb	IAmb	12 10 40.9	
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**12 10 51.8**	**+1.0**
	comp=Z,6.0nm,0.5s,baz=93,slow=10,SNR=19						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**12 10 51.8**	**+1.0**
BBOO	**Buckleboo**	**43.35**	**241**	P	**P**	**12 11 29.1**	**+0.4**
BBOO	comp=Z,13nm,0.8s			IAmb	IAmb	12 11 29.7	
WR0	**Warramunga Arr**	**44.30**	**259**	P	**P**	**12 11 35.6**	**-0.7**
WR0	comp=Z,13nm,1.5s			IAmb	IAmb	12 11 44.8	
WB0	**Warramunga Arr**	**44.46**	**260**	P	**P**	**12 11 37.2**	**-0.3**
WB0	comp=Z,6.0nm,0.8s			IAmb	IAmb	12 11 37.8	
WB2	**Warramunga Arr**	**44.48**	**259**	P	**P**	**12 11 37.0**	**-0.7**
WB2	comp=Z,5.6nm,0.6s			IAmb	IAmb	12 11 38.1	
WRAB	**Tennant Creek**	**44.48**	**259**	P	**P**	**12 11 36.9**	**-0.8**
WRAB	comp=Z,4.4nm,0.6s			IAmb	IAmb	12 11 38.0	
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**12 11 37.2**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=91,slow=6.9,SNR=124						
WRA	comp=Z,0.6nm,0.8s,baz=93,slow=3.7,SNR=5.7			PcP	**PcP**	**12 13 09.2**	**-0.1**
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**12 11 37.1**	**-0.6**
AS31	**Alice Springs**	**44.67**	**254**	P	**P**	**12 11 39.1**	**-0.1**
AS31	comp=Z,10nm,0.7s			IAmb	IAmb	12 11 39.9	
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**12 11 39.3**	**+0.2**
	comp=Z,36nm,0.6s,baz=88,slow=8.2,SNR=848						
ASAR				PcP	**PcP**	**12 13 09.7**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=104,slow=3.9,SNR=5.8						
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**12 11 38.4**	**-0.8**
FORT	**Forrest**	**49.93**	**244**	P	**P**	**12 12 16.5**	**-1.9**
KNRA	**Kununurra**	**50.33**	**264**	P	**P**	**12 12 21.2**	**-0.3**
KNRA	comp=Z,10nm,0.7s			IAmb	IAmb	12 12 22.2	
FITZ	**Fitzroy Crossi**	**52.88**	**260**	P	**P**	**12 12 40.2**	**+0.3**
PSA00	**Pilbara Seismi**	**57.79**	**255**	P	**P**	**12 13 13.6**	**-0.4**
PSA00	comp=Z,6.8nm,0.6s			IAmb	IAmb	12 13 14.3	
MORW	**Morawa**	**60.40**	**246**	P	**P**	**12 13 29.8**	**-1.6**
GIRL	**Giralia**	**62.78**	**253**	P	**P**	**12 13 47.4**	**+0.3**
CASY	**Casey**	**66.25**	**205**	P	**P**	**12 14 08.5**	**+0.3**
MJAR	**Matsushiro Arr**	**67.63**	**323**	P	**P**	**12 14 17.0**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=161,slow=5.8,SNR=5.4						
UGM	**Wanagama**	**69.47**	**268**	P	**P**	**12 14 28.6**	**-0.1**
QSPA	**South Pole Qui**	**72.35**	**180**	P	**P**	**12 14 45.4**	**+0.6**
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**12 15 25.3**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=223,slow=9.4,SNR=5.3						
SEY	**Seymchan**	**83.53**	**347**	P	**P**	**12 15 44.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=135,slow=6.4,SNR=9.2						
MAW	**Mawson**	**83.99**	**200**	P	**P**	**12 15 46.9**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=132,slow=5.9,SNR=4.0						
MAW	**Mawson**	**83.99**	**200**	IAmb	IAmb	12 15 47.7	
	comp=Z,0.4nm,0.9s						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**12 15 59.6**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=212,slow=3.8,SNR=6.4						
PDAR	**Pinedale Array**	**87.33**	**44**	P	**P**	**12 16 03.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=210,slow=4.3,SNR=5.8						
CMAR	**Chiang Mai Arr**	**88.64**	**290**	P	**P**	**12 16 11.2**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=110,slow=2.2,SNR=7.1						
SNAA	**Sanae**	**90.81**	**179**	P	**P**	**12 16 18.3**	**-0.9**
VNA3	**Neumayer Olymp**	**90.96**	**176**	P	**P**	**12 16 19.4**	**-0.4**
VNA2	**Neumayer--Watz**	**91.39**	**177**	P	**P**	**12 16 21.6**	**-0.2**
VNA1	**Neumayer--Stat**	**91.62**	**177**	P	**P**	**12 16 22.8**	**0.0**
ABKAR	**Akbulak array**	**123.66**	**318**		PKPpre	12 22 01.6	
BRTR	**Keskin Array B**	**144.51**	**315**	PKP	**PKPdf**	**12 22 49.3**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=112,slow=4.1,SNR=6.4						
GERES	**GERESS Array B**	**147.37**	**345**	PKPbc	**PKPbc**	**12 22 57.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=20,slow=4.3,SNR=5.6						

*IDC **04** 12:31:22.8±1.0,12°.57N×86°.60W,h103km±9km,mb3.5/8, mb1 3.8/12,mb1mx3.5/48,mbtmp3.9/12,Error ellipse: s-maj=30.3km s-min=9.3km az=55.0*
*SNET **04** 12:31:23.1±0.4,12°.39N×86°.95W,h104km±10km,ML3.9*
*NEIC **04** 12:31:23.9±1.0,12°.33N±0°.07×86°.94W±0°.07,h111km±5km, mb4.2/19,Error ellipse: s-maj=12.5km s-min=7.0km az=218.0*
*INET **04** 12:31:23.1,11°.97N×87°.33W,h19km,ML4.6*
*UCR **04** 12:31:24.9±1.4,12°.29N×87°.02W,h62km±28km,ML3.8, mb4.2(NEIC)*

ISC 04 12:31:23.1±0.7,12°.35N±0°.06×86°.96W±0°.06,h108km±6km, n82,σ1§14/95,mb4.0/17,2C-5D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.36**	**346**	Pn	**Pn**	**12 31 38.7**	**-0.3**
ESTN	**Estel**	**0.94**	**38**	Pn	**Pn**	**12 31 44.5**	**+0.9**
MATN	**Matagalpa**	**1.17**	**60**	Pn	**Pn**	**12 31 47.2**	**+1.2**
BOAB	**BOACO BROADBAN**	**.27**	**85**		**Pn**	**12 31 48.2**	**+1.2**
LCND	**La Caada**	**1.32**	**317**	⇓*i* P	**Pn**	**12 31 47.2**	**-0.4**
LCND				*e*S	**Sn**	**12 32 06.1**	**-0.1**
LCND				IAML		12 32 08.9	
	comp=Z,2μm,0.4s						
LCND	**La Caada**	**1.32**	**317**	⇓*i* P	**Pn**	**12 31 47.2**	**-0.4**
LCND				*e*S	**Sn**	**12 32 06.1**	**-0.1**
LCND				IAML		12 32 08.9	
	comp=Z,2μm,0.4s						
TGUH	**Tegucigalpa,Un**	**1.73**	**350**	Pn	**Pn**	**12 31 53.7**	**+1.0**
FAGO	**Alcalda de S**	**1.74**	**320**	*e*P	**Pn**	**12 31 52.6**	**-0.1**
FAGO				*e*S	**Sn**	**12 32 15.6**	**+0.2**
FAGO				IAML		12 32 19.9	
	comp=Z,385nm,0.5s						
FAGO	**Alcalda de S**	**1.74**	**320**	*e*P	**Pn**	**12 31 52.6**	**-0.1**
FAGO				*e*S	**Sn**	**12 32 15.6**	**+0.2**
FAGO				IAML		12 32 19.9	
	comp=Z,385nm,0.5s						
ACON	**Acoyapa**	**1.79**	**102**		**Pn**	**12 31 54.1**	**+0.8**
ALJI	**Alcalda de J**	**1.85**	**302**	*e*P	**Pn**	**12 31 54.1**	**+0.1**
ALJI				IAML		12 32 20.1	
	comp=Z,2μm,0.1s						
ALJI	**Alcalda de J**	**1.85**	**302**	*e*P	**Pn**	**12 31 54.1**	**+0.1**
ALJI				IAML		12 32 20.1	
	comp=Z,2μm,0.1s						
COEB	**Comit de Eme**	**1.91**	**307**	*e*P	**Pn**	**12 31 55.1**	**+0.2**
COEB				IAML		12 32 22.1	
	comp=Z,807nm,0.3s						
COEB	**Comit de Eme**	**1.91**	**307**	*e*P	**Pn**	**12 31 55.1**	**+0.2**
COEB				IAML		12 32 22.1	
	comp=Z,807nm,0.3s						
HZTE	**Horizontes, Gu**	**2.11**	**140**	⇑*e*P	**Pn**	**12 31 58.7**	**+1.3**
GBS3	**Finca Las Img**	**2.15**	**136**	*i* P	**Pn**	**12 31 58.2**	**+0.3**
GB1A	**Borinquen Arri**	**2.16**	**135**	*i* P	**Pn**	**12 31 58.7**	**+0.6**
BUAI	**Buenos Aires**	**2.17**	**132**	*i* P	**Pn**	**12 31 59.0**	**+0.9**
BUAI				*i* S	**Sn**	**12 32 25.5**	**+0.5**
BUEV	**Buena Vista**	**2.17**	**135**	*i* P	**Pn**	**12 31 58.6**	**+0.4**
BUEV				⇓*e*P		12 31 58.7	
BUEV				*i* S	**Sn**	**12 32 25.6**	**+0.5**
LAPC	**Finca la Perla**	**2.17**	**136**	*i* P	**Pn**	**12 31 58.3**	**+0.1**
LAPC				*i* S	**Sn**	**12 32 24.3**	**-0.8**
GPS1	**Guardaparques**	**2.22**	**135**	*i* P	**Pn**	**12 31 59.7**	**+0.8**
GPS2	**Hotel Rincn d**	**2.24**	**135**	*i* P	**Pn**	**12 32 01.1**	**+2.0**
COEG	**Centro de Oper**	**2.26**	**304**	*e*P	**Pn**	**12 31 59.5**	**+0.1**
COEG	**Centro de Oper**	**2.26**	**304**	*e*P	**Pn**	**12 31 59.5**	**+0.1**
LIM1	**Limonal**	**2.34**	**134**	*i* P	**Pn**	**12 32 01.3**	**+0.8**
GUAB	**Guayabo de Bag**	**2.35**	**134**	*i* P	**Pn**	**12 32 01.5**	**+0.9**
PAVA	**Las Pavas**	**2.35**	**305**	*e*P	**Pn**	**12 32 00.9**	**+0.2**
PAVA	**Las Pavas**	**2.35**	**305**	*e*P	**Pn**	**12 32 00.9**	**+0.2**
COLC	**Colonia**	**2.40**	**134**	*i* P	**Pn**	**12 32 02.4**	**+1.1**
CUI	**Cuipilapa**	**2.44**	**133**	⇓*e*P	**Pn**	**12 32 02.8**	**+1.2**
ORTG	**Ortega, Santa**	**2.46**	**143**	*e*P	**Pn**	**12 32 03.3**	**+1.3**
GUAI	**GUAI**	**2.51**	**145**	*i* P	**Pn**	**12 32 04.0**	**+1.4**
GUAI				*i* S	**Sn**	**12 32 31.6**	**-1.3**
PTEN	**Parque Tenorio**	**2.53**	**130**	*i* P	**Pn**	**12 32 04.0**	**+1.1**
PLVR	**Palo Verde**	**2.54**	**141**	⇓*e*P	**Pn**	**12 32 04.7**	**+1.5**
ACAL	**Aguas Claras**	**2.54**	**132**	*i* P	**Pn**	**12 32 04.1**	**+1.0**
SNET	**Serv Nac Est T**	**2.58**	**301**	Pn	**Pn**	**12 32 04.7**	**+1.1**
ESPN	**Las Esperanzas**	**2.61**	**93**	Pn	**Pn**	**12 32 05.8**	**+2.0**
DUNO	**Dulce Nombre,**	**2.68**	**147**	*e*P	**Pn**	**12 32 05.5**	**+0.7**
GRZA	**Playa Garza**	**2.75**	**152**	*e*P	**Pn**	**12 32 06.4**	**+0.7**
JTS	**Las Juntas de**	**2.84**	**136**	P	**Pn**	**12 32 07.7**	**+0.7**
	comp=Z,24nm,0.3s,baz=23,slow=18,SNR=34						
JTS				S	**Sn**	**12 32 39.3**	**-1.4**
	comp=Z,65nm,0.3s,baz=21,slow=23,SNR=15						
JTS	**Las Juntas de**	**2.84**	**136**	*e*P	**Pn**	**12 32 08.5**	**+1.6**
JTS	**Las Juntas de**	**2.84**	**136**	Pn	**Pn**	**12 32 08.0**	**+1.1**
CEDE	**Laguna Cedeo**	**2.89**	**130**	*i* P	**Pn**	**12 32 09.1**	**+1.5**
ARE1	**Arenal 1**	**2.89**	**130**	*e*P	**Pn**	**12 32 08.4**	**+0.7**
COVE	**Coope Vega, Sa**	**2.99**	**123**	⇓*e*P	**Pn**	**12 32 09.9**	**+1.0**
ESQI	**Esquipulas**	**3.19**	**314**		**Pn**	**12 32 12.6**	**+0.9**
LAFE	**Finca La Fe, P**	**3.23**	**141**	*e*P	**Pn**	**12 32 13.2**	**+1.1**
JACO	**JACO, Garabito**	**3.50**	**140**	*e*P	**Pn**	**12 32 17.6**	**+2.0**
RIMA	**Rio Macho**	**3.98**	**139**	*e*P	**Pn**	**12 32 24.2**	**+1.9**
APG	**El Apazote**	**4.31**	**308**	P	**Pn**	**12 32 28.4**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=153,slow=12,SNR=6.4						
PIRO	**Carate, Puerto**	**5.30**	**137**	*e*P	**Pn**	**12 32 42.4**	**+2.4**
TEIG	**Tepich**	**7.93**	**351**	P	**Pn**	**12 33 15.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=249,slow=16,SNR=3.2						
CMIG	**Matias Romero**	**9.00**	**303**	P	**Pn**	**12 33 30.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=156,slow=9.9,SNR=17						
GOGA	**Godfrey**	**21.21**	**8**	P	**P**	**12 36 01.1**	**+1.0**
GOGA	comp=Z,7.8nm,0.6s			IAmb	IAmb	12 36 04.5	
W50A	**Signal Mountai**	**22.80**	**3**	P	**P**	**12 36 18.5**	**+1.7**
W50A	comp=Z,9.1nm,0.5s			IAmb	IAmb	12 36 19.5	
MIAR	**Mount Ida**	**22.90**	**346**	P	**P**	**12 36 17.9**	**+0.2**
TX32	**Lajitas Array**	**22.96**	**320**	P	**P**	**12 36 19.5**	**+1.0**
TXAR	**Lajitas Array**	**22.96**	**320**	P	**P**	**12 36 19.4**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=140,slow=9.6,SNR=30						
TXAR				PcP	**PcP**	**12 40 03.0**	**-2.2**
	comp=Z,0.4nm,0.8s,baz=111,slow=4.0,SNR=3.0						
TXAR	**Lajitas Array**	**22.96**	**320**	P	**P**	**12 36 19.0**	**+0.6**
TX31	**Lajitas Ar. Si**	**22.96**	**320**	P	**P**	**12 36 19.5**	**+1.1**
TX31	comp=Z,11nm,0.9s			IAmb	IAmb	12 36 31.7	
TKL	**Tuckaleechee C**	**23.39**	**7**	P	**P**	**12 36 21.8**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=174,slow=10,SNR=3.4						
TKL	**Tuckaleechee C**	**23.39**	**7**	P	**P**	**12 36 22.4**	**+0.2**
TKL	comp=Z,15nm,1.4s			IAmb	IAmb	12 36 26.1	
WMOK	**Wichita Mounta**	**24.74**	**336**	P	**P**	**12 36 35.4**	**+0.9**
WMOK	comp=Z,11nm,1.1s			IAmb	IAmb	12 36 37.9	
MNTX	**Cornudas Mount**	**25.66**	**322**	P	**P**	**12 36 43.9**	**+1.0**
S39A	**Bolivar**	**25.87**	**348**	P	**P**	**12 36 45.0**	**+0.3**
S39A	comp=Z,3.1nm,0.7s			IAmb	IAmb	12 36 47.6	
MSTX	**Muleshoe**	**25.90**	**329**	P	**P**	**12 36 46.2**	**+1.0**
MSTX	comp=Z,9.0nm,1.1s			IAmb	IAmb	12 36 46.5	
X16A	**Lo Mia Camp, P**	**31.27**	**319**	P	**P**	**12 37 35.1**	**+2.1**
X16A				IAmb	IAmb	12 37 35.8	
PV18	**Skein Mesa, Pa**	**32.37**	**327**	P	**P**	**12 37 43.6**	**+1.0**
PV11	**David Mesa, Pa**	**32.39**	**327**	P	**P**	**12 37 44.0**	**+1.3**
PV16	**Nyswonger Mesa**	**32.42**	**327**	P	**P**	**12 37 43.5**	**+0.4**
PV16	comp=Z,2.7nm,0.5s			IAmb	IAmb	12 37 45.2	
PV19	**Morning Glory**	**32.45**	**327**	P	**P**	**12 37 44.4**	**+1.0**
PV19	comp=Z,3.5nm,0.5s			IAmb	IAmb	12 37 46.6	
PDAR	**Pinedale Array**	**36.09**	**331**	P	**P**	**12 38 15.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=128,slow=11,SNR=13						
SIV	**San Ignacio**	**38.06**	**137**	P	**P**	**12 38 30.2**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=320,slow=7.3,SNR=5.5						
NVAR	**Mina Array Bea**	**38.09**	**319**	P	**P**	**12 38 32.8**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=133,slow=7.9,SNR=4.6						
NVAR				PcP	**PcP**	**12 40 45.8**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=123,slow=5.5,SNR=4.4						
ULM	**Lac du Bonnet**	**38.49**	**351**	P	**P**	**12 38 32.6**	**-2.0**
	comp=Z,4.7nm,0.7s,baz=163,slow=9.2,SNR=3.1						
ULM	**Lac du Bonnet**	**38.49**	**351**	IAmb	IAmb	12 38 36.9	
	comp=Z,6.7nm,1.0s						
ILAR	**Eielson Array**	**66.31**	**336**	P	**P**	**12 41 58.8**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=137,slow=4.8,SNR=7.0						
ILAR				PcP	**pP**	**12 42 27.8**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=121,slow=3.5,SNR=4.6						
ESDC	**Sonseca Array**	**76.88**	**52**	P	**P**	**12 43 00.9**	**-2.8**
	comp=Z,0.4nm,0.6s,baz=292,slow=4.7,SNR=4.7						
ASAR	**Alice Springs**	**139.67**	**248**	PKhKP	PKPpre	12 50 33.5	
	comp=Z,0.2nm,0.5s,baz=105,slow=3.7,SNR=2.1						
ASAR				PKP	**PKPdf**	**12 50 40.8**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=103,slow=3.5,SNR=5.3						
ASAR				SKPbc	**SKPbc**	**12 54 06.8**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=105,slow=2.6,SNR=7.4						
ASAR	**Alice Springs**	**139.67**	**248**		**PKPdf**	**12 50 39.5**	**+0.5**
WRA	**Warramunga Arr**	**139.70**	**254**	PKP	**PKPdf**	**12 50 40.6**	**+1.5**
	comp=Z,2.5nm,0.7s,baz=89,slow=2.2,SNR=37						
WRA				SKPbc	**SKPbc**	**12 54 07.4**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=94,slow=3.2,SNR=4.7						
CMAR	**Chiang Mai Arr**	**148.84**	**349**	PKPbc	**SKPbc**	**12 50 58.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=350,slow=7.

AHML	Horco Molle	3.64	80	eP		Pn	13 08 04.1 +0.7
AHML				eS		Sn	13 08 46.6 +0.9
RTLL	Cerro Villicun	3.91	169	eP		Pn	13 08 07.6 +0.7
RTLL				eS		Sn	13 08 50.7 -1.3
RTLL				IAML			13 08 54.1
	comp=Z,546nm,0.4s						
CO02	Combarbal	3.98	201			Pn	13 08 06.9 -1.1
ZON	Zonda	4.09	172	Pn		Pn	13 08 09.5 +0.1
PB10	IPOC Station P	4.10	344⇑	iP		Pn	13 08 08.5 -1.1
PB10	IPOC Station P	4.10	344	Pn		Pn	13 08 08.0 -1.6
PB10	IPOC Station P	4.10	344	eP		Pn	13 08 08.7 -1.0
PB10				eS		Sn	13 08 41.2 -16
PB10				IAML			13 09 19.6
	comp=Z,330nm,0.6s						
PB15	IPOC Station P	4.26	358⇑	iP		Pn	13 08 12.0 0.0
PB15	IPOC Station P	4.26	358			Pn	13 08 11.9 0.0
SLA	San Lorenzo	4.42	52	eP		Pn	13 08 15.6 +1.7
SLA				eS		Sn	13 09 07.5 +3.0
RTCV	Cerro Valdivia	4.42	171	eP		Pn	13 08 14.4 +0.6
RTCV				eS		Sn	13 09 03.2 -1.1
RTCV				IAML			13 09 04.7
	comp=Z,254nm,0.4s						
AUSP	Uspallata	4.72	180	eP		Pn	13 08 18.8 +0.6
AUSP				eS		Sn	13 09 11.3 -0.7
PB06	IPOC Station P	4.76	357⇑	iP		Pn	13 08 17.7 -0.9
PB06	IPOC Station P	4.76	357			Pn	13 08 17.5 -1.1
LVC	Limon Verde	4.87	5	P		Pn	13 08 20.2 -0.1
	comp=Z,114nm,0.3s,baz=185,slow=8.5,SNR=40						
LVC				S		Sn	13 09 15.0 -0.8
	comp=Z,49nm,0.3s,baz=223,slow=19,SNR=6.1						
LVC	Limon Verde	4.87	5	Pn		Pn	13 08 19.9 -0.4
AZAP	Zapla	5.04	51	eP		Pn	13 08 23.1 +0.6
ASAL	Salagasta	5.11	175	eP		Pn	13 08 23.6 +0.5
ASAL				eS		Sn	13 09 20.4 -0.7
ASAL				IAML			13 09 26.2
	comp=Z,197nm,0.8s						
PB04	IPOC Station P	5.18	352			Pn	13 08 22.3 -2.0
PB04	IPOC Station P	5.18	352	eP		Pn	13 08 23.2 -1.1
PB04				eS		Sn	13 09 41.0 +18
PB04				IAML			13 09 46.5
	comp=Z,384nm,0.6s						
ARCO	CERRO ARCO	5.35	176	eP		Pn	13 08 26.9 +0.3
ARCO				IAML			13 09 33.4
	comp=Z,171nm,0.4s						
VA03	San Esteban	5.36	191			Pn	13 08 25.8 -0.8
AAGR	Agrelo	5.60	176	eP		Pn	13 08 30.1 +0.3
AAGR				IAML			13 09 57.5
	comp=Z,196nm,0.6s						
TCA	Tanti	5.65	134	eP		Pn	13 08 29.2 -1.3
TCA				eS		Sn	13 09 29.6 -4.5
TCA				IAML			13 09 45.4
	comp=Z,244nm,0.7s						
ROC1	El Roble	5.66	194			Pn	13 08 27.8 -3.0
PB09	IPOC Station P	5.67	1			Pn	13 08 29.9 -0.9
PB07	IPOC Station P	5.75	355			Pn	13 08 29.8 -2.2
PEL	Peldehue	5.76	191			Pn	13 08 30.1 -1.8
PEL	Peldehue	5.76	191	eP		Pn	13 08 31.0 -0.9
PEL				eS		Sn	13 09 34.1 -2.6
MRA	San Martin	5.84	148	eP		Pn	13 08 32.4 -0.7
MRA				eS		Sn	13 09 36.6 -2.1
MRA				IAML			13 09 57.8
	comp=Z,204nm,0.6s						
MT02	Curacav	5.96	195			Pn	13 08 31.8 -2.8
MT05	Renca	6.01	191	Pn		Pn	13 08 33.7 -1.6
YJA	Yavi	6.33	34	eP		Pn	13 08 41.8 +1.7
YJA				eS		Sn	13 09 49.4 -1.8
PB01	IPOC Station P	6.42	359			Pn	13 08 38.7 -2.3
PATCX	Punta Patache	6.67	353			Pn	13 08 40.9 -3.5
TA01	Diego Aracena	6.93	353	Pn		Pn	13 08 43.9 -4.0
BO01	Tunca	7.04	192	Pn		Pn	13 08 45.7 -3.6
RFA	San Rafael	7.30	174	eP		Pn	13 08 50.8 -2.0
RFA				IAML			13 10 54.2
	comp=Z,85nm,0.4s						
PB08	IPOC Station P	7.31	1			Pn	13 08 50.9 -2.5
BO02	Sierra Bellavi	7.39	189			Pn	13 08 51.0 -3.0
LAMA	Las Malvinas	7.43	179	eP		Pn	13 08 53.9 -0.6
COIS	El Sosneado	7.60	182	eP		Pn	13 08 56.3 -0.6
PB11	IPOC Station P	7.69	358	Pn		Pn	13 08 54.5 -3.9
GO01	Chusmiza	7.78	1			Pn	13 08 56.7 -3.1
GO05	Huala	7.82	196	eS		Sn	13 19 19.5 -7.2
PSGCX	Pisagua	7.88	355	Pn		Pn	13 08 56.3 -4.5
EDS3	Malargue	8.26	180	eP		Pn	13 09 05.5 -0.4
MNMC	Minye Minye	8.32	358			Pn	13 09 03.3 -3.6
PB12	IPOC Station P	8.88	354			Pn	13 09 09.9 -4.4
PB16	IPOC Station P	9.11	359			Pn	13 09 15.0 -2.9
CPUP	Villa Florida	10.79	87	P		Pn	13 09 37.5 -2.5
	comp=Z,0.4nm,0.3s,baz=266,slow=13,SNR=7.4						
CPUP				LR		LR	13 14 30.3
	comp=Z,75nm,21.6s,baz=232,slow=41						
CPUP	Villa Florida	10.79	87			Pn	13 09 37.3 -2.7
LPAZ	La Paz	11.20	6	Pn		Pn	13 09 44.6 -1.6
	comp=Z,1.3nm,0.3s,baz=188,slow=5.6,SNR=25						
LPAZ	La Paz	11.20	6	Pn		Pn	13 09 44.4 -1.9
LPAZ	La Paz	11.20	6	eP		Pn	13 09 44.7 -1.6
PLCA	Paso Flores	13.25	184	P		Pn	13 10 09.8 -2.8
	comp=Z,0.1nm,0.3s,baz=4.1,slow=14,SNR=2.6						
PLCA				LR		LR	13 16 26.1
	comp=Z,82nm,20.3s,baz=354,slow=42						
PLCA	Paso Flores	13.25	184	P		P	13 10 16.8 -1.5
SIV	San Ignacio	13.77	36	P		Pn	13 10 15.7 -3.8
	comp=Z,0.6nm,0.3s,baz=222,slow=14,SNR=9.1						
SAML	Samuel	19.34	19	P		P	13 11 24.1 -1.4
SAML				IAmb		IAmb	13 11 28.9
	comp=Z,9.8nm,1.1s						
EFI	East Falkland	25.61	164	P		P	13 12 26.0 -1.5
EFI				IAmb		IAmb	13 12 57.8
	comp=Z,24nm,0.9s						
PTGA	Pitinga	28.08	20	P		P	13 12 51.1 +1.1
	comp=Z,0.6nm,0.3s,baz=171,slow=12,SNR=1.7						
PMSA	Palmer Station	37.45	176	P		P	13 14 11.1 +0.2
	comp=Z,1.9nm,0.7s,baz=337,slow=5.5,SNR=6.2						
PMSA	Palmer Station	37.45	176	P		P	13 14 11.3 +0.4
PMSA				IAmb		IAmb	13 14 13.7
	comp=Z,2.5nm,0.8s						
SNAA	Sanae	56.80	160	P		P	13 16 41.6 +0.5
SNAA	Sanae	56.80	160	P		P	13 16 41.7 +0.6
	comp=Z,2.0nm,0.7s,baz=282,slow=7.2,SNR=32						
SNAA	Sanae	56.80	160	P		P	13 16 41.8 +0.8
SNAA				IAmb		IAmb	13 17 48.6
	comp=Z,5.6nm,0.9s						
TXAR	Lajitas Array	65.36	327	P		P	13 17 41.2 +1.8
	comp=Z,0.9nm,0.9s,baz=163,slow=8.1,SNR=6.7						
TXAR				pP		pP	13 18 08.5 +0.6
	comp=Z,0.6nm,0.9s,baz=145,slow=8.0,SNR=3.0						
TXAR				sP		sP	13 18 22.1 +1.7
	comp=Z,0.7nm,0.8s,baz=156,slow=8.9,SNR=4.1						
TXAR	Lajitas Array	65.36	327	P		P	13 17 40.4 +1.0
DBIC	Dimbokro	70.91	72	P		P	13 18 14.4 +0.2
	comp=Z,2.6nm,0.6s,baz=263,slow=4.7,SNR=4.5						
DBIC	Dimbokro	70.91	72	P		P	13 18 12.9 -1.3
MAW	Mawson	78.74	163	P		P	13 18 59.6 +1.1
	comp=Z,1.3nm,0.8s,baz=268,slow=11,SNR=2.2						
MAW	Mawson	78.74	163	P		P	13 18 59.4 +0.9
PDAR	Pinedale Array	79.11	331	P		P	13 19 03.0 +1.9
	comp=Z,1.0nm,0.8s,baz=123,slow=5.5,SNR=9.0						
PDAR				pP		pP	13 19 32.1 +1.6
	comp=Z,0.4nm,0.7s,baz=134,slow=6.4,SNR=2.8						
TORD	Torodi Ar. Bea	79.78	69	P		P	13 19 06.2 +1.2
	comp=Z,1.6nm,0.7s,baz=270,slow=5.2,SNR=5.8						
TORD				pP		pP	13 19 36.0 +1.0
	comp=Z,2.9nm,0.7s,baz=257,slow=5.0,SNR=6.1						
TORD	Torodi Ar. Bea	79.78	69	P		P	13 19 06.0 +0.9
NVAR	Mina Array Bea	79.98	323	P		P	13 19 08.0 +2.1
	comp=Z,0.5nm,0.7s,baz=163,slow=6.2,SNR=3.9						
HLID	Hailey	81.90	329			P	13 19 16.9 +1.0
HLID				IAmb		IAmb	13 19 19.2
	comp=Z,1.8nm,0.7s						
LBTB	Lobatse	82.90	114	P		P	13 19 22.3 +0.7
	comp=Z,1.2nm,0.4s,baz=276,slow=4.4,SNR=2.0						
ASAR	Alice Springs	124.41	206	PKP		PKPdf	13 25 55.7 +0.3
	comp=Z,0.8nm,0.5s,baz=133,slow=1.7,SNR=18						
ASAR	Alice Springs	124.41	206			PKiKP	13 25 56.0 +0.3
WRA	Warramunga Arr	127.57	208	PKP		PKiKP	13 26 02.3 +0.3
	comp=Z,1.6nm,0.6s,baz=159,slow=1.6,SNR=33						
WRA	Warramunga Arr	127.57	208			PKiKP	13 26 02.6 +0.5
PETK	Petropavlovsk-	136.99	320	PKP		PKPdf	13 26 18.2 +0.1
	comp=Z,1.3nm,0.9s,baz=54,slow=6.0,SNR=4.7						
ZALV	Zalesovo Beam	147.45	29	PKPbc		pPKPab	13 26 40.9 -0.5
	comp=Z,5.9nm,0.5s,baz=305,slow=3.8,SNR=22						
ZALV				pPKPbc		pPKPab	13 27 12.3 -0.2
	comp=Z,2.6nm,0.7s,baz=288,slow=3.8,SNR=2.5						
MKAR	Makanchi Array	150.54	42	PKPbc		PKiKP	13 26 48.9 +0.8
	comp=Z,4.6nm,0.6s,baz=320,slow=2.2,SNR=27						
MKAR				pPKPbc		pPKPbc	13 27 19.9 +0.7

comp=Z,2.2nm,0.7s,baz=304,slow=2.4,SNR=4.0

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*DJA **04** 13:15:33.2±0.4, 9°S±3°×10°9E±°, h10km, M4.2/12, mB4.9/1, mb4.3/1, MLv4.0/12, Mw(mB)4.2/1*
*NEIC **04** 13:15:35.2±2.3, 8°72S±0°07×108°71E±0°06, h61km±9km, mb4.0/11, Error ellipse: s-maj=11.0km s-min=8.5km az=198.0*
*IDC **04** 13:15:36.7±2.5, 8°34S×108°95E, h68km±24km, mb3.5/7, mb1 3.6/8, mb1mx3.3/39, mbtmp3.8/8, MS2.7/1, Ms1 2.9/1, ms1mx2.3/28, Error ellipse: s-maj=42.9km s-min=16.0km az=51.0*

ISC 04 13:15:34.6±0.6, 8°74S±0°06×108°74E±0°05, h55km, n42, σ1°38/42, mb4.0/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.99	343	P	Pn	13 15 52.4	0.0
CMJI				S	Sn	13 16 04.8	-0.7
CISI	Cisompet, Garu	1.49	322	P	Pn	13 15 59.5	+0.4
CISI	Cisompet, Garu	1.49	322		Pn	13 15 59.6	+0.4
YOGI	Yogyakarta	1.79	59	P	Pn	13 16 02.7	-0.5
UGM	Wanagama	1.95	65	P	Pn	13 16 04.4	-0.9
UGM	Wanagama	1.95	65		Pn	13 16 04.8	-0.5
CNJI	Cibinong	2.13	312	P	Pn	13 16 08.5	+0.7
LEM	Lembang	2.20	330	P	Pn	13 16 08.6	-0.3
	46nm,0.3s,baz=144,slow=10,SNR=19						
LEM				S	Sn	13 16 37.7	+2.6
	32nm,0.3s,baz=309,slow=20,SNR=3.6						
LEM	Lembang	2.20	330	P	Pn	13 16 10.4	+1.5
WOJI	Wonogiri, Jawa	2.34	68	P	Pn	13 16 11.3	+0.7
SMRI	Semarang	2.38	45	P	Pn	13 16 12.3	+1.1
SMRI	Semarang	2.38	45	Pn	Pn	13 16 12.9	+1.7
SKJI	Sukabumi	2.77	308	P	Pn	13 16 18.2	+1.7
XMIS	Christmas Isla	3.50	240	P	Pn	13 16 26.6	0.0
CGJI	Cibinong	3.68	305	P	Pn	13 16 30.3	+1.2
GMJI	Gumukmas	4.68	85	P	Pn	13 16 43.9	+1.2
JAGI	Jajag, Banyuwa	5.36	88	P	Pn	13 16 53.7	+1.6
JAGI	Jajag, Banyuwa	5.36	88		Pn	13 16 53.5	+1.4
GIRL	Giralia	14.80	160	Pn	Pn	13 18 57.4	-3.3
KULM	Kulim	16.10	330	Pn	Pn	13 19 15.6	-1.9
KULM				IAmb	IAmb	13 19 24.4	
	comp=Z,21nm,1.5s						
FITZ	Fitzroy Crossi	18.87	121	P	Pn	13 19 52.3	+0.7
	comp=Z,0.1nm,0.3s,baz=359,slow=8.1,SNR=2.1						
FITZ	Fitzroy Crossi	18.87	121	P	P	13 19 49.7	-0.8
KNRA	Kununurra	20.74	111	P	P	13 20 11.3	+0.4
KNRA				IAmb	IAmb	13 20 15.6	
	comp=Z,5.3nm,0.9s						
MTN	Manton Dam	22.37	102	P	P	13 20 29.3	+1.0
MTN				IAmb	IAmb	13 20 44.7	
	comp=Z,16nm,1.3s						
WB0	Warramunga Arr	27.13	117	P	P	13 21 14.0	+1.2
WB0				IAmb	IAmb	13 21 30.4	
	comp=Z,3.3nm,1.1s						
WRA	Warramunga Arr	27.14	117	P	P	13 21 14.2	+1.3
	comp=Z,0.8nm,0.8s,baz=291,slow=11,SNR=12						
WRA				PcP	PcP	13 24 32.9	+0.3
	comp=Z,0.2nm,0.5s,baz=286,slow=2.6,SNR=1.1						
WRAB	Tennant Creek	27.15	117	P	P	13 21 13.2	+0.3
WRAB				IAmb	IAmb	13 21 23.0	
	comp=Z,5.1nm,1.2s						
WB2	Warramunga Arr	27.15	117	P	P	13 21 14.2	+1.3
WB2				IAmb	IAmb	13 21 15.9	
	comp=Z,5.1nm,1.2s						
WR0	Warramunga Arr	27.33	117	P	P	13 21 16.1	+1.6
WR0				IAmb	IAmb	13 21 34.5	
	comp=Z,5.3nm,1.2s						
ASAR	Alice Springs	28.29	125	P	P	13 21 24.3	+1.2
	comp=Z,0.2nm,0.6s,baz=302,slow=8.9,SNR=2.8						
ASAR				PcP	PcP	13 24 36.2	+0.9
	comp=Z,0.2nm,0.4s,baz=300,slow=2.3,SNR=5.2						
CMAR	Chiang Mai Arr	28.70	340	LR	LR	13 32 56.8	
	comp=Z,15nm,19.4s,baz=100,slow=37						
H08S2	Diego Garcia H	35.88	269	T	T	14 00 33.3	
	baz=93,slow=76,SNR=40						
H08S3	Diego Garcia H	35.89	269	T	T	14 00 35.0	
	baz=93,slow=76,SNR=63						
H08S1	Diego Garcia H	35.90	269	T	T	14 00 33.8	
	baz=93,slow=76,SNR=46						
STKA	Stephens Creek	38.20	132	P	P	13 22 50.1	+0.9
	comp=Z,1.5nm,0.5s,baz=295,slow=6.8,SNR=7.4						
STKA	Stephens Creek	38.20	132	P	P	13 22 50.1	+0.9
CAN	Canberra	45.27	132	P	P	13 23 48.5	+1.5
MKAR	Makanchi Array	60.10	339	P	P	13 25 34.4	-1.9
	comp=Z,0.6nm,0.5s,baz=155,slow=6.9,SNR=7.1						
ZALV	Zalesovo Beam	65.64	345	P	P	13 26 11.3	-1.5
	comp=Z,1.0nm,0.3s,baz=159,slow=7.1,SNR=5.4						
ABKAR	Akbulak array	71.78	329	P	P	13 26 50.7	-0.5
PETK	Petropavlovsk-	74.28	28	P	P	13 27 04.2	-1.7
	comp=Z,0.4nm,0.4s,baz=137,slow=3.2,SNR=4.0						
SNAA	Sanae	88.39	197	P	P	13 28 23.1	+2.8
	comp=Z,0.5nm,0.6s,baz=267,slow=2.5,SNR=7.0						

IDC 04 13:30:53.6±3.7, 6°20S×147°22E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=74.6km s-min=44.1km az=87.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.19	181	Pn	Pn	13 31 45.6	+0.6
	3.3nm,0.3s,baz=59,slow=7.7,SNR=10						
PMG				Sn	Sn	13 32 20.4	-3.3
	3.4nm,0.3s,baz=53,slow=21,SNR=1.7						
WRA	Warramunga Arr	18.53	221	P	P	13 35 11.1	-0.8
	0.1nm,0.3s,baz=41,slow=12,SNR=7.1						
ASAR	Alice Springs	21.58	215	P	P	13 35 45.0	-0.2
	0.3nm,0.6s,baz=52,slow=9.0,SNR=7.8						
FITZ	Fitzroy Crossi	24.15	239	P	P	13 36 12.0	+0.3
	0.5nm,0.3s,baz=22,slow=3.4,SNR=8.4						
TORD	Torodi Ar. Bea	145.35	284	PKPbc	PKPbc	13 50 33.4	-1.0
	0.3nm,0.5s,baz=87,slow=4.8,SNR=1.7						

WEL 04 14:06:33.3, 38°S±2°×17°6E±°, h168km±3km, M2.7/43, MLv2.7/43, Error ellipse: s-maj=0.0km s-min=0.0km az=132.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSRZ	Hossack Road	0.21	85	P	Pn	14 06 56.0	+0.2
WPRZ	Whakapapatarin	0.24	143	P	Pn	14 06 55.9	+0.1
HRRZ	Handcock Road	0.25	105	P	Pn	14 06 56.0	+0.1
TLZ	Tolley Road	0.35	270	P	Pn	14 06 56.5	+0.4
PRRZ	Plateau Road	0.37	118	P	Pn	14 06 56.1	-0.1
ALRZ	Allen Road	0.37	129	P	Pn	14 06 56.3	+0.1
RRRZ	Republican Roa	0.42	92	P	Pn	14 06 55.0	-1.3
WATZ	Wairara	0.42	207	P	Pn	14 06 56.3	-0.1
RATZ	Rangitukua	0.56	197	P	Pn	14 06 57.0	+0.1
HATZ	Hinemaiaia	0.57	171	P	Pn	14 06 56.9	-0.1
HATZ				S	Sn	14 07 14.8	-0.6
MRHZ	Matea Rd	0.61	146	P	Pn	14 06 57.0	-0.2
MUGZ	Murupara	0.64	104	P	Pn	14 06 56.9	-0.4
MUGZ				S	Sn	14 07 15.7	-0.1
TGRZ	Tauranga	0.64	20	P	Pn	14 06 57.4	0.0
MARZ	Manawahe	0.65	58	P	Pn	14 06 57.6	+0.1
OPRZ	Ohinepanea	0.66	43	P	Pn	14 06 57.5	0.0
KATZ	Kakaramea	0.68	199	P	Pn	14 06 58.1	+0.3
TOZ	Tahuroa Road	0.71	328	P	Pn	14 06 58.1	+0.4
TOZ				S	Sn	14 07 17.1	+0.7
KRVZ	Karewarewa	0.81	199	P	Pn	14 06 58.6	0.0
RTZ	Ruatahuna	0.84	110	P	Pn	14 06 58.5	-0.2
RTZ				S	Sn	14 07 17.0	-1.2
WTVZ	West Tongariro	0.84	201	P	Pn	14 06 58.9	+0.2
WTVZ				S	Sn	14 07 16.3	-2.1
MTHZ	Maungataniwha	0.85	128	P	Pn	14 06 58.8	+0.1
MTHZ				S	Sn	14 07 17.0	-1.3
TWVZ	Taurewa	0.85	210	P	Pn	14 06 58.9	+0.2
TWVZ				S	Sn	14 07 18.0	-0.5
OTVZ	Oturere	0.87	196	P	Pn	14 06 59.3	+0.3
URZ	Urewera	0.89	86	P	Pn	14 06 58.4	-0.6
URZ				S	Sn	14 07 16.8	-1.8
NGZ	Ngauruhoe	0.90	199	P	Pn	14 06 59.4	+0.2
HIZ	Hauiti	0.90	258	P	Pn	14 06 59.4	+0.4
HIZ				S	Sn	14 07 18.4	-0.3
BKZ	Black Stump Fm	0.93	155	P	Pn	14 06 59.2	-0.1
BKZ				S	Sn	14 07 17.6	-1.7
TUVZ	Tukino	0.97	195	P	Pn	14 06 59.9	+0.2
FWVZ	Far West T-bar	0.98	200	P	Pn	14 06 59.9	0.0
NMHZ	Naumai	1.00	140	P	Pn	14 07 00.7	+0.8
NMHZ				S	Sn	14 07 20.6	+0.2
WNVZ	Wahianoa	1.04	197	P	Pn	14 07 00.3	0.0
RAHZ	Arahi	1.05	124	P	Pn	14 07 00.5	+0.4
RAHZ				S	Sn	14 07 20.4	-0.4
PKVZ	Pokaka	1.08	207	P	Pn	14 07 00.5	+0.1
MOVZ	Moawhango	1.09	189	P	Pn	14 07 00.3	-0.3
MTVZ	Mangateitei	1.13	200	P	Pn	14 07 00.9	+0.1
KWHZ	Kaweka Forest	1.15	163	P	Pn	14 07 01.1	+0.1
KWHZ				S	Sn	14 07 21.6	-0.9
SNGZ	Shannon Statio	1.16	113	P	Pn	14 07 01.4	+0.3
SNGZ				S	Sn	14 07 21.6	-0.9
BHHZ	Black Hill Sta	1.16	177	P	Pn	14 07 00.9	-0.2
MWZ	Matawai	1.22	91	P	Pn	14 07 01.3	-0.3
MWZ				S	Sn	14 07 22.4	-1.0
ARHZ	Aropaoanui	1.23	140	P	Pn	14 07 02.1	+0.5
ARHZ				S	Sn	14 07 22.9	-0.6
WHHZ	Waihua	1.23	128	P	Pn	14 07 02.0	+0.4
WHHZ				S	Sn	14 07 22.8	-0.8
VRZ	Vera Road	1.24	230	P	Pn	14 07 02.2	+0.5
MCHZ	McNeill Hill	1.25	154	P	Pn	14 07 02.5	+0.7
MCHZ				S	Sn	14 07 23.8	-0.1
KRHZ	Kereru	1.35	167	P	Pn	14 07 02.8	+0.1
RUGZ	Raukumara Rang	1.39	75	P	Pn	14 07 02.2	-1.1
RIGZ	Rimuhau	1.45	106	P	Pn	14 07 03.9	+0.2
TKGZ	Te Karaka	1.47	95	P	Pn	14 07 04.3	+0.4
KNZ	Kokohu	1.50	118	P	Pn	14 07 04.1	0.0
HAZ	Te Kaha	1.53	69	P	Pn	14 07 03.8	-0.7
CKHZ	Cape Kidnapper	1.58	148	P	Pn	14 07 05.4	+0.4
PNHZ	Pukenui	1.59	174	P	Pn	14 07 04.8	-0.3
KUZ	Kuaotunu	1.59	353	P	Pn	14 07 05.4	+0.2
PRGZ	Paritu Road	1.60	112	P	Pn	14 07 05.4	+0.1
ETAZ	East Tamaki Re	1.61	328	P	Pn	14 07 05.6	+0.3
WAZ	Wanganui	1.62	208	P	Pn	14 07 05.5	0.0
KAHZ	Kahuranaki	1.62	155	P	Pn	14 07 05.7	+0.3
DREZ	Durham Road	1.63	238	P	Pn	14 07 06.4	+0.8
AWAZ	Awhitu Peninsu	1.65	320	P	Pn	14 07 06.1	+0.4
WIAZ	Waiheke Island	1.67	336	P	Pn	14 07 06.5	+0.5
MHGZ	Mahia Peninsul	1.72	119	P	Pn	14 07 06.7	+0.3
TSZ	Takapari Road	1.73	180	P	Pn	14 07 06.2	-0.4
PREZ	Palmer Road	1.75	234	P	Pn	14 07 07.5	+0.8
NEZ	North Egmont	1.75	237	P	Pn	14 07 07.7	+0.8
CNGZ	Carnagh Statio	1.76	96	P	Pn	14 07 07.4	+0.5
WPHZ	Waipukurau	1.77	168	P	Pn	14 07 06.7	-0.3
MBAZ	Motutapu North	1.78	331	P	Pn	14 07 07.5	+0.4
WTAZ	Waiatarua	1.79	321	P	Pn	14 07 07.9	+0.6
KHEZ	Kahui Hut	1.81	237	P	Pn	14 07 07.7	+0.2
PUZ	Puketiti	1.81	83	P	Pn	14 07 07.1	-0.4
PXZ	Pawanui	1.83	158	P	Pn	14 07 07.5	-0.2
RVAZ	Riverhead Bore	1.91	324	P	Pn	14 07 08.8	+0.2
OHWZ	Ohakea	1.94	195	P	Pn	14 07 08.8	0.0
DVHZ	Dannevirke	1.97	176	P	Pn	14 07 08.5	-0.7
PRHZ	Porangahau	2.00	165	P	Pn	14 07 09.1	-0.4
POWZ	Post Office Ro	2.07	184	P	Pn	14 07 09.4	-0.8
ANWZ	Angora Road	2.16	170	P	Pn	14 07 10.9	-0.4
PRWZ	Pori Road	2.22	180	P	Pn	14 07 11.3	-0.7
MRZ	Mangatainoka R	2.35	187	P	Pn	14 07 12.3	-1.2
BFZ	Birch Farm	2.36	175	P	Pn	14 07 12.6	-1.0
TIWZ	Tintock	2.44	182	P	Pn	14 07 13.5	-1.1
OGWZ	Otaki Gorge	2.56	194	P	Pn	14 07 14.7	-1.2
CPWZ	Castlepoint	2.58	176	P	Pn	14 07 15.6	-0.7
HOWZ	Holdsworth Sta	2.59	188	P	Pn	14 07 14.8	-1.6
KIW	Kapiti Island	2.66	198	P	Pn	14 07 15.5	-1.7
TMWZ	Te Maipa	2.77	181	P	Pn	14 07 17.0	-1.6
CAW	Cannon Point	2.86	194	P	Pn	14 07 17.8	-1.8
DUWZ	D'Urville Isla	2.94	212	P	Pn	14 07 18.8	-1.8
TRWZ	Traveller	3.07	184	P	Pn	14 07 20.4	-1.8
WEL	Wellington	3.10	197	P	Pn	14 07 20.4	-2.1
MSWZ	Moikau Station	3.13	190	P	Pn	14 07 20.8	-2.2
TCW	Tory Channel	3.16	204	P	Pn	14 07 21.5	-1.8
BHW	Baring Head	3.19	195	P	Pn	14 07 21.3	-2.3

BALP				eS	Sb	14 24 04.8	+0.3
GQP	**Guinayangan**	**1.28**	**185**	⇑iP	Pg	14 23 53.7	+0.2
GQP				i S	Sn	14 24 10.6	+0.2
LQP	**Lukban**	**1.45**	**223**	⇓eP	Pn	14 23 55.6	-0.1
LQP				eS	Sb	14 24 15.4	+0.4
BOAC	**Boac**	**1.85**	**202**	eP	Pb	14 24 02.9	-0.1
BOAC				eS	Sg	14 24 28.7	+0.2
CAUP	**Cauayan**	**1.88**	**338**	eP	Pn	14 24 01.8	+0.3
CAUP				eS	Sn	14 24 26.0	+0.6
TGY	**Tagaytay City**	**1.90**	**236**	Pn	Pb	14 24 04.2	+0.2
	382nm,0.3s,baz=64,slow=1.8,SNR=20						
TGY				Sn	Sb	14 24 28.8	+1.0
	204nm,0.3s,baz=129,slow=22,SNR=12						
SMPP	**San Manuel, Pa**	**2.04**	**298**	eP	Pn	14 24 03.2	-0.5
SMPP				eS	Sn	14 24 27.3	-2.0
PVCP	**Virac**	**2.21**	**135**	eP	Pb	14 24 08.1	-1.1
PVCP				eS	Sg	14 24 41.5	+1.3
PGP	**Puerto Galera**	**2.28**	**223**	⇑eP	Pn	14 24 08.7	+1.7
PGP				i S	Sb	14 24 38.2	-0.7
CVP	**Callao Caves**	**2.60**	**344**	⇓iP	Pn	14 24 11.9	+0.6
CVP				i S	Sn	14 24 41.1	-1.9
LUBP	**Lubang**	**2.66**	**237**	eP	Pb	14 24 14.9	-2.0
BOLP	**Bolinao**	**2.81**	**295**	eP	Pn	14 24 15.1	+1.0
OTRP	**Odiongan**	**2.86**	**191**	eP	Pb	14 24 20.2	0.0
APYP	**Conner**	**2.94**	**335**	eP	Pn	14 24 17.1	+1.1
APYP				eS	Sn	14 24 52.6	+1.1
ABRA	**Dolores**	**3.02**	**324**	eP	Pn	14 24 18.9	+1.8
ABRA				eS	Sn	14 24 56.2	+2.8
CNP	**Catarman**	**3.36**	**142**	eP	Pb	14 24 27.9	-0.9
WRA	**Warramunga Arr**	**36.78**	**161**	P	P	14 30 35.6	-1.7
	0.1nm,0.4s,baz=330,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**40.18**	**164**	P	P	14 31 04.1	-1.8
	0.2nm,0.6s,baz=344,slow=6.4,SNR=7.6						
MKAR	**Makanchi Array**	**45.94**	**322**	P	P	14 31 53.5	+1.1
	0.8nm,0.8s,baz=127,slow=9.5,SNR=5.3						
KURBB	**Kurchatov Arra**	**49.99**	**325**	P	P	14 32 24.7	+1.1
	0.7nm,0.7s,baz=117,slow=8.9,SNR=9.2						

KRSC ***04*** *14:27:47.4±2.5, 49°.94N×156°.95E, h60km±26km, ML5.4, FELT [IV] at Severo-Kurilsk; [III-IV] at Zaporojye.*
BJI ***04*** *14:27:47.6±0.0, 50°.26N×156°.45E, h89km, mB4.8/39, mb4.9/54, Ms4.1/12, Ms7 3.8/11*
IDC ***04*** *14:27:50.8±0.5, 50°.40N×156°.06E, h81km±4km, mb4.2/27, mb1 4.4/31, mb1mx4.3/42, mbtmp4.6/31, MS3.3/22, Ms1 3.4/22, ms1mx3.2/34, Error ellipse: s-maj=13.0km s-min=8.7km az=150.0*
MOS ***04*** *14:27:50.1±1.0, 50°.17N×156°.22E, h97km, mb4.9/29, Error ellipse: s-maj=6.8km s-min=3.0km az=73.8*
MOS Felt (IV) at Severo-Kuril'sk.
NEIC ***04*** *14:27:51.9±1.9, 50°.26N±0°.10×156°.2E±0°.1, h95km±6km, mb4.9/125, Error ellipse: s-maj=15.5km s-min=9.7km az=145.0*
UNK ***04*** *14:27:51.3, 50°.29N×156°.22E, h89km*
GCMT ***04*** *14:27:52.9±0.4, 50°.11N±0°.03×156°.41E±0°.04, h102km±5km, MW4.8/77, Moment Tensor Solution.*
s18,c20; s77,c101; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.34±.10; Mθθ1.37±.11; Mφφ-1.71±.11; Mrθ-0.76±.06; Mθφ-0.01±.11; Mφr-0.95±.06; Best double couple: M0 1.97000×1016 NP1:φs316.00000°, δ50.00000°, λ7.00000°. NP2:φs221.00000°, δ85.00000°, λ140.00000°. Principal axes: T 1.8340, Plg31.0000°, Azm171.0000°; N 0.2750, Plg50.0000°, Azm35.0000°; P -2.1060, Plg23.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 04 14:27:50.3±0.4, 50°.14N±0°.05×156°.41E±0°.04, h84km±3km, h83km:pP-P, n555, σ1$51/559, mb4.8/122, 11C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
SKR	**Severo-Kuril's**	**0.58**	**341**	eP	Pn	14 28 05.5	+0.4
SKR				eS	Sn	14 28 16.5	+0.4
SKR	**Severo-Kuril's**	**0.58**	**341**	⇑iPN	Pn	14 28 05.4	+0.4
SKR				eS	Sn	14 28 16.5	+0.4
SKR				pmax	pmax		
	comp=Z,43μm,0.3s						
SKR				smax	smax		
	comp=N,49μm,0.4s						
SKR				smax	smax		
	comp=E,28μm,0.4s						
ALID	**Alaid**	**0.92**	**323**	eP	Pn	14 28 10.0	+1.2
ALID	**Alaid**	**0.92**	**323**	PN	Pn	14 28 10.0	+1.2
PAU	**Pauzhetka**	**1.36**	**11**	eP	Pn	14 28 14.7	+0.8
PAU				eS	Sn	14 28 32.4	+0.7
PAU	**Pauzhetka**	**1.36**	**11**	PN	Pn	14 28 14.7	+0.8
PAU				S	Sn	14 28 32.4	+0.7
KDTR	**Khodutka, Kamc**	**1.98**	**31**	eP	Pn	14 28 22.0	0.0
KDTR				eS	Sn	14 28 44.7	-1.4
KDTR	**Khodutka, Kamc**	**1.98**	**31**	PN	Pn	14 28 22.0	0.0
KDTR				S	Sn	14 28 44.7	-1.4
MIPR	**Malaya Ipel'ka**	**2.15**	**6**	eP	Pn	14 28 25.5	+1.2
MIPR	**Malaya Ipel'ka**	**2.15**	**6**	PN	Pn	14 28 25.5	+1.2
ASAK	**Asacha**	**2.44**	**22**	eP	Pn	14 28 29.4	+1.2
ASAK	**Asacha**	**2.44**	**22**	PN	Pn	14 28 29.4	+1.2
MTVR	**Mutnovka**	**2.60**	**25**	eP	Pn	14 28 31.4	+1.0
MTVR				eS	Sn	14 29 01.5	+0.3
MTVR	**Mutnovka**	**2.60**	**25**	PN	Pn	14 28 31.4	+1.0
MTVR				S	Sn	14 29 01.5	+0.3
GRL	**Gorelyy**	**2.63**	**23**	eP	Pn	14 28 32.4	+1.5
GRL				eS	Sn	14 29 03.6	+1.6
GRL	**Gorelyy**	**2.63**	**23**	PN	Pn	14 28 32.4	+1.5
GRL				S	Sn	14 29 03.6	+1.6
RUS	**Russkaya**	**2.65**	**29**	eP	Pn	14 28 31.0	+0.1
RUS				eS	Sn	14 29 00.6	-1.6
RUS	**Russkaya**	**2.65**	**29**	PN	Pn	14 28 31.0	+0.1
RUS				S	Sn	14 29 00.6	-1.6
KRMR	**Karymshinskiy**	**2.90**	**21**	eP	Pn	14 28 36.6	+2.3
KRMR	**Karymshinskiy**	**2.90**	**21**	PN	Pn	14 28 36.6	+2.3
PEA0B	**Petropavlovsk-**	**3.08**	**15**	cePN	Pn	14 28 38.9	+2.1
PEA0B	**Petropavlovsk-**	**3.08**	**15**	Pn	Pn	14 28 39.0	+2.1
PETK	**Petropavlovsk-**	**3.08**	**15**	P	Pn	14 28 39.2	+2.4
	comp=E,105nm,0.3s,baz=185,slow=12,SNR=701						
PETK				S	Sn	14 29 15.4	+2.8
	comp=E,46nm,0.3s,baz=169,slow=17,SNR=5.3						
PETK				LR	LR	14 29 46.5	
	comp=E,240nm,19.1s,baz=184,slow=40						
PETK	**Petropavlovsk-**	**3.08**	**15**	PN	Pn	14 28 39.0	+2.2
PETK	**Petropavlovsk-**	**3.08**	**15**		Pn	14 28 39.0	+2.2
PET	**Petropavlovsk**	**3.21**	**25**	eP	Pn	14 28 39.6	+1.1
PET				eS	Sn	14 29 16.7	+1.0
PET	**Petropavlovsk**	**3.21**	**25**	κ iPN	Pn	14 28 40.2	+1.7
PET				eS	Sn	14 29 18.6	+2.9
PET				pmax	pmax		
	comp=Z,542nm,0.7s						
PET				smax	smax		
	comp=N,1μm,1.8s						
PET				smax	smax		
	comp=E,4μm,0.5s						
PET				smax	smax		
	comp=E,6μm,0.7s						
PET				smax	smax		
	comp=N,8μm,0.6s						
PET				MLR	MLR		
	comp=Z,600nm,17.0s						
PET	**Petropavlovsk**	**3.21**	**25**		Pn	14 28 39.5	+1.1
DALK	**Dalny**	**3.25**	**26**	eP	Pn	14 28 40.1	+1.1
DALK				eS	Sn	14 29 17.6	+1.1
DALK	**Dalny**	**3.25**	**26**	PN	Pn	14 28 40.1	+1.1
DALK				S	Sn	14 29 17.6	+1.1
UGLR	**Uglovaya**	**3.42**	**25**	eP	Pn	14 28 43.1	+1.6
UGLR	**Uglovaya**	**3.42**	**25**	PN	Pn	14 28 43.1	+1.6
KOK	**Koryaka**	**3.45**	**23**	eP	Pn	14 28 44.2	+2.4
KOK	**Koryaka**	**3.45**	**23**	PN	Pn	14 28 44.2	+2.4
AVH	**Avacha**	**3.45**	**24**	eP	Pn	14 28 44.1	+2.3
AVH	**Avacha**	**3.45**	**24**	PN	Pn	14 28 44.1	+2.3
SMAR	**Somma**	**3.46**	**24**	eP	Pn	14 28 43.7	+1.5
SMAR	**Somma**	**3.46**	**24**	PN	Pn	14 28 43.7	+1.5
KRER	**Koryakskii**	**3.49**	**24**	eP	Pn	14 28 44.5	+2.0
KRER				eS	Sn	14 29 26.8	+4.1
KRER	**Koryakskii**	**3.49**	**24**	PN	Pn	14 28 44.5	+2.0
KRER				S	Sn	14 29 26.8	+4.1
SDLR	**Sedlovina**	**3.50**	**25**	eP	Pn	14 28 43.6	+1.0
SDLR	**Sedlovina**	**3.50**	**25**	PN	Pn	14 28 43.6	+1.0
KRX	**Arik**	**3.51**	**22**	eP	Pn	14 28 44.8	+2.0
KRX	**Arik**	**3.51**	**22**	PN	Pn	14 28 44.8	+2.0
SPN	**Mys Shipunski**	**3.72**	**36**	eP	Pn	14 28 45.5	+0.1
SPN				eS	Sn	14 29 27.3	-0.8
SPN	**Mys Shipunski**	**3.72**	**36**	PN	Pn	14 28 45.5	+0.1
SPN				S	Sn	14 29 27.3	-0.8
KII	**Karymskiy**	**4.33**	**24**	eP	Pn	14 28 55.9	+2.1
KII				eS	Sn	14 29 45.5	+2.5
KII	**Karymskiy**	**4.33**	**24**	PN	Pn	14 28 55.9	+2.1
KII				S	Sn	14 29 45.5	+2.5
KZV	**Kizimen**	**5.52**	**24**	eP	Pn	14 29 11.1	+1.1
KZV	**Kizimen**	**5.52**	**24**	PN	Pn	14 29 11.1	+1.1
TUMD	**Tumrok D**	**5.62**	**24**	eP	Pn	14 29 12.8	+1.5
TUMR	**Tumrok**	**5.63**	**22**	eP	Pn	14 29 13.4	+1.9
TUMR	**Tumrok**	**5.63**	**22**	PN	Pn	14 29 12.8	+1.3
ESO	**Esso**	**5.96**	**12**	eP	Pn	14 29 18.5	+2.6
ESO	**Esso**	**5.96**	**12**	PN	Pn	14 29 18.5	+2.6
KMNR	**Kamenistaya**	**6.08**	**21**	eP	Pn	14 29 20.8	+3.1
KMNR	**Kamenistaya**	**6.08**	**21**	PN	Pn	14 29 20.8	+3.1
KPT	**Kopyto**	**6.27**	**20**	eP	Pn	14 29 22.4	+2.2
KPT	**Kopyto**	**6.27**	**20**	PN	Pn	14 29 22.4	+2.2
KOZ	**Kozyrevsk**	**6.29**	**18**	eP	Pn	14 29 23.1	+2.8
KOZ	**Kozyrevsk**	**6.29**	**18**	PN	Pn	14 29 23.1	+2.8
KIRR	**Kirishev**	**6.29**	**21**	eP	Pn	14 29 22.2	+1.7
KIRR	**Kirishev**	**6.29**	**21**	PN	Pn	14 29 22.2	+1.7
BZMR	**Bezymyannaya**	**6.31**	**21**	eP	Pn	14 29 23.7	+3.0
BZMR	**Bezymyannaya**	**6.31**	**21**	PN	Pn	14 29 23.7	+3.0
BZWR	**Bezymyannyi-We**	**6.33**	**21**	eP	Pn	14 29 23.2	+2.1
BZWR	**Bezymyannyi-We**	**6.33**	**21**	PN	Pn	14 29 23.2	+2.1
BZGR	**Bezymyannyi-Gr**	**6.36**	**22**	eP	Pn	14 29 23.3	+1.9
BZGR	**Bezymyannyi-Gr**	**6.36**	**22**	PN	Pn	14 29 23.3	+1.9
ZLN	**Zelenaya**	**6.46**	**22**	eP	Pn	14 29 25.2	+2.5
ZLN	**Zelenaya**	**6.46**	**22**	PN	Pn	14 29 25.2	+2.5
LGNR	**Loginova**	**6.49**	**22**	eP	Pn	14 29 25.9	+2.6
LGNR	**Loginova**	**6.49**	**22**	PN	Pn	14 29 25.9	+2.6
SRDR	**Sredinnyy**	**6.50**	**16**	eP	Pn	14 29 26.2	+2.9
SRDR	**Sredinnyy**	**6.50**	**16**	PN	Pn	14 29 26.2	+2.9
CIRR	**Tsirk**	**6.53**	**22**	eP	Pn	14 29 26.3	+2.5
CIRR	**Tsirk**	**6.53**	**22**	PN	Pn	14 29 26.3	+2.5
KRSR	**Krestovskiy**	**6.58**	**21**	eP	Pn	14 29 26.3	+1.9
KRSR	**Krestovskiy**	**6.58**	**21**	PN	Pn	14 29 26.3	+1.9
KLY	**Klyuchi**	**6.69**	**21**	eP	Pn	14 29 27.7	+1.9
KLY	**Klyuchi**	**6.69**	**21**	PN	Pn	14 29 27.7	+1.9
BDR	**Baidarnaya**	**7.05**	**22**	eP	Pn	14 29 32.6	+1.8
BDR	**Baidarnaya**	**7.05**	**22**	PN	Pn	14 29 32.6	+1.8
SRKR	**Sorokina**	**7.12**	**22**	eP	Pn	14 29 33.3	+1.6
SRKR	**Sorokina**	**7.12**	**22**	PN	Pn	14 29 33.3	+1.6
SMKR	**Semkarok**	**7.13**	**23**	eP	Pn	14 29 32.1	+0.2
SMKR	**Semkarok**	**7.13**	**23**	PN	Pn	14 29 32.1	+0.2
KBTR	**Krutoberegovo**	**7.20**	**30**	eP	Pn	14 29 32.4	-0.3
KBTR	**Krutoberegovo**	**7.20**	**30**	PN	Pn	14 29 32.4	-0.3
KBG	**Krutoberegovo**	**7.20**	**29**	eP	Pn	14 29 33.4	+0.7
KBG	**Krutoberegovo**	**7.20**	**29**	PN	Pn	14 29 33.4	+0.7
KUR	**Kuril'sk**	**7.57**	**233**	d iPN	Pn	14 29 39.3	+1.5
KUR				eS	Sn	14 31 03.2	+1.2
KUR				pmax	pmax		
	comp=Z,114nm,0.6s						
KUR				pmax	pmax		
	comp=N,73nm,0.4s						
KUR				smax	smax		
	comp=N,145nm,0.5s						
KUR				smax	smax		
	comp=E,55nm,0.6s						
BKI	**Bering**	**7.71**	**45**	eP	Pn	14 29 38.3	-1.4
BKI				eS	Sn	14 30 55.7	-10
BKI	**Bering**	**7.71**	**45**	PN	Pn	14 29 38.3	-1.4
TYV	**Tymovskoe**	**8.80**	**280**	ePN	Pn	14 29 58.2	+3.6
TYV				eS	Sn	14 31 39.4	+7.3
TYV				pmax	pmax		
	comp=Z,600nm,2.4s						
TYV				pmax	pmax		
	comp=Z,82nm,0.9s						
TYV				smax	smax		
	comp=E,11nm,0.9s						
TYV				smax	smax		
	comp=E,200nm,7.8s						
UGL	**Uglegorsk**	**9.38**	**269**	ePN	Pn	14 30 05.9	+3.4
UGL				eS	Sn	14 31 48.0	+1.9
UGL				pmax	pmax		
	comp=N,227nm,0.7s						
UGL				pmax	pmax		
	comp=Z,678nm,0.7s						
UGL				smax	smax		
	comp=E,37nm,1.1s						
UGL				smax	smax		
	comp=N,58nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**9.43**	**234**	c iPN	Pn	14 30 03.3	+0.1
YUK				pmax	pmax		
	comp=Z,574nm,0.3s						
YUK				pmax	pmax		
	comp=N,199nm,0.4s						
YUK				pmax	pmax		
	comp=E,118nm,0.4s						
YUK				pmax	pmax		
	comp=Z,799nm,1.5s						
YUK				MLR	MLR		
	comp=Z,351nm,19.0s						
GRPR	**Tuman**	**9.51**	**234**	⇑iPN	Pn	14 30 04.7	+0.4
GRPR				pmax	pmax		
	comp=N,139nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,337nm,0.4s						
GRPR				pmax	pmax		
	comp=E,390nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.60**	**256**	⇑ePN	Pn	14 30 08.2	+2.7
YSS				eS	Sn	14 31 52.6	+1.0
YSS				pmax	pmax		
	comp=Z,120nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.60**	**256**	Pn	Pn	14 30 08.6	+3.1
RUSJ	**Misakicho**	**9.71**	**236**	ePN	Pn	14 30 06.4	-0.6
RUSJ				eS	Sn	14 31 55.9	+1.7
NMR	**Nemuro--Hokkai**	**9.97**	**231**	⇑iPN	Pn	14 30 06.7	-3.9
JKA	**Kamikawa-asahi**	**11.16**	**243**		Pn	14 30 27.6	+0.8
ASAJ	**Asahikawa**	**11.17**	**243**	P	Pn	14 30 27.6	+0.8
	comp=Z,11nm,0.3s,baz=65,slow=12,SNR=94						
ASAJ				LR	LR	14 34 17.6	
	comp=Z,124nm,21.5s,baz=340,slow=35						
SMY	**Shemya**	**11.34**	**70**	PN	Pn	14 30 29.1	-0.1
SMY	**Shemya**	**11.34**	**70**	Pn	Pn	14 30 29.1	-0.1
ERM	**Erimo**	**12.26**	**234**	PN	Pn	14 30 39.7	-2.0
ERM	**Erimo**	**12.26**	**234**	Pn	Pn	14 30 39.7	-2.0
GRNR	**Gornyy**	**12.76**	**281**	⇓iPN	Pn	14 30 50.5	+2.2
GRNR				pmax	pmax		
	comp=E,10.0nm,0.5s						
GRNR				pmax	pmax		
	comp=N,4.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,190nm,14.0s						
GRNR				MLR	MLR		
	comp=N,230nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,160nm,20.0s						
SEY	**Seymchan**	**13.02**	**352**	P	Pn	14 30 52.8	+1.1
	comp=Z,0.8nm,0.3s,baz=175,slow=10,SNR=22						
SEY				LR	LR	14 36 31.1	
	comp=Z,123nm,20.1s,baz=174,slow=41						
TEY	**Ternei**	**14.30**	**257**	⇑eP	Pn	14 31 08.9	+0.4
TEY				pmax	pmax		
	comp=N,30nm,1.8s						
TEY				pmax	pmax		
	comp=Z,40nm,1.7s						
AMKA	**Amchitka**	**14.53**	**76**	Pn	Pn	14 31 12.8	+1.3
KLR	**Kul'dur**	**15.97**	**276**	P	Pn	14 31 30.9	+1.1
	comp=Z,1.1nm,0.3s,baz=68,slow=13,SNR=35						
KLR				LR	LR	14 37 50.9	
	comp=Z,97nm,20.6s,baz=79,slow=38						
ADK	**Adak**	**16.99**	**74**	P	Pn	14 31 42.8	+0.4
ADK				pmax	pmax		
	comp=Z,22nm,1.2s						
ADK	**Adak**	**16.99**	**74**	P	Pn	14 31 42.8	+0.4
USA0B	**Ussuriysk Arra**	**17.60**	**260**	P	P	14 31 48.6	-1.1
USA0B				pmax	pmax		
	comp=Z,13nm,0.9s						
USA0B	**Ussuriysk Arra**	**17.60**	**260**	P	P	14 31 48.6	-1.1
USRK	**Ussuriysk Ar.**	**17.60**	**260**	P	P	14 31 48.4	-1.4
	baz=58,slow=13,SNR=14						
USRK				LR	LR	14 38 26.2	
	comp=Z,112nm,21.5s,baz=37,slow=36						
USRK	**Ussuriysk Ar.**	**17.60**	**260**	P	P	14 31 47.0	-2.7
ZEA	**Zeya**	**18.28**	**293**	eP	P	14 31 56.9	-0.2
ZEA				pmax	pmax		
	comp=Z,43nm,1.2s						
MJAR	**Matsushiro Arr**	**18.90**	**231**	P	P	14 32 03.8	-0.4
	comp=Z,0.5nm,0.3s,baz=22,slow=10,SNR=31						
MJAR				LR	LR	14 39 15.1	
	comp=Z,81nm,20.1s,baz=95,slow=36						
MJAR	**Matsushiro Arr**	**18.90**	**231**	P	P	14 32 04.8	+0.6
MJAR				pmax	pmax		
	comp=Z,12nm,0.5s						
MJAR	**Matsushiro Arr**	**18.90**	**231**	P	P	14 32 04.8	+0.6
MAJO	**Matsushiro**	**18.90**	**231**	P	P	14 32 03.7	-0.5
MAJO				pmax	pmax		
	comp=Z,40nm,0.5s						
MAJO	**Matsushiro**	**18.90**	**231**	P	P	14 32 03.7	-0.5
MAJO				IAmb	IAmb	14 32 11.0	
	comp=Z,40nm,0.5s						
MAT	**Matsushiro**	**18.90**	**231**	P	P	14 32 03.4	-0.8
MAT				S	S	14 35 35.1	+0.7
YAK	**Yakutsk**	**18.92**	**319**	P	P	14 32 01.6	-2.4
	comp=Z,0.5nm,0.3s,baz=91,slow=2.3,SNR=11						
YAK				LR	LR	14 39 43.3	
	comp=Z,113nm,18.2s,baz=126,slow=38						
YAK	**Yakutsk**	**18.92**	**319**	eP	P	14 32 02.8	-1.2
YAK				eS	S	14 35 30.8	-3.4
YAK				pmax	pmax		
	comp=Z,57nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
YAK				pmax	pmax		
	comp=E,30nm,1.0s						
YAK				smax	smax		
	comp=N,122nm,1.5s						
YAK				smax	smax		
	comp=E,73nm,2.0s						
MDJ	**Mudanjiang**	**18.93**	**263**	P	Pn	14 32 08.6	+2.7
MDJ				pmax	pmax		
	comp=E,69nm,0.8s						
MDJ				pmax	pmax		
	comp=E,210nm,3.4s						
MDJ	**Mudanjiang**	**18.93**	**263**	P	P	14 32 02.6	-1.7
MDJ				IAmb	IAmb	14 32 09.3	
	comp=Z,47nm,0.8s						
INU	**Inuyama**	**20.44**	**231**	P	P	14 32 19.8	-1.0
INU				IAmb	IAmb	14 32 21.5	
	comp=Z,48nm,0.9s						
CN2	**Changchun**	**21.95**	**265**	eP	P	14 32 31.6	-5.3
KSRS	**Korea Array**	**23.99**	**249**	P	P	14 32 57.1	+0.2
	comp=Z,20nm,0.8s,baz=46,slow=10,SNR=57						
KSRS				LR	LR	14 41 08.8	
	comp=Z,57nm,20.1s,baz=55,slow=33						
KS19	**Wonju Array Si**	**24.00**	**249**	P	P	14 32 55.3	-1.7
KS19				IAmb	IAmb	14 32 59.9	
	comp=Z,32nm,0.9s						
KSAR	**Wonju Array Be**	**24.02**	**249**	P	P	14 32 57.2	0.0
KSAR	**Wonju Array Be**	**24.02**	**249**	P	P	14 32 57.2	0.0
TJN	**Taejon**	**25.04**	**248**	ceP	P	14 33 06.8	+0.3
JNU	**Nakatsue**	**25.37**	**238**	P	P	14 33 10.4	+0.8
	comp=Z,127nm,0.9s,baz=74,slow=9.8,SNR=48						
JNU				LR	LR	14 43 36.7	
	comp=Z,34nm,18.1s,baz=20,slow=37						
BOD	**Bodaibo**	**25.73**	**304**	eP	P	14 33 10.9	-1.6
BOD				pmax	pmax		
	comp=Z,22nm,1.1s						
IMAR	**Indian Mountai**	**29.74**	**39**	P	P	14 33 48.8	+0.6
KDAK	**Kodiak Island**	**30.31**	**56**	P	P	14 33 53.4	0.0
	comp=Z,6.8nm,0.8s,baz=319,slow=6.0,SNR=5.1						
KDAK	**Kodiak Island**	**30.31**	**56**	P	P	14 33 54.4	+1.0
KDAK				IAmb	IAmb	14 33 57.4	
	comp=Z,35nm,1.3s						
KTH	**Kantishna Hill**	**30.78**	**44**	P	P	14 33 59.1	+1.6
TRF	**Therefore Moun**	**31.06**	**44**	P	P	14 34 01.2	+1.1
COLD	**Coldfoot**	**31.30**	**37**	P	P	14 34 03.0	+1.0
	baz=264						
COLD	**Coldfoot**	**31.30**	**37**	P	P	14 34 03.1	+1.2
BWN	**Browne**	**31.43**	**43**	P	P	14 34 04.9	+1.8
BWN				IAmb	IAmb	14 34 10.0	
	comp=Z,28nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**31.47**	**161**	T	T	15 07 45.7	
	baz=348,slow=76,SNR=643						
H11N1	**WAKE ISLAND Hy**	**31.48**	**161**	T	T	15 07 50.5	
	baz=348,slow=76,SNR=980						
H11N3	**WAKE ISLAND Hy**	**31.48**	**161**	T	T	15 07 47.1	
	baz=348,slow=76,SNR=911						
NEA2	**Nenana**	**31.60**	**42**	P	P	14 34 05.4	+0.8
	baz=270,SNR=10						
RND	**Reindeer**	**31.70**	**44**	P	P	14 34 05.7	0.0
RND				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RND	**Reindeer**	**31.70**	**44**	P	P	14 34 05.7	0.0
TOLK	**Toolik Lake Re**	**31.71**	**34**	P	P	14 34 06.6	+1.0
	baz=262						
ULN	**Ulaanbaatar**	**31.99**	**285**	i P	P	14 34 06.6	-1.9
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRH	**Wood River Hil**	**32.03**	**42**	P	P	14 34 09.1	+0.8
SML	**Sawmill**	**32.03**	**47**	P	P	14 34 09.2	+0.7
TCOL	**CIGO, UAF Yank**	**32.12**	**42**	P	P	14 34 10.5	+1.3
	baz=270						
COLA	**College**	**32.13**	**42**	i P	P	14 34 09.5	+0.3
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CCB	**Clear Creek Bu**	**32.15**	**42**	P	P	14 34 09.5	0.0
POKR	**Poker Plat Res**	**32.31**	**41**	P	P	14 34 11.9	+1.0
	baz=270						
HHC	**Hu-ho-hao-te**	**32.35**	**271**	eP	P	14 34 10.8	-0.8
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,87nm,6.7s						
SONM	**Songino Array**	**32.41**	**286**	P	P	14 34 10.5	-1.7
	comp=Z,2.2nm,0.4s,baz=69,slow=7.9,SNR=10						
SONM	**Songino Array**	**32.41**	**286**	P	P	14 34 10.4	-1.7
SCM	**Sheep Creek Mo**	**32.50**	**47**	P	P	14 34 12.9	+0.2
SCM				pmax	pmax		
	comp=Z,11nm,1.0s						
SCM	**Sheep

LZH			sP	sP	14 35 48.1	+1.5
LZH			*e*PP	**PnPn**	**14 36 53.2**	**-1.5**
LZH			pmax	pmax		
	comp=Z,25nm,1.3s					
LZH			pmax	pmax		
	comp=Z,92nm,5.4s					
LZH			LR	LR		
	comp=Z,450nm,13.5s					
LZH			LR	LR		
	comp=Z,460nm,13.7s					
LZH			LR	LR		
	comp=Z,550nm,16.8s					
GTA	**Gaotai**	**40.67 277**	P	**P**	**14 35 21.7**	**-0.7**
GTA			pP	pP	14 35 45.8	+3.5
GTA			sP	sP	14 35 58.3	+6.4
GTA			pmax	pmax		
	comp=Z,6.0nm,1.3s					
GTA			pmax	pmax		
	comp=Z,76nm,5.4s					
GTA			LR	LR		
	comp=Z,74nm,13.3s					
GTA			LR	LR		
	comp=Z,96nm,12.4s					
GTA			LR	LR		
	comp=Z,110nm,12.4s					
DLBC	**Dease Lake**	**41.69 49**	P	**P**	**14 35 32.3**	**+1.9**
ZAA0	**Zalesovo Array**	**42.48 304**	P	**P**	**14 35 35.1**	**-1.7**
ZALV	**Zalesovo Beam**	**42.48 304**	P	**P**	**14 35 35.0**	**-1.7**
	comp=Z,6.1nm,0.6s,baz=67,slow=6.4,SNR=23					
ZALV			PcP	**PcP**	**14 37 26.7**	**-1.3**
	comp=Z,2.0nm,0.5s,baz=56,slow=5.6,SNR=5.0					
ZALV			LR	LR	14 53 03.3	
	comp=Z,30nm,18.1s,baz=78,slow=36					
ZALV	**Zalesovo Beam**	**42.48 304**	P	**P**	**14 35 35.1**	**-1.7**
ZALV					14 37 28.4	
ZALV	**Zalesovo Beam**	**42.48 304**	P	**P**	**14 35 35.1**	**-1.7**
ZALV				**PcP**	**14 37 28.4**	**+0.4**
DGZ	**Jazzator, Alta**	**42.95 297** *d*	*i*P	**P**	**14 35 40.7**	**-0.1**
DGZ			pmax	pmax		
	comp=Z,20nm,1.0s					
CD2	**Chengdu**	**43.38 264**	*e*P	**P**	**14 35 43.0**	**-1.4**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
GYA	**Guiyang**	**44.61 257**	⇑P	**P**	**14 35 54.4**	**+0.1**
GYA			pP	pP	14 36 16.6	+2.1
GYA			pmax	pmax		
	comp=Z,20nm,1.1s					
ZSN	**Zaisan**	**45.54 296**	*e*P	**P**	**14 35 59.8**	**-1.6**
ZSN	**Zaisan**	**45.54 296**	*e*P	**P**	**14 35 59.7**	**-1.6**
KIP	**Kipapa**	**45.76 112**	*i* P	**P**	**14 36 04.3**	**+1.0**
KIP			pmax	pmax		
	comp=Z,41nm,1.0s					
WMQ	**Urumqi**	**45.80 290**	*e*P	**P**	**14 36 03.8**	**+0.3**
WMQ			pmax	pmax		
	comp=Z,13nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,44nm,4.9s					
YKA	**Yellowknife Ar**	**46.90 39**	P	**P**	**14 36 13.1**	**+1.4**
	comp=Z,5.3nm,0.7s,baz=296,slow=7.3,SNR=3.7					
KURK	**Kurchatov**	**47.36 302**	P	**P**	**14 36 14.0**	**-1.5**
KURK			pmax	pmax		
	comp=Z,27nm,0.7s					
KURK	**Kurchatov**	**47.36 302**	P	**P**	**14 36 14.0**	**-1.5**
MKAR	**Makanchi Array**	**47.38 296**	P	**P**	**14 36 14.7**	**-1.1**
	comp=Z,10nm,0.7s,baz=62,slow=8.4,SNR=73					
MKAR			LR	LR	14 56 52.1	
	comp=Z,117nm,20.9s,baz=46,slow=37					
MKAR	**Makanchi Array**	**47.38 296**	P	**P**	**14 36 14.6**	**-1.2**
MAKZ	**Makanchi**	**47.55 296**	P	**P**	**14 36 15.9**	**-1.2**
MAKZ			pmax	pmax		
	comp=Z,11nm,0.7s					
MAKZ	**Makanchi**	**47.55 296**	P	**P**	**14 36 15.9**	**-1.2**
MAKZ			IAmb	IAmb	14 36 16.9	
	comp=Z,10nm,0.7s					
KMI	**Kunming**	**48.03 259** ⇓	*i*P	**P**	**14 36 22.6**	**+1.3**
KMI			pP	pP	14 36 45.7	+4.0
KMI			pmax	pmax		
	comp=Z,21nm,0.7s					
KMI			pmax	pmax		
	comp=Z,57nm,4.3s					
A04D	**Lummi Island**	**50.13 58**	P	**P**	**14 36 38.2**	**+1.5**
	baz=304					
BRVK	**Borovoye**	**50.47 309**	P	**P**	**14 36 38.0**	**-1.2**
BRVK			pmax	pmax		
	comp=Z,16nm,0.7s					
BRVK	**Borovoye**	**50.47 309**	P	**P**	**14 36 38.0**	**-1.2**
D03D	**Eldon**	**50.59 60**	P	**P**	**14 36 42.2**	**+2.0**
	baz=305					
TDK	**Taldyqorghan**	**50.63 296**	*i* P	**P**	**14 36 39.7**	**-1.0**
TDK	**Taldyqorghan**	**50.63 296**	*i* P	**P**	**14 36 39.6**	**-1.0**
B05A	**Bryant**	**50.72 59**	P	**P**	**14 36 42.8**	**+1.6**
	baz=305					
BRZS	**Berezniki**	**50.96 304**	*i* P	**P**	**14 36 41.3**	**-1.7**
	comp=Z,17nm,0.9s					
BRZS	**Berezniki**	**50.96 304**	*i* P	**P**	**14 36 41.3**	**-1.7**
BRZS			pmax	pmax		
	comp=Z,17nm,0.9s					
D04E	**Lakebay**	**50.97 60**	P	**P**	**14 36 44.9**	**+1.9**
	baz=306					
SHLS	**Shalkode**	**51.10 294**	*e*P	**P**	**14 36 41.2**	**-3.1**
	comp=Z,4.7nm,0.5s					
SHLS	**Shalkode**	**51.10 294**	*e*P	**P**	**14 36 41.2**	**-3.1**
SHLS			pmax	pmax		
	comp=Z,5.0nm,0.5s					
UZB	**Uzynbulak**	**51.36 294**	*i* P	**P**	**14 36 45.0**	**-1.3**
	comp=Z,8.0nm,1.3s					
UZB	**Uzynbulak**	**51.36 294**	*i* P	**P**	**14 36 45.0**	**-1.3**
UZB			pmax	pmax		
	comp=Z,8.0nm,1.3s					
KPKS	**Kokpek**	**51.37 294**	*e*P	**P**	**14 36 45.2**	**-1.0**
	comp=Z,11nm,0.8s					
KPKS	**Kokpek**	**51.37 294**	*e*P	**P**	**14 36 45.2**	**-1.0**
KPKS			pmax	pmax		
	comp=Z,11nm,0.8s					
SATY	**Saty**	**51.78 294**	*e*P	**P**	**14 36 47.8**	**-1.6**
SATY	**Saty**	**51.78 294**	*e*P	**P**	**14 36 47.7**	**-1.6**
LTY	**Liberty**	**52.09 59**	P	**P**	**14 36 50.9**	**-0.6**
LTY			IAmb	IAmb	14 36 53.7	
	comp=Z,16nm,1.5s					
CHKK	**Chushkaly**	**52.13 296**	*e*P	**P**	**14 36 50.0**	**-1.8**
CHKK	**Chushkaly**	**52.13 296**	*e*P	**P**	**14 36 50.0**	**-1.8**
LSA	**Lhasa**	**52.29 273**	P	**P**	**14 36 54.0**	**+0.3**
KUU	**Kurty**	**52.48 296**	*e*P	**P**	**14 36 52.3**	**-2.1**
KUU	**Kurty**	**52.48 296**	*e*P	**P**	**14 36 52.3**	**-2.1**
MDOK	**Medeo**	**52.51 295**	*e*P	**P**	**14 36 53.4**	**-1.4**
MDOK	**Medeo**	**52.51 295**	*e*P	**P**	**14 36 53.4**	**-1.4**
AAA	**Alma-Ata**	**52.56 295**	*e*P	**P**	**14 36 53.9**	**-1.2**
AAA	**Alma-Ata**	**52.56 295**	*e*P	**P**	**14 36 53.8**	**-1.2**
TNSS	**Tian-Shan**	**52.64 295**	*e*P	**P**	**14 36 54.5**	**-1.7**
TNSS	**Tian-Shan**	**52.64 295**	*e*P	**P**	**14 36 54.4**	**-1.7**
I03D	**Drain, OR**	**52.69 64**	P	**P**	**14 36 58.1**	**+2.2**
	baz=308					
MTBS	**Maitube**	**52.89 295**	*e*P	**P**	**14 36 56.3**	**-1.2**
MTBS	**Maitube**	**52.89 295**	*e*P	**P**	**14 36 56.3**	**-1.2**
G05D	**Wamic, OR**	**52.92 61**	P	**P**	**14 36 59.6**	**+1.9**
	baz=307					
KDJ	**Kajisay**	**53.06 294**	P	**P**	**14 36 57.7**	**-1.2**
KDJ			pmax	pmax		
	comp=Z,17nm,0.7s					
KDJ	**Kajisay**	**53.06 294**	P	**P**	**14 36 57.7**	**-1.2**
BTLS	**Baital**	**53.10 299**	*e*P	**P**	**14 36 57.4**	**-1.6**
	comp=Z,7.7nm,1.7s					
BTLS	**Baital**	**53.10 299**	*e*P	**P**	**14 36 57.3**	**-1.6**
BTLS			pmax	pmax		
	comp=Z,8.0nm,1.7s					
I04A	**Tendick Farm,**	**53.17 63**	P	**P**	**14 37 01.2**	**+1.7**
	baz=308					
NEW	**Newport**	**53.41 56**	P	**P**	**14 37 01.7**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=307,slow=5.2,SNR=5.0					
NEW			pP	**pP**	**14 37 22.4**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=341,slow=3.9,SNR=3.9					
NEW	**Newport**	**53.41 56**	P	**P**	**14 37 02.5**	**+1.3**
	baz=307					
I05D	**Terrebonne, OR**	**53.46 62**	P	**P**	**14 37 03.3**	**+1.7**
	baz=308					
L02E	**Cave Junction**	**53.48 66**	P	**P**	**14 37 04.1**	**+2.3**
	baz=308					
TKM2	**Tokmak 2**	**53.50 296**	P	**P**	**14 37 01.4**	**-0.7**
	SNR=13					
ULHL	**Ulaho!**	**53.54 295**	P	**P**	**14 37 02.1**	**-0.4**
	SNR=9.8					
J04D	**Umpqua Nationa**	**53.69 64**	P	**P**	**14 37 05.4**	**+1.9**
	baz=308					
SGDS	**Sogindy**	**53.73 297** *d*	*i*P	**P**	**14 37 02.8**	**-0.9**
	comp=Z,21nm,2.0s					
SGDS	**Sogindy**	**53.73 297** *d*	*i*P	**P**	**14 37 02.8**	**-0.9**
SGDS			pmax	pmax		
	comp=Z,21nm,2.0s					
E09A	**Wood Farm, Sta**	**53.92 58**	P	**P**	**14 37 05.0**	**+0.2**
E09A			IAmb	IAmb	14 37 07.2	
	comp=Z,11nm,0.8s					
USP	**Ospenovka**	**53.92 297**	P	**P**	**14 37 04.4**	**-0.6**
	SNR=13					
CHMS	**Chumysh**	**53.94 296**	P	**P**	**14 37 04.7**	**-0.5**
	SNR=6.2					
ARU	**Arti**	**54.01 317** *d*	*i*P	**P**	**14 37 03.2**	**-2.2**
ARU			*PP	**pP**	**14 37 23.3**	**-3.0**
ARU					14 38 07.8	
ARU					14 39 04.6	
ARU			S	**S**	**14 44 31.7**	**-2.9**
ARU			SS	**SS**	**14 48 15.3**	**-0.9**
ARU			pmax	pmax		
	comp=Z,12nm,0.8s					
ARU	**Arti**	**54.01 317**	P	**P**	**14 37 02.8**	**-2.6**
ARU			IAmb	IAmb	14 37 04.9	
	comp=Z,10nm,0.8s					
KBK	**Karagaybulak**	**54.04 296**	P	**P**	**14 37 05.6**	**-0.4**
	SNR=5.5					
J05D	**Fort Rock, OR**	**54.16 63**	P	**P**	**14 37 09.5**	**+2.6**
	baz=308					
L04D	**Klamath Falls**	**54.20 65**	P	**P**	**14 37 09.6**	**+2.4**
	baz=309					
KZA	**Kyzart**	**54.22 295**	P	**P**	**14 37 07.7**	**0.0**
	SNR=6.3					
YBH	**Yreka Blue Hor**	**54.27 66**	P	**P**	**14 37 10.1**	**+2.5**
YBH			pmax	pmax		
	comp=Z,11nm,0.8s					
YBH	**Yreka Blue Hor**	**54.27 66**	P	**P**	**14 37 10.1**	**+2.5**
YBH			IAmb	IAmb	14 37 11.3	
	comp=Z,11nm,0.8s					
AAK	**Ala-Archa**	**54.31 296**	P	**P**	**14 37 07.0**	**-1.0**
	SNR=8.9					
AAK	**Ala-Archa**	**54.31 296**	P	**P**	**14 37 07.2**	**-0.8**
AAK	**Ala-Archa**	**54.31 296**	P	**P**	**14 37 07.7**	**-0.3**
AAK			pmax	pmax		
	comp=Z,14nm,0.7s					
AAK	**Ala-Archa**	**54.31 296**	P	**P**	**14 37 07.7**	**-0.3**
M02C	**Callahan**	**54.40 66**	P	**P**	**14 37 11.2**	**+2.7**
	baz=309					
WALA	**Waterton Lakes**	**54.62 54**	IAmb	IAmb	14 37 12.4	
	comp=Z,8.4nm,0.7s					
SHL	**Shillong**	**54.66 269**	P	**P**	**14 37 10.5**	**-0.2**
SHL			pmax	pmax		
	comp=Z,35nm,0.6s					
SHL	**Shillong**	**54.66 269**	P	**P**	**14 37 10.5**	**-0.2**
EKS2	**Erkin-Say**	**54.71 296**	P	**P**	**14 37 10.2**	**-0.7**
	SNR=16					
N02D	**Trinity Center**	**54.74 66**	P	**P**	**14 37 13.7**	**+2.6**
	baz=309					
M04C	**Macdoel**	**54.75 65**	P	**P**	**14 37 13.4**	**+2.3**
	baz=309					
CHTO	**Chiang Mai**	**55.03 257**	P	**P**	**14 37 13.6**	**+0.3**
CHTO			pmax	pmax		
	comp=Z,34nm,0.8s					
CHTO	**Chiang Mai**	**55.03 257**	P	**P**	**14 37 13.6**	**+0.3**
AML	**Almayashu**	**55.09 296**	P	**P**	**14 37 14.8**	**+0.8**
	SNR=8.8					
O02D	**Mt. Diablo Mer**	**55.20 67**	P	**P**	**14 37 16.5**	**+2.2**
	baz=310					
CM31	**Chiang Mai Arr**	**55.30 257**	P	**P**	**14 37 15.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**55.30 257**	P	**P**	**14 37 16.6**	**+1.4**
	comp=Z,21nm,0.8s,baz=30,slow=7.0,SNR=120					
CMAR			LR	LR	15 01 06.7	
	comp=Z,33nm,20.8s,baz=140,slow=36					
CMAR	**Chiang Mai Arr**	**55.30 257**	P	**P**	**14 37 16.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**55.30 257**	P	**P**	**14 37 16.6**	**+1.5**
ARCES	**ARCESS Array B**	**55.37 341**	P	**P**	**14 37 12.2**	**-2.8**
	comp=Z,4.6nm,0.9s,baz=37,slow=7.6,SNR=13					
ARCES			LR	LR	15 04 33.5	
	comp=Z,39nm,18.6s,baz=44,slow=40					
KSH	**Kashi**	**55.41 292**	P	**P**	**14 37 19.1**	**+3.2**
KSH			PcP	**PcP**	**14 38 16.6**	**+1.4**
KSH			PcS	**PcS**	**14 42 16.4**	**+0.9**
KSH			S	**S**	**14 45 00.3**	**+6.3**
KSH			sS	sS	14 45 38.0	+8.8
KSH			ScS	**ScS**	**14 46 55.9**	**-1.1**
KSH			pmax	pmax		
	comp=Z,17nm,1.1s					
KSH			pmax	pmax		
	comp=Z,71nm,5.7s					
KSH			LR	LR		
	comp=Z,77nm,4.4s					
KSH			LR	LR		
	comp=Z,51nm,4.2s					
BMO	**Blue Mountains**	**55.41 60**	IAmb	IAmb	14 37 18.6	
	comp=Z,15nm,1.4s					
PBKT	**Sadao Pong**	**55.46 253**	P	**P**	**14 37 17.1**	**+0.8**
PRGR	**Permogore**	**55.70 327**	*e*P	**P**	**14 37 15.0**	**-2.5**
PRGR			pmax	pmax		
	comp=Z,17nm,1.2s					
O03E	**Paynes Creek**	**55.71 66**	P	**P**	**14 37 19.2**	**+1.3**
	baz=310					
MSO	**Missoula**	**56.00 56**	P	**P**	**14 37 21.5**	**+1.5**
	baz=309,SNR=5.7					
KK31	**Karatay Array**	**56.30 299**	IAmb	IAmb	14 37 22.5	
	comp=Z,9.0nm,1.1s					
KKAR	**Karatay Array**	**56.30 299**	P	**P**	**14 37 20.8**	**-1.3**
KKAR	**Karatay Array**	**56.30 299**	P	**P**	**14 37 20.8**	**-1.3**
KKAR	**Karatay Array**	**56.30 299**	IAmb	IAmb	14 37 22.5	
	comp=Z,9.0nm,1.1s					
ORV	**Oroville**	**56.36 67**	IAmb	IAmb	14 37 24.7	
	comp=Z,10nm,1.1s					
JIRN	**Jiri**	**56.87 275**	*e*P	**P**	**14 37 26.4**	**-0.3**
	comp=Z,17nm,0.5s					
JIRN	**Jiri**	**56.87 275**	*e*P	**P**	**14 37 26.4**	**-0.3**
	comp=Z,17nm,0.5s					
RAMN	**Ramite**	**57.09 274**	*e*P	**P**	**14 37 27.5**	**-0.7**
	comp=Z,17nm,0.4s					
RAMN	**Ramite**	**57.09 274**	*e*P	**P**	**14 37 27.5**	**-0.7**
	comp=Z,17nm,0.4s					
SUMG	**Summit**	**57.15 5**	*i* P	**P**	**14 37 28.0**	**-0.1**
	comp=Z,39nm,0.8s					
SUMG	**Summit**	**57.15 5**	*i* P	**P**	**14 37 28.0**	**-0.1**
SUMG			pmax	pmax		
	comp=Z,39nm,0.8s					
SUMG	**Summit**	**57.15 5**	P	**P**	**14 37 26.9**	**-1.1**
IUG	**Iuzhnay**	**57.18 298** ⇓	*i*P	**P**	**14 37 27.9**	**-0.6**
	comp=Z,6.4nm,0.5s					
IUG	**Iuzhnay**	**57.18 298** *d*	*i*P	**P**	**14 37 27.8**	**-0.7**
IUG			pmax	pmax		
	comp=Z,6.0nm,0.5s					
KKN	**Kakani**	**57.36 275**	*e*P	**P**	**14 37 29.4**	**-0.6**
	comp=Z,18nm,0.6s					
KKN	**Kakani**	**57.36 275**	*e*P	**P**	**14 37 29.4**	**-0.6**
	comp=Z,18nm,0.6s					
EGMT	**Eagleton**	**57.42 53**	P	**P**	**14 37 31.2**	**+1.2**
	baz=311					
PKI	**Pulchoki**	**57.43 275**	*e*P	**P**	**14 37 30.0**	**-0.6**
PKI	**Pulchoki**	**57.43 275**	*e*P	**P**	**14 37 30.0**	**-0.6**
PAHR	**Pah Rah Range**	**57.51 65**	IAmb	IAmb	14 37 33.6	
	comp=Z,18nm,1.4s					
DMN	**Daman**	**57.60 275**	*e*P	**P**	**14 37 31.9**	**+0.2**
DMN	**Daman**	**57.60 275**	*e*P	**P**	**14 37 31.9**	**+0.2**
GKN	**Gorkha**	**57.62 276**	*e*P	**P**	**14 37 31.4**	**-0.4**
	comp=Z,13nm,0.4s					
GKN	**Gorkha**	**57.62 276**	*e*P	**P**	**14 37 31.4**	**-0.4**
	comp=Z,13nm,0.4s					
HLID	**Hailey**	**57.83 59**	P	**P**	**14 37 35.0**	**+1.9**
	baz=311,SNR=9.4					
HLID	**Hailey**	**57.83 59**	IAmb	IAmb	14 37 36.2	
	comp=Z,16nm,1.4s					
ABKAR	**Akbulak array**	**57.94 310**	P	**P**	**14 37 32.1**	**-1.5**
BOZ	**Bozeman (W)**	**58.02 56**	P	**P**	**14 37 36.1**	**+1.8**
	baz=311,SNR=12					
BOZ	**Bozeman (W)**	**58.02 56**	IAmb	IAmb	14 37 37.2	
	comp=Z,9.7nm,0.9s					
YERR	**Yerington**	**58.06 66**	IAmb	IAmb	14 37 37.7	
	comp=Z,9.3nm,0.7s					
WAKR	**Walker**	**58.26 67**	IAmb	IAmb	14 37 39.3	
	comp=Z,10nm,0.8s					
KLMR	**Klimovskoe**	**58.33 329**	*e*P	**P**	**14 37 34.3**	**-1.8**
KLMR			*e*		14 39 44.7	
KLMR			pmax	pmax		
	comp=Z,6.0nm,0.6s					
KLMR	**Klimovskoe**	**58.33 329**	*e*P	**P**	**14 37 34.3**	**-1.8**
KLMR			AMP		14 37 36.3	
	comp=Z,6.0nm,0.6s					
KLMR			*e*PP	**PP**	**14 39 44.8**	**-0.6**
KOLN	**Koldanda**	**58.45 277**	*e*P	**P**	**14 37 37.3**	**-0.3**
KOLN	**Koldanda**	**58.45 277**	*e*P	**P**	**14 37 37.3**	**-0.3**
PYUN	**Piuthan**	**58.61 277**	*e*P	**P**	**14 37 38.7**	**-0.1**
	comp=Z,40nm,0.9s					
PYUN	**Piuthan**	**58.61 277**	*e*P	**P**	**14 37 38.7**	**-0.1**
	comp=Z,40nm,0.9s					
RYN	**Ryan**	**58.72 66**	IAmb	IAmb	14 37 42.2	
	comp=Z,11nm,0.9s					
NVAR	**Mina Array Bea**	**58.98 66**	P	**P**	**14 37 43.2**	**+2.1**
	comp=Z,7.8nm,0.7s,baz=296,slow=7.3,SNR=44					
NVAR			pP	**pP**	**14 38 03.4**	**+1.4**
	comp=Z,3.8nm,0.7s,baz=297,slow=7.8,SNR=7.1					
NVAR	**Mina Array Bea**	**58.98 66**	P	**P**	**14 37 42.2**	**+1.0**
NV11	**Mina Array Sit**	**59.06 66**	IAmb	IAmb	14 37 44.7	
	comp=Z,9.6nm,1.1s					
H17A	**Grant Village**	**59.37 56**	P	**P**	**14 37 45.8**	**+1.9**
	baz=312					
RLMT	**Red Lodge**	**59.58 55**	P	**P**	**14 37 47.4**	**+2.2**
	baz=312,SNR=11					
PMG	**Port Moresby**	**59.84 191**	*i* P	**P**	**14 37 46.5**	**-0.4**
PMG			pmax	pmax		
	comp=Z,19nm,1.1s					
DGMT	**Dagmar**	**59.90 49**	P	**P**	**14 37 48.8**	**+1.6**
	baz=313					
SMMC	**Simmler**	**60.05 70**	P	**P**	**14 37 50.3**	**+1.9**
	baz=313					
SBUM	**Sibu**	**60.43 233**	IAmb	IAmb	14 37 58.2	
	comp=Z,5.9nm,0.6s					
CWC	**Cottonwood Cre**	**60.44 68**	P	**P**	**14 37 52.7**	**+1.5**
	baz=313					
PKM	**Mcpherson Peak**	**60.45 70**	P	**P**	**14 37 53.2**	**+2.0**
	baz=313					
GRAC	**Grapevine Rang**	**60.49 67**	P	**P**	**14 37 53.2**	**+1.9**
	baz=313					
R11A	**Troy Canyon, C**	**60.62 64**	P	**P**	**14 37 54.0**	**+1.6**
	baz=313,SNR=18					
R11A	**Troy Canyon, C**	**60.62 64**	IAmb	IAmb	14 37 55.0	
	comp=Z,7.8nm,0.9s					
HWUT	**Hardware Ranch**	**60.70 59**	IAmb	IAmb	14 37 56.0	
	comp=Z,12nm,1.1s					
ISA	**Isabella, Lake**	**60.73 68**	P	**P**	**14 37 53.6**	**+0.6**
	baz=313					
DUG	**Dugway, Tooele**	**60.96 61**	P	**P**	**14 37 56.5**	**+1.9**
	baz=313,SNR=6.3					
BW06	**Boulder Array**	**61.02 57**	P	**P**	**14 37 56.6**	**+1.6**
	baz=313,SNR=17					
BW06	**Boulder Array**	**61.02 57**	IAmb	IAmb	14 37 57.8	
	comp=Z,13nm,0.9s					
PD31	**Pinedale Array**	**61.02 57**	IAmb	IAmb	14 37 57.9	
	comp=Z,11nm,0.9s					
PDAR	**Pinedale Array**	**61.02 57**	P	**P**	**14 37 56.7**	**+1.6**
	comp=Z,8.5nm,0.8s,baz=316,slow=2.4,SNR=59					
PDAR			pP	**pP**	**14 38 17.4**	**+1.2**
	comp=Z,11nm,0.8s,baz=319,slow=3.0,SNR=16					
PDAR	**Pinedale Array**	**61.02 57**	P	**P**	**14 37 56.4**	**+1.3**
FURC	**Furnace Creek,**	**61.14 67**	P	**P**	**14 37 57.6**	**+1.9**
	baz=313,SNR=22					
TPNV	**Topopah Spring**	**61.18 66**	P	**P**	**14 37 57.7**	**+1.5**
TPNV			pmax	pmax		
	comp=Z,12nm,0.9s					
TPNV	**Topopah Spring**	**61.18 66**	P	**P**	**14 37 57.8**	**+1.7**
	baz=313,SNR=14					
TPNV	**Topopah Spring**	**61.18 66**	P	**P**	**14 37 57.7**	**+1.5**
TPNV			IAmb	IAmb	14 37 58.9	
	comp=Z,12nm,0.9s					
LRMC	**Laurel Mtn Rad**	**61.33 68**	P	**P**	**14 37 58.4**	**+1.3**
	baz=313					
EDW2	**Edwards Air Fo**	**61.55 69**	P	**P**	**14 38 00.1**	**+1.5**
	baz=314,SNR=9.6					
PRN	**Pahroc Range**	**61.57 65**	IAmb	IAmb	14 38 01.3	
	comp=Z,6.2nm,0.6s					
DECC	**Green Verdugo**	**61.77 70**	P	**P**	**14 38 01.6**	**+1.6**
	baz=314					
SHOC	**Shoshone, Teco**	**61.88 67**	P	**P**	**14 38 01.9**	**+1.1**
	baz=314					
FINES	**FINESS Array B**	**61.89 335**	P	**P**	**14 37 57.9**	**-2.4**
	comp=Z,1.2nm,0.4s,baz=57,slow=7.0,SNR=8.9					
FINES			LR	LR	15 07 07.6	
	comp=Z,38nm,20.1s,baz=8.5,slow=38					
FINES	**FINESS Array B**	**61.89 335**	P	**P**	**14 37 57.5**	**-2.9**
GSC	**Goldstone, Bar**	**61.97 68**	P	**P**	**14 38 02.9**	**+1.4**
	baz=314,SNR=7.5					
BFSC	**Mount Baldy Ra**	**62.19 69**	P	**P**	**14 38 04.2**	**+1.2**
	baz=314					
CIS	**Catalina Islan**	**62.31 70**	P	**P**	**14 38 04.7**	**+1.1**
	baz=314					
TUQ	**Turquoise Moun**	**62.40 67**	P	**P**	**14 38 05.9**	**+1.5**
	baz=314,SNR=9.5					
SCI2	**San Clemente I**	**62.52 71**	P	**P**	**14 38 06.6**	**+1.6**
	baz=314					
HEC	**Hector,Ludlow**	**62.58 68**	P	**P**	**14 38 07.1**	**+1.6**
	baz=314,SNR=6.0					
GMRC	**Granite Mounta**	**63.01 67**	P	**P**	**14 38 10.0**	**+1.6**
	baz=314,SNR=9.9					
PFO	**Pinyon Flats O**	**63.34 69**	P	**P**	**14 38 11.5**	**+0.9**
	baz=314					
BELC	**Belle Mtn. Jos**	**63.35 68**	P	**P**	**14 38 11.6**	**+0.9**
	baz=314,SNR=5.5					
TPFO	**Pinon Flats**	**63.35 69**	P	**P**	**14 38 11.5**	**+0.9**
	baz=314					
O20A	**White River Ci**	**63.54 58**	P	**P**	**14 38 13.1**	**+1.2**
	baz=315					
IRM	**Iron Mountain**	**63.75 68**	P	**P**	**14 38 14.7**	**+1.6**
	baz=314,SNR=9.9					
BC3	**Big Chuckawall**	**63.91 68**	P	**P**	**14 38 15.6**	**+1.2**
	baz=315					
IKP	**In-Ko-Pah, Jac**	**64.22 69**	P	**P**	**14 38 17.5**	**+1.2**
	baz=315					
PDMCI	**Parker Dam,Lak**	**64.24 67**	P	**P**	**14 38 17.7**	**+1.3**
	baz=315					
PV22	**Blue Mesa, Par**	**64.36 60**	IAmb	IAmb	14 38 21.1	
	comp=Z,12nm,0.9s					
PV04	**Paradox Valley**	**64.39 60**	IAmb	IAmb	14 38 20.2	
	comp=Z,14nm,0.8s					
PV19	**Morning Glory**	**64.41 60**	IAmb	IAmb	14 38 20.3	
	comp=Z,12nm,0.8s					
PV16	**Nyswonger Mesa**	**64.45 60**	IAmb	IAmb	14 38 20.5	
	comp=Z,19nm,1.2s					
KULM	**Kulim**	**64.49 246**	P	**P**	**14 38 18.8**	**+0.6**
KULM			IAmb	IAmb	14 38 22.4	
	comp=Z,18nm,0.9s					
PV18	**Skein Mesa, Pa**	**64.50 60**	IAmb	IAmb	14 38 20.8	
	comp=Z,21nm,1.0s					
PV03	**Paradox Valley**	**64.53 60**	IAmb	IAmb	14 38 21.0	
	comp=Z,15nm,1.0s					
PV13	**Radium Mtn., P**	**64.61 60**	IAmb	IAmb	14 38 21.6	
	comp=Z,15nm,0.8s					
GLA	**Glamis**	**64.71 68**	P	**P**	**14 38 21.1**	**+1.6**
	baz=315					
GLA	**Glamis**	**64.71 68**	IAmb	IAmb	14 38 22.0	
	comp=Z,11nm,0.8s					
PV01	**Paradox Valley**	**64.77

319A	Douglas	69.19	66	P	P	14 38 49.1 +1.1
319A				IAmb	IAmb	14 38 50.9
	comp=Z,16nm,0.9s					
SCHQ	Schefferville	69.32	25	P	P	14 38 47.2 -1.1
	comp=Z,3.7nm,0.9s,baz=235,slow=19,SNR=1.7					
SCHQ	Schefferville	69.32	25	P	P	14 38 46.6 -1.7
AKASG	Malin Array Be	69.92	327	P	P	14 38 49.2 -2.8
	comp=Z,1.8nm,0.4s,baz=32,slow=6.4,SNR=5.7					
KIV	Kislovodsk	69.97	315	*e*P	P	14 38 51.0 -1.6
KIV				pmax	pmax	
	comp=Z,17nm,0.9s					
KIV				MLR	MLR	
	comp=Z,59nm,17.0s					
KBZ	Khabaz	70.06	315	P	P	14 38 52.5 -0.5
	comp=Z,3.0nm,0.5s,baz=100,slow=4.2,SNR=8.2					
KBZ				LR	LR	15 12 57.4
	comp=Z,26nm,18.5s,baz=18,slow=39					
KBZ	Khabaz	70.06	315	*i* P	P	14 38 52.7 -0.2
KBZ				pmax	pmax	
	comp=Z,3.0nm,0.9s					
MNTX	Cornudas Mount	71.22	63	P	P	14 39 01.8 +1.5
	baz=318					
MNTX	Cornudas Mount	71.22	63	P	P	14 39 01.4 +1.1
WB0	Warramunga Arr	72.27	202	IAmb	IAmb	14 39 07.8
	comp=Z,15nm,1.2s					
WRAB	Tennant Creek	72.44	202	P	P	14 39 08.0 +0.5
WRAB				pmax	pmax	
	comp=Z,7.0nm,0.7s					
WRAB	Tennant Creek	72.44	202	P	P	14 39 08.0 +0.5
WB2	Warramunga Arr	72.45	202	IAmb	IAmb	14 39 13.6
	comp=Z,8.0nm,0.7s					
WRA	Warramunga Arr	72.45	202	P	P	14 39 07.9 +0.3
	comp=Z,9.3nm,1.0s,baz=18,slow=6.1,SNR=69					
WRA				pP	pP	14 39 29.8 +0.4
	comp=Z,2.1nm,0.5s,baz=18,slow=6.6,SNR=3.4					
WRA	Warramunga Arr	72.45	202	P	P	14 39 07.0 -0.6
WMOK	Wichita Mounta	72.62	57	P	P	14 39 09.5 +0.9
	baz=320					
D54A	Lac Fusel, La	72.81	35	P	P	14 39 09.6 +0.1
	baz=328					
HDIL	Hopedale	72.90	47	P	P	14 39 10.3 +0.2
	baz=322					
R40A	Maddies Statio	73.25	50	P	P	14 39 12.3 +0.1
R40A				IAmb	IAmb	14 39 12.8
	comp=Z,8.6nm,0.7s					
ABTX	Abilene, Hawle	73.75	59	P	P	14 39 16.2 +0.9
	baz=320					
BURAR	Bucovina Array	73.92	328	P	P	14 39 14.5 -1.6
CCM	Cathedral Cave	73.93	49	P	P	14 39 16.3 +0.1
	baz=322					
TX32	Lajitas Array	73.96	64	IAmb	IAmb	14 39 19.1
	comp=Z,14nm,0.8s					
TXAR	Lajitas Array	73.96	64	P	P	14 39 18.1 +1.5
	comp=Z,12nm,0.7s,baz=297,slow=4.4,SNR=128					
TXAR				pP	pP	14 39 39.4 +1.1
	comp=Z,6.9nm,0.6s,baz=296,slow=4.8,SNR=11					
CLL	Collm	74.24	337	*e*P	P	14 39 17.0 -0.8
	comp=Z,4.0nm,0.8s					
KRLC	Kraliky	74.37	334	*e*P	P	14 39 18.7 +0.1
KRLC	Kraliky	74.37	334	*e*P	P	14 39 18.7 +0.1
MORC	Moravsky Berou	74.42	334	*e*P	P	14 39 18.9 0.0
U40A	Yellville	74.46	52	P	P	14 39 19.8 +0.5
	baz=322					
U40A	Yellville	74.46	52	IAmb	IAmb	14 39 20.3
	comp=Z,10nm,0.7s					
D60A	Saint Jean D'O	75.03	31	P	P	14 39 20.5 -1.9
	baz=331					
VRAC	Vranov	75.11	334	*e*P	P	14 39 22.8 -0.1
VYHS	Vyhne	75.19	332	*e*P	P	14 39 23.6 +0.2
VYHS				pmax	pmax	
	comp=Z,6.0nm,1.2s					
VYHS	Vyhne	75.19	332	*e*P	P	14 39 23.6 +0.2
JAVC	Velka Javorina	75.21	333	*e*P	P	14 39 23.4 -0.1
JCT	Junction City	75.29	60	P	P	14 39 25.2 +1.0
	baz=320					
PALK	Pallekele	75.30	264	P	P	14 39 25.4 +0.9
PALK				pmax	pmax	
	comp=Z,21nm,0.7s					
PALK	Pallekele	75.30	264	P	P	14 39 25.4 +0.9
KRUC	Moravsky	75.39	334	*e*P	P	14 39 23.9 -0.6
MIAR	Mount Ida	75.50	53	P	P	14 39 25.8 +0.4
	baz=322					
MLR	Muntele Rosu	75.50	326	⇑P	P	14 39 26.6 +1.2
W41B	Gary Mavity, V	75.69	52	P	P	14 39 26.8 +0.4
	baz=322					
N51A	Ashland	75.72	42	P	P	14 39 26.6 +0.1
	baz=326					
L53A	Girard	75.75	40	P	P	14 39 26.7 0.0
	baz=327					
K55A	Perry	75.99	38	P	P	14 39 28.3 +0.3
	baz=328					
M53A	Wt Miller and	76.01	41	P	P	14 39 28.6 +0.5
	baz=326					
ACSO	Alum Creek Sta	76.02	43	P	P	14 39 28.6 +0.4
	baz=326					
KHC	Kasperske Hory	76.09	336	*e*P	P	14 39 27.3 -1.2
KHC	Kasperske Hory	76.09	336	*e*P	P	14 39 27.3 -1.2
AS31	Alice Springs	76.14	201	P	P	14 39 30.0 +1.1
ASAR	Alice Springs	76.14	201	P	P	14 39 30.1 +1.1
	comp=Z,3.7nm,0.7s,baz=13,slow=5.2,SNR=74					
ASAR	Alice Springs	76.14	201	P	P	14 39 30.0 +1.1
WCI	Wyandotte Cave	76.15	46	P	P	14 39 29.8 +0.8
	baz=324					
J57A	Williamstown	76.22	36	P	P	14 39 29.5 +0.2
	baz=329					
G61A	St-Isidore-de-	76.25	33	P	P	14 39 30.0 +0.6
	baz=331					
GERES	GERESS Array B	76.32	336	P	P	14 39 28.7 -1.2
	comp=Z,1.5nm,0.5s,baz=36,slow=5.8,SNR=12					
GERES				LR	LR	15 17 27.6
	comp=Z,34nm,18.1s,baz=52,slow=39					
GERES	GERESS Array B	76.32	336	P	P	14 39 28.8 -1.1
GERES	GERESS Array B	76.32	336	P	P	14 39 28.8 -1.1
M54A	Oil Creek Stat	76.37	40	P	P	14 39 30.5 +0.3
	baz=327					
E64A	Bridgewater	76.48	30	P	P	14 39 30.5 -0.2
	baz=333					
J58A	Remsen	76.54	36	P	P	14 39 31.2 +0.1
	baz=329					
CONA	Conrad Observa	76.57	334	*i* P	P	14 39 32.2 +0.9
	comp=Z,2.8nm,0.6s					
K57A	Scipio Center	76.60	37	P	P	14 39 31.3 -0.2
	baz=328					
O52A	Adamsville	76.61	42	P	P	14 39 31.5 0.0
	baz=326					
SHME	Shamm	76.64	295	P	P	14 39 31.0 -1.0
BANOM	Banah	76.64	294	*i* P	P	14 39 31.5 -0.5
	SNR=6.2					
I59A	Olmsteadville	76.69	35	P	P	14 39 32.0 0.0
	baz=330					
J59A	Piesco	76.74	35	P	P	14 39 32.7 +0.4
	baz=329					
H61A	Lyndonville	76.76	33	P	P	14 39 32.8 +0.5
	baz=331					
F64A	Sherman	76.80	30	P	P	14 39 32.8 +0.3
	baz=332					
WVT	Waverly	77.12	48	P	P	14 39 34.7 +0.2
	baz=324					
MSFE	Esma-Masafi	77.15	294	P	P	14 39 34.2 -0.7
J60A	Lant Hill Farm	77.33	35	P	P	14 39 35.5 -0.1
	baz=330					
BRTR	Keskin Array B	77.37	318	P	P	14 39 35.4 -0.7
	comp=Z,1.5nm,0.6s,baz=42,slow=5.7,SNR=7.0					
BRTR				LR	LR	15 17 23.7
	comp=Z,11nm,18.3s,baz=346,slow=39					
BRTR	Keskin Array B	77.37	318	*i* P	P	14 39 35.7 -0.3
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
UOSS	Minazif	77.44	294	P	P	14 39 35.9 -0.6
UOSS	Minazif	77.44	294	P	P	14 39 35.3 -1.1
HATD	Hatta, Dubai	77.57	294	*i* P	P	14 39 36.9 -0.3
	SNR=8.6					
P54A	Burton	77.62	41	P	P	14 39 37.7 +0.5
	baz=327					
L59A	Walton	77.63	37	P	P	14 39 37.6 +0.3
	baz=329					
OXF	Oxford	77.64	50	P	P	14 39 37.8 +0.4
	baz=323					
G65A	Princeton	77.65	30	P	P	14 39 37.0 -0.2
	baz=333					
I63A	Otisfield	77.65	33	P	P	14 39 37.7 +0.4
	baz=332					
ASHO	Ashiyiah	77.72	294	P	P	14 39 37.7 -0.4
NAZ	Nazwa, Dubai	77.72	294	P	P	14 39 37.5 -0.5
Q53A	Leroy	77.78	43	P	P	14 39 38.3 +0.1
	baz=326					
T50A	Nancy	77.81	46	IAmb	IAmb	14 39 39.8
	comp=Z,9.6nm,0.8s					
SOHO	SOHO	77.86	293	*i* P	P	14 39 38.0 -0.7
	SNR=6.8					
O56A	Blue Knob Stat	77.86	40	P	P	14 39 38.8 +0.2
	baz=328					
K61A	Williamstown	77.89	35	P	P	14 39 38.9 +0.2
	baz=330					
SOKA	Soboth	77.94	334	*i* P	P	14 39 38.6 -0.4
	comp=Z,9.1nm,1.3s					
P55A	Reedsville	77.97	41	P	P	14 39 39.7 +0.5
	baz=327					
KBA	Koelnbreinsper	78.04	335	*i* P	P	14 39 40.0 +0.3
	comp=Z,15nm,1.1s					
L60A	Shokan	78.12	36	P	P	14 39 40.2 +0.3
	baz=330					
OBKA	Obir	78.23	334	*i* PcP	P	14 39 44.9 +4.3
	comp=Z,7.8nm,1.0s					
WATA	Walderalm	78.27	336	*i* P	P	14 39 42.5 +1.7
	comp=Z,6.4nm,0.9s					
Q55A	Buckhannon	78.29	42	P	P	14 39 41.7 +0.7
	baz=327					
WTTA	Wattenberg	78.32	336	*i* P	P	14 39 42.3 +1.1
	comp=Z,15nm,1.4s					
MOTA	Moosalm	78.38	337	*i* P	P	14 39 42.1 +0.6
	comp=Z,3.7nm,0.7s					
PSA00	Pilbara Seismi	78.39	214	P	P	14 39 41.4 -0.1
P56A	Dayton Farm, R	78.39	40	P	P	14 39 42.0 +0.5
	baz=328					
R54A	Victor	78.58	43	P	P	14 39 43.1 +0.5
	baz=327					
Q56A	Snyder Ridge,	78.63	41	P	P	14 39 42.8 -0.1
	baz=328					
FETA	Feichten	78.78	337	*e*P	P	14 39 42.1 -1.6
	comp=Z,7.1nm,1.3s					
R55A	Marlinton	78.87	42	P	P	14 39 44.8 +0.6
	baz=327					
T53A	Wise	78.89	44	P	P	14 39 45.1 +0.8
	baz=326					
P58A	Pank, Wackersv	79.04	39	P	P	14 39 45.4 +0.4
	baz=328					
R56A	Bull Pasture M	79.08	41	P	P	14 39 45.8 +0.4
	baz=328					
PAL	Palisades	79.08	36	P	P	14 39 45.6 +0.3
	baz=330					
T54A	Tazewell	79.25	44	P	P	14 39 47.1 +0.7
	baz=327					
R57A	Stanardsville	79.54	41	P	P	14 39 48.3 +0.5
	baz=328					
T55A	Pulaski	79.56	43	P	P	14 39 48.7 +0.8
	baz=327					
U55A	TA2, Sparta	79.95	44	P	P	14 39 50.6 +0.4
	baz=327					
CBN	Corbin Frederi	80.10	40	P	P	14 39 50.8 0.0
	baz=328					
V54A	Nebo	80.15	45	P	P	14 39 51.8 +0.6
	baz=326					
S58A	Poland Farm, P	80.32	41	P	P	14 39 52.3 +0.3
	baz=328					
W54A	Cherokee Point	80.62	45	P	P	14 39 53.6 0.0
	baz=326					
T58A	Grand View Acr	80.68	42	P	P	14 39 53.6 -0.3
	baz=328					
W56A	Indian Trail	81.30	44	P	P	14 39 57.7 +0.4
	baz=327					
W57A	Gilead	81.55	44	P	P	14 39 59.0 +0.4
	baz=328					
X56A	White Oak	81.63	45	P	P	14 39 59.1 +0.1
	baz=327					
Y55A	Saluda	81.72	46	P	P	14 39 59.9 +0.4
	baz=327					
V59A	Middlesex	81.80	42	P	P	14 40 00.5 +0.6
	baz=328					
W58A	Raeford	82.00	43	P	P	14 40 01.5 +0.6
	baz=328					
PPT	Papeete	82.47	129	LR	LR	15 12 14.4
	comp=Z,35nm,21.0s,baz=312,slow=32					
STKA	Stephens Creek	82.70	193	P	P	14 40 08.1 +3.8
	comp=Z,2.1nm,0.9s,baz=327,slow=2.8,SNR=3.4					
Y58A	Scranton	82.74	44	P	P	14 40 04.3 -0.5
	baz=328					
ESDC	Sonseca Array	88.92	345	P	P	14 40 34.6 -0.6
	comp=Z,1.4nm,0.6s,baz=5.9,slow=4.0,SNR=11					
ESDC				pP	pP	14 40 55.1 -2.6
	comp=Z,1.7nm,0.8s,baz=1.7,slow=3.9,SNR=6.0					
ESDC				LR	LR	15 26 09.8
	comp=Z,19nm,19.5s,baz=85,slow=40					
ESDC	Sonseca Array	88.92	345	P	P	14 40 32.7 -2.6
KEST	Kesra	89.68	334	P	P	14 40 38.4 -0.5
	comp=Z,5.2nm,0.6s,baz=334,slow=1.0,SNR=6.9					
KEST	Kesra	89.68	334	P	P	14 40 37.9 -1.0
KEST				IAmb	IAmb	14 40 40.1
	comp=Z,6.4nm,0.8s					
LPAZ	La Paz	130.83	63	pPKP	pPKPdf	14 47 16.2 +0.1
	comp=Z,1.1nm,0.7s,baz=22,slow=10,SNR=3.4					
H03N2	Juan Fernandez	136.53	89	T	T	17 18 45.7
	baz=313,slow=77,SNR=735					
H03N1	Juan Fernandez	136.55	89	T	T	17 18 45.8
	baz=313,slow=77,SNR=748					
H03N3	Juan Fernandez	136.55	89	T	T	17 18 45.7
	baz=313,slow=77,SNR=1037					
CPUP	Villa Florida	144.87	60	PKP	PKPdf	14 47 17.1 -0.3
	comp=Z,5.1nm,0.6s,baz=338,slow=1.2,SNR=7.4					
CPUP				pPKP	pPKPdf	14 47 39.5 -1.2
	comp=Z,13nm,0.8s,baz=296,slow=2.5,SNR=6.9					
PLCA	Paso Flores	146.23	92	PKPbc	PKPab	14 47 21.4 -0.1
	comp=Z,5.8nm,0.7s,baz=295,slow=3.6,SNR=22					
PLCA				pPKPbc	pPKPdf	14 47 44.0 +1.3
	comp=Z,4.0nm,0.7s,baz=300,slow=4.7,SNR=4.8					
PLCA	Paso Flores	146.23	92		PKPab	14 47 21.7 +0.2
SNAA	Sanae	156.42	196	PKPab	PKPab	14 48 03.0 +0.1
VNA2	Neumayer--Watz	157.83	194	PKPab	PKPab	14 48 09.4 +0.6
VNA3	Neumayer Olymp	157.87	192	PKPab	PKPab	14 48 09.0 -0.1

PRU ***04*** *14:28:30.5±0.0, 43°.86N×18°.27E, h0km*
RHSSO ***04*** *14:28:35.7±0.2, 44°.16N×17°.90E, h3km±2km, ML3.3/12*
BEO ***04*** *14:28:35.5±0.3, 44°.13N×17°.76E, h7km±2km, ML3.2/18*
PDG ***04*** *14:28:35.1±0.3, 44°.16N×17°.90E, h6km, ML3.2/13, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
ISC 04 14:28:35.2±1.1, 44°.19N±0°.02×17°.95E±0°.01, h8km±9km, n102, σ1§75/174, 15C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.78	316	*e*Pg	Pb	14 28 50.6	-0.4
BLY				*e*Sg	Sn	14 29 03.1	-1.3
BLY	Banja Luka	0.78	316	*e*Pg	Pg	14 28 50.2	0.0
BLY				*e*Sg	Sg	14 29 00.9	+0.4
RICI	Ricice	0.91	221	*e*Pg	Pb	14 28 52.5	-0.6
RICI				Sg	Sn	14 29 08.0	+0.5
BBLS	Lazići	1.10	106	*e*Pg	Pn	14 28 56.4	-0.5
BBLS				*e*Sg	Sn	14 29 14.3	+2.0
BBLS	Lazići	1.10	106	⇓*i*Pg	Pg	14 28 55.6	-0.7
BBLS				*e*Sg	Sn	14 29 11.8	-0.5
MAKA	Makarska	1.12	217	*i* Pg	Pb	14 28 56.3	-0.4
MAKA				Sg	Sn	14 29 13.4	+0.7
KIJV	Kijevo	1.12	261	*i* Pg	Pn	14 28 56.7	-0.5
KIJV				Sg	Sn	14 29 14.8	+2.0
RUDO	Rudo	1.18	118	*e*Pg	Pb	14 28 56.2	-1.5
RUDO				*e*Sg	Sn	14 29 13.3	-0.8
PRIJ	Prijedor	1.18	312	*e*Pg	Pb	14 28 56.9	-0.9
PRIJ				*e*Sg	Sg	14 29 13.2	0.0
TEKS	Tekeris	1.19	72	*e*Pg	Pg	14 28 59.1	+1.1
TEKS				*e*Sg	Sn	14 29 18.6	+4.0
TEKS	Tekeris	1.19	72	*e*Pg	Pg	14 28 58.2	+0.2
TEKS				*e*Sg	Sn	14 29 14.9	+0.3
UPM	Unac-Piva	1.20	144	⇓*i*Pg	Pb	14 28 57.2	-1.1
UPM				*i* Sg	Sn	14 29 16.3	+1.3
UPM	Unac-Piva	1.20	144	⇓*i*Pg	Pb	14 28 57.1	-1.2
UPM				*e*Sg	Sn	14 29 14.1	-0.9
STON	Ston	1.32	188	*e*Pn	Pb	14 28 59.6	-0.6
STON				Sn	Sg	14 29 19.7	+1.9
PLE	Pljevlja	1.35	129	⇑*i*Pg	Pb	14 29 00.1	-0.7
PLE				*i* Sg	Sg	14 29 21.3	+2.7
BRY	Bratogost	1.35	161	⇑*i*Pg	Pn	14 28 59.6	-0.9
BRY				*i* Sg	Sg	14 29 21.0	+2.3
BRY	Bratogost	1.35	161	*e*Pg	Pn	14 28 59.6	-0.9
BRY				*e*Sg	Sb	14 29 17.8	-0.5
DIVS	Divibare	1.48	93	*e*Pn	Pg	14 29 03.8	+0.3
DIVS				*e*Sn	Sg	14 29 26.3	+3.7
DIVS	Divibare	1.48	93	⇓*i*Pn	Pb	14 29 02.5	-0.4
DIVS				*e*Sn	Sg	14 29 23.9	+1.3
HVAR	Hvar	1.48	228	*e*Pn	Pb	14 29 02.7	-0.2
HVAR				Sn	Sg	14 29 25.3	+2.5
TREB	Trebinje	1.50	169	*e*Pg	Pn	14 29 01.9	-0.4
TREB				*e*Sg	Sb	14 29 21.8	-0.5
TREB	Trebinje	1.50	169	*e*Pg	Pb	14 29 02.5	-0.7
TREB				*e*Sg	Sg	14 29 23.5	+0.2
DBRK	Dubrovnik	1.52	174	*e*Pn	Pb	14 29 03.3	-0.3
DBRK				Sn	Sg	14 29 24.6	+0.6
NKY	Niksic	1.57	151	⇓*i*Pg	Pb	14 29 04.2	-0.3
NKY				*i* Sg	Sg	14 29 27.7	+2.1
NKME	Niksic	1.60	152	⇑*i*Pn	Pb	14 29 04.2	-0.7
NKME				*i* Sn	Sg	14 29 28.5	+2.1
UDBI	Udbina	1.60	283	*e*Pn	Pb	14 29 04.4	-0.6
UDBI				Sn	Sg	14 29 29.7	+3.1
LSTV	Lastovo	1.61	209	*e*Pn	Pb	14 29 04.6	-0.6
LSTV				Sn	Sg	14 29 26.3	-0.6
FRGS	Fruska Gora	1.65	53	*e*Pg	Pg	14 29 06.9	+0.2
FRGS				*e*Sn	Sg	14 29 30.4	+2.3
FRGS	Fruska Gora	1.65	53	*e*Pn	Pg	14 29 06.1	-0.6
FRGS				*e*Sn	Sg	14 29 28.4	+0.3
MOSL	Moslavina	1.66	330	*i* Pn	Pb	14 29 05.2	-0.8
MOSL				Sn	Sg	14 29 28.5	0.0
SJES	Sjenica	1.74	121	*e*Pn	Pb	14 29 07.1	-0.2
SJES				*e*Sn	Sg	14 29 31.2	+0.2
ZIRJ	Zirje	1.75	253	*i* Pn	Pg	14 29 07.8	-0.8
ZIRJ				Sn	Sg	14 29 34.7	+3.5
TRUS	Trudelj	1.77	88	*e*Pn	Pg	14 29 08.6	-0.5
TRUS				*e*Sn	Sg	14 29 33.0	+1.0
HCY	Herceg Novi	1.78	167	⇓*i*Pn	Pb	14 29 07.5	-0.6
HCY				*i* Sn	Sg	14 29 32.5	+0.1
HCY	Herceg Novi	1.78	167	*e*Pn	Pb	14 29 07.0	-1.1
HCY				*e*Sn	Sb	14 29 30.0	-0.6
CEME	Cevo	1.79	156	⇑*i*Pn	Pb	14 29 07.1	-1.0
CEME				*i* Sn	Sg	14 29 32.8	+0.3
BEO	Beograd	1.91	70	*e*Pn	Pb	14 29 09.9	-0.4
BEO				*e*Sn	Sg	14 29 36.8	+0.2
IVA	Berane	1.93	132	⇑*i*Pn	Pb	14 29 09.7	-0.9
IVA				*i* Sn	Sg	14 29 36.9	-0.3
PDG	Podgorica	2.00	151	*e*Pn	Pn	14 29 09.7	+0.5
PDG				*e*Sn	Sb	14 29 36.5	-0.2
PDG	Podgorica	2.00	151	⇑P	Pb	14 29 11.6	-0.1
PDG	Podgorica	2.00	151	*e*Pn	Pb	14 29 10.4	-1.3
PDG				*e*Sn	Sb	14 29 36.0	-0.7
TTG	Podgorica	2.00	151	⇓*i*Pn	Pb	14 29 10.4	-1.3
TTG				*i* Sn	Sg	14 29 38.2	-1.1
BUM	Brajici-Budva	2.01	159	⇑*i*Pn	Pb	14 29 10.7	-1.2
BUM				*i* Sn	Sg	14 29 38.0	-1.6
GRUS	Gruza	2.02	97	*e*Pn	Pb	14 29 10.6	-1.5
GRUS				*e*Sn	Sg	14 29 40.0	0.0
MORH	Mrgy, Hungar	2.09	13	*e*Sn	Sb	14 29 38.9	-0.5
DUGI	Dugi Otok	2.09	266	*i* Pn	Pb	14 29 13.6	+0.3
DUGI				Sn	Sg	14 29 42.7	+0.4
PVY	Plav	2.16	137	⇑*i*Pn	Pb	14 29 12.9	-1.7
PVY				*i* Sn	Sb	14 29 42.4	+0.7
DRME	Dracevica, Mon	2.19	155	⇓*i*Pn	Pb	14 29 13.5	-1.6
DRME				*i* Sn	Sb	14 29 42.7	+0.3
DRME	Dracevica, Mon	2.19	155	*e*Pn	Pn	14 29 12.6	+0.7
DRME				*e*Sn	Sb	14 29 40.3	-2.1
KALN	Kalnik	2.21	332	*e*Pn	Pn	14 29 12.3	+0.1
KALN				Sn	Sb	14 29 43.2	+0.2
PTJ	Puntijarka	2.22	322	*e*Pn	Pb	14 29 14.1	-1.5
PTJ				Sn	Sg	14 29 45.2	-1.3
NVLJ	Novalja	2.24	281	*e*Pn	Pb	14 29 14.7	-1.1
NVLJ				Sn	Sg	14 29 45.7	-1.3
OZLJ	Ozalj	2.27	310	*e*Pn	Pb	14 29 15.4	-0.9
OZLJ				Sn	Sb	14 29 44.3	-0.2
BOJS	Bojanci	2.33	305	*e*Pg	Pb	14 29 16.2	-1.1
BOJS	Bojanci	2.33	305	*e*Pn	Pn	14 29 14.8	+1.1
BOJS				*e*Sn	Sb	14 29 44.8	-1.4
	comp=Z,217nm,1.2s					
SVIS	Svilajnac	2.35	87	*e*Pn	Pb	14 29 17.3	-0.4
SVIS				*e*Sn	Sb	14 29 47.1	+0.2
CRES	Cresnjev	2.41	314	*e*Pn	Pn	14 29 15.7	+0.8
CRES				*e*Sn	Sn	14 29 46.2	+1.6
ULC	Ulcinj	2.42	156	⇓*i*Pn	Pb	14 29 16.8	-2.1
ULC				*i* Sn	Sb	14 29 47.7	-1.1
SELS	Selova	2.50	112	*e*Pn	Pn	14 29 17.4	+1.3
SELS				*e*Sn	Sb	14 29 50.0	-1.1
KOGS	Kog	2.56	333	*e*Pn	Pn	14 29 17.3	+0.4
VISS	Visnje	2.73	307	*e*Pn	Pn	14 29 21.3	+2.0
MDVR	Moldovita	2.76	76	⇑P	Pn	14 29 20.3	+0.6
BOVS	Bovan	2.77	100	*e*Pn	Pb	14 29 22.9	-2.0
BOVS				*e*Sn	Sb	14 29 58.0	-1.0
CEY	Cerknica	2.94	303	*e*Pn	Pn	14 29 22.8	+0.6
CEY				*e*Sn	Sn	14 29 58.7	+1.0
BZS	Buzias	2.98	60	*e*Pn	Pn	14 29 24.8	+2.2
BZS	Buzias	2.98	60	⇓P	Pn	14 29 22.9	+0.3
LJU	Ljubljana	3.05	309	*e*Pn	Pn	14 29 23.7	0.0
LJU	Ljubljana	3.05	309	*e*Pn	Pn	14 29 24.5	+0.8
LJU				*e*Sn	Sn	14 30 01.3	+0.9
ZAGS	Zajecar	3.12	95	*e*Pn	Pn	14 29 26.8	+2.2
ZAGS				*e*Sn	Sn	14 30 04.8	+2.8
BARS	Barje	3.13	115	*e*Pn	Pn	14 29 26.5	+1.7
BARS				*e*Sn	Sb	14 30 05.3	-4.1
PERS	Pernice	3.16	322	*e*Pn	Pn	14 29 25.9	+0.7
TIR	Tirane	3.17	153	*e*Pn	Pn	14 29 25.3	0.0
SOKA	Soboth	3.23	322	Pn	Pn	14 29 27.2	+1.0
	comp=Z,3.3nm,0.3s,SNR=5.2					
SOKA				*i* Sn	Sn	14 30 07.3	+2.5
HERR	Herculane	3.27	76	⇓P	Pn	14 29 27.6	+0.9
OBKA	Obir	3.34	315	*i* Pn	Pn	14 29 30.8	+3.1
	comp=Z,2.6nm,0.3s					
OBKA				*i* Sn	Sb	14 30 11.2	-4.2
SIRR	Siria	3.35	50	⇑P	Pn	14 29 27.7	-0.1
ARSA	Arzberg	3.50	332	Pn	Pn	14 29 30.9	+1.0
	comp=Z,58nm,0.4s,SNR=44					
ARSA				*i* Sn	Sb	14 30 15.7	-4.4
	comp=Z,13nm,0.6s					
ZAPS	Zavoj	3

GCSZ	Gaunt Creek Bo	0.88	34	P		Pb	14 52 41.3 +0.2
WKZ	Wanaka	0.91	210	P		Pb	14 52 41.2 -0.4
RPZ	Rata Peaks	1.07	73	P		Pn	14 52 45.1 +0.1
ARCZ	Arundel	1.10	86	P		Pn	14 52 46.0 +0.5
ODZ	Otahua Downs	1.23	145	P		Pn	14 52 47.5 +0.3
WVZ	Waitaha Valley	1.25	40	P		Pn	14 52 48.9 +1.4
MSZ	Milford Sound	1.39	242	P		Pg	14 52 50.2 +0.2
MLZ	Mavora Lakes	1.72	219	P		Pg	14 52 55.9 -0.3
INZ	Inchbonnie	1.86	45	P		Pg	14 52 58.9 -0.1
WHZ	Wether Hill Ro	2.21	213	P		Pb	14 53 04.0 +0.2
LTZ	Lake Taylor	2.29	57	P		Pb	14 53 06.1 +1.0

*THE **04** 15:09:16.4, 34.′92N×26.″31E, h4km±3km, ML2.9/6, Error ellipse: s-maj=3.2km s-min=1.0km az=339.0*
*ATH **04** 15:09:16.4, 35.′00N×26.′29E, h24km±1km, ML3.0/7, Error ellipse: s-maj=3.4km s-min=1.1km az=165.0*
*DDA **04** 15:09:17.5, 35.′11N×26.′25E, h8km±4km, ML2.6*
ISC 04 15:09:16.0±1.3,**34.′94N**±0.′06×**26.′33E**±0.′03,**h18**km±5km,
n29,σ1§**56**/50,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.20**	**333**	P	**Pg**	**15 09 21.3**	**+0.4**
ZKR				S	**Sg**	**15 09 24.7**	**+0.5**
13μm,0.3s							
ZKR	**Zakros**	**0.20**	**333**	P	**Pg**	**15 09 21.3**	**+0.4**
ZKR				S	**Sg**	**15 09 24.4**	**+0.1**
ZKR				AML	AML	15 09 25.4	
comp=N,6309μm,0.2s							
ZKR				AML	AML	15 09 25.6	
comp=E,42299μm,0.4s							
STIA	**Sitia Lasithi**	**0.33**	**324**	P	**Pb**	**15 09 23.1**	**-0.3**
STIA				S	**Sb**	**15 09 27.7**	**-0.6**
FRMA	**Ierapetra Chan**	**0.49**	**279**	P	**Pg**	**15 09 24.3**	**-1.7**
FRMA				S	**Sg**	**15 09 30.4**	**-2.2**
NPS	**Neapolis**	**0.67**	**299**	P	**Pg**	**15 09 28.9**	**-0.3**
NPS				S	**Sb**	**15 09 39.1**	**+0.9**
comp=E,2μm,0.3s							
NPS	**Neapolis**	**0.67**	**299**	P	**Pb**	**15 09 29.2**	**0.0**
NPS				S	**Sb**	**15 09 38.3**	**+0.1**
NPS				AML	AML	15 09 41.8	
comp=E,3384μm,0.3s							
NPS				AML	AML	15 09 42.9	
comp=N,2959μm,0.3s							
LAST	**Lasithi**	**0.73**	**288**	P	**Pg**	**15 09 29.8**	**-0.6**
LAST				S	**Sb**	**15 09 41.1**	**+1.1**
comp=N,652nm,0.5s							
LAST	**Lasithi**	**0.73**	**288**	P	**Pg**	**15 09 29.7**	**-0.6**
LAST				S	**Sb**	**15 09 40.4**	**+0.3**
LAST				AML	AML	15 09 43.4	
comp=E,1213μm,0.2s							
LAST				AML	AML	15 09 46.0	
comp=N,1228μm,0.4s							
KARP	**Karpathos**	**0.91**	**48**	P	**Pg**	**15 09 34.0**	**+0.2**
KARP				S	**Sn**	**15 09 48.0**	**+1.2**
comp=N,1μm,0.5s							
KARP	**Karpathos**	**0.91**	**48**	P	**Pg**	**15 09 34.0**	**+0.2**
KARP				S	**Sb**	**15 09 46.7**	**+1.5**
KARP				AML	AML	15 09 50.2	
comp=E,1977μm,0.3s							
KARP				AML	AML	15 09 52.0	
comp=N,2756μm,0.5s							
IDI	**Anoyia**	**1.23**	**287**	P	**Pg**	**15 09 39.1**	**-0.7**
IDI				S	**Sn**	**15 09 56.3**	**+1.7**
comp=N,262nm,0.5s							
IDI	**Anoyia**	**1.23**	**287**	P	**Pg**	**15 09 39.0**	**-0.7**
IDI				S	**Sb**	**15 09 55.1**	**+0.8**
IDI				AML	AML	15 10 01.1	
comp=N,547μm,0.5s							
IDI				AML	AML	15 10 02.0	
comp=E,429μm,0.6s							
SIVA	**Sivas**	**1.25**	**274**	P	**Pb**	**15 09 39.5**	**+0.4**
SIVA				S	**Sn**	**15 09 56.0**	**+1.0**
comp=E,780nm,0.8s							
SIVA	**Sivas**	**1.25**	**274**	P	**Pb**	**15 09 39.5**	**+0.4**
SIVA				S	**Sn**	**15 09 56.4**	**+1.4**
SIVA				AML	AML	15 10 02.3	
comp=E,2026μm,0.7s							
SIVA				AML	AML	15 10 03.9	
comp=N,1071μm,0.6s							
ANAF	**Anafi Island**	**1.48**	**342**	P	**Pn**	**15 09 42.8**	**+0.9**
ANAF	**Anafi Island**	**1.48**	**342**	P	**Pn**	**15 09 42.8**	**+0.9**
ANAF				S	**Sg**	**15 10 02.1**	**-1.9**
ANAF				AML	AML	15 10 07.6	
comp=N,1724μm,0.3s							
ANAF				AML	AML	15 10 10.5	
comp=E,1621μm,0.4s							
SANT	**Santorini**	**1.59**	**334**	P	**Pn**	**15 09 44.0**	**+0.6**
SANT	**Santorini**	**1.59**	**334**	*i* P	**Pn**	**15 09 43.2**	**-0.2**
SANT				*i* S	**Sn**	**15 10 03.7**	**+0.1**
VAM	**Vamos**	**1.80**	**286**	P	**Pn**	**15 09 47.7**	**+1.5**
IMMV	**Iera Moni Meta**	**1.99**	**286**	P	**Pn**	**15 09 50.2**	**+1.3**
DAT	**Datca**	**2.05**	**29**	*i* P	**Pn**	**15 09 50.8**	**+1.0**
DAT				*i* S	**Sn**	**15 10 15.9**	**+0.9**
APE	**Apeiranthos**	**2.22**	**343**	*i* P	**Pn**	**15 09 50.2**	**-1.8**
APE				*i* S	**Sn**	**15 10 18.2**	**-0.9**
TURN	**Turunc**	**2.40**	**40**	*i* P	**Pn**	**15 09 56.5**	**+2.0**
TURN				*i* S	**Sn**	**15 10 24.1**	**+0.6**
DALY	**Dalyan (Mula)**	**2.66**	**45**	*i* P	**Pn**	**15 10 00.8**	**+2.8**
DALY				*i* S	**Sn**	**15 10 31.0**	**+1.1**
AKAS	**Kas**	**2.97**	**63**	*i* P	**Pn**	**15 09 59.7**	**-2.7**
AKAS				*i* S	**Sn**	**15 10 31.5**	**-6.1**
AKAS				IAML		15 11 25.0	
comp=N,37nm,1.1s							
AKAS				IAML		15 11 31.0	
comp=E,22nm,1.6s							
AYDN	**Tasoluk**	**2.99**	**24**	*i* P	**Pn**	**15 09 60.0**	**-2.7**
TAVA	**DENIZLI_Tavas**	**3.27**	**39**	*i* P	**Pn**	**15 10 09.1**	**+2.4**
GOLH	**Golhisar**	**3.48**	**48**	*i* P	**Pn**	**15 10 10.7**	**+1.2**
GOLH				IAML		15 11 13.0	
comp=N,17nm,0.9s							
AGG	**Agios Georgios**	**5.18**	**323**	*i* P	**Pn**	**15 10 32.5**	**-0.3**

*MDD **04** 15:14:03.0±1.9, 36.′33N×9.′87W, h40km, mbLg3.1/2, Error ellipse: s-maj=16.1km s-min=11.3km az=33.0, PRXIMO*
*INMG **04** 15:14:03.4±1.6, 36.′28N×9.′85W, h31km±26km, ML2.5, Error ellipse: s-maj=17.8km s-min=4.7km az=54.0*
*CNRM **04** 15:14:03.7±1.2, 36.′20N×9.′54W, h68km±32km, Error ellipse: s-maj=10.2km s-min=6.6km az=114.0*
*SFS **04** 15:14:03.0, 36.′44N×9.′78W, h17km, ML2.8, SW CABO DE SAN VICENTE*
*IGIL **04** 15:14:04.4, 36.′27N×9.′81W, h31km, ML2.7*
ISC 04 15:14:01.3±1.5,**36.′28N**±0.′04×**9.′77W**±0.′07,**h35**km,**n57**,
σ1§**83**/94,**5C**,**West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.14**	**41**	⇑P	**Pn**	**15 14 22.5**	**+1.7**
18nm,0.1s,SNR=18							
PFVI				S	**Sn**	**15 14 35.1**	**+0.1**
68nm,0.1s,SNR=15							
PFVI	**Vila Bisbo**	**1.14**	**41**	P	**Pn**	**15 14 22.8**	**+2.1**
PFVI				S	**Sn**	**15 14 38.1**	**+3.0**
PFVI	**Vila Bisbo**	**1.14**	**41**	⇑*i*P	**Pn**	**15 14 22.4**	**+1.7**
PFVI				*e*S	**Sn**	**15 14 36.1**	**+1.0**
PFVI				A	A	15 14 37.5	
42nm,0.2s							
MORF	**Marmelete**	**1.36**	**41**	*e*P	**Pn**	**15 14 25.5**	**+1.7**
MORF				*e*S	**Sn**	**15 14 41.2**	**+0.6**
MORF				AML	AML	15 14 43.2	
comp=N,99nm,0.2s							
MORF	**Marmelete**	**1.36**	**41**	P	**Pn**	**15 14 25.5**	**+1.7**
MORF				S	**Sn**	**15 14 41.2**	**+0.6**
comp=N,99nm,0.2s							
MORF	**Marmelete**	**1.36**	**41**	⇑*e*Pn	**Pn**	**15 14 25.6**	**+1.7**
MORF				*e*Sn	**Sn**	**15 14 41.8**	**+1.2**
MORF				A	A	15 14 43.1	
comp=N,59nm,0.1s							
PTEO	**Sao Teotonio**	**1.51**	**33**	*e*Sn	**Sn**	**15 14 45.2**	**+0.9**
PTEO				A	A	15 14 46.5	
comp=N,30nm,0.1s							
PBDV	**Barranco-do-Ve**	**1.76**	**56**	*e*Pn	**Pn**	**15 14 31.2**	**+1.9**
PBDV				*e*Sn	**Sn**	**15 14 51.4**	**+0.9**
PBDV				A	A	15 14 54.0	
comp=N,15nm,0.1s							
PCVE	**Castro Verde**	**1.93**	**45**	⇑*e*Pn	**Pn**	**15 14 33.6**	**+2.0**
PCVE				*e*Sn	**Sn**	**15 14 56.1**	**+1.4**
PCVE				A	A	15 14 59.0	
comp=N,10nm,0.2s							
PVAQ	**Vaqueiros**	**1.99**	**55**	P	**Pn**	**15 14 34.7**	**+2.3**
PVAQ				S	**Sn**	**15 14 57.9**	**+1.8**
PVAQ	**Vaqueiros**	**1.99**	**55**	⇑*e*Pn	**Pn**	**15 14 34.3**	**+1.9**
PVAQ				*e*Sn	**Sn**	**15 14 57.0**	**+0.9**
PVAQ				A	A	15 15 00.5	
comp=N,16nm,0.4s							
PNCL	**Nicolau / Gran**	**2.08**	**28**	*e*Pn	**Pn**	**15 14 35.0**	**+1.4**
PNCL				*e*Sn	**Sn**	**15 14 58.5**	**+0.3**
PNCL				A	A	15 14 59.9	
comp=N,18nm,0.1s							
EGRO	**El Granado**	**2.21**	**55**	P	**Pn**	**15 14 37.3**	**+1.7**
comp=N,0.8nm,0.1s,SNR=11							
EGRO				S	**Sn**	**15 15 02.7**	**+1.0**
comp=N,15nm,0.1s,SNR=12							
PBEJ	**Beja**	**2.31**	**41**	*e*Sn	**Sn**	**15 15 04.2**	**+0.2**
PBEJ				A	A	15 15 14.8	
comp=N,6.2nm,0.2s							
EVO	**Evora**	**2.64**	**31**	P	**Pn**	**15 14 42.9**	**+1.5**
EVO				S	**Sn**	**15 15 11.9**	**-0.3**
EVO	**Evora**	**2.64**	**31**	*e*P	**Pn**	**15 14 42.9**	**+1.5**
EVO				*e*S	**Sn**	**15 15 11.9**	**-0.3**
EVO	**Evora**	**2.64**	**31**	*e*Pn	**Pn**	**15 14 42.4**	**+1.0**
EVO				*e*Sn	**Sn**	**15 15 11.8**	**-0.5**
EVO				A	A	15 15 13.8	
comp=N,36nm,0.1s							
PMAFR	**Mafra**	**2.69**	**8**	P	**Pn**	**15 14 42.7**	**+0.5**
comp=N,3.0nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**	**15 15 12.9**	**-0.7**
comp=N,31nm,0.1s,SNR=12							
PMAFR	**Mafra**	**2.69**	**8**	*e*Pn	**Pn**	**15 14 43.4**	**+1.2**
PMAFR				*e*Sn	**Sn**	**15 15 13.4**	**-0.2**
PMAFR				A	A	15 15 15.1	
comp=N,29nm,0.3s							
EMIN	**Mina Concepcio**	**2.88**	**58**	P	**Pn**	**15 14 45.9**	**+1.2**
comp=N,0.6nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**15 15 17.9**	**-0.3**
comp=N,3.1nm,0.1s,SNR=8.2							
ESPR	**Espera**	**3.20**	**78**	P	**Pn**	**15 14 51.6**	**+2.5**
comp=N,0.5nm,0.1s,SNR=7.9							
ESPR				S	**Sn**	**15 15 26.1**	**+0.1**
comp=N,34nm,0.2s,SNR=7.9							
PSBE	**So Bento**	**3.32**	**13**	*e*Pn	**Pn**	**15 14 51.4**	**+0.7**
PSBE				*e*Sn	**Sn**	**15 15 27.8**	**-1.1**
PMRV	**Marv??o**	**3.66**	**30**	*e*Pn	**Pn**	**15 14 56.7**	**+1.3**
PMRV				*e*Sn	**Sn**	**15 15 35.9**	**-1.5**
PMRV				A	A	15 15 38.4	
comp=N,11nm,0.5s							
ZHG	**ZHG**	**3.82**	**137**	P	**Pn**	**15 14 58.3**	**+0.6**
ZHG				S	**Sn**	**15 15 41.1**	**-0.3**
PCAS	**Casmilo, Conde**	**3.89**	**14**	*e*Pn	**Pn**	**15 15 00.3**	**+1.7**
PCAS				*e*Sn	**Sn**	**15 15 42.3**	**-0.8**
PCAS				A	A	15 15 47.4	
comp=N,3.7nm,0.6s							
ECAB	**El Cabril**	**3.91**	**61**	S	**Sn**	**15 15 42.5**	**-1.0**
comp=N,3.3nm,0.3s,SNR=7.2							
HORN	**Hornachuelos**	**3.93**	**65**	P	**Pn**	**15 14 59.5**	**+0.4**
HORN				S	**Sn**	**15 15 41.3**	**-2.6**
PCBR	**Castelo Branco**	**3.98**	**26**	*e*Sn	**Sn**	**15 15 44.3**	**-1.0**
PCBR				A	A	15 15 47.8	
comp=N,3.3nm,0.4s							
EMIJ	**Mijas**	**4.04**	**85**	S	**Sn**	**15 15 46.3**	**-0.4**
comp=N,2.0nm,0.2s,SNR=7.9							
MTE	**Manteigas**	**4.47**	**22**	*e*Sn	**Sn**	**15 15 57.4**	**+0.1**
EADA	**Adamuz**	**4.55**	**64**	P	**Pn**	**15 15 09.6**	**+1.9**
comp=N,0.4nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**15 15 56.4**	**-2.9**
SNR=7.9							
EGOR	**Sierra Gorda,**	**4.62**	**78**	S	**Sn**	**15 16 00.2**	**-1.1**
comp=N,4.1nm,0.3s,SNR=7.9							
PVIS	**Viseu**	**4.66**	**18**	*e*Sn	**Sn**	**15 16 00.6**	**-1.5**
PVIS				A	A	15 16 04.1	
comp=N,6.9nm,0.3s							
EPLA	**Plasencia**	**4.76**	**36**	P	**Pn**	**15 15 11.8**	**+1.2**
comp=N,0.4nm,0.1s,SNR=7.9							
EPLA				S	**Sn**	**15 16 03.0**	**-1.6**
comp=N,6.6nm,0.1s,SNR=8.1							
LCRM	**LCR**	**4.79**	**121**	P	**Pn**	**15 15 11.6**	**+0.5**
LCRM				S	**Sn**	**15 16 05.7**	**+0.2**
ELGU	**Los Guajares,**	**4.98**	**81**	S	**Sn**	**15 16 10.6**	**+0.6**
comp=N,5.4nm,0.4s,SNR=7.9							
CZD	**Col de Zad**	**5.07**	**128**	P	**Pn**	**15 15 15.7**	**+0.6**
CZD				S	**Sn**	**15 16 09.3**	**-3.2**
AKLM	**AKL**	**5.14**	**108**	P	**Pn**	**15 15 15.7**	**-0.1**
AKLM				S	**Sn**	**15 16 09.0**	**-4.8**
EQUE	**Quentar**	**5.16**	**78**	S	**Sn**	**15 16 13.7**	**-0.9**
comp=N,2.6nm,0.5s,SNR=7.9							
OUK	**Oukaimeden**	**5.30**	**162**	P	**Pn**	**15 15 17.9**	**-0.4**
OUK				S	**Sn**	**15 16 18.5**	**+0.1**
MVO	**Moncorvo**	**5.32**	**23**	S	**Sn**	**15 16 16.0**	**-2.5**
comp=N,3.3nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**5.32**	**23**	*e*Sn	**Sn**	**15 16 16.6**	**-1.8**
MVO				A	A	15 16 18.6	
comp=N,3.6nm,0.4s							
MD31	**MD31**	**5.36**	**128**	P	**Pn**	**15 15 20.2**	**+1.4**
MD31				S	**Sn**	**15 16 15.8**	**-3.5**
PAB	**San Pablo**	**5.38**	**51**	P	**Pn**	**15 15 19.6**	**+0.5**
comp=N,0.2nm,0.1s,SNR=7.9							
PAB				S	**Sn**	**15 16 17.6**	**-2.3**
comp=N,1.2nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.57**	**72**	S	**Sn**	**15 16 24.1**	**-0.4**
comp=N,2.7nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**5.70**	**52**	P	**Pn**	**15 15 24.5**	**+1.0**
comp=N,0.8nm,0.1s,baz=237,slow=13,SNR=6.0							
ESDC				S	**Sn**	**15 16 26.0**	**-1.7**
comp=N,0.7nm,0.3s,baz=238,slow=24,SNR=11							
ELOB	**Lobios**	**5.73**	**13**	P	**Pn**	**15 15 24.3**	**+0.3**
comp=N,0.3nm,0.1s,SNR=7.9							
ELOB				S	**Sn**	**15 16 24.3**	**-4.2**
comp=N,3.8nm,0.2s,SNR=6.8							
PGAV	**Gavieira, Arco**	**5.79**	**11**	*e*Sn	**Sn**	**15 16 26.1**	**-3.9**
PGAV				A	A	15 16 31.6	
comp=N,3.0nm,0.6s							
TTIG	**Tnine Tigouga,**	**5.83**	**169**	P	**Pn**	**15 15 26.3**	**+0.9**
TTIG				S	**Sn**	**15 16 30.9**	**-0.1**
OUZM	**OUZ**	**5.92**	**154**	P	**Pn**	**15 15 25.8**	**-0.8**
OUZM				S	**Sn**	**15 16 34.0**	**+0.8**
PBRG	**Braganca**	**6.00**	**22**	*e*Sn	**Sn**	**15 16 33.2**	**-1.8**
PBRG				A	A	15 16 34.2	
comp=N,2.2nm,0.7s							
SESP	**Santiago Espad**	**6.05**	**70**	S	**Sn**	**15 16 34.9**	**-1.6**
comp=N,4.2nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.12**	**22**	S	**Sn**	**15 16 35.3**	**-2.8**
comp=N,4.6nm,0.4s,SNR=7.9							
GUD	**Guadarrama**	**6.19**	**44**	P	**Pn**	**15 15 31.9**	**+1.6**
comp=N,0.1nm,0.1s,SNR=7.9							
GUD				S	**Sn**	**15 16 38.1**	**-1.9**
comp=N,1.5nm,0.3s,SNR=7.9							
EMAZ	**Mazaricos**	**6.69**	**5**	S	**Sn**	**15 16 44.9**	**-7.0**
comp=N,3.0nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**6.95**	**68**	S	**Sn**	**15 16 55.5**	**-3.0**
comp=N,1.5nm,0.2s,SNR=7.9							
ETOR	**Torete**	**7.55**	**51**	S	**Sn**	**15 17 10.7**	**-2.6**
comp=N,2.4nm,0.3s,SNR=7.9							

*IDC **04** 15:17:22.4±3.9, 11.′75S×161.′75E, h0km, mb4.0/3, mb1 4.1/5, mb1mx3.7/33, mbtmp4.0/5, ML3.7/2, Error ellipse: s-maj=70.8km s-min=31.2km az=66.0*
*NEIC **04** 15:17:24.3±3.0, 11.′49S±0.′09×162.′18E±0.′09, h45km±9km, mb4.3/18, Error ellipse: s-maj=15.7km s-min=9.5km az=222.0*
ISC 04 15:17:23.9±0.8,**11.′4S**±0.′1×**162.′16E**±0.′09,**h39**km,**n33**,
σ1§**13**/27,**mb4.2**/10,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.90**	**311**	Pn	Pn	15 18 09.9	+2.4
16nm,0.3s,baz=141,slow=6.2,SNR=8.3							
HNR				Sn	**Sn**	**15 18 40.6**	**-0.6**
40nm,0.3s,baz=183,slow=22,SNR=5.6							
SANVU	**Saraoutou**	**6.37**	**130**		**Pn**	**15 18 55.7**	**+0.5**
DZM	**Mont Dzumac**	**11.42**	**160**	Pn	**Pn**	**15 20 04.0**	**-0.6**
0.4nm,0.3s,baz=285,slow=23,SNR=1.5							
DZM				Sn	Sn	15 21 60.0	-11
0.2nm,0.3s,baz=311,slow=19,SNR=1.8							
DZM	**Mont Dzumac**	**11.42**	**160**		**Pn**	**15 20 03.0**	**-1.6**
CTA	**Charters Tower**	**17.59**	**238**	P	**P**	**15 21 26.2**	**-0.6**
0.5nm,0.3s,baz=76,slow=14,SNR=8.9							
CTAO	**Charters Tower**	**17.59**	**238**	P	**P**	**15 21 26.9**	**0.0**
CTAO				IAmb	IAmb	15 21 29.4	
comp=Z,26nm,1.5s							
COEN	**Coen**	**18.70**	**260**	Pn	**Pn**	**15 21 41.4**	**+1.6**
COEN				IAmb	IAmb	15 21 42.8	
comp=Z,22nm,1.5s							
STKA	**Stephens Creek**	**27.87**	**220**	P	**P**	**15 23 09.1**	**-1.0**
comp=Z,1.0nm,0.5s,baz=20,slow=12,SNR=4.0							
WR0	**Warramunga Arr**	**27.90**	**249**	P	**P**	**15 23 10.0**	**-0.4**
WB0	**Warramunga Arr**	**27.99**	**249**	P	**P**	**15 23 10.7**	**-0.6**
WB0				IAmb	IAmb	15 23 19.9	
comp=Z,5.1nm,1.1s							
WRAB	**Tennant Creek**	**28.07**	**249**	P	**P**	**15 23 10.4**	**-1.5**
WRAB				IAmb	IAmb	15 24 03.0	
comp=Z,6.2nm,1.1s							
WB2	**Warramunga Arr**	**28.07**	**249**	P	**P**	**15 23 10.5**	**-1.5**
WRA	**Warramunga Arr**	**28.08**	**249**	P	**P**	**15 23 11.6**	**-0.5**
comp=Z,1.2nm,0.7s,baz=79,slow=9.5,SNR=14							
WRA	**Warramunga Arr**	**28.08**	**249**	P	**P**	**15 23 11.3**	**-0.8**
AS31	**Alice Springs**	**29.53**	**242**	P	**P**	**15 23 23.4**	**-1.6**
ASAR	**Alice Springs**	**29.53**	**242**	P	**P**	**15 23 23.9**	**-1.0**
comp=Z,1.8nm,0.8s,baz=69,slow=9.9,SNR=28							
ASAR	**Alice Springs**	**29.53**	**242**	P	**P**	**15 23 23.7**	**-1.2**
H11S2	**WAKE ISLAND Hy**	**30.00**	**9**	T	T	15 54 27.2	
baz=189,slow=74							
H11S3	**WAKE ISLAND Hy**	**30.00**	**9**	T	T	15 54 26.4	
baz=189,slow=74							
H11S1	**WAKE ISLAND Hy**	**30.01**	**9**	T	T	15 54 28.8	
baz=189							
TOO	**Toolangi**	**30.09**	**207**	P	**P**	**15 23 29.6**	**-0.1**
TOO				IAmb	IAmb	15 24 32.6	
comp=Z,26nm,1.5s							
MTN	**Manton Dam**	**30.36**	**264**	P	**P**	**15 23 33.7**	**+1.3**
MTN				IAmb	IAmb	15 24 06.7	
comp=Z,22nm,1.5s							
H11N1	**WAKE ISLAND Hy**	**31.22**	**9**	T	T	15 55 58.4	
baz=188,slow=76,SNR=15							
H11N3	**WAKE ISLAND Hy**	**31.23**	**9**	T	T	15 55 58.8	
baz=188,slow=76,SNR=13							
H11N2	**WAKE ISLAND Hy**	**31.24**	**9**	T	T	15 56 00.1	
baz=188,slow=76,SNR=11							
BBOO	**Buckleboo**	**32.10**	**224**	P	**P**	**15 23 47.4**	**-0.1**
KNRA	**Kununurra**	**32.73**	**259**	P	**P**	**15 23 53.1**	**-0.1**
KNRA				IAmb	IAmb	15 24 12.6	
comp=Z,8.1nm,1.1s							
FITZ	**Fitzroy Crossi**	**35.90**	**255**	P	**P**	**15 24 19.5**	**-1.2**
FITZ				IAmb	IAmb	15 24 21.7	
comp=Z,2.0nm,0.8s							
FORT	**Forrest**	**37.01**	**233**	P	**P**	**15 24 30.3**	**+0.3**
JOHN	**Johnston Islan**	**39.53**	**46**	P	**P**	**15 24 51.5**	**+0.2**
MORW	**Morawa**	**46.40**	**241**	P	**P**	**15 25 47.2**	**+0.4**
QSPA	**South Pole Qui**	**78.65**	**180**	P	**P**	**15 29 24.1**	**+2.4**
QSPA				IAmb	IAmb	15 30 35.1	
comp=Z,9.1nm,1.6s							
MHDM	**Hidden Dam**	**87.35**	**51**	P	**P**	**15 30 05.3**	**-1.7**

*TEH **04** 15:30:48.7, 32.′69N×47.′62E, h10km, ML2.9*
*ISN **04** 15:30:49.6±1.1, 32.′71N×47.′60E, h14km±6km, ML2.7*
*THR **04** 15:30:50.0±0.6, 32.′88N×47.′53E, h18km±7km, ML3.1*
ISC 04 15:30:50.1±1.2,**32.′74N**±0.′04×**47.′55E**±0.′03,**h10**km±11km,
n16,σ1§**44**/21,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**255**	*e*Pg	**Pg**	**15 30 54.5**	**-0.4**
IKMR	**Kamar-syah**	**1.04**	**42**	*e*		15 31 27.0	
IKMR				*e*Pg	**Pb**	**15 31 08.1**	**-2.2**
IDOB	**Doab**	**1.17**	**27**	*e*Pg	**Pn**	**15 31 11.5**	**-1.3**
IDOB				*e*		15 31 30.8	
SHGR	**Shooshtar-Gavs**	**1.23**	**120**	*e*Pg	**Pg**	**15 31 14.6**	**+0.7**
SHGR				*e*Sg	**Sg**	**15 31 32.3**	**+2.5**
SHGR				IAML		15 31 34.7	
comp=E,145nm,0.5s							
IBDR	**Badra**	**1.41**	**286**	*e*Pg	**Pb**	**15 31 16.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**15 31 36.0**	**+0.5**
IBDR				AML	AML	15 31 43.5	
comp=E,128nm,0.5s							
IBDR				AML	AML	15 31 46.0	
comp=N,134nm,0.7s							
BMDN	**Meydan**	**1.42**	**49**	*e*Pg	**Pb**	**15 31 15.8**	**-1.0**
BMDN				*e*		15 31 22.2	
IKOM	**Komasi**	**1.43**	**359**	*e*Pg	**Pb**	**15 31 16.8**	**-0.2**
IKOM				*e*		15 31 17.8	
HSAM	**Samen**	**1.71**	**31**	*e*Pn	**Pb**	**15 31 21.1**	**-0.8**
HSAM				*e*		15 31 23.1	
IBZA	**Bozab**	**1.74**	**8**	*e*Pn	**Pb**	**15 31 22.0**	**-0.4**
IBZA				*e*		15 31 24.6	
IVIS	**Veis**	**1.87**	**342**	*e*Pn	**Pb**	**15 31 23.9**	**-0.6**
IVIS				*e*		15 31 54.4	
NSR	**Nassriya**	**2.10**	**215**	*e*Pn	**Pb**	**15 31 26.0**	**-2.3**
NSR				*e*Sn	**Sn**	**15 31 51.0**	**-0.6**
KHMZ	**Khomeyn**	**2.25**	**63**	*e*Pn	**Pn**	**15 31 27.8**	**+0.1**
SNGE	**Sanandaj**	**2.35**	**356**	*e*Pn	**Pn**	**15 31 28.2**	**-0.8**
HSRG	**Sareghieh**	**2.57**	**13**	*e*Pn	**Pb**	**15 31 34.1**	**-2.4**
HSRG				*e*		15 31 35.8	
BHD	**Baghdad**	**2.71**	**282**	*e*Pn	**Pn**	**15 31 35.0**	**+1.2**
BHD				*e*Sn	**Sn**	**15 32 09.0**	**+2.3**
ASAO	**Ashtian**	**2.74**	**48**	*e*Pn	**Pn**	**15 31 34.2**	**-0.3**
ASAO				*e*Sg	**Sb**	**15 32 13.7**	**+0.5**

*HLW **04** 15:32:55.1, 34.′47N×28.′59E, h11km±15km,

BUKP Musuan 1.82 45 *e*P **Pn 15 34 09.0 +0.5**
BUKP *e*S **Sb 15 34 34.5 +1.1**
DAV Davao City (W) 1.87 75 P **Pb 15 34 10.9 -0.2**
196nm,0.3s,baz=256,slow=2.9,SNR=7.0
DAV S **Sg 15 34 37.1 +0.3**
56nm,0.3s,baz=319,slow=15,SNR=3.5
DAV Davao City (W) 1.87 75 **Pb 15 34 10.8 -0.3**
DAV Sn **Sg 15 34 36.5 -0.3**
DDMP Don Marcelino, 1.99 104 *e*P **Pn 15 34 11.9 +1.2**
DDMP *e*S **Sb 15 34 38.3 0.0**
MATI Mati 2.50 82 *e*P **Pn 15 34 18.0 +0.2**
CNDP Candoni, Negro 3.41 341 *e*P **Pn 15 34 31.7 +1.4**
MYLDM Lahad Datu 5.42 255 Pn **Pn 15 35 00.4 +2.5**
TNTI Ternate 6.80 148 Pn **Pn 15 35 20.4 +3.5**
LUWI Luwuk 7.64 187 Pn **Pn 15 35 30.9 +2.5**
LUWI **Sn 15 36 55.5 +0.2**
UBPT Khong Chiam 19.92 297 P **Pn 15 38 11.0 +0.2**
MTN Manton Dam 20.64 159 P **P 15 38 16.2 -0.7**
KNRA Kununurra 22.66 167 P **P 15 38 38.4 -0.3**
KNRA IAmb IAmb 15 39 02.5
comp=Z,6.6nm,1.0s
FITZ Fitzroy Crossi 24.59 176 P **P 15 38 57.3 -0.3**
comp=Z,1.1nm,0.7s,baz=180,slow=10.0,SNR=2.7
FITZ Fitzroy Crossi 24.59 176 P **P 15 38 54.6 -3.0**
WB0 Warramunga Arr 28.20 158 P **P 15 39 28.6 -1.5**
WB0 IAmb IAmb 15 39 36.8
comp=Z,5.5nm,1.4s
WRAB Tennant Creek 28.33 159 P **P 15 39 29.3 -2.1**
WRAB IAmb IAmb 15 39 49.8
comp=Z,5.4nm,1.4s
WRA Warramunga Arr 28.34 159 P **P 15 39 29.9 -1.6**
comp=Z,0.8nm,0.6s,baz=330,slow=11,SNR=10
WRA Warramunga Arr 28.34 159 P **P 15 39 30.1 -1.3**
WB2 Warramunga Arr 28.34 159 P **P 15 39 29.6 -1.9**
WB2 IAmb IAmb 15 40 06.6
comp=Z,3.9nm,1.1s
WR0 Warramunga Arr 28.43 158 P **P 15 39 29.6 -2.6**
WR0 IAmb IAmb 15 39 30.5
comp=Z,8.4nm,1.5s
KSRS Korea Array 30.96 6 P **P 15 39 54.1 -0.3**
comp=Z,0.4nm,0.4s,baz=180,slow=8.4,SNR=2.5
AS31 Alice Springs 31.65 162 P **P 15 40 00.2 -0.6**
ASAR Alice Springs 31.65 162 P **P 15 40 00.1 -0.7**
comp=Z,0.6nm,0.7s,baz=343,slow=7.9,SNR=18
ASAR Alice Springs 31.65 162 P **P 15 39 59.5 -1.3**
MJB9 Matsu-Tunnel 32.62 22 P **P 15 40 10.5 +1.4**
STKA Stephens Creek 41.86 157 P **P 15 41 26.6 -0.9**
comp=Z,2.9nm,0.8s,baz=323,slow=11,SNR=7.9
STKA Stephens Creek 41.86 157 IAmb IAmb 15 41 28.6
comp=Z,1.0nm,0.9s
TOO Toolangi 48.38 157 P **P 15 42 20.3 +0.9**
MKAR Makanchi Array 53.55 326 P **P 15 42 59.3 +1.2**
comp=Z,0.4nm,0.6s,baz=119,slow=7.0,SNR=4.1
ZALV Zalesovo Beam 56.73 334 P **P 15 43 20.6 -0.3**
comp=Z,0.5nm,0.4s,baz=101,slow=6.0,SNR=2.2
ZALV Zalesovo Beam 56.73 334 P **P 15 43 19.9 -1.1**
KURK Kurchatov 57.77 328 P **P 15 43 28.7 +0.3**
KURK IAmb IAmb 15 43 33.9
comp=Z,2.3nm,0.8s

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*ISN **04** 15:34:16.8±0.8, 32°.69N×47°.68E, h14km±5km, ML3.1*
*TEH **04** 15:34:18.0, 32°.72N×47°.56E, h18km, ML3.2*
*THR **04** 15:34:18.4±0.6, 32°.81N×47°.51E, h14km±8km, ML3.2*
ISC 04 15:34:17.9±1.2, 32°.71N±0°.04×47°.54E±0°.03, h6km±11km, n30, σ1§17/35, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.22**	**263**	*e*Pg	**Pg**	**15 34 22.6**	**+0.4**
IKMR	**Kamar-syah**	**1.07**	**41**	*e*Pg	**Pb**	**15 34 37.2**	**-1.6**
IKMR				*e*		15 34 40.5	
IDOB	**Doab**	**1.20**	**26**	*e*Pg	**Pb**	**15 34 40.6**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.22**	**119**	*e*Pg	**Pg**	**15 34 42.3**	**+1.0**
SHGR				*e*Sg	**Sn**	**15 34 59.9**	**+1.6**
SHGR				IAML		15 35 06.9	
comp=N,186nm,0.6s							
SHGR	**Shooshtar-Gavs**	**1.22**	**119**	*e*Pg	**Pg**	**15 34 42.3**	**+1.0**
IBDR	**Badra**	**1.41**	**287**	*e*Pg	**Pg**	**15 34 45.0**	**0.0**
IBDR				*e*Sg	**Sg**	**15 35 05.0**	**+1.7**
IBDR				AML	AML	15 35 09.7	
comp=N,193nm,0.4s							
IBDR				AML	AML	15 35 10.2	
comp=E,188nm,0.2s							
BMDN	**Meydan**	**1.44**	**48**	*e*Pg	**Pn**	**15 34 44.3**	**-0.4**
BMDN				*e*		15 35 10.8	
IKOM	**Komasi**	**1.46**	**359**	*e*Pg	**Pg**	**15 34 45.7**	**-0.3**
IKOM				*e*		15 34 49.1	
KCHF	**Cheshme Sefid,**	**1.62**	**345**	*e*Pg	**Pb**	**15 34 48.2**	**0.0**
KCHF				*e*		15 35 13.4	
KER	**Kermanshah**	**1.71**	**349**	*e*Pg	**Pb**	**15 34 49.6**	**-0.1**
HSAM	**Samen**	**1.74**	**30**	*e*Pg	**Pb**	**15 34 50.1**	**-0.3**
HSAM				*e*		15 35 21.2	
IBZA	**Bozab**	**1.78**	**9**	*e*Pg	**Pb**	**15 34 50.8**	**-0.2**
IBZA				*e*		15 34 52.3	
IGHG	**Ghaleghazi**	**1.81**	**334**	*e*Pg	**Pg**	**15 34 52.9**	**+0.3**
IGHG				*e*		15 35 25.7	
IVIS	**Veis**	**1.90**	**343**	*e*Pn	**Pb**	**15 34 53.4**	**+0.3**
IVIS				*e*		15 35 21.9	
NSR	**Nassriya**	**2.07**	**216**	*e*Pn	**Pn**	**15 34 53.0**	**-0.1**
NSR				*e*Sn	**Sn**	**15 35 19.0**	**-0.2**
IDHR	**Dehrash**	**2.21**	**334**	*e*Pn	**Pb**	**15 34 57.0**	**-1.3**
IDHR				*e*		15 35 35.4	
ILIN	**Lien**	**2.26**	**348**	*e*Pn	**Pb**	**15 34 57.9**	**-1.3**
ILIN				*e*		15 35 33.3	
KHMZ	**Khomeyn**	**2.27**	**62**	*e*Pn	**Pb**	**15 34 57.9**	**-1.5**
KHMZ	**Khomeyn**	**2.27**	**62**	*e*Pn	**Pb**	**15 34 57.9**	**-1.5**
SNGE	**Sanandaj**	**2.38**	**356**	*e*Pn	**Pn**	**15 34 57.6**	**0.0**
SNGE	**Sanandaj**	**2.38**	**356**	*e*Pn	**Pn**	**15 34 57.6**	**0.0**
HAGD	**Aghdareh**	**2.50**	**32**	*e*Pn	**Pb**	**15 35 00.9**	**-2.3**
HAGD				*e*		15 35 05.3	
HSRG	**Sareghieh**	**2.60**	**13**	*e*Pn	**Pb**	**15 35 03.4**	**-1.7**
HSRG				*e*		15 35 45.4	
JHBN	**Jahan bin**	**2.68**	**99**	*e*Pn	**Pn**	**15 35 01.6**	**-0.2**
JHBN				*e*		15 35 58.9	
BHD	**Baghdad**	**2.71**	**283**	*e*Pn	**Pn**	**15 35 03.0**	**+1.0**
BHD				*e*Sn	**Sb**	**15 35 38.0**	**-2.3**
BHD				AML	AML	15 35 43.7	
comp=E,308nm,0.4s							
ASAO	**Ashtian**	**2.77**	**48**	*e*Pn	**Pn**	**15 35 04.1**	**+1.1**
ASAO				*e*Sg	**Sb**	**15 35 43.6**	**+1.4**
ASAO	**Ashtian**	**2.77**	**48**	*e*Pn	**Pn**	**15 35 04.1**	**+1.1**
IPIR	**Pirpir**	**2.83**	**90**	*e*Pn	**Pn**	**15 35 04.2**	**+0.4**
ROKH	**ROKH**	**2.97**	**96**	*e*	**Sg**	**15 35 52.1**	**-1.4**
QABG	**Abgarm-Qazvin**	**3.44**	**29**	*e*Pn	**Pn**	**15 35 13.5**	**+1.3**

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*BJI **04** 15:40:13.0±0.0, 11°.50S×161°.90E, h10km, mB5.0/13, mb4.6/19, Ms4.7/2, Ms7 4.7/1*
*IDC **04** 15:40:13.2±0.7, 11°.46S×161°.81E, h0km, mb4.4/19, mb1 4.5/22, mb1mx4.3/46, mbtmp4.4/22, ML4.8/3, MS3.4/18, Ms1 3.4/18, ms1mx3.3/38, Error ellipse: s-maj=19.9km s-min=15.7km az=113.0*
*NEIC **04** 15:40:16.1±1.9, 11°.53S±0°.08×161°.84E±0°.09, h20km±3km, mb4.9/42, Error ellipse: s-maj=15.1km s-min=7.4km az=51.0*
ISC 04 15:40:14.5±0.4, 11°.49S±0°.06×161°.89E±0°.07, h10km, n112, σ1§53/104, mb4.7/41, MS3.5/17, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.80**	**317**	Pn	**Pn**	**15 40 59.4**	**+0.1**
167nm,0.3s,baz=136,slow=7.4,SNR=52							
HNR				Sn	**Sn**	**15 41 28.7**	**-4.5**
209nm,0.3s,baz=150,slow=13,SNR=4.8							
HNR				LR	LR	15 41 30.5	
comp=Z,167nm,20.1s,baz=186,slow=28							
HNR	**Honiara**	**2.80**	**317**	Pn	**Pn**	**15 40 59.1**	**-0.3**
HNR				Sn	**Sn**	**15 41 32.0**	**-1.2**
SANVU	**Saraoutou**	**6.50**	**128**	Pn	**Pn**	**15 41 50.2**	**0.0**
SANVU				Sn	**Sn**	**15 42 59.9**	**-4.6**
DZM	**Mont Dzumac**	**11.39**	**158**	*e*Pn	**Pn**	**15 42 59.2**	**+1.8**
28nm,0.2s							
DZM				*e*Sn	**Sn**	**15 44 58.6**	**-6.2**
3.7nm,0.2s							
DZM				*e*LR	LR	15 45 33.8	
DZM	**Mont Dzumac**	**11.39**	**158**	Pn	**Pn**	**15 42 59.3**	**+1.8**
6.3nm,0.3s,baz=11,slow=8.4,SNR=158							
DZM				Sn	**Sn**	**15 45 01.0**	**-3.8**
1.0nm,0.3s,baz=141,slow=13,SNR=1.8							
DZM				LR	LR	15 45 58.0	
comp=Z,195nm,20.3s,baz=360,slow=30							
DZM	**Mont Dzumac**	**11.39**	**158**	Pn	**Pn**	**15 42 59.1**	**+1.8**
RABL	**Rabaul**	**12.05**	**306**	Pn	**Pn**	**15 43 06.0**	**-0.5**
KRVT	**Keravat (AS076**	**12.09**	**305**	LR	LR	15 48 21.3	
comp=Z,133nm,18.6s,baz=130,slow=41							
PMG	**Port Moresby**	**14.63**	**277**	LR	LR	15 49 11.7	
comp=Z,548nm,18.7s,baz=82,slow=37							
EIDS	**Eidsvold**	**17.18**	**215**	P	**P**	**15 44 15.8**	**-0.5**
CTA	**Charters Tower**	**17.29**	**238**	P	**P**	**15 44 17.6**	**0.0**
1.9nm,0.3s,baz=66,slow=13,SNR=33							
CTAO	**Charters Tower**	**17.29**	**238**	P	**P**	**15 44 18.7**	**+1.0**
COEN	**Coen**	**18.42**	**260**	P	**P**	**15 44 33.4**	**+3.3**
PATS	**Pohnpei**	**18.55**	**349**	P	**Pn**	**15 44 32.9**	**+1.1**
PATS				IAmb	IAmb	15 44 40.2	
comp=Z,123nm,1.0s							
ARMA	**Armidale**	**21.10**	**205**	P	**P**	**15 45 00.9**	**+1.5**
ARMA				IAmb	IAmb	15 45 04.6	
comp=Z,57nm,1.5s							
JAY	**Jayapura**	**22.82**	**291**	P	**P**	**15 45 17.8**	**-0.1**
comp=Z,10nm,0.9s,baz=323,slow=15,SNR=2.7							
STKA	**Stephens Creek**	**27.60**	**220**	P	**P**	**15 46 02.4**	**+0.2**
comp=Z,2.6nm,0.7s,baz=72,slow=16,SNR=7.3							
STKA				LR	LR	15 56 16.4	
comp=Z,150nm,19.6s,baz=29,slow=35							
STKA	**Stephens Creek**	**27.60**	**220**	P	**P**	**15 46 03.1**	**+1.0**
WR0	**Warramunga Arr**	**27.60**	**249**	P	**P**	**15 46 01.8**	**-0.5**
WB0	**Warramunga Arr**	**27.69**	**249**	P	**P**	**15 46 02.8**	**-0.3**
WB0				IAmb	IAmb	15 46 03.7	
comp=Z,16nm,1.1s							
WRAB	**Tennant Creek**	**27.77**	**249**	P	**P**	**15 46 03.3**	**-0.5**
WB2	**Warramunga Arr**	**27.77**	**249**	P	**P**	**15 46 03.4**	**-0.5**
WRA	**Warramunga Arr**	**27.78**	**249**	P	**P**	**15 46 03.4**	**-0.5**
comp=Z,7.6nm,0.9s,baz=78,slow=9.7,SNR=45							
WRA				PcP	**PcP**	**15 49 20.4**	**-0.1**
comp=Z,0.5nm,0.6s,baz=83,slow=3.2,SNR=3.5							
WRA	**Warramunga Arr**	**27.78**	**249**	P	**P**	**15 46 02.5**	**-1.4**
AS31	**Alice Springs**	**29.23**	**242**	P	**P**	**15 46 15.9**	**-0.8**
ASAR	**Alice Springs**	**29.23**	**242**	P	**P**	**15 46 15.8**	**-1.0**
comp=Z,7.0nm,0.8s,baz=63,slow=9.9,SNR=125							
ASAR				PcP	**PcP**	**15 49 23.5**	**-0.6**
comp=Z,0.8nm,0.8s,baz=93,slow=2.3,SNR=3.4							
ASAR				LR	LR	15 57 06.0	
comp=Z,112nm,18.9s,baz=70,slow=35							
ASAR	**Alice Springs**	**29.23**	**242**	P	**P**	**15 46 15.7**	**-1.1**
TOO	**Toolangi**	**29.84**	**207**	P	**P**	**15 46 23.0**	**+1.0**
TOO				IAmb	IAmb	15 46 35.0	
comp=Z,45nm,1.8s							
URZ	**Urewera**	**29.93**	**156**	LR	LR	15 56 42.3	
comp=Z,122nm,18.3s,baz=5.0,slow=33							
MTN	**Manton Dam**	**30.08**	**264**	P	**P**	**15 46 23.8**	**-0.6**
MTN				IAmb	IAmb	15 46 25.1	
comp=Z,11nm,0.9s							
GUMO	**Guam**	**30.10**	**325**	LR	LR	15 57 47.3	
comp=Z,40nm,19.8s,baz=151,slow=35							
H11S2	**WAKE ISLAND Hy**	**30.17**	**9**	T	T	16 17 28.8	
baz=188,slow=76,SNR=130							
H11S3	**WAKE ISLAND Hy**	**30.17**	**9**	T	T	16 17 28.8	
baz=188,slow=76,SNR=90							
H11S1	**WAKE ISLAND Hy**	**30.19**	**9**	T	T	16 17 30.1	
baz=188,slow=76,SNR=94							
BKZ	**Black Stump Fm**	**30.47**	**157**	P	**P**	**15 46 28.5**	**+0.9**
H11N1	**WAKE ISLAND Hy**	**31.40**	**9**	T	T	16 19 00.9	
baz=188,slow=76,SNR=59							
H11N3	**WAKE ISLAND Hy**	**31.41**	**9**	T	T	16 19 01.5	
baz=188,slow=76,SNR=61							
H11N2	**WAKE ISLAND Hy**	**31.42**	**9**	T	T	16 19 02.4	
baz=188,slow=76,SNR=64							
TUWZ	**Tuamarina**	**31.64**	**163**	P	**P**	**15 46 38.3**	**+0.5**
BBOO	**Buckleboo**	**31.81**	**224**	P	**P**	**15 46 39.5**	**0.0**
SIJI	**Sorong**	**32.18**	**287**	LR	LR	16 02 10.1	
comp=Z,65nm,18.2s,baz=100,slow=41							
KNRA	**Kununurra**	**32.44**	**259**	P	**P**	**15 46 44.8**	**-0.4**
KNRA				IAmb	IAmb	15 46 45.7	
comp=Z,16nm,0.7s							
LTZ	**Lake Taylor**	**32.46**	**166**	P	**P**	**15 46 46.8**	**+1.7**
DCZ	**Deep Cove**	**34.15**	**173**	P	**P**	**15 47 00.8**	**+1.1**
DCZ				IAmb	IAmb	15 48 10.7	
comp=Z,38nm,1.4s							
FITZ	**Fitzroy Crossi**	**35.61**	**255**	P	**P**	**15 47 11.9**	**-0.7**
comp=Z,4.2nm,0.6s,baz=344,slow=2.2,SNR=24							
FITZ				LR	LR	16 01 53.7	
comp=Z,129nm,18.1s,baz=273,slow=37							
FITZ	**Fitzroy Crossi**	**35.61**	**255**	P	**P**	**15 47 12.0**	**-0.7**
FITZ				IAmb	IAmb	15 47 12.7	
comp=Z,17nm,1.4s							
FORT	**Forrest**	**36.72**	**233**	P	**P**	**15 47 22.3**	**+0.3**
BATI	**Baumata**	**37.54**	**268**	P	**P**	**15 47 30.5**	**+1.2**
comp=Z,19nm,0.6s,baz=99,slow=4.4,SNR=7.1							
BATI				LR	LR	16 02 32.9	
comp=Z,27nm,19.3s,baz=94,slow=36							
BATI	**Baumata**	**37.54**	**268**	P	P	15 47 37.7	+8.4
DAV	**Davao City (W)**	**40.56**	**295**	LR	LR	16 06 20.3	
comp=Z,15nm,18.3s,baz=286,slow=39							
NWAO	**Narrogin (SRO)**	**46.09**	**235**	P	**P**	**15 48 37.0**	**-1.9**
comp=Z,9.6nm,1.0s,baz=90,slow=4.0,SNR=3.5							
NWAO				LR	LR	16 06 55.9	
comp=Z,79nm,20.0s,baz=80,slow=35							
NWAO	**Narrogin (SRO)**	**46.09**	**235**	P	**P**	**15 48 37.7**	**-1.3**
NWAO	**Narrogin (SRO)**	**46.09**	**235**	P	**P**	**15 48 37.7**	**-1.3**
NWAO				IAmb	IAmb	15 49 15.3	
comp=Z,68nm,1.8s							
MORW	**Morawa**	**46.10**	**241**	P	**P**	**15 48 38.5**	**-0.6**
MORW				IAmb	IAmb	15 48 39.6	
comp=Z,12nm,0.8s							
MYLDM	**Lahad Datu**	**46.23**	**289**	P	**P**	**15 48 41.1**	**+0.8**
PPT	**Papeete**	**47.27**	**103**	LR	LR	16 07 21.2	
comp=Z,52nm,18.0s,baz=280,slow=34							
PPT2	**Papeete2**	**47.27**	**103**	*e*LR	LR	16 02 17.8	
comp=Z,68nm,24.2s							
KKM	**Kota Kinabalu**	**48.66**	**289**	P	**P**	**15 48 59.0**	**-0.4**
JNU	**Nakatsue**	**53.32**	**327**	P	**P**	**15 49 33.6**	**-0.4**
comp=Z,3.8nm,0.7s,baz=204,slow=15,SNR=1.9							
LEM	**Lembang**	**53.72**	**270**	P	**P**	**15 49 35.8**	**-1.6**
comp=Z,7.6nm,0.4s,baz=256,slow=22,SNR=4.0							
KSRS	**Korea Array**	**58.19**	**328**	LR	LR	16 14 52.8	
comp=Z,17nm,18.4s,baz=131,slow=36							
NJ2	**Nanjing**	**59.74**	**318**	*e*P	**P**	**15 50 22.3**	**+2.6**
NJ2				pmax	pmax		
comp=Z,4.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**61.73**	**336**	P	**P**	**15 50 33.1**	**+0.1**
comp=Z,1.8nm,0.9s,baz=150,slow=8.8,SNR=4.0							
USRK	**Ussuriysk Ar.**	**61.73**	**336**	P	**P**	**15 50 33.8**	**+0.8**
MNSI	**Mandailing Nat**	**63.08**	**277**	P	**P**	**15 50 43.0**	**+0.3**
KULM	**Kulim**	**63.16**	**282**	P	**P**	**15 50 41.5**	**-1.7**
KULM				IAmb	IAmb	15 50 57.8	
comp=Z,21nm,1.4s							
PEA0B	**Petropavlovsk-**	**64.44**	**357**	P	**P**	**15 50 50.0**	**-0.8**
PEA0B				IAmb	IAmb	15 52 21.5	
comp=Z,15nm,1.2s							
PETK	**Petropavlovsk-**	**64.44**	**357**	P	**P**	**15 50 50.7**	**-0.2**
comp=Z,1.1nm,0.7s,baz=159,slow=8.6,SNR=2.6							
PETK				LR	LR	16 15 42.7	
comp=Z,22nm,20.8s,baz=137,slow=33							
PETK	**Petropavlovsk-**	**64.44**	**357**	P	**P**	**15 50 50.9**	**0.0**
CASY	**Casey**	**64.61**	**200**	P	**P**	**15 50 51.7**	**-0.2**
CASY				IAmb	IAmb	15 50 53.0	
comp=Z,6.7nm,1.1s							
GSI	**Gunungsitoli**	**65.14**	**277**	P	**P**	**15 50 55.6**	**-0.7**
VNDA	**Vanda**	**66.02**	**180**	P	**P**	**15 51 02.0**	**+1.2**
comp=Z,0.9nm,0.6s,baz=338,slow=8.4,SNR=10.0							
VNDA				LR	LR	16 16 24.9	
comp=Z,23nm,18.1s,baz=10.0,slow=33							
VNDA	**Vanda**	**66.02**	**180**	P	**P**	**15 51 02.0**	**+1.2**
VNDA				IAmb	IAmb	15 51 44.7	
comp=Z,7.8nm,1.7s							
PBKT	**Sadao Pong**	**66.37**	**294**	P	**P**	**15 51 05.4**	**+1.3**
PBKT				IAmb	IAmb	15 51 06.1	
comp=Z,8.5nm,1.1s							
CMAR	**Chiang Mai Arr**	**68.84**	**295**	P	**P**	**15 51 20.4**	**+0.7**
comp=Z,1.4nm,0.6s,baz=131,slow=4.4,SNR=13							
HHC	**Hu-ho-hao-te**	**69.77**	**322**	*e*P	**P**	**15 51 25.5**	**+0.3**
HHC				pmax	pmax		
comp=Z,26nm,0.7s							
HHC				pmax	pmax		
comp=Z,100nm,6.1s							
CD2	**Chengdu**	**69.90**	**309**	*e*P	**P**	**15 51 27.0**	**+0.9**
LZH	**Lanzhou**	**72.29**	**314**	*e*P	**P**	**15 51 39.7**	**-1.0**
LZH				pP	sP	15 51 45.2	+2.6
LZH				sP	pwP	15 51 48.0	-1.7
LZH				*e*PP	**PP**	**15 54 22.3**	**+0.7**
LZH				pmax	pmax		
comp=Z,21nm,1.3s							
LZH				pmax	pmax		
comp=Z,85nm,7.4s							
LZH				LR	LR		
comp=Z,260nm,15.2s							
LZH				LR	LR		
comp=Z,280nm,15.6s							
LZH				LR	LR		
comp=Z,390nm,18.3s							
GTA	**Gaotai**	**76.67**	**315**	*e*P	**P**	**15 52 06.7**	**+0.6**
GTA				pP	pwP	15 52 11.9	-3.2
GTA				sP	PcP	15 52 14.9	-2.6
GTA				S	**S**	**16 01 46.2**	**-6.9**
GTA				pmax	pmax		
comp=Z,3.0nm,1.5s							
GTA				pmax	pmax		
comp=Z,36nm,5.9s							
GTA				LR	LR		
comp=Z,40nm,17.1s							
GTA				LR	LR		
comp=Z,120nm,19.7s							
SONM	**Songino Array**	**76.83**	**325**	P	**P**	**15 52 06.7**	**0.0**
comp=Z,0.8nm,0.4s,baz=126,slow=2.0,SNR=4.7							
SONM	**Songino Array**	**76.83**	**325**	IAmb	IAmb	15 52 08.7	
comp=Z,2.6nm,1.0s							
YAK	**Yakutsk**	**77.50**	**345**	P	**P**	**15 52 10.2**	**+0.2**
YAK				IAmb	IAmb	15 52 14.6	
comp=Z,7.5nm,0.7s							
QSPA	**South Pole Qui**	**78.51**	**180**	P	**P**	**15 52 16.6**	**+0.8**
PALK	**Pallekele**	**82.87**	**279**	P	**P**	**15 52 41.2**	**+1.1**
comp=Z,8.9nm,0.7s,baz=146,slow=2.4,SNR=7.2							
PALK	**Pallekele**	**82.87**	**279**	P	**P**	**15 52 41.5**	**+1.4**
IMAR	**Indian Mountai**	**83.90**	**17**	P	**P**	**15 52 44.9**	**+0.6**
MDM	**Murphy Dome**	**84.86**	**19**	P	**P**	**15 52 49.4**	**+0.2**
HDA	**Harding Lake**	**84.92**	**20**	P	**P**	**15 52 49.7**	**+0.3**
HDA				IAmb	IAmb	15 53 02.6	
comp=Z,5.3nm,0.7s							
ILAR	**Eielson Array**	**85.17**	**20**	P	**P**	**15 52 51.7**	**+1.0**
comp=Z,0.6nm,0.8s,baz=214,slow=7.8,SNR=4.7							
RIDG	**Independent Ri**	**85.21**	**21**	P	**P**	**15 52 51.2**	**+0.2**
RIDG				IAmb	IAmb	15 55 44.1	
comp=Z,19nm,1.7s							
BCAR	**Beaver Creek A**	**85.92**	**22**	P	**P**	**15 52 55.8**	**+1.4**
WMQ	**Urumqi**	**86.75**	**316**	*e*P	**P**	**15 52 59.7**	**+0.6**
WMQ				sP	pwP	15 53 07.3	-0.9
WMQ				pmax	pmax		
comp=Z,22nm,0.7s							
WMQ				pmax	pmax		
comp=Z,72nm,5.7s							
YBH	**Yreka Blue Hor**	**86.93**	**46**	LR	LR	16 27 10.9	
comp=Z,20nm,19.8s,baz=233,slow=32							
EGAK	**Eagle**	**87.12**	**21**	P	**P**	**15 53 01.8**	**+1.5**
EGAK				IAmb	IAmb	15 53 13.9	
comp=Z,4.6nm,0.9s							
NVAR	**Mina Array Bea**	**89.22**	**51**	P	**P**	**15 53 12.3**	**+1.1**
comp=Z,0.3nm,0.6s,baz=236,slow=6.4,SNR=2.3							
SYO	**Syowa Base**	**90.23**	**198**	*e*PcP	**P**	**15 53 16.2**	**+1.2**
MK31	**Makanchi Array**	**91.27**	**317**	P	**P**	**15 53 19.7**	**-0.6**
MK31				IAmb	IAmb	15 55 22.0	
comp=Z,4.3nm,1.4s							
MKAR	**Makanchi Array**	**91.27**	**317**	P	**P**	**15 53 19.6**	**-0.8**
comp=Z,0.8nm,0.6s,baz=97,slow=7.4,SNR=8.4							
MKAR	**Makanchi Array**	**91.27**	**317**	P	**P**	**15 53 19.4**	**-0.9**
KURK	**Kurchatov**	**94.57**	**321**	P	**P**	**15 53 33.7**	**-1.7**
KURK	**Kurchatov**	**94.57**	**321**	IAmb	IAmb	15 54 04.0	
comp=Z,9.6nm,1.8s							
KURBB	**Kurchatov Arra**	**94.61**	**321**	P	**P**	**15 53 33.7**	**-1.9**
comp=Z,0.4nm,0.8s,baz=101,slow=3.3,SNR=5.1							
ARCES	**ARCESS Array B**	**115.78**	**344**	PKP	**PKiKP**	**15 58 56.0**	**-0.8**
comp=Z,3.0nm,0.9s,baz=62,slow=2.9,SNR=4.8							
AKASG	**Malin Array Be**	**125.11**	**325**	PKP	**PKPdf**	**15 59 14.8**	**-0.4**
comp=Z,3.2nm,0.8s,baz=58,slow=2.4,SNR=7.4							
NOA	**NORSAR Array B**	**126.08**	**343**	PKP	**PKPdf**	**15 59 16.7**	**-0.1**
comp=Z,1.2nm,0.9s,baz=41,slow=2.0,SNR=3.8							
BRTR	**Keskin Array B**	**126.44**	**311**	PKP	**PKPdf**	**15 59 18.2**	**-0.1**
comp=Z,0.5nm,0.5s,baz=262,slow=2.9,SNR=1.7							
VYHS	**Vyhne**	**131.98**	**327**	*e*PKP	**PKPdf**	**15 59 28.8**	**+0.4**
GERES	**GERESS Array B**	**134.34**	**331**	PKP	**PKPdf**	**15 59 32.9**	**0.0**
comp=Z,0.7nm,0.7s,baz=46,slow=7.6,SNR=6.1							
ESDC	**Sonseca Array**	**149.25**	**338**	PKPbc	**PKPbc**	**16 00 03.8**	**-0.1**
comp=Z,0.3nm,0.4s,baz=46,slow=1.6,SNR=4.1							
ESDC	**Sonseca Array**	**149.25**	**338**		**PKPbc**	**16 00 04.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**160.58**	**277**	PKP	**PKPdf**	**16 00 15.3**	**-0.4**
comp=Z,1.5nm,0.9s,baz=50,slow=2.3,SNR=5.5							
TORD				PKPab	**PKPab**	**16 00 57.2**	**0.0**
comp=Z,3.4nm,1.1s,baz=90,slow=4.4,SNR=8.5							
TORD	**Torodi Ar. Bea**	**160.58**	**277**		**PKPdf**	**16 00 15.5**	**-0.2**
TORD					**PKPab**	**16 00 57.0**	**-0.2**

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*JMA **04** 15:41:36.2±0.1, 23°.18N×121°.59E, h2km±2km, M2.7*
*TAP **04** 15:41:38.6, 23°.23N×121°.41E, h23km, ML3.0, C*
**ISC 04 15:41:38.3±0.9, 23°.20N±0°.01×121°.50E±0°.02, h26km±5km, n102, σ1§

	baz=290						
SSLB	**Suanglung**	**0.77**	**319**	*e*P	**Pb**	**15 41 51.9**	**-1.3**
	baz=329						
SSLB				*e*S	**Sb**	**15 42 02.1**	**-1.1**
	baz=329						
WHYT	**Xinyi Township**	**0.77**	**309**	P	**Pb**	**15 41 51.9**	**-1.3**
	baz=319						
WHYT				S	**Sb**	**15 42 02.3**	**-1.0**
	baz=319						
HWA	**Hwalien**	**0.78**	**7**	*e*S	**Sn**	**15 42 05.2**	**+0.8**
	baz=22						
ECL	**Taimali**	**0.79**	**220**	*e*P	**Pb**	**15 41 51.3**	**-2.1**
	baz=213						
ECL				*e*S	**Sb**	**15 42 02.8**	**-0.9**
	baz=213						
OWD	**Renai**	**0.81**	**338**	*e*P	**Pb**	**15 41 51.7**	**-2.1**
	baz=343						
OWD				S	**Sb**	**15 42 04.1**	**-0.3**
	baz=343						
TPUB	**Ta-pu**	**0.81**	**277**	*e*P	**Pb**	**15 41 53.0**	**-0.8**
	baz=276						
TPUB				S	**Sb**	**15 42 03.4**	**-1.0**
	baz=276						
SLGT	**Liugui**	**0.82**	**255**	*e*P	**Pb**	**15 41 53.1**	**-0.8**
	baz=254						
SLGT				*e*S	**Sb**	**15 42 04.3**	**-0.2**
	baz=254						
WTP	**Ta-pu**	**0.82**	**273**	*i* P	**Pb**	**15 41 53.3**	**-0.7**
	baz=272						
WTP				S	**Sb**	**15 42 03.6**	**-1.1**
	baz=272						
CHN5	**Tsauling**	**0.85**	**297**	P	**Pb**	**15 41 54.0**	**-0.5**
	baz=299						
CHN5				S	**Sn**	**15 42 06.6**	**+0.2**
	baz=299						
SGST	**Jiashian**	**0.86**	**262**	*e*P	**Pb**	**15 41 52.9**	**-1.6**
	baz=259						
SGST				S	**Sb**	**15 42 05.4**	**-0.3**
	baz=259						
SMLT	**Sun Moon Lake**	**0.87**	**321**	*e*P	**Pb**	**15 41 53.9**	**-1.1**
	baz=328						
SMLT				S	**Sn**	**15 42 06.7**	**-0.4**
	baz=328						
TWD	**Chiawan**	**0.88**	**6**	*e*P	**Pn**	**15 41 55.0**	**0.0**
	baz=360						
TWD				*e*S	**Sn**	**15 42 06.7**	**-0.2**
	baz=360						
CHN1	**Nanshi**	**0.90**	**269**	P	**Pb**	**15 41 55.0**	**-0.3**
	baz=268						
CHN1				S	**Sn**	**15 42 08.1**	**+0.6**
	baz=268						
CHGB	**Renai**	**0.90**	**341**	*e*P	**Pb**	**15 41 54.5**	**-1.0**
	baz=337						
CHGB				*e*S	**Sb**	**15 42 06.7**	**-0.6**
	baz=337						
SSD	**Sandimen**	**0.92**	**241**	*e*P	**Pb**	**15 41 54.0**	**-1.6**
	baz=235						
SSD				S	**Sb**	**15 42 07.4**	**-0.2**
	baz=235						
SNST	**Tainan City**	**0.93**	**271**	*e*P	**Pb**	**15 41 55.1**	**-0.6**
	baz=270						
SNST				S	**Sn**	**15 42 08.3**	**+0.2**
	baz=270						
TSMG	**Majia**	**0.93**	**238**	P	**Pb**	**15 41 54.6**	**-1.3**
	baz=232						
TSMG				*e*S	**Sb**	**15 42 06.5**	**-1.4**
	baz=232						
WJS	**Zhushan**	**0.94**	**311**	P	**Pn**	**15 41 56.1**	**+0.2**
	baz=313						
WJS				S	**Sn**	**15 42 09.0**	**+0.5**
	baz=313						
WHF	**Hehuan Shan**	**0.96**	**347**	*e*P	**Pb**	**15 41 55.0**	**-1.7**
	baz=2.0						
WHF				*e*S	**Sn**	**15 42 09.2**	**-0.4**
	baz=2.0						
NACB	**Ninganchiao**	**0.97**	**5**	*e*P	**Pb**	**15 41 54.6**	**-1.9**
	baz=358						
NACB				*e*S	**Sb**	**15 42 08.1**	**-0.8**
	baz=358						
SCST	**Cishan**	**0.98**	**251**	*e*P	**Pb**	**15 41 55.3**	**-1.3**
	baz=249						
SCST				*e*S	**Sn**	**15 42 12.3**	**+2.8**
	baz=249						
WGK	**Gukeng**	**0.99**	**299**	P	**Pn**	**15 41 56.8**	**+0.3**
	baz=300						
WGK				S	**Sn**	**15 42 11.6**	**+1.9**
	baz=300						
MASBT	**Mashibuluo**	**1.00**	**234**	*e*P	**Pb**	**15 41 55.3**	**-1.6**
	baz=229						
MASBT				*e*S	**Sb**	**15 42 08.7**	**-1.0**
	baz=229						
ETLH	**Xiulin Townshi**	**1.00**	**359**	P	**Pb**	**15 41 55.1**	**-1.9**
	baz=4.0						
ETLH				S	**Sn**	**15 42 10.7**	**+0.6**
	baz=4.0						
WNT	**Mingjian**	**1.01**	**312**	P	**Pn**	**15 41 57.2**	**+0.4**
	baz=313						
WNT				*e*S	**Sn**	**15 42 10.7**	**+0.5**
	baz=313						
WDLH	**Douliu**	**1.01**	**299**	P	**Pn**	**15 41 57.2**	**+0.4**
	baz=299						
WDLH				S	**Sn**	**15 42 12.3**	**+2.1**
	baz=299						
TAW	**Tawu**	**1.01**	**214**	P	**Pb**	**15 41 55.3**	**-1.9**
	baz=207						
TAW				S	**Sb**	**15 42 08.7**	**-1.4**
	baz=207						
EAST	**Anshuo**	**1.02**	**217**	*e*P	**Pb**	**15 41 55.1**	**-2.1**
	baz=210						
EAST				*e*S	**Sb**	**15 42 08.5**	**-1.8**
	baz=210						
CHY	**Chiayi**	**1.03**	**287**	P	**Pn**	**15 41 57.5**	**+0.4**
	baz=286						
CHY				S	**Sn**	**15 42 11.2**	**+0.4**
	baz=286						
SGLT	**Jiouru**	**1.05**	**243**	*e*P	**Pb**	**15 41 57.3**	**-0.4**
	baz=240						
SGLT				*e*S	**Sn**	**15 42 12.7**	**+1.6**
	baz=240						
CHN3	**Shinhua**	**1.06**	**263**	*e*P	**Pn**	**15 41 58.4**	**+1.0**
	baz=271						
CHN3				S	**Sn**	**15 42 14.0**	**+2.7**
	baz=271						
FUSS	**Fushou**	**1.07**	**347**	*e*P	**Pb**	**15 41 57.2**	**-1.1**
	baz=360						
FUSS				*e*S	**Sb**	**15 42 10.3**	**-1.6**
	baz=360						
TWM1	**Shoushan**	**1.07**	**249**	*e*P	**Pn**	**15 41 59.2**	**+1.6**
	baz=247						
TWM1				*e*S	**Sn**	**15 42 13.8**	**+2.2**
	baz=247						
TWT	**Tachien**	**1.09**	**344**	P	**Pb**	**15 41 57.2**	**-1.4**
	baz=347						
TWT				*e*S	**Sn**	**15 42 13.2**	**+0.9**
	baz=347						
TDCB	**Techi**	**1.09**	**343**	*e*P	**Pn**	**15 41 58.1**	**0.0**
	baz=347						
TDCB				*e*S	**Sb**	**15 42 11.1**	**-1.5**
	baz=347						
SSPT	**Xinbi**	**1.12**	**230**	*e*P	**Pn**	**15 41 57.7**	**-0.6**
	baz=223						
SSPT				*e*S	**Sb**	**15 42 12.9**	**-0.4**
	baz=223						
WTK	**Tuku**	**1.13**	**295**	*e*P	**Pn**	**15 41 57.5**	**-1.0**
	baz=311						
WTK				S	**Sn**	**15 42 13.4**	**+0.2**
	baz=311						
ICHU	**Yijhu**	**1.14**	**278**	*e*P	**Pb**	**15 41 59.4**	**+0.1**
	baz=277						
ICHU				S	**Sn**	**15 42 15.2**	**+1.9**
	baz=277						
WLGB	**Puzi**	**1.14**	**284**	*e*P	**Pb**	**15 41 59.9**	**+0.6**
	baz=284						
WLGB				S	**Sn**	**15 42 14.5**	**+1.1**
	baz=284						
LAY	**Lan-yu**	**1.16**	**178**	*e*P	**Pn**	**15 41 58.1**	**-0.8**
	baz=163						
LAY				*e*S	**Sb**	**15 42 14.2**	**-0.2**
	baz=163						
SCZT	**Fangliau**	**1.16**	**225**	*e*P	**Pn**	**15 41 59.0**	**+0.1**
	baz=218						
SCZT				*e*S	**Sb**	**15 42 14.0**	**-0.4**
	baz=218						
SLIU	**Shizi**	**1.18**	**214**	*e*S	**Sn**	**15 42 14.7**	**+0.3**
	baz=196						
CHN8	**Yiju**	**1.20**	**277**	P	**Pb**	**15 42 00.3**	**0.0**
	baz=276						
CHN8				S	**Sn**	**15 42 15.8**	**+1.0**
	baz=276						
SCLT	**Jiali**	**1.21**	**269**	*e*S	**Sn**	**15 42 17.3**	**+2.3**
	baz=282						
TCU	**Taichung**	**1.21**	**321**	*e*S	**Sn**	**15 42 17.1**	**+2.0**
	baz=322						
NNSB	**Datong**	**1.22**	**355**	*e*P	**Pn**	**15 41 59.0**	**-0.9**
	baz=9.0						
NNSB				*e*S	**Sn**	**15 42 16.7**	**+1.0**
	baz=9.0						
NNSH	**Datong**	**1.22**	**355**	*e*P	**Pn**	**15 41 59.2**	**-0.7**
	baz=8.0						
NNSH				*e*S	**Sb**	**15 42 15.6**	**-0.7**
	baz=8.0						
WCHH	**Zhanghua**	**1.23**	**315**	*e*P	**Pb**	**15 42 01.5**	**+0.7**
	baz=316						
WCHH				*e*S	**Sn**	**15 42 16.5**	**+0.9**
	baz=316						
NNS	**Nan Shan**	**1.24**	**354**	*e*P	**Pn**	**15 41 59.0**	**-1.1**
	baz=9.0						
NNS				*e*S	**Sb**	**15 42 15.2**	**-1.4**
	baz=9.0						
RLNB	**Erlin**	**1.25**	**303**	*e*P	**Pb**	**15 42 00.6**	**-0.6**
	baz=303						
RLNB				*e*S	**Sb**	**15 42 17.4**	**+0.4**
	baz=303						
WSF	**Szhu**	**1.25**	**290**	*i* P	**Pb**	**15 42 00.6**	**-0.6**
	baz=290						
WSF				*i* S	**Sb**	**15 42 16.5**	**-0.5**
	baz=290						
ENAH	**Nanao**	**1.27**	**13**	*e*S	**Sb**	**15 42 17.3**	**-0.3**
	baz=2.0						
TWQ1	**Liyutan**	**1.32**	**330**	P	**Pb**	**15 42 03.1**	**+0.7**
	baz=331						
TWQ1				S	**Sb**	**15 42 21.3**	**+2.4**
	baz=331						
WLCH	**Liuqiu**	**1.34**	**231**	*e*P	**Pb**	**15 42 03.9**	**+1.1**
	baz=230						
WLCH				*e*S	**Sb**	**15 42 22.7**	**+3.2**
	baz=230						
TWP	**Hsiaoliuchiu**	**1.36**	**231**	*e*S	**Sb**	**15 42 22.7**	**+2.8**
	baz=230						
NSY	**Sanyi**	**1.39**	**331**	*e*S	**Sb**	**15 42 22.9**	**+2.1**
	baz=332						
WDJ	**Dajia District**	**1.39**	**325**	*e*P	**Pb**	**15 42 04.5**	**+0.9**
	baz=313						
WDJ				S	**Sb**	**15 42 22.9**	**+2.1**
	baz=313						
HEN	**Hengchun**	**1.39**	**211**	*e*P	**Pn**	**15 42 02.5**	**+0.5**
	baz=196						
HEN				*e*S	**Sn**	**15 42 19.8**	**+0.3**
	baz=196						
NDT	**Datong Townshi**	**1.39**	**0**	*e*P	**Pn**	**15 42 02.1**	**0.0**
	baz=19						
NDT				*e*S	**Sn**	**15 42 19.6**	**0.0**
	baz=19						
TWKBT	**Hengchun**	**1.41**	**207**	P	**Pb**	**15 42 03.4**	**-0.6**
	baz=192						
TWKBT				*e*S	**Sn**	**15 42 20.4**	**+0.3**
	baz=192						
TWK1	**Hengchun**	**1.41**	**207**	*e*P	**Pn**	**15 42 02.1**	**-0.2**
	baz=192						
TWK1				*e*S	**Sn**	**15 42 19.8**	**-0.3**
	baz=192						
TSEB	**Hengchuen, Pin**	**1.41**	**203**	*e*P	**Pn**	**15 42 02.8**	**+0.5**
	baz=189						
TSEB				S	**Sn**	**15 42 20.4**	**+0.3**
	baz=189						
ENTT	**Nioudou**	**1.43**	**2**	*e*P	**Pn**	**15 42 02.8**	**+0.2**
	baz=5.0						
ENTT				*e*S	**Sn**	**15 42 20.4**	**-0.3**
	baz=5.0						
TWC	**Suao**	**1.43**	**13**	*e*S	**Sb**	**15 42 21.3**	**-0.9**
	baz=3.0						
PTSB	**Yuanli**	**1.44**	**330**	*e*P	**Pb**	**15 42 04.5**	**0.0**
	baz=330						
PTSB				*e*S	**Sb**	**15 42 23.1**	**+0.8**
	baz=330						
NMLH	**Miaoli**	**1.48**	**334**	*e*S	**Sb**	**15 42 24.4**	**+0.9**
	baz=348						
NSTT	**Nanjuang**	**1.49**	**342**	P	**Pn**	**15 42 03.9**	**+0.4**
	baz=343						
NSTT				*e*S	**Sb**	**15 42 23.3**	**-0.6**
	baz=343						
LIOB	**Emei**	**1.50**	**343**	*e*P	**Pb**	**15 42 04.7**	**-0.9**
	baz=343						
LIOB				*e*S	**Sb**	**15 42 25.5**	**+1.3**
	baz=343						
TWE	**Neicheng**	**1.52**	**6**	*e*S	**Sn**	**15 42 22.6**	**-0.2**
	baz=10.0						
NWLT	**Wulai**	**1.57**	**360**	*e*P	**Pn**	**15 42 04.8**	**+0.3**
	baz=17						
NWLT				*e*S	**Sn**	**15 42 24.0**	**0.0**
	baz=17						
TIPB	**Shuangxi**	**1.78**	**9**	*e*P	**Pb**	**15 42 09.2**	**-1.1**
	baz=13						
TIPB				*e*S	**Sn**	**15 42 30.2**	**+0.9**
	baz=13						
PHUB	**P'eng-hu**	**1.80**	**280**	*e*P	**Pn**	**15 42 08.1**	**+0.4**
	baz=279						
PHUB				*e*S	**Sn**	**15 42 29.0**	**-0.8**
	baz=279						
JYNG	**Yonagunijimaku**	**1.81**	**46**	P	**Pn**	**15 42 09.1**	**+1.3**
JYNG				S	**Sb**	**15 42 32.4**	**-0.7**
PNG	**Penghu**	**1.83**	**282**	*e*P	**Pn**	**15 42 08.1**	**+0.1**
	baz=281						
PNG				*e*S	**Sn**	**15 42 30.4**	**+0.1**
	baz=281						
YOJ	**Yonaguni jima**	**1.86**	**47**	P	**Pb**	**15 42 10.3**	**-1.4**
YOJ				S	**Sb**	**15 42 33.4**	**-1.2**
YM05	**YM05**	**1.95**	**2**	*e*S	**Sn**	**15 42 34.3**	**+0.7**
	baz=4.0						
YM11	**YM11**	**1.95**	**2**	*e*S	**Sn**	**15 42 33.4**	**-0.3**
	baz=4.0						
HATJ	**Hateruma jima**	**2.27**	**68**	S	**Sn**	**15 42 42.8**	**+1.4**
IRIF	**Iriomote-Funau**	**2.33**	**61**	P	**Pn**	**15 42 16.5**	**+1.5**
IRIF				S	**Sn**	**15 42 45.2**	**+2.4**
JKRS	**Kuro-shima**	**2.52**	**65**	P	**Pn**	**15 42 19.2**	**+1.7**
JKRS				S	**Sn**	**15 42 49.4**	**+2.0**
JIJ	**Ishigaki jima**	**2.68**	**64**	P	**Pn**	**15 42 21.1**	**+1.3**
JIJ				S	**Sn**	**15 42 53.2**	**+1.8**
JISG	**Ishigakijimahi**	**2.92**	**61**	P	**Pn**	**15 42 23.9**	**+0.9**
JISG				S	**Sn**	**15 42 57.6**	**+0.4**
JTJ	**Tarama**	**3.26**	**63**	P	**Pn**	**15 42 29.2**	**+1.5**
JTJ				S	**Sn**	**15 43 07.4**	**+1.7**

WEL 04 15:42:02.8, 44°S±2°×17°3E±°, h11km±2km, M2.1/7, ML2.3/7, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=25.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.13**	**130**	P	Pb	15 42 07.0	-0.3
AKCZ	**Akaroa Harbour**	**0.37**	**131**	P	Pb	15 42 11.7	+0.2
OKCZ	**Okains Bay**	**0.40**	**104**	P	Pb	15 42 12.2	+0.2
AMCZ	**Amberley**	**0.46**	**12**	P	Pb	15 42 13.1	+0.2
OXZ	**Oxford**	**0.46**	**310**	P	Pb	15 42 12.6	-0.3
WACZ	**Wakanui South**	**0.59**	**237**	P	Pn	15 42 16.3	-0.8
GVZ	**Greta Valley S**	**0.76**	**30**	P	Pn	15 42 18.7	-0.7
LTZ	**Lake Taylor**	**0.86**	**348**	P	Pn	15 42 20.4	-0.5
ARCZ	**Arundel**	**1.02**	**251**	P	Pn	15 42 23.9	+0.8
RPZ	**Rata Peaks**	**1.07**	**265**	P	Pn	15 42 25.0	+1.2
INZ	**Inchbonnie**	**1.20**	**318**	P	Pg	15 42 26.6	+0.9
ODZ	**Otahua Downs**	**1.96**	**223**	P	Pg	15 42 41.0	+0.7

*JMA **04** 15:42:25.8±0.1, 23°.17N×121°.60E, h11km, M2.9*
*TAP **04** 15:42:28.0, 23°.20N×121°.41E, h25km, ML3.1, C*
ISC 04 15:42:27.8±0.9, 23°.20N±0°.01×121°.48E±0°.02, h25km±5km, n94, ₙ0ᵉ99/184, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.14**	**226**	P	**Pb**	**15 42 33.0**	**+0.2**
	baz=187						
CHKT				S	**Sb**	**15 42 36.5**	**+0.4**
	baz=187						
FULB	**Fuli**	**0.17**	**270**	P	**Pb**	**15 42 32.7**	**-0.4**
	baz=267						
FULB				S	**Sb**	**15 42 38.0**	**+1.3**
	baz=267						
EYUL	**Yuli**	**0.21**	**316**	*e*P	**Pb**	**15 42 33.3**	**-0.3**
	baz=316						
EYUL				S	**Sb**	**15 42 38.4**	**+0.9**
	baz=316						
TWF1	**Yuli**	**0.22**	**313**	*e*P	**Pb**	**15 42 33.2**	**-0.5**
	baz=313						
TWF1				S	**Sb**	**15 42 37.5**	**-0.3**
	baz=313						
YULB	**Yu-li**	**0.25**	**320**	*e*P	**Pb**	**15 42 33.5**	**-0.7**
	baz=318						
YULB				*e*S	**Sb**	**15 42 38.2**	**-0.3**
	baz=318						
EDH	**Donghe**	**0.27**	**215**	*i* P	**Pb**	**15 42 34.5**	**+0.1**
	baz=196						
EDH				S	**Sb**	**15 42 39.7**	**+0.7**
	baz=196						
HGSD	**Ruisui**	**0.30**	**351**	*i* P	**Pn**	**15 42 36.0**	**-0.6**
	baz=12						
HGSD				*e*S	**Sn**	**15 42 41.8**	**-0.4**
	baz=12						
EHY	**Hungye**	**0.34**	**335**	P	**Pb**	**15 42 34.5**	**-0.9**
	baz=335						
EHY				S	**Sb**	**15 42 40.8**	**+0.2**
	baz=335						
ELDTW	**Lidau**	**0.42**	**269**	*i* P	**Pb**	**15 42 35.4**	**-1.4**
	baz=267						
ELDTW				*i* S	**Sb**	**15 42 40.9**	**-2.0**
	baz=267						
LONT	**Longtian**	**0.43**	**228**	P	**Pb**	**15 42 36.2**	**-0.7**
	baz=230						
LONT				*e*S	**Sb**	**15 42 41.9**	**-1.1**
	baz=230						
EGFH	**Guangfu**	**0.47**	**355**	*e*P	**Pb**	**15 42 37.1**	**-0.4**
	baz=350						
EGFH				*e*S	**Sb**	**15 42 44.7**	**+0.5**
	baz=350						
LDUT	**Ludao**	**0.52**	**181**	*i* P	**Pb**	**15 42 38.4**	**0.0**
	baz=174						
LDUT				*e*S	**Sn**	**15 42 47.1**	**-0.6**
	baz=174						
TWGBT	**Beinan**	**0.53**	**224**	P	**Pb**	**15 42 37.9**	**-0.5**
	baz=226						
TWGBT				S	**Sb**	**15 42 46.5**	**+0.8**
	baz=226						
TWG	**Pinlang**	**0.53**	**225**	P	**Pb**	**15 42 37.6**	**-0.9**
	baz=226						
TWG				S	**Sb**	**15 42 45.4**	**-0.3**
	baz=226						
TTN	**Taitung**	**0.54**	**214**	*e*P	**Pb**	**15 42 38.1**	**-0.5**
	baz=206						
TTN				*e*S	**Sb**	**15 42 46.9**	**+0.9**
	baz=206						
ESL	**Shilin**	**0.61**	**356**	P	**Pb**	**15 42 39.8**	**-0.1**
	baz=354						
ESL				*e*S	**Sb**	**15 42 47.6**	**-0.6**
	baz=354						
VWDT	**VWDT**	**0.63**	**331**	*e*P	**Pb**	**15 42 39.3**	**-0.9**
	baz=346						
VWDT				S	**Sb**	**15 42 48.0**	**-0.7**
	baz=346						
STYT	**Tauyuan**	**0.66**	**267**	P	**Pb**	**15 42 39.6**	**-1.2**
	baz=266						
STYT				S	**Sb**	**15 42 48.6**	**-1.0**
	baz=266						
ALS	**Alishan**	**0.69**	**297**	P	**Pb**	**15 42 40.5**	**-0.9**
	baz=299						
ALS				*e*S	**Sn**	**15 42 51.6**	**-0.7**
	baz=299						
WHYT	**Xinyi Township**	**0.76**	**311**	P	**Pb**	**15 42 41.9**	**-0.5**
	baz=320						
WHYT				S	**Sn**	**15 42 53.3**	**-0.3**
	baz=320						
SSLB	**Suanglung**	**0.76**	**321**	*e*P	**Pb**	**15 42 41.4**	**-1.0**
	baz=330						
SSLB				*e*S	**Sb**	**15 42 51.3**	**-1.0**
	baz=330						
ECL	**Taimali**	**0.77**	**219**	*e*P	**Pb**	**15 42 40.9**	**-1.6**
	baz=214						
ECL				*e*S	**Sb**	**15 42 51.2**	**-1.4**
	baz=214						
HWA	**Hwalien**	**0.78**	**9**	*e*P	**Pn**	**15 42 44.5**	**+1.2**
	baz=2.0						
HWA				*e*S	**Sn**	**15 42 54.5**	**+0.4**
	baz=2.0						
TPUB	**Ta-pu**	**0.78**	**278**	P	**Pb**	**15 42 42.4**	**-0.4**
	baz=278						
TPUB				S	**Sb**	**15 42 53.2**	**+0.2**
	baz=278						
SLGT	**Liugui**	**0.79**	**255**	P	**Pb**	**15 42 42.6**	**-0.3**
	baz=256						
SLGT				S	**Sb**	**15 42 52.2**	**-1.0**
	baz=256						
WTP	**Ta-pu**	**0.79**	**274**	P	**Pb**	**15 42 42.2**	**-0.7**
	baz=273						
WTP				S	**Sb**	**15 42 53.4**	**0.0**
	baz=273						
SGST	**Jiashian**	**0.83**	**262**	*e*P	**Pb**	**15 42 43.6**	**0.0**
	baz=261						
SGST				S	**Sn**	**15 42 55.3**	**0.0**
	baz=261						
CHN5	**Tsauling**	**0.83**	**299**	P	**Pb**	**15 42 43.5**	**-0.2**
	baz=300						
CHN5				*e*S	**Sb**	**15 42 53.5**	**-1.1**
	baz=300						
SMLT	**Sun Moon Lake**	**0.86**	**322**	P	**Pb**	**15 42 43.8**	**-0.4**
	baz=329						
SMLT				*e*S	**Sb**	**15 42 55.1**	**-0.3**
	baz=329						
CHN1	**Nanshi**	**0.87**	**269**	P	**Pb**	**15 42 43.5**	**-0.7**
	baz=269						
CHN1				S	**Sn**	**15 42 57.4**	**+1.0**
	baz=269						
TWD	**Chiawan**	**0.89**	**7**	*e*P	**Pb**	**15 42 43.5**	**-1.0**
	baz=360						
TWD				*e*S	**Sn**	**15 42 56.4**	**-0.3**
	baz=360						
SSD	**Sandimen**	**0.90**	**240**	P	**Pb**	**15 42 44.3**	**-0.4**
	baz=237						
SSD				*e*S	**Sb**	**15 42 55.3**	**-1.0**
	baz=237						
SNST	**Tainan City**	**0.90**	**272**	P	**Pb**	**15 42 44.4**	**-0.4**
	baz=271						
SNST				S	**Sn**	**15 42 57.1**	**+0.1**
	baz=271						
CHGB	**Renai**	**0.90**	**342**	*e*P	**Pb**	**15 42 42.9**	**-2.1**
	baz=357						
CHGB				*e*S	**Sb**	**15 42 56.7**	**+0.1**
	baz=357						
TSMG	**Majia**	**0.91**	**237**	*e*P	**Pb**	**15 42 44.3**	**-0.6**
	baz=235						
TSMG				*e*S	**Sb**	**15 42 54.9**	**-1.7**
	baz=235						
WJS	**Zhushan**	**0.93**	**312**	*e*P	**Pn**	**15 42 44.9**	**-0.3**
	baz=314						
WJS				*e*S	**Sn**	**15 42 58.4**	**+0.7**
	baz=314						
SCST	**Cishan**	**0.96**	**251**	*e*P	**Pb**	**15 42 45.8**	**+0.1**
	baz=249						
SCST				*e*S	**Sn**	**15 43 01.1**	**+2.7**
	baz=249						
WHF	**Hehuan Shan**	**0.96**	**349**	P	**Pn**	**15 42 45.2**	**-0.9**
	baz=2.0						
WHF				S	**Sb**	**15 42 58.0**	**-0.6**
	baz=2.0						
WGK	**Gukeng**	**0.97**	**300**	P	**Pb**	**15 42 46.1**	**+0.2**
	baz=302						
WGK				*e*S	**Sn**	**15 43 00.4**	**+1.6**
	baz=302						
MASBT	**Mashibuluo**	**0.97**	**233**	*e*P	**Pn**	**15 42 44.0**	**-1.9**
	baz=230						
MASBT				S	**Sn**	**15 42 58.6**	**-0.2**
	baz=230						
NACB	**Ninganchiao**	**0.98**	**6**	P	**Pn**	**15 42 44.2**	**-1.7**
	baz=359						
NACB				*e*S	**Sb**	**15 42 57.3**	**-1.3**
	baz=359						
WDLH	**Douliu**	**0.99**	**300**	*e*P	**Pb**	**15 42 47.1**	**+0.8**
	baz=301						
WDLH				S	**Sn**	**15 43 01.1**	**+1.9**
	baz=301						
WNT	**Mingjian**	**0.99**	**313**	P	**Pb**	**15 42 46.3**	**0.0**
	baz=315						
WNT				*e*S	**Sn**	**15 42 59.6**	**+0.3**
	baz=315						
TAW	**Tawu**	**0.99**	**213**	*e*P	**Pn**	**15 42 44.9**	**-1.2**
	baz=208						
TAW				S	**Sb**	**15 42 57.1**	**-1.8**
	baz=208						
EAST	**Anshuo**	**1.00**	**216**	*e*P	**Pn**	**15 42 44.9**	**-1.3**
	baz=211						
EAST				*e*S	**Sb**	**15 42 56.6**	**-2.6**
	baz=211						
ETLH	**Xiulin Townshi**	**1.00**	**0**	*e*P	**Pn**	**15 42 44.7**	**-1.7**
	baz=4.0						
ETLH				*e*S	**Sb**	**15 42 59.3**	**-0.1**
	baz=4.0						

CHY	**Chiayi**	**1.01 287**	*e*P	**Pb**	**15 42 46.6**	**0.0**
	baz=288					
CHY			*e*S	**Sb**	**15 42 59.7**	**+0.2**
	baz=288					
CHN3	**Shinhua**	**1.03 263**	P	**Pb**	**15 42 47.6**	**+0.7**
	baz=263					
CHN3			S	**Sn**	**15 43 03.3**	**+3.1**
	baz=263					
TWM1	**Shoushan**	**1.04 249**	*e*P	**Pb**	**15 42 47.4**	**+0.3**
	baz=239					
FUSS	**Fushou**	**1.07 349**	*e*P	**Pn**	**15 42 46.9**	**-0.5**
	baz=3.0					
FUSS			S	**Sb**	**15 43 00.6**	**-0.8**
	baz=3.0					
TWT	**Tachien**	**1.08 345**	*e*P	**Pn**	**15 42 46.3**	**-1.2**
	baz=348					
TWT			S	**Sn**	**15 43 00.9**	**-1.0**
	baz=348					
TDCB	**Techi**	**1.09 345**	*e*P	**Pn**	**15 42 46.9**	**-0.7**
	baz=347					
TDCB			*e*S	**Sn**	**15 43 00.6**	**-1.4**
	baz=347					
SSPT	**Xinbi**	**1.10 230**	*e*P	**Pn**	**15 42 47.4**	**-0.1**
	baz=223					
SSPT			*e*S	**Sn**	**15 43 01.3**	**-0.6**
	baz=223					
WTK	**Tuku**	**1.11 296**	*e*P	**Pb**	**15 42 48.3**	**0.0**
	baz=297					
WTK			*e*S	**Sb**	**15 43 03.5**	**+1.1**
	baz=297					
ICHU	**Yijhu**	**1.11 279**	*e*P	**Pb**	**15 42 48.2**	**-0.2**
	baz=278					
ICHU			*e*S	**Sb**	**15 43 03.3**	**+0.9**
	baz=278					
WLGB	**Puzi**	**1.11 285**	*e*P	**Pb**	**15 42 48.8**	**+0.4**
	baz=285					
WLGB			*e*S	**Sb**	**15 43 04.2**	**+1.7**
	baz=285					
SCZT	**Fangliau**	**1.14 224**	*e*P	**Pn**	**15 42 48.3**	**+0.2**
	baz=219					
SCZT			*e*S	**Sb**	**15 43 03.7**	**+0.5**
	baz=219					
SNJT	**Kaohsiung City**	**1.14 247**	*e*P	**Pb**	**15 42 49.8**	**+1.0**
	baz=246					
SNJT			*e*S	**Sb**	**15 43 05.7**	**+2.5**
	baz=246					
LAY	**Lan-yu**	**1.16 176**	P	**Pn**	**15 42 48.1**	**-0.3**
	baz=164					
LAY			*e*S	**Sb**	**15 43 03.9**	**+0.2**
	baz=164					
SLIU	**Shizi**	**1.16 213**	*e*P	**Pn**	**15 42 46.7**	**-1.7**
	baz=199					
SLIU			*e*S	**Sn**	**15 43 02.4**	**-1.1**
	baz=199					
CHN8	**Yiju**	**1.17 277**	P	**Pn**	**15 42 48.3**	**-0.2**
	baz=277					
CHN8			S	**Sb**	**15 43 05.2**	**+1.0**
	baz=277					
WCHH	**Zhanghua**	**1.22 316**	*e*P	**Pb**	**15 42 49.8**	**-0.3**
	baz=317					
WCHH			*e*S	**Sb**	**15 43 05.5**	**+0.1**
	baz=317					
NNSB	**Datong**	**1.23 356**	P	**Pn**	**15 42 48.1**	**-1.3**
	baz=9.0					
NNSB			*e*S	**Sn**	**15 43 04.1**	**-1.3**
	baz=9.0					
NNSH	**Datong**	**1.23 356**	P	**Pn**	**15 42 48.5**	**-1.0**
	baz=8.0					
NNSH			S	**Sn**	**15 43 03.5**	**-1.8**
	baz=8.0					
WSF	**Szhu**	**1.23 291**	P	**Pn**	**15 42 49.7**	**+0.3**
	baz=291					
WSF			S	**Sb**	**15 43 06.0**	**+0.1**
	baz=291					
RLNB	**Erlin**	**1.23 304**	*e*S	**Sb**	**15 43 06.6**	**+0.7**
	baz=305					
NNS	**Nan Shan**	**1.24 356**	*e*P	**Pb**	**15 42 51.1**	**+0.5**
	baz=9.0					
NNS			*e*S	**Sn**	**15 43 04.1**	**-1.6**
	baz=9.0					
ENAH	**Nanao**	**1.28 14**	*e*P	**Pn**	**15 42 50.4**	**+0.2**
	baz=3.0					
ENAH			*e*S	**Sn**	**15 43 05.7**	**-0.8**
	baz=3.0					
TWQ1	**Liyutan**	**1.31 331**	P	**Pb**	**15 42 51.9**	**+0.1**
	baz=333					
TWQ1			S	**Sb**	**15 43 10.5**	**+2.2**
	baz=333					
WLCH	**Liuqiu**	**1.32 230**	*e*P	**Pb**	**15 42 52.7**	**+0.9**
	baz=228					
WLCH			*e*S	**Sb**	**15 43 10.5**	**+2.2**
	baz=228					
TWP	**Hsiaoliuchiu**	**1.33 231**	*e*P	**Pb**	**15 42 52.7**	**+0.6**
	baz=228					
TWP			*e*S	**Sb**	**15 43 10.8**	**+2.1**
	baz=228					
HEN	**Hengchun**	**1.37 210**	*e*P	**Pn**	**15 42 51.1**	**-0.2**
	baz=198					
HEN			*e*S	**Sn**	**15 43 08.3**	**-0.3**
	baz=198					
WDJ	**Dajia District**	**1.38 326**	*e*P	**Pb**	**15 42 52.7**	**-0.1**
	baz=328					
WDJ			*e*S	**Sb**	**15 43 11.0**	**+1.0**
	baz=328					
NSY	**Sanyi**	**1.38 332**	P	**Pb**	**15 42 52.9**	**0.0**
	baz=334					
NSY			S	**Sb**	**15 43 11.9**	**+1.8**
	baz=334					
TWKBT	**Hengchun**	**1.39 206**	*e*P	**Pn**	**15 42 52.2**	**+0.6**
	baz=195					
TWKBT			*e*S	**Sn**	**15 43 08.4**	**-0.8**
	baz=195					
TWK1	**Hengchun**	**1.39 206**	P	**Pn**	**15 42 51.4**	**-0.2**
	baz=195					
TWK1			S	**Sb**	**15 43 10.1**	**-0.4**
	baz=195					
TSEB	**Hengchuen, Pin**	**1.40 202**	*e*P	**Pn**	**15 42 51.3**	**-0.4**
	baz=189					
TSEB			*e*S	**Sn**	**15 43 09.2**	**-0.1**
	baz=189					
NDT	**Datong Townshi**	**1.40 1**	*e*P	**Pb**	**15 42 52.5**	**-0.7**
	baz=16					
NDT			*e*S	**Sn**	**15 43 09.0**	**-0.4**
	baz=16					
PTSB	**Yuanli**	**1.43 331**	*e*P	**Pb**	**15 42 53.6**	**-0.1**
	baz=332					
PTSB			*e*S	**Sb**	**15 43 13.6**	**+2.0**
	baz=332					
ENTT	**Nioudou**	**1.44 3**	*e*P	**Pn**	**15 42 52.0**	**-0.3**
	baz=7.0					
ENTT			*e*S	**Sn**	**15 43 10.5**	**+0.1**
	baz=7.0					
TWC	**Suao**	**1.45 14**	*e*P	**Pn**	**15 42 53.1**	**+0.7**
	baz=5.0					
TWC			*e*S	**Sn**	**15 43 10.3**	**-0.2**
	baz=5.0					
NMLH	**Miaoli**	**1.47 335**	*e*S	**Sb**	**15 43 15.0**	**+2.2**
	baz=350					
NSTT	**Nanjuang**	**1.49 343**	*e*P	**Pb**	**15 42 54.0**	**-0.8**
	baz=345					
NSTT			*e*S	**Sb**	**15 43 13.4**	**0.0**
	baz=345					
LIOB	**Emei**	**1.50 344**	*e*P	**Pb**	**15 42 54.9**	**-0.1**
	baz=346					
LIOB			*e*S	**Sb**	**15 43 14.1**	**+0.5**
	baz=346					
TWE	**Neicheng**	**1.53 7**	*e*P	**Pb**	**15 42 54.5**	**-0.9**
	baz=10.0					
TWE			*e*S	**Sn**	**15 43 13.2**	**+0.7**
	baz=10.0					
NWLT	**Wulai**	**1.57 1**	*e*P	**Pn**	**15 42 55.1**	**+1.0**
	baz=14					
NWLT			*e*S	**Sn**	**15 43 13.4**	**-0.3**
	baz=14					
JYNG	**Yonaguni jima**	**1.84 47**	P	**Pn**	**15 42 57.2**	**-0.5**
JYNG			S	**Sn**	**15 43 21.0**	**+0.9**
YOJ	**Yonaguni jima**	**1.89 48**	P	**Pn**	**15 42 59.2**	**+0.8**
YOJ			*e*S	**Sn**	**15 43 22.0**	**+0.6**
HATJ	**Hateruma jima**	**2.30 68**	S	**Sn**	**15 43 31.4**	**-0.2**
IRIF	**Iriomote-Funau**	**2.36 61**	P	**Pn**	**15 43 05.8**	**+0.9**
IRIF			S	**Sn**	**15 43 33.3**	**+0.3**
JKRS	**Kuro-shima**	**2.54 65**	P	**Pn**	**15 43 08.6**	**+1.2**
JKRS			S	**Sn**	**15 43 39.4**	**+1.8**
JIJ	**Ishigaki jima**	**2.71 64**	P	**Pn**	**15 43 10.3**	**+0.6**
JIJ			S	**Sn**	**15 43 41.5**	**-0.1**
JISG	**Ishigakijimahi**	**2.94 61**	P	**Pn**	**15 43 13.5**	**+0.6**
JISG			S	**Sn**	**15 43 47.1**	**-0.3**
JTJ	**Tarama**	**3.28 63**	P	**Pn**	**15 43 18.4**	**+0.8**
JTJ			S	**Sn**	**15 43 56.8**	**+0.9**

MAN 04 15:46:37.9, 6°.22N×125°.45E, h83km, mb4.4, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.29**	**114**	*e*P	Pn	15 46 51.8	+1.4
DDMP				*e*S	Sn	15 47 02.5	+2.8
SKMP	**Bagumbayan, Su**	**0.95**	**288**	*e*P	Pn	15 46 56.5	0.0
SKMP				*e*S	Sn	15 47 11.6	+1.2
MATI	**Mati**	**1.08**	**48**	*e*P	Pn	15 46 59.1	+1.0
MATI				*e*S	Sn	15 47 14.7	+1.5
LQP	**Lukban**	**8.73**	**334**	‖*e*P	Pn	15 48 49.8	+8.1

WEL 04 15:58:31.0, 44°.S±2°.×17°.2E±°., h11km±2km, M2.1/7, ML2.2/7, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=13.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.15**	**115**	P	Pb	15 58 35.7	-0.2
AKCZ	**Akaroa Harbour**	**0.39**	**126**	P	Pb	15 58 40.4	+0.3
OKCZ	**Okains Bay**	**0.44**	**101**	P	Pb	15 58 40.9	+0.1
OXZ	**Oxford**	**0.45**	**315**	P	Pb	15 58 41.4	+0.4
AMCZ	**Amberley**	**0.49**	**16**	P	Pb	15 58 41.8	+0.2
WACZ	**Wakanui South**	**0.54**	**237**	P	Pn	15 58 45.0	+0.2
GVZ	**Greta Valley S**	**0.79**	**32**	P	Pn	15 58 47.6	-0.6
LTZ	**Lake Taylor**	**0.87**	**350**	P	Pn	15 58 49.1	-0.2
ARCZ	**Arundel**	**0.98**	**252**	P	Pn	15 58 52.8	+2.0
INZ	**Inchbonnie**	**1.19**	**320**	P	Pg	15 58 55.5	+1.7
ODZ	**Otahua Downs**	**1.92**	**222**	P	Pg	15 59 09.7	+1.9
TIWZ	**Tintock**	**3.83**	**43**	P	Pn	15 59 28.0	-1.9

*IDC **04** 16:53:03.8±4.7, 52°.10N×178°.43E, h113km±43km, mb3.5/12, mb1 3.7/13, mb1mx3.5/49, mbtmp3.8/13, Error ellipse: s-maj=31.6km s-min=14.1km az=171.0*
*NEIC **04** 16:53:04.5±2.0, 52°.06N±0°.09×178°.33E±0°.10, h116km±5km, mb4.1/53, Error ellipse: s-maj=13.5km s-min=8.5km az=179.0*
*AEIC **04** 16:53:04±1.8, 51°.9N±0°.1×178°.34E±0°.09, h118km±4km, Error ellipse: s-maj=18.6km s-min=8.2km az=181.0*
ISC 04 16:53:04.2±0.7, 52°.01N±0°.10×178°.35E±0°.04, h117km±6km, n109, σ1°.01/110, mb4.0/35, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.11**	**110**		**Pn**	**16 53 20.6**	**+0.3**
LSSA	**Little Sitkin**	**0.12**	**120**		**Pn**	**16 53 20.6**	**+0.2**
LSPA	**Little Sitkin**	**0.15**	**110**		**Pn**	**16 53 20.6**	**+0.3**
CETU	**Semis' Tuman**	**0.71**	**93**		**Pn**	**16 53 23.8**	**+0.5**
CESW	**Semis' Southwe**	**0.76**	**98**		**Pn**	**16 53 23.7**	**0.0**
CEAP	**Semis' Anvil P**	**0.76**	**90**		**Pn**	**16 53 24.3**	**+0.6**
CERAA	**Semis' Rag'd T**	**0.83**	**96**		**Pn**	**16 53 24.5**	**+0.1**
CERAA					**Sn**	**16 53 41.5**	**+1.9**
AMKA	**Amchitka**	**0.87**	**136**		**Pn**	**16 53 24.1**	**-0.5**
AMKA	**Amchitka**	**0.87**	**136**		**Sn**	**16 53 38.8**	**-1.2**
GALAA	**Gareloi Lava P**	**1.80**	**97**		**Pn**	**16 53 34.9**	**-0.2**
GAEA	**Gareloi East**	**1.81**	**96**		**Pn**	**16 53 35.1**	**-0.1**
TASE	**Tanaga Southea**	**2.25**	**93**		**Pn**	**16 53 40.4**	**-0.2**
TAFP	**Tanaga Falls P**	**2.27**	**91**		**Pn**	**16 53 40.5**	**-0.4**
TAFP					**Sn**	**16 54 08.8**	**-0.4**
SMY	**Shemya**	**2.70**	**287**		**Pn**	**16 53 45.4**	**-1.1**
SMY	**Shemya**	**2.70**	**287**		**Sn**	**16 54 17.8**	**-1.1**
KIMD	**Kanaga Island**	**2.75**	**93**		**Pn**	**16 53 46.5**	**-0.5**
KICM	**Kanaga Island**	**2.76**	**90**		**Pn**	**16 53 47.0**	**-0.2**
KIKV	**Kanaga Island**	**2.78**	**91**		**Pn**	**16 53 47.0**	**-0.5**
ADK	**Adak**	**3.08**	**90**		**Pn**	**16 53 50.4**	**-0.9**
ADAG	**Mount Adagdak**	**3.12**	**89**		**Pn**	**16 53 51.5**	**-0.5**
GSTD	**Great Sitkin T**	**3.40**	**87**		**Pn**	**16 53 54.9**	**-0.9**
GSTD					**Sn**	**16 54 33.8**	**-1.8**
GSTR	**Great Sitkin T**	**3.45**	**86**		**Pn**	**16 53 55.8**	**-0.6**
GSMY	**Great Sitkin M**	**3.46**	**87**		**Pn**	**16 53 55.7**	**-0.7**
ATKA	**Atka Island**	**4.60**	**85**		**Pn**	**16 54 11.1**	**-0.6**
NIKH	**Nikolski High**	**7.87**	**78**	Pn	**Pn**	**16 54 57.3**	**+1.5**
SPIA	**Saint Paul Isl**	**8.40**	**47**	Pn	**Pn**	**16 55 05.1**	**+2.2**
UNV	**Unalaska Valle**	**9.34**	**73**	Pn	**Pn**	**16 55 16.0**	**+0.5**
AKUT	**Akutan**	**9.79**	**71**	Pn	**Pn**	**16 55 23.6**	**+1.8**
PET	**Petropavlovsk**	**12.04**	**283**	Pn	**Pn**	**16 55 53.5**	**+1.8**
PEA0B	**Petropavlovsk-**	**12.61**	**283**	Pn	**Pn**	**16 56 01.4**	**+2.1**
PETK	**Petropavlovsk-**	**12.61**	**283**	P	**Pn**	**16 56 00.8**	**+1.5**
	0.3nm,0.3s,baz=85,slow=16,SNR=14						
PETK	**Petropavlovsk-**	**12.61**	**283**	Pn	**Pn**	**16 56 00.5**	**+1.2**
SDPT	**Sand Point**	**12.98**	**67**		**Pn**	**16 56 02.1**	**-1.9**
CNBA	**Chernabura Isl**	**13.45**	**69**	Pn	**Pn**	**16 56 07.0**	**-3.1**
SII	**Sitkinak Islan**	**16.61**	**63**	P	**P**	**16 56 52.5**	**+2.1**
SVW2	**Sparrevohn**	**16.90**	**47**	Pn	**P**	**16 56 56.1**	**+2.6**
SVW2				IAmb	IAmb	16 57 05.7	
	comp=Z,12nm,1.3s						
OHAK	**Old Harbor**	**17.16**	**61**		**P**	**16 56 53.9**	**-2.4**
KDAK	**Kodiak Island**	**17.60**	**59**	P	**P**	**16 56 59.1**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=294,slow=12,SNR=24						
KDAK	**Kodiak Island**	**17.60**	**59**		**P**	**16 56 59.0**	**-2.1**
RSO	**Redoubt South**	**18.02**	**51**		**Pn**	**16 57 06.7**	**-0.4**
CNPM	**China Poot**	**18.56**	**54**	P	**P**	**16 57 11.3**	**-0.3**
BRLK	**Bradley Lake**	**18.78**	**54**		**P**	**16 57 13.6**	**-0.5**
BRLK				IAmb	IAmb	16 57 14.0	
	comp=Z,14nm,0.8s						
SKT	**Skwentna**	**19.02**	**47**	P	**Pn**	**16 57 18.1**	**-0.6**
SKT				IAmb	IAmb	16 57 24.4	
	comp=Z,10nm,1.0s						
PPLA	**Purkeypile**	**19.04**	**44**	P	**Pn**	**16 57 19.3**	**+0.2**
PPLA				IAmb	IAmb	16 57 57.9	
	comp=Z,24nm,1.5s						
KTH	**Kantishna Hill**	**19.82**	**42**	P	**P**	**16 57 26.0**	**+0.7**
TRF	**Thorofare Moun**	**20.05**	**43**	P	**P**	**16 57 28.7**	**+0.8**
GHO	**Glory Hole Cre**	**20.15**	**48**	P	Pn	16 57 30.5	-1.4
RND	**Reindeer**	**20.64**	**44**	P	**P**	**16 57 33.9**	**-0.3**
GLI	**Glacier Island**	**20.83**	**51**	P	**P**	**16 57 35.1**	**-1.1**
SCM	**Sheep Creek Mo**	**20.90**	**49**	P	**P**	**16 57 36.5**	**-0.5**
SCM				IAmb	IAmb	16 58 13.2	
	comp=Z,11nm,1.2s						
FID	**Port Fidalgo**	**21.11**	**52**	P	**P**	**16 57 38.7**	**-0.5**
FID				IAmb	IAmb	16 57 41.1	
	comp=Z,15nm,1.1s						
DHY	**Denali Highway**	**21.18**	**45**	P	**P**	**16 57 39.8**	**-0.3**
DHY				IAmb	IAmb	16 57 42.4	
	comp=Z,4.8nm,0.7s						
WRH	**Wood River Hil**	**21.31**	**41**	P	**P**	**16 57 41.6**	**+0.4**
MDM	**Murphy Dome**	**21.42**	**40**	P	**P**	**16 57 42.8**	**+0.3**
MDM				IAmb	IAmb	16 57 45.0	
	comp=Z,13nm,1.5s						
CCB	**Clear Creek Bu**	**21.48**	**41**	P	**P**	**16 57 44.3**	**+1.2**
KLU	**Klutina**	**21.50**	**50**	P	**P**	**16 57 43.0**	**-0.4**
HDA	**Harding Lake**	**21.76**	**42**	P	**P**	**16 57 46.7**	**+0.7**
ILAR	**Eielson Array**	**21.90**	**41**	P	**P**	**16 57 46.8**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=241,slow=8.4,SNR=5.8						
ILAR	**Eielson Array**	**21.90**	**41**	P	**P**	**16 57 47.4**	**-0.1**
RAGM	**Ragged Mountai**	**21.95**	**53**	P	**P**	**16 57 49.3**	**+1.2**
RAGM				IAmb	IAmb	16 58 21.5	
	comp=Z,11nm,0.8s						
PAX	**Paxson**	**22.00**	**46**	P	**P**	**16 57 48.9**	**+0.2**
PAX				IAmb	IAmb	16 57 50.3	
	comp=Z,13nm,1.6s						
RIDG	**Independent Ri**	**22.45**	**44**	P	**P**	**16 57 52.2**	**-1.1**
RIDG				IAmb	IAmb	16 57 55.5	
	comp=Z,12nm,1.5s						
GLB	**Gilahina Butte**	**22.49**	**50**	P	**P**	**16 57 53.2**	**-0.4**
TOLK	**Toolik Lake Re**	**22.59**	**30**	P	**P**	**16 57 52.8**	**-1.7**
TOLK				IAmb	IAmb	16 58 24.5	
	comp=Z,5.6nm,0.8s						
VRDI	**Verde Repeater**	**22.64**	**51**	P	**P**	**16 57 54.8**	**-0.5**
MCARA	**McCarthy VSAT**	**22.86**	**51**	P	**P**	**16 57 58.6**	**+1.4**
MCARA				IAmb	IAmb	16 58 07.5	
	comp=Z,5.3nm,0.7s						
BALM	**Baldy**	**23.15**	**52**	P	**P**	**16 58 00.5**	**+0.4**
BALM				IAmb	IAmb	16 58 07.9	
	comp=Z,14nm,1.5s						
YAH	**Yahtse**	**23.40**	**53**	P	**P**	**16 58 03.1**	**+0.6**
BARN	**Barnard Glacie**	**23.48**	**52**	P	**P**	**16 58 03.7**	**+0.5**
BARN				IAmb	IAmb	16 58 06.1	
	comp=Z,3.7nm,0.6s						
CTGM	**Chitina Glacie**	**23.64**	**52**	P	**P**	**16 58 05.5**	**+0.9**
CTGM				IAmb	IAmb	16 58 24.3	
	comp=Z,6.9nm,1.1s						
TABL	**Table Mountain**	**23.70**	**53**	P	**P**	**16 58 03.8**	**-1.4**
TABL				IAmb	IAmb	16 58 18.6	
	comp=Z,17nm,1.4s						
PCA	**Pinnacle**	**24.13**	**54**	P	**P**	**16 58 09.2**	**+0.3**
EGAK	**Eagle**	**24.26**	**43**	P	**P**	**16 58 10.1**	**+0.1**
EGAK				IAmb	IAmb	16 58 11.1	
	comp=Z,6.3nm,0.8s						
BCPM	**Bancas Point**	**24.44**	**55**	P	**P**	**16 58 12.3**	**+0.6**
DAWY	**Dawson**	**24.88**	**45**	P	**P**	**16 58 16.1**	**+0.4**
DAWY				IAmb	IAmb	16 58 18.6	
	comp=Z,4.6nm,0.8s						
HYT	**Haines Junctio**	**25.50**	**52**	P	**P**	**16 58 21.7**	**+0.3**
HYT				IAmb	IAmb	16 58 25.1	
	comp=Z,6.4nm,0.6s						
KLR	**Kul'dur**	**29.30**	**283**	P	**P**	**16 58 55.6**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=49,slow=10,SNR=2.3						
USRK	**Ussuriysk Ar.**	**31.46**	**274**	P	**P**	**16 59 14.3**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=73,slow=9.1,SNR=1.8						
K05A	**Summer Lake**	**41.07**	**78**	P	**P**	**17 00 36.5**	**+0.2**
PNTR	**Pine Nut**	**44.02**	**82**	P	**P**	**17 01 00.8**	**+0.6**
PNTR				IAmb	IAmb	17 01 12.8	
	comp=Z,5.1nm,0.9s						
WAKR	**Walker**	**44.48**	**82**	P	**P**	**17 01 04.3**	**+0.5**
WAKR				IAmb	IAmb	17 01 28.3	
	comp=Z,4.9nm,1.3s						
MCMT	**McKenzie Canyo**	**44.66**	**71**	P	**P**	**17 01 04.1**	**-1.2**
RYN	**Ryan**	**44.97**	**81**	P	**P**	**17 01 07.7**	**0.0**
RYN				IAmb	IAmb	17 01 08.6	
	comp=Z,4.9nm,1.2s						
NVAR	**Mina Array Bea**	**45.22**	**81**	P	**P**	**17 01 09.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=291,slow=7.9,SNR=5.7						
NVAR	**Mina Array Bea**	**45.22**	**81**	P	**P**	**17 01 10.1**	**+0.4**
HHC	**Hu-ho-hao-te**	**45.81**	**284**	*e*P	**P**	**17 01 15.0**	**+0.8**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,7.1s						
NOR	**Nord**	**46.39**	**3**	*i*P	**P**	**17 01 18.0**	**-0.1**
ISA	**Isabella, Lake**	**46.89**	**85**	P	**P**	**17 01 21.8**	**-0.9**
R11A	**Troy Canyon, C**	**46.93**	**80**	P	**P**	**17 01 22.6**	**-0.5**
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**17 01 28.8**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=337,slow=4.3,SNR=2.7						
PSUT	**Pine Spring**	**47.87**	**78**	P	**P**	**17 01 29.7**	**-0.6**
PV22	**Blue Mesa, Par**	**50.91**	**75**	P	**P**	**17 01 54.8**	**+1.4**
PV22				IAmb	IAmb	17 02 27.2	
	comp=Z,2.5nm,1.0s						
WMQ	**Urumqi**	**57.50**	**301**	*e*P	**P**	**17 02 42.4**	**+1.4**
MK31	**Makanchi Array**	**58.24**	**307**	P	**P**	**17 02 45.7**	**-0.3**
MK31				IAmb	IAmb	17 03 17.2	
	comp=Z,3.9nm,1.4s						
MKAR	**Makanchi Array**	**58.24**	**307**	P	**P**	**17 02 45.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=55,slow=5.6,SNR=5.9						
MKAR	**Makanchi Array**	**58.24**	**307**	P	**P**	**17 02 45.4**	**-0.7**
MAKZ	**Makanchi**	**58.39**	**307**	P	**P**	**17 02 46.7**	**-0.3**
MAKZ				IAmb	IAmb	17 03 02.3	
	comp=Z,3.3nm,1.1s						
TX31	**Lajitas Ar. Si**	**60.30**	**79**	P	**P**	**17 03 00.2**	**-0.3**
TX32	**Lajitas Array**	**60.30**	**79**	P	**P**	**17 02 59.8**	**-0.7**
TX32				IAmb	IAmb	17 03 29.4	
	comp=Z,2.7nm,1.3s						
TXAR	**Lajitas Array**	**60.30**	**79**	P	**P**	**17 03 00.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=311,slow=5.8,SNR=6.5						
TXAR	**Lajitas Array**	**60.30**	**79**	P	**P**	**17 03 00.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**69.19**	**274**	P	**P**	**17 03 58.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=34,slow=6.6,SNR=1.4						
AKASG	**Malin Array Be**	**74.38**	**340**	P	**P**	**17 04 28.1**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=15,slow=5.3,SNR=2.7						
WRA	**Warramunga Arr**	**81.27**	**221**	P	**P**	**17 05 06.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=34,slow=6.0,SNR=6.5						
WRA	**Warramunga Arr**	**81.27**	**221**	IAmb	IAmb	17 05 11.6	
	comp=Z,0.2nm,1.3s						
FITZ	**Fitzroy Crossi**	**83.48**	**230**	P	**P**	**17 05 19.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=4.3,slow=6.3,SNR=1.9						
STKA	**Stephens Creek**	**89.53**	**211**	P	**P**	**17 05 48.8**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=45,slow=1.4,SNR=3.6						
MAW	**Mawson**	**145.89**	**218**	PKPbc	**PKPab**	**17 12 29.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=191,slow=5.2,SNR=3.7						
BOSA	**Boshof**	**149.22**	**309**	PKPbc	**PKPbc**	**17 12 39.1**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=342,slow=3.2,SNR=4.8						

*IDC **04** 16:53:48.8±1.0, 13°.62N×144°.56E, h119km±26km, mb3.2/4, mb1 3.3/4, mb1mx3.1/41, mbtmp3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/23, Error ellipse: s-maj=105.8km s-min=27.5km az=80.0*
*NEIC **04** 16:53:49.1±1.2, 13°.6N±0°.2×144°.7E±0°.2, h129km±2km, mb4.3/11, Error ellipse: s-maj=29.6km s-min=19.0km az=52.0*
ISC 04 16:53:49.1±1.1, 13°.7N±0°.2×144°.7E±0°.2, h129km, n19, σ0°.63/20, mb4.1/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.14**	**117**	P	**Pn**	**16 54 06.7**	**0.0**
	576nm,0.3s,baz=14,slow=1.2,SNR=672						
GUMO				S	**Sn**	**16 54 19.7**	**-0.2**
	663nm,0.3s,baz=164,slow=23,SNR=13						
GUMO	**Guam**	**0.14**	**117**		**Pn**	**16 54 06.9**	**+0.3**
GUMO				Sn	**Sn**	**16 54 19.8**	**-0.1**
PATS	**Pohnpei**	**14.96**	**116**	Pn	**Pn**	**16 57 13.1**	**-1.0**
FAKI	**Fak Fak**	**20.61**	**218**	P	**P**	**16 58 17.4**	**-0.8**
HNR	**Honiara**	**27.45**	**146**	LR	LR	17 09 14.7	
	comp=Z,43nm,18.9s,baz=88,slow=34						
MTN	**Manton Dam**	**29.58**	**208**	P	**P**	**16 59 40.6**	**-1.3**
MTN				IAmb	IAmb	17 00 11.1	
	comp=Z,7.5nm,1.1s						
WB0	**Warramunga Arr**	**34.73**	**197**	P	**P**	**17 00 27.2**	**+0.2**
WB0				I

SVKR	**Severomuysk**	**0.21 296**	*e*PG	**Pg**	**17 05 10.3**	**-1.0**
SVKR			*e*S	**Sg**	**17 05 13.7**	**-0.6**
UKT	**Uakit**	**0.56 195**	⇓*i*Pg	**Pg**	**17 05 17.0**	**-0.9**
UKT			*e*Sg	**Sg**	**17 05 24.9**	**-0.3**
NLYR	**Nelyaty**	**1.11 65**	⇓*i*Pg	**Pg**	**17 05 26.5**	**-1.9**
NLYR			*e*Pb	**Pn**	**17 05 28.8**	**+0.1**
NLYR			max		17 05 29.2	
	4μm,0.4s					
NLYR			*e*Sg	**Sg**	**17 05 41.7**	**-1.2**
NLYR			*e*Sb	**Sn**	**17 05 45.5**	**+1.4**
NLYR			max		17 05 49.6	
	12μm,0.9s					
NLYR	**Nelyaty**	**1.11 65**	⇓*i*PG	**Pg**	**17 05 26.5**	**-1.9**
NLYR			*e*		17 05 41.3	
NLYR			pmax	pmax		
	comp=Z,5μm,0.6s					
NLYR			smax	smax		
	comp=N,12μm,1.0s					
KMO	**Kumora**	**1.52 266**	⇓*i*Pg	**Pn**	**17 05 33.8**	**-0.5**
KMO			⇓*i*		17 05 36.5	
KMO			max		17 05 36.6	
	comp=N,3μm,0.6s					
KMO			*e*Sg	**Sn**	**17 05 54.2**	**+0.2**
KMO			*e*		17 05 56.7	
KMO			max		17 05 58.1	
	comp=N,19μm,1.2s					
KMO	**Kumora**	**1.52 266**	*e*PG	**Pn**	**17 05 33.7**	**-0.5**
KMO			*e*		17 05 53.5	
KMO			pmax	pmax		
	comp=Z,542nm,0.3s					
KMO			smax	smax		
	comp=N,9μm,1.2s					
BOD	**Bodaibo**	**1.80 2**	*e*Pg	**Pn**	**17 05 38.1**	**+0.1**
BOD			Pmax		17 05 41.2	
	comp=N,2μm,0.6s					
BOD			*e*Sg	**Sn**	**17 06 01.2**	**+0.3**
BOD			max		17 06 03.5	
	comp=N,12μm,1.2s					
BOD	**Bodaibo**	**1.80 2**	*e*PN	**Pn**	**17 05 37.9**	**-0.1**
BOD			*e*		17 06 01.2	
BOD			pmax	pmax		
	comp=Z,2μm,0.7s					
BOD			smax	smax		
	comp=E,8μm,0.7s					
YLYR	**Ulyunkhan**	**1.93 235**	⇓*i*Pg	**Pn**	**17 05 41.3**	**+1.4**
YLYR			*e*		17 05 44.1	
YLYR			max		17 05 44.8	
	comp=E,2μm,1.1s					
YLYR			*e*Sg	**Sb**	**17 06 07.8**	**+1.3**
YLYR			*e*		17 06 09.6	
YLYR			max		17 06 10.5	
	comp=E,3μm,0.3s					
YLYR	**Ulyunkhan**	**1.93 235**	*e*PN	**Pn**	**17 05 39.0**	**-0.9**
YLYR			*e*		17 05 41.0	
YLYR			*e*S	**Sn**	**17 06 05.1**	**+0.8**
YLYR			*e*		17 06 07.6	
YLYR			pmax	pmax		
	comp=Z,1μm,0.4s					
YLYR			smax	smax		
	comp=E,3μm,0.4s					
NIZ	**Nizh Angarsk**	**2.46 266**	*e*Pg	**Pb**	**17 05 50.5**	**-0.8**
NIZ			*e*		17 05 55.3	
NIZ			max		17 05 55.5	
	comp=E,888nm,0.9s					
NIZ			*e*		17 06 20.3	
NIZ			*e*Sg	**Sb**	**17 06 24.0**	**+2.4**
NIZ			Smax		17 06 25.4	
	comp=E,4μm,0.9s					
NIZ	**Nizh Angarsk**	**2.46 266**	*e*PN	**Pn**	**17 05 48.7**	**+1.5**
NIZ			*e*		17 05 51.1	
NIZ			*e*S	**Sn**	**17 06 17.5**	**+0.2**
NIZ			*e*		17 06 24.0	
NIZ			pmax	pmax		
	comp=Z,887nm,2.0s					
NIZ			smax	smax		
	comp=N,4μm,0.9s					
CRS	**Chara**	**2.58 68**	*e*Pn	**Pn**	**17 05 49.2**	**+0.3**
CRS			⇓*i*Pg	**Pb**	**17 05 53.4**	**0.0**
CRS			Pmax		17 05 54.4	
	comp=N,8μm,1.0s					
CRS			*e*		17 06 00.7	
CRS			*e*Sg	**Sg**	**17 06 27.5**	**-2.4**
CRS			*e*		17 06 34.2	
CRS			max		17 06 47.6	
	comp=N,6μm,1.1s					
CRS	**Chara**	**2.58 68**	*e*PN	**Pn**	**17 05 49.0**	**+0.1**
CRS			*e*		17 05 53.2	
CRS			*e*		17 06 26.3	
CRS			pmax	pmax		
	comp=Z,4μm,0.8s					
CRS			smax	smax		
	comp=E,5μm,1.2s					
SYVR	**Suvo**	**3.27 225**	*e*Pn	**Pn**	**17 05 58.7**	**+0.4**
SYVR			*e*Pg	**Pb**	**17 06 04.9**	**-0.2**
SYVR			Pmax		17 06 12.0	
	comp=E,325nm,1.2s					
SYVR			*e*Sn	**Sn**	**17 06 36.3**	**-0.9**
SYVR			*e*Sg	**Sb**	**17 06 48.3**	**+3.4**
SYVR			*e*		17 06 57.6	
SYVR			max		17 07 00.6	
	comp=E,3μm,1.6s					
SYVR	**Suvo**	**3.27 225**	*e*PN	**Pn**	**17 05 59.2**	**+0.9**
SYVR			*e*		17 06 04.7	
SYVR			*e*		17 06 48.4	
SYVR			pmax	pmax		
	comp=Z,294nm,0.5s					
SYVR			smax	smax		
	comp=N,3μm,1.3s					
KHNR	**Khani**	**3.50 73**	*e*Pn	**Pn**	**17 06 01.9**	**+0.5**
KHNR			*e*Pg	**Pb**	**17 06 09.3**	**+0.4**
KHNR			*e*PgPg	**PbPb**	**17 06 12.7**	**+0.6**
KHNR			*e*		17 06 41.6	
KHNR			*e*Sg	**Sb**	**17 06 54.4**	**+3.0**
VTMR	**Vitim**	**3.50 349**	⇓*i*Pn	**Pn**	**17 06 01.0**	**-0.4**
VTMR			*e*Pg	**Pb**	**17 06 08.8**	**-0.1**
VTMR			*e*Sn	**Sn**	**17 06 42.7**	**-0.1**
VTMR			*e*Sg	**Sb**	**17 06 52.5**	**+1.1**
TUP	**Tupik**	**3.83 112**	⇓*i*Pn	**Pn**	**17 06 06.0**	**+0.1**
TUP			*e*		17 06 07.7	
TUP			*e*Pg	**Pb**	**17 06 15.0**	**+0.4**
TUP			*e*		17 06 16.7	
TUP			max		17 06 21.0	
	comp=N,260nm,0.7s					
TUP			*e*Sn	**Sn**	**17 06 50.3**	**-0.7**
TUP			*e*Sg	**Sb**	**17 07 05.2**	**+4.3**
TUP			*e*		17 07 10.7	
TUP			max		17 07 11.1	
	comp=N,5μm,0.8s					
TUP	**Tupik**	**3.83 112**	*e*PN	**Pn**	**17 06 06.1**	**+0.1**
TUP			*e*		17 06 15.3	
TUP			*e*S	**Sn**	**17 06 50.5**	**-0.5**
TUP			*e*		17 07 04.4	
TUP			pmax	pmax		
	comp=Z,261nm,0.7s					
TUP			smax	smax		
	comp=E,5μm,1.0s					
CIT	**Chita**	**4.02 183**	*e*Pn	**Pn**	**17 06 07.5**	**-1.1**
CIT			*e*Pg	**Pb**	**17 06 17.9**	**0.0**
CIT			Pmax		17 06 20.5	
	comp=E,537nm,0.9s					
CIT			*e*		17 07 07.1	
CIT			*e*Sg	**Sg**	**17 07 12.4**	**-3.5**
CIT			Smax		17 07 15.1	
	comp=E,2μm,1.2s					
CIT	**Chita**	**4.02 183**	*e*PN	**Pn**	**17 06 08.4**	**-0.2**
CIT			*e*		17 06 18.8	
CIT			*e*S	**Sn**	**17 06 55.1**	**-0.6**
CIT			*e*		17 07 10.0	
CIT			pmax	pmax		
	comp=Z,533nm,1.5s					
CIT			smax	smax		
	comp=E,3μm,2.1s					
MXMB	**Maximikha**	**4.07 229**	*e*	**Pb**	**17 06 18.1**	**-0.7**
MXMB			*e*		17 06 50.5	
MXMB			*e*Sg	**Sg**	**17 07 14.6**	**-3.1**
MXMB			*e*		17 07 21.4	
OGRR	**Ongureny**	**4.35 239**	*e*Pn	**Pn**	**17 06 15.0**	**+1.9**
OGRR			*e*		17 06 19.4	
OGRR			*e*Pg	**Pb**	**17 06 25.7**	**+2.2**
OGRR			Pmax		17 06 27.9	
	comp=E,375nm,1.1s					
OGRR			*e*		17 07 09.6	
OGRR			*e*Sg	**Sg**	**17 07 22.8**	**-3.8**
OGRR			Smax		17 07 33.0	
	comp=E,1μm,1.4s					
OGRR	**Ongureny**	**4.35 239**	*e*PN	**Pn**	**17 06 15.2**	**+2.1**
OGRR			*e*		17 06 24.6	
OGRR			*e*		17 07 22.6	
OGRR			pmax	pmax		
	comp=Z,454nm,2.1s					
OGRR			smax	smax		
	comp=N,1μm,1.6s					
YKLR	**Yuktali**	**4.36 79**	*e*Pn	**Pn**	**17 06 13.3**	**0.0**
YKLR			*e*Pg	**Pb**	**17 06 24.2**	**+0.5**
YKLR			*e*		17 06 55.6	
YKLR			*e*Sg	**Sb**	**17 07 21.1**	**+4.8**
KELR	**Kotokel**	**4.71 228**	*e*Pn	**Pn**	**17 06 19.4**	**+1.3**
KELR			*e*Pg	**Pb**	**17 06 30.6**	**+0.9**
KELR			*e*Sg	**Sg**	**17 07 33.9**	**-4.3**
KELR			*e*		17 07 40.6	
ZRHB	**Zarechye**	**5.26 231**	*e*Pn	**Pn**	**17 06 26.9**	**+1.3**
ZRHB			Pg	**Pb**	**17 06 41.7**	**+2.7**
ZRHB			Pmax		17 06 49.0	
	comp=N,369nm,1.2s					
ZRHB			*e*Sg	**Sg**	**17 07 50.6**	**-5.1**
ZRHB			Smax		17 08 06.8	
	comp=N,3μm,1.2s					
ZRHB			*e*		17 08 25.8	
TRG	**Tyrgan**	**5.49 237**	*e*Pn	**Pn**	**17 06 27.3**	**-1.5**
TRG			*e*Pg	**Pb**	**17 06 43.9**	**+1.1**
TRG			Pmax		17 06 53.1	
	comp=N,124nm,1.4s					
TRG			*e*		17 07 49.5	
TRG			*e*Sg	**Sb**	**17 07 55.9**	**+7.2**
TRG			Smax		17 08 01.9	
	comp=N,486nm,1.3s					
TRG	**Tyrgan**	**5.49 237**	*e*PN	**Pn**	**17 06 27.2**	**-1.5**
TRG			*e*		17 06 43.4	
TRG			*e*S	**Sn**	**17 07 29.4**	**-2.5**
TRG			*e*		17 07 56.0	
TRG			pmax	pmax		
	comp=Z,124nm,1.4s					
TRG			smax	smax		
	comp=N,481nm,1.3s					
UUDB	**Ulan-Yde**	**5.55 224**	*e*Pg	**Pb**	**17 06 47.3**	**+3.3**
UUDB			Pmax		17 06 50.6	
	comp=N,214nm,1.2s					
UUDB			*e*Sg	**Sg**	**17 07 59.7**	**-5.5**
UUDB			Smax		17 08 05.5	
	comp=N,3μm,1.5s					
FFNB	**Fofonovo**	**5.79 229**	*e*	**Pn**	**17 06 31.4**	**-1.5**
FFNB			*e*		17 06 45.7	
FFNB			*e*Pg	**Pb**	**17 06 51.0**	**+3.0**
FFNB			*e*		17 07 48.5	
FFNB			*e*		17 08 04.3	
FFNB			*e*Sg	**Sb**	**17 08 06.0**	**+8.7**
KAB	**Kabansk**	**5.83 230**	*e*	**Pn**	**17 06 35.2**	**+1.7**
KAB			*e*		17 06 51.0	
KAB			max		17 06 56.8	
	comp=N,172nm,0.6s					
KAB			*e*		17 07 47.2	
KAB			Sg	**Sg**	**17 08 07.9**	**-6.2**
KAB			Smax		17 08 50.4	
	comp=N,3μm,1.4s					
STDB	**Stepnoy Dvoret**	**5.87 232**	*e*	**Pn**	**17 06 38.5**	**+4.5**
STDB			*e*Pg	**Pb**	**17 06 53.7**	**+4.3**
STDB			*e*		17 08 02.8	
STDB			*e*Sg	**Sg**	**17 08 09.5**	**-5.9**
STDB			*e*		17 08 23.0	
IENR	**Iengra**	**6.14 84**	*e*Sg	**Sb**	**17 08 15.3**	**+7.9**
BGT	**Bolshoye Golou**	**6.39 235**	*e*	Pn	17 06 50.3	+9.2
BGT			*e*Pg	**Pb**	**17 07 01.5**	**+3.3**
BGT			Pmax		17 07 27.0	
	comp=N,55nm,1.7s					
BGT			*e*Sg	**Sg**	**17 08 25.2**	**-6.8**
BGT			*e*		17 08 27.9	
BGT			max		17 08 37.6	
	comp=N,430nm,1.3s					
KPC	**Khapcheranga**	**6.40 189**	*e*Pn	**Pn**	**17 06 41.1**	**-0.2**
KPC			*e*Pg	**Pb**	**17 07 02.3**	**+3.9**
KPC			Pmax		17 07 05.4	
	comp=N,35nm,0.7s					
KPC			*e*Sn	**Sn**	**17 07 53.4**	**-1.0**
KPC			*e*		17 08 19.1	
KPC			*e*Sg	**Sg**	**17 08 26.1**	**-6.2**
KPC			Smax		17 08 36.6	
	comp=N,2μm,1.7s					
LSTR	**Listvyanka**	**6.78 236**	*e*Pn	**Pn**	**17 06 46.3**	**-0.1**
LSTR			*e*		17 07 01.5	
LSTR			*e*Pg	**Pb**	**17 07 08.0**	**+3.2**
LSTR			Pmax		17 07 10.5	
	comp=N,48nm,1.6s					
LSTR			*e*		17 08 11.5	
LSTR			*e*Sg	Sb	17 08 35.9	+10
LSTR			*e*		17 08 42.4	
LSTR			max		17 08 44.7	
	comp=N,780nm,1.6s					
IRK	**Irkutsk**	**6.80 240**	*e*Pg	**Pb**	**17 07 09.1**	**+3.9**
IRK			Pmax		17 07 12.3	
	comp=N,59nm,0.5s					
IRK			*e*		17 08 19.4	
IRK			*e*Sg	**Sg**	**17 08 38.2**	**-6.9**
IRK			Smax		17 08 42.0	
	comp=N,915nm,1.1s					
IRK			*e*		17 08 50.7	
IRK	**Irkutsk**	**6.80 240**	*e*PN	**Pn**	**17 06 47.6**	**+0.8**
IRK			*e*		17 07 09.8	
IRK			*e*		17 08 38.2	
IRK			pmax	pmax		
	comp=Z,59nm,0.5s					
IRK			smax	smax		
	comp=E,919nm,0.8s					
IVK	**Ivanovka**	**7.01 237**	*e*Pn	**Pn**	**17 06 50.0**	**+0.3**
IVK			*e*		17 07 13.6	
IVK			max		17 07 14.4	
	comp=E,34nm,1.5s					
IVK			*e*		17 08 27.6	
IVK			*e*Sg	Sg	17 08 43.7	-8.2
IVK			Smax		17 09 03.2	
	comp=E,457nm,1.3s					
TLY	**Talaya**	**7.46 239**	Pn	**Pn**	**17 06 53.3**	**-2.5**
	comp=E,0.0nm,0.3s,baz=225,slow=13,SNR=2.0					
TLY			Pg	**Pb**	**17 07 14.7**	**-1.6**
	comp=E,0.0nm,0.3s,baz=304,slow=4.2,SNR=4.0					
TLY			Lg	Lg	17 08 54.2	
	comp=E,0.1nm,0.3s,baz=268,slow=16,SNR=6.7					
TLY			LR	LR	17 09 44.8	
	comp=E,519nm,18.1s,baz=38,slow=37					
TLY	**Talaya**	**7.46 239**	*e*Pn	**Pn**	**17 06 55.4**	**-0.4**
TLY			*e*		17 07 14.2	
TLY			Pg	**Pb**	**17 07 19.5**	**+3.1**
TLY			Pmax		17 07 26.0	
	comp=E,27nm,0.9s					
TLY			*e*Sn	**Sn**	**17 08 18.4**	**-2.0**
TLY			*e*Sg	Sb	17 08 56.4	+11
TLY			Smax		17 09 02.0	
	comp=E,253nm,1.2s					
TLY	**Talaya**	**7.46 239**	*i* PN	**Pn**	**17 06 55.1**	**-0.7**
TLY	**Talaya**	**7.46 239**	Pn	**Pn**	**17 06 54.3**	**-1.5**
HIA	**Hailar**	**7.65 150**	PN	**Pn**	**17 06 55.7**	**-2.7**
HIA	**Hailar**	**7.65 150**	Pn	**Pn**	**17 06 55.7**	**-2.7**
ARS	**Arshan**	**7.91 243**	*e*Pn	**Pn**	**17 07 02.5**	**+0.5**
ARS			*e*		17 07 15.8	
ARS			*e*Pg	Pb	17 07 29.5	+5.4
ARS			Pmax		17 07 32.6	
	comp=E,47nm,0.6s					
ARS			*e*		17 08 46.1	
ARS			*e*Sg	Sg	17 09 12.7	-7.9
ARS			Smax		17 09 41.2	
	comp=E,1μm,0.9s					
ARS	**Arshan**	**7.91 243**	*e*PG	Pb	17 07 30.2	+6.1
ARS			pmax	pmax		
	comp=Z,47nm,0.6s					
ZEA	**Zeya**	**8.04 101**	*e*PN	**Pn**	**17 07 02.6**	**-1.1**
ZEA			*e*		17 07 30.2	
ZEA			*e*S	**Sn**	**17 08 27.8**	**-6.8**
ZEA			pmax	pmax		
	comp=Z,20nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,35nm,1.0s					
ZEA			smax	smax		
	comp=E,900nm,1.5s					
ZEA			smax	smax		
	comp=N,1μm,1.0s					
ZEA			smax	smax		
	comp=N,1μm,1.0s					
ZEA			smax	smax		
	comp=Z,460nm,1.0s					
ZEA			MLR	MLR		
	comp=Z,1μm,6.0s					
ZAK	**Zakamensk**	**8.51 233**	*e*	**Pn**	**17 07 14.1**	**+3.8**
ZAK			*e*		17 07 39.6	
ZAK			*e*		17 07 44.0	
ZAK			max		17 07 44.4	
	comp=Z,23nm,1.2s					
ZAK			*e*Sg	Sg	17 09 32.0	-7.8
ZAK			*e*		17 09 38.0	
ZAK			max		17 09 57.4	
	comp=Z,170nm,1.5s					
ZAK	**Zakamensk**	**8.51 233**	*e*PN	**Pn**	**17 07 14.8**	**+4.5**
ZAK			*e*		17 07 43.5	
ZAK			*e*		17 09 32.0	
ZAK			pmax	pmax		
	comp=Z,23nm,1.0s					
ZAK			smax	smax		
	comp=E,170nm,1.3s					
MOY	**Mondy**	**8.78 246**	*e*Pn	**Pn**	**17 07 15.7**	**+1.7**
MOY			*e*		17 07 41.7	
MOY			*e*		17 08 02.7	
MOY			max		17 08 03.6	
	comp=E,61nm,1.0s					
MOY			*e*Sn	Sn	17 09 10.4	+17
MOY			*e*Sg	Sg	17 09 39.6	-9.0
MOY			Smax		17 09 47.8	
	comp=E,710nm,2.0s					
MOY	**Mondy**	**8.78 246**	*e*PN	**Pn**	**17 07 15.6**	**+1.6**
MOY			*e*		17 07 45.4	
MOY			*e*		17 09 39.4	
MOY			pmax	pmax		
	comp=Z,61nm,1.4s					
MOY			smax	smax		
	comp=E,711nm,1.6s					
ORL	**Orlik**	**8.94 253**	⇓*i*Pn	**Pn**	**17 07 17.9**	**+1.7**
ORL			*e*		17 07 25.2	
ORL			max		17 07 30.7	
	comp=E,49nm,1.5s					
ORL			*e*		17 09 02.4	
ORL			*e*		17 09 29.7	
ORL			*e*Sg	Sg	17 09 45.1	-8.7
ORL			Smax		17 09 50.6	
	comp=E,349nm,1.4s					
ORL	**Orlik**	**8.94 253**	*e*P	**Pn**	**17 07 17.8**	**+1.6**
ORL			*e*S	**Sn**	**17 08 56.8**	**-0.2**
ORL			pmax	pmax		
	comp=Z,53nm,1.3s					
ORL			smax	smax		
	comp=N,353nm,1.6s					
ULN	**Ulaanbaatar**	**9.19 210**	*e*	Pn	17 07 53.1	+33
ULN			*e*		17 08 55.7	
ULN			*e*		17 09 33.5	
ULN			*e*Sg	Sn	17 09 53.5	+50
ULN			*e*		17 10 08.4	
ULN	**Ulaanbaatar**	**9.19 210**	*ce*P	**Pn**	**17 07 18.8**	**-0.9**
ULN			pmax	pmax		
	comp=Z,7.0nm,1.7s					
ULN	**Ulaanbaatar**	**9.19 210**	Pn	**Pn**	**17 07 19.2**	**-0.5**
SONM	**Songino Array**	**9.41 212**	Pn	**Pn**	**17 07 19.9**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=29,slow=43,SNR=1.7					
SONM			Lg	Lg	17 09 57.2	
	comp=Z,2.0nm,0.3s,baz=22,slow=24,SNR=4.3					
SONM	**Songino Array**	**9.41 212**	P	**Pn**	**17 07 21.4**	**-1.3**
SONM	**Songino Array**	**9.41 212**	Pn	**Pn**	**17 07 21.4**	**-1.3**
YAK	**Yakutsk**	**10.11 47**	Pn	Pn	17 07 27.3	-4.7
	comp=Z,0.2nm,0.3s,baz=290,slow=2.2,SNR=6.7					
YAK			Sn	**Sn**	**17 09 20.0**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=228,slow=20,SNR=1.8					
YAK			Lg	Lg	17 10 12.2	
	comp=Z,0.3nm,0.3s,baz=125,slow=23,SNR=2.0					
YAK	**Yakutsk**	**10.11 47**	*e*P	Pn	17 07 27.0	-4.9
YAK			*e*S	**Sn**	**17 09 21.0**	**-4.2**
YAK			pmax	pmax		
	comp=Z,7.0nm,0.6s					
YAK			pmax	pmax		
	comp=N,3.0nm,0.7s					
YAK			pmax	pmax		
	comp=E,3.0nm,0.6s					
YAK			pmax	pmax		
	comp=Z,13nm,0.8s					
YAK			pmax	pmax		
	comp=N,5.0nm,0.8s					
YAK			pmax	pmax		
	comp=E,7.0nm,0.9s					
YAK			smax	smax		
	comp=N,25nm,0.7s					
YAK			smax	smax		
	comp=E,16nm,0.6s					
YAK			MLR	MLR		
	comp=Z,190nm,17.0s					
YAK			MLR	MLR		
	comp=N,116nm,16.0s					
YAK	**Yakutsk**	**10.11 47**	Pn	**Pn**	**17 07 28.1**	**-3.8**
TDJR	**Todzha**	**11.03 258**	*e*Pn	**Pn**	**17 07 45.5**	**+0.8**
TDJR			*e*		17 08 04.0	
TDJR			*e*		17 09 58.3	
TDJR			*e*Sg	Sn	17 10 47.8	+60
KNGR	**Kungurtug, Tuv**	**11.19 248**	*e*Pn	**Pn**	**17 07 47.9**	**+1.0**
KNGR			*e*		17 08 15.8	
KNGR			*e*		17 10 39.4	
KNGR			*e*Sg		17 10 54.1	
KLR	**Kul'dur**	**12.78 115**	Pn	**Pn**	**17 08 07.6**	**-1.0**
	comp=N,0.8nm,0.3s,baz=308,slow=14,SNR=12					
KLR			Lg	Lg	17 11 44.9	
	comp=N,1.7nm,0.3s,baz=33,slow=22,SNR=10					
KLR			LR	LR	17 14 00.6	
	comp=N,28nm,20.4s,baz=311,slow=42					
KLR	**Kul'dur**	**12.78 115**	*ce*P	**Pn**	**17 08 09.1**	**+0.5**
GRNR	**Gornyy**	**14.40 102**	⇑*i*P	**Pn**	**17 08 31.6**	**+0.8**
GRNR			*e*S	**Sn**	**17 11 15.6**	**+5.2**
GRNR			pmax	pmax		
	comp=N,1.0nm,0.5s					
GRNR			pmax	pmax		
	comp=Z,3.0nm,0.7s					
GRNR			smax	smax		
	comp=N,2.0nm,0.6s					
GRNR			MLR	MLR		
	comp=E,170nm,13.0s					
GRNR			MLR	MLR		
	comp=N,200nm,12.0s					
GRNR			MLR	MLR		
	comp=Z,250nm,12.0s					
HHC	**Hu-ho-hao-te**	**15.27 187**	*e*P	**Pn**	**17 08 41.4**	**-1.1**
HHC			S	**Sn**	**17 11 28.4**	**-3.2**
HHC			pmax	pmax		
	comp=Z,21nm,0.7s					
HHC			pmax	pmax		
	comp=Z,80nm,5.4s					
HHC			LR	LR		
	comp=Z,570nm,7.1s					
HHC			LR	LR		
	comp=Z,640nm,6.3s					
HHC			LR	LR		
	comp=Z,520nm,8.1s					
USRK	**Ussuriysk Ar.**	**16.52 128**	Lg	Lg	17 13 42.4	
	baz=332,slow=28,SNR=9.1					
USRK			LR	LR	17 14 37.2	
	comp=Z,73nm,20.9s,baz=313,slow=34					
ZAA0	**Zalesovo Array**	**16.76 275**	P	**Pn**	**17 08 60.0**	**-1.5**
ZALV	**Zalesovo Beam**	**16.76 275**	Pn	**Pn**	**17 09 01.2**	**-0.4**
	baz=77,slow=10,SNR=6.8					
ZALV			Lg	Lg	17 13 50.4	
	comp=Z,0.1nm,0.3s,baz=295,slow=40,SNR=1.7					
ZALV			LR	LR	17 15 46.9	
	comp=Z,142nm,19.3s,baz=64,slow=38					
ZALV	**Zalesovo Beam**	**16.76 275**	P	**Pn**	**17 09 02.1**	**+0.5**
ZALV	**Zalesovo Beam**	**16.76 275**		**Pn**	**17 09 02.0**	**+0.5**
OKH	**Okha**	**16.88 86**	*de*P	Pn	17 08 50.2	-13
OKH			MLR	MLR		
	comp=E,600nm,10.0s					
OKH			MLR	MLR		
	comp=N,400nm,8.0s					
OKH			MLR	MLR		
	comp=Z,300nm,19.0s					
NRIK	**Noril'sk**	**17.78 329**	P	**Pn**	**17 09 08.6**	**-5.6**
	comp=Z,1.1nm,0.3s,baz=154,slow=9.0,SNR=3.8					
NRIK			S	Sn	17 12 11.1	-21
	comp=Z,0.6nm,0.3s,baz=321,slow=18,SNR=1.5					
NRIK			Lg	Lg	17 14 15.4	
	comp=Z,0.2nm,0.3s,baz=4.4,slow=19,SNR=0.9					
NRIK			LR	LR	17 16 23.4	
	comp=Z,319nm,18.6s,baz=194,slow=38					
ZSN	**Zaisan**	**19.79 257**	*e*P	**Pn**	**17 09 39.9**	**+1.2**

ZSN Zaisan 19.79 257 eP **Pn 17 09 39.9 +1.2**
SEY Seymchan 20.46 55 P **P 17 09 45.6 +1.2**
comp=Z,4.6nm,0.7s,baz=269,slow=9.9,SNR=30
SEY Lg Lg 17 15 32.9
comp=Z,4.5nm,1.1s,baz=47,slow=5.2,SNR=4.2
SEY LR LR 17 18 00.3
comp=Z,207nm,20.2s,baz=282,slow=38
SEY Seymchan 20.46 55 i P **P 17 09 42.6 -1.8**
WMQ Urumqi 20.67 245 eP **P 17 09 48.9 +2.0**
WMQ pP sP 17 09 53.1 +1.6
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,84nm,5.9s
WMQ LR LR
comp=Z,200nm,10.7s
WMQ LR LR
comp=Z,100nm,10.7s
WMQ Urumqi 20.67 245 P **P 17 09 48.6 +1.7**
WMQ pmax pmax
comp=Z,26nm,1.2s
WMQ Urumqi 20.67 245 P **P 17 09 48.6 +1.7**
WMQ IAmb IAmb 17 09 52.3
comp=Z,26nm,1.2s
KSRS Korea Array 20.84 147 P Pn 17 09 51.0 -0.1
comp=Z,0.7nm,0.6s,baz=340,slow=12,SNR=3.1
KSRS Lg Lg 17 16 04.5
comp=Z,0.7nm,0.8s,baz=50,slow=14,SNR=3.0
KSRS LR LR 17 18 49.0
comp=Z,122nm,20.6s,baz=340,slow=39
KSRS Korea Array 20.84 147 P Pn 17 09 51.0 -0.1
KURK Kurchatov 21.54 271 ceP **P 17 09 55.3 -0.7**
KURK pmax pmax
comp=Z,49nm,1.7s
KURK Kurchatov 21.54 271 P **P 17 09 55.5 -0.5**
MK31 Makanchi Array 21.59 258 P **P 17 09 58.2 +1.5**
MK31 pmax pmax
comp=Z,25nm,1.3s
MK31 Makanchi Array 21.59 258 P **P 17 09 58.2 +1.5**
MK31 IAmb IAmb 17 10 00.6
comp=Z,24nm,1.3s
MKAR Makanchi Array 21.59 258 P **P 17 09 58.0 +1.3**
comp=Z,9.2nm,1.0s,baz=60,slow=7.2,SNR=30
MKAR Lg Lg 17 16 30.0
comp=Z,0.3nm,0.8s,baz=184,slow=16,SNR=1.9
MKAR LR LR 17 18 37.0
comp=Z,250nm,20.0s,baz=41,slow=38
MKAR Makanchi Array 21.59 258 P **P 17 09 57.7 +1.0**
KURBB Kurchatov Arra 21.63 270 P **P 17 09 58.4 +1.3**
comp=Z,9.7nm,0.9s,baz=65,slow=12,SNR=29
KURBB Lg Lg 17 16 22.9
comp=Z,0.5nm,0.3s,baz=224,slow=54,SNR=1.5
MAKZ Makanchi 21.76 258 P **P 17 10 00.5 +2.0**
MAKZ pmax pmax
comp=Z,22nm,1.3s
MAKZ Makanchi 21.76 258 P **P 17 10 00.5 +2.0**
NJ2 Nanjing 24.22 170 eP **P 17 10 22.8 -0.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
TDK Taldyqorghan 24.83 259 eP **P 17 10 32.2 +3.0**
TDK eS **S 17 14 56.0 +4.3**
TDK LR LR 17 19 09.7
comp=Z,223nm,11.2s
TDK Taldyqorghan 24.83 259 eP **P 17 10 32.2 +3.0**
TDK eS **S 17 14 56.0 +4.3**
TDK MLR MLR
comp=Z,223nm,11.0s
BVAR Borovoye Array 25.11 282 P **P 17 10 31.4 -0.3**
comp=Z,5.6nm,0.7s,baz=64,slow=6.9,SNR=17
BRVK Borovoye 25.15 282 ceP **P 17 10 31.6 -0.4**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 25.15 282 P **P 17 10 31.9 -0.1**
BRZS Berezniki 25.22 274 eP **P 17 10 35.3 +2.6**
comp=Z,15nm,1.1s
BRZS Berezniki 25.22 274 eP **P 17 10 35.3 +2.6**
BRZS pmax pmax
comp=Z,15nm,1.1s
PEA0B Petropavlovsk- 25.25 78 ceP **P 17 10 32.3 -0.6**
PETK Petropavlovsk- 25.25 78 P **P 17 10 33.6 +0.8**
comp=Z,5.8nm,0.9s,baz=309,slow=5.2,SNR=10
PETK LR LR 17 20 55.1
comp=Z,105nm,18.6s,baz=293,slow=38
PETK Petropavlovsk- 25.25 78 P **P 17 10 33.1 +0.3**
SKR Severo-Kuril's 25.45 84 eP P 17 10 46.2 +12
SKR pmax pmax
comp=Z,100nm,5.0s
SKR MLR MLR
comp=Z,100nm,18.0s
SKR MLR MLR
comp=Z,100nm,14.0s
SHLS Shalkode 25.46 254 i P **P 17 10 36.5 +1.5**
comp=Z,19nm,1.2s
SHLS eS **S 17 15 03.1 +1.1**
SHLS Shalkode 25.46 254 i P **P 17 10 36.5 +1.5**
SHLS eS **S 17 15 03.1 +1.1**
SHLS pmax pmax
comp=Z,19nm,1.2s
KPKS Kokpek 25.68 256 eP **P 17 10 40.5 +3.5**
comp=Z,18nm,1.5s
KPKS Kokpek 25.68 256 eP **P 17 10 40.4 +3.5**
KPKS pmax pmax
comp=Z,18nm,1.5s
UZB Uzynbulak 25.71 255 i P **P 17 10 40.7 +3.3**
comp=Z,10nm,1.2s
UZB Uzynbulak 25.71 255 i P **P 17 10 40.6 +3.3**
UZB pmax pmax
comp=Z,10.0nm,1.2s
JNU Nakatsue 25.76 146 LR LR 17 21 34.5
comp=Z,108nm,21.1s,baz=348,slow=38
PET Petropavlovsk 25.80 78 i P **P 17 10 37.1 -0.8**
PET pmax pmax
comp=Z,64nm,1.3s
SATY Saty 26.10 255 eP **P 17 10 43.7 +2.9**
comp=Z,12nm,1.7s
SATY Saty 26.10 255 eP **P 17 10 43.7 +2.9**
SATY pmax pmax
comp=Z,12nm,1.7s
CD2 Chengdu 26.10 200 eP **P 17 10 40.5 -0.3**
CD2 S **S 17 15 12.4 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,500nm,10.8s
CD2 LR LR
comp=Z,860nm,15.2s
CD2 LR LR
comp=Z,590nm,10.3s
CHKK Chushkaly 26.35 258 eP **P 17 10 46.2 +3.3**
CHKK Chushkaly 26.35 258 eP **P 17 10 46.2 +3.3**
KUU Kurty 26.68 259 eP **P 17 10 48.6 +2.7**
comp=Z,11nm,1.6s
KUU Kurty 26.68 259 eP **P 17 10 48.6 +2.7**
KUU pmax pmax
comp=Z,11nm,1.6s
MDOK Medeo 26.77 257 eP **P 17 10 50.5 +3.5**
MDOK LR LR 17 20 14.9
comp=Z,285nm,11.4s
MDOK Medeo 26.77 257 eP **P 17 10 50.4 +3.5**
MDOK MLR MLR
comp=Z,285nm,11.0s
AAA Alma-Ata 26.81 257 eP **P 17 10 51.0 +3.8**
AAA LR LR 17 20 19.8
comp=Z,148nm,9.7s
AAA Alma-Ata 26.81 257 eP **P 17 10 51.0 +3.8**
AAA MLR MLR
comp=Z,148nm,10.0s
BTLS Baital 27.23 263 eP **P 17 10 53.5 +2.6**
comp=Z,7.2nm,1.4s
BTLS Baital 27.23 263 eP **P 17 10 53.4 +2.6**
BTLS pmax pmax
comp=Z,7.0nm,1.4s
SGDS Sogindy 27.91 260 eP **P 17 10 59.5 +2.5**
SGDS Sogindy 27.91 260 eP **P 17 10 59.5 +2.5**
AAK Ala-Archa 28.52 259 P **P 17 11 04.9 +2.3**
comp=Z,1.0nm,0.4s,baz=76,slow=8.7,SNR=8.1
AAK LR LR 17 23 08.6
comp=Z,135nm,19.1s,baz=27,slow=38
AAK Ala-Archa 28.52 259 P **P 17 11 02.8 +0.2**
AAK IAmb IAmb 17 11 08.0
comp=Z,21nm,1.8s
JHJ Hachijo jima 2 29.09 131 LR LR 17 21 57.1
comp=Z,74nm,19.0s,baz=324,slow=35
ARU Arti 30.06 294 P P 17 11 36.6 +21
KKAR Karatay Array 30.42 263 P **P 17 11 20.8 +1.5**
KKAR Karatay Array 30.42 263 P **P 17 11 20.8 +1.5**
KKAR Karatay Array 30.42 263 P **P 17 11 19.3 0.0**
KKAR IAmb IAmb 17 11 23.5
comp=Z,12nm,1.9s
IUG Iuzhnay 31.32 262 eP **P 17 11 29.6 +2.3**
IUG Iuzhnay 31.32 262 eP **P 17 11 29.5 +2.3**
ABKAR Akbulak array 32.68 281 P **P 17 11 38.9 -0.1**
CHGR Chuyangaron 34.20 259 P **P 17 11 53.7 +1.2**
JCJ Chichijima 35.35 133 LR LR 17 26 24.4
comp=Z,29nm,19.2s,baz=2.5,slow=36
QIZ Qiongzhong 37.06 186 P **P 17 12 16.6 -0.5**
QIZ S **S 17 18 02.7 -0.1**
QIZ LR LR
comp=Z,87nm,13.2s
QIZ LR LR
comp=Z,280nm,15.6s
QIZ LR LR
comp=Z,110nm,15.7s
ARCES ARCESS Array B 38.72 326 LR LR 17 31 29.2
comp=Z,49nm,19.5s,baz=306,slow=41
CMAR Chiang Mai Arr 39.17 203 LR LR 17 28 20.1
comp=Z,62nm,18.9s,baz=5.0,slow=36
PBKT Sadao Pong 40.60 199 P **P 17 12 46.2 -0.5**
GEYT Alibeck 40.86 268 LR LR 17 30 54.2
comp=Z,38nm,19.8s,baz=50,slow=38
TGY Tagaytay City 42.19 170 LR LR 17 32 19.2
comp=Z,40nm,18.9s,baz=199,slow=39
FINES FINESS Array B 42.60 315 P **P 17 13 02.5 -0.3**
comp=Z,2.3nm,0.7s,baz=68,slow=10,SNR=8.2
FINES LR LR 17 30 51.4
comp=Z,42nm,18.6s,baz=51,slow=36
FINES FINESS Array B 42.60 315 P **P 17 13 02.8 +0.1**
FINES FINESS Array B 42.60 315 P **P 17 13 02.8 +0.1**
COLA College 44.45 37 i P **P 17 13 16.6 -0.9**
COLA pmax pmax
comp=Z,3.0nm,0.9s
TRF Thorofare Moun 44.46 40 P **P 17 13 19.0 +1.1**
TRF IAmb IAmb 17 13 22.6
comp=Z,12nm,1.2s
IL31 44.84 37 P **P 17 13 20.4 -0.3**
IL31 IAmb IAmb 17 13 22.8
comp=Z,11nm,1.4s
ILAR Eielson Array 44.84 37 P **P 17 13 21.8 +1.1**
comp=Z,1.6nm,0.4s,baz=296,slow=6.9,SNR=17
ILAR Eielson Array 44.84 37 P **P 17 13 20.9 +0.2**
KIV Kislovodsk 45.33 286 eP **P 17 13 23.1 -1.9**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,197nm,16.0s
KIV Kislovodsk 45.33 286 P **P 17 13 26.8 +1.8**
KIV IAmb IAmb 17 13 29.9
comp=Z,6.3nm,0.8s
KBZ Khabaz 45.37 286 LR LR 17 33 36.8
comp=Z,98nm,18.8s,baz=26,slow=38
DOT Dot Lake 46.51 37 P **P 17 13 33.8 -0.1**
KLU Klutina 47.28 40 P **P 17 13 41.1 +1.1**
AKASG Malin Array Be 47.79 301 P **P 17 13 43.0 -1.0**
comp=Z,1.3nm,0.6s,baz=43,slow=8.6,SNR=7.1
AKASG Malin Array Be 47.79 301 P **P 17 13 43.0 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 47.79 301 P **P 17 13 43.0 -1.0**
NB2 NORSAR Subarra 48.47 321 P **P 17 13 49.4 +0.2**
comp=Z,6.3nm,1.4s,baz=48,slow=7.9
NOA NORSAR Array B 48.47 321 P **P 17 13 49.5 +0.3**
comp=Z,0.8nm,0.7s,baz=48,slow=7.4,SNR=3.4
NOA LR LR 17 35 51.2
comp=Z,46nm,20.4s,baz=40,slow=38
BARN Barnard Glacie 49.09 39 P **P 17 13 56.2 +2.1**
BARN IAmb IAmb 17 13 56.7
comp=Z,7.2nm,0.9s
CTGM Chitina Glacie 49.27 38 P **P 17 13 57.3 +1.8**
DAV Davao City (W) 49.70 165 LR LR 17 37 43.8
comp=Z,46nm,19.2s,baz=300,slow=39
MARD Mardin 50.98 281 P **P 17 14 11.2 +2.4**
MARD IAmb IAmb 17 14 14.4
comp=Z,9.9nm,1.1s
KRLC Kraliky 53.98 308 eP **P 17 14 30.2 -0.5**
KRLC Kraliky 53.98 308 eP **P 17 14 30.2 -0.5**
DPC Dobruska-Polom 53.98 308 eP **P 17 14 31.7 +1.0**
DPC Dobruska-Polom 53.98 308 eP **P 17 14 31.7 +1.0**
BRG Berggiesshubel 54.63 310 eP **P 17 14 38.4 +3.0**
comp=Z,2.4nm,0.8s
KHC Kasperske Hory 56.08 309 eP **P 17 14 46.5 +0.6**
KHC Kasperske Hory 56.08 309 eP **P 17 14 46.5 +0.6**
GERES GERESS Array B 56.24 309 P **P 17 14 47.5 +0.4**
comp=Z,0.7nm,0.7s,baz=35,slow=9.8,SNR=5.4
ESBB Sonseca Array 71.11 314 P **P 17 16 25.1 -0.1**
ESBB IAmb IAmb 17 16 28.5
comp=Z,3.8nm,0.9s
ESDC Sonseca Array 71.11 314 P **P 17 16 25.6 +0.3**
comp=Z,1.8nm,0.8s,baz=29,slow=6.6,SNR=13
ESDC Sonseca Array 71.11 314 P **P 17 16 25.7 +0.4**
PDAR Pinedale Array 74.95 32 P **P 17 16 46.8 -1.5**
comp=Z,0.4nm,0.6s,baz=343,slow=4.6,SNR=3.6
NVAR Mina Array Bea 76.00 40 P **P 17 16 55.5 +1.2**
comp=Z,0.4nm,0.6s,baz=324,slow=4.5,SNR=3.3
WRA Warramunga Arr 77.63 160 P **P 17 17 02.8 -0.4**
comp=Z,0.0nm,0.9s,baz=352,slow=6.7,SNR=10.0
WRA Warramunga Arr 77.63 160 P **P 17 17 03.1 -0.1**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 77.63 160 P **P 17 17 03.1 -0.1**
ASAR Alice Springs 81.18 161 P **P 17 17 23.8 +1.2**
comp=Z,0.3nm,0.6s,baz=352,slow=5.1,SNR=9.9
ASAR Alice Springs 81.18 161 P **P 17 17 23.6 +1.1**
TXAR Lajitas Array 89.16 32 P **P 17 18 03.1 +0.3**
comp=Z,0.2nm,0.5s,baz=36,slow=4.7,SNR=2.6
TXAR Lajitas Array 89.16 32 P **P 17 18 02.7 -0.1**
TORD Torodi Ar. Bea 91.12 296 P **P 17 18 12.6 +0.6**
comp=Z,0.8nm,0.8s,baz=20,slow=4.6,SNR=2.9

BGR ***04*** *17:10:50.8±0.0,22°.33S×175°.40W,h33km,Ms4.9*
BJI ***04*** *17:10:57.6±0.0,20°.37S×175°.64W,h52km,mB5.4/12, mb5.0/18,Ms4.9/1,Ms7 4.6/1*
NEIC ***04*** *17:10:58.0±1.6,20°.70S±0°.09×175°.7W±0°.1,h54km±3km, mb4.8/108,Error ellipse: s-maj=14.8km s-min=12.0km az=130.0*
IDC ***04*** *17:10:58.5±3.4,20°.63S×175°.69W,h57km±29km,mb4.1/17, mb1 4.3/19,mb1mx4.2/34,mbtmp4.4/19,ML4.7/2,Error ellipse: s-maj=20.4km s-min=12.9km az=116.0*
ISC 04 17:10:55.9±0.3,20°.67S±0°.05×175°.52W±0°.06,h35km, n248,σ1°36/250,mb4.8/66,15C-5D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.50**	**74**	Pn		**Pn**	**Pn**	**17 12 19.0**	**+3.7**
NIUE				Sn		**Sn**	**Sn**	**17 13 12.8**	**-4.6**
AFI	**Afiamalu**	**7.61**	**29**	P		**P**	**Pn**	**17 12 46.5**	**+2.1**
	7.5nm,0.3s,baz=210,slow=8.7,SNR=12								
AFI				S		**Sn**	**Sn**	**17 14 03.9**	**-5.6**
	11nm,0.3s,baz=33,slow=22,SNR=2.4								
AFI	**Afiamalu**	**7.61**	**29**	Pn		**Pn**	**Pn**	**17 12 47.4**	**+2.9**
RAO	**Raoul Island**	**8.82**	**194**	S		**Sn**	**Sn**	**17 14 38.6**	**-0.4**
	31nm,0.3s,baz=80,slow=23,SNR=1.7								
RAR	**Rarotonga**	**14.73**	**95**	P		**Pn**	**Pn**	**17 14 22.4**	**+0.7**
	1.4nm,0.3s,baz=91,slow=19,SNR=1.7								
RAR				S		Sn	Sn	17 16 53.3	-10
	1.0nm,0.3s,baz=349,slow=20,SNR=1.8								
RAR	**Rarotonga**	**14.73**	**95**			**Pn**	**Pn**	**17 14 23.7**	**+2.1**
DZM	**Mont Dzumac**	**16.86**	**262**	eP		**P**	**Pn**	**17 14 58.2**	**+7.1**
	149nm,0.9s								
DZM				eLR		LR	LR	17 18 56.8	
DZM	**Mont Dzumac**	**16.86**	**262**	P		**P**	**P**	**17 14 58.0**	**+6.9**
	2.6nm,0.3s,baz=82,slow=17,SNR=20								
DZM	**Mont Dzumac**	**16.86**	**262**			**P**	**P**	**17 14 52.9**	**+1.8**
DZM				P		IAmb	IAmb	17 14 59.5	
	comp=Z,62nm,0.8s								
SANVU	**Saraoutou**	**17.22**	**285**	P		**P**	**P**	**17 14 59.8**	**+4.8**
SANVU				P		IAmb	IAmb	17 15 04.5	
	comp=Z,78nm,0.9s								
URZ	**Urewera**	**18.66**	**198**	P		**P**	**P**	**17 15 10.8**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=81,slow=1.2,SNR=16								
URZ				S		Sn	Sn	17 18 19.6	-19
	comp=Z,0.4nm,0.3s,baz=5.1,slow=12,SNR=1.6								
URZ	**Urewera**	**18.66**	**198**	P		**Pn**	**P**	**17 15 11.4**	**+0.1**
HIZ	**Hauiti**	**19.63**	**203**	P		**Pn**	**P**	**17 15 23.6**	**+0.7**
BKZ	**Black Stump Fm**	**19.68**	**199**	P		**P**	**P**	**17 15 21.3**	**-0.6**
BFZ	**Birch Farm**	**21.15**	**198**	P		**P**	**P**	**17 15 37.6**	**-0.2**
BFZ				P		IAmb	IAmb	17 15 49.1	
	comp=Z,34nm,1.2s								
MSWZ	**Moikau Station**	**22.12**	**199**	P		**P**	**P**	**17 15 47.1**	**-1.1**
SNZO	**South Karori**	**22.19**	**200**	P		**P**	**P**	**17 15 49.7**	**+0.7**
BHW	**Baring Head**	**22.23**	**199**	P		**P**	**P**	**17 15 48.8**	**-0.5**
PLWZ	**Palliser**	**22.25**	**199**	P		**P**	**P**	**17 15 50.4**	**+0.6**
QRZ	**Quartz Range**	**22.52**	**204**	P		**P**	**P**	**17 15 53.4**	**+0.8**
TUWZ	**Tuamarina**	**22.54**	**201**	P		**P**	**P**	**17 15 51.5**	**-1.2**
NNZ	**Nelson**	**22.55**	**202**	P		**P**	**P**	**17 15 51.3**	**-1.6**
BSWZ	**Blackbirch Sta**	**22.82**	**201**	P		**P**	**P**	**17 15 52.4**	**-3.4**
THZ	**Tophouse**	**23.20**	**202**	P		**P**	**P**	**17 15 57.9**	**-1.8**
THZ				P		IAmb	IAmb	17 16 07.9	
	comp=Z,18nm,0.7s								
KHZ	**Kahutara**	**23.56**	**201**	P		**P**	**P**	**17 16 01.4**	**-1.7**
KHZ				P		IAmb	IAmb	17 16 17.0	
	comp=Z,34nm,1.3s								
TBI	**Tubuai**	**24.30**	**101**	eT		T	T	17 40 45.8	
	comp=Z,7.3nm,0.3s								
LTZ	**Lake Taylor**	**24.32**	**202**	P		**P**	**P**	**17 16 09.2**	**-1.1**
LTZ				P		IAmb	IAmb	17 16 14.7	
	comp=Z,31nm,0.6s								
PAE	**Paea**	**24.68**	**87**	eT		T	T	17 41 15.3	
	comp=Z,6.6nm,0.3s								
PPT2	**Papeete2**	**24.70**	**87**	eLR		LR	LR	17 22 29.3	
	comp=Z,111nm,25.0s								
PPT2	**Papeete2**	**24.70**	**87**	eT		T	T	17 41 22.7	
	comp=Z,8.8nm,0.4s								
OXZ	**Oxford**	**24.88**	**202**	P		**P**	**P**	**17 16 14.2**	**-1.0**
OXZ				P		IAmb	IAmb	17 16 16.9	
	comp=Z,23nm,0.9s								
TVO	**Taravao**	**24.96**	**88**	eT		T	T	17 41 42.0	
	comp=Z,1.5nm,0.3s								
MQZ	**McQueen's Vall**	**25.00**	**201**	P		**P**	**P**	**17 16 15.7**	**-0.6**
RPZ	**Rata Peaks**	**25.57**	**203**	P		**P**	**P**	**17 16 22.4**	**+0.9**
	comp=Z,12nm,0.5s,baz=332,slow=2.4,SNR=20								
RPZ	**Rata Peaks**	**25.57**	**203**	P		**P**	**P**	**17 16 21.4**	**-0.1**
RPZ				P		IAmb	IAmb	17 16 29.1	
	comp=Z,16nm,0.6s								
FOZ	**Fox Glacier**	**25.88**	**205**	P		**P**	**P**	**17 16 23.9**	**-0.5**
FOZ				P		IAmb	IAmb	17 16 30.0	
	comp=Z,23nm,0.7s								
MEH	**Mehetia**	**26.06**	**89**	eT		T	T	17 42 56.7	
	comp=Z,21nm,0.3s								
ODZ	**Otahua Downs**	**26.87**	**202**	P		**P**	**P**	**17 16 32.8**	**-0.4**
ODZ				P		IAmb	IAmb	17 16 49.1	
	comp=Z,33nm,1.5s								
WKZ	**Wanaka**	**27.28**	**204**	P		**P**	**P**	**17 16 36.1**	**-0.9**
WKZ				P		IAmb	IAmb	17 16 41.0	
	comp=Z,35nm,1.4s								
MLZ	**Mavora Lakes**	**28.08**	**205**	P		**P**	**P**	**17 16 43.9**	**-0.2**
DCZ	**Deep Cove**	**28.55**	**206**	P		**P**	**P**	**17 16 48.3**	**0.0**
DCZ				P		IAmb	IAmb	17 16 57.4	
	comp=Z,18nm,1.2s								
WHZ	**Wether Hill Ro**	**28.59**	**205**	P		**P**	**P**	**17 16 49.2**	**+0.6**
WHZ				P		IAmb	IAmb	17 17 05.3	
	comp=Z,25nm,1.3s								
EIDS	**Eidsvold**	**31.04**	**255**	P		**P**	**P**	**17 17 11.1**	**+0.5**
EIDS				P		IAmb	IAmb	17 17 12.8	
	comp=Z,8.9nm,0.7s								
ARMA	**Armidale**	**31.09**	**245**	P		**P**	**P**	**17 17 10.4**	**-0.7**
ARMA				P		IAmb	IAmb	17 17 11.3	
	comp=Z,40nm,1.4s								
CAN	**Canberra**	**34.36**	**237**	P		**P**	**P**	**17 17 39.7**	**+0.1**
CTAO	**Charters Tower**	**35.78**	**264**	P		**P**	**P**	**17 17 52.8**	**+0.8**
PMG	**Port Moresby**	**37.64**	**282**	P		**P**	**P**	**17 18 08.4**	**+0.6**
TOO	**Toolangi**	**37.68**	**235**	P		**P**	**P**	**17 18 07.6**	**-0.4**
TAU	**Tasmania Unive**	**38.16**	**226**	P		**P**	**P**	**17 18 11.2**	**-0.6**
TAU				P		IAmb	IAmb	17 18 17.2	
	comp=Z,19nm,1.1s								
STKA	**Stephens Creek**	**39.81**	**245**	P		**P**	**P**	**17 18 25.5**	**-0.4**
	comp=Z,9.7nm,0.5s,baz=92,slow=10.0,SNR=64								
STKA	**Stephens Creek**	**39.81**	**245**	P		**P**	**P**	**17 18 25.6**	**-0.2**
COEN	**Coen**	**39.91**	**273**	P		**P**	**P**	**17 18 27.9**	**+1.0**
COEN				P		IAmb	IAmb	17 18 29.5	
	comp=Z,19nm,0.8s								
BBOO	**Buckleboo**	**44.55**	**244**	P		**P**	**P**	**17 19 03.3**	**-1.2**
BBOO				P		IAmb	IAmb	17 19 03.4	
	comp=Z,20nm,1.1s								
WR0	**Warramunga Arr**	**46.68**	**262**	P		**P**	**P**	**17 19 20.3**	**-1.2**
WR0				P		IAmb	IAmb	17 19 23.1	
	comp=Z,9.5nm,0.6s								
AS31	**Alice Springs**	**46.74**	**257**	P		**P**	**P**	**17 19 20.6**	**-1.3**
ASAR	**Alice Springs**	**46.74**	**257**	P		**P**	**P**	**17 19 21.0**	**-1.0**
	comp=Z,7.9nm,0.7s,baz=95,slow=7.9,SNR=88								
ASAR				PcP		**PcP**	**PcP**	**17 20 54.2**	**-0.9**
	comp=Z,4.1nm,0.7s,baz=105,slow=3.7,SNR=14								
ASAR	**Alice Springs**	**46.74**	**257**	P		**P**		**17 19 20.5**	**-1.5**
ASAR						**PcP**		**17 20 53.4**	**-1.7**
WC3	**Warramunga Arr**	**46.84**	**262**	P		**P**		**17 19 21.6**	**-1.1**
WB0	**Warramunga Arr**	**46.85**	**262**	P		**P**		**17 19 21.2**	**-1.6**
WB2	**Warramunga Arr**	**46.86**	**262**	P		**P**		**17 19 21.8**	**-1.1**
WB2				P		IAmb	IAmb	17 19 23.4	
	comp=Z,11nm,0.8s								
WRAB	**Tennant Creek**	**46.87**	**262**	P		**P**	**P**	**17 19 21.5**	**-1.4**
WRAB				P		IAmb	IAmb	17 19 23.4	
	comp=Z,9.5nm,0.8s								
WRA	**Warramunga Arr**	**46.87**	**262**	P		**P**	**P**	**17 19 21.9**	**-1.1**
	comp=Z,8.2nm,0.6s,baz=96,slow=5.2,SNR=122								
WRA				PcP		**PcP**	**PcP**	**17 20 54.6**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=96,slow=3.2,SNR=6.6								
WRA	**Warramunga Arr**	**46.87**	**262**	P		**P**	**P**	**17 19 21.5**	**-1.5**
WRA						**PcP**	**PcP**	**17 20 54.5**	**-1.1**
FORT	**Forrest**	**51.36**	**247**	P		**P**	**P**	**17 19 55.3**	**-1.9**
MTN	**Manton Dam**	**51.48**	**270**	P		**P**	**P**	**17 19 57.4**	**-0.9**
GUMO	**Guam**	**51.71**	**308**			**P**	**P**	**17 20 00.1**	**+0.2**
KNRA	**Kununurra**	**52.96**	**266**	P		**P**	**P**	**17 20 08.8**	**-0.5**
FAKI	**Fak Fak**	**53.80**	**282**	P		**P**	**P**	**17 20 14.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**55.30**	**262**	P		**P**	**P**	**17 20 25.3**	**-1.0**
VNDA	**Vanda**	**57.96**	**186**	P		**P**	**P**	**17 20 45.1**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=1.6,slow=7.5,SNR=13								
VNDA	**Vanda**	**57.96**	**186**	P		**P**	**P**	**17 20 45.4**	**+1.0**
SOEI	**Soe**	**58.82**	**271**	P		**P**	**P**	**17 20 51.3**	**-0.2**
PSA00	**Pilbara Seismi**	**59.89**	**256**	P		**P**	**P**	**17 20 57.1**	**-1.6**
PSA00				P		IAmb	IAmb	17 20 57.3	
	comp=Z,3.3nm,0.6s								
NWAO	**Narrogin (SRO)**	**60.37**	**243**	P		**P**	**P**	**17 20 59.9**	**-1.8**
MORW	**Morawa**	**61.91**	**247**	P		**P**	**P**	**17 21 09.8**	**-2.5**
MORW				P		IAmb	IAmb	17 21 20.8	
	comp=Z,9.7nm,1.1s								
GIRL	**Giralia**	**64.74**	**254**	P		**P**	**P**	**17 21 30.6**	**-0.5**
CASY	**Casey**	**64.81**	**205**	P		**P**	**P**	**17 21 30.8**	**+0.1**
CASY				P		IAmb	IAmb	17 21 40.1	
	comp=Z,4.2nm,0.6s								
QSPA	**South Pole Qui**	**69.40**	**180**	P		**P**	**P**	**17 22 00.6**	**+0.5**
MJAR	**Matsushiro Arr**	**71.74**	**322**	P		**P**	**P**	**17 22 13.7**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=174,slow=4.9,SNR=7.1								
MJAR	**Matsushiro Arr**	**71.74**	**322**	P		**P**	**P**	**17 22 13.8**	**-0.8**
MAJO	**Matsushiro**	**71.74**	**322**	P		**P**	**P**	**17 22 14.6**	**0.0**
MAT	**Matsushiro**	**71.74**	**322**	P		**P**	**P**	**17 22 14.0**	**-0.6**
AMKA	**Amchitka**	**71.87**	**357**	P		**P**	**P**	**17 22 15.2**	**+0.2**
ADK	**Adak**	**72.24**	**359**	P		**P**	**P**	**17 22 16.4**	**-0.7**
ADK				P		IAmb	IAmb	17 22 17.5	
	comp=Z,8.8nm,0.8s								
UGM	**Wanagama**	**72.28**	**268**	P		**P**	**P**	**17 22 16.9**	**-1.4**
JKA	**Kamikawa-asahi**	**75.00**	**330**	P		**P**	**P**	**17 22 34.9**	**+1.3**
ASAJ	**Asahikawa**	**75.00**	**330**	P		**P**	**P**	**17 22 34.9**	**+1.3**
	comp=Z,5.3nm,0.7s,baz=194,slow=4.2,SNR=1.6								
KSM	**Kuching**	**75.73**	**277**	P		**P**	**P**	**17 22 38.5**	**0.0**
KSM				P		IAmb	IAmb	17 22 57.7	
	comp=Z,8.5nm,1.1s								
PEA0B	**Petropavlovsk-**	**77.05**	**344**	P		**P**	**P**	**17 22 45.3**	**+0.3**
PEA0B				P		IAmb	IAmb	17 22 57.5	
	comp=Z,12nm,1.2s								
PETK	**Petropavlovsk-**	**77.05**	**344**	P		**P**	**P**	**17 22 45.0**	**0.0**
	comp=Z,5.1nm,0.7s,baz=99,slow=7.2,SNR=19								
PETK	**Petropavlovsk-**	**77.05**	**344**	P		**P**	**P**	**17 22 45.2**	**+0.2**
KSRS	**Korea Array**	**78.56**	**317**	P		**P**	**P**	**17 22 53.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=145,slow=4.6,SNR=4.2								
BELA	**Belgrano 2**	**79.09**	**172**	P		**P**	**P**	**17 22 55.6**	**-0.6**
NVAR	**Mina Array Bea**	**79.57**	**42**	P		**P**	**P**	**17 23 01.1**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=225,slow=9.5,SNR=12								
NVAR	**Mina Array Bea**	**79.57**	**42**	P		**

MAW	Mawson	82.18	199	P	P	17 23 12.8	0.0	
	comp=Z,6.5nm,0.6s,baz=144,slow=13,SNR=16							
MAW	Mawson	82.18	199		P	17 23 12.7	-0.2	
CCUT	Cedar City	82.26	45	P	P	17 23 15.5	+1.5	
I07A	Izee	82.30	37	P	P	17 23 15.4	+1.5	
MTPU	Mount Pierson	83.31	45		P	17 23 21.4	+1.7	
G08A	Pilot Rock	83.36	36	P	P	17 23 20.4	+1.1	
W18A	Petrified Fore	83.46	49	P	P	17 23 22.3	+2.0	
W18A				IAmb	IAmb	17 23 23.0		
	comp=Z,4.8nm,0.8s							
MVU	Marysvale	83.54	45	P	P	17 23 22.4	+1.7	
MSU	Marysvale	83.57	45	P	P	17 23 22.4	+1.6	
E07A	Sunnyside	83.66	35	P	P	17 23 22.3	+1.5	
E07A				IAmb	IAmb	17 23 22.8		
	comp=Z,5.6nm,0.8s							
H03S2	Juan Fernandez	83.98	124	T	T	18 55 57.5		
	baz=248,slow=75,SNR=119							
H03S1	Juan Fernandez	83.99	124	T	T	18 55 58.5		
	baz=248,slow=75,SNR=148							
H03S3	Juan Fernandez	84.00	124	T	T	18 56 01.6		
	baz=248,slow=75,SNR=147							
MFID	Camas Ranch	84.03	39	P	P	17 23 23.8	+0.9	
D08A	Wollman Farm,	84.47	35	P	P	17 23 26.1	+1.2	
TMUT	Trail Mountain	84.63	45	P	P	17 23 27.8	+1.5	
F10A	Beach Ranch, E	84.73	37	P	P	17 23 26.6	+0.2	
GHO	Glory Hole Cre	84.87	12	P	P	17 23 26.7	0.0	
HLID	Hailey	84.95	40	P	P	17 23 28.8	+1.2	
MNTX	Cornudas Mount	84.97	54	P	P	17 23 28.7	+0.9	
SRU	San Rafael Swe	84.98	45	P	P	17 23 29.0	+1.1	
TX31	Lajitas Ar. Si	85.20	56	P	P	17 23 30.0	+0.9	
TX31				IAmb	IAmb	17 23 31.0		
	comp=Z,7.0nm,1.1s							
TX32	Lajitas Array	85.20	56	P	P	17 23 29.8	+0.6	
TXAR	Lajitas Array	85.20	56	P	P	17 23 30.3	+1.1	
	comp=Z,1.2nm,0.9s,baz=218,slow=9.5,SNR=8.3							
TXAR	Lajitas Array	85.20	56	P	P	17 23 30.0	+0.9	
SCM	Sheep Creek Mo	85.25	13	P	P	17 23 28.7	+0.2	
SCM				IAmb	IAmb	17 23 29.4		
	comp=Z,8.3nm,0.8s							
C09A	Chrisman Ranch	85.27	35	P	P	17 23 29.6	+0.7	
YAH	Yahtse	85.27	16	P	P	17 23 29.8	+0.9	
YAH				IAmb	IAmb	17 23 30.3		
	comp=Z,8.0nm,0.9s							
ISLE	Juniper Island	85.33	16	P	P	17 23 29.5	+0.5	
ISLE				IAmb	IAmb	17 23 30.1		
	comp=Z,7.3nm,0.9s							
GLB	Gilahina Butte	85.69	15	P	P	17 23 31.1	+0.3	
GLB				IAmb	IAmb	17 23 31.8		
	comp=Z,6.2nm,1.0s							
BARN	Barnard Glacie	85.89	16	P	P	17 23 32.5	+0.6	
BARN				IAmb	IAmb	17 23 33.2		
	comp=Z,6.4nm,1.0s							
CTGM	Chitina Glacie	85.89	16	P	P	17 23 31.3	-0.6	
CTGM				IAmb	IAmb	17 23 32.6		
	comp=Z,5.0nm,0.8s							
KTH	Kantishna Hill	86.13	11	P	P	17 23 31.9	-1.0	
KTH				IAmb	IAmb	17 23 38.0		
	comp=Z,8.4nm,1.3s							
TRF	Thorofare Moun	86.14	11	P	P	17 23 32.5	-0.5	
RND	Reindeer	86.37	12	P	P	17 23 34.3	+0.2	
BPAW	Bear Paw Mtn.	86.62	11	P	P	17 23 35.2	-0.1	
BPAW				IAmb	IAmb	17 23 48.4		
	comp=Z,5.0nm,0.9s							
MCK	McKinley	86.65	12	P	P	17 23 35.4	0.0	
PAX	Paxson	86.66	13	P	P	17 23 35.2	-0.3	
PAX				IAmb	IAmb	17 23 36.0		
	comp=Z,4.4nm,1.1s							
MENT	Mentasta	87.02	14	P	P	17 23 37.0	-0.2	
SEY	Seymchan	87.08	346	P	P	17 23 37.1	-0.3	
	comp=Z,5.2nm,0.8s,baz=138,slow=6.3,SNR=19							
RIDG	Independent Ri	87.48	13	P	P	17 23 39.3	-0.1	
RIDG				IAmb	IAmb	17 23 41.0		
	comp=Z,12nm,1.4s							
WRH	Wood River Hil	87.48	12	P	P	17 23 39.3	0.0	
WRH				IAmb	IAmb	17 23 40.0		
	comp=Z,7.3nm,0.8s							
PDAR	Pinedale Array	87.51	42	P	P	17 23 39.6	-0.7	
	comp=Z,0.4nm,0.6s,baz=193,slow=3.5,SNR=1.8							
DOT	Dot Lake	87.56	13	P	P	17 23 39.9	+0.1	
DOT				IAmb	IAmb	17 23 40.8		
	comp=Z,3.9nm,0.8s							
CCB	Clear Creek Bu	87.69	12	P	P	17 23 39.9	-0.5	
CCB				IAmb	IAmb	17 23 40.8		
	comp=Z,6.0nm,1.0s							
SNAA	Sanae	87.77	178	P	P	17 23 39.8	-1.1	
SNAA	Sanae	87.77	178	P	P	17 23 39.9	-1.1	
SNAA				IAmb	IAmb	17 23 40.8		
	comp=Z,3.5nm,0.8s							
VNA3	Neumayer Olymp	87.81	175	P	P	17 23 40.2	-0.9	
MDM	Murphy Dome	87.90	11	P	P	17 23 40.7	-0.7	
MDM				IAmb	IAmb	17 23 41.8		
	comp=Z,5.4nm,0.9s							
IMAR	Indian Mountai	87.95	9	P	P	17 23 41.6	+0.1	
IL31		87.98	12	P	P	17 23 41.2	-0.4	
IL31				IAmb	IAmb	17 23 42.3		
	comp=Z,12nm,1.4s							
ILAR	Eielson Array	87.98	12	P	P	17 23 41.0	-0.7	
	comp=Z,0.6nm,0.4s,baz=227,slow=4.8,SNR=11							
ILAR	Eielson Array	87.98	12	P	P	17 23 41.2	-0.5	
VNA2	Neumayer--Watz	88.28	176	P	P	17 23 42.8	-0.5	
VNA1	Neumayer--Stat	88.49	176	P	P	17 23 43.9	-0.4	
DAWY	Dawson	89.00	15	P	P	17 23 47.0	+0.4	
DAWY				IAmb	IAmb	17 23 48.0		
	comp=Z,6.7nm,1.1s							
BMAR	Burnt Mountain	90.78	11	P	P	17 23 55.1	+0.3	
HHC	Hu-ho-hao-te	91.14	314	*e*P	P	17 23 57.5	+0.2	
HHC				pmax	pmax			
	comp=Z,41nm,0.7s							
HHC				pmax	pmax			
	comp=Z,69nm,5.0s							
CMAR	Chiang Mai Arr	92.36	289	P	P	17 24 02.5	-0.8	
	comp=Z,1.7nm,0.8s,baz=123,slow=2.5,SNR=12							
CMAR	Chiang Mai Arr	92.36	289	P	P	17 24 03.5	+0.2	
CHTO	Chiang Mai	92.49	289	P	P	17 24 03.9	0.0	
CHTO				IAmb	IAmb	17 24 05.8		
	comp=Z,3.2nm,0.7s							
LZH	Lanzhou	94.72	307	*e*P	P	17 24 15.4	+1.4	
LZH				pP	sP	17 24 30.2	+2.0	
LZH				sP	pwP	17 24 35.0	+7.9	
LZH				*e*PP	PP	17 28 06.5	+3.6	
LZH				pmax	pmax			
	comp=Z,18nm,1.4s							
LZH				pmax	pmax			
	comp=Z,85nm,6.2s							
LZH				LR	LR			
	comp=Z,150nm,17.2s							
LZH				LR	LR			
	comp=Z,160nm,17.0s							
LZH				LR	LR			
	comp=Z,200nm,19.5s							
PB09	IPOC Station P	96.57	116	P	P	17 24 25.2	+2.4	
ZALV	Zalesovo Beam	112.08	321	PKiKP	PKiKP	17 29 23.9	-3.4	
	comp=Z,0.5nm,0.2s,baz=240,slow=1.2,SNR=4.1							
ZALV	Zalesovo Beam	112.08	321		PKiKP	17 29 23.7	-3.6	
MKAR	Makanchi Array	113.00	313	PKiKP	PKiKP	17 29 27.3	-2.0	
	comp=Z,0.9nm,0.5s,baz=168,slow=0.6,SNR=17							
BOSA	Boshof	127.06	203	PKP	PKPdf	17 29 56.2	-0.8	
	comp=Z,1.5nm,0.7s,baz=179,slow=5.9,SNR=3.5							
ARCES	ARCESS Array B	129.48	351	PKP	PKPdf	17 29 59.0	-1.2	
	comp=Z,5.7nm,1.0s,baz=343,slow=3.8,SNR=7.6							
ARCES	ARCESS Array B	129.48	351		PKPdf	17 29 59.6	-0.6	
FINES	FINESS Array B	136.56	345	PKP	PKPdf	17 30 13.8	+0.1	
	comp=Z,0.8nm,0.6s,baz=85,slow=4.0,SNR=5.5							
AKASG	Malin Array Be	144.25	333	PKhKP	PKPab	17 30 24.5	-1.3	
	comp=Z,4.3nm,0.5s,baz=42,slow=4.4,SNR=20							
AKASG	Malin Array Be	144.25	333	PKPdf	PKPab	17 30 24.2	-1.6	
SORM	Soroca	146.52	331	⇑P	PKPdf	17 30 32.3	+0.3	
BURAR	Bucovina Array	148.31	333	⇑P	PKPbc	17 30 38.4	0.0	
KOLS	Kolonicke sedl	148.40	337	*e*PKP	PKPbc	17 30 37.4	-1.2	
BIZ	Bicaz	148.43	331	⇑P	PKPbc	17 30 38.9	+0.2	
CLZ	Clausthal	148.55	353	*e*PKPbc	PKPbc	17 30 38.4	-0.5	
	baz=13,slow=2.4							
BRTR	Keskin Array B	148.65	314	PKPbc	PKPbc	17 30 38.0	-1.7	
	comp=Z,2.5nm,0.5s,baz=147,slow=2.5,SNR=5.9							
BRTR	Keskin Array B	148.65	314		PKPbc	17 30 38.6	-1.1	
CLL	Collm	148.70	350	*i* PKPbc	PKPbc	17 30 38.2	-1.0	
	comp=Z,10.0nm,0.6s							
CLL				*i* PKPab	PKPab	17 30 41.9	-1.0	
	comp=Z,4.0nm,0.6s							
CLL	Collm	148.70	350	*e*PKPbc	PKPbc	17 30 38.3	-0.9	
	baz=13,slow=2.4							
CRVS	Cervenica-Dubn	148.71	338	*e*PKP	PKPbc	17 30 37.7	-1.7	
CRVS				*e*		17 30 43.2		
OSTC	Ostas	148.76	346	⇑*e*PKP	PKPbc	17 30 39.3	-0.2	
OSTC				*e*PKPAB	PKPab	17 30 43.8	+0.6	
UPC	Upice	148.86	346	⇑*e*PKP	PKPbc	17 30 39.3	-0.4	
DPC	Dobruska-Polom	148.93	345	⇑*e*PKP	PKPbc	17 30 39.4	-0.5	
DPC				*e*PKPAB	PKPab	17 30 44.4	+0.4	
VRI	Vrincioaia	148.94	329	⇑P	PKPbc	17 30 39.3	-0.7	
BRG	Berggiesshubel	148.94	348	*i* PKP	PKPbc	17 30 39.5	-0.3	
	comp=Z,7.7nm,0.7s							
BRG	Berggiesshubel	148.94	348	*e*PKPbc	PKPbc	17 30 39.4	-0.4	
	baz=13,slow=2.4							
FBE	Freiberg	149.01	349	*e*PKPbc	PKPbc	17 30 39.9	-0.2	
	baz=13,slow=2.4							
KRLC	Kraliky	149.07	345	⇑*e*PKP	PKPbc	17 30 39.7	-0.6	
MORC	Moravsky Berou	149.15	343	⇓P	PKPbc	17 30 40.1	-0.4	
MORC	Moravsky Berou	149.15	343	*e*PKP	PKPbc	17 30 39.8	-0.7	
LANS	Liptovska Anna	149.15	341	*e*PKP	PKPbc	17 30 40.8	+0.3	
HARR	Harsova	149.17	326	⇑P	PKPbc	17 30 40.9	+0.3	
DOPR	Dopca	149.49	331	⇓P	PKPbc	17 30 40.7	-0.8	
MOX	Moxa	149.56	351	*e*PKPbc	PKPbc	17 30 41.0	-0.5	
	baz=13,slow=2.4							
MOX				*e*L	L	18 31 52.1		
	comp=Z,203nm,21.4s							
MLR	Muntele Rosu	149.58	329	⇑P	PKPbc	17 30 40.3	-1.5	
UBBA	Unterbreizbach	149.60	353	*e*PKPbc	PKPbc	17 30 40.4	-1.0	
	baz=13,slow=2.4							
PLN	Plauen	149.63	350	*e*PKPbc	PKPbc	17 30 41.1	-0.5	
	baz=13,slow=2.4							
WERD	Werda	149.64	350	*e*PKPbc	PKPbc	17 30 41.3	-0.4	
	baz=13,slow=2.4							
TANN	Tannenbergstha	149.65	350	*e*PKPbc	PKPbc	17 30 41.2	-0.5	
	baz=13,slow=2.4							
PRU	Pruhonice	149.67	347	⇑*e*PKP	PKPbc	17 30 41.2	-0.5	
GUNZ	Gunzen	149.72	350	*e*PKPbc	PKPbc	17 30 41.6	-0.3	
	baz=13,slow=2.4							
WERN	Wernitzgruen	149.79	350	*e*PKPbc	PKPbc	17 30 41.6	-0.4	
	baz=13,slow=2.4							
VRAC	Vranov	149.83	344	*e*PKP	PKPbc	17 30 41.7	-0.5	
VYHS	Vyhne	149.93	341	*e*PKP	PKPbc	17 30 42.1	-0.3	
JAVC	Velka Javorina	149.95	342	*e*PKP	PKPbc	17 30 43.0	+0.5	
PSZ	Piszkesteto	150.09	339	⇑P	PKPbc	17 30 42.5	-0.5	
MEM	Membach	150.09	358	PKiKP	PKPbc	17 30 42.0	-0.8	
KRUC	Moravsky	150.10	344	*e*PKP	PKPbc	17 30 42.3	-0.5	
TREC	Trest	150.11	345	⇑*e*PKP	PKPbc	17 30 42.5	-0.4	
AHRW	Bad Neuenahr-A	150.12	357	*e*PKPbc	PKPbc	17 30 42.8	+0.1	
	baz=13,slow=2.4							
MANZ	Manzenberg	150.12	350	*e*PKPbc	PKPbc	17 30 42.4	-0.4	
	baz=13,slow=2.4							
BSTI	Sart Tilman	150.13	359	PKiKP	PKPbc	17 30 42.2	-0.6	
ARR	Arges	150.29	331	⇓P	PKiKP	17 30 44.0	-0.2	
ROTZ	Rotzenmuhle	150.32	350	*e*PKPbc	PKPbc	17 30 42.8	-0.6	
	baz=13,slow=2.4							
TNS	Taunus Mts	150.34	355	*e*PKPbc	PKPbc	17 30 42.7	-0.7	
	baz=13,slow=2.4							
BMRD	Maredsous	150.43	360	PKiKP	PKPbc	17 30 42.9	-0.6	
MODS	Modra-Piesok	150.50	343	*e*PKP	PKPbc	17 30 42.8	-1.0	
GRF	Grafenberg Arr	150.54	351	*e*L	L	18 31 05.0		
	comp=Z,199nm,20.9s							
DOU	Dourbes	150.63	360	PKiKP	PKPbc	17 30 43.3	-0.8	
DOU				pPKiKP	sPKPbc	17 30 57.7	-1.0	
KHC	Kasperske Hory	150.68	348	⇑*e*PKP	PKPbc	17 30 43.3	-0.9	
KHC				*e*PKPAB	PKPab	17 30 51.9	+0.8	
SIRR	Siria	150.85	335	⇓P	PKPbc	17 30 44.1	-0.6	
GEC2	GERESS Array S	150.93	347	*e*PKPbc	PKPbc	17 30 44.2	-0.7	
	baz=13,slow=2.4							
GERES	GERESS Array B	150.93	347	PKPbc	PKPbc	17 30 44.3	-0.6	
	comp=Z,3.9nm,0.8s,baz=48,slow=2.0,SNR=25							
GERES	GERESS Array B	150.93	347		PKPbc	17 30 43.9	-1.0	
WLF	Walferdange	151.03	358	PKiKP	PKPbc	17 30 44.8	-0.2	
CONA	Conrad Observa	151.29	344	*i* PKiKP	PKPbc	17 30 45.5	-0.3	
	comp=Z,13nm,1.7s							
BZS	Buzias	151.40	334	⇑P	PKPbc	17 30 45.3	-0.7	
HERR	Herculane	151.66	333	⇑P	PKPbc	17 30 45.7	-0.9	
BFO	Black Forest	152.23	354	*e*PKPbc	PKPbc	17 30 46.9	-0.9	
	baz=13,slow=2.4							
KBA	Koelnbreinsper	152.68	347	*i* PKiKP	PKiKP	17 30 49.8	+0.5	
	comp=Z,1.3nm,0.4s							
RETA	Reutte	152.76	351	*i* PKPbc	PKPbc	17 30 48.1	-1.0	
	comp=Z,4.0nm,1.4s							
WTTA	Wattenberg	152.84	349	*i* PKPbc	PKPbc	17 30 48.5	-0.9	
	comp=Z,3.6nm,0.5s							
MOTA	Moosalm	152.85	350	*i* PKPbc	PKPbc	17 30 48.5	-1.0	
	comp=Z,5.4nm,1.2s							
SQTA	Sankt Quirin	152.95	350	*e*PKPbc	PKPbc	17 30 49.0	-0.6	
	comp=Z,5.1nm,0.9s							
MYKA	Terra Mystica	153.04	346	*i* PKPbc	PKPbc	17 30 48.5	-1.3	
	comp=Z,5.5nm,1.1s							
DAVA	Damuels	153.08	352	*i* PKiKP	PKPbc	17 30 50.0	0.0	
	comp=Z,2.4nm,0.6s							
ABTA	Abfaltersbach	153.17	348	*i* PKPbc	PKPbc	17 30 48.7	-1.3	
	comp=Z,3.0nm,0.6s							
ESDC	Sonseca Array	159.72	19	PKPab	PKPab	17 31 30.1	+0.2	
	comp=Z,0.6nm,0.7s,baz=336,slow=4.6,SNR=5.6							
ESDC	Sonseca Array	159.72	19		PKPab	17 31 30.4	+0.4	
TORD	Torodi Ar. Bea	172.06	160	PKPab	PKPab	17 32 24.6	-0.1	
	comp=Z,3.0nm,1.2s,baz=198,slow=4.4,SNR=4.0							

ISK 04 17:16:04.6, 37°.67N×41°.55E, h4km, ML3.8/22
DDA 04 17:16:05.6, 37°.71N×41°.56E, h10km±3km, MW3.8
ISC 04 17:16:05.1±1.1, 37°.67N±0°.03×41°.56E±0°.02, h4km±10km, n58, σ0s75/75, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTMN	Batman	0.32	314	*i* P	Pg	17 16 12.2	+0.8
BTMN				*i* S	Sg	17 16 15.8	+0.2
BTMN				IAML		17 16 17.0	
	comp=N,6μm,0.5s						
BTMN				IAML		17 16 17.0	
	comp=E,9μm,0.5s						
SVAN	Silvan-Diyarba	0.56	329	PG	Pg	17 16 16.4	+0.4
SVAN				SG	Sg	17 16 23.9	+0.6
SVAN	Silvan-Diyarba	0.56	329	*i* P	Pg	17 16 16.4	+0.4
SVAN				*i* S	Sg	17 16 23.7	+0.5
SVAN				IAML		17 16 24.0	
	comp=E,2μm,0.3s						
SVAN				IAML		17 16 25.0	
	comp=N,2μm,0.2s						
SIRN	Sirnak	0.70	104	*i* P	Pg	17 16 18.7	+0.2
SIRN				*i* S	Sg	17 16 26.7	-0.9
SIRN				IAML		17 16 29.0	
	comp=E,3μm,0.3s						
SIRN				IAML		17 16 31.0	
	comp=N,3μm,0.5s						
SIRT	Sirnak	0.71	103	PG	Pg	17 16 18.9	0.0
SIRT				SG	Sb	17 16 29.9	-0.5
MARD	Mardin	0.72	241	*i* P	Pb	17 16 20.3	+0.1
MARD				IAML		17 16 35.0	
	comp=E,11μm,0.6s						
MARD				IAML		17 16 36.0	
	comp=N,13μm,0.6s						
BLIS	Bitlis-Merkez	0.86	30	*i* P	Pg	17 16 22.0	+0.3
BLIS				*i* S	Sg	17 16 33.1	+0.2
BLIS				IAML		17 16 35.0	
	comp=N,2μm,0.4s						
MAZI	Mazidag	0.91	257	PG	Pg	17 16 23.1	+0.5
MAZI				SG	Sb	17 16 35.6	-0.5
GURO	Guroymak-BITLI	0.96	23	PG	Pg	17 16 23.4	-0.1
GURO				SG	Sb	17 16 37.3	-0.1
MUSM	Mu-Merkez	1.05	358	*i* P	Pg	17 16 25.1	-0.3
MUSM				*i* S	Sg	17 16 38.5	-0.6
MUSM				IAML		17 16 42.0	
	comp=N,1μm,0.3s						
DIYA	Diyarbakir	1.17	283	*i* P	Pg	17 16 27.9	+0.3
DIYA				IAML		17 16 45.0	
	comp=N,1μm,0.6s						
DIYA				IAML		17 16 46.0	
	comp=E,1μm,0.2s						
HANI	Diyarbakir_Han	1.18	309	*i* P	Pg	17 16 27.9	+0.1
HANI				*i* S	Sb	17 16 43.8	-0.1
HANI				IAML		17 16 45.0	
	comp=E,4μm,0.3s						
HANI				IAML		17 16 46.0	
	comp=N,6μm,0.4s						
AKDM	Akdamar-Van	1.30	59	PN	Pn	17 16 29.7	-0.5
GEVA	Gevas	1.34	61	*i* P	Pn	17 16 30.4	-0.5
GEVA				IAML		17 16 52.0	
	comp=N,695nm,0.5s						
GEVA				IAML		17 16 52.0	
	comp=E,2μm,0.7s						
VRTB	Varto-Mus	1.49	357	PN	Pn	17 16 33.2	+0.3
VRTB	Varto-Mus	1.49	357	*i* P	Pn	17 16 33.1	+0.2
VRTB				IAML		17 17 04.0	
	comp=N,541nm,0.6s						
VRTB				IAML		17 17 16.0	
	comp=E,650nm,0.8s						
BNGB	Bingl	1.49	333	PN	Pn	17 16 32.8	0.0
EKAR	Karacoban	1.63	14	*i* P	Pn	17 16 34.6	-0.3
EKAR				IAML		17 17 01.0	
	comp=N,1μm,0.9s						
EKAR				IAML		17 17 05.0	
	comp=E,809nm,0.5s						
MLAZ	Malazgirt-MUS	1.66	27	PN	Pb	17 16 36.3	-0.1
MLAZ				SN	Sb	17 16 57.9	+0.1
CUKT	Cukurca	1.68	104	PN	Pn	17 16 35.9	+0.5
CUKT	Cukurca	1.68	104	*i* P	Pb	17 16 36.6	0.0
CUKT				*i* S	Sb	17 16 58.5	+0.3
CUKT				IAML		17 17 01.0	
	comp=N,884nm,0.5s						
CUKT				IAML		17 17 08.0	
	comp=E,1μm,0.5s						
KARO	Karliova-Bingo	1.69	346	PN	Pn	17 16 35.5	-0.1
HAKT	HAKKARI	1.71	93	*i* P	Pb	17 16 36.9	-0.3
HAKT				*i* S	Sg	17 17 00.0	+0.1
VANB	Van	1.71	57	PN	Pn	17 16 35.7	-0.1
VANB				SN	Sn	17 16 58.3	+0.1
SVRC	Sivrice-ELAZID	1.92	292	PN	Pn	17 16 38.4	-0.3
YEDI	Yedisu-Bingol	1.94	336	PN	Pn	17 16 39.4	+0.4
TUTA	Tutak	1.99	29	*i* P	Pn	17 16 39.2	-0.6
TUTA				IAML		17 17 17.0	
	comp=N,292nm,0.7s						
VMUR	Van-Muradiye	2.06	50	*i* P	Pn	17 16 41.7	+1.1
VMUR				IAML		17 17 13.0	
	comp=E,330nm,0.9s						
VMUR				IAML		17 17 15.0	
	comp=N,233nm,0.9s						
PTK	Pertek	2.10	306	PN	Pn	17 16 40.9	-0.4
SANL	SANLIURFA_Merk	2.11	257	*i* P	Pn	17 16 41.9	+0.6
SANL				*i* S	Sb	17 17 10.1	-0.4
SANL				IAML		17 17 15.0	
	comp=N,1μm,0.6s						
SANL				IAML		17 17 16.0	
	comp=E,1μm,0.4s						
TNCL	Tunceli-Merkez	2.15	313	*i* P	Pn	17 16 41.5	-0.3
TNCL				IAML		17 17 14.0	
	comp=N,354nm,0.8s						
TNCL				IAML		17 17 17.0	
	comp=E,606nm,0.5s						
YOVA	Hakkari_Yksek	2.17	91	*i* P	Pb	17 16 44.4	-0.6
EJDE	Erzurum, Palan	2.17	355	*i* P	Pn	17 16 43.4	+1.0
EJDE				*i* S	Sn	17 17 10.9	+1.0
EJDE				IAML		17 17 21.0	
	comp=E,383nm,0.6s						
EJDE				IAML		17 17 30.0	
	comp=N,292nm,0.7s						
URFA	Urfa	2.19	265	PN	Pn	17 16 42.4	0.0
ELZG	Elazig	2.20	293	*i* P	Pn	17 16 42.4	-0.2
ELZG				IAML		17 17 17.0	
	comp=E,502nm,0.6s						
ELZG				IAML		17 17 28.0	
	comp=N,377nm,0.6s						
AGRB	Hanur-Agry	2.21	30	PN	Pn	17 16 43.0	+0.2
EATA	Eleskirt	2.31	18	*i* P	Pn	17 16 44.4	+0.2
EATA				*i* S	Sb	17 17 16.1	-0.4
KOPR	Koprukoy-ERZUR	2.33	5	PN	Pn	17 16 44.8	+0.4
CLDR	Caldiran	2.36	51	PN	Pn	17 16 45.5	+0.6
CLDR	Caldiran	2.36	51	*i* P	Pb	17 16 48.3	-0.1
ERZN	Erzincan	2.40	324	PN	Pn	17 16 45.8	+0.5
AKDA	Akdag	2.44	356	*i* P	Pn	17 16 47.6	+1.7
SURC	SANLIURFA_SURC	2.48	252	*i* P	Pn	17 16 47.0	+0.6
KOPT	Kop Dagi	2.49	341	*i* P	Pg	17 16 52.0	-0.9
EUZM	Uzumlu	2.50	325	*i* P	Pb	17 16 49.3	-1.4
MALT	Malatya	2.56	286	PN	Pn	17 16 47.5	0.0
ATAB	Bozova	2.60	267	*i* P	Pn	17 16 47.5	-0.5
KRIK	Erzurum-spir	2.71	350	*i* P	Pn	17 16 52.1	+2.4
BAYB	BAYBURT	2.78	339	*i* P	Pb	17 16 53.5	-2.0
KEMA	Kemaliye	2.89	304	*i* P	Pn	17 16 51.5	-0.5
ARPR	Arapgir-MALATY	2.91	300	PN	Pn	17 16 52.6	+0.3
SENK	Senkaya-Erzuru	2.95	12	PN	Pn	17 16 53.7	+0.7
KELT	Kelkit	3.06	325	*i* P	Pn	17 16 56.3	+1.8
HEKM	Malatya_Hekimh	3.08	294	*i* P	Pn	17 16 54.7	-0.1
DBAD	Bademkaya	3.35	2	*i* P	Pn	17 17 00.4	+2.0
DAGI	Agillar	3.42	4	*i* P	Pn	17 17 01.4	+2.2
ELBS	KAHRAMANMARAS	3.56	282	*i* P	Pn	17 17 01.0	-0.3
CUKAN	kangal_SIVAS	3.61	298	*i* P	Pn	17 17 02.0	0.0

ATH 04 17:21:45.9, 40°.13N×24°.88E, h27km, ML3.2/22, Error ellipse: s-maj=1.1km s-min=0.7km az=66.0
*SOF 04 17:21:45.6

RDO			SN	Sb	17 22 23.7	+0.7
PLG	**Polygyros**	**1.15 284**	P	Pb	17 22 08.1	-0.6
PLG			S	Sb	17 22 23.7	+0.3
comp=E,870nm,0.6s						
PLG	**Polygyros**	**1.15 284**	P	Pb	17 22 08.2	-0.6
PLG			S	Sb	17 22 22.5	-0.8
PLG			AML	AML	17 22 26.5	
comp=N,2116μm,0.7s						
PLG			AML	AML	17 22 29.0	
comp=E,1451μm,0.3s						
SIGR	**SIGRI**	**1.16 141**	P	Pb	17 22 09.2	+0.5
SIGR			S	Sn	17 22 25.2	+1.2
comp=E,3μm,0.4s						
SIGR	**SIGRI**	**1.16 141**	P	Pb	17 22 09.2	+0.5
SIGR			S	Sn	17 22 24.8	+0.8
SIGR			AML	AML	17 22 27.4	
comp=N,6755μm,0.4s						
SIGR			AML	AML	17 22 28.4	
comp=E,4435μm,0.4s						
SIGR	**SIGRI**	**1.16 141**	PN	Pb	17 22 09.3	+0.5
SIGR			SN	Sn	17 22 26.0	+2.0
ALN	**Alexandroupoli**	**1.17 47**	P	Pb	17 22 08.2	-0.8
ALN			S	Sb	17 22 25.0	+1.1
comp=E,1μm,0.3s						
ALN	**Alexandroupoli**	**1.17 47**	P	Pb	17 22 08.3	-0.8
ALN			S	Sb	17 22 24.2	+0.3
ALN			AML	AML	17 22 27.9	
comp=E,3325μm,0.4s						
ALN			AML	AML	17 22 28.5	
comp=N,2050μm,0.3s						
ALN	**Alexandroupoli**	**1.17 47**	PN	Pb	17 22 08.6	-0.4
ALN			SN	Sb	17 22 24.9	+1.1
AOS	**Alonnisos**	**1.23 221**	P	Pn	17 22 09.2	-0.4
AOS			S	Sg	17 22 27.6	+0.5
comp=N,890nm,0.5s						
AOS	**Alonnisos**	**1.23 221**	P	Pn	17 22 09.4	-0.2
AOS			S	Sb	17 22 25.9	+0.4
AOS			AML	AML	17 22 29.2	
comp=N,1541μm,0.5s						
AOS			AML	AML	17 22 29.5	
comp=E,2048μm,0.6s						
GELI	**Tayfur-Gelibol**	**1.23 76**	PN	Pn	17 22 09.9	+0.2
GELI			SN	Sg	17 22 27.3	+0.1
SKY	**Skiros Island**	**1.26 193**	P	Pn	17 22 09.7	-0.4
SKY			S	Sg	17 22 28.0	-0.1
SKY	**Skiros Island**	**1.26 193**	P	Pn	17 22 09.7	-0.4
SKY			AML	AML	17 22 31.6	
comp=E,1640μm,0.3s						
SKY			AML	AML	17 22 35.0	
comp=N,1559μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.31 106**	*i* P	Pn	17 22 11.3	+0.5
BAYC			*i* S	Sb	17 22 26.0	-1.9
BAYC			IAML		17 22 31.0	
comp=N,332nm,0.4s						
BAYC			IAML		17 22 33.0	
comp=E,237nm,0.4s						
PRK	**Paraskevi**	**1.36 129**	P	Pb	17 22 12.5	+0.3
PRK			S	Sg	17 22 30.9	-0.3
PRK			AML	AML	17 22 34.3	
comp=N,5539μm,0.7s						
PRK			AML	AML	17 22 36.1	
comp=E,6338μm,0.5s						
SOH	**Sokhos**	**1.38 301**	P	Pn	17 22 11.4	-0.4
SOH			S	Sn	17 22 30.4	+0.7
comp=E,2μm,0.6s						
SOH	**Sokhos**	**1.38 301**	P	Pn	17 22 11.4	-0.4
SOH			S	Sn	17 22 28.7	-1.0
SOH			AML	AML	17 22 33.2	
comp=N,3033μm,0.4s						
SOH			AML	AML	17 22 33.5	
comp=E,4672μm,0.8s						
SRS	**Serrai**	**1.42 316**	P	Pn	17 22 10.7	-1.6
SRS	**Serrai**	**1.42 316**	*e*Pg	Pn	17 22 11.1	-1.2
SRS			*e*Sg	Sn	17 22 32.0	+1.4
SRS	**Serrai**	**1.42 316**	P	Pn	17 22 10.6	-1.8
SRS			AML	AML	17 22 32.5	
comp=E,1920μm,0.4s						
SRS			AML	AML	17 22 33.9	
comp=N,1547μm,0.3s						
LPK	**Lapseki**	**1.44 79**	PN	Pn	17 22 13.3	+0.8
LPK			SN	Sb	17 22 32.9	+1.3
HORT	**Hortiatis**	**1.47 290**	P	Pn	17 22 12.5	-0.5
HORT			S	Sn	17 22 31.7	-0.1
comp=N,358nm,0.6s						
HORT	**Hortiatis**	**1.47 290**	P	Pn	17 22 12.5	-0.5
HORT			S	Sn	17 22 31.3	-0.5
HORT			AML	AML	17 22 36.0	
comp=N,822μm,0.5s						
HORT			AML	AML	17 22 38.9	
comp=E,640μm,0.5s						
NVR	**Nevrokopi**	**1.47 328**	P	Pn	17 22 12.9	-0.2
NVR			S	Sn	17 22 32.2	+0.3
comp=E,518nm,0.3s						
NVR	**Nevrokopi**	**1.47 328**	P	Pn	17 22 12.8	-0.2
NVR			S	Sn	17 22 30.8	-1.1
NVR			AML	AML	17 22 36.9	
comp=E,1168μm,0.3s						
NVR			AML	AML	17 22 37.5	
comp=N,923μm,0.2s						
XOR	**Xorichti**	**1.52 241**	P	Pn	17 22 12.8	-0.8
XOR	**Xorichti**	**1.52 241**	P	Pn	17 22 12.8	-0.8
XOR			AML	AML	17 22 37.7	
comp=E,431μm,0.5s						
XOR			AML	AML	17 22 41.4	
comp=N,562μm,0.6s						
NEO	**Neokhori**	**1.53 239**	P	Pn	17 22 12.9	-0.9
NEO	**Neokhori**	**1.53 239**	P	Pn	17 22 12.9	-0.9
NEO			AML	AML	17 22 38.4	
comp=N,589μm,0.4s						
NEO			AML	AML	17 22 41.7	
comp=E,754μm,0.5s						
KESN	**Edirne-Kesan**	**1.53 61**	*i* P	Pn	17 22 10.8	-3.3
KESN			*i* S	Sn	17 22 28.9	-4.8
THE	**Thessaloniki**	**1.57 290**	P	Pn	17 22 13.9	-0.4
RZN	**Rozhen**	**1.58 355**	P	Pn	17 22 14.8	+0.1
KDZ	**Kurdzhali**	**1.59 14**	PN	Pn	17 22 14.2	-0.4
AYVA	**Ayvalik**	**1.59 120**	*i* P	Pn	17 22 12.4	-2.1
AYVA			*i* S	Sn	17 22 30.0	-4.6
AYVA			IAML		17 22 39.0	
comp=N,427nm,0.5s						
AYVA			IAML		17 22 40.0	
comp=E,330nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.60 203**	P	Pn	17 22 14.4	-0.3
KYMI			S	Sb	17 22 36.9	+0.6
KYMI	**Kymi, Euboea I**	**1.60 203**	P	Pn	17 22 14.4	-0.3
KYMI			S	Sn	17 22 35.1	+0.1
KYMI			AML	AML	17 22 43.4	
comp=N,952μm,0.6s						
KYMI			AML	AML	17 22 47.5	
comp=E,677μm,0.7s						
UKOP	**Uzunkopru-Edir**	**1.66 52**	PN	Pn	17 22 16.2	+0.7
VOL2	**Volos**	**1.68 244**	P	Pn	17 22 15.0	-0.9
VOL3	**Nea Ionia, Vol**	**1.69 245**	P	Pn	17 22 17.2	+1.3
MMB	**Musomiste**	**1.73 329**	P	Pn	17 22 16.2	-0.4
RKY	**Sarkoy-Tekirda**	**1.83 71**	PN	Pn	17 22 17.9	0.0
SART	**Tekirdag**	**1.83 71**	*i* P	Pn	17 22 15.2	-2.7
LIT	**Litokhoron**	**1.86 271**	P	Pn	17 22 17.6	-0.7
LIT	**Litokhoron**	**1.86 271**	P	Pn	17 22 17.1	-1.1
DKL	**Dikili**	**1.86 123**	PN	Pn	17 22 19.7	+1.5
MAR6	**Marsite Statio**	**1.89 71**	PN	Pn	17 22 19.5	+0.7
MAR3	**Marsite Statio**	**1.93 70**	PN	Pn	17 22 20.2	+1.0
MAR2	**Marsite Statio**	**1.93 71**	PN	Pn	17 22 19.9	+0.6
CHOS	**Chios island**	**1.94 152**	P	Pn	17 22 20.1	+0.7
CHOS	**Chios island**	**1.94 152**	P	Pn	17 22 20.1	+0.7
CHOS			AML	AML	17 22 53.4	
comp=N,756μm,0.4s						
CHOS			AML	AML	17 23 01.8	
comp=E,1138μm,0.8s						
MAR4	**Marsite Statio**	**1.95 69**	PN	Pn	17 22 19.9	+0.3
KRBN	**Karaburun**	**1.98 139**	PN	Pn	17 22 21.5	+1.6
DIM	**Dimitrovgrad**	**2.00 13**	P	Pn	17 22 20.5	+0.3
PLD	**Plovdiv**	**2.00 356**	P	Pb	17 22 24.8	+1.6
KNL	**Balıkesir**	**2.01 85**	*i* P	Pn	17 22 21.4	+1.1
KNL			*i* S	Sn	17 22 44.1	-1.0
KNL			IAML		17 22 54.0	
comp=N,422nm,0.8s						
KNL			IAML		17 22 54.0	
comp=E,460nm,0.6s						
ZEDA	**zmir-Bergama**	**2.03 124**	*i* P	Pn	17 22 20.4	-0.2
ZEDA			*i* S	Sn	17 22 43.9	-1.6
ZEDA			IAML		17 22 54.0	
comp=E,97nm,0.3s						
ZEDA			IAML		17 23 03.0	
comp=N,145nm,0.4s						
LKR	**Lokris**	**2.08 226**	P	Pn	17 22 20.1	-1.2
KARY	**Karystos**	**2.11 190**	P	Pn	17 22 20.8	-0.9
MRMT	**Marmara Adasi**	**2.11 76**	PN	Pn	17 22 23.1	+1.3
BALY	**Balya**	**2.12 99**	*i* P	Pn	17 22 22.1	+0.2
BALY			*i* S	Sn	17 22 43.9	-3.9
BALY			IAML		17 23 02.0	
comp=N,260nm,0.6s						
BALY			IAML		17 23 09.0	
comp=E,103nm,0.4s						
GONE	**Gonen-Balikesi**	**2.13 91**	PN	Pn	17 22 23.4	+1.4
VAY	**Valandovo**	**2.15 305**	*e*Pn	Pb	17 22 27.8	+2.0
DION	**Dionisos Attik**	**2.17 201**	P	Pn	17 22 22.6	+0.1
DION	**Dionisos Attik**	**2.17 201**	P	Pn	17 22 22.1	-0.4
DION			AML	AML	17 23 03.8	
comp=N,1608μm,0.6s						
DION			AML	AML	17 23 04.8	
comp=E,963μm,0.6s						
URLA	**Izmir**	**2.18 143**	*i* P	Pn	17 22 22.7	-0.1
URLA			*i* S	Sn	17 22 44.9	-4.5
URLA			IAML		17 23 00.0	
comp=N,59nm,0.6s						
URLA			IAML		17 23 06.0	
comp=E,95nm,0.9s						
TKR	**Tekirdag**	**2.19 65**	PN	Pn	17 22 23.8	+1.0
MAR9	**Marsite Statio**	**2.19 76**	PN	Pn	17 22 24.0	+1.1
PTL	**Penteli**	**2.21 202**	P	Pn	17 22 23.3	+0.1
PTL			AML	AML	17 23 05.4	
comp=E,383μm,0.6s						
PTL			AML	AML	17 23 06.5	
comp=N,256μm,0.5s						
EDRB	**Edirne**	**2.22 38**	PN	Pn	17 22 24.2	+0.9
KKB	**Krupnik**	**2.23 322**	P	Pn	17 22 23.8	+0.3
AGG	**Agios Georgios**	**2.27 242**	P	Pn	17 22 23.7	-0.3
AGG	**Agios Georgios**	**2.27 242**	P	Pn	17 22 23.7	-0.3
EDC	**Edincik**	**2.27 83**	PN	Pn	17 22 25.2	+1.2
VIL2	**Platees**	**2.28 214**	P	Pn	17 22 24.2	0.0
VIL2			AML	AML	17 23 06.8	
comp=E,709μm,0.7s						
VIL2			AML	AML	17 23 10.9	
comp=N,386μm,0.8s						
STEP	**BALIKESIR_Sava**	**2.29 108**	*i* P	Pn	17 22 25.8	+1.6
STEP			*i* S	Sn	17 22 50.7	-1.2
STEP			IAML		17 23 11.0	
comp=E,172nm,0.8s						
STEP			IAML		17 23 15.0	
comp=N,147nm,0.6s						
THL	**Klokotos Trika**	**2.29 257**	P	Pn	17 22 23.8	-0.4
ATHU	**Athens Univers**	**2.31 203**	P	Pn	17 22 23.6	-0.9
BALB	**Balikesir**	**2.33 101**	PN	Pn	17 22 26.1	+1.3
KIRK	**Kırklareli**	**2.35 44**	*i* P	Pn	17 22 24.1	-1.0
KIRK			IAML		17 23 12.0	
comp=N,61nm,0.5s						
CRLT	**Corlu**	**2.38 64**	PN	Pn	17 22 26.6	+1.1
MAKR	**Makrakomi, Fth**	**2.41 244**	P	Pn	17 22 26.4	+0.5
MAKR	**Makrakomi, Fth**	**2.41 244**	P	Pn	17 22 26.2	+0.3
MAKR			AML	AML	17 23 18.3	
comp=E,211μm,0.9s						
MAKR			AML	AML	17 23 23.4	
comp=N,180μm,0.6s						
VLY	**Voula,Athens**	**2.42 201**	P	Pn	17 22 25.2	-0.8
BOTS	**Marmara Eregli**	**2.50 68**	PN	Pn	17 22 28.4	+1.3
PGB	**Panagyurishte**	**2.50 347**	P	Pn	17 22 27.7	+0.5
DSF	**Desfina**	**2.51 228**	P	Pn	17 22 26.2	-1.1
AKHS	**Akhisar**	**2.56 118**	*i* P	Pn	17 22 27.9	0.0
AKHS			IAML		17 23 12.0	
comp=E,41nm,0.4s						
LTK	**Loutraki**	**2.57 217**	P	Pn	17 22 28.4	+0.2
STIP	**Stip**	**2.60 308**	*i* Pn	Pn	17 22 27.4	-1.1
KPRO	**Kipourio**	**2.73 268**	P	Pn	17 22 30.7	+0.4
ANX	**Ano Chora**	**2.77 238**	P	Pn	17 22 30.9	+0.1
DURS	**Dursunbey**	**2.79 99**	*i* P	Pn	17 22 32.2	+1.1
DURS			IAML		17 23 18.0	
comp=N,89nm,0.4s						
DURS			IAML		17 23 30.0	
comp=E,126nm,0.5s						
VTS	**Vitosha**	**2.81 334**	P	Pn	17 22 32.7	+1.2
VTS	**Vitosha**	**2.81 334**	Pg	Pb	17 22 39.3	+2.3
TRIZ	**Trizonia**	**2.81 233**	P	Pn	17 22 31.5	+0.2
SMG	**Samos**	**2.83 147**	P	Pn	17 22 32.3	+0.6
DID	**Didima**	**2.91 207**	P	Pn	17 22 32.6	-0.2
DID	**Didima**	**2.91 207**	P	Pn	17 22 32.3	-0.4
GUR	**Goura**	**2.95 223**	P	Pn	17 22 33.3	-0.1
SERI	**Serifos**	**2.96 187**	P	Pn	17 22 33.4	-0.1
NEST	**Nestorio**	**2.97 277**	P	Pn	17 22 34.2	+0.5
KLV	**Kalavryta, Ach**	**2.98 227**	P	Pn	17 22 33.8	+0.1
BOSS	**Bosilegrad**	**3.01 323**	*e*Pn	Pn	17 22 35.1	+1.0
BOSS			*e*Sg	Sb	17 23 21.1	+4.4
GCAM	**G?zelcaml?**	**3.01 142**	*i* P	Pn	17 22 33.1	-1.1
GCAM			IAML		17 23 26.0	
comp=E,31nm,0.4s						
GCAM			IAML		17 23 33.0	
comp=N,47nm,0.7s						
APE	**Apeiranthos**	**3.07 171**	P	Pn	17 22 34.8	-0.2
ULDT	**Uludag**	**3.24 88**	*i* P	Pn	17 22 38.4	+1.0
ULDT			IAML		17 23 41.0	
comp=E,88nm,0.6s						
ULDT			IAML		17 23 43.0	
comp=N,64nm,0.4s						
SZH	**Strazhica**	**3.25 13**	P	Pn	17 22 38.1	+0.7
MANT	**Manisa**	**3.26 119**	*i* P	Pn	17 22 36.0	-1.7
MANT			IAML		17 23 32.0	
comp=E,28nm,0.4s						
MANT			IAML		17 23 35.0	
comp=N,23nm,0.4s						
IGD	**Bursa**	**3.29 86**	*i* P	Pn	17 22 37.8	-0.1
IGD			IAML		17 23 34.0	
comp=N,30nm,0.5s						
IGD			IAML		17 23 40.0	
comp=E,27nm,0.9s						
BUY	**Buyukada**	**3.29 76**	*i* P	Pn	17 22 29.3	-8.7
TRIP	**Tripoli**	**3.30 219**	P	Pn	17 22 38.9	+0.7
MPEP	**Malo Peshtene**	**3.36 345**	P	Pn	17 22 39.9	+1.0
AMGA	**Amorgos Island**	**3.36 166**	P	Pn	17 22 38.7	-0.2
AYDN	**Tasoluk**	**3.37 136**	*i* P	Pn	17 22 40.3	+1.2
AYDN			IAML		17 23 39.0	
comp=E,25nm,0.7s						
AYDN			IAML		17 23 50.0	
comp=N,19nm,0.7s						
USAK	**Uak-Merkez**	**3.47 112**	*i* P	Pn	17 22 42.4	+1.9
USAK			IAML		17 23 51.0	
comp=N,12nm,0.7s						
BARS	**Barje**	**3.57 320**	*e*Pn	Pn	17 22 42.6	+0.8
BARS			*e*Sg	Sg	17 23 40.9	-0.9
IGT	**Igoumenitsa**	**3.57 262**	*e*Pn	Pn	17 22 44.9	+3.1
ZAPS	**Zavoj**	**3.59 332**	*e*Pn	Pn	17 22 44.3	+2.1
ZAPS			*e*Sg	Sg	17 23 39.7	-2.9
GDZ	**Gediz**	**3.67 105**	*i* P	Pn	17 22 43.8	+0.4
GDZ			IAML		17 23 47.0	
comp=E,14nm,0.4s						
GDZ			IAML		17 24 05.0	
comp=N,17nm,0.9s						
DAT	**Datca**	**3.97 147**	*i* P	Pn	17 22 44.1	-3.4
TIR	**Tirane**	**4.03 290**	*e*Pn	Pn	17 22 50.7	+2.6
TAVA	**DENIZLI_Tavas**	**4.09 129**	*i* P	Pn	17 22 50.9	+1.8
TAVA			IAML		17 24 11.0	
comp=N,9.9nm,2.1s						
TAVA			IAML		17 24 57.0	
comp=E,11nm,2.2s						
GEYV	**SAKARYA_Geyve**	**4.14 83**	*i* P	Pn	17 22 42.0	-7.6
KAND	**Kocaeli-Kandir**	**4.14 75**	*i* P	Pn	17 22 50.1	+0.5
BOVS	**Bovan**	**4.26 327**	*e*Pn	Pn	17 22 52.9	+1.6
BORA	**Eskisehir**	**4.26 91**	*i* P	Pn	17 22 49.2	-2.3
TRUS	**Trudelj**	**5.30 322**	*e*Pn	Pn	17 23 06.4	+0.8
VOIR		**5.33 1**	⇑P	Pn	17 23 06.4	+0.3
DIVS	**Divibare**	**5.41 319**	*e*Pn	Pn	17 23 07.5	+0.3
NEHR	**Nehoiu**	**5.41 10**	⇓P	Pn	17 23 09.0	+1.9
MLR	**Muntele Rosu**	**5.43 8**	⇑P	Pn	17 23 10.2	+2.7
BBLS	**Lazići**	**5.56 314**	*e*Pn	Pn	17 23 09.4	+0.2
DOPR	**Dopca**	**5.87 3**	⇑P	Pn	17 23 14.7	+1.3
PLOR	**Plostina**	**5.88 12**	⇑P	Pn	17 23 16.1	+2.5
VRI	**Vrincioaia**	**5.91 12**	⇑P	Pn	17 23 16.2	+2.3
BZS	**Buzias**	**6.01 337**	*e*Pn	Pn	17 23 15.8	+0.4
TESR	**Tescani**	**6.53 11**	⇓P	Pn	17 23 24.6	+2.2
BIZ	**Bicaz**	**6.88 7**	⇑P	Pn	17 23 29.6	+2.3
BURAR	**Bucovina Array**	**7.51 2**	⇓P	Pn	17 23 38.1	+2.1

*IDC **04** 17:23:02.5±1.3,26°.69S×114°.67W,h0km,mb4.0/6, mb1 4.3/6,mb1mx4.0/28,mbtmp4.0/6,Error ellipse: s-maj=47.0km s-min=28.1km az=56.0*
*NEIC **04** 17:23:03.9±2.0,26°.8S±0°.1×114°.4W±0°.2,h10km±1km, mb4.6/140,Error ellipse: s-maj=27.1km s-min=20.0km*

az=268.0
ISC 04 17:23:03.8±0.7,26°.7S±0°.1×114°.4W±0°.2,h10km,n165, σ1813/165,mb4.6/65,Easter Island region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VA03	**San Esteban**	**38.36**	**110**	P	**P**	**17 30 24.8**	**-0.5**
VA03				IAmb	IAmb	17 30 31.9	
comp=Z,13nm,1.2s							
PLCA	**Paso Flores**	**38.68**	**123**	P	**P**	**17 30 29.6**	**+1.8**
comp=Z,3.9nm,1.0s,baz=276,slow=6.8,SNR=7.3							
PLCA	**Paso Flores**	**38.68**	**123**	P	**P**	**17 30 29.9**	**+2.1**
AC05	**El Transito**	**38.96**	**104**	P	**P**	**17 30 31.6**	**+1.2**
ATAH	**Atahualpa**	**39.39**	**67**	P	**P**	**17 30 37.0**	**+2.5**
comp=Z,2.0nm,0.5s,baz=186,slow=4.5,SNR=1.6							
LVC	**Limon Verde**	**41.41**	**95**	P	**P**	**17 30 50.9**	**-0.1**
OTAV	**Otavalo**	**43.80**	**58**	P	**P**	**17 31 09.3**	**-1.3**
MTO3	**Montecristo**	**47.60**	**34**	P	**P**	**17 31 39.9**	**-0.4**
MTO3				IAmb	IAmb	17 31 48.9	
comp=Z,9.2nm,1.4s							
PETF	**Flores**	**49.52**	**32**	P	**P**	**17 31 54.0**	**-0.8**
PMSA	**Palmer Station**	**49.56**	**154**	P	**P**	**17 31 53.2**	**-1.3**
CPUP	**Villa Florida**	**50.71**	**103**	P	**P**	**17 32 01.6**	**-2.3**
TX32	**Lajitas Array**	**56.70**	**11**	P	**P**	**17 32 48.6**	**+1.0**
TXAR	**Lajitas Array**	**56.70**	**11**	P	**P**	**17 32 48.4**	**+0.8**
comp=Z,0.6nm,0.9s,baz=214,slow=8.7,SNR=4.0							
319A	**Douglas**	**58.00**	**5**	P	**P**	**17 32 58.3**	**+1.5**
319A				IAmb	IAmb	17 33 01.8	
comp=Z,6.5nm,1.1s							
JCT	**Junction City**	**58.59**	**15**	P	**P**	**17 33 01.7**	**+0.8**
MNTX	**Cornudas Mount**	**58.75**	**9**	P	**P**	**17 33 02.3**	**+0.4**
HKT	**Hockley**	**59.12**	**19**	P	**P**	**17 33 04.9**	**+0.5**
121A	**Cookes Peak, D**	**59.28**	**7**	P	**P**	**17 33 06.9**	**+1.1**
121A				IAmb	IAmb	17 33 08.1	
comp=Z,7.1nm,1.1s							
GDL2	**Guadalupe Moun**	**59.39**	**10**	P	**P**	**17 33 06.1**	**-0.4**
435B	**Jarrell**	**59.42**	**17**	P	**P**	**17 33 07.3**	**+0.7**
GLA	**Glamis**	**59.46**	**360**	P	**P**	**17 33 06.7**	**-0.2**
WHTX	**Lake Whitney,**	**60.60**	**17**	P	**P**	**17 33 14.5**	**-0.2**
WHTX				IAmb	IAmb	17 33 22.8	
comp=Z,4.9nm,0.8s							
ABTX	**Abilene, Hawle**	**60.69**	**14**	P	**P**	**17 33 15.7**	**+0.4**
LENM	**Lemitar**	**60.98**	**7**	P	**P**	**17 33 17.4**	**-0.1**
BNM	**Barren Site**	**61.01**	**7**	P	**P**	**17 33 18.7**	**+1.0**
NATX	**Nacogdoches**	**61.15**	**19**	P	**P**	**17 33 15.7**	**-2.7**
MSTX	**Muleshoe**	**61.38**	**11**	P	**P**	**17 33 20.1**	**0.0**
MSTX				IAmb	IAmb	17 33 26.5	
comp=Z,4.8nm,0.8s							
W13A	**Hualapai Mount**	**61.50**	**1**	P	**P**	**17 33 22.6**	**+1.6**
GSC	**Goldstone, Bar**	**61.74**	**358**	P	**P**	**17 33 22.8**	**+0.3**
ANMO	**Albuquerque**	**61.81**	**7**	P	**P**	**17 33 21.7**	**-1.3**
ANMO				IAmb	IAmb	17 33 25.5	
comp=Z,5.9nm,1.5s							
WUAZ	**Wupatki**	**61.99**	**3**	P	**P**	**17 33 25.6**	**+1.4**
U15A	**North Rim**	**62.86**	**2**	P	**P**	**17 33 30.7**	**+0.5**
U15A				IAmb	IAmb	17 33 34.4	
comp=Z,6.9nm,1.2s							
SHPR	**Sheep Range**	**62.91**	**359**	P	**P**	**17 33 32.4**	**+2.0**
SHPR				IAmb	IAmb	17 33 35.6	
comp=Z,6.7nm,1.2s							
Z41A	**Richland Creek**	**63.11**	**20**	P	**P**	**17 33 34.0**	**+2.4**
TPNV	**Topopah Spring**	**63.37**	**358**	P	**P**	**17 33 35.1**	**+1.7**
TPNV				IAmb	IAmb	17 33 41.7	
comp=Z,8.9nm,1.4s							
QSPA	**South Pole Qui**	**63.43**	**180**	P	**P**	**17 33 35.2**	**+1.7**
KNB	**Kanab**	**63.43**	**1**	P	**P**	**17 33 34.9**	**+1.1**
146A	**Union**	**63.80**	**24**	P	**P**	**17 33 37.4**	**+1.3**
PRN	**Pahroc Range**	**63.81**	**359**	P	**P**	**17 33 38.0**	**+1.8**
PRN				IAmb	IAmb	17 33 41.7	
comp=Z,8.5nm,1.4s							
MVCO	**Mesa Verde**	**63.85**	**5**	P	**P**	**17 33 36.6**	**0.0**
PKCU	**Pink Cliffs**	**63.87**	**2**	P	**P**	**17 33 35.5**	**-1.4**
CCUT	**Cedar City**	**63.96**	**1**	P	**P**	**17 33 37.0**	**-0.4**
SZCU	**Shurtz Canyon**	**64.01**	**1**	P	**P**	**17 33 38.8**	**+1.2**
BCOK	**Bluff Creek, N**	**64.06**	**15**	P	**P**	**17 33 37.6**	**-0.2**
MTPU	**Mount Pierson**	**64.47**	**2**	P	**P**	**17 33 39.1**	**-1.7**
S22A	**4UR Ranch, Cre**	**64.54**	**7**	P	**P**	**17 33 43.6**	**+2.4**
S22A				IAmb	IAmb	17 33 50.1	
comp=Z,4.6nm,1.2s							
Z47A	**Carrollton**	**64.66**	**24**	P	**P**	**17 33 42.4**	**+0.7**
SDCO	**Great Sand Dun**	**64.69**	**8**	P	**P**	**17 33 42.4**	**+0.2**
SDCO				IAmb	IAmb	17 33 46.5	
comp=Z,7.4nm,1.4s							
TUL1	**Leonard**	**64.75**	**17**	P	**P**	**17 33 44.4**	**+2.1**
R11A	**Troy Canyon, C**	**64.75**	**359**	P	**P**	**17 33 42.9**	**+0.4**
PV01	**Paradox Valley**	**64.77**	**5**	P	**P**	**17 33 42.3**	**-0.4**
PV01				IAmb	IAmb	17 33 50.6	
comp=Z,2.7nm,0.8s							
PV17	**East Wray Mesa**	**64.88**	**5**	P	**P**	**17 33 44.4**	**+1.1**
PV17				IAmb	IAmb	17 33 46.7	
comp=Z,4.5nm,0.9s							
NV11	**Mina Array Sit**	**64.92**	**357**	P	**P**	**17 33 45.1**	**+1.6**
NV11				IAmb	IAmb	17 33 47.8	
comp=Z,4.6nm,1.3s							
NVAR	**Mina Array Bea**	**64.93**	**357**	P	**P**	**17 33 44.6**	**+0.9**
comp=Z,0.9nm,0.9s,baz=177,slow=7.6,SNR=5.4							
NVAR	**Mina Array Bea**	**64.93**	**357**	P	**P**	**17 33 44.0**	**+0.3**
PV12	**Saucer Basin,**	**64.93**	**5**	P	**P**	**17 33 44.8**	**+1.1**
PV12				IAmb	IAmb	17 33 47.3	
comp=Z,3.7nm,0.7s							
PSUT	**Pine Spring**	**64.93**	**1**	P	**P**	**17 33 45.3**	**+1.6**
MVU	**Marysvale**	**64.93**	**2**	P	**P**	**17 33 44.5**	**+0.7**
PV20	**West Nyswonger**	**64.94**	**5**	P	**P**	**17 33 43.6**	**-0.1**
PV20				IAmb	IAmb	17 33 51.5	
comp=Z,3.9nm,0.8s							
MSU	**Marysvale**	**64.94**	**2**	P	**P**	**17 33 44.3**	**+0.5**
PV14	**Lion Creek, Pa**	**64.97

P38A	Dawn	68.84	17	P	P	17 34 08.5	+0.3
V53A	Saluda	68.88	27	P	P	17 34 08.9	+0.2
V53A				IAmb	IAmb	17 34 16.9	
comp=Z,4.8nm,1.1s							
BIRD	Birdtown, Kers	69.01	30	P	P	17 34 09.7	+0.2
AHID	Auburn Hatcher	69.23	3	P	P	17 34 09.8	-1.1
AHID				IAmb	IAmb	17 34 11.6	
comp=Z,6.0nm,1.4s							
T50A	Nancy	69.26	25	P	P	17 34 08.5	-2.5
BW06	Boulder Array	69.31	4	P	P	17 34 09.9	-1.5
PD31	Pinedale Array	69.31	4	P	P	17 34 10.2	-1.2
PDAR	Pinedale Array	69.31	4	P	P	17 34 10.3	-1.1
comp=Z,0.8nm,0.8s,baz=152,slow=6.7,SNR=7.1							
PDAR	Pinedale Array	69.31	4	P	P	17 34 09.9	-1.5
K22A	Casper	69.43	6	P	P	17 34 11.9	-0.2
K22A				IAmb	IAmb	17 34 13.4	
comp=Z,5.1nm,0.9s							
MFID	Camas Ranch	69.82	359	P	P	17 34 14.8	+0.3
MFID				IAmb	IAmb	17 34 22.2	
comp=Z,6.9nm,1.4s							
REDW	Red Top Meadow	69.83	3	P	P	17 34 13.1	-1.5
J08A	Circle Bar Ran	69.85	357	P	P	17 34 14.5	-0.1
J08A				IAmb	IAmb	17 34 19.0	
comp=Z,3.0nm,0.5s							
HLID	Hailey	69.95	0	P	P	17 34 16.4	+1.1
HLID				IAmb	IAmb	17 34 20.0	
comp=Z,8.3nm,1.4s							
TPAW	Teton Pass	69.95	3	P	P	17 34 14.8	-0.6
TPAW				IAmb	IAmb	17 34 19.3	
comp=Z,5.5nm,1.2s							
LOHW	Long Hollow	70.09	3	P	P	17 34 14.7	-1.5
FXWY	Fox Creek	70.10	3	P	P	17 34 15.5	-0.8
FXWY				IAmb	IAmb	17 34 24.4	
comp=Z,5.4nm,1.4s							
R49A	Shelbyville	70.26	24	P	P	17 34 16.1	-1.0
R49A				IAmb	IAmb	17 34 17.6	
comp=Z,4.0nm,0.8s							
S51A	Beattyville	70.28	26	P	P	17 34 17.1	-0.2
IMW	Indian Meadow	70.36	3	P	P	17 34 16.9	-1.0
PINE	Pine Mountain	70.44	355	P	P	17 34 14.1	-4.2
PINE				IAmb	IAmb	17 34 16.7	
comp=Z,7.3nm,1.3s							
FLWY	Flagg Ranch	70.56	3	P	P	17 34 19.2	+0.1
FLWY				IAmb	IAmb	17 34 20.5	
comp=Z,7.0nm,1.1s							
R50A	Paris	70.56	25	P	P	17 34 18.7	-0.3
R50A				IAmb	IAmb	17 34 27.5	
comp=Z,5.4nm,1.1s							
HDIL	Hopedale	70.91	20	P	P	17 34 22.7	+1.6
YMR	Madison River	71.13	3	P	P	17 34 23.4	+0.8
RSSD	Black Hills	71.15	8	P	P	17 34 21.5	-1.2
YHB	Horse Butte	71.20	2	P	P	17 34 23.0	0.0
MCMT	McKenzie Canyo	71.23	1	P	P	17 34 23.7	+0.5
YHH	Holmes Hill	71.25	3	P	P	17 34 24.3	+0.9
QLMT	Earthquake Lak	71.28	2	P	P	17 34 22.5	-0.9
BMO	Blue Mountains	71.29	358	P	P	17 34 23.6	+0.2
YHL	Hebgen Lake	71.30	2	P	P	17 34 23.3	-0.4
YNE	Yellowstone No	71.51	3	P	P	17 34 24.5	-0.4
U59A	Littleton	71.63	31	P	P	17 34 24.7	-0.7
U59A				IAmb	IAmb	17 34 25.8	
comp=Z,6.3nm,1.2s							
RLMT	Red Lodge	71.67	4	P	P	17 34 25.7	-0.1
RLMT				IAmb	IAmb	17 34 30.4	
comp=Z,7.5nm,1.4s							
L40A	Anamosa	71.74	18	P	P	17 34 25.0	-1.0
DLMT	Dillon	71.77	1	P	P	17 34 27.2	+0.9
G08A	Pilot Rock	71.80	357	P	P	17 34 27.3	+0.9
ECSD	EROS Data Cent	72.01	13	P	P	17 34 26.9	-0.7
ECSD				IAmb	IAmb	17 34 31.1	
comp=Z,12nm,1.5s							
BOZ	Bozeman (W)	72.03	2	P	P	17 34 29.2	+1.3
LRM	Limekiln Ridge	72.24	1	P	P	17 34 29.7	+0.5
S57A	Dark Hollow, R	72.29	29	P	P	17 34 29.8	+0.4
S57A				IAmb	IAmb	17 34 33.6	
comp=Z,6.8nm,1.2s							
GCMT	Greycliff	72.31	4	P	P	17 34 28.9	-0.7
I37A	Lemond, Waseca	73.00	16	P	P	17 34 32.4	-1.1
E08A	Dider Farm, El	73.00	357	P	P	17 34 31.8	-1.7
E07A	Sunnyside	73.11	356	P	P	17 34 32.4	-1.7
HRY	Holter Researc	73.14	2	P	P	17 34 33.1	-1.3
MSO	Missoula	73.22	0	P	P	17 34 35.4	+0.6
F33A	5 Mile Ranch,	74.09	13	P	P	17 34 41.1	+1.2
F33A				IAmb	IAmb	17 34 46.8	
comp=Z,8.5nm,1.2s							
JTMT	Jette	74.14	0	P	P	17 34 40.4	+0.1
JTMT				IAmb	IAmb	17 34 48.9	
comp=Z,8.1nm,1.3s							
C09A	Chrisman Ranch	74.27	357	P	P	17 34 41.7	+0.8
C09A				IAmb	IAmb	17 34 45.6	
comp=Z,7.0nm,1.4s							
EGMT	Eagleton	74.53	3	P	P	17 34 42.5	0.0
EGMT				IAmb	IAmb	17 34 51.1	
comp=Z,9.8nm,1.4s							
O56A	Blue Knob Stat	74.55	28	P	P	17 34 44.0	+1.3
N54A	Moraine State	74.56	26	P	P	17 34 42.8	+0.1
N54A				IAmb	IAmb	17 34 43.4	
comp=Z,7.7nm,0.9s							
NEW	Newport	74.70	358	P	P	17 34 44.5	+1.2
NEW				IAmb	IAmb	17 34 47.1	
comp=Z,7.9nm,1.2s							
F36A	Milaca	74.71	15	P	P	17 34 43.1	-0.4
F36A				IAmb	IAmb	17 34 50.6	
comp=Z,4.7nm,0.9s							
SADO	Sadowa	78.12	25	P	P	17 35 01.8	-1.1
SADO				IAmb	IAmb	17 35 07.4	
comp=Z,10nm,1.4s							
ULM	Lac du Bonnet	78.40	12	P	P	17 35 04.4	+0.2
comp=Z,2.4nm,0.5s,baz=225,slow=2.9,SNR=1.9							
ULM	Lac du Bonnet	78.40	12	P	P	17 35 04.3	+0.1
ULM				IAmb	IAmb	17 35 07.9	
comp=Z,8.1nm,1.2s							
J58A	Remsen	78.48	28	P	P	17 35 05.6	+0.7
DELO	Deloro Mine	78.49	26	P	P	17 35 05.0	+0.2
DELO				IAmb	IAmb	17 35 06.3	
comp=Z,10nm,1.2s							
PLVO	Plevna	79.14	26	P	P	17 35 09.0	+0.6
PLVO				IAmb	IAmb	17 35 14.7	
comp=Z,5.7nm,1.1s							
ACCN	Adirondack Com	79.19	29	P	P	17 35 09.3	+0.5
FFC	Flin Flon	81.83	7	P	P	17 35 20.0	-2.7
FFC				IAmb	IAmb	17 35 21.0	
comp=Z,11nm,1.5s							
DLBC	Dease Lake	85.84	352	P	P	17 35 43.7	+0.5
MAW	Mawson	85.93	179	P	P	17 35 42.6	-1.0
BPAW	Bear Paw Mtn.	94.96	345	P	P	17 36 26.3	+0.4
CMAR	Chiang Mai Arr	148.17	262	PKPbc	PKPbc	17 42 50.9	+0.3
comp=Z,0.7nm,0.4s,baz=126,slow=1.2,SNR=2.7							
ZAA0	Zalesovo Array	149.32	338		PKPbc	17 42 52.1	-0.3
ZALV	Zalesovo Beam	149.32	338	PKPbc	PKPbc	17 42 52.0	-0.5
comp=Z,1.0nm,0.6s,baz=28,slow=3.5,SNR=4.9							
ZALV	Zalesovo Beam	149.32	338		PKPbc	17 42 51.6	-0.9
ARU	Arti	149.91	8		PKiKP	17 42 54.7	-0.1
BRTR	Keskin Array B	150.49	56	PKPbc	PKiKP	17 42 56.5	-0.2
comp=Z,1.0nm,0.5s,baz=215,slow=1.6,SNR=1.9							
BRTR	Keskin Array B	150.49	56		PKPbc	17 42 55.6	-0.3
MMAI	Mount Meron Ar	153.17	69	PKPbc	PKPbc	17 43 01.6	-0.6
comp=Z,0.5nm,0.5s,baz=56,slow=5.4,SNR=1.6							

IDC ***04*** *17:23:13.7±0.5,26°.58S×114°.54W,h0km,mb4.4/18, mb1 4.5/18,mb1mx4.5/28,mbtmp4.3/18,MS4.7/1, Ms1 4.7/1,ms1mx4.1/6,Error ellipse: s-maj=20.3km s-min=16.1km az=96.0*

MOS ***04*** *17:23:14.1±1.0,26°.55S×114°.36W,h10km,mb5.2/5,Error ellipse: s-maj=13.3km s-min=8.4km az=82.6*

NEIC ***04*** *17:23:15.4±1.1,26°.63S±0°.04×114°.5W±0°.1,h10km±1km, mb5.1/196,Mwc5.4(GCMT),Error ellipse: s-maj=22.3km s-min=5.8km az=260.0*

BJI ***04*** *17:23:15.5±0.0,26°.70S×114°.50W,h15km,mB5.3/4, Ms5.4/7,Ms7 5.1/7*

UNK ***04*** *17:23:15.4,26°.64S×114°.48W,h10km*

GCMT ***04*** *17:23:19.4±0.1,26°.78S±0°.01×114°.41W±0°.01,h12km, MW5.3/140,Moment Tensor Solution. s104,c174; s140,c264; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.09±.02; $M_{\theta\theta}$0.29±.02; $M_{\phi\phi}$0.80±.01; $M_{r\theta}$0.34±.04; $M_{\theta\phi}$-0.72±.01; $M_{\phi r}$0.12±.04; Best double couple: $M_0$1.26600×10^{17} NP1:ϕ_s163.00000°,δ46.00000°, λ-63.00000°. NP2:ϕ_s307.00000°,δ50.00000°, λ-115.00000°. Principal axes: T 1.3190, Plg2.0000°, Azm54.0000°; N -0.1020, Plg19.0000°, Azm323.0000°; P -1.2120, Plg71.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***04*** *17:23:19,26°.83S×114.42W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.13; $M_{\theta\theta}$0.31; $M_{\phi\phi}$0.83; $M_{r\theta}$0.12; $M_{\theta\phi}$-0.79; $M_{\phi r}$0.46; Fault plane solution: $M_0$1.37000×10^{17} NP1:ϕ_s305.00000°, δ42.00000°,λ-120.00000°. NP2:ϕ_s162.00000°, δ55.00000°,λ-66.00000°. Principal axes: T 1.4366, Plg7.0000°, Azm236.0000°; N -0.1429, Plg19.0000°, Azm328.0000°; P -1.2937, Plg70.0000°, Azm127.0000°;*

ISC 04 17:23:15.0±0.3,26°.66S±0°.07×114°.50W±0°.07,h10km, n421,σ1§05/394,mb5.1/120,MS5.0/6,3C,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	4.64	97	LR	LR	17 25 46.6	
comp=Z,9μm,18.7s,baz=274,slow=33							
RPN				T	T	17 28 57.6	
33nm,0.3s,baz=222,slow=22,SNR=4.1							
RKT	Rikitea	18.90	276	eLQ	LQ	17 31 11.1	
6μm,29.2s							
RKT				eLR	LR	17 31 54.7	
comp=Z,5μm,29.0s							
TAOE	Nuku Hiva Isla	30.06	301	eLR	LR	17 37 17.0	
comp=Z,2μm,26.4s							
H03N2	Juan Fernandez	31.41	111	T	T	18 02 31.3	
baz=277,slow=74,SNR=5876							
H03N3	Juan Fernandez	31.42	111	T	T	18 02 38.7	
baz=277,slow=74,SNR=5933							
H03N1	Juan Fernandez	31.43	111	T	T	18 02 38.5	
baz=277,slow=74,SNR=6980							
TBI	Tubuai	31.80	268	eS	S	17 34 49.3	-0.9
416nm,29.2s							
TBI				eLQ	LQ	17 36 32.8	
2μm,33.0s							
TBI				eLR	LR	17 37 50.9	
comp=Z,3μm,29.5s							
TBI	Tubuai	31.80	268	eT	T	18 02 54.8	
49nm,0.2s							
PPT2	Papeete2	33.63	278	eS	S	17 35 19.0	0.0
460nm,26.8s							
PPT2				eLQ	LQ	17 37 21.8	
2μm,32.2s							
PPT2				eLR	LR	17 38 44.3	
comp=Z,6μm,26.8s							
LL01	San Ignacio de	37.65	126	P	P	17 30 30.4	+0.2
LCO	Las Campanas	38.64	104	P	P	17 30 37.6	-1.5
LCO				pmax	pmax		
comp=Z,49nm,1.1s							
LCO	Las Campanas	38.64	104	P	P	17 30 37.6	-1.5
LCO				IAmb	IAmb	17 30 39.4	
comp=Z,49nm,1.1s							
PLCA	Paso Flores	38.77	123	P	P	17 30 41.1	+1.3
comp=Z,16nm,0.9s,baz=280,slow=9.0,SNR=30							
PLCA	Paso Flores	38.77	123	P	P	17 30 39.6	-0.2
PLCA				pmax	pmax		
comp=Z,34nm,1.1s							
PLCA	Paso Flores	38.77	123	P	P	17 30 39.6	-0.2
PLCA				IAmb	IAmb	17 30 49.6	
comp=Z,34nm,1.1s							
AC05	El Transito	39.04	104	P	P	17 30 42.6	+0.3
CO01	Juntas del Tor	39.05	105	P	P	17 30 43.1	+0.6
ATAH	Atahualpa	39.42	67	P	P	17 30 48.0	+2.1
comp=Z,9.7nm,0.9s,baz=241,slow=11,SNR=4.5							
ZON	Zonda	40.11	108	P	P	17 30 51.5	+0.4
ZON				pmax	pmax		
comp=Z,21nm,1.1s							
ZON	Zonda	40.11	108	P	P	17 30 51.5	+0.4
GO09	Cerro Castillo	40.19	139	P	P	17 30 51.9	+0.4
GO09				IAmb	IAmb	17 31 02.1	
comp=Z,35nm,1.1s							
PB07	IPOC Station P	40.84	93	P	P	17 30 58.1	+0.7
PB07				IAmb	IAmb	17 31 01.2	
comp=Z,41nm,1.4s							
LVC	Limon Verde	41.47	95	P	P	17 31 03.3	+0.5
LVC				pmax	pmax		
comp=Z,42nm,1.7s							
LVC	Limon Verde	41.47	95	P	P	17 31 03.3	+0.5
OTAV	Otavalo	43.81	58	eP	P	17 31 21.5	-0.4
OTAV	Otavalo	43.81	58	P	P	17 31 22.6	+0.7
OTAV				pmax	pmax		
comp=Z,18nm,1.4s							
OTAV	Otavalo	43.81	58	P	P	17 31 22.6	+0.7
LPAZ	La Paz	44.16	86	P	P	17 31 25.4	+0.5
comp=Z,2.8nm,0.8s,baz=227,slow=6.6,SNR=8.0							
LPAZ	La Paz	44.16	86	P	P	17 31 25.6	+0.6
LPAZ				pmax	pmax		
comp=Z,9.0nm,1.2s							
LPAZ	La Paz	44.16	86	P	P	17 31 25.6	+0.6
CMBC	Cumbal	44.73	58	eP	P	17 31 39.5	+10
JTS	Las Juntas de	46.61	42	P	P	17 31 43.5	-0.1
comp=Z,4.1nm,0.6s,baz=267,slow=23,SNR=2.2							
CMIG	Matias Romero	47.48	26	P	P	17 31 50.1	-0.2
comp=Z,2.1nm,0.7s,baz=198,slow=16,SNR=2.4							
MTO3	Montecristo	47.57	34	P	P	17 31 52.3	+1.1
MTO3				IAmb	IAmb	17 31 55.9	
comp=Z,26nm,1.4s							
MACC	Macarena, Meta	48.56	60	eP	P	17 31 56.9	-2.0
ORTC	Ortega, Tolima	48.61	57	eP	P	17 31 58.0	-1.3
BCIP	Isla Barro Col	48.99	48	eP	P	17 32 09.9	+7.9
TOLC	Tolima	49.00	57	eP	P	17 32 03.5	+0.9
CBOC	Ciudad Bolivar	49.34	55	eP	P	17 32 04.9	-0.1
GUY2C	Guyana, Caldas	49.39	56	eP	P	17 32 03.3	-2.4
PETF	Flores	49.48	32	P	P	17 32 07.0	+1.2
PMSA	Palmer Station	49.66	154	P	P	17 32 07.4	+0.9
comp=Z,4.3nm,1.0s,baz=302,slow=6.7,SNR=7.4							
PMSA	Palmer Station	49.66	154	P	P	17 32 07.4	+0.9
NORC	Norcasia	49.98	56	eP	P	17 32 06.4	-3.4
CHIC	Chingaza	50.22	58	eP	P	17 32 08.5	-3.5
CPUP	Villa Florida	50.78	103	P	P	17 32 14.6	-1.1
comp=Z,3.5nm,1.0s,baz=249,slow=13,SNR=3.4							
CPUP	Villa Florida	50.78	103	P	P	17 32 15.1	-0.6
CPUP				pmax	pmax		
comp=Z,30nm,1.8s							
CPUP	Villa Florida	50.78	103	P	P	17 32 15.1	-0.6
PTBC	PUERTO BERRIO,	50.94	55	eP	P	17 32 14.8	-2.1
RUSC	La Rusia	51.53	57	eP	P	17 32 20.7	-1.3
SAML	Samuel	51.57	80	P	P	17 32 20.8	-0.9
SAML				pmax	pmax		
comp=Z,5.0nm,1.2s							
SAML	Samuel	51.57	80	P	P	17 32 20.8	-0.9
MOTC	Monteria, Cord	51.58	52	eP	P	17 32 18.4	-3.3
BARC	Barichara	51.91	56	eP	P	17 32 25.0	+0.5
SMLC	San Martn de	52.74	54	eP	P	17 32 30.1	-0.2
SDV	Santo Domingo	55.32	56	P	P	17 32 50.1	+0.7
TX31	Lajitas Ar. Si	56.63	11	P	P	17 32 59.4	+0.9
TX31				IAmb	IAmb	17 33 22.7	
comp=Z,41nm,1.8s							
TX32	Lajitas Array	56.63	11	P	P	17 32 59.5	+1.1
TXAR	Lajitas Array	56.63	11	P	P	17 32 59.2	+0.8
comp=Z,1.1nm,0.7s,baz=199,slow=6.6,SNR=8.7							
319A	Douglas	57.92	5	P	P	17 33 08.7	+1.2
PTGA	Pitinga	58.34	73	P	P	17 33 10.5	-0.3
PTGA				IAmb	IAmb	17 33 11.6	
comp=Z,22nm,1.8s							
JCT	Junction City	58.53	15	P	P	17 33 11.2	-0.5
JCT				pmax	pmax		
comp=Z,45nm,1.1s							
JCT	Junction City	58.53	15	P	P	17 33 12.5	+0.8
baz=195							
JCT	Junction City	58.53	15	P	P	17 33 11.2	-0.5
MNTX	Cornudas Mount	58.68	9	P	P	17 33 13.4	+0.8
baz=190							
TUC	Tucson	58.75	4	P	P	17 33 14.8	+1.6
TUC				pmax	pmax		
comp=Z,7.0nm,1.6s							
TKX	Tecate	58.93	358	P	P	17 33 15.0	+0.5
IKP	In-Ko-Pah, Jac	59.00	358	P	P	17 33 15.9	+1.0
baz=178							
BAR	Barrett	59.04	358	P	P	17 33 13.3	-1.9
BAR				IAmb	IAmb	17 33 20.1	
comp=Z,36nm,1.8s							
HKT	Hockley	59.06	19	P	P	17 33 15.3	+0.1
HKT				pmax	pmax		
comp=Z,43nm,1.5s							
HKT	Hockley	59.06	19	P	P	17 33 15.3	+0.1
113A	Mohawk Valley,	59.10	1	P	P	17 33 15.9	+0.4
113A				IAmb	IAmb	17 33 20.6	
comp=Z,18nm,1.2s							
121A	Cookes Peak, D	59.21	7	P	P	17 33 17.6	+1.0
baz=187							
121A	Cookes Peak, D	59.21	7	P	P	17 33 16.3	-0.2
121A				IAmb	IAmb	17 33 20.6	
comp=Z,30nm,1.6s							
GDL2	Guadalupe Moun	59.32	10	P	P	17 33 17.5	+0.2
435B	Jarrell	59.36	17	P	P	17 33 18.9	+1.4
GLA	Glamis	59.38	360	P	P	17 33 18.2	+0.7
GLA				pmax	pmax		
comp=Z,13nm,1.1s							
GLA	Glamis	59.38	360	P	P	17 33 18.2	+0.7
GLA				IAmb	IAmb	17 33 21.7	
comp=Z,13nm,1.1s							
BC3	Big Chuckawall	59.99	359	P	P	17 33 23.1	+1.3
baz=179							
BELC	Belle Mtn. Jos	60.34	359	P	P	17 33 25.7	+1.4
baz=178							
IRM	Iron Mountain	60.48	359	P	P	17 33 27.4	+2.3
baz=179							
WHTX	Lake Whitney,	60.54	17	P	P	17 33 26.1	+0.6
WHTX				IAmb	IAmb	17 33 29.4	
comp=Z,20nm,1.0s							
ABTX	Abilene, Hawle	60.63	14	P	P	17 33 26.0	-0.1
ABTX				IAmb	IAmb	17 33 28.4	
comp=Z,24nm,1.1s							
X16A	Lo Mia Camp, P	60.81	3	P	P	17 33 28.1	+0.6
X16A				IAmb	IAmb	17 35 31.0	
comp=Z,7.9nm,0.7s							
NATX	Nacogdoches	61.10	19	P	P	17 33 30.2	+0.9
GMRC	Granite Mounta	61.12	359	P	P	17 33 30.2	+0.7
baz=179							
MSTX	Muleshoe	61.31	11	P	P	17 33 31.0	+0.2
baz=192							
GSC	Goldstone, Bar	61.66	358	P	P	17 33 34.2	+1.1
GSC				pmax	pmax		
comp=Z,19nm,1.5s							
GSC	Goldstone, Bar	61.66	358	P	P	17 33 34.6	+1.5
baz=178							
GSC	Goldstone, Bar	61.66	358	P	P	17 33 34.2	+1.1
GSC				IAmb	IAmb	17 33 37.5	
comp=Z,19nm,1.4s							
ANMO	Albuquerque	61.74	7	P	P	17 33 34.0	+0.2
ANMO				pmax	pmax		
comp=Z,7.0nm,1.2s							
ANMO	Albuquerque	61.74	7	P	P	17 33 34.0	+0.2
TUQ	Turquoise Moun	61.77	359	P	P	17 33 35.7	+1.7
baz=178							
Z35A	Perchaven, San	61.87	16	P	P	17 33 34.7	+0.2
WUAZ	Wupatki	61.91	3	P	P	17 33 36.6	+1.7
WUAZ				IAmb	IAmb	17 33 40.1	
comp=Z,20nm,1.2s							
BELA	Belgrano 2	62.00	166	P	P	17 33 35.5	+0.5
ISA	Isabella, Lake	62.10	356	P	P	17 33 37.0	+0.9
ISA				pmax	pmax		
comp=Z,13nm,1.5s							
ISA	Isabella, Lake	62.10	356	P	P	17 33 37.2	+1.2
baz=176							
ISA	Isabella, Lake	62.10	356	P	P	17 33 37.0	+0.9
MSVF	Nonsavu	62.47	263	P	P	17 33 40.7	+1.6
MSVF				pmax	pmax		
comp=Z,18nm,1.5s							
U15A	North Rim	62.78	2	P	P	17 33 42.5	+1.6
VNDA	Vanda	62.80	194	P	P	17 33 41.4	+1.2
comp=Z,1.2nm,0.9s,baz=138,slow=1.7,SNR=4.6							
VNDA				PcP	PcP	17 34 20.9	+2.4
comp=Z,3.3nm,1.0s,baz=48,slow=3.5,SNR=6.0							
TPNV	Topopah Spring	63.29	358	P	P	17 33 45.8	+1.7
baz=178							
KNB	Kanab	63.35	2	P	P	17 33 45.8	+1.2
KNB				pmax	pmax		
comp=Z,16nm,1.2s							
KNB	Kanab	63.35	2	P	P	17 33 45.8	+1.2
QSPA	South Pole Qui	63.51	180	P	P	17 33 45.7	+0.4
MVCO	Mesa Verde	63.78	5	P	P	17 33 48.3	+0.9
baz=186							
PKCU	Pink Cliffs	63.79	2	P	P	17 33 49.2	+1.6
MIAR	Mount Ida	64.02	19	P	P	17 33 49.7	+1.0
MIAR				pmax	pmax		
comp=Z,11nm,1.1s							
MIAR	Mount Ida	64.02	19	P	P	17 33 49.7	+1.0
MIAR				IAmb	IAmb	17 33 52.3	
comp=Z,11nm,1.1s							
T25A	Trinidad	64.16	9	P	P	17 33 51.3	+1.3
baz=190							
T25A	Trinidad	64.16	9	P	P	17 33 50.6	+0.7
T25A				IAmb	IAmb	17 33 53.5	
comp=Z,27nm,1.7s							
OK029	Liberty Lake	64.17	15	P	P	17 33 51.3	+1.6
GRGR	Grenville	64.19	60	P	P	17 33 50.7	+0.4
MTPU	Mount Pierson	64.39	2	P	P	17 33 52.5	+0.9
TPH	Tonopah	64.44	358	P	P	17 33 51.7	0.0
TPH				pmax	pmax		
comp=Z,132nm,1.8s							
TPH	Tonopah	64.44	358	P	P	17 33 51.6	0.0
CMB	Columbia Colle	64.59	355	P	P	17 33 52.9	+0.4
CMB				pmax	pmax		
comp=Z,26nm,1.8s							
CMB	Columbia Colle	64.59	355	P	P	17 33 52.9	+0.4
CMB				IAmb	IAmb	17 33 55.7	
comp=Z,26nm,1.8s							
SDCO	Great Sand Dun	64.62	8	P	P	17 33 53.8	+0.8
baz=189							
PV13	Radium Mtn., P	64.69	5	P	P	17 33 53.5	0.0
PV13				IAmb	IAmb	17 33 56.9	
comp=Z,27nm,1.6s							
PV02	Paradox Valley	64.75	5	P	P	17 33 54.2	+0.5
PV02				IAmb	IAmb	17 33 57.3	
comp=Z,20nm,1.4s							
PV18	Skein Mesa, Pa	64.77	5	P	P	17 33 54.1	+0.2
PV18				IAmb	IAmb	17 33 57.4	
comp=Z,13nm,1.2s							
PV03	Paradox Valley	64.79	5	P	P	17 33 54.4	+0.4
PV17	East Wray Mesa	64.80	5	P	P	17 33 54.5	+0.4
PV19	Morning Glory	64.83	5	P	P	17 33 50.9	-3.3
NV11	Mina Array Sit	64.84	357	P	P	17 33 55.5	+1.3
NV11				IAmb	IAmb	17 33 58.7	
comp=Z,20nm,1.4s							
NVAR	Mina Array Bea	64.84	357	P	P	17 33 55.1	+0.7
comp=Z,4.7nm,1.0s,baz=202,slow=11,SNR=4.3							
PSUT	Pine Spring	64.85	1	P	P	17 33 54.8	+0.4
PSUT				IAmb	IAmb	17 34 15.2	
comp=Z,17nm,1.3s							
PV12	Saucer Basin,	64.85	5	P	P	17 33 55.2	+0.8
MVU	Marysvale	64.85	2	P	P	17 33 55.2	+0.8
MSU	Marysvale	64.86	2	P	P	17 33 54.9	+0.4
MSU	Marysvale	64.86	2	P	P	17 33 54.9	+0.

comp=Z,24nm,1.8s
TMUT Trail Mountain 65.68 3 P **P 17 33 59.6 -0.3**
FCAR Ozark Folk Cen 65.70 20 P **P 17 33 60.0 +0.3**
FCAR IAmb IAmb 17 34 03.4
comp=Z,22nm,1.4s
Y49A Blount Mountai 65.83 25 P **P 17 34 00.7 +0.1**
Z51A Franklin 65.84 27 P **P 17 34 00.7 +0.1**
Q24A Divide 65.86 8 P **P 17 34 00.8 -0.3**
P17A Butcher Ranch, 65.88 3 P **P 17 34 01.1 +0.1**
PLAL Pickwick Lake 66.21 24 P **P 17 34 02.1 -0.9**
KSCO Kaye Shedlock' 66.26 10 P **P 17 34 03.4 -0.1**
NLU North Lily Min 66.31 2 P **P 17 34 06.2 +2.4**
DUG Dugway, Tooele 66.53 1 P **P 17 34 06.6 +1.5**
DUG pmax pmax
comp=Z,26nm,1.5s
DUG Dugway, Tooele 66.53 1 P **P 17 34 06.6 +1.5**
baz=182
DUG Dugway, Tooele 66.53 1 P **P 17 34 06.6 +1.5**
DUG IAmb IAmb 17 34 09.1
comp=Z,26nm,1.4s
GOGA Godfrey 66.62 28 P **P 17 34 04.8 -0.9**
GOGA pmax pmax
comp=Z,10.0nm,1.1s
GOGA Godfrey 66.62 28 P **P 17 34 05.2 -0.5**
baz=210
GOGA Godfrey 66.62 28 P **P 17 34 04.8 -0.9**
ISCO Idaho Springs 66.63 7 P **P 17 34 05.5 -0.5**
ISCO pmax pmax
comp=Z,20nm,1.6s
ISCO Idaho Springs 66.63 7 P **P 17 34 05.5 -0.5**
ISCO IAmb IAmb 17 34 09.6
comp=Z,20nm,1.6s
O20A White River Ci 66.70 5 P **P 17 34 06.6 +0.3**
O20A IAmb IAmb 17 34 10.8
comp=Z,18nm,1.4s
FPAL Fort Paine 66.74 26 P **P 17 34 05.5 -0.9**
Y52A Lilburn 66.76 27 P **P 17 34 06.8 +0.2**
Y52A IAmb IAmb 17 34 10.0
comp=Z,9.7nm,0.9s
MGMO Mountain Grove 66.83 19 P **P 17 34 06.0 -0.9**
JLU Jordanelle 66.97 3 P **P 17 34 08.1 +0.1**
S39A Bolivar 67.03 18 P **P 17 34 08.5 +0.3**
S39A IAmb IAmb 17 34 11.8
comp=Z,18nm,1.4s
T42A Van Buren 67.07 20 P **P 17 34 08.1 -0.3**
T42A IAmb IAmb 17 34 11.8
comp=Z,11nm,1.1s
SWET Sewanee 67.21 25 P **P 17 34 09.0 -0.4**
SWET IAmb IAmb 17 34 12.6
comp=Z,19nm,1.1s
BGU Big Grassy Mou 67.25 1 P **P 17 34 09.8 +0.1**
WVT Waverly 67.33 23 P **P 17 34 09.7 -0.4**
WVT pmax pmax
comp=Z,9.0nm,1.0s
WVT Waverly 67.33 23 P **P 17 34 09.8 -0.2**
baz=206
WVT Waverly 67.33 23 P **P 17 34 09.7 -0.4**
TCUT Toone Canyon 67.49 3 P **P 17 34 11.8 +0.4**
N23A Red Feather La 67.67 7 P **P 17 34 13.6 +1.1**
baz=188
N23A Red Feather La 67.67 7 P **P 17 34 12.7 +0.2**
Y55A Saluda 67.76 29 P **P 17 34 12.5 -0.3**
baz=211
HODGE Hodges 67.84 29 P **P 17 34 13.4 +0.1**
R40A Maddies Statio 67.88 19 P **P 17 34 12.9 -0.7**
R40A IAmb IAmb 17 34 17.1
comp=Z,16nm,1.1s
W52A Murphy 67.89 27 P **P 17 34 13.9 +0.2**
W52A IAmb IAmb 17 34 17.8
comp=Z,7.7nm,0.8s
CPCT Cooper Cave 67.96 26 P **P 17 34 14.2 +0.1**
CCM Cathedral Cave 67.97 20 P **P 17 34 14.0 -0.1**
CCM pmax pmax
comp=Z,13nm,1.2s
CCM Cathedral Cave 67.97 20 P **P 17 34 14.0 -0.1**
CCM IAmb IAmb 17 34 17.6
comp=Z,13nm,1.1s
S44A Carbondale 68.26 21 P **P 17 34 15.6 -0.3**
S44A IAmb IAmb 17 34 18.2
comp=Z,14nm,0.9s
RWWY Rawlins 68.33 6 P **P 17 34 16.3 -0.3**
RWWY IAmb IAmb 17 34 41.6
comp=Z,16nm,1.2s
T47A Sharon Grove 68.35 23 P **P 17 34 16.5 0.0**
T47A IAmb IAmb 17 34 18.4
comp=Z,15nm,1.0s
U49A Red Boiling Sp 68.41 25 P **P 17 34 15.8 -1.1**
MOD Modoc Plateau 68.42 355 P **P 17 34 17.9 +0.8**
MOD IAmb IAmb 17 34 22.0
comp=Z,28nm,1.6s
P38A Dawn 68.78 17 P **P 17 34 19.1 0.0**
P38A IAmb IAmb 17 34 22.7
comp=Z,18nm,1.0s
V53A Saluda 68.84 27 P **P 17 34 20.0 +0.3**
V53A IAmb IAmb 17 34 23.3
comp=Z,14nm,1.1s
BIRD Birdtown, Kers 68.97 30 P **P 17 34 20.6 +0.2**
BIRD IAmb IAmb 17 34 24.1
comp=Z,18nm,1.2s
KMSC Kings Mountain 69.01 29 P **P 17 34 20.8 +0.1**
AHID Auburn Hatcher 69.15 3 P **P 17 34 21.1 -0.5**
T50A Nancy 69.22 25 P **P 17 34 21.8 -0.1**
T50A IAmb IAmb 17 34 24.4
comp=Z,26nm,1.6s
BW06 Boulder Array 69.23 4 P **P 17 34 22.7 +0.6**
baz=185
PD31 Pinedale Array 69.23 4 P **P 17 34 22.7 +0.6**
PD31 IAmb IAmb 17 34 24.7
comp=Z,20nm,1.4s
PDAR Pinedale Array 69.23 4 P **P 17 34 21.8 -0.4**
comp=Z,2.7nm,0.8s,baz=173,slow=6.4,SNR=9.1
K05A Summer Lake 69.29 355 P **P 17 34 22.4 -0.1**
K05A IAmb IAmb 17 34 38.6
comp=Z,24nm,1.3s
V54A Nebo 69.29 28 P **P 17 34 22.1 -0.3**
baz=211
TZTN Tazewell 69.30 26 P **P 17 34 21.8 -0.7**
TZTN IAmb IAmb 17 34 26.2
comp=Z,12nm,1.1s
K22A Casper 69.35 6 P **P 17 34 23.2 +0.3**
baz=188
N35A Tabor 69.42 15 P **P 17 34 24.1 +1.0**
ECR Eagle Creek 69.42 2 P **P 17 34 23.3 -0.1**
Q44A Meyer Farm, Va 69.44 21 P **P 17 34 19.8 -3.4**
W57A Gilead 69.60 30 P **P 17 34 24.2 -0.1**
W57A IAmb IAmb 17 34 26.2
comp=Z,8.1nm,0.8s
VNA3 Neumayer Olymp 69.63 161 P **P 17 34 24.1 -0.1**
V55A Taylorsville 69.66 28 P **P 17 34 25.1 +0.4**
baz=212
V55A Taylorsville 69.66 28 P **P 17 34 24.9 +0.1**
V55A IAmb IAmb 17 34 28.3
comp=Z,14nm,1.1s
MFID Camas Ranch 69.74 359 P **P 17 34 26.1 +1.0**
MFID IAmb IAmb 17 34 28.8
comp=Z,21nm,1.6s
REDW Red Top Meadow 69.75 3 P **P 17 34 24.5 -0.9**
REDW IAmb IAmb 17 34 29.2
comp=Z,15nm,1.1s
J08A Circle Bar Ran 69.76 357 P **P 17 34 26.6 +1.3**
J08A IAmb IAmb 17 34 29.8
comp=Z,20nm,1.4s
W58A Raeford 69.83 30 P **P 17 34 26.3 +0.5**
baz=213
J05D Fort Rock, OR 69.87 355 P **P 17 34 26.9 +0.9**
baz=174
HLID Hailey 69.87 0 P **P 17 34 27.6 +1.5**
baz=180
LOHW Long Hollow 70.01 3 P **P 17 34 27.1 +0.1**
LOHW IAmb IAmb 17 34 30.6
comp=Z,14nm,1.1s
R49A Shelbyville 70.21 24 P **P 17 34 26.6 -1.4**
R49A IAmb IAmb 17 34 30.9
comp=Z,18nm,1.2s
IMW Indian Meadow 70.28 3 P **P 17 34 29.2 +0.5**
IMW IAmb IAmb 17 34 32.5
comp=Z,13nm,1.1s
VNA1 Neumayer--Stat 70.29 160 P **P 17 34 28.3 +0.1**
PINE Pine Mountain 70.35 355 P **P 17 34 29.4 +0.3**
PINE IAmb IAmb 17 34 32.6
comp=Z,31nm,1.6s
VNA2 Neumayer--Watz 70.44 161 P **P 17 34 28.8 -0.3**
FLWY Flagg Ranch 70.48 3 P **P 17 34 29.9 +0.1**
FLWY IAmb IAmb 17 34 33.9
comp=Z,18nm,1.1s
R50A Paris 70.52 25 P **P 17 34 29.6 -0.3**
R50A IAmb IAmb 17 34 31.9
comp=Z,35nm,1.7s
V58A Windy Hill, Pi 70.53 30 P **P 17 34 30.1 +0.1**
V58A IAmb IAmb 17 34 31.7
comp=Z,19nm,1.4s
I07A Izee 70.54 356 P **P 17 34 31.1 +1.0**
I07A IAmb IAmb 17 34 35.1
comp=Z,25nm,1.5s
YPP Pitchstone Pla 70.66 3 P **P 17 34 30.9 -0.1**
U57A Blanch 70.97 29 P **P 17 34 33.8 +1.2**
baz=213
YMR Madison River 71.05 3 P **P 17 34 33.4 +0.1**
DZM Mont Dzumac 71.08 254 *e*S **S 17 43 48.6 -2.2**
comp=Z,417nm,26.0s
DZM Mont Dzumac 71.08 254 *e*LR LR 17 56 01.7
comp=Z,2μm,27.9s
RSSD Black Hills 71.08 8 P **P 17 34 33.8 +0.3**
RSSD pmax pmax
comp=Z,20nm,1.3s
RSSD Black Hills 71.08 8 P **P 17 34 33.8 +0.3**
baz=190
RSSD Black Hills 71.08 8 P **P 17 34 33.8 +0.3**
RSSD IAmb IAmb 17 34 37.1
comp=Z,20nm,1.3s
YHB Horse Butte 71.13 2 P **P 17 34 33.2 -0.6**
BMO Blue Mountains 71.21 358 P **P 17 34 36.0 +1.9**
BMO pmax pmax
comp=Z,17nm,1.5s
BMO Blue Mountains 71.21 358 P **P 17 34 36.0 +1.9**
BMO IAmb IAmb 17 34 38.0
comp=Z,17nm,1.5s
YHL Hebgen Lake 71.23 2 P **P 17 34 35.2 +0.8**
VWCC Virginia Weste 71.37 29 P **P 17 34 36.8 +1.6**
SNAA Sanae 71.41 162 P **P 17 34 35.0 -0.1**
SNAA Sanae 71.41 162 P **P 17 34 35.0 -0.1**
SNAA pmax pmax
comp=Z,18nm,1.3s
SNAA Sanae 71.41 162 P **P 17 34 35.0 -0.1**
SNAA IAmb IAmb 17 34 44.4
comp=Z,18nm,1.3s
YNE Yellowstone No 71.44 3 P **P 17 34 36.1 +0.5**
RLMT Red Lodge 71.59 4 P **P 17 34 36.3 -0.3**
L40A Anamosa 71.68 18 P **P 17 34 37.1 +0.3**
DLMT Dillon 71.69 1 P **P 17 34 38.0 +0.9**
ECSD EROS Data Cent 71.94 14 P **P 17 34 38.3 -0.1**
baz=197
ECSD EROS Data Cent 71.94 14 P **P 17 34 38.0 -0.4**
BOZ Bozeman (W) 71.95 2 P **P 17 34 37.6 -1.0**
BOZ pmax pmax
comp=Z,17nm,1.6s
BOZ Bozeman (W) 71.95 2 P **P 17 34 39.6 +1.0**
baz=183
BOZ Bozeman (W) 71.95 2 P **P 17 34 37.6 -1.0**
BOZ IAmb IAmb 17 34 42.1
comp=Z,17nm,1.6s
LRM Limekiln Ridge 72.16 2 P **P 17 34 40.3 +0.3**
GCMT Greycliff 72.23 4 P **P 17 34 40.3 -0.1**
F10A Beach Ranch, E 72.33 358 P **P 17 34 41.6 +0.8**
F10A IAmb IAmb 17 34 44.3
comp=Z,34nm,1.8s
R56A Bull Pasture M 72.59 28 P **P 17 34 43.3 +0.8**
baz=212
P53A Whipple 72.69 26 P **P 17 34 43.3 +0.3**
P53A IAmb IAmb 17 37 19.6
comp=Z,32nm,1.4s
E09A Wood Farm, Sta 72.90 357 P **P 17 34 44.8 +0.7**
E08A Dider Farm, El 72.92 357 P **P 17 34 45.9 +1.8**
E08A IAmb IAmb 17 34 48.9
comp=Z,27nm,1.4s
I37A Lemond, Waseca 72.94 16 P **P 17 34 44.6 +0.2**
I37A IAmb IAmb 17 34 48.5
comp=Z,20nm,0.9s
E07A Sunnyside 73.03 356 P **P 17 34 47.4 +2.6**
HRY Holter Researc 73.06 2 P **P 17 34 45.5 +0.3**
MSO Missoula 73.14 0 P **P 17 34 46.5 +0.9**
baz=180
MSO Missoula 73.14 0 P **P 17 34 46.1 +0.4**
P54A Burton 73.16 27 P **P 17 34 46.5 +0.7**
baz=211
D08A Wollman Farm, 73.48 357 P **P 17 34 48.7 +1.2**
P56A Dayton Farm, R 73.75 28 P **P 17 34 49.6 +0.4**
baz=213
LTY Liberty 73.78 356 P **P 17 34 50.0 +0.7**
JTMT Jette 74.06 0 P **P 17 34 51.0 -0.1**
JTMT IAmb IAmb 17 34 55.2
comp=Z,18nm,1.1s
C09A Chrisman Ranch 74.19 357 P **P 17 34 51.8 +0.1**
C09A IAmb IAmb 17 34 55.6
comp=Z,30nm,1.4s
EGMT Eagleton 74.46 3 P **P 17 34 53.9 +0.6**
O56A Blue Knob Stat 74.51 28 P **P 17 34 54.4 +0.6**
N54A Moraine State 74.51 26 P **P 17 34 54.7 +1.0**
baz=212
N54A Moraine State 74.51 26 P **P 17 34 54.1 +0.4**
N54A IAmb IAmb 17 34 58.0
comp=Z,23nm,1.1s
NEW Newport 74.61 358 P **P 17 34 55.7 +1.6**
NEW pmax pmax
comp=Z,21nm,1.3s
F36A Milaca 74.65 15 P **P 17 34 53.9 -0.4**
B08A Colville Reser 74.80 357 P **P 17 34 56.2 +1.0**
B05A Bryant 74.89 355 P **P 17 34 56.0 +0.3**
baz=173
G40A Rib Lake 74.93 18 P **P 17 34 56.7 +0.7**
G40A IAmb IAmb 17 37 08.3
comp=Z,18nm,1.1s
DGMT Dagmar 75.35 7 P **P 17 34 59.5 +1.2**
WALA Waterton Lakes 75.37 0 P **P 17 34 57.8 -0.8**
PGC Sidney 75.39 354 P **P 17 34 58.6 +0.1**
PGC IAmb IAmb 17 35 07.9
comp=Z,11nm,0.8s
M56A Emporium 75.68 27 P **P 17 35 01.1 +0.7**
M56A IAmb IAmb 17 36 53.8
comp=Z,12nm,0.8s
NVL N'lazarevskaya 75.80 164 *e*P P 17 35 08.8 +8.0
NVL pmax pmax
comp=Z,13nm,0.7s
N59A State Game Lan 76.24 29 P **P 17 35 04.0 +0.4**
baz=215
M58A Price's Panora 76.31 29 P **P 17 35 04.2 +0.1**
baz=214
L56A Greenwood 76.48 27 P **P 17 35 05.6 +0.5**
L56A IAmb IAmb 17 35 08.9
comp=Z,12nm,0.9s
BINY Binghamton 77.19 28 P **P 17 35 08.1 -0.9**
BINY IAmb IAmb 17 35 13.0
comp=Z,14nm,0.9s
SADO Sadowa 78.07 25 P **P 17 35 14.3 +0.5**
SADO IAmb IAmb 17 35 15.3
comp=Z,19nm,1.2s
ULM Lac du Bonnet 78.33 12 P **P 17 35 14.4 -0.7**
comp=Z,6.5nm,0.6s,baz=212,slow=4.6,SNR=5.7
J58A Remsen 78.44 28 P **P 17 35 16.2 +0.3**
DELO Deloro Mine 78.45 26 P **P 17 35 16.0 +0.1**
DELO IAmb IAmb 17 37 21.1
comp=Z,34nm,1.6s
H55A Tweed 78.65 26 P **P 17 35 16.6 -0.4**
baz=214
D47A Chapleau 78.66 21 P **P 17 35 16.8 -0.2**
baz=208
G54A Lake Saint Pet 79.00 25 P **P 17 35 19.6 +0.6**
baz=213
H56A Elgin 79.05 27 P **P 17 35 20.4 +1.3**
baz=214
PLVO Plevna 79.09 26 P **P 17 35 19.6 +0.1**
J60A Lant Hill Farm 79.15 29 P **P 17 35 20.3 +0.6**
baz=217
NCB Newcomb 79.38 28 P **P 17 35 21.3 +0.2**
NCB IAmb IAmb 17 38 07.3
comp=Z,15nm,0.8s
J62A Henniker 79.85 30 P **P 17 35 24.2 +0.6**
baz=218
E53A Dumoine, Ponti 79.99 25 P **P 17 35 25.1 +0.9**
baz=213
E54A Lac Daplat, Po 80.22 25 P **P 17 35 26.0 +0.5**
baz=213
FRNY Flat Rock 80.35 28 P **P 17 35 26.8 +0.5**
D53A Lac Vacive, Po 80.56 25 P **P 17 35 26.0 -1.4**
D53A IAmb IAmb 17 35 29.8
comp=Z,39nm,1.6s
H61A Lyndonville 80.83 29 P **P 17 35 29.4 +0.5**
baz=218
CASY Casey 81.24 197 P **P 17 35 31.6 +0.8**
D55A Sainte-Anne-du 81.36 26 P **P 17 35 31.7 +0.1**
baz=215
D56A ZEC Mazanza, M 81.67 26 P **P 17 35 33.5 +0.2**
baz=215
FFC Flin Flon 81.76 7 P **P 17 35 34.3 +0.8**
FFC pmax pmax
comp=Z,22nm,1.4s
FFC Flin Flon 81.76 7 P **P 17 35 34.3 +0.8**
FFC IAmb IAmb 17 35 37.0
comp=Z,22nm,1.4s
WVL Waterville 81.86 31 P **P 17 35 33.6 -0.7**
WVL IAmb IAmb 17 35 36.4
comp=Z,20nm,1.3s
LSQQ Lebel-sur-Quev 82.48 24 P **P 17 35 37.8 +0.4**
baz=213
PKME Peaks-Kenny Pk 82.57 30 P **P 17 35 38.3 +0.3**
baz=220
SYO Syowa Base 82.75 171⇑ *e*P **P 17 35 36.7 -2.0**
SYO Syowa Base 82.75 171⇑ *e*pP pP 17 35 40.9 -0.2
MATQ Matagami 82.84 23 P **P 17 35 39.7 +0.4**
baz=213
E61A Lac Etchemin 82.94 29 P **P 17 35 40.9 +0.9**
baz=219
F63A Nahmakanta, Br 82.99 30 P **P 17 35 41.1 +0.9**
baz=220
F63A Nahmakanta, Br 82.99 30 P **P 17 35 40.3 +0.1**
E62A Clayton Lake 83.51 29 P **P 17 35 42.2 -0.7**
D62A Allapoint, All 84.07 29 P **P 17 35 45.7 0.0**
D62A IAmb IAmb 17 35 47.3
comp=Z,16nm,1.1s
CHGQ Chibougamau 84.15 25 P **P 17 35 45.9 -0.1**
baz=215
D63A Stockholm 84.45 30 P **P 17 35 47.7 +0.1**
baz=220
DLBC Dease Lake 85.75 352 P **P 17 35 54.5 +0.5**
MAW Mawson 86.01 179 P **P 17 35 54.6 -0.7**
comp=Z,3.6nm,0.9s,baz=238,slow=4.4,SNR=5.4
MAW Mawson 86.01 179 P **P 17 35 55.5 +0.2**
MAW pmax pmax
comp=Z,2.0nm,1.3s
MAW Mawson 86.01 179 P **P 17 35 55.5 +0.2**
STKA Stephens Creek 87.04 236 P **P 17 36 01.8 +0.6**
comp=Z,1.9nm,0.9s,baz=163,slow=7.7,SNR=3.1
STKA Stephens Creek 87.04 236 P **P 17 36 01.8 +0.6**
STKA pmax pmax
comp=Z,7.0nm,2.0s
H11S2 WAKE ISLAND Hy 88.60 291 T T 19 14 22.1
baz=119,slow=76,SNR=332
H11S1 WAKE ISLAND Hy 88.61 291 T T 19 14 21.6
baz=119,slow=76,SNR=482
H11S3 WAKE ISLAND Hy 88.62 291 T T 19 14 21.6
baz=119,slow=76,SNR=367
YKA Yellowknife Ar 88.84 360 P **P 17 36 07.1 -1.6**
comp=Z,1.5nm,0.6s,baz=161,slow=3.9,SNR=2.5
H11N3 WAKE ISLAND Hy 89.02 293 T T 19 14 51.1
baz=120,slow=76,SNR=45
H11N1 WAKE ISLAND Hy 89.03 293 T T 19 14 55.0
baz=120,slow=76,SNR=73
H11N2 WAKE ISLAND Hy 89.03 293 T T 19 14 51.3
baz=120,slow=76,SNR=78
RND Reindeer 93.78 345 P **P 17 36 32.8 +1.0**
RND pmax pmax
comp=Z,22nm,1.8s
RND Reindeer 93.78 345 P **P 17 36 32.8 +1.0**
TRF Thorofare Moun 94.15 345 P **P 17 36 33.3 -0.3**
KTH Kantishna Hill 94.39 345 P **P 17 36 34.0 -0.6**
ILAR Eielson Array 94.55 347 P **P 17 36 34.8 -0.4**
comp=Z,0.8nm,0.9s,baz=160,slow=5.8,SNR=3.2
MDM Murphy Dome 94.99 346 P **P 17 36 37.2 -0.1**
MDM IAmb IAmb 17 36 40.6
comp=Z,11nm,1.2s
ASAR Alice Springs 97.11 239 P **P 17 36 47.6 -0.4**
comp=Z,0.6nm,1.0s,baz=117,slow=5.3,SNR=2.5
ASAR Alice Springs 97.11 239 P Pdif 17 36 49.4 +1.2
ASAR Alice Springs 97.11 239 P Pdif 17 36 49.4 +1.2
WRA Warramunga Arr 98.78 243 P **P 17 36 56.1 +0.5**
comp=Z,0.8nm,0.9s,baz=119,slow=4.3,SNR=5.0
H01W1 Cape Leeuwin H 103.41 219 T T 19 32 44.5
baz=133,slow=75,SNR=17
H01W2 Cape Leeuwin H 103.41 219 T T 19 32 44.0
baz=133,slow=75,SNR=16
H01W3 Cape Leeuwin H 103.42 219 T T 19 32 46.1
baz=133,slow=75,SNR=21
TORD Torodi Ar. Bea 119.06 89 PKP **PKPdf 17 42 02.8 -2.1**
comp=Z,1.2nm,0.8s,baz=336,slow=1.5,SNR=3.9
ESDC Sonseca Array 121.74 58 PKP **PKPdf 17 42 09.1 -0.3**
comp=Z,1.4nm,1.1s,baz=303,slow=1.5,SNR=5.8
KSRS Korea Array 126.86 298 PKP **PKPdf 17 42 19.0 -0.1**
comp=Z,1.5nm,1.0s,baz=108,slow=4.1,SNR=4.8
KSRS Korea Array 126.86 298 PKIKP **PKPdf 17 42 19.0 -0.1**
NJ2 Nanjing 133.57 290 *e*PKP **PKPdf 17 42 31.8 -0.2**
BOD Bodaibo 133.97 326 *e*PKIKP **PKPdf 17 42 30.2 -1.8**
BOD pmax pmax
comp=Z,9.0nm,1.6s
GERES GERESS Array B 134.48 47 PKP **PKPdf 17 42 33.3 -0.1**
comp=Z,0.5nm,0.8s,baz=321,slow=1.9,SNR=4.6
FINES FINESS Array B 136.35 26 PKP **PKPdf 17 42 36.3 0.0**
comp=Z,2.5nm,0.9s,baz=151,slow=8.3,SNR=4.5
MODS Modra-Piesok 136.90 47 *e*PKIKP **PKPdf 17 42 38.4 +0.6**
MODS Modra-Piesok 136.90 47 *e*PKP **PKPdf 17 42 38.4 +0.6**
VYHS Vyhne 137.88 46 *e*PKIKP **PKPdf 17 42 39.8 +0.2**
VYHS Vyhne 137.88 46 *e*PKP **PKPdf 17 42 39.8 +0.2**
HHC Hu-ho-hao-te 139.62 303 *e*PKP **PKiKP 17 42 45.4 -0.1**
KLMR Klimovskoe 141.53 20 AMP 17 42 49.4
comp=Z,19nm,1.5s
KLMR Klimovskoe 141.53 20 *e* PKPpre 17 42 33.8
SONM Songino Array 141.77 315 PKP **PKPdf 17 42 47.0 +0.2**
comp=Z,3.6nm,0.8s,baz=107,slow=2.7,SNR=8.1
SONM Songino Array 141.77 315 PKIKP **PKPdf 17 42 47.4 +0.5**
SONM Songino Array 141.77 315 PKPdf **PKPdf 17 42 47.4 +0.5**
ZAK Zakamensk 142.71 320 *e*PKHKP **PKPdf 17 42 44.0 -4.4**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
GYA Guiyang 143.29 279 PKP **PKPdf 17 42 49.7 -0.5**
GYA AMB AMB
comp=Z,95nm,6.8s
GYA LR LR
comp=Z,57nm,4.3s
GYA LR LR
comp=Z,60nm,3.8s
GYA LR LR
comp=Z,70nm,9.3s
MLR Muntele Rosu 143.37 49 PKIKP PKPab 17 42 45.7 -0.1
MLR Muntele Rosu 143.37 49 PKPab 17 42 45.7 -0.2
IDI Anoyia 144.33 66 PKP PKPbc 17 42 50.7 +0.6
comp=Z,46nm,1.1s,baz=327,slow=3.2,SNR=7.4
OBN Obninsk 144.61 29 PKP PKPbc 17 42 50.4 +0.3
comp=Z,2.9nm,0.4s,baz=270,slow=14,SNR=3.8
OBN Obninsk 144.61 29⇑ *e*PKIKP **PKPdf 17 42 52.8 +1.4**
OBN *e* 17 43 00.0
OBN pmax pmax
comp=Z,28nm,1.7s
OBN Obninsk 144.61 29 **PKPab 17 42 50.1 +0.2**
MOS Moscow 144.63 27 *e*PKIKP **PKPab 17 42 49.8 -0.2**
MOS pmax pmax
comp=Z,31nm,0.8s
SANT Santorini 144.73 64 PKPdf **PKPab 17 42 49.9 -1.2**
PBKT Sadao Pong 145.63 260 **PKPdf 17 42 53.9 -0.4**
LZH Lanzhou 146.12 296 *e*PKPbc **PKPbc 17 42 56.4 +0.6**
LZH pPKP PKiKP 17 42 59.6 +0.5
LZH sPKP 17 43 01.2
LZH LR LR
comp=Z,190nm,18.5s
LZH LR LR
comp=Z,190nm,18.3s
LZH LR LR
comp=Z,240nm,20.0s
CD2 Chengdu 146.31 286 PKPbc **PKPdf 17 42 54.5 -0.7**
LPSR Galich'ya Gora 147.33 30 *e*PKP2 **PKPbc 17 42 58.9 +0.4**
LPSR pmax pmax
comp=Z,40nm,1.0s
CMAR Chiang Mai Arr 148.13 262 PKPbc **PKPbc 17 43 02.7 +1.0**
comp=Z,4.5nm,1.0s,baz=121,slow=0.6,SNR=17
CMAR Chiang Mai Arr 148.13 262 PKP2 **PKPbc 17 43 02.4 +0.6**
CMAR Chiang Mai Arr 148.13 262 PKPbc **PKPbc 17 43 02.4 +0.6**
ELL Elmali 148.25 63 **PKPdf 17 42 56.1 -2.3**
CHTO Chiang Mai 148.25 263 PKIKP **PKPdf 17 42 58.7 0.0**
CHTO Chiang Mai 148.25 263 **PKPdf 17 42 58.7 0.0**
VSR Storozhevoye 148.36 32 *e*PKP2 **PKPbc 17 43 00.8 -0.5**
VSR pmax pmax
comp=Z,30nm,1.0s
GTA Gaotai 148.74 303 PKPbc **PKPbc 17 43 03.1 +0.2**
GTA Gaotai 148.74 303 PKPbc **PKPdf 17 42 52.7 -6.4**
GTA pPKP sPKPdf 17 43 03.0 +0.6
GTA sPKP 17 43 07.8
GTA LR LR

comp=Z,140nm,20.6s
GTA LR LR
comp=Z,230nm,20.0s
GTA LR LR
comp=Z,290nm,23.5s
ZALV Zalesovo Beam 149.22 338 PKPbc **PKPbc 17 43 02.7 -0.7**
comp=Z,6.3nm,0.6s,baz=23,slow=2.7,SNR=9.6
VRH Novokhopyorsk 149.55 30 *e*PKP2 **PKPbc 17 43 03.0 -1.3**
VRH pmax pmax
comp=Z,50nm,0.8s
ARU Arti 149.83 8 PKP2 **PKPbc 17 43 04.0 -0.9**
ARU Arti 149.83 8 PKPbc 17 43 04.7 -0.2
ILGA Ilgaz 150.14 53 PKPbc 17 43 06.4 0.0
BRTR Keskin Array B 150.49 56 PKPbc **PKPbc 17 43 06.5 -0.7**
comp=Z,8.9nm,1.0s,baz=242,slow=2.7,SNR=12
BRTR Keskin Array B 150.49 56 PKIKP **PKPbc 17 43 06.0 -1.2**
BRTR Keskin Array B 150.49 56 PKPbc 17 43 06.0 -1.2
BRVK Borovoye 153.39 354 PKIKP **PKPdf 17 43 05.3 -0.3**
BRVK Borovoye 153.39 354 PKPdf **PKPdf 17 43 05.3 -0.3**
KURK Kurchatov 153.96 341 PKIKP **PKPdf 17 43 06.7 +0.2**
KURK Kurchatov 153.96 341 PKPdf **PKPdf 17 43 06.7 +0.2**
KBZ Khabaz 155.00 41 PKP **PKPdf 17 43 08.8 +0.7**
comp=Z,3.9nm,1.0s,baz=166,slow=1.9,SNR=4.5
WMQ Urumqi 155.18 319 *e*PKP **PKPdf 17 43 09.2 +0.7**
MK31 Makanchi Array 155.91 331 PKIKP **PKPdf 17 43 07.7 -1.7**
MK31 Makanchi Array 155.91 331 PKPdf **PKPdf 17 43 07.7 -1.7**
MKAR Makanchi Array 155.91 331 PKP **PKPdf 17 43 07.7 -1.7**
comp=Z,2.5nm,1.1s,baz=63,slow=3.0,SNR=6.0
MKAR Makanchi Array 155.91 331 PKIKP **PKPdf 17 43 07.4 -1.9**
MKAR Makanchi Array 155.91 331 PKPdf **PKPdf 17 43 07.4 -1.9**
ABKAR Akbulak array 157.03 9 PKPdf **PKPdf 17 43 10.0 -0.7**
KSH Kashi 164.47 328 PKP **PKPdf 17 43 23.4 +4.2**
KSH PP **PP 17 48 03.7 +4.2**
KSH AMB AMB
comp=Z,130nm,6.7s
GEYT Alibeck 167.15 27 PKP **PKPdf 17 43 21.6 +0.3**
comp=Z,1.1nm,0.5s,baz=264,slow=3.0,SNR=4.4

JMA 04 17:25:05.6±0.1, 38°.36N×144°.09E, h27km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.03**	**292**	P	Pn	17 25 39.2	+1.2
JIKH	**Ishinomakikobu**	**2.06**	**269**	*e*S	Sn	17 26 04.4	+1.1
JKMT	**Kesennumamotoy**	**2.10**	**283**	P	Pn	17 25 40.1	+1.1
JKMT				S	Sn	17 26 06.0	+1.8
MIYJ	**Miyakonagasawa**	**2.15**	**305**	P	Pn	17 25 40.4	+0.8
MIYJ				*e*S	Sn	17 26 06.6	+1.2
JIO	**Ouri**	**2.16**	**273**	P	Pn	17 25 40.9	+1.2
JIO				S	Sn	17 26 06.9	+1.3
JMK	**Ichinoseki**	**2.32**	**286**	P	Pn	17 25 43.3	+1.3
JMK				*e*S	Sb	17 26 12.4	-2.6
JOM	**Ohasama**	**2.45**	**298**	P	Pn	17 25 45.4	+1.6
JANG	**Nango**	**2.83**	**316**	P	Pn	17 25 50.7	+1.6
JANG				*e*S	Sn	17 26 23.6	+1.3
JYK	**Kaneyama**	**2.97**	**282**	P	Pn	17 25 53.2	+2.2
JYK				*e*S	Sn	17 26 29.0	+3.2
JFT	**Otama**	**3.08**	**255**	P	Pn	17 25 54.5	+2.0
JFT				*e*S	Sn	17 26 30.2	+1.7
JKB	**Kayabe**	**4.23**	**327**	*e*S	Sn	17 26 56.8	+0.1
JCH	**Churui**	**4.29**	**353**	P	Pn	17 26 08.5	-0.5
JCH				*e*S	Sn	17 26 55.7	-2.4
JRY	**Ryogami san**	**4.76**	**242**	P	Pn	17 26 16.7	+1.2
JRY				*e*S	Sn	17 27 09.3	-0.5
JOD2	**Odawara 2**	**5.07**	**234**	*e*S	Sn	17 27 15.4	-2.0
NEM2	**Nemuro 2**	**5.16**	**14**	P	Pn	17 26 17.8	-3.1
NEM2				*e*S	Sn	17 27 12.8	-6.7

BGR ***04*** *17:43:18.6±0.0, 38°.11N×24°.56E, h10km, mb4.6, Ms3.8*
BEO ***04*** *17:43:36.1±0.5, 39°.79N×24°.97E, h0km, ML5.2/15*
SOF ***04*** *17:43:36.5, 40°.08N×24°.99E, h2km, MD4.7*
SKO ***04*** *17:43:37.9, 40°.10N×24°.99E, h0km*
ATH ***04*** *17:43:39.0, 40°.13N×24°.87E, h30km±1km, ML4.9/18, Error ellipse: s-maj=1.6km s-min=0.8km az=64.0*
ISK ***04*** *17:43:38.9, 40°.15N×24°.89E, h15km, ML4.9/41*
NEIC ***04*** *17:43:39.8, 40°.15N×24°.84E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=1.22; Mθθ=3.90; Mφφ=-2.68; Mrθ=-1.19; Mθφ=-0.43; Mφr=-1.36; Fault plane solution: M0=3.92000×10^16^ NP1:φs=315.22000°, δ=58.04000°, λ=-15.80000°. NP2:φs=53.74000°, δ=76.64000°, λ=-147.04000°. Principal axes: T 4.1595, Plg=12.0000°, Azm=181.0000°; N -0.5371, Plg=55.0000°, Azm=73.0000°; P -3.6224, Plg=33.0000°, Azm=279.0000°;*
IDC ***04*** *17:43:39.2±0.5, 40°.16N×24°.86E, h0km, mb4.4/30, mb1 4.4/42, mb1mx4.4/61, mbtmp4.4/42, ML3.7/11, MS4.3/36, Ms1 4.3/36, ms1mx4.2/53 Error ellipse: s-maj=9.5km s-min=8.6km az=176.0*
THE ***04*** *17:43:39.8, 40°.13N×24°.88E, h10km, ML4.9/17, Error ellipse: s-maj=0.7km s-min=0.3km az=41.0*
MOS ***04*** *17:43:39.0±1.3, 40°.21N×24°.86E, h15km, mb4.7/19, MS4.2/24, Error ellipse: s-maj=4.5km s-min=2.7km az=86.3*
PDG ***04*** *17:43:39.2±0.5, 40°.12N×24°.84E, h14km, ML4.5/12, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
MED_RC ***04*** *17:43:39.0±0.1, 40°.14N×24°.99E, h13km, MW5.0/34, Moment Tensor Solution. Body waves: s4,c4;Mantle waves: s34,c68; Duration: 1s2 Moment tensor: Scale 10^16^Nm; Mrr=0.85±.08; Mθθ=3.54±.09; Mφφ=-2.69±.07; Mrθ=0.34±.14; Mθφ=-1.32±.06; Mφr=0.25±.14; Best double couple: M0=3.41000×10^16^ NP1:φs=146.00000°, δ=82.00000°, λ=-3.00000°. NP2:φs=237.00000°, δ=87.00000°, λ=-172.00000°. Principal axes: T 3.8200, Plg=3.0000°, Azm=11.0000°; N -0.8200, Plg=81.0000°, Azm=259.0000°; P -3.0000, Plg=8.0000°, Azm=102.0000°; nsta1 refers to body waves, cutoff=30s. nsta2 refers to surface waves, cutoff=35s.*
GII ***04*** *17:43:40.4±0.0, 40°.13N×24°.88E, h10km*
NEIC ***04*** *17:43:40.1±1.8, 40°.10N±0°.05×24°.88E±0°.06, h12km±4km, mb4.9/54, Mwr5.0/17, Mww4.9, ML5.2/2(BUC), Error ellipse: s-maj=7.2km s-min=6.9km az=128.0*
INMG ***04*** *17:43:40.6, 40°.15N×24°.83E, h16km, Mb5.1*
DDA ***04*** *17:43:41.1, 40°.17N×24°.91E, h27km, MW4.7*
GCMT ***04*** *17:43:41.1±0.2, 40°.04N±0°.01×24°.92E±0°.01, h12km, MW5.0/117, Moment Tensor Solution. s39,c47; s117,c196; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.10±.08; Mθθ=3.48±.07; Mφφ=-2.38±.06; Mrθ=0.22±.20; Mθφ=-1.51±.06; Mφr=0.24±.20; Best double couple: M0=3.31400×10^16^ NP1:φs=59.00000°, δ=83.00000°, λ=-178.00000°. NP2:φs=328.00000°, δ=88.00000°, λ=-7.00000°. Principal axes: T 3.8610, Plg=3.0000°, Azm=14.0000°; N -1.0940, Plg=83.0000°, Azm=130.0000°; P -2.7660, Plg=6.0000°, Azm=283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***04*** *17:43:43, 40°.05N×24°.84E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.61; Mθθ=2.82; Mφφ=-2.21; Mrθ=0.13; Mθφ=-1.12; Mφr=-0.01; Fault plane solution: M0=2.81000×10^16^ NP1:φs=147.00000°, δ=88.00000°, λ=1.00000°. NP2:φs=57.00000°, δ=89.00000°, λ=178.00000°. Principal axes: T 3.0632, Plg=2.0000°, Azm=12.0000°; N -0.6176, Plg=88.0000°, Azm=206.0000°; P -2.4456, Plg=1.0000°, Azm=102.0000°;*

ISC 04 17:43:39.2±0.8, 40°.14N±0°.02×24°.90E±0°.01, h4km±5km, n903, σ1$58/999, mb4.7/95, MS4.3/40, 42C-42D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.33**	**138**	P	**Pg**	**17 43 46.5**	**+0.9**
LIA				S	**Sg**	**17 43 50.8**	**+0.9**
305μm,0.5s							
LIA	**Limnos Island**	**0.33**	**138**	P	**Pg**	**17 43 46.4**	**+0.9**
LIA				S	**Sg**	**17 43 51.0**	**+1.2**
LIA				AML	AML	17 43 51.2	
LIA				AML	AML	17 43 51.2	
THAS	**Thassos island**	**0.48**	**344**	P	**Pb**	**17 43 49.6**	**-0.7**
THAS				S	**Sg**	**17 43 56.0**	**+1.3**
51μm,0.6s							
THAS	**Thassos island**	**0.48**	**344**	P	**Pb**	**17 43 49.5**	**-0.7**
THAS				S	**Sb**	**17 43 56.4**	**-1.3**
THAS				AML	AML	17 43 57.0	
THAS				AML	AML	17 43 57.3	
comp=N,66092μm,0.3s							
SMTH	**Samothraki Isl**	**0.58**	**56**	P	**Pb**	**17 43 51.4**	**-0.6**
SMTH				S	**Sb**	**17 43 59.9**	**-0.8**
SMTH	**Samothraki Isl**	**0.58**	**56**	P	**Pb**	**17 43 51.3**	**-0.8**
SMTH				S	**Sb**	**17 44 00.1**	**-0.6**
SMTH				AML	AML	17 44 01.3	
comp=E,48624μm,0.7s							
SMTH				AML	AML	17 44 02.9	
comp=N,61790μm,0.5s							
OUR	**Ouranopolis**	**0.72**	**286**	P	**Pb**	**17 43 54.0**	**-0.5**
OUR				S	**Sb**	**17 44 03.8**	**-0.9**
comp=N,232μm,0.6s							
OUR	**Ouranopolis**	**0.72**	**286**	PG	**Pb**	**17 43 53.9**	**-0.5**
OUR				SG	**Sb**	**17 44 03.6**	**-1.1**
GADA	**Gvkgeada**	**0.77**	**86**	P	**Pb**	**17 43 55.1**	**-0.1**
GADA				S	**Sb**	**17 44 05.8**	**-0.2**
comp=N,49μm,0.8s							
GADA	**Gvkgeada**	**0.77**	**86**	PG	**Pb**	**17 43 55.1**	**-0.1**
GADA				SG	**Sb**	**17 44 05.7**	**-0.2**
GOKA	**anakkale-Gk**	**0.78**	**86**	*i* P	**Pb**	**17 43 55.3**	**0.0**
GOKA				*i* S	**Sb**	**17 44 05.3**	**-0.9**
GOKA				IAML		17 44 08.0	
comp=N,66μm,0.6s							
GOKA				IAML		17 44 09.0	
comp=E,63μm,0.7s							
BOZC	**Bozcaada**	**0.94**	**108**	PG	**Pb**	**17 43 57.8**	**-0.3**
BOZC				SG	**Sb**	**17 44 11.3**	**+0.5**
BOZC	**Bozcaada**	**0.94**	**108**	*i* P	**Pb**	**17 43 57.7**	**-0.3**
BOZC				*i* P	**Pb**	**17 43 57.8**	**-0.3**
BOZC				*i* S	**Sg**	**17 44 08.1**	**-1.3**
BOZC				IAML		17 44 13.0	
comp=N,13μm,0.5s							
BOZC				IAML		17 44 13.0	
comp=E,22μm,1.1s							
BOZC				IAML		17 44 13.0	
comp=N,13μm,0.8s							
BOZC				IAML		17 44 13.0	
comp=E,22μm,1.0s							
PAIG	**Paliouri**	**0.96**	**257**	P	**Pb**	**17 43 58.0**	**-0.4**
PAIG				S	**Sb**	**17 44 10.9**	**-0.5**
comp=E,68μm,1.1s							
PAIG	**Paliouri**	**0.96**	**257**	P	**Pb**	**17 43 58.0**	**-0.4**
PAIG				S	**Sb**	**17 44 10.5**	**-0.9**
PAIG				AML	AML	17 44 14.2	
PAIG				AML	AML	17 44 14.3	
comp=E,94669μm,0.4s							
RDO	**Rodhopi**	**1.11**	**26**	P	**Pg**	**17 44 00.5**	**-0.1**
RDO				S	**Sn**	**17 44 16.8**	**-0.6**
RDO	**Rodhopi**	**1.11**	**26**	P	**Pg**	**17 44 00.6**	**+0.1**
RDO				S	**Sg**	**17 44 15.0**	**0.0**
RDO	**Rodhopi**	**1.11**	**26**	PN	**Pg**	**17 44 00.3**	**-0.3**
PLG	**Polygyros**	**1.13**	**282**	P	**Pb**	**17 44 01.2**	**-0.2**
PLG				S	**Sb**	**17 44 16.3**	**-0.2**
comp=E,49μm,0.7s							
PLG	**Polygyros**	**1.13**	**282**	P	**Pb**	**17 44 01.0**	**-0.4**
PLG				S	**Sg**	**17 44 14.9**	**-0.7**
PLG				AML	AML	17 44 20.3	
PLG				AML	AML	17 44 23.6	
comp=E,69649μm,0.9s							
ALN	**Alexandroupoli**	**1.16**	**49**	P	**Pg**	**17 44 00.7**	**-0.7**
ALN				S	**Sn**	**17 44 18.6**	**+0.2**
comp=E,21μm,0.8s							
ALN	**Alexandroupoli**	**1.16**	**49**	P	**Pg**	**17 44 01.3**	**-0.1**
ALN				S	**Sb**	**17 44 17.1**	**0.0**
ALN				AML	AML	17 44 20.7	
comp=N,24620μm,0.5s							
ALN				AML	AML	17 44 20.8	
comp=E,50619μm,0.7s							
ALN	**Alexandroupoli**	**1.16**	**49**	PN	**Pg**	**17 44 00.9**	**-0.5**
ALN				SN	**Sn**	**17 44 17.8**	**-0.6**
ALN	**Alexandroupoli**	**1.16**	**49**	*i* P	**Pg**	**17 44 00.7**	**-0.7**
ALN				*i* S	**Sg**	**17 44 16.4**	**0.0**
ALN	**Alexandroupoli**	**1.16**	**49**	P	**Pg**	**17 44 00.9**	**-0.5**
ALN	**Alexandroupoli**	**1.16**	**49**		**Pg**	**17 44 00.9**	**-0.5**
SIGR	**SIGRI**	**1.19**	**141**	P	**Pg**	**17 44 02.0**	**0.0**
SIGR				S	**Sb**	**17 44 17.9**	**-0.2**
comp=E,95μm,1.0s							
SIGR	**SIGRI**	**1.19**	**141**	P	**Pg**	**17 44 02.0**	**0.0**
SIGR				S	**Sg**	**17 44 17.0**	**-0.4**
SIGR				AML	AML	17 44 20.4	
SIGR				AML	AML	17 44 20.5	
SIGR	**SIGRI**	**1.19**	**141**	PN	**Pg**	**17 44 01.9**	**0.0**
SIGR				SN	**Sn**	**17 44 18.6**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.23**	**78**	PN	**Pg**	**17 44 02.1**	**-0.8**
AOS	**Alonnisos**	**1.25**	**219**	P	**Pg**	**17 44 02.2**	**-0.9**
AOS				S	**Sn**	**17 44 20.1**	**-0.6**
comp=E,94μm,0.5s							
AOS	**Alonnisos**	**1.25**	**219**	P	**Pg**	**17 44 02.8**	**-0.4**
AOS				S	**Sg**	**17 44 17.8**	**-1.5**
AOS				AML	AML	17 44 22.2	
AOS				AML	AML	17 44 22.4	
AOS	**Alonnisos**	**1.25**	**219**	PN	**Pg**	**17 44 02.2**	**-0.9**
SKY	**Skiros Island**	**1.29**	**192**	P	**Pg**	**17 44 02.6**	**-1.4**
SKY				S	**Sn**	**17 44 21.4**	**-0.4**
SKY	**Skiros Island**	**1.29**	**192**	P	**Pg**	**17 44 02.4**	**-1.6**
SKY				S	**Sg**	**17 44 20.5**	**-0.2**
SKY				AML	AML	17 44 24.5	
SKY				AML	AML	17 44 27.4	
BAYC	**CANAKKALE_Bayr**	**1.33**	**107**	*i* P	**Pn**	**17 44 04.1**	**-0.5**
BAYC				*i* S	**Sg**	**17 44 17.0**	**-5.0**
BAYC				IAML		17 44 29.0	
comp=N,4μm,0.6s							
BAYC				IAML		17 44 31.0	
comp=E,5μm,1.1s							
SOH	**Sokhos**	**1.36**	**300**	P	**Pn**	**17 44 04.3**	**-0.7**
SOH				S	**Sn**	**17 44 23.6**	**+0.1**
SOH	**Sokhos**	**1.36**	**300**	P	**Pn**	**17 44 04.1**	**-0.9**
SOH				S	**Sg**	**17 44 21.3**	**-1.5**
SOH				AML	AML	17 44 27.2	
SOH				AML	AML	17 44 27.3	
PRK	**Paraskevi**	**1.39**	**130**	P	**Pg**	**17 44 05.8**	**0.0**
PRK				S	**Sb**	**17 44 23.0**	**-0.8**
comp=E,76μm,0.8s							
PRK	**Paraskevi**	**1.39**	**130**	P	**Pn**	**17 44 04.6**	**-0.8**
PRK				S	**Sb**	**17 44 23.3**	**-0.5**
PRK				AML	AML	17 44 29.1	
PRK				AML	AML	17 44 32.4	
SRS	**Serrai**	**1.39**	**315**	P	**Pn**	**17 44 03.8**	**-1.6**
SRS				S	**Sn**	**17 44 23.9**	**-0.3**
comp=E,32μm,0.7s							
SRS	**Serrai**	**1.39**	**315**	*e*Pg	**Pg**	**17 44 06.2**	**+0.4**
SRS				*e*Sg	**Sn**	**17 44 28.4**	**+4.2**
SRS	**Serrai**	**1.39**	**315**	P	**Pn**	**17 44 03.8**	**-1.6**
SRS				S	**Sb**	**17 44 22.5**	**-1.4**
SRS				AML	AML	17 44 26.2	
comp=E,84158μm,0.6s							
SRS				AML	AML	17 44 28.2	
comp=N,40984μm,0.8s							
NVR	**Nevrokopi**	**1.44**	**327**	P	**Pn**	**17 44 05.5**	**-0.6**
NVR				S	**Sb**	**17 44 25.2**	**-0.1**
comp=N,16μm,0.8s							
NVR	**Nevrokopi**	**1.44**	**327**	P	**Pn**	**17 44 05.5**	**-0.6**
NVR				S	**Sb**	**17 44 23.7**	**-1.6**
NVR				AML	AML	17 44 33.6	
comp=E,31113μm,0.9s							
NVR				AML	AML	17 44 37.8	
comp=N,32449μm,0.8s							
HORT	**Hortiatis**	**1.45**	**289**	P	**Pn**	**17 44 05.4**	**-0.9**
HORT				S	**Sb**	**17 44 24.4**	**-1.1**
comp=N,21μm,0.7s							
HORT	**Hortiatis**	**1.45**	**289**	P	**Pn**	**17 44 05.4**	**-0.9**
HORT				S	**Sb**	**17 44 24.2**	**-1.3**
HORT				AML	AML	17 44 29.1	
comp=N,46408μm,0.5s							
HORT				AML	AML	17 44 31.9	
comp=E,39315μm,0.5s							
HORT	**Hortiatis**	**1.45**	**289**	PN	**Pn**	**17 44 05.4**	**-0.9**
LPK	**Lapseki**	**1.45**	**80**	PN	**Pn**	**17 44 05.4**	**-0.8**
KESN	**Edirne-Kesan**	**1.52**	**63**	*i* P	**Pn**	**17 44 06.1**	**-1.5**
KESN				*i* S	**Sn**	**17 44 23.6**	**-4.4**
KESN				IAML		17 44 32.0	
comp=N,9μm,0.6s							
KESN				IAML		17 44 32.0	
comp=E,12μm,0.6s							
XOR	**Xorichti**	**1.53**	**240**	P	**Pn**	**17 44 05.7**	**-1.6**
XOR				S	**Sn**	**17 44 25.5**	**-2.1**
comp=E,31μm,0.9s							
XOR	**Xorichti**	**1.53**	**240**	P	**Pn**	**17 44 05.6**	**-1.7**
XOR				S	**Sn**	**17 44 24.2**	**-3.4**
XOR				AML	AML	17 44 34.3	
comp=N,60881μm,1.0s							
XOR				AML	AML	17 44 36.1	
comp=E,57032μm,0.9s							
NEO	**Neokhori**	**1.54**	**238**	P	**Pn**	**17 44 05.7**	**-1.8**
NEO				S	**Sn**	**17 44 26.6**	**-1.3**
comp=E,36μm,0.6s							
NEO	**Neokhori**	**1.54**	**238**	P	**Pn**	**17 44 05.7**	**-1.8**
NEO				S	**Sn**	**17 44 25.0**	**-2.9**
NEO				AML	AML	17 44 34.2	
comp=E,80884μm,0.5s							
NEO				AML	AML	17 44 34.4	
comp=N,63706μm,0.4s							
RZN	**Rozhen**	**1.55**	**355**	P	**Pn**	**17 44 07.7**	**-0.1**
THE	**Thessaloniki**	**1.55**	**289**	P	**Pn**	**17 44 06.7**	**-0.9**
THE				S	**Sn**	**17 44 27.7**	**-0.5**
comp=N,11μm,1.0s							
THE	**Thessaloniki**	**1.55**	**289**	P	**Pn**	**17 44 06.8**	**-0.9**
THE				S	**Sn**	**17 44 25.9**	**-2.3**
KDZ	**Kurdzhali**	**1.56**	**15**	P	**Pn**	**17 44 06.7**	**-1.0**
KDZ	**Kurdzhali**	**1.56**	**15**	PN	**Pn**	**17 44 06.7**	**-1.0**
AYVA	**Ayvalik**	**1.62**	**121**	*i* P	**Pn**	**17 44 08.4**	**0.0**
AYVA				*i* S	**Sn**	**17 44 23.6**	**-6.1**
AYVA				IAML		17 44 37.0	
comp=E,10μm,0.8s							
AYVA				IAML		17 44 52.0	
comp=N,7μm,0.9s							
KYMI	**Kymi, Euboea I**	**1.63**	**202**	P	**Pn**	**17 44 07.1**	**-1.6**
KYMI	**Kymi, Euboea I**	**1.63**	**202**	P	**Pn**	**17 44 07.4**	**-1.3**
KYMI				S	**Sn**	**17 44 28.8**	**-1.3**
KYMI				AML	AML	17 44 36.3	
KYMI				AML	AML	17 44 36.4	
comp=E,76895μm,0.5s							
UKOP	**Uzunkopru-Edir**	**1.65**	**53**	PN	**Pn**	**17 44 08.5**	**-0.4**
VOL2	**Volos**	**1.69**	**243**	P	**Pn**	**17 44 07.9**	**-1.5**
MMB	**Musomiste**	**1.69**	**329**	P	**Pn**	**17 44 09.2**	**-0.4**
VOL3	**Nea Ionia, Vol**	**1.70**	**244**	P	**Pn**	**17 44 10.0**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.82**	**72**	PN	**Pn**	**17 44 10.7**	**-0.7**
LIT	**Litokhoron**	**1.84**	**269**	P	**Pn**	**17 44 10.3**	**-1.4**
LIT	**Litokhoron**	**1.84**	**269**	P	**Pn**	**17 44 10.2**	**-1.5**
LIT				S	**Sn**	**17 44 33.0**	**-2.5**
LIT	**Litokhoron**	**1.84**	**269**	*i* P	**Pn**	**17 44 09.9**	**-1.8**
LIT	**Litokhoron**	**1.84**	**269**	P	**Pn**	**17 44 10.2**	**-1.5**
LIT	**Litokhoron**	**1.84**	**269**	Pn	**Pn**	**17 44 10.2**	**-1.5**
DKL	**Dikili**	**1.89**	**124**	PN	**Pn**	**17 44 12.2**	**0.0**
MAR6	**Marsite Statio**	**1.89**	**72**	PN	**Pn**	**17 44 11.9**	**-0.4**
MAR3	**Marsite Statio**	**1.93**	**71**	PN	**Pn**	**17 44 12.2**	**-0.6**
MAR2	**Marsite Statio**	**1.93**	**72**	PN	**Pn**	**17 44 12.3**	**-0.5**
MAR4	**Marsite Statio**	**1.94**	**70**	PN	**Pn**	**17 44 12.5**	**-0.6**
DIM	**Dimitrovgrad**	**1.96**	**14**	P	**Pn**	**17 44 13.3**	**0.0**
PLD	**Plovdiv**	**1.96**	**356**	P	**Pn**	**17 44 14.0**	**+0.7**
PLD	**Plovdiv**	**1.96**	**356**	PN	**Pn**	**17 44 14.0**	**+0.7**
CHOS	**Chios island**	**1.97**	**152**	P	**Pn**	**17 44 12.9**	**-0.6**
CHOS	**Chios island**	**1.97**	**152**	P	**Pn**	**17 44 12.8**	**-0.7**
CHOS	**Chios island**	**1.97**	**152**	PN	**Pn**	**17 44 12.9**	**-0.6**
LRSO	**Larissa Observ**	**1.98**	**257**	P	**Pn**	**17 44 13.2**	**-0.3**
LRSO	**Larissa Observ**	**1.98**	**257**	P	**Pn**	**17 44 12.4**	**-1.1**
KNL	**Balıkesir**	**2.02**	**86**	*i* P	**Pn**	**17 44 14.1**	**0.0**
KNL				*i* S	**Sn**	**17 44 36.0**	**-3.7**
KNL				IAML		17 44 48.0	
comp=E,9μm,0.8s							
KNL				IAML		17 44 59.0	
comp=N,9μm,0.9s							
ZEDA	**zmir-Bergama**	**2.06**	**124**	*i* P	**Pn**	**17 44 14.7**	**+0.1**
ZEDA				*i* S	**Sn**	**17 44 33.7**	**-6.9**
ZEDA				IAML		17 45 03.0	
comp=E,2μm,0.8s							
ZEDA				IAML		17 45 07.0	
comp=N,4μm,0.9s							
LKR	**Lokris**	**2.09**	**225**	P	**Pn**	**17 44 13.8**	**-1.3**
LKR	**Lokris**	**2.09**	**225**	P	**Pn**	**17 44 13.5**	**-1.6**
LKR				AML	AML	17 44 49.8	
comp=N,27008μm,0.7s							
LKR				AML	AML	17 44 50.5	
comp=E,18712μm,0.5s							
MRMT	**Marmara Adasi**	**2.11**	**77**	PN	**Pn**	**17 44 13.9**	**-1.5**
VAY	**Valandovo**	**2.12**	**304**	*e*Pn	**Pn**	**17 44 15.9**	**+0.4**
VAY				*e*Sn	**Sg**	**17 44 46.9**	**-0.5**
VAY	**Valandovo**	**2.12**	**304**	*i* Pn	**Pn**	**17 44 15.2**	**-0.3**
VAY				*i* Sg	**Sg**	**17 44 48.6**	**+1.2**
VAY				*i* Lg	Lg	17 44 51.0	
comp=E,10μm,0.6s							
VAY				*i* Lg	Lg	17 44 52.6	
comp=N,19μm,0.8s							
BALY	**Balya**	**2.13**	**100**	*i* P	**Pn**	**17 44 15.7**	**0.0**
BALY				*i* S	**Sn**	**17 44 41.6**	**-1.0**
BALY				IAML		17 44 59.0	
comp=N,6μm,0.8s							
BALY				IAML		17 45 02.0	
comp=E,4μm,0.8s							
KARY	**Karystos**	**2.14**	**190**	P	**Pn**	**17 44 14.1**	**-1.6**
KARY	**Karystos**	**2.14**	**190**	P	**Pn**	**17 44 14.3**	**-1.4**
GONE	**Gonen-Balikesi**	**2.14**	**92**	PN	**Pn**	**17 44 15.7**	**0.0**
DION	**Dionisos Attik**	**2.19**	**200**	P	**Pn**	**17 44 15.1**	**-1.4**
DION	**Dionisos Attik**	**2.19**	**200**	P	**Pn**	**17 44 15.1**	**-1.4**
MAR9	**Marsite Statio**	**2.19**	**77**	PN	**Pn**	**17 44 15.3**	**-1.2**
KKB	**Krupnik**	**2.20**	**322**	P	**Pn**	**17 44 16.6**	**0.0**
EDRB	**Edirne**	**2.20**	**39**	P	**Pn**	**17 44 15.6**	**-1.0**
EDRB	**Edirne**	**2.20**	**39**	PN	**Pn**	**17 44 15.6**	**-1.0**
URLA	**Izmir**	**2.22**	**143**	PN	**Pn**	**17 44 16.4**	**-0.4**
URLA	**Izmir**	**2.22**	**143**	*i* P	**Pn**	**17 44 16.4**	**-0.4**
URLA				*i* S	**Sn**	**17 44 38.9**	**-5.8**
URLA				IAML		17 44 58.0	
comp=E,4μm,1.3s							
URLA				IAML		17 45 05.0	
comp=N,3μm,1.3s							
PTL	**Penteli**	**2.24**	**201**	P	**Pn**	**17 44 15.5**	**-1.6**
PTL	**Penteli**	**2.24**	**201**	P	**Pn**	**17 44 15.5**	**-1.6**
AGG	**Agios Georgios**	**2.28**	**241**	P	**Pn**	**17 44 16.6**	**-1.1**
AGG	**Agios Georgios**	**2.28**	**241**	P	**Pn**	**17 44 16.5**	**-1.1**
AGG	**Agios Georgios**	**2.28**	**241**	PN	**Pn**	**17 44 16.6**	**-1.1**
AGG	**Agios Georgios**	**2.28**	**241**	*i* P	**Pn**	**17 44 16.5**	**-1.1**
AGG	**Agios Georgios**	**2.28**	**241**	P	**Pn**	**17 44 16.4**	**-1.2**
AGG	**Agios Georgios**	**2.28**	**241**		**Pn**	**17 44 16.4**	**-1.2**
EDC	**Edincik**	**2.28**	**84**	PN	**Pn**	**17 44 17.3**	**-0.3**
THL	**Klokotos Trika**	**2.29**	**256**	P	**Pn**	**17

TRIZ	**Trizonia**	**2.82**	**232**	P	**Pn**	**17 44 23.9**	**-1.1**
SMG	**Samos**	**2.86**	**147**	P	**Pn**	**17 44 25.1**	**-0.6**
SMG	**Samos**	**2.86**	**147**	P	**Pn**	**17 44 25.3**	**-0.4**
ELBA	**Catalca**	**2.87**	**68**	*i* P	Pn	17 44 20.6	-5.2
PENT	**Pentalofos**	**2.88**	**272**	P	**Pn**	**17 44 26.2**	**+0.2**
CTYL	**Yalikoy Yolu**	**2.90**	**62**	PN	**Pn**	**17 44 25.2**	**-0.9**
DID	**Didima**	**2.94**	**207**	P	**Pn**	**17 44 25.5**	**-1.2**
CTKS	**Kestanelik-??a**	**2.95**	**67**	PN	**Pn**	**17 44 26.5**	**-0.4**
NEST	**Nestorio**	**2.96**	**276**	P	**Pn**	**17 44 27.1**	**+0.1**
GUR	**Goura**	**2.97**	**223**	P	**Pn**	**17 44 26.2**	**-1.0**
GUR	**Goura**	**2.97**	**223**	P	**Pn**	**17 44 25.9**	**-1.3**
BOSS	**Bosilegrad**	**2.97**	**323**	*e*Pn	**Pn**	**17 44 27.9**	**+0.7**
BOSS				*e*Sn	**Sb**	**17 45 08.2**	**-1.2**
KLV	**Kalavryta, Ach**	**2.99**	**226**	P	**Pn**	**17 44 26.5**	**-1.0**
KLV	**Kalavryta, Ach**	**2.99**	**226**	P	**Pn**	**17 44 26.3**	**-1.3**
SERI	**Serifos**	**3.00**	**186**	P	**Pn**	**17 44 25.5**	**-2.0**
PVO	**Paravola**	**3.02**	**241**	P	**Pn**	**17 44 27.6**	**-0.3**
GCAM	**G?zelcaml?**	**3.05**	**142**	PN	**Pn**	**17 44 28.2**	**+0.1**
GCAM	**G?zelcaml?**	**3.05**	**142**	*i* P	**Pn**	**17 44 28.0**	**-0.1**
GCAM				*i* S	**Sn**	**17 44 59.6**	**-5.4**
ARMT	**Armutlu**	**3.06**	**81**	PN	**Pn**	**17 44 28.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**3.06**	**85**	PN	**Pn**	**17 44 28.1**	**-0.3**
PVL	**Pavlikeni**	**3.09**	**6**	P	**Pn**	**17 44 27.8**	**-0.9**
APE	**Apeiranthos**	**3.11**	**171**	P	**Pn**	**17 44 27.6**	**-1.5**
APE	**Apeiranthos**	**3.11**	**171**	⇑P	**Pn**	**17 44 28.4**	**-0.7**
APE	**Apeiranthos**	**3.11**	**171**	PN	**Pn**	**17 44 27.8**	**-1.3**
APE	**Apeiranthos**	**3.11**	**171**	*i* P	**Pn**	**17 44 27.3**	**-1.8**
APE	**Apeiranthos**	**3.11**	**171**	P	**Pn**	**17 44 28.4**	**-0.7**
APE	**Apeiranthos**	**3.11**	**171**		**Pn**	**17 44 28.4**	**-0.7**
BGKT	**Bogazkoy**	**3.13**	**69**	PN	**Pn**	**17 44 28.8**	**-0.5**
JAN	**Janina**	**3.15**	**262**	P	**Pn**	**17 44 30.9**	**+1.3**
SKO	**Skopje**	**3.19**	**306**	*e*Pn	**Pn**	**17 44 30.4**	**+0.3**
SKO	**Skopje**	**3.19**	**306**	*i* Pn	**Pn**	**17 44 30.6**	**+0.4**
SZH	**Strazhica**	**3.21**	**14**	P	**Pn**	**17 44 30.6**	**+0.1**
TSVK	**Tesvikiye-Yalo**	**3.24**	**80**	PN	**Pn**	**17 44 30.9**	**+0.1**
ULDT	**Uludag**	**3.25**	**89**	*i* P	**Pn**	**17 44 31.1**	**0.0**
ULDT				IAML		17 45 34.0	
	comp=N,1μm,1.2s						
ULDT				IAML		17 45 39.0	
	comp=E,2μm,0.9s						
OHR	**Ohrid**	**3.26**	**289**	*i* Pn	**Pn**	**17 44 31.7**	**+0.5**
MANT	**Manisa**	**3.29**	**119**	*i* P	Pn	17 44 26.6	-5.1
MANT	**Manisa**	**3.29**	**119**		**Pn**	**17 44 32.2**	**+0.6**
BUY	**Buyukada**	**3.30**	**76**	*i* P	**Pn**	**17 44 29.4**	**-2.2**
BUY				IAML		17 45 31.0	
	comp=N,989nm,0.8s						
BUY				IAML		17 45 32.0	
	comp=E,302nm,0.7s						
GEMT	**Gemlik**	**3.30**	**84**	PN	**Pn**	**17 44 31.7**	**+0.1**
IGD	**Bursa**	**3.30**	**87**	*i* P	**Pn**	**17 44 31.5**	**-0.2**
IGD				IAML		17 45 30.0	
	comp=E,470nm,0.8s						
IGD				IAML		17 45 38.0	
	comp=N,962nm,0.9s						
ISK	**Istanbul-Kandi**	**3.30**	**72**	PN	**Pn**	**17 44 31.5**	**-0.2**
TRML	**Termal-Yalova**	**3.30**	**81**	PN	**Pn**	**17 44 31.6**	**-0.1**
KAVV	**Kandilli-Istan**	**3.30**	**72**	PN	**Pn**	**17 44 31.2**	**-0.5**
DRO	**Drossia**	**3.31**	**230**	P	**Pn**	**17 44 31.3**	**-0.5**
TRIP	**Tripoli**	**3.32**	**219**	P	**Pn**	**17 44 31.6**	**-0.4**
MPEP	**Malo Peshtene**	**3.32**	**345**	P	**Pn**	**17 44 32.6**	**+0.6**
SIMA	**Simav-Kutahya**	**3.33**	**107**	PN	**Pn**	**17 44 32.2**	**0.0**
KLYT	**Kilyos**	**3.34**	**69**	PN	**Pn**	**17 44 32.3**	**+0.1**
KULA	**Kula-Manisa**	**3.34**	**118**	PN	**Pn**	**17 44 32.7**	**+0.4**
RLS	**Riolos of Patr**	**3.38**	**233**	P	**Pn**	**17 44 32.7**	**-0.1**
VLX	**Vlachokerasia**	**3.40**	**216**	P	**Pn**	**17 44 32.8**	**-0.3**
AMGA	**Amorgos Island**	**3.40**	**166**	P	**Pn**	**17 44 32.0**	**-1.0**
AYDN	**Tasoluk**	**3.40**	**136**	*i* P	**Pn**	**17 44 33.5**	**+0.3**
AYDN				IAML		17 45 34.0	
	comp=E,1μm,0.9s						
ROIA	**ROIAK**	**3.48**	**31**	P	**Pn**	**17 44 34.7**	**+0.5**
USAK	**Uak-Merkez**	**3.50**	**113**	*i* P	**Pn**	**17 44 34.7**	**+0.3**
ZIMR		**3.53**	**6**	⇓P	**Pn**	**17 44 35.3**	**+0.5**
ZIMR		**3.53**	**6**	P	**Pn**	**17 44 35.3**	**+0.5**
ZIMR		**3.53**	**6**		**Pn**	**17 44 35.3**	**+0.5**
BARS	**Barje**	**3.53**	**320**	*e*Pn	**Pn**	**17 44 35.8**	**+0.9**
BARS				*e*Sn	**Sb**	**17 45 21.7**	**-3.9**
TSLK	**Tsoukalades, L**	**3.54**	**249**	P	**Pn**	**17 44 36.3**	**+1.4**
ZAPS	**Zavoj**	**3.56**	**332**	*e*Pn	**Pn**	**17 44 37.4**	**+2.2**
ZAPS				*e*Sn	**Sb**	**17 45 25.5**	**-0.7**
IGT	**Igoumenitsa**	**3.57**	**262**	P	**Pn**	**17 44 37.0**	**+1.7**
IGT	**Igoumenitsa**	**3.57**	**262**	*e*Pn	**Pn**	**17 44 36.7**	**+1.4**
IGT				*e*Sn	**Sn**	**17 45 15.9**	**-2.0**
PRD	**Provadia**	**3.58**	**31**	P	**Pn**	**17 44 35.1**	**-0.4**
TVSB	**Tavsanli**	**3.58**	**100**	PN	**Pn**	**17 44 36.1**	**+0.4**
AMT	**Artemida-Makis**	**3.60**	**225**	P	**Pn**	**17 44 35.7**	**-0.2**
BODT	**Bodrum**	**3.61**	**148**	P	**Pn**	**17 44 36.0**	**0.0**
BODT	**Bodrum**	**3.61**	**148**	PN	**Pn**	**17 44 35.9**	**0.0**
EVGI	**Lefkada island**	**3.62**	**247**	P	**Pn**	**17 44 37.7**	**+1.6**
RAZG	**Razgrad**	**3.62**	**19**	⇓P	**Pn**	**17 44 36.5**	**+0.3**
RAZG	**Razgrad**	**3.62**	**19**		**Pn**	**17 44 36.5**	**+0.3**
GDZ	**Gediz**	**3.69**	**105**	*i* P	**Pn**	**17 44 37.9**	**+0.7**
GDZ				IAML		17 45 52.0	
	comp=E,234nm,1.1s						
GDZ				IAML		17 45 57.0	
	comp=N,590nm,1.9s						
HRT	**Hereke**	**3.70**	**78**	PN	**Pn**	**17 44 37.3**	**+0.1**
ADVT	**Abdulvahap**	**3.71**	**84**	PN	**Pn**	**17 44 37.6**	**+0.2**
SILT	**Sile**	**3.75**	**73**	PN	**Pn**	**17 44 37.6**	**-0.2**
VLI	**Veliai**	**3.75**	**205**	P	**Pn**	**17 44 36.6**	**-1.3**
FSK	**Fiskardo**	**3.76**	**245**	P	**Pn**	**17 44 38.7**	**+0.7**
ITM	**Ithomi**	**3.76**	**219**	P	**Pn**	**17 44 38.8**	**+0.7**
ITM	**Ithomi**	**3.76**	**219**	Pn	**Pn**	**17 44 37.7**	**-0.3**
CAVI	**Cavuskoy**	**3.79**	**88**	PN	**Pn**	**17 44 38.6**	**+0.2**
SANT	**Santorini**	**3.79**	**173**	⇓P	**Pn**	**17 44 37.5**	**-1.0**
SANT	**Santorini**	**3.79**	**173**	*i* P	**Pb**	**17 44 46.4**	**-0.3**
SANT	**Santorini**	**3.79**	**173**		**Pn**	**17 44 37.8**	**-0.7**
ANAF	**Anafi Island**	**3.84**	**169**	P	**Pn**	**17 44 38.2**	**-1.0**
VLAD	**Vladila**	**3.87**	**355**	⇑P	**Pn**	**17 44 40.3**	**+0.8**
VLAD	**Vladila**	**3.87**	**355**		**Pn**	**17 44 40.3**	**+0.8**
VLS	**Valsamata**	**3.88**	**241**	P	**Pn**	**17 44 40.5**	**+0.8**
AUBOZ	**BOZOYUK**	**3.95**	**92**	PN	**Pn**	**17 44 40.9**	**+0.2**
AUBOZ	**BOZOYUK**	**3.95**	**92**	*i* P	**Pn**	**17 44 40.9**	**+0.2**
AUBOZ				IAML		17 45 55.0	
	comp=E,842nm,0.9s						
AUBOZ				IAML		17 46 03.0	
	comp=N,1μm,1.1s						
COPA	**Copaceanca**	**4.00**	**3**	⇑P	**Pn**	**17 44 42.1**	**+0.9**
COPA	**Copaceanca**	**4.00**	**3**		**Pn**	**17 44 42.1**	**+0.9**
TIR	**Tirane**	**4.01**	**289**	*e*Pn	**Pn**	**17 44 42.4**	**+1.0**
TIR				*e*Sn	**Sn**	**17 45 28.3**	**-0.5**
TIR	**Tirane**	**4.01**	**289**	P	**Pn**	**17 44 41.3**	**-0.1**
TIR	**Tirane**	**4.01**	**289**	Pn	**Pn**	**17 44 41.3**	**-0.1**
DAT	**Datca**	**4.01**	**147**	P	**Pn**	**17 44 41.3**	**-0.2**
YER	**Yerkesik**	**4.01**	**137**	PN	**Pn**	**17 44 41.8**	**+0.3**
PYL	**PYLOS**	**4.08**	**218**	P	**Pn**	**17 44 43.4**	**+1.0**
TAVA	**DENIZLI_Tavas**	**4.12**	**129**	*i* P	**Pn**	**17 44 43.8**	**+0.7**
TAVA				IAML		17 45 55.0	
	comp=E,495nm,1.8s						
KAND	**Kocaeli-Kandir**	**4.14**	**75**	*i* P	**Pn**	**17 44 38.9**	**-4.3**
GEYV	**SAKARYA_Geyve**	**4.14**	**84**	*i* P	**Pn**	**17 44 43.5**	**+0.2**
GEYV				IAML		17 46 22.0	
	comp=E,876nm,1.5s						
GEYV				IAML		17 46 27.0	
	comp=N,1μm,1.7s						
SGRR	**Singureni**	**4.15**	**11**	⇓P	**Pn**	**17 44 43.7**	**+0.3**
SGRR	**Singureni**	**4.15**	**11**		**Pn**	**17 44 43.7**	**+0.3**
ZAGS	**Zajecar**	**4.17**	**332**	*e*Pn	**Pn**	**17 44 43.7**	**+0.1**
ZAGS				*e*Sn	**Sb**	**17 45 38.9**	**-4.9**
SELS	**Selova**	**4.18**	**319**	*e*Pn	**Pn**	**17 44 43.6**	**-0.1**
SELS				*e*Sn	**Sn**	**17 45 37.5**	**+4.5**
SAUV	**Serdivan-Sakar**	**4.19**	**80**	PN	**Pn**	**17 44 44.3**	**+0.5**
BOVS	**Bovan**	**4.22**	**327**	*e*Pn	**Pn**	**17 44 45.1**	**+0.7**
BOVS				*e*Sn	**Sn**	**17 45 38.7**	**+4.6**
TURN	**Turunc**	**4.27**	**141**	*i* P	**Pn**	**17 44 43.5**	**-1.4**
BORA	**Eskisehir**	**4.28**	**92**	PN	**Pn**	**17 44 45.6**	**+0.4**
BORA	**Eskisehir**	**4.28**	**92**	*i* P	**Pn**	**17 44 44.9**	**-0.3**
GULT	**Gulveren**	**4.31**	**84**	PN	**Pn**	**17 44 45.8**	**+0.2**
HUMR	**Humele**	**4.38**	**1**	⇑P	**Pn**	**17 44 46.7**	**+0.1**
HUMR	**Humele**	**4.38**	**1**		**Pn**	**17 44 46.7**	**+0.1**
AFYO	**Afyonkarahisar**	**4.39**	**106**	*i* P	**Pn**	**17 44 47.7**	**+0.9**
AUKIR	**Kırka- Seyitga**	**4.43**	**99**	*i* P	**Pn**	**17 44 49.8**	**+2.5**
PVY	**Plav**	**4.45**	**305**	⇓*i*Pn	**Pn**	**17 44 47.8**	**+0.2**
PVY				*i* Sn	**Sn**	**17 45 39.3**	**-0.6**
KZIL	**AFYON_Kizioren**	**4.49**	**113**	*i* P	**Pn**	**17 44 48.5**	**+0.4**
ICOR	**Ion Corvin**	**4.52**	**28**	⇑P	**Pn**	**17 44 49.4**	**+1.0**
ICOR	**Ion Corvin**	**4.52**	**28**		**Pn**	**17 44 49.4**	**+1.0**
SAHE	**Sakarya_HENDEK**	**4.60**	**79**	*i* P	**Pn**	**17 44 49.0**	**-0.5**
IVA	**Berane**	**4.64**	**308**	⇑*i*Pn	**Pn**	**17 44 50.3**	**+0.1**
IVA				*i* Sn	**Sn**	**17 45 43.3**	**-1.2**
SULR		**4.64**	**12**	⇓P	**Pn**	**17 44 51.2**	**+1.1**
SULR		**4.64**	**12**		**Pn**	**17 44 51.2**	**+1.1**
ULC	**Ulcinj**	**4.64**	**295**	⇑*i*Pn	**Pn**	**17 44 50.3**	**+0.1**
ULC				*i* Sn	**Sn**	**17 45 43.5**	**-1.0**
GOLH	**Golhisar**	**4.66**	**127**	*i* P	**Pn**	**17 44 50.6**	**+0.1**
SRE	**Strehaia**	**4.69**	**345**	⇓P	**Pn**	**17 44 51.3**	**+0.6**
SRE	**Strehaia**	**4.69**	**345**	P	**Pn**	**17 44 51.3**	**+0.6**
SRE	**Strehaia**	**4.69**	**345**		**Pn**	**17 44 51.3**	**+0.6**
BRDR	**BURDUR-Merkez**	**4.71**	**120**	*i* P	**Pn**	**17 44 52.1**	**+0.9**
BRDR				IAML		17 46 30.0	
	comp=N,414nm,1.8s						
BRDR				IAML		17 46 39.0	
	comp=E,438nm,1.3s						
STFAR	**Stefanesti-Arg**	**4.72**	**1**	⇓P	**Pn**	**17 44 52.2**	**+1.0**
IMMV	**Iera Moni Meta**	**4.73**	**189**	P	**Pn**	**17 44 50.3**	**-1.0**
DRME	**Dracevica, Mon**	**4.77**	**297**	⇓*i*Pn	**Pn**	**17 44 52.5**	**+0.6**
DRME				*i* Sn	**Sn**	**17 45 46.9**	**-0.7**
DRME	**Dracevica, Mon**	**4.77**	**297**	⇓*i*Pn	**Pn**	**17 44 53.8**	**+1.9**
CVDA	**Cernavoda**	**4.79**	**28**	⇓P	**Pn**	**17 44 53.1**	**+0.9**
CVDA	**Cernavoda**	**4.79**	**28**		**Pn**	**17 44 53.1**	**+0.9**
MFTR	**Murfatlar**	**4.81**	**32**	⇓P	**Pn**	**17 44 52.7**	**+0.3**
MFTR	**Murfatlar**	**4.81**	**32**		**Pn**	**17 44 52.7**	**+0.3**
PDG	**Podgorica**	**4.82**	**300**	*e*Pn	**Pn**	**17 44 53.7**	**+1.1**
PDG				*e*Sn	**Sn**	**17 45 49.2**	**+0.3**
PDG	**Podgorica**	**4.82**	**300**	⇓P	**Pn**	**17 44 54.8**	**+2.2**
PDG	**Podgorica**	**4.82**	**300**	⇓*i*Pn	**Pn**	**17 44 54.4**	**+1.8**
PDG	**Podgorica**	**4.82**	**300**	Pn	**Pn**	**17 44 54.3**	**+1.8**
SJES	**Sjenica**	**4.82**	**312**	*e*Pn	**Pn**	**17 44 53.5**	**+0.8**
TTG	**Podgorica**	**4.82**	**300**	⇓*i*Pn	**Pn**	**17 44 52.8**	**+0.2**
TTG				*i* Sn	**Sn**	**17 45 48.4**	**-0.5**
MDUB	**Mudurnu**	**4.83**	**84**	Pn	**Pn**	**17 44 53.0**	**+0.2**
IDI	**Anoyia**	**4.85**	**180**	Pn	**Pn**	**17 44 51.7**	**-1.3**
IDI				comp=E,3.8nm,0.3s,baz=333,slow=5.1,SNR=27 Sn	**Sn**	**17 45 46.7**	**-3.0**
	comp=E,5.1nm,0.3s,baz=230,slow=21,SNR=1.4						
IDI				Lg	Lg	17 46 14.3	
	comp=E,5.6nm,0.3s,baz=294,slow=22,SNR=1.0						
IDI	**Anoyia**	**4.85**	**180**	P	**Pn**	**17 44 51.8**	**-1.2**
IDI	**Anoyia**	**4.85**	**180**	⇓P	**Pn**	**17 44 52.6**	**-0.4**
IDI	**Anoyia**	**4.85**	**180**	Pn	**Pn**	**17 44 52.1**	**-0.9**
DJES	**Djerdap**	**4.85**	**340**	*e*Pn	**Pn**	**17 44 55.2**	**+2.2**
DJES				*e*Sn	**Sn**	**17 45 54.7**	**+5.1**
GRUS	**Gruza**	**4.87**	**322**	*e*Pn	**Pn**	**17 44 52.8**	**-0.4**
GRUS				*e*Sn	**Sn**	**17 45 53.4**	**+3.4**
KUBS	**Kucevo**	**4.89**	**332**	*e*Pn	**Pn**	**17 44 54.7**	**+1.2**
BOLV	**Bolvadin**	**4.90**	**105**	*i* P	**Pn**	**17 44 53.0**	**-0.8**
BOLV	**Bolvadin**	**4.90**	**105**		**Pn**	**17 44 54.9**	**+1.1**
KARP	**Karpathos**	**4.93**	**158**	Pn	**Pn**	**17 44 53.6**	**-0.5**
SCTE	**Santa Cesarea**	**4.93**	**271**	Pn	**Pn**	**17 44 53.8**	**-0.2**
SVIS	**Svilajnac**	**4.94**	**328**	*e*Pn	**Pn**	**17 44 55.1**	**+0.9**
ISP	**Isparta**	**4.96**	**116**	P	**Pn**	**17 44 54.8**	**+0.2**
ISP	**Isparta**	**4.96**	**116**		**Pn**	**17 44 54.8**	**+0.2**
SECR		**4.96**	**10**	⇓P	**Pn**	**17 44 56.0**	**+1.5**
SECR		**4.96**	**10**		**Pn**	**17 44 56.0**	**+1.5**
TLBR	**Topalu**	**4.98**	**27**	⇓P	**Pn**	**17 44 55.0**	**+0.3**
BUM	**Brajici-Budva**	**5.01**	**297**	⇑*i*Pn	**Pn**	**17 44 55.2**	**-0.1**
BUM				*i* Sn	**Sn**	**17 45 53.3**	**-0.4**
TIRR	**Tirgusor**	**5.04**	**30**	⇑P	**Pn**	**17 44 55.4**	**-0.2**
TIRR	**Tirgusor**	**5.04**	**30**	P	**Pn**	**17 44 55.1**	**-0.4**
TIRR	**Tirgusor**	**5.04**	**30**	Pn	**Pn**	**17 44 55.1**	**-0.4**
TIRR	**Tirgusor**	**5.04**	**30**		**Pn**	**17 44 55.4**	**-0.2**
YIGI	**Dzce**	**5.06**	**79**	*i* P	**Pn**	**17 44 54.5**	**-1.3**
BAGO	**Egridir - ISPA**	**5.07**	**113**	*i* P	**Pn**	**17 44 55.8**	**-0.2**
HARR	**Harsova**	**5.07**	**25**	⇑P	**Pn**	**17 44 56.7**	**+0.8**
HARR	**Harsova**	**5.07**	**25**	P	**Pn**	**17 44 56.7**	**+0.8**
HARR	**Harsova**	**5.07**	**25**		**Pn**	**17 44 56.7**	**+0.8**
MTUR	**Matau**	**5.08**	**1**	⇑P	**Pn**	**17 44 56.8**	**+0.6**
MTUR	**Matau**	**5.08**	**1**	P	**Pn**	**17 44 56.8**	**+0.6**
MTUR	**Matau**	**5.08**	**1**		**Pn**	**17 44 56.8**	**+0.6**
CEME	**Cevo**	**5.10**	**300**	*e*Pn	**Pn**	**17 44 56.8**	**+0.3**
CEME				*i* Sn	**Sn**	**17 45 54.7**	**-1.1**
ISR	**Istrita**	**5.12**	**13**	P	**Pn**	**17 44 58.8**	**+2.1**
ISR	**Istrita**	**5.12**	**13**		**Pn**	**17 44 58.8**	**+2.1**
AUSIV	**SIVRIHISAR**	**5.17**	**96**	*i* P	**Pn**	**17 44 58.3**	**+0.9**
NKY	**Niksic**	**5.17**	**303**	⇓*i*Pn	**Pn**	**17 44 58.0**	**+0.5**
NKY				*i* Sn	**Sn**	**17 45 57.3**	**-0.4**
NKME	**Niksic**	**5.18**	**302**	⇑*i*Pn	**Pn**	**17 44 58.8**	**+1.3**
NKME				*i* Sn	**Sn**	**17 45 57.3**	**-0.4**
ELL	**Elmali**	**5.19**	**129**	P	**Pn**	**17 44 59.8**	**+2.0**
ELL	**Elmali**	**5.19**	**129**		**Pn**	**17 44 59.8**	**+2.0**
PLE	**Pljevlja**	**5.21**	**309**	⇑*i*Pn	**Pn**	**17 44 58.0**	**0.0**
PLE				*i* Sn	**Sn**	**17 45 57.4**	**-1.1**
ARR	**Arges**	**5.22**	**358**	⇑P	**Pn**	**17 44 58.8**	**+0.6**
ARR	**Arges**	**5.22**	**358**		**Pn**	**17 44 58.8**	**+0.6**
TRUS	**Trudelj**	**5.27**	**322**	*e*Pn	**Pn**	**17 44 58.4**	**-0.3**
VOIR		**5.29**	**1**	⇑P	**Pn**	**17 44 59.4**	**+0.3**
VOIR		**5.29**	**1**	P	**Pn**	**17 44 59.4**	**+0.3**
VOIR		**5.29**	**1**		**Pn**	**17 44 59.4**	**+0.3**
KORT	**Korkueli**	**5.30**	**125**	*i* P	**Pn**	**17 45 01.2**	**+1.9**
KIBS	**BOLU**	**5.33**	**85**	*i* P	**Pn**	**17 44 59.6**	**0.0**
HCY	**Herceg Novi**	**5.34**	**298**	⇓*i*Pn	**Pn**	**17 44 59.9**	**+0.2**
HCY				*i* Sn	**Sn**	**17 46 01.0**	**-0.7**
HCY	**Herceg Novi**	**5.34**	**298**	*e*Pn	**Pn**	**17 45 01.1**	**+1.4**
LOT	**Lotru**	**5.37**	**351**	⇓P	**Pn**	**17 45 00.6**	**+0.5**
LOT	**Lotru**	**5.37**	**351**		**Pn**	**17 45 00.6**	**+0.5**
DIVS	**Divibare**	**5.38**	**319**	*e*Pn	**Pn**	**17 45 00.5**	**+0.2**
DIVS				*e*Sn	**Sn**	**17 46 04.5**	**+1.8**
DIVS	**Divibare**	**5.38**	**319**	⇓*i*Pn	**Pn**	**17 45 00.0**	**-0.3**
DIVS	**Divibare**	**5.38**	**319**	Pn	**Pn**	**17 44 59.7**	**-0.6**
TOPG	**Topolog**	**5.38**	**27**	⇓P	**Pn**	**17 45 00.3**	**0.0**
AKAS	**Kas**	**5.38**	**135**	*i* P	**Pn**	**17 44 58.7**	**-1.8**
AKAS	**Kas**	**5.38**	**135**	Pn	**Pn**	**17 45 02.3**	**+1.8**
RUDO	**Rudo**	**5.39**	**312**	*e*Pn	**Pn**	**17 44 59.9**	**-0.5**
MLR	**Muntele Rosu**	**5.40**	**8**	⇑P	**Pn**	**17 45 02.1**	**+1.5**
MLR	**Muntele Rosu**	**5.40**	**8**	P	**Pn**	**17 45 01.4**	**+0.8**
MLR	**Muntele Rosu**	**5.40**	**8**	Pn	**Pn**	**17 45 01.4**	**+0.8**
UPM	**Unac-Piva**	**5.43**	**306**	⇑*i*Pn	**Pn**	**17 45 01.2**	**+0.1**
UPM				*i* Sn	**Sn**	**17 46 02.6**	**-1.5**
UPM	**Unac-Piva**	**5.43**	**306**	*e*Pn	**Pn**	**17 45 02.5**	**+1.4**
GRER		**5.45**	**16**	⇓P	**Pn**	**17 45 02.8**	**+1.6**
GRER		**5.45**	**16**		**Pn**	**17 45 02.8**	**+1.6**
JURR	**Jurilovca**	**5.48**	**31**	⇑P	**Pn**	**17 45 02.5**	**+1.0**
BCAM	**Yenicaga**	**5.51**	**81**	*i* P	**Pn**	**17 45 01.2**	**-0.9**
BRY	**Bratogost**	**5.51**	**302**	⇓*i*Pn	**Pn**	**17 45 02.2**	**0.0**
BRY				*i* Sn	**Sn**	**17 46 05.4**	**-0.6**
BRY	**Bratogost**	**5.51**	**302**	⇓*i*Pn	**Pn**	**17 45 04.0**	**+1.8**
BBLS	**Lazići**	**5.53**	**314**	*e*Pn	**Pn**	**17 45 02.3**	**0.0**
BBLS	**Lazići**	**5.53**	**314**	*e*Pn	**Pn**	**17 45 02.1**	**-0.2**
TREB	**Trebinje**	**5.55**	**300**	*e*Pn	**Pn**	**17 45 04.1**	**+1.5**
BISRR	**Bisoca**	**5.56**	**13**	⇑P	**Pn**	**17 45 05.3**	**+2.5**
BISRR	**Bisoca**	**5.56**	**13**		**Pn**	**17 45 05.3**	**+2.5**
CFR	**Carcaliu**	**5.57**	**24**	⇑P	**Pn**	**17 45 03.2**	**+0.4**
CFR	**Carcaliu**	**5.57**	**24**	P	**Pn**	**17 45 03.2**	**+0.4**
CFR	**Carcaliu**	**5.57**	**24**		**Pn**	**17 45 03.2**	**+0.4**
DOGA	**KONYA_Doganhis**	**5.64**	**109**	*i* P	Pn	17 44 59.0	-5.0
CGL1	**Ceglie Messapi**	**5.69**	**278**	⇑*i*Pn	**Pn**	**17 45 04.1**	**-0.4**
AKUM	**Antalya-Kumluc**	**5.74**	**130**	*i* P	**Pn**	**17 45 09.8**	**+4.7**
BTIN	**Bartın**	**5.77**	**73**	*i* P	**Pn**	**17 45 06.5**	**+0.9**
CMDR	**Camlidere-ANKA**	**5.80**	**84**	*i* P	**Pn**	**17 45 06.5**	**+0.3**
TLCR		**5.81**	**29**	⇑P	**Pn**	**17 45 06.3**	**+0.2**
TLCR		**5.81**	**29**	P	**Pn**	**17 45 06.3**	**+0.2**
TLCR		**5.81**	**29**		**Pn**	**17 45 06.3**	**+0.2**
KDHN	**Kadinhani**	**5.83**	**104**	*i* P	**Pn**	**17 45 07.5**	**+1.0**
TAR1	**Taranto**	**5.83**	**276**	⇑*i*Pn	**Pn**	**17 45 05.7**	**-0.7**
DOPR	**Dopca**	**5.83**	**3**	⇓P	**Pn**	**17 45 07.2**	**+0.7**
DOPR	**Dopca**	**5.83**	**3**		**Pn**	**17 45 07.2**	**+0.7**
PETR	**Petresti**	**5.83**	**16**	⇓P	**Pn**	**17 45 08.2**	**+1.8**
PETR	**Petresti**	**5.83**	**16**		**Pn**	**17 45 08.2**	**+1.8**
ODBI	**Odobesti**	**5.83**	**15**	⇑P	**Pn**	**17 45 09.0**	**+2.5**
ODBI	**Odobesti**	**5.83**	**15**		**Pn**	**17 45 09.0**	**+2.5**
PLOR	**Plostina**	**5.85**	**12**	⇓P	**Pn**	**17 45 08.5**	**+1.8**
PLOR	**Plostina**	**5.85**	**12**	P	**Pn**	**17 45 08.5**	**+1.8**
PLOR	**Plostina**	**5.85**	**12**		**Pn**	**17 45 08.5**	**+1.8**
GIUM	**Giurgiulesti**	**5.87**	**23**		**Pn**	**17 45 08.7**	**+1.8**
VRI	**Vrincioaia**	**5.88**	**13**	⇓P	**Pn**	**17 45 08.7**	**+1.6**
VRI	**Vrincioaia**	**5.88**	**13**	P	**Pn**	**17 45 08.7**	**+1.6**
VRI	**Vrincioaia**	**5.88**	**13**		**Pn**	**17 45 08.7**	**+1.6**
DEV	**Deva**	**5.92**	**346**	⇓P	**Pn**	**17 45 08.7**	**+1.1**
DEV	**Deva**	**5.92**	**346**	P	**Pn**	**17 45 08.7**	**+1.1**
DEV	**Deva**	**5.92**	**346**		**Pn**	**17 45 08.7**	**+1.1**
BANR	**Banloc**	**5.92**	**333**	⇑P	**Pn**	**17 45 09.3**	**+1.7**
BANR	**Banloc**	**5.92**	**333**		**Pn**	**17 45 09.3**	**+1.7**
TEKS	**Tekeris**	**5.93**	**320**	*e*Pn	**Pn**	**17 45 09.2**	**+1.4**
TEKS	**Tekeris**	**5.93**	**320**	*e*Pn	**Pn**	**17 45 07.7**	**-0.1**
BZS	**Buzias**	**5.98**	**337**	*e*Pn	**Pn**	**17 45 07.8**	**-0.6**
BZS	**Buzias**	**5.98**	**337**	⇑P	**Pn**	**17 45 09.0**	**+0.6**
BZS	**Buzias**	**5.98**	**337**	P	**Pn**	**17 45 09.0**	**+0.6**
BZS	**Buzias**	**5.98**	**337**		**Pn**	**17 45 09.0**	**+0.6**
KBUK	**KARABUK-Merkez**	**5.98**	**77**	*i* P	**Pn**	**17 45 10.0**	**+1.5**
OZUR		**5.99**	**6**	⇓P	**Pn**	**17 45 09.5**	**+1.0**
OZUR		**5.99**	**6**		**Pn**	**17 45 09.5**	**+1.0**
MDB	**Medias**	**6.01**	**357**	⇑P	**Pn**	**17 45 11.1**	**+2.2**
MDB	**Medias**	**6.01**	**357**	P	**

NIE Niedzica 9.83 342 *eP* **Pn 17 46 02.0 +0.7**
OBKA Obir 9.86 314 *i* Pn **Pn 17 46 04.2 +2.5**
comp=Z,3.6nm,0.3s
MODS Modra-Piesok 9.87 329 *eP* **Pn 17 46 04.5 +2.6**
MODS MLR MLR
comp=Z,5μm,14.3s
MODS Modra-Piesok 9.87 329 *e*PN **Pn 17 46 04.5 +2.6**
MODS *eL* L 17 50 19.4
TRI Trieste 9.87 308 P **Pn 17 46 01.3 -0.6**
TRI Trieste 9.87 308 Pn **Pn 17 46 01.3 -0.6**
GAZ Gaziantep 10.08 103 Pn **Pn 17 46 04.7 -0.1**
JAVC Velka Javorina 10.12 332 *e*PN **Pn 17 46 05.3 0.0**
CONA Conrad Observa 10.14 323 *i* Pn **Pn 17 46 07.7 +2.1**
comp=Z,6.8nm,0.6s
LATE Laterza 10.14 288 Pn **Pn 17 46 05.0 -0.7**
ANN Anapa 10.36 59 *eP* **Pn 17 46 07.3 -1.2**
ANN *eS* **Sn 17 48 09.0 +3.9**
ANN pmax pmax
comp=Z,65nm,1.8s
ANN MLR MLR
comp=Z,1μm,11.0s
PRED Cave del Predi 10.38 311 Pn 17 46 09.1 +0.2
MYKA Terra Mystica 10.44 312 *i* Pn **Pn 17 46 12.0 +2.3**
comp=Z,12nm,0.6s,SNR=9.0
OJC Ojcow 10.70 342 *eP* **Pn 17 46 15.4 +2.2**
OJC Ojcow 10.70 342 P **Pn 17 46 13.0 -0.1**
OJC Ojcow 10.70 342 Pn **Pn 17 46 13.0 -0.1**
OSSC Osservatorio P 10.73 293 Pn **Pn 17 46 12.6 -1.0**
KRUC Moravsky 10.77 329 *e*PN **Pn 17 46 14.5 +0.3**
ZOU Zoufplan 10.79 310 Pn 17 46 14.8 +0.2
STAL STALIGIAL 10.79 309 Pn **Pn 17 46 14.2 -0.2**
KBA Koelnbreinsper 10.86 313 *e*Pn **Pn 17 46 17.9 +2.3**
comp=Z,8.6nm,0.7s,SNR=6.8
VRAC Vranov 10.89 330 Pn **Pn 17 46 17.5 +1.6**
comp=Z,0.2nm,0.3s,baz=117,slow=9.6,SNR=3.7
VRAC LR LR 17 50 48.9
comp=Z,2μm,18.4s,baz=145,slow=40
VRAC Vranov 10.89 330 *e*PN **Pn 17 46 17.7 +1.8**
MORC Moravsky Berou 10.94 334 *e*PN **Pn 17 46 17.5 +0.9**
MORC Moravsky Berou 10.94 334 P **Pn 17 46 16.7 +0.1**
MORC Moravsky Berou 10.94 334 Pn **Pn 17 46 16.7 +0.1**
CIMO Cimolais 10.97 308 Pn **Pn 17 46 15.9 -1.0**
AKASG Malin Array Be 10.98 15 Pn **Pn 17 46 15.9 -1.2**
comp=Z,8.5nm,0.3s,baz=203,slow=13,SNR=48
AKASG LR LR 17 50 52.4
comp=Z,2μm,21.4s,baz=180,slow=39
AKASG Malin Array Be 10.98 15 Pn 17 46 14.4 -2.6
AKBB Malin Array Si 10.98 15 P **Pn 17 46 16.1 -1.0**
AKBB Malin Array Si 10.98 15 Pn **Pn 17 46 16.1 -1.0**
MMA0B Mount Meron ar 11.04 127 Pn **Pn 17 46 17.7 -0.2**
MMAI Mount Meron Ar 11.04 127 Pn **Pn 17 46 17.1 -0.8**
comp=Z,1.8nm,0.3s,baz=321,slow=14,SNR=16
MMAI Sn Sn 17 48 12.6 -9.3
comp=Z,0.5nm,0.3s,baz=316,slow=19,SNR=2.4
MMAI LR LR 17 51 25.8
comp=Z,1μm,18.4s,baz=310,slow=42
GEM Giv'at Ha'Em 11.07 125 Pn **Pn 17 46 18.7 +0.4**
NATI Neve Ativ 11.08 125 Pn **Pn 17 46 18.4 0.0**
ZCCA Zocca 11.14 297 Pn **Pn 17 46 17.6 -1.6**
ABTA Abfaltersbach 11.15 310 *i* Pn **Pn 17 46 20.3 +0.8**
comp=Z,10nm,0.6s,SNR=7.4
TREC Trest 11.33 327 AMS AMS 17 50 40.0
comp=Z,3μm,11.9s
CTI Castel Tesino 11.34 306 P **Pn 17 46 20.9 -1.1**
CTI Castel Tesino 11.34 306 Pn **Pn 17 46 20.9 -1.1**
MMLI Mount Malkishu 11.45 129 Pn **Pn 17 46 24.0 +0.5**
KRLC Kraliky 11.46 333 *eP* **Pn 17 46 25.7 +2.1**
KRLC *ex* x 17 46 29.5
KRLC AMS AMS 17 50 40.0
comp=Z,3μm,14.3s
KRLC Kraliky 11.46 333 *eP* **Pn 17 46 25.7 +2.1**
KRLC MLR MLR
comp=Z,3μm,14.3s
VLC Villacollemand 11.49 295 Pn **Pn 17 46 23.3 -0.8**
RJOB Jochberg 11.55 315 *eP* **Pn 17 46 28.2 +3.2**
baz=136,slow=10
SOC Sochi 11.57 68 *eP* **Pn 17 46 23.6 -1.5**
SOC *e* 17 48 36.2
SOC pmax pmax
comp=Z,10.0nm,0.8s
SOC MLR MLR
comp=Z,910nm,14.0s
HMDT Nahal Hemdat 11.64 129 Pn **Pn 17 46 26.4 +0.2**
GEC2 GERESS Array S 11.80 321 *eL* L 17 51 51.7
comp=Z,683nm,20.1s
GEC2 GERESS Array S 11.80 321 Pn **Pn 17 46 28.4 0.0**
GERES GERESS Array B 11.80 321 Pn **Pn 17 46 28.1 -0.3**
comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=12
GERES GERESS Array B 11.80 321 Pn **Pn 17 46 28.2 -0.1**
DPC Dobruska-Polom 11.85 332 *eP* Pn 17 46 34.3 +5.3
DPC *ex* x 17 46 38.6
DPC AMS AMS 17 50 50.0
comp=Z,2μm,15.2s
DPC Dobruska-Polom 11.85 332 *eP* Pn 17 46 34.3 +5.3
DPC MLR MLR
comp=Z,2μm,15.2s
SALO Salr 11.87 302 Pn **Pn 17 46 26.9 -2.4**
WTTA Wattenberg 11.94 311 *i* Pn **Pn 17 46 34.2 +3.9**
comp=Z,15nm,0.6s,SNR=6.5
VSL Villasalto 11.95 272 Pn **Pn 17 46 30.0 -0.4**
WATA Walderalm 12.01 311 *i* Pn **Pn 17 46 34.7 +3.4**
comp=Z,26nm,0.8s
KZIT Kziot 12.03 137 Pn **Pn 17 46 32.4 +1.0**
DSI Dead Sea 12.05 132 Pn **Pn 17 46 32.3 +0.5**
KHC Kasperske Hory 12.06 322 *eP* **Pn 17 46 34.6 +2.8**
KHC *ex* x 17 46 45.7
KHC AMS AMS 17 51 10.0
comp=Z,3μm,15.2s
KHC Kasperske Hory 12.06 322 P **Pn 17 46 31.2 -0.6**
KHC Kasperske Hory 12.06 322 Pn **Pn 17 46 31.2 -0.6**
OSTC Ostas 12.06 333 AMS AMS 17 50 50.0
comp=Z,3μm,15.3s
UPC Upice 12.09 332 AMS AMS 17 51 30.0
comp=Z,2μm,14.4s
CHVC Chvalec 12.14 332 AMS AMS 17 50 50.0
comp=Z,2μm,15.6s
SQTA Sankt Quirin 12.16 310 *i* Pn **Pn 17 46 36.0 +2.6**
comp=Z,14nm,0.5s,SNR=10
PRU Pruhonice 12.25 327 *eP* Pn 17 46 48.1 +14
PRU *ex* x 17 46 54.0
PRU AMS AMS 17 51 10.0
comp=Z,3μm,12.6s
PRU Pruhonice 12.25 327 *eP* Pn 17 46 48.1 +14
PRU MLR MLR
comp=Z,3μm,12.6s
KSP Ksiaz 12.27 334 *eP* **Pn 17 46 37.9 +3.2**
MOTA Moosalm 12.29 310 *i* Pn **Pn 17 46 36.7 +1.6**
comp=Z,18nm,1.0s,SNR=8.9
FETA Feichten 12.35 308 *i* Pn **Pn 17 46 36.8 +0.9**
comp=Z,14nm,0.7s,SNR=6.4
PRA Prague 12.36 327 AMS AMS 17 51 10.0
comp=Z,2μm,12.9s
WET Wettzell 12.40 320 *eL* L 17 50 55.5
comp=Z,403nm,19.8s
FUORN Ofenpass-Fuorn 12.45 306 Pn **Pn 17 46 36.7 -0.7**
ASF Jabal al Asfar 12.53 126 Pn **Pn 17 46 39.8 +1.4**
comp=Z,0.1nm,0.3s,baz=295,slow=2.1,SNR=3.7
RETA Reutte 12.56 310 *e*Pn **Pn 17 46 40.9 +2.2**
comp=Z,1.9nm,0.4s
FUR Furstenfeldbru 12.63 314 *eL* L 17 51 17.8
comp=Z,975nm,21.9s
PVCC Panska Ves 12.66 329 AMS AMS 17 51 40.0
comp=Z,2μm,12.3s
PRNI Paran 12.78 137 Pn **Pn 17 46 42.8 +1.0**
TUE Stuetta 12.96 304 Pn **Pn 17 46 42.9 -1.5**
KEST Kesra 13.04 255 Pn **Pn 17 46 45.6 +0.4**
comp=Z,0.7nm,0.3s,baz=30,slow=4.4,SNR=17
KEST LR LR 17 52 49.0
comp=Z,1μm,19.7s,baz=14,slow=42
KEST Kesra 13.04 255 Pn **Pn 17 46 45.0 -0.3**
HRFI Mount Harif 13.05 137 Pn **Pn 17 46 46.8 +1.4**
BRG Berggiesshubel 13.18 328 *eP* **P 17 46 60.0 +2.7**
comp=Z,14nm,1.3s
BRG *e* 17 48 04.0
comp=Z,7.3nm,1.1s
BRG *e* 17 50 23.1
comp=Z,66nm,2.1s
comp=Z,2μm,12.6s
comp=N,3μm,15.6s
comp=E,4μm,15.6s
EIL Elat 13.30 139 Pn **Pn 17 46 50.5 +1.7**
comp=E,0.4nm,0.3s,baz=338,slow=9.3,SNR=7.8
EIL Elat 13.30 139 Pn **Pn 17 46 49.3 +0.5**
MANZ Manzenberg 13.34 322 *eP* Pn 17 46 54.1 +4.8
baz=136,slow=10

NKC Novy Kostel 13.35 323 AMS AMS 17 52 00.0
comp=E,2μm,11.7s
FBE Freiberg 13.46 327 *eP* **P 17 47 02.9 +2.6**
baz=136,slow=10
TANN Tannenbergstha 13.47 324 *eP* **P 17 46 56.4 -4.2**
baz=136,slow=10
GRF Grafenberg Arr 13.58 319 *eP* **Pn 17 46 56.4 +3.8**
comp=E,57nm,1.9s,baz=136,slow=10
GRF *eL* L 17 53 07.8
comp=E,551nm,20.3s
KIV Kislovodsk 13.76 68 *eP* **Pn 17 46 53.2 -1.8**
KIV *eS* **Sn 17 49 26.6 -1.7**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,711nm,11.0s
KIV Kislovodsk 13.76 68 Pn **Pn 17 46 54.0 -1.1**
KBZ Khabaz 13.87 69 Pn **Pn 17 46 57.0 +0.6**
comp=Z,0.2nm,0.3s,baz=219,slow=17,SNR=2.4
KBZ Khabaz 13.87 69 *i* P **Pn 17 46 55.1 -1.4**
CLL Collm 13.89 327 *e*pP **Pn 17 47 00.0 +3.2**
CLL *e*PP **P 17 47 07.0 +1.8**
CLL *i* sPP 17 47 09.9
CLL *e* 17 47 28.0
CLL *e* 17 48 05.0
CLL *e* 17 48 45.0
CLL *e*SS **S 17 49 45.0 -8.7**
CLL LmH 17 51 00.0
comp=N,3μm,21.4s
CLL LmH 17 51 00.0
comp=E,3μm,21.2s
CLL Lmax 17 53 00.0
CLL Collm 13.89 327 P **Pn 17 46 56.7 -0.1**
CLL Collm 13.89 327 *eL* L 17 55 21.9
comp=E,916nm,18.2s
CLL Collm 13.89 327 Pn **Pn 17 46 56.7 -0.1**
SUW Suwalki 13.92 356 *eP* **Pn 17 46 56.6 -0.6**
SUW Suwalki 13.92 356 P **Pn 17 46 56.6 -0.6**
SUW Suwalki 13.92 356 Pn 17 46 56.6 -0.6
MOX Moxa 14.02 323 *eP* **P 17 47 09.6 +2.9**
comp=E,91nm,1.8s,baz=136,slow=10
MOX *eL* L 17 52 58.6
comp=E,626nm,21.5s
AKH Akhalkalaki 14.15 79 P **P 17 47 07.6 -0.7**
AKH Akhalkalaki 14.15 79 P **P 17 47 07.6 -0.7**
SENIN Lac Senin/Sane 14.24 302 Pn **Pn 17 47 01.1 -0.7**
BNI Bardonecchia 14.28 296 P **Pn 17 47 00.3 -2.0**
BNI Bardonecchia 14.28 296 Pn **Pn 17 47 00.3 -2.0**
BFO Black Forest 14.40 310 P **Pn 17 47 02.3 -1.5**
BFO Black Forest 14.40 310 *eL* L 17 52 45.8
comp=E,1μm,18.6s
BFO Black Forest 14.40 310 Pn **Pn 17 47 02.3 -1.5**
ZEI Tsey 14.49 73 *eP* **P 17 47 12.7 +0.5**
ZEI pmax pmax
comp=Z,16nm,1.1s
MICGM Minsk 14.51 7 *e* **Pn 17 47 01.0 -4.1**
MICGM *e*LR LR 17 52 12.0
MICGM LRM MLR 17 53 20.0
comp=Z,6.8nm,12.0s
MNK Minsk 14.51 7 *eP* **Pn 17 47 04.0 -1.1**
MNK MLR MLR
comp=Z,7μm,12.0s
VORD Divnogorie 14.76 38 *eP* **Pn 17 47 06.6 -2.1**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD MLR MLR
comp=Z,420nm,7.0s
VSR Storozhevoye 14.87 37 *eP* **Pn 17 47 07.5 -2.6**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR MLR MLR
comp=Z,2μm,10.0s
UBBA Unterbreizbach 14.90 321 *eP* **P 17 47 16.4 +0.1**
baz=136,slow=10
ECH Echery 15.04 308 P **Pn 17 47 10.2 -2.3**
ECH pmax pmax
comp=Z,19nm,1.0s
ECH Echery 15.04 308 Pn **Pn 17 47 10.2 -2.3**
IDID Didziasalis 15.23 4 *eP* **Pn 17 47 12.6 -2.3**
IIGN Ignalina 15.24 3 *eP* **Pn 17 47 11.7 -3.3**
IIGN IAmb IAmb 17 47 25.1
comp=Z,21nm,0.7s
TNS Taunus Mts 15.33 317 *eL* L 17 55 53.8
comp=Z,443nm,20.5s
PABE Paberze 15.38 358 *eP* **Pn 17 47 14.6 -2.3**
PABE IAmb IAmb 17 47 22.9
comp=Z,54nm,0.9s
ISAL Salakas 15.46 3 *eP* **Pn 17 47 14.9 -3.0**
IZAR Zarasai 15.64 3 *eP* **Pn 17 47 17.2 -3.1**
LPSR Galich'ya Gora 15.74 33 *eP* **Pn 17 47 18.8 -2.8**
LPSR pmax pmax
comp=Z,40nm,1.1s
LPSR MLR MLR
comp=Z,2μm,16.0s
SSB Saint Sauveur 15.80 296 P **Pn 17 47 20.8 -1.8**
SSB pmax pmax
comp=Z,9.0nm,1.0s
SSB Saint Sauveur 15.80 296 Pn **Pn 17 47 20.8 -1.8**
SET Setif 15.83 262 P **P 17 47 27.0 +0.1**
GROC Groznyy 15.91 72 *eP* **Pn 17 47 23.8 -0.1**
GROC pmax pmax
comp=Z,26nm,1.1s
NRDL Niedersach Rie 15.99 325 *eP* **P 17 47 30.2 +1.9**
baz=136,slow=10
PBUR Paburge 16.01 354 *eP* Pn 17 47 17.5 -7.6
VRH Novokhopyorsk 16.10 41 *eP* **Pn 17 47 24.0 -2.3**
VRH pmax pmax
comp=Z,100nm,1.1s
VRH MLR MLR
comp=Z,1μm,17.0s
WLF Walferdange 16.30 312 pPn **Pn 17 47 29.7 +0.9**
WLF Walferdange 16.30 312 PnPn **P 17 47 36.4 +4.5**
WLF Walferdange 16.30 312 P **Pn 17 47 29.5 +0.6**
WLF pmax pmax
comp=Z,86nm,1.4s
WLF Walferdange 16.30 312 P **Pn 17 47 29.5 +0.6**
WLF IAmb IAmb 17 47 40.2
comp=Z,86nm,1.4s
MEM Membach 16.85 315 pPn **P 17 47 39.5 +1.5**
MEM PnPn **PnPn 17 47 44.1 -1.1**
OBN Obninsk 16.88 24 Pn **Pn 17 47 32.7 -3.5**
comp=Z,0.8nm,0.3s,baz=289,slow=5.1,SNR=8.3
OBN LR LR 17 54 34.5
comp=Z,242nm,20.4s,baz=208,slow=39
OBN Obninsk 16.88 24 *deP* **Pn 17 47 33.0 -3.2**
OBN pmax pmax
comp=Z,52nm,0.9s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 16.88 24 Pn **Pn 17 47 32.1 -4.0**
BSEG Bad Segeberg 16.95 329 *eP* **P 17 47 41.2 +2.2**
comp=Z,52nm,1.4s,baz=136,slow=10
BSEG *eL* L 17 53 20.3
comp=Z,516nm,21.9s
BSTI Sart Tilman 17.08 314 pPn **P 17 47 41.9 +1.4**
BSTI PnPn **PnPn 17 47 48.1 -0.3**
BCLA Clavier 17.14 313 pPn **P 17 47 43.1 +1.8**
BCLA PnPn **PnPn 17 47 47.1 -2.1**
BGES Gesves 17.25 313 pPn **P 17 47 44.2 +1.8**
BMRD Maredsous 17.39 312 PnPn P 17 47 51.2 +7.2
DOU Dourbes 17.39 312 pPn **P 17 47 45.0 +1.0**
DOU x x 17 47 55.9
SLIT Slitere, Latvi 17.58 355 *eP* **Pn 17 47 38.4 -6.6**
SLIT IAmb IAmb 17 48 07.4
comp=Z,126nm,1.1s
MOS Moscow 17.73 24 *eP* **Pn 17 47 42.6 -4.2**
MOS *eS* **Sn 17 51 02.7 -1.9**
MOS pmax pmax
comp=Z,166nm,1.3s
MOS MLR MLR
comp=Z,1μm,14.0s
UCC Uccle 17.85 313 P **P 17 47 49.9 +0.8**
UCC pmax pmax
comp=Z,28nm,0.8s
UCC Uccle 17.85 313 P **P 17 47 49.9 +0.8**
CLF Chambon-Foret 18.02 303 P **Pn 17 47 49.6 -0.9**
VSU Vasula 18.37 3 *eP* **Pn 17 47 51.2 -3.4**
VSU IAmb IAmb 17 48 04.9
comp=Z,486nm,1.7s
VSU Vasula 18.37 3 *i* P **Pn 17 47 51.2 -3.4**
CART Cartagena 20.31 271 P **P 17 48 14.8 -1.2**
CART IAmb IAmb 17 48 16.3
comp=Z,50nm,0.8s
HFS Hagfors 21.20 344 P **P 17 48 24.4 -1.2**
comp=Z,3.8nm,0.7s,baz=162,slow=11,SNR=8.1
HFS LR LR 17 57 44.3
comp=Z,1μm,18.1s,baz=159,slow=40
FINES FINESS Array B 21.34 2 P **P 17 48 27.3 +0.3**
comp=Z,5.3nm,0.8s,baz=163,slow=14,SNR=9.9
FINES PcP **PcP 17 52 33.4 +2.4**
comp=Z,3.0nm,0.7s,baz=160,slow=4.4,SNR=3.1
FINES LR LR 17 57 25.9
comp=Z,3μm,18.2s,baz=184,slow=39
FINES FINESS Array B 21.34 2 P **P 17 48 26.6 -0.4**
OSL Oslo 21.71 341 *eP* **P 17 48 30.4 -0.7**
KONO Kongsberg 21.77 339 P **P 17 48 30.2 -1.4**
KONO pmax pmax
comp=Z,37nm,1.0s
KONO Kongsberg 21.77 339 P **P 17 48 30.2 -1.4**
KONO IAmb IAmb 17 48 40.6
comp=Z,37nm,1.0s
KONO Kongsberg 21.77 339 *eP* **P 17 48 30.6 -1.1**
ESBB Sonseca Array 22.10 278 P **P 17 48 33.9 -1.6**
ESBB IAmb IAmb 17 48 44.3
comp=Z,52nm,1.4s
ESDC Sonseca Array 22.11 278 P **P 17 48 34.6 -0.9**
comp=Z,9.2nm,0.8s,baz=72,slow=9.6,SNR=48
ESDC LR LR 17 57 01.9
comp=Z,254nm,19.3s,baz=70,slow=36
ESDC Sonseca Array 22.11 278 P **P 17 48 34.1 -1.4**
NC602 NORSAR Array S 22.21 343 P **P 17 48 34.8 -1.7**
NC602 NORSAR Array S 22.21 343 *eP* **P 17 48 35.2 -1.2**
PAB San Pablo 22.42 278 P **P 17 48 38.0 -1.0**
PAB pmax pmax
comp=Z,66nm,1.5s
PAB San Pablo 22.42 278 P **P 17 48 38.0 -1.0**
PAB IAmb IAmb 17 48 46.4
comp=Z,66nm,1.4s
NAO01 NORSAR Array S 22.46 342 P **P 17 48 38.0 -1.2**
NAO01 NORSAR Array S 22.46 342 *eP* **P 17 48 37.9 -1.3**
NC405 NORSAR Array S 22.51 343 P **P 17 48 37.9 -1.7**
NC405 IAmb IAmb 17 48 45.4
comp=Z,36nm,0.9s
NB201 NORSAR Array S 22.55 343 P **P 17 48 38.9 -1.2**
NB2 NORSAR Subarra 22.56 343 P **P 17 48 39.1 -1.1**
comp=Z,87nm,1.4s,baz=157,slow=11
NB2 NORSAR Subarra 22.56 343 P **P 17 48 39.1 -1.1**
baz=157,slow=11
NOA NORSAR Array B 22.56 343 P **P 17 48 39.1 -1.1**
comp=Z,20nm,0.9s,baz=156,slow=10,SNR=27
NOA LR LR 17 59 07.8
comp=Z,800nm,20.1s,baz=155,slow=41
KLMR Klimovskoe 22.62 19 *eP* **P 17 48 37.4 -3.3**
KLMR *eS* **S 17 52 46.0 -2.9**
KLMR pmax pmax
comp=Z,69nm,1.4s
KLMR MLR MLR
comp=Z,684nm,10.0s
KLMR Klimovskoe 22.62 19 *eP* **P 17 48 37.5 -3.3**
KLMR AMP 17 48 42.7
comp=Z,69nm,1.4s
KLMR *eS* **S 17 52 46.1 -2.9**
KLMR *eS* **S 17 52 46.1 -2.9**
KLMR LQ LQ 17 55 15.1
KLMR LQ LQ 17 55 15.1
KLMR LR LR 17 56 35.7
KLMR AMP 17 57 55.6
comp=Z,684nm,10.2s
NBO00 NORSAR Array S 22.65 342 P **P 17 48 40.2 -0.9**
NC303 NORSAR Array S 22.69 343 P **P 17 48 39.8 -1.7**
ODD1 Odda 22.86 336 *eP* **P 17 48 43.2 -0.1**
NC204 NORSAR Array S 22.87 342 P **P 17 48 42.3 -1.3**
NC204 NORSAR Array S 22.87 342 *eP* **P 17 48 42.2 -1.3**
SKAR Skarslia 22.99 339 *eP* **P 17 48 44.8 +0.1**
TAM Tamanrasset 23.84 229 P **P 17 48 53.0 -0.6**
TAM pmax pmax
comp=Z,34nm,1.4s
TAM Tamanrasset 23.84 229 P **P 17 48 53.0 -0.6**
TAM IAmb IAmb 17 49 01.1
comp=Z,34nm,1.4s
PBRG Braganca 23.88 284 *eP* **P 17 48 53.7 -0.1**
comp=Z,111nm,1.5s
DOMB Dombas 23.94 342 *eP* **P 17 48 54.2 0.0**
EKA Eskdalemuir Ar 24.00 319 P **P 17 48 54.0 -0.8**
comp=Z,6.6nm,0.7s,baz=120,slow=10,SNR=20
EKA Eskdalemuir Ar 24.00 319 P **P 17 48 54.0 -0.8**
ESK Eskdalemuir 24.01 319 P **P 17 48 53.2 -1.7**
ESK pmax pmax
comp=Z,71nm,1.4s
ESK Eskdalemuir 24.01 319 P **P 17 48 53.2 -1.7**
ESK IAmb IAmb 17 49 01.0
comp=Z,71nm,1.4s
KIRV Kirov 24.17 32 P **P 17 48 55.6 -0.7**
comp=Z,18nm,0.9s,baz=61,slow=3.8,SNR=7.5
KIRV LR LR 17 58 43.5
comp=Z,1μm,18.6s,baz=232,slow=37
MVO Moncorvo 24.18 283 *eP* **P 17 48 56.8 +0.2**
comp=Z,108nm,1.0s
MVO *eS* **S 17 53 17.5 +2.2**
MVO *eLQ* LQ 17 57 46.9
MVO *eLR* LR 17 59 04.5
comp=Z,363nm,18.0s
AKN Aaknes 24.58 340 *eP* **P 17 49 01.4 +1.4**
PVRL Vila Real 24.67 283 *eP* **P 17 49 01.9 +0.8**
comp=Z,38nm,2.2s
MTE Manteigas 24.68 281 P **P 17 49 00.3 -1.0**
MTE IAmb IAmb 17 49 03.7
comp=Z,52nm,1.0s
MTE Manteigas 24.68 281 *eP* **P 17 49 00.9 -0.4**
comp=Z,90nm,1.4s
MTE *eS* **S 17 53 25.6 +2.1**
MTE *eLQ* LQ 17 59 00.2
MTE *eLR* LR 17 59 45.6
comp=Z,488nm,18.0s
PCBR Castelo Branco 24.73 280 *eP* **P 17 49 01.6 0.0**
comp=Z,61nm,1.5s
MDT Midelt 24.75 262 P **P 17 49 01.8 -0.1**
comp=Z,24nm,0.9s,baz=79,slow=6.4,SNR=38
MDT LR LR 18 00 34.4
comp=Z,202nm,18.2s,baz=44,slow=41
PMRV Marv??o 24.75 279 *eP* **P 17 49 01.3 -0.5**
comp=Z,38nm,1.4s
PMRV *eS* **S 17 53 26.9 +2.4**
PMRV *eLQ* LQ 17 58 42.0
PMRV *eLR* LR 18 00 27.0
comp=Z,350nm,18.0s
MOL Molde 24.77 341 *eP* **P 17 49 02.3 +0.6**
PCAB Cabril 24.84 284 *eP* **P 17 49 03.8 +1.1**
comp=Z,51nm,1.5s
PVIS Viseu 24.89 282 *eP* **P 17 49 03.0 -0.1**
comp=Z,58nm,1.3s
PRGR Permogore 24.96 24 *eP* **P 17 49 02.4 -1.0**
PRGR pmax pmax
comp=Z,49nm,1.3s
PGAV Gavieira, Arco 24.99 285 *eP* **P 17 49 04.9 +0.8**
comp=Z,65nm,1.9s
PGAV *eS* **S 17 53 35.0 +6.5**
AKTO Aktyubinsk 25.28 55 P **P 17 49 07.6 +1.2**
comp=Z,10nm,1.0s,baz=264,slow=7.3,SNR=15
AKTO LR LR 18 01 16.1
comp=Z,648nm,20.1s,baz=259,slow=42
COI Coimbra 25.37 281 P **P 17 49 07.0 -0.4**
COI pmax pmax
comp=Z,37nm,0.9s
COI Coimbra 25.37 281 P **P 17 49 07.0 -0.4**
COI IAmb IAmb 17 49 09.8
comp=Z,37nm,0.8s
COI Coimbra 25.37 281 *eP* **P 17 49 08.8 +1.4**
comp=Z,52nm,1.3s
COI *eS* **S 17 53 38.1 +3.8**
PBEJ Beja 25.44 276 *eP* **P 17 49 06.8 -1.3**
comp=Z,27nm,2.1s
PCAS Casmilo, Conde 25.46 281 *eP* **P 17 49 09.1 +0.9**
comp=Z,61nm,1.7s
PCAS *eS* **S 17 53 44.4 +8.5**
PVAQ Vaqueiros 25.50 274 P **P 17 49 07.5 -1.1**
PVAQ IAmb IAmb 17 49 14.8
comp=Z,51nm,1.3s
PVAQ Vaqueiros 25.50 274 *eP* **P 17 49 08.1 -0.5**
comp=Z,69nm,1.5s
PVAQ *eS* **S 17 53 38.9 +2.5**
PVAQ *eLQ* LQ 17 59 37.6
PVAQ *eLR* LR 18 00 26.6
NSS Namsos 25.57 347 *eP* **P 17 49 09.3 +0.5**
PCVE Castro Verde 25.68 275 *eP* **P 17 49 09.5 -0.7**
comp=Z,29nm,1.8s
PBDV Barranco-do-Ve 25.71 274 *eP* **P 17 49 10.4 -0.1**
comp=Z,68nm,2.1s
PBDV *eS* **S 17 53 42.7 +2.9**

GEYT Alibeck 25.82 84 P **P 17 49 13.0 +1.4**
comp=Z,7.8nm,0.8s,baz=288,slow=11,SNR=15
GEYT LR LR 18 01 48.3
comp=Z,520nm,20.0s,baz=0.0,slow=42
GEYT Alibeck 25.82 84 P **P 17 49 10.9 -0.6**
GYA0B ALIBECK ARRAY 25.82 84 P **P 17 49 10.9 -0.6**
GYA0B IAmb IAmb 17 49 47.7
comp=Z,34nm,1.3s
PNCL Nicolau / Gran 25.93 276 *e*P **P 17 49 12.4 0.0**
comp=Z,27nm,1.9s
PNCL *e*S **S 17 53 46.0 +2.8**
PTEO Sao Teotonio 26.23 275 *e*P **P 17 49 15.1 -0.1**
comp=Z,33nm,1.5s
MORF Marmelete 26.24 275 *e*P **P 17 49 15.3 0.0**
MORF AMb AMB 17 49 23.9
comp=Z,27nm,2.5s
MORF *e*S **S 17 53 48.5 +0.2**
MORF Marmelete 26.24 275 *e*P **P 17 49 15.3 0.0**
MORF *e*S **S 17 53 48.4 +0.2**
MORF pmax pmax
comp=Z,27nm,2.5s
MORF Marmelete 26.24 275 *e*P **P 17 49 16.3 +1.0**
comp=Z,27nm,1.4s
MORF *e*S **S 17 53 49.4 +1.2**
PMAFR Mafra 26.29 279 *e*P **P 17 49 13.5 -2.3**
PMAFR *e*S **S 17 53 53.6 +4.6**
ABKAR Akbulak array 26.32 58 P **P 17 49 14.6 -1.3**
PFVI Vila Bisbo 26.42 274 P **P 17 49 16.1 -0.8**
PFVI IAmb IAmb 17 49 17.9
comp=Z,22nm,0.7s
PFVI Vila Bisbo 26.42 274 *e*P **P 17 49 17.4 +0.5**
comp=Z,37nm,1.9s
PFVI *e*S **S 17 53 53.6 +2.6**
ARU Arti 27.33 42 P **P 17 49 27.3 +2.4**
comp=Z,3.0nm,0.9s,baz=220,slow=9.9,SNR=12
ARU LR LR 18 00 40.7
comp=Z,608nm,20.2s,baz=238,slow=37
ARU Arti 27.33 42 P **P 17 49 23.9 -1.0**
ARU 17 50 08.8
ARU S **S 17 54 07.3 +2.3**
ARU SS **SnSn 17 55 20.0 +7.1**
ARU MLR MLR
comp=Z,1μm,15.0s
ARU Arti 27.33 42 P **P 17 49 25.0 +0.1**
ARU IAmb IAmb 17 49 51.9
comp=Z,34nm,1.4s
APA Apatity 27.88 7⇑ *i*P **P 17 49 31.4 +1.7**
APA *i* S **S 17 54 14.0 +0.6**
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,2μm,15.0s
LVZ Lovozero 28.32 8 *i* P **P 17 49 31.8 -1.9**
LVZ pmax pmax
comp=Z,17nm,1.3s
SVE Sverdlovsk 28.54 42 *e*P **P 17 49 39.9 +4.2**
SVE pmax pmax
comp=Z,18nm,1.3s
SVE MLR MLR
comp=Z,1μm,14.0s
ARCES ARCESS Array B 29.46 0 LR LR 18 02 18.4
comp=Z,2μm,19.5s,baz=183,slow=38
UOSS Minazif 30.24 111 P **P 17 49 51.4 +0.2**
UOSS IAmb IAmb 17 49 54.7
comp=Z,17nm,1.3s
HAMF Hammerfest 30.57 359 *e*P **P 17 49 52.0 -1.6**
BRVK Borovoye 33.18 52 *i* P **P 17 50 14.8 -1.9**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BRVK Borovoye 33.18 52 P **P 17 50 17.3 +0.6**
BRVK IAmb IAmb 17 50 22.7
comp=Z,9.3nm,1.0s
BVAR Borovoye Array 33.24 52 P **P 17 50 17.8 +0.6**
comp=Z,3.2nm,0.9s,baz=260,slow=7.2,SNR=4.3
IUG Iuzhnay 33.75 72 *e*P **P 17 50 23.2 +1.3**
comp=Z,2.7nm,1.0s,baz=72
IUG Iuzhnay 33.75 72 *e*P **P 17 50 23.1 +1.2**
IUG pmax pmax
comp=Z,3.0nm,1.0s
TOA0 Torodi Ar. Sit 33.75 224 P **P 17 50 21.6 -0.4**
TORD Torodi Ar. Bea 33.75 224 P **P 17 50 22.1 +0.2**
comp=Z,19nm,0.7s,baz=31,slow=8.9,SNR=20
TORD LR LR 18 06 26.4
comp=Z,307nm,18.7s,baz=25,slow=40
TORD Torodi Ar. Bea 33.75 224 P **P 17 50 22.0 0.0**
KK31 Karatay Array 33.91 70 P **P 17 50 23.1 -0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KK31 Karatay Array 33.91 70 P **P 17 50 23.1 -0.1**
KKAR Karatay Array 33.91 70 P **P 17 50 23.1 -0.1**
KKAR Karatay Array 33.91 70 P **P 17 50 23.6 +0.4**
KKAR Karatay Array 33.91 70 P **P 17 50 23.1 -0.1**
DZA Taraz 34.54 70 *e*P **P 17 50 30.3 +1.6**
baz=70
DZA Taraz 34.54 70 *e*P **P 17 50 30.2 +1.6**
BRZS Berezniki 34.62 57 *e*P **P 17 50 30.6 +1.3**
comp=Z,3.0nm,0.9s,baz=57
BRZS Berezniki 34.62 57 *e*P **P 17 50 30.5 +1.3**
BRZS pmax pmax
comp=Z,3.0nm,0.9s
GAR Garm 34.74 77 P **P 17 50 30.0 -0.6**
GAR IAmb IAmb 17 50 36.8
comp=Z,28nm,1.0s
BTLS Baital 36.06 66 *e*P **P 17 50 43.5 +1.7**
comp=Z,4.1nm,0.9s,baz=66
BTLS Baital 36.06 66 *e*P **P 17 50 43.4 +1.7**
BTLS pmax pmax
comp=Z,4.0nm,0.9s
BORG Borgarnes 36.14 328 P **P 17 50 44.1 +2.0**
comp=Z,10nm,1.0s,baz=243,slow=11,SNR=2.2
BORG Borgarnes 36.14 328 P **P 17 50 44.1 +2.0**
BORG pmax pmax
comp=Z,52nm,1.4s
AAK Ala-Archa 36.87 69 P **P 17 50 51.0 +2.2**
comp=Z,3.7nm,0.8s,baz=242,slow=7.4,SNR=8.5
AAK Ala-Archa 36.87 69 P **P 17 50 48.7 -0.2**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 36.87 69 P **P 17 50 48.7 -0.2**
AAK IAmb IAmb 17 51 00.2
comp=Z,27nm,1.7s
FRU1 Bishkek 36.92 69 P **P 17 50 49.4 +0.2**
FRU1 pmax pmax
comp=Z,24nm,1.1s
FRU1 Bishkek 36.92 69 P **P 17 50 49.4 +0.2**
FRU1 IAmb IAmb 17 50 56.4
comp=Z,24nm,1.1s
KUU Kurty 37.90 67 *e*P **P 17 50 59.1 +1.6**
comp=Z,12nm,1.1s,baz=67
KUU Kurty 37.90 67 *e*P **P 17 50 59.0 +1.6**
KUU pmax pmax
comp=Z,12nm,1.1s
MTBS Maitube 38.14 68 *e*P **P 17 51 01.4 +1.9**
baz=68
MTBS Maitube 38.14 68 *e*P **P 17 51 01.3 +1.9**
KURBB Kurchatov Arra 38.32 56 P **P 17 51 00.9 +0.1**
comp=Z,5.6nm,1.0s,baz=282,slow=8.8,SNR=13
KURBB PcP **PcP 17 53 17.0 +2.4**
comp=Z,2.6nm,0.8s,baz=274,slow=4.0,SNR=8.4
KURK Kurchatov 38.37 56 *i* P **P 17 51 00.0 -1.2**
KURK pmax pmax
comp=Z,6.0nm,1.1s
KURK Kurchatov 38.37 56 P **P 17 51 02.1 +0.9**
MDOK Medeo 38.57 68 *e*P **P 17 51 04.5 +1.2**
baz=68
MDOK LR LR 18 07 56.7
comp=Z,134nm,14.8s,baz=68
MDOK Medeo 38.57 68 *e*P **P 17 51 04.4 +1.2**
MDOK MLR MLR
comp=Z,134nm,15.0s
KSH Kashi 38.78 74 P **P 17 51 05.1 +0.1**
KSH sP sP 17 51 10.7 +4.3
KSH S **S 17 57 00.0 -3.1**
KSH ScS **ScS 18 01 13.7 -2.5**
KSH pmax pmax
comp=Z,91nm,4.3s
KSH LR LR
comp=Z,1μm,15.7s
KSH LR LR
comp=Z,2μm,21.1s
TDK Taldyqorghan 39.11 65 *e*P **P 17 51 09.0 +1.4**
baz=65
TDK LR LR 18 08 51.5
comp=Z,184nm,11.9s,baz=65
TDK Taldyqorghan 39.11 65 *e*P **P 17 51 08.9 +1.4**
TDK MLR MLR
comp=Z,184nm,12.0s
KBS Kingsbay 39.24 356 *i* P **P 17 51 06.8 -1.4**
KBS pmax pmax
comp=Z,14nm,1.0s
SATY Saty 39.56 68 *e*P **P 17 51 12.8 +1.3**
comp=Z,6.6nm,1.1s,baz=68
SATY Saty 39.56 68 *e*P **P 17 51 12.7 +1.3**
SATY pmax pmax
comp=Z,7.0nm,1.1s
KPKS Kokpek 39.65 67 *e*P **P 17 51 13.8 +1.5**
baz=67
KPKS Kokpek 39.65 67 *e*P **P 17 51 13.7 +1.5**
UZB Uzynbulak 39.97 67 *e*P **P 17 51 15.3 +0.4**
baz=67
UZB Uzynbulak 39.97 67 *e*P **P 17 51 15.3 +0.4**
SHLS Shalkode 40.28 67 *e*P **P 17 51 20.9 +3.4**
baz=67
SHLS Shalkode 40.28 67 *e*P **P 17 51 20.9 +3.4**
MBAR Mbarara 40.90 171 *e*P **P 17 51 21.1 -1.7**
MBAR pmax pmax
comp=Z,12nm,1.3s
MBAR Mbarara 40.90 171 P **P 17 51 23.6 +0.7**
MBAR IAmb IAmb 17 51 28.5
comp=Z,18nm,1.1s
MK31 Makanchi Array 41.38 61 P **P 17 51 26.4 +0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 41.38 61 P **P 17 51 26.4 +0.1**
MKAR Makanchi Array 41.38 61 P **P 17 51 26.9 +0.5**
comp=Z,6.3nm,0.7s,baz=283,slow=6.1,SNR=18
MKAR PcP **PcP 17 53 27.5 +3.0**
comp=Z,1.5nm,0.7s,baz=299,slow=3.7,SNR=2.6
MKAR LR LR 18 11 50.8
comp=Z,327nm,20.3s,baz=272,slow=41
MKAR Makanchi Array 41.38 61 P **P 17 51 26.3 0.0**
MKAR Makanchi Array 41.38 61 P **P 17 51 26.3 0.0**
ZAA0 Zalesovo Array 41.84 50 P **P 17 51 29.9 0.0**
ZALV Zalesovo Beam 41.84 50 P **P 17 51 30.1 +0.2**
comp=Z,5.9nm,0.6s,baz=272,slow=8.9,SNR=14
ZALV LR LR 18 11 00.1
comp=Z,381nm,21.0s,baz=271,slow=39
ZALV Zalesovo Beam 41.84 50 P **P 17 51 29.8 -0.2**
ZALV Zalesovo Beam 41.84 50 P **P 17 51 29.8 -0.2**
KMBO Kilima Mbogo 42.60 162 LR LR 18 11 40.6
comp=Z,149nm,18.9s,baz=77,slow=40
DBIC Dimbokro 42.68 227 P **P 17 51 37.2 0.0**
comp=Z,10nm,0.8s,baz=26,slow=12,SNR=8.5
DBIC Dimbokro 42.68 227 P **P 17 51 36.5 -0.7**
DBIC pmax pmax
comp=Z,65nm,1.5s
DBIC Dimbokro 42.68 227 P **P 17 51 36.5 -0.7**
DBIC IAmb IAmb 17 51 42.4
comp=Z,65nm,1.5s
TIC Toumodi 42.79 227 *e*PKP1 **P 17 51 40.2 +2.0**
KIC Kosan Boka 42.87 226 *e*PKP1 **P 17 51 41.0 +2.2**
comp=Z,121nm,1.6s
ZSN Zaisan 42.95 60 *e*P **P 17 51 41.2 +2.0**
baz=60
ZSN Zaisan 42.95 60 *e*P **P 17 51 41.1 +2.0**
LIC Lamto 43.14 226 *e*PKP1 **P 17 51 41.3 +0.3**
comp=Z,117nm,1.1s
NRIK Noril'sk 43.50 27 P **P 17 51 43.1 -0.2**
comp=Z,3.7nm,0.8s,baz=260,slow=4.2,SNR=2.5
NRIK LR LR 18 11 28.6
comp=Z,636nm,20.4s,baz=232,slow=38
DGZ Jazzator, Alta 44.12 56 *i* P **P 17 51 48.0 -0.7**
DGZ pmax pmax
comp=Z,8.0nm,0.9s
WMQ Urumqi 45.84 64 *e*P **P 17 52 04.6 +2.2**
WMQ LR LR
comp=Z,200nm,17.3s
WMQ LR LR
comp=Z,170nm,16.3s
WMQ LR LR
comp=Z,140nm,21.3s
PYUN Piuthan 48.79 85 *e*P **P 17 52 28.8 +3.1**
comp=Z,29nm,0.6s
PYUN Piuthan 48.79 85 *e*P **P 17 52 28.8 +3.1**
comp=Z,29nm,0.6s
KOLN Koldanda 49.42 85 *e*P **P 17 52 33.2 +2.6**
comp=Z,30nm,0.8s
KOLN Koldanda 49.42 85 *e*P **P 17 52 33.2 +2.6**
comp=Z,30nm,0.8s
GKN Gorkha 50.10 85 *e*P **P 17 52 37.8 +2.1**
comp=Z,26nm,0.9s
GKN Gorkha 50.10 85 *e*P **P 17 52 37.8 +2.1**
comp=Z,26nm,0.9s
DMN Daman 50.65 85 *e*P **P 17 52 41.3 +1.3**
DMN Daman 50.65 85 *e*P **P 17 52 41.3 +1.3**
KKN Kakani 50.70 84 *e*P **P 17 52 43.4 +3.1**
KKN Kakani 50.70 84 *e*P **P 17 52 43.4 +3.1**
PKI Pulchoki 50.91 85 *e*P **P 17 52 43.0 +1.0**
comp=Z,14nm,0.8s
PKI Pulchoki 50.91 85 *e*P **P 17 52 43.0 +1.0**
comp=Z,14nm,0.8s
GUN Gumba 51.09 84 *e*P **P 17 52 44.3 +0.9**
GUN Gumba 51.09 84 *e*P **P 17 52 44.3 +0.9**
JIRN Jiri 51.45 84 *e*P **P 17 52 46.7 +0.5**
JIRN Jiri 51.45 84 *e*P **P 17 52 46.7 +0.5**
RAMN Ramite 52.13 85 *e*P **P 17 52 53.6 +2.5**
comp=Z,16nm,0.7s
RAMN Ramite 52.13 85 *e*P **P 17 52 53.6 +2.5**
comp=Z,16nm,0.7s
TAPN Taplejung 52.77 84 *e*P **P 17 52 56.7 +0.8**
TAPN Taplejung 52.77 84 *e*P **P 17 52 56.7 +0.8**
ODAN Odare 52.78 84 *e*P **P 17 52 57.2 +1.3**
ODAN Odare 52.78 84 *e*P **P 17 52 57.2 +1.3**
TLY Talaya 53.44 49 LR LR 18 17 32.9
comp=Z,428nm,21.4s,baz=298,slow=38
TLY Talaya 53.44 49 *i* P **P 17 52 59.3 -0.9**
TLY pmax pmax
comp=Z,7.0nm,1.1s
ZAK Zakamensk 53.69 51 *e*P **P 17 53 04.5 +2.4**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
SONM Songino Array 56.57 53 P **P 17 53 23.8 +0.8**
comp=Z,2.9nm,0.8s,baz=280,slow=8.9,SNR=6.9
BOD Bodaibo 56.71 40 *e*P **P 17 53 24.8 +1.2**
BOD pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 56.96 53 *i* P **P 17 53 24.6 -1.2**
ULN pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 60.29 66 *e*P **P 17 53 50.8 +1.6**
LZH pP sP 17 53 55.9 +5.3
LZH sP pP 17 53 58.5 +8.3
LZH *e*PP **PP 17 56 06.2 +4.4**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,97nm,8.2s
LZH LR LR
comp=Z,370nm,15.2s
LZH LR LR
comp=Z,380nm,15.0s
LZH LR LR
comp=Z,550nm,18.1s
YAK Yakutsk 61.70 31 *e*P **P 17 54 00.7 +2.6**
YAK pmax pmax
comp=Z,8.0nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK Yakutsk 61.70 31 P **P 17 53 57.5 -0.6**
CD2 Chengdu 62.90 71 *e*P **P 17 54 05.0 -1.7**
CD2 pmax pmax
comp=E,10.0nm,0.5s
HHC Hu-ho-hao-te 63.11 58 *e*P **P 17 54 09.5 +1.4**
HHC S **S 18 02 39.2 -0.6**
HHC pmax pmax
comp=E,27nm,0.7s
HHC pmax pmax
comp=E,120nm,6.3s
HHC LR LR
comp=E,320nm,13.4s
HHC LR LR
comp=E,370nm,15.3s
HHC LR LR
comp=E,450nm,14.5s
CHTO Chiang Mai 66.08 85 P **P 17 54 27.3 -0.4**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 66.08 85 P **P 17 54 27.3 -0.4**
CHTO IAmb IAmb 17 54 32.7
comp=Z,5.9nm,0.9s
CM31 Chiang Mai Arr 66.29 85 P **P 17 54 28.7 -0.3**
CM31 IAmb IAmb 17 54 53.3
comp=Z,8.7nm,1.1s
CMAR Chiang Mai Arr 66.29 85 P **P 17 54 29.1 +0.1**
comp=Z,2.3nm,0.7s,baz=303,slow=8.0,SNR=13
CMAR LR LR 18 30 08.6
comp=Z,59nm,19.2s,baz=120,slow=42
CMAR Chiang Mai Arr 66.29 85 P **P 17 54 27.8 -1.2**
CMAR Chiang Mai Arr 66.29 85 P **P 17 54 27.8 -1.2**
BOSA Boshof 68.41 180 P **P 17 54 42.6 +0.4**
comp=Z,14nm,1.2s,baz=18,slow=6.5,SNR=6.5
BOSA LR LR 18 27 37.8
comp=Z,251nm,18.7s,baz=342,slow=39
BOSA Boshof 68.41 180 P **P 17 54 42.5 +0.4**
BOSA pmax pmax
comp=Z,35nm,1.5s
BOSA Boshof 68.41 180 P **P 17 54 42.5 +0.3**
SEY Seymchan 69.05 23 *i* P **P 17 54 45.1 -0.6**
KLR Kul'dur 70.17 42 *i* P **P 17 54 51.9 -0.9**
KLR pmax pmax
comp=Z,4.0nm,1.2s
INK Inuvik 70.66 352 P **P 17 54 56.2 +0.7**
comp=Z,2.5nm,0.8s,baz=0.0,slow=5.1,SNR=2.1
INK Inuvik 70.66 352 P **P 17 54 56.2 +0.7**
INK pmax pmax
comp=Z,41nm,2.0s
L56A Greenwood 72.17 310 P **P 17 55 03.8 -1.4**
L56A IAmb IAmb 17 55 10.8
comp=Z,17nm,1.2s
YKA Yellowknife Ar 72.66 342 P **P 17 55 09.3 +1.7**
comp=Z,1.9nm,0.7s,baz=26,slow=6.2,SNR=2.9
YKA LR LR 18 26 50.5
comp=Z,162nm,19.1s,baz=0.0,slow=36
NJ2 Nanjing 72.89 62 *e*P **P 17 55 09.5 0.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
USRK Ussuriysk Ar. 73.50 46 P **P 17 55 13.5 +0.6**
comp=Z,2.3nm,0.7s,baz=339,slow=7.7,SNR=5.1
USRK LR LR 18 32 46.1
comp=Z,199nm,18.4s,baz=249,slow=40
QIZ Qiongzhong 74.22 78 P **P 17 55 16.5 -1.0**
QIZ S **S 18 04 50.5 -1.5**
QIZ SS **SS 18 09 36.2 -0.8**
QIZ LR LR
comp=Z,82nm,27.7s
QIZ LR LR
comp=Z,81nm,22.9s
QIZ LR LR
comp=Z,120nm,24.8s
ILAR Eielson Array 75.22 356 P **P 17 55 24.9 +2.3**
comp=Z,0.6nm,0.7s,baz=353,slow=4.8,SNR=4.5
ILAR LR LR 18 27 46.1
comp=Z,160nm,21.9s,baz=359,slow=35
ILAR Eielson Array 75.22 356 P **P 17 55 22.2 -0.4**
ILAR Eielson Array 75.22 356 P **P 17 55 22.2 -0.4**
KSAR Wonju Array Be 75.43 53 P **P 17 55 24.0 -0.3**
KSAR Wonju Array Be 75.43 53 P **P 17 55 24.0 -0.3**
KSRS Korea Array 75.44 53 P **P 17 55 24.3 0.0**
comp=Z,5.3nm,0.9s,baz=310,slow=5.3,SNR=17
KSRS LR LR 18 32 10.3
comp=Z,258nm,18.2s,baz=68,slow=39
WRH Wood River Hil 75.58 357 P **P 17 55 24.8 +0.1**
WRH IAmb IAmb 17 55 38.1
comp=Z,7.0nm,1.0s
HDA Harding Lake 75.59 356 P **P 17 55 23.6 -1.1**
BPAW Bear Paw Mtn. 76.05 358 P **P 17 55 26.5 -0.9**
BPAW IAmb IAmb 17 55 33.6
comp=Z,5.5nm,0.8s
ULM Lac du Bonnet 76.08 325 LR LR 18 29 08.5
comp=Z,418nm,18.7s,baz=80,slow=36
YSS Yuzh-Sakhalins 77.15 38 *i* P **P 17 55 32.4 -1.5**
YSS pmax pmax
comp=Z,27nm,1.0s
PETK Petropavlovsk- 78.56 27 LR LR 18 32 58.2
comp=Z,231nm,20.0s,baz=322,slow=38
JNU Nakatsue 80.09 55 LR LR 18 36 47.3
comp=Z,250nm,18.5s,baz=300,slow=40
JHJ Hachijo jima 2 85.50 50 LR LR 18 38 11.9
comp=Z,111nm,19.3s,baz=344,slow=38
KAN10 Anthony SW Sta 87.00 318 P **P 17 56 24.6 -1.2**
BDFB Brasilia 87.42 247 P **P 17 56 29.5 +1.3**
comp=Z,15nm,0.9s,baz=30,slow=20,SNR=5.7
BDFB LR LR 18 37 27.5
comp=Z,72nm,18.8s,baz=104,slow=37
BDFB Brasilia 87.42 247 P **P 17 56 29.5 +1.3**
BDFB pmax pmax
comp=Z,41nm,1.3s
BDFB Brasilia 87.42 247 IAmb IAmb 17 56 35.0
comp=Z,41nm,1.3s
PDAR Pinedale Array 87.76 328 LR LR 18 37 41.6
comp=Z,193nm,18.2s,baz=37,slow=37
BMO Blue Mountains 88.82 334 P **P 17 56 34.7 +0.2**
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 88.82 334 P **P 17 56 34.7 +0.2**
ANMO Albuquerque 92.86 322 *i* P **P 17 56 51.1 -2.5**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
NVAR Mina Array Bea 94.85 332 P **P 17 57 04.0 +1.3**
comp=Z,0.6nm,0.7s,baz=42,slow=4.6,SNR=4.3
NVAR LR LR 18 43 09.7
comp=Z,184nm,18.7s,baz=50,slow=38
NVAR Mina Array Bea 94.85 332 P **P 17 57 03.1 +0.4**
TXAR Lajitas Array 95.98 317 P **P 17 57 08.4 +0.5**
comp=Z,0.6nm,0.8s,baz=16,slow=4.1,SNR=3.7
TXAR LR LR 18 40 00.4
comp=Z,133nm,19.0s,baz=0.0,slow=35
ASAR Alice Springs 119.03 98 PKP **PKiKP 18 02 30.1 +0.6**
comp=Z,2.1nm,0.7s,baz=336,slow=1.5,SNR=32
ASAR Alice Springs 119.03 98 PKIKP **PKPdf 18 02 28.8 -0.6**
ASAR Alice Springs 119.03 98 **PKPdf 18 02 28.8 -0.6**

SSNC 04 17:50:54.1±1.7, 18°.93N×81°.21W, h5km±17km, MD4.0, ML3.5, MW3.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGV	**Manicaragua**	**3.37**	**20**	*e*P	Pn	17 51 44.8	-2.5
MGV				*i* S	Sn	17 52 23.7	-3.9
MGV				IAML		17 52 25.7	
	comp=E,83nm,0.3s						
MGV				IAML		17 52 27.5	
	comp=N,68nm,0.2s						
LMGC	**Las Mercedes**	**4.12**	**73**	*e*P	Pn	17 51 56.7	-1.1
LMGC				*e*S	Sn	17 52 43.5	-2.9
SOR	**Soroa**	**4.19**	**337**	*e*P	Pn	17 51 57.1	-1.6
SOR				*e*S	Sn	17 52 44.5	-3.6
RCC	**Rio Carpintero**	**5.31**	**78**	*e*P	Pn	17 52 12.7	-1.4
RCC				*e*S	Sn	17 53 10.2	-5.5

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*MAN **04** 17:56:07.5, 3°.97N×125°.96E, h39km, mb4.7, ML3.6, MS3.5*
IDC 04 17:55:51.3±2.0, 4°.63N×125°.88E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/41, mbtmp3.4/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/26, Error ellipse: s-maj=200.3km s-min=22.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**14.90**	**189**	LR	LR	18 07 22.8	
	comp=Z,42nm,18.3s,baz=346,slow=46						
WRA	**Warramunga Arr**	**25.79**	**161**	P	P	18 01 24.2	0.0
	0.4nm,0.6s,baz=341,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**29.19**	**165**	P	P	18 01 54.7	0.0
	0.3nm,0.6s,baz=343,slow=7.3,SNR=10						
MKAR	**Makanchi Array**	**56.34**	**325**	P	P	18 05 33.4	-0.8
	0.2nm,0.4s,baz=127,slow=8.4,SNR=5.3						
KURBB	**Kurchatov Arra**	**60.53**	**327**	P	P	18 06 03.9	+0.6
	0.3nm,0.5s,baz=131,slow=6.0,SNR=5.9						

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*IDC **04** 17:58:13.5±0.8, 31°.36N×138°.39E, h376km±12km, mb3.1/10, mb1 3.1/14, mb1mx2.9/49, mbtmp3.8/14, Error ellipse: s-maj=28.8km s-min=11.5km az=73.0*
*JMA **04** 17:58:14.2±0.4, 31°.58N×138°.60E, h390km, M3.7*
ISC 04 17:58:12.6±0.7, 31°.36N±0°.06×138°.64E±0°.09, h381km, n28, σ1°.72/32, mb3.2/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.97**	**30**	P	**Pn**	**17 59 08.3**	**+1.8**
JHJ	**Hachijo jima 2**	**2.00**	**29**	P	**Pn**	**17 59 08.5**	**+1.7**
	42nm,0.3s,baz=342,slow=22,SNR=13						
JHJ				S	**S**	**17 59 51.6**	**+1.2**

28nm,0.3s,baz=60,slow=22,SNR=2.0
JHJ2 Mitsune 2.01 29 P **Pn 17 59 08.7 +1.9**
JMKN Mikurajimanish 2.65 17 P **Pn 17 59 12.7 +1.3**
JTNC Tanabenakahech 3.54 315 P **Pn 17 59 19.4 +0.3**
BSO3 Boso 3 3.77 24 S **S 18 00 16.2 -0.1**
BSO4 Boso 4 3.89 21 P **Pn 17 59 23.5 +1.3**
BSO4 *eS* **S 18 00 18.3 -0.3**
JOD2 Odawara 2 3.91 5 P **Pn 17 59 23.6 +1.1**
JHU Hanno 4.51 7 P **Pn 17 59 28.8 +0.3**
JHU S **S 18 00 26.5 -3.6**
JRY Ryogami san 4.65 3 P **Pn 17 59 31.1 +1.2**
JYT Yasato 5.02 15 P **Pn 17 59 33.5 -0.3**
JAG Ashikaga 5.10 7 P **Pn 17 59 34.4 -0.2**
MJAR Matsushiro Arr 5.18 356 P **Pn 17 59 36.4 +0.9**
0.1nm,0.3s,baz=263,slow=20,SNR=9.3
JCJ Chichijima 5.26 143 S **S 18 00 41.1 -3.6**
23nm,0.3s,baz=278,slow=23,SNR=17
JFK Kawauchi 6.27 17 S **S 18 01 00.5 -4.2**
JNU Nakatsue 6.80 287 P **Pn 17 59 53.5 -0.1**
0.3nm,0.3s,baz=188,slow=18,SNR=2.3
JMK Ichinoseki 7.86 15 P **P 18 00 06.6 +0.3**
JMK *eS* **S 18 01 34.4 -3.5**
KLR Kul'dur 18.59 346 P **P 18 02 05.1 +1.1**
0.2nm,0.3s,baz=170,slow=6.8,SNR=5.1
CMAR Chiang Mai Arr 38.02 260 P **P 18 04 53.7 -2.4**
0.4nm,0.6s,baz=56,slow=6.8,SNR=1.9
ZALV Zalesovo Beam 44.26 317 P **P 18 05 46.2 +0.4**
0.3nm,0.4s,baz=76,slow=6.1,SNR=1.8
MKAR Makanchi Array 45.41 307 P **P 18 05 55.0 0.0**
1.0nm,0.7s,baz=89,slow=9.7,SNR=7.1
KURBB Kurchatov Arra 47.87 312 P **P 18 06 13.6 0.0**
0.9nm,0.4s,baz=92,slow=9.6,SNR=20
FITZ Fitzroy Crossi 50.73 196 P **P 18 06 36.1 +0.8**
1.2nm,1.0s,baz=358,slow=4.9,SNR=1.6
WRA Warramunga Arr 51.18 185 P **P 18 06 39.7 +1.1**
1.0nm,0.6s,baz=0.2,slow=7.6,SNR=32
ASAR Alice Springs 54.90 185 P **P 18 07 06.8 +1.3**
0.4nm,0.6s,baz=23,slow=11,SNR=24
GEYT Alibeck 64.63 300 P **P 18 08 11.9 +0.9**
0.7nm,0.4s,baz=68,slow=0.8,SNR=2.2
FINES FINESS Array B 72.75 332 P **P 18 09 00.8 +0.8**
1.2nm,0.5s,baz=66,slow=6.0,SNR=13
AKASG Malin Array Be 77.36 322 P **P 18 09 26.4 +0.1**
0.5nm,0.3s,baz=49,slow=6.0,SNR=4.1

IDC 04 18:07:51.3±4.7, 6°64S×155°71E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.5/31, mbtmp3.6/5, ML2.6/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/21, Error ellipse: s-maj=84.8km s-min=40.1km az=87.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.34**	**302**	Pn	Pn	18 08 58.2	-0.4
	2.3nm,0.3s,baz=150,slow=4.5,SNR=9.2						
KRVT				Sn	Sn	18 09 40.1	-10
	4.1nm,0.3s,baz=20,slow=8.9,SNR=3.6						
KRVT				Lg	Lg	18 09 56.5	
	7.3nm,0.3s,baz=54,slow=19,SNR=4.7						
PMG	**Port Moresby**	**8.90**	**251**	Pn	Pn	18 10 02.9	+1.6
	0.8nm,0.3s,baz=329,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**24.60**	**235**	P	P	18 13 13.1	-0.4
	0.3nm,0.4s,baz=60,slow=9.3,SNR=4.7						
ASAR	**Alice Springs**	**26.94**	**229**	P	P	18 13 34.3	-0.3
	0.1nm,0.3s,baz=56,slow=8.8,SNR=1.9						
ASAJ	**Asahikawa**	**51.90**	**348**	LR	LR	18 34 15.6	
	comp=Z,231nm,20.7s,baz=335,slow=30						
CMAR	**Chiang Mai Arr**	**61.28**	**295**	P	P	18 18 09.1	+0.1
	1.0nm,0.7s,baz=118,slow=5.1,SNR=7.6						

*NEIC **04** 18:13:49.0±1.2, 12°94N±0°05×61°54W±0°07, h169km±5km, mb4.5/74, Md4.0(TRN), Mwr4.2(CAR), Error ellipse: s-maj=9.9km s-min=6.7km az=105.0*
*TRN **04** 18:13:48.8, 12°97N×61°67W, h160km, MD4.2*
TRN Felt Trinidad II.
*CAR **04** 18:13:49.9±1.3, 12°85N±0°04×61°42W±0°06, h170km±4km, Error ellipse: s-maj=9.1km s-min=5.2km az=117.0*
*IDC **04** 18:13:50.5±2.2, 12°88N×61°67W, h186km±20km, mb3.6/9, mb1 3.9/11, mb1mx3.5/37, mbtmp4.2/11, Error ellipse: s-maj=21.0km s-min=14.8km az=62.0*
ISC 04 18:13:48.5±0.5, 12°95N±0°03×61°56W±0°04, h170km±5km, n181, σ1°25/213, mb4.5/40, 9C-6D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVB	**Belmont**	**0.44**	**44**	⇓*iP*	**Pn**	**18 14 12.2**	**+0.3**
SVB				*eS*	**Sn**	**18 14 29.4**	**-0.6**
SVB	**Belmont**	**0.44**	**44**	Pn	**Pn**	**18 14 12.0**	**0.0**
GCMP	**Grenada, Carri**	**0.48**	**164**	⇑*iP*	**Pn**	**18 14 12.2**	**0.0**
GCMP				*eS*	**Sn**	**18 14 30.0**	**-0.3**
SVV	**Soufriere Volc**	**0.50**	**43**	⇓*iP*	**Pn**	**18 14 13.8**	**+1.6**
SVV				*eS*	**Sn**	**18 14 30.0**	**-0.4**
SVCV	**St. Vincent, C**	**0.52**	**52**	*eP*	**Pn**	**18 14 12.5**	**+0.2**
SVCV				*eS*	**Sn**	**18 14 29.9**	**-0.7**
SFAN	**Fancy Village**	**0.57**	**42**	*eP*	**Pn**	**18 14 13.8**	**+1.3**
SFAN				*eS*	**Sn**	**18 14 31.1**	**0.0**
GRSS	**Sisters**	**0.65**	**184**	⇑*iP*	**Pn**	**18 14 13.8**	**+0.8**
GRSS				*eS*	**Sn**	**18 14 30.8**	**-1.0**
GRHS	**Sauteurs**	**0.73**	**186**	⇑*iP*	**Pn**	**18 14 14.2**	**+0.8**
GRHS				⇑*iS*	**Sn**	**18 14 32.0**	**-0.6**
GRGR	**Grenville**	**0.82**	**186**	⇓*iP*	**Pn**	**18 14 14.2**	**+0.1**
GRGR				*eS*	**Sn**	**18 14 33.4**	**-0.3**
GRGR	**Grenville**	**0.82**	**186**	Pn	**Pn**	**18 14 14.1**	**+0.1**
GRGR				Sn	**Sn**	**18 14 33.3**	**-0.3**
MCLT	**Moule a Chique**	**0.96**	**39**	⇓*iP*	**Pn**	**18 14 15.4**	**+0.3**
MCLT				⇑*iS*	**Sn**	**18 14 35.1**	**-0.4**
MCLT	**Moule a Chique**	**0.96**	**39**		**Pn**	**18 14 15.5**	**+0.5**
MCLT				Sn	**Sn**	**18 14 34.6**	**-0.9**
SLDE	**Delcer**	**0.98**	**30**	*eP*	**Pn**	**18 14 16.5**	**+1.4**
SLDE				*eS*	**Sn**	**18 14 35.2**	**-0.5**
SLB	**Belfond**	**1.01**	**30**	*eP*	**Pn**	**18 14 16.9**	**+1.6**
SLB				*eS*	**Sn**	**18 14 36.1**	**0.0**
SLPA	**Patience**	**1.09**	**35**	*eP*	**Pn**	**18 14 17.3**	**+1.3**
SLPA				*eS*	**Sn**	**18 14 37.2**	**-0.1**
SLAC	**Saint Lucia, A**	**1.14**	**35**	*eP*	**Pn**	**18 14 17.1**	**+0.6**
SLAC				*eS*	**Sn**	**18 14 37.5**	**-0.5**
SLBI	**Saint Lucia, B**	**1.21**	**28**	*eP*	**Pn**	**18 14 17.4**	**+0.5**
SLBI				*eS*	**Sn**	**18 14 38.4**	**-0.6**
SLW	**Petit Monier**	**1.22**	**30**	*eP*	**Pn**	**18 14 19.0**	**+1.8**
SLW				*eS*	**Sn**	**18 14 39.1**	**-0.2**
H05S1	**Guadeloupe/Mar**	**1.62**	**26**	P	**Pn**	**18 14 21.6**	**+0.7**
H05S1				S	**Sn**	**18 14 46.1**	**0.0**
H05S1				T	T	18 14 51.8	
	SNR=5610						
BIM	**Bigot**	**1.63**	**17**	*eP*	**Pn**	**18 14 21.1**	**+0.1**
BIM				*eS*	**Sn**	**18 14 45.4**	**-0.8**
MPOM	**Morne Pois Mar**	**1.63**	**25**	⇑*iP*	**Pn**	**18 14 21.4**	**+0.4**
MPOM				⇑*iS*	**Sn**	**18 14 45.4**	**-0.8**
LPMF	**Morne Lapointe**	**1.71**	**20**	*eP*	**Pn**	**18 14 22.3**	**+0.4**
MVM	**Montagne Vaucl**	**1.72**	**22**	*eP*	**Pn**	**18 14 22.5**	**+0.5**
FDF	**Fort de France**	**1.81**	**13**	⇑*iP*	**Pn**	**18 14 23.3**	**+0.3**
FDF				*eS*	**Sn**	**18 14 49.0**	**-0.7**
FDF	**Fort de France**	**1.81**	**13**		**Pn**	**18 14 23.4**	**+0.5**
PML	**Morne Lenard**	**1.85**	**11**	*eP*	**Pn**	**18 14 24.0**	**+0.6**
GBMF	**Grand Be**	**1.87**	**12**	*eP*	**Pn**	**18 14 24.1**	**+0.4**
PCM	**Pelee Case Pet**	**1.88**	**10**	*eP*	**Pn**	**18 14 24.0**	**+0.3**
CXM	**Morne La Croix**	**1.89**	**12**	*eP*	**Pn**	**18 14 24.3**	**+0.5**
BCHC	**Barbados, Cave**	**1.89**	**84**	*eP*	**Pn**	**18 14 25.7**	**+2.0**
BCHC				*eS*	**Sn**	**18 14 52.1**	**+1.2**
BAMF	**Morne Balai**	**1.89**	**12**	*eP*	**Pn**	**18 14 24.3**	**+0.5**
SVN	**Savane Anatole**	**1.92**	**12**	*eP*	**Pn**	**18 14 24.5**	**+0.4**
TOSP	**Speyside**	**1.93**	**148**	⇓*iP*	**Pn**	**18 14 24.6**	**+0.4**
TOSP				*eS*	**Sn**	**18 14 51.7**	**0.0**
TOSP	**Speyside**	**1.93**	**148**	Pn	**Pn**	**18 14 24.5**	**+0.4**
TOSP					**Sn**	**18 14 52.6**	**+0.8**
ILAM	**Ilet Lapin Mar**	**1.93**	**20**	*eP*	**Pn**	**18 14 25.1**	**+0.9**
ILAM				*eS*	**Sn**	**18 14 51.4**	**-0.5**
BBGH	**Gun Hill**	**1.96**	**84**	*eP*	**Pn**	**18 14 26.4**	**+1.9**
BBGH				*eS*	**Sn**	**18 14 53.6**	**+1.2**
BBGH	**Gun Hill**	**1.96**	**84**		**Pn**	**18 14 26.3**	**+1.7**
BBSP	**Saint Philip**	**2.06**	**86**	*eP*	**Pn**	**18 14 28.1**	**+2.5**
BBSP				*eS*	**Sn**	**18 14 55.5**	**+1.3**
TRN	**Trinidad (W)**	**2.30**	**176**	⇓*iP*	**Pn**	**18 14 30.2**	**+1.9**
DLPL	**La Plaine**	**2.38**	**7**	*eP*	**Pn**	**18 14 29.9**	**+0.5**
DLPL				*eS*	**Sn**	**18 15 00.6**	**-0.5**
DLPL	**La Plaine**	**2.38**	**7**		**Pn**	**18 14 29.4**	**0.0**
DSLB	**Salisbury**	**2.47**	**3**	⇑*iP*	**Pn**	**18 14 30.5**	**+0.1**
DSLB				*eS*	**Sn**	**18 15 01.7**	**-1.3**
TDBA	**Terre de Bas,**	**2.88**	**359**	*eP*	**Pn**	**18 14 36.0**	**+0.8**
TDBA				*eS*	**Sn**	**18 15 10.1**	**-1.6**
TBG	**Guadaloupe-3**	**2.88**	**358**	*eP*	**Pn**	**18 14 35.4**	**+0.1**
TBG				*eS*	**Sn**	**18 15 10.1**	**-1.7**
MAGL	**Barre de l'ile**	**2.99**	**5**	*eP*	**Pn**	**18 14 37.4**	**+0.8**
MAGL				*eS*	**Sn**	**18 15 12.1**	**-2.0**
CBE	**Ff, Capester**	**3.10**	**359**	*eP*	**Pn**	**18 14 39.0**	**+1.0**
CBE				*eS*	**Sn**	**18 15 14.3**	**-2.3**
H05N1	**Guadeloupe/Mar**	**3.38**	**8**	P	**Pn**	**18 14 41.2**	**-0.3**
H05N1				S	**Sn**	**18 15 19.8**	**-3.0**
ABD	**La Joyeuse, An**	**3.50**	**1**	*eP*	**Pn**	**18 14 43.5**	**+0.5**
ABD				*eS*	**Sn**	**18 15 23.4**	**-2.1**
MLYT	**Lee's Yard**	**3.79**	**351**	*eP*	**Pn**	**18 14 47.9**	**+1.2**
MLYT				*eS*	**Sn**	**18 15 30.2**	**-2.0**
PLCV	**Puerto La Cruz**	**4.06**	**227**		**Pn**	**18 14 50.8**	**+0.7**
PLCV					**Sn**	**18 15 38.8**	**+0.5**
PCRV	**Puerto La Cruz**	**4.08**	**228**	P	**Pn**	**18 14 50.8**	**+0.3**
	13nm,0.3s,baz=76,slow=2.5,SNR=32						
PCRV				S	**Sn**	**18 15 38.8**	**-0.1**
	baz=335,slow=20,SNR=1.3						
ORIV	**Oritupano**	**4.26**	**205**	*eP*	**Pn**	**18 14 52.9**	**+0.1**
ORIV	**Oritupano**	**4.26**	**205**	*eS*	**Sn**	**18 15 39.2**	**-3.8**
SKOC	**St. Kitts, UWI**	**4.46**	**345**	*eP*	**Pn**	**18 14 55.8**	**+0.6**
SKOC	**St. Kitts, UWI**	**4.46**	**345**	*eS*	**Sn**	**18 15 44.6**	**-2.9**
SKI	**Saint Kitts**	**4.50**	**346**	*eP*	**Pn**	**18 14 56.4**	**+0.5**
SKI	**Saint Kitts**	**4.50**	**346**	Pn	**Pn**	**18 14 57.3**	**+1.5**
ANWB	**Willy Bob**	**4.69**	**357**	*eP*	**Pn**	**18 14 59.5**	**+1.2**
ANWB	**Willy Bob**	**4.69**	**357**	*eS*	**Sn**	**18 15 50.8**	**-2.2**
ANWB	**Willy Bob**	**4.69**	**357**		**Pn**	**18 14 58.6**	**+0.3**
SMRT	**St. Maarten**	**5.27**	**344**		**Pn**	**18 15 05.4**	**-0.5**
STVI	**Saint Thomas**	**6.28**	**329**		**Pn**	**18 15 19.4**	**+0.2**
MTP	**Monte Pirata**	**6.40**	**324**		**Pn**	**18 15 22.6**	**+1.9**
CUPR	**Culebra, Puert**	**6.42**	**327**	Pn	**Pn**	**18 15 22.1**	**+1.2**
CBYP	**Canovanas**	**6.71**	**323**		Pn	18 15 31.3	+6.4
AOPR	**Arecibo Observ**	**7.33**	**318**		Pn	18 15 39.5	+6.4
BAUV	**El Baul**	**7.51**	**239**	*eP*	**Pn**	**18 15 35.0**	**-0.4**
BAUV	**El Baul**	**7.51**	**239**	*eS*	Sn	18 16 51.6	-8.1
SDDR	**Presa de Saban**	**11.10**	**304**		**Pn**	**18 16 24.9**	**+2.2**
MDP	**Montagnes des**	**11.77**	**131**	P	**Pn**	**18 16 29.3**	**-2.0**
	6.6nm,0.3s,baz=323,slow=15,SNR=39						
MDP				S	**Sn**	**18 18 33.2**	**-8.7**
	19nm,0.3s,baz=49,slow=16,SNR=16						
SMLC	**San Martn de**	**12.96**	**253**	*eP*	**Pn**	**18 16 48.1**	**+1.5**
BARC	**Barichara**	**13.07**	**242**	*eP*	**P**	**18 16 52.8**	**+0.5**
RUSC	**La Rusia**	**13.35**	**239**	*eP*	**Pn**	**18 16 51.1**	**-0.9**
PTGA	**Pitinga**	**13.69**	**173**	P	**Pn**	**18 16 56.0**	**+0.2**
	3.1nm,0.3s,baz=0.9,slow=16,SNR=17						
PTGA				S	Sn	18 19 19.0	-9.0
	3.3nm,0.3s,baz=88,slow=23,SNR=8.1						
PTGA	**Pitinga**	**13.69**	**173**	P	**Pn**	**18 16 55.4**	**-0.4**
ZARC	**Zaragoza, Cauc**	**14.16**	**249**	*eP*	**Pn**	**18 17 01.5**	**-0.3**
PTBC	**PUERTO BERRIO,**	**14.21**	**245**	*eP*	Pn	18 16 59.4	-3.0
NORC	**Norcasia**	**15.04**	**242**	*eP*	**Pn**	**18 17 12.3**	**-0.4**
DBBC	**Dabeiba**	**15.58**	**249**	*eP*	**Pn**	**18 17 19.7**	**+0.3**
GUY2C	**Guyana, Caldas**	**15.63**	**242**	*eP*	**Pn**	**18 17 19.9**	**-0.5**
CBOC	**Ciudad Bolivar**	**15.89**	**245**	*eP*	**Pn**	**18 17 20.1**	**-3.2**
TOLC	**Tolima**	**15.93**	**240**	*eP*	P	18 17 18.2	-5.8
CBCY	**The Bluff, Cay**	**18.71**	**294**	P	**P**	**18 17 56.0**	**+1.9**
ESPN	**Las Esperanzas**	**22.20**	**271**	P	**P**	**18 18 33.3**	**+2.0**
BOAB	**BOACO BROADBA**	**22.52**	**271**	P	**P**	**18 18 45.0**	**+1.6**
DWPF	**Disney Wildern**	**23.89**	**312**	P	**P**	**18 18 48.0**	**+1.4**
MTO3	**Montecristo**	**27.04**	**276**	P	**P**	**18 19 17.0**	**+1.6**
MTO3				IAmb	IAmb	18 19 17.7	
	comp=Z,9.6nm,0.8s						
BIRD	**Birdtown, Kers**	**27.57**	**325**	P	**P**	**18 19 20.3**	**+0.7**
BIRD				IAmb	IAmb	18 19 21.6	
	comp=Z,6.3nm,0.8s						
APG	**El Apazote**	**28.11**	**278**	P	**P**	**18 19 26.1**	**+1.2**
	comp=Z,6.9nm,0.7s,baz=118,slow=7.5,SNR=8.8						
152A	**Waverly Hall**	**28.88**	**317**	P	**P**	**18 19 32.8**	**+1.5**
CCIG	**Comitan**	**29.75**	**280**	P	**P**	**18 19 40.3**	**+0.9**
CCIG				IAmb	IAmb	18 19 44.0	
	comp=Z,11nm,0.8s						
LRAL	**Lakeview Retre**	**30.64**	**315**	P	**P**	**18 19 48.4**	**+1.6**
LRAL				IAmb	IAmb	18 19 48.9	
	comp=Z,7.9nm,0.6s						
Y49A	**Blount Mountai**	**30.72**	**317**	P	**P**	**18 19 48.5**	**+0.9**
Y49A				IAmb	IAmb	18 19 49.6	
	comp=Z,5.5nm,0.6s						
W50A	**Signal Mountai**	**30.84**	**320**	P	**P**	**18 19 50.0**	**+1.3**
W50A				IAmb	IAmb	18 19 51.0	
	comp=Z,8.4nm,0.9s						
Z47A	**Carrollton**	**31.48**	**314**	P	**P**	**18 19 55.6**	**+1.4**
S51A	**Beattyville**	**31.48**	**325**	P	**P**	**18 19 54.6**	**+0.5**
S51A				IAmb	IAmb	18 19 56.3	
	comp=Z,6.8nm,0.6s						
X48A	**Hartselle**	**31.50**	**317**	P	**P**	**18 19 55.9**	**+1.6**
PLAL	**Pickwick Lake**	**32.49**	**317**	P	**P**	**18 20 04.3**	**+1.2**
P51A	**Williamsport**	**32.54**	**328**	P	**P**	**18 20 03.8**	**+0.4**
WVT	**Waverly**	**33.02**	**319**	P	**P**	**18 20 08.5**	**+0.9**
WVT				IAmb	IAmb	18 20 09.3	
	comp=Z,4.8nm,0.7s						
T47A	**Sharon Grove**	**33.10**	**321**	P	**P**	**18 20 09.6**	**+1.3**
T47A				IAmb	IAmb	18 20 10.4	
	comp=Z,6.8nm,0.8s						
OXF	**Oxford**	**33.13**	**315**	P	**P**	**18 20 09.1**	**+0.5**
P49A	**Miami Univ. Ec**	**33.45**	**327**	P	**P**	**18 20 12.5**	**+1.2**
P49A				IAmb	IAmb	18 20 13.2	
	comp=Z,11nm,0.6s						
PB11	**IPOC Station P**	**33.47**	**194**	P	**P**	**18 20 11.5**	**-0.4**
S44A	**Carbondale**	**34.88**	**320**	P	**P**	**18 20 24.7**	**+1.1**
N47A	**Urbana**	**34.93**	**327**	P	**P**	**18 20 24.5**	**+0.5**
N47A				IAmb	IAmb	18 20 25.9	
	comp=Z,11nm,0.8s						
L48A	**N Adams**	**35.07**	**330**	P	**P**	**18 20 26.1**	**+0.9**
W41B	**Gary Mavity, V**	**35.46**	**314**	P	**P**	**18 20 29.8**	**+1.2**
W41B				IAmb	IAmb	18 20 30.6	
	comp=Z,10nm,1.0s						
Q44A	**Meyer Farm, Va**	**35.48**	**322**	P	**P**	**18 20 30.1**	**+1.3**
Q44A				IAmb	IAmb	18 20 30.7	
	comp=Z,16nm,0.8s						
WHAR	**Wooly Hollow**	**35.54**	**314**	P	**P**	**18 20 29.9**	**+0.6**
WHAR				IAmb	IAmb	18 20 31.5	
	comp=Z,9.2nm,0.8s						
T42A	**Van Buren**	**35.67**	**317**	P	**P**	**18 20 31.1**	**+0.7**
T42A				IAmb	IAmb	18 20 31.7	
	comp=Z,4.9nm,0.5s						
FCAR	**Ozark Folk Cen**	**35.74**	**315**	P	**P**	**18 20 32.0**	**+1.0**
FCAR				IAmb	IAmb	18 20 32.5	
	comp=Z,9.7nm,0.8s						
FVM	**French Village**	**35.79**	**319**	P	**P**	**18 20 32.6**	**+1.1**
FVM				IAmb	IAmb	18 20 33.1	
	comp=Z,9.5nm,0.6s						
P43A	**Skaggs, Pawnee**	**36.25**	**322**	P	**P**	**18 20 36.5**	**+1.2**
CCM	**Cathedral Cave**	**36.36**	**319**	P	**P**	**18 20 36.9**	**+0.7**
CCM				IAmb	IAmb	18 20 38.1	
	comp=Z,6.8nm,0.8s						
U40A	**Yellville**	**36.49**	**315**	P	**P**	**18 20 38.3**	**+0.9**
U40A				IAmb	IAmb	18 20 38.9	
	comp=Z,13nm,1.1s						
W39A	**Magazine**	**36.56**	**313**	P	**P**	**18 20 39.0**	**+1.0**
W39A				IAmb	IAmb	18 20 40.7	
	comp=Z,8.5nm,1.1s						
R40A	**Maddies Statio**	**37.15**	**318**	P	**P**	**18 20 43.1**	**+0.2**
R40A				IAmb	IAmb	18 21 54.2	
	comp=Z,24nm,1.9s						
HHAR	**Hobbs**	**37.20**	**314**	P	**P**	**18 20 44.3**	**+0.9**
S39A	**Bolivar**	**37.52**	**317**	P	**P**	**18 20 46.8**	**+0.7**
S39A				IAmb	IAmb	18 20 47.4	
	comp=Z,9.3nm,0.8s						
P40A	**Paris**	**37.73**	**320**	P	**P**	**18 20 48.5**	**+0.8**
P40A				IAmb	IAmb	18 20 49.5	
	comp=Z,10nm,0.8s						
H07N1	**FLORES T-PHASE**	**37.80**	**40**	T	T	19 01 54.6	
	SNR=8.3						
TXAR	**Lajitas Array**	**42.26**	**299**	P	**P**	**18 21 25.1**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=106,slow=8.0,SNR=12						
TXAR				PcP	**PcP**	**18 23 17.1**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=124,slow=5.2,SNR=6.8						
TX31	**Lajitas Ar. Si**	**42.26**	**299**	P	**P**	**18 21 25.7**	**+0.3**
TX32	**Lajitas Array**	**42.26**	**299**	P	**P**	**18 21 25.7**	**+0.3**
ECSD	**EROS Data Cent**	**42.95**	**322**	P	**P**	**18 21 30.6**	**0.0**
MNTX	**Cornudas Mount**	**44.27**	**302**	P	**P**	**18 21 41.7**	**+0.3**
LENM	**Lemitar**	**46.21**	**305**	P	**P**	**18 21 59.0**	**+2.1**
121A	**Cookes Peak, D**	**46.45**	**303**	P	**P**	**18 21 60.0**	**+1.3**
ULM	**Lac du Bonnet**	**46.55**	**330**	P	**P**	**18 21 58.8**	**-0.2**
	comp=Z,17nm,0.4s,baz=130,slow=7.9,SNR=15						
ULM	**Lac du Bonnet**	**46.55**	**330**	P	**P**	**18 21 58.6**	**-0.3**
SRU	**San Rafael Swe**	**50.36**	**310**	P	**P**	**18 22 29.3**	**+0.7**
PD31	**Pinedale Array**	**50.87**	**315**	P	**P**	**18 22 32.4**	**+0.1**
PDAR	**Pinedale Array**	**50.87**	**315**	P	**P**	**18 22 32.5**	**+0.2**
	comp=Z,7.4nm,1.0s,baz=118,slow=9.8,SNR=22						
PDAR	**Pinedale Array**	**50.87**	**315**	P	**P**	**18 22 33.4**	**+1.1**
TMUT	**Trail Mountain**	**50.92**	**310**	P	**P**	**18 22 33.5**	**+0.6**
H10N3	**ASCENSION HYDR**	**51.11**	**111**	T	T	19 17 33.5	
	baz=293,slow=75,SNR=15						
H10N2	**ASCENSION HYDR**	**51.12**	**111**	T	T	19 17 34.1	
	baz=293,slow=75,SNR=16						
H10N1	**ASCENSION HYDR**	**51.13**	**111**	T	T	19 17 35.1	
	baz=293,slow=75,SNR=13						
TCUT	**Toone Canyon**	**51.62**	**313**	P	**P**	**18 22 38.4**	**+0.4**
HWUT	**Hardware Ranch**	**51.88**	**313**	P	**P**	**18 22 39.8**	**-0.1**
LOHW	**Long Hollow**	**51.88**	**316**	P	**P**	**18 22 40.4**	**+0.5**
AHID	**Auburn Hatcher**	**51.93**	**315**	P	**P**	**18 22 40.5**	**+0.3**
AHID				IAmb	IAmb	18 22 41.6	
	comp=Z,3.7nm,0.5s						
REDW	**Red Top Meadow**	**51.97**	**315**	P	**P**	**18 22 41.1**	**+0.7**
TPAW	**Teton Pass**	**52.08**	**316**	P	**P**	**18 22 40.9**	**-0.4**
YNM	**Yellowstone No**	**52.35**	**317**	P	**P**	**18 22 43.9**	**+0.6**
DUG	**Dugway, Tooele**	**52.37**	**311**	P	**P**	**18 22 43.6**	**+0.2**
DUG				IAmb	IAmb	18 22 45.7	
	comp=Z,15nm,1.9s						
YHB	**Horse Butte**	**52.69**	**317**	P	**P**	**18 22 46.5**	**+0.8**
PSUT	**Pine Spring**	**52.71**	**309**	P	**P**	**18 22 47.3**	**+1.3**
YHL	**Hebgen Lake**	**52.71**	**317**	P	**P**	**18 22 48.0**	**+2.0**
BGU	**Big Grassy Mou**	**52.73**	**312**	P	**P**	**18 22 46.6**	**+0.6**
QLMT	**Earthquake Lak**	**52.87**	**317**	P	**P**	**18 22 48.0**	**+0.9**
BOZ	**Bozeman (W)**	**53.28**	**318**	P	**P**	**18 22 50.5**	**+0.5**
MCMT	**McKenzie Canyo**	**53.82**	**317**		**P**	**18 22 55.3**	**+1.3**
PLCA	**Paso Flores**	**54.06**	**188**	P	**P**	**18 22 55.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=9.6,slow=9.1,SNR=6.7						
PLCA	**Paso Flores**	**54.06**	**188**	P	**P**	**18 22 54.8**	**-0.7**
PLCA				IAmb	IAmb	18 24 16.4	
	comp=Z,24nm,1.8s						
TPNV	**Topopah Spring**	**54.21**	**306**	P	**P**	**18 22 57.7**	**+0.8**
HLID	**Hailey**	**54.48**	**315**	P	**P**	**18 22 59.7**	**+0.9**
ISA	**Isabella, Lake**	**55.76**	**304**	P	**P**	**18 23 05.8**	**-2.2**
ISA				IAmb	IAmb	18 25 01.2	
	comp=Z,15nm,2.0s						
NVAR	**Mina Array Bea**	**56.10**	**308**	P	**P**	**18 23 11.4**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=98,slow=6.7,SNR=3.8						
NVAR	**Mina Array Bea**	**56.10**	**308**	P	**P**	**18 23 11.2**	**+0.7**
I07A	**Izee**	**58.17**	**314**	P	**P**	**18 23 25.5**	**+0.7**
I07A				IAmb	IAmb	18 24 26.6	
	comp=Z,23nm,2.0s						
TORD	**Torodi Ar. Bea**	**61.47**	**82**	P	**P**	**18 23 49.4**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=285,slow=6.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**61.47**	**82**	P	**P**	**18 23 48.3**	**+0.7**
YKA	**Yellowknife Ar**	**62.00**	**335**	P	**P**	**18 23 50.4**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=119,slow=10,SNR=6.9						
HYT	**Haines Junctio**	**71.93**	**330**	P	**P**	**18 24 55.0**	**+1.9**
HYT				IAmb	IAmb	18 25 54.0	
	comp=Z,22nm,1.9s						
DAWY	**Dawson**	**73.12**	**333**	P	**P**	**18 25 01.0**	**+1.0**
EGAK	**Eagle**	**73.94**	**334**	P	**P**	**18 25 05.7**	**+1.0**
EGAK				IAmb	IAmb	18 25 07.3	
	comp=Z,6.4nm,0.9s						
BCAR	**Beaver Creek A**	**74.11**	**332**	P	**P**	**18 25 07.0**	**+1.1**
ILAR	**Eielson Array**	**76.39**	**334**	P	**P**	**18 25 18.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=101,slow=

	baz=318						
TWY	Chenhua	0.56	337	⇑P		Pb	18 25 36.1 -0.3
	baz=337						
NACB	Ninganchiao	0.63	201	eP		Pg	18 25 37.0 +0.2
	baz=201						
NCU	National Centr	0.63	289	eP		Pb	18 25 38.1 +0.5
	baz=289						
NCUH	Zhongli	0.63	289	eP		Pb	18 25 38.0 +0.4
	baz=289						
ETLH	Xiulin Townshi	0.64	211	eP		Pg	18 25 36.8 -0.3
	baz=210						
TWD	Chiawan	0.71	199	eP		Pg	18 25 38.3 -0.1
	baz=206						
FUSS	Fushou	0.75	227	eP		Pg	18 25 38.9 -0.2
	baz=217						
LIOB	Emei	0.76	262	eP		Pn	18 25 40.4 -0.9
	baz=261						
NSTT	Nanjuang	0.78	261	eP		Pn	18 25 40.8 -0.7
	baz=260						
SBCB	Hsinchu	0.78	273	eP		Pn	18 25 41.2 -0.3
	baz=262						
TWT	Tachien	0.79	231	eP		Pb	18 25 40.2 -0.3
	baz=221						
HSN	Hsinchu	0.80	273	eP		Pb	18 25 40.4 0.0
	baz=290						
TDCB	Techi	0.80	231	eP		Pb	18 25 40.2 -0.4
	baz=221						
WHF	Hehuan Shan	0.81	221	eP		Pg	18 25 40.2 -0.1
	baz=211						
PCYT	Pengchaiyu	0.89	13	eP		Pb	18 25 42.3 +0.3
	baz=14						
CHGB	Renai	0.93	221	eP		Pg	18 25 42.1 -0.4
	baz=214						
NMLH	Miaoli	0.98	257	eP		Pn	18 25 44.9 +0.6
	baz=257						
ESL	Shilin	1.01	202	eP		Pb	18 25 43.8 -0.4
	baz=201						
NSY	Sanyi	1.04	251	eP		Pn	18 25 46.2 +1.1
	baz=250						
JYNG	Yonagunijimaku	1.05	107	P		Pb	18 25 44.6 -0.1
JYNG				S		Sb	18 25 58.7 +0.3
TWQ1	Liyutan	1.06	247	eP		Pn	18 25 46.2 +0.8
	baz=237						
YOJ	Yonaguni jima	1.10	105	P		Pb	18 25 45.7 +0.1
YOJ				S		Sb	18 26 00.6 +0.6
EGFH	Guangfu	1.15	199	eP		Pb	18 25 46.3 -0.2
	baz=205						
VWDT	VWDT	1.19	213	eP		Pg	18 25 47.5 +0.1
	baz=218						
SMLT	Sun Moon Lake	1.23	225	eP		Pg	18 25 48.7 +0.5
	baz=232						
TYC	Yuchr	1.24	227	eP		Pg	18 25 50.4 +1.9
	baz=234						
SSLB	Suanglung	1.26	220	eP		Pn	18 25 47.9 -0.3
	baz=229						
HGSD	Ruisui	1.32	197	eP		Pg	18 25 50.7 +0.8
	baz=203						
EHY	Hungye	1.34	201	eP		Pb	18 25 49.7 0.0
	baz=201						
YULB	Yu-li	1.45	200	eP		Pb	18 25 51.8 +0.2
	baz=200						
TWF1	Yuli	1.49	200	eP		Pb	18 25 51.8 -0.4
	baz=199						
ALS	Alishan	1.56	218	eP		Pg	18 25 55.2 +0.6
	baz=224						
CHN5	Tsauling	1.57	223	eP		Pg	18 25 55.6 +0.8
	baz=214						
ELDTW	Lidau	1.74	206	eP		Pn	18 25 55.4 +0.6
	baz=191						
IRIF	Iriomote-Funau	1.77	103	P		Pn	18 25 54.4 -0.7
IRIF				S		Sn	18 26 16.9 -0.7
JKRS	Kuro-shima	2.04	104	P		Pn	18 25 58.9 +0.1
JKRS				S		Sn	18 26 22.7 -1.5
JIJ	Ishigaki jima	2.13	100	P		Pn	18 25 59.4 -0.7
JIJ				S		Sn	18 26 25.0 -1.5
JISG	Ishigakijimahi	2.25	94	P		Pn	18 26 01.7 0.0
JISG				S		Sn	18 26 30.6 +1.1

*NEIC **04** 18:46:24.1±1.3, 1°.25S±0°.05×77°.6W±0°.1, h173km±8km, mb4.3/17, Error ellipse: s-maj=21.7km s-min=5.9km az=77.0*
*VAO **04** 18:46:25.1±0.3, 1°.25S×77°.53W, h161km±2km, mb4.3*
*IDC **04** 18:46:26.2±2.5, 1°.38S×77°.72W, h199km±30km, mb3.5/11, mb1 3.6/16, mb1mx3.5/41, mbtmp4.0/16, Error ellipse: s-maj=31.6km s-min=11.2km az=39.0*
ISC 04 18:46:22.5±0.5, **1°.33S**±0°.06×**77.75W**±0°.07, **h150**km, **n85**, σ**1**s**84**/82, **mb4.1**/17, **1C, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**1.71**	**336**	*eP*	**Pn**	**18 46 58.4**	**+3.6**
OTAV				*i*		18 47 47.6	
	comp=Z,38nm,0.5s						
OTAV	**Otavalo**	**1.71**	**336**	Pn	**Pn**	**18 46 57.8**	**+2.9**
OTAV	**Otavalo**	**1.71**	**336**	*eP*	**Pn**	**18 46 58.5**	**+3.7**
OTAV				*eS*	**Sn**	18 47 23.5	+3.9
PUAC	**Puerto Asis, P**	**2.21**	**32**	*eP*	**Pn**	**18 47 04.6**	**+4.4**
GCUF	**Volcan Galeras**	**2.57**	**9**	*eP*	**Pn**	**18 47 08.3**	**+3.2**
CRUC	**La Cruz**	**2.99**	**15**	*eP*	**Pn**	**18 47 14.1**	**+4.0**
PTLC	**Puerto Leguiza**	**3.31**	**63**	*eP*	**Pn**	**18 47 15.8**	**+2.0**
BBAC	**Balboa, Cauca**	**3.37**	**9**	*eP*	**Pn**	**18 47 17.4**	**+2.6**
BBAC				*i*		18 48 10.7	
	comp=Z,62nm,0.4s						
FLOC	**Florencia**	**3.58**	**36**	⇑*eP*	**Pn**	**18 47 20.6**	**+3.3**
FLOC				*i*		18 48 06.2	
	comp=Z,16nm,0.7s						
PCON	**Cinco Dias**	**3.88**	**20**	*eP*	**Pn**	**18 47 24.6**	**+2.8**
POPC	**Popayan, Colom**	**3.99**	**16**	*eP*	**Pn**	**18 47 24.7**	**+1.8**
GARC	**Garzon, Huila**	**4.16**	**33**	*eP*	**Pn**	**18 47 28.2**	**+3.1**
GR1C	**Gorgona, Isla**	**4.33**	**354**	*eP*	**Pn**	**18 47 27.6**	**+0.6**
MACC	**Macarena, Meta**	**5.21**	**48**	*eP*	**Pn**	**18 47 41.8**	**+3.0**
MALC	**Bahia Malaga**	**5.33**	**4**	*eP*	**Pn**	**18 47 38.7**	**-1.6**
YOTC	**Yotoco, Valle**	**5.46**	**15**	*eP*	**Pn**	**18 47 42.0**	**-0.3**
PRAC	**Prado**	**5.77**	**30**	*eP*	**Pn**	**18 47 47.6**	**+1.4**
ORTC	**Ortega, Tolima**	**5.78**	**26**	*eP*	**Pn**	**18 47 47.3**	**+1.0**
ATAH	**Atahualpa**	**5.80**	**186**	P	**Pn**	**18 47 49.7**	**+2.7**
	comp=Z,6.0nm,0.3s,baz=9.9,slow=8.2,SNR=47						
ATAH				S	**Sn**	**18 48 52.5**	**-0.4**
	comp=Z,7.4nm,0.3s,baz=153,slow=19,SNR=17						
TOLC	**Tolima**	**6.36**	**22**	*eP*	**Pn**	**18 47 54.8**	**+0.4**
SOLC	**Bahia Solano**	**7.52**	**3**	*eP*	**Pn**	**18 48 09.4**	**-0.1**
SPBC	**San Pablo de B**	**7.85**	**28**	*eP*	Pn	18 48 19.0	+4.9
CZSB	**Cruzeiro do Su**	**8.10**	**142**	*eP*	**Pn**	**18 48 18.9**	**+1.6**
BARC	**Barichara**	**9.10**	**30**	*eP*	**Pn**	**18 48 33.8**	**+3.0**
NNA	**Nana**	**10.62**	**175**	P	**Pn**	**18 48 53.1**	**+2.3**
	comp=Z,2.9nm,0.3s,baz=343,slow=6.2,SNR=2.8						
NNA				S	Sn	18 50 40.4	-8.0
	comp=Z,5.9nm,0.3s,baz=233,slow=13,SNR=3.7						
NNA	**Nana**	**10.62**	**175**	Pn	**Pn**	**18 48 52.4**	**+1.6**
SMLC	**San Martn de**	**10.71**	**20**	*eP*	**Pn**	**18 48 50.6**	**-1.4**
JTS	**Las Juntas de**	**13.59**	**328**	P	**Pn**	**18 49 32.1**	**+2.7**
	comp=Z,0.6nm,0.3s,baz=189,slow=18,SNR=5.3						
ETMB	**Extrema**	**14.23**	**127**	*eP*	**Pn**	**18 49 39.2**	**+1.8**
SAML	**Samuel**	**16.35**	**118**		**Pn**	**18 50 02.6**	**-1.1**
SAML				IAmb	IAmb	18 50 05.2	
	comp=Z,5.8nm,0.5s						
SAML	**Samuel**	**16.35**	**118**	*eP*	**Pn**	**18 50 03.9**	**+0.2**
MACA	**Manacapuru-AM**	**17.15**	**96**	*eP*	**Pn**	**18 50 13.7**	**+0.4**
LPAZ	**La Paz**	**17.62**	**148**	P	**P**	**18 50 19.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=311,slow=9.3,SNR=3.1						
LPAZ	**La Paz**	**17.62**	**148**	P	**P**	**18 50 18.4**	**-0.1**
LPAZ	**La Paz**	**17.62**	**148**	*eP*	**P**	**18 50 18.8**	**+0.4**
PTGA	**Pitinga**	**17.79**	**88**	P	**Pn**	**18 50 20.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=261,slow=12,SNR=5.1						
PTGA	**Pitinga**	**17.79**	**88**	P	**P**	**18 50 19.7**	**0.0**
PB16	**IPOC Station P**	**18.73**	**155**	P	**P**	**18 50 31.9**	**+1.5**
PB16				IAmb	IAmb	18 50 48.5	
	comp=Z,6.2nm,0.8s						
MTO3	**Montecristo**	**19.41**	**324**		**P**	**18 50 37.3**	**-0.1**
MTO3				IAmb	IAmb	18 50 39.2	
	comp=Z,11nm,1.0s						
MNMC	**Minye Minye**	**19.41**	**156**	P	**P**	**18 50 37.9**	**+0.5**
APG	**El Apazote**	**20.54**	**323**	P	**P**	**18 50 50.9**	**+1.3**
	comp=Z,1.6nm,0.4s,baz=241,slow=14,SNR=2.8						
VILB	**Vilhena**	**20.87**	**124**	*eP*	**P**	**18 50 53.5**	**+0.6**
SIV	**San Ignacio**	**21.96**	**132**	P	**P**	**18 51 03.8**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=300,slow=12,SNR=5.7						
ITTB	**Itaituba**	**22.19**	**98**	*eP*	**P**	**18 51 05.9**	**-0.9**
LVC	**Limon Verde**	**22.83**	**159**	*eP*	**P**	**18 51 14.6**	**+1.4**
NPGB	**Novo Progresso**	**23.03**	**105**	*eP*	**P**	**18 51 13.9**	**-0.9**
PTLB	**Pontes e Lacer**	**23.11**	**128**	*eP*	**P**	**18 51 16.4**	**+1.1**
MALB	**Monte Alegre**	**23.48**	**92**	*eP*	**P**	**18 51 18.3**	**-0.6**
CLDB	**Colider**	**23.77**	**114**	*eP*	**P**	**18 51 20.2**	**-1.3**
CLDB				*ep*P	**pP**	**18 51 51.7**	**+0.6**
CMIG	**Matias Romero**	**24.91**	**318**	P	**P**	**18 51 31.4**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=49,slow=5.0,SNR=6.8						
MCPB	**Macapa, AP**	**25.71**	**88**	*eP*	**P**	**18 51 38.7**	**-0.4**
MDP	**Montagnes des**	**25.88**	**76**	P	**P**	**18 51 39.4**	**-1.3**
	comp=Z,2.0nm,0.4s,baz=225,slow=8.6,SNR=1.7						
BDFB	**Brasilia**	**32.59**	**117**	P	**P**	**18 52 40.0**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=322,slow=5.6,SNR=3.8						
PCMB	**Pacaembu**	**32.74**	**130**	*eP*	**P**	**18 52 42.5**	**+1.2**
SDBA	**SAO DESIDERIO**	**34.36**	**110**	*ep*P	pP	18 53 29.3	+1.6
BB19B	**Bebedouro**	**34.60**	**127**	*ep*P	pP	18 53 31.9	+2.2
JANB	**Januaria**	**35.71**	**114**	*eP*	**P**	**18 53 06.2**	**-0.8**
X51A	**Calhoun**	**36.33**	**350**	P	**P**	**18 53 12.0**	**+0.1**
X51A				IAmb	IAmb	18 53 22.1	
	comp=Z,11nm,0.8s						
W57A	**Gilead**	**36.36**	**357**	P	P	18 53 08.0	-4.1
W57A				IAmb	IAmb	18 53 12.0	
	comp=Z,7.3nm,0.6s						
MC01	**Montes Claros**	**36.61**	**117**	*eP*	**P**	**18 53 14.1**	**-0.6**
SWET	**Sewanee**	**37.16**	**349**	P	**P**	**18 53 18.2**	**-0.7**
SWET				IAmb	IAmb	18 53 36.7	
	comp=Z,8.1nm,0.7s						
BSCB	**Bom Sucesso**	**37.64**	**124**	*eP*	**P**	**18 53 23.9**	**+0.6**
CNLB	**Canela**	**37.82**	**140**	*eP*	**P**	**18 53 24.9**	**+0.2**
MAN01	**Angra dos Reis**	**39.17**	**126**	*eP*	**P**	**18 53 36.1**	**+0.1**
TXAR	**Lajitas Array**	**39.30**	**323**	P	**P**	**18 53 36.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=150,slow=10,SNR=6.5						
MGMO	**Mountain Grove**	**40.59**	**342**	P	**P**	**18 53 45.5**	**-2.0**
MGMO				IAmb	IAmb	18 53 46.0	
	comp=Z,5.2nm,0.8s						
MNTX	**Cornudas Mount**	**42.02**	**324**	P	**P**	**18 53 58.6**	**-0.6**
ANMO	**Albuquerque**	**45.00**	**326**	P	**P**	**18 54 23.3**	**0.0**
ANMO				IAmb	IAmb	18 54 23.9	
	comp=Z,6.7nm,0.7s						
TCUT	**Toone Canyon**	**52.15**	**328**	P	**P**	**18 55 17.1**	**-0.8**
PDAR	**Pinedale Array**	**52.41**	**331**	P	**P**	**18 55 18.5**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=149,slow=12,SNR=4.7						
NVAR	**Mina Array Bea**	**54.39**	**321**	P	**P**	**18 55 34.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=125,slow=7.4,SNR=7.5						
NVAR	**Mina Array Bea**	**54.39**	**321**	P	**P**	**18 55 33.2**	**-1.0**
GCMT	**Greycliff**	**54.74**	**333**	P	**P**	**18 55 35.8**	**-0.8**
YHL	**Hebgen Lake**	**54.75**	**331**	P	**P**	**18 55 36.9**	**+0.1**
LIC	**Lamto**	**72.98**	**83**	*eP*	**P**	**18 57 33.8**	**-2.6**
	comp=Z,7.4nm,0.7s						
TIC	**Toumodi**	**73.01**	**83**	*eP*	**P**	**18 57 34.1**	**-2.5**
DBIC	**Dimbokro**	**73.17**	**83**	P	**P**	**18 57 35.2**	**-2.3**
	comp=Z,2.9nm,0.8s,baz=267,slow=4.9,SNR=5.2						
DBIC	**Dimbokro**	**73.17**	**83**	P	**P**	**18 57 35.3**	**-2.3**
KIC	**Kosan Boka**	**73.27**	**83**	*eP*	**P**	**18 57 35.8**	**-2.3**
	comp=Z,12nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.03**	**76**	P	**P**	**18 58 13.6**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=284,slow=5.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**80.03**	**76**	P	**P**	**18 58 13.2**	**-2.8**
ILAR	**Eielson Array**	**82.43**	**336**	P	**P**	**18 58 26.2**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=131,slow=4.0,SNR=4.9						
ILAR	**Eielson Array**	**82.43**	**336**	P	**P**	**18 58 26.6**	**-1.1**
ASAR	**Alice Springs**	**140.45**	**229**	PKhKP	PKPpre	19 05 25.9	
	comp=Z,0.1nm,0.4s,baz=113,slow=3.4,SNR=5.7						
WRA	**Warramunga Arr**	**142.09**	**234**	PKhKP	PKPpre	19 05 30.9	
	comp=Z,0.4nm,0.6s,baz=126,slow=2.7,SNR=6.5						

*ISU **04** 19:13:51.0, 40°.50N×71°.70E, h5km*
*SOME **04** 19:13:51.2, 40°.85N×71°.15E, h10km*
*NNC **04** 19:13:52.9±1.5, 40°.94N×71°.20E, h0km, mb3.3, mpv3.2, Error ellipse: s-maj=12.5km s-min=4.5km az=12.0*
*KRNET **04** 19:13:52.8±0.1, 40°.84N×71°.28E, h23km, mb2.8*
ISC 04 19:13:50.7±1.2, **40°.85N**±0°.02×**71°.17E**±0°.03, **h0**km±11km, **n27**, σ**1**s**77**/46, **20C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.48**	**103**	*eP*	**Pn**	**19 14 08.7**	**+3.8**
FRG				*eS*	Sb	19 14 22.6	+13
CHMI	**Chimion**	**0.64**	**155**	*eP*	**Pb**	**19 14 04.6**	**-0.1**
CHMI				*eS*	**Sb**	**19 14 14.5**	**+0.4**
BTK	**Batken**	**0.83**	**199**	⇑*iP*	**Pn**	**19 14 09.2**	**-0.5**
	baz=5.0						
BTK				⇑*iS*	**Sn**	**19 14 21.0**	**-1.7**
	baz=5.0						
ARK	**Arkit**	**1.12**	**32**	⇑*iP*	**Pn**	**19 14 13.1**	**-0.7**
	baz=29						
ARK				⇑*iS*	**Sg**	**19 14 27.6**	**+0.8**
	baz=29						
OHH	**Osh**	**1.27**	**104**	⇑*iP*	**Pn**	**19 14 15.0**	**-0.8**
	baz=5.0						
OHH				⇑*iS*	**Sb**	**19 14 30.9**	**-1.6**
	baz=5.0						
TAS	**Tashkent**	**1.49**	**289**	*eP*	**Pg**	**19 14 19.5**	**+0.2**
TAS				*eS*	**Sg**	**19 14 40.8**	**+2.2**
IUG	**Iuzhnay**	**1.56**	**327**	*eP*	**Pg**	**19 14 21.2**	**+0.7**
	17nm,0.3s						
IUG				*eS*	**Sg**	**19 14 43.3**	**+2.7**
	71nm,0.6s						
IUG	**Iuzhnay**	**1.56**	**327**	P	**Pb**	**19 14 20.0**	**-0.4**
	80nm,0.3s						
IUG				S	**Sg**	**19 14 40.4**	**-0.2**
	138nm,0.6s						
GAR	**Garm**	**1.96**	**200**	⇑*iP*	**Pg**	**19 14 28.0**	**-0.1**
	baz=2.0						
GAR				⇑*iS*	**Sg**	**19 14 54.4**	**+0.9**
	baz=2.0						
DZA	**Taraz**	**2.05**	**3**	*eP*	**Pb**	**19 14 29.2**	**+0.5**
	16nm,0.1s						
DZA				*eS*	**Sg**	**19 14 56.6**	**+0.1**
	95nm,0.3s						
DZA	**Taraz**	**2.05**	**3**	Pg	**Pg**	**19 14 29.5**	**-0.4**
	16nm,0.1s						
DZA				Lg	Lg	19 14 56.6	
	95nm,0.3s						
AML	**Almayashu**	**2.29**	**55**	⇑*iP*	**Pb**	**19 14 32.0**	**-1.1**
	baz=54						
AML				⇑*iS*	**Sb**	**19 15 00.4**	**-1.8**
	baz=54						
KK31	**Karatay Array**	**2.31**	**348**	P	**Pb**	**19 14 31.9**	**-1.3**
	2.3nm,0.8s,baz=173,slow=11,SNR=32						
KK31				S	**Sb**	**19 15 02.0**	**-0.3**
	18nm,0.3s,baz=162,slow=26,SNR=16						
BRLS	**Borolday**	**2.40**	**336**	*eP*	**Pn**	**19 14 31.9**	**+0.7**
	7.9nm,0.2s						
BRLS				*eS*	**Sn**	**19 15 01.6**	**+0.2**
	17nm,0.4s						
BRLS	**Borolday**	**2.40**	**336**	Pg	**Pb**	**19 14 32.4**	**-2.3**
	7.9nm,0.2s						
BRLS				Lg	Lg	19 15 01.6	
	17nm,0.4s						
MRKS	**Merke**	**2.44**	**38**	*eP*	**Pb**	**19 14 35.7**	**+0.1**
	2.5nm,0.4s						
MRKS				*eS*	**Sb**	**19 15 07.5**	**+1.2**
	9.8nm,0.4s						
MRKS	**Merke**	**2.44**	**38**	Pg	**Pb**	**19 14 35.7**	**+0.1**
	2.5nm,0.4s						
MRKS				Lg	Lg	19 15 07.5	
	9.8nm,0.4s						
ARLS	**Aral**	**2.58**	**66**	⇑*iP*	**Pn**	**19 14 35.6**	**+1.7**
	baz=65						
ARLS				⇑*iS*	**Sn**	**19 15 06.7**	**+0.6**
	baz=65						
EKS2	**Erkin-Say**	**2.67**	**46**	⇑*iP*	**Pb**	**19 14 37.1**	**-2.2**
	baz=45						
EKS2				⇑*iS*	**Sb**	**19 15 09.7**	**-3.0**
	baz=45						
CHGR	**Chuyangaron**	**2.68**	**216**	⇑*iP*	**Pb**	**19 14 38.4**	**-1.1**
	baz=18						
CHGR				⇑*iS*	**Sb**	**19 15 12.3**	**-0.7**
	baz=18						
UCH	**Uchtor**	**2.87**	**60**	⇑*iP*	**Pn**	**19 14 39.8**	**+1.7**
	baz=59						
UCH				⇑*iS*	**Sn**	**19 15 14.2**	**+0.7**
	baz=59						
AAK	**Ala-Archa**	**3.07**	**53**	⇑Pg	**Pg**	**19 14 48.4**	**-1.0**
	3.3nm,0.7s						
AAK				⇑Lg	Lg	19 15 28.4	
	4.2nm,0.7s						
TKM2	**Tokmak 2**	**3.90**	**56**	⇓Pg	**Pb**	**19 15 02.3**	**+1.8**
	1.1nm,0.6s						
TKM2				⇓Lg	Lg	19 15 54.3	
	1.5nm,0.5s						
KST	**Kastek**	**4.20**	**57**	*eP*	**Pb**	**19 15 08.2**	**+2.8**
	1.1nm,0.3s						
KST				*eS*	**Sg**	**19 16 03.5**	**-2.0**
	3.7nm,0.6s						
KST	**Kastek**	**4.20**	**57**	Pg	**Pb**	**19 15 08.2**	**+2.8**
	1.1nm,0.3s						
KST				Lg	Lg	19 16 03.5	
	3.7nm,0.6s						
BTLS	**Baital**	**4.70**	**26**	*eP*	**Pb**	**19 15 16.1**	**+2.2**
	0.7nm,0.4s						
BTLS				*eS*	**Sg**	**19 16 16.4**	**-5.1**
	4.0nm,0.9s						
BTLS	**Baital**	**4.70**	**26**	Pg	**Pb**	**19 15 16.1**	**+2.2**
	0.7nm,0.4s						
BTLS				Lg	Lg	19 16 16.4	
	4.0nm,0.9s						

*IDC **04** 19:51:02.1±0.6, 55°.39S×28°.27W, h0km, mb4.4/10, mb1 4.4/11, mb1mx4.2/21, mbtmp4.4/11, ML4.7/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/15, Error ellipse: s-maj=21.3km s-min=18.2km az=79.0*
*NEIC **04** 19:51:04.2±0.7, 55°.4S±0°.1×28°.2W±0°.2, h14km±4km, mb4.6/13, Error ellipse: s-maj=20.4km s-min=15.9km az=203.0*
ISC 04 19:51:03.5±0.5, **55°.36S**±0°.10×**28°.2W**±0°.1, **h10**km, **n47**, σ**0**s**71**/43, **mb4.5**/12, **MS3.4**/3, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.89**	**279**		**Pn**	**19 52 17.3**	**+0.3**
VNA1	**Neumayer--Stat**	**17.66**	**158**	P	**P**	**19 55 10.9**	**+0.7**
VNA3	**Neumayer Olymp**	**17.85**	**160**	P	**P**	**19 55 12.9**	**+0.7**
VNA2	**Neumayer--Watz**	**18.06**	**158**	P	**Pn**	**19 55 14.4**	**+0.3**
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**19 55 31.5**	**-0.3**
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**19 55 32.2**	**+0.5**
	2.2nm,0.3s,baz=301,slow=11,SNR=75						
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**19 55 31.6**	**-0.1**
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**19 57 55.3**	**+0.4**
	3.8nm,0.6s,baz=201,slow=3.0,SNR=23						
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**19 57 55.4**	**+0.6**
QSPA				IAmb	IAmb	19 57 59.4	
	comp=Z,4.8nm,0.7s						
CPUP	**Villa Florida**	**35.91**	**312**	P	**P**	**19 58 03.6**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=185,slow=11,SNR=3.6						
CPUP				LR	LR	20 12 59.7	
	comp=Z,34nm,19.2s,baz=182,slow=37						
CPUP	**Villa Florida**	**35.91**	**312**	P	**P**	**19 58 03.5**	**-0.1**
SUR	**Sutherland**	**41.04**	**77**	P	**P**	**19 58 48.9**	**+1.8**
	comp=Z,9.7nm,1.1s,baz=318,slow=14,SNR=2.2						
BOSA	**Boshof**	**46.39**	**77**	P	**P**	**19 59 30.2**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=208,slow=6.7,SNR=6.1						
BOSA				LR	LR	20 14 57.3	
	comp=Z,39nm,20.0s,baz=218,slow=31						
BOSA	**Boshof**	**46.39**	**77**	P	**P**	**19 59 30.1**	**+0.1**
BOSA				IAmb	IAmb	19 59 35.4	
	comp=Z,7.4nm,1.2s						
GO01	**Chusmiza**	**47.07**	**302**	P	**P**	**19 59 35.9**	**+0.1**
GO01				IAmb	IAmb	19 59 39.0	
	comp=Z,5.9nm,0.8s						
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**19 59 35.3**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=198,slow=5.5,SNR=6.9						
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**19 59 35.4**	**-0.6**
MNMC	**Minye Minye**	**47.73**	**302**	P	**P**	**19 59 40.6**	**-0.1**
H10N1	**ASCENSION HYDR**	**48.63**	**18**	T	T	20 53 05.7	
	baz=191						
H10N3	**ASCENSION HYDR**	**48.63**	**18**	T	T	20 53 07.6	
	baz=191						
H10N2	**ASCENSION HYDR**	**48.65**	**18**	T	T	20 53 14.0	
	baz=191						
LBTB	**Lobatse**	**49.39**	**75**	P	**P**	**19 59 53.5**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=219,slow=12,SNR=4.7						
LBTB	**Lobatse**	**49.39**	**75**	P	**P**	**19 59 53.3**	**+0.1**
LBTB				IAmb	IAmb	20 00 00.2	
	comp=Z,9.6nm,1.4s						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**19 59 55.6**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=161,slow=4.9,SNR=15						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**19 59 55.5**	**+0.9**
LPAZ				IAmb	IAmb	19 59 57.7	
	comp=Z,4.5nm,0.8s						
SAML	**Samuel**	**53.89**	**316**	P	**P**	**20 00 26.8**	**0.0**
LIC	**Lamto**	**64.32**	**26**	*eP*	**P**	**20 01 39.0**	**0.0**
	comp=Z,14nm,0.8s						
KIC	**Kosan Boka**	**64.52**	**26**	*eP*	**P**	**20 01 40.2**	**-0.2**
	comp=Z,11nm,0.9s						
TIC	**Toumodi**	**64.72**	**26**	*eP*	**P**	**20 01 41.6**	**-0.1**
DBIC	**Dimbokro**	**64.79**	**26**	P	**P**	**20 01 42.5**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=164,slow=7.6,SNR=7.1						
DBIC	**Dimbokro**	**64.79**	**26**	P	**P**	**20 01 42.2**	**+0.1**
DBIC				IAmb	IAmb	20 01 42.8	
	comp=Z,2.8nm,0.6s						
TOA0	**Torodi Ar. Sit**	**72.75**	**31**	P	**P**	**20 02 32.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**72.75**	**31**	P	**P**	**20 02 32.2**	**+0.5**
	comp=Z,7.1nm,0.6s,baz=201,slow=6.4,SNR=38						
TORD	**Torodi Ar. Bea**	**72.75**	**31

MJAR			Sn	Sn	19 54 50.0	+0.4
	0.8nm,0.3s,baz=90,slow=24,SNR=8.9					
MJAR			LR	LR	19 55 53.7	
	comp=Z,69nm,22.0s,baz=155,slow=41					
MJAR	**Matsushiro Arr**	**4.64 261**		**Pn**	**19 53 56.7**	**-0.3**
ERM	**Erimo**	**4.64 353**	Pn	**Pn**	**19 53 56.5**	**-0.5**
MAJO	**Matsushiro**	**4.64 261**		**Pn**	**19 53 57.6**	**+0.6**
MAT	**Matsushiro**	**4.64 261**	P	**Pn**	**19 53 57.8**	**+0.8**
MAT			S	**Sn**	**19 54 49.2**	**-0.4**
JKB	**Kayabe**	**5.00 335**	P	**Pn**	**19 54 01.9**	**+0.1**
JKB			*e*S	**Sn**	**19 54 54.5**	**-3.8**
JCH	**Churui**	**5.22 356**	P	**Pn**	**19 54 03.4**	**-1.5**
JCH			*e*S	**Sn**	**19 54 59.2**	**-4.6**
JHJ	**Hachijo jima 2**	**5.44 219**	Pn	**Pn**	**19 54 06.0**	**-2.0**
	10.0nm,0.3s,baz=7.6,slow=15,SNR=1.5					
JHJ			Sn	**Sn**	**19 55 01.6**	**-7.8**
	23nm,0.3s,baz=85,slow=23,SNR=2.0					
INU	**Inuyama**	**5.92 252**	Pn	**Pn**	**19 54 14.0**	**-0.6**
NEM2	**Nemuro 2**	**6.12 13**	P	**Pn**	**19 54 14.0**	**-3.2**
NEM2			*e*S	**Sn**	**19 55 18.9**	**-7.0**
JTKR	**Abashiri--Toko**	**6.56 0**	P	**Pn**	**19 54 22.0**	**-1.3**
JTKR			*e*S	**Sn**	**19 55 31.5**	**-5.3**
JKA	**Kamikawa-asahi**	**6.78 352**		**Pn**	**19 54 26.1**	**-0.2**
JKA				**Sn**	**19 55 40.6**	**-1.5**
ASAJ	**Asahikawa**	**6.78 352**	Pn	**Pn**	**19 54 26.1**	**-0.2**
	2.8nm,0.3s,baz=204,slow=15,SNR=31					
ASAJ			Sn	**Sn**	**19 55 40.6**	**-1.5**
	baz=92,slow=34,SNR=1.1					
JCJ	**Chichijima**	**10.38 189**	Pn	Pn	19 55 09.9	-5.9
	1.7nm,0.3s,baz=59,slow=23,SNR=8.1					
JCJ			Sn	Sn	19 56 57.7	-13
	1.1nm,0.3s,baz=282,slow=21,SNR=1.2					
USRK	**Ussuriysk Ar.**	**11.29 311**	Pn	**Pn**	**19 55 29.4**	**+1.3**
	baz=116,slow=15,SNR=4.9					
KSRS	**Korea Array**	**12.71 275**	Pn	P	19 55 52.4	-5.9
	0.1nm,0.3s,baz=94,slow=13,SNR=6.0					
KSRS			LR	LR	20 00 27.6	
	comp=Z,23nm,19.6s,baz=30,slow=36					
KLR	**Kul'dur**	**14.74 327**	Pn	**Pn**	**19 56 16.2**	**+1.1**
	0.1nm,0.3s,baz=147,slow=11,SNR=1.8					
SEY	**Seymchan**	**26.08 9**	P	**P**	**19 58 20.5**	**+1.2**
	2.3nm,0.8s,baz=179,slow=8.1,SNR=7.0					
H11N2	**WAKE ISLAND Hy**	**26.68 125**	T	T	20 25 51.9	
	baz=319,slow=74					
H11N1	**WAKE ISLAND Hy**	**26.69 125**	T	T	20 25 44.6	
	baz=319					
H11N3	**WAKE ISLAND Hy**	**26.70 125**	T	T	20 26 03.0	
	baz=319,slow=74					
H11S1	**WAKE ISLAND Hy**	**27.44 127**	T	T	20 27 11.4	
	baz=327					
H11S3	**WAKE ISLAND Hy**	**27.45 127**	T	T	20 27 04.9	
	baz=327					
H11S2	**WAKE ISLAND Hy**	**27.46 127**	T	T	20 27 12.6	
	baz=327					
SONM	**Songino Array**	**29.24 303**	P	**P**	**19 58 48.4**	**+0.4**
	0.6nm,0.6s,baz=109,slow=7.9,SNR=1.8					
TLY	**Talaya**	**31.60 310**	LR	LR	20 12 26.0	
	comp=Z,23nm,18.4s,baz=6.5,slow=37					
ZALV	**Zalesovo Beam**	**43.14 312**	P	**P**	**20 00 46.9**	**+0.7**
	0.4nm,0.4s,baz=72,slow=9.3,SNR=2.4					
ZALV			PcP	**PcP**	**20 02 36.1**	**+0.8**
	1.2nm,0.6s,baz=99,slow=2.5,SNR=5.6					
MKAR	**Makanchi Array**	**45.60 302**	P	**P**	**20 01 07.1**	**+1.1**
	0.6nm,0.7s,baz=72,slow=12,SNR=4.3					
MKAR	**Makanchi Array**	**45.60 302**	P	**P**	**20 01 07.3**	**+1.2**
KURBB	**Kurchatov Arra**	**47.34 308**	P	**P**	**20 01 20.6**	**+1.0**
	0.8nm,0.5s,baz=82,slow=7.9,SNR=9.1					
ILAR	**Eielson Array**	**48.12 33**	P	**P**	**20 01 26.6**	**+1.3**
	0.4nm,0.3s,baz=267,slow=6.0,SNR=7.1					
BVAR	**Borovoye Array**	**51.79 313**	P	**P**	**20 01 54.1**	**+0.6**
	0.4nm,0.4s,baz=69,slow=8.1,SNR=4.9					
BRVK	**Borovoye**	**51.84 313**	P	**P**	**20 01 55.0**	**+1.1**
INK	**Inuvik**	**53.15 27**	P	**P**	**20 02 03.1**	**-0.1**
	4.2nm,0.9s,baz=198,slow=3.2,SNR=1.6					
INK	**Inuvik**	**53.15 27**	P	**P**	**20 02 03.2**	**0.0**
INK			IAmb	IAmb	20 02 08.2	
	comp=Z,9.3nm,1.4s					
ARU	**Arti**	**57.39 319**	P	**P**	**20 02 35.3**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=338,slow=3.1,SNR=5.8					
ARU	**Arti**	**57.39 319**	P	**P**	**20 02 35.4**	**+1.4**
ARU			IAmb	IAmb	20 02 35.8	
	comp=Z,2.5nm,0.7s					
WB0	**Warramunga Arr**	**57.57 191**	P	**P**	**20 02 34.2**	**-1.4**
WR0	**Warramunga Arr**	**57.73 190**	P	**P**	**20 02 36.0**	**-0.7**
WR0			IAmb	IAmb	20 02 45.1	
	comp=Z,7.3nm,1.5s					
WRAB	**Tennant Creek**	**57.74 191**	P	**P**	**20 02 35.9**	**-0.9**
WB2	**Warramunga Arr**	**57.74 191**	P	**P**	**20 02 35.7**	**-1.1**
WB2			IAmb	IAmb	20 02 48.9	
	comp=Z,2.1nm,0.8s					
WRA	**Warramunga Arr**	**57.75 191**	P	**P**	**20 02 35.8**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=11,slow=7.3,SNR=12					
WRA	**Warramunga Arr**	**57.75 191**	P	**P**	**20 02 35.5**	**-1.3**
ABKAR	**Akbulak array**	**59.21 311**	P	**P**	**20 02 47.6**	**+0.8**
AKTO	**Aktyubinsk**	**59.90 312**	P	**P**	**20 02 53.0**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=70,slow=11,SNR=3.9					
ASAR	**Alice Springs**	**61.47 190**	P	**P**	**20 03 02.1**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=14,slow=7.9,SNR=3.5					
ASAR	**Alice Springs**	**61.47 190**	P	**P**	**20 03 01.5**	**-1.0**
CLL	**Collm**	**81.74 331**	*e*P	**P**	**20 05 05.0**	**+0.8**
GERES	**GERESS Array B**	**83.42 329**	P	**P**	**20 05 14.4**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=61,slow=9.3,SNR=4.1					
L48A	**N Adams**	**89.55 34**	P	**P**	**20 05 42.7**	**-0.4**

MEX ***04*** *20:29:03.0±0.4, 14°.49N×92°.63W, h48km±13km, MD3.9*
GCG ***04*** *20:29:15.1±0.4, 14°.76N×92°.45W, h32km±999km, MD3.9*
ISC 04 20:29:04.2±1.9, 14°.8N±0°.1×92°.73W±0°.08, h14km±14km, n7, σ1§18/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.01**	**332**	*i* P	**Pg**	**20 29 23.9**	**+0.1**
PCIG				*e*S	**Sn**	**20 29 39.5**	**+1.4**
CCIG	**Comitan**	**1.58**	**21**	*e*P	**Pn**	**20 29 30.2**	**-1.8**
CCIG				*e*S	**Sn**	**20 29 52.8**	**+0.4**
FUG	**Fuego 3**	**1.86**	**101**	*e*P	**Pg**	**20 29 41.7**	**+1.6**
FUG				*e*S	**Sb**	**20 30 02.1**	**+0.6**
TGIG		**2.00**	**349**	*i* P	**Pn**	**20 29 36.9**	**-0.8**
TGIG				*i* S	**Sn**	**20 30 03.9**	**+1.3**
PCG	**Pacaya**	**2.10**	**101**	*e*S	**Sb**	**20 30 08.8**	**+0.5**
IXG	**Ixpaco**	**2.31**	**106**	*e*P	**Pg**	**20 29 47.8**	**-0.7**
IXG				*e*S	**Sb**	**20 30 13.4**	**-0.8**
CMIG	**Matias Romero**	**3.08**	**318**	*e*P	**Pn**	**20 29 51.7**	**-0.7**
CMIG				*i* S	**Sn**	**20 30 29.5**	**+0.4**

IDC ***04*** *20:43:32.3±1.3, 15°.68S×176°.16W, h355km±14km, mb3.7/11, mb1 3.9/13, mb1mx3.7/28, mbtmp4.4/13, Error ellipse: s-maj=18.1km s-min=12.5km az=128.0*
NEIC ***04*** *20:43:32.6±2.0, 15°.7S±0°.1×176°.0W±0°.1, h369km±6km, mb4.6/36, Error ellipse: s-maj=19.1km s-min=11.7km az=148.0*
ISC 04 20:43:31.3±0.4, 15°.72S±0°.07×176°.13W±0°.07, h350km, n102, σ1§17/106, mb4.4/30, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.58**	**67**	P	**Pn**	**20 44 48.7**	**+2.2**
	78nm,0.3s,baz=221,slow=0.2,SNR=56						
AFI				S	**S**	**20 45 48.9**	**+1.8**
	baz=182,slow=15,SNR=0.7						
AFI	**Afiamalu**	**4.58**	**67**	Pn	**Pn**	**20 44 48.5**	**+2.0**
MSVF	**Nonsavu**	**5.92**	**249**	Pn	**Pn**	**20 45 05.3**	**+4.0**
NIUE	**Niue**	**6.80**	**120**	Pn	**Pn**	**20 45 13.4**	**+2.1**
RAO	**Raoul Island**	**13.57**	**187**	S	**S**	**20 48 54.8**	**-3.6**
	48nm,0.3s,baz=272,slow=23,SNR=3.5						
SANVU	**Saraoutou**	**16.06**	**269**	P	**Pn**	**20 47 00.4**	**-0.1**
DZM	**Mont Dzumac**	**17.65**	**246**	P	**P**	**20 47 15.8**	**+1.1**
	0.6nm,0.3s,baz=87,slow=18,SNR=3.0						
DZM	**Mont Dzumac**	**17.65**	**246**	P	**P**	**20 47 15.5**	**+0.8**
DZM				IAmb	IAmb	20 47 17.1	
	comp=Z,50nm,1.5s						
XMAS	**Kiritimati**	**25.55**	**48**	P	**P**	**20 48 27.9**	**-1.8**
XMAS				IAmb	IAmb	20 49 23.7	
	comp=Z,63nm,1.2s						
FOZ	**Fox Glacier**	**30.20**	**201**	P	**P**	**20 49 10.4**	**0.0**
FOZ				IAmb	IAmb	20 50 24.2	
	comp=Z,57nm,1.4s						
MLZ	**Mavora Lakes**	**32.39**	**201**	P	**P**	**20 49 28.9**	**-0.6**
MLZ				IAmb	IAmb	20 49 32.6	
	comp=Z,115nm,2.0s						
WHZ	**Wether Hill Ro**	**32.91**	**201**	P	**P**	**20 49 34.5**	**+0.6**
WHZ				IAmb	IAmb	20 49 35.5	
	comp=Z,28nm,0.8s						
CTAO	**Charters Tower**	**36.01**	**257**	P	**P**	**20 50 00.6**	**0.0**
COEN	**Coen**	**39.34**	**267**	P	**P**	**20 50 29.2**	**+0.9**
COEN				IAmb	IAmb	20 50 30.7	
	comp=Z,28nm,0.8s						
TOO	**Toolangi**	**40.24**	**230**	P	**P**	**20 50 35.6**	**+0.2**
RIM	**Rim**	**40.48**	**31**	P	**P**	**20 50 37.7**	**+0.1**
STKA	**Stephens Creek**	**41.60**	**240**	P	**P**	**20 50 46.4**	**0.0**
	comp=Z,5.7nm,0.3s,baz=85,slow=8.2,SNR=51						
STKA	**Stephens Creek**	**41.60**	**240**	P	**P**	**20 50 46.2**	**-0.2**
BBOO	**Buckleboo**	**46.38**	**240**	P	**P**	**20 51 23.8**	**-0.2**
BBOO				IAmb	IAmb	20 51 24.7	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**47.02**	**257**	P	**P**	**20 51 28.8**	**-0.3**
WB0	**Warramunga Arr**	**47.17**	**257**	P	**P**	**20 51 29.7**	**-0.5**
WB0				IAmb	IAmb	20 51 31.0	
	comp=Z,24nm,0.9s						
WB2	**Warramunga Arr**	**47.20**	**257**	P	**P**	**20 51 30.1**	**-0.4**
WB2				IAmb	IAmb	20 51 31.8	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**47.20**	**257**	P	**P**	**20 51 29.9**	**-0.5**
WRA	**Warramunga Arr**	**47.21**	**257**	P	**P**	**20 51 30.1**	**-0.4**
	comp=Z,11nm,0.6s,baz=92,slow=6.8,SNR=300						
WRA				PcP	**PcP**	**20 52 55.9**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=94,slow=3.5,SNR=4.9						
WRA	**Warramunga Arr**	**47.21**	**257**	P	**P**	**20 51 29.9**	**-0.6**
WRA					**PcP**	**20 52 56.0**	**+0.2**
AS31	**Alice Springs**	**47.51**	**252**	P	**P**	**20 51 33.0**	**+0.2**
ASAR	**Alice Springs**	**47.51**	**252**	P	**P**	**20 51 33.5**	**+0.7**
	comp=Z,152nm,0.5s,baz=87,slow=8.0,SNR=1821						
ASAR				PcP	**PcP**	**20 52 56.8**	**0.0**
	comp=Z,2.3nm,0.7s,baz=90,slow=4.6,SNR=3.4						
ASAR				S	**S**	**20 57 56.8**	**-4.0**
	comp=Z,0.2nm,0.6s,baz=82,slow=14,SNR=2.4						
ASAR	**Alice Springs**	**47.51**	**252**	P	**P**	**20 51 32.4**	**-0.4**
MTN	**Manton Dam**	**51.08**	**266**	P	**P**	**20 51 59.6**	**-0.1**
MTN				IAmb	IAmb	20 52 00.4	
	comp=Z,26nm,0.8s						
KNRA	**Kununurra**	**52.92**	**262**	P	**P**	**20 52 12.8**	**-0.3**
KNRA				IAmb	IAmb	20 52 19.5	
	comp=Z,14nm,0.7s						
FORT	**Forrest**	**52.92**	**243**	P	**P**	**20 52 12.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**55.57**	**259**	P	**P**	**20 52 32.1**	**+0.1**
SOEI	**Soe**	**58.29**	**268**	P	**P**	**20 52 54.5**	**+3.4**
	comp=Z,50nm,0.8s						
SOEI	**Soe**	**58.29**	**268**	P	**P**	**20 52 52.5**	**+1.4**
MMRI	**Maumere**	**60.49**	**269**	P	**P**	**20 53 05.8**	**0.0**
MMRI				IAmb	IAmb	20 53 16.7	
	comp=Z,42nm,1.2s						
PSA00	**Pilbara Seismi**	**60.59**	**254**	P	**P**	**20 53 05.9**	**-0.5**
VNDA	**Vanda**	**62.80**	**185**	P	**P**	**20 53 21.9**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=9.8,slow=7.8,SNR=5.4						
MORW	**Morawa**	**63.37**	**245**	P	**P**	**20 53 24.4**	**-0.2**
MORW				IAmb	IAmb	20 54 25.3	
	comp=Z,36nm,1.6s						
MPSI	**Mapaga**	**65.10**	**278**	P	**P**	**20 53 36.6**	**+0.6**
TWSI	**Taliwang, Sumb**	**65.62**	**267**	P	**P**	**20 53 39.7**	**+0.4**
GIRL	**Giralia**	**65.63**	**252**	P	**P**	**20 53 39.9**	**+0.7**
MJAR	**Matsushiro Arr**	**67.52**	**321**	P	**P**	**20 53 50.4**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=158,slow=8.1,SNR=6.3						
JAGI	**Jajag, Banyuwa**	**68.31**	**267**	P	**P**	**20 53 54.8**	**-1.3**
PETK	**Petropavlovsk-**	**72.17**	**344**	P	**P**	**20 54 18.7**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=116,slow=8.7,SNR=8.8						
PETK	**Petropavlovsk-**	**72.17**	**344**	P	**P**	**20 54 18.9**	**+0.5**
QSPA	**South Pole Qui**	**74.32**	**180**	P	**P**	**20 54 31.3**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=93,slow=1.7,SNR=13						
QSPA	**South Pole Qui**	**74.32**	**180**	P	**P**	**20 54 31.2**	**+0.2**
QSPA				IAmb	IAmb	20 56 20.5	
	comp=Z,10nm,1.4s						
KSRS	**Korea Array**	**74.57**	**317**	P	**P**	**20 54 33.5**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=120,slow=7.4,SNR=4.4						
CISI	**Cisompet, Garu**	**74.62**	**266**	P	**P**	**20 54 32.6**	**-1.0**
CISI				IAmb	IAmb	20 55 22.9	
	comp=Z,22nm,1.0s						
W13A	**Hualapai Mount**	**77.67**	**48**	P	**P**	**20 54 48.3**	**-2.1**
TRF	**Thorofare Moun**	**81.43**	**11**	P	**P**	**20 55 09.4**	**-0.4**
TRF				IAmb	IAmb	20 56 02.8	
	comp=Z,26nm,1.6s						
CCB	**Clear Creek Bu**	**82.99**	**12**	P	**P**	**20 55 16.9**	**-0.6**
CCB				IAmb	IAmb	20 55 18.2	
	comp=Z,5.6nm,0.6s						
IMAR	**Indian Mountai**	**83.18**	**9**	P	**P**	**20 55 19.2**	**+0.7**
IL31		**83.29**	**12**	P	**P**	**20 55 18.4**	**-0.5**
IL31				IAmb	IAmb	20 55 20.4	
	comp=Z,8.4nm,1.3s						
ILAR	**Eielson Array**	**83.29**	**12**	P	**P**	**20 55 18.8**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=228,slow=6.1,SNR=16						
ILAR	**Eielson Array**	**83.29**	**12**	P	**P**	**20 55 18.5**	**-0.5**
MAW	**Mawson**	**86.64**	**199**	P	**P**	**20 55 36.3**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=136,slow=9.7,SNR=8.1						
MAW	**Mawson**	**86.64**	**199**	IAmb	IAmb	20 55 36.6	
	comp=Z,1.3nm,0.9s						
XAN	**Xi'an**	**86.69**	**307**	P	**P**	**20 55 37.9**	**+1.3**
XAN				pP	PcP	20 55 46.2	+7.8
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P	**P**	**20 55 54.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=88,slow=2.7,SNR=11						
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P	**P**	**20 55 52.6**	**-0.8**
SONM	**Songino Array**	**93.34**	**319**	P	**P**	**20 56 08.0**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=150,slow=3.2,SNR=3.2						
SONM	**Songino Array**	**93.34**	**319**	P	**P**	**20 56 07.3**	**0.0**
MKAR	**Makanchi Array**	**109.17**	**315**	PKiKP	**PKiKP**	**21 01 19.1**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=32,slow=3.6,SNR=3.2						
ARU	**Arti**	**122.22**	**328**	PKP	**PKPdf**	**21 01 44.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=64,slow=3.6,SNR=7.7						
ARU	**Arti**	**122.22**	**328**	PKPdf	**PKiKP**	**21 01 44.4**	**-0.4**
ARCES	**ARCESS Array B**	**124.53**	**351**	PKP	**PKiKP**	**21 01 48.5**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=22,slow=1.3,SNR=9.2						
GEYT	**Alibeck**	**127.57**	**306**	PKP	**PKiKP**	**21 01 56.1**	**0.0**
	comp=Z,1.1nm,0.7s,baz=266,slow=4.5,SNR=3.6						
FINES	**FINESS Array B**	**131.65**	**346**	PKP	**PKPdf**	**21 02 02.3**	**-0.1**
	comp=Z,3.4nm,1.1s,baz=64,slow=4.4,SNR=5.2						
KMBO	**Kilima Mbogo**	**143.01**	**246**	PKP	**PKPdf**	**21 02 24.8**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=22,slow=4.7,SNR=9.0						
KMBO	**Kilima Mbogo**	**143.01**	**246**	PKPdf	**PKPdf**	**21 02 22.9**	**-2.2**
CLL	**Collm**	**143.75**	**350**	*i* PKPdf	**PKPdf**	**21 02 23.7**	**-1.2**
OSTC	**Ostas**	**143.85**	**347**	*e*PKP	**PKPdf**	**21 02 24.2**	**-1.0**
CHVC	**Chvalec**	**143.85**	**347**	*e*PKP	**PKPdf**	**21 02 24.0**	**-1.2**
UPC	**Upice**	**143.94**	**347**	*e*PKP	**PKPdf**	**21 02 24.4**	**-0.9**
DPC	**Dobruska-Polom**	**144.02**	**346**	*e*PKP	**PKPdf**	**21 02 24.7**	**-0.8**
KRLC	**Kraliky**	**144.17**	**346**	*e*PKP	**PKPdf**	**21 02 24.9**	**-0.9**
KRLC				*ex*	x	21 02 32.3	
PVCC	**Panska Ves**	**144.22**	**348**	*e*PKP	**PKPdf**	**21 02 25.4**	**-0.4**
MORC	**Moravsky Berou**	**144.26**	**345**	*e*PKP	**PKPdf**	**21 02 25.4**	**-0.6**
PRU	**Pruhonice**	**144.74**	**348**	*e*PKP	**PKPdf**	**21 02 26.5**	**-0.2**
PRU				*ex*	x	21 02 33.0	
NKC	**Novy Kostel**	**144.88**	**350**	*e*PKP	**PKPdf**	**21 02 27.2**	**+0.2**
VRAC	**Vranov**	**144.93**	**345**	PKP	**PKPdf**	**21 02 27.4**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=348,slow=3.1,SNR=6.1						
VRAC	**Vranov**	**144.93**	**345**	*e*PKP	**PKPdf**	**21 02 27.8**	**+0.7**
JAVC	**Velka Javorina**	**145.07**	**344**	*e*PKP	**PKiKP**	**21 02 29.0**	**-2.4**
KRUC	**Moravsky**	**145.21**	**346**	*e*PKP	**PKPab**	**21 02 28.1**	**-0.4**
KHC	**Kasperske Hory**	**145.75**	**349**	*e*PKP	**PKPab**	**21 02 29.4**	**-1.3**
KHC	**Kasperske Hory**	**145.75**	**349**		**PKPab**	**21 02 30.2**	**-0.5**
GERES	**GERESS Array B**	**146.00**	**348**	PKPbc	**PKPab**	**21 02 30.5**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=18,slow=2.9,SNR=14						
GERES	**GERESS Array B**	**146.00**	**348**	PKPbc	**PKPab**	**21 02 30.3**	**-1.4**
CONA	**Conrad Observa**	**146.39**	**345**	*i* PKPab	**PKPab**	**21 02 32.2**	**-1.1**
	comp=Z,1.7nm,0.5s						
MOA	**Molln**	**146.83**	**347**	*i* PKPab	**PKPab**	**21 02 33.4**	**-1.5**
	comp=Z,1.4nm,0.5s						
ARSA	**Arzberg**	**147.11**	**345**	*i* PKPab	**PKPab**	**21 02 34.2**	**-1.8**
	comp=Z,1.1nm,0.5s						
KBA	**Koelnbreinsper**	**147.76**	**348**	*i* PKiKP	**PKiKP**	**21 02 36.2**	**-1.0**
	comp=Z,2.1nm,0.4s						
SOKA	**Soboth**	**147.76**	**346**	*i* PKiKP	**PKPbc**	**21 02 34.8**	**-0.5**
	comp=Z,1.3nm,0.3s						
WTTA	**Wattenberg**	**147.89**	**350**	*i* PKiKP	**PKPbc**	**21 02 36.0**	**+0.2**
	comp=Z,4.1nm,0.7s						
MOTA	**Moosalm**	**147.90**	**351**	*e*PKiKP	**PKiKP**	**21 02 36.1**	**-1.3**
	comp=Z,1.4nm,0.7s						
OBKA	**Obir**	**148.03**	**346**	*i* PKPab	**PKPab**	**21 02 39.1**	**-0.8**
	comp=Z,1.9nm,0.2s						
MYKA	**Terra Mystica**	**148.12**	**347**	*i* PKPbc	**PKPbc**	**21 02 35.5**	**-0.8**
	comp=Z,1.6nm,0.3s						
DAVA	**Damuels**	**148.13**	**352**	*i* PKiKP	**PKiKP**	**21 02 36.9**	**-1.0**
	comp=Z,1.2nm,0.3s						
ABTA	**Abfaltersbach**	**148.24**	**349**	*i* PKiKP	**PKPbc**	**21 02 35.9**	**-0.7**
	comp=Z,3.1nm,0.6s						
CIMO	**Cimolais**	**148.67**	**349**	PKPbc	**PKPbc**	**21 02 37.1**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**148.73**	**351**		**PKiKP**	**21 02 38.5**	**-0.8**

ISK ***04*** *21:00:01.8, 36°.24N×30°.91E, h82km, ML5.2/38*
HLW ***04*** *21:00:01.9, 36°.15N×30°.96E, h11km±28km, Md5.0*
NIC ***04*** *21:00:01.2±0.0, 36°.41N×30°.98E, h80km±5km, Ml5.5/4*
BJI ***04*** *21:00:02.0±0.0, 36°.20N×30°.90E, h72km, mB5.1/61, mb4.9/64, Ms4.8/63, Ms7 4.6/60*
GII ***04*** *21:00:02.3±0.2, 36°.24N×30°.89E, h72km, mb5.0/4, MD5.1/4, Mm4.8/1*
MOS ***04*** *21:00:02.7±1.1, 36°.35N×30°.90E, h72km, mb5.1/19, MS4.1/21, Error ellipse: s-maj=4.5km s-min=3.0km az=81.7*
NEIC ***04*** *21:00:02.6, 36°.24N×30°.93E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=4.77; $M_{\theta\theta}$0.82; $M_{\phi\phi}$3.95; $M_{r\theta}$3.19; $M_{\theta\phi}$-3.56; $M_{\phi r}$-7.46; Fault plane solution: $M_0$9.90000×10^{16} NP1:ϕ_s336.05000°, δ73.15000°, λ-82.97000°. NP2:ϕ_s133.01000°, δ18.21000°, λ-112.00000°. Principal axes: T 10.4936, Plg28.0000°, Azm60.0000°; N -1.3317, Plg7.0000°, Azm154.0000°; P -9.1619, Plg61.0000°, Azm256.0000°;*
PDG ***04*** *21:00:02.2±0.5, 36°.23N×30°.89E, h32km±2km, ML5.0/12 Error ellipse: s-maj=0.5km s-min=0.4km az=90.0*
DDA ***04*** *21:00:03.3, 36°.17N×30°.93E, h41km±4km, MW5.2*
IDC ***04*** *21:00:03.5±0.9, 36°.37N×30°.93E, h63km±8km, mb4.5/44, mb1 4.6/53, mb1mx4.5/63, mbtmp4.8/53, MS4.3/31, Ms1 4.3/31, ms1mx4.2/34, Error ellipse: s-maj=7.8km s-min=7.6km az=86.0*
NEIC ***04*** *21:00:03.1±1.4, 36°.27N±0°.05×30°.90E±0°.05, h61km±4km, Error ellipse: s-maj=7.0km s-min=6.4km az=195.0*
MED_RC ***04*** *21:00:04.0±0.2, 36°.28N×30°.89E, h56km±1km, MW5.3/40, Moment Tensor Solution. Body waves: s17,c23;Mantle waves: s40,c86; Duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26±.02; $M_{\theta\theta}$0.55±.02; $M_{\phi\phi}$-0.29±.02; $M_{r\theta}$0.18±.02; $M_{\theta\phi}$-0.68±.02; $M_{\phi r}$-0.75±.02; Best double couple: $M_0$1.13000×10^{17} NP1:ϕ_s78.00000°, δ45.00000°, λ-167.00000°. NP2:ϕ_s339.00000°, δ81.00000°, λ-46.00000°. Principal axes: T 1.1500, Plg23.0000°, Azm37.0000°; N -0.0300, Plg44.0000°, Azm150.0000°; P -1.1200, Plg38.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
GCMT ***04*** *21:00:04.3±0.1, 36°.36N±0°.01×30°.79E±0°.01, h66km±1km, MW5.3/140, Moment Tensor Solution. s100,c161; s140,c283; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.13±.02; $M_{\theta\theta}$0.57±.02; $M_{\phi\phi}$-0.44±.02; $M_{r\theta}$0.21±.01; $M_{\theta\phi}$-0.72±.01; $M_{\phi r}$-0.66±.01; Best double couple: $M_0$1.12300×10^{17} NP1:ϕ_s74.00000°, δ51.00000°, λ-174.00000°. NP2:ϕ_s340.00000°, δ86.00000°, λ-39.00000°. Principal axes: T 1.1490, Plg23.0000°, Azm33.0000°; N -0.0520, Plg51.0000°, Azm155.0000°; P -1.0970, Plg30.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
THE ***04*** *21:00:04.3, 36°.13N×30°.92E, h71km±3km, ML5.4/10 Error ellipse: s-maj=3.9km s-min=1.1km az=215.0*
UNK ***04*** *21:00:04.3, 36°.21N×30°.82E, h46km*
NEIC ***04*** *21:00:05, 36°.29N×30°.90E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.58; $M_{\theta\theta}$0.59; $M_{\

comp=E,15µm,1.2s
ERMK Ermenek 1.63 79 *i* P **Pn 21 00 30.9 0.0**
ERMK IAML 21 00 59.0
comp=E,72µm,0.5s
ERMK IAML 21 01 00.0
comp=N,74µm,0.8s
BAGO Egridir - ISPA 1.64 356 *i* P **Pn 21 00 31.4 +0.4**
BAGO *i* S **Sn 21 00 44.3 -7.2**
BAGO IAML 21 00 59.0
comp=N,4µm,0.5s
BAGO IAML 21 01 02.0
comp=E,4µm,0.9s
BOZY Bozyazi-Mersin 1.68 98 PN **Pn 21 00 30.5 -0.9**
BASM Basmaki-Afyon 1.72 336 PN **Pn 21 00 33.1 +1.0**
AKMS Akamas 1.75 139 P **Pn 21 00 30.3 -2.2**
AKMS AML AML 21 00 54.3
comp=E,136nm,0.8s
AKMS AML AML 21 00 54.3
comp=E,136nm,0.8s
AKMS S **Sn 21 00 54.6 +0.6**
AKMS AML AML 21 00 58.7
comp=E,238nm,0.9s
AKMS AML AML 21 00 58.7
comp=E,238nm,0.9s
TEKE Tekeli-Mersin 1.78 96 PN **Pn 21 00 32.1 -0.7**
ALFC Alefka 1.81 131 P **Pn 21 00 30.8 -2.4**
ALFC AML AML 21 00 52.2
comp=E,109nm,0.6s
ALFC AML AML 21 00 52.2
comp=E,109nm,0.6s
ALFC AML AML 21 00 53.5
comp=E,114nm,0.3s
ALFC AML AML 21 00 53.5
comp=E,114nm,0.3s
ALFC S **Sn 21 00 53.9 -1.5**
KMER Konya-Meram 1.83 39 *i* P **Pn 21 00 34.5 +0.9**
KMER *i* S **Sn 21 00 51.6 -4.3**
KMER IAML 21 01 00.0
comp=N,19µm,0.7s
KMER IAML 21 01 00.0
comp=E,14µm,0.5s
DOGA KONYA_Doganhis 1.85 18 *i* P **Pn 21 00 35.2 +1.3**
DOGA IAML 21 01 03.0
comp=N,23µm,0.6s
DOGA IAML 21 01 03.0
comp=E,13µm,0.7s
DALY Dalyan (Mula) 1.89 285 PN **Pn 21 00 34.3 0.0**
DALY Dalyan (Mula) 1.89 285 *i* P **Pn 21 00 34.3 0.0**
DALY *i* S **Sn 21 00 49.0 -8.1**
DALY IAML 21 01 20.0
comp=E,18µm,1.4s
DALY IAML 21 01 23.0
comp=N,25µm,1.0s
TAVA DENIZLI_Tavas 1.96 305 *i* P **Pn 21 00 36.2 +0.8**
TAVA IAML 21 01 06.0
comp=N,11µm,0.4s
TAVA IAML 21 01 24.0
comp=E,12µm,1.4s
AKDN Akdeniz- Kıbrı 1.96 122 PN **Pn 21 00 34.1 -1.2**
KONT Konya--Tatoy 1.96 35 PN **Pn 21 00 36.4 +1.1**
KONT Konya--Tatoy 1.96 35 *i* P **Pn 21 00 36.4 +1.1**
KONT *i* S **Sn 21 00 58.3 -0.7**
KONT IAML 21 01 09.0
comp=N,11µm,0.9s
KONT IAML 21 01 27.0
comp=E,8µm,1.3s
KZIL AFYON_Kizioren 2.00 342 *i* P **Pn 21 00 36.8 +0.9**
KZIL *i* S **Sn 21 00 55.1 -5.1**
KZIL IAML 21 01 06.0
comp=E,9µm,0.4s
KZIL IAML 21 01 07.0
comp=N,8µm,0.7s
YORU Yoruktepe-Mers 2.01 95 PN **Pn 21 00 35.9 -0.1**
LEF Lefka 2.01 127 PN **Pn 21 00 33.3 -2.7**
LEF Lefka 2.01 127 *i* P **Pn 21 00 33.1 -2.9**
LEF *i* S Sn 21 00 49.8 -10
LEF IAML 21 01 05.0
comp=E,9µm,0.2s
LEF IAML 21 01 09.0
comp=N,17µm,1.0s
TEVE Tevekalti-Mers 2.03 87 PN **Pn 21 00 36.6 +0.3**
KRMN Karaman 2.05 66 PN **Pn 21 00 36.9 +0.4**
OREN Orenkoy-Mersin 2.05 93 PN **Pn 21 00 36.3 -0.1**
NATA Nata 2.06 139 P **Pn 21 00 35.2 -1.5**
TEPK Tepekoy-MERSIN 2.12 93 PN **Pn 21 00 37.3 -0.1**
GULN MERSIN_Gulnar 2.12 94 *i* P **Pn 21 00 37.4 0.0**
GULN *i* S **Sn 21 00 58.3 -4.5**
GULN IAML 21 01 05.0
comp=N,12µm,1.3s
GULN IAML 21 01 08.0
comp=E,9µm,0.5s
AKK1 Akkuyu-Mersin 2.12 95 PN **Pn 21 00 37.6 +0.2**
AKKU Akkuyu-Mersin 2.13 94 PN **Pn 21 00 37.4 -0.1**
AKK2 Akkuyu-Mersin 2.13 95 PN **Pn 21 00 37.4 -0.1**
LADK Ladik-KONYA 2.17 31 PN **Pn 21 00 38.7 +0.5**
YESI Yesilovacik-Me 2.20 93 PN **Pn 21 00 38.6 +0.2**
TURN Turunc 2.20 282 PN **Pn 21 00 38.5 0.0**
TURN Turunc 2.20 282 *i* P **Pn 21 00 38.4 0.0**
TURN *i* S **Sn 21 01 01.6 -3.1**
TURN IAML 21 01 07.0
comp=E,6µm,0.7s
TURN IAML 21 01 25.0
comp=N,13µm,1.0s
SHUT Suhut-Afyon 2.22 352 PN **Pn 21 00 39.6 +0.7**
MRSB Marmaris-Mugla 2.23 280 PN **Pn 21 00 38.5 -0.4**
IKL Isikli 2.23 92 PN **Pn 21 00 38.6 -0.3**
TISA Tisan-Mersin 2.23 94 PN **Pn 21 00 38.6 -0.3**
SZAC Souni 2.25 134 ⇑P **Pn 21 00 37.6 -1.6**
SZAC AML AML 21 01 04.9
comp=N,73nm,0.8s
SZAC AML AML 21 01 06.9
comp=N,76nm,0.9s
KARG Kargicak-Mersi 2.25 93 PN **Pn 21 00 39.3 +0.1**
YER Yerkesik 2.26 291 P **Pn 21 00 39.9 +0.5**
YER S **Sn 21 01 07.7 +1.4**
YER Yerkesik 2.26 291 PN **Pn 21 00 39.8 +0.4**
ARG Arkhangelos 2.27 267 P **Pn 21 00 38.2 -1.2**
ARG S **Sn 21 01 04.5 -1.8**
comp=N,22µm,1.2s
ARG Arkhangelos 2.27 267 PN **Pn 21 00 38.2 -1.2**
ARG Arkhangelos 2.27 267 ⇑P **Pn 21 00 38.1 -1.3**
ARG S **Sn 21 01 05.9 -0.5**
ATHAL Athalassa 2.34 120 P **Pn 21 00 37.9 -2.5**
ATHAL S **Sn 21 01 07.0 -1.1**
BOLV Bolvadin 2.37 0 *i* P **Pn 21 00 42.0 +1.1**
BOLV *i* S **Sn 21 01 02.6 -6.3**
BOLV IAML 21 01 13.0
comp=N,6µm,0.6s
BOLV IAML 21 01 15.0
comp=E,5µm,1.0s
BOLV Bolvadin 2.37 0 **Pn 21 00 41.8 +0.9**
KDHN Kadinhani 2.37 23 *i* P **Pn 21 00 41.3 +0.4**
KDHN IAML 21 01 12.0
comp=N,4µm,0.5s
KDHN IAML 21 01 27.0
comp=E,2µm,0.7s
CSS Mathiatis 2.40 125 PN **Pn 21 00 38.7 -2.5**
CSS Mathiatis 2.40 125 Pn **Pn 21 00 38.5 -2.6**
CSS Mathiatis 2.40 125 ⇓P **Pn 21 00 38.6 -2.6**
CSS S **Sn 21 01 09.2 -0.3**
CSS Mathiatis 2.40 125 Pn **Pn 21 00 38.7 -2.5**
SILI Silifke-Mersin 2.42 89 PN **Pn 21 00 41.5 +0.1**
SLFK Silifke-Mersin 2.44 88 PN **Pn 21 00 41.5 -0.2**
ASGA Asgata 2.45 129 P **Pn 21 00 40.3 -1.6**
ASGA S **Sn 21 01 10.5 -0.3**
AKIN Akıncılar- Kıb 2.46 122 PN **Pn 21 00 39.5 -2.5**
AFYO Afyonkarahisar 2.48 349 *i* P **Pn 21 00 43.9 +1.5**
AFYO *i* S **Sn 21 01 06.8 -4.9**
AFYO IAML 21 01 20.0
comp=E,14µm,0.7s
AFYO IAML 21 01 21.0
comp=N,20µm,0.9s
MVOU Mavrovouni 2.57 120 P **Pn 21 00 40.9 -2.7**
KIZK Mersin 2.60 86 PN **Pn 21 00 44.3 +0.4**
KIZK Mersin 2.60 86 *i* P **Pn 21 00 44.7 +0.8**
KIZK *i* S **Sn 21 01 13.4 -0.9**
KIZK IAML 21 01 23.0
comp=E,17µm,2.0s
KIZK IAML 21 01 26.0
comp=N,14µm,0.8s
KIZT Kizilcal 2.64 16 PN **Pn 21 00 45.2 +0.7**
YESY Yesilyurt 2.67 57 PN **Pn 21 00 45.9 +1.0**
CHBY Cihanbeyli 2.72 34 PN **Pn 21 00 46.4 +0.8**
DAT Datca 2.72 279 P **Pn 21 00 45.2 -0.4**
DAT Datca 2.72 279 PN **Pn 21 00 45.2 -0.4**
DAT Datca 2.72 279 *i* P **Pn 21 00 45.3 -0.4**
DAT IAML 21 01 19.0
comp=E,5µm,0.8s
DAT IAML 21 01 40.0
comp=N,3µm,1.0s
EREN Erenkoy 2.76 106 PN **Pn 21 00 45.4 -0.6**
EREN Erenkoy 2.76 106 *i* P **Pn 21 00 45.1 -0.9**
EREN IAML 21 01 24.0
comp=N,19µm,0.5s
EREN IAML 21 01 32.0
comp=E,15µm,1.5s
AYDN Tasoluk 2.77 299 *i* P **Pn 21 00 46.4 +0.1**
AYDN IAML 21 01 45.0
comp=N,9µm,1.2s
AYDN IAML 21 01 59.0
comp=E,8µm,1.4s
SULT Sultanhani-AKS 2.77 47 PN **Pn 21 00 47.3 +1.0**
KERG Konya-Eregli 2.78 67 *i* P **Pn 21 00 47.2 +0.8**
KERG IAML 21 01 27.0
comp=E,11µm,1.1s
USAK Uak-Merkez 2.81 328 *i* P **Pn 21 00 47.5 +0.7**
USAK IAML 21 01 23.0
comp=N,7µm,0.7s
USAK IAML 21 01 23.0
comp=E,10µm,0.6s
KULA Kula-Manisa 2.81 321 P **Pn 21 00 47.1 +0.2**
KULA S **Sn 21 01 21.0 +1.2**
KULA Kula-Manisa 2.81 321 PN **Pn 21 00 47.1 +0.2**
MANT Manisa 2.85 319 *i* P **Pn 21 00 47.6 +0.2**
MANT IAML 21 01 23.0
comp=N,4µm,0.5s
MANT IAML 21 01 24.0
comp=E,5µm,0.5s
MANT Manisa 2.85 319 Pn **Pn 21 00 47.7 +0.2**
OSC1 CSNet OBS 1 2.86 174 P **Pn 21 00 45.7 -1.7**
PARAL Paralimni 2.87 117 P **Pn 21 00 45.8 -1.8**
BDRM Kayabasi 2.89 285 *i* P **Pn 21 00 47.8 0.0**
BDRM *i* S **Sn 21 01 16.6 -4.8**
BDRM IAML 21 01 49.0
comp=E,8µm,1.2s
AUKIR Kırka- Seyitga 2.94 354 *i* P **Pn 21 00 49.9 +1.2**
AUKIR IAML 21 01 27.0
comp=E,5µm,0.5s
AUKIR IAML 21 01 29.0
comp=N,3µm,0.4s
GEDZ Gediz 2.95 336 PN **Pn 21 00 49.8 +1.1**
GDZ Gediz 2.97 338 *i* P **Pn 21 00 49.9 +0.9**
GDZ IAML 21 01 27.0
comp=N,2µm,0.5s
GDZ IAML 21 02 05.0
comp=E,1µm,1.5s
BODT Bodrum 2.99 285 P **Pn 21 00 49.2 0.0**
BODT S **Sn 21 01 23.5 -0.5**
BODT Bodrum 2.99 285 PN **Pn 21 00 49.2 0.0**
CIFT Cifteler, Eski 3.01 2 PN **Pn 21 00 50.1 +0.6**
NISR Nisiros 3.07 276 P **Pn 21 00 49.0 -1.3**
AUSIV SIVRIHISAR 3.12 9 PN **Pn 21 00 51.6 +0.5**
AUSIV SIVRIHISAR 3.12 9 *i* P **Pn 21 00 51.6 +0.5**
AUSIV IAML 21 01 29.0
comp=E,2µm,0.4s
AUSIV IAML 21 01 30.0
comp=N,2µm,0.7s
SVRH Sivrihisar-ESK 3.13 8 PN **Pn 21 00 51.7 +0.5**
DIDI Didim-Aydin 3.13 290 PN **Pn 21 00 51.0 -0.1**
SIMA Simav-Kutahya 3.13 331 PN **Pn 21 00 51.9 +0.7**
KULU Kulu 3.15 31 PN **Pn 21 00 52.0 +0.5**
KARP Karpathos 3.16 256 P **Pn 21 00 50.6 -0.9**
KARP S **Sn 21 01 25.5 -2.6**
comp=N,30µm,0.8s
KARP Karpathos 3.16 256 PN **Pn 21 00 50.8 -0.7**
KARP Karpathos 3.16 256 ⇑P **Pn 21 00 50.6 -0.9**
KARP Karpathos 3.16 256 Pn **Pn 21 00 50.3 -1.3**
DED Mersin 3.17 78 *i* P **Pn 21 00 52.9 +1.2**
DED *i* S **Sn 21 01 27.4 -1.1**
DED IAML 21 01 40.0
comp=N,9µm,0.7s
DED IAML 21 01 57.0
comp=E,5µm,1.5s
KOSK Kos Island 3.20 278 P **Pn 21 00 51.0 -1.1**
KOSK Kos Island 3.20 278 PN **Pn 21 00 51.5 -0.6**
AKSY AKSARAY - Alti 3.22 44 *i* P **Pn 21 00 52.8 +0.5**
AKSY IAML 21 01 52.0
comp=N,2µm,1.5s
AKSY IAML 21 02 06.0
comp=E,1µm,2.0s
KKUL Konya-Kulu 3.23 29 *i* P **Pn 21 00 53.6 +1.1**
KKUL IAML 21 01 51.0
comp=N,3µm,0.9s
KKUL IAML 21 02 26.0
comp=E,2µm,1.4s
GCAM G?zelcaml? 3.25 296 PN **Pn 21 00 52.4 -0.3**
GCAM G?zelcaml? 3.25 296 *i* P **Pn 21 00 52.4 -0.3**
GCAM IAML 21 01 31.0
comp=N,7µm,0.3s
GCAM IAML 21 02 12.0
comp=E,5µm,1.0s
GULA Gulagac 3.30 52 PN **Pn 21 00 54.1 +0.5**
TVSB Tavsanli 3.31 340 PN **Pn 21 00 54.6 +1.0**
GOMA Golmarmara-Man 3.36 315 PN **Pn 21 00 54.2 0.0**
NIG Nigde 3.42 58 PN **Pn 21 00 55.9 +0.5**
OSC2 CSNet OBS 4 3.45 161 P **Pn 21 00 54.4 -1.0**
OSC2 S **Sn 21 01 35.4 +0.3**
YAYX Yaylak 3.45 41 PN **Pn 21 00 56.4 +0.8**
AFSR Afar-Bala (An 3.53 28 PN **Pn 21 00 57.5 +0.9**
AKS Akhisar 3.53 317 PN **Pn 21 00 57.4 +0.8**
AUMIH MIHALICIK 3.54 7 PN **Pn 21 00 57.6 +0.8**
AUMIH MIHALICIK 3.54 7 *i* P **Pn 21 00 57.6 +0.8**
AUMIH IAML 21 01 42.0
comp=N,2µm,1.0s
AUMIH IAML 21 02 23.0
comp=E,1µm,1.5s
SMG Samos 3.54 294 P **Pn 21 00 56.1 -0.6**
SMG S **Sn 21 01 36.5 -0.9**
comp=E,11µm,0.4s
AUBOZ BOZOYUK 3.62 349 PN **Pn 21 00 58.8 +0.9**
AUBOZ BOZOYUK 3.62 349 *i* P **Pn 21 00 58.8 +0.9**
AUBOZ IAML 21 01 43.0
comp=E,4µm,0.5s
AUBOZ IAML 21 01 45.0
comp=N,4µm,0.5s
BBAL Bala 3.63 28 *i* P **Pn 21 00 59.6 +1.6**
BBAL IAML 21 01 46.0
comp=E,956nm,0.6s
BBAL IAML 21 02 01.0
comp=N,1µm,1.0s
DGB zmir 3.65 299 *i* P **Pn 21 00 57.6 -0.5**
DGB IAML 21 01 41.0
comp=N,2µm,0.3s
DGB IAML 21 02 23.0
comp=E,2µm,1.2s
KIRS Kırehir-Merke 3.65 40 *i* P **Pn 21 00 58.7 +0.4**
KIRS IAML 21 02 11.0
comp=E,608nm,1.6s
KIRS IAML 21 02 29.0
comp=N,1µm,2.3s
BLCB Balcova 3.70 304 P **Pn 21 00 58.8 -0.1**
BLCB S **Sn 21 01 41.1 -0.2**
BLCB Balcova 3.70 304 PN **Pn 21 00 58.9 0.0**
DST Dursunbey 3.73 331 PN **Pn 21 00 59.9 +0.6**
BR231 Keskin MP Arra 3.78 22 **Pn 21 01 00.5 +0.4**
DURS Dursunbey 3.78 330 *i* P **Pn 21 00 00.9 +0.8**
DURS IAML 21 01 46.0
comp=N,4µm,1.0s
DURS IAML 21 01 46.0
comp=E,4µm,0.6s
YURE YUREGIR 3.82 81 *i* P **Pn 21 01 01.4 +0.9**
YAHY KAYSERI_Yahyal 3.95 62 *i* P **Pn 21 01 03.8 +1.4**
YAHY IAML 21 02 19.0
comp=N,2µm,1.5s
YAHY IAML 21 02 22.0
comp=E,2µm,1.6s
STEP BALIKESIR_Sava 3.95 321 *i* P **Pn 21 01 02.6 +0.3**
STEP IAML 21 01 50.0
comp=E,6µm,0.5s
STEP IAML 21 01 51.0
comp=N,10µm,0.5s
AVNS Nevsehir-Avano 3.96 51 *i* P **Pn 21 01 03.4 +0.8**
AVNS IAML 21 02 32.0
comp=N,3µm,1.2s
AVNS IAML 21 02 35.0
comp=E,2µm,1.6s
URLA Izmir 3.99 301 *i* P **Pn 21 01 02.4 -0.5**
URLA IAML 21 02 30.0
comp=N,2µm,1.2s
URLA IAML 21 02 30.0
comp=E,3µm,1.2s
BR131 Keskin Array S 3.99 32 P **Pn 21 01 03.5 +0.5**
SNR=151
BR131 Keskin Array S 3.99 32 P **Pn 21 01 03.2 +0.2**
BR131 Keskin Array S 3.99 32 Pn **Pn 21 01 03.2 +0.2**
BRTR Keskin Array B 3.99 32 P **Pn 21 01 02.9 -0.1**
comp=E,146nm,0.3s,baz=129,slow=10,SNR=2100
BRTR S **Sn 21 01 49.9 +1.3**
comp=E,196nm,0.3s,baz=199,slow=25,SNR=18
BRTR LR LR 21 03 10.9
comp=E,10µm,20.4s,baz=180,slow=47
BRTR Keskin Array B 3.99 32 *ce*P **Pn 21 01 02.9 -0.1**
BRTR pmax pmax
comp=Z,161nm,0.3s
BRTR Keskin Array B 3.99 32 Pn **Pn 21 01 02.1 -0.9**
ZEDA zmir-Bergama 4.02 312 *i* P **Pn 21 01 03.4 +0.2**
ZEDA IAML 21 01 53.0
comp=N,4µm,0.6s
ZEDA IAML 21 01 54.0
comp=E,2µm,0.5s
ZKR Zakros 4.02 254 P **Pn 21 01 01.8 -1.5**
ZKR S **Sn 21 01 44.7 -4.5**
comp=E,10µm,0.8s
ULDT Uludag 4.04 340 *i* P **Pn 21 01 04.7 +1.0**
ULDT IAML 21 01 54.0
comp=N,3µm,0.4s
ULDT IAML 21 01 55.0
comp=E,3µm,0.8s
AMGA Amorgos Island 4.08 278 P **Pn 21 01 02.7 -1.3**
STIA Sitia Lasithi 4.09 255 P **Pn 21 01 03.5 -0.7**
STIA S **Sn 21 01 46.6 -4.3**
MDUB Mudurnu 4.12 3 Pn **Pn 21 01 05.9 +1.2**
KIBS BOLU 4.13 10 *i* P **Pn 21 01 05.7 +0.9**
KIBS IAML 21 02 00.0
comp=N,865nm,0.7s
KIBS IAML 21 02 25.0
comp=E,1µm,1.7s
IGD Bursa 4.14 341 *i* P **Pn 21 01 05.8 +1.0**
IGD IAML 21 01 58.0
comp=N,894nm,0.3s
IGD IAML 21 02 41.0
comp=E,628nm,1.3s
GEYV SAKARYA_Geyve 4.16 353 *i* P **Pn 21 01 06.1 +1.0**
GEYV IAML 21 01 56.0
comp=N,2µm,0.9s
GEYV IAML 21 02 55.0
comp=E,1µm,1.8s
ANAF Anafi Island 4.16 272 P **Pn 21 01 04.1 -1.1**
ANAF S **Sn 21 01 49.0 -3.5**
comp=E,21µm,0.3s
CDAG Cicekdag 4.25 39 *i* P **Pn 21 01 07.8 +1.3**
CDAG IAML 21 02 33.0
comp=N,1µm,2.1s
CDAG IAML 21 02 34.0
comp=E,1µm,1.5s
BALY Balya 4.28 323 *i* P **Pn 21 01 07.3 +0.5**
BALY IAML 21 01 58.0
comp=N,2µm,0.8s
BALY IAML 21 02 00.0
comp=E,1µm,0.6s
CMDR Camlidere-ANKA 4.31 16 *i* P **Pn 21 01 08.1 +0.7**
CMDR IAML 21 01 59.0
comp=E,2µm,0.6s
CMDR IAML 21 02 00.0
comp=N,2µm,0.7s
DELI KIRIKKALE 4.34 32 *i* P **Pn 21 01 07.8 +0.1**
DELI *i* S **Sn 21 01 50.6 -6.5**
DELI IAML 21 01 59.0
comp=N,985nm,0.5s
DELI IAML 21 02 01.0
comp=E,886nm,1.0s
CHOS Chios island 4.38 299 P **Pn 21 01 08.1 -0.1**
CHOS S **Sn 21 01 57.3 -0.7**
comp=E,4µm,1.8s
APE Apeiranthos 4.39 281 P **Pn 21 01 07.6 -0.8**
APE S **Sn 21 01 56.3 -2.0**
APE Apeiranthos 4.39 281 ⇓P **Pn 21 01 07.9 -0.5**
APE Apeiranthos 4.39 281 *d*P **Pn 21 01 07.3 -1.1**
SANT Santorini 4.41 272 P **Pn 21 01 07.5 -1.1**
SANT S **Sn 21 01 54.6 -4.2**
comp=E,3µm,0.8s
SANT Santorini 4.41 272 ⇓P **Pn 21 01 08.2 -0.4**
SANT Santorini 4.41 272 Pn **Pn 21 01 07.2 -1.5**
SAP2K Karterados 4.42 272 P **Pn 21 01 07.9 -0.8**
SAIM ADANA 4.43 67 *i* P **Pn 21 01 09.5 +0.7**
SAIM IAML 21 02 38.0
comp=E,2µm,1.2s
SAIM IAML 21 02 48.0
comp=N,2µm,0.9s
FRMA Ierapetra Chan 4.43 254 P **Pn 21 01 05.7 -3.1**
FRMA S **Sn 21 01 52.5 -6.7**
SFIR Foira Santorin 4.44 273 P **Pn 21 01 06.7 -2.2**
SNT1 Gialos, Santor 4.44 272 P **Pn 21 01 08.0 -0.9**
THT2 Imerovigli 4.44 273 P **Pn 21 01 08.2 -0.8**
NPS Neapolis 4.45 257 P **Pn 21 01 07.9 -1.3**
NPS S **Sn 21 01 56.8 -2.9**
comp=N,13µm,0.4s
CMBO Columbo, Santo 4.46 273 P **Pn 21 01 08.3 -0.9**
SAP1 Santorini-Akro 4.46 272 P **Pn 21 01 08.4 -0.9**
AYVA Ayvalik 4.47 313 *i* P **Pn 21 01 09.6 +0.2**
AYVA IAML 21 02 12.0
comp=N,2µm,0.6s
AYVA IAML 21 03 02.0
comp=E,1µm,1.2s
SAP4 Santorini-Oia 4.48 273 P **Pn 21 01 08.7 -0.8**
SAHE Sakarya_HENDEK 4.50 359 *i* P **Pn 21 01 10.7 +0.9**
SAP3 Santorini-Thir 4.50 273 P **Pn 21 01 08.8 -1.0**
ANDN Andirin 4.51 73 *i* P **Pn 21 01 10.3 +0.3**
ANDN IAML 21 02 42.0
comp=N,4µm,1.8s
ANDN IAML 21 02 42.0
comp=E,4µm,1.6s
BCAM Yenicaga 4.55 11 *i* P **Pn 21 01 11.0 +0.5**
BCAM IAML 21 02 05.0
comp=N,1µm,0.7s
BCAM IAML 21 02 06.0
comp=E,1µm,0.6s
ORH Orhaniye 4.55 352 P **Pn 21 01 14.4 +3.9**
BHL Bhannes 4.58 121 *e*P **Pn 21 01 08.1 -2.8**
LAST Lasithi 4.59 257 P **Pn 21 01 09.8 -1.3**
LAST S **Sn 21 01 58.5 -4.6**
HWQ Hawqa 4.59 115 *e*P **Pn 21 01 11.0 -0.2**
YIGI Dzce 4.62 5 *i* P **Pn 21 01 12.7 +1.1**
YIGI IAML 21 02 08.0
comp=N,636nm,0.8s
YIGI IAML 21 02 09.0
comp=E,432nm,0.6s
DQRL Deir Qamar 4.63 123 *e*P **Pn 21 01 08.7 -3.0**
KAMA Osmaniye 4.68 78 *i* P **Pn 21 01 11.6 -0.8**
KAMA IAML 21 02 28.0
comp=E,1µm,1.9s
KAMA IAML 21 02 31.0
comp=N,1µm,1.7s
PRK Paraskevi 4.69 310 P **Pn 21 01 13.7 +1.4**
BUY Buyukada 4.71 343 *i* P **Pn 21 01 13.7 +1.1**
BUY IAML 21 02 10.0
comp=E,1µm,0.5s
BUY IAML 21 02 11.0
comp=N,1µm,0.8s
KNL Balıkesir 4.74 327 *i* P **Pn 21 01 13.3 +0.2**
KNL IAML 21 02 09.0
comp=N,2µm,0.8s
KNL IAML 21 02 12.0
comp=E,4µm,0.6s
KAND Kocaeli-Kandir 4.77 353 *i* P **Pn 21 01 13.7 +0.2**
KAND IAML 21 02 12.0
comp=N,801nm,0.5s
KAND IAML 21 02 13.0
comp=E,486nm,0.6s
HNTI Hanita 4.78 132 Pn **Pn 21 01 11.4 -2.2**
BAYC CANAKKALE_Bayr 4.84 316 *i* P **Pn 21 01 14.6 +0.1**
BAYC IAML 21 02 11.0
comp=E,880nm,0.4s
BAYC IAML 21 02 57.0
comp=N,1µm,2.9s
HRKL Herakleio 4.84 259 P **Pn 21 01 13.3 -1.2**
SIGR SIGRI 4.93 307 P **Pn 21 01 15.9 +0.3**
ISK Istanbul-Kandi 4.93 343 P **Pn 21 01 16.6 +1.0**
RCY Rachaya 4.94 124 *e*P **Pn 21 01 14.0 -1.9**
SHBL Chebaa 4.96 126 *e*P **Pn 21 01 14.5 -1.8**
MMA0B Mount Meron ar 4.97 131 Pn **Pn 21 01 13.8 -2.4**
MMAI Mount Meron Ar 4.97 131 P **Pn 21 01 14.0 -2.2**
comp=N,81nm,0.3s,baz=308,slow=12,SNR=210

MMAI S Sn 21 02 11.8 -0.5
comp=N,225nm,0.3s,baz=312,slow=27,SNR=3.4
KUZU Kuzuini 4.97 83 *i* P Pn 21 01 15.3 -0.9
KUZU IAML 21 02 29.0
comp=E,3μm,0.8s
KUZU IAML 21 02 58.0
comp=N,3μm,1.3s
GEM Giv'at Ha'Em 5.00 127 Pn Pn 21 01 14.0 -2.6
GEM Sn Sn 21 02 10.1 -3.0
OFRI `Ofer 5.01 137 Pn Pn 21 01 14.3 -2.5
OFRI Sn Sn 21 02 09.7 -3.6
NATI Neve Ativ 5.01 127 Pn Pn 21 01 14.4 -2.4
NATI Sn Sn 21 02 10.8 -2.6
IDI Anoyia 5.02 260 P Sn 21 01 14.8 -2.1
comp=N,101nm,0.3s,baz=64,slow=13,SNR=337
IDI S Sn 21 02 08.6 -5.0
comp=N,202nm,0.3s,baz=102,slow=7.2,SNR=12
IDI Anoyia 5.02 260 P Pn 21 01 14.8 -2.1
IDI S Sn 21 02 08.0 -5.6
IDI Anoyia 5.02 260 ⇑P Pn 21 01 15.3 -1.6
BLGI Bet Lehem HaGe 5.04 134 Pn Pn 21 01 15.2 -2.0
COAL Corum-Alaca 5.04 38 *i* P Pn 21 01 18.6 +1.3
COAL IAML 21 03 16.0
comp=E,825nm,1.8s
COAL IAML 21 03 17.0
comp=N,895nm,1.7s
KBUK KARABUK-Merkez 5.06 15 *i* P Pn 21 01 17.1 -0.3
KBUK IAML 21 02 17.0
comp=N,413nm,0.7s
KBUK IAML 21 03 12.0
comp=E,426nm,1.9s
GAZ Gaziantep 5.11 79 Pn Pn 21 01 18.3 +0.1
SIVA Sivas 5.15 257 P Pn 21 01 18.0 -0.7
TMBK Timbaki Herakl 5.17 258 P Pn 21 01 18.8 -0.2
ELBA Catalca 5.17 339 *i* P Pn 21 01 17.7 -1.3
ELBA IAML 21 03 04.0
comp=N,196nm,1.7s
ILGA Ilgaz 5.18 24 *i* P Pn 21 01 19.0 -0.2
ILGA IAML 21 03 27.0
comp=E,722nm,1.8s
ILGA IAML 21 03 40.0
comp=N,628nm,2.8s
ILGA Ilgaz 5.18 24 Pn Pn 21 01 19.5 +0.3
BOZC Bozcaada 5.19 314 *i* P Pn 21 01 19.1 -0.1
BOZC IAML 21 03 18.0
comp=N,933nm,2.9s
BOZC IAML 21 03 18.0
comp=E,572nm,1.1s
SART Tekirdag 5.24 327 *i* P Pn 21 01 20.1 +0.2
SART IAML 21 03 16.0
comp=E,520nm,1.4s
SERI Serifos 5.24 281 P Pn 21 01 19.2 -0.7
MHLO Agia Marina, M 5.27 276 P Pn 21 01 20.2 -0.1
PELI Kastamonı-Ara 5.28 20 *i* P Pn 21 01 20.9 +0.3
PELI IAML 21 02 21.0
comp=E,369nm,0.9s
PELI IAML 21 02 23.0
comp=N,524nm,1.0s
ELBS KAHRAMANMARAS 5.32 66 *i* P Pn 21 01 21.4 +0.2
ELBS IAML 21 03 01.0
comp=N,2μm,1.5s
ELBS IAML 21 03 19.0
comp=E,2μm,1.6s
SLTI Sal'it 5.33 139 Pn Pn 21 01 18.2 -2.9
SLTI Sn Sn 21 02 18.4 -2.8
BTIN Bartın 5.38 11 *i* P Pn 21 01 22.2 +0.4
BTIN IAML 21 02 26.0
comp=E,449nm,0.6s
BTIN IAML 21 02 27.0
comp=N,628nm,1.0s
SHMJ Saham 5.38 131 Pn Pn 21 01 20.2 -1.7
MMLI Mount Malkishu 5.39 135 Pn Pn 21 01 19.7 -2.3
GZT Gaziantep 5.42 77 *i* P Pn 21 01 22.0 -0.5
GZT IAML 21 03 07.0
comp=E,2μm,1.9s
GZT IAML 21 03 10.0
comp=N,2μm,2.1s
KARY Karystos 5.45 290 P Pn 21 01 22.6 -0.1
GOKA anakkale-Gk 5.50 316 *i* P Pn 21 01 23.8 +0.3
GOKA *i* S Sn 21 02 20.1 -5.3
GOKA IAML 21 02 32.0
comp=N,2μm,0.5s
GOKA IAML 21 02 32.0
comp=E,2μm,0.5s
GADA Gvkgeada 5.51 316 P Pn 21 01 24.1 +0.5
KAGI orum-Kargı 5.53 29 *i* P Pn 21 01 23.7 -0.2
KAGI IAML 21 03 19.0
comp=E,440nm,1.6s
KAGI IAML 21 03 45.0
comp=N,739nm,1.7s
VAM Vamos 5.54 262 P Pn 21 01 22.4 -1.6
KESN Edirne-Kesan 5.57 325 *i* P Pn 21 01 25.0 +0.3
KESN IAML 21 02 33.0
comp=N,883nm,0.4s
KESN IAML 21 03 32.0
comp=E,813nm,2.6s
CUGUR Gurin_SVAS 5.57 63 *i* P Pn 21 01 25.4 +0.8
CUGUR IAML 21 03 25.0
comp=N,2μm,2.8s
CUGUR IAML 21 03 44.0
comp=E,1μm,1.4s
HMDT Nahal Hemdat 5.58 136 Pn Pn 21 01 22.5 -2.1
KAST KASTAMONU 5.64 24 *i* P Pn 21 01 24.6 -0.9
KAST IAML 21 03 29.0
comp=E,268nm,0.9s
CHAN Chania 5.65 264 P Pn 21 01 24.6 -0.8
CHAN S Sn 21 02 23.7 -5.2
SKY Skiros Island 5.66 298 P Pn 21 01 26.3 +0.7
IMMV Iera Moni Meta 5.71 263 P Pn 21 01 25.1 -1.2
IMMV S Sn 21 02 24.0 -6.4
LIA Limnos Island 5.75 310 P Pn 21 01 27.3 +0.5
GVDS Gavdos 5.77 257 P Pn 21 01 26.2 -0.9
GVD Gavdhos 5.77 257 P Pn 21 01 25.9 -1.3
GVD S Sn 21 02 26.5 -5.5
comp=E,7μm,0.5s
UJAP Al Uja 5.78 138 Pn Pn 21 01 24.8 -2.4
HBRG Burj al `Arab 5.83 189 P Pn 21 01 26.5 -1.5
baz=190
HBRG S Sn 21 02 26.6 -6.9
baz=190
AMAZ Amatzia 5.84 144 Pn Pn 21 01 25.6 -2.5
DION Dionisos Attik 5.84 289 P Pn 21 01 28.4 +0.2
DION S Sn 21 02 31.0 -2.7
MATC Matruh 5.86 213 P Pn 21 01 25.8 -2.6
baz=214
KYMI Kymi, Euboea I 5.89 295 P Pn 21 01 29.0 +0.3
PTL Penteli 5.89 289 P Pn 21 01 29.1 +0.3
VLY Voula,Athens 5.89 287 P Pn 21 01 29.2 +0.3
TOKA Tokat 5.90 46 *i* P Pn 21 01 31.4 +2.5
TOKA IAML 21 03 47.0
comp=N,646nm,1.4s
TOKA Tokat 5.90 46 Pn 21 01 32.5 +3.6
SMTH Samothraki Isl 5.91 316 P Pn 21 01 29.3 +0.3
ATHU Athens Univers 5.93 288 P Pn 21 01 29.8 +0.5
ALN Alexandroupoli 5.93 321 P Pn 21 01 29.7 +0.3
ALN Alexandroupoli 5.93 321 P Pn 21 01 29.9 +0.6
ALN Alexandroupoli 5.93 321 Pn Pn 21 01 29.9 +0.6
CUKAN kangal_SIVAS 5.96 58 *i* P Pn 21 01 32.0 +2.1
CUKAN IAML 21 03 28.0
comp=N,1μm,2.6s
CUKAN IAML 21 03 38.0
comp=E,1μm,2.3s
ATH Athens Observa 5.98 288 P Pn 21 01 30.9 +0.9
KNDR Palaiochora Ch 5.99 261 P Pn 21 01 29.8 -0.3
ATAB Bozova 6.01 77 *i* P Pn 21 01 30.0 -0.4
ATAB IAML 21 03 35.0
comp=E,679nm,1.9s
SCER sogukcermik 6.02 52 *i* P Pn 21 01 33.4 +2.8
SCER IAML 21 03 41.0
comp=E,1μm,3.6s
SCER IAML 21 03 45.0
comp=N,1μm,2.5s
HAVZ Havza 6.02 37 *i* P Pn 21 01 31.4 +0.8
HAVZ IAML 21 03 25.0
comp=N,594nm,2.5s
HAVZ IAML 21 03 50.0
comp=E,604nm,1.8s
DSI Dead Sea 6.03 141 Pn Pn 21 01 28.4 -2.4
YTIR Yattir 6.07 144 Pn Pn 21 01 28.8 -2.6
BZK Bozkurt 6.09 22 ⇑P Pn 21 01 34.4 +2.9
KZIT Kziot 6.15 151 Pn Pn 21 01 29.9 -2.5
KIRK Kırklareli 6.19 332 *i* P Pn 21 01 30.4 -2.5
ANKY Antikythira Is 6.19 268 P Pn 21 01 31.5 -1.4
ANKY S Sn 21 02 37.5 -4.8

AOS Alonnisos 6.25 299 P Pn 21 01 34.2 +0.5
DID Didima 6.27 283 P Pn 21 01 34.0 0.0
DIKM Dikmen 6.28 31 ⇑P Pn 21 01 36.3 +2.3
VILL Villia 6.34 289 P Pn 21 01 35.6 +0.6
GHAJ Ghor Haditha 6.34 141 Pn Pn 21 01 33.2 -1.8
KTHA Kythira Island 6.35 271 P Pn 21 01 34.1 -1.0
RDO Rodhopi 6.38 320 P Pn 21 01 36.4 +1.0
EDRB Edirne 6.38 331 P Pn 21 01 36.6 +1.1
DAMI2 DAM2 6.39 143 Pn Pn 21 01 34.3 -1.2
VLI Veliai 6.44 276 P Pn 21 01 35.7 -0.7
KOT Kottamia 6.45 173 P Pn 21 01 34.2 -2.3
baz=173
HHAG Hagoat 6.45 171 P Pn 21 01 33.8 -2.8
baz=170
THAS Thassos island 6.46 313 P Pn 21 01 36.7 +0.1
ASF Jabal al Asfar 6.46 128 P Pn 21 01 36.2 -0.6
comp=E,17nm,0.3s,baz=256,slow=4.4,SNR=30
ASF S Sn 21 02 51.6 +2.4
comp=E,18nm,0.3s,baz=72,slow=21,SNR=1.7
KARJ KARJ 6.53 142 Pn Pn 21 01 25.7 -12
HMYD Mayadein 6.54 181 P Pn 21 01 36.2 -1.5
baz=182
LTK Loutraki 6.57 287 P Pn 21 01 38.9 +0.8
SUZ Suez 6.68 166 P Pn 21 01 37.5 -2.2
baz=165
HNAT Natroun 6.70 182 P Pn 21 01 38.2 -1.7
baz=183
LKR Lokris 6.71 292 P Pn 21 01 40.5 +0.6
PAIG Paliouri 6.74 304 P Pn 21 01 41.0 +0.7
OUR Ouranopolis 6.75 308 P Pn 21 01 41.5 +0.9
NEO Neokhori 6.77 298 P Pn 21 01 41.7 +0.8
ZFRI Zfri 6.78 147 Pn Pn 21 01 38.0 -3.0
GLL Jalalah 6.79 174 P Pn 21 01 38.7 -2.4
baz=174
KDZ Kurdzhali 6.81 323 P Pn 21 01 42.3 +0.9
XOR Xorichti 6.82 299 P Pn 21 01 42.0 +0.5
PRNI Paran 6.88 149 Pn Pn 21 01 39.5 -3.0
VLX Vlachokerasia 6.93 281 P Pn 21 01 43.7 +0.6
JMB Yambol 6.97 333 P Pn 21 01 45.9 +2.3
KRMI Paran Flat 6.98 152 Pn Pn 21 01 40.7 -3.1
DSF Desfina 7.00 290 P Pn 21 01 45.2 +1.2
TRIP Tripoli 7.03 282 P Pn 21 01 45.2 +0.7
GUR Goura 7.04 286 P Pn 21 01 45.4 +0.8
DIM Dimitrovgrad 7.07 325 P Pn 21 01 45.8 +1.0
PLG Polygyros 7.12 307 P Pn 21 01 46.8 +1.2
HRFI Mount Harif 7.17 150 Pn Pn 21 01 43.6 -2.8
ZAF Zafarana 7.18 169 P Pn 21 01 43.6 -2.8
baz=168
RZN Rozhen 7.20 320 P Pn 21 01 47.7 +0.9
KLV Kalavryta, Ach 7.21 286 P Pn 21 01 47.8 +1.0
ITM Ithomi 7.27 279 P Pn 21 01 48.1 +0.4
ITM Ithomi 7.27 279 Pn Pn 21 01 48.3 +0.6
AGG Agios Georgios 7.32 294 P Pn 21 01 49.6 +1.3
AGG Agios Georgios 7.32 294 P Pn 21 01 49.7 +1.3
AGG Agios Georgios 7.32 294 Pn Pn 21 01 49.6 +1.3
TRIZ Trizonia 7.33 289 P Pn 21 01 50.0 +1.5
MBRI Mt Berech 7.34 152 Pn Pn 21 01 45.9 -2.9
SERG Sergoula 7.36 289 P Pn 21 01 50.5 +1.6
PRD Provadia 7.36 339 P Pn 21 01 51.2 +2.4
PYL PYLOS 7.41 277 P Pn 21 01 47.9 -1.6
SOH Sokhos 7.42 309 P Pn 21 01 51.1 +1.3
NVR Nevrokopi 7.44 314 P Pn 21 01 50.8 +0.9
SRS Serrai 7.45 312 P Pn 21 01 50.1 0.0
SRS Serrai 7.45 312 *e*Pn Pn 21 01 50.1 0.0
AQBJ Aqaba 7.45 151 Pn Pn 21 01 47.5 -2.7
NEF NEVSHA 7.46 339 P Pn 21 01 51.5 +1.3
HORT Hortiatis 7.46 307 P Pn 21 01 51.7 +1.4
MAKR Makrakomi, Fth 7.46 294 P Pn 21 01 52.3 +2.0
EIL Elat 7.47 152 P Pn 21 01 48.0 -2.4
comp=E,14nm,0.3s,baz=328,slow=6.2,SNR=108
EIL S Sn 21 03 06.7 -6.9
comp=E,48nm,0.3s,baz=149,slow=7.1,SNR=5.3
EIL LR LR 21 05 19.4
comp=E,1μm,19.9s,baz=317,slow=42
EIL Elat 7.47 152 Pn Pn 21 01 47.7 -2.7
AMT Artemida-Makis 7.48 282 P Pn 21 01 51.3 +0.8
ANX Ano Chora 7.50 290 P Pn 21 01 52.5 +1.6
PLD Plovdiv 7.51 322 P Pn 21 01 51.9 +1.1
DRO Drossia 7.53 285 P Pn 21 01 52.9 +1.6
PSN Preselentsi 7.62 345 P Pn 21 01 53.9 +1.5
LIT Litokhoron 7.62 302 P Pn 21 01 53.7 +1.2
LIT Litokhoron 7.62 302 P Pn 21 01 53.5 +1.0
LIT Litokhoron 7.62 302 Pn Pn 21 01 53.5 +1.0
MMB Musomiste 7.67 315 P Pn 21 01 54.9 +1.8
EVR Evrytania 7.67 292 P Pn 21 01 55.3 +2.0
NBNS Bani Suef 7.71 178 P Pn 21 01 51.2 -2.6
baz=177
THL Klokotos Trika 7.74 297 P Pn 21 01 55.8 +1.8
RLS Riolos of Patr 7.74 286 P Pn 21 01 56.5 +2.5
RAZG Razgrad 7.97 336 ⇓P Pn 21 01 58.6 +1.4
MFTR Murfatlar 8.05 347 ⇓P Pn 21 02 00.5 +2.2
PGB Panagyurishte 8.10 322 P Pn 21 01 59.9 +0.8
VAY Valandovo 8.19 310 *e*Pn Pn 21 02 02.4 +2.2
VAY *e*Sn Sn 21 03 17.5 -14
VAY Valandovo 8.19 310 *i* P Pn 21 02 02.7 +2.5
KKB Krupnik 8.21 314 P Pn 21 02 02.1 +1.5
KTUT Trabzon 8.32 54 ⇓P Pn 21 02 06.3 +4.3
TIRR Tirgusor 8.32 347 ⇑P Pn 21 02 04.0 +2.0
TIRR Tirgusor 8.32 347 P Pn 21 02 02.9 +0.9
TIRR Tirgusor 8.32 347 Pn 21 02 02.9 +0.9
RASA Rasa 8.37 341 ⇓P Pn 21 02 04.9 +2.3
KOPT Kop Dagi 8.38 61 Pn 21 02 05.3 +2.3
SEV Sevastopol' 8.45 13 *e*P Pn 21 02 04.5 +0.8
SEV *e*S Sn 21 03 37.7 +0.3
ZIMR 8.45 331 ⇑P Pn 21 02 06.7 +2.9
TLBR Topalu 8.47 346 ⇑P Pn 21 02 05.9 +1.8
YAL Yalta 8.49 16 *e*P Pn 21 02 04.4 +0.1
YAL *e*S Sn 21 03 37.3 -1.2
LKD2 Lefkada island 8.51 290 P Pn 21 02 06.7 +2.1
VTS Vitosha 8.63 319 *i* P Pn 21 02 07.9 +1.5
HARR Harsova 8.64 346 ⇑P Pn 21 02 08.2 +1.9
AMRR Amara 8.69 343 ⇑P Pn 21 02 09.3 +2.3
TR1 Tor 1 8.70 162 P Pn 21 02 05.1 -2.2
baz=161
SGRR Singureni 8.73 336 ⇑P Pn 21 02 09.4 +1.9
ALU Alushta 8.73 17 *e*P Pn 21 02 07.7 +0.1
ALU *e*S Sn 21 03 44.3 -0.1
TOPG Topolog 8.73 348 ⇑P Pn 21 02 09.5 +1.9
NEST Nestorio 8.75 301 P Pn 21 02 10.6 +2.6
COPA Copaceanca 8.91 332 ⇓P Pn 21 02 12.4 +2.4
SIM Simferopol' 8.93 15 *e*P Pn 21 02 10.7 +0.5
SIM *e*S Sn 21 03 47.4 -1.7
SIM pmax pmax
comp=Z,170nm,0.8s
SIM smax smax
comp=E,108nm,0.8s
SIM smax smax
comp=N,179μm,1.0s
IGT Igoumenitsa 8.95 294 P Pn 21 02 12.1 +1.5
IGT Igoumenitsa 8.95 294 *e*Pn Pn 21 02 12.3 +1.7
BOSS Bosilegrad 8.96 316 *e*Pn Pn 21 02 12.8 +2.0
BOSS *e*Sn Sn 21 03 35.4 -15
TLCR 8.97 350 ⇓P Pn 21 02 13.8 +3.0
CFR Carcaliu 9.07 347 ⇑P Pn 21 02 13.9 +1.7
SUDU Sudak 9.07 19 *e*P Pn 21 02 12.7 +0.5
SUDU *e*S Sn 21 03 51.5 -1.2
VLAD Vladila 9.12 329 ⇓P Pn 21 02 14.8 +1.9
OHR Ohrid 9.23 304 *i* P Pn 21 02 17.0 +2.5
SKO Skopje 9.26 310 *i* P Pn 21 02 17.2 +2.4
SRN Sarande 9.30 296 P Pn 21 02 17.6 +2.2
HUMR Humele 9.34 333 ⇑P Pn 21 02 18.4 +2.5
ZAPS Zavoj 9.40 320 *e*Pn Pn 21 02 18.9 +2.1
ZAPS *e*Sn Sn 21 03 46.4 -15
SECR 9.43 338 ⇑P Pn 21 02 20.0 +2.9
BARS Barje 9.54 315 *e*Pn Pn 21 02 20.3 +1.6
BARS *e*Sn Sn 21 03 48.5 -16
NEHR Nehoiu 9.72 340 ⇑P Pn 21 02 23.2 +2.1
BISRR Bisoca 9.73 342 ⇓P Pn 21 02 24.9 +3.7
PETR Petresti 9.77 345 ⇓P Pn 21 02 25.2 +3.4
ANN Anapa 9.78 28 *e*P Pn 21 02 22.4 +0.5
ANN *e*S Sn 21 04 19.6 +10
ANN pmax pmax
comp=Z,147nm,0.9s
ANN MLR MLR
comp=Z,3μm,24.0s
VARL Varlezi 9.82 347 ⇓P Pn 21 02 25.6 +3.2
ODBI Odobesti 9.85 344 ⇑P Pn 21 02 26.7 +3.9
GEVA Gevas 9.86 75 Pn Pn 21 02 25.7 +2.5
MLR Muntele Rosu 9.88 339 P Pn 21 02 26.4 +3.1
comp=Z,3.7nm,0.3s,baz=157,slow=7.9,SNR=79
MLR LR LR 21 06 52.7

comp=Z,2μm,19.3s,baz=160,slow=42
MLR Muntele Rosu 9.88 339 ⇑P Pn 21 02 26.4 +3.1
SOC Sochi 9.88 40 ⇑*i*P Pn 21 02 24.4 +1.1
SOC *e* 21 04 13.9
SOC pmax pmax
comp=Z,173nm,1.0s
SOC MLR MLR
comp=Z,2μm,15.0s
KERU Kerch 9.88 23 *e*P Pn 21 02 24.6 +1.4
BATM Batumi 9.89 55 ⇑P Pn 21 02 26.1 +2.8
TIR Tirane 9.96 303 *e*Pn Pn 21 02 29.7 +5.3
ZAGS Zajecar 9.99 321 *e*Pn Pn 21 02 25.2 +0.4
ZAGS *e*Sn Sn 21 03 59.8 -15
PUNG Punghina 9.99 325 ⇑P Pn 21 02 25.5 +0.7
VRI Vrincioaia 10.02 343 ⇑P Pn 21 02 28.1 +2.9
PLOR Plostina 10.03 343 ⇓P Pn 21 02 28.5 +3.2
GHRR 10.06 346 ⇓P Pn 21 02 29.5 +3.9
VOIR 10.11 336 ⇑P Pn 21 02 28.8 +2.4
BOVS Bovan 10.14 319 *e*Pn Pn 21 02 28.5 +1.6
BOVS *e*Sn Sn 21 04 04.4 -14
ARR Arges 10.19 334 ⇓P Pn 21 02 30.2 +2.7
SELS Selova 10.20 315 *e*Pn Pn 21 02 29.0 +1.4
SCTE Santa Cesarea 10.48 295 Pn Pn 21 02 31.7 +0.2
PVY Plav 10.52 310 ⇓*i*Pn Pn 21 02 34.5 +2.4
PVY *i* Sn Sn 21 04 26.4 -1.9
LOT Lotru 10.58 331 ⇑P Pn 21 02 34.2 +1.4
TESR Tescani 10.65 344 ⇑P Pn 21 02 35.4 +1.7
ULC Ulcinj 10.66 305 ⇓*i*Pn Pn 21 02 35.2 +1.3
ULC *i* Sn Sn 21 04 29.8 -1.8
HERR Herculane 10.69 325 ⇑P Pn 21 02 35.2 +0.9
CHVG Ch'k'valeri 10.71 50 ⇑P Pn 21 02 39.3 +4.8
IVA Berane 10.71 311 ⇓*i*Pn Pn 21 02 37.3 +2.6
IVA *i* Sn Sn 21 04 31.2 -1.7
ARXR Arkhyz 10.72 45*c* *i*P Pn 21 02 36.8 +2.0
KIS Kishinev 10.76 352 ⇑*i*P Pn 21 02 34.5 -0.7
comp=Z,120nm,4.5s
KIS Kishinev 10.76 352 *e*PP Pn 21 02 44.0 +8.8
KIS *e*S Sn 21 04 34.0 +0.2
KIS *e*Li 21 05 03.0
KIS *e*LRq 21 06 11.0
comp=Z,500nm,25.0s
KIS LRM MLR 21 08 51.0
comp=Z,400nm,15.0s
KIS Kishinev 10.76 352*c* *i*P Pn 21 02 34.5 -0.7
KIS *e*S Sn 21 04 34.0 +0.2
KIS pmax pmax
comp=Z,120nm,4.5s
KIS MLR MLR
comp=Z,500nm,25.0s
KIS MLR MLR
comp=N,600nm,26.0s
KIS MLR MLR
comp=Z,400nm,15.0s
DRME Dracevica, Mon 10.80 306 ⇑*i*Pn Pn 21 02 37.7 +1.8
DRME *i* Sn Sn 21 04 32.8 -2.3
DRME Dracevica, Mon 10.80 306 ⇓*i*Pn Pn 21 02 37.4 +1.5
GRUS Gruza 10.85 317 *e*Pn Pn 21 02 37.3 +0.8
GRUS *e*Sn Sn 21 04 21.1 -15
PDG Podgorica 10.88 307 *e*Pn Pn 21 02 37.3 +0.4
PDG Podgorica 10.88 307 ⇓*i*Pn Pn 21 02 38.8 +1.9
PDG Podgorica 10.88 307 Pn 21 02 36.8 -0.1
TTG Podgorica 10.88 307 ⇓*i*Pn Pn 21 02 39.0 +2.1
TTG *i* Sn Sn 21 04 34.9 -1.9
SJES Sjenica 10.89 313 *e*Pn Pn 21 02 37.4 +0.3
MDB Medias 10.95 335 ⇓P Pn 21 02 41.2 +3.3
MDVR Moldovita 10.95 323 ⇓P Pn 21 02 39.4 +1.5
AKH Akhalkalaki 11.02 59 ⇑P Pn 21 02 42.6 +3.6
AKH Akhalkalaki 11.02 59 P Pn 21 02 40.5 +1.5
AKH Akhalkalaki 11.02 59 Pn Pn 21 02 40.5 +1.5
BUM Brajici-Budva 11.05 306 ⇑*i*Pn Pn 21 02 40.8 +1.5
BUM *i* Sn Sn 21 04 39.2 -1.9
IAS Iasi 11.12 348 ⇑P Pn 21 02 42.3 +2.2
CEME Cevo 11.15 307 ⇓*i*Pn Pn 21 02 42.4 +1.7
CEME *i* Sn Sn 21 04 41.6 -2.0
BIZ Bicaz 11.18 343 ⇑P Pn 21 02 43.4 +2.5
TRUS Trudelj 11.24 318 *e*Pn Pn 21 02 43.3 +1.5
NKY Niksic 11.24 309 ⇑*i*Pn Pn 21 02 44.1 +2.2
NKY *i* Sn Sn 21 04 44.1 -1.7
NKME Niksic 11.24 308 ⇑*i*Pn Pn 21 02 43.9 +2.0
NKME *i* Sn Sn 21 04 44.0 -1.8
PLE Pljevlja 11.28 312 ⇓*i*Pn Pn 21 02 44.3 +1.9
PLE *i* Sn Sn 21 04 45.2 -1.5
DEV Deva 11.28 330 ⇑P Pn 21 02 45.2 +2.9
HCY Herceg Novi 11.38 306 ⇓*i*Pn Pn 21 02 45.9 +2.2
HCY *i* Sn Sn 21 04 46.9 -2.2
HCY Herceg Novi 11.38 306 *e*Pn Pn 21 02 44.6 +0.9
CGL1 Ceglie Messapi 11.38 296 ⇓*i*Pn Pn 21 02 42.4 -1.4
DIVS Divibare 11.38 316 *e*Pn Pn 21 02 45.5 +1.6
DIVS *e*Sn Sn 21 04 32.6 -17
DIVS Divibare 11.38 316 ⇓*i*Pn Pn 21 02 44.4 +0.5
DIVS Divibare 11.38 316 Pn Pn 21 02 45.2 +1.4
RUDO Rudo 11.45 313 *e*Pn Pn 21 02 51.4 +6.7
TAR1 Taranto 11.48 295 ⇓*i*Pn Pn 21 02 43.6 -1.5
UPM Unac-Piva 11.50 310 ⇑*i*Pn Pn 21 02 47.5 +2.0
UPM *i* Sn Sn 21 04 50.2 -2.1
UPM Unac-Piva 11.50 310 *e*Pn Pn 21 02 48.3 +2.8
TIP Timpagrande 11.56 288 ⇑P Pn 21 02 45.8 -0.6
BRY Bratogost 11.57 308 ⇓*i*Pn Pn 21 02 48.4 +1.9
BRY *i* Sn Sn 21 04 51.8 -2.2
BRY Bratogost 11.57 308 *e*Pn Pn 21 02 47.6 +1.1
BBLS Lazići 11.58 314 *e*Pn Pn 21 02 48.2 +1.7
BBLS Lazići 11.58 314 ⇓*i*Pn Pn 21 02 47.8 +1.3
TREB Trebinje 11.60 307 *e*Pn Pn 21 02 49.3 +2.5
TREB Trebinje 11.60 307 *e*Pn Pn 21 02 51.3 +4.5
BZS Buzias 11.62 326 *e*Pn Pn 21 02 47.9 +0.9
BZS Buzias 11.62 326 ⇓P Pn 21 02 47.7 +0.8
BANR Banloc 11.67 324 ⇑P Pn 21 02 49.9 +2.2
KBZ Khabaz 11.76 48 P Pn 21 02 51.9 +3.0
comp=Z,0.3nm,0.3s,baz=240,slow=11,SNR=81
KBZ Khabaz 11.76 48*ce*P Pn 21 02 47.4 -1.5
KIV Kislovodsk 11.77 46 ⇑P Pn 21 02 53.1 +4.0
KIV Kislovodsk 11.77 46 *i* P Pn 21 02 51.9 +2.8
SNR=62
KIV Kislovodsk 11.77 46 *e*P Pn 21 02 51.2 +2.1
KIV *e*S Sn 21 05 01.5 +2.8
KIV pmax pmax
comp=Z,355nm,1.0s
KIV MLR MLR
comp=Z,799nm,11.0s
KIV Kislovodsk 11.77 46 Pn Pn 21 02 51.5 +2.4
KVAR Kislovodsk Arr 11.77 46 P Pn 21 02 52.9 +3.7
baz=241,slow=19,SNR=56
ZEI Tsey 11.89 53 *e*P Pn 21 02 54.3 +3.4
ZEI pmax pmax
comp=Z,73nm,1.4s
TEKS Tekeris 11.93 317 *e*Pn Pn 21 02 52.2 +1.0
TEKS Tekeris 11.93 317 *e*Pn Pn 21 02 52.2 +1.0
BAI Bari 11.95 298 ⇑*i*Pn Pn 21 02 50.8 -0.7
TBLG Delisi 12.00 59 P Pn 21 02 54.0 +1.7
TBLG Delisi 12.00 59 Pn 21 02 54.0 +1.7
BURAR Bucovina Array 12.03 341 ⇑P Pn 21 02 56.3 +3.7
BURAR Bucovina Array 12.03 341 Pn Pn 21 02 53.5 +0.9
FRGS Fruska Gora 12.17 320 ⇓*i*Pn Pn 21 02 54.8 +0.2
BMR Baia Mare 12.58 336 ⇓P Pn 21 03 03.5 +3.4
GOF Gofitskoye 12.64 43 ⇑*e*P Pn 21 03 02.2 +1.2
GOF pmax pmax
comp=Z,51nm,1.1s
MGRS Mrkonjic Grad 13.27 312 *e*Pn P 21 03 22.1 +5.4
VAE Valguarnera 13.27 280 P Pn 21 03 06.5 -3.0
comp=Z,2.1nm,0.3s,baz=186,slow=3.9,SNR=20
VAE S Sn 21 05 25.7 -9.5
comp=Z,6.6nm,0.3s,baz=122,slow=17,SNR=2.9
VAE LR LR 21 09 54.4
comp=Z,616nm,20.0s,baz=112,slow=44
RAFF Raffo Rosso 13.31 279 Pn 21 03 06.1 -3.9
GROC Groznyy 13.32 55 *e*P Pn 21 03 12.5 +2.5
GROC *e*S Sn 21 05 43.6 +7.3
GROC pmax pmax
comp=Z,281nm,1.4s
GROC MLR MLR
comp=Z,616nm,8.0s
BLY Banja Luka 13.39 313 *e*Pn Pn 21 03 13.7 +2.8
BLY Banja Luka 13.39 313 ⇓*i*Pn Pn 21 03 10.5 -0.5
MORH Mrgy, Hungar 13.49 321 *e*Pn Pn 21 03 11.5 -0.8
UZH Uzhgorod 13.81 335 *e*P Pn 21 03 19.1 +2.5
UZH *e*S Sn 21 05 51.1 +2.9
UZH MLR MLR
comp=N,240nm,16.0s
UZH MLR MLR
comp=E,600nm,16.0s
UZH MLR MLR
comp=Z,140nm,16.0s

AKT Akhty 14.04 64 *eP* **Pn 21 03 21.4 +1.6**
AKT *eS* **Sn 21 05 55.4 +1.3**
AKT pmax pmax
comp=Z,4.0nm,0.8s
AKT smax smax
comp=N,12nm,0.7s
AKT smax smax
comp=E,9.0nm,0.7s
KOLS Kolonicke sedl 14.08 336 *eP* **Pn 21 03 21.0 +0.9**
KOLS Kolonicke sedl 14.08 336 *eP* **Pn 21 03 21.0 +0.9**
PSZ Piszkesteto 14.15 328 ⇑P **P 21 03 24.6 -1.9**
PSZ Piszkesteto 14.15 328 P **Pn 21 03 18.7 -2.3**
PSZ Piszkesteto 14.15 328 Pn 21 03 18.7 -2.3
CRVS Cervenica-Dubn 14.33 334 *eP* **P 21 03 29.2 +0.7**
CRVS Cervenica-Dubn 14.33 334 *eP* **P 21 03 29.2 +0.7**
KECS Kecovo 14.35 331 *eP* **P 21 03 29.5 +0.8**
KECS Kecovo 14.35 331 *eP* **P 21 03 29.5 +0.8**
INTR Introdacqua 14.36 298 Pn **Pn 21 03 23.6 -0.2**
LVV L'vov 14.37 342 *eP* **Pn 21 03 25.0 +1.2**
LVV *i* S **Sn 21 06 04.9 +3.3**
LVV pmax pmax
comp=Z,530nm,2.6s
LVV smax smax
comp=N,1µm,3.5s
LVV smax smax
comp=E,2µm,3.8s
LVV MLR MLR
comp=N,1µm,11.0s
LVV MLR MLR
comp=Z,1µm,11.0s
AKASG Malin Array Be 14.40 356 P **Pn 21 03 22.9 -1.3**
comp=Z,0.9nm,0.3s,baz=174,slow=12,SNR=22
AKASG S **Sn 21 05 56.1 -6.2**
comp=Z,1.9nm,0.3s,baz=165,slow=5.2,SNR=1.3
AKASG LR LR 21 10 04.7
comp=Z,854nm,21.0s,baz=155,slow=42
AKASG ScP **ScP 21 12 02.4 -0.4**
comp=Z,0.5nm,0.3s,baz=165,slow=0.9,SNR=5.8
AKASG Malin Array Be 14.40 356 Pn 21 03 23.9 -0.3
KWP Kalwaria Pacla 14.56 338 *eP* **P 21 03 30.2 -0.8**
SRO2 Moca 14.70 325 *eP* **P 21 03 32.6 +0.1**
SRO2 Moca 14.70 325 *eP* **P 21 03 32.6 +0.1**
SRO Srobarova 14.77 325 *eP* **P 21 03 35.0 +1.7**
SRO Srobarova 14.77 325 *eP* **P 21 03 35.0 +1.7**
GCIS Gornji Cirnik 14.92 314 *ePn* **Pn 21 03 29.8 -1.2**
BOJS Bojanci 14.95 313 *ePn* **Pn 21 03 29.8 -1.6**
CRES Cresnjev 15.00 314 ⇓*i*Pn **Pn 21 03 30.6 -1.5**
VYHS Vyhne 15.04 328 *eP* **P 21 03 36.9 +0.5**
VYHS Vyhne 15.04 328 *eP* **P 21 03 36.9 +0.5**
VYHS *e* 21 12 04.0
NIE Niedzica 15.19 333 *eP* **P 21 03 37.7 -0.3**
LANS Liptovska Anna 15.29 330 *eP* **P 21 03 41.7 +2.6**
LANS Liptovska Anna 15.29 330 *eP* **P 21 03 41.7 +2.6**
CEY Cerknica 15.56 312 *ePn* **Pn 21 03 38.7 -0.5**
GBAS Gorenja Brezov 15.65 313 *ePn* **Pn 21 03 39.8 -0.6**
MODS Modra-Piesok 15.66 324 *eP* **P 21 03 42.5 -0.7**
MODS Modra-Piesok 15.66 324 *eP* **P 21 03 42.5 -0.7**
LJU Ljubljana 15.66 313 *ePn* **Pn 21 03 39.9 -0.6**
LJU Ljubljana 15.66 313 ⇓*i*Pn **Pn 21 03 39.7 -0.8**
SMOL Smolenice 15.69 325 *eP* **P 21 03 44.6 +1.1**
SMOL Smolenice 15.69 325 *eP* **P 21 03 44.6 +1.1**
SOKA Soboth 15.73 316 *i* P **P 21 03 45.2 +1.2**
comp=Z,9.4nm,0.5s,SNR=5.6
SOKA Soboth 15.73 316 *i* ScP **ScP 21 12 06.4 +1.0**
comp=Z,4.1nm,0.7s
ARSA Arzberg 15.80 318 *i* P **P 21 03 46.2 +1.4**
comp=Z,20nm,0.6s,SNR=15
ARSA Arzberg 15.80 318 *i* ScP **ScP 21 12 08.5 +3.0**
comp=Z,4.9nm,1.0s
VORD Divnogorie 15.80 20 *eP* **Pn 21 03 43.0 +0.9**
VORD *eS* **Sn 21 06 38.6 +2.3**
VORD pmax pmax
comp=Z,70nm,0.9s
VORD smax smax
comp=E,270nm,5.6s
JAVC Velka Javorina 15.83 326 *ePN* **Pn 21 03 42.4 -0.2**
JAVC Velka Javorina 15.83 326 *eS* **S 21 06 53.7 +6.0**
OBKA Obir 15.90 315 *i* P **P 21 03 47.4 +1.4**
comp=E,16nm,0.7s,SNR=6.7
VSR Storozhevoye 15.99 19 *eP* **Pn 21 03 45.2 +0.6**
VSR *eS* **Sn 21 06 38.6 -2.4**
VSR pmax pmax
comp=Z,70nm,0.8s
VSR smax smax
comp=E,560nm,6.1s
VSR MLR MLR
comp=Z,880nm,14.0s
OJC Ojcow 16.03 333 *eP* **P 21 03 47.8 +0.5**
OJC Ojcow 16.03 333 P **Pn 21 03 45.8 +0.7**
OJC pmax pmax
comp=Z,99nm,1.1s
OJC Ojcow 16.03 333 Pn 21 03 45.8 +0.7
CONA Conrad Observa 16.05 321 *ePn* **P 21 03 48.6 +1.0**
comp=Z,5.4nm,0.7s,SNR=12
CONA Conrad Observa 16.05 321 *i* ScP **ScP 21 12 08.4 +2.4**
comp=Z,2.6nm,0.7s
VORR Voronezh 16.42 19 *eP* **Pn 21 03 49.0 -0.9**
VORR pmax pmax
comp=Z,250nm,1.8s
MYKA Terra Mystica 16.50 314 *i* P **P 21 03 54.3 +1.8**
comp=Z,21nm,0.6s,SNR=19
KRUC Moravsky 16.56 325 *ePN* **Pn 21 03 51.2 -0.5**
KRUC Moravsky 16.56 325 *eS* **S 21 07 02.4 -0.2**
MORC Moravsky Berou 16.57 328 *ePN* **P 21 03 53.0 -0.3**
MORC Moravsky Berou 16.57 328 *eS* **S 21 07 05.3 +2.4**
VRAC Vranov 16.64 326 P **P 21 03 53.9 -0.2**
comp=Z,0.6nm,0.3s,baz=142,slow=11,SNR=28
VRAC Vranov 16.64 326 *ePN* **Pn 21 03 51.4 -1.4**
VRAC Vranov 16.64 326 *eS* **S 21 07 04.2 -0.1**
OSSC Osservatorio P 16.69 301 IAmb IAmb 21 04 17.1
comp=Z,433nm,1.7s
VRH Novokhopyorsk 16.74 24 *eP* **Pn 21 03 54.4 +0.5**
VRH *eS* **Sn 21 06 55.8 -3.2**
VRH pmax pmax
comp=Z,70nm,1.0s
VRH smax smax
comp=E,250nm,5.5s
VRH MLR MLR
comp=Z,630nm,13.0s
MOA Molln 16.84 318 *i* P **P 21 03 58.3 +2.0**
comp=Z,8.3nm,0.7s,SNR=13
ZOU Zoufplan 16.85 313 IAmb IAmb 21 04 22.5
comp=Z,308nm,1.5s
STAL STALIGIAL 16.86 312 Pn **P 21 03 56.4 -0.1**
KBA Koelnbreinsper 16.91 315 *i* P **P 21 03 58.9 +1.7**
comp=Z,27nm,0.7s,SNR=31
BEL Belsk 17.08 338 *eP* **P 21 03 59.2 +0.4**
KRLC Kraliky 17.12 328 *eP* **P 21 04 01.1 +1.7**
KRLC *eS*P **sP 21 04 21.8 -1.1**
KRLC *eS* **S 21 07 12.2 -1.7**
KRLC AMS AMS 21 12 30.0
comp=Z,1µm,11.6s
KRLC Kraliky 17.12 328 *eP* **P 21 04 01.1 +1.7**
KRLC *eS* **S 21 07 12.2 -1.7**
KRLC MLR MLR
comp=Z,1µm,11.6s
TREC Trest 17.15 324 *eP* **Pn 21 03 55.3 -3.7**
TREC *eS*P **sP 21 04 19.1 -4.1**
TREC *eS* **Sn 21 07 09.3 +0.2**
TREC AMS AMS 21 10 00.0
comp=Z,1µm,20.9s
TREC Trest 17.15 324 *eP* **Pn 21 03 55.3 -3.7**
TREC *eS* **Sn 21 07 09.3 +0.2**
TREC MLR MLR
comp=Z,1µm,20.9s
ZCCA Zocca 17.15 304 IAmb IAmb 21 04 34.3
comp=Z,206nm,1.1s
LPSR Galich'ya Gora 17.20 17 *eP* **P 21 04 01.1 +0.9**
LPSR *eS* **Sn 21 07 07.2 -3.0**
LPSR pmax pmax
comp=Z,160nm,0.9s
LPSR smax smax
comp=N,440nm,7.3s
LPSR MLR MLR
comp=Z,930nm,18.0s
ABTA Abfaltersbach 17.22 313 *i* Pn **P 21 04 01.3 +0.7**
comp=Z,15nm,0.7s,SNR=15
VSL Villasalto 17.29 287 IAmb IAmb 21 04 06.6
comp=Z,218nm,1.0s
KEST Kesra 17.47 274 P **Pn 21 04 02.4 -0.6**
comp=Z,1.4nm,0.3s,baz=58,slow=8.5,SNR=26
KEST LR LR 21 12 04.8
comp=Z,410nm,20.5s,baz=10,slow=41
KEST ScP **ScP 21 12 11.4 +2.4**
comp=Z,0.1nm,0.3s,baz=318,slow=1.5,SNR=4.2
KEST Kesra 17.47 274 P **Pn 21 04 02.0 -1.1**
KEST IAmb IAmb 21 04 35.7
comp=Z,433nm,1.6s
DPC Dobruska-Polom 17.52 328 *eP* **P 21 04 05.7 +1.9**
DPC *es*P **sP 21 04 26.0 -1.3**
DPC *eS* **Sn 21 07 19.3 +1.3**
DPC AMS AMS 21 12 00.0
comp=Z,1µm,31.9s
DPC Dobruska-Polom 17.52 328 *eP* **P 21 04 05.7 +1.9**
DPC *eS* **Sn 21 07 19.3 +1.3**
DPC MLR MLR
comp=Z,1µm,31.9s
OSTC Ostas 17.72 328 *eP* **Pn 21 04 07.8 +1.8**
OSTC *ex* x 21 04 28.6
OSTC *eS* **S 21 07 26.8 +1.4**
OSTC AMS AMS 21 12 30.0
comp=Z,1µm,9.5s
PRMA PARMA 17.74 305 P **Pn 21 04 06.5 +0.2**
PRMA IAmb IAmb 21 04 11.1
comp=Z,222nm,1.3s
GEC2 GERESS Array S 17.75 320 *eP* **Pn 21 04 06.5 +0.1**
comp=Z,76nm,1.3s,baz=127,slow=10
GEC2 *eL* L 21 12 23.0
comp=Z,656nm,20.5s
GERES GERESS Array B 17.75 320 P **Pn 21 04 07.0 +0.6**
comp=Z,1.6nm,0.3s,baz=130,slow=11,SNR=90
GERES ScP **ScP 21 12 09.6 +0.2**
comp=Z,0.3nm,0.3s,baz=149,slow=2.4,SNR=14
GERES LR LR 21 12 33.8
comp=Z,645nm,19.3s,baz=136,slow=42
GERES GERESS Array B 17.75 320 P **P 21 04 06.3 -0.1**
GERES **ScP 21 12 09.2 -0.3**
UPC Upice 17.77 327 *eP* **Pn 21 04 08.7 +2.1**
UPC *eS* **Sn 21 07 24.8 +0.8**
UPC AMS AMS 21 12 30.0
comp=Z,1µm,22.3s
UPC Upice 17.77 327 *eP* **Pn 21 04 08.7 +2.1**
UPC *eS* **Sn 21 07 24.8 +0.8**
UPC MLR MLR
comp=Z,1µm,22.3s
CHVC Chvalec 17.81 328 *eP* **Pn 21 04 07.8 +0.7**
CHVC *ex* x 21 04 29.7
CHVC AMS AMS 21 13 30.0
comp=Z,900nm,19.8s
KSP Ksiaz 17.90 329 *eP* **P 21 04 07.6 -0.3**
KHC Kasperske Hory 17.99 321 *eP* **Pn 21 04 09.3 0.0**
KHC *es*P **sP 21 04 32.2 -0.6**
KHC *eS* **S 21 07 31.8 +1.1**
KHC AMS AMS 21 12 00.0
comp=Z,1µm,18.9s
KHC Kasperske Hory 17.99 321 *eP* **Pn 21 04 09.3 0.0**
KHC *eS* **S 21 07 31.8 +1.1**
KHC MLR MLR
comp=Z,1µm,18.9s
WTTA Wattenberg 18.00 313 *i* Pn **Pn 21 04 10.7 +1.1**
comp=Z,9.2nm,0.6s,SNR=24
WTTA Wattenberg 18.00 313 *i* ScP **ScP 21 12 12.8 +2.7**
comp=Z,16nm,1.7s
WATA Walderalm 18.07 313 *i* P **Pn 21 04 11.1 +0.7**
comp=Z,26nm,0.7s,SNR=26
WATA Walderalm 18.07 313 *i* ScP **ScP 21 12 12.9 +2.6**
comp=Z,9.7nm,1.3s
PRU Pruhonice 18.07 324 *eP* **Pn 21 04 10.4 +0.1**
PRU *eS* **Sn 21 07 28.8 -2.4**
PRU AMS AMS 21 12 30.0
comp=Z,700nm,16.7s
PRU Pruhonice 18.07 324 *eP* **Pn 21 04 10.4 +0.1**
PRU *eS* **Sn 21 07 28.8 -2.4**
PRU MLR MLR
comp=Z,700nm,16.7s
PBCC Pribram 18.13 323 *eP* **Pn 21 04 10.8 -0.2**
PBCC *ex* x 21 04 24.3
PRA Prague 18.18 324 *eP* **Pn 21 04 12.0 +0.4**
PRA *eS* **Sn 21 07 32.6 -1.2**
PRA AMS AMS 21 10 40.0
comp=Z,500nm,22.1s
PRA Prague 18.18 324 *eP* **Pn 21 04 12.0 +0.4**
PRA *eS* **Sn 21 07 32.6 -1.2**
PRA MLR MLR
comp=Z,500nm,22.1s
SQTA Sankt Quirin 18.23 313 *i* P **Pn 21 04 13.0 +0.7**
comp=Z,32nm,0.7s,SNR=22
SQTA Sankt Quirin 18.23 313 *i* ScP **ScP 21 12 11.5 +1.0**
comp=Z,7.3nm,0.8s
MICGM Minsk 18.28 354 *eP* **Pn 21 04 13.0 +0.3**
MICGM *ePP* **sP 21 04 38.0 +2.7**
MICGM *eS* **Sn 21 07 30.0 -6.0**
MICGM *eSS* SnSn 21 08 10.0 +19
MNK Minsk 18.28 354 *eP* **Pn 21 04 13.0 +0.3**
MNK *eS* **Sn 21 07 30.0 -6.0**
MOTA Moosalm 18.35 313 *i* P **Pn 21 04 14.0 +0.2**
comp=Z,27nm,0.7s,SNR=25
MOTA Moosalm 18.35 313 *i* ScP **ScP 21 12 11.3 +0.4**
comp=Z,6.4nm,1.1s
WET Wettzell 18.36 320 *eP* **Pn 21 04 13.7 0.0**
comp=Z,134nm,1.3s,baz=127,slow=10
WET *eL* L 21 11 21.4
comp=Z,858nm,20.8s
FETA Feichten 18.42 312 *i* P **Pn 21 04 15.5 +0.8**
comp=Z,34nm,0.7s,SNR=45
PVCC Panska Ves 18.43 325 *eP* **Pn 21 04 15.8 +1.2**
PVCC *es*P **sP 21 04 35.3 -2.1**
PVCC *eS* **S 21 07 38.6 -1.2**
PVCC AMS AMS 21 13 20.0
comp=Z,900nm,10.6s
PVCC Panska Ves 18.43 325 *eP* **Pn 21 04 15.8 +1.2**
PVCC *eS* **S 21 07 38.6 -1.2**
PVCC MLR MLR
comp=Z,900nm,10.6s
SUW Suwalki 18.47 345 *eP* **Pn 21 04 15.1 +0.1**
FUORN Ofenpass-Fuorn 18.52 310 IAmb IAmb 21 04 52.2
comp=Z,164nm,1.1s
RETA Reutte 18.62 313 *i* P **Pn 21 04 17.0 0.0**
comp=Z,14nm,0.3s,SNR=26
RETA Reutte 18.62 313 *i* ScP **ScP 21 12 12.1 +0.7**
comp=Z,3.6nm,0.7s
FUR Furstenfeldbru 18.67 315 *eP* **Pn 21 04 17.1 -0.4**
comp=Z,2µm,3.7s,baz=127,slow=10
FUR *eL* L 21 12 42.5
comp=Z,889nm,19.1s
NACGM Naroch 18.77 353 *eP* **Pn 21 04 19.0 +0.4**
NACGM *ePP* **sP 21 04 46.0 +5.2**
NACGM *eS* **S 21 07 43.0 -4.0**
NACGM *eLQ* LQ 21 10 08.0
NACGM *eLR* LR 21 11 28.0
CMAH Djebel Manchou 18.90 278 P **Pn 21 04 22.6 +2.2**
BRG Berggiesshubel 18.96 325 *i* P **P 21 04 20.2 +0.7**
comp=Z,129nm,1.9s
BRG *e* 21 04 31.4
comp=Z,100nm,1.7s
BRG S S 21 07 35.0 -16
BRG SCP **ScP 21 12 12.7 +0.8**
comp=Z,3.0nm,0.8s
comp=Z,1µm,22.8s
comp=N,2µm,22.8s
comp=E,2µm,22.8s
BRG Berggiesshubel 18.96 325 *eP* **P 21 04 20.0 +0.5**
comp=E,104nm,1.7s,baz=127,slow=10
DAVA Damuels 19.06 312 *i* P **P 21 04 21.5 +0.7**
comp=E,71nm,0.5s,SNR=100
ROTZ Rotzenmuhle 19.09 320 *eP* **P 21 04 21.5 +0.6**
comp=E,230nm,2.0s,baz=127,slow=10
OBN Obninsk 19.16 10 P **Pn 21 04 23.0 -0.3**
comp=E,1.2nm,0.3s,baz=199,slow=0.8,SNR=10
OBN Obninsk 19.16 10 ⇓*eP* **P 21 04 20.8 -0.9**
OBN *eS* **S 21 07 50.7 -4.3**
OBN pmax pmax
comp=Z,52nm,1.0s
OBN MLR MLR
comp=Z,677nm,15.0s
OBN Obninsk 19.16 10 Pn 21 04 24.3 +1.1
OBN IAmb IAmb 21 04 40.4
comp=Z,334nm,1.6s
IDID Didziasalis 19.18 353 *eP* **P 21 04 22.3 +0.4**
NKC Novy Kostel 19.25 322 *eP* **Pn 21 04 25.2 +0.8**
NKC *eS* **S 21 07 56.3 -0.8**
NKC AMS AMS 21 13 00.0
comp=Z,1µm,13.5s
NKC Novy Kostel 19.25 322 *eP* **Pn 21 04 25.2 +0.8**
NKC *eS* **S 21 07 56.3 -0.8**
NKC MLR MLR
comp=Z,1µm,13.5s
FBE Freiberg 19.26 325 *eP* **P 21 04 23.6 +0.8**
comp=Z,200nm,1.9s,baz=127,slow=10
MANZ Manzenberg 19.27 321 *eP* **P 21 04 23.5 +0.5**
comp=Z,338nm,2.0s,baz=127,slow=10
IIGN Ignalina 19.28 352 *eP* **P 21 04 23.2 +0.3**
WERN Wernitzgruen 19.32 322 *eP* **P 21 04 24.1 +0.5**
comp=Z,32nm,1.0s,baz=127,slow=10
CAEH 'Ain El Ouahch 19.34 278 P **Pn 21 04 25.4 -0.1**
TANN Tannenbergstha 19.36 322 *eP* **P 21 04 24.7 +0.7**
comp=Z,190nm,1.8s,baz=127,slow=10
GUNZ Gunzen 19.39 322 *eP* **P 21 04 25.2 +0.8**
comp=Z,102nm,1.7s,baz=127,slow=10
GKP Gorka Klasztor 19.45 335 *eP* **P 21 04 25.2 +0.4**
CKFL Kef-Lekhel 19.48 277 P **Pn 21 04 30.5 +3.1**
ISAL Salakas 19.50 352 *eP* **P 21 04 25.1 -0.3**
GRA1 Grafenberg Arr 19.55 319 P 21 04 26.3 +0.2
GRA1 IAmb IAmb 21 04 28.1
comp=Z,88nm,0.8s
GRF Grafenberg Arr 19.55 319 P **P 21 04 26.3 +0.2**
GRF pmax pmax
comp=Z,88nm,0.8s
GRF Grafenberg Arr 19.55 319 *eP* **P 21 04 26.4 +0.4**
comp=Z,107nm,0.8s,baz=127,slow=10
GRF *eL* L 21 14 18.3
comp=Z,838nm,19.7s
PLN Plauen 19.56 322 *eP* **P 21 04 26.9 +0.9**
comp=Z,187nm,2.2s,baz=127,slow=10
IZAR Zarasai 19.67 352 *eP* **P 21 04 27.5 +0.4**
CLL Collm 19.69 325 ⇓*i*P **P 21 04 28.1 +0.6**
comp=Z,129nm,1.6s
CLL *i* pP **pP 21 04 37.9 -4.3**
CLL *i* (sP) **sP 21 04 43.8 -7.4**
CLL *i* pPP 21 04 51.6
CLL *eS* **Sn 21 08 09.0 -1.1**
CLL Lmax 21 12 00.0
CLL Collm 19.69 325 *eP* **P 21 04 28.1 +0.6**
comp=Z,129nm,1.6s,baz=127,slow=10
CLL *eL* L 21 12 31.7
comp=Z,742nm,20.2s
CLL Collm 19.69 325 IAmb IAmb 21 04 52.9
comp=Z,199nm,1.8s
KLNR Kaliningrad 19.70 341 *i* P **P 21 04 27.3 -0.2**
KLNR pmax pmax
comp=Z,265nm,1.2s
PABE Paberze 19.74 348 *eP* **P 21 04 27.9 -0.1**
CTEI Djebel Teioual 19.78 276 P **Pn 21 04 33.3 +2.4**
MOS Moscow 19.92 11 *eP* **P 21 04 28.4 -1.6**
MOS *eS* **S 21 08 09.3 -0.9**
MOS pmax pmax
comp=Z,175nm,1.0s
MOS MLR MLR
comp=Z,900nm,16.0s
MOX Moxa 19.93 322 *eP* **Pn 21 04 31.2 -1.1**
comp=Z,388nm,1.9s,baz=127,slow=10
MOX *eL* L 21 13 40.5
comp=Z,1µm,18.5s
DFRA Djebel Bou Aff 20.14 278 P Pn 21 04 36.6 +1.5
RUE Ruedersdorf 20.17 328 *eP* **P 21 04 32.7 +0.2**
RUE Ruedersdorf 20.17 328 *eP* **P 21 04 32.8 +0.2**
comp=Z,138nm,1.1s,baz=127,slow=10
STU Stuttgart 20.17 315 *eP* **P 21 04 33.2 +0.4**
comp=Z,3µm,3.3s,baz=127,slow=10
STU Stuttgart 20.17 315 IAmb IAmb 21 04 35.4
comp=Z,168nm,0.9s
NEUB Neuenburg 20.20 323 *eP* **P 21 04 33.8 +0.8**
comp=Z,72nm,1.1s,baz=127,slow=10
BNI Bardonecchia 20.28 303 P **P 21 04 34.0 -0.1**
BNI pmax pmax
comp=Z,128nm,1.0s
BNI Bardonecchia 20.28 303 P **P 21 04 34.0 -0.1**
BNI IAmb IAmb 21 04 55.9
comp=Z,128nm,1.0s
BFO Black Forest 20.46 313 P **P 21 04 36.3 +0.3**
BFO pmax pmax
comp=Z,356nm,1.7s
BFO Black Forest 20.46 313 *eP* **P 21 04 36.4 +0.4**
comp=Z,180nm,1.4s,baz=127,slow=10
BFO *eL* L 21 13 44.9
comp=Z,1µm,19.9s
BFO Black Forest 20.46 313 P **P 21 04 36.3 +0.3**
SET Setif 20.57 277 P Pn 21 04 42.0 +1.9
PBUR Paburge 20.61 346 *eP* **P 21 04 37.2 -0.1**
UBBA Unterbreizbach 20.85 320 *eP* **P 21 04 40.0 +0.1**
comp=Z,38nm,1.0s,baz=127,slow=10
MAHO Mahon 21.24 288 *i* P **P 21 04 41.4 -2.9**
MAHO *i* S **S 21 08 39.5 +3.1**
CLZ Clausthal 21.28 323 *eP* **P 21 04 45.0 +0.3**
comp=Z,97nm,1.1s,baz=127,slow=10
GTTG Gottingen 21.30 322 *eP* **P 21 04 45.4 +0.6**
comp=Z,140nm,1.1s,baz=127,slow=10
ASSE Asse, Remlinge 21.32 324 *eP* **P 21 04 44.9 -0.1**
comp=Z,112nm,1.2s,baz=127,slow=10
TNS Taunus Mts 21.34 318 *eP* **P 21 04 44.9 -0.4**
baz=127,slow=10
TNS *eL* L 21 14 38.6
comp=Z,844nm,19.5s
GEYT Alibeck 21.71 78 P **P 21 04 49.8 +0.4**
comp=Z,21nm,0.5s,baz=304,slow=11,SNR=31
GEYT LR LR 21 15 36.0
comp=Z,570nm,19.7s,baz=5.0,slow=43
GEYT Alibeck 21.71 78 P **P 21 04 49.9 +0.5**
GYA0B ALIBECK ARRAY 21.71 78 P **P 21 04 50.0 +0.6**
GYA0B IAmb IAmb 21 05 06.9
comp=Z,134nm,0.9s
SSB Saint Sauveur 21.79 302 P 21 04 49.4 -0.8
NRDL Niedersach Rie 21.82 324 *eP* **P 21 04 50.2 -0.1**
comp=Z,91nm,1.9s,baz=127,slow=10
RGN Rugen 21.88 332 P **P 21 04 50.3 -0.7**
SLIT Slitere, Latvi 22.05 348 *eP* **P 21 04 53.0 +0.2**
AHRW Bad Neuenahr-A 22.25 317 *eP* **P 21 04 54.8 -0.3**
comp=Z,94nm,1.0s,baz=127,slow=10
VSU Vasula 22.30 354 *eP* **P 21 04 55.9 +0.5**
VSU Vasula 22.30 354 *i* P **P 21 04 54.9 -0.5**
VSU pmax pmax
comp=Z,61nm,0.9s
WLF Walferdange 22.35 314 P **P 21 04 55.2 -1.0**
WLF pP **pP 21 05 11.7 +0.4**
WLF Walferdange 22.35 314 IAmb IAmb 21 05 30.8
comp=Z,137nm,1.1s
BUG Bochum-Univer 22.62 319 *eP* **P 21 04 58.1 -0.9**
comp=Z,66nm,1.3s,baz=127,slow=10
BSEG Bad Segeberg 22.67 327 *eL* L 21 15 27.5
comp=Z,401nm,21.1s
BHOU Houvegnez 22.76 316 ⇓P **P 21 04 60.0 -0.5**
BHOU pP **pP 21 05 15.9 +0.3**
BHOU sP **sP 21 05 22.8 -1.8**
IBBN Ibbenburen 22.86 322 *eP* **P 21 05 01.0 -0.4**
comp=Z,287nm,1.7s,baz=127,slow=10
MEM Membach 22.88 316 ⇓P **P 21 05 01.1 -0.6**
MEM sP **sP 21 05 23.9 -2.0**
BSTI Sart Tilman 23.11 316 ⇓P **P 21 05 03.8 -0.2**
BSTI pP **pP 21 05 17.9 -1.5**
BEBN Eben Emael 23.15 316 P **P 21 05 03.5 -0.9**
BEBN pP **pP 21 05 17.8 -2.1**
BEBN PnPn **PnPn 21 05 32.2 -0.6**
BCLA Clavier 23.19 315 ⇓P **P 21 05 04.4 -0.3**
BGES Gesves 23.29 315 ⇓P **P 21 05 05.2 -0.6**
BGES pP **pP 21 05 21.3 -0.1**
BGES PnPn **PnPn 21 05 34.0 -0.7**
BMRD Maredsous 23.44 315 ⇓P **P 21 05 06.4 -0.6**
BMRD sP **sP 21 05 30.0 -1.5**
PUL Pulkovo 23.44 359 *eP* **P 21 05 07.0 +0.1**
DOU Dourbes 23.45 314 ⇓P **P 21 05 06.2 -1.0**
DOU pP **pP 21 05 22.3 -0.8**
DOU sP **sP 21 05 30.2 -1.4**
EBNR Beni Rached 23.65 279 P **P 21 05 11.0 +1.8**
UMQ Umm Al-Quwin 23.74 110 P **P 21 05 12.7 +2.7**
AJN Ajban 23.77 113 *i* P **P 21 05 10.3 +0.1**
SNR=6.4
ECHA Ech Chlef 23.80 278 P **P 21 05 11.5 +1.0**
SNF Seneffe 23.81 315 ⇓P **P 21 05 10.1 -0.3**
SNF pP **pP 21 05 25.4 -1.5**
SHME Shamm 23.82 108 P **P 21 05 10.5 -0.3**
ETRT Tiaret 23.99 277 P **P 21 05 14.5 +2.2**
BANOM Banah 24.01 109 P **P 21 05 12.9 +0.5**
AKTO Aktyubinsk 24.03 46 P **P 21 05 12.2 -0.3**
comp=Z,37nm,0.8s,baz=255,slow=10,SNR=59
NAZ Nazwa, Dubai 24.03 111 *i* P **P 21 05 13.2 +0.5**
SNR=15
NAZ Nazwa, Dubai 24.03 111 P **P 21 05 16.0 +3.4**
SNR=11
EANR 'Ain N'Sour 24.05 278 P **P 21 05 14.0 +1.2**
CLF Chambon-Foret 24.09 308 IAmb IAmb 21 05 36.3
comp=Z,102nm,1.0s
MSFE Esma-Masafi 24.20 110 P **P 21 05 14.6 +0.3**
MDH Madha 24.34 110 *i* P **P 21 05 15.8 +0.3**
SNR=13

MDH **Madha** 24.34 110 P **P** 21 05 18.2 +2.7
UOSS **Minazif** 24.46 111 *i* P **P** 21 05 16.5 -0.1
SNR=11
UOSS **Minazif** 24.46 111 P **P** 21 05 19.3 +2.7
UOSS **Minazif** 24.46 111 P **P** 21 05 16.8 +0.2
HATD **Hatta, Dubai** 24.48 111 *i* P **P** 21 05 17.1 +0.4
SNR=15
HATD **Hatta, Dubai** 24.48 111 P **P** 21 05 19.1 +2.4
SNR=14
ASHO **Ashiyiah** 24.50 111 *i* P **P** 21 05 18.0 +1.0
SNR=10
ASHO **Ashiyiah** 24.50 111 P **P** 21 05 20.0 +3.0
SNR=12
ALNE **Al Ain** 24.63 113 *i* P **P** 21 05 18.7 +0.6
SNR=10
ABKAR **Akbulak array** 24.72 49 P **P** 21 05 19.9 +1.3
MUD **Monsted U'grnd** 24.89 331][*i* P **P** 21 05 21.9 +1.8
MUD **Monsted U'grnd** 24.89 331][*i* P **P** 21 05 21.9 +1.8
KLMR **Klimovskoe** 25.13 10 *eP* **P** 21 05 19.9 -2.3
KLMR *eS* **S** 21 09 38.8 -3.0
KLMR pmax pmax
comp=Z,117nm,1.2s
KLMR **Klimovskoe** 25.13 10 *eP* **P** 21 05 20.0 -2.3
KLMR AMP 21 05 37.0
comp=Z,117nm,1.2s
KLMR *eS* **S** 21 09 38.8 -3.0
KLMR *eS* **S** 21 09 38.8 -3.0
KLMR LQ LQ 21 13 40.1
KLMR LQ LQ 21 13 40.1
KLMR LR LR 21 16 12.7
SOHO **SOHO** 25.17 112 *i* P **P** 21 05 23.4 +0.4
SNR=26
SOHO **SOHO** 25.17 112 P **P** 21 05 25.7 +2.7
FINES **FINESS Array B** 25.30 355 P **P** 21 05 22.9 -0.9
comp=Z,12nm,0.4s,baz=159,slow=11,SNR=57
FINES PcP **PcP** 21 08 54.8 -0.1
comp=Z,3.0nm,0.6s,baz=155,slow=4.6,SNR=1.4
FINES ScP **ScP** 21 12 27.7 -0.1
comp=Z,5.7nm,0.8s,baz=123,slow=7.0,SNR=6.9
FINES LR LR 21 16 46.3
comp=Z,505nm,19.3s,baz=171,slow=40
FINES **FINESS Array B** 25.30 355 P **P** 21 05 22.5 -1.3
FIA1 **FINESS Array S** 25.30 355 P **P** 21 05 22.9 -0.9
FIA1 IAmb IAmb 21 05 56.4
comp=Z,51nm,0.8s
KIRV **Kirov** 25.35 23 P **P** 21 05 23.0 -1.2
comp=Z,24nm,0.5s,baz=234,slow=5.2,SNR=15
CART **Cartagena** 25.48 282 *i* P **P** 21 05 24.9 -0.7
CART *i* S **sS** 21 10 15.3 +0.1
CART **Cartagena** 25.48 282 P **P** 21 05 25.1 -0.5
CART IAmb IAmb 21 05 29.5
comp=Z,142nm,1.8s
HRA **Herat** 25.56 85 P **P** 21 05 27.5 +0.8
HRA IAmb IAmb 21 05 47.1
comp=Z,112nm,1.1s
ARQ **Araqi** 25.62 113 P **P** 21 05 30.0 +2.9
TAM **Tamanrasset** 25.80 245 P **P** 21 05 29.9 +1.0
TAM pmax pmax
comp=Z,187nm,1.1s
TAM **Tamanrasset** 25.80 245 P **P** 21 05 29.9 +1.0
HFS **Hagfors** 26.26 340 P **P** 21 05 32.3 -0.2
comp=Z,3.1nm,0.4s,baz=128,slow=11,SNR=19
HOMB **Homborsund** 26.44 333 *eP* **P** 21 05 34.0 -0.1
BSY **Bisya** 26.47 114 P **P** 21 05 38.3 +3.4
BIDO **Bidbid** 26.71 111 P **P** 21 05 40.8 +3.8
WACR **West Acre** 26.83 317 *eP* **P** 21 05 35.8 -1.9
WACR IAmb IAmb 21 05 37.0
comp=Z,45nm,1.1s
PRGR **Permogore** 26.95 16 *eP* **P** 21 05 36.7 -2.0
PRGR *e* 21 06 41.5
PRGR pmax pmax
comp=Z,141nm,1.4s
ATD **Arta Tunnel** 26.95 153 P **P** 21 05 38.7 -0.5
SNART **Snartemo** 26.97 332 *eP* **P** 21 05 39.1 +0.2
UCM **Universidad Co** 27.00 289 *i* P **P** 21 05 38.2 -1.2
UCM *i* S **S** 21 10 13.7 +1.9
KONO **Kongsberg** 27.09 336 P **P** 21 05 39.5 -0.5
KONO pmax pmax
comp=Z,60nm,1.1s
KONO **Kongsberg** 27.09 336 P **P** 21 05 39.5 -0.5
KONO IAmb IAmb 21 06 07.2
comp=Z,60nm,1.1s
KONO **Kongsberg** 27.09 336 *eP* **P** 21 05 42.8 +2.8
JSA **Saint Aubin** 27.24 308 *eP* **P** 21 05 39.6 -1.8
JSA IAmb IAmb 21 05 41.9
comp=Z,62nm,1.0s
WSAR **Wadi Sarin** 27.25 111 P **P** 21 05 42.4 +0.6
comp=Z,6.4nm,1.0s,baz=198,slow=5.1,SNR=2.8
WHFO **Wadi Hawf** 27.27 126 P **P** 21 05 45.1 +3.0
NC602 **NORSAR Array S** 27.36 339 P **P** 21 05 43.6 +1.2
NC602 IAmb IAmb 21 06 26.5
comp=Z,79nm,1.1s
NC602 **NORSAR Array S** 27.36 339 *eP* **P** 21 05 44.2 +1.8
JMDO **Jabal Madar** 27.37 113 P **P** 21 05 46.1 +3.3
ARU **Arti** 27.38 34 P **P** 21 05 42.3 -0.3
comp=Z,4.8nm,0.3s,baz=227,slow=9.6,SNR=22
ARU **Arti** 27.38 34 P **P** 21 05 40.6 -1.9
ARU *PP **pP** 21 05 59.5 +0.6
ARU 21 06 26.3
ARU S **S** 21 10 13.8 -3.5
ARU SS **SnSn** 21 11 31.1 -1.9
ARU MLR MLR
comp=Z,718nm,19.0s
ARU **Arti** 27.38 34 P **P** 21 05 41.8 -0.7
ABTO **Aybut** 27.38 128 P **P** 21 05 45.9 +2.8
MELI **Melilla** 27.40 278 *i* P **P** 21 05 43.8 +0.8
MELI *eS* S 21 10 31.8 +14
ESDC **Sonseca Array** 27.59 288 P **P** 21 05 45.1 +0.4
comp=Z,18nm,0.8s,baz=78,slow=9.2,SNR=114
ESDC ScP **ScP** 21 12 36.9 +1.7
comp=Z,1.5nm,0.9s,baz=60,slow=2.2,SNR=5.8
ESDC LR LR 21 18 07.6
comp=Z,685nm,20.5s,baz=85,slow=39
ESDC **Sonseca Array** 27.59 288 P **P** 21 05 44.8 +0.1
ESDC ScP **ScP** 21 12 36.3 +1.2
NC405 **NORSAR Array S** 27.62 340 P **P** 21 05 45.9 +1.2
NC405 IAmb IAmb 21 06 40.1
comp=Z,55nm,1.1s
NAO01 **NORSAR Array S** 27.64 339 IAmb IAmb 21 05 49.3
comp=Z,56nm,0.8s
NAO01 **NORSAR Array S** 27.64 339 *eP* **P** 21 05 47.1 +2.3
NB201 **NORSAR Array S** 27.68 339 IAmb IAmb 21 06 47.5
comp=Z,46nm,0.9s
NB2 **NORSAR Subarra** 27.70 339 P **P** 21 05 44.1 -1.4
comp=Z,29nm,1.2s,baz=144,slow=9.3
NB2 **NORSAR Subarra** 27.70 339 P **P** 21 05 44.1 -1.4
baz=144,slow=9.3
NOA **NORSAR Array B** 27.70 339 P **P** 21 05 44.5 -1.0
comp=Z,2.3nm,0.6s,baz=144,slow=9.7,SNR=28
NOA LR LR 21 18 58.7
comp=Z,557nm,18.0s,baz=150,slow=41
NC303 **NORSAR Array S** 27.81 340 P **P** 21 05 47.5 +1.1
NC303 IAmb IAmb 21 06 24.3
comp=Z,83nm,1.2s
NBO00 **NORSAR Array S** 27.82 339 P **P** 21 05 46.3 -0.2
NBO00 IAmb IAmb 21 06 17.4
comp=Z,82nm,1.0s
RBK **Rabkut** 27.86 126 P **P** 21 05 49.6 +2.3
WBK **Wadi Bani Khal** 27.87 112 P **P** 21 05 50.3 +2.9
PAB **San Pablo** 27.89 287 P **P** 21 05 47.4 -0.1
PAB pmax pmax
comp=Z,30nm,0.9s
PAB **San Pablo** 27.89 287 P **P** 21 05 47.4 -0.1
CWF **Charnwood Fore** 27.91 316 *eP* **P** 21 05 45.8 -1.5
BLS5 **Blasjo** 28.02 333 *eP* **P** 21 05 47.5 -0.7
NC204 **NORSAR Array S** 28.02 339 P **P** 21 05 50.2 +1.9
NC204 IAmb IAmb 21 06 16.7
comp=Z,48nm,0.9s
STRD **Stroud** 28.04 314 *eP* **P** 21 05 46.3 -2.2
STRD IAmb IAmb 21 05 49.0
comp=Z,77nm,0.9s
MHTO **MHTO** 28.11 116 P **P** 21 05 52.3 +2.9
TMCR **Tamitsa** 28.18 7 *eP* **P** 21 05 47.1 -2.5
ODD1 **Odda** 28.30 334 *eP* **P** 21 05 51.0 +0.2
SKAR **Skarslia** 28.30 336 *eP* **P** 21 05 51.5 +0.6
EMAL **Malaga-Limoner** 28.31 282 *i* P **P** 21 05 51.3 +0.2
EMAL *eS* **S** 21 10 40.8 +8.3
SHAO **Shalim** 28.43 123 P **P** 21 05 55.4 +3.1
MONM **Monmouth** 28.43 314 *eP* **P** 21 05 50.7 -1.3
MONM IAmb IAmb 21 05 52.3
comp=Z,39nm,0.8s
JLN **Jalan Bani Buh** 28.47 112 P **P** 21 05 55.6 +2.9
DQM **DQM** 28.47 118 P **P** 21 05 54.9 +2.2
PVLZ **Peæn de** 28.52 278 *eP* **P** 21 05 53.1 +0.2

PVLZ *eS* **sS** 21 11 01.5 -1.9
SVE **Sverdlovsk** 28.55 35 *eP* **P** 21 05 52.9 -0.1
SVE *eS* **S** 21 10 37.2 +1.4
SVE pmax pmax
comp=Z,72nm,1.1s
HPK **Haverah Park** 28.57 318 *eP* **P** 21 05 51.1 -2.2
MCH1 **Michaelchurch** 28.60 314 *eP* **P** 21 05 51.9 -1.6
MCH1 IAmb IAmb 21 05 53.7
comp=Z,39nm,0.9s
DYA **Yadsworthy** 28.68 310 *eP* **P** 21 05 52.3 -1.9
HLM1 **Long Mynd** 28.71 315 *eP* **P** 21 05 52.9 -1.6
HLM1 IAmb IAmb 21 05 55.3
comp=Z,19nm,0.9s
DOMB **Dombas** 29.12 339 *eP* **P** 21 05 58.9 +0.8
EDMD **Edmundbyers** 29.13 320 *eP* **P** 21 05 56.8 -1.4
EDMD IAmb IAmb 21 05 58.4
comp=Z,19nm,0.9s
CEU **Ceuta** 29.22 280 *eP* **P** 21 05 59.1 -0.1
LLW **Llanuwychllyn** 29.28 315 *eP* **P** 21 05 58.0 -1.5
HYA **Hoyanger** 29.36 336 *eP* **P** 21 06 00.6 +0.5
MDT **Midelt** 29.37 274 P **P** 21 06 01.9 +1.3
comp=Z,14nm,1.0s,baz=84,slow=10,SNR=26
PBRG **Braganca** 29.58 292 *eP* **P** 21 06 02.6 +0.2
comp=Z,105nm,1.5s
IFR **Ifrane** 29.59 275 *eP* **P** 21 06 04.7 +2.0
IFR *eS* **S** 21 10 53.6 +0.6
KESW **Keswick, Cumbr** 29.63 319 *eP* **P** 21 06 01.2 -1.3
KESW IAmb IAmb 21 06 03.5
comp=Z,15nm,0.8s
SFS **San Fernando** 29.77 281 *eP* **P** 21 06 01.6 -2.4
MVO **Moncorvo** 29.82 291 *eP* **P** 21 06 04.6 0.0
comp=Z,84nm,1.4s
MVO *eS* **S** 21 10 57.1 +0.8
MVO A A 21 19 31.9
comp=Z,349nm,18.0s
YRC **Rhoscolyn** 29.93 316 *eP* **P** 21 06 03.8 -1.5
ESY **Stoneypath** 29.94 321 *eP* **P** 21 06 04.3 -1.1
EKA **Eskdalemuir Ar** 29.96 320 P **P** 21 06 04.5 -1.1
comp=Z,2.6nm,0.4s,baz=126,slow=9.5,SNR=36
EKA PcP **PcP** 21 09 07.3 +0.9
comp=Z,1.7nm,0.6s,baz=108,slow=3.1,SNR=2.9
MOL **Molde** 29.98 338 *eP* **P** 21 06 06.5 +0.9
ESK **Eskdalemuir** 29.98 320 *eP* **P** 21 06 04.8 -0.9
ESK IAmb IAmb 21 06 06.7
comp=Z,30nm,1.2s
ESK **Eskdalemuir** 29.98 320 P **P** 21 06 05.0 -0.7
ESK pmax pmax
comp=Z,27nm,1.1s
ESK **Eskdalemuir** 29.98 320 P **P** 21 06 05.0 -0.7
EBL **Broad Law** 30.09 321 *eP* **P** 21 06 05.8 -1.0
EDI **Edinburgh** 30.23 321 *eP* **P** 21 06 07.1 -0.8
EDI IAmb IAmb 21 06 09.2
comp=Z,115nm,1.1s
PMRV **Marv??o** 30.25 288 *eP* **P** 21 06 08.2 -0.1
comp=Z,50nm,1.8s
PMRV *eS* **S** 21 10 59.4 -3.5
PMRV A A 21 19 52.0
comp=Z,466nm,18.0s
MTE **Manteigas** 30.27 290 *eP* **P** 21 06 08.8 +0.3
comp=Z,98nm,1.7s
MTE *eS* **S** 21 11 04.6 +1.3
MTE A A 21 19 55.3
comp=Z,649nm,20.0s
PCBR **Castelo Branco** 30.27 288 *eP* **P** 21 06 08.6 +0.2
comp=Z,81nm,1.9s
CHGR **Chuyangaron** 30.27 74 P **P** 21 06 09.2 +0.5
IOMK **Kirk Michael** 30.29 318 *eP* **P** 21 06 07.0 -1.4
IOMK IAmb IAmb 21 06 08.1
comp=Z,190nm,1.8s
WIM **Isle of Man** 30.30 317 *eP* **P** 21 06 07.5 -1.0
PVRL **Vila Real** 30.34 291 *eP* **P** 21 06 09.4 +0.3
comp=Z,79nm,1.7s
NSS **Namsos** 30.43 344 *eP* **P** 21 06 09.9 +0.3
NEWG **New Galloway** 30.43 319 *eP* **P** 21 06 08.2 -1.5
NEWG IAmb IAmb 21 06 10.7
comp=Z,40nm,1.4s
PVIS **Viseu** 30.51 290 *eP* **P** 21 06 11.1 +0.5
comp=Z,100nm,1.4s
PCAB **Cabril** 30.54 292 *eP* **P** 21 06 11.5 +0.6
comp=Z,126nm,1.4s
IUG **Iuzhnay** 30.64 67 *eP* **P** 21 06 12.6 +0.7
comp=Z,15nm,1.1s,baz=67
IUG **Iuzhnay** 30.64 67 *eP* **P** 21 06 12.5 +0.7
IUG pmax pmax
comp=Z,15nm,1.1s
PGAV **Gavieira, Arco** 30.71 293 *eP* **P** 21 06 13.3 +0.8
comp=Z,154nm,1.6s
PGAV *eS* **S** 21 11 10.1 -0.2
PGAV A A 21 21 09.1
comp=Z,393nm,22.0s
PVAQ **Vaqueiros** 30.79 284 IAmb IAmb 21 06 15.0
comp=Z,53nm,1.1s
PVAQ **Vaqueiros** 30.79 284 *eP* **P** 21 06 13.0 0.0
comp=Z,104nm,1.7s
PVAQ *eS* **S** 21 11 10.3 -1.1
PVAQ A A 21 21 21.3
comp=Z,141nm,20.0s
PBEJ **Beja** 30.80 285 *eP* **P** 21 06 13.6 +0.4
comp=Z,92nm,1.6s
EVO **Evora** 30.84 286 *eP* P 21 06 03.9 -10
EVO *eS* **S** 21 11 12.5 +0.3
EVO **Evora** 30.84 286 *eP* **P** 21 06 13.6 +0.1
comp=Z,41nm,1.9s
PGBU **Glenifferbraes** 30.85 320 *eP* **P** 21 06 12.4 -0.9
PGBU IAmb IAmb 21 06 14.9
comp=Z,71nm,1.2s
INVG **Invergeldie, C** 30.89 322 *eP* **P** 21 06 11.9 -1.8
INVG IAmb IAmb 21 06 14.7
comp=Z,41nm,1.1s
EAB **Aberfoyle** 30.93 321 *eP* **P** 21 06 13.0 -1.1
COI **Coimbra** 30.95 289 P **P** 21 06 14.3 -0.1
COI pmax pmax
comp=Z,54nm,1.2s
COI **Coimbra** 30.95 289 P **P** 21 06 14.3 -0.1
COI IAmb IAmb 21 06 34.4
comp=Z,54nm,1.2s
KK31 **Karatay Array** 30.96 65 P **P** 21 06 15.7 +1.1
KK31 pmax pmax
comp=Z,42nm,0.9s
KK31 **Karatay Array** 30.96 65 P **P** 21 06 15.7 +1.1
KK31 IAmb IAmb 21 06 40.8
comp=Z,42nm,0.8s
KKAR **Karatay Array** 30.96 65 P **P** 21 06 14.9 +0.3
KKAR **Karatay Array** 30.96 65 P **P** 21 06 14.9 +0.3
KKAR **Karatay Array** 30.96 65 IAmb IAmb 21 06 40.8
comp=Z,42nm,0.8s
KBL **Kabul** 30.98 82 P **P** 21 06 14.8 -0.2
KBL pmax pmax
comp=Z,26nm,1.2s
KBL **Kabul** 30.98 82 P **P** 21 06 14.8 -0.2
PBDV **Barranco-do-Ve** 30.98 283 *eP* **P** 21 06 15.0 +0.2
comp=Z,107nm,1.8s
PCVE **Castro Verde** 31.00 284 *eP* **P** 21 06 15.2 +0.3
comp=Z,64nm,1.9s
MCD **Coleburn Disti** 31.02 324 *eP* **P** 21 06 14.0 -0.9
PCAS **Casmilo, Conde** 31.03 289 *eP* **P** 21 06 15.4 +0.3
comp=Z,69nm,1.4s
GAR **Garm** 31.12 73 P **P** 21 06 16.8 +0.6
APA **Apatity** 31.30 2][*iP* P 21 06 25.2 +8.0
APA pmax pmax
comp=Z,21nm,0.9s
APA MLR MLR
comp=Z,2μm,19.0s
PNCL **Nicolau / Gran** 31.31 285 *eP* **P** 21 06 18.3 +0.7
comp=Z,73nm,1.6s
PSBE **So Bento** 31.32 288 *eP* **P** 21 06 18.1 +0.4
comp=Z,76nm,1.8s
MOR8 **Moi Rana** 31.38 347 *eP* **P** 21 06 17.4 -0.5
AVE **Averroes** 31.48 276 *eP* **P** 21 06 19.7 +0.5
AVE *eS* **S** 21 11 25.8 +3.5
LAWE **Loch Awe, Argy** 31.50 321 *eP* **P** 21 06 17.8 -1.2
LAWE IAmb IAmb 21 06 19.7
comp=Z,53nm,1.3s
MORF **Marmelete** 31.54 284 *eP* **P** 21 06 19.7 -0.1
MORF AMb AMB 21 06 40.3
comp=Z,49nm,1.5s
MORF **Marmelete** 31.54 284 *eP* **P** 21 06 19.6 -0.1
MORF pmax pmax
comp=Z,49nm,1.5s
MORF **Marmelete** 31.54 284 *eP* **P** 21 06 19.8 +0.1
comp=Z,60nm,2.0s
PTEO **Sao Teotonio** 31.55 284 *eP* **P** 21 06 20.3 +0.5
comp=Z,143nm,1.6s
DZA **Taraz** 31.57 65 *eP* **P** 21 06 21.1 +1.1
baz=66

DZA *eS* **S** 21 11 24.7 +1.1
baz=66
DZA **Taraz** 31.57 65 *eP* **P** 21 06 21.0 +1.1
DZA *eS* **S** 21 11 24.6 +1.1
LVZ **Lovozero** 31.67 3 *i* P **P** 21 06 21.3 +0.8
LVZ pmax pmax
comp=Z,17nm,0.9s
LVZ **Lovozero** 31.67 3 P **P** 21 06 22.1 +1.6
LVZ IAmb IAmb 21 07 26.7
comp=Z,30nm,0.9s
LIS **Lisbon** 31.70 287 *eP* **P** 21 06 20.9 -0.2
LIS AMb AMB 21 06 24.6
comp=Z,85nm,1.1s
LIS **Lisbon** 31.70 287 *eP* **P** 21 06 20.8 -0.2
LIS pmax pmax
comp=Z,85nm,1.1s
LIS **Lisbon** 31.70 287 *eP* **P** 21 06 22.7 +1.7
comp=Z,128nm,1.0s
PFVI **Vila Bisbo** 31.71 283 P **P** 21 06 20.9 -0.2
PFVI IAmb IAmb 21 06 41.3
comp=Z,108nm,1.8s
PFVI **Vila Bisbo** 31.71 283 *eP* **P** 21 06 21.4 +0.3
comp=Z,69nm,1.6s
PMAFR **Mafra** 31.76 287 *eP* **P** 21 06 22.0 +0.4
comp=Z,82nm,1.2s
KONS **Konsvik** 31.92 347 *eP* **P** 21 06 23.4 +0.8
KAC **Achnashellach** 31.97 323 *eP* **P** 21 06 22.2 -1.0
KPL **Plockton** 32.07 323 *eP* **P** 21 06 23.2 -0.9
BRVK **Borovoye** 32.08 46 P **P** 21 06 25.2 +0.9
BRVK **Borovoye** 32.08 46 P **P** 21 06 24.4 +0.2
BRVK pmax pmax
comp=Z,28nm,1.1s
BRVK **Borovoye** 32.08 46 P **P** 21 06 24.4 +0.2
BVAR **Borovoye Array** 32.14 46 P **P** 21 06 24.7 0.0
comp=Z,16nm,0.8s,baz=242,slow=6.2,SNR=46
FAUS **Fauske** 32.34 349 *eP* **P** 21 06 26.2 -0.1
STEI **Steigen** 32.85 349 *eP* **P** 21 06 31.1 +0.3
BRZS **Berezniki** 32.91 52 *eP* **P** 21 06 32.5 +0.9
comp=Z,14nm,1.1s,baz=52
BRZS **Berezniki** 32.91 52 *eP* **P** 21 06 32.5 +0.9
BRZS pmax pmax
comp=Z,14nm,1.1s
KTK1 **Kautokeino** 32.99 355 *eP* **P** 21 06 31.7 -0.3
LODK **Lodwar** 33.02 172 P **P** 21 06 34.9 +2.0
SNR=5.3
LOF **Lofoten** 33.30 348 *eP* **P** 21 06 35.9 +1.3
AML **Almayashu** 33.36 67 P **P** 21 06 37.0 +1.1
SNR=5.9
ARE0 **ARCESS Array S** 33.38 357 P **P** 21 06 35.0 -0.4
ARE0 **ARCESS Array S** 33.38 357 *eP* **P** 21 06 35.4 +0.1
ARCES **ARCESS Array B** 33.38 357 P **P** 21 06 34.5 -0.8
comp=Z,6.7nm,0.5s,baz=173,slow=8.4,SNR=36
ARCES LR LR 21 22 10.5
comp=Z,351nm,18.9s,baz=169,slow=40
EKS2 **Erkin-Say** 33.38 66 P **P** 21 06 38.7 +2.8
SNR=11
BTLS **Baital** 33.49 61 *eP* **P** 21 06 38.0 +1.4
baz=62
BTLS *eS* **S** 21 11 54.0 +0.7
baz=62
BTLS **Baital** 33.49 61 *eP* **P** 21 06 38.0 +1.4
BTLS *eS* **S** 21 11 54.0 +0.7
USP **Ospenovka** 33.87 65 P **P** 21 06 42.1 +2.0
SNR=5.1
AAK **Ala-Archa** 33.91 66 P **P** 21 06 41.2 +0.7
comp=Z,11nm,0.6s,baz=225,slow=4.9,SNR=18
AAK ScP **ScP** 21 12 56.3 +0.2
comp=Z,6.4nm,0.8s,baz=234,slow=2.3,SNR=4.8
AAK **Ala-Archa** 33.91 66 P **P** 21 06 42.0 +1.5
SNR=8.6
AAK **Ala-Archa** 33.91 66 P **P** 21 06 41.4 +0.9
AAK **Ala-Archa** 33.91 66 P **P** 21 06 42.0 +1.5
AAK **ScP** 21 12 57.0 +0.9
UCH **Uchtor** 33.96 66 P **P** 21 06 42.4 +1.2
SNR=6.0
SGDS **Sogindy** 33.96 64 *eP* **P** 21 06 42.2 +1.4
baz=64
SGDS **Sogindy** 33.96 64 *eP* **P** 21 06 42.2 +1.4
TRO **Tromso** 33.98 353 *eP* **P** 21 06 40.5 0.0
FRU1 **Bishkek** 34.00 65 P **P** 21 06 41.4 +0.2
FRU1 pmax pmax
comp=Z,51nm,0.7s
FRU1 **Bishkek** 34.00 65 P **P** 21 06 41.4 +0.2
CHMS **Chumysh** 34.07 65 P **P** 21 06 43.5 +1.8
SNR=13
KZA **Kyzart** 34.52 67 P **P** 21 06 47.9 +1.9
SNR=14
HAMF **Hammerfest** 34.57 356 *eP* **P** 21 06 46.5 +0.8
NIL **Nilore** 34.58 82 P **P** 21 06 46.7 +0.4
NIL pmax pmax
comp=Z,124nm,1.2s
NIL **Nilore** 34.58 82 **P** 21 06 46.6 +0.4
TKM2 **Tokmak 2** 34.70 65 P **P** 21 06 49.7 +2.3
SNR=13
TKM2 **Tokmak 2** 34.70 65 *i* P **P** 21 06 48.1 +0.7
TKM2 pmax pmax
comp=Z,24nm,0.7s
TOA0 **Torodi Ar. Sit** 34.95 236 P **P** 21 06 50.3 +0.8
SNR=11
TOA0 **Torodi Ar. Sit** 34.95 236 P **P** 21 06 49.4 -0.1
TORD **Torodi Ar. Bea** 34.95 236 P **P** 21 06 49.9 +0.4
comp=Z,18nm,0.8s,baz=31,slow=8.9,SNR=70
TORD ScP **ScP** 21 13 00.8 +0.8
comp=Z,1.8nm,1.1s,baz=46,slow=3.5,SNR=2.2
TORD LR LR 21 23 41.2
comp=Z,831nm,19.6s,baz=30,slow=40
TORD **Torodi Ar. Bea** 34.95 236 P **P** 21 06 49.8 +0.2
KUU **Kurty** 35.17 63 *eP* **P** 21 06 53.0 +1.8
baz=63
KUU *eS* **S** 21 12 20.6 +1.3
baz=63
KUU **Kurty** 35.17 63 *eP* **P** 21 06 53.0 +1.8
KUU *eS* **S** 21 12 20.5 +1.3
ULHL **Ulahol** 35.23 66 P **P** 21 06 53.9 +1.9
SNR=9.3
KSH **Kashi** 35.39 71 P **P** 21 06 52.1 -1.2
KSH pP pP 21 07 07.7 -1.9
KSH S **S** 21 12 15.4 -7.6
KSH sS sS 21 12 47.0 -3.9
KSH ScS **ScS** 21 17 03.3 -2.8
KSH pmax pmax
comp=Z,28nm,1.1s
KSH pmax pmax
comp=Z,140nm,4.0s
KSH LR LR
comp=Z,390nm,13.4s
KSH LR LR
comp=Z,260nm,11.8s
KSH LR LR
comp=Z,590nm,18.2s
AAA **Alma-Ata** 35.64 64 *eP* **P** 21 06 56.6 +1.3
baz=65
AAA **Alma-Ata** 35.64 64 *eP* **P** 21 06 56.6 +1.3
CHKK **Chushkaly** 35.64 63 *eP* **P** 21 06 56.8 +1.6
baz=63
CHKK **Chushkaly** 35.64 63 *eP* **P** 21 06 56.8 +1.6
TNSS **Tian-Shan** 35.68 65 *eP* **P** 21 06 57.4 +1.3
baz=65
TNSS **Tian-Shan** 35.68 65 *eP* **P** 21 06 57.3 +1.3
MDOK **Medeo** 35.74 65 *eP* **P** 21 06 57.3 +1.0
baz=65
MDOK **Medeo** 35.74 65 *eP* **P** 21 06 57.2 +1.0
KDJ **Kajisay** 35.94 66 P **P** 21 06 58.2 +0.2
KDJ pmax pmax
comp=Z,48nm,0.9s
KDJ **Kajisay** 35.94 66 P **P** 21 06 58.2 +0.2
TDK **Taldyqorghan** 36.58 61 *eP* **P** 21 07 04.9 +1.6
baz=61
TDK **Taldyqorghan** 36.58 61 *eP* **P** 21 07 04.8 +1.5
SATY **Saty** 36.74 65 *eP* **P** 21 07 06.0 +1.2
comp=Z,29nm,2.5s,baz=65
SATY **Saty** 36.74 65 *eP* **P** 21 07 05.9 +1.2
SATY pmax pmax
comp=Z,29nm,2.5s
MBAR **Mbarara** 36.76 180 P **P** 21 07 04.2 -1.0
MBAR pmax pmax
comp=Z,32nm,1.1s
MBAR **Mbarara** 36.76 180 **P** 21 07 04.2 -1.0
MBAR IAmb IAmb 21 07 27.6
comp=Z,32nm,1.1s
KURK **Kurchatov** 36.78 52 P **P** 21 07 06.2 +1.5
KURK **Kurchatov** 36.78 52 *c i* P **P** 21 07 04.9 +0.1
KURK pmax pmax
comp=Z,24nm,1.1s
KURK **Kurchatov** 36.78 52 P **P** 21 07 04.7 -0.1

PRZ	**Przheval'sk**	**36.80**	**66**	P	**P**	**21 07 06.6**	**+1.3**
PRZ				pmax	pmax		
	comp=Z,74nm,1.0s						
PRZ	**Przheval'sk**	**36.80**	**66**	P	**P**	**21 07 06.6**	**+1.3**
KPKS	**Kokpek**	**36.90**	**64**	*e*P	**P**	**21 07 07.4**	**+1.3**
	baz=64						
KPKS	**Kokpek**	**36.90**	**64**	*e*P	**P**	**21 07 07.3**	**+1.3**
UZB	**Uzynbulak**	**37.18**	**64**	*e*P	**P**	**21 07 09.8**	**+1.2**
	comp=Z,15nm,2.4s,baz=64						
UZB	**Uzynbulak**	**37.18**	**64**	*e*P	**P**	**21 07 09.7**	**+1.2**
UZB				pmax	pmax		
	comp=Z,15nm,2.4s						
DHRM	**DHARAMSHALA**	**37.45**	**83**	*e*P	**P**	**21 07 10.7**	**-0.3**
SHLS	**Shalkode**	**37.50**	**64**	*e*P	**P**	**21 07 14.8**	**+3.6**
	baz=64						
SHLS	**Shalkode**	**37.50**	**64**	*e*P	**P**	**21 07 14.7**	**+3.6**
KMBO	**Kilima Mbogo**	**37.75**	**170**	LR	LR	21 25 58.4	
	comp=Z,352nm,18.1s,baz=282,slow=41						
KMBO	**Kilima Mbogo**	**37.75**	**170**	P	**P**	**21 07 16.1**	**+2.5**
KMBO	**Kilima Mbogo**	**37.75**	**170**	P	**P**	**21 07 13.3**	**-0.3**
KMBO				pmax	pmax		
	comp=Z,46nm,1.9s						
KMBO	**Kilima Mbogo**	**37.75**	**170**	P	**P**	**21 07 13.3**	**-0.3**
BHK	**Bhakra**	**37.82**	**84**	*ex*	pP	21 07 30.2	0.0
SMLA	**Simla**	**38.52**	**84**	⇑*i*P	**P**	**21 07 19.4**	**-0.4**
MAKZ	**Makanchi**	**38.97**	**58**	P	**P**	**21 07 24.2**	**+0.9**
MAKZ				pmax	pmax		
	comp=Z,13nm,0.7s						
MAKZ	**Makanchi**	**38.97**	**58**	P	**P**	**21 07 24.2**	**+0.9**
MKAR	**Makanchi Array**	**39.19**	**58**	P	**P**	**21 07 24.8**	**-0.4**
	comp=Z,6.9nm,0.6s,baz=270,slow=8.2,SNR=68						
MKAR				ScP	**ScP**	**21 13 14.6**	**-0.8**
	comp=Z,3.6nm,0.5s,baz=257,slow=4.0,SNR=11						
MKAR				LR	LR	21 25 55.0	
	comp=Z,481nm,21.3s,baz=266,slow=40						
PMAR	**Madeira**	**39.26**	**279**	*e*P	**P**	**21 07 27.9**	**+1.7**
	comp=Z,216nm,1.7s						
NDI	**New Delhi**	**39.47**	**88**	*ex*	P	21 07 35.0	+7.3
DDI	**Dehra Dun**	**39.52**	**85**	*e*P	**P**	**21 07 27.3**	**-0.9**
MACI	**Morro de la Ar**	**40.57**	**272**	P	**P**	**21 07 37.1**	**+0.1**
ZAA0	**Zalesovo Array**	**40.78**	**47**	P	**P**	**21 07 37.6**	**-0.7**
ZALV	**Zalesovo Beam**	**40.78**	**47**	P	**P**	**21 07 37.5**	**-0.7**
	comp=Z,16nm,0.4s,baz=268,slow=9.0,SNR=107						
ZALV				LR	LR	21 29 08.0	
	comp=Z,391nm,18.4s,baz=265,slow=43						
ZALV	**Zalesovo Beam**	**40.78**	**47**	P	**P**	**21 07 37.4**	**-0.9**
ZSN	**Zaisan**	**40.89**	**57**	*e*P	**P**	**21 07 40.5**	**+1.1**
	comp=Z,6.6nm,1.0s,baz=57						
ZSN	**Zaisan**	**40.89**	**57**	*e*P	**P**	**21 07 40.4**	**+1.1**
ZSN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HSPB	**Hornsund (broa**	**41.32**	**355**	*e*P	**P**	**21 07 42.8**	**+0.4**
BORG	**Borgarnes**	**41.84**	**329**	P	**P**	**21 07 48.5**	**+1.8**
	comp=Z,7.0nm,0.7s,baz=105,slow=15,SNR=3.2						
BORG	**Borgarnes**	**41.84**	**329**	P	**P**	**21 07 48.5**	**+1.8**
BORG				pmax	pmax		
	comp=Z,75nm,1.3s						
BORG	**Borgarnes**	**41.84**	**329**	IAmb	IAmb	21 08 19.6	
	comp=Z,75nm,1.3s						
BHPL	**Bhopal**	**42.04**	**95**	*e*P	**P**	**21 07 49.1**	**+0.1**
SPA0	**Spitsbergen Ar**	**42.39**	**356**	P	**P**	**21 07 52.0**	**+0.9**
SPA0				IAmb	IAmb	21 08 25.8	
	comp=Z,100nm,1.4s						
SPA0	**Spitsbergen Ar**	**42.39**	**356**	*e*P	**P**	**21 07 51.1**	**0.0**
DGZ	**Jazzator, Alta**	**42.43**	**53**	*i*P	**P**	**21 07 51.8**	**-0.2**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ	**Urumqi**	**43.33**	**62**	*e*P	**P**	**21 08 01.3**	**+2.1**
WMQ				pP	pP	21 08 18.7	+2.6
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,30nm,6.5s						
WMQ				LR	LR		
	comp=Z,270nm,20.1s						
WMQ				LR	LR		
	comp=Z,420nm,23.3s						
WMQ				LR	LR		
	comp=Z,600nm,26.3s						
KBS	**Kingsbay**	**43.40**	**355**	P	**P**	**21 07 59.1**	**-0.1**
KBS				pmax	pmax		
	comp=Z,34nm,0.7s						
KBS	**Kingsbay**	**43.40**	**355**	P	**P**	**21 07 59.1**	**-0.1**
KBS				IAmb	IAmb	21 08 02.7	
	comp=Z,34nm,0.7s						
DBIC	**Dimbokro**	**44.06**	**237**	P	**P**	**21 08 05.0**	**-0.3**
	comp=Z,15nm,0.7s,baz=26,slow=9.2,SNR=23						
DBIC				LR	LR	21 29 39.8	
	comp=Z,626nm,19.8s,baz=12,slow=40						
DBIC	**Dimbokro**	**44.06**	**237**	P	**P**	**21 08 05.2**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,68nm,1.3s						
DBIC	**Dimbokro**	**44.06**	**237**	P	**P**	**21 08 05.2**	**-0.1**
DBIC				IAmb	IAmb	21 08 28.6	
	comp=Z,68nm,1.3s						
KLRI	**Killari**	**44.06**	**102**	*e*P	**P**	**21 08 05.3**	**-0.1**
TIC	**Toumodi**	**44.19**	**237**	*e*P	**P**	**21 08 06.1**	**-0.2**
KIC	**Kosan Boka**	**44.21**	**236**	*e*P	**P**	**21 08 06.3**	**-0.2**
	comp=Z,33nm,0.7s						
NGP	**Nagpur**	**44.38**	**96**	*e*P	**P**	**21 08 08.2**	**+0.3**
CMLA	**Cha da Macela**	**44.48**	**289**	P	**P**	**21 08 08.8**	**+0.3**
CMLA				pmax	pmax		
	comp=Z,112nm,1.1s						
CMLA	**Cha da Macela**	**44.48**	**289**	P	**P**	**21 08 08.8**	**+0.3**
LIC	**Lamto**	**44.50**	**236**	*e*P	**P**	**21 08 08.7**	**-0.1**
	comp=Z,32nm,0.5s						
NRIK	**Noril'sk**	**44.82**	**25**	P	**P**	**21 08 11.4**	**+0.7**
	comp=Z,7.3nm,0.4s,baz=233,slow=4.3,SNR=7.3						
NRIK				LR	LR	21 29 45.3	
	comp=Z,588nm,21.6s,baz=224,slow=40						
SRSP	**Sriramsagar**	**44.98**	**100**	*e*P	**P**	**21 08 11.7**	**-0.9**
HYBB	**Hyderabad (bro**	**45.97**	**101**	*e*P	**P**	**21 08 21.2**	**+0.7**
HYB	**Hyderabad**	**45.97**	**101**	*i*P	**P**	**21 08 20.0**	**-0.5**
HYB				*e*pP	**pP**	**21 08 37.0**	**-0.3**
HYB	**Hyderabad**	**45.97**	**101**	*e*P	**P**	**21 08 20.7**	**+0.2**
DAG	**Danmarks Havn**	**45.99**	**346**	*i*P	**P**	**21 08 19.5**	**-0.3**
DAG	**Danmarks Havn**	**45.99**	**346**	*e*P	**P**	**21 08 19.5**	**-0.3**
CUPL	**Choutuppal**	**46.33**	**101**	*e*P	**P**	**21 08 22.8**	**-0.5**
URV	**Uravakonda**	**46.37**	**105**	*e*P	**P**	**21 08 26.6**	**+3.0**
NJS	**Nagarjunasagar**	**47.05**	**102**	*e*P	**P**	**21 08 29.5**	**+0.6**
MBO	**M'Bour**	**47.90**	**256**	P	**P**	**21 08 35.4**	**-0.1**
ADKI	**Addanki**	**47.97**	**102**	*e*P	**P**	**21 08 35.5**	**-0.6**
MYLAV	**Mylavaram**	**47.99**	**100**	*e*P	**P**	**21 08 36.0**	**-0.2**
NOR	**Nord**	**48.41**	**352**	*i*P	**P**	**21 08 37.8**	**-0.8**
NOR	**Nord**	**48.41**	**352**	*i*P	**P**	**21 08 37.8**	**-0.8**
PVM	**Polavaram**	**48.50**	**99**	*e*P	**P**	**21 08 41.9**	**+1.8**
BOK	**Bokaro**	**48.60**	**89**	*e*P	**P**	**21 08 39.6**	**-1.2**
ANGG	**Ammassalik, Gr**	**48.75**	**329**	P	**P**	**21 08 40.1**	**-1.3**
SKHT	**Srikalahasti**	**48.99**	**104**	*e*P	**P**	**21 08 44.8**	**+0.9**
GTK	**Tadong**	**49.20**	**83**	*e*P	**P**	**21 08 43.6**	**-2.0**
SUMG	**Summit**	**49.58**	**338**	*i*P	**P**	**21 08 48.5**	**+0.4**
SUMG	**Summit**	**49.58**	**338**	*i*P	**P**	**21 08 48.5**	**+0.4**
SUMG	**Summit**	**49.58**	**338**	P	**P**	**21 08 48.1**	**0.0**
SUMG				IAmb	IAmb	21 09 12.7	
	comp=Z,28nm,0.9s						
CHLP	**Challavanipeta**	**49.77**	**96**	*e*P	**P**	**21 08 52.2**	**+2.4**
LSA	**Lhasa**	**50.23**	**79**	P	**P**	**21 08 53.9**	**+0.2**
LSA				LR	LR		
	comp=Z,1μm,22.8s						
LSA				LR	LR		
	comp=Z,1μm,21.7s						
LSA				LR	LR		
	comp=Z,3μm,25.6s						
LSA	**Lhasa**	**50.23**	**79**	*i*P	**P**	**21 08 53.8**	**+0.1**
	SNR=18						
LSA	**Lhasa**	**50.23**	**79**	P	**P**	**21 08 54.8**	**+1.0**
LSA	**Lhasa**	**50.23**	**79**	P	**P**	**21 08 54.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,35nm,0.9s						
LSA	**Lhasa**	**50.23**	**79**	P	**P**	**21 08 54.4**	**+0.6**
LSA				IAmb	IAmb	21 09 17.5	
	comp=Z,35nm,0.9s						
MOY	**Mondy**	**50.72**	**49**	*e*P	**pP**	**21 09 15.7**	**+1.7**
MOY				pmax	pmax		
	comp=Z,30nm,1.8s						
LSZ	**Lusaka**	**51.41**	**183**	P	**P**	**21 09 03.1**	**+0.9**
	comp=Z,3.7nm,0.3s,baz=1.0,slow=23,SNR=8.6						
LSZ	**Lusaka**	**51.41**	**183**	P	**P**	**21 09 02.6**	**+0.4**
LSZ				IAmb	IAmb	21 09 49.8	
	comp=Z,29nm,1.4s						
TLY	**Talaya**	**52.33**	**49**	P	**P**	**21 09 09.5**	**+0.9**
	comp=Z,5.0nm,0.5s,baz=199,slow=23,SNR=3.7						
TLY	**Talaya**	**52.33**	**49**	*e*P	**P**	**21 09 09.6**	**+1.0**
TLY				*e*S	**S**	**21 16 32.2**	**+3.5**
TLY				pmax	pmax		
	comp=Z,86nm,1.5s						
TLY				MLR	MLR		
	comp=Z,953nm,22.0s						
TLY	**Talaya**	**52.33**	**49**	P	**P**	**21 09 08.9**	**+0.3**
TLY				IAmb	IAmb	21 09 31.6	
	comp=Z,25nm,1.1s						
ZAK	**Zakamensk**	**52.41**	**50**	*e*P	**P**	**21 09 08.9**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
IRK	**Irkutsk**	**52.58**	**48**	*e*P	**P**	**21 09 08.8**	**-1.6**
IRK				pmax	pmax		
	comp=Z,48nm,2.2s						
SHL	**Shillong**	**52.61**	**84**	⇑*e*P	**P**	**21 09 09.4**	**-1.8**
SHL	**Shillong**	**52.61**	**84**	P	**P**	**21 09 12.3**	**+1.1**
	SNR=7.4						
SHL	**Shillong**	**52.61**	**84**	P	**P**	**21 09 10.3**	**-0.9**
SHL				pmax	pmax		
	comp=Z,38nm,0.8s						
SHL	**Shillong**	**52.61**	**84**	P	**P**	**21 09 10.3**	**-0.9**
TEZP	**TEZPUR**	**52.87**	**82**	*e*P	**P**	**21 09 10.4**	**-2.4**
GTA	**Gaotai**	**53.24**	**64**	P	**P**	**21 09 15.3**	**-0.4**
GTA				pP	pwP	21 09 34.8	-0.6
GTA				sP	sP	21 09 43.8	+3.1
GTA				S	**S**	**21 16 39.5**	**-2.2**
GTA				sS	sS	21 17 11.2	-1.2
GTA				pmax	pmax		
	comp=Z,7.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,120nm,5.3s						
GTA				LR	LR		
	comp=Z,380nm,20.3s						
GTA				LR	LR		
	comp=Z,330nm,21.6s						
GTA				LR	LR		
	comp=Z,560nm,19.4s						
ZIRO	**ZIRO**	**53.30**	**80**	*e*P	**P**	**21 09 14.0**	**-2.3**
PALK	**Pallekele**	**53.74**	**110**	P	**P**	**21 09 19.8**	**+0.3**
	comp=Z,11nm,0.9s,baz=70,slow=9.5,SNR=6.0						
PALK	**Pallekele**	**53.74**	**110**	P	**P**	**21 09 19.8**	**+0.3**
PALK				pmax	pmax		
	comp=Z,27nm,1.1s						
PALK	**Pallekele**	**53.74**	**110**	IAmb	IAmb	21 09 37.5	
	comp=Z,27nm,1.1s						
ILULI	**Ilulissat**	**53.76**	**334**	P	**P**	**21 09 17.6**	**-1.2**
ILULI				pmax	pmax		
	comp=Z,173nm,1.7s						
ILULI	**Ilulissat**	**53.76**	**334**	P	**P**	**21 09 17.6**	**-1.2**
SFJD	**Kangerlussuaq**	**53.90**	**331**	P	**P**	**21 09 19.7**	**-0.1**
	comp=Z,11nm,0.5s,baz=112,slow=14,SNR=3.6						
SFJD	**Kangerlussuaq**	**53.90**	**331**	P	**P**	**21 09 19.7**	**-0.1**
SFJD				pmax	pmax		
	comp=Z,191nm,1.7s						
SAIH	**SAIHA**	**54.95**	**86**	*ex*	P	21 09 20.6	-7.7
LKP	**Lekhapani**	**54.97**	**80**	*e*P	**P**	**21 09 25.7**	**-2.5**
SONM	**Songino Array**	**55.07**	**53**	P	**P**	**21 09 29.0**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=287,slow=7.4,SNR=17						
SONM	**Songino Array**	**55.07**	**53**	P	**P**	**21 09 28.6**	**-0.3**
ULN	**Ulaanbaatar**	**55.48**	**53**	P	**P**	**21 09 32.5**	**+0.6**
ULN	**Ulaanbaatar**	**55.48**	**53**	P	**P**	**21 09 32.5**	**+0.6**
ULN				IAmb	IAmb	21 10 01.7	
	comp=Z,30nm,1.1s						
BOD	**Bodaibo**	**56.59**	**40**	*e*P	**P**	**21 09 38.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,28nm,0.8s						
TSUM	**Tsumeb**	**56.67**	**195**	P	**P**	**21 09 39.8**	**-0.6**
TSUM				IAmb	IAmb	21 10 08.6	
	comp=Z,32nm,1.1s						
OPO	**Ambohidratompo**	**56.75**	**161**	P	**P**	**21 09 42.1**	**+1.1**
	comp=Z,26nm,1.0s,baz=323,slow=6.9,SNR=11						
ABPO	**Ambohimpanom**	**57.18**	**162**	P	**P**	**21 09 44.4**	**+0.3**
ABPO				pmax	pmax		
	comp=Z,44nm,1.1s						
ABPO	**Ambohimpanom**	**57.18**	**162**	P	**P**	**21 09 44.4**	**+0.3**
LZH	**Lanzhou**	**57.44**	**67**	*e*P	**P**	**21 09 47.3**	**+1.4**
LZH				pP	pwP	21 10 05.3	-0.5
LZH				sP	sP	21 10 12.3	+1.2
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
LZH				pmax	pmax		
	comp=Z,250nm,8.0s						
LZH				LR	LR		
	comp=Z,600nm,15.0s						
LZH				LR	LR		
	comp=Z,680nm,15.2s						
LZH				LR	LR		
	comp=Z,990nm,18.0s						
CD2	**Chengdu**	**59.57**	**72**	⇑P	**P**	**21 10 02.3**	**+1.6**
CD2				pP	pP	21 10 18.9	+0.6
CD2				S	**S**	**21 18 04.6**	**-0.9**
CD2				pmax	pmax		
	comp=Z,60nm,0.9s						
CD2				pmax	pmax		
	comp=Z,220nm,6.1s						
CD2				LR	LR		
	comp=Z,430nm,23.9s						
CD2				LR	LR		
	comp=Z,310nm,15.5s						
CD2				LR	LR		
	comp=Z,620nm,25.3s						
BTO	**Baotou**	**60.07**	**60**	*e*P	P	21 10 12.5	+8.5
HHC	**Hu-ho-hao-te**	**61.05**	**59**	*e*P	**P**	**21 10 12.1**	**+1.4**
HHC				PP	**PP**	**21 12 30.2**	**+4.7**
HHC				S	**S**	**21 18 23.0**	**-1.2**
HHC				SS	**SS**	**21 22 23.6**	**-0.7**
HHC				pmax	pmax		
	comp=Z,27nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,5.7s						
HHC				LR	LR		
	comp=Z,330nm,17.9s						
HHC				LR	LR		
	comp=Z,390nm,17.0s						
HHC				LR	LR		
	comp=Z,450nm,17.9s						
LBTB	**Lobatse**	**61.24**	**186**	P	**P**	**21 10 11.2**	**-0.7**
LBTB				pmax	pmax		
	comp=Z,18nm,0.7s						
LBTB	**Lobatse**	**61.24**	**186**	P	**P**	**21 10 11.2**	**-0.7**
LBTB				IAmb	IAmb	21 10 14.8	
	comp=Z,18nm,0.7s						
KMI	**Kunming**	**61.47**	**79**	⇓*e*P	**P**	**21 10 14.3**	**+0.4**
KMI				PP	**PP**	**21 12 29.8**	**0.0**
KMI				S	**S**	**21 18 24.4**	**-5.8**
KMI				SS	**SS**	**21 22 31.0**	**-0.9**
KMI				pmax	pmax		
	comp=Z,13nm,0.9s						
KMI				pmax	pmax		
	comp=Z,110nm,4.3s						
KMI				LR	LR		
	comp=Z,160nm,21.0s						
KMI				LR	LR		
	comp=Z,230nm,18.8s						
KMI				LR	LR		
	comp=Z,380nm,22.8s						
KMI	**Kunming**	**61.47**	**79**	P	**P**	**21 10 13.1**	**-0.8**
KMI				pmax	pmax		
	comp=Z,24nm,1.0s						
KMI	**Kunming**	**61.47**	**79**	P	**P**	**21 10 13.1**	**-0.8**
KMI				IAmb	IAmb	21 10 28.1	
	comp=Z,24nm,1.0s						
CHTO	**Chiang Mai**	**61.61**	**87**	P	**P**	**21 10 14.3**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,55nm,1.3s						
CHTO	**Chiang Mai**	**61.61**	**87**	P	**P**	**21 10 14.3**	**-0.4**
CM31	**Chiang Mai Arr**	**61.80**	**87**	P	**P**	**21 10 17.1**	**+1.2**
	SNR=14						
CM31	**Chiang Mai Arr**	**61.80**	**87**	P	**P**	**21 10 16.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**61.80**	**87**	P	**P**	**21 10 15.7**	**-0.3**
	comp=Z,7.4nm,0.6s,baz=298,slow=7.7,SNR=22						
CMAR				LR	LR	21 42 59.6	
	comp=Z,158nm,19.9s,baz=335,slow=42						
FRB	**Frobisher Bay**	**62.00**	**330**	P	**P**	**21 10 15.3**	**-1.2**
	comp=Z,18nm,0.8s,baz=89,slow=5.9,SNR=4.1						
XAN	**Xi'an**	**62.08**	**67**	P	**P**	**21 10 17.0**	**-0.6**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK	**Yakutsk**	**62.45**	**32**	*e*P	**P**	**21 10 18.8**	**-0.8**
YAK				*e*PP	**pP**	**21 10 37.5**	**-0.1**
YAK				*e*		21 10 58.5	
YAK				*e*		21 12 35.0	
YAK				*e*PPP	PPP	21 14 05.7	
YAK				*e*S	**S**	**21 18 42.3**	**+1.3**
YAK				*e*SS	**sS**	**21 19 15.9**	**+3.0**
YAK				*e*		21 20 05.9	
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,49nm,2.5s						
YAK				pmax	pmax		
	comp=N,35nm,2.6s						
YAK				pmax	pmax		
	comp=E,37nm,2.1s						
YAK				smax	smax		
	comp=N,18nm,2.3s						
YAK				smax	smax		
	comp=E,35nm,2.5s						
DRLN	**Deer Lake**	**62.59**	**312**		**P**	**21 10 21.1**	**+0.4**
HIA	**Hailar**	**62.82**	**47**	P	**P**	**21 10 22.3**	**0.0**
HIA				pmax	pmax		
	comp=Z,56nm,1.2s						
HIA	**Hailar**	**62.82**	**47**	P	**P**	**21 10 22.3**	**0.0**
RES	**Resolute Bay**	**63.68**	**346**	P	**P**	**21 10 27.0**	**-0.6**
RES				pmax	pmax		
	comp=Z,26nm,1.2s						
RES	**Resolute Bay**	**63.68**	**346**	P	**P**	**21 10 27.0**	**-0.6**
RES				IAmb	IAmb	21 10 46.9	
	comp=Z,26nm,1.2s						
GYA	**Guiyang**	**63.91**	**75**	⇓P	**P**	**21 10 29.9**	**-0.1**
GYA				pP	sP	21 10 53.1	-2.3
GYA				S	**S**	**21 18 57.3**	**-3.2**
GYA				SKS	**SKSac**	**21 20 11.4**	**-6.3**
GYA				ScS	**SKKSac**	**21 20 13.9**	**-3.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GYA				pmax	pmax		
	comp=Z,100nm,3.5s						
GYA				LR	LR		
	comp=Z,73nm,4.6s						
GYA				LR	LR		
	comp=Z,51nm,3.8s						
GYA				LR	LR		
	comp=Z,47nm,4.5s						
PBKT	**Sadao Pong**	**64.44**	**88**	P	**P**	**21 10 33.9**	**+0.6**
BJI	**Beijing**	**64.56**	**58**	P	**P**	**21 10 33.5**	**-0.4**
BJI				S	**S**	**21 19 08.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,120nm,3.5s						
BJI				LR	LR		
	comp=Z,310nm,25.6s						
BJI				LR	LR		
	comp=Z,290nm,26.0s						
BJI				LR	LR		
	comp=Z,370nm,38.4s						
BJT	**Baijiatuau**	**64.57**	**58**	P	**P**	**21 10 34.3**	**+0.4**
BJT				pmax	pmax		
	comp=Z,19nm,0.8s						
BJT	**Baijiatuau**	**64.57**	**58**	P	**P**	**21 10 34.3**	**+0.4**
BJT				IAmb	IAmb	21 11 01.3	
	comp=Z,19nm,0.8s						
BOSA	**Boshof**	**64.84**	**186**	P	**P**	**21 10 37.5**	**+1.7**
	comp=Z,17nm,0.6s,baz=355,slow=6.9,SNR=74						
BOSA				LR	LR	21 40 46.9	
	comp=Z,261nm,19.1s,baz=342,slow=38						
BOSA	**Boshof**	**64.84**	**186**	P	**P**	**21 10 35.6**	**-0.2**
BOSA				IAmb	IAmb	21 10 57.5	
	comp=Z,31nm,0.9s						
ZEA	**Zeya**	**65.05**	**41**	*e*P	**P**	**21 10 36.4**	**-0.4**
ZEA				*e*		21 11 04.0	
ZEA				pmax	pmax		
	comp=Z,14nm,1.2s						
SCHQ	**Schefferville**	**65.28**	**321**	P	**P**	**21 10 37.5**	**-0.8**
	comp=Z,6.7nm,0.4s,baz=74,slow=9.0,SNR=5.1						
SCHQ				LR	LR	21 39 20.6	
	comp=Z,140nm,20.5s,baz=71,slow=36						
SCHQ	**Schefferville**	**65.28**	**321**	P	**P**	**21 10 38.8**	**+0.5**
SCHQ				IAmb	IAmb	21 11 06.9	
	comp=Z,33nm,1.1s						
TIA	**Tai'an**	**67.02**	**61**	P	**P**	**21 10 49.3**	**-0.5**
TIA				S	**S**	**21 19 37.4**	**-0.6**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TIA				LR	LR		
	comp=Z,310nm,21.4s						
TIA				LR	LR		
	comp=Z,280nm,19.2s						
TIA				LR	LR		
	comp=Z,320nm,22.2s						
MLSI	**Meulaboh, Aceh**	**67.80**	**102**	P	**P**	**21 10 53.7**	**-1.3**
	comp=Z,92nm,0.9s						
HAL	**Halifax**	**68.42**	**310**	P	**P**	**21 10 59.0**	**+0.6**
HAL				pmax	pmax		
	comp=Z,49nm,0.9s						
HAL	**Halifax**	**68.42**	**310**	P	**P**	**21 10 59.0**	**+0.6**
LMN	**Caledonia Moun**	**68.55**	**312**	P	**P**	**21 10 59.9**	**+0.7**
LMN				IAmb	IAmb	21 11 28.4	
	comp=Z,33nm,0.9s						
BATG	**Bathurst New B**	**68.57**	**313**	IAmb	IAmb	21 11 19.2	
	comp=Z,24nm,0.9s						
UBPT	**Khong Chiam**	**68.77**	**86**	P	**P**	**21 11 01.1**	**+0.2**
UBPT				IAmb	IAmb	21 11 19.4	
	comp=Z,38nm,1.0s						
DL2	**Dalian**	**68.81**	**57**	*e*P	**P**	**21 10 59.6**	**-1.3**
DL2				sP	**sP**	**21 11 29.0**	**+2.2**
DL2				S	**S**	**21 19 58.4**	**-0.9**
DL2				pmax	pmax		
	comp=Z,56nm,0.9s						
DL2				pmax	pmax		
	comp=Z,170nm,7.4s						
DL2				LR	LR		
	comp=Z,440nm,24.4s						
DL2				LR	LR		
	comp=Z,530nm,27.2s						
DL2				LR	LR		
	comp=Z,440nm,27.9s						
SUR	**Sutherland**	**69.03**	**189**	P	**P**	**21 11 02.9**	**+0.6**
TPTI		**69.03**	**102**	P	**P**	**21 11 03.1**	**+0.5**
	comp=Z,338nmcomp=Z,23nm,0.7s						
KLR	**Kul'dur**	**69.74**	**43**	*i*P	**P**	**21 11 05.4**	**-1.1**
KLR				pmax	pmax		
	comp=Z,14nm,0.9s						
PQI	**Presque Isle**	**70.03**	**314**	IAmb	IAmb	21 11 37.3	
	comp=Z,29nm,1.1s						
E64A	**Bridgewater**	**70.06**	**313**	P	**P**	**21 11 08.6**	**+0.1**
	baz=58						
GGN	**Saint George**	**70.16**	**312**	P	**P**	**21 11 09.5**	**+0.4**
GGN				IAmb	IAmb	21 11 37.8	
	comp=Z,25nm,0.9s						
QIZ	**Qiongzhong**	**70.24**	**81**	P	**P**	**21 11 08.3**	**-1.7**
QIZ				PP	**PP**	**21 13 44.2**	**-1.9**
QIZ				S	**S**	**21 20 14.6**	**-2.0**
QIZ				pmax	pmax		
	comp=Z,100nm,3.4s						
QIZ				LR	LR		
	comp=Z,76nm,20.9s						
QIZ				LR	LR		
	comp=Z,150nm,26.3s						
QIZ				LR	LR		
	comp=Z,190nm,29.9s						
NJ2	**Nanjing**	**70.34**	**64**	⇓P	**P**	**21

EMMW East Machias 70.74 312 P **P** **21 11 13.7 +1.0**
EMMW IAmb IAmb 21 11 42.2
comp=Z,35nm,1.0s
RPSI Rantau Prapat 70.75 101 P **P** **21 11 13.6 +0.5**
E62A Clayton Lake 70.94 314 P **P** **21 11 13.9 0.0**
G64A Maxfield 71.23 313 P **P** **21 11 16.5 +0.9**
baz=57
IPM Ipoh 71.35 98 P **P** **21 11 16.9 0.0**
IPM IAmb IAmb 21 11 36.8
comp=Z,42nm,1.2s
GRNR Gornyy 71.40 40 *e*P **P** **21 11 16.2 -0.4**
GRNR MLR MLR
comp=E,190nm,17.0s
GRNR MLR MLR
comp=N,170nm,15.0s
GRNR MLR MLR
comp=Z,300nm,16.0s
PKME Peaks-Kenny Pk 71.54 313 P **P** **21 11 19.2 +1.7**
F62A Pittston Farm, 71.59 314 P **P** **21 11 19.0 +1.2**
F62A IAmb IAmb 21 12 03.2
comp=Z,36nm,1.4s
E61A Lac Etchemin 71.60 314 P **P** **21 11 19.4 +1.5**
baz=57
CHGQ Chibougamau 71.79 319 P **P** **21 11 19.2 +0.2**
baz=55
HKPS Hong Kong Po S 71.89 75 P **P** **21 11 21.3 +1.3**
HKPS IAmb IAmb 21 11 46.2
comp=Z,45nm,1.0s
WVL Waterville 72.14 312 P **P** **21 11 23.7 +2.6**
E60A Ste Agathe de 72.18 315 P **P** **21 11 22.2 +0.9**
baz=56
G62A West of Eustis 72.30 313 P **P** **21 11 24.2 +2.1**
G62A IAmb IAmb 21 11 40.3
comp=Z,43nm,1.4s
LATQ La Tuque 72.37 316 P **P** **21 11 23.9 +1.5**
MNSI Mandailing Nat 72.42 102 P pP 21 11 37.5 -3.8
SSE Sheshan 72.53 64 P **P** **21 11 22.5 -1.2**
SSE S **S** **21 20 40.9 -1.9**
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,12nm,3.5s
SSE LR LR
comp=Z,100nm,22.6s
SSE LR LR
comp=Z,110nm,23.3s
USA0B Ussuriysk Arra 72.63 48 P **P** **21 11 24.1 +0.1**
USA0B pmax pmax
comp=Z,55nm,1.4s
USA0B Ussuriysk Arra 72.63 48 P **P** **21 11 24.1 +0.1**
USA0B IAmb IAmb 21 11 51.3
comp=Z,55nm,1.4s
USRK Ussuriysk Ar. 72.63 48 P **P** **21 11 23.1 -0.9**
comp=Z,8.8nm,0.8s,baz=292,slow=5.5,SNR=22
USRK LR LR 21 48 28.0
comp=Z,186nm,18.3s,baz=288,slow=40
USRK Ussuriysk Ar. 72.63 48 P **P** **21 11 23.0 -1.1**
F60A Warwick 72.70 315 P **P** **21 11 24.9 +0.4**
baz=56
G61A St-Isidore-de- 72.84 314 P **P** **21 11 26.1 +0.8**
baz=56
H62A Milan 73.02 313 P **P** **21 11 27.2 +0.8**
baz=56
H62A Milan 73.02 313 P **P** **21 11 26.7 +0.3**
D57A Chemin Vers le 73.19 316 P **P** **21 11 27.7 +0.3**
baz=55
E58A La Victoria 73.22 315 P **P** **21 11 27.9 +0.3**
baz=55
MOQ Mont Orford 73.25 314 P **P** **21 11 27.9 +0.1**
H61A Lyndonville 73.50 313 P **P** **21 11 28.8 -0.4**
baz=55
I62A Tamworth 73.53 313 P **P** **21 11 30.5 +1.1**
MATQ Matagami 73.59 320 P **P** **21 11 29.5 -0.2**
baz=53
D56A ZEC Mazanza, M 73.66 317 P **P** **21 11 30.6 +0.5**
baz=54
LSQQ Lebel-sur-Quev 73.67 319 P **P** **21 11 30.1 0.0**
baz=53
E57A Chemin Saint G 73.69 316 P **P** **21 11 30.8 +0.5**
baz=54
KSAR Wonju Array Be 73.78 55 P **P** **21 11 30.0 -0.9**
KSAR Wonju Array Be 73.78 55 P **P** **21 11 30.0 -0.9**
KSRS Korea Array 73.79 55 P **P** **21 11 30.6 -0.4**
comp=Z,6.6nm,0.7s,baz=302,slow=4.8,SNR=15
KSRS LR LR 21 47 59.2
comp=Z,251nm,20.5s,baz=308,slow=39
H60A Morristown 73.94 314 P **P** **21 11 32.8 +1.0**
baz=55
I61A Oroboro, Fairl 74.01 313 P **P** **21 11 34.5 +2.3**
baz=55
D55A Sainte-Anne-du 74.07 317 P **P** **21 11 32.8 +0.3**
baz=54
PDSI Padang 74.16 103 P **P** **21 11 35.1 +1.6**
comp=Z,503nmcomp=Z,52nm,1.0s
HNH Hanover 74.19 313 P **P** **21 11 33.2 0.0**
HNH IAmb IAmb 21 11 54.1
comp=Z,22nm,0.9s
BCX Boston College 74.31 311 P **P** **21 11 34.3 +0.4**
BCX IAmb IAmb 21 11 52.0
comp=Z,50nm,1.4s
WES Weston 74.37 311 P **P** **21 11 35.0 +0.7**
WES pmax pmax
comp=Z,25nm,1.1s
WES Weston 74.37 311 P **P** **21 11 35.0 +0.7**
WES IAmb IAmb 21 11 54.3
comp=Z,25nm,1.1s
HRV Adam Dziewonsk 74.44 311 P **P** **21 11 34.5 -0.2**
HRV pmax pmax
comp=Z,28nm,1.5s
HRV Adam Dziewonsk 74.44 311 P **P** **21 11 34.5 -0.2**
VLDQ Val d'Or 74.49 319 P **P** **21 11 35.3 +0.4**
VLDQ IAmb IAmb 21 11 54.6
comp=Z,41nm,1.1s
D54A Lac Fusel, La 74.64 318 P **P** **21 11 35.7 -0.1**
baz=53
K62A Royalston 74.76 312 P **P** **21 11 37.9 +1.4**
BRYW Bryant College 74.77 311 P **P** **21 11 37.0 +0.3**
BRYW IAmb IAmb 21 11 57.3
comp=Z,27nm,1.1s
H58A Gabriels 74.88 314 P **P** **21 11 37.9 +0.6**
baz=54
SDSI Sungai Dareh 74.94 103 P **P** **21 11 37.6 -0.4**
comp=Z,702nmcomp=Z,50nm,1.2s
LONY Lake Ozonia 74.99 315 P **P** **21 11 38.5 +0.6**
baz=54
INK Inuvik 75.01 354 P **P** **21 11 37.2 -0.2**
comp=Z,6.1nm,1.0s,baz=29,slow=9.7,SNR=3.4
ORIO Orleans, Innes 75.03 316 P **P** **21 11 37.9 -0.1**
QUA2 Belchertown 75.05 312 P **P** **21 11 38.4 +0.1**
I59A Olmsteadville 75.07 314 P **P** **21 11 39.1 +0.7**
baz=54
RCBR Riachuelo 75.14 251 P **P** **21 11 38.5 -0.6**
RCBR pmax pmax
comp=Z,22nm,1.2s
RCBR Riachuelo 75.14 251 P **P** **21 11 38.5 -0.6**
MYKOM Kota Tinggi 75.21 99 P **P** **21 11 40.1 +0.5**
MYKOM IAmb IAmb 21 11 59.9
comp=Z,58nm,1.4s
D53A Lac Vacive, Po 75.25 318 P **P** **21 11 39.1 -0.2**
baz=52
D53A Lac Vacive, Po 75.25 318 IAmb IAmb 21 11 56.8
comp=Z,27nm,1.1s
E54A Lac Daplat, Po 75.37 317 P **P** **21 11 39.4 -0.5**
baz=52
H57A Richville 75.55 315 P **P** **21 11 41.5 +0.5**
baz=53
TRY Troy 75.58 313 P **P** **21 11 42.3 +1.1**
TRY IAmb IAmb 21 12 15.7
comp=Z,41nm,1.6s
J59A Piesco 75.63 314 P **P** **21 11 41.3 -0.3**
J59A IAmb IAmb 21 12 02.2
comp=Z,30nm,1.1s
E53A Dumoine, Ponti 75.66 317 P **P** **21 11 41.9 +0.2**
baz=52
KRJI Kerinci 75.67 103 P P 21 11 49.8 +7.5
I58A Old Forge 75.77 314 P **P** **21 11 43.2 +0.8**
baz=53
G55A Calabogie 75.83 316 P **P** **21 11 42.7 +0.1**
baz=53
I57A Carthage 76.02 314 P **P** **21 11 44.5 +0.8**
baz=53
KSCT Kent School, K 76.06 312 P **P** **21 11 45.4 +1.4**
ALGO Algonquin Park 76.14 317 P **P** **21 11 43.1 -1.3**
baz=52
J58A Remsen 76.15 314 P **P** **21 11 45.2 +0.6**
baz=53

J58A Remsen 76.15 314 P **P** **21 11 44.9 +0.4**
J58A IAmb IAmb 21 12 02.7
comp=Z,37nm,1.4s
PLVO Plevna 76.16 316 IAmb IAmb 21 12 04.3
comp=Z,29nm,1.1s
K59A Cooperstown 76.25 313 P **P** **21 11 45.9 +0.8**
baz=53
WSPT Westport, CT 76.30 311 P **P** **21 11 45.7 +0.4**
SSLB Suanglung 76.33 71 P **P** **21 11 43.5 -2.3**
G54A Lake Saint Pet 76.50 317 P **P** **21 11 46.8 +0.3**
baz=52
J57A Williamstown 76.54 314 P **P** **21 11 47.2 +0.6**
J57A IAmb IAmb 21 12 04.6
comp=Z,34nm,1.5s
L59A Walton 76.72 313 P **P** **21 11 48.9 +1.1**
baz=53
L59A Walton 76.72 313 IAmb IAmb 21 12 08.4
comp=Z,27nm,0.8s
K58A Earlville 76.72 314 P **P** **21 11 48.6 +0.8**
baz=53
K58A Earlville 76.72 314 IAmb IAmb 21 12 05.7
comp=Z,46nm,1.4s
COLD Coldfoot 76.74 0 P **P** **21 11 47.8 +0.4**
baz=359
COLD Coldfoot 76.74 0 P **P** **21 11 48.0 +0.6**
COLD IAmb IAmb 21 12 10.3
comp=Z,23nm,0.9s
PECO Prince Edward 76.79 315 P **P** **21 11 48.8 +0.7**
YSS Yuzh-Sakhalins 77.04 41 *e*P **P** **21 11 50.2 +0.8**
YSS *e* 21 12 14.0
YSS pmax pmax
comp=Z,20nm,0.5s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS Yuzh-Sakhalins 77.04 41 P **P** **21 11 49.7 +0.3**
J56A Wolcott 77.11 314 P **P** **21 11 50.7 +0.8**
baz=52
J56A Wolcott 77.11 314 IAmb IAmb 21 12 10.2
comp=Z,27nm,0.9s
ODNJ Ogdensburg 77.12 312 IAmb IAmb 21 12 09.8
comp=Z,25nm,1.1s
EPYK Eagle Plains 77.16 355 P **P** **21 11 49.7 -0.2**
baz=10
EPYK Eagle Plains 77.16 355 IAmb IAmb 21 12 11.7
comp=Z,26nm,1.0s
BINY Binghamton 77.27 313 P **P** **21 11 52.1 +1.3**
baz=52
BINY Binghamton 77.27 313 P **P** **21 11 50.5 -0.4**
BINY IAmb IAmb 21 12 11.2
comp=Z,23nm,1.0s
H53A Bobcaygeon 77.29 316 P **P** **21 11 51.2 +0.3**
baz=51
M59A Waymart 77.34 312 P **P** **21 11 51.9 +0.6**
baz=53
SADO Sadowa 77.47 317 P **P** **21 11 51.8 -0.2**
comp=Z,7.5nm,0.8s,baz=38,slow=8.2,SNR=5.4
SADO Sadowa 77.47 317 IAmb IAmb 21 12 11.2
comp=Z,28nm,1.1s
YKA Yellowknife Ar 77.67 344 P **P** **21 11 52.1 -0.5**
comp=Z,6.0nm,0.9s,baz=20,slow=6.1,SNR=5.5
YKA LR LR 21 48 24.2
comp=Z,107nm,18.0s,baz=0.0,slow=37
J55A Hilton 77.67 315 P **P** **21 11 53.9 +0.9**
K56A Middlesex 77.74 314 P **P** **21 11 54.4 +0.9**
baz=52
LUPA Lehigh Univers 77.88 312 P **P** **21 11 54.5 +0.2**
L57A Andrews Acres 77.90 313 P **P** **21 11 55.5 +1.1**
baz=52
N59A State Game Lan 77.92 312 P **P** **21 11 55.3 +0.8**
baz=52
IMAR Indian Mountai 77.93 2 P **P** **21 11 53.2 -0.9**
M58A Price's Panora 78.05 313 P **P** **21 11 56.1 +0.8**
baz=52
MMNY Mt. Morris Dam 78.06 315 P **P** **21 11 55.6 +0.4**
MMNY IAmb IAmb 21 12 14.6
comp=Z,34nm,1.2s
MEDO Medina 78.10 315 P **P** **21 11 54.7 -0.7**
MEDO IAmb IAmb 21 12 12.8
comp=Z,22nm,1.0s
D47A Chapleau 78.12 320 P **P** **21 11 55.3 -0.2**
baz=49
L56A Greenwood 78.23 314 P **P** **21 11 56.8 +0.6**
baz=52
L56A Greenwood 78.23 314 IAmb IAmb 21 12 15.7
comp=Z,26nm,1.0s
PSUB Penn St. - Bra 78.33 311 P **P** **21 11 57.5 +0.8**
M57A Sunshine Farm, 78.47 313 P **P** **21 11 58.4 +0.8**
baz=52
M57A Sunshine Farm, 78.47 313 P **P** **21 11 58.2 +0.6**
M57A IAmb IAmb 21 12 31.6
comp=Z,38nm,1.4s
N58A Sunbury 78.53 312 P **P** **21 11 57.7 -0.2**
N58A IAmb IAmb 21 12 17.5
comp=Z,26nm,1.2s
O59A Robesonia 78.54 312 P **P** **21 11 58.2 +0.3**
baz=52
COCO West Island 78.56 114 P **P** **21 11 57.2 -1.0**
COCO pmax pmax
comp=Z,88nm,1.0s
COCO West Island 78.56 114 P **P** **21 11 57.2 -1.0**
WVNY West Valley, N 78.66 315 IAmb IAmb 21 12 18.0
comp=Z,34nm,1.2s
L55A Hinsdale 78.70 314 P **P** **21 11 59.0 +0.1**
baz=51
D46A Sault St. Mari 78.71 321 P **P** **21 11 58.7 -0.1**
baz=48
POKR Poker Plat Res 78.86 359 P **P** **21 12 00.2 +0.9**
baz=1.4
M56A Emporium 79.00 314 P **P** **21 12 01.3 +0.8**
baz=51
M56A Emporium 79.00 314 IAmb IAmb 21 12 20.1
comp=Z,32nm,1.1s
MDM Murphy Dome 79.02 360 IAmb IAmb 21 12 22.9
comp=Z,35nm,1.0s
N57A Milroy 79.08 313 P **P** **21 12 01.0 +0.1**
baz=51
COLA College 79.10 359 P **P** **21 12 01.2 +0.7**
COLA pmax pmax
comp=Z,26nm,1.0s
COLA College 79.10 359 P **P** **21 12 01.1 +0.7**
COLA IAmb IAmb 21 12 39.2
comp=Z,26nm,1.0s
I51A Listowel 79.13 317 P **P** **21 12 01.5 +0.4**
baz=50
L54A Sinclairville 79.18 315 P **P** **21 12 01.7 +0.3**
baz=50
ILAR Eielson Array 79.20 359 P **P** **21 12 01.3 +0.2**
comp=Z,1.2nm,0.8s,baz=332,slow=3.1,SNR=11
ILAR LR LR 21 47 21.6
comp=Z,100nm,22.0s,baz=9.5,slow=36
ILAR Eielson Array 79.20 359 P **P** **21 12 01.1 +0.1**
M55A Ridgway 79.35 314 P **P** **21 12 02.8 +0.5**
baz=51
SSPA Standing Stone 79.36 313 P **P** **21 12 02.7 +0.3**
baz=51
SSPA Standing Stone 79.36 313 P **P** **21 12 02.9 +0.5**
SSPA IAmb IAmb 21 12 22.0
comp=Z,28nm,1.1s
NEA2 Nenana 79.39 360 P **P** **21 12 02.6 +0.5**
baz=0.1
N56A West Decatur 79.42 313 P **P** **21 12 03.4 +0.6**
baz=51
SDMD Soldier's Deli 79.50 311 P **P** **21 12 03.8 +0.6**
WRH Wood River Hil 79.51 360 IAmb IAmb 21 12 30.2
comp=Z,32nm,0.9s
HDA Harding Lake 79.56 359 P **P** **21 12 02.8 -0.3**
baz=1.8
HDA Harding Lake 79.56 359 IAmb IAmb 21 12 25.0
comp=Z,31nm,1.1s
ERPA Erie 79.64 315 P **P** **21 12 03.1 -0.7**
ERPA IAmb IAmb 21 12 23.7
comp=Z,39nm,0.8s
PETK Petropavlovsk- 79.66 29 P **P** **21 12 05.0 +1.2**
comp=Z,1.3nm,0.7s,baz=267,slow=5.3,SNR=3.6
PETK LR LR 21 52 38.3
comp=Z,214nm,18.9s,baz=320,slow=40
K27K Chicken 79.80 357 P **P** **21 12 05.2 +0.8**
baz=5.8
M54A Oil Creek Stat 79.84 314 P **P** **21 12 04.8 -0.3**
baz=50
M54A Oil Creek Stat 79.84 314 IAmb IAmb 21 12 24.5
comp=Z,39nm,1.1s
S61A Accomac 79.85 309 P **P** **21 12 04.0 -1.1**
BPAW Bear Paw Mtn. 79.88 1 IAmb IAmb 21 12 32.5
comp=Z,24nm,0.9s
N55A Marion Center 79.91 314 P **P** **21 12 04.6 -0.9**
baz=50

SCRK Sand Creek 79.93 358 P **P** **21 12 06.0 +0.8**
baz=4.2
O56A Blue Knob Stat 79.99 313 P **P** **21 12 06.0 +0.1**
P57A Homestead Farm 80.16 312 IAmb IAmb 21 12 24.4
comp=Z,27nm,1.1s
RIDG Independent Ri 80.19 358 IAmb IAmb 21 12 34.5
comp=Z,24nm,0.9s
DOT Dot Lake 80.26 358 IAmb IAmb 21 12 29.8
comp=Z,27nm,1.0s
N54A Moraine State 80.38 314 P **P** **21 12 08.0 +0.1**
N54A IAmb IAmb 21 12 27.3
comp=Z,40nm,1.2s
KTH Kantishna Hill 80.42 1 P **P** **21 12 08.7 +0.9**
KTH IAmb IAmb 21 12 36.4
comp=Z,24nm,0.9s
TRF Thorofare Moun 80.53 1 IAmb IAmb 21 12 36.5
comp=Z,24nm,1.0s
KSM Kuching 80.57 95 P **P** **21 12 09.6 +0.3**
KSM IAmb IAmb 21 12 28.6
comp=Z,24nm,0.8s
RND Reindeer 80.58 360 P **P** **21 12 09.8 +1.2**
RND pmax pmax
comp=Z,13nm,0.9s
RND Reindeer 80.58 360 P **P** **21 12 09.8 +1.2**
YUK Yuzh-Kuril'sk 80.60 42 *e*P P 21 12 02.0 -7.0
YUK MLR MLR
comp=Z,366nm,19.0s
P56A Dayton Farm, R 80.64 312 P **P** **21 12 09.7 +0.4**
baz=50
BCAR Beaver Creek A 80.75 357 P **P** **21 12 09.7 +0.2**
M52A Chesterland 80.79 315 P **P** **21 12 10.5 +0.4**
M52A IAmb IAmb 21 12 29.2
comp=Z,40nm,1.2s
SKR Severo-Kuril's 80.83 32 *e*P P 21 12 16.2 +6.1
SKR *e*S **S** **21 22 17.6 +5.0**
SKR MLR MLR
comp=Z,100nm,19.0s
MENT Mentasta 80.96 358 IAmb IAmb 21 12 41.1
comp=Z,24nm,0.8s
INU Inuyama 80.97 53 P **P** **21 12 12.0 +0.9**
N53A Lisbon 80.97 314 IAmb IAmb 21 12 30.3
comp=Z,32nm,1.1s
MAJO Matsushiro 80.98 51 P **P** **21 12 11.6 +0.4**
MAJO pmax pmax
comp=Z,27nm,1.3s
MAJO Matsushiro 80.98 51 P **P** **21 12 11.6 +0.4**
MAT Matsushiro 80.98 51 P **P** **21 12 11.4 +0.2**
MAT *e*S **S** **21 22 14.0 -0.8**
MJAR Matsushiro Arr 80.98 51 P **P** **21 12 13.2 +1.9**
comp=Z,9.1nm,0.9s,baz=308,slow=4.2,SNR=17
MJAR LR LR 21 51 40.6
comp=Z,363nm,21.4s,baz=25,slow=38
MJAR Matsushiro Arr 80.98 51 P **P** **21 12 11.6 +0.4**
PPLA Purkeypile 81.06 1 P **P** **21 12 11.8 +0.5**
PPLA IAmb IAmb 21 12 39.7
comp=Z,28nm,0.7s
O54A Avella 81.11 314 P **P** **21 12 12.0 +0.2**
MCWV Mont Chateau 81.14 313 P **P** **21 12 12.4 +0.5**
baz=50
Q56A Snyder Ridge, 81.14 312 P **P** **21 12 12.6 +0.5**
baz=50
Q56A Snyder Ridge, 81.14 312 IAmb IAmb 21 12 31.5
comp=Z,54nm,1.2s
R57A Stanardsville 81.22 311 P **P** **21 12 12.9 +0.5**
baz=50
P55A Reedsville 81.22 313 P **P** **21 12 12.5 0.0**
baz=50
S58A Poland Farm, P 81.36 311 P **P** **21 12 13.3 +0.1**
baz=51
S58A Poland Farm, P 81.36 311 IAmb IAmb 21 12 32.5
comp=Z,30nm,1.1s
T59A Double "B" Far 81.46 310 P **P** **21 12 14.3 +0.6**
SBUM Sibu 81.54 93 IAmb IAmb 21 12 34.5
comp=Z,36nm,0.9s
P54A Burton 81.55 313 P **P** **21 12 15.7 +1.5**
baz=50
O53A New Philadelph 81.55 314 P **P** **21 12 14.5 +0.3**
O53A IAmb IAmb 21 12 34.1
comp=Z,24nm,0.9s
N51A Ashland 81.78 315 P **P** **21 12 16.1 +0.8**
N51A IAmb IAmb 21 12 34.2
comp=Z,26nm,1.1s
COWI Conover 81.81 323 P **P** **21 12 16.1 +0.6**
COWI IAmb IAmb 21 12 33.8
comp=Z,53nm,1.5s
ULM Lac du Bonnet 81.84 329 P **P** **21 12 13.7 -1.7**
comp=Z,6.4nm,0.7s,baz=9.4,slow=5.4,SNR=3.8
ULM LR LR 21 49 23.2
comp=Z,306nm,21.8s,baz=52,slow=36
ULM Lac du Bonnet 81.84 329 P **P** **21 12 15.0 -0.5**
ULM pmax pmax
comp=Z,38nm,1.6s
ULM Lac du Bonnet 81.84 329 P **P** **21 12 14.9 -0.5**
ULM IAmb IAmb 21 12 32.6
comp=Z,38nm,1.6s
ANWB Willy Bob 81.86 286 P **P** **21 12 13.9 -2.2**
SKT Skwentna 81.99 1 IAmb IAmb 21 12 44.0
comp=Z,36nm,1.3s
O52A Adamsville 82.00 314 P **P** **21 12 16.1 -0.4**
O52A IAmb IAmb 21 12 35.6
comp=Z,33nm,1.0s
U59A Littleton 82.00 309 P **P** **21 12 16.4 -0.2**
Q54A Coxs Mills 82.16 313 P **P** **21 12 18.1 +0.7**
Q54A IAmb IAmb 21 12 34.6
comp=Z,40nm,1.4s
SML Sawmill 82.19 360 P **P** **21 12 17.5 +0.3**
R55A Marlinton 82.19 312 P **P** **21 12 17.6 -0.1**
O51A Pataskala 82.42 315 P **P** **21 12 17.7 -1.1**
baz=48
MCARA McCarthy VSAT 82.49 357 P **P** **21 12 19.0 +0.4**
T57A Hurt 82.49 311 P **P** **21 12 19.1 0.0**
KNK Knik Glacier 82.58 360 **P** **21 12 20.2 +1.1**
WHY Whitehorse 82.64 353 P **P** **21 12 20.1 +0.5**
V59A Middlesex 82.66 309 P **P** **21 12 20.2 +0.2**
baz=50
N49A Columbus Grove 82.79 316 IAmb IAmb 21 12 39.9
comp=Z,32nm,0.9s
BALM Baldy 82.81 357 IAmb IAmb 21 12 48.6
comp=Z,23nm,1.0s
G40A Rib Lake 82.93 322 P **P** **21 12 21.4 +0.2**
G40A IAmb IAmb 21 12 39.7
comp=Z,23nm,1.2s
Q52A Bidwell 83.01 314 P **P** **21 12 22.3 +0.5**
baz=48
FDF Fort de France 83.06 283 P **P** **21 12 19.1 -3.3**
FDF pmax pmax
comp=Z,195nm,1.7s
FDF Fort de France 83.06 283 P **P** **21 12 19.1 -3.3**
I42A Draeger Farm, 83.27 321 P **P** **21 12 22.9 -0.1**
I42A IAmb IAmb 21 12 42.0
comp=Z,29nm,1.1s
EYAK Cordova Ski Ar 83.41 358 P **P** **21 12 23.4 0.0**
EYAK IAmb IAmb 21 12 48.8
comp=Z,31nm,0.9s
YAH Yahtse 83.45 356 P **P** **21 12 23.9 -0.1**
YAH IAmb IAmb 21 12 51.5
comp=Z,34nm,1.1s
PCA Pinnacle 83.63 356 P **P** **21 12 24.8 +0.1**
T54A Tazewell 83.86 312 P **P** **21 12 26.3 0.0**
baz=49
U55A TA2, Sparta 83.91 311 P **P** **21 12 27.2 +0.7**
baz=49
F36A Milaca 84.09 325 IAmb IAmb 21 12 45.2
comp=Z,21nm,1.1s
DLBC Dease Lake 84.23 350 P **P** **21 12 29.7 +2.0**
comp=Z,5.4nm,1.0s,baz=32,slow=17,SNR=2.4
DLBC Dease Lake 84.23 350 IAmb IAmb 21 12 39.9
comp=Z,14nm,0.8s
P48A Milroy 84.48 316 IAmb IAmb 21 12 47.8
comp=Z,26nm,1.0s
MTP Monte Pirata 84.52 288 P **P** **21 12 29.4 -0.4**
TOSP Speyside 84.57 280 P **P** **21 12 28.7 -1.4**
M44A Midewin, Midew 84.58 319 P **P** **21 12 27.9 -1.9**
JFWS Jewell Farm 84.64 321 P **P** **21 12 30.1 0.0**
JFWS pmax pmax
comp=Z,40nm,1.3s
JFWS Jewell Farm 84.64 321 P **P** **21 12 30.1 0.0**
JIS Juneau Island 84.93 352 P **P** **21 12 31.6 +0.5**
JIS IAmb IAmb 21 12 54.4
comp=Z,40nm,1.6s
V54A Nebo 84.93 311 P **P** **21 12 32.2 +0.5**
baz=48
KMSC Kings Mountain 84.98 310 P **P** **21 12 31.7 -0.2**
KMSC IAmb IAmb 21 12 51.5
comp=Z,24nm,1.3s
L42A Oliver, Polo 85.00 320 P **P** **21 12 31.7 -0.2**

R49A	Shelbyville	85.14	315	P	P	21 12 32.5	-0.1
OBIP	Obispado Ponce	85.36	289	P	P	21 12 32.4	-1.6
P46A	Rosedale	85.37	317	P	P	21 12 33.7	0.0
P46A				IAmb	IAmb	21 15 52.8	
	comp=Z,30nm,1.3s						
F33A	5 Mile Ranch,	85.38	326	P	P	21 12 33.5	-0.2
F33A				IAmb	IAmb	21 12 52.5	
	comp=Z,18nm,1.1s						
TZTN	Tazewell	85.38	313	P	P	21 12 34.6	+0.7
TZTN				IAmb	IAmb	21 13 10.8	
	comp=Z,30nm,1.3s						
PAULI	Pauline	85.49	310	P	P	21 12 35.2	+0.8
PAULI				IAmb	IAmb	21 12 54.1	
	comp=Z,34nm,1.3s						
JSC	Jenkinsville	85.50	310	P	P	21 12 34.2	-0.3
JSC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
JSC	Jenkinsville	85.50	310	P	P	21 12 34.2	-0.3
CRPR	Cabo Rojo, PR	85.76	289	P	P	21 12 35.2	-0.8
WCI	Wyandotte Cave	85.82	315	P	P	21 12 36.8	+0.8
WCI				pmax	pmax		
	comp=Z,37nm,1.1s						
WCI	Wyandotte Cave	85.82	315	P	P	21 12 36.8	+0.8
HDIL	Hopedale	85.84	319	P	P	21 12 35.9	-0.2
V52A	Sevierville	85.89	312	IAmb	IAmb	21 12 55.9	
	comp=Z,25nm,1.1s						
BG3	Lake Jocassee	86.06	311	P	P	21 12 37.8	+0.5
BG3				IAmb	IAmb	21 12 57.0	
	comp=Z,28nm,1.5s						
TKL	Tuckaleechee C	86.11	312	P	P	21 12 37.8	+0.3
	comp=Z,12nm,0.8s,baz=82,slow=6.1,SNR=9.2						
HODGE	Hodges	86.15	310	P	P	21 12 37.5	-0.2
HODGE				IAmb	IAmb	21 12 57.4	
	comp=Z,20nm,1.2s						
KDAK	Kodiak Island	86.18	2	P	P	21 12 37.8	+0.4
	comp=Z,13nm,1.0s,baz=279,slow=0.4,SNR=10						
KDAK	Kodiak Island	86.18	2	P	P	21 12 37.8	+0.4
KDAK				pmax	pmax		
	comp=Z,281nm,2.0s						
V51A	Loudon	86.36	313	P	P	21 12 38.9	+0.1
WRAK	Wrangell Islan	86.50	351	P	P	21 12 39.3	+0.3
WRAK				IAmb	IAmb	21 13 06.8	
	comp=Z,16nm,0.9s						
N41A	Harden Midland	86.55	320	P	P	21 12 39.1	-0.4
N41A				IAmb	IAmb	21 12 58.2	
	comp=Z,14nm,0.8s						
DGMT	Dagmar	86.58	332	P	P	21 12 39.6	0.0
W52A	Murphy	86.59	312	P	P	21 12 40.0	+0.1
W52A				IAmb	IAmb	21 13 00.0	
	comp=Z,19nm,1.0s						
P43A	Skaggs, Pawnee	86.61	318	P	P	21 12 38.9	-1.0
U49A	Red Boiling Sp	86.72	314	IAmb	IAmb	21 12 59.5	
	comp=Z,23nm,1.0s						
Q44A	Meyer Farm, Va	86.87	317	P	P	21 12 41.4	+0.2
ECSD	EROS Data Cent	87.14	325	P	P	21 12 41.5	-0.9
	baz=40						
ECSD	EROS Data Cent	87.14	325	P	P	21 12 41.8	-0.6
ECSD				IAmb	IAmb	21 13 01.2	
	comp=Z,18nm,1.3s						
CLTN	Cedars of Leba	87.33	314	P	P	21 12 43.6	+0.2
W50A	Signal Mountai	87.34	313	P	P	21 12 42.2	-1.3
W50A				IAmb	IAmb	21 13 20.0	
	comp=Z,42nm,1.8s						
GOGA	Godfrey	87.45	310	P	P	21 12 44.1	+0.1
	baz=47						
GOGA	Godfrey	87.45	310	IAmb	IAmb	21 13 03.8	
	comp=Z,21nm,1.1s						
S44A	Carbondale	87.86	317	P	P	21 12 46.3	+0.3
S44A				IAmb	IAmb	21 13 05.2	
	comp=Z,18nm,0.8s						
FPAL	Fort Paine	87.98	312	P	P	21 12 46.7	+0.1
BANI	BANI	87.99	291	P	P	21 12 46.6	-0.4
KBKI	Kotabaru	88.10	95	P	pP	21 13 06.5	+0.6
WVT	Waverly	88.17	315	P	P	21 12 46.3	-1.1
WVT				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WVT	Waverly	88.17	315	P	P	21 12 46.4	-1.0
	baz=45						
WVT	Waverly	88.17	315	P	P	21 12 46.3	-1.1
FVM	French Village	88.30	318	P	P	21 12 47.9	-0.1
FVM				pmax	pmax		
	comp=Z,15nm,1.1s						
FVM	French Village	88.30	318	P	P	21 12 47.9	-0.1
FVM				IAmb	IAmb	21 13 06.9	
	comp=Z,15nm,1.1s						
MPSI	Mapaga	88.97	90	P	P	21 12 53.7	+2.2
R40A	Maddies Statio	89.06	319	IAmb	IAmb	21 13 08.6	
	comp=Z,28nm,1.5s						
PLAL	Pickwick Lake	89.12	314	IAmb	IAmb	21 13 26.3	
	comp=Z,12nm,1.1s						
LRAL	Lakeview Retre	89.85	312	P	P	21 12 55.1	-0.2
	baz=46						
LRAL	Lakeview Retre	89.85	312	P	P	21 12 54.5	-0.9
LRAL				IAmb	IAmb	21 13 14.6	
	comp=Z,9.3nm,0.8s						
MGMO	Mountain Grove	89.90	318	P	P	21 12 54.2	-1.4
MGMO				IAmb	IAmb	21 13 14.5	
	comp=Z,14nm,1.2s						
BDFB	Brasilia	90.51	251	P	P	21 13 00.7	+1.9
	baz=68,slow=9.3,SNR=4.4						
BDFB	Brasilia	90.51	251	P	P	21 12 58.3	-0.4
GCMT	Greycliff	90.85	334	P	P	21 13 00.8	+0.8
NEW	Newport	91.07	339	P	P	21 13 01.1	+0.2
NEW				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NEW	Newport	91.07	339	P	P	21 13 01.1	+0.2
NEW				IAmb	IAmb	21 13 30.9	
	comp=Z,9.6nm,0.8s						
PTGA	Pitinga	91.15	270	P	P	21 13 02.1	+0.4
PTGA				IAmb	IAmb	21 13 25.7	
	comp=Z,12nm,1.0s						
YNE	Yellowstone No	91.65	333	P	P	21 13 04.1	+0.3
MIAR	Mount Ida	92.54	317	P	P	21 13 08.7	+0.8
	baz=42						
YPP	Pitchstone Pla	92.57	334	P	P	21 13 09.2	+1.0
PDAR	Pinedale Array	93.40	332	P	P	21 13 11.9	-0.1
	comp=Z,0.5nm,0.6s,baz=47,slow=4.0,SNR=5.1						
PDAR				LR	LR	21 58 21.2	
	comp=Z,206nm,18.4s,baz=40,slow=38						
BMO	Blue Mountains	94.21	338	IAmb	IAmb	21 13 44.2	
	comp=Z,6.8nm,0.8s						
HWUT	Hardware Ranch	95.16	333	P	P	21 13 20.1	+0.2
HWUT				IAmb	IAmb	21 13 45.9	
	comp=Z,10nm,1.2s						
ROSC	El Rosal	99.33	283	LR	LR	21 55 08.9	
	comp=Z,85nm,21.9s,baz=62,slow=33						
TXAR	Lajitas Array	101.96	321	P	Pdif	21 13 49.1	-1.5
	comp=Z,0.3nm,0.6s,baz=13,slow=9.3,SNR=2.1						
SYO	Syowa Base	105.24	177	eP	Pdif	21 14 08.0	+4.2
SYO	Syowa Base	105.24	177	eP	pDif	21 14 19.6	-2.8
SYO	Syowa Base	105.24	177	eX	sPdif	21 14 31.4	+1.7
WRA	Warramunga Arr	112.10	99	PKiKP	PKiKP	21 18 29.6	-2.3
	comp=Z,0.2nm,0.6s,baz=319,slow=2.5,SNR=1.5						
ASAR	Alice Springs	113.69	103	PKiKP	PKiKP	21 18 33.8	-1.1
	comp=Z,0.4nm,0.6s,baz=286,slow=0.6,SNR=5.9						
PLCA	Paso Flores	120.38	240	PKP	PKPdf	21 18 46.4	-0.9
	comp=Z,2.2nm,1.0s,baz=19,slow=4.1,SNR=5.3						
BELA	Belgrano 2	120.41	193	PKPdf	PKPdf	21 18 45.9	-0.3
STKA	Stephens Creek	123.54	107	PKP	PKPdf	21 18 52.7	-0.8
	comp=Z,1.5nm,0.6s,baz=329,slow=3.6,SNR=3.8						
PMSA	Palmer Station	124.28	211		PKiKP	21 18 54.6	+0.5
QSPA	South Pole Qui	126.19	180	PKPdf	PKPdf	21 18 57.1	-0.5
VNDA	Vanda	133.71	167	PKP	PKPdf	21 19 11.4	-0.1
	comp=Z,0.3nm,0.6s,baz=359,slow=14,SNR=1.8						
RPZ	Rata Peaks	148.83	116	PKPbc	PKPbc	21 19 43.1	-0.3
	comp=Z,9.2nm,0.6s,baz=5.2,slow=2.0,SNR=8.7						
URZ	Urewera	153.12	104	PKP	PKPdf	21 19 46.4	+0.3
	comp=Z,4.2nm,0.6s,baz=157,slow=20,SNR=1.5						

*IDC **04** 21:30:28.0±5.8, 10°.46S×121°.00E, h54km±64km, mb3.3/2, mb1 3.4/4, mb1mx3.2/27, mbtmp3.5/4, ML3.6/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/18, Error ellipse: s-maj=47.2km s-min=29.0km az=123.0*

*DJA **04** 21:30:29.3±0.7, 10°S±12°×12°1E±°, h36km±7km, M3.7/7, MLv3.7/7*

ISC 04 21:30:26.7±0.9, 10°.69S±0°.08×121°.05E±0°.06, h35km, n15, σ2§47/19, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.66	315	P		21 30 40.4	
BASI				Pg	Pn	21 30 40.3	+0.7
BASI				S	Sn	21 30 49.9	+1.2
BASI				Sg	Sn	21 30 49.9	+1.2
WSI	Waingapu	1.25	324	P	Pn	21 30 48.0	+0.2
WBSI	Waikabubak, Su	1.94	302	P	Pn	21 30 58.0	+0.8
MMRI	Maumere	2.35	30	P	Pn	21 31 01.9	-1.0
BATI	Baumata	2.61	80	P	Pn	21 31 08.7	+2.2
	66nm,0.3s,baz=305,slow=2.1,SNR=63						
BATI				S	Sn	21 31 39.4	+2.3
	9.7nm,0.3s,baz=205,slow=23,SNR=7.7						
BATI	Baumata	2.61	80	P	Pn	21 31 08.9	+2.4
SOEI	Soe	3.30	74	P	Pn	21 31 18.5	+2.5
PLAI	Plampang	3.72	300	P	Pn	21 31 23.0	+1.3
TWSI	Taliwang, Sumb	4.54	295	P	Pn	21 31 34.2	+1.2
KAPI	Kappang	5.78	347	LR	LR	21 33 36.7	
	comp=Z,51nm,20.7s,baz=288,slow=34						
FITZ	Fitzroy Crossi	8.60	149	P	Pn	21 32 32.4	+3.6
	0.2nm,0.3s,baz=358,slow=11,SNR=11						
FITZ				S	Sn	21 34 03.2	-1.5
	1.3nm,0.3s,baz=180,slow=20,SNR=17						
WRA	Warramunga Arr	15.77	127	P	Pn	21 34 05.7	-0.5
	0.1nm,0.3s,baz=301,slow=13,SNR=13						
WRA				S	Sn	21 36 49.5	-10
	0.2nm,0.3s,baz=310,slow=23,SNR=8.4						
ASAR	Alice Springs	17.80	138	P	P	21 34 35.2	+2.9
	0.2nm,0.3s,baz=314,slow=12,SNR=14						
ASAR				S	Sn	21 37 43.7	-5.5
	0.1nm,0.3s,baz=305,slow=21,SNR=3.2						
MKAR	Makanchi Array	66.88	332	P	P	21 41 14.1	-1.2
	0.2nm,0.5s,baz=149,slow=6.4,SNR=4.1						
ZALV	Zalesovo Beam	71.34	338	P	P	21 41 39.3	-3.4
	0.4nm,0.5s,baz=116,slow=6.7,SNR=2.2						

*ISK **04** 21:42:38.3, 36°.25N×30°.94E, h25km, ML2.9/17*

*NIC **04** 21:42:38.0±0.0, 36°.41N×31°.01E, h32km±32km, Ml3.0/3*

*DDA **04** 21:42:39.5, 36°.25N×30°.99E, h41km±2km, ML2.7*

ISC 04 21:42:39.8±1.2, 36°.27N±0°.03×30°.93E±0°.02, h41km±16km, n60, σ1§09/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMT	Kemer-ANTALYA	0.45	318	PG	Pn	21 42 48.9	-1.0
KEMT				SG	Sn	21 42 56.1	-0.9
AKUM	Antalya-Kumluc	0.47	276	i P	Pn	21 42 50.7	+0.5
AKUM				i S	Sn	21 42 59.2	+1.6
ANTB	Antalya	0.66	341	PG	Pn	21 42 52.6	-0.2
ANTB				SG	Sn	21 43 02.9	+0.8
KEPZ	Antalya-Kepez	0.83	41	i P	Pn	21 42 54.5	-0.7
KEPZ				i S	Sn	21 43 04.1	-2.1
KEPZ				IAML		21 43 06.0	
	comp=E,227nm,0.2s						
KEPZ				IAML		21 43 06.0	
	comp=N,447nm,0.3s						
KORT	Korkueli	0.86	328	PG	Pn	21 42 55.6	0.0
KORT				SG	Sn	21 43 08.1	+1.0
KORT	Korkueli	0.86	328	i P	Pn	21 42 55.7	0.0
ALAN	Alanya-ANTALYA	0.94	72	PG	Pn	21 42 56.4	-0.1
ELL	Elmali	0.95	300	PG	Pn	21 42 56.7	-0.1
ELL				SG	Sn	21 43 10.1	+0.9
AKAS	Kas	1.07	268	PG	Pn	21 42 58.3	-0.1
AKAS				SG	Sn	21 43 12.8	+0.6
AKAS	Kas	1.07	268	i P	Pn	21 42 58.2	-0.3
KSL	Kastellorizon	1.09	264	P	Pn	21 42 58.6	0.0
KSL				S	Sn	21 43 13.3	+0.7
GAZI	Gazipasa	1.12	92	PN	Pn	21 42 58.7	-0.4
GAZI	Gazipasa	1.12	92	i P	Pn	21 42 58.0	-1.1
BCK	Bucak	1.22	347	PN	Pn	21 43 00.6	+0.2
SEYD	Seydisehir-KON	1.35	33	PN	Pn	21 43 02.4	+0.2
SEYD				SN	Sn	21 43 19.9	+0.9
GOLH	Golhisar	1.46	312	i P	Pn	21 43 05.4	+1.7
GOLH				i S	Sn	21 43 24.5	+2.8
FETY	Fethiye	1.53	284	PN	Pn	21 43 04.9	+0.2
FETY				SN	Sn	21 43 24.4	+1.0
FETY	Fethiye	1.53	284	i P	Pn	21 43 04.9	+0.2
FETY				i S	Sn	21 43 22.7	-0.7
ISP	Isparta	1.58	348	PN	Pn	21 43 05.8	+0.3
BRDR	BURDUR-Merkez	1.58	334	i P	Pn	21 43 06.5	+1.0
ERMK	Ermenek	1.64	76	i P	Pn	21 43 07.4	+1.0
ERMK				IAML		21 43 34.0	
	comp=E,153nm,0.4s						
ERMK				IAML		21 43 34.0	
	comp=N,242nm,0.4s						
AKMS	Akamas	1.70	137	P	Pn	21 43 06.9	0.0
AKMS				S	Sn	21 43 28.4	+1.0
AKMS				AML	AML	21 43 36.9	
	comp=N,0.6nm,0.8s						
AKMS				AML	AML	21 43 36.9	
	comp=N,0.6nm,0.8s						
AKMS				AML	AML	21 43 37.1	
	comp=N,0.5nm,0.3s						
AKMS				AML	AML	21 43 37.1	
	comp=N,0.5nm,0.3s						
BAGO	Egridir - ISPA	1.72	356	i P	Pn	21 43 07.0	-0.3
ALFC	Alefka	1.76	129	P	Pn	21 43 06.7	-1.1
ALFC				S	Sn	21 43 28.8	-0.2
ALFC				AML	AML	21 43 34.1	
	comp=N,0.4nm,0.2s						
ALFC				AML	AML	21 43 34.1	
	comp=N,0.4nm,0.2s						
ALFC				AML	AML	21 43 34.8	
	comp=N,0.4nm,0.2s						
ALFC				AML	AML	21 43 34.8	
	comp=N,0.4nm,0.2s						
TEKE	Tekeli-Mersin	1.77	94	PN	Pn	21 43 08.2	+0.2
BASM	Basmaki-Afyon	1.79	337	PN	Pn	21 43 08.8	+0.5
KMER	Konya-Meram	1.89	37	i P	Pn	21 43 09.6	-0.1
KMER				i S	Sn	21 43 32.8	+0.5
KMER				IAML		21 43 36.0	
	comp=N,150nm,0.6s						
KMER				IAML		21 43 39.0	
	comp=E,54nm,0.3s						
DALY	Dalyan (Mula)	1.91	287	i P	Pn	21 43 09.6	-0.2
DALY				i S	Sn	21 43 31.1	-1.5
DOGA	KONYA_Doganhis	1.92	18	i P	Pn	21 43 11.1	+0.9
DOGA				IAML		21 43 39.0	
	comp=N,49nm,0.3s						
LEF	Lefka	1.97	125	i P	Pn	21 43 09.1	-1.6
NATA	Nata	2.00	138	P	Pn	21 43 10.6	-0.6
TAVA	DENIZLI_Tavas	2.01	307	i P	Pn	21 43 11.1	-0.2
KONT	Konya--Tatoy	2.02	34	PN	Pn	21 43 12.2	+0.7
KONT	Konya--Tatoy	2.02	34	i P	Pn	21 43 11.2	-0.3
KONT				i S	Sn	21 43 35.4	-0.2
KZIL	AFYON_Kizioren	2.08	343	i P	Pn	21 43 12.6	+0.3
KZIL				i S	Sn	21 43 36.2	-0.8
KRMN	Karaman	2.08	64	PN	Pn	21 43 12.8	+0.5
SZAC	Souni	2.20	133	P	Pn	21 43 13.4	-0.4
SZAC				S	Sn	21 43 40.3	+0.4
SZAC				AML	AML	21 43 55.7	
	comp=N,0.3nm,0.9s						
SZAC				AML	AML	21 43 55.7	
	comp=N,0.3nm,0.9s						
SZAC				AML	AML	21 43 56.8	
	comp=N,0.2nm,0.8s						
SZAC				AML	AML	21 43 56.8	
	comp=N,0.2nm,0.8s						
TURN	Turunc	2.22	284	i P	Pn	21 43 14.3	+0.2
LADK	Ladik-KONYA	2.24	30	PN	Pn	21 43 15.1	+0.6
ARG	Arkhangelos	2.27	269	P	Pn	21 43 14.3	-0.5
YER	Yerkesik	2.29	293	PN	Pn	21 43 15.6	+0.4
ATHAL	Athalassa	2.30	119	S	Sn	21 43 41.9	-0.5
CSS	Mathiatis	2.35	123	P	Pn	21 43 15.3	-0.7
ASGA	Asgata	2.40	127	P	Pn	21 43 15.5	-1.1
KDHN	Kadinhani	2.44	23	i P	Pn	21 43 16.7	-0.5
KDHN				i S	Sn	21 43 44.2	-1.6
MVOU	Mavrovouni	2.53	119	P	Pn	21 43 16.7	-1.7
MVOU				S	Sn	21 43 46.1	-2.0
KIZK	Mersin	2.60	84	i P	Pn	21 43 21.1	+1.7
OSC1	CSNet OBS 1	2.78	174	P	Pn	21 43 22.7	+0.9
KERG	Konya-Eregli	2.81	65	i P	Pn	21 43 22.9	+0.6
KERG				i S	Sn	21 43 55.9	+0.9
USAK	Uak-Merkez	2.87	329	i P	Pn	21 43 22.7	-0.4
USAK				i S	Sn	21 43 55.9	-0.6
MANT	Manisa	2.91	320	i P	Pn	21 43 23.4	-0.4
MANT				i S	Sn	21 43 53.6	-4.0
GDZ	Gediz	3.04	338	i P	Pn	21 43 25.3	-0.2
KARP	Karpathos	3.14	258	P	Pn	21 43 26.6	-0.2
DED	Mersin	3.19	76	i P	Pn	21 43 28.1	+0.6
DED				i S	Sn	21 44 07.3	+3.0
GULE	Gulek	3.25	71	i P	Pn	21 43 31.5	+3.0
GULE				IAML		21 44 15.0	
	comp=E,16nm,0.6s						
GULE				IAML		21 44 17.0	
	comp=N,27nm,0.6s						
AKSY	AKSARAY - Alti	3.27	43	i P	Pn	21 43 27.9	-0.7
GCAM	G?zelcaml?	3.28	297	i P	Pn	21 43 27.2	-1.5
GCAM				IAML		21 44 05.0	
	comp=N,22nm,0.2s						
KKUL	Konya-Kulu	3.30	28	i P	Pn	21 43 28.8	-0.2
OSC2	CSNet OBS 4	3.38	161	P	Pn	21 43 29.9	0.0
OSC2				S	Sn	21 44 09.5	+0.7
DURS	Dursunbey	3.85	330	i P	Pn	21 43 36.3	-0.3

WEL 04 21:43:24.9, 44°S±2°×17°2E±°, h5km±4km, M2.2/6, ML2.3/7, MLv2.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=134.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	Oxford	0.32	333	P	Pb	21 43 33.0	0.0
MQZ	McQueen's Vall	0.32	108	P	Pb	21 43 33.0	-0.1
WACZ	Wakanui South	0.44	220	P	Pb	21 43 35.8	+0.7
AMCZ	Amberley	0.53	35	P	Pb	21 43 37.6	+1.0
AKCZ	Akaroa Harbour	0.56	118	P	Pb	21 43 37.6	+0.4
OKCZ	Okains Bay	0.61	101	P	Pb	21 43 38.7	+0.7
LTZ	Lake Taylor	0.83	2	P	Pn	21 43 42.8	-0.4
ARCZ	Arundel	0.84	246	P	Pn	21 43 42.8	-0.6
RPZ	Rata Peaks	0.86	263	P	Pn	21 43 43.4	-0.3
LBZ	Lake Benmore	1.67	242	P	Pg	21 43 58.0	+1.1
THZ	Tophouse	1.91	15	P	Pn	21 43 58.1	0.0

*ATH **04** 21:43:37.8, 36°.49N×27°.13E, h18km±2km, ML2.6/5, Error ellipse: s-maj=2.9km s-min=0.9km az=30.0*

*DDA **04** 21:43:39.9, 36°.88N×27°.20E, h4km±1km, ML1.9*

*THE **04** 21:43:39.0, 36°.49N×27°.12E, h6km±2km, ML2.3/4, Error ellipse: s-maj=3.3km s-min=0.6km az=8.0*

ISC 04 21:43:37.8±0.9, 36°.53N±0°.04×27°.14E±0°.03, h18km±4km, n20, σ1§15/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	Nisiros	0.09	353	P	Pg	21 43 41.6	+0.3
NISR				S	Sg	21 43 44.4	+0.7
	7μm,0.4s						
NISR	Nisiros	0.09	353	P	Pg	21 43 41.5	+0.2
NISR				S	Sg	21 43 44.4	+0.7
NISR				AML	AML	21 43 44.8	
	comp=N,9651μm,0.2s						
NISR				AML	AML	21 43 45.0	
	comp=E,18582μm,0.6s						
KOSK	Kos Island	0.26	330	P	Pb	21 43 44.8	+0.9
KOSK				S	Sg	21 43 49.1	+1.4
	comp=E,752nm,0.4s						
DAT	Datca	0.41	60	P	Pb	21 43 47.3	+0.8
DAT				S	Sn	21 43 54.6	-1.4
DAT	Datca	0.41	60	i P	Pb	21 43 46.9	+0.4
DAT				i S	Sg	21 43 52.2	+0.3
DAT				IAML		21 43 55.0	
	comp=N,92nm,0.3s						
DAT				IAML		21 43 56.0	
	comp=E,148nm,0.2s						
BDRM	Kayabasi	0.59	24	i P	Pb	21 43 45.5	-4.1
ARG	Arkhangelos	0.85	111	P	Pn	21 43 55.8	+0.9
ARG				S	Sn	21 44 08.4	+1.5
	comp=E,200nm,0.3s						
ARG	Arkhangelos	0.85	111	P	Pn	21 43 54.5	-0.4
ARG				S	Sn	21 44 05.9	-1.0
ARG				AML	AML	21 44 09.3	
	comp=N,331μm,0.3s						
ARG				AML	AML	21 44 10.7	
	comp=E,469μm,0.3s						
TURN	Turunc	0.92	74	i P	Pg	21 43 56.0	+0.3
TURN				i S	Sn	21 44 08.7	+0.1
TURN				IAML		21 44 13.0	
	comp=E,41nm,0.3s						
TURN				IAML		21 44 17.0	
	comp=N,43nm,0.5s						
KARP	Karpathos	0.98	179	P	Pn	21 43 55.8	-0.8
KARP				S	Sn	21 44 08.9	-1.1
KARP				AML	AML	21 44 12.5	
	comp=E,351μm,0.3s						
KARP				AML	AML	21 44 13.1	
	comp=N,403μm,0.5s						
AMGA	Amorgos Island	1.05	287	P	Pg	21 43 57.9	-0.2
AMGA				S	Sg	21 44 14.0	+2.1
	comp=N,218nm,0.4s						
AMGA	Amorgos Island	1.05	287	P	Pg	21 43 57.8	-0.3
AMGA				S	Sg	21 44 12.4	+0.6
AMGA				AML	AML	21 44 16.4	
	comp=E,359μm,0.4s						
AMGA				AML	AML	21 44 16.5	
	comp=N,502μm,0.4s						
ANAF	Anafi Island	1.12	262	P	Pg	21 43 58.8	-0.6
ANAF				S	Sg	21 44 15.3	+1.3
ANAF	Anafi Island	1.12	262	P	Pg	21 43 58.8	-0.6
ANAF				S	Sg	21 44 14.1	+0.1
ANAF				AML	AML	21 44 17.3	
	comp=N,2076μm,0.4s						
ANAF				AML	AML	21 44 18.0	
	comp=E,1731μm,0.5s						
GCAM	G?zelcaml?	1.18	4	i P	Pg	21 44 00.6	+0.1
GCAM				IAML		21 44 27.0	
	comp=N,28nm,0.8s						
SMG	Samos	1.21	348	P	Pg	21 44 00.9	-0.2
DALY	Dalyan (Mula)	1.25	76	i P	Pg	21 44 02.5	+0.5
DALY				IAML		21 44 24.0	
	comp=N,39nm,1.1s						
DALY				IAML		21 44 29.0	
	comp=E,32nm,0.6s						
APE	Apeiranthos	1.40	293	P	Pb	21 44 03.9	+0.5
APE	Apeiranthos	1.40	293	P	Pg	21 44 04.4	-0.4
ZKR	Zakros	1.59	208	P	Pb	21 44 06.5	-0.2

*JMA **04** 21:45:15.7±0.1, 24°.39N×122°.22E, h72km±2km, M1.7*

*TAP **04** 21:45:16.2, 24°.58N×122°.17E, h64km, ML2.7, D*

ISC 04 21:45:15.8±1.3, 24°.59N±0°.03×122°.22E±0°.02, h68km±7km, n59, σ0§79/107, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.33	273	i P	Pn	21 45 27.0	0.0
	baz=275						
TWC				i S	Sn	21 45 34.6	-0.6
	baz=275						
EGS		0.36	315	eP	Pn	21 45 27.8	+0.5
	baz=321						
EGS				eS	Sn	21 45 34.9	-0.7
	baz=321						
ENAH	Nanao	0.40	249	P	Pn	21 45 27.6	+0.1
	baz=248						
ENAH				eS	Sn	21 45 36.3	+0.3
	baz=248						
NTC	Toucheng	0.44	307	P	Pn	21

	baz=287					
JYNG	**Yonagunijimaku**	**0.68 102**	P	**Pn**	**21 45 30.6**	**+0.3**
JYNG			S	**Sn**	**21 45 41.2**	**+0.2**
NACB	**Ninganchiao**	**0.70 234**	*eP*	**Pn**	**21 45 29.9**	**-0.7**
	baz=232					
NACB			*eS*	**Sn**	**21 45 40.4**	**-1.1**
	baz=232					
YOJ	**Yonaguni jima**	**0.73 100**	P	**Pn**	**21 45 31.2**	**+0.2**
YOJ			S	**Sn**	**21 45 42.3**	**+0.1**
TWD	**Chiawan**	**0.76 228**	*eP*	**Pn**	**21 45 30.7**	**-0.6**
	baz=225					
TWD			*eS*	**Sn**	**21 45 41.7**	**-0.9**
	baz=225					
ETLH	**Xiulin Townshi**	**0.77 240**	*eP*	**Pn**	**21 45 31.0**	**-0.5**
	baz=239					
ETLH			*eS*	**Sn**	**21 45 42.0**	**-1.0**
	baz=239					
NNSB	**Datong**	**0.78 258**	*eP*	**Pn**	**21 45 31.5**	**0.0**
	baz=258					
NNSB			*eS*	**Sn**	**21 45 43.0**	**-0.2**
	baz=258					
NNSH	**Datong**	**0.78 258**	*eP*	**Pn**	**21 45 31.6**	**0.0**
	baz=258					
NNSH			*eS*	**Sn**	**21 45 42.7**	**-0.5**
	baz=258					
NNS	**Nan Shan**	**0.78 259**	*eP*	**Pn**	**21 45 31.5**	**-0.2**
	baz=258					
NNS			*eS*	**Sn**	**21 45 43.0**	**-0.3**
	baz=258					
NSK	**Sanguang**	**0.79 276**	*eP*	**Pn**	**21 45 32.0**	**+0.4**
	baz=277					
NSK			*eS*	**Sn**	**21 45 43.6**	**+0.3**
	baz=277					
YM01	**YM01**	**0.81 314**	*eP*	**Pn**	**21 45 32.2**	**+0.3**
	baz=315					
YM01			*eS*	**Sn**	**21 45 44.0**	**+0.2**
	baz=315					
YM11	**YM11**	**0.82 315**	*eP*	**Pn**	**21 45 32.6**	**+0.6**
	baz=317					
YM10	**YM10**	**0.82 314**	*eP*	**Pn**	**21 45 32.4**	**+0.3**
	baz=316					
YM10			*eS*	**Sn**	**21 45 44.0**	**0.0**
	baz=316					
YM05	**YM05**	**0.82 314**	*eP*	**Pn**	**21 45 32.3**	**+0.2**
	baz=316					
YM05			*eS*	**Sn**	**21 45 43.9**	**-0.3**
	baz=316					
YM08	**YM08**	**0.82 316**	*eP*	**Pn**	**21 45 32.2**	**+0.1**
	baz=318					
YM08			*eS*	**Sn**	**21 45 43.4**	**-0.7**
	baz=318					
YM04	**YM04**	**0.83 312**	*eP*	**Pn**	**21 45 32.3**	**+0.1**
	baz=314					
YM04			*eS*	**Sn**	**21 45 44.2**	**-0.1**
	baz=314					
FUSS	**Fushou**	**0.95 249**	*eP*	**Pn**	**21 45 34.0**	**+0.2**
	baz=248					
FUSS			*eS*	**Sn**	**21 45 46.4**	**-0.8**
	baz=248					
WHF	**Hehuan Shan**	**0.97 243**	*eP*	**Pn**	**21 45 33.7**	**-0.6**
	baz=241					
WHF			*eS*	**Sn**	**21 45 46.8**	**-1.2**
	baz=241					
TWT	**Tachien**	**1.00 251**	*eP*	**Pn**	**21 45 35.1**	**+0.7**
	baz=250					
TWT			*eS*	**Sn**	**21 45 48.5**	**+0.2**
	baz=250					
TDCB	**Techi**	**1.02 251**	*eP*	**Pn**	**21 45 34.5**	**-0.1**
	baz=250					
TDCB			*eS*	**Sn**	**21 45 48.1**	**-0.5**
	baz=250					
CHGB	**Renai**	**1.09 241**	*eP*	**Pn**	**21 45 35.4**	**-0.1**
	baz=240					
CHGB			*eS*	**Sn**	**21 45 50.0**	**-0.2**
	baz=240					
LIOB	**Emei**	**1.09 273**	*eP*	**Pn**	**21 45 35.9**	**+0.5**
	baz=273					
LIOB			*eS*	**Sn**	**21 45 51.0**	**+1.0**
	baz=273					
NSTT	**Nanjuang**	**1.11 272**	*eP*	**Pn**	**21 45 36.1**	**+0.5**
	baz=272					
NSTT			*eS*	**Sn**	**21 45 51.2**	**+0.9**
	baz=272					
VWDT	**VWDT**	**1.29 230**	*eP*	**Pn**	**21 45 37.4**	**-0.5**
	baz=228					
VWDT			*eS*	**Sn**	**21 45 54.0**	**-0.4**
	baz=228					
HGSD	**Ruisui**	**1.31 214**	*eP*	**Pn**	**21 45 37.9**	**-0.3**
	baz=212					
HGSD			*eS*	**Sn**	**21 45 53.7**	**-1.3**
	baz=212					
SMLT	**Sun Moon Lake**	**1.39 240**	*eP*	**Pn**	**21 45 40.2**	**+0.8**
	baz=238					
SMLT			*eS*	**Sn**	**21 45 58.4**	**+1.3**
	baz=238					
SSLB	**Suanglung**	**1.40 236**	*eP*	**Pn**	**21 45 40.5**	**+1.0**
	baz=234					
SSLB			*eS*	**Sn**	**21 45 56.6**	**-0.7**
	baz=234					
IRIF	**Iriomote-Funau**	**1.40 100**	P	**Pn**	**21 45 39.4**	**0.0**
IRIF			S	**Sn**	**21 45 56.5**	**-0.7**
WHYT	**Xinyi Township**	**1.53 235**	*eS*	**Sn**	**21 46 01.6**	**+1.3**
	baz=233					
WJS	**Zhushan**	**1.56 241**	*eS*	**Sn**	**21 46 02.5**	**+1.6**
	baz=240					
WNT	**Mingjian**	**1.57 243**	*eS*	**Sn**	**21 46 02.5**	**+1.4**
	baz=242					
FULB	**Fuli**	**1.62 212**	*eP*	**Pn**	**21 45 41.4**	**-1.0**
	baz=210					
FULB			*eS*	**Sn**	**21 46 01.9**	**-0.6**
	baz=210					
JKRS	**Kuro-shima**	**1.67 102**	P	**Pn**	**21 45 43.5**	**+0.5**
JKRS			S	**Sn**	**21 46 03.7**	**+0.1**
ALS	**Alishan**	**1.68 230**	*eP*	**Pn**	**21 45 44.2**	**+0.8**
	baz=229					
ALS			*eS*	**Sn**	**21 46 05.2**	**+1.0**
	baz=229					
CHN5	**Tsauling**	**1.72 235**	*eP*	**Pn**	**21 45 44.2**	**+0.5**
	baz=234					
CHN5			*eS*	**Sn**	**21 46 05.7**	**+0.9**
	baz=234					
JIJ	**Ishigaki jima**	**1.77 97**	P	**Pn**	**21 45 44.5**	**+0.2**
JIJ			S	**Sn**	**21 46 05.3**	**-0.6**
ELDTW	**Lidau**	**1.77 218**	*eS*	**Sn**	**21 46 04.4**	**-1.8**
	baz=217					
WDLH	**Douliu**	**1.78 240**	*eS*	**Sn**	**21 46 08.1**	**+2.0**
	baz=239					
JISG	**Ishigakijimahi**	**1.91 90**	P	**Pn**	**21 45 46.3**	**+0.2**
JISG			*eS*	**Sn**	**21 46 09.8**	**+0.6**
TPUB	**Ta-pu**	**1.94 229**	*eP*	**Pn**	**21 45 47.7**	**+1.1**
	baz=227					
TPUB			*eS*	**Sn**	**21 46 11.2**	**+1.1**
	baz=227					
WTP	**Ta-pu**	**1.98 228**	*eS*	**Sn**	**21 46 12.4**	**+1.3**
	baz=226					
CHN1	**Nanshi**	**2.08 228**	*eS*	**Sn**	**21 46 15.2**	**+1.6**
	baz=227					
SLGT	**Liugui**	**2.14 222**	*eS*	**Sn**	**21 46 16.6**	**+1.6**
	baz=221					
VWUC	**VWUC**	**2.55 280**	*eP*	**Pn**	**21 45 54.0**	**-0.8**
	baz=279					
MATB	**Ma-tsu**	**2.58 308**	*eP*	**Pn**	**21 45 54.9**	**-0.3**
	baz=307					
MATB			*eS*	**Sn**	**21 46 24.6**	**-0.9**
	baz=307					
PHUB	**P'eng-hu**	**2.64 247**	*eS*	**Sn**	**21 46 25.0**	**-2.1**
	baz=245					
PTMZ	**Houxiangcun**	**2.85 280**	*eP*	**Pn**	**21 45 58.5**	**-0.4**
	baz=279					
PTMZ			*eS*	**Sn**	**21 46 29.7**	**-2.4**
	baz=279					
LYJJ	**Jianjiangzhen**	**2.95 312**	*eP*	**Pn**	**21 46 00.3**	**0.0**
	baz=312					
LYJJ			*eS*	**Sn**	**21 46 34.1**	**-0.5**
	baz=312					

IDC 04 22:01:48.9±11.0, 22°.17N×143°.46E, h224km±96km, mb3.0/4, mb1 3.1/4, mb1mx2.8/32, mbtmp3.6/4, Error ellipse: s-maj=137.6km s-min=23.1km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.30**	**322**	P	P	22 06 07.8	0.0
	0.8nm,0.5s,baz=148,slow=8.4,SNR=4.3						
WRA	**Warramunga Arr**	**42.79**	**193**	P	P	22 09 24.6	-0.2
	0.2nm,0.4s,baz=12,slow=7.9,SNR=4.5						
MKAR	**Makanchi Array**	**54.57**	**312**	P	P	22 10 54.6	+0.5
	0.3nm,0.5s,baz=88,slow=9.1,SNR=5.7						
FINES	**FINESS Array B**	**82.87**	**335**	P	P	22 13 47.9	-0.3
	0.6nm,0.3s,baz=62,slow=3.3,SNR=10						

*ANF **04** 22:07:03.7±0.3, 32°.61N×115°.66W, h24km±2km, ML3.0/15, Error ellipse: s-maj=3.5km s-min=1.8km az=2.0*
*NEIC **04** 22:07:04.0±1.4, 32°.54N±0°.02×115°.69W±0°.02, h18km±3km, Error ellipse: s-maj=2.9km s-min=1.9km az=200.0*
*PAS **04** 22:07:04.2±1.9, 32°.55N±0°.01×115°.67W±0°.01, h9km±5km, Error ellipse: s-maj=1.8km s-min=1.2km az=212.0*
*SCEDC **04** 22:07:04.3, 32°.54N×115°.69W, h13km*
*ECX **04** 22:07:05.2±0.8, 32°.57N×115°.70W, h8km±5km, MD3.2, ML3.5, Fault plane solution: NP1:φ=138.33000°, δ=90.00000°, λ=30.00000°.*

ISC 04 22:07:03.2±0.8, 32°.53N±0°.02×115°.70W±0°.01, h16km±5km, n118, σ1=03/162, 17C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.12**	**352**		**Pb**	**22 07 08.7**	**+1.4**
SGL	**Mount Signal**	**0.12**	**352**	⇓*iP*	**Pg**	**22 07 06.8**	**-0.1**
SGL				*i* S	**Pb**	**22 07 08.7**	**+1.4**
CEA0	**Mexicali**	**0.13**	**13**	⇓*eP*	**Pg**	**22 07 06.8**	**-0.2**
CEA0				*eS*	**Sg**	**22 07 08.7**	**-0.7**
YUH	**Yuha Desert**	**0.22**	**303**		**Pg**	**22 07 08.8**	**+0.6**
YUH					**Sg**	**22 07 12.2**	**+0.5**
ICBC	**Inst. de Cultu**	**0.24**	**55**	⇑*eP*	**Pg**	**22 07 09.2**	**+0.6**
ICBC				*eS*	**Sb**	**22 07 13.3**	**+0.1**
COK2	**Cook Ranch 2**	**0.33**	**356**		**Pg**	**22 07 10.5**	**+0.5**
COK2					**Sg**	**22 07 15.5**	**+0.8**
COK2	**Cook Ranch 2**	**0.33**	**356**	⇓*iP*	**Pg**	**22 07 10.5**	**+0.5**
RMX	**La Rumorosa**	**0.33**	**284**		**Sg**	**22 07 14.7**	**-0.2**
RMX	**La Rumorosa**	**0.33**	**284**	Pg	**Pg**	**22 07 10.4**	**+0.3**
RMX	**La Rumorosa**	**0.33**	**284**	⇑*iP*	**Pg**	**22 07 10.5**	**+0.3**
RMX				*eS*	**Sg**	**22 07 14.7**	**-0.2**
DREC	**Desert Rsrch C**	**0.35**	**38**		**Pg**	**22 07 11.2**	**+0.6**
DREC					**Sb**	**22 07 17.0**	**+0.5**
DREC	**Desert Rsrch C**	**0.35**	**38**	⇑*eP*	**Pg**	**22 07 11.2**	**+0.6**
CPBX	**Cerro Prieto**	**0.35**	**107**		**Pg**	**22 07 10.6**	**+0.1**
CPBX	**Cerro Prieto**	**0.35**	**107**		**Sg**	**22 07 16.1**	**+0.6**
CPBX	**Cerro Prieto**	**0.35**	**107**	⇑*iP*	**Pg**	**22 07 10.7**	**+0.1**
CPBX				⇓*e*		22 07 18.9	
CPBX				IAML		22 07 18.9	
	comp=E,13μm,0.4s						
CPBX				⇑*e*		22 07 19.7	
CPBX				IAML		22 07 19.7	
	comp=N,16μm,0.3s						
IKP	**In-Ko-Pah, Jac**	**0.36**	**290**	P	**Pb**	**22 07 11.6**	**+0.2**
	baz=108,SNR=342						
IKP				S	**Sb**	**22 07 17.2**	**+0.2**
	baz=108						
IKP	**In-Ko-Pah, Jac**	**0.36**	**290**		**Pb**	**22 07 11.7**	**+0.2**
IKP					**Sb**	**22 07 17.1**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.36**	**290**	⇑*iP*	**Pb**	**22 07 11.7**	**+0.2**
SNR	**Schaffner Ranc**	**0.40**	**34**		**Pb**	**22 07 12.1**	**+0.1**
SNR					**Sb**	**22 07 18.5**	**+0.6**
CRR	**Carrizo Plain**	**0.42**	**328**		**Pg**	**22 07 12.2**	**+0.4**
SWSC	**Sam W. Stewart**	**0.43**	**349**	P	**Pg**	**22 07 11.9**	**0.0**
	baz=167,SNR=119						
SWSC				S	**Sg**	**22 07 17.3**	**-0.4**
	baz=167						
SWSC	**Sam W. Stewart**	**0.43**	**349**		**Pg**	**22 07 11.9**	**0.0**
SWSC					**Sg**	**22 07 17.3**	**-0.4**
SWSC	**Sam W. Stewart**	**0.43**	**349**	⇑*eP*	**Pg**	**22 07 11.9**	**0.0**
SWSC				*eS*	**Sg**	**22 07 17.4**	**-0.4**
SUP	**Superstition M**	**0.44**	**347**		**Pg**	**22 07 12.5**	**+0.4**
SUP					**Sg**	**22 07 18.0**	**-0.2**
MBIG	**Mexicali**	**0.44**	**105**	⇑*iP*	**Pb**	**22 07 13.5**	**+0.8**
MBIG				*eS*	**Sn**	**22 07 21.3**	**-1.3**
CTLX	**Tlaxcala, TLX**	**0.47**	**96**	⇑*iP*	**Pn**	**22 07 14.6**	**-0.8**
CTLX				*eS*	**Sn**	**22 07 23.8**	**+0.4**
SALX	**Saltillo**	**0.50**	**102**	⇑*eP*	**Pn**	**22 07 18.3**	**+2.6**
WEMD	**Westmorland, C**	**0.52**	**11**		**Pg**	**22 07 14.1**	**+0.5**
WEMD					**Sb**	**22 07 22.0**	**+0.7**
WEMD	**Westmorland, C**	**0.52**	**11**	*eP*	**Pg**	**22 07 14.1**	**+0.5**
WEMD				*eS*	**Sb**	**22 07 22.0**	**+0.7**
ESJX	**Sierra Juarez**	**0.56**	**202**		**Pb**	**22 07 15.0**	**+0.2**
ESJX					**Sb**	**22 07 23.0**	**+0.4**
GUVIX	**Guadalupe Vict**	**0.58**	**113**		**Pb**	**22 07 15.6**	**+0.7**
GUVIX	**Guadalupe Vict**	**0.58**	**113**	⇑*eP*	**Pb**	**22 07 15.8**	**+0.9**
GUVIX				*eS*	**Sn**	**22 07 25.5**	**-0.4**
COA	**Coachella**	**0.59**	**55**		**Pg**	**22 07 15.2**	**+0.2**
COA					**Sb**	**22 07 24.0**	**+0.6**
ERRC	**Elmore Ranch**	**0.60**	**350**		**Pb**	**22 07 15.8**	**+0.4**
EMSC	**East Mesa**	**0.64**	**70**		**Pg**	**22 07 16.2**	**+0.3**
EMSC					**Sb**	**22 07 25.8**	**+0.9**
EMSC	**East Mesa**	**0.64**	**70**	⇑*eP*	**Pg**	**22 07 16.2**	**+0.3**
EMSC				*eS*	**Sb**	**22 07 25.5**	**+0.7**
MONP2	**Monument Peak**	**0.71**	**301**	P	**Pg**	**22 07 17.6**	**+0.4**
	baz=120,SNR=192						
MONP2				S	**Sg**	**22 07 26.6**	**+0.1**
	baz=120						
MONP2	**Monument Peak**	**0.71**	**301**		**Sg**	**22 07 26.8**	**+0.3**
MONP2	**Monument Peak**	**0.71**	**301**	⇑*eP*	**Pg**	**22 07 17.6**	**+0.4**
MONP2				*eS*	**Sg**	**22 07 27.0**	**+0.4**
TKX	**Tecate**	**0.76**	**273**		**Pb**	**22 07 18.0**	**-0.2**
TKX	**Tecate**	**0.76**	**273**		**Sg**	**22 07 29.2**	**+1.0**
TKX	**Tecate**	**0.76**	**273**	⇑*eP*	**Pb**	**22 07 18.0**	**-0.2**
TKX				*eS*	**Sb**	**22 07 28.0**	**-0.4**
SJX	**San Joaquin**	**0.79**	**196**	*eP*	**Pb**	**22 07 14.9**	**-3.7**
SJX				*eS*	**Sb**	**22 07 23.2**	**-5.9**
TJIG	**Tijuana**	**0.82**	**264**	⇑*eP*	**Pg**	**22 07 20.0**	**+0.7**
TJIG				*eS*	**Sg**	**22 07 30.9**	**+0.7**
BAR	**Barrett**	**0.83**	**281**		**Pg**	**22 07 20.1**	**+0.7**
BAR	**Barrett**	**0.83**	**281**	*eP*	**Pg**	**22 07 20.1**	**+0.7**
BAR				*eS*	**Sg**	**22 07 31.0**	**+0.6**
CBX	**Cerro Bola**	**0.84**	**256**		**Pn**	**22 07 20.7**	**+0.1**
CBX					**Sn**	**22 07 32.0**	**-0.6**
CBX	**Cerro Bola**	**0.84**	**256**	⇑*eP*	**Pn**	**22 07 20.6**	**+0.1**
FRK	**Frink**	**0.88**	**4**	P	**Pb**	**22 07 19.0**	**-1.1**
GLA	**Glamis**	**0.91**	**54**	P	**Pb**	**22 07 19.6**	**-1.0**
	baz=235,SNR=74						
GLA				S	**Sb**	**22 07 30.5**	**-2.0**
	baz=235						
GLA	**Glamis**	**0.91**	**54**		**Pb**	**22 07 19.6**	**-1.0**
GLA				Sg	**Sb**	**22 07 31.1**	**-1.4**
GLA	**Glamis**	**0.91**	**54**	⇑*eP*	**Pb**	**22 07 19.6**	**-1.0**
OLP	**Otay Lakes Par**	**1.04**	**275**		**Pg**	**22 07 23.7**	**+0.4**
OLP					**Sg**	**22 07 37.1**	**+0.2**
OLP	**Otay Lakes Par**	**1.04**	**275**	*eP*	**Pg**	**22 07 23.7**	**+0.4**
MATG	**Mataguay Scout**	**1.04**	**310**		**Pb**	**22 07 22.7**	**-0.2**
MATG					**Sb**	**22 07 36.8**	**+0.4**
MATG	**Mataguay Scout**	**1.04**	**310**	*eP*	**Pb**	**22 07 22.7**	**-0.2**
CCX	**Cicese**	**1.04**	**231**		**Pn**	**22 07 23.5**	**+0.3**
CCX	**Cicese**	**1.04**	**231**	Sg	**Sg**	**22 07 37.5**	**+0.4**
CCX					**Sn**	**22 07 37.9**	**+0.4**
CCX	**Cicese**	**1.04**	**231**	*eP*	**Pn**	**22 07 23.6**	**+0.4**
SDRC	**San Diego Road**	**1.07**	**282**		**Sn**	**22 07 38.1**	**+0.1**
SDRC	**San Diego Road**	**1.07**	**282**	*eP*	**Pn**	**22 07 24.0**	**+0.5**
VTX	**Valle De La Tr**	**1.13**	**183**	*eP*	**Pg**	**22 07 26.4**	**+1.3**
TJX	**Tijuana**	**1.14**	**270**		**Pg**	**22 07 25.7**	**+0.4**
TJX	**Tijuana**	**1.14**	**270**	*eP*	**Pg**	**22 07 26.0**	**+0.7**
BC3	**Big Chuckawall**	**1.15**	**11**	P	**Pn**	**22 07 23.3**	**-1.5**
	baz=190,SNR=64						
BC3				S	**Sb**	**22 07 37.2**	**-2.2**
	baz=190						
HWB	**Hans Werner Br**	**1.17**	**296**		**Pn**	**22 07 24.9**	**-0.1**
HWB					**Sb**	**22 07 40.5**	**+0.5**
FRD	**Ford Ranch, An**	**1.23**	**322**		**Sb**	**22 07 39.5**	**-2.2**
FRD	**Ford Ranch, An**	**1.23**	**322**		**Sb**	**22 07 40.2**	**-1.5**
109C	**Camp Elliot, M**	**1.23**	**287**	P	**Pn**	**22 07 26.1**	**+0.3**
	baz=106,SNR=118						
109C				S	**Sn**	**22 07 42.5**	**+0.3**
	baz=106						
109C	**Camp Elliot, M**	**1.23**	**287**		**Pb**	**22 07 26.4**	**+0.2**
CPE	**Camp Elliot**	**1.23**	**287**		**Pn**	**22 07 26.3**	**+0.4**
CPE					**Sn**	**22 07 42.7**	**+0.5**
XPFO	**Pion Flat**	**1.25**	**330**		**Sb**	**22 07 40.6**	**-2.0**
PMD	**Palm Desert**	**1.25**	**333**		**Sb**	**22 07 40.2**	**-2.3**
PFO	**Pinyon Flats O**	**1.25**	**330**	P	**Pn**	**22 07 25.1**	**-1.1**
	baz=149,SNR=62						
PFO				S	**Sb**	**22 07 40.5**	**-2.1**
	baz=149						
PFO	**Pinyon Flats O**	**1.25**	**330**	Pn	**Pn**	**22 07 25.0**	**-1.2**
DNR	**Dunn Ranch,Anz**	**1.30**	**323**		**Pn**	**22 07 26.2**	**-0.6**
DNR					**Sb**	**22 07 42.8**	**-1.0**
CRY	**Cary Ranch**	**1.35**	**320**		**Pn**	**22 07 26.9**	**-0.7**
SPIG	**San Pedro Mart**	**1.49**	**172**	*eP*	**Pb**	**22 07 30.4**	**-0.3**
BELC	**Belle Mtn. Jos**	**1.49**	**351**	P	**Pn**	**22 07 28.4**	**-1.1**
	baz=170,SNR=34						
BELC				S	**Sn**	**22 07 46.6**	**-2.2**
	baz=170						
SPX	**San Pedro Mart**	**1.50**	**172**	Pn	**Pb**	**22 07 30.6**	**-0.3**
SPX	**San Pedro Mart**	**1.50**	**172**	*eP*	**Pb**	**22 07 30.6**	**-0.3**
MURC	**Murrieta**	**1.65**	**311**	P	**Pn**	**22 07 31.3**	**-0.3**
	baz=130,SNR=42						
MURC				Sb	**Sb**	**22 07 55.0**	**+1.1**
	baz=130						
113A	**Mohawk Valley,**	**1.65**	**81**		**Pn**	**22 07 31.0**	**-0.6**
SFX	**San Felipe**	**1.65**	**154**		**Pn**	**22 07 32.2**	**+0.6**
SFX	**San Felipe**	**1.65**	**154**	*eP*	**Pg**	**22 07 35.5**	**+0.5**
IRM	**Iron Mountain**	**1.69**	**16**	Pb	**Pn**	**22 07 32.6**	**+0.3**
	baz=196,SNR=17						
BTL	**Butler Peak**	**2.04**	**328**		**Pn**	**22 07 37.6**	**+0.4**
PIX	**Pinacate**	**2.13**	**116**	Pn	**Pn**	**22 07 38.5**	**+0.3**
PDMCI	**Parker Dam,Lak**	**2.20**	**36**	Sb	**Sb**	**22 08 09.6**	**-0.1**
	baz=217						
FULC	**Fullerton**	**2.29**	**306**		**Pn**	**22 07 40.8**	**+0.4**
BFSC	**Mount Baldy Ra**	**2.37**	**317**	S	**Sn**	**22 08 09.2**	**-1.1**
	baz=135						
CIS	**Catalina Islan**	**2.44**	**292**	Pb	**Pb**	**22 07 46.7**	**-0.1**
	baz=110						
CIS				Sb	**Sb**	**22 08 19.0**	**+2.3**
	baz=110						
PEM	**Pine Mountain**	**2.44**	**313**		**Pb**	**22 07 48.0**	**+1.3**
FMP	**Fort Macarthur**	**2.48**	**299**	Pb	**Pb**	**22 07 47.8**	**+0.5**
	baz=118						
214A	**Organ Pipe Nat**	**2.52**	**102**	P	**Pn**	**22 07 42.6**	**-0.9**
	baz=284						
214A	**Organ Pipe Nat**	**2.52**	**102**	Pn	**Pn**	**22 07 42.6**	**-0.9**
PASC	**Pasadena Art C**	**2.65**	**309**		**Pb**	**22 07 52.0**	**+1.8**
GSC	**Goldstone, Bar**	**2.92**	**342**		**Pg**	**22 07 59.3**	**+0.2**
W13A	**Hualapai Mount**	**2.98**	**30**	Pn	**Pn**	**22 07 50.4**	**+0.3**
ISA	**Isabella, Lake**	**3.88**	**324**		**Pg**	**22 08 15.1**	**-2.5**
WUAZ	**Wupatki**	**4.67**	**49**		**Pn**	**22 08 14.6**	**+1.3**
U15A	**North Rim**	**4.81**	**35**		**Pn**	**22 08 16.1**	**+0.8**
PRN	**Pahroc Range**	**4.90**	**6**	Pn	**Pn**	**22 08 17.0**	**+0.6**
LCMT	**Little Creek M**	**4.91**	**24**		**Pn**	**22 08 17.4**	**+0.8**
KNB	**Kanab**	**5.07**	**27**	Pn	**Pn**	**22 08 19.8**	**+1.1**
CCUT	**Cedar City**	**5.37**	**20**	Pn	**Pn**	**22 08 24.0**	**+1.1**
HSIG		**5.38**	**129**	Pn	**Pn**	**22 08 23.8**	**+0.9**
SZCU	**Shurtz Canyon**	**5.49**	**22**	Pn	**Pn**	**22 08 26.0**	**+1.3**
PMPB	**Monarch Peak**	**5.60**	**313**	Pn	**Pn**	**22 08 26.1**	**+0.3**
W18A	**Petrified Fore**	**5.60**	**61**	Pn	**Pn**	**22 08 27.4**	**+1.3**
MTPU	**Mount Pierson**	**6.21**	**27**	Pn	**Pn**	**22 08 35.2**	**+0.6**
MVU	**Marysvale**	**6.61**	**25**	Pn	**Pn**	**22 08 40.7**	**+0.8**
TCRU	**Three Creeks R**	**6.62**	**23**	Pn	**Pn**	**22 08 40.1**	**-0.1**
121A	**Cookes Peak, D**	**6.69**	**88**	Pn	**Pn**	**22 08 42.0**	**+0.9**
CMB	**Columbia Colle**	**6.70**	**326**	Pn	**Pn**	**22 08 41.2**	**+0.2**
Q16A	**Castle Valley**	**7.37**	**29**	Pn	**Pn**	**22 08 51.2**	**+0.9**
RUBR	**Rubicon Trail**	**7.45**	**332**	Pn	**Pn**	**22 08 52.1**	**+0.7**
LENM	**Lemitar**	**7.49**	**75**		**Pn**	**22 08 51.5**	**-0.5**

*TEH **04** 22:22:11.9, 32°.73N×47°.74E, h8km, ML2.9*
*ISN **04** 22:22:11.3±0.8, 32°.67N×47°.76E, h14km±5km, ML2.6*

ISC 04 22:22:11.8±1.0, 32°.63N±0°.05×47°.78E±0°.04, h10km, n23, σ1=91/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.42**	**277**	*e*Pg	**Pg**	**22 22 19.3**	**-0.8**
DHL1				*e*Sg	**Sg**	**22 22 26.1**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.01**	**121**	*e*Pg	**Pn**	**22 22 32.9**	**+0.9**
IKMR	**Kamar-syah**	**1.02**	**30**	*e*Pg	**Pg**	**22 22 30.1**	**-1.3**
IDOB	**Doab**	**1.20**	**16**	*e*Pg	**Pb**	**22 22 34.3**	**-0.5**
BMDN	**Meydan**	**1.36**	**40**	*e*Pg	**Pn**	**22 22 36.9**	**-0.1**
BMDN				*e*		22 23 01.0	
IKOM	**Komasi**	**1.56**	**352**	*e*Pg	**Pn**	**22 22 39.8**	**+0.1**
IKOM				*e*		22 23 07.0	
IBDR	**Badra**	**1.63**	**288**	*e*Pg	**Pn**	**22 22 40.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**22 23 02.0**	**+0.5**
IBDR				AML	AML	22 23 07.5	
	comp=N,105nm,0.6s						
IBDR				AML	AML	22 23 17.2	
	comp=E,92nm,0.5s						
HSAM	**Samen**	**1.72**	**23**	*e*Pg	**Pb**	**22 22 43.7**	**0.0**
HSAM				*e*		22 23 09.4	
KCHF	**Cheshme Sefid,**	**1.75**	**340**	*e*Pg	**Pn**	**22 22 42.9**	**+0.5**
KCHF				*e*		22 22 45.7	
KER	**Kermanshah**	**1.83**	**343**	*e*Pg	**Pb**	**22 22 45.2**	**-0.3**
IBZA	**Bozab**	**1.84**	**2**	*e*Pg	**Pb**	**22 22 45.2**	**-0.4**
IBZA				*e*		22 23 14.4	
IGHG	**Ghaleghazi**	**1.97**	**330**	*e*Pn	**Pn**	**22 22 46.7**	**+1.2**
IGHG				*e*		22 23 23.3	
IVIS	**Veis**	**2.04**	**338**	*e*	**Pg**	**22 22 50.3**	**-0.7**
NSR	**Nassriya**	**2.13**	**221**	*e*Pn	**Pn**	**22 22 48.0**	**+0.6**
NSR				*e*Sn	**Sn**	**22 23 14.0**	**0.0**
KHMZ	**Khomeyn**	**2.14**	**58**	*e*Pn	**Pb**	**22 22 50.2**	**-0.5**
IALM	**Almabolaq**	**2.25**	**8**	*e*Pn	**P

WHHZ				S	Sn	22 28 23.4	-1.1
OUZ	Omahuta	6.76	252	Pn	Pn	22 27 12.9	+1.0
MRHZ	Matea Rd	6.81	215	P	Pn	22 27 13.2	+0.7
NMHZ	Naumai	6.84	212	P	Pn	22 27 14.8	+1.9
ARHZ	Aropaoanui	6.89	210	P	Pn	22 27 13.9	+0.2
ARHZ				S	Sn	22 28 30.4	-0.4
BKZ	Black Stump Fm	7.04	213		Pn	22 27 16.4	+0.8
KWHZ	Kaweka Forest	7.28	212	P	Pn	22 27 17.6	-1.4
HIZ	Hauiti	7.41	224	P	Pn	22 27 22.8	+2.0
HIZ	Hauiti	7.41	224	Pn	Pn	22 27 21.6	+0.8
OTVZ	Oturere	7.43	217	P	Pn	22 27 22.2	+1.0
BFZ	Birch Farm	8.40	208	P	Pn	22 27 31.8	-2.5
BFZ	Birch Farm	8.40	208	Pn	Pn	22 27 33.9	-0.4
KIW	Kapiti Island	9.12	213	P	Pn	22 27 41.0	-3.1
MSWZ	Moikau Station	9.42	210	Pn	Pn	22 27 49.7	+1.3
PLWZ	Palliser	9.55	209	Pn	Pn	22 27 51.6	+1.5
SNZO	South Karori	9.57	212	Pn	Pn	22 27 50.3	0.0
BHW	Baring Head	9.58	211	Pn	Pn	22 27 50.5	+0.1
CMWZ	Cape Campbell	10.14	212	Pn	Pn	22 27 59.8	+1.6
KHZ	Kahutara	10.98	212	Pn	Pn	22 28 07.3	-2.3
RPZ	Rata Peaks	13.14	215	Pn	Pn	22 28 39.8	+0.7
FOZ	Fox Glacier	13.63	219	Pn	Pn	22 28 46.3	+0.6
ODZ	Otahua Downs	14.34	212	Pn	Pn	22 28 56.1	+0.7
MLZ	Mavora Lakes	15.78	217	Pn	Pn	22 29 15.5	+1.1
MLZ				IAmb	IAmb	22 29 17.0	
	comp=Z,8.2nm,1.1s						
WHZ	Wether Hill Ro	16.24	216	Pn	Pn	22 29 19.6	-0.6
DCZ	Deep Cove	16.34	218	Pn	Pn	22 29 21.7	+0.3
DCZ				IAmb	IAmb	22 29 26.3	
	comp=Z,17nm,1.2s						
DZM	Mont Dzumac	17.40	307	Pn	Pn	22 29 32.9	-2.1
DZM				IAmb	IAmb	22 29 34.6	
	comp=Z,17nm,1.1s						
AFI	Afiamalu	20.33	19	P	P	22 30 08.4	+0.4
COEN	Coen	39.74	290	P	P	22 33 01.1	-2.9
ASAR	Alice Springs	42.58	270	P	P	22 33 28.1	+0.7
	comp=Z,0.2nm,0.3s,baz=108,slow=7.5,SNR=4.8						
WR0	Warramunga Arr	43.66	276	P	P	22 33 35.6	-0.5
WB2	Warramunga Arr	43.83	276	P	P	22 33 37.4	-0.1
WB2				IAmb	IAmb	22 33 39.1	
	comp=Z,4.9nm,1.1s						
WRAB	Tennant Creek	43.83	276	P	P	22 33 36.0	-1.4
WRAB				IAmb	IAmb	22 33 52.4	
	comp=Z,3.4nm,1.0s						
WRA	Warramunga Arr	43.84	276	P	P	22 33 37.6	+0.1
	comp=Z,0.7nm,0.4s,baz=118,slow=7.7,SNR=13						
WRA	Warramunga Arr	43.84	276	P	P	22 33 39.9	+2.3
WB0	Warramunga Arr	43.87	276	P	P	22 33 37.5	-0.3
WB0				IAmb	IAmb	22 33 38.3	
	comp=Z,3.6nm,1.1s						
CASY	Casey	52.31	209	P	P	22 34 42.3	+0.1
CASY				IAmb	IAmb	22 34 46.5	
	comp=Z,1.0nm,0.8s						
H03S2	Juan Fernandez	79.21	123	T	T	00 06 02.4	
	baz=234,slow=74,SNR=3.7						
H03S1	Juan Fernandez	79.22	123	T	T	00 06 00.6	
	baz=234,slow=74,SNR=3.4						
H03S3	Juan Fernandez	79.23	123	T	T	00 05 58.1	
	baz=234,slow=74,SNR=3.9						
FINES	FINESS Array B	147.75	338	PKPbc	PKPab	22 45 17.3	+0.2
	comp=Z,1.0nm,0.5s,baz=31,slow=4.2,SNR=11						
NB2	NORSAR Subarra	151.60	350	PKP	PKPbc	22 45 23.9	-0.3
	comp=Z,1.2nm,1.0s,baz=16,slow=3.3						
NOA	NORSAR Array B	151.60	350	PKPbc	PKiKP	22 45 27.8	+3.2
	comp=Z,0.2nm,0.4s,baz=13,slow=4.1,SNR=1.9						
NOA				PKPab	sPKPbc	22 45 39.5	+0.4
	comp=Z,0.7nm,0.6s,baz=16,slow=4.1,SNR=5.4						

ISK 04 22:28:46.5, 35°.76N×30°.17E, $h17^{km}$, ML2.7/13
DDA 04 22:28:47.9, 35°.93N×30°.32E, $h10^{km}\pm3^{km}$, ML2.3
NIC 04 22:28:49.0±0.0, 35°.89N×30°.20E, $h32^{km}\pm28^{km}$, Ml2.8/3
ISC 04 22:28:46.6±1.4, 35°.87N±0°.04×30°.24E±0°.03, $h9^{km}\pm11^{km}$, n44, σ1§12/54, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMR	Demre-Antalya	0.45	324	PG	Pb	22 28 57.1	+0.3
AKUM	Antalya-Kumluc	0.46	11	*i* P	Pg	22 28 56.2	+0.6
AKUM				*i* S	Sg	22 29 00.3	-1.4
KSL	Kastellorizon	0.60	298	P	Pb	22 29 00.1	+0.8
KSL				S	Sn	22 29 10.0	-1.1
KSL				AML	AML	22 29 12.9	
	0.6nm,0.6s						
KSL				AML	AML	22 29 12.9	
	0.6nm,0.6s						
KSL				AML	AML	22 29 14.6	
	1.2nm,0.4s						
KSL				AML	AML	22 29 14.6	
	1.2nm,0.4s						
AKAS	Kas	0.63	306	PG	Pb	22 29 00.2	+0.4
AKAS				SG	Sb	22 29 09.3	+0.5
AKAS	Kas	0.63	306	*i* P	Pg	22 28 59.1	+0.4
AKAS				*i* S	Sb	22 29 10.0	+1.2
AKAS				IAML		22 29 16.0	
	comp=N,200nm,0.7s						
AKAS				IAML		22 29 16.0	
	comp=E,112nm,0.5s						
ELL	Elmali	0.92	343	PG	Pn	22 29 06.1	+0.3
ELL				SG	Sn	22 29 20.8	+1.6
ELL	Elmali	0.92	343	P	Pb	22 29 05.2	+0.4
KORT	Korkueli	1.13	5	PN	Pn	22 29 09.9	+1.1
KORT	Korkueli	1.13	5	*i* P	Pb	22 29 07.6	-0.9
FETY	Fethiye	1.21	310	PN	Pb	22 29 09.5	-0.1
FETY	Fethiye	1.21	310	*i* P	Pb	22 29 08.7	-1.0
GOLH	Golhisar	1.47	339	*i* P	Pn	22 29 13.4	0.0
GOLH				IAML		22 29 52.0	
	comp=N,50nm,0.8s						
GOLH				IAML		22 30 12.0	
	comp=E,50nm,2.7s						
KEPZ	Antalya-Kepez	1.51	47	*i* P	Pb	22 29 14.7	-0.2
DALY	Dalyan (Mula)	1.59	307	PN	Pn	22 29 14.9	0.0
DALY	Dalyan (Mula)	1.59	307	*i* P	Pb	22 29 15.9	-0.2
DALY				IAML		22 30 11.0	
	comp=N,37nm,2.2s						
DALY				IAML		22 30 16.0	
	comp=E,33nm,2.1s						
GAZI	Gazipasa	1.73	77	PN	Pn	22 29 17.1	+0.3
GAZI	Gazipasa	1.73	77	*i* P	Pn	22 29 15.4	-1.4
GAZI				*i* S	Sn	22 29 34.9	-4.1
GAZI				IAML		22 29 40.0	
	comp=E,64nm,0.4s						
GAZI				IAML		22 29 43.0	
	comp=N,65nm,0.7s						
ARG	Arkhangelos	1.74	282	PN	Pn	22 29 16.4	-0.7
ARG	Arkhangelos	1.74	282	P	Pn	22 29 16.0	-1.1
BRDR	BURDUR-Merkez	1.83	356	*i* P	Pn	22 29 18.6	+0.2
AKMS	Akamas	1.91	116	P	Pn	22 29 19.9	+0.5
AKMS				S	Sn	22 29 43.4	-0.2
AKMS				AML	AML	22 29 49.9	
	comp=N,0.2nm,0.8s						
AKMS				AML	AML	22 29 49.9	
	comp=N,0.2nm,0.8s						
TAVA	DENIZLI_Tavas	1.92	327	*i* P	Pn	22 29 19.9	+0.3
SEYD	Seydisehir-KON	2.00	40	PN	Pb	22 29 22.3	-1.0
YER	Yerkesik	2.02	309	PN	Pn	22 29 21.2	+0.3
ALFC	Alefka	2.06	110	P	Pn	22 29 21.8	+0.4
BAGO	Egridir - ISPA	2.16	12	*i* P	Pn	22 29 24.3	+1.3
NATA	Nata	2.20	119	P	Pn	22 29 24.1	+0.8
LEF	Lefka	2.29	108	*i* P	Pn	22 29 23.8	-0.8
LEF				IAML		22 30 16.0	
	comp=N,20nm,1.2s						
LEF				IAML		22 30 35.0	
	comp=E,19nm,1.3s						
ERMK	Ermenek	2.30	70	*i* P	Pn	22 29 25.4	+0.5
ERMK				IAML		22 30 02.0	
	comp=N,27nm,0.3s						
ERMK				IAML		22 30 14.0	
	comp=E,22nm,0.7s						
DAT	Datca	2.31	293	*i* P	Pn	22 29 25.3	+0.3
TEKE	Tekeli-Mersin	2.35	82	PN	Pn	22 29 26.5	+1.1
SZAC	Souni	2.43	116	P	Pn	22 29 27.4	+0.8
SZAC				S	Sn	22 29 57.0	+0.5
DOGA	KONYA_Doganhis	2.51	27	*i* P	Pn	22 29 29.6	+1.8
OSC1	CSNet OBS 1	2.51	160	S	Sn	22 29 59.1	+0.7
KARP	Karpathos	2.52	264	P	Pn	22 29 27.2	-0.6
KARP				AML	AML	22 29 57.7	
	comp=E,0.1nm,1.0s						
KARP				AML	AML	22 29 57.7	
	comp=E,0.1nm,1.0s						
KARP				S	Sn	22 29 57.7	-1.0
KARP				AML	AML	22 29 57.9	
	comp=E,0.1nm,0.6s						
KONT	Konya--Tatoy	2.68	39	PN	Pn	22 29 32.1	+2.1
KONT	Konya--Tatoy	2.68	39	*i* P	Pn	22 29 31.7	+1.7
ASGA	Asgata	2.69	113	P	Pn	22 29 31.5	+1.4
GULN	MERSIN_Gulnar	2.70	82	*i* P	Pn	22 29 31.5	+1.3
GULN				*i* S	Sn	22 30 01.5	-1.5
GULN				IAML		22 30 05.0	
	comp=E,10nm,0.5s						
KRMN	Karaman	2.77	61	PN	Pn	22 29 32.9	+1.7
MVOU	Mavrovouni	2.90	106	P	Pn	22 29 33.0	0.0
USAK	Uak-Merkez	3.00	341	*i* P	Pn	22 29 34.1	-0.3
USAK				IAML		22 31 17.0	
	comp=N,11nm,3.3s						
USAK				IAML		22 31 17.0	
	comp=E,44nm,3.3s						
KDHN	Kadinhani	3.04	29	*i* P	Pn	22 29 33.7	-1.4
OSC2	CSNet OBS 4	3.25	148	S	Sn	22 30 16.9	+0.3

DDA 04 22:48:06.7, 35°.34N×27°.76E, $h18^{km}\pm3^{km}$, ML2.7
ISK 04 22:48:07.2, 35°.55N×27°.80E, $h5^{km}$, ML2.8/14
ATH 04 22:48:09.9, 35°.79N×27°.53E, $h12^{km}\pm6^{km}$, ML2.6/4, Error ellipse: s-maj=11.8km s-min=2.2km az=138.0
NIC 04 22:48:10.2±0.0, 35°.67N×27°.70E, $h23^{km}\pm4^{km}$, Ml2.6/1
ISC 04 22:48:10.5±1.4, 35°.62N±0°.04×27°.71E±0°.03, $h21^{km}\pm4^{km}$, n50, σ1§72/58, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.46	261	P	Pb	22 48 16.6	-3.1
KARP				AML	AML	22 48 30.4	
	comp=N,2237μm,0.3s						
KARP				AML	AML	22 48 35.9	
	comp=E,1752μm,0.4s						
KARP	Karpathos	0.46	261	PG	Pb	22 48 17.4	-2.4
KARP				SG	Sb	22 48 26.6	+0.5
KARP	Karpathos	0.46	261	P	Pb	22 48 19.4	-0.4
KARP				S	Sb	22 48 27.3	+1.2
KARP				AML	AML	22 48 30.6	
	comp=E,2.7nm,0.8s						
KARP				AML	AML	22 48 30.6	
	comp=E,2.7nm,0.8s						
KARP				AML	AML	22 48 35.5	
	comp=E,1.7nm,0.4s						
KARP				AML	AML	22 48 35.5	
	comp=E,1.7nm,0.4s						
ARG	Arkhangelos	0.69	29	P	Pb	22 48 22.3	-1.5
ARG				AML	AML	22 48 37.8	
	comp=E,1122μm,0.3s						
ARG				AML	AML	22 48 46.0	
	comp=N,635μm,0.6s						
ARG	Arkhangelos	0.69	29	PG	Pb	22 48 22.3	-1.5
ARG				SG	Sn	22 48 33.3	-1.6
ARG	Arkhangelos	0.69	29	P	Pn	22 48 24.1	-0.9
ARG				S	Sn	22 48 32.9	-2.0
DAT	Datca	1.11	354	PN	Pb	22 48 31.2	+0.1
DAT				SN	Sn	22 48 48.8	+3.1
DAT	Datca	1.11	354	*i* P	Pb	22 48 30.7	-0.5
DAT				*i* S	Sn	22 48 47.7	+2.0
TURN	Turunc	1.23	20	PN	Pb	22 48 32.8	-0.3
TURN	Turunc	1.23	20	*i* P	Pb	22 48 33.0	-0.1
TURN				*i* S	Sn	22 48 52.0	+3.6
TURN				IAML		22 49 00.0	
	comp=N,166nm,0.6s						
TURN				IAML		22 49 01.0	
	comp=E,146nm,0.8s						
KOSK	Kos Island	1.28	333	PN	Pb	22 48 34.5	+0.7
ZKR	Zakros	1.32	248	P	Pb	22 48 34.4	-0.1
ZKR				AML	AML	22 49 02.4	
	comp=E,847μm,0.8s						
ZKR				AML	AML	22 49 03.1	
	comp=N,302μm,0.6s						
ZKR	Zakros	1.32	248	PN	Pb	22 48 34.6	0.0
DALY	Dalyan (Mula)	1.42	32	PN	Pb	22 48 35.5	-0.7
DALY	Dalyan (Mula)	1.42	32	*i* P	Pb	22 48 38.5	+2.3
DALY				*i* S	Sb	22 48 59.1	+5.2
BODT	Bodrum	1.48	347	PN	Pb	22 48 37.1	-0.2
FETY	Fethiye	1.50	47	PN	Pb	22 48 36.3	-1.4
FETY	Fethiye	1.50	47	*i* P	Pn	22 48 35.5	-0.7
YER	Yerkesik	1.58	17	PN	Pb	22 48 38.2	-0.9
KSL	Kastellorizon	1.61	70	P	Pn	22 48 37.4	-0.2
AKAS	Kas	1.65	68	PN	Pn	22 48 37.9	-0.5
AKAS	Kas	1.65	68	*i* P	Pn	22 48 36.4	-2.0
NPS	Neapolis	1.75	259	P	Pb	22 48 41.4	-0.6
NPS				AML	AML	22 49 21.0	
	comp=N,533μm,0.7s						
NPS				AML	AML	22 49 24.5	
	comp=E,424μm,0.8s						
LAST	Lasithi	1.88	257	P	Pn	22 48 42.4	+1.0
AMGA	Amorgos Island	1.91	310	P	Pn	22 48 41.5	-0.3
SANT	Santorini	1.98	293	PN	Pb	22 48 44.4	-1.4
THT2	Imerovigli	2.03	294	PN	Pb	22 48 45.2	-1.4
AYDN	Tasoluk	2.04	4	*i* P	Pn	22 48 43.6	-0.1
AYDN				*i* S	Sb	22 49 09.5	-2.4
AYDN				IAML		22 49 24.0	
	comp=E,38nm,0.7s						
TAVA	DENIZLI_Tavas	2.08	27	*i* P	Pb	22 48 48.0	+0.4
ELL	Elmali	2.10	57	PN	Pn	22 48 44.6	0.0
ELL	Elmali	2.10	57	P	Pn	22 48 43.8	-0.8
GCAM	G?zelcaml?	2.11	350	PN	Pb	22 48 46.4	-1.7
GCAM	G?zelcaml?	2.11	350	*i* P	Pb	22 48 46.4	-1.7
GOLH	Golhisar	2.20	42	*i* P	Pn	22 48 43.7	-2.2
GOLH				IAML		22 49 40.0	
	comp=N,40nm,0.9s						
APE	Apeiranthos	2.28	310	P	Pn	22 48 46.5	-0.4
IDI	Anoyia	2.33	263	P	Pb	22 48 49.6	-2.1
DGB	zmir	2.52	345	*i* P	Pn	22 48 51.0	+0.8
KORT	Korkueli	2.54	56	PN	Pn	22 48 50.8	+0.3
KORT	Korkueli	2.54	56	*i* P	Pn	22 48 48.8	-1.8
BRDR	BURDUR-Merkez	2.81	42	*i* P	Pn	22 48 52.7	-1.5
URLA	Izmir	2.88	342	*i* P	Pn	22 48 48.9	-6.3
MANT	Manisa	2.95	13	*i* P	Pn	22 48 54.3	-1.9
USAK	Uak-Merkez	3.26	18	*i* P	Pb	22 49 03.3	-4.4
ZEDA	zmir-Bergama	3.38	352	*i* P	Pn	22 49 03.5	+1.5
KEPZ	Antalya-Kepez	3.40	67	*i* P	Pn	22 49 01.5	-0.8
AKMS	Akamas	3.83	98	P	Pn	22 49 08.3	+0.2
NATA	Nata	4.07	100	P	Pn	22 49 12.0	+0.6
BAYC	CANAKKALE_Bayr	4.22	348	*i* P	Pn	22 49 12.8	-0.8
ASGA	Asgata	4.61	99	P	Pn	22 49 20.2	+1.3
MVOU	Mavrovouni	4.88	95	P	Pn	22 49 22.7	+0.1

UNK 04 23:32:05.6, 36°.20N×97°.42W, $h5^{km}$
TUL 04 23:32:05.6±1.4, 36°.198N±0°.010×97°.42W±0°.01, $h5^{km}\pm1^{km}$, ML3.3, Mwr3.3/11(SLM), Error ellipse: s-maj=2.8km s-min=1.8km az=60.0
NEIC 04 23:32:05.6, 36°.20N×97°.42W, $h3^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}0.14; $M_{\theta\theta}$8.01; $M_{\phi\phi}$-8.15; $M_{r\theta}$-1.11; $M_{\theta\phi}$4.75; $M_{\phi r}$-0.30; Fault plane solution: $M_0$9.44000×10^{13} NP1:ϕ_s300.00000°, δ85.00000°, λ5.00000°. NP2:ϕ_s210.00000°, δ85.00000°, λ175.00000°. Principal axes: T 9.4442, Plg7.0000°, Azm165.0000°; N -0.0005, Plg83.0000°, Azm345.0000°; P -9.4438, Plg0.0000°, Azm255.0000°;
NEIC 04 23:32:06.2±1.5, 36°.201N±0°.010×97°.42W±0°.01, $h6^{km}\pm4^{km}$ Error ellipse: s-maj=1.6km s-min=1.5km az=94.0
ANF 04 23:32:07.8±1.1, 36°.18N×97°.36W, $h17^{km}\pm8^{km}$, ML4.4/11, Error ellipse: s-maj=4.3km s-min=3.3km az=168.0
ISC 04 23:32:06.2±1.1, 36°.20N±0°.02×97°.42W±0°.03, $h7^{km}\pm10^{km}$, n55, σ0§84/65, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.40	184		Pg	23 32 13.7	-0.3
OK029				Sg	Sg	23 32 19.4	+0.1
ADOK	Arcadia Dam	0.54	176	Pg	Pg	23 32 17.1	+0.4
CROK	Carrier	0.55	304		Pg	23 32 16.5	-0.4
CROK				Sg	Sg	23 32 24.2	+0.1
BCOK	Bluff Creek, N	0.56	196	Pg	Pg	23 32 16.6	-0.4
BCOK				Sg	Sg	23 32 24.5	+0.1
QUOK	Quay	0.57	92	Pg	Pg	23 32 16.9	-0.4
QUOK				Sg	Sg	23 32 24.6	-0.2
OK025	Westminster Rd	0.62	174	Pg	Pg	23 32 17.7	-0.4
OK025				Sg	Sg	23 32 26.4	+0.2
OKCFA	Oklahoma City	0.78	182	Pg	Pg	23 32 20.6	-0.6
OKCSW	OKLAHOMA CITY	0.79	181	Pg	Pg	23 32 20.7	-0.7
KAN13	South Haven SW	0.82	357	Pg	Pg	23 32 21.3	-0.7
FNO	Franklin	0.94	179		Pg	23 32 23.9	-0.3
T35A	Sooner Cattle	1.02	45	Pg	Pg	23 32 25.0	-0.9
KAN10	Anthony SW Sta	1.07	330		Pg	23 32 26.2	-0.7
W35A	Tecumseh	1.13	157	Pg	Pg	23 32 26.4	-1.5
KAN12	Harper NE Stat	1.19	337		Pg	23 32 28.4	-0.8
U32A	Winter Ranch,	1.29	279		Pn	23 32 29.0	-1.7
TUL1	Leonard	1.35	102	P	Pn	23 32 30.1	-1.4
TUL1	baz=283			S	Sb	23 32 48.5	-0.7
TUL1	Leonard	1.35	102		Pn	23 32 30.1	-1.4
X34A	Smith Ranch, M	1.63	192		Pn	23 32 35.9	+0.6
WMOK	Wichita Mounta	1.83	218	P	Pn	23 32 38.3	+0.2
WMOK	baz=37			S	Sb	23 33 02.9	-0.3
WMOK	Wichita Mounta	1.83	218	Pn	Pn	23 32 38.4	+0.2
X37A	Clayton	2.32	133		Pn	23 32 45.2	+0.5
R32A	Long Quarter,	2.45	335		Pn	23 32 48.4	+1.7
U38A	Gravette	2.46	83	Pn	Pn	23 32 46.8	0.0
HHAR	Hobbs	2.81	87		Pn	23 32 51.3	-0.3
Z35A	Perchaven, San	2.86	177	Pn	Pn	23 32 53.6	+1.4
KSU1	Kansas State U	2.97	12	Pb	Pb	23 33 01.2	+1.7
KSU1	baz=193			Sb	Sb	23 33 37.9	+2.0
KSU1	Kansas State U	2.97	12	Pg	Pb	23 33 00.8	+1.4
W39A	Magazine	3.12	108	P	Pn	23 32 56.1	+0.3
W39A	Magazine	3.12	108	Pn	Pn	23 32 55.8	0.0
CBKS	Cedar Bluff	3.20	325	Pb	Pb	23 33 04.5	+1.1
CBKS	baz=144			Sb	Sg	23 33 47.1	-1.9
CBKS	Cedar Bluff	3.20	325	Pg	Pb	23 33 04.7	+1.3
MIAR	Mount Ida	3.54	117	P	Pn	23 33 01.9	+0.2
MIAR	Mount Ida	3.54	117		Pn	23 33 01.4	-0.2
Z38A	Mt. Pleasant	3.55	145	Pn	Pn	23 33 02.2	+0.5
S39A	Bolivar	3.60	64		Pn	23 33 01.9	-0.6
U40A	Yellville	3.69	86	P	Pn	23 33 03.0	-0.7
AMTX	Amarillo	3.72	251	Pn	Pn	23 33 02.6	-1.5
ABTX	Abilene, Hawle	4.01	208	Pb	Pb	23 33 17.8	+0.5
ABTX	Abilene, Hawle	4.01	208	Pg	Pb	23 33 18.0	+0.8
X40A	Basin Creek Fa	4.12	113	P	Pn	23 33 10.3	+0.8
X40A	Basin Creek Fa	4.12	113	Pn	Pn	23 33 09.8	+0.3
WHTX	Lake Whitney,	4.19	180	Pn	Pn	23 33 09.9	-0.7
MGMO	Mountain Grove	4.25	75	Pn	Pn	23 33 11.3	-0.1
FCAR	Ozark Folk Cen	4.30	93	Pn	Pn	23 33 12.0	0.0
W41B	Gary Mavity, V	4.33	102	P	Pn	23 33 11.9	-0.5
W41B	baz=285			S	Sn	23 34 02.9	-0.2
W41B	Gary Mavity, V	4.33	102	Pn	Pn	23 33 12.3	-0.2
WLAR	White Oak Lake	4.33	124	Pn	Pn	23 33 12.9	+0.5
237A	Washetta, Mont	4.39	162	Pn	Pn	23 33 12.6	-0.7
N33A	J Bar K, Exete	4.54	360	Pn	Pn	23 33 15.2	-0.1
P38A	Dawn	4.60	41	Pn	Pn	23 33 16.4	+0.3
R40A	Maddies Statio	4.61	61		Pn	23 33 16.2	-0.1
Z41A	Richland Creek	4.80	126	S	Sn	23 34 13.6	-1.2
MSTX	Muleshoe	4.92	245	Pn	Pn	23 33 20.6	-0.1
T42A	Van Buren	5.16	79	Pn	Pn	23 33 23.7	-0.1
BGNE	Belgrade	5.24	354	Pn	Pn	23 33 24.9	-0.1

REY 04 23:33:24.5, 64°.63N×17°.38W, $h7^{km}$
IDC 04 23:33:25.0±0.6, 64°.51N×17°.52W, $h0^{km}$, mb3.9/15, mb1 4.1/18, mb1mx3.9/55, mbtmp3.9/18, ML2.7/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/38, Error ellipse: s-maj=21.2km s-min=9.2km az=16.0
NEIC 04 23:33:25.9±1.4, 64°.54N±0°.07×17°.5W±0°.2, $h7^{km}\pm3^{km}$, mb4.3/76, Error ellipse: s-maj=9.9km s-min=9.3km az=193.0
BGR 04 23:33:30.5±0.0, 64°.65N×17°.21W, $h33^{km}$, mb4.2, Ms3.0
ISC 04 23:33:25.8±0.3, 64°.62N±0°.02×17°.44W±0°.02, $h10^{km}$, n220, σ1§74/217, mb4.2/62, 1D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	Dyngjujokull	0.14	141	P	Pg	23 33 27.4	-1.8
IDJK	baz=154			S	Sg	23 33 29.9	-1.7
IVON	Vonarskard	0.15	293	P	Pg	23 33 28.1	-1.0
IVON	baz=286			S	Sg	23 33 31.1	-0.3
IDYN	Dyngjuhals	0.18	11	P	Pg	23 33 27.8	-1.9
IGRF	Grimsfjall	0.22	160	P	Pg	23 33 28.9	-1.6
IURH	Urdarhals	0.24	32	P	Pg	23 33 28.9	-1.9
IURH	baz=27			S	Sg	23 33 32.4	-1.7
IBJK	Bruarjokull	0.33	116	P	Pg	23 33 30.4	-2.1
IHUS	Husbondi	0.34	196	P	Pg	23 33 31.2	-1.3
IKVE	Kverkfjoll	0.34	79	P	Pg	23 33 30.5	-2.1
IVOT	Vottur	0.36	162	P	Pg	23 33 31.4	-1.7
IVOT	baz=167			S	Sg	23 33 37.0	-0.9
ISKR	Skrokkalda	0.41	262	P	Pg	23 33 32.5	-1.4
IJOK	Jokulheimar	0.45	229	P	Pg	23 33 33.1	-1.6
IJOK	baz=230			S	Sb	23 33 40.5	-2.2
IKRE	Kreppuhraun	0.49	69	P	Pg	23 33 32.7	-2.5
IKRE	baz=69			S	Sg	23 33 39.8	-1.9
IASK	Askja	0.55	38	P	Pg	23 33 33.9	-2.7
IASK	baz=36			S	Sg	23 33 41.7	-2.1
IMKO	Mokollar	0.60	52	P	Pg	23 33 34.7	-2.6
IMKO	baz=51			S	Sg	23 33 43.1	-2.1
IIEY	Innrieyrar	0.60	210	P	Pg	23 33 35.5	-1.9
IIEY	baz=212			S	Sb	23 33 45.1	-1.9
IKSK	Karasker	0.62	137	P	Pg	23 33 34.9	-2.9
IKSK	baz=140			S	Sg	23 33 43.9	-2.1
ISVA	Svartarkot	0.73	6	P	Pg	23 33 36.9	-2.9
ISVA	baz=4.1			S	Sg	23 33 47.6	-1.7

IGYG	Gygjarholskot	1.25	256	P		Pb	23 33 46.3 -3.1
	baz=256						
IGYG				S		Sn	23 34 04.0 -2.1
	baz=256						
IHVO	Lagu-Hvolar	1.26	210	P		Pb	23 33 46.7 -2.9
	baz=211						
IGOD	Go??abunga	1.27	221	P		Pb	23 33 46.9 -2.9
	baz=222						
IGOD				S		Sg	23 34 04.1 -2.4
	baz=222						
ISKI	Skildingahlsh	1.27	8	P		Pn	23 33 45.8 -3.8
	baz=6.5						
ISKI				S		Sb	23 34 02.4 -3.7
	baz=6.5						
IGHA	Grjothals	1.27	15	P		Pn	23 33 45.7 -3.9
	baz=14						
IHAU	Haukadalur	1.28	241	P		Pb	23 33 46.7 -3.1
	baz=241						
IGRA	Granastaoir	1.31	358	P		Pn	23 33 46.4 -3.7
	baz=356						
IGRA				S		Sb	23 34 04.1 -3.1
	baz=356						
ISMJ	Smjorgil	1.35	227	P		Pn	23 33 48.3 -2.4
	baz=227						
IALF	Alftagrof	1.36	215	P		Pn	23 33 48.4 -2.5
	baz=216						
IDIM	Dimmadalss	1.37	9	P		Pn	23 33 47.3 -3.6
	baz=7.7						
IHLA	Hella	1.39	344	P		Pn	23 33 48.0 -3.1
	baz=343						
IESK	Eystri-Skogar	1.41	220	P		Pn	23 33 48.9 -2.5
	baz=220						
IMID	Miomork	1.44	229	P		Pn	23 33 49.7 -2.2
	baz=230						
ISAU	Saurbar	1.44	245	P		Pn	23 33 49.1 -2.8
	baz=246						
IHED	Heoinshofoi	1.47	2	P		Pn	23 33 48.9 -3.4
	baz=1.0						
IBRE	Brettingsstaoi	1.53	353	P		Pn	23 33 49.9 -3.1
	baz=352						
BORG	Borgarnes	1.68	276	Pg		Pn	23 33 53.2 -1.9
	35nm,0.3s,baz=100,slow=10,SNR=130						
BORG				Lg		Lg	23 34 17.3
	12nm,0.3s,baz=270,slow=22,SNR=6.7						
SCO	Scoresbysund	6.14	346	*i* P		Pn	23 34 58.0 +1.6
SCO	Scoresbysund	6.14	346	Pn		Pn	23 34 57.3 +0.9
ANGG	Ammassalik, Gr	8.56	286	Pn		Pn	23 35 28.6 -1.0
SUMG	Summit	11.00	326	Pn		Pn	23 36 04.5 +1.2
EKA	Eskdalemuir Ar	11.71	136	Pn		Pn	23 36 12.4 -0.2
	baz=324,slow=13,SNR=58						
ESK	Eskdalemuir	11.71	136	Pn		Pn	23 36 12.5 -0.1
DSB	Dublin	12.73	148	Pn		Pn	23 36 27.9 +1.3
NC204	NORSAR Array S	13.20	92	Pn		Pn	23 36 31.8 -1.4
NBO00	NORSAR Array S	13.32	93	Pn		Pn	23 36 32.0 -2.7
NAO01	NORSAR Array S	13.46	93	Pn		Pn	23 36 35.0 -1.6
NC303	NORSAR Array S	13.49	91	Pn		Pn	23 36 37.6 +0.7
NOA	NORSAR Array B	13.51	92	Pn		Pn	23 36 34.8 -2.4
	0.0nm,0.3s,baz=300,slow=13,SNR=5.2						
NOA				LR		LR	23 41 00.9
	comp=Z,43nm,21.6s,baz=300,slow=34						
NC405	NORSAR Array S	13.69	91	Pn		Pn	23 36 40.5 +0.8
SFJD	Kangerlussuaq	13.71	295	LR		LR	23 40 32.2
	comp=Z,63nm,18.7s,baz=79,slow=31						
HFS	Hagfors	15.02	93	Pn		Pn	23 36 59.7 +1.9
	0.1nm,0.3s,baz=329,slow=11,SNR=3.0						
HFS				LR		LR	23 42 21.0
	comp=Z,82nm,19.6s,baz=299,slow=36						
SPA0	Spitsbergen Ar	16.90	23	Pn		Pn	23 37 22.8 +0.8
SPA0				IAmb		IAmb	23 37 23.9
	comp=Z,29nm,1.1s						
ARCES	ARCESS Array B	17.13	54	Pn		Pn	23 37 25.8 +1.0
ARE0	ARCESS Array S	17.13	54	Pn		Pn	23 37 26.1 +1.2
BSEG	Bad Segeberg	17.59	114	*e*L		L	23 44 05.3
	comp=Z,102nm,21.8s						
KEV	Kevo	17.63	54	Pn		Pn	23 37 31.9 +0.8
KEV				IAmb		IAmb	23 37 42.4
	comp=Z,15nm,1.0s						
BMRD	Maredsous	18.51	130	pP		Pn	23 37 43.5 +1.5
BMRD				sP		pP	23 37 44.8 -0.4
BSTI	Sart Tilman	18.54	128	sP		sP	23 37 45.2 -1.7
WLF	Walferdange	19.52	129	P		P	23 37 53.8 +0.8
FIA1	FINESS Array S	19.69	79	P		P	23 37 55.4 +0.7
FINES	FINESS Array B	19.69	79	P		P	23 37 54.5 -0.2
	comp=Z,0.1nm,0.3s,baz=324,slow=14,SNR=1.9						
FINES				LR		LR	23 45 04.9
	comp=Z,67nm,21.8s,baz=284,slow=35						
FINES	FINESS Array B	19.69	79	P		P	23 37 55.2 +0.5
CLF	Chambon-Foret	19.74	138			P	23 37 55.3 -0.1
CLF				IAmb		IAmb	23 38 02.9
	comp=Z,12nm,0.9s						
TNS	Taunus Mts	19.84	124	*e*L		L	23 43 47.2
	comp=Z,29nm,21.2s						
MOX	Moxa	20.66	119	*e*P		P	23 38 05.9 +0.5
	comp=Z,10nm,1.1s,baz=324,slow=11						
MOX				*e*L		L	23 46 29.3
	comp=Z,82nm,21.7s						
CLL	Collm	20.66	116	⇓*i* P		P	23 38 05.5 +0.2
	comp=Z,29nm,1.8s						
CLL				*i*			23 38 13.4
CLL				*e*PPP		PPP	23 38 32.0
CLL	Collm	20.66	116	*e*P		P	23 38 05.4 0.0
	comp=Z,29nm,1.8s,baz=324,slow=11						
CLL				*e*L		L	23 46 23.8
	comp=Z,63nm,20.3s						
CLL	Collm	20.66	116	P		P	23 38 06.0 +0.6
LVZ	Lovozero	20.70	58	P		P	23 38 06.8 +1.1
LVZ				IAmb		IAmb	23 38 08.0
	comp=Z,8.5nm,0.9s						
ECH	Echery	21.10	129	P		P	23 38 11.3 +1.1
FBE	Freiberg	21.10	116	*e*P		P	23 38 10.8 +0.7
	comp=Z,10nm,0.9s,baz=324,slow=11						
TANN	Tannenbergstha	21.16	118	*e*P		P	23 38 11.3 +0.4
	comp=Z,78nm,2.4s,baz=324,slow=11						
GRA1	Grafenberg Arr	21.29	121	P		P	23 38 13.0 +0.8
GRA1				IAmb		IAmb	23 38 30.9
	comp=Z,10nm,1.0s						
GRF	Grafenberg Arr	21.29	121	*e*P		P	23 38 13.1 +1.0
	comp=Z,12nm,1.1s,baz=324,slow=11						
GRF				*e*L		L	23 47 51.6
	comp=Z,70nm,20.1s						
NKC	Novy Kostel	21.30	118	*e*P		P	23 38 16.5 +4.2
BRG	Berggiesshubel	21.37	115	*i* P		P	23 38 13.5 +0.5
	comp=Z,8.1nm,0.9s						
BRG				*e*			23 38 21.3
	comp=Z,13nm,1.2s						
BFO	Black Forest	21.40	127	*e*P		P	23 38 14.4 +1.1
	comp=Z,8.6nm,0.9s,baz=324,slow=11						
BFO				*e*L		L	23 46 55.7
	comp=Z,40nm,21.1s						
BFO	Black Forest	21.40	127	P		P	23 38 14.1 +0.8
BFO				IAmb		IAmb	23 38 16.7
	comp=Z,8.2nm,0.9s						
PRU	Pruhonice	22.31	116	*e*P		P	23 38 26.8 +3.8
WET	Wettzell	22.36	119	*e*L		L	23 47 20.3
	comp=Z,84nm,21.5s						
CHVC	Chvalec	22.43	113	*e*P		P	23 38 25.4 +1.0
OSTC	Ostas	22.52	113	*e*P		P	23 38 26.9 +1.6
FUR	Furstenfeldbru	22.58	123	*e*L		L	23 48 45.0
	comp=Z,91nm,18.2s						
KHC	Kasperske Hory	22.63	118	*e*P		P	23 38 27.0 +0.4
KHC	Kasperske Hory	22.63	118	P		P	23 38 27.1 +0.6
DPC	Dobruska-Polom	22.72	113	*e*P		P	23 38 28.8 +1.3
SENIN	Lac Senin/Sane	22.77	132	P		P	23 38 26.8 -1.5
DAVA	Damuels	22.83	126	*i* sP		P	23 38 32.4 +3.6
	comp=Z,3.2nm,0.8s						
SSB	Saint Sauveur	22.90	137			P	23 38 30.6 +1.2
SSB	Saint Sauveur	22.90	137	P		P	23 38 29.5 +0.1
SSB				IAmb		IAmb	23 38 41.7
	comp=Z,4.3nm,1.0s						
GEC2	GERESS Array S	22.91	119	*e*L		L	23 47 47.1
	comp=Z,82nm,21.7s						
GEC2	GERESS Array S	22.91	119	P		P	23 38 30.7 +1.1
GERES	GERESS Array B	22.91	119	P		P	23 38 29.4 -0.1
	comp=Z,1.6nm,0.8s,baz=331,slow=7.6,SNR=13						
GERES	GERESS Array B	22.91	119	P		P	23 38 29.8 +0.3
RETA	Reutte	22.97	125	*i* P		P	23 38 31.1 +0.9
	comp=Z,5.0nm,1.0s						
KRLC	Kraliky	23.12	113	*e*P		P	23 38 32.0 +0.4
MOTA	Moosalm	23.21	124	*i* P		P	23 38 33.7 +1.0
	comp=Z,5.4nm,0.9s						
TREC	Trest	23.23	116	*e*P		P	23 38 34.0 +1.2
TUE	Stuetta	23.36	128	P		P	23 38 35.1 +0.9
TUE				IAmb		IAmb	23 38 45.8
	comp=Z,11nm,1.0s						
SQTA	Sankt Quirin	23.36	124	*i* pP		P	23 38 35.2 +1.1
	comp=Z,6.5nm,0.8s						
FETA	Feichten	23.36	125	*i* sP		P	23 38 37.8 +3.6
	comp=Z,2.3nm,0.8s						
WATA	Walderalm	23.39	124	*i* P		P	23 38 35.4 +0.9
	comp=Z,5.3nm,0.9s						
WTTA	Wattenberg	23.47	124	*i* P		P	23 38 33.6 -1.8
	comp=Z,5.5nm,1.0s						
FUORN	Ofenpass-Fuorn	23.54	127	P		P	23 38 36.7 +0.6
VRAC	Vranov	23.65	114	P		P	23 38 36.8 -0.1
	comp=Z,0.7nm,0.3s,baz=332,slow=14,SNR=3.6						
VRAC	Vranov	23.65	114	*e*P		P	23 38 37.2 +0.2
MORC	Moravsky Berou	23.66	112	*e*P		P	23 38 37.0 0.0
MORC	Moravsky Berou	23.66	112	P		P	23 38 37.4 +0.4
BNI	Bardonecchia	23.75	134	P		P	23 38 34.3 -3.8
KRUC	Moravsky	23.77	115	*e*P		P	23 38 37.8 -0.3
MOA	Molln	23.95	119	*e*P		P	23 38 39.8 0.0
	comp=Z,4.5nm,1.2s						
PVRL	Vila Real	24.05	162	*e*P		P	23 38 41.7 +0.9
MVO	Moncorvo	24.25	161	*e*P		P	23 38 45.2 +2.5
MVO				*e*LR		LR	23 46 35.9
	comp=Z,49nm,18.7s						
CONA	Conrad Observa	24.49	117	*i* P		P	23 38 46.2 +1.3
	comp=Z,4.7nm,0.8s						
CTI	Castel Tesino	24.52	125	P		P	23 38 45.3 +0.1
CTI				IAmb		IAmb	23 38 56.9
	comp=Z,10nm,1.0s						
ZOU	Zoufplan	24.55	123	P		P	23 38 45.8 +0.2
ZOU				IAmb		IAmb	23 38 55.1
	comp=Z,6.9nm,1.0s						
CIMO	Cimolais	24.57	124	P		P	23 38 46.7 +1.1
CIMO				IAmb		IAmb	23 38 53.0
	comp=Z,4.0nm,0.8s						
PVIS	Viseu	24.57	162	*e*P		P	23 38 47.7 +2.0
STAL	STALIGIAL	24.71	124	P		P	23 38 47.6 +0.8
STAL				IAmb		IAmb	23 38 48.4
	comp=Z,8.1nm,1.2s						
PRED	Cave del Predi	24.87	122	P		P	23 38 49.4 +1.1
PRED				IAmb		IAmb	23 39 01.3
	comp=Z,6.1nm,1.0s						
ARSA	Arzberg	24.92	118	*i* P		P	23 38 50.3 +1.6
	comp=Z,7.3nm,1.1s						
MTE	Manteigas	24.93	162	P		P	23 38 50.4 +1.5
MTE				IAmb		IAmb	23 38 53.4
	comp=Z,5.7nm,0.9s						
MTE	Manteigas	24.93	162	*e*P		P	23 38 51.3 +2.4
MTE				*e*LR		LR	23 46 46.2
	comp=Z,90nm,19.8s						
VYHS	Vyhne	25.19	112	*e*P		P	23 38 51.9 +0.8
PCBR	Castelo Branco	25.49	162	*e*P		P	23 38 56.5 +2.6
KLMR	Klimovskoe	25.60	72	*e*P		P	23 38 56.5 +1.9
	comp=Z,26nm,2.6s						
KLMR	Klimovskoe	25.60	72	*e*		P	23 38 56.6 +1.9
KLMR				AMP			23 39 12.0
	comp=Z,9.0nm,1.2s						
ZCCA	Zocca	25.77	128	P		P	23 38 57.9 +1.5
ZCCA				IAmb		IAmb	23 39 07.2
	comp=Z,10nm,0.9s						
KWP	Kalwaria Pacla	25.87	106	P		P	23 38 58.2 +0.9
PMRV	Marv??o	25.91	162	*e*P		P	23 38 59.4 +1.7
PMRV				*e*LR		LR	23 47 22.2
	comp=Z,75nm,19.8s						
SCHQ	Schefferville	26.06	272	P		P	23 39 00.1 +1.2
	comp=Z,6.3nm,0.9s,baz=52,slow=10,SNR=4.5						
SCHQ	Schefferville	26.06	272	P		P	23 38 59.9 +0.9
SCHQ				IAmb		IAmb	23 39 09.8
	comp=Z,9.0nm,1.1s						
PSZ	Piszkesteto	26.08	112	IAmb		IAmb	23 39 02.4
	comp=Z,7.5nm,0.9s						
DRLN	Deer Lake	26.13	253	P		P	23 38 59.5 -0.1
ESBB	Sonseca Array	26.20	156	P		P	23 39 00.4 +0.1
ESBB				IAmb		IAmb	23 39 12.5
	comp=Z,4.7nm,1.1s						
ESDC	Sonseca Array	26.20	156	P		P	23 39 00.7 +0.3
	comp=Z,1.8nm,0.8s,baz=351,slow=9.0,SNR=23						
ESDC	Sonseca Array	26.20	156	IAmb		IAmb	23 39 02.8
	comp=Z,4.6nm,1.1s						
PAB	San Pablo	26.26	157	P		P	23 39 02.2 +1.3
PAB				IAmb		IAmb	23 39 13.9
	comp=Z,4.6nm,1.1s						
OSSC	Osservatorio P	26.59	129	P		P	23 39 05.9 +2.0
OSSC				IAmb		IAmb	23 39 20.1
	comp=Z,11nm,1.0s						
AKASG	Malin Array Be	27.81	98	P		P	23 39 15.3 +0.6
	comp=Z,0.2nm,0.2s,baz=321,slow=9.5,SNR=4.3						
PVAQ	Vaqueiros	27.86	163	*e*LR		LR	23 48 05.0
	comp=Z,56nm,17.5s						
BURAR	Bucovina Array	28.49	106	P		P	23 39 21.3 +0.4
INTR	Introdacqua	28.84	127	P		P	23 39 23.8 -0.3
INTR				IAmb		IAmb	23 39 31.4
	comp=Z,3.9nm,1.1s						
DIVS	Divibare	29.27	116	P		P	23 39 28.3 +0.5
KEST	Kesra	33.10	138	P		P	23 39 58.7 -2.9
KEST				IAmb		IAmb	23 40 05.3
	comp=Z,3.4nm,0.9s						
E62A	Clayton Lake	33.24	263	P		P	23 40 03.8 +1.0
E62A				IAmb		IAmb	23 40 05.6
	comp=Z,4.3nm,1.1s						
GGN	Saint George	33.30	258	P		P	23 40 02.8 -0.3
F63A	Nahmakanta, Br	33.79	261	P		P	23 40 06.1 -1.4
F63A				IAmb		IAmb	23 40 18.5
	comp=Z,6.4nm,1.1s						
ALN	Alexandroupoli	34.36	112	P		P	23 40 13.5 +1.1
ALN				IAmb		IAmb	23 40 13.9
	comp=Z,6.0nm,1.1s						
AGG	Agios Georgios	34.52	118	P		P	23 40 14.5 +0.6
ARU	Arti	36.08	66	P		P	23 40 27.0 -0.1
ILGA	Ilgaz	37.37	104	P		P	23 40 38.4 -0.1
ILGA				IAmb		IAmb	23 40 39.0
	comp=Z,5.2nm,1.0s						
BRTR	Keskin Array B	38.44	105	P		P	23 40 49.0 +1.5
	comp=Z,0.9nm,0.8s,baz=269,slow=19,SNR=6.5						
BRTR	Keskin Array B	38.44	105	P		P	23 40 48.6 +1.1
KBZ	Khabaz	39.09	92	P		P	23 40 55.0 +2.4
	comp=Z,3.1nm,0.8s,baz=282,slow=15,SNR=4.7						
AKH	Akhalkalaki	41.23	94	P		P	23 41 10.7 0.0
MVL	Millersville	41.52	263	P		P	23 41 12.6 -0.2
MVL				IAmb		IAmb	23 41 14.0
	comp=Z,8.8nm,0.9s						
ABKAR	Akbulak array	41.98	73	P		P	23 41 17.4 +0.8
COWI	Conover	42.07	280	P		P	23 41 14.8 -2.6
COWI				IAmb		IAmb	23 41 17.6
	comp=Z,12nm,1.1s						
BRVK	Borovoye	43.13	62	P		P	23 41 26.9 +1.0
MARD	Mardin	43.48	100	P		P	23 41 30.1 +1.2
MARD				IAmb		IAmb	23 41 33.1
	comp=Z,5.4nm,0.8s						
O52A	Adamsville	43.78	268	P		P	23 41 29.7 -1.5
O49A	Covington	44.80	270	P		P	23 41 39.8 +0.4
ILAR	Eielson Array	45.74	332	P		P	23 41 48.5 +1.9
	comp=Z,1.0nm,0.9s,baz=18,slow=6.2,SNR=7.7						
ILAR	Eielson Array	45.74	332	P		P	23 41 48.6 +2.1
IMAR	Indian Mountai	45.91	337	P		P	23 41 50.3 +2.5
BCAR	Beaver Creek A	46.16	329	P		P	23 41 52.5 +2.6
WCI	Wyandotte Cave	47.27	271	P		P	23 41 59.2 +0.3
KURK	Kurchatov	48.12	58	P		P	23 42 05.8 +0.6
T47A	Sharon Grove	48.66	271	P		P	23 42 10.5 +0.9
GEYT	Alibeck	50.41	84	P		P	23 42 24.8 +1.8
KK31	Karatay Array	51.27	70	P		P	23 42 30.2 +0.8
KK31				IAmb		IAmb	23 42 32.9
	comp=Z,2.1nm,0.9s						
KKAR	Karatay Array	51.27	70	P		P	23 42 30.2 +0.8
KKAR				IAmb		IAmb	23 42 32.9
	comp=Z,2.1nm,0.9s						
KKAR	Karatay Array	51.27	70	P		P	23 42 30.4 +1.0
YNE	Yellowstone No	51.52	295	P		P	23 42 32.4 +0.9
BOZ	Bozeman (W)	51.65	297	P		P	23 42 33.7 +1.3
BOZ				IAmb		IAmb	23 42 36.6
	comp=Z,4.3nm,0.9s						
YMP	Mirror Lake Pl	51.80	295	P		P	23 42 34.2 +0.5
MKAR	Makanchi Array	52.73	58	P		P	23 42 40.7 +0.5
	comp=Z,1.2nm,0.8s,baz=316,slow=5.1,SNR=5.7						
TORD	Torodi Ar. Bea	53.09	156	P		P	23 42 42.3 -0.8
	comp=Z,1.5nm,0.8s,baz=342,slow=8.8,SNR=5.1						
TORD	Torodi Ar. Bea	53.09	156	IAmb		IAmb	23 42 50.5
	comp=Z,2.4nm,1.0s						
BW06	Boulder Array	53.22	293	IAmb		IAmb	23 42 46.7
	comp=Z,4.1nm,0.8s						
PD31	Pinedale Array	53.22	293	P		P	23 42 45.2 +1.1
PD31				IAmb		IAmb	23 42 46.7
	comp=Z,3.7nm,0.8s						
PDAR	Pinedale Array	53.22	293	P		P	23 42 44.8 +0.7
	comp=Z,2.9nm,0.8s,baz=60,slow=5.6,SNR=16						
PDAR	Pinedale Array	53.22	293	P		P	23 42 44.2 +0.1
CHGR	Chuyangaron	54.45	74	P		P	23 42 54.3 +1.2
GAR	Garm	54.64	73	P		P	23 42 55.9 +1.5
CBYP	Canovanas	56.42	239	P		P	23 43 07.7 +0.3
MTP	Monte Pirata	56.47	238	P		P	23 43 07.2 -0.4
PV02	Paradox Valley	56.76	290	P		P	23 43 10.3 +0.5
PV03	Paradox Valley	56.77	290	P		P	23 43 10.5 +0.7
PV03				IAmb		IAmb	23 43 13.0
	comp=Z,3.7nm,1.0s						
TMUT	Trail Mountain	56.82	292	P		P	23 43 10.8 +0.5
PV13	Radium Mtn., P	56.84	290	P		P	23 43 11.6 +1.2
WMQ	Urumqi	57.24	56	*e*P		P	23 43 16.9 +4.0
MSU	Marysvale	57.88	293	P		P	23 43 18.0 +0.3
KBL	Kabul	57.92	77	P		P	23 43 18.4 +0.4
DBIC	Dimbokro	58.53	165	P		P	23 43 22.3 +0.1
	comp=Z,4.3nm,0.9s,baz=331,slow=5.8,SNR=5.5						
DBIC	Dimbokro	58.53	165	IAmb		IAmb	23 43 23.4
	comp=Z,5.1nm,1.0s						
TIC	Toumodi	58.54	165	*e*P		P	23 43 21.9 -0.3
KIC	Kosan Boka	58.85	165	*e*P		P	23 43 24.1 -0.3
	comp=Z,25nm,1.2s						
LIC	Lamto	58.96	166	*e*P		P	23 43 23.0 -2.1
	comp=Z,3.7nm,0.4s						
SONM	Songino Array	59.66	40	P		P	23 43 30.9 +1.1
	comp=Z,0.5nm,0.3s,baz=341,slow=7.6,SNR=2.4						
SONM	Songino Array	59.66	40	IAmb		IAmb	23 43 34.0
	comp=Z,1.1nm,0.7s						
KVN	Kaiserville	59.73	298	P		P	23 43 31.1 +0.7
KVN				IAmb		IAmb	23 43 34.4
	comp=Z,2.9nm,1.1s						
NVAR	Mina Array Bea	60.35	297	P		P	23 43 35.9 +1.1
	comp=Z,0.4nm,0.8s,baz=23,slow=7.1,SNR=2.0						
TXAR	Lajitas Array	62.32	280	P		P	23 43 49.4 +1.3
	comp=Z,0.9nm,0.9s,baz=35,slow=5.0,SNR=5.5						
HHC	Hu-ho-hao-te	67.53	40	*e*P		P	23 44 23.0 +1.1
HHC				pmax		pmax	
	comp=Z,20nm,0.7s						
HHC				pmax		pmax	
	comp=Z,56nm,5.5s						
LZH	Lanzhou	69.64	48	*e*P		P	23 44 34.2 -1.0
LZH				*e*PP		PP	23 47 00.5 -8.1
LZH				pmax		pmax	
	comp=Z,17nm,1.3s						
LZH				pmax		pmax	
	comp=Z,79nm,6.5s						
MAT	Matsushiro	77.37	20	P		P	23 45 20.5 +0.1
ASAR	Alice Springs	134.99	38	PKP		PKiKP	23 52 45.9 -0.2
	comp=Z,0.4nm,0.8s,baz=357,slow=2.6,SNR=4.8						

*IDC **04** 23:34:12.6±0.8, 64°.39N×17°.66W, h0km, mb3.8/9, mb1 4.1/11, mb1mx3.8/55, mbtmp3.8/11, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=32.3km s-min=10.4km az=21.0*

*NEIC **04** 23:34:13.8±1.8, 64°.34N±0°.08×17°.84W±0°.07, h9km±4km, mb4.2/57, Error ellipse: s-maj=12.2km s-min=4.0km az=174.0*

ISC 04 23:34:13.9±0.5, **64°.33N**±0°.08×**17°.83W**±0°.06, **h10**km, **n100**, σ1°**05**/96, **mb4.2**/33, **Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	1.57	287	Pg		Pn	23 34 40.5 -1.2
	50nm,0.3s,baz=98,slow=7.8,SNR=19						
BORG				Lg		Lg	23 35 05.5
	16nm,0.3s,baz=225,slow=22,SNR=6.1						
SCO	Scoresbysund	6.38	347	Pn		Pn	23 35 46.0 -1.8
SCO	Scoresbysund	6.38	347	*i* S		Pn	23 35 47.0 -0.8
JMIC	Jan Mayen	7.56	24	LR		LR	23 38 18.5
	comp=Z,150nm,22.0s,baz=230,slow=33						
EKA	Eskdalemuir Ar	11.62	134	Pn		Pn	23 36 59.3 -0.2
	baz=320,slow=13,SNR=9.3						
ESK	Eskdalemuir	11.62	134	Pn		Pn	23 37 00.1 +0.6
NRS	Narsarsuaq	12.98	269	Pn		Pn	23 37 18.2 +0.1
NC204	NORSAR Array S	13.37	90	Pn		Pn	23 37 23.0 -0.4
NAO01	NORSAR Array S	13.61	92	Pn		Pn	23 37 28.1 +1.4
KONO	Kongsberg	13.64	97	Pn		Pn	23 37 26.9 -0.2
NC303	NORSAR Array S	13.65	90	Pn		Pn	23 37 26.6 -0.6
NOA	NORSAR Array B	13.67	91	Pn		Pn	23 37 29.7 +2.2
	0.0nm,0.3s,baz=298,slow=13,SNR=4.2						
NB201	NORSAR Array S	13.70	90	Pn		Pn	23 37 28.5 +0.6
NC405	NORSAR Array S	13.85	90	Pn		Pn	23 37 29.1 -0.9
HFS	Hagfors	15.17	92	Pn		P	23 37 52.3 -0.7
	0.1nm,0.3s,baz=334,slow=9.9,SNR=5.2						
WLF	Walferdange	19.47	128	P		P	23 38 41.0 +0.6
CLF	Chambon-Foret	19.64	137	P		P	23 38 42.6 +0.2
CLF				IAmb		IAmb	23 38 56.0
	comp=Z,14nm,1.1s						
FINES	FINESS Array B	19.91	78	P		P	23 38 44.7 -0.5
	comp=Z,0.1nm,0.3s,baz=278,slow=14,SNR=1.7						
FIA1	FINESS Array S	19.91	78	P		P	23 38 45.4 +0.2
FIA1				IAmb		IAmb	23 38 58.1
	comp=Z,11nm,1.1s						
CLL	Collm	20.69	114	*i* P		P	23 38 52.6 -1.1
	comp=Z,21nm,1.6s						
CLL	Collm	20.69	114	P		P	23 38 53.3 -0.5
ECH	Echery	21.05	128	P		P	23 38 58.7 +1.0
GRA1	Grafenberg Arr	21.28	120	P		P	23 39 01.8 +1.6
GRA1				IAmb		IAmb	23 39 06.5
	comp=Z,8.7nm,0.7s						
BFO	Black Forest	21.36	126	P		P	23 39 01.9 +0.8
BFO				IAmb		IAmb	23 39 03.0
	comp=Z,11nm,1.1s						
BRG	Berggiesshubel	21.40	114	*i* P		P	23 39 01.5 +0.1
	comp=Z,13nm,1.1s						
CHVC

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MLR  Muntele Rosu      30.56 107  P    P    23 40 26.6 -0.8
MLR                               IAmb IAmb 23 40 35.1
     comp=Z,3.5nm,1.0s
AGG  Agios Georgios    34.53 118  P    P    23 41 02.0 -0.1
BRTR Keskin Array B    38.53 104  P    P    23 41 36.9 +0.5
     comp=Z,1.4nm,0.8s,baz=322,slow=9.1,SNR=4.8
KBZ  Khabaz            39.24  92  P    P    23 41 41.8 -0.2
     comp=Z,1.6nm,0.7s,baz=346,slow=18,SNR=3.6
ILAR Eielson Array     45.92 332  P    P    23 42 35.8 -0.3
     comp=Z,2.8nm,1.2s,baz=23,slow=7.2,SNR=7.5
ILAR Eielson Array     45.92 332  P    P    23 42 37.1 +1.0
BCAR Beaver Creek A    46.32 329  P    P    23 42 41.0 +1.7
TORD Torodi Ar. Bea    52.89 156  P    P    23 43 29.2 -0.5
     comp=Z,1.6nm,1.0s,baz=344,slow=8.6,SNR=2.4
TORD Torodi Ar. Bea    52.89 156  IAmb IAmb 23 43 36.7
     comp=Z,2.6nm,1.2s
BW06 Boulder Array     53.18 293  IAmb IAmb 23 43 32.7
     comp=Z,2.4nm,0.8s
PD31 Pinedale Array    53.18 293  IAmb IAmb 23 43 32.6
     comp=Z,2.2nm,0.8s
PDAR Pinedale Array    53.18 293  P    P    23 43 32.0 +0.1
     comp=Z,1.8nm,0.8s,baz=61,slow=6.5,SNR=7.5
PDAR Pinedale Array    53.18 293  P    P    23 43 32.0 +0.1
HWUT Hardware Ranch    54.96 294  P    P    23 43 45.9 +1.0
HWUT                              IAmb IAmb 23 43 48.1
     comp=Z,3.4nm,1.0s
RDMU Red Mountain      55.03 292  P    P    23 43 45.3 -0.2
GRTK Grand Turk        55.21 245  P    P    23 43 45.8 -0.8
TCUT Toone Canyon      55.31 293  P    P    23 43 48.1 +0.6
WMOK Wichita Mounta    55.46 279  P    P    23 43 49.4 +1.0
WMOK                              IAmb IAmb 23 43 53.5
     comp=Z,3.7nm,0.9s
BGU  Big Grassy Mou    56.12 295  P    P    23 43 51.5 -1.8
GCPR Guaynabo City     56.18 239  P    P    23 43 53.8 +0.1
NLU  North Lily Min    56.57 293  P    P    23 43 57.3 +0.8
DUG  Dugway, Tooele    56.66 294  P    P    23 43 57.5 +0.5
DUG                               IAmb IAmb 23 44 09.8
     comp=Z,5.1nm,1.4s
PV14 Lion Creek, Pa    56.68 290  P    P    23 43 57.3 -0.1
PV18 Skein Mesa, Pa    56.74 290  P    P    23 43 56.9 -0.9
PV18                              IAmb IAmb 23 44 00.5
     comp=Z,4.5nm,0.9s
PV13 Radium Mtn., P    56.78 290  P    P    23 43 58.3 +0.2
TMUT Trail Mountain    56.78 292  P    P    23 43 58.6 +0.4
Q16A Castle Valley     57.09 292  P    P    23 44 00.9 +0.7
TIC  Toumodi           58.30 165  eP   P    23 44 09.2 +0.5
KIC  Kosan Boka        58.62 165  eP   P    23 44 11.5 +0.7
     comp=Z,9.1nm,1.1s
LIC  Lamto             58.72 165  eP   P    23 44 12.1 +0.6
     comp=Z,13nm,0.8s
AKUT Akutan            59.30 339  P    P    23 44 15.1  0.0
BNM  Barren Site       59.30 285  P    P    23 44 16.1 +0.4
R11A Troy Canyon, C    59.34 295  P    P    23 44 16.8 +0.9
KNB  Kanab             59.39 292  P    P    23 44 13.0 -3.3
JCT  Junction City     59.55 277  P    P    23 44 17.1 -0.1
LCMT Little Creek M    59.56 292  P    P    23 44 17.2 -0.2
U15A North Rim         59.68 291  P    P    23 44 18.4  0.0
U15A                              IAmb IAmb 23 44 21.0
     comp=Z,2.5nm,1.1s
KVN  Kaiserville       59.72 297  P    P    23 44 19.6 +1.2
KVN                               IAmb IAmb 23 44 22.6
     comp=Z,2.6nm,1.1s
NVAR Mina Array Bea    60.33 297  P    P    23 44 24.2 +1.5
     comp=Z,0.3nm,0.5s,baz=49,slow=8.5,SNR=2.3
NVAR Mina Array Bea    60.33 297  P    P    23 44 23.2 +0.4
ERM  Erimo             72.94  15  P    P    23 45 43.0 +0.1
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IDC ***04*** *23:37:09.9±2.0, 6°.65N×123°.81E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/47, mbtmp3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.3/31, Error ellipse: s-maj=164.9km s-min=25.8km az=65.0*

MAN ***04*** *23:37:10.0, 6°.68N×123°.73E, h1km, mb4.7, ML3.6, MS3.5*

NEIC ***04*** *23:37:13.4±1.3, 6°.43N±0°.08×123°.62E±0°.07, h27km±4km, mb4.2/8, Error ellipse: s-maj=12.2km s-min=9.5km az=177.0*

ISC 04 23:37:10.3±1.8,**6°.66N**±0°.06×**123°.78E**±0°.06,**h11**km±12km, **n24**,σ1§**64**/27,**mb3.9**/10,**1C, Mindanao**

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Code Station Name      Δ°   AZ°  Phase ID      Time     Res
                                Op    ISC     h m s    ISC
SKMP Bagumbayan, Su    0.77 100  eP    Pn      23 37 25.7 -1.3
SKMP                             eS    Sn      23 37 36.7 -1.8
PAGZ Pagadian          1.25 342  eP    Pn      23 37 32.6 -1.1
PAGZ                             eS    Sb      23 37 48.6 -1.3
KCP  Kidapawan         1.35  75⇑ eP    Pg      23 37 36.1 -0.1
KCP                              i S   Sg      23 37 58.0 +4.3
BUKP Musuan            1.76  46  eP    Pb      23 37 41.9 -0.6
BUKP                             eS    Sg      23 38 06.2 -0.7
DAV  Davao City (W)    1.83  77  eP    Pg      23 37 45.6 +0.2
DDMP Don Marcelino,    2.00 106  eP    Pb      23 37 46.7 +0.1
DDMP                             eS    Sg      23 38 12.3 -2.2
MYLDM Lahad Datu       5.45 255  Pn    Pn      23 38 30.7 -0.8
KKM  Kota Kinabalu     7.54 266  Pn    Pn      23 38 58.7 -1.6
LUWI Luwuk             7.71 188  Pn    Pn      23 39 00.7 -1.8
FITZ Fitzroy Crossi    24.66 176 P     P       23 42 33.0 +1.8
     1.0nm,0.8s,baz=355,slow=11,SNR=1.5
FITZ Fitzroy Crossi    24.66 176 P     P       23 42 30.8 -0.5
WB0  Warramunga Arr    28.26 159 P     P       23 43 03.4 -0.3
WB0                              IAmb IAmb    23 43 09.6
     comp=Z,4.2nm,1.2s
WRAB Tennant Creek     28.39 159 P     P       23 43 02.9 -2.0
WRA  Warramunga Arr    28.40 159 P     P       23 43 05.3 +0.4
     comp=Z,0.6nm,0.8s,baz=336,slow=9.7,SNR=4.7
WRA  Warramunga Arr    28.40 159 IAmb  IAmb    23 43 14.2
     comp=Z,0.1nm,1.2s
WB2  Warramunga Arr    28.40 159 P     P       23 43 04.5 -0.4
WB2                              IAmb IAmb    23 43 22.8
     comp=Z,2.7nm,1.2s
KRVT Keravat (AS076    30.23 110 LR    LR      23 55 48.0
     comp=Z,42nm,18.2s,baz=53,slow=37
ASAR Alice Springs     31.72 162 P     P       23 43 35.4 +1.1
     comp=Z,0.2nm,0.5s,baz=347,slow=7.6,SNR=1.8
STKA Stephens Creek    41.92 157 P     P       23 45 02.5 +1.6
     comp=Z,1.9nm,0.7s,baz=312,slow=9.6,SNR=4.6
STKA Stephens Creek    41.92 157 P     P       23 45 01.1 +0.1
PALK Pallekele         42.75 274 P     P       23 45 06.1 -2.0
PALK                             IAmb IAmb    23 45 20.3
     comp=Z,16nm,1.1s
MKAR Makanchi Array    53.50 326 P     P       23 46 32.2 +1.5
     comp=Z,0.5nm,0.7s,baz=141,slow=9.3,SNR=4.8
KURK Kurchatov         57.71 328 P     P       23 47 02.8 +1.9
KURK                             IAmb IAmb    23 47 03.3
     comp=Z,2.4nm,0.9s
BRVK Borovoye          63.36 327 P     P       23 47 40.7 +1.2
BRVK                             IAmb IAmb    23 47 41.7
     comp=Z,3.3nm,0.8s
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SKHL ***04*** *23:44:12.1±0.6, 46°.25N×150°.51E, h171km±5km, mb4.6/1, msh5.9/6*

NEIC ***04*** *23:44:13.7±1.8, 46°.41N±0°.08×150°.17E±0°.09, h165km±4km, mb4.2/87, Error ellipse: s-maj=13.2km s-min=7.1km az=149.0*

MOS ***04*** *23:44:13.1±1.1, 46°.44N×150°.23E, h176km, mb4.3/10, Error ellipse: s-maj=8.2km s-min=5.8km az=63.4*

IDC ***04*** *23:44:15.7±2.0, 46°.59N×150°.17E, h181km±18km, mb3.7/26, mb1 3.9/30, mb1mx3.7/64, mbtmp4.2/30, Error ellipse: s-maj=15.0km s-min=10.8km az=145.0*

JMA ***04*** *23:44:16.8±0.5, 45°.59N×150°.35E, h194km, M4.3*

ISC 04 23:44:13.1±0.4,**46°.30N**±0°.05×**150°.26E**±0°.05,**h167**km, **n297**,σ1§**58**/314,**mb4.1**/86,**15C-5D, Kuril Islands**

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Code Station Name      Δ°   AZ°  Phase ID      Time     Res
                                Op    ISC     h m s    ISC
KUR  Kuril'sk          1.99 238  eP    Pn      23 44 51.6 +2.5
KUR                              AMB   AMB     23 44 53.0
     470nm,0.4s
KUR                              i S   Sn      23 45 19.9 +3.0
KUR                              A     A       23 45 23.6
     1μm,0.4s
KUR                              A     A       23 45 23.6
     540nm,0.4s
KUR  Kuril'sk          1.99 238  d iPN Pn      23 44 51.6 +2.5
KUR                              eS    Sn      23 45 22.0 +5.1
KUR                              pmax  pmax
     comp=Z,473nm,0.4s
KUR                              pmax  pmax
     comp=N,117nm,0.3s
KUR                              pmax  pmax
     comp=E,37nm,0.3s
KUR                              smax  smax
     comp=N,1μm,0.5s
KUR                              smax  smax
     comp=E,547nm,0.3s
YUK  Yuzh-Kuril'sk     3.85 236  i P   Pn      23 45 13.7 +1.9
YUK                              AMB   AMB     23 45 15.0
     comp=E,650nm,0.3s
YUK                              i S   Sn      23 45 59.4 +1.8
YUK                              A     A       23 46 02.0
     comp=E,210nm,0.2s
YUK                              A     A       23 46 02.0
     comp=E,260nm,0.2s
YUK  Yuzh-Kuril'sk     3.85 236  d iPN  Pn      23 45 13.7 +1.9
YUK                              i S   Sn      23 45 59.3 +1.7
YUK                              pmax  pmax
     comp=Z,649nm,0.3s
YUK                              pmax  pmax
     comp=N,218nm,0.2s
YUK                              pmax  pmax
     comp=E,470nm,0.4s
YUK                              smax  smax
     comp=N,210nm,0.2s
YUK                              smax  smax
     comp=E,259nm,0.2s
GRPR Tuman             3.92 236  i P   Pn      23 45 14.0 +1.2
GRPR                             AMB   AMB     23 45 16.0
     comp=E,410nm,0.5s
GRPR                             i S   Sn      23 46 00.9 +1.5
GRPR                             A     A       23 46 05.0
     comp=E,110nm,0.4s
GRPR                             A     A       23 46 05.0
     comp=E,310nm,0.4s
GRPR Tuman             3.92 236  ⇓ iPN  Pn      23 45 14.7 +1.9
GRPR                             i S   Sn      23 45 59.9 +0.5
GRPR                             pmax  pmax
     comp=Z,615nm,0.3s
GRPR                             pmax  pmax
     comp=N,391nm,0.4s
GRPR                             pmax  pmax
     comp=E,409nm,0.5s
GRPR                             smax  smax
     comp=E,307nm,0.4s
GRPR                             smax  smax
     comp=N,113nm,0.1s
RUSJ Misakicho         4.17 240  ⇑ iPN  Pn      23 45 18.2 +2.3
RUSJ                             eS    Sn      23 46 07.8 +2.8
GLVR Golovnino         4.23 234  i P   Pn      23 45 18.3 +1.6
GLVR                             AMB   AMB     23 45 20.0
     comp=N,230nm,0.4s
GLVR                             eS    Sn      23 46 07.4 +1.1
GLVR                             A     A       23 46 17.0
     comp=N,510nm,0.5s
GLVR                             A     A       23 46 17.0
     comp=N,280nm,0.5s
GLVR Golovnino         4.23 234  ⇑ iPN  Pn      23 45 18.2 +1.6
GLVR                             eS    Sn      23 46 06.4 +0.1
GLVR                             pmax  pmax
     comp=Z,229nm,0.4s
GLVR                             pmax  pmax
     comp=E,365nm,0.2s
GLVR                             pmax  pmax
     comp=N,85nm,0.1s
GLVR                             smax  smax
     comp=N,506nm,0.5s
GLVR                             smax  smax
     comp=E,275nm,0.4s
JRA  Rausu             4.34 239  P     Pn      23 45 20.0 +1.9
NEM2 Nemuro 2          4.35 229  P     Pn      23 45 18.2 -0.1
NEM2                             eS    Sn      23 46 05.9 -3.3
NMR  Nemuro--Hokkai    4.36 229  i P   Pn      23 45 18.5 +0.1
NMR  Nemuro--Hokkai    4.36 229  ⇓ iPN  Pn      23 45 18.2 -0.2
NMR                              i S   Sn      23 46 05.9 -3.4
JNK  Nakash            4.78 237  P     Pn      23 45 25.1 +1.2
JTKR Abashiri--Toko    5.06 245  P     Pn      23 45 29.6 +2.0
JAK  Akkeshi           5.16 232  P     Pn      23 45 28.8 -0.1
JAK                              eS    Sn      23 46 25.5 -2.8
YSS  Yuzh-Sakhalins    5.21 280  eP    Pn      23 45 31.9 +2.4
YSS                              AMB   AMB     23 45 32.6
     comp=E,30nm,1.0s
YSS                              AMB   AMB     23 45 39.6
     comp=E,200nm,4.0s
YSS                              eS    Sn      23 46 35.0 +5.7
YSS                              A     A       23 46 36.1
     comp=E,30nm,1.0s
YSS  Yuzh-Sakhalins    5.21 280  ⇑ ePN  Pn      23 45 31.9 +2.4
YSS                              pmax  pmax
     comp=Z,30nm,1.0s
YSS                              pmax  pmax
     comp=Z,200nm,3.7s
YSS  Yuzh-Sakhalins    5.21 280  Pn    Pn      23 45 28.9 -0.6
YSS                              Sn    Sn      23 46 28.1 -1.2
JMP  Maruseppu         5.39 247  P     Pn      23 45 34.3 +2.3
JAR  Ashorobuto        5.51 239  P     Pn      23 45 35.0 +1.5
JOB  Onbets            5.71 236  P     Pn      23 45 36.6 +0.5
JOB                              eS    Sn      23 46 39.3 -1.8
JKA  Kamikawa-asahi    5.84 251  eP    Pn      23 45 40.9 +3.1
JKA  Kamikawa-asahi    5.84 251          Pn      23 45 40.9 +3.1
ASAJ Asahikawa         5.84 251  P     Pn      23 45 40.9 +3.1
     comp=Z,26nm,0.3s,baz=78,slow=13,SNR=73
ASAJ Asahikawa         5.84 251  P     Pn      23 45 40.9 +3.1
JKK2 Kamakawa 2        5.85 248  P     Pn      23 45 40.5 +2.6
SKR  Severo-Kuril's    5.86  39  eP    Pn      23 45 37.0 -1.0
SKR                              AMB   AMB     23 45 39.4
     comp=Z,50nm,0.4s
SKR                              eS    Sn      23 46 41.6 -3.1
SKR                              A     A       23 46 45.0
     comp=Z,200nm,0.7s
SKR                              A     A       23 46 45.0
     comp=Z,100nm,0.7s
SKR  Severo-Kuril's    5.86  39  ePN   Pn      23 45 37.1 -1.0
SKR                              eS    Sn      23 46 40.0 -4.7
SKR                              pmax  pmax
     comp=Z,232nm,0.5s
SKR                              smax  smax
     comp=N,203nm,0.8s
SKR                              smax  smax
     comp=E,92nm,0.6s
SKR                              MLR   MLR
     comp=Z,900nm,17.0s
JWK2 Keihoku           5.93 263  P     Pn      23 45 43.0 +4.0
JCH  Churui            6.16 236  P     Pn      23 45 42.0  0.0
JCH                              eS    Sn      23 46 48.7 -3.2
JSS  Shosan            6.22 255  P     Pn      23 45 46.9 +4.1
JAB  Ashibetsu         6.36 247  P     Pn      23 45 47.0 +2.4
JBT2 Biratori 2        6.65 241  P     Pn      23 45 48.9 +0.4
ERM  Erimo             6.67 233  i PN  Pn      23 45 48.3 -0.4
ERM  Erimo             6.67 233  Pn    Pn      23 45 49.5 +0.8
ERM                              Sn    Sn      23 47 01.5 -2.4
JNBK Urakawa-nobuka    6.72 236  P     Pn      23 45 48.2 -1.3
PAU  Pauzhetka         6.74  37  eP    Pn      23 45 48.9 -0.6
PAU                              AMB   AMB     23 45 49.5
     comp=Z,20nm,0.4s
PAU                              eS    Sn      23 47 02.6 -2.8
PAU                              A     A       23 47 05.4
     comp=Z,60nm,0.3s
PAU                              A     A       23 47 05.4
     comp=Z,60nm,0.3s
JNB  Noboribetsu       7.63 243  P     Pn      23 46 02.6 +1.0
JNB                              eS    Sn      23 47 23.4 -3.6
JKB  Kayabe            7.97 240  P     Pn      23 46 05.0 -1.0
JKB                              eS    Sn      23 47 28.2 -6.9
JSH  Shimam            8.17 247  P     Pn      23 46 09.6 +1.0
JYM2 Yakumo 2          8.24 243  P     Pn      23 46 09.0 -0.6
PEA0B Petropavlovsk-   8.34  33  PN    Pn      23 46 10.3 -0.6
PEA0B Petropavlovsk-   8.34  33  Pn    Pn      23 46 10.2 -0.6
PETK  Petropavlovsk-   8.34  33  P     Pn      23 46 10.3 -0.5
     comp=Z,2.4nm,0.3s,baz=195,slow=12,SNR=62
JSR  Shiriuchi         8.55 240  P     Pn      23 46 12.3 -1.4
PET  Petropavlovsk     8.65  36  eP    Pn      23 46 15.3 +0.4
PET  Petropavlovsk     8.65  36  PN    Pn      23 46 15.3 +0.4
PET  Petropavlovsk     8.65  36  Pn    Pn      23 46 15.3 +0.4
JTM  Tenmabayashi      8.65 234  P     Pn      23 46 12.5 -2.5
JTM                              eS    Sn      23 47 42.7 -8.8
JANG Nango             8.70 230  P     Pn      23 46 13.1 -2.5
JANG                             eS    Sn      23 47 42.7 -10
JOSM Okushiri--Mats    8.82 245  P     Pn      23 46 17.6 +0.4
JTH  Tanohata          8.84 227  P     Pn      23 46 14.2 -3.3
JRG  Rokugo            9.87 229  P     Pn      23 46 29.5 -1.6
JFY  Yanaizu           11.86 225 P     Pn      23 46 56.3 -0.8
KLR  Kul'dur           12.79 290 eP    Pn      23 47 10.8 +1.9
KLR  Kul'dur           12.79 290 cePN  Pn      23 47 10.8 +1.9
USA0B Ussuriysk Arra   13.05 267 PN    Pn      23 47 14.0 +1.8
USA0B Ussuriysk Arra   13.05 267 Pn    Pn      23 47 14.0 +1.8
USRK Ussuriysk Ar.     13.05 267 P     Pn      23 47 13.8 +1.6
     baz=69,slow=12,SNR=6.7
USRK Ussuriysk Ar.     13.05 267 Pn    Pn      23 47 12.6 +0.4
EKMR Ekimchan          13.08 307 eP    Pn      23 47 13.8 +1.3
EKMR                             AMB   AMB     23 47 18.8
     comp=Z,9.0nm,0.8s
MAJO Matsushiro        13.28 227 PN    Pn      23 47 16.2 +0.9
MAJO Matsushiro        13.28 227 Pn    Pn      23 47 16.2 +0.9
MJAR Matsushiro Arr    13.28 227 P     Pn      23 47 14.6 -0.7
     comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=2.1
INU  Inuyama           14.82 227 P     P       23 47 36.4 +0.3
BMKR Bomnak            15.96 310 eP    P       23 47 48.8 +0.2
BMKR                             AMB   AMB     23 47 51.8
     comp=Z,8.0nm,0.8s
ZEA  Zeya              16.50 305 eP    P       23 47 53.4 -1.1
KROS Kirovskiy         16.88 307 eP    P       23 47 58.0 -0.7
KROS                             AMB   AMB     23 48 03.5
     comp=Z,10.0nm,0.9s
KSRS Korea Array       18.79 250 P     Pn      23 48 23.2 +1.2
     comp=Z,0.3nm,0.3s,baz=54,slow=11,SNR=8.6
YAK  Yakutsk           19.69 331 eP    P       23 48 28.9 -0.2
YAK  Yakutsk           19.69 331 eP    P       23 48 28.4 -0.7
YAK                              pmax  pmax
     comp=Z,24nm,0.8s
YAK                              pmax  pmax
     comp=E,6.0nm,1.0s
YAK                              pmax  pmax
     comp=N,5.0nm,1.0s
YAK  Yakutsk           19.69 331 P     P       23 48 27.0 -2.1
AMKA Amchitka          19.70  64 P     P       23 48 30.2 +0.8
ADK  Adak              22.23  63 P     P       23 48 56.5 +0.6
ADK                              pmax  pmax
     comp=Z,13nm,1.0s
ADK  Adak              22.23  63 P     P       23 48 56.5 +0.6
ADK                              IAmb  IAmb    23 48 57.5
     comp=Z,13nm,1.0s
GSTR Great Sitkin T    22.62  63 P     P       23 49 00.2 +0.6
ATKA Atka Island       23.77  63 P     P       23 49 10.8 +0.8
BJT  Baijiatuau        25.51 268 P     P       23 49 27.2 +1.3
BJT                              pmax  pmax
     comp=Z,6.0nm,0.9s
BJT  Baijiatuau        25.51 268 P     P       23 49 27.2 +1.3
BJT                              IAmb  IAmb    23 49 29.7
     comp=Z,6.4nm,0.9s
HHC  Hu-ho-hao-te      28.36 273 eP    P       23 49 55.0 +3.5
HHC                              pmax  pmax
     comp=Z,23nm,0.8s
HHC                              pmax  pmax
     comp=Z,100nm,5.3s
AKUT Akutan            28.80  58 P     P       23 49 55.4 +0.3
SONM Songino Array     29.62 289 P     P       23 50 00.1 -2.5
SONM                             pmax  pmax
     comp=Z,1.0nm,1.0s
SONM Songino Array     29.62 289 P     P       23 50 00.1 -2.5
H11N2 WAKE ISLAND Hy   29.82 147 T     T       00 21 34.5
     baz=335,slow=75,SNR=121
H11N1 WAKE ISLAND Hy   29.83 147 T     T       00 21 24.5
     baz=335,slow=75,SNR=50
H11N3 WAKE ISLAND Hy   29.84 147 T     T       00 21 25.9
     baz=335,slow=75,SNR=131
H11S1 WAKE ISLAND Hy   30.86 148 T     T       00 22 55.6
     baz=337,slow=76,SNR=169
H11S3 WAKE ISLAND Hy   30.87 148 T     T       00 22 51.8
     baz=337,slow=76,SNR=142
H11S2 WAKE ISLAND Hy   30.88 148 T     T       00 22 40.6
     baz=337,slow=76,SNR=125
NACB Ninganchiao       31.89 236 P     P       23 50 21.6 -1.0
XAN  Xi'an             33.51 263 P     P       23 50 36.9 +0.2
XAN                              pmax  pmax
     comp=Z,5.0nm,1.0s
XAN  Xi'an             33.51 263 P     P       23 50 36.9 +0.2
XAN                              IAmb  IAmb    23 50 38.1
     comp=Z,4.9nm,1.0s
TTA  Tatalina          34.06  41 P     P       23 50 41.4 +0.3
TTA                              pmax  pmax
     comp=Z,6.0nm,1.1s
TTA  Tatalina          34.06  41 P     P       23 50 41.4 +0.3
TTA                              IAmb  IAmb    23 50 51.1
     comp=Z,5.7nm,1.1s
SVW2 Sparrevohn        34.20  44 P     P       23 50 43.1 +0.9
IMAR Indian Mountai    35.29  36 P     P       23 50 52.5 +1.0
OHAK Old Harbor        35.60  51 P     P       23 50 53.7 -0.6
PPLA Purkeypile        35.81  41 P     P       23 50 57.2 +1.0
PPLA                             IAmb  IAmb    23 50 59.2
     comp=Z,12nm,1.2s
SKT  Skwentna          36.13  43 P     P       23 51 00.2 +1.4
SKT                              IAmb  IAmb    23 51 16.7
     comp=Z,4.1nm,1.0s
BPAW Bear Paw Mtn.     36.35  39 P     P       23 51 01.4 +0.8
BPAW                             IAmb  IAmb    23 51 11.7
     comp=Z,3.1nm,1.0s
KTH  Kantishna Hill    36.38  40 P     P       23 51 02.0 +1.0
KTH                              IAmb  IAmb    23 51 03.1
     comp=Z,2.7nm,0.7s
CNPM China Poot        36.42  47 P     P       23 51 02.3 +1.0
TRF  Thorofare Moun    36.66  40 P     P       23 51 04.2 +0.7
GTA  Gaotai            37.09 278 P     P       23 51 08.7 +1.4
GTA                              pP    pwP     23 51 47.0 +0.6
GTA                              sP    sP      23 52 06.2 +5.8
GTA                              pmax  pmax
     comp=Z,6.0nm,0.8s
MDM  Murphy Dome       37.55  38 P     P       23 51 11.9 +1.2
MDM                              IAmb  IAmb    23 51 12.8
     comp=Z,4.0nm,0.9s
WRH  Wood River Hil    37.61  39 P     P       23 51 12.5 +1.3
COLA College           37.71  38 i P   P       23 51 10.3 -1.7
COLA                             pmax  pmax
     comp=Z,3.0nm,0.7s
CCB  Clear Creek Bu    37.73  38 P     P       23 51 13.3 +1.2
DHY  Denali Highway    38.00  41 P     P       23 51 15.7 +1.0
DHY                              IAmb  IAmb    23 51 27.2
     comp=Z,3.4nm,1.0s
HDA  Harding Lake      38.11  39 P     P       23 51 16.4 +1.0
HDA                              IAmb  IAmb    23 51 17.1
     comp=Z,3.1nm,0.6s
SCM  Sheep Creek Mo    38.12  43 P     P       23 51 16.2 +0.6
SCM                              pmax  pmax
     comp=Z,3.0nm,1.0s
SCM  Sheep Creek Mo    38.12  43 P     P       23 51 16.2 +0.6
IL31                   38.12  38 P     P       23 51 16.0 +0.6
ILAR Eielson Array     38.12  38 P     P       23 51 16.4 +0.9
     comp=Z,0.7nm,0.5s,baz=262,slow=7.4,SNR=13
ILAR Eielson Array     38.12  38 P     P       23 51 16.1 +0.6
ILAR Eielson Array     38.12  38 P     P       23 51 16.1 +0.6
NRIK Noril'sk          38.13 329 P     P       23 51 14.0 -1.5
     comp=Z,2.4nm,0.5s,baz=9.6,slow=1.6,SNR=5.0
FID  Port Fidalgo      38.65  45 P     P       23 51 20.5 +0.6
KLU  Klutina           38.83  43 P     P       23 51 22.6 +1.1
KLU                              IAmb  IAmb    23 51 26.8
     comp=Z,4.6nm,1.1s
RIDG Independent Ri    39.08  40 P     P       23 51 23.5 -0.1
DOT  Dot Lake          39.44  40 P     P       23 51 26.8 +0.3
GYA  Guiyang           39.70 255 eP    P       23 51 31.1 +2.0
GYA                              pmax  pmax
     comp=Z,4.0nm,0.8s
GLB  Gilahina Butte    39.84  43 P     P       23 51 30.2 +0.4
GLB                              IAmb  IAmb    23 51 42.3
     comp=Z,5.3nm,1.1s
VRDI Verde Repeater    40.04  44 P     P       23 51 32.7 +1.1
VRDI                             IAmb  IAmb    23 51 39.1
     comp=Z,7.2nm,1.2s
BCAR Beaver Creek A    40.53  41 P     P       23 51 37.4 +1.9
EGAK Eagle             40.57  38 P     P       23 51 36.6 +0.9
BARN Barnard Glacie    40.93  44 P     P       23 51 39.9 +0.9
BARN                             IAmb  IAmb    23 51 47.5
     comp=Z,4.6nm,1.0s
DGZ  Jazzator, Alta    41.09 298 i P   P       23 51 39.2 -1.2
DGZ                              pmax  pmax
     comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam     41.27 305 PcP   PcP     23 53 37.5 +0.7
     comp=Z,1.4nm,0.6s,baz=94,slow=2.4,SNR=6.1
TABL Table Mountain    41.30  44 P     P       23 51 42.9 +0.9
TABL                             IAmb  IAmb    23 51 52.4
     comp=Z,9.9nm,1.0s
YKU2 Yakutat           42.23  45 P     P       23 51 50.5 +1.2
HYT  Haines Junctio    42.96  43 P     P       23 51 56.5 +1.2
HYT                              IAmb  IAmb    23 51 58.7
     comp=Z,3.9nm,0.8s
INK  Inuvik            43.08  32 P     P       23 51 54.6 -1.4
     comp=Z,2.2nm,0.4s,baz=149,slow=15,SNR=4.9
KMI  Kunming           43.22 257⇓ eP   P       23 51 59.9 +1.9
KMI                              pmax  pmax
     comp=Z,9.0nm,0.7s
KMI                              pmax  pmax
     comp=Z,32nm,4.4s
WMQ  Urumqi            43.24 290 eP    P       23 51 59.8 +2.0
MK31 Makanchi Array    45.39 297 P     P       23 52 14.8 +0.1
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MK31 pmax pmax
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 45.39 297 P P 23 52 14.8 +0.1
MK31 IAmb IAmb 23 52 15.2
comp=Z,6.0nm,1.1s
MKAR Makanchi Array 45.39 297 P P 23 52 14.2 -0.5
comp=Z,2.4nm,0.6s,baz=69,slow=7.1,SNR=22
MKAR PcP **PcP 23 53 51.6 +0.6**
comp=Z,0.7nm,0.6s,baz=70,slow=4.0,SNR=4.6
MKAR Makanchi Array 45.39 297 *eP* **P 23 52 14.1 -0.6**
MKAR Makanchi Array 45.39 297 *ceP* **P 23 52 14.1 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.39 297 P P 23 52 14.5 -0.2
MAKZ Makanchi 45.58 297 P P 23 52 16.2 +0.1
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 45.58 297 P P 23 52 16.2 +0.1
KURK Kurchatov 45.96 303 *eP* **P 23 52 18.1 -1.0**
KURK Kurchatov 45.96 303 *ceP* **P 23 52 18.1 -1.0**
KURK pmax pmax
comp=Z,10.0nm,2.5s
KURK Kurchatov 45.96 303 P P 23 52 17.8 -1.3
KURK IAmb IAmb 23 52 19.0
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 46.05 303 P P 23 52 18.6 -1.1
comp=Z,2.4nm,0.7s,baz=71,slow=8.7,SNR=14
C36M Paulatuk 46.18 29 P P 23 52 21.9 +1.4
BVAR Borovoye Array 49.61 309 P P 23 52 46.3 -0.8
comp=Z,0.8nm,0.5s,baz=49,slow=6.8,SNR=9.9
BVAR PcP **PcP 23 54 06.6 +0.6**
comp=Z,0.6nm,0.3s,baz=88,slow=4.3,SNR=4.9
BRVK Borovoye 49.66 309 *eP* **P 23 52 45.9 -1.5**
BRVK Borovoye 49.66 309 *ceP* **P 23 52 45.9 -1.5**
BRVK pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 49.66 309 P P 23 52 46.4 -1.0
EUNU Eureka 49.95 11 P P 23 52 49.3 -0.1
EUNU IAmb IAmb 23 53 04.0
comp=Z,9.3nm,1.1s
CHTO Chiang Mai 50.10 255 P P 23 52 52.8 +1.6
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 50.10 255 P P 23 52 52.8 +1.6
CHTO IAmb IAmb 23 52 54.0
comp=Z,2.7nm,0.8s
RABL Rabaul 50.30 178 P P 23 52 54.4 +1.7
CMAR Chiang Mai Arr 50.35 254 P P 23 52 55.2 +2.1
comp=Z,1.1nm,0.4s,baz=33,slow=7.3,SNR=6.8
PBKT Sadao Pong 50.37 251 P P 23 52 54.9 +1.8
KDJ Kajisay 50.82 293 P P 23 52 56.9 +0.3
KDJ pmax pmax
comp=Z,9.0nm,0.9s
KDJ Kajisay 50.82 293 P P 23 52 56.9 +0.3
KDJ IAmb IAmb 23 52 57.8
comp=Z,8.7nm,0.8s
BBB Bella Bella 50.95 52 P P 23 52 57.9 +0.8
BBB IAmb IAmb 23 53 07.8
comp=Z,10nm,1.1s
RES Resolute Bay 51.88 18 P P 23 53 03.1 -0.6
comp=Z,2.3nm,0.4s,baz=15,slow=13,SNR=4.5
RES Resolute Bay 51.88 18 P P 23 53 03.7 0.0
RES pmax pmax
comp=Z,9.0nm,1.1s
RES Resolute Bay 51.88 18 P P 23 53 03.7 0.0
RES IAmb IAmb 23 53 05.2
comp=Z,8.6nm,1.1s
AAK Ala-Archa 52.26 295 P P 23 53 07.6 +0.4
comp=Z,3.5nm,0.6s,baz=132,slow=5.4,SNR=8.1
SVE Sverdlovsk 52.81 316 *eP* **P 23 53 10.1 -0.7**
SVE Sverdlovsk 52.81 316 *eP* **P 23 53 10.1 -0.7**
SVE pmax pmax
comp=Z,15nm,0.9s
JIRN Jiri 53.01 273 *eP* **P 23 53 14.6 +1.4**
JIRN Jiri 53.01 273 *eP* **P 23 53 14.6 +1.4**
RAMN Ramite 53.17 272 *eP* **P 23 53 15.4 +1.2**
comp=Z,10nm,0.5s
RAMN Ramite 53.17 272 *eP* **P 23 53 15.4 +1.2**
comp=Z,10nm,0.5s
KKN Kakani 53.56 274 *eP* **P 23 53 18.6 +1.6**
comp=Z,15nm,0.6s
KKN Kakani 53.56 274 *eP* **P 23 53 18.6 +1.6**
comp=Z,15nm,0.6s
PKI Pulchoki 53.61 273 *eP* **P 23 53 18.4 +0.9**
PKI Pulchoki 53.61 273 *eP* **P 23 53 18.4 +0.9**
GKN Gorkha 53.87 274 *eP* **P 23 53 20.3 +1.1**
GKN Gorkha 53.87 274 *eP* **P 23 53 20.3 +1.1**
ARU Arti 54.00 317 *eP* **P 23 53 17.0 -2.5**
ARU Arti 54.00 317 *c iP* **P 23 53 17.0 -2.5**
ARU *PP **pwP 23 54 00.4 -0.5**
ARU 23 54 17.8
ARU 23 55 18.4
ARU S **S 00 00 39.0 -3.0**
ARU SS **SS 00 04 24.4 -0.6**
ARU pmax pmax
comp=Z,11nm,0.9s
ARU Arti 54.00 317 P P 23 53 18.0 -1.5
KKAR Karatay Array 54.48 298 P P 23 53 22.9 -0.3
KKAR Karatay Array 54.48 298 P P 23 53 22.9 -0.3
KOLN Koldanda 54.73 275 *eP* **P 23 53 26.8 +1.3**
comp=Z,33nm,0.8s
KOLN Koldanda 54.73 275 *eP* **P 23 53 26.8 +1.3**
comp=Z,33nm,0.8s
PYUN Piuthan 54.95 276 *eP* **P 23 53 28.3 +1.3**
comp=Z,54nm,1.0s
PYUN Piuthan 54.95 276 *eP* **P 23 53 28.3 +1.3**
comp=Z,54nm,1.0s
ABKAR Akbulak array 57.19 309 P P 23 53 41.2 -1.1
AKTO Aktyubinsk 57.54 311 P P 23 53 43.6 -1.2
comp=Z,1.1nm,0.5s,baz=56,slow=5.7,SNR=4.9
ARCES ARCESS Array B 57.62 340 P P 23 53 43.9 -1.1
comp=Z,2.1nm,0.7s,baz=28,slow=6.7,SNR=6.4
ARCES ARCESS Array B 57.62 340 P P 23 53 45.0 0.0
ARCES ARCESS Array B 57.62 340 P P 23 53 45.0 0.0
KLMR Klimovskoe 59.46 328 *eP* **P 23 53 54.8 -3.0**
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 59.46 328 *eP* **P 23 53 54.9 -2.9**
KLMR AMP 23 53 57.6
comp=Z,9.0nm,1.1s
KBL Kabul 60.39 290 P P 23 54 04.3 -0.6
KBL pmax pmax
comp=Z,3.0nm,0.8s
KBL Kabul 60.39 290 P P 23 54 04.2 -0.6
KBL IAmb IAmb 23 54 05.1
comp=Z,3.2nm,0.8s
SUMG Summit 61.27 3 P P 23 54 10.2 -0.2
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG Summit 61.27 3 P P 23 54 10.2 -0.2
FCC Fort Churchill 62.70 32 P P 23 54 21.3 +1.7
FCC pmax pmax
comp=Z,4.0nm,1.0s
FCC Fort Churchill 62.70 32 P P 23 54 21.3 +1.7
FCC IAmb IAmb 23 54 37.3
comp=Z,4.1nm,1.0s
EGMT Eagleton 63.03 48 P P 23 54 21.7 -0.5
FIA1 FINESS Array S 63.59 334 P P 23 54 23.8 -1.6
FINES FINESS Array B 63.59 334 P P 23 54 23.9 -1.6
comp=Z,8.3nm,0.7s,baz=35,slow=7.9,SNR=46
OBN Obninsk 64.55 324 *eP* **P 23 54 30.6 -1.2**
OBN Obninsk 64.55 324 ⇑*eP* **P 23 54 30.6 -1.2**
OBN 23 54 59.0
OBN *PP **pwP 23 55 13.0 -1.6**
OBN S **S 00 02 49.0 -8.3**
OBN pmax pmax
comp=Z,4.0nm,0.9s
GEYT Alibeck 65.13 299 P P 23 54 36.0 +0.1
comp=Z,4.2nm,0.5s,baz=66,slow=5.0,SNR=5.6
GEYT Alibeck 65.13 299 P P 23 54 35.9 -0.1
GYA0B ALIBECK ARRAY 65.13 299 P P 23 54 36.2 +0.2
SPUT South Promonto 65.94 55 P P 23 54 42.8 +1.5
PDAR Pinedale Array 66.59 52 P P 23 54 46.0 +0.6
comp=Z,0.2nm,0.3s,baz=343,slow=2.8,SNR=2.1
NLU North Lily Min 67.05 56 P P 23 54 47.9 -0.5
WRA Warramunga Arr 67.49 196 P P 23 54 52.1 +1.2
comp=Z,0.6nm,1.0s,baz=22,slow=7.6,SNR=3.2
WRA Warramunga Arr 67.49 196 IAmb IAmb 23 55 00.1
comp=Z,0.1nm,0.8s
NC303 NORSAR Array S 67.80 340 P P 23 54 51.4 -1.0
NC303 IAmb IAmb 23 55 08.9
comp=Z,4.1nm,0.8s
NC405 NORSAR Array S 67.81 340 P P 23 54 51.4 -1.2
NC405 IAmb IAmb 23 55 05.0
comp=Z,6.1nm,1.1s

FITZ Fitzroy Crossi 67.86 205 P P 23 54 53.6 +0.4
NC204 NORSAR Array S 67.89 340 P P 23 54 52.0 -1.1
NB201 NORSAR Array S 67.97 340 P P 23 54 52.1 -1.5
NB2 NORSAR Subarra 67.99 340 P P 23 54 52.2 -1.5
comp=Z,1.0nm,0.4s,baz=29,slow=6.5
NOA NORSAR Array B 67.99 340 P P 23 54 52.5 -1.3
comp=Z,1.3nm,0.5s,baz=30,slow=6.7,SNR=16
NBO00 NORSAR Array S 68.11 340 P P 23 54 53.1 -1.3
NBO00 IAmb IAmb 23 54 59.0
comp=Z,8.9nm,1.1s
NC602 NORSAR Array S 68.18 340 P P 23 54 53.3 -1.6
NAO01 NORSAR Array S 68.24 340 P P 23 54 54.4 -0.9
BORG Borgarnes 69.10 356 P P 23 55 01.5 +1.1
BORG pmax pmax
comp=Z,9.0nm,1.2s
BORG Borgarnes 69.10 356 P P 23 55 01.5 +1.1
BORG IAmb IAmb 23 55 17.2
comp=Z,9.0nm,1.1s
KIV Kislovodsk 69.68 313 P 23 55 04.6 +0.1
PV10 Paradox Valley 69.86 55 P P 23 55 06.0 +0.1
PV10 IAmb IAmb 23 55 06.8
comp=Z,7.3nm,1.0s
AKASG Malin Array Be 70.80 325 P P 23 55 09.8 -1.3
comp=Z,2.0nm,0.4s,baz=34,slow=6.5,SNR=8.5
ASAR Alice Springs 71.20 196 P P 23 55 16.1 +2.5
comp=Z,0.6nm,0.6s,baz=9.0,slow=6.0,SNR=9.6
SCHQ Schefferville 74.46 21 P P 23 55 33.0 +0.4
comp=Z,1.8nm,0.5s,baz=295,slow=7.0,SNR=5.4
SCHQ Schefferville 74.46 21 IAmb IAmb 23 55 33.6
comp=Z,7.2nm,1.0s
BUR08 Bucovina Ar. S 74.83 325 P P 23 55 34.5 -0.5
BUR08 IAmb IAmb 23 55 36.3
comp=Z,2.9nm,0.8s
BURAR Bucovina Array 74.85 325 ⇑P **P 23 55 34.6 -0.5**
BURAR Bucovina Array 74.85 325 P **P 23 55 34.8 -0.3**
TESR Tescani 75.16 323 ⇑P **P 23 55 36.3 -0.4**
CHVC Chvalec 75.69 332 *eP* **P 23 55 39.1 -0.6**
DPC Dobruska-Polom 75.81 332 *eP* **P 23 55 40.8 +0.4**
DPC *ex* x 23 55 43.6
DPC Dobruska-Polom 75.81 332 *eP* **P 23 55 40.8 +0.4**
MORC Moravsky Berou 75.89 331 *eP* **P 23 55 41.0 +0.1**
MORC Moravsky Berou 75.89 331 P P 23 55 41.5 +0.6
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 75.89 331 P P 23 55 41.5 +0.6
MORC IAmb IAmb 23 55 42.2
comp=Z,4.4nm,0.8s
KRLC Kraliky 75.89 331 *eP* **P 23 55 40.0 -0.9**
KRLC Kraliky 75.89 331 *eP* **P 23 55 40.0 -0.9**
CLL Collm 76.03 334 *i P* **P 23 55 40.5 -1.0**
comp=Z,8.0nm,0.7s
CLL Collm 76.03 334 P P 23 55 40.6 -1.0
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 76.03 334 P P 23 55 40.6 -1.0
CLL IAmb IAmb 23 55 42.1
comp=Z,7.0nm,0.7s
MLR Muntele Rosu 76.27 323 P P 23 55 43.8 +0.5
comp=Z,2.5nm,0.7s,baz=145,slow=22,SNR=3.8
MLR Muntele Rosu 76.27 323 IAmb IAmb 23 55 45.1
comp=Z,4.3nm,0.9s
ILGA Ilgaz 76.28 316 P P 23 55 43.9 +0.4
EKB Eskdalemuir 76.29 345 P P 23 55 43.3 +0.3
ESK Eskdalemuir 76.31 345 P P 23 55 42.8 -0.2
ESK pmax pmax
comp=Z,2.0nm,0.8s
ESK Eskdalemuir 76.31 345 P P 23 55 42.8 -0.2
VYHS Vyhne 76.53 329 *eP* **P 23 55 44.3 -0.2**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 76.53 329 *eP* **P 23 55 44.3 -0.2**
VRAC Vranov 76.61 331 ⇑P **P 23 55 45.0 +0.1**
VRAC Vranov 76.61 331 *eP* **P 23 55 44.8 -0.1**
JAVC Velka Javorina 76.63 330 *eP* **P 23 55 45.7 +0.6**
VOIR 76.69 324 ⇑P **P 23 55 45.7 +0.2**
PRU Pruhonice 76.70 332 *eP* **P 23 55 44.9 -0.5**
PRU Pruhonice 76.70 332 *eP* **P 23 55 44.9 -0.5**
KRUC Moravsky 76.89 331 *eP* **P 23 55 46.3 -0.2**
KHC Kasperske Hory 77.76 333 *eP* **P 23 55 50.6 -0.8**
KHC *ex* x 23 55 56.7
KHC Kasperske Hory 77.76 333 *eP* **P 23 55 50.6 -0.8**
KHC *e* 23 55 56.7
BZS Buzias 77.91 326 ⇑P **P 23 55 52.4 +0.2**
GERES GERESS Array B 77.97 332 P P 23 55 52.1 -0.4
comp=Z,2.3nm,0.8s,baz=48,slow=6.0,SNR=13
GERES GERESS Array B 77.97 332 P P 23 55 51.9 -0.7
CONA Conrad Observa 78.05 331 *i P* **P 23 55 53.3 +0.2**
comp=Z,2.7nm,0.7s
MOA Molin 78.65 331 *i P* **P 23 55 57.2 +0.9**
comp=Z,1.4nm,0.6s
TXAR Lajitas Array 79.42 59 P P 23 56 01.5 +0.6
comp=Z,0.3nm,0.6s,baz=318,slow=5.2,SNR=4.1
TXAR Lajitas Array 79.42 59 P P 23 56 01.8 +1.0
KBA Koelnbreinsper 79.63 332 *i P* **P 23 56 02.0 +0.2**
comp=Z,1.7nm,0.4s
DIVS Divibare 79.81 326 P P 23 56 02.3 -0.4
WATA Walderalm 79.97 333 *i P* **P 23 56 03.7 +0.1**
comp=Z,3.1nm,0.4s,SNR=5.5
WTTA Wattenberg 80.02 333 *i P* **P 23 56 04.2 +0.3**
comp=Z,3.9nm,0.4s,SNR=8.1
MOTA Moosalm 80.11 333 *i P* **P 23 56 04.4 +0.1**
comp=Z,2.1nm,0.6s
PRED Cave del Predi 80.11 331 P P 23 56 03.6 -0.6
PRED IAmb IAmb 23 56 16.1
comp=Z,3.6nm,1.0s
ECH Echery 80.51 336 P P 23 56 07.0 +0.7
ECH pmax pmax
comp=Z,3.0nm,0.8s
ECH Echery 80.51 336 P P 23 56 07.0 +0.7
ECH IAmb IAmb 23 56 09.5
comp=Z,3.4nm,0.8s
DAVA Damuels 80.54 334 *i P* **P 23 56 07.1 +0.4**
comp=Z,2.4nm,0.5s
CIMO Cimolais 80.60 332 P P 23 56 06.4 -0.4
D62A Allapoint, All 80.82 26 P P 23 56 08.3 +0.4
FUORN Ofenpass-Fuorn 81.02 333 P P 23 56 10.6 +1.3
TUE Stuetta 81.44 334 P P 23 56 11.9 +0.5
TUE IAmb IAmb 23 56 12.3
comp=Z,3.3nm,0.7s
PDG Podgorica 81.51 326 ⇑P **P 23 56 10.9 -0.7**
PDG Podgorica 81.51 326 P P 23 56 10.8 -0.9
PDG IAmb IAmb 23 56 12.1
comp=Z,6.1nm,0.8s
MMAI Mount Meron Ar 81.61 310 P P 23 56 13.7 +1.2
comp=Z,1.7nm,0.5s,baz=41,slow=7.7,SNR=5.9
F64A Sherman 82.13 26 P P 23 56 14.9 +0.1
SENIN Lac Senin/Sane 82.15 335 P P 23 56 16.4 +1.2
SENIN IAmb IAmb 23 56 18.0
comp=Z,2.9nm,0.7s
EIL Elat 84.44 308 P P 23 56 27.4 +0.5
comp=Z,12nm,0.7s,baz=10,slow=3.4,SNR=5.6
KEST Kesra 91.08 329 P P 23 56 57.9 -0.8
comp=Z,3.6nm,0.8s,baz=256,slow=6.5,SNR=5.0
ESDC Sonseca Array 91.35 340 P P 23 56 59.2 -0.7
comp=Z,0.2nm,0.6s,baz=15,slow=5.4,SNR=2.5
ESDC Sonseca Array 91.35 340 P **P 23 56 59.5 -0.3**
H03N2 Juan Fernandez 140.72 89 T T 02 39 54.1
baz=308,slow=77,SNR=7.0
H03N1 Juan Fernandez 140.74 89 T T 02 39 46.9
baz=308,slow=77,SNR=9.3
H03N3 Juan Fernandez 140.74 89 T T 02 39 52.1
baz=308,slow=77,SNR=6.7
PLCA Paso Flores 150.13 94 PKPbc **PKPbc 00 03 43.5 -0.2**
comp=Z,0.8nm,0.7s,baz=278,slow=4.7,SNR=2.9
CPUP Villa Florida 150.38 57 PKPbc **PKPbc 00 03 44.8 +0.2**
comp=Z,0.6nm,0.5s,baz=140,slow=19,SNR=1.2

*IDC **04** 23:51:20.2±0.9,29°.52N×52°.01E,h0km,mb4.0/19,*
mb1 4.1/26,mb1mx3.9/48,mbtmp4.0/26,ML3.8/7,MS3.5/20,
Ms1 3.5/20,ms1mx3.3/40,Error ellipse: s-maj=21.1km
s-min=12.8km az=171.0
*GII **04** 23:51:21.8±0.0,29°.50N×52°.18E,h24km*
*TEH **04** 23:51:21.2,29°.54N×52°.14E,h17km,ML4.5*
*THR **04** 23:51:21.8±1.4,29°.60N×52°.25E,h15km±24km,ML4.3*
*NEIC **04** 23:51:21.9±2.3,29°.45N±0°.09×52°.08E±0°.08,h19km±5km,*
Error ellipse: s-maj=13.0km s-min=9.4km az=207.0
*MOS **04** 23:51:22.8±1.2,29°.60N×52°.07E,h29km,mb4.6/11,Error*
ellipse: s-maj=7.5km s-min=4.8km az=110.3
*OMAN **04** 23:51:23.9±8.7,29°.25N×51°.99E,h20km,mb5.4/10,*
ml4.5/4,ms3.2/3,Error ellipse: s-maj=333.3km
s-min=54.7km az=358.0

*DSN **04** 23:51:25.4±1.2,29°.22N×52°.27E,h10km,ML4.6/9,Error*
ellipse: s-maj=20.5km s-min=7.8km az=24.0
ISC 04 23:51:20.8±0.3,29°.52N±0°.04×52°.08E±0°.03,h10km,n324,
σ1§64/339,mb4.3/69,MS3.4/17,19C-8D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAZ1	**Kazerun**	**0.40**	**286**	*ePg*		**Pg**		**23 51 29.5**	**+0.8**
KAZ1				*e*				23 51 42.7	
SHI	**Shiraz**	**0.40**	**72**	*ePg*		**Pg**		**23 51 26.3**	**-2.5**
AHBU	**AHRAM**	**0.94**	**227**	*ePg*		**Pn**		**23 51 41.4**	**+1.3**
GHIR	**Ghir-Karzin**	**1.46**	**147**	*ePg*		**Pg**		**23 51 49.4**	**+0.5**
GHIR				IAML				23 52 15.8	
	comp=E,4μm,0.4s								
GHIR	**Ghir-Karzin**	**1.46**	**147**	*ePg*		**Pg**		**23 51 49.4**	**+0.5**
KLNJ	**Kolanjah**	**1.54**	**344**	*ePg*		**Pn**		**23 51 49.0**	**+0.2**
KLNJ				*e*				23 52 18.1	
JHRM	**Jahrom**	**1.66**	**127**	*ePg*		**Pb**		**23 51 51.5**	**0.0**
JHRM				*e*				23 52 28.3	
IRAM	**Ramesheh**	**2.30**	**7**	*ePn*		**Pn**		**23 52 00.1**	**+1.0**
LMD1	**Lamerd**	**2.37**	**156**	*ePn*		**Pn**		**23 52 01.3**	**+1.5**
LMD1				*e*				23 53 03.0	
IBRJ	**Brojen**	**2.49**	**344**	*ePn*		**Pn**		**23 52 03.1**	**+1.5**
LAR1	**LAR**	**2.73**	**132**	*ePn*		**Pn**		**23 52 05.8**	**+0.9**
ISAD	**Sadrabad**	**2.76**	**30**	*ePn*		**Pn**		**23 52 06.2**	**+0.7**
IGAR	**Gharneh**	**2.88**	**359**	*ePn*		**Pn**		**23 52 08.4**	**+1.4**
IMEH	**Mehriz**	**2.88**	**49**	*ePn*		**Pn**		**23 52 08.5**	**+1.5**
ROKH	**ROKH**	**2.96**	**343**	*ePn*		**Pn**		**23 52 09.2**	**+1.1**
JHBN	**Jahan bin**	**2.97**	**336**	*ePn*		**Pn**		**23 52 09.3**	**+1.0**
IPIR	**Pirpir**	**3.32**	**342**	*ePn*		**Pn**		**23 52 13.7**	**+0.6**
IZEF	**Zefreh**	**3.38**	**4**	*ePn*		**Pn**		**23 52 14.6**	**+0.7**
ICHK	**Chekchek**	**3.38**	**36**	*ePn*		**Pn**		**23 52 14.4**	**+0.5**
YZKH	**Yazd**	**3.59**	**36**	*ePn*		**Pn**		**23 52 17.6**	**+0.9**
YZKH	**Yazd**	**3.59**	**36**	*ePn*		**Pn**		**23 52 17.6**	**+0.9**
IBAF	**Bafgh**	**3.65**	**55**	*ePn*		**Pn**		**23 52 18.1**	**+0.5**
IKLH	**Kolahrood**	**3.81**	**354**	*ePn*		**Pn**		**23 52 21.0**	**+1.1**
SHGR	**Shooshtar-Gavs**	**3.82**	**313**	*ePn*		**Pn**		**23 52 22.8**	**+3.0**
SHGR	**Shooshtar-Gavs**	**3.82**	**313**	*ePn*		**Pn**		**23 52 22.8**	**+3.0**
KHGB	**Koh Gabri**	**3.92**	**76**	*ePn*		**Pn**		**23 52 21.8**	**+0.5**
KHGB				*e*				23 53 35.0	
ANAR	**Anarak**	**3.93**	**21**	*ePn*		**Pn**		**23 52 22.0**	**+0.7**
NGRK	**Negar Kerman**	**4.06**	**87**	*ePn*		**Pn**		**23 52 24.0**	**+0.7**
NGRK				*e*				23 53 46.8	
KRBR	**Kerman**	**4.10**	**82**	*ePn*		**Pn**		**23 52 23.8**	**-0.1**
KRBR	**Kerman**	**4.10**	**82**	*ePn*		**Pn**		**23 52 23.8**	**-0.1**
TVBK	**TV Kerman**	**4.10**	**82**	*ePn*		**Pn**		**23 52 24.8**	**+0.9**
TVBK				*e*				23 53 45.6	
BNDS	**Bandar-Abbas**	**4.18**	**119**	*ePn*		**Pn**		**23 52 25.0**	**+0.2**
BNDS	**Bandar-Abbas**	**4.18**	**119**	*ePn*		**Pn**		**23 52 25.0**	**+0.2**
GENO	**Geno**	**4.18**	**119**	*ePn*		**Pn**		**23 52 24.6**	**-0.2**
QAM	**Ghamsar**	**4.27**	**353**	*ePn*		**Pn**		**23 52 26.9**	**+0.8**
IBND	**Bandar-abas**	**4.44**	**117**	*ePn*		**Pn**		**23 52 28.8**	**+0.6**
KRSH	**Karshahi**	**4.44**	**1**	*ePn*		**Pn**		**23 52 28.6**	**+0.2**
CHMN	**Cheshme madani**	**4.77**	**85**	*ePn*		**Pn**		**23 52 33.7**	**+0.6**
BMDN	**Meydan**	**4.99**	**327**	*ePn*		**Pn**		**23 52 37.0**	**+1.1**
SHME	**Shamm**	**4.99**	**133**	*i P*		**Pn**		**23 52 36.4**	**+0.6**
	SNR=11								
SHME					S		**Sn**	**23 53 31.4**	**-2.2**
SHME	**Shamm**	**4.99**	**133**	*ePn*		**Pn**		**23 52 36.2**	**+0.3**
GHVR	**GHOM**	**4.99**	**353**	*ePn*		**Pn**		**23 52 38.0**	**+2.1**
GHVR	**GHOM**	**4.99**	**353**	*ePn*		**Pn**		**23 52 38.0**	**+2.1**
IKMR	**Kamar-syah**	**5.09**	**323**	*ePn*		**Pn**		**23 52 38.2**	**+1.1**
BANOM	**Banah**	**5.18**	**133**	*i P*		**Pn**		**23 52 38.4**	**-0.1**
	SNR=51								
BANOM	**Banah**	**5.18**	**133**	P		**Pn**		**23 52 38.5**	**+0.1**
	SNR=51								
BANOM					S		**Sn**	**23 53 38.1**	**-0.2**
BANOM	**Banah**	**5.18**	**133**	*ePn*		**Pn**		**23 52 38.7**	**+0.2**
KHNJ	**Kahnooj**	**5.18**	**106**	*ePn*		**Pn**		**23 52 39.5**	**+1.0**
TPRV	**Parvadeh(Tabas**	**5.28**	**47**	*ePn*		**Pn**		**23 52 40.7**	**+0.9**
ASAO	**Ashtian**	**5.31**	**341**	*ePn*		**Pn**		**23 52 42.2**	**+1.8**
ASAO	**Ashtian**	**5.31**	**341**	*ePn*		**Pn**		**23 52 42.3**	**+1.8**
IDOB	**Doab**	**5.40**	**323**	*ePn*		**Pn**		**23 52 42.2**	**+0.5**
SLWR	**Sila**	**5.43**	**184**	*ePn*		**Pn**		**23 52 43.8**	**+1.9**
MSFE	**Esma-Masafi**	**5.50**	**138**	*i P*		**Pn**		**23 52 42.9**	**0.0**
	SNR=18								
MSFE	**Esma-Masafi**	**5.50**	**138**	*ePn*		**Pn**		**23 52 43.5**	**+0.6**
NAZ	**Nazwa, Dubai**	**5.53**	**144**	*i P*		**Pn**		**23 52 44.0**	**+0.8**
	SNR=7.7								
NAZ	**Nazwa, Dubai**	**5.53**	**144**	P		**Pn**		**23 52 44.2**	**+1.0**
	SNR=7.9								
NAZ					S		**Sn**	**23 53 46.1**	**-0.7**
NAZ	**Nazwa, Dubai**	**5.53**	**144**	*ePn*		**Pn**		**23 52 44.2**	**+1.0**
HSAM	**Samen**	**5.54**	**329**	*ePn*		**Pn**		**23 52 44.5**	**+0.9**
GHWR	**Ruwais**	**5.58**	**172**	*ePn*		**Pn**		**23 52 44.7**	**+0.8**
MDH	**Madha**	**5.63**	**137**	*i P*		**Pn**		**23 52 44.3**	**-0.4**
	SNR=20								
MDH	**Madha**	**5.63**	**137**	P		**Pn**		**23 52 44.8**	**+0.1**
	SNR=20								
MDH					S		**Sn**	**23 53 48.2**	**-1.2**
MDH	**Madha**	**5.63**	**137**	*ePn*		**Pn**		**23 52 45.1**	**+0.4**
HAGD	**Aghdareh**	**5.85**	**336**	*ePn*		**Pn**		**23 52 48.1**	**+0.3**
UOSS	**Minazif**	**5.85**	**140**	*i P*		**Pn**		**23 52 47.4**	**-0.3**
	SNR=16								
UOSS	**Minazif**	**5.85**	**140**	P		**Pn**		**23 52 47.4**	**-0.3**
UOSS					S		**Sn**	**23 53 50.9**	**-3.9**
UOSS	**Minazif**	**5.85**	**140**	*ePn*		**Pn**		**23 52 48.4**	**+0.7**
UOSS	**Minazif**	**5.85**	**140**			**Pn**		**23 52 47.6**	**-0.1**
UOSS					Sn		**Sn**	**23 53 52.1**	**-2.7**
TNSJ	**Nastanj**	**5.88**	**40**	*ePn*		**Pn**		**23 52 49.2**	**+1.1**
ILAS	**Lasjerd**	**5.90**	**7**	*ePn*		**Pn**		**23 52 49.4**	**+0.9**
HATD	**Hatta, Dubai**	**5.91**	**141**	*i P*		**Pn**		**23 52 49.4**	**+1.0**
	SNR=6.6								
HATD	**Hatta, Dubai**	**5.91**	**141**	P		**Pn**		**23 52 49.8**	**+1.4**
	SNR=6.4								
HATD	**Hatta, Dubai**	**5.91**	**141**	*ePn*		**Pn**		**23 52 49.3**	**+0.9**
TKDS	**Koohdasht(Taba**	**5.94**	**45**	*ePn*		**Pn**		**23 52 49.5**	**+0.6**
IHSB	**Hasanabad**	**5.94**	**354**	*ePn*		**Pn**		**23 52 49.2**	**+0.2**
ASHO	**Ashiyiah**	**5.98**	**143**	*i P*		**Pn**		**23 52 49.5**	**0.0**
	SNR=22								
ASHO	**Ashiyiah**	**5.98**	**143**	P		**Pn**		**23 52 49.5**	**0.0**
	SNR=49								
ASHO					S		**Sn**	**23 53 55.8**	**-2.3**
ASHO	**Ashiyiah**	**5.98**	**143**	*ePn*		**Pn**		**23 52 49.7**	**+0.2**
IDMV	**Damavand**	**6.04**	**360**	*ePn*		**Pn**		**23 52 51.5**	**+0.9**
IKOM	**Komasi**	**6.05**	**321**	*ePn*		**Pn**		**23 52 51.3**	**+0.7**
IBZA	**Bozab**	**6.10**	**325**	*ePn*		**Pn**		**23 52 52.6**	**+1.3**
IANJ	**Anjilo**	**6.13**	**14**	*ePn*		**Pn**		**23 52 53.2**	**+1.4**
IRAZ	**Razeghan**	**6.15**	**343**	*ePn*		**Pn**		**23 52 52.6**	**+0.7**
IALM	**Almabolaq**	**6.27**	**329**	*ePn*		**Pn**		**23 52 53.7**	**0.0**
ALNE	**Al Ain**	**6.35**	**148**	*i P*		**Pn**		**23 52 55.4**	**+0.8**
	SNR=8.6								
ALNE	**Al Ain**	**6.35**	**148**	*ePn*		**Pn**		**23 52 55.4**	**+0.8**
ISHM	**Shahmirzad**	**6.36**	**9**	*ePn*		**Pn**		**23 52 55.0**	**+0.2**
QABG	**Abgarm-Qazvin**	**6.52**	**342**	*ePn*		**Pn**		**23 52 56.7**	**-0.4**
HSRG	**Sareghieh**	**6.55**	**332**	*ePn*		**Pn**		**23 52 58.1**	**+0.6**
SOHO	**SOHO**	**6.68**	**142**	*i P*		**Pn**		**23 52 58.6**	**-0.3**
	SNR=21								
SOHO	**SOHO**	**6.68**	**142**	P		**Pn**		**23 52 58.6**	**-0.3**
SOHO					S		**Sn**	**23 54 12.8**	**-2.4**
SOHO	**SOHO**	**6.68**	**142**	*ePn*		**Pn**		**23 52 59.0**	**0.0**
IVIS	**Veis**	**6.68**	**320**	*ePn*		**Pn**		**23 53 00.3**	**+1.2**
IGHG	**Ghaleghazi**	**6.70**	**317**	*ePn*		**Pn**		**23 53 01.1**	**+1.5**
IPRN	**Peran**	**

SMDO S **Sn** **23 54 53.9 -3.1**
SNR=12
SMDO S **Sn** **23 54 53.9 -3.1**
SNR=12
WSAR Wadi Sarin 8.58 135 Pn **Pn** **23 53 24.5 -0.6**
comp=E,6.1nm,0.3s,baz=317,slow=9.9,SNR=73
WSAR Sn **Sn** **23 54 56.2 -5.9**
comp=E,4.2nm,0.3s,baz=299,slow=22,SNR=4.5
WSAR LR LR 23 57 31.4
comp=E,293nm,21.2s,baz=351,slow=43
WSAR Wadi Sarin 8.58 135 P **Pn** **23 53 24.2 -0.9**
SNR=51
WSAR S **Sn** **23 54 56.6 -5.4**
ISFR Sfrayin 9.00 32 *e*Pn **Pn** **23 53 31.5 +0.3**
IAKL Akhelmad 9.02 37 *e*Pn **Pn** **23 53 33.4 +2.0**
IPAY Payeh 9.03 38 *e*Pn **Pn** **23 53 32.7 +1.2**
GEYT Alibeck 9.78 29 Pn **Pn** **23 53 44.1 +2.5**
comp=E,0.4nm,0.3s,baz=226,slow=8.0,SNR=3.4
GEYT LR LR 23 58 07.4
comp=E,168nm,19.4s,baz=185,slow=42
GEYT Alibeck 9.78 29 Pn **Pn** **23 53 43.3 +1.7**
GYA0B ALIBECK ARRAY 9.78 29 Pn **Pn** **23 53 43.0 +1.4**
GEVA Gevas 11.53 322 Pn **Pn** **23 54 05.7 +0.1**
MARD Mardin 12.22 312 Pn **Pn** **23 54 15.5 +0.4**
ASF Jabal al Asfar 13.31 285 Pn **Pn** **23 54 28.4 -1.5**
comp=E,0.7nm,0.3s,baz=17,slow=5.7,SNR=7.9
ASF Sn **Sn** **23 56 50.6 -7.4**
comp=E,0.4nm,0.3s,baz=297,slow=24,SNR=2.6
TBLG Delisi 13.56 336 P **Pn** **23 54 35.0 +1.7**
TBLG Delisi 13.56 336 Pn **Pn** **23 54 35.0 +1.7**
AKH Akhalkalaki 13.77 332 P **Pn** **23 54 38.7 +2.5**
AKH Akhalkalaki 13.77 332 Pn **Pn** **23 54 38.7 +2.5**
MAK Makhachkala 13.91 346 *e*P **Pn** **23 54 38.9 +0.9**
MAK *e*S **Sn** **23 57 11.2 -1.3**
MAK pmax pmax
comp=Z,162nm,1.1s
MAK MLR MLR
comp=Z,98nm,15.0s
KOPT Kop Dagi 14.14 321 **Pn** **23 54 44.4 +3.0**
ARTV Artvin 14.27 327 Pn **Pn** **23 54 44.0 +0.8**
GHAJ Ghor Haditha 14.36 281 Pn **Pn** **23 54 44.1 -0.1**
NATI Neve Ativ 14.45 289 Pn **Pn** **23 54 45.5 +0.1**
DSI Dead Sea 14.53 282 Pn **Pn** **23 54 46.8 +0.2**
GAZ Gaziantep 14.57 305 **Pn** **23 54 49.2 +2.0**
ZFRI Zfri 14.68 278 Pn **Pn** **23 54 49.2 +0.7**
MMA0B Mount Meron ar 14.68 288 Pn **Pn** **23 54 49.5 +0.9**
MMAI Mount Meron Ar 14.68 288 Pn **Pn** **23 54 47.7 -1.0**
comp=Z,0.5nm,0.3s,baz=110,slow=17,SNR=12
MMAI Sn **Sn** **23 57 26.2 -5.3**
comp=Z,0.6nm,0.3s,baz=138,slow=20,SNR=2.7
MMAI LR LR 00 01 25.5
comp=Z,90nm,18.6s,baz=65,slow=41
ZEI Tsey 14.79 336 *e*P **Pn** **23 54 53.3 +3.1**
ZEI pmax pmax
comp=Z,23nm,1.5s
HRFI Mount Harif 14.81 276 Pn **Pn** **23 54 51.4 +1.0**
PRNI Paran 14.83 277 Pn **Pn** **23 54 51.7 +1.1**
SLTI Sal'it 14.88 285 Pn **Pn** **23 54 51.7 +0.4**
EIL Elat 14.90 275 Pn **Pn** **23 54 51.3 -0.3**
comp=Z,0.3nm,0.3s,baz=33,slow=6.7,SNR=2.6
EIL Elat 14.90 275 Pn **Pn** **23 54 52.2 +0.6**
MBRI Mt Berech 14.93 275 Pn **Pn** **23 54 52.9 +0.9**
OFRI `Ofer 14.97 286 Pn **Pn** **23 54 52.8 +0.2**
KBL Kabul 15.23 66 P **Pn** **23 54 57.1 +0.8**
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 15.23 66 P **Pn** **23 54 57.0 +0.8**
KBL IAmb IAmb 23 55 09.2
comp=Z,10nm,0.9s
KBZ Khabaz 15.97 335 Pn **Pn** **23 55 04.9 -0.6**
comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=7.4
KBZ LR LR 00 01 58.8
comp=Z,302nm,20.6s,baz=148,slow=40
KBZ Khabaz 15.97 335 *ce*P **Pn** **23 55 03.5 -2.0**
KVAR Kislovodsk Arr 16.24 335 Pn **Pn** **23 55 09.8 +0.7**
baz=254,slow=18,SNR=2.0
KIV Kislovodsk 16.24 335 *e*P **Pn** **23 55 10.7 +1.6**
KIV *e*S **Sn** **23 58 08.2 -1.1**
KIV pmax pmax
comp=Z,39nm,0.9s
KIV MLR MLR
comp=Z,266nm,13.0s
KIV Kislovodsk 16.24 335 Pn **Pn** **23 55 06.0 -3.1**
KIV IAmb IAmb 23 55 24.8
comp=Z,16nm,0.9s
TOKA Tokat 16.70 314 Pn **Pn** **23 55 14.4 -0.6**
CHGR Chuyangaron 16.81 53 P **Pn** **23 55 13.9 -2.6**
CHGR IAmb IAmb 23 55 18.7
comp=Z,24nm,1.2s
SOC Sochi 17.17 328 *e*P **Pn** **23 55 21.8 +1.1**
SOC *e*S **Sn** **23 58 30.5 -1.2**
SOC pmax pmax
comp=Z,21nm,1.1s
SOC MLR MLR
comp=Z,116nm,14.0s
GAR Garm 17.77 53 **Pn** **23 55 26.8 -1.7**
GAR IAmb IAmb 23 55 29.0
comp=Z,16nm,1.0s
BR131 Keskin Array S 18.24 309 P **Pn** **23 55 33.9 -0.4**
BR131 pmax pmax
comp=Z,11nm,1.1s
BR131 Keskin Array S 18.24 309 **Pn** **23 55 33.9 -0.4**
BRTR Keskin Array B 18.24 309 P **P** **23 55 35.8 +1.3**
comp=Z,0.4nm,0.3s,baz=125,slow=12,SNR=19
BRTR LR LR 00 03 09.9
comp=Z,128nm,21.1s,baz=100,slow=39
BRTR Keskin Array B 18.24 309 *i* P **P** **23 55 38.5 +4.0**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 18.24 309 P **Pn** **23 55 34.3 0.0**
ILGA Ilgaz 18.86 313 P **P** **23 55 40.9 -0.3**
ILGA IAmb IAmb 23 55 46.2
comp=Z,18nm,1.1s
BR231 Keskin MP Arra 18.89 308 P **Pn** **23 55 42.9 +0.9**
BR231 IAmb IAmb 23 55 56.3
comp=Z,15nm,0.8s
BOLV Bolvadin 19.72 303 P **P** **23 55 50.7 +0.1**
BOLV IAmb IAmb 23 55 57.9
comp=Z,20nm,0.8s
ATD Arta Tunnel 19.85 208 LR LR 00 04 53.0
comp=Z,135nm,21.0s,baz=36,slow=41
ELL Elmali 19.89 297 P **P** **23 55 53.5 +1.0**
ELL pmax pmax
comp=Z,42nm,0.8s
ELL Elmali 19.89 297 P **P** **23 55 53.5 +1.0**
AKAS Kas 20.00 295 P **P** **23 55 54.1 +0.3**
AKAS IAmb IAmb 23 55 58.8
comp=Z,19nm,1.2s
KK31 Karatay Array 20.06 42 P **P** **23 55 54.5 +0.3**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KK31 Karatay Array 20.06 42 P **P** **23 55 54.5 +0.3**
KKAR Karatay Array 20.06 42 P **P** **23 55 54.2 0.0**
KKAR pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 20.06 42 P **P** **23 55 54.2 0.0**
KKAR Karatay Array 20.06 42 P **P** **23 55 53.6 -0.6**
MDUB Mudurnu 20.25 308 P **P** **23 55 58.0 +1.7**
ABKAR Akbulak array 20.61 15 P **P** **23 56 01.5 +1.5**
SIM Simferopol' 20.95 322 *e*P **P** **23 56 03.2 -0.6**
SIM pmax pmax
comp=N,22μm,0.7s
AKTO Aktyubinsk 21.37 10 P **P** **23 56 08.4 +0.1**
comp=N,2.0nm,0.4s,baz=177,slow=5.8,SNR=5.1
AKTO LR LR 00 05 34.7
comp=N,123nm,18.2s,baz=180,slow=40
MANT Manisa 21.41 301 P **P** **23 56 11.0 +1.9**
KARP Karpathos 21.82 292 P **P** **23 56 14.6 +1.3**
KSH Kashi 22.02 57 P **P** **23 56 13.2 -2.3**
KSH Kashi 22.02 57 sP sP 23 56 23.4 +2.8
AAK Ala-Archa 22.27 48 P **P** **23 56 20.9 +2.6**
comp=N,1.9nm,0.3s,baz=237,slow=11,SNR=11
AAK Ala-Archa 22.27 48 P **P** **23 56 19.3 +1.0**
AAK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 22.27 48 P **P** **23 56 19.3 +1.0**
FRU1 Bishkek 22.45 48 P **P** **23 56 21.2 +1.2**
FRU1 pmax pmax
comp=Z,9.0nm,1.2s
FRU1 Bishkek 22.45 48 P **P** **23 56 21.2 +1.2**
FRU1 IAmb IAmb 23 56 29.8
comp=Z,9.3nm,1.1s
VRH Novokhopyorsk 23.01 343 *e*P **P** **23 56 25.7 0.0**
VRH *e*S **S** **00 00 29.8 -6.4**

VRH pmax pmax
comp=Z,20nm,0.5s
VRH smax smax
comp=E,370nm,3.8s
SANT Santorini 23.32 294 P **P** **23 56 28.8 -0.3**
APE Apeiranthos 23.38 296 ⇑P **P** **23 56 31.7 +1.9**
APE Apeiranthos 23.38 296 ⇑P **P** **23 56 31.7 +1.9**
VORD Divnogorie 23.48 339 *e*P **P** **23 56 31.1 +0.6**
VORD pmax pmax
comp=Z,9.0nm,0.4s
IDI Anoyia 23.62 291 P **P** **23 56 28.0 -4.2**
comp=Z,6.9nm,0.6s,baz=27,slow=6.7,SNR=6.3
IDI Anoyia 23.62 291 P **P** **23 56 31.5 -0.7**
VSR Storozhevoye 23.73 340 *e*P **P** **23 56 31.9 -1.1**
VSR *e*S **S** **00 00 41.7 -6.4**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR smax smax
comp=E,570nm,6.6s
KDJ Kajisay 23.84 51 P **P** **23 56 34.2 -0.1**
KDJ pmax pmax
comp=Z,11nm,1.0s
KDJ Kajisay 23.84 51 P **P** **23 56 34.2 -0.1**
KDJ IAmb IAmb 23 56 40.0
comp=Z,11nm,1.0s
ALN Alexandroupoli 24.02 305 P **P** **23 56 36.3 +0.4**
ALN pmax pmax
comp=Z,10.0nm,1.0s
ALN Alexandroupoli 24.02 305 P **P** **23 56 36.2 +0.4**
ALN IAmb IAmb 23 56 42.4
comp=Z,10nm,1.0s
PRZ Przheval'sk 24.81 51 P **P** **23 56 43.2 -0.1**
PRZ pmax pmax
comp=Z,11nm,1.1s
PRZ Przheval'sk 24.81 51 P **P** **23 56 43.2 -0.1**
PRZ IAmb IAmb 23 56 59.6
comp=Z,11nm,1.1s
LPSR Galich'ya Gora 25.02 341 *e*P **P** **23 56 46.0 +1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRI Vrincioaia 25.70 316 ⇓P **P** **23 56 50.6 -0.5**
VRI Vrincioaia 25.70 316 ⇓P **P** **23 56 50.6 -0.5**
PLOR Plostina 25.74 316 ⇑P **P** **23 56 51.0 -0.5**
PLOR Plostina 25.74 316 ⇑P **P** **23 56 51.0 -0.5**
MLR Muntele Rosu 25.99 315 P **P** **23 56 55.1 +1.1**
comp=Z,1.4nm,0.4s,baz=124,slow=7.5,SNR=3.9
MLR LR LR 00 08 52.1
comp=Z,110nm,20.0s,baz=120,slow=40
MLR Muntele Rosu 25.99 315 ⇑P **P** **23 56 54.3 +0.4**
MLR Muntele Rosu 25.99 315 ⇑P **P** **23 56 54.3 +0.4**
MLR Muntele Rosu 25.99 315 P **P** **23 56 55.7 +1.8**
MLR IAmb IAmb 23 57 06.3
comp=Z,6.7nm,0.7s
SORM Soroca 26.04 322 ⇑P **P** **23 56 53.1 -1.0**
SORM Soroca 26.04 322 ⇑P **P** **23 56 53.1 -1.0**
TESR Tescani 26.08 318 ⇑P **P** **23 56 54.6 0.0**
HUMR Humele 26.16 312 ⇓P **P** **23 56 57.2 +1.9**
ITM Ithomi 26.24 295 P **P** **23 56 57.5 +1.4**
AGG Agios Georgios 26.25 299 P **P** **23 56 58.1 +1.9**
AGG pmax pmax
comp=Z,7.0nm,0.9s
AGG Agios Georgios 26.25 299 P **P** **23 56 58.1 +1.9**
AGG IAmb IAmb 23 57 16.1
comp=Z,6.5nm,0.9s
LIT Litokhoron 26.38 302 P **P** **23 56 58.2 +0.9**
LIT pmax pmax
comp=Z,9.0nm,1.1s
LIT Litokhoron 26.38 302 P **P** **23 56 58.2 +0.9**
LIT IAmb IAmb 23 57 06.6
comp=Z,8.8nm,1.1s
VOIR 26.52 314 ⇑P **P** **23 57 00.5 +1.9**
VOIR 26.52 314 ⇑P **P** **23 57 00.5 +1.9**
BIZ Bicaz 26.63 318 ⇑P **P** **23 57 00.4 +0.9**
ARR Arges 26.75 314 ⇑P **P** **23 57 02.4 +1.7**
BRVK Borovoye 27.06 24 P **P** **23 57 03.9 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 27.06 24 P **P** **23 57 03.9 +0.6**
BVAR Borovoye Array 27.07 25 P **P** **23 57 03.0 -0.4**
comp=Z,0.9nm,0.4s,baz=213,slow=7.1,SNR=12
AKASG Malin Array Be 27.24 327 P **P** **23 57 06.9 +2.0**
comp=Z,0.4nm,0.3s,baz=138,slow=9.2,SNR=3.0
AKASG LR LR 00 09 01.4
comp=Z,107nm,21.8s,baz=90,slow=39
AKASG Malin Array Be 27.24 327 P **P** **23 57 06.9 +2.0**
AKASG pmax pmax
comp=Z,1.0nm,0.9s
AKBB Malin Array Si 27.24 327 P **P** **23 57 07.4 +2.5**
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 27.24 327 P **P** **23 57 07.4 +2.5**
AKBB IAmb IAmb 23 57 26.1
comp=Z,4.5nm,0.7s
BURAR Bucovina Array 27.50 319 ⇓P **P** **23 57 09.3 +1.9**
BURAR Bucovina Array 27.50 319 ⇓P **P** **23 57 09.3 +1.9**
BURAR Bucovina Array 27.50 319 P **P** **23 57 09.8 +2.4**
BUR08 Bucovina Ar. S 27.52 319 P **P** **23 57 10.0 +2.3**
OBN Obninsk 27.90 341 ⇑*e*P **P** **23 57 13.4 +2.6**
OBN *e* 23 57 17.0
OBN *PP sP 23 57 24.0 +7.9
OBN 23 57 57.0
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,55nm,15.0s
HERR Herculane 27.97 311 ⇑P **P** **23 57 14.0 +2.5**
TIR Tirane 28.62 303 P **P** **23 57 17.2 -0.1**
TIR pmax pmax
comp=Z,17nm,0.9s
TIR Tirane 28.62 303 P **P** **23 57 17.2 -0.1**
BZS Buzias 28.78 312 ⇓P **P** **23 57 14.8 -4.0**
BZS Buzias 28.78 312 ⇓P **P** **23 57 14.8 -4.0**
MAKZ Makanchi 28.93 45 P **P** **23 57 20.6 +0.5**
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
MAKZ Makanchi 28.93 45 P **P** **23 57 20.6 +0.5**
MAKZ IAmb IAmb 23 57 22.9
comp=Z,5.8nm,1.1s
KURBB Kurchatov Arra 28.96 36 P **P** **23 57 21.2 +0.9**
comp=Z,1.6nm,0.8s,baz=240,slow=8.4,SNR=8.7
SIRR Siria 29.02 314 ⇑P **P** **23 57 21.5 +0.6**
KURK Kurchatov 29.07 36 *ce*P **P** **23 57 22.3 +1.1**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 29.07 36 P **P** **23 57 20.9 -0.4**
MK31 Makanchi Array 29.11 45 P **P** **23 57 21.8 0.0**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 29.11 45 P **P** **23 57 21.8 0.0**
MKAR Makanchi Array 29.11 45 P **P** **23 57 22.5 +0.8**
comp=Z,0.7nm,0.5s,baz=231,slow=6.9,SNR=16
MKAR Makanchi Array 29.11 45 P **P** **23 57 22.2 +0.4**
KWP Kalwaria Pacla 29.97 320 P **P** **23 57 29.0 -0.2**
KWP pmax pmax
comp=Z,5.0nm,0.9s
KWP Kalwaria Pacla 29.97 320 P **P** **23 57 29.0 -0.2**
KWP IAmb IAmb 23 57 36.9
comp=Z,5.2nm,0.9s
TIP Timpagrande 30.55 298 P **P** **23 57 35.2 +0.6**
TIP IAmb IAmb 23 57 38.3
comp=Z,4.2nm,1.0s
PSZ Piszkesteto 30.80 316 P **P** **23 57 36.7 0.0**
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 30.80 316 P **P** **23 57 36.7 0.0**
PSZ IAmb IAmb 23 57 52.7
comp=Z,3.4nm,0.8s
CEL Celeste 31.12 296 P **P** **23 57 38.6 -1.0**
WMQ Urumqi 31.67 53 *e*P **P** **23 57 46.2 +1.7**
VYHS Vyhne 31.69 316 *e*P **P** **23 57 46.5 +2.0**
VYHS Vyhne 31.69 316 *e*P **P** **23 57 46.5 +2.0**
OJC Ojcow 31.89 320 P **P** **23 57 46.9 +0.7**
OJC pmax pmax
comp=Z,6.0nm,1.1s
OJC Ojcow 31.89 320 P **P** **23 57 46.9 +0.7**
OJC IAmb IAmb 23 58 01.6
comp=Z,6.0nm,1.1s
PRGR Permogore 32.41 354 *e*P **P** **23 57 49.4 -1.1**
PRGR pmax pmax
comp=Z,12nm,1.0s
KLMR Klimovskoe 32.45 349 *e*P **P** **23 57 50.3 -0.6**
KLMR pmax pmax
comp=Z,8.0nm,0.9s
KLMR Klimovskoe 32.45 349 *e*P **P** **23 57 50.3 -0.6**

KLMR AMP 23 58 00.6
comp=Z,8.0nm,0.9s
PAOL Paolisi 32.47 301 P **P** **23 57 49.8 -1.7**
CONA Conrad Observa 33.31 314 *es*P sP 23 58 05.1 +1.0
comp=Z,2.8nm,1.1s
DGZ Jazzator, Alta 33.45 43 *i* P **P** **23 58 02.5 +2.4**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
KRLC Kraliky 33.57 318 *e*P P 23 58 06.1 +5.2
KRLC *ex* x 23 58 11.2
KRLC Kraliky 33.57 318 *e*P P 23 58 06.1 +5.2
KRLC *e* 23 58 11.2
ZAA0 Zalesovo Array 34.03 35 P **P** **23 58 04.8 0.0**
ZAA0 IAmb IAmb 23 58 22.4
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 34.03 35 P **P** **23 58 05.8 +0.9**
comp=Z,2.4nm,0.4s,baz=244,slow=9.5,SNR=13
ZALV Zalesovo Beam 34.03 35 P **P** **23 58 04.8 0.0**
ZALV Zalesovo Beam 34.03 35 P **P** **23 58 04.8 0.0**
CHVC Chvalec 34.20 318 *e*P **P** **23 58 06.6 +0.2**
CHVC *ex* x 23 58 11.9
KBA Koelnbreinsper 34.66 311 *i p*P **P** **23 58 12.4 +1.8**
comp=Z,6.8nm,1.1s
LATE Laterza 34.76 303 P **P** **23 58 11.0 -0.4**
LATE IAmb IAmb 23 58 30.3
comp=Z,4.0nm,0.9s
GERES GERESS Array B 34.98 314 P **P** **23 58 13.7 +0.5**
comp=Z,0.3nm,0.5s,baz=105,slow=10,SNR=4.4
GERES LR LR 00 14 10.8
comp=Z,48nm,18.7s,baz=328,slow=39
GERES GERESS Array B 34.98 314 P **P** **23 58 14.3 +1.1**
KHC Kasperske Hory 35.15 315 *e*P **P** **23 58 16.6 +2.0**
KHC *ex* x 23 58 25.6
KHC Kasperske Hory 35.15 315 P **P** **23 58 15.5 +0.8**
KHC pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 35.15 315 P **P** **23 58 15.5 +0.8**
WTTA Wattenberg 35.83 311 *i* P **P** **23 58 21.5 +0.8**
comp=Z,9.7nm,1.0s
SQTA Sankt Quirin 36.10 311 *i* P **P** **23 58 24.3 +1.4**
comp=Z,5.7nm,0.6s
MOTA Moosalm 36.20 311 *i* P **P** **23 58 25.0 +1.2**
comp=Z,9.5nm,1.1s
CLL Collm 36.26 318 *i* P **P** **23 58 24.7 +0.6**
comp=Z,3.0nm,0.9s
CLL *e*pP **sP** **23 58 30.0 +0.6**
CLL *e* 23 58 37.0
CLL LmV 00 16 00.0
comp=Z,100nm,18.8s
FINES FINESS Array B 36.26 339 P **P** **23 58 23.8 -0.2**
comp=Z,2.9nm,0.5s,baz=146,slow=9.9,SNR=28
KEST Kesra 36.30 291 P **P** **23 58 26.0 +1.3**
comp=Z,1.9nm,0.7s,baz=289,slow=8.6,SNR=2.9
KEST Kesra 36.30 291 P **P** **23 58 24.4 -0.4**
KEST IAmb IAmb 23 58 40.4
comp=Z,3.8nm,1.1s
FETA Feichten 36.37 310 *e*P **P** **23 58 25.4 +0.1**
comp=Z,3.1nm,0.6s
RETA Reutte 36.46 311 *e*P **P** **23 58 26.8 +0.8**
comp=Z,1.9nm,0.6s
DAVA Damuels 37.00 311 *i* P **P** **23 58 30.4 -0.3**
comp=Z,7.3nm,0.5s
BNI Bardonecchia 38.78 306 P **P** **23 58 45.8 +0.1**
BNI pmax pmax
comp=Z,4.0nm,0.9s
BNI Bardonecchia 38.78 306 P **P** **23 58 45.8 +0.1**
BNI IAmb IAmb 23 58 58.3
comp=Z,3.8nm,0.9s
ECH Echery 38.99 311 P **P** **23 58 47.9 +0.5**
ECH pmax pmax
comp=Z,2.0nm,0.9s
ECH Echery 38.99 311 P **P** **23 58 47.9 +0.5**
GTA Gaotai 40.18 63 *e*P **P** **23 59 00.1 +2.7**
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,55nm,4.6s
GTA LR LR
comp=N,93nm,17.5s
GTA LR LR
comp=E,73nm,16.8s
GTA LR LR
comp=Z,92nm,17.5s
NB201 NORSAR Array S 41.47 331 P **P** **23 59 07.0 -0.6**
NB2 NORSAR Subarra 41.49 331 P **P** **23 59 06.6 -1.3**
comp=Z,1.3nm,0.7s,baz=120,slow=8.6
NOA NORSAR Array B 41.49 331 P **P** **23 59 07.7 -0.2**
comp=Z,1.0nm,0.6s,baz=121,slow=8.3,SNR=4.3
NOA LR LR 00 17 45.1
comp=Z,82nm,20.5s,baz=125,slow=38
TAM Tamanrasset 42.10 272 P **P** **23 59 13.2 -0.3**
TAM pmax pmax
comp=Z,2.0nm,1.0s
TAM Tamanrasset 42.10 272 P **P** **23 59 13.2 -0.3**
ARCES ARCESS Array B 42.86 347 P **P** **23 59 19.3 +0.4**
comp=Z,2.2nm,0.8s,baz=149,slow=9.4,SNR=1.3
ARCES LR LR 00 19 53.0
comp=Z,36nm,18.4s,baz=152,slow=40
ZAK Zakamensk 43.44 47 *e*P **P** **23 59 25.2 +1.3**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
LZH Lanzhou 43.59 67 *e*P **P** **23 59 24.5 -0.9**
LZH Lanzhou 43.59 67 pP pP 23 59 31.6 +2.4
LZH Lanzhou 43.59 67 sP sP 23 59 34.4 +3.7
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,52nm,5.4s
LZH LR LR
comp=N,78nm,13.2s
LZH LR LR
comp=E,85nm,13.4s
LZH LR LR
comp=Z,110nm,16.3s
CMAR Chiang Mai Arr 43.95 94 LR LR 00 22 54.7
comp=Z,40nm,19.4s,baz=330,slow=43
KMI Kunming 44.95 83 ⇓*e*P **P** **23 59 37.8 +1.3**
KMI pmax pmax
comp=Z,13nm,0.5s
KMI pmax pmax
comp=Z,53nm,3.5s
SONM Songino Array 45.19 50 P **P** **23 59 40.2 +2.1**
comp=Z,1.1nm,0.6s,baz=255,slow=10,SNR=4.6
SONM Songino Array 45.19 50 P **P** **23 59 37.2 -0.9**
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 45.19 50 P **P** **23 59 37.2 -0.9**
ULN Ulaanbaatar 45.64 50 *ce*P **P** **23 59 42.1 +0.5**
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 45.64 50 P **P** **23 59 40.6 -1.0**
ULN IAmb IAmb 23 59 59.0
comp=Z,2.9nm,0.6s
ESDC Sonseca Array 46.57 298 P **P** **23 59 49.4 +0.5**
comp=Z,0.8nm,0.9s,baz=76,slow=7.2,SNR=6.0
HHC Hu-ho-hao-te 49.08 60 *e*P **P** **00 00 09.3 +0.9**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,130nm,6.0s
TOA0 Torodi Ar. Sit 49.29 262 P **P** **00 00 10.4 +0.1**
TORD Torodi Ar. Bea 49.29 262 P **P** **00 00 10.4 +0.2**
comp=Z,3.7nm,0.6s,baz=53,slow=8.7,SNR=11
TORD LR LR 00 24 39.4
comp=Z,35nm,18.2s,baz=55,slow=41
TORD Torodi Ar. Bea 49.29 262 P **P** **00 00 09.7 -0.6**
DBIC Dimbokro 58.06 259 P **P** **00 01 14.7 +0.2**
comp=Z,2.5nm,0.8s,baz=50,slow=6.7,SNR=5.7
DBIC LR LR 00 28 10.1
comp=Z,72nm,19.6s,baz=37,slow=38
KIC Kosan Boka 58.12 258 *e*P **P** **00 01 15.3 +0.3**
comp=Z,13nm,1.2s
TIC Toumodi 58.22 259 *e*P **P** **00 01 16.0 +0.3**
LIC Lamto 58.44 258 *e*P **P** **00 01 17.6 +0.4**
comp=Z,7.6nm,0.6s
KLR Kul'dur 61.80 47 *i* P P 00 01 45.2 +5.4
KLR pmax pmax
comp=Z,2.0nm,1.3s
KSRS Korea Array 62.20 61 P **P** **00 01 43.6 +1.0**
comp=Z,1.8nm,0.5s,baz=279,slow=7.0,SNR=7.7
KSRS LR LR 00 32 10.1
comp=Z,26nm,19.8s,baz=300,slow=39
MJAR Matsushiro Arr 70.25 59 LR LR 00 35 38.0
comp=Z,45nm,19.3s,baz=285,slow=38
JHJ Hachijo jima 2 72.80 61 LR LR 00 37 57.0
comp=Z,35nm,19.6s,baz=252,slow=38

JCJ	Chichijima	77.26	66	LR	LR	00 41 00.2
	comp=Z,26nm,18.4s,baz=112,slow=38					
ILAR	Eielson Array	84.86	8	P	P	00 03 57.9 +2.5
	comp=Z,0.4nm,0.7s,baz=342,slow=3.3,SNR=2.8					
WRA	Warramunga Arr	93.20	111	P	P	00 04 38.1 +2.3
	comp=Z,0.3nm,1.0s,baz=316,slow=3.8,SNR=1.5					
ASAR	Alice Springs	94.71	114	LR	LR	00 52 53.1
	comp=Z,13nm,18.5s,baz=83,slow=39					

*JMA **04** 23:54:06.3±0.1, 24°.05N×122°.46E, h39km, M2.4*
*TAP **04** 23:54:06.2, 24°.03N×122°.51E, h37km±1km, ML2.8, D*
ISC 04 23:54:03.9±1.1, 24°.02N±0°.03×122°.50E±0°.02, h14km±9km, n49, σ0ş75/83, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.59	43	P	Pn	23 54 18.1	+0.2
JYNG				S	Sn	23 54 26.5	-0.9
YOJ	Yonaguni jima	0.64	46	P	Pn	23 54 19.1	+0.5
YOJ				eS	Sn	23 54 27.4	-1.2
ENAH	Nanao	0.76	305	eP	Pn	23 54 20.1	-0.1
	baz=303						
ENAH				eS	Sn	23 54 31.1	-0.4
	baz=303						
ENA	Nanau	0.80	301	eP	Pn	23 54 21.0	+0.2
	baz=300						
ENA				eS	Sn	23 54 32.8	+0.2
	baz=300						
TWC	Suao	0.84	315	i P	Pn	23 54 21.6	+0.4
	baz=304						
TWC				eS	Sn	23 54 33.2	-0.1
	baz=304						
NACB	Ninganchiao	0.84	281	P	Pn	23 54 21.4	+0.1
	baz=267						
EGS		0.97	328	P	Pn	23 54 24.0	+0.8
	baz=316						
EGS				eS	Sn	23 54 36.4	-0.4
	baz=316						
ESL	Shilin	1.00	258	eP	Pg	23 54 22.9	-0.2
	baz=257						
NTC	Toucheng	1.03	324	eP	Pn	23 54 24.4	+0.4
	baz=323						
NTC				eS	Sn	23 54 39.1	+0.8
	baz=323						
EGFH	Guangfu	1.04	251	eP	Pn	23 54 25.5	+1.4
	baz=250						
EGFH				eS	Sb	23 54 37.7	+0.5
	baz=250						
ENTT	Nioudou	1.05	306	eP	Pn	23 54 24.5	+0.3
	baz=293						
ENTT				eS	Sn	23 54 39.5	+0.7
	baz=293						
NDT	Datong Townshi	1.07	303	eP	Pn	23 54 24.9	+0.4
	baz=290						
NDT				eS	Sn	23 54 40.2	+1.0
	baz=290						
NNSB	Datong	1.10	292	eP	Pb	23 54 24.0	-0.7
	baz=281						
NNSB				eS	Sg	23 54 39.6	+0.2
	baz=281						
NNSH	Datong	1.10	292	eP	Pn	23 54 25.6	+0.6
	baz=282						
NNSH				eS	Sg	23 54 39.5	+0.1
	baz=282						
NNS	Nan Shan	1.11	292	eP	Pb	23 54 24.4	-0.5
	baz=280						
HGSD	Ruisui	1.11	242	eP	Pb	23 54 24.9	0.0
	baz=241						
HGSD				eS	Sb	23 54 39.2	-0.1
	baz=241						
TIPB	Shuangxi	1.13	327	P	Pn	23 54 26.3	+0.9
	baz=326						
TIPB				eS	Sn	23 54 41.3	+0.5
	baz=326						
WHF	Hehuan Shan	1.14	277	eP	Pb	23 54 25.4	-0.1
	baz=275						
WHF				eS	Sg	23 54 40.3	-0.4
	baz=275						
IRIF	Iriomote-Funau	1.17	74	P	Pg	23 54 26.9	+0.5
IRIF				eS	Sn	23 54 42.8	+1.2
FUSS	Fushou	1.17	282	eP	Pb	23 54 25.2	-0.8
	baz=280						
FUSS				eS	Sn	23 54 42.2	+0.2
	baz=280						
NWLT	Wulai	1.18	310	eP	Pg	23 54 27.7	+1.0
	baz=309						
NWLT				eS	Sn	23 54 43.4	+1.4
	baz=309						
EHY	Hungye	1.19	245	P	Pn	23 54 25.8	-0.4
	baz=258						
EHY				eS	Sb	23 54 41.3	-0.3
	baz=258						
HATJ	Hateruma jima	1.20	88	P	Pg	23 54 28.1	+1.2
HATJ				eS	Sn	23 54 43.1	+0.9
NWF	Wu-fen Shan	1.24	328	eP	Pg	23 54 27.1	-0.7
	baz=327						
WFSB	Wu-fen Shan	1.24	328	eP	Pg	23 54 27.0	-0.7
	baz=327						
TDCB	Techi	1.25	281	eP	Pb	23 54 27.4	+0.1
	baz=270						
TDCB				S	Sb	23 54 43.8	+0.5
	baz=270						
YULB	Yu-li	1.27	241	P	Pn	23 54 27.5	+0.3
	baz=254						
YULB				eS	Sb	23 54 43.2	-0.4
	baz=254						
VWDT	VWDT	1.27	258	P	Pg	23 54 28.2	-0.1
	baz=257						
VWDT				S	Sb	23 54 44.0	+0.2
	baz=257						
TWF1	Yuli	1.28	239	P	Pn	23 54 27.9	+0.4
	baz=238						
TWF1				eS	Sb	23 54 44.0	-0.2
	baz=238						
FULB	Fuli	1.37	234	eP	Pn	23 54 28.6	-0.1
	baz=223						
FULB				eS	Sn	23 54 46.7	0.0
	baz=223						
CHKT	Chengkung	1.39	229	eP	Pg	23 54 30.7	+0.2
	baz=218						
JKRS	Kuro-shima	1.40	81	P	Pg	23 54 30.9	+0.1
JKRS				eS	Sg	23 54 49.3	+0.4
SSLB	Suanglung	1.43	261	eP	Pn	23 54 29.9	+0.4
	baz=260						
SSLB				eS	Sn	23 54 47.1	-1.0
	baz=260						
SMLT	Sun Moon Lake	1.47	265	eP	Pg	23 54 31.8	-0.4
	baz=255						
LIOB	Emei	1.49	295	eP	Pg	23 54 31.8	-0.8
	baz=294						
TYC	Yuchr	1.51	266	eP	Pb	23 54 31.4	-0.3
	baz=265						
EDH	Donghe	1.51	227	eP	Pn	23 54 30.7	+0.2
	baz=219						
EDH				eS	Sn	23 54 48.1	-1.9
	baz=219						
JIJ	Ishigaki jima	1.54	77	P	Pb	23 54 32.0	-0.2
JIJ				S	Sb	23 54 50.7	-0.9
LDUT	Ludao	1.64	215	eP	Pn	23 54 31.9	-0.4
	baz=214						
LDUT				eS	Sn	23 54 51.0	-2.2
	baz=214						
CHN5	Tsauling	1.72	256	eP	Pb	23 54 35.3	0.0
	baz=246						
CHN5				eS	Sn	23 54 56.1	+0.8
	baz=246						
JISG	Ishigakijimahi	1.75	71	P	Pb	23 54 34.6	-1.1
JISG				eS	Sb	23 54 56.0	-1.6
TWGBT	Beinan	1.77	228	eP	Pn	23 54 34.6	+0.5
	baz=237						
TPUB	Ta-pu	1.86	248	eP	Pn	23 54 35.3	-0.1
	baz=238						
WTP	Ta-pu	1.89	246	eP	Pb	23 54 37.8	-0.4
	baz=245						
WTP				eS	Sn	23 55 00.5	+0.9
	baz=245						
SLGT	Liugui	1.98	239	eP	Pb	23 54 39.3	-0.5
	baz=231						
SLGT				eS	Sn	23 55 02.6	+0.9
	baz=231						
CHN1	Nanshi	1.99	246	eP	Pb	23 54 39.7	-0.2
	baz=245						
JTJ	Tarama	2.10	72	eS	Sn	23 55 05.1	+0.4
TSMG	Majia	2.15	233	eP	Pn	23 54 40.7	+1.4
	baz=225						
EAST	Anshuo	2.23	223	eP	Pn	23 54 42.2	+1.8
	baz=222						

*TEH **05** 00:14:22.9, 32°.60N×47°.65E, h12km, ML2.8*
*ISN **05** 00:14:22.2±1.6, 32°.59N×47°.69E, h15km±8km, ML2.9*
ISC 05 00:14:22.5±1.2, 32°.50N±0°.06×47°.68E±0°.05, h10km, n10, σ0ş78/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.38	298	ePg	Pg	00 14 29.4	-0.6
DHL1				eSg	Sg	00 14 35.7	+0.6
DHL1				e		00 14 36.3	
IKMR	Kamar-syah	1.17	30	ePg	Pg	00 14 45.4	+0.4
IKMR				e		00 15 02.6	
IDOB	Doab	1.35	18	ePg	Pn	00 14 46.4	-1.2
IDOB				e		00 15 04.7	
BMDN	Meydan	1.51	39	ePg	Pb	00 14 50.1	-0.6
BMDN				e		00 15 15.7	
IBDR	Badra	1.60	293	ePg	Pn	00 14 50.0	-0.7
IBDR				eSg	Sn	00 15 12.0	+0.6
IBDR				AML	AML	00 15 16.7	
	comp=N,175nm,0.3s						
IBDR				AML	AML	00 15 17.0	
	comp=E,152nm,0.6s						
IKOM	Komasi	1.68	355	ePg	Pn	00 14 51.9	-0.1
IKOM				e		00 15 24.9	
HSAM	Samen	1.87	24	ePg	Pn	00 14 55.5	+0.7
HSAM				e		00 15 23.3	
NSR	Nassriya	1.98	222	ePn	Pb	00 14 58.0	-0.6
NSR				eSn	Sn	00 15 22.0	+1.1
IGHG	Ghaleghazi	2.05	333	ePg	Pb	00 14 59.6	-0.3
IGHG				e		00 15 31.5	
BHD	Baghdad	2.88	286	ePn	Pn	00 15 09.0	+0.6
BHD				eSn	Sn	00 15 44.0	+0.9

*ISK **05** 00:21:22.1, 36°.18N×30°.97E, h3km, ML2.3/9*
*DDA **05** 00:21:23.8, 36°.23N×31°.06E, h44km±1km, ML2.3*
*NIC **05** 00:21:25.5±0.0, 36°.22N×31°.01E, h36km±40km, Ml2.5/3*
ISC 05 00:21:25.4±1.2, 36°.25N±0°.03×30°.92E±0°.02, h55km±13km, n40, σ1ş57/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	Antalya-Kumluc	0.47	279	i P	Pn	00 21 37.0	+0.4
AKUM				i S	Sn	00 21 46.3	+1.5
AKUM				IAML		00 21 51.0	
	comp=N,114nm,0.3s						
AKUM				IAML		00 21 52.0	
	comp=E,107nm,0.3s						
KEPZ	Antalya-Kepez	0.86	40	i P	Pn	00 21 41.2	-0.2
KEPZ				i S	Sn	00 21 51.1	-2.1
KEPZ				IAML		00 21 53.0	
	comp=N,81nm,0.4s						
KORT	Korkueli	0.88	329	PG	Pn	00 21 41.4	-0.4
KORT	Korkueli	0.88	329	i P	Pn	00 21 42.4	+0.6
KORT				i S	Sn	00 21 51.9	-2.0
ELL	Elmali	0.95	302	PG	Pn	00 21 42.5	-0.3
ELL	Elmali	0.95	302	P	Pn	00 21 44.0	+1.2
ELL				S	Sn	00 21 57.6	+2.0
AKAS	Kas	1.06	270	PN	Pn	00 21 43.9	-0.3
AKAS				SN	Sn	00 22 00.0	+1.9
AKAS	Kas	1.06	270	i P	Pn	00 21 44.8	+0.6
AKAS				i S	Sn	00 21 53.2	-4.9
KSL	Kastellorizon	1.08	265	P	Pn	00 21 45.2	+0.9
KSL				S	Sn	00 22 00.1	+1.7
KSL				AML	AML	00 22 01.4	
	comp=N,0.1nm,0.5s						
KSL				AML	AML	00 22 01.4	
	comp=N,0.1nm,0.5s						
KSL				AML	AML	00 22 13.7	
	comp=N,0.1nm,1.1s						
KSL				AML	AML	00 22 13.7	
	comp=N,0.1nm,1.1s						
GAZI	Gazipasa	1.13	90	PN	Pn	00 21 43.7	-1.3
GAZI				SN	Sn	00 21 59.6	0.0
GAZI	Gazipasa	1.13	90	i P	Pn	00 21 43.1	-1.9
GAZI				i S	Sn	00 21 57.6	-2.0
GAZI				IAML		00 22 00.0	
	comp=N,55nm,0.8s						
SEYD	Seydisehir-KON	1.37	32	PN	Pn	00 21 49.2	+0.8
GOLH	Golhisar	1.47	313	i P	Pn	00 21 52.0	+2.2
GOLH				i S	Sn	00 22 07.2	-0.8
FETY	Fethiye	1.53	285	i P	Pn	00 21 51.7	+1.3
BRDR	BURDUR-Merkez	1.60	335	i P	Pn	00 21 53.8	+2.3
ERMK	Ermenek	1.66	76	i P	Pn	00 21 53.9	+1.5
ERMK				i S	Sn	00 22 15.9	+3.2
ERMK				IAML		00 22 20.0	
	comp=E,38nm,0.4s						
ERMK				IAML		00 22 24.0	
	comp=N,52nm,0.3s						
AKMS	Akamas	1.69	136	S	Sn	00 22 14.1	+1.1
AKMS				AML	AML	00 22 19.9	
	comp=N,0.3nm,1.2s						
AKMS				AML	AML	00 22 27.7	
	comp=N,0.2nm,0.8s						
BAGO	Egridir - ISPA	1.74	357	i P	Pn	00 21 53.9	+0.5
ALFC	Alefka	1.75	128	S	Sn	00 22 14.2	-0.4
TEKE	Tekeli-Mersin	1.78	93	PN	Pn	00 21 54.0	+0.2
TEKE				SN	Sn	00 22 17.5	+2.2
DALY	Dalyan (Mula)	1.91	288	PN	Pn	00 21 57.4	+1.9
DALY	Dalyan (Mula)	1.91	288	i P	Pn	00 21 56.4	+0.9
DALY				i S	Sn	00 22 18.2	-0.2
DALY				IAML		00 22 19.0	
	comp=E,48nm,0.9s						
DALY				IAML		00 22 23.0	
	comp=N,21nm,1.1s						
KMER	Konya-Meram	1.91	37	i P	Pn	00 21 56.3	+0.5
KMER				i S	Sn	00 22 19.9	+1.2
KMER				IAML		00 22 23.0	
	comp=N,38nm,0.7s						
DOGA	KONYA_Doganhis	1.95	18	i P	Pn	00 21 57.0	+0.7
DOGA				i S	Sn	00 22 18.7	-1.0
LEF	Lefka	1.96	124	i P	Pn	00 21 55.5	-0.8
LEF				IAML		00 22 16.0	
	comp=E,35nm,1.8s						
TAVA	DENIZLI_Tavas	2.02	308	i P	Pn	00 21 58.0	+0.9
KONT	Konya--Tatoy	2.05	34	PN	Pn	00 21 58.9	+1.4
KONT	Konya--Tatoy	2.05	34	i P	Pn	00 21 58.3	+0.7
KONT				i S	Sn	00 22 22.4	+0.4
KZIL	AFYON_Kizioren	2.10	343	i P	Pn	00 21 57.6	-0.7
KZIL				i S	Sn	00 22 20.0	-3.3
GULN	MERSIN_Gulnar	2.12	91	i P	Pn	00 22 02.6	+4.1
GULN				i S	Sn	00 22 23.9	+0.1
TURN	Turunc	2.22	285	i P	Pn	00 21 60.0	+0.3
TURN				i S	Sn	00 22 23.9	-2.1
LADK	Ladik-KONYA	2.27	30	PN	Pn	00 22 01.8	+1.2
CSS	Mathiatis	2.35	122	S	Sn	00 22 28.5	-0.7
ASGA	Asgata	2.40	127	P	Pn	00 22 03.0	+0.8
KDHN	Kadinhani	2.46	22	i P	Pn	00 22 02.8	-0.4
MVOU	Mavrovouni	2.53	118	P	Pn	00 22 03.0	-1.1
MVOU				S	Sn	00 22 32.1	-1.6
MVOU				AML	AML	00 22 32.2	
	comp=E,0.1nm,1.4s						
MVOU				AML	AML	00 22 32.2	
	comp=E,0.1nm,1.4s						
MVOU				AML	AML	00 22 50.6	
	comp=E,0.1nm,1.1s						
MVOU				AML	AML	00 22 50.6	
	comp=E,0.1nm,1.1s						
DAT	Datca	2.73	281	i P	Pn	00 22 07.2	+0.2
DAT				i S	Sn	00 22 34.9	-4.0
OSC1	CSNet OBS 1	2.76	174	S	Sn	00 22 39.3	+0.1
USAK	Uak-Merkez	2.89	329	i P	Pn	00 22 09.4	+0.4
USAK				i S	Sn	00 22 42.5	-0.1
OSC2	CSNet OBS 4	3.35	160	S	Sn	00 22 54.7	+0.8

*MOS **05** 00:26:48.1±1.0, 47°.15N×153°.27E, h77km, mb4.5/9, Error ellipse: s-maj=9.2km s-min=6.3km az=62.0*
*SKHL **05** 00:26:49.1±0.5, 47°.19N×153°.31E, h80km±10km, mb4.8/7, msh5.8/3*
*NEIC **05** 00:26:50.4±1.8, 47°.3N±0°.1×153°.1E±0°.1, h79km±7km, mb4.4/39, Error ellipse: s-maj=17.4km s-min=10.9km az=143.0*
*IDC **05** 00:26:51.8±2.2, 47°.27N×153°.08E, h87km±19km, mb3.7/20, mb1 3.9/25, mb1mx3.8/41, mbtmp4.0/25, MS3.2/11, Ms1 3.2/11, ms1mx2.9/44, Error ellipse: s-maj=17.1km s-min=10.2km az=136.0*
ISC 05 00:26:51.9±0.4, 47°.22N±0°.06×153°.28E±0°.05, h100km, n190, σ1ş97/192, mb4.2/56, 4C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.94	27	eP	Pn	00 27 47.2	-2.9
SKR				AMB	AMB	00 27 50.8	
	40nm,0.3s						
SKR				eS	Sn	00 28 31.1	-4.2
SKR				A	A	00 28 44.5	
	130nm,0.4s						
SKR				A	A	00 28 44.5	
	240nm,0.4s						
SKR	Severo-Kuril's	3.94	27	ePN	Pn	00 27 47.2	-2.9
SKR				eS	Sn	00 28 31.1	-4.2
SKR				pmax	pmax		
	comp=Z,34nm,0.4s						
SKR				smax	smax		
	comp=E,243nm,0.6s						
SKR				smax	smax		
	comp=N,128nm,0.5s						
SKR				MLR	MLR		
	comp=Z,100nm,17.0s						
KUR	Kuril'sk	4.25	244	i P	Pn	00 27 52.1	-2.2
KUR				AMB	AMB	00 27 53.0	
	comp=Z,30nm,0.4s						
KUR				i S	Sn	00 28 39.0	-3.8
KUR				A	A	00 28 51.6	
	comp=Z,200nm,0.5s						
KUR				A	A	00 28 51.6	
	comp=Z,310nm,0.5s						
KUR	Kuril'sk	4.25	244	c iPN	Pn	00 27 52.6	-1.7
KUR				i S	Sn	00 28 40.7	-2.1
KUR				pmax	pmax		
	comp=Z,293nm,0.5s						
KUR				pmax	pmax		
	comp=N,61nm,0.4s						
KUR				pmax	pmax		
	comp=E,59nm,0.6s						
KUR				smax	smax		
	comp=E,311μm,0.5s						
KUR				smax	smax		
	comp=N,196μm,0.4s						
KUR				pmax	pmax		
	comp=N,553nm,1.0s						
KUR				pmax	pmax		
	comp=E,959nm,1.1s						
PAU	Pauzhetka	4.84	27	eP	Pn	00 28 00.6	-1.7
PAU				AMB	AMB	00 28 02.0	
	comp=E,30nm,0.4s						
PAU				eS	Sn	00 28 53.4	-3.7
PAU				A	A	00 28 56.2	
	comp=E,260nm,0.4s						
PAU				A	A	00 28 56.2	
	comp=E,220nm,0.4s						
GRPR	Tuman	6.17	241	eP	Pn	00 28 18.1	-2.3
GRPR				AMB	AMB	00 28 20.0	
	comp=E,110nm,0.4s						
GRPR				erx	rx	00 29 32.0	
GRPR	Tuman	6.17	241	ePN	Pn	00 28 17.4	-3.0
GRPR				S	Sn	00 29 32.3	+2.7
GRPR				pmax	pmax		
	comp=Z,107nm,0.4s						
RUSJ	Misakicho	6.43	244	ePN	Pn	00 28 23.8	-0.1
RUSJ				S	Sn	00 29 36.1	+0.3
GLVR	Golovnino	6.47	240	eP	Pn	00 28 21.9	-2.5
GLVR				eS	Sn	00 29 32.0	-4.7
GLVR	Golovnino	6.47	240	ePN	Pn	00 28 21.2	-3.2
GLVR				eS	Sn	00 29 32.7	-4.0
PEA0B	Petropavlovsk-	6.54	24	i PN	Pn	00 28 26.6	+1.2
PEA0B	Petropavlovsk-	6.54	24		Pn	00 28 24.1	-1.4
PETK	Petropavlovsk-	6.54	24	P	Pn	00 28 24.1	-1.4
	comp=Z,0.8nm,0.3s,baz=184,slow=9.6,SNR=31						
PETK				S	Sn	00 29 39.1	+0.6
	baz=218,slow=17,SNR=0.8						
PETK				LR	LR	00 30 52.3	
	comp=Z,93nm,20.9s,baz=114,slow=37						
PETK	Petropavlovsk-	6.54	24		Pn	00 28 24.2	-1.2
NMR	Nemuro--Hokkai	6.57	237	eS	Sn	00 29 34.1	-5.1
NMR	Nemuro--Hokkai	6.57	237	ePN	Pn	00 28 20.6	-5.2
NMR				eS	Sn	00 29 34.0	-5.1
PET	Petropavlovsk	6.76	29	eP	Pn	00 28 27.4	-0.9
PET				AMB	AMB	00 28 30.3	
	comp=Z,20nm,0.3s						
PET	Petropavlovsk	6.76	29	PN	Pn	00 28 26.7	-1.7
PET	Petropavlovsk	6.76	29	Pn	Pn	00 28 26.7	-1.7
YSS	Yuzh-Sakhalins	7.19	272	i P	Pn	00 28 33.4	-0.8
YSS				AMB	AMB	00 28 34.0	
	comp=Z,30nm,0.5s						
YSS	Yuzh-Sakhalins	7.19	272	⇓ iPN	Pn	00 28 33.6	-0.6
YSS				eS	Sn	00 29 53.2	-1.0
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS	Yuzh-Sakhalins	7.19	272	Pn	Pn	00 28 31.3	-2.9
TYV	Tymovskoe	7.87	302	eP	Pn	00 28 42.6	-0.9
TYV				AMB	AMB	00 28 45.3	
	comp=Z,200nm,3.0s						
TYV				AMB	AMB	00 28 45.4	
	comp=Z,60nm,1.0s						
TYV	Tymovskoe	7.87	302	ePN	Pn	00 28 42.6	-0.9
TYV				eS	Sn	00 30 11.0	+0.2
TYV				pmax	pmax		
	comp=Z,200nm,2.5s						
TYV				pmax	pmax		
	comp=Z,56nm,1.1s						
TYV				smax	smax		
	comp=N,13nm,0.3s						
JKA	Kamikawa-asahi	8.10	251	eP	Pn	00 28 45.1	-1.5
JKA	Kamikawa-asahi	8.10	251		Pn	00 28 45.1	-1.5
ASAJ	Asahikawa	8.10	251	P	Pn	00 28 45.1	-1.5
	comp=N,1.6nm,0.3s,baz=78,slow=16,SNR=6.0						
ASAJ				LR	LR	00 31 39.2	
	comp=N,110nm,21.3s,baz=12,slow=36						
ERM	Erimo	8.89	238	i PN	Pn	00 28 53.4	-4.0
ERM	Erimo	8.89	238	Pn	Pn	00 28 53.4	-4.0
OKH	Okha	9.15	318	eP	Pn	00 28 58.8	-2.0
EKMR	Ekimchan	14.27	302	eP	Pn	00 30 06.5	-2.5
EKMR				AMB	AMB	00 30 13.7	
	comp=N,8.0nm,0.9s						
SMY	Shemya	14.47	60	P	Pn	00 30 09.3	-2.3
SMY	Shemya	14.47	60	Pn	Pn	00 30 09.3	-2.3
KLR	Kul'dur	14.48	286	P	Pn	00 30 12.3	+0.5
	comp=N,0.2nm,0.3s,baz=89,slow=16,SNR=11						
KLR				LR	LR	00 35 55.0	
	comp=N,104nm,19.0s,baz=81,slow=38						
KLR	Kul'dur	14.48	286	eP	Pn	00 30 09.8	-2.0
KLR	Kul'dur	14.48	286	i P	Pn	00 30 10.3	-1.5
USA0B	Ussuriysk Arra	15.17	266	P	Pn	00 30 19.7	-0.8
USA0B				pmax	pmax		
	comp=Z,12nm,1.0s						
USA0B	Ussuriysk Arra	15.17	266	Pn	Pn	00 30 19.7	-0.8
USRK	Ussuriysk Ar.	15.17	266	P	Pn	00 30 19.9	-0.6
	baz=72,slow=12,SNR=18						
USRK				LR	LR	00 35 58.4	
	comp=Z,75nm,19.3s,baz=78,slow=36						
USRK	Ussuriysk Ar.	15.17	266	P	Pn	00 30 20.0	-0.6
USRK	Ussuriysk Ar.	15.17	266		Pn	00 30 20.4	-0.1
MJA0	Matsu Arr-Jizo	15.43	232	eP	P	00 30 27.0	+0.6
MJA0				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR	Matsushiro Arr	15.45	232	P	Pn	00 30 19.3	-4.9
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=7.0						
MJAR	Matsushiro Arr	15.45	232	P	P	00 30 25.0	-1.6
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MJAR	Matsushiro Arr	15.45	232		P	00 30 25.0	-1.6
MAJO	Matsushiro	15.46	232	P	Pn	00 30 22.9	-1.4
MAJO				pmax	pmax		
	comp=Z,17nm,0.9s						
MAJO	Matsushiro	15.46	232	Pn	Pn	00 30 22.9	-1.4
MAJO				IAmb	IAmb	00 30 27.7	
	comp=Z,17nm,0.8s						
MAT	Matsushiro	15.46	232	P	P	00 30 26.7	+0.1
MAT				eS	S	00 33 33.8	+10
SEY	Seymchan	15.76	358	P	P	00 30 29.4	-0.3
	comp=Z,0.7nm,0.3s,baz=181,slow=23,SNR=6.3						
SEY				LR	LR	00 36 37.6	
	comp=Z,74nm,18.3s,baz=336,slow=37						
INU	Inuyama	16.99	232		P	00 30 43.5	0.0
BMKR	Bomnak	17.06	305	eP	Pn	00 30 41.0	-2.9
BMKR				AMB	AMB	00 30 47.8	
	comp=Z,6.0nm,0.9s						
KROS	Kirovskiy	18.04	303	eP	Pn	00 30 55.0	-0.8
KROS				AMB	AMB	00 30 57.8	
	comp=Z,9.0nm,1.0s						

ADK	**Adak**	19.96	65	P	P	00 31 12.8	-3.0
ADK				pmax	pmax		
comp=Z,4.0nm,0.8s							
ADK	**Adak**	19.96	65	P	P	00 31 12.8	-3.0
YAK	**Yakutsk**	19.99	326	*e*P	P	00 31 16.7	+0.7
YAK	**Yakutsk**	19.99	326	*i* P	P	00 31 16.7	+0.7
YAK				pmax	pmax		
comp=Z,9.0nm,0.8s							
GSTR	**Great Sitkin T**	20.35	65	P	P	00 31 21.1	+0.9
KSRS	**Korea Array**	21.05	252	P	P	00 31 27.8	+0.1
comp=Z,3.3nm,0.7s,baz=56,slow=10,SNR=10							
ATKA	**Atka Island**	21.50	65	P	P	00 31 29.8	-2.6
ATKA				IAmb	IAmb	00 31 30.6	
comp=Z,16nm,1.1s							
JNU	**Nakatsue**	22.06	238	P	P	00 31 37.0	-1.5
comp=Z,7.4nm,0.8s,baz=176,slow=7.1,SNR=3.2							
TIXI	**Tiksi**	27.05	343	LR	LR	00 42 28.0	
comp=Z,29nm,19.6s,baz=216,slow=35							
SDPT	**Sand Point**	29.56	57	P	P	00 32 43.7	-3.1
H11N2	**WAKE ISLAND Hy**	29.59	153	T	T	01 04 39.0	
baz=341,slow=76,SNR=1181							
H11N1	**WAKE ISLAND Hy**	29.60	153	T	T	01 04 37.1	
baz=341,slow=76,SNR=1224							
H11N3	**WAKE ISLAND Hy**	29.60	153	T	T	01 04 42.5	
baz=341,slow=76,SNR=679							
H11S1	**WAKE ISLAND Hy**	30.68	154	T	T	01 06 04.3	
baz=342,slow=76,SNR=1633							
H11S3	**WAKE ISLAND Hy**	30.69	154	T	T	01 06 04.9	
baz=342,slow=76,SNR=1492							
H11S2	**WAKE ISLAND Hy**	30.70	154	T	T	01 05 41.3	
baz=342,slow=76,SNR=1242							
IMAR	**Indian Mountai**	33.32	36	P	P	00 33 21.2	+1.5
PPLA	**Purkeypile**	33.74	42	P	P	00 33 25.7	+2.2
BPAW	**Bear Paw Mtn.**	34.32	40	P	P	00 33 30.1	+1.7
BPAW				IAmb	IAmb	00 33 32.3	
comp=Z,4.6nm,1.0s							
KTH	**Kantishna Hill**	34.33	41	P	P	00 33 30.1	+1.6
COLD	**Coldfoot**	34.88	35	P	P	00 33 34.5	+1.3
COLD				IAmb	IAmb	00 33 35.6	
comp=Z,3.6nm,0.6s							
BWN	**Browne**	34.99	40	P	P	00 33 35.7	+1.5
TOLK	**Toolik Lake Re**	35.29	32	P	P	00 33 38.3	+1.6
TOLK				IAmb	IAmb	00 33 38.9	
comp=Z,4.5nm,0.8s							
MDM	**Murphy Dome**	35.54	39	P	P	00 33 41.2	+2.3
MDM				IAmb	IAmb	00 33 41.9	
comp=Z,3.7nm,0.8s							
WRH	**Wood River Hil**	35.59	39	P	P	00 33 41.4	+2.1
WRH				IAmb	IAmb	00 33 51.0	
comp=Z,4.8nm,1.1s							
CCB	**Clear Creek Bu**	35.72	39	P	P	00 33 42.4	+2.1
DHY	**Denali Highway**	35.94	42	P	P	00 33 43.2	+0.8
DHY				IAmb	IAmb	00 33 60.0	
comp=Z,4.4nm,1.1s							
HDA	**Harding Lake**	36.09	40	P	P	00 33 44.3	+0.8
HDA				IAmb	IAmb	00 34 01.5	
comp=Z,5.2nm,1.2s							
IL31		36.11	39	P	P	00 33 44.9	+1.2
ILAR	**Eielson Array**	36.11	39	P	P	00 33 44.7	+1.0
comp=Z,0.9nm,0.7s,baz=254,slow=6.9,SNR=10							
ILAR	**Eielson Array**	36.11	39	*e*P	P	00 33 45.2	+1.5
ILAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
RIDG	**Independent Ri**	37.04	41	P	P	00 33 53.7	+2.0
RIDG				IAmb	IAmb	00 34 09.0	
comp=Z,7.4nm,1.1s							
BMAR	**Burnt Mountain**	37.07	34	P	P	00 33 53.8	+2.0
DOT	**Dot Lake**	37.40	41	P	P	00 33 55.4	+0.7
DOT				IAmb	IAmb	00 33 57.1	
comp=Z,2.8nm,0.8s							
NRIK	**Noril'sk**	38.42	329	LR	LR	00 51 25.2	
comp=Z,34nm,18.3s,baz=8.0,slow=38							
BCAR	**Beaver Creek A**	38.47	42	P	P	00 34 06.2	+2.4
EGAK	**Eagle**	38.56	39	IAmb	IAmb	00 34 06.7	
comp=Z,6.2nm,1.0s							
TABL	**Table Mountain**	39.19	46	P	P	00 34 12.1	+2.2
HYT	**Haines Junctio**	40.86	44	P	P	00 34 26.5	+2.9
HYT				IAmb	IAmb	00 34 27.4	
comp=Z,2.6nm,0.7s							
INK	**Inuvik**	41.20	33	P	P	00 34 26.6	+0.5
INK				pmax	pmax		
comp=Z,6.0nm,1.2s							
INK	**Inuvik**	41.20	33	P	P	00 34 26.6	+0.5
INK				IAmb	IAmb	00 34 35.1	
comp=Z,6.0nm,1.1s							
ZALV	**Zalesovo Beam**	42.43	305	P	P	00 34 35.3	-1.0
comp=Z,0.3nm,0.3s,baz=50,slow=49,SNR=1.9							
ZALV				PcP	PcP	00 36 28.5	+1.0
comp=Z,1.9nm,0.7s,baz=64,slow=3.4,SNR=7.3							
ZALV				LR	LR	00 53 02.4	
comp=Z,43nm,19.9s,baz=17,slow=37							
C36M	**Paulatuk**	44.36	30	P	P	00 34 52.8	+1.2
DLBC	**Dease Lake**	45.19	46	P	P	00 35 01.6	+3.2
comp=Z,1.4nm,0.7s,baz=321,slow=13,SNR=3.9							
DLBC	**Dease Lake**	45.19	46	P	P	00 34 58.9	+0.4
MKAR	**Makanchi Array**	46.83	297	P	P	00 35 12.5	+1.1
comp=Z,0.2nm,0.3s,baz=75,slow=7.9,SNR=2.4							
MKAR				PcP	PcP	00 36 43.6	+0.8
comp=Z,1.1nm,0.6s,baz=57,slow=4.1,SNR=6.2							
MKAR				LR	LR	00 56 09.3	
comp=Z,51nm,18.0s,baz=38,slow=38							
KURK	**Kurchatov**	47.20	303	*e*P	P	00 35 13.7	-0.5
KURK	**Kurchatov**	47.20	303	P	P	00 35 13.7	-0.5
KURK				pmax	pmax		
comp=Z,2.0nm,1.0s							
KURK	**Kurchatov**	47.20	303	P	P	00 35 13.7	-0.5
EUNU	**Eureka**	48.65	12	P	P	00 35 25.8	+0.7
YKA	**Yellowknife Ar**	50.48	37	P	P	00 35 41.6	+2.5
comp=Z,0.8nm,0.6s,baz=118,slow=15,SNR=5.4							
CHTO	**Chiang Mai**	52.34	256	P	P	00 35 53.0	-0.5
CHTO				pmax	pmax		
comp=Z,7.0nm,0.9s							
CHTO	**Chiang Mai**	52.34	256	P	P	00 35 53.0	-0.5
CMAR	**Chiang Mai Arr**	52.59	256	P	P	00 35 56.6	+1.2
comp=Z,1.8nm,0.5s,baz=35,slow=7.4,SNR=11							
CMAR				LR	LR	01 00 00.2	
comp=Z,11nm,18.7s,baz=275,slow=38							
PBKT	**Sadao Pong**	52.62	253	P	P	00 35 56.1	+0.6
PBKT				IAmb	IAmb	00 36 15.0	
comp=Z,3.3nm,1.1s							
ARU	**Arti**	54.74	317	*e*P	P	00 36 11.8	+1.2
ARU	**Arti**	54.74	317	P	P	00 36 11.8	+1.2
COEN	**Coen**	61.56	191	P	P	00 36 58.9	+0.4
COEN				IAmb	IAmb	00 37 12.1	
comp=Z,4.0nm,0.9s							
PMPB	**Monarch Peak**	61.99	66	P	P	00 37 01.0	-0.4
NVAR	**Mina Array Bea**	62.12	63	P	P	00 37 04.1	+1.7
comp=Z,0.2nm,0.3s,baz=333,slow=9.4,SNR=2.6							
NVAR	**Mina Array Bea**	62.12	63	P	P	00 37 03.3	+0.9
FIA1	**FINESS Array S**	63.66	335	P	P	00 37 11.7	-0.2
FIA1				IAmb	IAmb	00 37 26.5	
comp=Z,7.1nm,1.1s							
FINES	**FINESS Array B**	63.66	335	P	P	00 37 12.1	+0.2
comp=Z,1.5nm,0.5s,baz=34,slow=7.7,SNR=23							
FINES	**FINESS Array B**	63.66	335	*e*P	P	00 37 12.3	+0.4
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
PDAR	**Pinedale Array**	64.38	54	P	P	00 37 19.2	+1.9
comp=Z,0.5nm,0.6s,baz=276,slow=2.8,SNR=3.8							
OBN	**Obninsk**	64.99	326	*e*P	P	00 37 22.6	+2.0
OBN	**Obninsk**	64.99	326	*e*P	P	00 37 22.6	+2.0
OBN				*e**PP	pP	00 37 43.2	-2.2
OBN				pmax	pmax		
comp=Z,2.0nm,0.8s							
ULM	**Lac du Bonnet**	66.09	41	P	P	00 37 28.8	+0.9
comp=Z,2.2nm,0.5s,baz=306,slow=14,SNR=1.7							
NB2	**NORSAR Subarra**	67.82	341	P	P	00 37 39.2	+0.5
comp=Z,3.9nm,1.0s,baz=25,slow=6.5							
NOA	**NORSAR Array B**	67.82	341	P	P	00 37 39.4	+0.7
comp=Z,2.2nm,0.8s,baz=26,slow=6.4,SNR=10							
WRA	**Warramunga Arr**	68.99	199	P	P	00 37 47.0	+0.6
comp=Z,1.0nm,0.7s,baz=16,slow=6.5,SNR=15							
WRA	**Warramunga Arr**	68.99	199	*e*P	P	00 37 47.4	+1.0
WRA				pmax	pmax		
comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	68.99	199	IAmb	IAmb	00 37 48.4	
comp=Z,0.1nm,0.8s							
KIV	**Kislovodsk**	70.55	314	*e*P	P	00 37 55.3	-0.6
KIV	**Kislovodsk**	70.55	314	*e*P	P	00 37 55.3	-0.6
KIV				pmax	pmax		
comp=Z,12nm,1.0s							
KIV				MLR	MLR		
comp=Z,65nm,17.0s							
AKASG	**Malin Array Be**	71.22	326	P	P	00 37 59.4	-0.3
comp=Z,1.7nm,0.6s,baz=35,slow=5.7,SNR=5.2							

ASAR	**Alice Springs**	72.69	199	P	P	00 38 10.9	+2.2
comp=Z,3.0nm,0.7s,baz=13,slow=5.2,SNR=39							
ASAR	**Alice Springs**	72.69	199	P	P	00 38 10.5	+1.8
ASAR	**Alice Springs**	72.69	199	P	P	00 38 10.5	+1.8
BURAR	**Bucovina Array**	75.26	327	⇑P	P	00 38 24.9	+1.2
DPC	**Dobruska-Polom**	75.95	333	*e*P	P	00 38 29.3	+1.8
DPC	**Dobruska-Polom**	75.95	333	*e*P	P	00 38 29.3	+1.8
KRLC	**Kraliky**	76.05	333	*e*P	P	00 38 28.3	+0.2
KRLC	**Kraliky**	76.05	333	*e*P	P	00 38 28.3	+0.2
MORC	**Moravsky Berou**	76.08	332	⇓P	P	00 38 29.2	+1.0
MORC	**Moravsky Berou**	76.08	332	*e*P	P	00 38 28.8	+0.6
CLL	**Collm**	76.08	336	⇓*i*P	P	00 38 28.7	+0.6
comp=Z,7.0nm,1.1s							
BRG	**Bergzieshubel**	76.20	335	*e*(P)	P	00 38 28.1	-0.7
comp=Z,2.9nm,1.2s							
TOPG	**Topolog**	76.28	323	⇓P	P	00 38 37.0	+7.6
WSAR	**Wadi Sarin**	76.33	289	LR	LR	01 15 31.2	
comp=Z,34nm,18.0s,baz=42,slow=38							
VYHS	**Vyhne**	76.77	331	*e*P	P	00 38 33.0	+0.9
VYHS	**Vyhne**	76.77	331	*e*P	P	00 38 33.0	+0.9
VRAC	**Vranov**	76.79	333	*e*P	P	00 38 32.9	+0.7
GOPC	**GO Pecny, Ondr**	76.81	334	*e*P	P	00 38 33.2	+0.9
GOPC	**GO Pecny, Ondr**	76.81	334	*e*P	P	00 38 33.2	+0.9
JAVC	**Velka Javorina**	76.84	332	*e*P	P	00 38 34.2	+1.7
KRUC	**Moravsky**	77.06	333	*e*P	P	00 38 34.5	+0.8
VOIR		77.14	325	⇓P	P	00 38 35.6	+1.3
TX31	**Lajitas Ar. Si**	77.16	61	P	P	00 38 35.8	+1.0
TX32	**Lajitas Array**	77.17	61	P	P	00 38 35.5	+0.7
TXAR	**Lajitas Array**	77.17	61	P	P	00 38 37.0	+2.2
comp=Z,1.8nm,0.7s,baz=303,slow=4.4,SNR=20							
TXAR	**Lajitas Array**	77.17	61	P	P	00 38 36.0	+1.3
TXAR	**Lajitas Array**	77.17	61	P	P	00 38 36.0	+1.3
ARR	**Arges**	77.36	326	⇓P	P	00 38 38.2	+2.7
SIRR	**Siria**	77.71	328	⇑P	P	00 38 37.9	+0.5
KHC	**Kasperske Hory**	77.86	334	*e*P	P	00 38 39.1	+0.9
KHC	**Kasperske Hory**	77.86	334	*e*P	P	00 38 39.1	+0.9
GRF	**Grafenberg Arr**	78.04	336	*e*P	P	00 38 40.3	+1.1
comp=Z,5.7nm,0.8s,baz=344,slow=9.8							
GERES	**GERESS Array B**	78.08	334	P	P	00 38 40.2	+0.7
comp=Z,1.3nm,0.6s,baz=37,slow=5.9,SNR=12							
GERES	**GERESS Array B**	78.08	334	P	P	00 38 39.9	+0.4
GERES	**GERESS Array B**	78.08	334	P	P	00 38 39.9	+0.4
BRTR	**Keskin Array B**	78.12	317	P	P	00 38 41.4	+1.4
comp=Z,0.5nm,0.4s,baz=305,slow=37,SNR=4.5							
CONA	**Conrad Observa**	78.23	332	*i* P	P	00 38 39.5	-0.8
comp=Z,2.3nm,0.8s							
BZS	**Buzias**	78.28	328	⇑P	P	00 38 41.4	+0.9
MOA	**Molin**	78.80	333	*i* P	P	00 38 42.8	-0.6
comp=Z,1.5nm,0.8s							
SOKA	**Soboth**	79.60	332	*i* P	P	00 38 47.5	-0.4
comp=Z,5.4nm,1.1s							
KBA	**Koelnbreinsper**	79.77	333	*i* P	P	00 38 48.7	-0.1
comp=Z,6.8nm,0.7s							
BFO	**Black Forest**	80.06	337	P	P	00 38 50.1	-0.1
BFO				pmax	pmax		
comp=Z,4.0nm,0.8s							
BFO	**Black Forest**	80.06	337	P	P	00 38 50.1	-0.1
BFO				IAmb	IAmb	00 38 51.9	
comp=Z,4.1nm,0.8s							
WATA	**Walderalm**	80.07	335	*i* P	P	00 38 48.5	-1.9
comp=Z,7.0nm,1.0s							
WTTA	**Wattenberg**	80.11	335	*i* P	P	00 38 48.1	-2.6
comp=Z,6.0nm,0.6s							
RETA	**Reutte**	80.16	335	*i* P	P	00 38 47.9	-3.0
comp=Z,3.1nm,0.8s							
MOTA	**Moosalm**	80.19	335	*i* P	P	00 38 48.4	-2.7
comp=Z,9.5nm,1.4s							
SQTA	**Sankt Quirin**	80.28	335	*i* P	P	00 38 48.7	-2.9
comp=Z,3.4nm,0.7s							
ABTA	**Abfaltersbach**	80.32	334	*i* P	P	00 38 49.2	-2.5
comp=Z,5.4nm,1.7s							
ALN	**Alexandroupoli**	80.53	322	P	P	00 38 52.9	+0.1
ALN				pmax	pmax		
comp=Z,3.0nm,0.8s							
ALN	**Alexandroupoli**	80.53	322	P	P	00 38 52.9	+0.1
ALN				IAmb	IAmb	00 38 54.0	
comp=Z,2.7nm,0.8s							
DAVA	**Damuels**	80.60	336	*i* P	P	00 38 49.1	-4.2
comp=Z,5.2nm,1.0s							
ESDC	**Sonseca Array**	91.14	343	P	P	00 39 45.1	-0.3
comp=Z,0.5nm,0.9s,baz=354,slow=3.5,SNR=3.3							
QSPA	**South Pole Qui**	136.96	180	PKP	PKiKP	00 46 04.2	+0.7
comp=Z,1.6nm,1.0s,baz=65,slow=8.4,SNR=3.1							
H03N2	**Juan Fernandez**	138.64	90	T	T	03 21 02.3	
baz=309,slow=77,SNR=7.9							
H03N1	**Juan Fernandez**	138.66	90	T	T	03 21 03.3	
baz=309,slow=77,SNR=45							
H03N3	**Juan Fernandez**	138.66	90	T	T	03 21 01.8	
baz=309,slow=77,SNR=8.4							
CPUP	**Villa Florida**	148.14	60	PKPbc	PKiKP	00 46 27.3	-0.2
comp=Z,1.5nm,0.5s,baz=288,slow=2.3,SNR=4.8							
SNAA	**Sanae**	153.03	196	PKPdf	PKiKP	00 46 37.2	+0.8
SNAA	**Sanae**	153.03	196	PKPbc	PKPbc	00 46 36.2	0.0
comp=Z,1.2nm,0.6s,baz=194,slow=5.6,SNR=14							
SNAA				PKPab	PKPab	00 46 48.8	+0.7
comp=Z,0.7nm,0.6s,baz=121,slow=5.3,SNR=6.4							
VNA2	**Neumayer--Watz**	154.49	195	PKPdf	PKiKP	00 46 40.8	+1.5
VNA3	**Neumayer Olymp**	154.57	193	PKPdf	PKiKP	00 46 40.6	+1.2

IDC ***05*** *00:40:19.5±1.0, 33°.79S×72°.08W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/25, mbtmp3.8/7, ML4.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/21, Error ellipse: s-maj=48.3km s-min=21.3km az=94.0*

NEIC ***05*** *00:40:24.8±2.2, 33°.87S±0°.04×72°.02W±0°.02, h37km±7km, Error ellipse: s-maj=5.8km s-min=1.9km az=178.0*

GUC ***05*** *00:40:24.9±0.6, 33°.90S×72°.02W, h38km±2km, ML3.8*

ISC 05 00:40:24.5±0.6, 33°.86S±0°.04×72°.09W±0°.05, h35km, n74, σ0.96/88, mb3.9/7, 2C-10D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	0.91	24		Pn	00 40 41.0	+0.2
VA01					Sn	00 40 52.7	0.0
BO01	**Tunca**	0.99	123	⇓*i*P	Pn	00 40 41.3	-0.5
BO01				*i* S	Sn	00 40 53.2	-1.4
BO01	**Tunca**	0.99	123		Pn	00 40 41.3	-0.5
MT02	**Curacav**	0.99	53	⇓*i*P	Pn	00 40 41.9	-0.1
MT02				*i* S	Sn	00 40 54.4	-0.4
MT02	**Curacav**	0.99	53		Pn	00 40 41.9	-0.1
RCDM	**Rinconada Maip**	1.13	71	⇓*i*P	Pn	00 40 44.5	+0.7
RCDM				*i* S	Sn	00 40 58.6	+0.5
RCDM				IAML		00 41 01.4	
comp=E,6μm,0.2s							
GO05	**Huala**	1.15	174	⇑*i*P	Pn	00 40 44.2	+0.1
GO05				*i* S	Sn	00 40 58.2	-0.5
GO05	**Huala**	1.15	174		Pn	00 40 44.3	+0.1
MT05	**Renca**	1.22	68	⇓*i*P	Pn	00 40 45.3	+0.2
MT05				*i* S	Sn	00 41 00.8	+0.4
MT05				IAML		00 41 03.5	
comp=E,4μm,0.4s							
MT05	**Renca**	1.22	68		Pn	00 40 45.2	+0.1
ROC1	**El Roble**	1.26	46		Pn	00 40 46.3	+0.5
ROCH	**El Roble**	1.26	46	⇓*i*P	Pn	00 40 46.2	+0.4
ROCH				*i* S	Sn	00 41 02.3	+0.6
ROCH				IAML		00 41 11.6	
comp=N,2μm,0.4s							
FSR	**Penalolen**	1.35	74	*e*P	Pn	00 40 48.4	+1.4
FSR				*e*S	Sn	00 41 05.4	+1.6
MT03	**Universidad Ad**	1.36	75	⇓*i*P	Pn	00 40 47.4	+0.2
MT03				*i* S	Sn	00 41 04.5	+0.5
MT03				IAML		00 41 07.2	
comp=N,5μm,0.2s							
PEL	**Peldehue**	1.37	59	*e*P	Pn	00 40 47.6	+0.4
PEL				*e*S	Sn	00 41 05.1	+0.9
PEL				IAML		00 41 06.7	
comp=N,2μm,0.2s							
PEL	**Peldehue**	1.37	59	Pn	Pn	00 40 48.1	+0.9
CLCH	**Cerro Calan**	1.37	71	⇓*i*P	Pn	00 40 47.9	+0.6
CLCH				*i* S	Sn	00 41 04.6	+0.3
CLCH				IAML		00 41 11.8	
comp=E,2μm,0.3s							
BO02	**Sierra Bellavi**	1.43	131	⇓*i*P	Pn	00 40 48.5	+0.5
BO02				*e*S	Sn	00 41 05.5	-0.1
BO02	**Sierra Bellavi**	1.43	131	Pn	Pn	00 40 48.4	+0.5
LMEL	**Las Melosas**	1.57	90	⇓*i*P	Pn	00 40 50.7	+0.7
LMEL				*i* S	Sn	00 41 09.8	+0.7
VA03	**San Esteban**	1.69	50	⇓*i*P	Pn	00 40 52.5	+1.0
VA03				*i* S	Sn	00 41 13.4	+1.3
VA03				IAML		00 41 16.3	
comp=E,2μm,0.2s							
VA03	**San Esteban**	1.69	50		Pn	00 40 52.6	+1.0
CO02	**Combarbal**	2.80	19	Pn	Pn	00 41 07.5	+0.5

BI02	**San Fabin de**	2.88	167	⇑*i*P	Pn	00 41 08.5	+0.6
BI02				*i* S	Sn	00 41 41.1	-0.2
BI02				IAML		00 41 54.8	
comp=N,469nm,0.9s							
BI02	**San Fabin de**	2.88	167	Pn	Pn	00 41 08.8	+0.9
BI03	**Tigo**	3.07	194		Pn	00 41 10.9	+0.4
CO03	**El Pedregal**	3.24	22		Pn	00 41 13.8	+0.9
ZON	**Zonda**	3.69	52	Pn	Pn	00 41 20.0	+1.0
GO04	**Tololo Observa**	3.83	17		Pn	00 41 21.8	+0.5
CO01	**Juntas del Tor**	4.23	24		Pn	00 41 27.2	+0.6
LCO	**Las Campanas**	4.98	14	Pn	Pn	00 41 37.1	+0.2
LC01	**Cunco**	5.03	178	Pn	Pn	00 41 37.3	-0.2
AC05	**El Transito**	5.24	18	Pn	Pn	00 41 41.1	+0.6
VA04	**Juan Fernndez**	5.62	270	Pn	Pn	00 41 46.7	+1.1
H03S1	**Juan Fernandez**	5.67	268	Pn	Pn	00 41 46.7	+0.7
baz=77,slow=72,SNR=8.5							
H03S1				T	T	00 47 54.9	
baz=88,slow=75,SNR=771							
H03S3	**Juan Fernandez**	5.68	268	Pn	Pn	00 41 46.9	+0.9
baz=77,slow=72,SNR=16							
H03S3				T	T	00 47 44.5	
baz=88,slow=75,SNR=813							
H03S2	**Juan Fernandez**	5.69	268	Pn	Pn	00 41 46.8	+0.5
baz=77,slow=72,SNR=16							
H03S2				T	T	00 47 49.0	
baz=88,slow=75,SNR=784							
AC04	**Llanos de Chal**	5.70	9	Pn	Pn	00 41 45.5	-1.3
H03N1	**Juan Fernandez**	5.71	272	Pn	Pn	00 41 48.3	+1.9
baz=129,slow=23,SNR=23							
H03N1				T	T	00 47 57.5	
baz=98,slow=74,SNR=14							
H03N3	**Juan Fernandez**	5.72	272	Pn	Pn	00 41 48.5	+1.8
baz=129,slow=23,SNR=16							
H03N3				T	T	00 47 51.6	
baz=98,slow=74,SNR=12							
H03N2	**Juan Fernandez**	5.72	272	Pn	Pn	00 41 48.6	+1.9
baz=129,slow=23,SNR=13							
H03N2				T	T	00 47 52.8	
baz=98,slow=74,SNR=13							
GO03	**Copiap**	6.45	15	Pn	Pn	00 41 56.5	-0.5
PLCA	**Paso Flores**	6.97	170	Pn	Pn	00 42 05.3	+1.2
comp=N,1.8nm,0.3s,baz=331,slow=11,SNR=35							
PLCA				LR	LR	00 45 17.0	
comp=N,74nm,19.8s,baz=12,slow=42							
PLCA	**Paso Flores**	6.97	170	Pn	Pn	00 42 04.2	+0.1
AC02	**Maricunga**	7.45	21	Pn	Pn	00 42 10.1	-1.1
AC01	**Pan de Azucar**	7.79	10	Pn	Pn	00 42 15.8	+0.3
LL01	**San Ignacio de**	8.51	182	Pn	Pn	00 42 23.9	-1.2
GO02	**Mina Guanaco**	8.94	15	Pn	Pn	00 42 28.8	-2.6
PB10	**IPOC Station P**	10.40	8	Pn	Pn	00 42 49.9	-1.2
PB15	**IPOC Station P**	10.86	13	Pn	Pn	00 42 58.3	+0.7
PB04	**IPOC Station P**	11.61	9	Pn	Pn	00 43 05.1	-2.8
CPUP	**Villa Florida**	14.80	63	Pn	P	00 43 55.9	-0.8
comp=N,0.1nm,0.3s,baz=140,slow=8.4,SNR=3.3							
MNMC	**Minye Minye**	14.84	9	Pn	Pn	00 43 50.9	-1.1
PB12	**IPOC Station P**	15.27	6	Pn	Pn	00 43 57.4	-0.1
PB12				IAmb	IAmb	00 43 59.8	
comp=Z,9.7nm,0.8s							
PB16	**IPOC Station P**	15.63	9	Pn	Pn	00 44 02.0	-0.8
LPAZ	**La Paz**	17.86	12	P	P	00 44 31.8	+0.5
comp=Z,0.1nm,0.3s,baz=185,slow=7.3,SNR=7.4							
LPAZ	**La Paz**	17.86	12	P	Pn	00 44 30.2	-0.6
SIV	**San Ignacio**	20.38	32	P	P	00 44 57.7	-0.6
comp=Z,1.0nm,0.6s,baz=196,slow=10.0,SNR=8.5							
EFI	**East Falkland**	20.50	154	P	P	00 44 58.0	-1.3
SAML	**Samuel**	26.11	20	P	P	00 45 54.4	-0.8
SAML				IAmb	IAmb	00 46 12.5	
comp=Z,1.6nm,0.9s							
BDFB	**Brasilia**	28.29	56	P	P	00 46 13.1	-1.8
BDFB				IAmb	IAmb	00 46 15.5	
comp=Z,2.2nm,0.8s							
VNA3	**Neumayer Olymp**	49.50	158	P	P	00 49 12.3	+1.2
VNA2	**Neumayer--Watz**	50.16	157	P	P	00 49 17.3	+1.3
SNAA	**Sanae**	51.73	158	P	P	00 49 29.0	+1.0
SNAA	**Sanae**	51.73	158	P	P	00 49 28.8	+0.8
comp=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**7.55**	**262**	*eP*	Pb	00 51 36.0	+5.8
	1.2nm,0.4s						
KAPS				*eS*	**Sg**	**00 53 14.4**	**-6.9**
	2.5nm,0.4s						
SHRR	**Shira**	**7.64**	**1**	Sg	**Sg**	**00 53 20.9**	**-3.2**
KURK	**Kurchatov**	**8.43**	**301**	⇑Pn	**Pn**	**00 51 20.2**	**-0.9**
	1.0nm,0.4s						
KURK				⇑Sn	**Sn**	**00 52 57.4**	**+1.1**
	2.2nm,0.4s						
KURK				⇑Lg	Lg	00 53 47.3	
	10nm,0.8s						
KURBB	**Kurchatov Arra**	**8.45**	**301**	⇓Pn	**Pn**	**00 51 20.3**	**-1.0**
	0.9nm,0.3s						
KURBB				⇓Sn	**Sn**	**00 52 58.6**	**+1.9**
	8.8nm,0.6s						
KURBB				⇑Lg	Lg	00 53 47.6	
	26nm,0.7s						

*IDC **05** 01:03:47.6±6.9, 34°.80N×78°.03E, h0km, mb3.9/3, mb1 3.8/6, mb1mx3.4/49, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=110.8km s-min=62.7km az=134.0*

ISC 05 01:04:06.6±2.4, 35°.9N±0°.2×77°.1E±0°.2, h50km, n8, σ3$70/9, 2D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.07**	**344**	Pn	Pn	01 05 52.7	+5.1
	0.5nm,0.3s,baz=267,slow=6.7,SNR=2.0						
KK31	**Karatay Array**	**8.86**	**327**	⇓Pn	**Pn**	**01 06 14.4**	**+2.4**
	0.3nm,0.3s,baz=139,slow=13,SNR=3.3						
KK31				⇓Sn	**Sn**	**01 07 47.0**	**-3.4**
	2.9nm,0.6s,baz=143,slow=22,SNR=4.6						
MKAR	**Makanchi Array**	**11.59**	**18**	Pn	**Pn**	**01 06 48.1**	**-1.2**
	0.2nm,0.3s,baz=200,slow=13,SNR=7.7						
MKAR				Sn	**Sn**	**01 08 52.2**	**-4.9**
	0.1nm,0.3s,baz=196,slow=24,SNR=2.1						
KURBB	**Kurchatov Arra**	**14.79**	**3**	Sn	**Sn**	**01 10 20.0**	**+4.9**
	0.1nm,0.3s,baz=74,slow=25,SNR=1.7						
BVAR	**Borovoye Array**	**17.81**	**347**	P	**Pn**	**01 08 09.3**	**-1.4**
	0.1nm,0.3s,baz=175,slow=8.3,SNR=4.1						
AKTO	**Aktyubinsk**	**20.08**	**322**	P	**P**	**01 08 37.6**	**+1.8**
	1.5nm,0.4s,baz=133,slow=6.1,SNR=4.6						
FINES	**FINESS Array B**	**40.82**	**325**	P	**P**	**01 11 40.7**	**-2.2**
	0.7nm,0.3s,baz=107,slow=9.7,SNR=9.9						
ARCES	**ARCESS Array B**	**43.67**	**336**	P	**P**	**01 12 03.7**	**-2.3**
	2.3nm,0.8s,baz=100,slow=8.5,SNR=6.7						

*OMAN **05** 01:13:45.3±37.0, 28°.47N×57°.10E, h1km±228km, mb5.4/2, ml4.5/11, Error ellipse: s-maj=236.5km s-min=60.1km az=280.0*

*THR **05** 01:13:55.0±0.4, 27°.49N×56°.71E, h16km±4km, ML3.7*

*IDC **05** 01:13:55.1±0.9, 27°.55N×56°.58E, h0km, mb3.8/17, mb1 3.9/19, mb1mx3.8/62, mbtmp3.8/19, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/43, Error ellipse: s-maj=19.3km s-min=16.8km az=33.0*

*DSN **05** 01:13:57.2±1.6, 27°.60N×57°.13E, h10km, ML4.4/9, Error ellipse: s-maj=36.9km s-min=11.5km az=126.0*

*TEH **05** 01:13:58.8, 27°.67N×56°.77E, h13km, ML3.8*

*NEIC **05** 01:14:00.8±3.8, 27°.68N±0°.05×56°.65E±0°.05, h36km±8km, Error ellipse: s-maj=8.8km s-min=5.4km az=143.0*

ISC 05 01:13:57.1±0.5, 27°.64N±0°.02×56°.83E±0°.04, h10km, n107, σ1$81/106, mb3.9/24, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.32**	**233**	*e*Pg	**Pb**	**01 14 06.2**	**+1.3**
GENO	**Geno**	**0.63**	**248**	*e*		01 14 27.7	
GENO				*e*Pg	**Pg**	**01 14 09.9**	**+0.6**
BNDS	**Bandar-Abbas**	**0.63**	**248**	*e*Pg	Pg	01 14 04.9	-4.5
BNDS				IAML		01 14 21.7	
	comp=N,7μm,0.5s						
BNDS				IAML		01 14 22.9	
	comp=E,6μm,0.4s						
KHNJ	**Kahnooj**	**0.84**	**68**	*e*Pg	**Pb**	**01 14 15.0**	**+1.2**
KHNJ	**Kahnooj**	**0.84**	**68**	Pg	**Pb**	**01 14 15.0**	**+1.2**
SHME	**Shamm**	**1.70**	**201**	*e*P	**Pn**	**01 14 28.3**	**+1.4**
	SNR=26						
SHME				S	**Sb**	**01 14 51.3**	**+1.4**
SHME	**Shamm**	**1.70**	**201**	*e*Pn	**Pb**	**01 14 29.5**	**+1.0**
SHME	**Shamm**	**1.70**	**201**	Pn	**Pb**	**01 14 29.5**	**+1.0**
BANOM	**Banah**	**1.77**	**195**	*e*P	**Pn**	**01 14 28.3**	**+0.4**
	SNR=22						
BANOM				S	**Sb**	**01 14 53.5**	**+1.4**
BANOM	**Banah**	**1.77**	**195**	P	**Pn**	**01 14 29.2**	**+1.3**
	SNR=22						
BANOM	**Banah**	**1.77**	**195**	*e*Pn	**Pb**	**01 14 30.4**	**+0.7**
NGRK	**Negar Kerman**	**2.00**	**358**	*e*Pn	**Pb**	**01 14 34.1**	**+0.3**
NGRK				*e*	**Sg**	**01 15 07.3**	**+5.8**
JSK1	**Jask**	**2.17**	**157**	*e*Pn	**Pb**	**01 14 37.8**	**+1.4**
LAR1	**LAR**	**2.17**	**271**	*e*Pn	**Pb**	**01 14 35.6**	**-1.0**
CHMN	**Cheshme madani**	**2.30**	**16**	*e*Pn	**Pb**	**01 14 38.6**	**-0.3**
CHMN				*e*		01 15 14.3	
CHMN	**Cheshme madani**	**2.30**	**16**	Pn	**Pb**	**01 14 38.6**	**-0.3**
KRBR	**Kerman**	**2.33**	**359**	IAML		01 15 25.9	
	comp=E,327nm,0.5s						
TVBK	**TV Kerman**	**2.34**	**359**	*e*	**Sg**	**01 15 19.0**	**+6.6**
MSFE	**Esma-Masafi**	**2.35**	**195**	*e*P	**Pn**	**01 14 37.1**	**+1.3**
	SNR=27						
MSFE	**Esma-Masafi**	**2.35**	**195**	*e*Pn	**Pn**	**01 14 37.9**	**+2.1**
UMQ	**Umm Al-Quwin**	**2.35**	**207**	*e*Pn	**Pn**	**01 14 37.7**	**+1.9**
MDH	**Madha**	**2.38**	**192**	*e*P	**Pn**	**01 14 37.2**	**+1.0**
	SNR=8.8						
UOSS	**Minazif**	**2.74**	**192**	P	**Pn**	**01 14 43.5**	**+2.3**
UOSS	**Minazif**	**2.74**	**192**	P	**Pn**	**01 14 42.3**	**+1.1**
UOSS				S	**Sg**	**01 15 26.8**	**+1.6**
UOSS	**Minazif**	**2.74**	**192**	*e*Pn	**Pn**	**01 14 43.7**	**+2.5**
UOSS	**Minazif**	**2.74**	**192**		**Pn**	**01 14 43.0**	**+1.9**
KHGB	**Koh Gabri**	**2.74**	**354**	*e*Pn	**Pb**	**01 14 44.4**	**-2.0**
KHGB				*e*		01 14 56.8	
NAZ	**Nazwa, Dubai**	**2.84**	**202**	*e*P	**Pn**	**01 14 44.4**	**+1.9**
	SNR=10						
NAZ	**Nazwa, Dubai**	**2.84**	**202**	P	**Pn**	**01 14 45.0**	**+2.4**
	SNR=13						
NAZ				S	**Sg**	**01 15 29.1**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.84**	**202**	*e*Pn	**Pn**	**01 14 44.2**	**+1.7**
HATD	**Hatta, Dubai**	**2.87**	**193**	*e*P	**Pn**	**01 14 44.2**	**+1.2**
	SNR=13						
HATD	**Hatta, Dubai**	**2.87**	**193**	P	**Pn**	**01 14 44.2**	**+1.2**
HATD	**Hatta, Dubai**	**2.87**	**193**	*e*Pn	**Pn**	**01 14 46.0**	**+3.0**
ASHO	**Ashiyiah**	**3.02**	**193**	*i* P	**Pn**	**01 14 46.5**	**+1.4**
	SNR=10						
ASHO	**Ashiyiah**	**3.02**	**193**	P	**Pn**	**01 14 47.0**	**+1.9**
	SNR=10						
ASHO				S	**Sg**	**01 15 34.9**	**+0.6**
ASHO	**Ashiyiah**	**3.02**	**193**	*e*Pn	**Pn**	**01 14 47.5**	**+2.4**
FAQ	**Al Faqa, Dubai**	**3.09**	**201**	*e*Pn	**Pn**	**01 14 46.3**	**+0.3**
LMD1	**Lamerd**	**3.27**	**266**	*e*Pn	**Pn**	**01 14 51.6**	**+3.2**
GHIR	**Ghir-Karzin**	**3.46**	**282**	IAML		01 16 14.7	
	comp=E,150nm,0.7s						
AJN	**Ajban**	**3.48**	**209**	*i* P	**Pn**	**01 14 52.0**	**+0.7**
	SNR=9.3						
AJN	**Ajban**	**3.48**	**209**	P	**Pn**	**01 14 53.6**	**+2.3**
	SNR=9.4						
SOHO	**SOHO**	**3.50**	**184**	P	**Pn**	**01 14 50.5**	**-1.2**
SOHO	**SOHO**	**3.50**	**184**	P	**Pn**	**01 14 52.7**	**+1.1**
SOHO	**SOHO**	**3.50**	**184**	*e*Pn	**Pn**	**01 14 53.1**	**+1.5**
ALNE	**Al Ain**	**3.70**	**195**	*i* P	**Pn**	**01 14 54.3**	**-0.1**
	SNR=6.6						
ALNE	**Al Ain**	**3.70**	**195**	*e*Pn	**Pn**	**01 14 56.7**	**+2.3**
CHBR	**Chabahar**	**3.85**	**121**	*e*Pn	**Pn**	**01 14 55.8**	**-0.7**
ZHSF	**Zahedan**	**3.99**	**60**	*e*Sg	**Sg**	**01 16 03.9**	**-1.4**
HOQ	**Hoqain**	**4.06**	**174**	P	**Pn**	**01 15 00.5**	**+1.1**
	SNR=11						
IMEH	**Mehriz**	**4.21**	**333**	*e*Pn	**Pn**	**01 15 03.3**	**+1.8**
BIDO	**Bidbid**	**4.27**	**164**	P	**Pn**	**01 15 02.4**	**+0.2**
	SNR=10						
ARQ	**Araqi**	**4.29**	**184**	P	**Pn**	**01 15 04.6**	**+2.0**
	SNR=8.4						
WSAR	**Wadi Sarin**	**4.68**	**159**	Pn	**Pn**	**01 15 09.0**	**+1.2**
	comp=E,13nm,0.3s,baz=331,slow=6.8,SNR=60						
WSAR				Sn	**Sn**	**01 16 01.9**	**-0.2**
	comp=E,45nm,0.3s,baz=249,slow=23,SNR=18						
BSY	**Bisya**	**4.89**	**176**	P	**Pn**	**01 15 11.4**	**+0.7**
ISAD	**Sadrabad**	**5.06**	**328**	*e*Pn	**Pn**	**01 15 16.0**	**+2.7**
YZKH	**Yazd**	**5.12**	**338**	*e*Pn	**Pn**	**01 15 14.7**	**+0.8**
KLNJ	**Kolanjah**	**5.67**	**308**	*e*Pn	**Pn**	**01 15 23.5**	**+1.7**
IRAM	**Ramesheh**	**5.67**	**318**	*e*Pn	**Pn**	**01 15 22.8**	**+1.1**
JLN	**Jalan Bani Buh**	**5.95**	**156**	P	**Pn**	**01 15 24.6**	**-0.7**
IGAR	**Gharneh**	**6.30**	**320**	*e*Pn	**Pn**	**01 15 31.9**	**+1.5**
SHRT	**Shahrakht**	**6.69**	**26**	*e*P	**Pn**	**01 15 37.8**	**+2.2**
SHRT	**Shahrakht**	**6.69**	**26**	*e*Pn	**Pn**	**01 15 37.8**	**+2.2**
SHRT	**Shahrakht**	**6.69**	**26**	Pn	**Pn**	**01 15 37.7**	**+2.2**
HRA	**Herat**	**8.18**	**33**	Pn	**Pn**	**01 15 57.4**	**+1.4**
GEYT	**Alibeck**	**10.32**	**6**	LR	LR	01 21 05.3	
	comp=E,86nm,18.2s,baz=30,slow=41						
GEYT	**Alibeck**	**10.32**	**6**	Pn	**Pn**	**01 16 24.1**	**-1.1**
MARD	**Mardin**	**16.60**	**310**	Pn	**Pn**	**01 17 47.5**	**-2.7**
MARD				IAmb	IAmb	01 18 01.0	
	comp=Z,13nm,0.7s						
ASF	**Jabal al Asfar**	**17.85**	**289**	P	**Pn**	**01 17 59.9**	**-5.9**
	comp=Z,0.2nm,0.3s,baz=61,slow=14,SNR=2.7						
KK31	**Karatay Array**	**19.00**	**32**	P	**P**	**01 18 18.6**	**-0.3**
KKAR	**Karatay Array**	**19.00**	**32**	P	**P**	**01 18 18.4**	**-0.6**
MMAI	**Mount Meron Ar**	**19.24**	**291**	P	**P**	**01 18 20.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=93,slow=19,SNR=1.6						
EIL	**Elat**	**19.30**	**281**	P	**Pn**	**01 18 23.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=13,slow=5.4,SNR=2.6						
AAK	**Ala-Archa**	**20.74**	**39**	P	**P**	**01 18 39.6**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=184,slow=9.0,SNR=1.6						
AAK	**Ala-Archa**	**20.74**	**39**	IAmb	IAmb	01 18 56.0	
	comp=Z,2.4nm,0.6s						
ABKAR	**Akbulak array**	**21.72**	**6**	P	**P**	**01 18 49.0**	**+0.7**
BR131	**Keskin Array S**	**22.68**	**308**	P	**P**	**01 18 59.8**	**+0.9**
BR131				IAmb	IAmb	01 19 06.8	
	comp=Z,3.2nm,0.8s						
BRTR	**Keskin Array B**	**22.68**	**308**	P	**P**	**01 18 58.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=129,slow=11,SNR=5.5						
BRTR	**Keskin Array B**	**22.68**	**308**	P	**P**	**01 18 59.4**	**+0.6**
AKTO	**Aktyubinsk**	**22.78**	**2**	P	**P**	**01 19 00.9**	**+1.2**
	comp=Z,6.7nm,0.6s,baz=181,slow=11,SNR=31						
AKTO				LR	LR	01 29 24.1	
	comp=Z,202nm,20.5s,baz=215,slow=41						
BVAR	**Borovoye Array**	**27.29**	**18**	P	**P**	**01 19 42.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=210,slow=13,SNR=6.6						
MKAR	**Makanchi Array**	**27.67**	**40**	P	**P**	**01 19 47.6**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=197,slow=42,SNR=1.5						
KURBB	**Kurchatov Arra**	**28.27**	**30**	P	**P**	**01 19 52.0**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=229,slow=8.8,SNR=11						
KURK	**Kurchatov**	**28.37**	**30**	P	**P**	**01 19 52.0**	**+0.7**
KURK	**Kurchatov**	**28.37**	**30**	IAmb	IAmb	01 20 18.0	
	comp=Z,6.8nm,1.9s						
AKASG	**Malin Array Be**	**31.12**	**325**	P	**P**	**01 20 14.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=120,slow=8.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**33.36**	**30**	P	**P**	**01 20 36.3**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=247,slow=8.7,SNR=3.6						
KMBO	**Kilima Mbogo**	**34.24**	**217**	P	**P**	**01 20 46.0**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=32,slow=11,SNR=4.9						
KMBO	**Kilima Mbogo**	**34.24**	**217**	IAmb	IAmb	01 20 46.5	
	comp=Z,2.8nm,0.9s						
GERES	**GERESS Array B**	**39.27**	**314**	P	**P**	**01 21 24.2**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=112,slow=6.0,SNR=4.2						
KHC	**Kasperske Hory**	**39.43**	**315**	*e*P	**P**	**01 21 26.5**	**-0.8**
KHC				*ex*	x	01 21 33.7	
FINES	**FINESS Array B**	**39.55**	**337**	P	**P**	**01 21 27.5**	**-0.5**
	comp=Z,2.8nm,1.0s,baz=142,slow=9.2,SNR=8.2						
WTTA	**Wattenberg**	**40.21**	**312**	*i* P	**P**	**01 21 32.3**	**-1.6**
	comp=Z,5.9nm,1.2s						
WATA	**Walderalm**	**40.26**	**312**	*i* pP	P	01 21 40.0	+5.6
	comp=Z,3.0nm,0.7s						
SQTA	**Sankt Quirin**	**40.48**	**311**	*i* P	**P**	**01 21 34.6**	**-1.6**
	comp=Z,2.4nm,0.6s						
MOTA	**Moosalm**	**40.58**	**312**	*i* P	**P**	**01 21 35.8**	**-1.2**
	comp=Z,1.3nm,0.6s						
FETA	**Feichten**	**40.76**	**311**	*i* P	**P**	**01 21 37.0**	**-1.5**
	comp=Z,1.8nm,0.7s						
DAVA	**Damuels**	**41.38**	**311**	*i* P	**P**	**01 21 41.9**	**-1.7**
	comp=Z,3.2nm,0.5s						
HFS	**Hagfors**	**43.65**	**330**	P	**P**	**01 21 59.8**	**-1.9**
	comp=Z,1.7nm,0.6s,baz=144,slow=10,SNR=4.3						
NB2	**NORSAR Subarra**	**45.16**	**331**	P	**P**	**01 22 12.5**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=113,slow=7.9						
NOA	**NORSAR Array B**	**45.16**	**331**	P	**P**	**01 22 12.4**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=116,slow=7.8,SNR=7.6						
TAM	**Tamanrasset**	**46.40**	**276**	P	**P**	**01 22 24.0**	**-0.2**
ESDC	**Sonseca Array**	**51.13**	**300**	P	**P**	**01 22 58.8**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=69,slow=8.0,SNR=5.7						
TORD	**Torodi Ar. Bea**	**53.25**	**266**	P	**P**	**01 23 14.3**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=63,slow=7.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	**53.25**	**266**	P	**P**	**01 23 17.2**	**+0.9**
WRA	**Warramunga Arr**	**88.63**	**113**	P	**P**	**01 26 50.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=312,slow=4.3,SNR=6.8						
YKA	**Yellowknife Ar**	**89.92**	**356**	P	**P**	**01 26 55.0**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=9.6,slow=6.5,SNR=1.6						
ASAR	**Alice Springs**	**90.13**	**117**	P	**P**	**01 26 57.9**	**0.0**
	comp=Z,0.2nm,0.7s,baz=330,slow=5.4,SNR=1.7						

*IDC **05** 01:15:51.7±0.7, 4°.51N×118°.54E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.8/52, mbtmp3.9/14, ML4.3/1, MS3.1/5, Ms1 3.2/5, ms1mx2.9/35, Error ellipse: s-maj=36.9km s-min=13.5km az=60.0*

*NEIC **05** 01:15:54.5±2.4, 4°.64N±0°.04×118°.34E±0°.08, h12km±5km, mb4.3/16, Error ellipse: s-maj=11.3km s-min=5.9km az=90.0*

*DJA **05** 01:15:54.9±0.8, 5°N±6°×11°8E±°, h23km±11km, M4.8/6, mB5.6/2, mb4.9/5, MLv4.8/6, Mw(mB)5.1/2*

ISC 05 01:15:53.9±0.5, 4°.58N±0°.06×118°.36E±0°.08, h10km, n48, σ1$36/45, mb4.1/19, MS2.9/3, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**0.61**	**13**		**Pg**	**01 16 05.4**	**-0.3**
KKM	**Kota Kinabalu**	**2.58**	**304**		**Pn**	**01 16 35.6**	**-0.3**
MPSI	**Mapaga**	**4.49**	**160**	P	**Pn**	**01 17 01.4**	**-0.6**
SBUM	**Sibu**	**6.49**	**251**		**Pn**	**01 17 29.4**	**0.0**
KMSI	**Cibinong**	**6.88**	**125**	P	**Pb**	**01 17 53.6**	**0.0**
LUWI	**Luwuk**	**7.12**	**142**	P	**Pn**	**01 17 39.6**	**+1.5**
	1.3nm5μm441nm,0.9s						
LUWI	**Luwuk**	**7.12**	**142**		**Pn**	**01 17 40.6**	**+2.5**
DAV	**Davao City (W)**	**7.59**	**71**	LR	LR	01 20 25.6	
	comp=Z,163nm,21.8s,baz=298,slow=37						
SPSI	**Sidrap Palu**	**8.61**	**171**	P	**Pn**	**01 18 01.5**	**+2.9**
	34nm,0.7s						
BNSI	**Bone**	**9.09**	**169**	P	**Pn**	**01 18 07.1**	**+1.9**
KAPI	**Kappang**	**9.63**	**172**	Pn	**Pn**	**01 18 14.0**	**+1.3**
	1.7nm,0.3s,baz=354,slow=8.1,SNR=5.0						
BKSI	**Bulukumba**	**9.99**	**170**	P	**Pn**	**01 18 20.5**	**+2.9**
SOEI	**Soe**	**15.41**	**158**	Pn	**Pn**	**01 19 31.8**	**+0.2**
BATI	**Baumata**	**15.61**	**160**	Pn	**Pn**	**01 19 35.4**	**+1.1**
	2.7nm,0.3s,baz=265,slow=18,SNR=1.4						
TPUB	**Ta-pu**	**18.74**	**7**	P	**Pn**	**01 20 14.2**	**+0.9**
TPUB				IAmb	IAmb	01 20 18.2	
	comp=Z,16nm,0.9s						
PSI	**Prapat**	**19.48**	**265**	P	**Pn**	**01 20 22.7**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=2.4,slow=1.2,SNR=4.0						
PSI				LR	LR	01 30 37.4	
	comp=Z,82nm,18.4s,baz=269,slow=45						
RPSI	**Rantau Prapat**	**19.49**	**265**	P	**Pn**	**01 20 22.7**	**+0.2**
RPSI	**Rantau Prapat**	**19.49**	**265**	P	**P**	**01 20 21.6**	**+0.3**
RPSI				IAmb	IAmb	01 20 24.2	
	comp=Z,22nm,1.4s						
KNRA	**Kununurra**	**22.61**	**153**	P	**P**	**01 20 55.3**	**+0.4**
KNRA				IAmb	IAmb	01 20 56.6	
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.46**	**308**	P	**P**	**01 21 03.5**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=119,slow=7.3,SNR=2.0						
CMAR				LR	LR	01 29 57.1	
	comp=Z,53nm,21.7s,baz=177,slow=36						
FITZ	**Fitzroy Crossi**	**23.65**	**163**	P	**P**	**01 21 02.2**	**-3.3**
	comp=Z,2.4nm,1.0s,baz=0.5,slow=5.4,SNR=3.3						
FITZ				LR	LR	01 33 10.8	
	comp=Z,32nm,18.3s,baz=43,slow=44						
FITZ	**Fitzroy Crossi**	**23.65**	**163**	P	**P**	**01 21 04.1**	**-1.5**
CHTO	**Chiang Mai**	**23.66**	**308**	P	**P**	**01 21 06.7**	**+1.0**
CHTO				IAmb	IAmb	01 21 11.3	
	comp=Z,7.8nm,1.1s						
ENH	**Enshi**	**26.89**	**343**	P	**P**	**01 21 35.7**	**+0.5**
ENH				IAmb	IAmb	01 21 39.4	
	comp=Z,11nm,1.1s						
GUMO	**Guam**	**27.63**	**69**	LR	LR	01 30 53.2	
	comp=Z,36nm,20.3s,baz=82,slow=33						
WRA	**Warramunga Arr**	**29.00**	**148**	P	**P**	**01 21 51.5**	**-2.6**
	comp=Z,1.5nm,0.6s,baz=332,slow=9.5,SNR=27						
WB2	**Warramunga Arr**	**29.00**	**148**	P	**P**	**01 21 53.1**	**-1.0**
AS31	**Alice Springs**	**31.91**	**152**	P	**P**	**01 22 19.2**	**-0.6**
ASAR	**Alice Springs**	**31.91**	**152**	P	**P**	**01 22 18.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=330,slow=7.4,SNR=17						
ASAR				PcP	**PcP**	**01 25 07.6**	**-2.8**
	comp=Z,0.3nm,0.7s,baz=343,slow=1.3,SNR=4.1						
STKA	**Stephens Creek**	**42.47**	**150**	P	**P**	**01 23 48.6**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=312,slow=9.4,SNR=11						
STKA	**Stephens Creek**	**42.47**	**150**	P	**P**	**01 23 49.3**	**-0.1**
ULN	**Ulaanbaatar**	**44.20**	**349**	P	**P**	**01 24 03.7**	**+0.4**
SONM	**Songino Array**	**44.30**	**348**	P	**P**	**01 24 04.7**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=178,slow=7.4,SNR=3.8						
SONM	**Songino Array**	**44.30**	**348**	IAmb	IAmb	01 24 07.7	
	comp=Z,1.7nm,0.8s						
MK31	**Makanchi Array**	**52.32**	**329**	P	**P**	**01 25 05.7**	**-0.1**
MK31				IAmb	IAmb	01 25 09.6	
	comp=Z,3.2nm,1.1s						
MKAR	**Makanchi Array**	**52.32**	**329**	P	**P**	**01 25 05.7**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=128,slow=7.9,SNR=7.2						
MKAR	**Makanchi Array**	**52.32**	**329**	P	**P**	**01 25 06.6**	**+0.7**
AAK	**Ala-Archa**	**54.28**	**321**	P	**P**	**01 25 22.2**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=273,slow=6.6,SNR=1.9						
AAK	**Ala-Archa**	**54.28**	**321**	P	**P**	**01 25 20.0**	**-0.5**
AAK				IAmb	IAmb	01 25 28.9	
	comp=Z,2.4nm,0.9s						
KBL	**Kabul**	**54.47**	**310**	P	**P**	**01 25 22.2**	**+0.1**
KBL				IAmb	IAmb	01 25 23.9	
	comp=Z,2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**56.28**	**337**	P	**P**	**01 25 35.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=111,slow=7.9,SNR=2.1						
KURBB	**Kurchatov Arra**	**56.72**	**331**	P	**P**	**01 25 38.9**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=133,slow=7.1,SNR=2.3						
KURK	**Kurchatov**	**56.73**	**331**	P	**P**	**01 25 38.9**	**+1.1**
KURK	**Kurchatov**	**56.73**	**331**	IAmb	IAmb	01 25 43.0	
	comp=Z,1.8nm,0.7s						
PETK	**Petropavlovsk-**	**58.12**	**27**	P	**P**	**01 25 45.9**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=159,slow=9.3,SNR=1.6						
PETK	**Petropavlovsk-**	**58.12**	**27**	P	**P**	**01 25 47.5**	**0.0**
BVAR	**Borovoye Array**	**62.20**	**330**	P	**P**	**01 26 16.3**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=111,slow=6.5,SNR=2.5						
AKTO	**Aktyubinsk**	**67.89**	**323**	P	**P**	**01 26 53.3**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=85,slow=6.7,SNR=4.4						

*BGR **05** 01:19:29.8±0.0, 66°.05N×17°.67W, h5km, mb4.7, Ms4.8*

*REY **05** 01:19:35.8, 64°.66N×17°.41W, h6km*

*NAO **05** 01:19:36.8±4.7, 64°.52N×17°.21W, ML5.0*

*BGS **05** 01:19:36.0±1.9, 64°.68N×17°.24W, h5km, MS5.0*

*IDC **05** 01:19:36.9±0.4, 64°.58N×17°.31W, h0km, mb4.4/40, mb1 4.5/46, mb1mx4.4/52, mbtmp4.4/46, ML3.2/5, MS4.6/34, Ms1 4.6/34, ms1mx4.6/40, Error ellipse: s-maj=12.0km s-min=8.5km az=20.0*

*BJI **05** 01:19:36.6±0.0, 64°.94N×16°.94W, h5km, mB5.5/57, mb4.9/62, Ms5.2/61, Ms7 4.9/57*

*IEPN **05** 01:19:36.0, 64°.52N×17°.72W, h10km*

*MOS **05** 01:19:37.1±1.0, 64°.69N×17°.27W, h11km, mb5.3/90, MS4.7/35, Error ellipse: s-maj=7.5km s-min=4.7km az=90.0*

*NEIC **05** 01:19:38.8±1.6, 64°.68N±0°.06×17°.24W±0°.07, h10km±1km, mb5.2/395, Mww5.3, Error ellipse: s-maj=11.0km s-min=4.2km az=160.0*

*UNK **05** 01:19:38.4, 64°.70N×17°.12W, h5km*

*GCMT **05** 01:19:40.8±0.1, 64°.59N±0°.01×17°.13W±0°.01, h12km, MW5.3/153, Moment Tensor Solution. s120,c203; s153,c299; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.41±.01; $M_{\theta\theta}$0.62±.01; $M_{\phi\phi}$0.78±.01; $M_{r\theta}$-0.36±.04; $M_{\theta\phi}$-0.24±.01; $M_{\phi r}$-0.63±.03; Best double couple: $M_0$1.33400×10^{17} NP1:ϕ_s138.00000°, δ37

ISLY	Slysaalda	1.13	221	P	Pb	01 19 55.7	-3.5
	baz=222						
IFED	Fedgar	1.18	237	P	Pn	01 19 56.7	-3.7
	baz=238						
IRJU	Rjupnafell	1.20	207	P	Pn	01 19 56.8	-3.9
	baz=208						
ISKI	Skildingahlsh	1.20	8	P	Pb	01 19 56.8	-3.6
	baz=7.4						
IGHA	Grjothals	1.21	15	P	Pb	01 19 56.6	-3.8
	baz=15						
IMJO	Mjoaskard	1.23	233	P	Pn	01 19 57.4	-3.8
	baz=234						
BORG	Borgarnes	1.67	274	Pg	Pn	01 20 04.6	-2.5
	57nm,0.3s,baz=96,slow=10,SNR=262						
BORG				Lg	Lg	01 20 28.4	
	88nm,0.3s,baz=13,slow=22,SNR=4.9						
BORG	Borgarnes	1.67	274	P	Pn	01 20 04.4	-2.7
BORG	Borgarnes	1.67	274		Pn	01 20 04.4	-2.7
SOFL	Sornfelli, Far	5.39	114	eP	Pn	01 20 56.0	-2.2
SCO	Scoresbysund	6.07	346	i P	Pn	01 21 07.0	-0.5
SCO	Scoresbysund	6.07	346	i P	Pn	01 21 07.0	-0.5
SCO	Scoresbysund	6.07	346	Pn	Pn	01 21 06.8	-0.7
JMIC	Jan Mayen	7.17	24	Pn	Pn	01 21 25.7	+3.2
JMIC	Jan Mayen	7.17	24	Pn	Pn	01 21 20.8	-1.7
	baz=126,slow=15,SNR=2.6						
JMIC	Jan Mayen	7.17	24	Pn	Pn	01 21 25.7	+3.2
LEWI	Lewis, Hebride	8.28	137	eP	Pn	01 21 35.1	-2.8
LEWI				IAMs_20	IAMs_20	01 26 15.1	
	comp=Z,14μm,10.8s						
ANGG	Ammassalik, Gr	8.55	285	Pn	Pn	01 21 44.6	+3.2
LRW	Lerwick	8.81	114	eP	Pn	01 21 43.4	-1.6
LRW				IAMs_20	IAMs_20	01 26 17.3	
	comp=Z,11μm,10.4s						
BIGH	Upper Bighouse	8.94	128	eP	Pn	01 21 44.3	-2.5
BIGH				IAMs_20	IAMs_20	01 26 44.9	
	comp=Z,6μm,13.1s						
KAC	Achnashellach	9.29	135	eP	Pn	01 21 49.2	-2.4
KPL	Plockton	9.31	137	eP	Pn	01 21 50.2	-1.7
KPL				IAMs_20	IAMs_20	01 26 24.0	
	comp=Z,12μm,12.5s						
MCD	Coleburn Disti	9.87	130	eP	Pn	01 21 58.2	-1.4
LAWE	Loch Awe, Argy	10.31	139	eP	Pn	01 22 03.9	-1.7
INVG	Invergeldie, C	10.56	135	eP	Pn	01 22 06.3	-2.8
INVG				IAMs_20	IAMs_20	01 26 59.1	
	comp=Z,12μm,10.2s						
EAB	Aberfoyle	10.68	137	eP	Pn	01 22 09.1	-1.6
SUMG	Summit	10.94	325	i P	Pn	01 22 20.0	+5.5
SUMG	Summit	10.94	325	i P	Pn	01 22 20.0	+5.5
SUMG	Summit	10.94	325	Pn	Pn	01 22 15.4	+0.9
PGBU	Glenifferbraes	10.96	138	eP	Pn	01 22 12.8	-1.7
AKN	Aaknes	11.20	92	Pn	Pn	01 22 15.8	-2.0
AKN	Aaknes	11.20	92	Pn	Pn	01 22 15.8	-2.0
EDI	Edinburgh	11.25	135	eP	Pn	01 22 16.5	-1.9
EDI				IAMs_20	IAMs_20	01 27 17.0	
	comp=Z,8μm,13.9s						
EDI	Edinburgh	11.25	135	eP	Pn	01 22 16.9	-1.5
EBL	Broad Law	11.42	135	eP	Pn	01 22 18.8	-1.9
ESY	Stoneypath	11.43	133	eP	Pn	01 22 19.5	-1.4
NEWG	New Galloway	11.63	139	eP	Pn	01 22 21.6	-2.1
NEWG				IAMs_20	IAMs_20	01 27 30.6	
	comp=Z,11μm,12.8s						
GAL1	Galloway	11.72	141	eP	Pn	01 22 23.2	-1.7
GAL1				IAMs_20	IAMs_20	01 27 52.7	
	comp=Z,12μm,12.2s						
EKA	Eskdalemuir Ar	11.76	136	Pn	Pn	01 22 24.0	-1.4
EKA	Eskdalemuir Ar	11.76	136	Pn	Pn	01 22 22.6	-2.8
	baz=328,slow=14,SNR=45						
EKA				Sn	Sn	01 24 34.6	-2.4
	baz=344,slow=25,SNR=3.2						
EKA				LR	LR	01 27 01.0	
	comp=Z,3μm,18.4s,baz=135,slow=38						
EKA	Eskdalemuir Ar	11.76	136	Pn	Pn	01 22 24.0	-1.4
ESK	Eskdalemuir	11.76	136	eP	Pn	01 22 24.0	-1.4
ESK				IAMs_20	IAMs_20	01 27 40.7	
	comp=Z,6μm,13.0s						
ESK	Eskdalemuir	11.76	136	P	Pn	01 22 24.6	-0.8
ESK	Eskdalemuir	11.76	136	Pn	Pn	01 22 24.6	-0.8
KMY	Karmoy	11.96	107	eP	Pn	01 22 27.2	-0.9
ODD1	Odda	12.13	102	eP	Pn	01 22 34.4	+3.8
DAG	Danmarks Havn	12.15	359	⇓i P	Pn	01 22 34.5	+3.8
	comp=Z,308nm,1.9s						
DAG	Danmarks Havn	12.15	359	⇓i P	Pn	01 22 34.5	+3.8
DAG				pmax	pmax		
	comp=Z,310nm,1.9s						
BLS5	Blasjo	12.34	104	eP	Pn	01 22 31.1	-2.2
KESW	Keswick, Cumbr	12.41	138	eP	Pn	01 22 32.1	-2.3
KESW				IAMs_20	IAMs_20	01 28 13.1	
	comp=Z,14μm,10.9s						
EDMD	Edmundbyers	12.54	135	eP	Pn	01 22 32.5	-3.7
DSB	Dublin	12.79	149	Pn	Pn	01 22 40.0	+0.5
NRS	Narsarsuaq	13.16	267	i P	P	01 22 50.1	-4.7
NRS	Narsarsuaq	13.16	267	eP	P	01 22 50.1	-4.7
NC204	NORSAR Array S	13.21	92		Pn	01 22 42.9	-2.4
YRC	Rhoscolyn	13.21	144	eP	Pn	01 22 43.7	-1.5
WLF1	Llynfaes	13.22	144	eP	Pn	01 22 43.4	-2.0
WLF1				IAMs_20	IAMs_20	01 29 05.7	
	comp=Z,15μm,12.1s						
GDLE	Glaisdale, N Y	13.25	133	eP	Pn	01 22 45.8	+0.1
SNART	Snartemo	13.30	107	eP	Pn	01 22 46.8	+0.3
NBO00	NORSAR Array S	13.33	93		Pn	01 22 43.3	-3.5
NAO01	NORSAR Array S	13.46	94	Pn	Pn	01 22 47.6	-1.1
NC303	NORSAR Array S	13.49	92	Pn	Pn	01 22 46.3	-2.7
NB2	NORSAR Subarra	13.51	92	Pn	Pn	01 22 48.5	-0.8
NB2	NORSAR Subarra	13.51	92	Pn	Pn	01 22 46.2	-3.1
	comp=Z,621nm,5.0s,baz=297,slow=14						
NB2	NORSAR Subarra	13.51	92	Pn	Pn	01 22 48.5	-0.8
NOA	NORSAR Array B	13.51	92	Pn	Pn	01 22 46.3	-3.0
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=11						
NOA				LR	LR	01 27 49.0	
	comp=Z,3μm,21.3s,baz=300,slow=37						
KONO	Kongsberg	13.53	99	ceP	Pn	01 22 49.3	-0.3
KONO				pmax	pmax		
	comp=Z,54nm,2.5s						
KONO	Kongsberg	13.53	99	Pn	Pn	01 22 48.3	-1.3
NB201	NORSAR Array S	13.54	92		Pn	01 22 48.5	-1.2
SFJD	Kangerlussuaq	13.68	295	LR	LR	01 27 38.1	
	comp=Z,5μm,20.4s,baz=82,slow=35						
NC405	NORSAR Array S	13.69	92	Pn	Pn	01 22 50.0	-1.7
NC602	NORSAR Array S	13.80	93	Pn	Pn	01 22 50.2	-3.0
ILUL1	Ilulissat	13.80	304	i P	P	01 22 58.6	-3.3
ILUL1	Ilulissat	13.80	304	eP	P	01 22 58.6	-3.3
LBWR	Ladybower, Pea	13.85	137	eP	Pn	01 22 51.2	-2.7
LBWR				IAMs_20	IAMs_20	01 29 07.1	
	comp=Z,11μm,10.5s						
HOMB	Homborsund	13.88	105	eP	Pn	01 22 54.1	-0.2
HLM1	Long Mynd	14.31	142	eP	Pn	01 22 58.0	-2.3
HLM1				IAMs_20	IAMs_20	01 30 07.8	
	comp=Z,9μm,13.9s						
IVI	Ivigtut	14.32	270	Pn	Pn	01 23 02.6	+2.2
CWF	Charnwood Fore	14.55	138	eP	Pn	01 23 02.4	-1.2
CWF				IAMs_20	IAMs_20	01 29 46.8	
	comp=Z,7μm,12.3s						
MCH1	Michaelchurch	14.75	143	eP	Pn	01 23 05.8	-0.5
MCH1				IAMs_20	IAMs_20	01 29 26.8	
	comp=Z,5μm,13.3s						
TRO	Tromso	14.78	54	P	Pn	01 23 06.0	-0.5
TRO	Tromso	14.78	54	P	Pn	01 23 06.0	-0.5
HFS	Hagfors	15.02	93	P	Pn	01 23 08.2	-1.8
	baz=292,slow=14						
HFS	Hagfors	15.02	93	Pn	Pn	01 23 09.2	-0.7
	comp=Z,0.2nm,0.3s,baz=3.8,slow=8.7,SNR=4.5						
HFS				LR	LR	01 28 35.1	
	comp=Z,4μm,21.7s,baz=288,slow=36						
HFS	Hagfors	15.02	93	P	Pn	01 23 08.2	-1.8
	baz=292,slow=14						
MUD	Monsted U'grnd	15.35	110	i P	P	01 23 16.3	-2.8
	comp=Z,5μm,20.0s						
MUD	Monsted U'grnd	15.35	110	eP	P	01 23 16.3	-2.8
MUD				MLR	MLR		
	comp=Z,5μm,20.0s						
KIF	Kilpisjarvi	15.45	57	P	P	01 23 17.1	-3.0
KIF	Kilpisjarvi	15.45	57	P	P	01 23 17.1	-3.0
HSPB	Hornsund (broa	16.04	26	P	P	01 23 24.8	-1.9
HSPB	Hornsund (broa	16.04	26	eP	Pn	01 23 22.2	-0.9
HSPB				eS	Sn	01 26 21.3	+0.1
HSPB	Hornsund (broa	16.04	26	P	P	01 23 24.8	-1.9
HAMF	Hammerfest	16.43	51	P	Pn	01 23 27.4	-0.7
HAMF	Hammerfest	16.43	51	P	Pn	01 23 27.4	-0.7
KBS	Kingsbay	16.61	19	P	P	01 23 32.9	-0.1
KBS	Kingsbay	16.61	19	eP	Pn	01 23 29.6	-0.9
KBS				eS	Sn	01 26 36.3	+1.3
KBS	Kingsbay	16.61	19	ceP	P	01 23 30.7	-2.3
KBS				pmax	pmax		
	comp=Z,170nm,1.7s						
KBS	Kingsbay	16.61	19	Pn	Pn	01 23 28.2	-2.2
KBS				IAmb	IAmb	01 23 39.9	
	comp=Z,203nm,1.6s						
KBS	Kingsbay	16.61	19	P	P	01 23 32.9	-0.1
SPA0	Spitsbergen Ar	16.84	23	P	P	01 23 37.2	+1.6
SPA0	Spitsbergen Ar	16.84	23	eP	P	01 23 34.0	-1.6
SPA0				eS	S	01 26 44.2	-7.3
SPA0	Spitsbergen Ar	16.84	23	Pn	Pn	01 23 31.0	-2.4
SPA0				IAmb	IAmb	01 23 56.8	
	comp=Z,391nm,2.0s						
SPA0	Spitsbergen Ar	16.84	23	P	P	01 23 37.2	+1.6
SPITS	Spitsbergen Ar	16.84	23	Pn	P	01 23 35.6	+0.1
	baz=90,slow=7.5,SNR=2.1						
SPITS				LR	LR	01 28 18.3	
	comp=Z,3μm,20.3s,baz=220,slow=31						
NOR	Nord	17.01	0	P	Pn	01 23 35.3	-0.1
NOR	Nord	17.01	0	⇓i P	P	01 23 36.7	-0.7
NOR	Nord	17.01	0	⇓i P	P	01 23 36.7	-0.7
NOR	Nord	17.01	0	P	Pn	01 23 35.3	-0.1
ARA0	ARCESS Array S	17.09	55	P	P	01 23 38.6	+0.3
	baz=292,slow=12						
ARA0	ARCESS Array S	17.09	55	P	P	01 23 38.6	+0.3
	baz=292,slow=12						
ARCES	ARCESS Array B	17.09	55	P	Pn	01 23 35.6	-0.9
	comp=Z,0.2nm,0.3s,baz=270,slow=9.7,SNR=11						
ARCES				LR	LR	01 28 48.7	
	comp=Z,4μm,20.9s,baz=274,slow=32						
ARCES	ARCESS Array B	17.09	55	Pn	Pn	01 23 35.4	-1.1
COP	Copenhagen	17.21	108	i P	Pn	01 23 36.9	-1.1
	comp=Z,3μm,24.0s						
COP	Copenhagen	17.21	108	eP	Pn	01 23 36.9	-1.1
COP				MLR	MLR		
	comp=Z,3μm,24.0s						
KEV	Kevo	17.59	54	P	Pn	01 23 41.0	-1.8
KEV				pmax	pmax		
	comp=Z,135nm,1.4s						
KEV	Kevo	17.59	54	Pn	Pn	01 23 41.0	-1.8
BSEG	Bad Segeberg	17.62	115	eP	P	01 23 42.9	-1.4
	comp=Z,168nm,1.6s,baz=328,slow=11						
HOPEN	Hopen	17.81	31	eP	P	01 23 45.6	-0.6
HOPEN				eS	S	01 27 06.3	-4.8
IBBN	Ibbenburen	17.92	122	eP	P	01 23 48.9	+1.3
	baz=328,slow=11						
UCC	Uccle	17.99	130	P	Pn	01 23 44.8	-3.0
UCC	Uccle	17.99	130	P	Pn	01 23 45.1	-2.7
UCC				pmax	pmax		
	comp=Z,49nm,1.2s						
UCC	Uccle	17.99	130	Pn	Pn	01 23 45.1	-2.7
SNF	Seneffe	18.22	131	P	Pn	01 23 48.4	-2.2
RGN	Rugen	18.37	109	eP	P	01 23 51.8	-0.7
BEBN	Eben Emael	18.43	128	P	Pn	01 23 50.4	-2.8
BUG	Bochum--Univer	18.45	124	eP	Pn	01 23 54.9	+1.5
	comp=Z,24nm,0.9s,baz=328,slow=11						
BMRD	Maredsous	18.55	130	P	P	01 23 52.4	-2.1
BSTI	Sart Tilman	18.58	129	P	P	01 23 52.4	-2.4
BGES	Gesves	18.59	130	P	P	01 23 52.8	-2.2
	comp=Z,47nm,2.1s						
BCLA	Clavier	18.63	129	P	Pn	01 23 55.3	-0.4
	comp=Z,48nm,2.1s						
NRDL	Niedersach Rie	18.65	118	eP	Pn	01 23 55.2	-0.6
	comp=Z,35nm,1.1s,baz=328,slow=11						
DOU	Dourbes	18.68	131	P	Pn	01 23 54.8	-1.4
MEM	Membach	18.70	128	P	P	01 23 54.5	-1.8
	comp=Z,64nm,2.5s						
BHOU	Houvegnez	18.92	128	P	Pn	01 23 57.7	-1.5
AHRW	Bad Neuenahr-A	19.13	126	eP	Pn	01 24 02.1	+0.5
	baz=328,slow=11						
ASSE	Asse, Remlinge	19.15	118	eP	Pn	01 24 00.9	-0.9
	baz=328,slow=11						
CLZ	Clausthal	19.26	119	eP	Pn	01 24 02.8	-0.6
	baz=328,slow=11						
GTTG	Gottingen	19.35	120	eP	Pn	01 24 03.9	-0.4
	baz=328,slow=11						
WLF	Walferdange	19.56	129	P	P	01 24 04.3	-1.3
WLF				pmax	pmax		
	comp=Z,153nm,1.6s						
WLF	Walferdange	19.56	129	eP	Pn	01 24 07.4	+0.5
	comp=Z,150nm,1.7s,baz=328,slow=11						
WLF	Walferdange	19.56	129	P	P	01 24 04.3	-1.3
WLF				IAmb	IAmb	01 24 17.3	
	comp=Z,153nm,1.6s						
FIA0	FINESS Array S	19.68	79	P	Pn	01 24 05.9	-2.3
	baz=294,slow=11						
FIA0	FINESS Array S	19.68	79	P	Pn	01 24 05.9	-2.3
	baz=294,slow=11						
FINES	FINESS Array B	19.68	79	P	Pn	01 24 06.6	-1.5
	comp=Z,0.4nm,0.3s,baz=300,slow=4.2,SNR=13						
FINES				LR	LR	01 31 18.7	
	comp=Z,3μm,21.5s,baz=293,slow=36						
FINES	FINESS Array B	19.68	79	P	P	01 24 05.4	-1.4
FIA1	FINESS Array S	19.68	79		Pn	01 24 07.9	-0.2
CLF	Chambon-Foret	19.79	138	P	Pn	01 24 08.7	-0.9
TULEG	Thule	19.85	327	P	Pn	01 24 10.4	+0.3
TNS	Taunus Mts	19.88	124	eP	Pn	01 24 10.6	-0.1
	baz=328,slow=11						
UBBA	Unterbreizbach	19.95	121	eP	Pn	01 24 10.7	-0.7
	comp=Z,81nm,1.4s,baz=328,slow=11						
RUE	Ruedersdorf	20.09	113	eP	Pn	01 24 11.2	-1.8
SLIT	Slitere, Latvi	20.12	92	eP	P	01 24 10.7	-1.0
APA0	Apatity Array	20.14	59	P	P	01 24 10.6	-1.2
APA0	Apatity Array	20.14	59	P	P	01 24 10.6	-1.2
APA	Apatity	20.30	59	⇑i P	Pn	01 24 14.8	-0.7
APA				i		01 24 20.7	
APA				i S	S	01 27 57.0	-4.3
APA				pmax	pmax		
	comp=Z,25nm,1.0s						
APA				MLR	MLR		
	comp=Z,4μm,21.0s						
NEUB	Neuenburg	20.30	118	eP	Pn	01 24 13.8	-1.8
	baz=328,slow=11						
LVZ	Lovozero	20.66	58	ceP	Pn	01 24 18.0	-1.8
LVZ				pmax	pmax		
	comp=Z,140nm,1.7s						
LVZ	Lovozero	20.66	58	P	Pn	01 24 17.1	-2.7
CLL	Collm	20.69	116	⇓i P	Pn	01 24 17.4	-2.8
	comp=Z,121nm,1.4s						
CLL				ePmax		01 24 21.0	
CLL				i		01 24 25.2	
	comp=Z,223nm,1.6s						
CLL				ePP	PnPn	01 24 36.0	+0.6
CLL				e		01 26 04.0	
CLL				eS	Sn	01 28 10.0	-3.8
CLL				eSSS	SSS	01 28 42.0	
CLL				Lm	MLR	01 32 00.0	
	comp=N,2μm,19.5s						
CLL				Lm	MLR	01 32 00.0	
	comp=E,4μm,18.7s						
CLL				Lm	MLR	01 32 00.0	
	comp=Z,3μm,19.2s						
CLL				Lmax		01 34 00.0	
CLL	Collm	20.69	116	P	Pn	01 24 17.7	-2.5
CLL				pmax	pmax		
	comp=Z,176nm,1.5s						
CLL	Collm	20.69	116	eP	P	01 24 16.9	-1.0
	baz=328,slow=11						
CLL	Collm	20.69	116	P	Pn	01 24 17.7	-2.5
CLL				IAmb	IAmb	01 24 28.9	
	comp=Z,176nm,1.5s						
MOX	Moxa	20.69	119	eP	Pn	01 24 18.3	-1.9
	comp=Z,39nm,1.1s,baz=328,slow=11						
MOX				eL	L	01 33 01.8	
	comp=Z,4μm,19.5s						
GKP	Gorka Klasztor	20.90	107	eP	Pn	01 24 20.2	-2.3
PBUR	Paburge	20.98	96	eP	Pn	01 24 21.1	-2.3
WERD	Werda	21.11	118	eP	P	01 24 22.3	-0.2
	baz=328,slow=11						
FBE	Freiberg	21.13	116	eP	P	01 24 21.5	-1.1
	comp=Z,24nm,0.9s,baz=328,slow=11						
ECH	Echery	21.15	129	P	P	01 24 22.9	0.0
ECH				pmax	pmax		
	comp=Z,118nm,1.5s						
ECH	Echery	21.15	129	P	P	01 24 22.9	0.0
ECH				IAmb	IAmb	01 24 43.1	
	comp=Z,118nm,1.5s						
GUNZ	Gunzen	21.19	118	eP	P	01 24 23.2	-0.1
	baz=328,slow=11						
KLNR	Kaliningrad	21.19	101	i P	P	01 24 24.8	+1.5
KLNR				pmax	pmax		
	comp=Z,236nm,1.2s						
TANN	Tannenbergstha	21.20	118	eP	P	01 24 23.1	-0.3
	baz=328,slow=11						
WERN	Wernitzgruen	21.27	118	eP	P	01 24 24.3	+0.2
	baz=328,slow=11						
GRF	Grafenberg Arr	21.32	121	eP	P	01 24 25.5	+0.7
	baz=328,slow=11						
GRF				eL	L	01 34 13.0	
	comp=Z,3μm,18.2s						
NKC	Novy Kostel	21.34	118	eP	P	01 24 27.2	+2.3
NKC				eS	Sn	01 28 34.0	+4.6
NKC				AMS	AMS	01 33 20.0	
	comp=Z,4μm,17.2s						
NKC	Novy Kostel	21.34	118	eP	P	01 24 27.2	+2.3
NKC				eS	Sn	01 28 34.0	+4.6
NKC				MLR	MLR		
	comp=Z,4μm,17.2s						
STU	Stuttgart	21.36	125	P	P	01 24 27.8	+2.6
STU				pmax	pmax		
	comp=Z,177nm,1.4s						
STU	Stuttgart	21.36	125	eP	P	01 24 26.5	+1.4
	comp=Z,30nm,0.9s,baz=328,slow=11						
STU	Stuttgart	21.36	125	P	P	01 24 27.8	+2.6
STU				IAmb	IAmb	01 24 37.8	
	comp=Z,177nm,1.4s						
BRG	Berggiesshubel	21.40	115	i P	P	01 24 25.2	-0.4
	comp=Z,285nm,1.8s						
BRG				S	Sn	01 28 29.0	-1.8
	comp=Z,5μm,17.3s						
	comp=N,3μm,14.6s						
	comp=E,3μm,14.6s						
BRG	Berggiesshubel	21.40	115	eP	P	01 24 24.0	-1.5
	baz=328,slow=11						
MANZ	Manzenberg	21.41	119	eP	P	01 24 25.8	+0.1
	baz=328,slow=11						
BFO	Black Forest	21.44	127	P	P	01 24 26.3	+0.2
BFO				pmax	pmax		
	comp=Z,100nm,1.2s						
BFO	Black Forest	21.44	127	eP	P	01 24 26.6	+0.5
	comp=Z,48nm,1.0s,baz=328,slow=11						
BFO	Black Forest	21.44	127	P	P	01 24 26.3	+0.2
BFO				IAmb	IAmb	01 24 32.7	
	comp=Z,100nm,1.2s						
VSU	Vasula	21.54	86	eP	P	01 24 26.1	-0.9
VSU	Vasula	21.54	86	i P	P	01 24 25.6	-1.4
VSU				pmax	pmax		
	comp=Z,128nm,1.0s						
ROTZ	Rotzenmuhle	21.63	119	eP	P	01 24 27.9	-0.1
	comp=Z,36nm,1.3s,baz=328,slow=11						
FRB	Frobisher Bay	21.76	291	LR	LR	01 32 18.9	
	comp=Z,2μm,18.9s,baz=58,slow=35						
PVCC	Panska Ves	21.92	115	eP	P	01 24 32.9	+1.8
PVCC				AMS	AMS	01 33 50.0	
	comp=Z,3μm,16.3s						
PVCC	Panska Ves	21.92	115	eP	P	01 24 32.9	+1.8
PVCC				MLR	MLR		
	comp=Z,3μm,16.3s						
SLVR	Solovky	22.04	65	eP	P	01 24 31.1	-1.1
	comp=Z,251nm,1.8s						
SLVR				eS	S	01 28 35.7	+0.1
PABE	Paberze	22.19	95	eP	P	01 24 32.8	-1.1
PRA	Prague	22.23	116	eP	P	01 24 34.8	+0.4
PRA				AMS	AMS	01 34 10.0	
	comp=Z,2μm,14.8s						
PRA	Prague	22.23	116	eP	P	01 24 34.8	+0.4
PRA				MLR	MLR		
	comp=Z,2μm,14.8s						
PUL	Pulkovo	22.33	80	eP	P	01 24 34.7	-0.7
PUL	Pulkovo	22.33	80	i P	P	01 24 36.1	+0.6
PUL				pmax	pmax		
	comp=Z,79nm,1.2s						
PRU	Pruhonice	22.34	116	eP	P	01 24 35.9	+0.3
PRU				eS	S	01 28 43.4	+1.8
PRU				AMS	AMS	01 34 10.0	
	comp=Z,4μm,16.4s						
PRU	Pruhonice	22.34	116	eP	P	01 24 35.9	+0.3
PRU				eS	S	01 28 43.4	+1.8
PRU				MLR	MLR		
	comp=Z,4μm,16.4s						
KSP	Ksiaz	22.35	112	eP	P	01 24 35.1	-0.6
KSP				eS	S	01 28 42.6	+0.8
WET	Wettzell	22.39	119	eP	P	01 24 35.9	-0.3
	comp=Z,28nm,1.1s,baz=328,slow=11						
CHVC	Chvalec	22.45	113	eP	P	01 24 37.1	+0.2
CHVC				AMS	AMS	01 33 30.0	
	comp=Z,3μm,21.0s						
GOPC	GO Pecny, Ondr	22.49	116	eP	P	01 24 37.5	+0.2
GOPC				eS	Sn	01 28 48.2	-8.8
GOPC				AMS	AMS	01 34 20.0	
	comp=Z,4μm,16.5s						
GOPC	GO Pecny, Ondr	22.49	116	eP	P	01 24 37.5	+0.2
GOPC				MLR	MLR		
	comp=Z,4μm,16.5s						
UPC	Upice	22.50	113	eP	P	01 24 38.2	+0.8
UPC				eS	Sn	01 28 51.3	-5.9
UPC				AMS	AMS	01 34 10.0	
	comp=Z,3μm,17.6s						
UPC	Upice	22.50	113	eP	P	01 24 38.2	+0.8
UPC				MLR	MLR		
	comp=Z,3μm,17.6s						
OSTC	Ostas	22.54	113	eP	P	01 24 37.9	+0.1
OSTC				eS	Sn	01 28 51.5	-6.7
OSTC				AMS	AMS	01 33 30.0	
	comp=Z,3μm,17.4s						
FUR	Furstenfeldbru	22.62	123	eP	P	01 24 39.6	+1.0
	baz=328,slow=11						
KHC	Kasperske Hory	22.66	119	eP	P	01 24 39.0	-0.2
KHC				ex	x	01 24 52.5	
KHC				eS	Sn	01 28 53.8	-7.4
KHC				AMS	AMS	01 33 50.0	
	comp=Z,4μm,17.7s						
KHC	Kasperske Hory	22.66	119	ceP	P	01 24 38.4	-0.7
KHC				pmax	pmax		
	comp=Z,102nm,1.7s						
KHC	Kasperske Hory	22.66	119	P	P	01 24 38.9	-0.2
DPC	Dobruska-Polom	22.75	113	eP	P	01 24 39.7	-0.3
DPC				eS	Sn	01 28 54.6	-8.5
DPC				AMS	AMS	01 34 20.0	
	comp=Z,3μm,17.8s						
DPC	Dobruska-Polom	22.75	113	eP	P	01 24 39.7	-0.3
DPC				MLR	MLR		
	comp=Z,3μm,17.8s						
SENIN	Lac Senin/Sane	22.82

comp=Z,40nm,1.2s,SNR=25
FETA Feichten 23.40 126 *i* P **P 01 24 47.6 +0.8**
comp=Z,34nm,1.3s,SNR=12
BEL Belsk 23.42 105 *e*P **P 01 24 46.8 -0.2**
BEL *e*S **S 01 29 04.2 +3.5**
WATA Walderalm 23.43 124 *i* P **P 01 24 47.6 +0.4**
comp=Z,42nm,1.3s,SNR=22
IDID Didziasalis 23.50 92 *e*P **P 01 24 47.1 -0.5**
WTTA Wattenberg 23.51 124 *i* P **P 01 24 47.8 -0.2**
comp=Z,55nm,1.5s,SNR=31
FUORN Ofenpass-Fuorn 23.58 127 IAmb IAmb 01 25 13.7
comp=Z,98nm,1.6s
PCAB Cabril 23.64 162 *e*P **P 01 24 49.8 +0.6**
comp=Z,88nm,1.5s
VRAC Vranov 23.68 114 P **P 01 24 49.1 -0.4**
comp=Z,13nm,1.0s,baz=324,slow=10,SNR=34
VRAC LR LR 01 35 22.8
comp=Z,3μm,18.6s,baz=333,slow=40
VRAC Vranov 23.68 114 P **P 01 24 49.8 +0.3**
VRAC Vranov 23.68 114⇓*i*P **P 01 24 48.9 -0.6**
VRAC *e*S **S 01 29 07.3 +2.4**
MORC Moravsky Berou 23.68 112 ⇓P **P 01 24 50.3 +0.8**
MORC Moravsky Berou 23.68 112⇓*i*P **P 01 24 48.9 -0.7**
MORC *e*S **S 01 29 08.0 +3.0**
MORC Moravsky Berou 23.68 112 P **P 01 24 49.1 -0.5**
MORC pmax pmax
comp=Z,448nm,2.0s
MORC Moravsky Berou 23.68 112 P **P 01 24 49.1 -0.5**
PBRG Braganca 23.73 160 *e*P **P 01 24 50.9 +0.8**
comp=Z,70nm,1.6s
BNI Bardonecchia 23.80 134 IAmb IAmb 01 25 02.2
comp=Z,92nm,1.4s
NACGM Naroch 23.80 93 *e*P **P 01 24 50.0 -0.5**
NACGM *e*P **pP 01 24 52.0 +0.5**
NACGM *e*PP PnPn 01 25 06.0 -12
NACGM *e*PPP PPP 01 25 36.0
NACGM *e*S **S 01 29 14.0 +7.4**
NACGM *e*LQ LQ 01 32 28.0
NACGM *e*LR LR 01 32 58.0
NACGM LRM MLR 01 33 54.0
comp=Z,3.6nm,18.0s
KRUC Moravsky 23.80 115⇓*i*P **P 01 24 49.7 -1.0**
KRUC *e*S **S 01 29 10.4 +3.6**
MOA Molln 23.98 119 *i* P **P 01 24 52.5 +0.1**
comp=Z,35nm,1.6s,SNR=20
PVRL Vila Real 24.11 162 *e*P **P 01 24 54.2 +0.5**
comp=Z,77nm,1.6s
OJC Ojcow 24.24 109 *e*P **P 01 24 53.8 -1.0**
OJC *e*S **S 01 29 16.9 +3.1**
ABTA Abfaltersbach 24.26 123 *i* P **P 01 24 55.5 +0.3**
comp=Z,29nm,1.5s,SNR=12
KBA Koelnbreinsper 24.28 122 *i* P **P 01 24 56.2 +0.7**
comp=Z,49nm,1.4s,SNR=13
MVO Moncorvo 24.32 161 *e*P **P 01 24 56.0 +0.3**
comp=Z,93nm,1.7s
MVO *e*S **S 01 29 16.9 +1.6**
MVO A A 01 35 27.9
comp=Z,1μm,16.0s
JAVC Velka Javorina 24.46 113⇓*i*P **P 01 24 57.4 +0.5**
JAVC *e*S S 01 29 25.9 +8.4
CONA Conrad Observa 24.52 117 *i* P **P 01 24 56.6 -0.8**
comp=Z,17nm,1.2s,SNR=16
MICGM Minsk 24.54 93⇑*e*P **P 01 24 56.0 -1.5**
MICGM PM 01 24 58.0
comp=Z,0.4nm,1.5s
MICGM PM 01 24 58.0
comp=E,0.9nm,1.0s
MICGM *e*S **S 01 29 14.0 -4.5**
MICGM *e*LR LR 01 32 06.0
MICGM LRM MLR 01 34 08.0
comp=Z,3.4nm,18.0s
MNK Minsk 24.54 93⇑*e*P **P 01 24 56.0 -1.5**
MNK *e*S **S 01 29 14.0 -4.5**
MNK pmax pmax
comp=Z,430nm,1.5s
MNK pmax pmax
comp=E,880nm,1.0s
MNK MLR MLR
comp=Z,3μm,18.0s
SALO Salr 24.54 128 P **P 01 24 57.0 -0.6**
CTI Castel Tesino 24.56 125 P **P 01 24 57.9 0.0**
CTI pmax pmax
comp=Z,95nm,1.4s
CTI Castel Tesino 24.56 125 P **P 01 24 57.9 0.0**
CTI IAmb IAmb 01 25 10.6
comp=Z,95nm,1.4s
CIMO Cimolais 24.61 124 IAmb IAmb 01 25 31.7
comp=Z,90nm,1.6s
PVIS Viseu 24.64 162 *e*P **P 01 24 59.4 +0.8**
comp=Z,65nm,1.5s
MYKA Terra Mystica 24.77 122 *i* pP **P 01 25 01.8 +2.1**
comp=Z,57nm,1.7s,SNR=10
PRED Cave del Predi 24.90 122 IAmb IAmb 01 25 07.8
comp=Z,110nm,1.5s
ARSA Arzberg 24.95 119 *i* P **P 01 25 01.0 -0.3**
comp=Z,41nm,2.0s
MTE Manteigas 25.00 162 P **P 01 25 01.8 0.0**
MTE Manteigas 25.00 162 *e*P **P 01 25 04.0 +2.2**
comp=Z,155nm,1.6s
MTE *e*S **S 01 29 33.5 +7.3**
MTE A A 01 35 12.6
comp=Z,1μm,16.0s
NIE Niedzica 25.07 109 *e*P **P 01 25 02.3 -0.1**
NIE *e*S **S 01 29 32.7 +5.4**
COI Coimbra 25.08 164 P **P 01 25 03.3 +0.9**
COI pmax pmax
comp=Z,157nm,1.5s
COI Coimbra 25.08 164 P **P 01 25 03.3 +0.9**
COI Coimbra 25.08 164 *e*P **P 01 25 05.3 +2.9**
comp=Z,129nm,1.5s
OBKA Obir 25.21 121 *i* P **P 01 25 03.9 +0.2**
comp=Z,20nm,1.2s
PCAS Casmilo, Conde 25.22 164 *e*P **P 01 25 04.7 +1.0**
comp=Z,123nm,1.5s
VYHS Vyhne 25.22 113 *e*P **P 01 25 03.6 -0.1**
VYHS pmax pmax
comp=Z,95nm,1.6s
VYHS Vyhne 25.22 113 *e*P **P 01 25 03.6 -0.1**
VYHS *e*S **S 01 29 34.9 +5.3**
SOKA Soboth 25.25 120 *i* P **P 01 25 01.3 -2.7**
comp=Z,30nm,1.5s,SNR=16
PCBR Castelo Branco 25.56 162 *e*P **P 01 25 07.0 +0.2**
comp=Z,93nm,1.5s
KLMR Klimovskoe 25.57 72 *e*P **P 01 25 05.7 -1.1**
comp=Z,102nm,1.5s
KLMR *i* PcP **PcP 01 28 37.9 +0.5**
KLMR *e*S **S 01 29 34.7 -0.2**
KLMR LQ LQ 01 31 56.4
KLMR LR LR 01 33 11.3
KLMR Klimovskoe 25.57 72 *e*P **P 01 25 05.7 -1.1**
KLMR *e* 01 28 37.8
KLMR *e*S **S 01 29 34.7 -0.2**
KLMR pmax pmax
comp=Z,102nm,1.5s
KLMR MLR MLR
comp=Z,2μm,14.0s
KLMR Klimovskoe 25.57 72 *e*P **P 01 25 05.7 -1.1**
KLMR AMP 01 25 13.7
comp=Z,102nm,1.5s
KLMR *e*PcP **PcP 01 28 37.9 +0.5**
KLMR *e*S **S 01 29 34.7 -0.2**
KLMR *e*S **S 01 29 34.7 -0.2**
KLMR LQ LQ 01 31 56.5
KLMR LQ LQ 01 31 56.5
KLMR LR LR 01 33 11.4
KLMR AMP 01 35 05.1
comp=Z,2μm,13.9s
LJU Ljubljana 25.59 121 *e*P **P 01 25 06.6 -0.5**
LJU *e* 01 25 49.9
LJU *e* 01 28 30.3
LJU *e*S **S 01 29 42.4 +6.8**
LJU *e* 01 34 40.6
LJU Ljubljana 25.59 121⇓*i*P **P 01 25 06.3 -0.8**
PSBE So Bento 25.71 164 *e*P **P 01 25 09.3 +1.0**
comp=Z,85nm,1.5s
UCM Universidad Co 25.77 154⇑*i*P **P 01 25 09.2 +0.3**
UCM *i* S **S 01 29 43.9 +5.4**
CEY Cerknica 25.82 122⇓*i*P **P 01 25 08.1 -1.1**
KWP Kalwaria Pacla 25.89 106 *e*P **P 01 25 09.9 +0.1**
KWP *e*S **S 01 29 43.8 +3.6**
VISS Visnje 25.91 121 *e*P **P 01 25 09.5 -0.5**
VISS *e*S **S 01 29 46.7 +6.1**
LSH Leshukonskoye 25.94 61 *e*P **P 01 25 09.2 -0.8**
comp=Z,119nm,1.6s
LSH *e*S **S 01 29 41.7 +1.1**
PMRV Marv??o 25.97 162 *e*P **P 01 25 11.3 +0.7**
comp=Z,93nm,1.6s
PMRV *e*S **S 01 29 47.0 +5.4**
PMRV A A 01 35 23.8
comp=Z,1μm,18.0s
SCHQ Schefferville 26.06 271 P **P 01 25 13.0 +1.7**
comp=Z,10nm,0.8s,baz=34,slow=8.3,SNR=7.0
SCHQ LR LR 01 34 21.8
comp=Z,1μm,18.3s,baz=74,slow=34
SCHQ Schefferville 26.06 271 P **P 01 25 13.3 +2.0**
SCHQ IAmb IAmb 01 25 14.3
comp=Z,60nm,1.4s
PSZ Piszkesteto 26.10 112⇑P **P 01 25 13.4 +1.7**
CRES Cresnjev 26.12 120⇓*i*P **P 01 25 07.3 -4.6**
PMAFR Mafra 26.21 165 *e*P **P 01 25 13.4 +0.7**
comp=Z,135nm,1.6s
ESBB Sonseca Array 26.26 156 IAmb IAmb 01 25 24.9
comp=Z,59nm,1.6s
ESDC Sonseca Array 26.26 156 P **P 01 25 12.7 -0.6**
comp=Z,5.0nm,0.8s,baz=348,slow=9.0,SNR=47
ESDC LR LR 01 34 38.2
comp=Z,456nm,18.1s,baz=335,slow=34
ESDC Sonseca Array 26.26 156 P **P 01 25 13.2 0.0**
LVV L'vov 26.30 104 *e*P **P 01 25 12.7 -0.7**
LVV *e*S **S 01 29 41.0 -5.6**
LVV MLR MLR
comp=Z,2μm,15.0s
PAB San Pablo 26.32 157 P **P 01 25 14.5 +0.7**
PAB pmax pmax
comp=Z,59nm,1.4s
PAB San Pablo 26.32 157 P **P 01 25 14.5 +0.7**
PAB IAmb IAmb 01 25 25.7
comp=Z,59nm,1.4s
BOJS Bojanci 26.32 121 *e*P **P 01 25 12.8 -0.9**
LIS Lisbon 26.46 165 *e*P **P 01 25 15.7 +0.7**
LIS AMb AMB 01 25 19.2
comp=Z,54nm,1.3s
LIS *e*S **S 01 29 51.4 +2.1**
LIS Lisbon 26.46 165 *e*P **P 01 25 15.6 +0.7**
LIS *e*S **S 01 29 51.4 +2.1**
LIS pmax pmax
comp=Z,55nm,1.3s
RES Resolute Bay 26.46 324 P **P 01 25 16.3 +1.6**
comp=Z,4.1nm,0.9s,baz=102,slow=5.0,SNR=4.8
RES LR LR 01 35 46.3
comp=Z,835nm,18.4s,baz=78,slow=36
RES Resolute Bay 26.46 324 IAmb IAmb 01 25 17.5
comp=Z,100nm,1.9s
UZH Uzhgorod 26.50 108⇓*e*P **P 01 25 13.8 -1.5**
UZH *e* 01 25 15.8
UZH *i* 01 26 03.3
UZH *e*S **S 01 29 42.1 -7.7**
UZH MLR MLR
comp=N,700nm,15.0s
UZH MLR MLR
comp=E,600nm,15.0s
UZH MLR MLR
comp=Z,200nm,15.0s
OSSC Osservatorio P 26.63 129 IAmb IAmb 01 25 39.4
comp=Z,68nm,1.3s
EVO Evora 26.78 163⇑*i*P **P 01 25 19.3 +1.5**
EVO *i* S **S 01 29 58.8 +4.5**
EVO Evora 26.78 163 *e*P **P 01 25 18.2 +0.4**
comp=Z,38nm,1.4s
MORH Mrgy, Hungar 27.00 116 *e*P **P 01 25 19.2 -0.6**
PNCL Nicolau / Gran 27.13 164 *e*P **P 01 25 21.5 +0.5**
comp=Z,37nm,1.7s
PBEJ Beja 27.29 163 *e*P **P 01 25 23.0 +0.5**
comp=Z,42nm,1.7s
PRGR Permogore 27.59 67 *e*P **P 01 25 22.8 -2.1**
comp=Z,176nm,1.9s
PRGR *e*PP **PnPn 01 26 14.9 +5.3**
PRGR *e*PcP **PcP 01 28 43.1 +0.9**
PRGR *e*S **S 01 30 04.4 -2.4**
PRGR Permogore 27.59 67⇑*i*P **P 01 25 22.8 -2.1**
PRGR *e* 01 26 14.9
PRGR *e* 01 28 43.0
PCVE Castro Verde 27.66 164 *e*P **P 01 25 25.9 +0.1**
comp=Z,34nm,1.7s
PTEO Sao Teotonio 27.67 165 *e*P **P 01 25 27.1 +1.3**
comp=Z,42nm,2.0s
BLY Banja Luka 27.68 119⇓*i*P **P 01 25 23.6 -2.3**
AKASG Malin Array Be 27.82 98 P **P 01 25 25.9 -1.2**
comp=Z,4.5nm,0.8s,baz=322,slow=8.6,SNR=20
AKASG LR LR 01 36 11.9
comp=Z,2μm,21.5s,baz=325,slow=36
AKASG Malin Array Be 27.82 98 *c*e**P 01 25 26.6 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 27.82 98 P **P 01 25 26.5 -0.5**
AKBB Malin Array Si 27.82 98 IAmb IAmb 01 25 48.5
comp=Z,75nm,1.8s
OBN Obninsk 27.86 84 P **P 01 25 27.6 +0.2**
comp=Z,4.8nm,0.5s,baz=271,slow=2.9,SNR=16
OBN LR LR 01 36 59.4
comp=Z,294nm,18.5s,baz=332,slow=38
OBN Obninsk 27.86 84 *e*P **P 01 25 26.4 -0.9**
OBN *e*PPP PPP 01 26 20.2
OBN *e* 01 28 40.2
OBN *e*S **S 01 30 12.1 +1.1**
OBN pmax pmax
comp=Z,165nm,1.7s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 27.86 84 P **P 01 25 26.9 -0.4**
MAHO Mahon 27.86 142⇑*i*P **P 01 25 25.6 -1.9**
MAHO *i* S **S 01 30 16.5 +5.3**
MOS Moscow 27.89 82 *e*P **P 01 25 25.6 -2.1**
MOS *e*S **S 01 30 13.8 +2.2**
MOS *e*SS **SnSn 01 31 31.3 +7.2**
MOS pmax pmax
comp=Z,85nm,1.6s
MOS MLR MLR
comp=Z,1μm,14.0s
MORF Marmelete 27.91 165 *e*P **P 01 25 28.2 +0.1**
MORF AMb AMB 01 25 37.4
comp=Z,28nm,1.0s
MORF *e*S **S 01 30 14.4 +2.0**
MORF Marmelete 27.91 165 *e*P **P 01 25 28.2 +0.1**
MORF *e*S **S 01 30 14.3 +2.0**
MORF pmax pmax
comp=Z,29nm,1.0s
MORF Marmelete 27.91 165 *e*P **P 01 25 28.5 +0.4**
comp=Z,36nm,1.5s
PVAQ Vaqueiros 27.93 163 P **P 01 25 29.0 +0.9**
PVAQ Vaqueiros 27.93 163 *e*P **P 01 25 28.9 +0.8**
comp=Z,40nm,1.4s
PVAQ *e*S **S 01 30 17.4 +5.0**
PVAQ A A 01 36 39.8
comp=Z,1μm,16.0s
PBDV Barranco-do-Ve 28.06 164 *e*P **P 01 25 29.6 +0.2**
comp=Z,40nm,1.7s
PFVI Vila Bisbo 28.07 165 *e*P **P 01 25 31.1 +1.7**
comp=Z,35nm,1.5s
SIRR Siria 28.15 112⇓P **P 01 25 31.7 +1.6**
FRGS Fruska Gora 28.34 116⇓*i*P **P 01 25 30.7 -1.1**
BUR08 Bucovina Ar. S 28.48 106 IAmb IAmb 01 26 02.0
comp=Z,63nm,1.8s
BURAR Bucovina Array 28.51 106⇑P **P 01 25 35.2 +1.8**
BURAR Bucovina Array 28.51 106 P **P 01 25 33.5 +0.1**
BZS Buzias 28.66 113⇑P **P 01 25 37.2 +2.5**
TEKS Tekeris 28.74 117 *e*P **P 01 25 36.2 +0.8**
CART Cartagena 28.84 152 *e*P P 01 25 30.8 -5.4
CART *i* S **S 01 30 33.1 +6.4**
INTR Introdacqua 28.88 127 IAmb IAmb 01 25 58.4
comp=Z,55nm,1.6s
EMAL Malaga-Limoner 29.02 158 *e*P **P 01 25 40.6 +2.7**
EMAL *i* S S 01 30 36.9 +7.3
SFS San Fernando 29.05 161 *e*P **P 01 25 36.9 -1.2**
SFS *i* S S 01 30 40.0 +10
BBLS Lazići 29.27 117 *e*P **P 01 25 38.5 -1.7**
DIVS Divibare 29.30 117 *e*P **P 01 25 37.8 -2.6**
MDVR Moldovita 29.40 114⇑P **P 01 25 43.4 +2.2**
BIZ Bicaz 29.41 106⇑P P 01 25 45.0 +3.7
HERR Herculane 29.59 113⇑P **P 01 25 44.2 +1.3**
LOT Lotru 29.66 110⇓P **P 01 25 46.2 +2.5**
CEU Ceuta 29.73 160 *e*P **P 01 25 39.8 -4.3**
CEU *i* S **S 01 30 40.6 0.0**
BRV Bratogost 29.77 120 *e*P **P 01 25 45.0 +0.3**
PAOL Paolisi 29.98 127 IAmb IAmb 01 25 56.6
comp=Z,51nm,1.6s
ARR Arges 30.08 110⇑P **P 01 25 50.3 +3.0**
VOIR 30.19 109 P **P 01 25 50.9 +2.6**
PDG Podgorica 30.44 119⇑P **P 01 25 51.1 +0.7**
PDG Podgorica 30.44 119 *e*P **P 01 25 49.2 -1.2**
KIS Kishinev 30.49 103 *e*P **P 01 25 50.0 -0.9**
KIS Kishinev 30.49 103 *e*PcP **PcP 01 28 52.0 +2.3**
KIS *e*S **S 01 30 49.0 -3.6**
comp=Z,560nm,11.0s
KIS LRM MLR 01 39 47.0
comp=Z,350nm,12.0s
KIS Kishinev 30.49 103 *e*P **P 01 25 50.0 -0.9**
KIS *e* 01 28 52.0
KIS *e*S **S 01 30 49.0 -3.6**
KIS pmax pmax
comp=Z,180nm,3.3s
KIS smax smax
comp=N,500nm,9.0s
KIS smax smax
comp=E,560nm,11.0s
KIS MLR MLR
comp=Z,350nm,12.0s
KIS MLR MLR
comp=E,800nm,13.0s
KIS MLR MLR
comp=N,850nm,16.0s
MLR Muntele Rosu 30.51 108 P **P 01 25 51.7 +0.5**
comp=N,8.0nm,1.1s,baz=322,slow=10,SNR=11
MLR Muntele Rosu 30.51 108⇑P **P 01 25 54.2 +3.0**
MLR Muntele Rosu 30.51 108 IAmb IAmb 01 25 56.5
comp=Z,65nm,1.6s
VRI Vrincioaia 30.53 107⇑P **P 01 25 53.6 +2.4**
PVLZ Peæn de 30.60 159 *e*P **P 01 25 53.3 +1.5**
PVLZ *i* S S 01 30 40.6 -14
LPSR Galich'ya Gora 30.61 86 *e*P **P 01 25 51.5 -0.3**
LPSR *e*S **S 01 30 56.4 +2.2**
LPSR pmax pmax
comp=Z,30nm,1.1s
LPSR smax smax
comp=E,780nm,9.9s
LPSR MLR MLR
comp=Z,990nm,14.0s
MELI Melilla 30.71 156 *e*P **P 01 25 51.3 -1.5**
MELI *i* S **S 01 30 51.4 -4.7**
BATG Bathurst New B 31.27 260 P **P 01 25 58.1 +0.4**
BATG IAmb IAmb 01 25 59.1
comp=Z,47nm,1.6s
MPEP Malo Peshtene 31.39 113 P **P 01 25 58.3 -0.5**
SKO Skopje 31.66 117 *i* P **P 01 26 01.3 +0.1**
VSR Storozhevoye 31.71 88 *e*P **P 01 26 00.5 -1.0**
VSR *e*S **S 01 31 11.7 +0.2**
VSR pmax pmax
comp=Z,50nm,1.7s
VSR smax smax
comp=N,1μm,11.3s
VTS Vitosha 31.81 114 P **P 01 26 01.9 -0.8**
PMOZ Porto Moniz, M 31.89 180 *e*S **S 01 31 14.4 -0.4**
PMOZ A A 01 37 39.5
comp=N,669nm,18.0s
VORD Divnogorie 31.95 88 *e*P **P 01 26 02.9 -0.7**
VORD pmax pmax
comp=Z,40nm,1.5s
AVE Averroes 32.01 164 *e*P P 01 25 57.8 -6.5
AVE *i* S **S 01 31 18.7 +2.1**
IFR Ifrane 32.10 160 *e*P **P 01 26 03.0 -2.3**
IFR *i* S **S 01 31 20.6 +2.4**
PGB Panagyurishte 32.24 113 P **P 01 26 05.5 -0.8**
D63A Stockholm 32.32 262 P **P 01 26 07.6 +0.7**
baz=38
SZH Strazhica 32.34 110 P **P 01 26 07.1 -0.1**
KKB Krupnik 32.39 115 P **P 01 26 08.2 +0.6**
VAY Valandovo 32.66 116 *i* P **P 01 26 09.9 0.0**
D62A Allapoint, All 32.69 263 P **P 01 26 10.5 +0.3**
baz=38
E64A Bridgewater 32.69 261 P **P 01 26 09.8 -0.3**
baz=38
CHGQ Chibougamau 32.81 271 P **P 01 26 11.7 +0.4**
baz=42
VRH Novokhopyorsk 32.81 85 *e*P **P 01 26 11.3 +0.1**
VRH *e*S S 01 31 35.5 +6.8
VRH pmax pmax
comp=Z,40nm,1.0s
VRH smax smax
comp=N,2μm,11.6s
VRH MLR MLR
comp=Z,2μm,14.0s
MMB Musomiste 32.88 115 P **P 01 26 12.0 +0.1**
E63A Oxbow 32.94 261 P **P 01 26 12.8 +0.4**
baz=38
D61A St Aubert, Com 33.08 264 P **P 01 26 13.5 0.0**
baz=39
KEST Kesra 33.16 138 P **P 01 26 14.2 -0.3**
comp=Z,4.0nm,0.9s,baz=284,slow=4.0,SNR=11
RZN Rozhen 33.18 113 P **P 01 26 14.4 -0.4**
E62A Clayton Lake 33.25 263 P **P 01 26 15.3 +0.2**
baz=38
F64A Sherman 33.35 261 P **P 01 26 16.2 +0.2**
baz=37
KDZ Kurdzhali 33.49 113 P **P 01 26 14.8 -2.5**
G65A Princeton 33.55 259 P **P 01 26 17.8 +0.1**
baz=37
G65A Princeton 33.55 259 IAmb IAmb 01 26 24.6
comp=Z,28nm,1.4s
D60A Saint Jean D'O 33.62 264 P **P 01 26 18.5 +0.2**
baz=38
H66A Whiting 33.78 258 P **P 01 26 19.4 -0.2**
baz=36
F63A Nahmakanta, Br 33.80 261 P **P 01 26 20.4 +0.5**
baz=37
E61A Lac Etchemin 33.81 263 P **P 01 26 20.3 +0.2**
baz=38
D59A Saint-Raymond 33.94 265 P **P 01 26 21.2 +0.1**
baz=39
G64A Maxfield 34.01 260 P **P 01 26 21.8 +0.1**
baz=37
F62A Pittston Farm, 34.01 262 P **P 01 26 22.2 +0.5**
baz=38
F62A Pittston Farm, 34.01 262 IAmb IAmb 01 26 23.7
comp=Z,41nm,1.6s
LATQ La Tuque 34.05 267 P **P 01 26 22.3 +0.2**
baz=39
PKME Peaks-Kenny Pk 34.23 261 P **P 01 26 24.2 +0.6**
baz=37
H65A Eastbrook 34.24 259 P **P 01 26 23.5 -0.2**
baz=36
E60A Ste Agathe de 34.27 264 P **P 01 26 24.2 +0.3**
baz=38,SNR=5.2
D58A Chemin du LacG 34.32 266 P **P 01 26 24.7 +0.3**
baz=39
MATQ Matagami 34.33 274 P **P 01 26 24.3 -0.1**
baz=41
ALN Alexandroupoli 34.38 113 P **P 01 26 24.9 0.0**
ALN pmax pmax
comp=Z,49nm,1.3s
ALN Alexandroupoli 34.38 113 P **P 01 26 24.9 0.0**
ALN IAmb IAmb 01 26 30.2
comp=Z,49nm,1.3s
F61A St Evariste 34.39 263 P **P 01 26 25.3 +0.3**
baz=38
G63A Kingsbury 34.49 261 P **P 01 26 26.2 +0.4**
baz=37
LSQQ Lebel-sur-Quev 34.57 272 P **P 01 26 26.9 +0.4**
baz=41
H64A Troy 34.70 260 P **P 01 26 27.9 +0.3**
baz=36
G62A West of Eustis 34.79 262 P **P 01 26 28.8 +0.3**
baz=37
F60A Warwick 34.80 264 P **P 01 26 28.4 -0.1**
baz=38
D57A Chemin Vers le 34.81 267 P **P 01 26 29.3 +0.6**
baz=39,SNR=8.8
WVL Waterville 34.95 260 IAmb IAmb 01 26 32.8
comp=Z,54nm,1.8s
H63A New Sharon 35.03 261 P **P 01 26 31.1 +0.6**
baz=36
E58A La Victoria 35.05 266 P **P 01 26 30.7 0.0**
baz=38
D56A ZEC Mazanza, M 35.16 268 P **P 01 26 32.3 +0.6**
baz=39
G61A St-Isidore-de- 35.17 263 P **P 01 26 32.3 +0.6**
baz=37
A36M Sachs Harbour 35.20 329 P **P 01 26 31.8 +0.2**
baz=45
E57A Chemin Saint G 35.40 267 P **P 01 26 33.7 0.0**
baz=38
I64A Boothbay 35.46 260 P **P 01 26 35.0 +0.9**
baz=36
D55A Sainte-Anne-du 35.49 269 P **P 01 26 35.0 +0.5**
baz=39

VLDQ **Val d'Or** 35.50 272 IAmb IAmb 01 26 38.9
comp=Z,73nm,1.9s
H62A **Milan** 35.58 262 P **P** **01 26 35.1 -0.1**
baz=36
H62A **Milan** 35.58 262 IAmb IAmb 01 26 37.5
comp=Z,56nm,1.9s
G60A **Masonville** 35.66 264 P **P** **01 26 36.1 +0.2**
baz=37
E56A **St. Veronique** 35.67 268 P **P** **01 26 35.9 -0.2**
baz=38
F58A **St-Lin Laurent** 35.68 266 P **P** **01 26 36.7 +0.6**
baz=38
I63A **Otisfield** 35.75 261 P **P** **01 26 36.6 -0.1**
baz=36
ANN **Anapa** 35.89 97 *e*P **P** **01 26 33.6 -4.3**
ANN *e*S **S** **01 32 11.5 -4.8**
ANN pmax pmax
comp=Z,84nm,1.2s
ANN pmax pmax
comp=Z,680nm,6.3s
ANN MLR MLR
comp=N,2µm,17.0s
ANN MLR MLR
comp=Z,3µm,16.0s
D54A **Lac Fusel, La** 35.90 270 P **P** **01 26 38.2 +0.2**
baz=39
H61A **Lyndonville** 35.94 263 P **P** **01 26 38.9 +0.5**
baz=36
G59A **Clarenceville** 36.03 264 P **P** **01 26 39.6 +0.5**
baz=37
ARU **Arti** 36.05 66 P **P** **01 26 39.5 +0.3**
comp=Z,0.7nm,0.3s,baz=288,slow=5.0,SNR=13
ARU **Arti** 36.05 66*c i*P **P** **01 26 38.6 -0.6**
ARU 01 27 57.9
ARU 01 29 01.3
ARU S **S** **01 32 19.1 +0.5**
ARU SS **SnSn** **01 34 43.8 +1.6**
ARU pmax pmax
comp=Z,58nm,2.0s
ARU MLR MLR
comp=Z,3µm,20.0s
ARU **Arti** 36.05 66 P **P** **01 26 38.9 -0.3**
F57A **Harrington** 36.10 267 P **P** **01 26 39.9 +0.2**
baz=38
LBNH **Lisbon** 36.17 262 P **P** **01 26 41.1 +0.8**
baz=36
I62A **Tamworth** 36.22 261 P **P** **01 26 41.6 +0.9**
baz=36
H60A **Morristown** 36.24 263 P **P** **01 26 41.4 +0.4**
baz=37
G58A **Ormstown** 36.35 265 P **P** **01 26 42.5 +0.7**
baz=37
D53A **Lac Vacive, Po** 36.40 271 P **P** **01 26 42.5 +0.2**
baz=39
D53A **Lac Vacive, Po** 36.40 271 P **P** **01 26 42.9 +0.6**
FRNY **Flat Rock** 36.41 265 IAmb IAmb 01 26 48.7
comp=Z,70nm,1.8s
NRIK **Noril'sk** 36.43 35 P **P** **01 26 43.9 +1.6**
comp=Z,10nm,1.0s,baz=316,slow=8.5,SNR=20
I61A **Oroboro, Fairl** 36.54 262 P **P** **01 26 44.8 +1.3**
baz=36
SVE **Sverdlovsk** 36.58 64 *e*P **P** **01 26 43.4 -0.3**
SVE *e*S **S** **01 32 28.6 +1.9**
SVE pmax pmax
comp=Z,33nm,1.6s
SVE MLR MLR
comp=Z,3µm,19.0s
J63A **Strafford** 36.59 261 P **P** **01 26 44.7 +0.8**
baz=35
H59A **Cadyville** 36.60 265 P **P** **01 26 44.2 +0.2**
baz=37
E54A **Lac Daplat, Po** 36.69 270 P **P** **01 26 44.8 +0.1**
baz=38
ORIO **Orleans, Innes** 36.74 267 P **P** **01 26 45.3 +0.2**
baz=38
G57A **Newington** 36.79 266 P **P** **01 26 46.4 +0.9**
baz=37,SNR=7.5
F55A **Otter Lake** 36.80 268 P **P** **01 26 46.2 +0.6**
baz=38
C36M **Paulatuk** 36.82 325 P **P** **01 26 45.4 -0.2**
baz=43
E53A **Dumoine, Ponti** 36.93 270 P **P** **01 26 47.4 +0.5**
baz=38,SNR=7.5
J62A **Henniker** 36.95 261 P **P** **01 26 47.9 +1.0**
baz=36
H58A **Gabriels** 36.99 265 P **P** **01 26 47.7 +0.3**
baz=37
LONY **Lake Ozonia** 37.00 265 P **P** **01 26 48.1 +0.7**
baz=37
I60A **Shoreham** 37.07 263 P **P** **01 26 48.7 +0.7**
baz=36
J61A **Chester** 37.16 262 P **P** **01 26 49.8 +1.0**
baz=36
K63A **Dunstable** 37.26 260 P **P** **01 26 51.0 +1.4**
baz=35
I59A **Olmsteadville** 37.36 264 P **P** **01 26 50.9 +0.4**
baz=36
ILGA **Ilgaz** 37.38 104 IAmb IAmb 01 27 01.0
comp=Z,47nm,1.2s
G55A **Calabogie** 37.42 268 P **P** **01 26 51.4 +0.5**
baz=37
HRV **Adam Dziewonsk** 37.42 260 P **P** **01 26 51.3 +0.3**
baz=35
ALGO **Algonquin Park** 37.43 270 P **P** **01 26 51.5 +0.4**
baz=38
H57A **Richville** 37.48 266 P **P** **01 26 52.3 +0.8**
baz=37
APE **Apeiranthos** 37.49 116 *i*P **P** **01 26 50.1 -1.5**
APE pmax pmax
comp=Z,24nm,1.3s
K62A **Royalston** 37.58 261 P **P** **01 26 52.8 +0.4**
baz=35
L64A **Middleborough** 37.59 259 P **P** **01 26 53.1 +0.7**
baz=34
J60A **Lant Hill Farm** 37.62 263 P **P** **01 26 53.4 +0.7**
baz=36
H56A **Elgin** 37.74 267 P **P** **01 26 54.5 +0.8**
baz=37
M65A **Busby, Falmout** 37.82 259 P **P** **01 26 55.0 +0.7**
baz=34
SOC **Sochi** 37.84 96*d i*P **P** **01 26 54.3 -0.3**
SOC *i* 01 28 18.4
SOC *e*S **S** **01 32 47.2 +1.1**
SOC *e*SS **SnSn** **01 35 23.5 -2.4**
SOC pmax pmax
comp=Z,14nm,0.9s
SOC MLR MLR
comp=Z,1µm,15.0s
G54A **Lake Saint Pet** 37.89 269 P **P** **01 26 55.2 +0.3**
baz=38
J59A **Piesco** 37.90 264 P **P** **01 26 55.4 +0.3**
baz=36
I58A **Old Forge** 37.92 265 P **P** **01 26 55.5 +0.3**
baz=36
L61B **Northampton** 37.95 261 P **P** **01 26 55.5 +0.1**
baz=35
L63A **North Scituate** 37.97 260 P **P** **01 26 55.9 +0.2**
baz=34
BR231 **Keskin MP Arra** 38.01 106 P **P** **01 26 56.8 +0.7**
BR231 IAmb IAmb 01 27 01.7
comp=Z,76nm,1.9s
I57A **Carthage** 38.01 266 P **P** **01 26 57.1 +1.1**
baz=36
K61A **Williamstown** 38.02 262 P **P** **01 26 57.5 +1.4**
baz=35
M64A **Tiverton** 38.06 259 P **P** **01 26 57.1 +0.7**
baz=34
GOF **Gofitskoye** 38.09 91‖ *e*P **P** **01 26 56.9 +0.3**
GOF *e*S **S** **01 32 47.5 -2.3**
GOF pmax pmax
comp=Z,214nm,1.5s
H55A **Tweed** 38.17 268 P **P** **01 26 58.2 +0.9**
baz=37
BOLV **Bolvadin** 38.21 109 P **P** **01 26 57.9 0.0**
BOLV IAmb IAmb 01 27 07.9
comp=Z,71nm,1.8s
L62A **Suffield** 38.28 261 P **P** **01 26 59.0 +0.8**
baz=35
J58A **Remsen** 38.32 265 P **P** **01 26 59.1 +0.6**
baz=36
K60A **Five Rivers En** 38.33 263 P **P** **01 26 58.1 -0.5**
baz=35
BR131 **Keskin Array S** 38.46 105 IAmb IAmb 01 27 05.7
comp=Z,91nm,1.9s
BRTR **Keskin Array B** 38.46 105 P **P** **01 26 59.8 -0.2**
comp=Z,2.8nm,0.8s,baz=322,slow=6.7,SNR=17
BRTR LR LR 01 45 14.7
comp=Z,353nm,18.3s,baz=285,slow=40
BRTR **Keskin Array B** 38.46 105*ce*P **P** **01 27 00.7 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR **Keskin Array B** 38.46 105 P **P** **01 27 00.6 +0.7**
L61A **Hillsdale 1, H** 38.53 262 P **P** **01 27 01.2 +0.9**
baz=35
M63A **Gales Ferry** 38.54 260 P **P** **01 27 00.7 +0.3**
baz=34
J57A **Williamstown** 38.58 266 P **P** **01 27 01.0 +0.2**
baz=36
K59A **Cooperstown** 38.61 264 P **P** **01 27 01.7 +0.7**
baz=35
I55A **Frankford** 38.66 268 P **P** **01 27 01.8 +0.5**
baz=37
D47A **Chapleau** 38.74 275 P **P** **01 27 01.9 -0.2**
baz=39
H53A **Bobcaygeon** 38.76 269 P **P** **01 27 02.6 +0.4**
baz=37
IDI **Anoyia** 38.81 118 P **P** **01 27 02.1 -0.7**
comp=Z,14nm,0.9s,baz=355,slow=11,SNR=5.0
IDI **Anoyia** 38.81 118 P **P** **01 27 02.7 -0.1**
IDI IAmb IAmb 01 28 00.8
comp=Z,93nm,1.7s
KIV **Kislovodsk** 38.82 93 *e*P **P** **01 27 02.8 -0.1**
KIV *e* 01 28 29.8
KIV *e*S **S** **01 33 00.9 -0.2**
KIV pmax pmax
comp=Z,59nm,1.1s
KIV pmax pmax
comp=Z,343nm,4.2s
KIV MLR MLR
comp=Z,3µm,16.0s
KIV **Kislovodsk** 38.82 93 P **P** **01 27 01.9 -1.0**
KIV IAmb IAmb 01 27 19.6
comp=Z,105nm,1.9s
KVAR **Kislovodsk Arr** 38.82 92 P **P** **01 27 04.1 +1.2**
comp=Z,9.2nm,1.0s,baz=14,slow=14,SNR=2.2
M62A **Hamden** 38.87 261 P **P** **01 27 04.0 +0.9**
baz=34
K58A **Earlville** 38.96 265 P **P** **01 27 04.7 +0.8**
baz=35
L60A **Shokan** 38.98 262 P **P** **01 27 05.3 +1.2**
baz=35
J56A **Wolcott** 39.06 266 P **P** **01 27 06.4 +1.6**
baz=36
KBZ **Khabaz** 39.09 93 P **P** **01 27 06.1 +1.1**
comp=Z,9.6nm,0.9s,baz=307,slow=12,SNR=18
KBZ LR LR 01 43 22.8
comp=Z,2µm,21.8s,baz=332,slow=36
KBZ **Khabaz** 39.09 93*ce*P **P** **01 27 05.4 +0.4**
KBZ pmax pmax
comp=Z,18nm,1.0s
L59A **Walton** 39.17 263 P **P** **01 27 06.6 +0.9**
baz=35
YKA **Yellowknife Ar** 39.22 313 P **P** **01 27 05.7 -0.2**
comp=Z,4.5nm,1.0s,baz=6.0,slow=6.5,SNR=4.4
YKA LR LR 01 42 54.4
comp=Z,947nm,18.3s,baz=0.0,slow=36
D46A **Sault St. Mari** 39.27 276 P **P** **01 27 06.4 -0.1**
baz=38
E47A **Iron Bridge** 39.28 275 P **P** **01 27 06.3 -0.4**
baz=38
M61A **Granite Spring** 39.34 261 P **P** **01 27 07.9 +0.7**
baz=34
K57A **Scipio Center** 39.35 265 P **P** **01 27 07.7 +0.4**
baz=36
J55A **Hilton** 39.48 267 P **P** **01 27 08.9 +0.7**
baz=36
N62A **Caumsett State** 39.53 261 P **P** **01 27 09.3 +0.6**
baz=34
BINY **Binghamton** 39.56 264 P **P** **01 27 09.4 +0.4**
baz=35
PAL **Palisades** 39.66 261 P **P** **01 27 10.2 +0.4**
baz=34
M60A **Port Jervis** 39.70 262 P **P** **01 27 10.4 +0.3**
baz=34
K56A **Middlesex** 39.73 266 P **P** **01 27 10.1 -0.3**
baz=36
J54A **Appleton** 39.83 268 P **P** **01 27 11.7 +0.6**
baz=36
INK **Inuvik** 39.84 329 P **P** **01 27 11.8 +0.8**
INK pmax pmax
comp=Z,49nm,1.6s
INK **Inuvik** 39.84 329 P **P** **01 27 11.8 +0.8**
M59A **Waymart** 39.86 263 P **P** **01 27 11.1 -0.5**
baz=35
K55A **Perry** 40.02 267 P **P** **01 27 13.2 +0.4**
baz=36
N61A **South Mountain** 40.03 261 P **P** **01 27 13.1 +0.2**
baz=34
L57A **Andrews Acres** 40.09 265 P **P** **01 27 14.4 +1.0**
baz=35
AKTO **Aktyubinsk** 40.26 73 P **P** **01 27 14.2 -0.5**
comp=Z,7.3nm,1.0s,baz=329,slow=8.1,SNR=28
N60A **Cedar Hill Far** 40.28 262 P **P** **01 27 15.1 +0.2**
baz=34
ZEI **Tsey** 40.28 92 *e*P **P** **01 27 16.8 +1.6**
ZEI pmax pmax
comp=Z,43nm,1.7s
L56A **Greenwood** 40.29 266 P **P** **01 27 15.8 +0.7**
baz=35
L56A **Greenwood** 40.29 266 IAmb IAmb 01 27 19.9
comp=Z,102nm,1.9s
K54A **Basiliko Farm,** 40.39 267 P **P** **01 27 15.1 -0.8**
baz=36
I51A **Listowel** 40.42 271 P **P** **01 27 15.5 -0.7**
baz=36
M58A **Price's Panora** 40.44 264 P **P** **01 27 16.5 +0.2**
baz=34
WVNY **West Valley, N** 40.52 267 P **P** **01 27 18.7 +1.8**
WVNY IAmb IAmb 01 27 23.6
comp=Z,71nm,1.7s
N59A **State Game Lan** 40.52 263 P **P** **01 27 18.0 +1.0**
baz=34
FFC **Flin Flon** 40.61 297 P **P** **01 27 19.1 +1.6**
FFC pmax pmax
comp=Z,99nm,1.9s
FFC **Flin Flon** 40.61 297 P **P** **01 27 19.1 +1.6**
FFC IAmb IAmb 01 27 20.4
comp=Z,99nm,1.9s
L55A **Hinsdale** 40.63 267 P **P** **01 27 18.7 +0.8**
baz=35
O61A **Allentown** 40.69 261 P **P** **01 27 19.1 +0.8**
baz=34
M57A **Sunshine Farm,** 40.76 265 P **P** **01 27 19.7 +0.8**
baz=34
GROC **Groznyy** 40.76 90 *e*P **P** **01 27 19.1 +0.2**
GROC *e* 01 28 53.1
GROC *e* 01 29 23.5
GROC *e*S **S** **01 33 29.9 -0.1**
GROC pmax pmax
comp=Z,81nm,1.5s
O60A **Telford** 40.86 262 P **P** **01 27 20.3 +0.5**
baz=34
L54A **Sinclairville** 40.96 268 P **P** **01 27 21.7 +1.1**
baz=35,SNR=7.4
N58A **Sunbury** 40.99 264 P **P** **01 27 22.0 +1.1**
baz=34
N58A **Sunbury** 40.99 264 IAmb IAmb 01 27 25.4
comp=Z,68nm,1.9s
M56A **Emporium** 41.09 266 P **P** **01 27 22.5 +0.8**
baz=35
KOPT **Kop Dagi** 41.10 98 P **P** **01 27 23.3 +1.2**
P61A **Hammonton** 41.14 261 P **P** **01 27 22.3 +0.3**
baz=33
O59A **Robesonia** 41.20 263 P **P** **01 27 23.5 +0.9**
baz=34
PSUB **Penn St. - Bra** 41.21 262 P **P** **01 27 24.9 +2.3**
AKH **Akhalkalaki** 41.23 94 P **P** **01 27 24.1 +1.1**
AKH pmax pmax
comp=Z,78nm,1.3s
AKH **Akhalkalaki** 41.23 94 P **P** **01 27 24.1 +1.1**
AKH IAmb IAmb 01 27 29.7
comp=Z,78nm,1.3s
ERPA **Erie** 41.35 268 P **P** **01 27 24.5 +0.7**
baz=35
M55A **Ridgway** 41.35 266 P **P** **01 27 24.7 +0.8**
baz=35
P60A **Greenville** 41.38 262 P **P** **01 27 24.2 +0.2**
baz=34
N57A **Milroy** 41.42 265 P **P** **01 27 25.1 +0.8**
baz=34
TBLG **Delisi** 41.51 93 P **P** **01 27 25.6 +0.5**
TBLG pmax pmax
comp=Z,119nm,1.6s
TBLG **Delisi** 41.51 93 P **P** **01 27 25.6 +0.5**
MVL **Millersville** 41.53 263 P **P** **01 27 27.1 +1.8**
L53A **Girard** 41.60 268 P **P** **01 27 26.1 +0.3**
baz=35
EYMN **Ely** 41.60 283 P **P** **01 27 25.9 +0.1**
baz=38
N56A **West Decatur** 41.60 265 P **P** **01 27 25.7 -0.2**
baz=34
ULM **Lac du Bonnet** 41.62 289 P **P** **01 27 27.5 +1.6**
comp=Z,4.0nm,0.9s,baz=55,slow=10,SNR=1.9
ULM **Lac du Bonnet** 41.62 289 P **P** **01 27 27.5 +1.6**
ULM pmax pmax
comp=Z,14nm,1.1s
ULM **Lac du Bonnet** 41.62 289 IAmb IAmb 01 27 33.1
comp=Z,14nm,1.1s
SSPA **Standing Stone** 41.66 265 P **P** **01 27 26.3 0.0**
baz=34
SSPA **Standing Stone** 41.66 265 P **P** **01 27 28.6 +2.3**
O58A **Lewisberry** 41.67 263 P **P** **01 27 26.4 0.0**
baz=34
MAK **Makhachkala** 41.69 89*c i*P P 01 27 21.0 -5.5
MAK *e*S S 01 33 34.4 -9.3
MAK *e*SS **SS** **01 36 42.7 -5.8**
MAK pmax pmax
comp=Z,311nm,1.8s
MAK MLR MLR
comp=Z,2µm,18.0s
M54A **Oil Creek Stat** 41.70 267 P **P** **01 27 27.4 +0.7**
baz=35
M54A **Oil Creek Stat** 41.70 267 IAmb IAmb 01 27 31.5
comp=Z,47nm,1.4s
P59A **Jarrettsville** 41.89 263 P **P** **01 27 28.5 +0.3**
baz=33
O57A **Amberson** 41.90 264 P **P** **01 27 28.9 +0.5**
baz=34
ABKAR **Akbulak array** 41.96 73 P **P** **01 27 29.9 +1.2**
TIXI **Tiksi** 42.01 15*ce*P **P** **01 27 30.3 +1.5**
TIXI pmax pmax
comp=Z,72nm,1.7s
TIXI **Tiksi** 42.01 15 P **P** **01 27 30.1 +1.3**
TIXI IAmb IAmb 01 27 33.2
comp=Z,60nm,1.1s
N55A **Marion Center** 42.01 266 P **P** **01 27 29.8 +0.6**
baz=34
Q61A **Milford** 42.03 261 P **P** **01 27 30.9 +1.6**
baz=33
GAZ **Gaziantep** 42.11 104 P **P** **01 27 30.1 -0.1**
GAZ IAmb IAmb 01 27 42.4
comp=Z,55nm,1.5s
EPYK **Eagle Plains** 42.14 328 P **P** **01 27 29.8 -0.2**
baz=34
EPYK **Eagle Plains** 42.14 328 IAmb IAmb 01 27 34.7
comp=Z,92nm,1.9s
Q60A **Greensboro** 42.15 262 P **P** **01 27 30.9 +0.6**
baz=33
M53A **WI Miller and** 42.20 268 P **P** **01 27 31.2 +0.5**
baz=35
M53A **WI Miller and** 42.20 268 IAmb IAmb 01 27 35.3
comp=Z,82nm,1.8s
O56A **Blue Knob Stat** 42.26 265 P **P** **01 27 32.1 +0.8**
baz=34
N54A **Moraine State** 42.29 267 P **P** **01 27 32.0 +0.5**
baz=34
N54A **Moraine State** 42.29 267 IAmb IAmb 01 27 36.5
comp=Z,84nm,1.9s
P58A **Pank, Wackersv** 42.36 263 P **P** **01 27 32.9 +0.8**
baz=33
M52A **Chesterland** 42.41 269 P **P** **01 27 32.9 +0.5**
baz=35
CSS **Mathiatis** 42.41 109 P **P** **01 27 32.5 0.0**
R61A **Willards** 42.49 260 P **P** **01 27 34.5 +1.3**
baz=32
Q59A **Harwood** 42.61 262 P **P** **01 27 34.9 +0.8**
baz=33
O55A **Ligonier** 42.62 266 P **P** **01 27 34.7 +0.4**
baz=34
P57A **Homestead Farm** 42.67 264 P **P** **01 27 34.6 0.0**
baz=33
TOLK **Toolik Lake Re** 42.74 336 P **P** **01 27 32.1 -2.8**
baz=28,SNR=11
TOLK **Toolik Lake Re** 42.74 336 IAmb IAmb 01 27 45.3
comp=Z,71nm,1.2s
AAM **Ann Arbor** 42.77 272 P **P** **01 27 35.8 +0.4**
baz=35
N53A **Lisbon** 42.78 268 P **P** **01 27 36.0 +0.5**
baz=34
BMAR **Burnt Mountain** 42.89 333 P **P** **01 27 37.7 +1.6**
M51A **Elyria** 42.93 269 P **P** **01 27 36.7 0.0**
baz=35
Q58A **Fox Den Farm,** 42.98 263 P **P** **01 27 37.6 +0.5**
baz=33
AKT **Akhty** 43.00 90 *e*P **P** **01 27 38.1 +0.8**
AKT *e* 01 29 17.6
AKT *e* 01 29 28.6
AKT pmax pmax
comp=Z,41nm,1.6s
P56A **Dayton Farm, R** 43.01 265 P **P** **01 27 37.3 0.0**
baz=34
R60A **Leonardtown, M** 43.08 262 P **P** **01 27 38.4 +0.6**
baz=33
BRVK **Borovoye** 43.10 62*ce*P **P** **01 27 37.5 -0.4**
BRVK pmax pmax
comp=Z,47nm,1.7s
BRVK **Borovoye** 43.10 62 P **P** **01 27 38.1 +0.2**
BRVK IAmb IAmb 01 27 44.0
comp=Z,91nm,1.8s
O54A **Avella** 43.10 267 P **P** **01 27 38.5 +0.4**
baz=34
AGMN **Agassiz Nation** 43.14 287 P **P** **01 27 38.4 +0.1**
baz=38
AGMN **Agassiz Nation** 43.14 287 P **P** **01 27 40.2 +2.0**
N52A **McGinn's Farm,** 43.15 269 P **P** **01 27 39.1 +0.7**
baz=34
BVAR **Borovoye Array** 43.17 62 P **P** **01 27 38.6 +0.2**
comp=Z,7.4nm,0.9s,baz=325,slow=7.6,SNR=35
BVAR PcP **PcP** **01 29 28.7 +0.8**
comp=Z,1.4nm,0.8s,baz=329,slow=7.4,SNR=3.9
S61A **Accomac** 43.18 260 P **P** **01 27 39.8 +1.1**
baz=32
Q57A **Strasburg** 43.21 264 P **P** **01 27 39.2 +0.2**
baz=33
MCWV **Mont Chateau** 43.31 266 P **P** **01 27 40.3 +0.5**
baz=34
N51A **Ashland** 43.35 269 P **P** **01 27 42.0 +1.9**
baz=34
N51A **Ashland** 43.35 269 IAmb IAmb 01 27 49.0
comp=Z,35nm,1.1s
R59A **King George, V** 43.36 262 P **P** **01 27 40.2 +0.1**
baz=33
O53A **New Philadelph** 43.41 268 P **P** **01 27 40.5 -0.1**
baz=34
O53A **New Philadelph** 43.41 268 IAmb IAmb 01 27 47.5
comp=Z,49nm,1.4s
P55A **Reedsville** 43.43 266 P **P** **01 27 40.7 -0.1**
baz=34
CBN **Corbin Frederi** 43.47 262 P **P** **01 27 40.6 -0.4**
baz=33
MARD **Mardin** 43.49 100 P **P** **01 27 42.1 +0.7**
MARD IAmb IAmb 01 27 48.3
comp=Z,61nm,1.2s
Q56A **Snyder Ridge,** 43.54 265 P **P** **01 27 41.9 +0.3**
baz=33
Q56A **Snyder Ridge,** 43.54 265 IAmb IAmb 01 27 46.6
comp=Z,81nm,2.0s
S60A **Water View** 43.58 261 P **P** **01 27 42.2 +0.3**
baz=32
P54A **Burton** 43.63 266 P **P** **01 27 42.8 +0.4**
baz=34
R58A **Rapidan** 43.66 263 P **P** **01 27 42.6 0.0**
baz=33
O52A **Adamsville** 43.78 268 P **P** **01 27 44.0 +0.4**
baz=34
O52A **Adamsville** 43.78 268 IAmb IAmb 01 27 49.4
comp=Z,44nm,1.3s
S59A **Mechanicsville** 43.80 262 P **P** **01 27 44.2 +0.5**
baz=32
R57A **Stanardsville** 43.88 264 P **P** **01 27 45.8 +1.5**
baz=33
R58B **Mineral** 43.88 263 P **P** **01 27 46.4 +2.0**
baz=32
Q55A **Buckhannon** 43.96 266 P **P** **01 27 45.5 +0.4**
baz=33
O51A **Pataskala** 44.09 269 P **P** **01 27 46.8 +0.8**
baz=34,SNR=9.4
T60A **Surry** 44.09 261 P **P** **01 27 47.6 +1.6**
baz=32
COLD **Coldfoot** 44.11 336 P **P** **01 27 46.0 +0.1**
baz=27

COLD	Coldfoot	44.11 336	P	P	01 27 46.0	+0.1
P53A	Whipple	44.11 267	P	P	01 27 47.6	+1.4
	baz=34,SNR=7.4					
N49A	Columbus Grove	44.13 271	IAmb	IAmb	01 27 55.3	
	comp=Z,45nm,1.1s					
R56A	Bull Pasture M	44.16 264	P	P	01 27 46.2	-0.6
	baz=33					
ACSO	Alum Creek Sta	44.18 269	P	P	01 27 47.7	+0.9
	baz=34					
ACSO	Alum Creek Sta	44.18 269	P	P	01 27 47.9	+1.1
S58A	Poland Farm, P	44.25 263	P	P	01 27 47.8	+0.5
	baz=32					
BHL	Bhannes	44.27 108	*e*P	P	01 27 45.6	-2.1
Q54A	Coxs Mills	44.29 266	P	P	01 27 49.6	+1.9
	baz=33					
Q54A	Coxs Mills	44.29 266	IAmb	IAmb	01 27 54.6	
	comp=Z,66nm,1.8s					
SPMN	Marine on St.	44.31 282	P	P	01 27 48.0	+0.2
	baz=36					
SPMN	Marine on St.	44.31 282	IAmb	IAmb	01 27 56.8	
	comp=Z,40nm,1.6s					
P52A	Corning	44.31 268	P	P	01 27 49.2	+1.4
	baz=34					
P52A	Corning	44.31 268	IAmb	IAmb	01 27 52.3	
	comp=Z,72nm,1.6s					
EGAK	Eagle	44.48 329	IAmb	IAmb	01 27 51.2	
	comp=Z,52nm,1.6s					
S57A	Dark Hollow, R	44.51 264	P	P	01 27 50.4	+1.0
	baz=32					
S57A	Dark Hollow, R	44.51 264	IAmb	IAmb	01 27 54.4	
	comp=Z,64nm,2.0s					
TAM	Tamanrasset	44.51 149	P	P	01 27 49.6	-0.2
TAM			pmax	pmax		
	comp=Z,42nm,1.7s					
TAM	Tamanrasset	44.51 149	P	P	01 27 49.6	-0.2
TAM			IAmb	IAmb	01 27 59.3	
	comp=Z,42nm,1.7s					
R55A	Marlinton	44.57 265	P	P	01 27 50.9	+0.9
	baz=33					
T59A	Double "B" Far	44.58 262	P	P	01 27 50.2	+0.3
	baz=32					
U61A	Possum Corner	44.65 260	P	P	01 27 50.7	+0.1
	baz=32					
Q53A	Leroy	44.70 267	P	P	01 27 52.4	+1.5
	baz=33,SNR=6.8					
DAWY	Dawson	44.70 328	IAmb	IAmb	01 27 53.6	
	comp=Z,68nm,1.6s					
L44A	Lake County Fo	44.70 275	P	P	01 27 51.2	+0.3
	baz=35					
SHBL	Chebaa	44.79 108	*e*P	P	01 27 50.6	-1.4
O49A	Covington	44.80 270	IAmb	IAmb	01 28 00.4	
	comp=Z,24nm,0.9s					
P51A	Williamsport	44.84 269	P	P	01 27 51.8	-0.2
	baz=34					
P51A	Williamsport	44.84 269	IAmb	IAmb	01 28 00.5	
	comp=Z,28nm,1.1s					
U60A	Pendleton	44.84 261	P	P	01 27 53.1	+1.1
	baz=32					
S56A	Natural Bridge	44.84 264	P	P	01 27 52.8	+0.6
	baz=32					
Q52A	Bidwell	44.93 268	P	P	01 27 53.7	+0.9
	baz=33					
MMAI	Mount Meron Ar	44.95 109	P	P	01 27 52.3	-0.7
	comp=Z,7.3nm,1.0s,baz=0.9,slow=5.2,SNR=9.8					
T58A	Grand View Acr	45.02 262	P	P	01 27 54.1	+0.6
	baz=32					
MDND	Maddock	45.02 289	P	P	01 27 52.9	-0.5
	baz=37					
R54A	Victor	45.03 266	P	P	01 27 53.6	0.0
	baz=33					
JFWS	Jewell Farm	45.10 278	P	P	01 27 54.8	+0.7
	baz=35					
V62A	Hyde County Ai	45.10 259	P	P	01 27 54.8	+0.7
	baz=31					
S55A	Lewisburg	45.16 265	P	P	01 27 55.6	+0.9
	baz=33					
V61A	Roper	45.17 260	P	P	01 27 55.3	+0.6
	baz=31					
U59A	Littleton	45.21 261	P	P	01 27 55.5	+0.6
	baz=32					
T57A	Hurt	45.28 263	P	P	01 27 57.6	+2.0
	baz=32					
T57A	Hurt	45.28 263	IAmb	IAmb	01 28 02.5	
	comp=Z,35nm,1.6s					
R53A	Hurricane	45.32 267	P	P	01 27 56.8	+0.9
	baz=33					
R53A	Hurricane	45.32 267	IAmb	IAmb	01 28 05.1	
	comp=Z,40nm,1.3s					
K27K	Chicken	45.33 329	P	P	01 27 55.0	-0.6
	baz=30					
Q51A	Peebles	45.34 269	IAmb	IAmb	01 28 02.4	
	comp=Z,58nm,1.6s					
POKR	Poker Plat Res	45.48 333	P	P	01 27 57.0	+0.1
	baz=27					
V60A	Jim Taylor Roa	45.48 260	P	P	01 27 57.6	+0.4
	baz=31					
S54A	Dingess, Beckl	45.49 266	P	P	01 27 57.6	+0.3
	baz=33					
U58A	Oxford	45.49 262	P	P	01 27 57.6	+0.4
	baz=32					
P49A	Miami Univ. Ec	45.50 270	P	P	01 27 57.6	+0.3
	baz=34					
P49A	Miami Univ. Ec	45.50 270	IAmb	IAmb	01 28 05.7	
	comp=Z,23nm,1.1s					
T56A	Rocky Mt	45.59 264	P	P	01 27 59.5	+1.4
	baz=32					
L42A	Oliver, Polo	45.59 277	IAmb	IAmb	01 28 02.6	
	comp=Z,47nm,1.4s					
BLA	Blacksburg	45.60 264	P	P	01 27 58.6	+0.4
	baz=32					
ILAR	Eielson Array	45.68 332	P	P	01 27 59.9	+1.4
	comp=Z,9.0nm,1.1s,baz=26,slow=5.2,SNR=38					
ILAR			PcP	PcP	01 29 37.6	+1.4
	comp=Z,3.7nm,0.9s,baz=346,slow=2.6,SNR=10					
ILAR			LR	LR	01 49 23.3	
	comp=Z,527nm,19.3s,baz=10.0,slow=39					
ILAR	Eielson Array	45.68 332	P	P	01 27 58.9	+0.5
ILAR			PcP	PcP	01 29 35.8	-0.4
MDM	Murphy Dome	45.78 333	IAmb	IAmb	01 28 09.4	
	comp=Z,44nm,1.3s					
COLA	College	45.78 333	*d i*P	P	01 28 00.1	+1.0
COLA			pmax	pmax		
	comp=Z,24nm,1.1s					
COLA	College	45.78 333	P	P	01 28 00.6	+1.5
TCOL	CIGO, UAF Yank	45.78 333	P	P	01 27 58.4	-0.7
	baz=27					
SCRK	Sand Creek	45.79 330	P	P	01 27 58.4	-1.0
	baz=29,SNR=7.9					
U57A	Blanch	45.80 263	P	P	01 28 00.1	+0.5
	baz=32					
SFIN	Lafayette	45.83 273	P	P	01 27 59.2	-0.6
	baz=34					
T55A	Pulaski	45.84 265	P	P	01 27 60.0	-0.1
	baz=32					
IMAR	Indian Mountai	45.85 337	P	P	01 28 01.4	+1.7
W61A	Ground Anchor	45.87 260	P	P	01 27 59.8	-0.4
	baz=31					
V59A	Middlesex	45.90 261	P	P	01 28 00.0	-0.4
	baz=31					
S53A	Williamson	45.94 266	P	P	01 28 00.2	-0.6
	baz=33					
CCB	Clear Creek Bu	45.97 333	IAmb	IAmb	01 28 03.7	
	comp=Z,55nm,1.7s					
HDA	Harding Lake	46.01 332	P	P	01 28 00.5	-0.6
	baz=27,SNR=8.3					
DOT	Dot Lake	46.09 330	IAmb	IAmb	01 28 05.2	
	comp=Z,45nm,1.6s					
BCAR	Beaver Creek A	46.10 329	P	P	01 28 02.8	+0.9
WRH	Wood River Hil	46.19 333	IAmb	IAmb	01 28 05.5	
	comp=Z,36nm,1.6s					
CNNC	Cliffs of the	46.20 261	P	P	01 28 03.0	+0.2
	baz=31					
T54A	Tazewell	46.22 265	P	P	01 28 03.5	+0.4
	baz=32					
V58A	Windy Hill, Pi	46.24 262	P	P	01 28 03.8	+0.6
	baz=32					
NEA2	Nenana	46.27 333	P	P	01 28 02.2	-0.8
	baz=26,SNR=16					
W60A	Pink Hill	46.28 260	P	P	01 28 04.0	+0.6
	baz=31					
ASF	Jabal al Asfar	46.29 108	P	P	01 28 03.3	-0.4
	comp=Z,5.8nm,1.1s,baz=237,slow=0.5,SNR=12					
U56A	King	46.32 264	P	P	01 28 04.7	+1.0
	baz=32					
DGMT	Dagmar	46.36 293	P	P	01 28 04.0	-0.1
	baz=36					
DGMT	Dagmar	46.36 293	P	P	01 28 05.2	+1.1
V57A	Coltrane Farms	46.45 263	P	P	01 28 06.8	+2.0
	baz=32					
BRZS	Berezniki	46.45 63	*i*P	P	01 28 04.4	-0.3
	comp=Z,116nm,2.5s,baz=63					
BRZS			*i* PP	PP	01 29 53.6	+0.3
	baz=63					
BRZS			*e*S	S	01 34 52.9	-0.2
	baz=63					
BRZS			*e*SS	SS	01 38 20.5	+2.3
	baz=63					
BRZS			LR	LR	01 46 18.9	
	comp=Z,434nm,16.4s,baz=63					
BRZS	Berezniki	46.45 63	*d i*P	P	01 28 04.4	-0.3
BRZS			*i*		01 29 53.6	
BRZS			*e*S	S	01 34 52.8	-0.2
BRZS			pmax	pmax		
	comp=Z,116nm,2.5s					
BRZS			MLR	MLR		
	comp=Z,434nm,16.0s					
U55A	TA2, Sparta	46.47 265	P	P	01 28 06.9	+1.9
	baz=32					
W59A	Clinton	46.49 261	P	P	01 28 07.2	+2.0
	baz=31					
HDIL	Hopedale	46.62 275	P	P	01 28 06.9	+0.8
	baz=34					
MENT	Mentasta	46.64 330	IAmb	IAmb	01 28 09.7	
	comp=Z,33nm,1.5s					
T53A	Wise	46.70 266	P	P	01 28 07.7	+0.9
	baz=32					
U54A	Nelsons Funny	46.78 265	P	P	01 28 08.4	+0.9
	baz=32					
X60A	Albert Glenn T	46.80 260	P	P	01 28 07.1	-0.4
	baz=31					
V56A	Mocksville	46.82 264	P	P	01 28 08.7	+1.0
	baz=32					
W58A	Raeford	46.95 262	P	P	01 28 10.3	+1.5
	baz=31					
X59A	McDuffie Farm,	47.07 261	P	P	01 28 10.3	+0.6
	baz=31					
DLBC	Dease Lake	47.08 318	IAmb	IAmb	01 28 12.2	
	comp=Z,44nm,1.9s					
V55A	Taylorsville	47.09 264	P	P	01 28 09.4	-0.5
	baz=32					
V55A	Taylorsville	47.09 264	P	P	01 28 11.4	+1.5
ECSD	EROS Data Cent	47.12 284	P	P	01 28 10.1	+0.1
	baz=35					
W57A	Gilead	47.16 263	P	P	01 28 09.5	-0.9
	baz=31					
SCIA	State Center	47.18 279	P	P	01 28 09.2	-1.3
	baz=34					
WCI	Wyandotte Cave	47.27 271	P	P	01 28 12.5	+1.3
WCI			pmax	pmax		
	comp=Z,18nm,0.9s					
WCI	Wyandotte Cave	47.27 271	P	P	01 28 10.1	-1.1
	baz=33					
WCI	Wyandotte Cave	47.27 271	P	P	01 28 12.5	+1.3
WCI			IAmb	IAmb	01 28 17.0	
	comp=Z,18nm,0.8s					
Y60A	Bolivia	47.39 260	P	P	01 28 12.3	+0.1
	baz=31					
X58A	Rowland	47.40 262	P	P	01 28 12.3	+0.1
	baz=31					
W56A	Indian Trail	47.43 263	P	P	01 28 12.9	+0.5
	baz=31					
V54A	Nebo	47.47 265	P	P	01 28 13.8	+1.0
	baz=32,SNR=8.0					
TZTN	Tazewell	47.51 267	P	P	01 28 13.8	+0.7
	baz=32					
SUSD	Miller	47.51 286	P	P	01 28 12.6	-0.5
	baz=35					
KTH	Kantishna Hill	47.56 334	P	P	01 28 14.8	+1.6
KTH				PcP	01 29 44.7	+1.8
KTH			IAmb	IAmb	01 29 47.5	
	comp=Z,28nm,1.4s					
ZAA0	Zalesovo Array	47.60 51	P	P	01 28 13.6	0.0
ZAA0			IAmb	IAmb	01 28 16.6	
	comp=Z,40nm,1.6s					
ZALV	Zalesovo Beam	47.60 51	P	P	01 28 13.4	-0.2
	comp=Z,1.4nm,0.4s,baz=331,slow=8.5,SNR=6.4					
ZALV			PcP	PcP	01 29 43.3	+0.2
	comp=Z,1.1nm,0.4s,baz=305,slow=5.2,SNR=4.3					
ZALV	Zalesovo Beam	47.60 51	*i* P	P	01 28 15.5	+1.9
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.4s					
ZALV	Zalesovo Beam	47.60 51	P	P	01 28 13.7	+0.1
ZALV			PcP	PcP	01 29 44.5	+1.3
Y59A	Loris	47.68 261	P	P	01 28 14.0	-0.4
	baz=31					
EIL	Elat	47.70 111	P	P	01 28 15.0	+0.3
	comp=Z,6.0nm,1.1s,baz=333,slow=3.1,SNR=7.4					
EIL			PP	PP	01 30 11.3	+5.3
	comp=Z,1.5nm,0.4s,baz=341,slow=8.4,SNR=4.2					
KMSC	Kings Mountain	47.75 264	P	P	01 28 14.8	-0.1
	baz=31					
X57A	Johnson Farm,	47.80 262	P	P	01 28 15.4	+0.1
	baz=31					
Q44A	Meyer Farm, Va	47.88 274	IAmb	IAmb	01 28 23.5	
	comp=Z,12nm,0.8s					
KURK	Kurchatov	48.08 58	*ce*P	P	01 28 16.8	-0.5
KURK			pmax	pmax		
	comp=Z,47nm,1.7s					
KURK	Kurchatov	48.08 58	P	P	01 28 17.2	-0.2
KURK			IAmb	IAmb	01 28 22.6	
	comp=Z,21nm,0.9s					
KURBB	Kurchatov Arra	48.12 58	P	P	01 28 17.1	-0.6
	comp=Z,11nm,1.0s,baz=323,slow=7.4,SNR=49					
W54A	Cherokee Point	48.16 265	P	P	01 28 18.9	+0.8
	baz=31					
X56A	White Oak	48.17 263	P	P	01 28 19.4	+1.2
	baz=31,SNR=6.5					
BESE	Bessie Mountai	48.29 321	P	P	01 28 20.6	+1.7
BESE			IAmb	IAmb	01 28 28.1	
	comp=Z,24nm,1.2s					
Y57A	Sumter	48.30 262	P	P	01 28 19.8	+0.6
	baz=31					
TKL	Tuckaleechee C	48.35 266	IAmb	IAmb	01 28 24.3	
	comp=Z,37nm,1.8s					
PPLA	Purkeypile	48.40 334	P	P	01 28 21.1	+1.2
X55A	Gracelyn & Ava	48.45 264	P	P	01 28 21.3	+0.9
	baz=31,SNR=5.5					
JSC	Jenkinsville	48.45 263	IAmb	IAmb	01 28 25.1	
	comp=Z,28nm,1.6s					
V51A	Loudon	48.48 267	IAmb	IAmb	01 28 27.3	
	comp=Z,38nm,1.5s					
CUT	Chulitna	48.48 333	P	P	01 28 19.9	-0.4
	baz=25					
Z59A	Georgetown, SC	48.50 261	P	P	01 28 21.3	+0.6
	baz=30					
BG3	Lake Jocassee	48.56 265	IAmb	IAmb	01 28 25.9	
	comp=Z,30nm,1.7s					
LAO	LASA Array	48.61 293	P	P	01 28 22.0	+0.4
	baz=35,SNR=9.7					
SLM	Saint Louis	48.62 274	P	P	01 28 22.5	+0.8
SLM			pmax	pmax		
	comp=Z,17nm,0.7s					
SLM	Saint Louis	48.62 274	P	P	01 28 22.4	+0.8
SLM			IAmb	IAmb	01 28 29.4	
	comp=Z,16nm,0.7s					
Z58A	St. Stephen	48.64 261	P	P	01 28 22.6	+0.8
	baz=30					
T47A	Sharon Grove	48.66 270	IAmb	IAmb	01 28 30.5	
	comp=Z,21nm,0.9s					
X54A	Belton	48.70 264	P	P	01 28 23.3	+1.0
	baz=31					
CPCT	Cooper Cave	48.85 267	IAmb	IAmb	01 28 25.3	
	comp=Z,51nm,1.9s					
Y56A	Pelion	48.89 263	P	P	01 28 25.0	+1.3
	baz=31					
EGMT	Eagleton	48.89 297	P	P	01 28 24.7	+1.0
	baz=35,SNR=35					
W52A	Murphy	48.90 266	IAmb	IAmb	01 28 28.5	
	comp=Z,38nm,1.6s					
HODGE	Hodges	48.92 264	IAmb	IAmb	01 28 28.5	
	comp=Z,46nm,1.6s					
SEM	Semipalatinsk	48.93 57	*e*P	P	01 28 23.6	-0.5
	comp=Z,139nm,5.0s,baz=57					
SEM			*e*PP	PP	01 30 16.7	-0.3
	baz=57					
SEM	Semipalatinsk	48.93 57	*e*P	P	01 28 23.6	-0.5
SEM			*e*		01 30 16.7	
SEM			pmax	pmax		
	comp=Z,139nm,5.0s					
NHSC	New Hope	48.99 261	P	P	01 28 24.7	+0.1
	baz=30					
Y55A	Saluda	49.00 264	P	P	01 28 26.6	+2.0
	baz=31					
TTA	Tatalina	49.05 336	P	P	01 28 26.6	+1.8
TTA			pmax	pmax		
	comp=Z,34nm,1.4s					
TTA	Tatalina	49.05 336	P	P	01 28 26.6	+1.8
TTA			IAmb	IAmb	01 28 28.1	
	comp=Z,34nm,1.4s					
Z57A	Bowman	49.05 262	P	P	01 28 24.6	-0.4
	baz=30					
CLTN	Cedars of Leba	49.09 269	IAmb	IAmb	01 28 27.6	
	comp=Z,32nm,1.6s					
SKT	Skwentna	49.11 333	IAmb	IAmb	01 28 30.4	
	comp=Z,22nm,1.2s					
Z56A	Williston	49.31 263	P	P	01 28 27.1	+0.1
	baz=30					
CCM	Cathedral Cave	49.54 275	P	P	01 28 30.0	+1.3
CCM			pmax	pmax		
	comp=Z,7.0nm,0.9s					
CCM	Cathedral Cave	49.54 275	P	P	01 28 28.4	-0.3
	baz=33					
CCM	Cathedral Cave	49.54 275	P	P	01 28 30.0	+1.3
RC01	Rabbit Creek A	49.57 332	P	P	01 28 28.3	-0.4
	baz=24					
V48A	Smith Brothers	49.59 269	IAmb	IAmb	01 28 36.5	
	comp=Z,64nm,1.8s					
WALA	Waterton Lakes	49.60 301	IAmb	IAmb	01 28 56.2	
	comp=Z,52nm,1.9s					
BGNE	Belgrade	49.67 283	P	P	01 28 29.2	-0.6
	baz=34					
WVT	Waverly	49.70 271	P	P	01 28 30.6	+0.7
WVT			pmax	pmax		
	comp=Z,22nm,1.8s					
WVT	Waverly	49.70 271	P	P	01 28 29.8	-0.1
	baz=32					
WVT	Waverly	49.70 271	P	P	01 28 30.6	+0.7
157A	Early Branch	49.71 262	P	P	01 28 30.6	+0.6
	baz=30					
X51A	Calhoun	49.75 267	IAmb	IAmb	01 28 50.7	
	comp=Z,60nm,1.8s					
RSSD	Black Hills	49.85 290	P	P	01 28 31.9	+0.6
RSSD			pmax	pmax		
	comp=Z,8.0nm,1.1s					
RSSD	Black Hills	49.85 290	P	P	01 28 31.5	+0.2
	baz=34					
RSSD	Black Hills	49.85 290	P	P	01 28 31.9	+0.6
Y52A	Lilburn	50.00 266	IAmb	IAmb	01 28 38.7	
	comp=Z,27nm,1.4s					
FPAL	Fort Paine	50.09 267	IAmb	IAmb	01 28 35.1	
	comp=Z,32nm,1.6s					
O22K	Cooper Landing	50.12 331	P	P	01 28 33.0	+0.1
	baz=24					
GOGA	Godfrey	50.14 265	P	P	01 28 33.8	+0.5
	baz=31					
GEYT	Alibeck	50.40 84	P	P	01 28 35.8	+0.5
	comp=Z,2.7nm,0.7s,baz=321,slow=2.1,SNR=13					
GEYT			PP	PP	01 30 32.4	+1.9
	comp=Z,6.7nm,1.1s,baz=311,slow=14,SNR=6.5					
GEYT			LR	LR	01 52 09.4	
	comp=Z,924nm,20.0s,baz=340,slow=39					
GEYT	Alibeck	50.40 84	P	P	01 28 35.7	+0.5
ASHT	Ashkhabad	50.50 83	P	P	01 28 37.5	+1.5
ASHT			pmax	pmax		
	comp=Z,228nm,1.5s					
ASHT	Ashkhabad	50.50 83	P	P	01 28 37.5	+1.5
S39A	Bolivar	50.74 276	IAmb	IAmb	01 28 43.4	
	comp=Z,76nm,1.9s					
PLAL	Pickwick Lake	50.77 270	IAmb	IAmb	01 28 43.4	
	comp=Z,42nm,1.8s					
KSU1	Kansas State U	50.95 280	P	P	01 28 39.1	-0.3
	baz=33					
BTLS	Baital	51.04 66	*i*P	P	01 28 40.4	+0.4
	comp=Z,45nm,2.4s,baz=66					
BTLS			*e*S	S	01 35 58.3	+0.6
	baz=66					
BTLS			*e*SS	SS	01 39 34.9	+2.9
	baz=66					
BTLS			LR	LR	01 48 49.6	
	comp=Z,151nm,13.1s,baz=66					
BTLS	Baital	51.04 66	*d i*P	P	01 28 40.4	+0.4
BTLS			*e*S	S	01 35 58.3	+0.6
BTLS			*e*SS	SS	01 39 34.8	+2.9
BTLS			pmax	pmax		
	comp=Z,45nm,2.4s					
BTLS			MLR	MLR		
	comp=Z,151nm,13.0s					
RLMT	Red Lodge	51.10 295	P	P	01 28 41.5	+0.8
	baz=33,SNR=16					
LCAR	Lake Charles	51.18 273	IAmb	IAmb	01 28 44.8	
	comp=Z,38nm,1.8s					
YAK	Yakutsk	51.24 19	*e*P	P	01 28 39.9	-1.3
YAK			*e*		01 29 54.4	
YAK			*e*S	S	01 35 56.9	-3.2
YAK			*e**SS	sS	01 36 16.4	+15
YAK			*e*		01 38 30.0	
YAK			*e*SS	SS	01 39 36.1	+1.6
YAK			pmax	pmax		
	comp=Z,117μm,1.8s					
YAK			pmax	pmax		
	comp=N,86μm,1.9s					
YAK			pmax	pmax		
	comp=E,40μm,1.8s					
YAK			smax	smax		
	comp=N,769nm,12.9s					
YAK			smax	smax		
	comp=E,158nm,4.3s					
YAK			MLR	MLR		
	comp=Z,258nm,20.0s					
YAK			MLR	MLR		
	comp=N,216nm,17.0s					
YAK			MLR	MLR		
	comp=E,56nm,17.0s					
KKAR	Karatay Array	51.25 70	P	P	01 28 41.6	0.0
KKAR	Karatay Array	51.25 70	P	P	01 28 41.6	0.0
152A	Waverly Hall	51.31 265	IAmb	IAmb	01 28 46.5	
	comp=Z,35nm,1.6s					
MSO	Missoula	51.47 299	P	P	01 28 42.4	-0.9
	baz=33					
BOZ	Bozeman (W)	51.62 297	P	P	01 28 45.2	+0.7
	baz=33,SNR=21					
BOZ	Bozeman (W)	51.62 297	IAmb	IAmb	01 28 53.7	
	comp=Z,43nm,1.1s					
U40A	Yellville	51.66 275	P	P	01 28 44.9	+0.1
	baz=32,SNR=12					
U40A	Yellville	51.66 275	IAmb	IAmb	01 28 47.5	
	comp=Z,80nm,2.0s					
OGNE	Ogallala	51.68 286	P	P	01 28 45.0	+0.1
	baz=33					
LRM	Limekiln Ridge	51.75 297	P	P	01 28 45.9	+0.3
OXF	Oxford	51.75 271	P	P	01 28 44.3	-1.0
	baz=31					
DZA	Taraz	51.75 69	*i*P	P	01 28 46.0	+0.5
	comp=Z,26nm,1.6s,baz=70					
DZA			*e*PP	PP	01 30 43.8	+1.1
	baz=70					
DZA			LR	LR	01 49 54.0	
	comp=Z,398nm,15.0s,baz=70					
DZA	Taraz	51.75 69	*d i*P	P	01 28 45.9	+0.5
DZA			*e*		01 30 43.7	
DZA			pmax	pmax		
	comp=Z,26nm,1.6s					
DZA			MLR	MLR		
	comp=Z,398nm,15.0s					
IUG	Iuzhnay	51.85 71	*e*P	P	01 28 47.0	+0.7
	comp=Z,57nm,1.7s,baz=71					
IUG			*e*PP	PP	01 30 44.8	+1.1
	baz=71					
IUG			LR	LR	01 50 03.9	
	comp=Z,245nm,15.3s,baz=71					
IUG	Iuzhnay	51.85 71	*e*P	P	01 28 46.9	+0.7
IUG			*e*		01 30 44.7	
IUG			pmax	pmax		
	comp=Z,57nm,1.7s					
IUG			MLR	MLR		
	comp=Z,245nm,15.0s					
LRAL	Lakeview Retre	51.97 268	P	P	01 28 46.6	-0.5
	baz=31					
LRAL	Lakeview Retre	51.97 268	IAmb	IAmb	01 28 52.5	
	comp=Z,34nm,1.6s					
DGZ	Jazzator, Alta	52.05 53	*d i*P	P	01 28 47.7	0.0
DGZ			pmax	pmax		
	comp=Z,14nm,1.3s					
K22A	Casper	52.08 291	P	P	01 28 46.8	-1.2
	baz=33					
K22A	Casper	52.08 291	IAmb	IAmb	01 28 56.0	
	comp=Z,26nm,1.1s					
B08A	Colville Reser	52.15 304	P	P	01 28 49.8	+1.5
DLMT	Dillon	52.19 297	IAmb	IAmb	01 29 03.4	
	comp=Z,51nm,1.9s					
HHAR	Hobbs	52.19 276	IAmb	IAmb	01 28 53.9	
	comp=Z,57nm,1.9s					

H17A	Grant Village	52.22	295	IAmb	IAmb	01 28 59.5
	comp=Z,35nm,1.1s					
TAS	Tashkent	52.24	72	P	P	01 28 50.4 +1.4
TAS				pmax	pmax	
	comp=Z,90nm,0.2s					
TAS	Tashkent	52.24	72	P	P	01 28 50.4 +1.4
U38A	Gravette	52.25	277	IAmb	IAmb	01 28 54.1
	comp=Z,46nm,1.9s					
WHAR	Wooly Hollow	52.32	274	IAmb	IAmb	01 28 56.7
	comp=Z,41nm,1.5s					
X43A	Marvell	52.38	272	P	P	01 28 49.0 -1.1
	baz=31					
BOD	Bodaibo	52.38	30	eP	P	01 28 49.5 -0.3
BOD				pmax	pmax	
	comp=Z,20nm,1.8s					
W41B	Gary Mavity, V	52.41	274	P	P	01 28 49.6 -0.6
	baz=31					
W41B	Gary Mavity, V	52.41	274	IAmb	IAmb	01 28 52.1
	comp=Z,69nm,2.0s					
SEY	Seymchan	52.46	6	i P	P	01 28 50.2 -0.1
CBKS	Cedar Bluff	52.51	283	P	P	01 28 49.7 -1.4
	baz=32					
MAKZ	Makanchi	52.57	59	P	P	01 28 52.1 +0.7
MAKZ	Makanchi	52.57	59	P	P	01 28 52.1 +0.7
MAKZ				IAmb	IAmb	01 28 54.4
	comp=Z,62nm,1.6s					
SGDS	Sogindy	52.60	66	⇓i P	P	01 28 52.1 +0.4
	comp=Z,66nm,2.6s,baz=67					
SGDS	Sogindy	52.60	66	d i P	P	01 28 52.1 +0.4
SGDS				pmax	pmax	
	comp=Z,66nm,2.6s					
MK31	Makanchi Array	52.69	58	IAmb	IAmb	01 28 55.2
	comp=Z,52nm,1.9s					
MKAR	Makanchi Array	52.69	58	P	P	01 28 52.0 -0.3
	comp=Z,3.2nm,0.8s,baz=344,slow=3.9,SNR=18					
MKAR	Makanchi Array	52.69	58	P	P	01 28 52.1 -0.2
USP	Ospenovka	52.70	67	P	P	01 28 54.9 +2.5
	SNR=8.0					
T35A	Sooner Cattle	52.75	279	IAmb	IAmb	01 28 57.9
	comp=Z,58nm,1.6s					
TDK	Taldyqorghan	52.76	62	eP	P	01 28 53.4 +0.6
	comp=Z,236nm,2.7s,baz=63					
TDK				eS	S	01 36 22.1 +0.8
	baz=63					
TDK				eSS	SS	01 40 02.3 +3.2
	baz=63					
TDK	Taldyqorghan	52.76	62	eP	P	01 28 53.4 +0.6
TDK				eS	S	01 36 22.1 +0.8
TDK				eSS	SS	01 40 02.3 +3.2
TDK				pmax	pmax	
	comp=Z,236nm,2.7s					
IMW	Indian Meadow	52.78	295	IAmb	IAmb	01 29 02.8
	comp=Z,33nm,1.4s					
KUU	Kurty	52.90	65	⇓i P	P	01 28 54.1 +0.3
	comp=Z,144nm,2.4s,baz=65					
KUU				eS	S	01 36 23.8 +0.5
	baz=65					
KUU				LR	LR	01 49 49.7
	comp=Z,894nm,13.9s,baz=65					
KUU	Kurty	52.90	65	d i P	P	01 28 54.1 +0.3
KUU				eS	S	01 36 23.8 +0.5
KUU				pmax	pmax	
	comp=Z,144nm,2.4s					
KUU				MLR	MLR	
	comp=Z,894nm,14.0s					
EKS2	Erkin-Say	52.92	68	P	P	01 28 58.1 +3.9
	SNR=18					
W39A	Magazine	53.04	275	P	P	01 28 54.8 -0.2
	baz=31					
ZSN	Zaisan	53.07	56	eP	P	01 28 54.7 -0.4
	comp=Z,74nm,2.8s,baz=56					
ZSN				LR	LR	01 50 38.0
	comp=Z,379nm,16.0s,baz=56					
ZSN	Zaisan	53.07	56	eP	P	01 28 54.7 -0.4
ZSN				pmax	pmax	
	comp=Z,74nm,2.8s					
ZSN				MLR	MLR	
	comp=Z,379nm,16.0s					
SNOW	Snow King Moun	53.08	295	IAmb	IAmb	01 29 04.8
	comp=Z,37nm,1.4s					
TOA0	Torodi Ar. Sit	53.15	156	P	P	01 28 54.9 -1.0
TORD	Torodi Ar. Bea	53.15	156	P	P	01 28 54.6 -1.4
	comp=Z,10nm,1.1s,baz=344,slow=7.2,SNR=16					
TORD				LR	LR	01 51 30.7
	comp=Z,226nm,18.2s,baz=5.0,slow=36					
TORD	Torodi Ar. Bea	53.15	156	P	P	01 28 55.0 -1.0
RWWY	Rawlins	53.16	291	IAmb	IAmb	01 28 58.2
	comp=Z,37nm,1.5s					
CHKK	Chushkaly	53.18	64	eP	P	01 28 55.9 -0.1
	baz=64					
CHKK				ePP	PP	01 30 55.8 +0.3
	baz=64					
CHKK	Chushkaly	53.18	64	eP	P	01 28 55.8 -0.1
CHKK				e		01 30 55.7
BW06	Boulder Array	53.19	293	P	P	01 28 56.3 0.0
	baz=32,SNR=20					
BW06	Boulder Array	53.19	293	IAmb	IAmb	01 29 04.4
	comp=Z,42nm,1.2s					
PD31	Pinedale Array	53.19	293	IAmb	IAmb	01 29 04.4
	comp=Z,38nm,1.2s					
PDAR	Pinedale Array	53.19	293	P	P	01 28 56.5 +0.2
	comp=Z,5.2nm,0.9s,baz=50,slow=5.2,SNR=34					
PDAR				LR	LR	01 51 16.0
	comp=Z,1μm,18.8s,baz=36,slow=36					
PDAR	Pinedale Array	53.19	293	P	P	01 28 56.1 -0.2
REDW	Red Top Meadow	53.20	295	IAmb	IAmb	01 29 05.5
	comp=Z,40nm,1.4s					
AAK	Ala-Archa	53.23	67	P	P	01 28 56.1 -0.4
	comp=Z,10nm,1.0s,baz=297,slow=6.0,SNR=30					
AAK	Ala-Archa	53.23	67	P	P	01 28 57.8 +1.3
	SNR=8.4					
AAK	Ala-Archa	53.23	67	d i P	P	01 28 57.2 +0.7
AAK				pmax	pmax	
	comp=Z,21nm,1.5s					
AAK	Ala-Archa	53.23	67	P	P	01 28 58.1 +1.6
X40A	Basin Creek Fa	53.24	274	P	P	01 28 56.1 -0.4
	baz=31					
X40A	Basin Creek Fa	53.24	274	IAmb	IAmb	01 29 02.0
	comp=Z,56nm,1.9s					
TUL1	Leonard	53.30	277	P	P	01 28 56.1 -0.7
	baz=32					
N23A	Red Feather La	53.32	289	P	P	01 28 57.0 -0.3
	baz=32,SNR=22					
N23A	Red Feather La	53.32	289	IAmb	IAmb	01 29 07.2
	comp=Z,43nm,1.2s					
AML	Almayashu	53.34	68	P	P	01 29 01.0 +3.4
	SNR=16					
TKM2	Tokmak 2	53.42	66	P	P	01 29 01.1 +3.1
	SNR=17					
KSCO	Kaye Shedlock'	53.55	285	P	P	01 28 58.3 -0.6
	baz=32					
MTBS	Maitube	53.57	65	i P	P	01 29 00.7 +1.7
	baz=65					
MTBS	Maitube	53.57	65	i P	P	01 29 00.6 +1.7
UCH	Uchtor	53.58	67	P	P	01 29 01.6 +2.1
	SNR=11					
BRAL	Brewton	53.60	267	P	P	01 28 59.1 0.0
	baz=30					
AAA	Alma-Ata	53.70	65	⇓i P	P	01 29 00.7 +0.8
	baz=65					
AAA				ePP	PP	01 31 01.6 +1.4
	baz=65					
AAA				eS	S	01 36 35.4 +1.0
	baz=65					
AAA				eSS	SKiKP	01 40 17.2 +2.5
	baz=65					
AAA				LR	LR	01 50 47.9
	comp=Z,883nm,14.5s,baz=65					
AAA	Alma-Ata	53.70	65	d i P	P	01 29 00.6 +0.8
AAA				e		01 31 01.6
AAA				eS	S	01 36 35.3 +1.0
AAA				eSS	SKiKP	01 40 17.2 +2.5
AAA				MLR	MLR	
	comp=Z,883nm,14.0s					
MDOK	Medeo	53.79	65	i P	P	01 29 01.3 +0.6
	baz=65					
MDOK				eS	S	01 36 36.4 +0.6
	baz=65					
MDOK				eSS	SS	01 40 18.9 +3.1
	baz=65					
MDOK				LR	LR	01 50 46.1
	comp=Z,992nm,16.1s,baz=65					
MDOK	Medeo	53.79	65	i P	P	01 29 01.2 +0.6
MDOK				eS	S	01 36 36.3 +0.6
MDOK				eSS	SS	01 40 18.8 +3.1
MDOK				MLR	MLR	
	comp=Z,993nm,16.0s					
TNSS	Tian-Shan	53.85	65	⇓i P	P	01 29 02.6 +1.2
	baz=65					
TNSS	Tian-Shan	53.85	65	⇓i P	P	01 29 02.5 +1.2
DWPF	Disney Wildern	53.86	259	P	P	01 29 01.5 +0.4
	baz=28					
KZA	Kyzart	54.00	67	P	P	01 29 05.6 +3.2
	SNR=5.0					
ISCO	Idaho Springs	54.11	288	P	P	01 29 04.4 +1.2
ISCO				pmax	pmax	
	comp=Z,13nm,1.4s					
ISCO	Idaho Springs	54.11	288	P	P	01 29 02.8 -0.4
	baz=32					
ISCO	Idaho Springs	54.11	288	P	P	01 29 04.4 +1.2
KPKS	Kokpek	54.16	63	⇓i P	P	01 29 03.8 +0.5
	comp=Z,103nm,2.3s,baz=64					
KPKS				LR	LR	01 51 12.7
	comp=Z,612nm,17.2s,baz=64					
KPKS	Kokpek	54.16	63	d i P	P	01 29 03.7 +0.5
KPKS				pmax	pmax	
	comp=Z,103nm,2.3s					
KPKS				MLR	MLR	
	comp=Z,612nm,17.0s					
D03D	Eldon	54.17	306	P	P	01 29 01.3 -1.8
	baz=30					
Z41A	Richland Creek	54.28	273	P	P	01 29 04.0 0.0
	baz=31					
D04E	Lakebay	54.36	306	P	P	01 29 04.1 -0.4
	baz=30					
SATY	Saty	54.40	64	eP	P	01 29 05.4 +0.4
	comp=Z,41nm,2.1s,baz=64					
SATY				eS	S	01 36 44.3 +0.3
	baz=64					
SATY				LR	LR	01 50 48.5
	comp=Z,269nm,13.7s,baz=64					
SATY	Saty	54.40	64	eP	P	01 29 05.4 +0.4
SATY				eS	S	01 36 44.2 +0.3
SATY				pmax	pmax	
	comp=Z,41nm,2.1s					
SATY				MLR	MLR	
	comp=Z,269nm,14.0s					
HLID	Hailey	54.40	297	P	P	01 29 06.0 +0.9
	baz=32,SNR=7.2					
HLID	Hailey	54.40	297	IAmb	IAmb	01 29 07.7
	comp=Z,30nm,1.8s					
CHGR	Chuyangaron	54.44	74	P	P	01 29 05.2 -0.1
UZB	Uzynbulak	54.56	63	⇓i P	P	01 29 06.6 +0.3
	comp=Z,57nm,2.4s,baz=63					
UZB				eS	S	01 36 46.6 +0.4
	baz=63					
UZB	Uzynbulak	54.56	63	d i P	P	01 29 06.5 +0.3
UZB				eS	S	01 36 46.6 +0.4
UZB				pmax	pmax	
	comp=Z,57nm,2.4s					
MOY	Mondy	54.63	42	eP	P	01 29 07.6 +1.1
MOY				pmax	pmax	
	comp=Z,23nm,1.7s					
Q24A	Divide	54.63	287	P	P	01 29 06.7 -0.3
	baz=32					
KDJ	Kajisay	54.72	65	P	P	01 29 07.7 +0.3
KDJ				pmax	pmax	
	comp=Z,58nm,1.7s					
KDJ	Kajisay	54.72	65	P	P	01 29 07.7 +0.3
SHLS	Shalkode	54.72	63	⇓i P	P	01 29 09.6 +2.2
	comp=Z,68nm,2.1s,baz=63					
SHLS				LR	LR	01 55 42.1
	comp=Z,90nm,9.2s,baz=63					
SHLS	Shalkode	54.72	63	d i P	P	01 29 09.5 +2.2
SHLS				pmax	pmax	
	comp=Z,68nm,2.1s					
SHLS				MLR	MLR	
	comp=Z,90nm,9.0s					
E04D	Cinebar	54.83	305	P	P	01 29 07.8 -0.1
	baz=30					
PRZ	Przheval'sk	54.89	64	P	P	01 29 10.3 +1.6
PRZ				pmax	pmax	
	comp=Z,21nm,1.1s					
PRZ	Przheval'sk	54.89	64	P	P	01 29 10.3 +1.6
PRZ				IAmb	IAmb	01 29 11.7
	comp=Z,21nm,1.1s					
O20A	White River Ci	54.89	290	P	P	01 29 09.1 +0.3
	baz=32,SNR=18					
HWUT	Hardware Ranch	54.97	294	IAmb	IAmb	01 29 18.0
	comp=Z,30nm,1.1s					
F05D	White Salmon	55.02	304	P	P	01 29 08.4 -0.9
	baz=30					
IRK	Irkutsk	55.04	40	eP	P	01 29 09.1 -0.3
IRK				pmax	pmax	
	comp=Z,102nm,1.8s					
TLY	Talaya	55.37	40	i P	P	01 29 14.0 +2.2
TLY				i		01 31 24.7
TLY				eS	S	01 37 07.3 +11
TLY				pmax	pmax	
	comp=Z,51nm,1.8s					
TLY				MLR	MLR	
	comp=Z,1μm,14.0s					
TLY	Talaya	55.37	40	P	P	01 29 11.7 -0.1
F04D	Rainier, OR	55.39	305	P	P	01 29 10.2 -1.8
	baz=30					
G05D	Wamic, OR	55.52	304	P	P	01 29 12.1 -0.8
	baz=30					
WMOK	Wichita Mounta	55.57	279	P	P	01 29 13.7 +0.2
	baz=31,SNR=10					
WMOK	Wichita Mounta	55.57	279	IAmb	IAmb	01 29 19.6
	comp=Z,52nm,1.8s					
SDCO	Great Sand Dun	55.81	287	P	P	01 29 15.9 +0.4
	baz=31					
T25A	Trinidad	55.88	285	P	P	01 29 15.6 -0.2
	baz=31					
S22A	4UR Ranch, Cre	56.36	288	P	P	01 29 20.2 +0.9
	baz=31,SNR=10					
NATX	Nacogdoches	56.36	274	P	P	01 29 19.0 -0.1
	baz=30					
ZAK	Zakamensk	56.43	41	eP	P	01 29 19.7 +0.2
ZAK				pmax	pmax	
	comp=Z,17nm,1.6s					
KSH	Kashi	56.47	68	P	P	01 29 22.5 +2.5
KSH				PP	PP	01 31 30.0 +4.8
KSH				pmax	pmax	
	comp=Z,56nm,1.3s					
KSH				pmax	pmax	
	comp=Z,470nm,5.6s					
KSH				LR	LR	
	comp=Z,480nm,11.4s					
KSH				LR	LR	
	comp=Z,610nm,11.4s					
KSH				LR	LR	
	comp=Z,3μm,18.5s					
PV22	Blue Mesa, Par	56.48	290	IAmb	IAmb	01 29 28.6
	comp=Z,61nm,1.9s					
H04D	Lebanon	56.65	304	P	P	01 29 20.8 -0.2
	baz=30					
DUG	Dugway, Tooele	56.66	294	P	P	01 29 22.2 +0.9
DUG				pmax	pmax	
	comp=Z,37nm,1.4s					
DUG	Dugway, Tooele	56.66	294	P	P	01 29 22.4 +1.0
	baz=31,SNR=11					
DUG	Dugway, Tooele	56.66	294	P	P	01 29 22.2 +0.9
DUG				IAmb	IAmb	01 29 30.9
	comp=Z,37nm,1.4s					
AMTX	Amarillo	56.67	282	P	P	01 29 21.9 +0.6
	baz=31					
PV14	Lion Creek, Pa	56.71	290	IAmb	IAmb	01 30 24.5
	comp=Z,32nm,1.2s					
PV11	David Mesa, Pa	56.72	290	IAmb	IAmb	01 29 29.3
	comp=Z,35nm,1.2s					
PV20	West Nyswonger	56.72	290	IAmb	IAmb	01 29 26.0
	comp=Z,40nm,1.7s					
J05D	Fort Rock, OR	57.18	302	P	P	01 29 25.5 +0.5
	baz=30					
WMQ	Urumqi	57.20	56	eP	P	01 29 25.4 +0.4
WMQ				pP	sP	01 29 31.0 +4.5
WMQ				S	S	01 37 26.2 +5.1
WMQ				pmax	pmax	
	comp=Z,19nm,1.9s					
WMQ				pmax	pmax	
	comp=Z,280nm,4.5s					
WMQ				LR	LR	
	comp=Z,600nm,20.1s					
WMQ				LR	LR	
	comp=Z,810nm,16.9s					
WMQ				LR	LR	
	comp=Z,390nm,21.3s					
WMQ	Urumqi	57.20	56	P	P	01 29 24.9 -0.1
WMQ				pmax	pmax	
	comp=Z,31nm,1.1s					
WMQ	Urumqi	57.20	56	P	P	01 29 24.9 -0.1
WMQ				IAmb	IAmb	01 29 27.8
	comp=Z,31nm,1.1s					
WHTX	Lake Whitney,	57.36	276	P	P	01 29 26.1 -0.1
	baz=30					
I02D	Swisshome	57.40	305	P	P	01 29 25.7 -0.6
	baz=29					
MVCO	Mesa Verde	57.50	289	P	P	01 29 27.1 -0.3
	baz=30					
MVCO	Mesa Verde	57.50	289	IAmb	IAmb	01 29 35.4
	comp=Z,32nm,1.5s					
ABTX	Abilene, Hawle	57.75	279	P	P	01 29 28.1 -0.9
	baz=30					
SDDR	Presa de Saban	57.86	244	P	P	01 29 31.4 +1.5
SDDR				IAmb	IAmb	01 29 32.8
	comp=Z,27nm,1.1s					
KBL	Kabul	57.90	77	P	P	01 29 30.1 -0.2
KBL				pmax	pmax	
	comp=Z,24nm,1.5s					
KBL	Kabul	57.90	77	P	P	01 29 30.1 -0.2
KBL				IAmb	IAmb	01 29 33.2
	comp=Z,24nm,1.4s					
MSTX	Muleshoe	57.91	282	P	P	01 29 30.4 +0.2
	baz=30					
MSTX	Muleshoe	57.91	282	P	P	01 29 32.5 +2.3
K04D	Chiloquin, OR	57.94	302	P	P	01 29 30.4 0.0
	baz=29					
J01E	Myrtle Point	58.26	304	P	P	01 29 31.5 -0.8
	baz=29					
HKT	Hockley	58.43	274	P	P	01 29 35.4 +1.8
HKT				pmax	pmax	
	comp=Z,14nm,1.3s					
HKT	Hockley	58.43	274	P	P	01 29 35.4 +1.8
435B	Jarrell	58.46	276	P	P	01 29 33.8 -0.1
	baz=30					
K02D	Willamette Mer	58.57	304	P	P	01 29 33.8 -0.9
	baz=29					
DBIC	Dimbokro	58.60	165	P	P	01 29 33.8 -1.2
	comp=Z,13nm,1.0s,baz=340,slow=6.2,SNR=9.4					
DBIC				LR	LR	01 54 16.7
	comp=Z,267nm,18.3s,baz=350,slow=36					
DBIC	Dimbokro	58.60	165	P	P	01 29 35.0 0.0
DBIC				pmax	pmax	
	comp=Z,21nm,1.1s					
DBIC	Dimbokro	58.60	165	P	P	01 29 35.0 0.0
DBIC				IAmb	IAmb	01 29 38.0
	comp=Z,21nm,1.1s					
ANMO	Albuquerque	58.61	286	ceP	P	01 29 35.3 +0.1
ANMO				pmax	pmax	
	comp=Z,19nm,2.5s					
ANMO	Albuquerque	58.61	286	P	P	01 29 35.3 +0.1
	baz=30					
ANMO	Albuquerque	58.61	286	P	P	01 29 36.8 +1.6
ANMO				IAmb	IAmb	01 29 40.4
	comp=Z,30nm,2.0s					
TIC	Toumodi	58.61	166	eP	P	01 29 34.4 -0.7
M04C	Macdoel	58.71	302	P	P	01 29 35.3 -0.4
	baz=29					
ZEA	Zeya	58.81	24	eP	P	01 29 35.2 -0.9
ZEA				e		01 31 42.0
ZEA				ePPP	PPP	01 33 17.0
ZEA				eS	S	01 37 52.0 +10
ZEA				eSSS	SSS	01 43 55.0
ZEA				pmax	pmax	
	comp=Z,63nm,2.0s					
ZEA				pmax	pmax	
	comp=N,400nm,9.0s					
ZEA				pmax	pmax	
	comp=Z,600nm,9.0s					
ZEA				pmax	pmax	
	comp=Z,200nm,8.0s					
ZEA				smax	smax	
	comp=N,600nm,15.0s					
ZEA				MLR	MLR	
	comp=Z,600nm,17.0s					
ZEA				MLR	MLR	
	comp=E,200nm,15.0s					
KIC	Kosan Boka	58.92	165	eP	P	01 29 36.6 -0.6
	comp=E,66nm,1.3s					
L02E	Cave Junction	59.02	304	P	P	01 29 37.9 +0.2
	baz=29					
LIC	Lamto	59.02	166	eP	P	01 29 37.4 -0.5
	comp=E,63nm,1.1s					
R11A	Troy Canyon, C	59.34	295	P	P	01 29 40.8 +0.6
	baz=30,SNR=15					
R11A	Troy Canyon, C	59.34	295	IAmb	IAmb	01 29 43.0
	comp=Z,29nm,1.5s					
M02C	Callahan	59.42	303	P	P	01 29 39.7 -0.9
	baz=29					
Y22D	IRIS PASSCAL I	59.55	286	P	P	01 29 41.6 -0.1
	baz=30					
SONM	Songino Array	59.61	40	P	P	01 29 42.4 +0.6
	comp=Z,3.5nm,0.8s,baz=322,slow=4.5,SNR=11					
SONM				LR	LR	01 57 49.0
	comp=Z,710nm,20.4s,baz=328,slow=38					
SONM	Songino Array	59.61	40	P	P	01 29 42.0 +0.1
PAHR	Pah Rah Range	59.61	299	IAmb	IAmb	01 29 51.2
	comp=Z,17nm,1.2s					
JCT	Junction City	59.67	278	P	P	01 29 42.1 -0.2
	baz=29					
KVN	Kaiserville	59.70	298	IAmb	IAmb	01 29 51.4
	comp=Z,14nm,1.1s					
U15A	North Rim	59.70	291	IAmb	IAmb	01 29 50.5
	comp=Z,14nm,0.9s					
N02D	Trinity Center	59.73	302	P	P	01 29 42.0 -0.8
	baz=28					
ULN	Ulaanbaatar	59.77	40	ceP	P	01 29 41.3 -1.7
ULN				pmax	pmax	
	comp=Z,34nm,1.7s					
ULN	Ulaanbaatar	59.77	40	P	P	01 29 43.4 +0.4
ULN				IAmb	IAmb	01 29 45.6
	comp=Z,31nm,1.4s					
W18A	Petrified Fore	59.80	289	P	P	01 29 43.3 -0.1
	baz=30					
PRN	Pahroc Range	59.95	294	IAmb	IAmb	01 29 54.3
	comp=Z,30nm,1.4s					
O03E	Paynes Creek	60.00	301	P	P	01 29 44.2 -0.4
	baz=29					
VCNR	Virginia City	60.07	299	IAmb	IAmb	01 29 54.3
	comp=Z,18nm,1.3s					
WUAZ	Wupatki	60.12	290	P	P	01 29 45.8 +0.2
	baz=30,SNR=20					
TPH	Tonopah	60.21	296	P	P	01 29 46.4 +0.2
TPH				pmax	pmax	
	comp=Z,125nm,1.8s					
TPH	Tonopah	60.21	296	P	P	01 29 46.4 +0.2
PNTR	Pine Nut	60.23	299	IAmb	IAmb	01 29 51.5
	comp=Z,34nm,1.8s					
NVAR	Mina Array Bea	60.31	297	P	P	01 29 48.7 +1.8
	comp=Z,2.3nm,0.9s,baz=29,slow=3.4,SNR=7.0					
NVAR				LR	LR	01 55 37.5
	comp=Z,2μm,18.7s,baz=32,slow=36					
NVAR	Mina Array Bea	60.31	297	P	P	01 29 47.0 +0.1
ORV	Oroville	60.53	301	P	P	01 29 48.6 +0.5
ORV				pmax	pmax	
	comp=Z,20nm,1.8s					
ORV	Oroville	60.53	301	P	P	01 29 48.6 +0.5
WAKR	Walker	60.68	298	IAmb	IAmb	01 29 58.7
	comp=Z,16nm,1.2s					
UOSS	Minazif	60.75	93	P	P	01 29 49.7 -0.1
SHPR	Sheep Range	60.77	294	IAmb	IAmb	01 29 53.1
	comp=Z,29nm,1.5s					
TPNV	Topopah Spring	60.81	295	P	P	01 29 49.0 -1.3
	baz=29					
TPNV	Topopah Spring	60.81	295	IAmb	IAmb	01 30 05.1
	comp=Z,25nm,1.5s					
MNTX	Cornudas Mount	60.97	283	P	P	01 29 50.9 -0.3
	baz=29					
MNTX	Cornudas Mount	60.97	283	P	P	01 29 52.8 +1.6
GRAC	Grapevine Rang	61.21	296	P	P	01 29 52.8 0.0
	baz=29					
MLAC	Mammoth, Mammo	61.22	297	P	P	01 29 53.8 +0.6
	baz=29					
121A	Cookes Peak, D	61.25	286	P	P	01 29 53.4 +0.1
	baz=29					
121A	Cookes Peak, D	61.25	286	IAmb	IAmb	01 30 23.3
	comp=Z,39nm,1.9s					
833A	Chaparral WMA,	61.37	276	P	P	01 29 55.0 +1.0
	baz=29					
FURC	Furnace Creek,	61.47	295	P	P	01 29 55.0 +0.5
	baz=29					
HIA	Hailar	61.60	30	i P	P	01 29 56.9 +1.6
HIA				pmax	pmax	
	comp=Z,7.0nm,0.9s					
HIA	Hailar	61.60	30	P	P	01 29 56.7 +1.4
HIA				IAmb	IAmb	01 30 01.5
	comp=Z,15nm,1.1s					
SHOC	Shoshone, Teco	61.74	294	P	P	01 29 57.2 +0.8
	baz=29					

CWC	**Cottonwood Cre**	**61.97**	**296**	P	**P**	**01 29 57.8**	**-0.3**
	baz=28						
TUQ	**Turquoise Moun**	**62.01**	**294**	P	**P**	**01 29 58.1**	**-0.2**
	baz=29						
MPMC	**Manual Prospec**	**62.08**	**295**	P	**P**	**01 29 60.0**	**+1.1**
	baz=28,SNR=5.2						
NEE2	**Needles Airpor**	**62.08**	**292**	P	**P**	**01 29 58.9**	**+0.3**
	baz=29						
PDMCI	**Parker Dam,Lak**	**62.29**	**292**	P	**P**	**01 30 01.3**	**+1.2**
	baz=29,SNR=8.3						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 30 01.4**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=57,slow=4.6,SNR=11						
TXAR				LR	LR	01 56 34.1	
	comp=Z,1μm,19.4s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**01 30 00.8**	**+0.5**
TX32	**Lajitas Array**	**62.30**	**280**	IAmb	IAmb	01 31 06.2	
	comp=Z,27nm,1.9s						
GSC	**Goldstone, Bar**	**62.47**	**294**	P	**P**	**01 30 01.7**	**+0.3**
GSC				pmax	pmax		
	comp=Z,27nm,1.7s						
GSC	**Goldstone, Bar**	**62.47**	**294**	P	**P**	**01 30 02.0**	**+0.6**
	baz=28						
GSC	**Goldstone, Bar**	**62.47**	**294**	P	**P**	**01 30 01.7**	**+0.3**
GSC				IAmb	IAmb	01 30 09.9	
	comp=Z,27nm,1.6s						
GMRC	**Granite Mounta**	**62.47**	**293**	P	**P**	**01 30 02.1**	**+0.7**
	baz=28,SNR=9.6						
PEA0B	**Petropavlovsk-**	**62.48**	**3**	*c*eP	**P**	**01 30 01.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**62.48**	**3**	P	**P**	**01 30 02.3**	**+1.2**
PETK	**Petropavlovsk-**	**62.48**	**3**	P	**P**	**01 30 01.9**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=40,slow=9.9,SNR=8.3						
PETK				LR	LR	01 56 26.0	
	comp=Z,137nm,19.2s,baz=0.6,slow=35						
PETK	**Petropavlovsk-**	**62.48**	**3**	P	**P**	**01 30 01.3**	**+0.2**
PET	**Petropavlovsk**	**62.59**	**3**	*e*P	**P**	**01 30 01.8**	**+0.1**
PET				*e*S	**S**	**01 38 28.2**	**-1.7**
PET				pmax	pmax		
	comp=Z,300nm,9.3s						
PET	**Petropavlovsk**	**62.59**	**3**	P	**P**	**01 30 03.3**	**+1.6**
HEC	**Hector,Ludlow**	**62.70**	**294**	P	**P**	**01 30 03.8**	**+0.8**
	baz=28						
ISA	**Isabella, Lake**	**62.80**	**296**	P	**P**	**01 30 03.4**	**-0.2**
	baz=28						
ISA	**Isabella, Lake**	**62.80**	**296**	IAmb	IAmb	01 30 12.0	
	comp=Z,15nm,1.2s						
IRM	**Iron Mountain**	**62.82**	**293**	P	**P**	**01 30 03.1**	**-0.5**
	baz=28						
VES	**Vestal, Richgr**	**62.88**	**297**	P	**P**	**01 30 03.0**	**-1.0**
	baz=28						
BELC	**Belle Mtn. Jos**	**63.29**	**293**	P	**P**	**01 30 05.8**	**-1.2**
	baz=28						
EDW2	**Edwards Air Fo**	**63.30**	**295**	P	**P**	**01 30 07.3**	**+0.4**
	baz=28						
BC3	**Big Chuckawall**	**63.38**	**292**	P	**P**	**01 30 08.2**	**+0.7**
	baz=28						
ARVC	**Arvin**	**63.41**	**296**	P	**P**	**01 30 07.9**	**+0.3**
	baz=28						
BBRC	**Big Bear Solar**	**63.43**	**294**	P	**P**	**01 30 07.7**	**-0.3**
	baz=28						
113A	**Mohawk Valley,**	**63.48**	**291**	IAmb	IAmb	01 30 12.8	
	comp=Z,43nm,1.9s						
GLA	**Glamis**	**63.66**	**292**	P	**P**	**01 30 09.0**	**-0.3**
	baz=28						
GLA	**Glamis**	**63.66**	**292**	IAmb	IAmb	01 30 17.5	
	comp=Z,22nm,1.4s						
214A	**Organ Pipe Nat**	**63.81**	**289**	P	**P**	**01 30 09.8**	**-0.4**
	baz=28						
PFO	**Pinyon Flats O**	**63.82**	**293**	P	**P**	**01 30 09.9**	**-0.6**
	baz=28						
OSI	**Ósito Audit: C**	**63.82**	**296**	P	**P**	**01 30 10.7**	**+0.4**
	baz=28						
KLR	**Kul'dur**	**63.91**	**22**	*c*eP	**P**	**01 30 10.2**	**-0.4**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DECC	**Green Verdugo**	**63.99**	**295**	P	**P**	**01 30 11.0**	**-0.4**
	baz=28						
PKM	**Mcpherson Peak**	**64.00**	**297**	P	**P**	**01 30 12.3**	**+0.7**
	baz=28						
MURC	**Murrieta**	**64.12**	**294**	P	**P**	**01 30 12.4**	**+0.1**
	baz=28						
SWSC	**Sam W. Stewart**	**64.14**	**292**	P	**P**	**01 30 12.4**	**0.0**
	baz=28						
MONP2	**Monument Peak**	**64.44**	**293**	P	**P**	**01 30 15.1**	**+0.5**
	baz=28						
IKP	**In-Ko-Pah, Jac**	**64.52**	**293**	P	**P**	**01 30 15.4**	**+0.4**
	baz=28						
109C	**Camp Elliot, M**	**64.71**	**293**	P	**P**	**01 30 16.5**	**+0.4**
	baz=28						
CIS	**Catalina Islan**	**64.77**	**295**	P	**P**	**01 30 16.5**	**0.0**
	baz=28						
URIC	**Uribia, Colomb**	**64.77**	**242**	*e*P	P	01 30 06.0	-11
SKR	**Severo-Kuril's**	**64.86**	**5**	*e*P	P	01 30 06.3	-10
SKR				*e*S	S	01 38 48.9	-9.3
SKR				*e*		01 39 15.6	
SKR				*e*SS	**SS**	**01 43 08.7**	**+0.3**
SKR				pmax	pmax		
	comp=Z,100nm,10.8s						
SKR				pmax	pmax		
	comp=Z,200nm,11.8s						
SKR				MLR	MLR		
	comp=Z,100nm,17.0s						
SKR				MLR	MLR		
	comp=Z,100nm,18.0s						
SCI2	**San Clemente I**	**65.19**	**295**	P	**P**	**01 30 19.3**	**0.0**
	baz=28						
GTA	**Gaotai**	**65.27**	**49**	P	**P**	**01 30 19.9**	**+0.1**
GTA				pP	sP	01 30 30.6	+9.3
GTA				sS	sS	01 39 12.2	+6.5
GTA				SS	**SS**	**01 43 09.0**	**-6.6**
GTA				pmax	pmax		
	comp=Z,19nm,2.0s						
GTA				pmax	pmax		
	comp=Z,370nm,7.3s						
GTA				LR	LR		
	comp=Z,770nm,17.5s						
GTA				LR	LR		
	comp=Z,610nm,16.2s						
GTA				LR	LR		
	comp=Z,920nm,17.8s						
HSIG		**65.62**	**286**	P	**P**	**01 30 23.4**	**+1.3**
SMRC	**Santa Marta, M**	**66.12**	**244**	*e*P	**P**	**01 30 27.0**	**+1.6**
SDV	**Santo Domingo**	**66.85**	**239**	*e*P	**P**	**01 30 32.7**	**+2.4**
SDV	**Santo Domingo**	**66.85**	**239**	P	**P**	**01 30 31.7**	**+1.4**
BTO	**Baotou**	**67.28**	**41**	*e*P	**P**	**01 30 28.9**	**-3.8**
ARGC	**Ariguani, Magd**	**67.32**	**243**	*e*P	**P**	**01 30 34.1**	**+1.0**
PETF	**Flores**	**67.33**	**261**	P	**P**	**01 30 34.1**	**+0.9**
PETF				IAmb	IAmb	01 30 34.1	
	comp=Z,28nm,1.5s						
HHC	**Hu-ho-hao-te**	**67.48**	**40**	*e*P	**P**	**01 30 35.2**	**+1.3**
HHC				PP	**PP**	**01 33 03.3**	**+1.3**
HHC				S	**S**	**01 39 29.0**	**-1.7**
HHC				sS	sS	01 39 39.4	+6.9
HHC				SS	**SS**	**01 43 51.9**	**+2.1**
HHC				pmax	pmax		
	comp=Z,35nm,0.9s						
HHC				pmax	pmax		
	comp=Z,430nm,6.4s						
HHC				LR	LR		
	comp=Z,410nm,16.6s						
HHC				LR	LR		
	comp=Z,550nm,15.3s						
HHC				LR	LR		
	comp=Z,560nm,16.2s						
ZAIG	**Zacatecas**	**67.59**	**276**	P	**P**	**01 30 36.3**	**+1.2**
YSS	**Yuzh-Sakhalins**	**67.63**	**15**	*d* iP	**P**	**01 30 36.3**	**+1.7**
YSS				*e*S	**S**	**01 39 30.7**	**-1.3**
YSS				*e*SSS	SSS	01 46 47.0	
YSS				pmax	pmax		
	comp=Z,300nm,8.6s						
YSS				smax	smax		
	comp=N,200nm,9.4s						
YSS				smax	smax		
	comp=E,100nm,11.6s						
SJCC	**San Jacinto, C**	**67.65**	**244**	*e*P	P	01 30 28.6	-6.5
FURI	**Furi**	**67.94**	**118**	P	**P**	**01 30 38.5**	**+1.1**
MDJ	**Mudanjiang**	**68.02**	**25**	P	**P**	**01 30 37.0**	**-0.1**
MDJ				pmax	pmax		
	comp=E,25nm,1.5s						
MDJ				pmax	pmax		
	comp=E,460nm,4.8s						
MDJ	**Mudanjiang**	**68.02**	**25**	P	**P**	**01 30 38.3**	**+1.2**
SMLC	**San Martn de**	**68.22**	**243**	*e*P	**P**	**01 30 38.5**	**-0.2**
MOTC	**Monteria, Cord**	**68.86**	**244**	*e*P	**P**	**01 30 41.2**	**-1.5**
MTO3	**Montecristo**	**69.36**	**260**	P	**P**	**01 30 47.4**	**+1.2**
MTO3				IAmb	IAmb	01 30 48.9	
	comp=Z,44nm,1.9s						

BJI	**Beijing**	**69.46**	**36**	P	**P**	**01 30 47.3**	**+1.1**
BJI				PP	**PP**	**01 33 20.3**	**+1.3**
BJI				S	**S**	**01 39 56.2**	**+2.2**
BJI				SS	**SS**	**01 44 16.2**	**-3.9**
BJI				pmax	pmax		
	comp=Z,16nm,2.1s						
BJI				pmax	pmax		
	comp=Z,430nm,8.9s						
BJI				LR	LR		
	comp=Z,530nm,21.4s						
BJI				LR	LR		
	comp=Z,300nm,15.9s						
BJI				LR	LR		
	comp=Z,560nm,24.0s						
BJT	**Baijiatuau**	**69.48**	**36**	P	**P**	**01 30 47.2**	**+0.9**
BJT				pmax	pmax		
	comp=Z,49nm,1.7s						
BJT	**Baijiatuau**	**69.48**	**36**	P	**P**	**01 30 47.2**	**+0.9**
TAMC	**Tame, Arauca**	**69.54**	**240**	*e*P	**P**	**01 30 48.4**	**+1.4**
LZH	**Lanzhou**	**69.60**	**48**	*e*P	**P**	**01 30 48.5**	**+1.2**
LZH				pP	sP	01 30 52.7	+3.9
LZH				sP	pP	01 30 55.0	+6.6
LZH				PP	**PP**	**01 33 18.7**	**-1.8**
LZH				SS	SS	01 44 23.4	+0.6
LZH				pmax	pmax		
	comp=Z,32nm,1.5s						
LZH				pmax	pmax		
	comp=Z,410nm,4.9s						
LZH				LR	LR		
	comp=Z,550nm,14.4s						
LZH				LR	LR		
	comp=Z,420nm,15.2s						
LZH				LR	LR		
	comp=Z,640nm,17.6s						
BRRC	**Barranca, Sant**	**69.64**	**242**	*e*P	**P**	**01 30 44.0**	**-3.5**
ZARC	**Zaragoza, Cauc**	**69.72**	**243**	*e*P	**P**	**01 30 48.9**	**+0.8**
UREC	**San Jos de Ur**	**69.75**	**244**	*e*P	**P**	**01 30 46.5**	**-1.7**
PTBC	**PUERTO BERRIO,**	**70.44**	**242**	*e*P	**P**	**01 30 49.8**	**-2.7**
TLIG	**Tlapa**	**70.48**	**270**	P	**P**	**01 30 54.4**	**+1.5**
RUSC	**La Rusia**	**70.52**	**241**	*e*P	P	01 30 48.1	-5.4
DBBC	**Dabeiba**	**70.68**	**244**	*e*P	**P**	**01 30 53.1**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**70.83**	**13**	*e*P	P	01 30 45.5	-9.0
YUK				*e*		01 31 10.7	
YUK				S	**S**	**01 40 11.3**	**+1.4**
YUK				*e*SS	**SS**	**01 44 41.1**	**+0.3**
LSA	**Lhasa**	**70.99**	**61**	P	**P**	**01 30 57.0**	**+0.8**
LSA				pmax	pmax		
	comp=Z,28nm,1.3s						
LSA	**Lhasa**	**70.99**	**61**	P	**P**	**01 30 57.0**	**+0.8**
LSA				IAmb	IAmb	01 31 00.3	
	comp=Z,28nm,1.3s						
SPBC	**San Pablo de B**	**71.11**	**241**	*e*P	**P**	**01 30 55.0**	**-1.7**
HELC	**Santa Helena**	**71.17**	**243**	*e*P	P	01 30 52.3	-5.1
NORC	**Norcasia**	**71.50**	**242**	*e*P	**P**	**01 30 58.2**	**-0.8**
CBOC	**Ciudad Bolivar**	**71.66**	**243**	*e*P	P	01 30 54.0	-6.1
DL2	**Dalian**	**71.86**	**33**	P	**P**	**01 31 03.2**	**+2.4**
DL2				PP	**PP**	**01 33 44.1**	**+4.5**
DL2				S	**SKiKP**	**01 40 28.4**	**-11**
DL2				pmax	pmax		
	comp=Z,490nm,6.6s						
DL2				LR	LR		
	comp=Z,680nm,13.9s						
DL2				LR	LR		
	comp=Z,360nm,15.3s						
DL2				LR	LR		
	comp=Z,890nm,17.2s						
CHIC	**Chingaza**	**71.93**	**241**	*e*P	P	01 30 50.3	-12
ROSC	**El Rosal**	**71.95**	**241**	P	**P**	**01 31 02.1**	**0.0**
	comp=Z,9.2nm,0.5s,baz=54,slow=4.6,SNR=12						
ROSC				LR	LR	01 57 01.0	
	comp=Z,194nm,21.3s,baz=16,slow=31						
ROSC	**El Rosal**	**71.95**	**241**	*e*P	**P**	**01 31 02.0**	**-0.1**
ROSC	**El Rosal**	**71.95**	**241**	P	**P**	**01 31 03.1**	**+1.0**
ROSC				IAmb	IAmb	01 31 06.0	
	comp=Z,25nm,0.9s						
GUY2C	**Guyana, Caldas**	**72.00**	**243**	*e*P	**P**	**01 30 58.2**	**-4.3**
PTGA	**Pitinga**	**72.22**	**225**	P	**P**	**01 31 04.5**	**+1.3**
PTGA				IAmb	IAmb	01 31 06.7	
	comp=Z,31nm,1.8s						
TOLC	**Tolima**	**72.57**	**242**	*e*P	**P**	**01 31 05.8**	**+0.1**
ANIL	**Santa Ana**	**72.69**	**242**	*e*P	**P**	**01 31 03.9**	**-2.5**
XAN	**Xi'an**	**73.06**	**44**	P	**P**	**01 31 08.0**	**-0.1**
XAN				pP	sP	01 31 16.5	+6.9
XAN				PP	**PP**	**01 33 48.5**	**-1.6**
XAN				S	**SKiKP**	**01 40 39.7**	**-1.4**
XAN				pmax	pmax		
	comp=Z,17nm,2.1s						
XAN				pmax	pmax		
	comp=Z,300nm,6.8s						
XAN				LR	LR		
	comp=Z,810nm,23.5s						
XAN				LR	LR		
	comp=Z,550nm,19.0s						
XAN				LR	LR		
	comp=Z,1μm,23.3s						
XAN	**Xi'an**	**73.06**	**44**	P	**P**	**01 31 08.7**	**+0.6**
XAN				pmax	pmax		
	comp=Z,28nm,1.4s						
XAN	**Xi'an**	**73.06**	**44**	P	**P**	**01 31 08.7**	**+0.6**
XAN				IAmb	IAmb	01 31 10.6	
	comp=Z,28nm,1.4s						
ORTC	**Ortega, Tolima**	**73.16**	**242**	*e*P	P	01 30 59.5	-9.4
PRAC	**Prado**	**73.20**	**241**	*e*P	**P**	**01 31 06.8**	**-2.3**
YOTC	**Yotoco, Valle**	**73.51**	**243**	*e*P	**P**	**01 31 07.7**	**-3.3**
MBAR	**Mbarara**	**73.91**	**129**	*i* P	**P**	**01 31 14.6**	**+1.2**
MBAR				pmax	pmax		
	comp=Z,7.0nm,1.5s						
CD2	**Chengdu**	**74.33**	**50**	P	**P**	**01 31 15.2**	**-0.4**
CD2				sP	sP	01 31 20.4	+3.3
CD2				PP	**PP**	**01 34 02.9**	**+1.9**
CD2				S	**S**	**01 40 48.8**	**-1.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CD2				pmax	pmax		
	comp=Z,420nm,5.7s						
CD2				LR	LR		
	comp=Z,670nm,16.7s						
CD2				LR	LR		
	comp=Z,800nm,17.6s						
CD2				LR	LR		
	comp=Z,740nm,15.7s						
BETC	**Betania**	**74.36**	**242**	*e*P	**P**	**01 31 15.7**	**-0.3**
KSRS	**Korea Array**	**74.62**	**28**	P	**P**	**01 31 17.7**	**+0.6**
	comp=Z,0.5nm,0.2s,baz=327,slow=3.9,SNR=4.5						
KSRS				LR	LR	02 09 25.6	
	comp=Z,212nm,18.1s,baz=342,slow=40						
KSAR	**Wonju Array Be**	**74.62**	**28**	P	**P**	**01 31 17.6**	**+0.4**
KSAR	**Wonju Array Be**	**74.62**	**28**	P	**P**	**01 31 17.6**	**+0.4**
GARC	**Garzon, Huila**	**74.84**	**241**	*e*P	**P**	**01 31 16.6**	**-2.4**
SHL	**Shillong**	**74.99**	**62**	P	**P**	**01 31 19.0**	**-0.7**
SHL				pmax	pmax		
	comp=Z,67nm,1.6s						
SHL	**Shillong**	**74.99**	**62**	P	**P**	**01 31 19.0**	**-0.7**
PCON	**Cinco Dias**	**75.05**	**242**	*e*P	P	01 31 07.7	-13
FLOC	**Florencia**	**75.45**	**241**	*e*P	**P**	**01 31 19.3**	**-2.9**
TJN	**Taejon**	**75.55**	**29**	*c*eP	**P**	**01 31 23.1**	**+0.6**
BBAC	**Balboa, Cauca**	**75.66**	**243**	*e*P	**P**	**01 31 19.3**	**-4.3**
ENH	**Enshi**	**76.74**	**45**	P	**P**	**01 31 29.6**	**+0.2**
MAT	**Matsushiro**	**77.30**	**20**	P	**P**	**01 31 32.1**	**-0.4**
MAT				S	**S**	**01 41 23.0**	**0.0**
MJAR	**Matsushiro Arr**	**77.30**	**20**	P	**P**	**01 31 33.1**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=334,slow=5.8,SNR=5.4						
MJAR	**Matsushiro Arr**	**77.30**	**20**	P	**P**	**01 31 32.0**	**-0.5**
NJ2	**Nanjing**	**77.71**	**37**	*e*P	**P**	**01 31 34.8**	**0.0**
NJ2				S	**S**	**01 41 26.3**	**-1.1**
NJ2				sS	**sS**	**01 41 33.4**	**+4.2**
NJ2				SKS	**SKSac**	**01 41 44.6**	**-4.5**
NJ2				SS	**SS**	**01 46 27.7**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,410nm,4.3s						
NJ2				LR	LR		
	comp=Z,480nm,20.4s						
NJ2				LR	LR		
	comp=Z,590nm,23.2s						
NJ2				LR	LR		
	comp=Z,900nm,20.8s						
OTAV	**Otavalo**	**77.75**	**244**	P	**P**	**01 31 35.7**	**-0.1**
OTAV				pmax	pmax		
	comp=Z,33nm,1.8s						
OTAV	**Otavalo**	**77.75**	**244**	P	**P**	**01 31 35.7**	**-0.1**
OTAV				IAmb	IAmb	01 31 40.3	
	comp=Z,33nm,1.8s						

OTAV	**Otavalo**	**77.75**	**244**	*e*P	**P**	**01 31 37.0**	**+1.3**
KMI	**Kunming**	**79.32**	**53**	⇑P	**P**	**01 31 43.5**	**-0.6**
KMI				sP	PcP	01 31 50.7	-1.6
KMI				PP	**PP**	**01 34 46.1**	**+2.8**
KMI				S	**S**	**01 41 42.6**	**-2.8**
KMI				sS	sS	01 41 50.6	+3.4
KMI				SS	**SS**	**01 46 51.3**	**+0.2**
KMI				pmax	pmax		
	comp=Z,18nm,2.2s						
KMI				pmax	pmax		
	comp=Z,360nm,8.6s						
KMI				LR	LR		
	comp=Z,140nm,20.0s						
KMI				LR	LR		
	comp=Z,450nm,21.5s						
KMI				LR	LR		
	comp=Z,320nm,28.9s						
KMI	**Kunming**	**79.32**	**53**	P	**P**	**01 31 43.7**	**-0.4**
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
KMI	**Kunming**	**79.32**	**53**	P	**P**	**01 31 43.7**	**-0.4**
KMI				IAmb	IAmb	01 33 04.7	
	comp=Z,14nm,0.6s						
GYA	**Guiyang**	**79.40**	**49**	⇑P	**P**	**01 31 44.6**	**+0.2**
GYA				PP	**PP**	**01 34 47.4**	**+3.7**
GYA				S	**S**	**01 41 48.1**	**+2.1**
GYA				SKS	**SKSac**	**01 41 58.1**	**-3.5**
GYA				pmax	pmax		
	comp=Z,17nm,2.2s						
GYA				pmax	pmax		
	comp=Z,250nm,4.0s						
GYA				LR	LR		
	comp=Z,220nm,13.8s						
GYA				LR	LR		
	comp=Z,240nm,15.2s						
GYA				LR	LR		
	comp=Z,360nm,19.1s						
CLDB	**Colider**	**80.68**	**218**	*e*P	**P**	**01 31 51.8**	**+0.7**
SAML	**Samuel**	**80.97**	**226**	P	**P**	**01 31 53.9**	**+1.2**
SAML				pmax	pmax		
	comp=Z,47nm,1.9s						
SAML	**Samuel**	**80.97**	**226**	P	**P**	**01 31 53.9**	**+1.2**
SAML				IAmb	IAmb	01 31 56.0	
	comp=Z,47nm,1.9s						
ETMB	**Extrema**	**82.74**	**228**	*e*P	**P**	**01 32 03.0**	**+1.0**
SLVN	**Son La**	**83.22**	**53**	IAmb	IAmb	01 32 06.3	
	comp=Z,16nm,1.3s						
BDFB	**Brasilia**	**83.41**	**210**	P	**P**	**01 32 05.5**	**0.0**
	comp=Z,3.0nm,0.7s,baz=344,slow=7.4,SNR=3.6						
BDFB				LR	LR	02 03 43.9	
	comp=Z,280nm,19.5s,baz=324,slow=32						
BDFB	**Brasilia**	**83.41**	**210**	IAmb	IAmb	01 32 54.9	
	comp=Z,35nm,1.8s						
CHTO	**Chiang Mai**	**83.78**	**59**	P	**P**	**01 32 06.9**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,16nm,1.1s						
CHTO	**Chiang Mai**	**83.78**	**59**	P	**P**	**01 32 06.9**	**-0.5**
CHTO				IAmb	IAmb	01 32 09.7	
	comp=Z,16nm,1.1s						
CM31	**Chiang Mai Arr**	**84.10**	**59**	P	**P**	**01 32 09.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**84.10**	**59**	P	**P**	**01 32 08.7**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=320,slow=5.9,SNR=17						
CMAR				LR	LR	02 12 30.8	
	comp=Z,321nm,20.1s,baz=352,slow=38						
CMAR	**Chiang Mai Arr**	**84.10**	**59**	P	**P**	**01 32 09.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**84.10**	**59**	P	**P**	**01 32 09.0**	**-0.1**
QZH	**Quanzhou**	**84.39**	**39**	⇓ *i* P	**P**	**01 32 10.6**	**+0.1**
QZH				PP	**PP**	**01 35 25.6**	**+1.0**
QZH				S	**S**	**01 42 38.8**	**+1.6**
QZH				LR	LR		
	comp=Z,510nm,14.1s						
QZH				LR	LR		
	comp=Z,220nm,18.0s						
QZH				LR	LR		
	comp=Z,530nm,16.4s						
PTLB	**Pontes e Lacer**	**85.95**	**220**	*e*P	**P**	**01 32 19.5**	**+1.3**
PBKT	**Sadao Pong**	**86.58**	**58**	P	**P**	**01 32 21.2**	**-0.2**
PBKT				IAmb	IAmb	01 32 23.8	
	comp=Z,15nm,1.3s						
QIZ	**Qiongzhong**	**87.35**	**49**	P	**P**	**01 32 25.1**	**-0.1**
QIZ				PP	**PP**	**01 35 48.3**	**-0.5**
QIZ				S	**S**	**01 43 06.6**	**+0.2**
QIZ				SS	**SS**	**01 48 49.0**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,9.0nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,240nm,6.6s						
QIZ				LR	LR		
	comp=Z,79nm,13.4s						
QIZ				LR	LR		
	comp=Z,320nm,18.5s						
QIZ				LR	LR		
	comp=Z,330nm,15.9s						
QIZ	**Qiongzhong**	**87.35**	**49**	P	**P**	**01 32 26.1**	**+0.8**
TSUM	**Tsumeb**	**87.85**	**147**	P	**P**	**01 32 27.6**	**0.0**
TSUM				IAmb	IAmb	01 32 36.5	
	comp=Z,14nm,1.6s						
LPAZ	**La Paz**	**89.43**	**228**	LR	LR	02 11 21.5	
	comp=Z,99nm,18.3s,baz=356,slow=35						
CPUP	**Villa Florida**	**95.87**	**215**	LR	LR	02 14 43.1	
	comp=Z,123nm,18.0s,baz=29,slow=34						
BOSA	**Boshof**	**98.76**	**143**	LR	LR	02 20 12.2	
	comp=Z,344nm,19.6s,baz=350,slow=37						
TAOE	**Nuku Hiva Isla**	**111.57**	**297**	*e*LR	LR	02 11 27.0	
	comp=Z,322nm,25.3s						
PPT2	**Papeete2**	**123.11**	**302**	*e*LR	LR	02 16 49.4	
	comp=Z,273nm,22.0s						
FITZ	**Fitzroy Crossi**	**127.28**	**46**	PKP	**PKiKP**	**01 38 42.9**	**-0.2**
	comp=Z,3.1nm,1.1s,baz=360,slow=7.2,SNR=3.2						
TBI	**Tubuai**	**128.34**	**299**	*e*LR	LR	02 19 16.0	
	comp=Z,202nm,26.8s						
WRA	**Warramunga Arr**	**131.49**	**36**	PKP	**PKiKP**	**01 38 50.4**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=329,slow=2.6,SNR=9.1						
WRA	**Warramunga Arr**	**131.49**	**36**		**PKiKP**	**01 38 51.6**	**0.0**
WR0	**Warramunga Arr**	**131.56**	**36**		**PKiKP**	**01 38 51.4**	**-0.3**
PMSA	**Palmer Station**	**133.56**	**205**	PKPdf	**PKiKP**	**01 38 55.2**	**+1.0**
ASAR	**Alice Springs**	**134.94**	**38**	PKP	**PKiKP**	**01 38 57.4**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=343,slow=2.8,SNR=12						
ASAR	**Alice Springs**	**134.94**	**38**	PKIKP	**PKiKP**	**01 38 57.0**	**-1.5**
ASAR	**Alice Springs**	**134.94**	**38**	PKPdf	**PKiKP**	**01 38 57.0**	**-1.5**
VNA2	**Neumayer--Watz**	**135.52**	**175**	PKiKP	**PKiKP**	**01 39 01.1**	**+3.0**
VNA3	**Neumayer Olymp**	**135.77**	**176**	PKPdf	**PKiKP**	**01 38 59.4**	**+0.8**
SNAA	**Sanae**	**136.46**	**173**	PKPdf	**PKiKP**	**01 38 58.8**	**-1.3**
SNAA	**Sanae**	**136.46**	**173**	PKIKP	**PKiKP**	**01 38 58.8**	**-1.3**
SNAA	**Sanae**	**136.46**	**173**	PKPdf	**PKiKP**	**01 38 58.8**	**-1.3**
DZM	**Mont Dzumac**	**137.32**	**355**	*e*LR	LR	02 23 17.7	
	comp=Z,188nm,23.1s						
SYO	**Syowa Base**	**139.28**	**152**	⇓ *e*Pdiff	**Pdif**	**01 36 16.0**	**-0.6**
SYO	**Syowa Base**	**139.28**	**152**	⇓ *ep*Pdiff	pP

comp=Z,131nm,18.2s,baz=267,slow=39
CTA Charters Tower 21.07 180 P **P 01 56 23.9 +0.5**
1.1nm,0.3s,baz=354,slow=11,SNR=5.9
WB0 Warramunga Arr 23.81 209 P **P 01 56 51.1 -0.8**
WB0 IAmb IAmb 01 56 52.9
comp=Z,9.3nm,1.2s
WR0 Warramunga Arr 23.91 208 P **P 01 56 51.6 -1.2**
WR0 IAmb IAmb 01 56 55.0
comp=Z,6.3nm,0.8s
WRAB Tennant Creek 23.97 209 P **P 01 56 52.4 -1.1**
WB2 Warramunga Arr 23.98 209 P **P 01 56 52.1 -1.4**
WRA Warramunga Arr 23.99 209 P **P 01 56 51.5 -2.1**
comp=Z,4.2nm,0.6s,baz=31,slow=11,SNR=31
AS31 Alice Springs 27.42 205 P **P 01 57 25.9 +1.2**
ASAR Alice Springs 27.42 205 P **P 01 57 25.4 +0.6**
comp=Z,3.4nm,0.9s,baz=34,slow=9.1,SNR=25
ASAR Alice Springs 27.42 205 P **P 01 57 25.1 +0.4**
FITZ Fitzroy Crossi 27.89 226 LR LR 02 08 53.2
comp=Z,77nm,18.5s,baz=91,slow=37
DZM Mont Dzumac 30.28 141 LR LR 02 06 24.0
comp=Z,92nm,20.2s,baz=203,slow=29
STKA Stephens Creek 33.11 187 P **P 01 58 15.0 +0.1**
comp=Z,0.5nm,0.3s,baz=28,slow=8.4,SNR=1.6
JNU Nakatsue 34.99 337 P **P 01 58 30.6 -0.6**
comp=Z,11nm,1.0s,baz=262,slow=3.5,SNR=4.0
KSRS Korea Array 39.94 337 P **P 01 59 13.2 +0.2**
comp=Z,0.7nm,0.5s,baz=154,slow=8.4,SNR=4.9
USRK Ussuriysk Ar. 44.75 345 P **P 01 59 52.6 +0.5**
comp=Z,1.6nm,0.8s,baz=146,slow=40,SNR=2.8
KLR Kul'dur 49.54 347 P **P 02 00 29.1 -0.3**
comp=Z,1.0nm,0.7s,baz=92,slow=8.2,SNR=3.6
PETK Petropavlovsk- 52.68 9 P **P 02 00 53.2 +0.3**
comp=Z,2.6nm,0.8s,baz=168,slow=7.6,SNR=5.9
PETK Petropavlovsk- 52.68 9 P **P 02 00 54.4 +1.4**
SONM Songino Array 57.93 329 P **P 02 01 31.3 +0.2**
comp=Z,1.5nm,0.8s,baz=116,slow=5.1,SNR=4.9
MK31 Makanchi Array 71.64 319 P **P 02 03 00.7 +0.4**
MK31 IAmb IAmb 02 03 01.9
comp=Z,2.4nm,1.1s
MKAR Makanchi Array 71.64 319 P **P 02 03 00.6 +0.3**
comp=Z,1.5nm,0.8s,baz=104,slow=5.1,SNR=9.7
MKAR Makanchi Array 71.64 319 P **P 02 03 00.8 +0.5**
MAKZ Makanchi 71.85 319 P **P 02 03 01.2 -0.3**
ZAA0 Zalesovo Array 72.69 327 P **P 02 03 06.4 +0.1**
ZAA0 IAmb IAmb 02 03 06.9
comp=Z,3.8nm,1.2s
ZALV Zalesovo Beam 72.69 327 P **P 02 03 05.7 -0.6**
comp=Z,1.4nm,0.7s,baz=119,slow=5.2,SNR=4.1
KURK Kurchatov 75.16 323 P **P 02 03 20.1 -0.7**
IL31 79.27 24 P **P 02 03 42.6 -1.0**
ILAR Eielson Array 79.27 24 P **P 02 03 43.5 -0.2**
comp=Z,1.7nm,0.8s,baz=250,slow=6.0,SNR=14

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*IDC **05** 02:23:25.6s0.6,51°.49N×177°.05E,h0km,mb4.3/35, mb1 4.4/36,mb1mx4.3/67,mbtmp4.3/36,ML4.9/1,MS3.5/28, Ms1 3.5/28,ms1mx3.4/49,Error ellipse: s-maj=18.4km s-min=10.4km az=171.0*
*BJI **05** 02:23:27.7s0.0,51°.71N×177°.74E,h43km,mB5.0/11, mb4.7/21*
*AEIC **05** 02:23:28.8s2.9,51°.4N±0°.1×176°.97E±0°.07,h9km±3km, ML4.3,mb4.7/131(NEIC),Error ellipse: s-maj=14.9km s-min=5.9km az=184.0*
*MOS **05** 02:23:30.7s0.9,51°.61N×177°.00E,h43km,mb4.8/38,Error ellipse: s-maj=8.7km s-min=7.7km az=93.3*
*UNK **05** 02:23:33.2,51°.63N×177°.09E,h44km*
*NEIC **05** 02:23:33.2s2.0,51°.6N±0°.1×177°.05E±0°.07,h48km±3km, Error ellipse: s-maj=15.2km s-min=6.3km az=184.0*
ISC 05 02:23:30.6±0.5,**51°.55N**±0°.09×**177°.00E**±0°.04,**h30**km,**n392,**
σ**1**§**28**/378,**mb4.5**/121,**MS3.5**/27,**10C-3D,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.02**	**66**		**Pb**	**02 23 49.4**	**-0.2**
LSSE	**Little Sitkin**	**1.05**	**68**		**Pb**	**02 23 49.7**	**-0.4**
LSPA	**Little Sitkin**	**1.06**	**67**		**Pb**	**02 23 50.0**	**-0.3**
AMKA	**Amchitka**	**1.45**	**96**	Pn	**Pn**	**02 23 53.4**	**-1.3**
AMKA	**Amchitka**	**1.45**	**96**		**Sn**	**02 24 13.3**	**+0.7**
CETU	**Semis' Tuman**	**1.60**	**74**		**Pb**	**02 23 58.4**	**-1.1**
CESW	**Semis' Southwe**	**1.63**	**77**		**Pn**	**02 23 58.1**	**+0.9**
CEAP	**Semis' Anvil P**	**1.66**	**73**		**Pn**	**02 23 58.8**	**+1.2**
CERAA	**Semis' Rag'd T**	**1.71**	**77**		**Pn**	**02 23 59.2**	**+1.0**
SMY	**Shemya**	**2.15**	**305**	P	**Pn**	**02 24 05.8**	**+1.6**
SMY	**Shemya**	**2.15**	**305**		**Pn**	**02 24 05.8**	**+1.6**
SMY					LR	02 24 35.1	
GALAA	**Gareloi Lava P**	**2.64**	**84**		**Pn**	**02 24 12.9**	**+1.8**
GAEA	**Gareloi East**	**2.66**	**83**		**Pn**	**02 24 13.0**	**+1.7**
TANO	**Tanaga North**	**3.05**	**81**		**Pn**	**02 24 18.9**	**+2.1**
TASE	**Tanaga Southea**	**3.10**	**83**		**Pn**	**02 24 18.8**	**+1.4**
TAFP	**Tanaga Falls P**	**3.14**	**82**		**Pn**	**02 24 19.3**	**+1.4**
KIMD	**Kanaga Island**	**3.59**	**84**		**Pn**	**02 24 25.4**	**+1.2**
KICM	**Kanaga Island**	**3.62**	**82**		**Pn**	**02 24 26.3**	**+1.7**
KIKV	**Kanaga Island**	**3.64**	**83**		**Pn**	**02 24 26.3**	**+1.5**
ADK	**Adak**	**3.94**	**83**	P	**Pn**	**02 24 30.1**	**+1.2**
ADK	**Adak**	**3.94**	**83**		**Pn**	**02 24 30.1**	**+1.2**
ADAG	**Mount Adagdak**	**4.00**	**81**		**Pn**	**02 24 31.3**	**+1.6**
GSTD	**Great Sitkin T**	**4.28**	**81**		**Pn**	**02 24 35.0**	**+1.3**
GSTD					**Sn**	**02 25 26.6**	**+4.0**
GSMY	**Great Sitkin M**	**4.34**	**81**		**Pn**	**02 24 35.4**	**+1.0**
GSTR	**Great Sitkin T**	**4.34**	**80**	Pn	**Pn**	**02 24 35.3**	**+0.9**
ATKA	**Atka Island**	**5.49**	**80**	Pn	**Pn**	**02 24 51.4**	**+1.2**
ATKA	**Atka Island**	**5.49**	**80**		**Sn**	**02 25 55.6**	**+3.3**
NIKH	**Nikolski High**	**8.79**	**75**	Pn	**Pn**	**02 25 37.4**	**+1.9**
UNV	**Unalaska Valle**	**10.27**	**71**	Pn	**Pn**	**02 25 57.7**	**+2.0**
PET	**Petropavlovsk**	**11.34**	**285**	*i* P	**Pn**	**02 26 14.9**	**+4.6**
PEA0B	**Petropavlovsk-**	**11.91**	**285**	P	**Pn**	**02 26 20.9**	**+2.7**
PEA0B	**Petropavlovsk-**	**11.91**	**285**	Pn	**Pn**	**02 26 20.9**	**+2.7**
PETK	**Petropavlovsk-**	**11.91**	**285**	Pn	**Pn**	**02 26 20.2**	**+2.1**
	0.9nm,0.3s,baz=101,slow=18,SNR=9.4						
PETK				Sn	**Sn**	**02 28 24.1**	**-5.9**
	0.4nm,0.3s,baz=94,slow=21,SNR=1.1						
PETK				LR	LR	02 30 16.1	
	comp=Z,131nm,21.1s,baz=48,slow=34						
SDPT	**Sand Point**	**13.93**	**65**	Pn	**Pn**	**02 26 45.7**	**+0.1**
CNBA	**Chernabura Isl**	**14.39**	**68**	Pn	**Pn**	**02 26 50.6**	**-1.4**
SEY	**Seymchan**	**17.40**	**320**	P	**P**	**02 27 34.0**	**+2.2**
	0.2nm,0.3s,baz=191,slow=23,SNR=1.3						
SVW2	**Sparrevohn**	**17.82**	**47**	Pn	**Pn**	**02 27 35.4**	**-0.7**
OHAK	**Old Harbor**	**18.11**	**60**	Pn	**Pn**	**02 27 38.0**	**-1.6**
OHAK				IAmb	IAmb	02 28 32.1	
	comp=Z,86nm,1.5s						
KDAK	**Kodiak Island**	**18.55**	**58**	P	**P**	**02 27 42.5**	**-2.0**
	comp=Z,3.9nm,0.3s,baz=286,slow=4.7,SNR=33						
KDAK				LR	LR	02 35 24.6	
	comp=Z,233nm,19.1s,baz=264,slow=39						
KDAK	**Kodiak Island**	**18.55**	**58**	P	**Pn**	**02 27 44.8**	**-0.1**
RSO	**Redoubt South**	**18.96**	**50**	P	**P**	**02 27 49.5**	**+0.3**
RDOG	**Red Dog Mine**	**19.22**	**23**	P	**Pn**	**02 27 52.6**	**-0.3**
RDOG				IAmb	IAmb	02 27 55.6	
	comp=Z,43nm,0.9s						
CNPM	**China Poot**	**19.50**	**53**	P	**Pn**	**02 27 55.9**	**-0.5**
BRLK	**Bradley Lake**	**19.72**	**53**	P	**P**	**02 27 57.5**	**+0.2**
SKT	**Skwentna**	**19.94**	**46**	P	**Pn**	**02 28 00.9**	**-0.6**
SKT				IAmb	IAmb	02 28 07.4	
	comp=Z,50nm,1.0s						
PPLA	**Purkeypile**	**19.95**	**43**	P	**P**	**02 28 00.8**	**+0.8**
PPLA				IAmb	IAmb	02 28 06.6	
	comp=Z,44nm,1.0s						
O22K	**Cooper Landing**	**20.43**	**51**	P	**P**	**02 28 04.8**	**-0.2**
	baz=259						
SEW	**Seward**	**20.49**	**52**	P	**P**	**02 28 06.1**	**+0.5**
SEW				IAmb	IAmb	02 28 10.1	
	comp=Z,45nm,1.0s						
CUT	**Chulitna**	**20.63**	**46**	P	**P**	**02 28 07.6**	**+0.4**
	baz=253						
IMAR	**Indian Mountai**	**20.66**	**35**	P	**P**	**02 28 07.3**	**-0.3**
KTH	**Kantishna Hill**	**20.72**	**42**	P	**P**	**02 28 08.9**	**+0.7**
BPAW	**Bear Paw Mtn.**	**20.89**	**41**	P	**P**	**02 28 10.7**	**+0.7**
BPAW				IAmb	IAmb	02 28 12.6	
	comp=Z,23nm,1.0s						
TRF	**Thorofare Moun**	**20.95**	**43**	P	**P**	**02 28 11.1**	**+0.3**
TRF				IAmb	IAmb	02 28 17.8	
	comp=Z,40nm,1.0s						
GHO	**Glory Hole Cre**	**21.08**	**48**	P	**P**	**02 28 14.4**	**+2.2**
GHO				IAmb	IAmb	02 28 36.2	
	comp=Z,19nm,0.8s						
KNK	**Knik Glacier**	**21.22**	**49**	P	**P**	**02 28 14.4**	**+0.8**
KNK				IAmb	IAmb	02 28 19.8	
	comp=Z,20nm,0.8s						
SML	**Sawmill**	**21.36**	**48**	P	**P**	**02 28 17.2**	**+2.1**
SML				IAmb	IAmb	02 28 20.2	
	comp=Z,34nm,1.0s						
BWN	**Browne**	**21.54**	**41**	P	**P**	**02 28 20.0**	**+3.1**
RND	**Reindeer**	**21.55**	**43**	P	**P**	**02 28 17.6**	**+0.4**
RND				pmax	pmax		
	comp=Z,71nm,1.9s						
RND	**Reindeer**	**21.55**	**43**	P	**P**	**02 28 17.6**	**+0.4**
RND				IAmb	IAmb	02 28 43.6	
	comp=Z,71nm,1.9s						
MCK	**McKinley**	**21.61**	**43**	P	**P**	**02 28 18.2**	**+0.4**
MCK				pmax	pmax		
	comp=Z,24nm,1.1s						
MCK	**McKinley**	**21.61**	**43**	P	**P**	**02 28 18.2**	**+0.4**
MCK				IAmb	IAmb	02 28 23.0	
	comp=Z,24nm,1.1s						
GLI	**Glacier Island**	**21.77**	**51**	P	**P**	**02 28 20.9**	**+1.5**
GLI				IAmb	IAmb	02 28 25.1	
	comp=Z,22nm,0.7s						
SCM	**Sheep Creek Mo**	**21.83**	**48**	P	**P**	**02 28 20.6**	**+0.4**
SCM				pmax	pmax		
	comp=Z,45nm,1.0s						
SCM	**Sheep Creek Mo**	**21.83**	**48**	P	**P**	**02 28 20.6**	**+0.4**
SCM				IAmb	IAmb	02 28 23.8	
	comp=Z,46nm,1.0s						
NEA2	**Nenana**	**21.85**	**40**	P	**P**	**02 28 20.9**	**+0.6**
	baz=250,SNR=43						
DHY	**Denali Highway**	**22.10**	**45**	P	**P**	**02 28 22.9**	**-0.2**
DHY				IAmb	IAmb	02 28 27.4	
	comp=Z,25nm,0.8s						
WRH	**Wood River Hil**	**22.20**	**41**	P	**P**	**02 28 23.7**	**-0.4**
WRH				IAmb	IAmb	02 28 28.3	
	comp=Z,16nm,0.8s						
MDM	**Murphy Dome**	**22.31**	**40**	P	**P**	**02 28 25.8**	**+0.5**
MDM				IAmb	IAmb	02 28 27.2	
	comp=Z,28nm,0.8s						
CCB	**Clear Creek Bu**	**22.38**	**41**	P	**P**	**02 28 25.6**	**-0.3**
M24K	**Tolsona, Glenn**	**22.42**	**48**	P	**P**	**02 28 27.0**	**+0.5**
	baz=259						
TCOL	**CIGO, UAF Yank**	**22.43**	**40**	P	**P**	**02 28 26.9**	**+0.4**
	baz=250						
KLU	**Klutina**	**22.43**	**49**	P	**P**	**02 28 27.7**	**+1.1**
KLU				IAmb	IAmb	02 28 36.4	
	comp=Z,14nm,0.8s						
COLA	**College**	**22.43**	**40**	P	**P**	**02 28 26.9**	**+0.4**
COLA				pmax	pmax		
	comp=Z,43nm,1.2s						
COLA	**College**	**22.43**	**40**	P	**P**	**02 28 26.9**	**+0.4**
COLA				IAmb	IAmb	02 28 29.5	
	comp=Z,43nm,1.2s						
HDA	**Harding Lake**	**22.65**	**42**	P	**P**	**02 28 28.9**	**0.0**
	baz=253,SNR=8.0						
HDA	**Harding Lake**	**22.65**	**42**	P	**P**	**02 28 28.3**	**-0.6**
POKR	**Poker Flat Res**	**22.68**	**40**	P	**P**	**02 28 29.2**	**0.0**
	baz=250,SNR=6.4						
IL31		**22.79**	**41**	P	**P**	**02 28 29.7**	**-0.6**
IL31				IAmb	IAmb	02 28 31.2	
	comp=Z,19nm,1.2s						
ILAR	**Eielson Array**	**22.79**	**41**	P	**P**	**02 28 28.4**	**-1.9**
	comp=Z,4.8nm,0.6s,baz=234,slow=8.7,SNR=46						
ILAR				LR	LR	02 37 30.5	
	comp=Z,166nm,20.1s,baz=256,slow=37						
ILAR	**Eielson Array**	**22.79**	**41**	P	**P**	**02 28 29.8**	**-0.5**
PAX	**Paxson**	**22.92**	**46**	P	**P**	**02 28 31.7**	**-0.1**
PAX				pmax	pmax		
	comp=Z,42nm,1.4s						
PAX	**Paxson**	**22.92**	**46**	P	**P**	**02 28 31.7**	**-0.1**
PAX				IAmb	IAmb	02 28 32.6	
	comp=Z,42nm,1.4s						
RIDG	**Independent Ri**	**23.37**	**44**	P	**P**	**02 28 35.3**	**-0.9**
RIDG				IAmb	IAmb	02 28 42.1	
	comp=Z,16nm,0.7s						
TOLK	**Toolik Lake Re**	**23.41**	**31**	P	**P**	**02 28 36.7**	**+0.1**
	baz=240,SNR=8.2						
TOLK	**Toolik Lake Re**	**23.41**	**31**	P	**P**	**02 28 36.9**	**+0.3**
TOLK				IAmb	IAmb	02 28 40.7	
	comp=Z,22nm,0.8s						
GLB	**Gilahina Butte**	**23.43**	**50**	P	**P**	**02 28 36.8**	**0.0**
GLB				IAmb	IAmb	02 28 42.8	
	comp=Z,16nm,0.7s						
VRDI	**Verde Repeater**	**23.57**	**50**	P	**P**	**02 28 38.2**	**-0.2**
VRDI				IAmb	IAmb	02 28 42.1	
	comp=Z,17nm,1.0s						
DOT	**Dot Lake**	**23.69**	**44**	P	**P**	**02 28 38.3**	**-1.0**
DOT				IAmb	IAmb	02 28 39.3	
	comp=Z,20nm,0.8s						
MENT	**Mentasta**	**23.70**	**46**	P	**P**	**02 28 40.9**	**+1.5**
MENT				IAmb	IAmb	02 28 48.2	
	comp=Z,22nm,0.9s						
SCRK	**Sand Creek**	**23.79**	**43**	P	**P**	**02 28 39.2**	**-1.2**
	baz=257,SNR=19						
MCARA	**McCarthy VSAT**	**23.80**	**50**	P	**P**	**02 28 41.2**	**+0.9**
MCARA				IAmb	IAmb	02 28 52.6	
	comp=Z,24nm,0.8s						
JKA	**Kamikawa-asahi**	**24.09**	**266**	P	**P**	**02 28 43.6**	**+0.4**
BALM	**Baldy**	**24.09**	**51**	P	**P**	**02 28 43.1**	**-0.1**
BALM				IAmb	IAmb	02 28 44.2	
	comp=Z,14nm,0.9s						
ASAJ	**Asahikawa**	**24.09**	**266**	P	**P**	**02 28 43.6**	**+0.4**
	comp=Z,8.5nm,0.7s,baz=89,slow=33,SNR=2.5						
YAH	**Yahtse**	**24.34**	**53**	P	**P**	**02 28 47.7**	**+2.0**
BARN	**Barnard Glacie**	**24.42**	**51**	P	**P**	**02 28 47.3**	**+1.0**
BMAR	**Burnt Mountain**	**24.57**	**35**	P	**P**	**02 28 47.7**	**+0.2**
CTGM	**Chitina Glacie**	**24.58**	**51**	P	**P**	**02 28 48.1**	**+0.4**
BCAR	**Beaver Creek A**	**24.59**	**46**	P	**P**	**02 28 46.8**	**-0.8**
K27K	**Chicken**	**24.62**	**44**	P	**P**	**02 28 47.9**	**-0.1**
	baz=259						
TABL	**Table Mountain**	**24.64**	**53**	P	**P**	**02 28 48.0**	**-0.4**
EGAK	**Eagle**	**25.16**	**42**	P	**P**	**02 28 52.7**	**-0.1**
BCPM	**Bancas Point**	**25.39**	**54**	P	**P**	**02 28 56.9**	**+2.0**
DAWY	**Dawson**	**25.80**	**44**	P	**P**	**02 28 58.8**	**+0.2**
HYT	**Haines Junctio**	**26.44**	**52**	P	**P**	**02 29 07.2**	**+2.6**
HYT				IAmb	IAmb	02 29 08.9	
	comp=Z,16nm,0.8s						
EPYK	**Eagle Plains**	**27.28**	**39**	P	**P**	**02 29 11.7**	**-0.2**
	baz=260						
KLR	**Kul'dur**	**28.60**	**283**	P	**P**	**02 29 24.4**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=69,slow=8.5,SNR=6.6						
KLR				LR	LR	02 40 55.9	
	comp=Z,86nm,19.6s,baz=68,slow=37						
KLR	**Kul'dur**	**28.60**	**283**	*i* P	**P**	**02 29 23.4**	**-0.4**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**28.84**	**36**	P	**P**	**02 29 26.3**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=193,slow=3.6,SNR=2.1						
INK				LR	LR	02 41 21.7	
	comp=Z,141nm,18.9s,baz=222,slow=37						
INK	**Inuvik**	**28.84**	**36**	P	**P**	**02 29 26.3**	**+0.6**
INK				pmax	pmax		
	comp=Z,33nm,1.8s						
INK	**Inuvik**	**28.84**	**36**	IAmb	IAmb	02 29 36.9	
	comp=Z,33nm,1.8s						
TIXI	**Tiksi**	**29.21**	**331**	LR	LR	02 41 07.5	
	comp=Z,100nm,19.8s,baz=94,slow=36						
DLBC	**Dease Lake**	**30.45**	**56**	P	**P**	**02 29 41.2**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=283,slow=11,SNR=3.8						
DLBC				LR	LR	02 41 20.8	
	comp=Z,172nm,18.8s,baz=251,slow=35						
DLBC	**Dease Lake**	**30.45**	**56**	IAmb	IAmb	02 29 59.5	
	comp=Z,26nm,1.9s						
USRK	**Ussuriysk Ar.**	**30.67**	**274**	P	**P**	**02 29 41.4**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=40,slow=11,SNR=2.6						
MJAR	**Matsushiro Arr**	**31.24**	**257**	LR	LR	02 41 02.6	
	comp=Z,38nm,21.7s,baz=65,slow=34						
H11N2	**WAKE ISLAND Hy**	**32.73**	**198**	T	T	03 04 54.7	
	baz=11,slow=76,SNR=597						
H11N3	**WAKE ISLAND Hy**	**32.74**	**198**	T	T	03 04 55.5	
	baz=11,slow=76,SNR=527						
H11N1	**WAKE ISLAND Hy**	**32.75**	**198**	T	T	03 04 56.1	
	baz=11,slow=76,SNR=544						
H11S1	**WAKE ISLAND Hy**	**33.96**	**198**	T	T	03 06 27.2	
	baz=11,slow=76,SNR=156						
H11S3	**WAKE ISLAND Hy**	**33.98**	**198**	T	T	03 06 28.8	
	baz=11,slow=76,SNR=142						
H11S2	**WAKE ISLAND Hy**	**33.98**	**198**	T	T	03 06 28.3	
	baz=11,slow=76,SNR=102						
BOD	**Bodaibo**	**35.75**	**305**	*eP*	**P**	**02 30 26.1**	**-0.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s						
YKA	**Yellowknife Ar**	**37.01**	**46**	P	**P**	**02 30 37.2**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=284,slow=8.4,SNR=8.4						
YKA				LR	LR	02 47 18.0	
	comp=Z,175nm,19.3s,baz=0.0,slow=39						
KSRS	**Korea Array**	**37.02**	**267**	P	**P**	**02 30 37.5**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=54,slow=7.9,SNR=4.6						
KSRS				LR	LR	02 44 32.7	
	comp=Z,23nm,21.6s,baz=50,slow=34						
JNU	**Nakatsue**	**38.00**	**259**	LR	LR	02 45 09.2	
	comp=Z,51nm,21.8s,baz=5.5,slow=34						
B08A	**Colville Reser**	**39.94**	**69**	P	**P**	**02 31 03.8**	**+2.0**
K02D	**Willamette Mer**	**40.31**	**79**	P	**P**	**02 31 05.1**	**0.0**
	baz=304						
HAWA	**Hanford**	**40.81**	**71**	P	**P**	**02 31 08.5**	**-0.6**
NEW	**Newport**	**41.26**	**68**	P	**P**	**02 31 12.2**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=290,slow=6.7,SNR=9.6						
NEW	**Newport**	**41.26**	**68**	P	**P**	**02 31 11.9**	**-0.8**
	baz=300						
NEW	**Newport**	**41.26**	**68**	P	**P**	**02 31 13.9**	**+1.2**
L04D	**Klamath Falls**	**41.41**	**78**	P	**P**	**02 31 13.9**	**-0.3**
	baz=305						
YBH	**Yreka Blue Hor**	**41.44**	**79**	P	**P**	**02 31 14.4**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=248,slow=1.4,SNR=4.1						
YBH				LR	LR	02 46 11.2	
	comp=Z,73nm,19.0s,baz=316,slow=33						
YBH	**Yreka Blue Hor**	**41.44**	**79**	P	**P**	**02 31 14.4**	**+0.1**
YBH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
J05D	**Fort Rock, OR**	**41.46**	**76**	P	**P**	**02 31 13.9**	**-0.7**
	baz=304						
M04C	**Macdoel**	**41.95**	**79**	P	**P**	**02 31 17.8**	**-0.7**
	baz=305						
I07A	**Izee**	**42.07**	**74**	P	**P**	**02 31 21.6**	**+2.1**
WALA	**Waterton Lakes**	**42.70**	**65**	P	**P**	**02 31 27.2**	**+2.6**
MOD	**Modoc Plateau**	**42.81**	**77**	P	**P**	**02 31 29.0**	**+3.4**
NRIK	**Noril'sk**	**42.91**	**329**	LR	LR	02 50 35.1	
	comp=Z,63nm,18.1s,baz=19,slow=38						
BMO	**Blue Mountains**	**42.96**	**72**	P	**P**	**02 31 26.5**	**-0.2**
BMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BMO	**Blue Mountains**	**42.96**	**72**	P	**P**	**02 31 26.5**	**-0.2**
ORV	**Oroville**	**43.47**	**81**	P	**P**	**02 31 30.7**	**0.0**
ORV				pmax	pmax		
	comp=Z,20nm,1.8s						
ORV	**Oroville**	**43.47**	**81**	P	**P**	**02 31 30.7**	**0.0**
ORV				IAmb	IAmb	02 31 35.3	
	comp=Z,20nm,1.8s						
ULN	**Ulaanbaatar**	**43.81**	**294**	*ceP*	**P**	**02 31 33.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MSO	**Missoula**	**43.85**	**68**	P	**P**	**02 31 33.3**	**-0.6**
	baz=303						
MSO	**Missoula**	**43.85**	**68**	P	**P**	**02 31 35.3**	**+1.4**
SONM	**Songino Array**	**44.20**	**294**	P	**P**	**02 31 37.9**	**+1.2**
	comp=Z,10μm,0.9s,baz=36,slow=13,SNR=4.5						
SONM				LR	LR	02 51 39.5	
	comp=Z,57nm,18.2s,baz=124,slow=38						
ZAK	**Zakamensk**	**44.59**	**299**	*eP*	P	02 31 49.2	+9.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MFID	**Camas Ranch**	**44.65**	**73**	P	**P**	**02 31 43.5**	**+3.2**
PAHR	**Pah Rah Range**	**44.67**	**79**	P	**P**	**02 31 41.7**	**+1.1**
VCNR	**Virginia City**	**44.76**	**80**	P	**P**	**02 31 43.0**	**+1.6**
VCNR				IAmb	IAmb	02 31 43.1	
	comp=Z,25nm,1.9s						
PNTR	**Pine Nut**	**44.92**	**80**	P	**P**	**02 31 43.3**	**+0.7**
CMB	**Columbia Colle**	**45.08**	**82**	P	**P**	**02 31 44.5**	**+0.8**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CMB	**Columbia Colle**	**45.08**	**82**	P	**P**	**02 31 44.5**	**+0.8**
HHC	**Hu-ho-hao-te**	**45.10**	**283**	*eP*	**P**	**02 31 45.6**	**+1.7**
HHC				pmax	pmax		
	comp=Z,35nm,0.5s						
HHC				pmax	pmax		
	comp=Z,78nm,6.0s						
HRY	**Holter Researc**	**45.13**	**67**	P	**P**	**02 31 46.3**	**+2.2**
YERR	**Yerington**	**45.20**	**80**	P	**P**	**02 31 46.4**	**+1.6**
WAKR	**Walker**	**45.38**	**81**	P	**P**	**02 31 48.0**	**+1.7**
WAKR				IAmb	IAmb	02 31 50.9	
	comp=Z,3.7nm,0.6s						
HLID	**Hailey**	**45.40**	**72**	P	**P**	**02 31 45.7**	**-0.6**
	baz=306						
HLID	**Hailey**	**45.40**	**72**	P	**P**	**02 31 46.8**	**+0.5**
EGMT	**Eagleton**	**45.59**	**64**	P	**P**	**02 31 47.0**	**-0.6**
	baz=303						
GUMO	**Guam**	**45.85**	**226**	LR	LR	02 49 17.4	
	comp=Z,48nm,18.9s,baz=110,slow=34						
KVN	**Kaiserville**	**45.86**	**79**	P	**P**	**02 31 51.3**	**+1.2**
KVN				pmax	pmax		
	comp=Z,16nm,1.9s						
KVN	**Kaiserville**	**45.86**	**79**	P	**P**	**02 31 51.3**	**+1.2**
KVN				IAmb	IAmb	02 32 06.3	
	comp=Z,16nm,1.9s						
RYN	**Ryan**	**45.86**	**80**	P	**P**	**02 31 51.1**	**+1.1**
BOZ	**Bozeman (W)**	**45.87**	**68**	P	**P**	**02 31 50.7**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOZ	**Bozeman (W)**	**45.87**	**68**	P	**P**	**02 31 48.8**	**-1.2**
	baz=305						
BOZ	**Bozeman (W)**	**45.87**	**68**	P	**P**	**02 31 50.7**	**+0.7**
BOZ				IAmb	IAmb	02 31 52.4	
	comp=Z,3.8nm,0.7s						
NVAR	**Mina Array Bea**	**46.12**	**80**	P	**P**	**02 31 51.7**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=299,slow=7.8,SNR=19						
NVAR	**Mina Array Bea**	**46.12**	**80**	P

PRN IAmb IAmb 02 33 47.2
comp=Z,5.9nm,0.7s
PSUT Pine Spring 48.78 77 P **P 02 32 13.4 +0.6**
MWC Mount Wilson 48.97 84 P **P 02 32 15.3 +1.0**
MWC pmax pmax
comp=Z,23nm,1.2s
MWC Mount Wilson 48.97 84 P **P 02 32 15.3 +1.0**
SHOC Shoshone, Teco 48.98 81 P **P 02 32 14.6 +0.5**
baz=311,SNR=6.2
GSC Goldstone, Bar 49.04 82 P **P 02 32 15.1 +0.4**
GSC pmax pmax
comp=Z,10.0nm,0.9s
GSC Goldstone, Bar 49.04 82 P **P 02 32 14.9 +0.2**
baz=311,SNR=9.9
GSC Goldstone, Bar 49.04 82 P **P 02 32 15.1 +0.4**
TUQ Turquoise Moun 49.50 82 P **P 02 32 17.8 -0.5**
baz=311,SNR=5.8
HEC Hector,Ludlow 49.64 82 P **P 02 32 19.1 -0.1**
baz=311
CCUT Cedar City 49.70 78 P **P 02 32 20.6 +0.8**
TMUT Trail Mountain 49.90 74 P **P 02 32 23.0 +1.5**
SPITS Spitsbergen Ar 49.99 355 P **P 02 32 21.0 -0.3**
comp=Z,2.4nm,0.6s,baz=79,slow=4.3,SNR=7.2
GMRC Granite Mounta 50.09 82 P **P 02 32 22.8 0.0**
baz=312,SNR=6.0
MTPU Mount Pierson 50.11 76 P **P 02 32 24.8 +1.7**
LCMT Little Creek M 50.12 78 P **P 02 32 24.0 +1.0**
PFO Pinyon Flats O 50.37 84 LR LR 02 50 06.6
comp=Z,61nm,21.9s,baz=218,slow=32
PFO Pinyon Flats O 50.37 84 P **P 02 32 24.7 -0.1**
baz=312
KNB Kanab 50.38 78 P **P 02 32 26.5 +1.6**
KNB pmax pmax
comp=Z,9.0nm,0.6s
KNB Kanab 50.38 78 P **P 02 32 26.5 +1.6**
BELC Belle Mtn. Jos 50.40 83 P **P 02 32 24.3 -0.8**
baz=312
SRU San Rafael Swe 50.43 74 P **P 02 32 27.3 +2.0**
SRU pmax pmax
comp=Z,9.0nm,0.5s
SRU San Rafael Swe 50.43 74 P **P 02 32 27.3 +2.0**
IRM Iron Mountain 50.82 82 P **P 02 32 28.1 -0.1**
baz=312
MONP2 Monument Peak 50.87 84 P **P 02 32 28.6 -0.2**
baz=313
BC3 Big Chuckawall 50.96 83 P **P 02 32 28.8 -0.5**
baz=312
W13A Hualapai Mount 50.98 80 P **P 02 32 30.2 +0.7**
TKX Tecate 50.98 85 **S 02 39 41.2 -3.1**
U15A North Rim 51.08 78 P **P 02 32 30.6 +0.3**
U15A IAmb IAmb 02 33 45.6
comp=Z,8.4nm,0.7s
O20A White River Ci 51.14 72 P **P 02 32 29.8 -0.9**
baz=310
O20A White River Ci 51.14 72 P **P 02 32 31.7 +1.0**
O20A IAmb IAmb 02 32 41.6
comp=Z,7.7nm,1.1s
PDMCI Parker Dam,Lak 51.34 81 P **P 02 32 31.6 -0.4**
baz=312
ULM Lac du Bonnet 51.76 55 LR LR 02 56 03.5
comp=Z,138nm,18.1s,baz=304,slow=38
GLA Glamis 51.76 83 P **P 02 32 35.6 +0.4**
GLA pmax pmax
comp=Z,13nm,0.8s
GLA Glamis 51.76 83 P **P 02 32 34.6 -0.6**
baz=313
GLA Glamis 51.76 83 P **P 02 32 35.6 +0.4**
ZAA0 Zalesovo Array 51.98 311 P **P 02 32 36.6 +0.2**
ZALV Zalesovo Beam 51.98 311 P **P 02 32 34.9 -1.6**
comp=Z,0.6nm,0.3s,baz=61,slow=11,SNR=3.7
ZALV PcP **PcP 02 33 48.9 +0.3**
comp=Z,1.3nm,0.6s,baz=8.5,slow=3.0,SNR=4.7
ZALV LR LR 02 56 56.4
comp=Z,50nm,18.4s,baz=351,slow=39
WUAZ Wupatki 52.24 78 P **P 02 32 38.8 -0.1**
baz=312
WUAZ Wupatki 52.24 78 P **P 02 32 39.8 +0.9**
WUAZ IAmb IAmb 02 34 05.3
comp=Z,6.3nm,0.7s
LZH Lanzhou 52.80 283 *e*P **P 02 32 43.3 +0.2**
LZH pP pwP 02 32 55.9 -0.4
LZH sP sP 02 33 02.0 +8.1
LZH pmax pmax
comp=Z,10.0nm,1.1s
ISCO Idaho Springs 52.91 70 P **P 02 32 43.1 -0.9**
baz=310
GTA Gaotai 53.05 289 *e*P **P 02 32 45.9 +1.1**
GTA pP pwP 02 33 00.5 +3.8
GTA sP sP 02 33 05.9 +10
GTA pmax pmax
comp=Z,5.0nm,1.1s
DGZ Jazzator, Alta 53.34 306 *i* P **P 02 32 47.1 +0.3**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
S22A 4UR Ranch, Cre 53.52 73 P **P 02 32 48.1 -0.4**
baz=311
S22A 4UR Ranch, Cre 53.52 73 P **P 02 32 50.3 +1.8**
S22A IAmb IAmb 02 32 55.2
comp=Z,15nm,1.9s
SUMG Summit 53.73 13 *i* P **P 02 32 49.8 +0.2**
SUMG Summit 53.73 13 P **P 02 32 49.1 -0.5**
SUMG pmax pmax
comp=Z,46nm,1.9s
SUMG Summit 53.73 13 P **P 02 32 49.1 -0.5**
SDCO Great Sand Dun 54.31 72 P **P 02 32 53.9 -0.4**
baz=312
ANMO Albuquerque 55.61 75 *ce*P **P 02 33 02.3 -1.3**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
KURK Kurchatov 56.97 311 *ce*P **P 02 33 12.5 -0.3**
KURK pmax pmax
comp=Z,22nm,1.3s
KURK Kurchatov 56.97 311 P **P 02 33 13.6 +0.8**
WMQ Urumqi 57.02 300 *e*P **P 02 33 16.6 +3.3**
KURBB Kurchatov Arra 57.08 311 P **P 02 33 13.9 +0.4**
comp=Z,9.1nm,0.9s,baz=45,slow=6.5,SNR=73
ARCES ARCESS Array B 57.44 349 P **P 02 33 15.6 -0.2**
comp=Z,3.3nm,0.8s,baz=29,slow=9.4,SNR=1.3
ARCES LR LR 02 58 29.4
comp=Z,63nm,21.0s,baz=68,slow=37
MK31 Makanchi Array 57.84 306 P **P 02 33 19.0 0.0**
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MK31 Makanchi Array 57.84 306 P **P 02 33 19.0 0.0**
MKAR Makanchi Array 57.84 306 P **P 02 33 17.9 -1.1**
comp=Z,1.3nm,0.7s,baz=65,slow=8.4,SNR=10
MKAR LR LR 03 00 02.8
comp=Z,63nm,18.1s,baz=27,slow=38
MKAR Makanchi Array 57.84 306 P **P 02 33 18.1 -1.0**
MNTX Cornudas Mount 58.49 78 P **P 02 33 23.9 +0.1**
baz=315
MNTX Cornudas Mount 58.49 78 P **P 02 33 24.7 +0.9**
BVAR Borovoye Array 59.03 318 P **P 02 33 28.1 +0.9**
comp=Z,8.5nm,0.7s,baz=53,slow=7.6,SNR=45
BRVK Borovoye 59.05 318 *ce*P **P 02 33 27.6 +0.3**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 59.05 318 P **P 02 33 27.2 -0.1**
D47A Chapleau 60.22 51 P **P 02 33 35.1 -0.4**
baz=315
WMOK Wichita Mounta 60.34 71 P **P 02 33 38.0 +1.5**
WMOK pmax pmax
comp=Z,3.0nm,0.8s
WMOK Wichita Mounta 60.34 71 P **P 02 33 36.2 -0.3**
baz=315
WMOK Wichita Mounta 60.34 71 P **P 02 33 38.0 +1.5**
ARU Arti 61.04 326 P **P 02 33 41.7 +0.9**
comp=Z,2.5nm,0.2s,baz=34,slow=5.1,SNR=7.8
ARU Arti 61.04 326 *d* *i*P **P 02 33 40.8 -0.1**
ARU 02 35 54.1
ARU S **S 02 41 57.3 +0.1**
ARU SS **SS 02 45 53.8 -2.3**
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 61.04 326 P **P 02 33 41.3 +0.5**
TX31 Lajitas Ar. Si 61.20 78 P **P 02 33 43.4 +0.9**
TX32 Lajitas Array 61.20 78 P **P 02 33 42.0 -0.5**
TX32 IAmb IAmb 02 33 43.9
comp=Z,7.4nm,1.2s
TXAR Lajitas Array 61.21 78 P **P 02 33 42.3 -0.3**
comp=Z,1.5nm,0.6s,baz=297,slow=5.5,SNR=15
TXAR Lajitas Array 61.21 78 P **P 02 33 41.8 -0.8**
TXAR Lajitas Array 61.21 78 P **P 02 33 41.8 -0.8**
SCHQ Schefferville 61.46 36 P **P 02 33 43.0 -0.8**
comp=Z,6.1nm,1.0s,baz=41,slow=15,SNR=2.9

U40A Yellville 62.63 65 P **P 02 33 50.4 -1.5**
baz=316
KLMR Klimovskoe 62.88 338 *e*P **P 02 33 52.4 -0.7**
KLMR pmax pmax
comp=Z,10.0nm,1.4s
KLMR Klimovskoe 62.88 338 *e*P **P 02 33 52.5 -0.7**
KLMR AMP 02 34 03.8
comp=Z,10.0nm,1.4s
W39A Magazine 62.92 67 P **P 02 33 53.2 -0.6**
baz=316
FCAR Ozark Folk Cen 63.37 65 P **P 02 33 55.8 -1.1**
FCAR IAmb IAmb 02 33 59.1
comp=Z,4.6nm,0.7s
MIAR Mount Ida 63.50 67 P **P 02 33 57.4 -0.3**
MIAR pmax pmax
comp=Z,11nm,1.4s
MIAR Mount Ida 63.50 67 P **P 02 33 57.7 0.0**
baz=316
MIAR Mount Ida 63.50 67 P **P 02 33 57.4 -0.3**
W41B Gary Mavity, V 63.82 66 P **P 02 33 59.7 -0.1**
baz=316
AAK Ala-Archa 64.70 307 *i* P **P 02 34 06.0 +0.3**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 64.70 307 P **P 02 34 07.0 +1.3**
AAK IAmb IAmb 02 34 07.4
comp=Z,5.7nm,0.9s
E57A Chemin Saint G 64.89 46 P **P 02 34 05.0 -1.7**
baz=319
FINES FINESS Array B 64.99 345 P **P 02 34 05.2 -1.8**
comp=Z,1.7nm,0.8s,baz=17,slow=10,SNR=1.9
FINES LR LR 03 05 36.5
comp=Z,33nm,20.0s,baz=20,slow=39
L54A Sinclairville 65.58 52 P **P 02 34 10.1 -1.1**
baz=318
K54A Basiliko Farm, 65.61 52 P **P 02 34 10.0 -1.4**
baz=318
K55A Perry 65.82 51 P **P 02 34 11.4 -1.4**
baz=319
AKTO Aktyubinsk 65.98 322 P **P 02 34 14.3 +0.6**
comp=Z,8.0nm,0.7s,baz=45,slow=6.0,SNR=34
ABKAR Akbulak array 66.17 320 P **P 02 34 15.5 +0.6**
K56A Middlesex 66.21 51 P **P 02 34 14.0 -1.3**
baz=319
KK31 Karatay Array 66.30 310 P **P 02 34 15.5 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 66.30 310 P **P 02 34 15.5 -0.3**
KK31 IAmb IAmb 02 34 17.3
comp=Z,5.4nm,0.9s
KKAR Karatay Array 66.30 310 P **P 02 34 15.8 0.0**
KKAR Karatay Array 66.30 310 P **P 02 34 15.8 0.0**
M55A Ridgway 66.42 53 P **P 02 34 15.2 -1.5**
baz=319
H59A Cadyville 66.44 47 P **P 02 34 15.2 -1.5**
baz=320
L56A Greenwood 66.52 51 P **P 02 34 16.4 -0.8**
baz=319
L56A Greenwood 66.52 51 P **P 02 34 16.9 -0.4**
D62A Allapoint, All 66.61 43 P **P 02 34 16.2 -1.4**
baz=322
F61A St Evariste 66.63 45 P **P 02 34 17.0 -0.9**
baz=321
J58A Remsen 66.68 49 P **P 02 34 17.2 -1.1**
baz=320
K58A Earlville 66.96 50 P **P 02 34 18.6 -1.5**
baz=320
Q53A Leroy 66.98 56 P **P 02 34 19.1 -1.0**
baz=318
I59A Olmsteadville 67.01 48 P **P 02 34 19.0 -1.3**
baz=320
NB2 NORSAR Subarra 67.19 353 P **P 02 34 21.4 +0.2**
comp=Z,0.8nm,0.7s,baz=7.5,slow=6.5
NOA NORSAR Array B 67.19 353 P **P 02 34 21.2 0.0**
comp=Z,0.2nm,0.5s,baz=12,slow=7.0,SNR=5.9
NOA LR LR 03 02 12.4
comp=Z,18nm,21.9s,baz=355,slow=35
L58A Harry Jones Me 67.42 50 P **P 02 34 21.6 -1.4**
baz=320
LBNH Lisbon 67.56 47 P **P 02 34 22.3 -1.5**
baz=321
N57A Milroy 67.56 52 P **P 02 34 22.4 -1.4**
baz=320
M58A Price's Panora 67.63 51 P **P 02 34 22.6 -1.7**
baz=320
J60A Lant Hill Farm 67.64 48 P **P 02 34 23.1 -1.3**
baz=321
E64A Bridgewater 67.65 43 P **P 02 34 23.1 -1.2**
baz=322
N58A Sunbury 67.91 52 P **P 02 34 25.4 -0.6**
baz=320
K61A Williamstown 68.16 48 P **P 02 34 26.2 -1.4**
baz=321
N59A State Game Lan 68.31 51 P **P 02 34 28.0 -0.7**
baz=320
S55A Lewisburg 68.32 56 P **P 02 34 27.3 -1.4**
baz=319
CMAR Chiang Mai Arr 68.38 273 P **P 02 34 29.1 -0.2**
comp=Z,0.8nm,0.3s,baz=23,slow=7.4,SNR=8.2
G65A Princeton 68.73 43 P **P 02 34 29.4 -1.6**
baz=323
OBN Obninsk 68.73 337 *e*P **P 02 34 30.2 -0.7**
OBN *e* 02 34 52.4
OBN *e* 02 37 05.3
OBN pmax pmax
comp=Z,4.0nm,1.0s
O60A Telford 68.95 51 P **P 02 34 31.0 -1.5**
baz=320
GAR Garm 69.52 307 P **P 02 34 36.0 -0.3**
CHGR Chuyangaron 70.36 308 P **P 02 34 41.2 -0.2**
EKA Eskdalemuir Ar 73.48 0 P **P 02 34 59.3 -0.4**
comp=Z,2.2nm,0.8s,baz=1.1,slow=4.2,SNR=6.0
KBL Kabul 73.62 305 P **P 02 35 01.3 +0.1**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 73.62 305 P **P 02 35 01.3 +0.1**
KBL IAmb IAmb 02 35 01.7
comp=Z,6.5nm,0.9s
AKASG Malin Array Be 74.52 339 P **P 02 35 05.1 -0.7**
comp=Z,3.5nm,0.7s,baz=27,slow=6.1,SNR=8.5
AKASG LR LR 03 14 49.7
comp=Z,15nm,18.0s,baz=25,slow=41
AKASG Malin Array Be 74.52 339 *ce*P **P 02 35 06.1 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
GEYT Alibeck 76.14 315 P **P 02 35 16.5 +1.1**
comp=Z,1.8nm,0.8s,baz=252,slow=2.8,SNR=4.1
GEYT LR LR 03 11 46.5
comp=Z,70nm,20.3s,baz=65,slow=38
GEYT Alibeck 76.14 315 IAmb IAmb 02 35 17.5
comp=Z,2.1nm,1.1s
CLL Collm 76.63 350 *e*(P) P 02 35 24.0 +6.1
KWP Kalwaria Pacla 76.84 343 P **P 02 35 19.1 -0.1**
KWP pmax pmax
comp=Z,17nm,1.0s
KWP Kalwaria Pacla 76.84 343 P **P 02 35 19.1 -0.1**
KIV Kislovodsk 76.98 328 *e*P **P 02 35 20.1 -0.1**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,86nm,19.0s
KBZ Khabaz 77.11 328 P **P 02 35 21.8 +1.0**
comp=Z,2.1nm,0.8s,baz=229,slow=3.5,SNR=5.4
KBZ LR LR 03 12 53.5
comp=Z,30nm,20.7s,baz=38,slow=38
KBZ Khabaz 77.11 328 *i* P **P 02 35 21.0 +0.3**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
HRA Herat 77.12 310 P **P 02 35 20.8 -0.5**
SORM Soroca 77.13 339 ⇑P **P 02 35 21.5 +0.7**
ZEI Tsey 77.61 327 *e*P **P 02 35 24.0 +0.2**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
BUR08 Bucovina Ar. S 78.27 341 P **P 02 35 28.5 +1.2**
BUR08 IAmb IAmb 02 35 29.6
comp=Z,6.7nm,0.9s
BURAR Bucovina Array 78.29 341 ⇑P **P 02 35 28.8 +1.4**
BURAR Bucovina Array 78.29 341 P **P 02 35 27.9 +0.5**
VYHS Vyhne 78.60 345 *e*P **P 02 35 30.2 +1.2**
VYHS Vyhne 78.60 345 *e*P **P 02 35 30.2 +1.2**
KHC Kasperske Hory 78.70 349 *i* P **P 02 35 29.7 +0.1**
KHC pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 78.97 349 P **P 02 35 31.8 +0.7**
comp=Z,0.5nm,0.7s,baz=19,slow=8.5,SNR=4.2
GERES LR LR 03 13 35.7

comp=Z,24nm,19.5s,baz=328,slow=38
MLR Muntele Rosu 80.16 340 P **P 02 35 38.7 +1.0**
comp=Z,3.4nm,0.7s,baz=142,slow=7.4,SNR=3.3
MLR Muntele Rosu 80.16 340 P **P 02 35 38.7 +1.0**
MLR pmax pmax
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 80.16 340 IAmb IAmb 02 35 57.1
comp=Z,6.5nm,1.0s
WRA Warramunga Arr 80.38 220 P **P 02 35 37.5 -1.4**
comp=Z,1.4nm,0.8s,baz=35,slow=5.9,SNR=10
WRA Warramunga Arr 80.38 220 *ce*P **P 02 35 38.2 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 80.38 220 P **P 02 35 38.2 -0.7**
VOIR 80.41 340 ⇓P **P 02 35 40.4 +1.5**
ARR Arges 80.56 341 ⇑P **P 02 35 40.7 +1.0**
RETA Reutte 80.64 351 *i* P **P 02 35 38.5 -1.7**
comp=Z,1.0nm,0.8s
WATA Walderalm 80.70 350 *i* P **P 02 35 37.5 -3.1**
comp=Z,3.7nm,1.0s
MOTA Moosalm 80.74 350 *i* P **P 02 35 37.5 -3.3**
comp=Z,2.6nm,0.7s
KBA Koelnbreinsper 80.75 349 *i* P **P 02 35 41.3 +0.4**
comp=Z,8.7nm,1.2s
WTTA Wattenberg 80.77 350 *i* P **P 02 35 40.6 -0.4**
comp=Z,2.9nm,0.9s
SQTA Sankt Quirin 80.86 350 *i* P **P 02 35 39.3 -2.1**
comp=Z,3.9nm,1.0s
BZS Buzias 80.91 343 ⇓P **P 02 35 42.2 +0.7**
SOKA Soboth 80.93 348 *i* P **P 02 35 41.0 -0.7**
comp=Z,5.8nm,1.1s
FETA Feichten 81.10 351 *i* P **P 02 35 38.6 -4.2**
comp=Z,3.9nm,1.2s
MYKA Terra Mystica 81.16 348 *i* P **P 02 35 41.8 -1.2**
comp=Z,0.3nm,0.3s
OBKA Obir 81.16 348 *i* P **P 02 35 43.4 +0.4**
comp=Z,1.5nm,0.7s
ABTA Abfaltersbach 81.18 349 *i* P **P 02 35 38.9 -4.1**
comp=Z,3.4nm,1.0s
DIVS Divibare 82.67 344 P **P 02 35 51.7 +0.7**
DIVS IAmb IAmb 02 35 52.4
comp=Z,5.0nm,1.0s
MARD Mardin 83.57 326 P **P 02 35 58.0 +2.3**
BRTR Keskin Array B 83.64 332 P **P 02 35 57.0 +0.9**
comp=Z,2.5nm,0.8s,baz=75,slow=1.5,SNR=13
BRTR LR LR 03 20 26.2
comp=Z,16nm,18.6s,baz=324,slow=41
BRTR Keskin Array B 83.64 332 *ce*P **P 02 35 57.0 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 83.64 332 P **P 02 35 56.4 +0.3**
ASAR Alice Springs 83.90 219 P **P 02 35 57.2 -0.1**
comp=Z,1.2nm,0.7s,baz=20,slow=5.7,SNR=14
GAZ Gaziantep 84.89 329 P **P 02 36 03.1 +0.6**
ESDC Sonseca Array 89.15 1 P **P 02 36 21.2 -1.8**
comp=Z,0.5nm,0.7s,baz=356,slow=5.3,SNR=6.0
PLCA Paso Flores 133.54 104 PKP **PKPdf 02 42 42.5 -0.9**
comp=Z,1.0nm,0.9s,baz=331,slow=2.3,SNR=1.8
MAW Mawson 145.01 218 PKP **PKPbc 02 43 02.0 -0.7**
comp=Z,1.8nm,0.4s,baz=60,slow=10,SNR=6.2
MAW Mawson 145.01 218 **PKPbc 02 43 02.3 -0.3**
LBTB Lobatse 145.68 310 PKP2 **PKPbc 02 43 06.3 +0.1**
LBTB Lobatse 145.68 310 **PKPbc 02 43 06.3 +0.1**
BOSA Boshof 148.84 306 PKPbc **PKPbc 02 43 15.2 +0.1**
comp=Z,2.7nm,0.9s,baz=100,slow=4.8,SNR=3.4

IDC ***05*** *02:30:31.4±1.1, 11°.29S×161°.53E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/39, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=33.3km s-min=26.5km az=99.0*

ISC 05 02:30:36.0±1.0, 11°.2S±0°.1×161°.5E±0°.2, h28km, n8, σ0s98/9, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.34**	**320**	Pn	**Pn**	**02 31 12.0**	**-0.5**
	19nm,0.3s,baz=122,slow=2.5,SNR=2.0						
HNR				Sn	**Sn**	**02 31 40.5**	**+0.1**
	86nm,0.3s,baz=79,slow=21,SNR=13						
WRA	**Warramunga Arr**	**27.51**	**248**	P	**P**	**02 36 18.8**	**-1.6**
	0.9nm,0.9s,baz=78,slow=9.7,SNR=3.7						
ASAR	**Alice Springs**	**29.00**	**241**	P	**P**	**02 36 35.0**	**+1.3**
	0.3nm,0.5s,baz=62,slow=10,SNR=1.9						
VNDA	**Vanda**	**66.28**	**180**	P	**P**	**02 41 20.6**	**-0.7**
	0.9nm,0.8s,baz=338,slow=7.0,SNR=6.3						
SONM	**Songino Array**	**76.39**	**325**	P	**P**	**02 42 23.8**	**+0.9**
	2.6nm,0.6s,baz=152,slow=5.8,SNR=6.2						
ILAR	**Eielson Array**	**85.06**	**20**	P	**P**	**02 43 08.5**	**-0.3**
	0.2nm,0.5s,baz=238,slow=5.9,SNR=2.0						
NVAR	**Mina Array Bea**	**89.36**	**51**	P	**P**	**02 43 30.8**	**+0.3**
	0.3nm,0.6s,baz=263,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**90.81**	**318**	P	**P**	**02 43 36.7**	**-0.1**
	0.7nm,0.7s,baz=108,slow=5.0,SNR=5.2						

MAN ***05*** *02:41:13.6, 5°.36N×126°.68E, h0km, mb4.5, ML3.4, MS3.2*
IDC ***05*** *02:41:13.5±2.1, 5°.49N×126°.21E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/34, mbtmp3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/29, Error ellipse: s-maj=129.3km s-min=25.1km az=69.0*

ISC 05 02:41:14.7±1.2, 5°.59N±0°.09×126°.7E±0°.1, h10km, n10, σ1s06/14, mb3.5/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.12**	**297**	*e*P	**Pb**	**02 41 38.8**	**-1.4**
DDMP				*e*S	**Sn**	**02 41 53.0**	**+1.0**
MATI	**Mati**	**1.42**	**341**	*e*P	**Pg**	**02 41 43.1**	**+1.0**
DAV	**Davao City (W)**	**1.86**	**322**	LR	LR	02 42 04.3	
	comp=Z,78nm,19.1s,baz=152,slow=30						
DAV				Sn	**Sg**	**02 42 13.9**	**-0.5**
	99nm,0.3s,baz=24,slow=0.8,SNR=4.5						
KCP	**Kidapawan**	**2.15**	**311**	⇓*i*P	**Pb**	**02 41 52.8**	**-0.9**
KCP				*i* S	**Sb**	**02 42 21.4**	**+1.0**
SKMP	**Bagumbayan, Su**	**2.35**	**293**	*e*P	**Pn**	**02 41 54.4**	**+1.0**
SKMP				*e*S	**Sb**	**02 42 25.9**	**-0.4**
BUKP	**Musuan**	**2.81**	**324**	*e*P	**Pb**	**02 42 03.2**	**-1.8**
BUKP				*e*S	**Sb**	**02 42 40.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.56**	**183**	P	**P**	**02 46 25.3**	**-0.2**
	0.8nm,0.5s,baz=0.9,slow=7.3,SNR=5.1						
WRA	**Warramunga Arr**	**26.46**	**164**	P	**P**	**02 46 52.5**	**+0.4**
	0.5nm,0.6s,baz=340,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**29.91**	**167**	P	**P**	**02 47 23.6**	**+0.6**
	0.1nm,0.4s,baz=338,slow=6.5,SNR=2.5						
MKAR	**Makanchi Array**	**56.04**	**325**	P	**P**	**02 50 52.7**	**-1.1**
	0.6nm,0.6s,baz=110,slow=7.7,SNR=6.2						
MKAR				LR	LR	03 16 20.8	
	comp=Z,23nm,19.4s,baz=3.5,slow=38						

ISC 05 03:06:11.6±1.5, 44°.75N±0°.04×17°.23E±0°.09, h6km±6km, n7, σ0s82/14, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.03**	**271**	⇑*i*Pg	**Pg**	**03 06 12.5**	**-0.3**
BLY				*e*Sg	**Sg**	**03 06 14.0**	**+0.4**
MOSL	**Moslavina**	**0.93**	**339**	*e*Pg	**Pg**	**03 06 29.9**	**+0.5**
MOSL				Sg	**Sg**	**03 06 42.3**	**+0.8**
KIJV	**Kijevo**	**0.95**	**219**	*e*Pg	**Pg**	**03 06 30.1**	**+0.3**
KIJV				Sg	**Sg**	**03 06 42.3**	**+0.2**
UDBI	**Udbina**	**1.07**	**259**	*e*Pg	**Pb**	**03 06 31.4**	**-1.1**
UDBI				Sg	**Sn**	**03 06 48.0**	**-0.4**
RICI	**Ricice**	**1.26**	**183**	*e*Pg	**Pn**	**03 06 35.2**	**-0.6**
RICI				Sg	**Sg**	**03 06 53.1**	**+1.2**
ZIRJ	**Zirje**	**1.58**	**227**	*e*Pn	**Pb**	**03 06 41.0**	**-0.2**
ZIRJ				Sn	**Sg**	**03 07 03.2**	**+0.9**
DUGI	**Dugi Otok**	**1.73**	**245**	*e*Pn	**Pb**	**03 06 43.8**	**0.0**
DUGI				Sn	**Sg**	**03 07 08.3**	**+1.2**

IDC ***05*** *03:23:27.0±1.0, 11°.39S×161°.47E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/33, mbtmp3.8/8, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/23, Error ellipse: s-maj=30.1km s-min=23.7km az=117.0*
NEIC ***05*** *03:23:33.1±1.3, 11°.4S±0°.1×161°.4E±0°.1, h40km±7km, mb4.3/4, Error ellipse: s-maj=22.2km s-min=18.3km az=55.0*

ISC 05 03:23:32.4±0.9, 11°.4S±0°.1×161°.4E±0°.2, h35km, n19, σ0s89/15, mb3.9/10, Bougainville-Solomon Islands region

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

HNR	**Honiara**	**2.39**	**323**	Pn	**Pn**	**03 24 09.4**	**+0.2**
	25nm,0.3s,baz=69,slow=1.6,SNR=1.5						
HNR				Sn	**Sn**	**03 24 37.2**	**0.0**
	103nm,0.3s,baz=160,slow=24,SNR=14						
WB0	**Warramunga Arr**	**27.31**	**249**	P	**P**	**03 29 14.6**	**+0.4**
WB0				IAmb	IAmb	03 30 08.6	
	comp=Z,9.9nm,1.6s						
WRA	**Warramunga Arr**	**27.41**	**248**	P	**P**	**03 29 15.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=78,slow=9.5,SNR=8.8						
WRA	**Warramunga Arr**	**27.41**	**248**	P	**P**	**03 29 16.7**	**+1.7**
STKA	**Stephens Creek**	**27.42**	**219**	LR	LR	03 39 42.8	
	comp=Z,89nm,18.4s,baz=25,slow=36						
ASAR	**Alice Springs**	**28.89**	**241**	P	**P**	**03 29 27.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=266,slow=30,SNR=2.7						
H11S2	**WAKE ISLAND Hy**	**30.11**	**10**	T	T	04 00 38.6	
	baz=20,slow=74,SNR=8.7						
H11S3	**WAKE ISLAND Hy**	**30.11**	**10**	T	T	04 00 42.5	
	baz=189,slow=74,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**30.12**	**10**	T	T	04 00 39.2	
FITZ	**Fitzroy Crossi**	**35.20**	**255**	P	**P**	**03 30 23.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=167,slow=0.8,SNR=5.5						
KSRS	**Korea Array**	**57.83**	**329**	LR	LR	03 57 07.0	
	comp=Z,9.3nm,19.3s,baz=140,slow=35						
VNDA	**Vanda**	**66.16**	**180**	P	**P**	**03 34 15.9**	**0.0**
	comp=Z,1.1nm,0.8s,baz=330,slow=4.9,SNR=8.0						
CHTO	**Chiang Mai**	**68.49**	**295**	P	**P**	**03 34 30.5**	**-1.3**
ULN	**Ulaanbaatar**	**76.10**	**326**	P	**P**	**03 35 18.0**	**+1.2**
ULN				IAmb	IAmb	03 35 19.6	
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	**76.45**	**325**	P	**P**	**03 35 19.7**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=144,slow=6.1,SNR=6.5						
ILAR	**Eielson Array**	**85.19**	**20**	P	**P**	**03 36 05.3**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=245,slow=5.9,SNR=7.8						
ILAR	**Eielson Array**	**85.19**	**20**	P	**P**	**03 36 04.9**	**0.0**
NVAR	**Mina Array Bea**	**89.48**	**51**	P	**P**	**03 36 26.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=259,slow=3.4,SNR=2.6						
MKAR	**Makanchi Array**	**90.86**	**318**	P	**P**	**03 36 31.1**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=98,slow=6.8,SNR=7.1						

WEL 05 03:29:31.7, 44°S±1°×172°E±0°, 9, h12km±2km, M2.2/6, ML2.3/6, MLv2.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=25.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.20**	**185**	P	Pb	03 29 37.5	+0.2
AMCZ	**Amberley**	**0.33**	**357**	P	Pb	03 29 39.5	0.0
OKCZ	**Okains Bay**	**0.35**	**128**	P	Pb	03 29 40.0	+0.1
AKCZ	**Akaroa Harbour**	**0.40**	**156**	P	Pb	03 29 41.5	+0.7
OXZ	**Oxford**	**0.50**	**291**	P	Pb	03 29 43.3	+1.0
GVZ	**Greta Valley S**	**0.60**	**26**	P	Pb	03 29 44.8	+0.8
WACZ	**Wakanui South**	**0.75**	**234**	P	Pn	03 29 49.0	+0.9
LTZ	**Lake Taylor**	**0.78**	**337**	P	Pn	03 29 48.1	-0.5
ARCZ	**Arundel**	**1.18**	**247**	P	Pg	03 29 56.1	+1.9
RPZ	**Rata Peaks**	**1.20**	**259**	P	Pg	03 29 56.5	+1.8
KHZ	**Kahutara**	**1.26**	**30**	P	Pn	03 29 54.6	-0.4
MRZ	**Mangatainoka R**	**3.57**	**38**	P	Pn	03 30 29.6	+2.8
TUVZ	**Tukino**	**4.79**	**29**	P	Pn	03 30 45.3	+1.6
NMHZ	**Naumai**	**5.39**	**37**	P	Pn	03 30 56.1	+4.2

IDC 05 03:30:34.4±62.0, 19°00S×175°90E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/21, mbtmp3.5/3, Error ellipse: s-maj=1077.0km s-min=154.7km az=78.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.38**	**241**	P	P	03 37 15.2	+0.6
	0.6nm,0.3s,baz=52,slow=4.6,SNR=2.9						
WRA	**Warramunga Arr**	**39.12**	**262**	P	P	03 38 03.8	-0.1
	0.2nm,0.7s,baz=97,slow=7.9,SNR=1.9						
ASAR	**Alice Springs**	**39.29**	**256**	P	P	03 38 04.8	-0.6
	0.4nm,0.5s,baz=88,slow=8.7,SNR=6.0						

SNET 05 04:16:44.5±1.2, 13°66N×90°73W, h47km±32km, ML3.0, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.96**	**75**	⇑*iP*	Pn	04 17 01.8	0.0
NUBE				*eS*	Sn	04 17 15.1	+0.6
NUBE				IAML		04 17 18.0	
	comp=Z,102nm,0.2s						
RTR	**El Retiro**	**1.08**	**77**	*eP*	Pn	04 17 03.9	+0.4
RTR				*eS*	Sn	04 17 18.5	+1.0
CEVE	**Cerro Verde**	**1.09**	**81**	*eP*	Pn	04 17 03.8	+0.1
CEVE				*eS*	Sn	04 17 19.2	+1.4
CEVE				IAML		04 17 26.8	
	comp=Z,694nm,0.2s						
SBLS	**San Blas**	**1.09**	**80**	*eP*	Pn	04 17 03.4	-0.2
SBLS				*eS*	Sn	04 17 18.9	+1.0
SNJE	**San Jose**	**1.12**	**79**	*eP*	Pn	04 17 04.2	+0.2
SNJE				*eS*	Sn	04 17 20.1	+1.8
UNIC	**Universidad Ca**	**1.20**	**74**	*eP*	Pn	04 17 05.3	+0.4
UNIC				IAML		04 17 05.9	
	comp=Z,87nm,0.2s						
UNIC				*eS*	Sn	04 17 21.9	+1.9
RTAL	**Retalhuleu**	**1.27**	**313**	*eP*	Pn	04 17 06.0	+0.1
RTAL				*eS*	Sn	04 17 22.3	+0.5
TACO	**Tacachico**	**1.38**	**77**	*eP*	Pn	04 17 07.8	+0.5
TACO				*eS*	Sn	04 17 25.2	+0.7
BOQS	**Boqueron**	**1.42**	**87**	*eP*	Pn	04 17 09.3	+1.3
BOQS				*eS*	Sn	04 17 27.1	+1.5
UEES	**Universidad Ev**	**1.45**	**87**	*eP*	Pn	04 17 08.9	+0.5
UEES				IAML		04 17 33.6	
	comp=Z,306nm,0.2s						
SNET	**Serv Nac Est T**	**1.46**	**89**	*eP*	Pn	04 17 09.2	+0.7
SNET				IAML		04 17 29.1	
	comp=Z,404nm,0.2s						
LFRS	**El Faro**	**1.63**	**91**	*eP*	Pn	04 17 11.0	+0.2
LFRS				*eS*	Sn	04 17 31.9	+1.2
COEG	**Centro de Oper**	**1.80**	**91**	*eP*	Pn	04 17 13.7	+0.5
COEG				*eS*	Sn	04 17 36.8	+1.9
COEG				IAML		04 17 42.9	
	comp=Z,149nm,0.4s						
LCND	**La Caada**	**2.79**	**97**	*eP*	Pn	04 17 26.6	-0.1

IDC 05 04:28:34.8±2.8, 26°85S×114°76W, h0km, mb3.6/4, mb1 4.1/4, mb1mx3.8/23, mbtmp3.6/4, MS3.6/6, Ms1 3.6/6, ms1mx3.3/18, Error ellipse: s-maj=113.4km s-min=32.5km az=58.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**31.56**	**269**	*eT*	T	05 08 19.0	
	8.8nm,0.2s						
H03N2	**Juan Fernandez**	**31.56**	**111**	T	T	05 07 54.9	
	baz=277,slow=74,SNR=268						
H03N3	**Juan Fernandez**	**31.57**	**111**	T	T	05 07 56.4	
	baz=277,slow=74,SNR=279						
H03N1	**Juan Fernandez**	**31.58**	**111**	T	T	05 08 00.2	
	baz=277,slow=74,SNR=291						
PPT2	**Papeete2**	**33.43**	**279**	*e*LR	LR	04 44 06.0	
	comp=Z,204nm,25.2s						
PPT	**Papeete**	**33.44**	**279**	LR	LR	04 44 57.6	
	comp=Z,138nm,18.2s,baz=35,slow=29						
PLCA	**Paso Flores**	**38.86**	**122**	P	P	04 36 01.9	0.0
	2.4nm,1.0s,baz=280,slow=11,SNR=4.5						
LPAZ	**La Paz**	**44.41**	**86**	LR	LR	04 49 44.8	
	comp=Z,33nm,19.1s,baz=265,slow=29						
CPUP	**Villa Florida**	**50.97**	**103**	LR	LR	04 54 48.1	
	comp=Z,36nm,19.5s,baz=214,slow=31						
TXAR	**Lajitas Array**	**56.87**	**12**	P	P	04 38 21.7	+0.2
	0.2nm,0.7s,baz=190,slow=4.6,SNR=1.9						
VNDA	**Vanda**	**62.55**	**194**	LR	LR	05 00 23.7	
	comp=Z,37nm,18.5s,baz=7.5,slow=30						
BDFB	**Brasilia**	**62.60**	**94**	LR	LR	05 02 20.7	
	comp=Z,41nm,19.2s,baz=309,slow=32						
NVAR	**Mina Array Bea**	**65.03**	**357**	P	P	04 39 17.5	+0.5
	1.0nm,0.9s,baz=167,slow=8.3,SNR=5.7						
PDAR	**Pinedale Array**	**69.44**	**4**	P	P	04 39 44.2	-0.7
	0.3nm,0.6s,baz=157,slow=7.2,SNR=5.2						
DZM	**Mont Dzumac**	**70.80**	**254**	*e*LR	LR	05 01 37.7	
	comp=Z,77nm,24.8s						
STKA	**Stephens Creek**	**86.74**	**236**	LR	LR	05 13 23.9	
	comp=Z,48nm,18.2s,baz=28,slow=31						
H11S2	**WAKE ISLAND Hy**	**88.46**	**292**	T	T	06 19 47.0	
	baz=119,slow=76,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**88.47**	**292**	T	T	06 19 47.0	
	baz=119,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**88.47**	**291**	T	T	06 19 46.5	
	baz=119,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**88.88**	**293**	T	T	06 20 13.3	
H11N1	**WAKE ISLAND Hy**	**88.89**	**293**	T	T	06 20 13.6	
	SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**88.90**	**293**	T	T	06 20 13.3	
ZALV	**Zalesovo Beam**	**149.31**	**337**	PKPbc	PKPbc	04 48 24.6	-0.6
	1.8nm,0.6s,baz=7.2,slow=3.9,SNR=3.9						

*IDC **05** 04:40:44.0±3.5, 53°19N×91°12E, h0km, mb1 3.3/3, mb1mx3.1/37, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=33.1km s-min=25.6km az=32.0*
*NNC **05** 04:40:46.2±5.7, 53°59N×90°62E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=49.1km s-min=34.7km az=17.0, Suspected Mining explosion.*

ISC 05 04:40:54.5±2.8, 52°31N±0°08×88°2E±0°1, h0km, n8, σ1§75/11, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.62**	**310**	*i*		05 07 25.0	
	baz=96,slow=310,SNR=1.1						
ZALV	**Zalesovo Beam**	**2.62**	**310**	Pn	**Pg**	**04 41 45.2**	**+0.6**
	2.0nm,0.3s,baz=96,slow=13,SNR=15						
ZALV				Lg	Lg	04 42 45.4	
	3.8nm,0.3s,baz=95,slow=26,SNR=13						
KURK	**Kurchatov**	**6.19**	**259**	⇑Pn	**Pb**	**04 42 42.8**	**-0.3**
	3.6nm,1.1s						
KURK				⇓Sn	**Sg**	**04 44 13.7**	**+0.5**
	19nm,1.0s						
KURK				⇑Lg	Lg	04 44 59.5	
	20nm,0.9s						
KURBB	**Kurchatov Arra**	**6.28**	**258**	Pn	**Pb**	**04 42 44.0**	**-0.5**
	0.4nm,0.3s,baz=70,slow=14,SNR=19						
KURBB				Sn	**Sg**	**04 44 15.9**	**0.0**
	0.2nm,0.3s,baz=320,slow=26,SNR=10						
KURBB				Lg	Lg	04 45 02.2	
	baz=70,slow=30,SNR=2.5						
KURBB	**Kurchatov Arra**	**6.28**	**258**	⇑Pn	**Pb**	**04 42 43.7**	**-0.9**
	1.2nm,0.3s						
KURBB				⇑Sn	**Sg**	**04 44 15.3**	**-0.7**
	38nm,0.7s						
KURBB				⇑Lg	Lg	04 45 07.7	
	46nm,0.8s						
MK31	**Makanchi Array**	**6.73**	**217**	⇑Pn	**Pb**	**04 42 53.1**	**+0.9**
	0.7nm,0.5s,baz=41,slow=16,SNR=7.0						
MK31				⇓Sn	**Sg**	**04 44 33.9**	**+3.5**
	2.0nm,0.7s,baz=33,slow=25,SNR=3.6						
MK31				⇑Lg	Lg	04 45 15.8	
	10nm,1.1s,baz=35,slow=30,SNR=4.8						
MKAR	**Makanchi Array**	**6.73**	**217**	Pn	**Pb**	**04 42 49.7**	**-2.6**
	0.1nm,0.3s,baz=36,slow=13,SNR=4.3						
MKAR				Sn	**Sg**	**04 44 28.8**	**-1.6**
	0.1nm,0.3s,baz=28,slow=25,SNR=2.5						
MKAR				Lg	Lg	04 45 15.6	
	0.0nm,0.3s,baz=40,slow=23,SNR=5.1						
SONM	**Songino Array**	**12.51**	**104**	Lg	Lg	04 46 29.9	
	baz=285,slow=29,SNR=4.0						

*IDC **05** 05:10:28.1±60.0, 18°56S×178°21E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/36, mbtmp4.1/3, Error ellipse: s-maj=1065.0km s-min=150.6km az=78.0*
*NEIC **05** 05:11:09.9±1.5, 20°6S±0°1×178°9E±0°2, h481km±13km, mb4.0/13, Error ellipse: s-maj=26.3km s-min=16.2km az=91.0*

ISC 05 05:11:08.7±1.1, 20°7S±0°1×179°0E±0°2, h450km, n20, σ1§66/19, mb3.9/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.10**	**343**		**P**	**05 12 18.7**	**+1.9**
BKZ	**Black Stump Fm**	**18.51**	**186**	P	**P**	**05 14 56.4**	**+0.1**
BKZ				IAmb	IAmb	05 15 18.9	
	comp=Z,4.8nm,1.1s						
CMWZ	**Cape Campbell**	**21.35**	**190**	P	**P**	**05 15 21.4**	**-0.8**
BSWZ	**Blackbirch Sta**	**21.37**	**191**	P	**P**	**05 15 22.1**	**-0.3**
KHZ	**Kahutara**	**22.11**	**191**	P	**P**	**05 15 29.4**	**+0.3**
STKA	**Stephens Creek**	**35.16**	**244**	P	P	05 17 27.6	+4.3
	comp=Z,0.6nm,0.3s,baz=81,slow=9.8,SNR=3.1						
BBOO	**Buckleboo**	**39.93**	**243**	P	**P**	**05 18 04.0**	**+1.4**
WR0	**Warramunga Arr**	**41.59**	**263**	P	**P**	**05 18 14.8**	**-1.2**
WR0				IAmb	IAmb	05 18 18.0	
	comp=Z,5.5nm,1.2s						
AS31	**Alice Springs**	**41.72**	**257**	P	**P**	**05 18 17.2**	**+0.1**
ASAR	**Alice Springs**	**41.72**	**257**	P	**P**	**05 18 16.9**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=89,slow=7.8,SNR=33						
ASAR	**Alice Springs**	**41.72**	**257**	P	**P**	**05 18 16.7**	**-0.4**
WB0	**Warramunga Arr**	**41.76**	**263**	P	**P**	**05 18 16.0**	**-1.4**
WB0				IAmb	IAmb	05 18 20.9	
	comp=Z,7.4nm,1.5s						
WB2	**Warramunga Arr**	**41.77**	**263**	P	**P**	**05 18 16.3**	**-1.1**
WB2				IAmb	IAmb	05 18 16.6	
	comp=Z,9.1nm,1.4s						
WRAB	**Tennant Creek**	**41.77**	**263**	P	**P**	**05 18 16.4**	**-1.1**
WRAB				IAmb	IAmb	05 18 36.0	
	comp=Z,5.3nm,1.4s						
WRA	**Warramunga Arr**	**41.78**	**263**	P	**P**	**05 18 16.1**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=97,slow=7.9,SNR=23						
WRA	**Warramunga Arr**	**41.78**	**263**	P	**P**	**05 18 16.3**	**-1.3**
MTN	**Manton Dam**	**46.35**	**272**	P	**P**	**05 18 50.0**	**-3.2**
HUH	**Hualalai**	**47.12**	**33**	P	**P**	**05 18 58.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**50.20**	**263**	P	**P**	**05 19 18.2**	**-3.9**
CASY	**Casey**	**62.56**	**205**	P	**P**	**05 20 47.7**	**+0.7**
CASY				IAmb	IAmb	05 20 49.0	
	comp=Z,2.9nm,0.7s						

*NIED **05** 05:15:27.3, 28°01N×128°79E, h16km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.23; $M_{\theta\theta}$1.87; $M_{\phi\phi}$2.36; $M_{r\theta}$-0.14; $M_{\theta\phi}$-2.07; $M_{\phi r}$2.45; Fault plane solution: M_0=4.86000×10^{14} NP1: ϕ_s=155.00000°, δ=60.00000°, λ=-73.00000°. NP2: ϕ_s=304.00000°, δ=35.00000°, λ=-117.00000°.*

JMA 05 05:15:27.3, 28°01N×128°79E, h16km±1km, M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.27**	**148**	P	Pg	05 15 32.9	-0.2
JTK				*eS*	Sg	05 15 36.8	-0.2
JAMN	**Amaminishikomi**	**0.41**	**56**	P	Pg	05 15 35.5	-0.2
JAMN				*eS*	Sg	05 15 41.4	+0.1
JOKE	**Okinoerabujima**	**0.68**	**197**	P	Pg	05 15 40.0	-0.5
JOKE				*eS*	Sg	05 15 48.8	-0.7
JAM	**Amami Oshima**	**0.82**	**61**	P	Pb	05 15 42.9	-0.3
JAM				*eS*	Sg	05 15 54.2	0.0
JYRO	**Yoronjima**	**1.03**	**197**	P	Pb	05 15 46.2	-0.5
JYRO				*eS*	Sb	05 15 59.6	-0.3
JZK	**Kikaishima**	**1.09**	**74**	P	Pg	05 15 49.2	+0.9
JTAJ	**Takarajima**	**1.20**	**18**	P	Pn	05 15 48.9	-0.5
JTAJ				*eS*	Sb	05 16 03.9	-0.9
JIH	**Iheya**	**1.22**	**217**	P	Pn	05 15 49.4	-0.2
JIH				*eS*	Sb	05 16 04.7	-0.7
JOW	**Kunigami**	**1.26**	**201**	P	Pn	05 15 50.0	-0.3
JOW				*eS*	Sb	05 16 05.7	-1.0
JNTH	**Nagotoyohara**	**1.64**	**205**	P	Pn	05 15 55.3	-0.1
JNTH				*eS*	Sn	05 16 15.3	-0.8
JAGN	**Aguni-jima**	**1.98**	**225**	P	Pn	05 16 00.5	+0.4
JAGN				*eS*	Sn	05 16 24.4	-0.1
JNN	**Nakanoshima**	**2.06**	**27**	P	Pn	05 16 01.8	+0.6
JNN				*eS*	Sn	05 16 26.6	0.0
JKE	**Kume jima 2**	**2.45**	**227**	P	Pn	05 16 07.0	+0.4
JKE				*eS*	Sn	05 16 36.7	+0.5
JYAK	**Yakushimahirau**	**2.68**	**34**	P	Pn	05 16 10.3	+0.5
JYAK				*eS*	Sn	05 16 40.6	-1.4
JKC	**Kuchinoerabu**	**2.73**	**26**	P	Pn	05 16 11.0	+0.5
JKC				*eS*	Sn	05 16 43.4	+0.1
JMTN	**Minamitane**	**3.01**	**37**	P	Pn	05 16 15.7	+1.4
JMTN				*eS*	Sn	05 16 50.3	+0.2
JKDJ	**Kitadaitoujima**	**3.04**	**132**	P	Pn	05 16 15.3	+0.6
JKDJ				*eS*	Sn	05 16 51.0	+0.3
JMZ	**Minamidaito 2**	**3.08**	**135**	P	Pn	05 16 15.3	0.0
JMZ				*eS*	Sn	05 16 51.2	-0.5
JTN	**Tanegashima 3**	**3.25**	**35**	P	Pn	05 16 18.7	+1.0
JTN				*eS*	Sn	05 16 56.3	+0.1

JMA 05 05:23:34.4±0.1, 37°32N×142°16E, h45km±5km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.03**	**273**	P	Pn	05 23 52.5	+0.1
JFK				S	Sn	05 24 05.4	-0.3
JMST	**Minamisoumatoc**	**1.09**	**292**	P	Pn	05 23 53.4	+0.2
JMST				*eS*	Sn	05 24 07.7	+0.6
ONAJ	**Iwakimizuishiy**	**1.11**	**259**	P	Pn	05 23 53.5	0.0
ONAJ				S	Sn	05 24 07.1	-0.6
JIKH	**Ishinomakikobu**	**1.13**	**331**	P	Pn	05 23 54.0	+0.2
JIKH				*eS*	Sn	05 24 08.4	+0.2
JMM	**Marumori**	**1.22**	**297**	P	Pn	05 23 55.4	+0.5
JMM				*eS*	Sn	05 24 10.7	+0.5
JIO	**Ouri**	**1.30**	**331**	P	Pn	05 23 56.5	+0.4
JFT	**Otama**	**1.47**	**278**	P	Pn	05 23 59.7	+1.3
JFT				*eS*	Sn	05 24 17.6	+1.2
JOU	**Okura**	**1.58**	**312**	P	Pn	05 24 00.9	+1.0
JMK	**Ichinoseki**	**1.79**	**336**	P	Pn	05 24 03.8	+1.0
JYS	**Shirataka**	**1.89**	**299**	P	Pn	05 24 04.9	+0.7
JFY	**Yanaizu**	**1.96**	**273**	P	Pn	05 24 06.3	+1.2
JYK	**Kaneyama**	**2.14**	**319**	P	Pn	05 24 08.7	+1.1
JOM	**Ohasama**	**2.25**	**343**	P	Pn	05 24 10.1	+0.9
JAG	**Ashikaga**	**2.35**	**248**	P	Pn	05 24 11.3	+0.8
MAT	**Matsushiro**	**3.26**	**257**	P	Pn	05 24 25.5	+2.5
MAT				*eS*	Sn	05 25 04.6	+4.0

IDC 05 05:43:37.7±2.1, 7°63S×155°12E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/30, mbtmp3.5/4, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/17, Error ellipse: s-maj=56.0km s-min=30.3km az=123.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.51**	**317**	Pn	Pn	05 44 48.3	+0.9
	10.0nm,0.3s,baz=304,slow=1.4,SNR=6.4						
KRVT				Sn	Sn	05 45 27.3	-13
	8.5nm,0.3s,baz=134,slow=6.8,SNR=2.0						
WRA	**Warramunga Arr**	**23.56**	**237**	P	P	05 48 49.5	-0.7
	0.9nm,1.0s,baz=60,slow=9.0,SNR=6.1						
ASAR	**Alice Springs**	**25.85**	**230**	P	P	05 49 11.3	+0.1
	0.2nm,0.6s,baz=59,slow=9.7,SNR=4.6						
RAO	**Raoul Island**	**33.26**	**134**	LR	LR	06 00 21.4	
	comp=Z,97nm,19.6s,baz=250,slow=30						
ILAR	**Eielson Array**	**83.92**	**21**	P	P	05 56 09.4	+0.2
	0.2nm,0.4s,baz=249,slow=5.7,SNR=4.7						

*NORS **05** 06:05:45.5±0.0, 42°62N×46°24E, h25km, MPVA3.4*
*DRS **05** 06:05:45.7±0.0, 42°47N×46°12E, h14km*
*MOS **05** 06:05:45.6±0.0, 42°58N×46°22E, h22km, MPVA3.7*

ISC 05 06:05:46.1±0.9, 42°50N±0°02×46°13E±0°02, h13km±8km, n33, σ1§49/62, 3C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.17**	**23**	*i* Pg	**Pg**	**06 05 50.7**	**+0.5**
BTLR				*e*Sg	**Sb**	**06 05 54.4**	**-0.3**
BTLR	**Botlikh**	**0.17**	**23**	⇓*i* PG	**Pg**	**06 05 50.7**	**+0.5**
BTLR				*e*S	**Sb**	**06 05 54.4**	**-0.3**
XNZR	**Khunzakh**	**0.43**	**85**	*e*Pg	**Pg**	**06 05 54.7**	**+0.1**
XNZR				*e*Sg	**Sg**	**06 06 00.8**	**+0.4**
XNZR	**Khunzakh**	**0.43**	**85**	*e*PG	**Pg**	**06 05 54.4**	**-0.2**
XNZR				*e*S	**Sg**	**06 06 00.8**	**+0.4**
UNCR	**Uncukul**	**0.54**	**67**	*i* Pg	**Pg**	**06 05 56.0**	**-0.6**
UNCR				*i* Sg	**Sg**	**06 06 03.0**	**-0.7**
UNCR	**Uncukul**	**0.54**	**67**	*i* PG	**Pg**	**06 05 56.0**	**-0.6**
UNCR				*i* S	**Sg**	**06 06 03.0**	**-0.7**
UNCR				pmax	pmax		
	comp=Z,71nm,0.2s						
GNBR	**Gunib**	**0.63**	**100**	*e*Pg	**Pg**	**06 05 57.6**	**-0.7**
GNBR				*e*Sg	**Sg**	**06 06 06.1**	**-0.5**
GNBR	**Gunib**	**0.63**	**100**	⇑*e*PG	**Pg**	**06 05 57.7**	**-0.7**
GNBR				*e*		06 06 06.4	
GNBR				pmax	pmax		
	comp=Z,86nm,0.1s						
GNBR				smax	smax		
	comp=N,390nm,0.5s						
KRNR	**Karanay**	**0.66**	**60**	*i* Pg	**Pg**	**06 05 58.5**	**-0.4**
KRNR				*i* Sg	**Sg**	**06 06 08.0**	**+0.4**
KRNR	**Karanay**	**0.66**	**60**	*i* PG	**Pg**	**06 05 58.5**	**-0.4**
KRNR				*i* S	**Sg**	**06 06 08.0**	**+0.4**
KRNR				pmax	pmax		
	comp=Z,33nm,0.1s						
LGD	**Lagodekhi**	**0.67**	**173**	P	**Pb**	**06 05 58.5**	**-1.2**
LGD				S	**Sb**	**06 06 07.9**	**-1.1**
DBC	**Dubki**	**0.73**	**45**	*e*Pg	**Pg**	**06 05 59.5**	**-0.8**
DBC				*e*Sg	**Sg**	**06 06 09.2**	**-0.6**
DBC	**Dubki**	**0.73**	**45**	⇑*e*PG	**Pg**	**06 05 59.4**	**-0.8**
DBC				*e*		06 06 09.8	
DBC				pmax	pmax		
	comp=Z,93nm,0.3s						
DBC				smax	smax		
	comp=N,69nm,0.4s						
GROC	**Groznyy**	**0.74**	**341**	*e*Pg	**Pb**	**06 06 00.8**	**-0.1**
GROC				*e*Sg	**Sb**	**06 06 11.6**	**+0.7**
GROC	**Groznyy**	**0.74**	**341**	*e*PG	**Pb**	**06 06 00.7**	**-0.1**
GROC				*e*		06 06 11.6	
GROC				pmax	pmax		
	comp=Z,85nm,0.3s						
GROC				smax	smax		
	comp=N,160nm,0.6s						
GROC				smax	smax		
	comp=E,179nm,0.5s						
GROC				smax	smax		
	comp=E,175nm

NIUE S S 06 34 46.7 +11
baz=8.2
NIUE Niue 8.31 101 P **P 06 32 58.1 +1.9**
FUNA Funafuti 9.32 346 P **P 06 33 08.9 +2.3**
RAO Raoul Island 11.57 177 P **P 06 33 30.8 +1.4**
DZM Mont Dzumac 14.79 250 *e*P **P 06 34 04.4 +1.6**
28nm,0.8s
DZM Mont Dzumac 14.79 250 P **P 06 34 03.9 +1.1**
1.5nm,0.3s,baz=92,slow=18,SNR=5.2
DZM Mont Dzumac 14.79 250 P **P 06 34 04.2 +1.3**
RAR Rarotonga 18.06 104 P **P 06 34 34.2 +0.4**
0.8nm,0.3s,baz=200,slow=1.3,SNR=5.5
RAR Rarotonga 18.06 104 P **P 06 34 34.6 +0.7**
RAR IAmb IAmb 06 34 35.2
comp=Z,35nm,0.8s
OUZ Omahuta 18.85 200 P **P 06 34 43.7 +2.8**
KUZ Kuaotunu 19.69 194 P **P 06 34 50.8 +2.3**
WMGZ Waiomatatini S 20.28 187 P **P 06 34 54.6 +0.9**
HAZ Te Kaha 20.30 188 P **P 06 34 53.7 -0.2**
RUGZ Raukumara Rang 20.52 189 P **P 06 34 56.2 +0.1**
TGRZ Tauranga 20.52 192 P **P 06 34 58.8 +2.8**
PUZ Puketiti 20.54 187 P **P 06 34 56.6 +0.3**
TOZ Tahuroa Road 20.68 193 P **P 06 35 01.2 +3.8**
MARZ Manawahe 20.69 191 P **P 06 34 53.7 -3.9**
URZ Urewera 20.89 190 P **P 06 34 57.6 -1.7**
comp=Z,6.4nm,0.3s,baz=278,slow=2.1,SNR=16
URZ S **S 06 38 11.6 -4.9**
comp=Z,11nm,0.9s,baz=65,slow=15,SNR=5.3
URZ Urewera 20.89 190 P **P 06 34 57.7 -1.7**
URZ Urewera 20.89 190 P **P 06 34 59.4 0.0**
URZ IAmb IAmb 06 35 05.8
comp=Z,18nm,0.8s
MWZ Matawai 20.90 189 P **P 06 34 59.4 -0.1**
CNGZ Carnagh Statio 20.96 187 P **P 06 34 59.8 -0.1**
MUGZ Murupara 21.16 190 P **P 06 35 01.0 -0.7**
BKZ Black Stump Fm 21.88 190 P **P 06 35 07.5 -0.8**
BKZ IAmb IAmb 06 35 15.9
comp=Z,16nm,1.3s
TMVZ Te Maari 21.97 192 P **P 06 35 08.8 -0.4**
OTVZ Oturere 22.03 192 P **P 06 35 09.4 -0.4**
KWHZ Kaweka Forest 22.14 190 P **P 06 35 09.6 -1.1**
BFZ Birch Farm 23.39 190 P **P 06 35 21.7 0.0**
SNZO South Karori 24.29 192 P **P 06 35 28.7 -0.9**
QRZ Quartz Range 24.35 197 P **P 06 35 30.4 +0.2**
QRZ IAmb IAmb 06 35 59.0
comp=Z,47nm,1.2s
PLWZ Palliser 24.43 191 P **P 06 35 29.8 -1.2**
NNZ Nelson 24.50 195 P **P 06 35 30.8 -0.7**
TUWZ Tuamarina 24.57 194 P **P 06 35 32.4 +0.3**
BSWZ Blackbirch Sta 24.86 194 P **P 06 35 34.7 0.0**
THZ Tophouse 25.13 195 P **P 06 35 36.6 -0.5**
KHZ Kahutara 25.60 194 P **P 06 35 40.5 -0.7**
KHZ IAmb IAmb 06 35 43.4
comp=Z,25nm,1.0s
LTZ Lake Taylor 26.25 195 P **P 06 35 46.5 -0.5**
LTZ IAmb IAmb 06 35 48.3
comp=Z,28nm,0.7s
OXZ Oxford 26.82 195 P **P 06 35 51.4 -0.5**
MQZ McQueen's Vall 27.03 194 P **P 06 35 52.8 -0.9**
MQZ IAmb IAmb 06 36 21.5
comp=Z,38nm,1.3s
RPZ Rata Peaks 27.44 197 P **P 06 35 57.3 -0.1**
comp=Z,7.3nm,0.6s,baz=346,slow=2.3,SNR=6.9
RPZ Rata Peaks 27.44 197 P **P 06 35 56.9 -0.5**
RPZ IAmb IAmb 06 36 15.6
comp=Z,30nm,1.4s
PAE Paea 27.59 94 *e*P **P 06 35 59.0 -0.1**
comp=Z,5.7nm,0.6s
PPT2 Papeete2 27.60 94 *e*P **P 06 35 59.4 +0.1**
comp=Z,22nm,0.7s
PPT Papeete 27.60 94 P **P 06 35 58.9 -0.3**
comp=Z,47nm,0.8s,baz=67,slow=4.3,SNR=5.1
PPTF Pamatai, Papee 27.61 94 P **P 06 35 58.4 -0.9**
FOZ Fox Glacier 27.62 198 P **P 06 35 58.8 -0.2**
TIAR Tiarei 27.82 94 *e*P **P 06 36 01.2 +0.1**
comp=Z,19nm,0.7s
TVO Taravao 27.90 95 *e*P **P 06 36 01.8 0.0**
comp=Z,14nm,0.7s
LBZ Lake Benmore 28.30 197 P **P 06 36 03.5 -1.4**
LBZ IAmb IAmb 06 36 04.5
comp=Z,20nm,0.8s
ODZ Otahua Downs 28.78 196 P **P 06 36 08.1 -0.9**
ODZ IAmb IAmb 06 36 34.5
comp=Z,15nm,1.4s
WKZ Wanaka 29.04 198 P **P 06 36 10.6 -0.8**
WKZ IAmb IAmb 06 36 11.4
comp=Z,23nm,0.5s
EIDS Eidsvold 29.23 249 P **P 06 36 13.9 +0.6**
baz=29,SNR=7.0
EIDS Eidsvold 29.23 249 P **P 06 36 13.9 +0.6**
EIDS IAmb IAmb 06 36 14.7
comp=Z,16nm,0.8s
MLZ Mavora Lakes 29.80 199 P **P 06 36 18.1 +0.2**
ARMA Armidale 29.96 239 P **P 06 36 21.3 +1.7**
baz=30,SNR=14
ARMA Armidale 29.96 239 P **P 06 36 21.2 +1.5**
ARMA IAmb IAmb 06 36 22.5
comp=Z,22nm,0.8s
DCZ Deep Cove 30.20 200 P **P 06 36 21.3 0.0**
DCZ IAmb IAmb 06 36 24.6
comp=Z,50nm,1.3s
WHZ Wether Hill Ro 30.33 199 P **P 06 36 23.2 +0.8**
WHZ IAmb IAmb 06 36 24.5
comp=Z,43nm,1.0s
MGCD Mangrove Creek 31.34 235 P **P 06 36 33.1 +1.8**
baz=31,SNR=10
RMQ Roma 31.48 248 P **P 06 36 34.0 +1.4**
baz=32,SNR=17
CTA Charters Tower 33.36 260 P **P 06 36 49.3 +0.6**
comp=Z,12nm,0.6s,baz=89,slow=11,SNR=32
CTA PcP **PcP 06 39 14.2 0.0**
comp=Z,2.2nm,0.7s,baz=111,slow=4.1,SNR=4.5
CTAO Charters Tower 33.36 260 P **P 06 36 49.5 +0.9**
CTAO IAmb IAmb 06 36 50.1
comp=Z,18nm,0.8s
CNB Canberra Magne 33.48 232 P **P 06 36 51.2 +1.7**
baz=34,SNR=34
CAN Canberra 33.76 232 P **P 06 36 52.9 +1.0**
baz=34
CAN Canberra 33.76 232 P **P 06 36 52.9 +1.0**
CAN IAmb IAmb 06 36 54.1
comp=Z,31nm,1.0s
PMG Port Moresby 34.28 279 P **P 06 36 57.9 +1.5**
comp=Z,52nm,0.8s,baz=62,slow=6.3,SNR=6.1
PMG Port Moresby 34.28 279 P **P 06 36 57.5 +1.1**
CMSA Cobar Meteorol 35.16 240 P **P 06 37 04.7 +1.1**
baz=35,SNR=48
MTSU Mount Surprise 35.31 263 P **P 06 37 05.8 +0.8**
baz=35,SNR=4.8
QLP Quilpie 35.50 249 P **P 06 37 07.2 +0.7**
baz=36,SNR=9.7
COEN Coen 36.97 270 P **P 06 37 20.2 +1.4**
baz=37,SNR=18
COEN Coen 36.97 270 P **P 06 37 20.1 +1.4**
TOO Toolangi 37.23 230 P **P 06 37 21.9 +1.3**
baz=37,SNR=18
TOO Toolangi 37.23 230 P **P 06 37 20.9 +0.3**
MOO Moorlands 38.20 222 P **P 06 37 29.7 +1.4**
baz=38,SNR=3.5
TAU Tasmania Unive 38.35 222 P **P 06 37 30.4 +0.9**
TAU IAmb IAmb 06 37 31.4
comp=Z,26nm,0.9s
STKA Stephens Creek 38.64 241 P **P 06 37 33.6 +1.5**
baz=39,SNR=58
STKA Stephens Creek 38.64 241 P **P 06 37 33.4 +1.3**
comp=Z,26nm,0.5s,baz=91,slow=9.7,SNR=84
STKA Stephens Creek 38.64 241 P **P 06 37 32.8 +0.7**
STKA IAmb IAmb 06 37 34.5
comp=Z,12nm,1.1s
ARPS Mount Arapiles 39.70 233 P **P 06 37 41.4 +0.9**
baz=40,SNR=9.1
HTT Hallett 41.16 239 P **P 06 37 53.6 +1.2**
baz=41,SNR=35
JAY Jayapura 42.71 286 P **P 06 38 05.9 +1.2**
comp=Z,22nm,0.8s,baz=127,slow=5.1,SNR=6.4
BBOO Buckleboo 43.42 241 P **P 06 38 10.7 +0.7**
baz=43,SNR=46
BBOO Buckleboo 43.42 241 P **P 06 38 10.6 +0.6**
WR0 Warramunga Arr 44.36 259 P **P 06 38 17.3 -0.2**
WR0 IAmb IAmb 06 38 18.3
comp=Z,31nm,1.4s
WB0 Warramunga Arr 44.52 260 P **P 06 38 18.7 0.0**
WB0 IAmb IAmb 06 38 19.4
comp=Z,26nm,0.8s
WC3 Warramunga Arr 44.52 259 P **P 06 38 18.5 -0.2**
baz=45
WB2 Warramunga Arr 44.54 259 P **P 06 38 18.9 0.0**
WB2 IAmb IAmb 06 38 19.6
comp=Z,30nm,0.7s
WRAB Tennant Creek 44.54 259 P **P 06 38 18.7 -0.2**
WRAB IAmb IAmb 06 38 19.6
comp=Z,26nm,0.6s
WRA Warramunga Arr 44.55 259 P **P 06 38 18.9 -0.1**
comp=Z,16nm,0.5s,baz=94,slow=6.8,SNR=134
WRA PcP **PcP 06 39 50.0 -0.1**
comp=Z,1.7nm,0.6s,baz=89,slow=3.7,SNR=6.7
WRA ScP **ScP 06 42 49.1 -1.1**
comp=Z,1.4nm,0.9s,baz=90,slow=3.4,SNR=5.4
WRA S **S 06 44 11.8 -3.2**
comp=Z,0.5nm,0.7s,baz=96,slow=12,SNR=3.1
WRA Warramunga Arr 44.55 259 P **P 06 38 18.7 -0.2**
AS31 Alice Springs 44.73 254 P **P 06 38 21.0 +0.7**
ASAR Alice Springs 44.73 254 P **P 06 38 20.8 +0.4**
comp=Z,174nm,0.6s,baz=88,slow=8.2,SNR=2323
ASAR PcP **PcP 06 39 50.6 -0.2**
comp=Z,6.2nm,0.8s,baz=99,slow=3.8,SNR=6.0
ASAR ScP **ScP 06 42 51.2 +0.2**
comp=Z,0.9nm,0.9s,baz=91,slow=4.9,SNR=4.4
ASAR S **S 06 44 15.2 -2.4**
comp=Z,1.7nm,0.9s,baz=88,slow=16,SNR=11
ASAR Alice Springs 44.73 254 P **P 06 38 20.6 +0.2**
KDU Kakadu 47.43 269 P **P 06 38 41.1 +0.3**
baz=48,SNR=6.6
GUMO Guam 47.61 308 P **P 06 38 43.0 +0.9**
comp=Z,54nm,0.7s,baz=115,slow=14,SNR=2.2
MTN Manton Dam 48.67 268 P **P 06 38 50.1 0.0**
baz=49
MTN Manton Dam 48.67 268 P **P 06 38 50.1 0.0**
MTN IAmb IAmb 06 38 50.7
comp=Z,26nm,0.8s
WRKA Warakurna 49.80 252 P **P 06 38 58.8 +0.4**
baz=50,SNR=134
FORT Forrest 50.00 244 P **P 06 38 59.6 -0.1**
baz=50,SNR=65
FORT Forrest 50.00 244 P **P 06 38 59.7 -0.1**
KNRA Kununurra 50.38 264 P **P 06 39 02.7 +0.1**
baz=50,SNR=15
KNRA Kununurra 50.38 264 P **P 06 39 02.8 +0.1**
KNRA IAmb IAmb 06 39 03.6
comp=Z,41nm,0.7s
FAKI Fak Fak 50.40 281 P **P 06 39 03.5 +0.6**
SIJI Sorong 52.05 283 P **P 06 39 15.3 +0.5**
comp=Z,74nm,0.8s,baz=66,slow=5.9,SNR=12
FITZ Fitzroy Crossi 52.94 260 P **P 06 39 21.6 +0.5**
baz=53,SNR=14
FITZ Fitzroy Crossi 52.94 260 P **P 06 39 21.4 +0.3**
comp=Z,6.7nm,0.7s,baz=182,slow=1.7,SNR=20
FITZ Fitzroy Crossi 52.94 260 P **P 06 39 21.2 +0.1**
KMBL Kambalda 55.31 244 P **P 06 39 37.0 -0.5**
baz=55,SNR=7.1
SOEI Soe 55.94 270 P **P 06 39 43.8 +1.5**
SOEI IAmb IAmb 06 39 45.0
comp=Z,66nm,0.8s
PSA00 Pilbara Seismi 57.85 255 P **P 06 39 54.3 -0.9**
PSA00 Pilbara Seismi 57.85 255 P **P 06 39 55.3 +0.1**
PSA00 IAmb IAmb 06 39 55.8
comp=Z,41nm,0.8s
MEEK Meekatharra 58.40 249 P **P 06 39 58.6 -0.3**
baz=58,SNR=14
EDFI Ende, Flores 58.65 270 P **P 06 40 01.1 +0.3**
KLBR Kellerberrin 58.83 243 P **P 06 40 01.5 -0.2**
baz=59,SNR=18
NWAO Narrogin (SRO) 59.22 242 P **P 06 40 04.5 +0.3**
baz=59,SNR=4.9
NWAO Narrogin (SRO) 59.22 242 P **P 06 40 04.2 0.0**
comp=Z,7.8nm,0.6s,baz=133,slow=4.3,SNR=8.8
NWAO Narrogin (SRO) 59.22 242 P **P 06 40 04.0 -0.2**
NWAO IAmb IAmb 06 40 08.8
comp=Z,52nm,1.4s
NWAO Narrogin (SRO) 59.22 242 P **P 06 40 03.8 -0.4**
NWAO IAmb IAmb 06 40 08.8
comp=Z,39nm,1.4s
RKGY Rocky Gully 59.39 240 P **P 06 40 05.8 +0.5**
baz=59,SNR=6.5
BLDU Ballidu 59.77 244 P **P 06 40 07.6 -0.4**
baz=60,SNR=19
MUN Mundaring 60.12 243 P **P 06 40 10.8 +0.5**
baz=60,SNR=3.3
MORW Morawa 60.47 246 P **P 06 40 12.1 -0.5**
baz=60,SNR=6.1
MORW Morawa 60.47 246 P **P 06 40 12.5 0.0**
MORW IAmb IAmb 06 40 13.1
comp=Z,49nm,1.5s
VNDA Vanda 60.70 185 P **P 06 40 13.8 +0.6**
comp=Z,1.5nm,0.6s,baz=359,slow=5.8,SNR=22
VNDA Vanda 60.70 185 P **P 06 40 13.8 +0.6**
GIRL Giralia 62.84 253 P **P 06 40 29.3 +1.1**
baz=63,SNR=6.2
GIRL Giralia 62.84 253 P **P 06 40 28.8 +0.6**
JAGI Jajag, Banyuwa 65.92 268 P **P 06 40 46.8 -1.0**
JAGI IAmb IAmb 06 40 47.4
comp=Z,35nm,0.8s
CASY Casey 66.32 205 P **P 06 40 49.7 +0.4**
CASY IAmb IAmb 06 40 50.5
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 67.62 323 P **P 06 40 57.4 -0.4**
comp=Z,4.1nm,0.8s,baz=163,slow=7.0,SNR=9.8
MAT Matsushiro 67.62 323 P **P 06 40 57.4 -0.4**
MAT *e*S **S 06 49 10.8 -0.9**
UGM Wanagama 69.52 268 P **P 06 41 09.3 -0.5**
JKA Kamikawa-asahi 70.98 331 P **P 06 41 18.8 +1.1**
ASAJ Asahikawa 70.98 331 P **P 06 41 18.8 +1.1**
comp=Z,6.1nm,0.7s,baz=212,slow=1.8,SNR=3.8
TPUB Ta-pu 72.01 302 P **P 06 41 23.2 -0.9**
TPUB IAmb IAmb 06 41 29.9
comp=Z,46nm,1.4s
QSPA South Pole Qui 72.41 180 P **P 06 41 25.8 -0.1**
QSPA IAmb IAmb 06 41 27.4
comp=Z,13nm,0.8s
LEM Lembang 72.59 268 P **P 06 41 27.8 -0.1**
comp=Z,58nm,0.6s,baz=49,slow=5.0,SNR=4.5
PEA0B Petropavlovsk- 73.39 345 P **P 06 41 31.1 -0.3**
PETK Petropavlovsk- 73.39 345 P **P 06 41 31.4 -0.1**
comp=Z,4.8nm,0.7s,baz=120,slow=8.8,SNR=16
PETK Petropavlovsk- 73.39 345 P **P 06 41 31.1 -0.3**
KSRS Korea Array 74.42 318 P **P 06 41 38.1 +0.6**
comp=Z,1.7nm,0.6s,baz=132,slow=6.7,SNR=8.7
KSAR Wonju Array Be 74.43 318 P **P 06 41 38.2 +0.5**
PMPB Monarch Peak 76.45 45 P **P 06 41 49.5 +0.4**
PMPB IAmb IAmb 06 41 57.1
comp=Z,25nm,1.5s
NJ2 Nanjing 77.67 309 *e*P **P 06 41 56.7 +1.1**
NJ2 pmax pmax
comp=Z,13nm,0.7s
MDPB Devils Postpil 78.38 44 P **P 06 41 59.4 -0.3**
WAKR Walker 78.62 43 P **P 06 42 00.9 0.0**
PNTR Pine Nut 78.84 43 P **P 06 42 00.5 -1.6**
YERR Yerington 79.01 43 P **P 06 42 03.0 +0.1**
NVAR Mina Array Bea 79.33 44 P **P 06 42 04.7 0.0**
comp=Z,1.3nm,0.7s,baz=225,slow=8.8,SNR=13
NVAR Mina Array Bea 79.33 44 P **P 06 42 04.2 -0.5**
CN2 Changchun 79.73 322 *e*P P 06 42 12.0 +5.6
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KVN Kaiserville 79.79 43 P **P 06 42 06.7 -0.4**
KLR Kul'dur 79.82 329 P **P 06 42 06.8 +0.1**
comp=Z,1.5nm,0.6s,baz=90,slow=4.6,SNR=4.6
TPH Tonopah 79.86 45 P **P 06 42 07.5 0.0**
TPNV Topopah Spring 79.93 46 P **P 06 42 06.7 -1.1**
K05A Summer Lake 80.08 39 P **P 06 42 08.4 -0.1**
BRLK Bradley Lake 80.35 14 P **P 06 42 09.8 +0.5**
IPM Ipoh 82.26 277 P **P 06 42 19.7 -0.4**
IPM IAmb IAmb 06 42 21.4
comp=Z,20nm,0.9s
KNB Kanab 82.35 47 P **P 06 42 20.0 -0.2**
319A Douglas 82.38 54 P **P 06 42 20.4 -0.1**
U15A North Rim 82.44 48 P **P 06 42 21.2 +0.3**
BELA Belgrano 2 82.44 173 P **P 06 42 19.6 -0.3**
HMT Hamilton 82.50 16 P **P 06 42 20.1 -0.1**
LTY Liberty 82.83 36 P **P 06 42 19.0 -3.3**
SEY Seymchan 83.49 347 P **P 06 42 24.6 -0.5**
comp=Z,6.3nm,0.6s,baz=214,slow=11,SNR=4.4
RPSI Rantau Prapat 83.70 275 P **P 06 42 25.5 -1.8**
RPSI IAmb IAmb 06 42 27.8
comp=Z,16nm,0.8s
RPSI Rantau Prapat 83.70 275 P **P 06 42 27.2 -0.1**
PSI Prapat 83.73 275 P **P 06 42 27.2 -0.4**
comp=Z,12nm,0.7s,baz=181,slow=2.9,SNR=10
TRF Thorofare Moun 83.78 12 P **P 06 42 24.5 -2.3**
BARN Barnard Glacie 83.82 17 P **P 06 42 25.1 -1.9**
BARN IAmb IAmb 06 42 27.9
comp=Z,25nm,1.5s
ENH Enshi 84.01 304 P **P 06 42 27.9 -0.6**
ENH IAmb IAmb 06 42 30.3
comp=Z,16nm,0.7s
RND Reindeer 84.04 13 P **P 06 42 26.9 -1.0**
RND IAmb IAmb 06 42 27.0
comp=Z,14nm,1.3s
MAW Mawson 84.06 200 P **P 06 42 28.4 +0.4**
baz=84,SNR=5.7
MAW Mawson 84.06 200 P **P 06 42 28.1 +0.1**
comp=Z,5.6nm,0.6s,baz=132,slow=7.3,SNR=8.8
MAW Mawson 84.06 200 P **P 06 42 27.0 -1.0**
GSI Gunungsitoli 84.56 273 P **P 06 42 32.0 +0.5**
GSI IAmb IAmb 06 42 33.4
comp=Z,37nm,0.9s
GYA Guiyang 84.79 300 *e*P **P 06 42 33.0 +0.5**
GYA pmax pmax
comp=Z,5.0nm,0.7s
SLVN Son La 85.25 294 P **P 06 42 32.6 -2.2**
DOT Dot Lake 85.34 15 P **P 06 42 33.4 -0.8**
IMAR Indian Mountai 85.44 10 P **P 06 42 33.2 -1.4**
ILAR Eielson Array 85.66 13 P **P 06 42 34.4 -1.3**
comp=Z,0.8nm,0.8s,baz=226,slow=5.7,SNR=7.4
ILAR Eielson Array 85.66 13 P **P 06 42 35.1 -0.6**
TXAR Lajitas Array 85.97 58 P **P 06 42 38.8 +0.7**
comp=Z,0.6nm,0.6s,baz=236,slow=4.8,SNR=5.7
XAN Xi'an 86.00 307 P **P 06 42 39.0 +0.9**
XAN pmax pmax
comp=Z,13nm,0.9s
ANMO Albuquerque 86.04 52 P **P 06 42 38.7 +0.2**
comp=Z,0.0nm,0.3s,baz=350,slow=7.7,SNR=3.7
HHC Hu-ho-hao-te 86.99 314 *e*P **P 06 42 39.9 -2.8**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,77nm,6.7s
PDAR Pinedale Array 87.25 43 P **P 06 42 43.8 -0.2**
comp=Z,0.4nm,0.5s,baz=200,slow=4.1,SNR=7.1
PDAR Pinedale Array 87.25 43 P **P 06 42 43.2 -0.8**
CMAR Chiang Mai Arr 88.67 290 P **P 06 42 52.1 +1.2**
comp=Z,4.2nm,0.9s,baz=102,slow=2.9,SNR=18
SYO Syowa Base 89.38 193 || *e*P **P 06 42 50.4 -2.8**
SYO Syowa Base 89.38 193 || *e*PcP **P 06 42 51.0 -2.2**
SNAA Sanae 90.86 179 P **P 06 42 59.3 -0.9**
SNAA Sanae 90.86 179 P **P 06 42 59.5 -0.7**
VNA3 Neumayer Olymp 91.01 176 P **P 06 43 00.4 -0.3**
VNA2 Neumayer--Watz 91.45 177 P **P 06 43 02.5 -0.2**
VNA1 Neumayer--Stat 91.68 177 P **P 06 43 03.8 0.0**
MKAR Makanchi Array 108.86 314 PKiKP **PKiKP 06 48 20.9 -1.6**
comp=Z,0.6nm,0.6s,baz=104,slow=1.3,SNR=7.5
KURBB Kurchatov Arra 111.60 318 PKiKP **PKiKP 06 48 26.1 -1.3**
comp=Z,0.7nm,0.6s,baz=98,slow=1.6,SNR=7.7
KKAR Karatay Array 117.05 310 PKPdf **PKPdf 06 48 36.7 -1.5**
KKAR Karatay Array 117.05 310 PKPdf **PKPdf 06 48 36.9 -1.3**
AKASG Malin Array Be 140.27 332 PKP **PKPdf 06 49 22.7 +0.9**
comp=Z,0.4nm,0.3s,baz=50,slow=2.6,SNR=2.3
GAZ Gaziantep 143.06 309 PKPdf PKPbc 06 49 25.6 +0.2
KWP Kalwaria Pacla 143.78 336 *e*PKP PKPbc 06 49 27.1 0.0
BUR08 Bucovina Ar. S 144.31 332 PKPbc 06 49 28.6 -0.3
BURAR Bucovina Array 144.32 332 PKPdf **PKPab 06 49 29.3 -0.1**
OJC Ojcow 144.32 340 *e*PKP PKPbc 06 49 27.8 -1.0
OJC Ojcow 144.32 340 PKPbc 06 49 28.3 -0.5
BR131 Keskin Array S 144.50 315 PKPdf **PKPdf 06 49 29.0 -0.9**
BRTR Keskin Array B 144.50 315 PKP **PKPdf 06 49 29.3 -0.5**
comp=Z,7.7nm,0.9s,baz=132,slow=3.5,SNR=14
NRDL Niedersach Rie 144.56 351 *e*PKPbc **PKPdf 06 49 29.0 -0.1**
baz=17,slow=2.7
KSP Ksiaz 144.82 344 *e*PKP PKPbc 06 49 30.0 -0.3
ASSE Asse, Remlinge 144.83 350 *e*PKPbc **PKPdf 06 49 29.7 0.0**
baz=17,slow=2.7
NIE Niedzica 144.83 339 *e*PKP PKPbc 06 49 30.1 -0.4
IBBN Ibbenburen 145.06 353 *e*PKPbc **PKPbc 06 49 30.9 -0.1**
baz=17,slow=2.7
CHVC Chvalec 145.12 344 *e*PKP **PKPbc 06 49 31.3 0.0**
CLZ Clausthal 145.15 350 *e*PKPbc **PKPbc 06 49 30.8 -0.5**
baz=17,slow=2.7
CLL Collm 145.18 347 || *i*PKPbc **PKPbc 06 49 30.8 -0.5**
comp=Z,12nm,0.7s
CLL *e*pPKPdf **pPKPdf 06 51 42.0 +2.7**
CLL Collm 145.18 347 *e*PKPbc **PKPbc 06 49 30.8 -0.5**
baz=17,slow=2.7
CLL Collm 145.18 347 **PKPbc 06 49 30.8 -0.5**
UPC Upice 145.20 344 *e*PKP **PKPbc 06 49 31.5 0.0**
DPC Dobruska-Polom 145.26 343 *e*PKP **PKPbc 06 49 31.9 +0.2**
LANS Liptovska Anna 145.35 339 *e*PKP **PKPab 06 49 32.7 -0.5**
KRLC Kraliky 145.38 343 *e*PKP **PKPbc 06 49 31.6 -0.5**
BRG Berggiesshubel 145.38 346 *e*PKPbc **PKPbc 06 49 31.7 -0.3**
baz=17,slow=2.7
MORC Moravsky Berou 145.42 342 *e*PKP **PKPbc 06 49 32.0 -0.2**
MORC Moravsky Berou 145.42 342 **PKPbc 06 49 32.0 -0.2**
FBE Freiberg 145.47 347 *e*PKPbc **PKPbc 06 49 32.0 -0.2**
baz=17,slow=2.7
GTTG Gottingen 145.51 351 *e*PKPbc **PKPbc 06 49 32.0 -0.3**
baz=17,slow=2.7
MDUB Mudurnu 145.73 318 PKPbc **PKPbc 06 49 33.3 -0.2**
MBAR Mbarara 145.94 241 **PKPbc 06 49 34.8 -0.2**
GOPC GO Pecny, Ondr 146.06 345 *e*PKP **PKPbc 06 49 34.1 +0.1**
VRAC Vranov 146.12 342 *e*PKP **PKPbc 06 49 34.2 +0.1**
VYHS Vyhne 146.12 339 *e*PKP **PKPbc 06 49 34.1 -0.1**
TANN Tannenbergstha 146.13 347 *e*PKPbc **PKPbc 06 49 33.9 -0.3**
baz=17,slow=2.7
WERD Werda 146.14 348 *e*PKPbc **PKPbc 06 49 33.8 -0.3**
baz=17,slow=2.7
JAVC Velka Javorina 146.19 341 *e*PKP **PKPab 06 49 35.4 -1.2**
UBBA Unterbreizbach 146.20 350 *e*PKPbc **PKPbc 06 49 34.1 0.0**
baz=17,slow=2.7
GUNZ Gunzen 146.21 347 *e*PKPbc **PKPbc 06 49 34.2 -0.2**
baz=17,slow=2.7
PSZ Piszkesteto 146.24 337 PKPbc **PKPbc 06 49 34.1 -0.5**
WERN Wernitzgruen 146.27 347 *e*PKPbc **PKPbc 06 49 34.4 -0.2**
baz=17,slow=2.7
KRUC Moravsky 146.40 342 *e*PKP **PKPbc 06 49 34.7 -0.2**
MANZ Manzenberg 146.61 347 *e*PKPbc **PKPbc 06 49 35.2 -0.3**
baz=17,slow=2.7
MODS Modra-Piesok 146.74 341 *e*PKP **PKPbc 06 49 35.3 -0.6**
ROTZ Rotzenmuhle 146.80 347 *e*PKPbc **PKPbc 06 49 35.7 -0.3**
baz=17,slow=2.7
TNS Taunus Mts 147.02 352 *e*PKPbc **PKPbc 06 49 36.4 -0.2**
baz=17,slow=2.7
GRF Grafenberg Arr 147.07 348 *e*PKPbc **PKPbc 06 49 36.4 -0.3**
baz=17,slow=2.7
KHC Kasperske Hory 147.09 345 *e*PKP **PKPbc 06 49 36.2 -0.6**
KHC Kasperske Hory 147.09 345 PKPbc **PKPbc 06 49 36.9 +0.1**
BMRD Maredsous 147.31 356 PKiKP **PKPbc 06 49 36.7 -0.6**
GEC2 GERESS Array S 147.32 345 *e*PKPbc **PKPbc 06 49 37.1 -0.4**
baz=17,slow=2.7
GEC2 GERESS Array S 147.32 345 PKPbc **PKPbc 06 49 37.1 -0.4**
GERES GERESS Array B 147.32 345 PKPbc **PKPbc 06 49 37.0 -0.4**
comp=Z,5.1nm,0.7s,baz=28,slow=3.2,SNR=27
DOU Dourbes 147.53 356 PKiKP **PKPbc 06 49 37.4 -0.5**
WLF Walferdange 147.83 354 PKiKP **PKPbc 06 49 39.1 +0.5**
WLF Walferdange 147.83 354 *e*PKPbc **PKPbc 06 49 38.9 +0.2**
baz=17,slow=2.7
WLF Walferdange 147.83 354 PKPbc **PKPbc 06 49 38.9 +0.2**
RJOB Jochberg 148.58 345 *e*PKPbc **PKPbc 06 49 39.3 -1.3**
baz=17,slow=2.7
BFO Black Forest 148.88 351 *e*PKPbc **PKPbc 06 49 40.9 -0.4**
baz=17,slow=2.7
BFO Black Forest 148.88 351 PKPbc **PKPbc 06 49 40.6 -0.8**
UBR Ueberruh 149.21 349 *e*PKPbc **PKPbc 06 49 41.8 -0.4**
baz=17,slow=2.7
DIVS Divibare 149.35 333 PKPbc **PKPbc 06 49 42.2 -0.4**
VOJS Vojsko 149.87 343 *e*PKPbc **PKPbc 06 49 42.5 -1.4**
BOJS Bojanci 149.93 340 *e*PKPbc **PKPbc 06 49 43.5 -0.3**
CIMO Cimolais 150.00 345 PKPbc **PKPbc 06 49 42.8 -1.3**
FUORN Ofenpass-Fuorn 150.20 348 PKPbc **PKPbc 06 49 44.6 -0.2**
CTI Castel Tesino 150.44 346 PKPbc **PKPbc 06 49 44.0 -1.2**
TUE Stuetta 150.52 349 PKPbc **PKPbc 06 49 44.4 -1.1**
KARP Karpathos 151.04 313 PKPbc **PKPbc 06 49 46.1 -0.8**
AGG Agios Georgios 152.00 324 PKPbc **PKPbc 06 49 47.4 -1.5**
BNI Bardonecchia 152.32 352 PKPbc **PKiKP 06 49 49.6 -0.1**
MURB Monte Urbino 152.79 342 PKPdf **PKPdf 06 49 41.6 -1.2**
OSSC Osservatorio P 152.90 344 PKPab **PKPab 06 50 03.6 -0.9**
ITM Ithomi 153.48 321 PKPab **PKPab 06 50 07.2 0.0**
TORD Torodi Ar. Bea 175.52 183 PKP **PKPdf 06 50 01.9 -1.5**
comp=Z,0.7nm,0.7s,baz=259,slow=1.5,SNR=4.7
TORD PKPab **PKPab 06 51 43.9 -0.4**
comp=Z,1.0nm,0.9s,baz=174,slow=3.9,SNR=2.6

*NEIC **05** 06:57:52.0± 1.2, 20.°20N± 0.°05× 145.°1E± 0.°2, h135km± 6km, mb4.2/14, Error ellipse: s-maj=22.6km s-min=6.3km az=79.0*

*IDC **05** 06:57:53.1±3.5, 20.°22N×145.°15E, h141km±31km, mb3.6/11, mb1 3.7/13, mb1mx3.5/53, mbtmp4.0/13, Error ellipse: s-maj=25.3km s-min=14.3km az=88.0*

ISC 05 06:57:53.6±0.6, 20.°25N±0.°08×145.°1E±0.°1, h150km±3.5km, n35, σ0.9/90/37, mb4.0/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**7.30**	**339**	P	**Pn**	**06 59 37.5**	**-0.1**
	6.6nm,0.3s,baz=227,slow=19,SNR=12						
JCJ				S	**Sn**	**07 00 56.4**	**-2.9**
	9.1nm,0.3s,baz=281,slow=23,SNR=5.9						
MJAR	**Matsushiro Arr**	**17.30**	**341**	P	**Pn**	**07 01 46.5**	**+0.5**
	0.2nm,0.3s,baz=171,slow=11,SNR=5.5						
MJAR	**Matsushiro Arr**	**17.30**	**341**	P	**P**	**07 01 44.5**	**-0.7**
PATS	**Pohnpei**	**18.52**	**134**	P	**P**	**07 01 57.8**	**-0.9**
KSRS	**Korea Array**	**22.71**	**323**	P	**P**	**07 02 44.3**	**+1.7**
	1.8nm,0.7s,baz=149,slow=9.2,SNR=11						
KSAR	**Wonju Array Be**	**22.73**	**323**	P	**P**	**07 02 42.8**	**0.0**
KS19	**Wonju Array Si**	**22.78**	**323**	P	**P**	**07 02 44.2**	**+0.9**
KS19				IAmb	IAmb	07 02 53.0	
	comp=Z,7.5nm,0.9s						
FAKI	**Fak Fak**	**26.24**	**210**	P	**P**	**07 03 14.0**	**-0.8**
KLR	**Kul'dur**	**30.81**	**343**	P	**P**	**07 03 56.0**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=175,slow=8.5,SNR=1.7						
WB0	**Warramunga Arr**	**41.12**	**195**	P	**P**	**07 05 22.0**	**-1.1**
WR0	**Warramunga Arr**	**41.27**	**195**	P	**P**	**07 05 24.1**	**-0.1**
WB2	**Warramunga Arr**	**41.30**	**195**	P	**P**	**07 05 24.4**	**-0.1**
WB2				IAmb	IAmb	07 05 35.7	
	comp=Z,6.1nm,1.4s						
WRA	**Warramunga Arr**	**41.30**	**195**	P	**P**	**07 05 24.7**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=11,slow=8.6,SNR=49						
WRA	**Warramunga Arr**	**41.30**	**195**	P	**P**	**07 05 24.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.61**	**208**	P	**P**	**07 05 35.2**	**+0.1**
FITZ				IAmb	IAmb	07 05 36.5	
	comp=Z,3.6nm,0.7s						
ASAR	**Alice Springs**	**44.99**	**195**	P	**P**	**07 05 54.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=14,slow=7.1,SNR=8.5						
ASAR	**Alice Springs**	**44.99**	**195**	P	**P**	**07 05 53.8**	**-0.3**
MKAR	**Makanchi Array**	**56.96**	**313**	P	**P**	**07 07 24.7**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=89,slow=8.1,SNR=11						
MKAR				PcP	**PcP**	**07 08 17.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=70,slow=4.4,SNR=5.3						
MKAR	**Makanchi Array**	**56.96**	**313**	P	**P**	**07 07 24.2**	**+0.9**
MAKZ	**Makanchi**	**57.17**	**313**	P	**P**	**07 07 24.8**	**0.0**
MAKZ				IAmb	IAmb	07 07 27.2	
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**59.72**	**318**	P	**P**	**07 07 42.7**	**+0.4**
KURBB	**Kurchatov Arra**	**59.77**	**317**	P	**P**	**07 07 44.3**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=93,slow=7.4,SNR=4.8						
ILAR	**Eielson Array**	**62.53**	**27**	P	**P**	**07 08 00.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=260,slow=5.6,SNR=6.1						
RIDG	**Independent Ri**	**63.23**	**28**	P	**P**	**07 08 06.1**	**+0.4**
RIDG				IAmb	IAmb	07 08 06.3	
	comp=Z,6.5nm,1.3s						
DOT	**Dot Lake**	**63.56**	**28**	P	**P**	**07 08 08.3**	**+0.4**
DOT				IAmb	IAmb	07 08 31.4	
	comp=Z,4.0nm,1.3s						
HIZ	**Hauiti**	**64.80**	**154**	P	**P**	**07 08 15.8**	**-0.4**
BVAR	**Borovoye Array**	**64.90**	**320**	P	**P**	**07 08 17.7**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=92,slow=6.9,SNR=11						
KKAR	**Karatay Array**	**65.32**	**309**	P	**P**	**07 08 19.4**	**-0.2**
ABKAR	**Akbulak array**	**71.80**	**317**	P	**P**	**07 09 00.1**	**+0.4**
YKA	**Yellowknife Ar**	**76.91**	**28**	P	**P**	**07 09 29.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=299,slow=6.0,SNR=4.1						
NVAR	**Mina Array Bea**	**82.66**	**52**	P	**P**	**07 10 01.7**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=266,slow=5.3,SNR=4.7						
NVAR	**Mina Array Bea**	**82.66**	**52**	P	**P**	**07 09 59.5**	**-1.3**
FINES	**FINESS Array B**	**85.23**	**335**	P	**P**	**07 10 12.4**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=66,slow=4.7,SNR=11						
FINES	**FINESS Array B**	**85.23**	**335**	P	**P**	**07 10 12.1**	**-0.9**
LPAZ	**La Paz**	**148.27**	**88**	PKPbc	**PKPbc**	**07 17 24.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=323,slow=2.1,SNR=7.4						

*NIED **05** 07:21:42.5, 25.°96N×125.°52E, h24km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.03; $M_{\theta\theta}$2.23; $M_{\phi\phi}$-0.20; $M_{r\theta}$0.08; $M_{\theta\phi}$1.04; $M_{\phi r}$-0.87; Fault plane solution: $M_0$2.53000×10^{16} NP1:ϕ_s47.00000°, δ53.00000°, λ-121.00000°. NP2:ϕ_s273.00000°, δ47.00000°, λ-56.00000°.*

*JMA **05** 07:21:42.5±0.3, 25.°96N×125.°52E, h24km±5km, M5.1*

*BJI **05** 07:21:42.9±0.0, 25.°53N×125.°80E, h42km, mB5.0/64, mb4.7/70, ML5.1/1, Ms5.1/85, Ms7 4.9/79*

*GCMT **05** 07:21:45.7±0.2, 25.°94N±0.°02×125.°44E±0.°02, h90km±2km, MW5.2/99, Moment Tensor Solution. s14,c15; s99,c159; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.02; $M_{\theta\theta}$-0.06±.02; $M_{\phi\phi}$-0.70±.02; $M_{r\theta}$0.09±.01; $M_{\theta\phi}$0.36±.01; $M_{\phi r}$0.03±.02; Best double couple: $M_0$0.82300×10^{17} NP1:ϕ_s344.00000°, δ45.00000°, λ102.00000°. NP2:ϕ_s148.00000°, δ46.00000°, λ79.00000°. Principal axes: T 0.7770, Plg82.0000°, Azm339.0000°; N 0.0920, Plg8.0000°, Azm156.0000°; P -0.8690, Plg1.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 07:21:49.7±1.4, 25.°87N±0.°04×125.°29E±0.°08, h69km±5km, mb5.1/135 Error ellipse: s-maj=9.9km s-min=5.9km az=87.0*

*UNK **05** 07:21:49.7, 25.°87N×125.°29E, h69km*

*MOS **05** 07:21:49.1±1.0, 25.°91N×125.°37E, h73km, mb5.2/55, MS4.7/13, Error ellipse: s-maj=6.9km s-min=4.3km az=114.3*

*IDC **05** 07:21:51.0±2.3, 25.°91N×125.°40E, h75km±21km, mb4.1/34, mb1 4.2/39, mb1mx4.1/61, mbtmp4.4/39, MS4.4/46, Ms1 4.4/46, ms1mx4.3/58, Error ellipse: s-maj=13.2km s-min=10.3km az=71.0*

ISC 05 07:21:47.3±0.4, 25.°80N±0.°03×125.°54E±0.°03, h45km±3km, n497, σ1.9/80/511, mb5.0/149, MS4.5/57, 9C-12D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.92**	**197**	P	**Pn**	**07 22 01.9**	**-1.9**
JIKM				S	**Sn**	**07 22 15.5**	**-0.4**
JIRB	**Irabujima**	**1.03**	**199**	P	**Pn**	**07 22 03.0**	**-2.3**
JIRB				S	**Sn**	**07 22 17.7**	**-0.9**
JOGS	**Gusukube**	**1.05**	**187**	P	**Pn**	**07 22 04.0**	**-1.6**
JOGS				S	**Sn**	**07 22 19.0**	**0.0**
JMJ2	**Miyako jima3**	**1.08**	**190**	P	**Pn**	**07 22 04.3**	**-1.7**
JMJ2				S	**Sn**	**07 22 20.1**	**+0.3**
JKE	**Kume jima 2**	**1.23**	**65**	P	**Pn**	**07 22 03.6**	**-4.5**
JKE				*e*S	**Sn**	**07 22 19.2**	**-4.4**
JTJ	**Tarama**	**1.39**	**213**	P	**Pn**	**07 22 08.7**	**-1.5**
JTJ				*e*S	**Sn**	**07 22 27.7**	**+0.4**
JISG	**Ishigakijimahi**	**1.65**	**223**	P	**Pn**	**07 22 12.1**	**-1.7**
JISG				S	**Sn**	**07 22 33.9**	**+0.1**
JAGN	**Aguni-jima**	**1.72**	**63**	P	**Pn**	**07 22 10.9**	**-3.8**
JAGN				*e*S	**Sn**	**07 22 31.2**	**-4.3**
JIJ	**Ishigaki jima**	**1.92**	**222**	P	**Pn**	**07 22 15.7**	**-1.8**
JJT3	**Tamagusuku3**	**2.05**	**80**	P	**Pn**	**07 22 18.5**	**-0.8**
JKRS	**Kuro-shima**	**2.09**	**222**	P	**Pn**	**07 22 19.3**	**-0.6**
IRIF	**Iriomote-Funau**	**2.20**	**229**	P	**Pn**	**07 22 20.1**	**-1.3**
JNTH	**Nagotoyohara**	**2.34**	**72**	P	**Pn**	**07 22 21.7**	**-1.6**
HATJ	**Hateruma jima**	**2.35**	**223**	P	**Pn**	**07 22 25.0**	**+1.6**
JIH	**Iheya**	**2.50**	**60**	P	**Pn**	**07 22 22.0**	**-3.4**
JOW	**Kunigami**	**2.66**	**67**	P	**Pn**	**07 22 25.7**	**-2.0**
TATO	**Taipei**	**3.76**	**258**		**Pn**	**07 22 43.7**	**+1.0**
NACB	**Ninganchiao**	**3.93**	**246**		**Pn**	**07 22 46.3**	**+1.1**
YULB	**Yu-li**	**4.55**	**239**	Pn	**Pn**	**07 22 52.6**	**-1.0**
SSLB	**Suanglung**	**4.63**	**245**	Pn	**Pn**	**07 22 55.4**	**+0.6**
SSLB				Sn	**Sn**	**07 23 46.5**	**-0.8**
TWG	**Pinlang**	**5.04**	**235**	Pn	**Pn**	**07 22 58.8**	**-1.7**
TPUB	**Ta-pu**	**5.12**	**242**	Pn	**Pn**	**07 23 02.8**	**+1.3**
QZH	**Quanzhou**	**6.34**	**264**	*e*P	**Pn**	**07 23 20.4**	**+2.1**
QZH				S	**Sn**	**07 24 30.7**	**+1.2**
QZH				LR	LR		
	comp=N,4μm,8.1s						
QZH				LR	LR		
	comp=E,1μm,7.8s						
QZH				LR	LR		
	comp=Z,3μm,10.6s						
SSE	**Sheshan**	**6.52**	**325**	P	**Pn**	**07 23 23.9**	**+3.3**
SSE				S	**Sn**	**07 24 41.6**	**+7.9**
SSE				smax	smax		
	comp=N,140nm,1.1s						
SSE				smax	smax		
	comp=E,150nm,0.8s						
SSE				LR	LR		
	comp=N,3μm,8.2s						
SSE				LR	LR		
	comp=E,3μm,7.8s						
SSE	**Sheshan**	**6.52**	**325**	Pn	**Pn**	**07 23 20.6**	**0.0**
KNMB	**Chin-men Tao**	**6.62**	**260**	Pn	**Pn**	**07 23 18.8**	**-3.3**
NJ2	**Nanjing**	**8.55**	**318**	*e*P	**Pn**	**07 23 51.3**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,350nm,4.5s						
NJ2				LR	LR		
	comp=N,7μm,11.1s						
NJ2				LR	LR		
	comp=E,4μm,9.2s						
NJ2				LR	LR		
	comp=Z,6μm,11.4s						
JNU	**Nakatsue**	**8.65**	**31**	P	**Pn**	**07 23 52.9**	**+3.0**
	1.1nm,0.3s,baz=204,slow=6.7,SNR=12						
JNU				LR	LR	07 27 22.2	
	comp=Z,2μm,20.0s,baz=212,slow=38						
CVP	**Callao Caves**	**8.77**	**204**	⇑*e*P	**Pn**	**07 23 52.8**	**+1.2**
APYP	**Conner**	**8.85**	**208**	*e*P	**Pn**	**07 23 54.6**	**+1.9**
TJN	**Taejon**	**10.65**	**8**	⇓*e*P	**Pn**	**07 24 20.5**	**+3.2**
WHN	**Wuhan**	**10.94**	**298**	P	**Pn**	**07 24 25.6**	**+4.3**
WHN				S	**Sn**	**07 26 26.5**	**+4.2**
WHN				LR	LR		
	comp=N,22μm,9.3s						
WHN				LR	LR		
	comp=E,8μm,8.9s						
WHN				LR	LR		
	comp=Z,11μm,7.9s						
KSAR	**Wonju Array Be**	**11.77**	**9**	P	**Pn**	**07 24 32.7**	**+0.1**
KSAR	**Wonju Array Be**	**11.77**	**9**	Pn	**Pn**	**07 24 32.7**	**+0.1**
KSRS	**Korea Array**	**11.79**	**9**	P	**Pn**	**07 24 34.3**	**+1.5**
	0.3nm,0.3s,baz=188,slow=13,SNR=22						
KSRS				LR	LR	07 29 13.8	
	comp=Z,3μm,19.3s,baz=192,slow=38						
KS19	**Wonju Array Si**	**11.83**	**9**	Pn	Pn	07 24 37.8	+4.4
TGY	**Tagaytay City**	**12.42**	**201**	P	P	07 24 47.4	-5.0
	56nm,0.3s,baz=311,slow=9.3,SNR=1.9						
TGY				LR	LR	07 30 07.3	
	comp=Z,820nm,18.2s,baz=1.5,slow=40						
TIA	**Tai'an**	**12.63**	**327**	P	**P**	**07 24 50.9**	**-3.8**
TIA				S	Sn	07 27 13.6	+10
TIA				pmax	pmax		
	comp=Z,14nm,1.3s						
TIA				pmax	pmax		
	comp=Z,370nm,9.2s						
TIA				LR	LR		
	comp=N,4μm,11.8s						
TIA				LR	LR		
	comp=E,3μm,9.8s						
TIA				LR	LR		
	comp=Z,4μm,9.8s						
DL2	**Dalian**	**13.47**	**347**	P	**Pn**	**07 24 55.8**	**0.0**
DL2				S	**Sn**	**07 27 26.0**	**+1.9**
DL2				pmax	pmax		
	comp=Z,68nm,1.5s						
DL2				pmax	pmax		
	comp=Z,640nm,5.9s						
DL2				LR	LR		
	comp=N,2μm,12.9s						
DL2				LR	LR		
	comp=E,4μm,13.0s						
DL2				LR	LR		
	comp=Z,3μm,9.8s						
JHJ	**Hachijo jima 2**	**14.38**	**56**	LR	LR	07 30 37.8	
	comp=Z,640nm,18.7s,baz=295,slow=36						
JCJ	**Chichijima**	**14.96**	**81**	P	**P**	**07 25 20.9**	**+0.2**
	4.1nm,0.3s,baz=273,slow=13,SNR=5.1						
JCJ				LR	LR	07 30 28.3	
	comp=Z,356nm,18.7s,baz=325,slow=34						
MAJO	**Matsushiro**	**15.22**	**42**	⇓*e*P	**P**	**07 25 23.7**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAJO	**Matsushiro**	**15.22**	**42**		**P**	**07 25 21.2**	**-2.2**
MAT	**Matsushiro**	**15.22**	**42**	P	**P**	**07 25 24.2**	**+0.8**
MAT				S	**Sn**	**07 28 08.2**	**+1.6**
MJAR	**Matsushiro Arr**	**15.22**	**42**	P	**P**	**07 25 22.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=8.1						
MJAR				LR	LR	07 31 42.4	
	comp=Z,536nm,20.4s,baz=210,slow=39						
MJAR	**Matsushiro Arr**	**15.22**	**42**	P	**P**	**07 25 22.1**	**-1.4**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**15.22**	**42**	Pn	**P**	**07 25 22.1**	**-1.4**
QIZ	**Qiongzhong**	**16.00**	**248**	P	**Pn**	**07 25 28.7**	**-0.6**
QIZ				S	**Sn**	**07 28 23.2**	**-2.5**
QIZ				pmax	pmax		
	comp=Z,260nm,4.3s						
QIZ				LR	LR		
	comp=Z,540nm,10.2s						
QIZ				LR	LR		
	comp=Z,860nm,7.9s						
QIZ				LR	LR		
	comp=Z,880nm,10.3s						
QIZ	**Qiongzhong**	**16.00**	**248**	P	**Pn**	**07 25 30.5**	**+1.2**
BJT	**Baijiatuau**	**16.20**	**333**	P	**Pn**	**07 25 30.5**	**-1.2**
BJT				pmax	pmax		
	comp=Z,76nm,1.3s						
BJT	**Baijiatuau**	**16.20**	**333**		**Pn**	**07 25 30.4**	**-1.2**
BJI	**Beijing**	**16.21**	**333**	P	**Pn**	**07 25 31.8**	**-0.1**
BJI				S	**Sn**	**07 28 32.8**	**+2.1**
BJI				pmax	pmax		
	comp=Z,210nm,3.7s						
BJI				LR	LR		
	comp=Z,2μm,17.4s						
BJI				LR	LR		
	comp=Z,810nm,18.0s						
BJI				LR	LR		
	comp=Z,2μm,21.0s						
XAN	**Xi'an**	**16.57**	**304**	P	**P**	**07 25 40.8**	**+2.3**
XAN				pP	pP	07 25 47.0	-1.6
XAN				PP	**sP**	**07 25 53.2**	**-1.0**
XAN				S	**S**	**07 28 49.9**	**+0.6**
XAN				pmax	pmax		
	comp=Z,21nm,1.7s						
XAN				pmax	pmax		
	comp=Z,310nm,3.5s						
XAN				LR	LR		
	comp=Z,5μm,10.6s						
XAN				LR	LR		
	comp=Z,6μm,10.3s						
XAN				LR	LR		
	comp=Z,8μm,10.3s						
XAN	**Xi'an**	**16.57**	**304**	P	**Pn**	**07 25 34.6**	**-1.9**
XAN				pmax	pmax		
	comp=Z,61nm,1.4s						
XAN	**Xi'an**	**16.57**	**304**		**Pn**	**07 25 34.6**	**-1.9**
GYA	**Guiyang**	**16.97**	**276**	⇑P	**P**	**07 25 46.3**	**+3.3**
GYA				pP	pP	07 25 53.2	0.0
GYA				S	**Sn**	**07 28 41.6**	**-7.8**
GYA				sS	sS	07 29 07.6	-6.2
GYA				pmax	pmax		
	comp=Z,44nm,1.5s						
GYA				LR	LR		
	comp=Z,2μm,8.6s						
GYA				LR	LR		
	comp=Z,3μm,9.0s						
GYA				LR	LR		
	comp=Z,4μm,11.2s						
CN2	**Changchun**	**17.96**	**360**	*e*P	**P**	**07 25 55.0**	**+1.3**
CN2				*es*P	pP	07 26 04.0	+0.2
CN2				*e*S	**Sn**	**07 29 11.7**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
DAV	**Davao City (W)**	**18.63**	**180**	LR	LR	07 33 03.4	
	comp=Z,750nm,21.9s,baz=356,slow=36						
HHC	**Hu-ho-hao-te**	**18.98**	**326**	*e*P	**Pn**	**07 26 06.9**	**+0.8**
HHC				pP	pwP	07 26 18.7	+1.2
HHC				S	**Sn**	**07 29 33.0**	**-4.7**
HHC				pmax	pmax		
	comp=Z,130nm,1.2s						
HHC				pmax	pmax		
	comp=Z,1μm,4.8s						
HHC				LR	LR		
	comp=Z,3μm,8.5s						
HHC				LR	LR		
	comp=Z,2μm,8.2s						
HHC				LR	LR		
	comp=Z,2μm,8.9s						
MDJ	**Mudanjiang**	**19.05**	**9**	P	**P**	**07 26 05.2**	**-0.6**
MDJ				IAmb	IAmb	07 26 14.8	
	comp=Z,101nm,1.1s						
USRK	**Ussuriysk Ar.**	**19.09**	**14**	P	**Pn**	**07 26 08.2**	**+1.0**
	baz=192,slow=10,SNR=9.4						
USRK				LR	LR	07 33 10.5	
	comp=Z,919nm,18.8s,baz=185,slow=36						
BTO	**Baotou**	**19.62**	**323**	*e*P	**Pn**	**07 26 14.3**	**+0.6**
BTO				S	**Sn**	**07 29 59.8**	**+6.7**
CD2	**Chengdu**	**19.82**	**290**	⇓P	**Pn**	**07 26 15.3**	**-0.9**
CD2				pP	pwP	07 26 27.8	+0.9
CD2				S	**Sn**	**07 29 58.3**	**+0.1**
CD2				pmax	pmax		
	comp=Z,230nm,0.9s						
CD2				pmax	pmax		
	comp=Z,1μm,6.5s						
CD2				LR	LR		
	comp=Z,10μm,12.4s						
CD2				LR	LR		
	comp=Z,5μm,12.4s						
CD2				LR	LR		
	comp=Z,8μm,11.8s						
SLVN	**Son La**	**20.32**	**262**	P	**P**	**07 26 16.7**	**-3.1**
KMI	**Kunming**	**20.60**	**273**	⇓P	Pn	07 26 24.8	-0.8
KMI				pP	pwP	07 26 35.6	-0.4
KMI				sP	sP	07 26 39.7	+1.1
KMI				PP	**PnPn**	**07 26 48.3**	**+6.5**
KMI				S	**S**	**07 30 05.2**	**-5.8**
KMI				sS	sS	07 30 25.0	-2.5
KMI				pmax	pmax		
	comp=Z,57nm,1.7s						
KMI				pmax	pmax		
	comp=Z,530nm,3.5s						
KMI				LR	LR		
	comp=Z,770nm,8.8s						
KMI				LR	LR		
	comp=Z,4μm,8.8s						
KMI				LR	LR		
	comp=Z,3μm,9.2s						
LZH	**Lanzhou**	**21.20**	**304**	*e*P	**P**	**07 26 30.9**	**+1.6**
LZH				pP	pwP	07 26 43.0	+1.1
LZH				sP	sP	07 26 51.2	+6.0
LZH				PP	**PnPn**	**07 26 58.5**	**+8.5**
LZH				*e*S	**S**	**07 30 18.9**	**-3.8**
LZH				pmax	pmax		
	comp=Z,40nm,1.1s						
LZH				pmax	pmax		
	comp=Z,790nm,4.1s						
LZH				LR	LR		
	comp=Z,2μm,10.6s						
LZH				LR	LR		
	comp=Z,3μm,10.6s						
LZH				LR	LR		
	comp=Z,4μm,11.1s						
UBPT	**Khong Chiam**	**21.49**	**245**	P	**P**	**07 26 29.7**	**-2.6**
UBPT				IAmb	IAmb	07 26 37.9	
	comp=Z,97nm,1.3s						
KKM	**Kota Kinabalu**	**21.58**	**206**	P	**P**	**07 26 33.1**	**-0.3**
KKM				IAmb	IAmb	07 26 45.5	
	comp=Z,121nm,1.2s						
MYLDM	**Lahad Datu**	**21.59**	**199**	P	**P**	**07 26 32.5**	**-0.9**
MYLDM				IAmb	IAmb	07 26 47.9	
	comp=Z,176nm,1.2s						
GUMO	**Guam**	**21.84**	**120**	LR	LR	07 33 20.1	
	comp=Z,617nm,20.7s,baz=308,slow=31						
SPMM	**Sapulut**	**22.71**	**204**	P	**P**	**07 26 44.0**	**-1.4**
ASAJ	**Asahikawa**	**22.92**	**33**	P	**P**	**07 26 49.1**	**+1.8**
	comp=Z,9.4nm,0.7s,baz=211,slow=11,SNR=5.9						
ASAJ				LR	LR	07 36 12.3	
	comp=Z,750nm,18.3s,baz=240,slow=38						
JKA	**Kamikawa-asahi**	**22.92**	**33**	P	**P**	**07 26 49.1**	**+1.8**
HIA	**Hailar**	**23.86**	**351**	P	**P**	**07 26 55.2**	**-1.2**
HIA				pmax	pmax		
	comp=Z,107nm,1.3s						
HIA	**Hailar**	**23.86**	**351**	P	**P**	**07 26 55.2**	**-1.2**
HIA				IAmb	IAmb	07 27 04.8	
	comp=Z,107nm,1.3s						
KLR	**Kul'dur**	**23.88**	**10**	P	**P**	**07 26 57.2**	**+0.7**
	comp=Z,6.3nm,0.9s,baz=227,slow=5.8,SNR=5.5						
KLR				LR	LR	07 35 57.3	
	comp=Z,890nm,21.3s,baz=186,slow=36						
KLR	**Kul'dur**	**23.88**	**10**	⇓*e*P	**P**	**07 26 58.2**	**+1.6**
KLR				pmax	pmax		
	comp=Z,96nm,2.5s						
YUK	**Yuzh-Kuril'sk**	**24.55**	**37**	P	**P**	**07 27 07.3**	**+4.6**
YUK				S	**S**	**07 31 22.8**	**+2.4**
YUK				MLR	MLR		
	comp=Z,706nm,17.0s						
PBKT	**Sadao Pong**	**24.65**	**253**	P	**P**	**07 27 02.7**	**-1.2**
TNTI	**Ternate**	**24.95**	**176**	P	**P**	**07 27 13.3**	**+6.7**
	comp=Z,70nm,1.2s						
TNTI	**Ternate**	**24.95**	**176**	P	**P**	**07 27 07.5**	**+1.0**
TNTI				IAmb	IAmb	07 27 29.3	
	comp=Z,156nm,1.2s						
GTOI	**Gorontalo**	**25.14**	**186**	P	P	07 27 16.5	+8.2
YSS	**Yuzh-Sakhalins**	**25.14**	**28**	*e*P	P	07 27 15.7	+7.6
YSS				pmax	pmax		
	comp=Z,100nm,7.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS				MLR	MLR		
	comp=N,700nm,14.0s						
YSS				MLR	MLR		
	comp=E,600nm,16.0s						
GTA	**Gaotai**	**25.46**	**309**	P	**P**	**07 27 10.7**	**-0.6**
GTA				pP	pwP	07 27 25.8	+0.7
GTA				sP	sP	07 27 33.0	+5.3
GTA				S	**S**	**07 31 35.1**	**-0.3**
GTA				pmax	pmax		
	comp=E,25nm,1.1s						
GTA				pmax	pmax		
	comp=E,190nm,4.7s						
GTA				LR	LR		
	comp=E,3μm,15.6s						
GTA				LR	LR		
	comp=E,2μm,14.6s						
GTA				LR	LR		
	comp=E,2μm,13.0s						
CHTO	**Chiang Mai**	**25.54**	**260**	P	**P**	**07 27 10.3**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**25.54**	**260**	P	**P**	**07 27 10.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**25.67**	**259**	P	**P**	**07 27 13.8**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=57,slow=9.7,SNR=5.3						
CMAR				LR	LR	07 37 54.9	
	comp=Z,398nm,18.9s,baz=96,slow=38						
CMAR	**Chiang Mai Arr**	**25.67**	**259**	P	**P**	**07 27 11.8**	**-1.4**
MPSI	**Mapaga**	**25.90**	**193**	P	**P**	**07 27 17.3**	**+2.1**
	comp=Z,41nm,1.1s						
ULN	**Ulaanbaatar**	**26.40**	**331**	*d*iP	**P**	**07 27 19.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,35nm,1.3s						
ULN	**Ulaanbaatar**	**26.40**	**331**	P	**P**	**07 27 18.7**	**-1.0**
KUR	**Kuril'sk**	**26.42**	**37**	P	**P**	**07 27 24.6**	**+5.0**
KUR				MLR	MLR		
	comp=Z,475nm,18.0s						
SBUM	**Sibu**	**26.52**	**211**	P	**P**	**07 27 21.0**	**+0.1**
SBUM				IAmb	IAmb	07 27 24.4	
	comp=Z,87nm,0.9s

ZEA MLR MLR
comp=E,1μm,12.0s
ZEA MLR MLR
comp=N,2μm,16.0s
KSM Kuching 28.29 214 P **P 07 27 37.4 +0.6**
KSM IAmb IAmb 07 27 50.0
comp=Z,40nm,1.1s
KSM Kuching 28.29 214 P **P 07 27 38.0 +1.3**
ZAK Zakamensk 29.93 331 *e*P **P 07 27 48.5 -2.5**
ZAK pmax pmax
comp=Z,10.0nm,2.0s
SMPI Sarmi 30.43 153 P P 07 28 03.9 +8.3
comp=Z,37nm,1.4s
TLY Talaya 30.74 333 P **P 07 28 02.1 +4.0**
comp=Z,7.2nm,0.9s,baz=138,slow=10.0,SNR=8.6
TLY Talaya 30.74 333 P **P 07 27 57.5 -0.6**
TLY pmax pmax
comp=Z,51nm,1.4s
TLY Talaya 30.74 333 P **P 07 27 57.5 -0.6**
TLY IAmb IAmb 07 28 05.6
comp=Z,50nm,1.4s
BBKI Banjar Baru 30.89 201 P **P 07 28 01.3 +1.6**
IRK Irkutsk 30.91 334 *e*P **P 07 28 04.1 +4.5**
IRK pmax pmax
comp=Z,101nm,3.5s
IPM Ipoh 31.65 232 P **P 07 28 04.7 -1.8**
IPM Ipoh 31.65 232 P **P 07 28 07.0 +0.5**
MOY Mondy 31.86 331 *e*P **P 07 28 07.4 -0.6**
MOY pmax pmax
comp=Z,124nm,2.0s
BOD Bodaibo 33.03 349 *e*P **sP 07 28 31.5 -3.2**
BOD pmax pmax
comp=Z,12nm,1.9s
TAPN Taplejung 33.79 281 *e*P **P 07 28 25.9 +0.5**
TAPN Taplejung 33.79 281 *e*P **P 07 28 25.9 +0.5**
ODAN Odare 34.13 280 *e*P **P 07 28 28.2 -0.1**
comp=Z,67nm,1.0s
ODAN Odare 34.13 280 *e*P **P 07 28 28.2 -0.1**
comp=Z,67nm,1.0s
PSI Prapat 34.31 233 P **P 07 28 30.6 +0.7**
comp=Z,4.2nm,0.7s,baz=0.4,slow=7.7,SNR=1.8
PSI Prapat 34.31 233 P **P 07 28 30.6 +0.7**
PSI pmax pmax
comp=Z,12nm,0.9s
RPSI Rantau Prapat 34.39 232 P **P 07 28 29.1 -1.2**
RPSI Rantau Prapat 34.39 232 P **P 07 28 30.6 +0.2**
EDFI Ende, Flores 34.55 187 P **P 07 28 31.5 -0.3**
comp=Z,12nm,1.4s
RAMN Ramite 34.81 281 *e*P **P 07 28 34.3 0.0**
RAMN Ramite 34.81 281 *e*P **P 07 28 34.3 0.0**
JIRN Jiri 35.10 282 *e*P **P 07 28 36.8 0.0**
JIRN Jiri 35.10 282 *e*P **P 07 28 36.8 0.0**
MLSI Meulaboh, Aceh 35.20 237 P **P 07 28 36.5 -0.8**
comp=Z,38nm,0.6s
GUN Gumba 35.34 282 *e*P **P 07 28 38.9 0.0**
GUN Gumba 35.34 282 *e*P **P 07 28 38.9 0.0**
WMQ Urumqi 35.52 310 *e*P **P 07 28 39.8 -0.1**
WMQ PP **PP 07 29 59.3 -1.8**
WMQ pmax pmax
comp=Z,35nm,1.7s
WMQ pmax pmax
comp=Z,160nm,3.7s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,570nm,16.7s
WMQ LR LR
comp=Z,400nm,17.1s
WMQ Urumqi 35.52 310 P **P 07 28 38.2 -1.7**
WMQ pmax pmax
comp=Z,133nm,1.4s
WMQ Urumqi 35.52 310 P **P 07 28 38.2 -1.7**
PKI Pulchoki 35.80 282 *e*P **P 07 28 42.5 -0.3**
comp=Z,19nm,0.7s
PKI Pulchoki 35.80 282 *e*P **P 07 28 42.5 -0.3**
comp=Z,19nm,0.7s
DMN Daman 36.06 282 *e*P **P 07 28 44.6 -0.4**
comp=Z,28nm,0.9s
DMN Daman 36.06 282 *e*P **P 07 28 44.6 -0.4**
comp=Z,28nm,0.9s
YAK Yakutsk 36.33 3 *e*P **sP 07 28 59.4 -3.7**
YAK *e* 07 30 25.6
YAK *e* 07 31 15.8
YAK *e*SS SS 07 37 21.9 +18
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,26nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,268nm,6.1s
YAK pmax pmax
comp=N,224nm,5.3s
YAK MLR MLR
comp=Z,762nm,15.0s
YAK MLR MLR
comp=N,572nm,15.0s
PEA0B Petropavlovsk- 36.34 33⇑ *e*P **P 07 28 48.0 +1.2**
PETK Petropavlovsk- 36.34 33 P **P 07 28 46.8 +0.1**
comp=N,1.1nm,0.5s,baz=20,slow=4.7,SNR=4.5
PETK LR LR 07 44 07.8
comp=N,435nm,18.1s,baz=232,slow=37
PETK Petropavlovsk- 36.34 33 P **P 07 28 48.1 +1.3**
PETK Petropavlovsk- 36.34 33 P **P 07 28 48.1 +1.3**
KOLN Koldanda 37.37 283 *e*P **P 07 28 56.1 +0.1**
KOLN Koldanda 37.37 283 *e*P **P 07 28 56.1 +0.1**
CISI Cisompet, Garu 37.37 210 P **P 07 28 55.8 -0.2**
DGZ Jazzator, Alta 37.84 319⇑ *e*P **P 07 28 59.3 -0.4**
DGZ pmax pmax
comp=Z,15nm,1.1s
PYUN Piuthan 37.86 283 *e*P **P 07 29 00.4 +0.2**
PYUN Piuthan 37.86 283 *e*P **P 07 29 00.4 +0.2**
H11N1 WAKE ISLAND Hy 38.49 90 T T 08 09 22.2
baz=283,slow=74,SNR=3.5
H11N2 WAKE ISLAND Hy 38.49 90 T T 08 09 16.8
baz=283,slow=74,SNR=3.7
H11N3 WAKE ISLAND Hy 38.51 90 T T 08 09 16.4
baz=283,slow=74,SNR=4.1
ZSN Zaisan 38.56 315 *e*P **P 07 29 05.3 -0.4**
comp=Z,55nm,3.9s,baz=315
ZSN Zaisan 38.56 315 *e*P **P 07 29 05.2 -0.4**
ZSN pmax pmax
comp=Z,55nm,3.9s
MTN Manton Dam 38.80 171 P **P 07 29 07.6 -0.2**
MK31 Makanchi Array 40.03 313 *i* P **P 07 29 17.3 -0.7**
MK31 Makanchi Array 40.03 313 P **P 07 29 17.0 -0.9**
MK31 IAmb IAmb 07 29 25.9
comp=Z,67nm,1.4s
MKAR Makanchi Array 40.03 313 P **P 07 29 17.6 -0.4**
comp=Z,12nm,0.7s,baz=99,slow=10,SNR=22
MKAR PcP **PcP 07 31 22.2 0.0**
comp=Z,1.5nm,0.6s,baz=87,slow=4.1,SNR=2.5
MKAR LR LR 07 46 49.7
comp=Z,512nm,18.3s,baz=107,slow=38
MKAR Makanchi Array 40.03 313 P **P 07 29 16.3 -1.6**
MAKZ Makanchi 40.24 313 P **P 07 29 18.6 -1.1**
MAKZ pmax pmax
comp=Z,124nm,1.5s
MAKZ Makanchi 40.24 313 P **P 07 29 18.6 -1.1**
ZALV Zalesovo Beam 41.15 324 P **P 07 29 25.7 -1.3**
comp=Z,6.7nm,0.7s,baz=113,slow=8.2,SNR=9.1
ZALV LR LR 07 48 02.9
comp=Z,873nm,18.5s,baz=116,slow=38
ZALV Zalesovo Beam 41.15 324 P **P 07 29 25.1 -1.8**
SEY Seymchan 41.16 18 P **P 07 29 26.9 +0.1**
comp=Z,0.5nm,0.5s,baz=287,slow=19,SNR=1.4
SEY Seymchan 41.16 18 P **P 07 29 27.0 +0.1**
SHLS Shalkode 41.18 307 *e*P **P 07 29 24.6 -3.1**
comp=Z,18nm,1.7s,baz=307
SHLS *e*S **S 07 35 30.1 -7.9**
baz=307
SHLS LR LR 07 46 46.1
comp=Z,169nm,11.4s,baz=307
SHLS Shalkode 41.18 307 *e*P **P 07 29 24.5 -3.1**
SHLS *e*S **S 07 35 30.1 -7.9**
SHLS pmax pmax
comp=Z,18nm,1.7s
SHLS MLR MLR
comp=Z,169nm,11.0s
PDGK Podgornoye 41.19 307 P **P 07 29 27.1 -0.6**
KNRA Kununurra 41.35 175 P **P 07 29 29.6 +0.7**
KNRA IAmb IAmb 07 29 56.1
comp=Z,70nm,1.4s
UZB Uzynbulak 41.50 307 *i* P **P 07 29 29.6 -0.6**
comp=Z,25nm,2.2s,baz=307
UZB *e*S **S 07 35 39.3 -3.5**
baz=307
UZB Uzynbulak 41.50 307 *i* P **P 07 29 29.6 -0.6**
UZB *e*S **S 07 35 39.3 -3.5**
UZB pmax pmax
comp=Z,25nm,2.2s
KPKS Kokpek 41.79 307 *e*P **P 07 29 32.1 -0.5**
comp=Z,26nm,1.7s,baz=307
KPKS LR LR 07 48 26.1
comp=Z,240nm,11.5s,baz=307
KPKS Kokpek 41.79 307 *e*P **P 07 29 32.0 -0.5**
KPKS pmax pmax
comp=Z,26nm,1.7s
KPKS MLR MLR
comp=Z,240nm,12.0s
SATY Saty 41.93 306 *e*P **P 07 29 32.9 -0.8**
comp=Z,34nm,2.4s,baz=306
SATY LR LR 07 48 07.3
comp=Z,135nm,11.7s,baz=306
SATY Saty 41.93 306 *e*P **P 07 29 32.9 -0.8**
SATY pmax pmax
comp=Z,34nm,2.4s
SATY MLR MLR
comp=Z,135nm,12.0s
TDK Taldyqorghan 42.26 309 *i* P **P 07 29 36.2 -0.1**
comp=Z,73nm,1.8s,baz=309
TDK LR LR 07 48 30.0
comp=Z,869nm,18.2s,baz=309
TDK Taldyqorghan 42.26 309 *i* P **P 07 29 36.1 -0.1**
TDK pmax pmax
comp=Z,73nm,1.8s
TDK MLR MLR
comp=Z,869nm,18.0s
SMLA Simla 42.59 289 *e*P **P 07 29 38.6 -0.5**
KDJ Kajisay 42.70 305 P **P 07 29 39.7 -0.4**
KDJ pmax pmax
comp=Z,40nm,1.4s
KDJ Kajisay 42.70 305 P **P 07 29 39.7 -0.4**
KDJ IAmb IAmb 07 29 49.3
comp=Z,40nm,1.4s
MDOK Medeo 42.93 306 *e*P **P 07 29 41.9 -0.1**
baz=306
MDOK *e*S **S 07 36 01.3 -2.6**
baz=306
MDOK Medeo 42.93 306 *e*P **P 07 29 41.8 -0.1**
MDOK *e*S **S 07 36 01.2 -2.6**
TNSS Tian-Shan 42.99 306 *e*P **P 07 29 42.5 -0.1**
baz=306
TNSS Tian-Shan 42.99 306 *e*P **P 07 29 42.5 -0.1**
CHKK Chushkaly 43.07 307 *e*P **P 07 29 42.0 -0.9**
baz=307
CHKK Chushkaly 43.07 307 *e*P **P 07 29 41.9 -0.9**
COEN Coen 43.09 155 P **P 07 29 44.5 +1.3**
COEN IAmb IAmb 07 29 53.2
comp=Z,52nm,1.2s
KSH Kashi 43.40 301 P **P 07 29 49.2 +3.5**
KSH PcP **PcP 07 31 37.9 +4.3**
KSH pmax pmax
comp=Z,28nm,1.0s
KSH pmax pmax
comp=Z,250nm,3.6s
KSH LR LR
comp=Z,2μm,11.7s
KSH LR LR
comp=Z,1μm,8.6s
KSH LR LR
comp=Z,1μm,13.7s
KURK Kurchatov 43.48 318 *de*P **P 07 29 44.6 -1.4**
KURK pmax pmax
comp=Z,33nm,1.7s
KURK Kurchatov 43.48 318 P **P 07 29 44.0 -2.0**
KURBB Kurchatov Arra 43.51 317 P **P 07 29 45.2 -1.1**
comp=Z,5.1nm,0.6s,baz=108,slow=8.1,SNR=18
KUU Kurty 43.54 307 *e*P **P 07 29 46.0 -0.7**
comp=Z,62nm,2.5s,baz=307
KUU LR LR 07 48 00.7
comp=Z,441nm,14.9s,baz=307
KUU Kurty 43.54 307 *e*P **P 07 29 45.9 -0.7**
KUU pmax pmax
comp=Z,62nm,2.5s
KUU MLR MLR
comp=Z,441nm,15.0s
FITZ Fitzroy Crossi 43.64 180 P **P 07 29 47.5 0.0**
TKM2 Tokmak 2 43.96 306 P **P 07 29 50.7 +0.5**
SGDS Sogindy 44.72 307 *e*P **P 07 29 55.2 -0.9**
comp=Z,20nm,2.3s,baz=306
SGDS Sogindy 44.72 307 *e*P **P 07 29 55.2 -0.9**
SGDS pmax pmax
comp=Z,20nm,2.3s
AAK Ala-Archa 44.74 305 P **P 07 29 55.9 -0.5**
comp=Z,1.0nm,0.3s,baz=84,slow=10,SNR=5.9
AAK Ala-Archa 44.74 305⇑ *e*P **P 07 29 56.9 +0.5**
AAK pmax pmax
comp=Z,17nm,1.8s
AAK Ala-Archa 44.74 305 P **P 07 29 56.1 -0.3**
SMY Shemya 45.05 40 P **P 07 29 58.4 -0.1**
SMY pmax pmax
comp=Z,77nm,1.1s
SMY Shemya 45.05 40 P **P 07 29 58.4 -0.1**
BTLS Baital 45.32 309 *e*P **P 07 29 59.9 -0.9**
comp=Z,15nm,2.0s,baz=309
BTLS Baital 45.32 309 *e*P **P 07 29 59.8 -0.9**
BTLS pmax pmax
comp=Z,15nm,2.0s
NIL Nilore 45.68 293 P **P 07 30 03.2 -0.6**
NIL pmax pmax
comp=Z,16nm,0.9s
NIL Nilore 45.68 293 P **P 07 30 03.2 -0.6**
WB0 Warramunga Arr 46.11 168 P **P 07 30 08.0 +0.8**
WB0 IAmb IAmb 07 30 19.4
comp=Z,30nm,1.1s
WRAB Tennant Creek 46.26 168 *de*P **P 07 30 09.1 +0.7**
WRAB pmax pmax
comp=Z,13nm,1.3s
WRAB Tennant Creek 46.26 168 P **P 07 30 08.9 +0.5**
WRAB IAmb IAmb 07 30 34.3
comp=Z,28nm,1.1s
WRA Warramunga Arr 46.27 169 P **P 07 30 09.3 +0.8**
comp=Z,7.9nm,0.8s,baz=350,slow=8.0,SNR=31
WRA LR LR 07 48 53.8
comp=Z,384nm,21.6s,baz=340,slow=35
WRA Warramunga Arr 46.27 169 P **P 07 30 09.0 +0.5**
WB2 Warramunga Arr 46.27 168 P **P 07 30 08.8 +0.3**
WB2 IAmb IAmb 07 30 17.9
comp=Z,23nm,0.9s
WR0 Warramunga Arr 46.32 168 P **P 07 30 09.1 +0.2**
WR0 IAmb IAmb 07 30 21.2
comp=Z,22nm,0.9s
BRZS Berezniki 47.00 315 *e*P **P 07 30 13.3 -0.7**
comp=Z,15nm,1.6s,baz=315
BRZS Berezniki 47.00 315 *e*P **P 07 30 13.3 -0.7**
BRZS pmax pmax
comp=Z,15nm,1.6s
DZA Taraz 47.08 306 *e*P **P 07 30 14.2 -0.6**
baz=306
DZA Taraz 47.08 306 *e*P **P 07 30 14.1 -0.6**
KK31 Karatay Array 47.69 306 P **P 07 30 18.9 -0.6**
KK31 pmax pmax
comp=Z,7.0nm,1.1s
KK31 Karatay Array 47.69 306 P **P 07 30 18.9 -0.6**
KKAR Karatay Array 47.69 306 P **P 07 30 18.8 -0.7**
KKAR pmax pmax
comp=Z,7.0nm,1.1s
KKAR Karatay Array 47.69 306 P **P 07 30 18.8 -0.7**
KKAR Karatay Array 47.69 306 P **P 07 30 18.6 -0.9**
KKAR IAmb IAmb 07 30 46.5
comp=Z,7.3nm,1.1s
GAR Garm 47.78 300 P **P 07 30 18.9 -1.5**
GAR IAmb IAmb 07 30 29.8
comp=Z,18nm,1.0s
AMKA Amchitka 47.83 43 P **P 07 30 22.1 +1.8**
IUG Iuzhnay 48.01 304 *e*P **P 07 30 21.4 -0.6**
comp=Z,26nm,2.2s,baz=304
IUG Iuzhnay 48.01 304 *e*P **P 07 30 21.4 -0.6**
IUG pmax pmax
comp=Z,26nm,2.2s
CHGR Chuyangaron 48.70 300 P **P 07 30 26.3 -1.1**
CHGR IAmb IAmb 07 30 45.8
comp=Z,38nm,1.4s
NRIK Noril'sk 48.94 343 P **P 07 30 27.1 -1.4**
comp=Z,3.2nm,0.7s,baz=122,slow=11,SNR=4.3
NRIK LR LR 07 53 21.8
comp=Z,1μm,18.2s,baz=182,slow=39
BVAR Borovoye Array 48.99 319 P **P 07 30 28.5 -0.8**
comp=Z,1.8nm,0.5s,baz=116,slow=7.6,SNR=9.3
BRVK Borovoye 49.06 319 *de*P **P 07 30 28.7 -1.1**
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK Borovoye 49.06 319 P **P 07 30 28.4 -1.4**
KBL Kabul 49.08 294 P **P 07 30 29.6 -0.9**
KBL pmax pmax
comp=Z,25nm,1.0s
KBL Kabul 49.08 294 P **P 07 30 29.6 -0.9**
KBL IAmb IAmb 07 30 31.9
comp=Z,25nm,0.9s
AS31 Alice Springs 49.84 170 P **P 07 30 36.4 +0.4**
ASAR Alice Springs 49.84 170 P **P 07 30 37.2 +1.2**
comp=Z,3.6nm,0.6s,baz=356,slow=11,SNR=63
ASAR LR LR 07 50 58.1
comp=Z,251nm,21.6s,baz=359,slow=35
ASAR Alice Springs 49.84 170 P **P 07 30 36.9 +0.8**
CTAO Charters Tower 49.86 154 P **P 07 30 37.5 +1.3**
CTAO pmax pmax
comp=Z,31nm,1.5s
CTAO Charters Tower 49.86 154 P **P 07 30 37.5 +1.3**
CTAO IAmb IAmb 07 30 55.3
comp=Z,31nm,1.5s
ADK Adak 50.38 43 P **P 07 30 39.5 -0.3**
ADK pmax pmax
comp=Z,88nm,1.4s
ADK Adak 50.38 43 P **P 07 30 39.5 -0.3**
ATKA Atka Island 51.95 43 P **P 07 30 52.2 +0.6**
HRA Herat 54.66 295 P **P 07 31 09.9 -2.2**
HRA IAmb IAmb 07 31 23.1
comp=Z,25nm,1.4s
SVE Sverdlovsk 55.12 323 *e*P **P 07 31 15.4 +0.6**
SVE pmax pmax
comp=Z,39nm,1.5s
SVE MLR MLR
comp=Z,2μm,18.0s
AB31 Akbulak array 55.18 313 P **P 07 31 14.0 -1.3**
ABKAR Akbulak array 55.18 313 P **P 07 31 13.8 -1.5**
MORW Morawa 55.32 190 P **P 07 31 16.9 +0.4**
MORW IAmb IAmb 07 31 28.4
comp=Z,17nm,1.1s
ARU Arti 56.23 322 P **P 07 31 21.5 -1.3**
comp=Z,2.6nm,0.2s,baz=95,slow=5.3,SNR=5.8
ARU LR LR 07 57 29.2
comp=Z,1μm,19.9s,baz=90,slow=38
ARU Arti 56.23 322 *d i* P **P 07 31 21.5 -1.3**
ARU *PP **sP 07 31 40.9 +1.0**
ARU 07 32 18.4
ARU 07 33 27.4
ARU S **S 07 39 06.2 -2.9**
ARU pmax pmax
comp=Z,24nm,1.8s
ARU MLR MLR
comp=Z,1μm,19.0s
ARU Arti 56.23 322 P **P 07 31 21.1 -1.7**
ARU IAmb IAmb 07 31 31.3
comp=Z,52nm,1.5s
AKTO Aktyubinsk 56.41 315 P **P 07 31 23.0 -1.2**
comp=Z,3.4nm,0.7s,baz=87,slow=5.5,SNR=12
AKTO Aktyubinsk 56.41 315 P **P 07 31 24.1 -0.1**
GEYT Alibeck 57.41 300 P **P 07 31 31.3 -0.2**
comp=Z,1.8nm,0.5s,baz=186,slow=1.5,SNR=5.5
GEYT LR LR 07 59 43.1
comp=Z,604nm,18.2s,baz=35,slow=40
GEYT Alibeck 57.41 300 P **P 07 31 30.6 -0.9**
GYA0B ALIBECK ARRAY 57.41 300 P **P 07 31 30.5 -1.0**
GYA0B IAmb IAmb 07 31 43.3
comp=Z,15nm,1.1s
SANVU Saraoutou 57.67 131 P **P 07 31 34.8 +1.4**
BBOO Buckleboo 59.14 170 P **P 07 31 43.6 +0.2**
BBOO IAmb IAmb 07 31 55.7
comp=Z,18nm,1.1s
STKA Stephens Creek 59.37 164 P **P 07 31 46.0 +1.1**
comp=Z,2.6nm,0.8s,baz=348,slow=7.7,SNR=4.8
STKA LR LR 07 59 35.8
comp=Z,103nm,18.7s,baz=0.7,slow=38
STKA Stephens Creek 59.37 164 P **P 07 31 46.1 +1.1**
SDPT Sand Point 60.17 39 P **P 07 31 51.9 +1.6**
CNBA Chernabura Isl 60.71 40 P **P 07 31 55.3 +1.3**
KIRV Kirov 61.18 325 P **P 07 31 56.4 -0.7**
comp=Z,12nm,0.5s,baz=90,slow=4.0,SNR=3.1
DZM Mont Dzumac 61.95 137 P **P 07 32 04.1 +1.2**
comp=Z,7.0nm,0.9s,baz=337,slow=7.7,SNR=2.5
DZM LR LR 07 54 18.9
comp=Z,274nm,20.4s,baz=226,slow=31
DZM Mont Dzumac 61.95 137 P **P 07 32 03.5 +0.7**
DZM IAmb IAmb 07 32 12.4
comp=Z,15nm,0.8s
PRGR Permogore 62.89 328 *e*P **P 07 32 06.1 -2.4**
PRGR pmax pmax
comp=Z,28nm,1.5s
IMAR Indian Mountai 62.96 27 P **P 07 32 08.6 -0.3**
RSO Redoubt South 63.87 33 P **P 07 32 15.0 -0.3**
PPLA Purkeypile 63.87 30 P **P 07 32 16.2 +1.0**
PPLA IAmb IAmb 07 32 27.3
comp=Z,27nm,1.2s
BPAW Bear Paw Mtn. 64.28 29 P **P 07 32 18.2 +0.5**
COLD Coldfoot 64.28 25 P **P 07 32 16.1 -1.5**
baz=276
KDAK Kodiak Island 64.29 36 P **P 07 32 17.8 0.0**
KDAK pmax pmax
comp=Z,152nm,1.5s
KDAK Kodiak Island 64.29 36 P **P 07 32 17.8 0.0**
KTH Kantishna Hill 64.37 30 P **P 07 32 19.1 +0.7**
KTH IAmb IAmb 07 32 30.2
comp=Z,27nm,1.3s
TOLK Toolik Lake Re 64.39 24 P **P 07 32 17.0 -1.4**
baz=276
NEA2 Nenana 65.05 28 P **P 07 32 22.2 -0.5**
baz=278,SNR=7.7
MCK McKinley 65.23 29 P **P 07 32 24.2 +0.3**
MCK pmax pmax
comp=Z,28nm,1.1s
MCK McKinley 65.23 29 P **P 07 32 24.2 +0.3**
MCK IAmb IAmb 07 32 36.4
comp=Z,28nm,1.1s
RND Reindeer 65.31 30 P **P 07 32 24.6 +0.1**
RND pmax pmax
comp=Z,41nm,1.0s
RND Reindeer 65.31 30 P **P 07 32 24.6 +0.1**
RND IAmb IAmb 07 32 33.6
comp=Z,41nm,1.0s
O22K Cooper Landing 65.35 33 P **P 07 32 24.4 -0.2**
baz=279
MDM Murphy Dome 65.36 28 P **P 07 32 25.4 +0.7**
MDM IAmb IAmb 07 32 34.4
comp=Z,42nm,1.0s
TCOL CIGO, UAF Yank 65.52 28 P **P 07 32 24.7 -1.0**
baz=279
COLA College 65.53 28 P **P 07 32 26.5 +0.8**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 65.53 28 P **P 07 32 26.5 +0.8**
SEW Seward 65.54 33 P **P 07 32 25.9 0.0**
CCB Clear Creek Bu 65.58 28 P **P 07 32 26.3 +0.2**
GROC Groznyy 65.63 308 *e*P P 07 32 33.4 +6.6
GROC *e* 07 33 02.7
GROC pmax pmax
comp=Z,66nm,1.4s
POKR Poker Plat Res 65.67 28 P **P 07 32 26.3 -0.4**
baz=279
KLMR Klimovskoe 65.91 328 *e*P **P 07 32 30.2 +2.0**
KLMR pmax pmax
comp=Z,30nm,1.5s
KLMR Klimovskoe 65.91 328 *e*P **P 07 32 30.3 +2.0**
KLMR AMP 07 32 49.2
comp=Z,30nm,1.5s
KLMR LQ LQ 07 56 06.9
KLMR LQ LQ 07 56 06.9
KLMR LR LR 08 00 14.4
IL31 65.95 28 P **P 07 32 27.7 -0.7**
ILAR Eielson Array 65.95 28 P **P 07 32 28.7 +0.2**
comp=Z,0.2nm,0.5s,baz=258,slow=26,SNR=2.6
ILAR LR LR 08 03 10.9
comp=Z,121nm,19.3s,baz=296,slow=38
ILAR Eielson Array 65.95 28 P **P 07 32 28.0 -0.5**
HDA Harding Lake 65.98 28 P **P 07 32 28.0 -0.7**
baz=280,SNR=9.9
BMAR Burnt Mountain 66.42 25 P **P 07 32 31.3 -0.1**
VRH Novokhopyorsk 66.57 317 *e*P **P 07 32 31.4 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.9s
M24K Tolsona, Glenn 66.75 31 P **P 07 32 33.3 -0.4**
baz=282
MSVF Nonsavu 66.93 125⇑ *e*P **P 07 32 38.4 +2.9**
MSVF Nonsavu 66.93 125 P **P 07 32 36.9 +1.4**

MSVF IAmb IAmb 07 32 46.2
comp=Z,24nm,0.8s
ZEI Tsey 67.08 308 *e*P **P 07 32 35.4 -0.9**
ZEI pmax pmax
comp=Z,18nm,1.3s
GOF Gofitskoye 67.12 310‖ *e*P **P 07 32 37.5 +1.2**
APA Apatity 67.24 335‖ *i*P **P 07 32 40.3 +3.7**
APA *i* S **S 07 41 30.0 +2.1**
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,600nm,18.0s
SCRK Sand Creek 67.34 29 P **P 07 32 36.9 -0.6**
baz=283,SNR=6.5
DOT Dot Lake 67.38 29 P **P 07 32 38.2 +0.6**
DOT IAmb IAmb 07 32 46.3
comp=Z,16nm,1.0s
KBZ Khabaz 67.55 309 P **P 07 32 38.9 -0.2**
comp=Z,3.0nm,0.7s,baz=72,slow=14,SNR=5.9
KBZ LR LR 08 06 27.7
comp=Z,358nm,19.0s,baz=65,slow=40
KBZ Khabaz 67.55 309‖ *e*P **P 07 32 39.5 +0.5**
KVAR Kislovodsk Arr 67.64 309 P **P 07 32 39.4 -0.3**
comp=Z,3.5nm,0.3s,baz=76,slow=23,SNR=2.1
KIV Kislovodsk 67.64 309 *e*P **P 07 32 40.3 +0.6**
KIV pmax pmax
comp=Z,104nm,1.0s
KIV MLR MLR
comp=Z,730nm,17.0s
KIV Kislovodsk 67.64 309 P **P 07 32 38.1 -1.7**
AKH Akhalkalaki 67.72 306 P **P 07 32 38.9 -1.5**
AKH pmax pmax
comp=Z,20nm,1.2s
AKH Akhalkalaki 67.72 306 P **P 07 32 38.9 -1.5**
AKH IAmb IAmb 07 32 52.3
comp=Z,20nm,1.2s
MOS Moscow 67.94 322 *e*P P 07 32 46.7 +5.4
MOS MLR MLR
comp=Z,900nm,20.0s
LPSR Galich'ya Gora 67.94 319 *e*P **P 07 32 40.5 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
GLB Gilahina Butte 67.99 31 P **P 07 32 42.0 +0.4**
GLB IAmb IAmb 07 32 54.0
comp=Z,42nm,1.2s
VORD Divnogorie 68.12 317 *e*P **P 07 32 40.5 -2.0**
VORD pmax pmax
comp=Z,3.0nm,0.4s
VSR Storozhevoye 68.14 317 *e*P **P 07 32 41.4 -1.2**
VSR pmax pmax
comp=Z,70nm,1.2s
K27K Chicken 68.15 28 P **P 07 32 42.0 -0.4**
baz=284
SOCY Socotra 68.31 273 P **P 07 32 41.6 -2.7**
EGAK Eagle 68.35 27 P **P 07 32 43.9 +0.2**
BCAR Beaver Creek A 68.51 29 P **P 07 32 44.7 -0.2**
OBN Obninsk 68.68 322 LR LR 08 05 37.0
comp=Z,149nm,18.2s,baz=35,slow=38
OBN Obninsk 68.68 322 *e*P **P 07 32 45.7 -0.2**
OBN *e* 07 33 06.6
OBN *e* 07 35 17.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 68.68 322 P **P 07 32 45.1 -0.7**
SPITS Spitsbergen Ar 68.74 348 LR LR 08 06 46.7
comp=Z,174nm,20.2s,baz=55,slow=39
GEVA Gevas 68.90 303 P **P 07 32 45.9 -1.9**
DAWY Dawson 69.28 28 P **P 07 32 49.7 +0.1**
TABL Table Mountain 69.51 32 P **P 07 32 51.9 +0.6**
TABL IAmb IAmb 07 33 01.8
comp=Z,43nm,1.4s
ARCES ARCESS Array B 69.51 338 LR LR 08 09 03.7
comp=Z,310nm,18.1s,baz=88,slow=41
EPYK Eagle Plains 69.68 25 P **P 07 32 50.8 -1.2**
baz=288
EPYK Eagle Plains 69.68 25 P **P 07 32 52.0 0.0**
EPYK IAmb IAmb 07 33 01.5
comp=Z,36nm,1.0s
SOC Sochi 69.81 309 *e*P **P 07 32 54.4 +1.3**
SOC *e**PP **sP 07 33 10.6 +0.1**
SOC *e* 07 35 25.4
SOC *e*PPP PPP 07 37 09.3
SOC *e*S **S 07 42 02.1 +2.8**
SOC *e**SS **SKiKP 07 42 30.8 -5.8**
SOC *e*SS **SS 07 46 20.9 -7.1**
SOC pmax pmax
comp=Z,6.0nm,0.5s
SOC MLR MLR
comp=Z,376nm,20.0s
KHLH Kahului Airpor 70.83 76 P **P 07 33 01.2 +1.5**
MARD Mardin 70.92 303 P **P 07 32 58.6 -1.6**
KKH Kailua Kona 71.64 77 P **P 07 33 05.6 +1.0**
KKH Kailua Kona 71.64 77 P **P 07 33 05.5 +1.0**
HUH Hualalai 71.79 77 P **P 07 33 07.0 +1.1**
FINES FINESS Array B 72.03 330 P **P 07 33 05.0 -1.2**
comp=Z,1.6nm,0.7s,baz=96,slow=5.7,SNR=4.9
FINES LR LR 08 07 51.5
comp=Z,471nm,20.1s,baz=63,slow=38
FINES FINESS Array B 72.03 330 *i* P **P 07 33 06.0 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 72.03 330 P **P 07 33 05.5 -0.8**
WHY Whitehorse 72.37 31 P **P 07 33 08.3 -0.1**
WHY IAmb IAmb 07 33 17.4
comp=Z,48nm,1.3s
AKASG Malin Array Be 74.27 319 P **P 07 33 18.7 -1.0**
comp=Z,1.3nm,0.6s,baz=55,slow=5.7,SNR=4.6
AKASG LR LR 08 10 03.4
comp=Z,429nm,18.4s,baz=70,slow=39
AKASG Malin Array Be 74.27 319 P **P 07 33 18.4 -1.3**
AKBB Malin Array Si 74.27 319 P **P 07 33 19.3 -0.4**
AKBB Malin Array Si 74.27 319 P **P 07 33 19.3 -0.4**
BR131 Keskin Array S 75.38 307 P **P 07 33 25.4 -1.1**
BR131 pmax pmax
comp=Z,19nm,1.3s
BR131 Keskin Array S 75.38 307 P **P 07 33 25.4 -1.1**
BRTR Keskin Array B 75.38 307 P **P 07 33 25.8 -0.7**
comp=Z,2.4nm,0.9s,baz=81,slow=7.6,SNR=5.1
BRTR LR LR 08 09 17.8
comp=Z,96nm,18.9s,baz=42,slow=38
BRTR Keskin Array B 75.38 307 P **P 07 33 25.3 -1.2**
ASF Jabal al Asfar 75.67 299 LR LR 08 12 22.0
comp=Z,321nm,20.6s,baz=38,slow=40
MMAI Mount Meron Ar 76.53 300 LR LR 08 12 48.3
comp=Z,175nm,19.6s,baz=20,slow=40
XMAS Kiritimati 77.42 94 P **P 07 33 38.6 +0.3**
AIS Amsterdam Isla 77.65 217 P **P 07 33 40.0 +1.1**
BUR08 Bucovina Ar. S 77.91 317 P **P 07 33 40.1 -0.5**
BURAR Bucovina Array 77.91 317 P **P 07 33 39.9 -0.7**
JMIC Jan Mayen 78.25 346 LR LR 08 14 07.4
comp=Z,187nm,18.8s,baz=72,slow=40
MLR Muntele Rosu 78.35 315 LR LR 08 10 08.9
comp=Z,191nm,18.0s,baz=118,slow=37
ATD Arta Tunnel 78.56 277 P **P 07 33 42.8 -1.9**
ATD IAmb IAmb 07 33 43.9
comp=Z,22nm,1.2s
NB2 NORSAR Subarra 78.61 333 P **P 07 33 42.3 -1.8**
comp=Z,29nm,1.7s,baz=54,slow=5.6
NB2 NORSAR Subarra 78.61 333 P **P 07 33 42.3 -1.8**
baz=54,slow=5.6
NOA NORSAR Array B 78.61 333 P **P 07 33 42.6 -1.5**
comp=Z,0.5nm,0.6s,baz=59,slow=5.4,SNR=3.2
NOA LR LR 08 12 24.1
comp=Z,727nm,18.4s,baz=65,slow=39
HIZ Hauiti 78.90 143 P **P 07 33 44.4 -1.4**
HIZ IAmb IAmb 07 33 52.1
comp=Z,32nm,1.2s
UZH Uzhgorod 79.23 319 *e*P P 07 33 55.2 +7.5
UZH *i* 07 33 56.9
ELL Elmali 79.23 306 P **P 07 33 46.4 -1.7**
ELL pmax pmax
comp=Z,40nm,1.1s
ELL Elmali 79.23 306 P **P 07 33 46.4 -1.7**
ELL IAmb IAmb 07 33 57.5
comp=Z,40nm,1.1s
YKA Yellowknife Ar 79.92 24 P **P 07 33 50.9 -0.2**
comp=Z,5.3nm,1.0s,baz=314,slow=5.3,SNR=7.2
YKA LR LR 08 14 31.0
comp=Z,57nm,18.3s,baz=0.0,slow=40
URZ Urewera 79.97 141 P **P 07 33 52.1 +0.4**
URZ IAmb IAmb 07 34 09.0
comp=Z,30nm,1.3s
THZ Tophouse 80.24 146 P **P 07 33 52.6 -0.5**
THZ IAmb IAmb 07 34 20.8
comp=Z,42nm,1.2s

BKZ Black Stump Fm 80.26 142 P **P 07 33 54.0 +0.7**
WKZ Wanaka 80.72 150 P **P 07 33 55.6 0.0**
MLZ Mavora Lakes 80.74 151 P **P 07 33 55.1 -0.6**
RPZ Rata Peaks 80.80 148 P **P 07 33 57.3 +1.2**
comp=Z,16nm,1.1s,baz=7.1,slow=8.1,SNR=2.7
RPZ Rata Peaks 80.80 148 P **P 07 33 56.8 +0.8**
RPZ IAmb IAmb 07 34 05.5
comp=Z,38nm,1.0s
LBZ Lake Benmore 80.91 149 P **P 07 33 56.9 +0.3**
LBZ IAmb IAmb 07 34 03.6
comp=Z,27nm,1.0s
KHZ Kahutara 81.04 146 P **P 07 33 56.9 -0.4**
KHZ IAmb IAmb 07 34 08.2
comp=Z,20nm,0.9s
MSWZ Moikau Station 81.19 145 P **P 07 33 58.1 0.0**
SUMG Summit 81.27 355 *i* P P 07 34 05.0 +6.2
SUMG Summit 81.27 355 P **P 07 33 57.7 -1.1**
SUMG pmax pmax
comp=Z,29nm,1.4s
SUMG Summit 81.27 355 P **P 07 33 57.7 -1.1**
SUMG IAmb IAmb 07 34 20.6
comp=Z,29nm,1.4s
PLWZ Palliser 81.30 145 P **P 07 33 58.8 -0.1**
VYHS Vyhne 81.32 320 *e* P 07 34 04.0 +5.0
VRAC Vranov 82.20 321 LR LR 08 14 45.7
comp=Z,504nm,18.1s,baz=60,slow=39
CLL Collm 83.10 324 *e*P **P 07 34 07.0 -1.2**
CLL *e* 07 34 17.0
CLL *e*S **S 07 44 26.0 +1.6**
CLL *e*PS **PnS 07 45 18.0 -1.7**
CLL *e*SS **SS 07 49 54.0 +5.8**
CLL *e* 07 54 06.0
PGC Sidney 83.70 39 P **P 07 34 11.7 +0.4**
PGC IAmb IAmb 07 34 20.3
comp=Z,16nm,0.8s
GERES GERESS Array B 84.06 322 P **P 07 34 13.3 0.0**
comp=Z,0.2nm,0.3s,baz=70,slow=40,SNR=1.8
GERES LR LR 08 15 19.1
comp=Z,581nm,18.6s,baz=68,slow=38
GERES GERESS Array B 84.06 322 P **P 07 34 12.8 -0.5**
D03D Eldon 84.50 39 P **P 07 34 14.8 -0.6**
baz=303
B05A Bryant 84.67 38 P **P 07 34 15.4 -0.8**
baz=303
D04E Lakebay 84.88 40 P **P 07 34 16.9 -0.5**
baz=303
E04D Cinebar 85.33 40 P **P 07 34 18.2 -1.4**
baz=303
C06D Leavenworth 85.53 38 P **P 07 34 19.4 -1.2**
baz=304
B08A Colville Reser 86.14 37 P **P 07 34 23.1 -0.6**
B08A IAmb IAmb 07 34 33.2
comp=Z,32nm,1.4s
H04D Lebanon 86.34 42 P **P 07 34 24.5 -0.2**
baz=303
F05D White Salmon 86.34 40 P **P 07 34 24.1 -0.6**
baz=304
I03D Drain, OR 86.41 43 P **P 07 34 24.9 -0.2**
baz=303
K02D Willamette Mer 86.76 44 P **P 07 34 25.6 -1.3**
baz=303
G05D Wamic, OR 86.78 41 P **P 07 34 26.3 -0.6**
baz=304
E07A Sunnyside 86.88 39 P **P 07 34 27.0 -0.3**
HAWA Hanford 87.16 39 P **P 07 34 28.4 -0.3**
HAWA IAmb IAmb 07 34 37.9
comp=Z,20nm,1.1s
F07A Phinny Hill Vi 87.22 40 P **P 07 34 28.8 -0.2**
F07A IAmb IAmb 07 34 38.4
comp=Z,28nm,1.2s
I05D Terrebonne, OR 87.27 41 P **P 07 34 27.7 -1.6**
baz=304
E08A Dider Farm, El 87.37 39 P **P 07 34 30.1 +0.4**
E08A IAmb IAmb 07 34 38.8
comp=Z,10nm,0.8s
NEW Newport 87.39 36 P **P 07 34 29.8 0.0**
NEW pmax pmax
comp=Z,21nm,1.0s
NEW Newport 87.39 36 P **P 07 34 29.2 -0.6**
baz=307
NEW Newport 87.39 36 P **P 07 34 29.8 0.0**
NEW IAmb IAmb 07 34 38.7
comp=Z,21nm,1.0s
PINE Pine Mountain 87.82 42 P **P 07 34 30.3 -1.9**
L04D Klamath Falls 87.86 44 P **P 07 34 31.6 -0.7**
baz=304,SNR=5.8
E09A Wood Farm, Sta 87.87 38 P **P 07 34 31.6 -0.5**
E09A IAmb IAmb 07 34 41.3
comp=Z,18nm,1.0s
J05D Fort Rock, OR 87.92 42 P **P 07 34 32.2 -0.4**
baz=304,SNR=6.2
M02C Callahan 87.97 44 P **P 07 34 32.4 -0.3**
baz=303
M04C Macdoel 88.39 44 P **P 07 34 34.9 +0.1**
baz=304,SNR=6.0
K05A Summer Lake 88.45 43 P **P 07 34 35.5 +0.3**
O02D Mt. Diablo Mer 88.67 45 P **P 07 34 35.9 -0.2**
baz=303
F10A Beach Ranch, E 88.70 38 P **P 07 34 36.1 -0.1**
KMBO Kilima Mbogo 88.94 268 P **P 07 34 39.5 +1.5**
comp=Z,0.8nm,0.3s,baz=60,slow=7.0,SNR=3.5
O03E Paynes Creek 89.24 45 P **P 07 34 37.7 -1.0**
baz=304
BMO Blue Mountains 89.33 39 P **P 07 34 39.3 +0.2**
BMO pmax pmax
comp=Z,12nm,1.0s
BMO Blue Mountains 89.33 39 P **P 07 34 39.3 +0.2**
BMO IAmb IAmb 07 34 48.2
comp=Z,12nm,1.0s
J08A Circle Bar Ran 89.53 41 P **P 07 34 40.0 -0.1**
J08A IAmb IAmb 07 34 49.6
comp=Z,16nm,0.9s
PAF Port-aux-Franc 89.55 213 P **P 07 34 38.0 -1.6**
PAF pmax pmax
comp=Z,486nm,1.4s
PAF Port-aux-Franc 89.55 213 P **P 07 34 38.0 -1.6**
FCC Fort Churchill 89.56 19 P **P 07 34 38.4 -1.3**
FCC pmax pmax
comp=Z,34nm,1.0s
FCC Fort Churchill 89.56 19 P **P 07 34 38.4 -1.3**
ORV Oroville 89.84 45 P **P 07 34 40.0 -1.5**
ORV pmax pmax
comp=Z,14nm,1.3s
ORV Oroville 89.84 45 P **P 07 34 40.0 -1.5**
ORV IAmb IAmb 07 34 50.0
comp=Z,14nm,1.3s
MSO Missoula 89.97 36 P **P 07 34 42.2 +0.1**
baz=309,SNR=6.0
FFC Flin Flon 90.03 25 P **P 07 34 41.8 -0.2**
FFC pmax pmax
comp=Z,58nm,1.2s
FFC Flin Flon 90.03 25 P **P 07 34 41.8 -0.2**
MFID Camas Ranch 91.05 40 P **P 07 34 47.6 +0.4**
HRY Holter Researc 91.16 35 P **P 07 34 48.5 +0.8**
EGMT Eagleton 91.35 34 P **P 07 34 48.4 -0.1**
baz=312,SNR=6.6
LRM Limekiln Ridge 91.41 36 P **P 07 34 48.8 -0.2**
DLMT Dillon 91.63 37 P **P 07 34 50.6 +0.7**
HLID Hailey 91.76 39 P **P 07 34 50.8 +0.2**
baz=309,SNR=18
MCMT McKenzie Canyo 91.83 37 P **P 07 34 50.8 -0.2**
BOZ Bozeman (W) 92.00 36 P **P 07 34 51.4 -0.1**
baz=311,SNR=6.8
RYN Ryan 92.27 45 P **P 07 34 53.7 +0.7**
RYN IAmb IAmb 07 35 02.3
comp=Z,14nm,1.4s
KVN Kaiserville 92.29 44 P **P 07 34 53.3 +0.2**
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN Kaiserville 92.29 44 P **P 07 34 53.3 +0.2**
KVN IAmb IAmb 07 35 03.9
comp=Z,6.8nm,1.1s
CASY Casey 92.50 186 P **P 07 34 52.6 -0.3**
CASY IAmb IAmb 07 34 55.7
comp=Z,6.4nm,1.2s
NVAR Mina Array Bea 92.53 45 P **P 07 34 55.3 +1.0**
comp=Z,1.1nm,0.7s,baz=296,slow=4.4,SNR=6.8
NVAR LR LR 08 10 11.4
comp=Z,46nm,20.4s,baz=278,slow=31
NVAR Mina Array Bea 92.53 45 P **P 07 34 53.0 -1.3**
MLAC Mammoth, Mammo 92.65 46 P **P 07 34 53.2 -1.6**
baz=306
YHB Horse Butte 92.78 37 P **P 07 34 56.2 +0.8**
PPT Papeete 93.05 108 LR LR 08 07 52.6
comp=Z,108nm,21.6s,baz=295,slow=30

H17A Grant Village 93.35 37 P **P 07 34 58.0 0.0**
baz=312,SNR=6.1
H17A Grant Village 93.35 37 P **P 07 34 58.2 +0.2**
TPH Tonopah 93.42 45 P **P 07 34 59.1 +0.7**
TPH pmax pmax
comp=Z,42nm,0.9s
TPH Tonopah 93.42 45 P **P 07 34 59.0 +0.7**
IMW Indian Meadow 93.48 37 P **P 07 34 58.8 +0.2**
IMW IAmb IAmb 07 35 08.5
comp=Z,12nm,0.9s
VES Vestal, Richgr 93.52 47 P **P 07 34 59.0 +0.4**
baz=306,SNR=5.2
RLMT Red Lodge 93.56 35 P **P 07 34 59.2 +0.4**
baz=313,SNR=5.7
PKM Mcpherson Peak 93.58 48 P **P 07 34 59.3 +0.1**
baz=305
DGMT Dagmar 93.70 31 P **P 07 34 57.9 -1.4**
baz=317
CWC Cottonwood Cre 93.84 46 P **P 07 34 59.4 -0.9**
baz=306
ISA Isabella, Lake 94.03 47 P **P 07 34 60.0 -1.1**
baz=306
KEST Kesra 94.13 313 LR LR 08 22 57.9
comp=Z,183nm,18.8s,baz=240,slow=39
R11A Troy Canyon, C 94.29 44 P **P 07 35 02.3 0.0**
baz=308,SNR=5.8
MPMC Manual Prospec 94.45 46 P **P 07 35 02.9 -0.2**
baz=307,SNR=5.2
MBAR Mbarara 94.59 272 P **P 07 35 02.0 -2.1**
MBAR pmax pmax
comp=Z,14nm,1.5s
MBAR Mbarara 94.59 272 P **P 07 35 02.0 -2.1**
MBAR IAmb IAmb 07 35 04.6
comp=Z,14nm,1.4s
FURC Furnace Creek, 94.61 46 P **P 07 35 02.2 -1.3**
baz=307
HWUT Hardware Ranch 94.63 39 P **P 07 35 02.0 -1.8**
HWUT IAmb IAmb 07 35 13.2
comp=Z,11nm,1.0s
TPNV Topopah Spring 94.72 45 P **P 07 35 03.8 -0.5**
baz=308
EDW2 Edwards Air Fo 94.81 48 P **P 07 35 04.2 -0.5**
baz=306
DUG Dugway, Tooele 94.82 41 P **P 07 35 03.2 -1.5**
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway, Tooele 94.82 41 P **P 07 35 03.9 -0.7**
baz=310
DUG Dugway, Tooele 94.82 41 P **P 07 35 03.2 -1.5**
DUG IAmb IAmb 07 35 14.1
comp=Z,10nm,1.1s
BW06 Boulder Array 94.98 37 P **P 07 35 05.3 -0.2**
baz=312
PDAR Pinedale Array 94.98 37 P **P 07 35 05.6 +0.1**
comp=Z,1.0nm,0.8s,baz=292,slow=37,SNR=2.9
PDAR Pinedale Array 94.98 37 P **P 07 35 04.5 -1.1**
GSC Goldstone, Bar 95.34 47 P **P 07 35 06.9 -0.2**
baz=307
ULM Lac du Bonnet 95.86 25 LR LR 08 23 29.7
comp=Z,157nm,18.9s,baz=339,slow=39
BBRC Big Bear Solar 95.89 48 P **P 07 35 10.2 +0.4**
baz=307
PFO Pinyon Flats O 96.58 48 P **P 07 35 13.2 +0.4**
baz=307
BELC Belle Mtn. Jos 96.66 47 P **P 07 35 13.5 +0.3**
baz=307
RSSD Black Hills 96.93 34 P **P 07 35 14.5 +0.2**
baz=317
O20A White River Ci 97.49 39 P **P 07 35 16.3 -0.6**
baz=313
WUAZ Wupatki 98.69 44 P **P 07 35 22.1 -0.2**
baz=310
SCHQ Schefferville 98.99 7 LR LR 08 22 47.6
comp=Z,233nm,19.8s,baz=17,slow=37
ESDC Sonseca Array 99.63 323 LR LR 08 25 01.7
comp=Z,260nm,19.0s,baz=40,slow=38
TXAR Lajitas Array 107.65 44 PKiKP **PKiKP 07 40 09.9 -0.1**
comp=Z,0.3nm,0.7s,baz=190,slow=3.7,SNR=2.4
SYO Syowa Base 112.39 203‖ *e*Pdiff **Pdif 07 36 21.4 -0.6**
SYO Syowa Base 112.39 203‖ *e*pPdiff pPdif 07 36 42.0 +7.1
CAPC Capurgana 139.16 36 *e*P PKiKP 07 41 24.3 +12
MOTC Monteria, Cord 139.91 34 *e*P **PKiKP 07 41 18.8 +4.9**
BRRC Barranca, Sant 142.31 32 *e*P **PKiKP 07 41 24.3 +5.5**
GUY2C Guyana, Caldas 143.08 36 *e*P **PKPdf 07 41 17.4 -0.4**
TOLC Tolima 143.64 37 *e*P **PKPdf 07 41 19.8 +1.3**
RUSC La Rusia 143.67 32 *e*P **PKiKP 07 41 21.6 -0.6**
ORTC Ortega, Tolima 144.24 37 *e*P **PKPdf 07 41 18.8 -0.5**
CHIC Chingaza 144.44 34 *e*P **PKiKP 07 41 24.3 +0.6**
POPC Popayan, Colom 144.55 41 *e*P PKPbc 07 41 18.5 -0.2
BBAC Balboa, Cauca 144.62 42 *e*P **PKPdf 07 41 20.7 +0.6**
BETC Betania 145.15 39 *e*P **PKPdf 07 41 20.7 -0.1**
FLOC Florencia 145.92 40 *e*P **PKPab 07 41 23.4 +0.1**
PTLC Puerto Leguiza 147.56 40 *e*P **PKPbc 07 41 27.0 -0.5**
HOPE Hope Point 148.59 200 PKP2 **PKPbc 07 41 29.5 +0.6**
HOPE Hope Point 148.59 200 PKPbc **PKPbc 07 41 29.4 +0.6**
PTGA Pitinga 154.51 13 **PKiKP 07 41 43.8 -0.1**
LPAZ La Paz 164.12 56 PKP **PKPdf 07 41 48.3 +1.1**
comp=Z,1.1nm,0.8s,baz=296,slow=1.8,SNR=5.4
LPAZ PKPab **PKPab 07 42 41.1 +0.4**
comp=Z,3.2nm,1.2s,baz=9.3,slow=2.6,SNR=2.6

BER 05 07:57:48.5±1.9, 60°.86N×4°.97E, h0km, ML1.2, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUE	**Sulen**	**0.22**	**332**	*e*P	Pg	07 57 51.9	-0.8
BER	**Bergen**	**0.51**	**159**	*e*P	Pg	07 57 57.8	-0.5
HYA	**Hoyanger**	**0.67**	**62**	*e*P	Pg	07 57 59.2	-2.0
HYA				*e*S	Sg	07 58 08.1	-1.8
HYA				IAML		07 58 10.0	
ODD1	**Odda**	**1.26**	**138**	*e*P	Pb	07 58 13.0	-0.1
ODD1				*e*S	Sb	07 58 30.2	+0.4
ODD1				IAML		07 58 30.9	
BLS5	**Blasjo**	**1.62**	**152**	*e*P	Pn	07 58 16.0	-2.4
AKN	**Aaknes**	**1.64**	**35**	*e*P	Pn	07 58 16.4	-2.2
AKN				*e*S	Sn	07 58 38.6	-1.8
AKN				IAML		07 58 40.6	
SKAR	**Skarslia**	**1.65**	**95**	*e*P	Pn	07 58 16.4	-2.3
SKAR				*e*S	Sn	07 58 38.3	-2.3
SKAR				IAML		07 58 40.6	
MOL	**Molde**	**2.11**	**34**	*e*P	Pn	07 58 24.8	-0.2

HEL 05 07:58:10.7±0.1, 67°.87N×20°.15E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.72**	**75**	PB	Pg	07 58 24.2	-0.2
LANU				SG	Sg	07 58 33.1	-0.5
KIF	**Kilpisjarvi**	**1.16**	**12**	PN	Pn	07 58 34.6	+0.5
KIF				MSG		07 58 47.0	
KIF				SB	Sg	07 58 48.1	+0.1
ERTU	**Ertsjaerv**	**1.55**	**148**	PG	Pn	07 58 38.4	-1.0
ERTU				SG	Sn	07 58 58.7	-1.5
TOF	**Tornio**	**2.44**	**136**	PG	Pb	07 58 54.2	-1.1
TOF				MSG		07 59 22.7	
TOF				SG	Sb	07 59 24.9	-1.0
ARE0	**ARCESS Array S**	**2.57**	**47**	PG	Pb	07 58 56.8	-0.8
ARE0				SG	Sb	07 59 28.8	-0.9
RNF	**Rovaniemi**	**2.61**	**116**	PB	Pn	07 58 55.8	+1.8
RNF				SG	Sb	07 59 29.6	-1.2

WEL 05 08:10:13.5, 38°S±4°×17°6E±1°4, h203km±9km, M2.8/27, ML2.7/6, MLv2.8/27, Error ellipse: s-maj=0.0km s-min=0.0km az=96.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.09**	**212**	P	Pn	08 10 39.6	-0.5
TOZ	**Tahuroa Road**	**0.53**	**352**	P	Pn	08 10 43.9	+2.8
MUGZ	**Murupara**	**0.95**	**104**	P	Pn	08 10 42.9	-0.3
PKVZ	**Pokaka**	**1.05**	**191**	P	Pn	08 10 45.4	+1.4
MTHZ	**Maungataniwha**	**1.14**	**122**	P	Pn	08 10 44.6	-0.1

RTZ	Ruatahuna	1.15	109	P	Pn	08 10 44.4 -0.3
BKZ	Black Stump Fm	1.15	143	P	Pn	08 10 44.6 -0.1
URZ	Urewera	1.19	91	P	Pn	08 10 44.6 -0.3
MKAZ	Moumakai	1.20	343	P	Pn	08 10 49.5 +4.5
NMHZ	Naumai	1.27	132	P	Pn	08 10 46.5 +0.9
BHHZ	Black Hill Sta	1.28	164	P	Pn	08 10 46.1 +0.4
KWHZ	Kaweka Forest	1.33	151	P	Pn	08 10 42.2 -3.9
RAHZ	Arahi	1.34	120	P	Pn	08 10 46.6 +0.4
SNGZ	Shannon Statio	1.47	111	P	Pn	08 10 47.3 +0.1
ARHZ	Aropaoanui	1.49	133	P	Pn	08 10 47.6 +0.3
MWZ	Matawai	1.52	93	P	Pn	08 10 47.7 -0.1
RUGZ	Raukumara Rang	1.67	81	P	Pn	08 10 48.6 -0.6
RIGZ	Rimuhau	1.76	105	P	Pn	08 10 50.0 +0.1
TKGZ	Te Karaka	1.78	97	P	Pn	08 10 50.8 +0.8
KNZ	Kokohu	1.80	116	P	Pn	08 10 50.2 0.0
HAZ	Te Kaha	1.80	75	P	Pn	08 10 50.2 0.0
TSZ	Takapari Road	1.82	171	P	Pn	08 10 51.1 +0.7
KAHZ	Kahuranaki	1.83	147	P	Pn	08 10 51.0 +0.5
MHGZ	Mahia Peninsul	2.02	117	P	Pn	08 10 52.6 +0.2
CNGZ	Carnagh Statio	2.07	97	P	Pn	08 10 53.5 +0.6
PUZ	Puketiti	2.11	86	P	Pn	08 10 53.8 +0.4
WMGZ	Waiomatatini S	2.27	80	P	Pn	08 10 55.8 +0.7
MRZ	Mangatainoka R	2.40	180	P	Pn	08 10 56.9 +0.4
BFZ	Birch Farm	2.47	168	P	Pn	08 10 57.4 +0.1
TIWZ	Tintock	2.53	175	P	Pn	08 10 58.2 +0.3
OGWZ	Otaki Gorge	2.58	187	P	Pn	08 10 59.4 +1.0
HOWZ	Holdsworth Sta	2.64	181	P	Pn	08 10 59.4 +0.3
KIW	Kapiti Island	2.65	191	P	Pn	08 11 00.0 +0.7
CAW	Cannon Point	2.88	188	P	Pn	08 11 02.5 +0.7
TRWZ	Traveller	3.14	179	P	Pn	08 11 04.9 0.0
MSWZ	Moikau Station	3.17	185	P	Pn	08 11 05.3 +0.1
PLWZ	Palliser	3.32	184	P	Pn	08 11 07.0 -0.1
TUWZ	Tuamarina	3.41	201	P	Pn	08 11 09.4 +1.3
BSWZ	Blackbirch Sta	3.70	200	P	Pn	08 11 17.0 +5.4
THZ	Tophouse	4.07	210	P	Pn	08 11 18.0 +1.8
KHZ	Kahutara	4.44	200	P	Pn	08 11 22.0 +1.2
GVZ	Greta Valley S	5.09	202	P	Pn	08 11 29.9 +0.8
LTZ	Lake Taylor	5.18	208	P	Pn	08 11 31.7 +1.4
MQZ	McQueen's Vall	5.88	201	P	Pn	08 11 38.8 -0.3

IDC ***05*** *08:36:58.7±2.5, 36°.60N×10°.00W, h0km, mb3.2/1, mb1 4.2/3, mb1mx3.4/52, mbtmp4.0/3, ML4.4/2, MS3.0/1, Ms1 2.9/1, ms1mx2.2/23, Error ellipse: s-maj=60.1km s-min=38.9km az=90.0*

CNRM ***05*** *08:37:04.4±1.1, 36°.27N×9°.66W, h15km, Error ellipse: s-maj=9.9km s-min=7.6km az=159.0*

SFS ***05*** *08:37:06.0, 36°.78N×9°.73W, ML3.8, SW. CABO DE SAN VICENTE*

INMG ***05*** *08:37:06.7±3.0, 36°.65N×9°.79W, h31km±15km, ML3.8, Error ellipse: s-maj=8.5km s-min=4.5km az=62.0*

MDD ***05*** *08:37:06.2±1.1, 36°.72N×9°.74W, h24km±15km, mbLg3.9/52, Error ellipse: s-maj=15.8km s-min=6.1km az=50.0, PRXIMO*

LDG ***05*** *08:37:06.7, 36°.68N×9°.76W, h30km*

IGIL ***05*** *08:37:07.1, 36°.70N×9°.67W, h19km, ML3.9*

ISC 05 08:37:02.3±1.0, 36°.62N±0°.03×9°.75W±0°.05, h41km±16km, n158, σ3$02/277, 10C-9D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.90	55	⇑P	Pn	08 37 21.8	+3.3
	281nm,0.3s,SNR=18						
PFVI				S	Sn	08 37 32.3	+1.9
	4μm,0.2s,SNR=60						
PFVI	Vila Bisbo	0.90	55	P	Pn	08 37 21.4	+2.9
	SNR=1083						
PFVI	Vila Bisbo	0.90	55	⇑iP	Pn	08 37 21.8	+3.3
PFVI				eS	Sn	08 37 32.4	+2.1
PFVI				A	A	08 37 33.4	
	1μm,0.1s						
MORF	Marmelete	1.12	52	eP	Pn	08 37 24.8	+3.3
MORF				eS	Sn	08 37 37.6	+1.9
MORF				AML	AML	08 37 38.5	
	comp=N,3μm,0.2s						
MORF	Marmelete	1.12	52	P	Pn	08 37 24.8	+3.3
MORF				S	Sn	08 37 37.6	+1.9
	comp=N,3μm,0.2s						
MORF	Marmelete	1.12	52	⇑iP	Pn	08 37 24.8	+3.3
MORF				eS	Sn	08 37 37.9	+2.2
MORF				A	A	08 37 38.2	
	comp=N,2μm,0.1s						
PTEO	Sao Teotonio	1.24	41	eP	Pn	08 37 26.4	+3.3
PTEO				eS	Sn	08 37 41.2	+2.6
PTEO				A	A	08 37 42.2	
	comp=N,704nm,0.2s						
PBDV	Barranco-do-Ve	1.58	66	⇑iPn	Pn	08 37 31.4	+3.5
PBDV				eSn	Sn	08 37 49.4	+2.2
PBDV				A	A	08 38 00.3	
	comp=N,270nm,0.5s						
PCVE	Castro Verde	1.70	53	⇑ePn	Pn	08 37 33.1	+3.6
PCVE				eSn	Sn	08 37 52.3	+2.3
PCVE				A	A	08 37 54.3	
	comp=N,643nm,0.4s						
PNCL	Nicolau / Gran	1.78	33	⇓ePn	Pn	08 37 33.8	+3.2
PNCL				eSn	Sn	08 37 53.9	+1.9
PNCL				A	A	08 37 55.2	
	comp=N,350nm,0.1s						
PVAQ	Vaqueiros	1.81	64	P	Pn	08 37 33.9	+3.0
	SNR=440						
PVAQ	Vaqueiros	1.81	64	⇑iPn	Pn	08 37 34.3	+3.4
PVAQ				eSn	Sn	08 37 54.8	+2.2
PVAQ				A	A	08 37 57.2	
	comp=N,388nm,0.3s						
EGRO	El Granado	2.03	63	⇑P	Pn	08 37 37.2	+3.3
	comp=N,9.8nm,0.2s,SNR=18						
EGRO				S	Sn	08 37 59.5	+1.4
	comp=N,143nm,0.1s						
PBEJ	Beja	2.06	46	⇓ePn	Pn	08 37 37.4	+3.0
PBEJ				eSn	Sn	08 38 00.3	+1.5
PBEJ				A	A	08 38 02.7	
	comp=N,259nm,0.2s						
LIS	Lisbon	2.15	13	eP	Pn	08 37 39.0	+3.4
LIS				eS	Sn	08 38 02.4	+1.4
LIS				AML	AML	08 38 05.4	
	comp=N,738nm,0.1s						
LIS	Lisbon	2.15	13	P	Pn	08 37 39.0	+3.4
LIS				S	Sn	08 38 02.4	+1.4
	comp=N,738nm,0.1s						
LIS	Lisbon	2.15	13	ePn	Pn	08 37 39.0	+3.4
LIS				eSn	Sn	08 38 03.1	+2.1
LIS				A	A	08 38 05.4	
	comp=N,458nm,0.9s						
INMG	Instituto de M	2.21	13	ePn	Pn	08 37 40.0	+3.6
INMG				eSn	Sn	08 38 05.4	+2.9
EVO	Evora	2.36	35	P	Pn	08 37 41.2	+2.7
EVO				S	Sn	08 38 07.4	+1.3
EVO	Evora	2.36	35	eP	Pn	08 37 41.2	+2.7
EVO				eS	Sn	08 38 07.4	+1.3
EVO	Evora	2.36	35	ePn	Pn	08 37 41.5	+3.0
EVO				eSn	Sn	08 38 07.6	+1.4
EVO				A	A	08 38 08.3	
	comp=N,492nm,0.1s						
PMAFR	Mafra	2.36	9	⇓P	Pn	08 37 41.6	+3.0
	comp=N,154nm,0.3s,SNR=18						
PMAFR				S	Sn	08 38 06.8	+0.5
	comp=N,1μm,0.1s,SNR=36						
PMAFR	Mafra	2.36	9	⇓ePn	Pn	08 37 41.6	+3.0
PMAFR				eSn	Sn	08 38 07.9	+1.6
PMAFR				A	A	08 38 10.7	
	comp=N,1μm,0.2s						
PBAR	Barrancos	2.66	53	ePn	Pn	08 37 45.8	+3.2
PBAR				eSn	Sn	08 38 15.1	+1.5
PBAR				A	A	08 38 17.3	
	comp=N,181nm,0.3s						
EMIN	Mina Concepcio	2.71	64	⇑P	Pn	08 37 46.2	+2.9
	comp=N,7.3nm,0.3s,SNR=18						
EMIN				S	Sn	08 38 15.8	+0.9
	comp=N,108nm,0.1s						
PSBE	So Bento	2.99	14	⇓ePn	Pn	08 37 50.3	+3.1
PSBE				eSn	Sn	08 38 22.7	+0.9
PSBE				A	A	08 38 26.1	
	comp=N,201nm,0.2s						
ESPR	Espera	3.14	84	P	Pn	08 37 52.6	+3.4
	comp=N,31nm,0.2s,SNR=53						
ESPR				S	Sn	08 38 26.9	+1.5
	comp=N,613nm,0.2s,SNR=14						
PMRV	Marv??o	3.37	33	ePn	Pn	08 37 55.4	+3.0
PMRV				eSn	Sn	08 38 31.4	+0.3
PMRV				A	A	08 38 33.5	
	comp=N,324nm,0.3s						
EJIF	Jimena Fronter	3.45	91	P	Pn	08 37 57.7	+4.2
	comp=N,19nm,0.1s,SNR=7.9						
RTC	Rabat Centre	3.53	137	P	Pn	08 37 56.2	+1.5
RTC				S	Sn	08 38 32.6	-2.6
PCAS	Casmilo, Conde	3.57	16	ePn	Pn	08 37 58.1	+3.0
PCAS				eSn	Sn	08 38 36.5	+0.5
ECEU	Ceuta	3.61	100	P	Pn	08 37 59.7	+4.1
	comp=N,8.0nm,0.3s,SNR=12						
ECEU				S	Sn	08 38 39.4	+2.4
	comp=N,15nm,0.1s,SNR=7.9						
CEU	Ceuta	3.61	100	P	Pn	08 38 00.2	+4.5
CEU				S	Sn	08 38 41.1	+4.1
CEU	Ceuta	3.61	100	eP	Pn	08 38 00.2	+4.5
CEU				eS	Sn	08 38 41.1	+4.1
RSA	Sarsar	3.63	117	P	Pn	08 37 58.4	+2.3
RSA				S	Sn	08 38 38.1	+0.4
SMIR	Smir Dam	3.66	104	P	Pn	08 38 00.8	+4.5
SMIR				S	Sn	08 38 39.6	+1.4
PCBR	Castelo Branco	3.68	28	ePn	Pn	08 38 00.0	+3.3
PCBR				eSn	Sn	08 38 39.3	+0.5
PCBR				A	A	08 38 42.3	
	comp=N,98nm,0.4s						
COI	Coimbra	3.73	16	ePn	Pn	08 38 00.5	+3.1
COI				eSn	Sn	08 38 40.4	+0.3
COI				A	A	08 38 44.0	
	comp=N,190nm,0.2s						
ECAB	El Cabril	3.75	66	P	Pn	08 38 00.6	+3.0
	comp=N,9.9nm,0.3s,SNR=91						
ECAB				S	Sn	08 38 40.6	+0.1
	comp=N,113nm,0.2s						
HORN	Hornachuelos	3.79	70	P	Pn	08 38 01.2	+3.0
	SNR=94						
AVE	Averroes	3.83	149	P	Pn	08 38 01.7	+3.0
	SNR=14						
AVE				S	Sn	08 38 40.4	-2.0
AVE	Averroes	3.83	149	⇓iP	Pn	08 38 01.5	+2.8
AVE				eS	Sn	08 38 42.3	-0.2
CHEFC	Chefchaouen	3.89	112	P	Pn	08 38 02.2	+2.7
CHEFC				S	Sn	08 38 44.5	+0.5
EMIJ	Mijas	4.01	89	P	Pn	08 38 05.0	+3.8
	comp=N,8.0nm,0.7s,SNR=9.7						
EMIJ				S	Sn	08 38 48.5	+1.7
	comp=N,35nm,0.3s,SNR=4.9						
ZHG	ZHG	4.06	140	P	Pn	08 38 04.4	+2.4
MTE	Manteigas	4.15	24	ePn	Pn	08 38 06.2	+3.0
MTE				eSn	Sn	08 38 50.1	-0.4
MTE				A	A	08 38 55.3	
	comp=N,113nm,0.6s						
EMAL	Malaga-Limoner	4.28	86	P	Pn	08 38 08.4	+3.5
EMAL				S	Sn	08 38 55.1	+1.6
EMAL	Malaga-Limoner	4.28	86	eP	Pn	08 38 08.4	+3.5
EMAL				eS	Sn	08 38 55.1	+1.6
PVIS	Viseu	4.34	19	ePn	Pn	08 38 08.6	+2.8
PVIS				eSn	Sn	08 38 55.2	0.0
PVIS				A	A	08 38 59.3	
	comp=N,141nm,0.3s						
EADA	Adamuz	4.40	68	P	Pn	08 38 09.6	+3.0
	comp=N,6.3nm,0.2s,SNR=34						
EADA				S	Sn	08 38 56.2	-0.4
	SNR=7.9						
SICH	Sidi Chahed	4.41	123	P	Pn	08 38 07.2	+0.5
SICH				S	Sn	08 38 54.8	-1.9
SRHM	Skhour des Reh	4.41	159	P	Pn	08 38 09.3	+2.5
EPLA	Plasencia	4.49	39	P	Pn	08 38 10.6	+2.8
	comp=N,19nm,0.3s,SNR=78						
EPLA				S	Sn	08 38 58.2	-0.6
	comp=N,229nm,0.2s						
EGOR	Sierra Gorda,	4.55	82	P	Pn	08 38 12.8	+4.0
	comp=N,0.7nm,0.1s,SNR=7.9						
EGOR				S	Sn	08 39 01.4	+1.0
	comp=N,38nm,0.4s,SNR=7.9						
PTO	Porto	4.60	11	ePn	Pn	08 38 12.0	+2.7
PTO				eSn	Sn	08 39 00.3	-1.2
IFR	Ifrane	4.89	128	eP	Pn	08 38 15.7	+2.2
IFR				eS	Sn	08 39 07.2	-1.8
PVRL	Vila Real	4.91	18	ePn	Pn	08 38 16.3	+2.7
PVRL				eSn	Sn	08 39 08.6	-0.6
PVRL				A	A	08 39 11.6	
	comp=N,260nm,0.3s						
ELGU	Los Guajares,	4.92	85	P	Pn	08 38 17.9	+4.1
	comp=N,0.5nm,0.1s,SNR=7.9						
ELGU				S	Sn	08 39 11.0	+1.4
	comp=N,64nm,0.3s,SNR=7.9						
EAH	EAH	4.96	178	P	Pn	08 38 15.7	+1.5
EAH				S	Sn	08 39 07.8	-2.6
LCRM	LCR	4.96	125	P	Pn	08 38 19.1	+4.7
LCRM				S	Sn	08 39 09.1	-1.5
MVO	Moncorvo	5.01	24	P	Pn	08 38 17.4	+2.4
	comp=N,46nm,0.2s,SNR=138						
MVO				S	Sn	08 39 10.7	-1.0
	comp=N,76nm,0.2s,SNR=20						
MVO	Moncorvo	5.01	24	ePn	Pn	08 38 17.6	+2.6
MVO				eSn	Sn	08 39 10.9	-0.8
EQUE	Quentar	5.09	82	P	Pn	08 38 20.5	+4.4
	comp=N,2.8nm,0.3s,SNR=5.8						
EQUE				S	Sn	08 39 14.7	+1.0
	comp=N,10nm,0.2s,SNR=5.4						
PAB	San Pablo	5.17	54	⇓P	Pn	08 38 19.7	+2.6
	comp=N,0.5nm,0.1s,SNR=18						
PAB				S	Sn	08 39 13.8	-1.8
	comp=N,20nm,0.1s,SNR=7.9						
AKLM	AKL	5.24	112	P	Pn	08 38 21.4	+3.3
AKLM				S	Sn	08 39 11.2	-6.1
PCAB	Cabril	5.26	14	ePn	Pn	08 38 20.9	+2.5
PCAB				eSn	Sn	08 39 16.2	-1.5
CZD	Col de Zad	5.27	131	P	Pn	08 38 20.6	+1.8
CZD				S	Sn	08 39 16.4	-2.1
ELOB	Lobios	5.40	14	P	Pn	08 38 22.8	+2.4
	comp=N,28nm,0.2s,SNR=177						
ELOB				S	Sn	08 39 19.2	-2.2
	comp=N,68nm,0.1s,SNR=14						
EQES	Quesada	5.46	75	P	Pn	08 38 24.0	+2.8
	comp=N,4.3nm,0.5s,SNR=15						
EQES				S	Sn	08 39 22.6	-0.2
	comp=N,67nm,0.2s,SNR=24						
PGAV	Gavieira, Arco	5.46	12	ePn	Pn	08 38 23.8	+2.6
PGAV				eSn	Sn	08 39 21.6	-1.2
EALB	Alboran	5.47	95	S	Sn	08 39 21.0	-1.8
	comp=N,11nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	5.49	54	Pn	Pn	08 38 24.1	+2.5
	comp=N,2.7nm,0.3s,baz=241,slow=14,SNR=55						
ESDC				Sn	Sn	08 39 23.8	+0.5
	comp=N,6.3nm,0.3s,baz=244,slow=18,SNR=7.6						
ESDC	Sonseca Array	5.49	54	P	Pn	08 38 24.0	+2.4
	comp=N,5.1nm,0.2s,baz=241,slow=13,SNR=31						
ESDC				S	Sn	08 39 21.9	-1.5
	comp=N,50nm,0.3s,baz=240,slow=23,SNR=106						
EBER	Berja	5.51	85	P	Pn	08 38 26.8	+4.8
	comp=N,7.8nm,0.9s,SNR=5.6						
EBER				S	Sn	08 39 25.4	+1.1
	comp=N,15nm,0.2s,SNR=4.6						
MD31	MD31	5.56	131	P	Pn	08 38 24.7	+2.2
MD31				S	Sn	08 39 20.8	-4.3
EZAM	Zamans	5.58	8	P	Pn	08 38 25.3	+2.5
	comp=N,14nm,0.1s,SNR=7.9						
EZAM				S	Sn	08 39 22.8	-2.9
	comp=N,20nm,0.1s,SNR=7.9						
OUK	Oukaimeden	5.62	163	P	Pn	08 38 25.9	+2.3
OUK				S	Sn	08 39 23.0	-4.1
GOG	Mont Gurugu	5.66	102	P	Pn	08 38 29.8	+6.0
GOG				S	Sn	08 39 27.3	-0.3
PBRG	Braganca	5.68	23	ePn	Pn	08 38 26.7	+2.5
PBRG				eSn	Sn	08 39 26.7	-1.4
PBRG				A	A	08 39 29.2	
	comp=N,42nm,0.5s						
MDT	Midelt	5.69	130	Pn	Pn	08 38 26.4	+2.1
	comp=N,23nm,0.3s,baz=329,slow=5.9,SNR=708						
MDT				Sn	Sn	08 39 25.5	-2.9
	comp=N,20nm,0.3s,baz=227,slow=17,SNR=30						
MDT	Midelt	5.69	130	P	Pn	08 38 26.7	+2.4
MDT				S	Sn	08 39 26.8	-1.6
ECAL	Calabor	5.81	23	⇓P	Pn	08 38 28.4	+2.5
	comp=N,31nm,0.3s,SNR=18						
ECAL				S	Sn	08 39 30.3	-0.9
	comp=N,55nm,0.2s,SNR=10						
SESP	Santiago Espad	5.93	73	P	Pn	08 38 30.5	+2.8
	comp=N,5.8nm,0.3s,SNR=7.9						
SESP				S	Sn	08 39 33.6	-0.9
	comp=N,42nm,0.1s,SNR=7.9						
SESP	Santiago Espad	5.93	73	P	Pn	08 38 31.2	+3.5
SESP				S	Sn	08 39 36.8	+2.3
GUD	Guadarrama	5.94	46	⇓P	Pn	08 38 31.5	+3.6
	comp=N,6.4nm,0.3s,SNR=18						
GUD				S	Sn	08 39 33.8	-0.9
	comp=N,13nm,0.1s						
ENIJ	Nijar	6.06	84	S	Sn	08 39 36.4	-1.1
	comp=N,19nm,0.4s,SNR=7.9						
TTIG	Tnine Tigouga,	6.15	169	P	Pn	08 38 32.6	+1.8
TTIG				S	Sn	08 39 34.8	-5.1
OUZM	OUZ	6.21	156	P	Pn	08 38 34.1	+2.5
OUZM				S	Sn	08 39 40.5	-0.9
TAF	Taforalt	6.23	105	P	Pn	08 38 35.1	+3.3
TAF				S	Sn	08 39 43.0	+1.2
JBK	JBK	6.29	109	P	Pn	08 38 33.5	+0.9
JBK				S	Sn	08 39 41.1	-2.2
UCM	Universidad Co	6.29	52	P	Pn	08 38 36.1	+3.5
UCM				S	Sn	08 39 42.6	-0.6
UCM	Universidad Co	6.29	52	eP	Pn	08 38 36.1	+3.5
UCM				eS	Sn	08 39 42.6	-0.6
EAGO	Agolada(Pontev	6.31	11	P	Pn	08 38 34.8	+2.1
	comp=N,4.5nm,0.2s,SNR=7.9						
EAGO				S	Sn	08 39 39.4	-4.1
	SNR=7.9						
GOLM	Goulmima	6.31	140	P	Pn	08 38 36.1	+3.1
GOLM				S	Sn	08 39 45.1	+1.3
EMAZ	Mazaricos	6.35	5	⇑P	Pn	08 38 35.1	+1.8
	comp=N,18nm,0.2s,SNR=18						
EMAZ				S	Sn	08 39 41.5	-3.0
	comp=N,44nm,0.1s,SNR=7.9						
PMPST	Porto Santo, M	6.46	239	ePn	Pn	08 38 36.5	+1.6
PMPST				eSn	Sn	08 39 39.4	-7.9
PMPST				A	A	08 39 49.9	
	comp=N,32nm,0.4s						
PMPS	Porto Santo	6.47	239	eSn	Sn	08 39 41.2	-6.4
TZRR	Tazzarine	6.78	148	P	Pn	08 38 41.4	+2.0
TZRR				S	Sn	08 39 53.4	-2.0
ETOB	Tobarra	6.82	70	P	Pn	08 38 42.5	+2.7
	comp=N,4.0nm,0.5s,SNR=18						
ETOB				S	Sn	08 39 54.6	-1.6
	comp=N,8.1nm,0.1s,SNR=6.7						
EMUR	La Murta	6.90	77	P	Pn	08 38 44.0	+3.1
	comp=N,0.3nm,0.3s,SNR=7.9						
EMUR				S	Sn	08 39 56.6	-1.5
	comp=N,19nm,0.4s,SNR=7.9						
ARF	Arif	6.91	137	P	Pn	08 38 43.3	+2.1
ARF				S	Sn	08 39 56.9	-1.7
EPON	Pontenova	6.99	16	P	Pn	08 38 44.8	+2.7
	comp=N,4.7nm,0.3s,SNR=28						
EPON				S	Sn	08 39 56.5	-3.8
	comp=N,13nm,0.2s,SNR=7.9						
PMAR	Madeira	7.06	239	P	Pn	08 38 44.6	+1.3
PMAR				S	Sn	08 39 60.0	-2.4
PMOZ	Porto Moniz, M	7.21	240	S	Sn	08 39 59.8	-5.9
	comp=N,50nm,0.4s,SNR=7.9						
PMOZ	Porto Moniz, M	7.21	240	P	Pn	08 38 43.1	-2.1
PMOZ	Porto Moniz, M	7.21	240	ePn	Pn	08 38 47.4	+2.2
PMOZ				eSn	Sn	08 40 00.0	-5.8
PMOZ				A	A	08 40 11.7	
	comp=N,36nm,0.6s						
TDRA	Tendrara	7.28	117	P	Pn	08 38 48.4	+2.1
TDRA				P		08 38 49.0	
	SNR=10						
TDRA				S	Sn	08 40 05.8	-2.0
ETOR	Torete	7.33	53	⇑P	Pn	08 38 50.0	+3.1
	comp=N,31nm,0.2s,SNR=18						
ETOR				S	Sn	08 40 05.7	-3.2
	comp=N,170nm,0.4s,SNR=7.9						
ZGR	Zagora	7.34	151	S	Sn	08 40 04.9	-4.3
EARI	Arriondas	7.53	26	P	Pn	08 38 53.5	+3.9
	comp=N,3.0nm,0.3s,SNR=26						
EARI				S	Sn	08 40 11.3	-2.3
	comp=N,3.9nm,0.2s,SNR=7.9						
ECHE	Chera	7.53	64	P	Pn	08 38 53.0	+3.4
	comp=N,0.3nm,0.3s,SNR=7.9						
ECHE				S	Sn	08 40 11.9	-1.8
	comp=N,8.8nm,0.3s,SNR=7.9						
AFON	Font Roja	7.59	72	P	Pn	08 38 53.5	+3.1
	comp=N,0.9nm,0.2s,SNR=7.9						
AFON				S	Sn	08 40 13.9	-1.2
	comp=N,12nm,0.3s,SNR=7.9						
EBEN2	Beniarda presa	7.86	72	P	Pn	08 38 57.2	+3.2
	comp=N,0.7nm,0.1s,SNR=7.9						
EBEN2				S	Sn	08 40 19.6	-2.0
	comp=N,11nm,0.1s,SNR=7.9						
EFAM	Famara	8.12	204	S	Sn	08 40 22.6	-5.4
	comp=N,16nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	8.18	60	P	Pn	08 39 02.7	+4.1
	comp=N,2.4nm,0.3s,SNR=18						
EMOS				S	Sn	08 40 27.1	-2.7
	comp=N,10nm,0.1s,SNR=7.9						
ELAN	Lanestosa	8.19	34	P	Pn	08 39 02.0	+3.3
	comp=N,1.6nm,0.3s,SNR=15						
ELAN				S	Sn	08 40 26.2	-3.7
	comp=N,4.9nm,0.2s,SNR=7.9						
CFUE	Fuerteventura	8.70	205	S	Sn	08 40 36.0	-6.2
	comp=N,14nm,0.2s,SNR=7.9						
ESAC	San Caprasio	8.82	52	P	Pn	08 39 11.3	+4.0
	comp=N,27nm,0.3s,SNR=5.0						
ESAC				S	Sn	08 40 41.7	-3.8
	comp=N,36nm,0.3s,SNR=6.2						
ERTA	Horta de San J	8.98	58	P	Pn	08 39 13.6	+4.1
	comp=N,1.3nm,0.3s,SNR=7.9						
ERTA				S	Sn	08 40 46.0	-3.4
	comp=N,3.5nm,0.2s,SNR=5.9						
EORO	Oroz-Betelu	9.03	43	P	Pn	08 39 13.1	+3.1
	comp=N,7.7nm,1.1s,SNR=15						
EORO				S	Sn	08 40 45.1	-5.2
	comp=N,9.8nm,0.3s,SNR=7.9						
EALK	Alkurruntz	9.14	41	P	Pn	08 39 13.5	+1.9
	comp=N,80nm,0.5s,SNR=35						
EALK				S	Sn	08 40 48.6	-4.6
	comp=N,19nm,0.4s,SNR=7.9						
SJPF	Ste Jean	9.22	43	ePn	Pn	08 39 15.0	+2.4
SJPF				eSn	Sn	08 40 51.1	-3.9
	comp=N,6.1nm,0.2s						
SJPF	Ste Jean	9.22	43	P	Pn	08 39 15.0	+2.4
SJPF				S	Sn	08 40 51.1	-3.9
	comp=N,3.1nm,0.2s						
ETSF	Etsaut	9.45	46	ePn	Pn	08 39 18.3	+2.4
ETSF				eSn	Sn	08 40 56.9	-3.9
ETSF

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**12.64**	**20**	P	**Pn**	**08 39 59.7**	**+0.3**
ROSF				S	**Sn**	**08 42 12.4**	**-6.3**
SGMF	**Saint Gilles**	**12.78**	**22**	*e*P	P	08 40 08.6	-2.8
SGMF	**Saint Gilles**	**12.78**	**22**	P	P	08 40 08.6	-2.8
TCF	**Toulx Ste Croi**	**13.17**	**39**	*e*Pn	**Pn**	**08 40 07.4**	**+0.8**
TCF				*e*Sn	**Sn**	**08 42 24.9**	**-6.8**
TCF	**Toulx Ste Croi**	**13.17**	**39**	P	**Pn**	**08 40 07.4**	**+0.8**
TCF				S	**Sn**	**08 42 24.9**	**-6.8**
BGF	**Bois d'Agland**	**13.68**	**40**	*e*Sn	**Sn**	**08 42 37.2**	**-6.8**
BGF	**Bois d'Agland**	**13.68**	**40**	S	**Sn**	**08 42 37.2**	**-6.8**
HYF	**Humbligny**	**14.06**	**37**	*e*Pn	**Pn**	**08 40 19.5**	**+0.7**
HYF				*e*Sn	Sn	08 42 44.7	-8.7
HYF	**Humbligny**	**14.06**	**37**	P	**Pn**	**08 40 19.5**	**+0.7**
HYF				S	Sn	08 42 44.7	-8.7
SSF	**Saint Saulge**	**14.35**	**39**	*e*Pn	**Pn**	**08 40 24.7**	**+2.0**
SSF				*e*Sn	**Sn**	**08 42 54.2**	**-6.2**
SSF	**Saint Saulge**	**14.35**	**39**	P	**Pn**	**08 40 24.7**	**+2.0**
SSF				S	**Sn**	**08 42 54.2**	**-6.2**
TORD	**Torodi Ar. Bea**	**25.53**	**153**	P	**P**	**08 42 29.7**	**+2.6**
	comp=N,0.2nm,0.4s,baz=332,slow=10,SNR=1.6						
KBZ	**Khabaz**	**40.27**	**63**	LR	LR	09 05 00.7	
	comp=N,18nm,18.0s,baz=184,slow=42						
WRA	**Warramunga Arr**	**144.53**	**72**	PKP	**PKPdf**	**08 56 36.8**	**+2.1**
	comp=N,0.1nm,0.4s,baz=318,slow=2.6,SNR=7.5						
ASAR	**Alice Springs**	**146.22**	**78**	PKPbc	**PKPab**	**08 56 41.7**	**+2.3**
	comp=N,0.3nm,0.5s,baz=306,slow=2.4,SNR=6.7						

*NNC **05** 08:47:05.0±3.0, 53°.74N×90°.49E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=31.1km s-min=21.0km az=174.0, Suspected Mining explosion.*
*IDC **05** 08:47:10.4±2.2, 53°.33N×90°.22E, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.3/43, mbtmp3.5/5, ML3.2/4, MS2.7/4, Ms1 2.7/4, ms1mx2.4/41, Error ellipse: s-maj=22.0km s-min=18.6km az=94.0*

ISC 05 08:47:10.6±1.4, 53°.4N±0°.1×90°.11E±0°.08, h0km, n13, σ2s42/15, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.19**	**281**	*i*		09 12 45.7	
	baz=87,slow=295,SNR=6.1						
ZALV	**Zalesovo Beam**	**3.19**	**281**	Pn	**Pn**	**08 48 03.7**	**+1.8**
	2.7nm,0.3s,baz=103,slow=16,SNR=16						
ZALV				Lg	Lg	08 48 55.5	
	5.8nm,0.3s,baz=99,slow=27,SNR=11						
ZALV				LR	LR	08 49 43.1	
	comp=Z,40nm,21.2s,baz=338,slow=47						
KURK	**Kurchatov**	**7.58**	**254**	⇓Pn	**Pn**	**08 48 59.7**	**-2.6**
	7.5nm,0.8s						
KURK				⇓Sn	**Sn**	**08 50 31.8**	**+2.9**
	34nm,1.1s						
KURK				⇓Lg	Lg	08 51 18.6	
	62nm,0.9s						
KURBB	**Kurchatov Arra**	**7.67**	**253**	Pn	**Pn**	**08 49 03.3**	**-0.2**
	0.3nm,0.3s,baz=66,slow=15,SNR=17						
KURBB				Sn	**Sn**	**08 50 30.2**	**-0.9**
	0.1nm,0.3s,baz=65,slow=24,SNR=5.1						
KURBB				Lg	Lg	08 51 14.3	
	0.0nm,0.3s,baz=67,slow=30,SNR=1.5						
KURBB	**Kurchatov Arra**	**7.67**	**253**	⇑Pn	**Pn**	**08 49 03.1**	**-0.5**
	11nm,0.8s						
KURBB				⇑Sn	**Sn**	**08 50 34.1**	**+2.9**
	72nm,0.7s						
KURBB				⇓Lg	Lg	08 51 21.1	
	138nm,0.8s						
MK31	**Makanchi Array**	**8.33**	**220**	⇑Pn	**Pn**	**08 49 13.0**	**+0.5**
	4.8nm,0.7s,baz=40,slow=14,SNR=32						
MK31				⇑Sn	**Sn**	**08 50 51.5**	**+4.2**
	8.0nm,0.8s,baz=44,slow=27,SNR=4.7						
MK31				⇓Lg	Lg	08 51 41.2	
	31nm,0.9s,baz=50,slow=28,SNR=5.0						
MKAR	**Makanchi Array**	**8.33**	**220**	Pn	**Pn**	**08 49 12.9**	**+0.4**
	0.8nm,0.3s,baz=40,slow=13,SNR=43						
MKAR				Sn	**Sn**	**08 50 44.6**	**-2.7**
	baz=36,slow=20,SNR=1.3						
MKAR				Lg	Lg	08 51 41.5	
	0.3nm,0.3s,baz=81,slow=40,SNR=2.1						
SONM	**Songino Array**	**11.75**	**112**	Sn	**Sn**	**08 52 10.9**	**-0.5**
	0.3nm,0.3s,baz=308,slow=16,SNR=2.6						
SONM				LR	LR	08 54 14.7	
	comp=Z,49nm,18.3s,baz=218,slow=36						
BVAR	**Borovoye Array**	**11.82**	**276**	Pn	**Pn**	**08 49 59.5**	**-0.8**
	0.4nm,0.3s,baz=76,slow=14,SNR=2.7						
BVAR				Sn	**Sn**	**08 52 09.0**	**-3.9**
	0.2nm,0.3s,baz=96,slow=24,SNR=1.5						
AAK	**Ala-Archa**	**14.99**	**230**	Lg	Lg	08 55 04.8	
	0.4nm,0.3s,baz=177,slow=18,SNR=1.9						
SPITS	**Spitsbergen Ar**	**35.06**	**340**	LR	LR	09 10 23.0	
	comp=Z,25nm,18.0s,baz=305,slow=40						
NOA	**NORSAR Array B**	**40.88**	**313**	LR	LR	09 14 16.7	
	comp=Z,8.4nm,20.1s,baz=345,slow=40						
ESDC	**Sonseca Array**	**61.53**	**299**	P	**P**	**08 57 29.9**	**+0.7**
	0.2nm,0.3s,baz=37,slow=8.7,SNR=4.3						

*IDC **05** 09:01:18.9±0.6, 26°.61S×114°.41W, h0km, mb4.1/12, mb1 4.4/12, mb1mx4.3/31, mbtmp4.1/12, MS4.2/16, Ms1 4.2/16, ms1mx4.1/24, Error ellipse: s-maj=24.7km s-min=17.9km az=72.0*
*NEIC **05** 09:01:20.7±1.1, 26°.7S±0°.1×114°.4W±0°.2, h10km±1km, mb4.8/118, Error ellipse: s-maj=26.6km s-min=19.6km az=268.0*
*GCMT **05** 09:01:22.7±0.2, 26°.95S±0°.02×114°.36W±0°.01, h14km, MW5.0/107, Moment Tensor Solution. s59,c77; s107,c177; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.05±.16; $M_{\theta\theta}$1.09±.12; $M_{\phi\phi}$1.97±.11; $M_{r\theta}$-0.38±.27; $M_{\theta\phi}$-3.06±.08; $M_{r\phi}$0.39±.23; Best double couple: $M_0$3.87400×10^16^ NP1:ϕ_s320.00000°, δ41.00000°, λ-88.00000°. NP2:ϕ_s138.00000°, δ49.00000°, λ-92.00000°. Principal axes: T 4.6600, Plg4.0000°, Azm229.0000°; N -1.5610, Plg1.0000°, Azm139.0000°; P -3.0890, Plg86.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 09:01:21.4±0.4, 26°.73S±0°.08×114°.35W±0°.09, h14km, n176, σ0s75/154, mb4.8/60, MS4.3/18, 2C, Easter Island region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**31.26**	**111**	T	T	09 40 37.7	
	baz=277,slow=74,SNR=2805						
H03N3	**Juan Fernandez**	**31.27**	**111**	T	T	09 40 40.0	
	baz=277,slow=74,SNR=3395						
H03N1	**Juan Fernandez**	**31.28**	**111**	T	T	09 40 42.4	
	baz=277,slow=74,SNR=3937						
TBI	**Tubuai**	**31.93**	**268**	*e*LQ	LQ	09 14 49.2	
	698nm,33.0s						
TBI				*e*LR	LR	09 15 55.3	
	comp=Z,906nm,29.2s,baz=112						
TBI	**Tubuai**	**31.93**	**268**	*e*T	T	09 41 02.3	
	37nm,0.3s						
PPT2	**Papeete2**	**33.78**	**278**	*e*S	**S**	**09 13 29.9**	**+3.3**
	111nm,26.0s						
PPT2				*e*LQ	LQ	09 15 44.4	
	661nm,31.5s						
PPT2				*e*LR	LR	09 16 48.2	
	comp=Z,1μm,26.0s,baz=110						
PPT	**Papeete**	**33.78**	**278**	LR	LR	09 17 51.8	
	comp=Z,374nm,20.4s,baz=104,slow=30						
LL01	**San Ignacio de**	**37.50**	**126**	P	**P**	**09 08 35.0**	**+0.4**
GO04	**Tololo Observa**	**38.28**	**106**	P	**P**	**09 08 41.2**	**-0.6**
GO04				IAmb	IAmb	09 08 43.5	
	comp=Z,30nm,1.2s						
LCO	**Las Campanas**	**38.49**	**104**	P	**P**	**09 08 43.0**	**-0.5**
PLCA	**Paso Flores**	**38.62**	**123**	P	**P**	**09 08 45.8**	**+1.5**
	comp=Z,17nm,0.9s,baz=277,slow=8.4,SNR=28						
PLCA				LR	LR	09 20 35.1	
	comp=Z,188nm,19.7s,baz=342,slow=30						
PLCA	**Paso Flores**	**38.62**	**123**	P	**P**	**09 08 45.8**	**+1.5**
PLCA				IAmb	IAmb	09 08 46.8	
	comp=Z,26nm,1.0s						
AC05	**El Transito**	**38.89**	**104**	P	**P**	**09 08 47.9**	**+1.1**
AC05				IAmb	IAmb	09 08 48.9	
	comp=Z,20nm,1.0s						
CO01	**Juntas del Tor**	**38.90**	**105**	P	**P**	**09 08 47.7**	**+0.7**
ZON	**Zonda**	**39.96**	**108**	P	**P**	**09 08 56.8**	**+1.2**
ZON				IAmb	IAmb	09 09 19.8	
	comp=Z,35nm,1.8s						
LPAZ	**La Paz**	**44.03**	**86**	P	**P**	**09 09 29.4**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=255,slow=6.2,SNR=6.6						
LPAZ				LR	LR	09 23 43.6	
	comp=Z,284nm,20.8s,baz=250,slow=30						
LPAZ	**La Paz**	**44.03**	**86**	P	**P**	**09 09 30.4**	**+0.8**
PMSA	**Palmer Station**	**49.54**	**154**	P	**P**	**09 10 11.6**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=292,slow=4.8,SNR=5.0						
PMSA	**Palmer Station**	**49.54**	**154**	P	**P**	**09 10 12.2**	**+0.8**
PMSA				IAmb	IAmb	09 10 19.4	
	comp=Z,22nm,1.8s						
ROSC	**El Rosal**	**49.84**	**57**	LR	LR	09 26 34.6	
	comp=Z,458nm,20.9s,baz=227,slow=30						
ROSC	**El Rosal**	**49.84**	**57**	P	**P**	**09 10 16.8**	**+2.0**
ROSC				IAmb	IAmb	09 10 17.8	
	comp=Z,21nm,1.4s						
CPUP	**Villa Florida**	**50.64**	**103**	P	**P**	**09 10 20.1**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=247,slow=7.9,SNR=4.3						
CPUP	**Villa Florida**	**50.64**	**103**	P	**P**	**09 10 20.3**	**0.0**
AFI	**Afiamalu**	**54.94**	**271**	LR	LR	09 29 14.8	
	comp=Z,119nm,20.0s,baz=106,slow=30						
RAO	**Raoul Island**	**55.57**	**252**	LR	LR	09 28 27.4	
	comp=Z,218nm,21.5s,baz=130,slow=29						
TXAR	**Lajitas Array**	**56.67**	**11**	P	**P**	**09 11 04.9**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=186,slow=8.7,SNR=8.5						
TXAR				LR	LR	09 30 57.1	
	comp=Z,224nm,18.4s,baz=0.0,slow=31						
TX31	**Lajitas Ar. Si**	**56.67**	**11**	P	**P**	**09 11 04.6**	**+0.2**
JCT	**Junction City**	**58.56**	**15**	P	**P**	**09 11 17.8**	**+0.2**
MNTX	**Cornudas Mount**	**58.72**	**9**	P	**P**	**09 11 18.5**	**-0.2**
121A	**Cookes Peak, D**	**59.26**	**6**	P	**P**	**09 11 22.3**	**-0.3**
ABTX	**Abilene, Hawle**	**60.66**	**14**	P	**P**	**09 11 32.0**	**0.0**
Y22D	**IRIS PASSCAL I**	**60.88**	**7**	P	**P**	**09 11 33.9**	**+0.2**
LENM	**Lemitar**	**60.96**	**7**	P	**P**	**09 11 34.3**	**+0.1**
MSTX	**Muleshoe**	**61.35**	**11**	P	**P**	**09 11 36.5**	**-0.3**
MSTX				IAmb	IAmb	09 11 44.6	
	comp=Z,11nm,1.1s						
W13A	**Hualapai Mount**	**61.49**	**0**	P	**P**	**09 11 37.2**	**-0.7**
W13A				IAmb	IAmb	09 11 47.9	
	comp=Z,12nm,1.4s						
W18A	**Petrified Fore**	**61.66**	**4**	P	**P**	**09 11 38.8**	**-0.2**
W18A				IAmb	IAmb	09 11 53.0	
	comp=Z,12nm,1.4s						
GSC	**Goldstone, Bar**	**61.73**	**358**	P	**P**	**09 11 39.8**	**+0.5**
ANMO	**Albuquerque**	**61.79**	**7**	P	**P**	**09 11 40.1**	**+0.3**
BELA	**Belgrano 2**	**61.91**	**166**	P	**P**	**09 11 40.3**	**+0.3**
BANI	**BANI**	**61.92**	**48**	P	**P**	**09 11 41.6**	**+0.7**
WUAZ	**Wupatki**	**61.97**	**3**	P	**P**	**09 11 41.5**	**+0.5**
WUAZ				IAmb	IAmb	09 11 50.4	
	comp=Z,7.5nm,1.1s						
BDFB	**Brasilia**	**62.24**	**94**	LR	LR	09 36 15.9	
	comp=Z,152nm,18.6s,baz=286,slow=34						
AMTX	**Amarillo**	**62.44**	**12**	P	**P**	**09 11 43.9**	**-0.1**
VNDA	**Vanda**	**62.77**	**194**	P	**P**	**09 11 45.9**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=82,slow=6.2,SNR=4.2						
VNDA				LR	LR	09 33 16.2	
	comp=Z,163nm,18.5s,baz=92,slow=30						
U15A	**North Rim**	**62.84**	**2**	P	**P**	**09 11 48.1**	**+1.1**
SHPR	**Sheep Range**	**62.90**	**359**	P	**P**	**09 11 48.2**	**+1.0**
143A	**Socs Landing,**	**63.01**	**22**	P	**P**	**09 11 48.7**	**+0.9**
TPNV	**Topopah Spring**	**63.36**	**358**	P	**P**	**09 11 51.5**	**+1.2**
TPNV				IAmb	IAmb	09 12 11.0	
	comp=Z,14nm,1.6s						
LCMT	**Little Creek M**	**63.41**	**1**	P	**P**	**09 11 51.0**	**+0.4**
KNB	**Kanab**	**63.42**	**1**	P	**P**	**09 11 51.7**	**+1.0**
QSPA	**South Pole Qui**	**63.44**	**180**	P	**P**	**09 11 50.8**	**+0.3**
PRN	**Pahroc Range**	**63.80**	**359**	P	**P**	**09 11 53.6**	**+0.5**
PRN				IAmb	IAmb	09 12 02.9	
	comp=Z,11nm,1.1s						
MVCO	**Mesa Verde**	**63.83**	**5**	P	**P**	**09 11 53.7**	**+0.2**
CCUT	**Cedar City**	**63.94**	**1**	P	**P**	**09 11 55.1**	**+0.9**
SZCU	**Shurtz Canyon**	**63.99**	**1**	P	**P**	**09 11 54.3**	**-0.2**
352A	**Blakely**	**64.33**	**28**	P	**P**	**09 11 56.9**	**+0.3**
MTPU	**Mount Pierson**	**64.46**	**2**	P	**P**	**09 11 58.3**	**+0.5**
TOSP	**Speyside**	**64.48**	**61**	P	**P**	**09 11 56.9**	**-0.9**
TPH	**Tonopah**	**64.52**	**357**	P	**P**	**09 11 58.2**	**+0.3**
Z47A	**Carrollton**	**64.62**	**24**	P	**P**	**09 11 58.7**	**+0.3**
PV05	**Paradox Valley**	**64.65**	**5**	P	**P**	**09 11 59.5**	**+0.7**
PV05				IAmb	IAmb	09 12 07.2	
	comp=Z,9.3nm,1.3s						
SDCO	**Great Sand Dun**	**64.67**	**8**	P	**P**	**09 11 58.9**	**-0.1**
SDCO				IAmb	IAmb	09 12 07.7	
	comp=Z,8.3nm,1.1s						
R11A	**Troy Canyon, C**	**64.74**	**359**	P	**P**	**09 12 00.8**	**+1.5**
R11A				IAmb	IAmb	09 12 09.7	
	comp=Z,7.7nm,1.2s						
PV01	**Paradox Valley**	**64.75**	**5**	P	**P**	**09 11 59.2**	**-0.2**
PV13	**Radium Mtn., P**	**64.75**	**5**	P	**P**	**09 11 58.9**	**-0.6**
PV13				IAmb	IAmb	09 12 10.3	
	comp=Z,12nm,1.6s						
PV17	**East Wray Mesa**	**64.86**	**5**	P	**P**	**09 12 00.1**	**-0.1**
LRAL	**Lakeview Retre**	**64.87**	**25**	P	**P**	**09 12 00.1**	**0.0**
LRAL				IAmb	IAmb	09 12 17.2	
	comp=Z,5.4nm,0.9s						
PV12	**Saucer Basin,**	**64.91**	**5**	P	**P**	**09 12 00.5**	**0.0**
PV12				IAmb	IAmb	09 12 10.4	
	comp=Z,9.6nm,1.0s						
NV11	**Mina Array Sit**	**64.91**	**357**	P	**P**	**09 12 00.9**	**+0.4**
NV11				IAmb	IAmb	09 12 09.7	
	comp=Z,7.4nm,1.1s						
PSUT	**Pine Spring**	**64.92**	**0**	P	**P**	**09 12 01.7**	**+1.1**
NVAR	**Mina Array Bea**	**64.92**	**357**	P	**P**	**09 11 58.9**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=186,slow=8.7,SNR=11						
NVAR	**Mina Array Bea**	**64.92**	**357**	P	**P**	**09 12 00.9**	**+0.3**
PV20	**West Nyswonger**	**64.92**	**5**	P	**P**	**09 12 01.9**	**+1.3**
PV20				IAmb	IAmb	09 12 13.0	
	comp=Z,8.7nm,1.2s						
PV14	**Lion Creek, Pa**	**64.95**	**5**	P	**P**	**09 12 01.0**	**+0.2**
PV15	**Paradox Valley**	**64.96**	**5**	P	**P**	**09 12 00.7**	**-0.2**
PV15				IAmb	IAmb	09 12 09.4	
	comp=Z,10.0nm,1.0s						
PV04	**Paradox Valley**	**64.98**	**5**	P	**P**	**09 12 00.5**	**-0.4**
TCRU	**Three Creeks R**	**65.02**	**2**	P	**P**	**09 12 00.4**	**-0.8**
W41B	**Gary Mavity, V**	**65.02**	**20**	P	**P**	**09 12 00.3**	**-0.7**
PV23	**Carpenter Ridg**	**65.03**	**5**	P	**P**	**09 12 01.1**	**-0.2**
PV07	**Paradox Valley**	**65.04**	**5**	P	**P**	**09 12 01.4**	**+0.1**
PV07				IAmb	IAmb	09 12 09.2	
	comp=Z,6.7nm,1.1s						
PV22	**Blue Mesa, Par**	**65.13**	**5**	P	**P**	**09 12 02.9**	**+1.0**
PV22				IAmb	IAmb	09 12 11.5	
	comp=Z,9.1nm,1.1s						
RYN	**Ryan**	**65.13**	**356**	P	**P**	**09 12 02.0**	**+0.1**
RYN				IAmb	IAmb	09 12 11.8	
	comp=Z,8.3nm,1.4s						
PV21	**Cone Mtn., Par**	**65.14**	**5**	P	**P**	**09 12 02.3**	**+0.3**
Q16A	**Castle Valley**	**65.37**	**3**	P	**P**	**09 12 04.2**	**+0.8**
KVN	**Kaiserville**	**65.53**	**357**	P	**P**	**09 12 04.8**	**+0.4**
KVN				IAmb	IAmb	09 12 14.4	
	comp=Z,8.2nm,1.3s						
SRU	**San Rafael Swe**	**65.59**	**3**	P	**P**	**09 12 04.8**	**0.0**
TMUT	**Trail Mountain**	**65.74**	**3**	P	**P**	**09 12 05.6**	**-0.4**
U40A	**Yellville**	**65.94**	**19**	P	**P**	**09 12 06.7**	**-0.2**
U40A				IAmb	IAmb	09 12 15.2	
	comp=Z,7.5nm,0.8s						
P17A	**Butcher Ranch,**	**65.94**	**3**	P	**P**	**09 12 07.2**	**+0.1**
W45A	**Hickory Valley**	**65.99**	**22**	P	**P**	**09 12 07.0**	**-0.3**
X48A	**Hartselle**	**66.12**	**24**	P	**P**	**09 12 08.3**	**+0.2**
X48A				IAmb	IAmb	09 12 15.5	
	comp=Z,5.1nm,0.8s						
PLAL	**Pickwick Lake**	**66.22**	**23**	P	**P**	**09 12 08.1**	**-0.7**
PLAL				IAmb	IAmb	09 12 15.5	
	comp=Z,7.4nm,1.1s						
DUG	**Dugway, Tooele**	**66.59**	**1**	P	**P**	**09 12 12.0**	**+0.8**
DUG				IAmb	IAmb	09 12 20.3	
	comp=Z,9.3nm,1.1s						
O20A	**White River Ci**	**66.76**	**5**	P	**P**	**09 12 12.5**	**+0.1**
MGMO	**Mountain Grove**	**66.85**	**19**	P	**P**	**09 12 12.9**	**+0.2**
MGMO				IAmb	IAmb	09 12 20.9	
	comp=Z,6.3nm,0.9s						
JLU	**Jordanelle**	**67.04**	**2**	P	**P**	**09 12 13.7**	**-0.5**
T42A	**Van Buren**	**67.08**	**20**	P	**P**	**09 12 13.8**	**-0.4**
RDMU	**Red Mountain**	**67.10**	**4**	P	**P**	**09 12 14.5**	**0.0**
CTU	**Camp Tracy**	**67.12**	**2**	P	**P**	**09 12 14.5**	**-0.1**
SWET	**Sewanee**	**67.21**	**25**	P	**P**	**09 12 14.6**	**-0.6**
SWET				IAmb	IAmb	09 12 22.4	
	comp=Z,9.1nm,1.0s						
WVT	**Waverly**	**67.34**	**23**	P	**P**	**09 12 14.9**	**-1.0**
V48A	**Smith Brothers**	**67.35**	**24**	P	**P**	**09 12 14.6**	**-1.4**
V48A				IAmb	IAmb	09 12 27.1	
	comp=Z,7.4nm,1.1s						
W52A	**Murphy**	**67.89**	**27**	P	**P**	**09 12 19.2**	**-0.2**
W52A				IAmb	IAmb	09 12 30.1	
	comp=Z,9.3nm,1.1s						
U49A	**Red Boiling Sp**	**68.42**	**24**	P	**P**	**09 12 22.2**	**-0.5**
MOD	**Modoc Plateau**	**68.50**	**355**	P	**P**	**09 12 24.0**	**+0.8**
MOD				IAmb	IAmb	09 12 32.8	
	comp=Z,6.7nm,0.9s						
WVOR	**Wild Horse Val**	**68.93**	**357**	P	**P**	**09 12 25.8**	**-0.1**
WVOR				IAmb	IAmb	09 12 35.2	
	comp=Z,12nm,1.1s						
AHID	**Auburn Hatcher**	**69.21**	**3**	P	**P**	**09 12 27.0**	**-0.7**
BW06	**Boulder Array**	**69.29**	**4**	P	**P**	**09 12 27.3**	**-1.0**
PD31	**Pinedale Array**	**69.29**	**4**	P	**P**	**09 12 27.4**	**-0.8**
PDAR	**Pinedale Array**	**69.29**	**4**	P	**P**	**09 12 27.1**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=171,slow=6.7,SNR=20						
PDAR				LR	LR	09 37 38.4	
	comp=Z,90nm,20.1s,baz=197,slow=32						
VNA3	**Neumayer Olymp**	**69.52**	**160**	P	**P**	**09 12 28.5**	**-0.7**
REDW	**Red Top Meadow**	**69.81**	**3**	P	**P**	**09 12 31.2**	**-0.3**
J08A	**Circle Bar Ran**	**69.84**	**357**	P	**P**	**09 12 31.6**	**+0.1**
J08A				IAmb	IAmb	09 12 40.8	
	comp=Z,9.7nm,1.1s						
SNOW	**Snow King Moun**	**69.92**	**3**	P	**P**	**09 12 31.8**	**-0.3**
SNOW				IAmb	IAmb	09 12 48.7	
	comp=Z,21nm,1.9s						
TPAW	**Teton Pass**	**69.94**	**3**	P	**P**	**09 12 31.1**	**-1.2**
TPAW				IAmb	IAmb	09 12 39.4	
	comp=Z,7.3nm,0.9s						
HLID	**Hailey**	**69.94**	**360**	P	**P**	**09 12 31.9**	**-0.2**
HLID				IAmb	IAmb	09 12 41.8	
	comp=Z,14nm,1.2s						
LOHW	**Long Hollow**	**70.08**	**3**	P	**P**	**09 12 33.3**	**+0.3**
FXWY	**Fox Creek**	**70.08**	**3**	P	**P**	**09 12 32.9**	**-0.3**
VNA1	**Neumayer--Stat**	**70.18**	**160**	P	**P**	**09 12 32.6**	**-0.5**
VNA2	**Neumayer--Watz**	**70.33**	**160**	P	**P**	**09 12 33.6**	**-0.5**
IMW	**Indian Meadow**	**70.34**	**3**	P	**P**	**09 12 34.4**	**-0.4**
FLWY	**Flagg Ranch**	**70.54**	**3**	P	**P**	**09 12 35.6**	**-0.3**
FLWY				IAmb	IAmb	09 12 44.3	
	comp=Z,12nm,0.9s						
I07A	**Izee**	**70.62**	**356**	P	**P**	**09 12 36.5**	**+0.2**
I07A				IAmb	IAmb	09 12 46.1	
	comp=Z,12nm,1.3s						
YMR	**Madison River**	**71.11**	**3**	P	**P**	**09 12 38.8**	**-0.5**
RSSD	**Black Hills**	**71.13**	**8**	P	**P**	**09 12 39.5**	**+0.1**
DZM	**Mont Dzumac**	**71.19**	**254**	*e*LR	LR	09 34 24.8	
	comp=Z,530nm,27.4s						
DZM	**Mont Dzumac**	**71.19**	**254**	LR	LR	09 35 42.1	
	comp=Z,321nm,19.9s,baz=98,slow=29						
MCMT	**McKenzie Canyo**	**71.22**	**1**	P	**P**	**09 12 40.4**	**+0.4**
YHH	**Holmes Hill**	**71.24**	**3**	P	**P**	**09 12 40.0**	**-0.2**
QLMT	**Earthquake Lak**	**71.26**	**2**	P	**P**	**09 12 40.7**	**+0.5**
BMO	**Blue Mountains**	**71.28**	**358**	P	**P**	**09 12 40.4**	**+0.2**
BMO				IAmb	IAmb	09 12 49.7	
	comp=Z,13nm,1.6s						
YHL	**Hebgen Lake**	**71.29**	**2**	P	**P**	**09 12 41.2**	**+0.7**
SNAA	**Sanae**	**71.30**	**162**	P	**P**	**09 12 39.1**	**-1.1**
SNAA	**Sanae**	**71.30**	**162**	P	**P**	**09 12 39.7**	**-0.5**
SNAA				IAmb	IAmb	09 12 40.5	
	comp=Z,8.9nm,1.1s						
RLMT	**Red Lodge**	**71.65**	**4**	P	**P**	**09 12 42.2**	**-0.4**
DLMT	**Dillon**	**71.76**	**1**	P	**P**	**09 12 42.4**	**-0.8**
DLMT				IAmb	IAmb	09 12 51.7	
	comp=Z,11nm,1.4s						
G08A	**Pilot Rock**	**71.79**	**357**	P	**P**	**09 12 42.9**	**-0.5**
G08A				IAmb	IAmb	09 12 52.5	
	comp=Z,11nm,1.1s						
HRY	**Holter Researc**	**73.12**	**2**	P	**P**	**09 12 51.7**	**+0.4**
LAO	**LASA Array**	**73.44**	**6**	P	**P**	**09 12 53.0**	**0.0**
LAO				IAmb	IAmb	09 13 01.2	
	comp=Z,11nm,0.9s						
JTMT	**Jette**	**74.13**	**0**	P	**P**	**09 12 57.4**	**+0.3**
F36A	**Milaca**	**74.68**	**15**	P	**P**	**09 13 00.5**	**+0.3**
F36A				IAmb	IAmb	09 13 08.3	
	comp=Z,15nm,1.3s						
NEW	**Newport**	**74.69**	**358**	P	**P**	**09 13 00.6**	**+0.4**
NEW				IAmb	IAmb	09 13 09.6	
	comp=Z,13nm,1.2s						
DGMT	**Dagmar**	**75.40**	**7**	P	**P**	**09 13 04.1**	**-0.3**
ULM	**Lac du Bonnet**	**78.37**	**12**	P	**P**	**09 13 20.1**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=281,slow=14,SNR=2.4						
NCB	**Newcomb**	**79.38**	**28**	P	**P**	**09 13 26.7**	**-0.1**
CASY	**Casey**	**81.22**	**197**	P	**P**	**09 13 36.7**	**+0.2**
SYO	**Syowa Base**	**82.66**	**171⇑**	*e*P	**P**	**09 13 41.8**	**-2.2**
SYO	**Syowa Base**	**82.66**	**171

KER				*e*Pg	**Pb**	**09 07 05.0**	**-0.2**
IKOM	**Komasi**	**1.66**	**73**	*e*		09 07 09.7	
IKOM				*e*Pg	**Pb**	**09 07 08.3**	**-0.5**
ILIN	**Lien**	**1.66**	**43**	*e*		09 07 09.3	
ILIN				*e*Pg	**Pb**	**09 07 08.3**	**-0.6**
IBZA	**Bozab**	**2.03**	**67**	*e*Pn	**Pn**	**09 07 13.3**	**+0.8**
IBZA				*e*		09 07 17.6	
IDOB	**Doab**	**2.15**	**87**	*e*Pn	**Pn**	**09 07 13.8**	**-0.3**
IDOB				*e*		09 07 18.9	
IKMR	**Kamar-syah**	**2.33**	**94**	*e*Pn	**Pn**	**09 07 17.0**	**+0.7**
IKMR				*e*		09 07 23.4	
IALM	**Almabolaq**	**2.42**	**61**	*e*Pn	**Pn**	**09 07 19.3**	**+1.4**
IALM				*e*		09 07 21.0	
HSAM	**Samen**	**2.55**	**78**	*e*Pn	**Pn**	**09 07 19.9**	**+0.3**
HSAM				*e*		09 07 26.0	
BMDN	**Meydan**	**2.69**	**90**	*e*Pn	**Pn**	**09 07 22.1**	**+0.6**
BMDN				*e*		09 07 26.1	
HSRG	**Sareghieh**	**2.70**	**54**	*e*Pn	**Pn**	**09 07 23.0**	**+1.3**
HSRG				*e*		09 07 23.7	
NSR	**Nassriya**	**2.72**	**170**	*e*Pn	**Pn**	**09 07 23.0**	**+1.3**
NSR				*e*Sn	**Sn**	**09 07 57.0**	**+2.5**
NSR				AML	AML	09 07 59.5	
	comp=E,466nm,0.2s						

ISC 05 09:06:59.7±1.1,**48°66N**±0°07×**18°43E**±0°05,**h10**km,**n8,**
σ**2°56**/10,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLL	**Kolacno**	**0.08**	**194**	*e*PG	**Pg**	**09 07 01.6**	**-0.4**
KOLL				*e*SG	**Sg**	**09 07 06.7**	**+3.0**
VYHS	**Vyhne**	**0.31**	**121**	*e*PG	**Pg**	**09 07 04.9**	**-1.1**
VYHS				*e*SG	**Sg**	**09 07 12.7**	**+2.5**
JAVC	**Velka Javorina**	**0.54**	**292**	*e*PG	Pg	09 07 00.7	-10
JAVC				*e*SG	Sg	09 07 07.0	-10
MODS	**Modra-Piesok**	**0.82**	**250**	*e*PG	Pg	09 07 11.6	-3.9
MODS				*e*SG	**Sg**	**09 07 23.5**	**-2.6**
MORC	**Moravsky Berou**	**1.26**	**333**	*e*PG	**Pn**	**09 07 23.8**	**+0.3**
VRAC	**Vranov**	**1.38**	**299**	*e*PG	**Pg**	**09 07 25.6**	**-0.5**
KRUC	**Moravsky**	**1.41**	**288**	*e*PG	**Pg**	**09 07 30.5**	**+3.9**
KRUC				*e*SG	**Sb**	**09 07 42.6**	**-1.4**
KSP	**Ksiaz**	**2.59**	**328**	*e*Pg	Pg	09 07 54.2	+4.9
KSP				*e*Sg	**Sn**	**09 08 10.9**	**-2.3**

IDC ***05*** *09:09:11.6±3.0,6°41N×127°00E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.3/34,mbtmp3.2/3,MS3.0/1,Ms1 3.0/1, ms1mx2.3/20,Error ellipse: s-maj=225.4km s-min=30.5km az=66.0*

MAN ***05*** *09:09:19.1,6°16N×126°39E,h56km,mb4.6,ML3.4,MS3.3*

ISC 05 09:09:20.2±1.5,**6°15N**±0°08×**126°4E**±0°1,**h61**km±13km,**n9,**
σ**1°34**/13,**mb3.1**/3,**1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.71**	**266**	*e*P	**Pn**	**09 09 34.6**	**-0.1**
DDMP				*e*S	**Sn**	**09 09 45.8**	**+0.5**
MATI	**Mati**	**0.81**	**348**	*e*P	**Pn**	**09 09 35.0**	**-0.9**
MATI				*e*S	**Sn**	**09 09 48.2**	**+0.8**
KCP	**Kidapawan**	**1.58**	**303**	*e*P	**Pn**	**09 09 45.3**	**-0.7**
KCP				*i*S	**Sn**	**09 10 07.9**	**+2.4**
SKMP	**Bagumbayan, Su**	**1.91**	**281**	*e*P	**Pn**	**09 09 50.0**	**-0.4**
SKMP				*e*S	**Sn**	**09 10 12.1**	**-1.3**
BUKP	**Musuan**	**2.19**	**322**	*e*P	**Pn**	**09 09 55.4**	**+1.1**
BUKP				*e*S	**Sn**	**09 10 18.1**	**-2.2**
JAY	**Jayapura**	**16.66**	**121**	LR	LR	09 19 28.6	
	comp=Z,55nm,19.6s,baz=163,slow=38						
WRA	**Warramunga Arr**	**27.07**	**163**	P	**P**	**09 14 57.2**	**0.0**
	0.1nm,0.3s,baz=345,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**30.52**	**166**	P	**P**	**09 15 27.8**	**0.0**
	0.2nm,0.6s,baz=347,slow=7.0,SNR=4.4						
MKAR	**Makanchi Array**	**55.41**	**324**	P	**P**	**09 18 48.7**	**+0.3**
	0.2nm,0.5s,baz=112,slow=9.0,SNR=2.2						

IDC ***05*** *09:12:26.0±1.2,9°39N×141°51E,h0km,mb3.7/5, mb1 4.1/7,mb1mx3.7/36,mbtmp3.9/7,ML4.2/2,MS2.9/1, Ms1 2.9/1,ms1mx2.2/53,Error ellipse: s-maj=35.5km s-min=23.1km az=96.0*

ISC 05 09:12:30.9±0.9,**9°4N**±0°1×**141°6E**±0°2,**h35**km,**n11,**
σ**0°76**/8,**mb3.7**/5,**Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.24**	**37**	Pn	**Pn**	**09 13 47.1**	**+0.3**
	4.3nm,0.3s,baz=0.6,slow=21,SNR=1.2						
GUMO				Sn	**Sn**	**09 14 45.2**	**-0.9**
	4.7nm,0.3s,baz=173,slow=23,SNR=1.5						
JAY	**Jayapura**	**11.89**	**184**	Pn	**Pn**	**09 15 18.2**	**+0.2**
	2.6nm,0.3s,baz=4.4,slow=13,SNR=12						
JHJ	**Hachijo jima 2**	**23.65**	**356**	LR	LR	09 26 48.8	
	comp=Z,28nm,18.2s,baz=124,slow=36						
H11N1	**WAKE ISLAND Hy**	**26.50**	**64**	T	T	09 45 53.4	
	baz=250,slow=75,SNR=58						
H11N2	**WAKE ISLAND Hy**	**26.51**	**64**	T	T	09 45 56.2	
	baz=250,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**26.52**	**64**	T	T	09 45 56.2	
	baz=250,slow=75,SNR=66						
WRA	**Warramunga Arr**	**30.04**	**194**	P	**P**	**09 18 35.8**	**-0.9**
	0.4nm,0.9s,baz=13,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	**33.73**	**193**	P	**P**	**09 19 08.9**	**-0.3**
	0.2nm,0.8s,baz=23,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**42.27**	**287**	P	**P**	**09 20 21.6**	**+0.2**
	1.9nm,0.3s,baz=99,slow=7.0,SNR=8.0						
MKAR	**Makanchi Array**	**62.34**	**318**	P	**P**	**09 22 49.7**	**-0.3**
	0.2nm,0.3s,baz=101,slow=7.8,SNR=2.8						
NVAR	**Mina Array Bea**	**92.02**	**51**	P	**P**	**09 25 37.8**	**+0.9**
	0.4nm,0.6s,baz=262,slow=6.0,SNR=4.4						

MOS ***05*** *09:19:22.8±0.8,26°60S×114°39W,h10km,mb5.1/41, Error ellipse: s-maj=12.8km s-min=7.1km az=79.6*

IDC ***05*** *09:19:22.6±0.4,26°61S×114°56W,h0km,mb4.6/20, mb1 4.7/20,mb1mx4.7/27,mbtmp4.6/20,MS4.1/16, Ms1 4.0/16,ms1mx4.0/21,Error ellipse: s-maj=16.8km s-min=14.6km az=125.0*

UNK ***05*** *09:19:24.4,26°69S×114°38W,h10km*

NEIC ***05*** *09:19:24.3±1.1,26°7S±0°1×114°4W±0°1,h10km±1km, mb5.1/345,Error ellipse: s-maj=19.8km s-min=17.2km az=119.0*

BJI ***05*** *09:19:25.5±0.0,26°70S×114°50W,h10km,mB5.6/3, Ms5.1/3,Ms7 4.8/1*

GCMT ***05*** *09:19:26.3±0.2,26°89S±0°02×114°39W±0°02,h12km, MW4.9/96,Moment Tensor Solution. s38,c48; s96,c144; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}=2.53±.08; $M_{\theta\theta}$=0.81±.09; $M_{\phi\phi}$=1.72±.07; $M_{r\theta}$=0.14±.31; $M_{\theta\phi}$=1.57±.06; $M_{r\phi}$=0.45±.28; Best double couple: M_0=2.75600×10^16 NP1:ϕ_s=319.00000°,δ41.00000°,λ-96.00000°. NP2: ϕ_s=147.00000°,δ50.00000°,λ-85.00000°. Principal axes: T 2.9360, Plg5.0000°, Azm233.0000°; N -0.3570, Plg4.0000°, Azm324.0000°; P -2.5760, Plg84.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 09:19:23.9±0.3,**26°67S**±0°07×**114°46W**±0°08,**h10**km,
n842,σ**0°80**/822,**mb5.1**/199,**MS4.1**/23,**5C-11D,Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAOE	**Nuku Hiva Isla**	**30.10**	**301**	*e*LR	LR	09 33 23.9	
	comp=Z,377nm,26.5s						
H03N2	**Juan Fernandez**	**31.37**	**111**	T	T	09 58 49.9	
	baz=277,slow=74,SNR=990						
H03N3	**Juan Fernandez**	**31.38**	**111**	T	T	09 58 47.3	
	baz=277,slow=74,SNR=1250						
H03N1	**Juan Fernandez**	**31.39**	**111**	T	T	09 58 41.2	
	baz=277,slow=74,SNR=1287						
TBI	**Tubuai**	**31.83**	**268**	*e*LQ	LQ	09 32 51.3	
	353nm,33.2s						
TBI				*e*LR	LR	09 33 59.0	
	comp=Z,730nm,28.8s,baz=102						
TBI	**Tubuai**	**31.83**	**268**	*e*T	T	09 59 11.9	
	24nm,0.2s						
PPT2	**Papeete2**	**33.67**	**278**	*e*LR	LR	09 34 51.7	
	comp=Z,1μm,26.2s,baz=111						
PPT	**Papeete**	**33.68**	**278**	LR	LR	09 35 54.7	
	comp=Z,465nm,18.0s,baz=112,slow=30						
GO04	**Tololo Observa**	**38.38**	**106**	P	**P**	**09 26 44.9**	**-0.9**
LCO	**Las Campanas**	**38.60**	**104**	*e*P	**P**	**09 26 48.4**	**+0.7**
LCO	**Las Campanas**	**38.60**	**104**	P	**P**	**09 26 48.4**	**+0.7**
PLCA	**Paso Flores**	**38.73**	**123**	P	**P**	**09 26 49.7**	**+1.3**
	17nm,1.0s,baz=280,slow=11,SNR=20						
PLCA				LR	LR	09 38 44.4	
	comp=Z,112nm,18.8s,baz=329,slow=30						
PLCA	**Paso Flores**	**38.73**	**123**	P	**P**	**09 26 49.2**	**+0.9**
AC05	**El Transito**	**38.99**	**104**	P	**P**	**09 26 50.9**	**+0.1**
CO01	**Juntas del Tor**	**39.01**	**105**	P	**P**	**09 26 51.6**	**+0.5**
ATAH	**Atahualpa**	**39.38**	**67**	P	**P**	**09 26 56.6**	**+2.1**
	18nm,1.3s,baz=235,slow=7.7,SNR=4.2						
ZON	**Zonda**	**40.07**	**108**	P	**P**	**09 26 59.2**	**-0.5**
ZON				pmax	pmax		
	comp=Z,21nm,1.3s						
ZON	**Zonda**	**40.07**	**108**	P	**P**	**09 26 59.2**	**-0.5**
PB06	**IPOC Station P**	**40.82**	**95**	P	**P**	**09 27 05.5**	**-0.5**
PB06				IAmb	IAmb	09 27 26.4	
	comp=Z,74nm,1.9s						
PB11	**IPOC Station P**	**41.58**	**90**	P	**P**	**09 27 12.6**	**+0.2**
OTAV	**Otavalo**	**43.78**	**58**	*e*P	P	09 27 25.1	-5.5
OTAV	**Otavalo**	**43.78**	**58**	P	**P**	**09 27 30.5**	**-0.1**
OTAV				pmax	pmax		
	comp=Z,37nm,2.0s						
OTAV	**Otavalo**	**43.78**	**58**	P	**P**	**09 27 30.4**	**-0.1**
LPAZ	**La Paz**	**44.12**	**86**	P	**P**	**09 27 34.3**	**+0.8**
	comp=Z,5.4nm,1.2s,baz=239,slow=6.3,SNR=7.9						
LPAZ				PcP	**PcP**	**09 29 19.4**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=262,slow=3.3,SNR=5.2						
LPAZ				LR	LR	09 41 47.6	
	comp=Z,258nm,20.7s,baz=252,slow=30						
LPAZ	**La Paz**	**44.12**	**86**	P	**P**	**09 27 33.3**	**-0.2**
GCUF	**Volcan Galeras**	**45.26**	**58**	*e*P	**P**	**09 27 44.0**	**+1.6**
PUAC	**Puerto Asis, P**	**45.42**	**60**	*e*P	**P**	**09 27 42.0**	**-1.2**
BBAC	**Balboa, Cauca**	**45.85**	**57**	*e*P	**P**	**09 27 45.7**	**-1.1**
PTLC	**Puerto Leguiza**	**46.56**	**62**	*e*P	P	09 27 47.0	-5.2
JTS	**Las Juntas de**	**46.59**	**42**	*e*P	**P**	**09 27 54.0**	**+1.6**
JTS				pmax	pmax		
	comp=Z,16nm,1.3s						
FLOC	**Florencia**	**46.78**	**59**	*e*P	**P**	**09 27 51.9**	**-2.1**
MTO3	**Montecristo**	**47.55**	**34**	P	**P**	**09 28 00.3**	**+0.2**
MTO3				IAmb	IAmb	09 28 02.5	
	comp=Z,19nm,1.2s						
YOTC	**Yotoco, Valle**	**47.81**	**56**	*e*P	**P**	**09 28 01.8**	**-0.3**
ESTN	**Estel**	**48.04**	**38**	P	**P**	**09 28 04.1**	**+0.4**
ESTN				IAmb	IAmb	09 28 16.3	
	comp=Z,39nm,1.5s						
ESPN	**Las Esperanzas**	**48.49**	**41**	P	**P**	**09 28 08.2**	**+1.2**
ESPN				IAmb	IAmb	09 28 09.1	
	comp=Z,32nm,1.2s						
MACC	**Macarena, Meta**	**48.53**	**60**	*e*P	**P**	**09 28 05.9**	**-1.6**
ORTC	**Ortega, Tolima**	**48.59**	**57**	*e*P	**P**	**09 28 07.6**	**-0.4**
PRAC	**Prado**	**48.73**	**58**	*e*P	**P**	**09 28 08.9**	**-0.2**
TOLC	**Tolima**	**48.97**	**57**	*e*P	**P**	**09 28 10.9**	**-0.3**
GUY2C	**Guyana, Caldas**	**49.36**	**56**	*e*P	**P**	**09 28 12.2**	**-2.2**
PETF	**Flores**	**49.47**	**32**	P	**P**	**09 28 15.8**	**+1.3**
PETF				IAmb	IAmb	09 28 16.6	
	comp=Z,37nm,1.1s						
PMSA	**Palmer Station**	**49.63**	**154**	P	**P**	**09 28 16.2**	**+1.0**
	comp=Z,4.4nm,1.0s,baz=290,slow=8.4,SNR=5.8						
PMSA	**Palmer Station**	**49.63**	**154**	P	**P**	**09 28 16.0**	**+0.8**
HELC	**Santa Helena**	**49.89**	**55**	*e*P	**P**	**09 28 16.8**	**-1.5**
ROSC	**El Rosal**	**49.89**	**57**	P	**P**	**09 28 19.4**	**+1.1**
	comp=Z,6.3nm,0.5s,baz=247,slow=7.5,SNR=5.9						
ROSC				LR	LR	09 44 38.6	
	comp=Z,348nm,21.2s,baz=224,slow=30						
ROSC	**El Rosal**	**49.89**	**57**	P	**P**	**09 28 19.1**	**+0.7**
ROSC				IAmb	IAmb	09 28 27.8	
	comp=Z,37nm,1.3s						
NORC	**Norcasia**	**49.95**	**56**	*e*P	**P**	**09 28 17.4**	**-1.1**
CHIC	**Chinagaza**	**50.20**	**58**	*e*P	**P**	**09 28 20.2**	**-0.5**
SPBC	**San Pablo de B**	**50.61**	**57**	*e*P	**P**	**09 28 22.5**	**-1.0**
CPUP	**Villa Florida**	**50.74**	**103**	P	**P**	**09 28 24.6**	**+0.3**
	comp=Z,4.7nm,1.0s,baz=246,slow=4.4,SNR=4.2						
CPUP				LR	LR	09 46 13.1	
	comp=Z,186nm,19.6s,baz=226,slow=32						
PTBC	**PUERTO BERRIO,**	**50.91**	**55**	*e*P	**P**	**09 28 24.8**	**-0.8**
RUSC	**La Rusia**	**51.50**	**57**	*e*P	**P**	**09 28 26.5**	**-4.1**
SAML	**Samuel**	**51.53**	**80**	P	**P**	**09 28 29.4**	**-0.9**
SAML				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SAML	**Samuel**	**51.53**	**80**	P	**P**	**09 28 29.4**	**-0.9**
MOTC	**Monteria, Cord**	**51.56**	**52**	*e*P	**P**	**09 28 31.1**	**+0.7**
BARC	**Barichara**	**51.89**	**56**	*e*P	P	09 28 23.3	-10
SJCC	**San Jacinto, C**	**52.68**	**52**	*e*P	**P**	**09 28 39.1**	**+0.3**
SMLC	**San Martn de**	**52.71**	**54**	*e*P	**P**	**09 28 36.4**	**-2.6**
SDV	**Santo Domingo**	**55.29**	**56**	P	**P**	**09 28 57.9**	**-0.2**
SDV				IAmb	IAmb	09 29 00.4	
	comp=Z,24nm,1.2s						
HSIG		**55.47**	**4**	P	**P**	**09 29 00.3**	**+1.5**
833A	**Chaparral WMA,**	**56.56**	**16**	P	**P**	**09 29 07.0**	**+0.3**
	baz=196						
TX31	**Lajitas Ar. Si**	**56.64**	**11**	P	**P**	**09 29 07.6**	**+0.3**
TX31				IAmb	IAmb	09 29 09.7	
	comp=Z,22nm,1.2s						
TX32	**Lajitas Array**	**56.64**	**11**	P	**P**	**09 29 08.3**	**+1.0**
TXAR	**Lajitas Array**	**56.64**	**11**	P	**P**	**09 29 07.9**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=193,slow=9.0,SNR=16						
TXAR				LR	LR	09 48 50.5	
	comp=Z,151nm,19.3s,baz=0.0,slow=31						
SPX	**San Pedro Mart**	**57.39**	**359**	P	**P**	**09 29 13.6**	**+0.7**
SPX				IAmb	IAmb	09 29 14.6	
	comp=Z,19nm,1.3s						
URZ	**Urewera**	**57.71**	**240**	P	**P**	**09 29 15.1**	**+0.3**
	comp=Z,12nm,1.1s,baz=117,slow=6.8						
URZ	**Urewera**	**57.71**	**240**	P	**P**	**09 29 15.8**	**+0.9**
319A	**Douglas**	**57.93**	**5**	P	**P**	**09 29 18.2**	**+1.7**
319A				IAmb	IAmb	09 29 19.1	
	comp=Z,33nm,1.1s						
214A	**Organ Pipe Nat**	**58.32**	**2**	P	**P**	**09 29 20.0**	**+0.9**
	baz=182						
214A	**Organ Pipe Nat**	**58.32**	**2**	P	**P**	**09 29 20.9**	**+1.8**
214A				IAmb	IAmb	09 29 21.7	
	comp=Z,21nm,1.1s						
JCT	**Junction City**	**58.53**	**15**	P	**P**	**09 29 21.5**	**+0.9**
JCT				pmax	pmax		
	comp=Z,42nm,0.9s						
JCT	**Junction City**	**58.53**	**15**	P	**P**	**09 29 21.4**	**+0.8**
	baz=195,SNR=21						
JCT	**Junction City**	**58.53**	**15**	P	**P**	**09 29 21.5**	**+0.9**
MNTX	**Cornudas Mount**	**58.68**	**9**	P	**P**	**09 29 21.9**	**+0.3**
	baz=189,SNR=10						
MNTX	**Cornudas Mount**	**58.68**	**9**	P	**P**	**09 29 21.8**	**+0.2**
TKX	**Tecate**	**58.94**	**358**	P	**P**	**09 29 24.0**	**+0.6**
TKX				IAmb	IAmb	09 29 24.7	
	comp=Z,16nm,0.7s						
RMX	**La Rumorosa**	**58.96**	**358**	P	**P**	**09 29 24.0**	**+0.3**
RMX				IAmb	IAmb	09 29 25.9	
	comp=Z,22nm,1.1s						
IKP	**In-Ko-Pah, Jac**	**59.01**	**358**	P	**P**	**09 29 25.3**	**+1.4**
	baz=178,SNR=6.6						
HKT	**Hockley**	**59.05**	**19**	P	**P**	**09 29 25.3**	**+1.2**
HKT				pmax	pmax		
	comp=Z,65nm,1.9s						
HKT	**Hockley**	**59.05**	**19**	P	**P**	**09 29 25.3**	**+1.2**
BAR	**Barrett**	**59.06**	**358**	P	**P**	**09 29 25.4**	**+1.2**
BAR				IAmb	IAmb	09 29 26.6	
	comp=Z,22nm,1.2s						
113A	**Mohawk Valley,**	**59.11**	**1**	P	**P**	**09 29 26.2**	**+1.7**
113A				IAmb	IAmb	09 29 27.0	
	comp=Z,16nm,0.9s						
121A	**Cookes Peak, D**	**59.21**	**7**	P	**P**	**09 29 26.7**	**+1.2**
	baz=187,SNR=17						
121A	**Cookes Peak, D**	**59.21**	**7**	P	**P**	**09 29 26.7**	**+1.2**
MONP2	**Monument Peak**	**59.26**	**358**	P	**P**	**09 29 26.9**	**+1.1**
	baz=178,SNR=5.1						
SWSC	**Sam W. Stewart**	**59.30**	**359**	P	**P**	**09 29 27.0**	**+1.2**
	baz=178						
435B	**Jarrell**	**59.36**	**17**	P	**P**	**09 29 27.2**	**+0.9**
	baz=197,SNR=6.4						
435B	**Jarrell**	**59.36**	**17**	P	**P**	**09 29 27.6**	**+1.3**
GLA	**Glamis**	**59.39**	**360**	P	**P**	**09 29 27.6**	**+1.1**
	baz=180						
SCI2	**San Clemente I**	**59.45**	**356**	P	**P**	**09 29 27.6**	**+0.7**
	baz=176						
CIS	**Catalina Islan**	**59.86**	**356**	P	**P**	**09 29 31.2**	**+1.5**
	baz=176						
PFO	**Pinyon Flats O**	**59.98**	**358**	P	**P**	**09 29 31.7**	**+1.0**
	baz=178						
MURC	**Murrieta**	**59.99**	**357**	P	**P**	**09 29 31.8**	**+1.1**
	baz=177						
BC3	**Big Chuckawall**	**60.00**	**359**	P	**P**	**09 29 32.0**	**+1.2**
	baz=179,SNR=8.2						
BELC	**Belle Mtn. Jos**	**60.35**	**359**	P	**P**	**09 29 34.7**	**+1.5**
	baz=178,SNR=7.0						
IRM	**Iron Mountain**	**60.50**	**359**	P	**P**	**09 29 35.3**	**+1.2**
	baz=179,SNR=9.6						
WHTX	**Lake Whitney,**	**60.54**	**17**	P	**P**	**09 29 34.7**	**+0.3**
	baz=197,SNR=5.2						
WHTX	**Lake Whitney,**	**60.54**	**17**	P	**P**	**09 29 35.1**	**+0.7**
WHTX				IAmb	IAmb	09 29 35.8	
	comp=Z,20nm,1.1s						
ABTX	**Abilene, Hawle**	**60.63**	**14**	P	**P**	**09 29 35.2**	**+0.2**
	baz=195,SNR=10.0						
ABTX	**Abilene, Hawle**	**60.63**	**14**	P	**P**	**09 29 35.6**	**+0.6**
PDMCI	**Parker Dam,Lak**	**60.64**	**0**	P	**P**	**09 29 36.4**	**+1.4**
	baz=180,SNR=5.1						
BBRC	**Big Bear Solar**	**60.64**	**358**	P	**P**	**09 29 36.3**	**+1.0**
	baz=177						
BFSC	**Mount Baldy Ra**	**60.65**	**357**	P	**P**	**09 29 36.4**	**+1.1**
	baz=177,SNR=5.5						
MWC	**Mount Wilson**	**60.66**	**357**	P	**P**	**09 29 36.8**	**+1.5**
MWC				pmax	pmax		
	comp=Z,15nm,1.1s						
MWC	**Mount Wilson**	**60.66**	**357**	P	**P**	**09 29 36.8**	**+1.5**
MWC				IAmb	IAmb	09 29 37.6	
	comp=Z,15nm,1.1s						
Y22D	**IRIS PASSCAL I**	**60.83**	**7**	P	**P**	**09 29 38.0**	**+1.5**
	baz=188,SNR=6.5						
Y22D	**IRIS PASSCAL I**	**60.83**	**7**	P	**P**	**09 29 38.1**	**+1.6**
LENM	**Lemitar**	**60.92**	**7**	P	**P**	**09 29 37.6**	**+0.5**
BNM	**Barren Site**	**60.94**	**7**	P	**P**	**09 29 38.3**	**+1.0**
NATX	**Nacogdoches**	**61.09**	**19**	P	**P**	**09 29 39.2**	**+1.0**
	baz=200						
NATX	**Nacogdoches**	**61.09**	**19**	P	**P**	**09 29 39.6**	**+1.5**
GMRC	**Granite Mounta**	**61.13**	**359**	P	**P**	**09 29 40.0**	**+1.5**
	baz=179,SNR=11						
HEC	**Hector,Ludlow**	**61.19**	**358**	P	**P**	**09 29 39.9**	**+1.1**
	baz=178						
EDW2	**Edwards Air Fo**	**61.31**	**357**	P	**P**	**09 29 40.4**	**+0.8**
	baz=176,SNR=7.0						
MSTX	**Muleshoe**	**61.32**	**11**	P	**P**	**09 29 39.6**	**-0.2**
	baz=192,SNR=11						
MSTX	**Muleshoe**	**61.32**	**11**	P	**P**	**09 29 39.6**	**-0.2**
PKM	**Mcpherson Peak**	**61.43**	**355**	P	**P**	**09 29 41.7**	**+1.1**
	baz=174						
W13A	**Hualapai Mount**	**61.44**	**1**	P	**P**	**09 29 42.4**	**+1.7**
342A	**Flagon Creek P**	**61.47**	**22**	P	**P**	**09 29 42.2**	**+1.6**
W18A	**Petrified Fore**	**61.61**	**4**	P	**P**	**09 29 42.7**	**+0.8**
	baz=185,SNR=12						
W18A	**Petrified Fore**	**61.61**	**4**	P	**P**	**09 29 42.2**	**+0.4**
W18A				IAmb	IAmb	09 29 44.8	
	comp=Z,16nm,1.1s						
GSC	**Goldstone, Bar**	**61.67**	**358**	P	**P**	**09 29 43.4**	**+1.2**
GSC				pmax	pmax		
	comp=Z,18nm,1.2s						
GSC	**Goldstone, Bar**	**61.67**	**358**	P	**P**	**09 29 43.3**	**+1.2**
	baz=178,SNR=12						
GSC	**Goldstone, Bar**	**61.67**	**358**	P	**P**	**09 29 43.4**	**+1.2**
GSC				IAmb	IAmb	09 29 44.6	
	comp=Z,18nm,1.1s						
ANMO	**Albuquerque**	**61.75**	**7**	LR	LR	09 51 36.5	
	comp=Z,9.5nm,18.8s,baz=0.5,slow=31						
ANMO	**Albuquerque**	**61.75**	**7**	*i*P	**P**	**09 29 42.4**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ANMO	**Albuquerque**	**61.75**	**7**	P	**P**	**09 29 43.4**	**+0.6**
	baz=188						
ANMO	**Albuquerque**	**61.75**	**7**	P	**P**	**09 29 43.7**	**+0.9**
TUQ	**Turquoise Moun**	**61.78**	**359**	P	**P**	**09 29 43.9**	**+1.0**
	baz=178						
LRMC	**Laurel Mtn Rad**	**61.89**	**357**	P	**P**	**09 29 44.5**	**+0.9**
	baz=177,SNR=5.2						
WUAZ	**Wupatki**	**61.92**	**3**	P	**P**	**09 29 45.2**	**+1.3**
	baz=183,SNR=12						
WUAZ	**Wupatki**	**61.92**	**3**	P	**P**	**09 29 45.0**	**+1.1**
WUAZ				IAmb	IAmb	09 29 46.5	
	comp=Z,20nm,1.1s						
BELA	**Belgrano 2**	**61.98**	**166**	P	**P**	**09 29 43.7**	**0.0**
344A	**Westbrook Farm**	**62.08**	**23**	P	**P**	**09 29 46.4**	**+1.7**
ISA	**Isabella, Lake**	**62.11**	**356**	P	**P**	**09 29 45.8**	**+0.8**
ISA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ISA	**Isabella, Lake**	**62.11**	**356**	P	**P**	**09 29 46.2**	**+1.2**
	baz=176,SNR=6.0						
ISA	**Isabella, Lake**	**62.11**	**356**	P	**P**	**09 29 45.8**	**+0.8**
SHOC	**Shoshone, Teco**	**62.26**	**358**	P	**P**	**09 29 47.2**	**+1.2**
	baz=178,SNR=15						
VES	**Vestal, Richgr**	**62.33**	**356**	P	**P**	**09 29 47.5**	**+1.1**
	baz=175						
BDFB	**Brasilia**	**62.34**	**94**	LR	LR	09 53 43.0	
	comp=Z,135nm,20.6s,baz=301,slow=33						
AMTX	**Amarillo**	**62.40**	**12**	P	**P**	**09 29 47.3**	**+0.3**
	baz=193						
AMTX	**Amarillo**	**62.40**	**12**	P	**P**	**09 29 47.0**	**0.0**
MSVF	**Nonsavu**	**62.51**	**263**	*e*P	**P**	**09 29 49.9**	**

352A Blakely 64.33 28 P P 09 30 00.3 +0.6
U32A Winter Ranch, 64.38 14 P P 09 30 00.7 +0.7
MTPU Mount Pierson 64.40 2 P P 09 30 01.7 +1.2
TPH Tonopah 64.45 358 P P 09 30 02.1 +1.4
TPH pmax pmax
comp=Z,33nm,0.9s
TPH Tonopah 64.45 358 P P 09 30 02.1 +1.4
S22A 4UR Ranch, Cre 64.47 7 P P 09 30 01.5 +0.6
baz=187,SNR=13
S22A 4UR Ranch, Cre 64.47 7 P P 09 30 01.7 +0.8
S22A IAmb IAmb 09 30 03.0
comp=Z,13nm,1.2s
W39A Magazine 64.56 19 P P 09 30 01.4 +0.2
baz=200
W39A Magazine 64.56 19 P P 09 30 01.5 +0.2
W39A IAmb IAmb 09 30 02.3
comp=Z,13nm,1.2s
UALR University of 64.60 20 P P 09 30 02.1 +0.7
UALR IAmb IAmb 09 30 02.9
comp=Z,17nm,1.1s
CMB Columbia Colle 64.60 355 P P 09 30 02.2 +0.7
CMB pmax pmax
comp=Z,21nm,1.5s
CMB Columbia Colle 64.60 355 P P 09 30 02.1 +0.7
CMB IAmb IAmb 09 30 03.8
comp=Z,21nm,1.4s
Z47A Carrollton 64.61 24 P P 09 30 01.7 +0.2
SDCO Great Sand Dun 64.62 8 P P 09 30 02.6 +0.6
baz=189,SNR=18
SDCO Great Sand Dun 64.62 8 P P 09 30 02.5 +0.6
SDCO IAmb IAmb 09 30 03.8
comp=Z,18nm,1.1s
Y45A Yeager Farm, C 64.68 23 P P 09 30 02.9 +0.9
R11A Troy Canyon, C 64.68 359 P P 09 30 03.8 +1.6
baz=179,SNR=28
R11A Troy Canyon, C 64.68 359 P P 09 30 03.8 +1.6
R11A IAmb IAmb 09 30 05.2
comp=Z,19nm,1.2s
TUL1 Leonard 64.69 17 P P 09 30 02.0 0.0
baz=198
TUL1 Leonard 64.69 17 P P 09 30 02.0 0.0
PV01 Paradox Valley 64.70 5 P P 09 30 02.7 +0.4
PV01 IAmb IAmb 09 30 04.1
comp=Z,15nm,1.3s
PV13 Radium Mtn., P 64.70 5 P P 09 30 03.0 +0.6
CROK Carrier 64.72 15 P P 09 30 02.6 +0.3
PV02 Paradox Valley 64.76 5 P P 09 30 03.5 +0.8
PV02 IAmb IAmb 09 30 06.4
comp=Z,16nm,1.3s
PV18 Skein Mesa, Pa 64.78 5 P P 09 30 03.2 +0.4
PV18 IAmb IAmb 09 30 04.6
comp=Z,40nm,1.9s
PV03 Paradox Valley 64.80 5 P P 09 30 03.1 +0.1
PV17 East Wray Mesa 64.81 5 P P 09 30 03.7 +0.7
PV17 IAmb IAmb 09 30 04.8
comp=Z,30nm,1.5s
PV11 David Mesa, Pa 64.84 5 P P 09 30 02.2 -1.0
PV11 IAmb IAmb 09 30 05.0
comp=Z,32nm,1.5s
PV19 Morning Glory 64.84 5 P P 09 30 03.9 +0.6
PV19 IAmb IAmb 09 30 05.0
comp=Z,28nm,1.5s
PV16 Nyswonger Mesa 64.85 5 P P 09 30 03.0 -0.3
PV16 IAmb IAmb 09 30 05.0
comp=Z,35nm,1.7s
NV11 Mina Array Sit 64.85 357 P P 09 30 04.1 +0.9
NV11 IAmb IAmb 09 30 05.9
comp=Z,20nm,1.1s
NVAR Mina Array Bea 64.86 357 P P 09 30 04.0 +0.6
comp=Z,8.3nm,1.0s,baz=181,slow=8.9,SNR=47
NVAR LR LR 09 53 18.5
comp=Z,114nm,18.9s,baz=156,slow=31
NVAR Mina Array Bea 64.86 357 P P 09 30 04.4 +1.1
PV12 Saucer Basin, 64.86 5 P P 09 30 04.2 +0.8
TIGA Tifton 64.86 29 P P 09 30 02.8 -0.4
baz=210
PSUT Pine Spring 64.86 1 P P 09 30 04.2 +0.8
LRAL Lakeview Retre 64.86 25 P P 09 30 03.5 +0.3
baz=207,SNR=7.9
LRAL Lakeview Retre 64.86 25 P P 09 30 03.0 -0.3
LRAL IAmb IAmb 09 30 04.7
comp=Z,16nm,1.2s
MVU Marysvale 64.86 2 P P 09 30 04.3 +0.8
PV20 West Nyswonger 64.87 5 P P 09 30 03.9 +0.5
PV20 IAmb IAmb 09 30 05.2
comp=Z,23nm,1.3s
MSU Marysvale 64.87 2 P P 09 30 04.8 +1.4
MSU Marysvale 64.87 2 P P 09 30 04.8 +1.4
PV14 Lion Creek, Pa 64.90 5 P P 09 30 04.6 +0.9
PV10 Paradox Valley 64.90 5 P P 09 30 03.3 -0.4
PV15 Paradox Valley 64.91 5 P P 09 30 04.4 +0.6
PV15 IAmb IAmb 09 30 05.5
comp=Z,21nm,1.0s
PV04 Paradox Valley 64.93 5 P P 09 30 04.4 +0.7
TCRU Three Creeks R 64.96 2 P P 09 30 05.8 +1.7
PV23 Carpenter Ridg 64.98 5 P P 09 30 05.2 +1.0
PV07 Paradox Valley 64.99 5 P P 09 30 04.9 +0.7
PV07 IAmb IAmb 09 30 05.8
comp=Z,11nm,1.1s
W41B Gary Mavity, V 65.00 20 P P 09 30 04.5 +0.5
baz=202,SNR=11
W41B Gary Mavity, V 65.00 20 P P 09 30 04.8 +0.8
WAKR Walker 65.00 356 P P 09 30 06.0 +1.7
WAKR IAmb IAmb 09 30 07.2
comp=Z,23nm,1.6s
RYN Ryan 65.07 356 P P 09 30 06.2 +1.6
RYN IAmb IAmb 09 30 07.3
comp=Z,14nm,1.4s
PV22 Blue Mesa, Par 65.08 5 P P 09 30 06.2 +1.5
PV22 IAmb IAmb 09 30 07.5
comp=Z,17nm,1.0s
PV21 Cone Mtn., Par 65.09 5 P P 09 30 05.8 +0.9
PV21 IAmb IAmb 09 30 06.7
comp=Z,23nm,1.1s
WHAR Wooly Hollow 65.09 20 P P 09 30 05.4 +0.7
WHAR IAmb IAmb 09 30 06.2
comp=Z,18nm,1.1s
OXF Oxford 65.31 23 P P 09 30 05.9 -0.2
OXF pmax pmax
comp=Z,20nm,1.1s
OXF Oxford 65.31 23 P P 09 30 05.8 -0.3
baz=204
OXF Oxford 65.31 23 P P 09 30 05.9 -0.2
OXF IAmb IAmb 09 30 06.8
comp=Z,20nm,1.1s
Q16A Castle Valley 65.32 3 P P 09 30 07.2 +0.9
KAN13 South Haven SW 65.33 15 P P 09 30 06.5 +0.3
152A Waverly Hall 65.45 27 P P 09 30 06.9 -0.1
152A IAmb IAmb 09 30 08.2
comp=Z,34nm,1.7s
T35A Sooner Cattle 65.46 16 P P 09 30 07.6 +0.5
T35A IAmb IAmb 09 30 08.5
comp=Z,15nm,1.1s
YERR Yerington 65.46 356 P P 09 30 08.7 +1.4
YERR IAmb IAmb 09 30 10.0
comp=Z,19nm,1.2s
KVN Kaiserville 65.47 357 P P 09 30 08.1 +0.9
KVN pmax pmax
comp=Z,21nm,1.3s
KVN Kaiserville 65.47 357 P P 09 30 08.1 +0.9
KVN IAmb IAmb 09 30 09.8
comp=Z,21nm,1.3s
HHAR Hobbs 65.53 18 P P 09 30 07.7 +0.2
HHAR IAmb IAmb 09 30 08.5
comp=Z,20nm,1.4s
SRU San Rafael Swe 65.54 3 P P 09 30 08.2 +0.5
SRU pmax pmax
comp=Z,26nm,1.0s
SRU San Rafael Swe 65.54 3 P P 09 30 08.2 +0.5
AFDM Forest Hills D 65.56 354 P P 09 30 08.2 +0.6
AFDM IAmb IAmb 09 30 10.0
comp=Z,16nm,1.3s
U38A Gravette 65.56 18 P P 09 30 07.7 0.0
U38A IAmb IAmb 09 30 08.7
comp=Z,16nm,1.5s
PNTR Pine Nut 65.59 356 P P 09 30 08.9 +0.8
PNTR IAmb IAmb 09 30 10.7
comp=Z,18nm,1.2s
TMUT Trail Mountain 65.69 3 P P 09 30 09.9 +1.0
FCAR Ozark Folk Cen 65.70 20 P P 09 30 08.9 +0.4
VCNR Virginia City 65.80 356 P P 09 30 10.8 +1.4
Y49A Blount Mountai 65.82 25 P P 09 30 09.7 +0.3
Y49A IAmb IAmb 09 30 10.5
comp=Z,13nm,1.1s
Q24A Divide 65.87 8 P P 09 30 10.4 +0.4

P17A Butcher Ranch, 65.89 3 P P 09 30 10.8 +0.8
U40A Yellville 65.91 19 P P 09 30 10.1 +0.1
baz=201,SNR=11
U40A Yellville 65.91 19 P P 09 30 10.0 +0.1
U40A IAmb IAmb 09 30 11.2
comp=Z,16nm,1.1s
W45A Hickory Valley 65.97 23 P P 09 30 10.4 0.0
154A Montrose 66.08 29 P P 09 30 11.3 +0.3
X48A Hartselle 66.11 25 P P 09 30 11.0 -0.2
FDF Fort de France 66.14 58 P P 09 30 11.2 -0.7
FDF pmax pmax
comp=Z,90nm,1.1s
FDF Fort de France 66.14 58 P P 09 30 11.2 -0.7
LCAR Lake Charles 66.16 21 P P 09 30 11.3 -0.3
LCAR IAmb IAmb 09 30 12.9
comp=Z,32nm,1.7s
PAHR Pah Rah Range 66.19 356 P P 09 30 13.1 +1.3
PAHR IAmb IAmb 09 30 14.5
comp=Z,20nm,1.7s
PLAL Pickwick Lake 66.20 24 P P 09 30 11.4 -0.4
ORV Oroville 66.21 354 P P 09 30 13.0 +1.2
ORV pmax pmax
comp=Z,11nm,1.4s
ORV Oroville 66.21 354 P P 09 30 13.0 +1.2
KSCO Kaye Shedlock' 66.27 10 P P 09 30 12.8 +0.5
baz=191,SNR=8.0
KSCO Kaye Shedlock' 66.27 10 P P 09 30 13.3 +1.0
R32A Long Quarter, 66.41 13 P P 09 30 13.3 +0.1
R32A IAmb IAmb 09 30 14.4
comp=Z,16nm,1.0s
GNAR Gosnell 66.43 21 P P 09 30 13.9 +0.6
DUG Dugway, Tooele 66.54 1 P P 09 30 15.4 +1.3
DUG pmax pmax
comp=Z,22nm,1.1s
DUG Dugway, Tooele 66.54 1 P P 09 30 15.4 +1.3
baz=182,SNR=20
DUG Dugway, Tooele 66.54 1 P P 09 30 15.4 +1.3
DUG IAmb IAmb 09 30 17.0
comp=Z,22nm,1.1s
CBKS Cedar Bluff 66.58 12 P P 09 30 14.3 +0.1
baz=194
GOGA Godfrey 66.61 28 P P 09 30 14.5 0.0
GOGA pmax pmax
comp=Z,7.0nm,0.9s
GOGA Godfrey 66.61 28 P P 09 30 14.2 -0.3
baz=210
GOGA Godfrey 66.61 28 P P 09 30 14.5 0.0
PEBM Pemiscott Bayo 66.62 22 P P 09 30 15.2 +0.7
ISCO Idaho Springs 66.64 7 P P 09 30 15.4 +0.5
ISCO pmax pmax
comp=Z,10.0nm,1.3s
ISCO Idaho Springs 66.64 7 P P 09 30 15.3 +0.5
baz=188,SNR=8.0
ISCO Idaho Springs 66.64 7 P P 09 30 15.4 +0.5
O20A White River Ci 66.71 5 P P 09 30 15.8 +0.5
baz=186,SNR=7.5
O20A White River Ci 66.71 5 P P 09 30 15.8 +0.5
O20A IAmb IAmb 09 30 17.2
comp=Z,11nm,1.1s
LNXT Lenox 66.73 22 P P 09 30 15.7 +0.5
FPAL Fort Paine 66.73 26 P P 09 30 15.1 -0.2
Y52A Lilburn 66.76 27 P P 09 30 15.6 +0.2
MGMO Mountain Grove 66.83 19 P P 09 30 15.9 +0.1
MGMO IAmb IAmb 09 30 17.3
comp=Z,20nm,1.1s
O02D Mt. Diablo Mer 66.95 353 P P 09 30 17.6 +0.9
baz=172
O03E Paynes Creek 66.97 354 P P 09 30 17.0 +0.2
baz=173
JLU Jordanelle 66.98 2 P P 09 30 18.1 +1.1
S39A Bolivar 67.03 18 P P 09 30 17.3 +0.3
S39A IAmb IAmb 09 30 18.1
comp=Z,15nm,1.2s
X51A Calhoun 67.05 26 P P 09 30 17.2 -0.1
X51A IAmb IAmb 09 30 18.0
comp=Z,11nm,0.9s
RDMU Red Mountain 67.05 4 P P 09 30 18.0 +0.6
CTU Camp Tracy 67.06 2 P P 09 30 18.2 +0.7
T42A Van Buren 67.07 20 P P 09 30 17.4 +0.1
T42A IAmb IAmb 09 30 18.2
comp=Z,12nm,1.1s
PARMO Parma 67.16 21 P P 09 30 18.1 +0.2
UTMT University of 67.16 22 P P 09 30 18.0 +0.1
SWET Sewanee 67.20 25 P P 09 30 17.8 -0.5
SWET IAmb IAmb 09 30 19.0
comp=Z,15nm,1.1s
HICK Hickman 67.22 22 P P 09 30 18.8 +0.5
BGU Big Grassy Mou 67.26 1 P P 09 30 19.5 +0.8
WVT Waverly 67.32 23 P P 09 30 18.2 -0.8
WVT pmax pmax
comp=Z,10.0nm,1.0s
WVT Waverly 67.32 23 P P 09 30 18.2 -0.8
baz=206
WVT Waverly 67.32 23 P P 09 30 18.2 -0.8
WDC Whiskeytown Da 67.33 353 P P 09 30 19.7 +0.8
WDC pmax pmax
comp=Z,21nm,1.2s
WDC Whiskeytown Da 67.33 353 P P 09 30 19.7 +0.8
WDC IAmb IAmb 09 30 20.6
comp=Z,21nm,1.1s
V48A Smith Brothers 67.34 24 P P 09 30 18.8 -0.3
V48A IAmb IAmb 09 30 19.6
comp=Z,19nm,1.2s
Z56A Williston 67.44 30 P P 09 30 19.7 -0.1
baz=212
TCUT Toone Canyon 67.50 2 P P 09 30 21.3 +1.0
KSU1 Kansas State U 67.52 15 P P 09 30 20.3 +0.2
baz=197
KSU1 Kansas State U 67.52 15 P P 09 30 20.9 +0.7
N23A Red Feather La 67.68 7 P P 09 30 22.2 +0.7
baz=188,SNR=10
N23A Red Feather La 67.68 7 P P 09 30 22.6 +1.1
N23A IAmb IAmb 09 30 23.3
comp=Z,15nm,1.1s
Z57A Bowman 67.72 30 P P 09 30 21.5 0.0
baz=212
Y55A Saluda 67.75 29 P P 09 30 21.6 -0.1
baz=211,SNR=5.1
NHSC New Hope 67.80 31 P P 09 30 22.2 +0.2
baz=213
CLTN Cedars of Leba 67.83 24 P 09 30 22.1 -0.1
CLTN IAmb IAmb 09 30 24.6
comp=Z,18nm,1.6s
W52A Murphy 67.88 27 P P 09 30 22.9 +0.3
W52A IAmb IAmb 09 30 23.6
comp=Z,11nm,1.0s
R40A Maddies Statio 67.88 19 P P 09 30 22.7 +0.2
R40A IAmb IAmb 09 30 23.5
comp=Z,17nm,1.1s
CPCT Cooper Cave 67.95 26 P P 09 30 23.0 0.0
CPCT IAmb IAmb 09 30 25.2
comp=Z,14nm,1.3s
CCM Cathedral Cave 67.97 20 P P 09 30 22.6 -0.4
CCM pmax pmax
comp=Z,11nm,0.9s
CCM Cathedral Cave 67.97 20 P P 09 30 23.0 0.0
baz=202
CCM Cathedral Cave 67.97 20 P P 09 30 22.6 -0.4
CCM IAmb IAmb 09 30 24.0
comp=Z,10nm,0.9s
HWUT Hardware Ranch 67.98 2 P P 09 30 23.4 +0.1
HWUT IAmb IAmb 09 30 37.3
comp=Z,16nm,1.6s
X54A Belton 68.05 28 P P 09 30 23.3 -0.3
baz=211
HVU Hansel Valley 68.12 1 P P 09 30 24.0 -0.1
HVU pmax pmax
comp=Z,13nm,0.3s
HVU Hansel Valley 68.12 1 P 09 30 24.0 -0.1
PHWY Pilot Hill 68.14 7 P P 09 30 24.3 -0.1
FVM French Village 68.15 20 P P 09 30 23.9 -0.2
FVM pmax pmax
comp=Z,9.0nm,1.0s
FVM French Village 68.15 20 P P 09 30 23.9 -0.2
Z58A St. Stephen 68.15 31 P P 09 30 24.2 0.0
baz=213
M02C Callahan 68.16 353 P P 09 30 25.3 +1.0
baz=172
BG3 Lake Jocassee 68.20 28 P P 09 30 24.1 -0.5
OGNE Ogallala 68.25 10 P P 09 30 25.8 +0.9
S44A Carbondale 68.26 21 P P 09 30 25.1 +0.3
X55A Gracelyn & Ava 68.30 29 P P 09 30 24.9 -0.3
baz=211
JSC Jenkinsville 68.30 29 P P 09 30 25.8 +0.6
JSC pmax pmax

comp=Z,7.0nm,1.2s
JSC Jenkinsville 68.30 29 P P 09 30 25.8 +0.6
V51A Loudon 68.33 26 P P 09 30 25.2 -0.1
RWWY Rawlins 68.34 6 P P 09 30 25.5 -0.1
RWWY IAmb IAmb 09 30 26.9
comp=Z,13nm,1.1s
T47A Sharon Grove 68.35 23 P P 09 30 25.4 0.0
U49A Red Boiling Sp 68.41 25 P P 09 30 25.7 -0.1
TKL Tuckaleechee C 68.43 27 P P 09 30 25.8 -0.2
TKL pmax pmax
comp=Z,7.0nm,1.0s
TKL Tuckaleechee C 68.43 27 P P 09 30 25.8 -0.2
MOD Modoc Plateau 68.44 355 P P 09 30 26.9 +0.9
M04C Macdoel 68.45 354 P P 09 30 27.2 +1.1
baz=173
YBH Yreka Blue Hor 68.48 353 LR LR 09 53 38.6
comp=Z,61nm,19.8s,baz=186,slow=30
PAULI Pauline 68.52 28 P P 09 30 26.9 +0.3
PAULI IAmb IAmb 09 30 28.4
comp=Z,22nm,1.5s
X56A White Oak 68.58 29 P P 09 30 27.1 +0.2
baz=212
W54A Cherokee Point 68.59 28 P P 09 30 27.0 +0.1
baz=211
P38A Dawn 68.78 17 P P 09 30 28.4 +0.3
V53A Saluda 68.83 27 P P 09 30 28.6 +0.1
V53A IAmb IAmb 09 30 29.7
comp=Z,18nm,1.1s
WVOR Wild Horse Val 68.86 357 P P 09 30 29.9 +1.2
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR Wild Horse Val 68.86 357 P P 09 30 29.9 +1.2
WVOR IAmb IAmb 09 30 31.3
comp=Z,22nm,1.1s
N33A J Bar K, Exete 68.90 14 P P 09 30 29.7 +0.9
L04D Klamath Falls 68.92 354 P P 09 30 29.7 +0.6
baz=172
BIRD Birdtown, Kers 68.96 30 P P 09 30 29.6 +0.4
BIRD IAmb IAmb 09 30 30.5
comp=Z,18nm,1.1s
KMSC Kings Mountain 69.00 29 P P 09 30 29.3 -0.2
baz=211
KMSC Kings Mountain 69.00 29 P P 09 30 29.8 +0.3
Y59A Loris 69.13 31 P P 09 30 30.5 +0.2
baz=214
AHID Auburn Hatcher 69.16 3 P P 09 30 30.2 -0.4
AHID IAmb IAmb 09 30 31.4
comp=Z,9.9nm,0.8s
T50A Nancy 69.21 25 P P 09 30 30.4 -0.4
BW06 Boulder Array 69.24 4 P P 09 30 30.8 -0.3
baz=185,SNR=21
BW06 Boulder Array 69.24 4 P P 09 30 30.4 -0.7
BW06 IAmb IAmb 09 30 31.9
comp=Z,27nm,1.4s
PD31 Pinedale Array 69.24 4 P P 09 30 30.6 -0.6
PD31 IAmb IAmb 09 30 31.9
comp=Z,24nm,1.4s
PDAR Pinedale Array 69.24 4 P P 09 30 30.6 -0.6
comp=Z,8.6nm,1.0s,baz=163,slow=5.7,SNR=39
PDAR LR LR 09 55 39.6
comp=Z,52nm,19.0s,baz=175,slow=32
PDAR Pinedale Array 69.24 4 P P 09 30 30.3 -0.8
V54A Nebo 69.28 28 P P 09 30 31.2 0.0
baz=211,SNR=7.4
TZTN Tazewell 69.29 26 P P 09 30 31.3 0.0
baz=209
TZTN Tazewell 69.29 26 P P 09 30 30.9 -0.4
TZTN IAmb IAmb 09 30 31.9
comp=Z,11nm,1.0s
K05A Summer Lake 69.30 355 P P 09 30 32.8 +1.3
W56A Indian Trail 69.32 29 P P 09 30 31.3 -0.2
baz=212,SNR=5.1
K22A Casper 69.36 6 P P 09 30 32.0 +0.2
baz=188,SNR=12
K22A Casper 69.36 6 P P 09 30 31.9 +0.1
HUMO Hull Mountain 69.37 353 P P 09 30 33.0 +1.3
HUMO IAmb IAmb 09 30 33.9
comp=Z,20nm,1.2s
BGNE Belgrade 69.40 13 P P 09 30 32.7 +0.8
baz=195
BGNE Belgrade 69.40 13 P P 09 30 32.5 +0.6
N35A Tabor 69.42 15 P P 09 30 32.8 +0.7
N35A IAmb IAmb 09 30 34.0
comp=Z,21nm,0.9s
ECR Eagle Creek 69.43 2 P P 09 30 32.8 +0.5
Q44A Meyer Farm, Va 69.43 21 P P 09 30 32.9 +0.8
Y60A Bolivia 69.45 32 P P 09 30 32.3 0.0
baz=214
W57A Gilead 69.59 30 P P 09 30 33.2 0.0
baz=212
W57A Gilead 69.59 30 P P 09 30 33.2 0.0
W57A IAmb IAmb 09 30 34.1
comp=Z,10nm,0.9s
VNA3 Neumayer Olymp 69.60 161 P P 09 30 32.2 -0.7
V55A Taylorsville 69.65 28 P P 09 30 33.7 +0.1
baz=211
V55A Taylorsville 69.65 28 P P 09 30 33.7 +0.1
V55A IAmb IAmb 09 30 34.6
comp=Z,18nm,1.2s
WCI Wyandotte Cave 69.75 23 P P 09 30 33.8 -0.3
WCI pmax pmax
comp=Z,8.0nm,0.9s
WCI Wyandotte Cave 69.75 23 P P 09 30 33.4 -0.6
baz=207
WCI Wyandotte Cave 69.75 23 P P 09 30 33.8 -0.3
MFID Camas Ranch 69.75 359 P P 09 30 34.5 +0.4
MFID IAmb IAmb 09 30 36.1
comp=Z,18nm,1.2s
REDW Red Top Meadow 69.76 3 P P 09 30 34.6 +0.3
REDW IAmb IAmb 09 30 35.6
comp=Z,15nm,1.1s
J08A Circle Bar Ran 69.78 357 P P 09 30 36.1 +1.8
J08A IAmb IAmb 09 30 37.0
comp=Z,23nm,1.1s
W58A Raeford 69.82 30 P P 09 30 34.8 +0.2
baz=213,SNR=6.1
SNOW Snow King Moun 69.87 3 P P 09 30 35.0 -0.1
SNOW IAmb IAmb 09 30 36.2
comp=Z,16nm,1.2s
HLID Hailey 69.88 0 P P 09 30 36.0 +0.9
baz=180,SNR=36
HLID Hailey 69.88 0 P P 09 30 35.9 +0.9
J05D Fort Rock, OR 69.89 355 P P 09 30 36.0 +1.0
baz=174,SNR=10
TPAW Teton Pass 69.89 3 P P 09 30 34.2 -1.0
TPAW IAmb IAmb 09 30 35.5
comp=Z,18nm,0.9s
V56A Mocksville 69.93 29 P P 09 30 35.3 0.0
baz=212
U54A Nelsons Funny 69.97 28 P P 09 30 35.1 -0.5
baz=211
U54A Nelsons Funny 69.97 28 P P 09 30 35.6 0.0
U54A IAmb IAmb 09 30 39.0
comp=Z,30nm,1.8s
LOHW Long Hollow 70.02 3 P P 09 30 36.1 +0.1
LOHW IAmb IAmb 09 30 37.1
comp=Z,14nm,1.1s
FXWY Fox Creek 70.03 3 P P 09 30 35.8 -0.2
FXWY IAmb IAmb 09 30 37.5
comp=Z,16nm,1.1s
X60A Albert Glenn T 70.03 31 P P 09 30 36.1 +0.2
baz=214
T53A Wise 70.08 27 P P 09 30 36.3 0.0
baz=210
R49A Shelbyville 70.20 24 P P 09 30 36.5 -0.4
R49A IAmb IAmb 09 30 37.3
comp=Z,15nm,1.1s
VNA1 Neumayer--Stat 70.26 160 P P 09 30 36.7 -0.1
U55A TA2, Sparta 70.28 28 P P 09 30 37.2 -0.2
baz=211
IMW Indian Meadow 70.29 3 P P 09 30 37.7 0.0
IMW IAmb IAmb 09 30 39.0
comp=Z,18nm,1.1s
V57A Coltrane Farms 70.31 29 P P 09 30 37.2 -0.4
baz=213,SNR=7.0
L34A Svendsen Farm, 70.31 14 P P 09 30 37.6 +0.1
PINE Pine Mountain 70.37 355 P P 09 30 39.2 +1.2
PINE IAmb IAmb 09 30 40.4
comp=Z,24nm,1.1s
VNA2 Neumayer--Watz 70.41 161 P P 09 30 37.6 -0.2
U56A King 70.43 29 P P 09 30 38.4 0.0
baz=212
U56A King 70.43 29 P P 09 30 38.7 +0.4
K31A O'Neill 70.45 12 P P 09 30 39.4 +1.0
FLWY Flagg Ranch 70.49 3 P P 09 30 39.5 +0.8

FLWY IAmb IAmb 09 30 40.3
comp=Z,21nm,0.9s
I04A Tendick Farm, 70.50 354 P P 09 30 39.1 +0.5
baz=172
R50A Paris 70.51 25 P P 09 30 38.3 -0.4
R50A IAmb IAmb 09 30 39.0
comp=Z,15nm,1.1s
V58A Windy Hill, Pi 70.52 30 P P 09 30 38.7 -0.2
baz=213
V58A Windy Hill, Pi 70.52 30 P P 09 30 38.9 +0.1
W60A Pink Hill 70.55 31 P P 09 30 39.1 +0.1
baz=214
I07A Izee 70.56 356 P P 09 30 40.8 +1.7
I07A IAmb IAmb 09 30 41.6
comp=Z,28nm,1.2s
CNNC Cliffs of the 70.62 31 P P 09 30 39.6 +0.1
YPP Pitchstone Pla 70.67 3 P P 09 30 40.3 +0.3
S53A Williamson 70.84 27 P P 09 30 40.5 -0.4
baz=210
HDIL Hopedale 70.86 20 P P 09 30 41.0 +0.2
baz=204
HDIL Hopedale 70.86 20 P P 09 30 40.8 0.0
HDIL IAmb IAmb 09 30 41.9
comp=Z,17nm,0.9s
V59A Middlesex 70.89 31 P P 09 30 41.0 -0.1
baz=214
T55A Pulaski 70.91 28 P P 09 30 41.2 -0.1
baz=212
I05D Terrebonne, OR 70.94 355 P P 09 30 42.5 +1.2
baz=173
U57A Blanch 70.95 29 P P 09 30 41.4 -0.1
baz=213,SNR=5.1
YMR Madison River 71.06 3 P P 09 30 43.1 +0.9
RSSD Black Hills 71.09 8 P P 09 30 42.7 +0.3
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 71.09 8 P P 09 30 42.8 +0.4
baz=190
RSSD Black Hills 71.09 8 P P 09 30 42.7 +0.3
RSSD IAmb IAmb 09 30 43.5
comp=Z,11nm,0.8s
DZM Mont Dzumac 71.11 254 *e*LR LR 09 52 28.9
comp=Z,421nm,27.4s
DZM Mont Dzumac 71.11 254 P P 09 30 43.6 +0.6
comp=Z,15nm,1.0s,baz=126,slow=13,SNR=5.1
DZM Mont Dzumac 71.11 254 P P 09 30 43.8 +0.8
YHB Horse Butte 71.14 2 P P 09 30 43.4 +0.6
BLA Blacksburg 71.14 28 P P 09 30 43.1 +0.4
BLA pmax pmax
comp=Z,13nm,1.1s
BLA Blacksburg 71.14 28 P P 09 30 42.8 +0.1
baz=212
BLA Blacksburg 71.14 28 P P 09 30 43.0 +0.4
BLA IAmb IAmb 09 30 43.8
comp=Z,13nm,1.1s
T56A Rocky Mt 71.16 29 P P 09 30 42.8 0.0
baz=212
MCMT McKenzie Canyo 71.16 1 P P 09 30 43.9 +0.9
YHH Holmes Hill 71.19 3 P P 09 30 43.8 +0.6
QLMT Earthquake Lak 71.21 2 P P 09 30 44.4 +1.3
BMO Blue Mountains 71.22 358 P P 09 30 43.7 +0.6
BMO pmax pmax
comp=Z,15nm,1.3s
BMO Blue Mountains 71.22 358 P P 09 30 43.7 +0.6
YHL Hebgen Lake 71.23 2 P P 09 30 44.2 +0.8
U58A Oxford 71.27 30 P P 09 30 43.0 -0.4
baz=214
V60A Jim Taylor Roa 71.34 31 P P 09 30 44.0 +0.3
baz=215
V60A Jim Taylor Roa 71.34 31 P P 09 30 44.1 +0.3
V60A IAmb IAmb 09 30 44.9
comp=Z,13nm,0.8s
H04A Detroit Lake 71.36 354 P P 09 30 44.6 +0.8
H04A IAmb IAmb 09 30 45.3
comp=Z,19nm,1.2s
SNAA Sanae 71.39 162 P P 09 30 43.1 -0.7
SNAA Sanae 71.39 162 *e*P **P 09 30 43.2 -0.7**
SNAA Sanae 71.39 162 P P 09 30 43.2 -0.7
SNAA IAmb IAmb 09 30 44.5
comp=Z,16nm,1.2s
SFIN Lafayette 71.40 22 P P 09 30 43.9 -0.2
baz=206
YNE Yellowstone No 71.44 3 P P 09 30 45.0 +0.4
T57A Hurt 71.47 29 P P 09 30 44.8 +0.1
baz=213
T57A Hurt 71.47 29 P P 09 30 44.7 +0.1
P49A Miami Univ. Ec 71.47 24 P P 09 30 44.0 -0.5
baz=208
R53A Hurricane 71.47 26 P P 09 30 44.2 -0.4
baz=210
U59A Littleton 71.58 31 P P 09 30 44.7 -0.6
baz=214
U59A Littleton 71.58 31 P P 09 30 45.0 -0.3
S55A Lewisburg 71.59 28 P P 09 30 45.1 -0.3
baz=212
RLMT Red Lodge 71.60 4 P P 09 30 45.8 +0.3
baz=185,SNR=7.4
RLMT Red Lodge 71.60 4 P P 09 30 45.9 +0.3
L40A Anamosa 71.68 18 P P 09 30 46.6 +0.8
V61A Roper 71.68 32 P P 09 30 45.1 -0.8
baz=215
DLMT Dillon 71.70 1 P P 09 30 46.3 +0.3
DLMT IAmb IAmb 09 30 47.7
comp=Z,15nm,1.1s
G08A Pilot Rock 71.73 357 P P 09 30 47.2 +1.1
G08A IAmb IAmb 09 30 48.7
comp=Z,27nm,1.1s
R54A Victor 71.73 27 P P 09 30 45.9 -0.3
baz=211
T58A Grand View Acr 71.74 30 P P 09 30 45.8 -0.4
baz=213
G05D Wamic, OR 71.84 355 P P 09 30 47.4 +0.8
baz=174
Q52A Bidwell 71.89 26 P P 09 30 47.2 +0.1
baz=210
S56A Natural Bridge 71.90 29 P P 09 30 47.2 -0.1
baz=212
ECSD EROS Data Cent 71.95 14 P P 09 30 47.2 -0.2
baz=197,SNR=5.5
ECSD EROS Data Cent 71.95 14 P P 09 30 47.6 +0.2
BOZ Bozeman (W) 71.97 2 P P 09 30 47.6 0.0
baz=183
P51A Williamsport 72.04 25 P 09 30 47.8 -0.2
P51A IAmb IAmb 09 33 16.9
comp=Z,38nm,1.9s
Q53A Leroy 72.09 26 P P 09 30 48.4 0.0
baz=211
SUSD Miller 72.17 12 P P 09 30 48.6 -0.1
baz=194
SUSD Miller 72.17 12 P P 09 30 49.0 +0.3
SUSD IAmb IAmb 09 30 49.7
comp=Z,17nm,0.9s
U61A Possum Corner 72.18 31 P P 09 30 49.2 +0.3
baz=215
T59A Double "B" Far 72.20 30 P P 09 30 48.6 -0.3
baz=214
S57A Dark Hollow, R 72.23 29 P P 09 30 48.6 -0.6
baz=213
GCMT Greycliff 72.24 4 P P 09 30 49.5 +0.2
F10A Beach Ranch, E 72.34 358 P P 09 30 50.2 +0.5
F10A IAmb IAmb 09 30 51.3
comp=Z,19nm,1.3s
F07A Phinny Hill Vi 72.39 356 P P 09 30 51.0 +1.1
Q54A Coxs Mills 72.48 27 P P 09 30 50.3 -0.3
baz=211
Q54A Coxs Mills 72.48 27 P P 09 30 51.1 +0.5
Q54A IAmb IAmb 09 30 51.9
comp=Z,28nm,1.5s
F05D White Salmon 72.49 355 P P 09 30 51.6 +1.0
baz=173
S58A Poland Farm, P 72.51 30 P P 09 30 49.8 -1.0
baz=214
S58A Poland Farm, P 72.51 30 P P 09 30 51.0 +0.2
P52A Corning 72.52 26 P P 09 30 50.7 -0.1
baz=210,SNR=5.7
P52A Corning 72.52 26 P P 09 30 51.1 +0.3
P52A IAmb IAmb 09 30 52.0
comp=Z,24nm,1.1s
R56A Bull Pasture M 72.58 28 P P 09 30 51.9 +0.5
baz=212,SNR=7.5
F04A Amboy 72.62 354 P P 09 30 51.5 +0.2
F04A IAmb IAmb 09 30 59.6
comp=Z,26nm,1.4s
P53A Whipple 72.69 26 P P 09 30 52.3 +0.4
baz=211
P53A Whipple 72.69 26 P P 09 30 52.1 +0.2

T60A Surry 72.71 31 P P 09 30 51.9 -0.1
baz=215
T60A Surry 72.71 31 P P 09 30 52.3 +0.3
T60A IAmb IAmb 09 30 53.1
comp=Z,19nm,0.8s
HAWA Hanford 72.86 356 P P 09 30 53.3 +0.6
HAWA IAmb IAmb 09 30 55.2
comp=Z,40nm,1.8s
R57A Stanardsville 72.87 29 P P 09 30 52.9 -0.1
baz=213
R58B Mineral 72.87 30 P P 09 30 53.0 0.0
baz=214
E09A Wood Farm, Sta 72.91 357 P P 09 30 53.5 +0.5
E09A IAmb IAmb 09 30 54.6
comp=Z,14nm,1.1s
E08A Dider Farm, El 72.93 357 P P 09 30 54.2 +1.0
E08A IAmb IAmb 09 30 55.4
comp=Z,27nm,1.2s
I37A Lemond, Waseca 72.94 16 P P 09 30 54.0 +0.8
E07A Sunnyside 73.04 356 P P 09 30 55.0 +1.2
O52A Adamsville 73.06 26 P P 09 30 54.0 -0.1
baz=210
O52A Adamsville 73.06 26 P P 09 30 54.5 +0.4
O52A IAmb IAmb 09 30 55.2
comp=Z,17nm,0.9s
HRY Holter Researc 73.07 2 P P 09 30 55.1 +1.0
R58A Rapidan 73.10 29 P P 09 30 54.0 -0.3
baz=214
P54A Burton 73.15 27 P P 09 30 55.0 +0.4
baz=211,SNR=5.8
MSO Missoula 73.15 0 P P 09 30 55.1 +0.5
baz=180,SNR=13
MSO Missoula 73.15 0 P P 09 30 54.9 +0.3
MSO IAmb IAmb 09 30 56.3
comp=Z,21nm,1.1s
Q56A Snyder Ridge, 73.21 28 P P 09 30 55.5 +0.5
baz=212
E04D Cinebar 73.25 354 P P 09 30 55.9 +0.9
baz=172,SNR=6.0
E03A Lebam 73.33 353 P P 09 30 56.6 +1.2
P55A Reedsville 73.34 27 P P 09 30 56.1 +0.3
baz=212,SNR=5.5
LON Longmire 73.38 355 P P 09 30 56.4 +0.5
LON pmax pmax
comp=Z,12nm,1.3s
LON Longmire 73.38 355 P P 09 30 56.4 +0.5
LAO LASA Array 73.39 6 P P 09 30 56.1 +0.2
baz=188,SNR=14
LAO LASA Array 73.39 6 P P 09 30 56.2 +0.2
LAO IAmb IAmb 09 30 57.2
comp=Z,21nm,0.9s
O53A New Philadelph 73.41 26 P P 09 30 56.1 0.0
baz=211,SNR=7.1
O53A New Philadelph 73.41 26 P P 09 30 56.8 +0.6
O53A IAmb IAmb 09 30 57.5
comp=Z,26nm,1.0s
D08A Wollman Farm, 73.49 357 P P 09 30 57.2 +0.8
Q57A Strasburg 73.53 29 P P 09 30 57.3 +0.4
baz=213
N51A Ashland 73.54 25 P P 09 30 57.1 +0.2
baz=210
O54A Avella 73.69 27 P P 09 30 58.0 +0.2
baz=211
O54A Avella 73.69 27 P P 09 30 57.9 +0.2
N52A McGinn's Farm, 73.71 25 P P 09 30 57.9 0.0
baz=210
P56A Dayton Farm, R 73.74 28 P P 09 30 58.6 +0.5
baz=213,SNR=6.9
Q58A Fox Den Farm, 73.77 29 P P 09 30 58.7 +0.4
baz=214
LTY Liberty 73.79 356 P P 09 30 59.1 +0.8
LTY IAmb IAmb 09 30 60.0
comp=Z,22nm,1.4s
E28A Huff 73.96 10 P P 09 30 59.6 +0.4
M51A Elyria 73.97 25 P P 09 30 59.6 +0.2
baz=210
F33A 5 Mile Ranch, 74.03 13 P P 09 30 59.3 -0.3
N53A Lisbon 74.04 26 P P 09 31 00.2 +0.4
baz=211
N53A Lisbon 74.04 26 P P 09 31 00.8 +0.9
N53A IAmb IAmb 09 31 00.8
comp=Z,16nm,0.8s
JTMT Jette 74.07 0 P P 09 31 00.7 +0.7
JTMT IAmb IAmb 09 31 01.7
comp=Z,26nm,1.0s
P57A Homestead Farm 74.08 29 P P 09 31 00.1 +0.1
baz=213
P57A Homestead Farm 74.08 29 P P 09 31 00.6 +0.6
O55A Ligonier 74.14 27 P P 09 31 00.7 +0.2
baz=212
C09A Chrisman Ranch 74.20 357 P P 09 31 01.5 +0.9
C09A IAmb IAmb 09 31 02.7
comp=Z,41nm,1.6s
SPMN Marine on St. 74.22 16 P P 09 31 01.2 +0.4
baz=200
D03D Eldon 74.27 354 P P 09 31 02.3 +1.4
baz=172
AAM Ann Arbor 74.28 23 P P 09 31 01.8 +0.6
baz=208
P58A Pank, Wackersv 74.39 29 P P 09 31 02.3 +0.4
baz=214
M52A Chesterland 74.47 25 P P 09 31 02.5 +0.2
baz=210
EGMT Eagleton 74.47 3 P P 09 31 03.2 +1.0
baz=184,SNR=15
EGMT Eagleton 74.47 3 P P 09 31 02.6 +0.3
EGMT IAmb IAmb 09 31 04.6
comp=Z,27nm,1.1s
C06D Leavenworth 74.47 356 P P 09 31 03.2 +1.0
baz=174
O56A Blue Knob Stat 74.50 28 P P 09 31 02.8 +0.3
baz=213
O56A Blue Knob Stat 74.50 28 P P 09 31 03.0 +0.5
N54A Moraine State 74.50 26 P P 09 31 03.2 +0.7
baz=212,SNR=5.7
N54A Moraine State 74.50 26 P P 09 31 03.5 +1.0
N54A IAmb IAmb 09 31 04.3
comp=Z,18nm,1.1s
NEW Newport 74.62 358 P P 09 31 04.1 +1.0
NEW pmax pmax
comp=Z,26nm,1.2s
NEW Newport 74.62 358 P P 09 31 03.9 +0.8
baz=178,SNR=21
NEW Newport 74.62 358 P P 09 31 04.1 +1.0
NEW IAmb IAmb 09 31 05.1
comp=Z,26nm,1.2s
M53A WI Miller and 74.64 26 P P 09 31 03.6 +0.3
baz=211
M53A WI Miller and 74.64 26 P P 09 31 03.8 +0.5
F36A Milaca 74.65 15 P P 09 31 03.9 +0.6
F36A IAmb IAmb 09 31 04.8
comp=Z,19nm,1.0s
J47A Sumner 74.71 22 P P 09 31 04.3 +0.7
N55A Marion Center 74.75 27 P P 09 31 04.6 +0.5
baz=212,SNR=6.1
B08A Colville Reser 74.81 357 P P 09 31 04.5 +0.4
O57A Amberson 74.84 28 P P 09 31 04.6 +0.1
baz=214
P59A Jarrettsville 74.87 30 P P 09 31 04.9 +0.2
baz=215,SNR=5.1
B05A Bryant 74.90 355 P P 09 31 05.6 +0.9
baz=173
O58A Lewisberry 75.08 29 P P 09 31 06.0 +0.2
baz=214
SSPA Standing Stone 75.09 28 P P 09 31 06.1 +0.2
baz=213
SSPA Standing Stone 75.09 28 P P 09 31 06.2 +0.3
M54A Oil Creek Stat 75.10 26 P P 09 31 06.0 0.0
baz=212
DGMT Dagmar 75.36 7 P P 09 31 07.8 +0.5
baz=189,SNR=10
DGMT Dagmar 75.36 7 P P 09 31 08.2 +0.9
MDND Maddock 75.37 10 P P 09 31 07.2 -0.2
baz=194
WALA Waterton Lakes 75.38 0 P P 09 31 08.6 +1.0
PGC Sidney 75.41 354 P P 09 31 08.7 +1.2
PGC IAmb IAmb 09 31 09.6
comp=Z,21nm,0.9s
A04D Lummi Island 75.41 354 P P 09 31 08.6 +1.1
baz=172
M55A Ridgway 75.42 27 P P 09 31 07.8 0.0
baz=212
O59A Robesonia 75.55 29 P P 09 31 08.7 +0.1
baz=215
M56A Emporium 75.67 27 P P 09 31 09.7 +0.4
baz=213

M56A Emporium 75.67 27 P P 09 31 09.7 +0.4
M56A IAmb IAmb 09 31 10.1
comp=Z,34nm,1.6s
N58A Sunbury 75.75 29 P P 09 31 10.0 +0.3
baz=214
N58A Sunbury 75.75 29 P P 09 31 09.9 +0.2
N58A IAmb IAmb 09 33 16.3
comp=Z,38nm,1.8s
O60A Telford 75.90 30 P P 09 31 10.8 +0.3
baz=215
M57A Sunshine Farm, 75.99 28 P P 09 31 11.3 +0.2
baz=214
L55A Hinsdale 76.16 27 P P 09 31 12.1 +0.1
baz=213
N59A State Game Lan 76.23 29 P P 09 31 12.5 0.0
baz=215
N59A State Game Lan 76.23 29 P P 09 31 12.8 +0.3
WVNY West Valley, N 76.28 27 P P 09 31 13.0 +0.3
WVNY IAmb IAmb 09 31 14.1
comp=Z,18nm,1.1s
M58A Price's Panora 76.30 28 P P 09 31 13.0 +0.1
baz=214,SNR=6.6
AGMN Agassiz Nation 76.47 13 P P 09 31 14.4 +0.8
baz=197
L56A Greenwood 76.48 27 P P 09 31 14.1 +0.3
baz=213,SNR=5.2
L56A Greenwood 76.48 27 P P 09 31 14.3 +0.4
L56A IAmb IAmb 09 31 15.3
comp=Z,19nm,1.1s
N60A Cedar Hill Far 76.48 30 P P 09 31 13.7 -0.2
baz=216
L57A Andrews Acres 76.66 28 P P 09 31 15.1 +0.2
baz=214,SNR=5.9
K55A Perry 76.76 27 P P 09 31 15.9 +0.4
baz=213
M59A Waymart 76.88 29 P P 09 31 16.5 +0.4
baz=215
EYMN Ely 77.09 16 P P 09 31 17.7 +0.6
baz=201
L58A Harry Jones Me 77.12 28 P P 09 31 17.9 +0.5
baz=215
BINY Binghamton 77.19 28 P P 09 31 18.6 +0.7
baz=215
BINY Binghamton 77.19 28 P P 09 31 18.5 +0.7
BINY IAmb IAmb 09 31 19.3
comp=Z,17nm,1.0s
K57A Scipio Center 77.40 28 P P 09 31 19.7 +0.6
baz=214
L59A Walton 77.58 29 P P 09 31 20.3 +0.3
baz=215,SNR=5.5
L59A Walton 77.58 29 P P 09 31 20.6 +0.5
K58A Earlville 77.79 28 P P 09 31 21.3 0.0
baz=215
K58A Earlville 77.79 28 P P 09 31 21.6 +0.4
H53A Bobcaygeon 78.11 25 P P 09 31 23.0 +0.1
baz=212
K59A Cooperstown 78.14 29 P P 09 31 23.3 +0.1
baz=216
I55A Frankford 78.16 26 P P 09 31 23.6 +0.4
baz=213
J57A Williamstown 78.17 28 P P 09 31 24.0 +0.7
baz=214
PECO Prince Edward 78.20 27 P P 09 31 23.5 +0.1
PECO IAmb IAmb 09 31 24.5
comp=Z,15nm,1.0s
D46A Sault St. Mari 78.21 21 P P 09 31 24.0 +0.6
baz=207
ULM Lac du Bonnet 78.33 12 P P 09 31 23.9 -0.1
comp=Z,9.2nm,0.8s,baz=216,slow=5.6,SNR=7.0
ULM LR LR 10 01 51.8
comp=Z,59nm,19.4s,baz=180,slow=33
ULM Lac du Bonnet 78.33 12 P P 09 31 23.9 -0.1
ULM pmax pmax
comp=Z,12nm,0.9s
ULM Lac du Bonnet 78.33 12 P P 09 31 23.9 -0.1
ULM IAmb IAmb 09 31 24.3
comp=Z,12nm,0.8s
J58A Remsen 78.43 28 P P 09 31 25.7 +1.0
baz=215
J58A Remsen 78.43 28 P P 09 31 25.2 +0.4
J58A IAmb IAmb 09 31 26.1
comp=Z,16nm,1.2s
DELO Deloro Mine 78.44 26 P P 09 31 24.9 +0.2
DELO IAmb IAmb 09 31 25.7
comp=Z,17nm,1.1s
H55A Tweed 78.64 26 P P 09 31 25.7 -0.1
baz=213,SNR=5.4
D47A Chapleau 78.66 21 P P 09 31 25.9 +0.1
baz=206
K61A Williamstown 78.75 30 P P 09 31 27.0 +0.6
baz=217
I57A Carthage 78.75 27 P P 09 31 26.9 +0.4
baz=215
M64A Tiverton 78.80 32 P P 09 31 26.8 +0.1
baz=218
I58A Old Forge 78.83 28 P P 09 31 27.2 +0.2
baz=215
J59A Piesco 78.85 28 P P 09 31 27.1 0.0
baz=216
J59A Piesco 78.85 28 P P 09 31 27.5 +0.4
G54A Lake Saint Pet 79.00 25 P P 09 31 27.8 0.0
baz=213,SNR=6.7
H56A Elgin 79.04 27 P P 09 31 28.3 +0.2
baz=214
PLVO Plevna 79.09 26 P P 09 31 28.6 +0.3
J60A Lant Hill Farm 79.14 29 P P 09 31 29.1 +0.5
baz=217
ACCN Adirondack Com 79.14 29 P P 09 31 29.1 +0.4
ACCN IAmb IAmb 09 31 30.1
comp=Z,27nm,1.4s
K62A Royalston 79.20 30 P P 09 31 29.3 +0.3
baz=218
K62A Royalston 79.20 30 P P 09 31 29.0 0.0
NCB Newcomb 79.38 28 P P 09 31 30.4 +0.5
HRV Adam Dziewonsk 79.39 31 P P 09 31 29.9 0.0
baz=218
G55A Calabogie 79.41 26 P P 09 31 30.5 +0.5
baz=214
ALGO Algonquin Park 79.48 25 P P 09 31 30.9 +0.5
baz=212
I60A Shoreham 79.67 29 P P 09 31 31.5 0.0
baz=217
LONY Lake Ozonia 79.75 28 P P 09 31 32.1 +0.2
baz=216,SNR=5.7
LONY Lake Ozonia 79.75 28 P P 09 31 32.4 +0.5
H58A Gabriels 79.76 28 P P 09 31 32.1 +0.1
baz=216,SNR=5.4
J62A Henniker 79.84 30 P P 09 31 32.8 +0.4
baz=218
G57A Newington 79.98 27 P P 09 31 33.8 +0.7
baz=215
E53A Dumoine, Ponti 79.98 25 P P 09 31 33.3 +0.2
baz=213,SNR=5.4
H59A Cadyville 80.15 28 P P 09 31 34.7 +0.6
baz=216
E54A Lac Daplat, Po 80.21 25 P P 09 31 34.7 +0.4
baz=213
I61A Oroboro, Fairl 80.22 30 P P 09 31 35.0 +0.6
baz=218,SNR=6.0
FRNY Flat Rock 80.34 28 P P 09 31 35.8 +0.7
G58A Ormstown 80.40 28 P P 09 31 35.9 +0.5
baz=216
H60A Morristown 80.50 29 P P 09 31 36.8 +0.8
baz=217
D53A Lac Vacive, Po 80.56 24 P P 09 31 36.7 +0.5
baz=213
I62A Tamworth 80.56 30 P P 09 31 36.5 +0.2
baz=218
I62A Tamworth 80.56 30 P P 09 31 37.2 +0.9
LBNH Lisbon 80.58 30 P P 09 31 37.1 +0.7
LBNH pmax pmax
comp=Z,23nm,1.5s
LBNH Lisbon 80.58 30 P P 09 31 37.0 +0.5
baz=218
LBNH Lisbon 80.58 30 P P 09 31 37.1 +0.7
LBNH IAmb IAmb 09 31 38.3
comp=Z,23nm,1.4s
E55A Montcerf-Lytto 80.66 26 P P 09 31 37.1 +0.4
baz=214
F57A Harrington 80.68 27 P P 09 31 37.3 +0.4
baz=215
G59A Clarenceville 80.71 28 P P 09 31 37.6 +0.5
baz=217
H61A Lyndonville 80.82 29 P P 09 31 38.5 +0.8
baz=218,SNR=5.5
D54A Lac Fusel, La 81.01 25 P P 09 31 38.2 -0.5
baz=214,SNR=5.3

I63A	Otisfield	81.04	30	P	P	09 31 39.4	+0.5
	baz=219						
I63A	Otisfield	81.04	30	P	P	09 31 39.5	+0.7
TRQ	Mont Tremblant	81.06	27	P	P	09 31 39.3	+0.3
E56A	St. Veronique	81.14	26	P	P	09 31 39.0	-0.4
	baz=215						
H62A	Milan	81.19	30	P	P	09 31 40.3	+0.6
	baz=218,SNR=5.2						
H62A	Milan	81.19	30	P	P	09 31 40.1	+0.5
H62A				IAmb	IAmb	09 31 40.9	
	comp=Z,20nm,1.1s						
CASY	Casey	81.24	197	P	P	09 31 40.3	+0.6
MOQ	Mont Orford	81.29	29	P	P	09 31 40.6	+0.4
D55A	Sainte-Anne-du	81.35	26	P	P	09 31 40.4	-0.1
	baz=215,SNR=5.9						
I64A	Boothbay	81.37	31	P	P	09 31 40.5	0.0
	baz=220						
E57A	Chemin Saint G	81.38	27	P	P	09 31 41.7	+1.0
	baz=216,SNR=5.3						
F59A	Saint Guillaume	81.50	28	P	P	09 31 41.6	+0.4
	baz=217						
G61A	St-Isidore-de-	81.58	29	P	P	09 31 42.1	+0.3
	baz=218,SNR=6.6						
D56A	ZEC Mazanza, M	81.66	26	P	P	09 31 42.2	+0.1
	baz=215						
E58A	La Victoria	81.71	27	P	P	09 31 42.3	-0.1
	baz=216,SNR=6.0						
H63A	New Sharon	81.76	30	P	P	09 31 43.3	+0.6
	baz=219						
F60A	Warwick	81.94	28	P	P	09 31 43.9	+0.4
	baz=218						
G62A	West of Eustis	81.97	30	P	P	09 31 43.8	0.0
	baz=219						
D57A	Chemin Vers le	81.98	27	P	P	09 31 43.8	0.0
	baz=216						
H64A	Troy	82.11	31	P	P	09 31 44.8	+0.3
	baz=220						
G63A	Kingsbury	82.30	30	P	P	09 31 45.4	-0.1
	baz=219						
F61A	St Evariste	82.36	29	P	P	09 31 45.9	+0.1
	baz=218						
D58A	Chemin du LacG	82.45	27	P	P	09 31 46.7	+0.5
	baz=217						
E60A	Ste Agathe de	82.47	28	P	P	09 31 46.8	+0.5
	baz=218						
LSQQ	Lebel-sur-Quev	82.48	24	P	P	09 31 46.7	+0.4
	baz=213						
PKME	Peaks-Kenny Pk	82.56	30	P	P	09 31 47.1	+0.3
	baz=220						
PKME	Peaks-Kenny Pk	82.56	30	P	P	09 31 47.2	+0.3
PKME				IAmb	IAmb	09 33 50.5	
	comp=Z,21nm,1.4s						
H65A	Eastbrook	82.60	31	P	P	09 31 47.6	+0.5
	baz=220						
LATQ	La Tuque	82.72	27	P	P	09 31 47.8	+0.2
	baz=217						
LATQ	La Tuque	82.72	27	P	P	09 31 47.7	0.0
SYO	Syowa Base	82.73	171	‖ *e*P	P	09 31 46.0	-1.5
SYO	Syowa Base	82.73	171	‖ *ep*P	P	09 31 48.0	+0.5
F62A	Pittston Farm,	82.75	30	P	P	09 31 48.1	+0.3
	baz=219,SNR=5.8						
F62A	Pittston Farm,	82.75	30	P	P	09 31 48.4	+0.6
F62A				IAmb	IAmb	09 31 49.5	
	comp=Z,17nm,1.1s						
G64A	Maxfield	82.79	31	P	P	09 31 48.2	+0.1
	baz=220						
MATQ	Matagami	82.83	23	P	P	09 31 48.1	0.0
	baz=213						
E61A	Lac Etchemin	82.93	29	P	P	09 31 49.4	+0.6
	baz=219						
F63A	Nahmakanta, Br	82.98	30	P	P	09 31 49.4	+0.4
	baz=220						
F63A	Nahmakanta, Br	82.98	30	P	P	09 31 49.8	+0.7
H66A	Whiting	83.11	32	P	P	09 31 50.1	+0.5
	baz=221						
D60A	Saint Jean D'O	83.12	28	P	P	09 31 50.0	+0.2
	baz=218						
G65A	Princeton	83.30	31	P	P	09 31 50.7	0.0
	baz=221						
G65A	Princeton	83.30	31	P	P	09 31 51.1	+0.4
G65A				IAmb	IAmb	09 31 51.9	
	comp=Z,20nm,1.2s						
F64A	Sherman	83.44	30	P	P	09 31 51.6	+0.2
	baz=220,SNR=6.4						
F64A	Sherman	83.44	30	P	P	09 31 51.4	0.0
F64A				IAmb	IAmb	09 31 52.9	
	comp=Z,15nm,1.1s						
E62A	Clayton Lake	83.50	29	P	P	09 31 52.1	+0.4
	baz=219,SNR=7.8						
E62A	Clayton Lake	83.50	29	P	P	09 31 52.5	+0.8
GGN	Saint George	83.58	32	P	P	09 31 53.5	+1.5
GGN				IAmb	IAmb	09 31 55.0	
	comp=Z,24nm,1.4s						
E63A	Oxbow	83.84	30	P	P	09 31 53.8	+0.4
	baz=220						
E63A	Oxbow	83.84	30	P	P	09 31 53.9	+0.4
D62A	Allapoint, All	84.06	29	P	P	09 31 54.6	+0.1
	baz=220,SNR=6.1						
D62A	Allapoint, All	84.06	29	P	P	09 31 54.5	-0.1
D62A				IAmb	IAmb	09 31 55.7	
	comp=Z,14nm,1.0s						
E64A	Bridgewater	84.10	30	P	P	09 31 54.8	0.0
	baz=221						
CHGQ	Chibougamau	84.14	25	P	P	09 31 54.7	-0.2
	baz=215,SNR=7.6						
PQI	Presque Isle	84.21	30	P	P	09 31 55.2	-0.1
PQI				IAmb	IAmb	09 31 56.3	
	comp=Z,17nm,1.0s						
D63A	Stockholm	84.45	30	P	P	09 31 56.3	-0.2
	baz=220						
BATG	Bathurst New B	85.55	31	P	P	09 32 01.9	-0.1
BATG				IAmb	IAmb	09 32 06.8	
	comp=Z,29nm,1.5s						
DLBC	Dease Lake	85.77	352	P	P	09 32 04.0	+1.0
MAW	Mawson	86.00	179	P	P	09 32 04.8	+0.6
	comp=Z,4.3nm,0.8s,baz=164,slow=7.4,SNR=4.4						
MAW				LR	LR	10 06 34.4	
	comp=Z,147nm,19.1s,baz=197,slow=33						
STKA	Stephens Creek	87.07	236	P	P	09 32 09.8	-0.3
	comp=Z,4.6nm,1.0s,baz=101,slow=6.0,SNR=8.0						
STKA				LR	LR	10 04 21.0	
	comp=Z,136nm,18.6s,baz=148,slow=31						
STKA	Stephens Creek	87.07	236	P	P	09 32 09.8	-0.3
YKA	Yellowknife Ar	88.85	360	P	P	09 32 17.3	-0.3
	comp=Z,2.7nm,0.8s,baz=167,slow=3.8,SNR=7.7						
YKA				LR	LR	10 07 59.3	
	comp=Z,36nm,18.5s,baz=0.0,slow=33						
CTA	Charters Tower	89.05	248	P	P	09 32 20.3	+0.6
	comp=Z,6.4nm,1.2s,baz=109,slow=3.8,SNR=5.4						
CTAO	Charters Tower	89.05	248	P	P	09 32 20.1	+0.3
CTAO				pmax	pmax		
	comp=Z,16nm,1.4s						
CTAO	Charters Tower	89.05	248	P	P	09 32 20.1	+0.3
CTAO				IAmb	IAmb	09 32 21.5	
	comp=Z,16nm,1.4s						
H11N3	WAKE ISLAND Hy	89.06	293	T	T	11 10 54.6	
	baz=115,slow=78,SNR=27						
H11N1	WAKE ISLAND Hy	89.07	293	T	T	11 10 55.6	
	baz=115,slow=78,SNR=59						
H11N2	WAKE ISLAND Hy	89.08	293	T	T	11 11 00.8	
	baz=115,slow=78,SNR=53						
K27K	Chicken	92.97	348	P	P	09 32 36.6	-0.2
	baz=155						
PMG	Port Moresby	93.22	258	*d i*P	P	09 32 39.6	+0.4
PMG				pmax	pmax		
	comp=Z,23nm,0.9s						
SKT	Skwentna	93.23	343	P	P	09 32 38.0	-0.1
CUT	Chulitna	93.28	344	P	P	09 32 38.4	+0.2
	baz=148						
SCRK	Sand Creek	93.28	347	P	P	09 32 37.8	-0.6
	baz=154						
KTH	Kantishna Hill	94.41	345	P	P	09 32 43.6	0.0
ILAR	Eielson Array	94.57	347	P	P	09 32 43.4	-0.8
	comp=Z,0.5nm,0.6s,baz=181,slow=5.9,SNR=4.1						
ILAR	Eielson Array	94.57	347	P	P	09 32 43.7	-0.5
ILAR	Eielson Array	94.57	347	P	P	09 32 43.7	-0.5
COLA	College	94.86	346	‖ *i*P	P	09 32 44.4	-1.0
COLA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
POKR	Poker Plat Res	94.98	347	P	P	09 32 45.7	-0.3
	baz=151						
MDM	Murphy Dome	95.01	346	P	P	09 32 46.1	-0.1
MDM				IAmb	IAmb	09 32 47.0	
	comp=Z,14nm,1.2s						
ASAR	Alice Springs	97.14	239	P	P	09 32 56.1	-1.0
	comp=Z,1.0nm,1.0s,baz=112,slow=4.1,SNR=4.5						
ASAR				LR	LR	10 12 29.2	
	comp=Z,295nm,18.9s,baz=139,slow=33						
WRA	Warramunga Arr	98.81	243	P	P	09 33 03.8	-0.8
	comp=Z,1.6nm,0.9s,baz=127,slow=4.4,SNR=12						
WRA	Warramunga Arr	98.81	243	*e*P	P	09 33 04.2	-0.4
H01W1	Cape Leeuwin H	103.42	219	T	T	11 28 50.3	
	baz=134,slow=75,SNR=5.5						
H01W2	Cape Leeuwin H	103.43	219	T	T	11 28 53.8	
	baz=134,slow=75,SNR=5.3						
H01W3	Cape Leeuwin H	103.44	219	T	T	11 28 56.3	
	baz=134,slow=75,SNR=6.2						
TORD	Torodi Ar. Bea	119.02	89	PKP	PKPdf	09 38 12.7	-0.9
	comp=Z,0.7nm,0.7s,baz=300,slow=2.0,SNR=3.8						
ESDC	Sonseca Array	121.71	58	PKP	PKPdf	09 38 17.4	-0.8
	comp=Z,1.3nm,1.0s,baz=306,slow=1.2,SNR=8.3						
ESDC	Sonseca Array	121.71	58	PKPdf	PKPdf	09 38 17.7	-0.5
USRK	Ussuriysk Ar.	124.56	307	PKP	PKPdf	09 38 23.1	-0.4
	comp=Z,2.0nm,0.7s,baz=66,slow=4.7,SNR=6.3						
KLR	Kul'dur	125.01	313	‖ *i*PKIKP	PKPdf	09 38 23.6	-0.5
KSRS	Korea Array	126.90	298	PKP	PKPdf	09 38 28.2	+0.1
	comp=Z,2.7nm,1.0s,baz=149,slow=2.2,SNR=12						
KSAR	Wonju Array Be	126.93	298	PKIKP	PKPdf	09 38 28.1	-0.1
KSAR	Wonju Array Be	126.93	298		PKPdf	09 38 28.1	-0.1
CN2	Changchun	129.26	306	*e*PKP	PKPdf	09 38 29.6	-2.8
NOA	NORSAR Array B	130.09	31	PKP	PKiKP	09 38 35.0	+0.7
	comp=Z,0.2nm,0.4s,baz=298,slow=2.0,SNR=2.1						
NOA	NORSAR Array B	130.09	31	PKIKP	PKiKP	09 38 35.0	+0.7
NJ2	Nanjing	133.61	290	*e*PKP	PKPdf	09 38 41.0	0.0
BOD	Bodaibo	134.00	326	*e*PKIKP	PKPdf	09 38 39.3	-1.6
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BJI	Beijing	136.20	301	PKP	PKPdf	09 38 45.6	0.0
KLNR	Kaliningrad	136.81	37⇑	*e*PKIKP	PKPdf	09 38 45.6	-0.6
WHN	Wuhan	137.24	287	PKP	PKPdf	09 38 44.0	-3.8
VSU	Vasula	138.27	30⇑	*e*PKIKP	PKPdf	09 38 48.3	-0.5
HHC	Hu-ho-hao-te	139.66	303	*e*PKP	PKiKP	09 38 53.5	-1.0
ULN	Ulaanbaatar	141.38	314	⇑ *i*PKIKP	PKPdf	09 38 53.9	-1.2
KLMR	Klimovskoe	141.53	20	*e*PKIKP	PKPdf	09 38 50.3	-4.4
KLMR				pmax	pmax		
	comp=Z,19nm,1.3s						
KLMR	Klimovskoe	141.53	20	*e*PKPdf	PKPdf	09 38 50.3	-4.4
KLMR				AMP		09 38 56.4	
	comp=Z,19nm,1.3s						
SONM	Songino Array	141.81	315	PKhKP	PKPpre	09 38 51.2	
	comp=Z,2.8nm,1.0s,baz=98,slow=3.2,SNR=4.4						
SONM				PKP	PKPdf	09 38 55.2	-0.6
	comp=Z,5.1nm,0.8s,baz=143,slow=1.6,SNR=14						
SONM	Songino Array	141.81	315		PKPpre	09 38 50.4	
PRGR	Permogore	142.56	16	*e*PKIKP	PKPdf	09 38 51.8	-4.7
PRGR				pmax	pmax		
	comp=Z,28nm,1.3s						
GYA	Guiyang	143.33	279	*e*PKP	PKPbc	09 38 56.4	+0.1
MLR	Muntele Rosu	143.35	49	PKIKP	PKPab	09 38 54.6	0.0
MLR	Muntele Rosu	143.35	49		PKPab	09 38 54.6	0.0
AKASG	Malin Array Be	143.42	39	PKhKP	PKPab	09 38 54.1	-0.4
	comp=Z,1.1nm,0.6s,baz=282,slow=4.0,SNR=1.6						
IDI	Anoyia	144.30	66	PKPdf	PKPdf	09 38 59.9	-0.7
ALN	Alexandroupoli	144.55	56	PKIKP	PKPdf	09 39 00.0	-0.7
ALN	Alexandroupoli	144.55	56	PKPdf	PKPdf	09 39 00.0	-0.7
OBN	Obninsk	144.60	29	PKP	PKPbc	09 38 59.0	0.0
	comp=Z,5.8nm,0.3s,baz=298,slow=3.7,SNR=6.4						
OBN	Obninsk	144.60	29	*e*PKIKP	PKPbc	09 38 59.1	+0.1
OBN				*e*		09 42 16.8	
OBN				*e*PPP	PPP	09 45 29.1	
OBN				pmax	pmax		
	comp=Z,64nm,1.4s						
OBN	Obninsk	144.60	29		PKPbc	09 38 59.3	+0.3
MOS	Moscow	144.62	27	*e*PKIKP	PKPab	09 38 58.1	-0.8
SANT	Santorini	144.70	64	PKPdf	PKPab	09 38 59.8	-0.1
PBKT	Sadao Pong	145.67	260		PKPab	09 39 03.9	0.0
KIRV	Kirov	146.15	15	PKPbc	PKPbc	09 39 03.5	-0.3
	comp=Z,14nm,0.5s,baz=336,slow=3.2,SNR=14						
LZH	Lanzhou	146.16	296	*e*PKPbc	PKPab	09 39 05.6	+0.1
LZH				pPKP	sPKPab	09 39 12.3	+3.4
CD2	Chengdu	146.35	286	PKPbc	PKPdf	09 39 03.5	-0.7
KMI	Kunming	146.58	276	PKPbc	PKPbc	09 39 06.6	+0.1
KMI				pPKP	pPKPbc	09 39 08.9	-0.1
KMI				sPKP		09 39 09.9	
LPSR	Galich'ya Gora	147.32	30	*e*PKP2	PKPbc	09 39 07.3	-0.1
LPSR				pmax	pmax		
	comp=Z,50nm,1.2s						
CMAR	Chiang Mai Arr	148.16	262	PKPbc	PKPbc	09 39 11.1	+0.4
	comp=Z,6.2nm,0.9s,baz=116,slow=0.8,SNR=28						
CMAR	Chiang Mai Arr	148.16	262	PKP2	PKPbc	09 39 10.9	+0.1
CMAR	Chiang Mai Arr	148.16	262		PKPbc	09 39 10.9	+0.1
ELL	Elmali	148.22	63	PKP2	PKiKP	09 39 11.5	-0.8
ELL	Elmali	148.22	63		PKiKP	09 39 11.5	-0.8
CHTO	Chiang Mai	148.29	263	PKP2	PKPbc	09 39 11.6	+0.5
CHTO	Chiang Mai	148.29	263		PKPbc	09 39 11.6	+0.5
VSR	Storozhevoye	148.35	32	*e*PKP2	PKPbc	09 39 09.4	-0.8
VSR				pmax	pmax		
	comp=Z,50nm,1.0s						
VORD	Divnogorie	148.57	32	*e*PKP2	PKPbc	09 39 10.1	-0.7
VORD				pmax	pmax		
	comp=Z,30nm,1.0s						
GTA	Gaotai	148.78	303	‖ PKPbc	PKPbc	09 39 12.2	+0.3
GTA				LR	LR		
	comp=Z,46nm,20.9s						
GTA				LR	LR		
	comp=Z,56nm,20.9s						
ZAA0	Zalesovo Array	149.25	338	PKPdf	PKPdf	09 39 07.6	-0.5
ZAA0				PKPbc	sPKPdf	09 39 11.8	+0.2
ZALV	Zalesovo Beam	149.25	338	PKPbc	PKPbc	09 39 11.6	-0.8
	comp=Z,10nm,0.7s,baz=270,slow=0.9,SNR=28						
ZALV	Zalesovo Beam	149.25	338	PKIKP	PKPdf	09 39 07.4	-0.8
ZALV						09 39 11.8	
ZALV	Zalesovo Beam	149.25	338	PKPdf	PKPdf	09 39 07.3	-0.8
ZALV				PKPbc	sPKPdf	09 39 11.8	+0.2
VRH	Novokhopyorsk	149.54	30	*e*PKP2	PKPbc	09 39 12.6	-0.6
VRH				pmax	pmax		
	comp=Z,90nm,0.9s						
SVE	Sverdlovsk	149.66	5	*e*PKP2	PKPbc	09 39 13.6	+0.3
SVE				pmax	pmax		
	comp=Z,32nm,1.3s						
ARU	Arti	149.84	8	PKPbc	PKPbc	09 39 13.8	0.0
	comp=Z,1.7nm,0.3s,baz=332,slow=2.9,SNR=20						
ARU	Arti	149.84	8	*i* PKP2	PKPbc	09 39 13.3	-0.5
ARU						09 42 43.5	
ARU				SS	SS	10 01 57.2	-4.9
ARU	Arti	149.84	8	PKPdf	PKPdf	09 39 09.5	+0.5
ARU				PKPbc	PKPbc	09 39 14.1	+0.3
ILGA	Ilgaz	150.12	53		PKPbc	09 39 15.3	0.0
BR131	Keskin Array S	150.46	56	PKIKP	PKPbc	09 39 16.0	-0.1
BR131	Keskin Array S	150.46	56		PKPbc	09 39 16.0	-0.1
BRTR	Keskin Array B	150.46	56	PKPbc	PKPbc	09 39 15.6	-0.5
	comp=Z,11nm,1.0s,baz=222,slow=1.7,SNR=20						
CSS	Mathiatis	151.22	65		PKiKP	09 39 18.3	-0.1
DGZ	Jazzator, Alta	151.48	330	‖ *e*PKIKP	PKPdf	09 39 11.1	-0.9
BRVK	Borovoye	153.40	354	*de*PKIKP	PKPdf	09 39 14.4	-0.1
BRVK	Borovoye	153.40	354	PKPdf	PKPdf	09 39 14.8	+0.3
BRVK				PKPbc	PKiKP	09 39 22.4	+0.2
BRVK				PKPab	PKPab	09 39 34.1	-0.1
KURK	Kurchatov	153.99	341	*de*PKIKP	PKPdf	09 39 14.0	-1.4
KURK	Kurchatov	153.99	341		PKPdf	09 39 14.8	-0.6
KURK					PKPbc	09 39 22.8	-0.6
KURBB	Kurchatov Arra	154.10	341	PKPbc	PKPbc	09 39 22.6	-1.1
	comp=Z,9.2nm,0.9s,baz=26,slow=2.4,SNR=5.8						
KURBB				PKPab	PKPab	09 39 36.9	-0.3
	comp=Z,2.7nm,0.7s,baz=18,slow=3.9,SNR=2.1						
KBZ	Khabaz	154.98	41	PKP	PKPdf	09 39 17.9	+0.9
	comp=Z,3.2nm,0.8s,baz=311,slow=3.4,SNR=5.2						
WMQ	Urumqi	155.22	319	*e*PKP	PKPdf	09 39 17.9	+0.4
WMQ				pPKP	PKPbc	09 39 26.3	
WMQ				LR	LR		
	comp=Z,260nm,29.1s						
WMQ				LR	LR		
	comp=Z,410nm,29.2s						
MK31	Makanchi Array	155.94	331	PKIKP	PKPdf	09 39 17.4	-0.9
MK31	Makanchi Array	155.94	331	PKPdf	PKPdf	09 39 17.4	-0.9
MKAR	Makanchi Array	155.94	331	PKP	PKPdf	09 39 17.5	-0.8
	comp=Z,2.3nm,1.0s,baz=5.4,slow=3.0,SNR=13						
MKAR				PKPbc	PKPbc	09 39 27.1	
	comp=Z,2.3nm,0.8s,baz=50,slow=1.5,SNR=13						
MKAR				PKPab	PKPab	09 39 45.9	+0.6
	comp=Z,1.8nm,1.0s,baz=55,slow=5.5,SNR=3.6						
MKAR	Makanchi Array	155.94	331	PKPdf	PKPdf	09 39 17.4	-0.9
MAKZ	Makanchi	156.06	331	PKIKP	PKPdf	09 39 17.7	-0.7
MAKZ	Makanchi	156.06	331		PKPdf	09 39 17.7	-0.7
ABKAR	Akbulak array	157.03	9	PKPdf	PKPdf	09 39 19.2	-0.4
AAK	Ala-Archa	162.47	338	‖ *e*PKIKP	PKPdf	09 39 26.0	-0.2
GAR	Garm	167.07	343		PKPdf	09 39 30.7	+0.4
GEYT	Alibeck	167.14	27	PKP	PKPdf	09 39 31.0	+0.8
	comp=Z,1.5nm,0.4s,baz=267,slow=2.9,SNR=4.5						
GEYT	Alibeck	167.14	27		PKPdf	09 39 30.9	+0.8

WEL 05 09:30:38.2, 43°S±1°×17°2E±°, h12km±2km, M2.4/7, ML2.5/7, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=80.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	Oxford	0.08	101	P	Pg	09 30 41.7	+0.9
LTZ	Lake Taylor	0.58	26	P	Pb	09 30 50.9	+0.5
WACZ	Wakanui South	0.64	186	P	Pn	09 30 52.2	-0.9
MQZ	McQueen's Vall	0.66	127	P	Pb	09 30 52.0	+0.3
INZ	Inchbonnie	0.69	329	P	Pb	09 30 52.6	+0.5
RPZ	Rata Peaks	0.75	237	P	Pn	09 30 54.0	-0.7
ARCZ	Arundel	0.84	220	P	Pn	09 30 55.5	-0.4
GVZ	Greta Valley S	0.88	67	P	Pn	09 30 56.3	-0.1
WVZ	Waitaha Valley	0.90	285	P	Pn	09 30 56.7	0.0
AKCZ	Akaroa Harbour	0.91	129	P	Pn	09 30 57.0	+0.2
LBZ	Lake Benmore	1.66	229	P	Pg	09 31 10.4	+0.4
ODZ	Otahua Downs	1.96	208	P	Pg	09 31 15.9	+0.1

TEH ***05*** *09:41:01.5, 39°.92N×53°.43E, h40km, ML3.5*

ISC 05 09:41:03.0±1.2, 39°.97N±0°.08×53°.46E±0°.08, h45km, n15, σ1°18/16, 3C-1D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	Minoodasht	3.11	150	*e*Pn	Pn	09 41 48.7	-0.8
IMND				*e*		09 42 24.4	
IGLO	Ghaloghah	3.47	175	*e*Pn	Pn	09 41 53.4	-1.4
IPRN	Peran	3.82	194	*e*Pn	Pn	09 41 58.0	-1.5
ISHM	Shahmirzad	4.16	182	*e*Pn	Pn	09 42 04.6	+0.4
QALM	Alamut, Qazvin	4.17	213	*e*Pn	Pn	09 42 02.8	-1.5
IANJ	Anjilo	4.51	175	*e*Pn	Pn	09 42 10.2	+1.2
IDMV	Damavand	4.53	195	*e*Pn	Pn	09 42 10.7	+1.4
ISFR	Sfrayin	4.60	128	*e*Pn	Pn	09 42 09.3	-1.0
ISFR				*e*		09 43 15.8	
QSDN	Sirdan	4.83	226	*e*Pn	Pn	09 42 13.0	-0.4
SBZV	Sabzevar	4.84	136	*e*Pn	Pn	09 42 13.5	-0.1
QABG	Abgarm-Qazvin	5.24	217	*e*Pn	Pn	09 42 18.5	-0.6
IRAZ	Razeghan	5.35	213	*e*Pn	Pn	09 42 20.2	-0.3
TKDS	Koohdasht(Taba	6.99	154	*e*Pn	Pn	09 42 42.8	-0.2
TKDS				*e*		09 43 58.6	
AB31	Akbulak array	10.37	24	‖ Pn	Pn	09 43 35.4	+6.4
	0.2nm,0.3s,baz=201,slow=13						
AB31				⇑ Sn	Sn	09 45 22.4	-1.3
	2.4nm,0.6s,baz=210,slow=20						
AKTO	Aktyubinsk	10.95	16	⇑ Pn	Pn	09 43 38.7	+1.7
	2.0nm,0.7s						
AKTO				⇑ Sn	Sn	09 45 36.9	-1.0
	3.4nm,0.7s						

ECX ***05*** *09:51:36.7±0.6, 27°.23N×111°.48W, h16km±8km, MD2.6*
MEX ***05*** *09:51:37.6±0.5, 27°.13N×111°.45W, h16km±999km, MD3.8*

ISC 05 09:51:35.9±3.1, 27°.3N±0°.3×111°.5W±0°.1, h14km±12km, n6, σ0°28/11, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.67	275	*e*P	Pg	09 51 49.1	0.0
SRIG				*e*S	Sb	09 51 58.4	-0.3
SRIG	Santa Rosalia	0.67	275	⇑ *i*P	Pg	09 51 48.8	-0.2
SRIG				*i* S	Sg	09 51 58.2	+0.3
GUYB	Guaymas	0.83	41	*e*P	Pb	09 51 52.1	-0.1
GUYB				*e*S	Sg	09 52 03.0	-0.1
GUYB	Guaymas	0.83	41	*e*P	Pb	09 51 52.1	-0.1
GUYB				*e*S	Sg	09 52 03.1	+0.1
HSIG		1.81	15	*e*P	Pn	09 52 07.0	+0.2
HSIG				*i* S	Sn	09 52 29.4	-0.2
HSIG		1.81	15	*e*P	Pn	09 52 07.2	+0.5

SOME ***05*** *09:52:27.7, 43°.68N×69°.70E*

NNC 05 09:52:30.7±3.2, 43°.59N×69°.64E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=21.5km s-min=10.5km az=129.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Boroldy	0.57	165	P	Pn	09 52 45.4	-0.8
	6.5nm,0.5s						
BRLS				S	Sn	09 52 57.9	+1.6
	33nm,0.4s						
KK31	Karatay Array	0.80	127	P	Pg	09 52 44.9	-1.1
	1.6nm,0.3s,baz=298,slow=15,SNR=42						
KK31				S	Sg	09 52 57.1	+0.7
	11nm,0.3s,baz=295,slow=30,SNR=113						
IUG	Iuzhnay	1.47	169	P	Pn	09 52 58.4	-0.2
	23nm,0.5s						
IUG				S	Sn	09 53 20.3	+1.9
	70nm,0.5s						
MRKS	Merke	2.76	107	Pg	Pb	09 53 19.6	-1.3
	3.2nm,0.5s						
MRKS				Lg	Lg	09 53 57.3	
	12nm,0.5s						
BTLS	Baital	3.48	64	Pg	Pg	09 53 35.5	-

LKD2 Lefkada island 1.50 104 P Pb 10 10 46.7 -0.8
LKD2 S **Sb 10 11 07.4 +1.3**
comp=N,3μm,0.6s
EVGI Lefkada island 1.55 110 P Pb 10 10 47.4 -1.0
EVGI S **Sb 10 11 10.4 +2.8**
comp=N,978nm,0.6s
FSK Fiskardo 1.55 117 P Pn 10 10 47.3 +0.7
FSK S **Sb 10 11 09.0 +1.4**
comp=N,3μm,0.7s
PIPA Pietrapaola 1.57 282 P Pn 10 10 47.8 +0.8
PIPA S **Sb 10 11 09.9 +1.7**
PIPA AML AML
comp=N,1810μm,0.5s
PIPA AML AML
comp=N,1870μm,0.5s
PIPA AML AML
comp=E,2410μm,0.7s
PIPA AML AML
comp=E,2410μm,0.7s
PIPA AML AML
comp=N,1805μm,0.5s
VSK1 VASILIKIADES 1.57 118 P Pn 10 10 47.7 +0.7
VSK1 S **Sb 10 11 10.4 +2.1**
comp=N,6μm,0.6s
TIP Timpagrande 1.58 271 P Pn 10 10 48.1 +0.9
TIP AML AML
comp=E,444μm,1.6s
TIP AML AML
comp=N,516μm,1.3s
TIP AML AML
comp=E,565μm,1.6s
TIP AML AML
comp=N,588μm,1.3s
TIP AML AML
comp=N,522μm,1.3s
TIP AML AML
comp=E,628μm,1.5s
TIP AML AML
comp=N,642μm,1.3s
TIP AML AML
comp=E,533μm,1.5s
MESG Mesagne 1.59 333 P Pn 10 10 46.7 -0.6
SERS Sersale 1.65 266 P Pn 10 10 48.9 +0.8
SERS S **Sb 10 11 11.9 +1.4**
SERS AML AML
comp=E,614μm,1.1s
SERS AML AML
comp=N,486μm,1.3s
SERS AML AML
comp=E,510μm,1.3s
SERS AML AML
comp=N,688μm,0.7s
SERS AML AML
comp=N,783μm,0.9s
SERS AML AML
comp=E,618μm,0.8s
JAN Janina 1.66 72 P Pn 10 10 48.7 +0.5
JAN S **Sb 10 11 11.8 +0.9**
comp=E,3μm,0.5s
VLS Valsamata 1.72 125 P Pn 10 10 49.6 +0.6
VLS Valsamata 1.72 125 P Pn 10 10 49.9 +0.9
VLS AML AML
comp=E,514μm,0.9s
VLS AML AML
comp=N,644μm,0.8s
VLS AML AML
comp=E,520μm,0.9s
VLS AML AML
comp=N,668μm,1.3s
TAR1 Taranto 1.79 320⇓ *i*Pn **Pn 10 10 49.3 -0.6**
TAR1 Sn **Sb 10 11 19.4 +5.0**
CELI Celico 1.79 278 P Pn 10 10 51.0 +0.8
CELI AML AML
comp=N,2260μm,0.8s
CELI AML AML
comp=E,2000μm,1.0s
CGL1 Ceglie Messapi 1.80 326⇓ *i*Pn **Pn 10 10 49.5 -0.6**
CGL1 Sn **Sb 10 11 19.6 +4.9**
PLAC Placanica 1.98 249 P Pn 10 10 54.2 +1.6
PLAC S **Sb 10 11 20.3 +0.3**
PLAC AML AML
comp=N,896μm,0.9s
PLAC AML AML
comp=E,838μm,0.9s
CAR1 CAROLEI 2.01 273 P Pb 10 10 55.1 -1.2
CAR1 S **Sb 10 11 21.1 +0.2**
SALB San Lorenzo Be 2.02 291 P Pn 10 10 53.7 +0.4
SALB AML AML
comp=E,810μm,1.0s
SALB AML AML
comp=N,858μm,0.7s
PENT Pentalofos 2.08 60 P Pn 10 10 55.1 +1.1
LTRZ Laterza 2.09 314 P Pn 10 10 53.4 -0.7
LTRZ AML AML
comp=E,1420μm,0.9s
LTRZ AML AML
comp=N,2040μm,0.8s
LTRZ AML AML
comp=N,3150μm,1.1s
LTRZ AML AML
comp=N,3150μm,1.1s
LTRZ AML AML
comp=E,1390μm,0.9s
NOCI Noci 2.10 321 P Pn 10 10 54.6 +0.4
NOCI AML AML
comp=E,3230μm,0.4s
NOCI AML AML
comp=N,3620μm,0.5s
KPRO Kipourio 2.13 68 P Pn 10 10 55.8 +1.1
KPRO S **Sb 10 11 22.7 -1.7**
comp=N,2μm,0.7s
PVO Paravola 2.20 104 P Pn 10 10 57.2 +1.6
PVO S **Sb 10 11 25.7 -0.6**
comp=N,2μm,0.8s
CET2 Cetraro 2.23 280 P Pn 10 10 57.9 +1.8
CET2 AML AML
comp=N,2180μm,0.8s
CET2 AML AML
comp=E,1545μm,0.8s
TIR Tirane 2.32 20 *e*Pn **Pn 10 10 58.1 +0.8**
TIR *e*Sn **Sb 10 11 30.2 +0.4**
JOPP Joppolo 2.34 257 AML AML
comp=N,602μm,0.6s
JOPP AML AML
comp=E,1032μm,0.8s
EVR Evrytania 2.36 95 P Pn 10 10 59.7 +1.8
SOI Samo 2.41 244 P Pn 10 10 59.9 +1.4
SOI S **Sb 10 11 31.2 -1.2**
SOI AML AML
comp=N,680μm,0.9s
SOI AML AML
comp=E,798μm,0.8s
OHR Ohrid 2.47 38 *i*Pn **Pn 10 10 59.9 +0.5**
SIRI Monte Sirino - 2.48 295 P Pn 10 11 00.7 +1.2
SIRI AML AML
comp=E,521μm,1.6s
SIRI AML AML
comp=N,742μm,0.8s
SIRI AML AML
comp=E,624μm,1.6s
SIRI AML AML
comp=N,763μm,0.8s
ANX Ano Chora 2.50 102 P Pn 10 11 01.8 +1.9
ANX S **Sb 10 11 34.0 -1.1**
comp=N,1μm,0.6s
THL Klokotos Trika 2.52 80 P Pn 10 11 01.7 +1.7
MSCL Scilla 2.53 249 P Pn 10 11 01.8 +1.6
MSCL AML AML
comp=N,1930μm,0.9s
MSCL AML AML
comp=E,2230μm,0.8s
KZN Kozani 2.56 63 P Pn 10 11 01.3 +0.7
MCEL Monticello 2.58 297 P Pn 10 11 02.8 +1.8
MCEL AML AML
comp=N,888μm,0.6s
MCEL AML AML
comp=N,916μm,1.0s
MCEL AML AML
comp=E,702μm,0.8s
MCEL AML AML
comp=E,712μm,0.8s
DRO Drossia 2.59 117 P Pn 10 11 02.9 +2.0
MTSN Montesano sull 2.59 296 P Pn 10 11 02.8 +1.7
MTSN AML AML
comp=N,676μm,0.9s
MTSN AML AML
comp=E,664μm,0.9s
AGG Agios Georgios 2.75 92 P Pn 10 11 05.0 +1.8
BULG Bulgheria - Ca 2.79 290 P Pn 10 11 04.7 +0.8
BULG AML AML
comp=N,810μm,0.8s
BULG AML AML
comp=E,334μm,0.9s
ULC Ulcinj 2.81 7⇓ *i*Pn **Pn 10 11 03.1 -0.9**
ULC *i*Sn **Sn 10 11 35.8 -1.4**
KLV Kalavryta, Ach 2.86 112 P Pn 10 11 06.6 +1.9
KLV Kalavryta, Ach 2.86 112 AML AML
comp=E,466μm,0.7s
KLV AML AML
comp=N,476μm,0.8s
PUK Puka 2.99 16 AML AML
comp=E,556μm,0.8s
PUK AML AML
comp=N,729μm,1.2s
MCSR Castroreale 2.99 249 P Pn 10 11 08.4 +1.9
MCSR AML AML
comp=N,654μm,0.4s
MCSR AML AML
comp=E,724μm,0.4s
LIT Litokhoron 3.00 71 P Pn 10 11 07.0 +0.4
DRME Dracevica, Mon 3.03 5⇑ *i*Pn **Pn 10 11 05.9 -1.1**
DRME *i*Sn **Sn 10 11 41.1 -1.4**
DRME Dracevica, Mon 3.03 5⇓ *i*Pn **Pn 10 11 05.8 -1.2**
LLI Lipari 3.09 258 AML AML
comp=N,8930μm,0.5s
LLI AML AML
comp=E,5790μm,0.5s
BUM Brajici-Budva 3.13 1⇓ *i*Pn **Pn 10 11 07.2 -1.2**
BUM *i*Sn **Sn 10 11 43.3 -1.8**
PDG Podgorica 3.27 6 *e*Pn **Pn 10 11 10.1 -0.3**
PDG *e*Sn **Sn 10 11 52.1 +3.5**
PDG Podgorica 3.27 6 *e*Pn **Pn 10 11 07.7 -2.7**
TTG Podgorica 3.27 6⇑ *i*Pn **Pn 10 11 09.7 -0.7**
TTG *i*Sn **Sn 10 11 47.2 -1.4**
HCY Herceg Novi 3.28 356 *e*Pn **Pn 10 11 08.6 -1.9**
HCY *i*Sn **Sn 10 11 47.4 -1.4**
HCY Herceg Novi 3.28 356 *e*Pn **Pn 10 11 07.8 -2.7**
CEME Cevo 3.37 2⇑ *i*Pn **Pn 10 11 10.3 -1.5**
CEME *i*Sn **Sn 10 11 49.6 -1.6**
AGST Augusta-Monte 3.40 237 P Pn 10 11 11.2 -0.9
HAGA Augusta 3.43 238 P Pn 10 11 11.8 -0.7
HAGA AML AML
comp=N,268μm,0.9s
HAGA AML AML
comp=E,280μm,0.7s
SKO Skopje 3.45 35 *e*Pn **Pn 10 11 13.3 +0.6**
SKO Skopje 3.45 35 *i*Pn **Pb 10 11 23.8 +3.1**
HCRL Carlentini 3.51 239 P Pn 10 11 13.0 -0.7
HCRL AML AML
comp=E,410μm,1.1s
HCRL AML AML
comp=N,284μm,0.5s
PVY Plav 3.53 14 *e*Pn **Pn 10 11 13.0 -1.0**
PVY *i*Sn **Sn 10 11 53.3 -1.9**
SSY Sortino 3.56 237 P Pn 10 11 13.3 -1.0
SSY AML AML
comp=N,647μm,0.6s
SSY AML AML
comp=E,602μm,0.5s
TREB Trebinje 3.56 355 *e*Pn **Pn 10 11 13.2 -1.1**
TREB Trebinje 3.56 355 *e*Pn **Pn 10 11 12.6 -1.7**
HLNI Lentini 3.59 241 AML AML
comp=N,225μm,0.7s
HLNI AML AML
comp=E,302μm,1.0s
NKME Niksic 3.59 2⇑ *i*Pn **Pn 10 11 14.0 -0.8**
NKME *i*Sn **Sn 10 11 54.8 -1.8**
VAY Valandovo 3.60 52 *e*Pn **Pn 10 11 14.3 -0.5**
VAY Valandovo 3.60 52 *i*Pn **Pn 10 11 14.6 -0.2**
STIP Stip 3.61 45 *e*Pn **Pn 10 11 17.4 +2.5**
NKY Niksic 3.64 2⇑ *i*Pn **Pn 10 11 14.8 -0.7**
NKY *i*Sn **Sn 10 11 55.9 -2.0**
HAVL Avola 3.64 234 P Pn 10 11 14.6 -0.8
HAVL AML AML
comp=N,406μm,1.1s
HAVL AML AML
comp=E,420μm,0.3s
MEU Monte Lauro 3.68 237 AML AML
comp=E,901μm,0.7s
MEU AML AML
comp=N,1330μm,0.4s
BRY Bratogost 3.73 357 *e*Pn **Pn 10 11 15.3 -1.5**
BRY *i*Sn **Sn 10 11 58.2 -1.9**
BRY Bratogost 3.73 357 *e*Pn **Pn 10 11 14.9 -1.9**
MELA Melanico ??? S 3.78 313 AML AML
comp=N,1930μm,0.8s
MELA AML AML
comp=E,1485μm,1.1s
MELA AML AML
comp=E,1620μm,1.1s
MELA AML AML
comp=N,1925μm,0.8s
IVA Berane 3.79 12⇑ *i*Pn **Pn 10 11 17.0 -0.5**
IVA *i*Sn **Sn 10 11 59.3 -2.2**
VAE Valguarnera 3.84 245 Pn **Pn 10 11 21.1 +2.9**
comp=N,4.8nm,0.3s,baz=94,slow=12,SNR=5.1
VAE Sn **Sn 10 12 02.6 -0.1**
comp=N,1.9nm,0.3s,baz=258,slow=9.0,SNR=5.0
HMDC Modica 3.86 236 AML AML
comp=N,767μm,0.7s
HMDC AML AML
comp=E,979μm,0.8s
RAFF Raffo Rosso 4.00 242 AML AML
comp=N,409μm,0.7s
RAFF AML AML
comp=E,396μm,0.6s
UPM Unac-Piva 4.03 1⇑ *i*Pn **Pn 10 11 20.0 -0.9**
UPM *i*Sn **Sn 10 12 04.9 -2.6**
UPM Unac-Piva 4.03 1 *e*Pn **Pn 10 11 21.0 +0.1**
PIGN Pignataro Magg 4.08 301 AML AML
comp=E,153μm,1.3s
PIGN AML AML
comp=N,133μm,0.9s
VLI Veliai 4.09 126 P Pn 10 11 24.1 +2.6
PLE Pljevlja 4.18 6⇓ *i*Pn **Pn 10 11 22.4 -0.5**
PLE *i*Sn **Sn 10 12 08.5 -2.6**
SJES Sjenica 4.18 12 *e*Pn **Pn 10 11 22.3 -0.6**
BARS Barje 4.30 31 *e*Pn **Pn 10 11 23.6 -0.9**
BOSS Bosilegrad 4.34 39 *e*Pn **Pn 10 11 23.1 -1.9**
SELS Selova 4.41 23 *e*Pn **Pn 10 11 25.1 -0.9**
RUDO Rudo 4.46 5 *e*Pn Pn 10 11 20.9 -5.8
BBLS Lazići 4.71 5 *e*Pn **Pn 10 11 29.7 -0.5**
BBLS Lazići 4.71 5 *e*Pn **Pn 10 11 29.4 -0.8**
SERI Serifos 4.91 112 P Pn 10 11 35.2 +2.3
GRUS Gruza 4.93 16 *e*Pn **Pn 10 11 32.8 -0.3**
BOVS Bovan 4.97 25 *e*Pn **Pn 10 11 33.0 -0.6**
DIVS Divibare 5.00 10 *e*Pn **Pn 10 11 34.2 0.0**
DIVS Divibare 5.00 10 AML AML
comp=E,122μm,1.4s
DIVS AML AML
comp=N,61μm,1.5s
DIVS Divibare 5.00 10 *e*Pn **Pn 10 11 32.9 -1.3**
ZAPS Zavoj 5.02 34 *e*Pn **Pn 10 11 33.7 -0.6**
TRUS Trudelj 5.19 13 *e*Pn **Pn 10 11 35.8 -0.9**
ZAGS Zajecar 5.31 28 *e*Pn **Pn 10 11 38.6 +0.3**
MGRS Mrkonjic Grad 5.40 347 *e*Pn **Pn 10 11 40.2 +0.6**
TEKS Tekeris 5.40 6 *e*Pn **Pn 10 11 38.8 -0.8**
BLY Banja Luka 5.70 348 *e*Pn **Pn 10 11 42.3 -1.4**
FRGS Fruska Gora 6.03 7 *e*Pn **Pn 10 11 46.9 -1.3**
FRGS Fruska Gora 6.03 7 *e*Pn **Pn 10 11 46.8 -1.4**
IDI Anoyia 6.21 127 Pn 10 11 52.6 +1.7
comp=N,2.4nm,0.3s,baz=282,slow=6.6,SNR=10
IDI Sn **Sn 10 12 59.8 -1.4**
comp=N,4.5nm,0.3s,baz=347,slow=23,SNR=6.9
BZS Buzias 6.77 17 *e*Pn **Pn 10 11 57.8 -0.6**
MORH Mrgy, Hungar 7.04 359 *e*Pn **Pn 10 11 59.9 -2.2**
CRES Cresnjev 7.09 341 *e*Pn **Pn 10 12 01.6 -1.2**
CEY Cerknica 7.32 335⇓ *i*Pn **Pn 10 12 05.1 -0.8**
LJU Ljubljana 7.56 337 *e*Pn **Pn 10 12 08.5 -0.7**
OBKA Obir 7.97 338 *i*Pn **Pn 10 12 14.9 0.0**
comp=N,8.2nm,0.5s
SOKA Soboth 8.00 341 Pn **Pn 10 12 14.2 -1.1**
comp=N,5.3nm,0.4s,SNR=5.2
MLR Muntele Rosu 8.24 38 Pn **Pn 10 12 19.4 +0.8**
comp=N,0.1nm,0.3s,baz=119,slow=20,SNR=3.5
MYKA Terra Mystica 8.36 335 *i*Pn **Pn 10 12 21.7 +1.5**
comp=N,2.0nm,0.1s
ARSA Arzberg 8.42 345 *i*Pn **Pn 10 12 20.5 -0.6**
comp=N,3.2nm,0.3s
KBA Koelnbreinsper 8.85 335 *i*Pn **Pn 10 12 26.5 -0.5**
comp=N,0.9nm,0.2s
ABTA Abfaltersbach 8.86 331 Pn **Pn 10 12 26.3 -0.9**
comp=N,6.3nm,0.5s,SNR=8.8
CONA Conrad Observa 9.01 347 *i*Pn **Pn 10 12 28.2 -0.9**
comp=N,1.1nm,0.5s
MOA Molln 9.28 341 Pn **Pn 10 12 32.9 +0.1**
comp=N,3.4nm,0.3s,SNR=11
SLUM Salum 9.28 144 P Pn 10 12 31.0 -1.8
baz=149
SLUM AMP 10 14 00.0
baz=149
SLUM S Sn 10 14 02.0 -14
baz=149
VYHS Vyhne 9.32 0 *e*PN **Pn 10 12 32.1 -1.3**
VYHS *e* 10 13 00.4
VYHS Vyhne 9.32 0 *e*SN Sn 10 14 07.3 -10
WTTA Wattenberg 9.63 329 *i*Pn **Pn 10 12 37.8 +0.1**
comp=N,2.2nm,0.3s
WATA Walderalm 9.71 330 *i*Pn **Pn 10 12 39.8 +1.0**
comp=N,0.5nm,0.2s
FETA Feichten 9.81 326 *i*Pn **Pn 10 12 42.2 +1.9**
comp=N,0.2nm,0.1s
DAVOX Davos/Dischmat 10.02 322 Pn **Pn 10 12 43.7 +0.6**
comp=N,0.3nm,0.3s,baz=152,slow=15,SNR=5.1
DAVOX Sn **Sn 10 14 33.5 -1.4**
comp=N,0.4nm,0.3s,baz=328,slow=16,SNR=1.9
VRAC Vranov 10.26 352 Pn **Pn 10 12 46.5 +0.3**
comp=N,0.6nm,0.3s,baz=255,slow=8.0,SNR=2.3
GERES GERESS Array B 10.34 341 Pn **Pn 10 12 46.7 -0.7**
comp=N,0.3nm,0.3s,baz=158,slow=14,SNR=10
GERES Sn **Sn 10 14 35.3 -7.3**
comp=N,0.7nm,0.3s,baz=155,slow=23,SNR=7.0
KHC Kasperske Hory 10.64 341 *e*PN **Pn 10 12 50.6 -0.8**
KHC *ex* x 10 13 06.5
KHC *e*SN **Sn 10 14 41.5 -8.3**
SWA2 11.33 149 P Pn 10 12 59.4 -1.5
baz=154
SWA2 S Sn 10 14 52.8 -14
baz=154
BRTR Keskin Array B 11.49 83 Pn **Pn 10 13 07.2 +4.0**
comp=N,0.3nm,0.3s,baz=271,slow=14,SNR=2.1
AKASG Malin Array Be 13.67 29 Pn **Pn 10 13 31.7 -1.1**
comp=N,0.1nm,0.3s,baz=216,slow=11,SNR=4.5
GLL Jalalah 14.31 128 P Pn 10 13 37.9 -3.8
baz=130
HFRF Wahat Farafira 14.38 144 P Pn 10 13 40.0 -2.7
baz=147
MMAI Mount Meron Ar 14.76 109 Pn **Pn 10 13 45.3 -2.4**
comp=N,0.7nm,0.3s,baz=312,slow=8.8,SNR=3.9
HDK1 Dakhla 16.26 144 P Pn 10 14 06.2 -1.2
baz=147
EIL Elat 16.33 121 Pn **Pn 10 14 07.8 -0.6**
comp=N,0.8nm,0.3s,baz=349,slow=9.0,SNR=5.2
ESDC Sonseca Array 17.59 279 P Pn 10 14 21.6 -2.5
comp=N,0.2nm,0.3s,baz=98,slow=30,SNR=3.2
KBZ Khabaz 18.61 68 P Pn 10 14 37.1 +0.7
comp=N,0.2nm,0.3s,baz=350,slow=6.8,SNR=4.9
KBZ LR LR 10 24 02.4
comp=N,40nm,20.8s,baz=305,slow=44
MDT Midelt 19.95 259 P P 10 14 51.3 +0.3
comp=N,0.1nm,0.3s,baz=64,slow=13,SNR=3.6
HFS Hagfors 21.23 353 P P 10 15 03.8 -0.7
comp=N,7.2nm,0.7s,baz=161,slow=9.4,SNR=13
EKA Eskdalemuir Ar 21.84 325 P P 10 15 11.5 +0.4
comp=N,2.0nm,0.7s,baz=122,slow=10,SNR=8.8
NB2 NORSAR Subarra 22.40 350 P P 10 15 16.5 -0.6
comp=Z,5.7nm,1.1s,baz=163,slow=11
NOA NORSAR Array B 22.40 350 P P 10 15 16.3 -0.8
comp=Z,2.0nm,0.8s,baz=164,slow=11,SNR=6.9
NOA LR LR 10 24 47.6
comp=Z,15nm,19.5s,baz=280,slow=39
FINES FINESS Array B 22.75 9 P P 10 15 20.0 -0.8
comp=Z,1.4nm,0.6s,baz=168,slow=9.8,SNR=4.5
TORD Torodi Ar. Bea 30.01 215 P P 10 16 29.6 +2.0
comp=Z,1.2nm,0.9s,baz=8.5,slow=11,SNR=4.6
BVAR Borovoye Array 37.53 51 P P 10 17 32.4 -0.1
comp=Z,0.4nm,0.8s,baz=276,slow=7.3,SNR=6.3
DBIC Dimbokro 38.75 220 P P 10 17 44.3 +1.2
comp=Z,0.8nm,0.4s,baz=74,slow=24,SNR=1.9
DBIC LR LR 10 34 10.1
comp=Z,35nm,19.8s,baz=6.5,slow=37
MKAR Makanchi Array 45.94 59 P P 10 18 41.7 +0.3
comp=Z,0.5nm,0.4s,baz=251,slow=8.5,SNR=8.2
ZALV Zalesovo Beam 46.04 49 P P 10 18 42.6 +0.5
comp=Z,0.7nm,0.3s,baz=270,slow=9.9,SNR=2.7
BOSA Boshof 67.70 174 P P 10 21 17.4 +1.4
comp=Z,1.3nm,0.9s,baz=346,slow=8.7,SNR=1.2
CMAR Chiang Mai Arr 71.08 81 P P 10 21 38.0 +0.8
comp=Z,0.9nm,0.6s,baz=297,slow=6.4,SNR=5.1
KSRS Korea Array 79.73 50 P P 10 22 27.9 +1.4
comp=Z,0.8nm,0.7s,baz=343,slow=3.8,SNR=2.8
DAV Davao City (W) 98.39 74 LR LR 11 13 11.4
comp=Z,279nm,20.1s,baz=168,slow=38
WRA Warramunga Arr 121.91 91 PKP **PKPdf 10 29 13.2 0.0**
comp=Z,0.3nm,0.9s,baz=342,slow=1.7,SNR=2.2
ASAR Alice Springs 123.61 95 PKP **PKiKP 10 29 17.0 +0.3**
comp=Z,0.2nm,0.9s,baz=320,slow=3.9,SNR=2.5

KRSC ***05*** *10:34:15.0±0.5, 54°.68N×160°.56E, h116km±9km, ML3.9*
NEIC ***05*** *10:34:16.3±1.2, 54°.86N±0°.07×160°.2E±0°.2, h111km±7km, mb4.2/30, Error ellipse: s-maj=14.9km s-min=9.0km az=120.0*
IDC ***05*** *10:34:17.6±1.4, 54°.73N×160°.22E, h124km±13km, mb3.4/10, mb1 3.7/13, mb1mx3.3/61, mbtmp3.8/13, Error ellipse: s-maj=32.1km s-min=11.8km az=140.0*
ISC 05 10:34:16.7±0.7, 54.71N±0°.03×160.42E±0°.05, h115km±6km, n93, σ0=85/113, mb4.1/24, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.41**	**350**	*e*P	**Pn**	**10 34 33.4**	**-0.4**
KZV				*e*S	**Sn**	**10 34 46.1**	**-0.5**
TUMR	**Tumrok**	**0.60**	**345**	*i*P	**Pn**	**10 34 34.7**	**-0.2**
TUMR				*e*S	**Sn**	**10 34 48.5**	**-0.1**
KII	**Karymskiy**	**0.88**	**221**	*e*P	**Pn**	**10 34 37.0**	**-0.2**
KII				*e*S	**Sn**	**10 34 52.7**	**0.0**
KMNR	**Kamenistaya**	**1.05**	**354**	*e*P	**Pn**	**10 34 39.0**	**+0.1**
KMNR				*e*S	**Sn**	**10 34 56.8**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**1.24**	**7**	*e*P	**Pn**	**10 34 40.8**	**-0.1**
KIRR	**Kirishev**	**1.25**	**358**	*e*P	**Pn**	**10 34 40.8**	**-0.2**
KIRR				*e*S	**Sn**	**10 34 59.4**	**-0.1**
BZWR	**Bezymyannyi-We**	**1.26**	**2**	*e*P	**Pn**	**10 34 41.2**	**0.0**
KPT	**Kopyto**	**1.26**	**355**	*e*P	**Pn**	**10 34 40.8**	**-0.3**
ZLN	**Zelenaya**	**1.33**	**9**	*e*P	**Pn**	**10 34 42.3**	**+0.4**
LGNR	**Loginova**	**1.38**	**6**	*e*P	**Pn**	**10 34 43.4**	**+0.7**
KOZ	**Kozyrevsk**	**1.39**	**347**	*e*P	**Pn**	**10 34 42.3**	**-0.2**
KOZ				*e*S	**Sn**	**10 35 02.6**	**+0.5**
CIRR	**Tsirk**	**1.42**	**7**	*e*P	**Pn**	**10 34 43.3**	**+0.3**
KRSR	**Krestovskiy**	**1.51**	**3**	*e*P	**Pn**	**10 34 43.7**	**-0.3**
KLY	**Klyuchi**	**1.61**	**5**	*e*P	**Pn**	**10 34 45.2**	**+0.2**
KLY				*e*S	**Sn**	**10 35 07.3**	**+0.6**
SRDR	**Sredinnyy**	**1.66**	**346**	*e*P	**Pn**	**10 34 45.0**	**-0.7**
SRDR				*e*S	**Sn**	**10 35 07.1**	**-0.8**
SDLR	**Sedlovina**	**1.70**	**213**	*e*P	**Pn**	**10 34 46.1**	**-0.2**
KRX	**Arik**	**1.71**	**218**	*e*P	**Pn**	**10 34 46.8**	**+0.4**
KRER	**Koryakskii**	**1.72**	**216**	*e*P	**Pn**	**10 34 46.6**	**0.0**
SMAR	**Somma**	**1.74**	**214**	*e*P	**Pn**	**10 34 47.0**	**+0.2**
SMAR				*e*S	**Sn**	**10 35 10.6**	**+0.8**
AVH	**Avacha**	**1.76**	**215**	*e*P	**Pn**	**10 34 47.4**	**+0.5**
KOK	**Koryaka**	**1.77**	**217**	*e*P	**Pn**	**10 34 47.0**	**-0.1**
UGLR	**Uglovaya**	**1.78**	**213**	*e*P	**Pn**	**10 34 47.3**	**+0.1**
BDR	**Baidarnaya**	**1.92**	**13**	*e*P	**Pn**	**10 34 49.0**	**+0.2**
BDR				*e*S	**Sn**	**10 35 13.6**	**+0.2**
DALK	**Dalny**	**1.95**	**211**	*e*P	**Pn**	**10 34 49.1**	**-0.1**
DALK				*e*S	**Sn**	**10 35 14.0**	**-0.1**
SMKR	**Semkarok**	**1.97**	**17**	*e*P	**Pn**	**10 34 49.5**	**0.0**
SMKR				*e*S	**Sn**	**10 35 14.7**	**+0.1**
PET	**Petropavlovsk**	**1.99**	**213**	*e*P	**Pn**	**10 34 49.8**	**+0.1**
PET				*e*S	**Sn**	**10 35 15.2**	**+0.3**
PET	**Petropavlovsk**	**1.99**	**213**		**Pn**	**10 34 50.0**	**+0.3**
SRKR	**Sorokina**	**1.99**	**12**	*e*P	**Pn**	**10 34 49.9**	**+0.1**
SRKR				*e*S	**Sn**	**10 35 15.2**	**0.0**
KBG	**Krutoberegovo**	**2.02**	**39**	*e*P	**Pn**	**10 34 50.9**	**+0.9**
KBG				*e*S	**Sn**	**10 35 16.7**	**+1.1**
KBTR	**Krutoberegovo**	**2.03**	**41**	*e*P	**Pn**	**10 34 50.0**	**-0.2**
KBTR				*e*S	**Sn**	**10 35 15.5**	**-0.3**
PEA0B	**Petropavlovsk-**	**2.27**	**226**		**Pn**	**10 34 53.4**	**0.0**
PETK	**Petropavlovsk-**	**2.27**	**226**	*e*P	**Pn**	**10 34 53.5**	**+0.1**
	3.3nm,0.3s,baz=61,slow=15,SNR=77						
PETK				S	**Sn**	**10 35 22.1**	**+0.7**
	2.5nm,0.3s,baz=70,slow=18,SNR=4.9						
PETK	**Petropavlovsk-**	**2.27**	**226**		**Pn**	**10 34 53.3**	**0.0**

KRMR Karymshinskiy 2.32 217 *eP* **Pn 10 34 54.6 +0.6**
KRMR *eS* **Sn 10 35 24.0 +1.5**
RUS Russkaya 2.55 207 *eP* **Pn 10 34 56.3 -0.6**
GRL Gorelyy 2.58 214 *eP* **Pn 10 34 57.8 +0.5**
MTVR Mutnovka 2.60 212 *eP* **Pn 10 34 57.8 +0.1**
MTVR *eS* **Sn 10 35 29.1 -0.1**
APC Apacha 2.64 229 *eP* **Pn 10 34 58.6 +0.6**
ASAK Asacha 2.77 214 *eP* **Pn 10 35 00.4 +0.5**
KDTR Khodutka, Kamc 3.23 207 *eS* **Sn 10 35 41.6 -2.1**
BKI Bering 3.24 79 *eP* **Pn 10 35 04.9 -0.9**
BKI *eS* **Sn 10 35 40.1 -3.7**
MIPR Malaya Ipel'ka 3.28 223 *eP* **Pn 10 35 06.8 +0.4**
ALID Alaid 4.85 220 *eP* **Pn 10 35 28.3 +0.7**
SMY Shemya 8.35 98 Pn **Pn 10 36 16.4 +1.6**
JKA Kamikawa-asahi 15.66 235 P **P 10 37 51.3 -1.2**
ASAJ Asahikawa 15.67 235 P **P 10 37 51.3 -1.2**
1.2nm,0.3s,baz=61,slow=9.1,SNR=13
ERM Erimo 17.05 229 P **P 10 38 07.3 -0.5**
KLR Kul'dur 18.42 265 P **Pn 10 38 23.2 -1.0**
0.2nm,0.3s,baz=55,slow=8.2,SNR=5.3
UNV Unalaska Valle 19.23 79 P **P 10 38 32.8 +1.3**
UNV IAmb IAmb 10 38 44.3
comp=Z,20nm,1.2s
AKUT Akutan 19.57 78 P **P 10 38 36.5 +1.4**
MJAR Matsushiro Arr 23.73 229 P **P 10 39 18.0 -0.1**
comp=Z,0.8nm,0.4s,baz=203,slow=31,SNR=2.7
MJAR Matsushiro Arr 23.73 229 P **P 10 39 17.2 -0.9**
IMAR Indian Mountai 24.69 45 P **P 10 39 25.7 -0.7**
OHAK Old Harbor 25.64 65 P **P 10 39 36.0 +0.8**
JHJ Hachijo jima 2 26.02 222 P **P 10 39 37.1 -1.7**
comp=Z,59nm,0.5s,baz=65,slow=23,SNR=2.0
CCB Clear Creek Bu 27.17 48 P **P 10 39 48.6 -0.1**
DHY Denali Highway 27.50 51 P **P 10 39 52.0 0.0**
DHY IAmb IAmb 10 40 04.2
comp=Z,9.2nm,1.5s
HDA Harding Lake 27.55 48 P **P 10 39 51.8 -0.5**
HDA IAmb IAmb 10 39 53.7
comp=Z,4.8nm,1.0s
IL31 27.55 47 P **P 10 39 52.1 -0.1**
ILAR Eielson Array 27.55 47 P **P 10 39 51.8 -0.5**
comp=Z,0.8nm,0.5s,baz=248,slow=5.7,SNR=13
SCM Sheep Creek Mo 27.69 54 P **P 10 39 54.0 +0.4**
RIDG Independent Ri 28.55 49 P **P 10 40 00.3 -0.8**
RIDG IAmb IAmb 10 40 18.5
comp=Z,6.8nm,1.4s
DOT Dot Lake 28.90 50 P **P 10 40 03.2 -1.1**
MENT Mentasta 29.17 51 P **P 10 40 06.4 -0.2**
MENT IAmb IAmb 10 40 21.6
comp=Z,10nm,1.5s
EGAK Eagle 29.99 47 P **P 10 40 13.2 -0.6**
EGAK IAmb IAmb 10 40 19.9
comp=Z,5.9nm,1.2s
BCAR Beaver Creek A 30.01 50 P **P 10 40 14.5 +0.4**
HYT Haines Junctio 32.53 54 P **P 10 40 38.0 +1.7**
HYT IAmb IAmb 10 41 00.9
comp=Z,8.5nm,1.3s
YKA Yellowknife Ar 41.85 44 P **P 10 41 54.9 +0.2**
comp=Z,0.9nm,0.6s,baz=294,slow=12,SNR=4.3
MK31 Makanchi Array 47.65 295 P **P 10 42 39.1 -1.8**
MKAR Makanchi Array 47.65 295 P **P 10 42 39.8 -1.1**
comp=Z,0.3nm,0.6s,baz=57,slow=8.8,SNR=2.6
MKAR Makanchi Array 47.65 295 P **P 10 42 39.4 -1.5**
B08A Colville Reser 47.75 63 P **P 10 42 42.3 +0.7**
B08A IAmb IAmb 10 42 43.5
comp=Z,4.4nm,1.2s
MOD Modoc Plateau 51.50 70 P **P 10 43 10.6 +0.3**
MOD IAmb IAmb 10 43 13.6
comp=Z,4.4nm,1.3s
PNTR Pine Nut 53.84 72 P **P 10 43 28.7 +1.1**
YERR Yerington 54.11 72 P **P 10 43 30.7 +1.1**
YERR IAmb IAmb 10 43 31.4
comp=Z,1.9nm,0.6s
TARA Tarawa 54.16 165 P **P 10 43 31.1 +1.2**
WAKR Walker 54.34 72 P **P 10 43 33.1 +1.8**
KVN Kaiserville 54.69 71 P **P 10 43 35.3 +1.5**
KVN IAmb IAmb 10 43 36.0
comp=Z,1.8nm,0.8s
NVAR Mina Array Bea 55.02 71 P **P 10 43 37.7 +1.5**
comp=Z,1.1nm,0.7s,baz=303,slow=7.6,SNR=11
BW06 Boulder Array 56.57 62 P **P 10 43 48.3 +1.1**
PDAR Pinedale Array 56.58 62 P **P 10 43 48.1 +0.9**
comp=Z,0.6nm,0.6s,baz=343,slow=4.3,SNR=8.3
PRN Pahroc Range 57.54 70 P **P 10 43 55.5 +1.5**
PRN IAmb IAmb 10 43 56.0
comp=Z,1.2nm,0.6s
RSSD Black Hills 58.35 57 P **P 10 44 00.3 +0.6**
RSSD IAmb IAmb 10 44 01.0
comp=Z,3.1nm,0.7s
ANMO Albuquerque 63.99 66 P **P 10 44 38.3 +0.5**
TX31 Lajitas Ar. Si 69.83 68 P **P 10 45 15.2 +0.5**
TX31 IAmb IAmb 10 45 16.0
comp=Z,4.5nm,0.7s
TX32 Lajitas Array 69.83 68 P **P 10 45 15.0 +0.3**
TXAR Lajitas Array 69.83 68 P **P 10 45 15.7 +0.9**
comp=Z,1.1nm,0.5s,baz=294,slow=5.2,SNR=23
TXAR Lajitas Array 69.83 68 P **P 10 45 15.4 +0.7**
WRA Warramunga Arr 77.63 205 P **P 10 45 59.4 -0.6**
comp=Z,0.9nm,0.6s,baz=19,slow=6.1,SNR=16
WRA Warramunga Arr 77.63 205 P **P 10 45 59.3 -0.7**
FITZ Fitzroy Crossi 78.35 214 P **P 10 46 03.5 -0.5**
comp=Z,0.7nm,0.5s,baz=353,slow=9.4,SNR=5.4
FITZ Fitzroy Crossi 78.35 214 P **P 10 46 03.7 -0.3**
ASAR Alice Springs 81.31 204 P **P 10 46 19.9 -0.1**
comp=Z,0.9nm,0.6s,baz=18,slow=5.0,SNR=20

*IDC **05** 10:42:10.7±1.3, 36°.80N×71°.38E, h102km±10km, mb3.4/7, mb1 3.5/14, mb1mx3.2/75, mbtmp3.8/14, Error ellipse: s-maj=19.8km s-min=16.4km az=140.0*
*NNC **05** 10:42:13.5±5.4, 37°.03N×71°.30E, h145km±82km, mb3.4, mpv4.2, Error ellipse: s-maj=51.0km s-min=35.2km az=164.0*

ISC 05 10:42:10.4±0.6, 36°.82N±0°.05×71°.41E±0°.07, h106km, n42, σ1§91/53, mb3.6/7, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.02**	**172**	P	**Pn**	**10 42 58.8**	**+2.2**
CEP				S	**Sn**	**10 43 36.0**	**+3.8**
THW	**Thamme Wali**	**4.02**	**176**	P	**Pn**	**10 43 11.6**	**+1.6**
AML	**Almayashu**	**5.59**	**18**	P	**Pn**	**10 43 32.9**	**+1.4**
SNR=26							
THN	**Thein Dam**	**5.63**	**140**	*eP*	**Pn**	**10 43 35.0**	**+3.3**
THN				*eS*	**Sn**	**10 44 35.0**	**0.0**
UCH	**Uchtor**	**5.91**	**23**	P	**Pn**	**10 43 37.4**	**+1.6**
SNR=15							
KZA	**Kyzart**	**6.03**	**28**	P	**Pn**	**10 43 39.2**	**+1.7**
SNR=8.8							
DHRM	**DHARAMSHALA**	**6.08**	**137**	*eP*	**Pn**	**10 43 38.9**	**+0.9**
DHRM				*eS*	**Sn**	**10 44 44.9**	**-1.5**
DHRM				IAML		10 45 08.5	
comp=E,129nm,0.4s							
DHRM				IAML		10 45 08.6	
comp=N,106nm,0.2s							
EKS2	**Erkin-Say**	**6.11**	**17**	P	**Pn**	**10 43 40.0**	**+1.7**
SNR=18							
AAK	**Ala-Archa**	**6.28**	**21**	P	**Pn**	**10 43 42.5**	**+2.0**
comp=N,6.7nm,0.3s,baz=198,slow=8.0,SNR=27							
AAK				S	**Sn**	**10 44 50.4**	**-0.5**
comp=N,2.4nm,0.3s,baz=324,slow=22,SNR=13							
AAK	**Ala-Archa**	**6.28**	**21**	P	**Pn**	**10 43 42.6**	**+2.0**
SNR=20							
AAK	**Ala-Archa**	**6.28**	**21**	⇑P	**Pn**	**10 43 41.9**	**+1.3**
comp=N,9.5nm,0.4s							
AAK				⇓S	**Sn**	**10 44 51.3**	**+0.4**
comp=N,28nm,0.6s							
KK31	**Karatay Array**	**6.32**	**354**	P	**Pn**	**10 43 40.8**	**-0.1**
comp=N,10.0nm,0.4s,baz=176,slow=13,SNR=89							
KK31				⇓S	**Sn**	**10 44 49.7**	**-2.0**
comp=N,7.9nm,0.4s,baz=170,slow=22,SNR=4.4							
CHMS	**Chumysh**	**6.68**	**22**	P	**Pn**	**10 43 47.5**	**+1.6**
SNR=14							
USP	**Ospenovka**	**6.86**	**19**	P	**Pn**	**10 43 49.6**	**+1.2**
SNR=10							
TKM2	**Tokmak 2**	**6.89**	**27**	P	**Pn**	**10 43 50.7**	**+1.8**
SNR=13							
TKM2	**Tokmak 2**	**6.89**	**27**	⇑P	**Pn**	**10 43 50.6**	**+1.7**
comp=N,13nm,0.8s							
TKM2				⇑S	**Sn**	**10 45 07.2**	**+1.3**
comp=N,7.3nm,0.7s							
SMLA	**Simla**	**7.42**	**138**	*eP*	**Pn**	**10 43 56.7**	**+0.8**
SMLA				*eS*	**Sn**	**10 45 14.5**	**-3.9**
GEYT	**Alibeck**	**10.64**	**280**	P	**Pn**	**10 44 38.5**	**-1.2**
comp=N,0.7nm,0.3s,baz=27,slow=45,SNR=2.1							
GEYT				S	Sn	10 46 26.9	-10
comp=N,1.4nm,0.3s,baz=267,slow=31,SNR=2.8							
MKAR	**Makanchi Array**	**12.84**	**36**	P	**Pn**	**10 45 09.2**	**+0.3**
comp=N,0.1nm,0.3s,baz=224,slow=14,SNR=4.1							
KOLN	**Koldanda**	**13.69**	**128**	*eP*	**Pn**	**10 45 18.9**	**-1.3**
KOLN	**Koldanda**	**13.69**	**128**	*eP*	**Pn**	**10 45 18.9**	**-1.3**
GKN	**Gorkha**	**14.20**	**124**	*eP*	**Pn**	**10 45 25.5**	**-1.3**
GKN	**Gorkha**	**14.20**	**124**	*eP*	**Pn**	**10 45 25.5**	**-1.3**
KURBB	**Kurchatov Arra**	**14.72**	**18**	P	**Pn**	**10 45 33.6**	**+0.6**
comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=3.9							
AB31	**Akbulak array**	**14.97**	**330**	⇓P	**Pn**	**10 45 33.2**	**-3.1**
comp=N,1.1nm,0.5s							
PKI	**Pulchoki**	**15.00**	**124**	*eP*	**Pn**	**10 45 34.9**	**-2.2**
PKI	**Pulchoki**	**15.00**	**124**	*eP*	**Pn**	**10 45 34.9**	**-2.2**
JIRN	**Jiri**	**15.47**	**122**	*eP*	**Pn**	**10 45 41.3**	**-1.7**
JIRN	**Jiri**	**15.47**	**122**	*eP*	**Pn**	**10 45 41.3**	**-1.7**
RAMN	**Ramite**	**16.20**	**123**	*eP*	**Pn**	**10 45 47.7**	**-4.4**
RAMN	**Ramite**	**16.20**	**123**	*eP*	**Pn**	**10 45 47.7**	**-4.4**
BVAR	**Borovoye Array**	**16.22**	**358**	P	**Pn**	**10 45 51.6**	**-0.3**
comp=N,0.4nm,0.3s,baz=179,slow=13,SNR=8.2							
AKTO	**Aktyubinsk**	**16.68**	**329**	P	**Pn**	**10 45 57.0**	**-0.5**
comp=N,0.6nm,0.3s,baz=142,slow=14,SNR=7.2							
AKTO	**Aktyubinsk**	**16.68**	**329**	⇑P	**Pn**	**10 45 56.8**	**-0.6**
comp=N,2.7nm,0.7s							
ZALV	**Zalesovo Beam**	**19.49**	**24**	P	**P**	**10 46 28.2**	**-0.6**
comp=N,0.8nm,0.3s,baz=225,slow=8.2,SNR=7.8							
SONM	**Songino Array**	**27.88**	**56**	P	**P**	**10 47 52.2**	**+2.1**
comp=N,0.4nm,0.5s,baz=259,slow=9.3,SNR=4.5							
ARCES	**ARCESS Array B**	**40.98**	**337**	P	**P**	**10 49 43.5**	**+1.2**
comp=N,1.1nm,0.7s,baz=108,slow=7.8,SNR=4.0							
ARCES				pP	**pP**	**10 50 06.1**	**-1.6**
comp=N,3.0nm,0.9s,baz=35,slow=24,SNR=2.0							
HFS	**Hagfors**	**43.02**	**322**	P	**P**	**10 50 01.3**	**+2.2**
comp=N,1.2nm,0.6s,baz=305,slow=5.2,SNR=2.2							
HFS				pP	**pP**	**10 50 23.9**	**-0.5**
comp=N,1.4nm,0.5s,baz=97,slow=11,SNR=3.0							
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**10 50 11.5**	**+1.9**
comp=N,0.4nm,0.7s,baz=98,slow=8.3,SNR=1.7							
NOA				pP	**pP**	**10 50 34.3**	**-0.7**
comp=N,0.6nm,0.6s,baz=96,slow=8.1,SNR=2.5							
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P	**P**	**10 52 45.0**	**-1.2**
comp=N,0.3nm,0.4s,baz=52,slow=5.7,SNR=4.7							
WRA	**Warramunga Arr**	**81.88**	**122**	P	**P**	**10 54 18.9**	**+0.8**
comp=N,0.6nm,0.7s,baz=323,slow=4.9,SNR=6.2							
ASAR	**Alice Springs**	**84.16**	**125**	P	**P**	**10 54 30.6**	**+0.8**
comp=N,0.5nm,0.7s,baz=310,slow=5.4,SNR=9.6							

IDC 05 10:42:37.7±1.7, 31°.55S×64°.86W, h0km, mb1 3.7/4, mb1mx3.5/28, mbtmp3.6/4, ML3.6/4, Error ellipse: s-maj=49.3km s-min=20.8km az=121.0, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**8.40**	**54**	Pn	Pn	10 44 41.5	+0.8
0.5nm,0.3s,baz=228,slow=12,SNR=6.2							
CPUP				Lg	Lg	10 47 03.5	
0.8nm,0.3s,baz=251,slow=14,SNR=3.3							
PLCA	**Paso Flores**	**10.25**	**205**	Pn	Pn	10 45 07.4	+1.3
0.0nm,0.3s,baz=10,slow=11,SNR=2.0							
PLCA				Lg	Lg	10 48 02.8	
0.3nm,0.3s,baz=25,slow=19,SNR=4.1							
LPAZ	**La Paz**	**15.48**	**348**	Pn	Pn	10 46 19.0	+1.0
0.1nm,0.3s,baz=176,slow=6.9,SNR=4.0							
LPAZ				Sn	Sn	10 49 10.2	-0.3
0.1nm,0.3s,baz=217,slow=18,SNR=1.4							
SIV	**San Ignacio**	**15.87**	**13**	Pn	Pn	10 46 22.9	+0.4
0.4nm,0.3s,baz=219,slow=14,SNR=7.4							
WRA	**Warramunga Arr**	**125.59**	**202**	PKP	PKPdf	11 01 40.8	-0.9
0.2nm,0.4s,baz=164,slow=1.7,SNR=5.3							

ISC 05 10:50:47.2±1.1, 48°.76N±0°.06×18°.13E±0°.05, h13km±10km, n6, σ0§40/12, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLL	**Kolacno**	**0.26**	**135**	*e*PG	**Pg**	**10 50 52.5**	**-0.1**
KOLL				*e*SG	**Sb**	**10 50 57.8**	**-0.3**
JAVC	**Velka Javorina**	**0.32**	**288**	*e*PG	**Pg**	**10 50 53.5**	**-0.3**
JAVC				*e*SG	**Sg**	**10 50 58.4**	**+0.2**
VYHS	**Vyhne**	**0.54**	**120**	*e*PG	**Pb**	**10 50 58.7**	**+0.1**
VYHS				*e*SG	**Sb**	**10 51 06.1**	**-0.1**
MODS	**Modra-Piesok**	**0.69**	**236**	*e*PG	**Pg**	**10 51 00.3**	**-0.3**
MODS				*e*SG	**Sb**	**10 51 10.5**	**0.0**
MORC	**Moravsky Berou**	**1.09**	**339**	*e*PG	**Pb**	**10 51 07.6**	**-0.3**
MORC				*e*SG	**Sn**	**10 51 23.5**	**+0.3**
VRAC	**Vranov**	**1.15**	**299**	*e*PG	**Pn**	**10 51 09.1**	**0.0**
VRAC				*e*SG	**Sg**	**10 51 25.2**	**+0.9**

*IDC **05** 10:51:27.3±0.5, 10°.34S×66°.39E, h0km, mb4.3/32, mb1 4.4/32, mb1mx4.2/62, mbtmp4.3/32, MS3.9/33, Ms1 3.9/33, ms1mx3.7/55, Error ellipse: s-maj=14.8km s-min=12.4km az=9.0*
*NEIC **05** 10:51:27.8±1.8, 10°.46S±0°.05×66°.3E±0°.1, h10km±1km, mb4.9/50, Error ellipse: s-maj=18.0km s-min=7.9km az=256.0*
*BJI **05** 10:51:28.0±0.0, 10°.40S×66°.30E, h5km, mB5.0/25, mb4.8/40, Ms4.5/20, Ms7 4.2/20*
*GCMT **05** 10:51:28.8±0.3, 10°.59S±0°.03×66°.41E±0°.02, h14km±1km, MW4.8/98, Moment Tensor Solution. s19,c25; s98,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.25±.16; $M_{\theta\theta}$0.78±.10; $M_{\phi\phi}$1.48±.10; $M_{r\theta}$0.47±.28; $M_{\phi\phi}$-0.80±.06; $M_{\phi r}$-0.15±.20; Best double couple: M_o2.17600×10^{16} NP1:ϕ_s153.00000°, δ40.00000°, λ-80.00000°. NP2: ϕ_s320.00000°, δ50.00000°, λ-99.00000°. Principal axes: T 2.0310, Plg5.0000°, Azm56.0000°; N 0.2950, Plg7.0000°, Azm325.0000°; P -2.3200, Plg82.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 10:51:29.2±0.4, 10°.40S±0°.07×66°.31E±0°.07, h14km, n143, σ1§22/124, mb4.7/64, MS4.0/39, 1C-2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.67**	**66**	T	T	10 59 54.7	
baz=245,slow=75,SNR=2732							
H08S3	**Diego Garcia H**	**6.69**	**66**	T	T	10 59 55.9	
baz=245,slow=75,SNR=2293							
H08S2	**Diego Garcia H**	**6.69**	**66**	T	T	10 59 56.0	
baz=245,slow=75,SNR=2017							
PALK	**Pallekele**	**22.66**	**40**	P	**P**	**10 56 30.4**	**+0.1**
50nm,1.2s,baz=321,slow=11,SNR=4.3							
PALK				LR	LR	11 03 11.0	
comp=Z,399nm,19.9s,baz=321,slow=31							
PALK	**Pallekele**	**22.66**	**40**	P	**P**	**10 56 29.2**	**-1.1**
PALK				IAmb	IAmb	10 56 34.0	
comp=Z,63nm,1.2s							
KMBO	**Kilima Mbogo**	**30.31**	**286**	P	**P**	**10 57 43.0**	**+2.2**
comp=Z,0.9nm,0.3s,baz=79,slow=12,SNR=3.2							
KMBO				LR	LR	11 08 36.4	
comp=Z,242nm,18.0s,baz=92,slow=34							
WSAR	**Wadi Sarin**	**34.27**	**347**	P	**P**	**10 58 14.3**	**-0.7**
comp=Z,9.1nm,1.1s,baz=192,slow=22,SNR=2.7							
RPSI	**Rantau Prapat**	**34.98**	**70**	P	**P**	**10 58 21.8**	**+0.5**
RPSI				IAmb	IAmb	10 58 30.7	
comp=Z,18nm,1.2s							
RPSI	**Rantau Prapat**	**34.98**	**70**	P	**P**	**10 58 21.9**	**+0.5**
PSI	**Prapat**	**35.02**	**70**	P	**P**	**10 58 21.9**	**+0.1**
comp=Z,2.6nm,0.4s,baz=178,slow=0.8,SNR=4.1							
PSI				LR	LR	11 09 49.9	
comp=Z,643nm,21.8s,baz=260,slow=32							
SDSI	**Sungai Dareh**	**36.15**	**77**	P	P	10 58 35.7	+4.3
LSZ	**Lusaka**	**37.45**	**258**	P	**P**	**10 58 44.3**	**+1.7**
comp=Z,2.9nm,0.4s,baz=92,slow=6.3,SNR=7.8							
LSZ	**Lusaka**	**37.45**	**258**	P	**P**	**10 58 42.3**	**-0.4**
LSZ				IAmb	IAmb	10 58 45.2	
comp=Z,26nm,1.3s							
KULM	**Kulim**	**37.58**	**67**	P	**P**	**10 58 44.3**	**+0.7**
KULM				IAmb	IAmb	10 58 45.4	
comp=Z,44nm,1.3s							
LBTB	**Lobatse**	**41.24**	**244**	P	**P**	**10 59 14.9**	**+0.7**
comp=Z,13nm,1.1s,baz=84,slow=9.1,SNR=7.4							
LBTB	**Lobatse**	**41.24**	**244**	P	**P**	**10 59 13.2**	**-1.0**
LBTB				IAmb	IAmb	10 59 16.6	
comp=Z,17nm,1.1s							
BOSA	**Boshof**	**42.47**	**239**	LR	LR	11 15 44.1	
comp=Z,209nm,18.5s,baz=42,slow=34							
CM31	**Chiang Mai Arr**	**43.12**	**48**	P	**P**	**10 59 29.4**	**0.0**
CM31				IAmb	IAmb	10 59 31.3	
comp=Z,22nm,1.4s							
CMAR	**Chiang Mai Arr**	**43.12**	**48**	P	**P**	**10 59 29.2**	**-0.2**
comp=Z,7.2nm,1.1s,baz=239,slow=8.9,SNR=22							
CMAR				LR	LR	11 16 53.0	
comp=Z,108nm,18.6s,baz=233,slow=36							
CHTO	**Chiang Mai**	**43.34**	**48**	P	**P**	**10 59 31.1**	**-0.2**
CHTO				IAmb	IAmb	10 59 34.0	
comp=Z,18nm,1.2s							
PBKT	**Sadao Pong**	**43.51**	**52**	P	**P**	**10 59 33.3**	**+0.7**
PBKT				IAmb	IAmb	10 59 41.4	
comp=Z,20nm,1.2s							
SHL	**Shillong**	**43.57**	**34**	P	**P**	**10 59 34.1**	**+1.0**
HRA	**Herat**	**44.71**	**355**	P	**P**	**10 59 42.5**	**+0.4**
KSM	**Kuching**	**45.34**	**77**	P	**P**	**10 59 47.5**	**+0.2**
KSM				IAmb	IAmb	10 59 50.2	
comp=Z,12nm,1.2s							
LSA	**Lhasa**	**46.50**	**30**	P	**P**	**10 59 55.4**	**-1.4**
SBUM	**Sibu**	**47.45**	**77**	P	**P**	**11 00 03.5**	**-0.4**
SBUM				IAmb	IAmb	11 00 11.9	
comp=Z,11nm,1.2s							
SLVN	**Son La**	**48.56**	**49**	P	**P**	**11 00 13.2**	**+0.8**
GEYT	**Alibeck**	**48.68**	**351**	LR	LR	11 18 49.1	
comp=Z,55nm,21.3s,baz=190,slow=34							
GEYT	**Alibeck**	**48.68**	**351**	P	**P**	**11 00 13.8**	**+0.7**
GYA0B	**ALIBECK ARRAY**	**48.68**	**351**	P	**P**	**11 00 14.3**	**+1.2**
H01W3	**Cape Leeuwin H**	**49.83**	**127**	T	T	11 53 35.9	
baz=287,slow=75,SNR=20							
H01W2	**Cape Leeuwin H**	**49.83**	**127**	T	T	11 53 36.8	
baz=287,slow=75,SNR=14							
H01W1	**Cape Leeuwin H**	**49.84**	**127**	T	T	11 53 36.8	
baz=287,slow=75,SNR=21							
KMI	**Kunming**	**50.07**	**45**	⇑P	**P**	**11 00 26.0**	**+1.8**
KMI				pmax	pmax		
comp=Z,10.0nm,1.1s							
KSH	**Kashi**	**50.47**	**10**	P	P	11 00 30.4	+3.6
KSH				sP	pwP	11 00 34.0	-1.0
KSH				PP	**PP**	**11 02 25.5**	**+2.8**
KSH				PcS	**PcS**	**11 05 43.7**	**+1.5**
KSH				S	**S**	**11 07 36.3**	**-3.9**
KSH				sS	sS	11 07 47.3	+1.8
KSH				SS	**SS**	**11 11 10.8**	**-3.8**
KSH				pmax	pmax		
comp=Z,40nm,1.3s							
KSH				pmax	pmax		
comp=Z,77nm,3.9s							
KSH				LR	LR		
comp=Z,240nm,14.1s							
KSH				LR	LR		
comp=Z,270nm,15.6s							
KSH				LR	LR		
comp=Z,120nm,7.2s							
NWAO	**Narrogin (SRO)**	**51.79**	**124**	LR	LR	11 17 29.5	
comp=Z,95nm,20.6s,baz=253,slow=30							
QIZ	**Qiongzhong**	**51.93**	**56**	P	**P**	**11 00 37.9**	**-0.1**
QIZ				S	**S**	**11 08 02.7**	**+1.8**
QIZ				LR	LR		
comp=Z,140nm,14.8s							
QIZ				LR	LR		
comp=Z,170nm,14.9s							
QIZ				LR	LR		
comp=Z,220nm,22.6s							
KAPI	**Kappang**	**53.17**	**88**	LR	LR	11 20 49.1	
comp=Z,192nm,20.2s,baz=251,slow=33							
KDJ	**Kajisay**	**53.22**	**10**	P	**P**	**11 00 46.9**	**-0.5**
AAK	**Ala-Archa**	**53.31**	**8**	P	**P**	**11 00 47.3**	**-0.6**
GYA	**Guiyang**	**53.66**	**46**	⇓P	**P**	**11 00 50.5**	**-0.3**
GYA				pP	pwP	11 00 57.2	-1.6
GYA				PP	**PP**	**11 02 56.6**	**+4.8**
GYA				S	**S**	**11 08 24.8**	**+0.3**
GYA				pmax	pmax		
comp=Z,16nm,0.9s							
GYA				LR	LR		
comp=Z,160nm,19.8s							
PRZ	**Przheval'sk**	**53.78**	**11**	P	**P**	**11 00 51.4**	**0.0**
PRZ				IAmb	IAmb	11 01 04.9	
comp=Z,25nm,1.4s							
MPSI	**Mapaga**	**54.34**	**82**	P	P	11 00 50.9	-5.0
CD2	**Chengdu**	**54.58**	**40**	*e*P	**P**	**11 00 59.0**	**+1.7**
EDFI	**Ende, Flores**	**54.58**	**93**	P	**P**	**11 00 56.5**	**-1.2**
comp=Z,6.6nm,1.5s							
BATI	**Baumata**	**56.36**	**95**	LR	LR	11 22 10.2	
comp=Z,191nm,19.9s,baz=304,slow=33							
SOEI	**Soe**	**56.99**	**95**	P	**P**	**11 01 14.5**	**-0.6**
comp=Z,35nm,1.2s							
SOEI	**Soe**	**56.99**	**95**	P	**P**	**11 01 15.8**	**+0.7**
MAW	**Mawson**	**57.18**	**182**	P	**P**	**11 01 16.0**	**+0.6**
comp=Z,4.2nm,0.9s,baz=10,slow=9.0,SNR=5.0							
MAW				LR	LR	11 21 08.5	
comp=Z,137nm,19.2s,baz=3.0,slow=31							
MAW	**Mawson**	**57.18**	**182**	P	**P**	**11 01 13.0**	**-2.4**
WMQ	**Urumqi**	**57.36**	**18**	*e*P	**P**	**11 01 18.2**	**+1.1**
WMQ				sP	pwP	11 01 24.7	-0.7
WMQ				pmax	pmax		
comp=Z,15nm,0.9s							
WMQ				pmax	pmax		
comp=Z,41nm,3.7s							
WMQ				LR	LR		
comp=Z,190nm,20.7s							
WMQ				LR	LR		
comp=Z,150nm,17.1s							
WMQ				LR	LR		
comp=Z,130nm,24.3s							
FITZ	**Fitzroy Crossi**	**57.81**	**105**	P	**P**	**11 01 20.6**	**0.0**
comp=Z,4.2nm,1.2s,baz=360,slow=9.4,SNR=4.7							
FITZ				LR	LR	11 21 21.7	
comp=Z,150nm,21.8s,baz=268,slow=31							
FITZ	**Fitzroy Crossi**	**57.81**	**105**	P	**P**	**11 01 20.5**	**-0.1**
KBZ	**Khabaz**	**57.93**	**340**	LR	LR	11 25 37.7	
comp=Z,53nm,19.1s,baz=144,slow=35							
ENH	**Enshi**	**57.95**	**44**	P	**P**	**11 01 19.1**	**-2.3**
LZH	**Lanzhou**	**58.21**	**35**	*e*P	P	11 01 28.2	+4.9
LZH				pP	pwP	11 01 33.2	+1.9
LZH				sP	sP	11 01 37.3	+9.5
LZH				pmax	pmax		
comp=Z,15nm,1.1s							
BRTR	**Keskin Array B**	**58.37**	**331**	P	**P**	**11 01 25.8**	**+1.5**
comp=Z,0.8nm,0.5s,baz=274,slow=12,SNR=1.7							
BRTR				LR	LR	11 26 00.3	
comp=Z,38nm,18.6s,baz=154,slow=36							
GTA	**Gaot

KURK	Kurchatov	61.80	9	P		P	11 01 46.9	-0.5
KURK				IAmb		IAmb	11 01 55.0	
comp=Z,15nm,1.1s								
BVAR	Borovoye Array	63.27	3	P		P	11 01 57.2	0.0
comp=Z,4.5nm,1.1s,baz=165,slow=7.7,SNR=11								
BRVK	Borovoye	63.30	3	P		P	11 01 57.5	+0.1
BRVK				IAmb		IAmb	11 02 05.0	
comp=Z,9.3nm,1.1s								
ASAR	Alice Springs	65.45	111	P		P	11 02 11.5	-0.8
comp=Z,4.1nm,1.1s,baz=274,slow=5.9,SNR=19								
ASAR				LR		LR	11 27 38.9	
comp=Z,102nm,20.0s,baz=289,slow=33								
ASAR	Alice Springs	65.45	111	P		P	11 02 11.8	-0.4
AS31	Alice Springs	65.45	111	P		P	11 02 11.5	-0.8
NJ2	Nanjing	65.58	48	eP		P	11 02 13.2	+0.4
NJ2				pmax		pmax		
comp=Z,14nm,0.5s								
HHC	Hu-ho-hao-te	65.89	36	eP		P	11 02 15.6	+0.9
HHC				SS		SS	11 15 15.6	-1.4
HHC				pmax		pmax		
comp=Z,19nm,0.7s								
HHC				pmax		pmax		
comp=Z,120nm,5.3s								
WRA	Warramunga Arr	65.98	107	P		P	11 02 15.6	-0.1
comp=Z,12nm,1.2s,baz=276,slow=6.0,SNR=21								
WRA				LR		LR	11 26 59.4	
comp=Z,165nm,21.8s,baz=265,slow=32								
WRA	Warramunga Arr	65.98	107	P		P	11 02 15.6	-0.1
WB2	Warramunga Arr	65.99	107	P		P	11 02 15.8	0.0
WRAB	Tennant Creek	65.99	107	P		P	11 02 15.7	0.0
ZAA0	Zalesovo Array	66.00	12	P		P	11 02 14.2	-0.8
ZAA0				IAmb		IAmb	11 02 22.0	
comp=Z,14nm,1.1s								
ZALV	Zalesovo Beam	66.00	12	P		P	11 02 14.2	-0.7
comp=Z,2.0nm,0.9s,baz=212,slow=8.1,SNR=7.1								
ZALV				LR		LR	11 30 48.2	
comp=Z,86nm,18.5s,baz=156,slow=36								
ZALV	Zalesovo Beam	66.00	12	P		P	11 02 14.0	-1.0
WB0	Warramunga Arr	66.04	107	P		P	11 02 15.2	-0.9
WR0	Warramunga Arr	66.17	107	P		P	11 02 16.3	-0.6
MLR	Muntele Rosu	66.44	330	P		P	11 02 19.8	+1.6
comp=Z,1.3nm,0.4s,baz=77,slow=4.4,SNR=2.1								
ARU	Arti	66.89	355	P		P	11 02 21.5	+0.8
comp=Z,0.5nm,0.3s,baz=184,slow=7.0,SNR=7.5								
ARU	Arti	66.89	355	P		P	11 02 21.7	+1.0
SONM	Songino Array	68.00	28	P		P	11 02 28.3	+0.2
comp=Z,3.3nm,0.9s,baz=222,slow=5.0,SNR=13								
SONM				LR		LR	11 31 33.6	
comp=Z,352nm,19.3s,baz=234,slow=35								
SONM	Songino Array	68.00	28	P		P	11 02 28.1	+0.1
VAE	Valguarnera	68.02	318	LR		LR	11 31 35.9	
comp=Z,9.0nm,18.9s,baz=116,slow=35								
TOA0	Torodi Ar. Sit	68.27	289	P		P	11 02 29.4	-0.9
TOA0				IAmb		IAmb	11 02 32.2	
comp=Z,11nm,1.3s								
TORD	Torodi Ar. Bea	68.27	289	P		P	11 02 30.4	+0.2
comp=Z,3.2nm,1.1s,baz=96,slow=8.5,SNR=8.1								
TORD				LR		LR	11 33 02.6	
comp=Z,61nm,18.1s,baz=165,slow=36								
TORD	Torodi Ar. Bea	68.27	289	P		P	11 02 29.7	-0.5
ULN	Ulaanbaatar	68.33	28	P		P	11 02 28.8	-1.4
ULN				IAmb		IAmb	11 02 38.4	
comp=Z,12nm,1.4s								
AKASG	Malin Array Be	68.86	336	P		P	11 02 32.4	-0.8
comp=Z,0.8nm,0.4s,baz=140,slow=5.2,SNR=4.7								
VYHS	Vyhne	72.04	329	eP		P	11 02 59.8	+7.1
STKA	Stephens Creek	72.13	120	P		P	11 02 54.2	+0.5
comp=Z,2.5nm,0.8s,baz=310,slow=7.7,SNR=3.0								
STKA				LR		LR	11 30 56.2	
comp=Z,104nm,20.2s,baz=215,slow=33								
KIC	Kosan Boka	72.68	280	eP		P	11 02 57.2	-0.1
comp=Z,64nm,1.6s								
DBIC	Dimbokro	72.86	280	P		P	11 02 59.0	+0.7
comp=Z,6.8nm,1.1s,baz=40,slow=7.1,SNR=4.2								
DBIC				LR		LR	11 33 31.5	
comp=Z,187nm,19.7s,baz=96,slow=35								
LIC	Lamto	72.92	280	eP		P	11 02 59.2	+0.5
comp=Z,11nm,0.5s								
TIC	Toumodi	73.01	280	eP		P	11 02 57.1	-2.2
SNAA	Sanae	73.69	198	P		P	11 03 01.9	-0.4
SNAA	Sanae	73.69	198	P		P	11 03 02.6	+0.4
KLMR	Klimovskoe	74.13	347	eP		P	11 03 03.5	-1.3
KLMR				AMP			11 03 12.6	
comp=Z,32nm,1.3s								
KSAR	Wonju Array Be	74.68	47	P		P	11 03 07.6	-0.9
KS19	Wonju Array Si	74.69	46	P		P	11 03 07.0	-1.6
KS19				IAmb		IAmb	11 03 09.3	
comp=Z,13nm,1.2s								
KSRS	Korea Array	74.71	47	P		P	11 03 09.0	+0.3
comp=Z,3.4nm,1.0s,baz=246,slow=6.1,SNR=16								
KSRS				LR		LR	11 34 22.7	
comp=Z,98nm,21.9s,baz=248,slow=34								
VNA2	Neumayer--Watz	74.92	199	P		P	11 03 10.0	+0.6
GEC2	GERESS Array S	74.93	327	P		P	11 03 08.2	-1.7
GERES	GERESS Array B	74.93	327	P		P	11 03 10.4	+0.5
comp=Z,1.0nm,0.6s,baz=340,slow=30,SNR=5.8								
GERES	GERESS Array B	74.93	327	P		P	11 03 08.7	-1.1
FUORN	Ofenpass-Fuorn	75.59	324	P		P	11 03 11.7	-2.2
VNA3	Neumayer Olymp	75.71	199	P		P	11 03 14.0	+0.1
DAVOX	Davos/Dischmat	75.90	324	P		P	11 03 16.3	+0.6
comp=Z,2.5nm,0.7s,baz=138,slow=9.4,SNR=4.5								
CLL	Collm	76.74	329	eP		P	11 03 22.0	+2.0
comp=Z,5.0nm,0.9s								
CTA	Charters Tower	77.13	108	P		P	11 03 23.6	+0.7
comp=Z,4.6nm,0.9s,baz=265,slow=5.4,SNR=4.0								
CTAO	Charters Tower	77.13	108	P		P	11 03 22.2	-0.8
CTAO				IAmb		IAmb	11 03 30.7	
comp=Z,12nm,1.1s								
FINES	FINESS Array B	78.25	342	LR		LR	11 40 00.6	
comp=Z,28nm,18.2s,baz=175,slow=37								
QSPA	South Pole Qui	79.65	180	P		P	11 03 35.3	-0.9
QSPA				IAmb		IAmb	11 03 36.5	
comp=Z,11nm,1.4s								
USRK	Ussuriysk Ar.	80.40	42	P		P	11 03 38.9	-1.4
comp=Z,1.0nm,0.8s,baz=142,slow=42,SNR=2.9								
USRK				LR		LR	11 41 32.6	
comp=Z,62nm,18.3s,baz=231,slow=37								
NRIK	Noril'sk	80.92	7	LR		LR	11 40 08.2	
comp=Z,68nm,19.3s,baz=202,slow=36								
VNDA	Vanda	81.12	167	LR		LR	11 35 29.5	
comp=Z,77nm,19.5s,baz=258,slow=33								
ESBB	Sonseca Array	81.82	313	P		P	11 03 47.5	-0.6
ESDC	Sonseca Array	81.82	313	P		P	11 03 48.8	+0.6
comp=Z,1.7nm,1.0s,baz=90,slow=3.9,SNR=9.6								
ESDC	Sonseca Array	81.82	313	P		P	11 03 47.2	-0.9
MAT	Matsushiro	81.96	51	P		P	11 03 48.6	-0.3
MJAR	Matsushiro Arr	81.96	51	P		P	11 03 49.1	+0.2
comp=Z,5.1nm,1.1s,baz=255,slow=6.9,SNR=9.4								
MJAR				LR		LR	11 38 50.8	
comp=Z,68nm,21.2s,baz=265,slow=35								
MJAR	Matsushiro Arr	81.96	51	P		P	11 03 47.0	-1.9
KLR	Kul'dur	82.38	37	P		P	11 03 51.4	+0.6
comp=Z,0.6nm,0.3s,baz=326,slow=8.7,SNR=3.2								
KLR				LR		LR	11 44 38.9	
comp=Z,42nm,18.2s,baz=190,slow=39								
NOA	NORSAR Array B	83.26	336	LR		LR	11 43 10.0	
comp=Z,16nm,18.3s,baz=120,slow=37								
ARCES	ARCESS Array B	84.61	347	LR		LR	11 40 41.5	
comp=Z,21nm,19.6s,baz=158,slow=35								
BORG	Borgarnes	98.31	334	LR		LR	11 48 56.3	
comp=Z,155nm,21.9s,baz=245,slow=35								
PETK	Petropavlovsk-	99.06	38	LR		LR	11 54 09.4	
comp=Z,61nm,18.9s,baz=264,slow=38								
LPAZ	La Paz	127.70	240	PKP		PKiKP	11 10 37.1	+0.6
comp=Z,0.7nm,0.6s,baz=106,slow=5.0,SNR=3.7								
PDAR	Pinedale Array	147.56	354	PKPbc		PKPbc	11 11 11.6	-2.0
comp=Z,1.7nm,1.0s,baz=46,slow=3.9,SNR=9.9								
PDAR	Pinedale Array	147.56	354	PKPbc		PKPbc	11 11 12.9	-0.7
NVAR	Mina Array Bea	151.78	8	PKPbc		PKiKP	11 11 25.0	+0.3
comp=Z,2.5nm,0.8s,baz=354,slow=1.8,SNR=19								
NVAR	Mina Array Bea	151.78	8			PKiKP	11 11 26.2	+1.6
TXAR	Lajitas Array	158.96	335	PKPab		PKPab	11 12 03.2	-0.5
comp=Z,2.1nm,1.1s,baz=182,slow=4.3,SNR=5.4								
TXAR	Lajitas Array	158.96	335			PKPab	11 12 03.5	-0.2

*NEIC **05** 10:51:47.8±0.9, 27°.2N±0°.1×140°.3E±0°.2, h419km±9km, mb4.3/21, Error ellipse: s-maj=21.7km s-min=17.5km az=98.0*
*IDC **05** 10:51:47.3±0.6, 27°.19N×140°.26E, h416km±6km, mb3.2/13, mb1 3.3/17, mb1mx3.1/62, mbtmp3.9/17, Error ellipse: s-maj=17.4km s-min=10.8km az=80.0*
ISC 05 10:51:46.4±0.7, 27°.2N±0°.1×140°.1E±0°.1, h400km, n45, σ1§18/47, mb4.0/22, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.84	91	P		Pn	10 52 43.9	+2.5
18nm,0.3s,baz=288,slow=18,SNR=177								
JCJ				S		S	10 53 28.2	+2.4
59nm,0.3s,baz=294,slow=22,SNR=18								
JHJ	Hachijo jima 2	5.96	357	P		Pn	10 53 20.7	+2.2
37nm,0.3s,baz=228,slow=12,SNR=7.6								
MJAR	Matsushiro Arr	9.50	351	P		Pn	10 53 59.2	+0.6
0.1nm,0.3s,baz=172,slow=10.0,SNR=2.4								
MJAR	Matsushiro Arr	9.50	351	P		Pn	10 53 59.3	+0.8
JNU	Nakatsue	9.97	309	P		Pn	10 54 06.0	+2.0
0.3nm,0.3s,baz=197,slow=9.4,SNR=2.8								
USRK	Ussuriysk Ar.	18.23	341	P		P	10 55 34.5	+1.3
baz=163,slow=10,SNR=2.9								
SEY	Seymchan	36.68	9	P		P	10 58 16.8	+0.1
1.1nm,0.6s,baz=193,slow=18,SNR=5.4								
WB0	Warramunga Arr	46.97	187	P		P	10 59 39.9	+0.6
WRAB	Tennant Creek	47.14	187	P		P	10 59 40.8	+0.2
WR0	Warramunga Arr	47.14	187	P		P	10 59 40.9	+0.2
WB2	Warramunga Arr	47.15	187	P		P	10 59 40.6	0.0
WB2				IAmb		IAmb	11 00 19.1	
comp=Z,21nm,1.9s								
WRA	Warramunga Arr	47.15	187	P		P	10 59 40.9	+0.2
comp=Z,1.1nm,0.4s,baz=3.2,slow=7.6,SNR=46								
WRA				ScP		ScP	11 04 16.1	-3.7
comp=Z,0.3nm,0.8s,baz=9.5,slow=3.7,SNR=2.1								
WRA	Warramunga Arr	47.15	187	P		P	10 59 40.5	-0.2
MKAR	Makanchi Array	49.02	310	P		P	10 59 54.8	+0.2
comp=Z,0.6nm,0.8s,baz=80,slow=9.1,SNR=3.6								
ASAR	Alice Springs	50.88	187	P		P	11 00 08.7	+0.1
comp=Z,0.2nm,0.5s,baz=354,slow=4.0,SNR=14								
ASAR	Alice Springs	50.88	187	P		P	11 00 09.0	+0.4
KURK	Kurchatov	51.63	315	P		P	11 00 13.9	+0.1
KURBB	Kurchatov Arra	51.69	314	P		P	11 00 13.7	-0.5
comp=Z,1.9nm,0.5s,baz=91,slow=8.0,SNR=19								
IMAR	Indian Mountai	55.83	27	P		P	11 00 42.7	-0.8
BVAR	Borovoye Array	56.76	317	P		P	11 00 50.3	+0.1
comp=Z,4.1nm,0.4s,baz=94,slow=7.1,SNR=27								
BRVK	Borovoye	56.82	317	P		P	11 00 51.0	+0.3
TRF	Thorofare Moun	56.97	30	P		P	11 00 50.6	-1.1
CCB	Clear Creek Bu	58.15	29	P		P	11 00 58.8	-0.8
CCB				IAmb		IAmb	11 02 22.1	
comp=Z,17nm,1.8s								
SCM	Sheep Creek Mo	58.24	32	P		P	11 00 59.3	-1.1
DHY	Denali Highway	58.26	31	P		P	11 00 59.7	-0.9
DHY				IAmb		IAmb	11 01 55.9	
comp=Z,20nm,1.5s								
IL31		58.55	29	P		P	11 01 01.0	-1.2
IL31				IAmb		IAmb	11 01 57.4	
comp=Z,24nm,1.9s								
ILAR	Eielson Array	58.55	29	P		P	11 01 00.5	-1.8
comp=Z,0.3nm,0.3s,baz=252,slow=5.4,SNR=6.8								
PAX	Paxson	59.13	31	P		P	11 01 05.9	-0.5
PAX				IAmb		IAmb	11 01 50.4	
comp=Z,28nm,1.9s								
RIDG	Independent Ri	59.41	30	P		P	11 01 07.4	-0.9
RIDG				IAmb		IAmb	11 02 04.5	
comp=Z,38nm,1.8s								
DOT	Dot Lake	59.76	30	P		P	11 01 09.6	-1.0
DOT				IAmb		IAmb	11 01 50.6	
comp=Z,19nm,1.8s								
GLB	Gilahina Butte	59.92	33	P		P	11 01 11.2	-0.5
GLB				IAmb		IAmb	11 03 01.5	
comp=Z,16nm,1.3s								
MENT	Mentasta	59.93	31	P		P	11 01 11.4	-0.3
MENT				IAmb		IAmb	11 02 50.0	
comp=Z,29nm,1.8s								
ISLE	Juniper Island	60.68	34	P		P	11 01 16.3	-0.6
BCAR	Beaver Creek A	60.80	31	P		P	11 01 17.0	-0.6
ARCES	ARCESS Array B	72.88	340	P		P	11 02 32.2	-0.5
comp=Z,2.3nm,1.0s,baz=72,slow=7.8,SNR=4.9								
YKA	Yellowknife Ar	72.96	28	P		P	11 02 31.8	-1.4
comp=Z,0.3nm,0.3s,baz=260,slow=4.9,SNR=7.9								
FIA1	FINESS Array S	77.08	333	P		P	11 02 55.6	-0.8
FINES	FINESS Array B	77.08	333	P		P	11 02 55.4	-1.0
comp=Z,2.0nm,0.4s,baz=65,slow=5.1,SNR=18								
NVAR	Mina Array Bea	81.92	51	P		P	11 03 22.5	-0.5
comp=Z,0.4nm,0.6s,baz=304,slow=2.9,SNR=4.8								
NVAR	Mina Array Bea	81.92	51	P		P	11 03 22.2	-0.8
HRY	Holter Researc	81.99	41	P		P	11 03 22.2	-0.8
NC405	NORSAR Array S	82.64	337	P		P	11 03 24.7	-1.3
NOA	NORSAR Array B	82.87	338	P		P	11 03 25.4	-1.8
comp=Z,0.5nm,0.7s,baz=46,slow=4.9,SNR=3.3								
PDAR	Pinedale Array	85.46	44	P		P	11 03 41.1	+0.4
comp=Z,0.1nm,0.5s,baz=268,slow=29,SNR=1.7								
PDAR	Pinedale Array	85.46	44	P		P	11 03 40.4	-0.3

*DDA **05** 11:03:15.4, 42°.72N×31°.02E, h20km±3km, MW3.1*
ISC 05 11:03:05.4±1.5, 43°.23N±0°.04×31°.08E±0°.04, h1km±13km, n24, σ1§17/32, 14C-1D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTIN	Bartın	1.81	151	i P		Pg	11 03 42.1	+2.0
BTIN				i S		Sb	11 04 02.2	-0.3
TSMN	Mangalia Port-	1.90	289	⇑P		Pg	11 03 41.6	-0.1
KDZE	Karadeniz Ereo	1.93	172	⇑S		Sn	11 04 04.9	+0.6
MFTR	Murfatlar	2.15	297	⇑P		Pg	11 03 47.3	+0.7
MFTR	Murfatlar	2.15	297	⇑S		Sb	11 04 12.1	-0.1
KAND	Kocaeli-Kandir	2.23	197	i P		Pg	11 03 47.8	-0.3
KAND				i S		Sn	11 04 10.8	-0.8
YIGI	Dzce	2.28	173	i P		Pb	11 03 47.9	+0.6
YIGI				i S		Sn	11 04 12.4	-0.5
TIRR	Tirgusor	2.29	304	⇑P		Pg	11 03 49.2	-0.1
TIRR	Tirgusor	2.29	304	⇑S		Sb	11 04 15.9	-0.3
KBUK	KARABUK-Merkez	2.30	149	i P		Pg	11 03 49.4	0.0
KBUK				i S		Sb	11 04 15.4	-1.2
SAHE	Sakarya_HENDEK	2.38	184	i P		Pb	11 03 48.9	-0.1
BZK	Bozkurt	2.50	119	⇑P		Pg	11 03 53.5	+0.2
BZK	Bozkurt	2.50	119	⇑S		Sb	11 04 22.9	+0.4
BCAM	Yenicaga	2.52	163	i P		Pg	11 03 53.3	-0.3
BCAM				i S		Sn	11 04 20.8	+1.8
ICOR	Ion Corvin	2.54	292	⇑P		Pb	11 03 50.3	-1.4
ICOR	Ion Corvin	2.54	292	⇑S		Sn	11 04 20.3	+1.0
PELI	Kastamonı-Ara	2.54	138	i P		Pg	11 03 54.5	+0.5
PELI				i S		Sb	11 04 22.7	-0.9
TOPG	Topolog	2.55	311	⇑P		Pb	11 03 53.0	+1.0
KIBS	BOLU	2.86	168	i P		Pb	11 03 57.6	+0.3
KIBS				i S		Sn	11 04 28.4	+0.9
CFR	Carcaliu	2.88	314	⇓P		Pb	11 03 57.9	+0.3
CFR	Carcaliu	2.88	314	⇑S		Sb	11 04 32.0	-1.2
ILGA	Ilgaz	2.93	137	i P		Pb	11 03 58.9	+0.4
ILGA				i S		Sn	11 04 31.2	+2.0
DIKM	Dikmen	3.47	116	⇑P		Pb	11 04 06.6	-1.1
DIKM	Dikmen	3.47	116	⇑S		Sb	11 04 46.6	-3.7

BUC 05 11:03:39.5±0.5, 45°.28N×25°.32E, h5km, ml1.1/4, 13C-4D, Error ellipse: s-maj=6.3km s-min=2.1km az=174.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	Matau	0.19	254	⇑P		Pg	11 03 43.2	-0.1
MTUR	Matau	0.19	254	⇑P		Pg	11 03 43.2	-0.1
VOIR		0.25	311	⇑P		Pg	11 03 43.9	-0.5
VOIR				⇓S		Sg	11 03 48.1	+0.4
VOIR		0.25	311	⇑P		Pg	11 03 43.9	-0.5
VOIR				⇓S		Sg	11 03 48.1	+0.4
ARR	Arges	0.49	281	⇓P		Pg	11 03 48.9	-0.1
ARR				⇑S		Sg	11 03 55.3	-0.1
ARR	Arges	0.49	281	⇓P		Pg	11 03 48.9	-0.1
ARR				⇑S		Sg	11 03 55.3	-0.1
MLR	Muntele Rosu	0.49	64	⇑P		Pg	11 03 48.9	-0.1
MLR				⇑S		Sg	11 03 56.6	+1.1
MLR	Muntele Rosu	0.49	64	⇑P		Pg	11 03 48.9	-0.1
LOT	Lotru	1.10	279	⇑P		Pg	11 04 00.5	-0.2
LOT				⇑S		Sn	11 04 17.6	+0.1
LOT	Lotru	1.10	279	⇑P		Pg	11 04 00.5	-0.2
LOT				⇑S		Sn	11 04 17.6	+0.1

*IDC **05** 11:03:54.5±3.9, 26°.94N×97°.43E, h98km±38km, mb3.3/8, mb1 3.4/9, mb1mx3.2/38, mbtmp3.5/9, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=36.4km s-min=15.6km az=68.0*
ISC 05 11:03:46.2±1.0, 26°.8N±0°.2×97°.15E±0°.07, h28km, n25, σ0§93/28, mb3.7/8, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	8.43	276	ePn		Pn	11 05 47.3	+0.5
TAPN	Taplejung	8.43	276	ePn		Pn	11 05 47.3	+0.5
CMAR	Chiang Mai Arr	8.46	168	P		Pn	11 05 56.4	+9.4
0.2nm,0.3s,baz=330,slow=10,SNR=1.9								
ODAN	Odare	8.72	273	ePn		Pn	11 05 51.4	+0.8
ODAN	Odare	8.72	273	ePn		Pn	11 05 51.4	+0.8
RAMN	Ramite	9.42	273	ePn		Pn	11 06 00.6	+0.3
RAMN	Ramite	9.42	273	ePn		Pn	11 06 00.6	+0.3
JIRN	Jiri	9.79	278	ePn		Pn	11 06 05.9	+0.4
JIRN				eSn		Sn	11 07 54.0	-0.7
28nm,0.4s								
JIRN	Jiri	9.79	278	ePn		Pn	11 06 05.9	+0.4
JIRN				eSn		Sn	11 07 54.0	-0.7
28nm,0.4s								
GUN	Gumba	10.08	279	ePn		Pn	11 06 09.4	0.0
GUN				eSn		Sn	11 08 01.7	-0.1
34nm,0.6s								
GUN	Gumba	10.08	279	ePn		Pn	11 06 09.4	0.0
GUN				eSn		Sn	11 08 01.7	-0.1
34nm,0.6s								
PKI	Pulchoki	10.48	277	ePn		Pn	11 06 14.0	-0.9
PKI	Pulchoki	10.48	277	ePn		Pn	11 06 14.0	-0.9
GKN	Gorkha	11.18	279	ePn		Pn	11 06 23.4	-1.0
GKN	Gorkha	11.18	279	ePn		Pn	11 06 23.4	-1.0
KOLN	Koldanda	12.09	278	ePn		Pn	11 06 35.1	-1.7
KOLN	Koldanda	12.09	278	ePn		Pn	11 06 35.1	-1.7
SONM	Songino Array	22.22	17	P		P	11 08 39.9	-0.6
0.3nm,0.4s,baz=198,slow=9.1,SNR=1.8								
SONM				LR		LR	11 18 19.1	
comp=Z,79nm,19.4s,baz=70,slow=39								
MKAR	Makanchi Array	23.16	333	P		P	11 08 51.1	+0.8
1.4nm,0.8s,baz=147,slow=8.8,SNR=6.5								
KURBB	Kurchatov Arra	27.72	334	P		P	11 09 34.5	+2.5
0.3nm,0.5s,baz=142,slow=11,SNR=1.6								
USRK	Ussuriysk Ar.	32.95	49	P		P	11 10 17.6	-0.6
1.5nm,0.7s,baz=237,slow=8.8,SNR=5.4								
WRA	Warramunga Arr	58.81	138	P		P	11 13 41.8	-0.5
0.6nm,0.6s,baz=328,slow=7.2,SNR=13								
ASAR	Alice Springs	61.47	141	P		P	11 14 01.0	+0.5
0.3nm,0.4s,baz=323,slow=6.3,SNR=13								
NOA	NORSAR Array B	65.00	328	P		P	11 14 24.2	+0.8
0.5nm,0.7s,baz=79,slow=6.4,SNR=2.2								
ILAR	Eielson Array	76.27	23	P		P	11 15 31.4	-0.5
0.6nm,0.7s,baz=310,slow=5.3,SNR=6.5								

*TEH **05** 11:04:08.9, 32°.63N×47°.61E, h14km, ML3.0*
*ISN **05** 11:04:08.9±1.6, 32°.64N×47°.62E, h15km±8km, ML3.1*
*THR **05** 11:04:08.1±0.6, 32°.62N×47°.52E, h14km±4km, ML3.0*
ISC 05 11:04:09.7±0.9, 32°.56N±0°.04×47°.58E±0°.04, h10km, n25, σ1§25/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.28	296	ePg		Pg	11 04 15.1	-0.3
SHGR	Shooshtar-Gavs	1.12	113	ePg		Pb	11 04 30.1	-1.1
SHGR				eSg		Sg	11 04 46.4	+0.5
SHGR	Shooshtar-Gavs	1.12	113	ePg		Pb	11 04 30.1	-1.1
IKMR	Kamar-syah	1.17	35	e		Sn	11 04 53.2	+5.1
IDOB	Doab	1.32	22	ePg		Pn	11 04 32.6	-1.9
IBDR	Badra	1.50	292	ePg		Pn	11 04 36.0	-0.6
IBDR				eSg		Sb	11 04 56.0	-0.6
IBDR				AML		AML	11 05 02.0	
comp=E,240nm,0.5s								
IBDR				AML		AML	11 05 02.1	
comp=N,433nm,0.4s								
BMDN	Meydan	1.52	43	ePg		Pn	11 04 36.2	-1.0
BMDN				e			11 05 03.5	
IKOM	Komasi	1.61	358	ePg		Pn	11 04 38.1	-0.3
IKOM				e			11 05 08.1	
KCHF	Cheshme Sefid,	1.77	345	ePg		Pn	11 04 40.7	+0.1
KCHF				e			11 05 09.9	
HSAM	Samen	1.86	27	ePg		Pn	11 04 41.9	+0.1
HSAM				e			11 05 09.9	
KER	Kermanshah	1.86	348	ePn		Pn	11 04 41.5	-0.3
IBZA	Bozab	1.92	7	ePn		Pn	11 04 43.5	+0.8
IBZA				e			11 04 49.9	
NSR	Nassriya	1.97	219	ePn		Pn	11 04 43.0	-0.1
NSR				eSn		Sb

s-min=13.0km az=59.0
*NEIC **05** 11:20:02.5±1.2, 1°.67N×0°.04×98°.95E±0°.05, h118km±7km, mb4.4/16, Error ellipse: s-maj=9.3km s-min=1.7km az=54.0*
*KLM **05** 11:20:03.0, 1°.65N×98°.92E, h132km, mb4.0*
*DJA **05** 11:20:03.3±0.5, 2°.N±2°×9°.9E±°, h102km±7km, M4.3/12, mB5.8/1, mb4.9/1, MLv4.0/12, Mw(mB)5.4/1*
ISC 05 11:20:00.8±0.5, 1°.63N±0°.05×98°.91E±0°.05, h100km, n60, σ1§92/58, mb4.3/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	1.06	141	P	Pn	11 20 25.3	+3.4
RPSI	Rantau Prapat	1.06	1		Sn	11 20 41.2	+3.4
RPSI	Rantau Prapat	1.06	1	Pn	Pn	11 20 24.5	+2.6
PSI	Prapat	1.17	1	P	Pn	11 20 24.9	+1.6
	27nm,0.3s,baz=180,slow=12,SNR=54						
PSI				S	Sn	11 20 41.2	+1.0
	18nm,0.3s,baz=181,slow=8.3,SNR=36						
GSI	Gunungsitoli	1.37	257	P	Pn	11 20 48.7	+23
GSI	Gunungsitoli	1.37	257	Pn	Pn	11 20 29.4	+3.9
PBSI	Pulau Batu	1.79	201	P	Pn	11 20 33.9	+3.2
PBSI				S	Sn	11 20 57.4	+4.0
TPTI		2.37	313	P	Pn	11 20 40.8	+2.6
BKNI	Bangkinang	2.49	121	P	Pn	11 20 42.3	+2.6
BKNI	Bangkinang	2.49	121		Pn	11 20 42.3	+2.6
SISI	Saibi	2.94	177	P	Pn	11 20 48.1	+2.3
PDSI	Padang	2.96	148	P	Pn	11 20 49.0	+2.9
IPM	Ipoh	3.53	37	Pn	Pn	11 20 55.5	+1.8
IPM	Ipoh	3.53	37	P	Pn	11 20 57.0	+3.3
MLSI	Meulaboh, Aceh	3.63	316	P	Pn	11 20 57.4	+2.4
KULM	Kulim	4.03	25	Pn	Pn	11 21 02.4	+1.9
KULM	Kulim	4.03	25	P	Pn	11 21 03.0	+2.6
LHMI	Lhok Sumawe	4.08	331	Pn	Pn	11 21 03.1	+2.0
MYKOM	Kota Tinggi	4.94	88		Pn	11 21 14.5	+1.8
MYKOM	Kota Tinggi	4.94	88	P	Pn	11 21 15.0	+2.3
TPRI	Tanjung Pinang	5.66	97	P	Pn	11 21 24.7	+2.2
CMAR	Chiang Mai Arr	16.73	0	P	Pn	11 23 50.5	+1.3
	0.8nm,0.3s,baz=191,slow=10,SNR=29						
CMAR				LR	LR	11 31 35.2	
	comp=Z,25nm,18.4s,baz=326,slow=41						
CMAR	Chiang Mai Arr	16.73	0		Pn	11 23 50.1	+0.9
PALK	Pallekele	19.00	288	P	Pn	11 24 18.6	+2.0
	1.2nm,0.3s,baz=12,slow=9.3,SNR=5.2						
PALK				S	S	11 27 38.2	-7.2
	0.9nm,0.3s,baz=126,slow=19,SNR=1.5						
PALK	Pallekele	19.00	288	P	Pn	11 24 18.6	+2.0
PALK				IAmb	IAmb	11 24 47.3	
	comp=Z,33nm,1.4s						
WB0	Warramunga Arr	40.79	123	P	P	11 27 31.3	-1.3
WB0				IAmb	IAmb	11 27 34.6	
	comp=Z,6.9nm,0.8s						
WRA	Warramunga Arr	40.82	123	P	P	11 27 31.4	-1.5
	comp=Z,11nm,0.8s,baz=301,slow=9.1,SNR=73						
WRA				PcP	PcP	11 29 31.5	-0.7
	comp=Z,0.4nm,0.5s,baz=312,slow=2.6,SNR=3.0						
WRA	Warramunga Arr	40.82	123	P	P	11 27 31.7	-1.3
WRAB	Tennant Creek	40.83	123	P	P	11 27 31.6	-1.4
WB2	Warramunga Arr	40.83	123	P	P	11 27 31.4	-1.6
WR0	Warramunga Arr	41.00	123	P	P	11 27 33.0	-1.4
ASAR	Alice Springs	42.30	129	P	P	11 27 43.4	-1.6
	comp=Z,1.6nm,0.6s,baz=300,slow=7.6,SNR=20						
ASAR				PcP	PcP	11 29 36.7	-0.3
	comp=Z,0.8nm,0.8s,baz=285,slow=2.4,SNR=4.9						
ASAR	Alice Springs	42.30	129	P	P	11 27 43.5	-1.5
KSAR	Wonju Array Be	44.51	33	P	P	11 28 02.3	-0.1
KSRS	Korea Array	44.54	33	P	P	11 28 01.8	-0.9
	comp=Z,2.1nm,0.7s,baz=220,slow=8.9,SNR=14						
KS19	Wonju Array Si	44.54	33	P	P	11 28 01.7	-1.0
KS19				IAmb	IAmb	11 28 03.2	
	comp=Z,4.7nm,0.8s						
SONM	Songino Array	46.48	7	P	P	11 28 16.9	-1.1
	comp=Z,0.8nm,0.5s,baz=263,slow=8.0,SNR=2.3						
SONM	Songino Array	46.48	7	IAmb	IAmb	11 28 19.2	
	comp=Z,0.9nm,0.8s						
MK31	Makanchi Array	47.27	344	P	P	11 28 24.0	0.0
MKAR	Makanchi Array	47.27	344	P	P	11 28 24.4	+0.4
	comp=Z,2.0nm,0.5s,baz=159,slow=8.7,SNR=29						
MKAR	Makanchi Array	47.27	344	P	P	11 28 24.2	+0.2
MAKZ	Makanchi	47.37	344	P	P	11 28 24.2	-0.5
KKAR	Karatay Array	48.46	332		P	11 28 34.4	+1.2
USRK	Ussuriysk Ar.	51.53	30	P	P	11 28 56.4	-0.1
	comp=Z,6.4nm,0.9s,baz=230,slow=3.8,SNR=11						
KURK	Kurchatov	51.84	344	P	P	11 28 58.9	+0.3
KURK				IAmb	IAmb	11 29 00.4	
	comp=Z,3.6nm,0.9s						
STKA	Stephens Creek	52.38	133	P	P	11 29 01.9	-1.1
	comp=Z,1.8nm,0.3s,baz=304,slow=6.0,SNR=4.4						
STKA	Stephens Creek	52.38	133	P	P	11 29 01.9	-1.1
ZAA0	Zalesovo Array	53.43	350	P	P	11 29 10.4	+0.2
ZAA0				IAmb	IAmb	11 29 11.6	
	comp=Z,5.1nm,0.7s						
ZALV	Zalesovo Beam	53.43	350	P	P	11 29 10.4	+0.1
	comp=Z,5.5nm,0.5s,baz=174,slow=6.8,SNR=9.9						
ZALV	Zalesovo Beam	53.43	350	P	P	11 29 10.2	0.0
KLR	Kul'dur	55.12	26	P	P	11 29 22.5	-0.2
	comp=Z,4.3nm,0.6s,baz=257,slow=5.2,SNR=7.3						
BRVK	Borovoye	56.49	340	P	P	11 29 31.9	-0.4
BRVK				IAmb	IAmb	11 29 33.3	
	comp=Z,2.2nm,0.7s						
EIDS	Eidsvold	57.14	122	P	P	11 29 37.1	-0.3
EIDS				IAmb	IAmb	11 30 03.6	
	comp=Z,10nm,1.4s						
ABKAR	Akbulak array	57.96	331	P	P	11 29 42.6	-0.2
PETK	Petropavlovsk-	70.44	33	P	P	11 31 04.1	-0.2
	comp=Z,0.3nm,0.4s,baz=205,slow=3.0,SNR=2.1						
BOSA	Boshof	76.47	240	P	P	11 31 41.2	+0.9
	comp=Z,1.8nm,0.7s,baz=39,slow=5.4,SNR=1.9						
FINES	FINESS Array B	80.42	332	P	P	11 32 00.4	-0.7
	comp=Z,0.9nm,0.5s,baz=88,slow=5.9,SNR=7.3						
ARCES	ARCESS Array B	82.72	340	P	P	11 32 12.6	-0.6
	comp=Z,2.9nm,0.9s,baz=64,slow=7.3,SNR=3.9						
HFS	Hagfors	86.21	330	P	P	11 32 31.3	+0.4
	comp=Z,0.9nm,0.5s,baz=150,slow=6.3,SNR=4.3						
TXAR	Lajitas Array	142.39	33	PKP	PKPdf	11 39 19.9	-2.8
	comp=Z,0.1nm,0.7s,baz=353,slow=1.5,SNR=1.5						

*ISN **05** 11:29:49.0±1.6, 32°.72N×47°.67E, h15km±8km, ML3.0*
*THR **05** 11:29:49.4±0.5, 32°.81N×47°.48E, h14km±4km, ML3.1*
*TEH **05** 11:29:50.1, 32°.78N×47°.64E, h14km, ML3.3*
ISC 05 11:29:51.2±1.1, 32°.74N±0°.04×47°.60E±0°.03, h14km±9km, n30, σ1§23/36, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.28	257	*e*Pg	Pg	11 29 56.5	-0.5
DHL1				*e*Sg	Sg	11 30 01.9	+0.9
IKMR	Kamar-syah	1.01	40	*e*		11 30 13.1	
IKMR				*e*Pg	Pb	11 30 08.0	-2.4
IDOB	Doab	1.15	25	*e*Pg	Pn	11 30 11.5	-1.5
SHGR	Shooshtar-Gavs	1.20	122	*e*Pg	Pn	11 30 13.6	+0.2
SHGR				*e*Sg	Sg	11 30 31.4	+1.6
SHGR				IAML		11 30 33.9	
	comp=N,270nm,0.7s						
SHGR				IAML		11 30 35.1	
	comp=E,332nm,0.3s						
BMDN	Meydan	1.38	48	*e*Pg	Pn	11 30 14.8	-1.4
IKOM	Komasi	1.43	357	*e*Pg	Pn	11 30 17.1	+0.3
IKOM				*e*		11 30 40.6	
IBDR	Badra	1.45	285	*e*Pg	Pn	11 30 16.0	-0.9
IBDR				*e*Sg	Sb	11 30 37.0	+0.7
IBDR				AML	AML	11 30 41.1	
	comp=N,180nm,0.5s						
IBDR				AML	AML	11 30 41.5	
	comp=E,154nm,0.5s						
KCHF	Cheshme Sefid,	1.60	343	*e*Pg	Pn	11 30 19.8	+0.7
KCHF				*e*		11 30 44.7	
AHWZ	Ahwaz	1.66	148	*e*Pg	Pn	11 30 21.7	+1.9
HSAM	Samen	1.69	29	*e*Pg	Pn	11 30 21.5	+1.1
HSAM				*e*		11 30 52.5	
IBZA	Bozab	1.73	7	*e*Pg	Pb	11 30 23.0	+0.1
IBZA				*e*		11 30 27.9	
IGHG	Ghaleghazi	1.80	332	*e*Pg	Pn	11 30 22.9	+0.9
IGHG				*e*		11 30 59.4	
IVIS	Veis	1.89	341	*e*Pn	Pn	11 30 24.2	+1.2
IVIS				*e*		11 30 53.0	
NSR	Nassriya	2.13	216	*e*Pn	Pn	11 30 26.0	-0.2
NSR				*e*Sn	Sn	11 30 51.0	-1.4
IALM	Almabolaq	2.16	12	*e*Pn	Pn	11 30 27.9	+0.9
IDHR	Dehrash	2.20	333	*e*Pn	Pn	11 30 28.9	+1.5
IDHR				*e*		11 31 06.8	
KHMZ	Khomeyn	2.21	63	*e*Pn	Pn	11 30 28.9	+1.3
SNGE	Sanandaj	2.35	355	*e*Pn	Pn	11 30 28.8	-0.7
SNGE				*e*Sg	Sb	11 31 01.0	-1.4
SNGE				IAML		11 31 08.2	
	comp=N,108nm,0.4s						
HAGD	Aghdareh	2.44	31	*e*Pn	Pn	11 30 32.4	+1.7
HAGD				*e*		11 31 11.8	
HSRG	Sareghieh	2.55	13	*e*Pn	Pn	11 30 34.2	+1.8
HSRG				*e*		11 31 17.3	
JHBN	Jahan bin	2.64	100	*e*Pn	Pn	11 30 33.5	-0.1
JHBN				*e*		11 31 14.9	
ASAO	Ashtian	2.71	48	*e*Pn	Pn	11 30 35.6	+1.2
ASAO				IAML		11 31 24.4	
	comp=N,61nm,0.6s						
BHD	Baghdad	2.76	282	*e*Pn	Pn	11 30 35.0	+0.1
BHD				*e*Sn	Sn	11 31 10.0	+2.0
BHD				AML	AML	11 31 11.2	
	comp=E,214nm,0.4s						
IPIR	Pirpir	2.77	90	*e*Pn	Pn	11 30 36.1	+0.7
IPIR				*e*		11 31 18.6	
ROKH	ROKH	2.93	97	*e*Pn	Pn	11 30 37.8	+0.4
ROKH				*e*		11 31 24.9	
IRAZ	Razeghan	3.28	35	*e*Pn	Pn	11 30 43.0	+0.7
QABG	Abgarm-Qazvin	3.38	28	*e*Pn	Pn	11 30 44.5	+0.8
GHVR	GHOM	3.54	60	*e*Pn	Pn	11 30 46.4	+0.8
IGZV	Ghazvin	4.23	30	*e*Pn	Pn	11 30 56.8	+1.5
DAMV	Damavand	4.63	50	*e*Pn	Pn	11 31 01.6	+0.7

*IDC **05** 11:31:48.4±0.7, 38°.68N×102°.35E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.8/53, mbtmp3.9/16, ML3.2/3, MS3.2/4, Ms1 3.3/4, ms1mx2.7/51, Error ellipse: s-maj=19.6km s-min=15.1km az=53.0*
*NEIC **05** 11:31:50.5±1.6, 38°.65N±0°.09×102°.3E±0°.1, h10km±1km, mb4.6/36, Error ellipse: s-maj=17.4km s-min=13.1km az=238.0*
*BJI **05** 11:31:51.5±0.0, 38°.59N×102°.36E, h14km, mb3.6/1, ML4.0/15, Ms3.5/7, Ms7 3.4/4*
ISC 05 11:31:50.3±0.4, 38°.69N±0°.05×102°.41E±0°.05, h10km, n74, σ1§29/79, mb4.3/29, 1C, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	2.14	290	⇑Pg	Pn	11 32 27.7	+1.5
GTA				Sg	Sg	11 32 58.1	-1.0
GTA				smax	smax		
	comp=N,2μm,1.0s						
GTA				smax	smax		
	comp=E,840nm,0.6s						
LZH	Lanzhou	2.84	156	*e*Pg	Pb	11 32 41.8	+0.5
LZH				Sg	Sb	11 33 17.8	+1.6
LZH				smax	smax		
	comp=N,1μm,1.1s						
LZH				smax	smax		
	comp=E,960nm,0.9s						
BTO	Baotou	6.18	70	*e*Pn	Pn	11 33 22.3	+0.6
BTO				*e*Pg	Pb	11 33 39.3	+1.2
XAN	Xi'an	7.01	129	Pg	Pg	11 34 04.3	-0.3
XAN				Sn	Sb	11 35 14.2	-1.8
XAN				Sg	Sg	11 35 33.7	-1.7
XAN				smax	smax		
	comp=N,45nm,1.2s						
XAN				smax	smax		
	comp=E,44nm,1.0s						
XAN				LR	LR		
	comp=N,250nm,5.5s						
XAN				LR	LR		
	comp=E,340nm,7.4s						
XAN				LR	LR		
	comp=Z,350nm,11.1s						
XAN	Xi'an	7.01	129	Pn	Pn	11 33 32.9	-0.2
SONM	Songino Array	9.59	16	Pn	Pn	11 34 09.3	+0.8
	comp=Z,0.6nm,0.3s,baz=190,slow=14,SNR=7.9						
SONM				Sn	Sn	11 35 54.9	-1.4
	comp=Z,0.9nm,0.3s,baz=194,slow=24,SNR=2.4						
SONM				Lg	Lg	11 36 55.2	
	comp=Z,1.7nm,0.3s,baz=208,slow=32,SNR=5.8						
ULN	Ulaanbaatar	9.77	19	Pn	Pn	11 34 12.1	+1.1
WMQ	Urumqi	12.19	300	*e*P	Pn	11 34 44.8	+0.7
SHL	Shillong	15.82	217	Pn	Pn	11 35 34.3	+1.0
MK31	Makanchi Array	16.82	305	P	Pn	11 35 45.6	-0.2
MKAR	Makanchi Array	16.82	305	Pn	Pn	11 35 40.9	-4.8
	comp=Z,0.0nm,0.3s,baz=108,slow=14,SNR=1.4						
MKAR	Makanchi Array	16.82	305		Pn	11 35 42.9	-2.9
MAKZ	Makanchi	17.02	305	Pn	Pn	11 35 47.4	-1.0
ZALV	Zalesovo Beam	19.42	328	P	P	11 36 15.3	-1.1
	comp=Z,0.4nm,0.3s,baz=133,slow=11,SNR=4.9						
ZALV				LR	LR	11 43 56.9	
	comp=Z,37nm,19.2s,baz=124,slow=38						
KDJ	Kajisay	19.49	288	P	P	11 36 17.9	+0.2
KSRS	Korea Array	20.11	86	P	P	11 36 25.2	+1.0
	comp=Z,3.4nm,0.7s,baz=276,slow=8.6,SNR=7.7						
CMAR	Chiang Mai Arr	20.39	189	P	P	11 36 27.9	+0.5
	comp=Z,0.6nm,0.4s,baz=360,slow=9.9,SNR=7.4						
CMAR				LR	LR	11 45 07.9	
	comp=Z,28nm,19.8s,baz=65,slow=39						
CMAR	Chiang Mai Arr	20.39	189	P	P	11 36 28.1	+0.8
KURK	Kurchatov	20.64	313	P	P	11 36 30.2	+0.4
KURBB	Kurchatov Arra	20.65	313	P	P	11 36 29.8	-0.1
	comp=Z,4.0nm,0.7s,baz=120,slow=11,SNR=37						
AAK	Ala-Archa	21.49	289	P	P	11 36 41.8	+2.5
	comp=Z,3.0nm,0.5s,baz=112,slow=4.3,SNR=5.7						
AAK				LR	LR	11 45 51.7	
	comp=Z,33nm,18.8s,baz=328,slow=39						
AAK	Ala-Archa	21.49	289	P	P	11 36 42.3	+3.0
PBKT	Sadao Pong	22.08	184	P	P	11 36 46.1	+0.6
PBKT				IAmb	IAmb	11 36 56.3	
	comp=Z,7.3nm,1.0s						
KK31	Karatay Array	24.42	291	P	P	11 37 09.1	+0.1
KKAR	Karatay Array	24.42	291	P	P	11 37 09.2	+0.2
KKAR	Karatay Array	24.42	291	P	P	11 37 08.7	-0.3
KKAR				IAmb	IAmb	11 37 11.3	
	comp=Z,3.3nm,1.1s						
GAR	Garm	24.93	281	P	P	11 37 13.6	-0.2
GAR				IAmb	IAmb	11 37 21.0	
	comp=Z,5.3nm,0.8s						
CHGR	Chuyangaron	25.88	280	P	P	11 37 20.1	-2.2
CHGR				IAmb	IAmb	11 37 23.5	
	comp=Z,10nm,0.8s						
BVAR	Borovoye Array	26.24	314	P	P	11 37 26.0	+0.7
	comp=Z,2.3nm,0.8s,baz=17,slow=9.0,SNR=2.5						
KBL	Kabul	27.01	272	P	P	11 37 30.5	-2.2
KBL				IAmb	IAmb	11 37 55.2	
	comp=Z,2.6nm,0.7s						
ABKAR	Akbulak array	31.94	303	P	P	11 38 15.9	-0.1
GEYT	Alibeck	34.51	283	P	P	11 38 39.7	+1.1
	comp=Z,2.9nm,0.7s,baz=69,slow=4.9,SNR=5.4						
GEYT	Alibeck	34.51	283	P	P	11 38 38.9	+0.3
PETK	Petropavlovsk-	40.06	50	P	P	11 39 26.1	+0.6
	comp=Z,0.7nm,0.5s,baz=244,slow=6.1,SNR=3.9						
PETK	Petropavlovsk-	40.06	50	P	P	11 39 26.0	+0.5
FINES	FINESS Array B	50.59	323	P	P	11 40 47.9	-0.9
	comp=Z,1.3nm,0.8s,baz=86,slow=7.8,SNR=7.2						
FINES	FINESS Array B	50.59	323	P	P	11 40 48.8	0.0
AKASG	Malin Array Be	51.35	309	P	P	11 40 54.4	-0.4
	comp=Z,0.3nm,0.4s,baz=61,slow=7.4,SNR=1.6						
NC405	NORSAR Array S	57.34	325	P	P	11 41 38.5	+0.3
NB2	NORSAR Subarra	57.59	325	P	P	11 41 39.6	-0.4
	comp=Z,2.5nm,0.8s,baz=67,slow=6.9						
NOA	NORSAR Array B	57.59	325	P	P	11 41 38.7	-1.3
	comp=Z,0.9nm,0.6s,baz=70,slow=6.7,SNR=4.5						
NC204	NORSAR Array S	57.70	325	P	P	11 41 40.7	-0.1
NC204				IAmb	IAmb	11 41 41.7	
	comp=Z,11nm,0.9s						
NBO00	NORSAR Array S	57.79	325	P	P	11 41 41.3	0.0
IMAR	Indian Mountai	60.57	27	P	P	11 41 59.4	-1.1
COLD	Coldfoot	61.16	25	P	P	11 42 06.1	+1.6
COLD				IAmb	IAmb	11 42 06.9	
	comp=Z,3.7nm,0.8s						
PPLA	Purkeypile	62.73	30	P	P	11 42 17.0	+1.7
BMAR	Burnt Mountain	62.85	24	P	P	11 42 18.2	+2.3
KTH	Kantishna Hill	62.86	29	P	P	11 42 17.9	+1.8
KTH				IAmb	IAmb	11 42 17.9	
	comp=Z,5.3nm,1.0s						
MDM	Murphy Dome	63.07	27	P	P	11 42 18.7	+1.3
MDM				IAmb	IAmb	11 42 23.4	
	comp=Z,2.6nm,0.7s						
CCB	Clear Creek Bu	63.39	27	P	P	11 42 20.9	+1.4
CCB				IAmb	IAmb	11 42 31.2	
	comp=Z,10nm,1.5s						
IL31		63.65	27	P	P	11 42 21.8	+0.7
IL31				IAmb	IAmb	11 42 26.6	
	comp=Z,2.8nm,0.7s						
ILAR	Eielson Array	63.65	27	P	P	11 42 21.1	-0.1
	comp=Z,1.8nm,0.8s,baz=291,slow=5.9,SNR=20						
ILAR	Eielson Array	63.65	27	P	P	11 42 21.6	+0.4
RND	Reindeer	63.72	28	P	P	11 42 22.0	+0.2
RND				IAmb	IAmb	11 42 41.7	
	comp=Z,8.3nm,1.4s						
RSO	Redoubt South	63.80	32	P	P	11 42 22.4	-0.1
SUA	Susitna One	64.07	31	P	P	11 42 24.9	+0.7
PMR	Palmer	64.64	30	P	P	11 42 28.4	+0.6
RIDG	Independent Ri	64.98	27	P	P	11 42 29.9	-0.1
RIDG				IAmb	IAmb	11 42 31.0	
	comp=Z,7.8nm,0.9s						
SCM	Sheep Creek Mo	65.20	29	P	P	11 42 33.2	+1.7
PAX	Paxson	65.22	28	P	P	11 42 31.9	+0.3
PAX				IAmb	IAmb	11 42 45.6	
	comp=Z,8.2nm,1.5s						
DOT	Dot Lake	65.31	27	P	P	11 42 32.9	+0.7
DOT				IAmb	IAmb	11 42 49.0	
	comp=Z,5.0nm,1.3s						
WB0	Warramunga Arr	65.43	147	P	P	11 42 33.0	-0.4
WB0				IAmb	IAmb	11 42 37.2	
	comp=Z,7.2nm,1.3s						
WRA	Warramunga Arr	65.56	147	P	P	11 42 33.4	-0.8
	comp=Z,0.7nm,0.8s,baz=344,slow=6.7,SNR=8.6						
KLU	Klutina	65.94	29	P	P	11 42 37.3	+1.0
KLU				IAmb	IAmb	11 42 38.4	
	comp=Z,7.4nm,0.8s						
BCAR	Beaver Creek A	66.47	27	P	P	11 42 41.2	+1.6
DAWY	Dawson	66.64	25	P	P	11 42 41.0	+0.4
DAWY				IAmb	IAmb	11 43 07.3	
	comp=Z,7.5nm,1.5s						
GLB	Gilahina Butte	66.77	29	P	P	11 42 42.9	+1.3
ASAR	Alice Springs	68.70	149	P	P	11 42 53.8	-0.3
	comp=Z,0.4nm,0.6s,baz=336,slow=6.3,SNR=5.3						
ASAR	Alice Springs	68.70	149	P	P	11 42 54.2	+0.1
HYT	Haines Junctio	69.48	27	P	P	11 43 00.3	+1.6
YKA	Yellowknife Ar	74.85	17	P	P	11 43 29.9	-0.8
	comp=Z,0.7nm,0.7s,baz=336,slow=4.2,SNR=2.0						
ESDC	Sonseca Array	76.96	311	P	P	11 43 41.0	-2.2
	comp=Z,0.7nm,0.4s,baz=48,slow=5.5,SNR=9.3						
ESDC	Sonseca Array	76.96	311	P	P	11 43 42.2	-0.9
NVAR	Mina Array Bea	94.62	31	LR	LR	12 28 42.7	
	comp=Z,92nm,19.5s,baz=301,slow=36						

*JMA **05** 12:01:15.1±0.5, 47°.71N×146°.46E, h536km, M3.6*
*NEIC **05** 12:01:15.7±1.0, 48°.2N±0°.1×146°.3E±0°.1, h497km±7km, mb4.1/15, Error ellipse: s-maj=17.5km s-min=13.0km az=165.0*
*IDC **05** 12:01:16.1±1.0, 48°.22N×146°.29E, h503km±13km, mb2.9/9, mb1 3.3/17, mb1mx3.0/51, mbtmp4.0/17, Error ellipse: s-maj=17.4km s-min=10.3km az=128.0*
ISC 05 12:01:15.3±0.6, 47°.96N±0°.07×146°.46E±0°.08, h500km, n73, σ1§80/88, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	2.71	249	P	P	12 02 25.8	+1.5
JSE	Soyaes	4.03	223	P	P	12 02 35.1	+1.2
JWK2	Keihoku	4.11	232	P	P	12 02 36.4	+1.9
JWK2				*e*S	S	12 03 41.2	+2.0
JRA	Rausu	4.13	194	P	P	12 02 36.3	+1.5
JTKR	Abashiri--Toko	4.37	205	P	P	12 02 37.9	+1.1
JRBN	Rebuntou	4.50	238	P	P	12 02 38.5	+0.7
JNK	Nakash	4.55	196	P	P	12 02 39.3	+1.0
JNK				*e*S	S	12 03 46.1	+0.2
NEM2	Nemuro 2	4.63	186	P	P	12 02 38.3	-0.7
NEM2				*e*S	S	12 03 43.6	-3.6
ASAJ	Asahikawa	4.69	216	P	P	12 02 40.7	+1.1
	3.3nm,0.3s,baz=36,slow=3.8,SNR=38						
ASAJ				S	S	12 03 53.7	+5.4
	0.2nm,0.3s,baz=49,slow=20,SNR=1.3						
JKA	Kamikawa-asahi	4.69	216	P	P	12 02 40.7	+1.1
JKA					S	12 03 53.7	+5.4
JSS	Shosan	4.79	224	P	P	12 02 41.8	+1.4
JKK2	Kamakawa 2	4.84	214	P	P	12 02 41.9	+1.0
JAR	Ashorobuto	5.03	203	P	P	12 02 43.2	+0.6
JAK	Akkeshi	5.12	195	P	P	12 02 42.8	-0.6
JAK				*e*S	S	12 03 52.1	-3.1
JAB	Ashibetsu	5.36	215	P	P	12 02 46.8	+1.3
JOB	Onbets	5.39	201	P	P	12 02 46.2	+0.4
JOB				*e*S	S	12 03 57.9	-1.8
JCH	Churui	5.78	203	P	P	12 02 49.0	-0.5
JCH				*e*S	S	12 04 02.9	-3.6
JSK	Shakotan	6.23	224	P	P	12 02 54.6	+0.8
JNBK	Urakawa-nobuka	6.26	206	P	P	12 02 53.8	-0.3
JNBK				*e*S	S	12 04 10.6	-4.3
ERM	Erimo	6.39	203	P	P	12 02 57.2	+1.8
ERM					S	12 04 17.4	+0.1
JNB	Noboribetsu	6.70	217	P	P	12 02 58.9	+0.5
JSH	Shimam	6.98	223	P	P	12 03 01.6	+0.3
JKB	Kayabe	7.19	214	P	P	12 03 03.0	-0.4
JKB				*e*S	S	12 04 27.7	-4.2
JOT	Ohata	7.63	212	P	P	12 03 07.9	+0.1
JOT				*e*S	S	12 04 36.4	-3.7
JOSM	Okushiri--Mats	7.68	223	P	P	12 03 08.5	+0.1
JANG	Nango	8.38	207	P	P	12 03 16.2	+0.6
JANG				*e*S	S	12 04

comp=Z,11nm,1.4s
YKA Yellowknife Ar 52.60 35 P P 12 09 41.1 -0.3
comp=Z,0.8nm,0.6s,baz=299,slow=7.3,SNR=2.7
ABKAR Akbulak array 54.12 306 P P 12 09 51.3 -1.0
NVAR Mina Array Bea 65.78 59 P P 12 11 10.4 -0.2
comp=Z,0.1nm,0.5s,baz=298,slow=6.1,SNR=2.0
PDAR Pinedale Array 67.58 51 P P 12 11 22.1 +0.5
comp=Z,0.2nm,0.4s,baz=326,slow=2.8,SNR=2.7
PDAR Pinedale Array 67.58 51 P P 12 11 22.2 +0.6
WRA Warramunga Arr 68.46 192 P P 12 11 28.2 +1.4
comp=Z,0.7nm,0.6s,baz=7.0,slow=6.7,SNR=13
WRA Warramunga Arr 68.46 192 P P 12 11 27.9 +1.1
ASAR Alice Springs 72.19 192 P P 12 11 50.9 +2.0
comp=Z,1.5nm,0.6s,baz=6.1,slow=5.5,SNR=37
ASAR Alice Springs 72.19 192 P P 12 11 51.5 +2.6
TXAR Lajitas Array 80.71 56 P P 12 12 37.1 +1.1
comp=Z,0.4nm,0.9s,baz=273,slow=3.1,SNR=5.2

*JMA **05** 12:10:36.7,23°.95N×121°.61E,h0km,M3.2*
*TAP **05** 12:10:37.9,23°.99N×121°.56E,h13km,ML3.9,B*
*ASIES **05** 12:10:37.4,24°.01N×121°.56E,h21km,MW3.4*
*IDC **05** 12:10:37.3±1.6,23°.71N×121°.46E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.2/48,mbtmp3.4/4,ML3.5/1,MS2.8/1, Ms1 2.8/1,ms1mx2.2/24,Error ellipse: s-maj=74.6km s-min=28.2km az=69.0*
ISC 05 12:10:37.8±0.7,23°.99N±0°.01×121°.57E±0°.02,h14km±4km, n141,σ0°76/232,mb3.2/3,8C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=110	**0.03**	**105**	⇑*i*P	**Pg**	**12 10 41.0**	**+0.6**
HWA	baz=110			S	**Sg**	**12 10 42.9**	**+0.8**
TWD	**Chiawan** baz=25	**0.10**	**13**	⇑*i*P	**Pg**	**12 10 41.0**	**+0.1**
TWD	baz=25			*i* S	**Sg**	**12 10 43.0**	**-0.1**
NACB	**Ninganchiao** baz=10.0	**0.19**	**6**	⇓*i*P	**Pg**	**12 10 42.1**	**-0.2**
NACB	baz=10.0			*i* S	**Sg**	**12 10 44.8**	**-0.4**
ESL	**Shilin** baz=217	**0.21**	**217**	⇑*i*P	**Pg**	**12 10 42.5**	**-0.1**
ESL	baz=217			S	**Sg**	**12 10 45.5**	**-0.4**
ETLH	**Xiulin Townshi** baz=342	**0.24**	**339**	⇓*i*P	**Pb**	**12 10 43.0**	**-0.9**
ETLH	baz=342			S	**Sg**	**12 10 46.1**	**-0.5**
WHF	**Hehuan Shan** baz=300	**0.32**	**300**	⇓*i*P	**Pb**	**12 10 44.6**	**-1.0**
WHF	baz=300			S	**Sg**	**12 10 48.8**	**-0.6**
EGFH	**Guangfu** baz=209	**0.34**	**203**	⇑*i*P	**Pg**	**12 10 44.9**	**0.0**
EGFH	baz=209			*e*S	**Sg**	**12 10 49.6**	**0.0**
OWD	**Renai** baz=272	**0.36**	**265**	⇓*i*P	**Pb**	**12 10 45.5**	**-0.6**
OWD	baz=272			*e*S	**Sg**	**12 10 50.1**	**-0.3**
CHGB	**Renai** baz=274	**0.37**	**282**	⇓*i*P	**Pb**	**12 10 45.7**	**-0.6**
CHGB	baz=274			S	**Sb**	**12 10 50.6**	**-1.4**
FUSS	**Fushou** baz=319	**0.40**	**311**	⇓*i*P	**Pb**	**12 10 46.2**	**-0.6**
FUSS	baz=319			S	**Sb**	**12 10 51.5**	**-1.3**
TWT	**Tachien** baz=297	**0.45**	**306**	⇓*i*P	**Pb**	**12 10 47.3**	**-0.3**
TWT	baz=297			*i* S	**Sb**	**12 10 53.5**	**-0.7**
VWDT	**VWDT** baz=240	**0.46**	**240**	⇑*i*P	**Pb**	**12 10 47.1**	**-0.4**
VWDT	baz=240			S	**Sb**	**12 10 53.3**	**-0.9**
TDCB	**Techi** baz=306	**0.46**	**305**	⇓*i*P	**Pb**	**12 10 47.4**	**-0.4**
TDCB	baz=306			*i* S	**Sb**	**12 10 53.5**	**-1.0**
ENA	**Nanau** baz=12	**0.47**	**19**	⇓*i*P	**Pb**	**12 10 47.1**	**-0.7**
ENA	baz=12			*e*S	**Sg**	**12 10 53.0**	**-0.4**
NNSB	**Datong** baz=340	**0.47**	**339**	⇓*i*P	**Pb**	**12 10 47.5**	**-0.5**
NNSB	baz=340			S	**Sg**	**12 10 53.0**	**-0.7**
NNSH	**Datong** baz=339	**0.47**	**339**	⇓*i*P	**Pb**	**12 10 47.5**	**-0.5**
NNSH	baz=339			S	**Sg**	**12 10 53.4**	**-0.3**
NNS	**Nan Shan** baz=340	**0.49**	**338**	⇓*i*P	**Pb**	**12 10 47.7**	**-0.5**
NNS	baz=340			S	**Sg**	**12 10 53.8**	**-0.4**
HGSD	**Ruisui** baz=209	**0.51**	**196**	P	**Pb**	**12 10 48.5**	**0.0**
ENAH	**Nanao** baz=16	**0.51**	**25**	⇓*i*P	**Pb**	**12 10 47.9**	**-0.6**
ENAH	baz=16			*e*S	**Sb**	**12 10 55.1**	**-0.7**
EHY	**Hungye** baz=205	**0.53**	**206**	⇑*i*P	**Pg**	**12 10 48.0**	**-0.3**
EHY	baz=205			*e*S	**Sg**	**12 10 54.7**	**-0.7**
SSLB	**Suanglung** baz=261	**0.60**	**251**	P	**Pb**	**12 10 49.6**	**-0.4**
SSLB	baz=261			S	**Sg**	**12 10 56.8**	**-0.8**
NDT	**Datong Townshi** baz=356	**0.62**	**355**	⇓*i*P	**Pb**	**12 10 50.1**	**-0.2**
NDT	baz=356			*e*S	**Sb**	**12 10 57.9**	**-1.0**
SMLT	**Sun Moon Lake** baz=260	**0.62**	**261**	*i* P	**Pb**	**12 10 50.2**	**-0.3**
SMLT	baz=260			S	**Sb**	**12 10 58.4**	**-0.8**
WHP	**Taichung City** baz=290	**0.64**	**297**	⇓*i*P	**Pb**	**12 10 50.8**	**-0.1**
WHP	baz=290			*e*S	**Sb**	**12 10 59.6**	**0.0**
YULB	**Yu-li** baz=203	**0.64**	**203**	⇑*i*P	**Pg**	**12 10 50.0**	**-0.4**
YULB	baz=203			*e*S	**Sg**	**12 10 57.8**	**-1.1**
ENTT	**Nioudou** baz=1.0	**0.65**	**359**	⇓*i*P	**Pb**	**12 10 50.7**	**-0.2**
ENTT	baz=1.0			*e*S	**Sb**	**12 10 59.4**	**-0.5**
TYC	**Yuchr** baz=263	**0.66**	**263**	⇓*i*P	**Pb**	**12 10 50.6**	**-0.5**
TYC	baz=263			*i* S	**Sg**	**12 10 59.0**	**-0.4**
TWC	**Suao** baz=16	**0.67**	**22**	⇓*i*P	**Pb**	**12 10 50.9**	**-0.3**
TWC	baz=16			*e*S	**Sg**	**12 10 59.5**	**-0.3**
EYUL	**Yuli** baz=209	**0.68**	**200**	*e*P	**Pb**	**12 10 50.9**	**-0.4**
TWF1	**Yuli** baz=210	**0.68**	**202**	P	**Pg**	**12 10 50.8**	**-0.3**
TWF1	baz=210			*e*S	**Sg**	**12 10 58.8**	**-1.3**
NSK	**Sanguang** baz=335	**0.71**	**344**	⇓*i*P	**Pb**	**12 10 51.9**	**-0.2**
NSK	baz=335			S	**Sg**	**12 11 00.7**	**-0.6**
WHYT	**Xinyi Township** baz=253	**0.72**	**247**	*e*P	**Pn**	**12 10 52.7**	**-0.9**
WHYT	baz=253			*e*S	**Sb**	**12 11 01.6**	**-0.2**
TWE	**Neicheng** baz=14	**0.74**	**7**	*i* P	**Pb**	**12 10 52.4**	**0.0**
TWE	baz=14			*e*S	**Sb**	**12 11 01.9**	**-0.5**
YUS	**Yu-Shan** baz=239	**0.75**	**229**	P	**Pb**	**12 10 52.6**	**-0.3**
WJS	**Zhushan** baz=258	**0.79**	**258**	P	**Pn**	**12 10 54.2**	**-0.3**
WJS	baz=258			*e*S	**Sn**	**12 11 05.9**	**-0.2**
NWLT	**Wulai** baz=356	**0.79**	**355**	⇑P	**Pb**	**12 10 53.4**	**0.0**
NWLT	baz=356			*e*S	**Sg**	**12 11 02.6**	**-1.1**
ILA	**Ilan** baz=18	**0.79**	**12**	*e*P	**Pb**	**12 10 53.3**	**-0.1**
ILA	baz=18			*e*S	**Sb**	**12 11 04.3**	**+0.4**
TWQ1	**Liyutan** baz=308	**0.81**	**296**	P	**Pn**	**12 10 54.4**	**-0.5**
TWQ1	baz=308			*e*S	**Sb**	**12 11 05.1**	**+0.5**
WNT	**Mingjian** baz=263	**0.82**	**263**	P	**Pn**	**12 10 54.5**	**-0.4**
WNT	baz=263			*e*S	**Sn**	**12 11 06.4**	**-0.4**
FULB	**Fuli** baz=209	**0.82**	**198**	P	**Pb**	**12 10 54.1**	**+0.2**
NSTT	**Nanjuang** baz=322	**0.83**	**321**	⇓*i*P	**Pn**	**12 10 54.2**	**-0.8**
NSTT	baz=322			S	**Sn**	**12 11 05.6**	**-1.4**
LIOB	**Emei** baz=323	**0.83**	**322**	⇓P	**Pn**	**12 10 54.6**	**-0.5**
LIOB	baz=323			*e*S	**Sn**	**12 11 05.8**	**-1.3**
TCU	**Taichung** baz=278	**0.83**	**281**	*e*P	**Pn**	**12 10 55.5**	**+0.4**
TCU	baz=278			*e*S	**Sn**	**12 11 07.9**	**+0.7**
ALS	**Alishan** baz=226	**0.85**	**236**	*i* P	**Pb**	**12 10 54.5**	**0.0**
ALS	baz=226			*e*S	**Sb**	**12 11 05.9**	**+0.2**
NTC	**Toucheng** baz=15	**0.90**	**15**	P	**Pn**	**12 10 55.2**	**-0.7**
NTC	baz=15			*e*S	**Sb**	**12 11 06.7**	**-0.2**
NMLH	**Miaoli** baz=318	**0.90**	**308**	*e*P	**Pn**	**12 10 56.5**	**+0.5**
NMLH	baz=318			*e*S	**Sn**	**12 11 08.5**	**-0.3**
CHKT	**Chengkung** baz=193	**0.90**	**192**	*e*P	**Pb**	**12 10 55.2**	**0.0**
CHKT	baz=193			*e*S	**Sn**	**12 11 08.8**	**0.0**
CHN5	**Tsauling** baz=245	**0.91**	**245**	P	**Pn**	**12 10 56.3**	**+0.1**
CHN5	baz=245			*e*S	**Sn**	**12 11 08.4**	**-0.6**
PTSB	**Yuanli** baz=300	**0.92**	**300**	*e*P	**Pn**	**12 10 56.8**	**+0.6**
EGS	baz=22	**0.92**	**21**	*e*P	**Pn**	**12 10 55.8**	**-0.4**
WDJ	**Dajia District** baz=303	**0.93**	**293**	*e*P	**Pn**	**12 10 56.9**	**+0.5**
WDJ	baz=303			*e*S	**Sn**	**12 11 09.9**	**+0.6**
WCHH	**Zhanghua** baz=276	**0.93**	**276**	*e*P	**Pn**	**12 10 56.9**	**+0.5**
WCHH	baz=276			*e*S	**Sn**	**12 11 10.5**	**+1.0**
ELDTW	**Lidau** baz=223	**0.94**	**213**	*e*P	**Pg**	**12 10 55.1**	**-1.0**
ELDTW	baz=223			*e*S	**Sg**	**12 11 07.7**	**-0.7**
SBCB	**Hsinchu** baz=335	**0.97**	**326**	*e*P	**Pn**	**12 10 57.6**	**+0.7**
SBCB	baz=335			*e*S	**Sn**	**12 11 10.9**	**+0.5**
WGK	**Gukeng** baz=252	**0.97**	**252**	*e*P	**Pn**	**12 10 56.9**	**-0.1**
WGK	baz=252			*e*S	**Sn**	**12 11 11.9**	**+1.3**
HSN	**Hsinchu** baz=337	**0.98**	**326**	*e*P	**Pn**	**12 10 58.2**	**+1.1**
HSN	baz=337			*e*S	**Sn**	**12 11 10.2**	**-0.6**
TATO	**Taipei** baz=356	**0.99**	**356**	*e*P	**Pn**	**12 10 57.0**	**-0.2**
TATO	baz=356			*e*S	**Sg**	**12 11 09.6**	**-0.3**
TWA	**Mucha** baz=354	**0.99**	**1**	*e*P	**Pn**	**12 10 57.1**	**-0.2**
TWA	baz=354			*e*S	**Sg**	**12 11 09.8**	**-0.2**
WDLH	**Douliu** baz=253	**0.99**	**253**	*e*P	**Pn**	**12 10 57.8**	**+0.5**
WDLH	baz=253			*e*S	**Sn**	**12 11 12.0**	**+1.0**
TIPB	**Shuangxi** baz=5.0	**1.01**	**13**	P	**Pn**	**12 10 57.3**	**-0.2**
TIPB	baz=5.0			*e*S	**Sb**	**12 11 09.7**	**-0.5**
EDH	**Donghe** baz=196	**1.04**	**194**	*e*P	**Pb**	**12 10 57.3**	**-0.2**
EDH	baz=196			*e*S	**Sg**	**12 11 11.5**	**+0.1**
NCUH	**Zhongli** baz=340	**1.04**	**340**	*e*P	**Pn**	**12 10 58.7**	**+0.8**
NCUH	baz=340			*e*S	**Sn**	**12 11 13.8**	**+1.6**
NCU	**National Centr** baz=350	**1.04**	**340**	*e*P	**Pn**	**12 10 58.5**	**+0.6**
NCU	baz=350			*e*S	**Sn**	**12 11 14.5**	**+2.2**
TAP1	**Taipei** baz=357	**1.05**	**358**	*e*P	**Pn**	**12 10 58.2**	**+0.2**
TAP1	baz=357			*e*S	**Sg**	**12 11 11.4**	**-0.5**
TAP	**Taipei** baz=357	**1.05**	**357**	*e*S	**Sn**	**12 11 12.6**	**+0.1**
NWF	**Wu-fen Shan** baz=9.0	**1.10**	**10**	*e*P	**Pn**	**12 10 59.0**	**+0.2**
NWF	baz=9.0			*e*S	**Sn**	**12 11 13.5**	**-0.3**
WFSB	**Wu-fen Shan** baz=9.0	**1.10**	**10**	*e*P	**Pg**	**12 10 59.0**	**0.0**
WFSB	baz=9.0			*e*S	**Sn**	**12 11 13.6**	**-0.1**
TPUB	**Ta-pu** baz=221	**1.10**	**232**	P	**Pg**	**12 10 59.5**	**+0.5**
TPUB	baz=221			*e*S	**Sn**	**12 11 14.4**	**+0.7**
STYT	**Tauyuan** baz=223	**1.11**	**223**	*e*P	**Pg**	**12 10 59.4**	**+0.2**
STYT	baz=223			*e*S	**Sn**	**12 11 14.1**	**+0.1**
RLNB	**Erlin** baz=266	**1.11**	**265**	*e*P	**Pg**	**12 10 59.9**	**+0.6**
RLNB	baz=266			*e*S	**Sn**	**12 11 15.4**	**+1.4**
TWS1	**Kuangyinshan** baz=353	**1.12**	**353**	*e*P	**Pg**	**12 11 00.2**	**+0.7**
TWS1	baz=353			*e*S	**Sn**	**12 11 16.0**	**+1.8**
WTK	**Tuku** baz=255	**1.12**	**255**	*e*P	**Pg**	**12 10 59.4**	**0.0**
WTK	baz=255			*e*S	**Sn**	**12 11 16.2**	**+1.9**
WTP	**Ta-pu** baz=219	**1.15**	**230**	*e*P	**Pg**	**12 11 00.3**	**+0.4**
WTP	baz=219			*e*S	**Sn**	**12 11 16.0**	**+1.1**
LONT	**Longtian** baz=210	**1.15**	**201**	*e*P	**Pg**	**12 10 59.6**	**-0.4**
LONT	baz=210			*e*S	**Sn**	**12 11 16.2**	**+1.3**
YM01	**YM01** baz=360	**1.16**	**360**	*e*P	**Pg**	**12 10 60.0**	**-0.2**
YM01	baz=360			*e*S	**Sn**	**12 11 16.1**	**+1.0**
CHY	**Chiayi** baz=259	**1.16**	**245**	*e*P	**Pg**	**12 11 00.1**	**-0.1**
CHY	baz=259			*e*S	**Sn**	**12 11 16.2**	**+1.1**
YM04	**YM04** baz=358	**1.16**	**358**	*e*P	**Pn**	**12 10 59.4**	**-0.3**
YM04	baz=358			*e*S	**Sn**	**12 11 15.9**	**+0.5**
YM10	**YM10** baz=359	**1.17**	**359**	*e*P	**Pb**	**12 10 59.2**	**-0.6**
YM10	baz=359			*e*S	**Sb**	**12 11 14.1**	**-0.6**
YM05	**YM05** baz=359	**1.17**	**360**	*e*P	**Pg**	**12 11 00.2**	**-0.3**
YM05	baz=359			*e*S	**Sn**	**12 11 17.1**	**+1.4**
YM11	**YM11** baz=360	**1.18**	**0**	*e*P	**Pg**	**12 11 01.0**	**+0.5**
YM11	baz=360			*e*S	**Sn**	**12 11 16.3**	**+0.6**
NTST	**Danshui** baz=8.0	**1.18**	**355**	P	**Pg**	**12 11 00.7**	**+0.1**
NTST	baz=8.0			*e*S	**Sn**	**12 11 17.0**	**+1.3**
WTCT	**Ta-ch'eng** baz=265	**1.19**	**264**	*e*P	**Pg**	**12 11 00.9**	**+0.2**
WTCT	baz=265			*e*S	**Sn**	**12 11 17.8**	**+1.9**
YM03	**YM03** baz=358	**1.19**	**359**	*e*P	**Pg**	**12 11 00.6**	**-0.1**
YM03	baz=358			*e*S	**Sn**	**12 11 17.1**	**+1.1**
ANP	**Anpu** baz=357	**1.20**	**358**	*e*P	**Pg**	**12 11 00.7**	**-0.2**
YM08	**YM08**	**1.20**	**1**	*e*P	**Pg**	**12 11 00.7**	**-0.2**
YM08				*e*S	**Sn**	**12 11 16.6**	**+0.5**
CHN1	**Nanshi** baz=222	**1.25**	**230**	*e*P	**Pg**	**12 11 02.5**	**+0.6**
CHN1	baz=222			*e*S	**Sg**	**12 11 20.3**	**+2.2**
SNST	**Tainan City** baz=224	**1.25**	**233**	*e*P	**Pg**	**12 11 03.0**	**+1.2**
SNST	baz=224			*e*S	**Sg**	**12 11 18.7**	**+0.6**
TWG	**Pinlang** baz=189	**1.25**	**202**	*e*P	**Pb**	**12 11 00.9**	**-0.2**
TWGBT	**Beinan** baz=191	**1.25**	**201**	*e*P	**Pn**	**12 11 00.6**	**-0.1**
TWGBT	baz=191			*e*S	**Sg**	**12 11 17.6**	**-0.4**
SGST	**Jiashian** baz=219	**1.28**	**225**	P	**Pg**	**12 11 01.8**	**-0.6**
SGST	baz=219			*e*S	**Sg**	**12 11 19.4**	**+0.3**
WSF	**Szhu** baz=253	**1.28**	**255**	*e*P	**Pg**	**12 11 02.3**	**-0.3**
TWY	**Chenhua** baz=351	**1.28**	**1**	*e*P	**Pg**	**12 11 03.4**	**+0.8**
TWY	baz=351			*e*S	**Sn**	**12 11 18.3**	**0.0**
SLGT	**Liugui** baz=215	**1.30**	**221**	*e*P	**Pg**	**12 11 03.1**	**+0.2**
SLGT	baz=215			*e*S	**Sg**	**12 11 21.3**	**+1.4**
LDUT	**Ludao** baz=172	**1.31**	**184**	*e*P	**Pn**	**12 11 00.0**	**-1.6**
LDUT	baz=172			*e*S	**Sb**	**12 11 18.1**	**-0.7**
JYNG	**Yonagunijimaku**	**1.34**	**69**	P	**Pn**	**12 11 02.0**	**0.0**
JYNG				*e*S	**Sn**	**12 11 20.0**	**+0.5**
ICHU	**Yijhu** baz=240	**1.34**	**243**	*e*P	**Pg**	**12 11 03.5**	**-0.1**
YOJ	**Yonaguni jima**	**1.40**	**70**	P	**Pn**	**12 11 03.0**	**+0.2**
YOJ				*e*S	**Sn**	**12 11 20.7**	**-0.3**
CHN3	**Shinhua** baz=227	**1.43**	**231**	*e*P	**Pg**	**12 11 05.3**	**-0.1**
ECL	**Taimali** baz=190	**1.49**	**202**	*e*P	**Pb**	**12 11 05.2**	**-0.1**
SSD	**Sandimen** baz=203	**1.51**	**215**	P	**Pg**	**12 11 06.0**	**-0.8**
TSMG	**Majia** baz=225	**1.53**	**214**	P	**Pb**	**12 11 06.0**	**0.0**
TWM1	**Shoushan** baz=220	**1.57**	**223**	*e*P	**Pg**	**12 11 09.3**	**+1.4**
MASBT	**Mashibuluo** baz=202	**1.62**	**212**	*e*P	**Pb**	**12 11 06.8**	**-0.6**
PCYT	**Pengchaiyu** baz=15	**1.70**	**15**	*e*P	**Pb**	**12 11 08.2**	**-0.6**
EAST	**Anshuo** baz=192	**1.73**	**203**	*e*P	**Pb**	**12 11 08.4**	**-0.9**
SSPT	**Xinbi** baz=210	**1.76**	**212**	*e*P	**Pg**	**12 11 11.4**	**-0.1**
SCZT	**Fangliau** baz=201	**1.83**	**209**	*e*P	**Pb**	**12 11 10.8**	**-0.2**
PHUB	**P'eng-hu** baz=252	**1.89**	**256**	*e*P	**Pb**	**12 11 10.5**	**-1.6**
PNG	**Penghu** baz=254	**1.89**	**258**	*e*P	**Pb**	**12 11 10.7**	**-1.4**
WDGT	**Dungji** baz=244	**1.90**	**248**	*e*P	**Pn**	**12 11 10.5**	**+0.8**
SLIU	**Shizi** baz=191	**1.90**	**202**	*e*P	**Pb**	**12 11 12.3**	**+0.1**
LAY	**Lan-yu** baz=171	**1.94**	**181**	*e*P	**Pn**	**12 11 08.2**	**-2.0**
WLCH	**Liuqiu** baz=229	**1.96**	**214**	*e*P	**Pg**	**12 11 15.3**	**-0.2**
IRIF	**Iriomote-Funau**	**2.00**	**80**	P	**Pn**	**12 11 11.4**	**+0.3**
IRIF				*e*S	**Sn**	**12 11 37.1**	**+1.1**
HATJ	**Hateruma jima**	**2.04**	**88**	P	**Pn**	**12 11 12.2**	**+0.5**
HATJ				*e*S	**Sn**	**12 11 37.1**	**+0.1**
TWKBT	**Hengchun** baz=190	**2.15**	**199**	*e*P	**Pn**	**12 11 13.5**	**+0.2**
TSEB	**Hengchuen, Pin** baz=189	**2.17**	**197**	*e*P	**Pn**	**12 11 13.2**	**-0.2**
VWUC	**VWUC** baz=296	**2.18**	**298**	*e*P	**Pn**	**12 11 12.8**	**-0.8**
PTTC	**Pingtan** baz=311	**2.23**	**313**	*e*P	**Pn**	**12 11 14.5**	**+0.2**
JKRS	**Kuro-shima**	**2.24**	**83**	P	**Pn**	**12 11 15.4**	**+1.0**
JKRS				*e*S	**Sb**	**12 11 44.0**	**-1.6**
JIJ	**Ishigaki jima**	**2.38**	**80**	P	**Pn**	**12 11 16.3**	**0.0**
JIJ				S	**Sn**	**12 11 45.0**	**-0.3**
PTMZ	**Houxiangcun** baz=293	**2.47**	**296**	*e*P	**Pn**	**12 11 16.5**	**-1.0**
JISG	**Ishigakijimahi**	**2.57**	**76**	P	**Pn**	**12 11 18.9**	**0.0**
JISG				S	**Sn**	**12 11 49.4**	**-0.6**
MATB	**Ma-tsu** baz=310	**2.61**	**326**	*e*P	**Pn**	**12 11 19.8**	**+0.3**
JTJ	**Tarama**	**2.93**	**76**	P	**Pn**	**12 11 24.6**	**+0.7**
JTJ				*e*S	**Sn**	**12 11 59.1**	**+0.2**
KNMB	**Chin-men Tao** baz=276	**2.95**	**280**	*e*P	**Pn**	**12 11 24.0**	**-0.1**
LYJJ	**Jianjiangzhen** baz=313	**3.04**	**328**	*e*P	**Pn**	**12 11 25.4**	**0.0**
MHZQ	**Yeshan** baz=311	**3.12**	**313**	*e*P	**Pn**	**12 11 27.2**	**+0.6**
JIRB	**Irabujima**	**3.39**	**75**	P	**Pn**	**12 11 31.0**	**+0.8**
JIRB				*e*S	**Sn**	**12 12 10.5**	**+0.3**
AXDP	**Jialang** baz=283	**3.41**	**286**	*e*P	**Pn**	**12 11 29.7**	**-0.8**
JIKM	**Ikemajima**	**3.48**	**74**	P	**Pn**	**12 11 33.2**	**+1.8**
JIKM				*e*S	**Sn**	**12 12 13.7**	**+1.3**
ZPLA	**Ao Xicun** baz=265	**3.50**	**270**	*e*P	**Pn**	**12 11 31.8**	**+0.1**
JMJ2	**Miyako jima3**	**3.51**	**77**	P	**Pn**	**12 11 33.2**	**+1.4**
JMJ2				*e*S	**Sn**	**12 12 14.3**	**+1.2**
KSRS	**Korea Array** 0.2nm,0.3s,baz=197,slow=13,SNR=7.9	**14.49**	**21**	Pn	**P**	**12 14 07.6**	**-1.4**
KAPI	**Kappang** comp=Z,21nm,21.3s,baz=66,slow=37	**28.88**	**184**	LR	LR	12 28 11.2	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=116,slow=9.8,SNR=3.0	**38.73**	**316**	P	**P**	**12 18 04.0**	**+2.5**
H11S3	**WAKE ISLAND Hy** baz=284,slow=75	**42.27**	**88**	T	T	13 03 36.5	
H11S1	**WAKE ISLAND Hy** baz=284,slow=75	**42.28**	**88**	T	T	13 03 37.2	
H11S2	**WAKE ISLAND Hy** baz=284,slow=75	**42.29**	**88**	T	T	13 03 38.9	
WRA	**Warramunga Arr** 0.1nm,0.5s,baz=345,slow=8.8,SNR=5.1	**45.40**	**163**	P	**P**	**12 18 55.9**	**-0.1**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=340,slow=7.3,SNR=1.6	**48.86**	**165**	P	**P**	**12 19 22.7**	**-0.3**

MAN 05 12:14:06.7,14°.97N×121°.84E,h72km,mb3.5,ML2.2, MS1.6,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.26**	**158**	*e*P	Pn	12 14 18.9	+1.0
POLP				*e*S	Sn	12 14 28.8	+2.8
BALP	**Baler**	**0.80**	**342**	*e*P	Pn	12 14 24.9	+2.0
BALP				*e*S	Sn	12 14 40.5	+5.6
GQP	**Guinayangan**	**1.22**	**151**	⇓*e*P	Pn	12 14 29.1	+1.1
GQP				*e*S	Sn	12 14 45.8	+1.8
CAUP	**Cauayan**	**1.96**	**360**	*e*P	Pn	12 14 37.4	-0.4
CAUP				*e*S	Sn	12 15 01.5	0.0

*DDA **05** 12:57:57.6,35°.04N×26°.46E,h9km±4km,MW3.4*
*THE **05** 12:57:59.7,34°.75N×26°.35E,h12km±2km,ML3.0/4,Error ellipse: s-maj=3.7km s-min=1.7km az=359.0*
*IDC **05** 12:58:00.8±2.2,34°.90N×26°.35E,h55km±24km,mb3.3/7, mb1 3.4/9,mb1mx3.2/43,mbtmp3.6/9,ML3.8/2,MS2.3/1,*

Ms1 2.3/1, ms1mx1.8/28, Error ellipse: s-maj=27.0km s-min=21.3km az=5.0
*ATH **05** 12:58:01.4, 35°.01N×26°.25E, h41km±1km, ML3.0/9, Error ellipse: s-maj=6.0km s-min=2.0km az=159.0*
*GII **05** 12:58:03.3±0.0, 33°.96N×26°.54E, h10km*
ISC 05 12:57:58.9±1.1, 34°.76N±0°.06×26°.38E±0°.04, h37km±1km, n63, σ1§65/74, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.38**	**339**	P	**Pn**	**12 58 07.3**	**-0.4**
ZKR				S	**Sn**	**12 58 13.9**	**-0.6**
	3μm,0.5s						
ZKR	**Zakros**	**0.38**	**339**	P	**Pn**	**12 58 07.4**	**-0.3**
ZKR				S	**Sn**	**12 58 14.1**	**-0.4**
ZKR				AML	AML	12 58 15.8	
	comp=E,8458μm,0.3s						
ZKR				AML	AML	12 58 16.5	
	comp=N,4315μm,0.6s						
STIA	**Sitia Lasithi**	**0.50**	**332**	P	**Pn**	**12 58 09.2**	**-0.4**
FRMA	**Ierapetra Chan**	**0.59**	**296**	P	**Pn**	**12 58 09.0**	**-1.9**
FRMA				S	**Sn**	**12 58 17.0**	**-2.3**
	comp=N,1μm,0.3s						
NPS	**Neapolis**	**0.81**	**309**	P	**Pn**	**12 58 14.5**	**+0.7**
NPS				S	**Sn**	**12 58 26.8**	**+2.2**
	comp=N,1μm,0.6s						
NPS	**Neapolis**	**0.81**	**309**	P	**Pn**	**12 58 14.5**	**+0.7**
NPS				AML	AML	12 58 29.2	
	comp=E,3084μm,0.6s						
NPS				AML	AML	12 58 29.4	
	comp=N,2232μm,0.6s						
LAST	**Lasithi**	**0.84**	**299**	P	**Pn**	**12 58 15.0**	**+0.6**
LAST				S	**Sn**	**12 58 27.5**	**+1.9**
	comp=N,1μm,0.7s						
LAST	**Lasithi**	**0.84**	**299**	P	**Pn**	**12 58 14.9**	**+0.6**
LAST				AML	AML	12 58 30.0	
	comp=E,2308μm,0.9s						
LAST				AML	AML	12 58 30.1	
	comp=N,2067μm,0.6s						
KARP	**Karpathos**	**1.01**	**39**	P	**Pn**	**12 58 19.5**	**+2.9**
KARP	**Karpathos**	**1.01**	**39**	P	**Pn**	**12 58 19.5**	**+2.9**
KARP				AML	AML	12 58 40.8	
	comp=E,1207μm,0.6s						
KARP				AML	AML	12 58 41.4	
	comp=N,1351μm,0.5s						
SIVA	**Sivas**	**1.32**	**282**	P	**Pn**	**12 58 23.2**	**+2.5**
SIVA	**Sivas**	**1.32**	**282**	P	**Pn**	**12 58 23.2**	**+2.5**
SIVA				AML	AML	12 58 50.3	
	comp=E,2533μm,0.6s						
SIVA				AML	AML	12 58 56.9	
	comp=N,1756μm,0.7s						
IDI	**Anoyia**	**1.33**	**294**	P	**Pn**	**12 58 22.5**	**+1.5**
	comp=N,12nm,0.3s,baz=86,slow=14,SNR=56						
IDI				S	**Sn**	**12 58 43.3**	**+5.7**
	comp=N,15nm,0.3s,baz=360,slow=21,SNR=9.3						
IDI	**Anoyia**	**1.33**	**294**	P	**Pn**	**12 58 23.1**	**+2.0**
IDI	**Anoyia**	**1.33**	**294**	P	**Pn**	**12 58 23.1**	**+2.0**
IDI				AML	AML	12 58 44.5	
	comp=N,750μm,0.6s						
IDI				AML	AML	12 58 56.5	
	comp=E,449μm,0.7s						
ANAF	**Anafi Island**	**1.67**	**343**	P	**Pn**	**12 58 26.3**	**+0.7**
ANAF	**Anafi Island**	**1.67**	**343**	P	**Pn**	**12 58 26.3**	**+0.7**
ANAF				AML	AML	12 58 53.0	
	comp=E,884μm,0.4s						
ANAF				AML	AML	12 58 58.6	
	comp=N,1206μm,0.3s						
SANT	**Santorini**	**1.78**	**335**	P	**Pn**	**12 58 27.4**	**+0.3**
SANT	**Santorini**	**1.78**	**335**	P	**Pn**	**12 58 27.4**	**+0.3**
SANT	**Santorini**	**1.78**	**335**	*i* P	**Pn**	**12 58 26.9**	**-0.2**
GVD	**Gavdhos**	**1.89**	**273**	P	**Pn**	**12 58 30.8**	**+2.2**
GVD	**Gavdhos**	**1.89**	**273**	P	**Pn**	**12 58 30.8**	**+2.2**
VAM	**Vamos**	**1.91**	**290**	P	**Pn**	**12 58 29.5**	**+0.7**
VAM	**Vamos**	**1.91**	**290**	P	**Pn**	**12 58 29.5**	**+0.7**
VAM				AML	AML	12 59 16.9	
	comp=E,439μm,0.8s						
VAM				AML	AML	12 59 23.3	
	comp=N,587μm,0.6s						
IMMV	**Iera Moni Meta**	**2.09**	**290**	P	**Pn**	**12 58 33.8**	**+2.4**
IMMV	**Iera Moni Meta**	**2.09**	**290**	P	**Pn**	**12 58 33.5**	**+2.1**
IMMV				AML	AML	12 59 17.1	
	comp=N,459μm,1.1s						
IMMV				AML	AML	12 59 26.7	
	comp=E,493μm,0.9s						
AMGA	**Amorgos Island**	**2.11**	**349**	P	**Pn**	**12 58 32.0**	**+0.4**
AMGA	**Amorgos Island**	**2.11**	**349**	P	**Pn**	**12 58 31.7**	**+0.1**
APE	**Apeiranthos**	**2.41**	**344**	P	**Pn**	**12 58 36.2**	**+0.4**
APE	**Apeiranthos**	**2.41**	**344**	P	**Pn**	**12 58 36.1**	**+0.4**
APE	**Apeiranthos**	**2.41**	**344**	*i* P	**Pn**	**12 58 35.2**	**-0.6**
APE				*i* S	**Sn**	**12 59 05.9**	**+1.9**
TURN	**Turunc**	**2.52**	**36**	*i* P	**Pn**	**12 58 38.5**	**+1.2**
ANKY	**Antikythira Is**	**2.75**	**295**	P	**Pn**	**12 58 41.7**	**+1.2**
ANKY	**Antikythira Is**	**2.75**	**295**	P	**Pn**	**12 58 41.3**	**+0.8**
SERI	**Serifos**	**2.85**	**328**	P	**Pn**	**12 58 42.6**	**+0.8**
SERI	**Serifos**	**2.85**	**328**	P	**Pn**	**12 58 42.1**	**+0.2**
SMG	**Samos**	**2.97**	**7**	P	**Pn**	**12 58 44.3**	**+0.9**
SMG	**Samos**	**2.97**	**7**	P	**Pn**	**12 58 44.3**	**+0.9**
AKAS	**Kas**	**3.01**	**60**	*i* P	**Pn**	**12 58 45.9**	**+1.8**
AKAS				*i* S	**Sn**	**12 59 18.9**	**-0.1**
KTHA	**Kythira Island**	**3.10**	**300**	P	**Pn**	**12 58 45.4**	**+0.2**
KTHA	**Kythira Island**	**3.10**	**300**	P	**Pn**	**12 58 45.4**	**+0.2**
AYDN	**Tasoluk**	**3.14**	**22**	*i* P	**Pn**	**12 58 47.5**	**+1.7**
TAVA	**DENIZLI_Tavas**	**3.39**	**36**	*i* P	**Pn**	**12 58 50.5**	**+1.2**
TAVA				*i* S	**Sn**	**12 59 29.8**	**+1.5**
VLI	**Veliai**	**3.42**	**306**	P	**Pn**	**12 58 49.6**	**0.0**
VLI	**Veliai**	**3.42**	**306**	P	**Pn**	**12 58 49.7**	**0.0**
GOLH	**Golhisar**	**3.57**	**45**	*i* P	**Pn**	**12 58 54.2**	**+2.4**
GOLH				*i* S	**Sn**	**12 59 34.1**	**+1.3**
AKUM	**Antalya-Kumluc**	**3.59**	**63**	*i* P	**Pn**	**12 58 53.3**	**+1.4**
AKUM				*i* S	**Sn**	**12 59 34.5**	**+1.5**
KEPZ	**Antalya-Kepez**	**4.75**	**62**	*i* P	**Pn**	**12 59 08.4**	**+0.4**
HNTI	**Hanita**	**7.50**	**100**	Pn	Pn	12 59 50.8	+5.2
BRTR	**Keskin Array B**	**7.62**	**47**	LR	LR	13 03 39.2	
	comp=E,21nm,18.2s,baz=289,slow=45						
AMAZ	**Amatzia**	**7.84**	**112**	Pn	**Pn**	**12 59 52.7**	**+2.3**
DSI	**Dead Sea**	**8.18**	**110**	Pn	**Pn**	**12 59 56.4**	**+1.3**
GHAJ	**Ghor Haditha**	**8.44**	**112**	Pn	**Pn**	**13 00 00.7**	**+2.1**
PRNI	**Paran**	**8.50**	**119**	Pn	**Pn**	**13 00 00.6**	**+1.2**
PRNI				Sn	**Sn**	**13 01 31.2**	**-2.9**
EIL	**Elat**	**8.85**	**123**	P	**Pn**	**13 00 05.6**	**+1.3**
	comp=E,0.3nm,0.3s,baz=91,slow=23,SNR=2.4						
EIL				S	**Sn**	**13 01 39.7**	**-3.1**
	comp=E,0.4nm,0.3s,baz=352,slow=15,SNR=2.4						
GERES	**GERESS Array B**	**16.92**	**330**	P	**Pn**	**13 01 53.6**	**+0.8**
	comp=E,0.3nm,0.3s,baz=137,slow=15,SNR=3.1						
ESDC	**Sonseca Array**	**24.60**	**290**	P	**P**	**13 03 15.1**	**-0.4**
	comp=E,0.3nm,0.4s,baz=82,slow=9.4,SNR=2.5						
FINES	**FINESS Array B**	**26.70**	**360**	P	**P**	**13 03 32.4**	**-1.9**
	comp=E,0.6nm,0.4s,baz=153,slow=11,SNR=6.7						
EKA	**Eskdalemuir Ar**	**28.95**	**324**	P	**P**	**13 03 53.0**	**-1.4**
	comp=E,0.1nm,0.3s,baz=119,slow=9.8,SNR=2.0						
TORD	**Torodi Ar. Bea**	**31.02**	**232**	P	**P**	**13 04 13.8**	**+0.7**
	comp=E,0.3nm,0.5s,baz=42,slow=9.4,SNR=2.9						
ARCES	**ARCESS Array B**	**34.83**	**359**	P	**P**	**13 04 43.8**	**-2.1**
	comp=E,1.1nm,0.8s,baz=179,slow=9.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**44.56**	**46**	P	**P**	**13 06 06.8**	**-0.1**
	comp=E,1.0nm,0.4s,baz=270,slow=6.1,SNR=4.9						
SONM	**Songino Array**	**58.96**	**51**	P	**P**	**13 07 55.8**	**+1.2**
	comp=E,0.3nm,0.4s,baz=264,slow=7.3,SNR=2.2						

*IDC **05** 13:05:11.5±1.6, 9°.91S×121°.29E, h0km, mb3.9/2, mb1 3.6/5, mb1mx3.4/37, mbtmp3.6/5, ML2.9/3, Error ellipse: s-maj=66.6km s-min=23.9km az=48.0*
*DJA **05** 13:05:20.3±1.5, 10°S±7°×12°2E±°, h15km±12km, M3.5/7, MLv3.5/7*
ISC 05 13:05:15.6±0.8, 9°.82S±0°.05×121°.91E±0°.04, h10km, n14, σ3§68/17, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.08**	**349**	P	**Pb**	**13 05 36.7**	**+0.1**
MMRI	**Maumere**	**1.22**	**16**	P	**Pg**	**13 05 39.5**	**+0.4**
MMRI				S	**Sb**	**13 05 53.7**	**-1.0**
BASI	**Baing, Sumba**	**1.37**	**253**	P	**Pg**	**13 05 43.4**	**+1.5**
BATI	**Baumata**	**1.77**	**103**	Pn	**Pg**	**13 05 51.9**	**+2.1**
	6.5nm,0.3s,baz=300,slow=20,SNR=1.5						
BATI				Sn	**Sg**	**13 06 16.7**	**+3.9**
	15nm,0.3s,baz=112,slow=16,SNR=2.3						
BATI	**Baumata**	**1.77**	**103**	P	**Pg**	**13 05 52.0**	**+2.3**
SOEI	**Soe**	**2.33**	**89**	P	**Pb**	**13 05 59.3**	**+1.5**
WBSI	**Waikabubak, Su**	**2.48**	**274**	P	**Pn**	**13 05 59.2**	**+3.0**
PLAI	**Plampang**	**4.19**	**283**	P	**Pn**	**13 06 22.3**	**+2.6**
TWSI	**Taliwang, Sumb**	**5.07**	**282**	P	**Pn**	**13 06 34.7**	**+2.9**
FITZ	**Fitzroy Crossi**	**8.99**	**157**	Pn	**Pn**	**13 07 25.5**	**-0.1**
	0.1nm,0.3s,baz=315,slow=1.4,SNR=1.3						
FITZ				Sn	**Sn**	**13 09 01.6**	**-5.4**
	0.5nm,0.3s,baz=178,slow=17,SNR=7.4						
WRA	**Warramunga Arr**	**15.66**	**131**	Pn	**Pn**	**13 08 55.1**	**-1.6**
	0.1nm,0.3s,baz=305,slow=14,SNR=4.7						
WRA				Sn	**Sn**	**13 11 40.7**	**-10**
	0.2nm,0.3s,baz=305,slow=23,SNR=1.7						
ASAR	**Alice Springs**	**17.91**	**142**	P	**Pn**	**13 09 25.4**	**+0.3**
	0.1nm,0.3s,baz=320,slow=12,SNR=7.7						
ASAR				S	Sn	13 12 33.5	-12
	0.0nm,0.3s,baz=314,slow=22,SNR=3.1						
MKAR	**Makanchi Array**	**66.52**	**331**	P	**P**	**13 16 02.5**	**-3.2**
	0.7nm,0.6s,baz=134,slow=7.9,SNR=8.5						
ZALV	**Zalesovo Beam**	**70.85**	**338**	P	P	13 16 28.0	-4.5
	0.8nm,0.5s,baz=154,slow=7.8,SNR=2.7						

*NEIC **05** 13:06:23.6±3.0, 17°.55S±0°.07×174°.7W±0°.2, h10km±1km, mb4.3/7, Error ellipse: s-maj=25.3km s-min=11.6km az=83.0*
*IDC **05** 13:06:26.9±9.1, 16°.42S×175°.36W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/25, Error ellipse: s-maj=406.7km s-min=37.7km az=140.0*
ISC 05 13:06:23.1±1.1, 17°.6S±0°.2×174°.6W±0°.2, h10km, n12, σ1§83/11, mb4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.62**	**37**	Pn	**Pn**	**13 07 32.9**	**-0.2**
KRVT	**Keravat (AS076**	**35.22**	**288**	LR	LR	13 24 08.7	
	comp=Z,41nm,19.8s,baz=132,slow=31						
CAN	**Canberra**	**36.74**	**234**	P	**P**	**13 13 29.1**	**-1.7**
TOO	**Toolangi**	**40.15**	**232**	P	**P**	**13 13 58.1**	**-1.3**
TOO				IAmb	IAmb	13 14 01.8	
	comp=Z,6.5nm,1.4s						
COEN	**Coen**	**40.69**	**269**	P	**P**	**13 14 02.9**	**-1.2**
COEN				IAmb	IAmb	13 14 04.4	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**48.17**	**259**	P	**P**	**13 15 05.4**	**+1.4**
WB0				IAmb	IAmb	13 15 22.5	
	comp=Z,4.4nm,1.3s						
WRA	**Warramunga Arr**	**48.20**	**259**	P	**P**	**13 15 05.9**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=92,slow=7.4,SNR=1.5						
AS31	**Alice Springs**	**48.31**	**254**	P	**P**	**13 15 07.3**	**+2.2**
ASAR	**Alice Springs**	**48.31**	**254**	P	**P**	**13 15 08.1**	**+3.0**
	comp=Z,1.7nm,0.5s,baz=88,slow=8.1,SNR=38						
ASAR	**Alice Springs**	**48.31**	**254**	P	**P**	**13 15 06.6**	**+1.5**
VNDA	**Vanda**	**61.04**	**186**	P	**P**	**13 16 36.9**	**+0.4**
VNDA				IAmb	IAmb	13 16 46.6	
	comp=Z,2.2nm,1.4s						
ILAR	**Eielson Array**	**84.86**	**12**	P	**P**	**13 18 57.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=215,slow=4.4,SNR=5.7						

IDC 05 13:07:21.2±2.1, 11°.24S×65°.84E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/44, mbtmp3.7/5, MS3.6/18, Ms1 3.6/18, ms1mx3.5/30, Error ellipse: s-maj=66.2km s-min=34.6km az=59.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**7.45**	**62**	T	T	13 15 49.2	
	baz=245,slow=75,SNR=393						
H08S2	**Diego Garcia H**	**7.47**	**62**	T	T	13 15 50.4	
	baz=245,slow=75,SNR=438						
H08S3	**Diego Garcia H**	**7.47**	**62**	T	T	13 15 55.2	
	baz=245,slow=75,SNR=368						
PALK	**Pallekele**	**23.60**	**39**	LR	LR	13 19 05.1	
	comp=Z,171nm,19.7s,baz=314,slow=30						
KMBO	**Kilima Mbogo**	**30.11**	**287**	LR	LR	13 24 33.7	
	comp=Z,92nm,18.2s,baz=96,slow=34						
BOSA	**Boshof**	**41.64**	**239**	LR	LR	13 31 50.6	
	comp=Z,105nm,18.1s,baz=26,slow=35						
CMAR	**Chiang Mai Arr**	**44.01**	**48**	P	P	13 15 30.1	-0.8
	0.4nm,0.3s,baz=256,slow=7.3,SNR=4.2						
CMAR				LR	LR	13 31 39.0	
	comp=Z,41nm,19.4s,baz=246,slow=33						
GEYT	**Alibeck**	**49.44**	**352**	LR	LR	13 34 43.1	
	comp=Z,29nm,20.3s,baz=195,slow=33						
H01W3	**Cape Leeuwin H**	**49.70**	**126**	T	T	14 09 25.9	
	baz=286,slow=75,SNR=9.7						
H01W2	**Cape Leeuwin H**	**49.70**	**126**	T	T	14 09 29.5	
	baz=286,slow=75,SNR=7.6						
H01W1	**Cape Leeuwin H**	**49.71**	**126**	T	T	14 09 28.8	
	baz=286,slow=75,SNR=9.8						
MAW	**Mawson**	**56.34**	**181**	LR	LR	13 36 48.3	
	comp=Z,99nm,18.9s,baz=16,slow=31						
KBZ	**Khabaz**	**58.56**	**341**	LR	LR	13 41 17.3	
	comp=Z,19nm,20.2s,baz=113,slow=35						
MKAR	**Makanchi Array**	**59.62**	**13**	P	P	13 17 27.8	+0.8
	0.5nm,0.9s,baz=198,slow=9.1,SNR=1.7						
MKAR				LR	LR	13 43 20.1	
	comp=Z,43nm,18.3s,baz=211,slow=36						
ASAR	**Alice Springs**	**65.58**	**111**	P	P	13 18 07.4	0.0
	1.1nm,1.0s,baz=272,slow=5.4,SNR=5.7						
ASAR				LR	LR	13 43 33.4	
	comp=Z,56nm,19.7s,baz=268,slow=33						
WRA	**Warramunga Arr**	**66.17**	**107**	P	P	13 18 11.5	+0.3
	1.2nm,0.9s,baz=271,slow=6.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**66.91**	**12**	LR	LR	13 47 43.6	
	comp=Z,46nm,18.3s,baz=118,slow=36						
TORD	**Torodi Ar. Bea**	**68.10**	**289**	LR	LR	13 46 26.3	
	comp=Z,38nm,20.2s,baz=135,slow=34						
SONM	**Songino Array**	**68.95**	**28**	P	P	13 18 28.3	0.0
	0.3nm,0.4s,baz=225,slow=3.9,SNR=1.7						
SONM				LR	LR	13 47 17.8	
	comp=Z,171nm,21.6s,baz=238,slow=35						
STKA	**Stephens Creek**	**72.11**	**120**	LR	LR	13 45 29.9	
	comp=Z,47nm,21.4s,baz=208,slow=32						
DBIC	**Dimbokro**	**72.56**	**281**	LR	LR	13 49 19.8	
	comp=Z,66nm,20.1s,baz=97,slow=35						
KSRS	**Korea Array**	**75.62**	**47**	LR	LR	13 51 08.9	
	comp=Z,42nm,20.5s,baz=231,slow=35						
NRIK	**Noril'sk**	**81.81**	**8**	LR	LR	13 56 21.2	
	comp=Z,33nm,18.9s,baz=198,slow=36						
MJAR	**Matsushiro Arr**	**82.84**	**51**	LR	LR	13 54 23.9	
	comp=Z,42nm,21.7s,baz=265,slow=34						
PETK	**Petropavlovsk-**	**100.00**	**38**	LR	LR	14 09 55.8	
	comp=Z,30nm,19.4s,baz=253,slow=38						
PDAR	**Pinedale Array**	**148.33**	**354**	PKPbc	PKPbc	13 27 09.0	-1.1
	0.1nm,0.4s,baz=55,slow=3.4,SNR=2.0						
NVAR	**Mina Array Bea**	**152.67**	**7**	PKPbc	PKPbc	13 27 20.2	-0.3
	0.5nm,0.8s,baz=325,slow=1.1,SNR=5.0						

*DJA **05** 13:10:46.7±0.8, 10°S±4°×12°2E±°, h15km±7km, M3.5/6, mb3.9/1, MLv3.4/6*
*IDC **05** 13:10:47.6±5.1, 9°.93S×121°.71E, h76km±57km, mb3.5/1, mb1 3.1/4, mb1mx3.0/34, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=45.6km s-min=34.1km az=100.0*
ISC 05 13:10:47.0±1.0, 9°.64S±0°.07×121°.88E±0°.07, h44km, n12, σ2§55/13, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.91**	**348**	P	**Pn**	**13 11 04.2**	**+0.7**
MMRI	**Maumere**	**1.06**	**19**	P	**Pn**	**13 11 06.7**	**+1.2**
MMRI				S	**Sn**	**13 11 20.8**	**+1.8**
BATI	**Baumata**	**1.84**	**108**	P	**Pn**	**13 11 18.6**	**+2.4**
	8.2nm,0.3s,baz=270,slow=20,SNR=9.2						
BATI				S	**Sn**	**13 11 42.8**	**+4.4**
	9.1nm,0.3s,baz=106,slow=20,SNR=5.2						
BATI	**Baumata**	**1.84**	**108**	Pg	Pn	13 11 21.7	+5.5
SOEI	**Soe**	**2.35**	**93**	P	**Pn**	**13 11 23.7**	**+0.4**
WBSI	**Waikabubak, Su**	**2.46**	**270**	P	**Pn**	**13 11 26.1**	**+1.4**
PLAI	**Plampang**	**4.13**	**281**	P	**Pn**	**13 11 49.6**	**+1.9**
TWSI	**Taliwang, Sumb**	**5.02**	**280**	P	**Pn**	**13 12 02.2**	**+2.3**
FITZ	**Fitzroy Crossi**	**9.16**	**157**	P	**Pn**	**13 12 55.4**	**-1.4**
	0.1nm,0.3s,baz=360,slow=2.4,SNR=1.7						
WRA	**Warramunga Arr**	**15.80**	**132**	P	**Pn**	**13 14 23.2**	**-3.4**
	0.1nm,0.3s,baz=300,slow=13,SNR=2.0						
ASAR	**Alice Springs**	**18.07**	**142**	P	**Pn**	**13 14 52.3**	**-2.6**
	0.0nm,0.3s,baz=321,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**66.35**	**331**	P	**P**	**13 21 29.4**	**-1.8**
	0.7nm,0.6s,baz=151,slow=7.6,SNR=7.4						

*IDC **05** 13:12:22.5±1.7, 10°.36S×121°.19E, h0km, mb3.8/1, mb1 3.5/5, mb1mx3.3/34, mbtmp3.3/5, ML3.1/4, Error ellipse: s-maj=54.9km s-min=23.3km az=51.0*
*DJA **05** 13:12:32.9±1.7, 10°S±5°×12°2E±°, h19km±16km, M3.4/6, MLv3.4/6*
ISC 05 13:12:29.5±1.0, 9°.85S±0°.06×122°.14E±0°.08, h35km, n12, σ2§06/12, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.18**	**338**	P	**Pn**	**13 12 49.2**	**-0.5**
MMRI	**Maumere**	**1.21**	**5**	P	**Pn**	**13 12 52.1**	**+2.1**
MMRI				S	**Sn**	**13 13 05.4**	**+0.2**
BATI	**Baumata**	**1.54**	**103**	Pn	Pn	13 13 03.5	+9.0
	7.9nm,0.3s,baz=322,slow=22,SNR=2.1						
BATI				Sn	Sn	13 13 29.1	+16
	15nm,0.3s,baz=326,slow=20,SNR=3.5						
BATI				Lg	Lg	13 13 36.0	
	16nm,0.3s,baz=325,slow=21,SNR=2.7						
BATI	**Baumata**	**1.54**	**103**	P	Pn	13 13 04.6	+10
BASI	**Baing, Sumba**	**1.58**	**257**	P	**Pn**	**13 12 56.5**	**+1.4**
WBSI	**Waikabubak, Su**	**2.72**	**274**	P	**Pn**	**13 13 10.6**	**-0.1**
PLAI	**Plampang**	**4.42**	**283**	P	**Pn**	**13 13 34.7**	**+0.5**
TWSI	**Taliwang, Sumb**	**5.31**	**282**	P	**Pn**	**13 13 46.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**8.87**	**158**	Pn	Pn	13 14 29.4	-5.8
	0.3nm,0.3s,baz=180,slow=22,SNR=7.4						
FITZ				Sn	**Sn**	**13 16 14.6**	**+0.5**
	0.5nm,0.3s,baz=180,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**15.47**	**132**	Pn	**Pn**	**13 16 06.9**	**+1.6**
	0.1nm,0.3s,baz=306,slow=14,SNR=2.2						
WRA				Sn	**Sn**	**13 18 50.6**	**-5.0**
	0.1nm,0.3s,baz=297,slow=26,SNR=3.2						
ASAR	**Alice Springs**	**17.75**	**142**	P	**P**	**13 16 35.5**	**+0.9**
	0.0nm,0.3s,baz=318,slow=12,SNR=1.6						
MKAR	**Makanchi Array**	**66.66**	**331**	P	**P**	**13 23 15.1**	**-1.6**
	0.6nm,0.6s,baz=138,slow=7.3,SNR=7.2						

*MEX **05** 13:23:14.3±0.8, 14°.56N×92°.73W, h44km±19km, MD4.2*
*SNET **05** 13:23:15.7±1.0, 14°.68N×92°.50W, h53km±15km, ML3.4*
ISC 05 13:23:13.1±1.6, 14°.61N±0°.08×92°.71W±0°.07, h51km±20km, n15, σ0§69/24, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.52**	**55**	*e*P	**Pn**	**13 23 25.0**	**+0.3**
THIG				*e*S	**Sn**	**13 23 33.1**	**+0.1**
RTAL	**Retalhuleu**	**0.99**	**95**	*e*P	**Pn**	**13 23 31.1**	**+0.4**
RTAL				*e*S	**Sn**	**13 23 42.3**	**-1.4**
RTAL				IAML		13 23 50.1	
	comp=Z,1μm,0.2s						
PCIG		**1.20**	**336**	*e*P	**Pn**	**13 23 33.4**	**-0.1**
PCIG				*e*S	**Sn**	**13 23 48.2**	**-0.5**
HUEH	**Huehuetenango**	**1.36**	**59**	*e*P	**Pn**	**13 23 36.4**	**+0.3**
HUEH				*e*S	**Sn**	**13 23 52.8**	**-0.3**
CCIG	**Comitan**	**1.75**	**18**	*e*P	**Pn**	**13 23 42.4**	**+1.1**
CCIG				*i* S	**Sn**	**13 24 02.7**	**+0.1**
TGIG		**2.19**	**350**	*e*P	**Pn**	**13 23 46.7**	**-0.5**
TGIG				*i* S	**Sn**	**13 24 13.7**	**+0.4**
IXG	**Ixpaco**	**2.24**	**101**	*e*P	**Pn**	**13 23 48.7**	**+0.7**
NUBE	**Las Nubes**	**2.93**	**104**	*e*P	**Pn**	**13 23 57.4**	**+0.1**
NUBE				*e*S	**Sn**	**13 24 30.6**	**-0.8**
NUBE				IAML		13 24 34.2	
	comp=Z,99nm,0.3s						
MRL	**Marmol**	**2.96**	**80**	*e*P	**Pn**	**13 23 58.1**	**+0.1**
SBLS	**San Blas**	**3.09**	**104**	*e*P	**Pn**	**13 24 00.7**	**+1.1**
SNJE	**San Jose**	**3.10**	**103**	*e*P	**Pn**	**13 24 00.7**	**+0.9**
CMIG	**Matias Romero**	**3.24**	**320**	*e*P	**Pn**	**13 24 01.8**	**+0.4**
CMIG				*i* S	**Sn**	**13 24 38.5**	**-0.3**
PETF	**Flores**	**3.57**	**50**	*e*P	**Pn**	**13 24 05.7**	**-0.3**
LFRS	**El Faro**	**3.67**	**105**	*e*P	**Pn**	**13 24 07.5**	**-0.1**
LFRS				*e*S	**Sn**	**13 24 48.9**	**-0.8**
COEG	**Centro de Oper**	**3.84**	**104**	*e*P	**Pn**	**13 24 10.9**	**+1.1**

*IDC **05** 14:11:16.2±1.1, 39°.58N×70°.31E, h0km, mb3.8/7, mb1 3.9/14, mb1mx3.6/69, mbtmp3.9/14, ML3.5/7, MS2.6/2, Ms1 2.7/2, ms1mx2.2/48, Error ellipse: s-maj=19.8km s-min=11.4km az=152.0*
*ISU **05** 14:11:18.1, 39°.81N×70°.15E, h5km*
*KRNET **05** 14:11:18.6±0.1, 39°.68N×70°.29E, h29km, mb4.0*
*SOME **05** 14:11:19.8, 39°.87N×70°.37E, h10km*
*NNC **05** 14:11:21.1±1.4, 39°.85N×70°.27E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=11.2km s-min=7.2km az=26.0*
*NEIC **05** 14:11:22.2±2.5, 39°.58N±0°.04×70°.23E±0°.09, h37km±9km, mb4.3/5, Error ellipse: s-maj=10.3km s-min=6.2km az=88.0*
**ISC 05 14:11:18.8±1.0, 39°.74N±0°.02×70°.30E

ARLS Aral 3.71 54⇑iP Pn 14 12 17.5 +1.8
baz=53
ARLS ⇑iS Sn 14 12 59.5 +0.3
baz=53
EKS2 Erkin-Say 3.92 41⇑iP Pn 14 12 20.8 +2.3
baz=40
EKS2 ⇑iS Sn 14 13 04.9 +0.6
baz=40
EKS2 Erkin-Say 3.92 41 P Pn 14 12 22.7 +4.1
SNR=15
UCH Uchtor 4.04 51⇓iP Pn 14 12 22.2 +1.7
baz=50
UCH ⇓iS Sn 14 13 07.6 -0.1
baz=50
UCH Uchtor 4.04 51 P Pn 14 12 24.4 +4.0
SNR=23
AAK Ala-Archa 4.29 46 Pn Pn 14 12 27.7 +4.1
4.8nm,0.3s,baz=214,slow=8.3,SNR=45
AAK Sn Sn 14 13 20.0 +6.7
baz=189,slow=19,SNR=1.3
AAK Lg Lg 14 13 34.0
8.5nm,0.3s,baz=348,slow=21,SNR=2.4
AAK Ala-Archa 4.29 46⇑iP Pn 14 12 25.7 +2.1
baz=46
AAK ⇑iS Sn 14 13 13.8 +0.5
baz=46
AAK Ala-Archa 4.29 46 P Pn 14 12 28.0 +4.4
SNR=20
AAK Ala-Archa 4.29 46 ⇓Pn Pn 14 12 27.7 +4.1
18nm,0.7s
AAK ⇓Lg Lg 14 13 38.3
85nm,0.6s
KZA Kyzart 4.42 56⇓iP Pn 14 12 27.5 +1.9
baz=56
KZA ⇓iS Sn 14 13 16.8 -0.1
baz=56
KZA Kyzart 4.42 56 P Pn 14 12 29.8 +4.2
SNR=30
KBK Karagaybulak 4.56 49⇑eP Pn 14 12 29.3 +2.0
baz=48
KBK ⇑iS Sn 14 13 20.2 +0.2
baz=48
KBK Karagaybulak 4.56 49 P Pn 14 12 32.5 +5.2
SNR=17
CHMS Chumysh 4.67 44⇓eP Pn 14 12 30.5 +1.8
baz=44
CHMS ⇓iS Sn 14 13 22.8 +0.2
baz=44
CHMS Chumysh 4.67 44 P Pn 14 12 32.8 +4.1
SNR=24
USP Ospenovka 4.73 40 P Pn 14 12 33.1 +3.6
SNR=14
SGDS Sogindy 4.93 40 Pg Pg 14 12 49.7 -3.4
25nm,0.4s
SGDS Lg Lg 14 13 54.6
51nm,0.6s
TKM2 Tokmak 2 5.10 50 P Pn 14 12 38.7 +3.9
SNR=27
TKM2 Tokmak 2 5.10 50 ⇑Pn Pn 14 12 38.6 +3.9
10nm,0.4s
TKM2 ⇓Lg Lg 14 14 00.9
50nm,0.7s
ULHL Ulahol 5.14 59⇓iP Pn 14 12 37.0 +1.6
baz=58
ULHL ⇓iS Sn 14 13 33.9 -0.6
baz=58
ULHL Ulahol 5.14 59 P Pn 14 12 39.5 +4.2
SNR=7.6
KBL Kabul 5.29 191 Pn 14 12 38.3 +0.9
KST Kastek 5.38 50 eP Pg 14 12 58.7 -3.2
23nm,0.6s
KST eS Sg 14 14 09.9 -1.7
52nm,0.6s
KST Kastek 5.38 50 Pg Pg 14 12 58.7 -3.2
23nm,0.6s
KST Lg Lg 14 14 09.9
52nm,0.6s
KDJ Kajisay 5.73 63 Pn 14 12 47.8 +4.4
TNSS Tian-Shan 5.98 54 eP Pg 14 13 10.0 -3.4
7.9nm,0.5s
TNSS eS Sg 14 14 28.9 -1.9
33nm,0.6s
TNSS Tian-Shan 5.98 54 Pg Pg 14 13 10.0 -3.4
7.9nm,0.5s
TNSS Lg Lg 14 14 28.9
33nm,0.6s
KNDC Almaty 6.09 53 ⇓Lg Lg 14 14 32.3
MDOK Medeo 6.11 54 eP Pg 14 13 11.9 -4.0
7.5nm,0.5s
MDOK eS Sg 14 14 32.3 -2.6
34nm,0.7s
MDOK Medeo 6.11 54 Pg Pg 14 13 11.9 -4.0
7.5nm,0.5s
MDOK Lg Lg 14 14 32.3
34nm,0.7s
KUU Kurty 6.13 45 eP Pg 14 13 11.3 -4.8
11nm,0.7s
KUU eS Sg 14 14 31.5 -3.9
37nm,0.6s
KUU Kurty 6.13 45 Pg Pg 14 13 11.3 -4.8
11nm,0.7s
KUU Lg Lg 14 14 31.5
37nm,0.6s
CHKK Chushkaly 6.47 48 Pg Pg 14 13 17.5 -5.1
PDGK Podgornoye 7.77 60 ⇓Pn Pn 14 13 14.6 +3.3
3.9nm,0.7s
PDGK ⇑Lg Lg 14 15 24.2
24nm,1.0s
DHRM DHARAMSHALA 8.91 145 eP Pn 14 13 31.2 +4.0
DHRM eS Sn 14 15 08.3 +1.0
GEYT Alibeck 9.68 263 Pn **Pn 14 13 35.5 -2.0**
0.4nm,0.3s,baz=83,slow=12,SNR=2.2
GEYT Sn Sn 14 15 20.7 -5.1
0.5nm,0.3s,baz=77,slow=19,SNR=3.6
SMLA Simla 10.25 145 eP Pn 14 13 47.2 +2.0
SMLA eS Sn 14 15 36.7 -3.2
MK31 Makanchi Array 11.22 47 ⇑Pn Pn 14 14 01.2 +2.6
1.3nm,0.6s,baz=226,slow=13,SNR=14
MK31 ⇓Lg Lg 14 17 13.0
3.1nm,0.6s
MK31 Makanchi Array 11.22 47 Pn 14 14 02.3 +3.8
MKAR Makanchi Array 11.22 47 Pn **Pn 14 13 59.4 +0.8**
0.2nm,0.3s,baz=236,slow=14,SNR=13
MKAR Lg Lg 14 17 10.2
0.2nm,0.3s,baz=240,slow=24,SNR=2.4
MKAR LR LR 14 17 44.6
comp=Z,17nm,19.9s,baz=249,slow=34
MKAR Makanchi Array 11.22 47 Pn 14 14 02.2 +3.7
AB31 Akbulak array 12.04 326 Pn **Pn 14 14 09.3 -0.3**
12nm,0.4s,baz=136,slow=12,SNR=64
ABKAR Akbulak array 12.04 326 Pn 14 14 08.4 -1.2
KURBB Kurchatov Arra 12.32 25 Pn **Pn 14 14 12.7 -0.8**
0.1nm,0.3s,baz=211,slow=13,SNR=13
KURBB Lg Lg 14 17 46.8
0.1nm,0.3s,baz=216,slow=28,SNR=5.6
BVAR Borovoye Array 13.29 0 Pn **Pn 14 14 26.3 -0.4**
1.3nm,0.3s,baz=172,slow=12,SNR=34
BVAR Lg Lg 14 18 20.5
0.3nm,0.3s,baz=177,slow=33,SNR=2.7
BRVK Borovoye 13.32 360 ⇓Pn Pn 14 14 26.2 -0.9
3.8nm,0.5s
BRVK ⇓Lg Lg 14 18 17.9
14nm,1.4s
BRVK Borovoye 13.32 360 Pn 14 14 26.2 -0.9
AKTO Aktyubinsk 13.75 325 Pn **Pn 14 14 32.0 -1.0**
0.2nm,0.3s,baz=132,slow=14,SNR=2.8
AKTO Sn Sn 14 16 53.0 -12
0.1nm,0.3s,baz=143,slow=22,SNR=1.5
AKTO Lg Lg 14 18 43.2
0.2nm,0.3s,baz=37,slow=8.9,SNR=1.6
ZALV Zalesovo Beam 17.29 30 P Pn 14 15 19.3 0.0
0.3nm,0.3s,baz=230,slow=12,SNR=7.8
ZALV Zalesovo Beam 17.29 30 Pn 14 15 18.7 -0.6
FINES FINESS Array B 34.52 324 P P 14 18 07.0 +1.0
1.8nm,0.8s,baz=90,slow=11,SNR=4.0
ARCES ARCESS Array B 37.95 336 P P 14 18 33.2 -2.1
2.0nm,0.6s,baz=113,slow=8.0,SNR=10.0
HFS Hagfors 40.21 320 P P 14 18 54.8 +0.6
3.3nm,0.5s,baz=94,slow=9.3,SNR=5.4
NB2 NORSAR Subarra 41.49 321 P P 14 19 05.3 +0.4
comp=Z,1.0nm,0.5s,baz=94,slow=8.6
NOA NORSAR Array B 41.49 321 P P 14 19 05.1 +0.3
comp=Z,1.6nm,0.6s,baz=94,slow=8.2,SNR=8.8
NOA LR LR 14 37 15.8
comp=Z,12nm,18.5s,baz=315,slow=38
EKA Eskdalemuir Ar 49.61 314 P P 14 20 09.4 +0.3
comp=Z,0.3nm,0.5s,baz=79,slow=9.5,SNR=2.0
SEY Seymchan 52.06 35 LR LR 14 43 27.9
comp=Z,194nm,20.8s,baz=143,slow=37
TORD Torodi Ar. Bea 65.30 267 P P 14 22 00.2 -0.1
comp=Z,0.5nm,0.7s,baz=60,slow=6.3,SNR=3.4
WRA Warramunga Arr 84.17 122 P P 14 23 49.6 +0.2
comp=Z,0.4nm,0.8s,baz=324,slow=4.7,SNR=3.8
WB2 Warramunga Arr 84.17 122 P P 14 23 50.9 +1.5
WB2 IAmb IAmb 14 23 54.7
comp=Z,3.4nm,1.2s
WR0 Warramunga Arr 84.31 122 P P 14 23 51.1 +1.0
WR0 IAmb IAmb 14 23 52.3
comp=Z,5.0nm,1.3s
AS31 Alice Springs 86.55 125 P P 14 24 02.2 +0.9
AS31 IAmb IAmb 14 24 10.3
comp=Z,1.1nm,1.4s
ASAR Alice Springs 86.55 125 P P 14 24 00.7 -0.6
comp=Z,0.5nm,0.9s,baz=305,slow=3.3,SNR=2.2

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*IDC **05** 14:11:40.3±1.9, 35°.93N×140°.23E, h67km±16km, mb3.4/8, mb1 3.5/12, mb1mx3.3/72, mbtmp3.7/12, MS2.7/3, Ms1 2.8/3, ms1mx2.4/34, Error ellipse: s-maj=22.5km s-min=8.6km az=67.0*
*JMA **05** 14:11:41.5±0.1, 36°.00N×140°.14E, h59km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs177.00000°, δ6.00000°, λ99.00000°. NP2: φs348.00000°, δ84.00000°, λ89.00000°. Principal axes: T Plg51.0000°, Azm257.0000°; N Plg1.0000°, Azm348.0000°; P Plg39.0000°, Azm79.0000°;*
JMA Felt I J1.
ISC 05 14:11:40.2±0.8, 36°.03N±0°.05×140°.22E±0°.06, h68km±7km, n28, σ1§41/34, mb3.8/8, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.20**	**353**	⇑P	**Pn**	**14 11 51.1**	**+0.5**
JYT				S	**Sn**	**14 11 58.3**	**+0.2**
JIHU	**Itakohorinouch**	**0.25**	**104**	⇑P	**Pn**	**14 11 51.9**	**+1.1**
JIHU				S	**Sn**	**14 11 59.2**	**+0.6**
JSMT	**Sammumatsuo**	**0.42**	**154**	P	**Pn**	**14 11 53.3**	**+1.2**
JSMT				S	**Sn**	**14 12 01.3**	**+0.5**
JAG	**Ashikaga**	**0.74**	**303**	⇓P	**Pn**	**14 11 56.0**	**+0.6**
JAG				S	**Sn**	**14 12 06.5**	**-0.1**
JRY	**Ryogami san**	**1.07**	**270**	⇓P	**Pn**	**14 11 59.8**	**+0.3**
JKT	**Katashina**	**1.08**	**314**	⇓P	**Pn**	**14 12 00.4**	**+0.7**
JKT				S	**Sn**	**14 12 15.0**	**+0.8**
JOD2	**Odawara 2**	**1.20**	**231**	⇓P	**Pn**	**14 12 00.8**	**-0.4**
JOD2				S	**Sn**	**14 12 15.7**	**-1.1**
BSO3	**Boso 3**	**1.24**	**169**	P	**Pn**	**14 12 03.1**	**+1.6**
BSO3				S	**Sn**	**14 12 18.9**	**+1.5**
MJAR	**Matsushiro Arr**	**1.71**	**288**	P	**Pn**	**14 12 07.9**	**0.0**
	8.9nm,0.3s,baz=90,slow=8.5,SNR=628						
MJAR				S	**Sn**	**14 12 29.3**	**+0.5**
	3.6nm,0.3s,baz=108,slow=12,SNR=3.4						
MJAR				LR	LR	14 12 50.2	
	comp=Z,60nm,21.6s,baz=120,slow=41						
MAT	**Matsushiro**	**1.71**	**288**	P	**Pn**	**14 12 09.1**	**+1.2**
MAT				S	**Sn**	**14 12 29.7**	**+0.8**
JHJ	**Hachijo jima 2**	**2.92**	**187**	P	**Pn**	**14 12 23.7**	**-0.6**
	39nm,0.3s,baz=303,slow=23,SNR=13						
JHJ				S	**Sn**	**14 12 56.6**	**-1.7**
	60nm,0.3s,baz=348,slow=23,SNR=7.2						
JNU	**Nakatsue**	**8.23**	**252**	P	**Pn**	**14 13 37.2**	**+0.2**
	0.3nm,0.3s,baz=150,slow=18,SNR=1.5						
ASAJ	**Asahikawa**	**8.28**	**12**	P	**Pn**	**14 13 37.0**	**-0.5**
	0.8nm,0.3s,baz=135,slow=24,SNR=2.1						
ASAJ				S	**Sn**	**14 15 05.2**	**-4.3**
	0.1nm,0.3s,baz=296,slow=33,SNR=1.3						
JCJ	**Chichijima**	**9.06**	**169**	P	**Pn**	**14 13 44.2**	**-4.0**
	1.8nm,0.3s,baz=278,slow=22,SNR=1.6						
JCJ				S	Sn	14 15 18.1	-11
	2.7nm,0.3s,baz=95,slow=22,SNR=1.6						
KSRS	**Korea Array**	**9.97**	**282**	P	**Pn**	**14 14 01.9**	**+1.2**
	baz=95,slow=14,SNR=7.3						
KSRS				LR	LR	14 17 43.0	
	comp=Z,22nm,18.5s,baz=85,slow=36						
SONM	**Songino Array**	**27.57**	**306**	P	**P**	**14 17 20.1**	**-0.9**
	0.7nm,0.7s,baz=94,slow=8.1,SNR=1.5						
H11S1	**WAKE ISLAND Hy**	**29.16**	**120**	T	T	14 48 10.7	
	baz=313,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.16**	**120**	T	T	14 48 36.3	
	baz=313,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.17**	**120**	T	T	14 48 37.0	
	baz=313						
CMAR	**Chiang Mai Arr**	**40.31**	**255**	LR	LR	14 36 18.0	
	comp=Z,11nm,21.1s,baz=125,slow=37						
ZALV	**Zalesovo Beam**	**41.89**	**313**	P	**P**	**14 19 24.2**	**+0.5**
	1.1nm,0.7s,baz=100,slow=6.4,SNR=3.9						
MKAR	**Makanchi Array**	**43.85**	**303**	P	**P**	**14 19 40.4**	**+0.8**
	0.6nm,0.7s,baz=80,slow=9.8,SNR=2.3						
KURBB	**Kurchatov Arra**	**45.87**	**309**	P	**P**	**14 19 56.2**	**+0.6**
	1.6nm,0.6s,baz=77,slow=7.8,SNR=4.7						
AAK	**Ala-Archa**	**50.13**	**299**	LR	LR	14 41 13.9	
	comp=Z,16nm,18.9s,baz=292,slow=35						
ILAR	**Eielson Array**	**50.86**	**32**	P	**P**	**14 20 35.2**	**+1.5**
	0.4nm,0.6s,baz=267,slow=6.0,SNR=4.8						
FITZ	**Fitzroy Crossi**	**55.57**	**197**	P	**P**	**14 21 09.1**	**+0.3**
	1.3nm,0.9s,baz=5.1,slow=7.8,SNR=2.4						
WRA	**Warramunga Arr**	**55.94**	**187**	P	**P**	**14 21 10.9**	**-0.5**
	0.8nm,0.5s,baz=0.3,slow=7.5,SNR=27						
ASAR	**Alice Springs**	**59.67**	**187**	P	**P**	**14 21 36.2**	**-1.3**
	0.4nm,0.5s,baz=9.2,slow=11,SNR=18						

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*SOME **05** 14:16:00.7, 43°.15N×78°.75E, h20km*
*NNC **05** 14:16:01.8±1.0, 43°.17N×78°.78E, h0km, mpv2.9, Error ellipse: s-maj=9.4km s-min=5.8km az=175.0*
ISC 05 14:16:00.7±1.0, 43°.19N±0°.05×78°.78E±0°.07, h16km±19km, n8, σ0§27/16, 1C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.18**	**103**	*e*P	**Pb**	**14 16 05.8**	**+0.1**
	21nm,0.0s						
UZB				*e*S	**Sb**	**14 16 09.3**	**+0.3**
	43nm,0.1s						
UZB	**Uzynbulak**	**0.18**	**103**	P	**Pb**	**14 16 05.8**	**+0.1**
	21nm,0.0s						
UZB				S	**Sb**	**14 16 09.3**	**+0.3**
	43nm,0.1s						
KPKS	**Kokpek**	**0.29**	**345**	*e*P	**Pb**	**14 16 07.4**	**-0.1**
	38nm,0.1s						
KPKS				*e*S	**Sb**	**14 16 12.2**	**0.0**
	23nm,0.1s						
SATY	**Saty**	**0.30**	**245**	*e*P	**Pg**	**14 16 07.0**	**-0.2**
	8.8nm,0.1s						
SATY				*e*S	**Sg**	**14 16 11.7**	**0.0**
	83nm,0.1s						
SATY	**Saty**	**0.30**	**245**	P	**Pg**	**14 16 07.3**	**0.0**
	5.4nm,0.1s						
SATY				S	**Sg**	**14 16 11.8**	**+0.1**
	113nm,0.1s						
PDGK	**Podgornoye**	**0.54**	**75**	⇑P	**Pb**	**14 16 11.2**	**-0.6**
	0.9nm,0.3s						
PDGK				⇓S	**Sb**	**14 16 19.1**	**-0.2**
	2.8nm,0.4s						
KURS	**Kuram**	**0.54**	**304**	*e*P	**Pg**	**14 16 11.3**	**-0.1**
KURS				*e*S	**Sg**	**14 16 18.8**	**+0.2**
MNBS	**Baschi**	**0.93**	**343**	*e*P	**Pg**	**14 16 18.8**	**0.0**
	2.6nm,0.1s						
MNBS				*e*S	**Sg**	**14 16 31.6**	**+0.5**
	2.3nm,0.1s						

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*VIE **05** 14:21:16.8±0.5, 49°.80N×18°.55E, h0km, mb2.0/3, ml2.5/3, Error ellipse: s-maj=7.2km s-min=2.7km az=161.0 22 km E of Ostrava Suspected Mining induced.*
*IPEC **05** 14:21:17.1±0.2, 49°.82N×18°.58E, h2km±4km, ML2.4/3, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0*
*PRU **05** 14:21:17.6±0.0, 49°.83N×18°.49E, h0km, Mining Induced Event Csm, E=3.0e+05*
ISC 05 14:21:16.5±0.8, 49°.82N±0°.04×18°.49E±0°.02, h0km, n27, σ0§58/49, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.61**	**266**	*e*PG	**Pb**	**14 21 30.3**	**+0.1**
MORC				*e*SG	**Sb**	**14 21 38.3**	**-1.1**
MORC	**Moravsky Berou**	**0.61**	**266**	*e*Pg	**Pb**	**14 21 30.2**	**+0.1**
	baz=86						
MORC				*e*Sg	**Sb**	**14 21 38.3**	**-1.1**
	81nm,0.5s,baz=86						
LANS	**Liptovska Anna**	**0.93**	**136**	*e*PG	**Pb**	**14 21 35.1**	**-0.5**
LANS				*e*SG	**Sb**	**14 21 47.9**	**-0.6**
LANS				*e*LG	Lg	14 21 51.7	
OJC	**Ojcow**	**0.94**	**64**	*e*Pg	**Pg**	**14 21 34.4**	**-0.1**
OJC				*e*Sg	**Sg**	**14 21 46.4**	**-0.1**
JAVC	**Velka Javorina**	**1.10**	**209**	*e*PG	**Pn**	**14 21 39.1**	**-0.2**
JAVC	**Velka Javorina**	**1.10**	**209**	*e*Pg	**Pn**	**14 21 39.1**	**-0.2**
	baz=31						
KRLC	**Kraliky**	**1.13**	**284**	*e*PG	**Pg**	**14 21 38.5**	**+0.3**
KRLC				*e*SG	**Sb**	**14 21 54.4**	**+0.2**
	comp=Z,44nm,0.4s						
NIE	**Niedzica**	**1.25**	**108**	*e*Pg	**Pb**	**14 21 41.0**	**0.0**
NIE				*e*Sg	**Sb**	**14 21 58.0**	**+0.4**
VRAC	**Vranov**	**1.34**	**248**	*e*PG	**Pb**	**14 21 43.0**	**+0.5**
VRAC				*e*SG	**Sn**	**14 22 00.7**	**-0.2**
VRAC	**Vranov**	**1.34**	**248**	*e*Pg	**Pb**	**14 21 43.0**	**+0.5**
	baz=68						
VRAC				*e*Sg	**Sn**	**14 22 00.7**	**-0.2**
	43nm,0.5s,baz=68						
VYHS	**Vyhne**	**1.35**	**170**	*e*PG	**Pn**	**14 21 42.7**	**0.0**
VYHS				*e*SG	**Sn**	**14 22 01.5**	**+0.2**
SMOL	**Smolenice**	**1.48**	**208**	*e*SG	**Sb**	**14 22 04.5**	**+0.1**
SMOL				*e*LG	Lg	14 22 07.0	
DPC	**Dobruska-Polom**	**1.49**	**292**	*e*PG	**Pb**	**14 21 45.2**	**+0.1**
DPC				*e*SG	**Sn**	**14 22 05.3**	**+0.5**
	comp=Z,18nm,0.4s						
KRUC	**Moravsky**	**1.56**	**242**	*e*PG	**Pg**	**14 21 46.6**	**+0.1**
KRUC				*e*SG	**Sg**	**14 22 07.6**	**+0.9**
KRUC	**Moravsky**	**1.56**	**242**	*e*Pg	**Pg**	**14 21 46.5**	**+0.1**
	baz=61						
KRUC				*e*Sg	**Sg**	**14 22 07.6**	**+0.9**
	30nm,0.5s,baz=61						
OSTC	**Ostas**	**1.63**	**298**	*e*PG	**Pb**	**14 21 47.7**	**+0.2**
OSTC				*e*SG	**Sg**	**14 22 09.0**	**0.0**
	comp=Z,30nm,0.7s						
MODS	**Modra-Piesok**	**1.66**	**209**	*e*PN	**Pn**	**14 21 46.7**	**-0.2**
MODS				*e*SN	**Sn**	**14 22 08.8**	**0.0**
MODS				*e*LG	Lg	14 22 10.1	
UPC	**Upice**	**1.73**	**294**	*e*PG	**Pb**	**14 21 49.4**	**+0.2**
UPC				*e*SG	**Sg**	**14 22 13.5**	**+1.4**
	comp=Z,25nm,0.5s						
KSP	**Ksiaz**	**1.74**	**307**	*e*Pg	**Pg**	**14 21 50.4**	**+0.6**
KSP				*e*Sg	**Sg**	**14 22 13.1**	**+0.8**
CHVC	**Chvalec**	**1.74**	**297**	*e*PG	**Pb**	**14 21 49.5**	**+0.1**
CHVC				*e*SG	**Sg**	**14 22 12.8**	**+0.4**
	comp=Z,16nm,0.6s						
KECS	**Kecovo**	**1.88**	**135**	*e*SN	**Sn**	**14 22 14.5**	**+0.2**
KECS				*e*LG	Lg	14 22 19.1	
CRVS	**Cervenica-Dubn**	**2.15**	**114**	*e*PN	**Pg**	**14 21 57.8**	**0.0**
CRVS				*e*SN	**Sb**	**14 22 23.8**	**+0.2**
CRVS				*e*LG	Lg	14 22 32.2	
GOPC	**GO Pecny, Ondr**	**2.40**	**274**	*e*SG	**Sg**	**14 22 33.4**	**0.0**
	comp=Z,13nm,0.7s						
PRU	**Pruhonice**	**2.56**	**275**	*e*PG	**Pg**	**14 22 04.9**	**-0.6**
PRU				*e*SG	**Sg**	**14 22 37.1**	**-1.5**
	comp=Z,13nm,0.7s						
CONA	**Conrad Observa**	**2.57**	**223**	*e*Pn	**Pn**	**14 22 00.2**	**+0.7**
	1.6nm,0.3s						
CONA				Sn	**Sn**	**14 22 31.2**	**-0.3**
	5.9nm,0.4s						
BRG	**Berggiesshubel**	**3.09**	**292**	PG	**Pg**	**14 22 14.5**	**-1.3**
BRG				SG	**Sg**	**14 22 55.3**	**-0.6**
	3.0nm,0.7s						
KHC	**Kasperske Hory**	**3.27**	**260**	*e*PG	**Pg**	**14 22 18.5**	**-0.8**
KHC				*e*SG	**Sg**	**14 23 02.5**	**+0.8**

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*IDC **05** 14:39:08.9±3.2, 36°.09N×70°.17E, h163km±30km, mb3.2/10, mb1 3.3/16, mb1mx3.1/65, mbtmp3.7/16, Error ellipse: s-maj=24.7km s-min=15.9km az=29.0*
*SOME **05** 14:39:14.9, 37°.80N×71°.70E, h20km*
*NNC **05** 14:39:21.2±4.2, 36°.94N×70°.22E, h210km±60km, mb2.9, mpv3.9, Error ellipse: s-maj=42.1km s-min=26.0km az=0.0*
ISC 05 14:39:13.2±0.6, 36°.41N±0°.06×70°.19E±0°.07, h200km, n52, σ1§81/59, mb3.6/10, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.73**	**359**	*e*P	**Pn**	**14 40 39.4**	**+2.4**
	93nm,0.4s						
IUG				*e*S	**Sn**	**14 41 40.7**	**-2.6**
	50nm,0.7s						
THN	**Thein Dam**	**6.05**	**129**	*e*P	**Pn**	**14 40 45.5**	**+4.4**
THN				*e*S	**Sn**	**14 41 51.5**	**+0.9**
AML	**Almayashu**	**6.32**	**24**	P	**Pn**	**14 40 46.5**	**+1.5**
	SNR=18						
BRLS	**Borolday**	**6.62**	**358**	*e*P	**Pn**	**14 40 46.7**	**-1.7**
	7.2nm,0.5s						
BRLS				*e*S	Sn	14 41 52.4	-11
	12nm,1.2s						
KK31	**Karatay Array**	**6.69**	**2**	⇓P	**Pn**	**14 40 50.8**	**+1.5**
	4.6nm,0.5s,baz=185,slow=12,SNR=57						
KK31				⇓S	**Sn**	**14 42 02.7**	**-2.9**
	9.0nm,0.7s,baz=184,slow=23,SNR=4.6						
UCH	**Uchtor**	**6.70**	**29**	P	**Pn**	**14 40 51.4**	**+1.5**
	SNR=19						
MRKS	**Merke**	**6.74**	**19**	*e*P	**Pn**	**14 40 51.6**	**+1.5**
	15nm,0.3s						
MRKS				*e*S	**Sn**	**14 42 01.1**	**-6.0**
	27nm,0.5s						
EKS2	**Erkin-Say**	**6.83**	**23**	P	**Pn**	**14 40 53.3**	**+2.0**
	SNR=14						
KZA	**Kyzart**	**6.88**	**33**	P	**Pn**	**14 40 53.5**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**7.05**	**27**	P	**Pn**	**14 40 54.1**	**0.0**
	2.6nm,0.3s,baz=153,slow=4.8,SNR=10.0						
AAK				S	**Sn**	**14 42 12.1**	**-2.2**
	2.2nm,0.3s,baz=315,slow=21,SNR=18						
AAK	**Ala-Archa**	**7.05**	**27**	P	**Pn**	**14 40 56.7**	**+2.5**
	SNR=6.3						
AAK	**Ala-Archa**	**7.05**	**27**	⇑P	**Pn**	**14 40 56.5**	**+2.4**
	5.2nm,0.5s						
AAK				S	**Sn**	**14 42 12.2**	**-2.1**
	20nm,0.6s						
BHK	**Bhakra**	**7.18**	**132**	*ex*	**Sn**	**14 42 15.8**	**-1.6**
TKM2	**Tokmak 2**	**7.72**	**31**	P	**Pn**	**14 41 04.3**	**+1.3**
	SNR=8.6						
TKM2	**Tokmak 2**	**7.72**	**31**	⇑P	**Pn**	**14 41 04.1**	**+1.2**
	2.0nm,0.3s						
TKM2				⇑S	**Sn**	**14 42 27.2**	**-3.0**
	12nm,0.9s						
KST	**Kastek**	**7.97**	**32**	*e*P	**Pn**	**14 41 07.6**	**+1.4**
	6.3nm,0.5s						
KST				*e*S	Sn	14 42 28.6	-7.5
	17nm,0.7s						
GEYT	**Alibeck**	**9.76**	**283**	P	**Pn**	**14 41 25.2**	**-4.1**
	0.3nm,0.3s,baz=107,slow=14,SNR=1.4						
PYUN	**Piuthan**	**13.63**	**124**	*e*P	**Pn**	**14 42 18.7**	**-0.1**
	31nm,0.4s						
PYUN	**Piuthan**	**13.63**	**124**	*e*P	**Pn**	**14 42 18.7**	**-0.1**
	31nm,0.4s						
MKAR	**Makanchi Array**	**13.75**	**37**	P	**Pn**	**14 42 20.6**	**+0.7**
	0.1nm,0.3s,baz=229,slow=14,SNR=5.4						
KOLN	**Koldanda**	**14.25**	**123**	*e*P	**Pn**	**14 42 26.3**	**-0.2**
	7.3nm,0.3s						
KOLN	**Koldanda**	**14.25**	**123**	*e*P	**Pn**	**14 42 26.3**	**-0.2**
	7.3nm,0.3s						
GKN	**Gorkha**	**14.81**	**120**	*e*P	**P**	**14 42 34.0**	**-0.3**
	32nm,0.4s						
GKN	**Gorkha**	**14.81**	**120**	*e*P	**P**	**14 42 34.0**	**-0.3**
	32nm,0.4s						
AB31	**Akbulak array**	**14.86**	**333**	⇑P	**P**	**14 42 36.7**	**+2.4**
	1.6nm,0.5s						
DMN	**Daman**	**15.38**	**121**	*e*P	**P**	**14 42 41.1**	**+0.4**
	11nm,0.3s						
DMN	**Daman**	**15.38**	**121**	*e*P	**P**	**14 42 41.1**	**+0.4**
	11nm,0.3s						
KURBB	**Kurchatov Arra**	**15.42**	**20**	P	**Pn**	**14 42 40.9**	**+0.6**
	0.1nm,0.3s,baz=206,slow=12,SNR=2.3						
PKI	**Pulchoki**	**15.62**	**120**	*e*P	**P**	**14 42 43.9**	**+0.6**
PKI	**Pulchoki**	**15.62**	**120**	*e*P	**P**	**14 42 43.9**	**+0.6**
JIRN	**Jiri**	**16.11**	**118**	*e*P	**Pn**	**14 42 50.3**	**+1.0**
JIRN	**Jiri**	**16.11**	**118**	*e*P	**Pn**	**14 42 50.3**	**+1.0**
AKTO	**Aktyubinsk**	**16.54**	**332**	P	**Pn**	**14 42 55.2**	**+1.4**
	0.7nm,0.3s,baz=144,slow=10,SNR=7.2						
AKTO	**Aktyubinsk**	**16.54**	**332**	⇑P	**Pn**	**14 42 54.6**	**+0.8**
	1.8nm,0.5s						
BVAR	**Borovoye Array**	**16.61**	**0**	P	**Pn**	**14 42 56.3**	**+1.7**
	0.4nm,0.3s,baz=172,slow=14,SNR=7.8						
RAMN	**Ramite**	**16.83**	**119**	*e*P	**Pn**	**14 42 58.7**	**+0.9**
	29nm,0.6s						
RAMN	**Ramite**	**16.83**	**119**	*e*P	**Pn**	**14 42

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	17.45	118	*e*P	Pn	14 43 05.1	+0.1
	37nm,0.6s						
ZALV	**Zalesovo Beam**	20.27	26	P	P	14 43 33.8	+0.6
	1.9nm,0.4s,baz=216,slow=9.5,SNR=9.7						
KIRV	**Kirov**	26.04	335	P	P	14 44 29.4	+1.7
	8.6nm,0.5s,baz=140,slow=7.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	30.99	118	P	P	14 45 09.9	-2.1
	0.4nm,0.4s,baz=301,slow=9.3,SNR=1.9						
FINES	**FINESS Array B**	37.19	326	P	P	14 46 05.8	+1.0
	2.7nm,0.9s,baz=128,slow=11,SNR=4.3						
ARCES	**ARCESS Array B**	40.98	338	P	P	14 46 37.7	+1.7
	2.5nm,0.8s,baz=94,slow=7.3,SNR=6.1						
HFS	**Hagfors**	42.73	322	P	P	14 46 51.4	+1.1
	0.8nm,0.4s,baz=99,slow=15,SNR=6.6						
NOA	**NORSAR Array B**	44.06	323	P	P	14 47 00.8	-0.2
	0.3nm,0.4s,baz=100,slow=7.8,SNR=3.3						
EKA	**Eskdalemuir Ar**	51.90	316	P	P	14 48 02.0	+1.0
	0.1nm,0.3s,baz=69,slow=7.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	65.06	268	P	P	14 49 32.3	-0.3
	0.7nm,0.5s,baz=50,slow=5.5,SNR=4.5						
WRA	**Warramunga Arr**	82.50	121	P	P	14 51 12.5	-1.2
	0.1nm,0.7s,baz=316,slow=5.7,SNR=1.6						
ASAR	**Alice Springs**	84.74	124	P	P	14 51 23.9	-1.1
	0.3nm,1.0s,baz=307,slow=5.0,SNR=2.6						

DDA ***05*** *14:52:44.9, 35.°50N×27.°60E, h7km±1km, MW3.7*
IDC ***05*** *14:52:45.4±1.1, 35.°42N×27.°79E, h0km, mb3.6/7, mb1 3.7/14, mb1mx3.5/43, mbtmp3.6/14, ML3.6/7, MS2.5/4, Ms1 2.5/4, ms1mx2.3/46, Error ellipse: s-maj=20.1km s-min=15.5km az=175.0*
NIC ***05*** *14:52:47.0±0.0, 35.°48N×27.°75E, h10km±1km, Ml4.0/3*
ISK ***05*** *14:52:47.3, 35.°56N×27.°71E, h4km, ML3.6/16*
ATH ***05*** *14:52:48.4, 35.°61N×27.°67E, h20km±1km, ML3.2/12, Error ellipse: s-maj=3.5km s-min=1.1km az=140.0*
GII ***05*** *14:52:49.1±0.0, 35.°23N×27.°94E, h5km, MD3.5/2*
THE ***05*** *14:52:49.3, 35.°63N×27.°68E, h1km±2km, ML3.2/4, Error ellipse: s-maj=3.9km s-min=1.0km az=140.0*
HLW ***05*** *14:52:50.7, 35.°37N×27.°83E, h25km±20km, Md3.9, Ml3.7*
ISC 05 14:52:47.1±1.1, 35.°49N±0.°03×27.°79E±0.°02, h11km±8km, n145, σ1§47/182, mb3.6/7, 7C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	0.52	277	P	Pg	14 52 56.8	-0.5
KARP				S	Sg	14 53 05.1	+1.0
	3μm,0.4s						
KARP	**Karpathos**	0.52	277	P	Pg	14 52 56.8	-0.5
KARP				S	Sg	14 53 03.7	-0.3
KARP				AML	AML	14 53 11.4	
	comp=N,6037μm,0.6s						
KARP				AML	AML	14 53 11.6	
	comp=E,6586μm,0.5s						
KARP	**Karpathos**	0.52	277	PG	Pg	14 52 56.8	-0.5
KARP				SG	Sg	14 53 03.5	-0.6
KARP	**Karpathos**	0.52	277	⇑P	Pg	14 52 56.7	-0.5
KARP				S	Sg	14 53 04.3	+0.2
ARG	**Arkhangelos**	0.78	20	P	Pg	14 53 02.0	-0.2
ARG				S	Sg	14 53 13.2	+0.9
	comp=E,2μm,0.4s						
ARG	**Arkhangelos**	0.78	20	P	Pg	14 53 02.0	-0.2
ARG				S	Sg	14 53 12.6	+0.3
ARG				AML	AML	14 53 18.0	
	comp=E,4943μm,0.3s						
ARG				AML	AML	14 53 23.3	
	comp=N,3712μm,0.3s						
ARG	**Arkhangelos**	0.78	20	PG	Pg	14 53 01.9	-0.2
ARG				SG	Sg	14 53 12.8	+0.5
ARG	**Arkhangelos**	0.78	20	⇑P	Pg	14 53 01.9	-0.2
ARG				S	Sb	14 53 14.0	+0.8
NISR	**Nisiros**	1.24	335	P	Pb	14 53 09.2	-1.5
NISR	**Nisiros**	1.24	335	P	Pb	14 53 09.2	-1.5
NISR				AML	AML	14 53 40.2	
	comp=E,2804μm,0.7s						
NISR				AML	AML	14 53 45.7	
	comp=N,1664μm,0.6s						
DAT	**Datca**	1.25	352	P	Pb	14 53 10.1	-0.7
DAT				S	Sg	14 53 26.1	-1.3
DAT	**Datca**	1.25	352	PN	Pb	14 53 10.3	-0.5
DAT				SN	Sg	14 53 27.1	-0.3
MRSB	**Marmaris-Mugla**	1.27	15	PN	Pn	14 53 11.1	+0.2
MRSB				SN	Sb	14 53 28.5	+1.0
TURN	**Turunc**	1.34	16	PN	Pn	14 53 12.2	+0.4
TURN				SN	Sn	14 53 30.8	+1.3
TURN	**Turunc**	1.34	16	*i* P	Pn	14 53 11.7	-0.1
TURN				*i* S	Sb	14 53 29.8	+0.4
TURN				IAML		14 53 37.0	
	comp=E,2μm,0.8s						
TURN				IAML		14 53 38.0	
	comp=N,1μm,0.5s						
ZKR	**Zakros**	1.34	254	P	Pn	14 53 12.2	+0.4
ZKR				S	Sn	14 53 31.6	+1.9
	comp=N,2μm,0.6s						
ZKR	**Zakros**	1.34	254	P	Pn	14 53 12.2	+0.4
ZKR				AML	AML	14 53 39.4	
	comp=E,4854μm,0.7s						
ZKR				AML	AML	14 53 40.0	
	comp=N,1966μm,0.6s						
ZKR	**Zakros**	1.34	254	PN	Pn	14 53 12.4	+0.6
ZKR				SN	Sn	14 53 31.3	+1.6
KOSK	**Kos Island**	1.42	333	PN	Pn	14 53 13.3	+0.4
KOSK				SN	Sb	14 53 32.2	+0.4
DALY	**Dalyan (Mula)**	1.50	28	PN	Pn	14 53 15.3	+1.3
FETY	**Fethiye**	1.55	42	P	Pn	14 53 16.2	+1.5
FETY	**Fethiye**	1.55	42	PN	Pn	14 53 16.3	+1.5
KSL	**Kastellorizon**	1.60	65	P	Pn	14 53 17.4	+2.0
KSL	**Kastellorizon**	1.60	65	P	Pn	14 53 17.4	+2.0
KSL	**Kastellorizon**	1.60	65	⇑P	Pn	14 53 15.9	+0.5
KSL				S	Sn	14 53 37.8	+1.8
BODT	**Bodrum**	1.62	346	P	Pn	14 53 15.6	-0.1
BODT	**Bodrum**	1.62	346	PN	Pn	14 53 15.8	+0.1
BODT				SN	Sn	14 53 37.1	+0.6
AKAS	**Kas**	1.65	63	PN	Pn	14 53 18.0	+1.7
AKAS	**Kas**	1.65	63	*i* P	Pn	14 53 17.9	+1.7
AKAS				*i* S	Sg	14 53 42.9	+2.7
AKAS				IAML		14 54 05.0	
	comp=E,149nm,0.6s						
AKAS				IAML		14 54 09.0	
	comp=N,224nm,0.8s						
YER	**Yerkesik**	1.69	13	P	Pn	14 53 18.4	+1.7
YER	**Yerkesik**	1.69	13	PN	Pn	14 53 18.1	+1.4
FRMA	**Ierapetra Chan**	1.75	255	P	Pn	14 53 18.1	+0.7
NPS	**Neapolis**	1.79	263	P	Pn	14 53 19.9	+1.8
NPS	**Neapolis**	1.79	263	P	Pn	14 53 19.9	+1.8
NPS				AML	AML	14 53 59.7	
	comp=E,2009μm,0.7s						
NPS				AML	AML	14 54 00.8	
	comp=N,1538μm,0.8s						
ANAF	**Anafi Island**	1.85	298	P	Pn	14 53 19.6	+0.7
ANAF	**Anafi Island**	1.85	298	P	Pn	14 53 19.6	+0.7
ANAF				AML	AML	14 53 47.1	
	comp=E,3853μm,0.4s						
ANAF				AML	AML	14 53 52.4	
	comp=N,5268μm,0.4s						
LAST	**Lasithi**	1.92	261	P	Pb	14 53 22.1	-0.1
LAST	**Lasithi**	1.92	261	P	Pb	14 53 22.1	-0.1
LAST				AML	AML	14 54 02.2	
	comp=N,964μm,0.6s						
LAST				AML	AML	14 54 06.8	
	comp=E,1033μm,1.1s						
AMGA	**Amorgos Island**	2.04	312	P	Pn	14 53 21.5	+0.1
AMGA	**Amorgos Island**	2.04	312	P	Pn	14 53 21.1	-0.4
AMGA				AML	AML	14 53 52.2	
	comp=E,808μm,0.6s						
AMGA				AML	AML	14 54 00.2	
	comp=N,655μm,0.6s						
SANT	**Santorini**	2.09	296	P	Pn	14 53 22.3	+0.2
SANT	**Santorini**	2.09	296	P	Pn	14 53 22.3	+0.2
SANT				AML	AML	14 53 58.5	
	comp=N,646μm,0.7s						
SANT				AML	AML	14 53 58.6	
	comp=E,1246μm,0.6s						
SANT	**Santorini**	2.09	296	PN	Pn	14 53 22.5	+0.4
ELL	**Elmali**	2.13	53	PN	Pn	14 53 24.7	+1.9
ELL	**Elmali**	2.13	53	P	Pn	14 53 23.1	+0.3
SAP1	**Santorini-Akro**	2.13	295	P	Pn	14 53 22.5	-0.1
SAP1	**Santorini-Akro**	2.13	295	P	Pn	14 53 22.5	-0.1
THT2	**Imerovigli**	2.14	297	PN	Pn	14 53 23.6	+0.7
CMBO	**Columbo, Santo**	2.17	298	P	Pn	14 53 23.6	+0.4
CMBO	**Columbo, Santo**	2.17	298	P	Pn	14 53 23.6	+0.4
AYDN	**Tasoluk**	2.17	2	*i* P	Pn	14 53 23.9	+0.6
AYDN				*i* S	Sb	14 53 53.2	-0.2
AYDN				IAML		14 53 56.0	
	comp=N,269nm,0.6s						
AYDN				IAML		14 53 58.0	
	comp=E,195nm,0.3s						
TAVA	**DENIZLI_Tavas**	2.17	24	*i* P	Pn	14 53 25.4	+2.0
TAVA				*i* S	Sb	14 53 55.4	+1.9
TAVA				IAML		14 54 02.0	
	comp=N,343nm,0.8s						
TAVA				IAML		14 54 05.0	
	comp=E,324nm,0.5s						
HRKL	**Herakleio**	2.20	266	PN	Pn	14 53 24.9	+1.2
GCAM	**G?zelcaml?**	2.25	349	PN	Pn	14 53 25.4	+1.0
GCAM	**G?zelcaml?**	2.25	349	*i* P	Pn	14 53 24.6	+0.3
GCAM				IAML		14 53 56.0	
	comp=E,121nm,0.5s						
GCAM				IAML		14 53 56.0	
	comp=N,116nm,0.5s						
GOLH	**Golhisar**	2.25	39	*i* P	Pn	14 53 27.1	+2.6
GOLH				*i* S	Sn	14 53 55.4	+3.0
SMG	**Samos**	2.34	341	P	Pn	14 53 25.9	+0.2
SMG	**Samos**	2.34	341	P	Pn	14 53 25.9	+0.2
SMG				AML	AML	14 53 59.1	
	comp=N,513μm,0.4s						
SMG				AML	AML	14 53 59.9	
	comp=E,938μm,0.4s						
IDI	**Anoyia**	2.38	266	Pn	Pn	14 53 26.9	+0.7
	comp=E,12nm,0.3s,baz=54,slow=13,SNR=44						
IDI				Sn	Sn	14 53 58.0	+2.6
	comp=E,17nm,0.3s,baz=276,slow=9.6,SNR=5.3						
IDI				LR	LR	14 54 32.1	
	comp=E,60nm,21.4s,baz=114,slow=45						
IDI	**Anoyia**	2.38	266	P	Pn	14 53 27.1	+1.0
IDI	**Anoyia**	2.38	266	P	Pn	14 53 27.1	+1.0
IDI				AML	AML	14 54 09.5	
	comp=E,391μm,0.8s						
IDI				AML	AML	14 54 12.2	
	comp=N,432μm,0.8s						
IDI	**Anoyia**	2.38	266	PN	Pn	14 53 27.3	+1.1
APE	**Apeiranthos**	2.41	311	P	Pn	14 53 26.3	-0.3
APE	**Apeiranthos**	2.41	311	P	Pn	14 53 26.3	-0.3
APE				AML	AML	14 54 01.5	
	comp=E,400μm,0.6s						
APE				AML	AML	14 54 03.1	
	comp=N,374μm,0.4s						
APE	**Apeiranthos**	2.41	311	PN	Pn	14 53 26.6	0.0
APE	**Apeiranthos**	2.41	311	*i* P	Pn	14 53 25.9	-0.8
APE				*i* S	Sn	14 53 52.2	-4.0
APE	**Apeiranthos**	2.41	311	⇑P	Pn	14 53 26.3	-0.3
APE				S	Sn	14 53 57.0	+0.8
SIVA	**Sivas**	2.48	260	P	Pb	14 53 30.9	-0.9
SIVA	**Sivas**	2.48	260	P	Pn	14 53 29.9	+2.4
KORT	**Korkueli**	2.56	53	*i* P	Pn	14 53 31.3	+2.5
BRDR	**BURDUR-Merkez**	2.86	39	*i* P	Pn	14 53 34.8	+2.0
VAM	**Vamos**	2.93	269	P	Pn	14 53 36.6	+2.9
VAM	**Vamos**	2.93	269	P	Pn	14 53 35.6	+1.9
MHLO	**Agia Marina, M**	3.00	295	P	Pn	14 53 37.2	+2.6
MHLO	**Agia Marina, M**	3.00	295	P	Pn	14 53 35.6	+1.1
URLA	**Izmir**	3.02	342	*i* P	Pn	14 53 35.5	+0.6
URLA				*i* S	Sn	14 54 09.7	-1.5
MANT	**Manisa**	3.06	11	*i* P	Pn	14 53 36.5	+0.9
MANT				*i* S	Sn	14 54 01.8	-11
GVDS	**Gavdos**	3.10	259	PN	Pn	14 53 38.2	+2.2
IMMV	**Iera Moni Meta**	3.11	271	P	Pn	14 53 37.8	+1.6
IMMV	**Iera Moni Meta**	3.11	271	P	Pn	14 53 37.2	+1.0
IMMV	**Iera Moni Meta**	3.11	271	PN	Pn	14 53 37.8	+1.6
SERI	**Serifos**	3.15	303	P	Pn	14 53 38.0	+1.3
SERI	**Serifos**	3.15	303	P	Pn	14 53 38.0	+1.3
CHOS	**Chios island**	3.21	335	P	Pn	14 53 39.8	+2.2
CHOS	**Chios island**	3.21	335	P	Pn	14 53 39.0	+1.4
USAK	**Uak-Merkez**	3.37	17	*i* P	Pn	14 53 40.2	+0.4
USAK				IAML		14 54 28.0	
	comp=E,33nm,0.8s						
KEPZ	**Antalya-Kepez**	3.39	64	*i* P	Pn	14 53 42.8	+2.7
KEPZ				*i* S	Sn	14 54 23.0	+2.7
OSC1	**CSNet OBS 1**	3.50	124	P	Pn	14 53 42.0	+0.5
OSC1				S	Sn	14 54 24.5	+1.7
ANKY	**Antikythira Is**	3.67	277	P	Pn	14 53 45.2	+1.3
ANKY	**Antikythira Is**	3.67	277	P	Pn	14 53 45.2	+1.3
AKMS	**Akamas**	3.75	96	P	Pn	14 53 45.8	+0.8
AKMS				AML	AML	14 54 32.6	
	comp=E,0.6nm,0.6s						
AKMS				AML	AML	14 54 32.7	
	comp=E,0.6nm,0.4s						
STEP	**BALIKESIR_Sava**	3.88	359	*i* P	Pn	14 53 46.1	-0.7
KTHA	**Kythira Island**	3.92	283	P	Pn	14 53 49.2	+1.9
KTHA	**Kythira Island**	3.92	283	P	Pn	14 53 49.2	+1.9
ALFC	**Alefka**	3.95	93	⇑P	Pn	14 53 48.3	+0.6
ALFC				AML	AML	14 54 36.5	
	comp=E,0.4nm,0.5s						
ALFC				AML	AML	14 54 36.6	
	comp=E,0.6nm,0.5s						
NATA	**Nata**	3.98	99	P	Pn	14 53 49.0	+0.9
VLY	**Voula,Athens**	3.98	307	P	Pn	14 53 50.0	+1.8
VLY	**Voula,Athens**	3.98	307	P	Pn	14 53 50.0	+1.8
DION	**Dionisos Attik**	4.03	311	P	Pn	14 53 49.6	+0.7
DION	**Dionisos Attik**	4.03	311	P	Pn	14 53 50.0	+1.1
DOGA	**KONYA_Doganhis**	4.06	49	*i* P	Pn	14 53 52.6	+3.2
VLI	**Veliai**	4.12	289	P	Pn	14 53 51.5	+1.5
VLI	**Veliai**	4.12	289	P	Pn	14 53 51.6	+1.5
DURS	**Dursunbey**	4.14	7	*i* P	Pn	14 53 50.8	+0.3
DID	**Didima**	4.18	300	P	Pn	14 53 52.6	+1.6
DID	**Didima**	4.18	300	P	Pn	14 53 52.6	+1.6
SZAC	**Souni**	4.24	98	⇑P	Pn	14 53 52.5	+0.8
SZAC				AML	AML	14 54 44.3	
	comp=E,0.6nm,0.8s						
OSC2	**CSNet OBS 4**	4.42	122	P	Pn	14 53 55.4	+1.3
OSC2				S	Sn	14 54 47.6	+1.9
ASGA	**Asgata**	4.53	97	P	Pn	14 53 56.3	+0.6
SLUM	**Salum**	4.53	209	P	Pn	14 53 56.8	+1.1
	baz=211						
SLUM				AMP		14 54 00.0	
	baz=211						
SLUM				S	Sn	14 54 48.7	+0.3
	baz=211						
CSS	**Mathiatis**	4.56	95	Pn	Pn	14 53 57.0	+0.8
CSS	**Mathiatis**	4.56	95	P	Pn	14 53 57.1	+0.8
MVOU	**Mavrovouni**	4.80	94	⇑P	Pn	14 53 59.9	+0.4
BRTR	**Keskin Array B**	6.28	46	Pn	Pn	14 54 23.2	+3.3
	comp=E,0.3nm,0.3s,baz=236,slow=15,SNR=2.1						
BRTR				Sn	Sn	14 55 34.6	+3.0
	comp=E,0.2nm,0.3s,baz=217,slow=26,SNR=2.9						
KOT	**Kottamia**	6.51	147	P	Pn	14 54 24.8	+1.9
	baz=147						
SWA2		6.53	198	P	Pn	14 54 25.5	+2.3
	baz=199						
SWA2				AMP		14 55 00.0	
	baz=199						
RSH		6.71	131	P	Pn	14 54 26.9	+1.2
	baz=130						
MMA0B	**Mount Meron ar**	6.77	109	Pn	Pn	14 54 26.7	+0.2
MMA0B				Sn	Sn	14 55 43.1	-0.6
MMAI	**Mount Meron Ar**	6.77	109	Pn	Pn	14 54 26.1	-0.4
	comp=E,4.3nm,0.3s,baz=315,slow=12,SNR=23						
MMAI				Sn	Sn	14 55 41.4	-2.2
	comp=E,2.1nm,0.3s,baz=306,slow=29,SNR=3.6						
MMAI				LR	LR	14 58 44.5	
	comp=E,30nm,18.5s,baz=105,slow=53						
GEM	**Giv'at Ha'Em**	6.90	107	Pn	Pn	14 54 28.0	-0.2
GEM				Sn	Sn	14 55 45.6	-1.1
NATI	**Neve Ativ**	6.94	106	Pn	Pn	14 54 28.5	-0.2
SUZ	**Suez**	7.05	142	P	Pn	14 54 31.7	+1.3
	baz=141						
AMAZ	**Amatzia**	7.14	122	Pn	Pn	14 54 31.7	+0.1
AMAZ				Sn	Sn	14 55 51.1	-1.6
KZIT	**Kziot**	7.18	128	Sn	Sn	14 55 51.6	-2.0
HMDT	**Nahal Hemdat**	7.20	114	Pn	Pn	14 54 32.4	+0.1
YTIR	**Yattir**	7.38	122	Pn	Pn	14 54 35.1	+0.2
DSI	**Dead Sea**	7.44	120	Pn	Pn	14 54 35.1	-0.6
PRNI	**Paran**	7.94	128	Pn	Pn	14 54 42.3	-0.2
PRNI				Sn	Sn	14 56 09.1	-3.2
HRFI	**Mount Harif**	8.17	130	Pn	Pn	14 54 45.6	-0.1
HRFI				Sn	Sn	14 56 15.6	-2.5
ASF	**Jabal al Asfar**	8.27	111	Pn	Pn	14 54 46.5	-0.6
	comp=E,0.2nm,0.3s,baz=259,slow=3.0,SNR=1.6						
ASF				Sn	Sn	14 56 25.0	+4.5
	comp=E,0.2nm,0.3s,baz=328,slow=16,SNR=1.9						
EIL	**Elat**	8.38	132	Pn	Pn	14 54 48.4	-0.1
	comp=E,0.7nm,0.3s,baz=332,slow=3.6,SNR=14						
EIL				Sn	Sn	14 56 19.1	-3.9
	comp=E,1.1nm,0.3s,baz=350,slow=13,SNR=3.9						
EIL	**Elat**	8.38	132	Pn	Pn	14 54 48.4	-0.1
EIL				Sn	Sn	14 56 19.4	-3.7
MLR	**Muntele Rosu**	10.09	353	Pn	Pn	14 55 15.2	+3.1
	comp=E,0.2nm,0.3s,baz=115,slow=20,SNR=4.1						
VYHS	**Vyhne**	14.59	336	*e*PN	Pn	14 56 09.0	-4.4
VRAC	**Vranov**	16.07	333	LR	LR	15 04 31.3	
	comp=E,20nm,18.2s,baz=60,slow=44						
GERES	**GERESS Array B**	16.91	326	Pn	P	14 56 46.0	+0.2
	comp=E,0.1nm,0.3s,baz=140,slow=13,SNR=4.1						
KHC	**Kasperske Hory**	17.17	327	*e*P	Pn	14 56 45.5	-1.5
ESDC	**Sonseca Array**	25.44	289	P	P	14 58 14.9	-0.1
	comp=E,0.8nm,0.7s,baz=82,slow=8.9,SNR=3.0						
FINES	**FINESS Array B**	26.00	358	P	P	14 58 19.5	-0.2
	comp=E,2.0nm,0.9s,baz=149,slow=11,SNR=2.1						
NOA	**NORSAR Array B**	27.68	343	P	P	14 58 35.0	0.0
	comp=E,0.4nm,0.7s,baz=147,slow=11,SNR=1.7						
ARU	**Arti**	29.53	35	LR	LR	15 12 14.3	
	comp=E,21nm,18.5s,baz=142,slow=40						
TORD	**Torodi Ar. Bea**	32.38	233	P	P	14 59 15.7	-1.2
	comp=E,0.5nm,0.4s,baz=32,slow=9.4,SNR=4.4						
ARCES	**ARCESS Array B**	34.12	359	P	P	14 59 31.0	-0.7
	comp=E,1.3nm,0.9s,baz=162,slow=6.4,SNR=1.4						
MKAR	**Makanchi Array**	41.80	57	P	P	15 00 36.0	-0.7
	comp=E,0.1nm,0.4s,baz=276,slow=7.8,SNR=2.4						
ZALV	**Zalesovo Beam**	43.22	46	P	P	15 00 48.6	+0.5
	comp=E,0.5nm,0.5s,baz=280,slow=8.6,SNR=1.8						

NEIC ***05*** *15:08:45.4±2.8, 21.°3S±0.°1×175.°6W±0.°1, h10km±2km, mb4.5/9, Error ellipse: s-maj=24.9km s-min=20.5km az=10.0*
IDC ***05*** *15:08:46.4±2.2, 21.°53S×175.°71W, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/39, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=68.1km s-min=28.5km az=126.0*
ISC 05 15:08:44.8±0.8, 21.°2S±0.°1×175.°6W±0.°1, h10km, n17, σ1§45/14, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	5.73	69	Pn	Pn	15 10 11.1	+1.2
AFI	**Afiamalu**	8.13	27	Pn	Pn	15 10 49.5	+6.4
	1.2nm,0.3s,baz=240,slow=20,SNR=0.9						
AFI				Sn	Sn	15 12 13.5	-1.6
	1.3nm,0.3s,baz=248,slow=20,SNR=1.9						
FUNA	**Funafuti**	13.60	337	Pn	Pn	15 11 58.5	+0.7
URZ	**Urewera**	18.11	199	P	Pn	15 12 55.3	-1.1
	0.7nm,0.3s,baz=263,slow=2.9,SNR=6.4						
URZ	**Urewera**	18.11	199	IAmb	IAmb	15 12 56.5	
	comp=Z,12nm,1.1s						
COEN	**Coen**	39.88	274	P	P	15 16 18.5	-0.6
COEN				IAmb	IAmb	15 16 35.1	
	comp=Z,7.5nm,1.0s						
AS31	**Alice Springs**	46.56	257	P	P	15 17 15.2	+2.1
ASAR	**Alice Springs**	46.56	257	P	P	15 17 14.9	+1.9
	comp=Z,0.7nm,0.8s,baz=90,slow=9.6,SNR=12						
WB0	**Warramunga Arr**	46.72	262	P	P	15 17 15.9	+1.5
WB0				IAmb	IAmb	15 17 21.3	
	comp=Z,3.5nm,1.4s						
WRA	**Warramunga Arr**	46.74	262	P	P	15 17 16.0	+1.5
	comp=Z,0.3nm,0.7s,baz=97,slow=7.7,SNR=8.2						
WRA	**Warramunga Arr**	46.74	262	IAmb	IAmb	15 17 23.4	
	comp=Z,0.2nm,1.3s						
KNRA	**Kununurra**	52.87	266	P	P	15 18 01.5	+0.3
KNRA				IAmb	IAmb	15 18 07.8	
	comp=Z,14nm,1.4s						
SOEI	**Soe**	58.78	271	P	P	15 18 43.7	-0.1
MORW	**Morawa**	61.64	248	P	P	15 19 01.7	-1.4
QSPA	**South Pole Qui**	68.84	180	P	P	15 19 49.6	+0.2
QSPA				IAmb	IAmb	15 19 51.6	
	comp=Z,8.0nm,1.5s						
PETK	**Petropavlovsk-**	77.57	344	P	P	15 20 46.4	+5.7
	comp=Z,0.5nm,0.7s,baz=133,slow=8.1,SNR=2.3						
AKASG	**Malin Array Be**	144.72	332	PKP	PKiKP	15 28 23.7	-1.7
	comp=Z,0.2nm,0.3s,baz=43,slow=4.4,SNR=4.9						

JMA ***05*** *15:18:38.3±0.1, 23.°65N×121.°85E, h25km, M4.2*
BJI ***05*** *15:18:38.7±0.0, 23.°70N×121.°96E, h31km, mB4.1/1, mb4.0/5, ML3.7/4, Ms3.5/3, Ms7 3.3/3*
NIED ***05*** *15:18:38.4, 23.°65N×121.°85E, h25km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.27; $M_{\theta\theta}$2.32; $M_{\phi\phi}$-2.05; $M_{r\theta}$0.24; $M_{\theta\phi}$-0.43; $M_{\phi r}$0.32; Fault plane solution: $M_0$2.27000×10^{15} NP1: ϕ_s231.00000°, δ86.00000°, λ-169.00000°. NP2: ϕ_s140.00000°, δ79.00000°, λ-4.00000°.*
TAP ***05*** *15:18:39.2, 23.°64N×121.°84E, h24km, ML4.4, C*
IDC ***05*** *15:18:43.1±7.5, 23.°63N×122.°14E, h63km±78km, mb3.3/8, mb1 3.5/9, mb1mx3.3/43, mbtmp3.6/9, ML3.6/1, MS3.0/8, Ms1 3.1/8, ms1mx2.8/23, Error ellipse: s-maj=25.5km s-min=19.2km az=100.0*
ISC 05 15:18:36.8±1.0, 23.°62N±0.°01×121.°95E±0.°01, h10km±7km, n177, σ1§11/277, mb3.5/8, MS2.9/4, 37C-33D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	0.47	319	⇑*i*P	Pb	15 18 47.5	+0.3
	baz

	baz=357						
ENAH			eS	Sb	15 19 05.0	+0.3	
	baz=357						
EDH	**Donghe**	**0.87**	**223** ⇑	iP	Pg	15 18 53.7	0.0
	baz=206						
EDH			S	Sg	15 19 03.5	-1.6	
	baz=206						
FUSS	**Fushou**	**0.90**	**314** ⇓	iP	Pb	15 18 54.4	-0.2
	baz=326						
FUSS			eS	Sg	15 19 04.8	-1.2	
	baz=326						
YUS	**Yu-Shan**	**0.92**	**262**	P	Pg	15 18 55.0	+0.3
	baz=259						
SSLB	**Suanglung**	**0.93**	**281** ⇓	iP	Pg	15 18 54.2	-0.5
	baz=280						
SSLB			eS	Sg	15 19 06.2	-0.6	
	baz=280						
TWT	**Tachien**	**0.95**	**312** ⇓	iP	Pb	15 18 55.4	-0.1
	baz=314						
TWT			eS	Sg	15 19 06.0	-1.5	
	baz=314						
ELDTW	**Lidau**	**0.96**	**244** ⇑	iP	Pg	15 18 54.9	-0.3
	baz=239						
ELDTW			eS	Sg	15 19 05.3	-2.4	
	baz=239						
NNSB	**Datong**	**0.96**	**327** ⇑	iP	Pb	15 18 55.3	-0.2
	baz=331						
NNSB			eS	Sg	15 19 06.3	-1.5	
	baz=331						
NNSH	**Datong**	**0.96**	**327** ⇑	iP	Pb	15 18 55.4	-0.2
	baz=331						
NNSH			eS	Sg	15 19 06.3	-1.5	
	baz=331						
TDCB	**Techi**	**0.96**	**311** ⇓	iP	Pg	15 18 55.4	0.0
	baz=314						
TDCB			S	Sg	15 19 06.3	-1.6	
	baz=314						
NNS	**Nan Shan**	**0.97**	**327** ⇑	iP	Pb	15 18 55.6	-0.2
	baz=332						
NNS			eS	Sg	15 19 07.3	-0.9	
	baz=332						
TWC	**Suao**	**0.99**	**355** ⇑	iP	Pn	15 18 56.8	+0.1
	baz=1.0						
TWC			eS	Sb	15 19 09.0	-0.2	
	baz=1.0						
SMLT	**Sun Moon Lake**	**0.99**	**286** ⇓	iP	Pg	15 18 55.6	-0.4
	baz=285						
SMLT			S	Sg	15 19 07.8	-1.2	
	baz=285						
WHYT	**Xinyi Township**	**1.01**	**275**	⇓P	Pg	15 18 56.1	-0.1
	baz=273						
WHYT			eS	Sg	15 19 08.6	-0.7	
	baz=273						
LONT	**Longtian**	**1.03**	**227** ⇑	iP	Pg	15 18 56.3	-0.4
	baz=234						
LONT			S	Sg	15 19 08.5	-1.7	
	baz=234						
LDUT	**Ludao**	**1.04**	**205** ⇑	iP	Pg	15 18 56.0	-0.8
	baz=200						
LDUT			eS	Sg	15 19 09.0	-1.4	
	baz=200						
TYC	**Yuchr**	**1.04**	**286** ⇓	iP	Pg	15 18 56.2	-0.6
	baz=286						
TYC			eS	Sg	15 19 09.2	-1.1	
	baz=286						
ALS	**Alishan**	**1.05**	**264** ⇓	iP	Pg	15 18 57.2	+0.1
	baz=262						
ALS			S	Sg	15 19 09.4	-1.5	
	baz=262						
NDT	**Datong Townshi**	**1.06**	**338**	⇑P	Pn	15 18 57.4	-0.3
	baz=342						
NDT			eS	Sg	15 19 09.8	-1.2	
	baz=342						
ENTT	**Nioudou**	**1.07**	**341** ⇑	iP	Pn	15 18 57.6	-0.3
	baz=346						
ENTT			eS	Sg	15 19 10.6	-0.9	
	baz=346						
TWE	**Neicheng**	**1.13**	**347** ⇑	iP	Pn	15 18 58.6	0.0
	baz=352						
TWE			eS	Sn	15 19 13.2	-0.9	
	baz=352						
WHP	**Taichung City**	**1.13**	**306** ⇓	iP	Pb	15 18 58.2	-0.2
	baz=307						
WHP			S	Sg	15 19 11.8	-1.5	
	baz=307						
TWGBT	**Beinan**	**1.13**	**225** ⇑	iP	Pb	15 18 57.3	-1.1
	baz=232						
TWGBT			eS	Sb	15 19 10.5	-2.6	
	baz=232						
TWG	**Pinlang**	**1.13**	**226** ⇑	iP	Pb	15 18 57.4	-1.1
	baz=232						
TWG			eS	Sb	15 19 10.4	-2.7	
	baz=232						
TTN	**Taitung**	**1.13**	**221**	P	Pb	15 18 58.1	-0.4
	baz=207						
TTN			eS	Sb	15 19 12.2	-1.1	
	baz=207						
WJS	**Zhushan**	**1.14**	**281** ⇓	iP	Pb	15 18 58.9	+0.4
	baz=279						
WJS			eS	Sb	15 19 12.5	-0.9	
	baz=279						
ILA	**Ilan**	**1.16**	**351**	P	Pn	15 18 59.6	+0.6
	baz=356						
ILA			eS	Sn	15 19 14.5	-0.3	
	baz=356						
CHN5	**Tsauling**	**1.17**	**269** ⇓	iP	Pb	15 18 59.2	+0.2
	baz=267						
CHN5			S	Sb	15 19 13.2	-1.0	
	baz=267						
NSK	**Sanguang**	**1.18**	**333** ⇑	iP	Pb	15 18 59.0	-0.3
	baz=337						
NSK			eS	Sb	15 19 13.5	-1.3	
	baz=337						
STYT	**Tauyuan**	**1.18**	**248** ⇑	iP	Pb	15 18 59.2	-0.2
	baz=233						
STYT			eS	Sb	15 19 12.9	-1.8	
	baz=233						
WNT	**Mingjian**	**1.19**	**283** ⇓	iP	Pn	15 18 59.8	+0.3
	baz=282						
WNT			eS	Sb	15 19 14.5	-0.3	
	baz=282						
EGS		**1.22**	**359** ⇑	iP	Pg	15 19 01.0	+0.7
	baz=18						
NWLT	**Wulai**	**1.22**	**341** ⇑	iP	Pg	15 18 59.9	-0.4
	baz=344						
NWLT			S	Sb	15 19 13.9	-1.9	
	baz=344						
JYNG	**Yonagunijimaku**	**1.23**	**48**	P	Pg	15 19 01.8	+1.3
JYNG				S	Sn	15 19 18.0	+1.3
NTC	**Toucheng**	**1.23**	**355** ⇑	iP	Pg	15 19 00.8	+0.3
	baz=359						
NTC			eS	Sg	15 19 15.9	-0.7	
	baz=359						
TPUB	**Ta-pu**	**1.25**	**256** ⇓	iP	Pn	15 19 00.5	+0.2
	baz=245						
TPUB			S	Sb	15 19 14.8	-1.9	
	baz=245						
WGK	**Gukeng**	**1.27**	**273** ⇓	iP	Pn	15 19 00.9	+0.3
	baz=272						
WGK			eS	Sb	15 19 17.0	-0.3	
	baz=272						
TCU	**Taichung**	**1.28**	**295** ⇓	iP	Pg	15 19 01.4	0.0
	baz=295						
TCU			eS	Sg	15 19 18.6	+0.6	
	baz=295						
WTP	**Ta-pu**	**1.28**	**253** ⇓	iP	Pn	15 19 01.0	+0.2
	baz=250						
WTP			S	Sb	15 19 16.9	-0.7	
	baz=250						
YOJ	**Yonaguni jima**	**1.28**	**49**	P	Pg	15 19 02.7	+1.2
YOJ				S	Sn	15 19 19.2	+1.2
WDLH	**Douliu**	**1.29**	**273** ⇓	iP	Pn	15 19 01.5	+0.6
	baz=272						
WDLH			eS	Sb	15 19 17.4	-0.5	
	baz=272						
TWQ1	**Liyutan**	**1.30**	**304** ⇓	iP	Pg	15 19 01.7	0.0
	baz=305						
TWQ1			S	Sb	15 19 16.9	-1.1	
	baz=305						
NSTT	**Nanjuang**	**1.33**	**320**	P	Pb	15 19 02.0	+0.2
	baz=322						
NSTT			S	Sb	15 19 17.6	-1.3	
	baz=322						
LIOB	**Emei**	**1.33**	**320**	P	Pg	15 19 02.3	-0.1
	baz=322						
LIOB			eS	Sb	15 19 17.4	-1.6	
	baz=322						
NSY	**Sanyi**	**1.34**	**306** ⇓	iP	Pg	15 19 02.7	0.0
	baz=307						
NSY			eS	Sb	15 19 18.9	-0.4	
	baz=307						
SLGT	**Liugui**	**1.35**	**243** ⇑	iP	Pn	15 19 02.0	+0.3
	baz=229						
SLGT			eS	Sb	15 19 18.3	-1.2	
	baz=229						
TIPB	**Shuangxi**	**1.35**	**355** ⇑	iP	Pg	15 19 02.8	0.0
	baz=9.0						
TIPB			eS	Sn	15 19 19.4	-0.4	
	baz=9.0						
WCHH	**Zhanghua**	**1.35**	**290**	⇓P	Pb	15 19 02.4	+0.2
	baz=289						
WCHH			S	Sn	15 19 20.3	+0.6	
	baz=289						
CHN2	**Minshiung**	**1.35**	**267** ⇓	iP	Pb	15 19 02.9	+0.7
	baz=265						
CHN2			eS	Sb	15 19 20.1	+0.5	
	baz=265						
SGST	**Jiashian**	**1.36**	**247** ⇑	iP	Pn	15 19 01.7	-0.2
	baz=233						
SGST			S	Sb	15 19 18.4	-1.5	
	baz=233						
ECL	**Taimali**	**1.37**	**222** ⇑	iP	Pn	15 19 00.4	-1.6
	baz=218						
ECL			eS	Sn	15 19 15.6	-4.5	
	baz=218						
CHN1	**Nanshi**	**1.37**	**252** ⇓	iP	Pn	15 19 02.8	+0.8
	baz=249						
CHN1			eS	Sn	15 19 20.2	-0.1	
	baz=249						
SNST	**Tainan City**	**1.39**	**254**	eP	Pb	15 19 03.1	+0.3
	baz=251						
SNST			eS	Sn	15 19 20.7	+0.1	
	baz=251						
TWA	**Mucha**	**1.40**	**346** ⇑	iP	Pg	15 19 03.2	-0.5
	baz=337						
TWA			eS	Sg	15 19 21.0	-0.8	
	baz=337						
NMLH	**Miaoli**	**1.40**	**311** ⇓	iP	Pb	15 19 03.3	+0.3
	baz=312						
NMLH			eS	Sb	15 19 20.1	-0.8	
	baz=312						
WDJ	**Dajia District**	**1.40**	**302** ⇓	iP	Pb	15 19 03.3	+0.3
	baz=302						
WDJ			eS	Sn	15 19 20.1	-0.7	
	baz=302						
CHY	**Chiayi**	**1.40**	**265**	P	Pb	15 19 03.3	+0.2
	baz=263						
CHY			S	Sn	15 19 21.2	+0.2	
	baz=263						
PTSB	**Yuanli**	**1.40**	**306**	⇓P	Pb	15 19 03.2	+0.1
	baz=307						
PTSB			S	Sn	15 19 20.3	-0.7	
	baz=307						
TATO	**Taipei**	**1.41**	**343** ⇑	iP	Pb	15 19 03.2	-0.1
	baz=346						
TATO			eS	Sb	15 19 19.5	-1.9	
	baz=346						
WTK	**Tuku**	**1.43**	**273**	i P	Pn	15 19 03.4	+0.6
	baz=271						
WTK			eS	Sn	15 19 20.7	-0.9	
	baz=271						
NWF	**Wu-fen Shan**	**1.45**	**354** ⇑	iP	Pg	15 19 05.0	+0.2
	baz=341						
NWF			eS	Sg	15 19 22.6	-1.1	
	baz=341						
WFSB	**Wu-fen Shan**	**1.45**	**354** ⇑	iP	Pg	15 19 04.7	-0.1
	baz=342						
WFSB			eS	Sg	15 19 23.0	-0.7	
	baz=342						
SBCB	**Hsinchu**	**1.46**	**323**	eP	Pg	15 19 04.6	-0.3
	baz=337						
SBCB			eS	Sb	15 19 22.8	0.0	
	baz=337						
TAP1	**Taipei**	**1.47**	**345**	eP	Pg	15 19 04.4	-0.6
	baz=347						
TAP1			eS	Sn	15 19 21.6	-0.9	
	baz=347						
TAP	**Taipei**	**1.47**	**344**	eP	Pg	15 19 04.6	-0.5
	baz=347						
TAP			eS	Sn	15 19 20.4	-2.2	
	baz=347						
HSN	**Hsinchu**	**1.48**	**323**	eP	Pg	15 19 05.0	-0.2
	baz=327						
HSN			eS	Sb	15 19 23.2	+0.1	
	baz=327						
RLNB	**Erlin**	**1.48**	**281**	i P	Pn	15 19 04.2	+0.7
	baz=280						
RLNB			eS	Sn	15 19 22.9	+0.1	
	baz=280						
SSD	**Sandimen**	**1.49**	**235**	i P	Pn	15 19 03.2	-0.4
	baz=227						
SSD			eS	Sn	15 19 23.3	+0.2	
	baz=227						
TSMG	**Majia**	**1.50**	**233**	P	Pn	15 19 03.6	-0.2
	baz=226						
TSMG			S	Sn	15 19 23.4	-0.1	
	baz=226						
NCUH	**Zhongli**	**1.51**	**333**	P	Pb	15 19 04.9	-0.1
	baz=335						
NCUH			i S	Sb	15 19 24.0	-0.2	
	baz=335						
NCU	**National Centr**	**1.51**	**333** ⇓	iP	Pb	15 19 05.2	+0.2
	baz=335						
NCU			S	Sb	15 19 24.2	0.0	
	baz=335						
WLGB	**Puzi**	**1.52**	**265**	eP	Pn	15 19 04.5	+0.5
	baz=263						
WLGB			eS	Sn	15 19 24.0	+0.2	
	baz=263						
SCST	**Cishan**	**1.52**	**242**	P	Pb	15 19 05.5	+0.4
	baz=239						
SCST			eS	Sn	15 19 24.9	+1.0	
	baz=239						
WTCT	**Ta-ch'eng**	**1.55**	**279**	eP	Pn	15 19 04.7	+0.3
	baz=278						
WTCT			eS	Sn	15 19 25.2	+0.7	
	baz=278						
CHN3	**Shinhua**	**1.55**	**250**	eP	Pb	15 19 06.6	+1.0
	baz=247						
CHN3			eS	Sg	15 19 27.6	+0.9	
	baz=247						
ICHU	**Yijhu**	**1.55**	**261**	P	Pn	15 19 05.4	+1.0
	baz=258						
ICHU			eS	Sn	15 19 24.8	+0.2	
	baz=258						
TWS1	**Kuangyinshan**	**1.55**	**342**	P	Pb	15 19 05.5	-0.2
	baz=345						
TWS1			eS	Sb	15 19 25.4	+0.1	
	baz=345						
YM01	**YM01**	**1.56**	**347**	P	Pb	15 19 05.0	-0.8
	baz=337						
YM01			eS	Sn	15 19 23.9	-1.0	
	baz=337						
YM10	**YM10**	**1.57**	**347**	P	Pb	15 19 05.4	-0.6
	baz=338						
YM10			eS	Sn	15 19 24.2	-0.9	
	baz=338						
MASBT	**Mashibuluo**	**1.57**	**231**	eP	Pn	15 19 04.3	-0.4
	baz=218						
YM04	**YM04**	**1.57**	**346**	P	Pb	15 19 05.2	-0.8
	baz=349						
YM05	**YM05**	**1.58**	**347**	P	Pn	15 19 05.1	+0.2
	baz=338						
YM05			eS	Sn	15 19 24.1	-1.3	
	baz=338						
YM11	**YM11**	**1.58**	**348**	P	Pb	15 19 05.5	-0.7
	baz=334						
WSF	**Szhu**	**1.58**	**271**	eP	Pn	15 19 05.2	+0.4
	baz=270						
TAW	**Tawu**	**1.59**	**218**	eP	Pn	15 19 04.0	-0.9
	baz=214						
WMLT	**Mailiao**	**1.59**	**277**	eP	Pn	15 19 05.4	+0.4
	baz=276						
EAST	**Anshuo**	**1.59**	**220**	eP	Pn	15 19 04.0	-1.0
	baz=216						
YM08	**YM08**	**1.60**	**348**	eP	Pn	15 19 05.3	+0.2
	baz=335						
YM03	**YM03**	**1.60**	**347**	eP	Pb	15 19 06.0	-0.4
	baz=349						
ANP	**Anpu**	**1.61**	**346**	eP	Pb	15 19 06.0	-0.7
	baz=349						
ANP			eS	Sn	15 19 24.6	-1.6	
	baz=349						
SGLT	**Jiouru**	**1.61**	**237**	eP	Pb	15 19 07.3	+0.7
	baz=222						
SGLT			eS	Sb	15 19 28.4	+1.4	
	baz=222						
TWM1	**Shoushan**	**1.61**	**241**	eP	Pb	15 19 07.8	+1.2
	baz=238						
LAY	**Lan-yu**	**1.61**	**193**	P	Pn	15 19 04.2	-1.2
	baz=190						
LAY			eS	Sn	15 19 22.8	-3.4	
	baz=190						
CHN8	**Yiju**	**1.62**	**261**	eP	Pn	15 19 06.0	+0.7
	baz=258						
CHN8			S	Sn	15 19 27.0	+0.8	
	baz=258						
TWY	**Chenhua**	**1.68**	**349**	eP	Pb	15 19 07.2	-0.6
	baz=337						
SSPT	**Xinbi**	**1.70**	**229**	eP	Pn	15 19 07.5	+1.0
	baz=219						
SNJT	**Kaohsiung City**	**1.71**	**240**	eP	Pb	15 19 09.1	+0.7
	baz=237						
SCZT	**Fangliau**	**1.74**	**225**	eP	Pn	15 19 07.4	+0.3
	baz=215						
SLIU	**Shizi**	**1.75**	**217**	eP	Pn	15 19 06.6	-0.6
	baz=214						
HATJ	**Hateruma jima**	**1.76**	**75**	P	Pb	15 19 09.1	0.0
HATJ				S	Sb	15 19 31.2	0.0
IRIF	**Iriomote-Funau**	**1.78**	**66**	P	Pb	15 19 09.5	0.0
IRIF				S	Sg	15 19 32.1	-2.0
WLCH	**Liuqiu**	**1.92**	**229**	eP	Pb	15 19 13.1	+1.2
	baz=226						
TWP	**Hsiaoliuchiu**	**1.93**	**229**	eP	Pb	15 19 12.9	+0.8
	baz=226						
HEN	**Hengchun**	**1.96**	**215**	eP	Pn	15 19 10.2	+0.2
	baz=204						
TSEB	**Hengchuen, Pin**	**1.96**	**210**	eP	Pn	15 19 10.2	+0.1
	baz=208						
TWKBT	**Hengchun**	**1.97**	**212**	eP	Pn	15 19 10.0	-0.2
	baz=201						
TWK1	**Hengchun**	**1.97**	**213**	eP	Pn	15 19 10.0	-0.3
	baz=201						
JKRS	**Kuro-shima**	**1.98**	**72**	P	Pb	15 19 12.9	-0.1
JKRS				eS	Sb	15 19 37.9	+0.1
PCYT	**Pengchaiyu**	**2.00**	**3**	eP	Pb	15 19 11.7	-1.7
	baz=6.0						
WDGT	**Dungji**	**2.13**	**261**	eP	Pn	15 19 12.5	+0.1
	baz=259						
JIJ	**Ishigaki jima**	**2.14**	**69**	P	Pb	15 19 14.3	-1.4
JIJ				S	Sb	15 19 40.3	-2.0
PHUB	**P'eng-hu**	**2.18**	**268**	P	Pn	15 19 13.2	+0.1
	baz=267						
PNG	**Penghu**	**2.19**	**269**	eP	Pn	15 19 13.3	0.0
	baz=267						
PNG			eS	Sn	15 19 38.4	-2.1	
	baz=267						
JISG	**Ishigakijimahi**	**2.37**	**65**	P	Pb	15 19 17.3	-2.2
JISG				S	Sn	15 19 44.9	+0.2
VWUC	**VWUC**	**2.66**	**301**	eP	Pn	15 19 18.8	-0.8
	baz=302						
JTJ	**Tarama**	**2.71**	**67**	P	Pb	15 19 22.5	-3.0
JTJ				eS	Sn	15 19 55.1	+1.8
PTTC	**Pingtan**	**2.73**	**314**	eP	Pn	15 19 19.9	-0.7
	baz=315						
PTMZ	**Houxiangcun**	**2.94**	**299**	eP	Pn	15 19 22.9	-0.7
	baz=300						
MATB	**Ma-tsu**	**3.11**	**325**	eP	Pn	15 19 25.0	-0.8
	baz=326						
BBP	**Basco**	**3.16**	**180**	eP	Pn	15 19 25.6	-1.0
JIRB	**Irabujima**	**3.18**	**67**	P	Pn	15 19 29.0	+2.1
JIRB				S	Sn	15 20 07.2	+2.3
JIKM	**Ikemajima**	**3.28**	**66**	P	Pn	15 19 30.6	+2.4
JIKM				eS	Sn	15 20 09.5	+2.2
JMJ2	**Miyako jima3**	**3.28**	**69**	P	Pn	15 19 30.8	+2.5
JMJ2				S	Sn	15 20 09.4	+2.0
KNM	**Kinmen**	**3.31**	**285**	eP	Pn	15 19 29.8	+1.2
	baz=283						
QZH	**Quanzhou**	**3.33**	**294**	Pn	Pn	15 19 28.4	-0.6
QZH				Sn	Sn	15 20 04.4	-4.2
QZH				smax	smax		
	comp=N,160nm,0.2s						
QZH				smax	smax		
	comp=E,89nm,0.4s						
QZH				LR	LR		
	comp=N,470nm,6.6s						
QZH				LR	LR		
	comp=E,320nm,8.5s						
QZH				LR	LR		
	comp=Z,450nm,9.9s						
JOGS	**Gusukube**	**3.36**	**70**	P	Pb	15 19 32.7	-3.7
JOGS				eS	Sb	15 20 12.7	-4.6
KNMB	**Chin-men Tao**	**3.36**	**285**	eP	Pn	15 19 28.7	-0.6
	baz=285						
LYJJ	**Jianjiangzhen**	**3.53**	**326**	eP	Pn	15 19 31.3	-0.3
	baz=328						
MHZQ	**Yeshan**	**3.62**	**314**	eP	Pn	15 19 32.0	-0.9
	baz=315						
AXDP	**Jialang**	**3.85**	**290**	eP	Pn	15 19 35.6	-0.5
	baz=290						
ZPLA	**Ao Xicun**	**3.86**	**275**	eP	Pn	15 19 35.9	-0.2
	baz=273						
ZZJH	**Jiuhuzhen**	**4.04**	**283**	eP	Pn	15 19 38.0	-0.7
	baz=282						
APYP	**Conner**	**5.77**	**187**	eP	Pn	15 20 03.7	+1.3
CVP	**Callao Caves**	**5.89**	**181** ⇑	iP	Pn	15 20 04.8	+0.7
CVP				i S	Sn	15 21 11.1	-0.6
ABRA	**Dolores**	**6.05**	**191**	eP	Pn	15 20 08.0	+1.7
BALP	**Baler**	**7.84**	**183**	eP	Pn	15 20 33.4	+2.3
JNU	**Nakatsue**	**12.30**	**38**	LR	LR	15 27 04.3	
	comp=Z,85nm,20.5s,baz=215,slow=41						
KSRS	**Korea Array**	**14.71**	**19**	P	Pn	15 22 07.5	+2.6
	0.2nm,0.3s,baz=200,slow=12,SNR=18						
KSRS				LR	LR	15 28 30.0	
	comp=Z,68nm,18.0s,baz=196,slow=40						
JCJ	**Chichijima**	**18.61**	**75**	LR	LR	15 28 50.9	
	comp=Z,58nm,19.1s,baz=110,slow=33						
MJAR	**Matsushiro Arr**	**19.04**	**44**	LR	LR	15 31 53.3	
	comp=Z,53nm,18.5s,baz=245,slow=42						
CMAR	**Chiang Mai Arr**	**22.07**	**261**	P	P	15 23 34.0	+2.0
	0.4nm,0.4s,baz=53,slow=8.4,SNR=4.6						
USRK	**Ussuriysk Ar.**	**22.12**	**19**	P	P	15 23 32.7	+0.4
	3.6nm,0.9s,baz=187,slow=10,SNR=7.1						
GUMO	**Guam**	**23.87**	**111**	LR	LR	15 31 40.2	
	comp=Z,21nm,21.2s,baz=306,slow=33						
ASAJ	**Asahikawa**	**26.55**	**35**	P	P	15 24 13.9	-0.8
	1.8nm,0.5s,baz=234,slow=11,SNR=1.5						
KLR	**Kul'dur**	**26.70**	**14**	LR	LR	15 35 10.8	
	comp=Z,43nm,20.4s,baz=200,slow=37						
SONM	**Songino Array**	**27.16**	**337**	P	P	15 24 21.7	+1.3
	0.4nm,0.4s,baz=147,slow=8.6,SNR=1.6						
KAPI	**Kappang**	**28.54**	**185**	LR	LR	15 35 23.5	
	comp=Z,28nm,21.1s,baz=26,slow=35						
WMQ	**Urumqi**	**34.55**	**314**	eP	P	15 25 26.0	+0.5
MKAR	**Makanchi Array**	**39.23**	**316**	P	P	15 26 06.6	+1.3
	0.4nm,0.6s,baz=119,slow=9.9,SNR=6.0						
PETK	**Petropavlovsk-**	**39.95**	**33**	P	P	15 26 09.3	-1.8
	0.8nm,0.9s,baz=312,slow=43,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**41.82**	**86**	T	T	16 11 42.7	
	baz=283,slow=75,SNR=42						
H11N2	**WAKE ISLAND Hy**	**41.82**	**86**	T	T	16 11 42.8	
	baz=283,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**41.84**	**86**	T	T	16 11 43.9	
	baz=283,slow=75,SNR=38						
H11S3	**WAKE ISLAND Hy**	**41.94**	**88**	T	T	16 11 48.6	
	baz=284,slow=75,SNR=45						
H11S1	**WAKE ISLAND Hy**	**41.95**	**88**	T	T	16 11 41.0	
	baz=284,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**41.95**	**88**	T	T	16 11 47.6	
	baz=284,slow=75,SNR=37						
WRA	**Warramunga Arr**	**44.95**	**163**	P	P	15 26 51.6	-0.6
	0.3nm,0.5s,baz=345,slow=8.8,SNR=6.5						
ASAR	**Alice Springs**	**48.42**	**165**	P	P	15 27 19.1	-0.2
	0.4nm,0.8s,baz=338,slow=6.8,SNR=9.1						
NOA	**NORSAR Array B**	**79.05**	**332**	LR	LR	16 07 51.6	
	comp=Z,12nm,19.5s,baz=305,slow=37						

MAN 05 15:18:44.8, 6°.02N×126°.13E, h163km, mb4.6, ML3.5, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.42**	**282**	eP	Pn	15 19 06.6	-0.7
DDMP				eS	Sn	15 19 23.1	-1.4
MATI	**Mati**	**0.93**	**8**	eP	Pn	15 19 11.2	+0.8
MATI				eS	Sn	15 19 30.3	+0.3
KCP	**Kidapawan**	**1.42**	**314** ⇓	iP	Pn	15 19 16.0	+1.3
SKMP	**Bagumbayan, Su**	**1.65**	**288**	eP	Pn	15 19 17.0	0.0
BUKP	**Musuan**	**2.13**	**330**	eP	Pn	15 19 22.2	-0.1
BUKP				eS	Sn	15 19 52.1	+0.8

*IDC **05** 15:43:31.9±9.1, 35°.67N×71°.11E, h191km±51km, mb3.0/2, mb1 2.8/5, mb1mx2.6/36, mbtmp3.4/5, Error ellipse: s-maj=147.3km s-min=28.1km az=157.0*
ISC 05 15:43:38.1±2.2, 36.7N±0°.2×70.7E±0°.2, h150km, n6, σ1§32/7, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.38**	**359**	⇓P	**Pn**	**15 45 10.6**	**+0.9**
	2.1nm,0.5s,baz=176,slow=12,SNR=12						
KK31				⇑S	**Sn**	**15 46 21.0**	**-0.6**
	1.6nm,0.5s,baz=179,slow=23,SNR=6.8						
GEYT	**Alibeck**	**10.07**	**281**	P	**Pn**	**15 45 59.9**	**+0.9**
	0.3nm,0.3s,baz=99,slow=19,SNR=2.3						
MKAR	**Makanchi Array**	**13.27**	**37**	P	**Pn**	**15 46 40.8**	**+0.1**
	0.0nm,0.3s,baz=226,slow=14,SNR=2.6						
KURBB	**Kurchatov Arra**	**15.00**	**20**	P	**P**	**15 47 04.9**	**+0.9**
	baz=210,slow=11						
ZALV	**Zalesovo Beam**	**19.83**	**25**	P	**P**	**15 47 56.2**	**-0.6**
	2.0nm,0.5s,baz=224,slow=12,SNR=8.4						
NOA	**NORSAR Array B**	**44.05**	**323**	P	**P**	**15 51 28.6**	**-2.0**
	0.4nm,0.6s,baz=98,slow=8.3,SNR=2.4						

IDC 05 15:47:15.1±5.9, 26°.51N×96°.54E, h127km±71km, mb3.0/2, mb1 3.1/3, mb1mx2.8/36, mbtmp3.3/3, MS2.1/1, Ms1 2.3/1, ms1mx2.1/12, Error ellipse: s-maj=164.2km s-min=25.4km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.31**	**164**	P	Pn	15 49 12.8	0.0
	0.2nm,0.3s,baz=339,slow=12,SNR=6.4						
CMAR				LR	LR	15 52 14.5	
	comp=Z,12nm,20.9s,baz=10.0,slow=36						
MKAR	**Makanchi Array**	**23.18**	**335**	P	P	15 52 10.4	-0.1
	0.7nm,0.4s,baz=145,slow=9.0,SNR=14						
WRA	**Warramunga Arr**	**58.96**	**138**	P	P	15 57 01.4	0.0
	0.2nm,0.6s,baz=324,slow=7.9,SNR=1.8						

*IDC **05** 16:25:05.8±1.9, 9°.93S×26°.19E, h0km, mb4.1/2, mb1 4.0/3, mb1mx3.5/31, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=76.0km s-min=29.1km az=84.0*
*LSZ **05** 16:25:09.3±0.3, 10°.33S×28°.56E, h10km, MD3.9*
ISC 05 16:25:08.2±0.8, 9.96S±0°.06×24.87E±0.09, h10km, n18, σ1§40/25, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITZ	**Itezhi-Tezhi**	**5.86**	**169**	*e*P	**Pn**	**16 26 37.1**	**+1.8**
ITZ				*i*		16 26 37.1	
	baz=25,slow=16						
ITZ				*e*S	**Sn**	**16 27 41.2**	**-1.5**
LSZ	**Lusaka**	**6.20**	**149**	*i* P	**Pn**	**16 26 39.1**	**-0.9**
LSZ				*i* S	**Sn**	**16 27 50.1**	**-1.0**
LSZ	**Lusaka**	**6.20**	**149**	*i* P	**Pn**	**16 26 39.1**	**-0.9**
LSZ				*i* S	**Sn**	**16 27 50.1**	**-1.0**
KARM1	**KARONGA**	**8.89**	**91**	*i* P	**Pn**	**16 27 17.2**	**+0.3**
KARM1				S	Sg	16 29 42.5	-11
MBAR	**Mbarara**	**10.98**	**32**	*i* P	**Pn**	**16 27 45.9**	**+0.2**
MBAR				*i* S	**Sn**	**16 29 47.7**	**-0.9**
MBAR	**Mbarara**	**10.98**	**32**	*i* P	**Pn**	**16 27 45.9**	**+0.2**
MBAR				*i* S	**Sn**	**16 29 47.7**	**-0.9**
MATP	**Matopo**	**10.98**	**162**	*i* P	**Pn**	**16 27 46.3**	**+0.7**
MATP				*i* S	**Sn**	**16 29 49.0**	**+0.3**
MATP	**Matopo**	**10.98**	**162**	*i* P	**Pn**	**16 27 46.3**	**+0.7**
MATP				*i* S	**Sn**	**16 29 49.0**	**+0.3**
TSUM	**Tsumeb**	**11.58**	**217**	*i* P	**Pn**	**16 27 55.7**	**+1.9**
TSUM				*i* S	**Sn**	**16 30 00.2**	**-3.2**
TSUM	**Tsumeb**	**11.58**	**217**	*i* P	**Pn**	**16 27 55.7**	**+1.9**
TSUM				*i* S	**Sn**	**16 30 00.2**	**-3.2**
LBTB	**Lobatse**	**14.99**	**177**	*i* P	**Pn**	**16 28 40.5**	**+0.1**
LBTB	**Lobatse**	**14.99**	**177**	*i* P	**Pn**	**16 28 40.5**	**+0.1**
KMBO	**Kilima Mbogo**	**15.12**	**55**	Lg	Lg	16 32 34.3	
	0.2nm,0.3s,baz=8.2,slow=24,SNR=1.7						
BOSA	**Boshof**	**18.56**	**179**	P	**P**	**16 29 24.7**	**-0.8**
	0.3nm,0.3s,baz=1.8,slow=14,SNR=5.8						
BOSA				Lg	Lg	16 34 58.4	
	0.2nm,0.3s,baz=141,slow=4.8,SNR=2.6						
BOSA	**Boshof**	**18.56**	**179**	*i* P	**Pn**	**16 29 26.8**	**+1.1**
BOSA	**Boshof**	**18.56**	**179**	*i* P	**Pn**	**16 29 26.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**32.50**	**314**	P	P	16 31 46.6	+7.2
	1.2nm,0.4s,baz=125,slow=8.8,SNR=5.4						
ARCES	**ARCESS Array B**	**79.30**	**0**	P	**P**	**16 37 12.8**	**-0.8**
	0.7nm,0.5s,baz=199,slow=5.3,SNR=7.4						

IDC 05 16:27:46.4±3.6, 2°.98S×129°.65E, h75km±39km, mb3.3/2, mb1 3.5/5, mb1mx3.2/43, mbtmp3.7/5, ML3.6/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/23, Error ellipse: s-maj=39.4km s-min=16.3km az=82.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.65**	**38**	P	Pn	16 28 26.7	-0.2
	18nm,0.3s,baz=243,slow=7.3,SNR=180						
SIJI				S	Sn	16 28 58.8	+0.7
	37nm,0.3s,baz=175,slow=23,SNR=15						
KAPI	**Kappang**	**10.07**	**258**	LR	LR	16 34 06.8	
	comp=Z,40nm,20.6s,baz=90,slow=38						
DAV	**Davao City (W)**	**10.78**	**338**	LR	LR	16 35 32.2	
	comp=Z,38nm,18.3s,baz=166,slow=43						
FITZ	**Fitzroy Crossi**	**15.53**	**194**	P	Pn	16 31 20.7	-0.3
	0.1nm,0.3s,baz=5.7,slow=10,SNR=1.8						
WRA	**Warramunga Arr**	**17.47**	**165**	P	Pn	16 31 43.5	-1.7
	0.3nm,0.3s,baz=351,slow=12,SNR=16						
WRA				S	Sn	16 34 49.9	-9.5
	baz=348,slow=20,SNR=1.8						
ASAR	**Alice Springs**	**20.97**	**169**	P	P	16 32 23.9	+0.3
	1.9nm,0.5s,baz=350,slow=11,SNR=46						
ASAR				S	S	16 36 14.2	+1.0
	0.8nm,0.9s,baz=351,slow=24,SNR=5.5						
MKAR	**Makanchi Array**	**64.70**	**326**	P	P	16 38 16.7	+0.1
	0.4nm,0.8s,baz=111,slow=7.9,SNR=4.3						

*IDC **05** 16:28:48.0±2.1, 36°.55N×141°.11E, h42km±26km, mb3.2/2, mb1 3.4/5, mb1mx3.1/50, mbtmp3.5/5, ML3.0/3, Error ellipse: s-maj=17.6km s-min=12.4km az=82.0*
*JMA **05** 16:28:49.2±0.1, 36°.55N×140°.85E, h51km±1km, M3.2*
JMA Felt I J1.
ISC 05 16:28:48.8±1.4, 36°.55N±0°.05×140°.95E±0°.09, h45km±9km, n23, σ0§83/32, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.31**	**281**	P	**Pn**	**16 28 57.9**	**+0.3**
JHO				S	**Sn**	**16 29 03.7**	**-0.1**
JHYU	**Iwakimizuishiy**	**0.56**	**348**	P	**Pn**	**16 28 58.5**	**+0.4**
JHYU				S	**Sn**	**16 29 04.8**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.56**	**348**	P	**Pn**	**16 29 00.7**	**+0.1**
ONAJ				S	**Sn**	**16 29 08.9**	**-0.2**
JYT	**Yasato**	**0.69**	**242**	P	**Pn**	**16 29 01.8**	**-0.4**
JYT				S	**Sn**	**16 29 10.5**	**-1.3**
JFK	**Kawauchi**	**0.82**	**356**	P	**Pn**	**16 29 03.8**	**-0.2**
JFK				S	**Sn**	**16 29 14.3**	**-0.7**
JSB	**Shiboa**	**0.93**	**297**	P	**Pn**	**16 29 05.4**	**0.0**
JSB				S	**Sn**	**16 29 17.3**	**-0.3**
JFT	**Otama**	**1.08**	**333**	P	**Pn**	**16 29 08.2**	**+0.6**
JFT				S	**Sn**	**16 29 21.7**	**+0.3**
JAG	**Ashikaga**	**1.21**	**264**	P	**Pn**	**16 29 08.8**	**-0.5**
JAG				S	**Sn**	**16 29 22.7**	**-1.9**
JFY	**Yanaizu**	**1.31**	**311**	P	**Pn**	**16 29 10.8**	**+0.1**
JFY				S	**Sn**	**16 29 27.3**	**+0.2**
JMM	**Marumori**	**1.32**	**355**	P	**Pn**	**16 29 11.1**	**+0.3**
JMM				S	**Sn**	**16 29 27.2**	**0.0**
JKT	**Katashina**	**1.38**	**279**	P	**Pn**	**16 29 11.9**	**+0.2**
JKT				S	**Sn**	**16 29 28.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.21**	**271**	P	**Pn**	**16 29 23.1**	**+0.1**
	0.8nm,0.3s,baz=90,slow=16,SNR=45						
MJAR				S	**Sn**	**16 29 51.2**	**+2.1**
	1.8nm,0.3s,baz=53,slow=20,SNR=6.4						
MAT	**Matsushiro**	**2.21**	**271**	P	**Pn**	**16 29 23.7**	**+0.7**
MAT				*e*S	**Sn**	**16 29 49.5**	**+0.4**
JHJ	**Hachijo jima 2**	**3.56**	**196**	P	**Pn**	**16 29 41.2**	**-0.3**
	6.8nm,0.3s,baz=245,slow=23,SNR=1.2						
JHJ				S	**Sn**	**16 30 22.4**	**+0.2**
	16nm,0.3s,baz=92,slow=23,SNR=7.4						
ASAJ	**Asahikawa**	**7.66**	**9**	P	**Pn**	**16 30 37.6**	**-0.1**
	0.3nm,0.3s,baz=208,slow=14,SNR=5.8						
ASAJ				S	**Sn**	**16 32 01.6**	**-1.6**
	0.1nm,0.3s,baz=248,slow=17,SNR=1.5						
SONM	**Songino Array**	**27.75**	**305**	P	**P**	**16 34 34.8**	**+1.6**
	0.5nm,0.6s,baz=110,slow=8.3,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**28.23**	**119**	T	T	17 04 03.6	
	baz=312,slow=75,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**28.24**	**119**	T	T	17 04 13.8	
	baz=312,slow=75,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**28.25**	**119**	T	T	17 04 08.2	
	baz=312,slow=75,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**28.92**	**122**	T	T	17 04 59.5	
	baz=314,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.92**	**122**	T	T	17 05 11.9	
	baz=314,slow=76,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**28.93**	**122**	T	T	17 05 06.3	
	baz=314,slow=76,SNR=9.1						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**16 36 51.3**	**-0.9**
	0.2nm,0.6s,baz=90,slow=8.6,SNR=2.4						

*ISN **05** 16:33:51.5±1.1, 33°.79N×45°.67E, h8km±5km, ML2.8*
*TEH **05** 16:33:52.2, 33°.78N×45°.67E, h20km, ML3.0*
ISC 05 16:33:51.9±1.0, 33°.75N±0°.04×45°.64E±0°.06, h10km, n21, σ1§01/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.68**	**159**	*e*Pg	**Pb**	**16 34 06.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**16 34 15.0**	**-0.3**
IBDR				AML	AML	16 34 17.7	
	comp=E,420nm,0.4s						
IBDR				AML	AML	16 34 19.2	
	comp=N,402nm,0.3s						
IGHG	**Ghaleghazi**	**0.96**	**53**	*e*Pg	**Pg**	**16 34 10.0**	**-0.5**
IDHR	**Dehrash**	**1.13**	**33**	*e*Pg	**Pb**	**16 34 13.1**	**-0.6**
IDHR				*e*		16 34 15.4	
BHD	**Baghdad**	**1.16**	**246**	*e*Pg	**Pn**	**16 34 14.0**	**-0.1**
BHD				*e*Sg	**Sn**	**16 34 31.0**	**+1.1**
IVIS	**Veis**	**1.27**	**52**	*e*Pg	**Pg**	**16 34 15.9**	**-0.4**
IVIS				*e*		16 34 38.8	
KCHF	**Cheshme Sefid,**	**1.28**	**65**	*e*Pg	**Pn**	**16 34 15.7**	**-0.3**
KCHF				*e*		16 34 39.8	
KER	**Kermanshah**	**1.39**	**62**	*e*Pg	**Pg**	**16 34 18.3**	**-0.3**
ILIN	**Lien**	**1.60**	**43**	*e*Pg	**Pb**	**16 34 21.7**	**0.0**
ILIN				*e*		16 34 23.2	
IKOM	**Komasi**	**1.61**	**74**	*e*Pg	**Pb**	**16 34 21.6**	**-0.2**
IKOM				*e*		16 34 56.0	
DHL1	**Dehloran**	**1.74**	**127**	*e*Pg	**Pg**	**16 34 24.6**	**-0.7**
IBZA	**Bozab**	**1.98**	**68**	*e*Pg	**Pn**	**16 34 26.5**	**+0.8**
IBZA				*e*		16 34 58.0	
IDOB	**Doab**	**2.11**	**88**	*e*Pn	**Pn**	**16 34 28.1**	**+0.6**
IKMR	**Kamar-syah**	**2.30**	**95**	*e*Pn	**Pn**	**16 34 30.5**	**+0.7**
IKMR				*e*		16 35 11.9	
IALM	**Almabolaq**	**2.37**	**61**	*e*Pn	**Pn**	**16 34 32.5**	**+1.4**
HSAM	**Samen**	**2.50**	**79**	*e*Pn	**Pn**	**16 34 33.3**	**+0.4**
HSAM				*e*		16 35 14.8	
HSRG	**Sareghieh**	**2.64**	**55**	*e*Pn	**Pn**	**16 34 36.6**	**+1.8**
HSRG				*e*		16 35 19.9	
BMDN	**Meydan**	**2.66**	**91**	*e*Pn	**Pn**	**16 34 35.9**	**+1.0**
BMDN				*e*		16 35 34.0	
NSR	**Nassriya**	**2.76**	**171**	*e*Pn	**Pn**	**16 34 38.0**	**+1.8**
NSR				*e*Sn	**Sb**	**16 35 13.0**	**-2.3**
HAGD	**Aghdareh**	**3.09**	**69**	*e*Pn	**Pn**	**16 34 41.9**	**+0.9**
HAGD				*e*		16 35 33.0	
QABG	**Abgarm-Qazvin**	**3.79**	**58**	*e*Pn	**Pn**	**16 34 51.0**	**+0.4**
IRAZ	**Razeghan**	**3.91**	**64**	*e*Pn	**Pn**	**16 34 53.5**	**+1.3**

MAN 05 16:40:23.9, 17°.41N×120°.68E, h32km, mb4.0, ML2.8, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.55**	**338**	⇓*i*P	Pn	16 40 36.0	+0.5
APYP	**Conner**	**0.70**	**50**	*e*P	Pb	16 40 38.0	+0.3
APYP				*e*S	Sn	16 40 48.0	+0.7
CAUP	**Cauayan**	**1.19**	**113**	*e*P	Pb	16 40 47.7	+1.8
SMPP	**San Manuel, Pa**	**1.25**	**180**	*e*P	Pn	16 40 45.1	-0.1
SMPP				*e*S	Sn	16 41 01.6	+0.6
BALP	**Baler**	**1.87**	**152**	*e*P	Pb	16 40 56.1	-1.3

*GII **05** 16:46:40.4±0.0, 33°.96N×36°.72E, h1km±1km, MD2.4/6, Mm2.6/3*
*GRAL **05** 16:46:41.7±0.5, 33°.70N×36°.95E, h37km±243km, MD3.2*
ISC 05 16:46:41.5±2.7, 33°.91N±0°.07×36°.7E±0°.1, h7km±12km, n19, σ0§85/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.70**	**302**	*e*P	**Pn**	**16 46 58.9**	**+0.9**
RCY	**Rachaya**	**0.81**	**240**	*e*P	**Pb**	**16 46 57.7**	**-0.3**
BHL	**Bhannes**	**0.85**	**270**	*e*P	**Pn**	**16 46 59.8**	**-0.1**
QRWL	**Qaraoun**	**0.90**	**247**	*e*P	**Pn**	**16 46 59.6**	**-1.1**
QRWL				*e*S	**Sn**	**16 47 12.8**	**-1.1**
DQRL	**Deir Qamar**	**0.94**	**258**	*e*P	**Pn**	**16 47 00.6**	**-0.6**
DQRL				*e*S	**Sn**	**16 47 14.6**	**-0.3**
SHBL	**Chebaa**	**0.96**	**234**	*e*P	**Pg**	**16 46 59.8**	**-0.1**
NATI	**Neve Ativ**	**1.01**	**231**	Pg	**Pg**	**16 47 00.5**	**-0.4**
NATI				Sg	**Sn**	**16 47 17.8**	**+1.2**
GEM	**Giv'at Ha'Em**	**1.09**	**231**	Pg	**Pb**	**16 47 01.8**	**-0.9**
GEM				Sg	**Sn**	**16 47 20.2**	**+1.6**
MMA0B	**Mount Meron ar**	**1.39**	**230**	Pn	**Pb**	**16 47 07.4**	**-0.4**
MMA0B				Sn	**Sg**	**16 47 27.4**	**+1.3**
HNTI	**Hanita**	**1.50**	**237**	Pn	**Pb**	**16 47 09.6**	**-0.1**
HNTI				Sn	**Sg**	**16 47 30.3**	**+0.6**
BLGI	**Bet Lehem HaGe**	**1.71**	**227**	Pn	**Pb**	**16 47 13.0**	**-0.2**
BLGI				Sn	**Sb**	**16 47 35.6**	**+0.7**
MMLI	**Mount Malkishu**	**1.80**	**216**	Pn	**Pn**	**16 47 13.5**	**+0.5**
MMLI				Sn	**Sb**	**16 47 37.2**	**-0.5**
OFRI	**`Ofer**	**1.91**	**228**	Pn	**Pb**	**16 47 15.5**	**-1.2**
OFRI				Sn	**Sb**	**16 47 41.3**	**+0.5**
HMDT	**Nahal Hemdat**	**1.91**	**211**	Pn	**Pn**	**16 47 14.7**	**+0.2**
HMDT				Sn	**Sb**	**16 47 39.9**	**-0.9**
SLTI	**Sal'it**	**2.16**	**220**	Pn	**Pn**	**16 47 18.8**	**+0.9**
SLTI				Sn	**Sb**	**16 47 47.3**	**-0.5**
UJAP	**Al Uja**	**2.20**	**208**	Pn	**Pb**	**16 47 20.7**	**-0.9**
UJAP				Sn	**Sb**	**16 47 48.0**	**-1.0**
DSI	**Dead Sea**	**2.58**	**205**	Pn	**Pn**	**16 47 24.4**	**+0.8**
GHAJ	**Ghor Haditha**	**2.76**	**200**	Pn	**Pn**	**16 47 26.6**	**+0.5**
KARJ	**KARJ**	**2.91**	**197**	Pn	Pn	16 47 17.8	-10

*ISN **05** 16:48:05.6±0.6, 33°.75N×45°.68E, h7km±3km, ML2.6*
*TEH **05** 16:48:06.2, 33°.76N×45°.70E, h14km, ML2.9*
ISC 05 16:48:06.2±1.0, 33°.77N±0°.04×45°.66E±0°.05, h10km, n13, σ1§00/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.69**	**161**	*e*Pg	**Pg**	**16 48 19.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**16 48 28.0**	**-0.7**
IBDR				AML	AML	16 48 31.2	
	comp=E,98nm,0.3s						
IBDR				AML	AML	16 48 31.6	
	comp=N,72nm,0.3s						
IGHG	**Ghaleghazi**	**0.94**	**53**	*e*Pg	**Pg**	**16 48 24.1**	**-0.2**
IGHG				*e*		16 48 24.8	
IDHR	**Dehrash**	**1.11**	**33**	*e*Pg	**Pg**	**16 48 26.8**	**-0.7**
IDHR				*e*		16 48 46.4	
BHD	**Baghdad**	**1.18**	**245**	*e*Pg	**Pn**	**16 48 28.0**	**-0.7**
BHD				*e*Sg	**Sg**	**16 48 45.0**	**+0.9**
IVIS	**Veis**	**1.24**	**52**	*e*Pg	**Pb**	**16 48 29.5**	**-0.4**
IVIS				*e*		16 48 50.7	
KER	**Kermanshah**	**1.37**	**63**	*e*Pg	**Pn**	**16 48 31.2**	**-0.3**
KER				*e*		16 48 32.9	
ILIN	**Lien**	**1.57**	**43**	*e*Pg	**Pb**	**16 48 35.3**	**-0.3**
ILIN				*e*		16 48 36.5	
ILIN				*e*Sg	**Sg**	**16 48 57.5**	**+0.6**
IKOM	**Komasi**	**1.59**	**75**	*e*Pg	**Pg**	**16 48 35.9**	**-0.9**
IBZA	**Bozab**	**1.96**	**68**	*e*Pn	**Pb**	**16 48 40.6**	**-1.5**
IBZA				*e*		16 48 43.4	
IDOB	**Doab**	**2.10**	**89**	*e*Pn	**Pn**	**16 48 41.8**	**+0.2**
IDOB				*e*		16 49 16.6	
IALM	**Almabolaq**	**2.34**	**62**	*e*Pn	**Pn**	**16 48 46.3**	**+1.2**
IALM				*e*		16 48 50.0	
HSRG	**Sareghieh**	**2.62**	**55**	*e*Pn	**Pn**	**16 48 50.2**	**+1.4**
HSRG				*e*		16 49 33.0	
NSR	**Nassriya**	**2.78**	**171**	*e*Pn	**Pn**	**16 48 52.0**	**+1.2**
NSR				*e*Sn	**Sn**	**16 49 26.0**	**+1.6**
NSR				AML	AML	16 49 29.1	
	comp=E,488nm,0.3s						

WEL 05 16:50:25.3, 39°S±6°×17°5E±°, h230km±5km, M2.3/14, MLv2.3/14, Error ellipse: s-maj=0.0km s-min=0.0km az=74.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTVZ	**Oturere**	**0.46**	**149**	P	Pn	16 50 56.2	+0.3
OTVZ				S	S	16 51 18.6	-1.4
HIZ	**Hauiti**	**0.47**	**303**	P	Pn	16 50 55.2	-0.6
FWVZ	**Far West T-bar**	**0.51**	**163**	P	Pn	16 50 56.2	+0.1
FWVZ				S	S	16 51 19.1	-1.3
PKVZ	**Pokaka**	**0.52**	**181**	P	Pn	16 50 55.9	0.0
TUVZ	**Tukino**	**0.55**	**155**	P	Pn	16 50 56.4	+0.3
TUVZ				S	S	16 51 18.8	-1.7
VRZ	**Vera Road**	**0.59**	**233**	P	Pn	16 50 55.6	-0.5
MTVZ	**Mangateitei**	**0.62**	**172**	P	Pn	16 50 56.5	+0.1
MTVZ				S	S	16 51 18.8	-2.0
MOVZ	**Moawhango**	**0.71**	**154**	P	Pn	16 50 56.6	-0.1
MOVZ				S	S	16 51 18.6	-2.8
MRHZ	**Matea Rd**	**0.83**	**95**	P	Pn	16 50 56.9	-0.4
MRHZ				S	S	16 51 19.3	-2.9
BHHZ	**Black Hill Sta**	**0.90**	**143**	P	Pn	16 50 57.7	0.0
BHHZ				S	S	16 51 20.5	-2.5
BKZ	**Black Stump Fm**	**0.97**	**115**	P	Pn	16 50 58.1	+0.1
WAZ	**Wanganui**	**1.03**	**196**	P	Pn	16 50 58.6	+0.3
WAZ				S	S	16 51 23.0	-1.3
KRHZ	**Kereru**	**1.18**	**138**	P	Pn	16 50 59.8	+0.6
KRHZ				S	S	16 51 24.5	-1.4
RTZ	**Ruatahuna**	**1.28**	**84**	S	S	16 51 25.1	-2.1
DVHZ	**Dannevirke**	**1.65**	**158**	P	Pn	16 51 03.3	+0.4
DVHZ				S	S	16 51 30.7	-1.8
MRZ	**Mangatainoka R**	**1.90**	**175**	P	Pn	16 51 05.1	+0.1
OGWZ	**Otaki Gorge**	**2.05**	**184**	P	Pn	16 51 06.7	+0.2
KIW	**Kapiti Island**	**2.12**	**189**	P	Pn	16 51 06.9	-0.3
HOWZ	**Holdsworth Sta**	**2.13**	**177**	P	Pn	16 51 07.1	-0.2
CAW	**Cannon Point**	**2.35**	**185**	P	Pn	16 51 09.3	-0.1
TCW	**Tory Channel**	**2.58**	**198**	P	Pn	16 51 11.6	-0.3
TUWZ	**Tuamarina**	**2.87**	**202**	P	Pn	16 51 14.5	-0.5
NNZ	**Nelson**	**2.88**	**211**	P	Pn	16 51 13.9	-1.2
QRZ	**Quartz Range**	**3.00**	**226**	P	Pn	16 51 14.3	-2.1
BSWZ	**Blackbirch Sta**	**3.15**	**201**	P	Pn	16 51 17.9	-0.3
THZ	**Tophouse**	**3.53**	**211**	P	Pn	16 51 21.7	-0.9
KHZ	**Kahutara**	**3.90**	**200**	P	Pn	16 51 26.2	-0.6
GVZ	**Greta Valley S**	**4.55**	**202**	P	Pn	16 51 33.5	-1.3
LTZ	**Lake Taylor**	**4.64**	**209**	P	Pn	16 51 34.2	-1.8
MQZ	**McQueen's Vall**	**5.34**	**202**	P	Pn	16 51 42.0	-2.5
ODZ	**Otahua Downs**	**7.19**	**208**	P	Pn	16 52 06.6	-1.5

IDC 05 16:52:06.8±2.4, 5°.45N×126°.84E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/35, mbtmp3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.1/18, Error ellipse: s-maj=188.0km s-min=27.3km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**26.03**	**33**	LR	LR	17 07 42.2	
	comp=Z,19nm,19.1s,baz=130,slow=36						
WRA	**Warramunga Arr**	**26.29**	**164**	P	P	16 57 44.7	+0.5
	0.1nm,0.4s,baz=343,slow=10.0,SNR=6.5						
ASAR	**Alice Springs**	**29.75**	**167**	P	P	16 58 14.7	-0.5
	0.2nm,0.9s,baz=359,slow=8.4,SNR=5.4						
MKAR	**Makanchi Array**	**56.22**	**325**	P	P	17 01 48.8	-0.1
	0.2nm,0.4s,baz=114,slow=6.9,SNR=5.1						

*JMA **05** 17:39:11.8±0.4, 20°.39N×121°.54E, h25km, M3.4*
ISC 05 17:39:15.0±2.5, 20°.37N±0°.10×121°.6E±0°.4, h43km, n6, σ0§39/10, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.66**	**175**	⇓*i*P	**Pn**	**17 39 55.3**	**-0.1**
CVP				*i* S	**Sn**	**17 40 26.6**	**+0.2**
JYNG	**Yonagunijimaku**	**4.25**	**17**	P	**Pn**	**17 40 17.1**	**-0.2**
IRIF	**Iriomote-Funau**	**4.41**	**26**	P	**Pn**	**17 40 19.8**	**+0.3**
IRIF				*e*S	**Sn**	**17 41 10.1**	**+0.5**
JIJ	**Ishigaki jima**	**4.62**	**30**	P	**Pn**	**17 40 22.4**	**0.0**
JIJ				*e*S	**Sn**	**17 41 14.8**	**0.0**
JISG	**Ishigakijimahi**	**4.89**	**30**	P	**Pn**	**17 40 26.4**	**+0.3**
JISG				*e*S	**Sn**	**17 41 20.7**	**-0.7**
JTJ	**Tarama**	**5.13**	**33**	*e*S	**Sn**	**17 41 27.0**	**-0.3**

*TEH **05** 17:45:39.7, 28°.63N×51°.92E, h12km, ML3.8*
*IDC **05** 17:45:39.0±2.5, 28°.76N×51°.93E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/37, mbtmp3.7/5, MS2.6/2, Ms1 2.7/2, ms1mx2.3/37, Error ellipse: s-maj=70.1km s-min=29.3km az=158.0*
*THR **05** 17:45:40.3±0.7, 28°.77N×51°.96E, h15km±9km, ML4.0*
**ISC 05 17:45:40.7±0.8, 28°.63N±0°.06×51°.95E±0°

LN34				*i* S		Sg	17 54 07.7	-1.6
LN34				IAML			17 54 08.1	
	comp=Z,53μm,0.2s							
LN26	**Engaresero PS**	**0.15**	**302**	⇑*i*P		**Pg**	**17 54 08.3**	**+0.3**
LN26				*i* S		**Sg**	**17 54 11.2**	**+0.6**
LN26				IAML			17 54 15.0	
	comp=Z,9μm,0.3s							
LN15	**Lekule Girls S**	**0.19**	**71**	*i* P		**Pg**	**17 54 08.7**	**+0.1**
LN15				*i* S		**Sg**	**17 54 11.6**	**-0.2**
LN15				IAML			17 54 13.7	
	comp=Z,6μm,0.8s							
PR33	**Engutoto Boma**	**0.20**	**137**	*i* P		**Pg**	**17 54 08.1**	**-0.7**
PR33				*i* S		**Sg**	**17 54 10.7**	**-1.3**
PR33				IAML			17 54 11.1	
	comp=Z,18μm,0.5s							
LN25	**Lake Natron SS**	**0.22**	**328**	⇑*i*P		**Pg**	**17 54 09.6**	**+0.6**
PR31	**Engaruka Boma**	**0.23**	**169**	⇑*i*P		**Pg**	**17 54 08.7**	**-0.6**
PR31				*i* S		**Sg**	**17 54 11.6**	**-1.2**
PR31				IAML			17 54 14.9	
	comp=Z,27μm,0.3s							
PR53	**Nayobi Boma**	**0.23**	**226**	*i* P		**Pg**	**17 54 09.1**	**-0.4**
PR53				*i* S		**Sg**	**17 54 13.1**	**+0.1**
PR53				IAML			17 54 16.1	
	comp=Z,80μm,0.2s							
PR32	**Iloiriento PS**	**0.26**	**136**	⇑*i*P		**Pg**	**17 54 09.5**	**-0.3**
PR32				*i* S		**Sg**	**17 54 13.1**	**-0.6**
PR32				IAML			17 54 14.2	
	comp=Z,23μm,0.5s							
MW36	**Oldoinyo Lenga**	**0.32**	**181**	*i* P		**Pg**	**17 54 10.5**	**-0.4**
MW36				*i* S		**Sg**	**17 54 14.8**	**-0.6**
MW36				IAML			17 54 17.4	
	comp=Z,83nm,0.5s							
PR52	**Alailelai Boma**	**0.40**	**228**	*i* P		**Pg**	**17 54 12.1**	**-0.3**
PR52				*i* S		**Sg**	**17 54 17.8**	**-0.1**
PR52				IAML			17 54 20.8	
	comp=Z,12μm,0.2s							
LL22	**Malambo SS**	**0.44**	**293**	⇑*i*P		**Pg**	**17 54 13.2**	**+0.3**
LL24	**Masusu PS**	**0.46**	**335**	⇑*i*P		**Pb**	**17 54 13.9**	**-0.2**
LN16	**Kitarini PS**	**0.47**	**82**	⇑*i*P		**Pg**	**17 54 13.2**	**-0.2**
LN14	**Matela PS**	**0.48**	**59**	⇑*i*P		**Pg**	**17 54 13.8**	**+0.1**
LL23	**Sali PS**	**0.50**	**321**	⇑*i*P		**Pg**	**17 54 14.3**	**+0.2**
LL23				*i* S		**Sb**	**17 54 21.5**	**-0.4**
LL23				IAML			17 54 24.1	
	comp=Z,4μm,0.2s							
LL66	**Piyaya bomas**	**0.52**	**278**	⇑*i*P		**Pg**	**17 54 14.2**	**-0.3**
LL66				*i* S		**Sg**	**17 54 20.5**	**-1.1**
LL66				IAML			17 54 25.7	
	comp=Z,2μm,0.8s							
NG55	**Lemala Gate**	**0.55**	**215**	*i* P		**Pg**	**17 54 14.7**	**-0.4**
PR63	**Meshili Boma**	**0.58**	**239**	*i* P		**Pg**	**17 54 15.2**	**-0.4**
KEN3	**Shompole Clini**	**0.60**	**11**	⇑*i*P		**Pb**	**17 54 16.3**	**-0.2**
KEN3				*i* S		**Sb**	**17 54 25.2**	**+0.3**
KEN3				IAML			17 54 31.9	
	comp=Z,5μm,0.4s							
LL65	**Arash bomas**	**0.63**	**295**	⇑*i*P		**Pg**	**17 54 16.5**	**-0.1**
NG54	**Nasera Bomas**	**0.64**	**266**	*i* P		**Pg**	**17 54 16.3**	**-0.5**
PR62	**Oldupai Boma**	**0.69**	**245**	*i* P		**Pg**	**17 54 17.1**	**-0.6**
MW41	**Ole Sokoine**	**0.69**	**141**	⇑*i*P		**Pg**	**17 54 17.4**	**-0.4**
NG56	**Ngoile bomas**	**0.72**	**236**	*i* P		**Pg**	**17 54 18.0**	**-0.2**
MW44	**Karatu Welwel**	**0.73**	**208**	*i* P		**Pg**	**17 54 17.6**	**-0.8**
MW44				*i* S		**Sg**	**17 54 27.0**	**-1.2**
MW44				IAML			17 54 29.8	
	comp=Z,8μm,0.2s							
LN46	**New Vision PS**	**0.74**	**115**	*i* P		**Pg**	**17 54 17.8**	**-0.8**
LL21	**Loliondo SS**	**0.77**	**324**	⇑*i*P		**Pb**	**17 54 19.1**	**-0.3**
PR61	**Kiloki Boma**	**0.80**	**250**	*i* P		**Pg**	**17 54 19.3**	**-0.4**
KEN2	**Magadi Soda Va**	**0.82**	**20**	⇑*i*P		**Pb**	**17 54 20.2**	**+0.1**
KEN2				*i* S		**Sb**	**17 54 31.8**	**+0.8**
KEN2				IAML			17 54 35.5	
	comp=Z,5μm,0.6s							
KEN4	**Ngurumani**	**0.90**	**3**	⇑*i*P		**Pb**	**17 54 21.8**	**+0.2**
KEN4				*i* S		**Sn**	**17 54 34.3**	**-1.0**
KEN4				IAML			17 54 37.9	
	comp=Z,5μm,0.6s							
KEN1	**Kenya Marble P**	**1.01**	**43**	*i* P		**Pg**	**17 54 23.1**	**-0.6**
KMBO	**Kilima Mbogo**	**1.99**	**39**	*i* P		**Pn**	**17 54 39.2**	**+1.6**
KMBO				*i* S		**Sb**	**17 55 05.9**	**+0.8**
KMBO				*i* S		**Sg**	**17 55 07.2**	**-1.1**
KMBO	**Kilima Mbogo**	**1.99**	**39**	*i* P		**Pn**	**17 54 38.7**	**+1.1**
KIBK	**Kibwezi**	**2.07**	**80**	*i* P		**Pn**	**17 54 40.0**	**+1.4**
KIBK				*i* S		**Sn**	**17 55 05.9**	**+1.7**
KIBK				*i* S		**Sb**	**17 55 06.7**	**-0.5**
KOND	**Kondoa**	**2.21**	**185**	*i* P		**Pn**	**17 54 43.6**	**+3.0**
KOND				*i* S		**Sn**	**17 55 07.0**	**-0.8**
MBAR	**Mbarara**	**5.66**	**291**	*e*P		**Pn**	**17 55 29.6**	**+1.7**
MBAR				*e*S		**Sn**	**17 56 30.8**	**-2.0**
MBAR	**Mbarara**	**5.66**	**291**	*i* P		**Pn**	**17 55 28.1**	**+0.2**
LODK	**Lodwar**	**6.11**	**354**	*i* P		**Pn**	**17 55 35.2**	**+1.2**
LODK				*i* S		**Sg**	**17 57 16.3**	**-3.9**
LODK				*i* S		**Sg**	**17 57 16.5**	**-3.7**
KARM1	**KARONGA**	**7.51**	**196**	*i* P		**Pn**	**17 55 54.4**	**+1.0**
KARM1				S		Sb	17 57 56.4	+12

*IDC **05** 18:29:50.4±1.1, 60°.26N×153°.79W, h152km±12km, mb3.3/12, mb1 3.6/16, mb1mx3.4/47, mbtmp3.8/16, Error ellipse: s-maj=14.8km s-min=11.4km az=29.0*
*NEIC **05** 19:29:51.7±1.3, 60°.26N±0°.05×153°.6W±0°.1, h175km±3km, Error ellipse: s-maj=8.7km s-min=7.4km az=112.0*
*AEIC **05** 18:29:52.6±1.5, 60°.24N±0°.05×153°.5W±0°.1, h176km±4km, ML3.7, Error ellipse: s-maj=8.7km s-min=7.5km az=109.0*
*ANF **05** 19:29:52.4±1.7, 60°.38N×153°.51W, h173km±13km, ML4.4/8, Error ellipse: s-maj=18.6km s-min=10.8km az=95.0*
*UNK **05** 18:29:52.6, 60°.24N×153°.53W, h176km*
ISC 05 18:29:52.4±0.6,**60°.29N**±0°.04×**153°.56W**±0°.04,
h177km±5km,**n181**,σ1§**49**/209,**mb3.6**/12,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.36**	**125**		**Pn**	**18 30 15.7**	**-0.7**
ILIM					**Sn**	**18 30 33.9**	**-0.9**
IVE	**Iliamna Volcan**	**0.38**	**135**		**Pn**	**18 30 15.6**	**-0.9**
IVE					**Sn**	**18 30 33.9**	**-1.1**
RDWB	**Redoubt West**	**0.41**	**60**		**Pn**	**18 30 16.0**	**-0.6**
RDWB					**Sn**	**18 30 34.0**	**-1.4**
RED	**Redoubt Volcan**	**0.41**	**71**		**Pn**	**18 30 15.9**	**-0.7**
RED					**Sn**	**18 30 34.3**	**-1.0**
ILS	**Iliamna Low So**	**0.41**	**143**		**Pn**	**18 30 15.9**	**-0.8**
NCT	**North Crescent**	**0.41**	**48**		**Pn**	**18 30 16.1**	**-0.5**
NCT					**Sn**	**18 30 34.1**	**-1.2**
RSO	**Redoubt South**	**0.44**	**66**		**Pn**	**18 30 16.3**	**-0.5**
RDSO	**Redoubt South**	**0.44**	**67**		**Pn**	**18 30 16.0**	**-0.8**
DFR	**Drift River**	**0.53**	**54**		**Pn**	**18 30 16.4**	**-0.7**
DFR					**Sn**	**18 30 35.0**	**-1.1**
OPT	**Oil Point**	**0.66**	**165**		**Pn**	**18 30 16.9**	**-0.7**
AUL	**Augustine Lava**	**0.91**	**176**		**Pn**	**18 30 18.4**	**-0.8**
AUL					**Sn**	**18 30 38.3**	**-1.4**
AUW	**Augustine West**	**0.92**	**177**		**Pn**	**18 30 18.5**	**-0.8**
AU22	**Augustine Moun**	**0.93**	**174**		**Pn**	**18 30 18.3**	**-0.9**
AU22					**Sn**	**18 30 38.2**	**-1.7**
AUH	**Augustine H**	**0.93**	**176**		**Pn**	**18 30 18.9**	**-0.5**
AUP	**Augustine Pinn**	**0.93**	**176**		**Pn**	**18 30 18.6**	**-0.9**
AUQ	**Augustine Qik'**	**0.94**	**175**		**Pn**	**18 30 18.6**	**-0.9**
SPCR	**Spurr Chakacha**	**1.13**	**35**		**Pn**	**18 30 20.7**	**-0.2**
SPBG	**Spurr Blockage**	**1.14**	**30**		**Pn**	**18 30 21.2**	**+0.3**
SPBG					**Sn**	**18 30 43.1**	**+0.1**
HOM	**Homer**	**1.15**	**122**	P	**Pn**	**18 30 20.3**	**-0.6**
	baz=302,SNR=12						
HOM				S	**Sn**	**18 30 41.3**	**-1.6**
	baz=302						
HOM	**Homer**	**1.15**	**122**		**Pn**	**18 30 20.4**	**-0.6**
HOM					**Sn**	**18 30 41.5**	**-1.5**
SPCN	**Chakachatna No**	**1.16**	**35**		**Pn**	**18 30 21.1**	**+0.1**
SPU	**Mount Spurr**	**1.16**	**39**		**Pn**	**18 30 20.6**	**-0.4**
SPCP	**Crater Peak Br**	**1.20**	**34**		**Pn**	**18 30 21.5**	**0.0**
SPCP					**Sn**	**18 30 44.2**	**+0.1**
SPCG	**Spurr Capps Gl**	**1.26**	**36**		**Pn**	**18 30 21.7**	**-0.2**
CAPN	**Captain Cook N**	**1.28**	**67**	P	**Pn**	**18 30 22.6**	**+0.6**
	baz=247						
CAPN				S	**Sn**	**18 30 47.2**	**+2.2**
	baz=247						
CAPN	**Captain Cook N**	**1.28**	**67**		**Pn**	**18 30 22.6**	**+0.6**
SVW2	**Sparrevohn**	**1.28**	**310**	Pn	**Pn**	**18 30 21.7**	**-0.4**
SVW2	**Sparrevohn**	**1.28**	**310**		**Sn**	**18 30 44.0**	**-1.1**
CNPM	**China Poot**	**1.40**	**122**	Pn	**Pn**	**18 30 22.3**	**-0.9**
STLK	**Strandline Lak**	**1.48**	**34**		**Pn**	**18 30 23.7**	**-0.2**
BRSE	**Bradley Lake S**	**1.52**	**110**		**Pn**	**18 30 23.6**	**-0.7**
SLKM	**Skilak Lake**	**1.67**	**81**		**Pn**	**18 30 24.2**	**-1.5**
KAHC	**Katmai Hardscr**	**1.80**	**205**		**Pn**	**18 30 26.0**	**-1.3**
SUA	**Susitna One**	**1.81**	**48**		**Pn**	**18 30 26.6**	**-0.7**
SUA	**Susitna One**	**1.81**	**48**		**Sn**	**18 30 53.9**	**-0.5**
FIS	**Fire Island**	**1.85**	**61**		**Pn**	**18 30 27.4**	**-0.1**
KAHG	**Katmai Hook Gl**	**1.87**	**196**		**Pn**	**18 30 26.7**	**-1.3**
KARR	**Katmai Rainbow**	**1.89**	**199**		**Pn**	**18 30 27.0**	**-1.1**
O22K	**Cooper Landing**	**1.91**	**83**	P	**Pn**	**18 30 27.1**	**-1.2**
	baz=264,SNR=19						
O22K				S	**Sn**	**18 30 54.0**	**-2.1**
	baz=264						
O22K	**Cooper Landing**	**1.91**	**83**		**Pn**	**18 30 26.9**	**-1.3**
SKT	**Skwentna**	**1.96**	**29**		**Pn**	**18 30 28.8**	**0.0**
SEW	**Seward**	**2.06**	**93**	Pn	**Pn**	**18 30 28.7**	**-1.1**
KVTA	**Katmai Vly 10**	**2.11**	**206**		**Pn**	**18 30 29.2**	**-1.2**
KAKN	**Katmai Knife C**	**2.14**	**202**		**Pn**	**18 30 29.3**	**-1.6**
KAKN					**Sn**	**18 30 57.6**	**-3.1**
KABU	**Katmai Buttres**	**2.21**	**204**		**Pn**	**18 30 30.4**	**-1.2**
KABU					**Sn**	**18 30 59.8**	**-2.3**
CAHL	**Cahill**	**2.42**	**203**		**Pn**	**18 30 32.7**	**-1.3**
PMR	**Palmer**	**2.53**	**57**		**Pn**	**18 30 33.1**	**-2.0**
KDAK	**Kodiak Island**	**2.56**	**168**	P	**Pn**	**18 30 32.7**	**-2.9**
	20nm,0.3s,baz=48,slow=7.6,SNR=787						
KDAK				S	**Sn**	**18 31 04.5**	**-4.7**
	140nm,0.3s,baz=222,slow=18,SNR=41						
PWL	**Port Wells**	**2.64**	**75**		**Pn**	**18 30 36.1**	**-0.4**
CUT	**Chulitna**	**2.65**	**35**	P	**Pn**	**18 30 36.0**	**-0.6**
	baz=217,SNR=13						
CUT				S	**Sn**	**18 31 09.8**	**-1.2**
	baz=217						
CUT	**Chulitna**	**2.65**	**35**		**Pn**	**18 30 36.0**	**-0.6**
PPLA	**Purkeypile**	**2.70**	**13**	Pn	**Pn**	**18 30 38.4**	**+1.1**
GHO	**Glory Hole Cre**	**2.70**	**55**	Pn	**Pn**	**18 30 35.5**	**-1.8**
KNK	**Knik Glacier**	**2.74**	**63**		**Pn**	**18 30 35.9**	**-1.8**
TT01	**Tatalina**	**2.88**	**337**		**Pn**	**18 30 39.2**	**-0.1**
TTA	**Tatalina**	**2.90**	**337**	Pn	**Pn**	**18 30 38.7**	**-0.9**
PLK1	**Peulik 1**	**2.95**	**214**		**Pn**	**18 30 39.7**	**-0.6**
PLK3	**Peulik 3**	**2.96**	**209**		**Pn**	**18 30 39.3**	**-1.1**
SML	**Sawmill**	**2.96**	**57**		**Pn**	**18 30 38.6**	**-1.8**
OHAK	**Old Harbor**	**3.08**	**177**	Pn	**Pn**	**18 30 38.8**	**-3.0**
GLI	**Glacier Island**	**3.24**	**77**		**Pn**	**18 30 41.3**	**-2.5**
HUR	**Hurricane**	**3.28**	**33**		**Pn**	**18 30 43.6**	**-0.6**
SCM	**Sheep Creek Mo**	**3.40**	**60**		**Pn**	**18 30 44.4**	**-1.5**
WAT7	**Susitna Watana**	**3.41**	**39**		**Pn**	**18 30 44.9**	**-1.0**
WAT1	**Susitna Watana**	**3.50**	**41**		**Pn**	**18 30 46.0**	**-1.0**
KTH	**Kantishna Hill**	**3.50**	**20**	Pn	**Pn**	**18 30 46.9**	**-0.2**
HIN	**Hinchinbrook I**	**3.51**	**85**	Pn	**Pn**	**18 30 46.3**	**-0.8**
JPK	**Jack Peak**	**3.51**	**74**		**Pn**	**18 30 46.0**	**-1.2**
FID	**Port Fidalgo**	**3.53**	**79**		**Pn**	**18 30 45.1**	**-2.3**
TRF	**Thorofare Moun**	**3.53**	**25**		**Pn**	**18 30 47.3**	**-0.2**
WAT2	**Susitna Watana**	**3.58**	**39**		**Pn**	**18 30 47.2**	**-0.9**
WAT6	**Susitna Watana**	**3.62**	**48**		**Pn**	**18 30 47.4**	**-1.2**
VMT	**TAPS Tl Valdez**	**3.62**	**74**		**Pn**	**18 30 48.4**	**-0.1**
CHUM	**Lake Minchumin**	**3.66**	**9**		**Pn**	**18 30 49.1**	**+0.2**
Q23K	**Middleton Isla**	**3.74**	**100**	P	**Pn**	**18 30 48.9**	**-1.0**
	baz=286						
Q23K				S	**Sn**	**18 31 34.1**	**-0.8**
	baz=286						
Q23K	**Middleton Isla**	**3.74**	**100**		**Pn**	**18 30 48.9**	**-1.0**
MID	**Middleton Isla**	**3.74**	**100**	Pn	**Pn**	**18 30 49.0**	**-1.0**
SII	**Sitkinak Islan**	**3.75**	**185**		**Pn**	**18 30 47.3**	**-3.0**
RND	**Reindeer**	**3.84**	**33**	Pn	**Pn**	**18 30 50.6**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.88**	**83**	Pn	**Pn**	**18 30 51.0**	**-0.8**
DIV	**Divide**	**3.92**	**74**		**Pn**	**18 30 50.9**	**-1.4**
KLU	**Klutina**	**3.92**	**69**		**Pn**	**18 30 51.1**	**-1.3**
BPAW	**Bear Paw Mtn.**	**4.01**	**16**	Pn	**Pn**	**18 30 52.8**	**-0.6**
M24K	**Tolsona, Glenn**	**4.01**	**60**	P	**Pn**	**18 30 52.9**	**-0.6**
	baz=245,SNR=17						
M24K				S	**Sn**	**18 31 42.1**	**+0.7**
	baz=245						
M24K	**Tolsona, Glenn**	**4.01**	**60**		**Pn**	**18 30 52.7**	**-0.8**
DHY	**Denali Highway**	**4.06**	**44**		**Pn**	**18 30 53.4**	**-0.8**
MCK	**McKinley**	**4.08**	**30**	Pn	**Pn**	**18 30 53.8**	**-0.6**
PS12	**TAPS Pump St12**	**4.28**	**70**		**Pn**	**18 30 55.9**	**-1.0**
PS11	**TAPS Pump St11**	**4.31**	**62**		**Pn**	**18 30 57.0**	**-0.2**
BWN	**Browne**	**4.34**	**24**	Pn	**Pn**	**18 30 57.9**	**+0.2**
GOAT	**Goat Mountain**	**4.39**	**82**		**Pn**	**18 30 57.2**	**-1.1**
RAGM	**Ragged Mountai**	**4.42**	**85**		**Pn**	**18 30 57.3**	**-1.4**
BMRM	**Bremner River**	**4.46**	**77**		**Pn**	**18 30 57.8**	**-1.5**
KAIM	**Kayak Island**	**4.59**	**91**	Pn	**Pn**	**18 30 58.9**	**-2.0**
CHIR	**Chirikof Islan**	**4.61**	**195**	Pn	**Pn**	**18 30 57.7**	**-3.5**
HMT	**Hamilton**	**4.62**	**85**	Pn	**Pn**	**18 31 00.1**	**-1.3**
PAX	**Paxson**	**4.70**	**52**		**Pn**	**18 31 02.1**	**-0.3**
NEA2	**Nenana**	**4.80**	**24**	P	**Pn**	**18 31 02.0**	**-1.5**
	baz=207,SNR=9.8						
NEA2				S	**Sn**	**18 31 53.8**	**-5.5**
	baz=207						
NEA2	**Nenana**	**4.80**	**24**		**Pn**	**18 31 02.4**	**-1.1**
SUCK	**Suckling Hills**	**4.89**	**88**	Pn	**Pn**	**18 31 04.6**	**-0.1**
BERG	**Berg Lake**	**4.90**	**85**		**Pn**	**18 31 04.4**	**-0.5**
GLB	**Gilahina Butte**	**4.90**	**72**	Pn	**Pn**	**18 31 04.4**	**-0.6**
WRH	**Wood River Hil**	**4.91**	**29**		**Pn**	**18 31 03.9**	**-1.0**
VRDI	**Verde Repeater**	**5.04**	**75**		**Pn**	**18 31 06.3**	**-0.6**
CCB	**Clear Creek Bu**	**5.12**	**29**		**Pn**	**18 31 07.0**	**-0.7**
HDA	**Harding Lake**	**5.15**	**34**	P	**Pn**	**18 31 07.3**	**-0.8**
	baz=219,SNR=16						
HDA				S	**Sn**	**18 32 02.4**	**-5.3**
	baz=219						
HDA				S	**Sn**	**18 32 02.4**	**-5.3**
	baz=219						
HDA	**Harding Lake**	**5.15**	**34**		**Pn**	**18 31 07.4**	**-0.7**
MCARA	**McCarthy VSAT**	**5.27**	**73**		**Pn**	**18 31 09.5**	**-0.1**
MDM	**Murphy Dome**	**5.29**	**25**		**Pn**	**18 31 09.1**	**-0.9**
PS08	**TAPS Pump Stn8**	**5.29**	**33**		**Pn**	**18 31 09.3**	**-0.6**
TCOL	**CIGO, UAF Yank**	**5.30**	**27**	S	**Sn**	**18 32 08.1**	**-2.9**
	baz=212						
COLA	**College**	**5.30**	**27**		**Pn**	**18 31 09.9**	**-0.1**
RIDG	**Independent Ri**	**5.37**	**46**	Pn	**Pn**	**18 31 10.8**	**-0.2**
MENT	**Mentasta**	**5.39**	**56**		**Pn**	**18 31 11.1**	**-0.2**
KULT	**Kultieth River**	**5.40**	**86**		**Pn**	**18 31 11.5**	**+0.1**
IL31		**5.46**	**32**		**Pn**	**18 31 11.4**	**-0.6**
ILAR	**Eielson Array**	**5.46**	**32**	P	**Pn**	**18 31 11.2**	**-0.9**
	3.3nm,0.3s,baz=223,slow=13,SNR=131						
ILAR				S	**Sn**	**18 32 08.8**	**-5.9**
	5.9nm,0.3s,baz=212,slow=20,SNR=22						
ILAR	**Eielson Array**	**5.46**	**32**	Pn	**Pn**	**18 31 10.9**	**-1.1**
ILAR					**Sn**	**18 32 10.8**	**-3.9**
BARK	**Barkley Ridge**	**5.50**	**84**		**Pn**	**18 31 12.8**	**0.0**
KIAG	**Kiagna River**	**5.55**	**79**		**Pn**	**18 31 13.3**	**-0.3**
ISLE	**Juniper Island**	**5.56**	**82**		**Pn**	**18 31 12.8**	**-0.8**
BALM	**Baldy**	**5.57**	**77**		**Pn**	**18 31 13.4**	**-0.2**
DOT	**Dot Lake**	**5.60**	**49**	Pn	**Pn**	**18 31 13.6**	**-0.5**
POKR	**Poker Plat Res**	**5.60**	**28**	P	**Pn**	**18 31 13.3**	**-0.7**
	baz=213,SNR=19						
POKR				S	**Sn**	**18 32 15.1**	**-3.1**
	baz=213						
POKR	**Poker Plat Res**	**5.60**	**28**		**Pn**	**18 31 13.6**	**-0.4**
IM03		**5.72**	**359**		**Pn**	**18 31 15.7**	**+0.3**
IMAR	**Indian Mountai**	**5.72**	**359**		**Pn**	**18 31 15.5**	**0.0**
MESA	**MESA**	**5.79**	**86**		**Pn**	**18 31 16.8**	**+0.2**
SCRK	**Sand Creek**	**5.81**	**46**	P	**Pn**	**18 31 16.1**	**-0.8**
	baz=234,SNR=13						
SCRK				S	**Sn**	**18 32 18.9**	**-4.5**
	baz=234						
SCRK	**Sand Creek**	**5.81**	**46**		**Pn**	**18 31 16.1**	**-0.8**
YAH	**Yahtse**	**5.87**	**84**		**Pn**	**18 31 17.8**	**+0.1**
BARN	**Barnard Glacie**	**5.90**	**77**	Pn	**Pn**	**18 31 18.0**	**-0.1**
CTGM	**Chitina Glacie**	**6.06**	**78**		**Pn**	**18 31 19.9**	**-0.2**
TABL	**Table Mountain**	**6.16**	**83**		**Pn**	**18 31 21.2**	**-0.3**
SDPT	**Sand Point**	**6.18**	**220**	Pn	**Pn**	**18 31 20.3**	**-1.3**
LOGN	**Logan Glacier**	**6.22**	**80**		**Pn**	**18 31 22.0**	**-0.2**
BC03		**6.26**	**59**		**Pn**	**18 31 22.7**	**+0.2**
BCAR	**Beaver Creek A**	**6.26**	**59**		**Pn**	**18 31 22.1**	**-0.5**
YUK2	**White River**	**6.36**	**71**		**Pn**	**18 31 23.5**	**-0.5**
CNBA	**Chernabura Isl**	**6.37**	**213**	Pn	**Pn**	**18 31 19.8**	**-4.3**
SAMH	**Samovar Hills**	**6.37**	**86**		**Pn**	**18 31 23.0**	**-1.2**
YUK3	**Moose Creek**	**6.54**	**71**		**Pn**	**18 31 26.2**	**-0.2**
K27K	**Chicken**	**6.55**	**50**	P	**Pn**	**18 31 25.9**	**-0.5**
	baz=240,SNR=8.5						
PCA	**Pinnacle**	**6.64**	**86**		**Pn**	**18 31 27.5**	**-0.2**
BCPM	**Bancas Point**	**6.97**	**87**	Pn	**Pn**	**18 31 32.6**	**+0.6**
COLD	**Coldfoot**	**7.12**	**11**	P	**Pn**	**18 31 32.5**	**-1.4**
	baz=193,SNR=7.2						
COLD	**Coldfoot**	**7.12**	**11**	Pn	**Pn**	**18 31 33.2**	**-0.7**
PNL	**Peninsula**	**7.13**	**89**		**Pn**	**18 31 33.5**	**-0.7**
EGAK	**Eagle**	**7.28**	**47**	Pn	**Pn**	**18 31 35.3**	**-0.7**
YUK4	**Talbot Arm**	**7.37**	**75**		**Pn**	**18 31 38.3**	**+0.8**
YUK6	**Outpost Mounta**	**7.51**	**78**		**Pn**	**18 31 39.0**	**-0.3**
FALS	**False Pass**	**7.59**	**229**	Pn	**Pn**	**18 31 37.9**	**-2.3**
HYT	**Haines Junctio**	**7.93**	**79**		**Pn**	**18 31 44.9**	**+0.2**
BM03	**Burnt Mountain**	**8.17**	**25**		**Pn**	**18 31 45.9**	**-1.8**
BMAR	**Burnt Mountain**	**8.18**	**25**		**Pn**	**18 31 45.9**	**-2.0**
TOLK	**Toolik Lake Re**	**8.56**	**10**	S	**Sn**	**18 33 28.1**	**-0.3**
	baz=193						
TOLK	**Toolik Lake Re**	**8.56**	**10**	Pn	**Pn**	**18 31 53.0**	**+0.2**
PLBC	**Pleasant Camp**	**8.69**	**88**		**Pn**	**18 31 54.6**	**0.0**
WHY	**Whitehorse**	**9.23**	**80**	Pn	**Pn**	**18 32 01.4**	**-0.4**
EPYK	**Eagle Plains**	**9.70**	**44**		**Pn**	**18 32 08.7**	**+1.0**
NIKH	**Nikolski High**	**11.14**	**236**	Pn	**Pn**	**18 32 24.4**	**-2.3**
DLBC	**Dease Lake**	**12.13**	**88**	P	**Pn**	**18 32 40.6**	**+1.2**
	0.2nm,0.3s,baz=263,slow=8.1,SNR=2.0						
DLBC	**Dease Lake**	**12.13**	**88**		**Pn**	**18 32 39.4**	**0.0**
DIB	**Dawson Inlet,**	**13.53**	**112**		**P**	**18 33 00.9**	**+0.7**
ATKA	**Atka Island**	**13.99**	**244**	Pn	**Pn**	**18 33 02.8**	**-0.1**
ADK	**Adak**	**15.34**	**247**		**Pn**	**18 33 19.3**	**-0.1**
YKA	**Yellowknife Ar**	**18.59**	**66**	P	**P**	**18 33 55.5**	**-0.2**
	0.4nm,0.3s,baz=281,slow=10,SNR=6.7						
SEY	**Seymchan**	**25.20**	**300**	P	**P**	**18 35 00.7**	**-0.5**
	0.8nm,0.6s,baz=58,slow=15,SNR=6.0						
PETK	**Petropavlovsk-**	**27.15**	**277**	P	**P**	**18 35 18.1**	**-0.6**
	0.5nm,0.5s,baz=71,slow=14,SNR=6.1						
NVAR	**Mina Array Bea**	**31.11**	**119**	P	**P**	**18 35 55.9**	**+1.7**
	0.6nm,0.7s,baz=312,slow=8.9,SNR=5.5						
NVAR				ScP	**ScP**	**18 42 11.8**	**+1.2**
	0.1nm,0.3s,baz=327,slow=2.5,SNR=3.9						
PDAR	**Pinedale Array**	**31.73**	**103**	P	**P**	**18 36 01.7**	**+2.1**
	0.3nm,0.4s,baz=332,slow=4.0,SNR=6.2						
PDAR	**Pinedale Array**	**31.73**	**103**	P	**P**	**18 36 01.4**	**+1.8**
SCHQ	**Schefferville**	**43.64**	**57**	P	**P**	**18 37 39.4**	**+0.5**
	1.1nm,0.5s,baz=241,slow=19,SNR=1.4						
TXAR	**Lajitas Array**	**45.34**	**110**	P	**P**	**18 37 54.6**	**+1.9**
	0.3nm,0.4s,baz=335,slow=5.5,SNR=6.4						
ARCES	**ARCESS Array B**	**50.47**	**0**	P	**P**	**18 38 31.4**	**0.0**
	1.3nm,0.9s,baz=0.8,slow=6.4,SNR=1.1						
KSRS	**Korea Array**	**52.84**	**282**	P	**P**	**18 38 50.0**	**+0.5**
	1.3nm,0.9s,baz=33,slow=7.2,SNR=7.4						
SONM	**Songino Array**	**54.40**	**305**	P	**P**	**18 39 01.5**	**+0.8**
	1.3nm,0.7s,baz=43,slow=5.9,SNR=8.5						
ZALV	**Zalesovo Beam**	**56.98**	**323**	P	**P**	**18 39 18.4**	**-0.3**
	0.8nm,0.5s,baz=19,slow=11,SNR=4.4	

0.7nm,0.6s,baz=33,slow=8.8,SNR=4.1

NEIC ***05*** *18:47:11.1±1.7,56°.1S±0°.1×27°.8W±0°.2,h115km±6km, mb4.8/43,Error ellipse: s-maj=18.1km s-min=13.2km az=209.0*

IDC ***05*** *18:47:11.9±5.3,56°.03S×27°.80W,h118km±48km,mb4.0/9, mb1 4.2/11,mb1mx4.0/21,mbtmp4.5/11,MS2.8/2, Ms1 2.8/2,ms1mx2.6/19,Error ellipse: s-maj=21.9km s-min=15.8km az=49.0*

ISC 05 18:47:11.6±0.5,56°.11S±0°.08×27°.89W±0°.08,h121km,n71, σ0°72/69,mb4.8/26,1C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.25 287**		**Pn**		**18 48 26.9**	**-1.0**
VNA1	**Neumayer--Stat**	**16.89 157**		P	**Pn**	**18 50 59.7**	**-0.6**
VNA3	**Neumayer-Olymp**	**17.07 160**		P	**P**	**18 51 01.6**	**-0.8**
VNA2	**Neumayer--Watz**	**17.29 157**		P	**Pn**	**18 51 05.2**	**0.0**
EFI	**East Falkland**	**18.25 271**		P	**Pn**	**18 51 16.4**	**-0.3**
SNAA	**Sanae**	**18.85 156**		P	**P**	**18 51 22.0**	**+0.1**
SNAA	**Sanae**	**18.85 156**		P	**P**	**18 51 21.9**	**+0.1**
SNAA	21nm,0.3s,baz=304,slow=9.8,SNR=1003			LR	LR	18 58 19.4	
SNAA	**Sanae**	**18.85 156**		P	**P**	**18 51 21.8**	**0.0**
PMSA	**Palmer Station**	**19.57 229**		P	**Pn**	**18 51 32.1**	**0.0**
PMSA	1.8nm,0.3s,baz=61,slow=9.2,SNR=18			LR	LR	18 57 28.0	
PMSA	**Palmer Station**	**19.57 229**		P	**Pn**	**18 51 31.7**	**-0.4**
BELA	**Belgrano 2**	**22.00 184**		P	**P**	**18 51 55.2**	**-0.3**
MG01	**Puerto William**	**22.32 256**		P	**P**	**18 51 58.8**	**-0.1**
PLCA	**Paso Flores**	**31.62 281**		P	**P**	**18 53 22.3**	**-0.7**
PLCA	**Paso Flores**	**31.62 281**		P	**P**	**18 53 22.5**	**-0.5**
SYO	**Syowa Base**	**31.79 141**	⇑	*eP*	**P**	**18 53 22.4**	**-1.5**
QSPA	**South Pole Qui**	**34.15 180**		P	**P**	**18 53 46.0**	**+1.3**
QSPA	**South Pole Qui**	**34.15 180**		P	**P**	**18 53 46.0**	**+1.3**
QSPA	7.5nm,0.6s,baz=22,slow=4.8,SNR=89			IAmb	IAmb	18 53 47.0	
BO02	**Sierra Bellavi**	**36.07 288**		P	**P**	**18 54 01.8**	**+0.4**
GO05	**Huala**	**36.52 286**		P	**P**	**18 54 06.6**	**+1.4**
CPUP	**Villa Florida**	**36.55 312**		P	**P**	**18 54 06.8**	**+1.3**
CPUP	**Villa Florida**	**36.55 312**		P	**P**	**18 54 06.0**	**+0.5**
CPUP	comp=Z,1.4nm,0.8s,baz=187,slow=8.6,SNR=3.2			IAmb	IAmb	18 54 37.8	
MT02	**Curacav**	**37.43 289**		P	**P**	**18 54 12.3**	**-0.6**
ZON	**Zonda**	**37.50 294**		P	**P**	**18 54 13.0**	**-0.5**
ZON	comp=Z,24nm,1.8s			IAmb	IAmb	18 54 14.1	
ROC1	**El Roble**	**37.59 290**		P	**P**	**18 54 14.7**	**+0.2**
CO02	**Combarbal**	**38.97 291**		P	**P**	**18 54 25.6**	**-0.3**
CO03	**El Pedregal**	**39.10 292**		P	**P**	**18 54 26.7**	**-0.3**
CO03	comp=Z,11nm,0.7s			IAmb	IAmb	18 54 29.2	
CO01	**Juntas del Tor**	**39.48 294**		P	**P**	**18 54 30.9**	**+0.6**
CO01	comp=Z,24nm,1.5s			IAmb	IAmb	18 54 32.2	
GO04	**Tololo Observa**	**39.68 293**		P	**P**	**18 54 32.4**	**+0.4**
GO04	comp=Z,11nm,0.7s			IAmb	IAmb	18 55 05.6	
MAW	**Mawson**	**40.34 144**		P	**P**	**18 54 37.0**	**+0.4**
MAW	**Mawson**	**40.34 144**		P	**P**	**18 54 37.2**	**+0.6**
AC05	**El Transito**	**40.49 294**		P	**P**	**18 54 38.0**	**-0.6**
AC05	comp=Z,30nm,1.2s			IAmb	IAmb	18 54 39.5	
LCO	**Las Campanas**	**40.57 294**		P	**P**	**18 54 39.2**	**-0.1**
LCO	comp=Z,12nm,0.7s			IAmb	IAmb	18 55 15.3	
AC01	**Pan de Azucar**	**42.85 296**		P	**P**	**18 54 57.1**	**-0.6**
GO02	**Mina Guanaco**	**43.17 298**		P	**P**	**18 55 00.7**	**+0.2**
GO02	comp=Z,18nm,1.1s			IAmb	IAmb	18 55 01.7	
LVC	**Limon Verde**	**44.99 301**		P	**P**	**18 55 15.8**	**+0.6**
LVC	comp=Z,12nm,0.7s			IAmb	IAmb	18 55 18.8	
PB10	**IPOC Station P**	**45.03 298**		P	**P**	**18 55 14.6**	**-0.4**
PB06	**IPOC Station P**	**45.23 300**		P	**P**	**18 55 16.4**	**-0.4**
PB06	comp=Z,10.0nm,0.7s			IAmb	IAmb	18 55 51.3	
PB09	**IPOC Station P**	**45.84 301**		P	**P**	**18 55 22.7**	**+1.1**
PB09	comp=Z,34nm,1.4s			IAmb	IAmb	18 55 25.4	
PB07	**IPOC Station P**	**46.21 300**		P	**P**	**18 55 24.9**	**+0.4**
BOSA	**Boshof**	**46.36 76**		P	**P**	**18 55 26.1**	**+0.5**
BOSA	**Boshof**	**46.36 76**		P	**P**	**18 55 25.7**	**+0.1**
BOSA	comp=Z,5.2nm,1.2s,baz=225,slow=11,SNR=2.0			IAmb	IAmb	18 55 39.5	
VNDA	**Vanda**	**46.50 183**		P	**P**	**18 55 27.4**	**+1.5**
VNDA	**Vanda**	**46.50 183**		P	**P**	**18 55 27.0**	**+1.1**
PB01	**IPOC Station P**	**46.60 301**		P	**P**	**18 55 28.2**	**+0.7**
PB01	comp=Z,3.2nm,0.7s,baz=188,slow=6.1,SNR=30			IAmb	IAmb	18 55 29.5	
PATCX	**Punta Patache**	**47.11 301**		P	**P**	**18 55 30.6**	**-0.9**
PB08	**IPOC Station P**	**47.22 302**		P	**P**	**18 55 33.0**	**+0.4**
GO01	**Chusmiza**	**47.64 303**		P	**P**	**18 55 36.8**	**+0.8**
GO01	comp=Z,20nm,1.0s			IAmb	IAmb	18 55 38.3	
PB11	**IPOC Station P**	**47.78 302**		P	**P**	**18 55 37.7**	**+1.0**
PB11	comp=Z,11nm,0.6s			IAmb	IAmb	18 56 09.5	
PSGCX	**Pisagua**	**48.15 302**		P	**P**	**18 55 40.2**	**+0.8**
MNMC	**Minye Minye**	**48.30 303**		P	**P**	**18 55 41.7**	**+0.9**
MNMC	comp=Z,23nm,1.2s			IAmb	IAmb	18 55 43.4	
PB16	**IPOC Station P**	**48.94 303**		P	**P**	**18 55 47.0**	**+0.9**
PB16	comp=Z,14nm,0.6s			IAmb	IAmb	18 55 56.1	
LBTB	**Lobatse**	**49.40 74**		P	**P**	**18 55 49.0**	**0.0**
LBTB	comp=Z,24nm,1.8s			IAmb	IAmb	18 56 25.7	
CASY	**Casey**	**53.99 161**		P	**P**	**18 56 21.0**	**-1.3**
CASY	comp=Z,20nm,1.4s			IAmb	IAmb	18 56 24.3	
SAML	**Samuel**	**54.56 316**		P	**P**	**18 56 26.6**	**-0.6**
DBIC	**Dimbokro**	**65.38 25**		P	**P**	**18 57 40.1**	**-0.8**
DBIC	comp=Z,8.8nm,0.9s			IAmb	IAmb	18 58 05.5	
ROSC	**El Rosal**	**71.62 310**		P	**P**	**18 58 20.4**	**+0.1**
ROSC	**El Rosal**	**71.62 310**		IAmb	IAmb	18 58 28.6	
TOA0	**Torodi Ar. Sit**	**73.30 30**		P	**P**	**18 58 30.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.30 30**		P	**P**	**18 58 29.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.30 30**		P	**P**	**18 58 30.2**	**+0.5**
GRGR	**Grenville**	**73.59 325**		P	**P**	**18 58 32.0**	**+0.6**
ASAR	**Alice Springs**	**99.05 163**		P	**Pdif**	**19 00 38.5**	**-0.3**
WRA	**Warramunga Arr**	**102.77 163**		P	**Pdif**	**19 00 55.6**	**+0.2**
NVAR	**Mina Array Bea**	**121.06 294**		PKP	**PKiKP**	**19 05 50.8**	**+1.3**
FINES	**FINESS Array B**	**124.61 28**		PKP	**PKiKP**	**19 05 55.0**	**-0.5**
ARCES	**ARCESS Array B**	**131.14 22**		PKP	**PKiKP**	**19 06 08.2**	**-0.2**
ZALV	**Zalesovo Beam**	**142.75 64**		PKhKP	PKPpre	19 06 25.4	
ILAR	**Eielson Array**	**149.86 312**		PKPbc	**PKiKP**	**19 06 46.0**	**-0.7**
ILAR	**Eielson Array**	**149.86 312**			**PKiKP**	**19 06 45.7**	**-1.0**
SONM	**Songino Array**	**151.12 87**		PKPbc	**PKiKP**	**19 06 49.6**	**-0.5**
SONM	**Songino Array**	**151.12 87**			**PKiKP**	**19 06 49.4**	**-0.7**

NNC 05 19:29:52.7±8.1,36°.54N×69°.93E,h0km,mb3.8,mpv3.5, 2C-5D,Error ellipse: s-maj=82.2km s-min=46.7km az=154.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.57**	**4**	⇓P	Pn	19 31 33.2	+2.6
KK31	1.0nm,0.3s,baz=185,slow=13,SNR=41			⇑S	Sn	19 32 45.7	-0.6
AAK	**Ala-Archa**	**7.04**	**29**	⇓P	Pn	19 31 36.5	-0.6
AAK	0.2nm,0.3s,baz=188,slow=24,SNR=4.5			⇓S	Sn	19 32 59.3	+1.4
TKM2	**Tokmak 2**	**7.73**	**33**	⇓P	Pn	19 31 43.8	-2.8
TKM2	0.8nm,0.6s			⇑S	Sn	19 33 16.2	+1.3
AB31	**Akbulak array**	**14.65**	**333**	⇓P	Pn	19 33 22.8	+1.7
	0.5nm,0.6s						

IDC ***05*** *19:36:28.5±0.4,26°.73S×114°.41W,h0km,mb4.7/30, mb1 4.8/31,mb1mx4.8/40,mbtmp4.7/31,ML3.9/1,MS5.3/27, Ms1 5.3/27,ms1mx5.3/29,Error ellipse: s-maj=12.7km s-min=12.1km az=129.0*

MOS ***05*** *19:36:29.2±0.9,26°.56S×114°.30W,h11km,mb5.5/13, MS5.3/37,Error ellipse: s-maj=9.6km s-min=7.7km az=82.7*

UNK ***05*** *19:36:31.9,26°.71S×114°.25W,h19km*

NEIC ***05*** *19:36:31.0±1.4,26°.71S±0°.10×114°.25W±0°.05,h14km±1km, mb5.5/412,Ms_20 5.4/848,Mwb5.7/24,Mwc5.8/27,Mww5.8, Mwc5.8(GCMT),Error ellipse: s-maj=16.7km s-min=7.1km az=186.0*

BJI ***05*** *19:36:31.5±0.0,26°.60S×114°.30W,h10km,mB5.5/36, Ms5.8/44,Ms7 5.7/46*

NEIC ***05*** *19:36:32,26°.72S×114°.30W,h14km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.24; Mθθ-1.27; Mφφ 1.51; Mrθ 0.62; Mθφ-3.63; Mφr-0.19; Fault plane solution: M0 3.95000×10^17^ NP1:φs 100.48000°, δ89.84000°,λ170.68000°. NP2:φs 190.51000°,δ80.68000°, λ0.16000°. Principal axes: T 4.0669, Plg7.0000°, Azm55.0000°; N -0.2521, Plg81.0000°, Azm279.0000°; P -3.8148, Plg6.0000°, Azm146.0000°;*

NEIC ***05*** *19:36:34,26°.87S×114°.33W,h14km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-1.04; Mθθ 0.46; Mφφ 0.59; Mrθ-0.26; Mθφ-5.32; Mφr-0.23; Fault plane solution: M0 5.41000×10^17^ NP1:φs 0.00000°, δ86.00000°,λ-4.00000°. NP2:φs 90.00000°,δ86.00000°, λ-176.00000°. Principal axes: T 5.8413, Plg0.0000°, Azm225.0000°; N -1.0108, Plg85.0000°, Azm134.0000°; P -4.8305, Plg5.0000°, Azm315.0000°;*

GCMT ***05*** *19:36:35.0±0.1,26°.84S×114°.33W,h13km,MW5.7/166, Moment Tensor Solution. s150,c311; s166,c507; Duration: 1s8 Moment tensor: Scale 10^17^Nm; Mrr-0.84±.03; Mθθ 0.14±.04; Mφφ 0.70±.04; Mrθ 0.51±.08; Mθφ-5.08±.03; Mφr-0.77±.09; Best double couple: M0 5.15600×10^17^ NP1:φs 91.00000°,δ83.00000°, λ176.00000°. NP2:φs 182.00000°,δ86.00000°,λ7.00000°. Principal axes: T 5.6400, Plg8.0000°, Azm47.0000°; N -0.9670, Plg82.0000°, Azm210.0000°; P -4.6720, Plg2.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***05*** *19:36:38,26°.90S×114°.44W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.21; Mθθ-0.37; Mφφ 0.58; Mrθ-1.86; Mθφ-6.57; Mφr-2.11; Fault plane solution: M0 7.17000×10^17^ NP1:φs 94.00000°, δ73.00000°,λ-166.00000°. NP2:φs 0.00000°,δ77.00000°, λ-16.00000°. Principal axes: T 6.7083, Plg3.0000°, Azm48.0000°; N 0.8448, Plg69.0000°, Azm144.0000°; P -7.5531, Plg21.0000°, Azm317.0000°;*

NEIC ***05*** *19:36:46.6,26°.89S×114°.23W,h27km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.49; Mθθ-0.53; Mφφ 1.02; Mrθ 1.84; Mθφ-5.97; Mφr3.35; Fault plane solution: M0 7.08000×10^17^ NP1:φs 181.73000°, δ80.06000°,λ-28.69000°. NP2:φs 277.13000°,δ61.78000°, λ-168.70000°. Principal axes: T 6.5467, Plg12.0000°, Azm232.0000°; N 1.0736, Plg60.0000°, Azm344.0000°; P -7.6204, Plg27.0000°, Azm136.0000°;*

ISC 05 19:36:30.5±0.2,26°.80S±0°.05×114°.30W±0°.04,h10km, n1289,σ1°60/917,mb5.5/231,MS5.4/486,37C-15D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.44**	**95**	Pn	**Pn**	**19 37 38.3**	**+0.4**
RPN	5.4nm,0.3s,baz=270,slow=9.2,SNR=4.8			Sn	**Sb**	**19 38 38.9**	**-3.3**
RPN	**Rapa Nui**	**4.44**	**95**	P	**Pn**	**19 37 37.9**	**-0.1**
RPN	2.0nm,0.3s,baz=346,slow=15,SNR=1.9					19 38 38.9	
RPN	**Rapa Nui**	**4.44**	**95**		**Pn**	**19 37 37.9**	**-0.1**
RKT	**Rikitea**	**19.10**	**277**	*e*LQ	LQ	19 44 38.2	
H03N2	**Juan Fernandez**	**31.19**	**111**	T	T	20 15 44.3	
H03N3	**Juan Fernandez**	**31.20**	**111**	T	T	20 15 39.1	
H03N1	**Juan Fernandez**	**31.21**	**111**	T	T	20 15 33.2	
TBI	**Tubuai**	**31.97**	**268**	*e*S	**S**	**19 48 10.6**	**+2.2**
TBI	13μm,32.5s			*e*LQ	LQ	19 49 59.2	
TBI	comp=Z,9μm,27.8s,baz=102			*e*LR	LR	19 51 07.8	
TBI	**Tubuai**	**31.97**	**268**	*e*T	T	20 16 12.0	
TIAR	**Tiarei**	**33.64**	**279**	*e*P	**P**	**19 43 13.2**	**+1.7**
PAE	**Paea**	**33.81**	**278**	*e*P	**P**	**19 43 14.7**	**+1.7**
PPTF	**Pamatai, Papee**	**33.82**	**278**	IAMs_20	IAMs_20	19 52 49.9	
PPT2	**Papeete2**	**33.83**	**278**	*e*P	**P**	**19 43 15.0**	**+1.7**
PPT2	comp=Z,2μm,25.2s			*e*S	**S**	**19 48 39.4**	**+1.8**
PPT2	comp=Z,12μm,30.2s			*e*LQ	LQ	19 50 49.4	
PPT2	comp=Z,11μm,24.0s,baz=107			*e*LR	LR	19 52 09.5	
PPT	**Papeete**	**33.84**	**278**	P	**P**	**19 43 11.4**	**-1.9**
PPT	comp=Z,75nm,0.9s,baz=66,slow=20,SNR=1.4			LR	LR	19 53 00.0	
BI03	**Tigo**	**36.23**	**116**	IAMs_20	IAMs_20	19 54 07.0	
LC01	**Cunco**	**37.31**	**120**	P	**P**	**19 43 44.7**	**+1.7**
LL01	**San Ignacio de**	**37.42**	**125**		**P**	**19 43 44.8**	**+1.0**
LL01	comp=Z,8μm,22.0s			IAMs_20	IAMs_20	19 54 52.6	
BI02	**San Fabin de**	**37.62**	**116**	P	**P**	**19 43 46.4**	**+0.7**
BO01	**Tunca**	**37.74**	**112**	P	**P**	**19 43 47.2**	**+0.7**
BO01	comp=Z,9μm,22.0s			IAMs_20	IAMs_20	19 54 48.8	
CO02	**Combarbal**	**37.95**	**107**	IAMs_20	IAMs_20	19 54 54.2	
BO02	**Sierra Bellavi**	**37.98**	**113**	IAMs_20	IAMs_20	19 55 28.4	
MT05	**Renca**	**38.04**	**111**	IAMs_20	IAMs_20	19 55 15.9	
PEL	**Peldehue**	**38.10**	**110**	IAMs_20	IAMs_20	19 54 59.5	
NNA	**Nana**	**38.12**	**75**	P	**P**	**19 43 50.9**	**+0.9**
NNA	**Nana**	**38.12**	**75**	P	**P**	**19 43 50.9**	**+0.9**
NNA	comp=Z,41nm,1.2s			pmax	pmax		
NNA	comp=Z,10μm,22.0s			MLR	MLR		
GO04	**Tololo Observa**	**38.21**	**105**	P	**P**	**19 43 51.4**	**+0.5**
GO04	comp=Z,168nm,1.6s			IAmb	IAmb	19 44 02.2	
GO04	comp=Z,5μm,20.0s			IAMs_20	IAMs_20	19 55 12.3	
AC04	**Llanos de Chal**	**38.22**	**102**	IAMs_20	IAMs_20	19 55 20.2	
VA03	**San Esteban**	**38.23**	**110**	P	**P**	**19 43 51.2**	**+0.3**
VA03	comp=Z,9μm,22.0s			IAMs_20	IAMs_20	19 55 01.7	
CO03	**El Pedregal**	**38.24**	**107**	P	**P**	**19 43 53.3**	**+2.3**
CO03	comp=Z,6μm,18.0s			IAMs_20	IAMs_20	19 55 21.1	
LCO	**Las Campanas**	**38.43**	**104**	P	**P**	**19 43 52.9**	**+0.1**
LCO	comp=Z,35nm,1.1s			pmax	pmax		
LCO	comp=Z,4μm,21.0s			MLR	MLR		
LCO	**Las Campanas**	**38.43**	**104**	P	**P**	**19 43 52.9**	**+0.1**
PLCA	**Paso Flores**	**38.54**	**122**	P	**P**	**19 43 54.7**	**+1.4**
PLCA	comp=Z,23nm,1.0s,baz=292,slow=8.2,SNR=18			LR	LR	19 55 44.2	
PLCA	**Paso Flores**	**38.54**	**122**	P	**P**	**19 43 54.9**	**+1.5**
PLCA	comp=Z,71nm,1.0s			pmax	pmax		
PLCA	**Paso Flores**	**38.54**	**122**		**P**	**19 43 54.9**	**+1.5**
PLCA	comp=Z,71nm,1.0s			IAmb	IAmb	19 44 03.3	
PLCA	**Paso Flores**	**38.54**	**122**	*e*P	**P**	**19 43 55.2**	**+1.9**
AC05	**El Transito**	**38.83**	**103**	P	**P**	**19 43 56.6**	**+0.6**
AC05	comp=Z,275nm,1.9s			IAmb	IAmb	19 44 08.6	
AC05				IAMs_20	IAMs_20	19 55 19.5	
CO01	**Juntas del Tor**	**38.84**	**105**	P	**P**	**19 43 54.1**	**-2.1**
CO01	comp=Z,7μm,20.0s			IAMs_20	IAMs_20	19 55 32.9	
AC01	**Pan de Azucar**	**38.98**	**99**	IAMs_20	IAMs_20	19 55 14.5	
GO03	**Copiap**	**39.05**	**102**	IAMs_20	IAMs_20	19 55 53.2	
ATAH	**Atahualpa**	**39.31**	**67**	P	**P**	**19 44 02.2**	**+1.8**
PB10	**IPOC Station P**	**39.59**	**95**	IAMs_20	IAMs_20	19 55 58.5	
ZON	**Zonda**	**39.90**	**108**	P	**P**	**19 44 04.4**	**-0.4**
ZON	comp=Z,60nm,1.3s			MLR	MLR		
ZON	**Zonda**	**39.90**	**108**	P	**P**	**19 44 04.4**	**-0.4**
GO09	**Cerro Castillo**	**39.96**	**139**	P	**P**	**19 44 06.1**	**+1.1**
GO09	comp=Z,167nm,1.2s			IAmb	IAmb	19 44 14.7	
GO09	comp=Z,6μm,18.0s			IAMs_20	IAMs_20	19 56 29.0	
GO02	**Mina Guanaco**	**40.07**	**98**	P	**P**	**19 44 07.9**	**+1.3**
AC02	**Maricunga**	**40.15**	**101**	IAMs_20	IAMs_20	19 56 54.3	
PB04	**IPOC Station P**	**40.25**	**94**	IAMs_20	IAMs_20	19 56 32.0	
PB15	**IPOC Station P**	**40.63**	**95**	IAMs_20	IAMs_20	19 56 30.1	
PB07	**IPOC Station P**	**40.65**	**93**	P	**P**	**19 44 11.1**	**-0.2**
PB06	**IPOC Station P**	**40.67**	**94**	P	**P**	**19 44 10.3**	**-1.1**
PATCX	**Punta Patache**	**40.67**	**91**	IAMs_20	IAMs_20	19 56 14.1	
TA01	**Diego Aracena**	**40.72**	**91**	IAMs_20	IAMs_20	19 56 42.5	
PSGCX	**Pisagua**	**41.07**	**90**	IAMs_20	IAMs_20	19 56 34.7	
PB01	**IPOC Station P**	**41.20**	**92**	P	**P**	**19 44 14.8**	**-1.0**
PB09	**IPOC Station P**	**41.21**	**93**	P	**P**	**19 44 16.9**	**+1.0**
PB12	**IPOC Station P**	**41.21**	**88**	IAMs_20	IAMs_20	19 56 37.0	
AP01	**Chacalluta**	**41.28**	**88**	IAMs_20	IAMs_20	19 56 38.8	
LVC	**Limon Verde**	**41.28**	**94**	P	**P**	**19 44 17.3**	**+0.6**
LVC	**Limon Verde**	**41.28**	**94**	P	**P**	**19 44 16.1**	**-0.6**
LVC	comp=Z,74nm,1.0s			MLR	MLR		
LVC	**Limon Verde**	**41.28**	**94**	P	**P**	**19 44 16.1**	**-0.6**
LVC	**Limon Verde**	**41.28**	**94**	IAMs_20	IAMs_20	19 56 47.3	
LVC	**Limon Verde**	**41.28**	**94**	*e*P	**P**	**19 44 17.9**	**+1.2**
PB11	**IPOC Station P**	**41.44**	**90**	P	**P**	**19 44 18.5**	**+0.8**
MNMC	**Minye Minye**	**41.69**	**89**	P	**P**	**19 44 19.9**	**-0.1**
USHA	**Ushuaia**	**43.46**	**143**	P	**P**	**19 44 33.0**	**-0.5**
OTAV	**Otavalo**	**43.73**	**58**	*e*P	**P**	**19 44 33.8**	**-2.9**
OTAV	**Otavalo**	**43.73**	**58**	P	**P**	**19 44 37.1**	**+0.4**
CZSB	**Cruzeiro do Su**	**43.75**	**72**	*e*P	**P**	**19 44 37.1**	**+0.6**
LPAZ	**La Paz**	**43.99**	**86**	P	**P**	**19 44 39.1**	**+0.1**
LPAZ	**La Paz**	**43.99**	**86**	P	**P**	**19 44 38.6**	**-0.4**
LPAZ	**La Paz**	**43.99**	**86**	P	**P**	**19 44 38.6**	**-0.4**
LPAZ	**La Paz**	**43.99**	**86**	*e*P	**P**	**19 44 40.0**	**+0.9**
GCUF	**Volcan Galeras**	**45.21**	**58**	*e*P	**P**	**19 44 48.1**	**-0.5**
PUAC	**Puerto Asis, P**	**45.37**	**59**	*e*P	**P**	**19 44 48.4**	**-0.9**
PTLC	**Puerto Leguiza**	**46.50**	**61**	*e*P	**P**	**19 44 55.2**	**-3.1**
POPC	**Popayan, Colom**	**46.57**	**57**	*e*P	**P**	**19 44 56.1**	**-2.9**
JTS	**Las Juntas de**	**46.60**	**42**	P	**P**	**19 44 58.8**	**-0.2**
JTS	**Las Juntas de**	**46.60**	**42**	P	**P**	**19 44 59.0**	**0.0**
JTS	comp=Z,35nm,1.1s			pmax	pmax		
JTS	comp=Z,10μm,22.0s			MLR	MLR		
JTS	**Las Juntas de**	**46.60**	**42**	P	**P**	**19 44 59.0**	**0.0**
PCON	**Cinco Dias**	**46.64**	**58**	*e*P	**P**	**19 44 58.7**	**-1.3**
TLIG	**Tlapa**	**46.67**	**21**	P	**P**	**19 44 58.9**	**-0.7**
TLIG	comp=Z,123nm,1.8s			IAmb	IAmb	19 45 12.5	
FLOC	**Florencia**	**46.73**	**59**	*e*P	**P**	**19 44 58.0**	**-2.1**
SNET	**Serv Nac Est T**	**47.04**	**34**	IAMs_20	IAMs_20	19 59 30.3	
CRIN	**San Cristobal**	**47.36**	**37**	IAMs_20	IAMs_20	20 00 08.8	
HUEH	**Huehuetenango**	**47.37**	**31**	IAMs_20	IAMs_20	20 00 16.8	
APG	**El Apazote**	**47.57**	**32**	P	**P**	**19 45 06.7**	**-0.1**
ESQI	**Esquipulas**	**47.73**	**34**	P	**P**	**19 45 07.1**	**-0.8**
ESQI	comp=Z,5μm,19.0s			IAMs_20	IAMs_20	20 00 21.5	
YOTC	**Yotoco, Valle**	**47.77**	**56**	*e*P	**P**	**19 45 05.4**	**-3.0**
UNM	**Universidad Na**	**48.15**	**19**	IAMs_20	IAMs_20	20 01 12.8	
MATN	**Matagalpa**	**48.16**	**38**	IAMs_20	IAMs_20	20 00 14.0	
ETMB	**Extrema**	**48.36**	**79**	*e*P	**P**	**19 45 12.9**	**+0.1**
TGUH	**Tegucigalpa,Un**	**48.37**	**36**	IAMs_20	IAMs_20	20 00 22.3	
MACC	**Macarena, Meta**	**48.47**	**60**	*e*P	**P**	**19 45 12.3**	**-1.4**
LPA	**La Plata**	**48.52**	**114**	*ce*P	**P**	**19 45 13.5**	**-0.3**
LPA	comp=Z,8μm,18.0s			PP	**PP**	**19 47 11.9**	**+5.4**

LPA				PPP	PPP	19 48 03.9	
LPA				S	**S**	**19 52 22.0**	**+6.8**
LPA				SS	SS	19 56 00.9	+16
LPA				SKIKS		20 00 38.1	
ORTC	**Ortega, Tolima**	**48.54**	**57**	*eP*	P	19 45 05.4	-8.8
EFI	**East Falkland**	**48.68**	**136**	‖*eP*	**P**	**19 45 16.7**	**+2.0**
EFI				pmax	pmax		
comp=Z,163nm,1.6s							
EFI	**East Falkland**	**48.68**	**136**	P	**P**	**19 45 16.7**	**+2.0**
PRAC	**Prado**	**48.68**	**58**	*eP*	**P**	**19 45 13.5**	**-1.8**
ANIL	**Santa Ana**	**48.81**	**56**	*eP*	**P**	**19 45 15.8**	**-0.7**
TOLC	**Tolima**	**48.93**	**56**	*eP*	**P**	**19 45 16.4**	**-1.1**
CBOC	**Ciudad Bolivar**	**49.28**	**54**	*eP*	**P**	**19 45 15.5**	**-4.5**
GUY2C	**Guyana, Caldas**	**49.32**	**56**	*eP*	**P**	**19 45 16.7**	**-3.9**
PMSA	**Palmer Station**	**49.45**	**154**	P	**P**	**19 45 21.0**	**+0.6**
comp=Z,9.6nm,1.0s,baz=301,slow=5.7,SNR=9.1							
PMSA				LR	LR	20 00 39.3	
comp=Z,2μm,21.0s,baz=282,slow=29							
PMSA	**Palmer Station**	**49.45**	**154**	P	**P**	**19 45 21.2**	**+0.8**
PMSA				IAmb	IAmb	19 45 30.1	
comp=Z,67nm,1.6s							
PMSA	**Palmer Station**	**49.45**	**154**	IAMs_20	IAMs_20	20 00 35.9	
comp=Z,3μm,19.0s							
PMSA	**Palmer Station**	**49.45**	**154**	*eP*	**P**	**19 45 21.8**	**+1.4**
PETF	**Flores**	**49.51**	**31**	IAMs_20	IAMs_20	20 01 07.7	
comp=Z,4μm,22.0s							
ROSC	**El Rosal**	**49.84**	**57**	P	**P**	**19 45 25.3**	**+0.8**
comp=Z,9.9nm,0.5s,baz=179,slow=14,SNR=8.1							
ROSC				LR	LR	20 02 04.6	
comp=Z,8μm,20.6s,baz=228,slow=31							
ROSC	**El Rosal**	**49.84**	**57**	*eP*	**P**	**19 45 25.4**	**+0.8**
ROSC	**El Rosal**	**49.84**	**57**	P	**P**	**19 45 24.0**	**-0.6**
HELC	**Santa Helena**	**49.85**	**55**	*eP*	**P**	**19 45 20.7**	**-3.9**
NORC	**Norcasia**	**49.91**	**56**	*eP*	P	19 45 19.7	-5.0
DBBC	**Dabeiba**	**49.92**	**53**	*eP*	**P**	**19 45 22.6**	**-2.2**
CHIC	**Chingaza**	**50.15**	**58**	*eP*	**P**	**19 45 22.6**	**-4.3**
SLBS	**Sierra La Lagu**	**50.37**	**5**	IAMs_20	IAMs_20	20 01 26.5	
comp=Z,4μm,20.0s							
SIV	**San Ignacio**	**50.40**	**89**	P	**P**	**19 45 28.4**	**0.0**
comp=Z,4.7nm,1.1s,baz=256,slow=11,SNR=12							
XMAS	**Kiritimati**	**50.52**	**298**	IAMs_20	IAMs_20	20 00 30.8	
comp=Z,5μm,20.0s							
SPBC	**San Pablo de B**	**50.56**	**56**	*eP*	**P**	**19 45 29.3**	**-0.4**
ZAIG	**Zacatecas**	**50.57**	**14**	IAMs_20	IAMs_20	20 02 22.9	
comp=Z,5μm,20.0s							
CPUP	**Villa Florida**	**50.58**	**103**	P	**P**	**19 45 29.5**	**0.0**
comp=Z,5.5nm,0.8s,baz=227,slow=8.6,SNR=5.3							
CPUP				LR	LR	20 03 11.4	
comp=Z,3μm,20.6s,slow=32							
CPUP	**Villa Florida**	**50.58**	**103**	P	**P**	**19 45 30.8**	**+1.2**
CPUP				pmax	pmax		
comp=Z,37nm,1.7s							
CPUP	**Villa Florida**	**50.58**	**103**	P	**P**	**19 45 30.8**	**+1.2**
LPIG	**La Paz**	**50.75**	**5**	LR	LR	20 01 56.2	
comp=Z,3μm,19.2s,baz=189,slow=30							
PTBC	**PUERTO BERRIO,**	**50.87**	**55**	*eP*	**P**	**19 45 30.2**	**-1.6**
ZARC	**Zaragoza, Cauc**	**51.22**	**54**	*eP*	**P**	**19 45 33.5**	**-1.0**
SAML	**Samuel**	**51.42**	**80**	P	**P**	**19 45 34.6**	**-1.4**
SAML				pmax	pmax		
comp=Z,25nm,1.4s							
SAML				MLR	MLR		
comp=Z,6μm,20.0s							
SAML	**Samuel**	**51.42**	**80**	P	**P**	**19 45 34.6**	**-1.4**
SAML	**Samuel**	**51.42**	**80**	*eP*	**P**	**19 45 36.0**	**0.0**
RUSC	**La Rusia**	**51.46**	**57**	*eP*	**P**	**19 45 34.1**	**-2.8**
MOTC	**Monteria, Cord**	**51.53**	**52**	*eP*	**P**	**19 45 34.5**	**-2.3**
BRRC	**Barranca, Sant**	**51.80**	**55**	*eP*	**P**	**19 45 36.2**	**-2.6**
BARC	**Barichara**	**51.84**	**56**	*eP*	**P**	**19 45 38.0**	**-1.5**
PTLB	**Pontes e Lacer**	**52.33**	**89**	*eP*	**P**	**19 45 42.9**	**0.0**
VILB	**Vilhena**	**52.35**	**86**	*eP*	**P**	**19 45 44.0**	**+1.0**
SJCC	**San Jacinto, C**	**52.65**	**51**	*eP*	**P**	**19 45 44.5**	**-0.7**
SMLC	**San Martn de**	**52.68**	**53**	*eP*	**P**	**19 45 43.2**	**-2.2**
PAMC	**Pamplona, Colo**	**52.70**	**56**	*eP*	**P**	**19 45 44.1**	**-2.0**
TEIG	**Tepich**	**53.12**	**31**	P	**P**	**19 45 48.3**	**-0.2**
comp=Z,5.8nm,0.6s,baz=291,slow=14,SNR=3.3							
TEIG				LR	LR	20 04 18.8	
comp=Z,3μm,18.3s,baz=206,slow=31							
TEIG	**Tepich**	**53.12**	**31**	P	**P**	**19 45 47.2**	**-1.3**
TEIG				IAmb	IAmb	19 46 05.5	
comp=Z,117nm,1.6s							
TEIG	**Tepich**	**53.12**	**31**	IAMs_20	IAMs_20	20 03 29.3	
comp=Z,3μm,21.0s							
AQDB	**Aquidauana**	**53.66**	**97**	*eP*	**P**	**19 45 53.4**	**+0.8**
AFI	**Afiamalu**	**54.99**	**271**	LR	LR	20 02 55.8	
comp=Z,527nm,19.1s,baz=116,slow=29							
SDV	**Santo Domingo**	**55.25**	**56**	*eP*	**P**	**19 45 59.8**	**-4.6**
SDV	**Santo Domingo**	**55.25**	**56**	P	**P**	**19 46 03.0**	**-1.3**
SDV				IAmb	IAmb	19 46 15.0	
comp=Z,74nm,1.3s							
SDV	**Santo Domingo**	**55.25**	**56**	*eP*	**P**	**19 46 03.2**	**-1.2**
PTGB	**Pitanga**	**55.59**	**103**	*eP*	**P**	**19 46 09.0**	**+2.3**
RAO	**Raoul Island**	**55.59**	**252**	IAMs_20	IAMs_20	20 03 02.8	
comp=Z,5μm,22.0s							
TRCB	**Terra Rica**	**55.65**	**100**	*eP*	**P**	**19 46 09.4**	**+2.3**
KVTX	**Kingsville**	**56.29**	**18**	IAMs_20	IAMs_20	20 01 40.3	
comp=Z,2μm,20.0s							
MACA	**Manacapuru-AM**	**56.36**	**75**	*eP*	**P**	**19 46 12.4**	**+0.2**
833A	**Chaparral WMA,**	**56.65**	**16**	P	**P**	**19 46 13.2**	**-0.7**
baz=196,SNR=6.4							
833A	**Chaparral WMA,**	**56.65**	**16**	P	**P**	**19 46 13.9**	**0.0**
833A				IAmb	IAmb	19 46 21.8	
comp=Z,49nm,0.9s							
TX32	**Lajitas Array**	**56.74**	**11**	P	**P**	**19 46 14.5**	**-0.2**
TXAR	**Lajitas Array**	**56.74**	**11**	P	**P**	**19 46 13.6**	**-1.0**
comp=Z,5.4nm,1.1s,baz=193,slow=9.7,SNR=25							
TXAR				LR	LR	20 06 07.3	
comp=Z,3μm,18.3s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**56.74**	**11**	P	**P**	**19 46 13.4**	**-1.3**
TXAR	**Lajitas Array**	**56.74**	**11**	P	**P**	**19 46 13.4**	**-1.3**
TX31	**Lajitas Ar. Si**	**56.74**	**11**	P	**P**	**19 46 14.5**	**-0.2**
CLDB	**Colider**	**57.13**	**86**	*eP*	**P**	**19 46 17.0**	**-0.7**
PCMB	**Pacaembu**	**57.23**	**99**	*eP*	**P**	**19 46 20.1**	**+1.8**
SPX	**San Pedro Mart**	**57.53**	**359**	P	**P**	**19 46 20.5**	**0.0**
735A	**Kenedy**	**57.56**	**17**	IAMs_20	IAMs_20	20 08 02.8	
comp=Z,3μm,19.0s							
PIX	**Pinacate**	**58.04**	**1**	P	**P**	**19 46 23.9**	**+0.3**
PIX				IAmb	IAmb	19 46 25.3	
comp=Z,53nm,1.2s							
319A	**Douglas**	**58.05**	**5**	P	**P**	**19 46 23.6**	**-0.3**
319A				IAmb	IAmb	19 46 25.8	
comp=Z,60nm,1.2s							
PTGA	**Pitinga**	**58.21**	**73**	*eP*	**P**	**19 46 26.6**	**+1.3**
214A	**Organ Pipe Nat**	**58.45**	**1**	P	**P**	**19 46 26.3**	**-0.3**
baz=182,SNR=9.0							
214A				S	**S**	**19 54 34.3**	**+4.5**
baz=182							
214A	**Organ Pipe Nat**	**58.45**	**1**	P	**P**	**19 46 26.6**	**+0.1**
214A				IAmb	IAmb	19 46 28.4	
comp=Z,44nm,1.2s							
JCT	**Junction City**	**58.62**	**15**	P	**P**	**19 46 27.4**	**-0.4**
JCT				pmax	pmax		
comp=Z,69nm,0.9s							
JCT				MLR	MLR		
comp=Z,3μm,21.0s							
JCT	**Junction City**	**58.62**	**15**	P	**P**	**19 46 27.6**	**-0.2**
baz=195,SNR=12							
JCT				S	**S**	**19 54 36.2**	**+4.0**
baz=195							
JCT	**Junction City**	**58.62**	**15**	P	**P**	**19 46 27.4**	**-0.4**
JCT				IAMs_20	IAMs_20	20 07 06.0	
comp=Z,3μm,21.0s							
ITRB	**Iturama**	**58.65**	**98**	*eP*	**P**	**19 46 30.0**	**+1.7**
HATO	**Hato, Curacao**	**58.65**	**55**	IAMs_20	IAMs_20	20 08 42.1	
comp=Z,3μm,20.0s							
EPT	**El Paso**	**58.72**	**8**	IAMs_20	IAMs_20	20 06 52.7	
comp=Z,3μm,18.0s							
ARAG	**Araguaiana, MT**	**58.78**	**93**	*eP*	**P**	**19 46 29.2**	**-0.1**
MNTX	**Cornudas Mount**	**58.79**	**9**	P	**P**	**19 46 27.8**	**-1.1**
baz=189,SNR=22							
MNTX				S	**S**	**19 54 37.5**	**+3.2**
baz=189							
MNTX	**Cornudas Mount**	**58.79**	**9**	P	**P**	**19 46 27.9**	**-1.1**
MNTX				IAMs_20	IAMs_20	20 07 06.7	
comp=Z,2μm,18.0s							
CBX	**Cerro Bola**	**58.83**	**358**	P	**P**	**19 46 29.4**	**0.0**
TUC	**Tucson**	**58.88**	**3**	P	**P**	**19 46 29.3**	**-0.3**
TUC				pmax	pmax		
comp=Z,24nm,1.2s							
TUC				MLR	MLR		
comp=Z,2μm,19.0s							
TUC	**Tucson**	**58.88**	**3**	P	**P**	**19 46 29.3**	**-0.3**
baz=184							
TUC				S	**S**	**19 54 40.5**	**+5.0**
baz=184							
TUC	**Tucson**	**58.88**	**3**	P	**P**	**19 46 29.3**	**-0.3**

HKT	**Hockley**	**59.14**	**19**	P	**P**	**19 46 31.6**	**+0.3**
HKT				pmax	pmax		
comp=Z,57nm,1.2s							
HKT				MLR	MLR		
comp=Z,2μm,21.0s							
HKT	**Hockley**	**59.14**	**19**	P	**P**	**19 46 31.6**	**+0.3**
HKT				IAmb	IAmb	19 46 34.4	
comp=Z,57nm,1.2s							
IKP	**In-Ko-Pah, Jac**	**59.15**	**358**	P	**P**	**19 46 31.0**	**-0.4**
baz=178,SNR=12							
BAR	**Barrett**	**59.20**	**358**	P	**P**	**19 46 31.6**	**-0.1**
BAR				IAmb	IAmb	19 46 34.0	
comp=Z,58nm,1.2s							
113A	**Mohawk Valley,**	**59.24**	**1**	P	**P**	**19 46 31.8**	**-0.2**
121A	**Cookes Peak, D**	**59.33**	**6**	P	**P**	**19 46 32.3**	**-0.6**
baz=187,SNR=21							
121A	**Cookes Peak, D**	**59.33**	**6**	P	**P**	**19 46 33.1**	**+0.3**
121A				IAmb	IAmb	19 46 34.6	
comp=Z,47nm,1.1s							
MONP2	**Monument Peak**	**59.40**	**358**	P	**P**	**19 46 33.0**	**-0.4**
baz=178,SNR=8.2							
MONP2				S	**S**	**19 54 48.3**	**+5.8**
baz=178							
109C	**Camp Elliot, M**	**59.42**	**357**	P	**P**	**19 46 33.2**	**0.0**
baz=177							
GDL2	**Guadalupe Moun**	**59.44**	**10**	P	**P**	**19 46 32.7**	**-0.8**
SWSC	**Sam W. Stewart**	**59.44**	**359**	P	**P**	**19 46 33.5**	**+0.2**
baz=178							
435B	**Jarrell**	**59.45**	**17**	P	**P**	**19 46 33.7**	**+0.2**
baz=197							
435B				S	**S**	**19 54 47.6**	**+4.8**
baz=197							
435B	**Jarrell**	**59.45**	**17**	P	**P**	**19 46 33.5**	**0.0**
435B				IAMs_20	IAMs_20	20 08 02.9	
comp=Z,4μm,22.0s							
GLA	**Glamis**	**59.53**	**359**	P	**P**	**19 46 34.1**	**+0.1**
GLA				pmax	pmax		
comp=Z,47nm,1.3s							
GLA				MLR	MLR		
comp=Z,2μm,18.0s							
GLA	**Glamis**	**59.53**	**359**	P	**P**	**19 46 33.4**	**-0.6**
baz=179,SNR=6.4							
GLA				S	**S**	**19 54 49.9**	**+6.1**
baz=179							
GLA	**Glamis**	**59.53**	**359**	P	**P**	**19 46 34.1**	**+0.1**
GLA				IAmb	IAmb	19 46 37.1	
comp=Z,47nm,1.2s							
SCI2	**San Clemente I**	**59.59**	**356**	P	**P**	**19 46 34.1**	**-0.3**
baz=176							
SPB	**Sao Paulo**	**59.96**	**103**	IAMs_20	IAMs_20	20 08 24.3	
comp=Z,3μm,21.0s							
CIS	**Catalina Islan**	**60.00**	**356**	P	**P**	**19 46 37.0**	**-0.3**
baz=176							
CIS				S	**S**	**19 54 54.5**	**+4.6**
baz=176							
PFO	**Pinyon Flats O**	**60.12**	**358**	P	**P**	**19 46 38.5**	**+0.3**
comp=Z,7.1nm,0.9s,baz=163,slow=5.5,SNR=8.1							
PFO				LR	LR	20 06 31.7	
comp=Z,909nm,18.8s,baz=178,slow=30							
PFO	**Pinyon Flats O**	**60.12**	**358**	P	**P**	**19 46 38.2**	**0.0**
PFO				pmax	pmax		
comp=Z,61nm,1.9s							
PFO	**Pinyon Flats O**	**60.12**	**358**	P	**P**	**19 46 37.7**	**-0.5**
baz=178,SNR=5.2							
PFO	**Pinyon Flats O**	**60.12**	**358**	P	**P**	**19 46 38.2**	**0.0**
PFO				IAmb	IAmb	19 46 50.8	
comp=Z,61nm,1.9s							
MURC	**Murrieta**	**60.13**	**357**	P	**P**	**19 46 37.8**	**-0.4**
baz=177							
BC3	**Big Chuckawall**	**60.14**	**359**	P	**P**	**19 46 37.9**	**-0.4**
baz=179,SNR=28							
BELC	**Belle Mtn. Jos**	**60.49**	**358**	P	**P**	**19 46 40.6**	**-0.1**
baz=178,SNR=20							
BELC				S	**S**	**19 55 02.8**	**+6.4**
baz=178							
IRM	**Iron Mountain**	**60.63**	**359**	P	**P**	**19 46 41.5**	**-0.1**
baz=179,SNR=27							
IRM				S	**S**	**19 55 03.7**	**+5.8**
baz=179							
WHTX	**Lake Whitney,**	**60.63**	**16**	P	**P**	**19 46 41.1**	**-0.5**
baz=197,SNR=5.5							
WHTX				S	**S**	**19 55 00.4**	**+2.5**
baz=197							
WHTX	**Lake Whitney,**	**60.63**	**16**	P	**P**	**19 46 41.1**	**-0.5**
WHTX				IAmb	IAmb	19 46 42.4	
comp=Z,50nm,1.2s							
ABTX	**Abilene, Hawle**	**60.72**	**14**	P	**P**	**19 46 41.8**	**-0.4**
baz=195,SNR=13							
ABTX	**Abilene, Hawle**	**60.72**	**14**	P	**P**	**19 46 41.6**	**-0.6**
ABTX				IAMs_20	IAMs_20	20 08 53.6	
comp=Z,2μm,18.0s							
SBLHI	**Steaming Bluff**	**60.75**	**315**	P	**P**	**19 46 42.1**	**-0.7**
PASC	**Pasadena Art C**	**60.75**	**356**	P	**P**	**19 46 42.2**	**-0.2**
PASC				IAmb	IAmb	19 46 44.4	
comp=Z,40nm,1.2s							
PDMCI	**Parker Dam,Lak**	**60.77**	**0**	P	**P**	**19 46 42.4**	**-0.1**
baz=180,SNR=12							
BBRC	**Big Bear Solar**	**60.78**	**358**	P	**P**	**19 46 42.1**	**-0.8**
baz=177							
BFSC	**Mount Baldy Ra**	**60.79**	**357**	P	**P**	**19 46 42.2**	**-0.6**
baz=176,SNR=13							
MWC	**Mount Wilson**	**60.80**	**356**	P	**P**	**19 46 42.6**	**-0.3**
MWC				pmax	pmax		
comp=Z,94nm,1.8s							
MWC	**Mount Wilson**	**60.80**	**356**	P	**P**	**19 46 42.6**	**-0.3**
MWC				IAmb	IAmb	19 46 49.4	
comp=Z,94nm,1.8s							
AIN	**Ainahou**	**60.83**	**315**	P	**P**	**19 46 42.1**	**-1.3**
DECC	**Green Verdugo**	**60.84**	**356**	P	**P**	**19 46 42.8**	**-0.3**
baz=176							
MLH	**Mauna Loa**	**60.87**	**315**	P	**P**	**19 46 42.8**	**-0.9**
Y22D	**IRIS PASSCAL I**	**60.95**	**7**	IAMs_20	IAMs_20	20 07 53.7	
comp=Z,3μm,20.0s							
LENM	**Lemitar**	**61.03**	**7**	P	**P**	**19 46 43.1**	**-1.4**
237A	**Washetta, Mont**	**61.08**	**18**	P	**P**	**19 46 45.0**	**+0.4**
237A				IAMs_20	IAMs_20	20 09 59.0	
comp=Z,3μm,19.0s							
SBC	**Santa Barbara**	**61.13**	**355**	P	**P**	**19 46 44.9**	**0.0**
baz=174							
IPMB	**Ipameri, GO**	**61.16**	**97**	*eP*	**P**	**19 46 47.8**	**+2.2**
NATX	**Nacogdoches**	**61.17**	**19**	P	**P**	**19 46 45.5**	**+0.3**
baz=200							
NEE2	**Needles Airpor**	**61.24**	**360**	P	**P**	**19 46 45.5**	**-0.1**
baz=180							
GMRC	**Granite Mounta**	**61.27**	**359**	P	**P**	**19 46 46.2**	**+0.2**
baz=179,SNR=22							
GMRC				S	**S**	**19 55 11.7**	**+5.5**
baz=179							
RPZ	**Rata Peaks**	**61.28**	**233**	P	**P**	**19 46 47.3**	**+1.2**
comp=Z,32nm,1.1s,baz=120,slow=6.2,SNR=4.4							
RPZ	**Rata Peaks**	**61.28**	**233**	P	**P**	**19 46 47.4**	**+1.2**
HEC	**Hector,Ludlow**	**61.33**	**358**	P	**P**	**19 46 46.2**	**-0.2**
baz=178							
MSTX	**Muleshoe**	**61.42**	**11**	P	**P**	**19 46 45.5**	**-1.5**
baz=192,SNR=13							
MSTX	**Muleshoe**	**61.42**	**11**	IAmb	IAmb	19 46 53.0	
comp=Z,34nm,0.9s							
EDW2	**Edwards Air Fo**	**61.45**	**357**	P	**P**	**19 46 46.2**	**-0.9**
baz=176,SNR=18							
W13A	**Hualapai Mount**	**61.57**	**0**	P	**P**	**19 46 48.3**	**+0.1**
W13A				IAmb	IAmb	19 46 50.8	
comp=Z,37nm,1.4s							
PKM	**Mcpherson Peak**	**61.58**	**355**	P	**P**	**19 46 47.8**	**-0.4**
baz=174,SNR=8.1							
W18A	**Petrified Fore**	**61.74**	**4**	P	**P**	**19 46 48.6**	**-0.6**
baz=185,SNR=9.4							
W18A				S	**S**	**19 55 16.4**	**+4.1**
baz=185							
W18A	**Petrified Fore**	**61.74**	**4**	IAmb	IAmb	19 46 51.5	
comp=Z,45nm,1.2s							
W18A				IAMs_20	IAMs_20	20 08 22.6	
comp=Z,2μm,18.0s							
SDDR	**Presa de Saban**	**61.74**	**47**	IAMs_20	IAMs_20	20 11 08.9	
comp=Z,3μm,20.0s							
ARVC	**Arvin**	**61.74**	**356**	P	**P**	**19 46 48.8**	**-0.3**
baz=175							
GSC	**Goldstone, Bar**	**61.81**	**358**	P	**P**	**19 46 49.7**	**+0.1**
baz=177,SNR=27							
GSC	**Goldstone, Bar**	**61.81**	**358**	IAmb	IAmb	19 46 52.0	
comp=Z,47nm,1.2s							
BELA	**Belgrano 2**	**61.82**	**166**	P	**P**	**19 46 48.4**	**-0.7**
ANMO	**Albuquerque**	**61.86**	**7**	P	**P**	**19 46 49.8**	**-0.3**
comp=Z,1.0nm,1.2s,baz=346,slow=7.9,SNR=14							
ANMO				LR	LR	20 09 03.2	
comp=Z,166nm,18.4s,baz=6.0,slow=32							
ANMO	**Albuquerque**	**61.86**	**7**	*deP*	**P**	**19 46 49.1**	**-1.0**
ANMO				pmax	pmax		

comp=Z,20nm,1.4s							
ANMO	**Albuquerque**	**61.86**	**7**	P	**P**	**19 46 49.5**	**-0.7**
baz=188							
ANMO	**Albuquerque**	**61.86**	**7**	P	**P**	**19 46 49.4**	**-0.7**
ANMO	**Albuquerque**	**61.86**	**7**	IAMs_20	IAMs_20	20 08 42.9	
comp=Z,3μm,20.0s							
TUQ	**Turquoise Moun**	**61.92**	**358**	P	**P**	**19 46 50.2**	**-0.2**
baz=178,SNR=8.9							
TUQ				S	**S**	**19 55 21.3**	**+6.8**
baz=178							
LRMC	**Laurel Mtn Rad**	**62.03**	**357**	P	**P**	**19 46 50.7**	**-0.4**
baz=176,SNR=18							
LRMC				S	**S**	**19 55 21.0**	**+5.2**
baz=176							
WUAZ	**Wupatki**	**62.05**	**3**	P	**P**	**19 46 51.3**	**0.0**
baz=183,SNR=14							
WUAZ				S	**S**	**19 55 22.4**	**+6.3**
baz=183							
WUAZ	**Wupatki**	**62.05**	**3**	IAmb	IAmb	19 46 53.2	
comp=Z,41nm,1.2s							
344A	**Westbrook Farm**	**62.15**	**23**	IAmb	IAmb	19 46 53.8	
comp=Z,42nm,0.8s							
BDFB	**Brasilia**	**62.19**	**94**	P	**P**	**19 46 52.4**	**-0.4**
comp=Z,4.1nm,0.8s,baz=238,slow=15,SNR=2.5							
BDFB				LR	LR	20 11 07.0	
comp=Z,2μm,19.7s,baz=259,slow=33							
BDFB	**Brasilia**	**62.19**	**94**	P	**P**	**19 46 53.2**	**+0.4**
BDFB				pmax	pmax		
comp=Z,26nm,1.1s							
BDFB				MLR	MLR		
comp=Z,2μm,21.0s							
BDFB	**Brasilia**	**62.19**	**94**	P	**P**	**19 46 53.2**	**+0.4**
BDFB				IAMs_20	IAMs_20	20 10 25.4	
comp=Z,2μm,21.0s							
ISA	**Isabella, Lake**	**62.25**	**356**	P	**P**	**19 46 52.3**	**-0.3**
ISA				pmax	pmax		
comp=Z,73nm,1.9s							
ISA				MLR	MLR		
comp=Z,2μm,19.0s							
ISA	**Isabella, Lake**	**62.25**	**356**	P	**P**	**19 46 52.6**	**0.0**
baz=176,SNR=13							
ISA				S	**S**	**19 55 23.8**	**+5.3**
baz=176							
ISA	**Isabella, Lake**	**62.25**	**356**	P	**P**	**19 46 52.3**	**-0.3**
ISA				IAmb	IAmb	19 46 59.1	
comp=Z,73nm,1.9s							
ISA				IAMs_20	IAMs_20	20 07 34.3	
comp=Z,2μm,19.0s							
SHOC	**Shoshone, Teco**	**62.39**	**358**	P	**P**	**19 46 53.7**	**+0.3**
baz=178,SNR=7.0							
SC01	**Santiago de lo**	**62.43**	**47**	IAMs_20	IAMs_20	20 07 58.1	
comp=Z,3μm,21.0s							
PAGB	**Antelope Grade**	**62.45**	**355**	P	**P**	**19 46 53.4**	**-0.4**
PAGB				IAmb	IAmb	19 47 06.0	
comp=Z,63nm,1.5s							
VES	**Vestal, Richgr**	**62.47**	**356**	P	**P**	**19 46 52.9**	**-1.0**
baz=175,SNR=12							
Z38A	**Mt. Pleasant**	**62.49**	**18**	IAMs_20	IAMs_20	20 10 54.4	
comp=Z,3μm,18.0s							
AMTX	**Amarillo**	**62.50**	**12**	P	**P**	**19 46 53.5**	**-0.8**
baz=193							
AMTX	**Amarillo**	**62.50**	**12**	IAmb	IAmb	19 47 01.4	
comp=Z,36nm,1.0s							
AMTX				IAMs_20	IAMs_20	20 09 39.9	
comp=Z,2μm,18.0s							
MALB	**Monte Alegre**	**62.58**	**77**	*eP*	**P**	**19 46 55.1**	**-0.1**
MPMC	**Manual Prospec**	**62.60**	**357**	P	**P**	**19 46 54.1**	**-0.9**
baz=177,SNR=29							
MPMC				S	**S**	**19 55 30.0**	**+6.9**
baz=177							
MSVF	**Nonsavu**	**62.63**	**263**	*ceP*	**P**	**19 46 57.7**	**+2.1**
MSVF				pmax	pmax		
comp=Z,84nm,1.5s							
VNDA	**Vanda**	**62.70**	**194**	P	**P**	**19 46 54.6**	**-0.4**
comp=Z,1.6nm,1.0s,baz=81,slow=6.2,SNR=5.9							
VNDA				LR	LR	20 08 34.4	
comp=Z,3μm,18.0s,baz=86,slow=31							
VNDA	**Vanda**	**62.70**	**194**	P	**P**	**19 46 54.8**	**-0.2**
VNDA				pmax	pmax		
comp=Z,18nm,1.5s							
VNDA	**Vanda**	**62.70**	**194**	P	**P**	**19 46 54.8**	**-0.2**
U15A	**North Rim**	**62.92**	**2**	IAmb	IAmb	19 46 59.2	
comp=Z,53nm,1.2s							
WMOK	**Wichita Mounta**	**62.95**	**14**	P	**P**	**19 46 55.3**	**-1.9**
WMOK				pmax	pmax		
comp=Z,11nm,1.3s							
WMOK				MLR	MLR		
comp=Z,3μm,21.0s							
WMOK	**Wichita Mounta**	**62.95**	**14**	P	**P**	**19 46 56.5**	**-0.6**
baz=196							
WMOK	**Wichita Mounta**	**62.95**	**14**	P	**P**	**19 46 55.3**	**-1.9**
WMOK	**Wichita Mounta**	**62.95**	**14**	IAMs_20	IAMs_20	20 09 50.5	
comp=Z,3μm,21.0s							
FURC	**Furnace Creek,**	**62.98**	**358**	P	**P**	**19 46 57.4**	**+0.1**
baz=177,SNR=13							
PMPB	**Monarch Peak**	**62.98**	**354**	P	**P**	**19 46 57.0**	**-0.4**
PMPB				IAMs_20	IAMs_20	20 07 16.5	
comp=Z,2μm,18.0s							
CWC	**Cottonwood Cre**	**63.01**	**357**	P	**P**	**19 46 57.7**	**0.0**
baz=176

T25A	Trinidad	64.28	9	P	P	19 47 05.0	-1.1	
	baz=190,SNR=8.7							
T25A				S	S	19 55 47.3	+3.2	
	baz=190							
T25A	Trinidad	64.28	9	P	P	19 47 05.4	-0.7	
T25A				IAmb	IAmb	19 47 50.7		
	comp=Z,47nm,1.6s							
352A	Blakely	64.38	28	IAMs_20	IAMs_20	20 10 56.5		
	comp=Z,3μm,20.0s							
TOSP	Speyside	64.47	61	P	P	19 47 06.1	-1.6	
U32A	Winter Ranch,	64.48	14	P	P	19 47 07.0	-0.3	
MTPU	Mount Pierson	64.53	2	P	P	19 47 07.4	-0.6	
S22A	4UR Ranch, Cre	64.59	7	P	P	19 47 07.2	-1.1	
	baz=187,SNR=18							
S22A	4UR Ranch, Cre	64.59	7	IAmb	IAmb	19 47 22.7		
	comp=Z,66nm,1.5s							
W39A	Magazine	64.64	19	P	P	19 47 07.4	-0.9	
	baz=200,SNR=8.2							
W39A	Magazine	64.64	19	P	P	19 47 07.7	-0.6	
W39A				IAMs_20	IAMs_20	20 12 29.4		
	comp=Z,3μm,18.0s							
PDPR	Patillas Dam,	64.65	52	P	P	19 47 07.5	-1.2	
Z47A	Carrollton	64.67	24	P	P	19 47 08.1	-0.4	
UALR	University of	64.68	20	IAmb	IAmb	19 47 16.7		
	comp=Z,47nm,1.2s							
UALR				IAMs_20	IAMs_20	20 12 36.3		
	comp=Z,2μm,18.0s							
SDCO	Great Sand Dun	64.74	8	P	P	19 47 08.4	-0.8	
	baz=189,SNR=30							
SDCO				S	S	19 55 54.7	+4.8	
	baz=189							
SDCO	Great Sand Dun	64.74	8	P	P	19 47 08.4	-0.8	
SDCO				IAmb	IAmb	19 47 22.7		
	comp=Z,34nm,1.4s							
SDCO				IAMs_20	IAMs_20	20 10 21.0		
	comp=Z,3μm,19.0s							
CMB	Columbia Colle	64.75	355	IAmb	IAmb	19 47 11.2		
	comp=Z,48nm,1.4s							
TUL1	Leonard	64.78	17	P	P	19 47 08.5	-0.7	
	baz=198							
TUL1	Leonard	64.78	17	P	P	19 47 07.8	-1.4	
TUL1				IAMs_20	IAMs_20	20 11 12.9		
	comp=Z,3μm,21.0s							
QUOK	Quay	64.80	16	IAMs_20	IAMs_20	20 11 36.5		
	comp=Z,3μm,20.0s							
PV01	Paradox Valley	64.82	5	P	P	19 47 08.7	-1.0	
R11A	Troy Canyon, C	64.82	359	P	P	19 47 09.3	-0.3	
	baz=179,SNR=53							
R11A				S	S	19 55 57.2	+6.5	
	baz=179							
R11A	Troy Canyon, C	64.82	359	IAmb	IAmb	19 47 12.5		
	comp=Z,49nm,1.4s							
PV13	Radium Mtn., P	64.83	5	IAmb	IAmb	19 47 24.1		
	comp=Z,82nm,1.7s							
PV02	Paradox Valley	64.88	5	IAmb	IAmb	19 47 12.6		
	comp=Z,70nm,1.6s							
X43A	Marvell	64.90	21	P	P	19 47 09.7	-0.3	
	baz=203							
PV18	Skein Mesa, Pa	64.91	5	IAMs_20	IAMs_20	20 10 31.4		
	comp=Z,2μm,18.0s							
TIGA	Tifton	64.91	29	P	P	19 47 09.5	-0.6	
	baz=210							
TIGA	Tifton	64.91	29	IAMs_20	IAMs_20	20 10 12.5		
	comp=Z,3μm,21.0s							
PV03	Paradox Valley	64.92	5	P	P	19 47 09.6	-0.8	
PV03				IAmb	IAmb	19 47 27.4		
	comp=Z,96nm,2.0s							
PV03				IAMs_20	IAMs_20	20 10 26.8		
	comp=Z,2μm,20.0s							
LRAL	Lakeview Retre	64.93	25	P	P	19 47 09.6	-0.6	
	baz=207,SNR=8.7							
LRAL				S	S	19 55 55.2	+3.4	
	baz=207							
LRAL	Lakeview Retre	64.93	25	P	P	19 47 09.2	-1.0	
LRAL				IAmb	IAmb	19 47 27.7		
	comp=Z,52nm,1.5s							
PV17	East Wray Mesa	64.94	5	IAmb	IAmb	19 47 23.8		
	comp=Z,64nm,1.6s							
PV19	Morning Glory	64.96	5	IAmb	IAmb	19 47 24.8		
	comp=Z,69nm,1.5s							
PV19				IAMs_20	IAMs_20	20 10 32.0		
	comp=Z,2μm,18.0s							
PV16	Nyswonger Mesa	64.97	5	IAmb	IAmb	19 47 24.8		
	comp=Z,66nm,1.5s							
PV16				IAMs_20	IAMs_20	20 10 33.1		
	comp=Z,2μm,19.0s							
PV12	Saucer Basin,	64.98	5	P	P	19 47 10.4	-0.4	
PV12				IAmb	IAmb	19 47 13.2		
	comp=Z,72nm,1.5s							
NV11	Mina Array Sit	64.99	357	IAmb	IAmb	19 47 13.2		
	comp=Z,56nm,1.3s							
PV20	West Nyswonger	65.00	5	IAmb	IAmb	19 47 24.8		
	comp=Z,63nm,1.6s							
NVAR	Mina Array Bea	65.00	357	P	P	19 47 10.7	-0.2	
	comp=Z,31nm,1.2s,baz=182,slow=7.5,SNR=87							
NVAR				LR	LR	20 09 35.9		
	comp=Z,1μm,18.5s,baz=182,slow=31							
NVAR	Mina Array Bea	65.00	357	P	P	19 47 09.8	-1.1	
MSU	Marysvale	65.00	2	P	P	19 47 11.1	+0.2	
MSU	Marysvale	65.00	2	P	P	19 47 11.1	+0.2	
PV14	Lion Creek, Pa	65.02	5	IAMs_20	IAMs_20	20 10 16.6		
	comp=Z,2μm,18.0s							
PV10	Paradox Valley	65.03	5	IAmb	IAmb	19 47 24.6		
	comp=Z,62nm,1.3s							
PV15	Paradox Valley	65.03	5	IAmb	IAmb	19 47 11.5		
	comp=Z,25nm,1.0s							
PV15				IAMs_20	IAMs_20	20 10 19.8		
	comp=Z,2μm,19.0s							
W41B	Gary Mavity, V	65.08	20	P	P	19 47 10.8	-0.3	
	baz=202,SNR=25							
W41B	Gary Mavity, V	65.08	20	P	P	19 47 10.1	-1.0	
PV23	Carpenter Ridg	65.10	5	IAmb	IAmb	19 47 20.0		
	comp=Z,42nm,1.1s							
MCCM	Marconi Confer	65.11	353	IAMs_20	IAMs_20	20 07 47.8		
	comp=Z,3μm,22.0s							
WAKR	Walker	65.14	356	IAmb	IAmb	19 47 27.0		
	comp=Z,79nm,1.8s							
PV22	Blue Mesa, Par	65.20	5	P	P	19 47 11.3	-0.9	
PV22				IAmb	IAmb	19 47 26.5		
	comp=Z,33nm,1.2s							
MCPB	Macapa, AP	65.23	77	eP	P	19 47 12.8	+0.2	
OXF	Oxford	65.38	22	IAmb	IAmb	19 47 25.7		
	comp=Z,40nm,1.1s							
Q16A	Castle Valley	65.44	3	P	P	19 47 13.5	-0.2	
KEKH	Kekaha	65.45	313	IAMs_20	IAMs_20	20 09 00.8		
	comp=Z,3μm,20.0s							
152A	Waverly Hall	65.50	27	IAmb	IAmb	19 47 22.1		
	comp=Z,39nm,1.4s							
152A				IAMs_20	IAMs_20	20 11 52.2		
	comp=Z,3μm,20.0s							
T35A	Sooner Cattle	65.55	16	IAmb	IAmb	19 47 22.3		
	comp=Z,52nm,1.4s							
T35A				IAMs_20	IAMs_20	20 12 12.5		
	comp=Z,3μm,18.0s							
KVN	Kaiserville	65.61	357	IAmb	IAmb	19 47 17.2		
	comp=Z,45nm,1.3s							
YERR	Yerington	65.61	356	P	P	19 47 14.8	0.0	
YERR				IAmb	IAmb	19 47 18.0		
	comp=Z,49nm,1.3s							
HHAR	Hobbs	65.62	18	IAmb	IAmb	19 47 22.4		
	comp=Z,86nm,1.8s							
STVI	Saint Thomas	65.63	52	P	P	19 47 14.3	-0.8	
STVI				IAmb	IAmb	19 47 21.4		
	comp=Z,43nm,1.1s							
U38A	Gravette	65.64	18	IAMs_20	IAMs_20	20 12 13.9		
	comp=Z,3μm,18.0s							
SRU	San Rafael Swe	65.67	3	P	P	19 47 14.3	-0.8	
SRU				pmax	pmax			
	comp=Z,41nm,1.2s							
SRU	San Rafael Swe	65.67	3	P	P	19 47 14.3	-0.8	
AFDM	Forest Hills D	65.71	354	P	P	19 47 14.6	-0.6	
AFDM				IAmb	IAmb	19 47 18.0		
	comp=Z,52nm,1.4s							
JANB	Januaria	65.72	95	eP	P	19 47 17.4	+1.5	
PNTR	Pine Nut	65.74	355	IAmb	IAmb	19 47 18.8		
	comp=Z,61nm,1.4s							
GDXM	Geysers	65.75	353	IAMs_20	IAMs_20	20 08 06.9		
	comp=Z,3μm,22.0s							
FCAR	Ozark Folk Cen	65.78	20	P	P	19 47 15.2	-0.4	
FCAR				IAmb	IAmb	19 47 23.6		
	comp=Z,36nm,1.3s							
TMUT	Trail Mountain	65.82	3	P	P	19 47 15.7	-0.6	
Y49A	Blount Mountai	65.88	25	IAmb	IAmb	19 47 23.3		
	comp=Z,37nm,1.4s							
Z51A	Franklin	65.89	27	P	P	19 47 15.3	-1.1	
Z51A				IAmb	IAmb	19 47 24.4		
	comp=Z,76nm,1.8s							
Z51A				IAMs_20	IAMs_20	20 12 19.3		
	comp=Z,3μm,20.0s							
HOPS	Hopland Field	65.97	353	IAmb	IAmb	19 47 20.1		
	comp=Z,61nm,1.3s							
HOPS				IAMs_20	IAMs_20	20 08 24.1		
	comp=Z,3μm,20.0s							
Q24A	Divide	65.98	8	P	P	19 47 16.6	-0.7	
	baz=189							
Q24A				S	S	19 56 08.8	+3.6	
	baz=189							
U40A	Yellville	66.00	19	P	P	19 47 16.2	-0.9	
	baz=201,SNR=17							
U40A	Yellville	66.00	19	IAmb	IAmb	19 47 25.1		
	comp=Z,49nm,1.2s							
P17A	Butcher Ranch,	66.02	3	P	P	19 47 16.6	-0.8	
W45A	Hickory Valley	66.05	22	P	P	19 47 16.1	-1.3	
LPAR	Lepanto	66.08	21	IAMs_20	IAMs_20	20 14 08.5		
	comp=Z,2μm,18.0s							
FDF	Fort de France	66.09	58	IAMs_20	IAMs_20	20 11 36.5		
	comp=Z,2μm,22.0s							
154A	Montrose	66.13	29	IAMs_20	IAMs_20	20 11 11.8		
	comp=Z,2μm,22.0s							
X48A	Hartselle	66.17	24	P	P	19 47 16.4	-1.8	
X48A				IAmb	IAmb	19 47 25.9		
	comp=Z,70nm,1.9s							
SDBA	SAO DESIDERIO	66.23	92	eP	P	19 47 19.5	+0.3	
LCAR	Lake Charles	66.24	20	IAmb	IAmb	19 47 26.6		
	comp=Z,42nm,1.4s							
LCAR				IAMs_20	IAMs_20	20 13 34.6		
	comp=Z,2μm,19.0s							
PAHR	Pah Rah Range	66.34	356	P	P	19 47 19.0	-0.4	
PAHR				IAmb	IAmb	19 47 25.9		
	comp=Z,66nm,1.7s							
SABA	Saba	66.37	54	IAMs_20	IAMs_20	20 15 35.7		
	comp=Z,2μm,19.0s							
KSCO	Kaye Shedlock'	66.38	10	P	P	19 47 19.2	-0.4	
	baz=191							
KSCO	Kaye Shedlock'	66.38	10	P	P	19 47 18.8	-0.8	
KSCO				IAMs_20	IAMs_20	20 11 43.4		
	comp=Z,2μm,19.0s							
R32A	Long Quarter,	66.51	13	IAMs_20	IAMs_20	20 12 21.9		
	comp=Z,2μm,18.0s							
SKI	Saint Kitts	66.55	55	IAMs_20	IAMs_20	20 15 10.5		
	comp=Z,3μm,19.0s							
GOGA	Godfrey	66.67	28	P	P	19 47 20.4	-1.0	
	baz=210,SNR=5.7							
GOGA				S	S	19 56 13.6	+0.6	
	baz=210							
GOGA	Godfrey	66.67	28	IAMs_20	IAMs_20	20 11 42.0		
	comp=Z,3μm,22.0s							
DUG	Dugway, Tooele	66.67	1	P	P	19 47 21.3	-0.2	
DUG				pmax	pmax			
	comp=Z,45nm,1.3s							
DUG				MLR	MLR			
	comp=Z,2μm,19.0s							
DUG	Dugway, Tooele	66.67	1	P	P	19 47 21.0	-0.5	
	baz=181,SNR=31							
DUG	Dugway, Tooele	66.67	1	P	P	19 47 21.3	-0.2	
DUG				IAmb	IAmb	19 47 23.7		
	comp=Z,45nm,1.2s							
CBKS	Cedar Bluff	66.68	12	P	P	19 47 21.0	-0.5	
	baz=194							
CBKS	Cedar Bluff	66.68	12	IAMs_20	IAMs_20	20 12 05.5		
	comp=Z,2μm,20.0s							
KCPM	Cahto Peak	66.71	352	IAMs_20	IAMs_20	20 08 20.3		
	comp=Z,2μm,20.0s							
ISCO	Idaho Springs	66.75	7	P	P	19 47 21.6	-0.6	
	baz=188,SNR=10							
ISCO				S	S	19 56 20.5	+6.0	
	baz=188							
ISCO	Idaho Springs	66.75	7	IAmb	IAmb	19 47 28.2		
	comp=Z,51nm,1.8s							
ISCO				IAMs_20	IAMs_20	20 11 48.4		
	comp=Z,2μm,19.0s							
SMRT	St. Maarten	66.77	54	IAMs_20	IAMs_20	20 12 36.3		
	comp=Z,3μm,19.0s							
FPAL	Fort Paine	66.79	26	P	P	19 47 20.9	-1.4	
Y52A	Lilburn	66.81	27	IAmb	IAmb	19 47 29.4		
	comp=Z,29nm,1.1s							
Y52A				IAMs_20	IAMs_20	20 12 21.9		
	comp=Z,3μm,20.0s							
O20A	White River Ci	66.83	5	P	P	19 47 21.9	-0.7	
	baz=186,SNR=7.1							
O20A	White River Ci	66.83	5	P	P	19 47 21.8	-0.8	
O20A				IAmb	IAmb	19 47 58.9		
	comp=Z,37nm,1.3s							
MGMO	Mountain Grove	66.91	19	IAmb	IAmb	19 47 31.1		
	comp=Z,45nm,1.1s							
MGMO				IAMs_20	IAMs_20	20 13 05.3		
	comp=Z,3μm,20.0s							
GLAT	Glass	67.02	22	IAMs_20	IAMs_20	20 14 49.4		
	comp=Z,2μm,19.0s							
O02D	Mt. Diablo Mer	67.10	353	P	P	19 47 24.2	+0.1	
	baz=172,SNR=8.4							
O02D				S	S	19 56 25.9	+7.6	
	baz=172							
X51A	Calhoun	67.11	26	IAmb	IAmb	19 47 41.1		
	comp=Z,67nm,1.8s							
X51A				IAMs_20	IAMs_20	20 12 59.6		
	comp=Z,2μm,20.0s							
157A	Early Branch	67.11	30	P	P	19 47 24.0	-0.2	
	baz=212							
S39A	Bolivar	67.11	18	IAmb	IAmb	19 47 32.2		
	comp=Z,39nm,1.2s							
S39A				IAMs_20	IAMs_20	20 13 28.7		
	comp=Z,3μm,18.0s							
JLU	Jordanelle	67.11	2	P	P	19 47 24.1	-0.3	
O03E	Paynes Creek	67.12	354	P	P	19 47 23.9	-0.4	
	baz=173							
PBMO	Poplar Bluff	67.12	21	IAmb	IAmb	19 48 27.2		
	comp=Z,31nm,0.8s							
T42A	Van Buren	67.14	20	IAMs_20	IAMs_20	20 13 49.6		
	comp=Z,2μm,19.0s							
RDMU	Red Mountain	67.17	4	P	P	19 47 23.7	-1.1	
KMRM	Mail Ridge	67.25	352	P	P	19 47 25.3	+0.1	
KMRM				IAMs_20	IAMs_20	20 09 18.2		
	comp=Z,2μm,20.0s							
WVT	Waverly	67.39	23	P	P	19 47 24.2	-1.8	
WVT				pmax	pmax			
	comp=Z,15nm,0.7s							
WVT				MLR	MLR			
	comp=Z,1μm,18.0s							
WVT	Waverly	67.39	23	P	P	19 47 25.5	-0.5	
	baz=206							
WVT	Waverly	67.39	23	P	P	19 47 24.2	-1.8	
ANWB	Willy Bob	67.46	55	IAMs_20	IAMs_20	20 13 20.6		
	comp=Z,2μm,20.0s							
WDC	Whiskeytown Da	67.47	353	P	P	19 47 25.1	-1.3	
WDC				pmax	pmax			
	comp=Z,55nm,1.4s							
WDC				MLR	MLR			
	comp=Z,2μm,21.0s							
WDC	Whiskeytown Da	67.47	353	P	P	19 47 25.1	-1.3	
WDC				IAmb	IAmb	19 47 28.7		
	comp=Z,55nm,1.4s							
W50A	Signal Mountai	67.49	25	IAMs_20	IAMs_20	20 13 43.7		
	comp=Z,2μm,19.0s							
158A	Hollywood	67.52	31	P	P	19 47 26.7	-0.2	
	baz=213							
KSU1	Kansas State U	67.61	15	P	P	19 47 27.1	-0.2	
	baz=197							
KSU1				S	S	19 56 26.4	+2.1	
	baz=197							
KSU1	Kansas State U	67.61	15	IAMs_20	IAMs_20	20 12 48.1		
	comp=Z,2μm,19.0s							
TMAB	Tom-Au,PA,Br	67.74	81	eP	P	19 47 30.3	+1.5	
Z57A	Bowman	67.76	30	P	P	19 47 28.1	-0.3	
	baz=212							
N23A	Red Feather La	67.80	7	P	P	19 47 28.1	-0.7	
	baz=188,SNR=7.8							
N23A	Red Feather La	67.80	7	P	P	19 47 28.2	-0.7	
Y55A	Saluda	67.80	29	P	P	19 47 28.3	-0.3	
	baz=211,SNR=6.9							
NHSC	New Hope	67.84	31	P	P	19 47 28.6	-0.2	
	baz=213							
NHSC	New Hope	67.84	31	IAMs_20	IAMs_20	20 14 21.1		
	comp=Z,2μm,18.0s							
HODGE	Hodges	67.88	28	IAMs_20	IAMs_20	20 12 05.1		
	comp=Z,2μm,22.0s							
JCC	Jacoby Creek,	67.88	352	IAMs_20	IAMs_20	20 09 36.3		
	comp=Z,2μm,20.0s							
N02D	Trinity Center	67.88	353	P	P	19 47 28.4	-0.6	
	baz=172							
KHMM	Horse Mountain	67.90	352	IAMs_20	IAMs_20	20 10 07.8		
	comp=Z,2μm,20.0s							
W52A	Murphy	67.94	27	IAMs_20	IAMs_20	20 13 19.6		
	comp=Z,3μm,20.0s							
R40A	Maddies Statio	67.97	19	P	P	19 47 28.9	-0.6	
R40A				IAmb	IAmb	19 47 38.1		
	comp=Z,29nm,0.9s							
R40A				IAMs_20	IAMs_20	20 13 34.3		
	comp=Z,3μm,21.0s							
CPCT	Cooper Cave	68.01	26	IAmb	IAmb	19 47 36.8		
	comp=Z,39nm,1.3s							
CPCT				IAMs_20	IAMs_20	20 13 37.6		
	comp=Z,2μm,21.0s							
CCM	Cathedral Cave	68.05	19	P	P	19 47 29.1	-0.9	
CCM				pmax	pmax			
	comp=Z,70nm,1.4s							
CCM	Cathedral Cave	68.05	19	P	P	19 47 29.5	-0.5	
	baz=202							
CCM	Cathedral Cave	68.05	19	P	P	19 47 29.1	-0.9	
CCM				IAmb	IAmb	19 47 37.9		
	comp=Z,70nm,1.4s							
CCM	Cathedral Cave	68.05	19	IAMs_20	IAMs_20	20 14 01.4		
	comp=Z,3μm,19.0s							
X54A	Belton	68.10	28	P	P	19 47 29.7	-0.8	
	baz=210							
Z58A	St. Stephen	68.20	31	P	P	19 47 30.8	-0.3	
	baz=213							
FVM	French Village	68.23	20	P	P	19 47 30.0	-1.2	
FVM				pmax	pmax			
	comp=Z,18nm,0.8s							
FVM				MLR	MLR			
	comp=Z,2μm,18.0s							
FVM	French Village	68.23	20	P	P	19 47 30.0	-1.2	
FVM				IAmb	IAmb	19 48 20.0		
	comp=Z,18nm,0.8s							
FVM				IAMs_20	IAMs_20	20 14 32.2		
	comp=Z,2μm,18.0s							
BG3	Lake Jocassee	68.25	27	IAmb	IAmb	19 47 39.6		
	comp=Z,81nm,1.9s							
BG3				IAMs_20	IAMs_20	20 13 05.0		
	comp=Z,2μm,22.0s							
PHWY	Pilot Hill	68.25	7	IAMs_20	IAMs_20	20 12 26.1		
	comp=Z,2μm,20.0s							
M02C	Callahan	68.31	353	P	P	19 47 31.4	-0.4	
	baz=172							
M02C				S	S	19 56 38.2	+5.5	
	baz=172							
S44A	Carbondale	68.33	21	P	P	19 47 31.2	-0.7	
JSC	Jenkinsville	68.35	29	IAmb	IAmb	19 47 40.3		
	comp=Z,59nm,1.8s							
X55A	Gracelyn & Ava	68.35	29	P	P	19 47 31.5	-0.5	
	baz=211,SNR=6.8							
OGNE	Ogallala	68.36	10	P	P	19 47 31.4	-0.7	
	baz=192,SNR=7.0							
OGNE	Ogallala	68.36	10	P	P	19 47 31.7	-0.4	
OGNE				IAMs_20	IAMs_20	20 13 03.9		
	comp=Z,2μm,18.0s							
RWWY	Rawlins	68.46	6	P	P	19 47 31.2	-1.7	
TKL	Tuckaleechee C	68.49	26	LR	LR	20 14 08.8		
	comp=Z,3μm,19.8s,baz=200,slow=33							
TKL	Tuckaleechee C	68.49	26	IAmb	IAmb	19 47 40.4		
	comp=Z,38nm,1.5s							
TKL				IAMs_20	IAMs_20	20 13 47.3		
	comp=Z,3μm,20.0s							
PAULI	Pauline	68.57	28	P	P	19 47 33.0	-0.5	
MOD	Modoc Plateau	68.58	355	IAmb	IAmb	19 47 39.8		
	comp=Z,37nm,1.1s							
MOD				IAMs_20	IAMs_20	20 10 14.9		
	comp=Z,2μm,22.0s							
M04C	Macdoel	68.60	354	P	P	19 47 33.0	-0.6	
	baz=173,SNR=9.1							
X56A	White Oak	68.63	29	P	P	19 47 33.2	-0.6	
	baz=212,SNR=6.2							
YBH	Yreka Blue Hor	68.63	353	LR	LR	20 10 26.1		
	comp=Z,2μm,20.9s,baz=182,slow=30							
YBH	Yreka Blue Hor	68.63	353	P	P	19 47 34.2	+0.4	
YBH				pmax	pmax			
	comp=Z,31nm,1.5s							
YBH				MLR	MLR			
	comp=Z,2μm,20.0s							
YBH	Yreka Blue Hor	68.63	353	P	P	19 47 34.2	+0.4	
YBH				IAMs_20	IAMs_20	20 10 06.2		
	comp=Z,2μm,20.0s							
W54A	Cherokee Point	68.64	28	P	P	19 47 33.0	-0.9	
	baz=211,SNR=5.7							
V52A	Sevierville	68.72	26	IAMs_20	IAMs_20	20 13 44.4		
	comp=Z,3μm,20.0s							
P38A	Dawn	68.87	17	IAMs_20	IAMs_20	20 14 01.2		
	comp=Z,2μm,20.0s							
V53A	Saluda	68.89	27	P	P	19 47 34.6	-0.8	
V53A				IAMs_20	IAMs_20	20 13 24.8		
	comp=Z,3μm,21.0s							
BIRD	Birdtown, Kers	69.01	29	IAMs_20	IAMs_20	20 14 03.4		
	comp=Z,2μm,20.0s							
WVOR	Wild Horse Val	69.01	357	P	P	19 47 35.8	-0.3	
WVOR				pmax	pmax			
	comp=Z,51nm,1.3s							
WVOR				MLR	MLR			
	comp=Z,2μm,22.0s							
WVOR	Wild Horse Val	69.01	357	P	P	19 47 35.8	-0.3	
WVOR				IAmb	IAmb	19 47 38.6		
	comp=Z,51nm,1.2s							
WVOR				IAMs_20	IAMs_20	20 10 47.0		
	comp=Z,2μm,22.0s							
KMSC	Kings Mountain	69.05	29	P	P	19 47 35.8	-0.6	
	baz=211							
KMSC	Kings Mountain	69.05	29	IAmb	IAmb	19 47 44.4		
	comp=Z,72nm,1.8s							
L04D	Klamath Falls	69.07	354	P	P	19 47 35.8	-0.7	
	baz=172							
L02E	Cave Junction	69.15	353	P	P	19 47 36.7	-0.2	
	baz=171							
Y59A	Loris	69.17	31	IAMs_20	IAMs_20	20 14 10.8		
	comp=Z,2μm,18.0s							
P40A	Paris	69.18	18	P	P	19 47 35.7	-1.4	
P40A				IAMs_20	IAMs_20	20 13 57.5		
	comp=Z,3μm,22.0s							
T50A	Nancy	69.27	25	IAmb	IAmb	19 47 45.3		
	comp=Z,63nm,1.6s							
T50A				IAMs_20	IAMs_20	20 15 10.9		
	comp=Z,2μm,20.0s							
AHID	Auburn Hatcher	69.28	3	IAmb	IAmb	19 48 10.4		
	comp=Z,45nm,1.5s							
V54A	Nebo	69.33	28	P	P	19 47 37.4	-0.8	
	baz=211,SNR=9.5							
TZTN	Tazewell	69.35	26	P	P	19 47 37.5	-0.8	
	baz=209,SNR=6.1							
TZTN	Tazewell	69.35	26	P	P	19 47 37.0	-1.3	
TZTN				IAMs_20	IAMs_20	20 14 16.0		
	comp=Z,2μm,20.0s							
BW06	Boulder Array	69.36	4	P	P	19 47 36.8	-1.6	
	baz=184,SNR=35							
BW06	Boulder Array	69.36	4	IAmb	IAmb	19 47 45.8		
	comp=Z,42nm,1.3s							
PD31	Pinedale Array	69.36	4	IAmb	IAmb	19 47 45.9		
	comp=

comp=Z,79nm,1.6s
W57A IAMs_20 IAMs_20 20 17 07.8
comp=Z,2µm,19.0s
K02D Willamette Mer 69.69 353 P **P** **19 47 39.8 -0.5**
baz=171
V55A Taylorsville 69.71 28 P **P** **19 47 40.0 -0.5**
baz=211,SNR=8.2
V55A Taylorsville 69.71 28 P **P** **19 47 39.5 -1.0**
V55A IAmb IAmb 19 47 47.6
comp=Z,45nm,1.3s
X59A McDuffie Farm, 69.78 31 P **P** **19 47 40.5 -0.5**
baz=214
WCI Wyandotte Cave 69.81 23 P **P** **19 47 40.2 -0.8**
baz=206
W58A Raeford 69.87 30 P **P** **19 47 40.8 -0.7**
baz=213
MFID Camas Ranch 69.89 359 IAmb IAmb 19 47 43.3
comp=Z,33nm,1.2s
REDW Red Top Meadow 69.89 3 P **P** **19 47 40.4 -1.3**
REDW IAmb IAmb 19 47 55.3
comp=Z,35nm,1.2s
J08A Circle Bar Ran 69.92 357 IAmb IAmb 19 47 43.6
comp=Z,47nm,1.2s
V56A Mocksville 69.98 29 P **P** **19 47 41.4 -0.8**
baz=212,SNR=7.8
TPAW Teton Pass 70.01 3 IAmb IAmb 19 47 48.6
comp=Z,52nm,1.4s
HLID Hailey 70.02 360 P **P** **19 47 41.9 -0.6**
baz=180,SNR=36
HLID S **S** **19 56 56.3 +3.3**
baz=180
HLID Hailey 70.02 360 IAmb IAmb 19 47 44.0
comp=Z,53nm,1.2s
P43A Skaggs, Pawnee 70.03 20 IAMs_20 IAMs_20 20 15 16.9
comp=Z,3µm,19.0s
U54A Nelsons Funny 70.03 27 P **P** **19 47 41.6 -0.9**
baz=211
U54A Nelsons Funny 70.03 27 P **P** **19 47 41.7 -0.8**
U54A IAmb IAmb 19 47 50.3
comp=Z,78nm,1.6s
U54A IAMs_20 IAMs_20 20 13 36.9
comp=Z,2µm,21.0s
J05D Fort Rock, OR 70.03 355 P **P** **19 47 42.0 -0.5**
baz=173,SNR=18
N38A Joes South For 70.04 17 IAMs_20 IAMs_20 20 14 37.3
comp=Z,2µm,19.0s
J04D Umpqua Nationa 70.07 354 P **P** **19 47 41.5 -1.2**
baz=173
X60A Albert Glenn T 70.07 31 P **P** **19 47 42.2 -0.5**
baz=214
VNA1 Neumayer--Stat 70.09 160 P **P** **19 47 42.1 -0.3**
T53A Wise 70.13 27 P **P** **19 47 42.5 -0.7**
baz=210
LOHW Long Hollow 70.15 3 P **P** **19 47 42.1 -1.2**
LOHW IAmb IAmb 19 47 56.8
comp=Z,38nm,1.4s
FXWY Fox Creek 70.16 3 IAmb IAmb 19 47 51.4
comp=Z,67nm,1.5s
VNA2 Neumayer--Watz 70.24 160 P **P** **19 47 43.1 -0.3**
R49A Shelbyville 70.27 24 IAMs_20 IAMs_20 20 16 26.4
comp=Z,2µm,19.0s
S51A Beattyville 70.29 26 P **P** **19 47 42.5 -1.5**
S51A IAMs_20 IAMs_20 20 15 18.9
comp=Z,2µm,20.0s
U55A TA2, Sparta 70.33 28 P **P** **19 47 43.7 -0.7**
baz=211
V57A Coltrane Farms 70.36 29 P **P** **19 47 43.7 -0.8**
baz=212,SNR=8.7
IMW Indian Meadow 70.42 3 P **P** **19 47 44.0 -1.1**
IMW IAmb IAmb 19 47 52.9
comp=Z,100nm,1.9s
U56A King 70.48 29 P **P** **19 47 44.6 -0.6**
baz=212
U56A King 70.48 29 IAmb IAmb 19 47 53.3
comp=Z,70nm,1.6s
PINE Pine Mountain 70.51 355 IAmb IAmb 19 47 47.7
comp=Z,52nm,1.2s
V58A Windy Hill, Pi 70.57 30 P **P** **19 47 44.9 -0.8**
baz=213
V58A Windy Hill, Pi 70.57 30 P **P** **19 47 44.8 -1.0**
R50A Paris 70.57 25 P **P** **19 47 43.6 -2.1**
R50A IAmb IAmb 19 47 52.8
comp=Z,78nm,1.5s
R50A IAMs_20 IAMs_20 20 15 14.4
comp=Z,2µm,20.0s
BLO Bloomington 70.58 23 IAMs_20 IAMs_20 20 16 42.5
comp=Z,2µm,18.0s
T54A Tazewell 70.59 27 P **P** **19 47 45.6 -0.3**
baz=211
N41A Harden Midland 70.61 19 IAmb IAmb 19 47 53.9
comp=Z,65nm,1.4s
N41A IAMs_20 IAMs_20 20 14 53.4
comp=Z,2µm,22.0s
FLWY Flagg Ranch 70.62 3 P **P** **19 47 44.8 -1.3**
FLWY IAmb IAmb 19 47 46.9
comp=Z,36nm,1.1s
I03D Drain, OR 70.64 353 P **P** **19 47 45.8 -0.2**
baz=171
I04A Tendick Farm, 70.64 354 P **P** **19 47 45.8 -0.3**
baz=172
CNNC Cliffs of the 70.66 31 IAMs_20 IAMs_20 20 15 45.8
comp=Z,2µm,18.0s
I07A Izee 70.70 356 IAmb IAmb 19 47 48.8
I07A comp=Z,39nm,1.1s IAMs_20 IAMs_20 20 11 59.8
comp=Z,2µm,20.0s
P46A Rosedale 70.75 22 P **P** **19 47 46.0 -0.8**
P46A IAmb IAmb 19 48 31.3
comp=Z,28nm,0.7s
P46A IAMs_20 IAMs_20 20 16 32.0
comp=Z,2µm,18.0s
YPP Pitchstone Pla 70.80 3 P **P** **19 47 46.5 -0.9**
O44A Mansfield 70.82 21 IAMs_20 IAMs_20 20 15 46.0
comp=Z,2µm,19.0s
HDIL Hopedale 70.93 20 P **P** **19 47 47.0 -0.8**
baz=204
HDIL Hopedale 70.93 20 IAmb IAmb 19 48 54.9
comp=Z,47nm,0.9s
HDIL IAMs_20 IAMs_20 20 15 31.9
comp=Z,2µm,19.0s
V59A Middlesex 70.94 30 P **P** **19 47 47.4 -0.5**
baz=214,SNR=5.8
T55A Pulaski 70.96 28 P **P** **19 47 47.1 -1.1**
baz=211
U57A Blanch 71.00 29 P **P** **19 47 47.4 -1.0**
baz=213,SNR=8.5
ROSB Rosrio 71.02 84 *e*P **P** **19 47 48.7 -0.4**
I05D Terrebonne, OR 71.09 355 P **P** **19 47 49.1 +0.3**
baz=173
SCIA State Center 71.09 16 IAMs_20 IAMs_20 20 15 09.1
comp=Z,3µm,21.0s
I02D Swisshome 71.10 353 P **P** **19 47 48.8 0.0**
baz=171
LKWY Lake 71.11 3 P **P** **19 47 48.7 -0.5**
LKWY pmax pmax
comp=Z,72nm,1.9s
LKWY MLR MLR
comp=Z,2µm,21.0s
LKWY Lake 71.11 3 P **P** **19 47 48.7 -0.5**
LKWY IAmb IAmb 19 47 58.2
comp=Z,72nm,1.9s
LKWY IAMs_20 IAMs_20 20 10 05.7
comp=Z,2µm,21.0s
BLA Blacksburg 71.20 28 P **P** **19 47 49.0 -0.6**
baz=212,SNR=5.5
BLA Blacksburg 71.20 28 IAmb IAmb 19 48 07.7
comp=Z,45nm,1.4s
BLA IAMs_20 IAMs_20 20 18 10.0
comp=Z,2µm,19.0s
RSSD Black Hills 71.20 8 P **P** **19 47 48.5 -1.2**
RSSD pmax pmax
comp=Z,23nm,1.1s
RSSD MLR MLR
comp=Z,4µm,18.0s
RSSD Black Hills 71.20 8 P **P** **19 47 48.9 -0.8**
baz=190
RSSD Black Hills 71.20 8 P **P** **19 47 48.5 -1.2**
DZM Mont Dzumac 71.21 254 *e*P **P** **19 47 51.5 +1.2**
comp=Z,74nm,1.2s
DZM *e*S **S** **19 57 08.9 +1.1**
comp=Z,1µm,26.9s
DZM Mont Dzumac 71.21 254 *e*LR LR 20 09 35.0
comp=Z,7µm,27.1s
DZM Mont Dzumac 71.21 254 P **P** **19 47 50.0 -0.2**
comp=Z,9.4nm,0.8s,baz=112,slow=11,SNR=2.4
DZM Mont Dzumac 71.21 254 P **P** **19 47 51.4 +1.2**
DZM IAmb IAmb 19 48 05.4
comp=Z,40nm,1.2s
DZM IAMs_20 IAMs_20 20 10 56.2
comp=Z,3µm,21.0s
SNAA Sanae 71.22 162 P **P** **19 47 48.6 -0.7**
SNAA Sanae 71.22 162 IAmb IAmb 19 47 58.3
comp=Z,50nm,1.2s
YMP Mirror Lake Pl 71.30 3 P **P** **19 47 49.8 -0.6**
U58A Oxford 71.32 30 P **P** **19 47 49.5 -0.8**
baz=213,SNR=6.0
S54A Dingess, Beckl 71.33 27 IAMs_20 IAMs_20 20 15 01.5
comp=Z,2µm,21.0s
QLMT Earthquake Lak 71.33 2 P **P** **19 47 50.2 -0.3**
YHL Hebgen Lake 71.36 2 P **P** **19 47 50.6 -0.2**
V60A Jim Taylor Roa 71.38 31 IAMs_20 IAMs_20 20 15 36.9
comp=Z,2µm,20.0s
SFIN Lafayette 71.47 22 P **P** **19 47 50.1 -1.0**
SFIN IAMs_20 IAMs_20 20 16 42.1
comp=Z,2µm,18.0s
T57A Hurt 71.52 29 P **P** **19 47 50.9 -0.6**
baz=213
T57A Hurt 71.52 29 P **P** **19 47 50.6 -0.8**
R53A Hurricane 71.53 26 P **P** **19 47 51.2 -0.4**
baz=210
R53A Hurricane 71.53 26 IAMs_20 IAMs_20 20 15 01.7
comp=Z,3µm,20.0s
P49A Miami Univ. Ec 71.53 24 P **P** **19 47 50.3 -1.2**
baz=208
YNE Yellowstone No 71.57 3 P **P** **19 47 51.4 -0.5**
Q51A Peebles 71.59 25 IAMs_20 IAMs_20 20 15 53.4
comp=Z,2µm,20.0s
U59A Littleton 71.62 30 P **P** **19 47 51.7 -0.4**
baz=214
U59A Littleton 71.62 30 IAmb IAmb 19 48 00.1
comp=Z,54nm,1.6s
S55A Lewisburg 71.64 28 P **P** **19 47 51.9 -0.4**
baz=212
RLMT Red Lodge 71.72 4 P **P** **19 47 51.8 -0.9**
baz=185,SNR=16
RLMT Red Lodge 71.72 4 P **P** **19 47 51.9 -0.9**
RLMT IAmb IAmb 19 48 02.9
comp=Z,48nm,1.4s
T58A Grand View Acr 71.78 30 P **P** **19 47 52.5 -0.6**
baz=213
R54A Victor 71.79 27 P **P** **19 47 52.6 -0.5**
baz=211,SNR=6.6
DLMT Dillon 71.83 1 P **P** **19 47 52.6 -0.8**
G08A Pilot Rock 71.87 357 IAmb IAmb 19 47 55.3
comp=Z,56nm,1.2s
G08A IAMs_20 IAMs_20 20 12 27.9
comp=Z,2µm,22.0s
Q52A Bidwell 71.95 26 P **P** **19 47 53.4 -0.7**
baz=210
S56A Natural Bridge 71.95 28 P **P** **19 47 53.3 -0.8**
baz=212
G05D Wamic, OR 71.98 355 P **P** **19 47 53.8 -0.4**
baz=173
ECSD EROS Data Cent 72.04 13 P **P** **19 47 53.9 -0.6**
baz=196,SNR=7.6
ECSD EROS Data Cent 72.04 13 P **P** **19 47 54.0 -0.6**
M44A Midewin, Midew 72.08 20 IAmb IAmb 19 48 02.7
comp=Z,65nm,1.4s
BOZ Bozeman (W) 72.09 2 P **P** **19 47 53.9 -1.1**
BOZ pmax pmax
comp=Z,43nm,1.6s
BOZ MLR MLR
comp=Z,900nm,18.0s
BOZ Bozeman (W) 72.09 2 P **P** **19 47 54.5 -0.5**
baz=182,SNR=15
BOZ Bozeman (W) 72.09 2 P **P** **19 47 53.9 -1.1**
P51A Williamsport 72.10 25 P **P** **19 47 54.1 -0.9**
baz=209
P51A Williamsport 72.10 25 IAmb IAmb 19 49 49.4
comp=Z,20nm,0.6s
P51A IAMs_20 IAMs_20 20 17 26.8
comp=Z,2µm,20.0s
L42A Oliver, Polo 72.15 19 P **P** **19 47 53.9 -1.3**
L42A IAmb IAmb 19 48 02.6
comp=Z,109nm,1.9s
L42A IAMs_20 IAMs_20 20 16 02.1
comp=Z,2µm,20.0s
Q53A Leroy 72.15 26 P **P** **19 47 54.6 -0.7**
baz=210,SNR=6.1
U61A Possum Corner 72.22 31 IAMs_20 IAMs_20 20 16 26.2
comp=Z,2µm,19.0s
R55A Marlinton 72.23 28 IAMs_20 IAMs_20 20 15 13.7
comp=Z,2µm,22.0s
T59A Double "B" Far 72.24 30 P **P** **19 47 55.0 -0.9**
baz=214
T59A Double "B" Far 72.24 30 P **P** **19 47 54.8 -1.1**
O49A Covington 72.25 24 IAMs_20 IAMs_20 20 16 42.8
comp=Z,2µm,20.0s
SUSD Miller 72.28 11 P **P** **19 47 55.2 -0.7**
baz=194
SUSD Miller 72.28 11 IAMs_20 IAMs_20 20 16 13.6
comp=Z,2µm,20.0s
S57A Dark Hollow, R 72.28 29 P **P** **19 47 55.3 -0.8**
baz=213
LRM Limekiln Ridge 72.30 1 P **P** **19 47 55.4 -0.9**
N47A Urbana 72.39 22 P **P** **19 47 55.6 -1.0**
N47A IAmb IAmb 19 48 03.7
comp=Z,63nm,1.4s
N47A IAMs_20 IAMs_20 20 17 26.4
comp=Z,2µm,18.0s
HQIL Hanson Quary C 72.51 20 IAMs_20 IAMs_20 20 16 33.7
comp=Z,2µm,20.0s
F07A Phinny Hill Vi 72.53 356 P **P** **19 47 57.9 +0.5**
Q54A Coxs Mills 72.54 27 P **P** **19 47 56.9 -0.6**
baz=211
Q54A Coxs Mills 72.54 27 IAMs_20 IAMs_20 20 15 06.4
comp=Z,2µm,22.0s
S58A Poland Farm, P 72.55 29 P **P** **19 47 56.9 -0.7**
baz=214
P52A Corning 72.58 26 P **P** **19 47 57.1 -0.8**
baz=210
P52A Corning 72.58 26 P **P** **19 47 56.5 -1.3**
P52A IAmb IAmb 19 48 26.0
comp=Z,46nm,0.8s
P52A IAMs_20 IAMs_20 20 15 47.7
comp=Z,3µm,22.0s
F05D White Salmon 72.63 355 P **P** **19 47 57.8 -0.2**
baz=173
R56A Bull Pasture M 72.64 28 P **P** **19 47 58.2 -0.1**
baz=212,SNR=8.9
P53A Whipple 72.75 26 P **P** **19 47 58.6 -0.2**
baz=210
P53A Whipple 72.75 26 IAMs_20 IAMs_20 20 15 28.0
comp=Z,3µm,22.0s
T60A Surry 72.75 31 IAMs_20 IAMs_20 20 16 38.2
comp=Z,2µm,19.0s
F04A Amboy 72.76 354 P **P** **19 47 57.6 -1.1**
F04A IAmb IAmb 19 48 12.8
comp=Z,49nm,1.3s
ACSO Alum Creek Sta 72.78 25 P **P** **19 47 58.2 -0.8**
baz=209
ACSO Alum Creek Sta 72.78 25 IAmb IAmb 19 47 59.0
comp=Z,40nm,0.9s
ACSO IAMs_20 IAMs_20 20 16 39.9
comp=Z,2µm,20.0s
JFWS Jewell Farm 72.82 18 P **P** **19 47 58.5 -0.7**
baz=202
JFWS Jewell Farm 72.82 18 IAMs_20 IAMs_20 20 16 09.9
comp=Z,2µm,22.0s
L44A Lake County Fo 72.84 20 IAMs_20 IAMs_20 20 16 41.3
comp=Z,2µm,20.0s
O51A Pataskala 72.85 25 P **P** **19 47 58.8 -0.7**
baz=209
R57A Stanardsville 72.92 29 P **P** **19 47 59.3 -0.5**
baz=213
R58B Mineral 72.92 29 P **P** **19 47 59.8 -0.1**
baz=214
R58B Mineral 72.92 29 P **P** **19 47 59.3 -0.5**
N49A Columbus Grove 72.95 23 IAMs_20 IAMs_20 20 18 10.3
comp=Z,2µm,19.0s
I37A Lemond, Waseca 73.03 16 P **P** **19 48 00.1 -0.3**
E09A Wood Farm, Sta 73.05 357 IAMs_20 IAMs_20 20 13 31.1
comp=Z,2µm,21.0s
E08A Dider Farm, El 73.08 357 P **P** **19 48 00.0 -0.5**
E08A IAmb IAmb 19 48 02.7
comp=Z,63nm,1.4s
E08A IAMs_20 IAMs_20 20 13 13.7
comp=Z,2µm,21.0s
K43A Burlington 73.19 20 IAMs_20 IAMs_20 20 16 47.6
comp=Z,2µm,20.0s
L46A Eue Claire 73.20 21 IAMs_20 IAMs_20 20 17 30.9
comp=Z,2µm,18.0s
P54A Burton 73.21 27 P **P** **19 48 01.1 -0.4**
baz=211
Q56A Snyder Ridge, 73.26 28 P **P** **19 48 01.5 -0.4**
baz=212
Q56A Snyder Ridge, 73.26 28 IAmb IAmb 19 48 10.5
comp=Z,103nm,1.9s
Q56A IAMs_20 IAMs_20 20 17 17.6
comp=Z,2µm,20.0s
MSO Missoula 73.29 0 P **P** **19 48 01.2 -0.8**
baz=180,SNR=13
MSO Missoula 73.29 0 P **P** **19 48 01.5 -0.4**
CBN Corbin Frederi 73.34 30 IAMs_20 IAMs_20 20 17 58.8
comp=Z,3µm,19.0s
E04D Cinebar 73.40 354 P **P** **19 48 02.4 0.0**
baz=172,SNR=6.9
O53A New Philadelph 73.47 26 P **P** **19 48 02.7 -0.4**
baz=210
O53A New Philadelph 73.47 26 IAMs_20 IAMs_20 20 16 03.1
comp=Z,3µm,22.0s
LAO LASA Array 73.51 6 P **P** **19 48 02.7 -0.6**
baz=186
LAO LASA Array 73.51 6 IAmb IAmb 19 48 10.4
comp=Z,56nm,1.3s
MCWV Mont Chateau 73.51 27 P **P** **19 48 03.1 -0.2**
baz=212,SNR=5.7
LON Longmire 73.52 355 P **P** **19 48 02.4 -0.9**
LON pmax pmax
comp=Z,21nm,1.2s
LON MLR MLR
comp=Z,2µm,21.0s
LON Longmire 73.52 355 P **P** **19 48 02.4 -0.9**
Q57A Strasburg 73.58 28 P **P** **19 48 03.6 -0.2**
baz=213,SNR=7.6
N51A Ashland 73.61 25 P **P** **19 48 03.6 -0.3**
baz=209
N51A Ashland 73.61 25 IAMs_20 IAMs_20 20 17 13.7
comp=Z,2µm,20.0s
I40A Norwalk 73.63 18 P **P** **19 48 03.5 -0.4**
I40A IAmb IAmb 19 48 12.2
comp=Z,59nm,1.4s
D08A Wollman Farm, 73.63 357 IAMs_20 IAMs_20 20 13 19.4
comp=Z,2µm,21.0s
S61A Accomac 73.68 31 IAMs_20 IAMs_20 20 17 22.8
comp=Z,2µm,19.0s
O54A Avella 73.74 26 IAMs_20 IAMs_20 20 15 44.3
comp=Z,3µm,22.0s
R60A Leonardtown, M 73.75 30 P **P** **19 48 04.5 -0.2**
baz=215
L48A N Adams 73.77 23 IAMs_20 IAMs_20 20 18 15.9
comp=Z,2µm,18.0s
N52A McGinn's Farm, 73.77 25 P **P** **19 48 04.6 -0.3**
baz=210
M50A Fremont 73.78 24 P **P** **19 48 04.4 -0.4**
M50A IAMs_20 IAMs_20 20 17 25.4
comp=Z,2µm,20.0s
P56A Dayton Farm, R 73.80 28 P **P** **19 48 04.9 -0.1**
baz=213,SNR=5.7
Q58A Fox Den Farm, 73.82 29 P **P** **19 48 04.6 -0.5**
baz=214,SNR=5.5
D05A Enumclaw 73.97 355 IAmb IAmb 19 48 11.9
comp=Z,72nm,1.3s
M51A Elyria 74.04 25 P **P** **19 48 06.5 +0.1**
baz=210
E28A Huff 74.06 10 P **P** **19 48 05.8 -0.6**
E28A IAMs_20 IAMs_20 20 16 41.9
comp=Z,2µm,18.0s
N53A Lisbon 74.10 26 P **P** **19 48 06.9 +0.1**
baz=211
N53A Lisbon 74.10 26 IAMs_20 IAMs_20 20 16 09.7
comp=Z,3µm,22.0s
P57A Homestead Farm 74.13 28 P **P** **19 48 06.9 0.0**
baz=213
P57A Homestead Farm 74.13 28 P **P** **19 48 06.6 -0.3**
P57A IAMs_20 IAMs_20 20 18 39.5
comp=Z,2µm,20.0s
JTMT Jette 74.20 0 IAmb IAmb 19 48 08.3
comp=Z,50nm,1.2s
C09A Chrisman Ranch 74.34 357 P **P** **19 48 07.7 -0.3**
C09A IAmb IAmb 19 48 10.1
comp=Z,56nm,1.4s
C09A IAMs_20 IAMs_20 20 14 05.2
comp=Z,2µm,21.0s
NLWA Neilton Lookou 74.35 353 IAmb IAmb 19 48 10.2
comp=Z,49nm,1.2s
AAM Ann Arbor 74.35 23 IAMs_20 IAMs_20 20 18 51.4
comp=Z,2µm,18.0s
D03D Eldon 74.42 354 P **P** **19 48 07.8 -0.6**
baz=172,SNR=9.0
P58A Pank, Wackersv 74.44 29 P **P** **19 48 08.3 -0.4**
baz=214
M52A Chesterland 74.53 25 P **P** **19 48 09.0 -0.2**
baz=210
M52A Chesterland 74.53 25 IAMs_20 IAMs_20 20 17 20.1
comp=Z,3µm,20.0s
O56A Blue Knob Stat 74.55 28 P **P** **19 48 09.3 -0.2**
baz=213
O56A Blue Knob Stat 74.55 28 IAMs_20 IAMs_20 20 15 37.8
comp=Z,2µm,22.0s
N54A Moraine State 74.56 26 P **P** **19 48 09.1 -0.3**
baz=211
N54A Moraine State 74.56 26 P **P** **19 48 09.1 -0.3**
N54A IAmb IAmb 19 48 13.1
comp=Z,75nm,1.1s
N54A IAMs_20 IAMs_20 20 16 21.0
comp=Z,2µm,22.0s
EGMT Eagleton 74.59 3 P **P** **19 48 08.5 -1.1**
baz=184,SNR=15
EGMT Eagleton 74.59 3 IAmb IAmb 19 50 17.5
comp=Z,32nm,0.8s
M53A WI Miller and 74.70 26 P **P** **19 48 09.8 -0.4**
baz=211
M53A WI Miller and 74.70 26 P **P** **19 48 08.7 -1.5**
M53A IAMs_20 IAMs_20 20 16 50.7
comp=Z,3µm,22.0s
F36A Milaca 74.75 15 IAmb IAmb 19 48 18.7
comp=Z,62nm,1.1s
F36A IAMs_20 IAMs_20 20 18 10.7
comp=Z,2µm,18.0s
NEW Newport 74.77 358 P **P** **19 48 09.6 -0.9**
NEW pmax pmax
comp=Z,57nm,1.3s
NEW MLR MLR
comp=Z,2µm,18.0s
NEW Newport 74.77 358 P **P** **19 48 09.9 -0.6**
baz=177,SNR=24
NEW Newport 74.77 358 P **P** **19 48 09.6 -0.9**
NEW IAmb IAmb 19 48 18.9
comp=Z,57nm,1.2s
NEW Newport 74.77 358 IAMs_20 IAMs_20 20 15 45.4
comp=Z,2µm,18.0s
J47A Sunmer 74.78 22 IAMs_20 IAMs_20 20 18 29.8
comp=Z,2µm,18.0s
N55A Marion Center 74.81 27 P **P** **19 48 11.0 +0.1**
baz=212
O57A Amberson 74.89 28 P **P** **19 48 11.1 -0.2**
baz=214
P59A Jarrettsville 74.92 29 P **P** **19 48 11.3 -0.1**
baz=214
G40A Rib Lake 75.01 17 IAmb IAmb 19 48 20.5
comp=Z,96nm,1.4s
G40A IAMs_20 IAMs_20 20 17 58.9
comp=Z,2µm,20.0s
B05A Bryant 75.05 355 P **P** **19 48 11.9 -0.2**
baz=173
ALLY Alegheny Colle 75.09 26 IAMs_20 IAMs_20 20 16 33.9
comp=Z,2µm,21.0s
O58A Lewisberry 75.12 29 P **P** **19 48 12.2 -0.5**
baz=214
K50A Casco 75.13 24 IAMs_20 IAMs_20 20 18 31.1
comp=Z,2µm,20.0s
SSPA Standing Stone 75.14 28 P **P** **19 48 12.3 -0.5**
baz=213
SSPA Standing Stone 75.14 28 P **P** **19 48 12.3 -0.5**
SSPA Standing Stone 75.14 28 IAMs_20 IAMs_20 20 19 25.4
comp=Z,2µm,19.0s
M54A Oil Creek Stat 75.16 26 P **P** **19 48 12.4 -0.5**
baz=212
M54A Oil Creek Stat 75.16 26 IAmb IAmb 19 48 21.3
comp=Z,50nm,1.4s
M54A IAMs_20 IAMs_20 20 16 50.7
comp=Z,2µm,22.0s
N56A West Decatur 75.21 27 P **P** **19 48 12.9 -0.3**
baz=213
MVL Millersville 75.27 29 P **P** **19 48 13.1 -0.4**
TARA Tarawa 75.28 279 IAMs_20 IAMs_20 20 14 37.8
comp=Z,2µm,19.0s
PAGS Pennsylvania G 75.30 29 IAmb IAmb 19 48 21.8
comp=Z,86nm,1.8s
PAGS IAMs_20 IAMs_20 20 19 20.5
comp=Z,2µm,19.0s

L53A	Girard	75.30	26	P	P	19 48 13.1	-0.6
	baz=211						
N57A	Milroy	75.38	28	P	P	19 48 13.7	-0.5
	baz=213						
P60A	Greenville	75.43	30	IAms_20	IAms_20	20 18 55.1	
	comp=Z,1µm,18.0s						
BBSR	BB Station	75.45	42	IAms_20	IAms_20	20 15 52.9	
	comp=Z,3µm,21.0s						
DGMT	Dagmar	75.47	7	P	P	19 48 14.0	-0.6
	baz=189,SNR=5.3						
DGMT	Dagmar	75.47	7	P	P	19 48 14.2	-0.3
DGMT	Dagmar	75.47	7	IAms_20	IAms_20	20 17 27.1	
	comp=Z,2µm,18.0s						
MDND	Maddock	75.47	10	IAms_20	IAms_20	20 17 19.2	
	comp=Z,2µm,19.0s						
M55A	Ridgway	75.48	27	P	P	19 48 13.3	-1.4
M55A				IAmb	IAmb	19 48 23.0	
	comp=Z,52nm,1.4s						
M55A				IAms_20	IAms_20	20 16 59.3	
	comp=Z,2µm,22.0s						
ERPA	Erie	75.55	26	IAms_20	IAms_20	20 17 27.1	
	comp=Z,3µm,22.0s						
PGC	Sidney	75.55	354	IAmb	IAmb	19 48 22.8	
	comp=Z,37nm,1.1s						
PSUB	Penn St. - Bra	75.61	30	IAms_20	IAms_20	20 18 59.8	
	comp=Z,1µm,18.0s						
NVL	N'lazarevskaya	75.61	164	eP	P	19 48 18.0	+2.8
NVL				eS	S	19 57 54.6	-1.3
NVL				eSS	SS	20 02 51.0	+5.0
NVL				eSSS	SSS	20 06 08.4	
NVL				pmax	pmax		
	comp=Z,31nm,1.2s						
P61A	Hammonton	75.70	30	IAms_20	IAms_20	20 18 46.2	
	comp=Z,2µm,18.0s						
M56A	Emporium	75.73	27	P	P	19 48 15.9	-0.3
	baz=213,SNR=6.1						
M56A	Emporium	75.73	27	P	P	19 48 15.6	-0.6
M56A				IAmb	IAmb	19 48 24.5	
	comp=Z,63nm,1.4s						
M56A				IAms_20	IAms_20	20 16 38.9	
	comp=Z,2µm,22.0s						
N58A	Sunbury	75.81	29	P	P	19 48 16.3	-0.3
	baz=214						
N58A	Sunbury	75.81	29	IAms_20	IAms_20	20 20 33.0	
	comp=Z,2µm,19.0s						
E38A	The Farm, Brul	75.91	16	P	P	19 48 17.3	+0.2
E38A				IAmb	IAmb	19 48 25.2	
	comp=Z,86nm,1.4s						
O60A	Telford	75.95	30	P	P	19 48 17.1	-0.3
	baz=215						
F42A	Maple Grove Fa	76.03	19	IAms_20	IAms_20	20 18 08.9	
	comp=Z,2µm,22.0s						
M57A	Sunshine Farm,	76.04	28	P	P	19 48 17.1	-0.8
	baz=214						
M57A	Sunshine Farm,	76.04	28	IAms_20	IAms_20	20 21 06.2	
	comp=Z,2µm,18.0s						
COWI	Conover	76.07	18	IAmb	IAmb	19 48 26.5	
	comp=Z,55nm,1.4s						
COWI				IAms_20	IAms_20	20 18 40.8	
	comp=Z,1µm,18.0s						
I49A	Point Hope	76.08	23	IAms_20	IAms_20	20 19 35.2	
	comp=Z,2µm,18.0s						
G45A	Suttons Bay	76.12	20	IAms_20	IAms_20	20 18 40.3	
	comp=Z,3µm,20.0s						
LUPA	Lehigh Univers	76.19	30	P	P	19 48 18.5	-0.3
LUPA				IAms_20	IAms_20	20 21 36.2	
	comp=Z,1µm,18.0s						
L55A	Hinsdale	76.21	27	P	P	19 48 18.3	-0.6
	baz=212,SNR=5.3						
GLMI	Grayling	76.26	21	IAms_20	IAms_20	20 18 59.7	
	comp=Z,2µm,19.0s						
N59A	State Game Lan	76.28	29	P	P	19 48 18.7	-0.6
	baz=215,SNR=5.0						
N59A	State Game Lan	76.28	29	IAmb	IAmb	19 48 27.8	
	comp=Z,73nm,1.8s						
N59A				IAms_20	IAms_20	20 21 03.4	
	comp=Z,2µm,18.0s						
WVNY	West Valley, N	76.34	26	IAms_20	IAms_20	20 20 22.9	
	comp=Z,2µm,19.0s						
M58A	Price's Panora	76.35	28	P	P	19 48 19.0	-0.7
	baz=214,SNR=6.3						
K54A	Basiliko Farm,	76.47	26	P	P	19 48 19.7	-0.7
	baz=212						
L56A	Greenwood	76.53	27	P	P	19 48 20.2	-0.5
	baz=213,SNR=5.4						
L56A	Greenwood	76.53	27	P	P	19 48 20.0	-0.8
L56A				IAmb	IAmb	19 48 29.2	
	comp=Z,96nm,1.7s						
L56A				IAms_20	IAms_20	20 20 20.1	
	comp=Z,2µm,18.0s						
N60A	Cedar Hill Far	76.53	30	P	P	19 48 20.2	-0.5
	baz=215						
AGMN	Agassiz Nation	76.57	13	P	P	19 48 19.8	-0.9
	baz=197,SNR=5.7						
I51A	Listowel	76.61	24	P	P	19 48 20.9	-0.2
	baz=210						
BRNJ	Basking Ridge	76.62	30	IAms_20	IAms_20	20 18 32.4	
	comp=Z,2µm,19.0s						
L57A	Andrews Acres	76.71	28	P	P	19 48 21.5	-0.3
	baz=214,SNR=5.9						
KSPA	Keystone Colle	76.80	29	IAmb	IAmb	19 48 30.6	
	comp=Z,65nm,1.7s						
KSPA				IAms_20	IAms_20	20 20 49.3	
	comp=Z,2µm,19.0s						
K55A	Perry	76.82	27	P	P	19 48 22.0	-0.4
	baz=213						
MMNY	Mt. Morris Dam	76.89	27	P	P	19 48 22.0	-0.7
MMNY				IAmb	IAmb	19 48 30.8	
	comp=Z,58nm,1.4s						
MMNY				IAms_20	IAms_20	20 17 52.6	
	comp=Z,2µm,22.0s						
E43A	Lone Tree Farm	76.92	19	IAms_20	IAms_20	20 18 48.5	
	comp=Z,2µm,21.0s						
M59A	Waymart	76.93	29	P	P	19 48 22.7	-0.4
	baz=215						
RCBR	Riachuelo	77.05	90	IAms_20	IAms_20	20 25 03.2	
	comp=Z,2µm,18.0s						
J54A	Appleton	77.05	26	IAms_20	IAms_20	20 18 21.9	
	comp=Z,3µm,21.0s						
K56A	Middlesex	77.09	27	P	P	19 48 23.6	-0.3
	baz=213						
D41A	Chassel	77.11	18	IAms_20	IAms_20	20 19 23.3	
	comp=Z,1µm,18.0s						
L58A	Harry Jones Me	77.17	28	P	P	19 48 23.8	-0.5
	baz=215,SNR=5.3						
PAL	Palisades	77.17	30	IAms_20	IAms_20	20 19 48.1	
	comp=Z,2µm,18.0s						
EYMN	Ely	77.18	16	P	P	19 48 23.7	-0.5
	baz=201						
BINY	Binghamton	77.24	28	P	P	19 48 24.3	-0.4
	baz=214,SNR=7.0						
BINY	Binghamton	77.24	28	P	P	19 48 24.3	-0.4
BINY				IAms_20	IAms_20	20 20 50.8	
	comp=Z,2µm,19.0s						
J55A	Hilton	77.37	26	P	P	19 48 24.9	-0.4
	baz=213						
J55A	Hilton	77.37	26	IAms_20	IAms_20	20 17 20.4	
	comp=Z,2µm,22.0s						
K57A	Scipio Center	77.45	28	P	P	19 48 25.4	-0.5
	baz=214						
M61A	Granite Spring	77.48	30	P	P	19 48 25.4	-0.7
	baz=216						
L59A	Walton	77.63	29	P	P	19 48 26.5	-0.5
	baz=215						
L59A	Walton	77.63	29	IAmb	IAmb	19 48 35.3	
	comp=Z,90nm,1.6s						
E46A	Sault Ste Mari	77.73	21	IAms_20	IAms_20	20 19 39.9	
	comp=Z,2µm,20.0s						
J56A	Wolcott	77.77	27	P	P	19 48 27.1	-0.4
	baz=214						
J56A	Wolcott	77.77	27	IAms_20	IAms_20	20 20 07.8	
	comp=Z,2µm,20.0s						
K58A	Earlville	77.84	28	P	P	19 48 27.8	-0.3
	baz=215						
K58A	Earlville	77.84	28	P	P	19 48 27.4	-0.7
K58A				IAmb	IAmb	19 48 36.5	
	comp=Z,71nm,1.8s						
K58A				IAms_20	IAms_20	20 21 09.9	
	comp=Z,2µm,20.0s						
YLE	Yale	77.86	31	IAms_20	IAms_20	20 21 17.3	
	comp=Z,2µm,18.0s						
M62A	Hamden	77.98	31	P	P	19 48 28.1	-0.7
	baz=217						
SADO	Sadowa	78.13	25	P	P	19 48 29.0	-0.6
SADO				IAmb	IAmb	19 48 37.6	
	comp=Z,92nm,1.6s						
E47A	Iron Bridge	78.14	21	P	P	19 48 29.4	-0.2
	baz=208						
H53A	Bobcaygeon	78.17	25	P	P	19 48 29.1	-0.7
	baz=212,SNR=6.2						
K59A	Cooperstown	78.19	29	P	P	19 48 29.3	-0.8
	baz=215,SNR=5.0						
I55A	Frankford	78.22	26	P	P	19 48 29.6	-0.5
	baz=213						
J57A	Williamstown	78.23	27	P	P	19 48 29.4	-0.7
	baz=214						
J57A	Williamstown	78.23	27	IAms_20	IAms_20	20 22 22.1	
	comp=Z,2µm,18.0s						
PECO	Prince Edward	78.26	27	P	P	19 48 29.7	-0.6
PECO				IAmb	IAmb	19 48 38.2	
	comp=Z,50nm,1.4s						
PECO				IAms_20	IAms_20	20 21 16.8	
	comp=Z,2µm,20.0s						
D46A	Sault St. Mari	78.29	21	P	P	19 48 29.9	-0.5
	baz=207						
ULM	Lac du Bonnet	78.44	12	P	P	19 48 30.7	-0.4
	comp=Z,10nm,0.9s,baz=206,slow=7.4,SNR=5.1						
ULM				LR	LR	20 19 18.8	
	comp=Z,921nm,18.3s,baz=197,slow=33						
J58A	Remsen	78.48	28	P	P	19 48 31.5	-0.1
	baz=215,SNR=5.8						
J58A	Remsen	78.48	28	P	P	19 48 30.9	-0.7
J58A				IAmb	IAmb	19 48 40.0	
	comp=Z,63nm,1.6s						
J58A				IAms_20	IAms_20	20 21 56.8	
	comp=Z,1µm,18.0s						
DELO	Deloro Mine	78.50	26	IAmb	IAmb	19 48 32.3	
	comp=Z,39nm,1.2s						
TRY	Troy	78.67	29	IAms_20	IAms_20	20 19 55.7	
	comp=Z,2µm,20.0s						
H55A	Tweed	78.70	26	P	P	19 48 32.3	-0.4
	baz=213,SNR=5.7						
D47A	Chapleau	78.73	21	P	P	19 48 32.4	-0.5
	baz=208						
K61A	Williamstown	78.79	30	P	P	19 48 32.9	-0.4
	baz=217						
I57A	Carthage	78.80	27	P	P	19 48 32.8	-0.5
	baz=215						
I58A	Old Forge	78.88	28	P	P	19 48 33.4	-0.4
	baz=215						
QUA2	Belchertown	78.89	30	IAms_20	IAms_20	20 19 40.6	
	comp=Z,1µm,20.0s						
J59A	Piesco	78.90	28	P	P	19 48 33.0	-0.9
	baz=216						
J59A	Piesco	78.90	28	P	P	19 48 33.2	-0.7
BRYW	Bryant College	78.98	31	IAms_20	IAms_20	20 19 30.9	
	comp=Z,2µm,21.0s						
G54A	Lake Saint Pet	79.06	25	P	P	19 48 34.6	-0.1
	baz=212,SNR=7.1						
H56A	Elgin	79.10	27	P	P	19 48 34.4	-0.5
	baz=214						
M65A	Busby, Falmout	79.11	32	IAms_20	IAms_20	20 21 24.6	
	comp=Z,2µm,18.0s						
PLVO	Plevna	79.15	26	IAmb	IAmb	19 48 43.5	
	comp=Z,61nm,1.5s						
PLVO				IAms_20	IAms_20	20 19 24.4	
	comp=Z,2µm,22.0s						
J60A	Lant Hill Farm	79.19	29	P	P	19 48 35.3	-0.2
	baz=216						
ACCN	Adirondack Com	79.19	29	IAmb	IAmb	19 48 43.8	
	comp=Z,60nm,1.6s						
K62A	Royalston	79.25	30	P	P	19 48 35.4	-0.4
	baz=218						
K62A	Royalston	79.25	30	IAms_20	IAms_20	20 19 52.1	
	comp=Z,2µm,20.0s						
H57A	Richville	79.34	27	P	P	19 48 36.0	-0.3
	baz=215						
NCB	Newcomb	79.43	28	P	P	19 48 36.3	-0.5
NCB				IAmb	IAmb	19 48 45.1	
	comp=Z,71nm,1.8s						
HRV	Adam Dziewonsk	79.43	31	IAms_20	IAms_20	20 21 02.9	
	comp=Z,2µm,19.0s						
I59A	Olmsteadville	79.43	29	P	P	19 48 36.3	-0.5
	baz=216						
WES	Weston	79.44	31	IAms_20	IAms_20	20 18 46.3	
	comp=Z,2µm,21.0s						
G55A	Calabogie	79.47	26	P	P	19 48 36.4	-0.5
	baz=214						
ALGO	Algonquin Park	79.54	25	P	P	19 48 36.4	-0.9
	baz=212						
BBB	Bella Bella	79.58	351	LR	LR	20 16 04.5	
	comp=Z,777nm,20.7s,baz=174,slow=30						
J61A	Chester	79.65	30	P	P	19 48 37.7	-0.2
	baz=217						
I60A	Shoreham	79.72	29	P	P	19 48 37.9	-0.5
	baz=216						
LONY	Lake Ozonia	79.80	28	P	P	19 48 38.8	0.0
	baz=215,SNR=6.6						
LONY	Lake Ozonia	79.80	28	IAmb	IAmb	19 48 47.1	
	comp=Z,61nm,1.6s						
H58A	Gabriels	79.81	28	P	P	19 48 38.1	-0.8
	baz=216,SNR=6.0						
J62A	Henniker	79.88	30	P	P	19 48 38.9	-0.4
	baz=218						
G57A	Newington	80.03	27	P	P	19 48 39.6	-0.4
	baz=215						
E53A	Dumoine, Ponti	80.04	25	P	P	19 48 39.5	-0.6
	baz=213,SNR=7.1						
HNH	Hanover	80.05	30	IAmb	IAmb	19 48 49.0	
	comp=Z,61nm,1.6s						
F55A	Otter Lake	80.09	26	P	P	19 48 39.5	-0.8
	baz=214						
FFD	Franklin Falls	80.15	30	IAms_20	IAms_20	20 21 12.8	
	comp=Z,2µm,19.0s						
H59A	Cadyville	80.20	28	P	P	19 48 40.4	-0.5
	baz=216						
I61A	Oroboro, Fairl	80.27	29	P	P	19 48 41.0	-0.3
	baz=217,SNR=8.0						
E54A	Lac Daplat, Po	80.27	25	P	P	19 48 41.5	+0.2
	baz=213,SNR=5.9						
FRNY	Flat Rock	80.39	28	P	P	19 48 41.6	-0.3
FRNY				IAmb	IAmb	19 48 50.6	
	comp=Z,63nm,1.6s						
FRNY				IAms_20	IAms_20	20 20 46.4	
	comp=Z,2µm,20.0s						
G58A	Ormstown	80.45	28	P	P	19 48 41.6	-0.6
	baz=216						
H60A	Morristown	80.55	29	P	P	19 48 42.3	-0.5
	baz=217						
I62A	Tamworth	80.61	30	P	P	19 48 42.7	-0.5
	baz=218						
I62A	Tamworth	80.61	30	P	P	19 48 42.6	-0.5
I62A				IAms_20	IAms_20	20 20 31.0	
	comp=Z,2µm,21.0s						
D53A	Lac Vacive, Po	80.62	24	P	P	19 48 42.7	-0.5
	baz=213,SNR=5.4						
D53A	Lac Vacive, Po	80.62	24	IAmb	IAmb	19 48 51.5	
	comp=Z,89nm,1.7s						
LBNH	Lisbon	80.63	29	P	P	19 48 42.7	-0.6
LBNH				pmax	pmax		
	comp=Z,63nm,1.6s						
LBNH				MLR	MLR		
	comp=Z,1µm,21.0s						
LBNH	Lisbon	80.63	29	P	P	19 48 42.8	-0.6
	baz=218						
LBNH	Lisbon	80.63	29	P	P	19 48 42.7	-0.6
LBNH				IAmb	IAmb	19 48 52.0	
	comp=Z,63nm,1.6s						
F57A	Harrington	80.73	27	P	P	19 48 43.3	-0.5
	baz=215						
G59A	Clarenceville	80.76	28	P	P	19 48 43.5	-0.4
	baz=216						
H61A	Lyndonville	80.86	29	P	P	19 48 44.7	+0.2
	baz=218,SNR=5.9						
D54A	Lac Fusel, La	81.07	25	P	P	19 48 44.9	-0.7
	baz=214,SNR=6.2						
I63A	Otisfield	81.08	30	P	P	19 48 45.3	-0.4
	baz=219						
I63A	Otisfield	81.08	30	IAms_20	IAms_20	20 23 27.6	
	comp=Z,1µm,20.0s						
CASY	Casey	81.15	197	P	P	19 48 45.8	-0.1
CASY	Casey	81.15	197	IAms_20	IAms_20	20 19 33.3	
	comp=Z,2µm,19.0s						
E56A	St. Veronique	81.19	26	P	P	19 48 45.2	-1.0
	baz=215						
H62A	Milan	81.24	30	P	P	19 48 46.3	-0.1
	baz=218,SNR=8.2						
H62A	Milan	81.24	30	P	P	19 48 46.4	-0.1
H62A				IAms_20	IAms_20	20 22 05.7	
	comp=Z,2µm,19.0s						
I64A	Boothbay	81.41	31	P	P	19 48 47.2	-0.1
	baz=219						
E57A	Chemin Saint G	81.44	27	P	P	19 48 46.7	-0.8
	baz=216,SNR=7.4						
TOO	Toolangi	81.58	232	P	P	19 48 49.0	+0.2
TOO				pmax	pmax		
	comp=Z,48nm,1.5s						
TOO				MLR	MLR		
	comp=Z,3µm,18.0s						
TOO	Toolangi	81.58	232	P	P	19 48 49.0	+0.2
TOO				IAmb	IAmb	19 48 58.0	
	comp=Z,48nm,1.4s						
VLDQ	Val d'Or	81.58	24	IAmb	IAmb	19 49 01.1	
	comp=Z,61nm,1.6s						
G61A	St-Isidore-de-	81.63	29	P	P	19 48 48.5	-0.1
	baz=218,SNR=6.7						
D56A	ZEC Mazanza, M	81.72	26	P	P	19 48 49.0	0.0
	baz=215,SNR=6.2						
E58A	La Victoria	81.76	27	P	P	19 48 48.5	-0.7
	baz=216,SNR=7.1						
H63A	New Sharon	81.80	30	P	P	19 48 49.3	-0.2
	baz=219						
FFC	Flin Flon	81.88	7	P	P	19 48 49.0	-0.6
FFC				MLR	MLR		
	comp=Z,3µm,19.0s						
FFC				MLR	MLR		
	comp=Z,63µm,1.8s						
FFC	Flin Flon	81.88	7	P	P	19 48 49.0	-0.6
FFC				IAmb	IAmb	19 48 57.4	
	comp=Z,63nm,1.8s						
WVL	Waterville	81.90	30	IAmb	IAmb	19 48 58.6	
	comp=Z,71nm,1.4s						
F60A	Warwick	81.99	28	P	P	19 48 49.9	-0.5
	baz=217						
G62A	West of Eustis	82.02	30	P	P	19 48 50.4	-0.2
	baz=219						
G62A	West of Eustis	82.02	30	P	P	19 48 49.3	-1.3
G62A				IAmb	IAmb	19 48 59.1	
	comp=Z,58nm,1.6s						
D57A	Chemin Vers le	82.04	27	P	P	19 48 49.8	-0.8
	baz=216,SNR=5.2						
H64A	Troy	82.16	31	P	P	19 48 50.8	-0.6
	baz=220,SNR=6.8						
G63A	Kingsbury	82.34	30	P	P	19 48 52.0	-0.3
	baz=219,SNR=5.4						
F61A	St Evariste	82.41	29	P	P	19 48 52.2	-0.5
	baz=218						
D58A	Chemin du LacG	82.51	27	P	P	19 48 52.9	-0.2
	baz=216,SNR=6.5						
E60A	Ste Agathe de	82.52	28	P	P	19 48 52.5	-0.7
	baz=218						
LSQQ	Lebel-sur-Quev	82.55	24	P	P	19 48 52.8	-0.5
	baz=213						
SYO	Syowa Base	82.58	171	‖ eP	P	19 48 51.6	-1.7
SYO	Syowa Base	82.58	171	‖ epP	pP	19 48 55.2	-0.6
SYO	Syowa Base	82.58	171	‖ /sP	sP	19 48 58.0	+1.3
PKME	Peaks-Kenny Pk	82.61	30	P	P	19 48 53.2	-0.4
	baz=220						
H65A	Eastbrook	82.65	31	P	P	19 48 53.7	-0.2
	baz=220						
EIDS	Eidsvold	82.76	245	P	P	19 48 55.9	+0.7
EIDS				IAms_20	IAms_20	20 19 34.1	
	comp=Z,2µm,20.0s						
G64A	Maxfield	82.84	31	P	P	19 48 54.5	-0.4
	baz=220,SNR=6.9						
MATQ	Matagami	82.90	23	P	P	19 48 54.6	-0.5
	baz=212						
E61A	Lac Etchemin	82.98	29	P	P	19 48 55.0	-0.6
	baz=218						
EMMW	East Machias	83.02	32	P	P	19 48 55.5	-0.3
EMMW				IAmb	IAmb	19 49 04.2	
	comp=Z,71nm,1.7s						
EMMW				IAms_20	IAms_20	20 25 17.4	
	comp=Z,1µm,18.0s						
F63A	Nahmakanta, Br	83.03	30	P	P	19 48 55.7	-0.2
	baz=220,SNR=17						
F63A	Nahmakanta, Br	83.03	30	IAmb	IAmb	19 48 57.1	
	comp=Z,47nm,1.1s						
F63A				IAms_20	IAms_20	20 24 43.1	
	comp=Z,1µm,18.0s						
H66A	Whiting	83.15	32	P	P	19 48 56.1	-0.4
	baz=221						
G65A	Princeton	83.34	31	P	P	19 48 57.0	-0.5
	baz=221						
G65A	Princeton	83.34	31	IAmb	IAmb	19 49 05.8	
	comp=Z,63nm,1.6s						
G65A				IAms_20	IAms_20	20 23 12.5	
	comp=Z,1µm,19.0s						
F64A	Sherman	83.49	30	P	P	19 48 57.9	-0.3
	baz=220,SNR=5.8						
F64A	Sherman	83.49	30	P	P	19 48 57.8	-0.4
F64A				IAmb	IAmb	19 49 05.9	
	comp=Z,52nm,1.5s						
F64A				IAms_20	IAms_20	20 23 15.3	
	comp=Z,2µm,19.0s						
E62A	Clayton Lake	83.55	29	IAms_20	IAms_20	20 23 33.9	
	comp=Z,2µm,18.0s						
D61A	St Aubert, Com	83.72	29	P	P	19 48 59.0	-0.3
	baz=219						
E63A	Oxbow	83.88	30	P	P	19 48 59.7	-0.5
	baz=220						
E63A	Oxbow	83.88	30	IAms_20	IAms_20	20 22 17.7	
	comp=Z,1µm,21.0s						
D62A	Allapoint, All	84.11	29	P	P	19 49 00.7	-0.6
	baz=220,SNR=12						
D62A	Allapoint, All	84.11	29	P	P	19 49 00.6	-0.8
D62A				IAmb	IAmb	19 49 08.8	
	comp=Z,61nm,1.5s						
CHGQ	Chibougamau	84.20	25	P	P	19 49 01.1	-0.7
	baz=215,SNR=8.7						
PQI	Presque Isle	84.25	30	IAmb	IAmb	19 49 09.5	
	comp=Z,30nm,1.2s						
PQI				IAms_20	IAms_20	20 23 49.5	
	comp=Z,2µm,19.0s						
WRAK	Wrangell Islan	84.30	350	IAms_20	IAms_20	20 18 02.6	
	comp=Z,2µm,19.0s						
D63A	Stockholm	84.49	30	P	P	19 49 02.8	-0.6
	baz=220,SNR=6.0						
BATG	Bathurst New B	85.59	31	P	P	19 49 08.1	-0.8
BATG				IAmb	IAmb	19 49 16.6	
	comp=Z,46nm,1.5s						
MAW	Mawson	85.86	179	P	P	19 49 14.3	+4.3
	comp=Z,8.1nm,1.0s,baz=191,slow=7.6,SNR=4.1						
MAW				LR	LR	20 23 31.0	
	comp=Z,3µm,19.9s,baz=176,slow=33						
MAW	Mawson	85.86	179	P	P	19 49 11.5	+1.5
MAW				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MAW				MLR	MLR		
	comp=Z,600nm,20.0s						
MAW	Mawson	85.86	179	P	P	19 49 11.5	+1.5
DLBC	Dease Lake	85.92	352	IAmb	IAmb	19 49 18.8	
	comp=Z,56nm,1.1s						
STKA	Stephens Creek	87.11	236	P	P	19 49 16.3	-0.6
	comp=Z,2.4nm,0.8s,baz=117,slow=9.3,SNR=3.1						
STKA				LR	LR	20 22 57.0	
	comp=Z,3µm,18.9s,baz=136,slow=32						
STKA	Stephens Creek	87.11	236	P	P	19 49 16.3	-0.6
STKA				pmax	pmax		
	comp=Z,10.0nm,1.8s						
STKA				MLR	MLR		
	comp=Z,700nm,20.0s						
STKA	Stephens Creek	87.11	236	IAmb	IAmb	19 49 25.5	
	comp=Z,10nm,1.8s						
STKA				IAms_20	IAms_20	20 21 37.9	
	comp=Z,658nm,20.0s						
H11S2	WAKE ISLAND Hy	88.82	291	T	T	21 27 39.5	
	baz=119,slow=76,SNR=461						
H11S1	WAKE ISLAND Hy	88.84	291	T	T	21 27 36.6	
	baz=119,slow=76,SNR=1310						
H11S3	WAKE ISLAND Hy	88.84	291	T	T	21 27 40.5	
	baz=119,slow=76,SNR=556						
YKA	Yellowknife Ar	88.98	360	P	P	19 49 23.6	-1.3
	comp=Z,7.9nm,1.0s,baz=169,slow=4.2,SNR=8.2						
CTA	Charters Tower	89.12	248	P	P	19 49 26.5	-0.2
	comp=Z,5.5nm,1.1s,baz=332,slow=2.6,SNR=2.6						
CTAO	Charters Tower	89.12	248	P	P	19 49 27.3	+0.6
CTAO				pmax	pmax		
	comp=Z,30nm,1.6s						
CTAO				MLR	MLR		
	comp=Z,2µm,19.0s						
CTAO	Charters Tower	89.12	248	P	P	19 49 27.3	+0.6
CTAO				IAmb	IAmb	19 49 32.6	
	comp=Z,30nm,1.6s						
CTAO	Charters Tower	89.12	248	IAms_20	IAms_20	20 26 06.7	

CHIR	Chirikof Islan	89.51	338	IAMs_20	IAMs_20	20 20 31.8		
	comp=Z,2μm,20.0s							
MESA	MESA	89.59	347	IAMs_20	IAMs_20	20 21 28.5		
	comp=Z,1μm,18.0s							
SII	Sitkinak Islan	89.64	339	IAMs_20	IAMs_20	20 19 56.3		
	comp=Z,2μm,21.0s							
TABL	Table Mountain	89.66	347	IAMs_20	IAMs_20	20 20 30.5		
	comp=Z,1μm,20.0s							
YAH	Yahtse	89.71	347	IAMs_20	IAMs_20	20 20 29.8		
	comp=Z,1μm,20.0s							
OHAK	Old Harbor	89.91	340	IAMs_20	IAMs_20	20 20 06.4		
	comp=Z,2μm,21.0s							
ISLE	Juniper Island	90.05	347	IAMs_20	IAMs_20	20 20 28.9		
	comp=Z,1μm,20.0s							
KDAK	Kodiak Island	90.17	341	IAMs_20	IAMs_20	20 21 14.1		
	comp=Z,2μm,20.0s							
CTGM	Chitina Glacie	90.18	347	IAMs_20	IAMs_20	20 20 16.2		
	comp=Z,1μm,22.0s							
HMT	Hamilton	90.22	346	IAMs_20	IAMs_20	20 21 42.4		
	comp=Z,1μm,20.0s							
RAGM	Ragged Mountai	90.36	345	IAMs_20	IAMs_20	20 21 56.1		
	comp=Z,1μm,19.0s							
EYAK	Cordova Ski Ar	90.75	345	IAMs_20	IAMs_20	20 21 39.4		
	comp=Z,2μm,20.0s							
HIN	Hinchinbrook I	90.79	345	IAMs_20	IAMs_20	20 20 39.5		
	comp=Z,1μm,20.0s							
SCHQ	Schefferville	90.93	25	LR	LR	20 26 46.9		
	comp=Z,1μm,21.2s,baz=226,slow=33							
SCHQ	Schefferville	90.93	25	IAMs_20	IAMs_20	20 26 27.1		
	comp=Z,2μm,22.0s							
FID	Port Fidalgo	91.10	345	IAMs_20	IAMs_20	20 19 57.8		
	comp=Z,1μm,22.0s							
CNPM	China Poot	91.25	342	IAMs_20	IAMs_20	20 22 53.6		
	comp=Z,1μm,18.0s							
BRLK	Bradley Lake	91.35	342	IAMs_20	IAMs_20	20 23 14.2		
	comp=Z,1μm,19.0s							
FALS	False Pass	91.59	334	IAMs_20	IAMs_20	20 20 00.9		
	comp=Z,1μm,21.0s							
UNV	Unalaska Valle	92.11	332	IAMs_20	IAMs_20	20 21 39.7		
	comp=Z,2μm,20.0s							
KNK	Knik Glacier	92.15	344	IAMs_20	IAMs_20	20 22 37.4		
	comp=Z,1μm,19.0s							
PMR	Palmer	92.47	344	IAMs_20	IAMs_20	20 22 56.8		
	comp=Z,1μm,19.0s							
NIKH	Nikolski High	92.51	330	IAMs_20	IAMs_20	20 21 14.4		
	comp=Z,2μm,22.0s							
GHO	Glory Hole Cre	92.57	344	IAMs_20	IAMs_20	20 22 59.5		
	comp=Z,1μm,20.0s							
DOT	Dot Lake	93.16	347	IAMs_20	IAMs_20	20 23 09.0		
	comp=Z,1μm,20.0s							
PMG	Port Moresby	93.33	258	IAMs_20	IAMs_20	20 28 44.5		
	comp=Z,1μm,19.0s							
DHY	Denali Highway	93.35	346	IAMs_20	IAMs_20	20 22 47.0		
	comp=Z,1μm,20.0s							
SKT	Skwentna	93.40	343	P	P	19 49 44.0	-1.5	
SKT				IAmb	IAmb	19 49 52.1		
	comp=Z,27nm,1.2s							
SKT				IAMs_20	IAMs_20	20 22 30.4		
	comp=Z,1μm,20.0s							
CUT	Chulitna	93.44	344	P	P	19 49 44.5	-1.0	
	baz=148							
RND	Reindeer	93.97	345	IAmb	IAmb	19 49 56.9		
	comp=Z,36nm,1.6s							
MCK	McKinley	94.27	345	IAMs_20	IAMs_20	20 22 00.4		
	comp=Z,1μm,22.0s							
PPLA	Purkeypile	94.34	344	P	P	19 49 48.6	-1.3	
ATKA	Atka Island	94.45	328	IAMs_20	IAMs_20	20 23 35.0		
	comp=Z,1μm,20.0s							
KTH	Kantishna Hill	94.58	344	P	P	19 49 49.1	-1.8	
WRH	Wood River Hil	94.72	346	IAmb	IAmb	19 49 58.9		
	comp=Z,44nm,1.7s							
WRH				IAMs_20	IAMs_20	20 24 00.4		
	comp=Z,1μm,20.0s							
ILAR	Eielson Array	94.73	347	P	P	19 49 48.8	-2.7	
	comp=Z,0.9nm,0.9s,baz=176,slow=5.4,SNR=5.6							
ILAR				LR	LR	20 24 35.3		
	comp=Z,706nm,18.9s,baz=140,slow=30							
ILAR	Eielson Array	94.73	347	P	P	19 49 49.1	-2.4	
ILAR	Eielson Array	94.73	347	P	P	19 49 49.1	-2.4	
BWN	Browne	94.77	345	IAMs_20	IAMs_20	20 24 15.6		
	comp=Z,1μm,19.0s							
CCB	Clear Creek Bu	94.81	346	IAMs_20	IAMs_20	20 24 04.7		
	comp=Z,1μm,20.0s							
COLA	College	95.02	346⇓	*e*P	P	19 49 49.7	-3.1	
COLA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
COLA	College	95.02	346	IAMs_20	IAMs_20	20 25 42.3		
	comp=Z,979nm,18.0s							
MDM	Murphy Dome	95.18	346	IAmb	IAmb	19 50 01.7		
	comp=Z,22nm,1.1s							
MDM				IAMs_20	IAMs_20	20 24 24.4		
	comp=Z,1μm,19.0s							
ADK	Adak	95.46	327	IAMs_20	IAMs_20	20 23 07.8		
	comp=Z,2μm,22.0s							
SPIA	Saint Paul Isl	95.95	333	IAMs_20	IAMs_20	20 23 27.2		
	comp=Z,1μm,21.0s							
C36M	Paulatuk	96.13	357	IAMs_20	IAMs_20	20 26 18.4		
	comp=Z,1μm,20.0s							
ASAR	Alice Springs	97.20	239	P	Pdif	19 50 04.6	+0.6	
	comp=Z,0.9nm,0.7s,baz=112,slow=3.4,SNR=7.8							
ASAR				PP	PP	19 53 58.2	-1.6	
	comp=Z,0.8nm,0.9s,baz=108,slow=6.7,SNR=4.7							
ASAR				LR	LR	20 29 26.9		
	comp=Z,6μm,19.4s,baz=133,slow=33							
ASAR	Alice Springs	97.20	239	P	P	19 50 04.1	+0.2	
ASAR	Alice Springs	97.20	239	P	P	19 50 04.1	+0.2	
COLD	Coldfoot	97.55	347	P	P	19 50 02.7	-1.5	
	baz=148							
COLD	Coldfoot	97.55	347	IAmb	IAmb	19 52 47.5		
	comp=Z,6.4nm,0.4s							
COLD				IAMs_20	IAMs_20	20 26 02.9		
	comp=Z,1μm,19.0s							
TOLK	Toolik Lake Re	98.63	348	IAMs_20	IAMs_20	20 26 24.5		
	comp=Z,964nm,20.0s							
WRA	Warramunga Arr	98.87	242	P	P	19 50 10.8	-0.6	
	comp=Z,1.5nm,0.8s,baz=124,slow=4.5,SNR=11							
WRA				LR	LR	20 32 16.1		
	comp=Z,2μm,18.4s,baz=150,slow=34							
WRA	Warramunga Arr	98.87	242	P	P	19 50 11.2	-0.3	
WRA	Warramunga Arr	98.87	242	P	P	19 50 11.2	-0.3	
ANM	Nome	99.32	340	IAMs_20	IAMs_20	20 25 54.2		
	comp=Z,2μm,22.0s							
GAMB	Gambell	100.83	338	IAMs_20	IAMs_20	20 28 33.1		
	comp=Z,1μm,20.0s							
RDOG	Red Dog Mine	101.16	343	IAMs_20	IAMs_20	20 26 39.5		
	comp=Z,1μm,22.0s							
TULEG	Thule	106.81	10	IAMs_20	IAMs_20	20 37 19.6		
	comp=Z,1μm,20.0s							
PETK	Petropavlovsk-	109.82	320	PP	PP	19 55 30.2	-3.8	
	comp=Z,2.4nm,1.1s,baz=134,slow=6.2,SNR=3.8							
MMRI	Maumere	114.86	245	IAMs_20	IAMs_20	20 42 42.6		
	comp=Z,787nm,20.0s							
PFVI	Vila Bisbo	117.40	60	IAMs_20	IAMs_20	20 38 53.3		
	comp=Z,981nm,20.0s							
YSS	Yuzh-Sakhalins	117.64	311	*i*PKIKP	PKPdf	19 55 11.7	-4.9	
YSS				*e*		19 56 27.4		
YSS				*e*PS	PS	20 06 17.3	+2.9	
YSS				*e*PPS	PPS	20 07 27.7		
YSS				MLR	MLR			
	comp=Z,1μm,15.0s							
YSS				MLR	MLR			
	comp=E,400nm,16.0s							
PVAQ	Vaqueiros	118.32	60	IAMs_20	IAMs_20	20 39 30.7		
	comp=Z,879nm,21.0s							
COI	Coimbra	118.41	57	IAMs_20	IAMs_20	20 37 14.9		
	comp=Z,1μm,22.0s							
LUWI	Luwuk	118.53	253	IAMs_20	IAMs_20	20 45 43.2		
	comp=Z,995nm,19.0s							
MAJO	Matsushiro	118.83	299⇑	*i*PKIKP	PKPdf	19 55 17.7	-1.6	
MAT	Matsushiro	118.83	299	*e*PKP	PKPdf	19 55 16.5	-2.8	
TORD	Torodi Ar. Bea	118.88	89	PKP	PKPdf	19 55 18.1	-1.8	
	comp=Z,1.6nm,0.9s,baz=225,slow=1.6,SNR=4.4							
TORD				PP	PP	19 56 40.7	+1.8	
	comp=Z,1.1nm,0.8s,baz=255,slow=5.5,SNR=2.3							
TORD	Torodi Ar. Bea	118.88	89	PKPdf	PKPdf	19 55 19.7	-0.2	
INU	Inuyama	119.50	297	IAMs_20	IAMs_20	20 43 56.9		
	comp=Z,872nm,19.0s							
PAB	San Pablo	121.35	58	IAMs_20	IAMs_20	20 40 58.7		
	comp=Z,1μm,21.0s							
DSB	Dublin	121.59	42	IAMs_20	IAMs_20	20 33 31.6		
	comp=Z,846nm,22.0s							
ES15	SONSECA Array	121.63	58	IAMs_20	IAMs_20	20 41 08.3		
	comp=Z,1μm,22.0s							
ES14	SONSECA Array	121.64	58	IAMs_20	IAMs_20	20 41 07.5		
	comp=Z,1μm,21.0s							
ES16	SONSECA Array	121.64	58	IAMs_20	IAMs_20	20 41 09.2		
	comp=Z,1μm,22.0s							
ES13	SONSECA Array	121.66	58	IAMs_20	IAMs_20	20 41 08.9		
	comp=Z,1μm,22.0s							
ES17	SONSECA Array	121.66	58	IAMs_20	IAMs_20	20 41 09.7		
	comp=Z,1μm,22.0s							
ESDC	Sonseca Array	121.66	58	PKP	PKPdf	19 55 23.3	-1.4	
	comp=Z,1.0nm,1.0s,baz=270,slow=1.3,SNR=6.1							
ES05	SONSECA Array	121.67	58	IAMs_20	IAMs_20	20 41 09.1		
	comp=Z,1μm,21.0s							
ESBB	Sonseca Array	121.67	58	IAMs_20	IAMs_20	20 41 20.1		
	comp=Z,1μm,21.0s							
ES06	SONSECA Array	121.67	58	IAMs_20	IAMs_20	20 41 08.3		
	comp=Z,1μm,21.0s							
ES12	SONSECA Array	121.67	58	IAMs_20	IAMs_20	20 41 19.3		
	comp=Z,979nm,21.0s							
ES01	SONSECA Array	121.67	58	IAMs_20	IAMs_20	20 41 08.4		
	comp=Z,1μm,21.0s							
ES07	SONSECA Array	121.67	58	IAMs_20	IAMs_20	20 41 11.1		
	comp=Z,1μm,22.0s							
ES04	SONSECA Array	121.68	58	IAMs_20	IAMs_20	20 41 08.4		
	comp=Z,1μm,22.0s							
ES18	SONSECA Array	121.68	58	IAMs_20	IAMs_20	20 41 09.5		
	comp=Z,1μm,22.0s							
ES02	SONSECA Array	121.69	58	IAMs_20	IAMs_20	20 41 20.6		
	comp=Z,1μm,21.0s							
ES03	SONSECA Array	121.69	58	IAMs_20	IAMs_20	20 41 09.6		
	comp=Z,1μm,21.0s							
ES11	SONSECA Array	121.69	58	IAMs_20	IAMs_20	20 41 10.8		
	comp=Z,1μm,21.0s							
ES08	SONSECA Array	121.70	58	IAMs_20	IAMs_20	20 41 09.6		
	comp=Z,1μm,22.0s							
ES10	SONSECA Array	121.71	58	IAMs_20	IAMs_20	20 41 20.2		
	comp=Z,1μm,21.0s							
ES09	SONSECA Array	121.71	58	IAMs_20	IAMs_20	20 41 10.1		
	comp=Z,1μm,21.0s							
ES19	SONSECA Array	121.72	58	IAMs_20	IAMs_20	20 41 10.5		
	comp=Z,1μm,22.0s							
ESK	Eskdalemuir	123.50	40	IAMs_20	IAMs_20	20 41 10.0		
	comp=Z,1μm,21.0s							
TIXI	Tiksi	123.59	340	IAMs_20	IAMs_20	20 46 16.5		
	comp=Z,871nm,19.0s							
USRK	Ussuriysk Ar.	124.76	307	PKP	PKPdf	19 55 29.8	-0.6	
	comp=Z,1.7nm,0.8s,baz=226,slow=2.7,SNR=5.6							
KLR	Kul'dur	125.21	313	PKP	PKPdf	19 55 29.9	-1.2	
	comp=Z,2.0nm,0.7s,baz=59,slow=4.8							
KLR	Kul'dur	125.21	313⇑	*i*PKIKP	PKPdf	19 55 30.1	-1.0	
YAK	Yakutsk	125.48	329	*e*PKIKP	PKPdf	19 55 28.4	-2.8	
YAK				*e*		19 57 22.0		
YAK				*e*		20 02 31.8		
YAK				*e*PS	PS	20 07 25.6	+1.9	
YAK				*e*SS	SS	20 14 17.3	-3.6	
YAK				pmax	pmax			
	comp=Z,11nm,1.1s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.4s							
YAK				pmax	pmax			
	comp=E,2.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,57nm,3.3s							
YAK				pmax	pmax			
	comp=E,34nm,3.0s							
MDJ	Mudanjiang	126.50	307	PKP	PKPdf	19 55 32.6	-1.1	
MDJ	Mudanjiang	126.50	307		PKPdf	19 55 32.4	-1.3	
CLF	Chambon-Foret	126.92	49	IAMs_20	IAMs_20	20 52 32.3		
	comp=Z,748nm,18.0s							
KSRS	Korea Array	127.09	298	PKP	PKPdf	19 55 33.6	-1.5	
	comp=Z,2.2nm,0.9s,baz=100,slow=3.0,SNR=9.5							
KSAR	Wonju Array Be	127.12	298	PKIKP	PKPdf	19 55 33.1	-2.0	
KSAR	Wonju Array Be	127.12	298		PKPdf	19 55 33.1	-2.0	
TJN	Taejon	127.39	297⇑	*e*PKIKP	PKPdf	19 55 34.1	-1.6	
KKM	Kota Kinabalu	127.74	256	IAMs_20	IAMs_20	20 51 10.4		
	comp=Z,1μm,20.0s							
INCN	Inchon	128.11	298	IAMs_20	IAMs_20	20 42 45.3		
	comp=Z,981nm,20.0s							
SSB	Saint Sauveur	128.47	52	IAMs_20	IAMs_20	20 51 54.5		
	comp=Z,631nm,19.0s							
WLF	Walferdange	129.44	46	IAMs_20	IAMs_20	20 52 18.8		
	comp=Z,638nm,20.0s							
CN2	Changchun	129.45	306	*e*PKP	PKiKP	19 55 40.6	+0.5	
CN2				*e*PP	PP	19 57 54.1	+4.7	
CN2				*e*SS	SS	20 15 09.4	-2.2	
CN2				AMB	AMB			
	comp=Z,100nm,8.0s							
CN2				LR	LR			
	comp=Z,400nm,18.0s							
CN2				LR	LR			
	comp=Z,700nm,18.0s							
CN2				LR	LR			
	comp=Z,900nm,20.0s							
KONO	Kongsberg	129.76	33	IAMs_20	IAMs_20	20 42 17.9		
	comp=Z,868nm,22.0s							
NACB	Ninganchiao	129.82	280	IAMs_20	IAMs_20	20 45 11.8		
	comp=Z,758nm,20.0s							
BNI	Bardonecchia	129.98	52	IAMs_20	IAMs_20	20 50 06.5		
	comp=Z,804nm,20.0s							
TATO	Taipei	130.12	281	IAMs_20	IAMs_20	20 41 25.5		
	comp=Z,683nm,22.0s							
NOA	NORSAR Array B	130.13	31	PKP	PKPdf	19 55 39.0	-1.2	
	comp=Z,1.0nm,1.0s,baz=302,slow=2.1,SNR=4.8							
ECH	Echery	130.20	48	IAMs_20	IAMs_20	20 52 25.9		
	comp=Z,805nm,19.0s							
SENIN	Lac Senin/Sane	130.38	51	IAMs_20	IAMs_20	20 44 25.1		
	comp=Z,752nm,22.0s							
TPUB	Ta-pu	130.43	279	IAMs_20	IAMs_20	20 42 56.1		
	comp=Z,1μm,22.0s							
BFO	Black Forest	130.97	48	IAMs_20	IAMs_20	20 53 59.4		
	comp=Z,781nm,18.0s							
STU	Stuttgart	131.50	47	IAMs_20	IAMs_20	20 54 07.4		
	comp=Z,765nm,18.0s							
KEST	Kesra	131.58	65	PKP	PKiKP	19 55 45.9	+1.2	
	comp=Z,1.7nm,0.7s,baz=213,slow=17,SNR=2.9							
SSE	Sheshan	131.68	289	IAMs_20	IAMs_20	20 42 53.3		
	comp=Z,1μm,21.0s							
DAVA	Damuels	132.09	49	*e*PKPdf	PKPdf	19 55 44.5	0.0	
	comp=Z,9.5nm,1.7s							
DL2	Dalian	132.16	299	PKP	PKiKP	19 55 46.7	+1.0	
DL2				PP	PP	19 58 06.0	-1.1	
DL2				SS	SS	20 15 44.0	-1.2	
DL2				AMB	AMB			
	comp=Z,190nm,7.1s							
DL2				LR	LR			
	comp=Z,310nm,17.7s							
DL2				LR	LR			
	comp=Z,170nm,14.3s							
DL2				LR	LR			
	comp=Z,460nm,17.7s							
FUORN	Ofenpass-Fuorn	132.41	50	IAMs_20	IAMs_20	20 53 17.8		
	comp=Z,958nm,20.0s							
PRMA	PARMA	132.57	53	IAMs_20	IAMs_20	20 47 44.1		
	comp=Z,981nm,20.0s							
FETA	Feichten	132.70	50	*e*PKiKP	PKiKP	19 55 46.7	-0.1	
	comp=Z,13nm,1.4s							
GRA1	Grafenberg Arr	132.71	46	IAMs_20	IAMs_20	20 44 29.3		
	comp=Z,884nm,21.0s							
MOTA	Moosalm	132.92	49	*e*PKiKP	PKiKP	19 55 47.0	-0.2	
	comp=Z,19nm,1.6s							
SQTA	Sankt Quirin	133.00	49	*e*PKiKP	PKPdf	19 55 46.8	+0.6	
	comp=Z,17nm,1.2s							
RGN	Rugen	133.03	39	IAMs_20	IAMs_20	20 49 00.1		
	comp=Z,585nm,20.0s							
ZCCA	Zocca	133.06	53	IAMs_20	IAMs_20	20 46 46.2		
	comp=Z,1μm,22.0s							
WATA	Walderalm	133.24	49	*e*PKPdf	PKPdf	19 55 46.2	-0.4	
	comp=Z,14nm,1.4s							
WTTA	Wattenberg	133.29	49	*e*PKPdf	PKPdf	19 55 46.2	-0.6	
	comp=Z,25nm,1.6s							
OSSC	Osservatorio P	133.29	54	IAMs_20	IAMs_20	20 56 24.5		
	comp=Z,601nm,18.0s							
NKC	Novy Kostel	133.41	45	AMS	AMS	20 44 40.0		
	comp=Z,1μm,22.5s							
CTI	Castel Tesino	133.42	51	IAMs_20	IAMs_20	20 51 42.4		
	comp=Z,916nm,19.0s							
CLL	Collm	133.56	44	IAMs_20	IAMs_20	20 46 44.5		
	comp=Z,958nm,21.0s							
NJ2	Nanjing	133.79	290	*e*PKP	PKiKP	19 55 49.9	+0.7	
NJ2				LR	LR			
	comp=Z,530nm,21.3s							
NJ2				LR	LR			
	comp=Z,1μm,24.6s							
NJ2				LR	LR			
	comp=Z,1μm,20.8s							
BOD	Bodaibo	134.19	326	*e*PKIKP	PKPdf	19 55 46.4	-1.5	
BOD				pmax	pmax			
	comp=Z,16nm,1.5s							
BRG	Berggiesshubel	134.23	44	*e*PKP	PKiKP	19 55 55.2	+5.7	
	comp=Z,11nm,1.4s							
BRG				*e*		20 05 21.0		
BRG				*e*		20 14 51.0		
BRG				*e*		20 16 31.0		
	comp=Z,1μm,21.2s							
	comp=N,970nm,22.9s							
	comp=E,610nm,22.9s							
KHC	Kasperske Hory	134.32	46	*e*PKP	PKiKP	19 55 55.0	+5.2	
KHC	Kasperske Hory	134.32	46	*e*PKIKP	PKiKP	19 55 55.0	+5.2	
GERES	GERESS Array B	134.45	47	PKP	PKPdf	19 55 47.6	-1.2	
	comp=E,0.5nm,0.8s,baz=204,slow=2.9,SNR=3.7							
KBA	Koelnbreinsper	134.47	49	*e*PKPdf	PKPdf	19 55 48.7	-0.3	
	comp=E,6.9nm,1.6s							
PVCC	Panska Ves	134.69	44	AMS	AMS	20 45 30.0		
	comp=E,1μm,20.0s							
PRA	Prague	134.69	45	AMS	AMS	20 45 30.0		
	comp=E,600nm,22.5s							
APA	Apatity	134.76	17⇑	*i*PKIKP	PKiKP	19 55 51.3	+1.2	
APA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
APA				MLR	MLR			
	comp=Z,1μm,19.0s							
PRU	Pruhonice	134.78	45	AMS	AMS	20 45 30.0		
	comp=Z,1μm,21.8s							
TRI	Trieste	134.92	51	IAMs_20	IAMs_20	20 49 28.2		
	comp=Z,786nm,21.0s							
GOPC	GO Pecny, Ondr	134.95	45	AMS	AMS	20 45 40.0		
	comp=Z,1μm,21.5s							
MOA	Molln	134.98	48	*e*PKPdf	PKPdf	19 55 48.9	-0.8	
	comp=Z,4.6nm,1.2s							
INTR	Introdacqua	135.32	56	IAMs_20	IAMs_20	20 57 00.3		
	comp=Z,868nm,21.0s							
OBKA	Obir	135.36	50	*e*PKPdf	PKPdf	19 55 50.1	-0.4	
	comp=Z,3.5nm,0.9s							
TREC	Trest	135.52	46	AMS	AMS	20 43 30.0		
	comp=Z,1μm,24.0s							
UPC	Upice	135.59	44	AMS	AMS	20 46 10.0		
	comp=Z,1μm,21.1s							
CHVC	Chvalec	135.60	44	AMS	AMS	20 46 00.0		
	comp=Z,800nm,22.0s							
KSP	Ksiaz	135.69	44	*e*PKP	PKiKP	19 55 56.6	+4.1	
KSP				*e*L	L	20 41 45.3		
	comp=Z,1μm,36.4s							
OSTC	Ostas	135.71	44	*e*PP	PP	19 58 23.3	-5.9	
OSTC				AMS	AMS	20 45 50.0		
	comp=Z,800nm,22.1s							
DPC	Dobruska-Polom	135.82	44	*e*PP	PP	19 58 28.0	-2.0	
DPC				AMS	AMS	20 46 30.0		
	comp=Z,1μm,21.7s							
HKPS	Hong Kong Po S	135.91	275	IAMs_20	IAMs_20	20 53 59.4		
	comp=Z,653nm,20.0s							
ARSA	Arzberg	135.91	49	*e*PKPdf	PKPdf	19 55 50.5	-1.0	
	comp=Z,7.2nm,1.1s							
CONA	Conrad Observa	136.02	48	*e*PKPdf	PKPdf	19 55 51.0	-0.7	
	comp=Z,11nm,1.3s							
KRLC	Kraliky	136.17	45	*e*PP	PP	19 58 26.6	-5.6	
KRLC				AMS	AMS	20 46 30.0		
	comp=Z,800nm,21.5s							
BJI	Beijing	136.39	301	PKP	PKPdf	19 55 53.2	+0.7	
BJI				PP	PP	19 58 36.1	+2.2	
BJI				SS	SS	20 16 37.8	+1.7	
BJI				LR	LR			
	comp=Z,190nm,18.3s							
BJI				LR	LR			
	comp=Z,890nm,20.8s							
BJI				LR	LR			
	comp=Z,970nm,20.4s							
FINES	FINESS Array B	136.40	26	PKP	PKPdf	19 55 52.5	+0.6	
	comp=Z,1.2nm,0.9s,baz=307,slow=5.1,SNR=2.2							
MODS	Modra-Piesok	136.87	47	*e*PKIKP	PKPdf	19 55 52.0	-1.2	
MODS	Modra-Piesok	136.87	47	*e*PKP	PKPdf	19 55 52.0	-1.2	
CEL	Celeste	136.94	62	IAMs_20	IAMs_20	21 00 21.8		
	comp=Z,625nm,21.0s							
PBUR	Paburge	137.18	35	*e*P	PKPdf	19 55 54.5	+1.1	
DLV	T Lat	137.24	258	IAMs_20	IAMs_20	20 55 39.2		
	comp=Z,619nm,20.0s							
TIP	Timpagrande	137.60	60	IAMs_20	IAMs_20	20 56 36.2		
	comp=Z,1μm,22.0s							
VYHS	Vyhne	137.85	46	*e*PKIKP	PKPdf	19 55 54.9	-0.1	
VYHS	Vyhne	137.85	46	*e*PKP	PKPdf	19 55 54.9	-0.1	
LANS	Liptovska Anna	138.09	45	*e*PKIKP	PKPdf	19 55 56.5	+1.0	
LANS	Liptovska Anna	138.09	45	*e*PKP	PKPdf	19 55 56.5	+1.0	
VSU	Vasula	138.32	30	*e*P	PKPdf	19 55 54.9	-0.6	
VSU	Vasula	138.32	30⇓	*e*PKIKP	PKPdf	19 55 54.1	-1.4	
PABE	Paberze	138.44	35	*e*P	PKPdf	19 55 56.7	+0.9	
NIE	Niedzica	138.55	45	*e*PKP	PKPdf	19 55 56.7	+0.4	
NIE				*e*L	L	20 43 13.6		
	comp=Z,1μm,35.0s							
PSZ	Piszkesteto	138.68	47	IAMs_20	IAMs_20	20 46 35.1		
	comp=Z,628nm,22.0s							
QIZ	Qiongzhong	138.78	269	PKP	PKPdf	19 55 57.2	-0.4	
QIZ				PP	PP	19 58 49.2	-0.1	
QIZ				SS	SS	20 17 06.6	+1.3	
QIZ				AMB	AMB			
	comp=Z,160nm,7.6s							
QIZ				LR	LR			
	comp=Z

PRGR					pmax	pmax		
	comp=Z,64nm,1.5s							
VOIR		**142.74**	**49**	⇑P		**PKiKP**	**19 56 12.8**	**+5.6**
VOIR		**142.74**	**49**	⇑PKIKP		**PKiKP**	**19 56 12.8**	**+5.6**
ZAK	**Zakamensk**	**142.94**	**320**	*e*PKHKP		PKPpre	19 55 58.9	
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.2s							
BIZ	**Bicaz**	**143.00**	**47**	⇑P		**PKiKP**	**19 56 08.3**	**+0.7**
MLR	**Muntele Rosu**	**143.33**	**49**	⇑P		PKPbc	19 56 02.3	0.0
MLR	**Muntele Rosu**	**143.33**	**49**	⇑PKIKP		PKPbc	19 56 02.3	0.0
MLR	**Muntele Rosu**	**143.33**	**49**		IAMs_20	IAMs_20	20 54 24.6	
	comp=Z,669nm,22.0s							
AKASG	**Malin Array Be**	**143.43**	**39**	PKhKP		PKPpre	19 55 56.8	
	comp=Z,0.2nm,0.3s,baz=284,slow=4.7,SNR=5.0							
AKASG				PKP		PKPbc	19 56 03.2	+1.0
	comp=Z,1.4nm,0.6s,baz=288,slow=3.3,SNR=4.4							
GYA	**Guiyang**	**143.49**	**279**	PKP		**PKPdf**	**19 56 05.2**	**-0.8**
GYA				PP		**PP**	**19 59 21.1**	**+2.9**
GYA				SS		SS	20 18 04.7	+4.2
GYA				AMB		AMB		
	comp=Z,230nm,9.0s							
GYA				LR		LR		
	comp=Z,350nm,22.1s							
GYA				LR		LR		
	comp=Z,330nm,19.0s							
GYA				LR		LR		
	comp=Z,520nm,21.3s							
NEHR	**Nehoiu**	**143.59**	**49**	⇑P		PKPbc	19 56 03.3	+0.4
MOY	**Mondy**	**143.63**	**323**	*e*PKIKP		PKPbc	19 56 04.2	+1.3
MOY					pmax	pmax		
	comp=Z,18nm,1.8s							
PLOR	**Plostina**	**143.70**	**48**	⇑P		**PKiKP**	**19 56 11.7**	**+2.6**
PLOR	**Plostina**	**143.70**	**48**	⇑PKIKP		**PKiKP**	**19 56 11.7**	**+2.6**
SORM	**Soroca**	**144.00**	**44**	⇑P		PKPab	19 56 03.0	-0.3
SORM	**Soroca**	**144.00**	**44**	⇑PKIKP		PKPab	19 56 03.0	-0.4
IDI	**Anoyia**	**144.23**	**66**	⇑P		PKPbc	19 56 05.6	+0.4
IDI	**Anoyia**	**144.23**	**66**	PKPdf		**PKPab**	**19 56 05.2**	**+0.4**
IDI					IAMs_20	IAMs_20	20 58 59.1	
	comp=Z,626nm,22.0s							
RAZG	**Razgrad**	**144.25**	**52**	⇑P		**PKPab**	**19 56 04.4**	**-0.1**
ALN	**Alexandroupoli**	**144.50**	**56**		IAMs_20	IAMs_20	21 03 46.5	
	comp=Z,606nm,19.0s							
AMRR	**Amara**	**144.53**	**50**	⇑P		**PKPab**	**19 56 04.9**	**-0.6**
AMRR	**Amara**	**144.53**	**50**	⇑PKIKP		**PKPab**	**19 56 04.9**	**-0.6**
SANT	**Santorini**	**144.63**	**64**		IAMs_20	IAMs_20	20 58 06.6	
	comp=Z,560nm,22.0s							
APE	**Apeiranthos**	**144.63**	**63**	⇑P		**PKPab**	**19 56 05.5**	**-0.7**
APE	**Apeiranthos**	**144.63**	**63**	⇑PKIKP		**PKPab**	**19 56 05.5**	**-0.7**
OBN	**Obninsk**	**144.65**	**29**	*e*PKIKP		**PKPab**	**19 56 05.4**	**-0.2**
OBN				*e*			19 59 22.0	
OBN				*e*PPP		PPP	20 02 35.0	
OBN					pmax	pmax		
	comp=Z,56nm,1.2s							
MOS	**Moscow**	**144.68**	**27**	*e*PKIKP		**PKPab**	**19 56 04.4**	**-1.3**
MOS					pmax	pmax		
	comp=Z,103nm,1.4s							
MILM	**Milestii Mici**	**144.74**	**45**	⇑P		**PKPab**	**19 56 05.8**	**-0.4**
CFR	**Carcaliu**	**144.90**	**49**	⇑P		**PKPab**	**19 56 05.6**	**-1.2**
CFR	**Carcaliu**	**144.90**	**49**	⇑PKIKP		**PKPab**	**19 56 05.6**	**-1.2**
HARR	**Harsova**	**144.91**	**49**	⇓P		**PKPdf**	**19 56 08.5**	**+0.8**
HARR	**Harsova**	**144.91**	**49**	⇓PKIKP		**PKPdf**	**19 56 08.5**	**+0.8**
TLBR	**Topalu**	**145.04**	**50**	⇑P		**PKPdf**	**19 56 09.1**	**+1.1**
TOPG	**Topolog**	**145.16**	**49**	⇑P		**PKPbc**	**19 56 07.6**	**-0.2**
TIRR	**Tirgusor**	**145.31**	**50**	⇑P		**PKPdf**	**19 56 09.4**	**+1.0**
TIRR	**Tirgusor**	**145.31**	**50**	⇑PKIKP		**PKPdf**	**19 56 09.4**	**+1.0**
TIRR	**Tirgusor**	**145.31**	**50**			**PKPbc**	**19 56 08.5**	**+0.2**
PBKT	**Sadao Pong**	**145.78**	**260**	PKPdf		**PKPdf**	**19 56 09.5**	**-0.6**
KARP	**Karpathos**	**146.07**	**66**		IAMs_20	IAMs_20	20 58 50.8	
	comp=Z,634nm,22.0s							
LZH	**Lanzhou**	**146.34**	**295**	*e*PKPbc		**PKPdf**	**19 56 11.5**	**+0.8**
LZH				LR		LR		
	comp=Z,470nm,14.9s							
LZH				LR		LR		
	comp=Z,960nm,14.6s							
LZH				LR		LR		
	comp=Z,1μm,18.4s							
CD2	**Chengdu**	**146.53**	**286**	PKPbc		**PKPdf**	**19 56 10.0**	**-1.0**
CD2				pPKP		PKiKP	19 56 15.8	+0.4
CD2				sPKP			19 56 19.3	
CD2				PP		**PP**	**19 59 34.4**	**-1.7**
CD2				SS		SS	20 18 38.0	+3.1
CD2				AMB		AMB		
	comp=Z,200nm,7.8s							
CD2				LR		LR		
	comp=Z,910nm,21.1s							
CD2				LR		LR		
	comp=Z,1μm,22.6s							
CD2				LR		LR		
	comp=Z,2μm,21.6s							
KMI	**Kunming**	**146.73**	**276**	PKPbc		**PKPbc**	**19 56 13.1**	**-0.4**
KMI				pPKP		sPKPab	19 56 18.2	+0.1
KMI				sPKP			19 56 21.3	
KMI				PP		**PP**	**19 59 40.7**	**+3.0**
KMI				SS		SS	20 18 42.4	+4.6
KMI				AMB		AMB		
	comp=Z,170nm,7.4s							
KMI				LR		LR		
	comp=Z,590nm,17.6s							
KMI				LR		LR		
	comp=Z,160nm,16.2s							
KMI				LR		LR		
	comp=Z,610nm,20.9s							
KMI	**Kunming**	**146.73**	**276**		IAMs_20	IAMs_20	21 08 55.0	
	comp=Z,671nm,20.0s							
LPSR	**Galich'ya Gora**	**147.37**	**31**	*e*PKP2		**PKPdf**	**19 56 12.8**	**+1.1**
LPSR					pmax	pmax		
	comp=Z,70nm,1.0s							
VORR	**Voronezh**	**148.11**	**32**	*e*PKHKP		**PKPdf**	**19 56 10.0**	**-2.9**
VORR					pmax	pmax		
	comp=Z,300nm,1.4s							
CM31	**Chiang Mai Arr**	**148.29**	**262**			**PKiKP**	**19 56 19.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**148.29**	**262**	PKPbc		**PKPbc**	**19 56 17.4**	**-0.3**
	comp=Z,14nm,0.9s,baz=121,slow=0.9,SNR=26							
CMAR	**Chiang Mai Arr**	**148.29**	**262**	PKP2		**PKPbc**	**19 56 16.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**148.29**	**262**			**PKPbc**	**19 56 16.5**	**-1.1**
VSR	**Storozhevoye**	**148.39**	**32**	*e*PKP2		**PKPbc**	**19 56 15.6**	**-1.3**
VSR					pmax	pmax		
	comp=Z,30nm,1.0s							
CHTO	**Chiang Mai**	**148.41**	**262**	PKP2		**PKPbc**	**19 56 17.0**	**-1.0**
CHTO				MLR		MLR		
	comp=Z,700nm,20.0s							
CHTO	**Chiang Mai**	**148.41**	**262**			**PKPbc**	**19 56 17.0**	**-1.0**
CHTO	**Chiang Mai**	**148.41**	**262**		IAMs_20	IAMs_20	21 01 27.2	
	comp=Z,732nm,20.0s							
ISP	**Isparta**	**148.47**	**61**		IAMs_20	IAMs_20	21 06 57.6	
	comp=Z,481nm,19.0s							
VORD	**Divnogorie**	**148.61**	**33**	*e*PKP2		**PKPbc**	**19 56 15.9**	**-1.6**
VORD					pmax	pmax		
	comp=Z,30nm,1.0s							
BOLV	**Bolvadin**	**148.63**	**59**			**PKPbc**	**19 56 18.2**	**+0.1**
GTA	**Gaotai**	**148.97**	**303**	⇓PKPbc		**PKPbc**	**19 56 17.8**	**-1.2**
GTA				LR		LR		
	comp=Z,540nm,22.2s							
GTA				LR		LR		
	comp=Z,2μm,20.3s							
GTA				LR		LR		
	comp=Z,2μm,22.5s							
ZAA0	**Zalesovo Array**	**149.42**	**338**	PKPdf		**PKPdf**	**19 56 13.1**	**-1.9**
ZAA0				PKPbc		**pPKPdf**	**19 56 18.1**	**+0.6**
ZAA0					IAMs_20	IAMs_20	21 01 01.5	
	comp=Z,684nm,19.0s							
ZALV	**Zalesovo Beam**	**149.42**	**338**	PKPbc		**PKPbc**	**19 56 17.8**	**-1.6**
	comp=Z,8.9nm,0.8s,baz=26,slow=2.6,SNR=17							
ZALV	**Zalesovo Beam**	**149.42**	**338**	PKP2		**PKPbc**	**19 56 17.6**	**-1.8**
ZALV	**Zalesovo Beam**	**149.42**	**338**	PKPdf		**PKPdf**	**19 56 12.7**	**-2.3**
ZALV				PKPbc		**PKPbc**	**19 56 17.6**	**-1.8**
VRH	**Novokhopyorsk**	**149.59**	**30**	*e*PKP2		**PKPbc**	**19 56 18.7**	**-1.2**
VRH					pmax	pmax		
	comp=Z,110nm,0.9s							
ANTO	**Ankara**	**149.75**	**56**		IAMs_20	IAMs_20	21 09 22.4	
	comp=Z,546nm,19.0s							
SVE	**Sverdlovsk**	**149.78**	**6**	*e*PKP2		**PKPbc**	**19 56 19.8**	**-0.4**
SVE					pmax	pmax		
	comp=Z,54nm,1.5s							
ARU	**Arti**	**149.95**	**8**	*i* PKHKP		**PKPdf**	**19 56 17.3**	**+1.5**
ARU				PPP		PPP	20 03 12.3	
ARU	**Arti**	**149.95**	**8**	PKPdf		**PKPdf**	**19 56 14.7**	**-1.1**
ARU				PKPbc		**sPKPdf**	**19 56 19.6**	**+0.4**
ARU					IAMs_20	IAMs_20	21 07 22.6	
	comp=Z,709nm,20.0s							
ILGA	**Ilgaz**	**150.09**	**53**			**PKPbc**	**19 56 20.7**	**-1.1**
BRTR	**Keskin Array B**	**150.42**	**56**	PKPbc		**PKPbc**	**19 56 21.1**	**-1.4**
	comp=Z,9.0nm,1.0s,baz=228,slow=1.5,SNR=20							
ANN	**Anapa**	**151.09**	**44**	*i* PKIKP		**PKPab**	**19 56 34.3**	**+2.9**
ANN					pmax	pmax		
	comp=Z,156nm,1.4s							
DGZ	**Jazzator, Alta**	**151.67**	**330**	*ce*PKIKP		**PKPdf**	**19 56 17.9**	**-1.0**
SOC	**Sochi**	**153.12**	**45**	*e*PKIKP		**PKPdf**	**19 56 20.0**	**-1.0**
SOC				*i*			19 56 26.9	
SOC				*e*			20 00 09.7	
SOC				*e*PPP		PPP	20 03 43.6	
SOC				*e*SS		SS	20 19 39.0	-7.7
SOC					pmax	pmax		
	comp=Z,15nm,1.1s							
SOC					pmax	pmax		
	comp=Z,8.0nm,0.7s							
BRVK	**Borovoye**	**153.55**	**354**	*ce*PKIKP		**PKPdf**	**19 56 20.7**	**-0.6**
BRVK	**Borovoye**	**153.55**	**354**	PKPdf		**PKPdf**	**19 56 20.4**	**-0.9**
BRVK				PKPbc		**PKPbc**	**19 56 27.9**	**-1.1**
BRVK				PKPab		**PKPab**	**19 56 39.3**	**-2.1**
BRVK	**Borovoye**	**153.55**	**354**		IAMs_20	IAMs_20	21 05 53.7	
	comp=Z,844nm,21.0s							
GAZ	**Gaziantep**	**153.81**	**60**		IAMs_20	IAMs_20	21 19 30.0	
	comp=Z,624nm,19.0s							
KURK	**Kurchatov**	**154.16**	**341**	⇓*e*PKIKP		**PKPdf**	**19 56 21.5**	**-0.7**
KURK	**Kurchatov**	**154.16**	**341**	PKPdf		**PKPdf**	**19 56 20.8**	**-1.4**
GOF	**Gofitskoye**	**154.29**	**39**	⇑*e*PKIKP		**PKPdf**	**19 56 24.7**	**+2.1**
ZSN	**Zaisan**	**154.47**	**329**	*e*PKP		**PKPdf**	**19 56 21.4**	**-1.5**
	comp=Z,1.8nm,1.0s,baz=329							
ZSN	**Zaisan**	**154.47**	**329**	*e*PKIKP		**PKPdf**	**19 56 21.3**	**-1.5**
ZSN					pmax	pmax		
	comp=Z,2.0nm,1.0s							
KIV	**Kislovodsk**	**154.74**	**41**	*e*PKIKP		**PKPdf**	**19 56 20.3**	**-3.1**
KIV				*e*			20 00 19.5	
KIV				*e*SS		SS	20 20 01.7	-2.6
KIV					pmax	pmax		
	comp=Z,28nm,1.1s							
KIV	**Kislovodsk**	**154.74**	**41**		IAMs_20	IAMs_20	21 07 23.0	
	comp=Z,528nm,19.0s							
KBZ	**Khabaz**	**154.99**	**42**	PKP		**PKPdf**	**19 56 22.0**	**-1.6**
	comp=Z,5.4nm,1.0s,baz=322,slow=0.2,SNR=5.6							
KBZ				PKPbc		**PKPbc**	**19 56 30.8**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=341,slow=4.1,SNR=5.0							
KBZ	**Khabaz**	**154.99**	**42**	*de*PKIKP		**PKPdf**	**19 56 25.2**	**+1.6**
WMQ	**Urumqi**	**155.41**	**319**	PKP		**PKPdf**	**19 56 25.4**	**+1.1**
WMQ				PKPab		**PKPab**	**19 56 50.6**	**+0.8**
WMQ				PP		**PP**	**20 00 24.9**	**-1.2**
WMQ				SKKS			20 07 16.6	
WMQ				AMB		AMB		
	comp=Z,140nm,7.1s							
WMQ				LR		LR		
	comp=Z,370nm,23.7s							
WMQ				LR		LR		
	comp=Z,420nm,23.7s							
WMQ				LR		LR		
	comp=Z,510nm,14.3s							
MKAR	**Makanchi Array**	**156.12**	**331**	PKP		**PKPdf**	**19 56 23.2**	**-1.9**
	comp=Z,2.4nm,1.0s,baz=29,slow=2.8,SNR=11							
MKAR				PKPab		**PKPab**	**19 56 52.3**	**-0.3**
	comp=Z,4.0nm,1.0s,baz=50,slow=3.2,SNR=4.5							
MKAR	**Makanchi Array**	**156.12**	**331**	PKIKP		**PKPdf**	**19 56 22.4**	**-2.7**
MKAR	**Makanchi Array**	**156.12**	**331**	PKPdf		**PKPdf**	**19 56 22.4**	**-2.7**
BRZS	**Berezniki**	**156.24**	**349**	*e*PKP		**PKPdf**	**19 56 23.2**	**-2.0**
	baz=349							
BRZS				LR		LR	21 07 13.3	
	comp=Z,198nm,16.5s,baz=349							
BRZS	**Berezniki**	**156.24**	**349**	*e*PKIKP		**PKPdf**	**19 56 23.1**	**-2.0**
MAKZ	**Makanchi**	**156.25**	**331**	PKIKP		**PKPdf**	**19 56 23.6**	**-1.6**
MAKZ				MLR		MLR		
	comp=Z,2μm,21.0s							
MAKZ	**Makanchi**	**156.25**	**331**			**PKPdf**	**19 56 23.6**	**-1.6**
SHL	**Shillong**	**156.48**	**273**	PKIKP		**PKPdf**	**19 56 25.5**	**-0.9**
SHL				MLR		MLR		
	comp=Z,1μm,22.0s							
SHL	**Shillong**	**156.48**	**273**	PKPdf		**PKPdf**	**19 56 25.5**	**-0.9**
SHL				PKPab		**PKPab**	**19 56 55.6**	**+0.5**
MARD	**Mardin**	**156.49**	**57**		IAMs_20	IAMs_20	21 18 15.7	
	comp=Z,778nm,21.0s							
AKH	**Akhalkalaki**	**156.63**	**46**	PKIKP		**PKPdf**	**19 56 25.2**	**-0.9**
AKH				MLR		MLR		
	comp=Z,800nm,22.0s							
AKH	**Akhalkalaki**	**156.63**	**46**	PKPdf		**PKPdf**	**19 56 25.2**	**-0.9**
AKH				IAMs_20		IAMs_20	21 20 23.2	
	comp=Z,757nm,22.0s							
ABKAR	**Akbulak array**	**157.14**	**10**	PKPdf		**PKPdf**	**19 56 25.6**	**-0.7**
GEVA	**Gevas**	**157.79**	**53**		IAMs_20	IAMs_20	21 21 50.8	
	comp=Z,723nm,20.0s							
MAK	**Makhachkala**	**158.11**	**38**	*e*PKIKP		**PKPdf**	**19 56 22.8**	**-4.9**
MAK				*e*			20 03 26.9	
MAK				*e*SS		SS	20 20 38.3	-1.8
MAK					pmax	pmax		
	comp=Z,122nm,1.5s							
TDK	**Taldyqorghan**	**159.17**	**334**	*e*PKP		**PKPdf**	**19 56 26.8**	**-2.2**
	comp=Z,3.0nm,0.6s,baz=334							
TDK	**Taldyqorghan**	**159.17**	**334**	*e*PKIKP		**PKPdf**	**19 56 26.7**	**-2.2**
TDK					pmax	pmax		
	comp=Z,3.0nm,0.6s							
SHLS	**Shalkode**	**160.21**	**329**	*e*PKP		**PKPdf**	**19 56 28.1**	**-2.3**
	baz=329							
SHLS				LR		LR	21 07 14.6	
	comp=Z,204nm,17.1s,baz=329							
SHLS	**Shalkode**	**160.21**	**329**	*e*PKIKP		**PKPdf**	**19 56 28.0**	**-2.3**
KPKS	**Kokpek**	**160.31**	**331**	*e*PKP		**PKPdf**	**19 56 28.3**	**-2.1**
	baz=331							
KPKS	**Kokpek**	**160.31**	**331**	*e*PKIKP		**PKPdf**	**19 56 28.3**	**-2.1**
UZB	**Uzynbulak**	**160.42**	**330**	*e*PKP		**PKPdf**	**19 56 28.3**	**-2.3**
	baz=330							
UZB	**Uzynbulak**	**160.42**	**330**	*e*PKIKP		**PKPdf**	**19 56 28.3**	**-2.3**
BTLS	**Baital**	**160.61**	**342**	*e*PKP		**PKPdf**	**19 56 28.5**	**-2.0**
	baz=342							
BTLS	**Baital**	**160.61**	**342**	*e*PKIKP		**PKPdf**	**19 56 28.5**	**-2.0**
KUU	**Kurty**	**160.90**	**336**	*e*PKP		**PKPdf**	**19 56 28.8**	**-2.1**
	comp=Z,1.5nm,0.9s,baz=336							
KUU				LR		LR	21 05 53.0	
	comp=Z,431nm,16.0s,baz=336							
KUU	**Kurty**	**160.90**	**336**	*e*PKIKP		**PKPdf**	**19 56 28.8**	**-2.1**
KUU					pmax	pmax		
	comp=Z,2.0nm,0.9s							
MDOK	**Medeo**	**161.25**	**333**	*e*PKP		**PKPdf**	**19 56 29.3**	**-2.2**
	baz=334							
MDOK	**Medeo**	**161.25**	**333**	*e*PKIKP		**PKPdf**	**19 56 29.3**	**-2.2**
AAA	**Alma-Ata**	**161.26**	**334**	*e*PKP		**PKPdf**	**19 56 29.9**	**-1.6**
	baz=334							
AAA	**Alma-Ata**	**161.26**	**334**	*e*PKIKP		**PKPdf**	**19 56 29.8**	**-1.6**
SGDS	**Sogindy**	**161.87**	**339**	*e*PKP		**PKPdf**	**19 56 30.4**	**-1.7**
	baz=339							
SGDS	**Sogindy**	**161.87**	**339**	*e*PKIKP		**PKPdf**	**19 56 30.3**	**-1.7**
AAK	**Ala-Archa**	**162.65**	**338**	PKP		**PKPdf**	**19 56 32.1**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=352,slow=7.1,SNR=2.2							
AAK				PKPab		**PKPab**	**19 57 19.1**	**-2.1**
	comp=Z,1.0nm,0.4s,baz=130,slow=3.5,SNR=1.6							
AAK	**Ala-Archa**	**162.65**	**338**	⇓*e*PKIKP		**PKPdf**	**19 56 33.9**	**+0.9**
AAK	**Ala-Archa**	**162.65**	**338**			**PKPdf**	**19 56 32.4**	**-0.6**
KKAR	**Karatay Array**	**163.27**	**348**	PKIKP		**PKPdf**	**19 56 33.1**	**-0.2**
KKAR							19 57 20.5	
KKAR	**Karatay Array**	**163.27**	**348**	PKPdf		**PKPdf**	**19 56 33.1**	**-0.2**
KKAR						**PKPab**	**19 57 20.5**	**-3.2**
IUG	**Iuzhnay**	**164.29**	**348**	*e*PKP		**PKPdf**	**19 56 31.9**	**-2.5**
	baz=348							
IUG	**Iuzhnay**	**164.29**	**348**	*e*PKIKP		**PKPdf**	**19 56 31.9**	**-2.5**
GEYT	**Alibeck**	**167.19**	**28**	PKP		**PKPdf**	**19 56 36.0**	**-0.8**
	comp=Z,3.7nm,1.0s,baz=267,slow=3.0,SNR=6.5							
GEYT				PKPab		**PKPab**	**19 57 40.2**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=236,slow=10,SNR=1.5							
GEYT				PP		**PP**	**20 01 29.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=8.9,slow=10,SNR=4.0							
GAR	**Garm**	**167.24**	**344**			**PKPdf**	**19 56 35.8**	**-1.2**
GAR				PKPab		**PKPab**	**19 57 39.1**	**-2.3**

*IDC **05** 19:42:22.2±19.0, 21°.62S×178°.02W, h398km±170km, mb3.3/6, mb1 3.4/6, mb1mx3.1/39, mbtmp4.1/6, Error ellipse: s-maj=119.2km s-min=38.2km az=119.0*
ISC 05 19:42:24.2±1.9, 21°.55±0°.5×178°.1W±0°.3, h412km, n12, σ0°78/11, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.29**	**266**	P	**P**	**19 48 26.0**	**+0.4**
	1.4nm,0.5s,baz=86,slow=4.1,SNR=1.5						
ASAR	**Alice Springs**	**44.18**	**258**	P	**P**	**19 49 55.0**	**+0.2**
	1.2nm,0.7s,baz=91,slow=8.3,SNR=14						
JAY	**Jayapura**	**44.27**	**290**	P	**P**	**19 49 55.9**	**+0.3**
	6.2nm,0.5s,baz=124,slow=3.9,SNR=7.4						
WRA	**Warramunga Arr**	**44.36**	**263**	P	**P**	**19 49 54.9**	**-1.3**
	0.5nm,0.6s,baz=96,slow=7.5,SNR=19						
PETK	**Petropavlovsk-**	**77.22**	**345**	P	**P**	**19 53 33.9**	**0.0**
	1.3nm,0.6s,baz=122,slow=7.2,SNR=4.7						
ILAR	**Eielson Array**	**89.33**	**13**	P	**P**	**19 54 34.5**	**-0.1**
	0.4nm,0.4s,baz=212,slow=5.0,SNR=5.9						
BVAR	**Borovoye Array**	**119.78**	**320**	PKP	**PKPdf**	**20 00 26.3**	**+0.3**
	0.9nm,0.3s,baz=141,slow=2.9,SNR=9.9						
ARU	**Arti**	**125.97**	**325**	PKP	**PKiKP**	**20 00 38.6**	**+0.4**
	0.8nm,0.4s,baz=332,slow=5.0,SNR=6.3						
ARCES	**ARCESS Array B**	**129.90**	**349**	PKP	**PKPdf**	**20 00 45.2**	**+0.3**
	2.8nm,1.1s,baz=23,slow=3.0,SNR=4.2						
NOA	**NORSAR Array B**	**139.97**	**353**	PKP	**PKPdf**	**20 01 04.6**	**+0.7**
	0.4nm,0.8s,baz=35,slow=1.5,SNR=2.1						
AKASG	**Malin Array Be**	**143.84**	**330**	PKP	PKPbc	20 01 08.8	-0.9
	0.4nm,0.3s,baz=38,slow=4.3,SNR=11						
GERES	**GERESS Array B**	**151.14**	**344**	PKPbc	**PKPbc**	**20 01 28.1**	**-1.5**
	0.4nm,0.5s,baz=28,slow=3.2,SNR=5.3						

*NEIC **05** 19:48:29.6±0.9, 19°.00N±0°.07×66°.78W±0°.03, h30km±12km, Error ellipse: s-maj=10.4km s-min=3.1km az=168.0*
*RSPR **05** 19:48:29.9, 19°.10N×66°.78W, h29km±12km, MD2.9/16*
ISC 05 19:48:29.3±1.3, 19°.02N±0°.06×66°.75W±0°.03, h29km, n54, σ0°46/68, 9C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.58**	**159**	⇑*e*P	**Pn**	**19 48 41.9**	**+0.4**
EMPR	**Esperanza - Ma**	**0.58**	**159**	*e*S	**Sn**	**19 48 50.9**	**+0.8**
EMPR	**Esperanza - Ma**	**0.58**	**159**		**Pn**	**19 48 41.9**	**+0.4**
EMPR					**Sn**	**19 48 50.9**	**+0.8**
AGPR	**Aguadilla, PR**	**0.64**	**212**	⇑*e*P	**Pb**	**19 48 41.5**	**-0.6**
AGPR	**Aguadilla, PR**	**0.64**	**212**	*e*S	**Sn**	**19 48 51.1**	**-0.6**
AGPR	**Aguadilla, PR**	**0.64**	**212**		**Pb**	**19 48 41.5**	**-0.6**
AGPR					**Sn**	**19 48 51.1**	**-0.6**
AOPR	**Arecibo Observ**	**0.67**	**180**	⇓*e*P	**Pb**	**19 48 42.5**	**+0.1**
AOPR	**Arecibo Observ**	**0.67**	**180**	*e*S	**Sn**	**19 48 52.3**	**0.0**
AOPR	**Arecibo Observ**	**0.67**	**180**		**Pb**	**19 48 42.5**	**+0.1**
AOPR					**Sn**	**19 48 52.3**	**0.0**
MPR	**Mayaguez**	**0.88**	**205**		**Pn**	**19 48 45.1**	**-0.6**
LSP	**Las Mesas**	**0.89**	**201**	⇓*e*P	**Pn**	**19 48 45.6**	**-0.4**
LSP	**Las Mesas**	**0.89**	**201**	*e*S	**Sn**	**19 48 57.9**	**-0.1**
LSP	**Las Mesas**	**0.89**	**201**		**Pn**	**19 48 45.6**	**-0.4**
LSP					**Sn**	**19 48 57.9**	**-0.1**
GCPR	**Guaynabo City**	**0.95**	**138**	⇓*e*P	**Pb**	**19 48 47.2**	**+0.1**
GCPR	**Guaynabo City**	**0.95**	**138**	*e*S	**Sn**	**19 48 59.2**	**+0.1**
GCPR	**Guaynabo City**	**0.95**	**138**		**Pb**	**19 48 47.2**	**+0.1**
GCPR					**Sn**	**19 48 59.2**	**+0.1**
CELP	**Cerrillos**	**0.95**	**170**	⇑*e*P	**Pb**	**19 48 47.2**	**+0.1**
CELP	**Cerrillos**	**0.95**	**170**	*e*S	**Sb**	**19 48 59.5**	**0.0**
CELP	**Cerrillos**	**0.95**	**170**		**Pb**	**19 48 47.2**	**+0.1**
CELP					**Sb**	**19 48 59.5**	**0.0**
OBIP	**Obispado Ponce**	**0.98**	**172**	⇑*e*P	**Pn**	**19 48 46.6**	**-0.5**
OBIP	**Obispado Ponce**	**0.98**	**172**	*e*S	**Sn**	**19 48 59.6**	**-0.4**
OBIP	**Obispado Ponce**	**0.98**	**172**		**Pn**	**19 48 46.6**	**-0.5**
OBIP					**Sn**	**19 48 59.6**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.04**	**187**	⇓*e*P	**Pn**	**19 48 48.3**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.04**	**187**	*e*S	**Sb**	**19 49 02.4**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.04**	**187**		**Pn**	**19 48 48.3**	**+0.3**
GBPR					**Sb**	**19 49 02.4**	**+0.4**
MLPR	**Magueyes Islan**	**1.08**	**195**	⇑*e*P	**Pn**	**19 48 48.4**	**0.0**
MLPR	**Magueyes

SLTI	**Sal'it**	**7.48**	**106**	Sn	**Sn**	**20 03 33.2**	**-1.5**
HFRF	**Wahat Farafira**	**7.53**	**168**	P	**Pn**	**20 02 13.1**	**+1.7**
	baz=168						
HFRF				AMP		20 03 00.0	
	baz=168						
KZIT	**Kziot**	**7.56**	**117**	Pn	**Pn**	**20 02 14.1**	**+2.3**
KZIT				Sn	**Sn**	**20 03 34.0**	**-2.6**
AMAZ	**Amatzia**	**7.66**	**111**	Pn	**Pn**	**20 02 15.6**	**+2.5**
AMAZ				Sn	**Sn**	**20 03 36.2**	**-2.9**
NATI	**Neve Ativ**	**7.76**	**97**	Pn	Pn	20 02 17.3	+2.7
NATI				Sn	**Sn**	**20 03 39.9**	**-1.7**
YTIR	**Yattir**	**7.88**	**111**	Pn	**Pn**	**20 02 17.6**	**+1.3**
YTIR				Sn	**Sn**	**20 03 42.3**	**-2.5**
DSI	**Dead Sea**	**8.00**	**109**	Pn	**Pn**	**20 02 19.3**	**+1.4**
DSI				Sn	**Sn**	**20 03 45.6**	**-1.9**
KRMI	**Paran Flat**	**8.22**	**120**	Sn	**Sn**	**20 03 49.3**	**-3.7**
PRNI	**Paran**	**8.29**	**118**	Pn	**Pn**	**20 02 24.6**	**+2.7**
PRNI				Sn	**Sn**	**20 03 52.0**	**-2.8**
HRFI	**Mount Harif**	**8.49**	**120**	Pn	**Pn**	**20 02 26.5**	**+1.9**
HRFI				Sn	**Sn**	**20 03 57.2**	**-2.4**
MBRI	**Mt Berech**	**8.54**	**121**	Pn	**Pn**	**20 02 28.0**	**+2.7**
MBRI				Sn	**Sn**	**20 03 59.2**	**-1.7**

*KRNET **05** 20:00:40.4±0.1, 39°.72N×72°.21E, h10km, mb4.2*
*IDC **05** 20:00:40.6±1.0, 39°.70N×72°.44E, h0km, mb3.6/6, mb1 3.6/12, mb1mx3.4/52, mbtmp3.5/12, ML3.0/6, MS3.5/1, Ms1 3.7/1, ms1mx2.6/47, Error ellipse: s-maj=19.0km s-min=14.9km az=121.0*
*ISU **05** 20:00:41.0, 39°.80N×72°.10E, h5km*
*SOME **05** 20:00:43.7, 39°.78N×72°.52E, h10km*
*NNC **05** 20:00:45.0±1.4, 39°.94N×72°.31E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=11.8km s-min=5.2km az=2.0*

ISC 05 20:00:41.5±1.3, **39°.55N**±0°.04×**72°.13E**±0°.02, **h11**km±9km, **n80**, σ2°**14**/115, **mb3.5**/6, **16C-20D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.10**	**27**	⇓*i*P	Pb	20 00 57.9	-4.7
	baz=29						
OHH				⇓*i*S	**Sb**	**20 01 10.9**	**-6.0**
	baz=29						
OHH	**Osh**	**1.10**	**27**	*e*P	Pb	20 00 57.7	-4.9
OHH				*e*S	**Sb**	**20 01 10.6**	**-6.3**
BTK	**Batken**	**1.13**	**297**	⇓*i*P	**Pb**	**20 01 02.0**	**-1.2**
	baz=88						
BTK				⇓*i*S	**Sn**	**20 01 17.6**	**-1.5**
	baz=88						
BTK	**Batken**	**1.13**	**297**	*i*P	**Pb**	**20 01 01.6**	**-1.6**
BTK				*i*S	**Sg**	**20 01 17.0**	**-1.1**
FRG	**Fergana**	**1.22**	**347**	*e*P	Pn	20 00 56.0	-8.5
FRG				*e*S	Sb	20 01 06.1	-14
GAR	**Garm**	**1.51**	**249**	⇑*i*P	**Pg**	**20 01 11.1**	**+0.5**
	baz=44						
GAR				⇑*i*S	**Sg**	**20 01 34.1**	**+3.9**
	baz=44						
ARK	**Arkit**	**2.25**	**357**	⇑*i*P	**Pn**	**20 01 18.9**	**0.0**
	baz=55						
ARK				⇑*i*S	**Sn**	**20 01 46.6**	**-0.1**
	baz=55						
ARK	**Arkit**	**2.25**	**357**	*e*P	**Pn**	**20 01 19.9**	**+1.0**
ARK				*e*S	**Sn**	**20 01 46.6**	**-0.1**
CHGR	**Chuyangaron**	**2.48**	**250**	⇓*e*P	**Pb**	**20 01 25.5**	**-0.7**
	baz=47						
CHGR				⇓*i*S	**Sg**	**20 01 58.9**	**-2.3**
	baz=47						
CHMG	**Chimgan**	**2.57**	**322**	*e*P	**Pb**	**20 01 27.8**	**0.0**
CHMG				*e*S	**Sb**	**20 02 00.8**	**+1.3**
TAS	**Tashkent**	**2.80**	**310**	⇑*i*P	**Pn**	**20 01 27.8**	**+1.5**
	baz=7.0						
TAS				⇑*i*S	**Sb**	**20 02 02.6**	**-3.3**
	baz=7.0						
TAS	**Tashkent**	**2.80**	**310**	*e*P	**Pb**	**20 01 32.1**	**+0.5**
TAS				*e*S	**Sg**	**20 02 10.1**	**-1.4**
AML	**Almayashu**	**2.84**	**24**	⇓*i*P	**Pn**	**20 01 27.0**	**-0.2**
	baz=25						
AML				⇓*i*S	**Sn**	**20 02 01.4**	**-0.2**
	baz=25						
AML	**Almayashu**	**2.84**	**24**	P	**Pn**	**20 01 27.4**	**+0.2**
	SNR=133						
ARLS	**Aral**	**2.85**	**35**	⇓*i*P	**Pn**	**20 01 27.0**	**-0.1**
	baz=36						
ARLS				⇓*i*S	**Sn**	**20 02 01.3**	**-0.2**
	baz=36						
IUG	**Iuzhnay**	**3.05**	**329**	*e*P	**Pb**	**20 01 36.1**	**+0.3**
	78nm,0.4s						
IUG				*e*S	**Sb**	**20 02 14.2**	**+1.1**
	496nm,0.3s						
IUG	**Iuzhnay**	**3.05**	**329**	Pg	**Pb**	**20 01 36.2**	**+0.3**
	78nm,0.4s						
IUG				Lg	Lg	20 02 14.1	
	496nm,0.3s						
MRKS	**Merke**	**3.30**	**14**	*e*P	**Pn**	**20 01 36.8**	**+3.5**
	97nm,0.2s						
MRKS				*e*S	**Sn**	**20 02 14.9**	**+2.4**
	117nm,0.3s						
MRKS	**Merke**	**3.30**	**14**	Pg	**Pn**	**20 01 36.2**	**+3.0**
	99nm,0.3s						
EKS2	**Erkin-Say**	**3.35**	**21**	⇑*i*P	**Pn**	**20 01 33.7**	**-0.3**
	baz=21						
EKS2				⇑*i*S	**Sn**	**20 02 12.7**	**-1.1**
	baz=21						
EKS2	**Erkin-Say**	**3.35**	**21**	P	**Pn**	**20 01 35.0**	**+1.0**
	SNR=34						
CHM	**Chimkent**	**3.37**	**326**	*e*P	**Pg**	**20 01 48.3**	**+2.2**
	2.2nm,0.4s						
CHM				*e*S	**Sg**	**20 02 36.1**	**+6.5**
	1μm,0.5s						
DZA	**Taraz**	**3.40**	**350**	*e*P	**Pb**	**20 01 40.7**	**-1.1**
	158nm,0.3s						
DZA				*e*S	**Sb**	**20 02 22.3**	**-0.7**
	499nm,0.3s						
KZA	**Kyzart**	**3.46**	**42**	⇓*i*P	**Pn**	**20 01 35.7**	**-0.1**
	baz=43						
KZA				⇓*i*S	**Sn**	**20 02 15.6**	**-1.4**
	baz=43						
KZA	**Kyzart**	**3.46**	**42**	P	**Pn**	**20 01 36.4**	**+0.6**
	SNR=19						
AAK	**Ala-Archa**	**3.56**	**29**	Pn	**Pn**	**20 01 37.7**	**+0.7**
	7.5nm,0.3s,baz=179,slow=4.6,SNR=28						
AAK				Sn	**Sn**	**20 02 23.8**	**+4.6**
	16nm,0.3s,baz=335,slow=21,SNR=19						
AAK	**Ala-Archa**	**3.56**	**29**	⇑*e*P	**Pn**	**20 01 36.1**	**-0.9**
	baz=30						
AAK				⇑*i*S	**Sn**	**20 02 17.2**	**-2.0**
	baz=30						
AAK	**Ala-Archa**	**3.56**	**29**	P	**Pn**	**20 01 37.7**	**+0.7**
	SNR=18						
AAK	**Ala-Archa**	**3.56**	**29**	⇑Pn	**Pn**	**20 01 37.6**	**+0.6**
	13nm,0.5s						
AAK				Pg	**Pb**	**20 01 43.5**	**-1.2**
	30nm,0.3s						
AAK				Lg	Lg	20 02 23.3	
	195nm,0.7s						
KK31	**Karatay Array**	**3.76**	**342**	Pn	**Pn**	**20 01 40.1**	**+0.7**
	2.0nm,0.3s,baz=147,slow=14,SNR=102						
KK31				Pg	**Pb**	**20 01 49.9**	**+2.0**
	14nm,0.3s,baz=151,slow=16,SNR=9.0						
KK31				Lg	Lg	20 02 34.9	
	20nm,0.3s,baz=152,slow=30,SNR=8.7						
KBK	**Karagaybulak**	**3.76**	**34**	⇑*i*P	**Pn**	**20 01 39.0**	**-0.7**
	baz=34						
KBK				⇑*i*S	**Sn**	**20 02 22.1**	**-2.0**
	baz=34						
KBK	**Karagaybulak**	**3.76**	**34**	P	**Pb**	**20 01 48.3**	**+0.2**
	SNR=7.0						
BRLS	**Borolday**	**3.88**	**334**	*e*P	**Pb**	**20 01 48.3**	**-1.8**
	13nm,0.2s						
BRLS				*e*S	**Sb**	**20 02 34.8**	**-2.3**
	93nm,0.3s						
BRLS	**Borolday**	**3.88**	**334**	Pg	**Pb**	**20 01 48.3**	**-1.8**
	13nm,0.2s						
BRLS				Lg	Lg	20 02 34.8	
	93nm,0.3s						
CHMS	**Chumysh**	**3.97**	**29**	P	**Pn**	**20 01 43.5**	**+1.0**
	SNR=42						
BOOM	**Boomskoye usch**	**4.12**	**43**	⇓*e*P	**Pn**	**20 01 44.9**	**+0.4**
	baz=44						
BOOM				⇓*i*S	**Sn**	**20 02 31.6**	**-1.2**
	baz=44						
ULHL	**Ulahol**	**4.12**	**48**	P	**Pn**	**20 01 45.0**	**+0.4**
	SNR=24						
USP	**Ospenovka**	**4.12**	**25**	P	**Pn**	**20 01 45.2**	**+0.7**
	SNR=17						
TKM2	**Tokmak 2**	**4.26**	**37**	P	**Pn**	**20 01 47.0**	**+0.4**
	SNR=11						
TKM2	**Tokmak 2**	**4.26**	**37**	⇓Pn	**Pn**	**20 01 46.4**	**-0.2**
	3.0nm,0.3s						
TKM2				Pg	**Pb**	**20 01 55.3**	**-1.3**
	14nm,0.3s						
TKM2				Lg	Lg	20 02 50.1	
	22nm,0.5s						
KST	**Kastek**	**4.53**	**38**	*e*P	**Pb**	**20 02 00.5**	**-0.7**
	22nm,0.5s						
KST				*e*S	**Sb**	**20 02 57.0**	**+1.2**
	33nm,0.8s						
KDJ	**Kajisay**	**4.62**	**54**	⇑*i*P	**Pn**	**20 01 52.9**	**+1.5**
	baz=56						
KDJ				⇑*i*S	**Sn**	**20 02 44.0**	**-1.1**
	baz=56						
MTBS	**Maitube**	**4.82**	**41**	*e*P	**Pb**	**20 02 07.0**	**+1.0**
	40nm,0.6s						
MTBS				*e*S	**Sb**	**20 03 07.2**	**+3.0**
	28nm,0.5s						
MTBS	**Maitube**	**4.82**	**41**	Pg	**Pb**	**20 02 07.1**	**+1.0**
	40nm,0.6s						
MTBS				Lg	Lg	20 03 07.2	
	28nm,0.5s						
KRBS	**Karabastau**	**4.92**	**31**	*e*P	**Pb**	**20 02 07.5**	**-0.2**
	30nm,0.4s						
KRBS				*e*S	**Sb**	**20 03 08.7**	**+1.7**
	17nm,0.6s						
KRBS	**Karabastau**	**4.92**	**31**	Pg	**Pb**	**20 02 07.6**	**-0.2**
	30nm,0.4s						
KRBS				Lg	Lg	20 03 08.7	
	17nm,0.6s						
AAA	**Alma-Ata**	**5.13**	**43**	*e*P	**Pb**	**20 02 13.6**	**+2.3**
	32nm,0.4s						
AAA				*e*S	**Sb**	**20 03 18.8**	**+5.8**
	53nm,0.6s						
AAA	**Alma-Ata**	**5.13**	**43**	Pg	**Pb**	**20 02 13.6**	**+2.3**
	32nm,0.4s						
AAA				Lg	Lg	20 03 18.8	
	53nm,0.6s						
KNDC	**Almaty**	**5.16**	**43**	Pg	**Pb**	**20 02 13.4**	**+1.5**
KNDC				Lg	Lg	20 03 18.4	
MDOK	**Medeo**	**5.17**	**44**	*e*P	**Pb**	**20 02 12.7**	**+0.6**
	30nm,0.6s						
MDOK				*e*S	**Sb**	**20 03 17.4**	**+3.2**
	29nm,0.6s						
MDOK	**Medeo**	**5.17**	**44**	Pg	**Pb**	**20 02 11.8**	**-0.3**
	30nm,0.6s						
MDOK				Lg	Lg	20 03 15.7	
	29nm,0.6s						
KOTS	**Kotyrbulak**	**5.25**	**44**	*e*P	**Pb**	**20 02 14.0**	**+0.6**
KOTS				*e*S	**Sb**	**20 03 21.1**	**+4.5**
KOTS	**Kotyrbulak**	**5.25**	**44**	Pg	**Pb**	**20 02 14.0**	**+0.6**
	60nm,0.4s						
KOTS				Lg	Lg	20 03 21.1	
	103nm,0.5s						
ANVS	**Anan'yevo**	**5.28**	**50**	⇓*i*P	**Pn**	**20 02 00.9**	**+0.3**
	baz=52						
ANVS				⇓*i*S	**Sn**	**20 03 00.0**	**-1.5**
	baz=52						
KUU	**Kurty**	**5.36**	**35**	*e*P	**Pb**	**20 02 15.3**	**+0.1**
	17nm,0.4s						
KUU				*e*S	**Sb**	**20 03 20.9**	**+1.3**
	37nm,0.9s						
KUU	**Kurty**	**5.36**	**35**	Pg	**Pb**	**20 02 14.7**	**-0.5**
	17nm,0.4s						
KUU				Lg	Lg	20 03 20.9	
	37nm,0.9s						
KTBS	**Karatobe**	**5.38**	**38**	Pg	**Pb**	**20 02 16.1**	**+0.5**
	14nm,0.5s						
KTBS				Lg	Lg	20 03 24.2	
PRZ	**Przheval'sk**	**5.57**	**56**	⇓*i*P	**Pn**	**20 02 04.8**	**+0.2**
	baz=58						
PRZ				⇓*i*S	**Sn**	**20 03 08.1**	**-0.6**
	baz=58						
CHKK	**Chushkaly**	**5.63**	**39**	*e*P	**Pb**	**20 02 20.6**	**+0.8**
	4.4nm,0.5s						
CHKK				*e*S	**Sb**	**20 03 32.3**	**+4.9**
	14nm,0.6s						
CHKK	**Chushkaly**	**5.63**	**39**	Pg	**Pb**	**20 02 20.9**	**+1.1**
	9.4nm,0.5s						
CHKK				Lg	Lg	20 03 32.0	
	23nm,0.3s						
SATY	**Saty**	**5.88**	**51**	Pg	**Pb**	**20 02 24.8**	**+0.6**
	15nm,0.6s						
SATY				Lg	Lg	20 03 39.7	
	52nm,0.9s						
UZB	**Uzynbulak**	**6.31**	**53**	Pg	**Pb**	**20 02 31.6**	**+0.1**
	6.9nm,0.5s						
UZB				Lg	Lg	20 03 51.5	
	11nm,0.5s						
MNBS	**Baschi**	**6.51**	**44**	Pg	**Pb**	**20 02 38.4**	**+3.5**
	9.7nm,0.5s						
MNBS				Lg	Lg	20 04 02.7	
	30nm,0.7s						
SHLS	**Shalkode**	**6.59**	**54**	Pg	**Pg**	**20 02 44.2**	**-3.5**
	16nm,0.5s						
PDGK	**Podgornoye**	**6.70**	**53**	Pg	**Pb**	**20 02 41.2**	**+3.1**
	4.0nm,0.6s						
PDGK				Lg	Lg	20 04 06.6	
	9.7nm,0.9s						
PDGK	**Podgornoye**	**6.70**	**53**	⇑Pn	**Pn**	**20 02 20.0**	**+0.1**
	5.8nm,0.7s						
PDGK				⇓Pg	**Pb**	**20 02 36.9**	**-1.2**
	8.1nm,0.7s						
PDGK				Lg	Lg	20 04 06.5	
	30nm,1.0s						
MKAR	**Makanchi Array**	**10.36**	**42**	Pn	**Pn**	**20 03 07.3**	**-2.8**
	0.1nm,0.3s,baz=224,slow=15,SNR=2.3						
MKAR				Lg	Lg	20 05 59.7	
	0.1nm,0.3s,baz=229,slow=26,SNR=2.8						
GEYT	**Alibeck**	**11.07**	**266**	Sn	**Sn**	**20 05 25.9**	**+2.3**
	0.3nm,0.3s,baz=96,slow=13,SNR=2.5						
KURBB	**Kurchatov Arra**	**11.96**	**20**	Pn	**Pn**	**20 03 28.5**	**-3.3**
	0.1nm,0.3s,baz=216,slow=12,SNR=6.4						
KURBB				Lg	Lg	20 06 53.0	
	0.1nm,0.3s,baz=202,slow=31,SNR=4.9						
AB31	**Akbulak array**	**13.03**	**322**	P	**Pn**	**20 03 43.9**	**-2.6**
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**13.53**	**355**	Pn	**Pn**	**20 03 49.9**	**-3.5**
	0.2nm,0.3s,baz=162,slow=9.5,SNR=5.1						
BVAR				Lg	Lg	20 07 50.3	
	0.2nm,0.3s,baz=166,slow=25,SNR=3.4						
AKTO	**Aktyubinsk**	**14.74**	**322**	Pn	**Pn**	**20 04 06.6**	**-3.4**
	0.1nm,0.3s,baz=111,slow=14,SNR=2.3						
AKTO				Sn	Sn	20 06 43.3	-10
	0.1nm,0.3s,baz=49,slow=11,SNR=1.9						
ZALV	**Zalesovo Beam**	**16.78**	**27**	Pn	**Pn**	**20 04 32.2**	**-4.2**
	0.1nm,0.3s,baz=233,slow=12,SNR=1.5						
CMAR	**Chiang Mai Arr**	**31.29**	**124**	LR	LR	20 22 10.1	
	comp=Z,90nm,21.9s,baz=160,slow=41						
FINES	**FINESS Array B**	**35.51**	**323**	P	**P**	**20 07 38.2**	**+0.1**
	1.8nm,1.0s,baz=111,slow=11,SNR=2.7						
ARCES	**ARCESS Array B**	**38.70**	**336**	P	**P**	**20 08 05.8**	**+0.7**
	0.8nm,0.7s,baz=116,slow=10,SNR=1.2						
TORD	**Torodi Ar. Bea**	**66.70**	**268**	P	**P**	**20 11 36.1**	**+3.3**
	0.8nm,0.7s,baz=53,slow=6.5,SNR=3.4						
ILAR	**Eielson Array**	**71.61**	**17**	P	**P**	**20 12 02.6**	**+0.1**
	0.4nm,0.8s,baz=330,slow=5.2,SNR=3.5						
WRA	**Warramunga Arr**	**82.87**	**123**	P	**P**	**20 13 05.4**	**-0.9**
	0.2nm,0.6s,baz=326,slow=5.2,SNR=5.4						
ASAR	**Alice Springs**	**85.29**	**126**	P	**P**	**20 13 18.9**	**+0.4**
	0.3nm,0.9s,baz=328,slow=6.6,SNR=3.8						

*IDC **05** 20:35:29.0±0.8, 62°.48S×59°.48W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/23, mbtmp4.1/9, ML4.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.4/21, Error ellipse: s-maj=38.2km s-min=18.6km az=94.0*
*NEIC **05** 20:35:32.5±1.9, 62°.69S±0°.07×59°.7W±0°.2, h15km±4km, mb4.8/28, Error ellipse: s-maj=14.4km s-min=9.6km az=104.0*

ISC 05 20:35:31.7±0.5, **62°.63S**±0°.06×**59°.70W**±0°.08, **h10**km, **n61**, σ1°**38**/56, **mb4.7**/21, **2C-1D, South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**2.90**	**220**	Pn	**Pn**	**20 36 18.5**	**+0.7**
	54nm,0.3s,baz=34,slow=12,SNR=203						
PMSA				Sn	**Sn**	**20 36 53.6**	**+1.1**
	63nm,0.3s,baz=102,slow=13,SNR=3.6						
PMSA				LR	LR	20 37 36.8	
	comp=Z,701nm,19.9s,baz=179,slow=42						
PMSA	**Palmer Station**	**2.90**	**220**		**Pn**	**20 36 15.3**	**-2.4**
USHA	**Ushuaia**	**9.04**	**326**	Pn	**Pn**	**20 37 42.6**	**+0.6**
	0.9nm,0.3s,baz=91,slow=0.6,SNR=2.0						
EFI	**East Falkland**	**11.02**	**5**	Pn	**Pn**	**20 38 11.3**	**+2.1**
GO09	**Cerro Castillo**	**13.28**	**323**	Pn	**Pn**	**20 38 40.9**	**+0.9**
HOPE	**Hope Point**	**14.67**	**66**		**Pn**	**20 38 59.1**	**+0.2**
BELA	**Belgrano 2**	**17.21**	**162**	P	**Pn**	**20 39 32.1**	**+0.4**
VNA3	**Neumayer Olymp**	**20.75**	**136**	P	**P**	**20 40 12.8**	**+0.7**
VNA1	**Neumayer--Stat**	**21.23**	**134**	P	**P**	**20 40 19.0**	**+1.8**
VNA2	**Neumayer--Watz**	**21.50**	**135**	P	**P**	**20 40 21.1**	**+1.0**
LL01	**San Ignacio de**	**21.63**	**334**	P	**P**	**20 40 22.2**	**+0.5**
PLCA	**Paso Flores**	**22.88**	**338**	P	**P**	**20 40 32.6**	**-2.5**
	3.0nm,0.7s,baz=171,slow=9.6,SNR=12						
PLCA	**Paso Flores**	**22.88**	**338**	P	**P**	**20 40 33.2**	**-1.9**
SNAA	**Sanae**	**22.90**	**137**	P	**P**	**20 40 35.3**	**+0.1**
SNAA	**Sanae**	**22.90**	**137**	P	**P**	**20 40 35.3**	**+0.1**
LC01	**Cunco**	**24.89**	**337**	P	**P**	**20 40 53.6**	**-0.8**
LC01				IAmb	IAmb	20 40 56.6	
	comp=Z,6.8nm,0.7s						
QSPA	**South Pole Qui**	**27.59**	**180**	P	**P**	**20 41 18.4**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=155,slow=4.0,SNR=14						
QSPA	**South Pole Qui**	**27.59**	**180**	P	**P**	**20 41 18.4**	**-0.4**
GO05	**Huala**	**28.69**	**339**	P	**P**	**20 41 28.5**	**-0.1**
GO05				IAmb	IAmb	20 41 56.1	
	comp=Z,28nm,1.2s						
BO02	**Sierra Bellavi**	**28.72**	**341**	P	**P**	**20 41 31.0**	**+2.1**
BO02				IAmb	IAmb	20 41 34.1	
	comp=Z,11nm,0.8s						
MT02	**Curacav**	**30.28**	**341**	P	**P**	**20 41 43.9**	**+1.3**
MT02				IAmb	IAmb	20 41 54.8	
	comp=Z,23nm,1.2s						
ROC1	**El Roble**	**30.54**	**341**	P	**P**	**20 41 46.6**	**+1.4**
VA03	**San Esteban**	**30.68**	**342**	P	**P**	**20 41 47.5**	**+1.3**
CO02	**Combarbal**	**32.27**	**342**	P	**P**	**20 42 01.1**	**+0.7**
CO03	**El Pedregal**	**32.59**	**342**	P	**P**	**20 42 03.5**	**+0.4**
CO03				IAmb	IAmb	20 42 04.6	
	comp=Z,11nm,0.7s						
GO04	**Tololo Observa**	**33.26**	**342**	P	**P**	**20 42 09.4**	**+0.3**
GO04				IAmb	IAmb	20 42 16.8	
	comp=Z,24nm,1.1s						
CO01	**Juntas del Tor**	**33.35**	**343**	P	**P**	**20 42 11.3**	**+1.3**
CO01				IAmb	IAmb	20 42 12.4	
	comp=Z,27nm,1.6s						
LCO	**Las Campanas**	**34.39**	**343**	P	**P**	**20 42 19.5**	**+0.5**
LCO				IAmb	IAmb	20 42 20.5	
	comp=Z,16nm,1.2s						
AC05	**El Transito**	**34.50**	**343**	P	**P**	**20 42 19.8**	**-0.1**
AC05				IAmb	IAmb	20 42 32.5	
	comp=Z,8.7nm,0.8s						
CPUP	**Villa Florida**	**36.33**	**4**	P	**P**	**20 42 33.3**	**-2.1**
	comp=Z,1.6nm,0.8s,baz=153,slow=18,SNR=1.5						
CPUP	**Villa Florida**	**36.33**	**4**	P	**P**	**20 42 35.4**	**0.0**
CPUP				IAmb	IAmb	20 43 05.6	
	comp=Z,20nm,1.6s						
AC02	**Maricunga**	**36.34**	**346**	P	**P**	**20 42 36.9**	**+0.9**
SYO	**Syowa Base**	**36.84**	**144**	⇑*e*P	**P**	**20 42 38.4**	**-0.9**
SYO	**Syowa Base**	**36.84**	**144**	⇓*e*pP	**P**	**20 42 40.6**	**+1.3**
SYO	**Syowa Base**	**36.84**	**144**	⇑*e*sP	sP	20 42 43.0	-0.4
VNDA	**Vanda**	**37.78**	**194**	P	**P**	**20 42 47.9**	**+0.6**
	comp=Z,1.0nm,1.1s,baz=183,slow=5.7,SNR=3.2						
GO02	**Mina Guanaco**	**38.04**	**345**	P	**P**	**20 42 51.9**	**+1.6**
GO02				IAmb	IAmb	20 43 09.5	
	comp=Z,31nm,1.4s						
PB10	**IPOC Station P**	**39.78**	**344**	P	**P**	**20 43 05.8**	**+1.2**
PB10				IAmb	IAmb	20 43 05.8	
	comp=Z,34nm,0.9s						
PB06	**IPOC Station P**	**40.47**	**346**	P	**P**	**20 43 11.3**	**+0.9**
PB06				IAmb	IAmb	20 43 14.2	
	comp=Z,16nm,0.9s						
MAW	**Mawson**	**43.63**	**152**	P	**P**	**20 43 35.2**	**-0.4**
	comp=Z,0.9nm,0.2s,baz=202,slow=11,SNR=1.8						
MAW	**Mawson**	**43.63**	**152**	P	**P**	**20 43 34.7**	**-0.8**
PB16	**IPOC Station P**	**44.78**	**347**	P	**P**	**20 43 47.4**	**+1.4**
PB16				IAmb	IAmb	20 43 59.1	
	comp=Z,22nm,1.6s						
SIV	**San Ignacio**	**46.59**	**358**	LR	LR	21 03 39.1	
	comp=Z,263nm,18.3s,baz=258,slow=36						
H10S2	**ASCENSION HYDR**	**62.63**	**52**	T	T	21 53 29.5	
	baz=203,slow=74,SNR=3.7						
H10S3	**ASCENSION HYDR**	**62.63**	**52**	T	T	21 53 29.5	
	baz=17,slow=74,SNR=6.3						
BOSA	**Boshof**	**62.73**	**100**	P	**P**	**20 45 56.4**	**-0.3**
H10N3	**ASCENSION HYDR**	**63.71**	**52**	T	T	21 54 48.1	
	baz=202,slow=75,SNR=10						
H10N1	**ASCENSION HYDR**	**63.72**	**52**	T	T	21 54 48.3	
	baz=202,slow=75,SNR=9.1						
H10N2	**ASCENSION HYDR**	**63.73**	**52**	T	T	21 54 49.3	
	baz=202,slow=75,SNR=13						
LBTB	**Lobatse**	**65.96**	**98**	P	**P**	**20 46 18.5**	**+0.6**
BBOO	**Buckleboo**	**84.05**	**193**	P	**P**	**20 48 02.6**	**+0.5**
STKA	**Stephens Creek**	**84.28**	**198**	P	**P**	**20 48 03.0**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=154,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**84.28**	**198**	P	**P**	**20 48 02.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**89.13**	**59**	P	**P**	**20 48 25.6**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=222,slow=1.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**89.13**	**59**	P	**P**	**20 48 25.2**	**-1.9**
ASAR	**Alice Springs**	**93.32**	**192**	P	**P**	**20 48 48.1**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=169,slow=4.1,SNR=6.6						
ASAR	**Alice Springs**	**93.32**	**192**	P	**P**	**20 48 46.8**	**+0.1**
ARCES	**ARCESS Array B**	**144.74**	**37**	PKP	**PKPab**	**20 55 02.9**	**-2.8**
	comp=Z,1.4nm,0.7s,baz=264,slow=2.3,SNR=8.2						
ARCES	**ARCESS Array B**	**144.74**	**37**		**PKPab**	**20 55 03.2**	**-2.5**
MKAR	**Makanchi Array**	**153.45**	**109**	PKPbc	**PKPbc**	**20 55 27.7**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=253,slow=1.0,SNR=3.5						
MKAR				PKPab	**PKPab**	**20 55 39.9**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=222,slow=1.9,SNR

NDT	baz=282 Datong Townshi	0.98	268	⇑iP	Pn	20 38 02.9 +0.9
NDT	baz=266			S	Sn	20 38 17.9 +0.2
NWLT	baz=266 Wulai	1.00	278	⇑P	Pn	20 38 02.3 +0.1
NWLT	baz=282			eS	Sn	20 38 17.4 -0.6
NACB	baz=282 Ninganchiao	1.02	243	⇑iP	Pn	20 38 02.0 -0.4
NACB	baz=243			S	Sn	20 38 17.1 -1.2
YM01	baz=243 YM01	1.06	299	⇑iP	Pn	20 38 03.2 +0.3
YM01	baz=289			S	Sn	20 38 18.9 -0.2
TATO	baz=289 Taipei	1.06	289	⇑iP	Pn	20 38 02.8 0.0
TATO	baz=280			S	Sn	20 38 18.2 -0.8
YM08	baz=280 YM08	1.06	301	⇑iP	Pn	20 38 03.0 +0.1
YM08	baz=292			S	Sn	20 38 19.2 +0.1
YM11	baz=292 YM11	1.06	300	P	Pn	20 38 03.3 +0.4
YM11	baz=290			eS	Sn	20 38 20.7 +1.4
TWD	baz=290 Chiawan	1.06	239	⇑iP	Pn	20 38 02.6 -0.2
TWD	baz=234			S	Sn	20 38 18.9 -0.2
TAP	baz=234 Taipei	1.07	292	eP	Pn	20 38 02.4 -0.4
TAP	baz=291			eS	Sn	20 38 18.4 -0.7
YM05	baz=291 YM05	1.07	300	⇑iP	Pn	20 38 03.2 +0.2
YM05	baz=290			eS	Sn	20 38 18.8 -0.6
YM10	baz=290 YM10	1.07	299	⇑iP	Pn	20 38 03.3 +0.3
YM10	baz=290			S	Sn	20 38 18.9 -0.5
IRIF	baz=290 Iriomote-Funau	1.08	106	P	Pn	20 38 03.2 +0.2
IRIF				S	Sn	20 38 19.5 +0.1
YM04	YM04	1.09	298	⇑iP	Pn	20 38 03.4 +0.2
YM04	baz=289			S	Sn	20 38 18.8 -0.8
PCYT	baz=289 Pengchaiyu	1.09	335	⇓iP	Pn	20 38 03.9 +0.7
PCYT	baz=326			eS	Sn	20 38 20.3 +0.6
YM03	baz=326 YM03	1.10	300	P	Pn	20 38 03.5 +0.2
YM03	baz=290			eS	Sn	20 38 19.8 -0.1
ETLH	baz=290 Xiulin Townshi	1.10	247	⇑iP	Pn	20 38 03.4 0.0
ETLH	baz=247			S	Sn	20 38 19.3 -0.7
TWY	baz=247 Chenhua	1.10	305	P	Pn	20 38 03.9 +0.6
TWY	baz=296			eS	Sn	20 38 19.5 -0.3
HWA	baz=296 Hwalien	1.12	234	⇑iP	Pn	20 38 03.6 +0.2
HWA	baz=228			eS	Sn	20 38 20.6 +0.6
ANP	baz=228 Anpu	1.12	300	P	Pn	20 38 03.5 0.0
ANP	baz=290			eS	Sn	20 38 20.3 0.0
NSM	baz=290 Shimen	1.12	306	eP	Pn	20 38 04.2 +0.8
NSM	baz=296			eS	Sn	20 38 20.9 +0.8
NNSB	baz=296 Datong	1.12	260	⇑iP	Pn	20 38 03.9 +0.3
NNSB	baz=253			eS	Sn	20 38 20.3 -0.1
NNSH	baz=253 Datong	1.12	260	P	Pn	20 38 03.9 +0.3
NNSH	baz=254			eS	Sn	20 38 19.9 -0.5
NNS	baz=254 Nan Shan	1.13	260	⇑iP	Pn	20 38 03.9 +0.2
NNS	baz=254			eS	Sn	20 38 20.7 +0.1
NTST	baz=254 Danshui	1.16	297	⇑iP	Pn	20 38 04.4 +0.5
NTST	baz=288			eS	Sn	20 38 20.6 -0.4
HATJ	baz=288 Hateruma jima	1.25	117	eS	Sn	20 38 23.1 +0.4
FUSS	Fushou	1.29	253	⇑P	Pn	20 38 06.1 +0.5
FUSS	baz=249			eS	Sn	20 38 23.4 -0.6
WHF	baz=249 Hehuan Shan	1.31	248	⇑iP	Pn	20 38 06.2 +0.2
WHF	baz=247			eS	Sn	20 38 24.2 -0.4
NCU	baz=247 National Centr	1.32	285	P	Pn	20 38 06.3 +0.6
NCU	baz=291			eS	Sn	20 38 25.2 +1.0
NCUH	baz=291 Zhongli	1.32	285	iP	Pn	20 38 06.4 +0.6
NCUH	baz=291			S	Sn	20 38 24.8 +0.5
ESL	baz=291 Shilin	1.34	232	⇑iP	Pn	20 38 05.7 -0.3
ESL	baz=228			eS	Sn	20 38 22.8 -1.9
TWT	baz=228 Tachien	1.35	254	⇑iP	Pn	20 38 07.3 +1.1
TWT	baz=253			eS	Sn	20 38 25.0 -0.1
JKRS	baz=253 Kuro-shima	1.35	107	P	Pn	20 38 06.7 +0.6
JKRS				S	Sn	20 38 25.4 +0.6
TDCB	Techi	1.36	254	⇑iP	Pn	20 38 07.2 +0.8
TDCB	baz=253			S	Sn	20 38 25.4 +0.1
CHGB	baz=253 Renai	1.42	246	⇑iP	Pn	20 38 07.8 +0.7
CHGB	baz=241			eS	Sn	20 38 26.4 -0.3
LIOB	baz=241 Emei	1.44	271	⇑iP	Pn	20 38 07.7 +0.6
LIOB	baz=270			eS	Sn	20 38 27.0 +0.3
EGFH	baz=270 Guangfu	1.44	228	⇑iP	Pn	20 38 07.1 0.0
EGFH	baz=224			S	Sn	20 38 26.2 -0.5
JIJ	baz=224 Ishigaki jima	1.44	101	P	Pn	20 38 07.4 +0.3
JIJ				S	Sn	20 38 26.1 -0.6
NSTT	Nanjuang	1.45	270	⇑iP	Pn	20 38 07.8 +0.6
NSTT	baz=269			S	Sn	20 38 26.8 -0.2
OWD	baz=269 Renai	1.46	243	eP	Pn	20 38 08.2 +0.6
SBCB	baz=238 Hsinchu	1.47	276	P	Pn	20 38 08.1 +0.6
SBCB	baz=275			S	Sn	20 38 27.3 -0.1
HSN	baz=275 Hsinchu	1.48	277	P	Pn	20 38 08.0 +0.3
HSN	baz=277			S	Sn	20 38 27.6 -0.1
WHP	baz=277 Taichung City	1.54	257	⇑iP	Pn	20 38 09.9 +1.4
WHP	baz=254			eS	Sn	20 38 30.2 +1.1
HGSD	baz=254 Ruisui	1.56	223	P	Pn	20 38 08.6 0.0
HGSD	baz=223			eS	Sn	20 38 31.0 +1.6
JISG	baz=223 Ishigakijimahi	1.56	91	P	Pn	20 38 08.8 +0.2
JISG				S	Sn	20 38 28.8 -0.6
VWDT	VWDT	1.59	237	⇑iP	Pn	20 38 09.6 +0.6
VWDT	baz=232			S	Sn	20 38 29.5 -0.5
	baz=232					

EHY	Hungye	1.62	226	⇑iP	Pn	20 38 08.8 -0.6
EHY	baz=226			eS	Sn	20 38 28.5 -2.1
NMLH	baz=226 Miaoli	1.64	267	⇑iP	Pn	20 38 10.5 +0.8
NMLH	baz=273			S	Sn	20 38 31.2 +0.1
YULB	baz=273 Yu-li	1.71	224	⇑iP	Pn	20 38 10.1 -0.4
YULB	baz=230			eS	Sn	20 38 31.0 -1.8
SMLT	baz=230 Sun Moon Lake	1.72	244	⇑iP	Pn	20 38 11.7 +1.0
SMLT	baz=238			eS	Sn	20 38 35.3 +2.3
SSLB	baz=238 Suanglung	1.72	241	⇑iP	Pn	20 38 11.0 +0.4
SSLB	baz=238			eS	Sn	20 38 31.8 -1.1
PTSB	baz=238 Yuanli	1.73	264	⇑iP	Pn	20 38 11.7 +0.9
PTSB	baz=263			eS	Sn	20 38 32.6 -0.5
EYUL	baz=263 Yuli	1.73	222	P	Pn	20 38 10.7 -0.1
EYUL	baz=229			eS	Sn	20 38 34.1 +0.9
TWF1	baz=229 Yuli	1.74	223	⇑iP	Pn	20 38 10.6 -0.4
TWF1	baz=230			eS	Sn	20 38 32.1 -1.3
TYC	baz=230 Yuchr	1.74	246	iP	Pn	20 38 12.0 +1.1
TYC	baz=241			eS	Sn	20 38 32.9 -0.5
WDJ	baz=241 Dajia District	1.80	261	P	Pn	20 38 12.4 +0.8
WDJ	baz=261			eS	Sn	20 38 34.0 -0.7
TCU	baz=261 Taichung	1.81	255	P	Pn	20 38 12.6 +0.8
TCU	baz=254			eS	Sn	20 38 36.9 +1.9
WHYT	baz=254 Xinyi Township	1.84	240	P	Pn	20 38 13.6 +1.4
WHYT	baz=235			eS	Sn	20 38 38.2 +2.4
FULB	baz=235 Fuli	1.86	220	P	Pn	20 38 12.4 0.0
FULB	baz=215			eS	Sn	20 38 35.4 -0.7
WJS	baz=215 Zhushan	1.89	245	P	Pn	20 38 14.0 +1.3
WJS	baz=245			eS	Sn	20 38 38.2 +1.6
YUS	baz=245 Yu-Shan	1.89	233	P	Pn	20 38 13.6 +0.4
CHKT	baz=233 Chengkung	1.90	217	eP	Pn	20 38 11.9 -0.9
CHKT	baz=211			eS	Sn	20 38 35.6 -1.3
WNT	baz=211 Mingjian	1.90	247	⇑iP	Pn	20 38 14.0 +1.2
WNT	baz=247			eS	Sn	20 38 39.4 +2.5
JTJ	baz=247 Tarama	1.92	89	P	Pn	20 38 13.6 +0.5
JTJ				S	Sn	20 38 37.7 +0.4
WCHH	Zhanghua	1.94	254	eP	Pn	20 38 13.9 +0.6
WCHH	baz=253			eS	Sn	20 38 38.6 +0.9
ALS	baz=253 Alishan	1.98	236	⇑P	Pn	20 38 15.3 +1.2
ALS	baz=230			eS	Sn	20 38 39.9 +0.7
CHN5	baz=230 Tsauling	2.03	240	iP	Pn	20 38 16.1 +1.5
CHN5	baz=233			eS	Sn	20 38 42.2 +2.1
EDH	baz=233 Donghe	2.04	216	⇑P	Pn	20 38 14.4 -0.2
EDH	baz=211			eS	Sn	20 38 38.6 -1.3
ELDTW	baz=211 Lidau	2.04	225	⇑iP	Pn	20 38 14.5 -0.2
ELDTW	baz=224			eS	Sn	20 38 38.5 -1.8
WGK	baz=224 Gukeng	2.08	243	eP	Pn	20 38 16.4 +1.2
WGK	baz=243			eS	Sn	20 38 42.5 +1.4
WDLH	baz=243 Douliu	2.10	244	eP	Pn	20 38 16.4 +1.0
WDLH	baz=253			eS	Sn	20 38 43.6 +2.1
RLNB	baz=253 Erlin	2.17	250	⇑iP	Pn	20 38 17.0 +0.7
RLNB	baz=258			eS	Sn	20 38 43.1 0.0
LONT	baz=258 Longtian	2.18	218	eP	Pn	20 38 16.2 -0.3
LONT	baz=224			eS	Sn	20 38 41.7 -1.7
LDUT	baz=224 Ludao	2.21	208	P	Pn	20 38 16.4 -0.4
LDUT	baz=212			eS	Sn	20 38 42.1 -1.9
WTK	baz=212 Tuku	2.22	245	P	Pn	20 38 18.0 +1.0
WTK	baz=245			eS	Sn	20 38 44.5 +0.2
STYT	baz=245 Tauyuan	2.23	229	⇑iP	Pn	20 38 18.3 +1.1
STYT	baz=229			eS	Sn	20 38 46.8 +2.2
TPUB	baz=229 Ta-pu	2.23	234	⇑P	Pn	20 38 18.2 +1.0
TPUB	baz=234			eS	Sn	20 38 45.8 +1.1
WTP	baz=234 Ta-pu	2.28	233	P	Pn	20 38 18.9 +1.1
WTP	baz=233			eS	Sn	20 38 46.4 +0.6
TWGBT	baz=233 Beinan	2.28	218	⇑P	Pn	20 38 17.1 -0.7
TWGBT	baz=223			eS	Sn	20 38 45.0 -0.7
TWG	baz=223 Pinlang	2.28	218	P	Pn	20 38 17.0 -0.8
TWG	baz=223			eS	Sn	20 38 45.0 -0.7
CHY	baz=223 Chiayi	2.28	241	P	Pn	20 38 18.8 +1.0
CHY	baz=250			eS	Sn	20 38 46.6 +0.9
TTN	baz=250 Taitung	2.30	216	eP	Pn	20 38 18.7 +0.7
TTN	baz=211			eS	Sn	20 38 47.5 +1.5
JIRB	baz=211 Irabujima	2.35	85	P	Pn	20 38 19.1 +0.4
JIRB				S	Sn	20 38 47.0 -0.3
CHN1	Nanshi	2.38	233	eP	Pn	20 38 20.1 +1.0
CHN1	baz=233			eS	Sn	20 38 48.7 +0.7
SNST	baz=233 Tainan City	2.38	234	eP	Pn	20 38 19.8 +0.7
SNST	baz=234			eS	Sn	20 38 49.1 +1.2
WSF	baz=234 Szhu	2.38	246	P	Pn	20 38 19.5 +0.5
WSF	baz=246			eS	Sn	20 38 49.0 +0.9
WLGB	baz=246 Puzi	2.39	242	P	Pn	20 38 20.0 +0.8
WLGB	baz=250			eS	Sn	20 38 49.1 +0.9
SGST	baz=250 Jiashian	2.41	230	P	Pn	20 38 19.8 +0.4
SGST	baz=238			eS	Sn	20 38 50.2 +1.6
SLGT	baz=238 Liugui	2.42	228	P	Pn	20 38 21.2 +1.6
SLGT	baz=236			eS	Sn	20 38 51.0 +2.0
JIKM	baz=236 Ikemajima	2.43	83	P	Pn	20 38 20.4 +0.7
JIKM				S	Sn	20 38 49.9 +0.8

ICHU	baz=231 Yijhu	2.47	239	P	Pn	20 38 20.9 +0.7
ICHU	baz=231			eS	Sn	20 38 49.7 -0.3
JMJ2	baz=231 Miyako jima3	2.49	87	P	Pn	20 38 21.2 +0.8
JMJ2				S	Sn	20 38 50.7 +0.2
ECL	Taimali	2.53	217	P	Pn	20 38 20.1 -0.8
ECL	baz=217			eS	Sn	20 38 49.7 -1.7
CHN8	baz=217 Yiju	2.53	240	eP	Pn	20 38 21.5 +0.5
CHN8	baz=249			eS	Sn	20 38 52.9 +1.4
JOGS	baz=249 Gusukube	2.56	87	P	Pn	20 38 22.5 +1.1
JOGS				eS	Sn	20 38 52.7 +0.5
CHN3	Shinhua	2.56	233	eP	Pn	20 38 22.6 +1.1
SCST	baz=242 Cishan	2.60	228	eP	Pn	20 38 23.1 +1.2
SCST	baz=235			eS	Sn	20 38 54.5 +1.5
SSD	baz=235 Sandimen	2.60	224	iP	Pn	20 38 23.3 +1.3
SSD	baz=224			eS	Sn	20 38 53.5 +0.3
TSMG	baz=224 Majia	2.62	223	eP	Pn	20 38 23.6 +1.4
TSMG	baz=223			eS	Sn	20 38 54.4 +0.6
TWM1	baz=223 Shoushan	2.69	228	eP	Pn	20 38 25.9 +2.8
PTTC	baz=228 Pingtan	2.70	289	eP	Pn	20 38 22.7 -0.5
MASBT	baz=289 Mashibuluo	2.70	222	eP	Pn	20 38 24.6 +1.3
LAY	baz=222 Lan-yu	2.76	201	eP	Pn	20 38 23.2 -0.8
SNJT	baz=201 Kaohsiung City	2.79	228	eP	Pn	20 38 25.7 +1.3
MATB	baz=229 Ma-tsu	2.83	303	eP	Pn	20 38 24.3 -0.6
SSPT	baz=301 Xinbi	2.84	221	eP	Pn	20 38 27.4 +2.4
VWUC	baz=222 VWUC	2.88	278	eP	Pn	20 38 25.1 -0.5
SCZT	baz=277 Fangliau	2.89	219	eP	Pn	20 38 26.8 +1.0
SLIU	baz=230 Shizi	2.92	215	eP	Pn	20 38 26.0 -0.2
PNG	baz=215 Penghu	2.97	250	eP	Pn	20 38 26.2 -0.6
PHUB	baz=250 P'eng-hu	2.98	249	eP	Pn	20 38 26.3 -0.6
WDGT	baz=249 Dungji	3.01	244	eP	Pn	20 38 27.5 +0.1
HEN	baz=244 Hengchun	3.13	213	eP	Pn	20 38 29.9 +1.0
TSEB	baz=209 Hengchuen, Pin	3.14	210	eP	Pn	20 38 30.2 +1.1
TWKBT	baz=211 Hengchun	3.14	212	eP	Pn	20 38 28.5 -0.6
TWK1	baz=212 Hengchun	3.15	212	eP	Pn	20 38 29.4 +0.2
XPSS	baz=212 Dashiqiu	3.15	317	eP	Pn	20 38 28.6 -0.5
PTMZ	baz=307 Houxiangcun	3.18	278	eP	Pn	20 38 28.8 -0.8
LYJJ	baz=278 Jianjiangzhen	3.19	307	eP	Pn	20 38 29.1 -0.6
MHZQ	baz=305 Yeshan	3.54	295	eP	Pn	20 38 34.1 -0.3
KNM	baz=294 Kinmen	3.79	268	eP	Pn	20 38 39.0 +1.2
KNMB	baz=268 Chin-men Tao	3.83	268	eP	Pn	20 38 37.8 -0.5
AXDP	baz=261 Jialang	4.21	275	eP	Pn	20 38 43.3 -0.1
ZPLA	baz=266 Ao Xicun	4.47	262	eP	Pn	20 38 46.7 -0.3
JNU	baz=262 Nakatsue	11.14	39	P	Pn	20 40 19.1 +1.7
KSRS	0.3nm,0.3s,baz=211,slow=12,SNR=2.5 Korea Array	13.56	18	P	Pn	20 40 50.8 +1.5
USRK	0.4nm,0.3s,baz=196,slow=12,SNR=15 Ussuriysk Ar.	20.97	19	P	P	20 42 14.8 -1.1
ASAJ	2.8nm,0.7s,baz=202,slow=11,SNR=8.9 Asahikawa	25.38	35	P	P	20 42 56.4 -2.2
SONM	4.9nm,1.0s,baz=264,slow=9.2,SNR=1.4 Songino Array	26.48	335	P	P	20 43 08.0 -0.7
PSI	0.7nm,0.9s,baz=146,slow=11,SNR=3.8 Prapat	31.50	230	P	P	20 43 55.9 +2.3
MKAR	4.0nm,0.4s,baz=180,slow=12,SNR=1.9 Makanchi Array	38.92	315	P	P	20 44 56.1 -0.6
FITZ	0.7nm,0.9s,baz=101,slow=7.8,SNR=2.7 Fitzroy Crossi	42.58	176	P	P	20 45 26.2 -0.7
WRA	2.6nm,0.8s,baz=5.9,slow=8.2,SNR=13 Warramunga Arr	45.76	164	P	P	20 45 52.1 -0.3
ASAR	1.4nm,0.6s,baz=347,slow=8.7,SNR=24 Alice Springs	49.25	166	P	P	20 46 19.6 +0.3
FINES	0.7nm,0.7s,baz=347,slow=11,SNR=9.9 FINESS Array B	71.70	330	P	P	20 48 49.5 -2.0
	0.7nm,0.7s,baz=96,slow=3.8,SNR=4.9					

*IDC **05** 20:38:58.7±2.0, 2°.59S×88°.65E, h0km, mb3.5/8, mb1 3.6/8, mb1mx3.4/53, mbtmp3.5/8, ML4.7/1, MS3.9/1, Ms1 3.9/1, ms1mx3.4/24, Error ellipse: s-maj=60.6km s-min=23.2km az=56.0*

*NEIC **05** 20:39:01.6±2.5, 2°.4S±0°.2×88°.8E±0°.1, h15km±5km, mb4.3/6, Error ellipse: s-maj=23.9km s-min=15.8km az=211.0*

ISC 05 20:39:00.4±1.2, 2°.5S±0°.2×88°.8E±0°.1, h10km, n29, σ1°.23/23, mb3.6/10, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	9.53	67		Pn	20 41 15.5	-2.3
LHMI	Lhok Sumawe	11.17	47	Pn	Pn	20 41 41.5	+1.2
PALK	Pallekele	12.66	320	Pn	Pn	20 42 01.0	+0.3
PALK	4.4nm,0.3s,baz=240,slow=12,SNR=23			Sn	Sn	20 44 10.2	-12
PALK	5.6nm,0.3s,baz=339,slow=23,SNR=11 Pallekele	12.66	320		Pn	20 42 01.1	+0.3
KULM	Kulim	14.12	57	Pn	Pn	20 42 18.8	-1.9
H08S2	Diego Garcia H	17.05	252	T	T	21 00 31.7	
H08S3	baz=72,slow=74,SNR=532 Diego Garcia H	17.05	252	T	T	21 00 35.4	
H08S1	baz=72,slow=74,SNR=893 Diego Carcia H	17.07	252	T	T	21 00 32.9	
CMAR	baz=72,slow=74,SNR=575 Chiang Mai Arr	23.09	25	P	P	20 44 07.8	+1.3
FITZ	0.3nm,0.4s,baz=221,slow=9.5,SNR=1.0 Fitzroy Crossi	39.26	116	LR	LR	20 59 09.1	
H01W3	comp=Z,160nm,20.3s,baz=269,slow=31 Cape Leeuwin H	39.89	147	T	T	21 28 34.6	
H01W2	baz=319,slow=75,SNR=7.0 Cape Leeuwin H	39.90	147	T	T	21 28 34.9	
H01W1	baz=319,slow=75,SNR=6.7 Cape Leeuwin H	39.90	147	T	T	21 28 43.1	
KNRA	baz=319,slow=75,SNR=10.0 Kununurra	41.44	111	P	P	20 46 48.2	+0.6
KNRA				IAmb	IAmb	20 46 52.9	
MTN	comp=Z,8.6nm,1.1s Manton Dam	43.09	106	P	P	20 47 02.8	+1.6
WRA	Warramunga Arr	47.67	115	P	P	20 47 38.3	+0.9
KKAR	comp=Z,0.6nm,0.9s,baz=283,slow=8.7,SNR=3.9 Karatay Array	48.32	342	P	P	20 47 40.6	-1.5
ASAR	Alice Springs	48.37	120	P	P	20 47 43.6	+0.7
MKAR	comp=Z,0.4nm,0.7s,baz=286,slow=8.2,SNR=4.8 Makanchi Array	49.44	354	P	P	20 47 51.6	+1.0
MKAR	comp=Z,0.5nm,0.8s,baz=189,slow=7.3,SNR=2.3 Makanchi Array	49.44	354	P	P	20 47 50.5	0.0
SONM	Songino Array	52.44	15	P	P	20 48 14.5	+1.2
KURBB	comp=Z,1.0nm,0.7s,baz=203,slow=7.0,SNR=4.6 Kurchatov Arra	53.66	352	P	P	20 48 20.2	-1.8
KURK	comp=Z,0.1nm,0.4s,baz=168,slow=7.5,SNR=2.1 Kurchatov	53.74	352	P	P	20 48 21.3	-1.4
KURK				IAmb	IAmb	20 48 36.7	
KSRS	comp=Z,4.7nm,1.4s Korea Array	53.79	38	P	P	20 48 23.9	+0.7
ZAA0	comp=Z,0.3nm,0.4s,baz=234,slow=7.4,SNR=1.6 Zalesovo Array	56.36	357	P	P	20 48 40.4	-1.2
ZALV	Zalesovo Beam	56.36	357	P	P	20 48 41.3	-0.2
ABKAR	comp=Z,0.6nm,0.5s,baz=168,slow=9.9,SNR=2.8 Akbulak array	57.30	338	P	P	20 48 47.5	-0.8
TXAR	Lajitas Array	150.80	23	PKPbc	PKPbc	20 58 53.4	-0.6
	comp=Z,0.2nm,0.5s,baz=336,slow=2.3,SNR=3.6						

TXAR PKPab **pPKPab 20 59 02.2 -0.8**
comp=Z,0.6nm,0.5s,baz=293,slow=0.5,SNR=10.0
TXAR Lajitas Array 150.80 23 PKPab 20 59 01.8 +0.9

*IDC **05** 20:47:43.2±0.9,26°.66S×114°.16W,h0km,mb3.9/6,*
mb1 4.2/6,mb1mx3.8/46,mbtmp3.9/6,MS4.1/3,Ms1 4.1/3,
ms1mx3.6/21,Error ellipse: s-maj=47.7km s-min=25.0km
az=80.0
*NEIC **05** 20:47:43.8±1.9,26°.83S±0°.05×114°.0W±0°.2,h10km±1km,*
mb4.8/52,Error ellipse: s-maj=29.4km s-min=8.7km
az=272.0
ISC 05 20:47:44.2±0.7,26°.8S±0°.1×114°.0W±0°.2,h10km,n85,
σ1°05/71,mb4.8/25,MS3.9/5,1C,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAOE	**Nuku Hiva Isla**	**30.47**	**301**	eLR	LR	21 01 46.8	
	comp=Z,388nm,26.5s						
H03N2	**Juan Fernandez**	**30.98**	**111**	T	T	21 26 55.3	
	baz=277,slow=74,SNR=213						
H03N3	**Juan Fernandez**	**31.00**	**111**	T	T	21 26 56.3	
	baz=277,slow=74,SNR=193						
H03N1	**Juan Fernandez**	**31.00**	**111**	T	T	21 26 56.2	
	baz=277,slow=74,SNR=271						
TBI	**Tubuai**	**32.22**	**268**	eT	T	21 27 27.3	
	19nm,0.3s						
PPT2	**Papeete2**	**34.06**	**278**	eLR	LR	21 03 11.6	
	comp=Z,225nm,24.5s						
GO05	**Huala**	**36.84**	**113**	P	**P**	**20 54 54.2**	**+1.5**
NNA	**Nana**	**37.87**	**74**	LR	LR	21 06 36.4	
	comp=Z,207nm,18.6s,baz=236,slow=30						
PLCA	**Paso Flores**	**38.36**	**123**	P	**P**	**20 55 08.0**	**+2.5**
	6.5nm,1.0s,baz=282,slow=14,SNR=2.7						
PLCA	**Paso Flores**	**38.36**	**123**	P	**P**	**20 55 04.5**	**-1.1**
PLCA				IAmb	IAmb	20 55 21.2	
	comp=Z,28nm,1.2s						
PB01	**IPOC Station P**	**40.96**	**92**	P	**P**	**20 55 25.0**	**-2.4**
PB01				IAmb	IAmb	20 55 35.0	
	comp=Z,26nm,1.1s						
PB09	**IPOC Station P**	**40.97**	**93**	P	**P**	**20 55 27.8**	**+0.2**
LVC	**Limon Verde**	**41.04**	**94**	P	**P**	**20 55 28.0**	**-0.5**
OTAV	**Otavalo**	**43.49**	**58**	P	**P**	**20 55 47.8**	**-0.8**
LPAZ	**La Paz**	**43.74**	**86**	LR	LR	21 10 03.8	
	comp=Z,135nm,18.6s,baz=265,slow=31						
TLIG	**Tlapa**	**46.53**	**21**	P	**P**	**20 56 11.5**	**-0.7**
ROSC	**El Rosal**	**49.61**	**57**	LR	LR	21 13 15.6	
	comp=Z,308nm,20.3s,baz=304,slow=31						
TXAR	**Lajitas Array**	**56.64**	**11**	P	**P**	**20 57 28.0**	**+0.4**
	comp=Z,0.8nm,1.1s,baz=186,slow=6.4,SNR=2.9						
TXAR	**Lajitas Array**	**56.64**	**11**	P	**P**	**20 57 27.2**	**-0.5**
CBCY	**The Bluff, Cay**	**56.92**	**39**	P	**P**	**20 57 29.7**	**0.0**
JCT	**Junction City**	**58.51**	**14**	P	**P**	**20 57 41.5**	**+0.7**
MNTX	**Cornudas Mount**	**58.70**	**9**	P	**P**	**20 57 42.9**	**+0.9**
TUC	**Tucson**	**58.81**	**3**	P	**P**	**20 57 45.3**	**+2.5**
HKT	**Hockley**	**59.01**	**18**	P	**P**	**20 57 46.4**	**+2.3**
HKT				IAmb	IAmb	20 57 52.6	
	comp=Z,7.1nm,0.9s						
LENM	**Lemitar**	**60.95**	**7**	P	**P**	**20 57 57.8**	**+0.2**
MSTX	**Muleshoe**	**61.32**	**11**	P	**P**	**20 57 59.6**	**-0.5**
MSTX				IAmb	IAmb	20 58 05.6	
	comp=Z,11nm,1.1s						
WUAZ	**Wupatki**	**61.98**	**2**	P	**P**	**20 58 04.6**	**0.0**
WUAZ				IAmb	IAmb	20 58 12.0	
	comp=Z,8.0nm,1.1s						
U15A	**North Rim**	**62.86**	**2**	P	**P**	**20 58 11.1**	**+0.5**
SHPR	**Sheep Range**	**62.92**	**359**	P	**P**	**20 58 11.8**	**+0.9**
TPNV	**Topopah Spring**	**63.39**	**358**	P	**P**	**20 58 14.7**	**+0.8**
TPNV				IAmb	IAmb	20 58 21.6	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**63.42**	**180**	P	**P**	**20 58 14.7**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=106,slow=3.1,SNR=3.8						
QSPA	**South Pole Qui**	**63.42**	**180**	P	**P**	**20 58 13.2**	**-0.6**
QSPA				IAmb	IAmb	20 58 22.2	
	comp=Z,9.6nm,1.1s						
KNB	**Kanab**	**63.44**	**1**	P	**P**	**20 58 15.3**	**+1.1**
PRN	**Pahroc Range**	**63.82**	**359**	P	**P**	**20 58 18.1**	**+1.4**
CCUT	**Cedar City**	**63.96**	**1**	P	**P**	**20 58 18.8**	**+1.0**
S22A	**4UR Ranch, Cre**	**64.51**	**6**	P	**P**	**20 58 21.8**	**+0.3**
S22A				IAmb	IAmb	20 58 29.2	
	comp=Z,14nm,1.6s						
R11A	**Troy Canyon, C**	**64.77**	**359**	P	**P**	**20 58 23.4**	**+0.4**
R11A				IAmb	IAmb	20 58 30.7	
	comp=Z,9.9nm,1.3s						
PV03	**Paradox Valley**	**64.84**	**5**	P	**P**	**20 58 22.7**	**-0.9**
PSUT	**Pine Spring**	**64.94**	**0**	P	**P**	**20 58 24.5**	**+0.3**
PV14	**Lion Creek, Pa**	**64.95**	**4**	P	**P**	**20 58 24.4**	**+0.1**
NV11	**Mina Array Sit**	**64.95**	**356**	P	**P**	**20 58 24.2**	**+0.1**
NV11				IAmb	IAmb	20 58 31.4	
	comp=Z,8.5nm,1.2s						
NVAR	**Mina Array Bea**	**64.96**	**356**	P	**P**	**20 58 25.4**	**+1.1**
	comp=Z,2.9nm,0.9s,baz=186,slow=9.4,SNR=4.5						
NVAR	**Mina Array Bea**	**64.96**	**356**		**P**	**20 58 24.3**	**0.0**
WAKR	**Walker**	**65.11**	**355**	P	**P**	**20 58 25.5**	**+0.3**
WAKR				IAmb	IAmb	20 58 32.8	
	comp=Z,10nm,1.5s						
PV22	**Blue Mesa, Par**	**65.13**	**5**	P	**P**	**20 58 25.9**	**+0.6**
PV22				IAmb	IAmb	20 58 33.1	
	comp=Z,8.8nm,1.3s						
KVN	**Kaiserville**	**65.57**	**357**	P	**P**	**20 58 28.2**	**0.0**
SRU	**San Rafael Swe**	**65.60**	**3**	P	**P**	**20 58 28.0**	**-0.4**
DUG	**Dugway, Tooele**	**66.61**	**1**	P	**P**	**20 58 35.8**	**+1.0**
DUG				IAmb	IAmb	20 58 42.0	
	comp=Z,9.3nm,1.1s						
T42A	**Van Buren**	**67.01**	**20**	P	**P**	**20 58 36.5**	**-0.7**
RDMU	**Red Mountain**	**67.10**	**4**	P	**P**	**20 58 37.1**	**-0.9**
BGU	**Big Grassy Mou**	**67.33**	**1**	P	**P**	**20 58 39.6**	**+0.1**
BW06	**Boulder Array**	**69.29**	**4**	P	**P**	**20 58 50.6**	**-1.1**
BW06				IAmb	IAmb	20 58 57.5	
	comp=Z,11nm,1.5s						
PD31	**Pinedale Array**	**69.29**	**4**	P	**P**	**20 58 50.8**	**-0.9**
PDAR	**Pinedale Array**	**69.29**	**4**	P	**P**	**20 58 50.8**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=167,slow=7.4,SNR=5.7						
PDAR	**Pinedale Array**	**69.29**	**4**	P	**P**	**20 58 50.6**	**-1.1**
TPAW	**Teton Pass**	**69.95**	**2**	P	**P**	**20 58 54.5**	**-1.3**
TPAW				IAmb	IAmb	20 59 00.9	
	comp=Z,13nm,1.2s						
HLID	**Hailey**	**69.96**	**360**	P	**P**	**20 58 56.0**	**+0.2**
HLID				IAmb	IAmb	20 59 02.9	
	comp=Z,10nm,1.1s						
LOHW	**Long Hollow**	**70.08**	**3**	P	**P**	**20 58 57.6**	**+1.0**
LOHW				IAmb	IAmb	20 59 03.3	
	comp=Z,15nm,1.6s						
FXWY	**Fox Creek**	**70.09**	**2**	P	**P**	**20 58 56.5**	**-0.1**
FXWY				IAmb	IAmb	20 59 12.5	
	comp=Z,13nm,1.6s						
IMW	**Indian Meadow**	**70.36**	**2**	P	**P**	**20 58 57.6**	**-0.8**
IMW				IAmb	IAmb	20 59 04.6	
	comp=Z,10nm,1.3s						
FLWY	**Flagg Ranch**	**70.55**	**3**	P	**P**	**20 58 58.8**	**-0.7**
I07A	**Izee**	**70.66**	**356**	P	**P**	**20 59 00.7**	**+0.7**
I07A				IAmb	IAmb	20 59 07.1	
	comp=Z,9.0nm,1.2s						
MCMT	**McKenzie Canyo**	**71.24**	**1**	P	**P**	**20 59 03.7**	**+0.1**
YHH	**Holmes Hill**	**71.25**	**2**	P	**P**	**20 59 03.8**	**+0.1**
G08A	**Pilot Rock**	**71.83**	**356**	P	**P**	**20 59 07.8**	**+0.7**
JTMT	**Jette**	**74.15**	**360**	P	**P**	**20 59 20.6**	**-0.1**
JTMT				IAmb	IAmb	20 59 27.2	
	comp=Z,11nm,1.1s						
NEW	**Newport**	**74.72**	**358**	P	**P**	**20 59 24.4**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=112,slow=11,SNR=2.1						
NEW	**Newport**	**74.72**	**358**	P	**P**	**20 59 23.2**	**-0.7**
NEW				IAmb	IAmb	20 59 30.6	
	comp=Z,13nm,1.2s						
SYO	**Syowa Base**	**82.59**	**171⇑**	*ep*P	**P**	**21 00 07.2**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**89.03**	**291**	T	T	22 38 49.7	
	baz=119,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**89.04**	**291**	T	T	22 38 50.7	
	baz=119,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**89.05**	**291**	T	T	22 38 51.0	
	baz=119,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**89.44**	**292**	T	T	22 39 21.4	
	baz=120,slow=76,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**89.46**	**292**	T	T	22 39 24.5	
	baz=120,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**89.46**	**292**	T	T	22 39 31.2	
	baz=120,slow=76,SNR=13						
GLI	**Glacier Island**	**91.37**	**345**	P	**P**	**21 00 50.4**	**+0.6**
SONM	**Songino Array**	**142.13**	**315**	PKP	**PKPdf**	**21 07 15.4**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=64,slow=8.8,SNR=5.7						
SONM	**Songino Array**	**142.13**	**315**		**PKPdf**	**21 07 14.7**	**-2.0**
CMAR	**Chiang Mai Arr**	**148.53**	**262**	PKPbc	**PKiKP**	**21 07 33.0**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=106,slow=0.8,SNR=7.9						
CMAR	**Chiang Mai Arr**	**148.53**	**262**		**PKPbc**	**21 07 32.0**	**0.0**

ZAA0	**Zalesovo Array**	**149.46**	**338**		**PKPbc**	**21 07 31.5**	**-1.7**
ZALV	**Zalesovo Beam**	**149.46**	**338**	PKPbc	**PKPbc**	**21 07 32.0**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=26,slow=2.8,SNR=6.9						
ZALV	**Zalesovo Beam**	**149.46**	**338**		**PKPbc**	**21 07 31.4**	**-1.9**
BRTR	**Keskin Array B**	**150.19**	**56**	PKPbc	**PKPbc**	**21 07 34.9**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=320,slow=6.6,SNR=4.3						
BRTR				PKPab	**PKPab**	**21 07 42.5**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=169,slow=1.3,SNR=5.4						
BRTR	**Keskin Array B**	**150.19**	**56**		**PKPdf**	**21 07 33.3**	**+2.7**

*VAO **05** 20:48:57.6±0.5,31°.01S×71°.57W,h10km±2km,mb4.6*
*NEIC **05** 20:49:05.7±1.6,30°.67S±0°.04×71°.53W±0°.06,h56km±4km,*
mb4.9/92,ML4.7(GUC),Error ellipse: s-maj=8.2km
s-min=5.1km az=91.0
*BJI **05** 20:49:05.0±0.0,30°.60S×71°.50W,h47km,Ms5.0/1,*
Ms7 4.9/1
*GUC **05** 20:49:06.2±0.6,30°.64S×71°.49W,h53km±3km,ML4.7*
*IDC **05** 20:49:07.6±3.1,30°.65S×71°.26W,h70km±27km,mb4.3/18,*
mb1 4.4/21,mb1mx4.2/40,mbtmp4.5/21,MS3.4/1,
Ms1 3.4/1,ms1mx3.1/23,Error ellipse: s-maj=18.5km
s-min=11.1km az=85.0
*SJA **05** 20:49:07.1±0.5,30°.65S×71°.36W,h32km±18km,ML4.5,*
MW4.6
ISC 05 20:49:04.1±1.0,30°.64S±0°.03×71°.59W±0°.05,h42km±8km,
n241,σ1°79/251,mb4.9/59,8C-5D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.76**	**138**	⇓*i*P	**Pn**	**20 49 20.6**	**+2.0**
CO02				*i* S	**Sn**	**20 49 30.9**	**+2.0**
CO02				IAML		20 49 32.4	
	comp=N,66μm,0.2s						
CO02	**Combarbal**	**0.76**	**138**		**Pn**	**20 49 20.3**	**+1.8**
CO02				Sn	**Sn**	**20 49 30.8**	**+1.9**
CO03	**El Pedregal**	**0.80**	**104**	⇑*i*P	**Pn**	**20 49 20.3**	**+1.2**
CO03				*i* S	**Sn**	**20 49 30.5**	**+0.5**
CO03				IAML		20 49 31.1	
	comp=E,49μm,0.1s						
CO03	**El Pedregal**	**0.80**	**104**		**Pn**	**20 49 20.3**	**+1.2**
CO03				Sn	**Sn**	**20 49 30.5**	**+0.5**
GO04	**Tololo Observa**	**0.83**	**56**	⇑*i*P	**Pn**	**20 49 21.3**	**+1.7**
GO04				*i* S	**Sn**	**20 49 32.5**	**+1.7**
GO04	**Tololo Observa**	**0.83**	**56**		**Pn**	**20 49 21.3**	**+1.7**
GO04				Sn	**Sn**	**20 49 32.3**	**+1.5**
CO01	**Juntas del Tor**	**1.46**	**63**	⇑*i*P	**Pn**	**20 49 30.1**	**+1.9**
CO01				*i* S	**Sn**	**20 49 47.6**	**+1.4**
CO01				IAML		20 49 48.5	
	comp=N,33μm,0.3s						
CO01	**Juntas del Tor**	**1.46**	**63**		**Pn**	**20 49 29.9**	**+1.7**
CO01				Sn	**Sn**	**20 49 47.6**	**+1.4**
LCO	**Las Campanas**	**1.80**	**26**		**Pn**	**20 49 35.0**	**+2.1**
AROD	**Rodeo**	**1.89**	**76**	*e*P	**Pn**	**20 49 37.4**	**+3.2**
AROD				*e*S	**Sn**	**20 49 60.0**	**+2.9**
AC05	**El Transito**	**2.13**	**33**	⇑*i*P	**Pn**	**20 49 40.0**	**+2.6**
AC05				*i* S	**Sn**	**20 50 05.5**	**+2.8**
AC05				IAML		20 50 06.4	
	comp=E,6μm,0.3s						
AC05	**El Transito**	**2.13**	**33**		**Pn**	**20 49 40.0**	**+2.6**
ACCO	**Cerro Coronel**	**2.18**	**89**	*e*P	**Pn**	**20 49 41.6**	**+3.4**
RTLS	**Leoncito**	**2.28**	**121**	*e*P	**Pn**	**20 49 43.2**	**+3.7**
RTLS				IAML		20 50 16.7	
	comp=Z,2μm,0.8s						
VA03	**San Esteban**	**2.29**	**157**	⇓*i*P	**Pn**	**20 49 42.0**	**+2.5**
VA03				IAML		20 50 12.1	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**2.29**	**157**		**Pn**	**20 49 41.9**	**+2.3**
VA01	**Torpederas**	**2.37**	**181**	IAML		20 50 11.2	
	comp=N,2μm,0.1s						
VA01	**Torpederas**	**2.37**	**181**		**Pn**	**20 49 42.1**	**+1.6**
ROCH	**El Roble**	**2.38**	**168**	⇑*i*P	**Pn**	**20 49 42.8**	**+2.0**
ROCH				*i* S	**Sn**	**20 50 09.9**	**+1.1**
ROC1	**El Roble**	**2.38**	**168**		**Pn**	**20 49 42.5**	**+1.6**
AUSP	**Uspallata**	**2.46**	**130**	*e*P	**Pn**	**20 49 45.8**	**+3.8**
AUSP				*e*S	**Sn**	**20 50 14.6**	**+3.7**
AC04	**Llanos de Chal**	**2.47**	**11**	*e*P	**Pn**	**20 49 44.1**	**+2.1**
AC04				IAML		20 50 27.1	
	comp=E,3μm,0.0s						
AC04	**Llanos de Chal**	**2.47**	**11**		**Pn**	**20 49 44.0**	**+2.1**
PEL	**Peldehue**	**2.61**	**163**	⇑*i*P	**Pn**	**20 49 45.9**	**+2.0**
PEL				*i* S	**Sn**	**20 50 16.6**	**+2.2**
PEL	**Peldehue**	**2.61**	**163**		**Pn**	**20 49 45.9**	**+2.0**
PEL	**Peldehue**	**2.61**	**163**	*e*P	**Pn**	**20 49 46.2**	**+2.3**
PEL				*e*S	**Sn**	**20 50 16.8**	**+2.4**
MT02	**Curacav**	**2.64**	**172**	⇑*i*P	**Pn**	**20 49 45.7**	**+1.5**
MT02				*i* S	**Sn**	**20 50 14.5**	**-0.5**
MT02	**Curacav**	**2.64**	**172**		**Pn**	**20 49 45.7**	**+1.5**
ZON	**Zonda**	**2.66**	**111**		**Pn**	**20 49 47.3**	**+2.8**
ZON	**Zonda**	**2.66**	**111**	*e*P	**Pn**	**20 49 47.5**	**+2.9**
ZON				*e*S	**Sn**	**20 50 18.0**	**+2.4**
RTLL	**Cerro Villicun**	**2.77**	**105**	*e*P	**Pn**	**20 49 48.4**	**+2.4**
RTLL				*e*S	**Sn**	**20 50 20.1**	**+2.0**
RTLL				IAML		20 50 23.7	
	comp=Z,2μm,0.5s						
MT05	**Renca**	**2.84**	**165**	IAML		20 50 38.7	
	comp=E,4μm,0.5s						
MT05	**Renca**	**2.84**	**165**		**Pn**	**20 49 49.0**	**+2.1**
RTCV	**Cerro Valdivia**	**2.88**	**116**	*e*P	**Pn**	**20 49 50.9**	**+3.3**
RTCV				IAML		20 50 49.6	
	comp=Z,870nm,0.8s						
CLCH	**Cerro Calan**	**2.89**	**162**	⇓*i*P	**Pn**	**20 49 50.3**	**+2.6**
CLCH				*i* S	**Sn**	**20 50 23.5**	**+2.2**
CLCH				IAML		20 50 37.9	
	comp=E,2μm,0.4s						
RCDM	**Rinconada Maip**	**2.92**	**167**	⇓*i*P	**Pn**	**20 49 51.5**	**+3.4**
RCDM				IAML		20 50 26.9	
	comp=N,3μm,0.2s						
AGUA	**GUANDACOL**	**2.93**	**68**	*e*P	Pn	20 49 53.1	+4.9
AGUA				IAML		20 50 35.8	
	comp=Z,4μm,0.7s						
MT03	**Universidad Ad**	**2.99**	**162**	*e*P	**Pn**	**20 49 51.6**	**+2.5**
MT03				*i* S	**Sn**	**20 50 26.8**	**+3.0**
MT03				IAML		20 50 31.7	
	comp=E,2μm,0.1s						
ARCO	**CERRO ARCO**	**3.15**	**135**	*e*P	**Pn**	**20 49 55.8**	**+4.3**
ARCO				*e*S	**Sn**	**20 50 33.4**	**+5.4**
ARCO				IAML		20 50 34.9	
	comp=Z,951nm,0.8s						
GO03	**Copiap**	**3.26**	**22**	Pn	**Pn**	**20 49 54.6**	**+1.8**
GO03	**Copiap**	**3.26**	**22**	*e*P	**Pn**	**20 49 54.7**	**+1.8**
GO03				*e*S	**Sn**	**20 50 31.7**	**+1.2**
AAGR	**Agrelo**	**3.39**	**137**	*e*P	**Pn**	**20 49 59.1**	**+4.5**
AAGR				*e*S	Sn	20 50 19.4	-14
AAGR				IAML		20 50 21.9	
	comp=Z,2μm,0.8s						
LMEL	**Las Melosas**	**3.41**	**160**	⇑*i*P	**Pn**	**20 49 57.8**	**+2.9**
LMEL				*i* S	**Sn**	**20 50 36.5**	**+2.4**
LMEL				IAML		20 50 39.5	
	comp=N,2μm,0.2s						
BO01	**Tunca**	**3.76**	**174**		**Pn**	**20 50 01.2**	**+1.6**
BO02	**Sierra Bellavi**	**4.20**	**171**	Pn	**Pn**	**20 50 07.2**	**+1.6**
ACLC	**CERRO LA CRUZ**	**4.20**	**74**	*e*P	**Pn**	**20 50 08.1**	**+2.2**
ACLC				*e*S	**Sn**	**20 50 54.3**	**+0.5**
ACLC				IAML		20 51 06.8	
	comp=Z,1μm,0.4s						
GO05	**Huala**	**4.37**	**184**		**Pn**	**20 50 08.6**	**+0.7**
GO05	**Huala**	**4.37**	**184**	*e*P	**Pn**	**20 50 08.7**	**+0.7**
GO05				*e*S	**Sn**	**20 50 55.5**	**-2.0**
AC02	**Maricunga**	**4.37**	**30**	Pn	**Pn**	**20 50 10.2**	**+1.9**
AC01	**Pan de Azucar**	**4.56**	**11**		**Pn**	**20 50 10.6**	**-0.1**
RFA	**San Rafael**	**4.89**	**148**	*e*P	**Pn**	**20 50 17.4**	**+2.2**
RFA				IAML		20 52 00.4	
	comp=Z,202nm,1.3s						
CYA	**Choya**	**5.50**	**68**	*e*P	**Pn**	**20 50 25.1**	**+1.5**
CYA				*e*S	**Sn**	**20 51 21.5**	**-4.1**
CYA				IAML		20 51 34.5	
	comp=Z,293nm,0.8s						
GO02	**Mina Guanaco**	**5.74**	**18**		**Pn**	**20 50 27.2**	**+0.1**
BI02	**San Fabin de**	**6.01**	**178**	Pn	**Pn**	**20 50 32.0**	**+1.4**
TCA	**Tanti**	**6.05**	**98**	*e*P	**Pn**	**20 50 31.4**	**+0.2**
TCA				IAML		20 52 15.3	
	comp=Z,338nm,1.0s						
PB14	**IPOC Station P**	**6.08**	**10**	Pn	**Pn**	**20 50 31.0**	**-0.8**
PB14	**IPOC Station P**	**6.08**	**10**	*e*P	**Pn**	**20 50 31.3**	**-0.6**
PB14				IAML		20 52 25.1	
	comp=Z,233nm,1.0s						
BI03	**Tigo**	**6.30**	**191**		**Pn**	**20 50 34.7**	**+0.3**
H03N1	**Juan Fernandez**	**6.81**	**244**	T	T	20 57 45.1	
	baz=72,slow=72,SNR=357						
H03N3	**Juan Fernandez**	**6.83**	**244**	T	T	20 57 43.4	
	baz=72,slow=72,SNR=80						
H03N2	**Juan Fernandez**	**6.83**	**244**	T	T	20 57 45.7	
	baz=72,slow=72,SNR=382						
VA04	**Juan Fernndez**	**6.83**	**242**	Pn	**Pn**	**20 50 44.0**	**+2.3**
PB10	**IPOC Station P**	**7.16**	**8**	Pn	**Pn**	**20 50 46.8**	**+0.5**
PB15	**IPOC Station P**	**7.64**	**15**		**Pn**	**20 50 53.0**	**-0.1**
PB06	**IPOC Station P**	**8.11**	**13**		**Pn**	**20 50 58.0**	**-1.5**
LC01	**Cunco**	**8.24**	**182**	Pn	**Pn**	**20 50 59.7**	**-1.4**
LVC	**Limon Verde**	**8.35**	**17**	P	**Pn**	**20 51 01.8**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=204,slow=10.0,SNR=3.6						
LVC				S	**Sn**	**20 52 33.0**	**-3.2**
	baz=191,slow=14,SNR=1.5						
LVC	**Limon Verde**	**8.35**	**17**	Pn	**Pn**	**20 51 01.3**	**-1.7**
LVC	**Limon Verde**	**8.35**	**17**	*e*S	**Sn**	**20 52 43.5**	**+7.3**
PB04	**IPOC Station P**	**8.38**	**9**	Pn	**Pn**	**20 51 03.1**	**-0.1**
PB07	**IPOC Station P**	**9.01**	**10**	Pn	**Pn**	**20 51 10.3**	**-1.6**
PB09	**IPOC Station P**	**9.06**	**14**	Pn	**Pn**	**20 51 11.3**	**-1.2**
PB01	**IPOC Station P**	**9.74**	**12**	Pn	**Pn**	**20 51 19.2**	**-2.6**
PLCA	**Paso Flores**	**10.11**	**175**	P	**Pn**	**20 51 27.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=8.2						
PLCA				LR	LR	20 55 16.6	
	comp=Z,220nm,18.6s,baz=347,slow=37						
TA01	**Diego Aracena**	**10.11**	**8**	Pn	**Pn**	**20 51 28.0**	**+1.2**
PB08	**IPOC Station P**	**10.69**	**12**	Pn	**Pn**	**20 51 32.8**	**-2.2**
PB11	**IPOC Station P**	**10.97**	**10**	Pn	**Pn**	**20 51 37.0**	**-1.8**
PSGCX	**Pisagua**	**11.08**	**7**	Pn	**Pn**	**20 51 37.6**	**-2.5**
GO01	**Chusmiza**	**11.14**	**12**	Pn	**Pn**	**20 51 38.3**	**-3.0**
MNMC	**Minye Minye**	**11.60**	**9**	Pn	**Pn**	**20 51 44.6**	**-2.8**
PB12	**IPOC Station P**	**12.03**	**6**	Pn	**Pn**	**20 51 51.8**	**-1.3**
PB16	**IPOC Station P**	**12.40**	**9**	Pn	**Pn**	**20 51 57.0**	**-1.5**
CPUP	**Villa Florida**	**13.26**	**75**	P	Pn	20 52 05.5	-4.2
	comp=Z,0.1nm,0.3s,baz=163,slow=20,SNR=2.1						
CPUP				S	**Sn**	**20 54 28.4**	**-7.4**
	comp=Z,0.5nm,0.3s,baz=192,slow=18,SNR=3.0						
CPUP	**Villa Florida**	**13.26**	**75**	Pn	**Pn**	**20 52 09.0**	**-0.8**
LPAZ	**La Paz**	**14.64**	**15**	P	**Pn**	**20 52 31.0**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=194,slow=6.9,SNR=33						
LPAZ	**La Paz**	**14.64**	**13**	Pn	**Pn**	**20 52 31.2**	**+2.1**
LPAZ	**La Paz**	**14.64**	**13**	*e*P	**Pn**	**20 52 29.5**	**+0.5**
SIV	**San Ignacio**	**17.48**	**36**	P	**Pn**	**20 53 05.6**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=218,slow=9.3,SNR=18						
AQDB	**Aquidauana**	**17.53**	**58**	*e*P	**Pn**	**20 53 04.4**	**-1.1**
PTLB	**Pontes e Lacer**	**18.95**	**40**	*e*P	**P**	**20 53 21.8**	**+0.1**
PCMB	**Pacaembu**	**20.33**	**69**	*e*P	**P**	**20 53 35.7**	**-1.1**
GO09	**Cerro Castillo**	**20.62**	**181**	Pn	Pn	20 53 42.3	+0.1
ETMB	**Extrema**	**21.32**	**15**	*e*P	**P**	**20 53 49.1**	**+1.6**
ITRB	**Iturama**	**22.05**	**65**	*e*P	**P**	**20 53 53.2**	**-2.2**
PET01	**Itanhaem-SP**	**22.46**	**80**	*e*P	**P**	**20 53 56.9**	**-2.8**
SPB	**Sao Paulo**	**22.60**	**78**	*e*P	**P**	**20 53 59.3**	**-1.9**
SPB				*ep*P	**P**	**20 54 01.3**	**+0.2**
BB19B	**Bebedouro**	**22.81**	**71**	*e*P	**P**	**20 54 02.7**	**-0.7**
CZSB	**Cruzeiro do Su**	**22.82**	**357**	*e*P	**P**	**20 54 06.4**	**+2.9**
SAML	**Samuel**	**22.97**	**22**	P	**P**	**20 54 06.0**	**+1.0**
SAML	**Samuel**	**22.97**	**22**	*e*P	**P**	**20 54 05.5**	**+0.5**
RCLB	**Rio Claro- Sao**	**23.00**	**75**	*e*P	**P**	**20 54 04.3**	**-1.1**
VAO	**Valinhos**	**23.23**	**77**	*e*P	**P**	**20 54 06.1**	**-1.6**
EFI	**East Falkland**	**23.28**	**158**	P	**P**	**20 54 06.7**	**-1.1**
EFI				IAmb	IAmb	20 54 08.6	
	comp=Z,40nm,1.1s						
ARAG	**Araguaiana, MT**	**23.43**	**55**	*e*P	**P**	**20 54 09.0**	**-0.7**
PARB	**Paraibuna**	**24.22**	**79**	*e*P	**P**	**20 54 15.5**	**-1.5**
USHA	**Ushuaia**	**24.28**	**176**	P	**P**	**20 54 18.

R58B	Mineral	68.50	355	P	P	21 00 02.9	+1.1
T47A	Sharon Grove	68.83	347	P	P	21 00 04.0	+0.1
T47A				IAmb	IAmb	21 00 05.3	
comp=Z,21nm,1.1s							
SYO	Syowa Base	68.85	159	⇓iP	P	21 00 02.0	-1.7
LCAR	Lake Charles	68.86	343	IAmb	IAmb	21 00 05.6	
comp=Z,11nm,0.8s							
FCAR	Ozark Folk Cen	68.94	342	P	P	21 00 04.9	+0.3
FCAR				IAmb	IAmb	21 01 37.2	
comp=Z,8.6nm,0.7s							
PBMO	Poplar Bluff	69.35	344	IAmb	IAmb	21 00 08.3	
comp=Z,9.5nm,0.7s							
MNTX	Cornudas Mount	69.80	330	P	P	21 00 10.6	+0.5
P57A	Homestead Farm	70.02	355	IAmb	IAmb	21 00 13.8	
comp=Z,12nm,1.0s							
FVM	French Village	70.50	344	IAmb	IAmb	21 00 16.0	
comp=Z,14nm,0.9s							
MSTX	Muleshoe	70.69	333	IAmb	IAmb	21 00 18.0	
comp=Z,15nm,1.1s							
CCM	Cathedral Cave	70.77	344	P	P	21 00 16.4	+0.6
CCM				IAmb	IAmb	21 00 17.6	
comp=Z,16nm,0.9s							
P48A	Milroy	70.92	349	P	P	21 00 16.3	-0.5
P48A				IAmb	IAmb	21 00 26.2	
comp=Z,15nm,0.8s							
O49A	Covington	71.46	350	P	P	21 00 19.8	-0.2
O49A				IAmb	IAmb	21 00 35.5	
comp=Z,17nm,0.8s							
121A	Cookes Peak, D	71.57	328	P	P	21 00 21.1	0.0
121A				IAmb	IAmb	21 00 24.6	
comp=Z,11nm,1.0s							
N49A	Columbus Grove	72.15	350	P	P	21 00 24.5	+0.4
N49A				IAmb	IAmb	21 00 24.9	
comp=Z,18nm,0.8s							
P40A	Paris	72.36	344	P	P	21 00 25.9	+0.5
ANMO	Albuquerque	73.04	331	P	P	21 00 31.5	+1.8
comp=Z,0.1nm,0.8s,baz=309,slow=5.6,SNR=3.6							
ANMO	Albuquerque	73.04	331	IAmb	IAmb	21 00 32.4	
comp=Z,6.4nm,1.4s							
LIC	Lamto	73.37	72	eP	P	21 00 30.9	-1.1
comp=Z,37nm,0.7s							
TIC	Toumodi	73.62	72	eP	P	21 00 32.3	-1.2
KIC	Kosan Boka	73.69	72	eP	P	21 00 32.8	-1.1
comp=Z,84nm,1.1s							
DBIC	Dimbokro	73.76	72	P	P	21 00 33.5	-0.8
comp=Z,19nm,0.6s,baz=214,slow=5.7,SNR=31							
DBIC	Dimbokro	73.76	72	P	P	21 00 33.3	-1.0
T25A	Trinidad	74.10	333	P	P	21 00 36.0	0.0
T25A				IAmb	IAmb	21 00 39.9	
comp=Z,17nm,1.2s							
L40A	Anamosa	74.57	345	IAmb	IAmb	21 00 39.7	
comp=Z,24nm,1.0s							
SDCO	Great Sand Dun	75.06	333	P	P	21 00 43.2	+1.6
SADO	Sadowa	75.37	354	P	P	21 00 43.0	+0.2
comp=Z,11nm,0.9s,baz=268,slow=1.4,SNR=5.1							
WUAZ	Wupatki	75.70	327	P	P	21 00 46.8	+1.6
MVCO	Mesa Verde	75.83	330	P	P	21 00 47.5	+1.5
MAW	Mawson	76.28	164	P	P	21 00 48.1	+0.1
comp=Z,12nm,0.9s,baz=200,slow=6.9,SNR=13							
MAW	Mawson	76.28	164	P	P	21 00 48.0	+0.1
PFO	Pinyon Flats O	76.68	323	P	P	21 00 53.4	+2.6
comp=Z,4.2nm,0.9s,baz=130,slow=6.7,SNR=3.7							
PFO	Pinyon Flats O	76.68	323	P	P	21 00 52.2	+1.4
PV13	Radium Mtn., P	76.76	331	IAmb	IAmb	21 00 54.2	
comp=Z,12nm,1.2s							
K31A	O'Neill	77.07	340	P	P	21 00 53.5	+0.9
D62A	Allapoint, All	77.40	2	P	P	21 00 55.1	+0.8
D62A				IAmb	IAmb	21 00 56.3	
comp=Z,10nm,0.8s							
ECSD	EROS Data Cent	77.48	342	IAmb	IAmb	21 00 56.6	
comp=Z,18nm,0.8s							
KNB	Kanab	77.60	327	P	P	21 00 58.0	+2.1
SRU	San Rafael Swe	78.29	330	P	P	21 01 00.9	+1.2
F36A	Milaca	78.70	345	P	P	21 01 01.8	+0.2
F36A				IAmb	IAmb	21 01 02.6	
comp=Z,9.3nm,0.8s							
TSUM	Tsumeb	79.78	106	P	P	21 01 07.7	-0.7
TSUM				IAmb	IAmb	21 01 09.0	
comp=Z,15nm,0.9s							
HWUT	Hardware Ranch	80.80	331	P	P	21 01 14.0	+0.7
PDAR	Pinedale Array	80.95	333	P	P	21 01 15.1	+0.9
comp=Z,0.5nm,0.6s,baz=130,slow=7.1,SNR=4.2							
PDAR	Pinedale Array	80.95	333	P	P	21 01 14.0	-0.2
BOSA	Boshof	81.30	118	P	P	21 01 15.6	-0.9
comp=Z,11nm,0.7s,baz=249,slow=3.5,SNR=26							
BOSA	Boshof	81.30	118	P	P	21 01 15.6	-0.9
BOSA				IAmb	IAmb	21 01 16.4	
comp=Z,13nm,0.8s							
NVAR	Mina Array Bea	81.36	325	P	P	21 01 18.0	+1.5
comp=Z,1.8nm,0.8s,baz=162,slow=6.9,SNR=9.0							
NVAR	Mina Array Bea	81.36	325	P	P	21 01 17.1	+0.7
AGMN	Agassiz Nation	81.54	344	P	P	21 01 17.0	+0.2
AGMN				IAmb	IAmb	21 01 17.7	
comp=Z,8.2nm,0.8s							
TOA0	Torodi Ar. Sit	82.72	70	P	P	21 01 22.5	-1.3
TOA0				IAmb	IAmb	21 01 23.8	
comp=Z,7.8nm,0.8s							
TORD	Torodi Ar. Bea	82.72	70	P	P	21 01 22.8	-1.0
comp=Z,6.1nm,0.7s,baz=280,slow=5.6,SNR=22							
TORD	Torodi Ar. Bea	82.72	70	P	P	21 01 22.5	-1.3
ULM	Lac du Bonnet	83.37	345	P	P	21 01 26.8	+0.5
comp=Z,6.0nm,0.7s,baz=186,slow=5.8,SNR=4.9							
ULM	Lac du Bonnet	83.37	345	IAmb	IAmb	21 01 27.4	
comp=Z,7.8nm,0.8s							
LBTB	Lobatse	83.38	115	P	P	21 01 26.5	-0.8
CASY	Casey	83.38	181	P	P	21 01 26.6	+0.2
J08A	Circle Bar Ran	85.25	328	P	P	21 01 37.9	+1.7
J08A				IAmb	IAmb	21 01 38.4	
comp=Z,5.6nm,0.8s							
LSZ	Lusaka	90.49	108	P	P	21 02 02.4	+0.3
ESDC	Sonseca Array	93.98	46	P	P	21 02 17.2	-0.3
comp=Z,0.8nm,1.1s,baz=197,slow=3.9,SNR=3.0							
AKASG	Malin Array Be	119.62	46	PKP	PKPdf	21 07 47.3	-1.6
comp=Z,0.3nm,0.3s,baz=260,slow=3.1,SNR=4.9							
ASAR	Alice Springs	120.72	207	PKP	PKPdf	21 07 50.5	-1.6
comp=Z,0.5nm,1.1s,baz=132,slow=1.4,SNR=1.7							
WRA	Warramunga Arr	123.86	210	PKP	PKPdf	21 07 56.4	-1.8
comp=Z,0.8nm,0.8s,baz=164,slow=1.5,SNR=16							
H11S2	WAKE ISLAND Hyl	26.13	271	T	T	23 26 51.3	
baz=116,slow=75,SNR=190							
H11S1	WAKE ISLAND Hyl	26.14	271	T	T	23 26 51.4	
baz=116,slow=75,SNR=234							
H11S3	WAKE ISLAND Hyl	26.15	271	T	T	23 26 52.8	
baz=116,slow=75,SNR=217							
KBZ	Khabaz	127.47	56	PKP	PKPdf	21 08 03.4	-0.7
comp=Z,2.2nm,0.9s,baz=172,slow=5.5,SNR=4.6							
PETK	Petropavlovsk-	138.03	317	PKP	PKPdf	21 08 24.7	+0.9
comp=Z,0.9nm,0.7s,baz=57,slow=11,SNR=2.0							
ZALV	Zalesovo Beam	151.16	29	PKPbc	PKPbc	21 08 51.8	-0.4
comp=Z,29nm,0.6s,baz=305,slow=3.2,SNR=77							
ZALV	Zalesovo Beam	151.16	29		PKPbc	21 08 51.6	-0.6
MKAR	Makanchi Array	154.18	44	PKPbc	PKPbc	21 08 58.4	-0.8
comp=Z,2.2nm,0.7s,baz=300,slow=1.6,SNR=12							
MKAR				PKPab	PKPab	21 09 12.7	-0.4
comp=Z,2.3nm,0.9s,baz=286,slow=4.4,SNR=6.3							
MJAR	Matsushiro Arr	154.55	291	PKPab	PKPab	21 09 16.2	+1.2
comp=Z,2.1nm,0.8s,baz=120,slow=2.8,SNR=5.9							
WMQ	Urumqi	158.98	46	ePKP	PKPdf	21 08 56.9	-0.5
SONM	Songino Array	162.76	5	PKPab	PKPab	21 09 50.7	+0.5
comp=Z,0.8nm,0.9s,baz=29,slow=3.4,SNR=5.1							
CMAR	Chiang Mai Arr	165.14	143	PKPab	PKPab	21 10 00.2	-1.1
comp=Z,1.3nm,0.9s,baz=237,slow=6.3,SNR=7.3							
HHC	Hu-ho-hao-te	169.50	347	ePKP	PKPdf	21 09 08.9	+2.0
HHC				LR	LR		
comp=Z,100nm,19.6s							
HHC				LR	LR		
comp=Z,120nm,18.7s							
HHC				LR	LR		
comp=Z,180nm,18.7s							
NJ2	Nanjing	170.96	282	ePKP	PKPdf	21 09 07.0	-0.9
LZH	Lanzhou	173.36	34	ePKP	PKPdf	21 09 11.1	+2.0
LZH				pPKP	pPKPdf	21 09 21.2	-1.4
LZH				sPKP		21 09 25.5	
CD2	Chengdu	175.99	85	PKP	PKPdf	21 09 09.0	-0.9

TAP 05 21:04:38.4, 23°.18N×120°.83E, h6km, ML1.9, 3C-6D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	Tauyuan	0.07	260	⇑iP	Pg	21 04 40.5	+0.3
baz=255							
STYT				i S	Sg	21 04 41.8	+0.3
baz=255							
ELDTW	Lidau	0.17	86	⇓iP	Pg	21 04 42.7	+0.9
baz=88							
ELDTW				S	Sg	21 04 45.1	+0.9
baz=88							
WTP	Ta-pu	0.21	289	⇓iP	Pg	21 04 43.5	+0.9
baz=288							
WTP				eS	Sg	21 04 47.2	+1.7
baz=288							
TPUB	Ta-pu	0.23	303	⇓iP	Pg	21 04 43.8	+0.9
baz=303							
TPUB				eS	Sg	21 04 47.3	+1.4
baz=303							
SGST	Jiashian	0.25	248	⇑iP	Pg	21 04 43.5	+0.2
baz=245							
SGST				eS	Sg	21 04 47.5	+0.9
baz=245							
SLGT	Liugui	0.25	224	P	Pg	21 04 44.3	+1.0
baz=217							
SLGT				eS	Sb	21 04 48.3	-1.6
baz=217							
CHN1	Nanshi	0.28	272	⇓iP	Pb	21 04 45.3	-0.6
baz=271							
CHN1				eS	Sb	21 04 50.0	-0.9
baz=271							
SNST	Tainan City	0.31	278	eP	Pb	21 04 45.9	-0.5
baz=277							
SNST				eS	Sb	21 04 51.7	-0.1
baz=277							
YUS	Yu-Shan	0.33	19	P	Pg	21 04 45.6	+0.6
baz=30							
YUS				S	Sb	21 04 51.4	-1.4
baz=30							
ALS	Alishan	0.33	355	⇑iP	Pg	21 04 45.5	+0.4
baz=356							
ALS				eS	Sg	21 04 50.4	+0.9
baz=356							
LONT	Longtian	0.38	134	⇓iP	Pb	21 04 46.8	-0.8
baz=131							
LONT				S	Sg	21 04 52.3	+1.4
baz=131							
TWG	Pinlang	0.42	148	eP	Pb	21 04 47.5	-0.6
baz=147							
TWG				S	Sb	21 04 53.4	-1.4
baz=147							
TWGBT	Beinan	0.42	148	eP	Pg	21 04 47.2	+0.6
baz=147							
TWGBT				eS	Sg	21 04 53.3	+1.2
baz=147							
FULB	Fuli	0.42	87	⇓iP	Pb	21 04 48.0	-0.3
baz=82							
FULB				eS	Sb	21 04 54.5	-0.5
baz=82							
CHN5	Tsauling	0.44	341	P	Pb	21 04 47.9	-0.8
baz=340							
CHN5				eS	Sb	21 04 54.8	-0.8
baz=340							
TWF1	Yuli	0.46	68	P	Pg	21 04 47.9	+0.6
baz=70							
TWF1				eS	Sg	21 04 53.8	+0.4
baz=70							
SSD	Sandimen	0.47	204	P	Pg	21 04 48.0	+0.6
baz=196							
SSD				eS	Sg	21 04 53.8	+0.3
baz=196							
YULB	Yu-li	0.48	63	P	Pg	21 04 47.9	+0.2
baz=66							
YULB				eS	Sg	21 04 53.8	-0.1
baz=66							
EDH	Donghe	0.48	115	P	Pb	21 04 48.9	-0.3
baz=122							
EDH				eS	Sb	21 04 56.2	-0.3
baz=122							
EYUL	Yuli	0.48	69	P	Pb	21 04 48.6	-0.6
baz=71							
EYUL				eS	Sg	21 04 54.2	+0.4
baz=71							
TSMG	Majia	0.50	200	eP	Pg	21 04 48.6	+0.5
baz=200							
TSMG				eS	Sg	21 04 54.8	+0.3
baz=200							
WHYT	Xinyi Township	0.52	2	P	Pg	21 04 49.1	+0.6
baz=10.0							
WHYT				eS	Sb	21 04 56.7	-1.0
baz=10.0							
EHY	Hungye	0.56	54	eP	Pg	21 04 49.8	+0.6
baz=62							
EHY				eS	Sg	21 04 56.5	+0.1
baz=62							
WDLH	Douliu	0.58	332	eP	Pb	21 04 51.6	+0.6
baz=331							
WDLH				eS	Sb	21 05 00.8	+1.3
baz=331							
ECL	Taimali	0.59	169	eP	Pg	21 04 50.4	+0.7
baz=168							
ECL				eS	Sb	21 04 58.5	-1.1
baz=168							
MASBT	Mashibuluo	0.59	198	eP	Pg	21 04 50.0	+0.2
baz=203							
MASBT				eS	Sg	21 04 58.4	+0.9
baz=203							
SSLB	Suanglung	0.62	10	eP	Pg	21 04 50.4	0.0
baz=16							
SSLB				eS	Sg	21 04 58.9	+0.5
baz=16							
HGSD	Ruisui	0.63	60	eP	Pb	21 04 51.5	-0.3
baz=61							
HGSD				eS	Sg	21 04 59.4	+0.7
baz=61							
VWDT	VWDT	0.64	26	eP	Pg	21 04 50.9	+0.2
baz=30							
VWDT				eS	Sg	21 04 60.0	+0.9
baz=30							
SMLT	Sun Moon Lake	0.71	5	eP	Pg	21 04 52.5	+0.5
baz=13							
SMLT				eS	Sb	21 05 03.9	+0.7
baz=13							
WNT	Mingjian	0.71	349	eP	Pb	21 04 54.1	+0.9
baz=348							
WNT				eS	Sb	21 05 04.2	+0.9
baz=348							
EAST	Anshuo	0.79	179	eP	Pb	21 04 54.4	-0.1
baz=170							

IDC ***05*** *21:24:37.3±0.5, 26°.55S×114°.68W, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.5/33, mbtmp4.5/16, ML3.1/1, MS4.7/26, Ms1 4.6/26, ms1mx4.6/31, Error ellipse: s-maj=18.7km s-min=17.2km az=161.0*

MOS ***05*** *21:24:37.8±1.1, 26°.51S×114°.31W, h10km, mb5.4/14, Error ellipse: s-maj=10.8km s-min=7.3km az=85.4*

NEIC ***05*** *21:24:38.9±1.3, 26°.66S±0°.10×114°.36W±0°.09, h10km±1km, mb5.3/534, Error ellipse: s-maj=16.8km s-min=14.0km az=185.0*

UNK ***05*** *21:24:38.9, 26°.66S×114°.36W, h10km*

GCMT ***05*** *21:24:40.9±0.1, 26°.87S±0°.01×114°.61W±0°.01, h12km, MW5.2/143, Moment Tensor Solution. s96,c144; s143,c249; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.90±.02; Mθθ0.41±.02; Mφφ0.49±.01; Mrθ0.13±.05; Mθφ-0.54±.01; Mφr0.08±.05; Best double couple: M0 0.96000×10^17 NP1:φs147.00000°, δ45.00000°, λ-76.00000°. NP2:φs307.00000°, δ47.00000°, λ-104.00000°. Principal axes: T 0.9910, Plg1.0000°, Azm47.0000°; N -0.0640, Plg10.0000°, Azm317.0000°; P -0.9280, Plg80.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 21:24:38.6±0.3, 26°.66S±0°.06×114°.47W±0°.05, h10km, n1190, σ0 95/1062, mb5.3/273, MS4.8/44, 9C-70D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	4.61	97	Pn	Pn	21 25 51.8	+3.6
0.8nm,0.3s,baz=238,slow=15,SNR=2.9							
RPN				Sn	Sb	21 26 53.4	-1.6
2.6nm,0.3s,baz=213,slow=12,SNR=1.3							
RPN	Rapa Nui	4.61	97	P	Pn	21 25 47.4	-0.9
RPN						21 26 36.7	
RPN	Rapa Nui	4.61	97	Pn	Pn	21 25 47.4	-0.9
RPN					Sn	21 26 36.7	-5.1
RKT	Rikitea	18.93	276	eLQ	LQ	21 32 20.7	
4μm,28.8s							
RKT				eLR	LR	21 33 08.3	
comp=Z,4μm,28.0s							
TAOE	Nuku Hiva Isla	30.09	301	P	P	21 30 48.5	0.0
H03N2	Juan Fernandez	31.38	111	T	T	22 04 01.8	
baz=277,slow=74,SNR=2977							
H03N3	Juan Fernandez	31.39	111	T	T	22 04 03.0	
baz=277,slow=74,SNR=2854							
H03N1	Juan Fernandez	31.40	111	T	T	22 04 02.9	
baz=277,slow=74,SNR=3573							
VA04	Juan Fernndez	31.48	111	P	P	21 30 56.1	-4.4
TBI	Tubuai	31.83	268	eLQ	LQ	21 37 47.1	
1μm,32.8s							
TBI				eLR	LR	21 39 06.9	
comp=Z,3μm,30.2s,baz=100							
TBI	Tubuai	31.83	268	eT	T	22 04 07.6	
68nm,0.3s							
PPT2	Papeete2	33.66	278	eS	S	21 36 31.6	-11
365nm,25.5s							
PPT2				eLQ	LQ	21 38 34.1	
PPT2				eLR	LR	21 40 01.0	
comp=Z,5μm,26.0s,baz=109							
PPT	Papeete	33.67	278	LR	LR	21 41 03.9	
comp=Z,1μm,19.0s,baz=104,slow=30							
VA01	Torpederas	37.48	110	P	P	21 31 51.7	-0.8
VA01				IAmb	IAmb	21 32 10.6	
comp=Z,39nm,0.9s							
LC01	Cunco	37.51	120	P	P	21 31 55.0	+2.3
LL01	San Ignacio de	37.62	126	P	P	21 31 54.1	+0.6
BI02	San Fabin de	37.82	116	P	P	21 31 56.4	+0.9
BO01	Tunca	37.93	112	P	P	21 31 54.8	-1.5
CO02	Combarbal	38.13	107	P	P	21 31 58.5	+0.4
BO02	Sierra Bellavi	38.17	113	P	P	21 31 57.1	-1.4
PEL	Peldehue	38.28	110	P	P	21 31 59.6	+0.2
PEL				pmax	pmax		
comp=Z,43nm,1.5s							
PEL	Peldehue	38.28	110	P	P	21 31 59.6	+0.2
AC04	Llanos de Chal	38.39	103	P	P	21 31 57.3	-3.0
GO04	Tololo Observa	38.39	106	P	P	21 32 00.6	0.0
GO04				IAmb	IAmb	21 32 03.7	
comp=Z,92nm,1.4s							
VA03	San Esteban	38.41	110	P	P	21 31 59.3	-1.2
CO03	El Pedregal	38.42	107	P	P	21 32 01.3	+0.7
LCO	Las Campanas	38.61	104	P	P	21 32 02.5	+0.1
LCO				pmax	pmax		
comp=Z,35nm,1.2s							
LCO	Las Campanas	38.61	104	P	P	21 32 02.5	+0.1
PLCA	Paso Flores	38.74	123	P	P	21 32 05.4	+2.3
comp=Z,17nm,1.0s,baz=280,slow=9.2,SNR=22							
PLCA				LR	LR	21 43 24.6	
comp=Z,138nm,20.4s,baz=284,slow=29							
PLCA	Paso Flores	38.74	123	P	P	21 32 04.2	+1.1
PLCA				pmax	pmax		
comp=Z,60nm,1.3s							
PLCA	Paso Flores	38.74	123	P	P	21 32 04.2	+1.1
PLCA				IAmb	IAmb	21 32 06.9	
comp=Z,60nm,1.2s							
PLCA	Paso Flores	38.74	123	eP	P	21 32 05.7	+2.5
AC05	El Transito	39.00	104	P	P	21 32 06.0	+0.4
AC05				IAmb	IAmb	21 32 09.1	
comp=Z,71nm,1.4s							
CO01	Juntas del Tor	39.02	105	P	P	21 32 06.5	+0.7
GO03	Copiap	39.22	102	P	P	21 32 06.8	-0.5
ATAH	Atahualpa	39.39	67	P	P	21 32 11.1	+1.9
comp=Z,10nm,0.8s,baz=250,slow=7.6,SNR=10							
PB14	IPOC Station P	39.63	97	P	P	21 32 10.4	-0.7
PB10	IPOC Station P	39.75	95	P	P	21 32 08.2	-3.4
PB10				IAmb	IAmb	21 32 14.5	
comp=Z,88nm,1.4s							
ZON	Zonda	40.08	108	P	P	21 32 15.2	+0.8
ZON				pmax	pmax		
comp=Z,31nm,1.3s							
ZON	Zonda	40.08	108	P	P	21 32 15.2	+0.8
GO09	Cerro Castillo	40.16	139	P	P	21 32 15.9	+1.1
GO02	Mina Guanaco	40.24	98	P	P	21 32 16.5	+0.4
AC02	Maricunga	40.32	101	P	P	21 32 16.4	-0.6
PB04	IPOC Station P	40.41	94	P	P	21 32 16.6	-0.8
PB04				IAmb	IAmb	21 32 29.3	
comp=Z,93nm,1.3s							
PB15	IPOC Station P	40.79	95	P	P	21 32 20.6	0.0
PB07	IPOC Station P	40.81	93	P	P	21 32 20.7	+0.1
PB07				IAmb	IAmb	21 32 24.0	
comp=Z,60nm,1.3s							
PATCX	Punta Patache	40.82	92	P	P	21 32 21.4	+0.7
PATCX				IAmb	IAmb	21 32 29.9	
comp=Z,56nm,1.3s							
PB06	IPOC Station P	40.83	95	P	P	21 32 19.9	-0.9
PB12	IPOC Station P	41.35	88	P	P	21 32 24.9	-0.2
PB01	IPOC Station P	41.35	92	P	P	21 32 25.2	+0.2
LVC	Limon Verde	41.44	95	ceP	P	21 32 29.6	+3.5
LVC				pmax	pmax		
comp=Z,86nm,2.5s							
LVC	Limon Verde	41.44	95	P	P	21 32 26.8	+0.7
LVC	Limon Verde	41.44	95	eP	P	21 32 29.4	+3.3
PB11	IPOC Station P	41.59	90	P	P	21 32 27.8	+0.8
PB08	IPOC Station P	41.92	91	P	P	21 32 29.6	-0.5
PB16	IPOC Station P	42.18	88	P	P	21 32 31.0	-1.4
OTAV	Otavalo	43.78	58	⇓eP	P	21 32 46.7	+1.5
OTAV	Otavalo	43.78	58	ceP	P	21 32 48.0	+2.8
OTAV				pmax	pmax		
comp=Z,30nm,1.7s							
OTAV	Otavalo	43.78	58	P	P	21 32 44.8	-0.5
CZSB	Cruzeiro do Su	43.85	72	eP	P	21 32 47.7	+2.4
LPAZ	La Paz	44.13	86	P	P	21 32 49.8	+1.5
comp=Z,2.1nm,0.7s,baz=257,slow=5.4,SNR=12							
LPAZ				LR	LR	21 47 07.1	
comp=Z,982nm,20.9s,baz=251,slow=30							
LPAZ	La Paz	44.13	86	eP	P	21 32 49.6	+1.4
LPAZ	La Paz	44.13	86	P	P	21 32 48.0	-0.2
LPAZ				pmax	pmax		
comp=Z,3.0nm,0.8s							
LPAZ	La Paz	44.13	86	P	P	21 32 48.0	-0.2
LPAZ	La Paz	44.13	86	eP	P	21 32 50.2	+1.9
MG01	Puerto William	44.13	143	P	P	21 32 47.5	+0.5
MG01				IAmb	IAmb	21 32 49.5	
comp=Z,58nm,1.4s							
GCUF	Volcan Galeras	45.26	58	⇓eP	P	21 32 59.7	+2.6
PUAC	Puerto Asis, P	45.42	60	⇓eP	P	21 32 58.9	+1.1
BBAC	Balboa, Cauca	45.85	57	eP	P	21 33 00.9	-0.5
PTLC	Puerto Leguiza	46.57	62	⇓eP	P	21 33 07.0	+0.1
JTS	Las Juntas de	46.59	42	eP	P	21 33 00.5	-6.5
JTS	Las Juntas de	46.59	42	⇑eP	P	21 33 12.7	+5.7
JTS				pmax	pmax		
comp=Z,61nm,1.6s							
JTS	Las Juntas de	46.59	42	P	P	21 33 07.9	+0.8
JTS				IAmb	IAmb	21 33 11.1	
comp=Z,31nm,1.3s							
TLIG	Tlapa	46.59	21	P	P	21 33 08.1	+1.1
POPC	Popayan, Colom	46.62	57	⇓eP	P	21 33 08.3	+0.8
PCON	Cinco Dias	46.69	58	⇓eP	P	21 33 10.0	+1.5
FLOC	Florencia	46.78	59	⇓eP	P	21 33 10.2	+1.6
GARC	Garzon, Huila	47.29	59	⇓eP	P	21 33 14.5	+1.7
MTO3	Montecristo	47.55	34	P	P	21 33 15.1	+0.4
BETC	Betania	47.65	58	eP	P	21 33 17.3	+2.0
ESQI	Esquipulas	47.70	34	P	P	21 33 16.1	+0.4
ACON	Acoyapa	47.80	40	P	P	21 33 15.8	-0.6
ACON				IAmb	IAmb	21 33 24.5	
comp=Z,35nm,1.3s							
YOTC	Yotoco, Valle	47.81	56	⇓eP	P

PMSA Palmer Station 49.64 154 P P 21 33 30.5 +0.6
PMSA Palmer Station 49.64 154 eP P 21 33 28.5 -1.4
HELC Santa Helena 49.89 55|| P P 21 33 34.0 +1.0
ROSC El Rosal 49.89 57 P P 21 33 33.5 +0.5
comp=Z,8.7nm,0.4s,baz=251,slow=4.4,SNR=10
ROSC LR LR 21 49 56.8
comp=Z,1µm,20.9s,baz=226,slow=30
ROSC El Rosal 49.89 57|| eP P 21 33 35.3 +2.3
ROSC El Rosal 49.89 57 P P 21 33 34.6 +1.6
ROSC IAmb IAmb 21 33 46.7
comp=Z,16nm,0.7s
VILC Villavicencio, 49.90 58 eP P 21 33 36.3 +3.5
NORC Norcasia 49.96 56|| eP P 21 33 33.5 +0.4
DBBC Dabeiba 49.96 53 eP P 21 33 35.7 +2.6
CHIC Chingaza 50.20 58|| eP P 21 33 37.4 +2.0
ZAIG Zacatecas 50.47 14 P P 21 33 37.5 +0.4
SPBC San Pablo de B 50.61 57|| eP P 21 33 39.4 +1.3
CPUP Villa Florida 50.75 103 LR LR 21 51 32.8
comp=Z,594nm,20.4s,baz=253,slow=32
CPUP Villa Florida 50.75 103 P P 21 33 38.7 -0.3
CPUP pmax pmax
comp=Z,12nm,1.4s
CPUP Villa Florida 50.75 103 P P 21 33 38.7 -0.3
CPUP Villa Florida 50.75 103 eP P 21 33 40.7 +1.7
PTBC PUERTO BERRIO, 50.91 55|| eP P 21 33 41.2 +0.9
UREC San Jos de Ur 50.95 53|| eP P 21 33 41.1 +0.6
ZARC Zaragoza, Cauc 51.26 54|| eP P 21 33 44.0 +1.1
RUSC La Rusia 51.51 57|| eP P 21 33 46.2 +0.9
SAML Samuel 51.54 80 eP P 21 33 44.3 -0.7
SAML Samuel 51.54 80 ceP P 21 33 46.3 +1.3
SAML pmax pmax
comp=Z,10.0nm,1.7s
SAML Samuel 51.54 80 P P 21 33 44.7 -0.3
SAML Samuel 51.54 80 eP P 21 33 44.9 -0.1
MOTC Monteria, Cord 51.56 52|| eP P 21 33 45.5 +0.3
BRRC Barranca, Sant 51.84 55 eP P 21 33 48.2 +1.0
BARC Barichara 51.89 56 eP P 21 33 49.5 +1.6
PTLB Pontes e Lacer 52.48 89 eP P 21 33 53.9 +1.9
VILB Vilhena 52.49 86 eP P 21 33 54.0 +1.9
SJCC San Jacinto, C 52.68 52|| eP P 21 33 54.6 +1.1
SMLC San Martn de 52.72 54|| eP P 21 33 53.6 -0.1
PAMC Pamplona, Colo 52.74 56 eP P 21 33 55.4 +0.9
ARGC Ariguani, Magd 53.31 53 eP P 21 33 59.1 +1.0
AQDB Aquidauana 53.82 97 eP P 21 34 03.8 +1.9
AFI Afiamalu 54.84 271 LR LR 21 51 17.1
comp=Z,420nm,20.2s,baz=110,slow=29
SDV Santo Domingo 55.29 56|| eP P 21 34 11.5 -1.3
SDV Santo Domingo 55.29 56 P P 21 34 12.5 -0.3
SDV Santo Domingo 55.29 56 eP P 21 34 13.6 +0.8
HSIG 55.47 4 P P 21 34 13.4 -0.1
RAO Raoul Island 55.49 252 LR LR 21 54 20.2
comp=Z,289nm,18.2s,baz=48,slow=32
PTGB Pitanga 55.76 103 eP P 21 34 18.2 +2.1
TRCB Terra Rica 55.82 100 eP P 21 34 18.3 +1.9
URIC Uribia, Colomb 56.18 53|| eP P 21 34 18.3 -0.6
KVTX Kingsville 56.20 18 P P 21 34 19.4 +0.6
MACA Manacapuru-AM 56.47 75 eP P 21 34 21.1 0.0
833A Chaparral WMA, 56.55 16 P P 21 34 22.2 +0.9
baz=196
833A Chaparral WMA, 56.55 16 P P 21 34 22.2 +0.9
833A IAmb IAmb 21 34 23.9
comp=Z,24nm,1.0s
TXAR Lajitas Array 56.63 11 P P 21 34 22.5 +0.5
comp=Z,1.3nm,0.7s,baz=194,slow=9.8,SNR=12
TXAR LR LR 21 54 14.2
comp=Z,655nm,18.5s,baz=0.0,slow=31
TXAR Lajitas Array 56.63 11 P P 21 34 22.7 +0.7
TXAR Lajitas Array 56.63 11 P P 21 34 22.6 +0.7
CLDB Colider 57.27 86 eP P 21 34 26.4 -0.4
SPX San Pedro Mart 57.38 359 P P 21 34 25.6 -1.9
PCMB Pacaembu 57.40 100 eP P 21 34 29.1 +1.5
URZ Urewera 57.70 240 LR LR 21 55 32.0
comp=Z,1µm,18.1s,baz=184,slow=32
PIX Pinacate 57.90 1 P P 21 34 31.0 +0.2
319A Douglas 57.92 5 P P 21 34 31.0 -0.1
319A IAmb IAmb 21 34 33.9
comp=Z,31nm,1.1s
214A Organ Pipe Nat 58.31 2 P P 21 34 34.7 +1.0
baz=182
214A Organ Pipe Nat 58.31 2 P P 21 34 34.5 +0.8
214A IAmb IAmb 21 34 41.7
comp=Z,44nm,1.4s
PTGA Pitinga 58.31 73 P P 21 34 33.6 -0.5
PTGA IAmb IAmb 21 34 35.5
comp=Z,47nm,1.5s
PTGA Pitinga 58.31 73 eP P 21 34 34.6 +0.5
JCT Junction City 58.52 15 P P 21 34 35.6 +0.4
JCT pmax pmax
comp=Z,45nm,0.9s
JCT Junction City 58.52 15 P P 21 34 35.9 +0.7
baz=195,SNR=9.1
JCT Junction City 58.52 15 P P 21 34 35.6 +0.4
MNTX Cornudas Mount 58.68 9 P P 21 34 36.5 +0.2
baz=189,SNR=11
CBX Cerro Bola 58.68 358 P P 21 34 36.0 -0.4
TUC Tucson 58.75 4 P P 21 34 38.1 +1.3
TUC pmax pmax
comp=Z,26nm,1.5s
TUC Tucson 58.75 4 P P 21 34 37.4 +0.6
baz=184
TUC Tucson 58.75 4 P P 21 34 38.1 +1.3
TUC IAmb IAmb 21 34 44.6
comp=Z,26nm,1.5s
ITRB Iturama 58.82 98 eP P 21 34 39.2 +1.6
ARAG Araguaiana, MT 58.94 93 eP P 21 34 39.8 +1.4
TKX Tecate 58.94 358 P P 21 34 38.4 +0.4
TKX IAmb IAmb 21 34 39.4
comp=Z,35nm,1.3s
IKP In-Ko-Pah, Jac 59.00 358 P P 21 34 39.6 +1.1
baz=178
SNZO South Karori 59.01 236 P P 21 34 40.1 +1.5
BAR Barrett 59.05 358 P P 21 34 39.6 +0.8
BAR IAmb IAmb 21 34 41.2
comp=Z,26nm,1.4s
HKT Hockley 59.05 19 P P 21 34 39.4 +0.6
HKT pmax pmax
comp=Z,64nm,1.5s
HKT Hockley 59.05 19 P P 21 34 39.4 +0.6
113A Mohawk Valley, 59.10 1 P P 21 34 40.0 +0.9
113A IAmb IAmb 21 34 41.8
comp=Z,18nm,1.0s
121A Cookes Peak, D 59.21 7 P P 21 34 41.1 +1.0
baz=187,SNR=10.0
121A Cookes Peak, D 59.21 7 P P 21 34 39.5 -0.6
121A IAmb IAmb 21 34 42.9
comp=Z,28nm,1.0s
MONP2 Monument Peak 59.25 358 P P 21 34 41.1 +0.7
baz=178
109C Camp Elliot, M 59.27 357 P P 21 34 40.9 +0.6
baz=177
109C Camp Elliot, M 59.27 357 P P 21 34 39.9 -0.4
109C IAmb IAmb 21 34 46.8
comp=Z,44nm,1.4s
SWSC Sam W. Stewart 59.29 359 P P 21 34 40.9 +0.5
baz=178
NPGB Novo Progresso 59.31 82 eP P 21 34 40.4 -0.6
435B Jarrell 59.36 17 P P 21 34 41.9 +0.9
baz=197
435B Jarrell 59.36 17 P P 21 34 41.4 +0.4
GLA Glamis 59.38 360 P P 21 34 42.0 +0.9
GLA pmax pmax
comp=Z,30nm,1.4s
GLA Glamis 59.38 360 P P 21 34 42.1 +1.0
baz=180
GLA Glamis 59.38 360 P P 21 34 42.0 +0.9
GLA IAmb IAmb 21 34 48.9
comp=Z,30nm,1.4s
BSWZ Blackbirch Sta 59.56 236 P P 21 34 42.7 +0.3
CIS Catalina Islan 59.85 356 P P 21 34 44.9 +0.6
baz=176
PFO Pinyon Flats O 59.97 358 P P 21 34 44.6 -0.7
PFO pmax pmax
comp=Z,14nm,1.3s
PFO Pinyon Flats O 59.97 358 P P 21 34 46.0 +0.7
baz=178
PFO Pinyon Flats O 59.97 358 P P 21 34 44.6 -0.7
MURC Murrieta 59.99 357 P P 21 34 46.1 +0.8
baz=177
BC3 Big Chuckawall 59.99 359 P P 21 34 46.4 +1.0
baz=179,SNR=6.6
GTBY Guantanamo Bay 60.01 44 P P 21 34 44.6 -1.1
FMP Fort Macarthur 60.15 356 P P 21 34 47.1 +0.8
baz=176
ITTB Itaituba 60.20 79 eP P 21 34 47.6 +0.4

BELC Belle Mtn. Jos 60.35 359 P P 21 34 48.9 +1.0
baz=178,SNR=8.5
IRM Iron Mountain 60.49 359 P P 21 34 49.4 +0.7
baz=179,SNR=9.2
WHTX Lake Whitney, 60.54 17 P P 21 34 49.2 +0.2
baz=197
WHTX Lake Whitney, 60.54 17 IAmb IAmb 21 34 56.1
comp=Z,40nm,1.1s
LGNH Logne 60.55 47 P P 21 34 47.7 -1.7
PASC Pasadena Art C 60.60 356 P P 21 34 49.9 +0.4
PASC IAmb IAmb 21 34 54.3
comp=Z,17nm,0.9s
441A DeRidder 60.60 21 P P 21 34 49.0 -0.4
ABTX Abilene, Hawle 60.62 14 P P 21 34 49.9 +0.3
baz=195,SNR=6.9
ABTX Abilene, Hawle 60.62 14 IAmb IAmb 21 34 51.5
comp=Z,22nm,0.8s
PDMCI Parker Dam,Lak 60.63 0 P P 21 34 50.5 +0.9
baz=180
BBRC Big Bear Solar 60.63 358 P P 21 34 50.5 +0.6
baz=177
BFSC Mount Baldy Ra 60.64 357 P P 21 34 50.4 +0.6
baz=177
MWC Mount Wilson 60.65 357 P P 21 34 50.2 +0.2
MWC pmax pmax
comp=Z,26nm,1.2s
MWC Mount Wilson 60.65 357 P P 21 34 50.2 +0.2
MWC IAmb IAmb 21 34 52.4
comp=Z,26nm,1.2s
DECC Green Verdugo 60.69 356 P P 21 34 50.6 +0.5
baz=176
Y22D IRIS PASSCAL I 60.83 7 P P 21 34 52.0 +0.8
baz=188
Y22D IRIS PASSCAL I 60.83 7 P P 21 34 52.2 +1.1
BNM Barren Site 60.93 7 P P 21 34 53.2 +1.3
237A Washetta, Mont 60.99 18 P P 21 34 52.6 +0.5
OSI Osito Audit: C 61.08 356 P P 21 34 53.0 +0.3
baz=176
OSI Osito Audit: C 61.08 356 P P 21 34 52.8 +0.1
NATX Nacogdoches 61.09 19 P P 21 34 53.6 +0.8
baz=200
NATX Nacogdoches 61.09 19 P P 21 34 53.6 +0.8
NEE2 Needles Airpor 61.09 360 P P 21 34 54.0 +1.2
baz=180
GMRC Granite Mounta 61.12 359 P P 21 34 54.3 +1.1
baz=179,SNR=8.7
HEC Hector,Ludlow 61.18 358 P P 21 34 54.4 +1.0
baz=178
RRX Edison Barstow 61.25 358 P P 21 34 54.6 +0.7
baz=177
RPZ Rata Peaks 61.25 233 LR LR 21 57 20.0
comp=Z,990nm,18.0s,baz=54,slow=32
EDW2 Edwards Air Fo 61.30 357 P P 21 34 54.8 +0.6
baz=176
PKM Mcpherson Peak 61.42 355 P P 21 34 55.4 +0.2
baz=174
W13A Hualapai Mount 61.43 1 P P 21 34 55.8 +0.5
342A Flagon Creek P 61.46 22 P P 21 34 55.7 +0.4
ARVC Arvin 61.59 356 P P 21 34 56.5 +0.4
baz=176
W18A Petrified Fore 61.61 4 P P 21 34 57.4 +0.9
baz=185
W18A Petrified Fore 61.61 4 P P 21 34 56.8 +0.3
W18A IAmb IAmb 21 35 04.2
comp=Z,18nm,1.1s
GSC Goldstone, Bar 61.67 358 P P 21 34 57.4 +0.7
baz=178,SNR=7.3
GSC Goldstone, Bar 61.67 358 IAmb IAmb 21 34 59.4
comp=Z,18nm,1.1s
ANMO Albuquerque 61.74 7 LR LR 21 56 50.6
comp=Z,42nm,20.1s,baz=7.0,slow=31
ANMO Albuquerque 61.74 7 deP P 21 34 57.9 +0.5
ANMO pmax pmax
comp=Z,33nm,3.1s
ANMO Albuquerque 61.74 7 P P 21 34 57.9 +0.5
baz=188
ANMO Albuquerque 61.74 7 P P 21 34 58.2 +0.9
TUQ Turquoise Moun 61.78 359 P P 21 34 58.5 +0.9
baz=178
Z35A Perchaven, San 61.87 16 P P 21 34 58.6 +0.6
Z35A IAmb IAmb 21 34 59.7
comp=Z,25nm,0.8s
LRMC Laurel Mtn Rad 61.88 357 P P 21 34 58.8 +0.6
baz=177
WUAZ Wupatki 61.91 3 P P 21 34 59.3 +0.8
baz=183,SNR=6.4
WUAZ Wupatki 61.91 3 P P 21 34 58.7 +0.2
WUAZ IAmb IAmb 21 35 01.4
comp=Z,45nm,1.5s
BELA Belgrano 2 61.99 166 P P 21 34 59.0 +0.6
344A Westbrook Farm 62.07 23 P P 21 35 00.2 +0.8
ISA Isabella, Lake 62.10 356 P P 21 35 00.8 +1.1
ISA pmax pmax
comp=Z,23nm,1.5s
ISA Isabella, Lake 62.10 356 P P 21 35 00.3 +0.7
baz=176
ISA Isabella, Lake 62.10 356 P P 21 35 00.8 +1.1
ISA IAmb IAmb 21 35 02.1
comp=Z,23nm,1.4s
PAGB Antelope Grade 62.30 355 P P 21 35 01.6 +0.7
VES Vestal, Richgr 62.32 356 P P 21 35 01.5 +0.6
baz=175
BDFB Brasilia 62.35 94 P P 21 35 03.0 +1.1
comp=Z,1.7nm,0.4s,baz=244,slow=8.1,SNR=3.3
BDFB LR LR 21 59 39.1
comp=Z,518nm,18.7s,baz=269,slow=34
BDFB Brasilia 62.35 94 P P 21 35 01.3 -0.6
BDFB pmax pmax
comp=Z,20nm,1.3s
BDFB Brasilia 62.35 94 P P 21 35 01.3 -0.6
BDFB IAmb IAmb 21 35 05.9
comp=Z,20nm,1.3s
AMTX Amarillo 62.40 12 P P 21 35 01.8 +0.2
baz=193
AMTX Amarillo 62.40 12 P P 21 35 01.6 -0.1
Z38A Mt. Pleasant 62.40 18 P P 21 35 02.5 +0.9
SC01 Santiago de lo 62.44 47 P P 21 35 01.0 -1.2
MPMC Manual Prospec 62.45 357 P P 21 35 02.8 +0.7
baz=177,SNR=12
346A Big Creek Wild 62.47 24 P P 21 35 02.4 +0.3
346A IAmb IAmb 21 35 15.2
comp=Z,32nm,1.1s
MSVF Nonsavu 62.50 263|| eP P 21 35 03.9 +1.1
MSVF pmax pmax
comp=Z,54nm,2.2s
MALB Monte Alegre 62.69 77 eP P 21 35 05.5 +1.5
U15A North Rim 62.78 2 P P 21 35 04.1 -0.3
U15A IAmb IAmb 21 35 12.5
comp=Z,46nm,1.5s
VNDA Vanda 62.80 194 P P 21 35 05.5 +1.7
comp=Z,2.3nm,1.2s,baz=97,slow=7.1,SNR=8.7
VNDA LR LR 21 56 15.0
comp=Z,661nm,18.6s,baz=90,slow=30
VNDA Vanda 62.80 194 P P 21 35 04.9 +1.1
VNDA pmax pmax
comp=Z,8.0nm,1.3s
VNDA Vanda 62.80 194 P P 21 35 04.9 +1.1
PMPB Monarch Peak 62.83 354 P P 21 35 05.2 +0.8
PMPB IAmb IAmb 21 35 19.8
comp=Z,28nm,1.2s
FURC Furnace Creek, 62.83 358 P P 21 35 05.4 +1.0
baz=178,SNR=7.1
SHPR Sheep Range 62.83 359 P P 21 35 05.3 +0.7
SHPR IAmb IAmb 21 35 07.7
comp=Z,32nm,1.1s
VBMS Vicksburg 62.84 23 P P 21 35 05.3 +0.8
baz=204
VBMS Vicksburg 62.84 23 P P 21 35 05.7 +1.1
WMOK Wichita Mounta 62.85 14 P P 21 35 04.2 -0.3
baz=196
CWC Cottonwood Cre 62.86 357 P P 21 35 05.5 +0.7
baz=176
X34A Smith Ranch, M 62.93 15 P P 21 35 06.2 +1.0
X34A IAmb IAmb 21 35 08.5
comp=Z,22nm,1.2s
143A Socs Landing, 62.99 22 P P 21 35 06.3 +0.9
DWPF Disney Wildern 63.03 33 P P 21 35 06.5 +0.6
baz=213
DWPF Disney Wildern 63.03 33 P P 21 35 06.0 +0.1
Z41A Richland Creek 63.05 20 P P 21 35 06.8 +0.9
baz=202
Z41A Richland Creek 63.05 20 P P 21 35 06.7 +0.8
BRAL Brewton 63.19 26 P P 21 35 07.8 +1.0
baz=207
BRAL Brewton 63.19 26 P P 21 35 06.6 -0.2
451A Vernon 63.23 28 P P 21 35 07.8 +0.6

TPNV Topopah Spring 63.29 358 P P 21 35 07.5 -0.2
TPNV pmax pmax
comp=Z,31nm,1.3s
TPNV Topopah Spring 63.29 358 P P 21 35 08.7 +1.1
baz=178,SNR=9.8
TPNV Topopah Spring 63.29 358 P P 21 35 07.5 -0.2
TPNV IAmb IAmb 21 35 10.8
comp=Z,31nm,1.3s
LCMT Little Creek M 63.34 1 P P 21 35 08.1 +0.1
WLAR White Oak Lake 63.35 20 P P 21 35 08.5 +0.6
KNB Kanab 63.36 1 P P 21 35 08.2 +0.1
KNB pmax pmax
comp=Z,34nm,1.5s
KNB Kanab 63.36 1 P P 21 35 08.2 +0.1
GRAC Grapevine Rang 63.38 357 P P 21 35 09.2 +1.1
baz=177
SAO San Andreas Ge 63.43 354 P P 21 35 08.3 -0.1
SAO pmax pmax
comp=Z,6.0nm,0.9s
SAO San Andreas Ge 63.43 354 P P 21 35 08.3 -0.1
TIN Tinemaha, Big 63.48 357 P P 21 35 10.1 +1.3
baz=176
QSPA South Pole Qui 63.51 180 P P 21 35 09.5 +0.7
X37A Clayton 63.55 18 IAmb IAmb 21 35 15.7
comp=Z,41nm,1.5s
FNO Franklin 63.66 16 P P 21 35 10.4 +0.4
W35A Tecumseh 63.69 16 P P 21 35 09.6 -0.5
PRN Pahroc Range 63.73 359 IAmb IAmb 21 35 19.0
comp=Z,39nm,1.3s
146A Union 63.74 24 P P 21 35 10.6 +0.1
MVCO Mesa Verde 63.78 5 P P 21 35 11.6 +0.6
baz=186,SNR=11
PKCU Pink Cliffs 63.80 2 P P 21 35 11.7 +0.5
OKCFA Oklahoma City 63.80 15 P P 21 35 11.8 +0.9
CCUT Cedar City 63.88 1 P P 21 35 12.4 +0.8
MLPR Magueyes Islan 63.93 51 P P 21 35 11.7 -0.3
CCAR Cane Creek 63.98 21 P P 21 35 12.9 +0.9
OK025 Westminster Rd 63.99 15 P P 21 35 12.3 +0.2
BCOK Bluff Creek, N 64.00 15 P P 21 35 12.6 +0.5
MIAR Mount Ida 64.01 19 P P 21 35 11.0 -1.3
MIAR pmax pmax
comp=Z,32nm,1.5s
MIAR Mount Ida 64.01 19 P P 21 35 12.3 +0.1
baz=201
MIAR Mount Ida 64.01 19 P P 21 35 11.0 -1.3
MIAR IAmb IAmb 21 35 19.0
comp=Z,32nm,1.4s
T25A Trinidad 64.16 9 P P 21 35 13.9 +0.4
baz=190
T25A Trinidad 64.16 9 P P 21 35 13.9 +0.4
T25A IAmb IAmb 21 35 20.8
comp=Z,28nm,1.3s
OK029 Liberty Lake 64.17 15 P P 21 35 13.3 +0.1
X40A Basin Creek Fa 64.18 20 P P 21 35 14.0 +0.6
baz=201
X40A Basin Creek Fa 64.18 20 IAmb IAmb 21 35 21.2
comp=Z,23nm,1.4s
250A Grady 64.21 26 P P 21 35 13.7 +0.1
352A Blakely 64.32 28 IAmb IAmb 21 35 24.5
comp=Z,22nm,1.0s
U32A Winter Ranch, 64.38 14 P P 21 35 14.7 +0.1
S22A 4UR Ranch, Cre 64.47 7 P P 21 35 16.1 +0.5
baz=187
S22A 4UR Ranch, Cre 64.47 7 P P 21 35 15.8 +0.2
S22A IAmb IAmb 21 35 23.1
comp=Z,32nm,1.4s
W39A Magazine 64.56 19 P P 21 35 15.6 -0.3
baz=200
W39A Magazine 64.56 19 P P 21 35 15.7 -0.1
UALR University of 64.59 20 P P 21 35 16.6 +0.6
Z47A Carrollton 64.61 24 P P 21 35 15.9 -0.3
SDCO Great Sand Dun 64.62 8 P P 21 35 16.8 +0.3
baz=189,SNR=13
SDCO Great Sand Dun 64.62 8 P P 21 35 16.2 -0.4
SDCO IAmb IAmb 21 35 24.6
comp=Z,45nm,1.5s
PRPB Paraupebas 64.62 84 eP P 21 35 17.2 +0.4
R11A Troy Canyon, C 64.68 359 P P 21 35 17.9 +1.1
baz=179,SNR=21
R11A Troy Canyon, C 64.68 359 IAmb IAmb 21 35 26.0
comp=Z,20nm,1.4s
PDPR Patillas Dam, 64.68 52 P P 21 35 15.2 -1.8
PDPR IAmb IAmb 21 35 17.6
comp=Z,36nm,1.4s
TUL1 Leonard 64.68 17 P P 21 35 16.2 -0.4
baz=198
TUL1 Leonard 64.68 17 P P 21 35 15.9 -0.8
PV01 Paradox Valley 64.69 5 IAmb IAmb 21 35 24.2
comp=Z,31nm,1.5s
PV13 Radium Mtn., P 64.70 5 P P 21 35 17.6 +0.6
QUOK Quay 64.70 16 P P 21 35 16.7 -0.1
CROK Carrier 64.72 15 P P 21 35 16.4 -0.5
PV02 Paradox Valley 64.75 5 P P 21 35 17.5 +0.2
PV02 IAmb IAmb 21 35 25.4
comp=Z,28nm,1.3s
PV18 Skein Mesa, Pa 64.78 5 P P 21 35 17.4 -0.1
PV03 Paradox Valley 64.79 5 P P 21 35 17.6 0.0
PV03 IAmb IAmb 21 35 28.5
comp=Z,31nm,1.5s
PV17 East Wray Mesa 64.81 5 P P 21 35 18.0 +0.4
PV17 IAmb IAmb 21 35 30.5
comp=Z,32nm,1.5s
X43A Marvell 64.82 21 P P 21 35 18.0 +0.5
baz=203
X43A Marvell 64.82 21 P P 21 35 18.6 +1.0
PV11 David Mesa, Pa 64.83 5 P P 21 35 18.3 +0.5
PV11 IAmb IAmb 21 35 25.9
comp=Z,29nm,1.3s
PV19 Morning Glory 64.83 5 P P 21 35 18.1 +0.2
PV19 IAmb IAmb 21 35 25.9
comp=Z,43nm,1.4s
PV16 Nyswonger Mesa 64.84 5 IAmb IAmb 21 35 25.9
comp=Z,33nm,1.4s
NV11 Mina Array Sit 64.84 357 IAmb IAmb 21 35 20.6
comp=Z,28nm,1.3s
NVAR Mina Array Bea 64.85 357 P P 21 35 18.8 +0.8
comp=Z,6.7nm,1.0s,baz=186,slow=9.3,SNR=32
NVAR LR LR 21 57 28.2
comp=Z,390nm,19.1s,baz=161,slow=30
NVAR Mina Array Bea 64.85 357 P P 21 35 18.7 +0.7
PSUT Pine Spring 64.86 1 P P 21 35 18.7 +0.7
MVU Marysvale 64.86 2 P P 21 35 19.0 +0.9
TIGA Tifton 64.86 29 P P 21 35 18.1 +0.2
baz=210
TIGA Tifton 64.86 29 P P 21 35 18.0 +0.2
LRAL Lakeview Retre 64.86 25 P P 21 35 17.9 0.0
baz=207
LRAL Lakeview Retre 64.86 25 IAmb IAmb 21 35 25.3
comp=Z,46nm,1.4s
PV20 West Nyswonger 64.87 5 P P 21 35 18.1 +0.1
PV20 IAmb IAmb 21 35 25.9
comp=Z,19nm,1.1s
MSU Marysvale 64.87 2 P P 21 35 18.2 +0.1
MSU Marysvale 64.87 2 P P 21 35 18.2 +0.1
PV10 Paradox Valley 64.90 5 P P 21 35 18.9 +0.6
PV15 Paradox Valley 64.91 5 P P 21 35 19.1 +0.7
PV15 IAmb IAmb 21 35 20.4
comp=Z,24nm,1.1s
TCRU Three Creeks R 64.96 2 P P 21 35 19.8 +1.1
CBYP Canovanas 64.97 52 P P 21 35 18.0 -0.9
CBYP IAmb IAmb 21 35 24.9
comp=Z,33nm,1.3s
PV23 Carpenter Ridg 64.97 5 P P 21 35 19.3 +0.4
PV07 Paradox Valley 64.99 5 P P 21 35 19.1 +0.3
WAKR Walker 64.99 356 P P 21 35 19.6 +0.8
W41B Gary Mavity, V 64.99 20 P P 21 35 19.1 +0.4
baz=202,SNR=9.2
W41B Gary Mavity, V 64.99 20 P P 21 35 19.1 +0.4
PV22 Blue Mesa, Par 65.07 5 IAmb IAmb 21 35 22.5
comp=Z,14nm,0.9s
PV21 Cone Mtn., Par 65.08 5 IAmb IAmb 21 35 26.7
comp=Z,46nm,1.4s
WHAR Wooly Hollow 65.09 20 IAmb IAmb 21 35 21.4
comp=Z,36nm,1.2s
OXF Oxford 65.31 23 P P 21 35 20.3 -0.4
OXF pmax pmax
comp=Z,57nm,1.5s
OXF Oxford 65.31 23 P P 21 35 20.3 -0.4
Q16A Castle Valley 65.31 3 P P 21 35 20.9 0.0
MCPB Macapa, AP 65.34 77 eP P 21 35 23.3 +1.9
SMTB Santa Maria do 65.44 88 eP P 21 35 24.2 +2.0
152A Waverly Hall 65.44 27 P P 21 35 21.4 -0.3
152A IAmb IAmb 21 35 28.8
comp=Z,43nm,1.5s
YERR Yerington 65.46 356 P P 21 35 22.2 +0.3

YERR IAmb IAmb 21 35 30.6
comp=Z,41nm,1.4s
T35A Sooner Cattle 65.46 16 P P 21 35 21.3 -0.4
T35A IAmb IAmb 21 35 28.7
comp=Z,35nm,1.2s
KAN12 Harper NE Stat 65.48 14 P P 21 35 22.3 +0.5
HHAR Hobbs 65.53 18 P P 21 35 22.2 0.0
HHAR IAmb IAmb 21 35 28.9
comp=Z,47nm,1.5s
AFDM Forest Hills D 65.55 354 IAmb IAmb 21 35 24.5
comp=Z,27nm,1.5s
U38A Gravette 65.56 18 P P 21 35 22.2 -0.1
PNTR Pine Nut 65.58 356 P P 21 35 23.9 +1.2
PNTR IAmb IAmb 21 35 25.4
comp=Z,19nm,1.2s
GDXM Geysers 65.59 353 P P 21 35 23.8 +1.2
GDXM IAmb IAmb 21 35 38.6
comp=Z,23nm,1.4s
TMUT Trail Mountain 65.69 3 P P 21 35 24.6 +1.1
FCAR Ozark Folk Cen 65.69 20 P P 21 35 23.9 +0.7
FCAR IAmb IAmb 21 35 30.1
comp=Z,33nm,1.4s
255A Hazlehurst 65.76 30 P P 21 35 23.5 -0.2
255A IAmb IAmb 21 35 33.6
comp=Z,39nm,1.4s
VCNR Virginia City 65.79 356 P P 21 35 24.1 +0.1
VCNR IAmb IAmb 21 35 31.1
comp=Z,8.8nm,0.6s
HOPS Hopland Field 65.81 353 P P 21 35 24.5 +0.6
Y49A Blount Mountai 65.81 25 P P 21 35 24.4 +0.3
Y49A IAmb IAmb 21 35 30.9
comp=Z,31nm,1.4s
Z51A Franklin 65.83 27 P P 21 35 24.2 +0.1
Z51A IAmb IAmb 21 35 30.2
comp=Z,38nm,1.4s
HBAR Harrisburg 65.84 21 P P 21 35 24.5 +0.3
Q24A Divide 65.86 8 P P 21 35 24.6 0.0
baz=189
Q24A Divide 65.86 8 P P 21 35 25.0 +0.4
JANB Januaria 65.88 95 *eP* **P 21 35 26.4 +1.4**
U40A Yellville 65.91 19 P P 21 35 24.6 0.0
baz=201,SNR=8.0
W45A Hickory Valley 65.97 23 P P 21 35 25.0 0.0
LPAR Lepanto 66.00 21 P P 21 35 25.9 +0.8
154A Montrose 66.08 29 P P 21 35 26.2 +0.5
X48A Hartselle 66.10 25 P P 21 35 26.0 +0.1
LCAR Lake Charles 66.16 21 IAmb IAmb 21 35 34.1
comp=Z,23nm,1.4s
PLAL Pickwick Lake 66.20 24 IAmb IAmb 21 35 27.7
comp=Z,28nm,1.3s
KSCO Kaye Shedlock' 66.26 10 P P 21 35 27.1 +0.1
baz=191
NLU North Lily Min 66.31 2 P P 21 35 28.2 +0.8
R32A Long Quarter, 66.40 13 P P 21 35 28.0 +0.2
R32A IAmb IAmb 21 35 34.6
comp=Z,20nm,0.9s
GNAR Gosnell 66.43 21 P P 21 35 28.5 +0.6
DUG Dugway, Tooele 66.53 1 P P 21 35 29.3 +0.6
baz=182,SNR=13
DUG Dugway, Tooele 66.53 1 IAmb IAmb 21 35 36.4
comp=Z,38nm,1.5s
CBKS Cedar Bluff 66.58 13 P P 21 35 28.1 -0.8
CBKS pmax pmax
comp=Z,34nm,1.3s
CBKS Cedar Bluff 66.58 13 P P 21 35 29.3 +0.4
baz=194
CBKS Cedar Bluff 66.58 13 P P 21 35 28.1 -0.8
CBKS IAmb IAmb 21 35 35.7
comp=Z,34nm,1.2s
HALT Halls 66.60 22 P P 21 35 29.8 +0.7
GOGA Godfrey 66.61 28 P P 21 35 28.7 -0.4
baz=210
GOGA Godfrey 66.61 28 IAmb IAmb 21 35 36.0
comp=Z,27nm,1.5s
PEBM Pemiscott Bayo 66.61 22 P P 21 35 29.6 +0.5
ISCO Idaho Springs 66.63 7 P P 21 35 29.1 -0.5
ISCO pmax pmax
comp=Z,25nm,1.5s
ISCO Idaho Springs 66.63 7 P P 21 35 30.0 +0.5
baz=188,SNR=6.6
ISCO Idaho Springs 66.63 7 P P 21 35 29.1 -0.5
ISCO IAmb IAmb 21 35 36.9
comp=Z,25nm,1.4s
O20A White River Ci 66.70 5 P P 21 35 30.3 +0.5
baz=186,SNR=7.4
O20A White River Ci 66.70 5 IAmb IAmb 21 35 36.4
comp=Z,17nm,1.2s
LNXT Lenox 66.72 22 P P 21 35 30.6 +0.7
FPAL Fort Paine 66.73 26 P P 21 35 29.8 -0.1
Y52A Lilburn 66.75 27 P P 21 35 29.0 -1.1
Y52A IAmb IAmb 21 35 31.8
comp=Z,38nm,1.4s
O02D Mt. Diablo Mer 66.94 353 P P 21 35 31.7 +0.5
baz=172
GLAT Glass 66.95 22 P P 21 35 31.7 +0.5
O03E Paynes Creek 66.96 354 P P 21 35 31.0 -0.3
baz=173
JLU Jordanelle 66.98 2 P P 21 35 32.2 +0.5
PBMO Poplar Bluff 67.04 21 P P 21 35 31.8 +0.1
PBMO IAmb IAmb 21 35 33.5
comp=Z,20nm,1.1s
X51A Calhoun 67.05 26 P P 21 35 31.7 -0.2
CTU Camp Tracy 67.06 2 P P 21 35 32.7 +0.6
157A Early Branch 67.06 30 P P 21 35 32.2 +0.2
baz=212
T42A Van Buren 67.06 20 IAmb IAmb 21 35 33.4
comp=Z,22nm,1.2s
KMRM Mail Ridge 67.09 352 P P 21 35 32.3 +0.1
KMRM IAmb IAmb 21 35 34.6
comp=Z,18nm,0.9s
UTMT University of 67.16 22 P P 21 35 33.8 +1.2
SWET Sewanee 67.20 25 P P 21 35 33.1 +0.2
SWET IAmb IAmb 21 35 34.3
comp=Z,23nm,1.1s
HICK Hickman 67.21 22 P P 21 35 33.5 +0.6
SJMB Sao Joao De Ma 67.28 100 *eP* **P 21 35 35.8 +1.9**
WDC Whiskeytown Da 67.32 353 IAmb IAmb 21 35 35.3
comp=Z,22nm,1.1s
WVT Waverly 67.32 23 P P 21 35 33.5 -0.1
WVT pmax pmax
comp=Z,20nm,1.2s
WVT Waverly 67.32 23 P P 21 35 33.1 -0.5
baz=206
WVT Waverly 67.32 23 P P 21 35 33.5 -0.1
WVT IAmb IAmb 21 35 34.8
comp=Z,20nm,1.1s
V48A Smith Brothers 67.33 24 IAmb IAmb 21 35 35.0
comp=Z,36nm,1.4s
W50A Signal Mountai 67.42 26 IAmb IAmb 21 35 35.8
comp=Z,33nm,1.5s
Z56A Williston 67.44 30 P P 21 35 34.8 +0.3
TCUT Toone Canyon 67.49 2 P P 21 35 35.0 +0.1
KSU1 Kansas State U 67.52 15 P P 21 35 34.7 0.0
baz=197
KSU1 Kansas State U 67.52 15 P P 21 35 35.2 +0.4
N23A Red Feather La 67.68 7 P P 21 35 36.5 +0.4
baz=188
N23A Red Feather La 67.68 7 P P 21 35 36.0 -0.1
N23A IAmb IAmb 21 35 38.3
comp=Z,20nm,1.1s
Z57A Bowman 67.72 30 P P 21 35 36.5 +0.3
baz=212
N02D Trinity Center 67.72 353 P P 21 35 36.5 +0.4
baz=172
Y55A Saluda 67.75 29 P P 21 35 36.5 +0.2
baz=211,SNR=7.0
NHSC New Hope 67.79 31 P P 21 35 37.2 +0.5
baz=213
HODGE Hodges 67.83 28 P P 21 35 36.1 -0.8
HODGE IAmb IAmb 21 35 44.0
comp=Z,32nm,1.5s
CLTN Cedars of Leba 67.83 24 P P 21 35 36.8 0.0
TMAB Tom-Au,PA,Br 67.87 81 *eP* **P 21 35 39.3 +1.6**
W52A Murphy 67.88 27 P P 21 35 37.0 -0.2
W52A IAmb IAmb 21 35 43.4
comp=Z,20nm,1.1s
R40A Maddies Statio 67.88 19 IAmb IAmb 21 35 43.9
comp=Z,46nm,1.4s
CCM Cathedral Cave 67.96 20 P P 21 35 38.1 +0.5
CCM pmax pmax
comp=Z,41nm,1.5s
CCM Cathedral Cave 67.96 20 P P 21 35 37.4 -0.3
baz=202
CCM Cathedral Cave 67.96 20 P P 21 35 38.1 +0.5
CCM IAmb IAmb 21 35 44.3
comp=Z,41nm,1.4s
X54A Belton 68.05 28 P P 21 35 38.5 +0.3
baz=211
HVU Hansel Valley 68.11 1 P P 21 35 39.4 +0.7
HVU pmax pmax
comp=Z,10.0nm,1.1s
HVU Hansel Valley 68.11 1 P P 21 35 39.4 +0.7
PHWY Pilot Hill 68.13 7 P P 21 35 38.6 -0.4
Z58A St. Stephen 68.15 31 P P 21 35 39.2 +0.3
baz=213
M02C Callahan 68.15 353 P P 21 35 39.2 +0.4
baz=172
BG3 Lake Jocassee 68.20 28 IAmb IAmb 21 35 45.4
comp=Z,20nm,1.4s
OGNE Ogallala 68.25 10 P P 21 35 39.5 0.0
baz=192
OGNE Ogallala 68.25 10 P P 21 35 40.4 +0.9
X55A Gracelyn & Ava 68.30 29 P P 21 35 40.3 +0.5
baz=211
JSC Jenkinsville 68.30 29 P P 21 35 39.5 -0.3
JSC pmax pmax
comp=Z,27nm,1.5s
JSC Jenkinsville 68.30 29 P P 21 35 39.5 -0.3
JSC IAmb IAmb 21 35 47.2
comp=Z,27nm,1.5s
RWWY Rawlins 68.34 6 P P 21 35 39.5 -0.8
RWWY IAmb IAmb 21 35 41.5
comp=Z,18nm,1.2s
TKL Tuckaleechee C 68.43 27 LR LR 22 02 09.2
comp=Z,578nm,19.9s,baz=162,slow=33
TKL Tuckaleechee C 68.43 27 P P 21 35 40.0 -0.6
TKL pmax pmax
comp=Z,23nm,1.5s
TKL Tuckaleechee C 68.43 27 P P 21 35 40.0 -0.6
TKL IAmb IAmb 21 35 46.3
comp=Z,23nm,1.4s
MOD Modoc Plateau 68.43 355 IAmb IAmb 21 35 43.0
comp=Z,15nm,0.8s
M04C Macdoel 68.44 354 P P 21 35 41.0 +0.3
baz=173,SNR=6.0
Y57A Sumter 68.46 30 P P 21 35 41.0 +0.2
baz=212
Y57A Sumter 68.46 30 P P 21 35 41.3 +0.5
Y57A IAmb IAmb 21 35 48.0
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 68.47 353 LR LR 21 58 39.9
comp=Z,289nm,20.1s,baz=176,slow=30
PAULI Pauline 68.52 28 P P 21 35 40.8 -0.3
X56A White Oak 68.58 29 P P 21 35 41.8 +0.2
baz=212
W54A Cherokee Point 68.59 28 P P 21 35 41.9 +0.3
baz=211
V52A Sevierville 68.66 27 P P 21 35 41.6 -0.5
P38A Dawn 68.78 17 IAmb IAmb 21 35 44.3
comp=Z,24nm,0.7s
SLM Saint Louis 68.80 20 P P 21 35 42.8 0.0
SLM pmax pmax
comp=Z,21nm,0.4s
SLM Saint Louis 68.80 20 P P 21 35 42.8 0.0
WVOR Wild Horse Val 68.86 357 IAmb IAmb 21 35 51.2
comp=Z,41nm,1.4s
N33A J Bar K, Exete 68.89 14 P P 21 35 43.6 +0.1
L04D Klamath Falls 68.92 354 P P 21 35 44.1 +0.4
baz=172
BIRD Birdtown, Kers 68.96 30 P P 21 35 44.1 +0.2
X57A Johnson Farm, 68.97 30 P P 21 35 44.2 +0.2
baz=213
KMSC Kings Mountain 69.00 29 P P 21 35 44.3 +0.2
baz=211
KMSC Kings Mountain 69.00 29 P P 21 35 44.4 +0.2
USIN University of 69.03 22 P P 21 35 44.5 +0.2
P40A Paris 69.09 18 P P 21 35 44.8 +0.1
P40A IAmb IAmb 21 35 52.2
comp=Z,30nm,1.5s
KBO Bosley Butte 69.12 352 P P 21 35 45.3 +0.4
Y59A Loris 69.13 31 P P 21 35 45.0 +0.1
AHID Auburn Hatcher 69.15 3 P P 21 35 45.0 -0.2
AHID IAmb IAmb 21 35 46.3
comp=Z,26nm,1.4s
T50A Nancy 69.21 25 IAmb IAmb 21 35 51.9
comp=Z,32nm,1.4s
BW06 Boulder Array 69.23 4 P P 21 35 45.3 -0.4
baz=185
BW06 Boulder Array 69.23 4 IAmb IAmb 21 35 52.0
comp=Z,20nm,1.3s
PD31 Pinedale Array 69.23 4 IAmb IAmb 21 35 52.0
comp=Z,19nm,1.3s
PDAR Pinedale Array 69.23 4 P P 21 35 45.3 -0.4
comp=Z,3.7nm,0.9s,baz=177,slow=7.1,SNR=20
PDAR LR LR 22 00 55.2
comp=Z,250nm,19.9s,baz=163,slow=32
PDAR Pinedale Array 69.23 4 P P 21 35 43.3 -2.5
K04D Chiloquin, OR 69.27 354 P P 21 35 45.9 +0.1
baz=173
V54A Nebo 69.28 28 P P 21 35 45.9 0.0
baz=211,SNR=10
TZTN Tazewell 69.29 26 P P 21 35 46.0 +0.1
baz=209,SNR=5.7
TZTN Tazewell 69.29 26 IAmb IAmb 21 35 52.3
comp=Z,17nm,1.1s
W56A Indian Trail 69.32 29 P P 21 35 46.4 +0.2
baz=212
K22A Casper 69.35 6 P P 21 35 46.3 -0.1
baz=188,SNR=10
X58A Rowland 69.39 30 P P 21 35 46.9 +0.3
baz=213
X58A Rowland 69.39 30 P P 21 35 46.8 +0.3
X58A IAmb IAmb 21 35 54.0
comp=Z,35nm,1.4s
BGNE Belgrade 69.39 13 P P 21 35 46.6 +0.1
baz=195
BGNE Belgrade 69.39 13 P P 21 35 47.0 +0.4
N35A Tabor 69.42 15 P P 21 35 47.0 +0.3
Q44A Meyer Farm, Va 69.43 21 P P 21 35 46.7 0.0
Y60A Bolivia 69.45 32 P P 21 35 46.5 -0.4
baz=214
K02D Willamette Mer 69.53 353 P P 21 35 47.9 +0.5
baz=171
OLIL Olney 69.58 22 P P 21 35 47.7 +0.1
OLIL IAmb IAmb 21 35 54.5
comp=Z,34nm,1.2s
W57A Gilead 69.59 30 P P 21 35 48.2 +0.3
baz=212
W57A Gilead 69.59 30 P P 21 35 46.8 -1.0
W57A IAmb IAmb 21 35 54.7
comp=Z,34nm,1.4s
V55A Taylorsville 69.65 28 P P 21 35 48.8 +0.6
baz=211
V55A Taylorsville 69.65 28 P P 21 35 48.6 +0.4
V55A IAmb IAmb 21 35 55.3
comp=Z,41nm,1.4s
X59A McDuffie Farm, 69.74 31 P P 21 35 49.3 +0.5
baz=214
REDW Red Top Meadow 69.76 3 IAmb IAmb 21 35 56.5
comp=Z,34nm,1.4s
J08A Circle Bar Ran 69.77 357 IAmb IAmb 21 35 51.7
comp=Z,45nm,1.4s
W58A Raeford 69.82 30 P P 21 35 49.8 +0.6
baz=213
SNOW Snow King Moun 69.86 3 P P 21 35 49.4 -0.3
SNOW IAmb IAmb 21 35 56.4
comp=Z,18nm,0.9s
HLID Hailey 69.88 0 P P 21 35 50.3 +0.7
baz=180,SNR=20
HLID Hailey 69.88 0 IAmb IAmb 21 35 57.9
comp=Z,38nm,1.4s
J05D Fort Rock, OR 69.88 355 P P 21 35 50.1 +0.5
baz=174,SNR=8.0
TPAW Teton Pass 69.88 3 IAmb IAmb 21 35 55.6
comp=Z,44nm,1.4s
V56A Mocksville 69.92 29 P P 21 35 49.6 -0.3
baz=212
P43A Skaggs, Pawnee 69.94 20 P P 21 35 49.2 -0.7
N38A Joes South For 69.95 17 P P 21 35 49.7 -0.3
U54A Nelsons Funny 69.97 28 P P 21 35 50.3 0.0
baz=211
U54A Nelsons Funny 69.97 28 P P 21 35 50.3 0.0
U54A IAmb IAmb 21 35 58.0
comp=Z,26nm,1.3s
LOHW Long Hollow 70.02 3 IAmb IAmb 21 35 57.9
comp=Z,36nm,1.4s
J01E Myrtle Point 70.02 353 P P 21 35 51.0 +0.7
baz=171
FXWY Fox Creek 70.03 3 IAmb IAmb 21 35 52.2
comp=Z,39nm,1.5s
X60A Albert Glenn T 70.03 31 P P 21 35 50.8 +0.3
baz=214
T53A Wise 70.07 27 P P 21 35 51.2 +0.3
baz=210
R49A Shelbyville 70.20 24 P P 21 35 50.6 -0.9
R49A IAmb IAmb 21 35 57.8
comp=Z,50nm,1.4s
S51A Beattyville 70.22 26 P P 21 35 52.0 +0.3
U55A TA2, Sparta 70.28 28 P P 21 35 52.3 +0.2
baz=211
IMW Indian Meadow 70.29 3 IAmb IAmb 21 35 53.8
comp=Z,31nm,1.4s
L34A Svendsen Farm, 70.30 14 P P 21 35 52.4 +0.3
L34A IAmb IAmb 21 35 53.9
comp=Z,23nm,0.8s
V57A Coltrane Farms 70.30 29 P P 21 35 52.2 -0.1
baz=213,SNR=7.0
PINE Pine Mountain 70.36 355 IAmb IAmb 21 36 00.2
comp=Z,55nm,1.5s
VNA2 Neumayer--Watz 70.42 161 P P 21 35 52.3 -0.3
U56A King 70.43 29 P P 21 35 53.3 +0.3
baz=212
U56A King 70.43 29 P P 21 35 53.6 +0.7
K31A O'Neill 70.45 12 P P 21 35 53.3 +0.3
FLWY Flagg Ranch 70.48 3 IAmb IAmb 21 35 55.2
comp=Z,33nm,1.2s
I03D Drain, OR 70.49 353 P P 21 35 52.9 -0.2
baz=172
BLO Bloomington 70.50 23 P P 21 35 51.9 -1.5
BLO pmax pmax
comp=Z,38nm,1.5s
BLO Bloomington 70.50 23 P P 21 35 51.9 -1.5
BLO IAmb IAmb 21 35 60.0
comp=Z,38nm,1.4s
R50A Paris 70.51 25 IAmb IAmb 21 36 05.8
comp=Z,29nm,1.4s
V58A Windy Hill, Pi 70.52 30 P P 21 35 53.2 -0.3
baz=213
V58A Windy Hill, Pi 70.52 30 IAmb IAmb 21 36 00.2
comp=Z,20nm,1.1s
N41A Harden Midland 70.53 19 P P 21 35 53.3 -0.1
T54A Tazewell 70.53 27 P P 21 35 53.4 -0.3
baz=211
I07A Izee 70.55 356 IAmb IAmb 21 35 56.2
comp=Z,39nm,1.4s
CNNC Cliffs of the 70.62 31 P P 21 35 54.8 +0.7
P46A Rosedale 70.67 22 P P 21 35 54.3 0.0
H17A Grant Village 70.80 3 P P 21 35 57.1 +1.7
S53A Williamson 70.84 27 P P 21 35 55.3 -0.2
baz=210
HDIL Hopedale 70.85 20 P P 21 35 55.3 -0.1
baz=204
HDIL Hopedale 70.85 20 P P 21 35 55.6 +0.1
V59A Middlesex 70.89 31 P P 21 35 55.7 -0.1
baz=214,SNR=5.6
T55A Pulaski 70.91 28 P P 21 35 56.0 +0.1
baz=212
I05D Terrebonne, OR 70.93 355 P P 21 35 56.5 +0.5
baz=173
I02D Swisshome 70.94 353 P P 21 35 55.6 -0.3
baz=171
U57A Blanch 70.95 29 P P 21 35 56.5 +0.3
baz=213
LKWY Lake 70.98 3 P P 21 35 56.9 +0.4
LKWY pmax pmax
comp=Z,27nm,1.5s
LKWY Lake 70.98 3 P P 21 35 56.9 +0.4
LKWY IAmb IAmb 21 36 03.3
comp=Z,27nm,1.5s
W61A Ground Anchor 70.98 32 P P 21 35 57.1 +0.7
baz=215
SCIA State Center 71.00 17 P P 21 35 56.5 +0.2
baz=200
SCIA State Center 71.00 17 P P 21 35 55.9 -0.4
SCIA IAmb IAmb 21 35 57.8
comp=Z,15nm,0.6s
YMR Madison River 71.06 3 P P 21 35 57.4 +0.5
RSSD Black Hills 71.08 8 P P 21 35 57.9 +0.9
RSSD pmax pmax
comp=Z,29nm,1.3s
RSSD Black Hills 71.08 8 P P 21 35 57.0 -0.1
baz=190
RSSD Black Hills 71.08 8 P P 21 35 57.9 +0.9
RSSD IAmb IAmb 21 36 04.4
comp=Z,29nm,1.3s
DZM Mont Dzumac 71.11 254 *eS* **S 21 45 07.4 -7.3**
comp=Z,288nm,26.1s
DZM Mont Dzumac 71.11 254 *eLR* LR 21 57 20.4
comp=Z,2µm,27.6s
DZM Mont Dzumac 71.11 254 P P 21 35 58.3 +0.6
comp=Z,8.4nm,0.9s,baz=128,slow=1.6,SNR=3.7
DZM Mont Dzumac 71.11 254 IAmb IAmb 21 36 00.1
comp=Z,49nm,1.5s
YNR Norris Junctio 71.11 3 P P 21 35 57.3 0.0
YUF Upper Falls 71.12 3 P P 21 35 57.5 +0.2
YHB Horse Butte 71.13 2 P P 21 35 57.7 +0.4
BLA Blacksburg 71.14 28 P P 21 35 58.1 +0.8
BLA pmax pmax
comp=Z,21nm,1.0s
BLA Blacksburg 71.14 28 P P 21 35 56.8 -0.6
baz=212
BLA Blacksburg 71.14 28 P P 21 35 58.1 +0.8
BLA IAmb IAmb 21 35 59.1
comp=Z,21nm,1.0s
T56A Rocky Mt 71.15 29 P P 21 35 56.6 -0.8
baz=212
YMP Mirror Lake Pl 71.16 3 P P 21 35 57.8 +0.1
QLMT Earthquake Lak 71.20 2 P P 21 35 58.7 +0.9
BMO Blue Mountains 71.22 358 IAmb IAmb 21 36 05.1
comp=Z,35nm,1.4s
U58A Oxford 71.27 30 P P 21 35 57.5 -0.6
baz=214
S54A Dingess, Beckl 71.27 27 P P 21 35 57.1 -1.0
baz=211
S54A Dingess, Beckl 71.27 27 P P 21 35 57.8 -0.3
V60A Jim Taylor Roa 71.34 31 P P 21 35 58.8 +0.3
baz=215
V60A Jim Taylor Roa 71.34 31 P P 21 35 58.7 +0.3
V60A IAmb IAmb 21 36 05.7
comp=Z,54nm,1.4s
H04A Detroit Lake 71.35 354 P P 21 35 59.1 +0.7
VWCC Virginia Weste 71.36 28 P P 21 35 59.5 +0.8
COR Corvallis 71.36 353 P P 21 35 58.9 +0.5
COR pmax pmax
comp=Z,101nm,1.4s
COR Corvallis 71.36 353 P P 21 35 58.9 +0.5
SNAA Sanae 71.40 162 P P 21 35 58.2 -0.4
SNAA Sanae 71.40 162 P P 21 35 58.3 -0.3
SNAA Sanae 71.40 162 P P 21 35 58.2 -0.3
YNE Yellowstone No 71.44 3 P P 21 35 58.4 -0.8
T57A Hurt 71.46 29 P P 21 35 59.2 0.0
baz=213
T57A Hurt 71.46 29 P P 21 35 59.4 +0.1
T57A IAmb IAmb 21 36 00.9
comp=Z,24nm,1.4s
P49A Miami Univ. Ec 71.47 24 P P 21 35 57.9 -1.2
baz=208
P49A Miami Univ. Ec 71.47 24 P P 21 35 58.0 -1.2
P49A IAmb IAmb 21 36 10.8
comp=Z,24nm,1.4s
R53A Hurricane 71.47 26 P P 21 35 59.0 -0.2
baz=210
R53A Hurricane 71.47 26 P P 21 35 58.0 -1.3
R53A IAmb IAmb 21 36 07.4
comp=Z,22nm,1.2s
Q51A Peebles 71.53 25 P P 21 35 59.9 +0.3
Q51A IAmb IAmb 21 36 06.0
comp=Z,26nm,1.4s
U59A Littleton 71.58 31 P P 21 35 59.6 -0.4
baz=214
U59A Littleton 71.58 31 P P 21 36 00.2 +0.3
U59A IAmb IAmb 21 36 06.9
comp=Z,28nm,1.2s
S55A Lewisburg 71.58 28 P P 21 35 59.8 -0.2
baz=212
RLMT Red Lodge 71.59 4 P P 21 36 00.1 -0.1
baz=185,SNR=7.4
RLMT Red Lodge 71.59 4 IAmb IAmb 21 36 06.1
comp=Z,39nm,1.4s
L40A Anamosa 71.68 18 P P 21 36 00.6 +0.2
G08A Pilot Rock 71.72 357 IAmb IAmb 21 36 03.4
comp=Z,28nm,1.1s
T58A Grand View Acr 71.74 30 P P 21 36 00.2 -0.7
baz=213
K38A Parkersburg 71.81 17 P P 21 36 01.4 +0.2
G05D Wamic, OR 71.83 355 P P 21 36 01.9 +0.6
baz=174
Q52A Bidwell 71.89 26 P P 21 36 01.4 -0.3

baz=210
S56A Natural Bridge 71.90 29 P **P 21 36 01.4 -0.5**
baz=212
ECSD EROS Data Cent 71.94 14 P **P 21 36 01.5 -0.5**
baz=197,SNR=7.1
ECSD EROS Data Cent 71.94 14 IAmb IAmb 21 36 08.7
comp=Z,22nm,1.2s
BOZ Bozeman (W) 71.96 2 P **P 21 36 02.1 -0.1**
baz=183,SNR=12
U60A Pendleton 71.97 31 P **P 21 36 01.9 -0.4**
baz=215
G03D McMinnville, O 71.97 353 P **P 21 36 02.5 +0.4**
baz=172
P51A Williamsport 72.03 25 P **P 21 36 01.9 -0.8**
baz=209
P51A Williamsport 72.03 25 P **P 21 36 02.3 -0.3**
P51A IAmb IAmb 21 36 08.2
comp=Z,31nm,1.5s
Q53A Leroy 72.09 26 P **P 21 36 03.3 +0.3**
baz=211,SNR=6.3
SUSD Miller 72.17 12 P **P 21 36 03.2 -0.1**
baz=194
SUSD Miller 72.17 12 P **P 21 36 02.9 -0.5**
SUSD IAmb IAmb 21 36 04.8
comp=Z,40nm,1.2s
R55A Marlinton 72.17 28 P **P 21 36 03.4 -0.2**
baz=212
O49A Covington 72.18 24 P **P 21 36 01.4 -2.0**
T59A Double "B" Far 72.20 30 P **P 21 36 03.2 -0.4**
S57A Dark Hollow, R 72.23 29 P **P 21 36 03.4 -0.4**
baz=213
S57A Dark Hollow, R 72.23 29 P **P 21 36 03.4 -0.4**
N47A Urbana 72.31 23 P **P 21 36 02.8 -1.4**
F10A Beach Ranch, E 72.33 358 P **P 21 36 04.5 +0.2**
F10A IAmb IAmb 21 36 11.3
comp=Z,42nm,1.5s
F07A Phinny Hill Vi 72.38 356 P **P 21 36 05.1 +0.6**
F07A IAmb IAmb 21 36 12.2
comp=Z,40nm,1.5s
HQIL Hanson Quary C 72.43 21 P **P 21 36 05.1 +0.2**
Q54A Coxs Mills 72.48 27 P **P 21 36 05.6 +0.3**
baz=211,SNR=5.7
Q54A Coxs Mills 72.48 27 P **P 21 36 05.3 0.0**
Q54A IAmb IAmb 21 36 12.6
comp=Z,49nm,1.4s
F05D White Salmon 72.48 355 P **P 21 36 05.3 +0.1**
baz=173
S58A Poland Farm, P 72.50 30 P **P 21 36 05.1 -0.3**
baz=214
S58A Poland Farm, P 72.50 30 P **P 21 36 04.5 -1.0**
S58A IAmb IAmb 21 36 07.2
comp=Z,28nm,1.4s
P52A Corning 72.52 26 P **P 21 36 05.3 -0.2**
baz=210
P52A Corning 72.52 26 P **P 21 36 05.2 -0.4**
R56A Bull Pasture M 72.58 28 P **P 21 36 06.8 +0.8**
baz=212,SNR=5.8
F04A Amboy 72.61 354 P **P 21 36 06.4 +0.5**
F04A IAmb IAmb 21 36 12.7
comp=Z,35nm,1.3s
P53A Whipple 72.69 26 P **P 21 36 06.8 +0.3**
baz=211
P53A Whipple 72.69 26 P **P 21 36 06.8 +0.3**
P53A IAmb IAmb 21 36 09.7
comp=Z,54nm,1.4s
T60A Surry 72.71 31 P **P 21 36 06.8 +0.1**
baz=215
JFWS Jewell Farm 72.74 18 P **P 21 36 05.4 -1.4**
JFWS pmax pmax
comp=Z,39nm,1.4s
JFWS Jewell Farm 72.74 18 P **P 21 36 06.7 0.0**
baz=202
JFWS Jewell Farm 72.74 18 P **P 21 36 05.4 -1.4**
JFWS IAmb IAmb 21 36 08.3
comp=Z,39nm,1.4s
L44A Lake County Fo 72.76 20 P **P 21 36 06.7 -0.1**
baz=205
L44A Lake County Fo 72.76 20 P **P 21 36 07.6 +0.7**
O51A Pataskala 72.78 25 P **P 21 36 06.8 -0.3**
baz=209
Q55A Buckhannon 72.80 27 P **P 21 36 07.7 +0.5**
baz=212
F04D Rainier, OR 72.81 354 P **P 21 36 07.4 +0.3**
baz=172
HAWA Hanford 72.85 356 P **P 21 36 07.4 0.0**
R57A Stanardsville 72.87 29 P **P 21 36 08.0 +0.4**
baz=213
R58B Mineral 72.87 30 P **P 21 36 07.6 0.0**
baz=214
R58B Mineral 72.87 30 P **P 21 36 07.8 +0.2**
E09A Wood Farm, Sta 72.91 357 IAmb IAmb 21 36 14.5
comp=Z,31nm,1.4s
E08A Dider Farm, El 72.92 357 IAmb IAmb 21 36 15.3
comp=Z,35nm,1.4s
I37A Lemond, Waseca 72.94 16 P **P 21 36 07.7 -0.2**
S59A Mechanicsville 72.96 30 P **P 21 36 08.2 0.0**
baz=214
O52A Adamsville 73.05 26 P **P 21 36 08.7 0.0**
baz=210
O52A Adamsville 73.05 26 P **P 21 36 09.4 +0.7**
R58A Rapidan 73.09 29 P **P 21 36 09.1 +0.1**
baz=214
MSO Missoula 73.15 0 P **P 21 36 09.5 +0.3**
baz=180,SNR=8.7
MSO Missoula 73.15 0 IAmb IAmb 21 36 16.4
comp=Z,41nm,1.5s
P54A Burton 73.15 27 P **P 21 36 09.8 +0.5**
baz=211,SNR=11
Q56A Snyder Ridge, 73.21 28 P **P 21 36 09.9 +0.2**
baz=212
Q56A Snyder Ridge, 73.21 28 P **P 21 36 09.6 0.0**
Q56A IAmb IAmb 21 36 17.3
comp=Z,27nm,1.4s
S60A Water View 73.21 31 P **P 21 36 09.4 -0.2**
baz=215
E04D Cinebar 73.24 354 P **P 21 36 09.4 -0.2**
baz=172
CBN Corbin Frederi 73.29 30 P **P 21 36 09.9 -0.2**
baz=214
CBN Corbin Frederi 73.29 30 P **P 21 36 10.2 0.0**
CBN IAmb IAmb 21 36 22.1
comp=Z,13nm,0.5s
P55A Reedsville 73.33 27 P **P 21 36 10.9 +0.5**
baz=212,SNR=6.1
LAO LASA Array 73.38 6 P **P 21 36 10.8 +0.2**
baz=188
LAO LASA Array 73.38 6 P **P 21 36 10.6 0.0**
LAO IAmb IAmb 21 36 12.2
comp=Z,38nm,1.2s
R59A King George, V 73.40 30 P **P 21 36 11.1 +0.4**
baz=214
O53A New Philadelph 73.41 26 P **P 21 36 11.2 +0.5**
baz=211
O53A New Philadelph 73.41 26 IAmb IAmb 21 36 18.0
comp=Z,48nm,1.3s
MCWV Mont Chateau 73.45 27 P **P 21 36 11.4 +0.3**
baz=212
MCWV Mont Chateau 73.45 27 P **P 21 36 11.7 +0.6**
D08A Wollman Farm, 73.48 357 P **P 21 36 11.5 +0.5**
Q57A Strasburg 73.53 29 P **P 21 36 11.7 +0.1**
baz=213
I40A Norwalk 73.54 18 P **P 21 36 11.5 +0.1**
N51A Ashland 73.54 25 P **P 21 36 11.7 +0.1**
baz=210
N51A Ashland 73.54 25 P **P 21 36 11.9 +0.4**
O54A Avella 73.68 27 P **P 21 36 12.3 -0.1**
baz=211
O54A Avella 73.68 27 P **P 21 36 12.5 +0.1**
L48A N Adams 73.69 23 P **P 21 36 12.3 -0.2**
L48A IAmb IAmb 21 36 19.3
comp=Z,65nm,1.4s
M50A Fremont 73.72 24 P **P 21 36 13.2 +0.7**
P56A Dayton Farm, R 73.74 28 P **P 21 36 13.2 +0.4**
baz=213,SNR=5.5
Q58A Fox Den Farm, 73.77 29 P **P 21 36 13.6 +0.7**
baz=214
D05A Enumclaw 73.82 355 P **P 21 36 13.2 +0.2**
D05A IAmb IAmb 21 36 26.0
comp=Z,37nm,1.1s
D04E Lakebay 73.88 354 P **P 21 36 14.1 +0.7**
baz=172
E28A Huff 73.95 10 P **P 21 36 14.0 +0.2**
M51A Elyria 73.97 25 P **P 21 36 13.8 -0.3**
baz=210
I42A Draeger Farm, 74.02 19 P **P 21 36 14.9 +0.6**
I42A IAmb IAmb 21 36 17.7
comp=Z,35nm,1.4s

F33A 5 Mile Ranch, 74.02 13 P **P 21 36 14.4 +0.2**
F33A IAmb IAmb 21 36 20.8
comp=Z,50nm,1.5s
N53A Lisbon 74.03 26 P **P 21 36 14.7 +0.2**
baz=211
N53A Lisbon 74.03 26 P **P 21 36 15.1 +0.6**
N53A IAmb IAmb 21 36 16.7
comp=Z,33nm,1.1s
JTMT Jette 74.06 0 IAmb IAmb 21 36 21.6
comp=Z,57nm,1.5s
P57A Homestead Farm 74.07 29 P **P 21 36 14.5 -0.2**
baz=213
P57A Homestead Farm 74.07 29 P **P 21 36 14.7 0.0**
P57A IAmb IAmb 21 36 16.9
comp=Z,33nm,1.4s
O55A Ligonier 74.14 27 P **P 21 36 15.4 +0.3**
baz=212
NLWA Neilton Lookou 74.19 353 P **P 21 36 16.0 +0.7**
NLWA IAmb IAmb 21 36 22.7
comp=Z,62nm,1.5s
C09A Chrisman Ranch 74.20 357 IAmb IAmb 21 36 23.5
comp=Z,24nm,1.1s
SPMN Marine on St. 74.22 16 P **P 21 36 15.1 -0.3**
baz=200
SPMN Marine on St. 74.22 16 P **P 21 36 15.5 +0.1**
D03D Eldon 74.26 354 P **P 21 36 16.3 +0.7**
baz=172
AAM Ann Arbor 74.28 23 P **P 21 36 15.1 -0.7**
AAM pmax pmax
comp=Z,107nm,1.5s
AAM Ann Arbor 74.28 23 P **P 21 36 15.1 -0.7**
P58A Pank, Wackersv 74.39 29 P **P 21 36 16.5 0.0**
baz=214
EGMT Eagleton 74.46 3 P **P 21 36 17.5 +0.7**
baz=184,SNR=13
M52A Chesterland 74.46 25 P **P 21 36 17.3 +0.4**
baz=210
M52A Chesterland 74.46 25 P **P 21 36 16.5 -0.5**
M52A IAmb IAmb 21 36 24.2
comp=Z,48nm,1.4s
O56A Blue Knob Stat 74.50 28 P **P 21 36 17.9 +0.7**
baz=213,SNR=7.6
O56A Blue Knob Stat 74.50 28 IAmb IAmb 21 36 24.8
comp=Z,42nm,1.4s
N54A Moraine State 74.50 26 P **P 21 36 17.5 +0.3**
baz=212
N54A Moraine State 74.50 26 IAmb IAmb 21 36 24.9
comp=Z,51nm,1.3s
SDMD Soldier's Deli 74.52 29 P **P 21 36 16.5 -0.8**
NEW Newport 74.62 358 LR LR 22 04 18.2
comp=Z,385nm,18.2s,baz=194,slow=32
NEW Newport 74.62 358 P **P 21 36 18.1 +0.4**
baz=177,SNR=14
NEW Newport 74.62 358 IAmb IAmb 21 36 25.0
comp=Z,66nm,1.5s
M53A Wt Miller and 74.64 26 P **P 21 36 18.1 +0.1**
baz=211
F36A Milaca 74.65 15 IAmb IAmb 21 36 19.9
comp=Z,26nm,0.8s
N55A Marion Center 74.75 27 P **P 21 36 19.5 +0.8**
baz=212,SNR=8.0
B08A Colville Reser 74.80 357 P **P 21 36 18.6 -0.1**
O57A Amberson 74.84 28 P **P 21 36 19.3 +0.1**
baz=214
P59A Jarrettsville 74.86 30 P **P 21 36 19.6 +0.3**
baz=215
B05A Bryant 74.89 355 P **P 21 36 19.4 +0.2**
baz=173
O58A Lewisberry 75.07 29 P **P 21 36 20.4 -0.1**
baz=214
SSPA Standing Stone 75.09 28 P **P 21 36 20.8 +0.3**
baz=213
SSPA Standing Stone 75.09 28 P **P 21 36 19.4 -1.2**
SSPA IAmb IAmb 21 36 22.6
comp=Z,34nm,1.5s
M54A Oil Creek Stat 75.09 26 P **P 21 36 20.6 0.0**
baz=212
M54A Oil Creek Stat 75.09 26 P **P 21 36 20.8 +0.2**
M54A IAmb IAmb 21 36 27.1
comp=Z,35nm,1.4s
B06A Marblemount 75.10 355 P **P 21 36 20.5 +0.1**
N56A West Decatur 75.15 28 P **P 21 36 21.3 +0.4**
baz=213
MVL Millersville 75.22 29 P **P 21 36 21.5 +0.2**
L53A Girard 75.24 26 P **P 21 36 21.6 +0.2**
baz=211
PAGS Pennsylvania G 75.25 29 P **P 21 36 21.0 -0.5**
N57A Milroy 75.33 28 P **P 21 36 21.8 -0.2**
baz=214
DGMT Dagmar 75.35 7 P **P 21 36 22.1 +0.2**
baz=189
DGMT Dagmar 75.35 7 P **P 21 36 21.9 -0.1**
DGMT IAmb IAmb 21 36 29.8
comp=Z,54nm,1.3s
MDND Maddock 75.36 10 P **P 21 36 21.8 -0.2**
WALA Waterton Lakes 75.38 0 P **P 21 36 21.8 -0.4**
P60A Greenville 75.38 30 P **P 21 36 22.1 -0.1**
baz=215
PGC Sidney 75.40 354 P **P 21 36 22.7 +0.6**
A04D Lummi Island 75.40 354 P **P 21 36 23.0 +0.9**
baz=172
M55A Ridgway 75.42 27 P **P 21 36 22.7 +0.1**
baz=212
M55A Ridgway 75.42 27 P **P 21 36 22.6 +0.1**
M55A IAmb IAmb 21 36 35.9
comp=Z,32nm,1.5s
BBSR BB Station 75.45 42 P **P 21 36 22.3 -0.5**
O59A Robesonia 75.55 29 P **P 21 36 23.7 +0.4**
baz=215
PSUB Penn St. - Bra 75.56 30 P **P 21 36 23.3 +0.1**
M56A Emporium 75.67 27 P **P 21 36 24.4 +0.5**
baz=213
M56A Emporium 75.67 27 IAmb IAmb 21 36 31.2
comp=Z,40nm,1.4s
N58A Sunbury 75.75 29 P **P 21 36 24.5 +0.1**
baz=214
N58A Sunbury 75.75 29 IAmb IAmb 21 36 31.5
comp=Z,34nm,1.2s
NVL N'lazarevskaya 75.79 164 eP P 21 36 29.8 +5.5
NVL pmax pmax
comp=Z,10.0nm,1.1s
L54A Sinclairville 75.85 26 P **P 21 36 24.8 -0.1**
baz=212
O60A Telford 75.90 30 P **P 21 36 25.7 +0.5**
baz=215
COWI Conover 75.98 18 P **P 21 36 25.8 +0.2**
COWI IAmb IAmb 21 36 32.9
comp=Z,56nm,1.4s
M57A Sunshine Farm, 75.99 28 P **P 21 36 26.2 +0.5**
baz=214
LUPA Lehigh Univers 76.14 30 P **P 21 36 26.9 +0.3**
LUPA IAmb IAmb 21 36 33.7
comp=Z,23nm,1.2s
L55A Hinsdale 76.16 27 P **P 21 36 27.2 +0.5**
baz=213
GLMI Grayling 76.19 21 P **P 21 36 27.4 +0.6**
N59A State Game Lan 76.22 29 P **P 21 36 27.5 +0.4**
baz=215
N59A State Game Lan 76.22 29 P **P 21 36 27.3 +0.2**
N59A IAmb IAmb 21 36 34.4
comp=Z,40nm,1.5s
WVNY West Valley, N 76.28 27 P **P 21 36 27.6 +0.2**
WVNY IAmb IAmb 21 36 29.4
comp=Z,24nm,1.1s
M58A Price's Panora 76.30 28 P **P 21 36 27.9 +0.3**
baz=214
K54A Basiliko Farm, 76.41 26 P **P 21 36 28.9 +0.7**
baz=212
AGMN Agassiz Nation 76.46 13 P **P 21 36 28.5 +0.2**
baz=197
AGMN Agassiz Nation 76.46 13 IAmb IAmb 21 36 35.3
comp=Z,42nm,1.4s
L56A Greenwood 76.47 27 P **P 21 36 29.0 +0.5**
baz=213
L56A Greenwood 76.47 27 P **P 21 36 28.6 0.0**
L56A IAmb IAmb 21 36 35.8
comp=Z,59nm,1.4s
N60A Cedar Hill Far 76.48 30 P **P 21 36 28.5 0.0**
baz=216
I51A Listowel 76.54 24 P **P 21 36 29.2 +0.4**
baz=210
L57A Andrews Acres 76.66 28 P **P 21 36 29.8 +0.2**
baz=214
KSPA Keystone Colle 76.75 29 P **P 21 36 30.7 +0.7**
KSPA IAmb IAmb 21 36 36.4
comp=Z,30nm,1.5s
K55A Perry 76.76 27 P **P 21 36 30.4 +0.3**

baz=213
MMNY Mt. Morris Dam 76.83 27 P **P 21 36 30.4 0.0**
MMNY IAmb IAmb 21 36 37.4
comp=Z,16nm,0.9s
E43A Lone Tree Farm 76.84 19 P **P 21 36 30.8 +0.4**
E43A IAmb IAmb 21 36 37.8
comp=Z,54nm,1.3s
ODNJ Ogdensburg 76.87 30 P **P 21 36 30.8 +0.1**
M59A Waymart 76.88 29 P **P 21 36 31.1 +0.3**
baz=215
J54A Appleton 76.99 26 P **P 21 36 31.3 0.0**
baz=212
J54A Appleton 76.99 26 P **P 21 36 30.8 -0.5**
J54A IAmb IAmb 21 36 38.3
comp=Z,18nm,0.8s
K56A Middlesex 77.04 27 P **P 21 36 31.6 -0.1**
baz=214
M60A Port Jervis 77.06 30 P **P 21 36 31.8 0.0**
baz=216
EYMN Ely 77.08 16 P **P 21 36 31.7 -0.1**
baz=201
EYMN Ely 77.08 16 P **P 21 36 31.2 -0.5**
EYMN IAmb IAmb 21 36 38.5
comp=Z,56nm,1.4s
L58A Harry Jones Me 77.11 28 P **P 21 36 31.9 -0.2**
baz=215
PAL Palisades 77.12 30 P **P 21 36 31.4 -0.7**
baz=216
BINY Binghamton 77.18 28 P **P 21 36 32.6 +0.1**
baz=215
BINY Binghamton 77.18 28 P **P 21 36 31.9 -0.6**
BINY IAmb IAmb 21 36 39.9
comp=Z,48nm,1.3s
J55A Hilton 77.31 27 P **P 21 36 33.1 0.0**
baz=213
J55A Hilton 77.31 27 P **P 21 36 33.4 +0.3**
J55A IAmb IAmb 21 36 40.9
comp=Z,23nm,1.1s
K57A Scipio Center 77.40 28 P **P 21 36 33.7 0.0**
baz=214
M61A Granite Spring 77.43 30 P **P 21 36 33.4 -0.5**
baz=216
L59A Walton 77.58 29 P **P 21 36 35.4 +0.7**
baz=215,SNR=7.6
L59A Walton 77.58 29 IAmb IAmb 21 36 36.8
comp=Z,21nm,0.9s
J56A Wolcott 77.71 27 P **P 21 36 35.7 +0.3**
baz=214
J56A Wolcott 77.71 27 P **P 21 36 35.4 0.0**
J56A IAmb IAmb 21 36 42.3
comp=Z,43nm,1.4s
K58A Earlville 77.79 28 P **P 21 36 35.6 -0.2**
baz=215
K58A Earlville 77.79 28 P **P 21 36 35.5 -0.3**
K58A IAmb IAmb 21 36 37.8
comp=Z,26nm,1.1s
YLE Yale 77.81 31 P **P 21 36 35.8 -0.2**
YLE IAmb IAmb 21 36 42.2
comp=Z,20nm,0.6s
KSCT Kent School, K 77.89 30 P **P 21 36 36.0 -0.5**
M62A Hamden 77.93 31 P **P 21 36 36.3 -0.4**
baz=217
SADO Sadowa 78.06 25 LR LR 22 09 25.7
comp=Z,423nm,18.0s,baz=180,slow=34
SADO Sadowa 78.06 25 P **P 21 36 37.5 +0.2**
SADO IAmb IAmb 21 36 44.2
comp=Z,50nm,1.4s
E47A Iron Bridge 78.06 21 P **P 21 36 37.9 +0.6**
baz=208
H53A Bobcaygeon 78.11 25 P **P 21 36 37.4 -0.2**
baz=212
K59A Cooperstown 78.14 29 P **P 21 36 37.9 +0.1**
baz=216
I55A Frankford 78.16 26 P **P 21 36 37.7 -0.1**
baz=213
J57A Williamstown 78.17 28 P **P 21 36 37.4 -0.5**
baz=214
J57A Williamstown 78.17 28 P **P 21 36 37.8 -0.1**
PECO Prince Edward 78.20 27 P **P 21 36 37.7 -0.4**
PECO IAmb IAmb 21 36 45.0
comp=Z,51nm,1.4s
D46A Sault St. Mari 78.21 21 P **P 21 36 38.2 +0.1**
baz=207
L61A Hillsdale 1, H 78.23 30 P **P 21 36 38.2 -0.2**
baz=217
ULM Lac du Bonnet 78.33 12 P **P 21 36 38.1 -0.5**
comp=Z,9.1nm,0.7s,baz=205,slow=5.7,SNR=6.5
ULM LR LR 22 06 58.1
comp=Z,218nm,21.8s,baz=259,slow=32
ULM Lac du Bonnet 78.33 12 IAmb IAmb 21 36 39.9
comp=Z,18nm,0.9s
J58A Remsen 78.43 28 P **P 21 36 38.7 -0.6**
baz=215
J58A Remsen 78.43 28 P **P 21 36 38.8 -0.6**
J58A IAmb IAmb 21 36 45.8
comp=Z,33nm,1.4s
DELO Deloro Mine 78.44 26 P **P 21 36 39.4 0.0**
TRY Troy 78.61 29 P **P 21 36 39.4 -1.0**
H55A Tweed 78.64 26 P **P 21 36 40.3 -0.1**
baz=213
D47A Chapleau 78.65 21 P **P 21 36 40.4 -0.1**
baz=208
K61A Williamstown 78.74 30 P **P 21 36 41.6 +0.5**
baz=217
I57A Carthage 78.75 27 P **P 21 36 41.5 +0.4**
baz=215
M64A Tiverton 78.80 32 P **P 21 36 41.8 +0.4**
baz=218
I58A Old Forge 78.83 28 P **P 21 36 41.7 +0.1**
baz=215
L61B Northampton 78.83 30 P **P 21 36 41.4 -0.2**
baz=217
J59A Piesco 78.84 28 P **P 21 36 41.9 +0.2**
baz=216
J59A Piesco 78.84 28 P **P 21 36 42.1 +0.4**
J59A IAmb IAmb 21 36 48.8
comp=Z,37nm,1.4s
L63A North Scituate 78.86 31 P **P 21 36 41.7 -0.1**
baz=218
G54A Lake Saint Pet 78.99 25 P **P 21 36 42.9 +0.4**
baz=213
H56A Elgin 79.04 27 P **P 21 36 42.8 +0.1**
baz=214
PLVO Plevna 79.08 26 P **P 21 36 43.1 +0.2**
PLVO IAmb IAmb 21 36 50.0
comp=Z,31nm,1.3s
J60A Lant Hill Farm 79.13 29 P **P 21 36 43.3 +0.1**
baz=217
ACCN Adirondack Com 79.14 29 IAmb IAmb 21 36 50.6
comp=Z,62nm,1.5s
K62A Royalston 79.20 30 P **P 21 36 43.6 -0.1**
baz=218
K62A Royalston 79.20 30 P **P 21 36 44.3 +0.7**
K62A IAmb IAmb 21 36 50.0
comp=Z,33nm,1.4s
L64A Middleborough 79.27 32 P **P 21 36 44.2 +0.2**
baz=219
H57A Richville 79.29 27 P **P 21 36 44.1 +0.1**
baz=215
NCB Newcomb 79.37 28 IAmb IAmb 21 36 51.8
comp=Z,26nm,1.2s
I59A Olmsteadville 79.38 29 P **P 21 36 44.6 0.0**
baz=216
HRV Adam Dziewonsk 79.38 31 P **P 21 36 44.8 +0.1**
baz=218
G55A Calabogie 79.40 26 P **P 21 36 44.6 0.0**
baz=214
ALGO Algonquin Park 79.48 25 P **P 21 36 44.9 -0.1**
baz=212
K63A Dunstable 79.54 31 P **P 21 36 45.7 +0.3**
baz=218
J61A Chester 79.60 30 P **P 21 36 46.2 +0.4**
baz=217
I60A Shoreham 79.67 29 P **P 21 36 46.3 +0.1**
baz=217
LONY Lake Ozonia 79.75 28 P **P 21 36 47.0 +0.4**
baz=216
LONY Lake Ozonia 79.75 28 P **P 21 36 46.9 +0.3**
H58A Gabriels 79.75 28 P **P 21 36 46.9 +0.3**
baz=216
J62A Henniker 79.83 30 P **P 21 36 47.7 +0.6**
baz=218
G57A Newington 79.98 27 P **P 21 36 48.2 +0.4**
baz=215
E53A Dumoine, Ponti 79.98 25 P **P 21 36 48.4 +0.7**
baz=213
HNH Hanover 80.00 30 P **P 21 36 48.1 +0.1**

HNH IAmb IAmb 21 36 55.7
comp=Z,44nm,1.5s
F55A Otter Lake 80.03 26 P **P 21 36 48.4 +0.3**
baz=214
ORIO Orleans, Innes 80.05 27 P **P 21 36 48.4 +0.2**
FFD Franklin Falls 80.10 30 **P 21 36 48.8 +0.3**
FFD IAmb IAmb 21 36 51.0
comp=Z,59nm,1.4s
H59A Cadyville 80.14 28 P **P 21 36 49.0 +0.3**
baz=216
E54A Lac Daplat, Po 80.20 25 P **P 21 36 49.0 0.0**
baz=213
J63A Strafford 80.21 31 P **P 21 36 49.6 +0.5**
baz=218
I61A Oroboro, Fairl 80.22 30 P **P 21 36 50.0 +0.9**
baz=218,SNR=5.9
VT1 Waterbury 80.29 29 P **P 21 36 49.6 0.0**
VT1 IAmb IAmb 21 36 57.0
comp=Z,48nm,1.5s
FRNY Flat Rock 80.34 28 P **P 21 36 50.0 +0.3**
G58A Ormstown 80.40 28 P **P 21 36 50.4 +0.4**
baz=216
H60A Morristown 80.50 29 P **P 21 36 51.2 +0.5**
baz=217
D53A Lac Vacive, Po 80.55 24 P **P 21 36 51.5 +0.7**
baz=213
I62A Tamworth 80.56 30 P **P 21 36 51.4 +0.5**
baz=218
I62A Tamworth 80.56 30 P **P 21 36 51.5 +0.5**
I62A IAmb IAmb 21 36 58.4
comp=Z,45nm,1.4s
LBNH Lisbon 80.58 30 P **P 21 36 51.8 +0.7**
baz=218
LBNH Lisbon 80.58 30 IAmb IAmb 21 36 58.7
comp=Z,40nm,1.4s
G59A Clarenceville 80.71 28 P **P 21 36 51.6 -0.1**
baz=217
H61A Lyndonville 80.81 29 P **P 21 36 52.7 +0.4**
baz=218,SNR=7.4
D54A Lac Fusel, La 81.00 25 P **P 21 36 53.2 -0.1**
baz=214
I63A Otisfield 81.03 30 P **P 21 36 53.8 +0.3**
baz=219
I63A Otisfield 81.03 30 P **P 21 36 54.3 +0.8**
I63A IAmb IAmb 21 37 00.9
comp=Z,37nm,1.4s
DIB Dawson Inlet, 81.06 349 P **P 21 36 54.8 +1.4**
DIB IAmb IAmb 21 37 04.0
comp=Z,31nm,1.3s
H02S1 DAWSON INLET T 81.06 349 T T 23 06 19.3
SNR=4.4
TRQ Mont Tremblant 81.06 27 P **P 21 36 54.3 +0.6**
G60A Masonville 81.08 29 P **P 21 36 54.7 +1.0**
baz=217
H02N1 VAN INLET T-PH 81.12 349 T T 23 06 29.9
SNR=4.8
H62A Milan 81.19 30 P **P 21 36 54.4 +0.1**
baz=218,SNR=8.0
H62A Milan 81.19 30 IAmb IAmb 21 36 56.8
comp=Z,34nm,1.1s
CASY Casey 81.25 197 P **P 21 36 55.3 +0.9**
D55A Sainte-Anne-du 81.35 26 P **P 21 36 55.4 +0.3**
baz=215
I64A Boothbay 81.37 31 P **P 21 36 55.5 +0.3**
baz=220
E57A Chemin Saint G 81.38 27 P **P 21 36 55.4 +0.1**
baz=216
G61A St-Isidore-de- 81.58 29 P **P 21 36 56.8 +0.4**
baz=218,SNR=6.3
D56A ZEC Mazanza, M 81.66 26 P **P 21 36 56.4 -0.3**
baz=215
E58A La Victoria 81.70 27 P **P 21 36 56.9 -0.1**
baz=216
H63A New Sharon 81.76 30 P **P 21 36 58.1 +0.8**
baz=219
FFC Flin Flon 81.76 7 P **P 21 36 57.5 +0.4**
FFC pmax pmax
comp=Z,20nm,1.3s
FFC Flin Flon 81.76 7 P **P 21 36 57.5 +0.4**
WVL Waterville 81.85 31 P **P 21 36 57.8 0.0**
HNR Honiara 81.92 264 LR LR 22 08 27.5
comp=Z,147nm,18.9s,baz=144,slow=32
F60A Warwick 81.94 28 P **P 21 36 57.8 -0.5**
baz=218,SNR=5.8
G62A West of Eustis 81.97 30 P **P 21 36 58.8 +0.3**
baz=219
G62A West of Eustis 81.97 30 P **P 21 36 57.8 -0.6**
G62A IAmb IAmb 21 37 04.9
comp=Z,23nm,1.3s
D57A Chemin Vers le 81.98 27 P **P 21 36 58.2 -0.2**
baz=216
H64A Troy 82.11 31 P **P 21 36 59.5 +0.3**
baz=220
G63A Kingsbury 82.29 30 P **P 21 37 00.5 +0.3**
baz=219
F61A St Evariste 82.36 29 P **P 21 37 00.9 +0.5**
baz=218
D58A Chemin du LacG 82.45 27 P **P 21 37 01.1 +0.2**
baz=217
E60A Ste Agathe de 82.47 28 P **P 21 37 01.2 +0.2**
baz=218
LSQQ Lebel-sur-Quev 82.48 24 P **P 21 37 01.5 +0.5**
baz=213
PKME Peaks-Kenny Pk 82.56 30 P **P 21 37 02.3 +0.8**
baz=220
PKME Peaks-Kenny Pk 82.56 30 P **P 21 37 01.1 -0.4**
H65A Eastbrook 82.60 31 P **P 21 37 01.9 +0.2**
baz=220
EIDS Eidsvold 82.69 245 P **P 21 37 03.2 +0.4**
LATQ La Tuque 82.72 27 P **P 21 37 02.3 0.0**
baz=217
LATQ La Tuque 82.72 27 P **P 21 37 02.4 0.0**
SYO Syowa Base 82.74 171‖*e*P **P 21 37 00.4 -1.8**
SYO Syowa Base 82.74 171‖*e*pP pP 21 37 04.6 -0.1
F62A Pittston Farm, 82.74 30 IAmb IAmb 21 37 09.1
comp=Z,24nm,1.4s
G64A Maxfield 82.79 31 P **P 21 37 02.9 +0.2**
baz=220
MATQ Matagami 82.83 23 P **P 21 37 02.9 +0.1**
baz=213
E61A Lac Etchemin 82.93 29 P **P 21 37 02.7 -0.8**
baz=219
F63A Nahmakanta, Br 82.98 30 P **P 21 37 04.0 +0.3**
baz=220,SNR=12
EMMW East Machias 82.98 32 P **P 21 37 03.0 -0.7**
EMMW IAmb IAmb 21 37 11.9
comp=Z,19nm,1.1s
H66A Whiting 83.11 32 P **P 21 37 04.2 -0.2**
baz=221
D60A Saint Jean D'O 83.12 28 P **P 21 37 04.6 +0.2**
baz=218
G65A Princeton 83.30 31 P **P 21 37 04.7 -0.6**
baz=221
G65A Princeton 83.30 31 P **P 21 37 04.9 -0.4**
G65A IAmb IAmb 21 37 17.0
comp=Z,23nm,1.4s
F64A Sherman 83.44 30 P **P 21 37 06.3 +0.2**
baz=220
F64A Sherman 83.44 30 IAmb IAmb 21 37 08.2
comp=Z,39nm,1.4s
E62A Clayton Lake 83.50 29 P **P 21 37 05.3 -1.0**
baz=219,SNR=9.3
GGN Saint George 83.58 32 P **P 21 37 07.2 +0.5**
GGN IAmb IAmb 21 37 18.5
comp=Z,34nm,1.4s
D61A St Aubert, Com 83.66 29 P **P 21 37 06.9 -0.3**
baz=219
E63A Oxbow 83.83 30 P **P 21 37 07.8 -0.3**
baz=220
D62A Allapoint, All 84.06 29 P **P 21 37 08.6 -0.6**
baz=220,SNR=8.3
D62A Allapoint, All 84.06 29 IAmb IAmb 21 37 11.0
comp=Z,34nm,1.2s
E64A Bridgewater 84.10 30 P **P 21 37 09.6 +0.2**
baz=221
WRAK Wrangell Islan 84.13 350 P **P 21 37 09.9 +0.6**
WRAK IAmb IAmb 21 37 11.2
comp=Z,36nm,1.4s
CHGQ Chibougamau 84.14 25 P **P 21 37 09.4 -0.1**
baz=215
PQI Presque Isle 84.21 30 P **P 21 37 09.4 -0.5**
PQI IAmb IAmb 21 37 11.7
comp=Z,16nm,0.7s
D63A Stockholm 84.44 30 P **P 21 37 10.8 -0.4**
baz=220
HAL Halifax 84.80 34 P **P 21 37 11.9 -1.1**
HAL pmax pmax
comp=Z,18nm,1.1s
HAL Halifax 84.80 34 P **P 21 37 11.8 -1.1**
HAL IAmb IAmb 21 37 14.6
comp=Z,18nm,1.1s
BATG Bathurst New B 85.55 31 P **P 21 37 15.9 -0.8**
BATG IAmb IAmb 21 37 18.1
comp=Z,18nm,1.1s
MAW Mawson 86.00 179 LR LR 22 11 58.2
comp=Z,686nm,19.2s,baz=201,slow=33
MAW Mawson 86.00 179 P **P 21 37 19.7 +0.9**
MAW pmax pmax
comp=Z,1.0nm,0.9s
MAW Mawson 86.00 179 P **P 21 37 19.7 +0.9**
JIS Juneau Island 86.24 350 P **P 21 37 19.6 -0.2**
JIS IAmb IAmb 21 37 21.4
comp=Z,38nm,1.3s
STKA Stephens Creek 87.07 236 LR LR 22 10 30.9
comp=Z,548nm,18.7s,baz=152,slow=32
SKAG Skagway 87.52 350 P **P 21 37 25.9 -0.2**
WHY Whitehorse 88.59 350 P **P 21 37 30.9 -0.4**
H11S2 WAKE ISLAND Hy 88.63 291 T T 23 15 27.5
baz=119,slow=76,SNR=121
H11S1 WAKE ISLAND Hy 88.65 291 T T 23 15 28.9
baz=119,slow=76,SNR=277
H11S3 WAKE ISLAND Hy 88.65 291 T T 23 15 30.4
baz=119,slow=76,SNR=172
YKA Yellowknife Ar 88.84 360 LR LR 22 13 05.1
comp=Z,314nm,18.1s,baz=0.0,slow=33
H11N3 WAKE ISLAND Hy 89.05 293 T T 23 15 58.9
baz=115,slow=78,SNR=68
H11N1 WAKE ISLAND Hy 89.06 293 T T 23 16 01.2
baz=115,slow=78,SNR=124
H11N2 WAKE ISLAND Hy 89.07 293 T T 23 16 05.2
baz=115,slow=78,SNR=83
HYT Haines Junctio 89.17 349 P **P 21 37 33.7 -0.4**
HYT IAmb IAmb 21 37 40.6
comp=Z,28nm,1.4s
Q23K Middleton Isla 89.73 344 P **P 21 37 36.6 +0.2**
baz=152
SCHQ Schefferville 90.87 25 P **P 21 37 41.5 -0.5**
comp=Z,4.0nm,0.6s,baz=198,slow=3.2,SNR=4.0
SCHQ LR LR 22 16 44.3
comp=Z,283nm,19.4s,baz=238,slow=34
BCAR Beaver Creek A 92.02 348 P **P 21 37 45.3 -1.9**
SKT Skwentna 93.22 343 IAmb IAmb 21 37 53.4
comp=Z,16nm,1.0s
RIDG Independent Ri 93.23 347 IAmb IAmb 21 37 56.3
comp=Z,14nm,0.9s
SCRK Sand Creek 93.27 347 P **P 21 37 53.4 +0.4**
baz=154
RND Reindeer 93.80 345 P **P 21 37 55.9 +0.5**
RND pmax pmax
comp=Z,13nm,1.2s
RND Reindeer 93.80 345 P **P 21 37 55.9 +0.5**
RND IAmb IAmb 21 38 01.9
comp=Z,13nm,1.2s
MCK McKinley 94.10 345 P **P 21 37 57.0 +0.3**
MCK pmax pmax
comp=Z,25nm,1.3s
MCK McKinley 94.10 345 P **P 21 37 57.0 +0.3**
MCK IAmb IAmb 21 38 02.3
comp=Z,25nm,1.3s
PPLA Purkeypile 94.16 344 IAmb IAmb 21 38 02.0
comp=Z,23nm,1.3s
WRH Wood River Hil 94.55 346 IAmb IAmb 21 38 04.7
comp=Z,27nm,1.5s
IL31 94.56 347 P **P 21 37 57.9 -0.8**
ILAR Eielson Array 94.56 347 P **P 21 37 58.5 -0.3**
comp=Z,0.6nm,0.7s,baz=188,slow=4.2,SNR=6.2
CCB Clear Creek Bu 94.64 346 P **P 21 37 59.2 0.0**
CCB IAmb IAmb 21 38 04.0
comp=Z,17nm,1.4s
COLA College 94.85 346‖*e*P **P 21 38 01.8 +1.7**
COLA pmax pmax
comp=Z,21nm,1.7s
COLA College 94.85 346 P **P 21 37 59.9 -0.2**
COLA IAmb IAmb 21 38 05.8
comp=Z,15nm,1.1s
BPAW Bear Paw Mtn. 94.88 345 P **P 21 38 00.3 0.0**
BPAW IAmb IAmb 21 38 05.7
comp=Z,14nm,1.0s
BMAR Burnt Mountain 96.48 349 P **P 21 38 08.2 +0.6**
ASAR Alice Springs 97.14 239 P **P 21 38 10.5 -1.2**
comp=Z,0.4nm,1.0s,baz=152,slow=4.1,SNR=2.4
ASAR LR LR 22 17 30.3
comp=Z,1μm,19.3s,baz=132,slow=33
WRAB Tennant Creek 98.80 243⇑*e*P **P 21 38 18.1 -1.1**
WRAB pmax pmax
comp=Z,6.0nm,1.3s
WRA Warramunga Arr 98.80 243 P **P 21 38 17.5 -1.7**
comp=Z,0.9nm,0.9s,baz=125,slow=4.2,SNR=5.7
WRA LR LR 22 19 51.5
comp=Z,272nm,18.7s,baz=145,slow=34
WRA Warramunga Arr 98.80 243 IAmb IAmb 21 38 18.8
comp=Z,0.2nm,1.2s
H01W1 Cape Leeuwin H 103.42 219 T T 23 33 51.4
baz=134,slow=75,SNR=10
H01W2 Cape Leeuwin H 103.43 219 T T 23 34 00.6
baz=134,slow=75,SNR=12
H01W3 Cape Leeuwin H 103.44 219 T T 23 34 02.8
baz=134,slow=75,SNR=11
TORD Torodi Ar. Bea 119.03 89 PKP **PKPdf 21 43 27.3 -1.1**
comp=Z,1.8nm,1.1s,baz=244,slow=1.4,SNR=4.0
ESDC Sonseca Array 121.72 58 PKP **PKPdf 21 43 32.6 -0.3**
comp=Z,1.0nm,0.9s,baz=280,slow=2.9,SNR=8.5
KLR Kul'dur 125.00 313‖*i*PKIKP **PKiKP 21 43 39.3 +0.2**
YAK Yakutsk 125.28 329‖*e*PKIKP **PKPdf 21 43 38.8 -0.1**
KSRS Korea Array 126.89 298 PKP **PKPdf 21 43 42.2 -0.5**
comp=Z,0.9nm,0.8s,baz=146,slow=2.7,SNR=4.8
CN2 Changchun 129.25 306 *e*PKP **PKPdf 21 43 44.2 -2.9**
TUE Stuetta 131.81 50 **PKiKP 21 43 53.2 0.0**
DAVA Damuels 132.12 49 *e*PKPdf **PKPdf 21 43 52.7 0.0**
comp=Z,6.6nm,1.4s
RETA Reutte 132.69 49 *e*PKiKP **PKiKP 21 43 54.4 -0.3**
comp=Z,3.7nm,1.2s
FETA Feichten 132.72 50 *e*PKiKP **PKPdf 21 43 54.4 +0.6**
comp=Z,7.7nm,1.2s
MOTA Moosalm 132.94 49 *e*PKPdf **PKPdf 21 43 54.0 -0.2**
comp=Z,14nm,1.2s,SNR=7.6
SQTA Sankt Quirin 133.02 49 *e*PKPdf **PKPdf 21 43 54.9 +0.7**
comp=Z,16nm,1.5s,SNR=5.8
WATA Walderalm 133.26 49 *e*PKiKP **PKiKP 21 43 56.1 +0.2**
comp=Z,10nm,1.4s,SNR=5.5
WTTA Wattenberg 133.31 49 *e*PKiKP **PKiKP 21 43 56.2 0.0**
comp=Z,17nm,1.7s,SNR=6.9
NKC Novy Kostel 133.41 45 AMS AMS 22 32 50.0
comp=Z,300nm,22.4s
CLL Collm 133.56 43⇑*i*PKPdf **PKPdf 21 43 55.4 +0.4**
comp=Z,37nm,2.1s
CLL *e*SS SS 22 04 36.0 +27
NJ2 Nanjing 133.60 290 *e*PKP **PKPdf 21 43 56.0 +0.3**
ABTA Abfaltersbach 133.96 50 *e*PKPdf **PKPdf 21 43 56.2 +0.1**
comp=Z,7.8nm,1.6s
CIMO Cimolais 133.96 50 PKPdf **PKiKP 21 43 57.0 -0.2**
BOD Bodaibo 133.99 326 *e*PKIKP **PKPdf 21 43 55.2 -0.4**
BOD pmax pmax
comp=Z,13nm,2.0s
BRG Berggiesshubel 134.23 44 *e*PKP **PKPdf 21 43 56.7 +0.4**
comp=Z,42nm,2.3s
KHC Kasperske Hory 134.33 46 *e*PKPDF **PKPdf 21 43 55.0 -1.6**
KHC Kasperske Hory 134.33 46 *e*PKIKP **PKPdf 21 43 55.0 -1.6**
GEC2 GERESS Array S 134.46 47 **PKiKP 21 43 58.0 -0.3**
GERES GERESS Array B 134.46 47 PKP **PKPdf 21 43 56.7 -0.2**
comp=Z,0.5nm,0.6s,baz=309,slow=0.9,SNR=7.6
GERES GERESS Array B 134.46 47 **PKPdf 21 43 56.5 -0.4**
PBCC Pribram 134.50 45 *e*PKP **PKiKP 21 43 58.3 +0.1**
PVCC Panska Ves 134.69 44 AMS AMS 22 33 10.0
comp=Z,200nm,19.9s
PRA Prague 134.70 45 AMS AMS 22 33 00.0
comp=Z,100nm,21.9s
PRU Pruhonice 134.78 45 AMS AMS 22 33 40.0
comp=Z,200nm,19.0s
GOPC GO Pecny, Ondr 134.96 45 AMS AMS 22 33 30.0
comp=Z,200nm,19.3s
MOA Molln 134.99 48 *e*PKPdf **PKPdf 21 43 58.3 +0.5**
comp=Z,3.8nm,1.2s
NRIK Noril'sk 135.37 349 PKP **PKPdf 21 43 57.0 -0.8**
comp=Z,1.4nm,0.6s,baz=108,slow=3.2,SNR=3.7
TREC Trest 135.53 46 AMS AMS 22 34 00.0
comp=Z,200nm,20.1s
UPC Upice 135.59 44 AMS AMS 22 33 30.0
comp=Z,200nm,21.7s
CHVC Chvalec 135.60 44 *e*PKP **PKiKP 21 44 00.1 -0.4**
CHVC AMS AMS 22 36 30.0
comp=Z,200nm,19.8s
SOKA Soboth 135.69 50 *e*PKPdf **PKPdf 21 43 59.6 +0.3**
comp=Z,4.1nm,1.3s
OSTC Ostas 135.71 44 AMS AMS 22 34 30.0
comp=Z,200nm,20.2s
DPC Dobruska-Polom 135.82 44 AMS AMS 22 33 30.0
comp=Z,200nm,26.3s
ARSA Arzberg 135.93 49 PKPdf **PKPdf 21 43 59.5 -0.1**
comp=Z,3.2nm,0.8s
CONA Conrad Observa 136.04 48 *e*PKPdf **PKPdf 21 43 59.9 0.0**
comp=Z,8.5nm,1.6s
KRLC Kraliky 136.18 44 *e*PKPDF **PKPdf 21 44 00.3 +0.3**
KRLC AMS AMS 22 33 50.0
comp=Z,200nm,19.3s
KRLC Kraliky 136.18 44 *e*PKIKP **PKPdf 21 44 00.3 +0.3**
KRLC MLR MLR
comp=Z,200nm,19.3s
FINES FINESS Array B 136.34 26 PKP **PKPdf 21 44 00.4 +0.6**
comp=Z,2.8nm,0.8s,baz=260,slow=0.5,SNR=10
MODS Modra-Piesok 136.88 47 *e*PKIKP **PKPdf 21 44 00.9 -0.4**
MODS Modra-Piesok 136.88 47 *e*PKP **PKPdf 21 44 00.9 -0.4**
VYHS Vyhne 137.86 46 *e*PKIKP **PKPdf 21 44 00.7 -2.4**
VYHS Vyhne 137.86 46 *e*PKP **PKPdf 21 44 00.7 -2.4**
LANS Liptovska Anna 138.10 45 *e*PKIKP **PKPdf 21 44 02.8 -0.8**
LANS Liptovska Anna 138.10 45 *e*PKP **PKPdf 21 44 02.8 -0.8**
VSU Vasula 138.27 30⇑*e*PKIKP **PKPdf 21 44 03.6 +0.1**
HHC Hu-ho-hao-te 139.65 303 *e*PKP **PKiKP 21 44 09.0 -0.1**
KOLS Kolonicke sedl 139.93 45 *e*PKIKP **PKPdf 21 44 05.9 -1.0**
KOLS Kolonicke sedl 139.93 45 *e*PKP **PKPdf 21 44 05.9 -1.0**
UZH Uzhgorod 140.03 45 *e*PKIKP **PKPdf 21 44 01.6 -5.4**
UZH *i* 21 44 05.9
ULN Ulaanbaatar 141.37 314‖*e*PKIKP **PKPdf 21 44 09.6 -0.1**
IRK Irkutsk 141.37 322 *e*PKIKP **PKPdf 21 44 09.0 -0.4**
IRK pmax pmax
comp=Z,82nm,4.2s
KLMR Klimovskoe 141.52 20 *e*PKIKP **PKPdf 21 44 05.4 -3.9**
KLMR *e* 21 47 10.3
KLMR pmax pmax
comp=Z,27nm,1.5s
KLMR Klimovskoe 141.52 20 *e*PP **PP 21 47 10.3 -2.2**
KLMR Klimovskoe 141.52 20 *e*PKPdf **PKPdf 21 44 05.5 -3.9**
KLMR Klimovskoe 141.52 20 AMP 21 44 16.6
comp=Z,27nm,1.5s
SONM Songino Array 141.79 315 PKhKP **PKPdf 21 44 04.5 -6.0**
comp=Z,2.4nm,0.9s,baz=139,slow=1.6,SNR=7.0
SONM PKP **pPKPdf 21 44 10.0 -3.0**
comp=Z,2.4nm,0.9s,baz=130,slow=1.3,SNR=9.7
TLY Talaya 141.97 321⇑*e*PKIKP **PKPdf 21 44 11.4 +0.9**
BURAR Bucovina Array 142.21 46‖P **PKPdf 21 44 09.5 -1.7**
BURAR Bucovina Array 142.21 46‖PKIKP **PKPdf 21 44 09.5 -1.7**
BURAR Bucovina Array 142.21 46 **PKPdf 21 44 07.8 -3.4**
ARR Arges 142.50 49‖P **PKPdf 21 44 08.8 -2.9**
PRGR Permogore 142.56 16 *e*PKIKP **PKPdf 21 44 08.2 -3.0**
PRGR pmax pmax
comp=Z,51nm,1.5s
ZAK Zakamensk 142.74 320 *e*PKIKP **PKPdf 21 44 12.7 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
VOIR 142.76 49‖P **PKPdf 21 44 09.0 -3.2**
VOIR 142.76 49‖PKIKP **PKPdf 21 44 09.0 -3.2**
BIZ Bicaz 143.00 46⇑P PKPbc 21 44 08.9 -0.4
GYA Guiyang 143.32 279 *e*PKP PKPbc 21 44 10.8 -0.1
MLR Muntele Rosu 143.35 49‖P PKPbc 21 44 10.1 -0.3
MLR Muntele Rosu 143.35 49‖PKIKP PKPbc 21 44 10.1 -0.3
AKASG Malin Array Be 143.42 39 PKP PKPbc 21 44 11.2 +0.9
comp=Z,1.7nm,0.6s,baz=285,slow=3.8,SNR=5.8
AKBB Malin Array Si 143.42 39 pmax pmax
comp=Z,5.0nm,0.7s
SECR 143.57 49‖P PKPbc 21 44 12.2 +1.3
NEHR Nehoiu 143.61 49‖P PKPbc 21 44 11.7 +0.7
VRI Vrincioaia 143.76 48‖P **PKPdf 21 44 15.4 +1.5**
VRI Vrincioaia 143.76 48‖PKIKP **PKPdf 21 44 15.4 +1.5**
SORM Soroca 143.99 44‖P PKPbc 21 44 12.6 +0.6
SORM Soroca 143.99 44‖PKIKP PKPbc 21 44 12.6 +0.6
RAZG Razgrad 144.28 52‖P PKPbc 21 44 13.4 +0.3
IDI Anoyia 144.31 66‖P **PKPdf 21 44 14.7 -0.5**
IDI Anoyia 144.31 66 PKPdf **PKPdf 21 44 14.8 -0.4**
ALN Alexandroupoli 144.55 56 pmax pmax
comp=Z,36nm,1.2s
AMRR Amara 144.55 50‖P **PKPdf 21 44 14.8 -0.4**
AMRR Amara 144.55 50‖PKIKP **PKPdf 21 44 14.8 -0.4**
OBN Obninsk 144.60 29 *e*PKIKP **PKPab 21 44 13.4 -0.1**
OBN pmax pmax
comp=Z,145nm,2.0s
OBN Obninsk 144.60 29 PKPdf PKPbc 21 44 13.9 +0.2
MOS Moscow 144.62 27 *e*PKIKP **PKPab 21 44 11.4 -2.1**
MOS *e*PPP PPP 21 50 40.9
MOS pmax pmax
comp=Z,71nm,1.6s
SANT Santorini 144.70 64‖P **PKPab 21 44 13.5 -1.1**
MILM Milestii Mici 144.75 45‖P **PKPab 21 44 14.5 +0.1**
CFR Carcaliu 144.92 48‖P **PKPab 21 44 14.9 -0.1**
CFR Carcaliu 144.92 48‖PKIKP **PKPab 21 44 14.9 -0.1**
HARR Harsova 144.94 49‖P **PKPdf 21 44 16.1 +0.2**
HARR Harsova 144.94 49‖PKIKP **PKPdf 21 44 16.1 +0.2**
TOPG Topolog 145.18 49‖P **PKPdf 21 44 17.4 +1.1**
TIRR Tirgusor 145.34 49‖P **PKPdf 21 44 17.6 +1.0**
TIRR Tirgusor 145.34 49‖PKIKP **PKPdf 21 44 17.6 +1.0**
TLCR 145.37 48‖P **PKPab 21 44 17.3 +0.6**
TLCR 145.37 48‖PKIKP **PKPab 21 44 17.3 +0.6**
PURM Purcari 145.57 45‖P **PKPab 21 44 19.1 +1.8**
LZH Lanzhou 146.15 296 *e*PKPbc **PKPab 21 44 20.1 0.0**
LZH LR LR
comp=Z,190nm,14.1s
LZH LR LR
comp=Z,130nm,12.5s
LZH LR LR
comp=Z,140nm,14.9s
CD2 Chengdu 146.34 286 PKPbc **PKPdf 21 44 18.5 -0.3**
KMI Kunming 146.57 276 PKPbc **PKPdf 21 44 20.1 +0.5**
LPSR Galich'ya Gora 147.32 30 *e*PKP2 **PKPbc 21 44 22.4 +0.4**
LPSR pmax pmax
comp=Z,50nm,0.9s
VORR Voronezh 148.07 31 *e*PKHKP PKPpre 21 44 19.0
VORR pmax pmax
comp=Z,350nm,2.4s
CMAR Chiang Mai Arr 148.16 262 PKPbc **PKPbc 21 44 24.6 -0.8**
comp=Z,4.7nm,1.0s,baz=108,slow=1.0,SNR=15
CMAR Chiang Mai Arr 148.16 262 PKIKP **PKPbc 21 44 24.0 -1.4**
CMAR Chiang Mai Arr 148.16 262 PKPdf **PKPbc 21 44 24.0 -1.4**
ELL Elmali 148.22 63 PKP2 **PKiKP 21 44 26.6 -0.3**
ELL Elmali 148.22 63 **PKiKP 21 44 26.6 -0.3**
CHTO Chiang Mai 148.28 263 PKP2 **PKPbc 21 44 25.4 -0.3**
CHTO Chiang Mai 148.28 263 **PKPbc 21 44 25.4 -0.3**
VSR Storozhevoye 148.35 32 *e*PKP2 **PKPbc 21 44 24.7 -0.2**
VSR pmax pmax
comp=Z,60nm,1.0s
VORD Divnogorie 148.57 32 *e*PKP2 **PKPbc 21 44 24.8 -0.6**
VORD pmax pmax
comp=Z,30nm,1.0s
GTA Gaotai 148.77 303 PKPbc **PKPdf 21 44 22.7 0.0**
GTA pPKP PKPbc 21 44 27.0 +0.5
GTA sPKP 21 44 29.7
GTA PP **PP 21 48 02.0 +5.0**
GTA AMB AMB
comp=Z,45nm,5.4s
GTA LR LR
comp=Z,87nm,21.6s
GTA LR LR
comp=Z,100nm,21.3s
GTA LR LR
comp=Z,88nm,21.9s
ZAA0 Zalesovo Array 149.24 338 PKPbc **PKiKP 21 44 28.3 +0.1**
ZALV Zalesovo Beam 149.24 338 PKPbc **PKPbc 21 44 25.7 -1.3**
comp=Z,9.5nm,0.6s,baz=31,slow=2.6,SNR=30
ZALV Zalesovo Beam 149.24 338 PKIKP **PKPdf 21 44 22.1 -0.7**
ZALV 21 44 27.2
ZALV Zalesovo Beam 149.24 338 PKPdf **PKPdf 21 44 22.1 -0.7**
ZALV PKPbc **PKPbc 21 44 27.2 +0.1**
VRH Novokhopyorsk 149.54 30 *e*PKP2 **PKPbc 21 44 27.9 0.0**
VRH pmax pmax
comp=Z,90nm,0.7s
SVE Sverdlovsk 149.65 5 *e*PKP2 **PKPbc 21 44 27.9 -0.1**
SVE pmax pmax
comp=Z,58nm,1.9s
ARU Arti 149.83 8 PKPbc **PKPbc 21 44 26.7 -1.7**
comp=Z,3.5nm,0.7s,baz=315,slow=3.7,SNR=13
ARU Arti 149.83 8 *i* PKHKP **PKPdf 21 44 24.0 +0.3**
ARU Arti 149.83 8 PKPdf **PKPdf 21 44 23.9 +0.2**
ARU PKPbc **PKPbc 21 44 28.9 +0.5**
ILGA Ilgaz 150.12 53 **PKiKP 21 44 30.8 0.0**
BR131 Keskin Array S 150.46 56 PKIKP **PKPbc 21 44 30.8 0.0**
BR131 Keskin Array S 150.46 56 **PKPbc 21 44 30.8 0.0**
BRTR Keskin Array B 150.47 56 PKPbc **PKPbc 21 44 30.8 0.0**
comp=Z,7.9nm,0.9s,baz=207,slow=0.6,SNR=19
BRTR Keskin Array B 150.47 56 PKIKP **PKPbc 21 44 30.3 -0.4**

BRTR Keskin Array B 150.47 56 PKPbc 21 44 30.3 -0.4
ANN Anapa 151.09 44 *i* PKIKP **PKiKP 21 44 32.2 -0.2**
ANN pmax pmax
comp=Z,69nm,1.1s
CSS Mathiatis 151.22 65 PKiKP 21 44 33.0 0.0
DGZ Jazzator, Alta 151.47 330 *d i* PKIKP **PKPdf 21 44 25.6 -1.0**
SOC Sochi 153.12 44 *e* PKIKP **PKPdf 21 44 28.9 -0.2**
SOC *i* 21 44 37.1
SOC *e* 21 48 22.4
SOC *e* PPP PPP 21 51 53.7
SOC pmax pmax
comp=Z,4.0nm,0.6s
SOC pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 153.40 354 ‖ *e* PKIKP **PKPdf 21 44 30.3 +1.1**
BRVK *i* 21 44 30.6
BRVK pmax pmax
comp=Z,16nm,1.3s
BRVK Borovoye 153.40 354 PKPdf 21 44 30.3 +1.1
BRVK PKPbc **PKiKP 21 44 37.8 +0.9**
BVAR Borovoye Array 153.42 353 PKP **PKPdf 21 44 30.0 +0.8**
comp=Z,1.2nm,0.7s,baz=207,slow=1.7,SNR=5.6
BVAR PKPbc **PKPbc 21 44 36.2 -0.6**
comp=Z,5.4nm,0.7s,baz=315,slow=0.9,SNR=19
SEM Semipalatinsk 153.74 338 *e* PKiKP **PKPbc 21 44 37.9 0.0**
comp=Z,36nm,2.8s,baz=338
SEM Semipalatinsk 153.74 338 *i* PKIKP **PKPbc 21 44 37.9 0.0**
SEM pmax pmax
comp=Z,36nm,2.8s
KURK Kurchatov 153.98 341 *d e* PKIKP **PKPdf 21 44 28.7 -1.4**
KURK Kurchatov 153.98 341 PKPdf 21 44 30.3 +0.2
KURK Kurchatov 153.98 341 PKPbc 21 44 38.1 0.0
KURBB Kurchatov Arra 154.09 341 PKP **PKPdf 21 44 30.0 -0.2**
comp=Z,1.1nm,0.6s,baz=8,9,slow=1.3,SNR=12
KURBB PKPbc **PKPbc 21 44 38.1 -0.2**
comp=Z,4.8nm,0.8s,baz=11,slow=1.9,SNR=12
ZSN Zaisan 154.28 329 *e* PKP **PKPdf 21 44 31.1 +0.5**
baz=328
ZSN *e* PKiKP **PKPbc 21 44 38.1 -0.7**
baz=328
ZSN Zaisan 154.28 329 *e* PKIKP **PKPdf 21 44 31.1 +0.5**
ZSN *i* 21 44 38.1
ASF Jabal al Asfar 154.50 71 PKP **PKPdf 21 44 32.2 +0.7**
comp=Z,0.7nm,0.5s,baz=212,slow=2.5,SNR=11
KIV Kislovodsk 154.73 41 *e* PKIKP **PKPdf 21 44 31.9 +0.4**
KIV pmax pmax
comp=Z,27nm,1.0s
KBZ Khabaz 154.98 41 PKP **PKPdf 21 44 32.5 +0.9**
comp=Z,2.8nm,0.8s,baz=153,slow=0.2,SNR=6.4
KBZ PKPab **pPKPab 21 44 57.4 -1.0**
comp=Z,4.4nm,0.9s,baz=270,slow=6.7,SNR=5.4
KBZ Khabaz 154.98 41 ‖ *e* PKIKP **PKPdf 21 44 32.2 +0.5**
WMQ Urumqi 155.21 319 *e* PKP **PKPdf 21 44 31.5 -0.6**
WMQ LR LR
comp=Z,64nm,21.9s
WMQ LR LR
comp=Z,61nm,28.9s
WMQ LR LR
comp=Z,73nm,24.3s
AKTO Aktyubinsk 155.57 12 PKP **PKPdf 21 44 34.1 +1.8**
comp=Z,0.4nm,0.3s,baz=45,slow=3.7,SNR=4.1
MKAR Makanchi Array 155.93 331 PKP **PKPdf 21 44 32.9 -0.1**
comp=Z,3.5nm,1.2s,baz=119,slow=1.5,SNR=3.6
MKAR PKPbc PKPbc 21 44 41.7
comp=Z,1.9nm,0.9s,baz=23,slow=1.6,SNR=7.4
ABKAR Abkulak array 157.03 9 PKPdf **PKPdf 21 44 34.7 +0.5**
TDK Taldyqorghan 158.98 334 *e* PKP **PKPdf 21 44 35.6 -1.3**
comp=Z,149nm,4.5s,baz=334
TDK Taldyqorghan 158.98 334 *e* PKIKP **PKPdf 21 44 35.5 -1.3**
TDK pmax pmax
comp=Z,149nm,4.5s
SHLS Shalkode 160.01 329 *e* PKP **PKPdf 21 44 37.7 -0.6**
comp=Z,32nm,2.9s,baz=328
SHLS Shalkode 160.01 329 *e* PKIKP **PKPdf 21 44 37.6 -0.6**
SHLS pmax pmax
comp=Z,32nm,2.9s
KPKS Kokpek 160.12 331 *e* PKP **PKPdf 21 44 37.0 -1.3**
comp=Z,31nm,2.4s,baz=330
KPKS Kokpek 160.12 331 *e* PKIKP **PKPdf 21 44 36.9 -1.3**
KPKS pmax pmax
comp=Z,31nm,2.4s
UZB Uzynbulak 160.22 330 *e* PKP **PKPdf 21 44 37.2 -1.3**
comp=Z,17nm,2.5s,baz=329
UZB Uzynbulak 160.22 330 *e* PKIKP **PKPdf 21 44 37.2 -1.3**
UZB pmax pmax
comp=Z,17nm,2.5s
BTLS Baital 160.43 342 *e* PKP **PKPdf 21 44 37.4 -1.0**
comp=Z,18nm,2.8s,baz=341
BTLS Baital 160.43 342 *e* PKIKP **PKPdf 21 44 37.4 -1.0**
BTLS pmax pmax
comp=Z,18nm,2.8s
SATY Saty 160.57 331 *e* PKP **PKPdf 21 44 37.2 -1.6**
comp=Z,14nm,2.1s,baz=330
SATY Saty 160.57 331 *e* PKIKP **PKPdf 21 44 37.2 -1.6**
SATY pmax pmax
comp=Z,14nm,2.1s
KUU Kurty 160.71 336 *e* PKP **PKPdf 21 44 36.9 -2.0**
comp=Z,59nm,3.6s,baz=335
KUU Kurty 160.71 336 *e* PKIKP **PKPdf 21 44 36.8 -2.0**
KUU pmax pmax
comp=Z,59nm,3.6s
MDOK Medeo 161.05 333 *e* PKP **PKPdf 21 44 38.2 -1.2**
comp=Z,156nm,2.7s,baz=333
MDOK Medeo 161.05 333 *e* PKIKP **PKPdf 21 44 38.2 -1.2**
MDOK pmax pmax
comp=Z,156nm,2.7s
AAA Alma-Ata 161.07 334 *e* PKP **PKPdf 21 44 38.7 -0.6**
baz=333
AAA Alma-Ata 161.07 334 *e* PKIKP **PKPdf 21 44 38.7 -0.6**
TNSS Tian-Shan 161.20 333 *e* PKP **PKPdf 21 44 38.6 -1.3**
baz=333
TNSS Tian-Shan 161.20 333 *e* PKIKP **PKPdf 21 44 38.6 -1.3**
SGDS Sogindy 161.69 339 *e* PKP **PKPdf 21 44 39.0 -1.0**
baz=338
SGDS Sogindy 161.69 339 *e* PKIKP **PKPdf 21 44 38.9 -1.0**
AAK Ala-Archa 162.46 338 PKP **PKPdf 21 44 41.0 +0.2**
comp=Z,0.7nm,0.3s,baz=197,slow=5.6,SNR=3.7
AAK Ala-Archa 162.46 338 ‖ *e* PKIKP **PKPdf 21 44 41.2 +0.3**
KKAR Karatay Array 163.10 347 PKIKP **PKPdf 21 44 41.8 +0.5**
KKAR 21 45 30.6
KKAR Karatay Array 163.10 347 PKPdf **PKPdf 21 44 41.8 +0.5**
KKAR PKPab **PKPab 21 45 30.6 -0.5**
DZA Taraz 163.13 345 *e* PKP **PKPdf 21 44 40.7 -0.6**
baz=345
DZA Taraz 163.13 345 *e* PKIKP **PKPdf 21 44 40.6 -0.7**
IUG Luzhnay 164.12 348 *e* PKP **PKPdf 21 44 41.4 -1.0**
baz=347
IUG Luzhnay 164.12 348 *e* PKIKP **PKPdf 21 44 41.3 -1.0**
GEYT Alibeck 167.14 27 PKP **PKPdf 21 44 45.4 +0.5**
comp=Z,2.0nm,0.7s,baz=235,slow=10,SNR=6.9
GEYT PKPab **PKPab 21 45 49.7 +0.6**
comp=Z,0.7nm,0.5s,baz=318,slow=1.9,SNR=1.7
GEYT Alibeck 167.14 27 PKPdf 21 44 46.6 +1.7

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*NEIC **05** 21:34:49.8±2.7, 15°.12S±0°.06×165°.25E±0°.07, h35km±2km, mb4.2/17, Error ellipse: s-maj=13.1km s-min=8.2km az=55.0*
*IDC **05** 21:34:53.0±10.0, 14°.73S×166°.01E, h85km±170km, mb3.9/3, mb1 4.0/4, mb1mx3.4/32, mbtmp4.2/4, ML4.0/1, Error ellipse: s-maj=349.0km s-min=60.3km az=78.0*
ISC 05 21:34:49.7±0.7, 15°.11S±0°.09×165°.27E±0°.06, h35km, n25, σ1§51/23, mb4.1/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.90**	**100**		**Pn**	**21 35 21.3**	**+1.7**
SANVU				Sn	**Sn**	**21 35 42.1**	**-0.2**
DZM	**Mont Dzumac**	**7.01**	**171**	P	Pn	21 36 37.3	+7.3
	2.3nm,0.3s,baz=330,slow=14,SNR=17						
DZM				S	Sn	21 37 59.8	+11
	0.3nm,0.3s,baz=166,slow=18,SNR=1.5						
DZM	**Mont Dzumac**	**7.01**	**171**		**Pn**	**21 36 30.1**	**+0.1**
HNR	**Honiara**	**7.68**	**317**	Pn	**Pn**	**21 36 39.3**	**+0.2**
MSVF	**Nonsavu**	**12.54**	**104**	Pn	**Pn**	**21 37 44.4**	**-1.3**
FUNA	**Funafuti**	**15.12**	**66**	Pn	**Pn**	**21 38 21.4**	**+0.6**
EIDS	**Eidsvold**	**16.76**	**230**	P	**Pn**	**21 38 42.5**	**+0.7**
RABL	**Rabaul**	**16.86**	**309**	P	**Pn**	**21 38 41.7**	**-1.5**
LHI	**Lord Howe Isla**	**17.29**	**198**	P	**P**	**21 38 49.5**	**-0.1**
LHI				IAmb	IAmb	21 38 53.4	
	comp=Z,85nm,1.1s						
PMG	**Port Moresby**	**18.58**	**286**	P	**P**	**21 39 04.1**	**+0.2**
PMG				IAmb	IAmb	21 39 10.8	
	comp=Z,17nm,1.0s						
ARMA	**Armidale**	**19.72**	**217**	P	**Pn**	**21 39 19.6**	**+1.4**
ARMA				IAmb	IAmb	21 39 36.9	
	comp=Z,8.0nm,0.9s						
CAN	**Canberra**	**24.86**	**213**	P	**P**	**21 40 10.9**	**+1.8**
CAN				IAmb	IAmb	21 40 16.6	
	comp=Z,7.5nm,1.1s						
URZ	**Urewera**	**25.32**	**158**	P	**P**	**21 40 11.2**	**-1.9**
URZ				IAmb	IAmb	21 40 17.8	
	comp=Z,6.5nm,0.9s						
NNZ	**Nelson**	**26.95**	**166**	P	**P**	**21 40 26.6**	**-1.3**
STKA	**Stephens Creek**	**27.29**	**228**	P	**P**	**21 40 35.0**	**+4.0**
	comp=Z,2.1nm,0.7s,baz=37,slow=10.0,SNR=4.7						
TOO	**Toolangi**	**28.42**	**214**	P	**P**	**21 40 41.5**	**+0.3**
TOO				IAmb	IAmb	21 40 54.8	
	comp=Z,4.8nm,1.1s						
WB0	**Warramunga Arr**	**29.79**	**257**	P	**P**	**21 40 53.1**	**-0.4**
WB2	**Warramunga Arr**	**29.84**	**256**	P	**P**	**21 40 53.7**	**-0.3**
WRAB	**Tennant Creek**	**29.85**	**256**	P	**P**	**21 40 54.5**	**+0.6**
WRAB				IAmb	IAmb	21 40 57.0	
	comp=Z,2.5nm,1.0s						
WRA	**Warramunga Arr**	**29.86**	**256**	P	P	21 41 00.2	+6.1
	comp=Z,3.4nm,0.3s,baz=84,slow=8.4,SNR=34						
WRA	**Warramunga Arr**	**29.86**	**256**	P	**P**	**21 40 51.5**	**-2.5**
AS31	**Alice Springs**	**30.73**	**249**	P	**P**	**21 41 00.3**	**-1.5**
ASAR	**Alice Springs**	**30.73**	**249**	P	P	21 41 07.7	+5.9
	comp=Z,0.6nm,0.8s,baz=73,slow=9.6,SNR=11						
BBOO	**Buckleboo**	**31.82**	**231**	P	**P**	**21 41 12.6**	**+1.3**
BBOO				IAmb	IAmb	21 41 20.0	
	comp=Z,4.1nm,0.8s						
FORT	**Forrest**	**37.44**	**239**	P	**P**	**21 41 59.8**	**-0.1**

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*IDC **05** 21:36:54.2±0.8, 31°.14N×70°.20E, h0km, mb3.7/15, mb1 3.9/18, mb1mx3.7/47, mbtmp3.8/18, ML3.5/3, Error ellipse: s-maj=19.6km s-min=17.6km az=22.0*
*NDI **05** 21:36:57.2±2.5, 31°.08N×70°.07E, h10km, ML3.8, mb4.5(NEIC)*
*NEIC **05** 21:36:59.5±2.5, 31°.12N±0°.08×70°.14E±0°.09, h46km±7km, mb4.5/28, Error ellipse: s-maj=12.0km s-min=10.4km az=197.0*
ISC 05 21:36:56.6±0.4, 31°.03N±0°.05×70°.14E±0°.04, h23km, n94, σ1§68/98, mb4.1/27, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.62**	**346**		**Pn**	**21 37 53.3**	**+1.8**
NIL	**Nilore**	**3.71**	**44**		**Pn**	**21 37 53.9**	**+1.4**
THN	**Thein Dam**	**4.95**	**72**	*e* P	**Pn**	**21 38 12.5**	**+2.9**
THN				*e* S	**Sn**	**21 39 07.5**	**+1.4**
DHRM	**DHARAMSHALA**	**5.39**	**75**	*e* P	**Pn**	**21 38 17.5**	**+1.6**
DHRM				*e* S	**Sn**	**21 39 17.1**	**-0.2**
DHRM				IAML		21 39 21.7	
	comp=E,163nm,0.7s						
AJM	**Ajmer**	**6.01**	**138**	*e* P	Pb	21 38 33.0	-7.8
AJM				*i* S	**Sn**	**21 39 34.0**	**+1.5**
SMLA	**Simla**	**6.03**	**87**	*e* P	**Pn**	**21 38 26.8**	**+2.4**
SMLA				*e* S	**Sn**	**21 39 33.3**	**+0.6**
SMLA				IAML		21 39 38.1	
	comp=N,104nm,0.4s						
NDI	**New Delhi**	**6.58**	**109**	*e* P	Pb	21 38 44.0	-6.3
NDI				*e* S	**Sn**	**21 39 46.0**	**-0.2**
SONA	**Sohna**	**6.65**	**113**	*e* P	**Pn**	**21 38 34.4**	**+1.5**
SONA				*e* S	**Sn**	**21 39 45.3**	**-2.7**
SONA				IAML		21 39 49.1	
	comp=E,79nm,0.3s						
HRA	**Herat**	**7.45**	**299**	Pn	**Pn**	**21 38 45.6**	**+1.5**
CHGR	**Chuyangaron**	**7.65**	**354**		**Pn**	**21 38 46.4**	**-0.4**
BHUJ	**Bhuj**	**7.76**	**183**	*e* S	**Sn**	**21 40 13.3**	**-2.0**
GAR	**Garm**	**7.95**	**1**	Pn	**Pn**	**21 38 51.0**	**+0.1**
BHPL	**Bhopal**	**10.11**	**138**	*e* P	**Pn**	**21 39 20.9**	**+0.4**
BHPL				*e* S	**Sn**	**21 41 09.2**	**-4.0**
BHPL				IAML		21 41 13.9	
	comp=E,37nm,0.3s						
PYUN	**Piuthan**	**11.56**	**101**	*e* P	**Pn**	**21 39 39.4**	**-1.1**
	comp=E,73nm,0.5s						
PYUN	**Piuthan**	**11.56**	**101**	*e* P	**Pn**	**21 39 39.4**	**-1.1**
	comp=E,73nm,0.5s						
KK31	**Karatay Array**	**12.05**	**1**		**Pn**	**21 39 45.9**	**-1.1**
KKAR	**Karatay Array**	**12.05**	**1**		**Pn**	**21 39 46.0**	**-1.0**
KKAR	**Karatay Array**	**12.05**	**1**		**Pn**	**21 39 45.4**	**-1.6**
AAK	**Ala-Archa**	**12.10**	**16**	Pn	**Pn**	**21 39 46.7**	**-1.0**
	comp=E,1.1nm,0.3s,baz=181,slow=7.5,SNR=24						
AAK				Sn	**Sn**	**21 41 57.0**	**-4.9**
	comp=E,0.5nm,0.3s,baz=323,slow=22,SNR=2.3						
KOLN	**Koldanda**	**12.18**	**102**	*e* P	**Pn**	**21 39 47.9**	**-1.0**
	comp=E,31nm,0.5s						
KOLN	**Koldanda**	**12.18**	**102**	*e* P	**Pn**	**21 39 47.9**	**-1.0**
	comp=E,31nm,0.5s						
FRU1	**Bishkek**	**12.29**	**16**	Pn	**Pn**	**21 39 49.0**	**-1.2**
KDJ	**Kajisay**	**12.43**	**25**	Pn	**Pn**	**21 39 50.8**	**-1.5**
WSAR	**Wadi Sarin**	**12.85**	**236**	Pn	**Pn**	**21 39 59.2**	**+1.3**
	comp=E,0.1nm,0.3s,baz=50,slow=7.9,SNR=1.4						
WSAR				Sn	**Sn**	**21 42 12.9**	**-7.3**
	comp=E,0.1nm,0.3s,baz=302,slow=21,SNR=1.2						
GKN	**Gorkha**	**12.98**	**100**	*e* P	**Pn**	**21 39 58.1**	**-1.7**
	comp=E,27nm,0.3s						
GKN	**Gorkha**	**12.98**	**100**	*e* P	**Pn**	**21 39 58.1**	**-1.7**
	comp=E,27nm,0.3s						
PRZ	**Przheval'sk**	**13.20**	**28**	Pn	**Pn**	**21 40 02.0**	**-0.8**
DMN	**Daman**	**13.49**	**101**	*e* P	**Pn**	**21 40 05.9**	**-1.0**
	comp=E,21nm,0.5s						
DMN	**Daman**	**13.49**	**101**	*e* P	**Pn**	**21 40 05.9**	**-1.0**
	comp=E,21nm,0.5s						
KKN	**Kakani**	**13.59**	**100**	*e* P	**Pn**	**21 40 05.9**	**-2.3**
	comp=E,46nm,0.6s						
KKN	**Kakani**	**13.59**	**100**	*e* P	**Pn**	**21 40 05.9**	**-2.3**
	comp=E,46nm,0.6s						
PKI	**Pulchoki**	**13.76**	**101**	*e* P	**Pn**	**21 40 08.3**	**-2.4**
	comp=E,36nm,0.6s						
PKI	**Pulchoki**	**13.76**	**101**	*e* P	**Pn**	**21 40 08.3**	**-2.4**
	comp=E,36nm,0.6s						
JIRN	**Jiri**	**14.39**	**99**	*e* P	**Pn**	**21 40 16.9**	**-2.5**
JIRN	**Jiri**	**14.39**	**99**	*e* P	**Pn**	**21 40 16.9**	**-2.5**
RAMN	**Ramite**	**14.97**	**102**	*e* P	**Pn**	**21 40 25.4**	**-1.6**
	comp=E,31nm,0.7s						
RAMN	**Ramite**	**14.97**	**102**	*e* P	**Pn**	**21 40 25.4**	**-1.6**
	comp=E,31nm,0.7s						
ODAN	**Odare**	**15.66**	**101**	*e* P	**Pn**	**21 40 34.3**	**-1.8**
ODAN	**Odare**	**15.66**	**101**	*e* P	**Pn**	**21 40 34.3**	**-1.8**
MAKZ	**Makanchi**	**18.21**	**27**		**Pn**	**21 41 06.0**	**-1.8**
MK31	**Makanchi Array**	**18.32**	**27**		**Pn**	**21 41 07.9**	**-1.4**
MKAR	**Makanchi Array**	**18.32**	**27**	P	**Pn**	**21 41 08.2**	**-1.0**
	comp=E,0.2nm,0.3s,baz=212,slow=9.6,SNR=11						
MKAR	**Makanchi Array**	**18.32**	**27**	P	**Pn**	**21 41 08.4**	**-0.8**
ABKAR	**Abkulak array**	**19.77**	**340**	P	**P**	**21 41 24.9**	**0.0**
SHL	**Shillong**	**19.89**	**100**	P	**P**	**21 41 27.3**	**+0.6**
KURBB	**Kurchatov Arra**	**20.55**	**15**	P	**P**	**21 41 32.5**	**-1.0**
	comp=E,2.3nm,0.9s,baz=206,slow=11,SNR=8.1						
KURK	**Kurchatov**	**20.66**	**15**	P	**P**	**21 41 33.0**	**-1.6**
AKTO	**Aktyubinsk**	**21.40**	**338**	P	**P**	**21 41 43.6**	**+1.0**
	comp=E,0.8nm,0.5s,baz=157,slow=17,SNR=1.6						
BVAR	**Borovoye Array**	**21.98**	**0**	P	**P**	**21 41 48.4**	**-0.4**
	comp=E,3.0nm,0.8s,baz=170,slow=10,SNR=8.7						
BRVK	**Borovoye**	**22.01**	**0**	P	**P**	**21 41 48.7**	**-0.5**
ZAA0	**Zalesovo Array**	**25.23**	**21**		**P**	**21 42 19.7**	**-0.9**
ZAA0				IAmb	IAmb	21 42 31.3	
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**25.23**	**21**	P	**P**	**21 42 20.8**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=229,slow=9.7,SNR=8.6						
ZALV	**Zalesovo Beam**	**25.23**	**21**	P	**P**	**21 42 19.1**	**-1.5**
LHMI	**Lhok Sumawe**	**35.96**	**130**	P	**P**	**21 43 58.1**	**+2.4**
KARP	**Karpathos**	**36.00**	**289**	P	**P**	**21 43 57.2**	**+1.3**
AKASG	**Malin Array Be**	**36.06**	**315**	P	**P**	**21 43 57.3**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=96,slow=7.7,SNR=4.9						
AKBB	**Malin Array Si**	**36.06**	**315**	P	**P**	**21 43 56.4**	**+0.2**
AKBB				IAmb	IAmb	21 44 02.4	
	comp=Z,4.6nm,0.7s						
AKBB	**Malin Array Si**	**36.06**	**315**	PKHKP	**P**	**21 43 56.4**	**+0.2**
ALN	**Alexandroupoli**	**36.69**	**298**		**P**	**21 44 02.0**	**+0.3**
ALN				IAmb	IAmb	21 44 19.6	
	comp=Z,36nm,1.2s						
ALN	**Alexandroupoli**	**36.69**	**298**	PKHKP	**P**	**21 44 02.0**	**+0.3**
MLR	**Muntele Rosu**	**37.11**	**306**	P	**P**	**21 44 07.4**	**+2.0**
MLR				IAmb	IAmb	21 44 18.3	
	comp=Z,16nm,1.1s						
SANT	**Santorini**	**37.30**	**291**	P	**P**	**21 44 09.4**	**+2.4**
IDI	**Anoyia**	**37.87**	**289**		**P**	**21 44 12.2**	**+0.2**
IDI				IAmb	IAmb	21 44 20.2	
	comp=Z,44nm,1.1s						
BUR08	**Bucovina Ar. S**	**37.93**	**309**	P	**P**	**21 44 11.8**	**-0.5**
BUR08				IAmb	IAmb	21 44 19.8	
	comp=Z,4.6nm,1.1s						
DGAR	**Diego Garcia**	**38.29**	**176**	PKP2	**P**	**21 44 15.8**	**+0.4**
DGAR	**Diego Garcia**	**38.29**	**176**	P	**P**	**21 44 15.8**	**+0.4**
DGAR	**Diego Garcia**	**38.29**	**176**	pmax	pmax		
	comp=Z,76nm,1.1s						
RPSI	**Rantau Prapat**	**39.15**	**130**	P	**P**	**21 44 24.0**	**+1.3**
RPSI				IAmb	IAmb	21 44 39.9	
	comp=Z,10nm,1.1s						
KNMB	**Chin-men Tao**	**42.93**	**86**	P	**P**	**21 44 54.3**	**+0.5**
GERES	**GERESS Array B**	**45.69**	**310**	P	**P**	**21 45 16.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=93,slow=8.9,SNR=4.4						
NACB	**Ninganchiao**	**45.78**	**85**	P	**P**	**21 45 17.2**	**+0.6**
NACB				IAmb	IAmb	21 45 18.5	
	comp=Z,20nm,1.0s						
ARCES	**ARCESS Array B**	**45.97**	**340**	P	**P**	**21 45 17.7**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=129,slow=8.6,SNR=1.8						
KSRS	**Korea Array**	**47.56**	**66**	P	**P**	**21 45 32.2**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=264,slow=7.6,SNR=4.2						
NB2	**NORSAR Subarra**	**48.41**	**326**	P	**P**	**21 45 36.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=103,slow=7.9						
NOA	**NORSAR Array B**	**48.41**	**326**	P	**P**	**21 45 36.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=104,slow=7.8,SNR=2.6						
BFO	**Black Forest**	**49.26**	**309**	P	**P**	**21 45 43.0**	**-0.4**
BFO				IAmb	IAmb	21 45 45.8	
	comp=Z,2.3nm,0.7s						
KEST	**Kesra**	**50.28**	**293**	P	**P**	**21 45 53.3**	**+1.9**
	comp=Z,1.3nm,0.9s,baz=262,slow=12,SNR=1.6						
KEST	**Kesra**	**50.28**	**293**	P	**P**	**21 45 52.1**	**+0.7**
KEST				IAmb	IAmb	21 45 56.7	
	comp=Z,3.4nm,1.1s						
ESDC	**Sonseca Array**	**59.49**	**301**	P	**P**	**21 46 58.9**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=66,slow=6.3,SNR=5.9						
ESDC	**Sonseca Array**	**59.49**	**301**	IAmb	IAmb	21 47 04.3	
	comp=Z,1.3nm,0.8s						
PETK	**Petropavlovsk-**	**64.45**	**42**	P	**P**	**21 47 30.2**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=313,slow=5.5,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**64.97**	**271**	P	**P**	**21 47 32.6**	**-2.4**
TOA0				IAmb	IAmb	21 47 45.2	
	comp=Z,3.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**64.97**	**271**	P	**P**	**21 47 36.5**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=44,slow=6.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**64.97**	**271**	P	**P**	**21 47 35.4**	**+0.4**
SUMG	**Summit**	**66.00**	**342**	P	**P**	**21 47 40.0**	**-1.3**
SUMG				IAmb	IAmb	21 47 50.1	
	comp=Z,1.6nm,0.9s						
MBWA	**Marble Bar**	**70.41**	**131**	P	**P**	**21 48 09.3**	**+0.2**
BMAR	**Burnt Mountain**	**78.42**	**13**	P	**P**	**21 48 56.4**	**+1.3**
WRA	**Warramunga Arr**	**79.77**	**121**	P	**P**	**21 49 04.1**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=321,slow=5.0,SNR=8.8						
WRA	**Warramunga Arr**	**79.77**	**121**	IAmb	IAmb	21 49 06.1	
	comp=Z,0.1nm,0.8s						
WRAB	**Tennant Creek**	**79.77**	**121**	P	**P**	**21 49 01.8**	**-1.3**
WRAB				IAmb	IAmb	21 49 02.7	
	comp=Z,3.8nm,0.9s						
BWN	**Browne**	**80.13**	**16**	P	**P**	**21 49 03.8**	**-0.7**
WRH	**Wood River Hil**	**80.21**	**16**	P	**P**	**21 49 05.1**	**+0.2**
ASAR	**Alice Springs**	**81.77**	**124**	P	**P**	**21 49 15.6**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=309,slow=5.4,SNR=12						
ASAR	**Alice Springs**	**81.77**	**124**	P	**P**	**21 49 14.0**	**+0.2**

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*NIC **05** 21:54:52.0±0.0, 35°.64N×27°.77E, h4km±1km, Ml3.7/3*
*ATH **05** 21:54:53.1, 35°.67N×27°.73E, h14km±2km, ML3.1/5, Error ellipse: s-maj=4.5km s-min=1.1km az=158.0*
*ISK **05** 21:54:53.4, 35°.54N×27°.72E, h8km, ML3.1/14*
*THE **05** 21:54:55.0, 35°.61N×27°.67E, h0km±1km, ML2.7/4, Error ellipse: s-maj=2.8km s-min=0.8km az=142.0*
ISC 05 21:54:53.1±1.2, 35°.59N±0°.03×27°.75E±0°.02, h5km±10km, n68, σ0§82/84, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.48**	**265**	P	**Pg**	**21 55 02.6**	**+0.2**
KARP				S	**Sb**	**21 55 10.8**	**-0.7**
	2μm,0.2s						
KARP	**Karpathos**	**0.48**	**265**	P	**Pg**	**21 55 02.6**	**+0.2**
KARP				S	**Sg**	**21 55 09.8**	**+1.1**
KARP				AML	AML	21 55 12.6	
	comp=N,3780μm,0.2s						
KARP				AML	AML	21 55 14.8	
	comp=E,3257μm,0.2s						
KARP	**Karpathos**	**0.48**	**265**	PG	**Pg**	**21 55 02.7**	**+0.3**
KARP				SG	**Sg**	**21 55 09.6**	**+0.9**
KARP	**Karpathos**	**0.48**	**265**	P	**Pg**	**21 55 02.6**	**+0.2**
KARP				S	**Sb**	**21 55 10.4**	**-1.1**
ARG	**Arkhangelos**	**0.69**	**26**	P	**Pn**	**21 55 09.6**	**0.0**
ARG				S	**Sn**	**21 55 20.2**	**-0.5**
	comp=E,682nm,0.3s						
ARG	**Arkhangelos**	**0.69**	**26**	PG	**Pb**	**21 55 08.1**	**+0.4**
ARG				SG	**Sn**	**21 55 19.2**	**-1.5**
ARG	**Arkhangelos**	**0.69**	**26**	P	**Pg**	**21 55 04.8**	**-1.7**
DAT	**Datca**	**1.14**	**353**	P	**Pn**	**21 55 16.0**	**+0.1**
DAT				S	**Sn**	**21 55 32.4**	**+0.4**
DAT	**Datca**	**1.14**	**353**	PN	**Pn**	**21 55 16.3**	**+0.4**
DAT				SN	**Sn**	**21 55 33.5**	**+1.5**
DAT	**Datca**	**1.14**	**353**	*i* P	**Pn**	**21 55 16.6**	**+0.8**
TURN	**Turunc**	**1.25**	**19**	PN	**Pn**	**21 55 18.1**	**+0.9**
TURN	**Turunc**	**1.25**	**19**	*i* P	**Pn**	**21 55 19.2**	**+2.1**
ZKR	**Zakros**	**1.34**	**250**	P	**Pn**	**21 55 17.8**	**-0.7**
ZKR				S	**Sn**	**21 55 37.6**	**+0.9**
ZKR	**Zakros**	**1.34**	**250**	P	**Pn**	**21 55 17.8**	**-0.7**
ZKR				S	**Sn**	**21 55 37.6**	**+0.9**
ZKR				AML	AML	21 55 45.3	
	comp=N,720μm,0.5s						
ZKR				AML	AML	21 55 45.5	
	comp=E,1879μm,0.8s						
ZKR	**Zakros**	**1.34**	**250**	PN	**Pn**	**21 55 18.1**	**-0.4**
STIA	**Sitia Las

IMMV	**Iera Moni Meta**	**3.08 269**	P	**Pn**	**21 55 42.9**	**+0.6**
IMMV	**Iera Moni Meta**	**3.08 269**	P	**Pn**	**21 55 42.9**	**+0.6**
OSC1	**CSNet OBS 1**	**3.58 125**	S	**Sn**	**21 56 33.0**	**+1.1**
AKMS	**Akamas**	**3.79 97**	P	**Pn**	**21 55 52.0**	**-0.2**
AKMS			AML	AML	21 56 37.0	
	comp=E,0.3nm,0.6s					
KTHA	**Kythira Island**	**3.86 281**	P	**Pn**	**21 55 54.7**	**+1.6**
KTHA	**Kythira Island**	**3.86 281**	P	**Pn**	**21 55 54.7**	**+1.6**
NATA	**Nata**	**4.03 100**	P	**Pn**	**21 55 55.1**	**-0.4**
NATA			S	**Sn**	**21 56 43.4**	**+0.3**
NATA			AML	AML	21 56 45.7	
	comp=E,0.4nm,0.5s					
NATA			AML	AML	21 56 45.7	
	comp=E,0.4nm,0.5s					
SZAC	**Souni**	**4.29 100**	P	**Pn**	**21 55 58.2**	**-0.8**
SZAC			AML	AML	21 56 50.6	
	comp=E,0.2nm,0.5s					
SZAC			AML	AML	21 56 52.9	
	comp=E,0.2nm,0.5s					
OSC2	**CSNet OBS 4**	**4.50 123**	S	**Sn**	**21 56 56.1**	**+1.5**
ASGA	**Asgata**	**4.57 99**	P	**Pn**	**21 56 02.1**	**-0.8**
CSS	**Mathiatis**	**4.61 96**	P	**Pn**	**21 56 03.2**	**-0.2**
MVOU	**Mavrovouni**	**4.84 95**	P	**Pn**	**21 56 06.0**	**-0.6**

*DDA **05** 21:55:03.1, 40.°79N×28.°06E, h12km±3km, ML2.9*
*THE **05** 21:55:05.7, 40.°96N×27.°76E, h0km±2km, ML2.4/5, Error ellipse: s-maj=4.9km s-min=1.5km az=81.0*

ISK 05 21:55:02.8, 40.°81N×28.°06E, h15km, ML2.9/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOTS	**Marmara Eregli**	**0.19**	**342**	PG	Pb	21 55 07.9	-0.1
BOTS				SG	Sb	21 55 11.0	-0.4
MAR9	**Marsite Statio**	**0.33**	**235**	PG	Pg	21 55 09.9	+0.3
MAR9				SG	Sb	21 55 15.4	0.0
CRLT	**Corlu**	**0.40**	**323**	PG	Pb	21 55 11.9	+0.3
CRLT				SG	Sb	21 55 17.7	+0.2
MRMT	**Marmara Adasi**	**0.41**	**240**	PG	Pg	21 55 11.2	+0.2
MRMT				SG	Sb	21 55 17.9	+0.2
TKR	**Tekirdag**	**0.43**	**295**	PG	Pb	21 55 12.1	0.0
ELBA	**Catalca**	**0.44**	**40**	*i* P	Pb	21 55 12.1	-0.2
ELBA				*i* S	Sg	21 55 17.8	+0.2
EDC	**Edincik**	**0.48**	**198**	PG	Pb	21 55 13.3	+0.3
EDC				SG	Sb	21 55 20.1	+0.2
AVCI	**Avcilar-stanb**	**0.54**	**70**	PG	Pb	21 55 14.3	+0.4
CTKS	**Kestanelik-??a**	**0.55**	**38**	PG	Pg	21 55 13.8	+0.2
MAR2	**Marsite Statio**	**0.57**	**261**	PG	Pb	21 55 14.6	+0.1
MAR2				SG	Sb	21 55 23.2	+0.8
MAR4	**Marsite Statio**	**0.57**	**268**	PG	Pg	21 55 14.1	-0.1
MAR4				SG	Sb	21 55 23.2	+0.6
MAR3	**Marsite Statio**	**0.58**	**264**	PG	Pg	21 55 14.4	+0.1
MAR3				SG	Sb	21 55 23.3	+0.6
MAR6	**Marsite Statio**	**0.61**	**260**	PG	Pb	21 55 15.3	+0.1
MAR6				SG	Sb	21 55 24.4	+0.9
HVHR	**Bakirkoy-Istan**	**0.62**	**75**	PG	Pb	21 55 15.8	+0.5
BGKT	**Bogazkoy**	**0.66**	**55**	PG	Pb	21 55 15.9	0.0
BGKT				SG	Sb	21 55 25.5	+0.6
ARMT	**Armutlu**	**0.66**	**111**	PG	Pb	21 55 16.5	+0.5
SART	**Tekirdag**	**0.68**	**260**	*i* P	Pb	21 55 16.6	+0.3
SART				*i* S	Sg	21 55 25.2	+0.2
RKY	**Sarkoy-Tekirda**	**0.68**	**260**	PG	Pb	21 55 16.6	+0.3
CTYL	**Yalikoy Yolu**	**0.69**	**15**	PG	Pb	21 55 16.6	+0.1
MDNY	**Mudanya-Bursa**	**0.77**	**125**	PG	Pb	21 55 18.4	+0.6
ISK	**Istanbul-Kandi**	**0.80**	**71**	PG	Pb	21 55 18.4	0.0
KAVV	**Kandilli-Istan**	**0.80**	**71**	PG	Pb	21 55 18.4	0.0
TSVK	**Tesvikiye-Yalo**	**0.81**	**103**	PG	Pn	21 55 19.2	-0.3
BUY	**Buyukada**	**0.81**	**87**	*i* P	Pb	21 55 18.9	+0.4
BUY				*i* S	Sb	21 55 29.6	+0.5
BUY				IAML		21 55 31.0	
	comp=N,349nm,0.5s						
GONE	**Gonen-Balikesi**	**0.81**	**200**	PG	Pg	21 55 19.1	+0.5
KLYT	**Kilyos**	**0.87**	**59**	PG	Pg	21 55 19.8	+0.2
TRML	**Termal-Yalova**	**0.87**	**103**	PG	Pb	21 55 19.2	-0.4
PHSR	**Pinarhisar**	**0.91**	**334**	PG	Pg	21 55 20.6	+0.1
TUZL	**Tuzla-Istanbul**	**0.92**	**89**	PG	Pn	21 55 21.2	+0.1
GEMT	**Gemlik**	**0.94**	**113**	PG	Pn	21 55 21.9	+0.5
ORLT	**Orhaneli**	**1.00**	**140**	PG	Pn	21 55 22.6	+0.4
YLVH	**Yalova**	**1.00**	**96**	PG	Pn	21 55 22.8	+0.5
IGD	**Bursa**	**1.03**	**122**	*i* P	Pg	21 55 23.6	+0.9
IGD				*i* S	Sn	21 55 37.8	+1.0
IGD				IAML		21 55 39.0	
	comp=E,225nm,0.4s						
KESN	**Edirne-Kesan**	**1.04**	**271**	*i* P	Pg	21 55 23.1	0.0
KESN				*i* S	Sn	21 55 37.4	-0.3
KESN				IAML		21 55 38.0	
	comp=E,673nm,0.4s						
KESN				IAML		21 55 40.0	
	comp=N,243nm,0.3s						
ULDT	**Uludag**	**1.06**	**129**	*i* P	Pn	21 55 23.3	0.0
ULDT				*i* S	Sn	21 55 37.7	-0.1
LPK	**Lapseki**	**1.08**	**247**	PN	Pg	21 55 23.5	-0.1
BALY	**Balya**	**1.12**	**198**	*i* P	Pb	21 55 23.6	-0.2
BALY				*i* S	Sn	21 55 39.5	+0.4
BALY				IAML		21 55 41.0	
	comp=E,355nm,0.5s						
BALY				IAML		21 55 41.0	
	comp=N,224nm,0.7s						
UKOP	**Uzunkopru-Edir**	**1.12**	**287**	PN	Pg	21 55 24.4	-0.1
BALB	**Balikesir**	**1.18**	**187**	PN	Pn	21 55 24.5	-0.2
HRT	**Hereke**	**1.22**	**89**	PN	Pb	21 55 25.8	+0.2
DURS	**Dursunbey**	**1.25**	**165**	*i* P	Pg	21 55 27.0	+0.1
DURS				*i* S	Sn	21 55 42.5	+0.1
DURS				IAML		21 55 46.0	
	comp=E,266nm,0.3s						
DURS				IAML		21 55 47.0	
	comp=N,141nm,0.3s						
SILT	**Sile**	**1.25**	**74**	PN	Pg	21 55 26.6	-0.3
ADVT	**Abdulvahap**	**1.33**	**106**	PN	Pb	21 55 27.6	+0.1
EDRB	**Edirne**	**1.43**	**317**	P	Pn	21 55 28.4	+0.2
EDRB				S	Sn	21 55 45.3	-1.4
	comp=N,58nm,0.3s						
EDRB	**Edirne**	**1.43**	**317**	PN	Pn	21 55 28.4	+0.2
STEP	**BALIKESIR_Sava**	**1.46**	**190**	*i* P	Pg	21 55 31.9	+1.2
STEP				*i* S	Sg	21 55 50.4	+0.7
STEP				IAML		21 55 52.0	
	comp=N,303nm,0.7s						
STEP				IAML		21 55 56.0	
	comp=E,303nm,0.6s						
CAVI	**Cavuskoy**	**1.49**	**113**	PN	Pn	21 55 29.2	+0.2
ALN	**Alexandroupoli**	**1.53**	**274**	P	Pn	21 55 30.0	+0.5
ALN				S	Sn	21 55 49.2	+0.1
	comp=E,135nm,0.5s						
ALN	**Alexandroupoli**	**1.53**	**274**	PN	Pn	21 55 29.9	+0.4
BAYC	**CANAKKALE_Bayr**	**1.57**	**228**	*i* P	Pn	21 55 30.4	+0.3
BAYC				*i* S	Sg	21 55 52.5	-1.0
KAND	**Kocaeli-Kandir**	**1.64**	**79**	*i* P	Pb	21 55 32.5	-0.2
EZN	**Ezine**	**1.65**	**234**	P	Pb	21 55 33.5	+0.7
EZN				S	Sg	21 55 55.9	0.0
	comp=E,115nm,0.4s						
EZN	**Ezine**	**1.65**	**234**	PN	Pb	21 55 32.9	+0.1
TVSB	**Tavsanli**	**1.73**	**141**	PN	Pb	21 55 32.6	+0.2
GOKA	**anakkale-Gk**	**1.75**	**250**	*i* P	Pn	21 55 33.2	+0.6
GOKA				*i* S	Sb	21 55 56.9	+0.5
GADA	**Gvkgeada**	**1.76**	**250**	P	Pb	21 55 34.7	-1.0
GADA	**Gvkgeada**	**1.76**	**250**	PN	Pb	21 55 34.3	-0.4
BOZC	**Bozcaada**	**1.81**	**238**	PN	Pn	21 55 34.4	+1.0
BOZC	**Bozcaada**	**1.81**	**238**	*i* P	Pg	21 55 36.7	-0.9
BOZC				*i* S	Sg	21 56 00.6	-0.5
BOZC				IAML		21 56 03.0	
	comp=N,93nm,0.7s						
AYVA	**Ayvalik**	**1.83**	**215**	*i* P	Pg	21 55 37.4	-0.5
AYVA				*i* S	Sg	21 56 01.2	-0.4
AYVA				IAML		21 56 03.0	
	comp=N,140nm,0.8s						
AYVA				IAML		21 56 05.0	
	comp=E,89nm,0.5s						
RDO	**Rodhopi**	**1.94**	**281**	P	Pn	21 55 35.9	+0.8
RDO				S	Sn	21 55 58.5	-0.7
	comp=E,78nm,0.4s						
RDO	**Rodhopi**	**1.94**	**281**	PN	Pn	21 55 35.7	+0.6
DKL	**Dikili**	**1.95**	**207**	PN	Pn	21 55 36.2	+0.9
SMTH	**Samothraki Isl**	**1.95**	**261**	P	Pn	21 55 35.5	+0.1
ZEDA	**zmir-Bergama**	**1.99**	**203**	*i* P	Pn	21 55 34.6	-1.2
BORA	**Eskisehir**	**2.05**	**116**	*i* P	Pg	21 55 41.3	-0.9
PRK	**Paraskevi**	**2.08**	**222**	P	Pg	21 55 43.3	+0.6
PRK				S	Sg	21 56 11.0	+1.4
SIGR	**SIGRI**	**2.33**	**227**	P	Pb	21 55 44.4	0.0
SIGR				S	Sb	21 56 14.1	+1.2
	comp=E,85nm,0.5s						

*SSNC **05** 22:04:00.2±3.0, 18.°82N×81.°09W, h4km±67km, MD3.8, ML3.5, MW3.4*
*JSN **05** 22:04:02.6±1.8, 18.°57N×81.°26W, h51km±999km, MD4.5*

ISC 05 22:03:59.7±2.2, 19.°0N±0.°1×81.°1W±0.°1, h10km, n8, σ1§20/13, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGV	**Manicaragua**	**3.31**	**18**	*e*P	**Pn**	**22 04 51.9**	**+0.3**
MGV				*e*S	**Sn**	**22 05 30.7**	**-0.3**
MGV				IAML		22 05 33.2	
	comp=N,81nm,0.4s						
MGV				IAML		22 05 33.6	
	comp=E,57nm,0.3s						
BBJ	**Bamboo Saint A**	**3.66**	**98**	*i* P	**Pn**	**22 04 58.2**	**+1.7**
BBJ				*i* S	**Sn**	**22 05 38.1**	**-1.8**
PCJ	**Portland Cotta**	**3.92**	**107**	*i* P	**Pn**	**22 04 59.4**	**-0.6**
BNJ	**Bonny Gate**	**3.97**	**98**	*i* P	**Pn**	**22 05 01.9**	**+1.2**
STH	**Stony Hill**	**4.15**	**101**	*i* P	**Pn**	**22 05 04.3**	**+1.1**
STH				*i* S	**Sn**	**22 05 51.0**	**-0.8**
SOR	**Soroa**	**4.22**	**335**	*e*P	**Pn**	**22 05 04.9**	**+0.7**
SOR				*e*S	**Sn**	**22 05 52.4**	**-1.2**
SOR				IAML		22 05 57.0	
	comp=N,21nm,0.3s						
SOR				IAML		22 05 57.4	
	comp=E,29nm,0.3s						
GWJ	**Greenwich**	**4.22**	**101**	*i* P	**Pn**	**22 05 05.0**	**+0.7**
RCC	**Rio Carpintero**	**5.19**	**78**	*e*P	**Pn**	**22 05 18.6**	**+1.2**
RCC				*e*S	**Sn**	**22 06 16.5**	**-0.9**

WEL 05 22:26:02.5±0.9, 34.°S±20.°×17.°9W±3.°1, h407km±14km, M3.9/19, mB4.1/6, MLv4.4/19, Mw(mB)3.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.34**	**212**	P	P	22 27 17.6	-0.3
MXZ				S	S	22 28 18.0	-1.6
WMGZ	**Waiomatatini S**	**4.51**	**209**	P	P	22 27 19.9	+0.4
WMGZ				S	S	22 28 25.2	+2.6
HAZ	**Te Kaha**	**4.74**	**215**	P	P	22 27 21.4	-0.4
HAZ				S	S	22 28 26.4	-0.3
PUZ	**Puketiti**	**4.80**	**209**	P	P	22 27 23.9	+1.5
PUZ				S	S	22 28 29.6	+1.7
RUGZ	**Raukumara Rang**	**4.96**	**214**	P	P	22 27 23.6	-0.6
RUGZ				S	S	22 28 29.1	-2.0
MWZ	**Matawai**	**5.33**	**213**	P	P	22 27 28.4	+0.5
MWZ				S	S	22 28 39.1	+1.2
URZ	**Urewera**	**5.46**	**216**	P	P	22 27 28.2	-1.0
URZ				S	S	22 28 38.9	-1.5
MUGZ	**Murupara**	**5.80**	**217**	P	P	22 27 32.4	-0.4
MTHZ	**Maungataniwha**	**6.06**	**214**	P	P	22 27 36.2	+0.5
MTHZ				S	S	22 28 53.5	+1.4
NMHZ	**Naumai**	**6.28**	**213**	P	P	22 27 39.0	+1.0
NMHZ				S	S	22 29 00.3	+3.8
ARHZ	**Aropaoanui**	**6.33**	**211**	P	P	22 27 39.9	+1.4
ARHZ				S	S	22 29 02.0	+4.7
BKZ	**Black Stump Fm**	**6.48**	**214**	P	P	22 27 40.5	+0.4
BKZ				S	S	22 29 02.7	+2.3
KWHZ	**Kaweka Forest**	**6.71**	**213**	P	P	22 27 43.2	-0.3
KWHZ				S	S	22 29 07.9	+2.7
KAHZ	**Kahuranaki**	**6.83**	**209**	P	P	22 27 45.6	+0.9
KAHZ				S	S	22 28 47.4	-20
OTVZ	**Oturere**	**6.88**	**219**	P	P	22 27 44.1	-1.4
HIZ	**Hauiti**	**6.89**	**226**	P	P	22 27 44.9	-0.5
KRHZ	**Kereru**	**6.92**	**213**	P	P	22 27 45.4	-0.3
KRHZ				S	S	22 29 10.6	+1.3
BHHZ	**Black Hill Sta**	**6.94**	**215**	P	P	22 27 44.8	-1.1
FWVZ	**Far West T-bar**	**7.01**	**219**	P	P	22 27 45.9	-1.1
MOVZ	**Moawhango**	**7.02**	**217**	P	P	22 27 45.2	-1.8
PXZ	**Pawanui**	**7.03**	**208**	P	P	22 27 47.6	+0.7
PXZ				S	S	22 29 18.2	+6.7
WNVZ	**Wahianoa**	**7.04**	**218**	P	P	22 27 45.8	-1.5
PNHZ	**Pukenui**	**7.21**	**212**	P	P	22 27 48.8	-0.2
PNHZ				S	S	22 29 16.6	+1.2

*NEIC **05** 22:31:58.1±1.1, 20.°9S±0.°2×178.°5W±0.°1, h587km±15km, mb4.2/18, Error ellipse: s-maj=23.4km s-min=17.7km az=183.0*
*IDC **05** 22:31:59.9±4.6, 20.°82S×178.°58W, h604km±54km, mb3.1/7, mb1 3.3/8, mb1mx3.0/27, mbtmp4.0/8, Error ellipse: s-maj=26.7km s-min=21.2km az=42.0*

ISC 05 22:31:57.6±0.5, 20.°92S±0.°09×178.°58W±0.°09, h579km, n38, σ1§04/39, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.49**	**314**	P	**P**	**22 33 26.7**	**+1.4**
NIUE	**Niue**	**8.34**	**79**	P	**P**	**22 33 59.5**	**-0.1**
AFI	**Afiamalu**	**9.52**	**44**	P	**P**	**22 34 11.9**	**+0.5**
FUNA	**Funafuti**	**12.50**	**350**	P	**P**	**22 34 41.7**	**+0.1**
URZ	**Urewera**	**17.68**	**191**	P	**P**	**22 35 31.2**	**+0.1**
	0.8nm,0.3s,baz=23,slow=15,SNR=1.9						
URZ	**Urewera**	**17.68**	**191**	IAmb	IAmb	22 35 43.9	
	comp=Z,22nm,1.1s						
BFZ	**Birch Farm**	**20.19**	**191**	P	**P**	**22 35 54.0**	**+0.1**
QRZ	**Quartz Range**	**21.24**	**199**	P	**P**	**22 36 03.0**	**-0.2**
NNZ	**Nelson**	**21.36**	**197**	P	**P**	**22 36 04.8**	**+0.5**
CMWZ	**Cape Campbell**	**21.64**	**195**	P	**P**	**22 36 05.6**	**-1.3**
THZ	**Tophouse**	**21.99**	**197**	P	**P**	**22 36 11.2**	**+1.1**
THZ				IAmb	IAmb	22 36 14.6	
	comp=Z,5.0nm,0.9s						
KHZ	**Kahutara**	**22.44**	**195**	P	**P**	**22 36 12.1**	**-1.9**
KHZ				IAmb	IAmb	22 36 21.9	
	comp=Z,20nm,1.1s						
LTZ	**Lake Taylor**	**23.11**	**197**	P	**P**	**22 36 20.6**	**+0.6**
WHZ	**Wether Hill Ro**	**27.25**	**201**	P	**P**	**22 36 58.4**	**+2.0**
WHZ				IAmb	IAmb	22 37 17.6	
	comp=Z,7.6nm,1.0s						
TAU	**Tasmania Unive**	**35.95**	**225**	P	**P**	**22 38 10.8**	**+0.4**
TAU				IAmb	IAmb	22 38 27.9	
	comp=Z,12nm,1.0s						
COEN	**Coen**	**37.07**	**274**	P	**P**	**22 38 19.1**	**-0.8**
COEN				IAmb	IAmb	22 38 21.3	
	comp=Z,6.9nm,0.9s						
WR0	**Warramunga Arr**	**43.82**	**263**	P	**P**	**22 39 13.6**	**0.0**
AS31	**Alice Springs**	**43.89**	**257**	P	**P**	**22 39 14.9**	**+0.8**
ASAR	**Alice Springs**	**43.90**	**257**	P	**P**	**22 39 15.2**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=94,slow=7.6,SNR=54						
ASAR				PcP	**PcP**	**22 40 47.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=102,slow=4.0,SNR=4.6						
ASAR				S	**S**	**22 45 02.0**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=96,slow=16,SNR=6.3						
ASAR	**Alice Springs**	**43.90**	**257**	P	**P**	**22 39 14.9**	**+0.7**
WB0	**Warramunga Arr**	**43.99**	**263**	P	**P**	**22 39 15.3**	**+0.5**
WB0				IAmb	IAmb	22 39 15.5	
	comp=Z,3.9nm,0.9s						
WB2	**Warramunga Arr**	**43.99**	**263**	P	**P**	**22 39 15.3**	**+0.3**
WB2				IAmb	IAmb	22 39 15.7	
	comp=Z,2.1nm,0.6s						
WRA	**Warramunga Arr**	**44.01**	**263**	P	**P**	**22 39 15.4**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=98,slow=7.9,SNR=72						
WRA				PcP	**PcP**	**22 40 45.4**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=98,slow=3.8,SNR=1.7						
WRA	**Warramunga Arr**	**44.01**	**263**	P	**P**	**22 39 15.4**	**+0.4**
PTCN	**Pitcairn Islan**	**44.64**	**105**	P	**P**	**22 39 18.7**	**-1.1**
KNRA	**Kununurra**	**50.09**	**267**	P	**P**	**22 40 01.3**	**+0.6**
KNRA				IAmb	IAmb	22 40 16.0	
	comp=Z,6.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	**P**	**22 40 17.8**	**+0.3**
MORW	**Morawa**	**59.17**	**248**	P	**P**	**22 41 03.5**	**-0.4**
QSPA	**South Pole Qui**	**69.15**	**180**	P	**P**	**22 42 09.0**	**+2.5**
	comp=Z,0.5nm,0.5s,baz=209,slow=0.9,SNR=8.5						
PETK	**Petropavlovsk-**	**76.53**	**346**	P	**P**	**22 42 48.4**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=148,slow=6.5,SNR=2.2						
NVAR	**Mina Array Bea**	**81.70**	**44**	P	**P**	**22 43 16.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=224,slow=7.5,SNR=4.1						
USHA	**Ushuaia**	**84.08**	**147**	P	**P**	**22 43 26.8**	**-1.2**
	comp=Z,27nm,0.4s,baz=341,slow=0.2,SNR=5.4						
PDAR	**Pinedale Array**	**89.64**	**43**	P	**P**	**22 43 55.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=180,slow=2.3,SNR=3.6						
CMAR	**Chiang Mai Arr**	**89.74**	**290**	P	**P**	**22 43 56.0**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=134,slow=3.9,SNR=1.3						
AKASG	**Malin Array Be**	**143.11**	**330**	PKP	PKPab	22 50 22.7	-1.3
	comp=Z,1.0nm,0.5s,baz=42,slow=4.3,SNR=13						
BRTR	**Keskin Array B**	**146.71**	**311**	PKPbc	**PKPbc**	**22 50 34.8**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=186,slow=2.2,SNR=2.2						
CLL	**Collm**	**148.34**	**346**	*e*PKPbc	**PKPbc**	**22 50 39.0**	**-0.2**
GERES	**GERESS Array B**	**150.45**	**343**	PKPbc	**PKPbc**	**22 50 44.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=315,slow=0.4,SNR=5.7						

*ISN **05** 22:43:34.7±1.7, 33.°36N×47.°00E, h14km±22km, ML2.4*
*TEH **05** 22:43:37.7, 33.°17N×47.°07E, h10km, ML2.9*

ISC 05 22:43:35.0±0.9, 33.°11N±0.°05×46.°93E±0.°04, h10km, n9, σ1§18/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.53**	**145**	*e*Pg	**Pn**	**22 43 47.9**	**-0.7**
IBDR	**Badra**	**0.83**	**270**	*e*Pg	**Pn**	**22 43 53.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**22 44 04.0**	**-1.2**
IBDR				AML	AML	22 44 06.4	
	comp=E,51nm,0.3s						
IBDR				AML	AML	22 44 06.8	
	comp=N,34nm,0.3s						
IGHG	**Ghaleghazi**	**1.25**	**346**	*e*Pg	**Pg**	**22 43 59.4**	**+0.3**
IGHG				*e*		22 43 60.0	
IVIS	**Veis**	**1.41**	**357**	*e*		22 44 28.8	
IVIS				*e*Pg	**Pg**	**22 44 04.4**	**+2.3**
IDHR	**Dehrash**	**1.64**	**344**	*e*Pg	**Pn**	**22 44 02.0**	**-2.2**
IDHR				*e*		22 44 22.7	
BMDN	**Meydan**	**1.68**	**70**	*e*		22 44 14.5	
BMDN				*e*Pg	**Pg**	**22 44 07.8**	**+0.4**
BMDN				*e*Sg	**Sg**	**22 44 29.9**	**+0.7**
ILIN	**Lien**	**1.80**	**1**	*e*Pg	**Pg**	**22 44 10.7**	**+1.1**
ILIN				*e*		22 44 11.5	
BHD	**Baghdad**	**2.14**	**275**	*e*Pg	**Pb**	**22 44 14.0**	**+0.1**
BHD				*e*Sg	**Sg**	**22 44 44.0**	**+0.2**
BHD				AML	AML	22 44 44.3	
	comp=E,79nm,0.5s						
NSR	**Nassriya**	**2.20**	**198**	*e*Pn	**Pb**	**22 44 15.0**	**+0.1**
NSR				*e*Sn	**Sg**	**22 44 46.0**	**+0.2**
NSR				AML	AML	22 44 47.6	
	comp=E,65nm,0.3s						

*NEIC **05** 22:47:60.0±2.8, 14.°7S±0.°1×163.°6E±0.°1, h15km±5km, mb4.6/21, Error ellipse: s-maj=18.9km s-min=12.2km az=209.0*
*IDC **05** 22:48:03.7±45.0, 15.°11S×163.°21E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/35, mbtmp3.8/3, MS3.7/2, Ms1 3.7/2, ms1mx2.8/34, Error ellipse: s-maj=750.1km s-min=101.0km az=65.0*

ISC 05 22:47:59.2±0.6, 14.°8S±0.°1×163.°56E±0.°09, h10km, n29, σ1§62/27, mb4.4/14, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.58**	**101**	Pn	**Pn**	**22 48 55.4**	**+0.6**
HNR	**Honiara**	**6.37**	**326**	Pn	**Pn**	**22 49 32.6**	**-0.6**
FUNA	**Funafuti**	**16.51**	**70**	Pn	**Pn**	**22 51 50.6**	**-0.5**
ARMA	**Armidale**	**19.06**	**213**	P	**P**	**22 52 22.5**	**+0.6**
STKA	**Stephens Creek**	**26.31**	**226**	P	**P**	**22 53 36.8**	**+1.6**
	0.9nm,0.4s,baz=48,slow=12,SNR=3.5						
TOO	**Toolangi**	**27.81**	**212**	P	**P**	**22 53 50.4**	**+1.8**
WB0	**Warramunga Arr**	**28.27**	**256**	P	**P**	**22 53 52.2**	**-0.8**
WB2	**Warramunga Arr**	**28.33**	**255**	P	**P**	**22 53 53.5**	**0.0**
WRA	**Warramunga Arr**	**28.34**	**255**	P	**P**	**22 53 55.8**	**+2.2**
	0.3nm,0.4s,baz=86,slow=9.2,SNR=6.2						
FOZ	**Fox Glacier**	**29.16**	**171**	P	**P**	**22 54 01.5**	**+0.9**
FOZ				IAmb	IAmb	22 54 01.9	
	comp=Z,17nm,0.9s						
ASAR	**Alice Springs**	**29.32**	**248**	P	**P**	**22 54 04.5**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=78,slow=9.2,SNR=16						
ASAR				LR	LR	23 05 40.8	
	comp=Z,92nm,18.7s,baz=32,slow=37						
ASAR	**Alice Springs**	**29.32**	**248**	P	**P**	**22 54 02.8**	**+0.5**
RPZ	**Rata Peaks**	**29.55**	**169**	P	**P**	**22 54 04.7**	**+0.6**
RPZ				IAmb	IAmb	22 54 11.0	
	comp=Z,19nm,1.2s						
WKZ	**Wanaka**	**30.32**	**172**	P	**P**	**22 54 11.8**	**+0.9**
MLZ	**Mavora Lakes**	**30.75**	**174**	P	**P**	**22 54 15.1**	**+0.5**
BBOO	**Buckleboo**	**30.78**	**229**	P	**P**	**22 54 13.5**	**-1.6**
BBOO				IAmb	IAmb	22 54 13.7	
	comp=Z,5.9nm,0.9s						
AKUT	**Akutan**	**73.45**	**18**	P	**P**	**22 59 32.1**	**+0.6**
AKUT				IAmb	IAmb	22 59 32.5	
	comp=Z,12nm,1.0s						
KDAK	**Kodiak Island**	**80.80**	**22**	LR	LR	23 28 43.2	
	comp=Z,73nm,21.6s,baz=209,slow=30						
KNK	**Knik Glacier**	**84.87**	**21**	P	**P**	**23 00 36.4**	**+2.4**
KNK				IAmb	IAmb	23 00 45.9	
	comp=Z,4.6nm,1.2s						
RND	**Reindeer**	**86.13**	**19**	P	**P**	**23 00 41.6**	**+1.4**
RND				IAmb	IAmb	23 00 56.6	
	comp=Z,1.2nm,0.8s					

comp=Z,93nm,18.1s,baz=132,slow=35
WR0 Warramunga Arr 20.23 226 P P 22 56 01.3 +0.9
WR0 IAmb IAmb 22 56 02.1
comp=Z,27nm,0.8s
RMQ Roma 20.25 183 P Pn 22 56 02.6 -0.3
baz=20,SNR=26
WRAB Tennant Creek 20.35 226 P P 22 56 02.4 +0.7
WRAB IAmb IAmb 22 56 03.3
comp=Z,33nm,0.8s
WB2 Warramunga Arr 20.36 226 P P 22 56 02.6 +0.9
WB2 IAmb IAmb 22 56 03.4
comp=Z,30nm,0.7s
WRA Warramunga Arr 20.37 226 P **P 22 56 02.5 +0.7**
comp=Z,33nm,0.7s,baz=51,slow=11,SNR=134
WRA S **S 22 59 43.0 -4.3**
comp=Z,1.6nm,0.8s,baz=50,slow=20,SNR=4.5
WRA PcP **PcP 23 00 13.8 +0.5**
comp=Z,0.9nm,0.6s,baz=64,slow=2.5,SNR=3.1
WRA Warramunga Arr 20.37 226 P **P 22 56 01.6 -0.2**
QLP Quilpie 21.01 194 P **P 22 56 11.6 +2.9**
baz=21,SNR=6.6
DZM Mont Dzumac 22.55 136 P **P 22 56 25.2 -0.1**
comp=Z,6.4nm,0.6s,baz=331,slow=9.6,SNR=10
DZM LR LR 23 04 14.6
comp=Z,236nm,18.2s,baz=218,slow=34
DZM Mont Dzumac 22.55 136 P **P 22 56 25.2 -0.1**
KNRA Kununurra 22.73 244 P **P 22 56 27.6 +0.4**
baz=23,SNR=36
KNRA Kununurra 22.73 244 P **P 22 56 27.0 -0.2**
AS31 Alice Springs 23.20 220 P **P 22 56 33.0 +1.1**
ASAR Alice Springs 23.20 220 P **P 22 56 32.2 +0.3**
comp=Z,3.0nm,0.4s,baz=55,slow=8.9,SNR=49
ASAR PcP **PcP 23 00 19.4 +0.5**
comp=Z,0.9nm,0.7s,baz=56,slow=2.9,SNR=4.5
ASAR S **S 23 00 38.1 -2.0**
comp=Z,0.2nm,0.3s,baz=48,slow=15,SNR=2.0
ARMA Armidale 24.21 176 P **P 22 56 41.4 +0.1**
ARMA IAmb IAmb 22 56 53.8
comp=Z,12nm,0.9s
SOEI Soe 25.57 260 P **P 22 56 55.0 +1.1**
comp=Z,39nm,0.8s
SOEI Soe 25.57 260 P **P 22 56 54.1 +0.2**
SOEI IAmb IAmb 22 56 58.5
comp=Z,29nm,1.0s
BATI Baumata 26.21 259 P **P 22 57 00.6 +1.0**
comp=Z,26nm,0.4s,baz=142,slow=3.2,SNR=8.8
BATI Baumata 26.21 259 P **P 22 56 59.7 +0.1**
comp=Z,30nm,0.7s
FITZ Fitzroy Crossi 26.43 241 P **P 22 57 02.0 +0.5**
baz=26,SNR=47
FITZ Fitzroy Crossi 26.43 241 P **P 22 57 01.9 +0.5**
comp=Z,14nm,0.4s,baz=0.4,slow=5.1,SNR=103
FITZ Fitzroy Crossi 26.43 241 P **P 22 57 02.0 +0.5**
FITZ IAmb IAmb 22 57 02.9
comp=Z,24nm,1.1s
LHI Lord Howe Isla 26.68 162 P **P 22 57 03.6 0.0**
STKA Stephens Creek 26.73 196 P **P 22 57 06.5 +2.4**
baz=27,SNR=7.8
STKA Stephens Creek 26.73 196 P **P 22 57 04.9 +0.8**
comp=Z,3.8nm,0.6s,baz=16,slow=11,SNR=6.9
STKA LR LR 23 08 06.7
comp=Z,134nm,18.2s,baz=23,slow=37
STKA Stephens Creek 26.73 196 P **P 22 57 04.7 +0.7**
MMRI Maumere 27.48 263 P **P 22 57 10.5 -0.5**
WRKA Warakurna 27.90 225 P **P 22 57 14.7 0.0**
baz=28,SNR=4.7
EDFI Ende, Flores 28.02 263 P **P 22 57 15.1 -0.9**
comp=Z,21nm,0.9s
HTT Hallett 28.98 199 P **P 22 57 27.4 +3.2**
baz=29,SNR=3.1
BBOO Buckleboo 29.47 204 P **P 22 57 31.7 +3.2**
BBOO IAmb IAmb 22 57 36.4
comp=Z,13nm,1.1s
KAPI Kappang 29.96 271 LR LR 23 11 12.7
comp=Z,56nm,20.5s,baz=82,slow=39
FORT Forrest 31.91 217 P **P 22 57 49.6 -0.5**
JAGI Jajag, Banyuwa 35.46 264 P **P 22 58 19.9 -1.3**
MEEK Meekatharra 36.05 232 P **P 22 58 26.5 +0.4**
baz=36,SNR=10
KMBL Kambalda 36.25 223 P **P 22 58 27.9 +0.2**
baz=36,SNR=5.8
AFI Afiamalu 38.54 105 LR LR 23 12 05.1
comp=Z,94nm,19.0s,baz=126,slow=32
UGM Wanagama 39.05 265 P **P 22 58 51.2 -0.4**
MORW Morawa 39.21 230 P **P 22 58 52.8 0.0**
MORW IAmb IAmb 22 59 10.7
comp=Z,13nm,1.1s
KLBR Kellerberrin 39.25 226 P **P 22 58 52.9 -0.1**
baz=39,SNR=10
QRZ Quartz Range 40.06 153 P **P 22 58 57.4 -2.2**
QRZ IAmb IAmb 22 59 07.4
comp=Z,30nm,1.2s
YULB Yu-li 40.48 317 P **P 22 59 04.0 +0.7**
YULB IAmb IAmb 22 59 18.5
comp=Z,8.1nm,1.1s
NNZ Nelson 40.76 153 P **P 22 59 06.0 +0.7**
TPUB Ta-pu 40.87 317 P **P 22 59 06.3 -0.2**
TPUB IAmb IAmb 22 59 25.6
comp=Z,12nm,1.0s
THZ Tophouse 40.98 153 P **P 22 59 07.1 -0.1**
THZ IAmb IAmb 22 59 24.3
comp=Z,25nm,1.2s
SSLB Suanglung 40.98 318 P **P 22 59 08.1 +0.6**
SSLB IAmb IAmb 22 59 13.8
comp=Z,7.6nm,1.0s
CMJI Cimerak 41.10 265 P **P 22 59 08.3 -0.3**
comp=Z,70nm,0.7s
CISI Cisompet, Garu 41.73 266 P **P 22 59 15.5 +1.7**
CISI Cisompet, Garu 41.73 266 P **P 22 59 13.3 -0.5**
RPZ Rata Peaks 41.81 157 P **P 22 59 11.4 -2.6**
RPZ IAmb IAmb 22 59 23.1
comp=Z,12nm,1.2s
PLWZ Palliser 41.91 151 P **P 22 59 14.4 -0.5**
JNU Nakatsue 43.00 336 P **P 22 59 23.9 +0.1**
comp=Z,4.0nm,0.8s,baz=245,slow=3.8,SNR=3.7
MJAR Matsushiro Arr 43.84 346 P **P 22 59 29.2 -1.2**
comp=Z,1.4nm,0.5s,baz=166,slow=7.6,SNR=5.1
XMIS Christmas Isla 43.90 261 P **P 22 59 31.4 +0.1**
KSRS Korea Array 47.95 336 P **P 23 00 02.5 -0.3**
comp=Z,1.4nm,0.6s,baz=157,slow=8.4,SNR=7.7
NJ2 Nanjing 48.11 324 *e*P **P 23 00 03.8 -0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
UBPT Khong Chiam 48.84 296 P **P 23 00 07.2 -2.8**
UBPT IAmb IAmb 23 00 21.6
comp=Z,3.5nm,0.7s
BJI Beijing 55.44 329 P **P 23 00 56.9 -1.8**
BJI pmax pmax
comp=Z,4.0nm,0.5s
CMAR Chiang Mai Arr 55.81 297 P **P 23 01 02.7 +1.0**
comp=Z,0.6nm,0.3s,baz=124,slow=5.6,SNR=1.4
HHC Hu-ho-hao-te 58.47 327 *e*P **P 23 01 19.1 -1.2**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,96nm,7.2s
PEA0B Petropavlovsk- 59.40 6 P **P 23 01 26.3 0.0**
PEA0B IAmb IAmb 23 01 45.5
comp=Z,4.7nm,1.0s
PETK Petropavlovsk- 59.40 6 P **P 23 01 27.1 +0.7**
comp=Z,1.2nm,0.6s,baz=165,slow=6.5,SNR=9.0
PETK Petropavlovsk- 59.40 6 P **P 23 01 26.6 +0.2**
GTA Gaotai 64.68 319 *e*P **P 23 02 03.3 +1.1**
GTA pP pP 23 02 17.9 +1.0
GTA sP sP 23 02 24.7 +1.8
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA pmax pmax
comp=Z,36nm,5.5s
GTA LR LR
comp=N,61nm,17.1s
GTA LR LR
comp=E,69nm,18.1s
GTA LR LR
comp=Z,51nm,18.1s
CASY Casey 65.89 196 P **P 23 02 09.2 -0.1**
SONM Songino Array 65.93 330 P **P 23 02 11.1 +1.0**
comp=Z,0.8nm,0.7s,baz=149,slow=4.2,SNR=5.1
SONM Songino Array 65.93 330 IAmb IAmb 23 02 13.1
comp=Z,0.9nm,0.8s
VNDA Vanda 71.62 177 P **P 23 02 45.4 +0.5**
comp=Z,1.3nm,0.6s,baz=335,slow=6.8,SNR=12
VNDA Vanda 71.62 177 P **P 23 02 45.4 +0.5**
WMQ Urumqi 74.75 318 *e*P **P 23 03 05.6 +1.6**
MKAR Makanchi Array 79.41 320 P **P 23 03 30.3 +0.2**
comp=Z,0.7nm,0.6s,baz=93,slow=7.9,SNR=7.6

ZALV Zalesovo Beam 80.65 327 P **P 23 03 35.5 -1.0**
comp=Z,0.6nm,0.4s,baz=90,slow=8.9,SNR=3.6
IMAR Indian Mountai 82.64 20 P **P 23 03 47.2 +0.4**
MAW Mawson 83.20 203 P **P 23 03 48.1 -1.6**
comp=Z,0.8nm,0.3s,baz=13,slow=8.3,SNR=2.4
QSPA South Pole Qui 83.82 180 P **P 23 03 53.6 +0.4**
QSPA IAmb IAmb 23 04 04.9
comp=Z,8.0nm,1.1s
PAX Paxson 84.28 25 P **P 23 03 55.0 -0.4**
PAX IAmb IAmb 23 04 00.8
comp=Z,7.8nm,0.9s
ILAR Eielson Array 84.52 23 P **P 23 03 55.6 -0.9**
comp=Z,0.5nm,0.7s,baz=254,slow=5.1,SNR=4.5
WHY Whitehorse 88.17 28 P **P 23 04 15.6 +1.0**
WHY IAmb IAmb 23 04 25.4
comp=Z,3.5nm,0.8s
CLL Collm 122.55 329 *e*PKPdf **PKPdf 23 10 14.0 -5.1**
GERES GERESS Array B 123.60 327 PKP **PKPdf 23 10 21.3 -0.1**
comp=Z,0.7nm,0.6s,baz=93,slow=1.1,SNR=11
LPAZ La Paz 136.32 121 PKP **PKPdf 23 10 45.8 -1.2**
comp=Z,1.1nm,0.6s,baz=353,slow=6.9,SNR=4.1
SIV San Ignacio 142.32 126 PKhKP PKPpre 23 10 50.9
comp=Z,0.6nm,0.4s,baz=248,slow=5.4,SNR=2.0
TORD Torodi Ar. Bea 147.85 285 PKPbc **PKPbc 23 11 09.4 -0.3**
comp=Z,4.9nm,0.5s,baz=57,slow=2.4,SNR=27
TORD Torodi Ar. Bea 147.85 285 **PKPbc 23 11 09.2 -0.5**
BDFB Brasilia 152.05 141 PKPbc **PKiKP 23 11 20.3 -0.1**
comp=Z,1.9nm,0.4s,baz=210,slow=27,SNR=4.4
BDFB PKPab **PKPab 23 11 29.8 +0.3**
comp=Z,4.1nm,0.6s,baz=191,slow=4.9,SNR=6.3
KIC Kosan Boka 154.72 272 *e*PKP1 **PKPbc 23 11 25.1 -0.8**
comp=Z,5.3nm,0.8s
DBIC Dimbokro 154.84 273 PKPbc **PKPbc 23 11 25.0 -1.1**
comp=Z,2.5nm,0.7s,baz=164,slow=7.4,SNR=3.6

IDC ***05*** *23:01:23.0±3.6, 40°.92S×176°.32E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/30, mbtmp3.4/4, ML3.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/16, Error ellipse: s-maj=85.7km s-min=31.0km az=132.0*
WEL ***05*** *23:01:31.0±0.2, 41°S±2°×17°6E±°, h22km±2km, M3.7/24, ML4.0/24, MLv3.7/24, Error ellipse: s-maj=0.0km s-min=0.0km az=128.7*
ISC 05 23:01:30.3±0.8, 40°.70S±0°.02×175°.96E±0°.03, h32km±4km, n115, σ1.831/132, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIWZ	**Tintock**	**0.10**	**214**	P	**Pn**	**23 01 37.1**	**+1.0**
TIWZ				S	**Sb**	**23 01 41.4**	**+1.4**
PRWZ	**Pori Road**	**0.14**	**4**	P	**Pn**	**23 01 36.8**	**+0.5**
PRWZ				S	**Sb**	**23 01 41.2**	**+0.8**
BFZ	**Birch Farm**	**0.22**	**86**	P	**Pn**	**23 01 38.7**	**+1.3**
BFZ				S	**Sb**	**23 01 44.5**	**+2.8**
CPWZ	**Castlepoint**	**0.28**	**139**	P	**Pn**	**23 01 40.7**	**+2.5**
CPWZ				S	Sb	23 01 49.2	+6.3
MRZ	**Mangatainoka R**	**0.29**	**277**	P	**Pb**	**23 01 37.9**	**0.0**
MRZ				S	**Sb**	**23 01 42.7**	**-0.3**
POWZ	**Post Office Ro**	**0.34**	**335**	P	**Pb**	**23 01 38.3**	**-0.2**
POWZ				S	**Sb**	**23 01 43.4**	**-0.7**
HOWZ	**Holdsworth Sta**	**0.39**	**239**	P	**Pn**	**23 01 40.2**	**+0.4**
HOWZ				S	**Sb**	**23 01 46.4**	**+1.0**
TMWZ	**Te Maipa**	**0.41**	**187**	P	**Pn**	**23 01 41.9**	**+1.8**
TMWZ				S	**Sn**	**23 01 50.2**	**+3.5**
DVHZ	**Dannevirke**	**0.43**	**22**	P	**Pn**	**23 01 40.2**	**0.0**
DVHZ				S	**Sn**	**23 01 47.1**	**+0.1**
ANWZ	**Angora Road**	**0.46**	**59**	P	**Pn**	**23 01 42.0**	**+1.3**
ANWZ				S	**Sn**	**23 01 50.3**	**+2.6**
MTW	**Mount Morrison**	**0.58**	**217**	P	**Pn**	**23 01 43.6**	**+1.3**
OGWZ	**Otaki Gorge**	**0.61**	**258**	P	**Pb**	**23 01 43.2**	**+0.6**
OGWZ				S	**Sb**	**23 01 51.1**	**+0.1**
TSZ	**Takapari Road**	**0.64**	**0**	P	**Pb**	**23 01 43.1**	**0.0**
TSZ				S	**Sb**	**23 01 51.7**	**-0.1**
PRHZ	**Porangahau**	**0.67**	**51**	P	**Pn**	**23 01 44.8**	**+1.2**
PRHZ				S	**Sn**	**23 01 55.6**	**+2.6**
OHWZ	**Ohakea**	**0.69**	**315**	P	**Pb**	**23 01 44.6**	**+0.6**
TRWZ	**Traveller**	**0.73**	**196**	P	**Pn**	**23 01 46.0**	**+1.5**
WPHZ	**Waipukurau**	**0.73**	**31**	P	**Pn**	**23 01 45.7**	**+1.3**
WPHZ				S	**Sn**	**23 01 56.7**	**+2.2**
CAW	**Cannon Point**	**0.79**	**238**	P	**Pb**	**23 01 46.4**	**+0.7**
CAW				S	**Sn**	**23 01 57.6**	**+1.6**
PNHZ	**Pukenui**	**0.80**	**13**	P	**Pb**	**23 01 46.2**	**+0.3**
PNHZ				S	**Sn**	**23 01 57.7**	**+1.4**
KIW	**Kapiti Island**	**0.81**	**258**	P	**Pb**	**23 01 46.6**	**+0.6**
KIW				S	**Sb**	**23 01 57.7**	**+1.0**
MSWZ	**Moikau Station**	**0.90**	**216**	P	**Pb**	**23 01 47.7**	**+0.2**
PXZ	**Pawanui**	**0.96**	**46**	P	**Pb**	**23 01 48.5**	**+0.1**
PLWZ	**Palliser**	**1.02**	**211**	P	**Pb**	**23 01 49.3**	**-0.2**
PLWZ				S	**Sb**	**23 02 03.3**	**+0.6**
BHW	**Baring Head**	**1.09**	**229**	P	**Pb**	**23 01 50.1**	**-0.5**
KRHZ	**Kereru**	**1.10**	**17**	P	**Pb**	**23 01 50.4**	**-0.4**
KAHZ	**Kahuranaki**	**1.14**	**38**	P	**Pb**	**23 01 51.2**	**-0.4**
WAZ	**Wanganui**	**1.20**	**321**	P	**Pb**	**23 01 53.0**	**+0.5**
BHHZ	**Black Hill Sta**	**1.21**	**4**	P	**Pn**	**23 01 52.1**	**+1.1**
MOVZ	**Moawhango**	**1.30**	**353**	P	**Pn**	**23 01 53.4**	**+1.1**
KWHZ	**Kaweka Forest**	**1.32**	**16**	P	**Pn**	**23 01 53.6**	**+1.0**
CKHZ	**Cape Kidnapper**	**1.35**	**40**	P	**Pb**	**23 01 53.3**	**-1.7**
MTVZ	**Mangateitei**	**1.36**	**344**	P	**Pn**	**23 01 55.1**	**+2.0**
MCHZ	**McNeill Hill**	**1.37**	**25**	P	**Pb**	**23 01 54.3**	**-1.1**
TCW	**Tory Channel**	**1.37**	**247**	P	**Pn**	**23 01 54.0**	**+0.8**
WNVZ	**Wahianoa**	**1.40**	**348**	P	**Pn**	**23 01 55.2**	**+1.5**
TUVZ	**Tukino**	**1.45**	**351**	P	**Pn**	**23 01 56.2**	**+1.8**
DRZ	**Dome Shelter**	**1.45**	**348**	P	**Pb**	**23 01 56.6**	**-0.3**
FWVZ	**Far West T-bar**	**1.47**	**348**	P	**Pn**	**23 01 56.5**	**+1.7**
PKVZ	**Pokaka**	**1.48**	**341**	P	**Pn**	**23 01 56.6**	**+1.8**
NGZ	**Ngauruhoe**	**1.54**	**350**	P	**Pn**	**23 01 57.7**	**+1.9**
OTVZ	**Ōturere**	**1.55**	**352**	P	**Pn**	**23 01 57.4**	**+1.6**
DUWZ	**D'Urville Isla**	**1.55**	**265**	P	**Pn**	**23 01 56.7**	**+1.0**
ETVZ	**East Tongariro**	**1.57**	**353**	P	**Pn**	**23 01 57.9**	**+1.8**
BKZ	**Black Stump Fm**	**1.58**	**15**	P	**Pn**	**23 01 56.9**	**+0.7**
TMVZ	**Te Maari**	**1.59**	**353**	P	**Pn**	**23 01 57.9**	**+1.5**
WTVZ	**West Tongariro**	**1.60**	**350**	P	**Pn**	**23 01 58.5**	**+2.0**
ARHZ	**Aropaoanui**	**1.64**	**29**	P	**Pn**	**23 01 57.7**	**+0.8**
TWVZ	**Taurewa**	**1.67**	**346**	P	**Pn**	**23 01 59.0**	**+1.5**
CMWZ	**Cape Campbell**	**1.68**	**231**	P	Pb	23 02 05.4	+4.7
TUWZ	**Tuamarina**	**1.69**	**244**	P	**Pn**	**23 01 58.3**	**+0.7**
LREZ	**Lake Rotokare**	**1.72**	**315**	P	**Pb**	**23 02 01.0**	**-0.2**
RITZ	**Rihia Road**	**1.72**	**357**	P	**Pn**	**23 01 59.7**	**+1.7**
NMHZ	**Naumai**	**1.73**	**23**	P	**Pn**	**23 01 59.1**	**+0.9**
KATZ	**Kakaramea**	**1.73**	**353**	P	**Pn**	**23 02 00.0**	**+1.7**
HATZ	**Hinemaiaia**	**1.81**	**3**	P	**Pn**	**23 02 00.2**	**+1.0**
VRZ	**Vera Road**	**1.82**	**329**	P	**Pn**	**23 02 01.6**	**+2.2**
RATZ	**Rangitukua**	**1.83**	**355**	P	**Pn**	**23 02 01.0**	**+1.3**
BSWZ	**Blackbirch Sta**	**1.87**	**236**	P	**Pn**	**23 02 00.5**	**+0.4**
WHHZ	**Waihua**	**1.89**	**32**	P	**Pn**	**23 02 01.0**	**+0.6**
MRHZ	**Matea Rd**	**1.89**	**11**	P	**Pn**	**23 02 01.2**	**+0.7**
PREZ	**Palmer Road**	**1.93**	**314**	P	**Pb**	**23 02 04.5**	**-0.4**
MTHZ	**Maungataniwha**	**1.96**	**21**	P	**Pn**	**23 02 01.6**	**+0.2**
RAHZ	**Arahi**	**1.98**	**26**	P	**Pn**	**23 02 02.0**	**+0.4**
WATZ	**Wairara**	**1.99**	**355**	P	**Pn**	**23 02 02.8**	**+1.0**
NEZ	**North Egmont**	**2.02**	**314**	P	**Pn**	**23 02 05.3**	**+3.1**
NNZ	**Nelson**	**2.02**	**254**	P	**Pn**	**23 02 03.3**	**+1.2**
KHEZ	**Kahui Hut**	**2.05**	**313**	P	**Pn**	**23 02 05.1**	**+2.5**
NMRZ	**Namu Road**	**2.05**	**308**	P	**Pn**	**23 02 06.3**	**-0.6**
KNZ	**Kokohu**	**2.13**	**39**	P	**Pn**	**23 02 03.3**	**-0.3**
PKE	**Pukeiti**	**2.13**	**314**	P	**Pn**	**23 02 07.0**	**+3.3**
NBEZ	**Newall Road No**	**2.15**	**311**	P	**Pb**	**23 02 07.6**	**-1.0**
MHGZ	**Mahia Peninsul**	**2.15**	**45**	P	**Pn**	**23 02 03.9**	**0.0**
ALRZ	**Allen Road**	**2.15**	**8**	P	**Pn**	**23 02 04.2**	**+0.3**
SNGZ	**Shannon Statio**	**2.19**	**30**	P	**Pn**	**23 02 04.7**	**+0.2**
RTZ	**Ruatahuna**	**2.22**	**21**	P	**Pn**	**23 02 03.1**	**-1.9**
MUGZ	**Murupara**	**2.30**	**16**	P	**Pn**	**23 02 05.9**	**-0.1**
PRGZ	**Paritu Road**	**2.31**	**41**	P	**Pn**	**23 02 05.9**	**-0.3**
HRRZ	**Handcock Road**	**2.32**	**6**	P	**Pn**	**23 02 07.0**	**+0.7**
HIZ	**Hauiti**	**2.34**	**338**	P	**Pn**	**23 02 09.1**	**+2.6**
TLZ	**Tolley Road**	**2.38**	**352**	P	**Pn**	**23 02 08.7**	**+1.5**
RIGZ	**Rimuhau**	**2.43**	**36**	P	**Pn**	**23 02 07.7**	**-0.1**
TARZ	**Mount Tarawera**	**2.49**	**10**	P	**Pn**	**23 02 09.1**	**+0.3**
KHZ	**Kahutara**	**2.50**	**226**	P	**Pn**	**23 02 08.2**	**-0.5**
THZ	**Tophouse**	**2.54**	**244**	P	**Pn**	**23 02 09.7**	**+0.4**
URZ	**Urewera**	**2.59**	**21**	Pn	**Pn**	**23 02 09.2**	**-0.7**
	3.9nm,0.3s,baz=244,slow=4.4,SNR=14						
URZ				Sn	**Sn**	**23 02 38.8**	**-1.6**
	8.6nm,0.3s,baz=50,slow=9.9,SNR=10						
URZ	**Urewera**	**2.59**	**21**	P	**Pn**	**23 02 09.3**	**-0.7**
QRZ	**Quartz Range**	**2.61**	**266**	P	**Pn**	**23 02 10.7**	**+0.5**
MWZ	**Matawai**	**2.65**	**28**	P	**Pn**	**23 02 10.2**	**-0.7**
CNGZ	**Carnagh Statio**	**2.81**	**39**	P	**Pn**	**23 02 12.8**	**-0.2**
TOZ	**Tahuroa Road**	**2.98**	**353**	P	**Pb**	**23 02 23.1**	**+0.3**
RUGZ	**Raukumara Rang**	**3.04**	**27**	P	**Pn**	**23 02 15.6**	**-0.6**
GVZ	**Greta Valley S**	**3.15**	**223**	P	**Pn**	**23 02 16.9**	**-0.8**
PUZ	**Puketiti**	**3.17**	**35**	P	**Pn**	**23 02 16.9**	**-1.1**
HAZ	**Te Kaha**	**3.26**	**26**	P	**Pn**	**23 02 17.5**	**-1.7**
DSZ	**Denniston Nort**	**3.30**	**250**	P	**Pn**	**23 02 20.3**	**+0.5**
WMGZ	**Waiomatatini S**	**3.45**	**34**	P	**Pn**	**23 02 21.1**	**-0.7**
LTZ	**Lake Taylor**	**3.46**	**232**	P	**Pn**	**23 02 21.7**	**-0.2**
MXZ	**Matakaoa Point**	**3.62**	**31**	P	**Pn**	**23 02 23.8**	**-0.3**
OKCZ	**Okains Bay**	**3.71**	**214**	P	**Pn**	**23 02 24.7**	**-0.7**
MQZ	**McQueen's Vall**	**3.88**	**218**	P	**Pn**	**23 02 26.6**	**-1.1**
AKCZ	**Akaroa Harbour**	**3.90**	**214**	P	**Pn**	**23 02 28.4**	**+0.5**
OXZ	**Oxford**	**3.93**	**227**	P	**Pn**	**23 02 27.8**	**-0.6**
INZ	**Inchbonnie**	**3.94**	**238**	P	**Pn**	**23 02 28.2**	**-0.3**
WACZ	**Wakanui South**	**4.46**	**222**	P	**Pn**	**23 02 36.0**	**+0.4**
RPZ	**Rata Peaks**	**4.73**	**229**	Pn	**Pn**	**23 02 38.3**	**-1.1**
	0.4nm,0.3s,baz=41,slow=20,SNR=2.0						
RPZ				Sn	**Sn**	**23 03 28.9**	**-4.1**
	2.8nm,0.3s,baz=330,slow=22,SNR=15						
ARCZ	**Arundel**	**4.81**	**226**	P	**Pn**	**23 02 40.5**	**0.0**
GCSZ	**Gaunt Creek Bo**	**4.94**	**236**	P	**Pn**	**23 02 44.5**	**+2.2**
LBZ	**Lake Benmore**	**5.64**	**227**	P	**Pn**	**23 02 51.2**	**-0.6**
ODZ	**Otahua Downs**	**5.84**	**220**	P	**Pn**	**23 02 53.5**	**-1.1**
JCZ	**Jackson Bay**	**6.29**	**235**	P	**Pn**	**23 03 02.5**	**+1.6**
CTZ	**Chatham Island**	**6.29**	**121**	P	**Pn**	**23 03 02.0**	**+1.2**
RAR	**Rarotonga**	**28.31**	**54**	LR	LR	23 16 59.2	
	comp=Z,42nm,19.1s,baz=68,slow=33						
ASAR	**Alice Springs**	**39.02**	**283**	P	**P**	**23 08 53.8**	**-0.3**
	0.2nm,0.3s,baz=126,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**40.98**	**288**	P	**P**	**23 09 10.0**	**-0.3**
	0.2nm,0.4s,baz=126,slow=8.1,SNR=6.1						
ARCES	**ARCESS Array B**	**147.21**	**341**	PKPbc	**PKPdf**	**23 21 06.4**	**-0.4**
	2.2nm,0.9s,baz=31,slow=2.1,SNR=3.7						

SOME ***05*** *23:10:13.7, 37°.72N×72°.70E, h10km*
IDC ***05*** *23:10:16.9±2.3, 36°.35N×71°.17E, h226km±23km, mb3.3/12, mb1 3.5/19, mb1mx3.2/51, mbtmp4.0/19, Error ellipse: s-maj=14.8km s-min=12.9km az=30.0*
BJI ***05*** *23:10:17.6±0.0, 36°.65N×71°.19E, h220km, mB4.5/10, mb4.4/12*
NEIC ***05*** *23:10:17.5±2.3, 36°.49N±0°.06×71°.2E±0°.1, h237km±7km, mb4.0/31, Error ellipse: s-maj=12.0km s-min=8.7km az=94.0*
NNC ***05*** *23:10:21.4±3.7, 36°.85N×71°.15E, h224km±40km, mb3.4, mpv4.7, Error ellipse: s-maj=34.8km s-min=20.4km az=6.0*
ISC 05 23:10:18.2±0.4, 36°.52N±0°.04×71°.26E±0°.05, h250km, n131, σ2.831/149, mb3.9/25, 7C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.59**	**343**	Pn	**Pn**	**23 11 04.5**	**-1.8**
GAR				S	**S**	**23 11 38.6**	**-5.9**
KBL	**Kabul**	**2.68**	**223**	Pn	**Pn**	**23 11 04.8**	**-2.7**
KBL				S	**S**	**23 11 40.0**	**-6.5**
CHGR	**Chuyangaron**	**2.71**	**323**			**23 11 05.5**	**-2.1**
CHGR				S	**S**	**23 11 39.9**	**-6.8**
CEP	**Cherat**	**2.74**	**169**	P	**Pn**	**23 11 06.2**	**-1.9**
CEP				S	**S**	**23 11 43.0**	**-4.6**
NIL	**Nilore**	**3.30**	**150**	Pn	**Pn**	**23 11 12.8**	**-1.2**
BTK	**Batken**	**3.55**	**354**	Pn	**Pn**	**23 11 16.6**	**-0.2**
THW	**Thamme Wali**	**3.74**	**174**	P	**Pn**	**23 11 17.0**	**-2.0**
SARP	**Sargodha**	**4.73**	**165**	P	**Pn**	**23 11 28.6**	**-2.2**
KSH	**Kashi**	**4.77**	**50**	P	Pn	23 11 25.3	-6.0
KSH				S	S	23 12 16.1	-13
KSH				smax	smax		
	comp=N,400nm,0.4s						
KSH				smax	smax		
	comp=E,280nm,0.7s						
TAS	**Tashkent**	**5.04**	**343**	Pn	**Pn**	**23 11 33.9**	**-0.4**
TAS				S	**S**	**23 12 30.8**	**-4.3**
THN	**Thein Dam**	**5.49**	**137**	*e*PG	**Pn**	**23 11 39.5**	**-0.5**
THN				*e*SG	**S**	**23 12 41.5**	**-3.8**
IUG	**Iuzhnay**	**5.70**	**351**	*e*P	**Pn**	**23 11 42.0**	**-0.5**
	83nm,0.2s						
IUG				*e*S	**S**	**23 12 45.6**	**-4.5**
	753nm,0.4s						
AML	**Almayashu**	**5.91**	**18**	P	**Pn**	**23 11 44.8**	**-0.7**
	SNR=812						
CHM	**Chimkent**	**5.93**	**348**	*e*P	Pn	23 11 50.3	+4.9
	5.8nm,0.4s						
CHM				*e*S	**S**	**23 12 59.9**	**+4.8**
	903nm,0.4s						
DHRM	**DHARAMSHALA**	**5.96**	**134**	*e*PG	**Pn**	**23 11 44.7**	**-1.4**
DHRM				*e*S	**S**	**23 12 51.4**	**-4.8**
DHRM				IAML		23 12 52.3	
	comp=E,271nm,0.3s						
DHRM				IAML		23 12 53.0	
	comp=N,298nm,0.2s						
KZA	**Kyzart**	**6.35**	**28**	P	**Pn**	**23 11 50.0**	**-1.0**
	SNR=42						
DZA	**Taraz**	**6.36**	**0**	*e*P	**Pn**	**23 11 50.5**	**-0.3**
	comp=N,162nm,0.2s						
DZA				*e*S	**S**	**23 12 59.9**	**-5.0**
	comp=N,723nm,0.4s						
MRKS	**Merke**	**6.40**	**13**	*e*P	**Pn**	**23 11 50.8**	**-0.5**
	comp=N,138nm,0.4s						
MRKS				*e*S	**S**	**23 13 00.7**	**-5.2**
	comp=N,261nm,0.4s						
EKS2	**Erkin-Say**	**6.43**	**17**	P	**Pn**	**23 11 51.4**	**-0.4**
	SNR=67						
AAK	**Ala-Archa**	**6.60**	**21**	P	**Pn**	**23 11 53.9**	**0.0**
	comp=N,34nm,0.3s,baz=167,slow=6.3,SNR=132						
AAK				S	**S**	**23 13 07.3**	**-3.2**
	comp=N,2.8nm,0.3s,baz=142,slow=21,SNR=12						
AAK	**Ala-Archa**	**6.60**	**21**	P	**Pn**	**23 11 53.8**	**0.0**
	SNR=90						
AAK	**Ala-Archa**	**6.60**	**21**	⇑P	**Pn**	**23 11 53.6**	**-0.2**
	comp=N,33nm,0.3s						
AAK				⇓S	**S**	**23 13 07.4**	**-3.2**
	comp=N,52nm,0.6s						
KK31	**Karatay Array**	**6.60**	**355**	⇑P	**Pn**	**23 11 53.2**	**-0.5**
	comp=N,3.4nm,0.2s,baz=169,slow=12,SNR=

comp=E,1.6nm,0.5s,baz=228,slow=14,SNR=37
MK31 Makanchi Array 13.15 35 Pn **Pn 23 13 16.1 +0.3**
MKAR Makanchi Array 13.15 35 P **Pn 23 13 15.8 0.0**
comp=E,0.6nm,0.3s,baz=214,slow=14,SNR=28
MKAR Makanchi Array 13.15 35 Pn 23 13 15.4 -0.4
KOLN Koldanda 13.61 126 *eP* **Pn 23 13 21.1 -0.7**
comp=E,22nm,0.3s
KOLN Koldanda 13.61 126 *eP* **Pn 23 13 21.1 -0.7**
comp=E,22nm,0.3s
GKN Gorkha 14.14 123 *eP* **Pn 23 13 27.9 -0.3**
GKN Gorkha 14.14 123 *eP* **Pn 23 13 27.9 -0.3**
BHPL Bhopal 14.27 156 *eP*G **P 23 13 32.1 +2.1**
BHPL *ex* x 23 16 01.4
WMQ Urumqi 14.51 55 *eP* **Pn 23 13 31.5 -1.0**
WMQ Urumqi 14.51 55 Pn **Pn 23 13 31.7 -0.7**
DMN Daman 14.71 123 *eP* **P 23 13 34.9 -0.2**
comp=E,43nm,0.5s
DMN Daman 14.71 123 *eP* **P 23 13 34.9 -0.2**
comp=E,43nm,0.5s
KKN Kakani 14.71 122 *eP* **Pn 23 13 34.9 -0.2**
comp=E,73nm,0.5s
KKN Kakani 14.71 122 *eP* **Pn 23 13 34.9 -0.2**
comp=E,73nm,0.5s
PKI Pulchoki 14.94 123 *eP* **P 23 13 37.5 -0.2**
PKI Pulchoki 14.94 123 *eP* **P 23 13 37.5 -0.2**
KURBB Kurchatov Arra 15.04 18 P **Pn 23 13 38.7 +0.1**
comp=E,0.1nm,0.3s,baz=205,slow=11,SNR=9.3
AB31 Akbulak array 15.17 331 ⇑P **Pn 23 13 39.8 -0.3**
comp=E,1.1nm,0.3s
ABKAR Akbulak array 15.17 331 P 23 13 39.4 -0.2
JIRN Jiri 15.42 121 *eP* **Pn 23 13 44.0 +0.2**
JIRN Jiri 15.42 121 *eP* **Pn 23 13 44.0 +0.2**
RAMN Ramite 16.15 122 *eP* **Pn 23 13 52.3 0.0**
comp=E,21nm,0.3s
RAMN Ramite 16.15 122 *eP* **Pn 23 13 52.3 0.0**
comp=E,21nm,0.3s
BVAR Borovoye Array 16.52 358 P **Pn 23 13 56.8 +0.7**
comp=E,1.8nm,0.3s,baz=177,slow=12,SNR=17
BVAR S **S 23 16 56.2 +2.2**
baz=176,slow=22,SNR=3.0
BRVK Borovoye 16.55 358 ⇑P **Pn 23 13 58.8 +2.3**
comp=E,2.3nm,0.4s
BRVK Borovoye 16.55 358 P **Pn 23 13 56.8 +0.3**
BRVK IAmb IAmb 23 14 00.2
comp=Z,4.7nm,0.6s
TAPN Taplejung 16.67 119 *eP* **Pn 23 13 59.7 +1.2**
comp=Z,44nm,0.5s
TAPN Taplejung 16.67 119 *eP* **Pn 23 13 59.7 +1.2**
comp=Z,44nm,0.5s
ODAN Odare 16.75 121 *eP* **Pn 23 13 59.9 +0.6**
comp=Z,42nm,0.7s
ODAN Odare 16.75 121 *eP* **Pn 23 13 59.9 +0.6**
comp=Z,42nm,0.7s
AKTO Aktyubinsk 16.87 330 P **Pn 23 14 00.3 +0.1**
comp=Z,3.9nm,0.3s,baz=138,slow=9.1,SNR=33
AKTO Aktyubinsk 16.87 330 ⇓P **Pn 23 13 59.8 -0.5**
comp=Z,24nm,0.7s
WSAR Wadi Sarin 17.16 223 P **P 23 14 01.8 +0.1**
comp=Z,0.8nm,0.3s,baz=90,slow=4.9,SNR=11
UOSS Minazif 17.32 232 P **P 23 14 02.9 -0.5**
LSA Lhasa 17.98 107 P **Pn 23 14 13.2 -0.8**
LSA IAmb IAmb 23 14 16.5
comp=Z,5.7nm,0.7s
ZAA0 Zalesovo Array 19.81 24 P **Pn 23 14 32.4 -2.3**
ZAA0 IAmb IAmb 23 14 47.2
comp=Z,2.8nm,0.6s
ZALV Zalesovo Beam 19.81 24 P **Pn 23 14 33.4 -1.2**
comp=Z,1.1nm,0.3s,baz=216,slow=10,SNR=9.0
ZALV Zalesovo Beam 19.81 24 P **Pn 23 14 32.5 -2.2**
SHL Shillong 20.73 116 P **P 23 14 42.1 +2.0**
ARU Arti 21.68 341 P **P 23 14 51.0 +2.1**
comp=Z,0.8nm,0.5s,baz=137,slow=12,SNR=5.0
ARU Arti 21.68 341 P **P 23 14 50.1 +1.2**
ARU IAmb IAmb 23 14 55.1
comp=Z,2.8nm,0.7s
GTA Gaotai 22.66 74 *eP* **P 23 15 02.9 +4.7**
GTA pP pP 23 15 45.2 +2.8
GTA sP sP 23 16 12.4 -2.4
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,72nm,4.8s
GTA LR LR
comp=Z,61nm,16.5s
GTA LR LR
comp=Z,60nm,16.5s
GTA LR LR
comp=Z,56nm,16.2s
SOCY Socotra 28.79 217 P **P 23 15 52.2 -1.1**
CMAR Chiang Mai Arr 30.28 119 P **P 23 16 07.0 +0.6**
comp=Z,0.6nm,0.5s,baz=303,slow=12,SNR=2.1
HHC Hu-ho-hao-te 31.56 70 *eP* **P 23 16 21.3 +3.9**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,94nm,5.7s
AKASG Malin Array Be 33.10 309 P **P 23 16 31.3 +0.8**
comp=Z,1.1nm,0.6s,baz=82,slow=6.9,SNR=5.3
BURAR Bucovina Array 35.45 303 P **P 23 16 52.2 +1.3**
FIA1 FINESS Array S 37.58 326 P **P 23 17 10.2 +1.8**
FIA1 IAmb IAmb 23 17 16.1
comp=Z,3.4nm,0.9s
FINES FINESS Array B 37.58 326 P **P 23 17 10.5 +2.0**
comp=Z,0.9nm,0.4s,baz=115,slow=9.6,SNR=16
FINES FINESS Array B 37.58 326 P **P 23 17 10.1 +1.7**
MORC Moravsky Berou 40.52 306 P **P 23 17 32.3 -0.6**
KEV Kevo 40.86 338 P **P 23 17 36.3 +0.9**
KEV IAmb IAmb 23 17 51.2
comp=Z,11nm,1.1s
ARCES ARCESS Array B 41.21 338 P **P 23 17 40.5 +2.3**
comp=Z,1.4nm,0.6s,baz=117,slow=8.9,SNR=6.8
ARE0 ARCESS Array S 41.21 338 P **P 23 17 40.2 +2.0**
TIP Timpagrande 42.58 291 P **P 23 17 48.8 -1.0**
SGRT San Giovanni R 42.75 295 P **P 23 17 50.6 -0.5**
NC405 NORSAR Array S 44.26 323 P **P 23 18 02.5 -0.2**
NC602 NORSAR Array S 44.30 323 P **P 23 18 03.6 +0.5**
NC602 IAmb IAmb 23 18 09.4
comp=Z,7.0nm,1.1s
NC303 NORSAR Array S 44.43 323 P **P 23 18 05.7 +1.6**
NC303 IAmb IAmb 23 18 09.0
comp=Z,4.3nm,0.9s
NB201 NORSAR Array S 44.45 323 P **P 23 18 05.5 +1.2**
NB201 IAmb IAmb 23 18 15.3
comp=Z,6.9nm,1.1s
NB2 NORSAR Subarra 44.49 323 P **P 23 18 05.7 +1.1**
comp=Z,0.6nm,0.5s,baz=95,slow=7.9
NOA NORSAR Array B 44.49 323 P **P 23 18 06.0 +1.4**
comp=Z,0.6nm,0.5s,baz=96,slow=7.7,SNR=7.4
NBO00 NORSAR Array S 44.70 323 P **P 23 18 07.0 +0.7**
NC204 NORSAR Array S 44.73 323 P **P 23 18 07.9 +1.4**
NC204 IAmb IAmb 23 18 13.6
comp=Z,6.2nm,1.1s
FUORN Ofenpass-Fuorn 45.69 303 P **P 23 18 16.2 +1.6**
SALO Salr 45.70 301 P **P 23 18 13.9 -0.4**
KMBO Kilima Mbogo 49.00 228 P **P 23 18 41.8 +1.5**
comp=Z,0.7nm,0.4s,baz=36,slow=7.9,SNR=3.8
KMBO Kilima Mbogo 49.00 228 P **P 23 18 40.4 +0.1**
ESDC Sonseca Array 57.63 298 P **P 23 19 43.5 +1.1**
comp=Z,0.6nm,0.7s,baz=67,slow=7.4,SNR=6.4
LSZ Lusaka 65.62 226 P **P 23 20 36.3 +0.4**
LSZ IAmb IAmb 23 20 37.8
comp=Z,1.8nm,0.6s
TOA0 Torodi Ar. Sit 65.93 269 P **P 23 20 37.2 -0.6**
TOA0 IAmb IAmb 23 20 37.9
comp=Z,1.8nm,0.7s
TORD Torodi Ar. Bea 65.93 269 P **P 23 20 37.1 -0.7**
comp=Z,1.9nm,0.6s,baz=48,slow=5.9,SNR=11
TORD Torodi Ar. Bea 65.93 269 IAmb IAmb 23 20 38.8
comp=Z,1.4nm,0.7s
LBTB Lobatse 74.83 222 P **P 23 21 32.4 +0.9**
LBTB IAmb IAmb 23 21 35.6
comp=Z,3.1nm,1.0s
BOSA Boshof 77.90 220 P **P 23 21 49.3 +0.7**
comp=Z,2.6nm,0.9s,baz=11,slow=5.2,SNR=2.4
BOSA Boshof 77.90 220 P **P 23 21 47.1 -1.4**
CNBA Chernabura Isl 79.11 27 P **P 23 21 56.1 +1.4**
WB0 Warramunga Arr 81.74 122 P **P 23 22 10.1 +0.9**
WB0 IAmb IAmb 23 22 20.8
comp=Z,2.7nm,1.1s
WRA Warramunga Arr 81.82 122 P **P 23 22 10.4 +0.8**
comp=Z,0.7nm,0.5s,baz=324,slow=4.9,SNR=12
WRA Warramunga Arr 81.82 122 IAmb IAmb 23 22 11.6
comp=Z,0.1nm,1.0s
WB2 Warramunga Arr 81.83 122 P **P 23 22 10.4 +0.8**
WB2 IAmb IAmb 23 22 29.1
comp=Z,3.0nm,1.1s

ASAR Alice Springs 84.09 125 P **P 23 22 22.1 +1.0**
comp=Z,1.2nm,0.6s,baz=309,slow=4.9,SNR=19
FORT Forrest 85.53 134 P **P 23 22 29.7 +1.7**

UCR ***05*** *23:20:08.6±1.4, 13°.55N×91°.93W, h86km±34km, ML4.0, mb4.4(NEIC)*
SNET ***05*** *23:20:08.2±1.4, 13°.52N×91°.95W, h83km±37km, ML4.2*
NEIC ***05*** *23:20:09.7±1.9, 13°.50N±0°.07×91°.97W±0°.07, h52km±9km, mb4.4/122, Error ellipse: s-maj=11.7km s-min=8.6km az=52.0*
IDC ***05*** *23:20:10.9±5.2, 13°.67N×91°.81W, h35km±41km, mb3.8/9, mb1 4.1/12, mb1mx3.8/40, mbtmp4.0/12, ML4.0/4, MS3.9/20, Ms1 3.9/20, ms1mx3.7/39, Error ellipse: s-maj=37.2km s-min=13.1km az=50.0*
ISC 05 23:20:08.8±0.6, 13°.51N±0°.05×91°.98W±0°.06, h37km, n208, σ1°.31/186, mb4.4/52, MS3.9/18, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.05**	**15**	*eS*	**Sn**	**23 20 43.6**	**+3.3**
RTAL	**Retalhuleu**	**1.05**	**15**		**Pn**	**23 20 26.3**	**-0.7**
IXG	**Ixpaco**	**1.63**	**66**	⇓*iP*	**Pn**	**23 20 34.6**	**-0.6**
IXG	**Ixpaco**	**1.63**	**66**	⇓*iP*	**Pn**	**23 20 34.6**	**-0.6**
HUEH	**Huehuetenango**	**1.86**	**14**	*eP*	**Pn**	**23 20 38.5**	**+0.2**
HUEH	**Huehuetenango**	**1.86**	**14**		**Pn**	**23 20 38.7**	**+0.4**
APG	**El Apazote**	**2.09**	**45**	Pn	**Pn**	**23 20 42.5**	**+1.0**
	212nm,0.3s,baz=202,slow=5.5,SNR=531						
APG				Sn	**Sn**	**23 21 08.6**	**+2.2**
	63nm,0.3s,baz=235,slow=13,SNR=6.1						
RTR	**El Retiro**	**2.30**	**80**	*eP*	**Pn**	**23 20 44.3**	**-0.1**
RTR	**El Retiro**	**2.30**	**80**	*eP*	**Pn**	**23 20 44.3**	**-0.1**
CEVE	**Cerro Verde**	**2.31**	**82**	*eP*	**Pn**	**23 20 44.9**	**+0.4**
CEVE				*eS*	**Sn**	**23 21 13.1**	**+1.3**
CEVE				IAML		23 21 26.5	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**2.31**	**82**	*eP*	**Pn**	**23 20 44.9**	**+0.4**
CEVE				*eS*	**Sn**	**23 21 13.1**	**+1.3**
CEVE				IAML		23 21 26.5	
	comp=Z,2μm,0.4s						
SBLS	**San Blas**	**2.31**	**82**	*eP*	**Pn**	**23 20 44.7**	**+0.1**
SBLS	**San Blas**	**2.31**	**82**	*eP*	**Pn**	**23 20 44.7**	**+0.1**
SNJE	**San Jose**	**2.33**	**81**	*eP*	**Pn**	**23 20 45.0**	**+0.1**
SNJE	**San Jose**	**2.33**	**81**	*eP*	**Pn**	**23 20 45.0**	**+0.1**
CEDA	**San Andres**	**2.53**	**83**	IAML		23 21 29.2	
	comp=Z,723nm,0.2s						
CEDA	**San Andres**	**2.53**	**83**	IAML		23 21 29.2	
	comp=Z,723nm,0.2s						
TACO	**Tacachico**	**2.59**	**80**	*eP*	**Pn**	**23 20 48.5**	**+0.3**
TACO				*eS*	**Sn**	**23 21 19.6**	**+1.2**
TACO	**Tacachico**	**2.59**	**80**	*eP*	**Pn**	**23 20 48.5**	**+0.3**
TACO				*eS*	**Sn**	**23 21 19.6**	**+1.2**
BOQS	**Boqueron**	**2.63**	**85**	*eP*	**Pn**	**23 20 50.2**	**+1.3**
BOQS	**Boqueron**	**2.63**	**85**	*eP*	**Pn**	**23 20 50.2**	**+1.3**
QUEZ	**Alcaldia de Qu**	**2.65**	**83**	*eS*	**Sn**	**23 21 20.8**	**+0.8**
SNET	**Serv Nac Est T**	**2.68**	**86**		**Pn**	**23 20 50.0**	**+0.6**
MTO3	**Montecristo**	**2.69**	**71**		**Pn**	**23 20 50.1**	**+0.4**
CCIG	**Comitan**	**2.76**	**357**	Pn	**Pn**	**23 20 52.4**	**+1.8**
ESQI	**Esquipulas**	**2.77**	**68**	*eP*	**Pn**	**23 20 51.4**	**+0.8**
ESQI	**Esquipulas**	**2.77**	**68**	Pn	**Pn**	**23 20 51.5**	**+0.8**
LFRS	**El Faro**	**2.84**	**87**	*eP*	**Pn**	**23 20 52.4**	**+0.7**
LFRS	**El Faro**	**2.84**	**87**	*eP*	**Pn**	**23 20 52.4**	**+0.7**
PETF	**Flores**	**3.95**	**31**		**Pn**	**23 21 08.7**	**+1.8**
TGUH	**Tegucigalpa,Un**	**4.61**	**83**	*eP*	**Pn**	**23 21 14.4**	**-1.6**
TGUH	**Tegucigalpa,Un**	**4.61**	**83**		**Pn**	**23 21 16.5**	**+0.5**
CRIN	**San Cristobal**	**4.87**	**99**	Pn	**Pn**	**23 21 19.2**	**-0.4**
MATN	**Matagalpa**	**5.92**	**95**	Pn	**Pn**	**23 21 34.0**	**-0.1**
BOAB	**BOACO BROADBAN**	**6.24**	**99**		**Pn**	**23 21 38.0**	**-0.4**
ACON	**Acoyapa**	**6.81**	**102**	Pn	**Pn**	**23 21 44.8**	**-1.4**
TLIG	**Tlapa**	**7.52**	**303**	Pn	**Pn**	**23 21 56.6**	**+0.6**
TEIG	**Tepich**	**7.56**	**27**	Pn	**Pn**	**23 21 57.4**	**+0.9**
	comp=Z,22nm,0.3s,baz=233,slow=3.6,SNR=37						
TEIG				Sn	**Sn**	**23 23 18.0**	**-2.9**
	baz=262,slow=19,SNR=0.7						
TEIG				LR	LR	23 25 23.3	
	comp=Z,3μm,18.5s,baz=196,slow=42						
TEIG	**Tepich**	**7.56**	**27**	*eP*	**Pn**	**23 21 57.2**	**+0.7**
TEIG	**Tepich**	**7.56**	**27**	Pn	**Pn**	**23 21 57.6**	**+1.1**
JTS	**Las Juntas de**	**7.58**	**114**	Pn	**Pn**	**23 21 59.6**	**+2.7**
	comp=Z,1.3nm,0.3s,baz=357,slow=22,SNR=5.6						
JTS				Sn	**Sn**	**23 23 22.2**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=332,slow=23,SNR=1.3						
JTS				Lg	Lg	23 24 05.8	
	baz=343,slow=23,SNR=5.0						
JTS	**Las Juntas de**	**7.58**	**114**	Pn	**Pn**	**23 21 57.5**	**+0.6**
PAYG	**Puerto Ayora**	**14.19**	**173**	Pn	**Pn**	**23 23 26.6**	**-0.8**
MOTC	**Monteria, Cord**	**16.68**	**105**	*eP*	**Pn**	**23 23 53.5**	**-6.3**
HKT	**Hockley**	**16.75**	**348**	Pn	**Pn**	**23 24 00.0**	**-0.4**
DBBC	**Dabeiba**	**16.80**	**111**	*eP*	**P**	**23 24 06.9**	**+3.6**
CBOC	**Ciudad Bolivar**	**17.47**	**114**	*eP*	P	23 24 19.3	+8.5
HELC	**Santa Helena**	**17.76**	**113**	*eP*	**P**	**23 24 15.5**	**+1.3**
NATX	**Nacogdoches**	**18.33**	**353**		**Pn**	**23 24 20.7**	**+0.6**
NATX				IAmb	IAmb	23 24 23.2	
	comp=Z,19nm,1.1s						
GUY2C	**Guyana, Caldas**	**18.33**	**115**	*eP*	**Pn**	**23 24 23.1**	**+2.3**
JCT	**Junction City**	**18.37**	**338**		**P**	**23 24 19.8**	**-0.6**
PTBC	**PUERTO BERRIO,**	**18.59**	**110**	*eP*	**Pn**	**23 24 24.1**	**+0.7**
NORC	**Norcasia**	**18.62**	**113**	*eP*	**Pn**	**23 24 25.0**	**+1.2**
TOLC	**Tolima**	**18.68**	**117**	*eP*	**Pn**	**23 24 25.0**	**+0.2**
OTAV	**Otavalo**	**18.80**	**133**		**Pn**	**23 24 26.1**	**-0.3**
WHTX	**Lake Whitney,**	**19.07**	**346**	P	**Pn**	**23 24 28.6**	**-0.4**
WHTX				IAmb	IAmb	23 24 34.9	
	comp=Z,9.0nm,0.5s						
ORTC	**Ortega, Tolima**	**19.08**	**118**	*eP*	Pn	23 24 37.4	+8.0
250A	**Grady**	**19.11**	**15**	P	**P**	**23 24 28.6**	**+0.1**
250A				IAmb	IAmb	23 24 35.8	
	comp=Z,18nm,1.2s						
TXAR	**Lajitas Array**	**19.11**	**327**	P	**Pn**	**23 24 31.4**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=140,slow=11,SNR=14						
TXAR				LR	LR	23 32 26.7	
	comp=Z,42nm,20.3s,baz=0.0,slow=39						
TXAR	**Lajitas Array**	**19.11**	**327**	P	**Pn**	**23 24 29.8**	**+0.1**
TX31	**Lajitas Ar. Si**	**19.12**	**327**	P	**P**	**23 24 28.7**	**0.0**
TX32	**Lajitas Array**	**19.12**	**327**	P	**Pn**	**23 24 29.2**	**-0.5**
146A	**Union**	**19.23**	**8**	P	**P**	**23 24 29.8**	**0.0**
146A				IAmb	IAmb	23 24 36.6	
	comp=Z,29nm,1.2s						
ROSC	**El Rosal**	**19.43**	**115**	P	**Pn**	**23 24 35.6**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=2.4,slow=9.4,SNR=4.9						
ROSC	**El Rosal**	**19.43**	**115**	P	**P**	**23 24 32.2**	**-0.4**
ROSC				IAmb	IAmb	23 24 49.5	
	comp=Z,24nm,0.9s						
TIGA	**Tifton**	**19.44**	**22**	P	**P**	**23 24 32.4**	**+0.3**
TIGA				IAmb	IAmb	23 24 49.4	
	comp=Z,41nm,1.4s						
BETC	**Betania**	**19.57**	**122**	*eP*	Pn	23 24 42.7	+7.4
Z41A	**Richland Creek**	**19.67**	**358**	P	**P**	**23 24 34.7**	**0.0**
Z41A				IAmb	IAmb	23 24 39.0	
	comp=Z,14nm,0.6s						
BARC	**Barichara**	**19.73**	**109**	*eP*	**Pn**	**23 24 40.7**	**+3.3**
Z38A	**Mt. Pleasant**	**19.85**	**353**	P	**Pn**	**23 24 38.0**	**-0.3**
PAMC	**Pamplona, Colo**	**19.92**	**106**	*eP*	**P**	**23 24 36.8**	**-1.3**
Z47A	**Carrollton**	**19.92**	**10**	P	**P**	**23 24 37.8**	**+0.5**
LRAL	**Lakeview Retre**	**19.96**	**12**	Pn	**Pn**	**23 24 39.2**	**-0.5**
LRAL				IAmb	IAmb	23 24 53.5	
	comp=Z,13nm,1.1s						
FLOC	**Florencia**	**20.04**	**125**	*eP*	Pn	23 24 43.7	+2.9
CHIC	**Chingaza**	**20.05**	**114**	*eP*	Pn	23 24 41.7	+0.4
RUSC	**La Rusia**	**20.09**	**110**	*eP*	**P**	**23 24 38.7**	**-1.2**
152A	**Waverly Hall**	**20.19**	**18**	P	**P**	**23 24 40.7**	**+0.4**
ABTX	**Abilene, Hawle**	**20.28**	**341**	P	Pn	23 24 42.4	-1.1
ABTX				IAmb	IAmb	23 24 44.1	
	comp=Z,20nm,1.2s						
255A	**Hazlehurst**	**20.30**	**24**	P	Pn	23 24 42.6	-1.1
VILC	**Villavicencio,**	**20.32**	**116**	*eP*	Pn	23 24 45.7	+1.4
Y45A	**Yeager Farm, C**	**20.39**	**6**	P	**P**	**23 24 42.6**	**+0.2**
Z51A	**Franklin**	**20.67**	**16**	P	**P**	**23 24 46.2**	**+0.8**
Z51A				IAmb	IAmb	23 25 00.4	
	comp=Z,7.9nm,0.3s						
154A	**Montrose**	**20.67**	**22**	P	**P**	**23 24 45.5**	**0.0**
Y49A	**Blount Mountai**	**20.88**	**13**	P	**P**	**23 24 48.2**	**+0.4**
X40A	**Basin Creek Fa**	**20.90**	**358**	P	**P**	**23 24 48.4**	**+0.5**
MIAR	**Mount Ida**	**20.99**	**356**	P	**P**	**23 24 49.3**	**+0.3**
OXF	**Oxford**	**21.04**	**6**	P	**P**	**23 24 48.6**	**-0.8**
OXF				IAmb	IAmb	23 25 03.5	
	comp=Z,22nm,1.2s						
TAMC	**Tame, Arauca**	**21.08**	**108**	*eP*	**P**	**23 24 49.6**	**-0.5**
UALR	**University of**	**21.18**	**359**	P	**P**	**23 24 51.5**	**+0.6**
UALR				IAmb	IAmb	23 24 55.6	
	comp=Z,30nm,1.5s						
X37A	**Clayton**	**21.21**	**352**	P	**P**	**23 24 52.5**	**+1.2**
X37A				IAmb	IAmb	23 24 55.2	
	comp=Z,17nm,1.4s						
GOGA	**Godfrey**	**21.28**	**20**	P	**P**	**23 24 50.2**	**-1.8**
X48A	**Hartselle**	**21.32**	**11**	P	**P**	**23 24 52.2**	**-0.3**
SDV	**Santo Domingo**	**21.43**	**100**	P	**P**	**23 24 54.6**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=328,slow=15,SNR=1.4						
SDV				LR	LR	23 34 36.3	
	comp=Z,129nm,18.2s,baz=298,slow=41						
PLAL	**Pickwick Lake**	**21.67**	**9**	P	**P**	**23 24 55.1**	**-1.1**
PLAL				IAmb	IAmb	23 25 09.8	
	comp=Z,16nm,1.5s						
FPAL	**Fort Paine**	**21.72**	**14**	P	**P**	**23 24 57.7**	**+0.9**
FPAL				IAmb	IAmb	23 25 06.4	
	comp=Z,31nm,1.5s						
GDL2	**Guadalupe Moun**	**21.79**	**331**	P	**P**	**23 24 59.1**	**+1.4**
X51A	**Calhoun**	**21.93**	**16**	P	**P**	**23 24 59.6**	**+0.5**
X51A				IAmb	IAmb	23 25 18.0	
	comp=Z,24nm,1.4s						
WMOK	**Wichita Mounta**	**22.01**	**345**	P	**P**	**23 24 59.9**	**0.0**
GUVC	**San Jose del G**	**22.02**	**118**	*eP*	**P**	**23 25 01.6**	**+1.4**
NHSC	**New Hope**	**22.28**	**27**	P	**P**	**23 25 02.1**	**-0.7**
HODGE	**Hodges**	**22.44**	**22**	P	**P**	**23 25 03.2**	**-1.3**
ADOK	**Arcadia Dam**	**22.58**	**349**	P	**P**	**23 25 06.1**	**+0.2**
MSTX	**Muleshoe**	**22.61**	**336**	IAmb	IAmb	23 25 08.5	
	comp=Z,9.7nm,0.6s						
V48A	**Smith Brothers**	**22.62**	**11**	P	**P**	**23 25 06.4**	**0.0**
WVT	**Waverly**	**22.83**	**9**	P	**P**	**23 25 07.2**	**-1.4**
JSC	**Jenkinsville**	**22.85**	**23**	P	**P**	**23 25 06.4**	**-2.5**
CPCT	**Cooper Cave**	**22.86**	**16**	P	**P**	**23 25 07.7**	**-1.2**
BG3	**Lake Jocassee**	**22.90**	**19**	P	**P**	**23 25 08.8**	**-0.5**
CLTN	**Cedars of Leba**	**23.05**	**12**	IAmb	IAmb	23 25 10.8	
	comp=Z,20nm,1.4s						
V51A	**Loudon**	**23.24**	**16**	P	**P**	**23 25 11.8**	**-0.9**
V51A				IAmb	IAmb	23 25 13.1	
	comp=Z,13nm,1.2s						
TKL	**Tuckaleechee C**	**23.26**	**17**	P	**P**	**23 25 12.2**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=170,slow=7.4,SNR=5.5						
TKL				LR	LR	23 35 22.4	
	comp=Z,577nm,19.6s,baz=204,slow=40						
TKL	**Tuckaleechee C**	**23.26**	**17**	IAmb	IAmb	23 25 23.4	
	comp=Z,24nm,1.4s						
V52A	**Sevierville**	**23.48**	**17**	P	**P**	**23 25 13.9**	**-1.3**
V52A				IAmb	IAmb	23 25 30.8	
	comp=Z,16nm,1.3s						
V53A	**Saluda**	**23.56**	**19**	IAmb	IAmb	23 25 16.6	
	comp=Z,19nm,1.5s						
U49A	**Red Boiling Sp**	**23.57**	**13**	IAmb	IAmb	23 25 31.1	
	comp=Z,13nm,1.2s						
121A	**Cookes Peak, D**	**23.82**	**325**	P	**P**	**23 25 19.0**	**+0.4**
121A				IAmb	IAmb	23 25 33.2	
	comp=Z,15nm,1.1s						
319A	**Douglas**	**23.85**	**321**	P	**P**	**23 25 18.0**	**-0.9**
319A				IAmb	IAmb	23 25 27.1	
	comp=Z,14nm,1.1s						
S44A	**Carbondale**	**24.21**	**5**	P	**P**	**23 25 19.5**	**-2.4**
BNM	**Barren Site**	**24.47**	**330**	P	**P**	**23 25 26.0**	**+1.3**
ATAH	**Atahualpa**	**24.55**	**146**	LR	LR	23 32 51.3	
	comp=Z,152nm,20.9s,baz=337,slow=31						
LENM	**Lemitar**	**24.66**	**329**	P	**P**	**23 25 28.2**	**+1.9**
ANMO	**Albuquerque**	**25.04**	**331**	P	**P**	**23 25 32.3**	**+2.5**
	comp=Z,0.1nm,0.5s,baz=325,slow=11,SNR=8.5						
ANMO	**Albuquerque**	**25.04**	**331**	P	**P**	**23 25 29.6**	**-0.1**
WCI	**Wyandotte Cave**	**25.13**	**11**	P	**P**	**23 25 28.4**	**-1.9**
WCI				IAmb	IAmb	23 25 32.5	
	comp=Z,11nm,0.7s						
TUC	**Tucson**	**25.42**	**321**	P	**P**	**23 25 33.0**	**-0.2**
T25A	**Trinidad**	**26.02**	**337**	P	**P**	**23 25 39.3**	**+0.6**
T25A				IAmb	IAmb	23 25 42.4	
	comp=Z,6.2nm,0.7s						
T59A	**Double "B" Far**	**26.69**	**26**	P	**P**	**23 25 43.1**	**-1.4**
SDCO	**Great Sand Dun**	**26.98**	**336**	P	**P**	**23 25 46.5**	**-0.9**
Q54A	**Coxs Mills**	**27.22**	**19**	P	**P**	**23 25 47.6**	**-1.6**
Q54A				IAmb	IAmb	23 25 51.8	
	comp=Z,9.2nm,1.1s						
S22A	**4UR Ranch, Cre**	**27.52**	**334**	P	**P**	**23 25 52.3**	**0.0**
Q56A	**Snyder Ridge,**	**27.83**	**22**	P	**P**	**23 25 50.5**	**-4.2**
Q56A				IAmb	IAmb	23 26 08.9	
	comp=Z,8.1nm,1.2s						
MVCO	**Mesa Verde**	**27.84**	**331**	P	**P**	**23 25 53.9**	**-1.1**
MVCO				IAmb	IAmb	23 25 59.1	
	comp=Z,18nm,1.4s						
O54A	**Avella**	**28.46**	**19**	P	**P**	**23 25 59.8**	**-0.5**
O54A				IAmb	IAmb	23 26 00.9	
	comp=Z,10nm,1.0s						
PV01	**Paradox Valley**	**28.62**	**332**	P	**P**	**23 26 01.7**	**-0.3**
PV15	**Paradox Valley**	**28.74**	**332**	P	**P**	**23 26 03.1**	**0.0**
PV15				IAmb	IAmb	23 26 11.2	
	comp=Z,13nm,1.5s						
PV02	**Paradox Valley**	**28.75**	**332**	P	**P**	**23 26 02.9**	**-0.3**
PV02				IAmb	IAmb	23 26 07.7	
	comp=Z,18nm,1.4s						
PV13	**Radium Mtn., P**	**28.75**	**332**	P	**P**	**23 26 03.8**	**+0.6**
PV13				IAmb	IAmb	23 26 07.5	
	comp=Z,16nm,1.5s						
PV03	**Paradox Valley**	**28.84**	**332**	P	**P**	**23 26 03.3**	**-0.6**
PV03				IAmb	IAmb	23 26 09.9	
	comp=Z,14nm,1.5s						
PV18	**Skein Mesa, Pa**	**28.86**	**332**	P	**P**	**23 26 03.6**	**-0.5**
PV18				IAmb	IAmb	23 26 10.2	
	comp=Z,16nm,1.3s						
PV12	**Saucer Basin,**	**28.87**	**332**	P	**P**	**23 26 02.9**	**-1.4**
PV12				IAmb	IAmb	23 26 08.7	
	comp=Z,11nm,1.1s						
PV11	**David Mesa, Pa**	**28.89**	**332**	P	**P**	**23 26 03.4**	**-0.9**
PV11				IAmb	IAmb	23 26 07.8	
	comp=Z,18nm,1.4s	

FXWY	Fox Creek	34.19	335	P	P	23 26 47.0 -3.9
FXWY				IAmb	IAmb	23 26 49.1
comp=Z,4.0nm,1.2s						
KVN	Kaiserville	34.34	323	P	P	23 26 52.3 0.0
KVN				IAmb	IAmb	23 27 01.3
comp=Z,3.6nm,1.0s						
PTGA	Pitinga	34.74	112	P	P	23 26 57.6 +1.9
comp=Z,3.5nm,0.7s,baz=317,slow=9.3,SNR=8.7						
PTGA	Pitinga	34.74	112	P	P	23 26 56.0 +0.3
PAHR	Pah Rah Range	35.52	322	P	P	23 27 01.4 -1.1
I63A	Otisfield	35.53	27	P	P	23 27 00.3 -1.8
MCMT	McKenzie Canyo	35.92	334	P	P	23 27 06.6 +0.8
G62A	West of Eustis	36.48	26	P	P	23 27 09.7 -0.6
LRM	Limekiln Ridge	36.57	336	P	P	23 27 11.1 -0.2
ULM	Lac du Bonnet	36.78	356	LR	LR	23 44 48.2
comp=Z,108nm,19.2s,baz=202,slow=40						
J08A	Circle Bar Ran	37.46	328	P	P	23 27 18.5 -0.4
GGN	Saint George	38.06	29	P	P	23 27 20.7 -3.0
PQI	Presque Isle	38.70	27	P	P	23 27 27.1 -2.0
F10A	Beach Ranch, E	38.75	332	P	P	23 27 28.6 -1.0
F10A				IAmb	IAmb	23 27 42.2
comp=Z,9.0nm,1.1s						
JTMT	Jette	38.86	336	P	P	23 27 30.4 -0.2
GBN	Guysborough	40.94	33	P	P	23 27 44.5 -3.2
LTY	Liberty	41.31	330	P	P	23 27 51.0 +0.2
LTY				IAmb	IAmb	23 28 02.9
comp=Z,6.5nm,1.2s						
SIV	San Ignacio	42.34	133	P	P	23 28 01.0 +1.4
comp=Z,1.9nm,0.9s,baz=313,slow=11,SNR=7.1						
SCHQ	Schefferville	45.67	20	P	P	23 28 24.5 -1.3
comp=Z,5.4nm,0.7s,baz=207,slow=8.6,SNR=4.0						
SCHQ				LR	LR	23 48 29.0
comp=Z,626nm,20.2s,baz=235,slow=37						
YKA	Yellowknife Ar	51.50	347	P	P	23 29 10.8 +0.3
comp=Z,1.2nm,0.5s,baz=226,slow=18,SNR=4.5						
CPUP	Villa Florida	52.00	140	LR	LR	23 50 59.5
comp=Z,39nm,18.1s,baz=39,slow=36						
FRB	Frobisher Bay	52.78	13	LR	LR	23 53 14.1
comp=Z,222nm,18.0s,baz=196,slow=38						
PLCA	Paso Flores	57.51	161	LR	LR	23 49 58.6
comp=Z,104nm,18.5s,baz=324,slow=31						
SFJD	Kangerlussuaq	59.97	17	LR	LR	23 56 48.7
comp=Z,390nm,20.4s,baz=220,slow=37						
RES	Resolute Bay	61.19	359	LR	LR	00 00 14.1
comp=Z,237nm,18.0s,baz=142,slow=39						
ILAR	Eielson Array	63.30	337	P	P	23 30 35.1 +1.5
comp=Z,0.6nm,0.7s,baz=132,slow=4.7,SNR=6.3						
ILAR				LR	LR	00 00 57.2
comp=Z,73nm,19.1s,baz=118,slow=39						
ILAR	Eielson Array	63.30	337	P	P	23 30 34.1 +0.6
ESDC	Sonseca Array	80.00	52	LR	LR	00 01 37.5
comp=Z,42nm,21.8s,baz=245,slow=31						
NOA	NORSAR Array B	84.56	28	LR	LR	00 11 08.0
comp=Z,42nm,18.9s,baz=285,slow=36						
HFS	Hagfors	86.02	29	LR	LR	00 09 09.8
comp=Z,43nm,22.0s,baz=289,slow=34						
TORD	Torodi Ar. Bea	90.47	76	LR	LR	00 13 50.1
comp=Z,39nm,18.1s,baz=260,slow=36						
VRAC	Vranov	91.56	38	LR	LR	00 13 04.6
comp=Z,43nm,19.9s,baz=314,slow=35						
NRIK	Noril'sk	97.36	0	LR	LR	00 21 47.1
comp=Z,193nm,18.5s,baz=20,slow=38						
CMAR	Chiang Mai Arr	146.46	341	PKPbc	PKPab	23 39 48.6 +0.9
comp=Z,2.4nm,0.9s,baz=348,slow=4.2,SNR=9.3						

*NEIC **05** 23:22:03.8±2.4, 26°.71N±0°.09×143°.89E±0°.08, h10km±1km, mb4.6/15, Error ellipse: s-maj=15.5km s-min=12.2km az=199.0*
*IDC **05** 23:22:03.1±0.9, 26°.72N×144°.01E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.8/42, mbtmp3.8/14, ML3.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/44, Error ellipse: s-maj=25.7km s-min=17.7km az=75.0*

ISC 05 23:22:04.1±0.7, 26°.70N±0°.09×143°.84E±0°.08, h10km, n38, σ1§18/35, mb4.3/17, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.53	285	Pn	Pg	23 22 33.5	0.0
8.0nm,0.3s,baz=286,slow=22,SNR=12							
JCJ				Sn	Sn	23 22 50.8	-0.7
17nm,0.3s,baz=269,slow=22,SNR=9.4							
INU	Inuyama	10.41	327	Pn	Pn	23 24 32.8	-0.7
MJAR	Matsushiro Arr	10.91	335	Pn	Pn	23 24 39.0	-1.4
0.2nm,0.3s,baz=164,slow=10,SNR=11							
MAJO	Matsushiro	10.92	335	Pn	Pn	23 24 39.0	-1.5
ERM	Erimo	15.28	358	Pn	Pn	23 25 39.0	-0.9
ERM				IAmb	IAmb	23 25 58.3	
comp=Z,40nm,1.1s							
KSRS	Korea Array	17.20	312	P	P	23 26 05.1	-1.0
comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=1.9							
KSRS				LR	LR	23 31 18.3	
comp=Z,15nm,20.0s,baz=295,slow=32							
KSAR	Wonju Array Be	17.22	312	Pn	Pn	23 26 04.4	-0.4
USRK	Ussuriysk Ar.	19.91	334	P	Pn	23 26 38.7	+1.2
baz=149,slow=10,SNR=1.5							
H11S3	WAKE ISLAND Hy	22.59	106	T	T	23 50 08.5	
baz=294,slow=74							
H11S1	WAKE ISLAND Hy	22.60	106	T	T	23 50 13.3	
baz=294,slow=74							
H11S2	WAKE ISLAND Hy	22.61	106	T	T	23 50 16.8	
baz=294,slow=74							
KLR	Kul'dur	24.36	341	P	P	23 27 22.9	+0.7
comp=Z,1.0nm,0.7s,baz=153,slow=11,SNR=4.6							
TNTI	Ternate	30.26	214	P	P	23 28 16.1	+0.6
QIZ	Qiongzhong	32.17	263	P	P	23 28 31.2	-1.1
QIZ				IAmb	IAmb	23 28 46.9	
comp=Z,13nm,1.1s							
SONM	Songino Array	36.02	316	P	P	23 29 05.0	-0.5
comp=Z,0.5nm,0.4s,baz=110,slow=7.4,SNR=2.3							
ATKA	Atka Island	40.39	39	P	P	23 29 40.3	-1.8
KULM	Kulim	46.34	250	P	P	23 30 28.1	-2.5
KULM				IAmb	IAmb	23 30 47.1	
comp=Z,12nm,1.1s							
WB0	Warramunga Arr	47.09	192	P	P	23 30 36.8	+0.4
WR0	Warramunga Arr	47.26	192	P	P	23 30 37.6	0.0
WR0				IAmb	IAmb	23 30 40.1	
comp=Z,5.1nm,1.1s							
WB2	Warramunga Arr	47.27	192	P	P	23 30 38.0	+0.2
WB2				IAmb	IAmb	23 30 40.1	
comp=Z,4.8nm,0.9s							
WRA	Warramunga Arr	47.28	192	P	P	23 30 38.7	+0.9
comp=Z,3.0nm,0.7s,baz=12,slow=8.6,SNR=21							
WRA	Warramunga Arr	47.28	192	P	P	23 30 37.6	-0.2
FITZ	Fitzroy Crossi	47.91	204	P	P	23 30 42.6	-0.2
FITZ				IAmb	IAmb	23 30 45.4	
comp=Z,5.0nm,0.9s							
ZALV	Zalesovo Beam	50.75	319	P	P	23 31 04.3	+0.2
comp=Z,0.5nm,0.4s,baz=95,slow=8.7,SNR=1.5							
ASAR	Alice Springs	50.99	192	P	P	23 31 06.3	+0.1
comp=Z,0.5nm,0.7s,baz=9.9,slow=6.0,SNR=7.9							
MKAR	Makanchi Array	51.86	310	P	P	23 31 13.9	+1.3
comp=Z,1.0nm,0.7s,baz=93,slow=10,SNR=7.4							
NRIK	Noril'sk	53.55	338	P	P	23 31 26.3	+1.6
comp=Z,2.3nm,0.6s,baz=165,slow=14,SNR=2.2							
KURK	Kurchatov	54.31	315	P	P	23 31 30.7	+0.2
ILAR	Eielson Array	57.35	28	P	P	23 31 50.4	-1.8
comp=Z,0.5nm,0.9s,baz=250,slow=7.6,SNR=2.7							
KKAR	Karatay Array	60.51	306	P	P	23 32 15.2	+0.7
WHY	Whitehorse	62.88	33	P	P	23 32 31.5	+1.2
WHY				IAmb	IAmb	23 32 48.2	
comp=Z,3.4nm,0.9s							
ABKAR	Akbulak array	66.42	315	P	P	23 32 53.0	-0.4
URZ	Urewera	71.75	153	LR	LR	00 01 31.5	
comp=Z,42nm,19.6s,baz=276,slow=33							
COR	Corvallis	73.69	48	P	P	23 33 37.1	-1.0
JTMT	Jette	78.14	42	P	P	23 34 03.2	-0.5
FINES	FINESS Array B	78.94	334	P	P	23 34 10.1	+2.4
comp=Z,0.9nm,0.9s,baz=121,slow=26,SNR=2.4							
KBZ	Khabaz	79.35	314	P	P	23 34 12.9	+2.7
comp=Z,2.8nm,0.8s,baz=106,slow=2.9,SNR=6.8							
NVAR	Mina Array Bea	79.59	52	P	P	23 34 12.2	+0.2
comp=Z,0.6nm,0.6s,baz=296,slow=5.7,SNR=5.9							

ISC 05 23:25:57.9±1.2, 44°.45N±0°.03×16°.24E±0°.03, h2km±11km, n11, σ0§51/22, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDBI	Udbina	0.35	284	*e*Pg	Pg	23 26 05.1	+0.4
UDBI				Sg	Sg	23 26 10.0	+0.7
KIJV	Kijevo	0.46	165	*e*Pg	Pg	23 26 06.3	-0.3
KIJV				Sg	Sg	23 26 12.4	-0.1
BLY	Banja Luka	0.74	65	*e*Pg	Pg	23 26 12.0	0.0
BLY				*e*Sg	Sg	23 26 22.1	+0.5
ZIRJ	Zirje	0.90	209	*e*Pg	Pg	23 26 14.6	-0.6
ZIRJ				Sg	Sb	23 26 28.1	-0.6
DUGI	Dugi Otok	0.97	242	*e*Pg	Pg	23 26 15.8	-0.6
DUGI				Sg	Sb	23 26 30.1	-0.5
NVLJ	Novalja	0.99	277	*e*Pg	Pg	23 26 17.0	+0.2
NVLJ				Sg	Sg	23 26 29.4	-0.3
RICI	Ricice	1.15	146	*e*Pg	Pg	23 26 20.0	+0.1
RICI				Sg	Sn	23 26 36.8	-0.5
MOSL	Moslavina	1.22	17	*e*Pg	Pg	23 26 20.6	-0.8
MOSL				Sg	Sb	23 26 37.4	-0.6
HVAR	Hvar	1.28	173	*e*Pg	Pg	23 26 22.1	-0.2
HVAR				Sg	Sg	23 26 39.2	+0.3
MAKA	Makarska	1.29	154	*e*Pg	Pg	23 26 22.8	+0.2
MAKA				Sg	Sn	23 26 41.3	+0.6
LSTV	Lastovo	1.74	164	*e*Pn	Pn	23 26 29.5	+0.3
LSTV				Sn	Sn	23 26 52.6	+0.7

*IDC **05** 23:35:17.8±0.8, 39°.05N×67°.91E, h0km, mb3.9/11, mb1 4.0/21, mb1mx3.8/53, mbtmp3.9/21, ML3.5/10, MS2.9/3, Ms1 3.0/3, ms1mx2.6/41, Error ellipse: s-maj=17.3km s-min=9.6km az=162.0*
*NNC **05** 23:35:20.1±4.7, 39°.33N×67°.77E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=45.8km s-min=22.6km az=4.0*
*NEIC **05** 23:35:22.6±1.2, 39°.20N±0°.05×67°.98E±0°.06, h33km±4km, mb4.3/52, Error ellipse: s-maj=8.0km s-min=6.5km az=201.0*

ISC 05 23:35:18.9±0.4, 39°.18N±0°.04×67°.90E±0°.04, h10km, n136, σ2§02/147, mb4.3/34, 11C-2D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	Chuyangaron	1.11	118		Pg	23 35 39.7	-0.5
CHGR				Sn	Sg	23 35 54.2	-0.5
GAR	Garm	1.89	95	Pn	Pb	23 35 53.2	-0.4
TAS	Tashkent	2.39	26		Pn	23 36 00.6	+2.4
KK31	Karatay Array	4.39	26	Pn	Pn	23 36 26.9	+1.2
2.2nm,0.2s,baz=217,slow=14,SNR=108							
KK31				⇑Pg	Pg	23 36 43.0	0.0
11nm,0.4s,baz=206,slow=17,SNR=8.1							
KK31				⇑Lg	Lg	23 37 38.8	
49nm,0.4s,baz=215,slow=33,SNR=9.2							
KK31	Karatay Array	4.39	26	Pn	Pn	23 36 26.8	+1.2
KKAR	Karatay Array	4.39	26		Pn	23 36 26.8	+1.2
KKAR	Karatay Array	4.39	26	Pn	Pn	23 36 26.8	+1.2
KBL	Kabul	4.72	168	Pn	Pn	23 36 34.6	+4.3
AML	Almayashu	5.30	54	P	Pn	23 36 40.8	+2.3
SNR=46							
EKS2	Erkin-Say	5.65	50	P	Pn	23 36 45.4	+2.4
SNR=30							
AAK	Ala-Archa	6.07	53	Pn	Pn	23 36 51.5	+2.7
5.0nm,0.3s,baz=213,slow=6.2,SNR=36							
AAK				Sn	Sn	23 38 01.0	+2.5
5.6nm,0.3s,baz=339,slow=22,SNR=16							
AAK				LR	LR	23 39 32.7	
comp=Z,126nm,20.5s,baz=292,slow=42							
AAK	Ala-Archa	6.07	53	P	Pn	23 36 52.1	+3.3
SNR=6.7							
AAK	Ala-Archa	6.07	53	⇑Pn	Pn	23 36 51.2	+2.3
8.9nm,0.3s							
AAK				⇑Sn	Sn	23 38 02.9	+4.4
149nm,1.0s							
AAK	Ala-Archa	6.07	53		Pn	23 36 49.4	+0.6
CEP	Cherat	6.24	148	P	Pn	23 36 55.2	+4.0
CEP				S	Sn	23 38 05.0	+2.3
FRU1	Bishkek	6.25	52		Pn	23 36 52.1	+0.9
KZA	Kyzart	6.29	60	P	Pn	23 36 55.7	+3.5
SNR=13							
KBK	Karagaybulak	6.37	55	P	Pn	23 36 56.2	+3.3
SNR=22							
CHMS	Chumysh	6.43	51	P	Pn	23 36 55.8	+2.2
SNR=11							
USP	Ospenovka	6.43	48	P	Pn	23 36 55.0	+1.2
SNR=15							
HRA	Herat	6.59	225	Pn	Pn	23 36 59.3	+3.2
TKM2	Tokmak 2	6.91	55	P	Pn	23 37 02.9	+2.4
SNR=22							
TKM2	Tokmak 2	6.91	55	⇑Pn	Pn	23 37 02.5	+2.1
4.0nm,0.3s							
TKM2				⇓Sn	Sn	23 38 19.8	+0.6
34nm,0.7s							
NIL	Nilore	7.00	140		Pn	23 37 03.5	+2.0
THW	Thamme Wali	7.09	153	P	Pn	23 37 05.2	+2.5
KDJ	Kajisay	7.64	64		Pn	23 37 11.5	+1.0
GEYT	Alibeck	7.77	264	Pn	Pn	23 37 13.3	+1.3
1.5nm,0.3s,baz=99,slow=14,SNR=8.1							
GEYT				Sn	Sn	23 38 38.0	-2.0
9.1nm,0.3s,baz=142,slow=17,SNR=9.1							
GEYT				LR	LR	23 40 55.5	
comp=Z,94nm,21.0s,baz=65,slow=44							
GYA0B	ALIBECK ARRAY	7.77	264	Pn	Pn	23 37 14.5	+2.4
PDGK	Podgornoye	9.66	61	⇑Pn	Pn	23 37 42.0	+3.9
4.3nm,1.1s							
PDGK				⇓Lg	Lg	23 40 20.6	
12nm,0.9s							
DHRM	DHARAMSHALA	9.71	133	*e*P	Pn	23 37 38.7	-0.2
DHRM				*e*S	Sn	23 39 22.6	-5.6
SMLA	Simla	11.04	134	*e*P	Pn	23 37 57.2	+0.3
SMLA				*e*S	Sn	23 39 53.6	-6.7
SMLA				IAML		23 40 01.9	
comp=N,30nm,0.6s							
SMLA				IAML		23 40 02.9	
comp=E,27nm,0.6s							
AB31	Akbulak array	11.57	333	⇑Pn	Pn	23 38 02.7	-1.4
comp=E,2.2nm,0.4s							
AB31				⇑Sn	Sn	23 40 08.7	-4.5
comp=E,6.7nm,0.6s							
ABKAR	Akbulak array	11.57	333	Pn	Pn	23 38 02.5	-1.5
MAKZ	Makanchi	12.81	49		Pn	23 38 21.1	+0.1
MK31	Makanchi Array	12.98	49	Pn	Pn	23 38 23.8	+0.4
MKAR	Makanchi Array	12.98	49	Pn	Pn	23 38 23.7	+0.3
comp=E,0.2nm,0.3s,baz=237,slow=14,SNR=7.9							
AKTO	Aktyubinsk	13.25	331	Pn	Pn	23 38 26.1	-0.8
comp=E,0.6nm,0.3s,baz=140,slow=18,SNR=12							
AKTO				Sn	Sn	23 40 46.2	-8.0
comp=E,0.5nm,0.3s,baz=177,slow=21,SNR=1.8							
AKTO	Aktyubinsk	13.25	331	⇑Pn	Pn	23 38 28.4	+1.4
comp=E,3.7nm,0.6s							
KURBB	Kurchatov Arra	13.68	30	Pn	Pn	23 38 31.0	-1.8
comp=E,0.1nm,0.3s,baz=219,slow=12,SNR=2.5							
KURK	Kurchatov	13.79	30	⇑Pn	P	23 38 43.2	+0.4
comp=E,5.4nm,0.9s							
KURK	Kurchatov	13.79	30		Pn	23 38 36.4	+2.0
BVAR	Borovoye Array	13.96	6	Pn	Pn	23 38 34.7	-1.9
comp=E,0.5nm,0.3s,baz=178,slow=16,SNR=9.3							
BRVK	Borovoye	13.98	6	⇑Pn	Pn	23 38 36.1	-0.8
comp=E,4.6nm,0.6s							
BRVK	Borovoye	13.98	6	Pn	Pn	23 38 37.4	+0.4
PYUN	Piuthan	16.71	127	*e*P	Pn	23 39 10.0	-3.3
comp=E,30nm,0.4s							
PYUN	Piuthan	16.71	127	*e*P	Pn	23 39 10.0	-3.3
comp=E,30nm,0.4s							
UOSS	Minazif	17.29	218	Pn	Pn	23 39 19.4	-1.0
UOSS				IAmb	IAmb	23 39 21.7	
comp=Z,15nm,1.1s							
KOLN	Koldanda	17.32	126	*e*P	Pn	23 39 17.7	-3.3
comp=Z,13nm,0.4s							
KOLN	Koldanda	17.32	126	*e*P	Pn	23 39 17.7	-3.3
comp=Z,13nm,0.4s							
TBLG	Delisi	17.80	286	P	P	23 39 28.2	+0.7
GKN	Gorkha	17.82	124	*e*P	Pn	23 39 24.5	-2.6
comp=Z,14nm,0.3s							
GKN	Gorkha	17.82	124	*e*P	Pn	23 39 24.5	-2.6
comp=Z,14nm,0.3s							
ARU	Arti	18.34	343	P	P	23 39 34.3	+1.1
comp=Z,0.0nm,0.3s,baz=242,slow=2.1,SNR=4.2							
ARU				S	Sn	23 42 46.9	-11
comp=Z,0.0nm,0.3s,baz=170,slow=22,SNR=2.5							
ARU	Arti	18.34	343	P	Pn	23 39 32.3	-0.8
DMN	Daman	18.39	124	*e*P	Pn	23 39 31.6	-2.7
comp=Z,9.6nm,0.4s							
DMN	Daman	18.39	124	*e*P	Pn	23 39 31.6	-2.7
comp=Z,9.6nm,0.4s							
PKI	Pulchoki	18.61	123	*e*P	P	23 39 34.7	-2.1
comp=Z,26nm,0.8s							
PKI	Pulchoki	18.61	123	*e*P	P	23 39 34.7	-2.1
comp=Z,26nm,0.8s							
ZAA0	Zalesovo Array	18.73	32		P	23 39 37.8	+0.3
ZALV	Zalesovo Beam	18.73	32	P	P	23 39 37.8	+0.2
comp=Z,1.3nm,0.3s,baz=234,slow=11,SNR=23							
ZALV	Zalesovo Beam	18.73	32		P	23 39 37.6	+0.1
AKH	Akhalkalaki	18.74	285		Pn	23 39 39.9	+1.6
JIRN	Jiri	19.07	122	*e*P	P	23 39 40.2	-1.6
comp=Z,23nm,0.3s							
JIRN	Jiri	19.07	122	*e*P	P	23 39 40.2	-1.6
comp=Z,23nm,0.3s							
KBZ	Khabaz	19.26	292	P	P	23 39 44.5	+1.1
comp=Z,0.3nm,0.3s,baz=123,slow=6.0,SNR=6.6							
KBZ				S	Sn	23 43 07.5	-13
comp=Z,0.1nm,0.3s,baz=122,slow=7.7,SNR=1.8							
KVAR	Kislovodsk Arr	19.43	292	P	P	23 39 46.3	+0.9
baz=135,slow=23,SNR=1.5							
KVAR				S	Sn	23 43 16.8	-7.6
baz=196,slow=13,SNR=2.9							
KIV	Kislovodsk	19.43	292		Pn	23 39 47.2	+0.6
KIV				IAmb	IAmb	23 39 50.8	
comp=Z,7.7nm,0.8s							
RAMN	Ramite	19.81	122	*e*P	P	23 39 50.4	+0.5
comp=Z,31nm,0.7s							
RAMN	Ramite	19.81	122	*e*P	P	23 39 50.4	+0.5
comp=Z,31nm,0.7s							
ODAN	Odare	20.39	121	*e*P	P	23 39 57.6	+1.4
comp=Z,12nm,0.4s							
ODAN	Odare	20.39	121	*e*P	P	23 39 57.6	+1.4
comp=Z,12nm,0.4s							
KOPT	Kop Dagi	21.11	281	P	P	23 40 05.9	+2.0
LSA	Lhasa	21.33	109	P	P	23 40 05.8	-0.7
MARD	Mardin	21.36	274	P	P	23 40 07.2	+0.8
TOKA	Tokat	24.13	283	P	P	23 40 35.8	+0.9
GAZ	Gaziantep	24.16	275	P	P	23 40 36.8	+1.5
SHL	Shillong	24.29	117	P	P	23 40 35.9	-0.8
SHL				IAmb	IAmb	23 40 51.1	
comp=Z,6.0nm,0.4s							
ILGA	Ilgaz	26.12	285	P	P	23 40 53.9	+0.7
ILGA				IAmb	IAmb	23 41 01.4	
comp=Z,7.1nm,0.9s							
BRTR	Keskin Array B	26.37	282	P	P	23 40 58.1	+2.7
comp=Z,0.8nm,0.4s,baz=91,slow=9.4,SNR=6.6							
BRTR	Keskin Array B	26.37	282	P	P	23 40 55.7	+0.2
CSS	Mathiatis	27.80	272	P	P	23 41 07.2	-1.0
CSS				IAmb	IAmb	23 41 09.6	
comp=Z,8.2nm,1.0s							
MDUB	Mudurnu	28.09	284	P	P	23 41 11.4	+0.5
MLR	Muntele Rosu	31.37	295	P	P	23 41 41.7	+1.8
MLR				IAmb	IAmb	23 42 00.4	
comp=Z,4.9nm,1.1s							
BURAR	Bucovina Array	31.80	299	P	P	23 41 44.6	+1.0
CMAR	Chiang Mai Arr	33.89	119	LR	LR	23 58 08.6	
comp=Z,15nm,18.0s,baz=255,slow=40							
FIA1	FINESS Array S	33.89	325	P	P	23 42 01.9	+0.4
FIA1				IAmb	IAmb	23 42 07.0	
comp=Z,3.3nm,0.9s							
FINES	FINESS Array B	33.89	325	P	P	23 42 02.2	+0.7
comp=Z,0.6nm,0.4s,baz=120,slow=8.5,SNR=13							
IDI	Anoyia	34.23	277	P	P	23 42 05.7	+0.9
IDI				IAmb	IAmb	23 42 22.7	
comp=Z,5.5nm,0.9s							
ARCES	ARCESS Array B	37.73	337	P	P	23 42 35.2	+0.8
comp=Z,1.6nm,0.6s,baz=101,slow=6.4,SNR=7.4							
NC303	NORSAR Array S	40.71	322	P	P	23 42 59.5	+0.1
NB201	NORSAR Array S	40.73	321	P	P	23 42 59.5	-0.1
NB201				IAmb	IAmb	23 43 14.1	
comp=Z,13nm,1.1s							
NB2	NORSAR Subarra	40.77	321	P	P	23 43 00.0	+0.1
comp=Z,0.5nm,0.4s,baz=97,slow=8.6							
NOA	NORSAR Array B	40.77	321	P	P	23 43 00.0	+0.1
comp=Z,0.8nm,0.5s,baz=97,slow=8.1,SNR=9.3							
NAO01	NORSAR Array S	40.91	321	P	P	23 42 59.2	-1.7
NBO00	NORSAR Array S	40.98	321	P	P	23 43 01.5	-0.1
NBO00				IAmb	IAmb	23 43 12.3	
comp=Z,12nm,1.1s							
NC204	NORSAR Array S	41.01	322	P	P	23 43 02.1	+0.2
NC204				IAmb	IAmb	23 43 06.1	
comp=Z,5.9nm,1.1s							
SENIN	Lac Senin/Sane	44.10	300	P	P	23 43 28.1	+0.6
KSRS	Korea Array	46.36	72	P	P	23 43 44.6	-0.6
comp=Z,0.5nm,0.3s,baz=293,slow=6.6,SNR=2.5							
EKA	Eskdalemuir Ar	48.66	314	P	P	23 44 02.8	0.0
comp=Z,0.5nm,0.5s,baz=83,slow=8.5,SNR=4.7							
ESDC	Sonseca Array	54.07	295	P	P	23 44 44.7	+1.0
comp=Z,1.7nm,0.7s,baz=66,slow=7.5,SNR=14							
ESDC	Sonseca Array	54.07	295	P	P	23 44 44.2	+0.6
TULEG	Thule	61.37	349	P	P	23 45 35.1	+0.7
ILULI	Ilulissat	63.05	339	P	P	23 45 46.1	+0.4
TOA0	Torodi Ar. Sit	63.41	265	P	P	23 45 49.6	+0.7
TOA0				IAmb	IAmb	23 45 50.3	
comp=Z,2.0nm,0.7s							
TORD	Torodi Ar. Bea	63.41	265	P	P	23 45 49.6	+0.7
comp=Z,2.2nm,0.6s,baz=53,slow=5.9,SNR=15							
TORD	Torodi Ar. Bea	63.41	265	P	P	23 45 49.6	+0.7
COLD	Coldfoot	70.03	15	P	P	23 46 29.5	-1.0
COLD				IAmb	IAmb	23 46 31.9	
comp=Z,3.8nm,0.7s							
IMAR	Indian Mountai	70.34	17	P	P	23 46 32.3	0.0
DBIC	Dimbokro	72.46	264	P	P	23 46 46.6	+0.7
BWN	Browne	72.84	16	P	P	23 46 49.1	+1.7
ILAR	Eielson Array	72.85	15	P	P	23 46 47.5	+0.1
comp=Z,0.6

BHD	Baghdad	1.19	248	*e*Pg		Pb	23 42 05.0	-0.5
BHD				*e*Sg		Sg	23 42 21.0	+0.3
BHD				AML		AML	23 42 26.9	
	comp=E,1μm,0.6s							
KCHF	Cheshme Sefid,	1.25	63	*e*			23 42 29.5	
KCHF				*e*Pg		Pg	23 42 06.6	+0.1
IVIS	Veis	1.25	50	*e*			23 42 28.3	
IVIS				*e*Pg		Pb	23 42 06.2	-0.5
KER	Kermanshah	1.36	61	*e*Sg		Sg	23 42 29.5	+3.0
KER				*e*Pg		Pb	23 42 08.4	-0.3
IKOM	Komasi	1.58	73	*e*Pg		Pg	23 42 12.6	-0.2
IKOM				*e*			23 42 16.4	
IKOM				*e*Sg		Sg	23 42 34.1	+0.8
ILIN	Lien	1.59	41	*e*Pg		Pg	23 42 12.7	-0.4
ILIN				*e*			23 42 36.9	
DHL1	Dehloran	1.69	128	*e*Pg		Pg	23 42 15.2	+0.2
SNGE	Sanandaj	1.93	45	*e*Pn		Pn	23 42 16.0	-0.3
IBZA	Bozab	1.95	67	*e*Pn		Pb	23 42 17.7	-1.0
IBZA				*e*			23 42 20.1	
IDOB	Doab	2.07	88	*e*Pn		Pb	23 42 19.0	-1.8
IKMR	Kamar-syah	2.25	94	*e*Pn		Pb	23 42 21.5	-2.2
IKMR				*e*			23 43 03.5	
IALM	Almabolaq	2.34	60	*e*Pn		Pb	23 42 23.3	-2.1
HSAM	Samen	2.47	78	*e*Pn		Pn	23 42 24.4	+0.7
HSAM				*e*			23 43 06.8	
BMDN	Meydan	2.61	90	*e*Pn		Pn	23 42 26.4	+0.8
BMDN				*e*			23 43 10.0	
HSRG	Sareghieh	2.62	54	*e*Pn		Pb	23 42 27.5	-2.7
HSRG				*e*			23 43 10.9	
NSR	Nassriya	2.73	172	*e*Pn		Pn	23 42 28.0	+1.0
NSR				*e*Sn		Sn	23 43 01.0	+0.6
NSR				AML		AML	23 43 10.2	
	comp=E,202nm,0.2s							
HAGD	Aghdareh	3.06	68	*e*Pn		Pn	23 42 32.5	+0.7
HAGD				*e*			23 43 12.1	
SHGR	Shooshtar-Gavs	3.07	121	*e*Pn		Pn	23 42 32.5	+0.8
KHMZ	Khomeyn	3.56	89	*e*Pn		Pn	23 42 37.7	-0.9
ASAO	Ashtian	3.69	76	*e*Pn		Pn	23 42 40.1	-0.3
QABG	Abgarm-Qazvin	3.77	57	*e*Pn		Pn	23 42 41.9	+0.4
JHBN	Jahan bin	4.44	108	*e*Pn		Pn	23 42 52.3	+1.5

KRNET ***05*** *23:42:31.8±0.1, 43°.36N×69°.62E, mb3.0*
SOME ***05*** *23:42:33.0, 43°.42N×70°.25E, h0km*
NNC ***05*** *23:42:34.0±0.4, 43°.38N×70°.27E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=2.7km s-min=2.1km az=78.0, Suspected Mining explosion.*

ISC 05 23:42:34.7±2.0, 43°22N±0°.07×70°.03E±0°.08, h0km, n36, σ1§83/66, 37C-13D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	Karatay Array	0.35	108	⇓P	Pg	23 42 40.0	-1.4
KK08				⇓S	Sg	23 42 45.0	-1.0
KK09	Karatay Array	0.35	105	⇑P	Pg	23 42 39.8	-1.7
KK09				⇓S	Sg	23 42 44.6	-1.5
KK03	Karatay Array	0.36	108	⇑P	Pg	23 42 40.2	-1.5
KK03				⇓S	Sg	23 42 45.1	-1.2
KK04	Karatay Array	0.36	107	⇑P	Pg	23 42 40.1	-1.6
KK04				⇑S	Sg	23 42 44.9	-1.4
KK01	Karatay Array	0.36	107	⇑P	Pg	23 42 40.1	-1.6
KK01				⇑S	Sg	23 42 45.1	-1.3
KK07	Karatay Array	0.37	110	⇑P	Pg	23 42 40.4	-1.4
KK07				⇑S	Sg	23 42 45.4	-1.1
KK02	Karatay Array	0.37	108	⇓P	Pg	23 42 40.2	-1.6
KK02				⇑S	Sg	23 42 45.1	-1.5
KK31	Karatay Array	0.37	108	⇓P	Pg	23 42 40.2	-1.6
	4.4nm,0.3s,baz=26,slow=17,SNR=358						
KK31				⇑S	Sg	23 42 45.3	-1.3
	41nm,0.4s,baz=325,slow=33,SNR=69						
KK05	Karatay Array	0.37	105	⇑P	Pg	23 42 40.0	-1.8
KK05				⇑S	Sg	23 42 45.0	-1.8
KK06	Karatay Array	0.38	108	⇓P	Pg	23 42 40.4	-1.6
KK06				⇑S	Sg	23 42 45.6	-1.4
DZA	Taraz	1.01	108	*e*P	Pg	23 42 52.0	-2.0
DZA				*e*S	Sg	23 43 04.7	-2.3
DZA	Taraz	1.01	108	P	Pg	23 42 53.1	-0.9
DZA				S	Sg	23 43 06.7	-0.3
	125nm,0.3s						
IUG	Iuzhnay	1.07	180	*e*P	Pn	23 42 57.8	+0.7
	16nm,0.2s						
IUG				*e*S	Sn	23 43 15.1	+2.4
	82nm,0.5s						
IUG	Iuzhnay	1.07	180	P	Pn	23 42 57.8	+0.7
	14nm,0.2s						
IUG				S	Sn	23 43 15.1	+2.4
	82nm,0.5s						
ARK	Arkit	2.01	134	⇑*i*P	Pb	23 43 11.5	-0.8
	baz=31						
ARK				⇑*i*S	Sg	23 43 40.9	+1.6
	baz=31						
MRKS	Merke	2.39	100	*e*P	Pn	23 43 15.8	+0.5
	7.6nm,0.2s						
MRKS				*e*S	Sn	23 43 46.4	+1.1
	15nm,0.5s						
MRKS	Merke	2.39	100	Pg	Pn	23 43 15.7	+0.4
	7.6nm,0.2s						
EKS2	Erkin-Say	2.81	100	⇑*i*P	Pn	23 43 22.8	+1.8
	baz=1.0						
EKS2				⇑*i*S	Sb	23 43 59.2	-1.5
	baz=1.0						
AML	Almayashu	2.91	111	⇑*i*P	Pn	23 43 24.7	+2.0
	baz=11						
AML				⇑*i*S	Sb	23 44 02.3	-1.7
	baz=11						
BTK	Batken	3.21	169	⇑*i*P	Pn	23 43 26.7	+0.2
	baz=64						
BTK				⇑*i*S	Sn	23 44 06.8	+1.3
	baz=64						
USP	Ospenovka	3.27	88	⇑*i*P	Pn	23 43 28.7	+1.5
	baz=90						
USP				⇑*i*S	Sn	23 44 09.7	+2.9
	baz=90						
AAK	Ala-Archa	3.33	98	⇑*i*P	Pn	23 43 29.9	+1.7
	baz=0.0						
AAK				⇑*i*S	Sn	23 44 11.6	+3.1
	baz=0.0						
AAK	Ala-Archa	3.33	98	⇓Pg	Pb	23 43 33.6	-1.1
	2.0nm,0.3s						
AAK				⇓Lg	Lg	23 44 14.4	
	4.8nm,0.5s						
SGDS	Sogindy	3.36	84	Pg	Pb	23 43 32.5	-2.8
	6.7nm,0.4s						
SGDS				Lg	Lg	23 44 14.4	
	9.2nm,0.6s						
OHH	Osh	3.38	142	⇑*i*P	Pn	23 43 30.3	+1.4
	baz=39						
OHH				⇑*i*S	Sn	23 44 12.9	+3.1
	baz=39						
ARLS	Aral	3.45	112	⇑*i*P	Pn	23 43 31.9	+2.1
	baz=12						
ARLS				⇑*i*S	Sn	23 44 14.9	+3.4
	baz=12						
CHMS	Chumysh	3.46	92	⇑*e*P	Pn	23 43 31.5	+1.6
	baz=94						
CHMS				⇑*i*S	Sn	23 44 14.4	+2.7
	baz=94						
KBK	Karagaybulak	3.65	97	⇑*i*P	Pn	23 43 34.6	+1.9
	baz=98						
KBK				⇑*i*S	Sn	23 44 19.4	+2.8
	baz=98						
KZA	Kyzart	4.01	105	⇑*i*P	Pn	23 43 39.8	+2.0
	baz=5.0						
KZA				⇑*i*S	Sn	23 44 28.9	+3.1
	baz=5.0						
TKM2	Tokmak 2	4.09	92	⇑*i*P	Pn	23 43 40.6	+1.9
	baz=94						
TKM2				⇑*i*S	Sn	23 44 30.0	+2.7
	baz=94						
TKM2	Tokmak 2	4.09	92	⇓Pg	Pb	23 43 46.8	-0.9
	2.6nm,0.5s						
TKM2				⇓Lg	Lg	23 44 38.3	
	7.9nm,0.6s						
KRBS	Karabastau	4.14	81	*e*P	Pb	23 43 47.3	-1.1
	1.8nm,0.5s						
KRBS				*e*S	Sb	23 44 40.1	+1.1
	5.2nm,0.5s						
KRBS	Karabastau	4.14	81	Pg	Pb	23 43 47.3	-1.1
	1.8nm,0.5s						
KRBS				Lg	Lg	23 44 40.1	
	5.2nm,0.5s						
KST	Kastek	4.34	90	*e*P	Pb	23 43 50.7	-1.3
	4.9nm,0.6s						
KST				*e*S	Sb	23 44 45.4	+0.4
	13nm,0.5s						
KST	Kastek	4.34	90	Pg	Pb	23 43 50.7	-1.3
	4.9nm,0.6s						
BOOM	Boomskoye usch	4.40	97	⇓*i*P	Pn	23 43 45.0	+2.0
	baz=98						
BOOM				⇓*i*S	Sn	23 44 37.8	+2.7
	baz=98						

REY ***05*** *23:45:48.3, 64°.67N×17°.48W, h5km*
IDC ***05*** *23:45:48.5±0.7, 64°.70N×17°.72W, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.7/40, mbtmp3.7/15, ML2.3/3, MS3.5/2, Ms1 3.5/2, ms1mx2.5/51, Error ellipse: s-maj=24.0km s-min=9.9km az=12.0*
NEIC ***05*** *23:45:49.6±1.6, 64°.61N±0°.09×17°.8W±0°.2, h8km±4km, mb4.4/74, Error ellipse: s-maj=12.9km s-min=9.5km az=199.0*

ISC 05 23:45:49.1±0.7, 64°67N±0°.02×17°52W±0°.02, h5km±4km, n156, σ1§54/165, mb4.4/47, 1C, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.10	271	P	Pg	23 45 50.9	-0.5
	baz=271						
IVON				S	Sg	23 45 53.1	+0.3
	baz=271						
IDYN	Dyngjuhals	0.14	29	P	Pg	23 45 51.2	-0.7
	baz=22						
IDYN				S	Sg	23 45 54.1	+0.2
	baz=22						
IDJK	Dyngjujokull	0.21	144	P	Pg	23 45 52.5	-0.8
	baz=148						
IURH	Urdarhals	0.22	47	P	Pg	23 45 52.5	-0.9
	baz=43						
IGRF	Grimsfjall	0.29	158	P	Pg	23 45 54.0	-0.7
	baz=161						
IKVE	Kverkfjoll	0.36	89	P	Pg	23 45 55.0	-1.2
	baz=88						
IBJK	Bruarjokull	0.39	121	P	Pg	23 45 55.2	-1.5
	baz=123						
ISKR	Skrokkalda	0.39	254	P	Pg	23 45 56.0	-0.7
	baz=254						
IVOT	Vottur	0.43	160	P	Pg	23 45 56.3	-1.1
	baz=162						
IJOK	Jokulheimar	0.47	221	P	Pg	23 45 56.9	-1.3
	baz=222						
IKRE	Kreppuhraun	0.50	77	P	Pg	23 45 56.9	-1.8
	baz=76						
IKRE				S	Sg	23 46 04.0	-1.3
	baz=76						
IASK	Askja	0.53	44	P	Pg	23 45 57.8	-1.5
	baz=42						
IMKO	Mokollar	0.59	58	P	Pg	23 45 58.7	-1.7
	baz=57						
IMKO				S	Sg	23 46 07.7	-0.4
	baz=57						
IIEY	Innrieyrar	0.64	205	P	Pg	23 45 59.9	-1.4
	baz=206						
IIEY				S	Sg	23 46 09.5	-0.1
	baz=206						
ISVA	Svartarkot	0.68	9	P	Pg	23 46 00.5	-1.6
	baz=8.0						
ISVA				S	Sg	23 46 10.0	-0.9
	baz=8.0						
IKSK	Karasker	0.69	138	P	Pg	23 45 59.8	-2.4
	baz=139						
IVAT	Vatnsfell	0.78	232	P	Pg	23 46 02.7	-1.3
	baz=233						
IVSH	V-Sauoahnukur	0.78	79	P	Pg	23 46 01.5	-2.6
	baz=79						
IVSH				S	Sg	23 46 12.5	-1.7
	baz=79						
IFAG	Fagurholsmyri	0.89	154	P	Pg	23 46 03.8	-2.3
	baz=155						
IHVE	Hveravellir	0.90	284	P	Pg	23 46 04.4	-2.0
	baz=284						
IHVE				S	Sg	23 46 16.5	-1.5
	baz=284						
IADA	Aoalbol	0.90	66	P	Pg	23 46 03.6	-2.7
	baz=66						
IADA				S	Sg	23 46 16.3	-1.7
	baz=66						
IREN	Reynihlio	1.01	15	P	Pg	23 46 05.9	-2.6
	baz=14						
BORG	Borgarnes	1.64	274	Pg	Pn	23 46 16.2	-2.2
	12nm,0.3s,baz=97,slow=11,SNR=46						
BORG				Lg	Lg	23 46 38.3	
	17nm,0.3s,baz=34,slow=24,SNR=9.1						
SCO	Scoresbysund	6.08	346	*i* P	Pn	23 47 21.4	+2.0
SCO				*e*S	Sn	23 48 31.6	+2.5
SCO	Scoresbysund	6.08	346	Pn	Pn	23 47 19.5	+0.2
ANGG	Ammassalik, Gr	8.52	285	Pn	Pn	23 47 51.7	-1.1
SUMG	Summit	10.93	325	Pn	Pn	23 48 26.8	+0.6
EKA	Eskdalemuir Ar	11.77	136	Pn	Pn	23 48 37.8	+0.5
	baz=319,slow=13,SNR=14						
ESK	Eskdalemuir	11.77	136	Pn	Pn	23 48 37.8	+0.4
NC204	NORSAR Array S	13.24	92	Pn	Pn	23 48 56.1	-1.3
NBO00	NORSAR Array S	13.36	93	Pn	Pn	23 49 01.6	+2.5
NAO01	NORSAR Array S	13.49	93	Pn	Pn	23 49 01.7	+0.8
NC303	NORSAR Array S	13.52	91	Pn	Pn	23 49 01.5	+0.3
NOA	NORSAR Array B	13.54	92	Pn	Pn	23 49 00.2	-1.4
	0.0nm,0.3s,baz=300,slow=13,SNR=1.9						
NOA				LR	LR	23 54 08.2	
	comp=Z,24nm,18.8s,baz=5.0,slow=37						
NB201	NORSAR Array S	13.57	92	Pn	Pn	23 49 03.3	+1.4
SFJD	Kangerlussuaq	13.66	295	Pn	Pn	23 49 02.1	-0.9
NC405	NORSAR Array S	13.72	92	Pn	Pn	23 49 04.2	+0.2
NC602	NORSAR Array S	13.83	93	Pn	Pn	23 49 06.8	+1.3
HFS	Hagfors	15.05	93	Pn	Pn	23 49 23.1	+1.0
	0.1nm,0.3s,baz=184,slow=35,SNR=2.6						
UCC	Uccle	18.01	130	P	P	23 50 00.8	+0.5
FIA1	FINESS Array S	19.71	79	P	Pn	23 50 22.1	+1.8
FINES	FINESS Array B	19.71	79	P	Pn	23 50 21.4	+1.1
	0.0nm,0.3s,baz=304,slow=16,SNR=6.0						
FINES	FINESS Array B	19.71	79	P	Pn	23 50 21.0	+0.7
CLF	Chambon-Foret	19.81	138	P	P	23 50 20.5	+0.4
CLF				IAmb	IAmb	23 50 27.6	
	comp=Z,18nm,1.3s						
LVZ	Lovozero	20.70	58	P	Pn	23 50 31.6	-0.4
LVZ				IAmb	IAmb	23 50 39.5	
	comp=Z,29nm,1.3s						
CLL	Collm	20.71	116	⇑*i*P	P	23 50 30.9	+1.1
	comp=Z,3.0nm,0.9s						
CLL				*i* (sP)	sP	23 50 33.1	+0.2
	comp=Z,30nm,2.0s						
CLL				*e*		23 50 43.0	
CLL	Collm	20.71	116	P	P	23 50 31.0	+1.1
ECH	Echery	21.16	129	P	P	23 50 35.6	+0.8
GRA1	Grafenberg Arr	21.34	121		P	23 50 37.8	+1.1
NKC	Novy Kostel	21.36	118	*e*P	P	23 50 41.3	+4.4
STU	Stuttgart	21.38	125	P	P	23 50 38.3	+1.2
STU				IAmb	IAmb	23 50 41.7	
	comp=Z,12nm,0.7s						
BRG	Berggiesshubel	21.42	115	*e*P	P	23 50 38.7	+1.2
	comp=Z,50nm,2.1s						
BFO	Black Forest	21.46	127	P	P	23 50 39.0	+1.0
PRU	Pruhonice	22.36	116	*e*P	P	23 50 51.1	+3.5
KSP	Ksiaz	22.37	112	*e*P	P	23 50 51.8	+4.1
CHVC	Chvalec	22.48	113	*e*P	P	23 50 51.9	+3.0
OSTC	Ostas	22.57	113	*e*P	P	23 50 53.7	+3.9
KHC	Kasperske Hory	22.68	118	*e*P	P	23 50 50.5	-0.6
KHC				*e*pP	sP	23 50 55.0	+0.9
DPC	Dobruska-Polom	22.77	113	*e*P	P	23 50 53.9	+1.9
SENIN	Lac Senin/Sane	22.83	131	P	P	23 50 53.6	+0.7
SUW	Suwalki	22.89	98	P	P	23 50 54.9	+1.7
SUW				IAmb	IAmb	23 51 03.6	
	comp=Z,25nm,1.4s						
SSB	Saint Sauveur	22.96	137	P	P	23 50 54.4	+0.3
GEC2	GERESS Array S	22.97	119	P	P	23 50 54.8	+0.6
GERES	GERESS Array B	22.97	119	P	P	23 50 55.1	+1.0
	comp=Z,1.0nm,0.9s,baz=325,slow=8.1,SNR=11						
GERES	GERESS Array B	22.97	119	P	P	23 50 55.5	+1.3
TREC	Trest	23.28	116	*e*P	P	23 51 00.1	+2.8
TUE	Stuetta	23.41	128	P	P	23 50 59.3	+0.5
TUE				IAmb	IAmb	23 51 10.2	
	comp=Z,10nm,1.4s						
FUORN	Ofenpass-Fuorn	23.60	127	P	P	23 50 59.7	-1.0
EUNU	Eureka	23.66	336	P	P	23 51 01.3	+0.4
EUNU				IAmb	IAmb	23 51 04.3	
	comp=Z,14nm,1.2s						
VRAC	Vranov	23.70	114	P	P	23 51 03.0	+1.5
	comp=Z,2.0nm,0.4s,baz=325,slow=9.2,SNR=5.8						
VRAC	Vranov	23.70	114	*e*P	P	23 51 04.0	+2.5
MORC	Moravsky Berou	23.71	112	*e*P	P	23 51 04.4	+2.9
MORC	Moravsky Berou	23.71	112	P	P	23 51 03.5	+2.0
BNI	Bardonecchia	23.81	134	P	P	23 51 02.5	-0.1
BNI				IAmb	IAmb	23 51 15.9	
	comp=Z,12nm,1.5s						
KRUC	Moravsky	23.82	115	*e*P	P	23 51 04.9	+2.3
OJC	Ojcow	24.27	109	*e*P	P	23 51 07.1	+0.3
OJC	Ojcow	24.27	109	P	P	23 51 07.1	+0.3
JAVC	Velka Javorina	24.49	113	*e*P	P	23 51 11.8	+2.9
CTI	Castel Tesino	24.58	125	P	P	23 51 10.8	+1.1
CTI				IAmb	IAmb	23 51 29.5	
	comp=Z,10nm,1.5s						
ZOU	Zoufplan	24.61	123	P	P	23 51 11.7	+1.6
ZOU				IAmb	IAmb	23 51 22.6	
	comp=Z,12nm,1.4s						
CIMO	Cimolais	24.63	124	P	P	23 51 12.2	+2.1
SMOL	Smolenice	24.67	114	*e*P	P	23 51 13.5	+3.1
PRED	Cave del Predi	24.92	122	P	P	23 51 13.9	+1.1
LANS	Liptovska Anna	24.97	111	*e*P	P	23 51 17.2	+4.0
MTE	Manteigas	25.00	162	P	P	23 51 14.0	+0.5
MTE				IAmb	IAmb	23 51 24.1	
	comp=Z,7.4nm,1.2s						
COI	Coimbra	25.07	163	P	P	23 51 13.2	-0.8
COI				IAmb	IAmb	23 51 21.0	
	comp=Z,15nm,1.1s						
NIE	Niedzica	25.10	109	*e*P	P	23 51 16.5	+2.2
VYHS	Vyhne	25.24	112	*e*P	P	23 51 18.8	+3.2
KLMR	Klimovskoe	25.61	72	*e*P	P	23 51 17.6	-1.2
	comp=Z,12nm,1.4s						
KLMR	Klimovskoe	25.61	72	*e*	P	23 51 17.6	-1.2
KLMR				AMP		23 51 21.8	
	comp=Z,12nm,1.4s						
TRI	Trieste	25.62	123	P	P	23 51 16.0	-3.1
TRI				IAmb	IAmb	23 51 33.6	
	comp=Z,27nm,1.5s						
VLC	Villacollemand	25.80	129	P	P	23 51 21.6	+0.9
VLC				IAmb	IAmb	23 51 37.8	
	comp=Z,9.9nm,1.2s						
ZCCA	Zocca	25.83	128	P	P	23 51 21.1	+0.2
ZCCA				IAmb	IAmb	23 51 28.1	
	comp=Z,14nm,1.2s						
KWP	Kalwaria Pacla	25.92	106	*e*P	P	23 51 24.0	+2.3
KWP	Kalwaria Pacla	25.92	106	P	P	23 51 23.5	+1.8
KWP				IAmb	IAmb	23 51 27.8	
	comp=Z,21nm,1.2s						
SCHQ	Schefferville	26.03	271	P	P	23 51 22.4	-0.3
	comp=Z,4.1nm,0.9s,baz=38,slow=12,SNR=3.7						
PSZ	Piszkesteto	26.13	112	P	P	23 51 24.1	+0.4
PSZ				IAmb	IAmb	23 51 29.9	
	comp=Z,14nm,1.4s						
ESDC	Sonseca Array	26.26	156	P	P	23 51 25.8	+0.8
	comp=Z,0.6nm,0.7s,baz=346,slow=9.6,SNR=7.2						
KOLS	Kolonicke sedl	26.28	108	*e*P	P	23 51 27.1	+2.1
OSSC	Osservatorio P	26.65	129	P	P	23 51 27.6	-0.8
OSSC				IAmb	IAmb	23 51 34.4	
	comp=Z,7.8nm,1.0s						
BUR08	Bucovina Ar. S	28.50	106	P	P	23 51 44.0	-1.0
BUR08				IAmb	IAmb	23 51 45.6	
	comp=Z,6.4nm,1.4s						
BURAR	Bucovina Array	28.54	106	P	P	23 51 46.6	+1.3
TIR	Tirane	31.63	119	P	P	23 52 11.9	-0.7
SCTE	Santa Cesarea	32.23	122	P	P	23 52 16.9	-0.9
CORL	Corleone	32.39	131	P	P	23 52 19.7	+0.3
KBZ	Khabaz	39.12	92	P	P	23 53 17.8	+0.8
	comp=Z,2.5nm,1.0s,baz=349,slow=12,SNR=4.3						
KSPA	Keystone Colle	39.96	264	P	P	23 53 22.9	-1.2
KSPA				IAmb	IAmb	23 53 31.7	
	comp=Z,13nm,1.5s						
BRNJ	Basking Ridge	40.17	262	P	P	23 53 23.1	-2.5
BRNJ				IAmb	IAmb	23 53 25.3	
	comp=Z,18nm,1.2s						
N59A	State Game Lan	40.49	263	P	P	23 53 27.1	-1.3
I49A	Point Hope	41.06	272	P	P	23 53 31.3	-1.7
AKH	Akhalkalaki	41.27	94	P	P	23 53 36.1	+1.1
AKH				IAmb	IAmb	23 53 40.2	
	comp=Z,9.3nm,1.4s						
TBLG	Delisi	41.54	93	P	P	23 53 38.8	+1.8
TBLG				IAmb	IAmb	23 53 42.6	
	comp=Z,12nm,1.5s						
ABKAR	Akbulak array	42.00	73	P	P	23 53 41.7	+1.0
EPYK	Eagle Plains	42.13	328	P	P	23 53 42.6	+1.0
EPYK				IAmb	IAmb	23 53 51.3	
	comp=Z,7.2nm,1.2s						
GAZ	Gaziantep	42.14	104	P	P	23 53 43.4	+1.4
GAZ				IAmb	IAmb	23 53 48.2	
	comp=Z,4.7nm,0.6s						
SDMD	Soldier's Deli	42.20	263	P	P	23 53 42.7	+0.3
SDMD				IAmb	IAmb	23 53 44.3	
	comp=Z,10nm,1.4s						
N54A	Moraine State	42.26	267	P	P	23 53 42.3	-0.7
N54A				IAmb	IAmb	23 53 47.4	
	comp=Z,24nm,1.5s						
TOLK	Toolik Lake Re	42.74	336	P	P	23 53 46.8	+0.2
BRVK	Borovoye	43.14	62	P	P	23 53 50.2	+0.4
I37A	Lemond, Waseca	45.51	281	P	P	23 54 09.2	+0.3
IL31		45.68	332	P	P	23 54 10.3	+0.3
IL31				IAmb	IAmb	23 54 12.4	
	comp=Z,3.3nm,1.1s						
ILAR	Eielson Array	45.68	332	P	P	23 54 09.0	-1.0
	comp=Z,2.0nm,1.1s,baz=28,slow=7.0,SNR=9.0						
ILAR				PcP	PcP	23 55 47.7	-0.1
	comp=Z,0.9nm,1.1s,baz=0.0,slow=3.2,SNR=4.1						
ILAR	Eielson Array	45.68	332	P	P	23 54 09.5	-0.6
MDM	Murphy Dome	45.77	333	P	P	23 54 11.7	+0.8
MDM				IAmb	IAmb	23 54 14.8	
	comp=Z,8.4nm,1.3s						
IMAR	Indian Mountai	45.85	337	P	P	23 54 12.6	+1.2
BCAR	Beaver Creek A	46.10	329	P	P	23 54 13.6	+0.1
P46A	Rosedale	46.47	272	P	P	23 54 15.8	-0.8
Y60A	Bolivia	47.36	260	P	P	23 54 21.0	-2.5
T50A	Nancy	47.63	268	P	P	23 54 24.8	-0.9
T50A				IAmb	IAmb	23 54 26.3	
	comp=Z,2.6nm,0.8s						
ZAA0	Zalesovo Array	47.64	51	P	P	23 54 25.9	+0.4
ZALV	Zalesovo Beam	47.64	51	P	P	23 54 26.2	+0.7
KMSC	Kings Mountain	47.71	264	P	P	23 54 26.1	-0.2
KMSC				IAmb	IAmb	23 54 43.5	
	comp=Z,7.7nm,1.3s						
KURK	Kurchatov	48.12	58	P	P	23 54 30.2	+0.9
KURK				IAmb	IAmb	23 54 30.8	
	comp=Z,3.8nm,1.1s						
BESE	Bessie Mountai	48.28	321	P	P	23 54 29.9	-0.6
EGMT	Eagleton	48.86	297	P	P	23 54 35.4	+0.1
S44A	Carbondale	48.96	273	P	P	23 54 35.7	-0.3
S44A				IAmb	IAmb	23 54

*MAN **05** 23:54:59.2, 10°.03N×126°.02E, h18km, mb4.4, ML3.2, MS2.9*

ISC 05 23:54:52.3±3.3, 10°.11N±0°.05×126°.40E±0°.08, h10km±21km, n16, σ1§68/21, mb3.5/7, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.42**	**220**	*eP*	**Pn**	**23 55 04.8**	**+0.5**
GLSP				*eS*	**Sb**	**23 55 09.6**	**+1.6**
MSLP	**Maasin**	**1.52**	**271**	*eP*	**Pb**	**23 55 20.7**	**+0.3**
MSLP				*eS*	**Sn**	**23 55 36.7**	**-2.6**
LLP	**Lapu-Lapu**	**2.40**	**275**	‖*eP*	**Pb**	**23 55 34.6**	**-1.0**
LLP				*i* S	**Sn**	**23 55 59.5**	**-1.7**
TBP	**Tagbilaran**	**2.53**	**261**	⇑*eP*	**Pn**	**23 55 35.0**	**+1.6**
TBP				*i* S	**Sn**	**23 56 01.6**	**-2.7**
BUKP	**Musuan**	**2.58**	**211**	*eP*	**Pn**	**23 55 36.8**	**+2.7**
BUKP				*eS*	**Sn**	**23 56 06.3**	**+0.8**
CNP	**Catarman**	**2.93**	**325**	*eP*	**Pb**	**23 55 43.8**	**-0.9**
CNOP	**Candoni, Negro**	**3.71**	**266**	*eP*	**Pn**	**23 55 50.5**	**+0.8**
PAGZ	**Pagadian**	**3.73**	**233**	*eP*	**Pn**	**23 55 51.6**	**+1.7**
DDMP	**Don Marcelino,**	**4.03**	**190**	*eP*	**Pb**	**23 56 00.2**	**-3.2**
WRA	**Warramunga Arr**	**30.86**	**165**	P	**P**	**00 01 10.1**	**+1.1**
	0.3nm,0.5s,baz=343,slow=8.8,SNR=2.5						
ASAR	**Alice Springs**	**34.36**	**168**	P	**P**	**00 01 39.0**	**-0.5**
	0.2nm,0.3s,baz=352,slow=6.8,SNR=7.1						
MKAR	**Makanchi Array**	**52.23**	**323**	P	**P**	**00 04 03.6**	**0.0**
	0.4nm,0.7s,baz=134,slow=6.6,SNR=1.9						
ZALV	**Zalesovo Beam**	**54.83**	**331**	P	**P**	**00 04 22.6**	**+0.2**
	0.6nm,0.6s,baz=119,slow=7.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**56.28**	**325**	P	**P**	**00 04 33.4**	**+0.5**
	0.2nm,0.4s,baz=125,slow=7.2,SNR=2.9						
ARCES	**ARCESS Array B**	**84.39**	**340**	P	**P**	**00 07 24.8**	**+0.2**
	1.1nm,0.8s,baz=75,slow=6.9,SNR=4.0						
FINES	**FINESS Array B**	**86.09**	**332**	P	**P**	**00 07 32.7**	**-0.5**
	0.3nm,0.4s,baz=77,slow=4.8,SNR=7.5						

*NEIC **06** 00:05:37.5±2.5, 27°.2S±0°.1×115°.3W±0°.1, h10km±1km, mb4.6/48, Error ellipse: s-maj=24.5km s-min=15.0km az=178.0*

*IDC **06** 00:05:39.7±2.2, 26°.59S×114°.56W, h0km, mb3.8/4, mb1 4.3/4, mb1mx3.8/30, mbtmp3.8/4, MS3.6/5, Ms1 3.6/5, ms1mx3.3/24, Error ellipse: s-maj=96.9km s-min=30.6km az=60.0*

ISC 06 00:05:37.3±0.7, 27°.1S±0°.1×115°.33W±0°.08, h10km, n76, σ1§25/57, mb4.6/25, MS3.6/5, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.34**	**92**	Pn	**Pn**	**00 06 57.3**	**+0.2**
PTCN	**Pitcairn Islan**	**13.43**	**275**	Pn	**Pn**	**00 08 49.6**	**+1.7**
H03N2	**Juan Fernandez**	**31.95**	**110**	T	T	00 44 36.8	
	baz=277,slow=74						
H03N3	**Juan Fernandez**	**31.95**	**110**	T	T	00 44 38.1	
	baz=277,slow=74						
H03N1	**Juan Fernandez**	**31.96**	**110**	T	T	00 44 37.9	
	baz=277,slow=74						
PPT	**Papeete**	**32.98**	**280**	LR	LR	00 21 28.5	
	comp=Z,46nm,21.6s,baz=90,slow=28						
LC01	**Cuneo**	**37.96**	**119**	P	P	00 13 03.2	+7.9
VA01	**Torpederas**	**38.05**	**110**	P	**P**	**00 12 55.0**	**-1.1**
BO01	**Tunca**	**38.47**	**112**	P	**P**	**00 13 00.4**	**+0.8**
AC04	**Llanos de Chal**	**39.05**	**102**	P	**P**	**00 13 05.4**	**+0.9**
AC04				IAmb	IAmb	00 13 07.8	
	comp=Z,33nm,1.2s						
NNA	**Nana**	**39.08**	**75**	LR	LR	00 24 31.4	
	comp=Z,84nm,18.3s,baz=240,slow=30						
PLCA	**Paso Flores**	**39.15**	**122**	P	**P**	**00 13 07.1**	**+1.8**
	comp=Z,3.3nm,1.0s,baz=278,slow=7.1,SNR=5.0						
PLCA	**Paso Flores**	**39.15**	**122**	IAmb	IAmb	00 13 10.6	
	comp=Z,8.0nm,1.3s						
AC05	**El Transito**	**39.65**	**103**	P	**P**	**00 13 09.2**	**-0.5**
AC01	**Pan de Azucar**	**39.84**	**99**	P	**P**	**00 13 10.9**	**-0.2**
LVC	**Limon Verde**	**42.17**	**94**	LR	LR	00 26 26.7	
	comp=Z,84nm,19.4s,baz=261,slow=30						
LPAZ	**La Paz**	**44.93**	**86**	LR	LR	00 27 59.9	
	comp=Z,47nm,21.1s,baz=261,slow=30						
ESQI	**Esquipulas**	**48.50**	**35**	P	**P**	**00 14 20.6**	**0.0**
MATN	**Matagalpa**	**48.97**	**39**	P	**P**	**00 14 25.1**	**+0.7**
MATN				IAmb	IAmb	00 14 29.1	
	comp=Z,16nm,1.2s						
ROSC	**El Rosal**	**50.78**	**58**	LR	LR	00 32 31.7	
	comp=Z,112nm,18.6s,baz=103,slow=32						
AFI	**Afiamalu**	**54.08**	**272**	P	**P**	**00 15 00.9**	**-1.7**
HSIG		**55.96**	**5**	P	**P**	**00 15 17.6**	**+1.8**
HSIG				IAmb	IAmb	00 15 31.1	
	comp=Z,5.8nm,0.7s						
TX31	**Lajitas Ar. Si**	**57.22**	**12**	P	**P**	**00 15 25.8**	**+0.9**
TXAR	**Lajitas Array**	**57.22**	**12**	P	**P**	**00 15 23.3**	**-1.6**
	comp=Z,0.6nm,1.0s,baz=218,slow=5.3,SNR=3.8						
LCCY	**Blossom Villag**	**57.70**	**40**	P	**P**	**00 15 26.5**	**-1.8**
CBCY	**The Bluff, Cay**	**57.94**	**40**	P	**P**	**00 15 29.5**	**-0.5**
SNZO	**South Karori**	**58.12**	**236**	P	**P**	**00 15 31.8**	**+0.7**
CMWZ	**Cape Campbell**	**58.42**	**236**	P	**P**	**00 15 32.4**	**-0.8**
319A	**Douglas**	**58.44**	**6**	P	**P**	**00 15 34.0**	**+0.5**
319A				IAmb	IAmb	00 15 41.1	
	comp=Z,3.6nm,0.8s						
JCT	**Junction City**	**59.15**	**16**	P	**P**	**00 15 38.1**	**-0.2**
JCT				IAmb	IAmb	00 15 39.4	
	comp=Z,7.1nm,1.0s						
U15A	**North Rim**	**63.26**	**3**	P	**P**	**00 16 07.9**	**+1.5**
U15A				IAmb	IAmb	00 16 15.1	
	comp=Z,4.5nm,1.1s						
SHPR	**Sheep Range**	**63.27**	**0**	P	**P**	**00 16 08.0**	**+1.7**
SHPR				IAmb	IAmb	00 16 09.6	
	comp=Z,4.7nm,1.0s						
WLAR	**White Oak Lake**	**64.03**	**21**	P	**P**	**00 16 10.6**	**-0.5**
MVCO	**Mesa Verde**	**64.30**	**6**	P	**P**	**00 16 13.7**	**+0.6**
MVCO				IAmb	IAmb	00 16 20.7	
	comp=Z,7.1nm,1.4s						
CCUT	**Cedar City**	**64.34**	**2**	P	**P**	**00 16 15.3**	**+1.9**
FUNA	**Funafuti**	**64.36**	**273**	P	**P**	**00 16 12.1**	**-1.7**
SZCU	**Shurtz Canyon**	**64.39**	**2**	P	**P**	**00 16 14.8**	**+1.0**
T25A	**Trinidad**	**64.72**	**10**	P	**P**	**00 16 17.2**	**+1.3**
T25A				IAmb	IAmb	00 16 32.4	
	comp=Z,2.1nm,0.6s						
S22A	**4UR Ranch, Cre**	**65.00**	**7**	P	**P**	**00 16 18.1**	**+0.4**
S22A				IAmb	IAmb	00 16 26.1	
	comp=Z,4.3nm,1.4s						
NV11	**Mina Array Sit**	**65.25**	**358**	P	**P**	**00 16 20.4**	**+1.2**
NV11				IAmb	IAmb	00 16 22.5	
	comp=Z,7.3nm,1.4s						
NVAR	**Mina Array Bea**	**65.25**	**357**	P	**P**	**00 16 21.6**	**+2.3**
	comp=Z,1.2nm,0.8s,baz=185,slow=9.0,SNR=9.1						
NVAR	**Mina Array Bea**	**65.25**	**357**	P	**P**	**00 16 21.2**	**+1.9**
PV02	**Paradox Valley**	**65.26**	**6**	P	**P**	**00 16 19.2**	**-0.2**
PV02				IAmb	IAmb	00 16 27.7	
	comp=Z,4.2nm,1.0s						
PV03	**Paradox Valley**	**65.30**	**6**	P	**P**	**00 16 20.2**	**+0.6**
PV03				IAmb	IAmb	00 16 39.2	
	comp=Z,4.1nm,1.3s						
PSUT	**Pine Spring**	**65.31**	**1**	P	**P**	**00 16 21.1**	**+1.4**
PV19	**Morning Glory**	**65.34**	**5**	P	**P**	**00 16 20.6**	**+0.7**
PV19				IAmb	IAmb	00 16 30.6	
	comp=Z,4.8nm,1.1s						
Y45A	**Yeager Farm, C**	**65.39**	**23**	P	**P**	**00 16 17.4**	**-2.6**
AFDM	**Forest Hills D**	**65.92**	**355**	P	**P**	**00 16 24.8**	**+1.4**
SRU	**San Rafael Swe**	**66.03**	**4**	P	**P**	**00 16 24.8**	**+0.5**
JLU	**Jordanelle**	**67.46**	**3**	P	**P**	**00 16 33.9**	**+0.5**
BGU	**Big Grassy Mou**	**67.72**	**2**	P	**P**	**00 16 35.7**	**+0.7**
S44A	**Carbondale**	**68.95**	**22**	P	**P**	**00 16 42.2**	**-0.3**
S44A				IAmb	IAmb	00 16 42.8	
	comp=Z,6.7nm,0.7s						
JSC	**Jenkinsville**	**69.06**	**30**	P	**P**	**00 16 42.9**	**-0.4**
PD31	**Pinedale Array**	**69.73**	**5**	P	**P**	**00 16 47.5**	**-0.1**
PDAR	**Pinedale Array**	**69.73**	**5**	P	**P**	**00 16 47.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=170,slow=5.5,SNR=7.9						
K22A	**Casper**	**69.88**	**7**	P	**P**	**00 16 48.7**	**+0.3**
K22A				IAmb	IAmb	00 16 55.6	
	comp=Z,11nm,1.4s						
HLID	**Hailey**	**70.33**	**1**	P	**P**	**00 16 52.0**	**+0.9**
HLID				IAmb	IAmb	00 16 54.4	
	comp=Z,3.2nm,0.9s						
LOHW	**Long Hollow**	**70.50**	**4**	P	**P**	**00 16 51.8**	**-0.5**
BLA	**Blacksburg**	**71.90**	**29**	P	**P**	**00 17 01.6**	**+0.9**
BLA				IAmb	IAmb	00 17 03.5	
	comp=Z,3.6nm,0.7s						
G08A	**Pilot Rock**	**72.12**	**357**	P	**P**	**00 17 05.2**	**+3.3**
G08A				IAmb	IAmb	00 17 05.8	
	comp=Z,4.2nm,0.9s						
R58B	**Mineral**	**73.64**	**30**	P	**P**	**00 17 10.1**	**-0.8**
R58B				IAmb	IAmb	00 17 16.9	
	comp=Z,5.6nm,1.1s						
E03A	**Lebam**	**73.68**	**354**	P	**P**	**00 17 09.2**	**-1.7**
LON	**Longmire**	**73.74**	**355**	P	**P**	**00 17 09.8**	**-1.6**
LON				IAmb	IAmb	00 17 10.3	
	comp=Z,14nm,1.5s						
JTMT	**Jette**	**74.51**	**1**	P	**P**	**00 17 17.0**	**+1.0**
H11S2	**WAKE ISLAND Hy**	**88.08**	**292**	T	T	01 56 55.2	
	baz=119,slow=76						
H11S1	**WAKE ISLAND Hy**	**88.09**	**292**	T	T	01 56 56.0	
	baz=119,slow=76						
H11S3	**WAKE ISLAND Hy**	**88.10**	**292**	T	T	01 56 52.7	
	baz=119,slow=76						
H11N3	**WAKE ISLAND Hy**	**88.51**	**293**	T	T	01 57 25.0	
	baz=116,slow=78						
H11N1	**WAKE ISLAND Hy**	**88.52**	**293**	T	T	01 57 27.6	
	baz=116,slow=78						
H11N2	**WAKE ISLAND Hy**	**88.53**	**293**	T	T	01 57 25.0	
	baz=116,slow=78						
H01W1	**Cape Leeuwin H**	**102.59**	**220**	T	T	02 15 05.3	
	baz=134,slow=75						
H01W2	**Cape Leeuwin H**	**102.60**	**220**	T	T	02 15 05.8	
	baz=134,slow=75						
H01W3	**Cape Leeuwin H**	**102.61**	**220**	T	T	02 15 05.0	
	baz=134,slow=75						
SONM	**Songino Array**	**141.55**	**314**	PKP	**PKiKP**	**00 25 11.7**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=122,slow=1.9,SNR=2.2						
ZALV	**Zalesovo Beam**	**149.34**	**336**	PKPbc	**PKiKP**	**00 25 28.9**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=27,slow=3.4,SNR=6.9						
BRTR	**Keskin Array B**	**151.35**	**56**	PKPbc	**PKiKP**	**00 25 32.5**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=270,slow=1.2,SNR=3.8						

*MAN **06** 00:09:18.3, 6°.30N×126°.57E, h40km, mb5.3, ML4.2, MS4.4*

*NEIC **06** 00:09:20.8±1.1, 6°.55N±0°.07×126°.64E±0°.09, h76km±6km, mb4.5/32, Error ellipse: s-maj=14.5km s-min=8.2km az=53.0*

*IDC **06** 00:09:20.2±1.4, 6°.51N×126°.62E, h68km±11km, mb4.0/19, mb1 4.1/22, mb1mx4.0/47, mbtmp4.3/22, MS3.3/7, Ms1 3.3/7, ms1mx3.0/35, Error ellipse: s-maj=22.3km s-min=9.2km az=65.0*

*DJA **06** 00:09:21.9±0.5, 6°N±3°×12°7E±°, h70km±4km, M4.7/32, mb4.8/32, mB5.2/15, MLv5.1/7, Mw(mB)4.5/15*

ISC 06 00:09:20.0±0.4, 6°.47N±0°.04×126°.70E±0°.07, h68km, n111, σ1§32/113, mb4.4/39, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.26**	**298**	P	**Pn**	**00 09 41.7**	**0.0**
	3μm,0.3s,baz=141,slow=1.6,SNR=165						
DAV				S	**Sn**	**00 09 55.8**	**-2.1**
	1μm,0.3s,baz=131,slow=20,SNR=6.6						
DAV				LR	LR	00 10 04.2	
	comp=Z,649nm,19.4s,baz=202,slow=38						
DAV	**Davao City (W)**	**1.26**	**298**		**Pn**	**00 09 41.8**	**+0.1**
DAV	**Davao City (W)**	**1.26**	**298**	‖*iP*	**Pn**	**00 09 40.3**	**-1.4**
KCP	**Kidapawan**	**1.68**	**289**	⇑*iP*	**Pn**	**00 09 45.6**	**-1.7**
KCP				*i* S	**Sn**	**00 10 10.3**	**+2.2**
BIP	**Bislig**	**1.80**	**346**	‖*iP*	**Pn**	**00 09 50.8**	**+1.9**
BIP				*i* S	**Sn**	**00 10 12.8**	**+2.1**
TBP	**Tagbilaran**	**4.25**	**319**	‖*eP*	**Pn**	**00 10 23.2**	**+0.9**
LLP	**Lapu-Lapu**	**4.68**	**325**	*eP*	**Pn**	**00 10 29.7**	**+1.6**
LLP				*i* S	**Sn**	**00 11 24.4**	**+3.3**
TNTI	**Ternate**	**5.70**	**173**	P	**Pn**	**00 10 45.2**	**+3.1**
	1.5nm5μm314nm,1.2s						
TNTI	**Ternate**	**5.70**	**173**	Pn	**Pn**	**00 10 44.1**	**+2.0**
GTOI	**Gorontalo**	**6.87**	**213**	P	**Pn**	**00 10 56.6**	**-1.4**
	1.5nm4μm360nm,0.5s						
MYLDM	**Lahad Datu**	**8.26**	**261**		**Pn**	**00 11 16.9**	**-0.2**
LUWI	**Luwuk**	**8.43**	**208**	P	**Pn**	**00 11 21.1**	**+1.6**
	9μm172nm,0.7s						
LUWI	**Luwuk**	**8.43**	**208**	Pn	**Pn**	**00 11 21.7**	**+2.3**
SANI	**Sanana**	**8.49**	**185**	P	**Pn**	**00 11 19.4**	**-0.9**
	0.5nm2μm80nm,0.6s						
SIJI	**Sorong**	**8.60**	**148**	P	**Pn**	**00 11 24.4**	**+2.6**
	7.9nm,0.3s,baz=7.6,slow=7.7,SNR=6.4						
MPSI	**Mapaga**	**9.12**	**228**	P	**Pn**	**00 11 28.6**	**-0.3**
	626nm22nm,1.0s						
LQP	**Lukban**	**9.13**	**327**	⇑*eP*	**Pn**	**00 11 32.0**	**+2.8**
NLAI	**Namlea**	**9.65**	**178**	P	**Pn**	**00 11 35.9**	**-0.3**
	3μm80nm,0.6s						
SPSI	**Sidrap Palu**	**12.46**	**214**	P	**Pn**	**00 12 16.1**	**+1.5**
	721nm31nm,0.7s						
BNSI	**Bone**	**12.65**	**212**	P	**Pn**	**00 12 19.0**	**+1.9**
	24nm,0.6s						
KAPI	**Kappang**	**13.35**	**211**	P	**Pn**	**00 12 25.8**	**-0.7**
	3.0nm,0.3s,baz=24,slow=10,SNR=22						
KAPI	**Kappang**	**13.35**	**211**	Pn	**Pn**	**00 12 26.9**	**+0.3**
SBUM	**Sibu**	**14.97**	**255**	Pn	**Pn**	**00 12 49.1**	**+1.2**
BBKI	**Banjar Baru**	**15.41**	**231**	P	**Pn**	**00 12 52.1**	**-1.4**
	34nm,0.5s						
EDFI	**Ende, Flores**	**15.92**	**198**	P	**Pn**	**00 12 58.6**	**-1.5**
	12nm,0.7s						
SOEI	**Soe**	**16.30**	**189**	P	**P**	**00 13 06.4**	**-0.3**
	869nm43nm,0.9s						
SOEI	**Soe**	**16.30**	**189**	P	**P**	**00 13 07.0**	**+0.3**
SOEI				IAmb	IAmb	00 13 25.6	
	comp=Z,28nm,0.9s						
JAY	**Jayapura**	**16.59**	**122**	P	**Pn**	**00 13 08.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=293,slow=14,SNR=2.3						
BATI	**Baumata**	**16.84**	**190**	P	**P**	**00 13 13.4**	**+0.8**
	comp=Z,17nm,0.3s,baz=36,slow=14,SNR=7.2						
BATI				S	**Sn**	**00 16 15.9**	**-2.2**
	comp=Z,2.5nm,0.3s,baz=299,slow=19,SNR=1.4						
BATI	**Baumata**	**16.84**	**190**	P	**P**	**00 13 13.4**	**+0.8**
	comp=Z,515nmcomp=Z,72nm,0.8s						
KSM	**Kuching**	**17.08**	**254**		**P**	**00 13 15.0**	**-0.2**
KSM				IAmb	IAmb	00 13 18.7	
	comp=Z,12nm,0.7s						
PLAI	**Plampang**	**17.61**	**210**	P	**Pn**	**00 13 20.6**	**-0.3**
	comp=Z,628nmcomp=Z,72nm,0.8s						
TWSI	**Taliwang, Sumb**	**18.00**	**213**	P	**P**	**00 13 25.0**	**-0.4**
	comp=Z,19nm,0.5s						
MTN	**Manton Dam**	**19.69**	**167**	P	**Pn**	**00 13 45.3**	**-0.5**
MTN				IAmb	IAmb	00 13 53.7	
	comp=Z,16nm,0.5s						
KNRA	**Kununurra**	**22.10**	**175**	P	**P**	**00 14 10.4**	**+0.7**
UBPT	**Khong Chiam**	**22.59**	**295**	P	**P**	**00 14 14.4**	**-0.7**
LEM	**Lembang**	**23.17**	**236**	P	**P**	**00 14 21.1**	**-0.1**
	comp=Z,50nm,0.9s,baz=137,slow=22,SNR=5.4						
FITZ	**Fitzroy Crossi**	**24.44**	**182**	P	**P**	**00 14 33.3**	**+0.9**
	comp=Z,6.7nm,0.4s,baz=1.5,slow=9.4,SNR=25						
FITZ	**Fitzroy Crossi**	**24.44**	**182**	P	**P**	**00 14 33.3**	**+0.9**
FITZ				IAmb	IAmb	00 14 38.9	
	comp=Z,7.7nm,0.6s						
KLSI		**24.57**	**244**	P	**P**	**00 14 34.8**	**+1.0**
	comp=Z,12nm,1.0s						
MDSI	**Maura Dua**	**24.98**	**245**	P	**P**	**00 14 38.8**	**+1.3**
	comp=Z,10nm,0.8s						
LHSI	**Lahat**	**25.30**	**247**	P	**P**	**00 14 40.4**	**0.0**
	comp=Z,1μmcomp=Z,55nm,0.9s						
SDSI	**Sungai Dareh**	**26.27**	**255**	P	**P**	**00 14 47.1**	**-2.1**
	comp=Z,850nmcomp=Z,16nm,0.8s						
NJ2	**Nanjing**	**26.48**	**345**	*eP*	**P**	**00 14 50.6**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WHN	**Wuhan**	**26.61**	**336**	P	P	00 14 59.3	+7.3
WB0	**Waramunga Arr**	**27.15**	**164**	P	**P**	**00 14 58.2**	**+1.1**
WRA	**Warramunga Arr**	**27.30**	**164**	P	**P**	**00 14 58.7**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=346,slow=10,SNR=29						
WRA				PcP	**PcP**	**00 18 17.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=335,slow=3.0,SNR=3.0						
WRA				ScP	**ScP**	**00 21 51.8**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=334,slow=3.4,SNR=5.2						
WRA				LR	LR	00 27 22.2	
	comp=Z,52nm,21.3s,baz=255,slow=40						
WRA	**Warramunga Arr**	**27.30**	**164**	P	**P**	**00 14 59.8**	**+1.3**
WB2	**Warramunga Arr**	**27.31**	**164**	P	**P**	**00 14 58.9**	**+0.4**
WR0	**Warramunga Arr**	**27.38**	**164**	P	**P**	**00 15 00.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**29.55**	**296**	P	**P**	**00 15 18.6**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=125,slow=8.9,SNR=2.1						
CMAR				LR	LR	00 26 53.2	
	comp=Z,48nm,20.1s,baz=173,slow=36						
ASAR	**Alice Springs**	**30.77**	**167**	P	**P**	**00 15 29.3**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=349,slow=7.2,SNR=22						
ASAR				PcP	**PcP**	**00 18 26.1**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=350,slow=2.2,SNR=5.9						
ASAR				ScP	**ScP**	**00 22 02.1**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=345,slow=3.3,SNR=5.0						
ASAR	**Alice Springs**	**30.77**	**167**	P	**P**	**00 15 29.5**	**+0.3**
KSRS	**Korea Array**	**30.86**	**2**	LR	LR	00 27 53.3	
	comp=Z,25nm,22.0s,baz=187,slow=36						
XAN	**Xi'an**	**31.99**	**331**	P	**P**	**00 15 40.2**	**+0.4**
XAN				pP	pP	00 15 58.8	+2.9
XAN				pmax	pmax		
	comp=Z,22nm,1.2s						
XAN				pmax	pmax		
	comp=Z,77nm,3.5s						
XAN	**Xi'an**	**31.99**	**331**	P	**P**	**00 15 39.0**	**-0.8**
BJI	**Beijing**	**34.73**	**346**	P	**P**	**00 16 05.7**	**+2.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LZH	**Lanzhou**	**36.16**	**328**	*eP*	**P**	**00 16 20.0**	**+3.9**
LZH				pP	sP	00 16 38.2	-1.5
LZH				sP	pwP	00 16 46.8	+12
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC	**Hu-ho-hao-te**	**36.81**	**341**	*eP*	**P**	**00 16 21.4**	**-0.1**
HHC				pmax	pmax		
	comp=Z,24nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,4.6s						
USRK	**Ussuriysk Ar.**	**37.86**	**6**	P	**P**	**00 16 30.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=178,slow=8.7,SNR=3.2						
BBOO	**Buckleboo**	**40.07**	**168**	P	**P**	**00 16 49.8**	**+1.0**
NWAO	**Narrogin (SRO)**	**40.20**	**192**	P	**P**	**00 16 50.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**40.20**	**192**	P	**P**	**00 16 50.2**	**+0.3**
NWAO				IAmb	IAmb	00 16 52.4	
	comp=Z,19nm,1.1s						
STKA	**Stephens Creek**	**40.70**	**160**	P	**P**	**00 16 55.1**	**+1.1**
	comp=Z,6.3nm,0.7s,baz=334,slow=8.1,SNR=14						
STKA				LR	LR	00 36 40.0	
	comp=Z,23nm,18.8s,baz=25,slow=40						
STKA	**Stephens Creek**	**40.70**	**160**	P	**P**	**00 16 55.2**	**+1.2**
H11S3	**WAKE ISLAND Hy**	**40.73**	**69**	T	T	01 01 04.7	
	baz=258,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**40.74**	**69**	T	T	01 01 06.3	
	baz=258,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**40.75**	**69**	T	T	01 01 10.7	
	baz=258,slow=75,SNR=13						
GTA	**Gaotai**	**40.76**	**328**	*eP*	**P**	**00 16 56.2**	**+1.6**
GTA				pP	sP	00 17 17.6	-0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,69nm,7.6s						
GTA				LR	LR		
	comp=N,64nm,17.5s						
GTA				LR	LR		
	comp=E,93nm,17.8s						
GTA				LR	LR		
	comp=Z,110nm,18.1s						
ARMA	**Armidale**	**43.78**	**148**	P	**P**	**00 17 20.4**	**+1.2**
ARMA				IAmb	IAmb	00 17 23.8	
	comp=Z,7.7nm,0.9s						
ULN	**Ulaanbaatar**	**44.52**	**341**	P	**P**	**00 17 24.8**	**-0.2**
ULN				IAmb	IAmb	00 17 27.8	
	comp=Z,7.5nm,1.1s						
SONM	**Songino Array**	**44.71**	**341**	P	**P**	**00 17 26.4**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=167,slow=10,SNR=7.8						
SONM				LR	LR	00 39 46.7	
	comp=Z,61nm,18.3s,baz=48,slow=41						
SONM	**Songino Array**	**44.71**	**341**	P	**P**	**00 17 26.0**	**-0.4**
TOO	**Toolangi**	**47.20**	**160**	P	**P**	**00 17 47.6**	**+1.5**
WMQ	**Urumqi**	**50.49**	**324**	*eP*	**P**	**00 18 11.7**	**+0.4**
TAU	**Tasmania Unive**	**52.60**	**161**	P	**P**	**00 18 25.8**	**-1.1**
MK31	**Makanchi Array**	**55.31**	**324**	IAmb	IAmb	00 18 48.3	
	comp=Z,4.3nm,1.1s						
MKAR	**Makanchi Array**	**55.31**	**324**	P	**P**	**00 18 45.9**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=117,slow=7.4,SNR=53						
MKAR				PcP	**PcP**	**00 19 46.3**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=113,slow=4.7,SNR=3.7						
MKAR	**Makanchi Array**	**55.31**	**324**	P	**P**	**00 18 45.5**	**-1.2**
MAKZ	**Makanchi**	**55.50**	**324**	P	**P**	**00 18 47.5**	**-0.6**
MAKZ				IAmb	IAmb	00 18 49.6	
	comp=Z,7.7nm,1.1s						
KDJ	**Kajisay**	**56.31**	**317**	P	**P**	**00 18 51.9**	**-2.2**
KDJ				IAmb	IAmb	00 18 56.0	
	comp=Z,3.2nm,0.7s						
ZAA0	**Zalesovo Array**	**58.15**	**332**	P	**P**	**00 19 06.0**	**-0.7**
ZAA0				IAmb	IAmb	00 19 07.7	
	comp=Z,3.8nm,1.1s						
ZALV	**Zalesovo Beam**	**58.15**	**332**	P	**P**	**00 19 05.8**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=111,slow=6.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**58.15

SPSI Sidrap Palu 11.03 233 P P 00 38 34.5 +2.9
BNSI Bone 11.03 230 P Pn 00 38 27.2 -0.2
2μm66nm,1.1s
BKSI Bulukumba 11.63 226 P Pn 00 38 35.8 +1.0
2μm155nm,0.6s
KAPI Kappang 11.70 229 P Pn 00 38 36.8 +1.1
0.2nm,0.3s,baz=27,slow=6.8,SNR=2.5
KAPI S **S 00 40 43.9 -2.4**
1.7nm,0.3s,baz=210,slow=20,SNR=2.3
GENI Genyem 12.76 114 P Pn 00 38 49.5 +0.6
3μm343nm,0.9s
MMRI Maumere 12.95 209 P P 00 38 52.7 -0.3
82nm,0.8s
MMRI Maumere 12.95 209 P Pn 00 38 50.8 -0.3
SOEI Soe 13.14 199 P P 00 38 55.0 -0.2
792nm60nm,0.8s
SOEI Soe 13.14 199 Pn 00 38 53.6 0.0
JAY Jayapura 13.22 113 P Pn 00 38 53.6 -1.0
5.2nm,0.3s,baz=318,slow=3.5,SNR=37
JAY Jayapura 13.22 113 P Pn 00 38 54.4 -0.2
447nm49nm,0.9s
EDFI Ende, Flores 13.32 211 P P 00 38 57.4 +0.2
371nm38nm,0.9s
BATI Baumata 13.76 201 P Pn 00 39 01.0 -0.1
17nm,0.3s,baz=49,slow=2.2,SNR=8.3
BATI Baumata 13.76 201 P Pn 00 39 01.1 -0.1
40nm,0.5s
KBKI Kotabaru 13.76 244 P Pn 00 39 01.1 -0.1
16nm,0.8s
MTKI Muara Teweh, K 14.14 255 P Pn 00 39 06.0 +0.2
32nm,0.7s
BBKI Banjar Baru 15.03 246 P Pn 00 39 18.0 +1.5
5μm55nm,0.6s
WBSI Waikabubak, Su 15.32 216 P P 00 39 16.9 -2.5
2μm81nm,0.5s
MTN Manton Dam 15.70 171 P 00 39 23.0 -0.5
PLAI Plampang 15.74 223 P Pn 00 39 25.1 +0.2
2μm175nm,0.7s
TWSI Taliwang, Sumb 16.30 225 P Pn 00 39 31.3 -0.2
1μm33nm,0.5s
SBUM Sibu 16.32 269 P Pn 00 39 32.6 +0.7
KSM Kuching 18.28 266 P P 00 39 52.8 +1.2
KNRA Kununurra 18.31 179 P P 00 39 52.1 +0.3
GMJI Gumukmas 18.63 234 P Pn 00 39 57.6 -1.3
115nm,0.9s
GUMO Guam 19.39 55 P P 00 40 02.3 -1.1
7.2nm,0.3s,baz=152,slow=15,SNR=1.8
GUMO Guam 19.39 55 IAmb IAmb 00 40 08.8
comp=Z,63nm,1.1s
FITZ Fitzroy Crossi 20.91 188 P P 00 40 18.6 -1.0
comp=Z,5.5nm,0.6s,baz=358,slow=9.1,SNR=43
FITZ Fitzroy Crossi 20.91 188 P P 00 40 18.5 -1.0
FITZ IAmb IAmb 00 40 20.9
comp=Z,6.5nm,0.6s
YULB Yu-li 21.69 342 P P 00 40 27.6 +0.6
DLV T Lat 21.88 296 P P 00 40 29.4 +0.3
DLV IAmb IAmb 00 40 30.8
comp=Z,15nm,0.7s
COEN Coen 22.04 139 P P 00 40 30.4 +0.1
SSLB Suanglung 22.17 341 P P 00 40 30.3 -1.1
SSLB IAmb IAmb 00 40 47.4
comp=Z,8.4nm,1.0s
LEM Lembang 22.96 245 P P 00 40 41.2 +2.3
comp=Z,128nm,0.7s,baz=28,slow=15,SNR=2.3
WB0 Warramunga Arr 23.10 166 P P 00 40 39.5 -0.4
WRAB Tennant Creek 23.25 166 P P 00 40 41.7 +0.4
WRAB IAmb IAmb 00 41 01.5
comp=Z,12nm,0.8s
WRA Warramunga Arr 23.25 166 P P 00 40 40.6 -0.7
comp=Z,6.6nm,0.3s,baz=343,slow=9.9,SNR=93
WRA S **S 00 44 32.0 -2.6**
comp=Z,1.4nm,0.7s,baz=340,slow=15,SNR=3.0
WRA ScP **ScP 00 47 37.2 +1.6**
comp=Z,0.5nm,0.6s,baz=325,slow=2.6,SNR=2.5
WRA Warramunga Arr 23.25 166 P P 00 40 40.8 -0.6
WB2 Warramunga Arr 23.26 166 P P 00 40 41.3 -0.1
WB2 IAmb IAmb 00 40 42.6
comp=Z,8.9nm,1.0s
WR0 Warramunga Arr 23.32 166 P P 00 40 41.8 -0.1
WR0 IAmb IAmb 00 40 44.8
comp=Z,4.9nm,0.7s
UBPT Khong Chiam 25.94 300 P P 00 41 06.8 +1.2
UBPT IAmb IAmb 00 41 07.7
comp=Z,8.9nm,0.8s
ASAR Alice Springs 26.77 169 P P 00 41 12.7 -0.3
comp=Z,3.8nm,0.3s,baz=353,slow=7.9,SNR=81
ASAR pP **pP 00 42 02.0 +0.1**
comp=Z,1.2nm,0.6s,baz=345,slow=11,SNR=1.9
ASAR PcP **PcP 00 44 30.1 +0.8**
comp=Z,0.9nm,0.4s,baz=353,slow=2.3,SNR=4.6
ASAR ScP **ScP 00 47 47.2 +1.7**
comp=Z,0.4nm,0.6s,baz=342,slow=2.5,SNR=4.3
ASAR Alice Springs 26.77 169 P P 00 41 12.3 -0.7
JCJ Chichijima 27.50 27 P P 00 41 17.8 -1.6
comp=Z,38nm,0.8s,baz=279,slow=19,SNR=1.5
KULM Kulim 27.95 276 P P 00 41 23.9 +0.3
KULM IAmb IAmb 00 41 25.5
comp=Z,15nm,0.9s
CTA Charters Tower 28.58 143 P P 00 41 27.4 -1.6
comp=Z,1.7nm,0.7s,baz=331,slow=1.7,SNR=1.8
PSI Prapat 29.60 271 P P 00 41 38.8 +0.5
comp=Z,15nm,0.8s,baz=179,slow=3.4,SNR=5.7
RPSI Rantau Prapat 29.60 271 P P 00 41 38.8 +0.7
PBKT Sadao Pong 30.40 299 P P 00 41 46.4 +1.3
PBKT IAmb IAmb 00 41 47.7
comp=Z,9.3nm,0.8s
GSI Gunungsitoli 30.99 268 P P 00 41 50.4 0.0
CMAR Chiang Mai Arr 32.94 300 P P 00 42 09.2 +1.9
comp=Z,5.5nm,0.7s,baz=118,slow=7.2,SNR=26
CMAR ScP **ScP 00 48 09.6 +3.9**
comp=Z,1.1nm,0.4s,baz=158,slow=1.0,SNR=4.2
CMAR Chiang Mai Arr 32.94 300 P P 00 42 08.7 +1.4
CHTO Chiang Mai 33.09 301 P P 00 42 10.0 +1.5
CHTO IAmb IAmb 00 42 11.0
comp=Z,11nm,0.8s
FORT Forrest 33.34 181 P P 00 42 10.9 +0.3
FORT IAmb IAmb 00 42 11.8
comp=Z,14nm,0.7s
INU Inuyama 33.38 13 P P 00 42 09.4 -1.3
INU IAmb IAmb 00 42 11.0
comp=Z,8.7nm,0.5s
KSRS Korea Array 34.54 359 P P 00 42 21.1 +0.3
comp=Z,1.7nm,0.4s,baz=179,slow=10,SNR=9.1
MJAR Matsushiro Arr 34.79 14 P P 00 42 21.2 -1.8
comp=Z,6.3nm,0.7s,baz=187,slow=9.2,SNR=20
MJAR Matsushiro Arr 34.79 14 P P 00 42 21.4 -1.6
MAJO Matsushiro 34.79 14 P P 00 42 22.2 -0.7
MAJO IAmb IAmb 00 42 23.4
comp=Z,11nm,0.8s
MAT Matsushiro 34.79 14 P P 00 42 21.1 -1.8
EIDS Eidsvold 35.47 143 P P 00 42 28.2 -0.7
BBOO Buckleboo 36.07 169 P P 00 42 33.9 0.0
BBOO IAmb IAmb 00 42 36.2
comp=Z,7.3nm,0.9s
XAN Xi'an 36.12 332 P P 00 42 34.5 +0.2
STKA Stephens Creek 36.60 161 P P 00 42 37.9 -0.4
comp=Z,4.2nm,0.3s,baz=326,slow=11,SNR=7.9
STKA Stephens Creek 36.60 161 P P 00 42 37.8 -0.5
NWAO Narrogin (SRO) 37.06 196 P P 00 42 42.4 +0.2
comp=Z,9.9nm,0.4s,baz=34,slow=7.5,SNR=20
NWAO Narrogin (SRO) 37.06 196 P P 00 42 42.8 +0.6
NWAO IAmb IAmb 00 42 43.4
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 37.06 196 IAmb IAmb 00 42 43.4
comp=Z,10nm,0.8s
ARMA Armidale 39.66 148 P P 00 43 04.4 +0.5
ARMA IAmb IAmb 00 43 20.9
comp=Z,12nm,1.1s
H11S3 WAKE ISLAND Hy 40.48 65 T T 01 27 16.7
baz=252,slow=74
H11S2 WAKE ISLAND Hy 40.49 65 T T 01 27 21.3
baz=252,slow=74
H11S1 WAKE ISLAND Hy 40.49 64 T T 01 27 26.1
baz=252
H11N1 WAKE ISLAND Hy 41.05 63 T T 01 28 14.2
baz=250
H11N2 WAKE ISLAND Hy 41.06 63 T T 01 28 02.4
baz=250
H11N3 WAKE ISLAND Hy 41.07 63 T T 01 28 01.4
baz=250
USRK Ussuriysk Ar. 41.39 4 P P 00 43 17.7 0.0
comp=Z,3.1nm,0.7s,baz=183,slow=10,SNR=9.3
SHL Shillong 41.92 306 P P 00 43 23.6 +1.0
DZM Mont Dzumac 44.48 126 P P 00 43 43.7 +0.7
comp=Z,5.9nm,0.6s,baz=270,slow=15,SNR=2.9
DZM Mont Dzumac 44.48 126 IAmb IAmb 00 43 44.8
comp=Z,7.3nm,0.7s
TAPN Taplejung 46.06 306 *e*P **P 00 43 56.6 +1.1**
TAPN Taplejung 46.06 306 *e*P **P 00 43 56.6 +1.1**
ODAN Odare 46.12 305 *e*P **P 00 43 57.0 +1.1**
comp=Z,38nm,0.6s
ODAN Odare 46.12 305 *e*P **P 00 43 57.0 +1.1**
comp=Z,38nm,0.6s
KLR Kul'dur 46.39 3 P P 00 43 56.7 -0.6
comp=Z,1.3nm,0.6s,baz=207,slow=4.5,SNR=5.0
RAMN Ramite 46.80 305 *e*P **P 00 44 02.5 +1.3**
comp=Z,35nm,0.5s
RAMN Ramite 46.80 305 *e*P **P 00 44 02.5 +1.3**
comp=Z,35nm,0.5s
JIRN Jiri 47.42 306 *e*P **P 00 44 07.3 +1.2**
comp=Z,25nm,0.3s
JIRN Jiri 47.42 306 *e*P **P 00 44 07.3 +1.2**
comp=Z,25nm,0.3s
PKI Pulchoki 48.02 305 *e*P **P 00 44 11.2 +0.6**
comp=Z,7.1nm,0.3s
PKI Pulchoki 48.02 305 *e*P **P 00 44 11.2 +0.6**
comp=Z,7.1nm,0.3s
KKN Kakani 48.21 305 *e*P **P 00 44 12.3 +0.3**
KKN Kakani 48.21 305 *e*P **P 00 44 12.3 +0.3**
DMN Daman 48.28 305 *e*P **P 00 44 13.4 +0.9**
DMN Daman 48.28 305 *e*P **P 00 44 13.4 +0.9**
TAU Tasmania Unive 48.51 162 P P 00 44 12.5 -1.1
KOLN Koldanda 49.58 305 *e*P **P 00 44 23.5 +1.2**
KOLN Koldanda 49.58 305 *e*P **P 00 44 23.5 +1.2**
PYUN Piuthan 50.20 305 *e*P **P 00 44 28.2 +1.2**
comp=Z,32nm,0.5s
PYUN Piuthan 50.20 305 *e*P **P 00 44 28.2 +1.2**
comp=Z,32nm,0.5s
MSVF Nonsavu 52.85 115 P P 00 44 46.6 +0.1
MSVF IAmb IAmb 00 44 49.3
comp=Z,14nm,1.1s
PEA0B Petropavlovsk- 55.67 21 P P 00 45 06.5 +0.4
PEA0B IAmb IAmb 00 45 07.3
comp=Z,5.2nm,0.7s
PETK Petropavlovsk- 55.67 21 P P 00 45 06.8 +0.8
comp=Z,3.1nm,0.5s,baz=188,slow=5.6,SNR=9.0
DCZ Deep Cove 58.97 149 P P 00 45 28.8 -0.4
DCZ IAmb IAmb 00 45 28.8
comp=Z,19nm,1.1s
QRZ Quartz Range 59.04 142 P P 00 45 29.7 0.0
QRZ IAmb IAmb 00 45 42.2
comp=Z,18nm,1.1s
FOZ Fox Glacier 59.11 146 P P 00 45 29.8 -0.3
FOZ IAmb IAmb 00 45 37.9
comp=Z,24nm,1.0s
MLZ Mavora Lakes 59.40 149 P P 00 45 32.4 +0.2
MK31 Makanchi Array 59.40 325 P P 00 45 32.9 +0.7
MKAR Makanchi Array 59.40 325 P P 00 45 32.6 +0.4
comp=Z,1.5nm,0.4s,baz=118,slow=8.3,SNR=20
MKAR pP **pP 00 46 24.6 -3.1**
comp=Z,0.8nm,0.6s,baz=116,slow=8.2,SNR=2.9
MKAR ScP **ScP 00 49 55.6 +1.8**
comp=Z,0.9nm,0.8s,baz=105,slow=7.4,SNR=4.5
MAKZ Makanchi 59.59 325 P P 00 45 34.3 +0.8
WHZ Wether Hill Ro 59.66 149 P P 00 45 34.4 +0.4
WHZ IAmb IAmb 00 45 45.6
comp=Z,22nm,1.2s
NNZ Nelson 59.79 142 P P 00 45 34.4 -0.4
THZ Tophouse 59.82 143 P P 00 45 35.4 +0.2
LBZ Lake Benmore 59.86 147 P P 00 45 36.0 +0.6
RPZ Rata Peaks 59.92 146 P P 00 45 36.1 +0.4
comp=Z,14nm,0.8s,baz=327,slow=2.2,SNR=9.9
RPZ Rata Peaks 59.92 146 IAmb IAmb 00 45 37.0
comp=Z,20nm,0.8s
LTZ Lake Taylor 60.05 144 P P 00 45 37.4 +0.7
LTZ IAmb IAmb 00 45 45.9
comp=Z,21nm,1.2s
OXZ Oxford 60.24 145 P P 00 45 38.0 +0.1
OXZ IAmb IAmb 00 45 40.3
comp=Z,6.4nm,0.5s
KDJ Kajisay 60.29 318 P P 00 45 38.9 +0.4
ODZ Otahua Downs 60.53 147 P P 00 45 39.8 0.0
ODZ IAmb IAmb 00 45 40.1
comp=Z,12nm,1.2s
KHZ Kahutara 60.58 143 P P 00 45 40.1 -0.1
KHZ IAmb IAmb 00 45 55.1
comp=Z,10nm,1.0s
URZ Urewera 60.59 137 P P 00 45 39.9 -0.4
comp=Z,4.5nm,0.6s,baz=275,slow=1.4,SNR=1.4
URZ Urewera 60.59 137 IAmb IAmb 00 45 58.9
comp=Z,15nm,1.1s
BKZ Black Stump Fm 60.64 139 P P 00 45 41.3 +0.5
BKZ Black Stump Fm 60.64 139 P P 00 45 40.9 +0.1
BKZ IAmb IAmb 00 45 41.7
comp=Z,12nm,0.9s
MTHZ Maungataniwha 60.71 138 P P 00 45 41.8 +0.6
RUGZ Raukumara Rang 60.82 137 P P 00 45 41.9 -0.2
MQZ McQueen's Vall 60.83 145 P P 00 45 42.1 +0.2
MQZ IAmb IAmb 00 45 43.8
comp=Z,10nm,0.8s
RAHZ Arahi 60.91 138 P P 00 45 43.5 +0.9
MCHZ McNeill Hill 60.92 139 P P 00 45 43.7 +1.1
SNGZ Shannon Statio 61.01 138 P P 00 45 43.6 +0.4
PLWZ Palliser 61.15 141 P P 00 45 43.5 -0.6
KAHZ Kahuranaki 61.23 139 P P 00 45 44.7 +0.1
WMGZ Waiomatatini S 61.26 136 P P 00 45 45.7 +0.9
PUZ Puketiti 61.27 137 P P 00 45 45.5 +0.5
BFZ Birch Farm 61.29 140 P P 00 45 44.4 -0.6
CNGZ Carnagh Statio 61.44 137 P P 00 45 46.4 +0.3
ZALV Zalesovo Beam 62.29 333 P P 00 45 50.7 -0.7
comp=Z,0.8nm,0.4s,baz=135,slow=9.7,SNR=4.1
SEY Seymchan 62.59 12 P P 00 45 54.2 +1.0
comp=Z,2.2nm,0.5s,baz=232,slow=5.1,SNR=10
KURK Kurchatov 63.55 327 P P 00 46 00.2 +0.5
KURK IAmb IAmb 00 46 00.8
comp=Z,3.6nm,0.6s
GAR Garm 63.92 312 P P 00 46 02.6 0.0
GAR IAmb IAmb 00 46 03.4
comp=Z,5.7nm,0.5s
KKAR Karatay Array 65.19 317 P P 00 46 10.8 +0.2
BRVK Borovoye 69.20 327 P P 00 46 35.8 +0.3
CASY Casey 70.08 188 P P 00 46 41.3 +0.9
NIKH Nikolski High 71.58 34 P P 00 46 48.6 -1.2
GEYT Alibeck 72.92 309 P P 00 46 59.2 +1.1
comp=Z,0.6nm,0.4s,baz=186,slow=8.9,SNR=3.6
UNV Unalaska Valle 73.20 34 P P 00 46 59.3 0.0
UNV IAmb IAmb 00 47 08.4
comp=Z,6.4nm,0.8s
AKUT Akutan 73.70 34 P P 00 47 02.8 +0.5
SOCY Socotra 74.34 282 P P 00 47 05.2 -1.7
SDPT Sand Point 76.99 34 P P 00 47 21.4 +0.6
CNBA Chernabura Isl 77.36 34 P P 00 47 23.2 +0.3
CNBA IAmb IAmb 00 47 25.1
comp=Z,8.6nm,1.0s
CHIR Chirikof Islan 79.78 34 P P 00 47 36.8 +0.7
SII Sitkinak Islan 80.70 33 P P 00 47 41.9 +0.8
SVW2 Sparrevohn 80.78 29 P P 00 47 42.4 +1.0
TTA Tatalina 80.95 27 P P 00 47 43.3 +1.0
TTA IAmb IAmb 00 47 44.2
comp=Z,2.9nm,0.5s
KDAK Kodiak Island 81.74 32 P P 00 47 47.5 +1.0
comp=Z,14nm,0.4s,baz=245,slow=3.0,SNR=36
KDAK Kodiak Island 81.74 32 IAmb IAmb 00 47 50.0
comp=Z,7.7nm,0.7s
VNDA Vanda 82.23 173 P P 00 47 49.3 +0.7
comp=Z,0.4nm,0.3s,baz=326,slow=8.1,SNR=7.9
VNDA Vanda 82.23 173 P P 00 47 49.3 +0.7
IMAR Indian Mountai 82.50 24 P P 00 47 51.4 +1.2
PPLA Purkeypile 82.67 27 P P 00 47 52.4 +1.1
PPLA IAmb IAmb 00 47 52.8
comp=Z,4.7nm,0.8s
CNPM China Poot 82.67 30 P P 00 47 51.6 +0.3
CNPM IAmb IAmb 00 48 00.3
comp=Z,17nm,1.2s
SKT Skwentna 82.84 28 P P 00 47 52.3 +0.2
SKT IAmb IAmb 00 47 53.0
comp=Z,5.2nm,0.5s
TRF Thorofare Moun 83.59 27 P P 00 47 57.0 +0.9
TRF IAmb IAmb 00 47 57.9
comp=Z,6.3nm,1.2s
KNK Knik Glacier 84.24 29 P P 00 47 59.8 +0.6
TOLK Toolik Lake Re 84.49 21 P P 00 48 01.2 +0.9
TOLK IAmb IAmb 00 48 03.9
comp=Z,2.9nm,0.7s
GLI Glacier Island 84.86 29 P P 00 48 03.2 +0.9
DHY Denali Highway 84.87 27 P P 00 48 03.4 +0.9
FID Port Fidalgo 85.15 29 P P 00 48 04.6 +0.9
ILAR Eielson Array 85.20 25 P P 00 48 03.3 -0.6
comp=Z,0.6nm,0.5s,baz=245,slow=5.0,SNR=8.6
KLU Klutina 85.46 29 P P 00 48 06.7 +1.4
PAX Paxson 85.73 27 P P 00 48 07.7 +1.0
BMAR Burnt Mountain 86.27 23 P P 00 48 10.5 +1.3
DOT Dot Lake 86.39 27 P P 00 48 09.9 +0.1
BCAR Beaver Creek A 87.41 27 P P 00 48 15.5 +0.8
ARCES ARCESS Array B 91.99 340 P P 00 48 35.1 -0.7
comp=Z,2.2nm,1.0s,baz=88,slow=6.2,SNR=13
ARE0 ARCESS Array S 91.99 340 P P 00 48 34.7 -1.1
QSPA South Pole Qui 92.66 180 P P 00 48 40.2 +1.1
comp=Z,0.5nm,0.4s,baz=253,slow=8.9,SNR=18
QSPA South Pole Qui 92.66 180 P P 00 48 40.1 +1.0
FINES FINESS Array B 93.55 332 P P 00 48 42.2 -1.0
comp=Z,0.7nm,0.7s,baz=103,slow=4.4,SNR=3.9
TXAR Lajitas Array 120.74 53 PKP PKiKP 00 54 19.7 +0.7
comp=Z,0.1nm,0.5s,baz=0.0,slow=1.8,SNR=2.3
TORD Torodi Ar. Bea 124.95 288 PKP PKPdf 00 54 27.5 +0.3
comp=Z,0.9nm,1.0s,baz=63,slow=1.5,SNR=2.0

IDC ***06*** *00:36:59.7±0.4,5.97S×105.40E,h0km,mb4.5/28, mb1 4.6/30,mb1mx4.4/52,mbtmp4.5/30,ML4.1/2,MS3.8/8, Ms1 3.8/8,ms1mx3.4/34,Error ellipse: s-maj=15.6km s-min=10.5km az=51.0*
NEIC ***06*** *00:37:00.9±2.0,6.28S±0.06×105.35E±0.05,h9km±3km, mb5.0/69,Error ellipse: s-maj=9.5km s-min=6.6km az=215.0*
UNK ***06*** *00:37:00.9,6.28S×105.35E,h9km*
MOS ***06*** *00:37:00.8±0.9,6.17S×105.34E,h20km,mb5.1/39,Error ellipse: s-maj=10.3km s-min=6.2km az=121.6*
BJI ***06*** *00:37:01.0±0.0,6.30S×105.30E,h10km,mB4.8/24, mb4.7/33,Ms4.7/23,Ms7 4.4/21*
DJA ***06*** *00:37:02.5±0.1,6.5±2.×10.5E±.,h10km,M4.6/36, mb4.7/36,mB5.2/15,MLv4.8/25,Mw(mB)4.5/15*
ISC 06 00:36:59.9±0.9,6°25S±0.04×105°29E±0.03,h3km±5km, n408,σ1°40/412,mb4.8/94,MS4.0/15,36C-8D,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.54**	**132**	P	**Pb**	**00 37 12.2**	**+0.2**
SBJI	**Serang**	**0.85**	**81**	P	**Pg**	**00 37 15.2**	**-1.0**
SBJI				S	**Sg**	**00 37 26.4**	**-0.8**
BLSI	**Bandar Lampung**	**0.88**	**357**	P	**Pg**	**00 37 16.8**	**0.0**
KASI	**Kota Agung**	**1.07**	**312**	P	**Pn**	**00 37 22.2**	**+0.5**
TNG	**Tangerang**	**1.35**	**87**	P	**Pn**	**00 37 24.7**	**-0.9**
SKJI	**Sukabumi**	**1.47**	**121**	P	**Pg**	**00 37 28.2**	**+0.2**
DBJI	**Dramaga**	**1.48**	**102**	P	**Pb**	**00 37 27.5**	**-0.6**
CBJI	**Citeko**	**1.56**	**96**	P	**Pg**	**00 37 31.8**	**+1.9**
KLSI		**1.65**	**340**	P	**Pb**	**00 37 30.9**	**0.0**
LWLI	**Liwa**	**1.73**	**315**	P	**Pg**	**00 37 33.6**	**+0.5**
MDSI	**Maura Dua**	**2.07**	**328**	P	**Pb**	**00 37 37.0**	**-1.2**
CNJI	**Cibinong**	**2.11**	**120**	P	**Pb**	**00 37 37.6**	**-1.2**
LEM	**Lembang**	**2.38**	**104**	Pn	**Pn**	**00 37 41.0**	**+1.0**
	11nm,0.3s,baz=230,slow=8.1,SNR=23						
LEM	**Lembang**	**2.38**	**104**	P	**Pn**	**00 37 41.1**	**+1.0**
CISI	**Cisompet, Garu**	**2.82**	**117**	P	**Pb**	**00 37 47.9**	**-3.1**
CISI	**Cisompet, Garu**	**2.82**	**117**	Pn	**Pn**	**00 37 46.9**	**+0.9**
LHSI	**Lahat**	**2.98**	**324**	P	**Pb**	**00 37 51.1**	**-2.6**
MNAI	**Manna**	**2.99**	**309**	P	**Pn**	**00 37 48.5**	**+0.3**
MNAI				Pg	**Pg**	**00 37 57.7**	**+0.5**
MNAI	**Manna**	**2.99**	**309**		**Pb**	**00 37 52.1**	**-1.6**
PMBI	**Palembang**	**3.34**	**351**	Pn	**Pb**	**00 37 56.5**	**-3.3**
CMJI	**Cimerak**	**3.49**	**116**	P	**Pn**	**00 37 56.7**	**+1.7**
KSI	**Kapahiang**	**3.73**	**314**	P	**Pb**	**00 38 02.6**	**-3.8**
PPBI	**Pangkal Pinang**	**4.15**	**12**	P	**Pn**	**00 38 06.1**	**+1.9**
TPI	**Tanjungpandan**	**4.20**	**34**	P	**Pn**	**00 38 04.6**	**-0.2**
XMIS	**Christmas Isla**	**4.22**	**175**	Pn	**Pn**	**00 38 04.4**	**-0.8**
SMRI	**Semarang**	**5.18**	**99**	P	**Pn**	**00 38 19.9**	**+1.6**
	2.7nm10μm304nm,1.5s						
SMRI	**Semarang**	**5.18**	**99**	Pn	**Pn**	**00 38 18.5**	**+0.2**
UGM	**Wanagama**	**5.45**	**108**	P	**Pn**	**00 38 24.9**	**+2.8**
	1.2nm4μm241nm,1.3s						
UGM	**Wanagama**	**5.45**	**108**	Pn	**Pn**	**00 38 22.2**	**+0.1**
DSRI	**Dabo**	**5.78**	**353**	P	**Pn**	**00 38 27.5**	**+1.0**
	1.0nm2μm42nm,0.7s						
WOJI	**Wonogiri, Jawa**	**5.81**	**106**	P	**Pn**	**00 38 28.1**	**+1.1**
	0.3nm1μm48nm,0.9s						
SDSI	**Sungai Dareh**	**6.54**	**324**	P	**Pn**	**00 38 37.9**	**+0.9**
	0.3nm1μm48nm,1.2s						
BKNI	**Bangkinang**	**7.79**	**327**	P	**Pn**	**00 38 56.5**	**+2.3**
	0.7nm99nm,1.4s						
BKNI	**Bangkinang**	**7.79**	**327**	Pn	**Pn**	**00 38 55.8**	**+1.6**
GMJI	**Gumukmas**	**8.34**	**104**	P	**Pn**	**00 39 04.0**	**+2.3**
	52nm,1.6s						
BLJI	**Banyuglugur**	**8.38**	**101**	P	**Pn**	**00 39 04.7**	**+2.4**
	52nm,1.5s						
MNSI	**Mandailing Nat**	**9.03**	**321**	P	**Pn**	**00 39 15.0**	**+3.8**
	29nm,1.1s						
JAGI	**Jajag, Banyuwa**	**9.06**	**105**	P	**Pn**	**00 39 14.7**	**+3.0**
	2μm51nm,1.0s						
JAGI	**Jajag, Banyuwa**	**9.06**	**105**	Pn	**Pn**	**00 39 11.8**	**+0.1**
COCO	**West Island**	**10.22**	**234**	P	**Pn**	**00 39 29.0**	**+1.4**
COCO	**West Island**	**10.22**	**234**	Pn	**Pn**	**00 39 28.9**	**+1.4**
GSI	**Gunungsitoli**	**10.75**	**314**	Pn	**Pn**	**00 39 36.7**	**+1.8**
RPSI	**Rantau Prapat**	**10.93**	**324**	Pn	**Pn**	**00 39 39.1**	**+1.8**
PSI	**Prapat**	**11.01**	**325**	P	**Pn**	**00 39 39.1**	**+0.6**
KULM	**Kulim**	**12.36**	**338**	Pn	**Pn**	**00 40 00.1**	**+3.1**
KAPI	**Kappang**	**14.45**	**86**	LR	LR	00 46 08.5	
	comp=Z,323nm,18.1s,baz=279,slow=38						
SRIT	**Nakonsritamara**	**15.80**	**339**		**P**	**00 40 47.7**	**+0.2**
SRIT				IAmb	IAmb	00 40 58.7	
	comp=Z,146nm,0.9s						
EDFI	**Ende, Flores**	**16.45**	**100**	P	**P**	**00 40 52.7**	**-2.1**
	comp=Z,322nmcomp=Z,14nm,1.5s						
LUWI	**Luwuk**	**18.19**	**74**	P	**P**	**00 41 14.0**	**0.0**
LUWI				IAmb	IAmb	00 41 22.2	
	comp=Z,113nm,1.1s						
BATI	**Baumata**	**18.60**	**103**	P	**Pn**	**00 41 19.8**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=248,slow=19,SNR=8.7						
BATI	**Baumata**	**18.60**	**103**	P	**Pn**	**00 41 20.1**	**+1.4**
	comp=Z,1μmcomp=Z,38nm,1.4s						
GTOI	**Gorontalo**	**18.97**	**69**	P	**P**	**00 41 19.9**	**-2.6**
	comp=Z,680nmcomp=Z,44nm,1.3s						
SOEI	**Soe**	**19.11**	**102**	P	**Pn**	**00 41 25.6**	**+0.6**
	comp=Z,1μmcomp=Z,100nm,1.3s						
SOEI	**Soe**	**19.11**	**102**	Pn	**Pn**	**00 41 25.2**	**+0.2**
UBPT	**Khong Chiam**	**21.39**	**0**	P	**P**	**00 41 50.7**	**+1.8**
PBA	**Port Blair**	**21.73**	**325**	P	P	00 41 51.4	-1.1
FITZ	**Fitzroy Crossi**	**23.08**	**122**	P	**P**	**00 42 07.5**	**+0.5**
	comp=Z,9.8nm,1.0s,baz=0.0,slow=7.9,SNR=11						
FITZ				LR	LR	00 51 43.8	
	comp=Z,88nm,19.6s,baz=77,slow=38						
FITZ	**Fitzroy Crossi**	**23.08**	**122**	P	**P**	**00 42 04.3**	**-2.6**
FITZ				IAmb	IAmb	00 42 14.3	
	comp=Z,53nm,1.5s						
KNRA	**Kununurra**	**24.85**	**114**	P	**P**	**00 42 23.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**25.34**	**346**	P	**P**	**00 42 25.9**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=179,slow=7.9,SNR=4.3						
CMAR				PcP	**PcP**	**00 46 02.1**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=201,slow=3.2,SNR=4.9						
CMAR				LR	LR	00 54 11.4	
	comp=Z,182nm,18.7s,baz=205,slow=41						
CMAR	**Chiang Mai Arr**	**25.34**	**346**	*ce*P	**P**	**00 42 27.7**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
QIZ	**Qiongzhong**	**25.52**	**10**	P	**P**	**00 42 33.9**	**+4.1**
QIZ				S	**S**	**00 47 05.0**	**+6.9**
QIZ				pmax	pmax		
	comp=Z,12nm,1.5s						
QIZ				LR	LR		
	comp=Z,640nm,14.4s						
QIZ				LR	LR		
	comp=Z,420nm,13.1s						
QIZ				LR	LR		
	comp=Z,520nm,14.5s						
QIZ	**Qiongzhong**	**25.52**	**10**	P	**P**	**00 42 30.9**	**+1.1**
QIZ				IAmb	IAmb	00 42 36.7	
	comp=Z,29nm,1.3s						
CHTO	**Chiang Mai**	**25.68**	**346**	P	**P**	**00 42 32.3**	**+1.0**
CHTO				*PP	**pP**	**00 42 32.8**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**25.68**	**346**		pP	00 42 32.8	+0.5
CHTO	**Chiang Mai**	**25.68**	**346**	P	**P**	**00 42 32.3**	**+1.0**
CHTO				IAmb	IAmb	00 42 37.5	
	comp=Z,8.3nm,1.0s						
MTN	**Manton Dam**	**26.30**	**106**	P	**P**	**00 42 34.2**	**-2.8**
MTN				IAmb	IAmb	00 42 48.9	
	comp=Z,42nm,1.2s						
SLVN	**Son La**	**27.45**	**357**	P	**P**	**00 42 49.1**	**+1.8**
PALK	**Pallekele**	**27.97**	**298**	LR	LR	00 52 35.9	
	comp=Z,147nm,19.5s,baz=230,slow=34						
NWAO	**Narrogin (SRO)**	**28.78**	**159**	LR	LR	00 54 28.4	
	comp=Z,263nm,19.4s,baz=10,slow=36						
WB0	**Warramunga Arr**	**31.30**	**118**	P	**P**	**00 43 20.5**	**

WRA Warramunga Arr 31.32 119 P **P** **00 43 21.5 -0.3**
comp=Z,5.5nm,0.7s,baz=289,slow=11,SNR=14
WRA PcP **PcP** **00 46 15.4 -0.6**
comp=Z,1.5nm,0.8s,baz=303,slow=2.0,SNR=3.7
WRA Warramunga Arr 31.32 119 P **P** **00 43 21.8 0.0**
WRAB Tennant Creek 31.33 118*c i*P **P** **00 43 21.9 +0.1**
WRAB pmax pmax
comp=Z,31nm,1.7s
WRAB Tennant Creek 31.33 118 P **P** **00 43 21.9 +0.1**
WRAB IAmb IAmb 00 43 41.3
comp=Z,16nm,0.8s
WB2 Warramunga Arr 31.33 119 P **P** **00 43 22.0 +0.1**
WB2 IAmb IAmb 00 43 23.2
comp=Z,14nm,1.0s
WR0 Warramunga Arr 31.50 118 P **P** **00 43 23.4 0.0**
WR0 IAmb IAmb 00 43 24.9
comp=Z,15nm,1.1s
FORT Forrest 32.44 142 P **P** **00 43 30.0 -1.4**
FORT IAmb IAmb 00 43 34.0
comp=Z,28nm,1.1s
ASAR Alice Springs 32.51 125 P **P** **00 43 32.9 +0.7**
comp=Z,7.3nm,1.0s,baz=293,slow=8.2,SNR=27
ASAR PcP **PcP** **00 46 18.9 -0.4**
comp=Z,2.1nm,0.9s,baz=289,slow=2.2,SNR=6.1
ASAR S **S** **00 48 46.6 -1.5**
comp=Z,1.4nm,1.0s,baz=293,slow=17,SNR=5.4
ASAR Alice Springs 32.51 125 P **P** **00 43 32.7 +0.6**
ASAR 00 46 19.5
ASAR Alice Springs 32.51 125 P **P** **00 43 32.7 +0.6**
ASAR **PcP** **00 46 19.5 +0.3**
AS31 Alice Springs 32.51 125 P **P** **00 43 33.0 +0.9**
GYA Guiyang 32.54 2 *e*P **P** **00 43 34.7 +2.2**
GYA pmax pmax
comp=Z,9.0nm,1.1s
GYA LR LR
comp=Z,410nm,9.9s
GYA LR LR
comp=Z,460nm,8.2s
GYA LR LR
comp=Z,450nm,9.5s
TWG Pinlang 32.76 28 P **P** **00 43 35.7 +1.4**
YULB Yu-li 33.36 27 P **P** **00 43 39.6 +0.1**
YULB IAmb IAmb 00 43 47.7
comp=Z,11nm,0.8s
SSLB Suanglung 33.54 27 P **P** **00 43 42.0 +0.8**
SSLB IAmb IAmb 00 43 46.3
comp=Z,29nm,1.3s
CD2 Chengdu 36.98 358 *e*P P 00 44 14.5 +3.8
CD2 S **S** **00 50 02.7 +5.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,800nm,8.6s
CD2 LR LR
comp=Z,1μm,10.8s
COEN Coen 38.03 105 P **P** **00 44 19.3 -0.6**
COEN IAmb IAmb 00 44 27.1
comp=Z,33nm,1.1s
SSE Sheshan 40.13 21 P **P** **00 44 40.7 +3.6**
SSE S S 00 50 52.7 +8.4
SSE pmax pmax
comp=Z,11nm,0.8s
SSE LR LR
comp=Z,99nm,11.1s
SSE LR LR
comp=Z,110nm,14.5s
NJ2 Nanjing 40.22 18 *e*P **P** **00 44 41.6 +3.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 LR LR
comp=Z,320nm,12.2s
NJ2 LR LR
comp=Z,220nm,9.0s
NJ2 LR LR
comp=Z,320nm,13.3s
PMG Port Moresby 41.58 97 P **P** **00 44 48.1 -1.3**
comp=Z,9.4nm,0.4s,baz=253,slow=18,SNR=1.9
CTA Charters Tower 42.06 113 P **P** **00 44 52.7 -0.6**
comp=Z,8.7nm,1.0s,baz=301,slow=6.9,SNR=7.0
CTAO Charters Tower 42.06 113 P **P** **00 44 53.7 +0.5**
CTAO pmax pmax
comp=Z,24nm,1.2s
CTAO Charters Tower 42.06 113 P **P** **00 44 53.7 +0.5**
CTAO IAmb IAmb 00 44 55.1
comp=Z,24nm,1.1s
LZH Lanzhou 42.13 358 *e*P **P** **00 44 51.8 -2.0**
LZH pP pP 00 44 54.4 -0.4
LZH sP sP 00 44 56.2 +1.0
LZH pmax pmax
comp=Z,12nm,1.1s
LZH LR LR
comp=N,560nm,10.3s
LZH LR LR
comp=E,430nm,10.0s
LZH LR LR
comp=Z,500nm,12.7s
STKA Stephens Creek 42.40 132 P **P** **00 44 56.5 +0.6**
comp=Z,12nm,0.6s,baz=304,slow=8.6,SNR=15
STKA Stephens Creek 42.40 132 P **P** **00 44 56.2 +0.3**
STKA pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 42.40 132 P **P** **00 44 56.2 +0.3**
GTA Gaotai 45.71 354 *e*P **P** **00 45 22.2 -0.2**
GTA pP sP 00 45 26.7 +2.8
GTA sP pP 00 45 29.2 +5.7
GTA PcP **PcP** **00 47 01.1 +0.7**
GTA S **S** **00 52 04.8 -1.7**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,59nm,7.3s
GTA LR LR
comp=Z,180nm,16.2s
GTA LR LR
comp=Z,160nm,16.2s
GTA LR LR
comp=Z,210nm,16.8s
HHC Hu-ho-hao-te 47.22 6 *e*P **P** **00 45 37.6 +3.4**
HHC S **S** **00 52 32.1 +4.1**
HHC sS sS 00 52 37.6 +7.9
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.9s
HHC LR LR
comp=Z,280nm,11.4s
HHC LR LR
comp=Z,330nm,13.0s
HHC LR LR
comp=Z,260nm,11.7s
EIDS Eidsvold 47.69 119 P **P** **00 45 38.5 +0.4**
TOO Toolangi 48.01 136 P **P** **00 45 40.4 -0.1**
TOO pmax pmax
comp=Z,16nm,1.1s
TOO Toolangi 48.01 136 P **P** **00 45 40.4 -0.1**
TOO IAmb IAmb 00 45 44.8
comp=Z,16nm,1.1s
KSAR Wonju Array Be 48.31 24 P **P** **00 45 43.2 +0.6**
KSAR Wonju Array Be 48.31 24 P **P** **00 45 43.2 +0.6**
KSRS Korea Array 48.34 24 P **P** **00 45 42.2 -0.6**
comp=Z,0.9nm,0.8s,baz=196,slow=7.3,SNR=2.1
WMQ Urumqi 52.32 344 *e*P **P** **00 46 16.4 +3.4**
MAJO Matsushiro 52.56 33⇑*e*P **P** **00 46 14.3 -0.5**
MJAR Matsushiro Arr 52.56 33 P **P** **00 46 12.9 -2.0**
comp=Z,0.6nm,0.4s,baz=208,slow=8.4,SNR=4.5
KBL Kabul 53.07 322 P **P** **00 46 18.8 -0.1**
KBL pmax pmax
comp=Z,9.0nm,1.3s
KBL Kabul 53.07 322 P **P** **00 46 18.8 -0.1**
SONM Songino Array 53.86 1 P **P** **00 46 22.8 -1.6**
comp=Z,3.6nm,0.9s,baz=182,slow=8.8,SNR=11
SONM PcP **PcP** **00 47 28.9 -1.1**
comp=Z,1.7nm,0.8s,baz=198,slow=3.5,SNR=4.2
SONM Songino Array 53.86 1 P **P** **00 46 24.1 -0.2**
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 53.86 1 P **P** **00 46 24.1 -0.2**
ULN Ulaanbaatar 53.91 1⇑*e*P **P** **00 46 24.1 -0.6**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 53.91 1 P **P** **00 46 24.9 +0.2**
USA0B Ussuriysk Arra 55.69 23 P **P** **00 46 36.5 -1.0**
USA0B pmax pmax
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 55.69 23 P **P** **00 46 36.5 -1.0**
USA0B IAmb IAmb 00 46 40.0
comp=Z,16nm,1.1s
USRK Ussuriysk Ar. 55.69 23 P **P** **00 46 36.9 -0.7**
comp=Z,8.9nm,0.9s,baz=205,slow=8.0,SNR=16
CHGR Chuyangaron 55.85 326 P **P** **00 46 37.2 -1.7**
CHGR IAmb IAmb 00 46 41.7
comp=Z,21nm,1.3s
MK31 Makanchi Array 56.62 341 P **P** **00 46 42.7 -1.5**
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MK31 Makanchi Array 56.62 341 P **P** **00 46 42.6 -1.5**
MKAR Makanchi Array 56.62 341 P **P** **00 46 42.4 -1.8**
comp=Z,3.3nm,0.8s,baz=140,slow=7.9,SNR=8.4
MKAR PcP **PcP** **00 47 41.0 +0.4**
comp=Z,2.1nm,1.0s,baz=145,slow=5.3,SNR=3.6
MAKZ Makanchi 56.73 341 P **P** **00 46 45.3 +0.3**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
MAKZ Makanchi 56.73 341 P **P** **00 46 45.3 +0.3**
UOSS Minazif 56.93 305 P **P** **00 46 46.9 +0.1**
UOSS IAmb IAmb 00 46 52.1
comp=Z,26nm,1.2s
OPO Ambohidratompo 57.82 252 P **P** **00 46 56.4 +3.0**
comp=Z,7.5nm,0.9s,baz=77,slow=18,SNR=3.0
DGZ Jazzator, Alta 57.85 346*d i*P **P** **00 46 52.3 -0.7**
DGZ pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 59.88 20 P **P** **00 47 05.3 -1.6**
comp=Z,3.2nm,0.8s,baz=278,slow=4.5,SNR=7.7
KLR Kul'dur 59.88 20⇑*e*P **P** **00 47 05.6 -1.3**
KLR pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 61.23 341⇑*e*P **P** **00 47 16.1 0.0**
KURK pmax pmax
comp=Z,6.0nm,1.4s
GEYT Alibeck 62.08 319 P **P** **00 47 20.4 -1.8**
comp=Z,7.6nm,1.0s,baz=146,slow=8.2,SNR=13
GEYT Alibeck 62.08 319 P **P** **00 47 21.2 -0.9**
GYA0B ALIBECK ARRAY 62.08 319 P **P** **00 47 22.0 -0.2**
GYA0B IAmb IAmb 00 47 23.2
comp=Z,8.5nm,0.8s
ZAA0 Zalesovo Array 62.40 347 P **P** **00 47 21.8 -2.1**
ZAA0 IAmb IAmb 00 47 24.6
comp=Z,7.9nm,1.1s
ZALV Zalesovo Beam 62.40 347 P **P** **00 47 21.7 -2.2**
comp=Z,4.7nm,0.9s,baz=134,slow=4.2,SNR=13
ZALV LR LR 01 16 49.9
comp=Z,144nm,18.4s,baz=160,slow=38
ZALV Zalesovo Beam 62.40 347 P **P** **00 47 21.4 -2.5**
ZALV Zalesovo Beam 62.40 347 P **P** **00 47 21.4 -2.5**
YSS Yuzh-Sakhalins 62.50 28⇓*e*P **P** **00 47 24.1 -0.6**
YSS *e* 00 47 32.8
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,100nm,18.0s
BRVK Borovoye 66.09 338*de*P **P** **00 47 48.3 +0.1**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 66.09 338 P **P** **00 47 48.7 +0.5**
MAW Mawson 67.60 196 P **P** **00 48 00.1 +2.6**
comp=Z,4.0nm,0.8s,baz=71,slow=7.6,SNR=6.9
MAW LR LR 01 11 45.9
comp=Z,53nm,19.4s,baz=54,slow=31
MAW Mawson 67.60 196 P **P** **00 47 57.0 -0.5**
MAW Mawson 67.60 196 P **P** **00 47 57.0 -0.5**
ABKAR Akbulak array 67.91 330 P **P** **00 47 57.9 -1.9**
KMBO Kilima Mbogo 68.05 271 P **P** **00 48 03.1 +1.4**
comp=Z,2.2nm,1.0s,baz=33,slow=2.6,SNR=3.2
KMBO Kilima Mbogo 68.05 271 P **P** **00 48 01.5 -0.2**
KMBO pmax pmax
comp=Z,7.0nm,1.4s
KMBO Kilima Mbogo 68.05 271 P **P** **00 48 01.5 -0.2**
YAK Yakutsk 70.64 12⇓*e*P **P** **00 48 16.9 +0.5**
YAK pmax pmax
comp=Z,16nm,0.6s
AKT Akhty 70.77 318 *e*P **P** **00 48 20.2 +2.3**
AKT *e* 00 48 40.1
AKT pmax pmax
comp=Z,27nm,1.1s
SVE Sverdlovsk 72.64 336 *e*P **P** **00 48 27.6 -1.0**
SVE pmax pmax
comp=Z,11nm,1.3s
GEVA Gevas 72.69 313 P **P** **00 48 29.3 -0.3**
GEVA IAmb IAmb 00 48 33.0
comp=Z,10nm,1.0s
GROC Groznyy 72.83 319 *e*P **P** **00 48 30.2 +0.2**
GROC *e* 00 48 47.1
GROC *e* 00 51 14.0
GROC *e*S **SKiKP** **00 58 00.0 -5.0**
GROC pmax pmax
comp=Z,34nm,1.1s
ARU Arti 73.22 335*c i*P **P** **00 48 32.3 +0.2**
ARU 00 48 47.2
ARU S **SKiKP** **00 58 04.5 -0.7**
ARU SS **SS** **01 02 42.1 -0.5**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 73.22 335 P **P** **00 48 31.6 -0.4**
AKH Akhalkalaki 73.61 316 P **P** **00 48 34.7 -0.3**
AKH pmax pmax
comp=Z,11nm,1.1s
AKH Akhalkalaki 73.61 316 P **P** **00 48 34.7 -0.3**
PETK Petropavlovsk- 73.78 30 P **P** **00 48 34.0 -1.4**
comp=Z,1.0nm,0.7s,baz=193,slow=5.6,SNR=3.2
ZEI Tsey 73.90 318 *e*P **P** **00 48 36.9 +0.2**
ZEI pmax pmax
comp=Z,15nm,1.4s
MARD Mardin 73.99 312 IAmb IAmb 00 48 41.4
comp=Z,18nm,1.1s
PET Petropavlovsk 74.21 30⇓*e*P **P** **00 48 38.8 +0.9**
PET pmax pmax
comp=Z,51nm,1.3s
KBZ Khabaz 74.96 318 P **P** **00 48 42.3 -0.2**
comp=Z,8.9nm,0.9s,baz=153,slow=5.5,SNR=16
KBZ Khabaz 74.96 318*c i*P **P** **00 48 42.5 0.0**
KBZ pmax pmax
comp=Z,14nm,1.0s
KOPT Kop Dagi 75.17 314 P **P** **00 48 44.0 -0.2**
KOPT IAmb IAmb 00 48 53.0
comp=Z,23nm,1.3s
SYO Syowa Base 75.62 200⇑*e*P **P** **00 48 47.0 +1.1**
SYO Syowa Base 75.62 200⇓*i*pP pP 00 48 48.0 +1.1
GAZ Gaziantep 76.62 310 P **P** **00 48 51.8 -0.5**
GAZ IAmb IAmb 00 48 57.5
comp=Z,15nm,1.2s
VNDA Vanda 77.01 169 P **P** **00 48 55.5 +1.8**
comp=Z,4.8nm,1.1s,baz=303,slow=7.1,SNR=12
VNDA Vanda 77.01 169 P **P** **00 48 54.3 +0.6**
VNDA pmax pmax
comp=Z,14nm,1.4s
VNDA Vanda 77.01 169 P **P** **00 48 54.3 +0.6**
VNDA IAmb IAmb 00 48 57.6
comp=Z,14nm,1.4s
TOKA Tokat 78.17 313 P **P** **00 49 01.8 +0.9**
BOSA Boshof 78.30 242 P **P** **00 49 03.9 +1.9**
comp=Z,4.5nm,0.8s,baz=113,slow=6.0,SNR=5.2
BOSA Boshof 78.30 242 P **P** **00 49 03.9 +1.9**
BOSA pmax pmax
comp=Z,15nm,1.3s
BOSA Boshof 78.30 242 IAmb IAmb 00 49 05.4
comp=Z,15nm,1.2s
VRH Novokhopyorsk 78.79 325 *e*P **P** **00 49 02.2 -1.8**
VRH pmax pmax
comp=Z,20nm,1.6s
CSS Mathiatis 78.98 307 P **P** **00 49 05.8 +0.4**
CSS IAmb IAmb 00 49 09.7
comp=Z,22nm,1.1s
BR131 Keskin Array S 80.06 312 P **P** **00 49 12.2 +0.8**
BR131 pmax pmax
comp=Z,9.0nm,1.1s
BR131 Keskin Array S 80.06 312 P **P** **00 49 12.2 +0.8**
BRTR Keskin Array B 80.06 312 P **P** **00 49 10.3 -1.1**
comp=Z,3.4nm,0.9s,baz=126,slow=6.3,SNR=9.0
BRTR Keskin Array B 80.06 312*ce*P **P** **00 49 10.8 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
VSR Storozhevoye 80.27 324 *e*P **P** **00 49 10.2 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 80.94 326 *e*P **P** **00 49 14.8 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 81.68 335 *e*P **P** **00 49 18.4 -0.9**
PRGR pmax pmax
comp=Z,11nm,0.9s
BOLV Bolvadin 81.80 310 P **P** **00 49 20.7 0.0**
BOLV IAmb IAmb 00 49 25.6
comp=Z,16nm,1.0s
MDUB Mudurnu 82.07 312 P **P** **00 49 22.1 +0.1**
ELL Elmali 82.12 308 P **P** **00 49 22.3 -0.1**
ELL pmax pmax
comp=Z,53nm,1.2s
ELL Elmali 82.12 308 P **P** **00 49 22.3 -0.1**
MOS Moscow 82.85 328 *e*P **P** **00 49 24.6 -1.0**
MOS pmax pmax
comp=Z,27nm,1.0s
OBN Obninsk 83.18 327⇑*e*P **P** **00 49 27.1 -0.2**
OBN *e* 00 52 36.5
OBN *e*S S 00 59 35.0 -13
OBN pmax pmax
comp=Z,40nm,1.7s
OBN Obninsk 83.18 327 P **P** **00 49 27.0 -0.2**
QSPA South Pole Qui 83.74 180 P **P** **00 49 31.8 +1.6**
comp=Z,11nm,1.1s,baz=276,slow=1.3,SNR=12
QSPA South Pole Qui 83.74 180 P **P** **00 49 30.5 +0.3**
KLMR Klimovskoe 83.95 333 *e*P **P** **00 49 29.6 -1.5**
KLMR pmax pmax
comp=Z,24nm,1.5s
KLMR Klimovskoe 83.95 333 *e*P **P** **00 49 29.6 -1.5**
KLMR AMP 00 49 35.0
comp=Z,24nm,1.5s
MILM Milestii Mici 85.38 318 ⇑P **P** **00 49 38.4 -0.2**
SORM Soroca 85.97 319 ⇑P **P** **00 49 40.2 -1.4**
SORM Soroca 85.97 319 ⇑P **P** **00 49 40.2 -1.4**
AKASG Malin Array Be 86.06 322 P **P** **00 49 40.9 -1.1**
comp=Z,4.2nm,0.8s,baz=88,slow=4.5,SNR=6.8
AKASG Malin Array Be 86.06 322*ce*P **P** **00 49 41.4 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
VRI Vrincioaia 86.54 317 ⇑P **P** **00 49 45.3 +0.8**
VRI Vrincioaia 86.54 317 ⇑P **P** **00 49 45.3 +0.8**
TESR Tescani 86.73 317 ⇑P **P** **00 49 45.7 +0.3**
MLR Muntele Rosu 86.99 316 ⇑P **P** **00 49 46.4 -0.5**
MLR Muntele Rosu 86.99 316 ⇑P **P** **00 49 46.4 -0.5**
MLR Muntele Rosu 86.99 316 P **P** **00 49 47.1 +0.3**
BIZ Bicaz 87.19 318 ⇑P **P** **00 49 49.6 +1.9**
PRAR RASCA 87.19 318 ⇑P **P** **00 49 48.1 +0.5**
HUMR Humele 87.47 315 ⇑P **P** **00 49 48.2 -0.8**
ARR Arges 87.88 316 ⇑P **P** **00 49 50.0 -1.1**
BURAR Bucovina Array 87.92 318 ⇑P **P** **00 49 52.2 +1.0**
BURAR Bucovina Array 87.92 318 ⇑P **P** **00 49 52.2 +1.0**
BURAR Bucovina Array 87.92 318 P **P** **00 49 52.0 +0.7**
ARCR ARCALIA 88.39 318 ⇓P **P** **00 49 53.6 +0.2**
LOT Lotru 88.49 316 ⇑P **P** **00 49 53.5 -0.6**
LIT Litokhoron 88.50 310 P **P** **00 49 52.7 -1.4**
LIT pmax pmax
comp=Z,31nm,1.4s
LIT Litokhoron 88.50 310 P **P** **00 49 52.7 -1.4**
IDID Didziasalis 88.62 326 *e*P **P** **00 49 54.8 +0.6**
IIGN Ignalina 88.92 326 *e*P **P** **00 49 56.1 +0.5**
ISAL Salakas 89.02 326 *e*P **P** **00 49 56.7 +0.6**
LVV L'vov 89.11 320 *e*P **P** **00 49 56.6 -0.1**
DEV Deva 89.16 316 ⇑P **P** **00 49 58.3 +1.3**
DEV Deva 89.16 316 ⇑P **P** **00 49 58.3 +1.3**
VSU Vasula 89.33 329 *e*P **P** **00 49 57.8 +0.3**
VSU Vasula 89.33 329⇓*i*P **P** **00 49 58.0 +0.5**
VSU pmax pmax
comp=Z,42nm,0.9s
HERR Herculane 89.33 315 ⇑P **P** **00 49 58.3 +0.5**
SNAA Sanae 89.73 197 P P 00 50 02.7 +3.4
SNAA Sanae 89.73 197 P **P** **00 49 59.7 +0.4**
SNAA pmax pmax
comp=Z,15nm,1.2s
SNAA Sanae 89.73 197 P **P** **00 49 59.7 +0.4**
SNAA IAmb IAmb 00 50 08.1
comp=Z,15nm,1.2s
MDVR Moldovita 89.81 315 ⇑P **P** **00 50 00.1 -0.1**
KWP Kalwaria Pacla 89.93 320 P **P** **00 50 01.1 +0.6**
KWP pmax pmax
comp=Z,28nm,1.5s
KWP Kalwaria Pacla 89.93 320 P **P** **00 50 01.1 +0.6**
BZS Buzias 90.01 316 ⇑P **P** **00 50 01.8 +0.8**
BZS Buzias 90.01 316 ⇑P **P** **00 50 01.8 +0.8**
UZH Uzhgorod 90.03 319 *e*P **P** **00 49 59.6 -1.4**
UZH *e* 00 50 04.3
UZH *e* 00 50 09.2
SIRR Siria 90.08 316 ⇑P **P** **00 50 01.2 -0.1**
KOLS Kolonicke sedl 90.09 319 *e*P **P** **00 50 01.5 +0.2**
KOLS pmax pmax
comp=Z,19nm,1.1s
KOLS Kolonicke sedl 90.09 319 *e*P **P** **00 50 01.5 +0.2**
PABE Paberze 90.21 326 *e*P **P** **00 50 01.7 +0.1**
FIA1 FINESS Array S 90.31 332 P **P** **00 50 02.6 +0.6**
FIA1 IAmb IAmb 00 50 04.9
comp=Z,12nm,1.1s
FINES FINESS Array B 90.31 332 P **P** **00 50 01.2 -0.8**
comp=Z,4.7nm,0.9s,baz=87,slow=8.4,SNR=8.9
FINES FINESS Array B 90.31 332*ce*P **P** **00 50 01.7 -0.3**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 90.31 332 P **P** **00 50 01.5 -0.5**
SUW Suwalki 90.39 324 P **P** **00 50 02.0 -0.5**
SUW pmax pmax
comp=Z,31nm,1.0s
SUW Suwalki 90.39 324 P **P** **00 50 02.0 -0.5**
PDG Podgorica 91.25 312 P **P** **00 50 06.7 -0.1**
PDG IAmb IAmb 00 50 10.8
comp=Z,15nm,1.4s
VNA2 Neumayer--Watz 91.37 198 P **P** **00 50 10.1 +3.2**
PSZ Piszkesteto 91.51 318 P **P** **00 50 06.6 -1.4**
PSZ pmax pmax
comp=Z,10.0nm,1.5s
PSZ Piszkesteto 91.51 318 P **P** **00 50 06.6 -1.4**
PSZ IAmb IAmb 00 50 21.1
comp=Z,10nm,1.5s
VNA1 Neumayer--Stat 91.74 198 P P 00 50 12.2 +3.6
OJC Ojcow 91.87 320 P **P** **00 50 09.6 0.0**
OJC pmax pmax
comp=Z,9.0nm,1.2s
OJC Ojcow 91.87 320 P **P** **00 50 09.6 0.0**
OJC IAmb IAmb 00 50 15.4
comp=Z,9.0nm,1.2s
VNA3 Neumayer Olymp 91.91 197 P **P** **00 50 12.2 +2.8**
ARCES ARCESS Array B 92.25 340 LR LR 01 35 17.6
comp=Z,44nm,18.4s,baz=218,slow=38
VYHS Vyhne 92.28 318 *e*P **P** **00 50 11.7 +0.2**
VYHS pmax pmax
comp=Z,9.0nm,1.7s
VYHS Vyhne 92.28 318 *e*P **P** **00 50 11.7 +0.2**
SRO Srobarova 92.55 318 *e*P **P** **00 50 15.4 +2.7**
SRO Srobarova 92.55 318 *e*P **P** **00 50 15.4 +2.7**
MORC Moravsky Berou 93.27 320 P **P** **00 50 16.4 +0.3**
MORC pmax pmax
comp=Z,6.0nm,1.4s
MORC Moravsky Berou 93.27 320 P **P** **00 50 16.4 +0.3**
MORC IAmb IAmb 00 50 20.5
comp=Z,6.4nm,1.4s
GERES GERESS Array B 95.70 318 P **P** **00 50 26.6 -0.8**
comp=Z,0.4nm,0.7s,baz=94,slow=5.6,SNR=7.0
GERES GERESS Array B 95.70 318 P **P** **00 50 27.1 -0.2**
GERES GERESS Array B 95.70 318 P **P** **00 50 27.1 -0.2**
CIMO Cimolais 96.44 316 P **P** **00 50 29.7 -1.0**
CIMO IAmb IAmb 00 50 35.9
comp=Z,8.6nm,1.4s
NOA NORSAR Array B 97.40 331 P **P** **00 50 33.2 -1.5**
comp=Z,0.6nm,0.9s,baz=89,slow=4.6,SNR=2.9
J05D Fort Rock, OR 124.99 40 P **PKiKP** **00 56 01.7 -0.8**
baz=298
MSO Missoula 127.40 33 P **PKiKP** **00 56 06.2 -0.8**
baz=308
EGMT Eagleton 128.79 30 P **PKiKP** **00 56 09.9 +0.1**
baz=313
HLID Hailey 129.07 37 P **PKiKP** **00 56 09.9 -0.7**
baz=305
NVAR Mina Array Bea 129.23 44 PKP **PKiKP** **00 56 11.2 +0.1**
comp=Z,1.2nm,0.9s,baz=321,slow=1.2,SNR=8.0
NVAR Mina Array Bea 129.23 44 PKPdf **PKiKP** **00 56 11.6 +0.4**
BOZ Bozeman (W) 129.42 33 P **PKiKP** **00 56 10.5 -0.7**
baz=309
MPMC Manual Prospec 130.89 47 P **PKiKP** **00 56 17.7 +3.2**
baz=297
R11A Troy Canyon, C 131.14 43 P **PKiKP** **00 56 15.5 +0.6**
baz=300
DUG Dugway, Tooele 131.97 39 P **PKiKP** **00 56 17.7 +1.2**
baz=304
PDAR Pinedale Array 132.37 35 PKP **PKiKP** **00 56 17.4 0.0**
comp=Z,0.9nm,1.0s,baz=328,slow=2.3,SNR=6.3
GMRC Granite Mounta 132.80 47 P **PKiKP** **00 56 20.3 +2.0**

baz=297
O20A White River Ci 134.81 37 P **PKiKP 00 56 22.5 +0.1**
baz=309
S22A 4UR Ranch, Cre 137.17 38 P **PKiKP 00 56 29.6 +2.3**
baz=309
ECSD EROS Data Cent 138.00 24 P **PKiKP 00 56 26.9 -1.5**
baz=326
T25A Trinidad 139.03 37 P **PKiKP 00 56 29.3 -1.8**
baz=311
ANMO Albuquerque 139.13 41 ⇑*i*PKIKP **PKiKP 00 56 30.1 -1.2**
ANMO Albuquerque 139.13 41 P **PKiKP 00 56 29.6 -1.6**
baz=307
D55A Sainte-Anne-du 139.38 1 P **PKiKP 00 56 30.8 -0.3**
baz=359
E57A Chemin Saint G 139.99 359 P **PKiKP 00 56 32.2 -0.2**
baz=0.8
E58A La Victoria 140.01 358 P **PKiKP 00 56 32.1 -0.3**
baz=2.1
WMOK Wichita Mounta 143.99 35 P PKPbc 00 56 33.9 -1.4
baz=316
BINY Binghamton 144.18 2 P **PKPdf 00 56 37.4 -0.2**
baz=358
L64A Middleborough 144.30 355 P **PKiKP 00 56 38.3 -3.1**
baz=6.5
TXAR Lajitas Array 144.32 46 PKP **PKPdf 00 56 36.8 -1.6**
comp=Z,4.0nm,0.9s,baz=258,slow=2.0,SNR=21
TXAR Lajitas Array 144.32 46 PKiKP **PKPdf 00 56 37.5 -0.9**
TXAR Lajitas Array 144.32 46 PKPdf **PKPdf 00 56 37.5 -0.9**
L57A Andrews Acres 144.35 3 P PKPbc 00 56 35.7 -0.4
baz=356
M56A Emporium 144.78 5 P **PKPab 00 56 36.0 -1.4**
baz=354
M59A Waymart 144.85 1 P **PKPdf 00 56 37.4 -1.4**
baz=359
CCM Cathedral Cave 144.96 23 P **PKPab 00 56 36.9 -1.3**
baz=330
M58A Price's Panora 144.99 2 P **PKPdf 00 56 37.9 -1.1**
baz=357
M57A Sunshine Farm, 145.00 3 P **PKPdf 00 56 38.0 -1.1**
baz=356
M60A Port Jervis 145.07 360 P **PKPdf 00 56 37.7 -1.4**
baz=0.0
N53A Lisbon 145.16 8 P **PKPdf 00 56 38.1 -1.3**
baz=349
N56A West Decatur 145.33 5 P **PKPdf 00 56 38.7 -1.0**
baz=354
ACSO Alum Creek Sta 145.36 11 P **PKPbc 00 56 38.2 -1.3**
baz=345
PAL Palisades 145.39 359 P **PKPab 00 56 39.2 -0.5**
baz=1.3
N55A Marion Center 145.41 6 P **PKPab 00 56 39.4 -0.4**
baz=352
N59A State Game Lan 145.47 1 P **PKPab 00 56 39.4 -0.6**
baz=358,SNR=9.7
N58A Sunbury 145.51 3 P **PKPab 00 56 39.3 -0.8**
baz=356,SNR=10
O51A Pataskala 145.51 11 P **PKPab 00 56 39.5 -0.7**
baz=346
N60A Cedar Hill Far 145.53 1 P **PKPab 00 56 39.8 -0.3**
baz=359
N57A Milroy 145.55 4 P **PKPab 00 56 39.3 -1.0**
baz=355
N61A South Mountain 145.65 359 P **PKPab 00 56 39.9 -0.7**
baz=0.6
SSPA Standing Stone 145.65 4 P **PKPab 00 56 39.7 -0.9**
baz=354
U40A Yellville 145.74 27 P **PKPbc 00 56 39.5 -1.3**
baz=327
BDFB Brasilia 145.76 230 PKPbc **PKiKP 00 56 43.2 -2.0**
comp=Z,6.2nm,0.8s,baz=129,slow=6.5,SNR=6.2
O54A Avella 145.83 8 P **PKPab 00 56 41.3 -0.1**
baz=350
O55A Ligonier 145.94 6 P **PKPdf 00 56 39.7 -1.1**
baz=352
O56A Blue Knob Stat 145.95 5 P **PKPab 00 56 40.7 -1.2**
baz=353
O59A Robesonia 146.06 2 P **PKPab 00 56 40.7 -1.5**
baz=357
O60A Telford 146.07 1 P **PKPab 00 56 41.5 -0.7**
baz=359
O57A Amberson 146.09 4 P **PKPab 00 56 41.4 -0.9**
baz=355
P52A Corning 146.10 10 P **PKPab 00 56 41.2 -1.2**
baz=347
O58A Lewisberry 146.22 3 P **PKPab 00 56 41.6 -1.2**
baz=356
W39A Magazine 146.26 29 P **PKPab 00 56 41.8 -1.3**
baz=324
JCT Junction City 146.29 41 P **PKPab 00 56 43.0 -0.5**
baz=311,SNR=10
P53A Whipple 146.37 9 P **PKPab 00 56 42.2 -1.2**
baz=348
P54A Burton 146.39 8 P **PKPab 00 56 42.4 -1.1**
baz=350
MCWV Mont Chateau 146.42 7 P **PKPab 00 56 42.1 -1.5**
baz=351
WCI Wyandotte Cave 146.47 17 P **PKPab 00 56 42.2 -1.6**
baz=339
P55A Reedsville 146.57 7 P **PKPbc 00 56 41.7 -1.5**
baz=351
P60A Greenville 146.58 1 P **PKPbc 00 56 41.8 -1.4**
baz=358
P56A Dayton Farm, R 146.68 6 P **PKPbc 00 56 42.8 -0.7**
baz=352
Q52A Bidwell 146.72 11 P **PKPbc 00 56 42.8 -0.9**
baz=346
WHTX Lake Whitney, 146.73 37 P **PKPab 00 56 44.0 -1.0**
baz=316
P57A Homestead Farm 146.78 5 P **PKPbc 00 56 43.0 -0.8**
baz=354
P58A Pank, Wackersv 146.83 4 P **PKPab 00 56 43.3 -1.8**
baz=355
MIAR Mount Ida 146.88 29 P **PKPab 00 56 43.8 -1.7**
baz=324
Q54A Coxs Mills 146.95 9 P **PKPbc 00 56 43.2 -1.1**
baz=349
Q53A Leroy 146.96 10 P **PKPbc 00 56 43.5 -0.8**
baz=347
W41B Gary Mavity, V 146.99 27 P **PKPbc 00 56 43.2 -1.3**
baz=327
Q55A Buckhannon 147.04 8 P **PKPbc 00 56 44.1 -0.6**
baz=350
Q56A Snyder Ridge, 147.11 6 P **PKPbc 00 56 43.8 -1.0**
baz=352
Q57A Strasburg 147.19 5 P **PKPbc 00 56 44.0 -1.0**
baz=353
X40A Basin Creek Fa 147.29 28 P **PKPab 00 56 45.4 -1.7**
baz=325
Q58A Fox Den Farm, 147.34 4 P **PKPbc 00 56 44.3 -1.1**
baz=354
R53A Hurricane 147.40 11 P **PKPbc 00 56 44.3 -1.3**
baz=346
R54A Victor 147.71 9 P **PKPbc 00 56 45.9 -0.6**
baz=348
R56A Bull Pasture M 147.71 7 P **PKiKP 00 56 46.4 -2.2**
baz=351
R55A Marlinton 147.74 8 P **PKPbc 00 56 45.9 -0.7**
baz=350
R57A Stanardsville 147.91 6 P **PKPbc 00 56 46.1 -0.9**
baz=353,SNR=11
WVT Waverly 147.92 20 P **PKPbc 00 56 46.1 -1.0**
baz=335
833A Chaparral WMA, 147.93 44 P **PKiKP 00 56 48.0 -1.2**
baz=309
R58A Rapidan 147.96 5 P **PKPbc 00 56 46.6 -0.5**
baz=354,SNR=11
S55A Lewisburg 148.18 9 P **PKPbc 00 56 46.1 -1.8**
baz=349
R58B Mineral 148.30 5 P **PKPbc 00 56 47.1 -0.9**
baz=354
Z41A Richland Creek 148.30 30 P **PKiKP 00 56 48.8 -1.1**
baz=324
S57A Dark Hollow, R 148.40 6 P **PKPbc 00 56 47.7 -0.6**
baz=352
S56A Natural Bridge 148.41 7 P **PKiKP 00 56 48.0 -2.0**
baz=351
NATX Nacogdoches 148.50 34 P **PKiKP 00 56 49.8 -0.6**
baz=320
T53A Wise 148.59 12 P **PKPbc 00 56 48.3 -0.7**
baz=345
S58A Poland Farm, P 148.63 5 P **PKPbc 00 56 48.3 -0.6**
baz=354
T54A Tazewell 148.70 11 P **PKPbc 00 56 48.4 -0.8**
baz=347,SNR=11
BLA Blacksburg 148.75 9 P **PKiKP 00 56 48.8 -2.0**
baz=349
OXF Oxford 148.77 24 P **PKiKP 00 56 49.2 -1.6**
baz=331
T55A Pulaski 148.78 9 P **PKiKP 00 56 48.9 -1.9**
baz=348
TZTN Tazewell 148.78 14 P **PKPbc 00 56 48.4 -1.0**
baz=343
T56A Rocky Mt 148.98 8 P **PKPbc 00 56 49.2 -0.7**
baz=350,SNR=9.6
T57A Hurt 149.12 7 P **PKiKP 00 56 49.8 -1.7**
baz=351
U54A Nelsons Funny 149.18 11 P **PKiKP 00 56 49.9 -1.8**
baz=346
T60A Surry 149.20 3 P **PKiKP 00 56 50.6 -1.0**
baz=356
T58A Grand View Acr 149.25 6 P **PKiKP 00 56 50.4 -1.3**
baz=352,SNR=7.4
T59A Double "B" Far 149.31 4 P **PKiKP 00 56 50.6 -1.2**
baz=354,SNR=5.6
U55A TA2, Sparta 149.34 10 P **PKPbc 00 56 49.9 -0.9**
baz=348,SNR=13
U56A King 149.60 9 P **PKiKP 00 56 51.0 -1.5**
baz=349
U57A Blanch 149.66 7 P **PKiKP 00 56 51.0 -1.6**
baz=351,SNR=11
U58A Oxford 149.79 6 P **PKiKP 00 56 51.5 -1.3**
baz=352,SNR=7.4
U60A Pendleton 149.84 4 P **PKiKP 00 56 52.6 -0.3**
baz=355
V54A Nebo 149.87 12 P **PKPbc 00 56 51.0 -1.1**
baz=346,SNR=6.2
U59A Littleton 149.91 5 P **PKiKP 00 56 51.9 -1.2**
baz=354
V55A Taylorsville 149.94 11 P **PKiKP 00 56 51.8 -1.4**
baz=347,SNR=9.5
V56A Mocksville 150.10 9 P **PKiKP 00 56 51.8 -1.7**
baz=348,SNR=7.8
V57A Coltrane Farms 150.14 8 P **PKiKP 00 56 52.3 -1.3**
baz=350,SNR=11
VBMS Vicksburg 150.25 28 P **PKiKP 00 56 52.9 -1.0**
baz=327
V58A Windy Hill, Pi 150.32 7 P **PKiKP 00 56 52.8 -1.2**
baz=351
V59A Middlesex 150.45 6 P **PKiKP 00 56 52.8 -1.4**
baz=353
W54A Cherokee Point 150.49 13 P **PKPbc 00 56 52.1 -1.5**
baz=345,SNR=8.3
KMSC Kings Mountain 150.61 11 P **PKiKP 00 56 53.1 -1.5**
baz=346,SNR=14
W56A Indian Trail 150.75 10 P **PKiKP 00 56 53.5 -1.4**
baz=348
W57A Gilead 150.83 9 P **PKiKP 00 56 53.7 -1.3**
baz=349
X54A Belton 150.96 13 P **PKiKP 00 56 53.9 -1.5**
baz=344,SNR=13
LRAL Lakeview Retre 151.00 22 P **PKPbc 00 56 52.6 -2.2**
baz=334,SNR=8.9
CNNC Cliffs of the 151.00 5 P **PKiKP 00 56 55.2 -0.1**
baz=353
W58A Raeford 151.07 8 P **PKiKP 00 56 54.9 -0.6**
baz=351
W61A Ground Anchor 151.14 4 P **PKiKP 00 56 55.8 +0.2**
baz=355
X55A Gracelyn & Ava 151.20 12 P **PKiKP 00 56 54.4 -1.4**
baz=346
W60A Pink Hill 151.20 5 P **PKiKP 00 56 55.7 -0.1**
baz=354
X56A White Oak 151.29 11 P **PKiKP 00 56 54.5 -1.5**
baz=347,SNR=9.6
X57A Johnson Farm, 151.49 9 P **PKiKP 00 56 56.4 0.0**
baz=349
X58A Rowland 151.51 8 P **PKiKP 00 56 56.0 -0.5**
baz=350
X59A McDuffie Farm, 151.59 7 P **PKiKP 00 56 56.5 -0.1**
baz=352
X60A Albert Glenn T 151.65 6 P **PKiKP 00 56 56.5 -0.2**
baz=353
Y55A Saluda 151.66 13 P **PKiKP 00 56 55.9 -0.9**
baz=345
GOGA Godfrey 151.78 16 P **PKiKP 00 56 56.6 -0.4**
baz=341,SNR=13
Y57A Sumter 151.87 10 P **PKiKP 00 56 56.3 -0.9**
baz=348
Y59A Loris 152.13 7 P **PKiKP 00 56 57.4 -0.4**
baz=351
Z56A Williston 152.36 12 P **PKiKP 00 56 58.6 +0.3**
baz=346
Z57A Bowman 152.52 11 P **PKiKP 00 56 57.7 -0.9**
baz=347
Z58A St. Stephen 152.64 9 P **PKiKP 00 56 58.4 -0.4**
baz=349
BRAL Brewton 152.64 23 P **PKiKP 00 56 59.8 +0.9**
baz=332
NHSC New Hope 152.80 10 P **PKiKP 00 57 01.4 +2.3**
baz=348
TIGA Tifton 153.60 17 P **PKiKP 00 57 01.5 +0.6**
baz=340

*NEIC **06** 00:39:08.4±1.7, 10°.94S±0°.09×162°.03E±0°.07, h10km±1km, mb4.7/51, Error ellipse: s-maj=17.8km s-min=3.3km az=36.0*
*IDC **06** 00:39:15.8±2.4, 10°.96S×161°.96E, h70km±19km, mb3.9/14, mb1 4.1/16, mb1mx3.9/40, mbtmp4.3/16, MS3.5/8, Ms1 3.5/8, ms1mx3.2/30, Error ellipse: s-maj=19.5km s-min=14.3km az=82.0*
ISC 06 00:39:08.2±0.4, 10.93S±0°.06×161°.96E±0°.07, h10km, n83, σ1§27/78, mb4.6/35, MS3.4/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.48**	**307**	P	**Pb**	**00 39 52.6**	**-0.3**
	127nm,0.3s,baz=146,slow=7.7,SNR=9.6						
HNR				S	**Sg**	**00 40 25.2**	**-2.8**
	104nm,0.3s,baz=143,slow=20,SNR=4.1						
HNR	**Honiara**	**2.48**	**307**		**Pb**	**00 39 52.4**	**-0.5**
SANVU	**Saraoutou**	**6.79**	**132**	Pn	**Pn**	**00 40 49.4**	**+1.4**
DZM	**Mont Dzumac**	**11.88**	**159**	*e*Pn	**Pn**	**00 42 00.1**	**+2.3**
	8.7nm,0.6s						
DZM	**Mont Dzumac**	**11.88**	**159**	P	**Pn**	**00 42 00.2**	**+2.4**
	0.6nm,0.3s,baz=26,slow=10,SNR=26						
DZM				S	**Sn**	**00 44 05.9**	**-4.6**
	0.7nm,0.3s,baz=322,slow=19,SNR=2.0						
DZM				LR	LR	00 45 42.4	
	comp=Z,347nm,19.2s,baz=31,slow=33						
DZM	**Mont Dzumac**	**11.88**	**159**		**Pn**	**00 42 00.1**	**+2.3**
PMG	**Port Moresby**	**14.65**	**275**	LR	LR	00 48 05.7	
	comp=Z,264nm,19.4s,baz=90,slow=36						
CTA	**Charters Tower**	**17.65**	**237**	P	**P**	**00 43 19.3**	**+4.0**
	0.5nm,0.3s,baz=69,slow=13,SNR=9.5						
CTAO	**Charters Tower**	**17.65**	**237**	P	**P**	**00 43 16.9**	**+1.6**
EIDS	**Eidsvold**	**17.68**	**214**	P	**P**	**00 43 15.7**	**+0.2**
PATS	**Pohnpei**	**18.02**	**348**	P	**P**	**00 43 21.1**	**+1.7**
PATS				IAmb	IAmb	00 43 37.5	
	comp=Z,49nm,0.9s						
COEN	**Coen**	**18.59**	**259**	P	**Pn**	**00 43 27.2**	**+1.2**
LHI	**Lord Howe Isla**	**20.66**	**187**	P	**P**	**00 43 48.3**	**+0.1**
LHI				IAmb	IAmb	00 44 03.2	
	comp=Z,55nm,1.1s						
ARMA	**Armidale**	**21.64**	**205**	P	**P**	**00 44 00.1**	**+1.2**
JAY	**Jayapura**	**22.69**	**290**	P	**P**	**00 44 12.9**	**+2.7**
	comp=Z,7.8nm,0.6s,baz=115,slow=16,SNR=5.0						
AFI	**Afiamalu**	**25.81**	**99**	P	**P**	**00 44 39.5**	**-0.5**
OUZ	**Omahuta**	**26.39**	**158**	P	**P**	**00 44 45.3**	**+0.4**
OUZ				IAmb	IAmb	00 45 01.5	
	comp=Z,29nm,1.1s						
WR0	**Warramunga Arr**	**27.88**	**248**	P	**P**	**00 44 58.9**	**+0.4**
WB0	**Warramunga Arr**	**27.96**	**248**	P	**P**	**00 45 00.1**	**+0.8**
WB0				IAmb	IAmb	00 45 05.3	
	comp=Z,5.9nm,0.7s						
WB2	**Warramunga Arr**	**28.05**	**248**	P	**P**	**00 45 00.6**	**+0.7**
WRA	**Warramunga Arr**	**28.06**	**248**	P	**P**	**00 44 60.0**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=80,slow=9.3,SNR=5.0						
WRA				PcP	**PcP**	**00 48 14.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=78,slow=3.2,SNR=2.8						
STKA	**Stephens Creek**	**28.08**	**219**	P	**P**	**00 44 57.2**	**-2.9**
STKA				IAmb	IAmb	00 44 60.0	
	comp=Z,5.6nm,1.0s						
ASAR	**Alice Springs**	**29.56**	**241**	P	**P**	**00 45 12.8**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=72,slow=9.0,SNR=3.2						
MTN	**Manton Dam**	**30.22**	**263**	P	**P**	**00 45 20.5**	**+1.2**
TOO	**Toolangi**	**30.38**	**206**	P	**P**	**00 45 21.1**	**+0.6**
BBOO	**Buckleboo**	**32.27**	**224**	P	**P**	**00 45 37.1**	**0.0**
BBOO				IAmb	IAmb	00 45 38.8	
	comp=Z,9.6nm,0.9s						
BHW	**Baring Head**	**32.41**	**162**	P	**P**	**00 45 37.1**	**-1.1**
KNRA	**Kununurra**	**32.63**	**258**	P	**P**	**00 45 42.2**	**+1.7**
RPZ	**Rata Peaks**	**33.60**	**168**	LR	LR	00 57 32.6	
	comp=Z,65nm,21.1s,baz=8.0,slow=33						
FITZ	**Fitzroy Crossi**	**35.83**	**254**	P	**P**	**00 46 08.0**	**-0.3**
	comp=Z,5.5nm,0.5s,baz=1.0,slow=2.4,SNR=14						
FITZ	**Fitzroy Crossi**	**35.83**	**254**	P	**P**	**00 46 09.4**	**+1.2**
FITZ				IAmb	IAmb	00 46 09.9	
	comp=Z,6.6nm,0.6s						
BATI	**Baumata**	**37.64**	**267**	P	**P**	**00 46 24.1**	**+0.3**
	comp=Z,34nm,0.6s,baz=62,slow=16,SNR=5.6						
NWAO	**Narrogin (SRO)**	**46.47**	**235**	P	**P**	**00 47 34.4**	**-1.3**
MJAR	**Matsushiro Arr**	**52.25**	**336**	LR	LR	01 09 42.5	
	comp=Z,28nm,20.9s,baz=240,slow=35						
NACB	**Ninganchiao**	**52.65**	**312**	P	**P**	**00 48 23.0**	**+0.1**
NACB				IAmb	IAmb	00 48 30.3	
	comp=Z,12nm,0.7s						
ERM	**Erimo**	**55.45**	**343**	P	**P**	**00 48 44.1**	**+1.2**
KSRS	**Korea Array**	**57.76**	**328**	P	**P**	**00 48 58.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=127,slow=8.1,SNR=4.9						
KSRS				LR	LR	01 12 25.3	
	comp=Z,27nm,19.6s,baz=212,slow=34						
USRK	**Ussuriysk Ar.**	**61.25**	**336**	P	**P**	**00 49 24.6**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=142,slow=7.3,SNR=3.7						
PETK	**Petropavlovsk-**	**63.89**	**357**	P	**P**	**00 49 41.2**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=156,slow=7.8,SNR=5.1						
PETK				LR	LR	01 14 01.7	
	comp=Z,32nm,21.2s,baz=144,slow=33						
VNDA	**Vanda**	**66.57**	**180**	P	**P**	**00 49 59.4**	**+1.3**
	comp=Z,3.7nm,0.8s,baz=347,slow=6.1,SNR=8.0						
VNDA	**Vanda**	**66.57**	**180**	P	**P**	**00 49 59.4**	**+1.3**
VNDA				IAmb	IAmb	00 50 00.5	
	comp=Z,4.7nm,0.8s						
NIKH	**Nikolski High**	**68.38**	**18**	P	**P**	**00 50 10.2**	**+0.4**
SEY	**Seymchan**	**74.01**	**355**	LR	LR	01 19 08.8	
	comp=Z,20nm,20.8s,baz=164,slow=32						
SII	**Sitkinak Islan**	**76.40**	**23**	P	**P**	**00 50 58.4**	**+0.7**
SONM	**Songino Array**	**76.42**	**325**	P	**P**	**00 50 57.1**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=139,slow=5.3,SNR=5.0						
SONM	**Songino Array**	**76.42**	**325**	P	**P**	**00 50 57.9**	**-0.2**
OHAK	**Old Harbor**	**77.22**	**23**	P	**P**	**00 51 02.1**	**-0.1**
OHAK				IAmb	IAmb	00 51 04.5	
	comp=Z,6.5nm,0.9s						
KDAK	**Kodiak Island**	**77.88**	**23**	P	**P**	**00 51 05.9**	**0.0**
	comp=Z,8.7nm,0.8s,baz=210,slow=4.1,SNR=6.1						
KDAK	**Kodiak Island**	**77.88**	**23**	IAmb	IAmb	00 51 06.9	
	comp=Z,1.4nm,0.5s						
QSPA	**South Pole Qui**	**79.07**	**180**	P	**P**	**00 51 13.0**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=36,slow=1.3,SNR=4.6						
QSPA	**South Pole Qui**	**79.07**	**180**	IAmb	IAmb	00 51 14.4	
	comp=Z,5.3nm,1.0s						
SVW2	**Sparrevohn**	**79.20**	**20**	IAmb	IAmb	00 51 16.3	
	comp=Z,7.4nm,0.8s						
CNPM	**China Poot**	**79.60**	**22**	P	**P**	**00 51 16.0**	**+0.6**
TTA	**Tatalina**	**80.43**	**18**	P	**P**	**00 51 20.5**	**+0.6**
TTA				IAmb	IAmb	00 51 30.7	
	comp=Z,6.9nm,1.2s						
SUA	**Susitna One**	**81.11**	**21**	P	**P**	**00 51 23.8**	**+0.2**
SUA				IAmb	IAmb	00 51 28.7	
	comp=Z,7.9nm,1.1s						
GLI	**Glacier Island**	**82.05**	**23**	P	**P**	**00 51 28.3**	**-0.1**
FID	**Port Fidalgo**	**82.20**	**23**	P	**P**	**00 51 29.4**	**+0.1**
KTH	**Kantishna Hill**	**82.49**	**19**	P	**P**	**00 51 30.6**	**-0.1**
KTH				IAmb	IAmb	00 51 35.2	
	comp=Z,5.2nm,1.0s						
TRF	**Thorofare Moun**	**82.62**	**20**	P	**P**	**00 51 31.1**	**-0.5**
TRF				IAmb	IAmb	00 51 36.0	
	comp=Z,3.7nm,0.9s						
RND	**Reindeer**	**83.07**	**20**	P	**P**	**00 51 34.1**	**+0.3**
RND				IAmb	IAmb	00 51 35.5	
	comp=Z,2.9nm,0.7s						
IMAR	**Indian Mountai**	**83.35**	**17**	P	**P**	**00 51 35.3**	**+0.2**
DHY	**Denali Highway**	**83.36**	**21**	P	**P**	**00 51 36.4**	**+1.0**
DHY				IAmb	IAmb	00 51 46.4	
	comp=Z,3.0nm,0.8s						
GLB	**Gilahina Butte**	**83.65**	**23**	P	**P**	**00 51 36.9**	**+0.1**
GLB				IAmb	IAmb	00 51 46.5	
	comp=Z,9.5nm,1.1s						
VRDI	**Verde Repeater**	**83.66**	**23**	P	**P**	**00 51 37.2**	**+0.2**
VRDI				IAmb	IAmb	00 51 42.5	
	comp=Z,10nm,1.2s						
BALM	**Baldy**	**83.98**	**24**	P	**P**	**00 51 39.1**	**+0.5**
BALM				IAmb	IAmb	00 51 47.8	
	comp=Z,3.8nm,0.8s						
WRH	**Wood River Hil**	**84.03**	**19**	P	**P**	**00 51 37.7**	**-0.9**
WRH				IAmb	IAmb	00 51 39.7	
	comp=Z,4.5nm,0.9s						
CCB	**Clear Creek Bu**	**84.24**	**19**	P	**P**	**00 51 39.5**	**-0.2**
CCB				IAmb	IAmb	00 51 40.9	
	comp=Z,2.5nm,0.7s						
MDM	**Murphy Dome**	**84.31**	**19**	P	**P**	**00 51 39.4**	**-0.6**
MDM				IAmb	IAmb	00 51 41.5	
	comp=Z,4.9nm,1.0s						
IL31		**84.62**	**20**	P	**P**	**00 51 41.3**	**-0.3**
IL31				IAmb	IAmb	00 51 44.1	
	comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**84.62**	**20**	P	**P**	**00 51 40.5**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=243,slow=4.3,SNR=9.0						
DOT	**Dot Lake**	**84.89**	**21**	P	**P**	**00 51 42.5**	**-0.6**
DOT				IAmb	IAmb	00 51 46.2	
	comp=Z,4.2nm,0.7s						
BCAR	**Beaver Creek A**	**85.37**	**22**	P	**P**	**00 51 46.2**	**+0.8**
NVAR	**Mina Array Bea**	**88.81**	**51**	P	**P**	**00 52 02.9**	**0.0**
	comp=Z,0.7nm,0.7s,baz=233,slow=8.3,SNR=7.1						
EPYK	**Eagle Plains**	**89.00**	**21**	P	**P**	**00 52 02.0**	**-0.9**
KVN	**Kaiserville**	**89.12**	**50**	P	**P**	**00 52 04.0**	**-0.4**
MK31	**Makanchi Array**	**90.91**	**317**	P	**P**	**00 52 11.4**	**-1.0**
MKAR	**Makanchi Array**	**90.91**	**317**	P	**P**	**00 52 11.2**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=90,slow=6.6,SNR=7.4						
NEW	**Newport**	**92.10**	**41**	LR	LR	01 25 23.8	
	comp=Z,35nm,20.0s,baz=289,slow=30						
ARCES	**ARCESS Array B**	**115.26**	**344**	PKP	**PKiKP**	**00 57 48.7**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=58,slow=2.2,SNR=3.6						
BOSA	**Boshof**	**122.59**	**226**	PKP	**PKPdf**	**00 58 04.3**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=172,slow=2.0,SNR=7.6						
GERES	**GERESS Array B**	**133.88**	**331**	PKP	**PKPdf**	**00 58 25.4**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=66,slow=1.2,SNR=1.9						
ESDC	**Sonseca Array**	**148.76**	**339**	PKPbc	**PKPbc**	**00 58 55.0**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=23,slow=1.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**160.58**	**279**	PKP	**PKPdf**	**00 59 08.0**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=64,slow=1.5,SNR=3.6						

*IDC **06** 01:08:31.0±0.7, 26°.24N×68°.36E, h0km, mb4.0/20, mb1 4.1/22, mb1mx3.9/46, mbtmp4.0/22, ML3.7/2, MS3.2/6, Ms1 3.3/6, ms1mx2.9/31, Error ellipse: s-maj=18.6km s-min=14.6km az=22.0*
*NEIC **06** 01:08:32.6±2.3, 26°.20N±0°.10×68°.37E±0°.09, h13km±4km, mb4.3/17, Error ellipse: s-maj=14.8km s-min=10.3km az=155.0*
ISC 06 01:08:33.0±0.6, 26°.32N±0°.07×68°.57E±0°.05, h10km, n69, σ1§46/70, mb4.0/28, MS3.2/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**3.21**	**162**	*e*S	**Sn**	**01 10 01.0**	**-0.9**
BHUJ				IAML		01 10 03.5	
	comp=N,668nm,0.5s						
BHUJ				IAML		01 10 04.7	
	comp=E,522nm,0.4s						
AJM	**Ajmer**	**5.45**	**87**	*e*x	**Pb**	**01 10 07.0**	**-1.4**
AJM				*i* x	**Sg**	**01 11 28.0**	**-0.2**
THW	**Thamme Wali**	**7.02**	**22**	P	**Pn**	**01 10 16.0**	**+0.1**
SONA	**Sohna**	**7.82**	**74**	*e*P	Pb	01 10 45.8	-2.8
SONA				*e*S	**Sn**	**01 11 53.1**	**-2.4**
CEP	**Cherat**	**8.02**	**20**	P	**Pn**	**01 10 30.3**	**+0.6**
NDI	**New Delhi**	**8.03**	**71**	*e*S	**Sn**	**01 11 57.0**	**-3.8**
KBL	**Kabul**	**8.20**	**3**	Pn	**Pn**	**01 10 32.3**	**0.0**
NIL	**Nilore**	**8.35**	**28**	Pn	**Pn**	**01 10 34.9**	**+0.6**
BHK	**Bhakra**	**8.55**	**52**	*ex*	Pg	01 11 23.0	+6.3
BHPL	**Bhopal**	**8.62**	**109**	*e*P	**Pn**	**01 10 38.5**	**+0.6**
BHPL				*e*S	**Sn**	**01 12 10.9**	**-4.3**
THN	**Thein Dam**	**8.71**	**44**	*e*P	**Pn**	**01 10 38.0**	**-1.1**
THN				*e*S	**Sn**	**01 12 15.0**	**-2.5**
SMLA	**Simla**	**8.94**	**56**	*e*P	**Pn**	**01 10 44.8**	**+2.6**
SMLA				*e*S	**Sn**	**01 12 21.4**	**-1.6**
SMLA				IAML		01 12 23.4	
	comp=N,114nm,0.5s						
SMLA				IAML		01 12 25.8	
	comp=E,138nm,0.8s						
DHRM	**DHARAMSHALA**	**8.97**	**47**	*e*P	**Pn**	**01 10 43.9**	**+1.0**
DHRM				*e*S	**Sn**	**01 12 22.2**	**-1.9**
DHRM				IAML		01 12 27.2	
	comp=E,175nm,1.2s						
WSAR	**Wadi Sarin**	**9.54**	**253**	Pn	Pn	01 10 46.1	-4.4
	comp=E,0.2nm,0.3s,baz=73,slow=4.4,SNR=2.3						
WSAR				Sn	Sn	01 12 22.0	-16
	comp=E,0.7nm,0.3s,baz=65,slow=22,SNR=6.0						

WSAR				LR	LR	01 14 43.8	
	comp=E,122nm,19.3s,baz=83,slow=40						
HRA	Herat	9.71	327	Pn	Pn	01 10 53.5	+0.5
PYUN	Piuthan	12.96	79	eP	Pn	01 11 37.6	+0.1
	comp=E,25nm,0.6s						
PYUN	Piuthan	12.96	79	eP	Pn	01 11 37.6	+0.1
	comp=E,25nm,0.6s						
GEYT	Alibeck	14.55	325	Pn	Pn	01 12 00.9	+1.8
PKI	Pulchoki	15.07	81	eP	Pn	01 12 05.2	-1.3
	comp=E,13nm,0.7s						
PKI	Pulchoki	15.07	81	eP	Pn	01 12 05.2	-1.3
	comp=E,13nm,0.7s						
JIRN	Jiri	15.77	81	eP	Pn	01 12 14.0	-1.7
	comp=E,72nm,0.8s						
JIRN	Jiri	15.77	81	eP	Pn	01 12 14.0	-1.7
	comp=E,72nm,0.8s						
ODAN	Odare	16.85	84	eP	Pn	01 12 32.4	+3.1
	comp=E,35nm,0.8s						
ODAN	Odare	16.85	84	eP	Pn	01 12 32.4	+3.1
	comp=E,35nm,0.8s						
AAK	Ala-Archa	16.98	15	P	Pn	01 12 31.0	+0.1
	comp=E,0.8nm,0.3s,baz=174,slow=5.8,SNR=8.5						
AAK	Ala-Archa	16.98	15		Pn	01 12 31.2	+0.3
AAK				IAmb	IAmb	01 12 49.5	
	comp=Z,5.9nm,0.6s						
SHL	Shillong	20.98	87	P	P	01 13 18.9	+2.2
SHL				IAmb	IAmb	01 13 20.0	
	comp=Z,13nm,0.9s						
MAKZ	Makanchi	23.05	24	P	P	01 13 38.8	+0.4
MK31	Makanchi Array	23.15	24	P	P	01 13 40.2	+0.7
MKAR	Makanchi Array	23.15	24	P	P	01 13 39.9	+0.3
	comp=Z,1.1nm,0.7s,baz=209,slow=11,SNR=7.5						
MKAR				LR	LR	01 24 52.4	
	comp=Z,96nm,18.2s,baz=198,slow=42						
MKAR	Makanchi Array	23.15	24	P	P	01 13 39.6	+0.1
WMQ	Urumqi	23.35	37	eP	P	01 13 43.1	+1.4
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,25nm,3.8s						
WMQ				LR	LR		
	comp=N,120nm,29.0s						
WMQ				LR	LR		
	comp=E,260nm,28.9s						
WMQ				LR	LR		
	comp=Z,22nm,29.2s						
ABKAR	Akbulak array	23.85	346	P	P	01 13 47.0	+0.6
AKTO	Aktyubinsk	25.40	344	P	P	01 14 00.9	+0.3
	comp=Z,1.7nm,0.5s,baz=163,slow=7.7,SNR=3.9						
KURBB	Kurchatov Arra	25.44	15	P	P	01 14 01.3	+0.5
	comp=Z,1.4nm,0.7s,baz=211,slow=8.8,SNR=12						
KURK	Kurchatov	25.55	15	P	P	01 14 02.5	+0.7
KURK				IAmb	IAmb	01 14 25.9	
	comp=Z,2.8nm,0.9s						
MARD	Mardin	25.94	302	P	P	01 14 06.5	+0.8
MARD				IAmb	IAmb	01 14 10.9	
	comp=Z,10nm,0.8s						
BVAR	Borovoye Array	26.70	2	P	P	01 14 12.6	+0.3
	comp=Z,2.5nm,0.8s,baz=165,slow=10,SNR=12						
BRVK	Borovoye	26.73	2	P	P	01 14 12.6	0.0
BRVK				IAmb	IAmb	01 14 19.7	
	comp=Z,4.7nm,0.8s						
KBZ	Khabaz	27.10	316	P	P	01 14 16.9	+0.9
	comp=Z,1.6nm,0.9s,baz=106,slow=7.4,SNR=1.8						
CMAR	Chiang Mai Arr	29.11	99	P	P	01 14 35.8	+1.6
	comp=Z,0.7nm,0.3s,baz=283,slow=8.2,SNR=4.7						
CMAR				LR	LR	01 27 42.2	
	comp=Z,24nm,18.7s,baz=295,slow=39						
ZALV	Zalesovo Beam	30.11	19	P	P	01 14 42.9	+0.3
	comp=Z,2.0nm,0.5s,baz=206,slow=7.7,SNR=11						
ZALV				LR	LR	01 28 57.8	
	comp=Z,64nm,18.6s,baz=168,slow=41						
ZALV	Zalesovo Beam	30.11	19	P	P	01 14 42.6	-0.1
LZH	Lanzhou	31.56	63	eP	P	01 14 53.2	-2.7
LZH				pP	pP	01 14 58.0	-1.0
LZH				sP	sP	01 15 01.6	+1.4
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
SONM	Songino Array	36.53	44	P	P	01 15 41.2	+2.3
	comp=Z,1.0nm,0.5s,baz=240,slow=8.6,SNR=4.8						
SONM	Songino Array	36.53	44	IAmb	IAmb	01 15 45.0	
	comp=Z,1.1nm,0.8s						
HHC	Hu-ho-hao-te	38.25	57	eP	P	01 15 55.9	+2.4
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,6.8s						
AKASG	Malin Array Be	38.58	320	P	P	01 15 53.9	-2.1
	comp=Z,0.4nm,0.4s,baz=113,slow=7.6,SNR=2.7						
BURAR	Bucovina Array	39.97	314	P	P	01 16 06.3	-1.6
BUR08	Bucovina Ar. S	39.99	314	P	P	01 16 07.3	-0.7
BUR08				IAmb	IAmb	01 17 28.2	
	comp=Z,10nm,1.6s						
FINES	FINESS Array B	45.19	333	P	P	01 16 49.0	-0.9
	comp=Z,1.2nm,0.8s,baz=110,slow=8.3,SNR=5.9						
GERES	GERESS Array B	47.75	313	P	P	01 17 09.1	-1.3
	comp=Z,0.6nm,0.6s,baz=88,slow=7.2,SNR=7.2						
GERES				PcP	PcP	01 18 39.1	-0.2
	comp=Z,0.6nm,0.7s,baz=110,slow=2.6,SNR=6.7						
GERES	GERESS Array B	47.75	313		PcP	01 18 39.0	-0.3
ARCES	ARCESS Array B	49.95	342	P	P	01 17 26.1	-0.6
	comp=Z,2.6nm,0.8s,baz=132,slow=7.2,SNR=11						
KSRS	Korea Array	50.87	62	P	P	01 17 34.8	+0.7
	comp=Z,0.5nm,0.4s,baz=192,slow=20,SNR=2.1						
KSRS				LR	LR	01 38 58.5	
	comp=Z,27nm,18.0s,baz=286,slow=36						
KEST	Kesra	50.94	296	P	P	01 17 34.0	-0.9
	comp=Z,2.0nm,0.7s,baz=104,slow=18,SNR=4.5						
NB2	NORSAR Subarra	51.62	328	P	P	01 17 37.9	-1.6
	comp=Z,3.6nm,1.2s,baz=103,slow=7.9						
NOA	NORSAR Array B	51.62	328	P	P	01 17 38.0	-1.5
	comp=Z,0.9nm,0.8s,baz=107,slow=7.3,SNR=5.8						
NOA				LR	LR	01 44 44.4	
	comp=Z,17nm,19.3s,baz=40,slow=42						
ESDC	Sonseca Array	60.76	302	P	P	01 18 43.4	-1.9
	comp=Z,0.4nm,0.5s,baz=46,slow=37,SNR=3.1						
TOA0	Torodi Ar. Sit	63.70	272	P	P	01 19 04.0	-1.2
TORD	Torodi Ar. Bea	63.70	272	P	P	01 19 03.7	-1.6
	comp=Z,2.3nm,0.7s,baz=55,slow=5.6,SNR=7.7						
TORD	Torodi Ar. Bea	63.70	272	P	P	01 19 04.0	-1.3
SEY	Seymchan	64.12	30	P	P	01 19 07.7	+0.4
	comp=Z,1.5nm,0.6s,baz=317,slow=8.5,SNR=4.0						
WB0	Warramunga Arr	78.59	119	P	P	01 20 35.4	+0.1
WRA	Warramunga Arr	78.64	119	P	P	01 20 35.6	0.0
	comp=Z,3.8nm,0.8s,baz=317,slow=4.9,SNR=28						
WB2	Warramunga Arr	78.65	119	P	P	01 20 34.2	-1.4
WB2				IAmb	IAmb	01 20 36.7	
	comp=Z,4.5nm,0.8s						
AS31	Alice Springs	80.37	122	P	P	01 20 44.0	-1.0
ASAR	Alice Springs	80.37	122	P	P	01 20 44.8	-0.2
	comp=Z,1.5nm,0.8s,baz=305,slow=5.3,SNR=13						
NVAR	Mina Array Bea	115.27	6	PKP	PKiKP	01 27 15.9	+0.5
	comp=Z,0.2nm,0.5s,baz=44,slow=2.7,SNR=2.4						

*THR **06** 02:23:11.7±0.6,30°.21N×59°.83E,h14km±4km, ML3.9*
*TEH **06** 02:23:11.1,30°.22N×59°.83E,h13km, ML3.6*
ISC 06 02:23:11.3±1.0,30°.26N±0°.04×59°.79E±0°.04,h10km,n25,
σ2$12/28,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHSF	Zahedan	1.07	126	ePg	Pg	02 23 31.0	-0.9
ZHSF				eSg	Sg	02 23 44.8	-1.1
ZHSF	Zahedan	1.07	126	ePg	Pg	02 23 31.0	-0.9
NHDN	Nehbandan	1.16	11	ePg	Pb	02 23 33.1	-0.4
NHDN				e		02 23 51.7	
CHMN	Cheshme madani	1.99	259	ePn	Pn	02 23 46.3	+1.0
CHMN				e		02 24 17.8	
IDAH	Dahanechah	2.48	2	ePn	Pn	02 23 53.8	+1.8
TVBK	TV Kerman	2.63	265	ePn	Pn	02 23 56.1	+1.9
TVBK				e		02 24 42.9	
KRBR	Kerman	2.63	265	ePn	Pn	02 23 57.0	+2.8
KRBR				eSg	Sg	02 24 35.2	-0.8
KRBR				IAML		02 24 36.9	
	comp=N,1μm,0.3s						
KRBR				IAML		02 24 39.2	
	comp=E,1μm,0.3s						
KRBR	Kerman	2.63	265	ePn	Pn	02 23 57.0	+2.8
NGRK	Negar Kerman	2.72	258	ePn	Pn	02 23 57.2	+1.8
NGRK				e		02 24 47.7	
ITEG	Tejag	2.78	342	ePn	Pn	02 23 58.1	+2.1
ITEG				e		02 24 49.9	
KHGB	Koh Gabri	2.86	273	ePn	Pn	02 23 59.6	+2.4
KHGB				e		02 24 58.8	
KHNJ	Kahnooj	2.93	219	ePn	Pn	02 23 58.3	+0.3
AFRZ	Afriz	3.23	348	ePn	Pn	02 24 03.4	+1.2
SHRT	Shahrakht	3.41	7	ePn	Pn	02 24 06.9	+2.3
SHRT	Shahrakht	3.41	7	ePn	Pn	02 24 06.9	+2.3
TPRV	Parvadeh(Tabas	3.83	317	ePn	Pn	02 24 12.1	+1.8
IBAF	Bafgh	3.86	291	ePn	Pn	02 24 12.8	+1.9
TKDS	Koohdasht(Taba	4.04	327	ePn	Pn	02 24 15.4	+2.1
TKDS				e		02 25 26.3	
TABS	Tabas	4.07	327	ePn	Pn	02 24 16.1	+2.4
TABS				eSg	Sg	02 25 20.1	-2.0
TABS				IAML		02 25 32.6	
	comp=N,36nm,0.6s						
TABS	Tabas	4.07	327	ePn	Pn	02 24 16.1	+2.4
GENO	Geno	4.26	229	ePn	Pn	02 24 19.3	+2.9
BNDS	Bandar-Abbas	4.26	229	ePn	Pn	02 24 18.6	+2.2
BNDS	Bandar-Abbas	4.26	229	ePn	Pn	02 24 18.6	+2.2
TNSJ	Nastanj	4.58	325	ePn	Pn	02 24 22.5	+1.8
YZKH	Yazd	4.93	297	eSg	Sg	02 25 46.1	-3.4
YZKH				IAML		02 25 58.0	
	comp=N,25nm,0.7s						

*IDC **06** 03:06:12.9±0.7,5°.01S×133°.83E,h0km,mb4.0/10,*
mb1 4.2/15,mb1mx4.1/32,mbtmp4.1/15,ML4.3/5,MS3.3/8,
Ms1 3.3/8,ms1mx2.9/39,Error ellipse: s-maj=25.8km
s-min=14.3km az=75.0
*NEIC **06** 03:06:13.6±1.7,5°.04S±0°.03×133°.81E±0°.08,h10km±1km,*
mb4.4/19,Error ellipse: s-maj=13.2km s-min=4.6km
az=90.0
*DJA **06** 03:06:14.8±0.2,5°.S±2°.×13°.4E±°.,h10km,M4.7/24,*
mB5.2/12,mb4.9/24,MLv4.8/12,Mw(mB)4.6/12,Mwp5.0/1
ISC 06 03:06:13.6±0.4,5°.02S±0°.05×133°.83E±0°.05,h10km,n84,
σ1$65/79,mb4.2/15,MS3.1/4,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.62	323	P	Pn	03 06 56.9	+0.9
FAKI	Fak Fak	2.62	323		Pn	03 06 56.0	0.0
RKPI	Ransiki, Papua	3.51	6	P	Pn	03 07 08.5	+0.3
SAUI	Saumlaki	3.87	220	P	Pn	03 07 14.4	+1.2
SAUI	Saumlaki	3.87	220	Pn	Pn	03 07 12.2	-1.1
BNDI	Bandanaira	3.95	277	P	Pn	03 07 16.7	+2.4
SRPI	Serui, Papua	3.95	38	P	Pn	03 07 14.4	+0.1
SIJI	Sorong	4.86	328	Pn	Pn	03 07 27.4	+0.6
	2.9nm,0.3s,baz=87,slow=23,SNR=8.0						
SIJI				Sn	Sn	03 08 17.3	-5.9
	5.8nm,0.3s,baz=202,slow=4.4,SNR=4.1						
SIJI				LR	LR	03 10 02.5	
	comp=Z,250nm,20.0s,baz=209,slow=47						
MSAI	Masohi	5.17	289	P	Pn	03 07 33.0	+1.9
	0.4nm945nm65nm,0.6s						
AAI	Ambon	5.78	283	P	Pn	03 07 41.6	+2.1
	1.6nm3μm5μm506nm,0.8s						
GENI	Genyem	6.77	69	P	Pn	03 07 53.6	+0.5
	0.6nm122nm,0.8s						
NLAI	Namlea	6.95	285	P	Pn	03 07 58.4	+2.9
	0.4nm2μm90nm,0.8s						
JAY	Jayapura	7.30	70	Pn	Pn	03 08 01.0	+0.6
	2.8nm,0.3s,baz=231,slow=12,SNR=9.8						
JAY				Sn	Sn	03 09 22.5	-0.9
	0.5nm,0.3s,baz=151,slow=19,SNR=1.0						
JAY	Jayapura	7.30	70	P	Pn	03 08 00.7	+0.3
	0.1nm321nm20nm,0.9s						
MTN	Manton Dam	8.21	199	Pn	Pn	03 08 14.1	+1.2
SANI	Sanana	8.37	290	P	Pn	03 08 14.9	-0.2
	682nm89nm,0.8s						
SOEI	Soe	10.59	243	P	Pn	03 08 47.0	+1.4
	831nm102nm,0.8s						
SOEI	Soe	10.59	243	Pn	Pn	03 08 45.3	-0.3
KMSI	Cibinong	11.30	299	P	Pn	03 08 57.1	+1.8
	94nm,0.4s						
BATI	Baumata	11.32	242	Pn	Pn	03 08 55.7	+0.2
	6.3nm,0.3s,baz=111,slow=14,SNR=4.1						
BATI				Sn	Sn	03 10 57.5	-4.7
	13nm,0.3s,baz=315,slow=20,SNR=2.8						
BATI	Baumata	11.32	242	P	Pn	03 08 57.4	+1.9
	51nm,0.7s						
KNRA	Kununurra	11.70	205	Pn	Pn	03 09 00.1	-0.7
LUWI	Luwuk	11.73	289	P	Pn	03 09 03.2	+2.0
	7um67nm,0.8s						
LUWI	Luwuk	11.73	289	Pn	Pn	03 09 01.3	+0.1
GTOI	Gorontalo	12.18	297	P	Pn	03 09 11.8	+4.4
	376nm40nm,1.1s						
EDFI	Ende, Flores	12.61	252	P	Pn	03 09 15.7	+2.4
	8.2nm,1.0s						
COEN	Coen	12.79	135	Pn	Pn	03 09 13.4	-2.3
BKSI	Bulukumba	13.66	268	P	P	03 09 45.3	+8.9
PMG	Port Moresby	13.92	109	LR	LR	03 15 54.9	
	comp=Z,209nm,19.8s,baz=272,slow=42						
KAPI	Kappang	14.03	269	LR	LR	03 16 44.0	
	comp=Z,172nm,18.6s,baz=86,slow=45						
DAV	Davao City (W)	14.57	325	LR	LR	03 16 29.0	
	comp=Z,71nm,18.4s,baz=6.0,slow=42						
WB0	Warramunga Arr	14.66	178	Pn	Pn	03 09 40.6	-0.7
WRAB	Tennant Creek	14.83	178		Pn	03 09 43.5	-0.1
WRA	Warramunga Arr	14.84	178	Pn	Pn	03 09 40.3	-3.4
	1.0nm,0.3s,baz=355,slow=13,SNR=36						
WRA				Sn	Sn	03 12 16.4	-12
	1.7nm,0.3s,baz=355,slow=24,SNR=6.5						
WRA				Lg	Lg	03 14 04.0	
	baz=358,slow=30,SNR=2.0						
WB2	Warramunga Arr	14.84	178	Pn	Pn	03 09 42.0	-1.6
WR0	Warramunga Arr	14.86	177	Pn	Pn	03 09 44.1	+0.1
MPSI	Mapaga	14.90	291	P	P	03 09 52.2	+1.9
FITZ	Fitzroy Crossi	15.26	211	Pn	Pn	03 09 46.0	-3.3
	1.4nm,0.3s,baz=0.6,slow=9.8,SNR=32						
FITZ				Sn	Sn	03 12 26.4	-12
	3.4nm,0.3s,baz=180,slow=14,SNR=18						
FITZ	Fitzroy Crossi	15.26	211	Pn	Pn	03 09 47.6	-1.7
FITZ				IAmb	IAmb	03 09 59.4	
	comp=Z,24nm,1.1s						
AS31	Alice Springs	18.53	180	P	P	03 10 29.4	-1.2
ASAR	Alice Springs	18.54	180	P	P	03 10 29.2	-1.3
	comp=Z,0.8nm,0.3s,baz=355,slow=15,SNR=32						
ASAR				S	Sn	03 13 45.9	-12
	comp=Z,0.4nm,0.3s,baz=0.0,slow=28,SNR=4.3						
ASAR	Alice Springs	18.54	180	P	Pn	03 10 31.4	+0.7
BBKI	Banjar Baru	19.00	274	P	Pn	03 10 39.5	+3.1
	comp=Z,47nm,0.7s						
CTA	Charters Tower	19.24	142	P	Pn	03 10 38.3	-0.9
	comp=Z,0.9nm,0.3s,baz=322,slow=12,SNR=16						
CTA				Lg	Lg	03 16 24.8	
	comp=Z,0.2nm,0.3s,baz=241,slow=19,SNR=2.7						
CTAO	Charters Tower	19.24	142	P	P	03 10 37.7	-0.6
CTAO				IAmb	IAmb	03 10 53.6	
	comp=Z,19nm,1.0s						
GUMO	Guam	21.49	31	LR	LR	03 18 07.4	
	comp=Z,47nm,20.9s,baz=144,slow=33						
SBUM	Sibu	22.83	288	P	P	03 11 16.1	-1.0
SBUM				IAmb	IAmb	03 11 32.1	
	comp=Z,14nm,0.9s						
LEM	Lembang	26.13	265	LR	LR	03 24 37.4	
	comp=Z,129nm,18.5s,baz=14,slow=42						
FORT	Forrest	26.19	191	P	P	03 11 48.0	-0.6
STKA	Stephens Creek	27.69	166	P	P	03 12 03.0	+0.9
	comp=Z,2.2nm,0.9s,baz=43,slow=5.8,SNR=3.6						
STKA	Stephens Creek	27.69	166	P	P	03 12 01.3	-0.7
BBOO	Buckleboo	27.72	176	P	P	03 12 03.5	+1.1
JNU	Nakatsue	38.04	356	P	P	03 13 33.0	+0.6
	comp=Z,4.1nm,0.8s,baz=117,slow=4.5,SNR=2.3						
PBKT	Sadao Pong	38.94	304	P	P	03 13 38.1	-2.0
PBKT				IAmb	IAmb	03 13 38.4	
	comp=Z,9.3nm,1.4s						
CMAR	Chiang Mai Arr	41.56	305	P	P	03 14 02.1	+0.3
	comp=Z,1.5nm,0.4s,baz=131,slow=7.0,SNR=11						
CMAR	Chiang Mai Arr	41.56	305	P	P	03 14 01.6	-0.3
CHTO	Chiang Mai	41.74	306	P	P	03 14 03.0	-0.3
KSRS	Korea Array	42.62	353	P	P	03 14 11.3	+1.3
	comp=Z,0.5nm,0.3s,baz=170,slow=10,SNR=1.9						
KSRS				LR	LR	03 31 50.7	
	comp=Z,22nm,19.9s,baz=125,slow=36						
BJT	Baijiatuau	47.68	342	P	P	03 14 51.3	+0.9
USRK	Ussuriysk Ar.	49.03	358	P	P	03 15 01.3	+0.6
	comp=Z,1.7nm,0.8s,baz=145,slow=8.6,SNR=4.5						
USRK	Ussuriysk Ar.	49.03	358	P	P	03 15 00.3	-0.3
MDJ	Mudanjiang	49.56	356	P	P	03 15 05.2	+0.4
PETK	Petropavlovsk-	61.33	16	P	P	03 16 29.2	-0.2
	comp=Z,0.5nm,0.5s,baz=199,slow=4.0,SNR=2.0						
MKAR	Makanchi Array	68.75	325	P	P	03 17 19.0	+1.2
	comp=Z,1.0nm,0.4s,baz=111,slow=9.1,SNR=10.0						
MKAR	Makanchi Array	68.75	325	P	P	03 17 17.5	-0.3
MAKZ	Makanchi	68.94	325	P	P	03 17 19.2	+0.2
AAK	Ala-Archa	71.57	318	LR	LR	03 52 44.7	
	comp=Z,13nm,21.3s,baz=102,slow=39						
AAK	Ala-Archa	71.57	318	P	P	03 17 36.9	+1.5
ZAA0	Zalesovo Array	71.58	332	P	P	03 17 36.4	+1.4
ZAA0				IAmb	IAmb	03 17 45.5	
	comp=Z,3.0nm,0.8s						
ZALV	Zalesovo Beam	71.58	332	P	P	03 17 34.6	-0.3
	comp=Z,0.6nm,0.5s,baz=107,slow=7.7,SNR=1.9						
ZALV	Zalesovo Beam	71.58	332	P	P	03 17 34.3	-0.6
KURK	Kurchatov	72.89	327	P	P	03 17 42.7	-0.2
VNDA	Vanda	73.97	174	P	P	03 17 49.8	+1.0
	comp=Z,1.1nm,0.8s,baz=318,slow=7.0,SNR=11						
VNDA	Vanda	73.97	174	P	P	03 17 50.0	+1.2
KK31	Karatay Array	74.43	317	P	P	03 17 51.5	-0.6
KK31				IAmb	IAmb	03 18 04.7	
	comp=Z,4.2nm,1.3s						
KKAR	Karatay Array	74.43	317	P	P	03 17 52.1	-0.1
MAW	Mawson	78.18	202	P	P	03 18 14.8	+1.9
	comp=Z,0.8nm,0.6s,baz=0.0,slow=4.0,SNR=3.5						
MAW	Mawson	78.18	202	IAmb	IAmb	03 18 26.7	
	comp=Z,4.1nm,1.4s						
ILAR	Eielson Array	89.95	25	P	P	03 19 11.4	-1.5
	comp=Z,0.3nm,0.6s,baz=286,slow=3.4,SNR=3.3						
TORD	Torodi Ar. Bea	132.12	283	PKP	PKiKP	03 25 29.6	-0.2
	comp=Z,0.6nm,0.8s,baz=83,slow=1.7,SNR=2.1						
CPUP	Villa Florida	147.01	161	PKPbc	PKPab	03 25 58.1	-0.7
	comp=Z,2.9nm,0.7s,baz=185,slow=3.1,SNR=5.5						
CPUP	Villa Florida	147.01	161		PKPab	03 25 58.8	0.0
LPAZ	La Paz	149.66	135	PKPbc	PKiKP	03 26 07.0	+0.5
	comp=Z,2.5nm,0.9s,baz=206,slow=7.9,SNR=6.8						
LPAZ	La Paz	149.66	135		PKiKP	03 26 07.6	+1.1

*IDC **06** 03:17:21.6±2.6,38°.43N×144°.24E,h0km,mb3.4/2,*
mb1 3.6/4,mb1mx3.3/42,mbtmp3.4/4,ML3.0/2,MS2.3/1,
Ms1 2.3/1,ms1mx1.9/31,Error ellipse: s-maj=60.3km
s-min=33.6km az=84.0
*JMA **06** 03:17:24.7±0.2,38°.58N×143°.92E,h42km,M3.0*
ISC 06 03:17:23.9±1.4,38°.63N±0°.05×143°.86E±0°.09,h14km,n20,
σ1$67/30,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.77	285	P	Pb	03 17 54.7	-1.4
OFUJ				eS	Sn	03 18 16.3	-0.1
MIYJ	Miyakonagasawa	1.85	301	P	Pb	03 17 55.6	-1.9
JKMT	Kesennumamotoy	1.88	276	P	Pb	03 17 56.2	-1.7
JIKH	Ishinomakikobu	1.91	261	P	Pb	03 17 56.3	-2.2
JMK	Ichinoseki	2.09	280	P	Pb	03 17 59.4	-2.2
JMK				eS	Sn	03 18 24.9	+0.6
JOM	Ohasama	2.17	294	P	Pb	03 18 00.6	-2.3
JOM				eS	Sn	03 18 27.6	+1.3
JANG	Nango	2.51	314	P	Pn	03 18 05.1	+0.8
JANG				eS	Sn	03 18 35.5	+0.7
JYK	Kaneyama	2.75	277	P	Pb	03 18 09.6	-3.3
JFT	Otama	3.00	249	P	Pn	03 18 12.3	+1.3
JFT				S	Sn	03 18 47.7	+1.0
JOT	Ohata	3.49	323	S	Sn	03 18 57.6	-1.3
JNBK	Urakawa-nobuka	3.74	347	P	Pn	03 18 22.2	+1.0
JNBK				eS	Sn	03 19 05.1	+0.1
JKB	Kayabe	3.91	327	eS	Sn	03 19 08.7	-0.4
JCH	Churui	4.00	355	P	Pn	03 18 24.7	0.0
JCH				eS	Sn	03 19 09.8	-1.5
JAG	Ashikaga	4.14	239	P	Pn	03 18 27.4	+0.7
JRY	Ryogami san	4.74	238	P	Pn	03 18 35.6	+0.6
JRY				eS	Sn	03 19 29.3	-0.4
MJAR	Matsushiro Arr	4.95	247	Pn	Pn	03 18 39.8	+2.0
	0.2nm,0.3s,baz=52,slow=9.7,SNR=11						
MJAR				LR	LR	03 20 47.7	
	comp=Z,34nm,21.6s,baz=235,slow=40						
MAT	Matsushiro	4.95	247	P	Pn	03 18 40.1	+2.2
MAT				S	Sn	03 19 33.4	-1.6
ASAJ	Asahikawa	5.56	351	Pn	Pn	03 18 49.2	+3.0
	0.7nm,0.3s,baz=163,slow=11,SNR=1.8						
ASAJ				Sn	Sn	03 19 49.0	-0.9
	0.1nm,0.3s,baz=300,slow=17,SNR=1.9						
MKAR	Makanchi Array	44.93	301	P	P	03 25 40.9	+2.6
	0.4nm,0.7s,baz=81,slow=8.9,SNR=2.8						
WRA	Warramunga Arr	58.95	190	P	P	03 27 21.7	-1.1
	0.6nm,0.9s,baz=7.7,slow=6.8,SNR=3.1						

*IDC **06** 03:54:35.4±0.6,59°.49S×25°.34W,h0km,mb4.2/12,*
mb1 4.3/12,mb1mx4.1/23,mbtmp4.2/12,MS3.4/6,
Ms1 3.4/6,ms1mx3.2/20,Error ellipse: s-maj=20.3km
s-min=17.3km az=164.0
*NEIC **06** 03:54:36.4±1.3,59°.65±0°.1×25°.4W±0°.2,h10km±1km,*
mb4.5/16,Error ellipse: s-maj=21.4km s-min=15.0km
az=219.0
ISC 06 03:54:36.4±0.5,59°.64S±0°.09×25°.35W±0°.10,h10km,n44,
σ1$03/37,mb4.4/13,MS3.3/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.11	307

ASAR Alice Springs 95.27 161 P **P** **04 08 00.4 0.0**
comp=Z,0.5nm,0.9s,baz=186,slow=7.0,SNR=2.8
NVAR Mina Array Bea 123.62 290 PKP **PKiKP** **04 13 35.5 +1.6**
comp=Z,0.3nm,0.7s,baz=102,slow=4.0,SNR=2.1
FINES FINESS Array B 127.10 28 PKP **PKPdf** **04 13 39.1 0.0**
comp=Z,1.2nm,0.8s,baz=158,slow=2.1,SNR=5.2
ARCES ARCESS Array B 133.91 22 PKP **PKPdf** **04 13 52.2 +0.3**
comp=Z,1.1nm,0.7s,baz=276,slow=2.6,SNR=4.0
SONM Songino Array 149.81 91 PKPbc **PKPbc** **04 14 25.7 0.0**
comp=Z,3.1nm,0.7s,baz=215,slow=3.1,SNR=15
KSRS Korea Array 151.97 130 PKPbc **PKiKP** **04 14 30.9 -0.3**
comp=Z,0.4nm,0.4s,baz=190,slow=28,SNR=5.2
KSRS PKPab **pPKPab** **04 14 41.0 -1.5**
comp=Z,1.3nm,0.9s,baz=201,slow=2.1,SNR=6.5
ILAR Eielson Array 153.14 306 PKPbc **PKiKP** **04 14 33.2 +0.5**
comp=Z,1.3nm,0.8s,baz=164,slow=1.1,SNR=12
ILAR PKPab **PKPab** **04 14 45.4 +0.9**
comp=Z,2.0nm,0.9s,baz=146,slow=2.3,SNR=7.3
ILAR Eielson Array 153.14 306 **PKiKP** **04 14 33.1 +0.3**
ILAR **PKPab** **04 14 44.8 +0.4**

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*DNK **06** 03:55:49.8±1.9, 82.°40N×15.°74W, h19km±10km, ML3.2, Hypocentre not reviewed by the ISC*
*IDC **06** 03:55:50.3±1.9, 82.°40N×17.°28W, h0km, mb3.4/7, mb1 3.7/8, mb1mx3.4/36, mbtmp3.5/8, ML4.1/1, MS3.0/6, Ms1 3.0/6, ms1mx2.6/34, Error ellipse: s-maj=75.8km s-min=19.1km az=29.0*
ISC 06 03:55:51.2±0.9, 82.°25N±0.°08×17.°59W±0.°06, h10km, n19, σ1§66/20, mb3.5/7, MS2.9/3, Near north coast of Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**0.67**	**168**	*i* P	**Pb**	**03 56 05.1**	**+0.3**
NOR				*e*S	**Sb**	**03 56 14.4**	**+0.3**
DAG	**Danmarks Havn**	**5.51**	**183**	*i* P	**Pn**	**03 57 14.0**	**+0.8**
DAG				*i* S	**Sn**	**03 58 14.8**	**-1.7**
KBS	**Kingsbay**	**5.80**	**109**	*e*P	**Pn**	**03 57 17.1**	**+0.1**
KBS				*e*S	**Pg**	**03 57 39.2**	**-2.8**
KBS				IAML		03 57 41.3	
comp=Z,7.1nm,0.3s							
BRBA	**Barentsburg A**	**6.76**	**111**	*e*P	**Pn**	**03 57 30.1**	**-0.1**
SPA0	**Spitsbergen Ar**	**6.94**	**108**	*e*P	**Pn**	**03 57 33.8**	**+1.1**
SPITS	**Spitsbergen Ar**	**6.94**	**108**	Pn	**Pn**	**03 57 32.9**	**+0.1**
baz=309,slow=2.8,SNR=28							
SPITS				Sn	**Sn**	**03 58 49.6**	**-2.1**
baz=307,slow=22,SNR=1.4							
SPITS				LR	LR	03 59 58.7	
comp=Z,77nm,18.4s,baz=10.0,slow=36							
HSPB	**Hornsund (broa**	**7.79**	**114**	*e*P	**Pn**	**03 57 46.1**	**+1.8**
SUMG	**Summit**	**10.60**	**216**	*i* P	**Pn**	**03 58 21.1**	**-2.1**
SUMG				*i* S	Sn	04 00 11.3	-11
RES	**Resolute Bay**	**15.62**	**286**	Pn	**Pn**	**03 59 27.7**	**-3.3**
comp=Z,0.2nm,0.3s,baz=31,slow=12,SNR=1.6							
RES				Sn	Sn	04 02 11.7	-12
comp=Z,0.2nm,0.3s,baz=270,slow=10,SNR=1.5							
RES				LR	LR	04 05 45.2	
comp=Z,55nm,19.9s,baz=22,slow=38							
SFJD	**Kangerlussuaq**	**17.11**	**227**	LR	LR	04 06 34.8	
comp=Z,66nm,18.9s,baz=352,slow=37							
FRB	**Frobisher Bay**	**22.27**	**246**	LR	LR	04 09 14.5	
comp=Z,46nm,19.8s,baz=46,slow=36							
NOA	**NORSAR Array B**	**22.57**	**142**	P	**P**	**04 00 52.7**	**+1.5**
comp=Z,0.6nm,0.9s,baz=349,slow=9.9,SNR=3.2							
FINES	**FINESS Array B**	**23.64**	**124**	P	**P**	**04 01 03.0**	**+0.9**
comp=Z,0.6nm,0.6s,baz=354,slow=11,SNR=2.3							
FINES				LR	LR	04 09 31.0	
comp=Z,33nm,21.8s,baz=26,slow=35							
HFS	**Hagfors**	**23.68**	**140**	P	**P**	**04 01 03.6**	**+1.1**
comp=Z,1.4nm,0.6s,baz=13,slow=14,SNR=4.3							
YKA	**Yellowknife Ar**	**29.57**	**291**	LR	LR	04 13 59.8	
comp=Z,42nm,19.3s,baz=0.0,slow=37							
GERES	**GERESS Array B**	**34.87**	**143**	P	**P**	**04 02 44.1**	**+1.9**
comp=Z,0.4nm,0.6s,baz=352,slow=6.0,SNR=5.5							
ESDC	**Sonseca Array**	**42.96**	**165**	P	**P**	**04 03 51.5**	**+1.5**
comp=Z,0.3nm,0.7s,baz=348,slow=5.8,SNR=4.3							
NVAR	**Mina Array Bea**	**53.60**	**287**	P	**P**	**04 05 13.1**	**+0.9**
comp=Z,0.4nm,0.7s,baz=4.1,slow=3.8,SNR=4.1							
TXAR	**Lajitas Array**	**60.59**	**270**	P	**P**	**04 06 02.2**	**+0.6**
comp=Z,0.7nm,0.9s,baz=27,slow=6.1,SNR=7.0							

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*IDC **06** 03:56:50.9±2.3, 26.°80S×114.°97W, h0km, mb3.8/4, mb1 4.3/4, mb1mx3.8/23, mbtmp3.8/4, MS3.6/4, Ms1 3.6/4, ms1mx3.2/20, Error ellipse: s-maj=99.1km s-min=31.0km az=60.0*
*NEIC **06** 03:56:52.5±1.6, 26.°8S±0.°2×115.°0W±0.°2, h10km±2km, mb4.5/17, Error ellipse: s-maj=38.1km s-min=28.3km az=258.0*
ISC 06 03:56:52.6±1.5, 26.°8S±0.°2×114.°9W±0.°3, h10km, n42, σ0§88/28, mb4.0/7, MS3.6/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**31.70**	**111**	T	T	04 36 18.5	
baz=277,slow=74,SNR=411							
H03N3	**Juan Fernandez**	**31.71**	**111**	T	T	04 36 19.8	
baz=277,slow=74,SNR=490							
H03N1	**Juan Fernandez**	**31.72**	**111**	T	T	04 36 19.6	
baz=277,slow=74,SNR=468							
PPT	**Papeete**	**33.31**	**279**	LR	LR	04 12 32.0	
comp=Z,68nm,21.0s,baz=108,slow=28							
PLCA	**Paso Flores**	**39.01**	**122**	P	**P**	**04 04 19.9**	**+0.5**
2.7nm,0.9s,baz=260,slow=11,SNR=4.7							
PLCA	**Paso Flores**	**39.01**	**122**	IAmb	IAmb	04 04 23.2	
comp=Z,27nm,1.9s							
ROSC	**El Rosal**	**50.26**	**57**	P	**P**	**04 05 50.2**	**+0.4**
TX31	**Lajitas Ar. Si**	**56.80**	**12**	P	**P**	**04 06 37.4**	**+0.1**
TXAR	**Lajitas Array**	**56.80**	**12**	P	**P**	**04 06 37.6**	**+0.4**
comp=Z,0.7nm,1.0s,baz=203,slow=9.2,SNR=4.1							
JCT	**Junction City**	**58.72**	**15**	P	**P**	**04 06 50.5**	**-0.1**
GUVIX	**Guadalupe Vict**	**58.73**	**360**	P	**P**	**04 06 51.1**	**+0.5**
HKT	**Hockley**	**59.27**	**19**	P	**P**	**04 06 53.1**	**-1.2**
435B	**Jarrell**	**59.56**	**17**	P	**P**	**04 06 55.9**	**-0.5**
LENM	**Lemitar**	**61.05**	**7**	P	**P**	**04 07 06.6**	**-0.2**
VNDA	**Vanda**	**62.62**	**194**	LR	LR	04 29 25.4	
comp=Z,33nm,20.6s,baz=173,slow=31							
SHPR	**Sheep Range**	**62.93**	**360**		**P**	**04 07 20.9**	**+1.6**
R11A	**Troy Canyon, C**	**64.77**	**359**	P	**P**	**04 07 32.0**	**+0.5**
R11A				IAmb	IAmb	04 07 38.7	
comp=Z,4.2nm,1.4s							
NVAR	**Mina Array Bea**	**64.93**	**357**	P	**P**	**04 07 33.7**	**+1.1**
comp=Z,1.0nm,0.8s,baz=183,slow=8.4,SNR=8.4							
NVAR	**Mina Array Bea**	**64.93**	**357**		**P**	**04 07 33.9**	**+1.4**
RDMU	**Red Mountain**	**67.17**	**4**	P	**P**	**04 07 46.4**	**-0.5**
PD31	**Pinedale Array**	**69.35**	**4**	P	**P**	**04 07 59.3**	**-1.3**
PDAR	**Pinedale Array**	**69.35**	**4**	P	**P**	**04 07 59.7**	**-0.9**
comp=Z,0.9nm,1.0s,baz=182,slow=5.5,SNR=7.1							
PDAR	**Pinedale Array**	**69.35**	**4**	P	**P**	**04 07 59.1**	**-1.5**
HLID	**Hailey**	**69.98**	**0**	P	**P**	**04 08 04.7**	**+0.3**
HLID				IAmb	IAmb	04 08 05.5	
comp=Z,6.8nm,1.4s							
TPAW	**Teton Pass**	**70.00**	**3**	P	**P**	**04 08 03.5**	**-1.1**
TPAW				IAmb	IAmb	04 08 04.4	
comp=Z,5.1nm,1.2s							
IMW	**Indian Meadow**	**70.40**	**3**	P	**P**	**04 08 07.2**	**+0.1**
MCMT	**McKenzie Canyo**	**71.26**	**2**	P	**P**	**04 08 13.3**	**+1.0**
G08A	**Pilot Rock**	**71.80**	**357**	P	**P**	**04 08 16.7**	**+1.4**
F36A	**Milaca**	**74.84**	**15**	P	**P**	**04 08 32.6**	**-0.5**
MAW	**Mawson**	**85.91**	**179**	LR	LR	04 43 01.0	
comp=Z,40nm,20.3s,baz=257,slow=32							
STKA	**Stephens Creek**	**86.70**	**236**	LR	LR	04 41 33.6	
comp=Z,49nm,18.4s,baz=210,slow=31							
H11S2	**WAKE ISLAND Hy**	**88.32**	**292**	T	T	05 47 40.6	
baz=119,slow=76,SNR=24							
H11S1	**WAKE ISLAND Hy**	**88.33**	**292**	T	T	05 47 41.6	
baz=119,slow=76,SNR=71							
H11S3	**WAKE ISLAND Hy**	**88.33**	**292**	T	T	05 47 42.6	
baz=119,slow=76,SNR=38							
H11N3	**WAKE ISLAND Hy**	**88.74**	**293**	T	T	05 48 12.9	
baz=120,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**88.75**	**293**	T	T	05 48 14.0	
baz=120,slow=76,SNR=15							
H11N2	**WAKE ISLAND Hy**	**88.75**	**293**	T	T	05 48 14.3	
baz=120,slow=76,SNR=9.9							
SONM	**Songino Array**	**141.59**	**314**	PKP	**PKPdf**	**04 16 23.8**	**-0.4**
comp=Z,0.8nm,0.9s,baz=71,slow=2.2,SNR=2.0							
BOLV	**Bolvadin**	**149.06**	**59**	PKPbc	**PKPbc**	**04 16 41.4**	**0.0**
ZAA0	**Zalesovo Array**	**149.18**	**337**	PKPbc	**PKPbc**	**04 16 40.9**	**-0.1**
ZALV	**Zalesovo Beam**	**149.18**	**337**	PKPbc	**PKPbc**	**04 16 40.6**	**-0.4**
comp=Z,0.9nm,0.4s,baz=57,slow=5.5,SNR=4.5							
BRTR	**Keskin Array B**	**150.83**	**56**	PKPbc	**PKPbc**	**04 16 44.5**	**-1.1**
comp=Z,2.0nm,0.9s,baz=204,slow=2.7,SNR=6.1							

BUC 06 04:20:11.4±0.3, 45.°66N×26.°60E, h142km±2km, ml3.5/19, 45C-54D, Error ellipse: s-maj=2.0km s-min=1.9km az=161.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.13**	**144**	⇑P	Pn	04 20 31.2	+0.5
BISRR				⇑S	Sn	04 20 46.1	+0.7
BISRR	**Bisoca**	**0.13**	**144**	⇑P	Pn	04 20 31.2	+0.5
PLOR	**Plostina**	**0.20**	**10**	⇑P	Pn	04 20 30.6	-0.1
PLOR				⇓S	Sn	04 20 44.6	-1.0
PLOR	**Plostina**	**0.20**	**10**	⇑P	Pn	04 20 30.6	-0.1
VRI	**Vrincioaia**	**0.23**	**23**	⇓P	Pn	04 20 30.9	0.0
VRI				⇑S	Sn	04 20 45.5	-0.2
VRI	**Vrincioaia**	**0.23**	**23**	⇓P	Pn	04 20 30.9	0.0
NEHR	**Nehoiu**	**0.31**	**223**	⇓P	Pn	04 20 31.4	+0.3
NEHR				⇑S	Sn	04 20 46.8	+0.7
NEHR	**Nehoiu**	**0.31**	**223**	⇓P	Pn	04 20 31.4	+0.3
ODBI	**Odobesti**	**0.34**	**71**	⇑P	Pn	04 20 32.0	+0.9
ODBI				⇑S	Sn	04 20 47.3	+1.2
ODBI	**Odobesti**	**0.34**	**71**	⇑P	Pn	04 20 32.0	+0.9
PETR	**Petresti**	**0.45**	**81**	⇑P	Pn	04 20 32.2	+0.6
PETR				⇓S	Sn	04 20 47.8	+0.9
PETR	**Petresti**	**0.45**	**81**	⇑P	Pn	04 20 32.2	+0.6
MLR	**Muntele Rosu**	**0.49**	**250**	⇓P	Pn	04 20 32.1	+0.1
MLR				⇑S	Sn	04 20 48.7	+1.2
MLR	**Muntele Rosu**	**0.49**	**250**	⇓P	Pn	04 20 32.1	+0.1
GHRR		**0.69**	**54**	⇑S	Sn	04 20 50.2	+0.7
GHRR		**0.69**	**54**	⇑S	Sn	04 20 50.2	+0.7
OZUR		**0.72**	**308**	⇑P	Pn	04 20 32.7	-0.6
OZUR				⇓S	Sn	04 20 50.4	+0.5
OZUR		**0.72**	**308**	⇑P	Pn	04 20 32.7	-0.6
TUDR		**0.75**	**94**	⇓P	Pn	04 20 33.8	+0.5
TUDR				⇑S	Sn	04 20 51.0	+0.9
TUDR		**0.75**	**94**	⇓P	Pn	04 20 33.8	+0.5
TESR	**Tescani**	**0.86**	**2**	⇓P	Pn	04 20 33.5	-0.8
TESR	**Tescani**	**0.86**	**2**	⇓P	Pn	04 20 33.5	-0.8
DOPR	**Dopca**	**0.90**	**291**	⇓P	Pn	04 20 34.9	+0.3
DOPR				⇑S	Sn	04 20 52.7	+0.4
DOPR	**Dopca**	**0.90**	**291**	⇓P	Pn	04 20 34.9	+0.3
VARL	**Varlezi**	**0.91**	**74**	⇓P	Pn	04 20 35.1	+0.5
VARL				⇓S	Sn	04 20 52.3	0.0
VARL	**Varlezi**	**0.91**	**74**	⇓P	Pn	04 20 35.1	+0.5
BIR	**Birlad**	**0.94**	**49**	⇓P	Pn	04 20 35.0	+0.1
BIR				⇑S	Sn	04 20 52.7	-0.2
BIR	**Birlad**	**0.94**	**49**	⇓P	Pn	04 20 35.0	+0.1
SULR		**1.01**	**194**	⇓P	Pn	04 20 35.8	+0.3
SULR				⇓S	Sn	04 20 55.2	+1.4
SULR		**1.01**	**194**	⇓P	Pn	04 20 35.8	+0.3
VOIR		**1.11**	**259**	⇑P	Pn	04 20 36.1	-0.4
VOIR				⇑S	Sn	04 20 55.7	+0.1
VOIR		**1.11**	**259**	⇑P	Pn	04 20 36.1	-0.4
MTUR	**Matau**	**1.16**	**249**	⇓P	Pn	04 20 37.1	+0.1
MTUR	**Matau**	**1.16**	**249**	⇓P	Pn	04 20 37.1	+0.1
AMRR	**Amara**	**1.17**	**153**	⇓P	Pn	04 20 36.8	-0.2
AMRR				⇑S	Sn	04 20 57.2	+0.8
AMRR	**Amara**	**1.17**	**153**	⇓P	Pn	04 20 36.8	-0.2
CFR	**Carcaliu**	**1.18**	**113**	⇓P	Pn	04 20 37.8	+0.8
CFR				⇓S	Sn	04 20 56.8	+0.1
CFR	**Carcaliu**	**1.18**	**113**	⇓P	Pn	04 20 37.8	+0.8
LEHL	**Lehliu**	**1.19**	**172**	⇓P	Pn	04 20 37.2	0.0
LEHL				⇓S	Sn	04 20 57.9	+1.0
LEHL	**Lehliu**	**1.19**	**172**	⇓P	Pn	04 20 37.2	0.0
VASR	**Vaslui**	**1.29**	**40**	⇑P	Pn	04 20 37.8	-0.3
VASR				⇓S	Sn	04 20 57.9	-0.7
VASR	**Vaslui**	**1.29**	**40**	⇑P	Pn	04 20 37.8	-0.3
BIZ	**Bicaz**	**1.33**	**345**	⇓P	Pn	04 20 38.9	+0.4
BIZ				⇓S	Sn	04 20 59.8	+0.5
BIZ	**Bicaz**	**1.33**	**345**	⇓P	Pn	04 20 38.9	+0.4
HARR	**Harsova**	**1.35**	**135**	⇑P	Pn	04 20 39.0	+0.2
HARR	**Harsova**	**1.35**	**135**	⇑P	Pn	04 20 39.0	+0.2
BUC1	**Bucharest**	**1.37**	**197**	⇑S	Sn	04 21 00.1	+0.1
BUC1	**Bucharest**	**1.37**	**197**	⇑S	Sn	04 21 00.1	+0.1
ARR	**Arges**	**1.41**	**259**	⇑P	Pn	04 20 40.0	+0.5
ARR				⇑S	Sn	04 21 00.9	0.0
ARR	**Arges**	**1.41**	**259**	⇑P	Pn	04 20 40.0	+0.5
TOPG	**Topolog**	**1.48**	**121**	⇓P	Pn	04 20 40.1	0.0
TOPG				⇓S	Sn	04 21 01.6	-0.5
TOPG	**Topolog**	**1.48**	**121**	⇓P	Pn	04 20 40.1	0.0
SGRR	**Singureni**	**1.50**	**197**	⇓S	Sn	04 21 01.9	-0.5
SGRR	**Singureni**	**1.50**	**197**	⇓S	Sn	04 21 01.9	-0.5
TLBR	**Topalu**	**1.51**	**137**	⇑P	Pn	04 20 40.9	+0.5
TLBR				⇑S	Sn	04 21 02.4	-0.3
TLBR	**Topalu**	**1.51**	**137**	⇑P	Pn	04 20 40.9	+0.5
HUMR	**Humele**	**1.61**	**226**	⇓P	Pn	04 20 41.1	-0.5
HUMR				⇑S	Sn	04 21 03.8	-0.8
HUMR	**Humele**	**1.61**	**226**	⇓P	Pn	04 20 41.1	-0.5
TLCR		**1.63**	**106**	⇑P	Pn	04 20 42.1	+0.3
TLCR				⇑S	Sn	04 21 06.0	+1.1
TLCR		**1.63**	**106**	⇑P	Pn	04 20 42.1	+0.3
CVDA	**Cernavoda**	**1.67**	**142**	⇓P	Pn	04 20 42.0	-0.2
CVDA				⇑S	Sn	04 21 06.4	+0.6
CVDA	**Cernavoda**	**1.67**	**142**	⇓P	Pn	04 20 42.0	-0.2
TIRR	**Tirgusor**	**1.76**	**132**	⇓P	Pn	04 20 43.4	+0.2
TIRR				⇓S	Sn	04 21 06.3	-1.2
TIRR	**Tirgusor**	**1.76**	**132**	⇓P	Pn	04 20 43.4	+0.2
COPA	**Copaceanca**	**1.81**	**213**	⇓P	Pn	04 20 43.6	-0.2
COPA				⇓S	Sn	04 21 10.3	+1.7
COPA	**Copaceanca**	**1.81**	**213**	⇓P	Pn	04 20 43.6	-0.2
MILM	**Milestii Mici**	**1.99**	**50**	⇓P	Pn	04 20 45.6	-0.3
MILM	**Milestii Mici**	**1.99**	**50**	⇓P	Pn	04 20 45.6	-0.3
BURAR	**Bucovina Array**	**2.18**	**335**	⇑P	Pn	04 20 49.0	+0.8
BURAR	**Bucovina Array**	**2.18**	**335**	⇑P	Pn	04 20 49.0	+0.8
ZIMR		**2.18**	**204**	⇑S	Sn	04 21 16.8	+0.3
ZIMR		**2.18**	**204**	⇑S	Sn	04 21 16.8	+0.3

MEX 06 04:21:40.0±0.4, 14.°40N×92.°12W, h186km±28km, MD3.8, Near coast of Chiapas

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ASRS 06 04:23:57.1±0.2, 52.°N±1.°×9.°6E±.°, h5km, MLh3.2/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.52**	**3**	Pg	Pn	04 24 16.2	+4.8
TDJR				Sg	Sn	04 24 25.5	+4.9
KNGR	**Kungurtug, Tuv**	**1.58**	**144**	Pg	Pg	04 24 30.4	+3.1
KNGR				Sg	Sg	04 24 49.8	+2.1
ERNS	**Erzin**	**1.71**	**200**	Pg	Pg	04 24 31.7	+1.7
ERNS				Sg	Sb	04 24 51.2	+0.1
ARDR	**Aradan**	**1.76**	**295**	Pg	Pg	04 24 36.8	+6.1
ARDR				Sg	Sg	04 24 58.0	+4.5
DJOS	**Djoyskaya Sosn**	**3.00**	**290**	Sg	Sg	04 25 35.9	+2.6
CERR	**Cheremushki**	**3.00**	**291**	Sg	Sg	04 25 35.5	+2.0
MOY	**Mondy**	**3.08**	**92**	Pg	Pg	04 24 59.3	+3.2
MOY				Sg	Sg	04 25 39.6	+3.7
DJO	**Djoy, Khakassi**	**3.10**	**289**	Pg	Pg	04 24 58.6	+2.2
DJO				Sg	Sg	04 25 38.5	+2.0
ORY	**Orie**	**3.18**	**350**	Pg	Pg	04 25 02.5	+4.5
ORY				Sg	Sg	04 25 44.3	+5.2
ABNR	**Abakan**	**3.35**	**305**	Sg	Sg	04 25 49.0	+4.2
TEL	**Teeli**	**3.76**	**259**	Pg	Pg	04 25 07.9	-1.2
TEL				Sg	Sg	04 25 54.1	-3.7
SHRR	**Shira**	**4.40**	**309**	Pg	Pg	04 25 24.0	+2.6
SHRR				Sg	Sg	04 26 20.6	+2.2
SHTK	**Zheleznogorsk-**	**4.69**	**343**	Sg	Sg	04 26 27.8	+0.3
LUZB	**Luzhba, Kemero**	**4.69**	**295**	Sg	Sg	04 26 27.8	+0.1
GZLN	**Zheleznogorsk**	**4.70**	**344**	Sg	Sg	04 26 32.1	+4.1
TLY	**Talaya**	**4.72**	**89**	Sg	Sg	04 26 29.1	+0.5
ZAK	**Zakamensk**	**4.79**	**105**	Sg	Sg	04 26 31.9	+0.9

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*THR **06** 04:37:34.8±1.1, 37.°85N×73.°93E, h16km±148km, mb4.3*
*MOS **06** 04:37:45.4±0.9, 37.°42N×72.°36E, h21km, mb4.9/57, MS4.1/18, Error ellipse: s-maj=4.7km s-min=3.3km az=89.6*
*NEIC **06** 04:37:46.2±1.8, 37.°50N±0.°06×72.°33E±0.°05, h14km±3km, mb4.8/121, Error ellipse: s-maj=8.5km s-min=5.1km az=160.0*
*IDC **06** 04:37:48.1±5.8, 37.°49N×72.°40E, h27km±39km, mb4.3/25, mb1 4.5/32, mb1mx4.4/40, mbtmp4.5/32, ML4.1/7, MS3.8/30, Ms1 3.8/30, ms1mx3.7/42, Error ellipse: s-maj=18.6km s-min=10.3km az=5.0*

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*BJI **06** 04:37:48.8±0.0, 37.°53N×72.°40E, h39km, mB4.7/42, mb4.7/49, ML5.0/3, Ms4.4/46, Ms7 4.1/44*
*NNC **06** 04:37:48.8±4.8, 37.°64N×72.°32E, h8km±30km, mb5.0, mpv4.8, Error ellipse: s-maj=30.7km s-min=20.4km az=152.0*
*BGR **06** 04:37:50.5±0.0, 36.°94N×71.°64E, h33km, mb4.4*
ISC 06 04:37:47.8±0.5, 37.°52N±0.°03×72.°33E±0.°03, h22km±4km, n572, σ1§88/581, mb4.7/153, MS4.0/58, 28C-36D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.17**	**314**	Pn	**Pb**	**04 38 24.7**	**-1.7**
CHGR	**Chuyangaron**	**2.75**	**295**		**Pn**	**04 38 33.0**	**+2.4**
KSH	**Kashi**	**3.48**	**54**	P	**Pn**	**04 38 39.1**	**-1.6**
KSH				smax	smax		
comp=N,7μm,0.5s							
KSH				smax	smax		
comp=E,4μm,0.4s							
CEP	**Cherat**	**3.71**	**185**	P	**Pb**	**04 38 51.6**	**-1.1**
CEP				S	**Sb**	**04 39 45.0**	**+7.8**
NIL	**Nilore**	**3.94**	**169**	P	**Pb**	**04 38 52.4**	**-4.1**
NIL	**Nilore**	**3.94**	**169**	PN	**Pn**	**04 38 48.1**	**+1.2**
NIL	**Nilore**	**3.94**	**169**	Pn	**Pn**	**04 38 48.1**	**+1.2**
KBL	**Kabul**	**4.00**	**223**	P	**Pb**	**04 38 54.0**	**-3.6**
SNR=208							
KBL				S	**Sb**	**04 39 45.9**	**+0.3**
KBL	**Kabul**	**4.00**	**223**	PN	**Pb**	**04 38 54.2**	**-3.4**
KBL	**Kabul**	**4.00**	**223**	Pn	**Pb**	**04 38 54.2**	**-3.4**
TAS	**Tashkent**	**4.47**	**329**	PN	**Pn**	**04 38 57.0**	**+2.8**
TAS	**Tashkent**	**4.47**	**329**	Pn	**Pn**	**04 38 57.0**	**+2.8**
AML	**Almayashu**	**4.72**	**12**	P	**Pn**	**04 39 00.7**	**+2.7**
SNR=60							
THW	**Thamme Wali**	**4.74**	**186**	P	Pn	04 39 03.6	+5.6
IUG	**Iuzhnay**	**4.95**	**340**	⇓*i*P	**Pn**	**04 39 03.2**	**+2.3**
236nm,1.3s,baz=339							
IUG	**Iuzhnay**	**4.95**	**340**	*d* iPN	**Pn**	**04 39 03.2**	**+2.3**
IUG				pmax	pmax		
comp=Z,236nm,1.3s							
KZA	**Kyzart**	**5.07**	**25**	P	**Pn**	**04 39 05.5**	**+2.7**
SNR=72							
EKS2	**Erkin-Say**	**5.25**	**12**	P	**Pn**	**04 39 08.0**	**+2.9**
SNR=62							
AAK	**Ala-Archa**	**5.37**	**17**	Pn	**Pn**	**04 39 09.9**	**+3.2**
comp=Z,6.0nm,0.3s,baz=185,slow=9.5,SNR=45							
AAK				LR	LR	04 41 23.5	
comp=Z,998nm,18.1s,baz=181,slow=40							
AAK	**Ala-Archa**	**5.37**	**17**	P	**Pn**	**04 39 10.0**	**+3.3**
SNR=31							
AAK	**Ala-Archa**	**5.37**	**17**	*i* P	**Pn**	**04 39 09.5**	**+2.7**
SNR=35							
AAK	**Ala-Archa**	**5.37**	**17**	⇓Pn	**Pn**	**04 39 09.7**	**+3.0**
comp=Z,94nm,0.7s							
AAK				⇑Sn	**Sn**	**04 40 09.4**	**+1.4**
comp=Z,362nm,1.2s							
AAK				Lg	Lg	04 40 32.3	
comp=Z,314nm,1.0s							
AAK	**Ala-Archa**	**5.37**	**17**	P	**Pn**	**04 39 07.9**	**+1.2**
AAK				S	**Sn**	**04 40 02.7**	**-5.3**
AAK	**Ala-Archa**	**5.37**	**17**	*d* iPN	**Pn**	**04 39 09.8**	**+3.0**
AAK	**Ala-Archa**	**5.37**	**17**	Pn	**Pn**	**04 39 09.7**	**+3.0**
DZA	**Taraz**	**5.42**	**352**	*e*P	**Pn**	**04 39 08.5**	**+1.2**
baz=352							
DZA				LR	LR	04 41 00.2	
comp=Z,401nm,11.4s,baz=352							
DZA	**Taraz**	**5.42**	**352**	*e*PN	**Pn**	**04 39 08.4**	**+1.2**
DZA				MLR	MLR		
comp=Z,401nm,11.0s							
KBK	**Karagaybulak**	**5.51**	**21**	P	**Pn**	**04 39 12.0**	**+3.4**
SNR=14							
FRU1	**Bishkek**	**5.57**	**18**	PN	**Pn**	**04 39 11.7**	**+2.3**
FRU1	**Bishkek**	**5.57**	**18**	Pn	**Pn**	**04 39 11.7**	**+2.3**
ULHL	**Ulahol**	**5.59**	**31**	P	**Pn**	**04 39 13.2**	**+3.4**
SNR=50							
BOOM	**Boomskoye usch**	**5.68**	**28**	PN	**Pn**	**04 39 13.7**	**+2.7**
BOOM

UZB	**Uzynbulak**	7.59	40	*e*P		**Pn**	**04 39 40.1 +2.9**
BTLS	**Baital**	7.62	9	⇓*i*P		**Pn**	**04 39 39.0 +1.5**
	comp=N,9.1nm,1.0s,baz=9.5						
BTLS	**Baital**	7.62	9	*d i*P		**Pn**	**04 39 38.9 +1.5**
BTLS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KPKS	**Kokpek**	7.66	37	*e*P		**Pn**	**04 39 39.8 +1.7**
	baz=38						
KPKS				LR	LR		04 41 57.8
	comp=Z,231nm,8.6s,baz=38						
KPKS	**Kokpek**	7.66	37	*e*P		**Pn**	**04 39 39.8 +1.7**
KPKS				MLR	MLR		
	comp=Z,231nm,9.0s						
SHLS	**Shalkode**	7.83	42	*e*P		Pn	04 39 45.7 +5.3
	baz=44						
SHLS	**Shalkode**	7.83	42	*e*P		Pn	04 39 45.7 +5.3
PDGK	**Podgornoye**	7.96	41	Pn		**Pn**	**04 39 44.7 +2.4**
	comp=Z,86nm,0.9s						
PDGK				Lg	Lg		04 42 00.6
	comp=Z,161nm,1.1s						
TDK	**Taldyqorghan**	8.76	30	*e*P		**Pn**	**04 39 54.7 +1.6**
	baz=30						
TDK				LR	LR		04 42 38.6
	comp=Z,902nm,10.7s,baz=30						
TDK	**Taldyqorghan**	8.76	30	*e*P		**Pn**	**04 39 54.6 +1.6**
TDK				MLR	MLR		
	comp=Z,901nm,11.0s						
HRA	**Herat**	8.76	252	Pn		**Pn**	**04 39 54.5 +1.2**
SONA	**Sohna**	10.07	155	*e*P		**Pn**	**04 40 10.7 -0.3**
SONA				*e*S		**Sn**	**04 41 58.5 -4.8**
SONA				IAML			04 42 08.9
	comp=E,67nm,0.4s						
SONA				IAML			04 42 09.5
	comp=N,48nm,0.8s						
GEYT	**Alibeck**	11.27	276	Pn		**Pn**	**04 40 26.7 -0.8**
	comp=N,3.7nm,0.3s,baz=120,slow=10,SNR=17						
GEYT				LR	LR		04 46 37.1
	comp=N,915nm,18.1s,baz=105,slow=47						
GEYT	**Alibeck**	11.27	276	Pn		**Pn**	**04 40 26.9 -0.7**
GYA0	**ALIBECK ARRAY**	11.27	276	P		**Pn**	**04 40 26.0 -1.5**
GYA0B	**ALIBECK ARRAY**	11.27	276	⇑Pn		**Pn**	**04 40 26.0 -1.5**
GYA0B				⇑Sn		**Sn**	**04 42 34.6 +1.9**
GYA0B	**ALIBECK ARRAY**	11.27	276	Pn		**Pn**	**04 40 27.1 -0.4**
MAKZ	**Makanchi**	11.71	35	⇑P		**Pn**	**04 40 33.5 0.0**
	comp=N,30nm,1.1s						
MAKZ	**Makanchi**	11.71	35	P		**Pn**	**04 40 34.8 +1.3**
MAKZ	**Makanchi**	11.71	35			**Pn**	**04 40 34.8 +1.3**
MK31	**Makanchi Array**	11.84	35	⇑P		**Pn**	**04 40 37.2 +1.9**
	comp=N,9.5nm,0.7s,baz=226,slow=9.1,SNR=67						
MK31	**Makanchi Array**	11.84	35	P		**Pn**	**04 40 37.2 +1.9**
MK31	**Makanchi Array**	11.84	35	Pn		**Pn**	**04 40 37.2 +1.9**
MKAR	**Makanchi Array**	11.84	35	Pn		**Pn**	**04 40 37.2 +2.0**
	comp=N,0.3nm,0.3s,baz=220,slow=11,SNR=47						
MKAR	**Makanchi Array**	11.84	35	P		**Pn**	**04 40 36.1 +0.8**
MKAR	**Makanchi Array**	11.84	35			**Pn**	**04 40 36.1 +0.8**
BSRN	**Basiran**	12.19	247	*e*P		Pn	04 40 45.1 +4.8
BSRN				IAmb	IAmb		04 40 53.2
	comp=Z,18nm,1.1s						
ZHSF	**Zahedan**	12.45	234	*e*P		Pn	04 40 48.9 +5.1
ZHSF				IAmb	IAmb		04 40 50.9
	comp=Z,3.3nm,0.8s						
BRZS	**Berezniki**	12.46	1	⇓*i*P		**Pn**	**04 40 43.0 -0.8**
	comp=Z,47nm,1.1s,baz=1.1						
BRZS				LR	LR		04 44 29.8
	comp=Z,242nm,9.3s,baz=1.1						
BRZS	**Berezniki**	12.46	1	*d i*P		**Pn**	**04 40 42.9 -0.8**
BRZS				pmax	pmax		
	comp=Z,47nm,1.1s						
BRZS				MLR	MLR		
	comp=Z,242nm,9.0s						
TABS	**Tabas**	12.97	257	*e*P		P	04 40 56.1 -5.2
PYUN	**Piuthan**	12.97	133	*e*P		**Pn**	**04 40 47.4 -3.6**
	comp=Z,148nm,0.5s						
PYUN	**Piuthan**	12.97	133	*e*P		**Pn**	**04 40 47.4 -3.6**
	comp=Z,148nm,0.5s						
WMQ	**Urumqi**	13.24	57	*e*P		**Pn**	**04 40 56.5 +2.0**
WMQ				pP		P	04 41 02.4 -1.8
WMQ				PP		**PnPn**	**04 41 09.5 +7.3**
WMQ				sP			04 41 14.1
WMQ				S		**Sn**	**04 43 26.3 +5.3**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,55nm,3.7s						
WMQ				LR	LR		
	comp=Z,250nm,5.5s						
WMQ				LR	LR		
	comp=Z,210nm,6.3s						
WMQ	**Urumqi**	13.24	57	P		**Pn**	**04 40 54.1 -0.4**
WMQ	**Urumqi**	13.24	57	Pn		**Pn**	**04 40 54.1 -0.4**
ZSN	**Zaisan**	13.54	39	*e*P		**Pn**	**04 40 59.2 +0.7**
	baz=40						
ZSN				LR	LR		04 45 26.6
	comp=Z,251nm,11.8s,baz=40						
ZSN	**Zaisan**	13.54	39	*e*P		**Pn**	**04 40 59.2 +0.7**
ZSN				MLR	MLR		
	comp=Z,251nm,12.0s						
KOLN	**Koldanda**	13.58	132	*e*P		**Pn**	**04 40 55.2 -4.0**
	comp=Z,95nm,0.7s						
KOLN	**Koldanda**	13.58	132	*e*P		**Pn**	**04 40 55.2 -4.0**
	comp=Z,95nm,0.7s						
KURBB	**Kurchatov Arra**	13.83	17	Pn		**Pn**	**04 40 59.8 -2.5**
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=33						
KURBB	**Kurchatov Arra**	13.83	17	⇑P		**Pn**	**04 41 05.4 +3.1**
	comp=Z,31nm,1.1s						
KURBB	**Kurchatov Arra**	13.83	17	P		**Pn**	**04 40 59.6 -2.7**
KURK	**Kurchatov**	13.93	17	⇑P		**Pn**	**04 41 06.4 +2.6**
	comp=Z,22nm,1.0s						
KURK	**Kurchatov**	13.93	17	P		**Pn**	**04 41 01.7 -2.0**
KURK	**Kurchatov**	13.93	17	*d i*P		**Pn**	**04 41 01.3 -2.5**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	13.93	17	Pn		**Pn**	**04 41 01.4 -2.3**
GKN	**Gorkha**	14.03	129	*e*P		Pn	04 41 00.3 -5.1
	comp=Z,328nm,0.8s						
GKN	**Gorkha**	14.03	129	*e*P		Pn	04 41 00.3 -5.1
	comp=Z,328nm,0.8s						
SEM	**Semipalatinsk**	14.07	21	*e*P		**Pn**	**04 41 06.3 +0.3**
	baz=22						
SEM	**Semipalatinsk**	14.07	21	*e*P		**Pn**	**04 41 06.2 +0.3**
BHUJ	**Bhuj**	14.41	190	*e*S		**Sn**	**04 43 45.1 -4.4**
KKN	**Kakani**	14.58	128	*e*P		Pn	04 41 07.3 -5.7
	comp=Z,101nm,0.5s						
KKN	**Kakani**	14.58	128	*e*P		Pn	04 41 07.3 -5.7
	comp=Z,101nm,0.5s						
DMN	**Daman**	14.60	129	*e*P		Pn	04 41 08.4 -4.9
	comp=Z,80nm,0.8s						
DMN	**Daman**	14.60	129	*e*P		Pn	04 41 08.4 -4.9
	comp=Z,80nm,0.8s						
AB31	**Akbulak array**	14.76	327	⇑P		**Pn**	**04 41 13.4 -1.8**
	comp=Z,47nm,0.7s						
AB31				⇑S		**Sn**	**04 43 58.0 +0.1**
	comp=Z,18nm,0.6s						
AB31	**Akbulak array**	14.76	327	P		**Pn**	**04 41 12.9 -2.2**
ABKAR	**Akbulak array**	14.76	327	Pn		**Pn**	**04 41 11.7 -3.4**
PKI	**Pulchoki**	14.82	128	*e*P		Pn	04 41 10.4 -5.9
	comp=Z,154nm,0.8s						
PKI	**Pulchoki**	14.82	128	*e*P		Pn	04 41 10.4 -5.9
	comp=Z,154nm,0.8s						
GUN	**Gumba**	14.88	126	*e*P		Pn	04 41 11.2 -5.9
	comp=Z,443nm,1.1s						
GUN	**Gumba**	14.88	126	*e*P		Pn	04 41 11.2 -5.9
	comp=Z,443nm,1.1s						
BHPL	**Bhopal**	14.89	161	*e*P		**Pn**	**04 41 17.9 +0.8**
BHPL				*e*S		**Sn**	**04 43 53.9 -7.5**
KRBR	**Kerman**	14.97	244	*e*P		**P**	**04 41 23.5 -0.2**
JIRN	**Jiri**	15.25	126	*e*P		**Pn**	**04 41 16.3 -5.8**
	comp=Z,248nm,0.5s						
JIRN	**Jiri**	15.25	126	*e*P		**Pn**	**04 41 16.3 -5.8**
	comp=Z,248nm,0.5s						
YZKH	**Yazd**	15.42	256	*e*P		**P**	**04 41 28.8 +0.4**
BVAR	**Borovoye Array**	15.56	356	Pn		**Pn**	**04 41 23.1 -2.6**
	comp=Z,0.7nm,0.3s,baz=166,slow=13,SNR=64						
BRVK	**Borovoye**	15.60	355	⇑P		**P**	**04 41 29.5 -0.7**
	comp=Z,46nm,0.8s						
BRVK	**Borovoye**	15.60	355	P		**Pn**	**04 41 24.1 -2.1**
BRVK	**Borovoye**	15.60	355	*d i*P		**Pn**	**04 41 23.7 -2.5**
BRVK				pmax	pmax		
	comp=Z,28nm,1.3s						
BRVK	**Borovoye**	15.60	355	Pn		**Pn**	**04 41 24.0 -2.2**
BRVK				IAmb	IAmb		04 41 31.5
	comp=Z,49nm,0.8s						
RAMN	**Ramite**	16.00	127	*e*P		**Pn**	**04 41 26.0 -5.8**
	comp=Z,249nm,0.9s						
RAMN	**Ramite**	16.00	127	*e*P		**Pn**	**04 41 26.0 -5.8**
	comp=Z,249nm,0.9s						
DGZ	**Jazzator, Alta**	16.32	37	*c i*P		**Pn**	**04 41 34.7 -0.9**
DGZ				pmax	pmax		
	comp=Z,17nm,0.6s						
TAPN	**Taplejung**	16.45	124	*e*P		**Pn**	**04 41 31.7 -5.8**
	comp=Z,156nm,0.7s						
TAPN	**Taplejung**	16.45	124	*e*P		**Pn**	**04 41 31.7 -5.8**
	comp=Z,156nm,0.7s						
DAMV	**Damavand**	16.47	270	*e*P		**P**	**04 41 41.6 +1.4**
AKTO	**Aktyubinsk**	16.48	326	Pn		**Pn**	**04 41 34.9 -2.5**
	comp=Z,3.1nm,0.3s,baz=134,slow=12,SNR=40						
AKTO	**Aktyubinsk**	16.48	326	⇓P		**Pn**	**04 41 38.6 +1.2**
	comp=Z,200nm,1.4s						
AKTO				⇓S		**Sn**	**04 44 41.2 +1.7**
	comp=Z,60nm,1.4s						
ODAN	**Odare**	16.57	126	*e*P		**Pn**	**04 41 33.2 -5.8**
	comp=Z,361nm,0.8s						
ODAN	**Odare**	16.57	126	*e*P		**Pn**	**04 41 33.2 -5.8**
	comp=Z,361nm,0.8s						
BNDS	**Bandar-Abbas**	16.95	238	*e*P		**P**	**04 41 46.3 +0.8**
GTK	**Tadong**	17.07	122	*e*P		**P**	**04 41 47.2 +0.4**
CHTH	**Charan**	17.08	271	*e*P		**P**	**04 41 48.3 +1.3**
GHVR	**GHOM**	17.29	266	*e*P		**P**	**04 41 52.1 +2.9**
NGP	**Nagpur**	17.32	158	*e*P		**Pn**	**04 41 45.3 -2.9**
NGP				IAmb	IAmb		04 41 54.0
	comp=Z,76nm,1.1s						
LSA	**Lhasa**	17.49	111	P		**Pn**	**04 41 47.9 -2.8**
LSA				pmax	pmax		
	comp=Z,18nm,0.9s						
LSA	**Lhasa**	17.49	111	Pn		**Pn**	**04 41 47.9 -2.8**
BANOM	**Banah**	17.85	234	P		**P**	**04 41 56.6 +1.2**
BANOM	**Banah**	17.85	234	P		**P**	**04 42 00.4 +5.0**
	SNR=6.3						
BANOM				S		**S**	**04 45 21.4 +1.7**
SHME	**Shamm**	17.87	235	*i* P		**P**	**04 41 56.9 +1.4**
	SNR=6.2						
ASAO	**Ashtian**	18.28	267	*e*P		**P**	**04 42 01.9 +1.6**
MSFE	**Esma-Masafi**	18.34	233	P		**Pn**	**04 42 02.3 +1.5**
WSAR	**Wadi Sarin**	18.47	223	P		**Pn**	**04 42 07.9 +5.5**
ZAA0	**Zalesovo Array**	18.55	24	⇓P		**P**	**04 42 02.0 -0.8**
	comp=Z,3.0nm,0.6s						
ZAA0	**Zalesovo Array**	18.55	24	P		**P**	**04 42 01.8 -1.0**
ZAA0				IAmb	IAmb		04 42 06.1
	comp=Z,26nm,0.6s						
ZALV	**Zalesovo Beam**	18.55	24	P		**P**	**04 42 01.4 -1.4**
	comp=Z,2.8nm,0.3s,baz=216,slow=10.0,SNR=49						
ZALV				LR	LR		04 49 36.8
	comp=Z,180nm,18.9s,baz=218,slow=38						
ZALV	**Zalesovo Beam**	18.55	24	P		**P**	**04 42 01.3 -1.5**
LKRN	**Lenkeran, Azer**	18.57	281	P		**Pn**	**04 42 04.2 +0.8**
KHMZ	**Khomeyn**	18.57	265	*e*P		**Pn**	**04 42 05.8 +2.1**
UOSS	**Minazif**	18.61	232	*i* P		**Pn**	**04 42 04.4 +0.4**
	SNR=6.7						
UOSS	**Minazif**	18.61	232	P		**Pn**	**04 42 07.8 +3.8**
UOSS	**Minazif**	18.61	232	P		**Pn**	**04 42 03.9 0.0**
GHIR	**Ghir-Karzin**	18.65	246	*e*P		**Pn**	**04 42 05.8 +1.2**
HATD	**Hatta, Dubai**	18.74	232	P		**Pn**	**04 42 07.4 +1.8**
HATD	**Hatta, Dubai**	18.74	232	P		**Pn**	**04 42 09.2 +3.6**
WBK	**Wadi Bani Khal**	18.80	222	P		**Pn**	**04 42 10.5 +4.1**
ZNJK	**Zanjan**	18.88	275	*e*P		**Pn**	**04 42 08.5 +1.0**
ASHO	**Ashiyiah**	18.89	232	*i* P		**Pn**	**04 42 08.2 +0.8**
	SNR=18						
ASHO	**Ashiyiah**	18.89	232	P		**Pn**	**04 42 10.8 +3.4**
	SNR=16						
SOHO	**SOHO**	18.99	230	P		**Pn**	**04 42 10.7 +2.0**
GRMI	**Germi**	19.25	281	*e*P		**P**	**04 42 11.2 +0.4**
AKT	**Akhty**	19.37	289	*e*P		**P**	**04 42 11.9 -0.2**
AKT				*e*S		**Sn**	**04 45 47.9 -2.0**
AKT				pmax	pmax		
	comp=Z,25nm,0.7s						
AKT				smax	smax		
	comp=E,9.0nm,0.7s						
AKT				smax	smax		
	comp=N,8.0nm,0.5s						
ARQ	**Araqi**	19.60	228	P		**Pn**	**04 42 20.4 +4.4**
AJN	**Ajban**	19.65	234	P		**Pn**	**04 42 20.7 +4.1**
	SNR=7.9						
MAK	**Makhachkala**	19.69	294	*e*P		**P**	**04 42 14.0 -1.3**
MAK				*e*S		**S**	**04 45 53.6 -2.5**
MAK				pmax	pmax		
	comp=Z,93nm,0.9s						
MAK				MLR	MLR		
	comp=Z,1μm,14.0s						
SEKA	**Sheki**	19.76	289	P		**Pn**	**04 42 17.6 -0.2**
MNGR	**Mingechevir, A**	19.83	287	P		**Pn**	**04 42 18.0 -0.6**
GUWA	**GUWAHATI**	19.91	119	*e*P		**P**	**04 42 17.9 0.0**
SNGE	**Sanandaj**	20.27	271	*e*P		Pn	04 42 23.9 -0.1
GANJ	**Ganja**	20.41	287	P		**P**	**04 42 23.8 +0.5**
TEZP	**TEZPUR**	20.43	116	*ex*		**P**	**04 42 20.7 -2.8**
TEZP				IAmb	IAmb		04 42 27.1
	comp=Z,29nm,0.8s						
SHL	**Shillong**	20.44	120	P		**P**	**04 42 22.7 -1.1**
SHL				pmax	pmax		
	comp=Z,34nm,0.9s						
SHL	**Shillong**	20.44	120	P		**P**	**04 42 22.7 -1.1**
SHL				IAmb	IAmb		04 42 30.0
	comp=Z,34nm,0.9s						
HYB	**Hyderabad**	20.76	163	*i* P		**P**	**04 42 27.0 -0.2**
HYB				*e*S		Sn	04 46 22.5 -1.0
HYB	**Hyderabad**	20.76	163	*ex*		**P**	**04 42 30.5 +3.3**
BWNR	**Bhubaneshwar**	20.78	142	*e*P		P	04 42 19.8 -7.6
BWNR				IAmb	IAmb		04 42 29.8
	comp=Z,106nm,1.3s						
SVE	**Sverdlovsk**	20.83	342	*e*P		**P**	**04 42 27.4 -0.2**
SVE				*e*S		Sn	04 46 23.0 -1.6
SVE				pmax	pmax		
	comp=Z,37nm,1.3s						
SVE				MLR	MLR		
	comp=Z,1μm,12.0s						
GROC	**Groznyy**	20.96	294	*e*P		Pn	04 42 30.8 -1.0
GROC				*e**PP		sP	04 42 40.4 +0.2
GROC				*e*			04 42 50.4
GROC				*e*S		**S**	**04 46 23.9 +2.3**
GROC				*e**SS		pS	04 46 38.5 +3.7
GROC				pmax	pmax		
	comp=Z,165nm,1.0s						
ARU	**Arti**	21.05	338	P		**P**	**04 42 29.4 -0.6**
	comp=Z,3.6nm,0.6s,baz=155,slow=9.3,SNR=25						
ARU	**Arti**	21.05	338	*d i*P		**P**	**04 42 29.4 -0.6**
ARU				*PP		**sP**	**04 42 40.9 -0.1**
ARU							04 42 50.2
ARU				S		**S**	**04 46 19.5 -3.6**
ARU				SS		**SnSn**	**04 46 42.2 -2.5**
ARU				pmax	pmax		
	comp=Z,35nm,1.0s						
ARU				MLR	MLR		
	comp=Z,521nm,15.0s						
ARU	**Arti**	21.05	338	P		**P**	**04 42 29.3 -0.7**
ARU				IAmb	IAmb		04 42 40.3
	comp=Z,33nm,0.9s						
NAX	**Nakhchivan**	21.09	283	P		**P**	**04 42 31.6 +0.9**
GTA	**Gaotai**	21.57	76	⇑P		**P**	**04 42 37.0 +1.1**
GTA				pP		sP	04 42 48.4 +1.6
GTA				sP		pP	04 42 53.5 +10
GTA				S		**S**	**04 46 34.0 0.0**
GTA				pmax	pmax		
	comp=Z,14nm,1.2s						
GTA				pmax	pmax		
	comp=Z,140nm,7.5s						
GTA				LR	LR		
	comp=Z,440nm,14.3s						
GTA				LR	LR		
	comp=Z,590nm,14.0s						
GTA				LR	LR		
	comp=Z,660nm,14.0s						
TBLG	**Delisi**	21.63	290	P		**P**	**04 42 36.8 +0.4**
TBLG	**Delisi**	21.63	290	P		**P**	**04 42 36.8 +0.4**
ZEI	**Tsey**	22.30	293	*e*P		**P**	**04 42 44.8 +0.9**
ZEI				pmax	pmax		
	comp=Z,62nm,1.6s						
AKH	**Akhalkalaki**	22.55	289	⇑P		**P**	**04 42 50.1 +3.6**
AKH	**Akhalkalaki**	22.55	289	P		**P**	**04 42 48.8 +2.3**
AKH				pmax	pmax		
	comp=Z,74nm,1.0s						
AKH	**Akhalkalaki**	22.55	289	P		**P**	**04 42 48.8 +2.3**
GEVA	**Gevas**	23.07	281	P		**P**	**04 42 51.6 -0.4**
KBZ	**Khabaz**	23.11	295	P		**P**	**04 42 52.0 -0.1**
	comp=Z,12nm,0.8s,baz=122,slow=8.3,SNR=25						
KBZ				LR	LR		04 53 54.1
	comp=Z,343nm,20.6s,baz=88,slow=42						
KBZ	**Khabaz**	23.11	295	*d i*P		**P**	**04 42 51.5 -0.6**
KBZ				pmax	pmax		
	comp=Z,11nm,0.9s						
GOF	**Gofitskoye**	23.17	298	⇑*i*P		**P**	**04 42 54.0 +1.3**
GOF				pmax	pmax		
	comp=Z,140nm,0.9s						
SAIH	**SAIHA**	23.26	124	*e*P		**P**	**04 42 54.0 +0.1**
KIV	**Kislovodsk**	23.29	295	*e*P		**P**	**04 42 52.4 -1.6**
KIV				*e*S		**S**	**04 47 01.6 -3.6**
KIV				pmax	pmax		
	comp=Z,77nm,1.1s						
KIV				MLR	MLR		
	comp=Z,828nm,14.0s						
KIV	**Kislovodsk**	23.29	295	P		**P**	**04 42 54.3 +0.3**
CHVG	**Ch'k'valeri**	23.64	292	⇑P		**P**	**04 43 00.2 +2.9**
KOPT	**Kop Dagi**	24.88	286	P		**P**	**04 43 09.9 +0.7**
KOPT				IAmb	IAmb		04 43 19.9
	comp=Z,26nm,1.0s						
LZH	**Lanzhou**	25.21	84	*e*P		**P**	**04 43 14.0 +1.9**
LZH				pP	sP		04 43 24.4 +1.0
LZH				sP	pP		04 43 29.3 +9.3
LZH				*e*S		**S**	**04 47 37.5 +1.1**
LZH				sS	sS		04 47 50.3 +0.8
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
LZH				LR	LR		
	comp=Z,260nm,14.9s						
LZH				LR	LR		
	comp=Z,660nm,11.9s						
LZH				LR	LR		
	comp=Z,480nm,15.5s						
SOC	**Sochi**	25.41	294	*e*P		**P**	**04 43 15.7 +2.2**
SOC				*e*			04 43 49.7
SOC				*e*S		**S**	**04 47 35.8 -3.1**
SOC				*e*SS		**SnSn**	**04 48 33.1 +1.5**
SOC				pmax	pmax		
	comp=Z,48nm,0.7s						
SOC				MLR	MLR		
	comp=Z,235nm,13.0s						
ZAK	**Zakamensk**	25.52	50	*e*P		**P**	**04 43 14.7 +0.1**
ZAK				pmax	pmax		
	comp=Z,14nm,1.2s						
VRH	**Novokhopyorsk**	25.59	312	*e*P		**P**	**04 43 14.8 -0.3**
VRH				pmax	pmax		
	comp=Z,20nm,0.8s						
KIRV	**Kirov**	25.81	332	P		**P**	**04 43 17.6 +0.5**
	comp=Z,40nm,0.7s,baz=130,slow=14,SNR=25						
TLY	**Talaya**	26.16	47	P		**P**	**04 43 21.5 +1.1**
	comp=Z,2.0nm,0.4s,baz=226,slow=6.2,SNR=3.6						
TLY	**Talaya**	26.16	47	*e*P		**P**	**04 43 21.5 +1.1**
TLY				pmax	pmax		
	comp=Z,16nm,0.9s						
TLY				MLR	MLR		
	comp=Z,531nm,15.0s						
TLY	**Talaya**	26.16	47	P		**P**	**04 43 19.9 -0.5**
CD2	**Chengdu**	26.73	95	*e*P		**P**	**04 43 25.0 -0.7**
CD2				S		**S**	**04 47 58.0 -2.2**
CD2				sS	sS		04 48 19.0 +5.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,370nm,13.2s						
CD2				LR	LR		
	comp=Z,410nm,11.8s						
CD2				LR	LR		
	comp=Z,390nm,13.7s						
SONM	**Songino Array**	26.88	57	P		**P**	**04 43 27.4 +0.4**
	comp=Z,4.8nm,0.9s,baz=260,slow=9.6,SNR=16						
SONM				LR	LR		04 54 13.8
	comp=Z,208nm,20.1s,baz=258,slow=37						
SONM	**Songino Array**	26.88	57	P		**P**	**04 43 27.4 +0.4**
SONM				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SONM	**Songino Array**	26.88	57	P		**P**	**04 43 27.4 +0.4**
VORD	**Divnogorie**	26.96	311	*e*P		**P**	**04 43 28.1 +0.6**
VORD				pmax	pmax		
	comp=Z,40nm,1.7s						
VSR	**Storozhevoye**	27.11	311	*e*P		**P**	**04 43 28.8 -0.1**
VSR				pmax	pmax		
	comp=Z,30nm,1.1s						
VSR				MLR	MLR		
	comp=Z,610nm,14.0s						
ULN	**Ulaanbaatar**	27.32	57	⇑*i*P		**P**	**04 43 31.2 +0.2**
ULN				pmax	pmax		
	comp=Z,11nm,1.7s						
ULN	**Ulaanbaatar**	27.32	57	P		**P**	**04 43 31.0 0.0**
LPSR	**Galich'ya Gora**	27.69	314	*e*P		**P**	**04 43 33.2 -0.9**
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
LPSR				MLR	MLR		
	comp=Z,540nm,16.0s						
GAZ	**Gaziantep**	27.83	280	P		**P**	**04 43 35.9 +0.4**
GAZ				IAmb	IAmb		04 43 47.6
	comp=Z,13nm,1.0s						
TOKA	**Tokat**	27.92	287	P		**P**	**04 43 37.9 +1.6**
KMI	**Kunming**	28.64	107	⇑P		**P**	**04 43 42.7 -0.3**
KMI				pP	pP		04 43 51.7 +0.7
KMI				PP		**PnPn**	**04 44 37.4 +4.1**
KMI				S		**S**	**04 48 28.7 -1.9**
KMI				sS	sS		04 48 49.2 +5.4
KMI				SS		**SnSn**	**04 49 52.9 +1.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,90nm,6.7s						
KMI				LR	LR		
	comp=Z,260nm,15.4s						
KMI				LR	LR		
	comp=Z,160nm,19.2s						
KMI				LR	LR		
	comp=Z,220nm,11.7s						
PRGR	**Permogore**	29.30	334	*e*P		**P**	**04 43 47.5 -0.8**
PRGR				pmax	pmax		
	comp=Z,39nm,1.1s						
MOS	**Moscow**	29.56	319	*e*P		**P**	**04 43 49.8 -0.8**
MOS				*e*			04 44 57.6
XAN	**Xi'an**	29.77	86	P		**P**	**04 43 55.1 +2.3**
XAN				PP		**PnPn**	**04 44 52.3 +3.8**
XAN				PcP		**PcP**	**04 46 57.9 +1.7**
XAN				S		**S**	**04 48 51.6 +3.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,51nm,3.5s						
XAN				LR	LR		
	comp=Z,310nm,13.3s						
XAN				LR	LR		
	comp=Z,430nm,12.4s						

comp=Z,330nm,13.2s
HHC LR LR
GYA Guiyang 30.98 101 ⇓P **P 04 44 07.1 +3.5**
GYA S **S 04 49 07.7 +0.5**
GYA pmax pmax
comp=Z,9.0nm,1.0s
GYA pmax pmax
comp=Z,48nm,3.5s
GYA LR LR
comp=Z,140nm,9.5s
GYA LR LR
comp=Z,210nm,12.4s
GYA LR LR
comp=Z,250nm,13.9s
KLMR Klimovskoe 31.13 329 *e*P **P 04 44 02.6 -1.9**
KLMR pmax pmax
comp=Z,25nm,1.4s
KLMR Klimovskoe 31.13 329 *e*P **P 04 44 02.7 -1.8**
KLMR AMP 04 44 07.1
comp=Z,25nm,1.4s
KLMR LR LR 04 56 24.2
ENH Enshi 31.52 92 P **P 04 44 09.2 +0.8**
ENH IAmb IAmb 04 44 16.6
comp=Z,14nm,1.0s
SLVN Son La 31.69 112 P **P 04 44 11.2 +1.4**
PBKT Sadao Pong 32.74 122 P **P 04 44 18.7 -0.3**
PBKT IAmb IAmb 04 44 23.5
comp=Z,15nm,1.0s
NRIK Noril'sk 32.94 10 P **P 04 44 20.6 +0.4**
comp=Z,13nm,1.1s,baz=198,slow=6.7,SNR=9.5
NRIK LR LR 04 59 31.1
comp=Z,213nm,19.1s,baz=199,slow=40
AKASG Malin Array Be 33.16 307 P **P 04 44 22.5 +0.1**
comp=Z,2.3nm,0.7s,baz=82,slow=6.9,SNR=13
AKASG LR LR 05 00 08.5
comp=Z,291nm,19.3s,baz=115,slow=40
AKASG Malin Array Be 33.16 307 P **P 04 44 22.7 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 33.16 307 P **P 04 44 22.6 +0.3**
AKBB Malin Array Si 33.16 307 P **P 04 44 22.4 0.0**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 33.16 307 P **P 04 44 22.4 0.0**
AKBB IAmb IAmb 04 44 24.5
comp=Z,6.7nm,0.8s
SORM Soroca 33.54 303 ⇓P **P 04 44 26.7 +1.0**
TIRR Tirgusor 33.55 296 P **P 04 44 26.2 +0.4**
TIRR pmax pmax
comp=Z,129nm,1.4s
TIRR Tirgusor 33.55 296 P **P 04 44 26.2 +0.4**
TMCR Tamitsa 33.59 333 *e*P **P 04 44 26.4 +0.4**
ELL Elmali 33.62 282 P **P 04 44 25.8 -1.0**
ELL pmax pmax
comp=Z,49nm,0.7s
ELL Elmali 33.62 282 P **P 04 44 25.8 -1.0**
BOD Bodaibo 33.88 40 *e*P **P 04 44 28.0 -0.6**
BOD pmax pmax
comp=Z,10.0nm,1.4s
MANT Manisa 34.27 285 P **P 04 44 32.6 +0.2**
TESR Tescani 34.69 300 ⇑P **P 04 44 37.2 +1.4**
PLOR Plostina 34.72 299 ⇑P **P 04 44 38.6 +2.5**
BIZ Bicaz 35.05 301 ⇑P **P 04 44 40.6 +1.7**
MLR Muntele Rosu 35.23 298 ⇓P **P 04 44 43.4 +2.8**
MLR Muntele Rosu 35.23 298 P **P 04 44 41.3 +0.7**
MLR pmax pmax
comp=Z,29nm,1.0s
MLR Muntele Rosu 35.23 298 P **P 04 44 41.3 +0.7**
WHN Wuhan 35.28 89 P P 04 44 47.9 +6.9
TIA Tai'an 35.60 78 P **P 04 44 45.0 +1.3**
TIA pmax pmax
comp=Z,3.0nm,0.7s
TIA pmax pmax
comp=Z,49nm,3.5s
TIA LR LR
comp=Z,160nm,9.3s
TIA LR LR
comp=Z,130nm,12.1s
TIA LR LR
comp=Z,190nm,8.5s
BURAR Bucovina Array 35.64 302 ⇓P **P 04 44 45.8 +1.7**
BURAR Bucovina Array 35.64 302 P **P 04 44 43.1 -1.0**
BUR08 Bucovina Ar. S 35.65 302 P **P 04 44 45.0 +0.9**
BUR08 IAmb IAmb 04 44 46.5
comp=Z,20nm,1.4s
VOIR 35.86 298 ⇑P **P 04 44 48.3 +2.4**
VSU Vasula 36.06 320⇓*e*P **P 04 44 47.3 -0.1**
VSU pmax pmax
comp=Z,49nm,1.4s
KARP Karpathos 36.09 281 P **P 04 44 49.0 +1.1**
ARCR ARCALIA 36.25 301 ⇓P **P 04 44 51.3 +2.1**
LVV L'vov 36.42 305 *e*P **P 04 44 51.1 +0.5**
UBPT Khong Chiam 36.74 118 P **P 04 44 53.1 -0.4**
UBPT IAmb IAmb 04 44 56.7
comp=Z,10nm,0.8s
LVZ Lovozero 36.92 337⇓*e*P **P 04 44 55.4 +0.8**
LVZ pmax pmax
comp=Z,21nm,0.8s
APA Apatity 37.12 336⇑*i*P **P 04 44 56.4 +0.2**
APA pmax pmax
comp=Z,6.0nm,1.2s
APA MLR MLR
comp=Z,900nm,10.0s
SUW Suwalki 37.20 312 P **P 04 44 57.1 0.0**
SUW pmax pmax
comp=Z,17nm,0.9s
SUW Suwalki 37.20 312 P **P 04 44 57.1 0.0**
SUW IAmb IAmb 04 45 11.6
comp=Z,17nm,0.9s
FIA1 FINESS Array S 37.25 325 P **P 04 44 57.5 +0.1**
FIA1 IAmb IAmb 04 44 59.2
comp=Z,8.6nm,0.7s
FINES FINESS Array B 37.25 325 P **P 04 44 57.6 +0.2**
comp=Z,8.0nm,0.6s,baz=105,slow=9.5,SNR=59
FINES LR LR 05 01 00.6
comp=Z,365nm,20.1s,baz=105,slow=37
FINES FINESS Array B 37.25 325 P **P 04 44 57.7 +0.3**
FINES FINESS Array B 37.25 325 P **P 04 44 57.7 +0.3**
KWP Kalwaria Pacla 37.28 305 *e*P **P 04 44 58.5 +0.6**
QIZ Qiongzhong 37.51 109 P **P 04 44 58.3 -1.9**
QIZ S **S 04 50 44.4 -3.6**
QIZ LR LR
comp=Z,230nm,24.2s
QIZ LR LR
comp=Z,150nm,20.3s
QIZ LR LR
comp=Z,150nm,20.6s
UZH Uzhgorod 37.57 303 *e*P **P 04 44 59.6 -0.8**
UZH *e* 04 45 04.3
UZH *e* 04 45 12.0
KOLS Kolonicke sedl 37.58 304 *e*P **P 04 45 00.5 +0.1**
KOLS pmax pmax
comp=Z,10.0nm,1.5s
KOLS Kolonicke sedl 37.58 304 *e*P **P 04 45 00.5 +0.1**
CRVS Cervenica-Dubn 38.11 304 *e*PP PP 04 46 31.6 -0.5
NJ2 Nanjing 38.29 84 *e*P **P 04 45 06.2 -0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=Z,280nm,9.4s
NJ2 LR LR
comp=Z,250nm,12.2s
NJ2 LR LR
comp=Z,400nm,18.9s
NIE Niedzica 38.86 305 *e*P **P 04 45 12.9 +1.7**
OJC Ojcow 39.15 306 *e*P **P 04 45 14.4 +0.7**
OJC Ojcow 39.15 306 P **P 04 45 14.3 +0.7**
OJC pmax pmax
comp=Z,10.0nm,1.0s
OJC Ojcow 39.15 306 P **P 04 45 14.3 +0.7**
PSZ Piszkesteto 39.21 302 P **P 04 45 14.6 +0.3**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 39.21 302 P **P 04 45 14.6 +0.3**
DIVS Divibare 39.60 297 P **P 04 45 17.7 +0.2**
DIVS IAmb IAmb 04 45 20.0
comp=Z,19nm,1.1s
VYHS Vyhne 39.87 303 *e*P **P 04 45 21.4 +1.7**
VYHS pmax pmax
comp=Z,11nm,1.5s
VYHS Vyhne 39.87 303 *e*P **P 04 45 21.4 +1.7**
VYHS *e*PP **PP 04 46 49.9 -1.4**
SRO2 Moca 40.23 302 *e*P **P 04 45 23.4 +0.8**
SRO2 Moca 40.23 302 *e*P **P 04 45 23.4 +0.8**

SRO Srobarova 40.28 302 *e*P **P 04 45 24.8 +1.7**
SRO Srobarova 40.28 302 *e*P **P 04 45 24.8 +1.7**
JAVC Velka Javorina 40.61 304 *e*P **P 04 45 27.8 +1.9**
ARCES ARCESS Array B 40.62 337 P **P 04 45 25.9 +0.3**
comp=Z,16nm,0.8s,baz=111,slow=9.2,SNR=49
ARCES LR LR 05 03 22.5
comp=Z,622nm,18.4s,baz=153,slow=38
ARCES ARCESS Array B 40.62 337 P **P 04 45 25.6 0.0**
ARE0 ARCESS Array S 40.62 337 P **P 04 45 26.1 +0.5**
MORC Moravsky Berou 40.63 306 *e*P **P 04 45 27.2 +1.2**
MORC Moravsky Berou 40.63 306 P **P 04 45 26.7 +0.7**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 40.63 306 P **P 04 45 26.6 +0.7**
GKP Gorka Klasztor 40.70 311 *e*P **P 04 45 26.9 +0.5**
MODS Modra-Piesok 40.92 303 *e*P **P 04 45 28.7 +0.3**
MODS pmax pmax
comp=Z,8.0nm,1.1s
MODS Modra-Piesok 40.92 303 *e*P **P 04 45 28.7 +0.3**
TPTI 41.01 140 P **P 04 45 29.7 +0.4**
comp=Z,13nm,1.4s
KRLC Kraliky 41.10 306 *e*P **P 04 45 30.7 +0.9**
KRLC AMS AMS 05 04 40.0
comp=Z,200nm,12.0s
KRLC Kraliky 41.10 306 *e*P **P 04 45 30.7 +0.9**
KRLC MLR MLR
comp=Z,200nm,12.0s
VRAC Vranov 41.28 305 LR LR 05 04 20.7
comp=Z,149nm,21.6s,baz=82,slow=38
VRAC Vranov 41.28 305 *e*P **P 04 45 32.6 +1.3**
KSP Ksiaz 41.36 307 *e*P **P 04 45 32.1 +0.2**
DPC Dobruska-Polom 41.37 307 *e*P **P 04 45 33.6 +1.5**
DPC AMS AMS 05 04 50.0
comp=Z,300nm,12.9s
DPC Dobruska-Polom 41.37 307 *e*P **P 04 45 33.6 +1.5**
DPC MLR MLR
comp=Z,300nm,12.9s
OSTC Ostas 41.43 307 AMS AMS 05 04 40.0
comp=Z,300nm,11.8s
KRUC Moravsky 41.43 305 *e*P **P 04 45 33.5 +1.0**
CHVC Chvalec 41.53 307 *e*P **P 04 45 34.7 +1.4**
UPC Upice 41.56 307 *e*P **P 04 45 34.7 +1.1**
UPC AMS AMS 05 04 50.0
comp=Z,300nm,12.8s
UPC Upice 41.56 307 *e*P **P 04 45 34.7 +1.1**
UPC MLR MLR
comp=Z,300nm,12.8s
CONA Conrad Observa 41.91 303 *i* pP **P 04 45 37.7 +1.2**
comp=Z,23nm,1.5s,SNR=14
ARSA Arzberg 42.23 302 *e*pP **P 04 45 40.0 +0.9**
comp=Z,6.3nm,1.1s
GROS Grobnik 42.36 301 *i* P **P 04 45 41.1 +0.8**
GOPC GO Pecny, Ondr 42.39 306 AMS AMS 05 05 30.0
comp=Z,300nm,13.0s
PVCC Panska Ves 42.48 307 AMS AMS 05 05 40.0
comp=Z,400nm,10.6s
YAK Yakutsk 42.52 36⇑*e*P **P 04 45 41.7 +0.5**
YAK pmax pmax
comp=Z,11nm,0.5s
PRU Pruhonice 42.54 306 *e*P **P 04 45 42.8 +1.2**
PRU *e*pP **pP 04 45 48.2 -1.7**
PRU AMS AMS 05 05 30.0
comp=Z,300nm,11.9s
PRU Pruhonice 42.54 306 *e*P **P 04 45 42.8 +1.2**
PRU *e* 04 45 48.2
PRU MLR MLR
comp=Z,300nm,11.9s
PERS Pernice 42.59 301 *i* P **P 04 45 43.1 +1.0**
PRA Prague 42.61 306 AMS AMS 05 05 30.0
comp=Z,200nm,11.3s
SOKA Soboth 42.65 301 *i* pP **P 04 45 43.6 +1.1**
comp=Z,15nm,1.4s,SNR=8.9
BRG Berggiesshubel 42.84 307 *i* P **P 04 45 45.0 +1.0**
comp=Z,25nm,1.6s
BRG *e* 04 45 53.7
comp=Z,5.4nm,1.0s
BRG *e* 04 47 29.2
comp=Z,16nm,1.7s
BRG Berggiesshubel 42.84 307 *e*P **P 04 45 44.9 +0.9**
comp=Z,5.9nm,0.8s,baz=83,slow=8.0
GSI Gunungsitoli 42.89 141 P P 04 45 49.9 +5.2
MOA Molln 42.99 303 *i* P **P 04 45 45.9 +0.7**
comp=Z,12nm,1.6s,SNR=6.2
OBKA Obir 43.00 301 *e*pP **P 04 45 46.8 +1.3**
comp=Z,11nm,1.3s
LJU Ljubljana 43.09 300 *i* P **P 04 45 47.6 +1.5**
FBE Freiberg 43.21 308 *e*P **P 04 45 47.8 +0.9**
comp=Z,7.5nm,0.7s,baz=83,slow=8.0
GEC2 GERESS Array S 43.22 305 *e*P **P 04 45 47.8 +0.6**
baz=83,slow=8.0
GEC2 GERESS Array S 43.22 305 P **P 04 45 46.0 -1.2**
GERES GERESS Array B 43.22 305 P **P 04 45 47.9 +0.6**
comp=Z,1.1nm,0.6s,baz=80,slow=8.3,SNR=11
GERES PP **PP 04 47 30.9 +3.3**
comp=Z,1.1nm,0.8s,baz=71,slow=9.2,SNR=4.4
GERES GERESS Array B 43.22 305 P **P 04 45 47.0 -0.2**
KHC Kasperske Hory 43.27 305 *e*P **P 04 45 48.7 +1.2**
KHC *ex* x 04 45 55.8
KHC AMS AMS 05 07 10.0
comp=Z,200nm,19.4s
KHC Kasperske Hory 43.27 305 *e*P **P 04 45 48.7 +1.2**
KHC *e* 04 45 55.8
KHC MLR MLR
comp=Z,200nm,19.4s
KHC Kasperske Hory 43.27 305 P **P 04 45 47.6 +0.1**
CLL Collm 43.39 308 *i* P **P 04 45 48.8 +0.4**
comp=Z,7.0nm,0.9s
CLL *i* sP **pP 04 45 54.8 -1.9**
CLL *e*PP **PP 04 47 29.0 -0.3**
CLL *i* sPP 04 47 35.9
comp=Z,10.0nm,1.2s
CLL *i* (PcP) **PcP 04 47 40.4 +3.8**
CLL *e*PPP PPP 04 48 02.0
CLL *e*PPPP 04 48 11.0
CLL *e*(S) **S 04 52 12.0 -3.0**
CLL LmV 05 07 00.0
comp=Z,200nm,18.6s
CLL Collm 43.39 308 P **P 04 45 48.0 -0.4**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 43.39 308 *e*P **P 04 45 49.1 +0.7**
comp=Z,4.2nm,0.8s,baz=83,slow=8.0
CLL Collm 43.39 308 P **P 04 45 48.0 -0.4**
JAVS Javornik 43.44 300 *i* P **P 04 45 49.7 +0.7**
TJN Taejon 43.45 74*ce*P **P 04 45 50.7 +1.6**
KS19 Wonju Array Si 43.49 72 P **P 04 45 48.6 -0.8**
KSAR Wonju Array Be 43.52 72 P **P 04 45 49.1 -0.5**
KSAR Wonju Array Be 43.52 72 P **P 04 45 49.1 -0.5**
KSRS Korea Array 43.54 72 P **P 04 45 48.7 -1.2**
comp=Z,3.8nm,1.0s,baz=284,slow=7.2,SNR=9.2
KSRS PcP **PcP 04 47 36.3 -1.0**
comp=Z,2.3nm,1.0s,baz=290,slow=2.7,SNR=5.3
KSRS LR LR 05 05 34.5
comp=Z,53nm,18.3s,baz=291,slow=38
KLR Kul'dur 43.68 55*de*P **P 04 45 50.5 -0.3**
KLR pmax pmax
comp=Z,5.0nm,0.8s
PRED Cave del Predi 43.68 301 P **P 04 45 50.5 -0.4**
WET Wettzell 43.72 305 *e*P **P 04 45 51.9 +0.7**
baz=83,slow=8.0
ROBS Robic 43.76 301 *e*P **P 04 45 52.0 +0.5**
TANN Tannenbergstha 43.83 307 *e*P **P 04 45 52.9 +0.9**
baz=83,slow=8.0
NKC Novy Kostel 43.86 307 AMS AMS 05 06 40.0
comp=Z,400nm,12.3s
WERN Wernitzgruen 43.90 307 *e*P **P 04 45 53.6 +1.0**
baz=83,slow=8.0
GUNZ Gunzen 43.91 307 *e*P **P 04 45 53.7 +1.0**
comp=Z,2.9nm,0.8s,baz=83,slow=8.0
NC405 NORSAR Array S 43.98 322 P **P 04 45 52.6 -0.4**
RJOB Jochberg 43.98 303 *e*P **P 04 45 53.4 +0.1**
baz=83,slow=8.0
NC602 NORSAR Array S 44.04 322 P **P 04 45 52.9 -0.6**
ZOU Zoufplan 44.06 301 P **P 04 45 52.7 -1.5**
ZOU IAmb IAmb 04 45 57.1
comp=Z,13nm,1.3s
ROTZ Rotzenmuhle 44.07 306 *e*P **P 04 45 55.4 +1.4**
comp=Z,3.9nm,1.0s,baz=83,slow=8.0
MANZ Manzenberg 44.10 306 *e*P **P 04 45 55.6 +1.4**
comp=Z,2.2nm,0.8s,baz=83,slow=8.0
NC303 NORSAR Array S 44.15 323 P **P 04 45 53.8 -0.6**
NEUB Neuenburg 44.17 308 *e*P **P 04 45 55.8 +1.1**
baz=83,slow=8.0
NB201 NORSAR Array S 44.18 322 P **P 04 45 53.8 -0.9**
NB2 NORSAR Subarra 44.22 322 P **P 04 45 54.3 -0.7**

comp=Z,42nm,1.4s,baz=93,slow=7.9
NB2 NORSAR Subarra 44.22 322 P **P 04 45 54.3 -0.7**
baz=93,slow=7.9
NOA NORSAR Array B 44.22 322 P **P 04 45 54.5 -0.5**
comp=Z,13nm,0.9s,baz=93,slow=7.8,SNR=50
NOA PP **PP 04 47 38.5 +0.6**
comp=Z,3.4nm,0.9s,baz=91,slow=12,SNR=4.8
NOA LR LR 05 05 47.5
comp=Z,115nm,21.2s,baz=90,slow=38
MOX Moxa 44.34 307 *e*P **P 04 45 57.0 +0.9**
comp=Z,2.9nm,0.8s,baz=83,slow=8.0
NAO01 NORSAR Array S 44.37 322 P **P 04 45 55.4 -0.8**
TIXI Tiksi 44.43 22⇑*e*P **P 04 45 55.2 -1.3**
TIXI pmax pmax
comp=Z,22nm,1.3s
TIXI Tiksi 44.43 22 P **P 04 45 55.2 -1.3**
NBO00 NORSAR Array S 44.43 322 P **P 04 45 56.1 -0.5**
NC204 NORSAR Array S 44.45 323 P **P 04 45 55.9 -1.0**
CIMO Cimolais 44.47 301 P **P 04 45 57.4 +0.2**
CIMO IAmb IAmb 04 46 06.3
comp=Z,15nm,1.2s
GRA1 Grafenberg Arr 44.71 306 P **P 04 45 59.8 +0.7**
GRF Grafenberg Arr 44.71 306 P **P 04 45 59.8 +0.7**
GRF pmax pmax
comp=Z,39nm,1.5s
GRF Grafenberg Arr 44.71 306 *e*P **P 04 46 00.8 +1.7**
baz=83,slow=8.0
USRK Ussuriysk Ar. 44.74 62 LR LR 05 04 49.7
comp=Z,66nm,18.4s,baz=287,slow=36
ASSE Asse, Remlinge 44.75 310 *e*P **P 04 46 00.7 +1.5**
baz=83,slow=8.0
BSEG Bad Segeberg 44.79 312 *e*P **P 04 46 00.2 +0.6**
comp=Z,7.8nm,0.7s,baz=83,slow=8.0
WTTA Wattenberg 44.84 303 *i* P **P 04 46 00.4 +0.1**
comp=Z,11nm,1.0s,SNR=5.9
WATA Walderalm 44.87 303 *i* P **P 04 46 00.5 0.0**
comp=Z,12nm,1.4s
CLZ Clausthal 44.97 309 *e*P **P 04 46 02.1 +1.0**
comp=Z,2.4nm,0.7s,baz=83,slow=8.0
KONO Kongsberg 44.97 320*de*P **P 04 46 00.7 -0.3**
KONO pmax pmax
comp=Z,12nm,0.8s
NRDL Niedersach Rie 45.05 310 *e*P **P 04 46 03.1 +1.4**
comp=Z,5.2nm,0.8s,baz=83,slow=8.0
CTI Castel Tesino 45.06 301 P **P 04 46 01.9 -0.2**
CTI pmax pmax
comp=Z,8.0nm,0.9s
CTI Castel Tesino 45.06 301 P **P 04 46 01.9 -0.2**
CTI IAmb IAmb 04 46 10.1
comp=Z,8.1nm,0.9s
MURB Monte Urbino 45.07 297 P **P 04 46 03.8 +1.8**
SQTA Sankt Quirin 45.13 303 *i* P **P 04 46 02.6 0.0**
comp=Z,4.7nm,0.7s
MOTA Moosalm 45.18 303 *e*P **P 04 46 02.7 -0.3**
comp=Z,7.4nm,0.9s,SNR=5.0
GTTG Gottingen 45.25 309 *e*P **P 04 46 04.8 +1.4**
baz=83,slow=8.0
UBBA Unterbreizbach 45.33 308 *e*P **P 04 46 05.0 +1.2**
baz=83,slow=8.0
RETA Reutte 45.38 303 *e*P **P 04 46 05.0 +0.5**
comp=Z,5.6nm,1.0s
FETA Feichten 45.49 302 *i* P **P 04 46 05.3 -0.2**
comp=Z,5.0nm,1.0s
UBR Ueberruh 45.78 303 *e*P **P 04 46 07.9 +0.3**
comp=Z,7.8nm,0.9s,baz=83,slow=8.0
FUORN Ofenpass-Fuorn 45.89 302 P **P 04 46 08.5 -0.2**
FUORN IAmb IAmb 04 46 19.1
comp=Z,6.1nm,0.8s
OSSC Osservatorio P 45.91 298 P **P 04 46 08.1 -0.5**
OSSC IAmb IAmb 04 46 10.6
comp=Z,14nm,1.1s
SALO Salr 45.92 301 P **P 04 46 09.8 +1.0**
DAVA Damuels 46.01 303 *i* P **P 04 46 09.8 +0.2**
comp=Z,15nm,0.8s,SNR=8.1
DAVOX Davos/Dischmat 46.11 302 LR LR 05 08 44.2
comp=Z,130nm,18.9s,slow=40
STU Stuttgart 46.17 305 P **P 04 46 11.0 +0.3**
STU pmax pmax
comp=Z,29nm,1.4s
STU Stuttgart 46.17 305 P **P 04 46 11.0 +0.3**
PDSI Padang 46.25 139 P P 04 46 16.8 +5.2
VLC Villacollemand 46.36 299 P **P 04 46 12.8 +0.6**
TNS Taunus Mts 46.40 307 *e*P **P 04 46 13.5 +1.0**
baz=83,slow=8.0
IBBN Ibbenburen 46.51 310 *e*P **P 04 46 14.1 +0.9**
comp=Z,5.7nm,0.8s,baz=83,slow=8.0
TUE Stuetta 46.53 302 P **P 04 46 13.5 -0.3**
TUE IAmb IAmb 04 46 27.0
comp=Z,13nm,1.4s
BFO Black Forest 46.82 305 P **P 04 46 15.1 -0.7**
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 46.82 305 *e*P **P 04 46 16.4 +0.6**
comp=Z,2.7nm,0.9s,baz=83,slow=8.0
BFO Black Forest 46.82 305 P **P 04 46 15.1 -0.7**
AHRW Bad Neuenahr-A 47.21 308 *e*P **P 04 46 20.2 +1.5**
comp=Z,2.7nm,0.8s,baz=83,slow=8.0
ECH Echery 47.61 305 P **P 04 46 21.5 -0.4**
ECH pmax pmax
comp=Z,4.0nm,1.1s
ECH Echery 47.61 305 P **P 04 46 21.5 -0.4**
MEM Membach 47.87 308 ⇓P **P 04 46 24.3 +0.5**
SENIN Lac Senin/Sane 47.94 302 P **P 04 46 24.4 -0.3**
SENIN IAmb IAmb 04 46 25.9
comp=Z,8.8nm,1.1s
WLF Walferdange 47.96 307 P **P 04 46 24.9 +0.3**
WLF pmax pmax
comp=Z,32nm,1.5s
WLF Walferdange 47.96 307 *e*P **P 04 46 26.1 +1.5**
comp=Z,5.3nm,0.8s,baz=83,slow=8.0
WLF Walferdange 47.96 307 P **P 04 46 24.9 +0.3**
BNI Bardonecchia 48.69 301 P **P 04 46 30.6 +0.2**
BNI pmax pmax
comp=Z,10.0nm,1.1s
BNI Bardonecchia 48.69 301 P **P 04 46 30.6 +0.2**
BNI IAmb IAmb 04 46 39.7
comp=Z,10nm,1.1s
BMRD Maredsous 48.70 308 P **P 04 46 31.2 +0.9**
DOU Dourbes 48.86 308 ⇓P **P 04 46 32.0 +0.5**
comp=Z,6.7nm,1.4s
KSI Kapahiang 49.68 139 P **P 04 46 41.1 +2.9**
KEST Kesra 49.73 288 P **P 04 46 39.9 +1.5**
comp=Z,7.5nm,0.8s,baz=314,slow=6.7,SNR=8.9
KEST Kesra 49.73 288 P **P 04 46 38.1 -0.4**
SSB Saint Sauveur 50.08 302 P **P 04 46 41.1 +0.1**
SSB pmax pmax
comp=Z,12nm,1.1s
SSB Saint Sauveur 50.08 302 P **P 04 46 41.1 +0.1**
SSB IAmb IAmb 04 46 50.3
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 50.31 228 P **P 04 46 45.7 +2.5**
comp=Z,3.8nm,0.7s,baz=40,slow=13,SNR=8.2
KMBO Kilima Mbogo 50.31 228 P **P 04 46 44.1 +0.9**
KMBO Kilima Mbogo 50.31 228 *i* P **P 04 46 44.0 +0.8**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 50.31 228 P **P 04 46 41.5 -1.7**
SBUM Sibu 50.56 124 P **P 04 46 44.9 0.0**
KKM Kota Kinabalu 50.70 117 P **P 04 46 45.1 -0.9**
CLF Chambon-Foret 50.84 306 P **P 04 46 46.2 -0.4**
CLF IAmb IAmb 04 46 47.4
comp=Z,8.9nm,1.0s
MDSI Maura Dua 51.23 138 P **P 04 46 51.0 +1.2**
comp=Z,10nm,1.0s
YSS Yuzh-Sakhalins 51.37 56⇓*e*P **P 04 46 50.7 +0.2**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=E,200nm,14.0s
YSS Yuzh-Sakhalins 51.37 56 P **P 04 46 50.6 +0.1**
MAT Matsushiro 51.59 70 P **P 04 46 51.2 -1.2**
MAT *e*S **S 04 54 14.2 +2.2**
MJAR Matsushiro Arr 51.59 70 P **P 04 46 51.6 -0.8**
comp=E,3.1nm,0.7s,baz=287,slow=10,SNR=5.9
MJAR Matsushiro Arr 51.59 70 P **P 04 46 51.6 -0.8**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
KLSI 51.69 137 P **P 04 46 54.3 +1.0**
ASAJ Asahikawa 52.11 59 LR LR 05 10 45.6
comp=Z,110nm,19.9s,baz=351,slow=38
ESK Eskdalemuir 52.33 316 P **P 04 46 57.5 -0.1**
ESK pmax pmax

comp=Z,23nm,1.4s
ESK Eskdalemuir 52.33 316 P **P 04 46 57.5 -0.1**
ESK IAmb IAmb 04 46 58.5
comp=Z,23nm,1.4s
SEY Seymchan 52.98 34⇑ *eP* **P 04 47 01.6 -0.6**
MBAR Mbarara 53.97 235 P **P 04 47 09.1 -1.2**
MBAR pmax pmax
comp=Z,8.0nm,0.9s
MBAR Mbarara 53.97 235 **P 04 47 09.1 -1.2**
MBAR IAmb IAmb 04 47 10.8
comp=Z,7.8nm,0.8s
JHJ Hachijo jima 2 54.15 73 LR LR 05 12 56.0
comp=Z,97nm,18.2s,baz=246,slow=39
CART Cartagena 56.67 294 P **P 04 47 29.4 +0.1**
BBKI Banjar Baru 56.72 126 P **P 04 47 34.3 +4.3**
KBKI Kotabaru 57.46 125 P P 04 47 40.1 +4.9
ESBB Sonseca Array 57.92 298 P **P 04 47 37.6 -0.7**
ESBB IAmb IAmb 04 47 40.6
comp=Z,6.8nm,0.9s
ESDC Sonseca Array 57.93 298 P **P 04 47 38.5 +0.2**
comp=Z,5.5nm,0.7s,baz=57,slow=7.1,SNR=50
ESDC LR LR 05 17 22.5
comp=Z,54nm,19.2s,baz=85,slow=41
ESDC Sonseca Array 57.93 298 P **P 04 47 38.2 -0.1**
PAB San Pablo 58.25 298 P **P 04 47 40.6 -0.1**
PAB pmax pmax
comp=Z,15nm,1.4s
PAB San Pablo 58.25 298 P **P 04 47 40.5 -0.1**
PAB IAmb IAmb 04 47 43.1
comp=Z,15nm,1.4s
BORG Borgarnes 58.26 330 LR LR 05 12 48.7
comp=Z,116nm,20.0s,baz=40,slow=36
SKR Severo-Kuril's 58.48 48 *eP* P 04 47 57.4 +15
SKR pmax pmax
comp=Z,100nm,7.3s
SKR pmax pmax
comp=Z,100nm,6.4s
SKR MLR MLR
comp=Z,100nm,20.0s
SKR MLR MLR
comp=Z,200nm,16.0s
PEA0B Petropavlovsk- 58.49 45⇓ *eP* **P 04 47 41.9 -0.1**
PETK Petropavlovsk- 58.49 45 P **P 04 47 40.7 -1.3**
comp=Z,2.6nm,0.8s,baz=288,slow=1.4,SNR=6.0
PETK LR LR 05 14 52.4
comp=Z,57nm,18.9s,baz=334,slow=38
PETK Petropavlovsk- 58.49 45 P **P 04 47 41.2 -0.8**
PETK Petropavlovsk- 58.49 45 P **P 04 47 41.2 -0.8**
TAM Tamanrasset 58.50 276 P **P 04 47 42.9 +0.2**
TAM pmax pmax
comp=Z,6.0nm,1.1s
TAM Tamanrasset 58.50 276 P **P 04 47 42.9 +0.2**
TAM IAmb IAmb 04 47 46.6
comp=Z,6.1nm,1.1s
MVO Moncorvo 59.44 300 *eP* **P 04 47 49.3 +0.5**
comp=Z,18nm,1.8s
PCAB Cabril 59.89 301 *eP* **P 04 47 53.3 +1.4**
comp=Z,31nm,1.5s
PGAV Gavieira, Arco 59.94 302 *eP* **P 04 47 55.7 +3.3**
MTE Manteigas 60.12 300 *eP* **P 04 47 55.0 +1.5**
comp=Z,24nm,2.0s
PVIS Viseu 60.22 300 *eP* **P 04 47 55.0 +0.8**
comp=Z,18nm,2.1s
PMRV Marv??o 60.43 299 *eP* **P 04 47 57.8 +2.2**
comp=Z,16nm,1.8s
SUMG Summit 60.44 341 *i* P **P 04 47 55.9 +0.3**
comp=Z,38nm,1.1s
SUMG Summit 60.44 341 *i* P **P 04 47 55.9 +0.3**
SUMG pmax pmax
comp=Z,38nm,1.1s
SUMG Summit 60.44 341 P **P 04 47 55.9 +0.3**
PCAS Casmilo, Conde 60.92 300 *eP* **P 04 48 01.0 +2.0**
EVO Evora 61.26 298 *eP* **P 04 48 02.8 +1.5**
MDT Midelt 61.42 291 LR LR 05 17 55.2
comp=Z,27nm,20.2s,baz=102,slow=39
PVAQ Vaqueiros 61.56 297 *eP* **P 04 48 03.9 +0.6**
PCVE Castro Verde 61.69 297 *eP* **P 04 48 08.6 +4.5**
PBDV Barranco-do-Ve 61.79 297 *eP* **P 04 48 06.2 +1.3**
comp=Z,32nm,1.3s
TOA0 Torodi Ar. Sit 66.81 269 P **P 04 48 36.9 -1.1**
TORD Torodi Ar. Bea 66.81 269 P **P 04 48 36.9 -1.1**
comp=Z,4.0nm,0.6s,baz=47,slow=5.5,SNR=20
TORD LR LR 05 19 56.3
comp=Z,27nm,21.1s,baz=110,slow=38
TORD Torodi Ar. Bea 66.81 269 P **P 04 48 36.9 -1.1**
TOLK Toolik Lake Re 69.66 15 P **P 04 48 54.9 -0.2**
COLD Coldfoot 70.70 16 P **P 04 49 01.0 -0.5**
IMAR Indian Mountai 70.87 18 P **P 04 49 01.4 -1.2**
BMAR Burnt Mountain 71.69 14 P **P 04 49 07.8 +0.2**
MDM Murphy Dome 73.04 17 P **P 04 49 14.8 -0.8**
MDM IAmb IAmb 04 49 16.2
comp=Z,14nm,1.2s
BPAW Bear Paw Mtn. 73.09 18 P **P 04 49 15.1 -0.8**
BPAW IAmb IAmb 04 49 16.1
comp=Z,10nm,1.1s
COLA College 73.20 17 *d i* P **P 04 49 15.8 -0.6**
COLA pmax pmax
comp=Z,23nm,1.0s
COLA College 73.20 17 P **P 04 49 15.0 -1.4**
CCB Clear Creek Bu 73.40 17 P **P 04 49 16.8 -0.9**
BWN Browne 73.41 18 P **P 04 49 17.2 -0.6**
IL31 73.50 16 P **P 04 49 17.3 -0.9**
IL31 IAmb IAmb 04 49 18.1
comp=Z,6.9nm,0.9s
ILAR Eielson Array 73.50 16 P **P 04 49 17.0 -1.3**
comp=Z,5.5nm,0.9s,baz=316,slow=5.2,SNR=40
ILAR Eielson Array 73.50 16 P **P 04 49 17.0 -1.3**
KTH Kantishna Hill 73.56 19 P **P 04 49 18.1 -0.6**
PPLA Purkeypile 73.77 20 P **P 04 49 19.6 -0.5**
HDA Harding Lake 73.80 17 P **P 04 49 18.4 -1.6**
TRF Thorofare Moun 73.81 18 P **P 04 49 20.1 -0.2**
TRF IAmb IAmb 04 49 29.7
comp=Z,4.8nm,0.8s
RND Reindeer 74.20 18 P **P 04 49 21.1 -1.4**
RND pmax pmax
comp=Z,14nm,1.4s
RND Reindeer 74.20 18 P **P 04 49 21.1 -1.4**
RND IAmb IAmb 04 49 21.9
comp=Z,14nm,1.4s
FITZ Fitzroy Crossi 74.66 128 P **P 04 49 25.7 +0.1**
SKT Skwentna 74.70 20 P **P 04 49 23.6 -1.7**
ROSA Rosais 74.71 307 P **P 04 49 24.2 -1.7**
DHY Denali Highway 74.84 18 P **P 04 49 25.7 -0.6**
DHY IAmb IAmb 04 49 26.1
comp=Z,7.5nm,0.8s
RIDG Independent Ri 74.85 16 P **P 04 49 24.6 -1.6**
RIDG IAmb IAmb 04 49 26.1
comp=Z,15nm,1.2s
KNRA Kununurra 74.89 124 P **P 04 49 26.6 -0.4**
DOT Dot Lake 75.10 16 P **P 04 49 27.1 -0.6**
SUA Susitna One 75.34 20 P **P 04 49 28.3 -0.8**
SUA IAmb IAmb 04 49 29.0
comp=Z,15nm,1.1s
PAX Paxson 75.38 17 P **P 04 49 28.4 -0.9**
PAX pmax pmax
comp=Z,16nm,1.2s
PAX Paxson 75.38 17 P **P 04 49 28.4 -0.9**
PAX IAmb IAmb 04 49 29.4
comp=Z,16nm,1.2s
GHO Glory Hole Cre 75.56 19 P **P 04 49 29.3 -1.1**
DAWY Dawson 75.68 14 P **P 04 49 30.8 -0.2**
DAWY IAmb IAmb 04 49 31.4
comp=Z,7.4nm,0.9s
SML Sawmill 75.68 19 P **P 04 49 30.5 -0.5**
DBIC Dimbokro 75.81 268 P **P 04 49 31.7 -0.8**
comp=Z,2.3nm,0.6s,baz=25,slow=8.4,SNR=6.8
DBIC LR LR 05 28 05.7
comp=Z,82nm,18.0s,baz=34,slow=40
DBIC Dimbokro 75.81 268 P **P 04 49 31.7 -0.8**
DBIC pmax pmax
comp=Z,11nm,1.4s
DBIC Dimbokro 75.81 268 IAmb IAmb 04 49 42.6
comp=Z,11nm,1.4s
KIC Kosan Boka 75.91 267 *eP* **P 04 49 31.9 -1.1**
comp=Z,10nm,0.9s
SCM Sheep Creek Mo 75.91 18 P **P 04 49 31.6 -0.8**
SCM pmax pmax
comp=Z,10.0nm,0.7s
SCM Sheep Creek Mo 75.91 18 P **P 04 49 31.6 -0.8**
TIC Toumodi 75.96 268 *eP* **P 04 49 32.3 -1.0**
KNK Knik Glacier 75.98 19 P **P 04 49 32.2 -0.6**
KNK IAmb IAmb 04 49 34.1
comp=Z,11nm,0.9s
BCAR Beaver Creek A 76.10 15 P **P 04 49 33.2 -0.2**
LIC Lamto 76.22 267 *eP* **P 04 49 33.4 -1.4**
comp=Z,14nm,1.0s
KLU Klutina 76.55 18 P **P 04 49 35.4 -0.6**
KLU IAmb IAmb 04 49 37.6
comp=Z,7.8nm,0.9s
MORW Morawa 77.88 142 P **P 04 49 42.6 -1.1**
HYT Haines Junctio 79.00 14 P **P 04 49 49.3 -0.5**
HYT IAmb IAmb 04 49 50.9
comp=Z,9.7nm,0.9s
BOSA Boshof 79.22 221 LR LR 05 25 05.6
comp=Z,37nm,20.9s,baz=18,slow=36
YKA Yellowknife Ar 80.17 3 P **P 04 49 55.3 -0.6**
comp=Z,9.8nm,0.8s,baz=348,slow=6.0,SNR=9.8
YKA LR LR 05 29 12.1
comp=Z,67nm,19.5s,baz=0.0,slow=38
SCHQ Schefferville 81.57 338 P **P 04 50 03.3 -0.3**
comp=Z,5.6nm,0.8s,baz=65,slow=4.3,SNR=5.4
SCHQ Schefferville 81.57 338 IAmb IAmb 04 50 10.9
comp=Z,14nm,1.1s
WRA Warramunga Arr 81.64 123 P **P 04 50 03.0 -1.3**
comp=Z,5.4nm,1.0s,baz=326,slow=5.1,SNR=31
WRA LR LR 05 31 16.4
comp=Z,31nm,19.6s,baz=95,slow=39
WRAB Tennant Creek 81.64 123 *ce* P **P 04 50 03.1 -1.2**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WB2 Warramunga Arr 81.64 123 P **P 04 50 03.2 -1.1**
WB2 IAmb IAmb 04 50 08.2
comp=Z,5.7nm,0.9s
WC3 Warramunga Arr 81.67 123 P **P 04 50 03.1 -1.4**
WC3 IAmb IAmb 04 50 08.3
comp=Z,8.6nm,0.8s
WR0 Warramunga Arr 81.78 123 P **P 04 50 03.8 -1.3**
WR0 IAmb IAmb 04 50 08.7
comp=Z,7.7nm,1.1s
ASAR Alice Springs 83.97 126 P **P 04 50 15.0 -1.4**
comp=Z,2.0nm,0.9s,baz=322,slow=5.9,SNR=13
ASAR LR LR 05 36 30.0
comp=Z,37nm,19.5s,baz=12,slow=42
ASAR Alice Springs 83.97 126 P **P 04 50 14.8 -1.6**
FFC Flin Flon 87.99 357 P **P 04 50 36.2 +0.3**
FFC pmax pmax
comp=Z,16nm,1.3s
FFC Flin Flon 87.99 357 P **P 04 50 36.1 +0.3**
NEW Newport 94.18 6 LR LR 05 38 36.5
comp=Z,125nm,18.0s,baz=312,slow=39
STKA Stephens Creek 94.54 127 LR LR 05 41 06.9
comp=Z,35nm,19.4s,baz=200,slow=40
CO01 Juntas del Tor 148.03 272 PKPbc **PKPbc 04 57 32.2 +0.3**
PLCA Paso Flores 151.17 252 PKPbc **PKPbc 04 57 39.4 +0.2**
comp=Z,1.2nm,0.6s,baz=351,slow=2.8,SNR=3.3

*IPEC **06** 05:06:15.7±0.1,50°.20N×19°.01E,h1km,ML2.1/3,Error ellipse: s-maj=1.8km s-min=0.7km az=173.0*
*PRU **06** 05:06:15.9±0.0,50°.23N×18°.96E,h0km*
*VIE **06** 05:06:15.4±0.4,50°.14N×19°.04E,h0km,mb2.2/3,ml2.5/3, Error ellipse: s-maj=5.9km s-min=2.3km az=164.0 13 km SSE of Katowice Suspected Mining induced.*
*IDC **06** 05:06:16.4±2.0,50°.08N×19°.08E,h0km,mb1 3.2/3, mb1mx3.0/36,mbtmp3.0/3,ML2.7/3,Error ellipse: s-maj=34.0km s-min=10.1km az=134.0*
ISC 06 05:06:13.8±0.8,50°.28N±0°.04×19°.10E±0°.02,h0km,n44,σ1§18/69,7C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.45**	**97**	*e*Pg	**Pb**	**05 06 24.9**	**+0.2**
OJC				*e*Sg	**Sb**	**05 06 31.5**	**-0.5**
MORC	**Moravsky Berou**	**1.12**	**244**	⇑P	**Pg**	**05 06 35.6**	**+0.3**
MORC	**Moravsky Berou**	**1.12**	**244**	⇑S	**Sn**	**05 06 53.7**	**+0.6**
MORC	**Moravsky Berou**	**1.12**	**244**	*e*PG	**Pg**	**05 06 35.3**	**-0.1**
MORC				*e*SG	**Sg**	**05 06 47.8**	**-2.1**
MORC	**Moravsky Berou**	**1.12**	**244**	*e*Pg	**Pg**	**05 06 35.3**	**-0.1**
MORC	baz=65			*e*Sg	**Sg**	**05 06 47.7**	**-2.1**
ANAC	**Anensky vrch**	**1.12**	**260**	*e*Pg	**Pb**	**05 06 36.1**	**-0.1**
LANS	**Liptovska Anna**	**1.16**	**168**	*e*PG	**Pb**	**05 06 36.9**	**+0.2**
LANS				*e*SG	**Sb**	**05 06 52.2**	**0.0**
LANS				*e*LG	Lg	05 06 55.8	
NIE	**Niedzica**	**1.16**	**138**	*e*Pg	**Pn**	**05 06 37.8**	**+0.4**
NIE				*e*Sg	**Sn**	**05 06 53.9**	**-0.1**
LIPC	**Lipinka**	**1.39**	**253**	*e*Pg	**Pn**	**05 06 40.7**	**+0.2**
KRLC	**Kraliky**	**1.50**	**263**	*e*PG	**Pn**	**05 06 41.8**	**-0.3**
KRLC				*e*SG	**Sg**	**05 07 01.8**	**-0.3**
JAVC	**Velka Javorina**	**1.70**	**214**	*e*PG	**Pn**	**05 06 45.2**	**+0.4**
JAVC	**Velka Javorina**	**1.70**	**214**	*e*Pg	**Pn**	**05 06 45.2**	**+0.4**
DPC	**Dobruska-Polom**	**1.78**	**273**	*e*PG	**Pn**	**05 06 46.6**	**+0.7**
DPC				*e*SG	**Sg**	**05 07 11.6**	**+0.5**
VYHS	**Vyhne**	**1.80**	**186**	*e*PN	**Pn**	**05 06 46.1**	**0.0**
VYHS				*e*SN	**Sn**	**05 07 09.5**	**-0.1**
OSTC	**Ostas**	**1.87**	**280**	*e*PG	**Pn**	**05 06 48.0**	**+0.9**
OSTC				*e*SG	**Sg**	**05 07 13.7**	**0.0**
KSP	**Ksiaz**	**1.88**	**289**	*e*Pb	**Pb**	**05 06 48.4**	**-0.6**
KSP				*e*Pg	**Pg**	**05 06 50.7**	**+0.9**
KSP				*e*Sg	**Sg**	**05 07 16.1**	**+2.0**
VRAC	**Vranov**	**1.89**	**240**	Pn	**Pn**	**05 06 48.0**	**+0.7**
VRAC	8.0nm,0.3s,baz=58,slow=14,SNR=34			Lg	Lg	05 07 13.4	
VRAC	**Vranov**	**1.89**	**240**	⇑P	**Pn**	**05 06 45.3**	**-2.1**
VRAC	**Vranov**	**1.89**	**240**	⇑S	**Sb**	**05 07 13.9**	**+0.4**
VRAC	**Vranov**	**1.89**	**240**	*e*PN	**Pn**	**05 06 48.2**	**+0.8**
VRAC				*e*SG	**Sn**	**05 07 11.8**	**-0.2**
VRAC	**Vranov**	**1.89**	**240**	*e*Pn	**Pn**	**05 06 48.1**	**+0.7**
VRAC	baz=59			*e*Sg	**Sn**	**05 07 11.7**	**-0.2**
CHVC	**Chvalec**	**1.97**	**280**	*e*PG	**Pn**	**05 06 49.4**	**+0.9**
CHVC				*e*SG	**Sg**	**05 07 17.2**	**+0.1**
UPC	**Upice**	**1.99**	**278**	*e*SG	**Sg**	**05 07 18.5**	**+0.8**
KECS	**Kecovo**	**2.01**	**153**	*e*PN	**Pg**	**05 06 52.9**	**+0.5**
KECS				*e*		05 07 16.2	
KECS				*e*LG	Lg	05 07 25.9	
CRVS	**Cervenica-Dubn**	**2.06**	**131**	*e*PN	**Pg**	**05 06 52.9**	**-0.5**
CRVS				*e*		05 07 22.1	
KRUC	**Moravsky**	**2.14**	**236**	*e*PN	**Pn**	**05 06 50.8**	**0.0**
KRUC				*e*SG	**Sb**	**05 07 19.6**	**-0.9**
KRUC	**Moravsky**	**2.14**	**236**	*e*Pn	**Pn**	**05 06 50.7**	**0.0**
KRUC	baz=55			*e*Sg	**Sb**	**05 07 19.6**	**-0.9**
MODS	**Modra-Piesok**	**2.25**	**213**	*e*PN	**Pb**	**05 06 54.5**	**-0.8**
PSZ	**Piszkesteto**	**2.42**	**167**	⇓P	**Pb**	**05 06 57.9**	**-0.4**
PSZ	**Piszkesteto**	**2.42**	**167**	⇑S	**Sg**	**05 07 35.0**	**+3.4**
KOLS	**Kolonicke sedl**	**2.46**	**122**	*e*PN	**Pb**	**05 06 58.4**	**-0.6**
PRU	**Pruhonice**	**2.95**	**266**	*e*PN	**Pn**	**05 07 02.0**	**+0.1**
PRU				*e*PG	**Pb**	**05 07 08.7**	**+1.5**
PRU				*e*SG	**Sg**	**05 07 47.8**	**-0.7**
CONA	**Conrad Observa**	**3.17**	**223**	*i* Pn	**Pn**	**05 07 04.8**	**-0.3**
CONA	0.4nm,0.2s			*e*Sn	**Sn**	**05 07 41.5**	**-2.2**
BRG	**Berggiesshubel**	**3.34**	**282**	PG	**Pg**	**05 07 17.6**	**-0.3**
BRG				SG	**Sg**	**05 08 01.8**	**+0.7**
KHC	**Kasperske Hory**	**3.76**	**254**	*e*PN	**Pn**	**05 07 13.5**	**+0.3**
KHC				*e*SN	**Sn**	**05 07 54.5**	**-3.7**
KHC				*e*SG	**Sb**	**05 08 10.9**	**+3.6**
GERES	**GERESS Array B**	**3.80**	**250**	Pn	**Pn**	**05 07 14.8**	**+1.1**
GERES	0.4nm,0.3s,baz=68,slow=14,SNR=9.6			Pg	**Pb**	**05 07 23.9**	**+2.2**
GERES	0.7nm,0.3s,baz=66,slow=16,SNR=6.9			Lg	Lg	05 08 12.0	
CLL	**Collm**	**4.00**	**287**	*e*Pn	**Pn**	**05 07 15.0**	**-1.4**
CLL				*e*Pg	**Pg**	**05 07 30.0**	**-0.5**
CLL				*e*Sg	**Sg**	**05 08 23.0**	**+0.6**
DRGR		**4.24**	**144**	⇑P	**Pn**	**05 07 21.1**	**+1.4**
BURAR	**Bucovina Array**	**4.83**	**121**	⇓P	**Pn**	**05 07 26.8**	**-1.1**
BZS	**Buzias**	**4.96**	**159**	⇓P	**Pn**	**05 07 30.9**	**+1.3**
ARR	**Arges**	**6.17**	**141**	⇓P	**Pn**	**05 07 47.4**	**+1.2**
VOIR		**6.28**	**138**	⇑P	**Pn**	**05 07 48.7**	**+0.9**
NOA	**NORSAR Array B**	**11.65**	**341**	Pn	**Pn**	**05 09 00.8**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=156,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**11.85**	**17**	Pn	**Pn**	**05 09 03.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=198,slow=11,SNR=16						

*SJA **06** 05:14:24.2±0.6,22°.97S×66°.55W,h248km±4km,ML4.1, MW3.8*
*VAO **06** 05:14:25.2±0.7,23°.24S×67°.01W,h286km±8km,mb3.8*
*NEIC **06** 05:14:25.7±1.9,23°.06S±0°.06×66°.5W±0°.1,h223km±14km, Error ellipse: s-maj=16.8km s-min=8.8km az=94.0*
*IDC **06** 05:14:26.8±2.5,23°.10S×66°.45W,h230km±25km,mb3.0/3, mb1 3.4/6,mb1mx3.2/23,mbtmp3.8/6,Error ellipse: s-maj=23.7km s-min=21.3km az=63.0*
*GUC **06** 05:14:27.2±0.6,22°.98S×67°.13W,h261km±7km,ML4.1*
ISC 06 05:14:25.5±0.6,23°.08S±0°.04×66°.60W±0°.04,h231km±7km, n109,σ1§34/149,mb3.7/6,12C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.34**	**48**	*e*P	**Pn**	**05 15 02.0**	**+0.7**
YJA				*e*S	**S**	**05 15 29.6**	**+0.3**
AZAP	**Zapla**	**1.81**	**129**	*e*P	**Pn**	**05 15 04.9**	**0.0**
AZAP				*e*S	**S**	**05 15 32.4**	**-3.3**
SLA	**San Lorenzo**	**1.92**	**149**	*e*P	**Pn**	**05 15 07.0**	**+1.2**
SLA				*e*S	**S**	**05 15 38.9**	**+1.5**
ASTB	**Santa Barbara**	**2.15**	**114**	*e*P	**Pn**	**05 15 08.2**	**+0.2**
LVC	**Limon Verde**	**2.19**	**282**	*e*P	**Pn**	**05 15 09.6**	**+1.0**
LVC				*i* S	**S**	**05 15 42.5**	**+0.3**
LVC	**Limon Verde**	**2.19**	**282**	Pn	**Pn**	**05 15 09.6**	**+1.0**
LVC	**Limon Verde**	**2.19**	**282**	*e*P	**Pn**	**05 15 09.2**	**+0.6**
LVC	**Limon Verde**	**2.19**	**282**	*e*P	**Pn**	**05 15 09.6**	**+1.0**
PB15	**IPOC Station P**	**2.65**	**267**	⇑*i*P	**Pn**	**05 15 14.2**	**+1.0**
PB15				*i* S	**S**	**05 15 49.9**	**-0.7**
PB15	**IPOC Station P**	**2.65**	**267**	Pn	**Pn**	**05 15 14.2**	**+1.0**
PB15				S	**S**	**05 15 50.5**	**0.0**
PB15	**IPOC Station P**	**2.65**	**267**	*e*P	**Pn**	**05 15 14.2**	**+1.0**
PB15				*e*S	**S**	**05 15 51.1**	**+0.5**
PB09	**IPOC Station P**	**2.76**	**297**	⇑*i*P	**Pn**	**05 15 15.8**	**+1.4**
PB09				*i* S	**S**	**05 15 52.3**	**-0.3**
PB09				IAML		05 15 57.2	
	comp=E,192nm,0.2s						
PB09	**IPOC Station P**	**2.76**	**297**	Pn	**Pn**	**05 15 15.8**	**+1.4**
PB09				S	**S**	**05 15 53.1**	**+0.5**
PB09	**IPOC Station P**	**2.76**	**297**	*e*P	**Pn**	**05 15 15.9**	**+1.4**
PB09				*e*S	**S**	**05 15 54.5**	**+1.8**
PB06	**IPOC Station P**	**2.77**	**277**	*i* P	**Pn**	**05 15 15.2**	**+0.7**
PB06				*i* S	**S**	**05 15 51.7**	**-1.1**
PB06				IAML		05 15 55.5	
	comp=N,374nm,0.2s						
PB06	**IPOC Station P**	**2.77**	**277**	Pn	**Pn**	**05 15 15.2**	**+0.7**
PB06	**IPOC Station P**	**2.77**	**277**	*e*P	**Pn**	**05 15 15.2**	**+0.7**
PB06				*e*S	**S**	**05 15 52.6**	**-0.2**
PB06				IAML		05 15 58.1	
	comp=Z,203nm,0.2s						
FSA	**Cafayete**	**3.07**	**170**	*e*P	**Pn**	**05 15 18.9**	**+1.1**
PB03	**IPOC Station P**	**3.09**	**289**	⇑*i*P	**Pn**	**05 15 18.7**	**+0.6**
PB03				*i* S	**S**	**05 15 57.7**	**-1.5**
PB03				IAML		05 16 02.1	
	comp=N,432nm,0.2s						
PB03	**IPOC Station P**	**3.09**	**289**	*e*S	**S**	**05 15 58.3**	**-1.0**
PB03				IAML		05 16 01.3	
	comp=Z,366nm,0.3s						
PB07	**IPOC Station P**	**3.33**	**293**	⇑*i*P	**Pn**	**05 15 21.4**	**+0.6**
PB07				*i* S	**S**	**05 16 02.1**	**-2.0**
PB07	**IPOC Station P**	**3.33**	**293**	Pn	**Pn**	**05 15 21.4**	**+0.6**
PB07				S	**S**	**05 16 03.3**	**-0.8**
PB07	**IPOC Station P**	**3.33**	**293**	*e*S	**S**	**05 16 02.3**	**-1.9**
PB07				IAML		05 16 03.6	
	comp=Z,185nm,0.1s						
PB05	**IPOC Station P**	**3.33**	**273**	*i* P	**Pn**	**05 15 21.1**	**+0.4**
PB05				*i* S	**S**	**05 16 02.0**	**-2.1**
PB05	**IPOC Station P**	**3.33**	**273**	*e*P	**Pn**	**05 15 21.3**	**+0.6**
PB05				*e*S	**S**	**05 16 02.7**	**-1.4**
PB05				IAML		05 16 07.7	
	comp=Z,133nm,0.2s						
PB01	**IPOC Station P**	**3.36**	**306**	⇑*i*P	**Pn**	**05 15 21.6**	**+0.6**
PB01				*i* S	**S**	**05 16 03.5**	**-1.2**
PB01	**IPOC Station P**	**3.36**	**306**	Pn	**Pn**	**05 15 21.7**	**+0.6**
PB01	**IPOC Station P**	**3.36**	**306**	*e*S	**S**	**05 16 04.3**	**-0.4**
PB01				IAML		05 16 05.7	
	comp=Z,278nm,0.3s						
PB04	**IPOC Station P**	**3.36**	**282**	⇑*i*P	**Pn**	**05 15 21.7**	**+0.6**
PB04				*i* S	**S**	**05 16 02.7**	**-2.1**
PB04	**IPOC Station P**	**3.36**	**282**	Pn	**Pn**	**05 15 21.8**	**+0.6**
PB04	**IPOC Station P**	**3.36**	**282**	*e*P	**Pn**	**05 15 21.8**	**+0.6**
PB04				*e*S	**S**	**05 16 03.8**	**-1.1**
PB04				IAML		05 16 08.4	
	comp=Z,315nm,0.1s						
GO02	**Mina Guanaco**	**3.44**	**232**	⇑*i*P	**Pn**	**05 15 22.9**	**+0.8**
GO02				*i* S	**S**	**05 16 06.1**	**-0.5**
GO02	**Mina Guanaco**	**3.44**	**232**	Pn	**Pn**	**05 15 22.8**	**+0.8**
GO02				S	**S**	**05 16 06.8**	**+0.2**
PB02	**IPOC Station P**	**3.52**	**299**	⇑*i*P	**Pn**	**05 15 23.3**	**+0.3**
PB02				*i* S	**S**	**05 16 05.8**	**-2.3**
PB02	**IPOC Station P**	**3.52**	**299**	*e*S	**S**	**05 16 06.4**	**-1.8**
PB02				IAML		05 16 08.7	
	comp=Z,458nm,0.4s						
PB10	**IPOC Station P**	**3.67**	**262**	*i* P	**Pn**	**05 15 25.2**	**+0.7**
PB10				*i* S	**S**	**05 16 08.7**	**-2.2**
PB10	**IPOC Station P**	**3.67**	**262**	Pn	**Pn**	**05 15 25.1**	**+0.6**
PB10	**IPOC Station P**	**3.67**	**262**	*e*P	**Pn**	**05 15 25.2**	**+0.7**
PB10				*e*S	**S**	**05 16 09.7**	**-1.2**
PB10				IAML		05 16 12.5	
	comp=Z,184nm,0.2s						
PB08	**IPOC Station P**	**3.77**	**320**	⇑*i*P	**Pn**	**05 15 27.8**	**+1.6**
PB08				*i* S	**S**	**05 16 13.9**	**0.0**
PB08	**IPOC Station P**	**3.77**	**320**	Pn	**Pn**	**05 15 27.4**	**+1.3**
PB08				S	**S**	**05 16 15.2**	**+1.3**
PB14	**IPOC Station P**	**3.81**	**245**	⇑*i*P	**Pn**	**05 15 27.0**	**+0.4**
PB14				*i* S	**S**	**05 16 11.7**	**-2.9**
PB14	**IPOC Station P**	**3.81**	**245**	Pn	**Pn**	**05 15 26.9**	**+0.3**
PATCX	**Punta Patache**	**3.99**	**304**	*e*P	**Pn**	**05 15 28.5**	**0.0**
PATCX				*i* S	**S**	**05 16 15.7**	**-2.5**
PATCX	**Punta Patache**	**3.99**	**304**	Pn	**Pn**	**05 15 28.6**	**0.0**
TA01	**Diego Aracena**	**4.16**	**306**	*e*P	**Pn**	**05 15 30.4**	**-0.1**
TA01				*i* S	**S**	**05 16 18.6**	**-3.2**
TA01	**Diego Aracena**	**4.16**	**306**	Pn	**Pn**	**05 15 30.4**	**-0.1**
GO01	**Chusmiza**	**4.17**	**324**	⇑*i*P	**Pn**	**05 15 31.9**	**+0.9**
GO01				*i* S	**S**	**05 16 22.2**	**-0.4**
GO01	**Chusmiza**	**4.17**	**324**	Pn	**Pn**	**05 15 31.8**	**+0.7**
GO01				S	**S**	**05 16 22.6**	**-0.1**
PB11	**IPOC Station P**	**4.36**	**319**	*e*P	**Pn**	**05 15 32.7**	**-0.4**
PB11				*i* S	**S**	**05 16 23.8**	**-2.6**
PB11	**IPOC Station P**	**4.36**	**319**	Pn	**Pn**	**05 15 32.6**	**-0.4**
AC02	**Maricunga**	**4.39**	**211**	Pn	**Pn**	**05 15 34.6**	**+0.9**
AC01	**Pan de Azucar**	**4.76**	**229**	Pn	**Pn**	**05 15 37.3**	**-0.4**
PSGC	**Pisagua**	**4.78**	**316**	*e*P	**Pn**	**05 15 36.9**	**-1.2**
PSGC				*i* S	**S**	**05 16 31.5**	**-4.0**
PSGCX	**Pisagua**	**4.78**	**316**	Pn	**Pn**	**05 15 36.9**	**-1.2**
MNMC	**Minye Minye**	**4.82**	**324**	⇑*i*P	**Pn**	**05 15 39.1**	**+0.2**
MNMC				*i* S	**S**	**05 16 34.5**	**-2.3**
MNMC	**Minye Minye**	**4.82**	**324**	Pn	**Pn**	**05 15 39.1**	**+0.2**
MNMC				S	**S**	**05 16 36.9**	**0.0**
CYA	**Choya**	**5.39**	**173**	*e*P	**Pn**	**05 15 46.8**	**+1.2**
CYA				*e*S	**S**	**05 16 49.7**	**+0.5**
PB16	**IPOC Station P**	**5.45**	**329**	Pn	**Pn**	**05 15 47.7**	**+0.8**
PB16				S	**S**	**05 16 51.0**	**-0.5**
GO03	**Copiap**	**5.57**	**215**	Pn	**Pn**	**05 15 47.1**	**-0.8**
PB12	**IPOC Station P**	**5.65**	**321**	Pn	**Pn**	**05 15 48.7**	**-0.3**
VCA	**Vinchina**	**5.82**	**194**	*e*P	**Pn**	**05 15 53.6**	**+2.5**
VCA				*e*S	**S**	**05 17 02.3**	**+3.1**
AC04	**Llanos de Chal**	**6.51**	**217**	Pn	**Pn**	**05 15 58.9**	**-0.9**
AC05	**El Transito**	**6.62**	**209**	Pn	**Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	Sierra Bellavi	12.23	196	P	P	05 17 17.5	+1.7
GO05	Huala	12.77	200	P	P	05 17 24.0	+2.3
TRCB	Terra Rica	12.87	91	eP	P	05 17 22.9	-0.1
ETMB	Extrema	13.19	2	eP	Pn	05 17 24.6	+0.1
PTGB	Pitanga	13.39	100	eP	P	05 17 28.0	-0.8
ITAB	Concordia	13.74	111	eP	P	05 17 32.8	+0.3
SAML	Samuel	14.42	14		P	05 17 40.2	0.0
SAML	Samuel	14.42	14	eP	P	05 17 39.8	-0.4
ITRB	Iturama	15.49	81	eP	Pn	05 17 53.1	+0.6
ARAG	Araguaiana, MT	15.75	65	eP	Pn	05 17 56.3	+0.8
CLDB	Colider	15.92	42	eP	Pn	05 17 56.8	-0.9
LC01	Cunco	16.40	195		P	05 18 01.4	-0.4
LC01				IAmb	IAmb	05 18 12.8	
	comp=Z,7.7nm,1.1s						
PLCA	Paso Flores	17.92	190	P	Pn	05 18 19.8	-1.2
	comp=Z,0.2nm,0.3s,baz=7.6,slow=14,SNR=7.4						
PLCA	Paso Flores	17.92	190	P	Pn	05 18 20.0	-1.0
IPMB	Ipameri, GO	17.94	77	eP	Pn	05 18 19.5	-2.0
VAO	Valinhos	18.07	94	eP	Pn	05 18 20.4	-2.6
BDFB	Brasilia	19.02	70	P	Pn	05 18 31.6	-2.6
	comp=Z,0.4nm,0.3s,baz=242,slow=11,SNR=12						
BDFB	Brasilia	19.02	70	P	Pn	05 18 31.1	-3.1
NPGB	Novo Progresso	19.26	36	eP	P	05 18 32.0	-1.1
LL01	San Ignacio de	19.85	193		Pn	05 18 41.4	-2.3
LL01				IAmb	IAmb	05 18 44.2	
	comp=Z,5.8nm,1.1s						
ITTB	Itaituba	21.36	31	eP	P	05 18 53.5	-1.6
JANB	Januaria	22.50	73	eP	P	05 19 04.2	-1.8
SMTB	Santa Maria do	23.06	55	eP	P	05 19 11.4	+0.5
PTGA	Pitinga	23.13	17	P	P	05 19 11.0	-0.5
PTGA				IAmb	IAmb	05 19 26.9	
	comp=Z,2.4nm,1.1s						
SDBA	SAO DESIDERIO	23.19	66	eP	P	05 19 10.7	-1.5
PRPB	Parauapebas	23.32	46	eP	P	05 19 12.6	-0.7
NAN01	Guarapari, ES	25.32	83	eP	P	05 19 30.9	-0.5
OTAV	Otavalo	25.89	332	P	P	05 19 38.6	+1.6
OTAV				IAmb	IAmb	05 20 02.3	
	comp=Z,4.0nm,1.4s						
ROSC	El Rosal	28.75	344	P	P	05 20 02.1	-0.2
ROSC				IAmb	IAmb	05 20 02.3	
	comp=Z,3.6nm,0.8s						
TXAR	Lajitas Array	63.15	324	P	P	05 24 31.3	+2.2
	comp=Z,0.3nm,0.8s,baz=133,slow=8.7,SNR=3.5						
TORD	Torodi Ar. Bea	75.89	69	P	P	05 25 47.2	+0.1
	comp=Z,0.9nm,0.6s,baz=242,slow=6.2,SNR=3.5						
PDAR	Pinedale Array	76.55	329	P	P	05 25 52.8	+2.3
	comp=Z,0.3nm,0.7s,baz=128,slow=10,SNR=3.0						

IDC ***06*** *05:22:06.2±1.3, 59°.22N×151°.83W, h54km±17km, mb3.3/6, mb1 3.8/9, mb1mx3.4/38, mbtmp3.8/9, ML4.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=24.9km s-min=10.1km az=108.0*

NEIC ***06*** *05:22:07.4±1.0, 59°.14N±0°.05×151°.43W±0°.07, h70km±6km, Error ellipse: s-maj=7.2km s-min=5.0km az=159.0*

AEIC ***06*** *05:22:08.0±1.0, 59°.14N±0°.05×151°.42W±0°.07, h66km±6km, ML3.8/124, Error ellipse: s-maj=7.0km s-min=5.2km az=165.0*

UNK ***06*** *05:22:08.0, 59°.14N×151°.42W, h66km*

ANF ***06*** *05:22:09.7±0.7, 59°.27N×151°.21W, h65km±9km, ML4.3/7, Error ellipse: s-maj=9.0km s-min=8.4km az=107.0*

ISC 06 05:22:07.7±0.7, 59°.16N±0°.04×151°.39W±0°.03, h68km±7km, n224, σ1 900/262, mb3.7/6, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNPM	China Poot	0.38	12		Pn	05 22 19.2	-0.1
CNPM					Sn	05 22 27.8	0.0
HOM	Homer	0.52	345	P	Pn	05 22 20.6	+0.1
HOM				S	Sn	05 22 30.5	+0.6
	baz=167,SNR=177						
HOM	Homer	0.52	345		Pn	05 22 20.6	+0.1
HOM					Sn	05 22 30.8	+0.9
BRLK	Bradley Lake	0.66	23		Pn	05 22 21.9	-0.2
BRLK					Sn	05 22 32.4	-0.2
BRSE	Bradley Lake S	0.67	29		Pn	05 22 21.9	-0.2
AU22	Augustine Moun	1.03	283		Pn	05 22 26.1	-0.4
AU22					Sn	05 22 40.1	-0.4
AUQ	Augustine Qik'	1.06	282		Pn	05 22 26.6	-0.3
AUQ					Sn	05 22 40.7	-0.4
AUP	Augustine Pinn	1.06	282		Pn	05 22 26.8	-0.1
OPT	Oil Point	1.07	298		Pn	05 22 26.8	-0.2
AUL	Augustine Lava	1.07	283		Pn	05 22 26.8	-0.3
AUL					Sn	05 22 41.3	-0.1
AUH	Augustine H	1.08	282		Pn	05 22 26.9	-0.3
AUW	Augustine West	1.09	282		Pn	05 22 27.0	-0.3
ILS	Iliamna Low So	1.17	314		Pn	05 22 27.8	-0.6
IVE	Iliamna Volcan	1.20	317		Pn	05 22 27.9	-0.8
IVE					Sn	05 22 43.5	-0.9
SEW	Seward	1.37	45		Pn	05 22 30.7	0.0
RED	Redoubt Volcan	1.45	332		Pn	05 22 31.3	-0.7
RED					Sn	05 22 49.7	-0.5
SLKM	Skilak Lake	1.48	23		Pn	05 22 32.1	-0.2
SLKM					Sn	05 22 50.8	0.0
RSO	Redoubt South	1.48	333		Pn	05 22 32.0	-0.5
KDAK	Kodiak Island	1.52	205	P	Pn	05 22 31.2	-1.6
	42nm,0.3s,baz=46,slow=12,SNR=606						
KDAK				S	Sn	05 22 48.8	-2.9
	231nm,0.3s,baz=47,slow=9.2,SNR=72						
KDAK	Kodiak Island	1.52	205		Pn	05 22 31.3	-1.5
RDWB	Redoubt West	1.52	332		Pn	05 22 32.3	-0.7
RDWB					Sn	05 22 51.7	-0.4
O22K	Cooper Landing	1.57	32	P	Pn	05 22 33.5	0.0
	baz=213						
O22K				S	Sn	05 22 52.4	-0.5
	baz=213						
DFR	Drift River	1.58	336		Pn	05 22 33.0	-0.8
DFR					Sn	05 22 53.4	0.0
NCT	North Crescent	1.61	332		Pn	05 22 33.5	-0.6
NCT					Sn	05 22 53.9	-0.1
CAPN	Captain Cook N	1.62	4	P	Pn	05 22 35.4	+1.3
	baz=185,SNR=8.8						
CAPN				S	Sn	05 22 57.1	+3.0
	baz=185						
CAPN	Captain Cook N	1.62	4		Pn	05 22 35.5	+1.3
KAHG	Katmai Hook Gl	1.77	249		Pn	05 22 35.6	-0.7
KAHC	Katmai Hardscr	1.95	256		Pn	05 22 37.6	-1.1
SPU	Mount Spurr	2.06	351	Pn	Pn	05 22 39.6	-0.4
FIS	Fire Island	2.08	16		Pn	05 22 41.2	+0.9
SPCR	Spurr Chakacha	2.09	349		Pn	05 22 40.1	-0.4
SPCR					Sn	05 23 05.4	-0.1
KAKN	Katmai Knife C	2.10	247		Pn	05 22 39.6	-1.1
RC01	Rabbit Creek A	2.11	22	P	Pn	05 22 40.8	+0.2
	baz=204						
RC01				S	Sn	05 23 05.1	-0.8
	baz=204						
RC01	Rabbit Creek A	2.11	22		Pn	05 22 40.9	+0.2
RC01					Sn	05 23 05.1	-0.8
SPCN	Chakachatna No	2.11	349		Pn	05 22 40.7	-0.1
SPCP	Crater Peak Br	2.15	350		Pn	05 22 41.4	0.0
SPCG	Spurr Capps Gl	2.16	352		Pn	05 22 41.5	-0.1
SPBG	Spurr Blockage	2.16	347		Pn	05 22 39.9	-1.7
OHAK	Old Harbor	2.19	208		Pn	05 22 39.9	-1.9
KABU	Katmai Buttres	2.22	248		Pn	05 22 41.6	-0.7
PWL	Port Wells	2.29	41		Pn	05 22 43.2	0.0
PWL					Sn	05 23 09.2	-1.2
CAHL	Cahill	2.33	243		Pn	05 22 42.8	-1.0
SUA	Susitna One	2.33	8		Pn	05 22 43.9	0.0
STLK	Strandline Lak	2.36	355		Pn	05 22 44.4	+0.2
Q23K	Middleton Isla	2.60	82	P	Pn	05 22 47.2	-0.1
	baz=266						
Q23K				S	Sn	05 23 15.6	-2.1
	baz=266						
Q23K	Middleton Isla	2.60	82		Pn	05 22 47.2	-0.1
MID	Middleton Isla	2.60	82		Pn	05 22 47.2	-0.2
MID					Sn	05 23 18.6	+0.7
PMR	Palmer	2.69	24		Pn	05 22 48.4	-0.1
KNK	Knik Glacier	2.69	32		Pn	05 22 48.1	-0.5
KNK				Sn	Sn	05 23 19.7	-0.4
GLI	Glacier Island	2.76	49		Pn	05 22 49.3	-0.2
HIN	Hinchinbrook I	2.77	61		Pn	05 22 49.8	+0.2
SKT	Skwentna	2.83	359		Pn	05 22 50.3	-0.2
SKT				Sn	Sn	05 23 24.8	+1.3
SVW2	Sparrevohn	2.86	315		Pn	05 22 50.1	-0.8
GHO	Glory Hole Cre	2.89	24		Pn	05 22 51.3	-0.1
GHO				Sn	Sn	05 23 24.8	-0.3
FID	Port Fidalgo	2.94	55		Pn	05 22 51.4	-0.6
SII	Sitkinak Islan	3.00	211		Pn	05 22 52.1	-0.8
SML	Sawmill	3.06	28		Pn	05 22 54.0	+0.4
PLK1	Peulik 1	3.06	246		Pn	05 22 53.1	-0.5
EYAK	Cordova Ski Ar	3.17	61		Pn	05 22 55.2	+0.1
VMT	TAPS Tl Valdez	3.17	50		Pn	05 22 55.5	+0.5
CUT	Chulitna	3.30	9	P	Pn	05 22 58.0	+1.1
	baz=190						
CUT				S	Sn	05 23 35.0	0.0
	baz=190						
CUT	Chulitna	3.30	9		Pn	05 22 57.4	+0.5
SCM	Sheep Creek Mo	3.35	35		Pn	05 22 57.9	+0.2
DIV	Divide	3.43	52		Pn	05 22 58.7	-0.1
KLU	Klutina	3.59	47		Pn	05 23 01.4	+0.5
RAGM	Ragged Mountai	3.61	67		Pn	05 23 01.4	+0.3
KAIM	Kayak Island	3.63	75	Pn	Pn	05 23 02.5	+1.1
GOAT	Goat Mountain	3.65	64		Pn	05 23 01.9	+0.2
PPLA	Purkeypile	3.77	354		Pn	05 23 03.1	-0.3
HMT	Hamilton	3.79	69		Pn	05 23 03.8	+0.1
BMRM	Bremner River	3.85	59		Pn	05 23 04.3	-0.2
WAT6	Susitna Watana	3.87	26		Pn	05 23 04.9	+0.1
WAT7	Susitna Watana	3.89	17		Pn	05 23 05.2	+0.2
NICHA	Nichawak Mount	3.91	71		Pn	05 23 05.5	+0.3
M24K	Tolsona, Glenn	3.92	39	P	Pn	05 23 06.2	+0.8
	baz=223,SNR=16						
M24K				S	Sn	05 23 49.9	-0.2
	baz=223						
HUR	Hurricane	3.93	12		Pn	05 23 06.1	+0.7
WAT1	Susitna Watana	3.93	19		Pn	05 23 05.7	+0.1
SUCK	Suckling Hills	3.97	73	Pn	Pn	05 23 06.6	+0.5
SUCK					Sn	05 23 52.8	+1.4
CHIR	Chirikof Islan	4.05	216	Pn	Pn	05 23 07.0	-0.2
WAT2	Susitna Watana	4.05	18		Pn	05 23 07.3	0.0
BERG	Berg Lake	4.08	69		Pn	05 23 07.4	-0.1
PS11	TAPS Pump St11	4.13	42		Pn	05 23 09.0	+0.8
GRIN	Grindle Hills	4.24	71		Pn	05 23 10.1	+0.4
TRF	Thorofare Moun	4.34	7		Pn	05 23 11.6	+0.4
TT01	Tatalina	4.38	331		Pn	05 23 10.8	-0.9
DHY	Denali Highway	4.38	25		Pn	05 23 12.2	+0.4
TTA	Tatalina	4.40	331		Pn	05 23 11.4	-0.5
GLB	Gilahina Butte	4.41	55		Pn	05 23 12.4	+0.3
KTH	Kantishna Hill	4.42	3		Pn	05 23 12.3	+0.2
RND	Reindeer	4.43	15		Pn	05 23 13.0	+0.6
VRDI	Verde Repeater	4.47	59		Pn	05 23 13.1	+0.1
KULT	Kultieth River	4.52	72		Pn	05 23 13.9	+0.3
BARK	Barkley Ridge	4.67	71		Pn	05 23 16.2	+0.6
MCARA	McCarthy VSAT	4.72	58		Pn	05 23 17.1	+0.8
MCK	McKinley	4.74	13		Pn	05 23 17.3	+0.8
PAX	Paxson	4.78	34		Pn	05 23 18.0	+0.8
ISLE	Juniper Island	4.78	69		Pn	05 23 17.7	+0.4
ISLE					Sn	05 24 12.0	+0.6
KIAG	Kiagna River	4.86	65		Pn	05 23 18.3	-0.1
MESA	MESA	4.89	74		Pn	05 23 19.4	+0.6
PTPK	Patty Peak	4.90	62		Pn	05 23 19.0	+0.1
BALM	Baldy	4.90	64		Pn	05 23 19.2	+0.4
BPAW	Bear Paw Mtn.	4.96	2		Pn	05 23 19.3	-0.3
YAH	Yahtse	5.02	72		Pn	05 23 21.2	+0.6
BWN	Browne	5.11	9		Pn	05 23 21.7	+0.1
RKAV	Rock Avalanche	5.21	73		Pn	05 23 23.9	+0.8
BARN	Barnard Glacie	5.23	64		Pn	05 23 24.0	+0.6
MENT	Mentasta	5.31	41		Pn	05 23 25.7	+1.3
TABL	Table Mountain	5.33	72		Pn	05 23 25.6	+0.8
CTGM	Chitina Glacie	5.35	66		Pn	05 23 25.5	+0.5
LOGN	Logan Glacier	5.47	68		Pn	05 23 26.9	+0.2
WRH	Wood River Hil	5.55	15		Pn	05 23 27.4	-0.2
NEA2	Nenana	5.56	10	P	Pn	05 23 27.2	-0.5
	baz=192,SNR=26						
NEA2				S	Sn	05 24 27.5	-2.7
	baz=192						
NEA2	Nenana	5.56	10		Pn	05 23 26.7	-1.1
RIDG	Independent Ri	5.56	32	Pn	Pn	05 23 28.5	+0.7
HDA	Harding Lake	5.67	20	P	Pn	05 23 29.6	+0.3
	baz=204,SNR=21						
HDA				S	Sn	05 24 30.2	-2.7
	baz=204						
HDA				S	Sn	05 24 30.2	-2.7
	baz=204						
HDA	Harding Lake	5.67	20		Pn	05 23 29.9	+0.6
DOT	Dot Lake	5.71	35	Pn	Pn	05 23 31.1	+1.3
PCA	Pinnacle	5.73	76		Pn	05 23 30.5	+0.5
PCA					Sn	05 24 34.9	+0.5
CCB	Clear Creek Bu	5.76	16		Pn	05 23 30.2	-0.2
TCOL	CIGO, UAF Yank	5.97	15	P	Pn	05 23 33.4	+0.1
	baz=198,SNR=11						
TCOL				S	Sn	05 24 35.8	-4.3
	baz=198						
TCOL	CIGO, UAF Yank	5.97	15		Pn	05 23 32.7	-0.6
COLA	College	5.97	15	Pn	Pn	05 23 32.5	-0.8
SCRK	Sand Creek	5.99	33	P	Pn	05 23 33.9	+0.3
	baz=220						
SCRK	Sand Creek	5.99	33		Pn	05 23 33.5	-0.2
MDM	Murphy Dome	6.01	13		Pn	05 23 33.5	-0.4
IL31		6.02	19		Pn	05 23 33.6	-0.3
ILAR	Eielson Array	6.02	19	P	Pn	05 23 33.6	-0.4
	3.1nm,0.3s,baz=202,slow=13,SNR=103						
ILAR				S	Sn	05 24 39.9	-1.4
	7.5nm,0.3s,baz=210,slow=23,SNR=17						
ILAR	Eielson Array	6.02	19	Pn	Pn	05 23 34.3	+0.4
BCPM	Bancas Point	6.03	77		Pn	05 23 34.7	+0.6
BCAR	Beaver Creek A	6.08	46		Pn	05 23 35.2	+0.3
PNL	Peninsula	6.14	80		Pn	05 23 35.7	0.0
SDPT	Sand Point	6.24	236	Pn	Pn	05 23 35.9	-1.1
CNBA	Chernabura Isl	6.24	229	Pn	Pn	05 23 35.3	-1.8
POKR	Poker Plat Res	6.26	16	P	Pn	05 23 37.5	+0.2
	baz=199,SNR=7.4						
POKR				S	Sn	05 24 43.3	-4.0
	baz=199						
POKR	Poker Plat Res	6.26	16		Pn	05 23 36.6	-0.7
PS07	TAPS Pump Stn7	6.34	12		Pn	05 23 38.8	+0.4
K27K	Chicken	6.60	38	S	Sn	05 24 54.2	-1.4
	baz=226						
IM03		6.94	352		Pn	05 23 45.0	-1.4
IMAR	Indian Mountai	6.94	352		Pn	05 23 46.0	-0.5
EGAK	Eagle	7.41	36	Pn	Pn	05 23 53.6	+0.7
DAWY	Dawson	7.54	44	Pn	Pn	05 23 55.7	+0.9
COLD	Coldfoot	8.12	3	P	Pn	05 24 02.4	-0.2
	baz=184,SNR=16						
COLD				S	Sn	05 25 29.0	-3.8
	baz=184						
COLD	Coldfoot	8.12	3	Pn	Pn	05 24 02.8	+0.1
WHY	Whitehorse	8.43	73	Pn	Pn	05 24 07.5	+0.5
ANM	Nome	8.54	315	Pn	Pn	05 24 08.2	-0.2
BESE	Bessie Mountai	8.59	87	Pn	Pn	05 24 08.9	-0.3
SIT	Sitka	8.76	97	Pn	Pn	05 24 10.1	-1.3
BMAR	Burnt Mountain	8.84	17		Pn	05 24 11.5	-1.0
JIS	Juneau Island	8.89	88	Pn	Pn	05 24 13.4	+0.2
TOLK	Toolik Lake Re	9.55	4	P	Pn	05 24 22.8	+0.5
	baz=186						
TOLK				S	Sn	05 26 04.1	-3.7
	baz=186						
TOLK	Toolik Lake Re	9.55	4	Pn	Pn	05 24 22.4	+0.2
UNV	Unalaska Valle	9.90	244	Pn	Pn	05 24 24.7	-2.3
WRAK	Wrangell Islan	10.52	97		Pn	05 24 35.0	-0.5
DLBC	Dease Lake	11.10	85	P	Pn	05 24 45.5	+2.1
	2.8nm,0.3s,baz=241,slow=9.6,SNR=26						
DLBC				S	Sn	05 26 43.5	-2.2
	0.8nm,0.3s,baz=151,slow=25,SNR=3.6						
DLBC	Dease Lake	11.10	85		Pn	05 24 44.7	+1.3
H02N1	VAN INLET T-PH	12.02	111	P	Pn	05 24 53.5	-2.5
	SNR=48						
H02N1				S	Sn	05 27 01.1	-7.1
DIB	Dawson Inlet,	12.08	111	Pn	Pn	05 24 55.8	-1.0
H02S1	DAWSON INLET T	12.08	111	P	Pn	05 24 54.8	-1.9
H02S1				S	Sn	05 27 02.6	-7.0
BBB	Bella Bella	14.82	108	P	Pn	05 25 32.6	-0.5
	0.3nm,0.3s,baz=285,slow=7.5,SNR=5.0						
YKA	Yellowknife Ar	18.07	64	P	Pn	05 26 14.3	+0.7
	0.5nm,0.3s,baz=279,slow=10,SNR=7.9						
SEY	Seymchan	26.73	302	LR	LR	05 37 27.8	
	comp=Z,40nm,19.3s,baz=138,slow=35						
PDAR	Pinedale Array	30.40	104	P	P	05 28 15.4	+2.0
	0.2nm,0.4s,baz=311,slow=4.2,SNR=3.6						
RSSD	Black Hills	32.22	97	P	P	05 28 31.2	+1.9
	baz=315						
O20A	White River Ci	33.02	106	P	P	05 28 38.5	+2.1
	baz=320						
D53A	Lac Vacive, Po	43.57	72	P	P	05 30 05.4	+1.0
	baz=314						
TXAR	Lajitas Array	43.91	111	P	P	05 30 09.6	+2.1
	0.1nm,0.6s,baz=332,slow=7.8,SNR=4.2						
E53A	Dumoine, Ponti	44.08	73	P	P	05 30 09.2	+0.6
	baz=315						
ALGO	Algonquin Park	44.18	74	P	P	05 30 10.0	+0.7
	baz=315						
E54A	Lac Daplat, Po	44.27	72	P	P	05 30 10.7	+0.7
	baz=315						
JCT	Junction City	44.85	106	P	P	05 30 16.5	+1.6
	baz=325						
D56A	ZEC Mazanza, M	45.02	70	P	P	05 30 16.1	0.0
	baz=315						
L55A	Hinsdale	46.71	77	P	P	05 30 30.6	+1.1
	baz=318						
M55A	Ridgway	47.07	78	P	P	05 30 33.2	+1.0
	baz=318						
L56A	Greenwood	47.19	77	P	P	05 30 34.2	+1.0
	baz=318						
P53A	Whipple	47.22	82	P	P	05 30 33.6	+0.2
	baz=319						
H59A	Cadyville	47.27	72	P	P	05 30 33.9	+0.2
	baz=317						
M56A	Emporium	47.36	78	P	P	05 30 35.4	+1.0
	baz=318						
N55A	Marion Center	47.47	79	P	P	05 30 35.8	+0.4
	baz=318						
P54A	Burton	47.60	81	P	P	05 30 36.6	+0.3
	baz=319						
L57A	Andrews Acres	47.64	76	P	P	05 30 37.6	+0.9
	baz=318						
N56A	West Decatur	47.72	79	P	P	05 30 37.9	+0.6
	baz=318						
O55A	Ligonier	47.74	80	P	P	05 30 37.9	+0.4
	baz=319						
MCWV	Mont Chateau	47.88	81	P	P	05 30 38.7	+0.2
	baz=319						
Q54A	Coxs Mills	47.88	82	P	P	05 30 38.8	+0.3
	baz=319						
BINY	Binghamton	47.93	76	P	P	05 30 39.5	+0.6
	baz=318						
M57A	Sunshine Farm,	47.99	77	P	P	05 30 40.1	+0.7
	baz=318						
P55A	Reedsville	48.00	81	P	P	05 30 39.4	-0.1
	baz=319						
L58A	Harry Jones Me	48.11	76	P	P	05 30 41.3	+1.0
	baz=318						
SSPA	Standing Stone	48.14	78	P	P	05 30 41.4	+0.9
	baz=318						
N57A	Milroy	48.22	78	P	P	05 30 42.0	+0.9
	baz=318						
M58A	Price's Panora	48.30	77	P	P	05 30 43.2	+1.4
	baz=318						
L59A	Walton	48.40	75	P	P	05 30 43.3	+0.7
	baz=318						
J60A	Lant Hill Farm	48.43	73	P	P	05 30 43.7	+1.1
	baz=318						
N58A	Sunbury	48.57	77	P	P	05 30 44.7	+0.8
	baz=319						
O57A	Amberson	48.58	79	P	P	05 30 44.9	+1.0
	baz=319						
M59A	Waymart	48.69	76	P	P	05 30 45.6	+0.9
	baz=318						
P57A	Homestead Farm	48.94	80	P	P	05 30 47.2	+0.6
	baz=319						
S55A	Lewisburg	48.97	83	P	P	05 30 47.2	+0.2
	baz=320						
O58A	Lewisberry	49.01	78	P	P	05 30 47.9	+0.7
	baz=319						
Q57A	Strasburg	49.08	80	P	P	05 30 48.0	+0.3
	baz=319						
O59A	Robesonia	49.24	77	P	P	05 30 49.8	+0.9
	baz=319						
M60A	Port Jervis	49.26	75	P	P	05 30 49.9	+0.8
	baz=319						
BLA	Blacksburg	49.44	83	P	P	05 30 50.9	+0.4
	baz=320						
Q58A	Fox Den Farm,	49.52	80	P	P	05 30 51.4	+0.4
	baz=320						
R57A	Stanardsville	49.58	81	P	P	05 30 51.9	+0.4
	baz=320						
O60A	Telford	49.62	77	P	P	05 30 52.6	+0.8
	baz=319						
U55A	TA2, Sparta	49.66	85	P	P	05 30 52.9	+0.6
	baz=321						
R58B	Mineral	50.16	81	P	P	05 30 56.9	+1.0
	baz=320						
V56A	Mocksville	50.48	85	P	P	05 30 59.0	+0.7
	baz=321						
X54A	Belton	50.50	87	P	P	05 30 59.2	+0.7
	baz=322						
U57A	Blanch	50.59	83	P	P	05 30 58.9	-0.3
	baz=321						
T58A	Grand View Acr	50.61	82	P	P	05 30 59.5	+0.2
	baz=320						
X55A	Gracelyn & Ava	50.94	87	P	P	05 31 02.5	+0.6
	baz=322						
X56A	White Oak	51.23	86	P	P	05 31 04.4	+0.3
	baz=322						
Y55A	Saluda	51.24	87	P	P	05 31 04.4	+0.3
	baz=322						
W57A	Gilead	51.25	85	P	P	05 31 04.2	+0.1
	baz=321						
ARCES	ARCESS Array B	51.58	1	P	P	05 31 06.8	+0.5
	0.7nm,0.5s,baz=2.9,slow=5.4,SNR=7.7						
V59A	Middlesex	51.67	83	P	P	05 31 07.9	+0.6
	baz=321						
U60A	Pendleton	51.67	81	P	P	05 31 08.0	+0.8
	baz=321						
X57A	Johnson Farm,	51.73	85	P	P	05 31 08.2	+0.4
	baz=322						
W58A	Raeford	51.74	84	P	P	05 31 08.4	+0.6
	baz=321						
NOA	NORSAR Array B	59.37	10	P	P	05 32 02.1	-0.2
	0.6nm,0.8s,baz=353,slow=7.2,SNR=3.9						
FINES	FINESS Array B	59.71	1	P	P	05 32 04.1	-0.4
	0.7nm,0.7s,baz=24,slow=10,SNR=5.6						
ESDC	Sonseca Array	77.88	25	P	P	05 33 56.4	-1.3
	0.8nm,1.0s,baz=347,slow=5.3,SNR=4.7						

IDC ***06*** *05:37:36.5±1.1, 27°.40N×141°.10E, h405km±45km, mb3.0/3, mb1 3.2/3

MPI	Mount Pinos, F	0.57	34			Pg	05 38 57.6	-0.2
ABL	Mount Abel	0.58	27			Pg	05 38 57.5	-0.3
PKM	Mcpherson Peak	0.60	338	P		Pg	05 38 58.0	-0.2
	baz=157,SNR=73							
PKM				S		Sb	05 39 07.3	-0.7
	baz=157							
PKM	Mcpherson Peak	0.60	338			Pg	05 38 58.1	-0.2
PKM						Sb	05 39 07.3	-0.7
BCW	Bitter Crk WRg	0.61	9			Pg	05 38 58.5	0.0
PYR	Pyramid	0.70	70			Pg	05 39 00.2	+0.2
BLCC	Black Canyon	0.72	97			Pg	05 39 00.3	-0.1
BLCC						Sn	05 39 12.5	-1.7
OSI	Osito Audit: C	0.73	67	P		Pg	05 39 00.6	0.0
	baz=246,SNR=32							
OSI	Osito Audit: C	0.73	67	Pg		Pg	05 39 00.6	0.0
BSM	San Miguel Isl	0.74	247			Pg	05 39 00.5	-0.3
GATR	Gnd/Air Tx Cnt	0.83	286			Pg	05 39 02.4	-0.2
BTPC	Burnt Peak	0.87	66			Pg	05 39 03.0	-0.3
CRGC	Crocker Grade	0.92	350			Pg	05 39 04.3	0.0
THC	Tehachapi Micr	0.92	51			Pg	05 39 03.5	-0.9
SBI	Santa Barbara	0.95	154			Pg	05 39 04.3	-0.5
SBI						Sb	05 39 18.1	+0.3
BCH	Branch Mountai	0.96	332			Pg	05 39 04.8	-0.2
ARVC	Arvin	0.98	36	P		Pg	05 39 04.9	-0.6
	baz=215,SNR=45							
ARVC				S		Sn	05 39 21.3	+0.7
	baz=215							
ARVC	Arvin	0.98	36			Pg	05 39 04.7	-0.7
DECC	Green Verdugo	1.00	94	P		Pg	05 39 05.0	-0.8
	baz=274,SNR=7.5							
DECC				S		Sn	05 39 20.6	-0.4
	baz=274							
CARC	Carrizo Plain	1.00	345			Pg	05 39 05.3	-0.7
SMMC	Simmler	1.05	339	P		Pg	05 39 06.5	-0.3
	baz=158,SNR=61							
SMMC				S		Sn	05 39 22.1	-0.2
	baz=158							
SMMC	Simmler	1.05	339			Pg	05 39 06.2	-0.6
SMMC						Sn	05 39 22.2	-0.1
LEOC	Leona Valley	1.06	73			Pg	05 39 06.2	-0.7
PASC	Pasadena Art C	1.13	98	Pg		Pb	05 39 06.7	-1.6
TEJ	El Tejon	1.13	38			Pb	05 39 07.2	-1.2
CJV	Casa Juvan	1.17	80			Pb	05 39 08.2	-0.8
FMP	Fort Macarthur	1.20	121	P		Pb	05 39 09.4	-0.1
	baz=301							
FMP				S		Sn	05 39 27.4	+1.4
	baz=301							
TPO	Tropico Hills	1.21	63			Pb	05 39 09.2	-0.4
MWC	Mount Wilson	1.23	95	Pg		Pb	05 39 08.4	-1.7
CHFC	Chilao Flat St	1.25	90			Pn	05 39 09.8	-0.6
LRRC	Littlerock Res	1.26	81			Sg	05 39 26.9	-0.2
JNH	Juniper Hills	1.31	85			Pn	05 39 10.9	-0.3
CIS	Catalina Islan	1.32	135	P		Pn	05 39 10.4	-0.8
	baz=315							
CIS				S		Sn	05 39 28.7	-0.2
	baz=315							
EDW2	Edwards Air Fo	1.38	66	P		Pn	05 39 11.5	-0.6
	baz=246,SNR=93							
EDW2				S		Sg	05 39 31.3	+0.2
	baz=246							
EDW2	Edwards Air Fo	1.38	66			Pb	05 39 12.6	0.0
XTL	Crystal Lake,	1.39	91			Pn	05 39 11.3	-0.9
PEM	Pine Mountain	1.39	96			Pn	05 39 11.9	-0.2
HOLC	Holcomb Ridge	1.40	84			Pn	05 39 12.2	-0.3
PAGB	Antelope Grade	1.51	337	Pn		Pn	05 39 13.4	-0.5
SSK	Sunset Peak	1.53	94			Pb	05 39 14.8	-0.5
VES	Vestal, Richgr	1.55	14	P		Pn	05 39 13.8	-0.5
	baz=193,SNR=63							
BFSC	Mount Baldy Ra	1.56	93	P		Pn	05 39 14.3	-0.2
	baz=274,SNR=95							
ISA	Isabella, Lake	1.59	33	P		Pn	05 39 14.7	-0.2
	baz=213,SNR=119							
ISA	Isabella, Lake	1.59	33	Pn		Pn	05 39 14.5	-0.5
WASM	Alta Sierra Ca	1.61	30			Pn	05 39 15.2	-0.2
WHFM	Hanning Flat	1.67	35			Pn	05 39 16.5	+0.3
PSMM	Smith Mountain	1.94	334			Pn	05 39 19.3	-0.5
SPG2	Springville 2	1.97	18			Pn	05 39 20.9	+0.8
VOG	Valley Oaks Go	1.99	4	P		Pn	05 39 20.8	+0.4
	baz=183							
WLHM	Little Horse	2.07	29			Pb	05 39 23.1	-1.4
BTL	Butler Peak	2.10	91			Pn	05 39 23.3	+1.2
PMPB	Monarch Peak	2.14	331	Pn		Pn	05 39 21.5	-1.1
MPMC	Manual Prospec	2.40	44	P		Pn	05 39 26.7	+0.5
	baz=224,SNR=62							
MPMC				Sg		Sg	05 40 05.9	+2.1
	baz=224							
CWC	Cottonwood Cre	2.41	29	Pb		Pb	05 39 30.0	-0.3
	baz=209							
GSC	Goldstone, Bar	2.44	66	Pg		Pg	05 39 33.2	-0.2
	baz=247							
GSC	Goldstone, Bar	2.44	66	Pn		Pn	05 39 26.5	-0.3
PFO	Pinyon Flats O	2.66	105	Pn		Pn	05 39 30.6	+0.9
HEC	Hector,Ludlow	2.69	79	Pn		Pn	05 39 30.7	+0.6
	baz=260							
HEC				Pg		Pg	05 39 38.0	0.0
	baz=260							
SAO	San Andreas Ge	2.88	328	Pn		Pn	05 39 31.9	-0.8
BAR	Barrett	2.91	124	Pn		Pn	05 39 33.8	+0.8
TUQ	Turquoise Moun	3.17	69	Pg		Pg	05 39 46.3	-1.0
	baz=250							
GMRC	Granite Mounta	3.23	81	Pb		Pb	05 39 45.7	+1.5
	baz=263,SNR=6.4							
MDPB	Devils Postpil	3.31	6	Pn		Pn	05 39 39.4	+0.5
MLAC	Mammoth, Mammo	3.34	10	P		Pn	05 39 40.2	+1.0
	baz=190,SNR=11							
MTPC	Mountain Pass	3.47	70			Pb	05 39 44.7	-3.6
IRM	Iron Mountain	3.64	92	Pb		Pb	05 39 51.8	+0.6
	baz=274							
TPNV	Topopah Spring	3.74	45	Pn		Pn	05 39 45.0	+0.4
	baz=226							
TPNV				Pb		Pb	05 39 55.1	+2.2
	baz=226,SNR=17							
TPNV	Topopah Spring	3.74	45	Pn		Pn	05 39 44.7	+0.1
CMB	Columbia Colle	3.76	350	Pn		Pn	05 39 45.2	+0.5
ESJX	Sierra Juarez	3.80	127	Pn		Pn	05 39 45.9	+0.4
WAKR	Walker	4.16	1	Pn		Pn	05 39 51.2	+0.7
W13A	Hualapai Mount	4.71	79	Pn		Pn	05 39 58.0	-0.1
PNTR	Pine Nut	4.75	359	Pn		Pn	05 39 59.4	+0.9

BJI ***06*** *05:40:48.9±0.0, 64°.69N×17°.79W, h9km, mB5.5/40, mb4.9/41, Ms4.9/40, Ms7 4.6/40*
REY ***06*** *05:40:50.6, 64°.68N×17°.41W, h3km*
MOS ***06*** *05:40:50.6±1.1, 64°.63N×17°.48W, h10km, mb5.1/67, MS4.6/27, Error ellipse: s-maj=7.7km s-min=4.8km az=103.1*
NEIC ***06*** *05:40:51.0±1.9, 64°.70N±0°.08×17°.4W±0°.1, h5km±1km, mb4.8/145, ML5.0(REY), Error ellipse: s-maj=13.7km s-min=9.8km az=200.0*
IDC ***06*** *05:40:51.1±0.5, 64°.61N×17°.57W, h0km, mb4.3/27, mb1 4.4/31, mb1mx4.2/53, mbtmp4.2/31, ML2.9/3, MS4.3/37, Ms1 4.3/37, ms1mx4.2/52, Error ellipse: s-maj=13.7km s-min=10.1km az=26.0*
NAO ***06*** *05:40:52.7±4.5, 64°.63N×17°.00W, ML4.4*
DNK ***06*** *05:40:55.0±4.5, 64°.76N×17°.05W, h8km±214km, Ms4.7, Hypocentre not reviewed by the ISC*
GCMT ***06*** *05:40:56.0±0.1, 64°.61N±0°.01×17°.11W±0°.02, h12km, MW5.1/141, Moment Tensor Solution. s94,c136; s141,c246; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=6.85±.08; Mθθ=3.57±.09; Mφφ=3.29±.07; Mrθ=1.56±.27; Mφφ=1.49±.07; Mφr=2.72±.25; Best double couple: M=6.41200×1016 NP1:φs=119.00000°, δ43.00000°, λ=-115.00000°. NP2:φs=332.00000°, δ52.00000°, λ=-68.00000°. Principal axes: T 4.9790, Plg4.0000°, Azm47.0000°; N 2.8750, Plg17.0000°, Azm138.0000°; P =7.8450, Plg72.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 05:40:51.4±0.3, 64°.69N±0°.02×17°.48W±0°.02, h4km±1km, h4km:pP-P, n679, σ1.91/853, mb4.8/194, MS4.5/75, 19C-44D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	Dyngjuhals	0.12	24	P	Pg	05 40 53.2	-0.5
	baz=8.5						
IVON	Vonarskard	0.12	264	P	Pg	05 40 53.7	-0.1
	baz=268						
IURH	Urdarhals	0.20	46	P	Pg	05 40 54.5	-0.8
	baz=38						
IDJK	Dyngjujokull	0.21	150	P	Pg	05 40 54.6	-0.8
	baz=157						
IGRF	Grimsfjall	0.29	162	P	Pg	05 40 56.5	-0.6
	baz=168						
IKVE	Kverkfjoll	0.34	91	P	Pg	05 40 56.9	-1.1
	baz=90						
IBJK	Bruarjokull	0.38	124	P	Pg	05 40 57.0	-1.8
	baz=126						
IBJK				S	Sg	05 41 02.9	-0.8
	baz=126						
IHUS	Husbondi	0.40	191	P	Pg	05 40 58.0	-1.1
	baz=196						
ISKR	Skrokkalda	0.41	253	P	Pg	05 40 58.7	-0.6
	baz=255						
IVOT	Vottur	0.44	163	P	Pg	05 40 58.5	-1.3
	baz=167						
IVOT				S	Sg	05 41 04.4	-1.0
	baz=167						
IKRE	Kreppuhraun	0.48	78	P	Pg	05 40 58.8	-1.8
	baz=76						
IKRE				S	Sg	05 41 05.7	-1.1
	baz=76						
IJOK	Jokulheimar	0.49	221	P	Pg	05 40 59.8	-1.0
	baz=224						
IJOK				S	Sg	05 41 07.7	+0.4
	baz=224						
IASK	Askja	0.51	44	P	Pg	05 40 59.6	-1.5
	baz=40						
IASK				S	Sg	05 41 07.3	-0.5
	baz=40						
IMKO	Mokollar	0.57	58	P	Pg	05 41 00.6	-1.7
	baz=56						
IMKO				S	Sg	05 41 09.2	-0.4
	baz=56						
IIEY	Innrieyrar	0.66	206	P	Pg	05 41 02.3	-1.6
	baz=208						
IIEY				S	Sg	05 41 11.9	-0.5
	baz=208						
ISVA	Svartarkot	0.66	8	P	Pg	05 41 02.5	-1.5
	baz=5.5						
ISVA				S	Sg	05 41 12.4	-0.2
	baz=5.5						
IKSK	Karasker	0.68	140	P	Pg	05 41 01.8	-2.7
	baz=142						
IKSK				S	Sg	05 41 11.8	-1.6
	baz=142						
IKAL	Kalfafell	0.75	187	P	Pg	05 41 05.0	-0.6
	baz=190						
IVSH	V-Sauoahnukur	0.76	80	P	Pg	05 41 03.6	-2.3
	baz=79						
IVAT	Vatnsfell	0.80	232	P	Pg	05 41 05.8	-0.9
	baz=234						
IADA	Aoalbol	0.88	67	P	Pg	05 41 05.5	-2.7
	baz=66						
IADA				S	Sg	05 41 17.9	-1.7
	baz=66						
IFAG	Fagurholsmyri	0.89	156	P	Pg	05 41 06.2	-2.2
	baz=158						
IHVE	Hveravellir	0.91	283	P	Pg	05 41 07.6	-1.3
	baz=283						
IHVE				S	Sg	05 41 20.2	-0.5
	baz=283						
IMEL	Melhnausar	0.95	21	P	Pg	05 41 07.2	-2.5
	baz=19						
IREN	Reynihlio	0.99	14	P	Pg	05 41 08.7	-1.8
	baz=12						
BORG	Borgarnes	1.65	274	Pn	Pn	05 41 18.8	-2.4
	43nm,0.3s,baz=93,slow=8.0,SNR=139						
BORG				Sn	Sn	05 41 43.1	+0.2
	27nm,0.3s,baz=77,slow=13,SNR=12						
SCO	Scoresbysund	6.07	346	*i* P	Pn	05 42 22.0	+0.3
SCO	Scoresbysund	6.07	346	*i* P	Pn	05 42 22.0	+0.3
SCO	Scoresbysund	6.07	346	Pn	Pn	05 42 21.3	-0.4
JMIC	Jan Mayen	7.17	24	LR	LR	05 44 59.4	
	comp=Z,2μm,21.9s,baz=248,slow=34						
KPL	Plockton	9.32	137	*e*P	Pn	05 43 05.5	-0.9
FOO	Floro	10.62	97	*e*P	Pn	05 43 28.2	+4.0
SUE	Sulen	10.76	100	*e*P	Pn	05 43 26.1	+0.1
SUMG	Summit	10.93	325	*i* P	Pn	05 43 34.0	+5.3
SUMG	Summit	10.93	325	*i* P	Pn	05 43 34.0	+5.3
AKN	Aaknes	11.21	92	Pn	Pn	05 43 30.1	-2.1
AKN	Aaknes	11.21	92	*e*P	Pn	05 43 30.6	-1.7
MOL	Molde	11.30	89	*e*P	Pn	05 43 34.1	+0.7
EKA	Eskdalemuir Ar	11.77	136	Pn	Pn	05 43 39.0	-0.8
EKA	Eskdalemuir Ar	11.77	136	Pn	Pn	05 43 38.4	-1.5
	baz=322,slow=13,SNR=28						
EKA	Eskdalemuir Ar	11.77	136	Pn	Pn	05 43 39.0	-0.8
ESK	Eskdalemuir	11.77	136	P	Pn	05 43 39.9	+0.1
ESK	Eskdalemuir	11.77	136	Pn	Pn	05 43 39.9	+0.1
KMY	Karmoy	11.97	107	*e*P	Pn	05 43 42.1	-0.6
ODD1	Odda	12.15	102	*e*P	Pn	05 43 49.3	+4.3
DAG	Danmarks Havn	12.15	359	*i* P	Pn	05 43 49.1	+4.1
DAG	Danmarks Havn	12.15	359	*i* P	Pn	05 43 49.1	+4.1
DOMB	Dombas	12.16	90	*e*P	Pn	05 43 43.4	-1.8
TBLU	Trondheim	12.22	84	*e*	Pn	05 43 47.4	+1.4
BLS5	Blasjo	12.35	104	*e*P	Pn	05 43 46.2	-1.6
SKAR	Skarslia	12.45	97	*e*P	Pn	05 43 49.9	+0.7
KONS	Konsvik	12.71	68	*e*P	Pn	05 43 53.4	+0.8
DSB	Dublin	12.79	148	Pn	Pn	05 43 53.6	-0.2
LOF	Lofoten	12.80	61	*e*P	Pn	05 43 55.6	+1.7
NRS	Narsarsuaq	13.15	267	*i* P	P	05 44 06.1	-2.8
NRS	Narsarsuaq	13.15	267	*i* P	P	05 44 06.1	-2.8
NC204	NORSAR Array S	13.22	92		Pn	05 43 58.1	-1.6
MOR8	Moi Rana	13.28	69	*e*P	Pn	05 44 00.6	+0.1
SNART	Snartemo	13.32	107	*e*P	Pn	05 44 03.9	+2.9
NBO00	NORSAR Array S	13.34	93		Pn	05 43 59.6	-1.7
STEI	Steigen	13.44	61	*e*P	Pn	05 44 02.7	+0.1
NAO01	NORSAR Array S	13.48	93	Pn	Pn	05 44 02.1	-1.0
FAUS	Fauske	13.49	64	*e*P	Pn	05 44 03.1	-0.1
NC303	NORSAR Array S	13.51	92	Pn	Pn	05 44 02.0	-1.5
NB2	NORSAR Subarra	13.53	92	Pn	Pn	05 44 02.4	-1.4
NB2	NORSAR Subarra	13.53	92	Pn	Pn	05 44 01.5	-2.3
	comp=Z,243nm,3.3s,baz=298,slow=14						
NB2	NORSAR Subarra	13.53	92	Pn	Pn	05 44 02.4	-1.4
NOA	NORSAR Array B	13.53	92	Pn	Pn	05 44 01.4	-2.5
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=6.9						
NOA				LR	LR	05 49 02.8	
	comp=Z,1μm,21.4s,baz=295,slow=36						
KONO	Kongsberg	13.55	99	*de*P	Pn	05 44 03.1	-1.0
KONO				pmax	pmax		
	comp=Z,48nm,2.5s						
KONO	Kongsberg	13.55	99	Pn	Pn	05 44 02.9	-1.2
KONO	Kongsberg	13.55	99	*e*P	Pn	05 44 01.7	-2.4
NB201	NORSAR Array S	13.55	92	Pn	Pn	05 44 03.2	-1.1
SFJD	Kangerlussuaq	13.67	295	*i* P	P	05 44 11.4	-3.3
SFJD	Kangerlussuaq	13.67	295	*i* P	P	05 44 11.4	-3.3
NC405	NORSAR Array S	13.71	92	Pn	Pn	05 44 06.2	-0.1
ILULI	Ilulissat	13.79	304	*i* P	Pn	05 44 10.3	+2.9
ILULI	Ilulissat	13.79	304	*i* P	Pn	05 44 10.3	+2.9
NC602	NORSAR Array S	13.81	93	Pn	Pn	05 44 06.7	-1.0
NC602	NORSAR Array S	13.81	93	*e*P	P	05 44 18.1	+1.7
NRA0	NORESS Array S	13.81	93	Pn	Pn	05 44 06.4	-1.3
	baz=310,slow=22						
NRA0	NORESS Array S	13.81	93	Pn	Pn	05 44 06.4	-1.3
	baz=310,slow=22						
OSL	Oslo	13.87	97	*e*P	Pn	05 44 09.0	+0.5
HOMB	Homborsund	13.90	105	*e*P	Pn	05 44 08.0	-0.9
TRO	Tromso	14.79	54	P	Pn	05 44 20.9	-0.1
TRO	Tromso	14.79	54	*e*P	Pn	05 44 20.0	-1.0
HFS	Hagfors	15.04	93	P	Pn	05 44 25.0	+0.6
HFS	Hagfors	15.04	93	LR	LR	05 49 48.7	
	comp=Z,1μm,21.2s,baz=296,slow=36						
HFS	Hagfors	15.04	93	P	Pn	05 44 25.0	+0.6
MUD	Monsted U'grnd	15.36	110	*i* P	Pn	05 44 29.6	+0.9
	comp=Z,4μm,11.0s						
MUD	Monsted U'grnd	15.36	110	*i* P	Pn	05 44 29.6	+0.9
MUD				MLR	MLR		
	comp=Z,4μm,11.0s						
KIF	Kilpisjarvi	15.46	57	P	Pn	05 44 31.3	+1.4
KIF	Kilpisjarvi	15.46	57	P	Pn	05 44 31.3	+1.4
HSPB	Hornsund (broa	16.05	26	P	Pn	05 44 39.2	+1.7
HSPB	Hornsund (broa	16.05	26	⇑*i* P	Pn	05 44 37.4	-0.1
HSPB				*e*S	Sn	05 47 35.9	+0.3
HSPB	Hornsund (broa	16.05	26	*e*P	Pn	05 44 38.6	+1.2
KTK1	Kautokeino	16.34	57	*e*P	Pn	05 44 42.5	+1.3
BRBA	Barentsburg A	16.41	23	P	P	05 44 44.5	-0.6
BRBA	Barentsburg A	16.41	23	P	P	05 44 44.5	-0.6
HAMF	Hammerfest	16.44	51	P	Pn	05 44 41.4	-1.2
HAMF	Hammerfest	16.44	51	*e*P	Pn	05 44 41.3	-1.2
HLG	Helgoland	16.51	118	*e*P	Pn	05 44 44.6	+1.2
	baz=329,slow=11						
KULLO	Kullorsuaq	16.59	323	*i* P	P	05 44 47.0	0.0
KULLO	Kullorsuaq	16.59	323	*i* P	P	05 44 47.0	0.0
KBS	Kingsbay	16.62	19	P	P	05 44 47.3	0.0
KBS	Kingsbay	16.62	19	⇓*i* P	P	05 44 47.6	+0.3
KBS				*e*S	S	05 47 55.5	-5.7
KBS	Kingsbay	16.62	19	P	P	05 44 46.1	-1.2
KBS				pmax	pmax		
	comp=Z,90nm,1.4s						
KBS	Kingsbay	16.62	19	P	P	05 44 46.1	-1.2
KBS				IAmb	IAmb	05 45 00.8	
	comp=Z,90nm,1.4s						
KBS	Kingsbay	16.62	19	*e*P	P	05 44 48.2	+0.8
SPA0	Spitsbergen Ar	16.85	23	P	P	05 44 50.3	+0.5
SPA0	Spitsbergen Ar	16.85	23	*e*P	Pn	05 44 46.8	-0.9
SPA0				*i* S	S	05 48 09.7	+3.9
SPA0	Spitsbergen Ar	16.85	23	P	Pn	05 44 48.2	+0.5
SPA0				IAmb	IAmb	05 45 07.4	
	comp=Z,77nm,1.4s						
SPA0	Spitsbergen Ar	16.85	23	P	P	05 44 50.3	+0.5
SPITS	Spitsbergen Ar	16.85	23	LR	LR	05 49 33.1	
	comp=Z,1μm,20.6s,baz=210,slow=31						
NOR	Nord	17.01	0	P	P	05 44 50.8	-0.9
NOR	Nord	17.01	0	*i* P	P	05 44 51.0	-0.6
NOR	Nord	17.01	0	*i* P	P	05 44 51.0	-0.6
NOR	Nord	17.01	0	P	P	05 44 50.8	-0.9
ARA0	ARCESS Array S	17.10	55	P	Pn	05 44 49.6	-1.3
	baz=281,slow=12						
ARA0	ARCESS Array S	17.10	55	P	Pn	05 44 49.6	-1.3
	baz=281,slow=12						
ARCES	ARCESS Array B	17.10	55	Pn	Pn	05 44 51.3	+0.3
	comp=Z,0.2nm,0.3s,baz=286,slow=8.7,SNR=9.6						
ARCES				LR	LR	05 50 02.7	
	comp=Z,2μm,21.1s,baz=280,slow=32						
ARCES	ARCESS Array B	17.10	55	P	Pn	05 44 51.0	+0.1
ARE0	ARCESS Array S	17.10	55		P	05 44 52.5	-0.2
COP	Copenhagen	17.22	107	*i* P	Pn	05 44 53.2	+0.7
COP	Copenhagen	17.22	107	*i* P	Pn	05 44 53.2	+0.7
KEV	Kevo	17.60	54	P	Pn	05 44 57.1	-0.1
KEV				pmax	pmax		
	comp=Z,50nm,1.5s						
KEV	Kevo	17.60	54	P	Pn	05 44 57.1	-0.1
BSEG	Bad Segeberg	17.64	114	*e*P	Pn	05 44 57.1	-0.5
	baz=329,slow=11						
HOPEN	Hopen	17.81	31	P	P	05 45 01.1	+0.6
HOPEN	Hopen	17.81	31	P	P	05 45 01.1	+0.6
IBBN	Ibbenburen	17.93	122	*e*P	P	05 45 02.6	+0.6
	baz=329,slow=11						
UCC	Uccle	18.01	130	⇑P	Pn	05 45 00.7	-1.5
UCC	Uccle	18.01	130	P	Pn	05 45 01.5	-0.7
UCC				pmax	pmax		
	comp=Z,48nm,1.4s						
UCC	Uccle	18.01	130	P	Pn	05 45 01.5	-0.7
SNF	Seneffe	18.23	131	P	Pn	05 45 00.8	-4.2
RGN	Rugen	18.39	109		Pn	05 45 06.3	-0.5
RGN				IAmb	IAmb	05 45 09.5	
	comp=Z,144nm,1.4s						
BEBN	Eben Emael	18.45	128	⇑P	P	05 45 06.2	-1.4
BUG	Bochum--Univer	18.46	124	*e*P	Pn	05 45 09.0	+1.2
	baz=329,slow=11						
BMRD	Maredsous	18.57	130	P	P	05 45 07.4	-1.6
	comp=Z,45nm,2.9s						
BSTI	Sart Tilman	18.59	128	⇑P	P	05 45 07.4	-1.9
BGES	Gesves	18.60	130	⇑P	P	05 45 07.7	-1.7
	comp=Z,49nm,2.3s						
BCLA	Clavier	18.64	129	⇑P	P	05 45 08.3	-1.5
	comp=Z,54nm,2.9s						
NRDL	Niedersach Rie	18.66	118	*e*P	P	05 45 09.7	-0.2
	baz=329,slow=11						
DOU	Dourbes	18.69	131	⇑P	P	05 45 08.8	-1.5
	comp=Z,36nm,2.9s						
MEM	Membach	18.72	128	⇑P	P	05 45 09.1	-1.6
	comp=Z,55nm,2.9s						
BHOU	Houvegnez	18.93	128	P	P	05 45 12.0	-1.0
	comp=Z,94nm,2.9s						
AHRW	Bad Neuenahr-A	19.14	126	*e*P	Pn	05 45 17.3	+1.2
	comp=Z,49nm,1.3s,baz=329,slow=11						
ASSE	Asse, Remlinge	19.16	118	*e*P	P	05 45 15.6	+0.1
	baz=329,slow=11						
CLZ	Clausthal	19.28	119	*e*P	Pn	05 45 17.5	-0.3
	baz=329,slow=11						
GTTG	Gottingen	19.36	120	*e*P	Pn	05 45 18.9	+0.1
	comp=Z,32nm,1.2s,baz=329,slow=11						
WLF	Walferdange	19.57	129	⇑P	Pn	05 45 20.7	-0.5
	comp=Z,47nm,0.0s						
WLF	Walferdange	19.57	129	P	P	05 45 19.5	-0.5
WLF				pmax	pmax		
	comp=Z,33nm,1.4s						
WLF	Walferdange	19.57	129	P	P	05 45 19.5	-0.5
FIA0	FINESS Array S	19.69	79	P	Pn	05 45 22.1	-0.5
	baz=281,slow=10						
FIA0	FINESS Array S	19.69	79	P	Pn	05 45 22.1	-0.5
	baz=281,slow=10						
FINES	FINESS Array B	19.69	79	P	P	05 45 21.6	+0.4
	comp=Z,0.1nm,0.3s,baz=308,slow=9.4,SNR=12						
FINES				LR	LR	05 52 43.7	
	comp=Z,930nm,20.6s,baz=290,slow=36						
FINES	FINESS Array B	19.69	79	P	P	05 45 21.2	0.0
FIA1	FINESS Array S	19.69	79	P	P	05 45 20.3	-0.9
FIA1				IAmb	IAmb	05 45 32.9	
	comp=Z,59nm,1.4s						
TNS	Taunus Mts	19.89	124	*e*P	Pn	05 45 25.7	+0.6
	baz=329,slow=11						
UBBA	Unterbreizbach	19.96	121	*e*P	Pn	05 45 25.5	-0.3
	comp=Z,53nm,1.5s,baz=329,slow=11						
RUE	Ruedersdorf	20.10	113	*e*P	P	05 45 26.0	+0.3
SLIT	Slitere, Latvi	20.14	92	*e*P	P	05 45 25.1	-1.0
APA0	Apatity Array	20.15	59	P

GRA1 Grafenberg Arr 21.34 121 P **P** **05 45 39.1 0.0**
GRA1 IAmb IAmb 05 45 52.8
comp=Z,112nm,1.5s
GRF Grafenberg Arr 21.34 121 P **P** **05 45 39.1 0.0**
GRF pmax pmax
comp=Z,112nm,1.5s
GRF Grafenberg Arr 21.34 121 *e*P **P** **05 45 40.3 +1.2**
comp=Z,18nm,1.1s,baz=329,slow=11
GRF *e*L L 05 55 00.0
comp=Z,1μm,19.0s
NKC Novy Kostel 21.35 118 *e*P **P** **05 45 39.1 -0.2**
NKC *e*S Sn 05 49 44.0 +0.1
NKC AMS AMS 05 58 00.0
comp=Z,2μm,9.5s
NKC Novy Kostel 21.35 118 *e*P **P** **05 45 39.1 -0.2**
NKC *e*S Sn 05 49 44.0 +0.1
NKC MLR MLR
comp=Z,2μm,9.5s
STU Stuttgart 21.38 125 P **P** **05 45 39.8 +0.2**
STU pmax pmax
comp=Z,64nm,1.1s
STU Stuttgart 21.38 125 *e*P **P** **05 45 41.8 +2.2**
comp=Z,19nm,0.9s,baz=329,slow=11
STU Stuttgart 21.38 125 P **P** **05 45 39.8 +0.2**
STU IAmb IAmb 05 45 43.7
comp=Z,64nm,1.1s
BRG Berggiesshubel 21.41 115 *i* P **P** **05 45 39.9 0.0**
comp=Z,89nm,1.7s
BRG *e* 05 45 55.0
comp=Z,1.7nm,1.7s
BRG S Sn 05 49 44.0 -1.3
comp=Z,2μm,10.6s
comp=N,1μm,12.9s
comp=E,3μm,12.9s
BRG Berggiesshubel 21.41 115 *e*P **P** **05 45 39.4 -0.5**
comp=E,28nm,1.2s,baz=329,slow=11
MANZ Manzenberg 21.42 119 *e*P **P** **05 45 40.6 +0.4**
baz=329,slow=11
BFO Black Forest 21.45 127 P **P** **05 45 40.9 +0.4**
BFO pmax pmax
comp=Z,85nm,1.5s
BFO Black Forest 21.45 127 *e*P **P** **05 45 41.9 +1.5**
comp=Z,14nm,1.0s,baz=329,slow=11
BFO Black Forest 21.45 127 P **P** **05 45 40.9 +0.4**
BFO IAmb IAmb 05 45 43.1
comp=Z,85nm,1.5s
VSU Vasula 21.56 86 *e*P **P** **05 45 41.1 -0.3**
VSU Vasula 21.56 86 *d i*P **P** **05 45 40.2 -1.2**
VSU pmax pmax
comp=Z,175nm,1.2s
ROTZ Rotzenmuhle 21.64 119 *e*P **P** **05 45 43.0 +0.6**
comp=Z,33nm,1.4s,baz=329,slow=11
FRB Frobisher Bay 21.75 291 LR LR 05 53 30.9
comp=Z,1μm,18.1s,baz=49,slow=35
PVCC Panska Ves 21.93 115 AMS AMS 05 58 30.0
comp=Z,2μm,11.3s
SLVR Solovky 22.05 65 *e*P **P** **05 45 45.6 -1.0**
comp=Z,85nm,1.4s
SLVR *e*S **S** **05 49 49.0 -1.0**
PABE Paberze 22.20 95 *e*P **P** **05 45 48.4 0.0**
PRA Prague 22.24 116 *e*S Sn 05 49 59.8 -5.4
PRA AMS AMS 05 58 50.0
comp=Z,1μm,9.6s
PUL Pulkovo 22.35 80 *e*P **P** **05 45 49.3 -0.6**
PRU Pruhonice 22.35 116 *e*P **P** **05 45 49.8 -0.2**
PRU *e*S **S** **05 50 00.0 +4.0**
PRU AMS AMS 05 57 50.0
comp=Z,2μm,10.0s
PRU Pruhonice 22.35 116 *e*P **P** **05 45 49.8 -0.2**
PRU MLR MLR
comp=Z,2μm,10.0s
KSP Ksiaz 22.36 112 *e*P **P** **05 45 50.0 -0.1**
KSP *e*S **S** **05 49 58.3 +2.1**
WET Wettzell 22.40 119 *e*P **P** **05 45 51.6 +1.0**
comp=Z,9.9nm,1.0s,baz=329,slow=11
CHVC Chvalec 22.47 113 *e*S Sn 05 50 05.3 -5.3
CHVC AMS AMS 05 59 20.0
comp=Z,1μm,10.8s
GOPC GO Pecny, Ondr 22.50 116 *e*P **P** **05 45 52.3 +0.6**
GOPC AMS AMS 05 59 10.0
comp=Z,2μm,10.5s
GOPC GO Pecny, Ondr 22.50 116 *e*P **P** **05 45 52.3 +0.6**
GOPC MLR MLR
comp=Z,2μm,10.5s
UPC Upice 22.51 113 *e*P **P** **05 45 52.3 +0.5**
UPC *e*S **S** **05 50 03.1 +4.1**
UPC AMS AMS 05 59 20.0
comp=Z,2μm,10.5s
UPC Upice 22.51 113 *e*P **P** **05 45 52.3 +0.5**
UPC MLR MLR
comp=Z,2μm,10.5s
OSTC Ostas 22.55 113 *e*P **P** **05 45 53.2 +1.0**
OSTC *e*S Sn 05 50 07.0 -5.7
OSTC AMS AMS 05 58 00.0
comp=Z,1μm,12.1s
UBR Ueberruh 22.63 126 *e*P **P** **05 45 54.9 +1.8**
comp=Z,49nm,1.1s,baz=329,slow=11
KHC Kasperske Hory 22.68 118 *e*P **P** **05 45 53.9 +0.4**
KHC *e*x x 05 46 04.0
KHC *e*S **S** **05 50 08.1 +6.0**
KHC AMS AMS 05 58 10.0
comp=Z,3μm,10.4s
KHC Kasperske Hory 22.68 118 *e*P **P** **05 45 53.9 +0.4**
KHC MLR MLR
comp=Z,3μm,10.4s
KHC Kasperske Hory 22.68 118 P **P** **05 45 52.8 -0.8**
DPC Dobruska-Polom 22.76 113 *e*P **P** **05 45 54.4 0.0**
DPC *e*S **S** **05 50 07.5 +3.9**
DPC AMS AMS 05 59 30.0
comp=Z,2μm,10.9s
DPC Dobruska-Polom 22.76 113 *e*P **P** **05 45 54.4 0.0**
DPC *e*S **S** **05 50 07.5 +3.9**
DPC MLR MLR
comp=Z,2μm,10.9s
SENIN Lac Senin/Sane 22.83 132 P **P** **05 45 55.1 -0.3**
SENIN IAmb IAmb 05 46 19.2
comp=Z,33nm,1.3s
SUW Suwalki 22.88 98 *e*P **P** **05 45 54.7 -0.9**
SUW *e*S **S** **05 50 06.5 +1.0**
SUW Suwalki 22.88 98 P **P** **05 45 54.2 -1.3**
SUW pmax pmax
comp=Z,118nm,1.4s
SUW Suwalki 22.88 98 P **P** **05 45 54.2 -1.3**
DAVA Damuels 22.89 126 *e*pP **P** **05 45 56.9 +1.1**
comp=Z,57nm,1.4s,SNR=6.7
GEC2 GERESS Array S 22.96 119 *e*P **P** **05 45 58.0 +1.4**
comp=Z,28nm,1.2s,baz=329,slow=11
GEC2 GERESS Array S 22.96 119 P **P** **05 45 56.6 0.0**
GEC2 IAmb IAmb 05 46 12.0
comp=Z,45nm,1.4s
GERES GERESS Array B 22.96 119 P **P** **05 45 56.2 -0.3**
comp=Z,4.7nm,0.9s,baz=324,slow=6.6,SNR=33
GERES LR LR 05 55 22.8
comp=Z,1μm,20.0s,baz=328,slow=38
GERES GERESS Array B 22.96 119 P **P** **05 45 56.4 -0.2**
GERES GERESS Array B 22.96 119 P **P** **05 45 56.4 -0.2**
SSB Saint Sauveur 22.96 137 P **P** **05 45 56.1 -0.4**
SSB pmax pmax
comp=Z,30nm,1.4s
SSB Saint Sauveur 22.96 137 P **P** **05 45 56.1 -0.4**
SSB IAmb IAmb 05 46 09.6
comp=Z,30nm,1.4s
IZAR Zarasai 23.02 92 *e*P **P** **05 45 57.0 -0.1**
RETA Reutte 23.02 125 *es*P **P** **05 45 58.2 +1.0**
comp=Z,34nm,2.3s,SNR=17
ZFI2 Zemlya Franca- 23.05 22 ⇓ *i*P **P** **05 45 58.4 +1.3**
comp=Z,16nm,1.0s
ZFI2 *e*S **S** **05 50 10.8 +2.7**
ISAL Salakas 23.09 93 *e*P **P** **05 45 57.7 0.0**
KRLC Kraliky 23.16 113 *e*P **P** **05 45 59.8 +1.2**
KRLC *e*S **S** **05 50 16.9 +6.3**
KRLC AMS AMS 05 58 20.0
comp=Z,2μm,13.0s
KRLC Kraliky 23.16 113 *e*P **P** **05 45 59.8 +1.2**
KRLC MLR MLR
comp=Z,2μm,13.0s
MOTA Moosalm 23.26 125 *es*P **P** **05 46 00.7 +0.9**
comp=Z,59nm,1.5s,SNR=20
IIGN Ignalina 23.27 93 *e*P **P** **05 45 59.9 +0.3**
TREC Trest 23.27 116 AMS AMS 05 58 20.0
comp=Z,2μm,10.5s
DAVOX Davos/Dischmat 23.32 127 LR LR 05 55 52.7
comp=Z,625nm,18.4s,slow=39
TMCR Tamitsa 23.33 66 *e*P **P** **05 45 58.4 -1.7**
TMCR *e*S **S** **05 50 10.9 -2.1**

TMCR Tamitsa 23.33 66 *e*P **P** **05 45 58.4 -1.7**
TMCR *e*S **S** **05 50 09.6 -3.4**
PGAV Gavieira, Arco 23.37 162 *e*P **P** **05 46 01.7 +0.9**
comp=Z,57nm,2.1s
PGAV *e*S **S** **05 50 18.8 +4.6**
SQTA Sankt Quirin 23.41 125 sP **P** **05 46 02.2 +1.0**
comp=Z,42nm,1.5s,SNR=13
FETA Feichten 23.41 126 *es*P **P** **05 46 02.2 +0.9**
comp=Z,46nm,1.7s,SNR=13
TUE Stuetta 23.41 128 P **P** **05 46 01.7 +0.4**
TUE IAmb IAmb 05 46 27.4
comp=Z,52nm,1.4s
BEL Belsk 23.44 105 *e*P **P** **05 46 01.6 +0.3**
BEL *e*S **S** **05 50 17.6 +2.6**
WATA Walderalm 23.44 124 *es*P **P** **05 46 02.3 +0.8**
comp=Z,28nm,1.3s,SNR=16
IDID Didziasalis 23.52 92 *e*P **P** **05 46 02.1 +0.1**
WTTA Wattenberg 23.52 124 *es*P **P** **05 46 03.4 +1.0**
comp=Z,40nm,1.7s,SNR=15
RJOB Jochberg 23.54 122 *e*P **P** **05 46 02.5 +0.1**
comp=Z,6.0nm,0.8s,baz=329,slow=11
FUORN Ofenpass-Fuorn 23.59 127 P **P** **05 46 03.3 +0.1**
FUORN IAmb IAmb 05 46 31.7
comp=Z,23nm,1.2s
PCAB Cabril 23.65 162 *e*P **P** **05 46 04.7 +1.2**
comp=Z,60nm,1.9s
EUNU Eureka 23.66 336 P **P** **05 46 02.5 -0.8**
VRAC Vranov 23.69 114 P **P** **05 46 03.8 0.0**
comp=Z,8.9nm,1.0s,baz=325,slow=10,SNR=46
VRAC LR LR 05 55 49.7
comp=Z,959nm,18.6s,baz=332,slow=38
VRAC Vranov 23.69 114 ⇓ P **P** **05 46 04.0 +0.1**
VRAC Vranov 23.69 114 ⇓ *i*P **P** **05 46 03.9 0.0**
VRAC *e*S **S** **05 50 28.1 +8.9**
MORC Moravsky Berou 23.70 112 ⇓ P **P** **05 46 05.3 +1.3**
MORC Moravsky Berou 23.70 112 ⇓ *i*P **P** **05 46 03.7 -0.3**
MORC *e*S **S** **05 50 27.6 +8.3**
MORC Moravsky Berou 23.70 112 P **P** **05 46 04.1 +0.1**
MORC pmax pmax
comp=Z,46nm,1.4s
MORC Moravsky Berou 23.70 112 P **P** **05 46 04.1 +0.1**
MORC IAmb IAmb 05 46 14.1
comp=Z,46nm,1.4s
PBRG Braganca 23.74 160 *e*P **P** **05 46 05.5 +1.1**
comp=Z,51nm,1.6s
PBRG *e*S **S** **05 50 25.5 +5.5**
BNI Bardonecchia 23.81 134 P **P** **05 46 04.7 -0.5**
BNI pmax pmax
comp=Z,18nm,1.3s
BNI Bardonecchia 23.81 134 P **P** **05 46 04.7 -0.5**
NACGM Naroch 23.81 93 *e*P **P** **05 46 04.0 -0.9**
NACGM *e*P **P** **05 46 04.0 -0.9**
NACGM *e*PPP PPP 05 47 09.0
NACGM *e*S **S** **05 50 18.0 -2.9**
NACGM *e*SSS SSS 05 52 04.0
NACGM *e*LQ LQ 05 54 45.0
NACGM *e*LR LR 05 56 00.0
NACGM LRM MLR 05 57 05.0
comp=Z,2.1nm,12.0s
KRUC Moravsky 23.81 115 ⇓ *i*P **P** **05 46 04.9 -0.1**
KRUC *e*S **S** **05 50 28.1 +7.0**
MOA Molln 23.99 119 *e*pP **P** **05 46 07.2 +0.4**
comp=Z,24nm,1.5s,SNR=10
PVRL Vila Real 24.12 162 *e*P **P** **05 46 09.3 +1.3**
comp=Z,49nm,2.3s
OJC Ojcow 24.26 109 *e*P **P** **05 46 08.6 -0.6**
OJC *e*S **S** **05 50 29.3 +1.2**
OJC Ojcow 24.26 109 P **P** **05 46 09.0 -0.2**
OJC pmax pmax
comp=Z,21nm,1.4s
OJC Ojcow 24.26 109 P **P** **05 46 09.0 -0.2**
ABTA Abfaltersbach 24.28 123 *es*P **P** **05 46 11.2 +1.7**
comp=Z,24nm,1.9s,SNR=11
KBA Koelnbreinsper 24.30 122 *es*P **P** **05 46 11.4 +1.6**
comp=Z,27nm,1.8s,SNR=11
MVO Moncorvo 24.32 161 *e*P **P** **05 46 11.5 +1.6**
MVO *e*S **S** **05 50 33.3 +3.9**
JAVC Velka Javorina 24.48 113 ⇓ *i*P **P** **05 46 12.1 +0.8**
JAVC *e*S **S** **05 50 40.4 +8.6**
CONA Conrad Observa 24.53 117 *es*P **P** **05 46 12.4 +0.6**
comp=Z,16nm,1.1s,SNR=14
MNK Minsk 24.55 93 ⇓ *e*P **P** **05 46 11.0 -0.8**
MNK *e* 05 46 11.0
MNK *e* 05 46 46.0
MNK *e*S **S** **05 50 30.0 -2.8**
MNK *e* 05 51 24.0
MNK pmax pmax
comp=Z,3μm,3.0s
MNK pmax pmax
comp=Z,370nm,2.0s
MNK pmax pmax
comp=N,140nm,1.5s
MNK pmax pmax
comp=E,180nm,1.5s
MNK smax smax
comp=E,3μm,8.0s
MNK smax smax
comp=N,5μm,8.0s
MNK MLR MLR
comp=Z,2μm,8.0s
MNK MLR MLR
comp=N,4μm,8.0s
SALO Salr 24.55 128 P **P** **05 46 12.1 +0.1**
SALO IAmb IAmb 05 46 16.0
comp=Z,20nm,0.9s
CTI Castel Tesino 24.57 125 P **P** **05 46 12.6 +0.4**
CTI pmax pmax
comp=Z,39nm,1.2s
CTI Castel Tesino 24.57 125 P **P** **05 46 12.6 +0.4**
CTI IAmb IAmb 05 46 26.5
comp=Z,39nm,1.2s
ZOU Zoufplan 24.61 123 P **P** **05 46 12.0 -0.6**
ZOU IAmb IAmb 05 46 24.4
comp=Z,44nm,1.4s
CIMO Cimolais 24.62 124 P **P** **05 46 12.6 0.0**
CIMO IAmb IAmb 05 46 15.8
comp=Z,39nm,1.5s
PVIS Viseu 24.65 162 *e*P **P** **05 46 14.4 +1.5**
comp=Z,46nm,1.8s
SMOL Smolenice 24.66 114 *e*P **P** **05 46 14.2 +1.3**
SMOL pmax pmax
comp=Z,230nm,2.6s
SMOL Smolenice 24.66 114 *e*P **P** **05 46 14.2 +1.3**
MODS Modra-Piesok 24.71 115 *e*P **P** **05 46 13.7 +0.3**
MODS pmax pmax
comp=Z,1μm,3.5s
MODS Modra-Piesok 24.71 115 *e*P **P** **05 46 13.7 +0.3**
MODS *e*S **S** **05 50 39.5 +3.9**
STAL STALIGIAL 24.76 124 P **P** **05 46 13.2 -0.6**
MYKA Terra Mystica 24.79 122 *e*pP **P** **05 46 15.7 +1.6**
comp=Z,22nm,1.4s,SNR=7.4
PRED Cave del Predi 24.92 122 P **P** **05 46 15.4 +0.1**
PRED IAmb IAmb 05 46 23.5
comp=Z,40nm,1.3s
LANS Liptovska Anna 24.96 111 *e*P **P** **05 46 17.0 +1.4**
LANS pmax pmax
comp=Z,12nm,1.2s
LANS Liptovska Anna 24.96 111 *e*P **P** **05 46 17.0 +1.4**
ARSA Arzberg 24.96 118 *es*P **P** **05 46 16.9 +1.2**
comp=Z,13nm,1.1s
MTE Manteigas 25.00 162 P **P** **05 46 16.5 +0.5**
MTE IAmb IAmb 05 46 21.5
comp=Z,34nm,1.1s
MTE Manteigas 25.00 162 *e*P **P** **05 46 17.8 +1.7**
comp=Z,70nm,1.5s
MTE *e*S **S** **05 50 44.0 +3.6**
COI Coimbra 25.08 163 *e*P **P** **05 46 18.7 +2.0**
comp=Z,67nm,1.5s
COI *e*S **S** **05 50 49.5 +8.0**
NIE Niedzica 25.09 109 *e*P **P** **05 46 17.1 +0.3**
NIE *e*S **S** **05 50 44.4 +2.8**
GORS Gorjuse 25.18 122 *i* P **P** **05 46 16.9 -0.8**
GORS *e*S **S** **05 50 48.7 +5.5**
OBKA Obir 25.22 121 *es*P **P** **05 46 19.0 +1.0**
comp=Z,9.2nm,1.2s
PCAS Casmilo, Conde 25.22 164 *e*P **P** **05 46 19.7 +1.7**
comp=Z,73nm,1.6s
PCAS *e*S **S** **05 50 50.4 +6.6**
VYHS Vyhne 25.23 112 *e*P **P** **05 46 18.6 +0.6**
VYHS pmax pmax
comp=Z,422nm,2.8s
VYHS Vyhne 25.23 112 *e*P **P** **05 46 18.6 +0.6**
VYHS *e*S **S** **05 50 48.7 +4.8**
SOKA Soboth 25.26 120 *es*P **P** **05 46 19.5 +1.1**
comp=Z,23nm,1.5s,SNR=8.2

PERS Pernice 25.32 120 *i* P **P** **05 46 19.0 +0.1**
PCBR Castelo Branco 25.56 162 *e*P **P** **05 46 24.0 +2.9**
comp=Z,34nm,1.7s
SRO Srobarova 25.58 114 *e*P **P** **05 46 21.9 +0.8**
SRO pmax pmax
comp=Z,42nm,1.5s
SRO Srobarova 25.58 114 *e*P **P** **05 46 21.9 +0.8**
KLMR Klimovskoe 25.59 72 *e*P **P** **05 46 19.3 -1.8**
comp=Z,62nm,1.7s
KLMR *e*PcP **PcP** **05 49 51.5 -0.1**
KLMR *e*S **S** **05 50 47.8 -1.4**
KLMR Klimovskoe 25.59 72 *e*P **P** **05 46 19.3 -1.8**
KLMR *e* 05 49 51.5
KLMR *e*S **S** **05 50 47.8 -1.4**
KLMR pmax pmax
comp=Z,51nm,1.5s
KLMR Klimovskoe 25.59 72 *e*P **P** **05 46 19.4 -1.7**
KLMR AMP 05 46 22.5
comp=Z,51nm,1.5s
KLMR *e*PcP **PcP** **05 49 51.6 -0.1**
KLMR *e*S **S** **05 50 47.9 -1.4**
KLMR *e*S **S** **05 50 47.9 -1.4**
KLMR LQ LQ 05 53 08.5
KLMR LQ LQ 05 53 08.5
KLMR LR LR 05 54 23.3
LJU Ljubljana 25.61 121 *e*P **P** **05 46 21.5 +0.1**
TRI Trieste 25.61 123 P **P** **05 46 20.8 -0.7**
TRI pmax pmax
comp=Z,23nm,1.2s
TRI Trieste 25.61 123 P **P** **05 46 20.8 -0.7**
TRI IAmb IAmb 05 46 29.5
comp=Z,23nm,1.2s
GROS Grobnik 25.62 120 *i* P **P** **05 46 21.6 -0.1**
GROS *i* S **S** **05 50 55.2 +5.1**
VNDS Vrh nad Dolski 25.62 121 *i* P **P** **05 46 21.8 +0.2**
SRO2 Moca 25.65 114 *e*P **P** **05 46 22.4 +0.6**
SRO2 pmax pmax
comp=Z,16nm,1.0s
SRO2 Moca 25.65 114 *e*P **P** **05 46 22.4 +0.6**
PSBE So Bento 25.72 164 *e*P **P** **05 46 23.3 +0.8**
comp=Z,50nm,2.0s
PSBE *e*S **S** **05 50 56.9 +5.2**
UCM Universidad Co 25.78 154 *e*P **P** **05 46 22.5 -0.6**
UCM *e*S **S** **05 50 57.0 +4.3**
VLC Villacollemand 25.79 129 P **P** **05 46 23.5 +0.3**
VLC IAmb IAmb 05 46 46.2
comp=Z,44nm,1.5s
ZCCA Zocca 25.82 128 P **P** **05 46 22.7 -0.7**
KECS Kecovo 25.90 110 *e*P **P** **05 46 25.1 +1.0**
KECS Kecovo 25.90 110 *e*P **P** **05 46 25.1 +1.0**
KWP Kalwaria Pacla 25.91 106 *e*P **P** **05 46 25.0 +0.9**
KWP *e*S **S** **05 50 59.4 +4.9**
KWP Kalwaria Pacla 25.91 106 P **P** **05 46 24.7 +0.6**
KWP pmax pmax
comp=Z,217nm,1.5s
KWP Kalwaria Pacla 25.91 106 P **P** **05 46 24.7 +0.6**
LSH Leshukonskoye 25.95 61 *e*P **P** **05 46 23.4 -1.0**
comp=Z,62nm,1.4s
LSH *e*S **S** **05 50 54.4 -0.5**
CRVS Cervenica-Dubn 25.96 109 *e*P **P** **05 46 25.3 +0.6**
CRVS pmax pmax
comp=Z,117nm,1.9s
CRVS Cervenica-Dubn 25.96 109 *e*P **P** **05 46 25.3 +0.6**
CRVS *e*S **S** **05 50 59.0 +3.5**
PMRV Marv??o 25.98 162 *e*P **P** **05 46 25.5 +0.6**
PMRV A A 05 46 34.8
comp=Z,2.2nm,10.2s
PMRV *e*S **S** **05 51 01.9 +6.1**
SCHQ Schefferville 26.05 271 LR LR 05 55 25.8
comp=Z,510nm,19.1s,baz=57,slow=34
PSZ Piszkesteto 26.12 112 ⇓ P **P** **05 46 28.0 +1.9**
PSZ Piszkesteto 26.12 112 P **P** **05 46 26.4 +0.2**
PSZ pmax pmax
comp=Z,94nm,1.5s
PSZ Piszkesteto 26.12 112 P **P** **05 46 26.4 +0.2**
PMAFR Mafra 26.22 165 *e*P **P** **05 46 27.9 +0.9**
comp=Z,108nm,1.6s
PMAFR *e*S **S** **05 51 03.3 +3.8**
ESBB Sonseca Array 26.27 156 P **P** **05 46 26.9 -0.6**
ESDC Sonseca Array 26.27 156 P **P** **05 46 28.3 +0.8**
comp=Z,5.0nm,0.9s,baz=348,slow=9.2,SNR=41
ESDC LR LR 05 55 54.0
comp=Z,522nm,19.9s,baz=345,slow=34
ESDC Sonseca Array 26.27 156 P **P** **05 46 26.7 -0.8**
KOLS Kolonicke sedl 26.27 108 *e*P **P** **05 46 27.1 -0.4**
KOLS pmax pmax
comp=Z,63nm,1.6s
KOLS Kolonicke sedl 26.27 108 *e*P **P** **05 46 27.1 -0.4**
KOLS *e*S **S** **05 51 02.2 +1.9**
LVV L'vov 26.31 104 *e*P **P** **05 46 27.0 -0.8**
LVV *e* 05 47 08.3
LVV *e*S **S** **05 50 56.0 -4.9**
LVV pmax pmax
comp=Z,470nm,2.0s
LVV MLR MLR
comp=N,1μm,12.0s
LVV MLR MLR
comp=E,1μm,12.0s
LVV MLR MLR
comp=Z,2μm,12.0s
PAB San Pablo 26.33 157 P **P** **05 46 28.2 +0.1**
PAB pmax pmax
comp=Z,9.0nm,1.2s
PAB San Pablo 26.33 157 P **P** **05 46 28.2 +0.1**
RES Resolute Bay 26.46 324 LR LR 05 58 22.2
comp=Z,358nm,18.1s,baz=80,slow=40
LIS Lisbon 26.47 165 *e*P **P** **05 46 30.0 +0.7**
LIS AMb AMB 05 46 39.1
comp=Z,67nm,2.8s
LIS Lisbon 26.47 165 *e*P **P** **05 46 30.0 +0.7**
LIS pmax pmax
comp=Z,67nm,2.8s
LIS Lisbon 26.47 165 *e*P **P** **05 46 30.4 +1.1**
UZH Uzhgorod 26.52 108 *e*P **P** **05 46 31.2 +1.6**
UZH *i* 05 46 36.0
UZH *e* 05 47 18.0
UZH *e* 05 47 31.5
UZH *e* 05 50 02.0
UZH *e*S **S** **05 51 03.7 -0.4**
UZH *e* 05 52 23.2
OSSC Osservatorio P 26.64 129 P **P** **05 46 29.9 -1.0**
EVO Evora 26.78 163 *e*P **P** **05 46 31.9 -0.2**
EVO *e*S **S** **05 51 12.9 +4.4**
EVO Evora 26.78 163 *e*P **P** **05 46 32.7 +0.6**
comp=Z,21nm,1.6s
PNCL Nicolau / Gran 27.14 164 *e*P **P** **05 46 35.8 +0.5**
comp=Z,22nm,1.8s
PNCL *e*S **S** **05 51 17.1 +3.1**
CASP Castiglione de 27.17 130 P **P** **05 46 34.9 -0.7**
PBEJ Beja 27.30 163 *e*P **P** **05 46 37.7 +0.9**
comp=Z,25nm,1.8s
LATE Laterza 27.64 129 P **P** **05 46 38.9 -1.0**
PCVE Castro Verde 27.67 164 *e*P **P** **05 46 41.5 +1.4**
comp=Z,28nm,2.0s
PCVE *e*S **S** **05 51 26.3 +3.9**
PTEO Sao Teotonio 27.67 165 *e*P **P** **05 46 41.1 +1.0**
PTEO -ML 05 46 44.7
AKASG Malin Array Be 27.84 98 P **P** **05 46 40.5 -1.0**
comp=Z,0.9nm,0.5s,baz=323,slow=9.5,SNR=19
AKASG LR LR 05 58 06.6
comp=Z,609nm,18.4s,baz=310,slow=37
AKASG Malin Array Be 27.84 98 P **P** **05 46 41.6 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 27.84 98 P **P** **05 46 41.6 +0.1**
AKBB Malin Array Si 27.84 98 P **P** **05 46 41.0 -0.5**
AKBB pmax pmax
comp=Z,16nm,1.3s
AKBB Malin Array Si 27.84 98 P **P** **05 46 41.0 -0.5**
AKBB IAmb IAmb 05 47 05.1
comp=Z,16nm,1.3s
MAHO Mahon 27.87 142 *e*P **P** **05 46 42.4 +0.6**
MAHO *e*S **S** **05 51 29.1 +3.6**
OBN Obninsk 27.87 84 P **P** **05 46 41.8 +0.1**
comp=Z,5.9nm,0.4s,baz=283,slow=1.3,SNR=8.9
OBN LR LR 05 58 05.1
comp=Z,125nm,18.5s,baz=324,slow=37
OBN Obninsk 27.87 84 *de*P **P** **05 46 41.3 -0.4**
OBN *e* 05 47 29.6
OBN *i* S **S** **05 51 18.7 -6.6**
OBN *e*SS **SnSn** **05 52 46.6 +8.8**
OBN pmax pmax
comp=Z,80nm,1.7s
OBN MLR MLR

comp=Z,748nm,15.0s
OBN Obninsk 27.87 84 P **P 05 46 40.9 -0.8**
MOS Moscow 27.91 82 *e*P **P 05 46 40.3 -1.8**
MOS *e* 05 47 43.8
MOS *e*S **S 05 51 25.0 -0.9**
MOS pmax pmax
comp=Z,47nm,1.5s
MOS pmax pmax
comp=Z,400nm,3.5s
MOS MLR MLR
comp=Z,700nm,16.0s
MORF Marmelete 27.92 165 *e*P **P 05 46 42.9 +0.6**
MORF AMb AMB 05 46 48.2
comp=Z,20nm,2.4s
MORF *e*S **S 05 51 28.3 +1.9**
MORF Marmelete 27.92 165 *e*P **P 05 46 42.9 +0.6**
MORF *e*S **S 05 51 28.3 +1.9**
MORF pmax pmax
comp=Z,20nm,2.4s
MORF Marmelete 27.92 165 *e*P **P 05 46 43.0 +0.6**
comp=Z,20nm,1.9s
MORF *e*S **S 05 51 33.5 +7.1**
PVAQ Vaqueiros 27.93 163 P **P 05 46 42.2 -0.2**
PVAQ Vaqueiros 27.93 163 *e*P **P 05 46 43.5 +1.1**
PVAQ *e*S **S 05 51 32.5 +6.0**
PBDV Barranco-do-Ve 28.06 164 *e*P **P 05 46 44.4 +0.7**
PBDV *e*S **S 05 51 33.9 +5.2**
PFVI Vila Bisbo 28.07 165 P **P 05 46 43.0 -0.7**
PFVI IAmb IAmb 05 47 11.1
comp=Z,30nm,1.4s
PFVI Vila Bisbo 28.07 165 *e*P **P 05 46 45.1 +1.4**
PFVI *e*S **S 05 51 34.2 +5.5**
BUR08 Bucovina Ar. S 28.49 106 P **P 05 46 47.0 -0.5**
BURAR Bucovina Array 28.52 106 P **P 05 46 46.7 -1.1**
BZS Buzias 28.68 113 ⇓P **P 05 46 51.1 +2.0**
CART Cartagena 28.85 152 *e*P **P 05 46 50.2 -0.3**
CART *e*S **S 05 51 48.9 +8.0**
CART Cartagena 28.85 152 P **P 05 46 50.5 -0.1**
CART IAmb IAmb 05 46 53.2
comp=Z,24nm,1.3s
INTR Introdacqua 28.89 127 P **P 05 46 50.2 -0.8**
INTR IAmb IAmb 05 46 56.0
comp=Z,36nm,1.5s
EMAL Malaga-Limoner 29.03 158 *e*P **P 05 46 51.9 -0.3**
EMAL *e*S **S 05 51 51.4 +7.6**
SFS San Fernando 29.05 161 *e*P **P 05 46 51.0 -1.4**
SFS *e*S **S 05 51 50.8 +6.6**
DIVS Divibare 29.31 116 P **P 05 46 54.8 0.0**
MDVR Moldovita 29.41 114 ⇓P **P 05 46 56.8 +1.2**
BIZ Bicaz 29.43 106 ⇑P **P 05 46 58.7 +3.1**
HERR Herculane 29.61 113 ⇓P **P 05 46 59.2 +1.9**
VSL Villasalto 29.69 135 P **P 05 46 57.8 -0.2**
VSL IAmb IAmb 05 47 15.7
comp=Z,20nm,1.3s
CEU Ceuta 29.73 160 *e*P **P 05 47 00.4 +2.0**
CEU *e*S **S 05 51 55.0 +0.2**
TESR Tescani 29.99 106 ⇓P **P 05 47 02.2 +1.5**
ARR Arges 30.09 109 ⇓P **P 05 47 04.0 +2.3**
VOIR 30.21 109 ⇓P **P 05 47 04.7 +2.0**
PDG Podgorica 30.46 119 P **P 05 47 04.3 -0.5**
KIS Kishinev 30.51 103 *e*P P 05 46 59.0 -6.2
comp=Z,140nm,3.0s
KIS Kishinev 30.51 103 *e*P P 05 46 59.0 -6.2
KIS *e*S S 05 51 57.0 -10
KIS pmax pmax
comp=Z,140nm,3.0s
KIS smax smax
comp=E,300nm,6.0s
KIS MLR MLR
comp=Z,300nm,12.0s
MLR Muntele Rosu 30.53 108 P **P 05 47 05.8 +0.2**
MLR pmax pmax
comp=Z,25nm,1.5s
MLR Muntele Rosu 30.53 108 P **P 05 47 05.8 +0.2**
MLR IAmb IAmb 05 47 31.2
comp=Z,25nm,1.5s
PVLZ Peæn de 30.61 158 *e*S **S 05 52 09.2 +0.7**
LPSR Galich'ya Gora 30.62 86 *e*P **P 05 47 05.8 -0.3**
LPSR pmax pmax
comp=Z,20nm,1.4s
LPSR MLR MLR
comp=Z,970nm,14.0s
MELI Melilla 30.71 156 *e*P **P 05 47 10.2 +3.1**
MELI *e*S **S 05 52 15.0 +4.8**
TIR Tirane 31.62 119 P **P 05 47 15.0 -0.1**
TIR pmax pmax
comp=Z,25nm,1.1s
TIR Tirane 31.62 119 P **P 05 47 15.0 -0.1**
VSR Storozhevoye 31.72 88 *e*P **P 05 47 14.4 -1.5**
VSR pmax pmax
comp=Z,40nm,1.5s
VSR MLR MLR
comp=Z,1µm,13.0s
VORD Divnogorie 31.96 88 *e*P **P 05 47 17.3 -0.6**
VORD pmax pmax
comp=Z,30nm,1.5s
AVE Averroes 32.02 164 *e*P **P 05 47 19.0 +0.3**
AVE *e*S **S 05 52 35.9 +5.2**
IFR Ifrane 32.10 160 *e*P **P 05 47 17.2 -2.4**
IFR *e*S **S 05 52 33.9 +1.5**
TIP Timpagrande 32.40 125 P **P 05 47 21.7 -0.4**
TIP IAmb IAmb 05 47 37.3
comp=Z,18nm,1.5s
CLTB Caltabellotta 32.65 131 P **P 05 47 24.1 -0.1**
VRH Novokhopyorsk 32.83 85 *e*P **P 05 47 24.7 -0.9**
VRH pmax pmax
comp=Z,30nm,1.3s
VRH MLR MLR
comp=Z,720nm,10.0s
KEST Kesra 33.17 138 P **P 05 47 29.8 +1.1**
comp=Z,2.5nm,0.7s,baz=206,slow=2.9,SNR=8.6
KEST LR LR 05 59 48.2
comp=Z,490nm,19.0s,baz=330,slow=34
KEST Kesra 33.17 138 P **P 05 47 28.1 -0.6**
KEST IAmb IAmb 05 47 39.5
comp=Z,13nm,1.2s
LIT Litokhoron 33.69 117 P **P 05 47 32.2 -1.0**
LIT pmax pmax
comp=Z,15nm,1.1s
LIT Litokhoron 33.69 117 P **P 05 47 32.2 -1.0**
LIT IAmb IAmb 05 47 44.7
comp=Z,15nm,1.1s
PKME Peaks-Kenny Pk 34.22 261 P **P 05 47 38.2 +0.5**
PKME IAmb IAmb 05 47 57.5
comp=Z,12nm,1.1s
ALN Alexandroupoli 34.40 112 P **P 05 47 38.8 -0.5**
ALN pmax pmax
comp=Z,40nm,1.5s
ALN Alexandroupoli 34.40 112 P **P 05 47 38.8 -0.5**
AGG Agios Georgios 34.57 118 P **P 05 47 40.6 -0.3**
AGG pmax pmax
comp=Z,42nm,1.3s
AGG Agios Georgios 34.57 118 P **P 05 47 40.6 -0.3**
ANN Anapa 35.91 97 *e*P **P 05 47 50.3 -2.0**
ANN *e* 05 49 09.2
ANN *e*S **S 05 53 28.4 -2.2**
ANN *e*SS **SnSn 05 55 51.2 -2.0**
ANN pmax pmax
comp=Z,70nm,1.2s
ARU Arti 36.07 66*c i*P **P 05 47 53.1 -0.4**
ARU 05 49 14.4
ARU S **S 05 53 35.8 +2.9**
ARU SS **SnSn 05 56 00.7 +4.0**
ARU pmax pmax
comp=Z,75nm,2.5s
ARU MLR MLR
comp=Z,1µm,20.0s
ARU Arti 36.07 66 P **P 05 47 53.2 -0.3**
FRNY Flat Rock 36.39 265 P **P 05 47 55.9 -0.5**
NRIK Noril'sk 36.44 35 P **P 05 47 58.2 +1.6**
comp=Z,6.9nm,0.9s,baz=326,slow=6.7,SNR=12
NRIK LR LR 06 04 44.4
comp=Z,298nm,18.7s,baz=14,slow=39
SVE Sverdlovsk 36.59 64 *e*P **P 05 47 58.3 +0.2**
SVE *e*S **S 05 53 42.8 +1.9**
SVE MLR MLR
comp=Z,1µm,19.0s
MDUB Mudurnu 36.84 107 P **P 05 48 00.7 +0.2**
SOC Sochi 37.86 96*d i*P **P 05 48 08.8 -0.1**
SOC *e* 05 49 33.1
SOC *e*PPP PPP 05 49 53.3
SOC *e*S **S 05 54 02.4 +2.0**
SOC *e*SS **SnSn 05 56 40.0 -0.5**
SOC pmax pmax
comp=Z,9.0nm,0.4s
SOC MLR MLR
comp=Z,643nm,15.0s
SANT Santorini 38.08 117 P **P 05 48 09.6 -1.3**
GOF Gofitskoye 38.11 91⇑*e*P **P 05 48 12.2 +1.2**
GOF pmax pmax
comp=Z,157nm,1.3s
BR131 Keskin Array S 38.48 105 P **P 05 48 14.1 -0.2**
BR131 pmax pmax
comp=Z,17nm,1.4s
BR131 Keskin Array S 38.48 105 P **P 05 48 14.1 -0.2**
BRTR Keskin Array B 38.48 105 P **P 05 48 16.3 +1.9**
comp=Z,2.6nm,0.7s,baz=300,slow=5.8,SNR=8.5
BRTR LR LR 06 05 22.2
comp=Z,155nm,19.9s,baz=293,slow=38
BRTR Keskin Array B 38.48 105 P **P 05 48 14.4 0.0**
KIV Kislovodsk 38.83 92 P **P 05 48 18.1 +0.8**
KIV Kislovodsk 38.83 92 *e*P **P 05 48 18.0 +0.8**
KIV *e* 05 49 47.2
KIV *e*S **S 05 54 16.0 +0.6**
KIV pmax pmax
comp=Z,46nm,1.1s
KIV pmax pmax
comp=Z,233nm,3.9s
KIV MLR MLR
comp=Z,1µm,16.0s
KIV Kislovodsk 38.83 92 P **P 05 48 16.3 -0.9**
KIV IAmb IAmb 05 48 38.3
comp=Z,9.3nm,0.6s
KBZ Khabaz 39.11 92 P **P 05 48 21.3 +1.9**
comp=Z,8.7nm,0.9s,baz=310,slow=16,SNR=12
KBZ LR LR 06 04 36.3
comp=Z,665nm,21.2s,baz=322,slow=36
KBZ Khabaz 39.11 92*ce*P **P 05 48 20.0 +0.6**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
YKA Yellowknife Ar 39.21 313 LR LR 06 04 07.0
comp=Z,507nm,18.9s,baz=0.0,slow=36
PAL Palisades 39.64 261 P **P 05 48 23.2 -0.7**
PAL pP **sP 05 48 27.3 +1.3**
ZEI Tsey 40.30 92 *e*P **P 05 48 28.2 -1.4**
ZEI pmax pmax
comp=Z,18nm,1.7s
FFC Flin Flon 40.59 297 P **P 05 48 31.9 +0.2**
FFC *PP **sP 05 48 34.9 +1.2**
FFC pmax pmax
comp=Z,48nm,1.5s
FFC Flin Flon 40.59 297 P **P 05 48 31.9 +0.2**
FFC pP **sP 05 48 34.9 +1.2**
FFC IAmb IAmb 05 48 38.9
comp=Z,48nm,1.5s
GROC Groznyy 40.78 90 *e*P **P 05 48 30.1 -3.2**
GROC *e* 05 50 06.5
GROC *e*S **S 05 54 44.2 -0.1**
GROC pmax pmax
comp=Z,144nm,2.0s
KOPT Kop Dagi 41.12 98 P **P 05 48 34.9 -1.6**
KOPT IAmb IAmb 05 48 54.6
comp=Z,28nm,1.4s
AKH Akhalkalaki 41.25 94 P **P 05 48 36.5 -0.9**
AKH *PP **sP 05 48 40.1 +0.5**
AKH pmax pmax
comp=Z,64nm,1.5s
AKH Akhalkalaki 41.25 94 P **P 05 48 36.5 -0.9**
AKH pP **sP 05 48 40.1 +0.5**
M55A Ridgway 41.34 266 P **P 05 48 38.0 +0.1**
M55A IAmb IAmb 05 48 42.5
comp=Z,22nm,1.4s
TBLG Delisi 41.52 93 P **P 05 48 39.0 -0.5**
TBLG *PP **sP 05 48 41.9 +0.3**
TBLG pmax pmax
comp=Z,10.0nm,1.0s
TBLG Delisi 41.52 93 P **P 05 48 39.0 -0.5**
TBLG pP **sP 05 48 41.9 +0.3**
ULM Lac du Bonnet 41.60 289 LR LR 06 05 05.0
comp=Z,287nm,21.5s,baz=34,slow=35
MAK Makhachkala 41.71 89 *e*P P 05 48 35.2 -5.7
MAK *e*S **S 05 54 50.1 -7.9**
MAK *e*SS **SS 05 57 58.4 -4.5**
MAK pmax pmax
comp=Z,179nm,1.1s
ABKAR Akbulak array 41.98 73 P **P 05 48 41.6 -1.5**
TIXI Tiksi 42.01 15 P **P 05 48 44.9 +1.9**
comp=Z,16nm,1.1s,baz=347,slow=7.5,SNR=5.6
TIXI Tiksi 42.01 15*de*P **P 05 48 44.7 +1.6**
TIXI pmax pmax
comp=Z,19nm,1.1s
TIXI Tiksi 42.01 15 P **P 05 48 42.8 -0.3**
TIXI IAmb IAmb 05 48 47.0
comp=Z,47nm,1.4s
GAZ Gaziantep 42.12 104 P **P 05 48 43.8 -0.7**
GAZ pP **sP 05 48 47.1 +0.5**
GAZ IAmb IAmb 05 48 59.4
comp=Z,22nm,1.2s
EPYK Eagle Plains 42.13 328 P **P 05 48 43.6 -0.6**
P57A Homestead Farm 42.65 264 P **P 05 48 48.4 -0.3**
P57A pP **sP 05 48 51.9 +1.1**
BMAR Burnt Mountain 42.88 333 P **P 05 48 49.8 -0.4**
BMAR pP **sP 05 48 53.2 +0.7**
AKT Akhty 43.01 90 *e*P **P 05 48 51.7 0.0**
AKT *e* 05 50 29.9
AKT *e* 05 50 41.6
AKT pmax pmax
comp=Z,27nm,1.7s
BRVK Borovoye 43.11 62*ce*P **P 05 48 52.6 +0.3**
BRVK pmax pmax
comp=Z,58nm,2.5s
BRVK Borovoye 43.11 62 P **P 05 48 51.1 -1.1**
BRVK pP **sP 05 48 54.5 0.0**
COLD Coldfoot 44.10 336 P **P 05 48 60.0 -0.1**
COLD pP **sP 05 49 02.7 +0.4**
COLD IAmb IAmb 05 49 09.7
comp=Z,14nm,1.2s
SPMN Marine on St. 44.30 282 P **P 05 49 01.4 -0.5**
SPMN pP **sP 05 49 05.1 +1.2**
SPMN IAmb IAmb 05 49 11.0
comp=Z,20nm,1.4s
K43A Burlington 44.43 276 P **P 05 49 02.4 -0.6**
K43A pP **sP 05 49 06.2 +1.2**
TAM Tamanrasset 44.52 149 P **P 05 49 02.5 -1.6**
TAM pmax pmax
comp=Z,14nm,1.3s
TAM Tamanrasset 44.52 149 P **P 05 49 02.5 -1.6**
TAM IAmb IAmb 05 49 13.4
comp=Z,14nm,1.3s
O49A Covington 44.78 270 P **P 05 49 04.7 -1.1**
O49A pP **sP 05 49 08.3 +0.4**
O49A IAmb IAmb 05 49 10.8
comp=Z,28nm,1.2s
P51A Williamsport 44.82 269 P **P 05 49 06.6 +0.5**
P51A pP **sP 05 49 08.9 +0.7**
P51A IAmb IAmb 05 49 12.7
comp=Z,32nm,1.4s
Q51A Peebles 45.32 269 P **P 05 49 09.2 -1.0**
Q51A pP **sP 05 49 13.1 +0.8**
Q51A IAmb IAmb 05 49 17.8
comp=Z,29nm,1.4s
BLA Blacksburg 45.59 264 P **P 05 49 11.6 -0.7**
BLA pmax pmax
comp=Z,8.0nm,1.2s
BLA Blacksburg 45.59 264 P **P 05 49 11.6 -0.7**
IL31 45.67 332 P **P 05 49 12.6 0.0**
IL31 IAmb IAmb 05 49 21.4
comp=Z,15nm,1.2s
ILAR Eielson Array 45.67 332 P **P 05 49 13.9 +1.3**
comp=Z,11nm,1.2s,baz=26,slow=5.5,SNR=15
ILAR PcP **PcP 05 50 50.9 +0.5**
comp=Z,2.1nm,0.9s,baz=359,slow=2.8,SNR=9.1
ILAR LR LR 06 10 36.2
comp=Z,361nm,18.3s,baz=21,slow=39
ILAR Eielson Array 45.67 332 P **P 05 49 11.8 -0.7**
ILAR pP **sP 05 49 14.8 0.0**
MDM Murphy Dome 45.77 333 P **P 05 49 13.4 +0.1**
COLA College 45.77 333*d i*P **P 05 49 14.7 +1.4**
COLA pmax pmax
comp=Z,43nm,2.7s
COLA College 45.77 333 P **P 05 49 12.8 -0.5**
COLA pP **sP 05 49 15.7 +0.2**
COLA IAmb IAmb 05 49 22.2
comp=Z,16nm,0.9s
CCB Clear Creek Bu 45.97 333 P **P 05 49 14.3 -0.6**
CCB IAmb IAmb 05 49 22.7
comp=Z,16nm,1.4s
RIDG Independent Ri 46.17 331 P **P 05 49 15.5 -1.1**
RIDG pP **sP 05 49 18.7 -0.1**
RIDG PcP **PcP 05 50 51.4 -0.9**
WRH Wood River Hil 46.18 333 P **P 05 49 15.6 -0.9**
WRH IAmb IAmb 05 49 37.2
comp=Z,12nm,1.4s
U56A King 46.30 264 P **P 05 49 16.9 -1.0**
U56A IAmb IAmb 05 49 26.0
comp=Z,17nm,1.4s
U56A PcP **PcP 05 50 51.6 -1.5**
K38A Parkersburg 46.37 280 P **P 05 49 17.4 -1.0**
K38A pP **sP 05 49 20.9 +0.4**
BRZS Berezniki 46.47 63⇓*i*P **P 05 49 19.4 +0.3**
comp=Z,154nm,2.5s,baz=63
BRZS *e*PP **PP 05 51 08.4 +0.6**
baz=63
BRZS *e*S **S 05 56 07.8 +0.5**
baz=63
BRZS Berezniki 46.47 63*d i*P **P 05 49 19.3 +0.3**
BRZS *e* 05 51 08.3
BRZS *e*S **S 05 56 07.8 +0.5**
BRZS pmax pmax
comp=Z,154nm,2.5s
WHY Whitehorse 46.50 323 P **P 05 49 18.1 -1.2**
WHY pP **sP 05 49 22.2 +0.7**
WHY IAmb IAmb 05 49 29.9
comp=Z,9.0nm,1.2s
WHY PcP **PcP 05 50 52.8 -0.7**
BLO Bloomington 46.57 272 P **P 05 49 19.4 -0.5**
BLO pmax pmax
comp=Z,22nm,1.3s
BLO Bloomington 46.57 272 P **P 05 49 19.4 -0.5**
MENT Mentasta 46.64 330 P **P 05 49 19.1 -1.1**
MENT **pP 05 49 21.4 -0.4**
MENT IAmb IAmb 05 49 31.0
comp=Z,14nm,1.4s
MENT PcP **PcP 05 50 52.8 -1.0**
U54A Nelsons Funny 46.77 265 P **P 05 49 20.3 -1.4**
U54A pP **sP 05 49 24.4 +0.7**
U54A PcP **PcP 05 50 54.2 -0.6**
MCK McKinley 47.01 333 P **P 05 49 21.6 -1.5**
MCK pmax pmax
comp=Z,35nm,1.4s
MCK McKinley 47.01 333 P **P 05 49 21.6 -1.5**
WCI Wyandotte Cave 47.26 271 P **P 05 49 24.2 -1.1**
WCI pP **sP 05 49 28.2 +0.8**
ZALV Zalesovo Beam 47.61 51 P **P 05 49 28.2 +0.3**
comp=Z,1.0nm,0.4s,baz=345,slow=5.1,SNR=7.1
ZALV PcP **PcP 05 50 58.0 +0.6**
comp=Z,1.0nm,0.7s,baz=319,slow=5.9,SNR=3.6
ZALV LR LR 06 12 19.9
comp=Z,275nm,18.4s,baz=320,slow=40
ZALV Zalesovo Beam 47.61 51 P **P 05 49 26.5 -1.4**
ZALV pP **pP 05 49 29.2 -0.3**
ZALV PcP **PcP 05 50 55.7 -1.7**
KURK Kurchatov 48.09 58*ce*P **P 05 49 31.2 -0.5**
KURK pmax pmax
comp=Z,58nm,2.5s
KURK Kurchatov 48.09 58 P **P 05 49 29.7 -1.9**
KURK pP **pP 05 49 33.1 -0.2**
V52A Sevierville 48.11 266 P **P 05 49 30.9 -1.0**
V52A IAmb IAmb 05 49 50.6
comp=Z,8.2nm,1.4s
KURBB Kurchatov Arra 48.14 58 P **P 05 49 31.7 -0.3**
comp=Z,7.3nm,0.8s,baz=324,slow=7.3,SNR=27
TKL Tuckaleechee C 48.34 266 P **P 05 49 32.5 -1.3**
TKL pmax pmax
comp=Z,14nm,1.3s
TKL Tuckaleechee C 48.34 266 P **P 05 49 32.5 -1.3**
TKL IAmb IAmb 05 49 44.1
comp=Z,14nm,1.3s
LAO LASA Array 48.60 293 P **P 05 49 34.8 -0.9**
LAO pP **sP 05 49 38.0 +0.2**
LAO IAmb IAmb 05 49 42.1
comp=Z,12nm,1.0s
SEM Semipalatinsk 48.94 57 *e*P **P 05 49 37.3 -1.2**
baz=57
SEM Semipalatinsk 48.94 57 *e*P **P 05 49 37.2 -1.2**
NHSC New Hope 48.98 261 P **P 05 49 38.0 -0.7**
TTA Tatalina 49.05 336 P **P 05 49 37.3 -1.6**
TTA pmax pmax
comp=Z,10.0nm,1.2s
TTA Tatalina 49.05 336 P **P 05 49 37.3 -1.6**
TTA IAmb IAmb 05 49 47.0
comp=Z,9.8nm,1.2s
CLTN Cedars of Leba 49.07 269 P **P 05 49 38.3 -1.0**
CLTN IAmb IAmb 05 49 41.0
comp=Z,14nm,1.5s
CLTN pP **sP 05 49 41.8 +0.4**
W50A Signal Mountai 49.39 268 P **P 05 49 40.4 -1.5**
W50A pP **sP 05 49 44.8 +0.9**
W50A IAmb IAmb 05 49 45.1
comp=Z,12nm,0.9s
RSSD Black Hills 49.84 290 P **P 05 49 44.0 -1.4**
RSSD pP **sP 05 49 47.8 +0.2**
SPU Mount Spurr 49.94 333 P **P 05 49 44.6 -1.2**
SPU PcP **PcP 05 51 05.3 -0.5**
GEYT Alibeck 50.41 84 P **P 05 49 50.5 +0.8**
comp=Z,2.2nm,0.6s,baz=38,slow=2.6,SNR=6.0
GEYT LR LR 06 13 53.7
comp=Z,446nm,18.6s,baz=0.0,slow=39
GYA0B ALIBECK ARRAY 50.41 84 P **P 05 49 47.6 -2.0**
GYA0B pP **pP 05 49 51.2 0.0**
GYA0B IAmb IAmb 05 49 53.8
comp=Z,26nm,1.4s
GYA0B PcP **PcP 05 51 06.2 -1.7**
X48A Hartselle 50.77 269 P **P 05 49 50.7 -1.5**
X48A pP **pP 05 49 54.1 +0.3**
X48A IAmb IAmb 05 49 54.5
comp=Z,10nm,1.0s
BTLS Baital 51.05 66 *e*P **P 05 49 55.3 +1.0**
comp=Z,89nm,3.4s,baz=66
BTLS *e*S **S 05 57 13.2 +1.2**
baz=66
BTLS Baital 51.05 66 *e*P **P 05 49 55.3 +1.0**
BTLS *e*S **S 05 57 13.1 +1.2**
BTLS pmax pmax
comp=Z,89nm,3.4s
YAK Yakutsk 51.25 19 *i*P **P 05 49 55.3 -0.2**
YAK pmax pmax
comp=Z,10.0nm,0.6s
KK31 Karatay Array 51.26 70 P **P 05 49 54.1 -1.9**
KK31 pP **pP 05 49 57.1 -0.4**
LRM Limekiln Ridge 51.73 297 P **P 05 49 58.3 -1.4**
DZA Taraz 51.77 69⇓*i*P **P 05 50 00.8 +1.0**
baz=69
DZA LR LR 06 11 06.9
comp=Z,262nm,16.8s,baz=69
DZA Taraz 51.77 69*d i*P **P 05 50 00.7 +1.0**
DZA MLR MLR
comp=Z,262nm,17.0s
456A Hilliard 51.82 262 P **P 05 49 58.8 -1.4**
456A pP **sP 05 50 02.5 +0.3**
456A PcP **PcP 05 51 11.9 -1.2**
IUG Iuzhnay 51.87 71 *e*P **P 05 50 01.7 +1.1**
comp=Z,91nm,2.4s,baz=71
IUG Iuzhnay 51.87 71 *e*P **P 05 50 01.7 +1.1**
IUG pmax pmax
comp=Z,91nm,2.4s
YHH Holmes Hill 51.98 296 P **P 05 50 00.3 -1.4**
DGZ Jazzator, Alta 52.06 53*d i*P **P 05 50 03.4 +1.4**
DGZ pmax pmax
comp=Z,58nm,2.6s
YHB Horse Butte 52.15 296 P **P 05 50 02.0 -0.8**
HHAR Hobbs 52.17 276 P **P 05 50 01.4 -1.4**
H17A Grant Village 52.21 295 P **P 05 50 01.9 -1.3**
H17A IAmb IAmb 05 50 12.4
comp=Z,24nm,1.4s
X43A Marvell 52.36 272 P **P 05 50 02.9 -1.3**
X43A IAmb IAmb 05 50 12.6
comp=Z,30nm,1.4s
BOD Bodaibo 52.39 30 *e*P **P 05 50 03.9 -0.2**
BOD pmax pmax
comp=Z,13nm,1.8s
SEY Seymchan 52.47 6 P **P 05 50 05.2 +0.6**
comp=Z,2.3nm,0.7s,baz=359,slow=1.4,SNR=5.4
SGDS Sogindy 52.61 66⇓*i*P **P 05 50 06.8 +0.7**
comp=Z,115nm,3.4s,baz=66
SGDS Sogindy 52.61 66*d i*P **P 05 50 06.7 +0.7**
SGDS pmax pmax
comp=Z,115nm,3.4s
MK31 Makanchi Array 52.71 58 P **P 05 50 05.5 -1.1**
MK31 pP **pP 05 50 08.3 +0.1**
MKAR Makanchi Array 52.71 58 P **P 05 50 06.6 0.0**
comp=Z,3.3nm,0.9s,baz=332,slow=4.1,SNR=22

MKAR LR LR 06 12 47.5
comp=Z,265nm,18.7s,baz=315,slow=36
MKAR Makanchi Array 52.71 58 *i* P **P 05 50 06.9 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
TDK Taldyqorghan 52.77 62 *i* P **P 05 50 07.8 +0.7**
baz=62
TDK *e*S **S 05 57 36.5 +0.9**
baz=62
TDK Taldyqorghan 52.77 62 *i* P **P 05 50 07.8 +0.7**
TDK *e*S **S 05 57 36.5 +0.9**
UALR University of 52.77 274 P **P 05 50 05.6 -1.6**
UALR pP **pP 05 50 08.9 +0.1**
UALR PcP **PcP 05 51 15.8 -0.9**
KUU Kurty 52.91 65 *e*P **P 05 50 08.8 +0.6**
comp=Z,239nm,3.1s,baz=65
KUU LR LR 06 11 37.9
comp=Z,308nm,12.5s,baz=65
KUU Kurty 52.91 65 *e*P **P 05 50 08.8 +0.6**
KUU pmax pmax
comp=Z,239nm,3.1s
KUU MLR MLR
comp=Z,308nm,12.0s
ZSN Zaisan 53.08 56⇓*i*P **P 05 50 10.0 +0.6**
comp=Z,115nm,3.1s,baz=56
ZSN Zaisan 53.08 56*d i*P **P 05 50 10.0 +0.6**
ZSN pmax pmax
comp=Z,115nm,3.1s
TORD Torodi Ar. Bea 53.16 156 P **P 05 50 09.4 -0.8**
comp=Z,4.1nm,0.9s,baz=342,slow=5.6,SNR=11
TORD LR LR 06 12 43.4
comp=Z,214nm,19.0s,baz=310,slow=36
TORD Torodi Ar. Bea 53.16 156 P **P 05 50 08.6 -1.6**
PDAR Pinedale Array 53.18 293 P **P 05 50 10.6 +0.2**
comp=Z,3.8nm,0.7s,baz=51,slow=5.5,SNR=42
PDAR LR LR 06 11 44.6
comp=Z,404nm,19.9s,baz=39,slow=35
CHKK Chushkaly 53.19 64 *e*P **P 05 50 10.8 +0.5**
baz=64
CHKK Chushkaly 53.19 64 *e*P **P 05 50 10.7 +0.5**
AAK Ala-Archa 53.24 67 *i* P **P 05 50 12.2 +1.3**
SNR=11
AAK Ala-Archa 53.24 67*ce*P **P 05 50 11.8 +1.0**
AAK pmax pmax
comp=Z,47nm,2.5s
CCAR Cane Creek 53.26 273 P **P 05 50 09.5 -1.3**
CCAR pP **sP 05 50 13.0 +0.1**
AAA Alma-Ata 53.71 65 *i* P **P 05 50 15.5 +1.4**
baz=65
AAA LR LR 06 11 58.5
comp=Z,440nm,15.2s,baz=65
AAA Alma-Ata 53.71 65 *i* P **P 05 50 15.5 +1.4**
AAA MLR MLR
comp=Z,440nm,15.0s
MDOK Medeo 53.80 65 *e*P **P 05 50 15.1 +0.2**
baz=65
MDOK *e*S **S 05 57 50.8 +0.9**
baz=65
MDOK LR LR 06 11 58.5
comp=Z,483nm,15.2s,baz=65
MDOK Medeo 53.80 65 *e*P **P 05 50 15.9 +1.0**
MDOK *e*S **S 05 57 50.8 +0.9**
MDOK MLR MLR
comp=Z,483nm,15.0s
TNSS Tian-Shan 53.87 65 *e*P **P 05 50 16.4 +0.7**
baz=65
TNSS Tian-Shan 53.87 65 *e*P **P 05 50 16.4 +0.7**
KPKS Kokpek 54.18 63⇓*i*P **P 05 50 18.5 +0.9**
comp=Z,188nm,3.3s,baz=63
KPKS Kokpek 54.18 63*d i*P **P 05 50 18.4 +0.9**
KPKS pmax pmax
comp=Z,188nm,3.3s
X37A Clayton 54.23 276 P **P 05 50 16.5 -1.4**
X37A IAmb IAmb 05 50 29.1
comp=Z,9.3nm,1.4s
SATY Saty 54.41 64 *e*P **P 05 50 20.2 +0.8**
comp=Z,102nm,3.5s,baz=64
SATY *e*S **S 05 57 58.9 +0.7**
baz=64
SATY Saty 54.41 64 *e*P **P 05 50 20.2 +0.8**
SATY *e*S **S 05 57 58.9 +0.7**
SATY pmax pmax
comp=Z,102nm,3.5s
CHGR Chuyangaron 54.45 74 P **P 05 50 18.3 -1.3**
CHGR pP **pP 05 50 21.3 0.0**
UZB Uzynbulak 54.58 63⇓*i*P **P 05 50 21.1 +0.5**
comp=Z,95nm,3.2s,baz=63
UZB Uzynbulak 54.58 63*d i*P **P 05 50 21.1 +0.5**
UZB pmax pmax
comp=Z,95nm,3.2s
KDJ Kajisay 54.73 65 P **P 05 50 19.7 -2.0**
KDJ pP **pP 05 50 23.5 +0.1**
KDJ IAmb IAmb 05 50 44.2
comp=Z,8.3nm,1.1s
SHLS Shalkode 54.74 63 *e*P **P 05 50 24.2 +2.4**
comp=Z,92nm,2.5s,baz=63
SHLS Shalkode 54.74 63 *e*P **P 05 50 24.1 +2.4**
SHLS pmax pmax
comp=Z,92nm,2.5s
X34A Smith Ranch, M 55.27 278 P **P 05 50 24.3 -1.2**
TLY Talaya 55.38 40 P **P 05 50 27.4 +1.3**
comp=Z,1.1nm,0.3s,baz=19,slow=5.1,SNR=4.4
TLY Talaya 55.38 40 *e*P **P 05 50 27.3 +1.3**
TLY *i* 05 52 30.5
TLY *e*S **S 05 58 16.6 +5.9**
TLY pmax pmax
comp=Z,44nm,2.0s
TLY MLR MLR
comp=Z,589nm,14.0s
GRTK Grand Turk 55.50 246 P **P 05 50 26.6 -0.6**
JLU Jordanelle 55.76 293 P **P 05 50 28.2 -1.1**
Z35A Perchaven, San 56.10 277 P **P 05 50 30.3 -1.2**
Z35A pP **pP 05 50 33.3 +0.3**
ZAK Zakamensk 56.44 41 *e*P **P 05 50 34.8 +1.0**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
NLU North Lily Min 56.56 293 P **P 05 50 33.3 -1.6**
NLU pP **pP 05 50 36.7 +0.2**
NLU PcP **PcP 05 51 30.6 -0.8**
PV14 Lion Creek, Pa 56.70 290 P **P 05 50 34.2 -1.7**
PV14 pP **pP 05 50 37.4 -0.1**
PV14 IAmb IAmb 05 50 38.9
comp=Z,9.5nm,0.8s
CRPR Cabo Rojo, PR 57.15 240 P **P 05 50 37.9 -1.2**
CRPR pP **pP 05 50 40.9 +0.3**
WMQ Urumqi 57.21 56 *e*P **P 05 50 41.7 +2.4**
WMQ S **S 05 58 38.3 +3.0**
WMQ pmax pmax
comp=Z,15nm,2.4s
WMQ pmax pmax
comp=Z,340nm,3.7s
WMQ LR LR
comp=Z,380nm,21.9s
WMQ LR LR
comp=Z,440nm,24.3s
WMQ LR LR
comp=Z,170nm,21.9s
MSU Marysvale 57.84 293 P **P 05 50 42.6 -1.4**
MSU Marysvale 57.84 293 P **P 05 50 42.6 -1.4**
HKT Hockley 58.41 274 P **P 05 50 46.0 -1.7**
HKT pP **sP 05 50 49.9 -0.1**
ANMO Albuquerque 58.59 286 *i* P **P 05 50 49.9 +0.6**
ANMO pmax pmax
comp=Z,13nm,1.9s
DBIC Dimbokro 58.61 165 P **P 05 50 48.6 -0.6**
comp=Z,9.9nm,1.0s,baz=351,slow=7.9,SNR=6.7
TIC Toumodi 58.61 165 *e*P **P 05 50 49.2 -0.1**
PAPH Port-au-Prince 58.66 245 P **P 05 50 48.1 -1.5**
ZEA Zeya 58.82 24 *e*P P 05 50 45.2 -5.1
ZEA *e* 05 53 02.0
ZEA *e*PPP PPP 05 54 26.0
ZEA *e*S S 05 59 08.0 +12
ZEA pmax pmax
comp=Z,210nm,2.5s
ZEA pmax pmax
comp=Z,500nm,6.0s
ZEA pmax pmax
comp=N,200nm,6.0s
ZEA pmax pmax
comp=Z,300nm,6.0s
ZEA smax smax
comp=N,400nm,14.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
KIC Kosan Boka 58.92 165 *e*P **P 05 50 51.5 0.0**
comp=Z,39nm,1.3s
LIC Lamto 59.03 166 *e*P **P 05 50 50.5 -1.7**
comp=Z,35nm,1.1s
SONM Songino Array 59.62 40 P **P 05 50 56.6 +0.5**
comp=Z,2.4nm,0.9s,baz=336,slow=7.0,SNR=12
SONM LR LR 06 19 23.6
comp=Z,260nm,19.0s,baz=314,slow=39
SHME Shamm 59.77 93 P **P 05 50 57.0 -0.4**
ULN Ulaanbaatar 59.77 40*de*P **P 05 50 57.7 +0.4**
ULN pmax pmax
comp=Z,43nm,2.5s
ULN Ulaanbaatar 59.77 40 P **P 05 50 55.5 -1.8**
ULN pP **pP 05 50 58.9 +0.1**
BANOM Banah 59.95 93 P **P 05 50 58.4 -0.2**
VCNR Virginia City 60.06 299 P **P 05 50 57.9 -1.4**
VCNR pP **sP 05 51 01.4 -0.2**
NVAR Mina Array Bea 60.30 297 P **P 05 51 01.1 0.0**
comp=Z,0.6nm,0.8s,baz=31,slow=4.8,SNR=6.3
NVAR LR LR 06 16 05.1
comp=Z,504nm,19.0s,baz=23,slow=35
MSFE Esma-Masafi 60.39 93 *i* P **P 05 51 01.6 +0.1**
SNR=6.3
MDH Madha 60.50 93 *i* P **P 05 51 01.7 -0.6**
SNR=5.5
UOSS Minazif 60.77 93 *i* P **P 05 51 02.9 -1.2**
SNR=5.7
HATD Hatta, Dubai 60.84 93 *i* P **P 05 51 04.7 0.0**
SNR=7.7
ASHO Ashiyiah 60.94 94 P **P 05 51 05.5 +0.2**
833A Chaparral WMA, 61.35 276 P **P 05 51 06.4 -1.7**
833A PcP **PcP 05 51 49.1 -1.2**
SOHO SOHO 61.62 93 P **P 05 51 09.2 -0.8**
TXAR Lajitas Array 62.29 280 P **P 05 51 15.3 +0.8**
comp=Z,1.1nm,0.8s,baz=36,slow=4.7,SNR=8.3
TXAR LR LR 06 17 15.3
comp=Z,505nm,20.0s,baz=0.0,slow=35
TXAR Lajitas Array 62.29 280 P **P 05 51 13.4 -1.1**
TXAR *PP **pP 05 51 16.3 +0.2**
TXAR 05 51 52.7
TXAR Lajitas Array 62.29 280 P **P 05 51 13.4 -1.1**
TXAR pP **pP 05 51 16.3 +0.2**
TXAR PcP **PcP 05 51 52.7 -1.6**
PETK Petropavlovsk- 62.48 3 P **P 05 51 16.4 +1.1**
comp=Z,0.6nm,0.4s,baz=66,slow=4.9,SNR=3.0
PETK LR LR 06 20 11.8
comp=Z,83nm,18.0s,baz=358,slow=38
PET Petropavlovsk 62.59 3*d i*P **P 05 51 15.7 -0.3**
PET *e*S **S 05 59 43.2 -0.8**
PET pmax pmax
comp=Z,200nm,10.2s
319A Douglas 62.86 286 P **P 05 51 16.6 -1.7**
TEIG Tepich 63.70 262 LR LR 06 18 33.2
comp=Z,193nm,18.3s,baz=226,slow=36
KLR Kul'dur 63.92 22 P **P 05 51 25.7 +0.8**
comp=Z,0.4nm,0.3s,baz=349,slow=2.9,SNR=4.3
KLR Kul'dur 63.92 22*ce*P **P 05 51 25.0 +0.1**
KLR pmax pmax
comp=Z,2.0nm,1.2s
SKR Severo-Kuril's 64.86 4 *e*P P 05 51 26.2 -4.8
SKR pmax pmax
comp=Z,21nm,1.0s
SKR pmax pmax
comp=Z,100nm,5.8s
SKR pmax pmax
comp=Z,200nm,6.2s
SKR MLR MLR
comp=Z,100nm,19.0s
GTA Gaotai 65.28 49⇓P **P 05 51 34.8 +0.7**
GTA pP sP 05 51 39.6 +3.2
GTA sP pP 05 51 42.1 +6.3
GTA S **S 06 00 20.7 +2.6**
GTA sS sS 06 00 27.8 +7.0
GTA SS **SS 06 04 35.0 +5.1**
GTA pmax pmax
comp=Z,15nm,1.7s
GTA pmax pmax
comp=Z,430nm,7.8s
GTA LR LR
comp=Z,340nm,17.5s
GTA LR LR
comp=Z,310nm,16.2s
GTA LR LR
comp=Z,440nm,16.5s
SMRC Santa Marta, M 66.11 244 *e*P **P 05 51 35.8 -3.7**
SDV Santo Domingo 66.84 239 *e*P **P 05 51 44.8 +0.3**
BTO Baotou 67.29 41 *e*P **P 05 51 45.4 -1.5**
BTO S **S 06 00 44.8 +2.4**
ARGC Ariguani, Magd 67.31 243 *e*P **P 05 51 47.7 +0.5**
HHC Hu-ho-hao-te 67.49 40 *e*P **P 05 51 50.2 +2.0**
HHC S **S 06 00 45.2 +0.3**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,310nm,7.9s
HHC LR LR
comp=Z,240nm,18.6s
HHC LR LR
comp=Z,230nm,15.2s
HHC LR LR
comp=Z,250nm,18.0s
YSS Yuzh-Sakhalins 67.63 15*d i*P **P 05 51 50.2 +1.4**
YSS *e* 05 52 14.8
YSS *e* 05 54 17.9
YSS *e*S **S 06 00 44.7 -1.4**
YSS *e* 06 01 49.9
YSS *e*SS **SS 06 05 14.0 +8.5**
YSS pmax pmax
comp=Z,400nm,6.0s
YSS pmax pmax
comp=N,200nm,5.1s
YSS pmax pmax
comp=E,200nm,4.6s
YSS smax smax
comp=N,200nm,8.5s
YSS smax smax
comp=E,100nm,6.9s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS MLR MLR
comp=N,200nm,12.0s
YSS MLR MLR
comp=E,100nm,12.0s
SJCC San Jacinto, C 67.63 244 *e*P P 05 51 40.8 -8.6
MDJ Mudanjiang 68.02 25 P **P 05 51 49.3 -2.0**
MDJ pP **pP 05 51 52.9 -0.1**
MDJ IAmb IAmb 05 52 14.4
comp=Z,6.7nm,0.8s
MOTC Monteria, Cord 68.84 244 *e*P **P 05 51 54.9 -1.9**
APG El Apazote 69.28 261 LR LR 06 21 37.1
comp=Z,239nm,20.4s,baz=58,slow=35
BJI Beijing 69.47 36 P **P 05 52 01.8 +1.4**
BJI PP **PP 05 54 32.8 -0.5**
BJI S **S 06 01 08.0 -0.1**
BJI SS **SS 06 05 30.7 -3.6**
BJI pmax pmax
comp=Z,360nm,6.5s
BJI LR LR
comp=Z,110nm,11.4s
BJI LR LR
comp=Z,250nm,22.7s
BJI LR LR
comp=Z,300nm,42.0s
LZH Lanzhou 69.61 48 *e*P **P 05 52 03.2 +1.6**
LZH sP sP 05 52 08.1 +4.2
LZH *e*S **S 06 01 09.1 -1.2**
LZH sS sS 06 01 19.0 +6.0
LZH pmax pmax
comp=Z,15nm,1.3s
LZH pmax pmax
comp=Z,430nm,5.0s
LZH LR LR
comp=Z,190nm,12.2s
LZH LR LR
comp=Z,360nm,14.1s
LZH LR LR
comp=Z,290nm,14.6s
BRRC Barranca, Sant 69.63 242 *e*P **P 05 51 57.0 -4.7**
ZARC Zaragoza, Cauc 69.71 243 *e*P **P 05 52 03.7 +1.4**
PTBC PUERTO BERRIO, 70.43 242 *e*P **P 05 52 06.2 -0.4**
RUSC La Rusia 70.51 241 *e*P **P 05 52 07.2 -0.5**
TIY Taiyuan 70.66 40 *e*P **P 05 52 10.2 +2.3**
TIY pmax pmax
comp=Z,270nm,7.9s
TIY LR LR
comp=Z,250nm,9.3s
TIY LR LR
comp=Z,120nm,4.7s
TIY LR LR
comp=Z,320nm,13.7s
LSA Lhasa 71.00 61 P **P 05 52 11.7 +1.1**
SPBC San Pablo de B 71.10 241 *e*P **P 05 52 09.7 -1.2**
HELC Santa Helena 71.16 243 *e*P **P 05 52 12.6 +1.1**
JTS Las Juntas de 71.20 254 LR LR 06 20 40.5
comp=Z,94nm,19.8s,baz=98,slow=34
NORC Norcasia 71.48 242 *e*P **P 05 52 09.1 -4.0**
CBOC Ciudad Bolivar 71.65 243 *e*P P 05 52 06.3 -7.9
RCBR Riachuelo 71.65 199 LR LR 06 15 13.1
comp=Z,167nm,19.9s,baz=355,slow=29
DL2 Dalian 71.87 33⇓P **P 05 52 15.1 0.0**
DL2 PP **PP 05 54 51.8 -2.1**
DL2 S **S 06 01 38.3 +2.2**
DL2 SS **SS 06 06 16.2 +5.1**
DL2 pmax pmax
comp=Z,23nm,0.9s
DL2 pmax pmax
comp=Z,440nm,6.0s
DL2 LR LR
comp=Z,190nm,20.3s
DL2 LR LR
comp=Z,420nm,22.9s
DL2 LR LR
comp=Z,410nm,15.1s
CHIC Chingaza 71.91 241 *e*P P 05 52 07.1 -9.0
ROSC El Rosal 71.94 241 *e*P **P 05 52 12.1 -4.2**
GUY2C Guyana, Caldas 71.98 243 *e*P **P 05 52 14.7 -1.9**
TOLC Tolima 72.55 242 *e*P **P 05 52 21.6 +1.8**
PLMC San Jos del P 72.63 243 *e*P **P 05 52 19.0 -0.9**
XAN Xi'an 73.07 44 P **P 05 52 20.8 -1.6**
XAN pmax pmax
comp=Z,12nm,1.3s
XAN Xi'an 73.07 44 P **P 05 52 20.8 -1.6**
XAN IAmb IAmb 05 52 35.9
comp=Z,12nm,1.3s
ORTC Ortega, Tolima 73.15 242 *e*P P 05 52 14.3 -8.7
PRAC Prado 73.19 241 *e*P **P 05 52 23.3 0.0**
YOTC Yotoco, Valle 73.50 243 *e*P **P 05 52 24.3 -0.9**
CD2 Chengdu 74.34 50 P **P 05 52 29.0 -0.9**
CD2 sP sP 05 52 34.8 +2.6
CD2 S **S 06 02 03.0 -1.6**
CD2 SS **SS 06 06 46.4 -3.0**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,390nm,5.7s
CD2 LR LR
comp=Z,330nm,13.7s
CD2 LR LR
comp=Z,300nm,13.7s
CD2 LR LR
comp=Z,340nm,16.1s
KSRS Korea Array 74.63 28 LR LR 06 29 12.6
comp=Z,177nm,18.1s,baz=346,slow=39
GARC Garzon, Huila 74.82 241 *e*P **P 05 52 32.9 -0.2**
PCON Cinco Dias 75.04 242 *e*P **P 05 52 34.9 +0.2**
FLOC Florencia 75.44 241 *e*P **P 05 52 32.9 -3.5**
GCUF Volcan Galeras 76.41 243 *e*P **P 05 52 42.6 +0.1**
KMBO Kilima Mbogo 76.67 123 P **P 05 52 45.8 +2.2**
MJB9 Matsu-Tunnel 77.30 20 P **P 05 52 45.7 -1.0**
MAT Matsushiro 77.31 20 P **P 05 52 46.6 -0.1**
MAT S **SKSac 06 02 50.8 -9.3**
MJAR Matsushiro Arr 77.31 20 P **P 05 52 47.6 +0.9**
comp=Z,1.1nm,0.3s,baz=352,slow=8.1,SNR=4.2
MJAR Matsushiro Arr 77.31 20 P **P 05 52 45.1 -1.6**
MJAR PcP **PcP 05 52 56.2 -1.1**
NJ2 Nanjing 77.72 37 *e*P **P 05 52 47.7 -1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
WHN Wuhan 77.93 41⇓P **P 05 52 50.6 +0.4**
WHN PP **PP 05 55 46.8 +1.4**
WHN S **S 06 02 39.4 -4.5**
WHN LR LR
comp=Z,310nm,10.9s
WHN LR LR
comp=Z,590nm,13.7s
WHN LR LR
comp=Z,640nm,15.1s
INU Inuyama 78.30 21 P **P 05 52 50.2 -2.0**
INU IAmb IAmb 05 52 54.0
comp=Z,6.8nm,0.8s
KMI Kunming 79.33 53⇓P **P 05 52 58.3 -0.1**
KMI sP sP 05 53 01.8 +1.2
KMI PP **PP 05 56 00.2 +2.6**
KMI S **S 06 03 00.7 +1.1**
KMI sS sS 06 03 05.4 +3.1
KMI SS **SS 06 08 09.7 +4.3**
KMI pmax pmax
comp=Z,15nm,1.9s
KMI pmax pmax
comp=Z,290nm,4.2s
KMI LR LR
comp=Z,110nm,21.4s
KMI LR LR
comp=Z,210nm,23.0s
KMI LR LR
comp=Z,230nm,39.3s
GYA Guiyang 79.41 49⇑P **P 05 52 59.5 +0.9**
GYA PP **PP 05 56 02.2 +4.1**
GYA S **S 06 03 03.1 +3.0**
GYA ScS **ScS 06 03 22.7 +0.2**
GYA SS **SS 06 08 11.2 +5.0**
GYA pmax pmax
comp=Z,14nm,1.6s
GYA pmax pmax
comp=Z,340nm,3.8s
GYA LR LR
comp=Z,130nm,12.5s
GYA LR LR
comp=Z,190nm,17.5s
GYA LR LR
comp=Z,220nm,19.6s
CMAR Chiang Mai Arr 84.11 59 P **P 05 53 24.1 +0.7**
comp=Z,0.8nm,0.3s,baz=318,slow=7.4,SNR=7.2
CMAR LR LR 06 33 45.3
comp=Z,172nm,19.5s,baz=352,slow=38
QZH Quanzhou 84.40 39 *e*P **P 05 53 23.7 -1.0**
QZH PP **PP 05 56 39.5 +0.5**
QZH S **S 06 03 50.8 -0.5**
QZH pmax pmax
comp=Z,220nm,6.5s
QZH LR LR
comp=Z,240nm,18.0s
QIZ Qiongzhong 87.36 49 P **P 05 53 37.2 -2.3**
QIZ PP **PP 05 57 00.2 -2.9**
QIZ S **S 06 04 16.3 -4.2**
QIZ SS **SS 06 10 01.9 -2.0**
QIZ pmax pmax
comp=Z,260nm,3.7s
QIZ LR LR
comp=Z,180nm,17.6s
QIZ LR LR
comp=Z,94nm,16.0s
QIZ LR LR
comp=Z,190nm,15.4s
WRA Warramunga Arr 131.50 36 PKP **PKPdf 06 00 05.2 +0.4**
comp=Z,0.9nm,0.9s,baz=350,slow=3.1,SNR=5.6
ASAR Alice Springs 134.94 38 PKP **PKPdf 06 00 12.0 +0.7**
comp=Z,1.4nm,0.9s,baz=340,slow=2.4,SNR=11
ASAR Alice Springs 134.94 38 PKIKP **PKPdf 06 00 12.0 +0.7**
STKA Stephens Creek 144.70 32 PKP PKPbc 06 00 28.1 +0.6
comp=Z,2.8nm,0.7s,baz=319,slow=10,SNR=6.7
STKA Stephens Creek 144.70 32 PKPdf **PKPdf 06 00 28.2 -0.5**
LHI Lord Howe Isla 146.74 5 PKPab **PKPbc 06 00 34.3 +0.5**
BSWZ Blackbirch Sta 156.08 339 PKPdf **PKPdf 06 00 45.7 -0.2**
WHZ Wether Hill Ro 160.93 348 PKPab **PKPab 06 01 34.1 -0.2**

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*JMA **06** 05:54:40.5±0.2, 34°.23N×137°.26E, h346km±2km, M3.2*
*IDC **06** 05:54:41.4±1.2, 34°.23N×137°.15E, h331km±8km, mb3.1/9, mb1 3.3/12, mb1mx3.0/48, mbtmp3.7/12, Error ellipse: s-maj=22.4km s-min=18.8km az=114.0*
ISC 06 05:54:41.6±0.7, 34°.24N±0°.08×137°.26E±0°.06, h337km±6km, n33, σ0°86/44, mb3.2/9, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.32**	**134**	P	**Pn**	**05 55 24.2**	**+0.4**
TTO5	**TONANKAI O.B.S**	**0.38**	**87**	P	**Pn**	**05 55 24.4**	**+0.5**
TTO3	**TONANKAI O.B.S**	**0.39**	**163**	P	**Pn**	**05 55 24.7**	**+0.7**

JAA	Atsumi	0.41 346	P	Pn	05 55 24.6	+0.5
JAA			S	S	05 55 58.6	+0.5
JIE	Ise	0.48 289	P	Pn	05 55 24.5	+0.2
JIE			S	S	05 55 57.9	-0.5
TK02	Tokai 2	0.50 125	P	Pn	05 55 24.6	+0.5
TK02			S	S	05 55 59.5	+1.4
TTO1	TONANKAI O.B.S	0.73 213	P	Pn	05 55 24.9	+0.3
JWY	Kouya	1.38 270	P	Pn	05 55 27.9	+0.1
JYTA	Yamagatataniai	1.42 342	P	Pn	05 55 28.4	+0.5
JTNC	Tanabenakahech	1.43 254	P	Pn	05 55 27.9	-0.1
JTNC			S	S	05 56 04.6	-0.6
JYN	Shimob	1.64 40	P	Pn	05 55 29.7	+0.4
JWT	Wachi	1.85 305	P	Pn	05 55 30.9	+0.3
JWT			eS	S	05 56 09.5	-0.3
JKG	Kaga	2.17 340	P	Pn	05 55 33.2	+0.4
JRY	Ryogami san	2.23 37	P	Pn	05 55 33.7	+0.4
JRY			S	S	05 56 15.2	+0.3
JAI	Aioi	2.38 260	P	Pn	05 55 34.2	-0.3
JAI			S	S	05 56 16.3	-0.7
MJAR	Matsushiro Arr	2.43 18	P	Pn	05 55 35.1	+0.2
	0.6nm,0.3s,baz=197,slow=8.9,SNR=51					
MJAR			S	S	05 56 17.1	-0.6
	0.3nm,0.3s,baz=197,slow=16,SNR=10					
MAT	Matsushiro	2.43 18	P	Pn	05 55 35.0	+0.1
MAT			S	S	05 56 17.2	-0.5
MAT	Matsushiro	2.43 18	P	Pn	05 55 35.0	+0.1
MAT			eS	S	05 56 17.1	-0.6
JAG	Ashikaga	2.83 39	P	Pn	05 55 37.0	-1.3
JMN	Monobe	2.85 261	P	Pn	05 55 38.5	-0.2
BSO1	Boso 1	3.10 81	P	Pn	05 55 38.4	-1.8
BSO1			S	S	05 56 25.4	-2.0
JHS	Saijyo	3.50 284	P	Pn	05 55 45.2	+0.5
KSRS	Korea Array	8.23 296	P	P	05 56 39.2	-2.6
	0.4nm,0.3s,baz=110,slow=12,SNR=16					
KLR	Kul'dur	15.53 346	P	P	05 58 02.6	+0.2
	0.3nm,0.3s,baz=167,slow=14,SNR=4.4					
PETK	Petropavlovsk-	23.82 31	P	P	05 59 26.5	+1.5
	1.6nm,0.8s,baz=243,slow=6.5,SNR=3.7					
ILAR	Eielson Array	53.65 31	P	P	06 03 29.4	+0.5
	0.5nm,0.6s,baz=271,slow=5.5,SNR=6.0					
WRA	Warramunga Arr	53.95 183	P	P	06 03 31.6	-0.1
	0.2nm,0.3s,baz=0.0,slow=7.6,SNR=6.1					
ARCES	ARCESS Array B	65.40 339	P	P	06 04 48.8	+0.4
	1.9nm,0.9s,baz=65,slow=8.6,SNR=5.8					
FINES	FINESS Array B	69.68 331	P	P	06 05 14.1	-1.0
	0.5nm,0.4s,baz=73,slow=6.1,SNR=8.0					
NVAR	Mina Array Bea	79.37 51	P	P	06 06 12.3	+1.2
	0.2nm,0.5s,baz=298,slow=4.7,SNR=2.2					
PDAR	Pinedale Array	82.03 43	P	P	06 06 25.3	+0.3
	0.1nm,0.5s,baz=347,slow=3.2,SNR=3.5					
GERES	GERESS Array B	83.23 326	P	P	06 06 30.6	-0.2
	0.4nm,0.7s,baz=44,slow=7.9,SNR=4.0					
TXAR	Lajitas Array	94.51 50	P	P	06 07 25.7	+1.2
	0.1nm,0.7s,baz=296,slow=2.9,SNR=3.5					

*IDC **06** 06:03:51.4±0.5, 55°.25S×28°.20W, h0km, mb4.6/15, mb1 4.7/16, mb1mx4.5/32, mbtmp4.6/16, ML4.8/1, MS4.6/12, Ms1 4.5/12, ms1mx4.4/21, Error ellipse: s-maj=18.4km s-min=14.0km az=35.0*

*NEIC **06** 06:03:52.9±0.9, 55°.27S±0°.09×28°.2W±0°.2, h10km±1km, mb5.1/46, Error ellipse: s-maj=17.7km s-min=12.6km az=223.0*

*UNK **06** 06:03:52.9, 55°.27S×28°.17W, h10km*

*MOS **06** 06:03:55.1±1.6, 55°.33S×28°.45W, h31km, mb5.1/16, Error ellipse: s-maj=21.2km s-min=12.4km az=119.5*

*GCMT **06** 06:03:56.9±0.1, 55°.22S±0°.01×28°.17W±0°.02, h12km, MW5.3/111, Moment Tensor Solution. s87,c144; s111,c200; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.60±.02; $M_{\theta\theta}$-0.27±.02; $M_{\phi\phi}$-0.32±.01; $M_{r\theta}$-0.43±.04; $M_{r\phi}$0.66±.01; $M_{\theta\phi}$0.55±.04; Best double couple: $M_0$1.04500×10^{17} NP1:ϕ_s126.00000°, δ25.00000°, λ75.00000°. NP2:ϕ_s322.00000°, δ66.00000°, λ97.00000°. Principal axes: T 0.8690, Plg68.0000°, Azm246.0000°; N 0.3510, Plg6.0000°, Azm140.0000°; P -1.2200, Plg21.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 06:03:52.8±0.3, 55°.35S±0°.07×28°.23W±0°.06, h10km, n183, σ1§12/181, mb5.0/33, MS4.6/14, 9C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.89	279	P	Pn	06 05 05.4	-1.0
HOPE	Hope Point	4.89	279	Pn	Pn	06 05 05.4	-1.0
VNA1	Neumayer--Stat	17.67	158	P	P	06 08 00.5	+0.9
VNA3	Neumayer Olymp	17.85	160	P	P	06 08 01.6	0.0
EFI	East Falkland	18.05	269	ceP	Pn	06 08 03.5	+0.1
EFI				pmax	pmax		
	comp=Z,152nm,2.5s						
EFI	East Falkland	18.05	269		P	06 08 04.9	+1.1
VNA2	Neumayer--Watz	18.07	158	P	P	06 08 04.0	0.0
SNAA	Sanae	19.63	156	P	P	06 08 21.0	-0.1
SNAA	Sanae	19.63	156	P	P	06 08 20.8	-0.3
	comp=Z,2.7nm,0.3s,baz=309,slow=10.0,SNR=304						
SNAA				LR	LR	06 14 49.6	
	comp=Z,936nm,18.9s,baz=312,slow=33						
SNAA	Sanae	19.63	156	P	P	06 08 21.0	-0.1
SNAA				pmax	pmax		
	comp=Z,32nm,0.9s						
SNAA	Sanae	19.63	156	P	P	06 08 21.0	-0.1
PMSA	Palmer Station	19.93	227	P	Pn	06 08 26.8	+0.7
	comp=Z,27nm,0.8s,baz=76,slow=9.8,SNR=33						
PMSA				LR	LR	06 14 34.4	
	comp=Z,2μm,20.2s,baz=70,slow=32						
PMSA	Palmer Station	19.93	227	P	Pn	06 08 25.8	-0.3
PMSA				IAmb	IAmb	06 08 50.4	
	comp=Z,86nm,1.0s						
PMSA	Palmer Station	19.93	227	eP	Pn	06 08 26.9	+0.9
MG01	Puerto William	22.32	255	P	P	06 08 51.1	+0.8
BELA	Belgrano 2	22.74	183	P	P	06 08 55.0	+0.4
NVL	N'lazarevskaya	23.18	147	eP	P	06 09 01.7	+2.6
NVL				eS	S	06 13 04.3	-6.1
NVL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NVL				MLR	MLR		
	comp=Z,2μm,14.0s						
GO09	Cerro Castillo	26.33	260	P	P	06 09 28.7	+0.2
GO09				IAmb	IAmb	06 09 57.8	
	comp=Z,53nm,1.4s						
PLTB	Pedras Altas	29.59	312	eP	P	06 09 58.1	+0.3
PLCA	Paso Flores	31.30	280	P	P	06 10 12.4	-0.5
	comp=Z,2.8nm,1.1s,baz=140,slow=10,SNR=3.1						
PLCA				LR	LR	06 24 10.9	
	comp=Z,594nm,18.7s,baz=134,slow=39						
PLCA	Paso Flores	31.30	280	P	P	06 10 12.5	-0.5
PLCA				pmax	pmax		
	comp=Z,12nm,1.5s						
PLCA	Paso Flores	31.30	280	P	P	06 10 12.4	-0.5
SYO	Syowa Base	32.50	142	⇑iP	P	06 10 21.0	-2.1
SYO	Syowa Base	32.50	142	‖epP	P	06 10 23.0	-0.1
SYO	Syowa Base	32.50	142	‖ePnPn	PnPn	06 11 26.0	-4.0
QSPA	South Pole Qui	34.91	180	LR	LR	06 24 31.0	
	comp=Z,1μm,18.6s,baz=188,slow=35						
QSPA	South Pole Qui	34.91	180	P	P	06 10 44.5	+0.2
QSPA				IAmb	IAmb	06 10 55.7	
	comp=Z,22nm,0.9s						
PTGB	Pitanga	35.27	320	eP	P	06 10 48.3	+0.6
CPUP	Villa Florida	35.90	312	P	P	06 10 51.7	-1.2
	comp=Z,17nm,1.0s,baz=149,slow=7.5,SNR=17						
CPUP				LR	LR	06 24 32.1	
	comp=Z,966nm,20.2s,baz=157,slow=35						
CPUP	Villa Florida	35.90	312	P	P	06 10 52.2	-0.7
CPUP				pmax	pmax		
	comp=Z,30nm,0.9s						
CPUP	Villa Florida	35.90	312	P	P	06 10 52.1	-0.7
CPUP				IAmb	IAmb	06 10 58.5	
	comp=Z,30nm,0.9s						
CPUP	Villa Florida	35.90	312	eP	P	06 10 52.3	-0.7
BSCB	Bom Sucesso	36.48	333	eP	P	06 10 58.8	+0.7
PEL	Peldehue	36.85	289	P	P	06 11 00.7	-0.4
PEL				pmax	pmax		
	comp=Z,54nm,1.1s						
PEL	Peldehue	36.85	289	P	P	06 11 00.7	-0.4
PEL				IAmb	IAmb	06 11 03.3	
	comp=Z,54nm,1.1s						
ZON	Zonda	37.02	293	P	P	06 11 02.9	+0.3
ZON				pmax	pmax		
	comp=Z,11nm,0.8s						
ZON	Zonda	37.02	293	P	P	06 11 02.9	+0.3
VA03	San Esteban	37.07	290	P	P	06 11 02.8	-0.2
VA03				IAmb	IAmb	06 11 10.4	
	comp=Z,32nm,0.8s						
ROC1	El Roble	37.15	289	P	P	06 11 03.9	0.0
CO02	Combarbal	38.51	291	P	P	06 11 15.1	-0.2
CO02				IAmb	IAmb	06 11 32.7	
	comp=Z,62nm,1.4s						
CO03	El Pedregal	38.63	292	P	P	06 11 16.5	+0.2
CO01	Juntas del Tor	39.00	293	P	P	06 11 20.2	+0.7
GO04	Tololo Observa	39.22	292	P	P	06 11 20.7	-0.6
GO04				IAmb	IAmb	06 11 23.0	
	comp=Z,31nm,1.1s						
AC05	El Transito	40.00	294	P	P	06 11 27.8	+0.1
AC05				IAmb	IAmb	06 11 31.9	
	comp=Z,47nm,1.4s						
IPMB	Ipameri, GO	40.29	330	eP	P	06 11 29.8	-0.3
MC01	Montes Claros	40.41	336	eP	P	06 11 29.9	-1.2
AQDB	Aquidauana	40.48	318	eP	P	06 11 30.3	-1.3
AC04	Llanos de Chal	40.93	294	P	P	06 11 35.7	+0.5
AC02	Maricunga	41.03	297	P	P	06 11 36.4	-0.2
AC02				IAmb	IAmb	06 11 38.8	
	comp=Z,53nm,1.5s						
SUR	Sutherland	41.04	77	P	P	06 11 36.9	+0.6
	comp=Z,12nm,1.0s,baz=207,slow=10,SNR=7.5						
SUR	Sutherland	41.04	77	P	P	06 11 35.7	-0.7
MAW	Mawson	41.07	144	P	P	06 11 36.8	+0.9
	comp=Z,2.6nm,0.7s,baz=287,slow=7.4,SNR=4.8						
MAW				LR	LR	06 26 02.4	
	comp=Z,530nm,21.5s,baz=254,slow=32						
MAW	Mawson	41.07	144	P	P	06 11 36.2	+0.3
JANB	Januaria	42.08	336	eP	P	06 11 44.6	-0.2
BDFB	Brasilia	42.46	331	LR	LR	06 27 20.5	
	comp=Z,767nm,18.1s,baz=145,slow=33						
BDFB	Brasilia	42.46	331	P	P	06 11 47.8	-0.2
BDFB				pmax	pmax		
	comp=Z,11nm,1.1s						
BDFB	Brasilia	42.46	331	P	P	06 11 47.8	-0.2
GO02	Mina Guanaco	42.64	298	P	P	06 11 49.3	-0.3
GO02				IAmb	IAmb	06 11 51.2	
	comp=Z,62nm,1.4s						
ARAG	Araguaiana, MT	43.53	326	eP	P	06 11 56.9	+0.4
LVC	Limon Verde	44.43	301	P	P	06 12 05.0	+0.8
	comp=Z,8.4nm,0.6s,baz=99,slow=2.7,SNR=9.9						
LVC	Limon Verde	44.43	301	P	P	06 12 04.7	+0.5
LVC				pmax	pmax		
	comp=Z,16nm,0.8s						
LVC	Limon Verde	44.43	301	P	P	06 12 04.7	+0.5
LVC				IAmb	IAmb	06 12 29.4	
	comp=Z,16nm,0.8s						
LVC	Limon Verde	44.43	301	eP	P	06 12 05.3	+1.2
SDBA	SAO DESIDERIO	44.78	337	eP	P	06 12 06.4	-0.2
PB09	IPOC Station P	45.28	301	P	P	06 12 11.5	+0.8
PB01	IPOC Station P	46.04	301	P	P	06 12 16.8	+0.2
PTLB	Pontes e Lacer	46.38	317	eP	P	06 12 18.7	-0.5
BOSA	Boshof	46.38	77	P	P	06 12 18.4	-0.8
	comp=Z,13nm,0.9s,baz=207,slow=7.2,SNR=10						
BOSA				LR	LR	06 28 36.5	
	comp=Z,1μm,18.5s,baz=222,slow=32						
BOSA	Boshof	46.38	77	P	P	06 12 19.2	-0.1
BOSA				pmax	pmax		
	comp=Z,22nm,1.0s						
BOSA	Boshof	46.38	77	P	P	06 12 19.2	-0.1
BOSA				IAmb	IAmb	06 12 23.9	
	comp=Z,22nm,1.0s						
PB08	IPOC Station P	46.65	302	P	P	06 12 22.1	+0.3
PB08				IAmb	IAmb	06 12 26.2	
	comp=Z,23nm,1.0s						
SIV	San Ignacio	46.66	314	P	P	06 12 20.3	-1.2
	comp=Z,1.8nm,0.6s,baz=183,slow=7.5,SNR=14						
GO01	Chusmiza	47.07	302	P	P	06 12 24.9	-0.3
PB11	IPOC Station P	47.21	302	P	P	06 12 26.3	+0.4
VNDA	Vanda	47.25	183	P	P	06 12 25.5	+0.2
	comp=Z,5.9nm,0.8s,baz=183,slow=6.4,SNR=41						
VNDA	Vanda	47.25	183	P	P	06 12 26.6	+1.2
VNDA				pmax	pmax		
	comp=Z,17nm,0.9s						
VNDA	Vanda	47.25	183	P	P	06 12 26.6	+1.2
VNDA				IAmb	IAmb	06 12 36.7	
	comp=Z,17nm,0.8s						
PSGCX	Pisagua	47.58	301	P	P	06 12 27.5	-1.2
MNMC	Minye Minye	47.72	302	P	P	06 12 30.1	0.0
PB16	IPOC Station P	48.36	303	P	P	06 12 35.4	+0.1
PB16				IAmb	IAmb	06 12 39.1	
	comp=Z,16nm,1.4s						
SMTB	Santa Maria do	48.84	334	eP	P	06 12 38.4	0.0
VILB	Vilhena	49.06	317	eP	P	06 12 39.6	-0.5
CLDB	Colider	49.37	323	eP	P	06 12 40.9	-1.5
LBTB	Lobatse	49.38	75	P	P	06 12 41.5	-1.0
LBTB				pmax	pmax		
	comp=Z,31nm,1.3s						
LBTB	Lobatse	49.38	75	P	P	06 12 41.5	-1.0
LBTB				IAmb	IAmb	06 12 46.8	
	comp=Z,31nm,1.2s						
LPAZ	La Paz	49.49	306	P	P	06 12 43.7	-0.3
	comp=Z,9.2nm,0.8s,baz=119,slow=4.4,SNR=32						
LPAZ				LR	LR	06 36 31.2	
	comp=Z,303nm,18.5s,baz=172,slow=40						
LPAZ	La Paz	49.49	306	P	P	06 12 44.0	0.0
LPAZ	La Paz	49.49	306	eP	P	06 12 43.8	-0.3
TSUM	Tsumeb	49.86	62	P	P	06 12 45.9	-0.4
TSUM				IAmb	IAmb	06 12 51.4	
	comp=Z,26nm,1.3s						
PRPB	Parauapebas	51.99	332	eP	P	06 13 02.1	-0.1
NPGB	Novo Progresso	52.80	325	eP	P	06 13 07.8	-0.4
ROSB	Rosrio	53.85	340	eP	P	06 13 14.0	-1.9
SAML	Samuel	53.88	316	eP	P	06 13 15.6	-0.6
ETMB	Extrema	54.35	312	eP	P	06 13 19.2	-0.3
CASY	Casey	54.77	161	P	P	06 13 22.7	+0.7
CASY				IAmb	IAmb	06 13 37.3	
	comp=Z,12nm,0.9s						
TMAB	Tom-Au,PA,Br	55.22	336	eP	P	06 13 27.1	+1.4
MCPB	Macapa, AP	58.15	332	eP	P	06 13 47.0	+0.4
MACA	Manacapuru-AM	58.25	321	eP	P	06 13 45.8	-1.5
PTGA	Pitinga	60.25	323	P	P	06 14 00.3	-0.9
	comp=Z,3.0nm,0.8s,baz=150,slow=7.9,SNR=4.5						
PTGA	Pitinga	60.25	323	P	P	06 14 01.0	-0.2
PTGA	Pitinga	60.25	323	eP	P	06 14 00.0	-1.2
FOMA	Nahampoana Res	61.51	93	P	P	06 14 09.4	-0.3
ATAH	Atahualpa	62.33	301	P	P	06 14 18.1	+2.3
	comp=Z,6.4nm,0.8s,baz=194,slow=4.2,SNR=5.5						
LIC	Lamto	64.31	26	eP	P	06 14 27.1	-1.2
	comp=Z,27nm,1.0s						
KIC	Kosan Boka	64.51	26	eP	P	06 14 28.4	-1.3
	comp=Z,10nm,1.0s						
TIC	Toumodi	64.71	26	eP	P	06 14 30.4	-0.6
DBIC	Dimbokro	64.78	26	P	P	06 14 31.1	-0.3
	comp=Z,4.6nm,0.7s,baz=164,slow=8.0,SNR=7.9						
DBIC				LR	LR	06 36 32.0	
	comp=Z,184nm,19.8s,baz=182,slow=30						
DBIC	Dimbokro	64.78	26	P	P	06 14 31.1	-0.3
DBIC				pmax	pmax		
	comp=Z,14nm,1.2s						
DBIC	Dimbokro	64.78	26	P	P	06 14 31.1	-0.3
DBIC				IAmb	IAmb	06 14 44.3	
	comp=Z,14nm,1.1s						
OTAV	Otavalo	68.77	304	P	P	06 14 57.5	0.0
OTAV				pmax	pmax		
	comp=Z,21nm,1.3s						
OTAV	Otavalo	68.77	304	P	P	06 14 57.5	0.0
OTAV				IAmb	IAmb	06 15 00.3	
	comp=Z,21nm,1.3s						
OTAV	Otavalo	68.77	304	eP	P	06 14 58.1	+0.6
ROSC	El Rosal	70.97	311	P	P	06 15 10.9	0.0
TOA0	Torodi Ar. Sit	72.74	31	P	P	06 15 20.0	-1.0
TORD	Torodi Ar. Bea	72.74	31	P	P	06 15 20.1	-0.9
	comp=Z,12nm,0.6s,baz=202,slow=6.5,SNR=35						
TORD	Torodi Ar. Bea	72.74	31	P	P	06 15 20.8	-0.1
SDV	Santo Domingo	73.09	316	P	P	06 15 23.3	0.0
	comp=Z,10nm,0.7s,baz=188,slow=3.3,SNR=5.8						
SDV	Santo Domingo	73.09	316	P	P	06 15 23.2	-0.2
SDV				IAmb	IAmb	06 15 35.7	
	comp=Z,17nm,0.9s						
SDV	Santo Domingo	73.09	316	eP	P	06 15 24.1	+0.8
KMBO	Kilima Mbogo	75.34	70	LR	LR	06 47 16.9	
	comp=Z,634nm,19.3s,baz=252,slow=35						
JTS	Las Juntas de	80.63	304	i P	P	06 16 05.1	-0.6
JTS				pmax	pmax		
	comp=Z,27nm,1.5s						
KEST	Kesra	96.25	30	LR	LR	06 57 28.9	
	comp=Z,369nm,18.2s,baz=186,slow=34						
ASAR	Alice-Springs	99.84	163	P	Pdif	06 17 36.7	-0.8
	comp=Z,0.8nm,0.8s,baz=181,slow=4.0,SNR=11						
ASAR				PP	PP	06 21 39.2	-1.9
	comp=Z,0.8nm,0.9s,baz=195,slow=6.7,SNR=3.7						
BRTR	Keskin Array B	108.35	46	PP	PP	06 22 47.8	+2.1
	comp=Z,0.3nm,0.3s,baz=272,slow=6.8,SNR=2.9						
CLL	Collm	111.67	26	ePS	PS	06 32 43.0	+2.2
CLL				ePPS	PPS	06 33 51.0	
CLL				eSS	SS	06 39 02.0	+17
CLL				e		06 41 54.0	
CLL				eSSS	SSS	06 43 00.0	
CLL				e(SSSS)		06 45 48.0	
KIV	Kislovodsk	115.65	49	i PKIKP	PKPdf	06 22 33.1	-1.3
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
KIV				MLR	MLR		
	comp=Z,183nm,22.0s						
STKI	Sintang	115.89	134	PKP	PKiKP	06 22 39.0	+3.2
EDW2	Edwards Air Fo	117.73	292	P	PKiKP	06 22 39.7	+0.9
	baz=140						
TPNV	Topopah Spring	118.39	294	P	PKiKP	06 22 41.7	+1.6
	baz=140						
PKM	Mcpherson Peak	118.71	290	P	PKiKP	06 22 42.6	+1.8
	baz=139						
DUG	Dugway, Tooele	119.10	299	P	PKiKP	06 22 41.6	+0.2
	baz=139						
BW06	Boulder Array	119.47	303	P	PKiKP	06 22 42.0	-0.1
	baz=140						
PDAR	Pinedale Array	119.47	303	PKP	PKPdf	06 22 41.5	-0.5
	comp=Z,0.4nm,0.8s,baz=187,slow=1.5,SNR=4.0						
NVAR	Mina Array Bea	120.57	294	PKP	PKiKP	06 22 45.6	+1.3
	comp=Z,0.4nm,0.6s,baz=151,slow=4.5,SNR=5.8						
OBN	Obninsk	122.14	38	⇑ePKIKP	PKiKP	06 22 46.9	+0.4
OBN				e		06 24 21.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,562nm,18.0s						
EGMT	Eagleton	123.49	307	P	PKiKP	06 22 50.8	+1.2
	baz=137						
O03E	Paynes Creek	123.78	293	P	PKiKP	06 22 51.4	+1.0
	baz=137						
FINES	FINESS Array B	124.03	28	PKP	PKiKP	06 22 49.8	-0.3
	comp=Z,1.6nm,0.5s,baz=243,slow=1.7,SNR=9.6						
MSO	Missoula	124.57	304	P	PKiKP	06 22 52.5	+0.7
	baz=136						
CMAR	Chiang Mai Arr	125.87	111	PKP	PKiKP	06 22 55.6	+0.5
	comp=Z,1.2nm,0.5s,baz=240,slow=3.5,SNR=6.5						
KSH	Kashi	128.95	75	PKP	PKPdf	06 23 00.1	0.0
KSH				PP	PP	06 25 14.9	+6.7
KSH				AMB	AMB		
	comp=Z,210nm,9.2s						
PRGR	Permogore	130.19	37	ePKIKP	PKPdf	06 23 00.2	-1.3
PRGR				pmax	pmax		
	comp=Z,28nm,1.0s						
AAK	Ala-Archa	130.30	71	c i PKIKP	PKiKP	06 23 04.1	+0.6
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ARCES	ARCESS Array B	130.51	22	PKP	PKiKP	06 23 02.1	-0.7
	comp=Z,1.4nm,0.6s,baz=268,slow=0.5,SNR=11						
ARU	Arti	131.66	48	i PKIKP	PKPdf	06 23 03.7	-0.8
ARU						06 25 22.8	
BRVK	Borovoye	134.87	57	c i PKIKP	PKiKP	06 23 13.3	+1.2
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MKAR	Makanchi Array	137.22	71	PKP	PKPdf	06 23 14.0	-1.4
	comp=Z,0.9nm,0.9s,baz=222,slow=1.5,SNR=6.3						
MKAR				SKPbc	SKPbc	06 26 49.9	+1.6
	comp=Z,0.8nm,1.0s,baz=45,slow=0.7,SNR=3.8						
MKAR	Makanchi Array	137.22	71	c i PKIKP	PKiKP	06 23 16.0	-1.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	Kurchatov	137.63	65	c i PKIKP	PKiKP	06 23 17.9	+0.1
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
WMQ	Urumqi	138.34	78	ePKP	PKPdf	06 23 18.2	+0.7
WMQ				AMB	AMB		
	comp=Z,75nm,4.3s						
WMQ				LR	LR		
	comp=Z,270nm,29.1s						
WMQ				LR	LR		
	comp=Z,400nm,29.2s						
CD2	Chengdu	138.42	106	PKP	PKPdf	06 23 18.0	-0.1
DGZ	Jazzator, Alta	141.71	71	i PKIKP	PKiKP	06 23 25.4	-1.0
GTA	Gaotai	142.35	93	ePKP	PKPdf	06 23 23.9	-1.1
ZALV	Zalesovo Beam	142.59	64	PKP	PKPdf	06 23 23.3	-1.4
	comp=Z,1.1nm,0.5s,baz=158,slow=4.3,SNR=4.3						
EPYK	Eagle Plains	145.50	318	P	PKPdf	06 23 28.8	-0.7
	baz=107						
EPYK	Eagle Plains	145.50	318	PKPdf	PKPab	06 23 30.0	0.0
EGAK	Eagle	146.82	314	PKPdf	PKPab	06 23 34.2	-0.8
K27K	Chicken	147.00	312	P	PKPbc	06 23 33.9	-0.2
	baz=106						
NJ2	Nanjing	147.21	122	ePKPbc	PKPdf	06 23 33.8	+0.3
SCRK	Sand Creek	147.79	312	P	PKPbc	06 23 36.0	-0.6
	baz=105						
KLU	Klutina	147.94	307		PKiKP	06 23 37.7	-1.0
RIDG	Independent Ri	148.10	311		PKPbc	06 23 37.6	+0.3
M24K	Tolsona, Glenn	148.24	308	P	PKiKP	06 23 38.5	-0.8
	baz=106						
NRIK	Noril'sk	148.82	38	PKPbc	PKPbc	06 23 39.1	+0.2
	comp=Z,2.4nm,0.7s,baz=35,slow=1.8,SNR=6.4						
BTO	Baotou	148.94	101	ePKPbc	PKPbc	06 23 38.7	-1.5
HDA	Harding Lake	149.15	312	P	PKPbc	06 23 39.5	-0.4
	baz=102						
ILAR	Eielson Array	149.20	313	PKPbc	PKPbc	06 23 39.2	-0.7
	comp=Z,18nm,0.9s,baz=124,slow=1.5,SNR=39						
POKR	Poker Plat Res	149.50	313	P	PKPbc	06 23 40.0	-0.8
	baz=101						
RC01	Rabbit Creek A	149.59	305	P	PKPbc	06 23 41.0	-0.1
	baz=106						
COLA	College	149.63	313	i PKHKP	PKPdf	06 23 39.7	+3.4
TCOL	CIGO, UAF Yank	149.63

CUPR Sn 06 07 21.2 -0.5
MTP Monte Pirata 0.98 164⇑ *eP* Pn 06 07 10.2 -0.8
MTP Monte Pirata 0.98 164 *eS* Sn 06 07 23.5 -0.2
MTP Monte Pirata 0.98 164 Pn Pn 06 07 10.3 -0.8
MTP Sn Sn 06 07 23.3 -0.4
PDPR Patillas Dam, 1.04 190⇑ *eP* Pn 06 07 11.4 -0.4
PDPR Patillas Dam, 1.04 190 *eS* Sn 06 07 25.9 +0.8
PDPR Patillas Dam, 1.04 190 Pn 06 07 11.4 -0.4
PDPR Sn 06 07 25.9 +0.8
STVI Saint Thomas 1.09 130⇑ *eP* Pn 06 07 11.8 -0.6
STVI Saint Thomas 1.09 130 *eS* Sn 06 07 25.1 -1.0
STVI Saint Thomas 1.09 130 Pn Pn 06 07 11.8 -0.6
STVI Sn Sn 06 07 24.3 -1.9
IGPR InterUniversit 1.11 194⇑ *eP* Pn 06 07 12.6 -0.2
IGPR InterUniversit 1.11 194 *eS* Sn 06 07 27.1 +0.4
IGPR InterUniversit 1.11 194 Pn Pn 06 07 12.4 -0.3
AOPR Arecibo Observ 1.12 231⇑ *eP* Pn 06 07 12.9 0.0
AOPR Arecibo Observ 1.12 231 *eS* Sn 06 07 28.1 +1.0
AOPR Arecibo Observ 1.12 231 Pn Pn 06 07 12.6 -0.2
AOPR Sn Sn 06 07 27.8 +0.8
UUPR Utuado, UPR, P 1.16 227 Pn 06 07 13.6 +0.2
UUPR Sn 06 07 29.2 +1.3
CELP Cerrillos 1.20 216 || *iP* Pn 06 07 14.0 +0.1
CELP Cerrillos 1.20 216 *eS* Sn 06 07 29.9 +0.8
CELP Cerrillos 1.20 216 Pn 06 07 14.0 +0.1
CELP Sn 06 07 29.9 +0.8
OBIP Obispado Ponce 1.24 216⇑ *eP* Pn 06 07 13.8 -0.7
OBIP Obispado Ponce 1.24 216 *eS* Sn 06 07 31.2 +1.2
OBIP Obispado Ponce 1.24 216 Pn Pn 06 07 13.9 -0.7
OBIP Sn 06 07 31.2 +1.2
TBVI Tortola 1.31 118⇑ *eP* Pn 06 07 14.5 -1.0
TBVI Tortola 1.31 118 *eS* Sn 06 07 30.7 -1.1
TBVI Tortola 1.31 118 Pn 06 07 14.5 -1.0
TBVI Sn 06 07 30.7 -1.1
AGPR Aguadilla, PR 1.34 245⇑ *eP* Pn 06 07 15.6 -0.3
AGPR Aguadilla, PR 1.34 245 Pn Pn 06 07 15.9 0.0
AGPR Sn Sn 06 07 33.1 +0.6
AGPR Aguadilla, PR 1.34 245 *i* P Pn 06 07 15.7 -0.3
AGPR *eS* Sn 06 07 33.1 +0.6
AGPR IAML 06 07 34.1
comp=Z,1μm,0.3s
GBPR Guanica, Bosqu 1.46 223⇑ *eP* Pn 06 07 18.2 +0.6
GBPR Guanica, Bosqu 1.46 223 *eS* Sn 06 07 36.8 +1.4
GBPR Guanica, Bosqu 1.46 223 Pn 06 07 18.2 +0.6
GBPR Sn 06 07 36.8 +1.4
LSP Las Mesas 1.47 234⇑ *eP* Pn 06 07 17.9 +0.2
LSP Las Mesas 1.47 234 *eS* Sn 06 07 36.9 +1.1
LSP Las Mesas 1.47 234 Pn 06 07 17.9 +0.2
LSP Sn 06 07 36.9 +1.1
MPR Mayaguez 1.49 236⇑ *eP* Pn 06 07 18.3 +0.3
MPR Mayaguez 1.49 236 *eS* Sn 06 07 37.1 +0.8
MPR Mayaguez 1.49 236 Pn Pn 06 07 18.0 +0.1
MPR Sn Sn 06 07 36.6 +0.4
MPR Mayaguez 1.49 236 *i* P Pn 06 07 18.1 +0.1
MPR *eS* Sn 06 07 36.9 +0.7
MPR IAML 06 07 41.8
comp=Z,862nm,0.6s
MLPR Magueyes Islan 1.57 227⇑ *eP* Pn 06 07 19.4 +0.3
MLPR Magueyes Islan 1.57 227 *eS* Sn 06 07 39.6 +1.3
MLPR Magueyes Islan 1.57 227 Pn Pn 06 07 19.4 +0.3
MLPR Sn Sn 06 07 39.9 +1.7
CRPR Cabo Rojo, PR 1.60 230⇑ *eP* Pn 06 07 19.6 +0.2
CRPR Cabo Rojo, PR 1.60 230 *eS* Sn 06 07 40.1 +1.3
CRPR Cabo Rojo, PR 1.60 230 Pn Pn 06 07 19.6 +0.2
CRPR Sn Sn 06 07 41.4 +2.7
CDVI St. Croix 1.64 142 *eP* Pn 06 07 20.9 +0.9
CDVI *eS* Sn 06 07 44.1 +4.2
CDVI St. Croix 1.64 142 || *eP* Pn 06 07 21.6 +1.6
CDVI St. Croix 1.64 142 *eS* Sn 06 07 40.5 +0.6
CDVI St. Croix 1.64 142 Pn Pn 06 07 21.2 +1.2
CDVI Sn Sn 06 07 40.2 +0.3
PCDR Punta Cana, DR 2.47 258⇑ *eP* Pn 06 07 32.8 +1.3
PCDR Punta Cana, DR 2.47 258 *eS* Sn 06 08 02.1 +1.7
PCDR Punta Cana, DR 2.47 258 Pn Pn 06 07 32.6 +1.2
PCDR Sn 06 08 01.8 +1.4
PCDR Punta Cana, DR 2.47 258 *i* P Pn 06 07 32.7 +1.2
PCDR IAML 06 08 18.9
comp=Z,506nm,0.5s
DR12 Loma Pena Alta 3.37 266 Pn Pn 06 07 44.4 +0.5
SKI Saint Kitts 3.40 120 *eP* Pn 06 07 45.9 +1.6
SKI *eS* Sn 06 08 25.5 +2.1
SKI Saint Kitts 3.40 120 Pn Pn 06 07 45.1 +0.8
SKOC St. Kitts, UWI 3.43 120 *eS* Sn 06 08 26.6 +2.6
SDD Santo Domingo 3.91 262 Pn Pn 06 07 54.2 +2.9
ANWB Willy Bob 4.08 109 *eP* Pn 06 07 55.1 +1.4
ANWB Willy Bob 4.08 109 *eS* Sn 06 08 45.9 +5.7
ANWB Willy Bob 4.08 109 Pn Pn 06 07 55.0 +1.4
MLYT Lee's Yard 4.17 123 *eP* Pn 06 07 56.1 +1.2
MLYT Lee's Yard 4.17 123 *eS* Sn 06 08 46.1 +3.7
BANI BANI 4.34 262 Pn Pn 06 08 00.3 +3.1
SC01 Santiago de lo 4.64 275 Pn Pn 06 08 02.8 +1.5
SC01 Santiago de lo 4.64 275 *i* P Pn 06 08 03.9 +2.6
SC01 IAML 06 08 57.5
comp=Z,60nm,0.5s
ABD La Joyeuse, An 4.87 121 *eP* Pn 06 08 05.5 +1.1
ABD La Joyeuse, An 4.87 121 *eS* Sn 06 09 05.3 +5.8
CBE Ff, Capester 5.00 126 *eP* Pn 06 08 08.2 +1.9
CBE Ff, Capester 5.00 126 *eS* Sn 06 09 11.2 +8.2
TBG Guadaloupe-3 5.11 128 *eP* Pn 06 08 10.6 +2.9
TDBA Terre de Bas, 5.12 128 *eP* Pn 06 08 09.8 +1.9
SDDR Presa de Saban 5.16 270⇑ *eP* Pn 06 08 10.2 +1.7
SDDR Presa de Saban 5.16 270 *eS* Sn 06 09 09.3 +2.4
SDDR Presa de Saban 5.16 270 Pn Pn 06 08 10.1 +1.7
SDDR Presa de Saban 5.16 270 *i* P Pn 06 08 10.2 +1.7
SDDR IAML 06 09 12.8
comp=Z,54nm,0.4s
H05N1 Guadeloupe/Mar 5.30 120 P Pn 06 08 11.8 +1.3
MAGL Barre de l'ile 5.33 125 *eP* Pn 06 08 12.2 +1.5
MAGL Barre de l'ile 5.33 125 *eS* Sn 06 09 16.2 +5.4
DSLB Salisbury 5.54 130 *eP* Pn 06 08 14.4 +0.7
GRTK Grand Turk 5.54 297⇑ *eP* Pn 06 08 12.8 -0.9
GRTK Grand Turk 5.54 297 *eS* Sn 06 09 08.8 -7.4
GRTK Grand Turk 5.54 297 Pn Pn 06 08 12.5 -1.2
MDN Morne-Daniel 5.64 130 *e* Pn 06 08 12.7 -2.3
PAPH Port-au-Prince 6.15 266 Pn Pn 06 08 23.4 +1.4
FDF Fort de France 6.21 133 Pn Pn 06 08 23.5 +0.6
MPOM Morne Pois Mar 6.61 133 *eP* Pn 06 08 29.8 +1.4
MPOM Morne Pois Mar 6.61 133 *eS* Sn 06 09 43.9 +1.4
MCLT Moule a Chique 7.09 138 *e* Pn 06 08 27.8 -7.2
SVB Belmont 7.24 142 *eP* Pn 06 08 37.5 +0.5
SVCV St. Vincent, C 7.30 141 *eP* Pn 06 08 49.6 +12
GRGR Grenville 7.97 149 Pn Pn 06 08 48.1 +1.0
BBGH Gun Hill 8.42 133 Pn Pn 06 08 53.2 0.0
PCRV Puerto La Cruz 8.90 172 P Pn 06 09 02.1 +2.2
comp=Z,2.3nm,0.3s,baz=355,slow=3.0,SNR=14
PLCV Puerto La Cruz 8.92 172 Pn 06 09 02.1 +2.0
TPR Prospect 9.22 147 *eP* Pn 06 09 10.9 +6.7
TOSP Speyside 9.25 146 *eP* Pn 06 09 08.2 +3.6
TRN Trinidad (W) 9.39 152 *eP* Pn 06 09 11.3 +4.8
BAUV El Baul 10.27 192 *eP* Pn 06 09 24.8 +6.2
BAUV El Baul 10.27 192 *eS* Sn 06 11 09.6 -3.1
SDV Santo Domingo 11.12 205 LR LR 06 14 18.9
comp=Z,305nm,21.2s,baz=46,slow=40
SDV Santo Domingo 11.12 205 *eP* Pn 06 09 33.8 +3.3
SDV Santo Domingo 11.12 205 Pn Pn 06 09 31.2 +0.7
SJCC San Jacinto, C 12.83 226 *eP* Pn 06 09 53.1 -0.6
OCAC Ocana 12.97 215 *eP* Pn 06 09 52.3 -3.5
CBCY The Bluff, Cay 13.16 275 Pn Pn 06 09 57.1 -1.0
BBSR BB Station 13.30 4 Pn Pn 06 09 55.6 -4.4
MOTC Monteria, Cord 13.97 224 *eP* Pn 06 10 12.5 +3.3
BRRC Barranca, Sant 14.13 214 *eP* Pn 06 10 09.2 -2.2
ZARC Zaragoza, Cauc 14.45 219 *eP* Pn 06 10 16.3 +0.5
URCC San Jos de Ur 14.66 221 *eP* Pn 06 10 15.5 -3.1
RUSC La Rusia 14.87 209 *eP* Pn 06 10 20.4 -1.4
PTBC PUERTO BERRIO, 15.00 215 *eP* Pn 06 10 23.1 -0.1
SPBC San Pablo de B 15.55 212 *eP* Pn 06 10 30.8 +0.3
DBBC Dabeiba 15.65 222 *eP* P 06 10 34.9 -0.6
HELC Santa Helena 15.89 218 *eP* P 06 10 37.4 -1.1
NORC Norcasia 16.04 214 *eP* Pn 06 10 36.9 +0.1
CHIC Chingaza 16.28 209 *eP* Pn 06 10 41.7 +1.6
ROSC El Rosal 16.37 211 LR LR 06 17 18.6
comp=Z,415nm,21.2s,baz=20,slow=38
ROSC El Rosal 16.37 211 *eP* P 06 10 46.2 +2.3
GUY2C Guyana, Caldas 16.59 215 *eP* P 06 10 46.0 -0.4
BCIP Isla Barro Col 16.75 236 P P 06 10 47.6 0.0
BCIP IAmb IAmb 06 11 01.9
comp=Z,48nm,1.2s
TOLC Tolima 17.10 214 *eP* P 06 10 51.7 -0.2
ORTC Ortega, Tolima 17.64 213 *eP* Pn 06 10 55.1 -1.7
GUVC San Jose del G 17.70 203 *eP* Pn 06 10 51.0 -6.5

656A Willston 18.35 307 P P 06 11 04.9 -0.3
Y60A Bolivia 18.54 326 P P 06 11 06.6 -0.6
MACC Macarena, Meta 18.54 206 *eP* Pn 06 11 09.3 +1.4
456A Hilliard 18.70 312 P P 06 11 09.3 +0.3
MDP Montagnes des 18.91 135 P Pn 06 11 11.6 -0.7
comp=Z,0.2nm,0.3s,baz=315,slow=15,SNR=4.2
POPC Popayan, Colom 19.54 214 *eP* P 06 11 18.5 -0.1
PCON Cinco Dias 19.57 213 *eP* P 06 11 15.4 -3.9
FLOC Florencia 19.85 210 *eP* P 06 11 21.3 -0.4
V58A Windy Hill, Pi 20.39 328 P P 06 11 28.1 +0.7
baz=141
JTS Las Juntas de 20.43 247 P P 06 11 28.6 +0.6
comp=Z,9.4nm,0.9s,baz=28,slow=2.5,SNR=5.8
JTS Las Juntas de 20.43 247 P P 06 11 27.8 -0.3
JTS IAmb IAmb 06 11 40.9
comp=Z,14nm,0.9s
X56A White Oak 20.47 322 P P 06 11 29.3 +1.0
baz=135,SNR=6.2
PTGA Pitinga 20.48 163 P P 06 11 28.3 -0.3
comp=Z,10.0nm,0.7s,baz=348,slow=12,SNR=25
PTGA Pitinga 20.48 163 P P 06 11 28.3 -0.3
PTGA IAmb IAmb 06 11 36.6
comp=Z,17nm,0.9s
U58A Oxford 20.59 330 P P 06 11 29.8 +0.3
baz=144,SNR=8.9
T59A Double "B" Far 20.60 332 P P 06 11 28.7 -1.0
baz=147
PTLC Puerto Leguiza 20.72 206 *eP* Pn 06 11 36.2 +2.5
V57A Coltrane Farms 20.80 327 P P 06 11 31.8 -0.1
baz=140
X55A Gracelyn & Ava 20.81 321 P P 06 11 31.4 -0.6
baz=133,SNR=6.2
U57A Blanch 21.00 328 P P 06 11 33.5 -0.5
baz=142
GCUF Volcan Galeras 21.00 214 *eP* P 06 11 36.8 +2.0
T58A Grand View Acr 21.02 331 P P 06 11 33.6 -0.7
baz=144
KMSC Kings Mountain 21.10 323 P P 06 11 34.2 -1.0
baz=135,SNR=8.4
V56A Mocksville 21.12 325 P P 06 11 35.0 -0.4
baz=138
TEIG Tepich 21.17 277 P P 06 11 38.5 +2.5
comp=Z,3.3nm,0.4s,baz=54,slow=8.7,SNR=5.2
PUAC Puerto Asis, P 21.19 211 *eP* P 06 11 37.0 +0.7
GOGA Godfrey 21.28 316 P P 06 11 37.5 +0.4
baz=128
S58A Poland Farm, P 21.36 333 P P 06 11 40.1 +2.3
baz=146
S58A Poland Farm, P 21.36 333 P P 06 11 36.7 -1.1
S58A IAmb IAmb 06 11 54.3
comp=Z,17nm,0.7s
T57A Hurt 21.41 329 P P 06 11 37.5 -0.9
baz=143
T57A Hurt 21.41 329 P P 06 11 37.1 -1.3
T57A IAmb IAmb 06 11 55.3
comp=Z,18nm,0.9s
U56A King 21.47 326 P P 06 11 38.3 -0.8
V55A Taylorsville 21.55 324 P P 06 11 39.9 -0.1
baz=137
V55A Taylorsville 21.55 324 P P 06 11 38.9 -1.0
V55A IAmb IAmb 06 11 59.5
comp=Z,10nm,0.7s
R58B Mineral 21.57 333 P P 06 11 39.7 -0.5
baz=147
R58B Mineral 21.57 333 P P 06 11 39.4 -0.8
152A Waverly Hall 21.69 312 P P 06 11 42.0 +0.4
T56A Rocky Mt 21.81 328 P P 06 11 43.0 +0.3
baz=141
S57A Dark Hollow, R 21.88 331 P P 06 11 47.7 +4.2
baz=145
S57A Dark Hollow, R 21.88 331 P P 06 11 42.2 -1.2
S57A IAmb IAmb 06 12 11.7
comp=Z,16nm,0.8s
V54A Nebo 21.91 323 P P 06 11 43.7 -0.1
baz=135
R58A Rapidan 21.91 334 P P 06 11 45.7 +1.9
baz=148
U55A TA2, Sparta 21.94 326 P P 06 11 44.4 +0.2
baz=138
Y52A Lilburn 21.95 316 P P 06 11 44.4 +0.2
Y52A IAmb IAmb 06 12 03.6
comp=Z,12nm,0.6s
BG3 Lake Jocassee 21.95 320 P P 06 11 43.9 -0.4
BG3 IAmb IAmb 06 12 08.2
comp=Z,9.3nm,0.6s
R57A Stanardsville 22.13 333 P P 06 11 47.4 +1.2
baz=146,SNR=8.4
BLA Blacksburg 22.15 328 P P 06 11 46.5 +0.1
baz=141,SNR=11
BLA Blacksburg 22.15 328 P P 06 11 46.3 -0.1
Q58A Fox Den Farm, 22.33 335 P P 06 11 49.2 +1.0
baz=149
V53A Saluda 22.34 321 P P 06 11 48.6 +0.1
V53A IAmb IAmb 06 12 12.7
comp=Z,14nm,0.8s
PSUB Penn St. - Bra 22.40 340 P P 06 11 48.2 -0.8
PSUB IAmb IAmb 06 12 17.7
comp=Z,8.0nm,0.7s
OTAV Otavalo 22.42 215 *eP* P 06 11 49.8 -0.2
OTAV Otavalo 22.42 215 P P 06 11 51.3 +1.3
OTAV IAmb IAmb 06 12 12.5
comp=Z,23nm,1.1s
P59A Jarrettsville 22.44 338 P P 06 11 51.3 +1.8
baz=153
R56A Bull Pasture M 22.61 331 P P 06 11 52.5 +1.1
baz=145
S55A Lewisburg 22.62 329 P P 06 11 53.3 +1.8
baz=141
W52A Murphy 22.63 319 P P 06 11 52.6 +1.0
W52A IAmb IAmb 06 12 14.1
comp=Z,11nm,0.7s
T54A Tazewell 22.64 326 P P 06 11 52.9 +1.2
baz=138
TKL Tuckaleechee C 22.91 320 LR LR 06 19 34.1
comp=Z,181nm,21.8s,baz=132,slow=33
PAL Palisades 22.95 344 P P 06 11 60.0 +5.2
baz=160
LUPA Lehigh Univers 22.98 341 P P 06 11 55.7 +0.5
T53A Wise 23.10 324 P P 06 11 56.4 -0.1
baz=136
V51A Loudon 23.36 319 P P 06 11 59.7 +0.7
LRAL Lakeview Retre 23.51 311 P P 06 12 01.2 +0.7
baz=121
LRAL Lakeview Retre 23.51 311 P P 06 12 00.9 +0.5
APG El Apazote 23.89 264 P P 06 12 05.9 +1.5
comp=Z,8.3nm,0.8s,baz=72,slow=5.0,SNR=6.7
L61A Hillsdale 1, H 23.98 346 P P 06 12 05.4 +0.5
baz=162
SWET Sewanee 23.99 316 P P 06 12 04.8 -0.3
S51A Beattyville 24.16 324 P P 06 12 06.2 -0.3
X48A Hartselle 24.30 313 P P 06 12 07.5 -0.3
X48A IAmb IAmb 06 12 36.8
comp=Z,11nm,0.8s
Z47A Carrollton 24.37 310 P P 06 12 07.5 -1.0
Z47A IAmb IAmb 06 12 11.5
comp=Z,12nm,0.9s
K61A Williamstown 24.37 347 P P 06 12 09.7 +1.3
baz=163
T50A Nancy 24.45 321 P P 06 12 09.6 +0.4
U49A Red Boiling Sp 24.70 319 P P 06 12 11.5 +0.1
M56A Emporium 24.72 337 P P 06 12 12.4 +0.8
baz=151
K59A Cooperstown 24.85 344 P P 06 12 13.6 +0.8
baz=159
J61A Chester 24.88 348 P P 06 12 14.0 +1.0
baz=165
M55A Ridgway 24.92 336 P P 06 12 13.9 +0.4
baz=150
M55A Ridgway 24.92 336 P P 06 12 13.4 -0.1
M55A IAmb IAmb 06 12 15.5
comp=Z,10nm,0.8s
CCIG Comitan 25.21 268 P P 06 12 17.5 +1.0
PLAL Pickwick Lake 25.30 313 P P 06 12 17.3 +0.4
O51A Pataskala 25.50 329 P P 06 12 19.4 +0.7
baz=141,SNR=5.8
H66A Whiting 25.69 358 P P 06 12 22.7 +2.4
baz=177
WVT Waverly 25.78 316 P P 06 12 21.3 +0.1
baz=125
WVT Waverly 25.78 316 P P 06 12 21.0 -0.3
SADO Sadowa 27.94 340 LR LR 06 23 16.8
comp=Z,216nm,19.8s,baz=167,slow=35
W41B Gary Mavity, V 28.35 310 P P 06 12 45.2 +0.9
baz=118
X40A Basin Creek Fa 28.47 308 P P 06 12 45.8 +0.3
baz=116

ATAH Atahualpa 28.82 207 LR LR 06 26 21.8
comp=Z,257nm,20.8s,baz=13,slow=41
CCM Cathedral Cave 29.12 316 P P 06 12 51.2 +0.1
baz=123
U40A Yellville 29.34 312 P P 06 12 53.4 +0.3
baz=119
HHAR Hobbs 30.08 311 P P 06 12 59.5 -0.3
HHAR IAmb IAmb 06 13 16.9
comp=Z,5.7nm,0.9s
SIV San Ignacio 35.14 172 P P 06 13 42.5 -1.6
comp=Z,3.4nm,0.8s,baz=7.0,slow=7.3,SNR=8.4
ECSD EROS Data Cent 35.65 320 P P 06 13 48.6 +0.3
baz=124
ECSD EROS Data Cent 35.65 320 P P 06 13 47.9 -0.4
ECSD IAmb IAmb 06 13 49.6
comp=Z,3.7nm,0.9s
SCHQ Schefferville 35.73 359 LR LR 06 26 34.6
comp=Z,141nm,20.4s,baz=140,slow=33
TXAR Lajitas Array 35.86 294 P P 06 13 51.1 +0.7
comp=Z,1.4nm,0.8s,baz=114,slow=11,SNR=15
TXAR PcP PcP 06 16 18.1 +0.8
comp=Z,1.0nm,0.9s,baz=113,slow=2.9,SNR=4.3
TXAR Lajitas Array 35.86 294 P P 06 13 51.9 +1.5
TX31 Lajitas Ar. Si 35.86 294 P P 06 13 50.9 +0.5
TX32 Lajitas Array 35.86 294 P P 06 13 51.1 +0.7
TX32 IAmb IAmb 06 13 52.5
comp=Z,4.9nm,1.1s
PB16 IPOC Station P 37.33 186 P P 06 14 01.7 -1.7
MNTX Cornudas Mount 37.69 297 P P 06 14 06.4 +0.6
baz=100
PB08 IPOC Station P 39.09 185 P P 06 14 16.3 -1.6
SDCO Great Sand Dun 39.20 307 P P 06 14 19.5 +0.8
baz=107
SDCO Great Sand Dun 39.20 307 P P 06 14 18.7 0.0
ULM Lac du Bonnet 39.25 329 LR LR 06 30 18.8
comp=Z,170nm,20.6s,baz=133,slow=36
ISCO Idaho Springs 39.92 310 P P 06 14 25.7 +0.9
baz=109
PB01 IPOC Station P 40.01 185 P P 06 14 23.6 -1.7
LVC Limon Verde 41.52 184 P P 06 14 35.8 -2.3
comp=Z,7.8nm,0.9s,baz=348,slow=6.6,SNR=3.6
LVC Limon Verde 41.52 184 P P 06 14 36.6 -1.5
WUAZ Wupatki 43.27 302 P P 06 14 53.2 +1.1
baz=100
WUAZ Wupatki 43.27 302 P P 06 14 51.1 -1.0
PD31 Pinedale Array 43.71 313 P P 06 14 55.7 +0.1
PDAR Pinedale Array 43.71 313 P P 06 14 55.9 +0.3
comp=Z,1.6nm,1.0s,baz=111,slow=8.1,SNR=11
PDAR PcP PcP 06 16 41.4 -0.8
comp=Z,1.3nm,0.7s,baz=118,slow=4.9,SNR=5.7
PDAR LR LR 06 35 24.5
comp=Z,70nm,18.4s,baz=102,slow=39
PDAR Pinedale Array 43.71 313 P P 06 14 55.2 -0.4
BW06 Boulder Array 43.71 313 P P 06 14 56.3 +0.7
baz=109
BW06 Boulder Array 43.71 313 P P 06 14 55.5 -0.1
RLMT Red Lodge 44.32 316 P P 06 15 01.2 +0.7
baz=111
RLMT Red Lodge 44.32 316 P P 06 14 58.7 -1.8
LOHW Long Hollow 44.70 313 P P 06 15 03.7 +0.2
LOHW IAmb IAmb 06 15 21.0
comp=Z,5.3nm,0.8s
AHID Auburn Hatcher 44.78 312 P P 06 15 03.9 -0.3
AHID IAmb IAmb 06 15 06.9
comp=Z,7.4nm,1.1s
REDW Red Top Meadow 44.80 313 P P 06 15 04.1 -0.2
TPAW Teton Pass 44.90 313 P P 06 15 03.8 -1.4
TPAW IAmb IAmb 06 15 05.8
comp=Z,5.1nm,1.0s
YHB Horse Butte 45.48 315 P P 06 15 08.4 -1.3
YHL Hebgen Lake 45.50 315 P P 06 15 09.4 -0.6
QLMT Earthquake Lak 45.66 315 P P 06 15 11.4 +0.2
BGU Big Grassy Mou 45.67 309 P P 06 15 10.0 -1.2
CPUP Villa Florida 45.86 169 P P 06 15 09.7 -2.9
comp=Z,5.0nm,0.8s,baz=355,slow=7.9,SNR=9.2
CPUP Villa Florida 45.86 169 P P 06 15 10.4 -2.1
CPUP IAmb IAmb 06 15 15.4
comp=Z,5.7nm,0.9s
BOZ Bozeman (W) 46.05 316 P P 06 15 15.0 +0.9
baz=110
BOZ Bozeman (W) 46.05 316 P P 06 15 14.3 +0.1
BOZ IAmb IAmb 06 15 16.3
comp=Z,4.7nm,1.2s
IRM Iron Mountain 46.16 299 P P 06 15 17.1 +2.1
baz=96
BC3 Big Chuckawall 46.36 299 P P 06 15 18.4 +1.7
baz=95
DLMT Dillon 46.61 315 P P 06 15 18.0 -0.5
DLMT IAmb IAmb 06 15 20.9
comp=Z,7.0nm,1.1s
MONP2 Monument Peak 47.11 297 P P 06 15 24.3 +1.6
baz=94
HLID Hailey 47.34 312 P P 06 15 25.5 +1.3
baz=105
HLID Hailey 47.34 312 P P 06 15 24.7 +0.4
HLID IAmb IAmb 06 15 26.4
comp=Z,5.2nm,1.1s
TPNV Topopah Spring 47.39 303 P P 06 15 26.3 +1.5
baz=98
TPNV Topopah Spring 47.39 303 P P 06 15 25.9 +1.1
GRAC Grapevine Rang 48.28 303 P P 06 15 33.4 +1.9
baz=97
MFID Camas Ranch 48.29 312 P P 06 15 31.7 +0.1
MFID IAmb IAmb 06 15 33.3
comp=Z,3.7nm,0.9s
EDW2 Edwards Air Fo 48.57 300 P P 06 15 34.8 +1.1
baz=95
NV11 Mina Array Sit 49.09 305 P P 06 15 37.9 0.0
NV11 IAmb IAmb 06 15 39.8
comp=Z,4.1nm,0.9s
NVAR Mina Array Bea 49.20 305 P P 06 15 39.7 +0.9
comp=Z,1.9nm,0.9s,baz=106,slow=6.0,SNR=12
NVAR Mina Array Bea 49.20 305 P P 06 15 38.9 +0.1
NEW Newport 50.46 317 P P 06 15 48.0 0.0
baz=107
YKA Yellowknife Ar 54.77 335 P P 06 16 19.2 -0.4
comp=Z,5.5nm,0.9s,baz=107,slow=7.2,SNR=4.0
YKA LR LR 06 42 06.2
comp=Z,74nm,18.1s,baz=0.0,slow=38
ESDC Sonseca Array 56.60 55 P P 06 16 33.5 +0.3
comp=Z,1.0nm,0.8s,baz=271,slow=7.2,SNR=9.7
PLCA Paso Flores 59.64 184 P P 06 16 52.7 -1.5
comp=Z,2.6nm,0.9s,baz=8.2,slow=0.8,SNR=3.2
TIC Toumodi 60.30 93 *eP* P 06 16 58.8 -0.5
LIC Lamto 60.42 94 *eP* P 06 16 59.7 -0.4
comp=Z,17nm,0.9s
DBIC Dimbokro 60.44 93 P P 06 17 00.2 -0.1
comp=Z,3.8nm,0.7s,baz=269,slow=9.7,SNR=5.3
KIC Kosan Boka 60.65 93 *eP* P 06 17 01.5 -0.2
comp=Z,3.3nm,0.7s
TORD Torodi Ar. Bea 64.82 84 P P 06 17 29.0 -0.5
comp=Z,2.1nm,0.9s,baz=298,slow=6.3,SNR=3.8
NOA NORSAR Array B 67.26 31 P P 06 17 44.3 0.0
comp=Z,0.7nm,0.8s,baz=269,slow=6.4,SNR=3.9
SCRK Sand Creek 67.86 332 P P 06 17 48.7 +0.5
baz=92
GERES GERESS Array B 69.08 44 P P 06 17 57.3 +1.1
comp=Z,0.5nm,0.8s,baz=251,slow=6.1,SNR=4.7
ILAR Eielson Array 69.13 333 P P 06 17 55.8 -0.3
comp=Z,1.5nm,0.8s,baz=103,slow=5.1,SNR=15
ILAR pP sP 06 18 11.2 +3.3
comp=Z,1.5nm,0.6s,baz=107,slow=4.2,SNR=10
ARCES ARCESS Array B 72.78 22 P P 06 18 18.0 -0.2
comp=Z,2.6nm,0.8s,baz=289,slow=3.7,SNR=7.6
FINES FINESS Array B 74.37 30 P P 06 18 27.5 -0.1
comp=Z,0.9nm,0.7s,baz=284,slow=7.7,SNR=4.5
BRTR Keskin Array B 85.04 50 P P 06 19 26.2 +0.1
comp=Z,1.3nm,0.6s,baz=229,slow=1.1,SNR=4.5
STKA Stephens Creek 152.23 237 PKPbc **PKiKP** 06 26 46.2 -0.2
comp=Z,2.0nm,0.8s,baz=113,slow=3.5,SNR=5.1
WRA Warramunga Arr 160.96 264 PKP **PKPdf** 06 26 50.5 -0.5
comp=Z,0.8nm,1.0s,baz=57,slow=2.0,SNR=4.6
WRA pPKP **sPKPdf** 06 27 06.1 +1.8
comp=Z,1.2nm,0.8s,baz=31,slow=0.4,SNR=7.6
WRA PKPab **PKPab** 06 27 33.4 -0.4
comp=Z,0.9nm,1.0s,baz=92,slow=2.9,SNR=4.7
ASAR Alice Springs 161.06 253 PKP **PKPdf** 06 26 50.6 -0.4
comp=Z,0.6nm,0.9s,baz=50,slow=1.6,SNR=3.6
ASAR pPKP **sPKPdf** 06 27 07.9 +3.7
comp=Z,0.8nm,0.8s,baz=157,slow=2.3,SNR=4.8
ASAR PKPab **PKPab** 06 27 33.1 -1.1
comp=Z,0.9nm,0.7s,baz=104,slow=4.3,SNR=8.9

*NEIC **06** 06:17:57.4±1.8, 19°.01N±0°.08×65°.81W±0°.04, h43km±35km,*
Error ellipse: s-maj=12.1km s-min=4.8km az=183.0

RSPR 06 06:17:57.4, 19.11N×65.79W, h32km±25km, MD3.3/13, 16C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	0.83	184	⇑eP	Pn	06 18 10.3	-2.7
CBYP	Canovanas	0.83	184		Pn	06 18 10.3	-2.7
GCPR	Guaynabo City	0.84	199	⇑eP	Pn	06 18 10.6	-2.4
GCPR	Guaynabo City	0.84	199	eS	Sn	06 18 21.8	-2.5
GCPR	Guaynabo City	0.84	199		Pn	06 18 10.6	-2.4
GCPR					Sn	06 18 21.8	-2.5
CUPR	Culebra, Puert	0.93	149	⇑eP	Pn	06 18 11.8	-2.4
CUPR	Culebra, Puert	0.93	149	eS	Sn	06 18 24.0	-2.5
CUPR	Culebra, Puert	0.93	149		Pn	06 18 12.1	-2.1
CUPR					Sn	06 18 25.6	-0.8
EMPR	Esperanza - Ma	0.94	228	⇑eP	Pn	06 18 12.6	-1.8
EMPR	Esperanza - Ma	0.94	228	eS	Sn	06 18 26.1	-0.6
EMPR	Esperanza - Ma	0.94	228		Pn	06 18 12.6	-1.8
EMPR					Sn	06 18 26.1	-0.6
MTP	Monte Pirata	1.03	167	⇑eP	Pn	06 18 13.3	-2.3
MTP	Monte Pirata	1.03	167	eS	Sn	06 18 27.5	-1.4
MTP	Monte Pirata	1.03	167		Sn	06 18 28.6	-0.3
MTP	Monte Pirata	1.03	167		Pn	06 18 13.3	-2.3
STVI	Saint Thomas	1.09	133	⇑eP	Pn	06 18 14.6	-1.9
STVI	Saint Thomas	1.09	133	eS	Sn	06 18 29.1	-1.3
STVI	Saint Thomas	1.09	133		Pn	06 18 14.9	-1.5
STVI					Sn	06 18 30.1	-0.4
PDPR	Patillas Dam,	1.10	192	⇑eP	Pn	06 18 15.1	-1.6
PDPR	Patillas Dam,	1.10	192		Pn	06 18 14.2	-2.5
IGPR	InterUniversit	1.17	195	⇑eP	Pn	06 18 15.5	-2.1
IGPR	InterUniversit	1.17	195	eS	Sn	06 18 30.6	-1.9
AOPR	Arecibo Observ	1.19	231	⇑eP	Pn	06 18 16.0	-1.8
AOPR	Arecibo Observ	1.19	231	eS	Sn	06 18 31.2	-1.6
AOPR	Arecibo Observ	1.19	231		Pn	06 18 16.0	-1.8
AOPR					Sn	06 18 31.2	-1.6
CELP	Cerrillos	1.27	216	⇑eP	Pn	06 18 17.1	-1.8
CELP	Cerrillos	1.27	216	eS	Sn	06 18 33.0	-1.9
CELP	Cerrillos	1.27	216		Pn	06 18 17.1	-1.8
CELP					Sn	06 18 33.0	-1.9
TBVI	Tortola	1.31	122	⇑eP	Pn	06 18 18.5	-0.9
TBVI	Tortola	1.31	122	eS	Sn	06 18 35.2	-0.5
TBVI	Tortola	1.31	122		Pn	06 18 18.5	-0.9
TBVI					Sn	06 18 35.2	-0.5
OBIP	Obispado Ponce	1.31	216	⇑eP	Pn	06 18 16.7	-2.8
OBIP	Obispado Ponce	1.31	216		Pn	06 18 17.1	-2.4
AGPR	Aguadilla, PR	1.40	243	⇑eP	Pn	06 18 19.3	-1.4
AGPR	Aguadilla, PR	1.40	243	eS	Sn	06 18 36.8	-1.4
AGPR	Aguadilla, PR	1.40	243		Pn	06 18 19.3	-1.4
AGPR	Aguadilla, PR	1.40	243		Sn	06 18 37.3	-0.9
MPR	Mayaguez	1.56	235		Pn	06 18 21.4	-1.5
MLPR	Magueyes Islan	1.64	227	⇑eP	Pn	06 18 22.6	-1.4
MLPR	Magueyes Islan	1.64	227	eS	Sn	06 18 42.6	-1.4
MLPR	Magueyes Islan	1.64	227		Pn	06 18 22.8	-1.3
MLPR					Sn	06 18 43.6	-0.4
CDVI	St. Croix	1.66	144	⇑eP	Pn	06 18 24.5	+0.2
CDVI	St. Croix	1.66	144		Pn	06 18 24.2	-0.1
CRPR	Cabo Rojo, PR	1.66	229	⇑eP	Pn	06 18 23.8	-0.5
CRPR	Cabo Rojo, PR	1.66	229	eS	Sn	06 18 44.0	-0.6
CRPR	Cabo Rojo, PR	1.66	229		Pn	06 18 23.1	-1.3
CRPR					Sn	06 18 44.3	-0.3
DR12	Loma Pena Alta	3.41	265	Pn	Pn	06 18 47.8	-0.7
SDDR	Presa de Saban	5.20	270	Pn	Pn	06 19 12.1	-1.0

*NEIC **06** 06:30:38.2±0.9, 19.11N±0.07×65.77W±0.06, h38km±44km, Error ellipse: s-maj=12.8km s-min=4.7km az=215.0*

RSPR 06 06:30:38.9, 19.11N×65.76W, h35km±10km, MD2.7/10, 10C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	0.84	186	⇑iP	Pn	06 30 52.8	-1.6
CBYP	Canovanas	0.84	186	eS	Sn	06 31 04.0	-1.5
CBYP	Canovanas	0.84	186		Pn	06 30 52.9	-1.5
CBYP					Sn	06 31 05.5	0.0
GCPR	Guaynabo City	0.86	201	⇑iP	Pn	06 30 53.1	-1.4
GCPR	Guaynabo City	0.86	201	eS	Sn	06 31 04.1	-1.7
GCPR	Guaynabo City	0.86	201		Pn	06 30 53.2	-1.3
GCPR					Sn	06 31 05.6	-0.2
CUPR	Culebra, Puert	0.92	151	⇓iP	Pn	06 30 54.4	-1.0
CUPR	Culebra, Puert	0.92	151	eS	Sn	06 31 06.2	-1.1
CUPR	Culebra, Puert	0.92	151		Pn	06 30 54.7	-0.7
CUPR					Sn	06 31 06.8	-0.5
EMPR	Esperanza - Ma	0.97	229	⇑eP	Pn	06 30 54.9	-1.1
EMPR	Esperanza - Ma	0.97	229	eS	Sn	06 31 07.3	-1.3
EMPR	Esperanza - Ma	0.97	229		Pn	06 30 54.7	-1.3
EMPR					Sn	06 31 08.1	-0.5
MTP	Monte Pirata	1.03	169	⇑eP	Pn	06 30 55.7	-1.1
MTP	Monte Pirata	1.03	169	eS	Sn	06 31 08.7	-1.3
MTP	Monte Pirata	1.03	169		Pn	06 30 56.0	-0.9
MTP					Sn	06 31 09.0	-1.0
STVI	Saint Thomas	1.07	135	Pn	Pn	06 30 56.9	-0.5
PDPR	Patillas Dam,	1.12	193	⇑eP	Pn	06 30 56.8	-1.3
PDPR	Patillas Dam,	1.12	193	eS	Sn	06 31 10.8	-1.5
PDPR	Patillas Dam,	1.12	193		Pn	06 30 56.9	-1.2
PDPR					Sn	06 31 11.9	-0.3
IGPR	InterUniversit	1.19	196	⇑eP	Pn	06 30 58.0	-1.1
IGPR	InterUniversit	1.19	196	eS	Sn	06 31 12.7	-1.3
IGPR	InterUniversit	1.19	196	Pn	Pn	06 30 58.2	-0.9
AOPR	Arecibo Observ	1.21	231	⇑eP	Pn	06 30 58.4	-1.0
AOPR	Arecibo Observ	1.21	231	eS	Sn	06 31 13.5	-1.2
AOPR	Arecibo Observ	1.21	231		Pn	06 30 58.5	-0.9
AOPR					Sn	06 31 14.2	-0.5
CELP	Cerrillos	1.29	217	⇑eP	Pn	06 30 59.6	-0.9
CELP	Cerrillos	1.29	217	eS	Sn	06 31 15.6	-1.0
CELP	Cerrillos	1.29	217		Pn	06 30 59.6	-0.9
CELP					Sn	06 31 15.6	-1.0
OBIP	Obispado Ponce	1.33	217	⇑iP	Pn	06 30 59.2	-1.8
OBIP	Obispado Ponce	1.33	217	eS	Sn	06 31 16.0	-1.6
OBIP	Obispado Ponce	1.33	217		Pn	06 30 59.4	-1.7
OBIP					Sn	06 31 17.0	-0.6
AGPR	Aguadilla, PR	1.44	244	Pn	Pn	06 31 01.8	-0.6
LSP	Las Mesas	1.57	234	⇑eP	Pn	06 31 03.4	-0.9
LSP	Las Mesas	1.57	234	eS	Sn	06 31 22.2	-1.2
LSP	Las Mesas	1.57	234		Pn	06 31 03.4	-0.9
LSP					Sn	06 31 22.2	-1.2
CDVI	St. Croix	1.65	145	⇑eP	Pb	06 31 07.5	-1.3
CDVI	St. Croix	1.65	145		Pn	06 31 06.1	+0.7
MLPR	Magueyes Islan	1.67	227	⇑eP	Pn	06 31 04.9	-0.8
MLPR	Magueyes Islan	1.67	227	eS	Sn	06 31 24.8	-1.1
MLPR	Magueyes Islan	1.67	227		Pn	06 31 05.9	+0.2
MLPR					Sn	06 31 24.8	-1.1
CRPR	Cabo Rojo, PR	1.69	230	⇑eP	Pn	06 31 05.5	-0.5
CRPR	Cabo Rojo, PR	1.69	230	eS	Sn	06 31 25.4	-1.0
CRPR	Cabo Rojo, PR	1.69	230		Pn	06 31 05.8	-0.2
CRPR	Cabo Rojo, PR	1.69	230		Sn	06 31 25.4	-1.0

KRSC 06 06:37:46.0±2.1, 48.25N×156.09E, h9km±39km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.44	0	eP	Pn	06 38 27.2	+1.2
SKR				eS	Sn	06 38 57.8	+1.9
ALID	Alaid	2.65	353	eP	Pn	06 38 29.0	0.0
ALID				eS	Sn	06 39 01.4	+0.1
PAU	Pauzhetka	3.26	8	eS	Sb	06 39 21.1	-2.6
KDTR	Khodutka, Kamc	3.79	19	eP	Pn	06 38 48.0	+3.5
KDTR				eS	Sb	06 39 34.6	-4.4
MIPR	Malaya Ipel'ka	4.05	6	eP	Pn	06 38 51.4	+3.2
ASAK	Asacha	4.30	15	eP	Pn	06 38 55.5	+3.8
MTVR	Mutnovka	4.45	17	eP	Pn	06 38 57.6	+3.9
MTVR				eS	Sn	06 39 51.6	+6.0
RUS	Russkaya	4.47	19	eP	Pn	06 38 57.0	+3.1
RUS				eS	Sn	06 39 50.2	+4.3
GRL	Gorelyy	4.49	16	eP	Pn	06 38 58.5	+4.2
GRL				eS	Sn	06 39 53.0	+6.3
DALK	Dalny	5.08	18	eP	Pn	06 39 05.4	+3.1
DALK				eS	Sn	06 40 04.9	+3.9
UGLR	Uglovaya	5.26	18	eP	Pn	06 39 10.8	+5.9
AVH	Avacha	5.30	17	P	Pn	06 39 10.8	+5.5
KOK	Koryaka	5.30	17	eP	Pn	06 39 10.6	+5.2
SMAR	Somma	5.31	18	eP	Pn	06 39 10.6	+5.0
KRER	Koryakskii	5.33	17	eP	Pn	06 39 09.9	+3.9
SDLR	Sedlovina	5.34	18	eP	Pn	06 39 10.7	+4.7
KRX	Arik	5.37	17	eP	Pn	06 39 10.7	+4.3
KRX				eS	Sn	06 40 14.1	+5.8
SPN	Mys Shipunski	5.46	26	eP	Pn	06 39 12.1	+4.6
SPN				eS	Sn	06 40 15.8	+5.4
KZV	Kizimen	7.35	19	eP	Pn	06 39 40.2	+6.6

TUMR	**Tumrok**	**7.48**	**18**	*eP*	Pn	06 39 40.6	+5.3

*UPA **06** 06:53:06.3±2.0, 26.98S×115.88W, h10km±439km, MW6.6*
*NEIC **06** 06:53:11.8±1.2, 26.65S±0.09×114.50W±0.08, h7km±1km, mb6.1/663, Ms_20 5.9/938, Mwb6.0/74, Mwc6.2/75, Mww6.1, Mwc6.1(GCMT), Error ellipse: s-maj=15.6km s-min=11.8km az=196.0*
*IDC **06** 06:53:11.0±0.3, 26.64S×114.61W, h0km, mb5.2/30, mb1 5.3/31, mb1mx5.2/39, mbtmp5.2/31, ML4.0/1, MS6.0/26, Ms1 5.9/26, ms1mx5.9/29, Error ellipse: s-maj=13.8km s-min=11.6km az=106.0*
*UNK **06** 06:53:11.8, 26.65S×114.50W, h7km*
*MOS **06** 06:53:11.2±1.1, 26.54S×114.53W, h10km, mb6.0/94, MS5.9/20, Error ellipse: s-maj=8.9km s-min=5.5km az=80.5*
*BJI **06** 06:53:12.4±0.0, 26.45S×114.75W, h10km, mB6.1/61, Ms6.2/71, Ms7 6.0/66*
*NEIC **06** 06:53:12.7, 26.65S×114.45W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-0.81; Mθθ0.23; Mφφ0.59; Mrθ-0.36; Mθφ-0.92; Mφr0.69; Fault plane solution: M0 1.41000×10^18 NP1:φs300.50000°, δ30.04000°, λ-119.57000°. NP2:φs153.75000°, δ64.19000°, λ-74.07000°. Principal axes: T 1.5849, Plg18.0000°, Azm232.0000°; N -0.4853, Plg14.0000°, Azm327.0000°; P -1.0996, Plg67.0000°, Azm93.0000°;*
*BGR **06** 06:53:13.0±0.0, 27.66S×116.20W, h10km, Ms6.0*
*NEIC **06** 06:53:17, 26.96S×114.55W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-1.51; Mθθ0.51; Mφφ1.00; Mrθ-0.20; Mθφ-1.49; Mφr0.30; Fault plane solution: M0 2.03000×10^18 NP1:φs316.00000°, δ40.00000°, λ-95.00000°. NP2:φs142.00000°, δ50.00000°, λ-86.00000°. Principal axes: T 2.2992, Plg5.0000°, Azm230.0000°; N -0.7527, Plg3.0000°, Azm320.0000°; P -1.5465, Plg84.0000°, Azm78.0000°;*
*GCMT **06** 06:53:17.8±0.1, 26.89S×114.56W, h12km, MW6.1/161, Moment Tensor Solution. s157,c335; s161,c623; Duration: 28 Moment tensor: Scale 10^18Nm; Mrr-1.42±.01; Mθθ0.41±.01; Mφφ1.01±.01; Mrθ0.07±.03; Mθφ-1.46±.01; Mφr-0.03±.03; Best double couple: M0 1.81300×10^18 NP1:φs145.00000°, δ44.00000°, λ-85.00000°. NP2:φs317.00000°, δ46.00000°, λ-95.00000°. Principal axes: T 2.2010, Plg1.0000°, Azm51.0000°; N -0.7790, Plg4.0000°, Azm321.0000°; P -1.4240, Plg86.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **06** 06:53:22, 27.02S×114.68W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-1.24; Mθθ0.34; Mφφ0.91; Mrθ-0.26; Mθφ-1.56; Mφr-0.26; Fault plane solution: M0 1.95000×10^18 NP1:φs110.00000°, δ54.00000°, λ-134.00000°. NP2:φs350.00000°, δ55.00000°, λ-45.00000°. Principal axes: T 2.2108, Plg0.0000°, Azm50.0000°; N -0.7162, Plg35.0000°, Azm141.0000°; P -1.4947, Plg55.0000°, Azm319.0000°;*
*NEIC **06** 06:53:26.1, 27.31S×114.30W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-1.27; Mθθ0.09; Mφφ1.18; Mrθ-1.47; Mθφ-1.43; Mφr1.83; Fault plane solution: M0 2.92000×10^18 NP1:φs140.53000°, δ72.08000°, λ-94.80000°. NP2:φs335.79000°, δ18.53000°, λ-75.50000°. Principal axes: T 3.3545, Plg27.0000°, Azm234.0000°; N -0.8785, Plg5.0000°, Azm142.0000°; P -2.4759, Plg63.0000°, Azm43.0000°;*

ISC 06 06:53:11.9±0.2, 26.90S±0.04×114.62W±0.04, h10km, n2127, σ1.87/2294, mb6.1/360, MS5.9/527, 37C-77D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.72**	**94**	Pn	**Pn**	**06 54 22.2**	**-1.0**
	6.6nm,0.3s,baz=276,slow=9.6,SNR=17						
RPN				T	T	06 59 05.6	
	65nm,0.3s,baz=257,slow=17,SNR=6.4						
RPN	**Rapa Nui**	**4.72**	**94**	P	**Pn**	**06 54 22.8**	**-0.4**
RPN						06 55 13.7	
RPN	**Rapa Nui**	**4.72**	**94**	Pn	**Pn**	**06 54 22.8**	**-0.4**
RPN				Sn	**Sn**	**06 55 13.7**	**-4.3**
RKT	**Rikitea**	**18.83**	**277**	*e*LQ	LQ	07 01 05.6	
	102μm,29.2s						
RKT				*e*LR	LR	07 01 58.6	
	comp=Z,76μm,28.5s						
TAOE	**Nuku Hiva Isla**	**30.10**	**302**	*e*S	**S**	**07 04 23.9**	**+3.1**
	4μm,25.1s						
TAOE				*e*LR	LR	07 07 12.2	
	comp=Z,34μm,24.5s,baz=140						
TAOE	**Nuku Hiva Isla**	**30.10**	**302**	IAMs_20	IAMs_20	07 07 52.1	
	comp=Z,25μm,21.0s						
H03N2	**Juan Fernandez**	**31.42**	**111**	T	T	07 32 39.0	
	baz=277,slow=74						
H03N3	**Juan Fernandez**	**31.43**	**111**	T	T	07 32 33.4	
	baz=277,slow=74						
H03N1	**Juan Fernandez**	**31.44**	**111**	T	T	07 32 33.2	
	baz=277,slow=74						
VA04	**Juan Fernndez**	**31.52**	**111**	P	**P**	**06 59 33.6**	**-0.6**
VA04				IAmb	IAmb	06 59 38.9	
	comp=Z,225nm,1.2s						
VA04				IAMs_20	IAMs_20	07 08 30.7	
	comp=Z,28μm,22.0s						
TBI	**Tubuai**	**31.69**	**269**	*e*S	**S**	**07 04 48.7**	**+3.3**
TBI				*e*LQ	LQ	07 06 37.5	
	comp=Z,32μm,34.0s						
TBI				*e*LR	LR	07 07 44.9	
	comp=Z,51μm,29.5s						
TBI	**Tubuai**	**31.69**	**269**	*e*T	T	07 32 49.6	
	comp=Z,277nm,0.3s						
PAE	**Paea**	**33.54**	**279**	*e*P	P	06 59 57.0	+4.9
	comp=Z,27nm,1.2s						
PPTF	**Pamatai, Papee**	**33.56**	**279**	P	**P**	**06 59 54.3**	**+2.0**
PPTF				IAmb	IAmb	07 00 11.8	
	comp=Z,298nm,1.3s						
PPTF				IAMs_20	IAMs_20	07 09 20.9	
	comp=Z,29μm,20.0s						
PPT2	**Papeete2**	**33.57**	**279**	*e*P	P	06 59 57.7	+5.3
	comp=Z,207nm,1.4s						
PPT2				*e*S	**S**	**07 05 18.2**	**+3.3**
	comp=Z,8μm,27.0s						
PPT2				*e*LQ	LQ	07 07 22.9	
	comp=Z,33μm,31.5s						
PPT2				*e*LR	LR	07 08 37.1	
	comp=Z,90μm,26.5s,baz=108						
PPT	**Papeete**	**33.57**	**279**	LR	LR	07 09 41.1	
	comp=Z,25μm,19.5s,baz=102,slow=30						
BI03	**Tigo**	**36.44**	**116**	P	**P**	**07 00 18.5**	**+1.5**
GO05	**Huala**	**37.26**	**113**	IAMs_20	IAMs_20	07 11 26.2	
	comp=Z,21μm,19.0s						
LC01	**Cunco**	**37.51**	**120**	IAMs_20	IAMs_20	07 11 41.2	
	comp=Z,13μm,19.0s						
LL01	**San Ignacio de**	**37.59**	**125**	P	**P**	**07 00 28.8**	**+2.2**
BI02	**San Fabin de**	**37.84**	**116**	P	**P**	**07 00 29.3**	**+0.4**
MT02	**Curacav**	**37.95**	**110**	P	**P**	**07 00 30.7**	**+0.9**
MT02				IAMs_20	IAMs_20	07 11 42.9	
	comp=Z,18μm,21.0s						
ROC1	**El Roble**	**38.06**	**110**	P	**P**	**07 00 30.7**	**-0.3**
CO02	**Combarbal**	**38.19**	**107**	P	**P**	**07 00 31.7**	**-0.3**
BO02	**Sierra Bellavi**	**38.21**	**113**	P	**P**	**07 00 32.8**	**+0.7**
BO02				IAMs_20	IAMs_20	07 11 55.0	
	comp=Z,20μm,22.0s						
MT05	**Renca**	**38.27**	**111**	P	**P**	**07 00 32.8**	**+0.2**
MT05				IAMs_20	IAMs_20	07 11 51.6	
	comp=Z,17μm,21.0s						
PEL	**Peldehue**	**38.33**	**110**	P	**P**	**07 00 33.1**	**0.0**
PEL				pmax	pmax		
	comp=Z,124nm,1.6s						
PEL	**Peldehue**	**38.33**	**110**	P	**P**	**07 00 33.1**	**0.0**
PEL				IAMs_20	IAMs_20	07 11 44.2	
	comp=Z,16μm,22.0s						
NNA	**Nana**	**38.41**	**75**	LR	LR	07 12 03.7	
	comp=Z,36μm,21.8s,baz=246,slow=30						
GO04	**Tololo Observa**	**38.46**	**105**	P	**P**	**07 00 34.4**	**-0.1**
VA03	**San Esteban**	**38.46**	**110**	P	**P**	**07 00 35.4**	**+1.2**
VA03				IAMs_20	IAMs_20	07 11 47.4	
	comp=Z,16μm,22.0s						
AC04	**Llanos de Chal**	**38.47**	**102**	P	**P**	**07 00 35.0**	**+0.7**
AC04				IAMs_20	IAMs_20	07 12 07.9	
	comp=Z,27μm,20.0s						
CO03	**El Pedregal**	**38.49**	**106**	P	**P**	**07 00 35.2**	**+0.7**
LCO	**Las Campanas**	**38.69**	**104**	P	**P**	**07 00 37.6**	**+1.2**
LCO				pmax	pmax		
	comp=Z,193nm,1.3s						
LCO	**Las Campanas**	**38.69**	**104**	P	**P**	**07 00 37.6**	**+1.2**
PLCA	**Paso Flores**	**38.73**	**122**	P	**P**	**07 00 39.2**	**+2.8**
	comp=Z,117nm,1.0s,baz=281,slow=8.9,SNR=76						
PLCA				LR	LR	07 12 31.8	
	comp=Z,7μm,21.1s,baz=280,slow=30						
PLCA	**Paso Flores**	**38.73**	**122**	P	**P**	**07 00 38.5**	**+2.1**
PLCA				pmax	pmax		
	comp=Z,398nm,1.3s						
PLCA	**Paso Flores**	**38.73**	**122**	P	**P**	**07 00 38.5**	**+2.1**
PLCA				IAmb	IAmb	07 00 45.2	
	comp=Z,398nm,1.3s						
AC05	**El Transito**	**39.08**	**103**	P	**P**	**07 00 40.6**	**+1.1**
AC05				IAMs_20	IAMs_20	07 12 27.1	
	comp=Z,16μm,20.0s						
CO01	**Juntas del Tor**	**39.09**	**105**	P	**P**	**07 00 40.3**	**+0.6**
GO03	**Copiap**	**39.30**	**101**	P	**P**	**07 00 42.6**	**+1.3**
ATAH	**Atahualpa**	**39.61**	**67**	LR	LR	07 12 56.8	
	comp=Z,37μm,19.6s,baz=246,slow=30						
PB14	**IPOC Station P**	**39.73**	**97**	P	**P**	**07 00 46.1**	**+0.9**
PB10	**IPOC Station P**	**39.86**	**95**	P	**P**	**07 00 46.2**	**+0.2**
GO09	**Cerro Castillo**	**40.07**	**139**	P	**P**	**07 00 50.4**	**+3.0**
ZON	**Zonda**	**40.13**	**108**	P	**P**	**07 00 49.1**	**+0.9**
ZON				pmax	pmax		
	comp=Z,106nm,1.2s						
ZON	**Zonda**	**40.13**	**108**	P	**P**	**07 00 49.1**	**+0.9**
GO02	**Mina Guanaco**	**40.34**	**98**	P	**P**	**07 00 50.9**	**+0.7**
GO02				IAMs_20	IAMs_20	07 13 21.8	
	comp=Z,18μm,19.0s						
AC02	**Maricunga**	**40.41**	**101**	P	**P**	**07 00 51.9**	**+0.9**
PB04	**IPOC Station P**	**40.53**	**94**	P	**P**	**07 00 51.9**	**+0.2**
PB15	**IPOC Station P**	**40.90**	**95**	P	**P**	**07 00 54.8**	**0.0**
PB07	**IPOC Station P**	**40.93**	**93**	P	**P**	**07 00 54.7**	**-0.3**
PB06	**IPOC Station P**	**40.94**	**94**	P	**P**	**07 00 54.4**	**-0.7**
PATCX	**Punta Patache**	**40.95**	**91**	P	**P**	**07 00 55.3**	**+0.2**
TA01	**Diego Aracena**	**41.01**	**91**	P	**P**	**07 00 56.6**	**+1.1**
PSGCX	**Pisagua**	**41.36**	**90**	P	**P**	**07 00 57.4**	**-1.0**
RAR	**Rarotonga**	**41.46**	**268**	LR	LR	07 13 19.6	
	comp=Z,15μm,20.6s,baz=112,slow=29						
RAR	**Rarotonga**	**41.46**	**268**	IAMs_20	IAMs_20	07 13 08.4	
	comp=Z,16μm,21.0s						
PB01	**IPOC Station P**	**41.48**	**92**	P	**P**	**07 00 59.9**	**+0.4**
PB09	**IPOC Station P**	**41.48**	**93**	P	**P**	**07 00 59.0**	**-0.5**
LVC	**Limon Verde**	**41.56**	**94**	LR	LR	07 13 58.2	
	comp=Z,31μm,19.5s,baz=258,slow=30						
LVC	**Limon Verde**	**41.56**	**94**	P	**P**	**07 01 01.3**	**+0.9**
LVC				pmax	pmax		
	comp=Z,279nm,1.5s						
LVC	**Limon Verde**	**41.56**	**94**	P	**P**	**07 01 01.3**	**+0.9**
PB11	**IPOC Station P**	**41.72**	**90**	P	**P**	**07 01 01.6**	**+0.1**
MNMC	**Minye Minye**	**41.98**	**89**	P	**P**	**07 01 03.7**	**-0.1**
PB08	**IPOC Station P**	**42.05**	**91**	P	**P**	**07 01 03.9**	**-0.6**
GO01	**Chusmiza**	**42.16**	**90**	P	**P**	**07 01 05.2**	**-0.3**
PB16	**IPOC Station P**	**42.32**	**88**	P	**P**	**07 01 07.6**	**+0.7**
USHA	**Ushuaia**	**43.55**	**143**	P	**P**	**07 01 18.9**	**+3.2**
	comp=Z,15nm,0.3s,baz=278,slow=4.8,SNR=6.8						
USHA				LR	LR	07 15 28.8	
	comp=Z,21μm,18.6s,baz=308,slow=31						
PAC1	**Pacto, Paraso**	**43.78**	**58**	*e*P	**P**	**07 01 18.1**	**-0.2**
MG01	**Puerto William**	**44.02**	**143**	IAMs_20	IAMs_20	07 15 23.6	
	comp=Z,17μm,19.0s						
OTAV	**Otavalo**	**44.02**	**58**	*e*P	**P**	**07 01 20.9**	**+0.3**
OTAV	**Otavalo**	**44.02**	**58**	P	**P**	**07 01 21.1**	**+0.6**
OTAV				pmax	pmax		
	comp=Z,195nm,1.6s						
OTAV	**Otavalo**	**44.02**	**58**	P	**P**	**07 01 21.1**	**+0.6**
CZSB	**Cruzeiro do Su**	**44.05**	**72**	*e*P	**P**	**07 01 20.6**	**+0.3**
CUSE	**Cuicocha Este**	**44.10**	**58**	*e*P	**P**	**07 01 25.1**	**+3.9**
LPAZ	**La Paz**	**44.28**	**86**	P	**P**	**07 01 23.9**	**+1.0**
	comp=Z,23nm,1.1s,baz=254,slow=6.3,SNR=47						
LPAZ				LR	LR	07 15 42.3	
	comp=Z,21μm,20.9s,baz=249,slow=30						
LPAZ	**La Paz**	**44.28**	**86**	P	**P**	**07 01 22.9**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,87nm,1.5s						
LPAZ	**La Paz**	**44.28**	**86**	P	**P**	**07 01 22.9**	**+0.1**
GCUF	**Volcan Galeras**	**45.50**	**58**	*e*P	**P**	**07 01 33.6**	**+1.2**
H06S1	**SOCORRO T**	**45.50**	**5**	T	T	07 50 02.4	
	SNR=19						
H06E1	**SOCORRO T-PHAS**	**45.55**	**5**	T	T	07 50 04.7	
	SNR=194						
H06N1	**SOCORRO T-PHAS**	**45.63**	**5**	T	T	07 50 09.7	
	SNR=29						
PUAC	**Puerto Asis, P**	**45.66**	**60**	*e*P	**P**	**07 01 33.3**	**+0.2**
GR1C	**Gorgona, Isla**	**46.06**	**55**	*e*P	**P**	**07 01 35.6**	**-0.6**
BBAC	**Balboa, Cauca**	**46.09**	**57**	*e*P	**P**	**07 01 37.0**	**+0.3**
PIRO	**Carate, Puerto**	**46.39**	**45**	*i* P	**P**	**07 01 40.1**	**+1.4**
PIRO				⇓*e*S	**S**	**07 08 33.3**	**+6.7**
SOTA	**Rioblanco**	**46.65**	**58**	*e*P	**P**	**07 01 41.9**	**+0.5**
PTLC	**Puerto Leguiza**

LPA La Plata 48.74 114 *c iP* **P 07 01 54.1 -2.8**
LPA PPP PPP 07 04 33.0
LPA S **S 07 08 59.6 -0.1**
LPA SS **SS 07 12 35.8 +5.9**
LPA SSS SSS 07 13 48.3
comp=Z,254nm,1.3s

ESPN Las Esperanzas 48.76 41 P **P 07 01 56.4 -0.7**
ESPN IAmb IAmb 07 02 00.5
comp=Z,254nm,1.3s
ESPN IAMs_20 IAMs_20 07 17 00.8
comp=Z,19μm,21.0s

MACC Macarena, Meta 48.77 60 *eP* **P 07 01 56.5 -0.8**
EFI East Falkland 48.80 136 *deP* **P 07 01 58.8 +1.7**
EFI pmax pmax
comp=Z,399nm,2.5s

EFI East Falkland 48.80 136 P **P 07 01 59.2 +2.1**
EFI IAmb IAmb 07 02 00.6
comp=Z,225nm,1.3s

SOLC Bahia Solano 48.81 53 *eP* **P 07 01 57.5 0.0**
ORTC Ortega, Tolima 48.83 57 *eP* **P 07 01 57.4 -0.4**
ORTC *eP* **P 07 01 57.7 -0.1**
PRAC Prado 48.97 58 *eP* **P 07 01 58.9 -0.1**
ANIL Santa Ana 49.09 57 *eP* **P 07 01 59.6 -0.6**
TOLC Tolima 49.22 56 *eP* **P 07 02 00.7 -0.5**
BCIP Isla Barro Col 49.23 48 *eP* **P 07 01 59.6 -1.2**
BCIP Isla Barro Col 49.23 48 ||*iP* **P 07 02 01.1 +0.3**
BCIP *i* S **S 07 09 15.0 +8.1**
BCIP Isla Barro Col 49.23 48 P **P 07 01 59.7 -1.2**
BCIP pmax pmax
comp=Z,284nm,1.7s

BCIP Isla Barro Col 49.23 48 P **P 07 01 59.7 -1.2**
BCIP IAmb IAmb 07 02 02.5
comp=Z,284nm,1.7s

UPA Univ. de Panam 49.30 49 ||*iP* **P 07 02 00.7 -0.6**
UPA *i* S **S 07 09 10.4 +2.6**
PMSA Palmer Station 49.48 154 P **P 07 02 05.1 +3.0**
PMSA Palmer Station 49.48 154 *eP* **P 07 02 05.3 +3.2**
CBOC Ciudad Bolivar 49.56 55 *eP* **P 07 02 03.7 +0.1**
GUY2C Guyana, Caldas 49.61 56 *eP* **P 07 02 03.6 -0.7**
PETF Flores 49.74 32 P **P 07 02 03.5 -1.2**
PETF IAMs_20 IAMs_20 07 17 54.9
comp=Z,15μm,22.0s

UPD2 Meteti 50.01 50 *eP* **P 07 02 08.1 +1.3**
UPD2 *e*S S 07 09 27.6 +10
ROSC El Rosal 50.13 57 P **P 07 02 10.1 +1.9**
comp=Z,50nm,1.1s,baz=115,slow=4.3,SNR=63
ROSC LR LR 07 19 44.9
comp=Z,34μm,18.0s,baz=224,slow=32

ROSC El Rosal 50.13 57 *eP* **P 07 02 09.0 +0.8**
ROSC El Rosal 50.13 57 P **P 07 02 08.6 +0.4**
VILC Villavicencio, 50.13 58 *eP* **P 07 02 08.3 +0.4**
HELC Santa Helena 50.14 55 *eP* **P 07 02 08.2 0.0**
HELC Santa Helena 50.14 55 *i P* **P 07 02 08.9 +0.7**
HELC *e*S **S 07 09 26.2 +5.8**
NORC Norcasia 50.20 56 *eP* **P 07 02 06.7 -1.7**
DBBC Dabeiba 50.21 53 *eP* **P 07 02 08.6 +0.2**
XMAS Kiritimati 50.31 298 IAMs_20 IAMs_20 07 17 47.5
comp=Z,9μm,21.0s

CHIC Chingaza 50.44 58 *eP* **P 07 02 11.5 +0.9**
SLBS Sierra La Lagu 50.49 6 P **P 07 02 10.7 +0.4**
SLBS IAMs_20 IAMs_20 07 18 07.0
comp=Z,14μm,22.0s

SIV San Ignacio 50.69 89 LR LR 07 19 44.0
comp=Z,22μm,21.9s,baz=270,slow=31

ZAIG Zacatecas 50.73 14 P **P 07 02 11.3 -1.1**
CPUP Villa Florida 50.83 103 P **P 07 02 13.6 +0.7**
comp=Z,22nm,1.1s,baz=264,slow=7.8,SNR=11
CPUP LR LR 07 19 58.1
comp=Z,11μm,21.3s,baz=260,slow=32

CPUP Villa Florida 50.83 103 P **P 07 02 12.8 -0.1**
CPUP pmax pmax
comp=Z,60nm,1.3s

CPUP Villa Florida 50.83 103 P **P 07 02 12.8 -0.1**
CPUP Villa Florida 50.83 103 *eP* **P 07 02 14.3 +1.3**
SPBC San Pablo de B 50.85 57 *eP* **P 07 02 12.6 -0.7**
LPIG La Paz 50.88 5 LR LR 07 16 25.3
comp=Z,1μm,20.3s,baz=222,slow=28

PTBC PUERTO BERRIO, 51.16 55 *eP* **P 07 02 14.8 -0.7**
UREC San Jos de Ur 51.20 53 *eP* **P 07 02 15.4 -0.3**
LCBC Los crdobas, 51.38 52 *eP* **P 07 02 18.0 +0.9**
ZARC Zaragoza, Cauc 51.51 54 *eP* **P 07 02 18.0 -0.1**
SAML Samuel 51.71 80 P **P 07 02 18.9 -0.8**
SAML pmax pmax
comp=Z,229nm,1.9s

SAML Samuel 51.71 80 P **P 07 02 18.9 -0.8**
SAML Samuel 51.71 80 *eP* **P 07 02 18.7 -1.0**
RUSC La Rusia 51.75 57 *eP* **P 07 02 19.6 -0.8**
MOTC Monteria, Cord 51.81 52 *eP* **P 07 02 19.2 -1.1**
BRRC Barranca, Sant 52.08 55 *eP* **P 07 02 22.4 0.0**
BARC Barichara 52.13 56 *eP* **P 07 02 22.7 -0.4**
PTLB Pontes e Lacer 52.62 89 *eP* **P 07 02 26.3 -0.1**
VILB Vilhena 52.64 86 *eP* **P 07 02 26.6 0.0**
PLTB Pedras Altas 52.81 111 *eP* **P 07 02 28.9 +1.2**
SJCC San Jacinto, C 52.94 52 *eP* **P 07 02 27.9 -0.9**
SJCC San Jacinto, C 52.94 52 ||*iP* **P 07 02 29.5 +0.7**
SJCC *i* S **S 07 10 03.3 +5.0**
SMLC San Martn de 52.97 54 *eP* **P 07 02 28.3 -0.6**
PAMC Pamplona, Colo 52.99 56 *eP* **P 07 02 29.1 -0.6**
TAMC Tame, Arauca 53.07 58 *eP* **P 07 02 28.2 -1.6**
OCAC Ocana 53.13 55 *eP* **P 07 02 28.8 -1.5**
TEIG Tepich 53.35 31 LR LR 07 21 05.3
comp=Z,10μm,18.2s,baz=190,slow=32

TEIG Tepich 53.35 31 P **P 07 02 29.0 -2.6**
TEIG IAmb IAmb 07 02 34.0
comp=Z,216nm,1.2s

TEIG Tepich 53.35 31 IAMs_20 IAMs_20 07 20 04.5
comp=Z,10μm,20.0s

ARGC Ariguani, Magd 53.57 53 *eP* **P 07 02 33.6 +0.2**
AQDB Aquidauana 53.93 97 *eP* **P 07 02 36.6 +0.5**
SMRC Santa Marta, M 54.49 51 *eP* **P 07 02 39.4 -0.6**
ITAB Concordia 55.10 106 *eP* **P 07 02 46.4 +2.0**
RAO Raoul Island 55.29 252 IAMs_20 IAMs_20 07 20 14.5
comp=Z,9μm,20.0s

SDV Santo Domingo 55.54 56 *eP* **P 07 02 46.2 -1.7**
SDV Santo Domingo 55.54 56 P **P 07 02 46.2 -1.7**
SDV Santo Domingo 55.54 56 *eP* **P 07 02 47.4 -0.5**
CNLB Canela 55.67 108 *eP* **P 07 02 49.8 +1.2**
HSIG 55.71 4 P **P 07 02 48.1 -0.5**
HSIG IAmb IAmb 07 02 50.7
comp=Z,292nm,1.9s

PTGB Pitanga 55.84 103 *eP* **P 07 02 51.2 +1.2**
TRCB Terra Rica 55.91 100 *eP* **P 07 02 51.5 +1.1**
KVTX Kingsville 56.47 18 P **P 07 02 53.7 -0.4**
MACA Manacapuru-AM 56.66 75 *eP* **P 07 02 54.8 -1.0**
833A Chaparral WMA, 56.82 16 P **P 07 02 56.5 -0.1**
833A S **S 07 10 50.9 +1.0**
baz=196

833A Chaparral WMA, 56.82 16 P **P 07 02 55.7 -0.8**
833A IAmb IAmb 07 02 58.4
comp=Z,569nm,1.9s

TX31 Lajitas Ar. Si 56.89 11 P **P 07 02 56.0 -1.2**
TX31 IAmb IAmb 07 02 58.0
comp=Z,466nm,1.9s

TX32 Lajitas Array 56.89 11 P **P 07 02 56.9 -0.3**
TXAR Lajitas Array 56.89 11 P **P 07 02 56.6 -0.5**
comp=Z,8.4nm,0.9s,baz=189,slow=10,SNR=42
TXAR LR LR 07 22 50.4
comp=Z,8μm,18.3s,baz=0.0,slow=31

TXAR PKPPKP **P'P'df 07 32 40.6 -1.7**
comp=Z,0.4nm,0.9s,baz=242,slow=2.7,SNR=4.2
TXAR PKP2bc 07 33 03.0
comp=Z,0.5nm,0.9s,baz=163,slow=1.3,SNR=4.0
TXAR PKP2ab 07 33 22.3
comp=Z,2.2nm,1.2s,baz=17,slow=1.3,SNR=5.8

CLDB Colider 57.42 86 *eP* **P 07 02 59.4 -1.8**
URZ Urewera 57.47 240 P **P 07 03 04.2 +3.0**
comp=Z,42nm,1.3s,baz=76,slow=4.6,SNR=3.6
URZ Urewera 57.47 240 P P 07 03 05.9 +4.7
PCMB Pacaembu 57.49 99 *eP* **P 07 03 02.6 +1.0**
PCMB *e*S **S 07 10 57.3 -2.0**
SPX San Pedro Mart 57.62 359 P **P 07 03 02.6 +0.1**
735A Kenedy 57.74 17 P **P 07 03 02.9 -0.1**
735A IAMs_20 IAMs_20 07 24 27.5
comp=Z,10μm,19.0s

BKZ Black Stump Fm 57.78 239 P **P 07 03 07.0 +3.4**
PIX Pinacate 58.15 1 P **P 07 03 05.2 -0.6**
319A Douglas 58.17 5 P **P 07 03 04.9 -1.3**
319A IAmb IAmb 07 03 09.2
comp=Z,161nm,1.1s

TIJ01 Guaruva-PR 58.32 104 *eP* **P 07 03 08.7 +1.1**
MSWZ Moikau Station 58.34 236 P **P 07 03 10.0 +2.7**
FRTB Fartura 58.43 102 *eP* **P 07 03 09.2 +0.9**
CCX Cicese 58.47 358 P **P 07 03 07.6 -0.5**

PTGA Pitinga 58.51 73 P **P 07 03 07.9 -0.9**
PTGA IAmb IAmb 07 03 09.7
comp=Z,246nm,1.6s

PTGA Pitinga 58.51 73 *eP* **P 07 03 08.1 -0.7**
214A Organ Pipe Nat 58.55 2 P **P 07 03 08.8 +0.1**
baz=182,SNR=26
214A S **S 07 11 18.1 +5.5**
baz=182

214A Organ Pipe Nat 58.55 2 P **P 07 03 07.8 -0.9**
214A IAmb IAmb 07 03 11.0
comp=Z,473nm,1.9s

ESJX Sierra Juarez 58.59 359 P **P 07 03 07.9 -1.2**
JCT Junction City 58.79 15 P **P 07 03 09.4 -1.0**
JCT pmax pmax
comp=Z,296nm,0.9s

JCT Junction City 58.79 15 P **P 07 03 10.0 -0.4**
baz=195,SNR=226
JCT S **S 07 11 18.3 +2.5**
baz=195

JCT Junction City 58.79 15 P **P 07 03 09.3 -1.0**
JCT IAMs_20 IAMs_20 07 23 50.4
comp=Z,11μm,22.0s

EPT El Paso 58.86 8 IAMs_20 IAMs_20 07 23 15.9
comp=Z,12μm,20.0s

CBX Cerro Bola 58.92 358 P **P 07 03 10.2 -1.2**
CBX IAmb IAmb 07 03 13.4
comp=Z,234nm,2.0s

ITRB Iturama 58.92 98 *eP* **P 07 03 12.7 +1.1**
MNTX Cornudas Mount 58.94 9 P **P 07 03 10.4 -0.9**
baz=190,SNR=91
MNTX S **S 07 11 20.6 +3.1**
baz=190

MNTX Cornudas Mount 58.94 9 P **P 07 03 09.0 -2.3**
MNTX IAmb IAmb 07 03 12.6
comp=Z,284nm,1.9s

MNTX IAMs_20 IAMs_20 07 23 22.4
comp=Z,8μm,21.0s

HATO Hato, Curacao 58.94 55 IAMs_20 IAMs_20 07 25 30.5
comp=Z,8μm,20.0s

TUC Tucson 58.99 4 P **P 07 03 10.9 -1.0**
TUC pmax pmax
comp=Z,269nm,1.9s

TUC Tucson 58.99 4 P **P 07 03 11.9 0.0**
baz=184
TUC S **S 07 11 21.8 +3.4**
baz=184

TUC Tucson 58.99 4 P **P 07 03 10.9 -1.0**
TUC IAmb IAmb 07 03 14.1
comp=Z,269nm,1.9s

ARAG Araguaiana, MT 59.06 93 *eP* **P 07 03 13.2 +0.6**
TKX Tecate 59.17 358 P **P 07 03 11.5 -1.5**
TKX IAmb IAmb 07 03 13.9
comp=Z,304nm,1.8s

RMX La Rumorosa 59.19 359 P **P 07 03 11.8 -1.5**
RMX IAmb IAmb 07 03 14.0
comp=Z,199nm,1.7s

UABX UABC, Campus M 59.21 359 P **P 07 03 11.8 -1.4**
IKP In-Ko-Pah, Jac 59.24 359 P **P 07 03 13.4 -0.1**
baz=178,SNR=22
IKP S **S 07 11 27.2 +5.7**
baz=178

BAR Barrett 59.28 358 P **P 07 03 13.3 -0.4**
BAR IAmb IAmb 07 03 15.7
comp=Z,368nm,1.9s

HKT Hockley 59.32 19 P **P 07 03 13.6 -0.4**
HKT pmax pmax
comp=Z,627nm,1.8s

HKT Hockley 59.32 19 P **P 07 03 13.6 -0.4**
HKT Hockley 59.32 19 IAMs_20 IAMs_20 07 26 04.7
comp=Z,9μm,19.0s

113A Mohawk Valley, 59.34 1 P **P 07 03 13.8 -0.3**
KHZ Kahutara 59.44 235 P **P 07 03 18.1 +3.2**
KHZ IAmb IAmb 07 03 20.1
comp=Z,195nm,1.8s

121A Cookes Peak, D 59.46 7 P **P 07 03 15.1 -0.1**
baz=187,SNR=76
121A S **S 07 11 28.3 +3.7**
baz=187

121A Cookes Peak, D 59.46 7 P **P 07 03 14.3 -0.9**
121A IAmb IAmb 07 03 18.2
comp=Z,162nm,1.1s

121A IAMs_20 IAMs_20 07 23 11.3
comp=Z,8μm,22.0s

NPGB Novo Progresso 59.48 82 *eP* **P 07 03 14.0 -1.6**
MONP2 Monument Peak 59.49 358 P **P 07 03 15.5 +0.1**
baz=178,SNR=24
MONP2 S **S 07 11 28.7 +3.6**
baz=178

109C Camp Elliot, M 59.51 358 P **P 07 03 14.9 -0.4**
baz=177
109C S **S 07 11 29.4 +4.6**
baz=177

109C Camp Elliot, M 59.51 358 P **P 07 03 14.8 -0.4**
SWSC Sam W. Stewart 59.53 359 P **P 07 03 15.3 -0.1**
baz=179,SNR=9.7
SWSC S **S 07 11 30.9 +5.8**
baz=179

GDL2 Guadalupe Moun 59.58 10 P **P 07 03 14.4 -1.5**
KNTN Kanton 59.59 283 IAMs_20 IAMs_20 07 23 20.4
comp=Z,7μm,20.0s

GLA Glamis 59.62 360 P **P 07 03 15.1 -1.0**
GLA pmax pmax
comp=Z,294nm,1.9s

GLA Glamis 59.62 360 P **P 07 03 16.2 +0.1**
baz=180,SNR=10
GLA S **S 07 11 31.1 +4.7**
baz=180

GLA Glamis 59.62 360 P **P 07 03 15.1 -1.0**
GLA IAmb IAmb 07 03 18.1
comp=Z,294nm,1.9s

435B Jarrell 59.62 17 P **P 07 03 16.2 0.0**
baz=198,SNR=35
435B S **S 07 11 31.3 +4.9**
baz=198

435B Jarrell 59.62 17 P **P 07 03 14.9 -1.2**
SCI2 San Clemente I 59.67 356 P **P 07 03 15.9 -0.4**
baz=176
CLNB Carlsbad 59.72 11 P **P 07 03 15.6 -1.3**
NNZ Nelson 59.77 236 P **P 07 03 18.9 +1.8**
NNZ IAmb IAmb 07 03 22.6
comp=Z,232nm,1.5s

BB19B Bebedouro 60.08 100 *eP* **P 07 03 20.5 +0.8**
CIS Catalina Islan 60.08 356 P **P 07 03 18.8 -0.4**
baz=176
CIS S **S 07 11 37.3 +5.0**
baz=176

PET01 Itanhaem-SP 60.13 104 *eP* **P 07 03 20.4 +0.5**
TPFO Pinon Flats 60.20 358 P **P 07 03 20.3 +0.1**
baz=178,SNR=14
PFO Pinyon Flats O 60.21 358 P **P 07 03 20.3 +0.1**
comp=Z,10nm,0.9s,baz=176,slow=7.5,SNR=22

PFO Pinyon Flats O 60.21 358 P **P 07 03 19.6 -0.7**
PFO pmax pmax
comp=Z,228nm,2.0s

PFO Pinyon Flats O 60.21 358 P **P 07 03 20.4 +0.1**
baz=178,SNR=15
PFO S **S 07 11 41.1 +7.0**
baz=178

PFO Pinyon Flats O 60.21 358 P **P 07 03 19.6 -0.7**
PFO IAmb IAmb 07 03 22.5
comp=Z,228nm,1.9s

MURC Murrieta 60.22 358 P **P 07 03 19.9 -0.3**
baz=177
MURC S **S 07 11 40.3 +6.2**
baz=177

BC3 Big Chuckawall 60.23 359 P **P 07 03 20.7 +0.3**
baz=179,SNR=38
BC3 S **S 07 11 42.2 +7.8**
baz=179

LTZ Lake Taylor 60.29 234 P **P 07 03 23.1 +2.2**
ITTB Itaituba 60.38 79 *eP* **P 07 03 20.6 -1.1**
FMP Fort Macarthur 60.38 356 P **P 07 03 21.1 -0.1**
baz=176
BELC Belle Mtn. Jos 60.58 359 P **P 07 03 23.1 +0.3**
baz=178,SNR=36
BELC S **S 07 11 45.8 +6.8**
baz=178

IRM Iron Mountain 60.73 359 P **P 07 03 23.8 +0.1**
baz=179,SNR=42
IRM S **S 07 11 45.6 +5.0**
baz=179

VAO Valinhos 60.81 103 *eP* **P 07 03 26.4 +1.7**
WHTX Lake Whitney, 60.81 17 P **P 07 03 23.4 -0.8**
baz=198,SNR=54
WHTX S **S 07 11 43.1 +1.5**
baz=198

WHTX Lake Whitney, 60.81 17 P **P 07 03 22.6 -1.6**
WHTX IAmb IAmb 07 03 26.2
comp=Z,162nm,1.1s

LGNH Logne 60.82 47 P **P 07 03 23.6 -0.9**
PASC Pasadena Art C 60.83 357 P **P 07 03 23.9 -0.5**
PASC IAmb IAmb 07 03 25.2
comp=Z,227nm,1.8s

PASC Pasadena Art C 60.83 357 IAMs_20 IAMs_20 07 23 12.0
comp=Z,7μm,20.0s

OUZ Omahuta 60.86 243 P **P 07 03 26.6 +1.8**
OUZ IAmb IAmb 07 03 29.6
comp=Z,366nm,1.8s

BBRC Big Bear Solar 60.87 358 P **P 07 03 25.3 +0.4**
baz=178
BBRC S **S 07 11 49.7 +6.9**
baz=178

PDMCI Parker Dam,Lak 60.87 0 P **P 07 03 24.8 +0.2**
baz=180,SNR=40
PDMCI S S 07 11 50.8 +8.4
baz=180

BFSC Mount Baldy Ra 60.87 357 P **P 07 03 24.6 -0.2**
baz=177,SNR=17
BFSC S **S 07 11 49.0 +6.3**
baz=177

441A DeRidder 60.88 21 P **P 07 03 23.9 -0.7**
MWC Mount Wilson 60.88 357 P **P 07 03 24.2 -0.7**
MWC pmax pmax
comp=Z,301nm,2.0s

MWC Mount Wilson 60.88 357 P **P 07 03 24.2 -0.7**
MWC IAmb IAmb 07 03 26.9
comp=Z,301nm,1.9s

MWC IAMs_20 IAMs_20 07 23 15.4
comp=Z,7μm,19.0s

ABTX Abilene, Hawle 60.89 14 P **P 07 03 24.0 -0.8**
baz=195,SNR=53
ABTX S **S 07 11 45.5 +2.8**
baz=195

ABTX Abilene, Hawle 60.89 14 P **P 07 03 23.4 -1.4**
ABTX IAmb IAmb 07 03 27.2
comp=Z,126nm,0.9s

ABTX IAMs_20 IAMs_20 07 25 37.8
comp=Z,8μm,18.0s

MLOA Mauna Loa Obse 60.89 315 IAMs_20 IAMs_20 07 23 10.7
comp=Z,6μm,19.0s

DECC Green Verdugo 60.92 356 P **P 07 03 25.1 +0.1**
baz=176
RPZ Rata Peaks 61.00 233 P **P 07 03 27.5 +1.9**
comp=Z,37nm,1.1s,baz=102,slow=9.3,SNR=6.4

RPZ Rata Peaks 61.00 233 P **P 07 03 27.4 +1.8**
RPZ IAmb IAmb 07 03 30.9
comp=Z,190nm,1.6s

PAPH Port-au-Prince 61.02 47 P **P 07 03 25.5 -0.4**
POHA Pohakuloa 61.03 315 IAMs_20 IAMs_20 07 23 25.8
comp=Z,7μm,21.0s

Y22D IRIS PASSCAL I 61.08 7 P **P 07 03 26.6 +0.4**
baz=188,SNR=15

Y22D IRIS PASSCAL I 61.08 7 P **P 07 03 25.9 -0.3**
Y22D IAMs_20 IAMs_20 07 24 36.3
comp=Z,7μm,20.0s

545A Edgard 61.15 24 IAMs_20 IAMs_20 07 32 42.8
comp=Z,11μm,18.0s

LENM Lemitar 61.16 7 P **P 07 03 25.8 -1.0**
BNM Barren Site 61.19 8 P **P 07 03 26.4 -0.7**
SBC Santa Barbara 61.20 355 P **P 07 03 26.0 -0.8**
baz=175

237A Washetta, Mont 61.26 18 P **P 07 03 26.1 -1.2**
237A IAMs_20 IAMs_20 07 26 34.7
comp=Z,12μm,19.0s

OSI Osito Audit: C 61.30 356 P **P 07 03 27.2 -0.4**
baz=176

OSI Osito Audit: C 61.30 356 P **P 07 03 26.6 -1.0**
OSI IAMs_20 IAMs_20 07 23 25.8
comp=Z,10μm,20.0s

NEE2 Needles Airpor 61.33 360 P **P 07 03 28.0 +0.2**
baz=180,SNR=8.8
NEE2 S **S 07 11 55.2 +7.0**
baz=180

HPAH Hawaii Prepara 61.34 315 IAMs_20 IAMs_20 07 23 03.9
comp=Z,6μm,21.0s

GMRC Granite Mounta 61.36 359 P **P 07 03 28.4 +0.4**
baz=179,SNR=45
GMRC S **S 07 11 55.0 +6.2**
baz=179

NATX Nacogdoches 61.36 19 P **P 07 03 28.0 +0.1**
baz=200
NATX S **S 07 11 52.2 +3.5**
baz=200

NATX Nacogdoches 61.36 19 P **P 07 03 27.5 -0.5**
NATX IAMs_20 IAMs_20 07 27 04.3
comp=Z,7μm,20.0s

HEC Hector,Ludlow 61.42 358 P **P 07 03 28.5 +0.1**
baz=178,SNR=6.4
HEC S **S 07 11 55.5 +6.0**
baz=178

IPMB Ipameri, GO 61.43 97 *eP* **P 07 03 29.1 +0.2**
RRX Edison Barstow 61.48 358 P **P 07 03 28.9 +0.1**
baz=178
LBZ Lake Benmore 61.49 232 P **P 07 03 31.6 +2.7**
LBZ IAmb IAmb 07 03 35.2
comp=Z,378nm,1.8s

EDW2 Edwards Air Fo 61.53 357 P **P 07 03 28.8 -0.3**
baz=176,SNR=24
EDW2 S **S 07 11 54.6 +3.8**
baz=176

MSTX Muleshoe 61.57 11 P **P 07 03 28.4 -1.1**
baz=192,SNR=93

MSTX Muleshoe 61.57 11 P **P 07 03 27.8 -1.7**
MSTX IAmb IAmb 07 03 31.0
comp=Z,279nm,1.3s

PKM Mcpherson Peak 61.65 355 P **P 07 03 30.0 -0.1**
baz=175,SNR=12

W13A Hualapai Mount 61.67 1 P **P 07 03 30.0 -0.3**
W13A IAmb IAmb 07 03 32.8
comp=Z,326nm,1.9s

061Z Ochoppi 61.70 35 P **P 07 03 29.1 -1.3**
061Z IAmb IAmb 07 03 33.3
comp=Z,200nm,1.1s

342A Flagon Creek P 61.73 22 P **P 07 03 29.7 -0.8**
342A IAmb IAmb 07 03 33.9
comp=Z,247nm,1.1s

BELA Belgrano 2 61.79 166 P **P 07 03 32.1 +1.7**
HOPE Hope Point 61.82 139 P **P 07 03 32.2 +1.3**
HOPE pmax pmax
comp=Z,402nm,2.0s

HOPE Hope Point 61.82 139 P **P 07 03 32.2 +1.3**
HOPE IAmb IAmb 07 03 35.7
comp=Z,402nm,2.0s

HOPE Hope Point 61.82 139 IAMs_20 IAMs_20 07 25 43.7
comp=Z,11μm,20.0s

ARVC Arvin 61.82 356 P **P 07 03 30.8 -0.2**
baz=176

W18A Petrified Fore 61.86 5 P **P 07 03 31.4 -0.1**
baz=185,SNR=56
W18A S **S 07 11 59.4 +4.2**
baz=185

W18A Petrified Fore 61.86 5 P **P 07 03 30.5 -1.0**
W18A IAmb IAmb 07 03 33.4
comp=Z,388nm,1.9s

PARB Paraibuna 61.87 103 *eP* **P 07 03 33.7 +1.8**
GSC Goldstone, Bar 61.90 358 P **P 07 03 30.6 -1.1**
GSC pmax pmax
comp=Z,102nm,1.4s

GSC Goldstone, Bar 61.90 358 P **P 07 03 31.8 +0.2**
baz=178,SNR=37
GSC S **S 07 12 00.1 +4.5**
baz=178

GSC Goldstone, Bar 61.90 358 P **P 07 03 30.6 -1.1**
ANMO Albuquerque 61.99 8 P **P 07 03 32.0 -0.4**
comp=Z,1.0nm,1.0s,baz=350,slow=7.7,SNR=44

ANMO Albuquerque 61.99 8 *deP* **P 07 03 31.9 -0.5**
ANMO pmax pmax
comp=Z,93nm,2.0s

ANMO Albuquerque 61.99 8 P **P 07 03 32.0 -0.4**
baz=188
ANMO S **S 07 12 00.3 +3.2**
baz=188

ANMO Albuquerque 61.99 8 P **P 07 03 31.9 -0.5**
ANMO Albuquerque 61.99 8 IAMs_20 IAMs_20 07 25 24.5
comp=Z,7μm,20.0s

TUQ Turquoise Moun 62.01 359 P **P 07 03 32.8 +0.3**
baz=179,SNR=24
TUQ S **S 07 12 03.2 +6.1**
baz=179

SDDR Presa de Saban 62.02 47 IAMs_20 IAMs_20 07 23 50.7
comp=Z,10μm,21.0s

SMMC Simmler 62.09 355 P **P 07 03 33.0 +0.1**
baz=174,SNR=6.0

LRMC Laurel Mtn Rad 62.11 357 P **P** **07 03 33.1 -0.1**
baz=177,SNR=9.5
LRMC S **S** **07 12 04.3 +5.9**
baz=177
Z35A Perchaven, San 62.13 16 P **P** **07 03 31.7 -1.4**
Z35A IAmb IAmb 07 03 34.9
comp=Z,181nm,1.2s
WUAZ Wupatki 62.16 3 P **P** **07 03 33.7 +0.2**
WUAZ S S 07 12 07.5 +8.5
baz=183
WUAZ Wupatki 62.16 3 P **P** **07 03 33.0 -0.5**
HLK Haleakala 62.22 315 IAMs_20 IAMs_20 07 23 48.5
comp=Z,6μm,20.0s
WKZ Wanaka 62.23 231 P **P** **07 03 35.0 +1.1**
ISA Isabella, Lake 62.33 356 P **P** **07 03 34.0 -0.5**
ISA pmax pmax
comp=Z,266nm,2.0s
ISA Isabella, Lake 62.33 356 P **P** **07 03 34.6 0.0**
ISA baz=176,SNR=27
ISA S **S** **07 12 06.2 +5.2**
baz=176
ISA Isabella, Lake 62.33 356 P **P** **07 03 34.0 -0.5**
ISA IAmb IAmb 07 03 36.7
comp=Z,266nm,1.9s
ISA IAMs_20 IAMs_20 07 24 00.0
comp=Z,10μm,21.0s
MSVF Nonsavu 62.34 263 P **P** **07 03 36.7 +1.6**
MSVF pmax pmax
comp=Z,153nm,1.4s
MSVF Nonsavu 62.34 263 P **P** **07 03 36.7 +1.6**
MSVF IAmb IAmb 07 03 42.8
comp=Z,153nm,1.4s
344A Westbrook Farm 62.34 23 P **P** **07 03 33.6 -1.0**
KHLH Kahului Airpor 62.43 315 IAMs_20 IAMs_20 07 23 34.2
comp=Z,7μm,20.0s
BDFB Brasilia 62.47 94 P **P** **07 03 36.7 +0.7**
comp=Z,14nm,1.0s,baz=246,slow=9.9,SNR=10
BDFB LR LR 07 27 16.1
comp=Z,13μm,22.0s,baz=258,slow=33
BDFB Brasilia 62.47 94 P **P** **07 03 35.2 -0.8**
BDFB pmax pmax
comp=Z,113nm,1.6s
BDFB Brasilia 62.47 94 P **P** **07 03 35.2 -0.8**
BDFB IAMs_20 IAMs_20 07 26 53.8
comp=Z,13μm,22.0s
SHOC Shoshone, Teco 62.48 358 P **P** **07 03 35.7 +0.3**
baz=178,SNR=37
SHOC S **S** **07 12 09.4 +6.7**
baz=178
PAGB Antelope Grade 62.52 355 P **P** **07 03 35.1 -0.6**
PAGB IAmb IAmb 07 03 37.9
comp=Z,380nm,2.0s
PAGB IAMs_20 IAMs_20 07 24 00.1
comp=Z,7μm,20.0s
VNDA Vanda 62.54 194 P **P** **07 03 38.2 +2.8**
comp=Z,15nm,1.1s,baz=92,slow=6.3,SNR=32
VNDA LR LR 07 24 59.6
comp=Z,10μm,18.1s,baz=88,slow=30
VNDA PKPPKP **P'P'df** **07 32 39.9 -6.2**
comp=Z,1.8nm,1.1s,baz=273,slow=6.5,SNR=3.8
VNDA Vanda 62.54 194 P **P** **07 03 38.6 +3.2**
VNDA pmax pmax
comp=Z,115nm,1.6s
VNDA Vanda 62.54 194 P **P** **07 03 38.6 +3.2**
VES Vestal, Richgr 62.55 356 P **P** **07 03 35.8 -0.1**
baz=175,SNR=14
AMTX Amarillo 62.66 12 P **P** **07 03 35.8 -0.9**
baz=193
AMTX S **S** **07 12 08.9 +3.8**
baz=193
AMTX Amarillo 62.66 12 P **P** **07 03 34.4 -2.4**
AMTX IAmb IAmb 07 03 39.1
comp=Z,94nm,0.9s
AMTX IAMs_20 IAMs_20 07 26 13.9
comp=Z,7μm,20.0s
Z38A Mt. Pleasant 62.67 18 P **P** **07 03 35.4 -1.4**
MPMC Manual Prospec 62.68 357 P **P** **07 03 37.0 0.0**
baz=177,SNR=52
MPMC S **S** **07 12 12.1 +6.5**
baz=177
SC01 Santiago de lo 62.70 47 IAMs_20 IAMs_20 07 24 22.9
comp=Z,14μm,22.0s
346A Big Creek Wild 62.74 24 P **P** **07 03 35.8 -1.5**
WHZ Wether Hill Ro 62.76 230 P **P** **07 03 40.1 +2.8**
WHZ IAmb IAmb 07 03 42.6
comp=Z,264nm,1.7s
MALB Monte Alegre 62.87 77 *e*P **P** **07 03 39.2 +0.7**
U15A North Rim 63.03 2 P **P** **07 03 38.6 -0.8**
VOG Valley Oaks Go 63.04 356 P **P** **07 03 38.4 -0.7**
baz=175
PMPB Monarch Peak 63.05 354 P **P** **07 03 37.7 -1.6**
PMPB IAmb IAmb 07 03 50.9
comp=Z,283nm,1.8s
PMPB IAMs_20 IAMs_20 07 24 02.1
comp=Z,6μm,20.0s
FURC Furnace Creek, 63.06 358 P **P** **07 03 39.5 +0.2**
baz=178,SNR=28
FURC S S 07 12 18.5 +8.6
baz=178
SHPR Sheep Range 63.07 360 P **P** **07 03 38.9 -0.7**
SHPR IAmb IAmb 07 03 43.0
comp=Z,205nm,1.3s
SHPR IAMs_20 IAMs_20 07 25 04.3
comp=Z,6μm,19.0s
CWC Cottonwood Cre 63.09 357 P **P** **07 03 39.7 0.0**
baz=176
CWC S **S** **07 12 18.6 +8.0**
baz=176
WMOK Wichita Mounta 63.11 15 P **P** **07 03 37.2 -2.5**
WMOK pmax pmax
comp=Z,24nm,0.8s
WMOK Wichita Mounta 63.11 15 P **P** **07 03 38.2 -1.5**
baz=196,SNR=12
WMOK S **S** **07 12 13.7 +3.0**
baz=196
WMOK Wichita Mounta 63.11 15 P **P** **07 03 37.1 -2.5**
WMOK Wichita Mounta 63.11 15 IAMs_20 IAMs_20 07 26 34.3
comp=Z,8μm,21.0s
VBMS Vicksburg 63.12 23 P **P** **07 03 39.8 0.0**
baz=204,SNR=13
VBMS S **S** **07 12 15.7 +4.9**
baz=204
VBMS Vicksburg 63.12 23 P **P** **07 03 38.8 -1.0**
X34A Smith Ranch, M 63.20 15 P **P** **07 03 38.2 -2.1**
X34A IAMs_20 IAMs_20 07 26 48.6
comp=Z,12μm,20.0s
143A Socs Landing, 63.26 22 P **P** **07 03 39.7 -0.9**
QSPA South Pole Qui 63.27 180 P **P** **07 03 42.9 +2.3**
QSPA South Pole Qui 63.27 180 IAMs_20 IAMs_20 07 25 46.6
comp=Z,8μm,22.0s
DWPF Disney Wildern 63.30 33 P **P** **07 03 40.9 -0.2**
baz=213
DWPF S **S** **07 12 16.0 +2.8**
baz=213
DWPF Disney Wildern 63.30 33 P **P** **07 03 40.0 -1.1**
DWPF Disney Wildern 63.30 33 IAMs_20 IAMs_20 07 27 50.1
comp=Z,8μm,18.0s
Z41A Richland Creek 63.32 20 P **P** **07 03 40.8 -0.2**
baz=202,SNR=27
Z41A S **S** **07 12 16.4 +3.2**
baz=202
Z41A Richland Creek 63.32 20 P **P** **07 03 39.6 -1.4**
Z41A IAMs_20 IAMs_20 07 28 49.6
comp=Z,6μm,19.0s
DCZ Deep Cove 63.39 230 IAMs_20 IAMs_20 07 26 15.6
comp=Z,11μm,19.0s
BSCB Bom Sucesso 63.39 101 *e*P **P** **07 03 44.1 +2.0**
BRAL Brewton 63.46 26 P **P** **07 03 42.0 -0.1**
baz=207,SNR=8.9
BRAL S **S** **07 12 19.5 +4.3**
baz=207
BRAL Brewton 63.46 26 P **P** **07 03 40.8 -1.2**
MAN01 Angra dos Reis 63.47 103 *e*P **P** **07 03 44.2 +1.7**
451A Vernon 63.51 28 P **P** **07 03 41.1 -1.2**
451A IAMs_20 IAMs_20 07 27 10.4
comp=Z,12μm,20.0s
TPNV Topopah Spring 63.53 359 P **P** **07 03 42.2 -0.4**
TPNV pmax pmax
comp=Z,452nm,2.0s
TPNV Topopah Spring 63.53 359 P **P** **07 03 43.1 +0.5**
baz=178,SNR=64
TPNV S **S** **07 12 23.9 +7.8**
baz=178
TPNV Topopah Spring 63.53 359 P **P** **07 03 42.2 -0.4**
LCMT Little Creek M 63.59 1 P **P** **07 03 42.1 -0.9**

KNB Kanab 63.60 2 P **P** **07 03 42.4 -0.7**
KNB pmax pmax
comp=Z,391nm,1.9s
KNB Kanab 63.60 2 P **P** **07 03 42.4 -0.7**
GRAC Grapevine Rang 63.61 358 P **P** **07 03 43.3 +0.4**
baz=177,SNR=11
GRAC S **S** **07 12 22.1 +5.2**
baz=177
WLAR White Oak Lake 63.62 20 P **P** **07 03 41.7 -1.4**
WLAR IAMs_20 IAMs_20 07 28 33.6
comp=Z,6μm,20.0s
SAO San Andreas Ge 63.65 354 P **P** **07 03 42.4 -0.8**
SAO pmax pmax
comp=Z,163nm,1.8s
SAO San Andreas Ge 63.65 354 P **P** **07 03 42.4 -0.8**
SAO IAMs_20 IAMs_20 07 24 16.9
comp=Z,8μm,20.0s
553A Crawfordville 63.69 29 P **P** **07 03 42.8 -0.8**
553A IAMs_20 IAMs_20 07 26 26.4
comp=Z,9μm,21.0s
TIN Tinemaha, Big 63.71 357 P **P** **07 03 44.0 +0.3**
baz=176
HON Honolulu 63.74 314 IAMs_20 IAMs_20 07 25 20.5
comp=Z,6μm,18.0s
X37A Clayton 63.81 18 P **P** **07 03 42.3 -2.1**
656A Willston 63.84 31 P **P** **07 03 42.6 -2.0**
656A IAmb IAmb 07 03 47.3
comp=Z,107nm,1.1s
FNO Franklin 63.93 16 P **P** **07 03 43.7 -1.4**
W35A Tecumseh 63.96 16 P **P** **07 03 43.2 -2.0**
PRN Pahroc Range 63.97 360 P **P** **07 03 44.9 -0.6**
PRN IAmb IAmb 07 03 54.8
comp=Z,223nm,1.6s
PRN IAMs_20 IAMs_20 07 25 32.8
comp=Z,7μm,19.0s
146A Union 64.01 24 P **P** **07 03 44.5 -1.2**
MVCO Mesa Verde 64.03 5 P **P** **07 03 45.6 -0.4**
baz=186,SNR=80
MVCO S **S** **07 12 26.2 +3.7**
baz=186
MVCO Mesa Verde 64.03 5 P **P** **07 03 44.5 -1.5**
PKCU Pink Cliffs 64.04 2 P **P** **07 03 45.5 -0.6**
OKCSW OKLAHOMA CITY 64.06 16 P **P** **07 03 44.8 -1.1**
OKCFA Oklahoma City 64.07 16 P **P** **07 03 44.6 -1.4**
OKCFA IAMs_20 IAMs_20 07 27 26.6
comp=Z,11μm,20.0s
VAS01 Vassouras-RJ 64.12 103 *e*P **P** **07 03 48.7 +2.0**
CCUT Cedar City 64.12 1 P **P** **07 03 45.4 -1.2**
CRPR Cabo Rojo, PR 64.17 51 P **P** **07 03 45.8 -1.1**
SZCU Shurtz Canyon 64.17 1 P **P** **07 03 46.0 -0.9**
MLPR Magueyes Islan 64.19 51 P **P** **07 03 45.7 -1.3**
CCAR Cane Creek 64.25 21 P **P** **07 03 46.5 -0.7**
OK025 Westminster Rd 64.25 16 P **P** **07 03 44.9 -2.3**
OK025 IAMs_20 IAMs_20 07 27 42.5
comp=Z,10μm,20.0s
BCOK Bluff Creek, N 64.26 15 P **P** **07 03 45.9 -1.3**
MIAR Mount Ida 64.28 19 P **P** **07 03 45.8 -1.6**
MIAR pmax pmax
comp=Z,288nm,1.9s
MIAR Mount Ida 64.28 19 P **P** **07 03 46.3 -1.1**
baz=201,SNR=44
MIAR S **S** **07 12 26.6 +1.4**
baz=201
MIAR Mount Ida 64.28 19 P **P** **07 03 45.8 -1.6**
MIAR IAmb IAmb 07 03 48.3
comp=Z,288nm,1.9s
MIAR IAMs_20 IAMs_20 07 28 15.1
comp=Z,10μm,21.0s
MLAC Mammoth, Mammo 64.31 356 P **P** **07 03 47.7 -0.1**
baz=176
MDPB Devils Postpil 64.33 356 P **P** **07 03 47.1 -0.9**
MDPB IAMs_20 IAMs_20 07 25 02.6
comp=Z,7μm,20.0s
GRGR Grenville 64.40 60 IAMs_20 IAMs_20 07 28 44.3
comp=Z,8μm,19.0s
T25A Trinidad 64.42 9 P **P** **07 03 48.0 -0.5**
baz=190,SNR=41
T25A S **S** **07 12 30.9 +3.6**
baz=190
T25A Trinidad 64.42 9 P **P** **07 03 47.2 -1.3**
T25A IAmb IAmb 07 03 50.1
comp=Z,336nm,2.0s
T25A IAMs_20 IAMs_20 07 26 47.1
comp=Z,11μm,20.0s
OK029 Liberty Lake 64.43 15 P **P** **07 03 46.6 -1.8**
OK029 IAMs_20 IAMs_20 07 27 46.8
comp=Z,11μm,20.0s
X40A Basin Creek Fa 64.45 20 P **P** **07 03 47.4 -1.1**
baz=201,SNR=28
X40A S **S** **07 12 29.9 +2.6**
baz=201
X40A Basin Creek Fa 64.45 20 P **P** **07 03 46.6 -1.8**
X40A IAmb IAmb 07 03 49.5
comp=Z,250nm,1.8s
X40A IAMs_20 IAMs_20 07 28 55.5
comp=Z,11μm,20.0s
250A Grady 64.49 27 P **P** **07 03 47.3 -1.4**
250A IAMs_20 IAMs_20 07 29 24.4
comp=Z,6μm,19.0s
OBIP Obispado Ponce 64.54 52 P **P** **07 03 47.6 -1.8**
OBIP IAmb IAmb 07 03 47.8
comp=Z,169nm,1.8s
OBIP IAMs_20 IAMs_20 07 26 59.5
comp=Z,9μm,22.0s
352A Blakely 64.60 28 P **P** **07 03 48.1 -1.4**
352A IAMs_20 IAMs_20 07 27 22.4
comp=Z,11μm,21.0s
U32A Winter Ranch, 64.64 14 P **P** **07 03 48.4 -1.3**
U32A IAmb IAmb 07 03 52.5
comp=Z,188nm,0.9s
U32A IAMs_20 IAMs_20 07 27 53.8
comp=Z,9μm,19.0s
MTPU Mount Pierson 64.64 2 P **P** **07 03 49.7 -0.4**
TPH Tonopah 64.68 358 P **P** **07 03 49.1 -1.1**
TPH pmax pmax
comp=Z,1μm,1.8s
TPH Tonopah 64.68 358 P **P** **07 03 49.1 -1.1**
S22A 4UR Ranch, Cre 64.72 7 P **P** **07 03 50.2 -0.3**
baz=188,SNR=111
S22A S **S** **07 12 37.0 +5.9**
baz=188
S22A 4UR Ranch, Cre 64.72 7 P **P** **07 03 49.2 -1.3**
S22A IAmb IAmb 07 03 52.3
comp=Z,292nm,1.8s
TOSP Speyside 64.77 61 P **P** **07 03 50.2 -0.8**
TOSP IAmb IAmb 07 03 57.5
comp=Z,88nm,0.8s
PRPB Parauapebas 64.78 84 *e*P **P** **07 03 50.8 -0.4**
CMB Columbia Colle 64.82 355 P **P** **07 03 49.9 -1.0**
CMB pmax pmax
comp=Z,320nm,1.9s
CMB Columbia Colle 64.82 355 P **P** **07 03 49.9 -1.0**
CMB IAmb IAmb 07 03 53.0
comp=Z,320nm,1.9s
CMB IAMs_20 IAMs_20 07 25 10.7
comp=Z,7μm,21.0s
W39A Magazine 64.83 19 P **P** **07 03 50.1 -0.8**
baz=200,SNR=19
W39A Magazine 64.83 19 P **P** **07 03 49.6 -1.3**
W39A IAmb IAmb 07 03 50.9
comp=Z,165nm,1.8s
UALR University of 64.86 20 P **P** **07 03 49.8 -1.3**
UALR IAMs_20 IAMs_20 07 29 11.6
comp=Z,10μm,20.0s
SDCO Great Sand Dun 64.87 8 P **P** **07 03 51.1 -0.5**
baz=189,SNR=153
SDCO S **S** **07 12 36.7 +3.7**
baz=189
SDCO Great Sand Dun 64.87 8 P **P** **07 03 50.5 -1.1**
SDCO IAmb IAmb 07 03 54.5
comp=Z,124nm,1.2s
SDCO IAMs_20 IAMs_20 07 26 53.2
comp=Z,8μm,21.0s
Z47A Carrollton 64.88 24 P **P** **07 03 50.6 -0.7**
R11A Troy Canyon, C 64.91 359 P **P** **07 03 52.1 +0.4**
baz=179,SNR=125
R11A S **S** **07 12 40.6 +7.3**
baz=179
R11A Troy Canyon, C 64.91 359 P **P** **07 03 51.1 -0.6**
PDPR Patillas Dam, 64.93 52 P **P** **07 03 49.9 -2.0**
PV01 Paradox Valley 64.94 5 P **P** **07 03 50.9 -1.0**
PV01 IAmb IAmb 07 03 53.4
comp=Z,373nm,1.9s
PV13 Radium Mtn., P 64.95 5 P **P** **07 03 50.5 -1.4**
PV13 IAmb IAmb 07 03 53.5
comp=Z,372nm,1.9s

Y45A Yeager Farm, C 64.95 23 P **P** **07 03 50.6 -1.1**
Y45A IAMs_20 IAMs_20 07 30 12.8
comp=Z,6μm,20.0s
TUL1 Leonard 64.95 17 P **P** **07 03 50.6 -1.1**
baz=198,SNR=28
TUL1 S **S** **07 12 31.5 -2.0**
baz=198
TUL1 Leonard 64.95 17 P **P** **07 03 49.5 -2.2**
TUL1 IAMs_20 IAMs_20 07 27 56.9
comp=Z,11μm,21.0s
QUOK Quay 64.97 16 P **P** **07 03 50.5 -1.3**
QUOK IAmb IAmb 07 03 53.5
comp=Z,116nm,1.2s
QUOK IAMs_20 IAMs_20 07 27 54.4
comp=Z,10μm,20.0s
CROK Carrier 64.99 15 P **P** **07 03 50.7 -1.3**
PV02 Paradox Valley 65.00 5 P **P** **07 03 51.3 -1.0**
PV18 Skein Mesa, Pa 65.03 5 P **P** **07 03 51.5 -1.0**
PV03 Paradox Valley 65.04 5 P **P** **07 03 51.1 -1.4**
PV03 IAmb IAmb 07 03 53.9
comp=Z,346nm,1.9s
PV17 East Wray Mesa 65.06 5 P **P** **07 03 51.5 -1.2**
NV11 Mina Array Sit 65.08 357 P **P** **07 03 51.7 -1.0**
NV11 IAMs_20 IAMs_20 07 26 00.3
comp=Z,9μm,19.0s
NVAR Mina Array Bea 65.08 357 P **P** **07 03 53.0 +0.2**
comp=Z,35nm,1.1s,baz=187,slow=7.7,SNR=103
NVAR LR LR 07 26 12.5
comp=Z,9μm,18.7s,baz=182,slow=31
NVAR PKPPKP **P'P'df** **07 32 34.2 +4.7**
comp=Z,0.2nm,0.6s,baz=202,slow=2.2,SNR=4.4
NVAR PKP2bc 07 32 42.8
comp=Z,6.3nm,1.2s,baz=279,slow=0.8,SNR=14
NVAR Mina Array Bea 65.08 357 P **P** **07 03 52.0 -0.8**
PV11 David Mesa, Pa 65.08 5 P **P** **07 03 51.9 -0.9**
PV19 Morning Glory 65.08 5 P **P** **07 03 51.9 -1.0**
GCPR Guaynabo City 65.09 52 P **P** **07 03 51.6 -1.3**
GCPR IAmb IAmb 07 03 52.8
comp=Z,174nm,1.6s
PV16 Nyswonger Mesa 65.09 5 P **P** **07 03 51.9 -1.0**
X43A Marvell 65.09 21 P **P** **07 03 52.6 -0.1**
baz=203,SNR=31
X43A Marvell 65.09 21 P **P** **07 03 52.6 -0.1**
PSUT Pine Spring 65.10 1 P **P** **07 03 52.7 -0.2**
MVU Marysvale 65.10 2 P **P** **07 03 52.5 -0.5**
PV12 Saucer Basin, 65.11 5 P **P** **07 03 52.2 -0.7**
MSU Marysvale 65.11 2 P **P** **07 03 52.8 -0.2**
MSU Marysvale 65.11 2 P **P** **07 03 52.8 -0.2**
PV20 West Nyswonger 65.12 5 P **P** **07 03 51.9 -1.2**
PV20 IAmb IAmb 07 03 56.7
comp=Z,244nm,1.5s
TIGA Tifton 65.13 29 P **P** **07 03 52.1 -0.9**
baz=210,SNR=14
TIGA S **S** **07 12 40.1 +4.3**
baz=210
TIGA Tifton 65.13 29 P **P** **07 03 52.4 -0.6**
TIGA IAMs_20 IAMs_20 07 26 58.6
comp=Z,10μm,22.0s
LRAL Lakeview Retre 65.14 25 P **P** **07 03 52.4 -0.6**
baz=207,SNR=55
LRAL S **S** **07 12 39.8 +4.0**
baz=207
LRAL Lakeview Retre 65.14 25 P **P** **07 03 51.4 -1.6**
PV14 Lion Creek, Pa 65.14 5 P **P** **07 03 52.0 -1.2**
PV14 IAmb IAmb 07 03 56.1
comp=Z,264nm,1.3s
PV10 Paradox Valley 65.14 5 P **P** **07 03 51.9 -1.3**
PV15 Paradox Valley 65.16 5 P **P** **07 03 51.9 -1.5**
PV15 IAmb IAmb 07 03 55.6
comp=Z,127nm,1.2s
MCCM Marconi Confer 65.17 353 IAMs_20 IAMs_20 07 24 35.1
comp=Z,6μm,21.0s
PV04 Paradox Valley 65.17 5 P **P** **07 03 52.2 -1.1**
TCRU Three Creeks R 65.20 2 P **P** **07 03 54.3 +0.7**
WAKR Walker 65.22 356 P **P** **07 03 52.9 -0.8**
WAKR IAmb IAmb 07 03 56.3
comp=Z,339nm,2.0s
WAKR IAMs_20 IAMs_20 07 25 40.2
comp=Z,8μm,19.0s
PV23 Carpenter Ridg 65.22 5 P **P** **07 03 51.9 -1.9**
PV07 Paradox Valley 65.24 5 P **P** **07 03 52.7 -1.2**
PV07 IAmb IAmb 07 03 55.2
comp=Z,286nm,1.8s
W41B Gary Mavity, V 65.26 20 P **P** **07 03 53.3 -0.5**
baz=202,SNR=79
W41B S **S** **07 12 41.2 +3.9**
baz=202
W41B Gary Mavity, V 65.26 20 P **P** **07 03 52.9 -0.9**
W41B IAMs_20 IAMs_20 07 29 21.1
comp=Z,8μm,20.0s
RYN Ryan 65.29 357 P **P** **07 03 53.3 -0.7**
RYN IAmb IAmb 07 03 55.4
comp=Z,206nm,1.9s
RYN IAMs_20 IAMs_20 07 26 08.0
comp=Z,9μm,19.0s
PV22 Blue Mesa, Par 65.32 5 P **P** **07 03 53.7 -0.7**
PV21 Cone Mtn., Par 65.33 5 P **P** **07 03 53.3 -1.2**
WHAR Wooly Hollow 65.36 20 P **P** **07 03 53.3 -1.1**
WHAR IAMs_20 IAMs_20 07 29 23.6
comp=Z,7μm,19.0s
SVB Belmont 65.41 59 IAMs_20 IAMs_20 07 28 43.9
comp=Z,10μm,20.0s
MCPB Macapa, AP 65.52 77 *e*P **P** **07 03 56.6 +0.6**
KAN10 Anthony SW Sta 65.55 14 P **P** **07 03 54.4 -1.3**
Q16A Castle Valley 65.56 3 P **P** **07 03 54.7 -1.1**
OXF Oxford 65.58 23 P **P** **07 03 54.5 -1.3**
OXF pmax pmax
comp=Z,170nm,1.3s
OXF Oxford 65.58 23 P **P** **07 03 54.5 -1.3**
baz=205,SNR=16
OXF S **S** **07 12 43.4 +2.2**
baz=205
OXF Oxford 65.58 23 P **P** **07 03 54.5 -1.3**
OXF IAmb IAmb 07 03 57.3
comp=Z,170nm,1.3s
KAN13 South Haven SW 65.59 15 P **P** **07 03 54.6 -1.3**
SMTB Santa Maria do 65.59 88 *e*P **P** **07 03 56.9 +0.4**
MC01 Montes Claros 65.68 97 *e*P **P** **07 03 58.2 +1.1**
YERR Yerington 65.69 356 P **P** **07 03 55.7 -1.0**
YERR IAMs_20 IAMs_20 07 25 56.5
comp=Z,7μm,20.0s
KVN Kaiserville 65.69 357 P **P** **07 03 56.1 -0.6**
KVN pmax pmax
comp=Z,234nm,1.8s
KVN Kaiserville 65.69 357 P **P** **07 03 56.1 -0.6**
KVN IAmb IAmb 07 03 57.9
comp=Z,234nm,1.8s
KVN IAMs_20 IAMs_20 07 26 31.5
comp=Z,9μm,19.0s
152A Waverly Hall 65.72 27 P **P** **07 03 55.6 -1.2**
152A IAMs_20 IAMs_20 07 28 29.1
comp=Z,10μm,20.0s
T35A Sooner Cattle 65.72 16 P **P** **07 03 55.5 -1.3**
T35A IAmb IAmb 07 03 59.3
comp=Z,100nm,1.1s
T35A IAMs_20 IAMs_20 07 28 09.4
comp=Z,12μm,21.0s
KAN12 Harper NE Stat 65.74 14 P **P** **07 03 55.6 -1.3**
AFDM Forest Hills D 65.78 355 P **P** **07 03 56.0 -1.0**
AFDM IAmb IAmb 07 03 59.0
comp=Z,341nm,1.9s
SRU San Rafael Swe 65.78 3 P **P** **07 03 56.0 -1.3**
SRU pmax pmax
comp=Z,157nm,1.3s
SRU San Rafael Swe 65.78 3 P **P** **07 03 56.0 -1.3**
HHAR Hobbs 65.80 18 P **P** **07 03 55.9 -1.3**
GDXM Geysers 65.81 353 P **P** **07 03 56.8 -0.6**
GDXM IAMs_20 IAMs_20 07 25 17.2
comp=Z,8μm,21.0s
PNTR Pine Nut 65.81 356 P **P** **07 03 57.2 -0.3**
PNTR IAmb IAmb 07 03 59.8
comp=Z,360nm,1.9s
PNTR IAMs_20 IAMs_20 07 26 16.9
comp=Z,7μm,19.0s
RUBR Rubicon Trail 65.81 355 P **P** **07 03 57.2 -0.3**
RUBR IAmb IAmb 07 04 00.7
comp=Z,238nm,1.3s
RUBR IAMs_20 IAMs_20 07 25 43.0
comp=Z,7μm,21.0s
U38A Gravette 65.82 18 P **P** **07 03 55.2 -2.2**
U38A IAmb IAmb 07 03 57.3
comp=Z,184nm,1.8s
TMUT Trail Mountain 65.93 3 P **P** **07 03 57.2 -1.2**
MET Memphis--Engin 65.96 22 P **P** **07 03 56.7 -1.5**
FCAR Ozark Folk Cen 65.96 20 P **P** **07 03 56.5 -1.8**

FCAR IAmb IAmb 07 03 59.4
comp=Z,357nm,1.9s
FCAR IAMs_20 IAMs_20 07 29 40.7
comp=Z,7μm,19.0s
JANB Januaria 65.99 95 *e*P **P 07 03 58.8 -0.2**
VCNR Virginia City 66.02 356 P **P 07 03 57.9 -1.0**
VCNR IAmb IAmb 07 04 01.1
comp=Z,216nm,1.9s
VCNR IAMs_20 IAMs_20 07 26 23.4
comp=Z,6μm,19.0s
HOPS Hopland Field 66.03 353 P **P 07 03 57.7 -0.9**
HOPS IAMs_20 IAMs_20 07 25 20.9
comp=Z,7μm,21.0s
255A Hazlehurst 66.04 30 P **P 07 03 57.4 -1.4**
Y49A Blount Mountai 66.09 25 P **P 07 03 57.8 -1.4**
Y49A IAmb IAmb 07 04 00.3
comp=Z,301nm,1.9s
Z51A Franklin 66.10 27 P **P 07 03 57.8 -1.4**
Z51A IAMs_20 IAMs_20 07 29 05.2
comp=Z,8μm,20.0s
HBAR Harrisburg 66.11 21 P **P 07 03 58.0 -1.3**
HBAR IAMs_20 IAMs_20 07 30 27.6
comp=Z,8μm,18.0s
Q24A Divide 66.12 8 P **P 07 03 58.6 -1.0**
baz=189,SNR=11
Q24A S **S 07 12 50.1 +1.9**
baz=189
Q24A Divide 66.12 8 P **P 07 03 58.1 -1.6**
Q24A IAMs_20 IAMs_20 07 27 44.2
comp=Z,10μm,20.0s
P17A Butcher Ranch, 66.13 3 P **P 07 03 58.7 -0.8**
U40A Yellville 66.18 19 P **P 07 03 58.7 -1.0**
baz=201,SNR=66
U40A S **S 07 12 51.7 +3.2**
baz=201
U40A Yellville 66.18 19 P **P 07 03 57.5 -2.2**
W45A Hickory Valley 66.24 23 P **P 07 03 58.5 -1.6**
LPAR Lepanto 66.27 22 P **P 07 03 59.4 -0.8**
LPAR IAMs_20 IAMs_20 07 30 44.9
comp=Z,9μm,18.0s
154A Montrose 66.35 29 P **P 07 03 59.4 -1.4**
154A IAMs_20 IAMs_20 07 28 09.8
comp=Z,7μm,21.0s
X48A Hartselle 66.38 25 P **P 07 03 59.6 -1.4**
X48A IAmb IAmb 07 04 01.8
comp=Z,343nm,1.9s
X48A IAMs_20 IAMs_20 07 31 27.5
comp=Z,5μm,19.0s
FDF Fort de France 66.38 58 IAMs_20 IAMs_20 07 28 24.9
comp=Z,8μm,22.0s
PAHR Pah Rah Range 66.41 356 P **P 07 04 00.9 -0.4**
PAHR IAmb IAmb 07 04 03.6
comp=Z,296nm,1.9s
PAHR IAMs_20 IAMs_20 07 26 18.9
comp=Z,6μm,21.0s
ORV Oroville 66.42 354 P **P 07 04 00.2 -0.9**
ORV pmax pmax
comp=Z,258nm,1.9s
ORV Oroville 66.42 354 P **P 07 04 00.2 -0.9**
ORV IAmb IAmb 07 04 03.4
comp=Z,258nm,1.9s
LCAR Lake Charles 66.43 21 P **P 07 03 60.0 -1.3**
LCAR IAmb IAmb 07 04 02.4
comp=Z,346nm,1.9s
LCAR IAMs_20 IAMs_20 07 30 10.0
comp=Z,7μm,20.0s
PLAL Pickwick Lake 66.47 24 P **P 07 03 59.6 -2.0**
PLAL IAmb IAmb 07 04 02.1
comp=Z,166nm,1.6s
SDBA SAO DESIDERIO 66.51 92 *e*P **P 07 04 03.2 +0.8**
KSCO Kaye Shedlock' 66.52 10 P **P 07 04 01.4 -0.5**
baz=192,SNR=47
KSCO S **S 07 12 55.8 +3.0**
baz=192
KSCO Kaye Shedlock' 66.52 10 P **P 07 04 00.9 -1.1**
KSCO IAMs_20 IAMs_20 07 28 15.7
comp=Z,8μm,20.0s
NLU North Lily Min 66.55 2 P **P 07 04 01.4 -0.9**
R32A Long Quarter, 66.67 14 P **P 07 04 01.6 -1.3**
R32A IAMs_20 IAMs_20 07 29 05.5
comp=Z,7μm,19.0s
DLPL La Plaine 66.68 57 IAMs_20 IAMs_20 07 29 24.6
comp=Z,9μm,21.0s
GNAR Gosnell 66.70 22 P **P 07 04 02.2 -0.8**
GNAR IAMs_20 IAMs_20 07 30 56.1
comp=Z,8μm,18.0s
KCPM Cahto Peak 66.77 352 P **P 07 04 03.2 -0.3**
KCPM IAMs_20 IAMs_20 07 25 21.5
comp=Z,7μm,21.0s
DUG Dugway, Tooele 66.77 2 P **P 07 04 02.6 -1.0**
DUG pmax pmax
comp=Z,126nm,1.4s
DUG Dugway, Tooele 66.77 2 P **P 07 04 03.6 0.0**
baz=182,SNR=82
DUG S **S 07 13 01.7 +5.9**
baz=182
DUG Dugway, Tooele 66.77 2 P **P 07 04 02.6 -1.0**
CBKS Cedar Bluff 66.84 13 P **P 07 04 02.7 -1.2**
CBKS pmax pmax
comp=Z,330nm,1.8s
CBKS Cedar Bluff 66.84 13 P **P 07 04 03.1 -0.8**
baz=194,SNR=19
CBKS S **S 07 12 59.2 +2.7**
baz=194
CBKS Cedar Bluff 66.84 13 P **P 07 04 02.6 -1.2**
CBKS IAmb IAmb 07 04 04.9
comp=Z,330nm,1.8s
CBKS IAMs_20 IAMs_20 07 29 32.0
comp=Z,9μm,18.0s
SKI Saint Kitts 66.84 55 P **P 07 04 03.5 -0.8**
SKI pmax pmax
comp=Z,197nm,1.1s
SKI Saint Kitts 66.84 55 P **P 07 04 03.5 -0.8**
SKI IAmb IAmb 07 04 11.2
comp=Z,197nm,1.1s
SKI IAMs_20 IAMs_20 07 30 07.6
comp=Z,8μm,19.0s
HALT Halls 66.88 22 P **P 07 04 03.3 -0.8**
HALT IAMs_20 IAMs_20 07 31 09.7
comp=Z,6μm,18.0s
GOGA Godfrey 66.88 28 P **P 07 04 02.9 -1.3**
GOGA pmax pmax
comp=Z,277nm,1.9s
GOGA Godfrey 66.88 28 P **P 07 04 03.1 -1.2**
baz=210,SNR=19
GOGA S **S 07 12 59.3 +2.2**
baz=210
GOGA Godfrey 66.88 28 P **P 07 04 02.9 -1.3**
GOGA IAmb IAmb 07 04 05.2
comp=Z,276nm,1.9s
GOGA Godfrey 66.88 28 IAMs_20 IAMs_20 07 28 39.9
comp=Z,11μm,22.0s
ISCO Idaho Springs 66.89 8 P **P 07 04 03.2 -1.3**
ISCO pmax pmax
comp=Z,229nm,1.9s
ISCO Idaho Springs 66.89 8 P **P 07 04 04.0 -0.5**
baz=189,SNR=65
ISCO S **S 07 13 00.8 +3.2**
baz=189
ISCO Idaho Springs 66.89 8 P **P 07 04 03.2 -1.3**
ISCO IAmb IAmb 07 04 06.1
comp=Z,228nm,1.9s
ISCO IAMs_20 IAMs_20 07 28 09.5
comp=Z,7μm,21.0s
PEBM Pemiscott Bayo 66.89 22 P **P 07 04 03.8 -0.3**
PEBM IAMs_20 IAMs_20 07 31 02.0
comp=Z,8μm,18.0s
O20A White River Ci 66.95 5 P **P 07 04 04.2 -0.6**
baz=186,SNR=52
O20A S **S 07 13 01.3 +3.1**
baz=186
O20A White River Ci 66.95 5 P **P 07 04 03.5 -1.3**
LNXT Lenox 67.00 22 P **P 07 04 03.6 -1.3**
LNXT IAMs_20 IAMs_20 07 31 10.0
comp=Z,7μm,18.0s
FPAL Fort Paine 67.00 26 P **P 07 04 03.4 -1.6**
FPAL IAmb IAmb 07 04 05.8
comp=Z,355nm,2.0s
FPAL IAMs_20 IAMs_20 07 30 37.0
comp=Z,5μm,19.0s
Y52A Lilburn 67.03 27 P **P 07 04 03.3 -1.8**
Y52A IAmb IAmb 07 04 06.2
comp=Z,324nm,1.9s
Y52A IAMs_20 IAMs_20 07 28 57.7
comp=Z,11μm,21.0s
O02D Mt. Diablo Mer 67.17 353 P **P 07 04 06.4 +0.4**
baz=172,SNR=30
O02D S **S 07 13 05.8 +5.3**
baz=172
O03E Paynes Creek 67.18 354 P **P 07 04 05.3 -0.8**
baz=173,SNR=20
O03E S **S 07 13 05.1 +4.4**
baz=173
GLAT Glass 67.22 22 P **P 07 04 05.2 -1.0**
GLAT IAMs_20 IAMs_20 07 31 16.8
comp=Z,8μm,18.0s
JLU Jordanelle 67.22 3 P **P 07 04 05.7 -0.9**
PENMO Penman 67.27 22 P **P 07 04 06.0 -0.6**
PENMO IAMs_20 IAMs_20 07 31 13.2
comp=Z,7μm,18.0s
RDMU Red Mountain 67.29 4 P **P 07 04 05.2 -1.8**
S39A Bolivar 67.29 18 P **P 07 04 05.5 -1.3**
S39A IAmb IAmb 07 04 07.9
comp=Z,381nm,2.0s
CTU Camp Tracy 67.30 2 P **P 07 04 06.2 -0.8**
PBMO Poplar Bluff 67.31 21 P **P 07 04 05.4 -1.5**
PBMO IAMs_20 IAMs_20 07 30 47.5
comp=Z,6μm,19.0s
KMRM Mail Ridge 67.31 352 P **P 07 04 06.8 -0.2**
KMRM IAMs_20 IAMs_20 07 25 56.4
comp=Z,7μm,21.0s
X51A Calhoun 67.32 26 P **P 07 04 05.2 -1.8**
X51A IAmb IAmb 07 04 07.9
comp=Z,262nm,2.0s
X51A IAMs_20 IAMs_20 07 29 45.4
comp=Z,6μm,19.0s
T42A Van Buren 67.33 20 P **P 07 04 05.8 -1.3**
T42A IAmb IAmb 07 04 07.8
comp=Z,315nm,1.9s
T42A IAMs_20 IAMs_20 07 30 24.9
comp=Z,9μm,20.0s
157A Early Branch 67.34 30 P **P 07 04 07.1 0.0**
baz=212,SNR=6.1
SJMB Sao Joao De Ma 67.37 100 *e*P **P 07 04 09.2 +1.4**
PARMO Parma 67.42 21 P **P 07 04 07.0 -0.6**
PARMO IAMs_20 IAMs_20 07 31 06.3
comp=Z,7μm,19.0s
UTMT University of 67.43 22 P **P 07 04 07.1 -0.5**
SWET Sewanee 67.47 25 P **P 07 04 06.4 -1.6**
SWET IAMs_20 IAMs_20 07 30 49.5
comp=Z,5μm,19.0s
HICK Hickman 67.48 22 P **P 07 04 07.6 -0.3**
HICK IAMs_20 IAMs_20 07 31 22.9
comp=Z,7μm,18.0s
BGU Big Grassy Mou 67.50 1 P **P 07 04 07.0 -1.2**
WDC Whiskeytown Da 67.54 353 P **P 07 04 06.9 -1.3**
WDC pmax pmax
comp=Z,162nm,1.4s
WDC Whiskeytown Da 67.54 353 P **P 07 04 06.9 -1.3**
WDC IAmb IAmb 07 04 16.3
comp=Z,162nm,1.4s
WDC IAMs_20 IAMs_20 07 26 24.8
comp=Z,7μm,22.0s
HENM Henderson Moun 67.56 22 P **P 07 04 07.2 -1.2**
HENM IAMs_20 IAMs_20 07 31 21.9
comp=Z,6μm,19.0s
WVT Waverly 67.59 23 P **P 07 04 06.9 -1.8**
WVT pmax pmax
comp=Z,106nm,1.2s
WVT Waverly 67.59 23 P **P 07 04 07.2 -1.4**
baz=206
WVT S **S 07 13 05.5 0.0**
baz=206
WVT Waverly 67.59 23 P **P 07 04 06.9 -1.8**
V48A Smith Brothers 67.61 24 P **P 07 04 06.8 -2.0**
V48A IAmb IAmb 07 04 09.4
comp=Z,378nm,1.9s
BSFB Barra de Sao F 67.62 100 *e*P **P 07 04 10.2 +0.9**
W50A Signal Mountai 67.70 26 P **P 07 04 07.2 -2.2**
W50A IAmb IAmb 07 04 10.2
comp=Z,335nm,1.9s
W50A IAMs_20 IAMs_20 07 30 31.5
comp=Z,6μm,20.0s
Z56A Williston 67.72 30 P **P 07 04 09.0 -0.5**
baz=212,SNR=8.8
Z56A Williston 67.72 30 P **P 07 04 08.5 -1.0**
Z56A IAMs_20 IAMs_20 07 29 35.0
comp=Z,6μm,21.0s
TCUT Toone Canyon 67.74 3 P **P 07 04 09.1 -0.7**
158A Hollywood 67.75 31 P **P 07 04 09.1 -0.6**
baz=213
ANWB Willy Bob 67.75 55 IAMs_20 IAMs_20 07 29 48.7
comp=Z,8μm,21.0s
KSU1 Kansas State U 67.78 15 P **P 07 04 09.3 -0.5**
baz=197,SNR=20
KSU1 S **S 07 13 10.1 +2.4**
baz=197
KSU1 Kansas State U 67.78 15 P **P 07 04 08.8 -1.1**
KSU1 Kansas State U 67.78 15 IAMs_20 IAMs_20 07 29 20.9
comp=Z,7μm,21.0s
RIB01 Linhares ES 67.83 101 *e*P **P 07 04 12.4 +1.7**
SPUT South Promonto 67.89 2 P **P 07 04 09.6 -1.1**
N23A Red Feather La 67.93 7 P **P 07 04 10.5 -0.5**
baz=188,SNR=42
N23A S **S 07 13 14.3 +4.3**
baz=188
N23A Red Feather La 67.93 7 P **P 07 04 09.3 -1.8**
N23A IAmb IAmb 07 04 12.7
comp=Z,310nm,1.9s
JCC Jacoby Creek, 67.94 352 IAMs_20 IAMs_20 07 26 03.5
comp=Z,5μm,20.0s
N02D Trinity Center 67.95 353 P **P 07 04 10.8 -0.1**
baz=172,SNR=41
N02D S **S 07 13 16.3 +6.5**
baz=172
KHMM Horse Mountain 67.96 353 P **P 07 04 10.6 -0.5**
KHMM IAmb IAmb 07 04 17.3
comp=Z,196nm,1.4s
KHMM IAMs_20 IAMs_20 07 26 46.1
comp=Z,6μm,20.0s
Z57A Bowman 67.99 30 P **P 07 04 10.5 -0.7**
baz=212,SNR=5.7
CSU Charleston Sou 68.02 31 P **P 07 04 09.7 -1.7**
Y55A Saluda 68.02 29 P **P 07 04 10.6 -0.9**
baz=211,SNR=25
Y55A S **S 07 13 11.8 +1.1**
baz=211
TMAB Tom-Au,PA,Br 68.04 81 *e*P **P 07 04 13.4 +1.4**
NHSC New Hope 68.07 31 P **P 07 04 11.3 -0.4**
baz=213,SNR=9.1
NHSC New Hope 68.07 31 P **P 07 04 10.0 -1.7**
CLTN Cedars of Leba 68.10 24 P **P 07 04 10.2 -1.6**
CLTN IAmb IAmb 07 04 12.7
comp=Z,244nm,1.8s
HODGE Hodges 68.10 29 P **P 07 04 10.2 -1.7**
HODGE IAmb IAmb 07 04 13.1
comp=Z,259nm,1.9s
HODGE IAMs_20 IAMs_20 07 29 03.1
comp=Z,7μm,22.0s
T45A Paducah 68.11 22 P **P 07 04 10.6 -1.4**
T45A IAmb IAmb 07 04 14.2
comp=Z,124nm,0.9s
Y56A Pelion 68.14 30 P **P 07 04 11.4 -0.8**
baz=212
Y56A S **S 07 13 13.4 +1.2**
baz=212
R40A Maddies Statio 68.15 19 P **P 07 04 10.6 -1.5**
W52A Murphy 68.15 27 P **P 07 04 11.0 -1.2**
W52A IAMs_20 IAMs_20 07 30 06.5
comp=Z,8μm,20.0s
HWUT Hardware Ranch 68.22 2 P **P 07 04 11.2 -1.6**
CPCT Cooper Cave 68.22 26 P **P 07 04 10.1 -2.6**
CPCT IAmb IAmb 07 04 13.7
comp=Z,348nm,1.9s
CPCT IAMs_20 IAMs_20 07 30 13.4
comp=Z,6μm,20.0s
CCM Cathedral Cave 68.23 20 P **P 07 04 11.6 -1.1**
CCM pmax pmax
comp=Z,357nm,1.9s
CCM Cathedral Cave 68.23 20 P **P 07 04 11.6 -1.1**
baz=202
CCM S **S 07 13 16.5 +3.4**
baz=202
CCM Cathedral Cave 68.23 20 P **P 07 04 11.6 -1.1**
CCM IAmb IAmb 07 04 13.5
comp=Z,357nm,1.9s
X54A Belton 68.32 28 P **P 07 04 12.5 -0.8**
baz=211,SNR=15
X54A S **S 07 13 15.7 +1.4**
baz=211
HVU Hansel Valley 68.36 1 P **P 07 04 12.3 -1.3**
HVU pmax pmax
comp=Z,126nm,1.6s
HVU Hansel Valley 68.36 1 P **P 07 04 12.3 -1.3**
M02C Callahan 68.38 353 P **P 07 04 13.5 0.0**
baz=172,SNR=24
M02C S **S 07 13 21.5 +6.6**
baz=172
PHWY Pilot Hill 68.39 7 P **P 07 04 12.6 -1.3**
PHWY IAmb IAmb 07 04 15.2
comp=Z,223nm,1.9s
Z58A St. Stephen 68.42 31 P **P 07 04 13.4 -0.5**
baz=213,SNR=12
BG3 Lake Jocassee 68.47 28 P **P 07 04 12.6 -1.7**
BG3 IAmb IAmb 07 04 15.6
comp=Z,280nm,1.9s
BG3 IAMs_20 IAMs_20 07 29 39.9
comp=Z,7μm,22.0s
S44A Carbondale 68.52 21 P **P 07 04 12.9 -1.6**
S44A IAmb IAmb 07 04 16.5
comp=Z,149nm,1.2s
S44A IAMs_20 IAMs_20 07 31 37.4
comp=Z,6μm,19.0s
X55A Gracelyn & Ava 68.57 29 P **P 07 04 14.0 -0.8**
baz=211,SNR=19
X55A S **S 07 13 17.6 +0.2**
baz=211
JSC Jenkinsville 68.57 29 P **P 07 04 13.5 -1.4**
JSC pmax pmax
comp=Z,216nm,1.9s
JSC MLR MLR
comp=Z,3μm,18.0s
JSC Jenkinsville 68.57 29 P **P 07 04 13.5 -1.4**
JSC IAmb IAmb 07 04 16.3
comp=Z,216nm,1.9s
RWWY Rawlins 68.59 6 P **P 07 04 13.4 -1.7**
RWWY IAmb IAmb 07 04 16.0
comp=Z,187nm,1.8s
Z59A Georgetown, SC 68.59 31 P **P 07 04 13.9 -1.1**
baz=214
V51A Loudon 68.60 26 P **P 07 04 12.9 -2.1**
V51A IAmb IAmb 07 04 16.0
comp=Z,312nm,2.0s
V51A IAMs_20 IAMs_20 07 30 35.4
comp=Z,8μm,20.0s
T47A Sharon Grove 68.62 23 P **P 07 04 13.7 -1.4**
T47A IAmb IAmb 07 04 17.3
comp=Z,106nm,0.9s
KRMB Red Mountain 68.62 353 P **P 07 04 14.8 -0.4**
KRMB IAmb IAmb 07 04 17.4
comp=Z,276nm,1.8s
NAN01 Guarapari, ES 68.62 100 *e*P **P 07 04 16.9 +1.2**
MOD Modoc Plateau 68.66 355 P **P 07 04 14.5 -0.9**
MOD IAMs_20 IAMs_20 07 27 23.3
comp=Z,6μm,21.0s
M04C Macdoel 68.66 354 P **P 07 04 15.4 -0.1**
baz=173,SNR=48
M04C S **S 07 13 24.7 +6.3**
baz=173
U49A Red Boiling Sp 68.68 25 P **P 07 04 13.9 -1.6**
YBH Yreka Blue Hor 68.70 354 P **P 07 04 15.1 -0.6**
comp=Z,8.5nm,1.0s,baz=157,slow=3.8,SNR=9.5
YBH Yreka Blue Hor 68.70 354 P **P 07 04 15.0 -0.6**
YBH pmax pmax
comp=Z,109nm,1.8s
YBH Yreka Blue Hor 68.70 354 P **P 07 04 15.0 -0.6**
YBH IAMs_20 IAMs_20 07 27 13.5
comp=Z,7μm,20.0s
TKL Tuckaleechee C 68.70 27 P **P 07 04 14.4 -1.2**
comp=Z,18nm,0.9s,baz=206,slow=5.4,SNR=18
TKL Tuckaleechee C 68.70 27 P **P 07 04 13.8 -1.9**
TKL pmax pmax
comp=Z,211nm,1.9s
TKL Tuckaleechee C 68.70 27 P **P 07 04 13.8 -1.9**
TKL IAmb IAmb 07 04 16.3
comp=Z,211nm,1.9s
TKL IAMs_20 IAMs_20 07 30 25.1
comp=Z,9μm,20.0s
Y57A Sumter 68.73 30 P **P 07 04 15.1 -0.8**
baz=212
Y57A S **S 07 13 20.2 +1.0**
baz=212
Y57A Sumter 68.73 30 P **P 07 04 14.7 -1.2**
Y57A IAmb IAmb 07 04 17.3
comp=Z,318nm,2.0s
PAULI Pauline 68.79 29 P **P 07 04 14.8 -1.4**
PAULI IAMs_20 IAMs_20 07 31 07.5
comp=Z,6μm,19.0s
X56A White Oak 68.85 29 P **P 07 04 16.1 -0.5**
baz=212,SNR=19
X56A S **S 07 13 21.3 +0.6**
baz=212
W54A Cherokee Point 68.86 28 P **P 07 04 16.0 -0.7**
baz=211,SNR=24
W54A S **S 07 13 23.0 +2.3**
baz=211
V52A Sevierville 68.93 27 P **P 07 04 15.0 -2.1**
V52A IAmb IAmb 07 04 17.9
comp=Z,207nm,1.9s
V52A IAMs_20 IAMs_20 07 30 00.2
comp=Z,10μm,21.0s
P38A Dawn 69.04 17 P **P 07 04 16.2 -1.5**
P38A IAmb IAmb 07 04 20.1
comp=Z,112nm,0.9s
P38A IAMs_20 IAMs_20 07 30 46.2
comp=Z,9μm,20.0s
SLM Saint Louis 69.07 20 P **P 07 04 16.6 -1.3**
SLM pmax pmax
comp=Z,228nm,1.7s
SLM Saint Louis 69.07 20 P **P 07 04 16.6 -1.3**
SLM IAmb IAmb 07 04 18.0
comp=Z,228nm,1.7s
WVOR Wild Horse Val 69.09 357 P **P 07 04 17.4 -0.7**
WVOR pmax pmax
comp=Z,449nm,2.0s
WVOR Wild Horse Val 69.09 357 P **P 07 04 17.4 -0.7**
WVOR IAMs_20 IAMs_20 07 28 36.5
comp=Z,8μm,19.0s
V53A Saluda 69.10 27 P **P 07 04 16.3 -1.9**
V53A IAMs_20 IAMs_20 07 30 11.7
comp=Z,10μm,21.0s
L04D Klamath Falls 69.14 354 P **P 07 04 17.9 -0.6**
baz=172,SNR=18
L04D S **S 07 13 28.9 +4.9**
baz=172
N33A J Bar K, Exete 69.16 14 P **P 07 04 16.9 -1.5**
N33A IAMs_20 IAMs_20 07 30 52.4
comp=Z,8μm,19.0s
L02E Cave Junction 69.21 353 P **P 07 04 18.9 +0.1**
baz=171,SNR=5.3
L02E S **S 07 13 29.9 +5.3**
baz=171
BIRD Birdtown, Kers 69.23 30 P **P 07 04 17.3 -1.6**
BIRD IAMs_20 IAMs_20 07 30 50.1
comp=Z,6μm,20.0s
X57A Johnson Farm, 69.24 30 P **P 07 04 18.5 -0.6**
baz=213,SNR=12
X57A S **S 07 13 27.0 +1.8**
baz=213
KMSC Kings Mountain 69.27 29 P **P 07 04 18.2 -1.0**
baz=212,SNR=24
KMSC S **S 07 13 26.4 +0.8**
baz=212
KMSC Kings Mountain 69.27 29 P **P 07 04 17.6 -1.6**
KMSC IAmb IAmb 07 04 20.5
comp=Z,376nm,1.9s
KBO Bosley Butte 69.34 352 IAMs_20 IAMs_20 07 27 27.5
comp=Z,5μm,21.0s
P40A Paris 69.36 18 P **P 07 04 18.2 -1.5**
P40A IAmb IAmb 07 04 20.5
comp=Z,323nm,1.9s
P40A IAMs_20 IAMs_20 07 31 27.6
comp=Z,9μm,18.0s
AHID Auburn Hatcher 69.39 3 P **P 07 04 18.1 -2.0**
AHID IAmb IAmb 07 04 20.7
comp=Z,270nm,1.9s
Y59A Loris 69.40 31 P **P 07 04 19.4 -0.6**
baz=214,SNR=8.7
Y59A Loris 69.40 31 P **P 07 04 18.4 -1.6**
Y59A IAmb IAmb 07 04 22.8
comp=Z,147nm,0.9s
Y59A IAMs_20 IAMs_20 07 31 57.6
comp=Z,7μm,18.0s
VNA3 Neumayer Olymp 69.43 160 P **P 07 04 21.1 +1.2**
BW06 Boulder Array 69.48 4 P **P 07 04 19.0 -1.6**
baz=185,SNR=84
BW06 S **S 07 13 28.5 +0.3**
baz=185
BW06 Boulder Array 69.48 4 P **P 07 04 18.6 -2.1**

BW06 IAmb IAmb 07 04 21.2
comp=Z,307nm,1.9s
PD31 Pinedale Array 69.48 4 P **P** **07 04 18.8 -1.8**
PD31 IAmb IAmb 07 04 21.2
comp=Z,280nm,1.9s
PDAR Pinedale Array 69.48 4 P **P** **07 04 19.1 -1.5**
comp=Z,25nm,1.0s,baz=177,slow=6.1,SNR=71
PDAR LR LR 07 30 24.9
comp=Z,3μm,18.7s,baz=192,slow=32
PDAR PKPPKP **P'P'df** **07 32 28.2 +5.9**
comp=Z,1.4nm,1.1s,baz=336,slow=2.0,SNR=5.6
PDAR Pinedale Array 69.48 4 P **P** **07 04 18.7 -2.0**
T50A Nancy 69.48 25 P **P** **07 04 18.4 -2.1**
T50A IAmb IAmb 07 04 21.2
comp=Z,335nm,1.9s
K04D Chiloquin, OR 69.49 354 P **P** **07 04 20.3 -0.3**
baz=173
K04D S **S** **07 13 34.6 +6.5**
baz=173
K05A Summer Lake 69.52 355 P **P** **07 04 19.6 -1.2**
K05A IAmb IAmb 07 04 29.8
comp=Z,288nm,1.5s
V54A Nebo 69.55 28 P **P** **07 04 20.2 -0.8**
baz=211,SNR=45
V54A S **S** **07 13 28.7 -0.2**
baz=211
TZTN Tazewell 69.56 26 P **P** **07 04 20.1 -0.9**
baz=209,SNR=26
TZTN S **S** **07 13 28.3 -0.7**
baz=209
TZTN Tazewell 69.56 26 P **P** **07 04 19.6 -1.4**
TZTN IAMs_20 IAMs_20 07 31 12.8
comp=Z,7μm,20.0s
HUMO Hull Mountain 69.59 353 IAMs_20 IAMs_20 07 27 30.1
comp=Z,7μm,22.0s
W56A Indian Trail 69.59 29 P **P** **07 04 20.4 -0.8**
baz=212,SNR=28
W56A S **S** **07 13 28.9 -0.4**
baz=212
K22A Casper 69.61 6 P **P** **07 04 20.3 -1.0**
baz=188,SNR=114
K22A S **S** **07 13 30.6 +1.0**
baz=188
K22A Casper 69.61 6 P **P** **07 04 19.8 -1.6**
BGNE Belgrade 69.66 13 P **P** **07 04 21.0 -0.5**
baz=196,SNR=14
BGNE S **S** **07 13 34.2 +4.3**
baz=196
BGNE Belgrade 69.66 13 P **P** **07 04 20.0 -1.5**
BGNE IAmb IAmb 07 04 24.3
comp=Z,190nm,0.9s
X58A Rowland 69.66 31 P **P** **07 04 21.2 -0.4**
baz=213
X58A Rowland 69.66 31 P **P** **07 04 19.5 -2.1**
ECR Eagle Creek 69.67 3 P **P** **07 04 20.2 -1.6**
N35A Tabor 69.68 15 P **P** **07 04 20.6 -1.0**
N35A IAMs_20 IAMs_20 07 30 31.2
comp=Z,10μm,22.0s
Q44A Meyer Farm, Va 69.70 21 P **P** **07 04 20.7 -1.0**
Y60A Bolivia 69.72 32 P **P** **07 04 21.1 -0.9**
baz=214
Y60A Bolivia 69.72 32 IAMs_20 IAMs_20 07 32 05.1
comp=Z,7μm,18.0s
K02D Willamette Mer 69.75 353 P **P** **07 04 22.3 +0.1**
baz=171,SNR=11
K02D S **S** **07 13 37.3 +6.2**
baz=171
OLIL Olney 69.85 22 P **P** **07 04 21.2 -1.5**
OLIL IAmb IAmb 07 04 23.9
comp=Z,406nm,2.0s
W57A Gilead 69.87 30 P **P** **07 04 21.9 -1.0**
baz=213,SNR=22
W57A S **S** **07 13 32.9 +0.3**
baz=213
W57A Gilead 69.87 30 P **P** **07 04 21.5 -1.4**
W57A IAmb IAmb 07 04 23.9
comp=Z,337nm,1.9s
W57A IAMs_20 IAMs_20 07 33 55.9
comp=Z,7μm,19.0s
V55A Taylorsville 69.93 28 P **P** **07 04 22.4 -0.8**
baz=212,SNR=38
V55A S **S** **07 13 33.3 0.0**
baz=212
V55A Taylorsville 69.93 28 P **P** **07 04 21.6 -1.6**
V55A IAmb IAmb 07 04 24.5
comp=Z,432nm,1.9s
MFID Camas Ranch 69.98 359 P **P** **07 04 22.2 -1.4**
MFID IAmb IAmb 07 04 25.2
comp=Z,321nm,2.0s
J08A Circle Bar Ran 70.00 357 P **P** **07 04 23.3 -0.4**
J08A IAMs_20 IAMs_20 07 29 07.7
comp=Z,7μm,19.0s
KEBM Edson Butte 70.00 352 IAMs_20 IAMs_20 07 27 47.1
comp=Z,6μm,20.0s
REDW Red Top Meadow 70.00 3 P **P** **07 04 22.3 -1.6**
REDW IAmb IAmb 07 04 24.9
comp=Z,359nm,1.9s
X59A McDuffie Farm, 70.01 31 P **P** **07 04 23.1 -0.6**
baz=214,SNR=14
X59A S **S** **07 13 35.9 +1.7**
baz=214
WCI Wyandotte Cave 70.02 23 P **P** **07 04 22.2 -1.6**
WCI pmax pmax
comp=Z,195nm,1.8s
WCI Wyandotte Cave 70.02 23 P **P** **07 04 22.1 -1.6**
baz=207
WCI S **S** **07 13 33.6 -0.6**
baz=207
WCI Wyandotte Cave 70.02 23 P **P** **07 04 22.2 -1.6**
WCI IAmb IAmb 07 04 24.2
comp=Z,195nm,1.8s
VNA1 Neumayer--Stat 70.09 160 P **P** **07 04 25.5 +1.6**
W58A Raeford 70.09 30 P **P** **07 04 23.7 -0.6**
baz=213,SNR=41
W58A S **S** **07 13 36.5 +1.2**
baz=213
J05D Fort Rock, OR 70.10 355 P **P** **07 04 24.5 +0.2**
baz=174,SNR=47
J05D S **S** **07 13 40.3 +4.9**
baz=174
SNOW Snow King Moun 70.11 3 P **P** **07 04 22.9 -1.6**
SNOW IAmb IAmb 07 04 25.7
comp=Z,353nm,1.9s
HLID Hailey 70.12 0 P **P** **07 04 24.3 -0.2**
baz=180,SNR=153
HLID S **S** **07 13 41.4 +5.8**
baz=180
HLID Hailey 70.12 0 P **P** **07 04 23.5 -1.0**
TPAW Teton Pass 70.12 3 P **P** **07 04 21.9 -2.8**
J04D Umpqua Nationa 70.13 354 P **P** **07 04 24.6 0.0**
baz=173
V56A Mocksville 70.20 29 P **P** **07 04 24.0 -1.0**
baz=212,SNR=19
V56A S **S** **07 13 37.1 +0.7**
baz=212
P43A Skaggs, Pawnee 70.22 20 P **P** **07 04 23.7 -1.3**
P43A IAmb IAmb 07 04 26.2
comp=Z,291nm,1.9s
N38A Joes South For 70.22 17 P **P** **07 04 23.5 -1.5**
VNA2 Neumayer--Watz 70.24 161 P **P** **07 04 26.2 +1.4**
J01E Myrtle Point 70.24 353 P **P** **07 04 25.3 +0.4**
baz=171
U54A Nelsons Funny 70.24 28 P **P** **07 04 24.2 -1.1**
baz=211,SNR=16
U54A S **S** **07 13 37.4 +0.3**
baz=211
U54A Nelsons Funny 70.24 28 P **P** **07 04 23.6 -1.7**
U54A IAmb IAmb 07 04 26.2
comp=Z,366nm,1.9s
U54A IAMs_20 IAMs_20 07 30 22.9
comp=Z,9μm,22.0s
LOHW Long Hollow 70.26 3 P **P** **07 04 23.4 -2.0**
LOHW IAmb IAmb 07 04 26.3
comp=Z,288nm,1.8s
FXWY Fox Creek 70.27 3 P **P** **07 04 23.9 -1.6**
FXWY IAmb IAmb 07 04 26.6
comp=Z,312nm,1.8s
FXWY IAMs_20 IAMs_20 07 31 19.4
comp=Z,5μm,20.0s
X60A Albert Glenn T 70.31 32 P **P** **07 04 24.9 -0.7**
baz=214,SNR=13
X60A S **S** **07 13 40.0 +2.2**
baz=214
T53A Wise 70.35 27 P **P** **07 04 24.8 -1.0**
baz=210,SNR=22
T53A S **S** **07 13 40.3 +2.0**
baz=210

R49A Shelbyville 70.47 24 P **P** **07 04 25.0 -1.5**
R49A IAMs_20 IAMs_20 07 33 10.0
comp=Z,6μm,19.0s
S51A Beattyville 70.50 26 P **P** **07 04 24.7 -2.0**
S51A IAmb IAmb 07 04 27.7
comp=Z,340nm,2.0s
S51A IAMs_20 IAMs_20 07 32 04.2
comp=Z,8μm,20.0s
IMW Indian Meadow 70.53 3 P **P** **07 04 25.1 -2.1**
IMW IAmb IAmb 07 04 29.1
comp=Z,166nm,1.4s
U55A TA2, Sparta 70.55 28 P **P** **07 04 25.9 -1.2**
baz=212,SNR=23
U55A S **S** **07 13 40.4 -0.3**
baz=212
L34A Svendsen Farm, 70.57 14 P **P** **07 04 25.6 -1.4**
L34A IAmb IAmb 07 04 29.7
comp=Z,112nm,0.9s
L34A IAMs_20 IAMs_20 07 31 54.7
comp=Z,9μm,18.0s
W59A Clinton 70.58 31 P **P** **07 04 26.5 -0.7**
baz=214,SNR=5.2
W59A S **S** **07 13 41.9 +1.0**
baz=214
V57A Coltrane Farms 70.58 29 P **P** **07 04 26.4 -0.9**
baz=213,SNR=34
V57A S **S** **07 13 41.7 +0.8**
baz=213
PINE Pine Mountain 70.58 355 P **P** **07 04 26.2 -1.2**
PINE IAmb IAmb 07 04 29.5
comp=Z,316nm,1.9s
U56A King 70.70 29 P **P** **07 04 27.2 -0.8**
baz=212,SNR=19
U56A S **S** **07 13 44.7 +2.3**
baz=212
U56A King 70.70 29 P **P** **07 04 26.6 -1.4**
U56A IAmb IAmb 07 04 29.2
comp=Z,264nm,1.8s
U56A IAMs_20 IAMs_20 07 30 19.0
comp=Z,7μm,22.0s
I03D Drain, OR 70.71 353 P **P** **07 04 27.6 -0.2**
baz=172
I03D S **S** **07 13 48.4 +6.4**
baz=172
K31A O'Neill 70.71 12 P **P** **07 04 26.5 -1.4**
K31A IAmb IAmb 07 04 30.9
comp=Z,239nm,1.1s
K31A IAMs_20 IAMs_20 07 31 20.5
comp=Z,5μm,19.0s
I04A Tendick Farm, 70.71 354 P **P** **07 04 26.8 -1.2**
baz=172
I04A S **S** **07 13 46.8 +4.5**
baz=172
FLWY Flagg Ranch 70.73 3 P **P** **07 04 27.2 -1.1**
FLWY IAmb IAmb 07 04 30.4
comp=Z,201nm,1.4s
GDU01 Guandu, BA 70.73 96 *e*P **P** **07 04 29.7 +1.0**
BLO Bloomington 70.78 23 P **P** **07 04 26.4 -2.0**
BLO pmax pmax
comp=Z,242nm,1.9s
BLO Bloomington 70.78 23 P **P** **07 04 26.4 -2.0**
BLO IAmb IAmb 07 04 35.8
comp=Z,242nm,1.9s
BLO IAMs_20 IAMs_20 07 33 27.0
comp=Z,5μm,18.0s
I07A Izee 70.78 356 P **P** **07 04 27.8 -0.6**
I07A IAMs_20 IAMs_20 07 28 14.3
comp=Z,6μm,22.0s
R50A Paris 70.78 25 P **P** **07 04 25.9 -2.5**
R50A IAmb IAmb 07 04 28.7
comp=Z,385nm,1.9s
R50A IAMs_20 IAMs_20 07 32 12.1
comp=Z,6μm,20.0s
V58A Windy Hill, Pi 70.79 30 P **P** **07 04 27.4 -1.2**
baz=213,SNR=16
V58A S **S** **07 13 44.6 +1.3**
baz=213
V58A Windy Hill, Pi 70.79 30 P **P** **07 04 26.3 -2.3**
V58A IAmb IAmb 07 04 29.4
comp=Z,231nm,1.9s
N41A Harden Midland 70.80 19 P **P** **07 04 26.5 -1.9**
N41A IAMs_20 IAMs_20 07 31 37.6
comp=Z,10μm,21.0s
T54A Tazewell 70.81 28 P **P** **07 04 27.6 -1.1**
baz=211,SNR=20
T54A S **S** **07 13 44.2 +0.6**
baz=211
W60A Pink Hill 70.82 31 P **P** **07 04 28.1 -0.6**
baz=214,SNR=7.9
W60A S **S** **07 13 45.9 +2.2**
baz=214
CNNC Cliffs of the 70.89 31 P **P** **07 04 28.6 -0.5**
baz=214,SNR=12
CNNC S **S** **07 13 46.0 +1.5**
baz=214
CNNC Cliffs of the 70.89 31 P **P** **07 04 27.8 -1.3**
CNNC IAmb IAmb 07 04 30.4
comp=Z,438nm,1.9s
DZM Mont Dzumac 70.91 254 *e*P **P** **07 04 32.0 +2.2**
comp=Z,148nm,1.4s
DZM *e*S **S** **07 13 47.9 +2.1**
comp=Z,6μm,26.5s
DZM Mont Dzumac 70.91 254 *e*LR LR 07 26 07.4
comp=Z,30μm,27.4s
DZM Mont Dzumac 70.91 254 P **P** **07 04 32.1 +2.2**
comp=Z,39nm,1.1s,baz=112,slow=10.0,SNR=10
DZM Mont Dzumac 70.91 254 P **P** **07 04 30.8 +0.9**
DZM IAMs_20 IAMs_20 07 27 34.8
comp=Z,11μm,22.0s
YPP Pitchstone Pla 70.91 3 P **P** **07 04 27.4 -2.1**
P46A Rosedale 70.94 22 P **P** **07 04 27.9 -1.5**
P46A IAmb IAmb 07 04 30.5
comp=Z,335nm,1.9s
P46A IAMs_20 IAMs_20 07 33 07.4
comp=Z,9μm,18.0s
O44A Mansfield 71.01 21 P **P** **07 04 27.9 -1.9**
O44A IAmb IAmb 07 04 30.9
comp=Z,404nm,2.0s
H17A Grant Village 71.05 3 P **P** **07 04 30.0 -0.2**
baz=184,SNR=7.9
H17A Grant Village 71.05 3 P **P** **07 04 28.9 -1.3**
H17A IAMs_20 IAMs_20 07 30 38.9
comp=Z,7μm,21.0s
S53A Williamson 71.11 27 P **P** **07 04 29.5 -1.0**
baz=210
S53A S **S** **07 13 48.9 +1.7**
baz=210
HDIL Hopedale 71.12 20 P **P** **07 04 29.6 -0.9**
baz=204,SNR=24
HDIL S **S** **07 13 51.0 +4.0**
baz=204
HDIL Hopedale 71.12 20 P **P** **07 04 29.0 -1.4**
I05D Terrebonne, OR 71.16 355 P **P** **07 04 30.8 +0.2**
baz=174,SNR=18
I05D S **S** **07 13 53.9 +6.5**
baz=174
V59A Middlesex 71.16 31 P **P** **07 04 29.8 -1.0**
baz=214,SNR=28
V59A S **S** **07 13 48.3 +0.6**
baz=214
T55A Pulaski 71.18 28 P **P** **07 04 30.1 -0.8**
baz=212,SNR=15
T55A S **S** **07 13 47.6 -0.4**
baz=212
SNAA Sanae 71.21 162 P **P** **07 04 32.1 +1.2**
SNAA Sanae 71.21 162 P **P** **07 04 32.0 +1.2**
SNAA pmax pmax
comp=Z,250nm,1.7s
SNAA Sanae 71.21 162 P **P** **07 04 32.0 +1.2**
SNAA IAmb IAmb 07 04 35.5
comp=Z,250nm,1.7s
LKWY Lake 71.22 3 P **P** **07 04 30.2 -1.1**
LKWY pmax pmax
comp=Z,85nm,1.4s
LKWY Lake 71.22 3 P **P** **07 04 30.2 -1.1**
LKWY IAMs_20 IAMs_20 07 31 37.6
comp=Z,5μm,19.0s
U57A Blanch 71.23 29 P **P** **07 04 30.4 -0.8**
baz=213,SNR=26
U57A S **S** **07 13 48.4 0.0**
baz=213
W61A Ground Anchor 71.26 32 P **P** **07 04 31.1 -0.2**
baz=215
W61A S **S** **07 13 51.6 +2.8**
baz=215
SCIA State Center 71.27 17 P **P** **07 04 30.7 -0.5**
baz=200,SNR=9.0

SCIA State Center 71.27 17 P **P** **07 04 30.1 -1.2**
SCIA IAMs_20 IAMs_20 07 31 53.1
comp=Z,11μm,22.0s
YMR Madison River 71.30 3 P **P** **07 04 30.4 -1.3**
ROSB Rosrio 71.31 84 *e*P **P** **07 04 31.8 -0.4**
RSSD Black Hills 71.34 8 P **P** **07 04 31.1 -0.9**
RSSD pmax pmax
comp=Z,93nm,1.2s
RSSD Black Hills 71.34 8 P **P** **07 04 30.9 -1.1**
baz=190
RSSD S **S** **07 13 52.6 +2.7**
baz=190
RSSD Black Hills 71.34 8 P **P** **07 04 31.1 -0.9**
RSSD Black Hills 71.34 8 IAMs_20 IAMs_20 07 31 02.3
comp=Z,8μm,20.0s
YNR Norris Junctio 71.36 3 P **P** **07 04 31.0 -1.1**
YUF Upper Falls 71.36 3 P **P** **07 04 32.0 -0.2**
YNM Yellowstone No 71.37 3 P **P** **07 04 30.9 -1.3**
YHB Horse Butte 71.37 3 P **P** **07 04 30.7 -1.5**
MCMT McKenzie Canyo 71.40 1 P **P** **07 04 31.3 -1.0**
YMP Mirror Lake Pl 71.41 3 P **P** **07 04 31.1 -1.4**
BLA Blacksburg 71.42 28 P **P** **07 04 31.0 -1.4**
BLA pmax pmax
comp=Z,413nm,1.9s
BLA Blacksburg 71.42 28 P **P** **07 04 31.6 -0.8**
baz=212,SNR=24
BLA S **S** **07 13 50.7 0.0**
baz=212
BLA Blacksburg 71.42 28 P **P** **07 04 31.0 -1.4**
BLA IAmb IAmb 07 04 33.5
comp=Z,412nm,1.9s
BLA IAMs_20 IAMs_20 07 34 57.9
comp=Z,5μm,19.0s
P48A Milroy 71.42 23 P **P** **07 04 29.8 -2.4**
P48A IAmb IAmb 07 04 37.9
comp=Z,210nm,1.9s
YHH Holmes Hill 71.42 3 P **P** **07 04 31.0 -1.6**
T56A Rocky Mt 71.43 29 P **P** **07 04 31.7 -0.7**
baz=212,SNR=16
T56A S **S** **07 13 51.6 +0.8**
baz=212
QLMT Earthquake Lak 71.44 2 P **P** **07 04 31.8 -0.8**
BMO Blue Mountains 71.45 358 P **P** **07 04 30.7 -1.7**
BMO pmax pmax
comp=Z,353nm,1.9s
BMO Blue Mountains 71.45 358 P **P** **07 04 30.7 -1.7**
BMO IAmb IAmb 07 04 34.4
comp=Z,353nm,1.9s
BMO IAMs_20 IAMs_20 07 30 07.9
comp=Z,5μm,19.0s
H04D Lebanon 71.46 354 P **P** **07 04 31.9 -0.5**
baz=172
YHL Hebgen Lake 71.47 3 P **P** **07 04 32.0 -0.9**
U58A Oxford 71.55 30 P **P** **07 04 32.0 -1.1**
baz=214,SNR=24
U58A S **S** **07 13 51.7 -0.4**
baz=214
S54A Dingess, Beckl 71.55 27 P **P** **07 04 31.9 -1.2**
baz=211,SNR=9.7
S54A S **S** **07 13 54.8 +2.7**
baz=211
S54A Dingess, Beckl 71.55 27 P **P** **07 04 31.5 -1.6**
S54A IAmb IAmb 07 04 34.2
comp=Z,325nm,2.0s
S54A IAMs_20 IAMs_20 07 31 37.4
comp=Z,7μm,21.0s
H04A Detroit Lake 71.57 354 P **P** **07 04 31.5 -1.6**
H04A IAMs_20 IAMs_20 07 28 27.5
comp=Z,5μm,22.0s
V60A Jim Taylor Roa 71.61 31 P **P** **07 04 32.8 -0.7**
baz=215,SNR=15
V60A S **S** **07 13 54.9 +2.0**
baz=215
V60A Jim Taylor Roa 71.61 31 P **P** **07 04 31.5 -2.0**
V60A IAmb IAmb 07 04 34.7
comp=Z,444nm,1.9s
V60A IAMs_20 IAMs_20 07 34 08.1
comp=Z,7μm,18.0s
SFIN Lafayette 71.66 22 P **P** **07 04 32.5 -1.2**
baz=206,SNR=8.6
SFIN S **S** **07 13 54.8 +1.5**
baz=206
SFIN Lafayette 71.66 22 P **P** **07 04 31.3 -2.4**
SFIN IAmb IAmb 07 04 34.7
comp=Z,314nm,1.9s
SFIN IAMs_20 IAMs_20 07 33 16.8
comp=Z,7μm,18.0s
YNE Yellowstone No 71.69 3 P **P** **07 04 32.5 -1.5**
P49A Miami Univ. Ec 71.74 24 P **P** **07 04 32.2 -2.0**
baz=208,SNR=16
P49A S **S** **07 13 54.4 +0.2**
baz=208
P49A Miami Univ. Ec 71.74 24 P **P** **07 04 32.0 -2.2**
P49A IAmb IAmb 07 04 34.4
comp=Z,361nm,1.9s
P49A IAMs_20 IAMs_20 07 34 15.5
comp=Z,5μm,20.0s
T57A Hurt 71.74 29 P **P** **07 04 33.4 -0.8**
baz=213,SNR=24
T57A S **S** **07 13 53.7 -0.6**
baz=213
T57A Hurt 71.74 29 P **P** **07 04 32.7 -1.6**
T57A IAmb IAmb 07 04 35.3
comp=Z,240nm,1.9s
R53A Hurricane 71.74 27 P **P** **07 04 33.6 -0.6**
baz=210,SNR=14
R53A S **S** **07 13 56.0 +1.7**
baz=210
R53A Hurricane 71.74 27 P **P** **07 04 32.7 -1.5**
R53A IAmb IAmb 07 04 35.6
comp=Z,479nm,2.0s
R53A IAMs_20 IAMs_20 07 31 47.6
comp=Z,9μm,20.0s
Q51A Peebles 71.80 25 P **P** **07 04 33.1 -1.5**
Q51A IAmb IAmb 07 04 35.2
comp=Z,235nm,1.8s
Q51A IAMs_20 IAMs_20 07 32 39.1
comp=Z,7μm,20.0s
RLMT Red Lodge 71.84 4 P **P** **07 04 34.0 -1.0**
baz=185,SNR=37
RLMT S **S** **07 13 57.1 +1.4**
baz=185
RLMT Red Lodge 71.84 4 P **P** **07 04 33.7 -1.3**
RLMT IAmb IAmb 07 04 36.2
comp=Z,272nm,1.9s
U59A Littleton 71.85 31 P **P** **07 04 34.2 -0.7**
baz=214,SNR=19
U59A Littleton 71.85 31 P **P** **07 04 33.6 -1.3**
S55A Lewisburg 71.86 28 P **P** **07 04 34.4 -0.7**
baz=212,SNR=20
S55A S **S** **07 13 57.3 +1.5**
baz=212
DLMT Dillon 71.94 1 P **P** **07 04 34.3 -1.1**
L40A Anamosa 71.94 18 P **P** **07 04 34.2 -1.2**
L40A IAmb IAmb 07 04 38.3
comp=Z,211nm,1.1s
L40A IAMs_20 IAMs_20 07 32 10.0
comp=Z,6μm,21.0s
G08A Pilot Rock 71.95 357 P **P** **07 04 35.2 -0.3**
G08A IAMs_20 IAMs_20 07 30 08.4
comp=Z,7μm,19.0s
V61A Roper 71.95 32 P **P** **07 04 35.0 -0.6**
baz=215,SNR=9.2
V61A S **S** **07 13 58.9 +2.1**
baz=215
V61A Roper 71.95 32 P **P** **07 04 34.5 -1.1**
V61A IAmb IAmb 07 04 38.3
comp=Z,272nm,1.2s
R54A Victor 72.00 27 P **P** **07 04 35.2 -0.7**
baz=211,SNR=16
R54A S **S** **07 13 58.2 +0.8**
baz=211
T58A Grand View Acr 72.01 30 P **P** **07 04 34.8 -1.0**
baz=214,SNR=18
T58A S **S** **07 13 58.7 +1.3**
baz=214
G05D Wamic, OR 72.06 355 P **P** **07 04 36.0 0.0**
baz=174,SNR=8.5
V62A Hyde County Ai 72.06 32 P **P** **07 04 35.9 -0.3**
baz=216
K38A Parkersburg 72.08 17 P **P** **07 04 34.8 -1.4**
Q52A Bidwell 72.16 26 P **P** **07 04 35.8 -1.0**
baz=210,SNR=17
Q52A S **S** **07 13 58.6 -0.5**
baz=210
S56A Natural Bridge 72.17 29 P **P** **07 04 36.1 -0.8**

	baz=212,SNR=22							
S56A				S	S	07 13 59.4	+0.1	
	baz=212							
G03D	**McMinnville, O**	**72.20**	**354**	P	P	07 04 36.6	-0.2	
	baz=172							
BOZ	**Bozeman (W)**	**72.20**	**2**	P	P	07 04 35.2	-1.8	
BOZ				pmax	pmax			
	comp=Z,261nm,1.9s							
BOZ				MLR	MLR			
	comp=Z,2μm,18.0s							
BOZ	**Bozeman (W)**	**72.20**	**2**	P	P	07 04 36.3	-0.7	
	baz=183,SNR=64							
BOZ				S	S	07 14 03.1	+3.5	
	baz=183							
BOZ	**Bozeman (W)**	**72.20**	**2**	P	P	07 04 35.2	-1.8	
BOZ				IAmb	IAmb	07 04 38.5		
	comp=Z,261nm,1.9s							
ECSD	**EROS Data Cent**	**72.20**	**14**	P	P	07 04 35.9	-1.0	
	baz=197,SNR=61							
ECSD				S	S	07 14 01.0	+1.6	
	baz=197							
ECSD	**EROS Data Cent**	**72.20**	**14**	P	P	07 04 34.9	-2.0	
ECSD				IAmb	IAmb	07 04 37.9		
	comp=Z,348nm,1.9s							
ECSD	**EROS Data Cent**	**72.20**	**14**	IAMs_20	IAMs_20	07 32 46.0		
	comp=Z,5μm,20.0s							
U60A	**Pendleton**	**72.24**	**31**	P	P	07 04 36.6	-0.6	
	baz=215,SNR=16							
U60A				S	S	07 14 00.3	+0.3	
	baz=215							
M44A	**Midewin, Midew**	**72.27**	**21**	P	P	07 04 35.9	-1.4	
M44A				IAmb	IAmb	07 04 38.4		
	comp=Z,456nm,2.0s							
M44A				IAMs_20	IAMs_20	07 33 05.5		
	comp=Z,9μm,20.0s							
P51A	**Williamsport**	**72.31**	**25**	P	P	07 04 36.3	-1.3	
	baz=209,SNR=7.7							
P51A				S	S	07 14 03.1	+2.3	
	baz=209							
P51A	**Williamsport**	**72.31**	**25**	P	P	07 04 35.6	-1.9	
P51A				IAmb	IAmb	07 04 38.4		
	comp=Z,282nm,2.0s							
P51A				IAMs_20	IAMs_20	07 34 12.5		
	comp=Z,8μm,20.0s							
L42A	**Oliver, Polo**	**72.34**	**19**	P	P	07 04 35.9	-1.9	
L42A				IAMs_20	IAMs_20	07 32 46.3		
	comp=Z,9μm,21.0s							
Q53A	**Leroy**	**72.37**	**27**	P	P	07 04 37.6	-0.4	
	baz=211,SNR=30							
Q53A				S	S	07 14 02.8	+1.4	
	baz=211							
LRM	**Limekiln Ridge**	**72.40**	**2**	P	P	07 04 37.1	-1.2	
SUSD	**Miller**	**72.43**	**12**	P	P	07 04 37.3	-1.0	
	baz=195,SNR=9.1							
SUSD				S	S	07 14 05.5	+3.5	
	baz=195							
SUSD	**Miller**	**72.43**	**12**	P	P	07 04 36.7	-1.6	
SUSD				IAMs_20	IAMs_20	07 32 15.0		
	comp=Z,5μm,20.0s							
R55A	**Marlinton**	**72.45**	**28**	P	P	07 04 37.8	-0.7	
	baz=212,SNR=9.9							
R55A				S	S	07 14 05.3	+2.7	
	baz=212							
R55A	**Marlinton**	**72.45**	**28**	P	P	07 04 37.2	-1.4	
R55A				IAmb	IAmb	07 04 40.1		
	comp=Z,228nm,1.9s							
R55A				IAMs_20	IAMs_20	07 35 39.3		
	comp=Z,6μm,19.0s							
O49A	**Covington**	**72.45**	**24**	P	P	07 04 36.3	-2.2	
O49A				IAMs_20	IAMs_20	07 33 38.4		
	comp=Z,6μm,20.0s							
U61A	**Possum Corner**	**72.45**	**32**	P	P	07 04 37.9	-0.7	
	baz=215,SNR=5.7							
U61A	**Possum Corner**	**72.45**	**32**	P	P	07 04 37.7	-0.8	
U61A				IAmb	IAmb	07 04 41.2		
	comp=Z,269nm,1.4s							
T59A	**Double "B" Far**	**72.47**	**30**	P	P	07 04 37.6	-1.0	
	baz=214,SNR=18							
T59A				S	S	07 14 03.7	+1.0	
	baz=214							
T59A	**Double "B" Far**	**72.47**	**30**	P	P	07 04 37.1	-1.5	
T59A				IAmb	IAmb	07 04 39.7		
	comp=Z,231nm,1.9s							
GCMT	**Greycliff**	**72.48**	**4**	P	P	07 04 37.3	-1.4	
S57A	**Dark Hollow, R**	**72.51**	**29**	P	P	07 04 37.8	-1.1	
	baz=213,SNR=16							
S57A				S	S	07 14 04.5	+1.3	
	baz=213							
S57A	**Dark Hollow, R**	**72.51**	**29**	P	P	07 04 37.8	-1.1	
S57A				IAMs_20	IAMs_20	07 32 42.8		
	comp=Z,5μm,20.0s							
F10A	**Beach Ranch, E**	**72.57**	**358**	P	P	07 04 37.9	-1.2	
F10A				IAMs_20	IAMs_20	07 31 02.5		
	comp=Z,5μm,18.0s							
N47A	**Urbana**	**72.59**	**23**	P	P	07 04 37.3	-1.9	
N47A				IAmb	IAmb	07 04 39.6		
	comp=Z,348nm,1.9s							
N47A				IAMs_20	IAMs_20	07 34 09.9		
	comp=Z,7μm,18.0s							
F07A	**Phinny Hill Vi**	**72.61**	**356**	P	P	07 04 38.4	-0.8	
F07A				IAmb	IAmb	07 04 41.5		
	comp=Z,340nm,2.0s							
HQIL	**Hanson Quary C**	**72.70**	**21**	P	P	07 04 39.2	-0.7	
HQIL				IAMs_20	IAMs_20	07 33 17.0		
	comp=Z,10μm,21.0s							
F05D	**White Salmon**	**72.70**	**355**	P	P	07 04 39.8	0.0	
	baz=174,SNR=9.1							
F05D				S	SKiKP	07 14 10.1	-4.1	
	baz=174							
Q54A	**Coxs Mills**	**72.75**	**27**	P	P	07 04 39.8	-0.5	
	baz=211,SNR=40							
Q54A				S	S	07 14 07.3	+1.5	
	baz=211							
Q54A	**Coxs Mills**	**72.75**	**27**	P	P	07 04 38.8	-1.5	
Q54A				IAMs_20	IAMs_20	07 35 11.3		
	comp=Z,6μm,20.0s							
S58A	**Poland Farm, P**	**72.78**	**30**	P	P	07 04 39.8	-0.7	
	baz=214,SNR=11							
S58A				S	S	07 14 07.7	+1.6	
	baz=214							
S58A	**Poland Farm, P**	**72.78**	**30**	P	P	07 04 38.9	-1.5	
S58A				IAmb	IAmb	07 04 41.6		
	comp=Z,203nm,1.8s							
P52A	**Corning**	**72.80**	**26**	P	P	07 04 39.7	-0.8	
	baz=210,SNR=13							
P52A				S	S	07 14 07.4	+1.0	
	baz=210							
P52A	**Corning**	**72.80**	**26**	P	P	07 04 39.7	-0.8	
P52A				IAMs_20	IAMs_20	07 32 35.4		
	comp=Z,10μm,22.0s							
F04A	**Amboy**	**72.83**	**354**	P	P	07 04 39.5	-1.0	
F04A				IAmb	IAmb	07 04 42.0		
	comp=Z,481nm,2.0s							
R56A	**Bull Pasture M**	**72.86**	**28**	P	P	07 04 41.0	0.0	
	baz=212,SNR=43							
R56A				S	S	07 14 10.2	+2.9	
	baz=212							
P53A	**Whipple**	**72.96**	**26**	P	P	07 04 41.2	-0.3	
	baz=211,SNR=34							
P53A				S	S	07 14 08.3	+0.1	
	baz=211							
P53A	**Whipple**	**72.96**	**26**	P	P	07 04 40.5	-1.0	
P53A				IAMs_20	IAMs_20	07 32 25.8		
	comp=Z,9μm,21.0s							
T60A	**Surry**	**72.98**	**31**	P	P	07 04 41.0	-0.6	
	baz=215							
T60A	**Surry**	**72.98**	**31**	IAMs_20	IAMs_20	07 33 25.4		
	comp=Z,6μm,19.0s							
ACSO	**Alum Creek Sta**	**72.99**	**25**	P	P	07 04 40.5	-1.2	
	baz=209,SNR=9.9							
ACSO	**Alum Creek Sta**	**72.99**	**25**	P	P	07 04 39.3	-2.4	
ACSO				IAMs_20	IAMs_20	07 33 26.6		
	comp=Z,6μm,21.0s							
JFWS	**Jewell Farm**	**73.00**	**18**	P	P	07 04 40.3	-1.4	
JFWS				pmax	pmax			
	comp=Z,296nm,1.9s							
JFWS	**Jewell Farm**	**73.00**	**18**	P	P	07 04 40.8	-0.9	
	baz=203,SNR=14							
JFWS				S	S	07 14 11.0	+2.4	
	baz=203							
JFWS	**Jewell Farm**	**73.00**	**18**	P	P	07 04 40.3	-1.4	
JFWS				IAmb	IAmb	07 04 42.8		
	comp=Z,296nm,1.9s							
JFWS	**Jewell Farm**	**73.00**	**18**	IAMs_20	IAMs_20	07 32 43.1		
	comp=Z,9μm,22.0s							
L44A	**Lake County Fo**	**73.03**	**20**	P	P	07 04 40.9	-0.9	
	baz=205							
L44A	**Lake County Fo**	**73.03**	**20**	P	P	07 04 40.4	-1.4	
L44A				IAmb	IAmb	07 04 43.0		
	comp=Z,322nm,1.7s							
F04D	**Rainier, OR**	**73.04**	**354**	P	P	07 04 42.0	+0.2	
	baz=172							
O51A	**Pataskala**	**73.06**	**25**	P	P	07 04 40.9	-1.1	
	baz=210,SNR=11							
O51A				S	S	07 14 07.8	-1.5	
	baz=210							
Q55A	**Buckhannon**	**73.07**	**28**	P	P	07 04 41.4	-0.8	
	baz=212,SNR=7.3							
Q55A				S	S	07 14 10.1	+0.5	
	baz=212							
HAWA	**Hanford**	**73.08**	**356**	P	P	07 04 41.2	-0.8	
HAWA				IAmb	IAmb	07 04 44.3		
	comp=Z,281nm,1.9s							
E09A	**Wood Farm, Sta**	**73.14**	**357**	P	P	07 04 40.9	-1.5	
E09A				IAmb	IAmb	07 04 43.7		
	comp=Z,300nm,1.9s							
E09A				IAMs_20	IAMs_20	07 31 07.6		
	comp=Z,8μm,18.0s							
R57A	**Stanardsville**	**73.14**	**29**	P	P	07 04 41.9	-0.7	
	baz=213,SNR=24							
R57A				S	S	07 14 11.0	+0.7	
	baz=213							
R58B	**Mineral**	**73.14**	**30**	P	P	07 04 41.9	-0.7	
	baz=214,SNR=17							
R58B				S	S	07 14 11.0	+0.7	
	baz=214							
R58B	**Mineral**	**73.14**	**30**	P	P	07 04 40.9	-1.7	
R58B				IAmb	IAmb	07 04 43.9		
	comp=Z,230nm,1.9s							
N49A	**Columbus Grove**	**73.15**	**24**	P	P	07 04 40.7	-1.9	
N49A				IAMs_20	IAMs_20	07 34 46.9		
	comp=Z,7μm,18.0s							
E08A	**Dider Farm, El**	**73.16**	**357**	P	P	07 04 41.9	-0.6	
E08A				IAmb	IAmb	07 04 43.5		
	comp=Z,232nm,1.7s							
I37A	**Lemond, Waseca**	**73.20**	**16**	P	P	07 04 41.7	-1.1	
I37A				IAmb	IAmb	07 04 45.7		
	comp=Z,152nm,1.0s							
S59A	**Mechanicsville**	**73.24**	**30**	P	P	07 04 42.6	-0.5	
	baz=214,SNR=17							
S59A				S	SKiKP	07 14 13.5	-1.7	
	baz=214							
E07A	**Sunnyside**	**73.27**	**356**	P	P	07 04 42.6	-0.6	
E07A				IAmb	IAmb	07 04 45.4		
	comp=Z,246nm,1.8s							
HRY	**Holter Researc**	**73.31**	**2**	P	P	07 04 42.5	-1.1	
O52A	**Adamsville**	**73.33**	**26**	P	P	07 04 42.9	-0.8	
	baz=210,SNR=31							
O52A				S	S	07 14 13.3	+0.9	
	baz=210							
O52A	**Adamsville**	**73.33**	**26**	P	P	07 04 42.2	-1.5	
R58A	**Rapidan**	**73.37**	**29**	P	P	07 04 43.2	-0.7	
	baz=214,SNR=20							
R58A				S	SKiKP	07 14 14.3	-1.2	
	baz=214							
K43A	**Burlington**	**73.38**	**20**	P	P	07 04 42.7	-1.1	
K43A				IAMs_20	IAMs_20	07 33 31.8		
	comp=Z,8μm,20.0s							
MSO	**Missoula**	**73.39**	**0**	P	P	07 04 43.5	-0.5	
	baz=180,SNR=52							
MSO				S	SKiKP	07 14 15.8	+0.4	
	baz=180							
MSO	**Missoula**	**73.39**	**0**	P	P	07 04 42.7	-1.2	
MSO				IAmb	IAmb	07 04 45.6		
	comp=Z,297nm,1.9s							
L46A	**Eue Claire**	**73.40**	**22**	P	P	07 04 42.9	-1.1	
L46A				IAMs_20	IAMs_20	07 34 05.4		
	comp=Z,8μm,19.0s							
P54A	**Burton**	**73.42**	**27**	P	P	07 04 44.0	-0.2	
	baz=211,SNR=42							
P54A				S	S	07 14 14.1	+0.6	
	baz=211							
E04D	**Cinebar**	**73.47**	**354**	P	P	07 04 44.4	+0.1	
	baz=172,SNR=14							
E04D				S	SKiKP	07 14 18.3	+3.0	
	baz=172							
Q56A	**Snyder Ridge,**	**73.48**	**28**	P	P	07 04 44.3	-0.3	
	baz=213,SNR=21							
Q56A				S	SKiKP	07 14 15.0	-0.7	
	baz=213							
Q56A	**Snyder Ridge,**	**73.48**	**28**	P	P	07 04 43.6	-1.0	
Q56A				IAmb	IAmb	07 04 46.4		
	comp=Z,229nm,1.8s							
Q56A				IAMs_20	IAMs_20	07 34 04.6		
	comp=Z,6μm,21.0s							
S60A	**Water View**	**73.48**	**31**	P	P	07 04 44.0	-0.6	
	baz=215							
E03A	**Lebam**	**73.55**	**354**	P	P	07 04 43.8	-1.0	
LHI	**Lord Howe Isla**	**73.56**	**243**	IAMs_20	IAMs_20	07 35 44.7		
	comp=Z,8μm,18.0s							
CBN	**Corbin Frederi**	**73.57**	**30**	P	P	07 04 44.4	-0.7	
	baz=214							
CBN	**Corbin Frederi**	**73.57**	**30**	P	P	07 04 43.8	-1.2	
CBN				IAmb	IAmb	07 04 46.3		
	comp=Z,231nm,1.8s							
CBN				IAMs_20	IAMs_20	07 34 28.9		
	comp=Z,7μm,19.0s							
LON	**Longmire**	**73.59**	**355**	P	P	07 04 43.4	-1.8	
LON				pmax	pmax			
	comp=Z,194nm,1.9s							
LON	**Longmire**	**73.59**	**355**	P	P	07 04 43.4	-1.8	
P55A	**Reedsville**	**73.61**	**27**	P	P	07 04 45.0	-0.4	
	baz=212,SNR=40							
P55A				S	S	07 14 17.7	+2.0	
	baz=212							
LAO	**LASA Array**	**73.64**	**6**	P	P	07 04 44.8	-0.6	
	baz=188,SNR=16							
LAO	**LASA Array**	**73.64**	**6**	P	P	07 04 44.1	-1.2	
LAO				IAmb	IAmb	07 04 46.6		
	comp=Z,382nm,1.9s							
R59A	**King George, V**	**73.68**	**30**	P	P	07 04 45.2	-0.5	
	baz=214							
O53A	**New Philadelph**	**73.68**	**26**	P	P	07 04 45.3	-0.4	
	baz=211,SNR=28							
O53A				S	S	07 14 17.9	+1.5	
	baz=211							
O53A	**New Philadelph**	**73.68**	**26**	P	P	07 04 43.6	-2.1	
O53A				IAMs_20	IAMs_20	07 32 59.9		
	comp=Z,8μm,21.0s							
D08A	**Wollman Farm,**	**73.71**	**357**	P	P	07 04 44.3	-1.5	
D08A				IAmb	IAmb	07 04 47.7		
	comp=Z,295nm,1.9s							
MCWV	**Mont Chateau**	**73.73**	**27**	P	P	07 04 45.7	-0.3	
	baz=212,SNR=25							
MCWV				S	S	07 14 18.9	+2.0	
	baz=212							
MCWV	**Mont Chateau**	**73.73**	**27**	P	P	07 04 44.6	-1.5	
Q57A	**Strasburg**	**73.80**	**29**	P	P	07 04 46.4	-0.1	
	baz=213,SNR=23							
Q57A				S	S	07 14 20.2	+2.4	
	baz=213							
I40A	**Norwalk**	**73.81**	**18**	P	P	07 04 45.0	-1.3	
I40A				IAmb	IAmb	07 04 47.8		
	comp=Z,479nm,2.0s							
I40A				IAMs_20	IAMs_20	07 33 44.3		
	comp=Z,7μm,20.0s							
N51A	**Ashland**	**73.81**	**25**	P	P	07 04 45.8	-0.7	
	baz=210,SNR=19							
N51A				S	S	07 14 17.3	-0.6	
	baz=210							
N51A	**Ashland**	**73.81**	**25**	P	P	07 04 45.1	-1.4	
N51A				IAmb	IAmb	07 04 48.5		
	comp=Z,238nm,1.3s							
N51A				IAMs_20	IAMs_20	07 34 00.4		
	comp=Z,6μm,20.0s							
S61A	**Accomac**	**73.91**	**31**	P	P	07 04 47.0	-0.1	
	baz=216							
O54A	**Avella**	**73.96**	**27**	P	P	07 04 46.8	-0.5	
	baz=211,SNR=18							
O54A				S	S	07 14 20.6	+1.1	
	baz=211							
O54A	**Avella**	**73.96**	**27**	P	P	07 04 46.1	-1.2	
O54A				IAmb	IAmb	07 04 48.9		
	comp=Z,400nm,1.9s							
O54A				IAMs_20	IAMs_20	07 34 43.2		
	comp=Z,7μm,20.0s							
L48A	**N Adams**	**73.97**	**23**	P	P	07 04 46.2	-1.2	
R60A	**Leonardtown, M**	**73.97**	**30**	P	P	07 04 46.8	-0.7	
	baz=215							
N52A	**McGinn's Farm,**	**73.98**	**25**	P	P	07 04 46.7	-0.8	
	baz=210,SNR=14							
M50A	**Fremont**	**73.99**	**24**	P	P	07 04 46.1	-1.4	
M50A				IAmb	IAmb	07 04 48.7		
	comp=Z,488nm,1.8s							
M50A				IAMs_20	IAMs_20	07 34 13.0		
	comp=Z,7μm,20.0s							
LTY	**Liberty**	**74.01**	**356**	P	P	07 04 45.6	-2.1	
P56A	**Dayton Farm, R**	**74.02**	**28**	P	P	07 04 47.6	-0.2	
	baz=213,SNR=36							
P56A				S	S	07 14 21.7	+1.6	
	baz=213							
Q58A	**Fox Den Farm,**	**74.04**	**29**	P	P	07 04 47.5	-0.4	
	baz=214,SNR=29							
Q58A				S	S	07 14 22.7	+2.2	
	baz=214							
D05A	**Enumclaw**	**74.04**	**355**	P	P	07 04 46.2	-1.4	
D05A				IAmb	IAmb	07 04 49.5		
	comp=Z,549nm,1.9s							
D04E	**Lakebay**	**74.10**	**354**	P	P	07 04 48.6	+0.7	
	baz=172,SNR=5.3							
E28A	**Huff**	**74.21**	**10**	P	P	07 04 46.5	-2.2	
E28A				IAmb	IAmb	07 04 50.6		
	comp=Z,291nm,1.3s							
E28A				IAMs_20	IAMs_20	07 34 05.2		
	comp=Z,5μm,18.0s							
M51A	**Elyria**	**74.25**	**25**	P	P	07 04 48.4	-0.6	
	baz=210,SNR=6.9							
F33A	**5 Mile Ranch,**	**74.29**	**13**	P	P	07 04 47.0	-2.2	
F33A				IAmb	IAmb	07 04 50.0		
	comp=Z,357nm,1.9s							
F33A				IAMs_20	IAMs_20	07 33 39.1		
	comp=Z,6μm,18.0s							
I42A	**Draeger Farm,**	**74.29**	**19**	P	P	07 04 46.9	-2.2	
I42A				IAmb	IAmb	07 04 50.6		
	comp=Z,346nm,2.0s							
I42A				IAMs_20	IAMs_20	07 33 45.9		
	comp=Z,7μm,22.0s							
JTMT	**Jette**	**74.30**	**0**	P	P	07 04 47.7	-1.7	
JTMT				IAmb	IAmb	07 04 51.7		
	comp=Z,209nm,1.4s							
N53A	**Lisbon**	**74.31**	**26**	P	P	07 04 49.2	-0.2	
	baz=211,SNR=23							
N53A				S	S	07 14 22.6	-0.8	
	baz=211							
N53A	**Lisbon**	**74.31**	**26**	P	P	07 04 48.0	-1.4	
N53A				IAMs_20	IAMs_20	07 33 19.4		
	comp=Z,10μm,22.0s							
P57A	**Homestead Farm**	**74.35**	**29**	P	P	07 04 49.5	-0.2	
	baz=214,SNR=22							
P57A				S	S	07 14 26.7	+2.8	
	baz=214							
P57A	**Homestead Farm**	**74.35**	**29**	P	P	07 04 48.7	-1.0	
P57A				IAmb	IAmb	07 04 51.4		
	comp=Z,320nm,1.9s							
P57A				IAMs_20	IAMs_20	07 35 26.5		
	comp=Z,7μm,20.0s							
O55A	**Ligonier**	**74.41**	**27**	P	P	07 04 49.6	-0.4	
	baz=212,SNR=19							
O55A				S	S	07 14 25.2	+0.5	
	baz=212							
NLWA	**Neilton Lookou**	**74.42**	**353**	P	P	07 04 49.4	-0.5	
NLWA				IAmb	IAmb	07 04 52.0		
	comp=Z,408nm,1.9s							
C09A	**Chrisman Ranch**	**74.43**	**357**	P	P	07 04 49.1	-0.8	
C09A				IAmb	IAmb	07 04 51.9		
	comp=Z,464nm,1.9s							
C09A				IAMs_20	IAMs_20	07 31 54.8		
	comp=Z,5μm,19.0s							
Q59A	**Harwood**	**74.43**	**30**	P	P	07 04 49.6	-0.5	
	baz=215							
Q59A				S	S	07 14 27.6	+2.8	
	baz=215							
D03D	**Eldon**	**74.48**	**354**	P	P	07 04 50.3	+0.1	
	baz=172,SNR=26							
D03D				S	S	07 14 29.5	+4.5	
	baz=172							
SPMN	**Marine on St.**	**74.48**	**16**	P	P	07 04 49.5	-0.8	
	baz=200,SNR=21							
SPMN				S	S	07 14 28.0	+2.9	
	baz=200							
SPMN	**Marine on St.**	**74.48**	**16**	P	P	07 04 48.6	-1.7	
SPMN				IAmb	IAmb	07 04 51.5		
	comp=Z,322nm,1.9s							
AAM	**Ann Arbor**	**74.55**	**23**	P	P	07 04 50.3	-0.4	
	baz=208,SNR=10							
AAM	**Ann Arbor**	**74.55**	**23**	IAMs_20	IAMs_20	07 38 33.0		
	comp=Z,5μm,18.0s							
R61A	**Willards**	**74.59**	**31**	P	P	07 04 51.0	-0.1	
	baz=216							
P58A	**Pank, Wackersv**	**74.66**	**29**	P	P	07 04 51.1	-0.4	
	baz=214,SNR=17							
P58A				S	S	07 14 28.8	+1.4	
	baz=214							
C06D	**Leavenworth**	**74.69**	**356**	P	P	07 04 50.9	-0.6	
	baz=174							
EGMT	**Eagleton**	**74.71**	**3**	P	P	07 04 51.9	+0.3	
	baz=184,SNR=53							
EGMT				S	S	07 14 32.3	+4.6	
	baz=184							
EGMT	**Eagleton**	**74.71**	**3**	P	P	07 04 51.4	-0.3	
M52A	**Chesterland**	**74.74**	**25**	P	P	07 04 51.4	-0.5	
	baz=210,SNR=7.3							
M52A				S	S	07 14 29.3	+1.1	
	baz=210							
M52A	**Chesterland**	**74.74**	**25**	P	P	07 04 51.4	-0.5	
M52A				IAmb	IAmb	07 04 53.4		
	comp=Z,547nm,1.9s							
M52A				IAMs_20	IAMs_20	07 34 06.8		
	comp=Z,8μm,20.0s							
O56A	**Blue Knob Stat**	**74.77**	**28**	P	P	07 04 51.9	-0.3	
	baz=213,SNR=34							
O56A				S	S	07 14 31.7	+3.0	
	baz=213							
O56A	**Blue Knob Stat**	**74.77**	**28**	P	P	07 04 51.4	-0.8	
O56A				IAmb	IAmb	07 04 53.9		
	comp=Z,393nm,1.8s							
O56A				IAMs_20	IAMs_20	07 34 17.7		
	comp=Z,5μm,20.0s							
N54A	**Moraine State**	**74.78**	**26**	P	P	07 04 52.2	+0.1	
	baz=212,SNR=33							
N54A				S	S	07 14 28.7	0.0	
	baz=212							
N54A	**Moraine State**	**74.78**	**26**	P	P	07 04 51.4	-0.7	
N54A				IAMs_20	IAMs_20	07 36 33.8		
	comp=Z,8μm,19.0s							
SDMD	**Soldier's Deli**	**74.80**	**29**	P	P	07 04 50.8	-1.4	
NEW	**Newport**	**74.85**	**358**	P	P	07 04 52.2	-0.2	
	comp=Z,69nm,1.2s,baz=173,slow=6.3,SNR=61							
NEW	**Newport**	**74.85**	**358**	P	P	07 04 51.4	-1.1	
NEW				pmax	pmax			
	comp=Z,551nm,2.0s							
NEW	**Newport**	**74.85**	**358**	P	P	07 04 52.2	-0.2	
	baz=178,SNR=49							
NEW				S	S	07 14 33.2	+4.0	
	baz=178							
NEW	**Newport**	**74.85**	**358**	P	P	07 04 51.4	-1.1	
NEW				IAmb	IAmb	07 04 54.2		
	comp=Z,551nm,1.9s							
Q60A	**Greensboro**	**74.91**	**30**	P	P	07 04 52.2	-0.7	
	baz=215							
F36A	**Milaca**	**74.91**	**15**	P	P	07 04 51.8	-1.0	
F36A				IAmb	IAmb	07 04 55.7		
	comp=Z,152nm,1.1s							
F36A				IAMs_20	IAMs_20	07 34 45.6		
	comp=Z,7μm,19.0s							
M53A	**Wl Miller and**	**74.91**	**26**	P	P	07 04 52.6	-0.3	
	baz=211,SNR=17							
M53A				S	S	07 14 31.4	+1.3	
	baz=211							
M53A	**Wl Miller and**	**74.91**	**26**	P	P	07 04 51.7	-1.2	
M53A				IAmb	IAmb	07 04 54.3		
	comp=Z,465nm,1.8s							
M53A				IAMs_20	IAMs_20	07 33 49.5		
	comp=Z,8μm,21.0s							
J47A	**Sunmer**	**74.98**	**22**	P	P	07 04 51.7	-1.6	
J47A				IAmb	IAmb	07 04 54.9		
	comp=Z,537nm,1.9s							
TARA	**Tarawa**	**75.02**	**279

baz=173,SNR=24
B05A S **S** **07 14 35.4 +3.3**
baz=173
P59A Jarrettsville 75.14 30 P **P** **07 04 53.9 -0.3**
baz=215,SNR=15
P59A S **S** **07 14 35.2 +2.5**
baz=215
H43A Windswept, Lux 75.15 20 P **P** **07 04 52.9 -1.3**
H43A IAmb IAmb 07 04 55.5
comp=Z,366nm,1.9s
H43A IAMs_20 IAMs_20 07 34 13.8
comp=Z,6μm,22.0s
G40A Rib Lake 75.19 18 P **P** **07 04 53.4 -1.1**
G40A IAmb IAmb 07 04 56.1
comp=Z,473nm,1.9s
G40A IAMs_20 IAMs_20 07 34 34.0
comp=Z,7μm,20.0s
ALLY Alegheny Colle 75.30 26 P **P** **07 04 54.0 -1.2**
ALLY IAmb IAmb 07 04 56.5
comp=Z,366nm,1.9s
B06A Marblemount 75.33 355 P **P** **07 04 53.9 -1.1**
K50A Casco 75.34 24 P **P** **07 04 54.2 -1.1**
K50A IAmb IAmb 07 04 56.4
comp=Z,329nm,1.7s
K50A IAMs_20 IAMs_20 07 35 05.7
comp=Z,8μm,21.0s
O58A Lewisberry 75.35 29 P **P** **07 04 55.0 -0.4**
baz=214,SNR=20
O58A S **S** **07 14 35.8 +0.8**
baz=214
SSPA Standing Stone 75.36 28 P **P** **07 04 55.0 -0.5**
baz=213
SSPA S **S** **07 14 36.2 +1.1**
baz=213
SSPA Standing Stone 75.36 28 P **P** **07 04 54.5 -0.9**
SSPA IAmb IAmb 07 04 57.0
comp=Z,283nm,1.9s
SSPA Standing Stone 75.36 28 IAMs_20 IAMs_20 07 36 11.5
comp=Z,7μm,20.0s
M54A Oil Creek Stat 75.37 26 P **P** **07 04 55.2 -0.4**
baz=212,SNR=14
M54A S **S** **07 14 35.7 +0.5**
baz=212
M54A Oil Creek Stat 75.37 26 P **P** **07 04 54.4 -1.2**
M54A IAmb IAmb 07 04 57.1
comp=Z,415nm,1.9s
M54A IAMs_20 IAMs_20 07 33 37.5
comp=Z,8μm,22.0s
D32A Dogwood Acres, 75.39 12 P **P** **07 04 54.3 -1.2**
D32A IAmb IAmb 07 04 56.8
comp=Z,358nm,1.9s
D32A IAMs_20 IAMs_20 07 34 13.3
comp=Z,5μm,18.0s
N56A West Decatur 75.42 28 P **P** **07 04 55.6 -0.3**
baz=213,SNR=16
N56A S **S** **07 14 36.9 +0.9**
baz=213
MVL Millersville 75.50 29 P **P** **07 04 55.1 -1.2**
MVL IAmb IAmb 07 04 57.8
comp=Z,258nm,1.9s
MVL IAMs_20 IAMs_20 07 36 02.9
comp=Z,6μm,19.0s
L53A Girard 75.51 26 P **P** **07 04 55.7 -0.6**
baz=211
L53A S **S** **07 14 38.0 +1.2**
baz=211
PAGS Pennsylvania G 75.52 29 P **P** **07 04 55.2 -1.2**
PAGS IAmb IAmb 07 04 57.6
comp=Z,244nm,1.8s
PAGS IAMs_20 IAMs_20 07 36 07.6
comp=Z,6μm,19.0s
NVL N'lazarevskaya 75.59 164 *e*P **P** **07 04 57.0 +0.5**
NVL *e*PPP PPP 07 09 39.7
NVL *e*S **S** **07 14 38.4 +1.3**
NVL *e*SS **SS** **07 19 34.1 +6.9**
NVL *e*SSS SSS 07 22 54.5
NVL pmax pmax
comp=Z,82nm,1.2s
NVL MLR MLR
comp=Z,3μm,15.0s
N57A Milroy 75.60 28 P **P** **07 04 56.2 -0.7**
baz=214,SNR=21
N57A S **S** **07 14 39.5 +1.7**
baz=214
DGMT Dagmar 75.61 7 P **P** **07 04 56.4 -0.4**
baz=190,SNR=43
DGMT Dagmar 75.61 7 P **P** **07 04 55.1 -1.6**
DGMT IAmb IAmb 07 04 59.7
comp=Z,190nm,1.1s
DGMT Dagmar 75.61 7 IAMs_20 IAMs_20 07 33 40.3
comp=Z,6μm,20.0s
WALA Waterton Lakes 75.62 0 P **P** **07 04 55.7 -1.2**
WALA IAmb IAmb 07 04 59.0
comp=Z,304nm,1.9s
MDND Maddock 75.62 10 P **P** **07 04 55.9 -1.0**
baz=194,SNR=24
MDND Maddock 75.62 10 P **P** **07 04 55.2 -1.6**
MDND IAMs_20 IAMs_20 07 35 04.5
comp=Z,6μm,18.0s
PGC Sidney 75.62 354 P **P** **07 04 55.9 -0.9**
PGC IAmb IAmb 07 04 58.7
comp=Z,410nm,1.8s
A04D Lummi Island 75.62 354 P **P** **07 04 57.0 +0.3**
baz=172,SNR=20
A04D S **S** **07 14 42.3 +4.7**
baz=172
P60A Greenville 75.66 30 P **P** **07 04 56.0 -1.2**
baz=215
P60A S **S** **07 14 39.8 +1.4**
baz=215
P60A Greenville 75.66 30 P **P** **07 04 55.0 -2.1**
M55A Ridgway 75.70 27 P **P** **07 04 56.8 -0.6**
baz=213,SNR=22
M55A S **S** **07 14 40.9 +2.0**
baz=213
M55A Ridgway 75.70 27 P **P** **07 04 56.0 -1.4**
M55A IAmb IAmb 07 04 58.8
comp=Z,296nm,1.8s
M55A IAMs_20 IAMs_20 07 33 44.5
comp=Z,6μm,21.0s
BBSR BB Station 75.72 42 P **P** **07 04 57.1 -0.5**
BBSR IAmb IAmb 07 04 59.3
comp=Z,350nm,1.9s
BBSR BB Station 75.72 42 IAMs_20 IAMs_20 07 32 30.0
comp=Z,8μm,20.0s
ERPA Erie 75.76 26 P **P** **07 04 57.0 -0.7**
baz=212
ERPA S **S** **07 14 41.9 +2.4**
baz=212
ERPA Erie 75.76 26 IAMs_20 IAMs_20 07 34 13.8
comp=Z,9μm,22.0s
O59A Robesonia 75.82 29 P **P** **07 04 57.7 -0.5**
baz=215
O59A S **S** **07 14 43.3 +3.0**
baz=215
PSUB Penn St. - Bra 75.83 30 P **P** **07 04 56.8 -1.4**
P61A Hammonton 75.93 31 P **P** **07 04 58.0 -0.7**
baz=216
P61A Hammonton 75.93 31 P **P** **07 04 57.8 -0.9**
P61A IAmb IAmb 07 05 02.1
comp=Z,393nm,1.6s
P61A IAMs_20 IAMs_20 07 34 57.3
comp=Z,5μm,19.0s
M56A Emporium 75.95 27 P **P** **07 04 58.3 -0.5**
baz=213,SNR=19
M56A S **S** **07 14 44.3 +2.6**
baz=213
M56A Emporium 75.95 27 P **P** **07 04 57.7 -1.2**
M56A IAmb IAmb 07 05 00.4
comp=Z,395nm,1.9s
M56A IAMs_20 IAMs_20 07 33 49.8
comp=Z,6μm,22.0s
N58A Sunbury 76.03 29 P **P** **07 04 58.7 -0.6**
baz=214,SNR=26
N58A S **S** **07 14 45.3 +2.8**
baz=214
N58A Sunbury 76.03 29 P **P** **07 04 57.4 -1.8**
N58A IAmb IAmb 07 05 00.7
comp=Z,398nm,1.9s
N58A IAMs_20 IAMs_20 07 37 38.0
comp=Z,6μm,18.0s
E38A The Farm, Brul 76.08 16 P **P** **07 04 58.0 -1.4**
E38A IAmb IAmb 07 05 00.8
comp=Z,347nm,1.9s
L54A Sinclairville 76.12 26 P **P** **07 04 59.2 -0.7**
baz=212
L54A S **S** **07 14 45.0 +1.5**
baz=212
O60A Telford 76.17 30 P **P** **07 04 59.5 -0.6**
baz=216,SNR=23
O60A S **S** **07 14 46.9 +2.8**
baz=216
F42A Maple Grove Fa 76.22 19 P **P** **07 04 58.6 -1.7**
F42A IAmb IAmb 07 05 01.7
comp=Z,294nm,1.9s
F42A IAMs_20 IAMs_20 07 34 53.1
comp=Z,7μm,21.0s
COWI Conover 76.25 18 P **P** **07 04 59.2 -1.3**
COWI IAmb IAmb 07 05 02.0
comp=Z,440nm,1.9s
COWI IAMs_20 IAMs_20 07 35 16.9
comp=Z,6μm,18.0s
M57A Sunshine Farm, 76.26 28 P **P** **07 05 00.3 -0.4**
baz=214,SNR=18
M57A S **S** **07 14 47.2 +2.1**
baz=214
M57A Sunshine Farm, 76.26 28 P **P** **07 04 59.2 -1.4**
M57A IAmb IAmb 07 05 02.2
comp=Z,285nm,1.9s
M57A IAMs_20 IAMs_20 07 37 51.2
comp=Z,7μm,18.0s
G45A Suttons Bay 76.31 21 P **P** **07 05 00.3 -0.6**
O61A Allentown 76.37 31 P **P** **07 05 00.5 -0.7**
baz=216,SNR=6.5
O61A S **S** **07 14 48.3 +2.0**
baz=216
LUPA Lehigh Univers 76.42 30 P **P** **07 05 00.6 -0.9**
LUPA IAmb IAmb 07 05 02.9
comp=Z,286nm,1.9s
LUPA IAMs_20 IAMs_20 07 38 12.3
comp=Z,5μm,19.0s
L55A Hinsdale 76.43 27 P **P** **07 05 01.3 -0.3**
baz=213,SNR=25
L55A S **S** **07 14 48.5 +1.5**
baz=213
GLMI Grayling 76.46 21 P **P** **07 05 00.8 -0.8**
GLMI IAmb IAmb 07 05 03.3
comp=Z,378nm,1.8s
GLMI IAMs_20 IAMs_20 07 35 44.5
comp=Z,7μm,19.0s
N59A State Game Lan 76.50 29 P **P** **07 05 01.6 -0.4**
baz=215,SNR=26
N59A S **S** **07 14 48.5 +0.8**
baz=215
N59A State Game Lan 76.50 29 P **P** **07 05 00.8 -1.2**
N59A IAmb IAmb 07 05 03.6
comp=Z,283nm,1.9s
N59A IAMs_20 IAMs_20 07 38 24.5
comp=Z,6μm,18.0s
WVNY West Valley, N 76.55 27 P **P** **07 05 01.3 -0.9**
WVNY IAmb IAmb 07 05 03.8
comp=Z,324nm,1.9s
WVNY IAMs_20 IAMs_20 07 37 08.9
comp=Z,7μm,19.0s
M58A Price's Panora 76.58 29 P **P** **07 05 02.1 -0.4**
baz=214,SNR=30
M58A S **S** **07 14 50.4 +1.8**
baz=214
K54A Basiliko Farm, 76.69 26 P **P** **07 05 02.4 -0.6**
baz=212
K54A S **S** **07 14 51.3 +1.6**
baz=212
AGMN Agassiz Nation 76.72 13 P **P** **07 05 02.6 -0.4**
baz=197,SNR=29
AGMN S **S** **07 14 51.5 +1.6**
baz=197
AGMN Agassiz Nation 76.72 13 P **P** **07 05 01.2 -1.8**
AGMN IAmb IAmb 07 05 04.5
comp=Z,366nm,1.9s
AGMN IAMs_20 IAMs_20 07 35 03.6
comp=Z,5μm,18.0s
L56A Greenwood 76.75 27 P **P** **07 05 03.1 -0.3**
baz=214,SNR=24
L56A S **S** **07 14 51.4 +0.9**
baz=214
L56A Greenwood 76.75 27 P **P** **07 05 02.0 -1.4**
L56A IAmb IAmb 07 05 05.0
comp=Z,443nm,1.9s
L56A IAMs_20 IAMs_20 07 35 48.0
comp=Z,6μm,21.0s
N60A Cedar Hill Far 76.76 30 P **P** **07 05 02.5 -0.9**
baz=216,SNR=12
N60A S **S** **07 14 51.6 +1.1**
baz=216
I51A Listowel 76.81 24 P **P** **07 05 03.2 -0.5**
baz=210,SNR=14
I51A S **S** **07 14 51.8 +0.8**
baz=210
BRNJ Basking Ridge 76.84 30 IAMs_20 IAMs_20 07 35 19.6
comp=Z,5μm,19.0s
L57A Andrews Acres 76.93 28 P **P** **07 05 04.1 -0.3**
baz=214,SNR=32
L57A S **S** **07 14 53.2 +0.8**
baz=214
N61A South Mountain 77.02 30 P **P** **07 05 04.2 -0.7**
baz=216
N61A S **S** **07 14 53.7 +0.3**
baz=216
KSPA Keystone Colle 77.02 29 P **P** **07 05 03.6 -1.4**
KSPA IAmb IAmb 07 05 06.3
comp=Z,302nm,1.8s
KSPA IAMs_20 IAMs_20 07 37 45.3
comp=Z,6μm,18.0s
K55A Perry 77.03 27 P **P** **07 05 04.3 -0.7**
baz=213,SNR=16
K55A S **S** **07 14 53.5 0.0**
baz=213
MMNY Mt. Morris Dam 77.10 27 P **P** **07 05 04.0 -1.3**
MMNY IAMs_20 IAMs_20 07 34 40.4
comp=Z,6μm,22.0s
E43A Lone Tree Farm 77.11 19 P **P** **07 05 04.3 -1.0**
E43A IAmb IAmb 07 05 06.9
comp=Z,332nm,1.8s
E43A IAMs_20 IAMs_20 07 35 32.7
comp=Z,7μm,21.0s
ODNJ Ogdensburg 77.15 30 P **P** **07 05 03.8 -1.8**
ODNJ IAmb IAmb 07 05 06.7
comp=Z,258nm,1.9s
ODNJ IAMs_20 IAMs_20 07 35 29.7
comp=Z,6μm,20.0s
M59A Waymart 77.16 29 P **P** **07 05 05.3 -0.4**
baz=215,SNR=18
M59A S **S** **07 14 56.7 +1.8**
baz=215
CPNY Central Park 77.20 30 P **P** **07 05 04.3 -1.6**
MEDO Medina 77.25 26 P **P** **07 05 05.1 -1.1**
MEDO IAMs_20 IAMs_20 07 34 57.2
comp=Z,9μm,21.0s
J54A Appleton 77.27 26 P **P** **07 05 05.6 -0.6**
baz=212
J54A S **S** **07 14 57.6 +1.7**
baz=212
J54A Appleton 77.27 26 P **P** **07 05 04.5 -1.7**
J54A IAmb IAmb 07 05 07.5
comp=Z,386nm,1.9s
J54A IAMs_20 IAMs_20 07 35 08.7
comp=Z,10μm,22.0s
D41A Chassel 77.29 18 P **P** **07 05 04.8 -1.4**
K56A Middlesex 77.31 27 P **P** **07 05 06.0 -0.6**
baz=214,SNR=11
K56A S **S** **07 14 57.9 +1.3**
baz=214
RCBR Riachuelo 77.33 90 P **P** **07 05 07.1 -0.3**
RCBR pmax pmax
comp=Z,61nm,1.1s
RCBR MLR MLR
comp=Z,8μm,18.0s
RCBR Riachuelo 77.33 90 P **P** **07 05 07.1 -0.3**
RCBR Riachuelo 77.33 90 IAMs_20 IAMs_20 07 41 52.5
comp=Z,8μm,18.0s
RCBR Riachuelo 77.33 90 *e*P **P** **07 05 07.5 +0.1**
M60A Port Jervis 77.34 30 P **P** **07 05 05.6 -1.1**
baz=216,SNR=9.2
M60A S **S** **07 14 57.4 +0.6**
baz=216
EYMN Ely 77.35 16 P **P** **07 05 05.8 -0.8**
baz=201,SNR=28
EYMN S **S** **07 14 59.7 +3.0**
baz=201
EYMN Ely 77.35 16 P **P** **07 05 04.5 -2.1**
L58A Harry Jones Me 77.39 29 P **P** **07 05 06.9 -0.1**
baz=215,SNR=23
L58A S **S** **07 14 59.9 +2.5**
baz=215
PAL Palisades 77.40 30 P **P** **07 05 05.2 -1.8**
PAL pmax pmax
comp=Z,159nm,1.8s
PAL Palisades 77.40 30 P **P** **07 05 06.0 -1.0**
baz=217,SNR=7.6
PAL S **S** **07 14 57.7 +0.3**
baz=217
PAL Palisades 77.40 30 P **P** **07 05 05.2 -1.8**
BINY Binghamton 77.46 28 P **P** **07 05 07.0 -0.4**
baz=215,SNR=33
BINY S **S** **07 14 59.8 +1.6**
baz=215
BINY Binghamton 77.46 28 P **P** **07 05 05.5 -1.8**
BINY IAmb IAmb 07 05 09.0
comp=Z,415nm,1.8s
BINY IAMs_20 IAMs_20 07 37 48.8
comp=Z,7μm,19.0s
N62A Caumsett State 77.54 31 P **P** **07 05 06.5 -1.3**
baz=217
J55A Hilton 77.58 27 P **P** **07 05 07.2 -0.8**
baz=213
J55A S **S** **07 15 01.6 +2.2**
baz=213
J55A Hilton 77.58 27 P **P** **07 05 06.5 -1.5**
J55A IAmb IAmb 07 05 09.2
comp=Z,259nm,1.8s
J55A IAMs_20 IAMs_20 07 35 06.2
comp=Z,6μm,22.0s
K57A Scipio Center 77.67 28 P **P** **07 05 08.0 -0.6**
baz=214,SNR=21
K57A S **S** **07 15 03.5 +3.0**
baz=214
M61A Granite Spring 77.71 30 P **P** **07 05 07.8 -0.9**
baz=217,SNR=6.5
M61A S **S** **07 15 03.1 +2.3**
baz=217
L59A Walton 77.85 29 P **P** **07 05 09.1 -0.6**
baz=216,SNR=20
L59A S **S** **07 15 03.1 +0.6**
baz=216
L59A Walton 77.85 29 P **P** **07 05 08.2 -1.4**
L59A IAmb IAmb 07 05 11.2
comp=Z,389nm,1.9s
E46A Sault Ste Mari 77.93 21 P **P** **07 05 08.7 -1.2**
E46A IAmb IAmb 07 05 11.6
comp=Z,464nm,1.9s
J56A Wolcott 77.98 27 P **P** **07 05 09.3 -0.9**
baz=214
J56A S **S** **07 15 06.3 +2.7**
baz=214
J56A Wolcott 77.98 27 P **P** **07 05 08.9 -1.3**
J56A IAmb IAmb 07 05 11.4
comp=Z,262nm,1.7s
J56A IAMs_20 IAMs_20 07 37 35.7
comp=Z,8μm,19.0s
L60A Shokan 78.05 30 P **P** **07 05 09.9 -0.7**
baz=216,SNR=7.0
L60A S **S** **07 15 06.1 +1.6**
baz=216
K58A Earlville 78.06 28 P **P** **07 05 10.3 -0.5**
baz=215,SNR=20
K58A S **S** **07 15 06.2 +1.5**
baz=215
K58A Earlville 78.06 28 P **P** **07 05 09.2 -1.6**
K58A IAmb IAmb 07 05 12.3
comp=Z,369nm,1.9s
K58A IAMs_20 IAMs_20 07 38 14.8
comp=Z,6μm,19.0s
YLE Yale 78.09 31 P **P** **07 05 09.3 -1.5**
YLE IAmb IAmb 07 05 12.0
comp=Z,234nm,1.9s
KSCT Kent School, K 78.17 30 P **P** **07 05 10.0 -1.3**
M62A Hamden 78.21 31 P **P** **07 05 10.3 -1.2**
baz=217
E47A Iron Bridge 78.34 22 P **P** **07 05 11.9 -0.2**
baz=208,SNR=14
E47A S **S** **07 15 09.8 +2.4**
baz=208
SADO Sadowa 78.34 25 P **P** **07 05 11.5 -0.7**
comp=Z,56nm,1.0s,baz=240,slow=6.1,SNR=21
SADO Sadowa 78.34 25 P **P** **07 05 10.5 -1.7**
SADO IAmb IAmb 07 05 13.4
comp=Z,313nm,1.8s
SADO IAMs_20 IAMs_20 07 35 58.1
comp=Z,7μm,21.0s
H53A Bobcaygeon 78.38 25 P **P** **07 05 12.0 -0.5**
baz=212,SNR=24
H53A S **S** **07 15 08.0 0.0**
baz=212
K59A Cooperstown 78.41 29 P **P** **07 05 12.1 -0.5**
baz=216,SNR=27
K59A S **S** **07 15 09.8 +1.3**
baz=216
I55A Frankford 78.43 26 P **P** **07 05 12.2 -0.5**
baz=213,SNR=12
I55A S **S** **07 15 10.2 +1.7**
baz=213
J57A Williamstown 78.45 28 P **P** **07 05 12.2 -0.6**
baz=215,SNR=5.1
J57A S **S** **07 15 10.0 +1.3**
baz=215
J57A Williamstown 78.45 28 P **P** **07 05 11.5 -1.3**
J57A IAMs_20 IAMs_20 07 38 44.0
comp=Z,6μm,18.0s
PECO Prince Edward 78.47 27 P **P** **07 05 11.2 -1.7**
PECO IAmb IAmb 07 05 14.2
comp=Z,316nm,1.8s
PECO IAMs_20 IAMs_20 07 38 12.7
comp=Z,5μm,19.0s
D46A Sault St. Mari 78.48 21 P **P** **07 05 12.5 -0.4**
baz=208,SNR=11
D46A S **S** **07 15 12.5 +3.6**
baz=208
L61A Hillsdale 1, H 78.51 30 P **P** **07 05 12.3 -0.9**
baz=217
L61A S **S** **07 15 10.0 +0.6**
baz=217
M63A Gales Ferry 78.57 31 P **P** **07 05 12.6 -0.9**
baz=218
M63A S **S** **07 15 10.9 +0.8**
baz=218
ULM Lac du Bonnet 78.59 12 P **P** **07 05 12.4 -1.0**
comp=Z,38nm,0.9s,baz=198,slow=5.3,SNR=19
ULM LR LR 07 35 54.4
comp=Z,3μm,19.9s,baz=192,slow=33
ULM Lac du Bonnet 78.59 12 P **P** **07 05 11.9 -1.5**
ULM pmax pmax
comp=Z,411nm,2.0s
ULM Lac du Bonnet 78.59 12 P **P** **07 05 11.9 -1.5**
ULM IAmb IAmb 07 05 14.3
comp=Z,411nm,1.9s
ULM IAMs_20 IAMs_20 07 36 10.0
comp=Z,4μm,18.0s
K60A Five Rivers En 78.70 29 P **P** **07 05 13.6 -0.6**
baz=216
J58A Remsen 78.70 28 P **P** **07 05 13.9 -0.4**
baz=215,SNR=21
J58A S **S** **07 15 14.2 +2.7**
baz=215
J58A Remsen 78.70 28 P **P** **07 05 12.9 -1.3**
J58A IAmb IAmb 07 05 15.9
comp=Z,366nm,1.8s
J58A IAMs_20 IAMs_20 07 38 42.8
comp=Z,4μm,19.0s
DELO Deloro Mine 78.71 26 P **P** **07 05 12.1 -2.2**
DELO IAMs_20 IAMs_20 07 35 30.0
comp=Z,8μm,22.0s
L62A Suffield 78.78 31 P **P** **07 05 13.4 -1.2**
baz=217
TRY Troy 78.89 29 P **P** **07 05 13.3 -2.0**
TRY IAMs_20 IAMs_20 07 36 42.8
comp=Z,6μm,20.0s
H55A Tweed 78.91 26 P **P** **07 05 14.7 -0.6**
baz=214,SNR=14
H55A S **S** **07 15 15.1 +1.5**
baz=214
D47A Chapleau 78.92 21 P **P** **07 05 15.1 -0.3**
baz=208,SNR=16
D47A S **S** **07 15 16.6 +2.9**
baz=208
K61A Williamstown 79.02 30 P **P** **07 05 15.5 -0.5**
baz=217,SNR=9.6
K61A S **S** **07 15 18.4 +3.5**
baz=217
I57A Carthage 79.02 28 P **P** **07 05 15.6 -0.3**
baz=215,SNR=20
I57A S **S** **07 15 16.2 +1.4**

	baz=215							
M64A	**Tiverton**	**79.07**	**32**	P	**P**	**07 05 15.6**	**-0.7**
	baz=219,SNR=5.3							
M64A				S	**S**	**07 15 16.4**	**+1.0**
	baz=219							
I58A	**Old Forge**	**79.10**	**28**	P	**P**	**07 05 16.1**	**-0.4**
	baz=215,SNR=22							
I58A				S	**S**	**07 15 17.5**	**+1.7**
	baz=215							
L61B	**Northampton**	**79.10**	**30**	P	**P**	**07 05 15.4**	**-1.1**
	baz=217							
L61B				S	**S**	**07 15 16.2**	**+0.4**
	baz=217							
QUA2	**Belchertown**	**79.12**	**31**	P	**P**	**07 05 14.5**	**-2.0**
QUA2				IAMs_20	IAMs_20	07 36 16.8	
	comp=Z,5μm,21.0s						
J59A	**Piesco**	**79.12**	**29**	P	**P**	**07 05 15.9**	**-0.6**
	baz=216,SNR=19						
J59A				S	**S**	**07 15 16.5**	**+0.5**
	baz=216						
J59A	**Piesco**	**79.12**	**29**	P	**P**	**07 05 15.2**	**-1.3**
J59A				IAmb	IAmb	07 05 17.9	
	comp=Z,349nm,1.9s						
J59A				IAMs_20	IAMs_20	07 38 35.8	
	comp=Z,4μm,19.0s						
L63A	**North Scituate**	**79.13**	**31**	P	**P**	**07 05 15.5**	**-1.1**
	baz=218						
L63A				S	**S**	**07 15 17.7**	**+1.7**
	baz=218						
BRYW	**Bryant College**	**79.21**	**31**	IAMs_20	IAMs_20	07 34 58.1	
	comp=Z,5μm,22.0s						
G54A	**Lake Saint Pet**	**79.27**	**25**	P	**P**	**07 05 17.0**	**-0.3**
	baz=213,SNR=25						
G54A				S	**S**	**07 15 18.8**	**+1.3**
	baz=213						
H56A	**Elgin**	**79.31**	**27**	P	**P**	**07 05 17.1**	**-0.5**
	baz=214,SNR=13						
H56A				S	**S**	**07 15 19.2**	**+1.3**
	baz=214						
M65A	**Busby, Falmout**	**79.35**	**32**	P	**P**	**07 05 16.3**	**-1.5**
	baz=219						
M65A	**Busby, Falmout**	**79.35**	**32**	IAMs_20	IAMs_20	07 38 10.9	
	comp=Z,6μm,18.0s						
PLVO	**Plevna**	**79.36**	**26**	P	**P**	**07 05 15.9**	**-1.9**
PLVO				IAmb	IAmb	07 05 19.2	
	comp=Z,312nm,1.8s						
PLVO				IAMs_20	IAMs_20	07 36 01.1	
	comp=Z,8μm,22.0s						
J60A	**Lant Hill Farm**	**79.41**	**29**	P	**P**	**07 05 18.0**	**-0.1**
	baz=217,SNR=20						
J60A				S	**S**	**07 15 20.2**	**+1.2**
	baz=217						
ACCN	**Adirondack Com**	**79.41**	**29**	P	**P**	**07 05 16.9**	**-1.3**
ACCN				IAmb	IAmb	07 05 19.7	
	comp=Z,427nm,1.9s						
ACCN				IAMs_20	IAMs_20	07 36 51.6	
	comp=Z,5μm,20.0s						
K62A	**Royalston**	**79.47**	**30**	P	**P**	**07 05 17.9**	**-0.6**
	baz=218,SNR=9.7						
K62A				S	**S**	**07 15 21.8**	**+2.1**
	baz=218						
K62A	**Royalston**	**79.47**	**30**	P	**P**	**07 05 17.2**	**-1.3**
K62A				IAMs_20	IAMs_20	07 36 39.3	
	comp=Z,5μm,20.0s						
L64A	**Middleborough**	**79.55**	**32**	P	**P**	**07 05 18.4**	**-0.4**
	baz=219						
L64A				S	**S**	**07 15 22.0**	**+1.6**
	baz=219						
H57A	**Richville**	**79.56**	**27**	P	**P**	**07 05 18.3**	**-0.5**
	baz=215,SNR=13						
H57A				S	**S**	**07 15 22.3**	**+1.8**
	baz=215						
BBB	**Bella Bella**	**79.63**	**352**	P	**P**	**07 05 18.5**	**-0.5**
	comp=Z,25nm,1.0s,baz=148,slow=1.3,SNR=10						
BBB	**Bella Bella**	**79.63**	**352**	P	**P**	**07 05 17.9**	**-1.1**
BBB				IAmb	IAmb	07 05 27.2	
	comp=Z,270nm,1.7s						
NCB	**Newcomb**	**79.65**	**28**	P	**P**	**07 05 18.4**	**-1.0**
I59A	**Olmsteadville**	**79.66**	**29**	P	**P**	**07 05 18.8**	**-0.6**
	baz=216,SNR=15						
I59A				S	**S**	**07 15 24.5**	**+2.9**
	baz=216						
HRV	**Adam Dziewonsk**	**79.66**	**31**	P	**P**	**07 05 18.8**	**-0.7**
HRV				pmax	pmax		
	comp=Z,202nm,1.8s						
HRV	**Adam Dziewonsk**	**79.66**	**31**	P	**P**	**07 05 18.9**	**-0.5**
	baz=218						
HRV				S	**S**	**07 15 23.3**	**+1.7**
	baz=218						
HRV	**Adam Dziewonsk**	**79.66**	**31**	P	**P**	**07 05 18.8**	**-0.7**
HRV	**Adam Dziewonsk**	**79.66**	**31**	IAMs_20	IAMs_20	07 37 50.1	
	comp=Z,5μm,19.0s						
WES	**Weston**	**79.67**	**31**	P	**P**	**07 05 18.7**	**-0.8**
WES				pmax	pmax		
	comp=Z,232nm,1.9s						
WES	**Weston**	**79.67**	**31**	P	**P**	**07 05 18.7**	**-0.8**
WES				IAMs_20	IAMs_20	07 35 23.5	
	comp=Z,5μm,21.0s						
G55A	**Calabogie**	**79.68**	**26**	P	**P**	**07 05 18.8**	**-0.7**
	baz=214,SNR=16						
G55A				S	**S**	**07 15 24.2**	**+2.4**
	baz=214						
BCX	**Boston College**	**79.70**	**31**	P	**P**	**07 05 18.4**	**-1.3**
BCX				IAMs_20	IAMs_20	07 35 23.3	
	comp=Z,5μm,21.0s						
ALGO	**Algonquin Park**	**79.75**	**25**	P	**P**	**07 05 19.1**	**-0.7**
	baz=213,SNR=12						
CAN	**Canberra**	**79.76**	**236**	P	**P**	**07 05 21.3**	**+0.8**
CAN				pmax	pmax		
	comp=Z,53nm,1.3s						
CAN	**Canberra**	**79.76**	**236**	P	**P**	**07 05 21.3**	**+0.8**
K63A	**Dunstable**	**79.81**	**31**	P	**P**	**07 05 19.9**	**-0.4**
	baz=218						
K63A				S	**S**	**07 15 26.3**	**+3.0**
	baz=218						
ARMA	**Armidale**	**79.85**	**241**	P	**P**	**07 05 21.1**	**-0.1**
J61A	**Chester**	**79.87**	**30**	P	**P**	**07 05 20.3**	**-0.3**
	baz=217,SNR=8.6						
J61A				S	**S**	**07 15 25.7**	**+1.8**
	baz=217						
I60A	**Shoreham**	**79.94**	**29**	P	**P**	**07 05 20.6**	**-0.4**
	baz=217,SNR=24						
I60A				S	**S**	**07 15 27.0**	**+2.4**
	baz=217						
LONY	**Lake Ozonia**	**80.02**	**28**	P	**P**	**07 05 21.2**	**-0.3**
	baz=216,SNR=24						
LONY				S	**S**	**07 15 26.9**	**+1.5**
	baz=216						
LONY	**Lake Ozonia**	**80.02**	**28**	P	**P**	**07 05 20.2**	**-1.2**
LONY				IAMs_20	IAMs_20	07 39 45.7	
	comp=Z,4μm,18.0s						
H58A	**Gabriels**	**80.03**	**28**	P	**P**	**07 05 20.9**	**-0.5**
	baz=216,SNR=20						
H58A				S	**S**	**07 15 29.8**	**+4.2**
	baz=216						
J62A	**Henniker**	**80.11**	**30**	P	**P**	**07 05 21.8**	**-0.1**
	baz=218,SNR=11						
J62A				S	**S**	**07 15 28.8**	**+2.4**
	baz=218						
G57A	**Newington**	**80.25**	**27**	P	**P**	**07 05 22.2**	**-0.4**
	baz=215,SNR=14						
G57A				S	**S**	**07 15 30.5**	**+2.8**
	baz=215						
E53A	**Dumoine, Ponti**	**80.25**	**25**	P	**P**	**07 05 22.2**	**-0.4**
	baz=213,SNR=22						
E53A				S	**S**	**07 15 30.3**	**+2.6**
	baz=213						
HNH	**Hanover**	**80.28**	**30**	P	**P**	**07 05 21.1**	**-1.7**
HNH				IAmb	IAmb	07 05 24.8	
	comp=Z,314nm,1.8s						
F55A	**Otter Lake**	**80.30**	**26**	P	**P**	**07 05 22.2**	**-0.6**
	baz=214,SNR=9.6						
ORIO	**Orleans, Innes**	**80.32**	**27**	P	**P**	**07 05 22.3**	**-0.7**
	baz=215,SNR=7.4						
ORIO	**Orleans, Innes**	**80.32**	**27**	P	**P**	**07 05 21.3**	**-1.6**
FFD	**Franklin Falls**	**80.37**	**30**	P	**P**	**07 05 20.9**	**-2.4**
FFD				IAmb	IAmb	07 05 25.3	
	comp=Z,371nm,1.7s						
FFD				IAMs_20	IAMs_20	07 37 59.0	
	comp=Z,5μm,19.0s						
H59A	**Cadyville**	**80.42**	**28**	P	**P**	**07 05 23.3**	**-0.2**
	baz=216,SNR=19						
H59A				S	**S**	**07 15 33.9**	**+4.3**
	baz=216						
E54A	**Lac Daplat, Po**	**80.48**	**25**	P	**P**	**07 05 23.4**	**-0.4**
	baz=213,SNR=22						
E54A				S	**S**	**07 15 32.4**	**+2.3**
	baz=213						
J63A	**Strafford**	**80.48**	**31**	P	**P**	**07 05 23.8**	**-0.1**
	baz=218,SNR=6.2						
J63A				S	**S**	**07 15 33.1**	**+2.8**
	baz=218						
I61A	**Oroboro, Fairl**	**80.49**	**30**	P	**P**	**07 05 24.0**	**0.0**
	baz=218,SNR=25						
I61A				S	**S**	**07 15 33.9**	**+3.5**
	baz=218						
VT1	**Waterbury**	**80.57**	**29**	P	**P**	**07 05 22.4**	**-2.0**
VT1				IAmb	IAmb	07 05 26.2	
	comp=Z,310nm,1.9s						
FRNY	**Flat Rock**	**80.61**	**28**	P	**P**	**07 05 22.9**	**-1.7**
FRNY				IAMs_20	IAMs_20	07 37 43.3	
	comp=Z,5μm,20.0s						
G58A	**Ormstown**	**80.67**	**28**	P	**P**	**07 05 24.5**	**-0.3**
	baz=216,SNR=17						
H60A	**Morristown**	**80.77**	**29**	P	**P**	**07 05 25.4**	**0.0**
	baz=217,SNR=22						
H60A				S	**S**	**07 15 39.0**	**+5.6**
	baz=217						
D53A	**Lac Vacive, Po**	**80.83**	**25**	P	**P**	**07 05 25.3**	**-0.3**
	baz=213,SNR=20						
D53A				S	**S**	**07 15 35.1**	**+1.3**
	baz=213						
D53A	**Lac Vacive, Po**	**80.83**	**25**	P	**P**	**07 05 23.8**	**-1.8**
I62A	**Tamworth**	**80.83**	**30**	P	**P**	**07 05 25.7**	**-0.1**
	baz=218,SNR=19						
I62A				S	**S**	**07 15 37.7**	**+3.7**
	baz=218						
I62A	**Tamworth**	**80.83**	**30**	P	**P**	**07 05 23.6**	**-2.2**
I62A				IAmb	IAmb	07 05 27.5	
	comp=Z,375nm,1.9s						
I62A				IAMs_20	IAMs_20	07 38 13.1	
	comp=Z,5μm,20.0s						
LBNH	**Lisbon**	**80.86**	**30**	P	**P**	**07 05 24.9**	**-1.0**
LBNH				pmax	pmax		
	comp=Z,335nm,1.9s						
LBNH	**Lisbon**	**80.86**	**30**	P	**P**	**07 05 25.8**	**-0.1**
LBNH				S	**S**	**07 15 37.6**	**+3.4**
	baz=218						
LBNH	**Lisbon**	**80.86**	**30**	P	**P**	**07 05 24.9**	**-1.0**
LBNH				IAmb	IAmb	07 05 27.9	
	comp=Z,335nm,1.9s						
LBNH				IAMs_20	IAMs_20	07 39 46.8	
	comp=Z,4μm,19.0s						
E55A	**Montcerf-Lytto**	**80.93**	**26**	P	**P**	**07 05 25.5**	**-0.8**
	baz=214,SNR=9.6						
E55A				S	**S**	**07 15 39.0**	**+4.1**
	baz=214						
F57A	**Harrington**	**80.95**	**27**	P	**P**	**07 05 25.7**	**-0.6**
	baz=215,SNR=9.8						
F57A				S	**S**	**07 15 39.5**	**+4.5**
	baz=215						
CASY	**Casey**	**80.98**	**197**	P	**P**	**07 05 28.3**	**+1.9**
CASY				IAmb	IAmb	07 05 31.6	
	comp=Z,241nm,1.6s						
CASY	**Casey**	**80.98**	**197**	IAMs_20	IAMs_20	07 36 05.6	
	comp=Z,6μm,20.0s						
G59A	**Clarenceville**	**80.98**	**28**	P	**P**	**07 05 26.2**	**-0.3**
	baz=217,SNR=12						
H61A	**Lyndonville**	**81.09**	**29**	P	**P**	**07 05 27.6**	**+0.4**
	baz=218,SNR=23						
H61A				S	**S**	**07 15 40.0**	**+3.4**
	baz=218						
DIB	**Dawson Inlet,**	**81.27**	**349**	P	**P**	**07 05 26.8**	**-1.1**
DIB				IAmb	IAmb	07 05 29.5	
	comp=Z,293nm,2.0s						
DIB				IAMs_20	IAMs_20	07 32 43.5	
	comp=Z,4μm,21.0s						
H02S1	**DAWSON INLET T**	**81.27**	**349**	P	**P**	**07 05 28.1**	**+0.2**
	SNR=7.3						
D54A	**Lac Fusel, La**	**81.28**	**25**	P	**P**	**07 05 27.1**	**-1.0**
	baz=214,SNR=16						
D54A				S	**S**	**07 15 40.1**	**+1.6**
	baz=214						
TOO	**Toolangi**	**81.30**	**232**	P	**P**	**07 05 29.4**	**+0.7**
TOO				pmax	pmax		
	comp=Z,135nm,1.8s						
TOO	**Toolangi**	**81.30**	**232**	P	**P**	**07 05 29.4**	**+0.7**
I63A	**Otisfield**	**81.31**	**30**	P	**P**	**07 05 28.1**	**-0.2**
	baz=219,SNR=10						
I63A				S	**S**	**07 15 40.5**	**+1.6**
	baz=219						
I63A	**Otisfield**	**81.31**	**30**	P	**P**	**07 05 25.7**	**-2.6**
I63A				IAmb	IAmb	07 05 30.1	
	comp=Z,283nm,1.8s						
I63A				IAMs_20	IAMs_20	07 40 13.8	
	comp=Z,5μm,20.0s						
H02N1	**VAN INLET T-PH**	**81.33**	**349**	P	**P**	**07 05 28.3**	**0.0**
	SNR=7.2						
H02N1				T	T	08 34 53.2	
	SNR=5.3						
TRQ	**Mont Tremblant**	**81.34**	**27**	P	**P**	**07 05 27.5**	**-1.0**
F58A	**St-Lin Laurent**	**81.35**	**28**	P	**P**	**07 05 27.9**	**-0.5**
	baz=216						
G60A	**Masonville**	**81.36**	**29**	P	**P**	**07 05 28.3**	**-0.3**
	baz=217,SNR=7.0						
G60A				S	**S**	**07 15 42.9**	**+3.5**
	baz=217						
E56A	**St. Veronique**	**81.41**	**26**	P	**P**	**07 05 28.1**	**-0.7**
	baz=215,SNR=12						
E56A				S	**S**	**07 15 42.4**	**+2.5**
	baz=215						
MIDW	**Midway**	**81.42**	**307**	IAMs_20	IAMs_20	07 33 57.9	
	comp=Z,6μm,20.0s						
H62A	**Milan**	**81.46**	**30**	P	**P**	**07 05 29.1**	**0.0**
	baz=218,SNR=30						
H62A				S	**S**	**07 15 44.2**	**+3.7**
	baz=218						
H62A	**Milan**	**81.46**	**30**	P	**P**	**07 05 28.4**	**-0.8**
H62A				IAmb	IAmb	07 05 31.1	
	comp=Z,358nm,1.8s						
H62A				IAMs_20	IAMs_20	07 37 49.8	
	comp=Z,5μm,19.0s						
D55A	**Sainte-Anne-du**	**81.62**	**26**	P	**P**	**07 05 28.9**	**-1.0**
	baz=215,SNR=18						
D55A				S	**S**	**07 15 44.3**	**+2.3**
	baz=215						
I64A	**Boothbay**	**81.64**	**31**	P	**P**	**07 05 30.0**	**0.0**
	baz=220						
I64A				S	**S**	**07 15 45.0**	**+2.7**
	baz=220						
E57A	**Chemin Saint G**	**81.66**	**27**	P	**P**	**07 05 29.2**	**-0.9**
	baz=216,SNR=17						
E57A				S	**S**	**07 15 44.5**	**+2.0**
	baz=216						
F59A	**Saint Guilaume**	**81.77**	**28**	P	**P**	**07 05 30.2**	**-0.5**
	baz=217,SNR=13						
F59A				S	**S**	**07 15 46.3**	**+2.8**
	baz=217						
VLDQ	**Val d'Or**	**81.78**	**24**	P	**P**	**07 05 28.9**	**-1.8**
VLDQ				IAmb	IAmb	07 05 31.8	
	comp=Z,311nm,1.9s						
G61A	**St-Isidore-de-**	**81.85**	**29**	P	**P**	**07 05 31.1**	**0.0**
	baz=218,SNR=21						
G61A				S	**S**	**07 15 47.8**	**+3.3**
	baz=218						
D56A	**ZEC Mazanza, M**	**81.93**	**26**	P	**P**	**07 05 30.9**	**-0.7**
	baz=215,SNR=21						
D56A				S	**S**	**07 15 47.0**	**+1.7**
	baz=215						
E58A	**La Victoria**	**81.98**	**28**	P	**P**	**07 05 31.4**	**-0.3**
	baz=216,SNR=29						
E58A				S	**S**	**07 15 47.6**	**+1.8**
	baz=216						
FFC	**Flin Flon**	**82.02**	**7**	P	**P**	**07 05 30.8**	**-1.0**
FFC	**Flin Flon**	**82.02**	**7**	P	**P**	**07 05 30.8**	**-1.0**
FFC				IAmb	IAmb	07 05 32.8	
	comp=Z,244nm,1.9s						
FFC	**Flin Flon**	**82.02**	**7**	IAMs_20	IAMs_20	07 37 44.8	
	comp=Z,6μm,19.0s						
H63A	**New Sharon**	**82.03**	**30**	P	**P**	**07 05 32.2**	**+0.2**
	baz=219,SNR=26						
H63A				S	**S**	**07 15 48.3**	**+2.0**
	baz=219						
WVL	**Waterville**	**82.13**	**31**	P	**P**	**07 05 31.4**	**-1.2**
WVL				IAMs_20	IAMs_20	07 40 35.4	
	comp=Z,6μm,20.0s						
F60A	**Warwick**	**82.21**	**28**	P	**P**	**07 05 32.6**	**-0.4**
	baz=218,SNR=15						
F60A				S	**S**	**07 15 50.1**	**+2.0**
	baz=218						
G62A	**West of Eustis**	**82.24**	**30**	P	**P**	**07 05 33.0**	**-0.2**
	baz=219,SNR=11						
G62A				S	**S**	**07 15 51.1**	**+2.6**
	baz=219						
G62A	**West of Eustis**	**82.24**	**30**	P	**P**	**07 05 32.0**	**-1.2**
G62A				IAmb	IAmb	07 05 35.0	
	comp=Z,332nm,2.0s						
G62A				IAMs_20	IAMs_20	07 39 25.4	
	comp=Z,6μm,19.0s						
D57A	**Chemin Vers le**	**82.25**	**27**	P	**P**	**07 05 32.9**	**-0.4**
	baz=216,SNR=28						
D57A				S	**S**	**07 15 51.5**	**+3.0**
	baz=216						
E59A	**St. Maurice**	**82.38**	**28**	P	**P**	**07 05 33.5**	**-0.3**
	baz=217						
H64A	**Troy**	**82.39**	**31**	P	**P**	**07 05 33.7**	**-0.2**
	baz=220,SNR=15						
H64A				S	**S**	**07 15 53.6**	**+3.7**
	baz=220						
EIDS	**Eidsvold**	**82.46**	**246**	P	**P**	**07 05 35.8**	**+0.8**
SYO	**Syowa Base**	**82.53**	**171** ⇑	/P	**P**	**07 05 34.0**	**-0.5**
SYO	**Syowa Base**	**82.53**	**171** ⇑	/PcP	**PcP**	**07 05 38.0**	**-1.6**
SYO	**Syowa Base**	**82.53**	**171** ⇓	/PP	PP	07 08 44.0	+1.0
G63A	**Kingsbury**	**82.57**	**30**	P	**P**	**07 05 34.5**	**-0.4**
	baz=220,SNR=12						
G63A				S	**S**	**07 15 55.9**	**+4.0**
	baz=220						
F61A	**St Evariste**	**82.63**	**29**	P	**P**	**07 05 34.9**	**-0.3**
	baz=218,SNR=8.7						
F61A				S	**S**	**07 15 54.1**	**+1.6**
	baz=218						
D58A	**Chemin du LacG**	**82.72**	**27**	P	**P**	**07 05 35.4**	**-0.3**
	baz=217,SNR=18						
D58A				S	**S**	**07 15 54.3**	**+0.9**
	baz=217						
E60A	**Ste Agathe de**	**82.74**	**29**	P	**P**	**07 05 35.3**	**-0.4**
	baz=218,SNR=12						
E60A				S	**S**	**07 15 56.6**	**+3.0**
	baz=218						
LSQQ	**Lebel-sur-Quev**	**82.75**	**24**	P	**P**	**07 05 35.2**	**-0.6**
	baz=213						
PKME	**Peaks-Kenny Pk**	**82.83**	**30**	P	**P**	**07 05 35.9**	**-0.4**
	baz=220,SNR=10.0						
PKME				S	**S**	**07 15 56.3**	**+1.8**
	baz=220						
PKME	**Peaks-Kenny Pk**	**82.83**	**30**	P	**P**	**07 05 35.1**	**-1.1**
PKME				IAmb	IAmb	07 05 37.8	
	comp=Z,229nm,1.7s						
PKME				IAMs_20	IAMs_20	07 41 15.1	
	comp=Z,5μm,18.0s						
H65A	**Eastbrook**	**82.88**	**31**	P	**P**	**07 05 36.3**	**-0.2**
	baz=221,SNR=10						
H65A				S	**S**	**07 15 58.3**	**+3.4**
	baz=221						
LATQ	**La Tuque**	**82.99**	**27**	P	**P**	**07 05 36.6**	**-0.5**
	baz=217,SNR=16						
LATQ				S	**S**	**07 15 59.2**	**+3.1**
	baz=217						
LATQ	**La Tuque**	**82.99**	**27**	P	**P**	**07 05 34.6**	**-2.5**
F62A	**Pittston Farm,**	**83.02**	**30**	P	**P**	**07 05 37.0**	**-0.2**
	baz=219						
F62A				S	**S**	**07 15 58.7**	**+2.3**
	baz=219						
F62A	**Pittston Farm,**	**83.02**	**30**	P	**P**	**07 05 36.6**	**-0.7**
F62A				IAmb	IAmb	07 05 39.1	
	comp=Z,374nm,1.8s						
F62A				IAMs_20	IAMs_20	07 39 48.6	
	comp=Z,7μm,20.0s						
G64A	**Maxfield**	**83.07**	**31**	P	**P**	**07 05 37.1**	**-0.4**
	baz=220,SNR=15						
G64A				S	**S**	**07 15 59.3**	**+2.4**
	baz=220						
D59A	**Saint-Raymond**	**83.08**	**28**	P	**P**	**07 05 37.1**	**-0.5**
	baz=218,SNR=5.7						
D59A				S	**S**	**07 15 58.9**	**+1.8**
	baz=218						
MATQ	**Matagami**	**83.10**	**23**	P	**P**	**07 05 36.7**	**-0.9**
	baz=213,SNR=16						
MATQ				S	**S**	**07 15 58.4**	**+1.3**
	baz=213						
KWAJ	**Kwajalein Atol**	**83.19**	**283**	IAMs_20	IAMs_20	07 34 58.7	
	comp=Z,4μm,20.0s						
E61A	**Lac Etchemin**	**83.20**	**29**	P	**P**	**07 05 38.2**	**-0.1**
	baz=219,SNR=7.1						
E61A				S	**S**	**07 16 01.3**	**+3.0**
	baz=219						
F63A	**Nahmakanta, Br**	**83.25**	**30**	P	**P**	**07 05 38.5**	**0.0**
	baz=220,SNR=40						
F63A				S	**S**	**07 16 01.6**	**+2.7**
	baz=220						
F63A	**Nahmakanta, Br**	**83.25**	**30**	P	**P**	**07 05 37.5**	**-0.9**
F63A				IAmb	IAmb	07 05 41.6	
	comp=Z,155nm,1.1s						
EMMW	**East Machias**	**83.25**	**32**	P	**P**	**07 05 37.8**	**-0.7**
EMMW				IAMs_20	IAMs_20	07 42 02.3	
	comp=Z,6μm,18.0s						
H66A	**Whiting**	**83.38**	**32**	P	**P**	**07 05 38.7**	**-0.5**
	baz=221,SNR=9.8						
H66A				S	**S**	**07 16 04.9**	**+4.8**
	baz=221						
D60A	**Saint Jean D'O**	**83.40**	**28**	P	**P**	**07 05 38.6**	**-0.5**
	baz=218						
D60A				S	**S**	**07 16 03.8**	**+3.7**
	baz=218						
G65A	**Princeton**	**83.58**	**31**	P	**P**	**07 05 39.5**	**-0.6**
	baz=221,SNR=9.3						
G65A				S	**S**	**07 16 05.6**	**+3.5**
	baz=221						
G65A	**Princeton**	**83.58**	**31**	P	**P**	**07 05 39.2**	**-0.9**
G65A				IAmb	IAmb	07 05 41.6	
	comp=Z,326nm,1.8s						
G65A				IAMs_20	IAMs_20	07 41 33.8	
	comp=Z,6μm,18.0s						
F64A	**Sherman**	**83.72**	**31**	P	**P**	**07 05 40.5**	**-0.3**
	baz=220,SNR=14						
F64A				S	**S**	**07 16 06.1**	**+2.7**
	baz=220						
F64A	**Sherman**	**83.72**	**31**	P	**P**	**07 05 39.7**	**-1.1**
F64A				IAmb	IAmb	07 05 42.5	
	comp=Z,348nm,1.8s						
F64A				IAMs_20	IAMs_20	07 39 52.5	
	comp=Z,5μm,19.0s						
E62A	**Clayton Lake**	**83.77**	**29**	P	**P**	**07 05 41.0**	**-0.1**
	baz=220,SNR=29						
E62A				S	**S**	**07 16 07.9**	**+3.8**
	baz=220						
E62A	**Clayton Lake**	**83.77**	**29**	P	**P**	**07 05 40.0**	**-1.1**
E62A				IAMs_20	IAMs_20	07 40 21.1	
	comp=Z,6μm,18.0s						
GGN	**Saint George**	**83.85**	**32**	P	**P**	**07 05 40.5**	**-1.1**
GGN				IAmb	IAmb	07 05 42.9	
	comp=Z,262nm,1.8s						
GGN				IAMs_20	IAMs_20	07 42 28.4	
	comp=Z,6μm,19.0s						
D61A	**St Aubert, Com**	**83.94**	**29**	P	**P**	**07 05 41.5**	**-0.4**
	baz=219						
D61A				S	**S**	**07 16 10.0**	**+4.4**
	baz=219						
E63A	**Oxbow**	**84.11**	**30**	P	**P**	**07 05 42.3**	**-0.5**
	baz=220,SNR=12						
E63A				S	**S**	**07 16 08.9**	**+1.6**
	baz=220						
E63A	**Oxbow**	**84.11**	**30**	P	**P**	**07 05 41.3**	**-1.6**
E63A				IAMs_20	IAMs_20	07 39 06.0	
	comp=Z,5μm,22.0s						
D62A	**Allapoint, All**	**84.33**	**29**	P	**P**	**07 05 43.5**	**-0.4**
	baz=220						
D62A				S	**S**	**07 16 11.8**	**+2.2**
	baz=220						
D62A	**Allapoint, All**	**84.33**	**29**	P	**P**	**07 05 42.2**	**-1.8**
D62A				IAMs_20	IAMs_20	07 40 38.1	
	comp=Z,6μm,19.0s						
WRAK	**Wrangell Islan**	**84.35**	**350**	P	**P**	**07 05 42.1**	**-1.7**
WRAK				IAmb	IAmb	07 05 45.5	
	comp=Z,306nm,1.8s						
WRAK	**Wrangell Islan**	**84.35**	**350**	IAMs_20	IAMs_20	07 34 29.8	
	comp=Z,6μm,20.0s						
E64A	**Bridgewater**	**84.37**	**30**	P	**P**	**07 05 43.7**	**-0.4**
	baz=221,SNR=9.9						
E64A				S	**S**	**07 16 12.6**	**+2.6**
	baz=221						
CHGQ	**Chibougamau**	**84.41**	**25**	P	**P**	**07 05 43.2**	**-1.1**
	baz=215,SNR=30						
PQI	**Presque Isle**	**84.48**	**30**	P	**P**	**07 05 43.6**	**-1.1**
PQI				IAMs_20	IAMs_20	07 40 27.7	
	comp=Z,5μm,19.0s						

HAL pmax pmax
comp=Z,161nm,1.6s
HAL Halifax 85.07 34 P **P 07 05 46.6 -1.1**
HAL IAmb IAmb 07 05 48.6
comp=Z,161nm,1.6s
HAL IAMs_20 IAMs_20 07 38 16.6
comp=Z,4µm,21.0s
LMN Caledonia Moun 85.36 32 P **P 07 05 47.1 -2.0**
LMN IAmb IAmb 07 05 49.6
comp=Z,187nm,1.9s
MAW Mawson 85.77 179 P **P 07 05 52.8 +1.8**
comp=Z,18nm,1.2s,baz=186,slow=7.3,SNR=13
MAW LR LR 07 40 14.7
comp=Z,10µm,19.9s,baz=170,slow=33
MAW Mawson 85.77 179 P **P 07 05 51.7 +0.7**
MAW pmax pmax
comp=Z,75nm,2.0s
MAW Mawson 85.77 179 P **P 07 05 51.7 +0.7**
BATG Bathurst New B 85.82 31 P **P 07 05 50.1 -1.3**
BATG IAmb IAmb 07 05 52.4
comp=Z,269nm,1.9s
BATG IAMs_20 IAMs_20 07 40 04.3
comp=Z,6µm,21.0s
DLBC Dease Lake 85.98 352 P **P 07 05 51.9 -0.1**
comp=Z,52nm,0.8s,baz=201,slow=4.5,SNR=52
DLBC Dease Lake 85.98 352 P **P 07 05 50.8 -1.3**
DLBC IAmb IAmb 07 06 00.5
comp=Z,170nm,1.1s
JIS Juneau Island 86.45 350 P **P 07 05 52.6 -1.6**
GBN Guysborough 86.66 34 P **P 07 05 53.4 -2.2**
GBN IAmb IAmb 07 05 56.3
comp=Z,225nm,1.9s
BESE Bessie Mountai 86.81 350 P **P 07 05 55.1 -1.0**
BESE IAmb IAmb 07 05 57.5
comp=Z,316nm,1.9s
STKA Stephens Creek 86.82 236 P **P 07 05 57.7 +0.8**
comp=Z,20nm,1.3s,baz=126,slow=6.7,SNR=15
STKA LR LR 07 39 27.0
comp=Z,9µm,19.1s,baz=135,slow=32
STKA Stephens Creek 86.82 236 P **P 07 05 57.9 +0.9**
STKA pmax pmax
comp=Z,43nm,1.9s
STKA Stephens Creek 86.82 236 P **P 07 05 57.9 +0.9**
FCC Fort Churchill 87.03 11 IAMs_20 IAMs_20 07 41 51.5
comp=Z,5µm,19.0s
H11S2 WAKE ISLAND Hy 88.59 291 T T 08 44 08.0
baz=119,slow=76,SNR=1671
H11S1 WAKE ISLAND Hy 88.61 291 T T 08 44 09.0
baz=119,slow=76,SNR=2185
H11S3 WAKE ISLAND Hy 88.61 291 T T 08 44 09.4
baz=119,slow=76,SNR=1884
WHY Whitehorse 88.80 350 P **P 07 06 04.4 -1.2**
WHY IAmb IAmb 07 06 06.8
comp=Z,189nm,2.0s
CTA Charters Tower 88.83 248 P **P 07 06 07.6 +0.9**
comp=Z,5.3nm,0.8s,baz=103,slow=6.0,SNR=12
CTAO Charters Tower 88.83 248 P **P 07 06 08.0 +1.2**
CTAO pmax pmax
comp=Z,151nm,1.7s
CTAO Charters Tower 88.83 248 P **P 07 06 08.0 +1.2**
CTAO IAmb IAmb 07 06 11.6
comp=Z,151nm,1.7s
CTAO Charters Tower 88.83 248 IAMs_20 IAMs_20 07 38 11.3
comp=Z,6µm,21.0s
H11N3 WAKE ISLAND Hy 89.02 293 T T 08 44 35.5
baz=120,slow=76,SNR=456
WAKE Wake Island 89.02 292 IAMs_20 IAMs_20 07 39 17.1
comp=Z,4µm,20.0s
H11N1 WAKE ISLAND Hy 89.03 293 T T 08 44 40.7
baz=120,slow=76,SNR=533
H11N2 WAKE ISLAND Hy 89.03 293 T T 08 44 36.8
baz=120,slow=76,SNR=601
YKA Yellowknife Ar 89.08 0 P **P 07 06 05.8 -1.0**
comp=Z,10nm,0.8s,baz=176,slow=4.3,SNR=13
YKA LR LR 07 41 39.5
comp=Z,6µm,18.3s,baz=0.0,slow=33
HYT Haines Junctio 89.38 349 P **P 07 06 07.4 -1.0**
HYT IAmb IAmb 07 06 09.9
comp=Z,170nm,1.8s
CHIR Chirikof Islan 89.50 338 IAMs_20 IAMs_20 07 37 35.7
comp=Z,3µm,20.0s
MESA MESA 89.61 347 IAMs_20 IAMs_20 07 38 04.6
comp=Z,3µm,19.0s
SII Sitkinak Islan 89.64 339 P **P 07 06 08.3 -1.2**
SII IAmb IAmb 07 06 11.0
comp=Z,272nm,1.6s
SII IAMs_20 IAMs_20 07 36 42.3
comp=Z,4µm,22.0s
OHAK Old Harbor 89.91 340 P **P 07 06 09.1 -1.6**
OHAK IAMs_20 IAMs_20 07 36 31.4
comp=Z,4µm,22.0s
CNBA Chernabura Isl 90.08 336 IAMs_20 IAMs_20 07 38 08.6
comp=Z,5µm,20.0s
ISLE Juniper Island 90.08 347 P **P 07 06 09.6 -2.1**
ISLE IAmb IAmb 07 06 23.0
comp=Z,210nm,1.6s
KDAK Kodiak Island 90.17 341 P **P 07 06 11.4 -0.5**
comp=Z,21nm,1.0s,baz=140,slow=3.7,SNR=3.6
KDAK Kodiak Island 90.17 341 IAMs_20 IAMs_20 07 37 01.1
comp=Z,4µm,20.0s
CTGM Chitina Glacie 90.21 347 P **P 07 06 11.1 -1.2**
CTGM IAmb IAmb 07 06 13.7
comp=Z,274nm,2.0s
HMT Hamilton 90.25 346 P **P 07 06 10.8 -1.5**
BBOO Buckleboo 90.35 233 P **P 07 06 14.7 +1.0**
BARN Barnard Glacie 90.36 347 P **P 07 06 11.1 -1.9**
BARN IAmb IAmb 07 06 14.3
comp=Z,172nm,1.6s
RAGM Ragged Mountai 90.39 346 P **P 07 06 11.5 -1.5**
RAGM IAMs_20 IAMs_20 07 38 42.1
comp=Z,3µm,19.0s
BALM Baldy 90.48 347 P **P 07 06 12.1 -1.4**
EYAK Cordova Ski Ar 90.77 345 P **P 07 06 13.1 -1.6**
EYAK IAMs_20 IAMs_20 07 37 38.4
comp=Z,3µm,20.0s
HIN Hinchinbrook I 90.81 345 IAMs_20 IAMs_20 07 38 40.9
comp=Z,3µm,19.0s
SDPT Sand Point 90.81 336 IAMs_20 IAMs_20 07 38 29.8
comp=Z,3µm,20.0s
VRDI Verde Repeater 90.88 347 P **P 07 06 13.6 -1.9**
VRDI IAmb IAmb 07 06 16.5
comp=Z,173nm,2.0s
MCARA McCarthy VSAT 90.93 347 P **P 07 06 13.6 -1.9**
RABL Rabaul 90.99 265 P **P 07 06 17.2 +0.3**
KRVT Keravat (AS076 91.06 265 P **P 07 06 17.8 +0.5**
comp=Z,64nm,0.8s,baz=249,slow=23,SNR=3.0
SCHQ Schefferville 91.14 25 P **P 07 06 15.0 -1.6**
comp=Z,13nm,0.8s,baz=202,slow=2.8,SNR=6.8
SCHQ LR LR 07 45 20.6
comp=Z,5µm,18.5s,baz=224,slow=34
SCHQ Schefferville 91.14 25 IAMs_20 IAMs_20 07 45 09.9
comp=Z,5µm,18.0s
GLB Gilahina Butte 91.15 346 P **P 07 06 14.1 -2.4**
CNPM China Poot 91.25 342 P **P 07 06 15.6 -1.4**
BRLK Bradley Lake 91.36 343 P **P 07 06 17.0 -0.5**
BRLK IAmb IAmb 07 06 28.9
comp=Z,202nm,2.0s
GLI Glacier Island 91.38 345 P **P 07 06 16.3 -1.2**
HOM Homer 91.48 342 P **P 07 06 17.6 -0.4**
baz=147
KLU Klutina 91.65 346 P **P 07 06 17.1 -1.8**
O22K Cooper Landing 91.67 343 P **P 07 06 17.8 -1.1**
baz=149
AKUT Akutan 91.96 333 IAMs_20 IAMs_20 07 37 59.6
comp=Z,3µm,21.0s
UNV Unalaska Valle 92.06 332 P **P 07 06 19.2 -1.6**
UNV IAmb IAmb 07 06 21.3
comp=Z,172nm,1.8s
UNV IAMs_20 IAMs_20 07 37 51.2
comp=Z,4µm,22.0s
KNK Knik Glacier 92.17 344 P **P 07 06 20.2 -1.0**
KNK IAmb IAmb 07 06 22.4
comp=Z,190nm,1.8s
KNK IAMs_20 IAMs_20 07 39 24.7
comp=Z,3µm,19.0s
RC01 Rabbit Creek A 92.20 344 P **P 07 06 20.2 -1.1**
baz=149
BCAR Beaver Creek A 92.23 348 P **P 07 06 17.7 -3.8**
M24K Tolsona, Glenn 92.25 346 P **P 07 06 21.3 -0.4**
baz=152
SCM Sheep Creek Mo 92.27 345 P **P 07 06 19.3 -2.4**
SCM pmax pmax
comp=Z,155nm,2.0s
SCM Sheep Creek Mo 92.27 345 P **P 07 06 19.3 -2.4**
SCM IAmb IAmb 07 06 31.0
comp=Z,155nm,2.0s

NIKH Nikolski High 92.45 331 IAMs_20 IAMs_20 07 39 40.8
comp=Z,4µm,20.0s
RSO Redoubt South 92.46 342 P **P 07 06 20.7 -2.1**
MENT Mentasta 92.48 347 P **P 07 06 21.2 -1.5**
PMR Palmer 92.48 344 P **P 07 06 21.5 -1.1**
PMR pmax pmax
comp=Z,174nm,1.9s
PMR Palmer 92.48 344 P **P 07 06 21.5 -1.1**
PMR IAmb IAmb 07 06 23.7
comp=Z,174nm,1.9s
GHO Glory Hole Cre 92.59 344 P **P 07 06 21.3 -2.0**
GHO IAmb IAmb 07 06 24.3
comp=Z,105nm,1.7s
DAWY Dawson 92.73 349 P **P 07 06 21.6 -2.2**
SUA Susitna One 92.77 344 P **P 07 06 22.4 -1.8**
PAX Paxson 92.87 346 P **P 07 06 21.8 -2.7**
PAX pmax pmax
comp=Z,66nm,1.7s
PAX Paxson 92.87 346 P **P 07 06 21.8 -2.7**
PMG Port Moresby 93.04 258 *i* P **P 07 06 26.7 +0.3**
PMG pmax pmax
comp=Z,26nm,1.0s
PMG Port Moresby 93.04 258 IAMs_20 IAMs_20 07 41 02.3
comp=Z,4µm,20.0s
K27K Chicken 93.16 348 P **P 07 06 24.7 -1.0**
baz=156
DOT Dot Lake 93.19 347 P **P 07 06 23.8 -2.1**
DOT IAmb IAmb 07 06 26.8
comp=Z,128nm,1.9s
DHY Denali Highway 93.37 346 P **P 07 06 24.2 -2.7**
SKT Skwentna 93.41 343 P **P 07 06 25.1 -1.9**
SKT IAmb IAmb 07 06 34.3
comp=Z,61nm,1.1s
RIDG Independent Ri 93.43 347 P **P 07 06 25.1 -1.9**
RIDG IAmb IAmb 07 06 27.8
comp=Z,207nm,2.0s
CUT Chulitna 93.46 344 P **P 07 06 26.6 -0.5**
baz=148
SCRK Sand Creek 93.47 347 P **P 07 06 26.1 -1.2**
baz=154
EGAK Eagle 93.69 349 P **P 07 06 26.7 -1.4**
SVW2 Sparrevohn 93.77 341 P **P 07 06 26.9 -1.7**
RND Reindeer 93.99 345 P **P 07 06 29.1 -0.5**
RND pmax pmax
comp=Z,152nm,1.8s
RND Reindeer 93.99 345 P **P 07 06 29.1 -0.5**
RND IAmb IAmb 07 06 30.4
comp=Z,152nm,1.8s
MCK McKinley 94.29 345 P **P 07 06 28.9 -2.1**
MCK pmax pmax
comp=Z,30nm,1.2s
MCK McKinley 94.29 345 P **P 07 06 28.9 -2.1**
PPLA Purkeypile 94.35 344 P **P 07 06 29.2 -2.2**
TRF Thorofare Moun 94.36 345 P **P 07 06 28.7 -2.7**
TRF IAmb IAmb 07 06 32.2
comp=Z,140nm,1.6s
ATKA Atka Island 94.38 328 IAMs_20 IAMs_20 07 48 22.2
comp=Z,3µm,19.0s
HDA Harding Lake 94.45 347 P **P 07 06 30.3 -1.4**
baz=151
HDA Harding Lake 94.45 347 P **P 07 06 30.3 -1.4**
EPYK Eagle Plains 94.49 351 P **P 07 06 30.0 -1.8**
baz=160
EPYK Eagle Plains 94.49 351 P **P 07 06 30.4 -1.4**
KTH Kantishna Hill 94.60 345 P **P 07 06 30.7 -1.7**
KTH IAmb IAmb 07 06 39.8
comp=Z,98nm,1.1s
WRH Wood River Hil 94.75 346 P **P 07 06 31.6 -1.3**
WRH IAmb IAmb 07 06 33.8
comp=Z,178nm,1.9s
IL31 94.76 347 P **P 07 06 31.2 -1.8**
ILAR Eielson Array 94.76 347 P **P 07 06 31.3 -1.8**
comp=Z,1.8nm,0.9s,baz=192,slow=2.8,SNR=18
ILAR PP **PP 07 10 20.4 -1.7**
comp=Z,0.6nm,0.8s,baz=159,slow=5.2,SNR=4.3
ILAR PKKPbc **PKKPbc 07 23 31.9 -0.7**
comp=Z,0.6nm,1.0s,baz=302,slow=4.3,SNR=5.0
ILAR LR LR 07 41 20.8
comp=Z,2µm,19.0s,baz=132,slow=31
CCB Clear Creek Bu 94.84 346 P **P 07 06 31.6 -1.8**
CCB IAmb IAmb 07 06 34.0
comp=Z,112nm,1.8s
COLA College 95.05 346 *d i* P **P 07 06 33.0 -1.3**
COLA pmax pmax
comp=Z,61nm,1.8s
COLA College 95.05 346 P **P 07 06 32.7 -1.6**
COLA IAmb IAmb 07 06 35.1
comp=Z,151nm,1.9s
TCOL CIGO, UAF Yank 95.05 346 P **P 07 06 33.2 -1.1**
baz=150
NEA2 Nenana 95.07 346 P **P 07 06 33.1 -1.4**
baz=149
BPAW Bear Paw Mtn. 95.08 345 P **P 07 06 32.5 -2.1**
BPAW IAmb IAmb 07 06 34.9
comp=Z,202nm,1.9s
POKR Poker Plat Res 95.18 347 P **P 07 06 34.0 -0.9**
baz=151
MDM Murphy Dome 95.20 346 P **P 07 06 33.5 -1.6**
MDM IAmb IAmb 07 06 35.9
comp=Z,174nm,1.7s
TTA Tatalina 95.38 342 P **P 07 06 34.1 -1.9**
TTA pmax pmax
comp=Z,65nm,1.9s
TTA Tatalina 95.38 342 P **P 07 06 34.1 -1.9**
ADK Adak 95.39 327 IAMs_20 IAMs_20 07 41 35.9
comp=Z,3µm,19.0s
ASCN Ascension 95.50 102 IAMs_20 IAMs_20 07 53 27.7
comp=Z,3µm,18.0s
C36M Paulatuk 96.21 357 IAMs_20 IAMs_20 07 42 42.0
comp=Z,3µm,22.0s
BMAR Burnt Mountain 96.69 349 P **P 07 06 40.0 -1.9**
ASAR Alice Springs 96.90 239 P **P 07 06 44.6 +0.6**
comp=Z,2.3nm,1.0s,baz=137,slow=3.9,SNR=12
ASAR PP **PP 07 10 39.8 +0.8**
comp=Z,4.3nm,1.2s,baz=144,slow=5.8,SNR=4.2
ASAR PKKPbc **PKKPdf 07 23 25.1 -0.8**
comp=Z,1.8nm,1.0s,baz=337,slow=1.7,SNR=7.3
ASAR LR LR 07 46 06.6
comp=Z,21µm,19.4s,baz=130,slow=33
ASAR Alice Springs 96.90 239 P **P 07 06 43.8 -0.2**
ASAR Alice Springs 96.90 239 P **P 07 06 43.8 -0.2**
IMAR Indian Mountai 97.30 345 P **P 07 06 41.0 -3.6**
SACV Santiago Islan 97.51 77 IAMs_20 IAMs_20 07 48 55.0
comp=Z,5µm,18.0s
COLD Coldfoot 97.57 347 P Pdif 07 06 45.4 -0.4
baz=148
COLD Coldfoot 97.57 347 P Pdif 07 06 45.4 -0.4
COLD IAmb IAmb 07 06 47.4
comp=Z,83nm,1.8s
WB2 Warramunga Arr 98.56 243 P **P 07 06 49.8 -1.7**
WRAB Tennant Creek 98.57 243 *ce* P Pdif 07 06 52.4 +0.8
WRAB pmax pmax
comp=Z,25nm,2.5s
WRA Warramunga Arr 98.57 243 P Pdif 07 06 52.4 +0.8
comp=Z,3.3nm,0.9s,baz=122,slow=4.4,SNR=13
WRA PP **PP 07 10 51.2 -0.7**
comp=Z,3.4nm,1.2s,baz=118,slow=7.9,SNR=6.2
WRA LR LR 07 48 37.2
comp=Z,5µm,18.6s,baz=145,slow=34
WRA Warramunga Arr 98.57 243 P Pdif 07 06 51.0 -0.6
WRA Warramunga Arr 98.57 243 P Pdif 07 06 51.0 -0.6
TOLK Toolik Lake Re 98.66 348 P Pdif 07 06 50.0 -0.7
baz=149
SHEL Horse Pasture 98.91 113 IAMs_20 IAMs_20 07 58 21.7
comp=Z,4µm,18.0s
ANM Nome 99.32 340 IAMs_20 IAMs_20 07 42 40.2
comp=Z,4µm,21.0s
GAMB Gambell 100.81 338 IAMs_20 IAMs_20 07 46 23.0
comp=Z,3µm,18.0s
RES Resolute Bay 102.15 5 IAMs_20 IAMs_20 07 49 51.3
comp=Z,5µm,20.0s
H01W1 Cape Leeuwin H 103.15 219 T T 09 02 32.8
baz=135,slow=75,SNR=55
H01W2 Cape Leeuwin H 103.16 219 T T 09 02 31.5
baz=135,slow=75,SNR=55
H01W3 Cape Leeuwin H 103.17 219 T T 09 02 47.1
baz=135,slow=75,SNR=58
CALA Caldeira 103.28 53 *e*PKiKP **PP 07 11 34.5 +6.7**
ROSA Rosais 103.66 53 *e*PKiKP **PP 07 11 33.3 +2.8**
ROSA Rosais 103.66 53 *e*LR LR 07 43 10.2
comp=Z,1µm,20.8s
PMAN Manadas 103.74 54 *e*PKiKP **PP 07 11 37.2 +6.1**
NRS Narsarsuaq 103.88 28 IAMs_20 IAMs_20 07 49 43.7
comp=Z,5µm,21.0s
SRBC Serra Branca 103.93 53 *e*PKiKP **PKiKP 07 11 33.6 +1.2**
PGRA Graciosa 103.97 53 *e*PKiKP **PP 07 11 37.2 +4.4**

PGRA Graciosa 103.97 53 *e*LR LR 07 42 57.9
comp=Z,786nm,20.5s
ADH Angra Heroismo 104.36 54 *e*PKiKP PP 07 11 46.9 +11
PSCM Serra do Cume 104.46 54 *e*PKiKP **PP 07 11 37.2 +0.7**
SFJD Kangerlussuaq 105.07 21 IAMs_20 IAMs_20 07 52 41.0
comp=Z,4µm,18.0s
PSET Sete Cidades 105.14 55 *e*PKiKP **PP 07 11 39.6 -2.0**
PSET Sete Cidades 105.14 55 *e*LR LR 07 43 14.0
comp=Z,564nm,20.1s
CMLA Cha da Macela 105.26 55 IAMs_20 IAMs_20 07 49 31.3
comp=Z,3µm,21.0s
CMLA Cha da Macela 105.26 55 *e*PKiKP **PP 07 11 46.6 +4.1**
CMLA Cha da Macela 105.26 55 *e*LR LR 07 43 18.7
comp=Z,636nm,20.1s
PSMA Santa Maria 105.26 56 *e*PKiKP **PP 07 11 39.9 -2.6**
GUMO Guam 105.28 278 IAMs_20 IAMs_20 07 49 21.7
comp=Z,4µm,19.0s
PSMN Pico do Norte, 105.31 56 *e*PKiKP **PKiKP 07 11 35.1 +0.1**
PSMN Pico do Norte, 105.31 56 *e*LR LR 07 43 19.6
comp=Z,485nm,25.0s
BART Pico Bartolome 105.53 55 *e*PKiKP **PP 07 11 46.9 +2.4**
ANGG Ammassalik, Gr 109.02 25 IAMs_20 IAMs_20 07 53 53.6
comp=Z,4µm,20.0s
PET Petropavlovsk 109.14 320 IAMs_20 IAMs_20 07 48 49.6
comp=Z,4µm,20.0s
PEA0B Petropavlovsk- 109.71 320 IAMs_20 IAMs_20 07 49 28.7
comp=Z,4µm,21.0s
PMOZ Porto Moniz, M 109.87 63 *e*PP **PP 07 12 12.0 -4.5**
PMOZ Porto Moniz, M 109.87 63 *e*SS SS 07 27 41.3 -0.3
PMOZ Porto Moniz, M 109.87 63 *e*LR LR 07 45 29.1
comp=Z,2µm,20.0s
DBIC Dimbokro 110.60 93 PP **PP 07 12 23.9 +2.1**
comp=Z,2.7nm,1.0s,baz=278,slow=1.9,SNR=4.2
PMPST Porto Santo, M 110.64 63 *e*PP **PP 07 12 22.4 +0.5**
SUMG Summit 111.39 18 IAMs_20 IAMs_20 07 57 46.3
comp=Z,4µm,20.0s
ALE Alert 111.98 6 IAMs_20 IAMs_20 07 55 58.1
comp=Z,4µm,20.0s
KUR Kuril'sk 113.64 310 *i* PKIKP **PKiKP 07 11 51.4 +1.0**
KUR *e* 07 12 42.4
KUR *e*PS **PS 07 22 18.3 -1.1**
KUR *e*SS SS 07 28 39.6 +8.6
KUR SSS SSS 07 32 49.1
KUR MLR MLR
comp=Z,2µm,17.0s
KUR MLR MLR
comp=E,1µm,19.0s
KUR MLR MLR
comp=N,700nm,13.0s
MMRI Maumere 114.56 246 IAMs_20 IAMs_20 08 02 59.2
comp=Z,3µm,18.0s
TSUM Tsumeb 114.82 130 IAMs_20 IAMs_20 07 51 35.2
comp=Z,3µm,21.0s
SEY Seymchan 114.93 330 PKP **PKiKP 07 11 52.2 -0.1**
comp=Z,2.2nm,0.9s,baz=136,slow=5.9,SNR=6.7
EDFI Ende, Flores 114.94 245 PKP **PKiKP 07 11 54.9 +0.9**
BORG Borgarnes 115.37 28 IAMs_20 IAMs_20 07 55 28.8
comp=Z,4µm,20.0s
ERM Erimo 116.17 306 IAMs_20 IAMs_20 08 00 18.1
comp=Z,3µm,20.0s
YSS Yuzh-Sakhalins 117.49 311 *c i* PKIKP PKiKP 07 12 09.3 +12
YSS *e* 07 13 06.6
YSS *e* 07 18 51.8
YSS *e*PS **PS 07 22 50.0 -4.5**
YSS *e*SS SS 07 29 20.0 -1.4
YSS *e*SSS SSS 07 33 37.0
YSS pmax pmax
comp=Z,200nm,4.9s
YSS Yuzh-Sakhalins 117.49 311 IAMs_20 IAMs_20 07 51 28.0
comp=Z,4µm,22.0s
PFVI Vila Bisbo 117.69 60 IAMs_20 IAMs_20 07 55 20.1
comp=Z,4µm,21.0s
PFVI Vila Bisbo 117.69 60 *e*PP PP 07 13 10.6 -1.2
PMAFR Mafra 117.77 58 *e*PP PP 07 13 13.4 +1.1
LIS Lisbon 117.82 58 *e*PP PP 07 13 11.7 -0.9
LIS AMS AMS 07 55 24.1
comp=Z,5µm,23.5s
AVE Averroes 117.85 65 PS PS 07 22 58.2 -0.1
MORF Marmelete 117.87 60 *e*PP PP 07 13 12.1 -1.0
MORF AMS AMS 07 56 12.6
comp=Z,3µm,22.6s
MORF Marmelete 117.87 60 *e*PP PP 07 13 12.5 -0.6
PTEO Sao Teotonio 117.87 60 *e*PP PP 07 13 13.9 +0.9
PNCL Nicolau / Gran 118.15 59 *e*PP PP 07 13 15.2 +0.3
LUWI Luwuk 118.23 253 IAMs_20 IAMs_20 08 02 32.5
comp=Z,4µm,19.0s
PSBE So Bento 118.26 58 *e*PP PP 07 13 17.0 +1.3
PBDV Barranco-do-Ve 118.41 60 *e*PP PP 07 13 16.1 -0.7
PCVE Castro Verde 118.42 60 *e*PP PP 07 13 13.6 -3.2
PCAS Casmilo, Conde 118.60 57 *e*PP PP 07 13 18.3 +0.2
PVAQ Vaqueiros 118.61 60 IAMs_20 IAMs_20 07 55 46.5
comp=Z,3µm,22.0s
PVAQ Vaqueiros 118.61 60 *e*PP PP 07 13 17.0 -1.2
PVAQ Vaqueiros 118.61 60 *e*SS SS 07 29 38.4 +1.9
PVAQ Vaqueiros 118.61 60 *e*LR LR 07 48 57.8
comp=Z,2µm,22.0s
MJAR Matsushiro Arr 118.63 299 PP PP 07 13 19.8 +1.4
comp=Z,0.7nm,0.3s,baz=122,slow=2.3,SNR=2.9
MJAR PKKPbc PKKPbc 07 22 17.3 +0.5
comp=Z,0.6nm,0.3s,baz=164,slow=42,SNR=4.1
PBEJ Beja 118.64 60 *e*PP PP 07 13 22.2 +3.8
EVO Evora 118.64 59 PP PP 07 13 05.0 -13
EVO Evora 118.64 59 PS PS 07 23 07.5 +2.3
EVO Evora 118.64 59 *e*PP PP 07 13 20.8 +2.5
COI Coimbra 118.70 57 IAMs_20 IAMs_20 07 59 13.7
comp=Z,2µm,20.0s
COI Coimbra 118.70 57 *e*PP PP 07 13 18.9 +0.2
PGAV Gavieira, Arco 119.16 55 *e*PP PP 07 13 22.1 +0.1
PGAV Gavieira, Arco 119.16 55 *e*SS SS 07 29 44.0 +0.4
PGAV Gavieira, Arco 119.16 55 *e*LR LR 07 49 48.7
comp=Z,3µm,18.0s
TORD Torodi Ar. Bea 119.16 90 PKP **PKPdf 07 12 01.3 -0.6**
comp=Z,4.6nm,1.1s,baz=299,slow=2.7,SNR=11
TORD PP **PP 07 13 21.0 -1.3**
comp=Z,3.7nm,1.0s,baz=261,slow=3.7,SNR=6.9
TORD PKKPbc **PKKPab 07 22 15.6 -1.6**
comp=Z,1.2nm,1.0s,baz=64,slow=3.4,SNR=3.6
TORD Torodi Ar. Bea 119.16 90 PKPdf **PKiKP 07 12 01.9 -0.1**
PVIS Viseu 119.19 56 *e*PP PP 07 13 23.6 +1.4
INU Inuyama 119.29 297 IAMs_20 IAMs_20 08 00 49.9
comp=Z,3µm,19.0s
PMRV Marv??o 119.31 58 *e*PP PP 07 13 22.4 -0.5
PMRV Marv??o 119.31 58 *e*SS SS 07 29 44.3 -1.1
PMRV Marv??o 119.31 58 *e*LR LR 07 49 23.7
comp=Z,3µm,22.0s
PCBR Castelo Branco 119.33 58 *e*PP PP 07 13 20.4 -2.6
MTE Manteigas 119.39 57 IAMs_20 IAMs_20 07 55 22.6
comp=Z,4µm,22.0s
MTE Manteigas 119.39 57 *e*PP PP 07 13 22.5 -1.0
MTE Manteigas 119.39 57 *e*SS SS 07 29 47.5 +1.0
MTE Manteigas 119.39 57 *e*LR LR 07 49 17.6
comp=Z,4µm,22.0s
PVRL Vila Real 119.43 56 *e*PP PP 07 13 24.0 +0.2
SFS San Fernando 119.58 62 PS PS 07 23 21.6 +7.8
DAV Davao City (W) 119.71 263 IAMs_20 IAMs_20 07 59 51.5
comp=Z,4µm,20.0s
IFR Ifrane 119.75 65 PS PS 07 23 20.7 +4.9
MVO Moncorvo 119.92 56 *e*PP PP 07 13 26.2 -1.0
MVO Moncorvo 119.92 56 *e*SS SS 07 29 52.1 -1.3
MVO Moncorvo 119.92 56 *e*LR LR 07 49 58.8
comp=Z,3µm,18.0s
CEU Ceuta 120.11 62 PS PS 07 23 17.9 -0.6
PBRG Braganca 120.25 55 *e*PP PP 07 13 27.4 -2.0
PVLZ Peæn de 120.80 63 PS PS 07 23 30.0 +5.3
EMAL Malaga-Limoner 121.04 62 PP PP 07 13 24.0 -11
EMAL Malaga-Limoner 121.04 62 PS PS 07 23 25.2 -1.6
PAB San Pablo 121.64 58 PKIKP **PKiKP 07 12 06.1 -0.2**
PAB San Pablo 121.64 58 PKPdf **PKiKP 07 12 06.1 -0.2**
MELI Melilla 121.92 64 PS PS 07 23 33.7 -1.0
ES14 SONSECA Array 121.93 58 IAMs_20 IAMs_20 07 57 59.1
comp=Z,4µm,22.0s
ES16 SONSECA Array 121.93 58 IAMs_20 IAMs_20 07 57 59.1
comp=Z,4µm,22.0s
ES13 SONSECA Array 121.95 58 IAMs_20 IAMs_20 07 58 07.5
comp=Z,4µm,21.0s
ESDC Sonseca Array 121.96 58 PKP **PKiKP 07 12 06.6 -0.2**
comp=Z,5.5nm,1.0s,baz=291,slow=2.1,SNR=20
ESDC PP **PP 07 13 39.8 -1.4**
comp=Z,2.1nm,1.2s,baz=267,slow=2.7,SNR=4.4
ESDC PKKPbc **PKKPbc 07 22 05.7 +1.2**
comp=Z,1.4nm,0.9s,baz=46,slow=1.5,SNR=8.8
ESDC Sonseca Array 121.96 58 PKPdf **PKiKP 07 12 07.3 +0.4**
ESBB Sonseca Array 121.96 58 IAMs_20 IAMs_20 07 57 58.7
comp=Z,4µm,21.0s
ES12 SONSECA Array 121.97 58 IAMs_20 IAMs_20 07 57 60.0

comp=Z,4μm,21.0s
ES01 SONSECA Array 121.97 58 IAMs_20 IAMs_20 07 57 47.0
comp=Z,4μm,21.0s
ES07 SONSECA Array 121.97 58 IAMs_20 IAMs_20 07 57 47.0
comp=Z,4μm,21.0s
ES04 SONSECA Array 121.97 58 IAMs_20 IAMs_20 07 57 47.0
comp=Z,4μm,21.0s
ES02 SONSECA Array 121.98 58 IAMs_20 IAMs_20 07 57 46.3
comp=Z,4μm,21.0s
ES03 SONSECA Array 121.98 58 IAMs_20 IAMs_20 07 58 08.3
comp=Z,4μm,21.0s
ES11 SONSECA Array 121.98 58 IAMs_20 IAMs_20 07 58 08.5
comp=Z,4μm,21.0s
ES09 SONSECA Array 122.00 58 IAMs_20 IAMs_20 07 57 48.0
comp=Z,4μm,21.0s
ES19 SONSECA Array 122.01 58 IAMs_20 IAMs_20 07 57 48.1
comp=Z,4μm,21.0s
UCM Universidad Co 122.61 58 PP PP 07 13 37.1 -8.4
UCM Universidad Co 122.61 58 PS PS 07 23 41.0 +0.2
TIXI Tiksi 123.58 340 *c i* PKIKP **PKiKP 07 12 08.6 -0.4**
TIXI pmax pmax
comp=Z,26nm,1.1s
TIXI Tiksi 123.58 340 IAMs_20 IAMs_20 08 01 59.5
comp=Z,2μm,20.0s
ESK Eskdalemuir 123.75 40 IAMs_20 IAMs_20 07 58 09.2
comp=Z,3μm,21.0s
CART Cartagena 123.89 61 PS PS 07 23 47.1 -4.9
USRK Ussuriysk Ar. 124.59 307 PKP **PKiKP 07 12 11.5 -0.3**
comp=Z,3.7nm,0.8s,baz=174,slow=1.7,SNR=10
USRK Ussuriysk Ar. 124.59 307 PKIKP **PKiKP 07 12 11.1 -0.7**
USRK Ussuriysk Ar. 124.59 307 PKPdf **PKiKP 07 12 11.1 -0.7**
USA0B Ussuriysk Arra 124.59 307 IAMs_20 IAMs_20 07 59 20.7
comp=Z,3μm,20.0s
LSZ Lusaka 124.66 135 IAMs_20 IAMs_20 08 08 59.1
comp=Z,3μm,18.0s
KLR Kul'dur 125.07 313 PKP **PKiKP 07 12 12.3 -0.3**
comp=Z,5.9nm,0.8s,baz=95,slow=2.7,SNR=14
KLR Kul'dur 125.07 313 *c i* PKIKP **PKiKP 07 12 12.9 +0.3**
KLR pmax pmax
comp=Z,9.0nm,0.9s
KLR MLR MLR
comp=Z,731nm,19.0s
YAK Yakutsk 125.41 329 *e*PKIKP **PKPdf 07 12 09.1 -3.4**
YAK *e* 07 14 00.6
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,480nm,5.9s
YAK pmax pmax
comp=N,51nm,3.8s
YAK pmax pmax
comp=E,191nm,5.2s
FOMA Nahampoana Res 125.45 159 IAMs_20 IAMs_20 08 03 41.7
comp=Z,3μm,20.0s
MDJ Mudanjiang 126.33 307 PKP **PKiKP 07 12 14.8 -0.5**
MDJ AMB AMB
comp=Z,240nm,4.4s
MDJ Mudanjiang 126.33 307 IAMs_20 IAMs_20 08 05 33.8
comp=Z,2μm,19.0s
KSRS Korea Array 126.89 298 PKP **PKiKP 07 12 15.6 -0.9**
comp=Z,7.3nm,1.1s,baz=114,slow=2.6,SNR=25
KSAR Wonju Array Be 126.92 298 PKIKP **PKiKP 07 12 16.1 -0.6**
KSAR Wonju Array Be 126.92 298 **PKiKP 07 12 16.1 -0.6**
TJN Taejon 127.18 297 *c i* PKIKP **PKiKP 07 12 16.5 -0.7**
CLF Chambon-Foret 127.20 49 IAMs_20 IAMs_20 08 07 53.3
comp=Z,3μm,19.0s
KKM Kota Kinabalu 127.45 256 IAMs_20 IAMs_20 08 07 51.6
comp=Z,3μm,20.0s
ZEA Zeya 127.75 319 *e*PKIKP **PKiKP 07 12 16.9 -0.9**
ZEA *e* 07 14 16.0
ZEA *e* 07 24 21.0
ZEA pmax pmax
comp=Z,84nm,2.0s
ZEA pmax pmax
comp=Z,400nm,8.0s
ZEA pmax pmax
comp=Z,800nm,8.0s
INCN Inchon 127.91 298 IAMs_20 IAMs_20 07 58 49.4
comp=Z,3μm,20.0s
MAHO Mahon 128.27 59 PP PP 07 14 11.1 -12
MAHO Mahon 128.27 59 PS PS 07 24 32.7 +2.2
SNF Seneffe 128.46 46 PKPdf **PKiKP 07 12 18.7 -0.6**
DOU Dourbes 128.68 46 PKPdf **PKPdf 07 12 18.8 -0.3**
SSB Saint Sauveur 128.75 52 IAMs_20 IAMs_20 08 08 59.7
comp=Z,3μm,19.0s
BMRD Maredsous 128.78 46 PKPdf **PKiKP 07 12 19.2 -0.7**
BGES Gesves 128.98 46 PKPdf **PKiKP 07 12 19.8 -0.6**
SBUM Sibu 129.01 250 IAMs_20 IAMs_20 08 02 46.3
comp=Z,4μm,22.0s
BCLA Clavier 129.11 46 PKPdf **PKPdf 07 12 19.5 -0.4**
MEM Membach 129.55 45 PKPdf **PKiKP 07 12 20.6 -0.9**
BHOU Houvegnez 129.56 46 PKPdf **PKiKP 07 12 21.0 -0.6**
YULB Yu-li 129.60 279 IAMs_20 IAMs_20 07 59 10.1
comp=Z,2μm,22.0s
WLF Walferdange 129.71 47 PKPdf **PKiKP 07 12 21.5 -0.3**
WLF Walferdange 129.71 47 PKIKP **PKiKP 07 12 20.9 -1.0**
WLF Walferdange 129.71 47 *e*PKPdf **PKiKP 07 12 21.6 -0.3**
baz=280,slow=1.9
WLF Walferdange 129.71 47 PKPdf **PKiKP 07 12 20.9 -1.0**
WLF IAMs_20 IAMs_20 07 58 11.5
comp=Z,3μm,22.0s
TATO Taipei 129.86 281 IAMs_20 IAMs_20 08 02 17.4
comp=Z,2μm,21.0s
KONO Kongsberg 129.99 33 *c i* PKIKP **PKiKP 07 12 21.6 -0.5**
KONO pmax pmax
comp=Z,27nm,1.7s
KONO Kongsberg 129.99 33 PKPdf **PKiKP 07 12 21.2 -0.9**
KONO Kongsberg 129.99 33 IAMs_20 IAMs_20 08 04 08.6
comp=Z,2μm,21.0s
SSLB Suanglung 130.02 279 IAMs_20 IAMs_20 07 59 25.9
comp=Z,3μm,21.0s
KSM Kuching 130.06 247 IAMs_20 IAMs_20 08 13 01.9
comp=Z,3μm,18.0s
NBO00 NORSAR Array S 130.16 31 **PKiKP 07 12 22.2 -0.2**
TPUB Ta-pu 130.17 279 IAMs_20 IAMs_20 07 59 49.2
comp=Z,3μm,21.0s
AHRW Bad Neuenahr-A 130.23 45 *e*PKPdf **PKiKP 07 12 22.7 -0.1**
baz=280,slow=1.9
HLG Helgoland 130.25 41 *e*PKPdf **PKiKP 07 12 22.3 -0.5**
baz=280,slow=1.9
BUG Bochum--Univer 130.26 44 *e*PKPdf **PKiKP 07 12 22.5 -0.3**
baz=280,slow=1.9
NAO01 NORSAR Array S 130.27 31 PKPdf **PKiKP 07 12 22.9 +0.2**
NB2 NORSAR Subarra 130.36 31 PKPdf **PKPdf 07 12 21.5 -0.6**
comp=Z,122nm,2.5s,baz=289,slow=1.9
NB2 NORSAR Subarra 130.36 31 PKPdf **PKPdf 07 12 21.5 -0.6**
baz=289,slow=1.9
NOA NORSAR Array B 130.36 31 PKP **PKPdf 07 12 21.8 -0.3**
comp=Z,5.5nm,1.0s,baz=295,slow=2.1,SNR=9.8
NC303 NORSAR Array S 130.37 31 PKPdf **PKPdf 07 12 21.8 -0.2**
NB201 NORSAR Array S 130.39 31 PKPdf **PKPdf 07 12 21.8 -0.3**
IBBN Ibbenburen 130.45 43 *e*PKPdf **PKiKP 07 12 22.8 -0.5**
baz=280,slow=1.9
ECH Echery 130.47 48 PKIKP **PKPdf 07 12 22.2 -0.5**
ECH MLR MLR
comp=Z,4μm,18.0s
ECH Echery 130.47 48 PKPdf **PKPdf 07 12 22.2 -0.5**
NC405 NORSAR Array S 130.57 31 PKPdf **PKPdf 07 12 21.8 -0.7**
SNY Shenyang 130.60 303 ⇓PKP **PKPdf 07 12 19.5 -3.5**
SNY PP **PP 07 14 41.1 +2.8**
SNY SS SS 07 32 01.9 -5.4
SNY AMB AMB
comp=Z,540nm,6.4s
SNY LR LR
comp=Z,300nm,21.4s
SNY LR LR
comp=Z,2μm,20.6s
SNY LR LR
comp=Z,3μm,20.6s
SENIN Lac Senin/Sane 130.66 51 IAMs_20 IAMs_20 08 10 09.2
comp=Z,3μm,19.0s
SKMB Sankelmark Bun 131.05 40 *e*PKPdf **PKiKP 07 12 24.1 -0.2**
baz=280,slow=1.9
TNS Taunus Mts 131.14 46 *e*PKPdf **PKiKP 07 12 24.7 -0.1**
baz=280,slow=1.9
BFO Black Forest 131.24 48 PKIKP **PKPdf 07 12 23.2 -0.9**
BFO Black Forest 131.24 48 *e*PKPdf **PKiKP 07 12 24.3 -0.8**
baz=280,slow=1.9
BFO Black Forest 131.24 48 PKPdf **PKPdf 07 12 23.2 -0.9**
BFO IAMs_20 IAMs_20 08 02 51.2
comp=Z,3μm,20.0s
SSE Sheshan 131.44 289 PKP **PKiKP 07 12 26.3 +0.4**

SSE PP **PP 07 14 48.0 +3.9**
SSE SS SS 07 32 17.6 -0.6
SSE AMB AMB
comp=Z,170nm,6.8s
SSE LR LR
comp=Z,490nm,20.4s
SSE LR LR
comp=Z,980nm,26.7s
ARCES ARCESS Array B 131.48 18 PKP **PKiKP 07 12 24.2 -0.6**
comp=Z,19nm,1.1s,baz=298,slow=2.6,SNR=16
ARCES ARCESS Array B 131.48 18 PKIKP **PKiKP 07 12 24.5 -0.4**
ARCES ARCESS Array B 131.48 18 PKPdf **PKiKP 07 12 24.5 -0.4**
BSEG Bad Segeberg 131.71 40 *e*PKPdf **PKiKP 07 12 25.1 -0.6**
baz=280,slow=1.9
KEV Kevo 131.73 17 IAMs_20 IAMs_20 08 06 35.5
comp=Z,3μm,22.0s
STU Stuttgart 131.78 47 *e*PKPdf **PKiKP 07 12 25.7 -0.4**
baz=280,slow=1.9
STU Stuttgart 131.78 47 IAMs_20 IAMs_20 08 05 40.3
comp=Z,3μm,21.0s
NRDL Niedersach Rie 131.85 42 *e*PKPdf **PKiKP 07 12 25.7 -0.3**
baz=280,slow=1.9
KEST Kesra 131.88 65 PKP **PKiKP 07 12 26.2 -0.6**
comp=Z,2.6nm,0.7s,baz=160,slow=2.8,SNR=6.2
GTTG Gottingen 131.91 44 *e*PKPdf **PKiKP 07 12 25.8 -0.4**
baz=280,slow=1.9
DL2 Dalian 131.96 299 ⇓*i*PKP **PKPdf 07 12 25.3 -0.4**
DL2 PP **PP 07 14 49.4 +2.1**
DL2 AMB AMB
comp=Z,700nm,7.5s
DL2 LR LR
comp=Z,530nm,17.9s
DL2 LR LR
comp=Z,2μm,23.2s
DL2 LR LR
comp=Z,4μm,22.6s
UBBA Unterbreizbach 132.04 45 *e*PKPdf **PKiKP 07 12 26.2 -0.2**
baz=280,slow=1.9
CLZ Clausthal 132.12 43 *e*PKPdf **PKiKP 07 12 26.4 -0.3**
baz=280,slow=1.9
ASSE Asse, Remlinge 132.25 43 *e*PKPdf **PKiKP 07 12 26.4 -0.4**
baz=280,slow=1.9
DAVA Damuels 132.37 49 *i* PKPdf **PKiKP 07 12 26.6 -1.0**
comp=Z,23nm,1.3s,SNR=7.0
QZH Quanzhou 132.40 280 PKP **PKPdf 07 12 25.6 -1.3**
QZH PP **PP 07 14 50.9 +0.5**
QZH PKS **PKSdf 07 15 58.3 -5.2**
QZH AMB AMB
comp=Z,830nm,7.1s
QZH LR LR
comp=Z,1μm,19.9s
QZH LR LR
comp=Z,2μm,21.3s
QZH LR LR
comp=Z,2μm,22.3s
UBR Ueberruh 132.49 49 *e*PKPdf **PKiKP 07 12 27.1 -0.5**
baz=280,slow=1.9
PRMA PARMA 132.85 53 IAMs_20 IAMs_20 08 04 13.3
comp=Z,3μm,21.0s
HIA Hailar 132.91 313 IAMs_20 IAMs_20 08 00 42.7
comp=Z,3μm,22.0s
VLC Villacollemand 132.93 54 IAMs_20 IAMs_20 08 13 42.6
comp=Z,2μm,19.0s
RETA Reutte 132.95 49 *i* PKPdf **PKPdf 07 12 27.3 -0.1**
comp=Z,22nm,1.6s,SNR=7.5
FETA Feichten 132.97 50 *i* PKiKP **PKiKP 07 12 28.1 -0.6**
comp=Z,32nm,1.3s,SNR=10
GRF Grafenberg Arr 132.98 46 *e*PKPdf **PKiKP 07 12 28.3 -0.2**
baz=280,slow=1.9
GRF *eL* L 08 01 27.4
comp=Z,4μm,21.9s
MOX Moxa 133.09 45 *e*PKPdf **PKiKP 07 12 28.1 -0.6**
baz=280,slow=1.9
MOX *eL* L 08 01 19.9
comp=Z,3μm,21.3s
NEUB Neuenburg 133.09 44 *e*PKPdf **PKiKP 07 12 27.9 -0.7**
baz=280,slow=1.9
MOTA Moosalm 133.20 49 *i* PKPdf **PKiKP 07 12 28.2 -1.0**
comp=Z,48nm,1.2s,SNR=13
FUR Furstenfeldbru 133.22 48 *e*PKPdf **PKiKP 07 12 28.3 -0.7**
baz=280,slow=1.9
SQTA Sankt Quirin 133.28 49 *i* PKiKP **PKiKP 07 12 28.5 -0.8**
comp=Z,43nm,1.1s,SNR=13
RGN Rugen 133.29 39 *eP* **PKiKP 07 12 28.8 -0.1**
RGN Rugen 133.29 39 *e*PKPdf **PKiKP 07 12 28.2 -0.7**
baz=280,slow=1.9
RGN Rugen 133.29 39 IAMs_20 IAMs_20 08 05 58.2
comp=Z,3μm,21.0s
PLN Plauen 133.45 45 *e*PKPdf **PKiKP 07 12 28.7 -0.7**
baz=280,slow=1.9
MANZ Manzenberg 133.50 46 *e*PKPdf **PKiKP 07 12 28.9 -0.6**
baz=280,slow=1.9
WATA Walderalm 133.52 49 *i* PKPdf **PKiKP 07 12 28.8 -1.0**
comp=Z,45nm,1.6s,SNR=9.3
WERD Werda 133.55 45 *e*PKPdf **PKiKP 07 12 28.7 -0.9**
baz=280,slow=1.9
NJ2 Nanjing 133.56 290 *e*PKP **PKiKP 07 12 29.8 -0.4**
NJ2 PP **PP 07 15 01.8 +4.1**
NJ2 PKS **PKSdf 07 16 02.8 -2.5**
NJ2 AMB AMB
comp=Z,1μm,7.6s
NJ2 LR LR
comp=Z,920nm,23.1s
NJ2 LR LR
comp=Z,2μm,20.0s
NJ2 LR LR
comp=Z,2μm,19.1s
WTTA Wattenberg 133.57 49 *i* PKiKP **PKiKP 07 12 29.1 -0.8**
comp=Z,69nm,1.7s,SNR=9.4
OSSC Osservatorio P 133.58 54 IAMs_20 IAMs_20 08 13 19.9
comp=Z,2μm,19.0s
GUNZ Gunzen 133.58 45 *e*PKPdf **PKiKP 07 12 29.2 -0.5**
baz=280,slow=1.9
ROTZ Rotzenmuhle 133.60 46 *e*PKPdf **PKiKP 07 12 29.1 -0.6**
baz=280,slow=1.9
WERN Wernitzgruen 133.62 45 *e*PKPdf **PKiKP 07 12 29.3 -0.5**
baz=280,slow=1.9
TANN Tannenbergstha 133.66 45 *e*PKPdf **PKiKP 07 12 29.3 -0.6**
baz=280,slow=1.9
NKC Novy Kostel 133.68 45 *e*PKPDF **PKiKP 07 12 29.0 -0.9**
NKC AMS AMS 08 01 40.0
comp=Z,5μm,22.6s
NKC Novy Kostel 133.68 45 *e*PKIKP **PKiKP 07 12 29.0 -0.9**
NKC MLR MLR
comp=Z,5μm,22.6s
CLL Collm 133.83 44 ⇓*i*PKPdf **PKiKP 07 12 29.0 -1.1**
comp=Z,79nm,1.8s
CLL *i* 07 12 43.1
CLL *e*PP **PP 07 14 55.0 -3.7**
CLL *i* 07 15 07.7
comp=Z,48nm,2.1s
CLL *e*PKSdf **PKSdf 07 16 04.0 -1.0**
CLL *e*PPP PPP 07 17 48.0
CLL *e*SKSac **SKSac 07 19 48.0 +7.0**
CLL *e* 07 21 30.0
CLL *e*SKKSac **SKKSac 07 21 57.0 +2.9**
CLL *e*SKKPbc **SKKPbc 07 25 09.0 -5.0**
CLL *e*pSKKPbc 07 25 15.0
CLL *e*PPS PPS 07 27 00.0
CLL *e*PPPrev 07 28 30.0
CLL *e* 07 30 24.0
CLL *e*SSS SSS 07 37 42.0
CLL *e*SSSS 07 41 24.0
CLL Collm 133.83 44 *e*PKPdf **PKiKP 07 12 29.4 -0.7**
baz=280,slow=1.9
CLL Collm 133.83 44 IAMs_20 IAMs_20 08 03 44.0
comp=Z,4μm,22.0s
RUE Ruedersdorf 134.05 42 *eP* **PKiKP 07 12 30.4 -0.1**
RUE Ruedersdorf 134.05 42 *e*PKPdf **PKiKP 07 12 29.6 -0.9**
baz=280,slow=1.9
BOD Bodaibo 134.11 326 *e*PKIKP **PKPdf 07 12 27.7 -1.5**
BOD *e* 07 14 56.4
BOD pmax pmax
comp=Z,47nm,1.7s
FBE Freiberg 134.12 44 *e*PKPdf **PKiKP 07 12 30.3 -0.4**
baz=280,slow=1.9
WET Wettzell 134.13 47 *e*PKPdf **PKiKP 07 12 30.0 -0.8**
baz=280,slow=1.9
ABTA Abfaltersbach 134.22 50 *e*PKPdf **PKPdf 07 12 29.8 0.0**
comp=Z,30nm,1.8s,SNR=7.2
RJOB Jochberg 134.29 49 *e*PKPdf **PKPdf 07 12 29.2 -0.7**
baz=280,slow=1.9
BRG Berggiesshubel 134.50 44 *i* PKP **PKPdf 07 12 30.2 +0.1**
comp=Z,128nm,2.0s
BRG PP **PP 07 14 56.0 -6.9**
BRG PKS **PKSdf 07 16 02.9 -3.3**
comp=Z,64nm,2.7s

BRG SKKS 07 22 09.0
BRG SKKP 07 25 06.3
comp=Z,20nm,1.8s
BRG *e* 07 25 12.0
BRG SS SS 07 32 43.0 -11
comp=Z,5μm,23.6s
comp=N,3μm,22.7s
comp=E,3μm,22.7s
BRG Berggiesshubel 134.50 44 *e*PKPdf **PKiKP 07 12 30.8 -0.7**
baz=280,slow=1.9
KHC Kasperske Hory 134.59 46 *e*PKPpre PKPpre 07 12 18.1
KHC *e*PKPDF **PKiKP 07 12 30.9 -0.9**
KHC *e*PP **PP 07 15 01.5 -2.2**
KHC AMS AMS 08 01 50.0
comp=E,4μm,21.9s
KHC Kasperske Hory 134.59 46 *e*PKHKP PKPpre 07 12 18.1
KHC *e* 07 12 30.9
KHC *e* 07 15 01.5
KHC MLR MLR
comp=Z,4μm,21.9s
GEC2 GERESS Array S 134.72 47 *e*PKPdf **PKiKP 07 12 31.0 -1.1**
baz=280,slow=1.9
GEC2 GERESS Array S 134.72 47 IAMs_20 IAMs_20 08 00 56.0
comp=Z,4μm,22.0s
GERES GERESS Array B 134.72 47 PKP **PKiKP 07 12 31.2 -1.0**
comp=Z,3.1nm,0.8s,baz=282,slow=2.6,SNR=12
GERES PP **PP 07 15 01.1 -3.5**
comp=Z,0.2nm,0.3s,baz=245,slow=8.6,SNR=3.7
KBA Koelnbreinsper 134.75 49 *e*PKPdf **PKPdf 07 12 30.4 -0.6**
comp=Z,20nm,1.5s,SNR=6.2
APA Apatity 134.93 17 ⇑*i*PKIKP **PKPdf 07 12 28.3 -2.1**
APA pmax pmax
comp=Z,7.0nm,1.0s
PVCC Panska Ves 134.96 44 AMS AMS 08 02 30.0
comp=Z,4μm,21.1s
PRA Prague 134.96 45 *e*PKPDF **PKiKP 07 12 31.7 -0.8**
PRA AMS AMS 08 02 20.0
comp=Z,2μm,22.2s
PRA Prague 134.96 45 *e*PKIKP **PKiKP 07 12 31.7 -0.8**
PRA MLR MLR
comp=Z,2μm,22.2s
NRCA Norcia 134.98 55 PKPdf **PKPdf 07 12 30.8 -0.6**
LVZ Lovozero 135.00 16 *c i* PKIKP **PKPdf 07 12 30.2 -0.4**
LVZ pmax pmax
comp=Z,67nm,1.7s
LVZ Lovozero 135.00 16 PKPdf **PKPdf 07 12 30.3 -0.4**
LVZ IAMs_20 IAMs_20 08 08 13.0
comp=Z,3μm,21.0s
MYKA Terra Mystica 135.00 50 *e*PKPdf **PKPdf 07 12 31.0 -0.4**
comp=Z,19nm,1.9s
PRU Pruhonice 135.05 45 *e*PKPDF **PKPdf 07 12 30.3 -0.9**
PRU AMS AMS 08 02 30.0
comp=Z,4μm,22.0s
PRU Pruhonice 135.05 45 *e*PKIKP **PKPdf 07 12 30.3 -0.9**
PRU MLR MLR
comp=Z,4μm,22.0s
CADS Cadrg 135.12 50 *i* PKPdf **PKPdf 07 12 31.1 -0.4**
TRI Trieste 135.20 51 IAMs_20 IAMs_20 08 05 46.3
comp=Z,3μm,22.0s
GOPC GO Pecny, Ondr 135.22 45 *e*PKPDF **PKiKP 07 12 32.2 -0.8**
GOPC *e*PP **PP 07 15 04.7 -2.9**
GOPC AMS AMS 08 02 30.0
comp=Z,4μm,22.7s
GOPC GO Pecny, Ondr 135.22 45 *e*PKIKP **PKiKP 07 12 32.2 -0.8**
GOPC *e* 07 15 04.7
GOPC MLR MLR
comp=Z,4μm,22.7s
VOJS Vojsko 135.25 51 *i* PKPdf **PKPdf 07 12 31.7 -0.1**
VOJS *e*PP **PP 07 15 05.1 -3.0**
MOA Molln 135.25 48 *i* PKPdf **PKPdf 07 12 31.4 -0.2**
comp=Z,21nm,1.9s,SNR=7.8
TIA Tai'an 135.39 295 PKP **PKiKP 07 12 32.6 -1.2**
TIA PP **PP 07 15 06.2 -3.0**
TIA AMB AMB
comp=Z,480nm,6.9s
TIA LR LR
comp=Z,790nm,15.7s
TIA LR LR
comp=Z,1μm,16.4s
TIA LR LR
comp=Z,1μm,17.8s
NRIK Noril'sk 135.58 349 PKP **PKiKP 07 12 31.7 -1.5**
comp=Z,5.4nm,0.9s,baz=52,slow=1.9,SNR=12
INTR Introdacqua 135.61 56 PKPdf **PKPdf 07 12 32.4 -0.2**
HKPS Hong Kong Po S 135.64 275 IAMs_20 IAMs_20 08 01 36.3
comp=Z,2μm,22.0s
OBKA Obir 135.64 50 *e*PKPdf **PKPdf 07 12 32.5 0.0**
comp=Z,15nm,1.4s
LJU Ljubljana 135.69 51 *e*PKPdf **PKPdf 07 12 32.4 -0.1**
TREC Trest 135.79 46 *e*PKPDF **PKiKP 07 12 33.2 -1.0**
TREC *e*PP **PP 07 15 08.6 -2.6**
TREC AMS AMS 08 02 40.0
comp=Z,4μm,21.4s
TREC Trest 135.79 46 *e*PKIKP **PKiKP 07 12 33.2 -1.0**
TREC *e* 07 15 08.6
TREC MLR MLR
comp=Z,4μm,21.4s
UPC Upice 135.86 44 *e*PKPDF **PKiKP 07 12 33.5 -0.8**
UPC *e*PP **PP 07 15 08.6 -3.0**
UPC AMS AMS 08 02 20.0
comp=Z,3μm,23.0s
UPC Upice 135.86 44 *e*PKIKP **PKiKP 07 12 33.5 -0.8**
UPC *e* 07 15 08.6
UPC MLR MLR
comp=Z,3μm,23.0s
GKP Gorka Klasztor 135.86 40 *e*PKP **PKiKP 07 12 33.2 -1.0**
GKP *e*PP **PP 07 15 08.6 -2.8**
GKP *e*SKKSac SKKSac 07 22 09.4 +3.2
GKP *e*L L 08 00 02.3
comp=Z,5μm,32.2s
CHVC Chvalec 135.87 44 *e*PKPDF **PKiKP 07 12 33.1 -1.2**
CHVC AMS AMS 08 02 10.0
comp=Z,3μm,23.8s
SOKA Soboth 135.95 50 *e*PKPdf **PKPdf 07 12 32.9 -0.2**
comp=Z,22nm,1.6s,SNR=9.1
GBRS Gornja Briga 135.95 51 *e*PKPdf **PKPdf 07 12 33.0 0.0**
KSP Ksiaz 135.96 44 *e*PKP **PKiKP 07 12 33.3 -1.2**
KSP *e*PP **PP 07 15 08.5 -3.7**
KSP *e*SKKSac SKKSac 07 22 10.2 +3.2
KSP *e*SS SS 07 33 01.7 -10
KSP *e*L L 07 58 33.3
comp=Z,6μm,34.7s
OSTC Ostas 135.97 44 AMS AMS 08 02 20.0
comp=Z,3μm,23.0s
DPC Dobruska-Polom 136.09 44 *e*PKPDF **PKiKP 07 12 34.2 -0.6**
DPC *e*PP **PP 07 15 10.2 -2.9**
DPC AMS AMS 08 02 30.0
comp=Z,3μm,22.2s
DPC Dobruska-Polom 136.09 44 *e*PKIKP **PKiKP 07 12 34.2 -0.6**
DPC *e* 07 15 10.2
DPC MLR MLR
comp=Z,3μm,22.2s
PAOL Paolisi 136.15 58 IAMs_20 IAMs_20 08 05 53.3
comp=Z,2μm,21.0s
ARSA Arzberg 136.19 49 *i* PKPdf **PKPdf 07 12 33.2 -0.3**
comp=Z,28nm,1.7s,SNR=8.1
BJI Beijing 136.20 301 PKP **PKiKP 07 12 34.3 -1.0**
BJI PP **PP 07 15 16.6 +2.4**
BJI AMB AMB
comp=Z,560nm,7.0s
BJI LR LR
comp=Z,650nm,20.6s
BJI LR LR
comp=Z,2μm,22.6s
BJI LR LR
comp=Z,2μm,25.2s
BJT Baijiatuau 136.21 301 IAMs_20 IAMs_20 08 07 45.3
comp=Z,2μm,20.0s
CONA Conrad Observa 136.30 48 *i* PKPdf **PKPdf 07 12 33.5 -0.2**
comp=Z,28nm,1.5s,SNR=6.3
GROS Grobnik 136.30 50 *e*PKPdf **PKPdf 07 12 33.7 0.0**
KRUC Moravsky 136.42 46 *e*PKP PKPpre 07 12 22.3
KRUC *e* 07 12 34.0
KRUC *e*PP **PP 07 15 11.4 -3.8**
KRLC Kraliky 136.44 45 *e*PKPDF **PKiKP 07 12 34.5 -1.1**
KRLC AMS AMS 08 03 00.0
comp=Z,3μm,21.5s
KRLC Kraliky 136.44 45 *e*PKIKP **PKiKP 07 12 34.5 -1.1**
KRLC MLR MLR
comp=Z,3μm,21.5s
VRAC Vranov 136.50 46 ⇓P **PKPdf 07 12 29.2 -4.7**
VRAC Vranov 136.50 46 *e*PKP PKPpre 07 12 22.4
VRAC *e* 07 12 34.4
VRAC *e*PP **PP 07 15 11.4 -4.2**
VRAC Vranov 136.50 46 ⇓PKIKP **PKPdf 07 12 29.2 -4.7**

GZH	**Guangzhou**	**136.56**	**276**	PKP	**PKiKP**	**07 12 34.9**	**-1.6**
GZH				PP	**PP**	**07 15 18.0**	**+1.1**
GZH				SS	SS	07 33 21.0	+0.6
GZH				LR	LR		
	comp=Z,970nm,21.0s						
GZH				LR	LR		
	comp=Z,1μm,20.2s						
FINES	**FINES Array B**	**136.61**	**26**	PKP	**PKPdf**	**07 12 33.2**	**-0.5**
	comp=Z,11nm,1.1s,baz=274,slow=0.4,SNR=25						
FINES				PP	**PP**	**07 15 13.3**	**-2.4**
	comp=Z,3.4nm,0.8s,baz=343,slow=4.6,SNR=6.9						
FINES	**FINES Array B**	**136.61**	**26**	PKIKP	**PKPdf**	**07 12 33.7**	**0.0**
FINES	**FINES Array B**	**136.61**	**26**	PKPdf	**PKPdf**	**07 12 33.7**	**0.0**
BKNI	**Bangkinang**	**136.73**	**238**	IAMs_20	IAMs_20	08 10 12.5	
	comp=Z,3μm,21.0s						
KOGS	**Kog**	**136.81**	**50**	*e*PKPdf	**PKPdf**	**07 12 34.6**	**+0.1**
KOGS				*e*PP	**PP**	**07 15 13.8**	**-3.9**
SLIT	**Slitere, Latvi**	**136.90**	**33**	*e*P	**PKPdf**	**07 12 34.3**	**0.0**
DLV	**T Lat**	**136.94**	**258**	IAMs_20	IAMs_20	08 08 50.3	
	comp=Z,2μm,22.0s						
MORC	**Moravsky Berou**	**136.99**	**45**	⇑P	**PKPdf**	**07 12 30.4**	**-4.5**
MORC	**Moravsky Berou**	**136.99**	**45**	*e*PKP	PKPpre	07 12 23.7	
MORC				*e*		07 12 34.8	
MORC				*e*PP	**PP**	**07 15 14.9**	**-3.8**
MORC	**Moravsky Berou**	**136.99**	**45**	⇑PKIKP	**PKPdf**	**07 12 30.4**	**-4.5**
MORC	**Moravsky Berou**	**136.99**	**45**	PKPdf	**PKPdf**	**07 12 34.8**	**0.0**
KLNR	**Kaliningrad**	**137.08**	**37**	*i* PKIKP	**PKPdf**	**07 12 34.2**	**-0.6**
MODS	**Modra-Piesok**	**137.14**	**47**	*e*PKIKP	**PKPdf**	**07 12 34.8**	**-0.4**
MODS				*e*		07 15 16.7	
MODS	**Modra-Piesok**	**137.14**	**47**	*e*PKP	**PKPdf**	**07 12 34.8**	**-0.4**
MODS				*e*PP	**PP**	**07 15 16.7**	**-3.0**
WHN	**Wuhan**	**137.17**	**287**	PKP	**PKPdf**	**07 12 35.3**	**-0.4**
WHN				PP	**PP**	**07 15 19.1**	**-1.5**
WHN				PKS	**PKSdf**	**07 16 09.3**	**-2.7**
WHN				LR	LR		
	comp=Z,3μm,18.7s						
WHN				LR	LR		
	comp=Z,4μm,18.1s						
WHN				LR	LR		
	comp=Z,7μm,23.6s						
JAVC	**Velka Javorina**	**137.29**	**46**	*e*PKP	PKPpre	07 12 24.8	
JAVC				*e*PP	**PP**	**07 15 17.7**	**-3.0**
PBUR	**Paburge**	**137.42**	**35**	*e*P	**PKiKP**	**07 12 36.0**	**-1.3**
TIP	**Timpagrande**	**137.90**	**60**	⇓P	**PKPdf**	**07 12 35.0**	**-1.9**
TIP	**Timpagrande**	**137.90**	**60**	PKPdf	**PKPdf**	**07 12 36.1**	**-0.8**
TIP				IAMs_20	IAMs_20	08 14 19.9	
	comp=Z,3μm,20.0s						
VYHS	**Vyhne**	**138.12**	**46**	*e*PKIKP	**PKPdf**	**07 12 37.2**	**+0.2**
VYHS				*e*		07 15 22.4	
VYHS	**Vyhne**	**138.12**	**46**	*e*PKP	**PKPdf**	**07 12 37.2**	**+0.2**
VYHS				*e*PP	**PP**	**07 15 22.4**	**-3.4**
OJC	**Ojcow**	**138.28**	**44**	*e*PKP	**PKPdf**	**07 12 37.3**	**+0.2**
OJC				*e*PP	**PP**	**07 15 23.2**	**-3.4**
OJC				*e*SKKSac	SKKSac	07 22 22.0	+1.2
OJC				*e*SS	SS	07 33 41.0	+1.9
OJC				*e*L	L	07 59 39.9	
	comp=Z,6μm,38.2s						
OJC	**Ojcow**	**138.28**	**44**	PKIKP	**PKPdf**	**07 12 37.1**	**-0.1**
OJC	**Ojcow**	**138.28**	**44**	PKPdf	**PKPdf**	**07 12 37.1**	**-0.1**
LANS	**Liptovska Anna**	**138.36**	**45**	*e*PKIKP	**PKiKP**	**07 12 38.5**	**-1.0**
LANS	**Liptovska Anna**	**138.36**	**45**	*e*PKP	**PKiKP**	**07 12 38.5**	**-1.0**
QIZ	**Qiongzhong**	**138.49**	**269**	PKP	**PKiKP**	**07 12 38.7**	**-1.9**
QIZ				PP	**PP**	**07 15 30.2**	**+1.2**
QIZ				SS	SS	07 33 46.4	+3.1
QIZ				AMB	AMB		
	comp=Z,480nm,10.3s						
QIZ				LR	LR		
	comp=Z,940nm,20.7s						
QIZ				LR	LR		
	comp=Z,940nm,22.6s						
QIZ				LR	LR		
	comp=Z,1μm,19.2s						
VSU	**Vasula**	**138.54**	**30**	*e*P	**PKPdf**	**07 12 37.8**	**+0.4**
VSU	**Vasula**	**138.54**	**30**	*d* PKIKP	**PKPdf**	**07 12 36.9**	**-0.4**
VSU				pmax	pmax		
	comp=Z,145nm,1.5s						
PABE	**Paberze**	**138.69**	**35**	*e*P	**PKiKP**	**07 12 38.4**	**-1.4**
NIE	**Niedzica**	**138.81**	**45**	*e*PKP	**PKiKP**	**07 12 39.1**	**-1.3**
NIE				*e*PP	**PP**	**07 15 27.0**	**-3.1**
NIE				*e*SKKSac	SKKSac	07 22 30.7	+6.6
NIE				*e*SS	SS	07 33 50.7	+5.2
NIE				*e*L	L	07 59 59.0	
	comp=Z,4μm,33.9s						
SUW	**Suwalki**	**138.91**	**37**	*e*PKP	**PKPdf**	**07 12 38.0**	**-0.1**
SUW				*e*PP	**PP**	**07 15 26.9**	**-3.5**
SUW				*e*L	L	08 04 03.4	
	comp=Z,3μm,24.9s						
SUW	**Suwalki**	**138.91**	**37**	IAMs_20	IAMs_20	08 11 13.9	
	comp=Z,3μm,20.0s						
PSZ	**Piszkesteto**	**138.95**	**47**	IAMs_20	IAMs_20	08 07 34.9	
	comp=Z,3μm,22.0s						
TIY	**Taiyuan**	**139.17**	**297**	*e*PKP	**PKiKP**	**07 12 40.5**	**-1.1**
TIY				PP	**PP**	**07 15 33.7**	**+0.8**
TIY				AMB	AMB		
	comp=Z,750nm,7.9s						
TIY				LR	LR		
	comp=Z,400nm,19.3s						
TIY				LR	LR		
	comp=Z,3μm,22.6s						
TIY				LR	LR		
	comp=Z,3μm,21.0s						
PUL	**Pulkovo**	**139.29**	**26**	*e*P	**PKPdf**	**07 12 38.4**	**-0.3**
PDG	**Podgorica**	**139.53**	**55**	⇑P	**PKPdf**	**07 12 35.5**	**-4.2**
PDG	**Podgorica**	**139.53**	**55**	IAMs_20	IAMs_20	08 07 14.5	
	comp=Z,3μm,22.0s						
HHC	**Hu-ho-hao-te**	**139.66**	**302**	*e*PKP	**PKPdf**	**07 12 34.9**	**-5.3**
HHC				PKS	**PKSdf**	**07 16 16.2**	**0.0**
HHC				SS	SS	07 33 57.6	+1.1
HHC				AMB	AMB		
	comp=Z,410nm,9.1s						
HHC				LR	LR		
	comp=Z,2μm,20.6s						
HHC				LR	LR		
	comp=Z,3μm,19.6s						
HHC				LR	LR		
	comp=Z,4μm,20.4s						
IZAR	**Zarasai**	**139.71**	**33**	*e*P	**PKiKP**	**07 12 40.5**	**-1.4**
ISAL	**Salakas**	**139.74**	**34**	*e*P	**PKiKP**	**07 12 40.8**	**-1.3**
DIVS	**Divibare**	**139.81**	**53**	IAMs_20	IAMs_20	08 09 22.5	
	comp=Z,2μm,21.0s						
IIGN	**Ignalina**	**139.90**	**34**	*e*P	**PKiKP**	**07 12 40.9**	**-1.5**
TIR	**Tirane**	**140.11**	**57**	⇓P	**PKPdf**	**07 12 40.4**	**-0.4**
TIR	**Tirane**	**140.11**	**57**	⇓PKIKP	**PKPdf**	**07 12 40.4**	**-0.4**
TIR	**Tirane**	**140.11**	**57**	IAMs_20	IAMs_20	08 16 25.0	
	comp=Z,3μm,22.0s						
IDID	**Didziasalis**	**140.17**	**34**	*e*P	**PKiKP**	**07 12 41.1**	**-1.8**
KWP	**Kalwaria Pacla**	**140.25**	**44**	*e*PKP	**PKPdf**	**07 12 41.1**	**+0.3**
KWP				*e*PP	**PP**	**07 15 36.3**	**-2.5**
KWP				*e*L	L	08 00 38.3	
	comp=Z,6μm,39.0s						
KWP	**Kalwaria Pacla**	**140.25**	**44**	IAMs_20	IAMs_20	08 18 41.9	
	comp=Z,2μm,20.0s						
UZH	**Uzhgorod**	**140.30**	**45**	*e*PKHKP	PKPpre	07 12 34.0	
UZH				*e*		07 12 39.5	
UZH				*e*		07 12 43.8	
UZH				*e*		07 15 34.2	
UZH				*e*		07 26 08.4	
NACGM	**Naroch**	**140.40**	**34**	*e*PKP	**PKPdf**	**07 12 36.0**	**-4.8**
NACGM				*e*PKP	**pPKPdf**	**07 12 41.0**	**-2.4**
NACGM				*e*PP	**PP**	**07 15 41.0**	**+1.6**
NACGM				*e*PPP	PPP	07 18 46.0	
NACGM				*e*SKS	SKSdf	07 19 40.0	-11
NACGM				*e*SKKS	**SKKSac**	**07 22 36.0**	**+3.0**
NACGM				*e*SS	SS	07 33 50.0	-13
NACGM				*e*SSS	SSS	07 39 06.0	
NACGM				*e*LQ	LQ	08 00 18.0	
NACGM				*e*LR	LR	08 02 52.0	
NACGM				LRM	MLR	08 04 26.0	
	comp=Z,7.5nm,26.0s						
BTO	**Baotou**	**140.86**	**302**	*e*P	**PKPdf**	**07 12 34.6**	**-7.7**
LVV	**L'vov**	**140.99**	**43**	*e*PKIKP	**PKPdf**	**07 12 40.3**	**-1.8**
UBPT	**Khong Chiam**	**141.01**	**261**	IAMs_20	IAMs_20	08 16 58.8	
	comp=Z,2μm,20.0s						
KMBO	**Kilima Mbogo**	**141.13**	**131**	PKhKP	PKPpre	07 12 40.8	
	comp=Z,1.0nm,0.3s,baz=230,slow=5.8,SNR=2.9						
KMBO	**Kilima Mbogo**	**141.13**	**131**	P	**PKPdf**	**07 12 44.5**	**+0.7**
KMBO	**Kilima Mbogo**	**141.13**	**131**	*c i* PKIKP	**PKiKP**	**07 12 45.4**	**-1.1**
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMBO	**Kilima Mbogo**	**141.13**	**131**	IAMs_20	IAMs_20	08 07 24.5	
	comp=Z,3μm,22.0s						
MICGM	**Minsk**	**141.15**	**34**	⇓*e*PKP	**PKPdf**	**07 12 40.0**	**-2.2**
MICGM				⇓*e*PKP	**pPKPdf**	**07 12 43.0**	**-1.7**
MICGM				PKPM		07 12 44.0	
	comp=Z,0.2nm,2.0s						
MICGM				PKPM		07 12 44.0	
	comp=Z,2.6nm,8.0s						
MICGM				*e*PP	**PP**	**07 15 40.0**	**-4.0**
MICGM				*e*SKP		07 16 18.0	
MICGM				*e*PKS	**PKSdf**	**07 16 22.0**	**+4.1**
MICGM				*e*PPP	PPP	07 18 40.0	
MICGM				*e*SKS	**SKSdf**	**07 19 50.0**	**-2.2**
MICGM				*e*SKKS	**SKKSac**	**07 22 40.0**	**+2.6**
MICGM				*e*SKSP		07 26 10.0	
MICGM				*e*PS		07 26 30.0	
MICGM				*e*SS	**SS**	**07 34 10.0**	**-2.2**
MICGM				*e*SSS	SSS	07 39 30.0	
MICGM				*e*LQ	LQ	08 01 52.0	
MICGM				LQM		08 04 44.0	
	comp=E,2.3nm,20.0s						
MICGM				*e*LR	LR	08 06 12.0	
MICGM				LRM	MLR	08 13 52.0	
	comp=Z,6.3nm,16.0s						
MICGM				LRM	MLR	08 13 58.0	
	comp=E,1.5nm,16.0s						
MNK	**Minsk**	**141.15**	**34**	⇓*e*PKIKP	**PKPdf**	**07 12 40.0**	**-2.2**
MNK				*e*		07 12 43.0	
MNK				*e*		07 15 40.0	
MNK				*e*		07 19 50.0	
MNK				*e*		07 34 10.0	
MNK				*e*		07 39 30.0	
MNK				pmax	pmax		
	comp=Z,180nm,2.0s						
MNK				pmax	pmax		
	comp=Z,3μm,8.0s						
MNK				MLR	MLR		
	comp=Z,6μm,16.0s						
MNK				MLR	MLR		
	comp=E,2μm,16.0s						
ENH	**Enshi**	**141.31**	**286**	IAMs_20	IAMs_20	08 16 27.9	
	comp=Z,2μm,22.0s						
HERR	**Herculane**	**141.36**	**51**	⇓P	**PKPdf**	**07 12 39.9**	**-3.0**
ULN	**Ulaanbaatar**	**141.43**	**314**	*i* PKHKP	PKPpre	07 12 36.2	
ULN				*i*		07 12 42.5	
ULN				pmax	pmax		
	comp=Z,22nm,1.1s						
ULN	**Ulaanbaatar**	**141.43**	**314**	IAMs_20	IAMs_20	08 04 47.9	
	comp=Z,2μm,22.0s						
IRK	**Irkutsk**	**141.47**	**322**	*e*PKIKP	**PKPdf**	**07 12 40.3**	**-2.6**
IRK				pmax	pmax		
	comp=Z,128nm,3.5s						
CJR	**Cluj-Napoca**	**141.70**	**48**	⇓P	**PKPdf**	**07 12 38.6**	**-5.0**
CJR	**Cluj-Napoca**	**141.70**	**48**	⇓PKIKP	**PKPdf**	**07 12 38.6**	**-5.0**
KLMR	**Klimovskoe**	**141.79**	**20**	*e*PKIKP	**PKPdf**	**07 12 40.9**	**-2.3**
KLMR				*e*		07 15 44.4	
KLMR				*e*SS	SS	07 34 17.5	-1.4
KLMR				pmax	pmax		
	comp=Z,132nm,1.4s						
KLMR	**Klimovskoe**	**141.79**	**20**	*e*PKPdf	**PKPdf**	**07 12 40.9**	**-2.3**
KLMR				AMP		07 12 46.3	
	comp=Z,132nm,1.4s						
KLMR				*e*PP	**PP**	**07 15 44.5**	**-3.0**
KLMR				*e*SKKSac	**SKKSac**	**07 22 37.5**	**-3.3**
KLMR				*e*SKKSac	**SKKSac**	**07 22 37.5**	**-3.3**
KLMR				*e*SS	**SS**	**07 34 17.6**	**-1.3**
KLMR				*e*SS	**SS**	**07 34 17.6**	**-1.3**
KLMR				LQ	LQ	08 00 31.7	
KLMR				LQ	LQ	08 00 31.7	
KLMR				LR	LR	08 05 07.9	
SONM	**Songino Array**	**141.87**	**314**	PKhKP	PKPpre	07 12 37.5	
	comp=Z,9.1nm,0.8s,baz=143,slow=1.2,SNR=12						
SRE	**Strehaia**	**141.95**	**51**	⇑P	**PKPdf**	**07 12 38.8**	**-5.2**
XAN	**Xi'an**	**142.03**	**292**	PKP	**PKPdf**	**07 12 40.5**	**-4.1**
XAN				PP	**PP**	**07 15 49.7**	**-0.8**
XAN				SKS	**SKSdf**	**07 19 46.3**	**-8.5**
XAN				SKKS	**SKKSac**	**07 22 38.7**	**-5.0**
XAN				SS	**SS**	**07 34 23.5**	**-1.0**
XAN				AMB	AMB		
	comp=Z,1μm,7.5s						
XAN				LR	LR		
	comp=Z,1μm,19.0s						
XAN				LR	LR		
	comp=Z,2μm,19.4s						
XAN				LR	LR		
	comp=Z,3μm,22.4s						
XAN	**Xi'an**	**142.03**	**292**	IAMs_20	IAMs_20	08 14 41.1	
	comp=Z,2μm,19.0s						
ITM	**Ithomi**	**142.05**	**63**	IAMs_20	IAMs_20	08 11 44.2	
	comp=Z,2μm,22.0s						
TLY	**Talaya**	**142.07**	**321**	*i* PKHKP	**PKPdf**	**07 12 38.7**	**-5.3**
TLY				*e*		07 15 47.2	
TLY				*e*SS	SS	07 34 23.4	+0.2
TLY				pmax	pmax		
	comp=Z,89nm,1.4s						
ARCR	**ARCALIA**	**142.08**	**47**	⇑P	**PKPdf**	**07 12 39.0**	**-5.1**
LOT	**Lotru**	**142.15**	**50**	⇑P	**PKPdf**	**07 12 38.4**	**-6.1**
VTS	**Vitosha**	**142.40**	**54**	P	PKPdf	07 12 35.5	-10
BURAR	**Bucovina Array**	**142.48**	**46**	⇑P	**PKPdf**	**07 12 39.7**	**-5.3**
ARR	**Arges**	**142.76**	**49**	⇓P	**PKPdf**	**07 12 40.8**	**-4.7**
PRGR	**Permogore**	**142.82**	**15**	*e*PKIKP	**PKPdf**	**07 12 41.6**	**-3.4**
PRGR				pmax	pmax		
	comp=Z,175nm,1.4s						
ZAK	**Zakamensk**	**142.83**	**319**	*e*PKIKP	**PKPdf**	**07 12 41.4**	**-4.1**
ZAK				*e*		07 15 50.2	
ZAK				pmax	pmax		
	comp=Z,17nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MMB	**Musomiste**	**142.95**	**56**	P	**PKPdf**	**07 12 41.5**	**-4.4**
VOIR		**143.02**	**49**	⇑P	PKPab	07 12 41.3	0.0
HUMR	**Humele**	**143.22**	**51**	⇑P	PKPbc	07 12 42.6	-0.6
GYA	**Guiyang**	**143.23**	**279**	⇑PKP	**PKPdf**	**07 12 44.6**	**-2.4**
GYA				PP	**PP**	**07 16 03.4**	**+5.3**
GYA				SKKS		07 22 44.5	
GYA				AMB	AMB		
	comp=Z,580nm,6.7s						
GYA				LR	LR		
	comp=Z,900nm,19.3s						
GYA				LR	LR		
	comp=Z,500nm,20.7s						
GYA				LR	LR		
	comp=Z,990nm,22.8s						
BIZ	**Bicaz**	**143.27**	**46**	⇓P	PKPbc	07 12 42.4	-0.9
COPA	**Copaceanca**	**143.48**	**51**	⇑P	PKPbc	07 12 43.3	-0.7
MOY	**Mondy**	**143.54**	**322**	*e*PKIKP	PKPbc	07 12 43.2	-0.9
MOY				pmax	pmax		
	comp=Z,134nm,3.4s						
MLR	**Muntele Rosu**	**143.61**	**49**	IAMs_20	IAMs_20	08 21 20.6	
	comp=Z,3μm,20.0s						
AKASG	**Malin Array Be**	**143.69**	**39**	PKhKP	PKPab	07 12 42.3	-1.2
	comp=Z,4.6nm,0.6s,baz=275,slow=4.5,SNR=18						
AKASG				PP	**PP**	**07 16 01.6**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=294,slow=5.1,SNR=5.9						
TESR	**Tescani**	**143.76**	**47**	⇓P	PKPab	07 12 43.1	-1.0
SGRR	**Singureni**	**143.99**	**51**	⇑P	PKPbc	07 12 45.1	-0.4
VRI	**Vrincioaia**	**144.02**	**48**	⇑P	**PKPab**	**07 12 43.7**	**-1.3**
VRI	**Vrincioaia**	**144.02**	**48**	⇑PKIKP	**PKPab**	**07 12 43.7**	**-1.3**
SULR		**144.05**	**50**	⇓P	**PKPab**	**07 12 44.4**	**-0.7**
IAS	**Iasi**	**144.12**	**46**	⇓P	**PKPab**	**07 12 44.9**	**-0.4**
IAS	**Iasi**	**144.12**	**46**	⇓PKIKP	**PKPab**	**07 12 44.9**	**-0.4**
ISR	**Istrita**	**144.12**	**49**	⇑P	**PKPdf**	**07 12 46.4**	**-1.5**
ISR	**Istrita**	**144.12**	**49**	⇑PKIKP	PKPbc	07 12 46.4	+0.4
KDZ	**Kurdzhali**	**144.18**	**55**	P	**PKPab**	**07 12 45.0**	**-0.8**
SZH	**Strazhica**	**144.20**	**53**	P	PKPbc	07 12 46.0	-0.2
SORM	**Soroca**	**144.26**	**44**	⇑P	**PKPab**	**07 12 44.0**	**-1.8**
SORM	**Soroca**	**144.26**	**44**	⇑PKIKP	**PKPab**	**07 12 44.0**	**-1.8**
PETR	**Petresti**	**144.40**	**48**	⇑P	PKPbc	07 12 46.9	+0.2
GHRR		**144.41**	**47**	⇓P	**PKPab**	**07 12 45.3**	**-1.1**
LEHL	**Lehliu**	**144.50**	**50**	⇓P	**PKPab**	**07 12 45.5**	**-1.3**
SLVN	**Son La**	**144.50**	**269**	IAMs_20	IAMs_20	08 19 07.7	
	comp=Z,3μm,20.0s						
IDI	**Anoyia**	**144.53**	**66**	⇓P	**PKPdf**	**07 12 47.8**	**-1.2**
IDI	**Anoyia**	**144.53**	**66**	PKPdf	**PKPdf**	**07 12 48.8**	**-0.2**
IDI				IAMs_20	IAMs_20	08 15 12.3	
	comp=Z,2μm,22.0s						
GADA	**Gvkgeada**	**144.81**	**58**	P	**PKPab**	**07 12 47.7**	**-0.4**
AMRR	**Amara**	**144.81**	**50**	⇓P	**PKPdf**	**07 12 48.2**	**-0.8**
AMRR	**Amara**	**144.81**	**50**	⇓PKIKP	**PKPdf**	**07 12 48.2**	**-0.8**
SCHL	**Schela**	**144.87**	**48**	⇓P	**PKPab**	**07 12 47.3**	**-0.8**
OBN	**Obninsk**	**144.87**	**29**	*d* PKIKP	**PKPab**	**07 12 47.3**	**-0.5**
OBN				*e*		07 16 05.1	
OBN				*e*SS	SS	07 34 56.5	+1.7
OBN				pmax	pmax		
	comp=Z,573nm,1.7s						
OBN				MLR	MLR		
	comp=Z,3μm,20.0s						
MOS	**Moscow**	**144.89**	**27**	*e*PKHKP	PKPpre	07 12 41.9	
MOS				pmax	pmax		
	comp=Z,461nm,2.0s						
MOS				pmax	pmax		
	comp=Z,2μm,3.2s						
MOS				MLR	MLR		
	comp=Z,3μm,20.0s						
SANT	**Santorini**	**144.93**	**64**	PKPdf	**PKPdf**	**07 12 49.2**	**-0.4**
SANT				IAMs_20	IAMs_20	08 15 04.7	
	comp=Z,3μm,21.0s						
APE	**Apeiranthos**	**144.93**	**63**	*d i* PKIKP	**PKPbc**	**07 12 47.4**	**-1.4**
APE				pmax	pmax		
	comp=Z,136nm,1.4s						
H08S2	**Diego Garcia H**	**144.97**	**192**	PKPbc	**PKiKP**	**07 12 51.8**	**-1.9**
	baz=18,slow=6.2,SNR=7.1						
H08S1	**Diego Carcia H**	**144.98**	**192**	PKPbc	**PKiKP**	**07 12 51.9**	**-1.8**
	baz=18,slow=6.2,SNR=6.5						
BOZC	**Bozcaada**	**144.99**	**58**	P	**PKPbc**	**07 12 48.2**	**-0.6**
KIS	**Kishinev**	**144.99**	**45**	*i* PKP	**PKPbc**	**07 12 48.0**	**-0.6**
	comp=Z,480nm,3.6s						
H08S3	**Diego Garcia H**	**144.99**	**192**	PKPbc	**PKiKP**	**07 12 51.9**	**-1.9**
	baz=18,slow=6.2,SNR=2.8						
MILM	**Milestii Mici**	**145.01**	**45**	⇓P	**PKPdf**	**07 12 48.4**	**-0.8**
EDRB	**Edirne**	**145.11**	**55**	P	**PKPab**	**07 12 48.8**	**-0.4**
NEF	**NEVSHA**	**145.15**	**52**	P	**PKPbc**	**07 12 48.5**	**-0.7**
CFR	**Carcaliu**	**145.18**	**49**	⇓P	**PKPbc**	**07 12 48.0**	**-1.2**
CFR	**Carcaliu**	**145.18**	**49**	⇓PKIKP	**PKPbc**	**07 12 48.0**	**-1.2**
EZN	**Ezine**	**145.19**	**58**	P	**PKPbc**	**07 12 49.0**	**-0.4**
GELI	**Tayfur-Gelibol**	**145.21**	**57**	P	**PKPbc**	**07 12 48.6**	**-0.9**
DGAR	**Diego Garcia**	**145.21**	**192**	*c i* PKIKP	**PKiKP**	**07 12 52.2**	**-2.4**
DGAR				pmax	pmax		
	comp=Z,1μm,1.7s						
PRD	**Provadia**	**145.25**	**52**	P	**PKPdf**	**07 12 50.0**	**+0.2**
ICOR	**Ion Corvin**	**145.28**	**50**	⇑P	**PKPbc**	**07 12 49.1**	**-0.5**
LPK	**Lapseki**	**145.43**	**57**	P	**PKPab**	**07 12 49.9**	**-0.5**
TIRR	**Tirgusor**	**145.59**	**50**	⇓P	**PKPbc**	**07 12 50.0**	**-0.6**
TIRR	**Tirgusor**	**145.59**	**50**	⇓PKIKP	**PKPbc**	**07 12 50.0**	**-0.6**
TIRR	**Tirgusor**	**145.59**	**50**		**PKPbc**	**07 12 50.1**	**-0.4**
URLA	**Izmir**	**145.62**	**61**	P	**PKPdf**	**07 12 49.3**	**-1.4**
RKY	**Sarkoy-Tekirda**	**145.68**	**57**	P	**PKPdf**	**07 12 50.2**	**-0.5**
PHSR	**Pinarhisar**	**145.73**	**55**	P	**PKPbc**	**07 12 50.8**	**-0.3**
DKL	**Dikili**	**145.76**	**59**	P	**PKPbc**	**07 12 50.6**	**-0.7**
PURM	**Purcari**	**145.84**	**46**	⇑P	**PKPdf**	**07 12 47.6**	**-3.1**
MANR	**Mangalia**	**145.91**	**51**	⇓P	**PKPdf**	**07 12 47.8**	**-3.1**
BLCB	**Balcova**	**145.97**	**61**	P	**PKPdf**	**07 12 48.9**	**-2.3**
CRLT	**Corlu**	**146.00**	**56**	P	**PKPab**	**07 12 52.5**	**0.0**
MRMT	**Marmara Adasi**	**146.01**	**57**	P	**PKPdf**	**07 12 50.2**	**-1.1**
LZH	**Lanzhou**	**146.13**	**295**	*e*PKPbc	**PKPab**	**07 12 53.2**	**-0.2**
LZH				LR	LR		
	comp=Z,2μm,15.4s						
LZH				LR	LR		
	comp=Z,2μm,14.9s						
LZH				LR	LR		
	comp=Z,2μm,18.2s						
GCAM	**G?zelcaml?**	**146.21**	**62**	P	**PKPbc**	**07 12 52.5**	**-0.2**
EDC	**Edincik**	**146.26**	**57**	P	**PKPdf**	**07 12 50.6**	**-1.1**
CD2	**Chengdu**	**146.28**	**286**	PKPbc	**PKPbc**	**07 12 52.2**	**-1.0**
CD2				pPKP	sPKPbc	07 12 55.8	-0.8
CD2				PP	**PP**	**07 16 20.0**	**+3.9**
CD2				AMB	AMB		
	comp=Z,1μm,6.7s						
CD2				LR	LR		
	comp=Z,2μm,22.2s						
CD2				LR	LR		
	comp=Z,3μm,22.6s						
CD2				LR	LR		
	comp=Z,3μm,21.6s						
CTYL	**Yalikoy Yolu**	**146.32**	**55**	P	**PKPbc**	**07 12 52.3**	**-0.6**
BODT	**Bodrum**	**146.35**	**63**	P	**PKPbc**	**07 12 52.5**	**-0.7**
KARP	**Karpathos**	**146.37**	**66**	IAMs_20	IAMs_20	08 22 08.9	
	comp=Z,2μm,20.0s						
BALB	**Balikesir**	**146.41**	**58**	P	**PKPbc**	**07 12 52.9**	**-0.3**
KMI	**Kunming**	**146.46**	**275**	⇓PKPbc	**PKPbc**	**07 12 53.1**	**-1.0**
KMI				pPKP	sPKPab	07 12 57.1	-1.4
KMI				PP	**PP**	**07 16 23.2**	**+5.7**
KMI				AMB	AMB		
	comp=Z,790nm,7.3s						
KMI				LR	LR		
	comp=Z,1μm,18.1s						
KMI				LR	LR		
	comp=Z,2μm,18.7s						
KMI				LR	LR		
	comp=Z,2μm,18.7s						
KMI	**Kunming**	**146.46**	**275**	IAMs_20	IAMs_20	08 21 17.1	
	comp=Z,2μm,19.0s						
DAT	**Datca**	**146.60**	**63**	P	**PKPbc**	**07 12 53.0**	**-1.1**
BGKT	**Bogazkoy**	**146.75**	**55**	P	**PKPbc**	**07 12 53.8**	**-0.4**
ARMT	**Armutlu**	**146.96**	**56**	P	**PKPbc**	**07 12 54.0**	**-0.8**
ISK	**Istanbul-Kandi**	**146.99**	**55**	P	**PKPbc**	**07 12

ZALV	**Zalesovo Beam**	**149.40**	**337**	PKP	**PKPdf**	**07 12 55.1**	**-1.3**	
	comp=Z,26nm,0.6s,baz=0.0,slow=0.6,SNR=27							
ZALV				PKPbc	**PKPbc**	**07 13 00.0**	**-0.8**	
	comp=Z,42nm,0.8s,baz=29,slow=3.3,SNR=62							
ZALV	**Zalesovo Beam**	**149.40**	**337**	PKIKP	**PKPdf**	**07 12 55.6**	**-0.8**	
ZALV						07 13 00.7		
ZALV	**Zalesovo Beam**	**149.40**	**337**	PKPdf	**PKPdf**	**07 12 55.6**	**-0.8**	
ZALV				PKPbc	**PKiKP**	**07 13 00.7**	**-1.3**	
KIZT	**Kizilcal**	**149.60**	**58**	P	**PKPdf**	**07 12 56.9**	**-0.5**	
VRH	**Novokhopyorsk**	**149.81**	**30**	*e*PKP2	**PKPbc**	**07 12 00.9**	**-1.0**	
VRH				pmax	pmax			
	comp=Z,780nm,1.8s							
SVE	**Sverdlovsk**	**149.90**	**5**	*e*PKHKP	**PKPdf**	**07 12 57.4**	**+0.3**	
SVE				pmax	pmax			
	comp=Z,222nm,1.6s							
LOD	**Lodumlu**	**150.02**	**56**	P	**PKPdf**	**07 12 57.5**	**-0.5**	
ARU	**Arti**	**150.09**	**8**	*i* PKHKP	**PKPdf**	**07 12 57.2**	**-0.2**	
ARU				MLR	MLR			
	comp=Z,3μm,21.0s							
ARU	**Arti**	**150.09**	**8**	PKPdf	**PKPdf**	**07 12 57.3**	**-0.2**	
ARU				PKPbc	**PKPbc**	**07 13 02.1**	**-0.3**	
LADK	**Ladik-KONYA**	**150.12**	**60**	P	**PKPdf**	**07 12 57.9**	**-0.3**	
KONT	**Konya--Tatoy**	**150.17**	**60**	P	**PKPdf**	**07 12 58.1**	**-0.1**	
ILGA	**Ilgaz**	**150.37**	**53**	IAMs_20	IAMs_20	08 21 24.2		
	comp=Z,2μm,21.0s							
KULU	**Kulu**	**150.41**	**58**	P	**PKiKP**	**07 13 04.0**	**-0.7**	
CANT	**Cankiri**	**150.44**	**54**	P	**PKPdf**	**07 12 58.5**	**-0.1**	
CHBY	**Cihanbeyli**	**150.44**	**59**	P	**PKPdf**	**07 12 57.6**	**-1.1**	
GAZI	**Gazipasa**	**150.45**	**63**	P	**PKPdf**	**07 12 57.6**	**-1.1**	
BR131	**Keskin Array S**	**150.71**	**56**	P	**PKPdf**	**07 12 59.5**	**+0.4**	
	SNR=36							
BR131	**Keskin Array S**	**150.71**	**56**	PKIKP	**PKiKP**	**07 13 04.8**	**-0.5**	
BR131	**Keskin Array S**	**150.71**	**56**	PKPbc	**PKiKP**	**07 13 04.8**	**-0.5**	
BRTR	**Keskin Array B**	**150.71**	**56**	PKP	**PKPdf**	**07 12 58.2**	**-0.9**	
	comp=Z,1.9nm,0.7s,baz=212,slow=1.4,SNR=5.5							
BRTR				PKPbc	**PKiKP**	**07 13 04.6**	**-0.8**	
	comp=Z,27nm,1.0s,baz=200,slow=2.7,SNR=16							
BRTR	**Keskin Array B**	**150.71**	**56**	PKIKP	**PKPdf**	**07 12 59.0**	**-0.2**	
BRTR						07 13 04.3		
BRTR	**Keskin Array B**	**150.71**	**56**	PKPdf	**PKPdf**	**07 12 59.0**	**-0.2**	
BRTR				PKPbc	**PKPbc**	**07 13 04.3**	**-0.3**	
SULT	**Sultanhani-AKS**	**151.01**	**59**	P	**PKPdf**	**07 12 59.3**	**-0.3**	
YAYX	**Yaylak**	**151.05**	**58**	P	**PKPdf**	**07 12 58.6**	**-1.0**	
LEF	**Lefka**	**151.07**	**66**	⇓P	**PKPdf**	**07 13 00.5**	**+0.9**	
LEF	**Lefka**	**151.07**	**66**	P	**PKPdf**	**07 12 59.7**	**+0.1**	
TEKE	**Tekeli-Mersin**	**151.10**	**63**	P	**PKPdf**	**07 12 58.9**	**-0.7**	
DIKM	**Dikmen**	**151.26**	**51**	⇓P	**PKPdf**	**07 12 58.0**	**-1.7**	
YESY	**Yesilyurt**	**151.28**	**60**	P	**PKPdf**	**07 12 59.5**	**-0.5**	
CORM	**Corum**	**151.31**	**55**	P	**PKPdf**	**07 12 59.9**	**-0.1**	
TEVE	**Tevekalti-Mers**	**151.31**	**63**	P	**PKPdf**	**07 12 59.9**	**-0.2**	
ANN	**Anapa**	**151.36**	**44**	*e*PKIKP	**PKPdf**	**07 12 55.2**	**-4.5**	
ANN				*e*		07 16 42.5		
ANN				*e*		07 20 05.3		
ANN				*e*SS	SS	07 36 04.1	-4.6	
ANN				*e*SSS	SSS	07 41 46.8		
ANN				pmax	pmax			
	comp=Z,51nm,0.9s							
ANN				pmax	pmax			
	comp=Z,165nm,1.1s							
CSS	**Mathiatis**	**151.45**	**66**	PKPdf	**PKPdf**	**07 13 00.8**	**+0.5**	
CSS				IAMs_20	IAMs_20	08 36 23.5		
	comp=Z,2μm,22.0s							
GULA	**Gulagac**	**151.52**	**59**	P	**PKPdf**	**07 12 58.9**	**-1.5**	
KEBE	**Keben-Mersin**	**151.52**	**63**	P	**PKPdf**	**07 13 00.2**	**-0.2**	
IKL	**Isikli**	**151.54**	**63**	P	**PKPdf**	**07 12 59.7**	**-0.6**	
SILI	**Silifke-Mersin**	**151.71**	**63**	P	**PKPdf**	**07 13 00.5**	**0.0**	
KIZK	**Mersin**	**151.86**	**62**	P	**PKPdf**	**07 13 00.5**	**-0.3**	
YOZ	**Yozgat**	**151.98**	**55**	P	**PKPdf**	**07 12 59.8**	**-1.3**	
EREN	**Erenkoy**	**152.04**	**64**	P	**PKPdf**	**07 13 01.3**	**+0.2**	
KARA	**Karaisali**	**152.41**	**60**	P	**PKPdf**	**07 13 01.7**	**+0.1**	
BNN	**Bunyan**	**152.60**	**57**	P	**PKPdf**	**07 13 01.8**	**-0.2**	
TOKT	**Tokat**	**152.64**	**53**	P	**PKPdf**	**07 13 01.5**	**-0.4**	
KRTS	**Karatas**	**152.81**	**62**	P	**PKPdf**	**07 13 02.8**	**+0.6**	
KOZT	**Kozan**	**152.96**	**60**	P	**PKPdf**	**07 12 58.0**	**-4.4**	
SVSK	**Karacayir**	**153.11**	**54**	P	**PKPdf**	**07 13 02.2**	**-0.3**	
SARI	**SarD1z-Kayseri**	**153.16**	**57**	P	**PKPdf**	**07 13 03.1**	**+0.2**	
RSDY	**Resadiye-TOKAT**	**153.17**	**53**	P	**PKPdf**	**07 13 03.1**	**+0.4**	
SOC	**Sochi**	**153.39**	**45**	*d i* PKIKP	**PKPdf**	**07 13 02.8**	**0.0**	
SOC				*i*		07 13 09.4		
SOC				*e*		07 16 53.2		
SOC				*e*PPP	PPP	07 20 21.9		
SOC				*e*SSS	SSS	07 42 18.4		
SOC				pmax	pmax			
	comp=Z,34nm,1.0s							
SOC				pmax	pmax			
	comp=Z,32nm,0.9s							
BHL	**Bhannes**	**153.49**	**68**	*e*P	**PKPdf**	**07 13 03.8**	**+0.4**	
YAYL	**Yayladag**	**153.50**	**63**	P	**PKPdf**	**07 13 04.0**	**+0.6**	
BRVK	**Borovoye**	**153.62**	**353**	P	**PKPdf**	**07 13 03.3**	**+0.4**	
BRVK	**Borovoye**	**153.62**	**353**	PKIKP	**PKPdf**	**07 13 02.7**	**-0.1**	
BRVK						07 13 10.8		
BRVK						07 13 22.2		
BRVK	**Borovoye**	**153.62**	**353**	PKPdf	**PKPdf**	**07 13 02.7**	**-0.1**	
BRVK				PKPbc	**PKiKP**	**07 13 10.8**	**+0.1**	
BRVK				PKPab	**PKPab**	**07 13 22.2**	**-0.9**	
BRVK	**Borovoye**	**153.62**	**353**	IAMs_20	IAMs_20	08 22 26.3		
	comp=Z,3μm,21.0s							
SHBL	**Chebaa**	**153.63**	**69**	*e*P	**PKPdf**	**07 13 04.3**	**+0.6**	
KMRS	**Kahramanmaras**	**153.77**	**59**	P	**PKPdf**	**07 13 04.3**	**+0.7**	
ATD	**Arta Tunnel**	**153.87**	**121**	IAMs_20	IAMs_20	08 18 07.8		
	comp=Z,2μm,19.0s							
DARE	**Darende-Malaty**	**153.91**	**57**	P	**PKPdf**	**07 13 04.5**	**+0.6**	
SEM	**Semipalatinsk**	**153.91**	**338**	*i* PKP	**PKPdf**	**07 13 02.3**	**-1.4**	
	comp=Z,16nm,1.6s,baz=339							
SEM				*i* PP	**PP**	**07 16 56.0**	**-2.7**	
	baz=339							
SEM				*i* SKS	**SKSdf**	**07 20 09.5**	**-1.2**	
	baz=339							
SEM				LR	LR	08 26 43.0		
	baz=339							
SEM	**Semipalatinsk**	**153.91**	**338**	*i* PKIKP	**PKPdf**	**07 13 02.2**	**-1.4**	
SEM				*i*		07 16 56.0		
SEM				pmax	pmax			
	comp=Z,16nm,1.6s							
ESPY	**Espiye-Giresun**	**153.96**	**51**	P	**PKPdf**	**07 13 01.2**	**-2.5**	
GAZ	**Gaziantep**	**154.10**	**60**	P	**PKPdf**	**07 13 04.8**	**+0.7**	
GAZ	**Gaziantep**	**154.10**	**60**	IAMs_20	IAMs_20	08 21 32.8		
	comp=Z,2μm,21.0s							
KURK	**Kurchatov**	**154.16**	**340**	P	**PKPdf**	**07 13 03.4**	**-0.3**	
KURK	**Kurchatov**	**154.16**	**340**	PKIKP	**PKPdf**	**07 13 03.0**	**-0.7**	
KURK						07 13 24.8		
KURK	**Kurchatov**	**154.16**	**340**	PKPdf	**PKPdf**	**07 13 03.0**	**-0.7**	
KURK				PKPbc	**PKiKP**	**07 13 12.2**	**+0.4**	
KURK				PKPab	**PKPab**	**07 13 24.8**	**-0.7**	
KURBB	**Kurchatov Arra**	**154.27**	**341**	PKP	**PKPdf**	**07 13 01.6**	**-2.2**	
	comp=Z,0.5nm,0.4s,baz=285,slow=33,SNR=5.7							
KURBB				PKPbc	**PKiKP**	**07 13 12.0**	**-0.1**	
	comp=Z,26nm,0.9s,baz=8.6,slow=2.0,SNR=26							
KURBB				PP	**PP**	**07 16 59.6**	**-0.8**	
	comp=Z,0.4nm,0.2s,baz=35,slow=2.7,SNR=4.8							
ZSN	**Zaisan**	**154.41**	**328**	⇓*i* PKP	**PKPdf**	**07 13 03.6**	**-0.6**	
	comp=Z,175nm,3.9s,baz=329							
ZSN				LR	LR	08 26 07.4		
	comp=Z,772nm,18.7s,baz=329							
ZSN	**Zaisan**	**154.41**	**328**	*d i* PKIKP	**PKPdf**	**07 13 03.6**	**-0.6**	
ZSN				pmax	pmax			
	comp=Z,175nm,3.9s							
GOF	**Gofitskoye**	**154.54**	**39**	⇑*e*PKIKP	**PKPdf**	**07 13 05.2**	**+0.8**	
GOF				pmax	pmax			
	comp=Z,48nm,1.3s							
KTUT	**Trabzon**	**154.64**	**50**	⇓P	**PKPdf**	**07 13 04.3**	**-0.3**	
KTUT	**Trabzon**	**154.64**	**50**	P	**PKPdf**	**07 13 04.4**	**-0.3**	
MALT	**Malatya**	**154.69**	**57**	P	**PKPdf**	**07 13 05.6**	**+0.6**	
KIV	**Kislovodsk**	**155.00**	**41**	⇓P	**PKPdf**	**07 13 04.8**	**-0.4**	
KIV	**Kislovodsk**	**155.00**	**41**	P	**PKPdf**	**07 13 05.1**	**0.0**	
KIV	**Kislovodsk**	**155.00**	**41**	*e*PKIKP	**PKPdf**	**07 13 03.4**	**-1.8**	
KIV				*e*		07 17 03.0		
KIV				*e*SS	SS	07 36 46.9	-1.7	
KIV				pmax	pmax			
	comp=Z,54nm,1.1s							
KIV	**Kislovodsk**	**155.00**	**41**	IAMs_20	IAMs_20	08 23 14.8		
	comp=Z,1μm,19.0s							
ERZN	**Erzincan**	**155.18**	**53**	P	**PKPdf**	**07 13 07.2**	**+1.6**	
PTK	**Pertek**	**155.21**	**55**	P	**PKPdf**	**07 13 06.8**	**+1.0**	
KBZ	**Khabaz**	**155.25**	**41**	PKP	**PKPdf**	**07 13 06.1**	**+0.7**	
	comp=Z,16nm,0.9s,baz=311,slow=3.3,SNR=15							
URFA	**Urfa**	**155.26**	**58**	P	**PKPdf**	**07 13 06.7**	**+0.9**	
CHOM	**Cayeli-Rize**	**155.26**	**49**	P	**PKPdf**	**07 13 05.2**	**-0.3**	
WMQ	**Urumqi**	**155.30**	**319**	PKPbc	**PKPdf**	**07 13 05.4**	**-0.2**	
WMQ				PKPab	**PKPab**	**07 13 30.2**	**-0.5**	
WMQ				PP	**PP**	**07 17 09.7**	**+2.7**	
WMQ				LR	LR			
	comp=Z,540nm,22.7s							
WMQ				LR	LR			
	comp=Z,870nm,22.7s							
WMQ				LR	LR			
	comp=Z,1μm,29.1s							
CHVG	**Ch'k'valeri**	**155.32**	**44**	⇓P	**PKPdf**	**07 13 07.0**	**+1.5**	
SVRC	**Sivrice-ELAZID**	**155.32**	**56**	P	**PKPdf**	**07 13 07.0**	**+1.1**	
KOPT	**Kop Dagi**	**155.56**	**51**	PKPbc	PKPdf	07 13 14.9	+8.6	
KOPT				IAMs_20	IAMs_20	08 35 04.1		
	comp=Z,2μm,21.0s							
BATM	**Batumi**	**155.64**	**47**	⇑P	**PKPdf**	**07 13 06.1**	**+0.1**	
BATM	**Batumi**	**155.64**	**47**	⇑PKIKP	**PKPdf**	**07 13 06.1**	**+0.1**	
YEDI	**Yedisu-Bingol**	**155.83**	**53**	P	**PKPdf**	**07 13 07.6**	**+1.0**	
MK31	**Makanchi Array**	**156.07**	**330**	PKIKP	**PKPdf**	**07 13 05.5**	**-1.0**	
MK31	**Makanchi Array**	**156.07**	**330**	PKPdf	**PKPdf**	**07 13 05.5**	**-1.0**	
MKAR	**Makanchi Array**	**156.07**	**330**	PKP	**PKPdf**	**07 13 05.1**	**-1.4**	
	comp=Z,15nm,1.2s,baz=0.0,slow=1.2,SNR=34							
MKAR				PKPab	**PKPab**	**07 13 33.4**	**-0.4**	
	comp=Z,2.7nm,0.7s,baz=304,slow=2.2,SNR=3.8							
MKAR				PP	**PP**	**07 17 07.1**	**-3.8**	
	comp=Z,1.2nm,0.8s,baz=355,slow=3.0,SNR=3.7							
MKAR	**Makanchi Array**	**156.07**	**330**	PKPdf	**PKPdf**	**07 13 05.2**	**-1.2**	
DYBB	**Diyarbakir**	**156.08**	**56**	P	**PKPdf**	**07 13 07.6**	**+0.8**	
BNGB	**Bingl**	**156.10**	**54**	P	**PKPdf**	**07 13 08.1**	**+1.2**	
BRZS	**Berezniki**	**156.28**	**348**	⇓*i* PKP	**PKPdf**	**07 13 05.8**	**-0.9**	
	comp=Z,110nm,3.0s,baz=349							
BRZS				*i* PP	**PP**	**07 17 10.3**	**-1.2**	
	baz=349							
BRZS				LR	LR	08 25 46.6		
	comp=Z,368nm,14.5s,baz=349							
BRZS	**Berezniki**	**156.28**	**348**	*d i* PKIKP	**PKPdf**	**07 13 05.7**	**-0.9**	
BRZS				*i*		07 17 10.3		
BRZS				pmax	pmax			
	comp=Z,110nm,3.0s							
ZEI	**Tsey**	**156.39**	**42**	*i* PKIKP	**PKPdf**	**07 13 07.0**	**-0.3**	
ZEI				pmax	pmax			
	comp=Z,23nm,1.8s							
KOPR	**Koprukoy-ERZUR**	**156.51**	**50**	P	**PKPdf**	**07 13 08.5**	**+1.0**	
MARD	**Mardin**	**156.78**	**57**	PKPdf	**PKPdf**	**07 13 08.6**	**+0.8**	
MARD				IAMs_20	IAMs_20	08 35 09.3		
	comp=Z,3μm,22.0s							
SVAN	**Silvan-Diyarba**	**156.79**	**55**	P	**PKPdf**	**07 13 08.6**	**+0.9**	
AKH	**Akhalkalaki**	**156.90**	**46**	⇓P	**PKPdf**	**07 13 08.1**	**+0.2**	
AKH	**Akhalkalaki**	**156.90**	**46**	PKIKP	**PKPdf**	**07 13 09.0**	**+1.1**	
AKH	**Akhalkalaki**	**156.90**	**46**	PKPdf	**PKPdf**	**07 13 09.0**	**+1.1**	
AKH				IAMs_20	IAMs_20	08 27 21.9		
	comp=Z,2μm,22.0s							
KARS	**Kars**	**157.03**	**48**	P	**PKPdf**	**07 13 09.0**	**+0.9**	
LSA	**Lhasa**	**157.16**	**283**	P	**PKPdf**	**07 13 08.5**	**-0.5**	
LSA				pmax	pmax			
	comp=Z,84nm,2.1s							
LSA	**Lhasa**	**157.16**	**283**	PKP	**PKPdf**	**07 13 09.8**	**+0.8**	
LSA				AMB	AMB			
	comp=Z,3μm,8.5s							
LSA				LR	LR			
	comp=Z,4μm,27.1s							
LSA				LR	LR			
	comp=Z,5μm,19.9s							
LSA				LR	LR			
	comp=Z,7μm,21.7s							
LSA	**Lhasa**	**157.16**	**283**	P	**PKPdf**	**07 13 08.7**	**-0.3**	
LSA	**Lhasa**	**157.16**	**283**	IAMs_20	IAMs_20	08 35 31.8		
	comp=Z,2μm,20.0s							
GURO	**Guroymak-BITLI**	**157.24**	**53**	P	**PKPdf**	**07 13 09.8**	**+1.4**	
GROC	**Groznyy**	**157.25**	**39**	*e*PKIKP	**PKPdf**	**07 13 08.0**	**0.0**	
GROC				pmax	pmax			
	comp=Z,65nm,1.1s							
AGRB	**Hanur-Agry**	**157.48**	**50**	P	**PKPdf**	**07 13 09.8**	**+1.1**	
SIRT	**Sirnak**	**157.95**	**56**	P	**PKPdf**	**07 13 10.2**	**+0.9**	
AKDM	**Akdamar-Van**	**158.01**	**53**	P	**PKPdf**	**07 13 10.6**	**+1.2**	
GEVA	**Gevas**	**158.08**	**53**		**PKPdf**	**07 13 10.5**	**+1.0**	
VANB	**Van**	**158.19**	**52**	P	**PKPdf**	**07 13 10.2**	**+0.7**	
CLDR	**Caldiran**	**158.31**	**50**	P	**PKPdf**	**07 13 10.6**	**+0.8**	
MAK	**Makhachkala**	**158.36**	**38**	*e*PKIKP	**PKPdf**	**07 13 03.3**	**-6.1**	
MAK				*e*		07 17 17.6		
MAK				*e*		07 20 08.7		
MAK				*e*SS	SS	07 37 17.1	-7.1	
MAK				pmax	pmax			
	comp=Z,161nm,0.9s							
CUKT	**Cukurca**	**158.91**	**55**	P	**PKPdf**	**07 13 10.7**	**+0.2**	
TDK	**Taldyqorghan**	**159.13**	**333**	*i* PKP	**PKPdf**	**07 13 09.2**	**-1.1**	
	baz=334							
TDK				*e*PP	**PP**	**07 17 21.8**	**-5.8**	
	baz=334							
TDK	**Taldyqorghan**	**159.13**	**333**	*i* PKIKP	**PKPdf**	**07 13 09.2**	**-1.1**	
TDK				*e*		07 17 21.7		
AKT	**Akhty**	**159.45**	**40**	*e*PKIKP	**PKPdf**	**07 13 12.7**	**+1.8**	
AKT				*e*		07 17 29.3		
AKT				pmax	pmax			
	comp=Z,22nm,1.3s							
SHLS	**Shalkode**	**160.15**	**328**	*i* PKP	**PKPdf**	**07 13 10.9**	**-0.9**	
	comp=Z,137nm,3.3s,baz=329							
SHLS				*i* PP	**PP**	**07 17 29.4**	**-4.0**	
	baz=329							
SHLS				LR	LR	08 28 13.5		
	comp=Z,378nm,16.6s,baz=329							
SHLS	**Shalkode**	**160.15**	**328**	*i* PKIKP	**PKPdf**	**07 13 10.8**	**-0.9**	
SHLS				*i*		07 17 29.3		
SHLS				pmax	pmax			
	comp=Z,137nm,3.3s							
KPKS	**Kokpek**	**160.26**	**330**	⇓*i* PKP	**PKPdf**	**07 13 11.0**	**-0.8**	
	comp=Z,217nm,3.7s,baz=331							
KPKS				*e*PP	**PP**	**07 17 28.7**	**-5.2**	
	baz=331							
KPKS	**Kokpek**	**160.26**	**330**	*d i* PKIKP	**PKPdf**	**07 13 11.0**	**-0.8**	
KPKS				*e*		07 17 28.7		
KPKS				pmax	pmax			
	comp=Z,217nm,3.7s							
UZB	**Uzynbulak**	**160.36**	**329**	⇓*i* PKP	**PKPdf**	**07 13 11.2**	**-0.8**	
	comp=Z,131nm,3.8s,baz=330							
UZB				*e*PP	**PP**	**07 17 31.8**	**-2.7**	
	baz=330							
UZB	**Uzynbulak**	**160.36**	**329**	*d i* PKIKP	**PKPdf**	**07 13 11.1**	**-0.8**	
UZB				*e*		07 17 31.8		
UZB				pmax	pmax			
	comp=Z,131nm,3.8s							
BTLS	**Baital**	**160.61**	**341**	⇓*i* PKP	**PKPdf**	**07 13 11.6**	**-0.3**	
	comp=Z,76nm,2.9s,baz=342							
BTLS				*i* PP	**PP**	**07 17 32.5**	**-2.8**	
	baz=342							
BTLS	**Baital**	**160.61**	**341**	*d i* PKIKP	**PKPdf**	**07 13 11.6**	**-0.3**	
BTLS				*i*		07 17 32.5		
BTLS				pmax	pmax			
	comp=Z,76nm,2.9s							
CHKK	**Chushkaly**	**160.65**	**334**	*i* PKP	**PKPdf**	**07 13 11.0**	**-1.1**	
	baz=335							
CHKK	**Chushkaly**	**160.65**	**334**	*i* PKIKP	**PKPdf**	**07 13 11.0**	**-1.1**	
SATY	**Saty**	**160.71**	**330**	⇓*i* PKP	**PKPdf**	**07 13 11.5**	**-0.9**	
	comp=Z,88nm,3.3s,baz=331							
SATY				*i* PP	**PP**	**07 17 32.9**	**-3.5**	
	baz=331							
SATY	**Saty**	**160.71**	**330**	*d i* PKIKP	**PKPdf**	**07 13 11.4**	**-0.9**	
SATY				*i*		07 17 32.8		
SATY				pmax	pmax			
	comp=Z,88nm,3.3s							
KUU	**Kurty**	**160.87**	**335**	*e*PKP	**PKPdf**	**07 13 10.9**	**-1.5**	
	comp=Z,236nm,3.2s,baz=336							
KUU				*e*PP	**PP**	**07 17 32.9**	**-4.0**	
	baz=336							
KUU				*i* SKS	**SKSdf**	**07 20 16.4**	**-1.2**	
	baz=336							
KUU	**Kurty**	**160.87**	**335**	*e*PKIKP	**PKPdf**	**07 13 10.8**	**-1.5**	
KUU				*e*		07 17 32.8		
KUU				pmax	pmax			
	comp=Z,236nm,3.2s							
MDOK	**Medeo**	**161.21**	**333**	*i* PKP	**PKPdf**	**07 13 12.2**	**-0.7**	
	baz=334							
MDOK				*e*PP	**PP**	**07 17 35.0**	**-4.0**	
	baz=334							
MDOK	**Medeo**	**161.21**	**333**	*i* PKIKP	**PKPdf**	**07 13 12.2**	**-0.7**	
MDOK				*e*		07 17 34.9		
AAA	**Alma-Ata**	**161.22**	**333**	⇓*i* PKP	**PKPdf**	**07 13 12.5**	**-0.3**	
	baz=334							
AAA	**Alma-Ata**	**161.22**	**333**	*d i* PKIKP	**PKPdf**	**07 13 12.5**	**-0.3**	
TNSS	**Tian-Shan**	**161.35**	**333**	*e*PKP	**PKPdf**	**07 13 12.5**	**-0.9**	
	baz=334							
TNSS	**Tian-Shan**	**161.35**	**333**	*e*PKIKP	**PKPdf**	**07 13 12.5**	**-0.9**	
MTBS	**Maitube**	**161.48**	**334**	*e*PKP	**PKPdf**	**07 13 12.4**	**-0.7**	
	baz=335							
MTBS	**Maitube**	**161.48**	**334**	*e*PKIKP	**PKPdf**	**07 13 12.3**	**-0.7**	
SGDS	**Sogindy**	**161.86**	**338**	⇓*i* PKP	**PKPdf**	**07 13 13.1**	**-0.3**	
	comp=Z,180nm,3.9s,baz=339							
SGDS				*e*PP	**PP**	**07 17 41.2**	**-1.0**	
	baz=339							
SGDS	**Sogindy**	**161.86**	**338**	*d i* PKIKP	**PKPdf**	**07 13 13.1**	**-0.3**	
SGDS				*e*		07 17 41.1		
SGDS				pmax	pmax			
	comp=Z,180nm,3.9s							
KDJ	**Kajisay**	**161.99**	**331**	PKIKP	**PKPdf**	**07 13 13.8**	**0.0**	
KDJ						07 13 59.4		
KDJ	**Kajisay**	**161.99**	**331**	PKPdf	**PKPdf**	**07 13 13.8**	**0.0**	
KDJ					**PKPab**	**07 13 59.4**	**-0.5**	
BOOM	**Boomskoye usch**	**162.21**	**334**	PKIKP	**PKPdf**	**07 13 14.0**	**0.0**	
BOOM	**Boomskoye usch**	**162.21**	**334**	PKPdf	**PKPdf**	**07 13 14.0**	**0.0**	
AAK	**Ala-Archa**	**162.63**	**337**	*i* P	**PKPdf**	**07 13 14.3**	**-0.1**	
	SNR=13							
AAK	**Ala-Archa**	**162.63**	**337**	PKIKP	**PKPdf**	**07 13 14.6**	**+0.2**	
AAK	**Ala-Archa**	**162.63**	**337**	PKPdf	**PKPdf**	**07 13 14.6**	**+0.2**	
KK31	**Karatay Array**	**163.30**	**347**	PKIKP	**PKPdf**	**07 13 15.0**	**+0.2**	
KK31						07 14 04.8		
KK31	**Karatay Array**	**163.30**	**347**	PKPdf	**PKPdf**	**07 13 15.0**	**+0.2**	
KK31				PKPab	**PKPab**	**07 14 04.8**	**-0.5**	
KKAR	**Karatay Array**	**163.30**	**347**	PKP2	**PKPab**	**07 14 03.7**	**-1.6**	
KKAR						08 13 14.2		
KKAR	**Karatay Array**	**163.30**	**347**		**PKPdf**	**07 13 14.8**	**0.0**	
KKAR					**PKPab**	**07 14 04.8**	**-0.5**	
KKAR	**Karatay Array**	**163.30**	**347**	PKPdf	**PKPdf**	**07 13 14.2**	**-0.7**	
KKAR				PKPab	**PKPab**	**07 14 03.7**	**-1.6**	
DZA	**Taraz**	**163.32**	**345**	⇓*i* PKP	**PKPdf**	**07 13 14.3**	**-0.5**	
	baz=345							
DZA	**Taraz**	**163.32**	**345**	*d i* PKIKP	**PKPdf**	**07 13 14.3**	**-0.5**	
IUG	**Iuzhnay**	**164.32**	**347**	*i* PKP	**PKPdf**	**07 13 15.4**	**-0.5**	
	comp=Z,165nm,4.1s,baz=348							
IUG				*e*PP	**PP**	**07 17 55.8**	**+0.7**	
	baz=348							
IUG				LR	LR	08 30 59.7		
	comp=Z,1μm,23.0s,baz=348							
IUG	**Iuzhnay**	**164.32**	**347**	*i* PKIKP	**PKPdf**	**07 13 15.4**	**-0.5**	
IUG				*e*		07 17 55.7		
IUG				pmax	pmax			
	comp=Z,165nm,4.1s							
HYB	**Hyderabad**	**164.59**	**235**	*i* PKP	**PKPab**	**07 14 13.0**	**+1.2**	
KSH	**Kashi**	**164.63**	**328**	⇓*i* PKP	**PKPdf**	**07 13 16.6**	**+0.3**	
KSH				PP	**PP**	**07 17 59.4**	**+2.2**	
KSH				SKS	**SKSdf**	**07 20 22.6**	**+1.7**	
KSH				AMB	AMB			
	comp=Z,4μm,8.8s							
KSH				LR	LR			
	comp=Z,880nm,11.3s							
KSH				LR	LR			
	comp=Z,2μm,16.3s							
KSH				LR	LR			
	comp=Z,5μm,17.6s							
GAR	**Garm**	**167.25**	**342**	PKPdf	**PKPdf**	**07 13 18.3**	**-0.1**	
GAR				PKPab	**PKPab**	**07 14 21.9**	**-1.1**	
GEYT	**Alibeck**	**167.41**	**27**	PKP	**PKPdf**	**07 13 18.9**	**+0.5**	
	comp=Z,17nm,1.0s,baz=270,slow=2.8,SNR=23							
GEYT				PKPab	**PKPab**	**07 14 23.8**	**+0.2**	
	comp=Z,7.2nm,1.0s,baz=308,slow=4.9,SNR=3.6							
GEYT				PP	**PP**	**07 18 09.8**	**-1.5**	
	comp=Z,3.3nm,0.9s,baz=278,slow=11,SNR=7.2							
GEYT	**Alibeck**	**167.41**	**27**	PKPdf	**PKPdf**	**07 13 18.8**	**+0.4**	
GEY

MT05	Renca	38.27	111	P	P	07 11 27.2	-1.7	
MT05				IAmb	IAmb	07 11 32.3		
comp=Z,63nm,1.3s								
NNA	Nana	38.38	75	LR	LR	07 23 04.3		
comp=Z,3µm,18.3s,baz=312,slow=30								
GO04	Tololo Observa	38.45	105	P	P	07 11 29.1	-1.5	
GO04				IAmb	IAmb	07 11 37.5		
comp=Z,74nm,1.2s								
VA03	San Esteban	38.45	110	P	P	07 11 29.7	-0.8	
LCO	Las Campanas	38.67	104	P	P	07 11 31.7	-0.9	
LCO				pmax	pmax			
comp=Z,60nm,1.1s								
LCO	Las Campanas	38.67	104	P	P	07 11 31.7	-0.9	
LCO				IAmb	IAmb	07 11 35.7		
comp=Z,60nm,1.1s								
PLCA	Paso Flores	38.73	122	P	P	07 11 34.1	+1.4	
comp=Z,62nm,1.1s,baz=277,slow=8.9,SNR=27								
PLCA	Paso Flores	38.73	122	P	P	07 11 33.0	+0.3	
PLCA				IAmb	IAmb	07 11 40.8		
comp=Z,64nm,1.1s								
PLCA	Paso Flores	38.73	122	eP	P	07 11 34.3	+1.6	
AC05	El Transito	39.06	103	P	P	07 11 35.5	-0.3	
AC05				IAmb	IAmb	07 11 42.9		
comp=Z,69nm,1.0s								
CO01	Juntas del Tor	39.07	105	P	P	07 11 35.4	-0.5	
ATAH	Atahualpa	39.56	67	P	P	07 11 41.5	+1.2	
comp=Z,14nm,1.0s,baz=271,slow=5.5,SNR=4.8								
ATAH				LR	LR	07 23 57.4		
comp=Z,4µm,18.2s,baz=303,slow=30								
GO09	Cerro Castillo	40.09	139	P	P	07 11 42.1	-1.7	
GO09				IAmb	IAmb	07 11 46.2		
comp=Z,82nm,1.4s								
ZON	Zonda	40.12	108	P	P	07 11 44.3	-0.1	
ZON				pmax	pmax			
comp=Z,50nm,1.3s								
ZON	Zonda	40.12	108	P	P	07 11 44.3	-0.1	
ZON				IAmb	IAmb	07 11 49.5		
comp=Z,50nm,1.3s								
AC02	Maricunga	40.39	101	P	P	07 11 45.1	-2.1	
PB07	IPOC Station P	40.90	93	P	P	07 11 49.3	-1.9	
PB06	IPOC Station P	40.92	94	P	P	07 11 50.5	-0.7	
PB06				IAmb	IAmb	07 11 57.7		
comp=Z,35nm,1.0s								
PB09	IPOC Station P	41.46	93	P	P	07 11 55.0	-0.7	
LVC	Limon Verde	41.53	94	P	P	07 11 57.3	+0.8	
comp=Z,26nm,1.1s,baz=278,slow=8.0,SNR=6.3								
LVC				LR	LR	07 24 37.6		
comp=Z,5µm,18.1s,baz=268,slow=30								
LVC	Limon Verde	41.53	94	P	P	07 11 54.7	-1.8	
LVC				IAmb	IAmb	07 11 59.7		
comp=Z,48nm,1.2s								
LVC	Limon Verde	41.53	94	eP	P	07 11 58.2	+1.7	
PB08	IPOC Station P	42.02	91	P	P	07 11 59.1	-1.4	
OTAV	Otavalo	43.97	58	eP	P	07 12 16.1	-0.4	
OTAV	Otavalo	43.97	58	P	P	07 12 15.3	-1.2	
OTAV				pmax	pmax			
comp=Z,18nm,1.1s								
OTAV	Otavalo	43.97	58	P	P	07 12 15.3	-1.2	
OTAV	Otavalo	43.97	58	eP	P	07 12 16.1	-0.4	
CZSB	Cruzeiro do Su	44.01	72	eP	P	07 12 17.2	+0.9	
LPAZ	La Paz	44.25	86	P	P	07 12 19.3	+0.4	
comp=Z,13nm,1.1s,baz=261,slow=6.3,SNR=16								
LPAZ	La Paz	44.25	86	P	P	07 12 17.1	-1.8	
LPAZ	La Paz	44.25	86	eP	P	07 12 20.5	+1.6	
GCUF	Volcan Galeras	45.45	58	eP	P	07 12 29.1	+0.7	
H06E1	SOCORRO T-PHAS	45.50	5	T	T	08 01 01.7		
SNR=7.4								
PTLC	Puerto Leguiza	46.75	61	eP	P	07 12 36.0	-2.0	
JTS	Las Juntas de	46.81	42	i P	P	07 12 39.5	+1.1	
JTS				pmax	pmax			
comp=Z,27nm,1.3s								
TLIG	Tlapa	46.81	21	P	P	07 12 37.5	-1.0	
POPC	Popayan, Colom	46.81	57	eP	P	07 12 37.4	-1.3	
FLOC	Florencia	46.97	59	eP	P	07 12 37.3	-2.5	
HDC	Heredia	47.09	43	P	P	07 12 39.8	-0.9	
GARC	Garzon, Huila	47.48	59	eP	P	07 12 45.5	+1.6	
HUEH	Huehuetenango	47.54	31	P	P	07 12 43.8	-0.5	
YOTC	Yotoco, Valle	48.01	56	eP	P	07 12 47.4	-0.5	
ETMB	Extrema	48.62	79	eP	P	07 12 53.8	+1.3	
MACC	Macarena, Meta	48.72	60	eP	P	07 12 51.2	-2.1	
ORTC	Ortega, Tolima	48.78	57	eP	P	07 12 53.5	-0.3	
EFI	East Falkland	48.82	136	i P	P	07 12 53.2	-0.4	
EFI				pmax	pmax			
comp=Z,74nm,1.6s								
PRAC	Prado	48.92	58	eP	P	07 12 55.0	+0.1	
TOLC	Tolima	49.17	56	eP	P	07 12 56.7	-0.4	
PMSA	Palmer Station	49.51	154	eP	P	07 12 57.7	-0.9	
CBOC	Ciudad Bolivar	49.52	55	eP	P	07 13 01.0	+1.4	
GUY2C	Guyana, Caldas	49.56	56	eP	P	07 13 00.0	-0.3	
PETF	Flores	49.69	32	P	P	07 12 59.0	-1.6	
ROSC	El Rosal	50.09	57	eP	P	07 13 05.5	+1.4	
ROSC	El Rosal	50.09	57	P	P	07 13 02.9	-1.3	
ROSC				IAmb	IAmb	07 13 07.8		
comp=Z,47nm,1.4s								
HELC	Santa Helena	50.09	55	eP	P	07 13 03.0	-1.1	
NORC	Norcasia	50.15	56	eP	P	07 13 04.5	+0.2	
CHIC	Chingaza	50.39	58	eP	P	07 13 05.8	-0.7	
SIV	San Ignacio	50.66	89	P	P	07 13 07.6	-0.5	
comp=Z,5.6nm,0.9s,baz=246,slow=12,SNR=9.3								
SPBC	San Pablo de B	50.80	57	eP	P	07 13 07.0	-2.3	
CPUP	Villa Florida	50.81	103	P	P	07 13 08.9	-0.2	
comp=Z,9.9nm,1.1s,baz=241,slow=11,SNR=5.5								
RUSC	La Rusia	51.70	57	eP	P	07 13 15.8	-0.6	
BARC	Barichara	52.09	56	eP	P	07 13 17.5	-1.5	
PTLB	Pontes e Lacer	52.59	89	eP	P	07 13 22.2	-0.3	
VILB	Vilhena	52.61	86	eP	P	07 13 23.7	+1.0	
SJCC	San Jacinto, C	52.88	52	eP	P	07 13 23.7	-1.0	
AQDB	Aquidauana	53.91	97	eP	P	07 13 32.2	0.0	
AFI	Afiamalu	54.73	272	LR	LR	07 32 46.1		
comp=Z,927nm,18.4s,baz=162,slow=31								
SDV	Santo Domingo	55.49	56	P	P	07 13 42.1	-1.8	
SDV				IAmb	IAmb	07 13 44.8		
comp=Z,28nm,1.1s								
SDV	Santo Domingo	55.49	56	eP	P	07 13 42.9	-1.0	
PTGB	Pitanga	55.82	103	eP	P	07 13 47.6	+1.4	
TRCB	Terra Rica	55.89	100	eP	P	07 13 46.9	+0.3	
833A	Chaparral WMA,	56.77	16	P	P	07 13 54.5	+2.0	
baz=196								
833A	Chaparral WMA,	56.77	16	P	P	07 13 52.3	-0.2	
833A				IAmb	IAmb	07 14 06.3		
comp=Z,38nm,1.4s								
TX31	Lajitas Ar. Si	56.84	11	P	P	07 13 53.1	0.0	
TX31				IAmb	IAmb	07 14 15.4		
comp=Z,25nm,1.2s								
TX32	Lajitas Array	56.84	11	P	P	07 13 53.1	0.0	
TXAR	Lajitas Array	56.84	11	P	P	07 13 53.4	+0.3	
comp=Z,2.2nm,0.9s,baz=198,slow=9.2,SNR=12								
TXAR	Lajitas Array	56.84	11	P	P	07 13 52.4	-0.7	
CLDB	Colider	57.39	86	eP	P	07 13 56.1	-1.2	
PCMB	Pacaembu	57.47	100	eP	P	07 13 57.5	-0.3	
735A	Kenedy	57.68	17	P	P	07 13 58.6	-0.4	
735A				IAmb	IAmb	07 14 02.4		
comp=Z,23nm,0.8s								
319A	Douglas	58.12	5	P	P	07 14 02.0	-0.2	
319A				IAmb	IAmb	07 14 09.8		
comp=Z,29nm,1.1s								
TIJ01	Guaruva-PR	58.31	104	eP	P	07 14 03.7	-0.1	
PTGA	Pitinga	58.47	73	eP	P	07 14 04.8	0.0	
214A	Organ Pipe Nat	58.51	2	P	P	07 14 05.9	+1.2	
baz=182								
214A	Organ Pipe Nat	58.51	2	P	P	07 14 04.2	-0.5	
214A				IAmb	IAmb	07 14 12.4		
comp=Z,25nm,1.2s								
JCT	Junction City	58.74	15	P	P	07 14 05.7	-0.7	
JCT				pmax	pmax			
comp=Z,31nm,0.9s								
JCT	Junction City	58.74	15	P	P	07 14 06.9	+0.5	
baz=195,SNR=20								
JCT	Junction City	58.74	15	P	P	07 14 05.7	-0.7	
MNTX	Cornudas Mount	58.88	9	P	P	07 14 07.6	+0.2	
baz=190,SNR=14								
MNTX	Cornudas Mount	58.88	9	P	P	07 14 06.1	-1.2	
ITRB	Iturama	58.90	98	eP	P	07 14 09.1	+1.3	
TUC	Tucson	58.95	4	P	P	07 14 07.7	-0.1	
TUC				pmax	pmax			
comp=Z,11nm,1.0s								
TUC	Tucson	58.95	4	P	P	07 14 08.6	+0.8	
baz=184								
TUC	Tucson	58.95	4	P	P	07 14 07.7	-0.1	
ARAG	Araguaiana, MT	59.03	93	eP	P	07 14 09.2	+0.4	
RMX	La Rumorosa	59.14	359	P	P	07 14 07.4	-1.9	
RMX				IAmb	IAmb	07 14 20.6		
comp=Z,15nm,1.0s								
IKP	In-Ko-Pah, Jac	59.19	359	P	P	07 14 10.3	+0.8	
baz=178								
BAR	Barrett	59.24	358	P	P	07 14 08.4	-1.4	
BAR				IAmb	IAmb	07 14 17.3		
comp=Z,24nm,1.2s								
HKT	Hockley	59.27	19	P	P	07 14 09.7	-0.2	
HKT				pmax	pmax			
comp=Z,28nm,1.3s								
HKT	Hockley	59.27	19	P	P	07 14 09.7	-0.2	
HKT				IAmb	IAmb	07 14 21.0		
comp=Z,28nm,1.2s								
113A	Mohawk Valley,	59.30	1	P	P	07 14 09.0	-1.1	
113A				IAmb	IAmb	07 14 13.7		
comp=Z,17nm,1.1s								
121A	Cookes Peak, D	59.41	7	P	P	07 14 12.2	+1.0	
baz=187,SNR=17								
121A	Cookes Peak, D	59.41	7	P	P	07 14 09.6	-1.6	
NPGB	Novo Progresso	59.44	82	eP	P	07 14 11.0	-0.7	
MONP2	Monument Peak	59.44	358	P	P	07 14 12.2	+0.7	
baz=178								
SWSC	Sam W. Stewart	59.48	359	P	P	07 14 14.4	+3.0	
baz=179								
435B	Jarrell	59.57	17	P	P	07 14 13.7	+1.6	
baz=198								
435B	Jarrell	59.57	17	P	P	07 14 10.6	-1.5	
GLA	Glamis	59.58	360	P	P	07 14 16.0	+3.9	
baz=180								
TPFO	Pinon Flats	60.15	358	P	P	07 14 17.9	+1.7	
baz=178								
BC3	Big Chuckawall	60.18	359	P	P	07 14 17.6	+1.3	
baz=179								
BELC	Belle Mtn. Jos	60.54	359	P	P	07 14 20.0	+1.2	
baz=179,SNR=14								
IRM	Iron Mountain	60.68	359	P	P	07 14 20.9	+1.2	
baz=179,SNR=12								
WHTX	Lake Whitney,	60.75	17	P	P	07 14 20.4	+0.2	
baz=198								
WHTX	Lake Whitney,	60.75	17	P	P	07 14 19.6	-0.6	
WHTX				IAmb	IAmb	07 14 28.8		
comp=Z,14nm,0.9s								
PDMCI	Parker Dam,Lak	60.83	0	P	P	07 14 21.6	+1.0	
baz=180								
BFSC	Mount Baldy Ra	60.83	357	P	P	07 14 21.7	+0.9	
baz=177								
ABTX	Abilene, Hawle	60.84	14	P	P	07 14 20.9	+0.2	
baz=195								
ABTX	Abilene, Hawle	60.84	14	P	P	07 14 19.7	-1.0	
ABTX				IAmb	IAmb	07 14 34.1		
comp=Z,20nm,1.1s								
Y22D	IRIS PASSCAL I	61.03	7	P	P	07 14 24.8	+2.6	
baz=188								
Y22D	IRIS PASSCAL I	61.03	7	P	P	07 14 21.8	-0.4	
LENM	Lemitar	61.11	7	P	P	07 14 21.7	-1.1	
BNM	Barren Site	61.14	8	P	P	07 14 22.5	-0.5	
237A	Washetta, Mont	61.20	18	P	P	07 14 23.4	+0.1	
NEE2	Needles Airpor	61.29	360	P	P	07 14 25.2	+1.5	
baz=180								
NATX	Nacogdoches	61.31	19	P	P	07 14 25.7	+1.8	
baz=200								
NATX	Nacogdoches	61.31	19	P	P	07 14 23.6	-0.3	
GMRC	Granite Mounta	61.31	359	P	P	07 14 25.3	+1.3	
baz=179								
HEC	Hector,Ludlow	61.37	358	P	P	07 14 25.5	+1.1	
baz=178								
EDW2	Edwards Air Fo	61.48	357	P	P	07 14 25.6	+0.4	
baz=177,SNR=5.0								
MSTX	Muleshoe	61.52	11	P	P	07 14 25.1	-0.4	
baz=192,SNR=9.6								
MSTX	Muleshoe	61.52	11	P	P	07 14 24.4	-1.1	
PKM	Mcpherson Peak	61.61	355	P	P	07 14 26.9	+0.8	
baz=175								
342A	Flagon Creek P	61.68	22	P	P	07 14 26.1	-0.3	
342A				IAmb	IAmb	07 14 29.8		
comp=Z,20nm,0.9s								
W18A	Petrified Fore	61.81	5	P	P	07 14 28.1	+0.6	
baz=185								
W18A	Petrified Fore	61.81	5	P	P	07 14 26.8	-0.6	
W18A				IAmb	IAmb	07 14 35.0		
comp=Z,21nm,1.2s								
BELA	Belgrano 2	61.83	166	P	P	07 14 27.6	+0.6	
GSC	Goldstone, Bar	61.85	358	P	P	07 14 26.8	-0.9	
GSC				pmax	pmax			
comp=Z,27nm,1.3s								
GSC	Goldstone, Bar	61.85	358	P	P	07 14 28.8	+1.1	
baz=178								
GSC	Goldstone, Bar	61.85	358	P	P	07 14 26.8	-0.9	
GSC				IAmb	IAmb	07 14 35.3		
comp=Z,27nm,1.3s								
ANMO	Albuquerque	61.94	8	i P	P	07 14 28.2	-0.2	
ANMO				pmax	pmax			
comp=Z,12nm,1.3s								
ANMO	Albuquerque	61.94	8	P	P	07 14 28.8	+0.4	
baz=188								
ANMO	Albuquerque	61.94	8	P	P	07 14 27.7	-0.7	
TUQ	Turquoise Moun	61.97	359	P	P	07 14 30.7	+2.2	
baz=179								
WUAZ	Wupatki	62.11	3	P	P	07 14 31.0	+1.5	
baz=183,SNR=11								
WUAZ	Wupatki	62.11	3	P	P	07 14 28.2	-1.3	
WUAZ				IAmb	IAmb	07 14 37.3		
comp=Z,19nm,1.1s								
ISA	Isabella, Lake	62.29	356	P	P	07 14 29.7	-0.9	
ISA				pmax	pmax			
comp=Z,8.0nm,1.1s								
ISA	Isabella, Lake	62.29	356	P	P	07 14 30.4	-0.1	
baz=176								
ISA	Isabella, Lake	62.29	356	P	P	07 14 29.7	-0.9	
MSVF	Nonsavu	62.37	263	i P	P	07 14 33.2	+1.6	
MSVF				pmax	pmax			
comp=Z,44nm,1.2s								
MSVF	Nonsavu	62.37	263	P	P	07 14 31.4	-0.2	
SHOC	Shoshone, Teco	62.44	358	P	P	07 14 32.4	+0.9	
baz=178,SNR=13								
BDFB	Brasilia	62.44	94	P	P	07 14 31.9	-0.2	
comp=Z,5.9nm,1.1s,baz=166,slow=3.1,SNR=3.7								
BDFB	Brasilia	62.44	94	P	P	07 14 32.0	-0.2	
BDFB	Brasilia	62.44	94	P	P	07 14 31.3	-0.9	
BDFB				IAmb	IAmb	07 14 37.5		
comp=Z,19nm,1.2s								
VES	Vestal, Richgr	62.50	356	P	P	07 14 33.6	+1.7	
baz=176								
VNDA	Vanda	62.59	194	P	P	07 14 34.2	+2.1	
comp=Z,0.7nm,0.8s,baz=121,slow=3.4,SNR=4.9								
AMTX	Amarillo	62.61	12	P	P	07 14 32.9	+0.2	
baz=193								
AMTX	Amarillo	62.61	12	P	P	07 14 32.1	-0.6	
AMTX				IAmb	IAmb	07 14 35.0		
comp=Z,15nm,0.9s								
MPMC	Manual Prospec	62.63	357	P	P	07 14 34.1	+1.1	
baz=177,SNR=15								
U15A	North Rim	62.98	2	P	P	07 14 33.1	-2.3	
FURC	Furnace Creek,	63.02	358	P	P	07 14 36.7	+1.4	
baz=178								
CWC	Cottonwood Cre	63.04	357	P	P	07 14 37.1	+1.4	
baz=176								
143A	Socs Landing,	63.20	22	P	P	07 14 35.4	-1.2	
Z41A	Richland Creek	63.27	20	P	P	07 14 40.0	+3.0	
baz=202								
QSPA	South Pole Qui	63.31	180	P	P	07 14 38.9	+1.7	
comp=Z,7.5nm,1.0s,baz=119,slow=2.6,SNR=13								
QSPA	South Pole Qui	63.31	180	P	P	07 14 38.0	+0.7	
QSPA				IAmb	IAmb	07 14 47.6		
comp=Z,21nm,1.1s								
TPNV	Topopah Spring	63.48	359	P	P	07 14 37.6	-1.0	
TPNV				pmax	pmax			
comp=Z,21nm,1.2s								
TPNV	Topopah Spring	63.48	359	P	P	07 14 40.2	+1.6	
baz=178,SNR=15								
TPNV	Topopah Spring	63.48	359	P	P	07 14 37.6	-1.0	
TPNV				IAmb	IAmb	07 14 46.8		
comp=Z,21nm,1.2s								
LCMT	Little Creek M	63.54	1	P	P	07 14 37.7	-1.2	
KNB	Kanab	63.55	2	P	P	07 14 39.4	+0.3	
KNB				pmax	pmax			
comp=Z,33nm,1.4s								
KNB	Kanab	63.55	2	P	P	07 14 39.4	+0.3	
GRAC	Grapevine Rang	63.56	358	P	P	07 14 40.3	+1.2	
baz=177								
WLAR	White Oak Lake	63.57	20	P	P	07 14 39.2	+0.2	
PRN	Pahroc Range	63.92	360	P	P	07 14 40.3	-1.2	
MVCO	Mesa Verde	63.98	5	P	P	07 14 42.4	+0.4	
baz=186,SNR=11								
MVCO	Mesa Verde	63.98	5	P	P	07 14 41.3	-0.7	
MVCO				IAmb	IAmb	07 14 52.9		
comp=Z,23nm,1.1s								
PKCU	Pink Cliffs	63.99	2	P	P	07 14 41.6	-0.5	
CCUT	Cedar City	64.07	1	P	P	07 14 42.6	+0.1	
SZCU	Shurtz Canyon	64.12	1	P	P	07 14 42.5	-0.4	
CCAR	Cane Creek	64.20	21	P	P	07 14 42.4	-0.8	
BCOK	Bluff Creek, N	64.21	15	P	P	07 14 42.7	-0.5	
MIAR	Mount Ida	64.23	19	P	P	07 14 42.9	-0.5	
baz=201								
MDPB	Devils Postpil	64.28	356	P	P	07 14 42.9	-1.1	
T25A	Trinidad	64.37	9	P	P	07 14 44.8	+0.3	
baz=190								
T25A	Trinidad	64.37	9	P	P	07 14 43.4	-1.1	
X40A	Basin Creek Fa	64.39	20	P	P	07 14 43.9	-0.5	
X40A				IAmb	IAmb	07 15 05.0		
comp=Z,17nm,1.5s								
TPH	Tonopah	64.64	358	P	P	07 14 46.4	+0.2	
TPH				pmax	pmax			
comp=Z,44nm,1.0s								
TPH	Tonopah	64.64	358	P	P	07 14 46.4	+0.2	
S22A	4UR Ranch, Cre	64.67	7	P	P	07 14 46.8	+0.3	
baz=188,SNR=9.6								
S22A	4UR Ranch, Cre	64.67	7	P	P	07 14 47.0	+0.4	
S22A				IAmb	IAmb	07 14 57.6		
comp=Z,17nm,1.2s								
CMB	Columbia Colle	64.78	355	P	P	07 14 46.1	-0.8	
CMB				pmax	pmax			
comp=Z,15nm,1.2s								
CMB	Columbia Colle	64.78	355	P	P	07 14 46.1	-0.8	
CMB				IAmb	IAmb	07 14 54.5		
comp=Z,15nm,1.1s								
SDCO	Great Sand Dun	64.82	8	P	P	07 14 47.7	+0.2	
baz=189,SNR=20								
SDCO	Great Sand Dun	64.82	8	P	P	07 14 46.3	-1.2	
SDCO				IAmb	IAmb	07 14 50.4		
comp=Z,12nm,1.1s								
Z47A	Carrollton	64.82	24	P	P	07 14 47.9	+0.6	
Z47A				IAmb	IAmb	07 15 02.9		
comp=Z,15nm,0.9s								
R11A	Troy Canyon, C	64.87	359	P	P	07 14 48.9	+1.1	
baz=179,SNR=16								
R11A	Troy Canyon, C	64.87	359	P	P	07 14 48.3	+0.6	
R11A				IAmb	IAmb	07 14 55.9		
comp=Z,19nm,1.2s								
PV13	Radium Mtn., P	64.90	5	P	P	07 14 47.3	-0.7	
PV13				IAmb	IAmb	07 15 05.6		
comp=Z,28nm,1.5s								
TUL1	Leonard	64.90	17	P	P	07 14 49.1	+1.4	
baz=198								
TUL1	Leonard	64.90	17	P	P	07 14 47.2	-0.5	
TUL1				IAmb	IAmb	07 15 06.4		
comp=Z,26nm,1.4s								
PV02	Paradox Valley	64.95	5	P	P	07 14 47.7	-0.7	
PV18	Skein Mesa, Pa	64.98	5	P	P	07 14 46.7	-1.8	
PV18				IAmb	IAmb	07 14 58.5		
comp=Z,26nm,1.5s								
PV03	Paradox Valley	64.99	5	P	P	07 14 47.5	-1.1	
PV17	East Wray Mesa	65.01	5	P	P	07 14 48.7	0.0	
PV19	Morning Glory	65.03	5	P	P	07 14 48.2	-0.6	
PV19				IAmb	IAmb	07 14 58.8		
comp=Z,25nm,1.2s								
NVAR	Mina Array Bea	65.03	357	P	P	07 14 49.5	+0.7	
comp=Z,4.0nm,0.9s,baz=184,slow=9.4,SNR=26								
NVAR				LR	LR	07 36 44.0		
comp=Z,2µm,18.6s,baz=138,slow=30								
NVAR	Mina Array Bea	65.03	357	P	P	07 14 49.7	+0.9	
X43A	Marvell	65.04	21	P	P	07 14 50.8	+2.2	
baz=203								
PV16	Nyswonger Mesa	65.04	5	P	P	07 14 48.7	-0.2	
PV16				IAmb	IAmb	07 14 59.7		
comp=Z,24nm,1.4s								
PSUT	Pine Spring	65.05	1	P	P	07 14 49.0	+0.1	
MVU	Marysvale	65.05	2	P	P	07 14 48.6	-0.4	
PV12	Saucer Basin,	65.06	5	P	P	07 14 49.0	+0.1	
PV12				IAmb	IAmb	07 14 58.0		
comp=Z,20nm,1.1s								
MSU	Marysvale	65.06	2	P	P	07 14 49.3	+0.3	
MSU	Marysvale	65.06	2	P	P	07 14 49.3	+0.3	
PV20	West Nyswonger	65.07	5	P	P	07 14 48.6	-0.4	
PV20				IAmb	IAmb	07 15 07.5		
comp=Z,11nm,1.0s								
LRAL	Lakeview Retre	65.08	25	P	P	07 14 50.1	+1.2	
baz=207								
PV14	Lion Creek, Pa	65.09	5	P	P	07 14 48.6	-0.7	
PV15	Paradox Valley	65.11	5	P	P	07 14 49.1	-0.2	
PV15				IAmb	IAmb	07 14 56.2		
comp=Z,26nm,1.3s								
PV04	Paradox Valley	65.12	5	P	P	07 14 48.8	-0.6	
PV23	Carpenter Ridg	65.17	5	P	P	07 14 49.8	0.0	
WAKR	Walker	65.17	356	P	P	07 14 49.7	-0.1	
WAKR				IAmb	IAmb	07 14 57.8		
comp=Z,15nm,1.4s								
PV07	Paradox Valley	65.19	5	P	P	07 14 49.7	-0.1	
W41B	Gary Mavity, V	65.21	20	P	P	07 14 50.5	+0.8	
baz=202								
W41B	Gary Mavity, V	65.21	20	P	P	07 14 49.7	0.0	
RYN	Ryan	65.24	357	P	P	07 14 51.0	+0.9	
PV22	Blue Mesa, Par	65.27	5	P	P	07 14 49.8	-0.6	
PV22				IAmb	IAmb	07 15 04.2		
comp=Z,13nm,1.0s								
PV21	Cone Mtn., Par	65.28	5	P	P	07 14 49.8	-0.6	
PV21				IAmb	IAmb	07 15 01.3		
comp=Z,21nm,1.1s								
MCPB	Macapa, AP	65.49	77	eP	P	07 14 52.1	0.0	
Q16A	Castle Valley	65.51	3	P	P	07 14 51.1	-0.8	
OXF	Oxford	65.53	23	P	P	07 14 53.1	+1.3	
baz=205								
SMTB	Santa Maria do	65.56	88	eP	P	07 14 52.7	+0.1	
YERR	Yerington	65.64	356	P	P	07 14 52.2	-0.5	
YERR				IAmb	IAmb	07 15 00.6		
comp=Z,16nm,1.1s								
KVN	Kaiserville	65.64	357	P	P	07

O20A IAmb IAmb 07 15 07.8
comp=Z,12nm,1.0s
O02D Mt. Diablo Mer 67.12 353 P P 07 15 03.7 +1.6
baz=172
O03E Paynes Creek 67.14 354 P P 07 15 04.6 +2.4
baz=173
JLU Jordanelle 67.17 3 P P 07 15 01.7 -0.9
S39A Bolivar 67.24 18 P P 07 15 02.3 -0.5
S39A IAmb IAmb 07 15 21.0
comp=Z,17nm,1.3s
RDMU Red Mountain 67.24 4 P P 07 15 01.8 -1.1
CTU Camp Tracy 67.25 2 P P 07 15 01.5 -1.5
PBMO Poplar Bluff 67.26 21 P P 07 15 01.8 -1.0
BGU Big Grassy Mou 67.45 1 P P 07 15 03.6 -0.6
WDC Whiskeytown Da 67.50 353 P P 07 15 03.6 -0.7
WDC pmax pmax
comp=Z,29nm,1.2s
WDC Whiskeytown Da 67.50 353 P P 07 15 03.5 -0.7
WVT Waverly 67.54 23 P P 07 15 03.6 -1.1
WVT pmax pmax
comp=Z,7.0nm,1.0s
WVT Waverly 67.54 23 P P 07 15 05.1 +0.4
baz=206
WVT Waverly 67.54 23 P P 07 15 03.6 -1.1
V48A Smith Brothers 67.55 24 P P 07 15 03.2 -1.6
V48A IAmb IAmb 07 15 18.1
comp=Z,16nm,1.5s
Z56A Williston 67.66 30 P P 07 15 07.0 +1.6
baz=212
TCUT Toone Canyon 67.69 3 P P 07 15 04.7 -1.2
KSU1 Kansas State U 67.73 15 P P 07 15 04.8 -1.0
SPUT South Promonto 67.85 2 P P 07 15 05.7 -1.0
N23A Red Feather La 67.88 7 P P 07 15 07.9 +0.8
baz=188
N23A Red Feather La 67.88 7 P P 07 15 05.8 -1.2
N23A IAmb IAmb 07 15 31.2
comp=Z,15nm,1.1s
N02D Trinity Center 67.90 353 P P 07 15 08.0 +1.1
baz=172
Y55A Saluda 67.97 29 P P 07 15 08.5 +1.1
baz=211
CCM Cathedral Cave 68.18 20 P P 07 15 08.5 -0.2
CCM pmax pmax
comp=Z,23nm,1.5s
CCM Cathedral Cave 68.18 20 P P 07 15 09.9 +1.3
baz=202
CCM Cathedral Cave 68.18 20 P P 07 15 08.5 -0.2
CCM IAmb IAmb 07 15 23.7
comp=Z,23nm,1.4s
M02C Callahan 68.33 353 P P 07 15 11.2 +1.5
baz=172
Z58A St. Stephen 68.37 31 P P 07 15 10.9 +1.0
baz=213
BG3 Lake Jocassee 68.42 28 P P 07 15 09.3 -0.9
S44A Carbondale 68.47 21 P P 07 15 09.7 -0.8
X55A Gracelyn & Ava 68.52 29 P P 07 15 11.8 +0.9
baz=211
RWWY Rawlins 68.54 6 P P 07 15 10.0 -1.2
MOD Modoc Plateau 68.61 355 P P 07 15 10.6 -0.9
MOD IAmb IAmb 07 15 18.5
comp=Z,14nm,0.9s
M04C Macdoel 68.62 354 P P 07 15 12.4 +0.9
baz=173,SNR=12
TKL Tuckaleechee C 68.65 27 P P 07 15 12.3 +0.6
comp=Z,2.1nm,0.7s,baz=176,slow=11,SNR=4.0
TKL Tuckaleechee C 68.65 27 P P 07 15 09.8 -1.8
TKL IAmb IAmb 07 15 34.6
comp=Z,16nm,1.2s
X56A White Oak 68.80 29 P P 07 15 14.0 +1.4
baz=212
W54A Cherokee Point 68.81 28 P P 07 15 13.8 +1.1
baz=211
P38A Dawn 68.99 17 P P 07 15 12.7 -1.0
P38A IAmb IAmb 07 15 15.9
comp=Z,16nm,1.0s
WVOR Wild Horse Val 69.04 357 P P 07 15 13.2 -0.9
WVOR pmax pmax
comp=Z,28nm,1.2s
WVOR Wild Horse Val 69.04 357 P P 07 15 13.2 -0.9
L04D Klamath Falls 69.09 354 P P 07 15 15.3 +0.9
baz=173
BIRD Birdtown, Kers 69.18 30 P P 07 15 14.3 -0.7
BIRD IAmb IAmb 07 15 17.3
comp=Z,14nm,1.1s
X57A Johnson Farm, 69.19 30 P P 07 15 16.5 +1.4
baz=213
KMSC Kings Mountain 69.22 29 P P 07 15 15.8 +0.6
baz=212
KMSC Kings Mountain 69.22 29 P P 07 15 14.5 -0.7
AHID Auburn Hatcher 69.35 3 P P 07 15 15.5 -0.6
AHID IAmb IAmb 07 15 26.1
comp=Z,14nm,1.0s
BW06 Boulder Array 69.43 4 P P 07 15 15.8 -0.9
baz=185
BW06 Boulder Array 69.43 4 P P 07 15 15.8 -0.9
PD31 Pinedale Array 69.43 4 P P 07 15 15.8 -0.8
PDAR Pinedale Array 69.43 4 P P 07 15 15.5 -1.1
comp=Z,3.6nm,0.9s,baz=173,slow=6.0,SNR=12
PDAR Pinedale Array 69.43 4 P P 07 15 15.8 -0.8
VNA3 Neumayer Olymp 69.47 160 P P 07 15 16.3 -0.1
V54A Nebo 69.50 28 P P 07 15 18.0 +1.1
baz=211,SNR=7.0
TZTN Tazewell 69.51 26 P P 07 15 18.1 +1.1
baz=209
W56A Indian Trail 69.54 29 P P 07 15 17.9 +0.8
baz=212
K22A Casper 69.56 6 P P 07 15 17.7 +0.3
baz=188,SNR=11
K22A Casper 69.56 6 P P 07 15 16.6 -0.8
K22A IAmb IAmb 07 15 33.6
comp=Z,20nm,1.1s
ECR Eagle Creek 69.62 3 P P 07 15 17.2 -0.6
N35A Tabor 69.63 15 P P 07 15 16.2 -1.4
Q44A Meyer Farm, Va 69.65 21 P P 07 15 17.5 -0.3
W57A Gilead 69.81 30 P P 07 15 20.0 +1.1
baz=213
W57A Gilead 69.81 30 P P 07 15 18.4 -0.4
W57A IAmb IAmb 07 15 20.4
comp=Z,12nm,0.9s
V55A Taylorsville 69.87 28 P P 07 15 20.5 +1.2
baz=212,SNR=5.1
V55A Taylorsville 69.87 28 P P 07 15 18.1 -1.1
V55A IAmb IAmb 07 15 21.5
comp=Z,21nm,1.2s
MFID Camas Ranch 69.93 359 P P 07 15 19.6 0.0
MFID IAmb IAmb 07 15 26.8
comp=Z,16nm,1.1s
REDW Red Top Meadow 69.95 3 P P 07 15 19.3 -0.6
REDW IAmb IAmb 07 15 39.9
comp=Z,16nm,1.2s
J08A Circle Bar Ran 69.96 357 P P 07 15 19.3 -0.4
J08A IAmb IAmb 07 15 27.7
comp=Z,20nm,1.1s
W58A Raeford 70.04 30 P P 07 15 21.2 +1.0
baz=213,SNR=6.1
SNOW Snow King Moun 70.06 3 P P 07 15 19.4 -1.1
J05D Fort Rock, OR 70.06 355 P P 07 15 21.9 +1.5
baz=174,SNR=9.5
HLID Hailey 70.07 0 P P 07 15 21.4 +0.9
baz=180,SNR=31
HLID Hailey 70.07 0 P P 07 15 20.0 -0.5
HLID IAmb IAmb 07 15 28.1
comp=Z,26nm,1.1s
TPAW Teton Pass 70.08 3 P P 07 15 19.4 -1.2
TPAW IAmb IAmb 07 15 25.7
comp=Z,13nm,0.9s
VNA1 Neumayer--Stat 70.13 160 P P 07 15 20.6 +0.2
V56A Mocksville 70.14 29 P P 07 15 21.6 +0.7
baz=212
LOHW Long Hollow 70.22 3 P P 07 15 19.9 -1.5
FXWY Fox Creek 70.22 3 P P 07 15 20.7 -0.8
X60A Albert Glenn T 70.25 32 P P 07 15 23.2 +1.7
baz=214
VNA2 Neumayer--Watz 70.28 161 P P 07 15 21.5 +0.2
IMW Indian Meadow 70.48 3 P P 07 15 22.1 -1.1
IMW IAmb IAmb 07 15 33.7
comp=Z,16nm,1.1s
L34A Svendsen Farm, 70.52 14 P P 07 15 21.7 -1.4
L34A IAmb IAmb 07 15 35.6
comp=Z,20nm,0.9s
V57A Coltrane Farms 70.52 29 P P 07 15 24.3 +1.1
baz=213,SNR=5.7
PINE Pine Mountain 70.54 355 P P 07 15 23.2 -0.3
PINE IAmb IAmb 07 15 31.1
comp=Z,24nm,1.1s
U56A King 70.65 29 P P 07 15 25.5 +1.5
baz=212
FLWY Flagg Ranch 70.68 3 P P 07 15 23.2 -1.0
V58A Windy Hill, Pi 70.74 30 P P 07 15 25.3 +0.8
baz=213
T54A Tazewell 70.75 27 P P 07 15 25.0 +0.3
baz=211
YPP Pitchstone Pla 70.86 3 P P 07 15 25.1 -0.4
DZM Mont Dzumac 70.95 254 *e*P **P 07 15 23.5 -2.9**
comp=Z,59nm,1.2s
DZM Mont Dzumac 70.95 254 *e*LR LR 07 36 54.7
comp=Z,4μm,26.1s
DZM Mont Dzumac 70.95 254 LR LR 07 37 26.3
comp=Z,1μm,21.8s,baz=174,slow=28
V59A Middlesex 71.11 31 P P 07 15 27.9 +1.1
baz=214
I05D Terrebonne, OR 71.11 355 P P 07 15 28.1 +1.4
baz=174
U57A Blanch 71.17 29 P P 07 15 28.6 +1.4
baz=213,SNR=5.2
SNAA Sanae 71.25 162 P P 07 15 27.3 -0.1
YMR Madison River 71.25 3 P P 07 15 26.3 -1.5
RSSD Black Hills 71.29 8 P P 07 15 27.1 -0.9
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 71.29 8 P P 07 15 28.0 +0.1
baz=190
RSSD Black Hills 71.29 8 P P 07 15 27.1 -0.9
MCMT McKenzie Canyo 71.35 1 P P 07 15 27.8 -0.6
BLA Blacksburg 71.36 28 P P 07 15 29.4 +1.0
baz=212
YHH Holmes Hill 71.38 3 P P 07 15 28.2 -0.4
QLMT Earthquake Lak 71.40 2 P P 07 15 28.5 -0.1
YHL Hebgen Lake 71.42 3 P P 07 15 28.0 -0.9
U58A Oxford 71.49 30 P P 07 15 29.7 +0.6
baz=214
V60A Jim Taylor Roa 71.56 31 P P 07 15 30.8 +1.3
baz=215
YNE Yellowstone No 71.64 3 P P 07 15 28.6 -1.5
RLMT Red Lodge 71.79 4 P P 07 15 31.0 0.0
baz=185,SNR=7.0
RLMT Red Lodge 71.79 4 P P 07 15 30.7 -0.3
RLMT IAmb IAmb 07 15 46.3
comp=Z,18nm,1.2s
U59A Littleton 71.80 31 P P 07 15 32.4 +1.4
baz=214
DLMT Dillon 71.89 1 P P 07 15 31.1 -0.4
L40A Anamosa 71.89 18 P P 07 15 31.2 -0.2
G08A Pilot Rock 71.91 357 P P 07 15 31.7 +0.1
G08A IAmb IAmb 07 15 39.4
comp=Z,20nm,1.0s
T58A Grand View Acr 71.95 30 P P 07 15 31.1 -0.8
baz=214
Q52A Bidwell 72.11 26 P P 07 15 34.0 +1.2
baz=210
S56A Natural Bridge 72.12 29 P P 07 15 34.1 +1.2
baz=212
ECSD EROS Data Cent 72.15 14 P P 07 15 33.2 +0.3
baz=197
BOZ Bozeman (W) 72.15 2 P P 07 15 33.4 +0.3
baz=183
Q53A Leroy 72.31 27 P P 07 15 35.6 +1.6
baz=211
LRM Limekiln Ridge 72.36 2 P P 07 15 34.5 +0.1
T59A Double "B" Far 72.42 30 P P 07 15 35.5 +0.9
baz=214
F10A Beach Ranch, E 72.52 358 P P 07 15 34.9 -0.3
Q54A Coxs Mills 72.70 27 P P 07 15 37.1 +0.8
baz=211
P52A Corning 72.74 26 P P 07 15 37.9 +1.4
baz=210
R56A Bull Pasture M 72.80 28 P P 07 15 38.6 +1.6
baz=212
HAWA Hanford 73.04 356 P P 07 15 38.5 +0.4
R57A Stanardsville 73.09 29 P P 07 15 39.5 +0.9
baz=213
R58B Mineral 73.09 30 P P 07 15 39.6 +1.0
baz=214
E09A Wood Farm, Sta 73.09 357 P P 07 15 37.8 -0.6
E08A Dider Farm, El 73.11 357 P P 07 15 38.1 -0.4
E08A IAmb IAmb 07 15 46.1
comp=Z,21nm,1.3s
I37A Lemond, Waseca 73.15 16 P P 07 15 38.4 -0.4
I37A IAmb IAmb 07 15 51.8
comp=Z,19nm,0.9s
HRY Holter Researc 73.26 2 P P 07 15 39.2 -0.4
O52A Adamsville 73.27 26 P P 07 15 40.7 +1.0
baz=210
R58A Rapidan 73.31 29 P P 07 15 40.9 +1.0
baz=214
MSO Missoula 73.34 0 P P 07 15 40.5 +0.5
baz=181,SNR=10
MSO Missoula 73.34 0 P P 07 15 39.9 -0.1
MSO IAmb IAmb 07 15 47.1
comp=Z,17nm,1.1s
P54A Burton 73.37 27 P P 07 15 40.6 +0.3
baz=212,SNR=5.8
E04D Cinebar 73.42 354 P P 07 15 41.1 +0.8
baz=173
P55A Reedsville 73.55 27 P P 07 15 41.9 +0.5
baz=212
LAO LASA Array 73.59 6 P P 07 15 41.6 +0.1
baz=188
LAO LASA Array 73.59 6 P P 07 15 40.9 -0.6
LAO IAmb IAmb 07 15 53.3
comp=Z,22nm,1.0s
O53A New Philadelph 73.63 26 P P 07 15 42.8 +1.1
baz=211,SNR=5.1
D08A Wollman Farm, 73.67 357 P P 07 15 41.2 -0.6
MCWV Mont Chateau 73.67 27 P P 07 15 43.1 +1.1
baz=212
Q57A Strasburg 73.75 29 P P 07 15 44.4 +1.9
baz=213
P56A Dayton Farm, R 73.96 28 P P 07 15 45.5 +1.8
baz=213,SNR=5.5
LTY Liberty 73.97 356 P P 07 15 43.4 -0.3
Q58A Fox Den Farm, 73.99 29 P P 07 15 45.0 +1.1
baz=214
N53A Lisbon 74.25 26 P P 07 15 47.0 +1.6
baz=211
JTMT Jette 74.25 0 P P 07 15 45.1 -0.3
JTMT IAmb IAmb 07 15 52.4
comp=Z,26nm,1.2s
P57A Homestead Farm 74.29 29 P P 07 15 47.0 +1.4
baz=214
C09A Chrisman Ranch 74.38 357 P P 07 15 45.4 -0.6
D03D Eldon 74.44 354 P P 07 15 49.4 +3.1
baz=172
P58A Pank, Wackersv 74.61 29 P P 07 15 48.8 +1.3
baz=214
EGMT Eagleton 74.66 3 P P 07 15 48.4 +0.7
baz=184
EGMT Eagleton 74.66 3 P P 07 15 47.6 -0.1
EGMT IAmb IAmb 07 16 01.2
comp=Z,31nm,1.2s
O56A Blue Knob Stat 74.72 28 P P 07 15 48.8 +0.7
baz=213
N54A Moraine State 74.72 26 P P 07 15 49.6 +1.4
baz=212
NEW Newport 74.81 358 P P 07 15 47.8 -0.7
NEW pmax pmax
comp=Z,26nm,1.2s
NEW Newport 74.81 358 P P 07 15 48.7 +0.2
baz=178
NEW Newport 74.81 358 P P 07 15 47.8 -0.7
NEW IAmb IAmb 07 15 59.6
comp=Z,26nm,1.2s
F36A Milaca 74.86 15 P P 07 15 48.2 -0.6
N55A Marion Center 74.97 27 P P 07 15 50.9 +1.3
baz=212
B08A Colville Reser 74.99 357 P P 07 15 48.9 -0.6
O57A Amberson 75.06 28 P P 07 15 51.6 +1.5
baz=214
B05A Bryant 75.08 355 P P 07 15 55.7 +5.8
baz=173
P59A Jarrettsville 75.08 30 P P 07 15 51.6 +1.4
baz=215
SSPA Standing Stone 75.31 28 P P 07 15 51.8 +0.3
baz=213
M54A Oil Creek Stat 75.31 26 P P 07 15 52.6 +1.0
baz=212
N57A Milroy 75.55 28 P P 07 15 53.5 +0.6
baz=214
DGMT Dagmar 75.56 7 P P 07 15 53.5 +0.8
baz=190,SNR=6.4
DGMT Dagmar 75.56 7 P P 07 15 52.3 -0.5
WALA Waterton Lakes 75.57 0 P P 07 15 52.2 -0.8
PGC Sidney 75.58 354 P P 07 15 52.5 -0.3
PGC IAmb IAmb 07 15 56.1
comp=Z,16nm,0.9s
A04D Lummi Island 75.58 354 P P 07 15 54.1 +1.2
baz=172
NVL N'lazarevskaya 75.63 164 *e*P **PcP 07 16 06.3 +0.4**
NVL pmax pmax
comp=Z,6.0nm,0.6s
M56A Emporium 75.89 27 P P 07 15 56.2 +1.3
baz=213
N58A Sunbury 75.97 29 P P 07 15 56.7 +1.4
baz=214
O60A Telford 76.12 30 P P 07 15 56.8 +0.7
baz=216
L55A Hinsdale 76.37 27 P P 07 15 58.8 +1.2
baz=213
N59A State Game Lan 76.44 29 P P 07 15 59.3 +1.3
baz=215
M58A Price's Panora 76.52 29 P P 07 15 59.5 +1.0
baz=214
L56A Greenwood 76.69 27 P P 07 15 59.0 -0.4
baz=214
L57A Andrews Acres 76.87 28 P P 07 16 01.6 +1.2
baz=214,SNR=5.0
K56A Middlesex 77.26 27 P P 07 16 03.9 +1.3
baz=214
EYMN Ely 77.30 16 P P 07 16 03.7 +1.0
baz=201
L58A Harry Jones Me 77.33 29 P P 07 16 04.7 +1.7
baz=215
BINY Binghamton 77.40 28 P P 07 16 04.7 +1.3
baz=215
BINY Binghamton 77.40 28 P P 07 16 01.9 -1.4
BINY IAmb IAmb 07 16 13.2
comp=Z,38nm,1.4s
L59A Walton 77.80 29 P P 07 16 07.3 +1.6
baz=216
K58A Earlville 78.01 28 P P 07 16 08.2 +1.5
baz=215
SADO Sadowa 78.28 25 P P 07 16 09.2 +1.0
comp=Z,8.5nm,0.9s,baz=240,slow=4.2,SNR=3.3
H53A Bobcaygeon 78.33 25 P P 07 16 09.5 +1.0
baz=212
K59A Cooperstown 78.36 29 P P 07 16 09.6 +0.9
baz=216
I55A Frankford 78.38 26 P P 07 16 09.2 +0.5
baz=213
ULM Lac du Bonnet 78.54 12 P P 07 16 09.7 +0.2
comp=Z,4.4nm,0.7s,baz=214,slow=7.2,SNR=4.3
ULM Lac du Bonnet 78.54 12 P P 07 16 07.7 -1.8
ULM IAmb IAmb 07 16 21.7
comp=Z,15nm,1.0s
J58A Remsen 78.65 28 P P 07 16 11.4 +1.1
baz=215
I58A Old Forge 79.05 28 P P 07 16 13.6 +1.1
baz=215
J59A Piesco 79.06 29 P P 07 16 13.2 +0.6
baz=216
G54A Lake Saint Pet 79.21 25 P P 07 16 14.5 +1.2
baz=213
J60A Lant Hill Farm 79.35 29 P P 07 16 15.8 +1.7
baz=217
I60A Shoreham 79.89 29 P P 07 16 18.1 +1.1
baz=217
LONY Lake Ozonia 79.97 28 P P 07 16 18.9 +1.4
baz=216
H58A Gabriels 79.97 28 P P 07 16 18.6 +1.1
baz=216
G57A Newington 80.19 27 P P 07 16 20.3 +1.6
baz=215
E53A Dumoine, Ponti 80.20 25 P P 07 16 20.0 +1.4
baz=213
H59A Cadyville 80.36 28 P P 07 16 21.0 +1.4
baz=216
E54A Lac Daplat, Po 80.42 25 P P 07 16 20.7 +0.8
baz=213
I61A Oroboro, Fairl 80.44 30 P P 07 16 21.5 +1.6
baz=218
H60A Morristown 80.72 29 P P 07 16 23.4 +1.9
baz=217
D53A Lac Vacive, Po 80.77 25 P P 07 16 22.7 +1.0
baz=213
I62A Tamworth 80.78 30 P P 07 16 23.4 +1.6
baz=218
G59A Clarenceville 80.93 28 P P 07 16 24.5 +2.0
baz=217
H61A Lyndonville 81.03 29 P P 07 16 24.8 +1.6
baz=218
D54A Lac Fusel, La 81.22 25 P P 07 16 25.3 +1.2
baz=214
H02S1 DAWSON INLET T 81.23 349 T T 08 45 45.3
SNR=3.5
I63A Otisfield 81.25 30 P P 07 16 25.2 +0.9
baz=219
TRQ Mont Tremblant 81.28 27 P P 07 16 24.5 0.0
H02N1 VAN INLET T-PH 81.28 349 T T 08 45 53.8
SNR=4.3
H62A Milan 81.41 30 P P 07 16 26.6 +1.4
baz=218
D55A Sainte-Anne-du 81.57 26 P P 07 16 26.5 +0.6
baz=215
E57A Chemin Saint G 81.60 27 P P 07 16 27.0 +0.8
baz=216
F59A Saint Guilaume 81.71 28 P P 07 16 28.5 +1.8
baz=217
G61A St-Isidore-de- 81.80 29 P P 07 16 28.9 +1.6
baz=218
D56A ZEC Mazanza, M 81.88 26 P P 07 16 28.2 +0.6
baz=215
E58A La Victoria 81.92 27 P P 07 16 27.9 +0.1
baz=216
H63A New Sharon 81.98 30 P P 07 16 28.4 +0.3
baz=219
D57A Chemin Vers le 82.20 27 P P 07 16 30.2 +0.9
baz=216
SYO Syowa Base 82.57 171‖ *e*P **P 07 16 30.0 -1.0**
D58A Chemin du LacG 82.67 27 P P 07 16 33.0 +1.2
baz=217
E60A Ste Agathe de 82.69 29 P P 07 16 33.1 +1.2
baz=218
LSQQ Lebel-sur-Quev 82.69 24 P P 07 16 33.1 +1.3
baz=213
F62A Pittston Farm, 82.96 30 P P 07 16 33.2 -0.1
baz=219
G64A Maxfield 83.01 31 P P 07 16 34.6 +1.1
baz=220
F63A Nahmakanta, Br 83.20 30 P P 07 16 36.2 +1.7
baz=220,SNR=6.8
F63A Nahmakanta, Br 83.20 30 P P 07 16 34.1 -0.4
F64A Sherman 83.66 31 P P 07 16 38.8 +1.9
baz=220
E62A Clayton Lake 83.72 29 P P 07 16 38.9 +1.7
baz=220
E62A Clayton Lake 83.72 29 P P 07 16 35.9 -1.3
D62A Allapoint, All 84.28 29 P P 07 16 40.9 +0.9
baz=220
CHGQ Chibougamau 84.36 25 P P 07 16 40.6 +0.3
baz=215,SNR=5.5
DLBC Dease Lake 85.94 352 P P 07 16 48.8 +0.6
comp=Z,8.1nm,0.9s,baz=194,slow=6.9,SNR=9.9
DLBC Dease Lake 85.94 352 P P 07 16 47.5 -0.6
STKA Stephens Creek 86.87 236 P P 07 16 54.4 +0.9
comp=Z,1.9nm,0.9s,baz=317,slow=9.5,SNR=3.6
H11S2 WAKE ISLAND Hy 88.61 291 T T 08 55 03.7
baz=119,slow=76,SNR=28
H11S1 WAKE ISLAND Hy 88.62 291 T T 08 55 04.2
baz=119,slow=76,SNR=49
H11S3 WAKE ISLAND Hy 88.62 291 T T 08 55 04.5
baz=119,slow=76,SNR=23
H11N3 WAKE ISLAND Hy 89.02 293 T T 08 55 37.6
baz=120,slow=75,SNR=14
YKA Yellowknife Ar 89.03 360 P P 07 17 04.1 +1.3
comp=Z,2.9nm,0.9s,baz=160,slow=4.3,SNR=3.9
H11N1 WAKE ISLAND Hy 89.04 293 T T 08 55 43.0
baz=120,slow=75,SNR=18
H11N2 WAKE ISLAND Hy 89.04 293 T T 08 55 36.1
baz=120,slow=75,SNR=18
KRVT Keravat (AS076 91.10 265 LR LR 07 50 31.1
comp=Z,676nm,21.4s,baz=127,slow=30
PMG Port Moresby 93.07 258 *i*P **P 07 17 21.6 -1.3**
PMG pmax pmax
comp=Z,22nm,1.1s
KTH Kantishna Hill 94.56 345 P P 07 17 27.9 -0.7
ILAR Eielson Array 94.72 347 P P 07 17 29.9 +0.7
comp=Z,0.7nm,0.9s,baz=182,slow=4.1,SNR=5.1
COLA College 95.01 346 *i*P **P 07 17 30.8 +0.3**
COLA pmax pmax

comp=Z,6.0nm,1.2s
ASAR Alice Springs 96.95 239 P **P 07 17 40.9 +0.3**
comp=Z,0.5nm,0.9s,baz=124,slow=4.8,SNR=3.3
COLD Coldfoot 97.53 347 P Pdif 07 17 44.8 +2.8
baz=148
WRA Warramunga Arr 98.62 243 P Pdif 07 17 49.6 +1.5
comp=Z,0.9nm,1.0s,baz=121,slow=4.6,SNR=4.5
H01W1 Cape Leeuwin H 103.21 219 T T 09 13 20.0
baz=134,slow=75,SNR=10.0
H01W2 Cape Leeuwin H 103.21 219 T T 09 13 16.8
baz=134,slow=75,SNR=11
H01W3 Cape Leeuwin H 103.22 219 T T 09 13 21.9
baz=134,slow=75,SNR=11
PET Petropavlovsk 109.12 320 *e*P **Pdif 07 18 32.2 -1.6**
PET pmax pmax
comp=Z,100nm,12.8s
TIXI Tiksi 123.55 340 *i* PKIKP **PKiKP 07 23 05.4 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
KLR Kul'dur 125.06 313 *i* PKIKP **PKPdf 07 23 08.2 -0.4**
KLR pmax pmax
comp=Z,1.0nm,0.9s
YAK Yakutsk 125.39 329 *i* PKIKP **PKiKP 07 23 09.6 +0.5**
YAK pmax pmax
comp=Z,13nm,0.4s
HIA Hailar 132.90 313 *i* PKIKP **PKPdf 07 23 20.3 -3.2**
NJ2 Nanjing 133.57 290 *e*PKP **PKPdf 07 23 24.6 -0.7**
HHC Hu-ho-hao-te 139.66 302 *e*PKP **PKPdf 07 23 36.7 +0.2**
KLMR Klimovskoe 141.74 20 *e*PKIKP **PKPdf 07 23 37.5 -1.9**
KLMR *e* 07 26 42.8
KLMR pmax pmax
comp=Z,17nm,1.3s
KLMR Klimovskoe 141.74 20 *e*PKPdf **PKPdf 07 23 37.5 -1.9**
KLMR AMP 07 23 42.1
comp=Z,17nm,1.3s
KLMR *e*PP **PP 07 26 42.8 -0.7**
SONM Songino Array 141.85 314 PKP **PKPdf 07 23 41.0 +0.7**
comp=Z,1.6nm,0.7s,baz=116,slow=1.0,SNR=4.4
SONM Songino Array 141.85 314 PKIKP **PKPdf 07 23 41.0 +0.7**
TLY Talaya 142.05 321 *i* PKIKP **PKPdf 07 23 41.1 +0.8**
TLY pmax pmax
comp=Z,4.0nm,1.0s
PRGR Permogore 142.77 15 *e*PKIKP **PKPdf 07 23 38.4 -2.8**
PRGR pmax pmax
comp=Z,9.0nm,0.7s
ZAK Zakamensk 142.81 319 *e*PKIKP **PKPdf 07 23 40.6 -1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
MLR Muntele Rosu 143.56 49 PKIKP **PKPdf 07 23 43.2 -0.1**
MLR Muntele Rosu 143.56 49 **PKPdf 07 23 43.2 -0.1**
AKASG Malin Array Be 143.63 39 PKP PKPbc 07 23 40.9 +0.4
comp=Z,0.3nm,0.4s,baz=284,slow=3.7,SNR=3.2
OBN Obninsk 144.82 29∥ *e*PKIKP **PKPdf 07 23 45.0 0.0**
OBN *e* 07 27 03.0
OBN *e*PPP PPP 07 30 15.7
OBN *e* 07 30 50.1
OBN pmax pmax
comp=Z,16nm,1.2s
LZH Lanzhou 146.14 295 *e*PKPbc **PKPab 07 23 49.9 +0.1**
LZH pPKP sPKPab 07 23 55.8 +2.9
CD2 Chengdu 146.29 286 PKPbc **PKPdf 07 23 46.5 -1.9**
KIRV Kirov 146.36 15 PKPbc **PKPab 07 23 49.9 +0.3**
comp=Z,14nm,0.6s,baz=7.4,slow=5.0,SNR=5.8
KMI Kunming 146.48 276 PKPbc **PKPab 07 23 51.0 -0.5**
LPSR Galich'ya Gora 147.54 30 *e*PKP2 **PKPab 07 23 53.6 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 148.03 262 PKPbc **PKPbc 07 23 55.5 +0.7**
comp=Z,8.3nm,0.9s,baz=91,slow=0.8,SNR=12
CHTO Chiang Mai 148.15 263 PKP2 **PKPab 07 23 57.8 -0.1**
CHTO Chiang Mai 148.15 263 PKPab **PKPab 07 23 57.8 -0.1**
ELL Elmali 148.41 63 PKP2 **PKPab 07 23 58.4 -0.2**
ELL Elmali 148.41 63 **PKPab 07 23 58.4 -0.2**
VSR Storozhevoye 148.57 32 *e*PKP2 **PKPbc 07 23 55.7 +0.6**
VSR pmax pmax
comp=Z,30nm,1.0s
GTA Gaotai 148.78 302 *e*PKPbc **PKiKP 07 23 58.3 +0.6**
GTA PKPab **sPKPab 07 24 08.0 +4.8**
GTA LR LR
comp=N,1μm,21.3s
GTA LR LR
comp=E,1μm,20.9s
GTA LR LR
comp=Z,2μm,20.9s
ZALV Zalesovo Beam 149.37 337 PKPbc **PKPbc 07 23 56.2 -0.8**
comp=Z,6.7nm,0.7s,baz=27,slow=3.6,SNR=19
ZALV Zalesovo Beam 149.37 337 **PKPbc 07 23 56.0 -1.1**
VRH Novokhopyorsk 149.76 30 *e*PKP2 **PKiKP 07 23 58.6 -0.5**
VRH pmax pmax
comp=Z,40nm,0.8s
SVE Sverdlovsk 149.85 5 *e*PKP2 **PKiKP 07 24 00.0 +0.9**
SVE pmax pmax
comp=Z,20nm,1.4s
ARU Arti 150.04 8 PKPbc **PKPbc 07 23 58.2 -0.4**
comp=Z,2.3nm,0.6s,baz=287,slow=3.1,SNR=8.8
ARU Arti 150.04 8 *i* PKHKP **PKPdf 07 23 54.4 +0.7**
ARU pmax pmax
comp=Z,24nm,1.2s
BRTR Keskin Array B 150.66 56 PKPbc **PKPbc 07 23 59.6 -1.3**
comp=Z,7.5nm,1.1s,baz=202,slow=1.3,SNR=12
BRTR Keskin Array B 150.66 56 **PKPbc 07 24 00.4 -0.5**
KURK Kurchatov 154.12 341 PKIKP **PKiKP 07 24 08.9 +0.8**
KURBB Kurchatov Arra 154.23 341 PKPbc **PKiKP 07 24 08.9 +0.6**
comp=Z,4.4nm,0.7s,baz=26,slow=1.9,SNR=13
WMQ Urumqi 155.28 319 *e*PKP **PKPdf 07 24 01.3 -0.6**
WMQ AMB AMB
comp=Z,270nm,7.7s
WMQ LR LR
comp=Z,830nm,21.3s
WMQ LR LR
comp=Z,940nm,21.3s
WMQ LR LR
comp=Z,760nm,26.7s
MKAR Makanchi Array 156.04 331 PKPbc PKPbc 07 24 12.2
comp=Z,1.3nm,0.8s,baz=48,slow=3.0,SNR=7.7

BEO 06 07:12:04.3±0.2, 44°.23N×20°.79E, h4km±4km, ML1.4/10, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRUS	**Trudelj**	**0.27**	**268**	*e*Pg	Pg	07 12 08.7	-0.9
TRUS				*e*Sg	Sg	07 12 13.3	+0.1
GRUS	**Gruza**	**0.35**	**188**	*e*Pg	Pg	07 12 10.8	-0.2
GRUS				*e*Sg	Sg	07 12 16.2	+0.7
DIVS	**Divibare**	**0.59**	**257**	*e*Pg	Pg	07 12 15.6	0.0
DIVS				*e*Sg	Sg	07 12 24.4	+1.2
BOVS	**Bovan**	**0.89**	**132**	*e*Pg	Pg	07 12 19.9	-1.5
BOVS				*e*Sg	Sg	07 12 32.5	-0.5
TEKS	**Tekeris**	**0.96**	**290**	*e*Pg	Pg	07 12 20.8	-1.8
TEKS				*e*Sg	Sg	07 12 34.5	-0.5
SELS	**Selova**	**1.04**	**166**	*e*Pg	Pg	07 12 23.0	-1.2
SELS				*e*Sg	Sg	07 12 38.0	+0.3
ZAGS	**Zajecar**	**1.12**	**111**	*e*Pg	Pg	07 12 24.7	-1.1
ZAGS				*e*Sg	Sg	07 12 40.3	-0.1
SJES	**Sjenica**	**1.14**	**212**	*e*Pg	Pg	07 12 24.3	-1.8
SJES				*e*Sg	Sg	07 12 40.3	-0.5
FRGS	**Fruska Gora**	**1.16**	**323**	*e*Pg	Pg	07 12 25.3	-1.2
FRGS				*e*Sg	Sg	07 12 40.9	-0.6
BZS	**Buzias**	**1.50**	**23**	*e*Pg	Pn	07 12 31.3	-0.8
BZS				*e*Sg	Sg	07 12 52.6	-0.1
BARS	**Barje**	**1.60**	**152**	*e*Pg	Pn	07 12 33.2	-0.2
BARS				*e*Sg	Sb	07 12 55.0	0.0
ZAPS	**Zavoj**	**1.65**	**125**	*e*Pg	Pn	07 12 33.8	-0.2
ZAPS				*e*Sg	Sb	07 12 56.2	-0.1

IDC 06 07:17:03.5±1.3, 55°.24S×28°.14W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/23, mbtmp3.9/4, Error ellipse: s-maj=45.8km s-min=30.5km az=71.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**35.87**	**312**	P	P	07 24 04.1	-0.7
2.5nm,1.0s,baz=157,slow=9.0,SNR=4.0							
VNDA	**Vanda**	**47.35**	**183**	P	P	07 25 38.2	-0.2
0.8nm,0.6s,baz=199,slow=5.4,SNR=6.0							
LPAZ	**La Paz**	**49.47**	**306**	P	P	07 25 56.5	+0.4
1.1nm,0.6s,baz=148,slow=7.7,SNR=8.8							
TORD	**Torodi Ar. Bea**	**72.62**	**31**	P	P	07 28 32.6	+0.1
0.7nm,0.5s,baz=196,slow=5.8,SNR=4.6							
ILAR	**Eielson Array**	**149.17**	**313**	PKPbc	PKPbc	07 36 51.7	-0.6
1.9nm,0.6s,baz=121,slow=2.0,SNR=26							

DDA ***06*** *07:29:19.1, 36°.23N×30°.91E, h51km±4km, ML3.2*
NIC ***06*** *07:29:19.4±0.0, 36°.23N×30°.95E, h77km±4km, Ml3.5/4*
ISK ***06*** *07:29:19.7, 36°.21N×30°.93E, h58km±2km, ML3.3/25*
ISC 06 07:29:21.0±1.2, 36°.21N±0°.03×30°.92E±0°.02, h52km±12km, n72, σ0.996/99, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.48**	**283**	*i* P	**Pn**	**07 29 31.5**	**-0.7**
AKUM				*i* S	**Sn**	**07 29 42.3**	**+2.1**
AKUM				IAML		07 29 45.0	
comp=N,1μm,0.4s							
AKUM				IAML		07 29 46.0	
comp=E,1μm,0.5s							
KEMT	**Kemer-ANTALYA**	**0.49**	**323**	PG	**Pn**	**07 29 32.1**	**-0.1**
ANTB	**Antalya**	**0.72**	**343**	PG	**Pn**	**07 29 34.5**	**-0.5**
ANTB				SG	**Sn**	**07 29 45.3**	**0.0**
DEMR	**Demre-Antalya**	**0.82**	**272**	PG	**Pn**	**07 29 36.1**	**-0.3**
DEMR				SG	**Sn**	**07 29 48.1**	**+0.4**
KEPZ	**Antalya-Kepez**	**0.88**	**38**	*i* P	**Pn**	**07 29 36.1**	**-1.1**
KEPZ				*i* S	**Sn**	**07 29 47.1**	**-2.0**
KEPZ				IAML		07 29 48.0	
comp=E,799nm,0.5s							
KEPZ				IAML		07 29 48.0	
comp=N,1μm,0.4s							
KORT	**Korkueli**	**0.91**	**330**	PG	**Pn**	**07 29 37.5**	**-0.2**
KORT				SG	**Sn**	**07 29 50.2**	**+0.2**
KORT	**Korkueli**	**0.91**	**330**	*i* P	**Pn**	**07 29 38.8**	**+1.1**
KORT				*i* S	**Sn**	**07 29 52.2**	**+2.2**
ALAN	**Alanya-ANTALYA**	**0.96**	**69**	PG	**Pn**	**07 29 37.6**	**-0.6**
ELL	**Elmali**	**0.98**	**303**	PG	**Pn**	**07 29 38.4**	**-0.2**
ELL				SG	**Sn**	**07 29 51.7**	**+0.2**
ELL	**Elmali**	**0.98**	**303**	P	**Pn**	**07 29 38.6**	**0.0**
ELL				S	**Sn**	**07 29 53.0**	**+1.5**
AKAS	**Kas**	**1.07**	**271**	PG	**Pn**	**07 29 39.5**	**-0.3**
AKAS				SG	**Sn**	**07 29 53.9**	**+0.3**
AKAS	**Kas**	**1.07**	**271**	*i* P	**Pn**	**07 29 38.7**	**-1.0**
AKAS				*i* S	**Sn**	**07 29 51.7**	**-2.0**
KSL	**Kastellorizon**	**1.09**	**267**	P	**Pn**	**07 29 40.0**	**+0.1**
KSL				AML	AML	07 29 54.9	
comp=N,0.7nm,0.6s							
KSL				AML	AML	07 29 54.9	
comp=N,0.7nm,0.6s							
KSL				S	**Sn**	**07 29 55.6**	**+1.7**
KSL				AML	AML	07 29 56.4	
comp=N,1.1nm,0.7s							
KSL				AML	AML	07 29 56.4	
comp=N,1.1nm,0.7s							
GAZI	**Gazipasa**	**1.13**	**89**	PN	**Pn**	**07 29 39.6**	**-0.9**
GAZI	**Gazipasa**	**1.13**	**89**	*i* P	**Pn**	**07 29 39.5**	**-1.0**
GAZI				*i* S	**Sn**	**07 29 52.4**	**-2.6**
GAZI				IAML		07 29 55.0	
comp=N,680nm,0.6s							
GAZI				IAML		07 29 55.0	
comp=E,437nm,0.4s							
BCK	**Bucak**	**1.27**	**348**	PN	**Pn**	**07 29 42.5**	**0.0**
BCK				SN	**Sn**	**07 29 58.8**	**+0.2**
SEYD	**Seydisehir-KON**	**1.40**	**31**	PN	**Pn**	**07 29 43.9**	**-0.3**
SEYD				SN	**Sn**	**07 30 01.4**	**-0.3**
GOLH	**Golhisar**	**1.50**	**313**	*i* P	**Pn**	**07 29 47.1**	**+1.5**
FETY	**Fethiye**	**1.54**	**286**	PN	**Pn**	**07 29 46.3**	**+0.2**
FETY				SN	**Sn**	**07 30 05.2**	**+0.2**
FETY	**Fethiye**	**1.54**	**286**	*i* P	**Pn**	**07 29 46.5**	**+0.4**
FETY				*i* S	**Sn**	**07 30 05.3**	**+0.3**
BRDR	**BURDUR-Merkez**	**1.63**	**335**	*i* P	**Pn**	**07 29 47.9**	**+0.5**
ISP	**Isparta**	**1.64**	**349**	PN	**Pn**	**07 29 47.8**	**+0.3**
ISP				SN	**Sn**	**07 30 07.6**	**+0.1**
AKMS	**Akamas**	**1.66**	**136**	P	**Pn**	**07 29 47.5**	**-0.1**
AKMS				AML	AML	07 30 18.7	
comp=E,1.0nm,0.5s							
AKMS				AML	AML	07 30 18.9	
comp=E,1.8nm,0.4s							
ERMK	**Ermenek**	**1.66**	**75**	*i* P	**Pn**	**07 29 50.3**	**+2.4**
ERMK				*i* S	**Sn**	**07 30 12.7**	**+4.5**
ALFC	**Alefka**	**1.73**	**127**	P	**Pn**	**07 29 47.8**	**-0.8**
ALFC				AML	AML	07 30 16.2	
comp=E,1.4nm,0.6s							
ALFC				AML	AML	07 30 19.4	
comp=E,1.2nm,0.4s							
TEKE	**Tekeli-Mersin**	**1.77**	**92**	PN	**Pn**	**07 29 49.3**	**+0.1**
BAGO	**Egridir - ISPA**	**1.78**	**357**	*i* P	**Pn**	**07 29 48.9**	**-0.4**
BASM	**Basmaki-Afyon**	**1.84**	**338**	PN	**Pn**	**07 29 50.2**	**0.0**
AKDN	**Akdeniz- Kıbrı**	**1.90**	**118**	PN	**Pn**	**07 29 51.1**	**+0.2**
DALY	**Dalyan (Mula)**	**1.93**	**289**	PN	**Pn**	**07 29 51.5**	**+0.2**
DALY	**Dalyan (Mula)**	**1.93**	**289**	*i* P	**Pn**	**07 29 51.1**	**-0.2**
DALY				*i* S	**Sn**	**07 30 13.6**	**-0.7**
KMER	**Konya-Meram**	**1.94**	**36**	*i* P	**Pn**	**07 29 51.9**	**+0.4**
KMER				*i* S	**Sn**	**07 30 14.9**	**+0.1**
KMER				IAML		07 30 17.0	
comp=N,233nm,0.4s							
KMER				IAML		07 30 19.0	
comp=E,116nm,0.4s							
LEF	**Lefka**	**1.94**	**124**	PN	**Pn**	**07 29 50.4**	**-1.0**
LEF	**Lefka**	**1.94**	**124**	*i* P	**Pn**	**07 29 50.5**	**-1.0**
DOGA	**KONYA_Doganhis**	**1.98**	**17**	*i* P	**Pn**	**07 29 52.6**	**+0.4**
DOGA				*i* S	**Sn**	**07 30 14.6**	**-1.4**
DOGA				IAML		07 30 17.0	
comp=N,174nm,0.6s							
DOGA				IAML		07 30 23.0	
comp=E,118nm,0.7s							
YORU	**Yoruktepe-Mers**	**2.01**	**91**	PN	**Pn**	**07 29 52.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**2.04**	**308**	*i* P	**Pn**	**07 29 53.4**	**+0.4**
TAVA				*i* S	**Sn**	**07 30 16.1**	**-1.2**
TEVE	**Tevekalti-Mers**	**2.05**	**83**	PN	**Pn**	**07 29 53.2**	**+0.2**
KONT	**Konya--Tatoy**	**2.08**	**33**	PN	**Pn**	**07 29 53.5**	**+0.1**
KONT	**Konya--Tatoy**	**2.08**	**33**	*i* P	**Pn**	**07 29 52.9**	**-0.5**
KRMN	**Karaman**	**2.11**	**62**	PN	**Pn**	**07 29 54.0**	**+0.1**
GULN	**MERSIN_Gulnar**	**2.12**	**90**	*i* P	**Pn**	**07 29 54.9**	**+1.0**
GULN				*i* S	**Sn**	**07 30 20.6**	**+1.5**
GULN				IAML		07 30 25.0	
comp=N,118nm,0.4s							
GULN				IAML		07 30 25.0	
comp=E,142nm,0.5s							
KZIL	**AFYON_Kizioren**	**2.13**	**343**	*i* P	**Pn**	**07 29 53.9**	**-0.4**
KZIL				*i* S	**Sn**	**07 30 19.1**	**-0.5**
SZAC	**Souni**	**2.16**	**132**	P	**Pn**	**07 29 55.0**	**+0.4**
SZAC				AML	AML	07 30 38.4	
comp=E,0.7nm,0.5s							
SZAC				AML	AML	07 30 45.4	
comp=E,0.9nm,0.6s							
YESI	**Yesilovacik-Me**	**2.20**	**90**	PN	**Pn**	**07 29 55.3**	**+0.3**
TISA	**Tisan-Mersin**	**2.23**	**91**	PN	**Pn**	**07 29 55.7**	**+0.2**
TURN	**Turunc**	**2.23**	**285**	PN	**Pn**	**07 29 55.6**	**+0.2**
TURN	**Turunc**	**2.23**	**285**	*i* P	**Pn**	**07 29 54.6**	**-0.8**
TURN				*i* S	**Sn**	**07 30 21.0**	**-0.8**
TURN				IAML		07 30 22.0	
comp=E,92nm,0.3s							
TURN				IAML		07 30 23.0	
comp=N,92nm,0.3s							
IKL	**Isikli**	**2.23**	**89**	PN	**Pn**	**07 29 55.9**	**+0.4**
MRSB	**Marmaris-Mugla**	**2.25**	**284**	PN	**Pn**	**07 29 56.1**	**+0.3**
ARG	**Arkhangelos**	**2.26**	**271**	PN	**Pn**	**07 29 55.6**	**-0.3**
ARG	**Arkhangelos**	**2.26**	**271**	P	**Pn**	**07 29 55.3**	**-0.6**
KEBE	**Keben-Mersin**	**2.27**	**83**	PN	**Pn**	**07 29 56.2**	**+0.2**
LADK	**Ladik-KONYA**	**2.29**	**30**	PN	**Pn**	**07 29 56.3**	**-0.1**
YER	**Yerkesik**	**2.31**	**294**	PN	**Pn**	**07 29 56.9**	**+0.2**
CSS	**Mathiatis**	**2.33**	**122**	P	**Pn**	**07 29 55.6**	**-1.2**
CSS				S	**Sn**	**07 30 24.9**	**+0.6**
SHUT	**Suhut-Afyon**	**2.35**	**353**	PN	**Pn**	**07 29 57.5**	**+0.2**
ASGA	**Asgata**	**2.37**	**126**	P	**Pn**	**07 29 56.8**	**-0.6**
BOLV	**Bolvadin**	**2.50**	**0**	*i* P	**Pn**	**07 29 59.7**	**+0.4**
MVOU	**Mavrovouni**	**2.51**	**118**	P	**Pn**	**07 29 57.9**	**-1.4**
OSC1	**CSNet OBS 1**	**2.72**	**174**	P	**Pn**	**07 30 01.6**	**-0.6**
OSC1				S	**Sn**	**07 30 35.0**	**+1.1**
DAT	**Datca**	**2.75**	**282**	PN	**Pn**	**07 30 02.6**	**0.0**
DAT	**Datca**	**2.75**	**282**	*i* P	**Pn**	**07 30 02.2**	**-0.4**
KIZT	**Kizilcal**	**2.77**	**16**	PN	**Pn**	**07 30 02.4**	**-0.6**
AYDN	**Tasoluk**	**2.83**	**302**	*i* P	**Pn**	**07 30 03.4**	**-0.4**
KULA	**Kula-Manisa**	**2.92**	**323**	PN	**Pn**	**07 30 04.8**	**-0.2**
BDRM	**Kayabasi**	**2.92**	**288**	*i* P	**Pn**	**07 30 04.5**	**-0.5**
BODT	**Bodrum**	**3.03**	**287**	PN	**Pn**	**07 30 06.4**	**0.0**
GDZ	**Gediz**	**3.09**	**339**	*i* P	**Pn**	**07 30 06.8**	**-0.6**
KARP	**Karpathos**	**3.13**	**259**	P	**Pn**	**07 30 07.9**	**+0.1**
OSC2	**CSNet OBS 4**	**3.32**	**160**	S	**Sn**	**07 30 49.1**	**+0.5**
DGB	**zmir**	**3.71**	**301**	*i* P	**Pn**	**07 30 14.8**	**-1.0**

NEIC ***06*** *07:36:56.5±1.1, 19°.15N±0°.10×65°.76W±0°.04, h36km±45km, Error ellipse: s-maj=14.0km s-min=5.4km az=188.0*
RSPR 06 07:36:57.6, 19°.09N×65°.76W, h36km±9km, MD3.0/13, 21C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.82**	**187**∥	*e*P	Pn	07 37 11.1	-1.7
CBYP	**Canovanas**	**0.82**	**187**	*e*S	Sn	07 37 22.1	-1.7
CBYP	**Canovanas**	**0.82**	**187**∥	*e*P	Pn	07 37 10.9	-1.8
CBYP	**Canovanas**	**0.82**	**187**	*e*S	Sn	07 37 22.0	-1.8
CBYP	**Canovanas**	**0.82**	**187**		Pn	07 37 11.2	-1.6
CBYP					Sn	07 37 24.7	+0.9
GCPR	**Guaynabo City**	**0.84**	**202**∥	*e*P	Pn	07 37 11.3	-1.6
GCPR	**Guaynabo City**	**0.84**	**202**	*e*S	Sn	07 37 22.4	-1.7
GCPR	**Guaynabo City**	**0.84**	**202**∥	*e*P	Pn	07 37 11.3	-1.7
GCPR	**Guaynabo City**	**0.84**	**202**	*e*S	Sn	07 37 22.2	-1.9
GCPR	**Guaynabo City**	**0.84**	**202**		Pn	07 37 11.3	-1.6
GCPR					Sn	07 37 23.7	-0.4
CUPR	**Culebra, Puert**	**0.90**	**150**∥	*e*P	Pn	07 37 12.3	-1.4
CUPR	**Culebra, Puert**	**0.90**	**150**	*e*S	Sn	07 37 24.7	-0.9
CUPR	**Culebra, Puert**	**0.90**	**150**∥	*e*P	Pn	07 37 12.3	-1.5
CUPR	**Culebra, Puert**	**0.90**	**150**	*e*S	Sn	07 37 25.1	-0.5
CUPR	**Culebra, Puert**	**0.90**	**150**		Pn	07 37 12.4	-1.4
CUPR					Sn	07 37 26.0	+0.4
EMPR	**Esperanza - Ma**	**0.96**	**230**∥	*e*P	Pn	07 37 13.2	-1.2
EMPR	**Esperanza - Ma**	**0.96**	**230**	*e*S	Sn	07 37 25.6	-1.3
EMPR	**Esperanza - Ma**	**0.96**	**230**∥	*e*P	Pn	07 37 13.3	-1.2
EMPR	**Esperanza - Ma**	**0.96**	**230**	*e*S	Sn	07 37 25.6	-1.3
EMPR	**Esperanza - Ma**	**0.96**	**230**		Pn	07 37 13.8	-0.7
EMPR					Sn	07 37 27.2	+0.4
MTP	**Monte Pirata**	**1.01**	**169**∥	*e*P	Pn	07 37 13.8	-1.4
MTP	**Monte Pirata**	**1.01**	**169**	*e*S	Sn	07 37 27.2	-1.0
MTP	**Monte Pirata**	**1.01**	**169**∥	*e*P	Pn	07 37 13.9	-1.3
MTP	**Monte Pirata**	**1.01**	**169**	*e*S	Sn	07 37 27.2	-1.0
MTP	**Monte Pirata**	**1.01**	**169**		Pn	07 37 13.9	-1.3
MTP	**Monte Pirata**	**1.01**	**169**		Sn	07 37 27.6	-0.6
STVI	**Saint Thomas**	**1.06**	**134**∥	*e*P	Pn	07 37 15.1	-0.8
STVI	**Saint Thomas**	**1.06**	**134**	*e*S	Sn	07 37 28.8	-0.6
STVI	**Saint Thomas**	**1.06**	**134**∥	*e*P	Pn	07 37 15.2	-0.8
STVI	**Saint Thomas**	**1.06**	**134**	*e*S	Sn	07 37 29.5	+0.1
STVI	**Saint Thomas**	**1.06**	**134**		Pn	07 37 15.5	-0.4
STVI	**Saint Thomas**	**1.06**	**134**		Sn	07 37 29.5	+0.1
PDPR	**Patillas Dam,**	**1.10**	**193**∥	*e*P	Pn	07 37 14.9	-1.5
PDPR	**Patillas Dam,**	**1.10**	**193**	*e*S	Sn	07 37 29.4	-1.0
PDPR	**Patillas Dam,**	**1.10**	**193**∥	*e*P	Pn	07 37 14.9	-1.6
PDPR	**Patillas Dam,**	**1.10**	**193**	*e*S	Sn	07 37 28.9	-1.5
PDPR	**Patillas Dam,**	**1.10**	**193**		Pn	07 37 16.3	-0.2
PDPR					Sn	07 37 31.4	+1.0
IGPR	**InterUniversit**	**1.17**	**197**∥	*e*P	Pn	07 37 16.1	-1.4
IGPR	**InterUniversit**	**1.17**	**197**	*e*S	Sn	07 37 31.0	-1.1
IGPR	**InterUniversit**	**1.17**	**197**∥	*e*P	Pn	07 37 16.2	-1.3
IGPR	**InterUniversit**	**1.17**	**197**	*e*S	Sn	07 37 31.1	-1.1
IGPR	**InterUniversit**	**1.17**	**197**	Pn	Pn	07 37 17.1	-0.3
AOPR	**Arecibo Observ**	**1.20**	**232**∥	*e*P	Pn	07 37 16.7	-1.2
AOPR	**Arecibo Observ**	**1.20**	**232**	*e*S	Sn	07 37 31.9	-1.0
AOPR	**Arecibo Observ**	**1.20**	**232**∥	*e*P	Pn	07 37 16.7	-1.2
AOPR	**Arecibo Observ**	**1.20**	**232**	*e*S	Sn	07 37 31.6	-1.4
AOPR	**Arecibo Observ**	**1.20**	**232**		Pn	07 37 17.2	-0.8
AOPR					Sn	07 37 33.1	+0.1
CELP	**Cerrillos**	**1.28**	**218**∥	*e*P	Pn	07 37 17.9	-1.1
CELP	**Cerrillos**	**1.28**	**218**	*e*S	Sn	07 37 33.9	-1.0
CELP	**Cerrillos**	**1.28**	**218**∥	*e*P	Pn	07 37 18.0	-0.9
CELP	**Cerrillos**	**1.28**	**218**	*e*S	Sn	07 37 33.6	-1.2
CELP	**Cerrillos**	**1.28**	**218**		Pn	07 37 18.0	-0.9
CELP					Sn	07 37 33.6	-1.2
OBIP	**Obispado Ponce**	**1.32**	**218**∥	*e*P	Pn	07 37 17.9	-1.6
OBIP	**Obispado Ponce**	**1.32**	**218**	*e*S	Sn	07 37 34.4	-1.4
OBIP	**Obispado Ponce**	**1.32**	**218**∥	*e*P	Pn	07 37 17.9	-1.6
OBIP	**Obispado Ponce**	**1.32**	**218**	*e*S	Sn	07 37 34.3	-1.5
OBIP	**Obispado Ponce**	**1.32**	**218**		Pn	07 37 19.2	-0.3
OBIP					Sn	07 37 35.9	0.0
AGPR	**Aguadilla, PR**	**1.43**	**244**∥	*e*P	Pn	07 37 20.3	-0.7
AGPR	**Aguadilla, PR**	**1.43**	**244**	*e*S	Sn	07 37 37.9	-0.6
AGPR	**Aguadilla, PR**	**1.43**	**244**∥	*e*P	Pn	07 37 20.2	-0.8
AGPR	**Aguadilla, PR**	**1.43**	**244**	*e*S	Sn	07 37 37.7	-0.8
AGPR	**Aguadilla, PR**	**1.43**	**244**		Pn	07 37 20.4	-0.6
AGPR					Sn	07 37 38.0	-0.5
MPR	**Mayaguez**	**1.58**	**236**	Pn	Pn	07 37 22.8	-0.3
CDVI	**St. Croix**	**1.63**	**145**	Pn	Pn	07 37 24.7	+0.9
MLPR	**Magueyes Islan**	**1.66**	**228**∥	*e*P	Pn	07 37 23.5	-0.6
MLPR	**Magueyes Islan**	**1.66**	**228**	*e*S	Sn	07 37 43.4	-0.7
MLPR	**Magueyes Islan**	**1.66**	**228**∥	*e*P	Pn	07 37 23.4	-0.8
MLPR	**Magueyes Islan**	**1.66**	**228**	*e*S	Sn	07 37 43.1	-1.0
MLPR	**Magueyes Islan**	**1.66**	**228**		Pn	07 37 23.4	-0.8
MLPR	**Magueyes Islan**	**1.66**	**228**		Sn	07 37 45.6	+1.5
CRPR	**Cabo Rojo, PR**	**1.68**	**230**∥	*e*P	Pn	07 37 23.3	-1.1
CRPR	**Cabo Rojo, PR**	**1.68**	**230**	*e*S	Sn	07 37 44.1	-0.6
CRPR	**Cabo Rojo, PR**	**1.68**	**230**		Pn	07 37 24.1	-0.3
**

TAOE Nuku Hiva Isla 30.07 302 IAMs_20 IAMs_20 08 03 24.2
comp=Z,12µm,20.0s
H03N2 Juan Fernandez 31.43 111 T T 08 27 52.6
baz=277,slow=74,SNR=6263
H03N3 Juan Fernandez 31.43 111 T T 08 27 53.9
baz=277,slow=74,SNR=8144
H03N1 Juan Fernandez 31.44 111 T T 08 27 53.7
baz=277,slow=74,SNR=5545
TBI Tubuai 31.73 268 *e*S **S 08 00 04.6 -3.7**
TBI comp=Z,2µm,29.0s
*e*LQ LQ 08 01 49.7
TBI comp=Z,14µm,33.2s
*e*LR LR 08 03 10.0
TBI comp=Z,13µm,28.5s
TBI Tubuai 31.73 268 *e*T T 08 28 13.6
comp=Z,132nm,0.3s
PMOR Pomariorio Ree 33.16 284 *e*P **P 07 55 10.9 -0.2**
comp=Z,204nm,1.2s
TIAR Tiarei 33.40 279 *e*P **P 07 55 12.4 -0.7**
comp=Z,43nm,1.0s
PPTF Pamatai, Papee 33.58 278 P 07 55 16.3 +1.5
PPTF IAMs_20 IAMs_20 08 04 44.4
comp=Z,7µm,21.0s
PPT2 Papeete2 33.59 278 *e*P **P 07 55 14.4 -0.5**
comp=Z,143nm,1.2s
PPT2 *e*S **S 08 00 35.6 -1.9**
comp=Z,4µm,26.8s
PPT2 *e*LQ LQ 08 02 40.0
comp=Z,14µm,30.2s
PPT2 *e*LR LR 08 04 02.2
comp=Z,16µm,25.8s,baz=105
PPT Papeete 33.60 279 LR LR 08 05 04.9
comp=Z,6µm,18.2s,baz=107,slow=29
GO05 Huala 37.27 113 IAMs_20 IAMs_20 08 06 37.5
comp=Z,8µm,20.0s
LL01 San Ignacio de 37.62 125 P 07 55 50.0 +0.8
BI02 San Fabin de 37.85 116 P **P 07 55 52.0 +0.7**
BI02 IAMs_20 IAMs_20 08 06 57.9
comp=Z,8µm,22.0s
CO02 Combarbal 38.18 107 P **P 07 55 54.4 +0.2**
BO02 Sierra Bellavi 38.21 113 IAMs_20 IAMs_20 08 07 03.5
comp=Z,7µm,21.0s
MT05 Renca 38.28 111 IAMs_20 IAMs_20 08 07 03.2
comp=Z,7µm,22.0s
PEL Peldehue 38.33 110 P **P 07 55 55.6 +0.2**
PEL pmax pmax
comp=Z,151nm,1.9s
PEL Peldehue 38.33 110 P **P 07 55 55.6 +0.2**
PEL IAmb IAmb 07 56 04.2
comp=Z,151nm,1.9s
PEL IAMs_20 IAMs_20 08 06 54.8
comp=Z,7µm,22.0s
NNA Nana 38.34 75 P **P 07 55 55.0 -0.6**
NNA pmax pmax
comp=Z,69nm,1.4s
NNA Nana 38.34 75 P **P 07 55 55.0 -0.6**
NNA Nana 38.34 75 IAMs_20 IAMs_20 08 07 08.2
comp=Z,8µm,21.0s
GO04 Tololo Observa 38.45 106 P **P 07 55 54.9 -1.7**
GO04 IAmb IAmb 07 56 06.9
comp=Z,96nm,1.3s
AC04 Llanos de Chal 38.46 102 P **P 07 55 55.7 -0.7**
AC04 IAmb IAmb 07 57 18.8
comp=Z,39nm,0.7s
AC04 IAMs_20 IAMs_20 08 07 24.9
comp=Z,6µm,20.0s
VA03 San Esteban 38.46 110 P **P 07 55 55.5 -1.0**
CO03 El Pedregal 38.48 107 P **P 07 55 55.4 -1.3**
LCO Las Campanas 38.67 104 P **P 07 55 57.3 -1.2**
LCO pmax pmax
comp=Z,105nm,1.3s
LCO Las Campanas 38.67 104 P **P 07 55 57.3 -1.2**
LCO IAmb IAmb 07 56 03.8
comp=Z,105nm,1.2s
PLCA Paso Flores 38.75 122 P **P 07 55 58.4 -0.4**
comp=Z,46nm,1.1s,baz=279,slow=8.7,SNR=38
PLCA LR LR 08 07 52.8
comp=Z,5µm,21.9s,baz=280,slow=30
PLCA Paso Flores 38.75 122 P **P 07 55 57.7 -1.2**
PLCA pmax pmax
comp=Z,77nm,1.2s
PLCA Paso Flores 38.75 122 P **P 07 55 57.7 -1.2**
PLCA IAmb IAmb 07 56 05.7
comp=Z,77nm,1.2s
PLCA Paso Flores 38.75 122 *e*P **P 07 56 01.1 +2.3**
AC05 El Transito 39.07 104 P **P 07 56 00.8 -0.9**
AC05 IAmb IAmb 07 56 07.3
comp=Z,158nm,1.3s
CO01 Juntas del Tor 39.08 105 P **P 07 55 60.0 -1.9**
AC01 Pan de Azucar 39.22 99 IAMs_20 IAMs_20 08 07 52.2
comp=Z,9µm,19.0s
GO03 Copiap 39.29 102 P **P 07 56 02.2 -1.3**
PB14 IPOC Station P 39.71 97 IAMs_20 IAMs_20 08 07 52.1
comp=Z,9µm,22.0s
PB10 IPOC Station P 39.83 95 IAMs_20 IAMs_20 08 08 04.4
comp=Z,7µm,19.0s
ZON Zonda 40.13 108 P **P 07 56 11.1 +0.7**
ZON pmax pmax
comp=Z,99nm,1.4s
ZON Zonda 40.13 108 P **P 07 56 11.1 +0.7**
ZON IAmb IAmb 07 56 20.3
comp=Z,99nm,1.4s
GO09 Cerro Castillo 40.13 139 P **P 07 56 09.2 -0.9**
GO09 IAMs_20 IAMs_20 08 08 18.6
comp=Z,6µm,18.0s
GO02 Mina Guanaco 40.31 98 P **P 07 56 11.2 -1.1**
GO02 IAmb IAmb 07 56 19.9
comp=Z,266nm,1.9s
GO02 IAMs_20 IAMs_20 08 08 11.1
comp=Z,6µm,20.0s
AC02 Maricunga 40.39 101 P **P 07 56 10.9 -2.2**
AC02 IAmb IAmb 07 56 20.1
comp=Z,187nm,1.9s
PB04 IPOC Station P 40.49 94 IAMs_20 IAMs_20 08 08 39.0
comp=Z,8µm,18.0s
PB15 IPOC Station P 40.87 95 P **P 07 56 16.1 -0.7**
PB15 IAMs_20 IAMs_20 08 08 37.0
comp=Z,9µm,22.0s
PB07 IPOC Station P 40.89 93 P **P 07 56 16.1 -0.9**
PB07 IAMs_20 IAMs_20 08 08 50.6
comp=Z,8µm,19.0s
PB06 IPOC Station P 40.91 94 P **P 07 56 16.2 -0.9**
PB06 IAMs_20 IAMs_20 08 08 35.0
comp=Z,7µm,20.0s
PATCX Punta Patache 40.91 91 P **P 07 56 15.8 -1.3**
PATCX IAmb IAmb 07 56 22.9
comp=Z,142nm,1.3s
TA01 Diego Aracena 40.97 91 P **P 07 56 16.0 -1.4**
TA01 IAMs_20 IAMs_20 08 08 32.5
comp=Z,8µm,19.0s
PB01 IPOC Station P 41.44 92 P **P 07 56 20.6 -0.8**
PB01 IAMs_20 IAMs_20 08 09 07.2
comp=Z,8µm,19.0s
RAR Rarotonga 41.50 268 LR LR 08 08 55.7
comp=Z,4µm,20.2s,baz=109,slow=29
RAR Rarotonga 41.50 268 IAMs_20 IAMs_20 08 08 35.2
comp=Z,6µm,20.0s
LVC Limon Verde 41.52 95 P **P 07 56 20.8 -1.6**
LVC pmax pmax
comp=Z,189nm,1.7s
LVC Limon Verde 41.52 95 P **P 07 56 20.8 -1.6**
LVC IAmb IAmb 07 56 29.2
comp=Z,189nm,1.6s
LVC Limon Verde 41.52 95 IAMs_20 IAMs_20 08 08 54.2
comp=Z,8µm,20.0s
LVC Limon Verde 41.52 95 *e*P **P 07 56 23.9 +1.5**
PB11 IPOC Station P 41.68 90 P **P 07 56 21.6 -1.8**
PB11 IAmb IAmb 07 56 30.1
comp=Z,128nm,1.7s
MNMC Minye Minye 41.94 89 P **P 07 56 24.7 -1.0**
PB08 IPOC Station P 42.01 91 P **P 07 56 24.6 -1.8**
GO01 Chusmiza 42.12 90 P **P 07 56 25.9 -1.5**
PB16 IPOC Station P 42.28 88 P **P 07 56 27.5 -1.4**
PB16 IAMs_20 IAMs_20 08 09 23.3
comp=Z,7µm,20.0s
USHA Ushuaia 43.62 143 LR LR 08 10 30.2
comp=Z,12µm,19.2s,baz=319,slow=30
OTAV Otavalo 43.92 58 *e*P **P 07 56 41.2 -0.9**
OTAV Otavalo 43.92 58 P **P 07 56 42.3 +0.3**
OTAV pmax pmax
comp=Z,67nm,1.5s
OTAV Otavalo 43.92 58 P **P 07 56 42.3 +0.3**
OTAV Otavalo 43.92 58 IAMs_20 IAMs_20 08 10 04.5
comp=Z,7µm,20.0s
OTAV Otavalo 43.92 58 *e*P **P 07 56 42.4 +0.3**
CZSB Cruzeiro do Su 43.98 72 *e*P **P 07 56 42.3 +0.4**

LPAZ La Paz 44.23 86 P **P 07 56 44.3 -0.4**
comp=Z,28nm,1.2s,baz=229,slow=3.5,SNR=25
LPAZ LR LR 08 11 00.0
comp=Z,7µm,21.1s,baz=247,slow=30
LPAZ La Paz 44.23 86 P **P 07 56 43.3 -1.4**
LPAZ pmax pmax
comp=Z,39nm,1.2s
LPAZ La Paz 44.23 86 P **P 07 56 43.3 -1.4**
LPAZ La Paz 44.23 86 *e*P **P 07 56 44.7 0.0**
H06S1 SOCORRO T 45.38 5 T T 08 45 23.6
SNR=21
GCUF Volcan Galeras 45.40 58 *e*P **P 07 56 55.4 +1.5**
H06E1 SOCORRO T-PHAS 45.43 5 T T 08 45 26.2
SNR=75
H06N1 SOCORRO T-PHAS 45.51 5 T T 08 45 29.4
SNR=18
PUAC Puerto Asis, P 45.56 60 *e*P **P 07 56 53.7 -0.9**
BBAC Balboa, Cauca 45.99 57 *e*P **P 07 56 57.8 -0.4**
RTAL Retalhuleu 46.69 31 IAMs_20 IAMs_20 08 11 31.6
comp=Z,4µm,19.0s
PTLC Puerto Leguiza 46.71 62 *e*P **P 07 57 01.3 -2.3**
TLIG Tlapa 46.74 21 P **P 07 57 03.4 -0.4**
TLIG IAmb IAmb 07 57 15.9
comp=Z,61nm,1.3s
TLIG IAMs_20 IAMs_20 08 11 49.2
comp=Z,6µm,21.0s
JTS Las Juntas de 46.75 42 *i* P **P 07 57 03.8 -0.1**
JTS pmax pmax
comp=Z,76nm,1.4s
JTS Las Juntas de 46.75 42 P **P 07 57 05.1 +1.2**
JTS Las Juntas de 46.75 42 IAMs_20 IAMs_20 08 11 21.7
comp=Z,7µm,19.0s
PCON Cinco Dias 46.84 58 *e*P **P 07 57 04.9 -0.4**
FLOC Florencia 46.92 59 *e*P **P 07 57 05.7 +0.3**
HDC Heredia 47.03 43 P **P 07 57 06.6 +0.4**
HDC IAMs_20 IAMs_20 08 11 36.1
comp=Z,6µm,19.0s
SNET Serv Nac Est T 47.17 35 IAMs_20 IAMs_20 08 11 38.0
comp=Z,4µm,22.0s
GARC Garzon, Huila 47.43 59 *e*P **P 07 57 10.4 +0.9**
ESQI Esquipulas 47.85 34 IAMs_20 IAMs_20 08 12 01.3
comp=Z,5µm,22.0s
YOTC Yotoco, Valle 47.96 56 *e*P **P 07 57 12.9 -0.6**
CCIG Comitan 48.04 30 P **P 07 57 14.8 +0.8**
MATN Matagalpa 48.30 39 P **P 07 57 15.1 -0.9**
MATN IAmb IAmb 07 57 28.6
comp=Z,91nm,1.7s
MATN IAMs_20 IAMs_20 08 12 42.0
comp=Z,5µm,19.0s
ETMB Extrema 48.60 79 *e*P **P 07 57 18.8 +0.4**
PLMC San Jos del P 48.62 55 *e*P **P 07 57 20.0 +1.5**
ESPN Las Esperanzas 48.64 41 IAMs_20 IAMs_20 08 12 20.0
comp=Z,5µm,21.0s
MACC Macarena, Meta 48.67 60 *e*P **P 07 57 18.0 -0.9**
ORTC Ortega, Tolima 48.73 57 *e*P **P 07 57 19.7 +0.4**
EFI East Falkland 48.86 136 *i* P **P 07 57 21.0 +1.2**
EFI pmax pmax
comp=Z,86nm,1.8s
EFI East Falkland 48.86 136 P **P 07 57 18.5 -1.3**
EFI IAmb IAmb 07 57 22.9
comp=Z,81nm,1.3s
PRAC Prado 48.88 58 *e*P **P 07 57 19.2 -1.3**
TOLC Tolima 49.12 57 *e*P **P 07 57 22.8 +0.2**
CBOC Ciudad Bolivar 49.47 55 *e*P **P 07 57 26.5 +1.4**
GUY2C Guyana, Caldas 49.51 56 *e*P **P 07 57 26.6 +0.8**
PMSA Palmer Station 49.57 154 P **P 07 57 28.1 +3.1**
comp=Z,4.7nm,0.9s,baz=297,slow=7.5,SNR=6.6
PMSA Palmer Station 49.57 154 P **P 07 57 25.1 +0.1**
PMSA Palmer Station 49.57 154 *e*P P 07 57 32.1 +7.1
ROSC El Rosal 50.04 57 LR LR 08 14 12.8
comp=Z,8µm,20.8s,baz=224,slow=31
ROSC El Rosal 50.04 57 *e*P **P 07 57 29.1 -0.6**
ROSC El Rosal 50.04 57 P **P 07 57 29.8 +0.1**
HELC Santa Helena 50.04 55 *e*P **P 07 57 28.6 -1.1**
VILC Villavicencio, 50.04 58 *e*P **P 07 57 31.4 +2.0**
DBBC Dabeiba 50.11 53 *e*P **P 07 57 31.9 +2.1**
CHIC Chingaza 50.34 58 *e*P **P 07 57 33.0 +0.9**
SPBC San Pablo de B 50.76 57 *e*P **P 07 57 35.1 +0.3**
CPUP Villa Florida 50.81 103 P **P 07 57 35.0 -0.1**
comp=Z,13nm,1.1s,baz=266,slow=8.0,SNR=8.3
CPUP LR LR 08 15 28.9
comp=Z,2µm,21.5s,baz=259,slow=32
CPUP Villa Florida 50.81 103 P **P 07 57 34.8 -0.3**
CPUP pmax pmax
comp=Z,29nm,1.3s
CPUP Villa Florida 50.81 103 P **P 07 57 34.8 -0.3**
PTBC PUERTO BERRIO, 51.06 55 *e*P **P 07 57 34.4 -2.6**
ZARC Zaragoza, Cauc 51.41 54 *e*P **P 07 57 40.6 +1.0**
RUSC La Rusia 51.65 57 *e*P **P 07 57 41.7 -0.3**
SAML Samuel 51.65 80 P **P 07 57 40.8 -0.7**
SAML pmax pmax
comp=Z,34nm,1.4s
SAML Samuel 51.65 80 P **P 07 57 40.8 -0.7**
SAML Samuel 51.65 80 IAMs_20 IAMs_20 08 15 40.9
comp=Z,5µm,20.0s
BRRC Barranca, Sant 51.98 55 *e*P **P 07 57 43.6 -0.4**
BARC Barichara 52.04 56 *e*P **P 07 57 45.6 +1.0**
PTLB Pontes e Lacer 52.57 89 *e*P **P 07 57 49.8 +1.5**
VILB Vilhena 52.59 86 *e*P **P 07 57 50.1 +1.6**
SJCC San Jacinto, C 52.83 52 *e*P **P 07 57 50.8 +0.6**
SMLC San Martn de 52.86 54 *e*P **P 07 57 49.7 -0.8**
AQDB Aquidauana 53.90 97 *e*P **P 07 57 58.9 +0.8**
AFI Afiamalu 54.75 272 LR LR 08 14 48.7
comp=Z,2µm,20.9s,baz=114,slow=29
SDV Santo Domingo 55.44 56 *e*P **P 07 58 08.0 -1.5**
SDV Santo Domingo 55.44 56 P **P 07 58 09.3 -0.1**
SDV IAmb IAmb 07 58 14.6
comp=Z,68nm,1.2s
SDV Santo Domingo 55.44 56 IAMs_20 IAMs_20 08 18 36.6
comp=Z,4µm,20.0s
SDV Santo Domingo 55.44 56 *e*P **P 07 58 09.4 -0.1**
PTGB Pitanga 55.83 103 *e*P **P 07 58 15.6 +3.4**
TRCB Terra Rica 55.89 100 *e*P **P 07 58 14.9 +2.3**
KVTX Kingsville 56.35 18 P **P 07 58 16.0 +0.6**
MACA Manacapuru-AM 56.59 75 *e*P **P 07 58 18.1 +0.5**
833A Chaparral WMA, 56.70 16 P **P 07 58 17.9 -0.1**
baz=196,SNR=6.9
833A Chaparral WMA, 56.70 16 P **P 07 58 17.6 -0.3**
833A IAMs_20 IAMs_20 08 18 36.2
comp=Z,4µm,19.0s
TX31 Lajitas Ar. Si 56.77 11 P **P 07 58 18.2 -0.4**
TX32 Lajitas Array 56.77 11 P **P 07 58 18.9 +0.3**
TX32 IAmb IAmb 07 58 30.5
comp=Z,61nm,1.9s
TXAR Lajitas Array 56.77 11 P **P 07 58 18.4 -0.2**
comp=Z,4.4nm,1.0s,baz=188,slow=11,SNR=19
CLDB Colider 57.37 86 *e*P **P 07 58 23.1 0.0**
PCMB Pacaembu 57.47 100 *e*P **P 07 58 27.1 +3.4**
SPX San Pedro Mart 57.50 359 P **P 07 58 24.4 +0.4**
SPX IAmb IAmb 07 58 28.7
comp=Z,46nm,1.3s
URZ Urewera 57.56 240 P **P 07 58 27.3 +3.2**
comp=Z,20nm,1.0s,baz=332,slow=8.6,SNR=4.6
PIX Pinacate 58.03 1 P **P 07 58 27.8 +0.6**
PIX IAmb IAmb 07 58 31.7
comp=Z,48nm,1.3s
319A Douglas 58.06 5 P **P 07 58 28.2 +0.6**
319A IAmb IAmb 07 58 32.2
comp=Z,62nm,1.1s
214A Organ Pipe Nat 58.44 2 P **P 07 58 30.5 +0.3**
baz=182,SNR=15
214A Organ Pipe Nat 58.44 2 P **P 07 58 30.0 -0.2**
214A IAmb IAmb 07 58 34.8
comp=Z,40nm,1.1s
PTGA Pitinga 58.44 73 P **P 07 58 29.5 -1.1**
PTGA IAmb IAmb 07 58 34.3
comp=Z,55nm,1.4s
JCT Junction City 58.67 15 P **P 07 58 31.0 -0.8**
JCT pmax pmax
comp=Z,78nm,1.0s
JCT Junction City 58.67 15 P **P 07 58 31.9 +0.1**
baz=195,SNR=42
JCT Junction City 58.67 15 P **P 07 58 31.0 -0.8**
CBX Cerro Bola 58.80 358 P **P 07 58 32.5 -0.3**
CBX IAmb IAmb 07 58 37.3
comp=Z,41nm,1.5s
MNTX Cornudas Mount 58.81 9 P **P 07 58 32.1 -0.7**
baz=190,SNR=25
MNTX Cornudas Mount 58.81 9 P **P 07 58 31.6 -1.2**
TUC Tucson 58.88 4 P **P 07 58 33.7 +0.4**
TUC pmax pmax
comp=Z,20nm,1.0s
TUC Tucson 58.88 4 P **P 07 58 33.8 +0.4**
baz=184

TUC Tucson 58.88 4 P **P 07 58 33.7 +0.4**
ITRB Iturama 58.89 98 *e*P **P 07 58 37.0 +3.3**
ARAG Araguaiana, MT 59.02 93 *e*P **P 07 58 36.5 +1.8**
RMX La Rumorosa 59.08 359 P **P 07 58 34.5 -0.3**
RMX IAmb IAmb 07 58 39.0
comp=Z,43nm,1.2s
IKP In-Ko-Pah, Jac 59.12 358 P **P 07 58 35.6 +0.5**
baz=178,SNR=6.4
BAR Barrett 59.17 358 P **P 07 58 35.8 +0.5**
BAR IAmb IAmb 07 58 39.7
comp=Z,64nm,1.3s
HKT Hockley 59.20 19 P **P 07 58 35.9 +0.5**
HKT pmax pmax
comp=Z,43nm,1.2s
HKT Hockley 59.20 19 P **P 07 58 35.9 +0.5**
HKT IAmb IAmb 07 58 40.4
comp=Z,43nm,1.1s
113A Mohawk Valley, 59.23 1 P **P 07 58 36.2 +0.6**
113A IAmb IAmb 07 58 39.5
comp=Z,35nm,1.0s
121A Cookes Peak, D 59.34 7 P **P 07 58 37.3 +0.6**
baz=187,SNR=25
121A Cookes Peak, D 59.34 7 P **P 07 58 36.9 +0.3**
121A IAmb IAmb 07 58 41.1
comp=Z,50nm,1.1s
MONP2 Monument Peak 59.37 358 P **P 07 58 36.9 +0.1**
baz=178,SNR=8.3
109C Camp Elliot, M 59.39 358 P **P 07 58 37.5 +0.7**
baz=177
SWSC Sam W. Stewart 59.41 359 P **P 07 58 37.6 +0.7**
baz=179
NPGB Novo Progresso 59.42 82 *e*P **P 07 58 38.0 +0.6**
GDL2 Guadalupe Moun 59.46 10 P **P 07 58 37.7 +0.3**
435B Jarrell 59.50 17 P **P 07 58 38.0 +0.5**
baz=198,SNR=7.6
435B Jarrell 59.50 17 P **P 07 58 37.7 +0.1**
435B IAMs_20 IAMs_20 08 20 45.4
comp=Z,3µm,18.0s
GLA Glamis 59.51 360 P **P 07 58 37.6 0.0**
GLA pmax pmax
comp=Z,122nm,1.9s
GLA Glamis 59.51 360 P **P 07 58 38.1 +0.5**
baz=180,SNR=5.6
GLA Glamis 59.51 360 P **P 07 58 37.6 0.0**
CIS Catalina Islan 59.97 356 P **P 07 58 42.4 +1.7**
baz=176
TPFO Pinon Flats 60.09 358 P **P 07 58 42.3 +0.6**
baz=178,SNR=6.0
PFO Pinyon Flats O 60.09 358 P **P 07 58 41.9 +0.2**
baz=178,SNR=6.6
MURC Murrieta 60.10 357 P **P 07 58 41.3 -0.4**
baz=177
BC3 Big Chuckawall 60.11 359 P **P 07 58 42.5 +0.6**
baz=179,SNR=19
ITTB Itaituba 60.32 79 *e*P **P 07 58 43.7 +0.1**
BELC Belle Mtn. Jos 60.47 359 P **P 07 58 45.2 +0.9**
baz=178,SNR=20
IRM Iron Mountain 60.61 359 P **P 07 58 46.1 +1.0**
baz=179,SNR=23
KHU Kahuku 60.65 315 IAMs_20 IAMs_20 08 17 53.3
comp=Z,4µm,18.0s
WHTX Lake Whitney, 60.69 17 P **P 07 58 45.0 -0.6**
baz=197,SNR=7.0
WHTX Lake Whitney, 60.69 17 IAMs_20 IAMs_20 08 21 26.7
comp=Z,3µm,18.0s
PASC Pasadena Art C 60.72 357 P **P 07 58 45.7 -0.1**
PASC IAmb IAmb 07 58 50.3
comp=Z,62nm,1.4s
PASC Pasadena Art C 60.72 357 IAMs_20 IAMs_20 08 18 41.4
comp=Z,3µm,19.0s
BBRC Big Bear Solar 60.76 358 P **P 07 58 46.9 +0.5**
baz=178
PDMCI Parker Dam,Lak 60.76 0 P **P 07 58 46.9 +0.8**
baz=180,SNR=20
BFSC Mount Baldy Ra 60.76 357 P **P 07 58 46.8 +0.5**
baz=177,SNR=9.0
ABTX Abilene, Hawle 60.77 14 P **P 07 58 45.6 -0.6**
baz=195,SNR=9.1
VAO Valinhos 60.79 103 *e*P **P 07 58 49.3 +2.5**
MLOA Mauna Loa Obse 60.84 315 IAMs_20 IAMs_20 08 18 13.3
comp=Z,3µm,19.0s
Y22D IRIS PASSCAL I 60.96 7 P **P 07 58 48.9 +1.2**
POHA Pohakuloa 60.98 315 IAMs_20 IAMs_20 08 18 16.9
comp=Z,4µm,22.0s
LENM Lemitar 61.04 7 P **P 07 58 47.2 -1.1**
BNM Barren Site 61.07 8 P **P 07 58 48.3 -0.2**
KHLU Kahalu`u 61.08 315 IAMs_20 IAMs_20 08 18 17.7
comp=Z,4µm,22.0s
RPZ Rata Peaks 61.10 233 P **P 07 58 51.9 +3.3**
comp=Z,17nm,1.0s,baz=150,slow=11,SNR=3.7
RPZ Rata Peaks 61.10 233 P **P 07 58 49.7 +1.1**
RPZ IAmb IAmb 07 59 02.5
comp=Z,59nm,1.4s
237A Washetta, Mont 61.13 18 P **P 07 58 49.1 +0.4**
NEE2 Needles Airpor 61.22 360 P **P 07 58 49.7 +0.5**
baz=180
NATX Nacogdoches 61.24 19 P **P 07 58 50.0 +0.6**
baz=200,SNR=8.5
NATX Nacogdoches 61.24 19 P **P 07 58 49.5 0.0**
GMRC Granite Mounta 61.24 359 P **P 07 58 50.4 +0.8**
baz=179,SNR=19
HPAH Hawaii Prepara 61.28 315 IAMs_20 IAMs_20 08 19 05.0
comp=Z,4µm,20.0s
HEC Hector,Ludlow 61.30 358 P **P 07 58 50.6 +0.7**
baz=178
EDW2 Edwards Air Fo 61.42 357 P **P 07 58 50.7 +0.1**
baz=176,SNR=6.7
MSTX Muleshoe 61.45 11 P **P 07 58 50.0 -1.0**
baz=192,SNR=21
MSTX Muleshoe 61.45 11 P **P 07 58 49.6 -1.3**
MSTX IAmb IAmb 07 58 53.3
comp=Z,32nm,0.9s
PKM Mcpherson Peak 61.54 355 P **P 07 58 52.0 +0.4**
baz=175,SNR=5.2
342A Flagon Creek P 61.61 22 P **P 07 58 52.3 +0.3**
W18A Petrified Fore 61.74 4 P **P 07 58 52.8 -0.2**
GSC Goldstone, Bar 61.79 358 P **P 07 58 52.7 -0.5**
GSC pmax pmax
comp=Z,53nm,1.3s
GSC Goldstone, Bar 61.79 358 P **P 07 58 53.8 +0.6**
baz=178,SNR=8.3
GSC Goldstone, Bar 61.79 358 P **P 07 58 52.7 -0.5**
GSC IAmb IAmb 07 58 57.7
comp=Z,54nm,1.3s
ANMO Albuquerque 61.88 8 *e*P **P 07 58 55.5 +1.6**
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 61.88 8 P **P 07 58 53.3 -0.6**
baz=188
BELA Belgrano 2 61.89 166 P **P 07 58 52.8 -0.5**
TUQ Turquoise Moun 61.90 359 P **P 07 58 54.9 +0.9**
baz=178,SNR=8.4
SDDR Presa de Saban 61.91 47 IAMs_20 IAMs_20 08 19 10.3
comp=Z,3µm,21.0s
SMMC Simmler 61.98 355 P **P 07 58 54.5 +0.1**
baz=174
LRMC Laurel Mtn Rad 62.00 357 P **P 07 58 55.2 +0.5**
baz=177,SNR=6.6
Z35A Perchaven, San 62.01 16 P **P 07 58 53.6 -1.0**
Z35A IAmb IAmb 07 58 57.1
comp=Z,29nm,1.0s
WUAZ Wupatki 62.04 3 P **P 07 58 55.8 +0.8**
baz=183,SNR=19
WUAZ Wupatki 62.04 3 P **P 07 58 54.8 -0.1**
WUAZ IAmb IAmb 07 58 59.6
comp=Z,37nm,1.1s
HLK Haleakala 62.17 315 IAMs_20 IAMs_20 08 20 35.4
comp=Z,4µm,20.0s
ISA Isabella, Lake 62.22 356 P **P 07 58 55.0 -1.1**
ISA pmax pmax
comp=Z,52nm,1.7s
ISA Isabella, Lake 62.22 356 P **P 07 58 56.3 +0.3**
baz=176,SNR=7.6
ISA Isabella, Lake 62.22 356 P **P 07 58 55.0 -1.1**
ISA IAmb IAmb 07 59 00.6
comp=Z,52nm,1.6s
ISA IAMs_20 IAMs_20 08 19 29.1
comp=Z,4µm,20.0s
344A Westbrook Farm 62.22 23 P **P 07 58 55.7 -0.4**
SHOC Shoshone, Teco 62.37 358 P **P 07 58 57.8 +0.8**
baz=178,SNR=22
MSVF Nonsavu 62.40 263 *i* P **P 07 58 58.3 +0.6**
MSVF pmax pmax
comp=Z,61nm,1.1s
MSVF Nonsavu 62.40 263 P **P 07 58 57.9 +0.2**
VES Vestal, Richgr 62.44 356 P **P 07 58 57.6 +0.2**

baz=175,SNR=5.8
BDFB Brasilia 62.44 94 P P 07 58 59.3 +1.2
comp=Z,13nm,1.1s,baz=269,slow=7.2,SNR=7.7
BDFB LR LR 08 22 34.0
comp=Z,4µm,21.4s,baz=258,slow=33
BDFB Brasilia 62.44 94 P P 07 58 56.7 -1.4
BDFB pmax pmax
comp=Z,43nm,1.4s
BDFB Brasilia 62.44 94 P P 07 58 56.7 -1.4
BDFB IAmb IAmb 07 59 04.1
comp=Z,43nm,1.4s
BDFB IAMs_20 IAMs_20 08 22 22.3
comp=Z,4µm,20.0s
AMTX Amarillo 62.54 12 P P 07 58 57.9 -0.3
baz=193
AMTX Amarillo 62.54 12 P P 07 58 57.6 -0.6
AMTX IAmb IAmb 07 59 09.0
comp=Z,41nm,0.9s
MPMC Manual Prospec 62.57 357 P P 07 58 58.9 +0.4
baz=177,SNR=20
SC01 Santiago de lo 62.59 47 IAMs_20 IAMs_20 08 19 31.5
comp=Z,3µm,22.0s
VNDA Vanda 62.66 194 LR LR 08 19 34.9
comp=Z,2µm,18.8s,baz=86,slow=30
VNDA Vanda 62.66 194 P P 07 58 58.3 -0.2
VNDA pmax pmax
comp=Z,39nm,1.9s
VNDA Vanda 62.66 194 P P 07 58 58.3 -0.2
VNDA IAmb IAmb 07 59 07.1
comp=Z,39nm,1.9s
MALB Monte Alegre 62.81 77 *e*P **P 07 59 01.7 +1.3**
U15A North Rim 62.91 2 P **P 07 59 00.7 -0.2**
U15A IAmb IAmb 07 59 05.6
comp=Z,48nm,1.1s
PMPB Monarch Peak 62.94 354 P P 07 59 02.1 +1.2
PMPB IAMs_20 IAMs_20 08 19 41.2
comp=Z,3µm,20.0s
FURC Furnace Creek, 62.95 358 P P 07 59 01.6 +0.8
baz=178,SNR=9.0
SHPR Sheep Range 62.95 359 P P 07 59 01.4 +0.4
SHPR IAMs_20 IAMs_20 08 20 04.4
comp=Z,2µm,19.0s
CWC Cottonwood Cre 62.97 357 P P 07 59 01.7 +0.5
baz=176
X34A Smith Ranch, M 63.08 15 P P 07 59 02.1 +0.4
Z41A Richland Creek 63.20 20 P P 07 59 03.6 +1.1
baz=202,SNR=6.9
Z41A Richland Creek 63.20 20 P P 07 59 01.5 -1.0
QSPA South Pole Qui 63.38 180 P P 07 59 03.8 +0.2
comp=Z,9.9nm,0.9s,baz=113,slow=2.3,SNR=21
TPNV Topopah Spring 63.41 358 P P 07 59 04.8 +0.7
baz=178,SNR=32
LCMT Little Creek M 63.47 1 P P 07 59 03.9 -0.5
KNB Kanab 63.48 2 P P 07 59 03.6 -1.0
KNB pmax pmax
comp=Z,53nm,1.4s
KNB Kanab 63.48 2 P P 07 59 03.5 -1.0
DCZ Deep Cove 63.49 230 IAMs_20 IAMs_20 08 20 25.0
comp=Z,3µm,20.0s
GRAC Grapevine Rang 63.50 357 P P 07 59 05.4 +0.9
baz=177,SNR=8.5
WLAR White Oak Lake 63.50 20 P P 07 59 03.7 -0.8
SAO San Andreas Ge 63.54 354 IAMs_20 IAMs_20 08 19 27.2
comp=Z,4µm,19.0s
PYZ Puysegur Point 63.67 230 IAMs_20 IAMs_20 08 20 28.7
comp=Z,4µm,21.0s
HON Honolulu 63.69 314 IAMs_20 IAMs_20 08 20 53.6
comp=Z,3µm,21.0s
X37A Clayton 63.69 18 P P 07 59 05.0 -0.7
X37A IAmb IAmb 07 59 16.0
comp=Z,32nm,1.1s
KIP Kipapa 63.77 314 IAMs_20 IAMs_20 08 20 06.9
comp=Z,3µm,18.0s
GRTK Grand Turk 63.83 46 IAMs_20 IAMs_20 08 21 09.3
comp=Z,3µm,20.0s
PRN Pahroc Range 63.85 360 P P 07 59 07.4 +0.4
PRN IAmb IAmb 07 59 24.9
comp=Z,54nm,1.2s
PRN IAMs_20 IAMs_20 08 20 43.2
comp=Z,3µm,19.0s
MVCO Mesa Verde 63.91 5 P P 07 59 07.5 0.0
baz=186,SNR=30
MVCO Mesa Verde 63.91 5 P P 07 59 06.6 -0.9
PKCU Pink Cliffs 63.92 2 P P 07 59 07.8 +0.2
OKCFA Oklahoma City 63.95 16 P P 07 59 07.0 -0.5
CCUT Cedar City 64.01 1 P P 07 59 08.4 +0.3
SZCU Shurtz Canyon 64.06 1 P P 07 59 07.8 -0.6
CCAR Cane Creek 64.13 21 P P 07 59 09.7 +1.1
OK025 Westminster Rd 64.13 16 P P 07 59 08.4 -0.3
BCOK Bluff Creek, N 64.14 15 P P 07 59 08.2 -0.5
MIAR Mount Ida 64.16 19 P P 07 59 09.2 +0.3
baz=201,SNR=11
MLAC Mammoth, Mammo 64.20 356 P P 07 59 10.0 +0.6
baz=176
MDPB Devils Postpil 64.22 356 P P 07 59 09.3 -0.2
MDPB IAMs_20 IAMs_20 08 20 22.0
comp=Z,3µm,19.0s
T25A Trinidad 64.30 9 P P 07 59 10.0 0.0
baz=190,SNR=6.4
GRGR Grenville 64.31 60 IAMs_20 IAMs_20 08 23 33.7
comp=Z,3µm,20.0s
OK029 Liberty Lake 64.31 15 P P 07 59 09.7 -0.2
X40A Basin Creek Fa 64.33 20 P P 07 59 10.4 +0.4
baz=201
X40A Basin Creek Fa 64.33 20 P P 07 59 10.3 +0.4
X40A IAmb IAmb 07 59 16.1
comp=Z,65nm,1.9s
250A Grady 64.36 27 P P 07 59 09.4 -0.9
352A Blakely 64.48 28 P P 07 59 10.1 -0.9
352A IAMs_20 IAMs_20 08 22 31.8
comp=Z,3µm,22.0s
U32A Winter Ranch, 64.52 14 P P 07 59 10.5 -0.7
MTPU Mount Pierson 64.52 2 P P 07 59 10.8 -0.8
TPH Tonopah 64.57 358 P P 07 59 11.2 -0.5
TPH pmax pmax
comp=Z,244nm,1.5s
TPH Tonopah 64.57 358 P P 07 59 11.2 -0.5
S22A 4UR Ranch, Cre 64.60 7 P P 07 59 12.2 +0.1
baz=188,SNR=33
S22A 4UR Ranch, Cre 64.60 7 P P 07 59 11.5 -0.5
S22A IAmb IAmb 07 59 16.1
comp=Z,51nm,1.5s
W39A Magazine 64.71 19 P P 07 59 13.6 +1.2
baz=200,SNR=5.7
CMB Columbia Colle 64.71 355 P P 07 59 11.4 -1.0
CMB pmax pmax
comp=Z,67nm,1.6s
CMB Columbia Colle 64.71 355 P P 07 59 11.4 -1.0
CMB IAmb IAmb 07 59 17.0
comp=Z,67nm,1.6s
CMB IAMs_20 IAMs_20 08 20 40.1
comp=Z,3µm,19.0s
PRPB Parauapebas 64.73 84 *e*P **P 07 59 13.6 +0.5**
UALR University of 64.74 20 P **P 07 59 12.3 -0.3**
UALR IAmb IAmb 07 59 25.7
comp=Z,20nm,0.9s
SDCO Great Sand Dun 64.75 8 P P 07 59 12.7 -0.3
baz=189,SNR=43
SDCO Great Sand Dun 64.75 8 P P 07 59 11.8 -1.2
SDCO IAmb IAmb 07 59 16.2
comp=Z,32nm,1.2s
R11A Troy Canyon, C 64.80 359 P P 07 59 14.0 +0.8
baz=179,SNR=47
R11A Troy Canyon, C 64.80 359 P P 07 59 12.4 -0.8
R11A IAmb IAmb 07 59 18.3
comp=Z,65nm,1.4s
R11A IAMs_20 IAMs_20 08 20 39.3
comp=Z,3µm,22.0s
PV01 Paradox Valley 64.82 5 P P 07 59 12.3 -1.1
PV13 Radium Mtn., P 64.83 5 P P 07 59 12.8 -0.7
Y45A Yeager Farm, C 64.83 23 P P 07 59 13.6 +0.3
Y45A IAmb IAmb 07 59 28.7
comp=Z,41nm,1.0s
TUL1 Leonard 64.83 17 P P 07 59 12.3 -0.9
baz=198
TUL1 Leonard 64.83 17 P P 07 59 12.2 -0.9
QUOK Quay 64.85 16 P P 07 59 12.1 -1.2
QUOK IAmb IAmb 07 59 23.5
comp=Z,58nm,1.6s
CROK Carrier 64.86 15 P P 07 59 12.7 -0.7
PV02 Paradox Valley 64.88 5 P P 07 59 13.4 -0.4
PV18 Skein Mesa, Pa 64.91 5 P P 07 59 13.6 -0.4
PV03 Paradox Valley 64.92 5 P P 07 59 13.6 -0.4
PV17 East Wray Mesa 64.94 5 P P 07 59 13.5 -0.6
NV11 Mina Array Sit 64.96 357 P P 07 59 13.8 -0.5
NV11 IAmb IAmb 07 59 18.9
comp=Z,56nm,1.3s
NV11 IAMs_20 IAMs_20 08 21 10.7
comp=Z,3µm,20.0s
PV11 David Mesa, Pa 64.96 5 P P 07 59 14.1 -0.1
PV19 Morning Glory 64.97 5 P P 07 59 14.2 -0.2
NVAR Mina Array Bea 64.97 357 P P 07 59 14.8 +0.4
comp=Z,19nm,1.0s,baz=180,slow=9.3,SNR=35
NVAR LR LR 08 21 32.6
comp=Z,3µm,19.3s,baz=181,slow=30
NVAR Mina Array Bea 64.97 357 P P 07 59 15.2 +0.8
PV16 Nyswonger Mesa 64.97 5 P P 07 59 14.0 -0.4
X43A Marvell 64.97 21 P P 07 59 16.0 +1.9
baz=203,SNR=5.2
PSUT Pine Spring 64.98 1 P P 07 59 14.3 -0.1
MVU Marysvale 64.98 2 P P 07 59 14.8 +0.3
MSU Marysvale 64.99 2 P P 07 59 14.6 +0.1
MSU Marysvale 64.99 2 P P 07 59 14.6 +0.1
PV20 West Nyswonger 65.00 5 P P 07 59 13.9 -0.6
LRAL Lakeview Retre 65.01 25 P P 07 59 14.0 -0.4
baz=207,SNR=9.4
LRAL Lakeview Retre 65.01 25 P P 07 59 13.6 -0.9
LRAL IAmb IAmb 07 59 26.8
comp=Z,64nm,1.6s
TIGA Tifton 65.01 29 P P 07 59 15.0 +0.5
baz=210
PV14 Lion Creek, Pa 65.03 5 P P 07 59 14.3 -0.4
PV10 Paradox Valley 65.03 5 P P 07 59 14.0 -0.8
W41B Gary Mavity, V 65.14 20 P P 07 59 15.8 +0.6
baz=202,SNR=15
RYN Ryan 65.18 357 IAMs_20 IAMs_20 08 20 44.3
comp=Z,4µm,22.0s
SVB Belmont 65.31 59 IAMs_20 IAMs_20 08 23 53.3
comp=Z,3µm,22.0s
MCPB Macapa, AP 65.46 77 *e*P **P 07 59 18.7 +0.8**
OXF Oxford 65.46 23 P **P 07 59 17.4 +0.1**
baz=204
SMTB Santa Maria do 65.54 88 *e*P **P 07 59 18.5 +0.1**
KVN Kaiserville 65.58 357 P P 07 59 18.2 -0.1
KVN pmax pmax
comp=Z,65nm,1.5s
KVN Kaiserville 65.58 357 P P 07 59 18.2 -0.1
KVN IAmb IAmb 07 59 22.9
comp=Z,65nm,1.5s
KVN IAMs_20 IAMs_20 08 21 31.9
comp=Z,3µm,20.0s
152A Waverly Hall 65.60 27 P P 07 59 18.5 +0.3
152A IAmb IAmb 07 59 37.4
comp=Z,43nm,1.6s
T35A Sooner Cattle 65.60 16 P P 07 59 17.5 -0.7
T35A IAmb IAmb 07 59 29.1
comp=Z,22nm,1.0s
SRU San Rafael Swe 65.66 3 P P 07 59 17.5 -1.3
SRU pmax pmax
comp=Z,41nm,1.1s
SRU San Rafael Swe 65.66 3 P P 07 59 17.5 -1.3
AFDM Forest Hills D 65.66 355 P P 07 59 17.8 -0.8
AFDM IAmb IAmb 07 59 23.0
comp=Z,62nm,1.5s
AFDM IAMs_20 IAMs_20 08 20 46.3
comp=Z,2µm,21.0s
HHAR Hobbs 65.68 18 P P 07 59 18.7 -0.1
HHAR IAMs_20 IAMs_20 08 24 32.8
comp=Z,2µm,19.0s
PNTR Pine Nut 65.70 356 P P 07 59 19.4 +0.4
RUBR Rubicon Trail 65.70 355 P P 07 59 19.7 +0.6
RUBR IAMs_20 IAMs_20 08 20 52.1
comp=Z,4µm,21.0s
U38A Gravette 65.70 18 P P 07 59 18.1 -0.8
GDXM Geysers 65.70 353 P P 07 59 20.2 +1.3
TMUT Trail Mountain 65.81 3 P P 07 59 19.2 -0.7
FCAR Ozark Folk Cen 65.84 20 P P 07 59 18.9 -0.9
VCNR Virginia City 65.91 356 P P 07 59 19.8 -0.6
VCNR IAmb IAmb 07 59 25.1
comp=Z,40nm,1.5s
VCNR IAMs_20 IAMs_20 08 21 52.8
comp=Z,2µm,20.0s
JANB Januaria 65.96 95 *e*P **P 07 59 23.4 +2.3**
Y49A Blount Mountai 65.97 25 P P 07 59 20.1 -0.6
Z51A Franklin 65.98 27 P P 07 59 19.9 -0.8
Z51A IAmb IAmb 07 59 26.9
comp=Z,39nm,1.4s
Q24A Divide 66.00 8 P P 07 59 21.7 +0.6
baz=189,SNR=5.3
P17A Butcher Ranch, 66.01 3 P P 07 59 20.4 -0.7
U40A Yellville 66.06 19 P P 07 59 20.5 -0.7
baz=201,SNR=16
U40A Yellville 66.06 19 P P 07 59 20.1 -1.1
U40A IAmb IAmb 07 59 31.9
comp=Z,23nm,0.9s
U40A IAMs_20 IAMs_20 08 24 44.9
comp=Z,2µm,20.0s
W45A Hickory Valley 66.12 23 P P 07 59 20.0 -1.6
X48A Hartselle 66.25 25 P P 07 59 21.0 -1.4
X48A IAmb IAmb 07 59 27.3
comp=Z,86nm,2.0s
FDF Fort de France 66.29 58 IAMs_20 IAMs_20 08 23 44.3
comp=Z,2µm,22.0s
PAHR Pah Rah Range 66.30 356 P P 07 59 21.4 -1.5
PAHR IAmb IAmb 07 59 27.6
comp=Z,62nm,1.7s
PAHR IAMs_20 IAMs_20 08 21 50.2
comp=Z,2µm,20.0s
LCAR Lake Charles 66.31 21 P P 07 59 21.4 -1.3
ORV Oroville 66.31 354 P P 07 59 21.9 -0.8
ORV pmax pmax
comp=Z,42nm,1.6s
ORV Oroville 66.31 354 P P 07 59 21.9 -0.8
ORV IAmb IAmb 07 59 27.4
comp=Z,42nm,1.6s
KSCO Kaye Shedlock' 66.40 10 P P 07 59 23.5 0.0
baz=192,SNR=10
KSCO Kaye Shedlock' 66.40 10 P P 07 59 22.8 -0.7
R32A Long Quarter, 66.55 14 P P 07 59 22.3 -2.0
DLPL La Plaine 66.58 57 IAMs_20 IAMs_20 08 28 01.1
comp=Z,3µm,21.0s
DUG Dugway, Tooele 66.66 1 P P 07 59 24.5 -0.6
DUG pmax pmax
comp=Z,39nm,1.1s
DUG Dugway, Tooele 66.66 1 P P 07 59 25.5 +0.4
baz=182,SNR=40
DUG Dugway, Tooele 66.66 1 P P 07 59 24.5 -0.6
DUG IAmb IAmb 07 59 29.5
comp=Z,39nm,1.1s
KCPM Cahto Peak 66.66 352 IAMs_20 IAMs_20 08 20 50.8
comp=Z,4µm,19.0s
CBKS Cedar Bluff 66.72 13 P P 07 59 25.1 -0.3
baz=194
SKI Saint Kitts 66.74 55 IAMs_20 IAMs_20 08 27 19.2
comp=Z,2µm,18.0s
GOGA Godfrey 66.76 28 P P 07 59 26.6 +0.9
baz=210,SNR=5.3
GOGA Godfrey 66.76 28 IAMs_20 IAMs_20 08 23 27.3
comp=Z,3µm,22.0s
ISCO Idaho Springs 66.77 8 P P 07 59 24.0 -2.0
ISCO pmax pmax
comp=Z,27nm,1.5s
ISCO Idaho Springs 66.77 8 P P 07 59 25.7 -0.3
baz=189,SNR=13
ISCO Idaho Springs 66.77 8 P P 07 59 24.0 -2.0
O20A White River Ci 66.84 5 P P 07 59 26.8 +0.5
baz=186,SNR=10
O20A White River Ci 66.84 5 P P 07 59 24.7 -1.6
O20A IAmb IAmb 07 59 37.8
comp=Z,58nm,1.4s
FPAL Fort Paine 66.88 26 P P 07 59 25.2 -1.3
Y52A Lilburn 66.91 27 P P 07 59 24.9 -1.7
Y52A IAMs_20 IAMs_20 08 24 08.2
comp=Z,3µm,21.0s
O02D Mt. Diablo Mer 67.06 353 P P 07 59 28.4 +0.9
baz=172,SNR=10
O03E Paynes Creek 67.07 354 P P 07 59 27.4 -0.3
baz=173,SNR=7.0
JLU Jordanelle 67.11 3 P P 07 59 26.9 -1.2
S39A Bolivar 67.17 18 P P 07 59 27.1 -1.1
S39A IAmb IAmb 07 59 42.5
comp=Z,28nm,1.2s
RDMU Red Mountain 67.17 4 P P 07 59 27.5 -0.9
CTU Camp Tracy 67.18 2 P P 07 59 27.6 -0.9
PBMO Poplar Bluff 67.19 21 P P 07 59 27.2 -1.1
PBMO IAmb IAmb 07 59 41.1
comp=Z,27nm,0.9s
T42A Van Buren 67.21 20 P P 07 59 26.9 -1.6
T42A IAmb IAmb 07 59 41.0
comp=Z,19nm,0.8s
SJMB Sao Joao De Ma 67.35 100 *e*P **P 07 59 32.5 +2.6**
SWET Sewanee 67.35 25 P P 07 59 28.2 -1.3
SWET IAmb IAmb 07 59 41.1
comp=Z,26nm,1.1s
BGU Big Grassy Mou 67.38 1 P P 07 59 28.4 -1.3
WDC Whiskeytown Da 67.43 353 IAMs_20 IAMs_20 08 21 53.1
comp=Z,3µm,21.0s
WVT Waverly 67.47 23 P P 07 59 28.8 -1.4
WVT pmax pmax
comp=Z,17nm,0.9s
WVT Waverly 67.47 23 P P 07 59 30.5 +0.3
baz=206
WVT Waverly 67.47 23 P P 07 59 28.8 -1.4
V48A Smith Brothers 67.48 24 P P 07 59 28.2 -2.1
V48A IAmb IAmb 07 59 35.8
comp=Z,76nm,1.8s
Z56A Williston 67.59 30 P P 07 59 32.6 +1.6
baz=212
TCUT Toone Canyon 67.62 3 P P 07 59 30.9 -0.5
ANWB Willy Bob 67.65 55 IAMs_20 IAMs_20 08 25 19.3
comp=Z,2µm,21.0s
KSU1 Kansas State U 67.66 15 P P 07 59 32.8 +1.5
baz=197
KSU1 Kansas State U 67.66 15 P P 07 59 31.0 -0.3
SPUT South Promonto 67.78 2 P P 07 59 30.9 -1.3
N23A Red Feather La 67.81 7 P P 07 59 32.6 0.0
baz=188,SNR=11
N23A Red Feather La 67.81 7 P P 07 59 31.8 -0.8
N23A IAmb IAmb 07 59 36.4
comp=Z,24nm,1.0s
N02D Trinity Center 67.84 353 P P 07 59 32.9 +0.4
baz=172,SNR=9.0
Y55A Saluda 67.90 29 P P 07 59 32.3 -0.7
baz=211,SNR=5.7
NHSC New Hope 67.95 31 P P 07 59 34.6 +1.4
baz=213
CLTN Cedars of Leba 67.98 24 P P 07 59 32.7 -0.7
CLTN IAmb IAmb 07 59 39.2
comp=Z,58nm,1.9s
HODGE Hodges 67.98 29 P P 07 59 31.9 -1.5
TMAB Tom-Au,PA,Br 67.98 81 *e*P **P 07 59 35.0 +1.1**
R40A Maddies Statio 68.03 19 P P 07 59 32.1 -1.5
R40A IAmb IAmb 07 59 46.4
comp=Z,22nm,0.9s
W52A Murphy 68.03 27 IAMs_20 IAMs_20 08 24 46.9
comp=Z,2µm,21.0s
CPCT Cooper Cave 68.10 26 P P 07 59 33.0 -1.2
CCM Cathedral Cave 68.11 20 P P 07 59 33.5 -0.6
CCM pmax pmax
comp=Z,21nm,0.9s
CCM Cathedral Cave 68.11 20 P P 07 59 34.1 -0.1
baz=202
CCM Cathedral Cave 68.11 20 P P 07 59 33.5 -0.6
CCM IAmb IAmb 07 59 46.8
comp=Z,21nm,0.8s
X54A Belton 68.20 28 P P 07 59 35.9 +1.0
baz=211
M02C Callahan 68.27 353 P P 07 59 37.7 +2.5
baz=172,SNR=6.5
PHWY Pilot Hill 68.27 7 P P 07 59 34.6 -0.8
Z58A St. Stephen 68.31 31 P P 07 59 37.0 +1.5
baz=213
BG3 Lake Jocassee 68.35 28 P P 07 59 35.0 -0.8
S44A Carbondale 68.40 21 P P 07 59 35.4 -0.6
S44A IAmb IAmb 07 59 42.2
comp=Z,36nm,1.1s
X55A Gracelyn & Ava 68.45 29 P P 07 59 37.1 +0.7
baz=211
RWWY Rawlins 68.47 6 P P 07 59 35.2 -1.5
KRMB Red Mountain 68.51 352 IAMs_20 IAMs_20 08 22 46.8
comp=Z,3µm,20.0s
MOD Modoc Plateau 68.55 355 P P 07 59 36.5 -0.5
MOD IAmb IAmb 07 59 41.4
comp=Z,44nm,1.2s
MOD IAMs_20 IAMs_20 08 22 21.6
comp=Z,3µm,21.0s
M04C Macdoel 68.55 354 P P 07 59 37.3 +0.2
baz=173,SNR=10.0
U49A Red Boiling Sp 68.56 25 P P 07 59 35.8 -1.2
YBH Yreka Blue Hor 68.59 353 IAMs_20 IAMs_20 08 22 12.8
comp=Z,4µm,20.0s
X56A White Oak 68.73 29 P P 07 59 39.3 +1.2
baz=212,SNR=7.0
W54A Cherokee Point 68.74 28 P P 07 59 39.1 +0.9
baz=211
V52A Sevierville 68.81 27 IAMs_20 IAMs_20 08 25 21.6
comp=Z,3µm,22.0s
P38A Dawn 68.92 17 P P 07 59 38.2 -1.0
P38A IAmb IAmb 07 59 52.0
comp=Z,33nm,0.8s
WVOR Wild Horse Val 68.97 357 P P 07 59 39.6 0.0
WVOR pmax pmax
comp=Z,42nm,1.1s
WVOR Wild Horse Val 68.97 357 P P 07 59 39.6 0.0
WVOR IAmb IAmb 07 59 44.3
comp=Z,42nm,1.1s
V53A Saluda 68.98 27 P P 07 59 39.1 -0.6
V53A IAmb IAmb 07 59 45.8
comp=Z,35nm,1.1s
V53A IAMs_20 IAMs_20 08 25 21.1
comp=Z,2µm,21.0s
L04D Klamath Falls 69.03 354 P P 07 59 39.9 -0.1
baz=172,SNR=7.5
L02E Cave Junction 69.10 353 P P 07 59 41.4 +1.1
baz=171
BIRD Birdtown, Kers 69.11 30 P P 07 59 39.7 -0.8
BIRD IAmb IAmb 07 59 52.7
comp=Z,25nm,1.0s
X57A Johnson Farm, 69.12 30 P P 07 59 41.4 +0.9
baz=213
KMSC Kings Mountain 69.15 29 P P 07 59 41.6 +0.9
baz=211
KMSC Kings Mountain 69.15 29 P P 07 59 39.5 -1.2
KMSC IAmb IAmb 07 59 54.1
comp=Z,46nm,1.5s
P40A Paris 69.24 18 P P 07 59 40.6 -0.6
AHID Auburn Hatcher 69.28 3 P P 07 59 40.0 -1.6
Y59A Loris 69.28 31 P P 07 59 39.9 -1.6
baz=214
T50A Nancy 69.36 25 P P 07 59 40.4 -1.6
BW06 Boulder Array 69.36 4 P P 07 59 41.0 -1.1
baz=185,SNR=36
PDAR Pinedale Array 69.36 4 P P 07 59 40.6 -1.6
comp=Z,6.8nm,0.8s,baz=175,slow=6.0,SNR=28
PDAR LR LR 08 24 42.1
comp=Z,1µm,18.8s,baz=201,slow=31
K04D Chiloquin, OR 69.38 354 P P 07 59 45.1 +2.9
baz=173
K05A Summer Lake 69.41 355 P P 07 59 42.8 +0.4
K05A IAMs_20 IAMs_20 08 22 45.5
comp=Z,2µm,22.0s
V54A Nebo 69.43 28 P P 07 59 41.8 -0.7
baz=211,SNR=10.0
TZTN Tazewell 69.44 26 P P 07 59 43.5 +1.0
baz=209,SNR=6.3
TZTN Tazewell 69.44 26 P P 07 59 41.8 -0.7
TZTN IAmb IAmb 07 59 48.7
comp=Z,66nm,1.6s
W56A Indian Trail 69.47 29 P P 07 59 41.9 -0.8
baz=212,SNR=6.8
K22A Casper 69.49 6 P P 07 59 42.5 -0.4
baz=188,SNR=26
K22A Casper 69.49 6 P P 07 59 41.5 -1.3
VNA3 Neumayer Olymp 69.53 161 P P 07 59 41.7 -1.0
BGNE Belgrade 69.53 13 P P 07 59 45.4 +2.4
baz=196
X58A Rowland 69.54 31 P P 07 59 44.5 +1.3
baz=213
ECR Eagle Creek 69.56 3 P P 07 59 43.6 +0.3
N35A Tabor 69.56 15 P P 07 59 42.6 -0.5
Q44A Meyer Farm, Va 69.58 21 P P 07 59 42.2 -1.1
K02D Willamette Mer 69.64 353 P P 07 59 46.8 +3.1
baz=171
OLIL Olney 69.72 22 P P 07 59 44.3 +0.1
W57A Gilead 69.75 30 P P 07 59 45.4 +1.1
baz=213,SNR=6.8
W57A Gilead 69.75 30 P P 07 59 43.2 -1.2
W57A IAmb IAmb 07 59 50.3
comp=Z,27nm,1.1s
V55A Taylorsville 69.81 28 P P 07 59 45.4 +0.6
baz=211,SNR=8.0
V55A Taylorsville 69.81 28 P P 07 59 44.5 -0.3
V55A IAmb IAmb 07 59 50.9
comp=Z,54nm,1.4s
V55A IAMs_20 IAMs_20 08 24 54.9
comp=Z,2µm,22.0s

MFID	Camas Ranch	69.86	359	P	P	07 59 44.6	-0.5
MFID				IAmb	IAmb	07 59 49.1	
	comp=Z,38nm,1.2s						
REDW	Red Top Meadow	69.89	3	P	P	07 59 44.0	-1.4
REDW				IAmb	IAmb	08 00 10.9	
	comp=Z,56nm,1.4s						
J08A	Circle Bar Ran	69.89	357	P	P	07 59 44.8	-0.5
J08A				IAmb	IAmb	07 59 50.0	
	comp=Z,47nm,1.1s						
J08A				IAMs_20	IAMs_20	08 24 18.1	
	comp=Z,3µm,20.0s						
X59A	McDuffie Farm,	69.89	31	P	P	07 59 46.5	+1.2
	baz=214						
WCI	Wyandotte Cave	69.89	23	P	P	07 59 45.8	+0.5
	baz=207						
W58A	Raeford	69.97	30	P	P	07 59 46.8	+1.0
	baz=213,SNR=8.1						
SNOW	Snow King Moun	69.99	3	P	P	07 59 44.9	-1.2
SNOW				IAmb	IAmb	08 00 11.7	
	comp=Z,32nm,1.2s						
J05D	Fort Rock, OR	69.99	355	P	P	07 59 46.7	+0.7
	baz=174,SNR=21						
HLID	Hailey	70.00	0	P	P	07 59 46.3	+0.2
	baz=180,SNR=86						
HLID	Hailey	70.00	0	P	P	07 59 45.5	-0.6
HLID				IAmb	IAmb	07 59 50.3	
	comp=Z,48nm,1.1s						
V56A	Mocksville	70.08	29	P	P	07 59 47.1	+0.6
	baz=212,SNR=6.3						
N38A	Joes South For	70.09	17	P	P	07 59 45.4	-1.0
U54A	Nelsons Funny	70.12	28	P	P	07 59 47.3	+0.5
	baz=211						
LOHW	Long Hollow	70.15	3	P	P	07 59 45.9	-1.1
LOHW				IAmb	IAmb	07 59 49.5	
	comp=Z,33nm,1.2s						
FXWY	Fox Creek	70.15	3	P	P	07 59 45.9	-1.1
FXWY				IAmb	IAmb	07 59 50.5	
	comp=Z,47nm,1.3s						
X60A	Albert Glenn T	70.19	32	P	P	07 59 48.0	+0.9
	baz=214						
VNA1	Neumayer--Stat	70.19	160	P	P	07 59 45.7	-1.0
T53A	Wise	70.23	27	P	P	07 59 47.6	+0.2
	baz=210						
VNA2	Neumayer--Watz	70.33	161	P	P	07 59 47.0	-0.7
R49A	Shelbyville	70.35	24	P	P	07 59 47.0	-1.1
IMW	Indian Meadow	70.41	3	P	P	07 59 47.5	-1.2
IMW				IAmb	IAmb	07 59 52.0	
	comp=Z,29nm,1.1s						
U55A	TA2, Sparta	70.43	28	P	P	07 59 49.5	+0.8
	baz=211						
L34A	Svendsen Farm,	70.45	14	P	P	07 59 47.6	-1.0
L34A				IAmb	IAmb	08 00 06.5	
	comp=Z,29nm,0.8s						
V57A	Coltrane Farms	70.46	29	P	P	07 59 49.7	+1.0
	baz=213,SNR=10						
PINE	Pine Mountain	70.47	355	P	P	07 59 48.4	-0.6
PINE				IAmb	IAmb	07 59 53.4	
	comp=Z,47nm,1.1s						
U56A	King	70.58	29	P	P	07 59 50.5	+1.0
	baz=212						
K31A	O'Neill	70.59	12	P	P	07 59 48.9	-0.5
FLWY	Flagg Ranch	70.61	3	P	P	07 59 48.7	-1.1
FLWY				IAmb	IAmb	07 59 53.4	
	comp=Z,34nm,0.9s						
I07A	Izee	70.67	356	P	P	07 59 49.5	-0.5
I07A				IAmb	IAmb	07 59 54.6	
	comp=Z,37nm,1.1s						
I07A				IAMs_20	IAMs_20	08 24 07.6	
	comp=Z,4µm,21.0s						
V58A	Windy Hill, Pi	70.67	30	P	P	07 59 50.6	+0.6
	baz=213,SNR=5.4						
V58A	Windy Hill, Pi	70.67	30	P	P	07 59 49.3	-0.8
N41A	Harden Midland	70.67	19	P	P	07 59 49.4	-0.6
N41A				IAmb	IAmb	07 59 56.3	
	comp=Z,66nm,1.4s						
T54A	Tazewell	70.68	27	P	P	07 59 50.7	+0.5
	baz=211						
CNNC	Cliffs of the	70.77	31	P	P	07 59 51.6	+0.9
	baz=214						
CNNC	Cliffs of the	70.77	31	IAMs_20	IAMs_20	08 28 11.4	
	comp=Z,2µm,18.0s						
YPP	Pitchstone Pla	70.79	3	P	P	07 59 49.4	-1.7
H17A	Grant Village	70.93	3	P	P	07 59 55.2	+3.4
	baz=184						
DZM	Mont Dzumac	70.98	254	*e*P	P	07 59 51.6	-1.0
	comp=Z,60nm,1.0s						
DZM				*e*S	S	08 09 05.7	-3.2
	comp=Z,2µm,31.4s						
DZM	Mont Dzumac	70.98	254	*e*LR	LR	08 21 18.9	
	comp=Z,8µm,27.4s						
DZM	Mont Dzumac	70.98	254	P	P	07 59 53.2	+0.7
	comp=Z,26nm,0.9s,baz=65,slow=16,SNR=11						
DZM	Mont Dzumac	70.98	254	P	P	07 59 51.5	-1.0
DZM				IAmb	IAmb	07 59 56.6	
	comp=Z,26nm,0.9s						
DZM				IAMs_20	IAMs_20	08 22 47.8	
	comp=Z,4µm,22.0s						
HDIL	Hopedale	71.00	20	P	P	07 59 53.1	+1.1
	baz=204						
V59A	Middlesex	71.04	31	P	P	07 59 53.4	+1.1
	baz=214,SNR=5.5						
I05D	Terrebonne, OR	71.05	355	P	P	07 59 52.8	+0.6
	baz=174,SNR=6.8						
T55A	Pulaski	71.06	28	P	P	07 59 53.1	+0.6
	baz=212						
LKWY	Lake	71.11	3	P	P	07 59 52.2	-0.7
LKWY				pmax	pmax		
	comp=Z,19nm,1.2s						
LKWY	Lake	71.11	3	P	P	07 59 52.2	-0.7
U57A	Blanch	71.11	29	P	P	07 59 53.7	+1.0
	baz=213,SNR=6.4						
RSSD	Black Hills	71.22	8	P	P	07 59 51.7	-1.8
RSSD				pmax	pmax		
	comp=Z,22nm,1.0s						
RSSD	Black Hills	71.22	8	P	P	07 59 53.0	-0.5
	baz=190						
RSSD	Black Hills	71.22	8	P	P	07 59 51.6	-1.8
YHB	Horse Butte	71.26	3	P	P	07 59 52.9	-0.9
ROSB	Rosrio	71.26	84	*e*P	P	07 59 56.3	+2.1
MCMT	McKenzie Canyo	71.28	1	P	P	07 59 52.8	-1.1
BLA	Blacksburg	71.30	28	P	P	07 59 53.3	-0.6
BLA				pmax	pmax		
	comp=Z,23nm,1.1s						
BLA	Blacksburg	71.30	28	P	P	07 59 54.7	+0.8
	baz=212,SNR=6.5						
BLA	Blacksburg	71.30	28	P	P	07 59 53.3	-0.6
SNAA	Sanae	71.31	162	P	P	07 59 52.6	-1.0
T56A	Rocky Mt	71.31	29	P	P	07 59 54.9	+1.0
	baz=212						
YHH	Holmes Hill	71.31	3	P	P	07 59 53.4	-0.7
QLMT	Earthquake Lak	71.33	2	P	P	07 59 53.0	-1.1
BMO	Blue Mountains	71.33	358	P	P	07 59 52.9	-1.1
BMO				pmax	pmax		
	comp=Z,57nm,1.6s						
BMO	Blue Mountains	71.33	358	P	P	07 59 52.9	-1.1
BMO				IAmb	IAmb	08 00 06.0	
	comp=Z,57nm,1.6s						
YHL	Hebgen Lake	71.36	3	P	P	07 59 53.7	-0.7
U58A	Oxford	71.42	30	P	P	07 59 55.5	+0.9
	baz=214,SNR=6.8						
H04A	Detroit Lake	71.46	354	IAMs_20	IAMs_20	08 23 58.8	
	comp=Z,3µm,19.0s						
V60A	Jim Taylor Roa	71.49	31	P	P	07 59 56.4	+1.4
	baz=215						
YNE	Yellowstone No	71.57	3	P	P	07 59 54.3	-1.4
T57A	Hurt	71.62	29	P	P	07 59 56.8	+1.0
	baz=213						
R53A	Hurricane	71.62	27	P	P	07 59 56.0	+0.2
	baz=210						
R53A	Hurricane	71.62	27	IAMs_20	IAMs_20	08 26 35.0	
	comp=Z,3µm,22.0s						
Q51A	Peebles	71.68	25	P	P	07 59 55.5	-0.7
RLMT	Red Lodge	71.72	4	P	P	07 59 56.1	-0.4
	baz=185,SNR=8.0						
U59A	Littleton	71.73	31	P	P	07 59 57.5	+1.1
	baz=214,SNR=6.5						
S55A	Lewisburg	71.74	28	P	P	07 59 57.8	+1.3
	baz=212						
DLMT	Dillon	71.82	1	P	P	07 59 56.5	-0.5
DLMT				IAmb	IAmb	08 00 00.8	
	comp=Z,37nm,1.2s						
L40A	Anamosa	71.82	18	P	P	07 59 55.9	-1.0
L40A				IAmb	IAmb	08 00 10.2	
	comp=Z,51nm,1.0s						
V61A	Roper	71.83	32	P	P	07 59 58.2	+1.1
	baz=215						
G08A	Pilot Rock	71.84	357	P	P	07 59 56.6	-0.4
G08A				IAmb	IAmb	08 00 01.6	
	comp=Z,49nm,1.1s						
R54A	Victor	71.88	27	P	P	07 59 58.4	+1.0
	baz=211						
T58A	Grand View Acr	71.89	30	P	P	07 59 58.0	+0.6
	baz=213,SNR=7.0						
G05D	Wamic, OR	71.94	355	P	P	07 59 59.5	+1.9
	baz=174						
K38A	Parkersburg	71.95	17	P	P	07 59 58.1	+0.4
Q52A	Bidwell	72.04	26	P	P	07 59 57.5	-0.7
	baz=210						
S56A	Natural Bridge	72.05	29	P	P	07 59 59.8	+1.3
	baz=212						
ECSD	EROS Data Cent	72.08	14	P	P	07 59 57.4	-1.1
	baz=197,SNR=9.1						
ECSD	EROS Data Cent	72.08	14	P	P	07 59 57.3	-1.1
BOZ	Bozeman (W)	72.08	2	P	P	07 59 58.3	-0.3
BOZ				pmax	pmax		
	comp=Z,58nm,1.9s						
BOZ	Bozeman (W)	72.08	2	P	P	07 59 58.8	+0.2
	baz=183,SNR=18						
BOZ	Bozeman (W)	72.08	2	P	P	07 59 58.3	-0.3
BOZ				IAmb	IAmb	08 00 03.2	
	comp=Z,58nm,1.9s						
U60A	Pendleton	72.12	31	P	P	07 59 59.7	+0.9
	baz=215						
Q53A	Leroy	72.25	27	P	P	08 00 01.0	+1.5
	baz=211,SNR=7.3						
LRM	Limekiln Ridge	72.29	2	P	P	07 59 59.5	-0.4
R55A	Marlinton	72.33	28	IAMs_20	IAMs_20	08 26 37.7	
	comp=Z,2µm,22.0s						
T59A	Double "B" Far	72.35	30	P	P	08 00 01.2	+1.0
	baz=214						
S57A	Dark Hollow, R	72.39	29	P	P	08 00 01.0	+0.6
	baz=213						
F10A	Beach Ranch, E	72.45	358	P	P	07 59 59.4	-1.3
F10A				IAMs_20	IAMs_20	08 26 12.8	
	comp=Z,2µm,18.0s						
F07A	Phinny Hill Vi	72.50	356	P	P	07 59 59.9	-0.9
F07A				IAmb	IAmb	08 00 13.9	
	comp=Z,38nm,1.3s						
F05D	White Salmon	72.59	355	P	P	08 00 03.6	+2.2
	baz=174						
Q54A	Coxs Mills	72.63	27	P	P	08 00 03.1	+1.3
	baz=211,SNR=6.9						
Q54A	Coxs Mills	72.63	27	P	P	08 00 01.1	-0.7
Q54A				IAmb	IAmb	08 00 08.2	
	comp=Z,67nm,1.6s						
S58A	Poland Farm, P	72.66	30	P	P	08 00 02.9	+1.0
	baz=214						
S58A	Poland Farm, P	72.66	30	P	P	08 00 00.1	-1.9
P52A	Corning	72.67	26	P	P	08 00 03.1	+1.0
	baz=210,SNR=8.0						
P52A	Corning	72.67	26	P	P	08 00 01.4	-0.7
P52A				IAmb	IAmb	08 00 12.4	
	comp=Z,27nm,0.9s						
P52A				IAMs_20	IAMs_20	08 28 05.8	
	comp=Z,2µm,20.0s						
R56A	Bull Pasture M	72.73	28	P	P	08 00 04.3	+1.7
	baz=212,SNR=11						
P53A	Whipple	72.84	26	P	P	08 00 04.5	+1.4
	baz=211,SNR=7.2						
P53A	Whipple	72.84	26	P	P	08 00 01.0	-2.1
P53A				IAMs_20	IAMs_20	08 27 23.2	
	comp=Z,3µm,22.0s						
ACSO	Alum Creek Sta	72.87	25	P	P	08 00 05.0	+1.8
	baz=209						
JFWS	Jewell Farm	72.88	18	P	P	08 00 05.0	+1.8
	baz=202						
O51A	Pataskala	72.94	25	P	P	08 00 05.1	+1.5
	baz=210						
HAWA	Hanford	72.97	356	P	P	08 00 02.2	-1.4
HAWA				IAmb	IAmb	08 00 08.1	
	comp=Z,71nm,1.8s						
R57A	Stanardsville	73.02	29	P	P	08 00 05.1	+1.0
	baz=213						
E09A	Wood Farm, Sta	73.02	357	P	P	08 00 03.7	-0.3
E09A				IAmb	IAmb	08 00 15.4	
	comp=Z,44nm,1.4s						
E09A				IAMs_20	IAMs_20	08 26 27.0	
	comp=Z,3µm,19.0s						
R58B	Mineral	73.02	30	P	P	08 00 04.9	+0.7
	baz=214						
R58B	Mineral	73.02	30	P	P	08 00 02.5	-1.6
E08A	Dider Farm, El	73.04	357	P	P	08 00 03.8	-0.2
E08A				IAmb	IAmb	08 00 08.4	
	comp=Z,47nm,1.2s						
E08A				IAMs_20	IAMs_20	08 25 20.5	
	comp=Z,3µm,22.0s						
I37A	Lemond, Waseca	73.08	16	P	P	08 00 03.9	-0.5
I37A				IAmb	IAmb	08 00 15.6	
	comp=Z,45nm,0.9s						
S59A	Mechanicsville	73.12	30	P	P	08 00 05.5	+0.8
	baz=214						
E07A	Sunnyside	73.15	356	P	P	08 00 04.5	-0.3
HRY	Holter Researc	73.19	2	P	P	08 00 04.0	-1.2
O52A	Adamsville	73.20	26	P	P	08 00 06.4	+1.2
	baz=210,SNR=8.5						
O52A	Adamsville	73.20	26	P	P	08 00 04.5	-0.7
O52A				IAmb	IAmb	08 00 18.0	
	comp=Z,40nm,1.0s						
O52A				IAMs_20	IAMs_20	08 28 22.9	
	comp=Z,2µm,21.0s						
R58A	Rapidan	73.25	29	P	P	08 00 06.2	+0.7
	baz=214						
MSO	Missoula	73.27	0	P	P	08 00 05.5	-0.1
	baz=180,SNR=11						
P54A	Burton	73.30	27	P	P	08 00 05.6	-0.2
	baz=211,SNR=12						
E04D	Cinebar	73.35	354	P	P	08 00 06.5	+0.6
	baz=172,SNR=5.7						
Q56A	Snyder Ridge,	73.36	28	P	P	08 00 04.1	-2.1
	baz=212						
Q56A	Snyder Ridge,	73.36	28	P	P	08 00 04.7	-1.4
E03A	Lebam	73.44	354	P	P	08 00 05.2	-1.1
CBN	Corbin Frederi	73.45	30	IAMs_20	IAMs_20	08 30 07.3	
	comp=Z,2µm,19.0s						
LON	Longmire	73.48	355	IAMs_20	IAMs_20	08 25 14.2	
	comp=Z,2µm,19.0s						
P55A	Reedsville	73.49	27	P	P	08 00 06.4	-0.5
	baz=212,SNR=7.9						
LAO	LASA Array	73.52	6	P	P	08 00 06.6	-0.3
	baz=188,SNR=8.7						
LAO	LASA Array	73.52	6	P	P	08 00 04.9	-2.0
LAO				IAmb	IAmb	08 00 10.2	
	comp=Z,30nm,0.9s						
O53A	New Philadelph	73.56	26	P	P	08 00 07.0	-0.3
	baz=211,SNR=8.1						
O53A	New Philadelph	73.56	26	P	P	08 00 06.6	-0.7
O53A				IAmb	IAmb	08 00 21.1	
	comp=Z,29nm,0.9s						
O53A				IAMs_20	IAMs_20	08 27 58.3	
	comp=Z,2µm,22.0s						
D08A	Wollman Farm,	73.60	357	P	P	08 00 06.0	-1.4
MCWV	Mont Chateau	73.61	27	P	P	08 00 07.3	-0.2
	baz=212,SNR=7.0						
LHI	Lord Howe Isla	73.65	243	IAMs_20	IAMs_20	08 24 36.6	
	comp=Z,3µm,22.0s						
I40A	Norwalk	73.68	18	P	P	08 00 07.4	-0.5
I40A				IAmb	IAmb	08 00 20.3	
	comp=Z,80nm,1.8s						
Q57A	Strasburg	73.68	29	P	P	08 00 09.1	+1.0
	baz=213,SNR=7.7						
N51A	Ashland	73.69	25	P	P	08 00 09.1	+1.0
	baz=210,SNR=5.0						
O54A	Avella	73.83	27	P	P	08 00 08.9	0.0
	baz=211						
O54A	Avella	73.83	27	P	P	08 00 07.5	-1.4
O54A				IAmb	IAmb	08 00 32.0	
	comp=Z,50nm,1.6s						
L48A	N Adams	73.84	23	P	P	08 00 08.3	-0.6
L48A				IAmb	IAmb	08 00 22.4	
	comp=Z,27nm,0.9s						
N52A	McGinn's Farm,	73.86	25	P	P	08 00 10.0	+1.0
	baz=210						
M50A	Fremont	73.87	24	IAMs_20	IAMs_20	08 29 33.5	
	comp=Z,2µm,21.0s						
P56A	Dayton Farm, R	73.89	28	P	P	08 00 09.2	-0.1
	baz=213,SNR=8.3						
LTY	Liberty	73.90	356	P	P	08 00 09.6	+0.3
LTY				IAMs_20	IAMs_20	08 25 57.2	
	comp=Z,2µm,20.0s						
Q58A	Fox Den Farm,	73.92	29	P	P	08 00 10.0	+0.6
	baz=214,SNR=5.5						
D05A	Enumclaw	73.93	355	P	P	08 00 08.6	-0.7
D05A				IAmb	IAmb	08 00 13.5	
	comp=Z,71nm,1.3s						
D05A				IAMs_20	IAMs_20	08 25 18.1	
	comp=Z,2µm,21.0s						
D04E	Lakebay	73.99	354	P	P	08 00 13.1	+3.5
	baz=172						
E28A	Huff	74.09	10	P	P	08 00 09.2	-1.1
E28A				IAmb	IAmb	08 00 13.4	
	comp=Z,48nm,1.1s						
F33A	5 Mile Ranch,	74.17	13	P	P	08 00 09.6	-1.1
JTMT	Jette	74.19	0	P	P	08 00 09.8	-1.1
JTMT				IAmb	IAmb	08 00 14.6	
	comp=Z,42nm,1.0s						
N53A	Lisbon	74.19	26	P	P	08 00 12.5	+1.5
	baz=211,SNR=7.1						
N53A	Lisbon	74.19	26	P	P	08 00 10.8	-0.2
N53A				IAmb	IAmb	08 00 13.9	
	comp=Z,71nm,1.4s						
P57A	Homestead Farm	74.23	29	P	P	08 00 12.7	+1.5
	baz=213,SNR=5.0						
P57A	Homestead Farm	74.23	29	IAMs_20	IAMs_20	08 30 46.9	
	comp=Z,2µm,19.0s						
O55A	Ligonier	74.29	27	P	P	08 00 12.2	+0.6
	baz=212						
C09A	Chrisman Ranch	74.31	357	P	P	08 00 10.6	-0.9
SPMN	Marine on St.	74.36	16	P	P	08 00 13.4	+1.5
	baz=200						
SPMN	Marine on St.	74.36	16	P	P	08 00 10.8	-1.1
SPMN				IAmb	IAmb	08 00 24.0	
	comp=Z,79nm,1.9s						
D03D	Eldon	74.37	354	P	P	08 00 12.4	+0.5
	baz=172,SNR=6.1						
AAM	Ann Arbor	74.43	23	P	P	08 00 11.4	-0.9
AAM				pmax	pmax		
	comp=Z,85nm,1.6s						
AAM	Ann Arbor	74.43	23	P	P	08 00 11.3	-0.9
AAM				IAmb	IAmb	08 00 18.7	
	comp=Z,85nm,1.6s						
P58A	Pank, Wackersv	74.54	29	P	P	08 00 14.5	+1.5
	baz=214						
EGMT	Eagleton	74.59	3	P	P	08 00 13.7	+0.5
	baz=184,SNR=11						
EGMT	Eagleton	74.59	3	P	P	08 00 12.4	-0.8
EGMT				IAmb	IAmb	08 00 17.6	
	comp=Z,70nm,1.3s						
M52A	Chesterland	74.61	25	IAMs_20	IAMs_20	08 29 18.3	
	comp=Z,2µm,20.0s						
O56A	Blue Knob Stat	74.65	28	P	P	08 00 15.1	+1.4
	baz=213,SNR=6.7						
O56A	Blue Knob Stat	74.65	28	P	P	08 00 12.1	-1.6
O56A				IAmb	IAmb	08 00 20.3	
	comp=Z,40nm,1.3s						
O56A				IAMs_20	IAMs_20	08 27 57.1	
	comp=Z,2µm,21.0s						
N54A	Moraine State	74.65	26	P	P	08 00 14.0	+0.3
	baz=212,SNR=7.4						
N54A	Moraine State	74.65	26	P	P	08 00 11.7	-2.0
N54A				IAmb	IAmb	08 00 20.4	
	comp=Z,110nm,1.7s						
NEW	Newport	74.74	358	P	P	08 00 13.3	-0.7
NEW				pmax	pmax		
	comp=Z,54nm,1.3s						
NEW	Newport	74.74	358	P	P	08 00 14.0	0.0
	baz=178,SNR=32						
NEW	Newport	74.74	358	P	P	08 00 13.3	-0.7
NEW				IAmb	IAmb	08 00 18.1	
	comp=Z,54nm,1.2s						
NEW	Newport	74.74	358	IAMs_20	IAMs_20	08 27 14.3	
	comp=Z,3µm,20.0s						
F36A	Milaca	74.79	15	P	P	08 00 12.8	-1.5
F36A				IAmb	IAmb	08 00 17.9	
	comp=Z,45nm,1.1s						
M53A	WI Miller and	74.79	26	P	P	08 00 15.7	+1.3
	baz=211						
M53A	WI Miller and	74.79	26	IAMs_20	IAMs_20	08 28 47.9	
	comp=Z,3µm,22.0s						
N55A	Marion Center	74.91	27	P	P	08 00 15.2	0.0
	baz=212,SNR=7.5						
B08A	Colville Reser	74.92	357	P	P	08 00 13.7	-1.4
O57A	Amberson	74.99	28	P	P	08 00 16.8	+1.2
	baz=214						
B05A	Bryant	75.01	355	P	P	08 00 15.6	+0.1
	baz=173,SNR=9.6						
P59A	Jarrettsville	75.02	30	P	P	08 00 16.4	+0.6
	baz=215						
TARA	Tarawa	75.04	279	IAMs_20	IAMs_20	08 25 17.2	
	comp=Z,2µm,20.0s						
G40A	Rib Lake	75.07	18	P	P	08 00 14.6	-1.4
G40A				IAmb	IAmb	08 00 22.9	
	comp=Z,71nm,1.6s						
B06A	Marblemount	75.21	355	P	P	08 00 15.4	-1.3
B06A				IAmb	IAmb	08 00 32.7	
	comp=Z,75nm,1.7s						
B06A				IAMs_20	IAMs_20	08 26 11.0	
	comp=Z,2µm,20.0s						
O58A	Lewisberry	75.23	29	P	P	08 00 16.0	-1.0
	baz=214						
SSPA	Standing Stone	75.24	28	P	P	08 00 18.3	+1.2
	baz=213						
SSPA	Standing Stone	75.24	28	P	P	08 00 15.5	-1.5
M54A	Oil Creek Stat	75.25	26	P	P	08 00 18.5	+1.4
	baz=212,SNR=5.2						
N56A	West Decatur	75.30	28	P	P	08 00 18.4	+0.9
	baz=213						
MVL	Millersville	75.37	29	P	P	08 00 16.8	-1.0
PAGS	Pennsylvania G	75.40	29	P	P	08 00 16.9	-1.0
N57A	Milroy	75.48	28	P	P	08 00 19.4	+0.9
	baz=214						
DGMT	Dagmar	75.49	7	P	P	08 00 18.1	-0.2
	baz=190,SNR=12						
DGMT	Dagmar	75.49	7	P	P	08 00 17.6	-0.8
MDND	Maddock	75.50	10	P	P	08 00 17.5	-0.9
	baz=194						
MDND	Maddock	75.50	10	P	P	08 00 17.1	-1.2
MDND				IAmb	IAmb	08 00 20.8	
	comp=Z,51nm,1.4s						
WALA	Waterton Lakes	75.50	0	P	P	08 00 17.9	-0.6
PGC	Sidney	75.51	354	P	P	08 00 17.3	-1.0
PGC				IAmb	IAmb	08 00 22.5	
	comp=Z,36nm,0.9s						
A04D	Lummi Island	75.51	354	P	P	08 00 19.0	+0.6
	baz=172,SNR=7.2						
M55A	Ridgway	75.57	27	P	P	08 00 19.7	+0.7
	baz=212,SNR=5.5						
BBSR	BB Station	75.60	42	IAMs_20	IAMs_20	08 28 00.1	
	comp=Z,2µm,21.0s						
NVL	N'lazarevskaya	75.69	164	*e*P	P	08 00 17.7	-1.6
NVL				*e*S	S	08 10 01.4	+0.9
NVL				pmax	pmax		
	comp=Z,29nm,1.1s						
O59A	Robesonia	75.70	29	P	P	08 00 21.6	+1.9
	baz=215						
M56A	Emporium	75.83	27	P	P	08 00 22.0	+1.5
	baz=213,SNR=5.6						
N58A	Sunbury	75.91	29	P	P	08 00 22.3	+1.4
	baz=214,SNR=5.8						
N58A	Sunbury	75.91	29	P	P	08 00 19.4	-1.5
N58A				IAmb	IAmb	08 00 27.1	
	comp=Z,84nm,1.7s						
N58A				IAMs_20	IAMs_20	08 31 47.4	
	comp=Z,2µm,18.0s						
E38A	The Farm, Brul	75.96	16	P	P	08 00 19.3	-1.8
E38A				IAMs_20	IAMs_20	08 30 15.1	
	comp=Z,3µm,20.0s						
O60A	Telford	76.05	30	P	P	08 00 23.0	+1.3
	baz=215						
M57A	Sunshine Farm,	76.14	28	P	P	08 00 23.5	+1.2
	baz=214						
I49A	Point Hope	76.16	23	IAMs_20	IAMs_20	08 31 34.2	
	comp=Z,2µm,19.0s						
G45A	Suttons Bay	76.19	21	IAMs_20	IAMs_20	08 30 47.1	
	comp=Z,2µm,20.0s						
L55A	Hinsdale	76.31	27	P	P	08 00 22.8	-0.3
	baz=213,SNR=5.7

baz=216
I51A Listowel 76.69 24 P **P 08 00 25.1 -0.1**
baz=210
L57A Andrews Acres 76.81 28 P **P 08 00 25.6 -0.4**
baz=214,SNR=8.1
KSPA Keystone Colle 76.90 29 P **P 08 00 25.5 -1.0**
KSPA IAmb IAmb 08 00 38.7
comp=Z,70nm,1.9s
K55A Perry 76.91 27 P **P 08 00 27.4 +0.8**
baz=213
M59A Waymart 77.03 29 P **P 08 00 28.2 +0.9**
baz=215
MEDO Medina 77.12 26 IAMs_20 IAMs_20 08 30 06.7
comp=Z,2µm,20.0s
J54A Appleton 77.14 26 IAMs_20 IAMs_20 08 29 34.1
comp=Z,3µm,22.0s
D41A Chassel 77.16 18 IAMs_20 IAMs_20 08 31 21.9
comp=Z,2µm,18.0s
K56A Middlesex 77.19 27 P **P 08 00 29.3 +1.1**
baz=214
M60A Port Jervis 77.22 30 P **P 08 00 29.0 +0.7**
baz=216
EYMN Ely 77.23 16 P **P 08 00 29.2 +1.0**
baz=201,SNR=6.5
EYMN Ely 77.23 16 P **P 08 00 26.9 -1.3**
EYMN IAmb IAmb 08 00 34.6
comp=Z,34nm,1.2s
L58A Harry Jones Me 77.27 29 P **P 08 00 28.3 -0.3**
baz=215,SNR=5.6
BINY Binghamton 77.33 28 P **P 08 00 30.3 +1.3**
baz=215,SNR=7.2
BINY Binghamton 77.33 28 P **P 08 00 27.4 -1.5**
K57A Scipio Center 77.55 28 P **P 08 00 31.3 +1.2**
baz=214
L59A Walton 77.73 29 P **P 08 00 30.2 -1.0**
baz=215
L59A Walton 77.73 29 P **P 08 00 29.7 -1.5**
E46A Sault Ste Mari 77.80 21 P **P 08 00 29.4 -2.0**
E46A IAmb IAmb 08 00 39.1
comp=Z,54nm,1.3s
E46A IAMs_20 IAMs_20 08 31 36.7
comp=Z,2µm,21.0s
J56A Wolcott 77.86 27 IAMs_20 IAMs_20 08 32 36.1
comp=Z,2µm,20.0s
K58A Earlville 77.94 28 P **P 08 00 33.2 +0.8**
baz=215,SNR=6.1
K58A Earlville 77.94 28 P **P 08 00 30.9 -1.5**
E47A Iron Bridge 78.21 22 P **P 08 00 35.4 +1.7**
baz=208
H53A Bobcaygeon 78.26 25 P **P 08 00 35.5 +1.5**
baz=212,SNR=6.7
K59A Cooperstown 78.29 29 P **P 08 00 35.5 +1.2**
baz=216,SNR=6.6
I55A Frankford 78.31 26 P **P 08 00 35.4 +1.1**
baz=213
PECO Prince Edward 78.35 27 IAMs_20 IAMs_20 08 32 34.1
comp=Z,2µm,20.0s
D46A Sault St. Mari 78.36 21 P **P 08 00 36.4 +1.9**
baz=208
ULM Lac du Bonnet 78.47 12 P **P 08 00 33.9 -1.2**
comp=Z,12nm,0.8s,baz=209,slow=6.5,SNR=7.7
ULM LR LR 08 31 13.8
comp=Z,790nm,19.5s,baz=194,slow=33
J58A Remsen 78.58 28 P **P 08 00 37.0 +1.1**
baz=215,SNR=6.7
DELO Deloro Mine 78.59 26 P **P 08 00 33.5 -2.3**
DELO IAMs_20 IAMs_20 08 30 39.4
comp=Z,3µm,21.0s
H55A Tweed 78.79 26 P **P 08 00 37.9 +0.9**
baz=213
D47A Chapleau 78.80 21 P **P 08 00 38.4 +1.5**
baz=208,SNR=5.8
I57A Carthage 78.90 28 P **P 08 00 38.6 +1.1**
baz=215
I58A Old Forge 78.98 28 P **P 08 00 39.7 +1.6**
baz=215,SNR=6.3
J59A Piesco 79.00 29 P **P 08 00 39.2 +1.1**
baz=216
G54A Lake Saint Pet 79.14 25 P **P 08 00 40.3 +1.4**
baz=213,SNR=6.3
H56A Elgin 79.19 27 P **P 08 00 41.0 +1.9**
baz=214
PLVO Plevna 79.24 26 P **P 08 00 37.6 -1.8**
J60A Lant Hill Farm 79.29 29 P **P 08 00 41.5 +1.8**
baz=217,SNR=5.2
ACCN Adirondack Com 79.29 29 P **P 08 00 37.4 -2.4**
H57A Richville 79.44 27 P **P 08 00 41.7 +1.2**
baz=215
NCB Newcomb 79.53 28 P **P 08 00 38.9 -2.1**
I59A Olmsteadville 79.53 29 P **P 08 00 42.1 +1.1**
baz=216
G55A Calabogie 79.56 26 P **P 08 00 42.4 +1.3**
baz=214
ALGO Algonquin Park 79.63 25 P **P 08 00 42.4 +1.0**
baz=213
I60A Shoreham 79.83 29 P **P 08 00 43.8 +1.3**
baz=217,SNR=5.5
LONY Lake Ozonia 79.90 28 P **P 08 00 44.6 +1.6**
baz=216,SNR=8.6
LONY Lake Ozonia 79.90 28 P **P 08 00 40.9 -2.1**
LONY IAmb IAmb 08 00 52.5
comp=Z,68nm,1.8s
H58A Gabriels 79.91 28 P **P 08 00 44.4 +1.3**
baz=216
G57A Newington 80.13 27 P **P 08 00 45.6 +1.4**
baz=215
E53A Dumoine, Ponti 80.13 25 P **P 08 00 45.7 +1.5**
baz=213,SNR=6.6
H59A Cadyville 80.30 28 P **P 08 00 46.6 +1.4**
baz=216,SNR=5.7
E54A Lac Daplat, Po 80.36 25 P **P 08 00 46.8 +1.3**
baz=213,SNR=7.4
J63A Strafford 80.36 31 P **P 08 00 49.8 +4.3**
baz=218
I61A Oroboro, Fairl 80.37 30 P **P 08 00 47.5 +1.9**
baz=218,SNR=6.0
VT1 Waterbury 80.45 29 P **P 08 00 43.3 -2.7**
VT1 IAmb IAmb 08 00 55.4
comp=Z,54nm,1.6s
G58A Ormstown 80.55 28 P **P 08 00 47.9 +1.4**
baz=216
H60A Morristown 80.65 29 P **P 08 00 48.6 +1.5**
baz=217,SNR=5.6
D53A Lac Vacive, Po 80.70 25 P **P 08 00 48.7 +1.4**
baz=213,SNR=7.1
D53A Lac Vacive, Po 80.70 25 P **P 08 00 45.3 -2.0**
D53A IAMs_20 IAMs_20 08 33 16.4
comp=Z,2µm,20.0s
I62A Tamworth 80.71 30 P **P 08 00 49.2 +1.8**
baz=218
I62A Tamworth 80.71 30 IAMs_20 IAMs_20 08 32 47.5
comp=Z,2µm,18.0s
LBNH Lisbon 80.74 30 P **P 08 00 48.6 +1.0**
baz=218
E55A Montcerf-Lytto 80.81 26 P **P 08 00 49.5 +1.6**
baz=214
F57A Harrington 80.83 27 P **P 08 00 49.5 +1.6**
baz=215
G59A Clarenceville 80.86 28 P **P 08 00 50.0 +1.8**
baz=217
H61A Lyndonville 80.97 29 P **P 08 00 50.2 +1.5**
baz=218,SNR=6.3
CASY Casey 81.10 197 IAMs_20 IAMs_20 08 31 58.0
comp=Z,2µm,19.0s
D54A Lac Fusel, La 81.16 25 P **P 08 00 50.8 +1.0**
baz=214,SNR=6.3
DIB Dawson Inlet, 81.16 349 IAMs_20 IAMs_20 08 28 13.6
comp=Z,2µm,20.0s
I63A Otisfield 81.19 30 P **P 08 00 51.4 +1.5**
baz=219
TRQ Mont Tremblant 81.22 27 P **P 08 00 48.4 -1.7**
H02N1 VAN INLET T-PH 81.22 349 T T 09 30 25.4
SNR=7.3
E56A St. Veronique 81.28 26 P **P 08 00 51.6 +1.2**
baz=215
H62A Milan 81.34 30 P **P 08 00 52.3 +1.5**
baz=218
H62A Milan 81.34 30 P **P 08 00 48.9 -1.9**
MOQ Mont Orford 81.44 29 P **P 08 00 49.4 -2.0**
D55A Sainte-Anne-du 81.50 26 P **P 08 00 52.4 +0.9**
baz=215
E57A Chemin Saint G 81.53 27 P **P 08 00 53.1 +1.3**
baz=216,SNR=5.7
F59A Saint Guilaume 81.65 28 P **P 08 00 54.7 +2.4**
baz=217
G61A St-Isidore-de- 81.73 29 P **P 08 00 54.8 +2.0**
baz=218,SNR=5.8
D56A ZEC Mazanza, M 81.81 26 P **P 08 00 54.2 +1.0**
baz=215,SNR=5.6
E58A La Victoria 81.86 27 P **P 08 00 54.7 +1.3**
baz=216,SNR=7.5
H63A New Sharon 81.91 30 P **P 08 00 55.8 +2.0**
baz=219,SNR=5.6
WVL Waterville 82.01 31 P **P 08 00 51.9 -2.3**
WVL IAmb IAmb 08 01 00.8
comp=Z,52nm,1.3s
F60A Warwick 82.09 28 P **P 08 00 55.7 +1.0**
baz=218
G62A West of Eustis 82.12 30 P **P 08 00 57.1 +2.2**
baz=219
G62A West of Eustis 82.12 30 P **P 08 00 53.2 -1.7**
G62A IAMs_20 IAMs_20 08 33 04.8
comp=Z,2µm,19.0s
D57A Chemin Vers le 82.13 27 P **P 08 00 55.9 +1.0**
baz=216,SNR=5.8
H64A Troy 82.27 31 P **P 08 00 57.1 +1.5**
baz=220
G63A Kingsbury 82.45 30 P **P 08 00 58.0 +1.4**
baz=219
EIDS Eidsvold 82.55 245 IAMs_20 IAMs_20 08 31 06.6
comp=Z,3µm,21.0s
D58A Chemin du LacG 82.60 27 P **P 08 00 56.9 -0.4**
baz=217,SNR=6.3
E60A Ste Agathe de 82.62 29 P **P 08 00 58.1 +0.7**
baz=218
LSQQ Lebel-sur-Quev 82.63 24 P **P 08 00 58.4 +1.0**
baz=213
SYO Syowa Base 82.63 171 ||| *e*P **P 08 00 54.6 -2.7**
SYO Syowa Base 82.63 171 ||| *e*p**P** **P 08 00 56.4 -0.9**
SYO Syowa Base 82.63 171 ||| *e*PP PP 08 04 02.8 -3.4
PKME Peaks-Kenny Pk 82.71 30 P **P 08 00 59.0 +1.1**
baz=220
LATQ La Tuque 82.87 27 P **P 08 00 59.9 +1.3**
baz=217
F62A Pittston Farm, 82.90 30 P **P 08 01 00.5 +1.6**
baz=219
F62A Pittston Farm, 82.90 30 IAMs_20 IAMs_20 08 35 09.4
comp=Z,2µm,19.0s
G64A Maxfield 82.95 31 P **P 08 00 59.2 +0.1**
baz=220
MATQ Matagami 82.98 23 P **P 08 01 00.2 +1.0**
baz=213
E61A Lac Etchemin 83.08 29 P **P 08 01 01.7 +1.8**
baz=219
F63A Nahmakanta, Br 83.13 30 P **P 08 01 00.8 +0.7**
baz=220,SNR=10
F63A Nahmakanta, Br 83.13 30 P **P 08 00 58.2 -1.9**
F63A IAmb IAmb 08 01 03.6
comp=Z,41nm,1.0s
F64A Sherman 83.60 31 P **P 08 01 03.6 +1.2**
baz=220
F64A Sherman 83.60 31 P **P 08 01 02.0 -0.5**
E62A Clayton Lake 83.65 29 P **P 08 01 04.4 +1.7**
baz=219,SNR=8.3
E62A Clayton Lake 83.65 29 P **P 08 01 01.9 -0.9**
E63A Oxbow 83.99 30 P **P 08 01 05.6 +1.2**
baz=220
D62A Allapoint, All 84.22 29 P **P 08 01 06.7 +1.1**
baz=220
D62A Allapoint, All 84.22 29 P **P 08 01 03.8 -1.8**
WRAK Wrangell Islan 84.24 350 P **P 08 01 03.7 -1.8**
WRAK IAmb IAmb 08 01 10.5
comp=Z,50nm,1.4s
E64A Bridgewater 84.25 30 P **P 08 01 07.1 +1.3**
baz=221
CHGQ Chibougamau 84.29 25 P **P 08 01 07.0 +1.1**
baz=215,SNR=9.1
PQI Presque Isle 84.36 30 P **P 08 01 05.0 -1.4**
PQI IAmb IAmb 08 01 19.7
comp=Z,21nm,1.0s
D63A Stockholm 84.60 30 P **P 08 01 08.1 +0.5**
baz=220
LMN Caledonia Moun 85.24 32 IAMs_20 IAMs_20 08 37 42.3
comp=Z,2µm,18.0s
DLBC Dease Lake 85.87 352 P **P 08 01 12.8 -0.9**
DLBC IAmb IAmb 08 01 17.7
comp=Z,42nm,1.1s
MAW Mawson 85.88 179 LR LR 08 35 37.7
comp=Z,2µm,20.9s,baz=175,slow=33
STKA Stephens Creek 86.92 236 P **P 08 01 21.9 +2.2**
comp=Z,3.7nm,0.8s,baz=77,slow=3.9,SNR=6.5
STKA LR LR 08 35 01.1
comp=Z,2µm,19.0s,baz=123,slow=32
H11S2 WAKE ISLAND Hy 88.59 291 T T 09 39 32.3
baz=119,slow=76,SNR=31
H11S1 WAKE ISLAND Hy 88.61 291 T T 09 39 31.6
baz=119,slow=76,SNR=58
H11S3 WAKE ISLAND Hy 88.61 291 T T 09 39 31.1
baz=119,slow=76,SNR=123
CTAO Charters Tower 88.91 248 IAMs_20 IAMs_20 08 33 59.3
comp=Z,2µm,22.0s
YKA Yellowknife Ar 88.97 360 P **P 08 01 27.6 -0.9**
comp=Z,2.7nm,0.7s,baz=172,slow=5.0,SNR=5.5
YKA LR LR 08 36 50.3
comp=Z,2µm,18.0s,baz=0,0,slow=33
H11N3 WAKE ISLAND Hy 89.01 293 T T 09 40 04.1
baz=120,slow=76,SNR=42
H11N1 WAKE ISLAND Hy 89.02 293 T T 09 40 08.8
baz=120,slow=76,SNR=42
H11N2 WAKE ISLAND Hy 89.03 293 T T 09 40 04.5
baz=120,slow=76,SNR=34
PCA Pinnacle 89.10 347 IAMs_20 IAMs_20 08 31 28.6
comp=Z,2µm,19.0s
SII Sitkinak Islan 89.54 339 IAMs_20 IAMs_20 08 32 14.8
comp=Z,2µm,21.0s
TABL Table Mountain 89.59 347 IAMs_20 IAMs_20 08 32 25.6
comp=Z,2µm,19.0s
YAH Yahtse 89.64 347 IAMs_20 IAMs_20 08 32 36.9
comp=Z,2µm,20.0s
ISLE Juniper Island 89.98 347 IAMs_20 IAMs_20 08 32 35.9
comp=Z,2µm,20.0s
CTGM Chitina Glacie 90.11 347 IAMs_20 IAMs_20 08 32 00.4
comp=Z,2µm,21.0s
BARN Barnard Glacie 90.26 347 P **P 08 01 34.3 -0.6**
BARN IAmb IAmb 08 01 46.9
comp=Z,45nm,1.4s
BARN IAMs_20 IAMs_20 08 32 57.3
comp=Z,2µm,21.0s
EYAK Cordova Ski Ar 90.67 345 IAMs_20 IAMs_20 08 31 55.3
comp=Z,2µm,21.0s
HIN Hinchinbrook I 90.71 345 IAMs_20 IAMs_20 08 32 25.4
comp=Z,2µm,20.0s
SDPT Sand Point 90.73 336 IAMs_20 IAMs_20 08 33 00.3
comp=Z,2µm,21.0s
VRDI Verde Repeater 90.78 346 IAMs_20 IAMs_20 08 32 24.1
comp=Z,2µm,21.0s
SCHQ Schefferville 91.02 25 LR LR 08 39 04.0
comp=Z,1µm,19.7s,baz=231,slow=33
BRLK Bradley Lake 91.27 343 IAMs_20 IAMs_20 08 33 59.0
comp=Z,2µm,19.0s
GLI Glacier Island 91.28 345 IAMs_20 IAMs_20 08 32 45.3
comp=Z,2µm,21.0s
KLU Klutina 91.55 346 IAMs_20 IAMs_20 08 33 48.5
comp=Z,2µm,20.0s
AKUT Akutan 91.88 333 IAMs_20 IAMs_20 08 33 21.1
comp=Z,2µm,20.0s
UNV Unalaska Valle 91.98 332 IAMs_20 IAMs_20 08 32 50.6
comp=Z,2µm,21.0s
KNK Knik Glacier 92.07 344 IAMs_20 IAMs_20 08 34 53.3
comp=Z,2µm,20.0s
BCAR Beaver Creek A 92.12 348 P **P 08 01 41.1 -2.2**
RSO Redoubt South 92.36 342 P **P 08 01 44.8 +0.1**
NIKH Nikolski High 92.37 331 IAMs_20 IAMs_20 08 32 36.2
comp=Z,3µm,22.0s
MENT Mentasta 92.38 347 IAMs_20 IAMs_20 08 34 05.4
comp=Z,2µm,21.0s
PMR Palmer 92.39 344 P **P 08 01 44.6 +0.2**
PMR pmax pmax
comp=Z,36nm,1.6s
PMR Palmer 92.39 344 P **P 08 01 44.6 +0.2**
PMR IAmb IAmb 08 01 51.5
comp=Z,36nm,1.6s
PMR IAMs_20 IAMs_20 08 32 44.7
comp=Z,2µm,22.0s
GHO Glory Hole Cre 92.49 344 P **P 08 01 44.4 -0.6**
GHO IAmb IAmb 08 02 56.0
comp=Z,24nm,1.2s
GHO IAMs_20 IAMs_20 08 35 35.4
comp=Z,1µm,19.0s
K27K Chicken 93.06 348 P **P 08 01 48.7 +1.2**
baz=156
DOT Dot Lake 93.09 347 P **P 08 01 46.7 -1.0**
DHY Denali Highway 93.27 346 IAMs_20 IAMs_20 08 34 53.0
comp=Z,2µm,19.0s
SKT Skwentna 93.31 343 P **P 08 01 47.0 -1.7**
SKT IAmb IAmb 08 01 51.5
comp=Z,17nm,1.0s
SKT IAMs_20 IAMs_20 08 34 28.3
comp=Z,2µm,20.0s
CUT Chulitna 93.36 344 P **P 08 01 51.0 +2.1**
baz=148
SVW2 Sparrevohn 93.67 341 P **P 08 01 48.4 -2.1**
SVW2 IAmb IAmb 08 02 02.2
comp=Z,31nm,1.6s
SVW2 IAMs_20 IAMs_20 08 34 24.5
comp=Z,1µm,22.0s
RND Reindeer 93.89 345 P **P 08 01 49.5 -2.0**
RND pmax pmax
comp=Z,32nm,1.6s
RND Reindeer 93.89 345 P **P 08 01 49.5 -2.0**
RND IAmb IAmb 08 01 59.3
comp=Z,32nm,1.6s
RND IAMs_20 IAMs_20 08 37 09.4
comp=Z,2µm,18.0s
MCK McKinley 94.19 345 P **P 08 01 51.3 -1.5**
MCK pmax pmax
comp=Z,56nm,2.0s
MCK McKinley 94.19 345 P **P 08 01 51.3 -1.5**
MCK IAmb IAmb 08 02 00.3
comp=Z,56nm,2.0s
MCK IAMs_20 IAMs_20 08 35 21.4
comp=Z,2µm,20.0s
PPLA Purkeypile 94.25 344 P **P 08 01 51.6 -1.6**
PPLA IAmb IAmb 08 02 04.5
comp=Z,33nm,1.2s
TRF Thorofare Moun 94.26 345 P **P 08 01 52.3 -0.9**
TRF IAmb IAmb 08 02 04.9
comp=Z,27nm,1.0s
HDA Harding Lake 94.35 347 IAMs_20 IAMs_20 08 37 30.5
comp=Z,1µm,18.0s
COEN Coen 94.40 252 IAMs_20 IAMs_20 08 37 39.2
comp=Z,2µm,21.0s
KTH Kantishna Hill 94.50 345 P **P 08 01 52.5 -1.7**
WRH Wood River Hil 94.65 346 P **P 08 01 54.1 -0.7**
WRH IAmb IAmb 08 02 07.2
comp=Z,14nm,1.1s
ILAR Eielson Array 94.66 347 P **P 08 01 54.4 -0.5**
comp=Z,1.5nm,0.9s,baz=188,slow=4.8,SNR=11
ILAR LR LR 08 36 41.7
comp=Z,889nm,19.8s,baz=149,slow=31
ILAR Eielson Array 94.66 347 P **P 08 01 53.7 -1.2**
ILAR Eielson Array 94.66 347 P **P 08 01 53.7 -1.2**
BWN Browne 94.69 345 IAMs_20 IAMs_20 08 34 33.6
comp=Z,2µm,22.0s
CCB Clear Creek Bu 94.74 346 P **P 08 01 54.0 -1.1**
CCB IAMs_20 IAMs_20 08 36 11.8
comp=Z,1µm,20.0s
COLA College 94.95 346 *i* P **P 08 01 56.8 +0.7**
COLA pmax pmax
comp=Z,13nm,1.3s
COLA College 94.95 346 P **P 08 01 55.2 -0.9**
COLA IAmb IAmb 08 01 58.3
comp=Z,20nm,1.4s
TCOL CIGO, UAF Yank 94.95 346 P **P 08 01 57.9 +1.7**
baz=150
BPAW Bear Paw Mtn. 94.98 345 P **P 08 01 55.1 -1.2**
BPAW IAmb IAmb 08 02 07.5
comp=Z,16nm,0.9s
MDM Murphy Dome 95.10 346 P **P 08 01 56.0 -1.0**
MDM IAmb IAmb 08 02 03.9
comp=Z,22nm,1.3s
MDM IAMs_20 IAMs_20 08 36 22.4
comp=Z,1µm,19.0s
TTA Tatalina 95.28 342 IAMs_20 IAMs_20 08 36 19.3
comp=Z,1µm,19.0s
SPIA Saint Paul Isl 95.82 333 IAMs_20 IAMs_20 08 35 02.2
comp=Z,1µm,20.0s
BMAR Burnt Mountain 96.58 349 P **P 08 02 03.0 -0.7**
ASAR Alice Springs 97.00 239 P **P 08 02 06.9 +0.1**
comp=Z,1.2nm,0.9s,baz=104,slow=5.0,SNR=4.8
ASAR PP **PP 08 05 59.5 -2.4**
comp=Z,1.9nm,1.1s,baz=115,slow=6.2,SNR=4.4
ASAR LR LR 08 41 21.2
comp=Z,5µm,19.5s,baz=138,slow=33
IMAR Indian Mountai 97.20 345 P **P 08 02 05.8 -0.6**
SACV Santiago Islan 97.44 77 IAMs_20 IAMs_20 08 44 37.5
comp=Z,2µm,18.0s
COLD Coldfoot 97.47 347 P Pdif 08 02 09.6 +1.9
baz=148
COLD Coldfoot 97.47 347 P Pdif 08 02 07.4 -0.3
WR0 Warramunga Arr 98.50 243 IAMs_20 IAMs_20 08 46 27.8
comp=Z,2µm,19.0s
WR8 Warramunga Arr 98.53 243 IAMs_20 IAMs_20 08 46 27.7
comp=Z,2µm,18.0s
WR2 Warramunga Arr 98.64 243 IAMs_20 IAMs_20 08 43 29.7
comp=Z,1µm,20.0s
WB1 Warramunga Ar. 98.65 243 IAMs_20 IAMs_20 08 43 30.9
comp=Z,2µm,19.0s
WB2 Warramunga Arr 98.65 243 IAMs_20 IAMs_20 08 43 31.0
comp=Z,2µm,19.0s
WRAB Tennant Creek 98.66 243 *i* P Pdif 08 02 13.6 -0.6
WRAB pmax pmax
comp=Z,4.0nm,1.1s
WRAB Tennant Creek 98.66 243 IAMs_20 IAMs_20 08 43 30.9
comp=Z,2µm,19.0s
WB3 Warramunga Arr 98.66 243 IAMs_20 IAMs_20 08 43 31.2
comp=Z,2µm,19.0s
WR1 Warramunga Arr 98.66 243 IAMs_20 IAMs_20 08 43 30.2
comp=Z,1µm,18.0s
WRA Warramunga Arr 98.66 243 P Pdif 08 02 15.7 +1.4
comp=Z,2.9nm,0.9s,baz=124,slow=4.6,SNR=14
WRA LR LR 08 44 11.0
comp=Z,1µm,18.5s,baz=170,slow=34
WB4 Warramunga Arr 98.67 243 IAMs_20 IAMs_20 08 43 30.4
comp=Z,2µm,20.0s
ANM Nome 99.22 340 IAMs_20 IAMs_20 08 38 00.7
comp=Z,2µm,22.0s
H01W1 Cape Leeuwin H 103.27 219 T T 09 57 45.8
baz=134,slow=75,SNR=38
H01W2 Cape Leeuwin H 103.28 219 T T 09 57 45.7
baz=134,slow=75,SNR=45
H01W3 Cape Leeuwin H 103.28 219 T T 09 57 46.4
baz=134,slow=75,SNR=47
MMRI Maumere 114.65 246 IAMs_20 IAMs_20 09 01 39.1
comp=Z,2µm,20.0s
SEY Seymchan 114.86 330 *i* PKIKP **PKiKP 08 07 16.5 +2.0**
YSS Yuzh-Sakhalins 117.45 311 *i* PKIKP **PKiKP 08 07 19.6 -0.3**
YSS pmax pmax
comp=Z,8.0nm,1.2s
LUWI Luwuk 118.31 253 IAMs_20 IAMs_20 09 01 12.8
comp=Z,1µm,20.0s
PVAQ Vaqueiros 118.52 60 IAMs_20 IAMs_20 08 51 18.6
comp=Z,1µm,20.0s
COI Coimbra 118.60 57 IAMs_20 IAMs_20 08 57 02.6
comp=Z,1µm,20.0s
MAJO Matsushiro 118.61 299 IAMs_20 IAMs_20 08 47 21.1
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 119.12 89 PKP **PKiKP 08 07 25.0 +0.9**
comp=Z,2.2nm,0.9s,baz=266,slow=1.1,SNR=6.2
SFS San Fernando 119.49 62 IAMs_20 IAMs_20 08 55 08.3
comp=Z,992nm,20.0s
ES14 SONSECA Array 121.84 58 IAMs_20 IAMs_20 08 59 28.3
comp=Z,1µm,19.0s
ES13 SONSECA Array 121.85 58 IAMs_20 IAMs_20 08 59 28.7
comp=Z,1µm,19.0s
ES17 SONSECA Array 121.86 58 IAMs_20 IAMs_20 08 59 29.8
comp=Z,1µm,20.0s
ESDC Sonseca Array 121.86 58 PKP **PKiKP 08 07 30.4 +1.4**
comp=Z,2.0nm,1.1s,baz=295,slow=1.7,SNR=6.4
ESBB Sonseca Array 121.86 58 IAMs_20 IAMs_20 08 59 28.9
comp=Z,1µm,19.0s
ES06 SONSECA Array 121.87 58 IAMs_20 IAMs_20 08 59 30.1
comp=Z,1µm,20.0s
ES12 SONSECA Array 121.87 58 IAMs_20 IAMs_20 08 59 30.1
comp=Z,1µm,20.0s
ES01 SONSECA Array 121.87 58 IAMs_20 IAMs_20 08 59 30.2
comp=Z,1µm,20.0s
ES07 SONSECA Array 121.87 58 IAMs_20 IAMs_20 08 59 30.2
comp=Z,1µm,19.0s
ES04 SONSECA Array 121.87 58 IAMs_20 IAMs_20 08 59 29.2
comp=Z,1µm,20.0s
ES02 SONSECA Array 121.88 58 IAMs_20 IAMs_20 08 59 30.5
comp=Z,1µm,20.0s
ES03 SONSECA Array 121.88 58 IAMs_20 IAMs_20 08 59 28.5
comp=Z,1µm,19.0s
ES11 SONSECA Array 121.89 58 IAMs_20 IAMs_20 08 59 38.6
comp=Z,1µm,20.0s
ES08 SONSECA Array 121.89 58 IAMs_20 IAMs_20 08 53 05.7
comp=Z,1µm,20.0s
ES10 SONSECA Array 121.90 58 IAMs_20 IAMs_20 08 59 39.0
comp=Z,1µm,20.0s
ES09 SONSECA Array 121.91 58 IAMs_20 IAMs_20 08 59 39.2

comp=Z,1μm,20.0s
ES19 SONSECA Array 121.91 58 IAMs_20 IAMs_20 08 59 39.3
comp=Z,1μm,19.0s
KBS Kingsbay 122.86 11 IAMs_20 IAMs_20 09 00 50.9
comp=Z,1μm,19.0s
TIXI Tiksi 123.49 340 *i* PKIKP **PKiKP 08 07 34.3 +3.2**
TIXI pmax pmax
comp=Z,13nm,1.2s
ESK Eskdalemuir 123.64 40 IAMs_20 IAMs_20 08 50 29.0
comp=Z,1μm,20.0s
CART Cartagena 123.79 61 IAMs_20 IAMs_20 08 54 08.2
comp=Z,927nm,19.0s
USRK Ussuriysk Ar. 124.55 307 PKP **PKiKP 08 07 34.7 +0.7**
comp=Z,2.4nm,0.9s,baz=101,slow=3.9,SNR=6.0
KLR Kul'dur 125.02 313 *i* PKIKP **PKiKP 08 07 35.2 +0.4**
KLR pmax pmax
comp=Z,4.0nm,1.1s
YAK Yakutsk 125.34 329 *i* PKIKP **PKiKP 08 07 34.4 -0.6**
YAK pmax pmax
comp=Z,8.0nm,1.0s
MDJ Mudanjiang 126.30 307 PKP **PKiKP 08 07 38.6 +1.1**
KSRS Korea Array 126.87 298 PKP **PKiKP 08 07 38.4 -0.4**
comp=Z,2.6nm,1.0s,baz=112,slow=3.5,SNR=12
KKM Kota Kinabalu 127.51 256 IAMs_20 IAMs_20 09 00 15.1
comp=Z,1μm,22.0s
ZEA Zeya 127.69 319 *e*PKIKP **PKiKP 08 07 41.2 +1.3**
RETA Reutte 132.84 49 *ep*PKiKP **PKiKP 08 07 53.7 +3.1**
comp=Z,4.2nm,0.9s
FETA Feichten 132.87 50 *es*PKPdf **PKiKP 08 07 53.0 +2.1**
comp=Z,16nm,1.6s
MOTA Moosalm 133.09 49 *ep*PKPdf **PKiKP 08 07 53.0 +1.8**
comp=Z,16nm,1.3s
SQTA Sankt Quirin 133.17 49 *es*PKPdf **PKiKP 08 07 53.5 +2.1**
comp=Z,21nm,1.6s
WATA Walderalm 133.41 49 *ep*PKiKP **PKiKP 08 07 54.9 +3.0**
comp=Z,18nm,1.5s
WTTA Wattenberg 133.46 49 *ep*PKPdf pPKPdf 08 07 53.3 -0.3
comp=Z,32nm,1.8s
NJ2 Nanjing 133.56 290 *e*PKP **PKPdf 08 07 50.8 -0.4**
CLL Collm 133.72 43 *ep*PKPdf **pPKPdf 08 07 55.0 +1.4**
comp=Z,46nm,2.1s
CLL *e*(SS) 08 27 36.0
CLL *e*SSS SSS 08 33 06.0
BOD Bodaibo 134.04 326 *e*PKIKP **PKiKP 08 07 51.9 -0.7**
BOD *e* 08 10 21.3
BOD pmax pmax
comp=Z,16nm,1.6s
BRG Berggiesshubel 134.38 44 *e*PKP **PKiKP 08 07 56.9 +3.3**
comp=Z,31nm,1.9s
KHC Kasperske Hory 134.48 46 *e*PKPDF **PKPdf 08 07 52.5 0.0**
KHC Kasperske Hory 134.48 46 *e*PKIKP **PKPdf 08 07 52.5 0.0**
GEC2 GERESS Array S 134.61 47 IAMs_20 IAMs_20 08 59 23.6
comp=Z,926nm,20.0s
GERES GERESS Array B 134.61 47 PKP **PKPdf 08 07 52.7 -0.1**
comp=Z,0.2nm,0.3s,baz=240,slow=1.1,SNR=5.3
KBA Koelnbreinsper 134.64 49 *ep*PKPdf **PKiKP 08 07 54.7 +0.2**
comp=Z,6.7nm,1.2s
MYKA Terra Mystica 134.90 50 *ep*PKPdf pPKPdf 08 07 56.0 -0.2
comp=Z,8.7nm,1.5s
MOA Molln 135.14 48 *ep*PKPdf **PKiKP 08 07 55.8 +0.6**
comp=Z,6.0nm,1.2s
OBKA Obir 135.54 50 *ep*PKPdf **PKiKP 08 07 56.9 +0.7**
comp=Z,5.1nm,0.9s
SOKA Soboth 135.84 50 *ep*PKPdf **PKiKP 08 07 57.1 +0.3**
comp=Z,3.2nm,1.0s
KSP Ksiaz 135.84 43 *e*PKP **PKiKP 08 07 57.2 +0.7**
CONA Conrad Observa 136.19 48 pPKPdf **PKiKP 08 07 57.7 +0.2**
comp=Z,6.3nm,1.1s
KRUC Moravsky 136.31 46 *e*PKP PKPpre 08 07 48.0
VRAC Vranov 136.38 46 *e*PKP PKPpre 08 07 47.8
FINES FINESS Array B 136.49 26 PKP **PKPdf 08 07 56.1 +0.3**
comp=Z,1.7nm,0.9s,baz=321,slow=5.4,SNR=4.9
MORC Moravsky Berou 136.88 45 ⇓P **PKiKP 08 08 02.2 +3.5**
MORC Moravsky Berou 136.88 45 ⇓PKIKP **PKiKP 08 08 02.2 +3.5**
KLNR Kaliningrad 136.96 37 *i* PKIKP **PKPdf 08 07 57.5 +0.7**
KLNR pmax pmax
comp=Z,28nm,1.0s
MODS Modra-Piesok 137.03 47 *e*PKIKP **PKiKP 08 07 58.5 -0.5**
MODS Modra-Piesok 137.03 47 *e*PKP **PKiKP 08 07 58.5 -0.5**
JAVC Velka Javorina 137.18 46 *e*PKP PKPpre 08 07 51.3
VYHS Vyhne 138.01 46 *e*PKIKP **PKiKP 08 08 00.4 -0.6**
VYHS Vyhne 138.01 46 *e*PKP **PKiKP 08 08 00.4 -0.6**
OJC Ojcow 138.16 44 *e*PKP **PKiKP 08 08 00.3 -0.9**
VSU Vasula 138.42 30 *i* PKIKP **PKPdf 08 08 00.1 +0.7**
NIE Niedzica 138.70 45 *e*PKP **PKiKP 08 08 02.0 -0.5**
PDG Podgorica 139.43 55 ⇓P **PKPdf 08 08 00.4 -1.4**
HHC Hu-ho-hao-te 139.64 302 *e*PKP **PKPdf 08 08 01.4 -1.0**
UZH Uzhgorod 140.19 45 *e*PKHKP PKPpre 08 07 55.9
UZH *e* 08 08 05.1
BZS Buzias 140.54 50 ⇑P **PKiKP 08 08 05.8 -0.5**
BZS Buzias 140.54 50 ⇑PKIKP **PKiKP 08 08 05.8 -0.5**
LVV L'vov 140.88 43 *e*PKIKP **PKiKP 08 08 08.1 +1.3**
HERR Herculane 141.25 51 ⇓P **PKiKP 08 08 06.7 -1.1**
ULN Ulaanbaatar 141.38 314 *i* PKIKP **PKPdf 08 08 05.6 +0.2**
IRK Irkutsk 141.41 322 *e*PKIKP **PKPdf 08 08 02.9 -2.2**
IRK pmax pmax
comp=Z,57nm,1.9s
KLMR Klimovskoe 141.67 20 *e*PKIKP **PKPdf 08 08 01.9 -3.3**
KLMR pmax pmax
comp=Z,31nm,1.3s
KLMR Klimovskoe 141.67 20 *e*PKPdf **PKPdf 08 08 02.0 -3.3**
KLMR AMP 08 08 07.9
comp=Z,31nm,1.3s
KLMR *e*PP PP 08 10 58.5 -11
SONM Songino Array 141.81 314 PKhKP **PKPdf 08 08 03.8 -2.3**
comp=Z,5.7nm,1.1s,baz=358,slow=1.2,SNR=9.3
TLY Talaya 142.00 321 *e*PKIKP **PKPdf 08 08 06.2 0.0**
TLY pmax pmax
comp=Z,66nm,1.5s
XAN Xi'an 142.02 292 PKP **PKiKP 08 08 08.4 -1.4**
BURAR Bucovina Array 142.37 46 ⇓P **PKiKP 08 08 08.5 -1.6**
BURAR Bucovina Array 142.37 46 ⇓PKIKP **PKiKP 08 08 08.5 -1.6**
PRGR Permogore 142.70 15 *e*PKIKP **PKPdf 08 08 03.2 -3.8**
PRGR *e* 08 11 12.4
PRGR pmax pmax
comp=Z,34nm,1.1s
ZAK Zakamensk 142.77 320 *e*PKIKP **PKPdf 08 08 05.0 -2.7**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
VOIR 142.91 49 ⇑P **PKiKP 08 08 18.8 +7.5**
VOIR 142.91 49 ⇑PKIKP **PKiKP 08 08 18.8 +7.5**
GYA Guiyang 143.25 279 PKP **PKPdf 08 08 08.3 -1.0**
MOY Mondy 143.47 323 *e*PKIKP **PKPdf 08 08 08.1 -0.8**
MOY pmax pmax
comp=Z,19nm,1.7s
AKASG Malin Array Be 143.57 39 PKP **PKPdf 08 08 08.5 -0.5**
comp=Z,0.2nm,0.2s,baz=286,slow=3.4,SNR=4.5
PLOR Plostina 143.87 48 ⇑P PKPab 08 08 06.0 -0.8
PLOR Plostina 143.87 48 ⇑PKIKP PKPab 08 08 06.0 -0.8
VRI Vrincioaia 143.91 48 ⇓P **PKPab 08 08 06.2 -0.7**
VRI Vrincioaia 143.91 48 ⇓PKIKP **PKPab 08 08 06.2 -0.7**
SULR 143.95 50 ⇑P **PKPdf 08 08 08.9 -0.9**
SORM Soroca 144.15 44 ⇓P **PKPdf 08 08 09.4 -0.6**
SORM Soroca 144.15 44 ⇓PKIKP **PKPdf 08 08 09.4 -0.6**
IDI Anoyia 144.44 66 ⇑P **PKPdf 08 08 10.3 -0.8**
IDI Anoyia 144.44 66 IAMs_20 IAMs_20 08 52 39.1
comp=Z,932nm,22.0s
AMRR Amara 144.71 50 ⇓P **PKPdf 08 08 12.5 +1.4**
AMRR Amara 144.71 50 ⇓PKIKP **PKPdf 08 08 12.5 +1.4**
OBN Obninsk 144.75 29 PKP **PKPdf 08 08 11.4 +0.6**
comp=Z,5.1nm,0.3s,baz=218,slow=1.5,SNR=8.6
OBN Obninsk 144.75 29 ⇓*i* PKIKP **PKPdf 08 08 11.5 +0.7**
OBN *e* 08 11 24.4
OBN *e*SS SS 08 30 17.5 +1.8
OBN pmax pmax
comp=Z,56nm,1.3s
OBN MLR MLR
comp=Z,1μm,19.0s
MOS Moscow 144.77 27 *e*PKIKP **PKPab 08 08 09.0 -0.7**
MOS pmax pmax
comp=Z,164nm,1.7s
MOS pmax pmax
comp=Z,500nm,2.4s
APE Apeiranthos 144.84 63 ⇓P **PKiKP 08 08 13.6 -1.8**
APE Apeiranthos 144.84 63 ⇓PKIKP **PKiKP 08 08 13.6 -1.8**
SANT Santorini 144.84 64 ⇓P **PKPab 08 08 07.6 -3.1**
MILM Milestii Mici 144.90 45 ⇓P **PKPab 08 08 10.7 +0.2**
HARR Harsova 145.09 49 ⇑P **PKiKP 08 08 15.0 -0.6**
HARR Harsova 145.09 49 ⇑PKIKP **PKiKP 08 08 15.0 -0.6**
TOPG Topolog 145.33 49 ⇑P **PKPbc 08 08 11.6 -0.4**
PURM Purcari 145.73 45 ⇑P **PKiKP 08 08 16.3 -0.5**
LZH Lanzhou 146.12 295 *e*PKPbc **PKPab 08 08 16.3 +0.7**
LZH pPKP sPKPab 08 08 24.5 +5.4
CD2 Chengdu 146.29 286 PKPbc **PKPdf 08 08 13.5 -0.8**
KIRV Kirov 146.29 15 PKPbc **PKPab 08 08 15.2 0.0**
comp=Z,32nm,0.9s,baz=328,slow=9.7,SNR=22
KMI Kunming 146.49 276 ⇓PKPbc **PKPab 08 08 16.9 -0.5**
KMI pPKP sPKPbc 08 08 19.4 -0.8
KMI sPKP 08 08 20.5
KMI LR LR
comp=Z,550nm,18.1s
KMI LR LR
comp=Z,370nm,18.2s
KMI LR LR
comp=Z,630nm,20.1s
LPSR Galich'ya Gora 147.47 30 *e*PKP2 **PKPbc 08 08 18.7 +0.6**
LPSR pmax pmax
comp=Z,70nm,1.3s
CM31 Chiang Mai Arr 148.05 262 PKPab **PKPab 08 08 22.8 -0.7**
CMAR Chiang Mai Arr 148.05 262 PKPbc **PKiKP 08 08 21.0 -1.5**
comp=Z,14nm,0.9s,baz=126,slow=0.9,SNR=38
CMAR Chiang Mai Arr 148.05 262 PKP2 **PKPab 08 08 24.2 +0.7**
CMAR Chiang Mai Arr 148.05 262 PKPab **PKPab 08 08 24.2 +0.7**
VORR Voronezh 148.22 31 *e*PKIKP **PKPdf 08 08 16.0 -0.8**
VORR pmax pmax
comp=Z,350nm,2.0s
VSR Storozhevoye 148.50 32 *e*PKP2 **PKPbc 08 08 21.3 +0.4**
VSR pmax pmax
comp=Z,70nm,1.1s
VORD Divnogorie 148.73 32 *e*PKP2 **PKPbc 08 08 21.4 0.0**
VORD pmax pmax
comp=Z,50nm,1.0s
GTA Gaotai 148.75 302 ⇑PKPbc **PKPab 08 08 24.2 -1.7**
GTA LR LR
comp=Z,510nm,20.0s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,2μm,21.3s
ZALV Zalesovo Beam 149.31 337 PKP **PKPdf 08 08 18.9 +0.4**
comp=Z,7.8nm,0.8s,baz=37,slow=0.7,SNR=14
ZALV PKPbc **PKiKP 08 08 23.1 -0.9**
comp=Z,10nm,0.6s,baz=19,slow=2.8,SNR=20
VRH Novokhopyorsk 149.69 30 *e*PKP2 **PKPbc 08 08 23.9 0.0**
VRH pmax pmax
comp=Z,100nm,1.0s
SVE Sverdlovsk 149.78 5 *e*PKP2 **PKiKP 08 08 25.0 +0.1**
SVE pmax pmax
comp=Z,70nm,2.0s
ARU Arti 149.97 8 PKPbc **PKiKP 08 08 25.4 +0.1**
comp=Z,8.5nm,0.9s,baz=336,slow=2.5,SNR=28
ARU Arti 149.97 8 *i* PKHKP **PKPdf 08 08 19.7 +0.2**
BRTR Keskin Array B 150.61 56 PKPbc **PKiKP 08 08 27.4 0.0**
comp=Z,9.6nm,1.0s,baz=215,slow=1.5,SNR=20
BRTR Keskin Array B 150.61 56 PKIKP **PKPab 08 08 32.2 -1.3**
BRTR Keskin Array B 150.61 56 PKPab **PKPab 08 08 32.2 -1.3**
LEF Lefka 150.98 65 ⇓P **PKiKP 08 08 29.3 +1.2**
SEM Semipalatinsk 153.82 338 *e*PKP **PKPdf 08 08 26.7 +0.9**
baz=338
SEM Semipalatinsk 153.82 338 *e*PKIKP **PKPdf 08 08 26.7 +0.9**
KURBB Kurchatov Arra 154.17 341 PKP **PKPdf 08 08 26.5 +0.5**
comp=Z,0.6nm,0.5s,baz=356,slow=1.4,SNR=9.6
KURBB PKPbc **PKiKP 08 08 34.7 +0.5**
comp=Z,10nm,1.0s,baz=26,slow=1.9,SNR=32
KIV Kislovodsk 154.88 41 *e*PKIKP **PKPdf 08 08 29.3 +2.0**
KIV pmax pmax
comp=Z,22nm,0.9s
KBZ Khabaz 155.14 41 PKP **PKPdf 08 08 28.9 +1.4**
comp=Z,2.6nm,0.7s,baz=21,slow=5.4,SNR=3.6
KBZ PKPbc pPKPbc 08 08 37.6 -1.5
comp=Z,5.1nm,0.8s,baz=304,slow=3.5,SNR=6.6
WMQ Urumqi 155.24 319 *e*PKP **PKPdf 08 08 28.3 +0.5**
WMQ pPKP pPKPbc 08 08 38.6 -0.9
WMQ AMB AMB
comp=Z,300nm,10.3s
WMQ LR LR
comp=Z,410nm,25.9s
WMQ LR LR
comp=Z,520nm,25.9s
WMQ LR LR
comp=Z,600nm,23.3s
MKAR Makanchi Array 155.99 331 PKP **PKPdf 08 08 28.7 +0.1**
comp=Z,1.1nm,0.8s,baz=40,slow=2.1,SNR=12
MKAR PKPbc pPKPbc 08 08 38.7 -2.2
comp=Z,5.1nm,1.0s,baz=43,slow=1.6,SNR=13
KPKS Kokpek 160.18 331 *e*PKP **PKPdf 08 08 33.6 -0.3**
baz=330
KPKS Kokpek 160.18 331 *e*PKIKP **PKPdf 08 08 33.6 -0.3**
UZB Uzynbulak 160.28 329 *e*PKP **PKPdf 08 08 34.6 +0.5**
baz=329
UZB Uzynbulak 160.28 329 *e*PKIKP **PKPdf 08 08 34.6 +0.5**
BTLS Baital 160.51 341 *e*PKP **PKPdf 08 08 34.7 +0.6**
baz=341
BTLS Baital 160.51 341 *e*PKIKP **PKPdf 08 08 34.7 +0.6**
CHKK Chushkaly 160.57 334 *e*PKP **PKPdf 08 08 34.8 +0.5**
baz=334
CHKK Chushkaly 160.57 334 *e*PKIKP **PKPdf 08 08 34.7 +0.5**
KUU Kurty 160.78 335 *e*PKP **PKPdf 08 08 34.5 -0.1**
baz=335
KUU Kurty 160.78 335 *e*PKIKP **PKPdf 08 08 34.4 -0.1**
SGDS Sogindy 161.77 338 *e*PKP **PKPdf 08 08 35.7 0.0**
baz=338
SGDS Sogindy 161.77 338 *e*PKIKP **PKPdf 08 08 35.6 0.0**
AAK Ala-Archa 162.54 337 PKP **PKPdf 08 08 38.2 +1.7**
comp=Z,1.4nm,0.5s,baz=95,slow=5.2,SNR=4.8
AAK PKPab **pPKPab 08 09 26.1 -1.0**
comp=Z,1.0nm,0.3s,baz=77,slow=2.4,SNR=3.7
IUG luzhnay 164.22 347 *e*PKP **PKPdf 08 08 38.4 +0.3**
baz=347
IUG luzhnay 164.22 347 *e*PKIKP **PKPdf 08 08 38.3 +0.3**
KSH Kashi 164.55 328 PKP **PKPdf 08 08 40.9 +2.4**
KSH PP PP 08 13 26.5 +7.4
KSH SKS **SKSdf 08 15 40.8 -2.3**
KSH SKKS **SKKSac 08 20 15.2 +7.6**
KSH AMB AMB
comp=Z,780nm,7.3s
KSH LR LR
comp=Z,280nm,7.9s
KSH LR LR
comp=Z,340nm,9.8s
KSH LR LR
comp=Z,1μm,16.2s
GEYT Alibeck 167.29 27 PKP **PKPdf 08 08 42.6 +2.0**
comp=Z,1.2nm,0.4s,baz=255,slow=10.0,SNR=5.7

NEIC ***06*** *07:49:42.1±1.5, 28°.2S±0°.1×175°.4W±0°.1, h47km±13km, mb4.5/18, Error ellipse: s-maj=19.3km s-min=10.0km az=129.0*
IDC ***06*** *07:49:44.4±0.7, 27°.92S×176°.48W, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/25, mbtmp4.3/13, ML4.4/1, MS4.2/1, Ms1 4.2/1, ms1mx3.5/29, Error ellipse: s-maj=26.8km s-min=20.2km az=153.0*
ISC 06 07:49:44.8±0.7, 28°.06S±0°.08×175°.7W±0°.1, h35km, n77, σ2§47/71, mb4.3/16, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.32 239**			**Pn**	**07 50 22.0**	**+1.5**
	287nm,0.3s,baz=47,slow=15,SNR=9.6						
RAO				Sn	**Sn**	**07 50 47.1**	**-0.6**
	1μm,0.3s,baz=64,slow=23,SNR=22						
RAO	**Raoul Island**	**2.32 239**			**Pn**	**07 50 22.4**	**+1.9**
RAO					**Sn**	**07 50 48.7**	**+1.0**
NIUE	**Niue**	**10.37**	**32**	Pn	**Pn**	**07 52 08.9**	**-2.1**
NIUE					**Sn**	**07 54 00.3**	**-5.7**
OUZ	**Omahuta**	**11.61 229**		Pn	**Pn**	**07 52 27.1**	**-0.9**
MWZ	**Matawai**	**11.72 207**		P	**Pn**	**07 52 28.4**	**-1.1**
MSVF	**Nonsavu**	**11.80 329**		Pn	**Pn**	**07 52 30.2**	**-0.5**
URZ	**Urewera**	**11.83 209**		Pn	Pn	07 52 26.0	-5.0
	0.6nm,0.3s,baz=49,slow=1.6,SNR=4.7						
URZ	**Urewera**	**11.83 209**		P	Pn	07 52 26.2	-4.8
URZ	**Urewera**	**11.83 209**			**Pn**	**07 52 28.4**	**-2.6**
URZ					**Sn**	**07 54 40.6**	**-1.2**
SNGZ	**Shannon Statio**	**12.18 207**		P	**Pn**	**07 52 35.2**	**-0.6**
BKZ	**Black Stump Fm**	**12.86 209**		P	**Pn**	**07 52 42.4**	**-2.7**
BKZ	**Black Stump Fm**	**12.86 209**		Pn	**Pn**	**07 52 42.6**	**-2.5**
HIZ	**Hauiti**	**13.09 215**		P	**Pn**	**07 52 47.2**	**-1.0**
HIZ	**Hauiti**	**13.09 215**		Pn	**Pn**	**07 52 46.5**	**-1.7**
KAHZ	**Kaharunaki**	**13.24 206**		P	**Pn**	**07 52 49.3**	**-0.9**
BHHZ	**Black Hill Sta**	**13.31 209**		P	**Pn**	**07 52 49.9**	**-1.4**
BFZ	**Birch Farm**	**14.24 206**		P	**Pn**	**07 53 00.6**	**-3.3**
BFZ	**Birch Farm**	**14.24 206**		Pn	**Pn**	**07 53 02.2**	**-1.7**
MRZ	**Mangatainoka R**	**14.49 208**		P	Pn	07 53 02.3	-5.0
AFI	**Afiamalu**	**14.54 15**		Pn	**Pn**	**07 53 06.4**	**-1.7**
	7.0nm,0.3s,baz=180,slow=5.6,SNR=11						
AFI	**Afiamalu**	**14.54 15**			**Pn**	**07 53 05.9**	**-2.3**
HOWZ	**Holdsworth Sta**	**14.72 207**		P	**P**	**07 53 18.8**	**+2.8**
OGWZ	**Otaki Gorge**	**14.79 208**		P	**P**	**07 53 18.4**	**+1.5**
TRWZ	**Traveller**	**15.08 206**		P	**P**	**07 53 24.5**	**+4.5**
CAW	**Cannon Point**	**15.08 208**		P	**Pn**	**07 53 16.3**	**+1.2**
MSWZ	**Moikau Station**	**15.26 207**		Pn	**Pn**	**07 53 15.3**	**-2.3**
PLWZ	**Palliser**	**15.39 207**		P	**P**	**07 53 21.0**	**-2.5**
PLWZ	**Palliser**	**15.39 207**		Pn	**Pn**	**07 53 17.9**	**-1.4**
SNZO	**South Karori**	**15.40 208**		Pn	**Pn**	**07 53 16.3**	**-3.0**
BHW	**Baring Head**	**15.41 208**		Pn	**Pn**	**07 53 16.7**	**-2.8**
TUWZ	**Tuamarina**	**15.82 210**		Pn	**Pn**	**07 53 21.4**	**-3.5**
BSWZ	**Blackbirch Sta**	**16.08 209**		P	**Pn**	**07 53 25.6**	**-2.6**
THZ	**Tophouse**	**16.56 211**		P	**Pn**	**07 53 33.5**	**-0.8**
THZ	**Tophouse**	**16.56 211**		P	**Pn**	**07 53 31.5**	**-2.8**
THZ				IAmb	IAmb	07 53 48.6	
	comp=Z,30nm,1.1s						
KHZ	**Kahutara**	**16.80 209**		P	**Pn**	**07 53 32.0**	**-5.2**
KHZ	**Kahutara**	**16.80 209**		P	**Pn**	**07 53 35.3**	**-1.9**
KHZ				IAmb	IAmb	07 53 46.1	
	comp=Z,50nm,1.2s						
DZM	**Mont Dzumac**	**17.27 286**		LR	LR	07 58 27.2	
	comp=Z,837nm,18.1s,baz=112,slow=32						
GVZ	**Greta Valley S**	**17.47 209**		P	**Pn**	**07 53 44.9**	**-0.7**
LTZ	**Lake Taylor**	**17.65 211**		P	**Pn**	**07 53 45.9**	**-2.1**
LTZ	**Lake Taylor**	**17.65 211**			**Pn**	**07 53 45.8**	**-2.1**
OXZ	**Oxford**	**18.19 210**		P	**Pn**	**07 53 53.6**	**-0.8**
OXZ	**Oxford**	**18.19 210**		P	**Pn**	**07 53 51.4**	**-3.0**
RPZ	**Rata Peaks**	**18.93 211**		P	**Pn**	**07 54 04.1**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=56,slow=2.9,SNR=7.3						
RPZ	**Rata Peaks**	**18.93 211**		P	**P**	**07 53 59.9**	**-2.8**
RPZ				IAmb	IAmb	07 54 23.1	
	comp=Z,22nm,1.0s						
FOZ	**Fox Glacier**	**19.38 213**		P	**P**	**07 54 05.4**	**-2.1**
ODZ	**Otahua Downs**	**20.16 209**		P	**P**	**07 54 13.0**	**-3.0**
ODZ				IAmb	IAmb	07 54 14.6	
	comp=Z,33nm,1.4s						
WKZ	**Wanaka**	**20.73 212**		P	**P**	**07 54 19.8**	**-2.3**
WKZ				IAmb	IAmb	07 54 46.3	
	comp=Z,40nm,1.3s						
CTAO	**Charters Tower**	**35.56 274**		P	**P**	**07 56 38.1**	**-0.9**
CTAO				IAmb	IAmb	07 56 51.3	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**37.06 253**		P	**P**	**07 56 51.0**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=84,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**37.06 253**		IAmb	IAmb	07 56 54.3	
	comp=Z,2.4nm,1.4s						
AS31	**Alice Springs**	**45.34 264**		P	**P**	**07 57 58.8**	**-1.1**
ASAR	**Alice Springs**	**45.35 264**		P	**P**	**07 57 58.4**	**-1.4**
	comp=Z,4.1nm,1.0s,baz=119,slow=8.3,SNR=20						
ASAR	**Alice Springs**	**45.35 264**		P	**P**	**07 57 57.8**	**-2.0**
WR0	**Warramunga Arr**	**45.95 269**		P	**P**	**07 58 02.6**	**-2.0**
WR0				IAmb	IAmb	07 58 05.2	
	comp=Z,6.4nm,1.0s						
WB2	**Warramunga Arr**	**46.12 269**		P	**P**	**07 58 04.4**	**-1.6**
WB2				IAmb	IAmb	07 58 16.5	
	comp=Z,4.7nm,0.8s						
WRAB	**Tennant Creek**	**46.13 269**		P	**P**	**07 58 04.5**	**-1.5**
WRAB				IAmb	IAmb	07 58 23.1	
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**46.13 269**		P	**P**	**07 58 03.9**	**-2.1**
	comp=Z,4.1nm,0.9s,baz=110,slow=6.5,SNR=38						
WRA	**Warramunga Arr**	**46.13 269**		P	**P**	**07 58 04.2**	**-1.9**
WB0	**Warramunga Arr**	**46.15 269**		P	**P**	**07 58 04.8**	**-1.3**
FORT	**Forrest**	**48.67 252**		P	**P**	**07 58 22.8**	**-2.8**
MJAR	**Matsushiro Arr**	**77.54 324**		P	**P**	**08 01 38.6**	**+1.6**
	comp=Z,5.6nm,1.0s,baz=174,slow=5.6,SNR=12						
MAT	**Matsushiro**	**77.54 324**		P	**P**	**08 01 38.5**	**+1.5**
PLCA	**Paso Flores**	**82.58 132**		P	P	08 02 12.8	+8.4
	comp=Z,1.9nm,0.7s,baz=194,slow=4.3,SNR=5.4						
KSRS	**Korea Array**	**83.94 318**		P	**P**	**08 02 14.4**	**+3.3**
	comp=Z,2.3nm,0.9s,baz=142,slow=6.0,SNR=14						
PETK	**Petropavlovsk-**	**84.10 344**		P	**P**	**08 02 15.0**	**+3.4**
	comp=Z,1.4nm,0.8s,baz=106,slow=7.9,SNR=4.8						
NVAR	**Mina Array Bea**	**85.14 42**		P	P	08 02 24.0	+6.5
	comp=Z,1.8nm,0.9s,baz=224,slow=7.5,SNR=6.0						
USRK	**Ussuriysk Ar.**	**86.38 325**		P	**P**	**08 02 26.9**	**+3.6**
	comp=Z,2.0nm,0.8s,baz=145,slow=2.7,SNR=6.0						
TXAR	**Lajitas Array**	**89.40 56**		P	P	08 02 45.8	+7.6
	comp=Z,1.1nm,1.1s,baz=224,slow=8.8,SNR=4.1						
PDAR	**Pinedale Array**	**93.03 42**		P	P	08 03 01.1	+6.2
	comp=Z,1.3nm,0.9s,baz=198,slow=2.6,SNR=4.8						
ILAR	**Eielson Array**	**95.21 12**		P	P	08 03 08.5	+4.4
	comp=Z,0.9nm,0.7s,baz=219,slow=5.2,SNR=6.1						
ARCES	**ARCESS Array B 136.71 349**			PKP	**PKiKP**	**08 09 08.4**	**+4.1**
	comp=Z,0.7nm,0.5s,baz=132,slow=1.8,SNR=9.3						
FINES	**FINESS Array B 143.60 343**			PKhKP	**PKPdf**	**08 09 16.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=58,slow=4.7,SNR=4.8						
NB2	**NORSAR Subarra 146.70 354**			PKP	**PKiKP**	**08 09 26.4**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=5.4,slow=3.1						
NOA	**NORSAR Array B 146.70 354**			PKPbc	**PKiKP**	**08 09 25.9**	**+0.8**
	comp=Z,4.3nm,1.0s,baz=15,slow=4.6,SNR=9.4						
HFS	**Hagfors 147.31 351**			PKPbc	**PKiKP**	**08 09 27.5**	**+1.2**
	comp=Z,4.2nm,0.8s,baz=122,slow=1.9,SNR=7.8						
AKASG	**Malin Array Be 150.57 327**			PKPbc	**PKPab**	**08 09 36.2**	**-3.2**
	comp=Z,7.1nm,0.9s,baz=40,slow=2.1,SNR=9.9						
TORD	**Torodi Ar. Bea 164.96 170**			PKPab	**PKPab**	**08 10 48.7**	**+6.6**
	comp=Z,4.5nm,1.1s,baz=181,slow=3.4,SNR=5.5						

IDC ***06*** *08:12:01.7±6.9, 37°.35N×71°.90E, h196km±47km, mb3.3/5, mb1 3.4/9, mb1mx3.0/48, mbtmp3.9/9, Error ellipse: s-maj=73.0km s-min=43.2km az=153.0*
NNC ***06*** *08:12:05.4±3.8, 37°.69N×71°.78E, h210km±42km, mb2.9, mpv3.5, Error ellipse: s-maj=35.2km s-min=23.6km az=22.0*
ISC 06 08:12:00.3±0.8, 37°.30N±0°.07×71°.99E±0°.09, h200km, n29, σ1§31/34, mb3.4/5, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.66**	**19**	P	**Pn**	**08 13 24.9**	**+1.6**
	3.8nm,0.3s,baz=183,slow=9.1,SNR=9.2						
AAK				S	**Sn**	**08 14 29.3**	**+0.4**
	4.1nm,0.3s,baz=330,slow=19,SNR=25						
AAK	**Ala-Archa**	**5.66**	**19**	⇓P	**Pn**	**08 13 23.9**	**+0.6**
	5.3nm,0.5s						
AAK				⇓S	**Sn**	**08 14 28.6**	**-0.3**
	21nm,0.6s						
KK31	**Karatay Array**	**5.90**	**349**	⇑P	**Pn**	**08 13 26.6**	**+0.4**
	2.2nm,0.3s,baz=157,slow=9.5,SNR=52						
KK31				⇑S	**Sn**	**08 14 30.7**	**-3.6**
	8.5nm,0.3s,baz=158,slow=17,SNR=14						
TKM2	**Tokmak 2**	**6.25**	**25**	⇑P	**Pn**	**08 13 31.8**	**+0.9**
	1.3nm,0.5s						
TKM2				⇑S	**Sn**	**08 14 42.3**	**-0.5**
	2.6nm,0.6s						
PYUN	**Piuthan**	**13.03**	**132**	*e*P	**Pn**	**08 14 57.4**	**-0.9**
PYUN	**Piuthan**	**13.03**	**132**	*e*P	**Pn**	**08 14 57.4**	**-0.9**
KOLN	**Koldanda**	**13.63**	**131**	*e*P	**Pn**	**08 15 05.7**	**-0.2**
KOLN	**Koldanda**	**13.63**	**131**	*e*P	**Pn**	**08 15 05.7**	**-0.2**

HFS	**Hagfors**	42.93	321	P	P	08 19 39.9	+0.9
	2.4nm,0.5s,baz=89,slow=6.4,SNR=12						
NB2	**NORSAR Subarra**	44.22	322	P	P	08 19 49.8	+0.5
	comp=Z,0.5nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	44.22	322	P	P	08 19 49.9	+0.6
	comp=Z,0.7nm,0.7s,baz=95,slow=7.6,SNR=4.7						
ESDC	**Sonseca Array**	57.79	298	P	P	08 21 31.4	+0.8
	comp=Z,0.7nm,0.9s,baz=49,slow=7.5,SNR=5.3						

*IDC **06** 08:30:50.6±0.7, 10°.35S×66°.51E, h0km, mb4.1/12, mb1 4.3/12, mb1mx3.9/55, mbtmp4.1/12, Error ellipse: s-maj=25.9km s-min=17.7km az=170.0*
*NEIC **06** 08:30:51.6±1.1, 10°.3S±0°.1×66°.4E±0°.1, h10km±1km, mb4.8/25, Error ellipse: s-maj=25.1km s-min=20.4km az=180.0*

ISC 06 08:30:51.6±0.6, 10°.3S±0°.1×66°.5E±0°.1, h10km, n54, σ1º08/48, mb4.5/25, 1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	6.51	67	T	T	08 39 25.4	
	baz=245,slow=75,SNR=1484						
H08S3	**Diego Garcia H**	6.53	66	T	T	08 39 29.0	
	baz=245,slow=75,SNR=1325						
H08S2	**Diego Garcia H**	6.53	67	T	T	08 39 23.0	
	baz=245,slow=75,SNR=1335						
LSZ	**Lusaka**	37.60	258	P	P	08 38 08.9	+1.9
	1.7nm,0.3s,baz=72,slow=7.2,SNR=3.1						
LSZ	**Lusaka**	37.60	258	P	P	08 38 07.6	+0.6
LSZ				IAmb	IAmb	08 38 24.6	
	comp=Z,25nm,1.5s						
CISI	**Cisompet, Garu**	40.94	90	P	P	08 38 35.1	+0.3
LBTB	**Lobatse**	41.40	244	P	P	08 38 39.6	+1.0
	comp=Z,4.3nm,0.9s,baz=82,slow=8.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	42.95	48	P	P	08 38 53.2	+2.1
	comp=Z,1.1nm,0.3s,baz=253,slow=9.3,SNR=7.3						
CMAR	**Chiang Mai Arr**	42.95	48	P	P	08 38 51.6	+0.5
PBKT	**Sadao Pong**	43.35	52	P	P	08 38 54.7	+0.3
SHL	**Shillong**	43.41	34	P	P	08 38 54.4	-0.6
SHL				IAmb	IAmb	08 39 05.8	
	comp=Z,26nm,1.2s						
HRA	**Herat**	44.62	355	P	P	08 39 04.0	-0.5
KBL	**Kabul**	44.66	3	P	P	08 39 04.1	-0.7
LSA	**Lhasa**	46.35	30	P	P	08 39 17.3	-1.3
LSA				IAmb	IAmb	08 39 29.4	
	comp=Z,14nm,1.2s						
GAR	**Garm**	49.18	4	P	P	08 39 39.7	-0.3
GAR				IAmb	IAmb	08 39 59.6	
	comp=Z,19nm,1.3s						
H01W3	**Cape Leeuwin H**	49.78	127	T	T	09 32 58.5	
	baz=287,slow=75,SNR=34						
H01W2	**Cape Leeuwin H**	49.78	127	T	T	09 32 58.7	
	baz=287,slow=75,SNR=35						
H01W1	**Cape Leeuwin H**	49.80	127	T	T	09 32 59.8	
	baz=287,slow=75,SNR=29						
MARD	**Mardin**	53.13	334	P	P	08 40 10.5	+0.7
MARD				IAmb	IAmb	08 40 18.5	
	comp=Z,16nm,1.5s						
ENH	**Enshi**	57.78	44	P	P	08 40 43.3	-0.1
ENH				IAmb	IAmb	08 40 52.6	
	comp=Z,11nm,0.9s						
SYO	**Syowa Base**	61.18	191	⇓*e*X	P	08 41 04.0	-2.1
KURBB	**Kurchatov Arra**	61.57	9	P	P	08 41 09.7	+0.7
	comp=Z,1.4nm,0.7s,baz=205,slow=6.4,SNR=4.5						
KURK	**Kurchatov**	61.68	9	P	P	08 41 09.6	-0.1
KURK				IAmb	IAmb	08 41 13.4	
	comp=Z,12nm,1.3s						
ASAR	**Alice Springs**	65.37	111	P	P	08 41 34.4	-0.4
	comp=Z,1.5nm,0.9s,baz=272,slow=6.3,SNR=11						
ASAR	**Alice Springs**	65.37	111	P	P	08 41 34.6	-0.2
AS31	**Alice Springs**	65.37	111	P	P	08 41 35.0	+0.2
ZAA0	**Zalesovo Array**	65.87	12	P	P	08 41 37.5	+0.3
ZAA0				IAmb	IAmb	08 41 45.3	
	comp=Z,7.6nm,1.2s						
ZALV	**Zalesovo Beam**	65.87	12	P	P	08 41 37.4	+0.2
	comp=Z,0.6nm,0.4s,baz=225,slow=1.8,SNR=2.2						
WRA	**Warramunga Arr**	65.88	107	P	P	08 41 38.4	+0.3
	comp=Z,4.1nm,1.0s,baz=276,slow=5.9,SNR=15						
WRA	**Warramunga Arr**	65.88	107	P	P	08 41 38.3	+0.2
WB2	**Warramunga Arr**	65.89	107	P	P	08 41 38.6	+0.4
WRAB	**Tennant Creek**	65.89	107	P	P	08 41 38.4	+0.2
WB0	**Warramunga Arr**	65.94	107	P	P	08 41 39.1	+0.6
WB0				IAmb	IAmb	08 41 46.5	
	comp=Z,15nm,1.4s						
SONM	**Songino Array**	67.85	28	P	P	08 41 51.8	+1.5
	comp=Z,2.1nm,0.8s,baz=215,slow=5.5,SNR=6.6						
SONM	**Songino Array**	67.85	28	P	P	08 41 50.7	+0.5
TORD	**Torodi Ar. Bea**	68.36	289	P	P	08 41 54.5	+0.6
	comp=Z,1.6nm,1.0s,baz=132,slow=4.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	68.36	289	P	P	08 41 53.6	-0.3
AKASG	**Malin Array Be**	68.82	336	P	P	08 41 53.7	-2.4
	comp=Z,0.9nm,0.6s,baz=136,slow=5.3,SNR=3.8						
AKASG	**Malin Array Be**	68.82	336	P	P	08 41 55.8	-0.2
KSRS	**Korea Array**	74.55	47	P	P	08 42 31.0	+0.2
	comp=Z,1.5nm,1.0s,baz=232,slow=5.6,SNR=6.5						
GERES	**GERESS Array B**	74.92	327	P	P	08 42 31.7	-1.2
	comp=Z,0.3nm,0.6s,baz=116,slow=6.7,SNR=4.4						
GERES	**GERESS Array B**	74.92	327	P	P	08 42 33.2	+0.4
KHC	**Kasperske Hory**	75.15	327	*e*P	P	08 42 30.0	-4.1
FUORN	**Ofenpass-Fuorn**	75.59	324	P	P	08 42 36.0	-1.0
BRG	**Berggiesshuebel**	75.99	329	*e*P	P	08 42 39.7	+0.9
	comp=Z,9.0nm,1.5s						
BRG				*e*		08 42 45.1	
	comp=Z,7.4nm,1.3s						
CLL	**Collm**	76.72	329	P	P	08 42 43.1	+0.1
CLL				IAmb	IAmb	08 42 44.8	
	comp=Z,11nm,1.5s						
MJAR	**Matsushiro Arr**	81.80	51	P	P	08 43 11.4	+0.3
	comp=Z,1.3nm,0.9s,baz=234,slow=4.2,SNR=5.3						
MJAR	**Matsushiro Arr**	81.80	51	P	P	08 43 10.5	-0.6
ESDC	**Sonseca Array**	81.85	313	P	P	08 43 11.9	+0.6
	comp=Z,1.2nm,0.9s,baz=94,slow=4.7,SNR=8.5						
ESDC	**Sonseca Array**	81.85	313	P	P	08 43 10.8	-0.6
PAB	**San Pablo**	82.09	313	P	P	08 43 11.3	-1.3
PAB				IAmb	IAmb	08 43 14.2	
	comp=Z,9.1nm,1.4s						
PDAR	**Pinedale Array**	147.47	355	PKPbc	PKPbc	08 50 36.9	+0.4
	comp=Z,2.1nm,1.1s,baz=50,slow=2.3,SNR=4.0						
NVAR	**Mina Array Bea**	151.67	8	PKPbc	PKPbc	08 50 47.4	+0.4
	comp=Z,1.9nm,0.8s,baz=302,slow=0.9,SNR=9.8						
TXAR	**Lajitas Array**	158.93	335	PKPab	PKPab	08 51 27.4	+0.8
	comp=Z,0.5nm,0.9s,baz=26,slow=6.9,SNR=4.0						

*BJI **06** 08:31:55.3±0.0, 41°.96N×142°.52E, h67km, mB5.2/24, mb4.8/50, Ms4.5/10, Ms7 4.5/11*
*MOS **06** 08:31:56.2±0.9, 42°.06N×142°.45E, h67km, mb5.0/58, Error ellipse: s-maj=5.5km s-min=4.3km az=104.3*
*NEIC **06** 08:31:57.6±1.2, 42°.02N±0°.06×142°.54E±0°.08, h67km±5km, mb4.8/152, Error ellipse: s-maj=9.3km s-min=8.0km az=124.0*
*SKHL **06** 08:31:57.1±0.6, 41°.93N×142°.58E, h75km±4km, mb4.9/15*
*UNK **06** 08:31:57.6, 42°.03N×142°.54E, h66km*
*JMA **06** 08:31:57.4±0.1, 42°.05N×142°.51E, h64km±2km, M4.4 Broadband fault plane solution: P waves. NP1: φs210.00000°, δ25.00000°, λ82.00000°. NP2: φs39.00000°, δ65.00000°, λ94.00000°. Principal axes: T Plg70.0000°, Azm316.0000°; N Plg3.0000°, Azm217.0000°; P Plg20.0000°, Azm126.0000°;*
JMA Felt III J1.
*BGR **06** 08:31:58.9±0.0, 42°.06N×142°.73E, h67km±1km, mb4.7*
*IDC **06** 08:31:59.3±1.3, 42°.11N×142°.46E, h77km±10km, mb4.3/28, mb1 4.4/34, mb1mx4.3/53, mbtmp4.6/34, MS4.4/2, Ms1 4.4/2, ms1mx3.4/53, Error ellipse: s-maj=12.4km s-min=8.6km az=120.0*

ISC 06 08:31:56.6±0.4, 42°.00N±0°.03×142°.52E±0°.03, h58km±3km, h58km: pP-P, n692, σ1º02/734, mb4.7/183, MS4.3/4, 36C-18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	0.33	32	⇑P	Pn	08 32 07.7	+1.0
JNBK				*e*S	Sn	08 32 15.4	+1.4
JSHD	**Hidakashinhida**	0.41	354	⇓P	Pn	08 32 08.6	+1.1
ERM	**Erimo**	0.47	88	PN	Pn	08 32 09.9	+1.8
ERM						08 32 18.2	
ERM	**Erimo**	0.47	88	Pn	Pn	08 32 09.9	+1.8
ERM				Sn	Sn	08 32 18.2	+1.7
JEM	**Erimo**	0.47	88	⇑P	Pn	08 32 09.8	+1.7
JEM				*e*S	Sn	08 32 18.6	+2.1
JTHR	**Tokachihiroo**	0.65	63	⇑P	Pn	08 32 11.4	+1.3
JTHR				*e*S	Sn	08 32 21.7	+1.8
JIAM	**Iburiatsuma**	0.76	324	⇓P	Pn	08 32 13.0	+1.5
JBT2	**Biratori 2**	0.78	351	⇓P	Pn	08 32 12.3	+0.5
JBT2				*e*S	Sn	08 32 23.6	+0.7
JCH	**Churui**	0.87	45	⇑P	Pn	08 32 13.8	+0.9
JCH				*e*S	Sn	08 32 26.0	+1.1
JKB	**Kayabe**	1.12	265	⇓P	Pn	08 32 17.0	+0.9
JKB				*e*S	Sn	08 32 31.4	+0.8
JEW	**Eniwo**	1.15	317	⇓P	Pn	08 32 17.5	+0.9
JEW				*e*S	Sn	08 32 32.6	+1.1
JFR	**Furan**	1.16	3	⇓P	Pn	08 32 17.1	+0.4
JFR				*e*S	Sn	08 32 31.8	+0.1
JNB	**Noboribetsu**	1.20	293	⇓P	Pn	08 32 17.2	0.0
JNB				*e*S	Sn	08 32 32.3	-0.2
JOT	**Ohata**	1.27	241	⇓P	Pn	08 32 19.2	+1.1
JOT				*e*S	Sn	08 32 35.3	+1.2
JOB	**Onbets**	1.32	47	⇑P	Pn	08 32 20.6	+1.7
JISS	**Ishikarishitsu**	1.51	328	⇓P	Pn	08 32 22.1	+0.7
JISS				*e*S	Sn	08 32 40.9	+0.9
JAB	**Ashibetsu**	1.52	352	⇓P	Pn	08 32 22.3	+0.8
JAR	**Ashorobuto**	1.59	35	⇑P	Pn	08 32 23.2	+0.8
JAR				*e*S	Sn	08 32 42.8	+0.9
JYM2	**Yakumo 2**	1.61	275	⇓P	Pn	08 32 23.3	+0.6
JYM2				*e*S	Sn	08 32 43.2	+0.9
JTM	**Tenmabayashi**	1.64	222	P	Pn	08 32 24.9	+1.8
JTM				*e*S	Sn	08 32 45.4	+2.3
JSR	**Shiriuchi**	1.64	254	P	Pn	08 32 24.1	+0.9
JSR				*e*S	Sn	08 32 44.6	+1.4
ASAJ	**Asahikawa**	2.11	1	P	Pn	08 32 30.8	+1.2
	346nm,0.3s,baz=214,slow=10,SNR=811						
ASAJ				S	Sn	08 32 56.4	+1.7
	117nm,0.3s,baz=69,slow=27,SNR=25						
JKA	**Kamikawa-asahi**	2.11	2	*e*P	Pn	08 32 30.8	+1.2
JKA	**Kamikawa-asahi**	2.11	2		Pn	08 32 30.8	+1.2
JKA					Sn	08 32 56.4	+1.7
NMR	**Nemuro--Hokkai**	2.73	59	*e*P	Pn	08 32 37.6	-0.4
NMR				*i* S	Sn	08 33 09.3	-0.5
NMR	**Nemuro--Hokkai**	2.73	59	*e*PN	Pn	08 32 37.6	-0.4
NMR				*i* S	Sn	08 33 09.3	-0.5
GLVR	**Golovnino**	2.80	51	*e*P	Pn	08 32 40.2	+1.2
GLVR				AMB	AMB	08 32 41.0	
	820nm,0.3s						
GLVR				*i* S	Sn	08 33 13.0	+1.4
GLVR				A	A	08 33 15.0	
	4μm,0.5s						
GLVR				A	A	08 33 15.0	
	6μm,0.5s						
GLVR	**Golovnino**	2.80	51	*e*PN	Pn	08 32 40.4	+1.4
GLVR				*i* S	Sn	08 33 13.4	+1.8
GLVR				pmax	pmax		
	comp=Z,816nm,0.2s						
GLVR				pmax	pmax		
	comp=N,85nm,0.1s						
GLVR				smax	smax		
	comp=N,4μm,0.3s						
GLVR				smax	smax		
	comp=E,6μm,0.3s						
RUSJ	**Misakicho**	2.90	43	*e*PN	Pn	08 32 41.9	+1.6
RUSJ				*i* S	Sn	08 33 15.9	+2.0
GRPR	**Tuman**	3.10	49	*e*P	Pn	08 32 44.0	+0.9
GRPR				AMB	AMB	08 32 45.0	
	comp=E,330nm,0.4s						
GRPR				*i* S	Sn	08 33 20.0	+1.0
GRPR				A	A	08 33 21.0	
	comp=E,3μm,0.4s						
GRPR				A	A	08 33 21.0	
	comp=E,2μm,0.4s						
GRPR	**Tuman**	3.10	49	*e*PN	Pn	08 32 44.0	+0.9
GRPR				*i* S	Sn	08 33 20.6	+1.6
GRPR				pmax	pmax		
	comp=Z,325nm,0.4s						
GRPR				pmax	pmax		
	comp=N,107nm,0.2s						
GRPR				pmax	pmax		
	comp=E,120nm,0.2s						
GRPR				smax	smax		
	comp=N,3μm,0.4s						
GRPR				smax	smax		
	comp=E,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	3.18	49	*i* P	Pn	08 32 45.8	+1.6
YUK				AMB	AMB	08 32 55.0	
	comp=E,250nm,0.3s						
YUK				AMB	AMB	08 32 55.0	
	comp=E,960nm,0.3s						
YUK				*i* S	Sn	08 33 21.9	+1.1
YUK				A	A	08 33 26.0	
	comp=E,490nm,0.3s						
YUK				A	A	08 33 26.0	
	comp=E,3μm,0.3s						
YUK	**Yuzh-Kuril'sk**	3.18	49	*c i*PN	Pn	08 32 45.7	+1.6
YUK				*i* S	Sn	08 33 21.9	+1.1
YUK				pmax	pmax		
	comp=Z,961nm,0.2s						
YUK				pmax	pmax		
	comp=N,248nm,0.1s						
YUK				smax	smax		
	comp=N,485nm,0.3s						
YUK				smax	smax		
	comp=E,3μm,0.3s						
YSS	**Yuzh-Sakhalins**	4.95	2	*e*P	Pn	08 33 11.2	+2.8
YSS				AMB	AMB	08 33 12.3	
	comp=E,150nm,0.6s						
YSS				*e*S	Sn	08 34 07.3	+3.0
YSS				A	A	08 34 08.5	
	comp=E,70nm,0.9s						
YSS	**Yuzh-Sakhalins**	4.95	2	⇓*e*PN	Pn	08 33 11.0	+2.6
YSS				*e*S	Sn	08 34 07.3	+3.0
YSS				pmax	pmax		
	comp=Z,150nm,0.6s						
YSS				pmax	pmax		
	comp=N,140nm,0.7s						
YSS				pmax	pmax		
	comp=E,110nm,0.9s						
YSS				smax	smax		
	comp=N,70nm,0.9s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,400nm,17.0s						
YSS	**Yuzh-Sakhalins**	4.95	2	Pn	Pn	08 33 10.7	+2.3
KUR	**Kuril'sk**	5.05	48	*e*P	Pn	08 33 11.6	+1.9
KUR				AMB	AMB	08 33 15.0	
	comp=E,70nm,0.3s						
KUR				AMB	AMB	08 33 15.0	
	comp=E,210nm,0.3s						
KUR				*i* S	Sn	08 34 06.8	+0.2
KUR				A	A	08 34 13.3	
	comp=E,280nm,0.3s						
KUR				A	A	08 34 13.3	
	comp=E,300nm,0.3s						
KUR	**Kuril'sk**	5.05	48	⇑*i*PN	Pn	08 33 11.6	+1.9
KUR				*e*S	Sn	08 34 09.6	+3.0
KUR				pmax	pmax		
	comp=E,73nm,0.3s						
KUR				pmax	pmax		
	comp=Z,209nm,0.3s						
KUR				pmax	pmax		
	comp=N,36nm,0.4s						
KUR				smax	smax		
	comp=E,445nm,0.7s						
KUR				smax	smax		
	comp=N,350nm,0.9s						
TEY	**Ternei**	5.26	307	*e*P	Pn	08 33 12.8	+0.2
TEY				AMB	AMB	08 33 13.7	
	comp=N,70nm,0.6s						
TEY	**Ternei**	5.26	307	⇓*e*PN	Pn	08 33 12.8	+0.2
TEY				pmax	pmax		
	comp=N,40nm,0.7s						
TEY				pmax	pmax		
	comp=E,80nm,0.7s						
TEY				pmax	pmax		
	comp=Z,70nm,0.6s						
MAJO	**Matsushiro**	6.40	213	*i* PN	Pn	08 33 30.7	+2.4
MAJO	**Matsushiro**	6.40	213	Pn	Pn	08 33 29.7	+1.4
MAT	**Matsushiro**	6.40	213	P	Pn	08 33 31.0	+2.7
MAT				S	Sn	08 34 43.9	+4.0
MJAR	**Matsushiro Arr**	6.40	213	P	Pn	08 33 31.4	+3.1
	comp=Z,0.4nm,0.3s,baz=22,slow=13,SNR=24						
MJAR	**Matsushiro Arr**	6.40	213		Pn	08 33 30.3	+2.0
UGL	**Uglegorsk**	7.08	358	*e*P	Pn	08 33 40.0	+2.5
UGL				AMB	AMB	08 33 47.0	
	comp=Z,70nm,0.8s						
UGL				*e*S	Sn	08 34 58.0	+1.5
UGL				A	A	08 35 05.0	
	comp=Z,70nm,0.9s						
UGL				A	A	08 35 05.0	
	comp=Z,60nm,0.9s						
UGL	**Uglegorsk**	7.08	358	*e*PN	Pn	08 33 40.0	+2.5
UGL				*e*S	Sn	08 35 02.4	+5.9
UGL				pmax	pmax		
	comp=Z,68nm,0.8s						
UGL				smax	smax		
	comp=N,72nm,0.5s						
UGL				smax	smax		
	comp=E,62nm,0.9s						
UGL				MLR	MLR		
	comp=Z,1μm,16.0s						
UGL				MLR	MLR		
	comp=N,900nm,17.0s						
INU	**Inuyama**	7.92	215	Pn	Pn	08 33 49.8	+0.8
USA0B	**Ussuriysk Arra**	8.01	289	PN	Pn	08 33 52.5	+2.2
USA0B	**Ussuriysk Arra**	8.01	289	Pn	Pn	08 33 52.5	+2.2
USRK	**Ussuriysk Ar.**	8.01	289	P	Pn	08 33 52.0	+1.7
	baz=88,slow=14,SNR=52						
USRK	**Ussuriysk Ar.**	8.01	289	Pn	Pn	08 33 51.8	+1.5
TYV	**Tymovskoe**	8.86	1	*e*P	Pn	08 34 04.3	+2.4
TYV				AMB	AMB	08 34 05.3	
	comp=N,20nm,0.9s						
TYV	**Tymovskoe**	8.86	1	*e*PN	Pn	08 34 04.3	+2.4
TYV				pmax	pmax		
	comp=Z,16nm,0.9s						
JHJ	**Hachijo jima 2**	9.13	195	S	Sn	08 35 41.0	-5.9
	comp=Z,14nm,0.3s,baz=257,slow=23,SNR=4.1						
MDJ	**Mudanjiang**	9.78	290	P	Pn	08 34 17.6	+3.1
MDJ				pmax	pmax		
	comp=Z,16nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,790nm,11.7s						
KLR	**Kul'dur**	10.44	317	P	Pn	08 34 25.4	+2.0
	comp=Z,0.5nm,0.3s,baz=118,slow=15,SNR=26						
KLR	**Kul'dur**	10.44	317	*e*P	Pn	08 34 25.8	+2.3
KLR	**Kul'dur**	10.44	317	*ce*PN	Pn	08 34 25.8	+2.3
KLR				pmax	pmax		
	comp=Z,20nm,1.1s						
OKH	**Okha**	11.56	1	*e*P	Pn	08 34 42.4	+3.8
KSRS	**Korea Array**	12.12	253	P	Pn	08 34 49.2	+2.7
	comp=Z,0.5nm,0.3s,baz=68,slow=13,SNR=26						
KS19	**Wonju Array Si**	12.14	253		Pn	08 34 47.6	+0.8
KSAR	**Wonju Array Be**	12.15	253	PN	Pn	08 34 45.7	-1.2
KSAR	**Wonju Array Be**	12.15	253		Pn	08 34 45.7	-1.2
JNU	**Nakatsue**	12.79	230	P	Pn	08 34 58.3	+2.6
	comp=Z,0.3nm,0.3s,baz=56,slow=15,SNR=3.1						
EKMR	**Ekimchan**	12.81	333	*e*P	Pn	08 34 57.8	+2.1
EKMR				AMB	AMB	08 35 01.9	
	comp=Z,10.0nm,1.0s						
TJN	**Taejon**	13.03	249	*ce*PN	Pn	08 34 58.2	-0.6
JCJ	**Chichijima**	14.88	181	P	Pn	08 35 22.3	-1.2
	comp=Z,6.5nm,0.3s,baz=97,slow=22,SNR=6.8						
PEA0B	**Petropavlovsk-**	15.08	37	*ce*P	Pn	08 35 24.6	-1.3
PEA0B	**Petropavlovsk-**	15.08	37	Pn	Pn	08 35 24.7	-1.3
PETK	**Petropavlovsk-**	15.08	37	P	Pn	08 35 24.3	-1.7
	comp=Z,0.7nm,0.3s,baz=216,slow=8.3,SNR=19						
ZEA	**Zeya**	15.54	324	*e*P	Pn	08 35 31.0	-0.9
ZEA				AMB	AMB	08 35 34.4	
	comp=Z,3.0nm,0.9s						
ZEA	**Zeya**	15.54	324	*e*P	Pn	08 35 31.0	-0.9
ZEA				pmax	pmax		
	comp=Z,27nm,0.9s						
BMKR	**Bomnak**	15.59	329	*e*P	Pn	08 35 32.5	0.0
BMKR				AMB	AMB	08 35 36.0	
	comp=Z,10.0nm,0.8s						
KROS	**Kirovskiy**	16.14	326	*e*P	Pn	08 35 39.0	-0.5
KROS				AMB	AMB	08 35 40.6	
	comp=Z,20nm,1.0s						
DL2	**Dalian**	16.20	266	P	Pn	08 35 40.7	+0.4
DL2				pmax	pmax		
	comp=Z,25nm,0.6s						
HIA	**Hailar**	17.47	302	*i* P	Pn	08 35 55.0	-1.1
HIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BJI	**Beijing**	19.95	273	P	P	08 36 22.4	-1.4
BJI				pmax	pmax		
	comp=Z,15nm,1.1s						
BJT	**Baijiatuau**	19.96	273	P	P	08 36 22.9	-1.0
BJT				pmax	pmax		
	comp=Z,20nm,0.9s						
BJT	**Baijiatuau**	19.96	273	P	P	08 36 22.9	-1.0
NJ2	**Nanjing**	21.29	250	*e*P	P	08 36 38.7	+0.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YAK	**Yakutsk**	21.48	343	*e*P	P	08 36 39.0	-1.0
YAK				pmax	pmax		
	comp=Z,14nm,0.6s						
SEY	**Seymchan**	21.76	12	P	P	08 36 40.8	-2.2
	comp=Z,6.3nm,0.5s,baz=194,slow=9.7,SNR=29						
SEY				LR	LR	08 46 19.2	
	comp=Z,1μm,21.5s,baz=112,slow=40						
HHC	**Hu-ho-hao-te**	23.18	278	*e*P	P	08 36 59.0	+0.7
HHC				pmax	pmax		
	comp=Z,30nm,1.0s						
HHC				pmax	pmax		
	comp=Z,360nm,7.2s						
BOD	**Bodaibo**	23.98	321	*e*P	P	08 37 02.7	-2.7
BOD				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WHN	**Wuhan**	25.32	252	P	P	08 37 19.0	+1.2
ULN	**Ulaanbaatar**	25.62	295	*e*P	P	08 37 20.8	+0.1
ULN	**Ulaanbaatar**	25.62	295	*ce*P	P	08 37 20.8	+0.1
ULN				pmax	pmax		
	comp=Z,12nm,1.3s						
ULN	**Ulaanbaatar**	25.62	295	P	P	08 37 19.1	-1.6
SONM	**Songino Array**	26.07	295	P	P	08 37 24.6	-0.1
	comp=Z,5.7nm,0.5s,baz=76,slow=8.9,SNR=27						
SONM	**Songino Array**	26.07	295	P	P	08 37 24.6	-0.1
SONM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	26.07	295	P	P	08 37 24.6	-0.1
XAN	**Xi'an**	27.50	264	P	P	08 37 38.1	+0.5
XAN				pP	pP	08 37 54.4	+2.8
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
XAN	**Xi'an**	27.50	264	P	P	08 37 36.9	-0.7
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN	**Xi'an**	27.50	264	P	P	08 37 36.9	-0.7
XAN				IAmb	IAmb	08 37 39.3	
	comp=Z,9.5nm,0.6s						
TLY	**Talaya**	28.00	304	P	P	08 37 42.2	+0.4
	comp=Z,4.7nm,0.5s,baz=111,slow=5.9,SNR=5.5						
TLY	**Talaya**	28.00	304	*e*P	P	08 37 41.5	-0.3
TLY	**Talaya**	28.00	304	*e*P	P	08 37 41.5	-0.3
TLY				pmax	pmax		
	comp=Z,27nm,1.1s			

SLVN IAmb IAmb 08 39 15.6
comp=Z,7.0nm,0.9s
DGZ Jazzator, Alta 38.37 301 *c iP* **P 08 39 12.6 +0.5**
DGZ pmax pmax
comp=Z,22nm,1.2s
NRIK Noril'sk 39.18 333 P **P 08 39 17.0 -1.4**
comp=Z,5.4nm,0.5s,baz=100,slow=4.3,SNR=8.1
NRIK Noril'sk 39.18 333 P **P 08 39 17.0 -1.4**
ZAA0 Zalesovo Array 39.36 308 P **P 08 39 19.6 -0.5**
ZAA0 IAmb IAmb 08 39 20.9
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 39.36 308 P **P 08 39 19.7 -0.4**
comp=Z,20nm,0.7s,baz=88,slow=7.8,SNR=64
ZALV PcP **PcP 08 41 27.3 0.0**
comp=Z,6.6nm,0.8s,baz=131,slow=4.5,SNR=5.4
ZALV Zalesovo Beam 39.36 308 *i P* **P 08 39 20.2 +0.1**
ZALV pmax pmax
comp=Z,20nm,0.7s
WMQ Urumqi 39.58 292 *eP* **P 08 39 21.3 -0.8**
WMQ pP pP 08 39 37.9 +1.3
WMQ sP sP 08 39 45.0 +1.7
WMQ PcP **PcP 08 41 29.2 +0.8**
WMQ ScP **ScP 08 45 09.3 -2.7**
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,330nm,11.8s
WMQ LR LR
comp=Z,310nm,16.7s
WMQ LR LR
comp=Z,130nm,16.3s
WMQ LR LR
comp=Z,140nm,18.9s
WMQ Urumqi 39.58 292 P **P 08 39 21.3 -0.8**
WMQ pmax pmax
comp=Z,35nm,1.2s
WMQ Urumqi 39.58 292 P **P 08 39 21.3 -0.8**
ZSN Zaisan 40.51 298 *i P* **P 08 39 29.6 -0.2**
comp=Z,5.0nm,0.9s,baz=298
ZSN Zaisan 40.51 298 *i P* **P 08 39 29.5 -0.2**
ZSN pmax pmax
comp=Z,5.0nm,0.9s
IMAR Indian Mountai 41.98 33 P **P 08 39 41.0 -0.6**
MK31 Makanchi Array 42.38 298 P **P 08 39 44.4 -0.7**
MK31 pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 42.38 298 P **P 08 39 44.4 -0.7**
MK31 IAmb IAmb 08 39 45.9
comp=Z,13nm,0.8s
MKAR Makanchi Array 42.38 298 P **P 08 39 45.0 -0.1**
comp=Z,15nm,0.9s,baz=82,slow=9.0,SNR=87
MKAR Makanchi Array 42.38 298 *eP* **P 08 39 45.0 -0.1**
MKAR Makanchi Array 42.38 298 *ceP* **P 08 39 45.0 -0.1**
MKAR pmax pmax
comp=Z,15nm,0.9s
MKAR Makanchi Array 42.38 298 P **P 08 39 44.7 -0.4**
RSO Redoubt South 42.54 42 P **P 08 39 46.5 0.0**
MAKZ Makanchi 42.58 298 P **P 08 39 46.6 -0.1**
MAKZ Makanchi 42.58 298 P **P 08 39 46.3 -0.4**
MAKZ IAmb IAmb 08 39 47.7
comp=Z,19nm,0.9s
OHAK Old Harbor 42.61 46 P **P 08 39 46.4 -0.4**
OHAK IAmb IAmb 08 39 56.2
comp=Z,21nm,1.4s
PPLA Purkeypile 42.66 38 P **P 08 39 47.7 +0.4**
PPLA IAmb IAmb 08 40 04.2
comp=Z,15nm,1.4s
SEM Semipalatinsk 42.76 303 *eP* **P 08 39 47.2 -1.2**
comp=Z,5.7nm,1.0s,baz=304
SEM Semipalatinsk 42.76 303 *eP* **P 08 39 47.1 -1.2**
SEM pmax pmax
comp=Z,6.0nm,1.0s
SPU Mount Spurr 42.83 40 P **P 08 39 49.3 +0.8**
KDAK Kodiak Island 42.91 45 P **P 08 39 48.9 -0.3**
comp=Z,3.2nm,0.4s,baz=342,slow=1.3,SNR=12
KDAK Kodiak Island 42.91 45 P **P 08 39 49.2 0.0**
KDAK pmax pmax
comp=Z,40nm,1.5s
KDAK Kodiak Island 42.91 45 P **P 08 39 49.2 0.0**
KDAK IAmb IAmb 08 40 02.9
comp=Z,40nm,1.5s
BPAW Bear Paw Mtn. 43.15 36 P **P 08 39 51.4 +0.3**
KTH Kantishna Hill 43.21 37 P **P 08 39 51.8 +0.2**
KTH IAmb IAmb 08 39 53.3
comp=Z,7.8nm,0.8s
CNPM China Poot 43.39 43 P **P 08 39 52.2 -0.9**
CNPM IAmb IAmb 08 40 10.2
comp=Z,22nm,1.5s
COLD Coldfoot 43.43 31 P **P 08 39 53.0 -0.3**
baz=270
COLD Coldfoot 43.43 31 P **P 08 39 53.0 -0.3**
SUA Susitna One 43.43 40 P **P 08 39 53.1 -0.4**
TRF Thorofare Moun 43.49 37 P **P 08 39 54.0 0.0**
KURK Kurchatov 43.69 304 *eP* **P 08 39 55.4 -0.2**
KURK Kurchatov 43.69 304 *ceP* **P 08 39 55.4 -0.2**
KURK pmax pmax
comp=Z,43nm,1.3s
TOLK Toolik Lake Re 43.69 29 P **P 08 39 55.3 -0.1**
baz=269
TOLK Toolik Lake Re 43.69 29 P **P 08 39 55.3 -0.1**
CMAR Chiang Mai Arr 43.75 251 P **P 08 39 58.2 +1.7**
comp=Z,3.4nm,0.6s,baz=42,slow=7.7,SNR=6.7
CMAR PcP **PcP 08 41 44.1 +1.7**
comp=Z,1.1nm,0.4s,baz=358,slow=1.4,SNR=4.5
CMAR Chiang Mai Arr 43.75 251 *ceP* **P 08 39 58.5 +2.0**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 43.77 304 P **P 08 39 56.1 -0.1**
comp=Z,28nm,0.8s,baz=77,slow=8.6,SNR=73
KURBB Kurchatov Arra 43.77 304 P **P 08 39 55.7 -0.5**
NEA2 Nenana 43.96 35 P **P 08 39 57.7 +0.2**
baz=273
RND Reindeer 44.14 37 P **P 08 39 59.2 +0.1**
RND pmax pmax
comp=Z,5.0nm,0.5s
RND Reindeer 44.14 37 P **P 08 39 59.2 +0.1**
RND IAmb IAmb 08 40 00.8
comp=Z,4.9nm,0.5s
PMR Palmer 44.19 40 P **P 08 39 59.7 +0.3**
PMR pmax pmax
comp=Z,6.0nm,1.1s
PMR Palmer 44.19 40 P **P 08 39 59.7 +0.3**
GHO Glory Hole Cre 44.27 39 P **P 08 40 00.2 +0.1**
GHO IAmb IAmb 08 40 11.6
comp=Z,7.5nm,0.7s
MDM Murphy Dome 44.30 35 P **P 08 40 00.5 +0.2**
TCOL CIGO, UAF Yank 44.46 35 P **P 08 40 02.3 +0.8**
baz=274
COLA College 44.47 35 *c iP* **P 08 40 01.7 +0.2**
COLA pmax pmax
comp=Z,6.0nm,0.6s
POKR Poker Plat Res 44.63 34 P **P 08 40 04.3 +1.5**
baz=274
DHY Denali Highway 44.84 37 P **P 08 40 04.6 -0.1**
ILAR Eielson Array 44.89 35 P **P 08 40 04.8 -0.1**
comp=Z,3.4nm,0.7s,baz=258,slow=5.1,SNR=42
ILAR PcP **PcP 08 41 44.9 -0.6**
comp=Z,1.2nm,0.6s,baz=264,slow=3.1,SNR=4.4
ILAR Eielson Array 44.89 35 P **P 08 40 04.4 -0.5**
ILAR Eielson Array 44.89 35 P **P 08 40 04.4 -0.5**
HDA Harding Lake 44.89 35 P **P 08 40 04.5 -0.5**
baz=275
HDA Harding Lake 44.89 35 P **P 08 40 04.2 -0.8**
HDA IAmb IAmb 08 40 05.7
comp=Z,5.0nm,0.5s
SCM Sheep Creek Mo 45.01 39 P **P 08 40 05.7 -0.4**
SCM pmax pmax
comp=Z,12nm,1.0s
SCM Sheep Creek Mo 45.01 39 P **P 08 40 05.7 -0.4**
SCM IAmb IAmb 08 40 08.5
comp=Z,12nm,1.0s
M24K Tolsona, Glenn 45.51 39 P **P 08 40 10.7 +0.7**
baz=278
TDK Taldyqorghan 45.52 297 *eP* **P 08 40 10.0 -0.3**
comp=Z,28nm,0.6s,baz=296
TDK *eS* **S 08 46 47.4 -0.5**
baz=296
TDK Taldyqorghan 45.52 297 *eP* **P 08 40 09.9 -0.3**
TDK *eS* **S 08 46 47.3 -0.5**
TDK pmax pmax
comp=Z,28nm,0.6s
BMAR Burnt Mountain 45.60 31 P **P 08 40 10.9 +0.3**
KLU Klutina 45.73 39 P **P 08 40 12.2 +0.5**
KLU IAmb IAmb 08 40 24.0
comp=Z,9.9nm,1.1s

UZB Uzynbulak 45.76 294 *eP* **P 08 40 11.4 -0.9**
baz=294
UZB Uzynbulak 45.76 294 *eP* **P 08 40 11.4 -0.9**
KPKS Kokpek 45.87 294 *eP* **P 08 40 12.6 -0.5**
comp=Z,7.2nm,0.5s,baz=294
KPKS Kokpek 45.87 294 *eP* **P 08 40 12.6 -0.5**
KPKS pmax pmax
comp=Z,7.0nm,0.5s
SATY Saty 46.21 294 *eP* **P 08 40 15.6 -0.3**
baz=294
SATY Saty 46.21 294 *eP* **P 08 40 15.5 -0.3**
SCRK Sand Creek 46.23 36 P **P 08 40 15.4 -0.3**
baz=278
DOT Dot Lake 46.25 36 P **P 08 40 15.4 -0.4**
MENT Mentasta 46.51 37 P **P 08 40 18.4 +0.5**
TAPN Taplejung 46.63 270 *eP* **P 08 40 20.0 +0.5**
TAPN Taplejung 46.63 270 *eP* **P 08 40 20.0 +0.5**
GLB Gilahina Butte 46.73 39 P **P 08 40 19.8 +0.2**
GLB IAmb IAmb 08 40 37.3
comp=Z,15nm,1.4s
CHKK Chushkaly 46.87 296 *eP* **P 08 40 20.3 -0.7**
baz=296
CHKK Chushkaly 46.87 296 *eP* **P 08 40 20.2 -0.7**
VRDI Verde Repeater 46.94 40 P **P 08 40 21.3 -0.1**
VRDI IAmb IAmb 08 40 33.7
comp=Z,14nm,1.3s
K27K Chicken 47.05 36 P **P 08 40 22.7 +0.7**
baz=280
MDOK Medeo 47.09 295 *eP* **P 08 40 22.6 -0.2**
baz=295
MDOK Medeo 47.09 295 *eP* **P 08 40 22.6 -0.2**
ODAN Odare 47.14 270 *eP* **P 08 40 24.5 +1.1**
ODAN Odare 47.14 270 *eP* **P 08 40 24.5 +1.1**
AAA Alma-Ata 47.16 295 *eP* **P 08 40 23.4 +0.1**
comp=Z,13nm,0.4s,baz=295
AAA Alma-Ata 47.16 295 *eP* **P 08 40 23.3 +0.1**
AAA Alma-Ata 47.16 295 *eP* **P 08 40 23.3 +0.1**
AAA pmax pmax
comp=Z,13nm,0.4s
TNSS Tian-Shan 47.21 295 *eP* **P 08 40 24.1 +0.1**
baz=294
TNSS Tian-Shan 47.21 295 *eP* **P 08 40 24.1 +0.1**
KUU Kurty 47.30 296 *eP* **P 08 40 23.3 -1.0**
comp=Z,9.0nm,0.5s,baz=296
KUU Kurty 47.30 296 *eP* **P 08 40 23.2 -1.0**
KUU pmax pmax
comp=Z,9.0nm,0.5s
EGAK Eagle 47.32 34 P **P 08 40 23.7 -0.3**
EGAK IAmb IAmb 08 40 47.1
comp=Z,7.6nm,1.1s
BCAR Beaver Creek A 47.36 37 P **P 08 40 24.9 +0.5**
KDJ Kajisay 47.40 293 P **P 08 40 25.1 -0.1**
KDJ pmax pmax
comp=Z,15nm,0.7s
KDJ Kajisay 47.40 293 P **P 08 40 25.1 -0.1**
KDJ IAmb IAmb 08 40 26.3
comp=Z,15nm,0.7s
BALM Baldy 47.51 40 P **P 08 40 25.4 -0.3**
BALM IAmb IAmb 08 40 53.4
comp=Z,20nm,1.4s
MTBS Maitube 47.52 295 *eP* **P 08 40 26.0 -0.1**
baz=295
MTBS Maitube 47.52 295 *eP* **P 08 40 25.9 -0.1**
JIRN Jiri 47.59 271 *eP* **P 08 40 27.8 +0.7**
comp=Z,44nm,0.7s
JIRN Jiri 47.59 271 *eP* **P 08 40 27.8 +0.7**
comp=Z,44nm,0.7s
RAMN Ramite 47.67 270 *eP* **P 08 40 28.0 +0.4**
comp=Z,40nm,0.6s
RAMN Ramite 47.67 270 *eP* **P 08 40 28.0 +0.4**
comp=Z,40nm,0.6s
GUN Gumba 47.69 272 *eP* **P 08 40 28.4 +0.6**
comp=Z,102nm,0.5s
GUN Gumba 47.69 272 *eP* **P 08 40 28.4 +0.6**
comp=Z,102nm,0.5s
CTGM Chitina Glacie 48.01 40 P **P 08 40 30.0 +0.4**
CTGM IAmb IAmb 08 40 41.7
comp=Z,10nm,1.0s
BRVK Borovoye 48.03 309 *eP* **P 08 40 29.9 +0.2**
BRVK Borovoye 48.03 309 *ceP* **P 08 40 29.9 +0.2**
BRVK pmax pmax
comp=Z,27nm,1.7s
BRVK Borovoye 48.03 309 P **P 08 40 29.4 -0.3**
BRVK IAmb IAmb 08 40 30.8
comp=Z,22nm,1.1s
BOOM Boomskoye usch 48.10 294 P **P 08 40 30.8 +0.2**
BOOM pmax pmax
comp=Z,30nm,0.7s
BOOM Boomskoye usch 48.10 294 P **P 08 40 30.8 +0.2**
TKM2 Tokmak 2 48.17 295 P **P 08 40 31.9 +0.8**
SNR=18
DAWY Dawson 48.21 35 P **P 08 40 31.1 +0.1**
PKI Pulchoki 48.22 272 *eP* **P 08 40 31.9 0.0**
comp=Z,13nm,0.5s
PKI Pulchoki 48.22 272 *eP* **P 08 40 31.9 0.0**
comp=Z,13nm,0.5s
BTLS Baital 48.39 298 *eP* **P 08 40 31.8 -0.8**
baz=298
BTLS Baital 48.39 298 *eP* **P 08 40 31.8 -0.8**
DMN Daman 48.43 272 *eP* **P 08 40 33.8 +0.4**
comp=Z,19nm,0.6s
DMN Daman 48.43 272 *eP* **P 08 40 33.8 +0.4**
comp=Z,19nm,0.6s
GKN Gorkha 48.57 273 *eP* **P 08 40 34.7 +0.3**
comp=Z,25nm,0.5s
GKN Gorkha 48.57 273 *eP* **P 08 40 34.7 +0.3**
comp=Z,25nm,0.5s
SGDS Sogindy 48.61 296 *eP* **P 08 40 33.6 -0.8**
comp=Z,3.1nm,0.4s,baz=296
SGDS Sogindy 48.61 296 *eP* **P 08 40 33.6 -0.8**
SGDS pmax pmax
comp=Z,3.0nm,0.4s
KBK Karagaybulak 48.71 295 P **P 08 40 35.9 +0.5**
SNR=17
USP Ospenovka 48.77 296 P **P 08 40 35.9 +0.3**
SNR=8.4
EPYK Eagle Plains 48.82 32 P **P 08 40 36.5 +0.8**
baz=282
EPYK Eagle Plains 48.82 32 P **P 08 40 36.1 +0.4**
EPYK IAmb IAmb 08 40 37.7
comp=Z,16nm,1.2s
AAK Ala-Archa 49.02 295 P **P 08 40 37.9 +0.2**
SNR=5.7
AAK Ala-Archa 49.02 295 *eP* **P 08 40 37.7 0.0**
AAK Ala-Archa 49.02 295 *ceP* **P 08 40 37.7 0.0**
AAK pmax pmax
comp=Z,4.0nm,0.7s
KOLN Koldanda 49.46 273 *eP* **P 08 40 41.8 +0.5**
comp=Z,24nm,0.5s
KOLN Koldanda 49.46 273 *eP* **P 08 40 41.8 +0.5**
comp=Z,24nm,0.5s
EKS2 Erkin-Say 49.50 295 P **P 08 40 41.2 0.0**
SNR=14
PYUN Piuthan 49.74 274 *eP* **P 08 40 44.0 +0.6**
comp=Z,31nm,0.4s
PYUN Piuthan 49.74 274 *eP* **P 08 40 44.0 +0.6**
comp=Z,31nm,0.4s
HYT Haines Junctio 49.85 39 P **P 08 40 45.1 +1.4**
HYT IAmb IAmb 08 40 47.2
comp=Z,18nm,0.8s
DZA Taraz 51.04 297 *eP* **P 08 40 52.6 -0.2**
comp=Z,13nm,0.5s,baz=296
DZA Taraz 51.04 297 *eP* **P 08 40 52.6 -0.2**
DZA pmax pmax
comp=Z,13nm,0.5s
KK31 Karatay Array 51.50 297 P **P 08 40 55.5 -0.7**
KK31 pmax pmax
comp=Z,14nm,0.7s
KK31 Karatay Array 51.50 297 P **P 08 40 55.5 -0.7**
KKAR Karatay Array 51.50 297 P **P 08 40 55.9 -0.3**
KKAR Karatay Array 51.50 297 P **P 08 40 55.6 -0.6**
KKAR Karatay Array 51.50 297 P **P 08 40 55.9 -0.3**
SVE Sverdlovsk 52.07 316 *eP* **P 08 41 00.4 +0.2**
SVE Sverdlovsk 52.07 316 *eP* **P 08 41 00.4 +0.2**
SVE pmax pmax
comp=Z,31nm,0.9s
IUG luzhnay 52.23 296 *eP* **P 08 41 01.4 -0.4**
comp=Z,7.4nm,0.6s,baz=296
IUG luzhnay 52.23 296 *eP* **P 08 41 01.4 -0.4**
IUG pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 53.28 316 *eP* **P 08 41 09.0 -0.2**
ARU Arti 53.28 316 *c iP* **P 08 41 09.0 -0.2**
ARU *PP **pP** 08 41 24.6 +0.2
ARU 08 43 08.1
ARU S **S 08 48 36.4 +0.4**

ARU SS **SS 08 52 16.9 +1.2**
ARU pmax pmax
comp=Z,25nm,0.9s
ARU Arti 53.28 316 P **P 08 41 09.2 0.0**
GAR Garm 53.46 293 P **P 08 41 10.6 -0.3**
GAR IAmb IAmb 08 41 13.5
comp=Z,16nm,0.8s
NIL Nilore 54.00 285 P **P 08 41 15.1 +0.3**
NIL pmax pmax
comp=Z,18nm,0.7s
NIL Nilore 54.00 285 P **P 08 41 15.1 +0.3**
DLBC Dease Lake 54.24 40 P **P 08 41 16.1 -0.1**
DLBC IAmb IAmb 08 41 29.4
comp=Z,12nm,1.4s
CHGR Chuyangaron 54.42 293 P **P 08 41 17.5 -0.4**
EUNU Eureka 55.15 9 P **P 08 41 21.7 -0.8**
EUNU IAmb IAmb 08 41 32.0
comp=Z,22nm,1.2s
AB31 Akbulak array 55.48 308 P **P 08 41 24.8 -0.4**
ABKAR Akbulak array 55.48 308 P **P 08 41 25.2 0.0**
MTN Manton Dam 55.57 194 P **P 08 41 26.6 +0.4**
MTN IAmb IAmb 08 41 50.4
comp=Z,7.7nm,0.9s
SPA0 Spitsbergen Ar 55.83 348 *eP* **P 08 41 27.4 0.0**
PRGR Permogore 57.11 326 *eP* **P 08 41 34.8 -1.8**
PRGR pmax pmax
comp=Z,29nm,0.9s
RES Resolute Bay 57.58 15 P **P 08 41 39.0 -0.7**
comp=Z,9.6nm,0.4s,baz=320,slow=4.4,SNR=39
RES Resolute Bay 57.58 15 P **P 08 41 39.0 -0.7**
RES IAmb IAmb 08 41 44.8
comp=Z,11nm,0.7s
KNRA Kununurra 58.78 196 P **P 08 41 49.1 +0.3**
YKA Yellowknife Ar 59.11 32 P **P 08 41 50.5 -0.1**
comp=Z,2.6nm,0.9s,baz=302,slow=5.8,SNR=4.4
KEV Kevo 59.12 339 P **P 08 41 49.8 -0.7**
KEV pmax pmax
comp=Z,23nm,1.3s
KEV Kevo 59.12 339 P **P 08 41 49.8 -0.7**
HAMF Hammerfest 59.42 340 *eP* **P 08 41 52.1 -0.6**
ARCES ARCESS Array B 59.67 339 P **P 08 41 53.8 -0.5**
comp=Z,1.7nm,0.4s,baz=47,slow=8.5,SNR=31
ARE0 ARCESS Array S 59.67 339 P **P 08 41 53.7 -0.7**
ARE0 ARCESS Array S 59.67 339 *eP* **P 08 41 53.8 -0.6**
KLMR Klimovskoe 60.05 327 *eP* **P 08 41 55.3 -1.8**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 60.05 327 *eP* **P 08 41 55.3 -1.8**
KLMR AMP 08 41 57.3
comp=Z,10.0nm,0.8s
KTK1 Kautokeino 60.62 339 *eP* **P 08 42 00.6 -0.3**
TRO Tromso 61.31 341 *eP* **P 08 42 05.0 -0.5**
HRA Herat 61.39 292 P **P 08 42 06.4 -0.5**
HRA IAmb IAmb 08 42 08.0
comp=Z,10nm,0.7s
WRA Warramunga Arr 62.10 189 P **P 08 42 11.3 -0.1**
comp=Z,2.1nm,0.6s,baz=6.2,slow=6.8,SNR=36
WRA pP **sP 08 42 30.4 -2.8**
comp=Z,2.9nm,0.6s,baz=6.3,slow=6.8,SNR=16
GEYT Alibeck 62.25 297 P **P 08 42 12.4 0.0**
comp=Z,6.9nm,0.8s,baz=60,slow=3.6,SNR=8.5
B05A Bryant 63.30 48 P **P 08 42 20.2 +1.1**
baz=304
STEI Steigen 63.47 340 *eP* **P 08 42 18.7 -1.3**
FAUS Fauske 63.87 340 *eP* **P 08 42 22.0 -0.6**
E04D Cinebar 63.99 50 P **P 08 42 25.7 +1.9**
baz=304
VRH Novokhopyorsk 64.51 317 *eP* **P 08 42 26.1 -0.9**
VRH pmax pmax
comp=Z,40nm,1.7s
OBN Obninsk 64.66 322 *eP* **P 08 42 27.4 -0.5**
OBN Obninsk 64.66 322 ||*eP* **P 08 42 27.0 -0.9**
OBN *e* 08 43 02.5
OBN *e* 08 44 49.6
OBN *e*S S 08 51 22.0 +19
OBN *e*SS **SS 08 55 10.6 -3.4**
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,446nm,19.0s
FIA1 FINESS Array S 64.83 332 P **P 08 42 28.5 -0.5**
FINES FINESS Array B 64.84 332 P **P 08 42 28.3 -0.7**
comp=Z,16nm,0.6s,baz=49,slow=7.7,SNR=84
FINES FINESS Array B 64.84 332 P **P 08 42 28.9 -0.1**
MOR8 Moi Rana 65.01 339 *eP* **P 08 42 28.4 -1.7**
LPSR Galich'ya Gora 65.07 319 *eP* **P 08 42 30.0 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KONS Konsvik 65.10 340 *eP* **P 08 42 31.4 +0.7**
I04A Tendick Farm, 65.66 52 P **P 08 42 36.2 +1.5**
baz=306
SUMG Summit 65.72 0 *i P* **P 08 42 35.0 -0.1**
comp=Z,26nm,0.7s
SUMG Summit 65.72 0 *i P* **P 08 42 35.0 -0.1**
SUMG pmax pmax
comp=Z,26nm,0.7s
SUMG Summit 65.72 0 P **P 08 42 35.2 +0.2**
SUMG IAmb IAmb 08 42 39.8
comp=Z,8.9nm,1.0s
VSR Storozhevoye 65.79 318 *eP* **P 08 42 34.9 -0.5**
VSR pmax pmax
comp=Z,30nm,1.7s
ASAR Alice Springs 65.82 189 P **P 08 42 36.6 +0.8**
comp=Z,0.7nm,0.5s,baz=4.4,slow=8.0,SNR=12
ASAR pP **sP 08 42 55.1 -2.6**
comp=Z,1.8nm,0.8s,baz=11,slow=7.5,SNR=7.0
NEW Newport 66.02 46 P **P 08 42 38.0 +1.1**
baz=307
E09A Wood Farm, Sta 66.50 48 P **P 08 42 41.0 +1.0**
PINE Pine Mountain 66.53 52 P **P 08 42 40.3 -0.2**
KHMM Horse Mountain 66.57 56 P **P 08 42 41.9 +1.1**
KHMM IAmb IAmb 08 43 09.0
comp=Z,23nm,1.3s
VSU Vasula 66.62 329 *i P* **P 08 42 40.1 -0.4**
VSU pmax pmax
comp=Z,31nm,0.7s
L04D Klamath Falls 66.65 54 P **P 08 42 43.1 +1.9**
baz=306
J05D Fort Rock, OR 66.65 52 P **P 08 42 43.5 +2.3**
baz=306
YBH Yreka Blue Hor 66.69 54 P **P 08 42 40.5 -0.9**
YBH pmax pmax
comp=Z,8.0nm,1.5s
YBH Yreka Blue Hor 66.69 54 P **P 08 42 40.5 -0.9**
XMAS Kiritimati 66.69 109 P **P 08 42 41.5 -0.1**
M02C Callahan 66.80 55 P **P 08 42 44.4 +2.3**
baz=306
N02D Trinity Center 67.14 55 P **P 08 42 46.4 +2.1**
baz=306
M04C Macdoel 67.18 54 P **P 08 42 46.3 +1.7**
baz=306
O02D Mt. Diablo Mer 67.56 56 P **P 08 42 48.9 +1.9**
baz=307
MOD Modoc Plateau 68.03 53 P **P 08 42 49.7 -0.2**
O03E Paynes Creek 68.09 55 P **P 08 42 51.4 +1.1**
baz=307
KIV Kislovodsk 68.33 310 *eP* **P 08 42 52.4 +0.6**
KIV Kislovodsk 68.33 310 *eP* **P 08 42 52.4 +0.6**
KIV pmax pmax
comp=Z,94nm,1.1s
KBZ Khabaz 68.35 310 P **P 08 42 52.8 +1.1**
comp=Z,6.9nm,0.7s,baz=37,slow=3.5,SNR=11
KBZ Khabaz 68.35 310 *eP* **P 08 42 52.2 +0.5**
KBZ Khabaz 68.35 310 *ceP* **P 08 42 52.2 +0.5**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
MSO Missoula 68.60 46 P **P 08 42 54.3 +0.9**
baz=309
DOMB Dombas 69.73 339 *eP* **P 08 42 59.6 -0.4**
NC405 NORSAR Array S 69.74 337 P **P 08 42 59.4 -0.7**
NC303 NORSAR Array S 69.75 337 P **P 08 42 59.7 -0.4**
NC303 IAmb IAmb 08 43 00.6
comp=Z,16nm,0.8s
HRY Holter Researc 69.79 45 P **P 08 43 00.7 -0.1**
NC204 NORSAR Array S 69.88 337 P **P 08 43 00.5 -0.5**
NB201 NORSAR Array S 69.91 337 P **P 08 43 00.4 -0.7**
NB2 NORSAR Subarra 69.94 337 P **P 08 43 00.4 -0.9**
comp=Z,6.7nm,0.7s,baz=37,slow=6.2
NB2 NORSAR Subarra 69.94 337 P **P 08 43 00.4 -0.9**
baz=37,slow=6.2
NOA NORSAR Array B 69.94 337 P **P 08 43 00.7 -0.6**
comp=Z,8.2nm,0.7s,baz=37,slow=6.1,SNR=77
EGMT Eagleton 70.01 43 P **P 08 43 02.9 +0.9**
baz=311
EGMT Eagleton 70.01 43 P **P 08 43 02.1 +0.1**

EGMT IAmb IAmb 08 43 03.7
comp=Z,8.3nm,0.8s
VCNR Virginia City 70.02 55 P **P 08 43 03.0 +0.6**
LRM Limekiln Ridge 70.03 46 P **P 08 43 03.0 +0.5**
NBO00 NORSAR Array S 70.08 337 P **P 08 43 01.6 -0.5**
NBO00 IAmb IAmb 08 43 02.5
comp=Z,19nm,0.8s
NC602 NORSAR Array S 70.09 337 *e*P **P 08 43 01.3 -0.9**
AKN Aaknes 70.17 340 *e*P **P 08 43 02.7 0.0**
DLMT Dillon 70.25 46 P **P 08 43 03.8 +0.1**
HLID Hailey 70.41 49 P **P 08 43 06.1 +1.5**
baz=310
BOZ Bozeman (W) 70.62 46 P **P 08 43 06.4 +0.5**
BOZ pmax pmax
comp=Z,6.0nm,0.7s
BOZ Bozeman (W) 70.62 46 P **P 08 43 07.3 +1.3**
baz=311
BOZ Bozeman (W) 70.62 46 P **P 08 43 06.4 +0.5**
BOZ IAmb IAmb 08 43 07.8
comp=Z,5.5nm,0.7s
AKASG Malin Array Be 70.91 322 P **P 08 43 06.8 -0.5**
comp=Z,10.0nm,0.6s,baz=44,slow=6.0,SNR=32
AKASG Malin Array Be 70.91 322 P **P 08 43 06.7 -0.7**
AKBB Malin Array Si 70.91 322 P **P 08 43 06.7 -0.6**
AKBB pmax pmax
comp=Z,11nm,0.8s
AKBB Malin Array Si 70.91 322 P **P 08 43 06.7 -0.6**
AKBB IAmb IAmb 08 43 07.6
comp=Z,11nm,0.8s
OSL Oslo 70.98 337 *e*P **P 08 43 07.8 +0.2**
SKAR Skarslia 71.06 338 *e*P **P 08 43 08.4 +0.2**
UOSS Minazif 71.15 287 P **P 08 43 08.5 -0.8**
UOSS IAmb IAmb 08 43 10.1
comp=Z,8.9nm,0.8s
YHL Hebgen Lake 71.35 46 P **P 08 43 10.7 +0.2**
NVAR Mina Array Bea 71.38 55 P **P 08 43 12.0 +1.3**
comp=Z,2.4nm,0.7s,baz=294,slow=5.9,SNR=36
NVAR Mina Array Bea 71.38 55 P **P 08 43 11.3 +0.6**
MDPB Devils Postpil 71.40 56 P **P 08 43 11.2 +0.2**
KONO Kongsberg 71.54 337 *e*P **P 08 43 10.9 -0.1**
SUE Sulen 71.69 340 *e*P **P 08 43 11.7 -0.1**
H17A Grant Village 71.97 46 P **P 08 43 17.4 +3.2**
baz=312
ASK Askoy 72.07 339 *e*P **P 08 43 14.3 +0.2**
BER Bergen 72.12 339 *e*P **P 08 43 14.6 +0.1**
RLMT Red Lodge 72.19 45 P **P 08 43 16.8 +1.3**
baz=312
TPAW Teton Pass 72.37 47 P **P 08 43 16.1 -0.5**
DGMT Dagmar 72.45 40 P **P 08 43 17.5 +0.8**
baz=314
DGMT Dagmar 72.45 40 P **P 08 43 17.0 +0.3**
DGMT IAmb IAmb 08 43 31.6
comp=Z,16nm,1.1s
CWC Cottonwood Cre 72.77 56 P **P 08 43 20.4 +1.3**
baz=310
GRAC Grapevine Rang 72.86 56 P **P 08 43 21.3 +1.9**
baz=310
R11A Troy Canyon, C 73.07 54 P **P 08 43 22.0 +1.2**
baz=310
R11A Troy Canyon, C 73.07 54 P **P 08 43 21.1 +0.3**
MPMC Manual Prospec 73.39 56 P **P 08 43 24.0 +1.4**
baz=310
DUG Dugway, Tooele 73.50 51 P **P 08 43 23.5 +0.3**
DUG pmax pmax
comp=Z,4.0nm,0.7s
DUG Dugway, Tooele 73.50 51 P **P 08 43 24.9 +1.7**
baz=311,SNR=6.3
DUG Dugway, Tooele 73.50 51 P **P 08 43 23.5 +0.3**
FURC Furnace Creek, 73.51 56 P **P 08 43 24.4 +1.3**
baz=310
STKA Stephens Creek 73.52 181 P **P 08 43 24.6 +1.7**
comp=Z,0.8nm,0.6s,baz=0.0,slow=9.1,SNR=3.0
TPNV Topopah Spring 73.58 55 P **P 08 43 23.9 +0.2**
TPNV pmax pmax
comp=Z,4.0nm,0.7s
TPNV Topopah Spring 73.58 55 P **P 08 43 25.2 +1.4**
baz=310
TPNV Topopah Spring 73.58 55 P **P 08 43 23.9 +0.2**
BW06 Boulder Array 73.61 47 P **P 08 43 24.7 +0.8**
baz=312
BW06 Boulder Array 73.61 47 P **P 08 43 23.9 -0.1**
PD31 Pinedale Array 73.61 47 P **P 08 43 23.7 -0.2**
PDAR Pinedale Array 73.61 47 P **P 08 43 24.7 +0.8**
comp=Z,3.0nm,0.7s,baz=269,slow=2.4,SNR=40
MARD Mardin 73.65 306 P **P 08 43 23.9 -0.3**
EDW2 Edwards Air Fo 73.83 58 P **P 08 43 26.6 +1.5**
baz=310
LVV L'vov 73.88 324 *e*P P 08 43 18.0 -7.1
NLU North Lily Min 74.08 50 P **P 08 43 26.3 -0.4**
SHPR Sheep Range 74.53 55 P **P 08 43 29.5 +0.2**
TUQ Turquoise Moun 74.76 56 P **P 08 43 32.2 +1.6**
baz=311
BUR08 Bucovina Ar. S 74.94 322 P **P 08 43 31.3 -0.1**
BUR08 IAmb IAmb 08 43 32.4
comp=Z,8.3nm,0.7s
BURAR Bucovina Array 74.95 321 P **P 08 43 31.4 -0.1**
TMUT Trail Mountain 75.02 50 P **P 08 43 31.7 -0.6**
BIZ Bicaz 75.03 321 ⇓P **P 08 43 32.0 +0.2**
MDND Maddock 75.05 38 P **P 08 43 32.8 +0.9**
baz=317
TESR Tescani 75.08 320 ⇓P **P 08 43 32.2 +0.1**
RDMU Red Mountain 75.09 49 P **P 08 43 33.3 +0.7**
P17A Butcher Ranch, 75.17 50 P **P 08 43 33.3 +0.4**
CFR Carcaliu 75.31 318 ⇑P **P 08 43 32.9 -0.5**
CFR Carcaliu 75.31 318 ⇑P **P 08 43 32.9 -0.5**
KOLS Kolonicke sedl 75.31 324 *e*P **P 08 43 32.4 -1.0**
KOLS Kolonicke sedl 75.31 324 *e*P **P 08 43 32.4 -1.0**
K22A Casper 75.32 45 P **P 08 43 35.4 +1.6**
baz=314
GMRC Granite Mounta 75.35 56 P **P 08 43 35.0 +1.0**
baz=311
OJC Ojcow 75.40 326 P **P 08 43 33.8 0.0**
OJC pmax pmax
comp=Z,19nm,1.0s
OJC Ojcow 75.40 326 P **P 08 43 33.8 0.0**
OJC IAmb IAmb 08 43 35.1
comp=Z,19nm,1.0s
SRU San Rafael Swe 75.54 50 P **P 08 43 35.4 +0.3**
SRU pmax pmax
comp=Z,8.0nm,0.6s
SRU San Rafael Swe 75.54 50 P **P 08 43 35.4 +0.3**
RSSD Black Hills 75.58 43 P **P 08 43 35.6 +0.3**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 75.58 43 P **P 08 43 36.0 +0.7**
baz=315
RSSD Black Hills 75.58 43 P **P 08 43 35.5 +0.3**
PFO Pinyon Flats O 75.61 58 P **P 08 43 36.5 +1.0**
baz=311
BELC Belle Mtn. Jos 75.65 57 P **P 08 43 36.6 +0.8**
baz=311
BSEG Bad Segeberg 76.02 333 *e*P **P 08 43 38.0 +0.7**
comp=Z,8.7nm,0.8s,baz=35,slow=5.4
BSEG *ep*P **sP 08 43 56.4 -3.4**
O20A White River Ci 76.13 48 P **P 08 43 39.4 +0.9**
baz=314
BRTR Keskin Array B 76.21 311 P **P 08 43 39.1 +0.2**
comp=Z,3.5nm,0.6s,baz=80,slow=3.8,SNR=14
BRTR Keskin Array B 76.21 311 P **P 08 43 38.5 -0.4**
W13A Hualapai Mount 76.23 55 P **P 08 43 40.0 +0.8**
LANS Liptovska Anna 76.35 326 *e*P **P 08 43 40.4 +1.0**
LANS pmax pmax
comp=Z,3.0nm,1.0s
LANS Liptovska Anna 76.35 326 *e*P **P 08 43 40.4 +1.0**
AGMN Agassiz Nation 76.39 36 P **P 08 43 39.4 -0.1**
baz=319
PDMCI Parker Dam,Lak 76.60 56 P **P 08 43 42.4 +1.5**
baz=312
CHVC Chvalec 76.63 328 *e*P **P 08 43 41.5 +0.6**
MORC Moravsky Berou 76.67 327 ⇑P **P 08 43 41.6 +0.5**
MORC Moravsky Berou 76.67 327 *e*P **P 08 43 41.1 0.0**
MORC Moravsky Berou 76.67 327 ⇑P **P 08 43 41.6 +0.5**
MORC Moravsky Berou 76.67 327 P **P 08 43 41.2 0.0**
MORC IAmb IAmb 08 43 42.5
comp=Z,8.1nm,0.7s
DPC Dobruska-Polom 76.71 328 *e*P **P 08 43 42.1 +0.7**
DPC Dobruska-Polom 76.71 328 *e*P **P 08 43 42.1 +0.7**
KRLC Kraliky 76.74 328 *e*P **P 08 43 41.9 +0.4**
KRLC Kraliky 76.74 328 *e*P **P 08 43 41.9 +0.4**
D32A Dogwood Acres, 76.75 37 P **P 08 43 41.1 -0.5**
PV23 Carpenter Ridg 76.85 50 P **P 08 43 43.6 +0.9**
PV23 IAmb IAmb 08 44 05.2
comp=Z,5.7nm,0.7s
N23A Red Feather La 76.86 46 P **P 08 43 43.8 +1.2**
baz=315
ARR Arges 76.87 320 ⇑P **P 08 43 42.5 +0.1**
PV14 Lion Creek, Pa 76.90 50 P **P 08 43 43.6 +0.7**
PV14 IAmb IAmb 08 43 44.9
comp=Z,9.4nm,0.9s
PSZ Piszkesteto 77.11 324 ⇓P **P 08 43 44.5 +0.8**
PSZ Piszkesteto 77.11 324 ⇓P **P 08 43 44.5 +0.8**
VYHS Vyhne 77.12 325 *e*P **P 08 43 44.2 +0.5**
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 77.12 325 *e*P **P 08 43 44.2 +0.5**
BRG Berggiesshubel 77.21 329 *e*P **P 08 43 44.1 0.0**
comp=Z,1.8nm,0.8s,baz=35,slow=5.4
CLL Collm 77.22 330 ⇑*i*P **P 08 43 43.8 -0.3**
comp=Z,9.0nm,0.8s
CLL Collm 77.22 330 *e*P **P 08 43 44.2 +0.1**
comp=Z,7.4nm,0.7s,baz=35,slow=5.4
PVCC Panska Ves 77.25 329 *e*P **P 08 43 45.1 +0.8**
PVCC Panska Ves 77.25 329 *e*P **P 08 43 45.1 +0.8**
NRDL Niedersach Rie 77.28 332 *e*P **P 08 43 44.9 +0.5**
comp=Z,4.0nm,0.7s,baz=35,slow=5.4
JAVC Velka Javorina 77.33 326 *e*P **P 08 43 46.0 +1.1**
ASSE Asse, Remlinge 77.38 332 *e*P **P 08 43 45.5 +0.6**
baz=35,slow=5.4
ASSE *ep*P **pP 08 44 03.5 +2.4**
FBE Freiberg 77.40 330 *e*P **P 08 43 45.7 +0.6**
comp=Z,4.0nm,0.7s,baz=35,slow=5.4
VRAC Vranov 77.42 327 ⇑P **P 08 43 46.1 +0.8**
VRAC Vranov 77.42 327 *e*P **P 08 43 45.7 +0.4**
VRAC Vranov 77.42 327 ⇑P **P 08 43 46.1 +0.8**
GOPC GO Pecny, Ondr 77.66 328 *e*P **P 08 43 47.2 +0.6**
GOPC GO Pecny, Ondr 77.66 328 *e*P **P 08 43 47.2 +0.6**
KRUC Moravsky 77.69 327 *e*P **P 08 43 47.0 +0.2**
PRU Pruhonice 77.69 329 *e*P **P 08 43 47.3 +0.5**
PRU Pruhonice 77.69 329 *e*P **P 08 43 47.3 +0.5**
SMOL Smolenice 77.70 326 *e*P **P 08 43 47.7 +0.8**
SMOL pmax pmax
comp=Z,4.0nm,0.7s
SMOL Smolenice 77.70 326 *e*P **P 08 43 47.7 +0.8**
CLZ Clausthal 77.73 332 *e*P **P 08 43 47.6 +0.6**
comp=Z,9.8nm,0.7s,baz=35,slow=5.4
NEUB Neuenburg 77.75 331 *e*P **P 08 43 47.4 +0.4**
comp=Z,8.6nm,0.7s,baz=35,slow=5.4
ISCO Idaho Springs 77.81 47 P **P 08 43 49.4 +1.3**
baz=315
SUSD Miller 77.86 40 P **P 08 43 48.6 +0.7**
baz=318
MVCO Mesa Verde 78.00 51 P **P 08 43 50.4 +1.3**
baz=314
BZS Buzias 78.10 322 ⇑P **P 08 43 49.7 +0.5**
BZS Buzias 78.10 322 ⇑P **P 08 43 49.7 +0.5**
NWAO Narrogin (SRO) 78.11 202 P **P 08 43 50.5 +1.4**
comp=Z,37nm,1.2s,baz=0.0,slow=3.0,SNR=3.1
GTTG Gottingen 78.11 332 *e*P **P 08 43 49.2 +0.1**
comp=Z,9.5nm,0.8s,baz=35,slow=5.4
TANN Tannenbergstha 78.14 330 *e*P **P 08 43 49.6 +0.2**
comp=Z,2.3nm,0.7s,baz=35,slow=5.4
PBCC Pribram 78.15 329 *e*P **P 08 43 49.6 +0.2**
GUNZ Gunzen 78.23 330 *e*P **P 08 43 50.2 +0.4**
comp=Z,2.9nm,0.7s,baz=35,slow=5.4
IBBN Ibbenburen 78.23 334 *e*P **P 08 43 49.8 +0.1**
comp=Z,8.6nm,0.8s,baz=35,slow=5.4
MOX Moxa 78.27 331 *e*P **P 08 43 49.9 -0.1**
comp=Z,2.8nm,0.7s,baz=35,slow=5.4
WERN Wernitzgruen 78.28 330 *e*P **P 08 43 50.2 +0.1**
comp=Z,2.8nm,0.8s,baz=35,slow=5.4
HERR Herculane 78.28 321 ⇑P **P 08 43 50.6 +0.4**
EYMN Ely 78.51 34 P **P 08 43 51.4 0.0**
baz=322
EYMN Ely 78.51 34 P **P 08 43 50.7 -0.7**
EYMN IAmb IAmb 08 43 52.2
comp=Z,8.5nm,0.7s
S22A 4UR Ranch, Cre 78.58 49 P **P 08 43 53.5 +1.1**
baz=315
MANZ Manzenberg 78.62 330 *e*P **P 08 43 52.2 +0.2**
comp=Z,2.5nm,0.7s,baz=35,slow=5.4
Q24A Divide 78.65 47 P **P 08 43 53.7 +1.0**
baz=315
UBBA Unterbreizbach 78.70 332 *e*P **P 08 43 52.2 -0.1**
comp=Z,2.9nm,0.6s,baz=35,slow=5.4
KHC Kasperske Hory 78.76 329 *e*P **P 08 43 53.1 +0.3**
KHC Kasperske Hory 78.76 329 *ce*P **P 08 43 53.0 +0.3**
KHC pmax pmax
comp=Z,11nm,0.6s
KHC Kasperske Hory 78.76 329 P **P 08 43 52.8 0.0**
ROTZ Rotzenmuhle 78.76 330 *e*P **P 08 43 53.3 +0.6**
comp=Z,3.1nm,0.8s,baz=35,slow=5.4
CONA Conrad Observa 78.81 327 *e*P **P 08 43 53.9 +0.8**
comp=Z,2.7nm,0.6s
GEC2 GERESS Array S 78.94 328 *e*P **P 08 43 53.7 -0.1**
comp=Z,2.5nm,0.8s,baz=35,slow=5.4
GEC2 GERESS Array S 78.94 328 P **P 08 43 53.9 +0.1**
GERES GERESS Array B 78.94 328 P **P 08 43 53.7 -0.1**
comp=Z,2.2nm,0.6s,baz=36,slow=5.9,SNR=17
GERES GERESS Array B 78.94 328 P **P 08 43 53.5 -0.3**
WET Wettzell 79.02 329 *e*P **P 08 43 54.7 +0.5**
comp=Z,4.4nm,0.8s,baz=35,slow=5.4
BUG Bochum--Univer 79.12 333 *e*P **P 08 43 54.9 +0.3**
comp=Z,8.5nm,0.7s,baz=35,slow=5.4
GRF Grafenberg Arr 79.19 330 *e*P **P 08 43 55.7 +0.6**
comp=Z,11nm,0.7s,baz=35,slow=5.4
SDCO Great Sand Dun 79.32 48 P **P 08 43 57.8 +1.4**
baz=315
ARSA Arzberg 79.48 326 *e*P **P 08 43 57.3 +0.6**
comp=Z,4.4nm,1.0s
ECSD EROS Data Cent 79.51 39 P **P 08 43 57.0 +0.1**
baz=320
ECSD EROS Data Cent 79.51 39 P **P 08 43 57.1 +0.2**
ECSD IAmb IAmb 08 43 58.0
comp=Z,8.4nm,0.8s
TNS Taunus Mts 79.75 332 *e*P **P 08 43 58.6 +0.5**
comp=Z,3.0nm,0.7s,baz=35,slow=5.4
AHRW Bad Neuenahr-A 79.95 333 *e*P **P 08 43 59.9 +0.8**
comp=Z,5.7nm,0.8s,baz=35,slow=5.4
GROS Grobnik 80.12 326 *i*P **P 08 44 00.2 -0.1**
PERS Pernice 80.14 326 *i*P **P 08 44 00.5 +0.2**
SOKA Soboth 80.14 326 *e*P **P 08 44 00.7 +0.3**
comp=Z,8.1nm,0.7s,SNR=6.1
RJOB Jochberg 80.19 328 *e*P **P 08 44 00.7 +0.1**
comp=Z,6.9nm,0.8s,baz=35,slow=5.4
RJOB *ep*P **pP 08 44 18.8 +2.2**
MEM Membach 80.25 334 P **P 08 44 00.3 -0.4**
MEM PcP **PcP 08 44 08.0 +0.1**
SCHQ Schefferville 80.33 17 P **P 08 44 01.2 0.0**
comp=Z,4.1nm,0.7s,baz=5.2,slow=7.9,SNR=3.8
T25A Trinidad 80.36 48 P **P 08 44 03.0 +1.0**
baz=316,SNR=6.0
BSTI Sart Tilman 80.42 334 P **P 08 44 01.8 +0.1**
BSTI PcP **PcP 08 44 07.4 -1.1**
FUR Furstenfeldbru 80.43 329 *e*P **P 08 44 00.8 -1.0**
comp=Z,15nm,0.6s,baz=35,slow=5.4
GOLS Golise 80.43 326 *i*P **P 08 44 01.8 -0.1**
BHOU Houvegnez 80.47 333 P **P 08 44 01.9 -0.1**
BHOU PcP **PcP 08 44 06.0 -2.9**
OBKA Obir 80.48 326 *i*P **P 08 44 02.9 +0.7**
comp=Z,6.7nm,0.6s
KBA Koelnbreinsper 80.51 328 *e*P **P 08 44 03.4 +0.9**
comp=Z,7.8nm,0.9s
BCLA Clavier 80.65 334 P **P 08 44 02.6 -0.3**
BCLA PcP **PcP 08 44 08.3 -1.3**
STU Stuttgart 80.70 331 *e*P **P 08 44 01.7 -1.6**
comp=Z,11nm,0.8s,baz=35,slow=5.4
BGES Gesves 80.75 334 P **P 08 44 03.2 -0.3**
MYKA Terra Mystica 80.75 327 *i*P **P 08 44 03.4 -0.3**
comp=Z,3.5nm,0.5s
ANMO Albuquerque 80.76 51 *ce*P **P 08 44 06.0 +1.9**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 80.76 51 P **P 08 44 05.8 +1.7**
baz=315
LJU Ljubljana 80.86 326 *i*P **P 08 44 04.4 +0.3**
SNF Seneffe 80.90 334 P **P 08 44 03.8 -0.5**
BMRD Maredsous 80.92 334 P **P 08 44 03.9 -0.5**
VISS Visnje 80.93 326 *i*P **P 08 44 04.1 -0.4**
PRED Cave del Predi 80.94 327 P **P 08 44 04.2 -0.4**
PRED IAmb IAmb 08 44 04.7
comp=Z,6.0nm,0.6s
L34A Svendsen Farm, 80.97 40 P **P 08 44 05.2 +0.4**
L34A IAmb IAmb 08 44 05.6
comp=Z,16nm,0.7s
WATA Walderalm 81.00 329 *i*P **P 08 44 05.3 +0.2**
comp=Z,5.6nm,0.5s
WTTA Wattenberg 81.03 329 *i*P **P 08 44 05.6 +0.3**
comp=Z,8.4nm,0.6s
ZOU Zoufplan 81.08 327 P **P 08 44 04.4 -1.2**
ABTA Abfaltersbach 81.11 328 *e*P **P 08 44 05.5 -0.1**
comp=Z,1.6nm,0.5s
MOTA Moosalm 81.17 329 *i*P **P 08 44 06.3 +0.3**
comp=Z,12nm,0.8s,SNR=6.2
JAVS Javornik 81.17 326 *i*P **P 08 44 05.2 -0.8**
RETA Reutte 81.18 329 *i*P **P 08 44 06.3 +0.3**
comp=Z,8.0nm,0.8s
SQTA Sankt Quirin 81.23 329 *i*P **P 08 44 06.4 +0.1**
comp=Z,5.4nm,0.6s
FETA Feichten 81.58 329 *i*P **P 08 44 08.3 +0.1**
comp=Z,4.9nm,0.8s
PDG Podgorica 81.64 321 ⇑P **P 08 44 08.2 -0.1**
PDG Podgorica 81.64 321 P **P 08 44 07.8 -0.5**
CBKS Cedar Bluff 81.66 44 P **P 08 44 08.7 +0.1**
baz=318
DAVA Damuels 81.69 330 *i*P **P 08 44 08.9 +0.1**
comp=Z,9.7nm,0.7s
ECH Echery 81.90 332 P **P 08 44 08.9 -0.8**
ECH pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 81.90 332 P **P 08 44 08.9 -0.8**
ECH IAmb IAmb 08 44 10.2
comp=Z,5.5nm,0.8s
MATQ Matagami 82.06 25 P **P 08 44 10.1 -0.4**
baz=331
D46A Sault St. Mari 82.32 30 P **P 08 44 11.4 -0.5**
baz=327
D47A Chapleau 82.52 30 P **P 08 44 12.5 -0.4**
baz=328
LSQQ Lebel-sur-Quev 82.89 25 P **P 08 44 14.8 +0.1**
baz=332
CHGQ Chibougamau 82.92 23 P **P 08 44 14.8 -0.1**
baz=333
JFWS Jewell Farm 83.05 36 P **P 08 44 15.4 -0.3**
baz=323
SENIN Lac Senin/Sane 83.42 331 P **P 08 44 17.9 +0.1**
SENIN IAmb IAmb 08 44 19.5
comp=Z,6.1nm,0.8s
VLDO Val d'Or 83.56 26 P **P 08 44 17.3 -0.9**
MNTX Cornudas Mount 83.71 53 P **P 08 44 20.4 +1.1**
baz=316
IDI Anoyia 84.22 313 P **P 08 44 21.1 -0.8**
IDI IAmb IAmb 08 44 22.2
comp=Z,18nm,1.0s
ITM Ithomi 84.36 316 P **P 08 44 22.0 -0.6**
D53A Lac Vacive, Po 84.39 26 P **P 08 44 22.2 -0.3**
baz=331
D53A Lac Vacive, Po 84.39 26 P **P 08 44 22.1 -0.4**
D53A IAmb IAmb 08 44 23.4
comp=Z,12nm,0.9s
D54A Lac Fusel, La 84.67 26 P **P 08 44 23.4 -0.5**
baz=332
E53A Dumoine, Ponti 85.02 27 P **P 08 44 25.2 -0.5**
baz=331
J47A Sunmer 85.07 33 P **P 08 44 25.8 -0.2**
E54A Lac Daplat, Po 85.13 26 P **P 08 44 25.6 -0.6**
baz=332
D55A Sainte-Anne-du 85.16 25 P **P 08 44 26.1 -0.2**
baz=333
WMOK Wichita Mounta 85.21 46 P **P 08 44 27.6 +0.7**
baz=319
ALGO Algonquin Park 85.26 27 P **P 08 44 26.4 -0.4**
baz=331
SSB Saint Sauveur 85.34 332 P **P 08 44 26.6 -0.8**
SSB pmax pmax
comp=Z,4.0nm,0.8s
SSB Saint Sauveur 85.34 332 P **P 08 44 26.6 -0.8**
SSB IAmb IAmb 08 44 28.4
comp=Z,4.2nm,0.8s
D56A ZEC Mazanza, M 85.36 25 P **P 08 44 27.3 -0.1**
baz=333,SNR=5.6
HDIL Hopedale 85.37 37 P **P 08 44 27.7 +0.2**
baz=324
E55A Montcerf-Lytto 85.48 26 P **P 08 44 27.9 0.0**
baz=332
D57A Chemin Vers le 85.65 24 P **P 08 44 29.0 +0.2**
baz=334
E56A St. Veronique 85.72 25 P **P 08 44 29.1 -0.1**
baz=333
R40A Maddies Statio 85.80 40 P **P 08 44 29.4 -0.3**
R40A IAmb IAmb 08 44 30.6
comp=Z,5.9nm,0.7s
F55A Otter Lake 85.93 26 P **P 08 44 29.6 -0.5**
baz=332
E57A Chemin Saint G 86.12 24 P **P 08 44 31.2 +0.1**
baz=334,SNR=5.9
TRQ Mont Tremblant 86.16 25 P **P 08 44 31.2 -0.2**
L48A N Adams 86.31 33 P **P 08 44 32.3 +0.2**
G55A Calabogie 86.32 27 P **P 08 44 31.9 -0.2**
baz=332
E58A La Victoria 86.42 24 P **P 08 44 32.5 0.0**
baz=334
TX32 Lajitas Array 86.43 53 P **P 08 44 33.2 +0.1**
TX32 IAmb IAmb 08 44 35.1
comp=Z,3.1nm,0.7s
TXAR Lajitas Array 86.43 53 P **P 08 44 33.9 +0.8**
comp=Z,3.0nm,0.6s,baz=294,slow=3.4,SNR=56
CCM Cathedral Cave 86.47 40 P **P 08 44 32.7 -0.3**
CCM pmax pmax
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 86.47 40 P **P 08 44 33.5 +0.5**
baz=323
CCM Cathedral Cave 86.47 40 P **P 08 44 32.7 -0.3**
CCM IAmb IAmb 08 44 34.2
comp=Z,8.1nm,0.8s
ORIO Orleans, Innes 86.54 26 P **P 08 44 32.8 -0.3**
baz=333
ORIO Orleans, Innes 86.54 26 P **P 08 44 32.9 -0.3**
ORIO IAmb IAmb 08 44 33.4
comp=Z,4.5nm,0.8s
H55A Tweed 86.78 27 P **P 08 44 34.3 -0.1**
baz=332
D62A Allapoint, All 86.98 21 P **P 08 44 35.3 0.0**
baz=337
G57A Newington 87.02 26 P **P 08 44 35.5 0.0**
baz=333
U40A Yellville 87.04 42 P **P 08 44 36.1 +0.3**
baz=322,SNR=9.3
U40A Yellville 87.04 42 P **P 08 44 35.9 +0.1**
U40A IAmb IAmb 08 44 36.8
comp=Z,9.8nm,0.7s
G58A Ormstown 87.28 25 P **P 08 44 36.8 +0.1**
baz=334
T42A Van Buren 87.37 40 P **P 08 44 37.6 +0.3**
T42A IAmb IAmb 08 44 38.0
comp=Z,4.5nm,0.7s
MOQ Mont Orford 87.68 24 P **P 08 44 39.0 +0.2**
S44A Carbondale 87.70 39 P **P 08 44 39.4 +0.4**
E63A Oxbow 87.75 21 P **P 08 44 39.0 0.0**
baz=338
FCAR Ozark Folk Cen 87.77 42 P **P 08 44 39.0 -0.3**
FCAR IAmb IAmb 08 44 40.1
comp=Z,3.7nm,0.7s
H59A Cadyville 87.84 25 P **P 08 44 39.2 -0.3**
baz=334
H58A Gabriels 87.89 25 P **P 08 44 39.9 +0.1**
baz=334
G61A St-Isidore-de- 87.93 23 P **P 08 44 40.5 +0.6**
baz=335
MIAR Mount Ida 88.10 43 P **P 08 44 41.6 +0.7**
baz=322,SNR=5.8
P49A Miami Univ. Ec 88.20 35 P **P 08 44 41.6 +0.3**
baz=327
P49A Miami Univ. Ec 88.20 35 P **P 08 44 41.5 +0.1**
X40A Basin Creek Fa 88.52 43 P **P 08 44 43.9 +1.0**
baz=322
M54A Oil Creek Stat 88.55 30 P **P 08 44 43.5 +0.6**
baz=330
M54A Oil Creek Stat 88.55 30 P **P 08 44 43.1 +0.1**
I59A Olmsteadville 88.55 25 P **P 08 44 43.2 +0.3**
baz=334
O51A Pataskala 88.56 33 P **P 08 44 42.9 -0.1**
baz=328
WCI Wyandotte Cave 88.61 36 P **P 08 44 43.8 +0.6**
baz=326
J59A Piesco 88.64 26 P **P 08 44 43.5 +0.1**
baz=333
H62A Milan 88.68 23 P **P 08 44 44.3 +0.8**
baz=336
H62A Milan 88.68 23 P **P 08 44 43.8 +0.4**
N53A Lisbon 88.70 31 P **P 08 44 44.5 +0.8**
baz=329
L56A Greenwood 88.77 29 P **P 08 44 44.4 +0.4**
baz=331
K58A Earlville 88.88 27 P **P 08 44 44.4 -0.1**
baz=333
N54A Moraine State 88.89 31 P **P 08 44 45.4 +0.8**
baz=330,SNR=7.0

N54A	Moraine State	88.89	31	P		P	08 44 44.6	0.0
O52A	Adamsville	88.90	32	P		P	08 44 45.2	+0.6
	baz=329							
M55A	Ridgway	88.92	30	P		P	08 44 45.4	+0.7
	baz=331,SNR=5.1							
M55A	Ridgway	88.92	30	P		P	08 44 45.1	+0.4
P51A	Williamsport	88.94	34	P		P	08 44 45.0	+0.2
	baz=328							
O53A	New Philadelph	89.03	32	P		P	08 44 45.6	+0.4
	baz=329							
O53A	New Philadelph	89.03	32	P		P	08 44 44.0	-1.2
M56A	Emporium	89.12	29	P		P	08 44 46.2	+0.6
	baz=331							
K59A	Cooperstown	89.14	27	P		P	08 44 45.8	+0.1
	baz=333							
P52A	Corning	89.19	33	P		P	08 44 46.2	+0.2
	baz=328							
Q51A	Peebles	89.21	34	P		P	08 44 46.3	+0.3
J61A	Chester	89.37	25	P		P	08 44 47.6	+0.9
	baz=335							
O54A	Avella	89.42	31	P		P	08 44 48.0	+1.0
	baz=330							
O54A	Avella	89.42	31	P		P	08 44 47.3	+0.3
N55A	Marion Center	89.43	30	P		P	08 44 48.0	+0.9
	baz=330,SNR=6.8							
L58A	Harry Jones Me	89.45	28	P		P	08 44 47.5	+0.4
	baz=332							
N56A	West Decatur	89.57	30	P		P	08 44 48.5	+0.7
	baz=331,SNR=7.8							
L59A	Walton	89.60	27	P		P	08 44 48.4	+0.5
	baz=333,SNR=5.2							
L59A	Walton	89.60	27	P		P	08 44 48.1	+0.3
P53A	Whipple	89.61	32	P		P	08 44 48.8	+0.9
	baz=329							
M57A	Sunshine Farm,	89.63	29	P		P	08 44 48.7	+0.7
	baz=332,SNR=7.2							
M57A	Sunshine Farm,	89.63	29	P		P	08 44 48.1	+0.2
WVT	Waverly	89.64	39	P		P	08 44 48.3	+0.2
WVT				pmax		pmax		
	comp=Z,3.0nm,0.7s							
WVT	Waverly	89.64	39	P		P	08 44 48.8	+0.7
	baz=325							
WVT	Waverly	89.64	39	P		P	08 44 48.3	+0.2
WVT				IAmb		IAmb	08 44 49.5	
	comp=Z,3.0nm,0.7s							
O55A	Ligonier	89.81	31	P		P	08 44 49.4	+0.6
	baz=330							
M58A	Price's Panora	89.83	28	P		P	08 44 49.5	+0.5
	baz=332,SNR=5.6							
P54A	Burton	89.88	32	P		P	08 44 50.2	+1.0
	baz=330							
KSPA	Keystone Colle	89.91	28	P		P	08 44 48.8	-0.5
KSPA				IAmb		IAmb	08 44 50.1	
	comp=Z,6.1nm,0.7s							
SSPA	Standing Stone	89.97	30	P		P	08 44 50.3	+0.7
	baz=331							
SSPA	Standing Stone	89.97	30	P		P	08 44 49.7	+0.2
SSPA				IAmb		IAmb	08 44 51.1	
	comp=Z,12nm,1.0s							
N57A	Milroy	89.98	29	P		P	08 44 50.4	+0.8
	baz=331,SNR=11							
O56A	Blue Knob Stat	90.03	30	P		P	08 44 50.9	+0.9
	baz=331,SNR=5.6							
O56A	Blue Knob Stat	90.03	30	P		P	08 44 49.8	-0.1
MCWV	Mont Chateau	90.08	31	P		P	08 44 51.3	+1.2
	baz=330							
Q53A	Leroy	90.10	33	P		P	08 44 51.2	+1.0
	baz=329							
N58A	Sunbury	90.21	29	P		P	08 44 51.4	+0.7
	baz=332,SNR=5.2							
N58A	Sunbury	90.21	29	P		P	08 44 50.6	0.0
P55A	Reedsville	90.21	31	P		P	08 44 51.7	+0.9
	baz=330							
T50A	Nancy	90.25	36	P		P	08 44 51.5	+0.6
U49A	Red Boiling Sp	90.26	37	P		P	08 44 51.4	+0.4
U49A				IAmb		IAmb	08 44 52.4	
	comp=Z,4.2nm,0.7s							
Q54A	Coxs Mills	90.27	32	P		P	08 44 52.0	+0.9
	baz=329							
N59A	State Game Lan	90.48	28	P		P	08 44 52.6	+0.6
	baz=333							
N59A	State Game Lan	90.48	28	P		P	08 44 52.3	+0.3
N59A				IAmb		IAmb	08 44 53.7	
	comp=Z,11nm,1.0s							
Q55A	Buckhannon	90.56	32	P		P	08 44 52.9	+0.5
	baz=330							
P56A	Dayton Farm, R	90.60	31	P		P	08 44 53.4	+0.8
	baz=331							
N60A	Cedar Hill Far	90.75	28	P		P	08 44 53.7	+0.5
	baz=333							
O58A	Lewisberry	90.77	29	P		P	08 44 53.7	+0.4
	baz=332							
S54A	Dingess, Beckl	91.09	33	P		P	08 44 55.4	+0.5
S54A				IAmb		IAmb	08 45 21.0	
	comp=Z,9.9nm,1.1s							
TZTN	Tazewell	91.21	35	P		P	08 44 56.0	+0.5
	baz=328							
TZTN	Tazewell	91.21	35	P		P	08 44 56.3	+0.8
TZTN				IAmb		IAmb	08 45 11.1	
	comp=Z,8.4nm,1.4s							
V52A	Sevierville	91.78	36	P		P	08 44 56.3	-1.8
V52A				IAmb		IAmb	08 45 14.5	
	comp=Z,9.8nm,1.4s							
TKL	Tuckaleechee C	91.86	36	P		P	08 44 56.7	-1.8
TKL				pmax		pmax		
	comp=Z,11nm,1.4s							
TKL	Tuckaleechee C	91.86	36	P		P	08 44 56.6	-1.8
TKL				IAmb		IAmb	08 45 13.4	
	comp=Z,10nm,1.4s							
T55A	Pulaski	91.89	33	P		P	08 44 58.9	+0.3
	baz=329							
Y49A	Blount Mountai	92.16	39	P		P	08 44 58.9	-1.0
Y49A				IAmb		IAmb	08 45 05.4	
	comp=Z,2.8nm,0.9s							
ESDC	Sonseca Array	93.19	335	P		P	08 45 04.4	-0.2
	comp=Z,1.2nm,0.7s,baz=8.6,slow=3.8,SNR=8.3							
ESDC	Sonseca Array	93.19	335	P		P	08 45 04.2	-0.4
DBIC	Dimbokro	123.14	320	PKP		PKPdf	08 50 46.7	-0.4
	comp=Z,1.9nm,0.6s,baz=356,slow=3.5,SNR=4.3							
BELA	Belgrano 2	144.00	181	PKPdf		PKPdf	08 51 23.3	-0.8
MNMC	Minye Minye	144.49	60	PKPdf		PKPdf	08 51 27.0	0.0
PB11	IPOC Station P	144.91	61	PKPbc		PKPab	08 51 26.3	-0.5
PB08	IPOC Station P	145.51	61			PKPdf	08 51 28.9	0.0
SNAA	Sanae	145.74	199	PKPdf		PKPbc	08 51 28.1	+0.3
PB07	IPOC Station P	146.15	63	PKPab		PKPab	08 51 31.2	-0.2
H03N2	Juan Fernandez	146.38	89	T		T	11 34 51.2	
	baz=300,slow=76,SNR=15							
H03N3	Juan Fernandez	146.40	89	T		T	11 34 49.4	
	baz=300,slow=76,SNR=18							
H03N1	Juan Fernandez	146.40	89	T		T	11 34 52.6	
	baz=300,slow=76,SNR=23							
PB09	IPOC Station P	146.62	63			PKPbc	08 51 32.5	+0.4
VNA2	Neumayer--Watz	147.32	198	PKPdf		PKPbc	08 51 32.8	+0.4
VNA3	Neumayer Olymp	147.58	196	PKPdf		PKPbc	08 51 33.4	+0.3
VNA1	Neumayer--Stat	147.72	198	PKPdf		PKPbc	08 51 34.0	+0.6
BDFB	Brasilia	152.20	22	PKPbc		PKiKP	08 51 47.1	+0.6
	comp=Z,3.6nm,0.6s,baz=51,slow=7.0,SNR=5.4							

*IDC **06** 08:37:44.6±0.8,26°.76S×114°.71W,h0km,mb4.5/10, mb1 4.8/10,mb1mx4.4/32,mbtmp4.5/10,Error ellipse: s-maj=29.0km s-min=21.3km az=35.0*
*MOS **06** 08:37:45.5±0.9,26°.51S×114°.39W,h10km,mb5.1/41, Error ellipse: s-maj=13.2km s-min=7.9km az=89.3*
*NEIC **06** 08:37:46.0±0.9,26°.8S±0°.1×114°.5W±0°.1,h10km±1km, mb5.1/242,Error ellipse: s-maj=19.7km s-min=17.3km az=199.0*
*UNK **06** 08:37:46.0,26°.77S×114°.50W,h10km*
*BJI **06** 08:37:48.0±0.0,26°.80S×114°.60W,h10km,mB5.5/6, Ms5.4/2,Ms7 5.1/1*

ISC 06 08:37:45.7±0.4,26°.79S±0°.08×114°.56W±0°.08,h10km, n596,σ0°.72/586,mb5.1/138,5C,Easter Island region

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res
RPN	Rapa Nui	4.68	95	P		Pn 08 38 56.0	-0.4
RPN	Rapa Nui	4.68	95	Pn		Pn 08 38 56.0	-0.4
H03N2	Juan Fernandez	31.42	111	T		T 09 18 03.6	
	baz=277,slow=74,SNR=13						
H03N3	Juan Fernandez	31.43	111	T		T 09 18 01.1	
	baz=277,slow=74,SNR=15						
H03N1	Juan Fernandez	31.43	111	T		T 09 18 01.4	
	baz=277,slow=74,SNR=16						
LL01	San Ignacio de	37.62	125	P		P 08 45 00.5	-0.2
CO02	Combarbal	38.17	107	P		P 08 45 04.5	-1.2
CO02					IAmb	IAmb 08 45 23.6	
	comp=Z,41nm,1.4s						
LCO	Las Campanas	38.66	104	P		P 08 45 10.2	+0.2
LCO				pmax		pmax	
	comp=Z,28nm,1.1s						
LCO	Las Campanas	38.66	104	P		P 08 45 10.2	+0.2
PLCA	Paso Flores	38.74	122	P		P 08 45 11.7	+1.4
	comp=Z,20nm,1.0s,baz=279,slow=9.8,SNR=19						
PLCA	Paso Flores	38.74	122	P		P 08 45 10.7	+0.4
PLCA				IAmb		IAmb 08 45 12.9	
	comp=Z,46nm,1.2s						
PLCA	Paso Flores	38.74	122	eP		P 08 45 11.5	+1.2
AC05	El Transito	39.06	104	P		P 08 45 13.3	+0.1
AC05				IAmb		IAmb 08 45 15.7	
	comp=Z,69nm,1.4s						
CO01	Juntas del Tor	39.07	105	P		P 08 45 12.9	-0.5
ATAH	Atahualpa	39.52	67	P		P 08 45 19.6	+2.2
	comp=Z,10.0nm,0.8s,baz=246,slow=11,SNR=5.0						
PB14	IPOC Station P	39.70	97	P		P 08 45 19.7	+0.9
PB14				IAmb		IAmb 08 45 20.6	
	comp=Z,51nm,1.3s						
ZON	Zonda	40.12	108	P		P 08 45 22.4	+0.5
ZON				pmax		pmax	
	comp=Z,22nm,1.3s						
ZON	Zonda	40.12	108	P		P 08 45 22.4	+0.5
GO09	Cerro Castillo	40.13	139	P		P 08 45 21.0	-0.6
PB08	IPOC Station P	42.01	91	P		P 08 45 36.7	-1.2
OTAV	Otavalo	43.92	58	eP		P 08 45 53.5	0.0
OTAV	Otavalo	43.92	58	P		P 08 45 53.6	0.0
OTAV				pmax		pmax	
	comp=Z,11nm,1.0s						
OTAV	Otavalo	43.92	58	P		P 08 45 53.5	0.0
OTAV	Otavalo	43.92	58	eP		P 08 45 54.6	+1.0
CZSB	Cruzeiro do Su	43.97	72	eP		P 08 45 53.3	-0.1
LPAZ	La Paz	44.22	86	P		P 08 45 56.8	+0.7
	comp=Z,4.3nm,1.0s,baz=249,slow=5.6,SNR=11						
LPAZ	La Paz	44.22	86	eP		P 08 45 55.1	-1.1
LPAZ	La Paz	44.22	86	eP		P 08 45 56.5	+0.3
LPAZ				pmax		pmax	
	comp=Z,4.0nm,1.0s						
LPAZ	La Paz	44.22	86	P		P 08 45 55.9	-0.2
LPAZ	La Paz	44.22	86	eP		P 08 45 57.2	+1.1
GCUF	Volcan Galeras	45.40	58	eP		P 08 46 07.0	+1.6
PUAC	Puerto Asis, P	45.56	60	eP		P 08 46 06.3	+0.2
PTLC	Puerto Leguiza	46.70	62	eP		P 08 46 12.1	-3.0
TLIG	Tlapa	46.74	21	P		P 08 46 15.6	+0.2
TLIG				IAmb		IAmb 08 46 17.9	
	comp=Z,18nm,1.0s						
JTS	Las Juntas de	46.74	42	P		P 08 46 15.0	-0.4
JTS				pmax		pmax	
	comp=Z,22nm,1.2s						
JTS	Las Juntas de	46.74	42	P		P 08 46 15.0	-0.4
JTS				IAmb		IAmb 08 46 17.8	
	comp=Z,22nm,1.1s						
FLOC	Florencia	46.92	59	eP		P 08 46 17.3	+0.5
GARC	Garzon, Huila	47.43	59	eP		P 08 46 21.6	+0.6
HUEH	Huehuetenango	47.48	31	P		P 08 46 22.4	+1.2
YOTC	Yotoco, Valle	47.96	56	eP		P 08 46 23.0	-2.0
MOIG	Morelia	47.98	17	P		P 08 46 25.0	-0.1
MOIG				IAmb		IAmb 08 46 39.5	
	comp=Z,22nm,1.0s						
CCIG	Comitan	48.04	30	P		P 08 46 26.8	+1.3
EFI	East Falkland	48.85	136	i P		P 08 46 32.5	+1.2
EFI				pmax		pmax	
	comp=Z,18nm,1.3s						
PRAC	Prado	48.87	58	eP		P 08 46 31.8	-0.2
TOLC	Tolima	49.12	57	eP		P 08 46 34.0	-0.1
CBOC	Ciudad Bolivar	49.46	55	eP		P 08 46 36.1	-0.5
GUY2C	Guyana, Caldas	49.51	56	eP		P 08 46 37.8	+0.5
PETF	Flores	49.62	32	P		P 08 46 37.6	+0.1
ROSC	El Rosal	50.03	57	P		P 08 46 43.0	+1.8
	comp=Z,4.5nm,0.5s,baz=254,slow=5.6,SNR=7.9						
ROSC	El Rosal	50.03	57	P		P 08 46 42.7	+1.5
ROSC				IAmb		IAmb 08 46 44.2	
	comp=Z,35nm,1.4s						
SPBC	San Pablo de B	50.75	57	eP		P 08 46 46.6	+0.3
PTBC	PUERTO BERRIO,	51.05	55	eP		P 08 46 48.2	-0.3
ZARC	Zaragoza, Cauc	51.40	54	eP		P 08 46 50.9	-0.2
RUSC	La Rusia	51.65	57	eP		P 08 46 52.4	-1.1
BARC	Barichara	52.03	56	eP		P 08 46 55.8	-0.3
SJCC	San Jacinto, C	52.83	52	eP		P 08 47 00.8	-1.0
SMLC	San Martn de	52.86	54	eP		P 08 46 58.8	-3.1
AQDB	Aquidauana	53.90	97	eP		P 08 47 09.8	+0.3
SDV	Santo Domingo	55.43	56	P		P 08 47 20.2	-0.8
SDV				IAmb		IAmb 08 47 21.2	
	comp=Z,16nm,0.8s						
SDV	Santo Domingo	55.43	56	eP		P 08 47 20.8	-0.2
833A	Chaparral WMA,	56.70	16	P		P 08 47 30.0	+0.5
	baz=196						
833A	Chaparral WMA,	56.70	16	P		P 08 47 30.1	+0.6
833A				IAmb		IAmb 08 47 31.1	
	comp=Z,20nm,1.0s						
TX32	Lajitas Array	56.77	11	P		P 08 47 30.4	+0.3
TXAR	Lajitas Array	56.77	11	P		P 08 47 30.9	+0.9
	comp=Z,3.0nm,1.0s,baz=194,slow=9.9,SNR=16						
TXAR	Lajitas Array	56.77	11	P		P 08 47 31.0	+0.9
TXAR	Lajitas Array	56.77	11	P		P 08 47 30.8	+0.6
TX31	Lajitas Ar. Si	56.77	11	P		P 08 47 30.7	+0.6
TX31				IAmb		IAmb 08 47 31.9	
	comp=Z,20nm,1.1s						
735A	Kenedy	57.62	17	P		P 08 47 36.1	+0.2
319A	Douglas	58.06	5	P		P 08 47 38.7	-0.5
319A				IAmb		IAmb 08 47 41.5	
	comp=Z,28nm,1.1s						
PTGA	Pitinga	58.43	73	P		P 08 47 41.5	-0.6
214A	Organ Pipe Nat	58.44	2	P		P 08 47 43.1	+1.4
	baz=182,SNR=7.7						
214A	Organ Pipe Nat	58.44	2	P		P 08 47 42.3	+0.6
214A				IAmb		IAmb 08 47 44.0	
	comp=Z,23nm,1.2s						
JCT	Junction City	58.67	15	P		P 08 47 43.5	+0.1
JCT				pmax		pmax	
	comp=Z,42nm,0.9s						
JCT	Junction City	58.67	15	P		P 08 47 44.0	+0.7
	baz=195,SNR=25						
JCT	Junction City	58.67	15	P		P 08 47 43.5	+0.1
MNTX	Cornudas Mount	58.82	9	P		P 08 47 44.5	+0.1
	baz=190,SNR=16						
MNTX	Cornudas Mount	58.82	9	P		P 08 47 44.8	+0.5
TUC	Tucson	58.88	4	P		P 08 47 46.0	+1.2
TUC				pmax		pmax	
	comp=Z,12nm,1.0s						
TUC	Tucson	58.88	4	P		P 08 47 45.9	+1.0
	baz=184						
TUC	Tucson	58.88	4	P		P 08 47 46.0	+1.2
TKX	Tecate	59.06	358	P		P 08 47 45.4	-0.6
TKX				IAmb		IAmb 08 47 47.1	
	comp=Z,24nm,1.2s						
RMX	La Rumorosa	59.08	359	P		P 08 47 46.1	-0.2
RMX				IAmb		IAmb 08 47 48.2	
	comp=Z,22nm,1.2s						
IKP	In-Ko-Pah, Jac	59.13	358	P		P 08 47 47.7	+1.1
	baz=178						
BAR	Barrett	59.17	358	P		P 08 47 46.6	-0.2
BAR				IAmb		IAmb 08 47 49.0	
	comp=Z,20nm,1.2s						
HKT	Hockley	59.20	19	P		P 08 47 47.4	+0.5
HKT				pmax		pmax	
	comp=Z,20nm,1.2s						
HKT	Hockley	59.20	19	P		P 08 47 47.4	+0.5
HKT				IAmb		IAmb 08 47 50.4	
	comp=Z,20nm,1.1s						
113A	Mohawk Valley,	59.23	1	P		P 08 47 46.8	-0.3
113A				IAmb		IAmb 08 47 49.4	
	comp=Z,24nm,1.2s						
121A	Cookes Peak, D	59.34	7	P		P 08 47 49.5	+1.4
	baz=187,SNR=9.2						
121A	Cookes Peak, D	59.34	7	P		P 08 47 47.6	-0.5
MONP2	Monument Peak	59.38	358	P		P 08 47 49.8	+1.4
	baz=178						
435B	Jarrell	59.50	17	P		P 08 47 50.2	+1.1
	baz=198,SNR=5.1						
435B	Jarrell	59.50	17	P		P 08 47 48.3	-0.8
GLA	Glamis	59.51	360	P		P 08 47 49.7	+0.5
GLA				pmax		pmax	
	comp=Z,27nm,1.5s						
GLA	Glamis	59.51	360	P		P 08 47 49.7	+0.5
GLA				IAmb		IAmb 08 47 51.4	
	comp=Z,27nm,1.5s						
KNTN	Kanton	59.62	283	P		P 08 47 50.8	+0.5
TPFO	Pinon Flats	60.09	358	P		P 08 47 53.7	+0.5
	baz=178						
PFO	Pinyon Flats O	60.10	358	P		P 08 47 52.5	-0.8
PFO				pmax		pmax	
	comp=Z,10.0nm,1.2s						
PFO	Pinyon Flats O	60.10	358	P		P 08 47 54.1	+0.8
	baz=178						
PFO	Pinyon Flats O	60.10	358	P		P 08 47 52.5	-0.8
BC3	Big Chuckawall	60.12	359	P		P 08 47 54.6	+1.2
	baz=179,SNR=6.9						
ITTB	Itaituba	60.31	79	eP		P 08 47 53.6	-1.5
BELC	Belle Mtn. Jos	60.47	359	P		P 08 47 57.2	+1.3
	baz=178,SNR=9.2						
IRM	Iron Mountain	60.62	359	P		P 08 47 58.1	+1.4
	baz=179,SNR=11						
WHTX	Lake Whitney,	60.69	17	P		P 08 47 56.9	-0.3
	baz=197,SNR=6.8						
WHTX	Lake Whitney,	60.69	17	P		P 08 47 56.9	-0.3
WHTX				IAmb		IAmb 08 47 58.3	
	comp=Z,24nm,1.2s						
PDMCI	Parker Dam,Lak	60.76	0	P		P 08 47 59.1	+1.4
	baz=180,SNR=7.6						
BFSC	Mount Baldy Ra	60.77	357	P		P 08 47 59.3	+1.4
	baz=177						
ABTX	Abilene, Hawle	60.77	14	P		P 08 47 57.8	0.0
	baz=195,SNR=16						
ABTX	Abilene, Hawle	60.77	14	P		P 08 47 58.0	+0.2
Y22D	IRIS PASSCAL I	60.96	7	P		P 08 48 01.1	+1.9
	baz=188						
Y22D	IRIS PASSCAL I	60.96	7	P		P 08 47 58.7	-0.5
LENM	Lemitar	61.05	7	P		P 08 47 59.6	-0.2
BNM	Barren Site	61.07	8	P		P 08 47 60.0	-0.1
237A	Washetta, Mont	61.14	18	P		P 08 47 60.0	-0.3
NEE2	Needles Airpor	61.22	360	P		P 08 48 02.3	+1.5
	baz=180						
NATX	Nacogdoches	61.24	19	P		P 08 48 01.9	+1.0
	baz=200,SNR=5.6						
NATX	Nacogdoches	61.24	19	P		P 08 48 01.4	+0.4
GMRC	Granite Mounta	61.25	359	P		P 08 48 02.7	+1.6
	baz=179,SNR=6.8						
EDW2	Edwards Air Fo	61.42	357	P		P 08 48 02.9	+0.7
	baz=176,SNR=5.3						
MSTX	Muleshoe	61.45	11	P		P 08 48 02.4	-0.2
	baz=192,SNR=14						
MSTX	Muleshoe	61.45	11	P		P 08 48 02.3	-0.2
W13A	Hualapai Mount	61.56	1	P		P 08 48 03.9	+0.6
W13A				IAmb		IAmb 08 48 05.8	
	comp=Z,16nm,1.2s						
GSC	Goldstone, Bar	61.79	358	P		P 08 48 04.5	-0.2
GSC				pmax		pmax	
	comp=Z,18nm,1.2s						
GSC	Goldstone, Bar	61.79	358	P		P 08 48 06.1	+1.3
	baz=178,SNR=9.5						
GSC	Goldstone, Bar	61.79	358	P		P 08 48 04.5	-0.2
GSC				IAmb		IAmb 08 48 07.0	
	comp=Z,18nm,1.2s						
ANMO	Albuquerque	61.88	8	i P		P 08 48 06.0	+0.6
ANMO				pmax		pmax	
	comp=Z,9.0nm,1.2s						
ANMO	Albuquerque	61.88	8	P		P 08 48 06.2	+0.8
	baz=188						
ANMO	Albuquerque	61.88	8	P		P 08 48 05.6	+0.2
BELA	Belgrano 2	61.89	166	P		P 08 48 05.2	+0.4
TUQ	Turquoise Moun	61.90	359	P		P 08 48 07.5	+1.9
	baz=179						
LRMC	Laurel Mtn Rad	62.00	357	P		P 08 48 07.2	+1.0
	baz=177						
Z35A	Perchaven, San	62.01	16	P		P 08 48 05.4	-0.7
Z35A				IAmb		IAmb 08 48 07.0	
	comp=Z,16nm,0.9s						
WUAZ	Wupatki	62.04	3	P		P 08 48 08.0	+1.5
	baz=183,SNR=8.6						
WUAZ	Wupatki	62.04	3	P		P 08 48 06.7	+0.2
WUAZ				IAmb		IAmb 08 48 08.9	
	comp=Z,22nm,1.2s						
344A	Westbrook Farm	62.22	23	P		P 08 48 07.6	0.0
ISA	Isabella, Lake	62.23	356	P		P 08 48 07.9	+0.3
ISA				pmax		pmax	
	comp=Z,5.0nm,1.1s						
ISA	Isabella, Lake	62.23	356	P		P 08 48 08.8	+1.2
	baz=176						
ISA	Isabella, Lake	62.23	356	P		P 08 48 07.9	+0.3
SHOC	Shoshone, Teco	62.37	358	P		P 08 48 10.0	+1.5
	baz=178,SNR=10.0						
MSVF	Nonsavu	62.40	263	i P		P 08 48 11.0	+1.7
MSVF				pmax		pmax	
	comp=Z,24nm,1.3s						
VES	Vestal, Richgr	62.44	356	P		P 08 48 09.9	+1.0
	baz=175,SNR=5.6						
AMTX	Amarillo	62.54	12	P		P 08 48 10.0	+0.3
	baz=193						
AMTX	Amarillo	62.54	12	P		P 08 48 09.4	-0.4
MPMC	Manual Prospec	62.57	357	P		P 08 48 11.2	+1.2
	baz=177,SNR=11						
MALB	Monte Alegre	62.80	77	eP		P 08 48 12.0	+0.1
U15A	North Rim	62.91	2	P		P 08 48 12.9	+0.4
U15A				IAmb		IAmb 08 48 14.9	
	comp=Z,19nm,1.1s						
FURC	Furnace Creek,	62.95	358	P		P 08 48 13.8	+1.5
	baz=178						
CWC	Cottonwood Cre	62.98	357	P		P 08 48 14.0	+1.3
	baz=176						
Z41A	Richland Creek	63.20	20	P		P 08 48 15.3	+1.3
	baz=202						
Z41A	Richland Creek	63.20	20	P		P 08 48 14.2	+0.2
BRAL	Brewton	63.34	26	P		P 08 48 15.8	+0.8
	baz=207						
TPNV	Topopah Spring	63.42	358	P		P 08 48 15.2	-0.4
TPNV				pmax		pmax	
	comp=Z,24nm,1.4s						
TPNV	Topopah Spring	63.42	358	P		P 08 48 17.3	+1.7
	baz=178,SNR=14						
TPNV	Topopah Spring	63.42	358	P		P 08 48 15.2	-0.4
TPNV				IAmb		IAmb 08 48 18.4	
	comp=Z,24nm,1.4s						
LCMT	Little Creek M	63.47	1	P		P 08 48 16.4	+0.5
KNB	Kanab	63.49	2	P		P 08 48 16.5	+0.4
KNB				pmax		pmax	
	comp=Z,19nm,1.3s						
KNB	Kanab	63.49	2	P		P 08 48 16.5	+0.4
GRAC	Grapevine Rang	63.50	357	P		P 08 48 17.1	+1.0
	baz=177						
WLAR	White Oak Lake	63.50	20	P		P 08 48 16.0	-0.1
PRN	Pahroc Range	63.86	360	P		P 08 48 18.3	-0.2
PRN				IAmb		IAmb 08 48 21.4	
	comp=Z,25nm,1.3s						
MVCO	Mesa Verde	63.91	5	P		P 08 48 19.7	+0.7
	baz=186,SNR=14						
MVCO	Mesa Verde	63.91	5	P		P 08 48 19.1	0.0
PKCU	Pink Cliffs	63.93	2	P		P 08 48 19.0	-0.2
CCUT	Cedar City	64.01	1	P		P 08 48 20.5	+0.

SDCO	Great Sand Dun	64.75	8	P	P	08 48 24.9	+0.3
	baz=189,SNR=23						
SDCO	Great Sand Dun	64.75	8	P	P	08 48 24.0	-0.6
SDCO				IAmb	IAmb	08 48 26.1	
	comp=Z,12nm,1.1s						
Z47A	Carrollton	64.76	24	P	P	08 48 24.9	+0.6
R11A	Troy Canyon, C	64.80	359	P	P	08 48 26.3	+1.6
	baz=179,SNR=18						
R11A	Troy Canyon, C	64.80	359	P	P	08 48 25.7	+0.9
R11A				IAmb	IAmb	08 48 27.5	
	comp=Z,19nm,1.3s						
PV01	Paradox Valley	64.83	5	P	P	08 48 25.3	+0.3
PV13	Radium Mtn., P	64.83	5	P	P	08 48 25.1	+0.1
TUL1	Leonard	64.83	17	P	P	08 48 23.6	-1.2
	baz=198						
TUL1	Leonard	64.83	17	P	P	08 48 24.6	-0.2
TUL1				IAmb	IAmb	08 48 26.3	
	comp=Z,18nm,1.2s						
CROK	Carrier	64.87	15	P	P	08 48 25.1	+0.1
PV02	Paradox Valley	64.89	5	P	P	08 48 25.6	+0.2
PV02				IAmb	IAmb	08 48 27.6	
	comp=Z,15nm,1.2s						
PV18	Skein Mesa, Pa	64.91	5	P	P	08 48 25.9	+0.4
PV03	Paradox Valley	64.92	5	P	P	08 48 25.7	+0.1
PV17	East Wray Mesa	64.94	5	P	P	08 48 25.5	-0.2
PV17				IAmb	IAmb	08 48 26.4	
	comp=Z,12nm,1.1s						
PV11	David Mesa, Pa	64.97	5	P	P	08 48 26.3	+0.4
PV11				IAmb	IAmb	08 48 28.0	
	comp=Z,23nm,1.4s						
NV11	Mina Array Sit	64.97	357	P	P	08 48 26.4	+0.6
NV11				IAmb	IAmb	08 48 28.2	
	comp=Z,24nm,1.3s						
PV19	Morning Glory	64.97	5	P	P	08 48 26.0	+0.1
PV19				IAmb	IAmb	08 48 28.1	
	comp=Z,15nm,1.2s						
NVAR	Mina Array Bea	64.97	357	P	P	08 48 27.2	+1.3
	comp=Z,6.7nm,1.0s,baz=182,slow=8.6,SNR=43						
NVAR	Mina Array Bea	64.97	357	P	P	08 48 27.3	+1.4
PSUT	Pine Spring	64.98	1	P	P	08 48 26.6	+0.7
PV12	Saucer Basin,	64.99	5	P	P	08 48 26.3	+0.3
PV12				IAmb	IAmb	08 48 27.6	
	comp=Z,25nm,1.3s						
MSU	Marysvale	65.00	2	P	P	08 48 26.2	+0.1
MSU	Marysvale	65.00	2	P	P	08 48 26.2	+0.1
PV20	West Nyswonger	65.00	5	P	P	08 48 26.5	+0.4
PV20				IAmb	IAmb	08 48 28.3	
	comp=Z,19nm,1.3s						
LRAL	Lakeview Retre	65.01	25	P	P	08 48 26.1	+0.2
	baz=207,SNR=6.5						
LRAL	Lakeview Retre	65.01	25	P	P	08 48 25.8	-0.2
LRAL				IAmb	IAmb	08 48 27.2	
	comp=Z,21nm,1.4s						
PV14	Lion Creek, Pa	65.03	5	P	P	08 48 26.5	+0.2
PV10	Paradox Valley	65.03	5	P	P	08 48 26.7	+0.3
PV10				IAmb	IAmb	08 48 32.8	
	comp=Z,12nm,1.0s						
PV15	Paradox Valley	65.04	5	P	P	08 48 26.6	+0.2
PV15				IAmb	IAmb	08 48 27.9	
	comp=Z,20nm,1.0s						
PV04	Paradox Valley	65.06	5	P	P	08 48 26.7	+0.3
PV23	Carpenter Ridg	65.11	5	P	P	08 48 27.5	+0.6
WAKR	Walker	65.11	356	P	P	08 48 26.5	-0.3
W41B	Gary Mavity, V	65.14	20	P	P	08 48 26.7	-0.1
	baz=202,SNR=12						
W41B	Gary Mavity, V	65.14	20	P	P	08 48 26.7	-0.1
RYN	Ryan	65.18	357	P	P	08 48 27.9	+0.7
PV22	Blue Mesa, Par	65.21	5	P	P	08 48 28.0	+0.6
PV22				IAmb	IAmb	08 48 29.9	
	comp=Z,16nm,1.0s						
WHAR	Wooly Hollow	65.24	20	P	P	08 48 27.5	+0.1
WHAR				IAmb	IAmb	08 48 28.5	
	comp=Z,14nm,1.1s						
MCPB	Macapa, AP	65.45	77	eP	P	08 48 29.3	0.0
OXF	Oxford	65.46	23	P	P	08 48 28.6	-0.3
	baz=204						
SMTB	Santa Maria do	65.53	88	eP	P	08 48 30.4	+0.5
YERR	Yerington	65.58	356	P	P	08 48 29.5	-0.3
YERR				IAmb	IAmb	08 48 32.2	
	comp=Z,27nm,1.4s						
KVN	Kaiserville	65.58	357	P	P	08 48 30.5	+0.7
KVN				pmax	pmax		
	comp=Z,24nm,1.4s						
KVN	Kaiserville	65.58	357	P	P	08 48 30.5	+0.7
KVN				IAmb	IAmb	08 48 32.1	
	comp=Z,24nm,1.4s						
T35A	Sooner Cattle	65.61	16	P	P	08 48 29.9	+0.1
T35A				IAmb	IAmb	08 48 30.9	
	comp=Z,12nm,0.9s						
SRU	San Rafael Swe	65.67	3	P	P	08 48 30.5	+0.1
SRU				pmax	pmax		
	comp=Z,21nm,1.0s						
SRU	San Rafael Swe	65.67	3	P	P	08 48 30.5	+0.1
AFDM	Forest Hills D	65.67	355	P	P	08 48 29.8	-0.4
AFDM				IAmb	IAmb	08 48 32.2	
	comp=Z,15nm,1.3s						
HHAR	Hobbs	65.68	18	P	P	08 48 30.4	+0.1
HHAR				IAmb	IAmb	08 48 31.0	
	comp=Z,17nm,1.4s						
PNTR	Pine Nut	65.70	356	P	P	08 48 30.6	-0.1
TMUT	Trail Mountain	65.82	3	P	P	08 48 31.5	+0.1
VCNR	Virginia City	65.91	356	P	P	08 48 31.4	-0.6
Q24A	Divide	66.00	8	P	P	08 48 33.0	+0.3
	baz=189						
P17A	Butcher Ranch,	66.02	3	P	P	08 48 32.9	+0.4
U40A	Yellville	66.06	19	P	P	08 48 32.6	-0.1
	baz=201,SNR=7.2						
W45A	Hickory Valley	66.12	23	P	P	08 48 32.6	-0.5
PAHR	Pah Rah Range	66.31	356	P	P	08 48 34.5	+0.1
ORV	Oroville	66.32	354	P	P	08 48 34.5	+0.2
ORV				pmax	pmax		
	comp=Z,11nm,1.5s						
ORV	Oroville	66.32	354	P	P	08 48 34.5	+0.2
PLAL	Pickwick Lake	66.35	24	P	P	08 48 34.0	-0.7
KSCO	Kaye Shedlock'	66.40	10	P	P	08 48 35.4	+0.4
	baz=192,SNR=7.7						
KSCO	Kaye Shedlock'	66.40	10	P	P	08 48 34.8	-0.2
R32A	Long Quarter,	66.55	14	P	P	08 48 36.0	+0.1
R32A				IAmb	IAmb	08 48 36.7	
	comp=Z,9.9nm,0.8s						
GNAR	Gosnell	66.58	22	P	P	08 48 35.8	-0.2
DUG	Dugway, Tooele	66.66	1	P	P	08 48 37.1	+0.4
DUG				pmax	pmax		
	comp=Z,26nm,1.3s						
DUG	Dugway, Tooele	66.66	1	P	P	08 48 37.8	+1.1
	baz=182,SNR=20						
DUG	Dugway, Tooele	66.66	1	P	P	08 48 37.1	+0.4
CBKS	Cedar Bluff	66.72	13	P	P	08 48 36.9	0.0
	baz=194						
GOGA	Godfrey	66.76	28	P	P	08 48 36.9	-0.4
	baz=210						
ISCO	Idaho Springs	66.77	7	P	P	08 48 37.3	-0.3
ISCO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ISCO	Idaho Springs	66.77	7	P	P	08 48 38.2	+0.7
	baz=189,SNR=7.8						
ISCO	Idaho Springs	66.77	7	P	P	08 48 37.3	-0.3
O20A	White River Ci	66.84	5	P	P	08 48 39.1	+1.2
	baz=186,SNR=7.1						
O20A	White River Ci	66.84	5	P	P	08 48 38.4	+0.5
O20A				IAmb	IAmb	08 48 39.4	
	comp=Z,15nm,1.1s						
O02D	Mt. Diablo Mer	67.06	353	P	P	08 48 40.8	+1.6
	baz=172,SNR=5.2						
O03E	Paynes Creek	67.08	354	P	P	08 48 39.7	+0.4
	baz=173						
JLU	Jordanelle	67.11	3	P	P	08 48 39.9	+0.3
S39A	Bolivar	67.17	18	P	P	08 48 39.8	0.0
S39A				IAmb	IAmb	08 48 40.7	
	comp=Z,15nm,1.2s						
RDMU	Red Mountain	67.18	4	P	P	08 48 40.1	0.0
KMRM	Mail Ridge	67.21	352	P	P	08 48 39.7	-0.4
T42A	Van Buren	67.21	20	P	P	08 48 39.6	-0.4
T42A				IAmb	IAmb	08 48 40.6	
	comp=Z,14nm,1.2s						
SWET	Sewanee	67.35	25	P	P	08 48 40.6	-0.5
SWET				IAmb	IAmb	08 48 41.4	
	comp=Z,18nm,1.2s						
BGU	Big Grassy Mou	67.39	1	P	P	08 48 41.8	+0.5
WDC	Whiskeytown Da	67.43	353	P	P	08 48 41.8	+0.4
WDC				pmax	pmax		
	comp=Z,16nm,1.1s						
WDC	Whiskeytown Da	67.43	353	P	P	08 48 41.8	+0.4
WDC				IAmb	IAmb	08 48 42.9	
	comp=Z,16nm,1.1s						
WVT	Waverly	67.47	23	P	P	08 48 40.8	-0.9
WVT				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WVT	Waverly	67.47	23	P	P	08 48 40.8	-0.9
	baz=206						
WVT	Waverly	67.47	23	P	P	08 48 40.8	-0.9
TCUT	Toone Canyon	67.62	3	P	P	08 48 42.9	0.0
KSU1	Kansas State U	67.66	15	P	P	08 48 43.6	+0.8
	baz=197						
SPUT	South Promonto	67.78	2	P	P	08 48 44.2	+0.4
N23A	Red Feather La	67.81	7	P	P	08 48 44.7	+0.6
	baz=188,SNR=8.4						
N23A	Red Feather La	67.81	7	P	P	08 48 44.5	+0.4
N23A				IAmb	IAmb	08 48 45.7	
	comp=Z,14nm,1.1s						
N02D	Trinity Center	67.84	353	P	P	08 48 45.4	+1.4
	baz=172,SNR=5.7						
KHMM	Horse Mountain	67.86	353	P	P	08 48 44.3	+0.1
Y55A	Saluda	67.90	29	P	P	08 48 44.6	+0.2
	baz=211,SNR=5.0						
R40A	Maddies Statio	68.03	19	P	P	08 48 44.9	-0.3
R40A				IAmb	IAmb	08 48 45.9	
	comp=Z,15nm,1.1s						
CPCT	Cooper Cave	68.10	26	P	P	08 48 45.0	-0.7
HWUT	Hardware Ranch	68.11	2	P	P	08 48 45.7	-0.2
CCM	Cathedral Cave	68.11	20	P	P	08 48 44.8	-0.9
CCM				pmax	pmax		
	comp=Z,11nm,1.1s						
CCM	Cathedral Cave	68.11	20	P	P	08 48 45.9	+0.2
	baz=202						
CCM	Cathedral Cave	68.11	20	P	P	08 48 44.8	-0.9
M02C	Callahan	68.27	353	P	P	08 48 48.2	+1.4
	baz=172						
PHWY	Pilot Hill	68.27	7	P	P	08 48 46.9	-0.1
BG3	Lake Jocassee	68.35	28	P	P	08 48 46.7	-0.6
S44A	Carbondale	68.40	21	P	P	08 48 47.4	-0.2
S44A				IAmb	IAmb	08 48 48.5	
	comp=Z,16nm,1.0s						
X55A	Gracelyn & Ava	68.45	29	P	P	08 48 47.7	-0.2
	baz=211						
T47A	Sharon Grove	68.50	23	P	P	08 48 47.4	-0.8
MOD	Modoc Plateau	68.55	355	P	P	08 48 49.2	+0.7
MOD				IAmb	IAmb	08 48 50.6	
	comp=Z,20nm,1.2s						
M04C	Macdoel	68.56	354	P	P	08 48 49.8	+1.2
	baz=173,SNR=6.8						
W54A	Cherokee Point	68.74	28	P	P	08 48 49.5	-0.2
	baz=211						
P38A	Dawn	68.92	17	P	P	08 48 50.2	-0.5
P38A				IAmb	IAmb	08 48 51.6	
	comp=Z,17nm,0.9s						
WVOR	Wild Horse Val	68.98	357	P	P	08 48 51.7	+0.5
WVOR				pmax	pmax		
	comp=Z,19nm,1.2s						
WVOR	Wild Horse Val	68.98	357	P	P	08 48 51.7	+0.5
WVOR				IAmb	IAmb	08 48 53.6	
	comp=Z,19nm,1.1s						
L04D	Klamath Falls	69.03	354	P	P	08 48 52.0	+0.4
	baz=173						
N33A	J Bar K, Exete	69.04	14	P	P	08 48 51.8	+0.3
KMSC	Kings Mountain	69.15	29	P	P	08 48 52.1	-0.1
	baz=211						
KMSC	Kings Mountain	69.15	29	P	P	08 48 51.8	-0.4
KMSC				IAmb	IAmb	08 48 53.0	
	comp=Z,20nm,1.4s						
AHID	Auburn Hatcher	69.28	3	P	P	08 48 52.4	-0.8
AHID				IAmb	IAmb	08 48 53.7	
	comp=Z,11nm,1.1s						
T50A	Nancy	69.36	25	P	P	08 48 52.3	-1.2
BW06	Boulder Array	69.36	4	P	P	08 48 53.4	-0.4
	baz=185,SNR=17						
BW06	Boulder Array	69.36	4	P	P	08 48 53.2	-0.5
BW06				IAmb	IAmb	08 48 54.9	
	comp=Z,13nm,1.1s						
PD31	Pinedale Array	69.36	4	P	P	08 48 52.6	-1.1
PD31				IAmb	IAmb	08 48 54.9	
	comp=Z,13nm,1.2s						
PDAR	Pinedale Array	69.36	4	P	P	08 48 53.1	-0.6
	comp=Z,6.4nm,1.0s,baz=172,slow=4.5,SNR=34						
PDAR	Pinedale Array	69.36	4	P	P	08 48 53.0	-0.7
K05A	Summer Lake	69.42	355	P	P	08 48 54.2	+0.3
V54A	Nebo	69.43	28	P	P	08 48 53.7	-0.4
	baz=211,SNR=5.3						
TZTN	Tazewell	69.44	26	P	P	08 48 53.7	-0.3
	baz=209						
W56A	Indian Trail	69.47	29	P	P	08 48 53.7	-0.6
	baz=212						
HUMO	Hull Mountain	69.48	353	P	P	08 48 54.0	-0.2
HUMO				IAmb	IAmb	08 48 56.2	
	comp=Z,15nm,1.1s						
K22A	Casper	69.49	6	P	P	08 48 54.4	0.0
	baz=188,SNR=14						
K22A	Casper	69.49	6	P	P	08 48 53.8	-0.6
VNA3	Neumayer Olymp	69.52	161	P	P	08 48 53.9	-0.3
BGNE	Belgrade	69.54	13	P	P	08 48 55.1	+0.6
	baz=196						
BGNE	Belgrade	69.54	13	P	P	08 48 54.6	+0.1
X58A	Rowland	69.54	31	P	P	08 48 54.4	-0.2
	baz=213						
ECR	Eagle Creek	69.56	2	P	P	08 48 55.1	+0.2
N35A	Tabor	69.56	15	P	P	08 48 54.3	-0.4
Q44A	Meyer Farm, Va	69.58	21	P	P	08 48 54.8	0.0
K02D	Willamette Mer	69.65	353	P	P	08 48 56.1	+0.8
	baz=171						
W57A	Gilead	69.75	30	P	P	08 48 55.2	-0.8
	baz=213						
W57A	Gilead	69.75	30	P	P	08 48 55.5	-0.4
W57A				IAmb	IAmb	08 48 56.7	
	comp=Z,21nm,1.4s						
V55A	Taylorsville	69.81	28	P	P	08 48 56.3	0.0
	baz=211,SNR=5.1						
V55A	Taylorsville	69.81	28	P	P	08 48 55.6	-0.7
V55A				IAmb	IAmb	08 48 57.1	
	comp=Z,19nm,1.2s						
MFID	Camas Ranch	69.87	359	P	P	08 48 57.0	+0.3
MFID				IAmb	IAmb	08 48 58.4	
	comp=Z,16nm,1.2s						
REDW	Red Top Meadow	69.89	3	P	P	08 48 56.8	-0.1
J08A	Circle Bar Ran	69.89	357	P	P	08 48 57.0	+0.2
J08A				IAmb	IAmb	08 48 59.3	
	comp=Z,21nm,1.1s						
W58A	Raeford	69.97	30	P	P	08 48 57.6	+0.3
	baz=213,SNR=7.6						
SNOW	Snow King Moun	69.99	3	P	P	08 48 56.6	-1.0
SNOW				IAmb	IAmb	08 48 58.6	
	comp=Z,19nm,1.4s						
J05D	Fort Rock, OR	70.00	355	P	P	08 48 58.8	+1.3
	baz=174,SNR=9.2						
HLID	Hailey	70.00	0	P	P	08 48 58.6	+1.0
	baz=180,SNR=39						
HLID	Hailey	70.00	0	P	P	08 48 57.8	+0.3
HLID				IAmb	IAmb	08 48 59.6	
	comp=Z,21nm,1.1s						
TPAW	Teton Pass	70.01	3	P	P	08 48 57.0	-0.7
TPAW				IAmb	IAmb	08 48 57.9	
	comp=Z,17nm,0.9s						
V56A	Mocksville	70.08	29	P	P	08 48 57.2	-0.8
	baz=212						
LOHW	Long Hollow	70.15	3	P	P	08 48 58.0	-0.5
LOHW				IAmb	IAmb	08 49 00.1	
	comp=Z,22nm,1.4s						
FXWY	Fox Creek	70.16	3	P	P	08 48 58.2	-0.4
FXWY				IAmb	IAmb	08 49 00.5	
	comp=Z,27nm,1.4s						
VNA1	Neumayer--Stat	70.18	160	P	P	08 48 58.0	-0.2
T53A	Wise	70.23	27	P	P	08 48 58.5	-0.4
	baz=210						
VNA2	Neumayer--Watz	70.33	161	P	P	08 48 58.8	-0.3
R49A	Shelbyville	70.35	24	P	P	08 48 58.6	-1.0
R49A				IAmb	IAmb	08 48 59.7	
	comp=Z,23nm,1.3s						
IMW	Indian Meadow	70.42	3	P	P	08 49 00.1	-0.2
IMW				IAmb	IAmb	08 49 01.3	
	comp=Z,17nm,1.1s						
U55A	TA2, Sparta	70.43	28	P	P	08 48 59.4	-0.8
	baz=211						
L34A	Svendsen Farm,	70.45	14	P	P	08 49 00.2	+0.1
V57A	Coltrane Farms	70.46	29	P	P	08 49 00.1	-0.2
	baz=213						
PINE	Pine Mountain	70.48	355	P	P	08 49 00.6	+0.1
PINE				IAmb	IAmb	08 49 02.7	
	comp=Z,17nm,1.1s						
U56A	King	70.58	29	P	P	08 49 00.9	-0.1
	baz=212						
U56A	King	70.58	29	P	P	08 49 00.9	-0.1
U56A				IAmb	IAmb	08 49 02.5	
	comp=Z,20nm,1.2s						
K31A	O'Neill	70.59	12	P	P	08 49 01.2	+0.2
FLWY	Flagg Ranch	70.61	3	P	P	08 49 01.6	+0.2
FLWY				IAmb	IAmb	08 49 02.7	
	comp=Z,20nm,1.0s						
R50A	Paris	70.66	25	P	P	08 49 00.6	-0.9
R50A				IAmb	IAmb	08 49 01.5	
	comp=Z,20nm,1.2s						
I07A	Izee	70.67	356	P	P	08 49 01.7	+0.2
I07A				IAmb	IAmb	08 49 03.9	
	comp=Z,19nm,1.2s						
V58A	Windy Hill, Pi	70.67	30	P	P	08 49 00.9	-0.7
	baz=213						
V58A	Windy Hill, Pi	70.67	30	P	P	08 49 00.9	-0.7
V58A				IAmb	IAmb	08 49 02.1	
	comp=Z,15nm,1.2s						
YPP	Pitchstone Pla	70.80	3	P	P	08 49 02.5	0.0
HDIL	Hopedale	71.00	20	P	P	08 49 03.4	-0.1
	baz=204						
HDIL	Hopedale	71.00	20	P	P	08 49 03.0	-0.5
V59A	Middlesex	71.04	31	P	P	08 49 03.5	-0.3
	baz=214						
I05D	Terrebonne, OR	71.05	355	P	P	08 49 05.2	+1.4
	baz=174,SNR=6.4						
U57A	Blanch	71.11	29	P	P	08 49 04.2	0.0
	baz=213,SNR=5.8						
YMR	Madison River	71.19	3	P	P	08 49 05.6	+0.8
RSSD	Black Hills	71.22	8	P	P	08 49 04.7	-0.4
RSSD				pmax	pmax		
	comp=Z,12nm,1.0s						
RSSD	Black Hills	71.22	8	P	P	08 49 05.0	0.0
	baz=190						
RSSD	Black Hills	71.22	8	P	P	08 49 04.7	-0.4
YHB	Horse Butte	71.26	3	P	P	08 49 05.6	+0.4
MCMT	McKenzie Canyo	71.29	1	P	P	08 49 05.5	+0.1
BLA	Blacksburg	71.30	28	P	P	08 49 05.1	-0.4
	baz=212						
SNAA	Sanae	71.30	162	P	P	08 49 04.6	-0.5
YHH	Holmes Hill	71.31	3	P	P	08 49 05.5	-0.2
QLMT	Earthquake Lak	71.33	2	P	P	08 49 05.9	+0.2
BMO	Blue Mountains	71.34	358	P	P	08 49 05.4	-0.2
BMO				pmax	pmax		
	comp=Z,18nm,1.4s						
BMO	Blue Mountains	71.34	358	P	P	08 49 05.4	-0.2
BMO				IAmb	IAmb	08 49 07.5	
	comp=Z,18nm,1.4s						
YHL	Hebgen Lake	71.36	3	P	P	08 49 06.6	+0.7
S54A	Dingess, Beckl	71.42	27	P	P	08 49 05.7	-0.5
	baz=211						
U58A	Oxford	71.42	30	P	P	08 49 05.7	-0.4
	baz=214						
V60A	Jim Taylor Roa	71.49	31	P	P	08 49 06.6	0.0
	baz=215						
YNE	Yellowstone No	71.57	3	P	P	08 49 07.1	-0.1
T57A	Hurt	71.62	29	P	P	08 49 07.1	-0.2
	baz=213						
RLMT	Red Lodge	71.73	4	P	P	08 49 07.9	-0.1
	baz=185,SNR=8.4						
U59A	Littleton	71.73	31	P	P	08 49 07.6	-0.4
	baz=214						
L40A	Anamosa	71.82	18	P	P	08 49 08.5	+0.1
DLMT	Dillon	71.83	1	P	P	08 49 08.6	0.0
G08A	Pilot Rock	71.84	357	P	P	08 49 09.1	+0.5
G08A				IAmb	IAmb	08 49 11.0	
	comp=Z,23nm,1.1s						
T58A	Grand View Acr	71.89	30	P	P	08 49 09.0	+0.1
	baz=213						
Q52A	Bidwell	72.04	26	P	P	08 49 09.7	-0.1
	baz=210						
S56A	Natural Bridge	72.05	29	P	P	08 49 09.8	-0.2
	baz=212						
ECSD	EROS Data Cent	72.08	14	P	P	08 49 09.7	-0.3
	baz=197						
ECSD	EROS Data Cent	72.08	14	P	P	08 49 09.6	-0.4
BOZ	Bozeman (W)	72.09	2	P	P	08 49 09.9	-0.2
BOZ				pmax	pmax		
	comp=Z,15nm,1.5s						
BOZ	Bozeman (W)	72.09	2	P	P	08 49 10.7	+0.6
	baz=183,SNR=8.3						
BOZ	Bozeman (W)	72.09	2	P	P	08 49 09.9	-0.2
U60A	Pendleton	72.12	31	P	P	08 49 10.0	-0.3
	baz=215						
Q53A	Leroy	72.25	27	P	P	08 49 11.4	+0.4
	baz=211						
LRM	Limekiln Ridge	72.29	2	P	P	08 49 12.0	+0.5
T59A	Double "B" Far	72.35	30	P	P	08 49 11.7	+0.1
	baz=214						
Q54A	Coxs Mills	72.63	27	P	P	08 49 13.6	+0.3
	baz=211						
S58A	Poland Farm, P	72.66	30	P	P	08 49 13.4	-0.1
	baz=214						
P52A	Corning	72.67	26	P	P	08 49 13.1	-0.4
	baz=210						
R56A	Bull Pasture M	72.73	28	P	P	08 49 14.7	+0.6
	baz=212,SNR=5.7						
P53A	Whipple	72.84	26	P	P	08 49 14.8	+0.2
	baz=211						
P53A	Whipple	72.84	26	P	P	08 49 14.4	-0.2
P53A				IAmb	IAmb	08 49 16.6	
	comp=Z,34nm,1.4s						
R57A	Stanardsville	73.02	29	P	P	08 49 15.8	+0.1
	baz=213						
R58B	Mineral	73.02	30	P	P	08 49 15.9	+0.2
	baz=214						
E09A	Wood Farm, Sta	73.03	357	P	P	08 49 15.6	0.0
E08A	Dider Farm, El	73.05	357	P	P	08 49 15.9	+0.3
E08A				IAmb	IAmb	08 49 17.7	
	comp=Z,16nm,1.1s						
E07A	Sunnyside	73.16	356	P	P	08 49 16.7	+0.4
HRY	Holter Researc	73.20	2	P	P	08 49 16.4	-0.3
O52A	Adamsville	73.20	26	P	P	08 49 16.8	+0.1
	baz=210,SNR=5.4						
O52A	Adamsville	73.20	26	P	P	08 49 16.7	0.0
MSO	Missoula	73.27	0	P	P	08 49 17.8	+0.7
	baz=180,SNR=11						
MSO	Missoula	73.27	0	P	P	08 49 16.7	-0.4
MSO				IAmb	IAmb	08 49 18.7	
	comp=Z,16nm,1.1s						
P54A	Burton	73.30	27	P	P	08 49 17.8	+0.5
	baz=211,SNR=8.6						
E04D	Cinebar	73.36	354	P	P	08 49 18.7	+1.2
	baz=172						
E03A	Lebam	73.44	354	P	P	08 49 17.1	-0.8
E03A				IAmb	IAmb	08 49 20.4	
	comp=Z,30nm,1.2s						
LON	Longmire	73.49	355	P	P	08 49 18.0	-0.3
LON				pmax	pmax		
	comp=Z,9.0nm,1.2s						
LON	Longmire	73.49	355	P	P	08 49 18.0	-0.3
P55A	Reedsville	73.49	27	P	P	08 49 18.6	+0.1
	baz=212						
LAO	LASA Array	73.52	6	P	P	08 49 18.7	+0.2
	baz=188,SNR=7.7						
LAO	LASA Array	73.52	6	P	P	08 49 18.4	-0.1
LAO				IAmb	IAmb	08 49 19.6	
	comp=Z,18nm,1.0s						
O53A	New Philadelph	73.56	26	P	P	08 49 19.2	+0.3
	baz=211,SNR=5.1						
O53A	New Philadelph	73.56	26	P	P	08 49 18.5	-0.3
O53A				IAm

comp=Z,23nm,1.1s
P57A Homestead Farm 74.23 29 P **P** **08 49 23.0 +0.3**
baz=213
O55A Ligonier 74.29 27 P **P** **08 49 23.3 +0.2**
baz=212
NLWA Neilton Lookou 74.31 353 P **P** **08 49 23.6 +0.5**
NLWA IAmb IAmb 08 49 25.2
comp=Z,24nm,1.2s
C09A Chrisman Ranch 74.32 357 P **P** **08 49 23.9 +0.8**
C09A IAmb IAmb 08 49 25.0
comp=Z,30nm,1.4s
D03D Eldon 74.38 354 P **P** **08 49 24.6 +1.2**
baz=172
AAM Ann Arbor 74.43 23 P **P** **08 49 24.0 +0.1**
baz=208
EGMT Eagleton 74.59 3 P **P** **08 49 25.8 +1.0**
baz=184,SNR=8.3
EGMT Eagleton 74.59 3 P **P** **08 49 25.8 +1.0**
EGMT IAmb IAmb 08 49 27.6
comp=Z,28nm,1.2s
O56A Blue Knob Stat 74.65 28 P **P** **08 49 25.3 +0.1**
baz=213
N54A Moraine State 74.65 26 P **P** **08 49 25.6 +0.4**
baz=212
NEW Newport 74.74 358 P **P** **08 49 25.9 +0.3**
NEW pmax pmax
comp=Z,27nm,1.3s
NEW Newport 74.74 358 P **P** **08 49 26.3 +0.7**
baz=178,SNR=17
NEW Newport 74.74 358 P **P** **08 49 25.9 +0.3**
NEW IAmb IAmb 08 49 28.1
comp=Z,27nm,1.2s
F36A Milaca 74.79 15 P **P** **08 49 25.9 0.0**
F36A IAmb IAmb 08 49 27.2
comp=Z,20nm,1.1s
N55A Marion Center 74.91 27 P **P** **08 49 27.3 +0.6**
baz=212
B08A Colville Reser 74.92 357 P **P** **08 49 26.8 +0.1**
O57A Amberson 74.99 28 P **P** **08 49 25.7 -1.5**
baz=214
B05A Bryant 75.01 355 P **P** **08 49 27.9 +0.8**
baz=173,SNR=6.6
P59A Jarrettsville 75.02 30 P **P** **08 49 27.3 0.0**
baz=215
G40A Rib Lake 75.07 18 P **P** **08 49 27.8 +0.3**
SSPA Standing Stone 75.24 28 P **P** **08 49 28.5 -0.1**
baz=213
DGMT Dagmar 75.49 7 P **P** **08 49 30.4 +0.5**
baz=190,SNR=7.6
DGMT Dagmar 75.49 7 P **P** **08 49 30.2 +0.4**
MDND Maddock 75.50 10 P **P** **08 49 29.8 -0.2**
baz=194
WALA Waterton Lakes 75.50 0 P **P** **08 49 30.9 +0.9**
WALA IAmb IAmb 08 49 31.9
comp=Z,18nm,1.2s
PGC Sidney 75.52 354 P **P** **08 49 30.6 +0.7**
PGC IAmb IAmb 08 49 31.8
comp=Z,19nm,0.9s
A04D Lummi Island 75.52 354 P **P** **08 49 31.3 +1.3**
baz=172,SNR=5.3
M55A Ridgway 75.58 27 P **P** **08 49 31.0 +0.4**
baz=212
M55A Ridgway 75.58 27 P **P** **08 49 30.5 0.0**
M55A IAmb IAmb 08 49 31.7
comp=Z,29nm,1.4s
O59A Robesonia 75.70 29 P **P** **08 49 31.4 +0.1**
baz=215
M56A Emporium 75.83 27 P **P** **08 49 32.6 +0.6**
baz=213
N58A Sunbury 75.91 29 P **P** **08 49 32.4 0.0**
baz=214
N58A Sunbury 75.91 29 P **P** **08 49 31.6 -0.8**
N58A IAmb IAmb 08 49 33.5
comp=Z,18nm,1.3s
O60A Telford 76.05 30 P **P** **08 49 33.3 +0.1**
baz=215
L55A Hinsdale 76.31 27 P **P** **08 49 35.5 +0.8**
baz=213
M58A Price's Panora 76.45 29 P **P** **08 49 35.9 +0.4**
baz=214
AGMN Agassiz Nation 76.61 13 P **P** **08 49 36.2 0.0**
baz=197
AGMN Agassiz Nation 76.61 13 P **P** **08 49 36.4 +0.2**
L56A Greenwood 76.63 27 P **P** **08 49 36.7 +0.2**
baz=213
L56A Greenwood 76.63 27 P **P** **08 49 36.5 0.0**
L56A IAmb IAmb 08 49 37.7
comp=Z,20nm,1.1s
I51A Listowel 76.69 24 P **P** **08 49 36.4 -0.4**
baz=210
L57A Andrews Acres 76.81 28 P **P** **08 49 37.5 -0.1**
baz=214
L58A Harry Jones Me 77.27 29 P **P** **08 49 40.3 +0.2**
baz=215
BINY Binghamton 77.33 28 P **P** **08 49 40.9 +0.4**
baz=215,SNR=6.3
L59A Walton 77.73 29 P **P** **08 49 42.6 -0.2**
baz=216
K58A Earlville 77.94 28 P **P** **08 49 43.6 -0.3**
baz=215
H53A Bobcaygeon 78.26 25 P **P** **08 49 45.8 +0.2**
baz=212
I55A Frankford 78.31 26 P **P** **08 49 45.8 0.0**
baz=213
ULM Lac du Bonnet 78.47 12 P **P** **08 49 46.2 -0.4**
comp=Z,5.5nm,0.6s,baz=259,slow=4.3,SNR=4.3
ULM Lac du Bonnet 78.47 12 P **P** **08 49 46.2 -0.4**
ULM IAmb IAmb 08 49 47.3
comp=Z,18nm,1.2s
J58A Remsen 78.58 28 P **P** **08 49 47.7 +0.3**
baz=215
D47A Chapleau 78.80 21 P **P** **08 49 48.6 0.0**
baz=208
I57A Carthage 78.90 28 P **P** **08 49 49.6 +0.5**
baz=215
J59A Piesco 79.00 29 P **P** **08 49 50.1 +0.4**
baz=216
G54A Lake Saint Pet 79.14 25 P **P** **08 49 50.9 +0.4**
baz=213
H56A Elgin 79.19 27 P **P** **08 49 52.0 +1.3**
baz=214
J60A Lant Hill Farm 79.29 29 P **P** **08 49 52.0 +0.8**
baz=217
ACCN Adirondack Com 79.29 29 P **P** **08 49 51.3 0.0**
ACCN IAmb IAmb 08 49 53.2
comp=Z,24nm,1.3s
NCB Newcomb 79.53 28 P **P** **08 49 52.6 0.0**
I59A Olmsteadville 79.53 29 P **P** **08 49 52.7 +0.2**
baz=216
ALGO Algonquin Park 79.63 25 P **P** **08 49 53.1 +0.1**
baz=213
I60A Shoreham 79.83 29 P **P** **08 49 53.5 -0.6**
baz=217
LONY Lake Ozonia 79.90 28 P **P** **08 49 54.8 +0.2**
baz=216
H58A Gabriels 79.91 28 P **P** **08 49 55.2 +0.6**
baz=216
G57A Newington 80.13 27 P **P** **08 49 56.5 +0.7**
baz=215
E53A Dumoine, Ponti 80.13 25 P **P** **08 49 56.1 +0.4**
baz=213
H59A Cadyville 80.30 28 P **P** **08 49 56.9 +0.2**
baz=216,SNR=5.2
E54A Lac Daplat, Po 80.36 25 P **P** **08 49 56.5 -0.4**
baz=213,SNR=5.2
I61A Oroboro, Fairl 80.37 30 P **P** **08 49 57.5 +0.4**
baz=218
H60A Morristown 80.65 29 P **P** **08 49 59.4 +0.7**
baz=217
D53A Lac Vacive, Po 80.70 25 P **P** **08 49 59.2 +0.4**
baz=213
I62A Tamworth 80.71 30 P **P** **08 49 59.5 +0.5**
baz=218
G59A Clarenceville 80.86 28 P **P** **08 50 00.0 +0.3**
baz=217
H61A Lyndonville 80.97 29 P **P** **08 50 00.7 +0.4**
baz=218
CASY Casey 81.10 197 P **P** **08 50 02.0 +1.2**
D54A Lac Fusel, La 81.16 25 P **P** **08 50 01.0 -0.3**
baz=214
TRQ Mont Tremblant 81.22 27 P **P** **08 50 01.9 +0.3**
H62A Milan 81.34 30 P **P** **08 50 02.9 +0.7**
baz=218
D55A Sainte-Anne-du 81.50 26 P **P** **08 50 02.7 -0.4**
baz=215
E57A Chemin Saint G 81.53 27 P **P** **08 50 03.1 -0.2**
baz=216
F59A Saint Guilaume 81.65 28 P **P** **08 50 04.5 +0.7**
baz=217
VLDQ Val d'Or 81.66 24 P **P** **08 50 03.7 -0.2**
G61A St-Isidore-de- 81.73 29 P **P** **08 50 04.5 +0.1**
baz=218
D56A ZEC Mazanza, M 81.81 26 P **P** **08 50 04.3 -0.4**
baz=215
E58A La Victoria 81.86 27 P **P** **08 50 05.1 +0.2**
baz=216,SNR=5.2
H63A New Sharon 81.91 30 P **P** **08 50 06.2 +1.0**
baz=219
D57A Chemin Vers le 82.13 27 P **P** **08 50 06.3 0.0**
baz=216
D58A Chemin du LacG 82.60 27 P **P** **08 50 08.6 -0.3**
baz=217
E60A Ste Agathe de 82.62 29 P **P** **08 50 09.5 +0.6**
baz=218
LSQQ Lebel-sur-Quev 82.63 24 P **P** **08 50 08.9 0.0**
baz=213
SYO Syowa Base 82.63 171 *l*eX P 08 50 15.6 +6.8
H65A Eastbrook 82.76 31 P **P** **08 50 10.5 +0.8**
baz=220
LATQ La Tuque 82.87 27 P **P** **08 50 09.8 -0.4**
baz=217
F62A Pittston Farm, 82.90 30 P **P** **08 50 11.4 +1.0**
baz=219
MATQ Matagami 82.98 23 P **P** **08 50 10.6 -0.1**
baz=213
F63A Nahmakanta, Br 83.13 30 P **P** **08 50 12.3 +0.6**
baz=220,SNR=5.0
F63A Nahmakanta, Br 83.13 30 P **P** **08 50 12.3 +0.6**
E62A Clayton Lake 83.65 29 P **P** **08 50 14.5 +0.2**
baz=219,SNR=6.0
E62A Clayton Lake 83.65 29 P **P** **08 50 15.0 +0.7**
E63A Oxbow 83.99 30 P **P** **08 50 16.1 +0.1**
baz=220
D62A Allapoint, All 84.22 29 P **P** **08 50 17.3 +0.2**
baz=220
D62A Allapoint, All 84.22 29 P **P** **08 50 16.6 -0.5**
D62A IAmb IAmb 08 50 18.1
comp=Z,17nm,1.0s
CHGQ Chibougamau 84.29 25 P **P** **08 50 17.2 -0.2**
baz=215,SNR=6.9
D63A Stockholm 84.60 30 P **P** **08 50 18.5 -0.5**
baz=220
DLBC Dease Lake 85.88 352 P **P** **08 50 25.7 +0.4**
H11S2 WAKE ISLAND Hy 88.60 291 T T 10 28 39.3
baz=119,slow=75,SNR=7.6
H11S1 WAKE ISLAND Hy 88.61 291 T T 10 28 39.9
baz=119,slow=75,SNR=10
H11S3 WAKE ISLAND Hy 88.62 291 T T 10 28 41.6
baz=119,slow=75,SNR=8.3
YKA Yellowknife Ar 88.97 360 P **P** **08 50 39.7 -0.3**
comp=Z,2.7nm,0.8s,baz=198,slow=3.9,SNR=4.4
H11N3 WAKE ISLAND Hy 89.02 293 T T 10 29 09.0
baz=120,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 89.03 293 T T 10 29 10.1
baz=120,slow=76,SNR=11
H11N2 WAKE ISLAND Hy 89.03 293 T T 10 29 12.5
baz=120,slow=76,SNR=9.2
ILAR Eielson Array 94.66 347 P **P** **08 51 05.5 -0.9**
comp=Z,0.3nm,0.5s,baz=191,slow=4.2,SNR=5.3
ILAR Eielson Array 94.66 347 *e*P **P** **08 51 07.7 +1.3**
COLA College 94.95 346 *i* P **P** **08 51 07.9 +0.2**
COLA pmax pmax
comp=Z,3.0nm,1.0s
WRAB Tennant Creek 98.66 243 *i* P Pdif 08 51 27.0 +1.2
WRAB pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 123.50 340 *i* PKIKP **PKiKP** **08 56 44.2 +1.6**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
KLR Kul'dur 125.03 313 PKP **PKiKP** **08 56 46.0 -0.3**
comp=Z,0.7nm,0.6s,baz=8.2,slow=1.5,SNR=3.5
KLR Kul'dur 125.03 313 *c i* PKIKP **PKiKP** **08 56 46.3 0.0**
KLR pmax pmax
comp=Z,2.0nm,1.1s
KSRS Korea Array 126.88 298 PKP **PKiKP** **08 56 50.3 -0.1**
comp=Z,0.4nm,0.5s,baz=134,slow=5.4,SNR=5.3
HIA Hailar 132.87 313 *i* PKIKP **PKiKP** **08 57 03.4 +1.3**
NJ2 Nanjing 133.56 290 *e*PKP **PKiKP** **08 57 03.5 -0.5**
CLL Collm 133.71 44 *e*PKPdf **PKiKP** **08 57 03.0 -0.7**
comp=Z,9.0nm,1.6s
KHC Kasperske Hory 134.48 46 *c i* PKIKP **PKiKP** **08 57 05.1 -0.3**
KHC pmax pmax
comp=Z,7.0nm,1.7s
HHC Hu-ho-hao-te 139.65 302 *e*PKP **PKiKP** **08 57 15.1 -1.2**
ULN Ulaanbaatar 141.39 314 *c i* PKIKP **PKPdf** **08 57 17.7 +0.8**
ULN pmax pmax
comp=Z,5.0nm,1.7s
KLMR Klimovskoe 141.67 20 *e*PKIKP **PKPdf** **08 57 14.9 -1.8**
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 141.67 20 AMP 08 57 17.8
comp=Z,11nm,1.1s
KLMR Klimovskoe 141.67 20 *e*PKPdf **PKPdf** **08 57 15.0 -1.8**
SONM Songino Array 141.82 314 PKhKP **PKPdf** **08 57 14.0 -3.7**
comp=Z,2.2nm,0.9s,baz=104,slow=1.6,SNR=7.6
SONM Songino Array 141.82 314 *e*PKIKP **PKPdf** **08 57 16.7 -1.0**
SONM pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 142.01 321 *i* PKIKP **PKPdf** **08 57 18.4 +0.7**
TLY pmax pmax
comp=Z,10.0nm,1.6s
ZAK Zakamensk 142.78 320 *e*PKIKP **PKPdf** **08 57 15.6 -3.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
MLR Muntele Rosu 143.50 49 PKhKP PKPbc 08 57 18.2 +0.3
comp=Z,5.3nm,0.8s,baz=313,slow=7.7,SNR=4.4
IDI Anoyia 144.44 66 PKP **PKPdf** **08 57 21.8 -0.8**
comp=Z,35nm,1.0s,baz=312,slow=3.4,SNR=9.7
OBN Obninsk 144.75 29 PKP **PKPdf** **08 57 21.6 -0.8**
comp=Z,5.3nm,0.4s,baz=349,slow=2.8,SNR=10
OBN Obninsk 144.75 29 ⇑ *i* PKIKP PKPbc 08 57 21.5 +0.2
OBN *e* 09 00 38.4
OBN *e*PPP PPP 09 03 54.9
OBN pmax pmax
comp=Z,36nm,1.4s
MOS Moscow 144.77 27 *e*PKIKP **PKPab** **08 57 19.3 -2.0**
MOS pmax pmax
comp=Z,60nm,1.3s
LZH Lanzhou 146.13 295 *e*PKPbc **PKPdf** **08 57 22.9 -2.7**
LZH pPKP sPKPdf 08 57 29.0 -0.3
LZH sPKP 08 57 32.8
CD2 Chengdu 146.29 286 PKPbc **PKPdf** **08 57 25.5 -0.4**
KMI Kunming 146.49 276 PKPbc **PKPbc** **08 57 27.1 -0.9**
KMI sPKP 08 57 37.1
LPSR Galich'ya Gora 147.47 30 *e*PKP2 **PKPbc** **08 57 28.8 -0.8**
LPSR pmax pmax
comp=Z,40nm,0.9s
CMAR Chiang Mai Arr 148.06 262 PKPbc **PKiKP** **08 57 33.0 -1.0**
comp=Z,2.1nm,0.4s,baz=98,slow=0.3,SNR=12
VSR Storozhevoye 148.50 32 *e*PKP2 **PKPbc** **08 57 31.6 -0.8**
VSR pmax pmax
comp=Z,40nm,0.9s
VORD Divnogorie 148.73 32 *e*PKP2 **PKPbc** **08 57 32.1 -0.9**
VORD pmax pmax
comp=Z,30nm,1.0s
GTA Gaotai 148.76 302 PKPbc **PKiKP** **08 57 34.3 -0.8**
ZAA0 Zalesovo Array 149.32 337 **PKPbc** **08 57 34.1 -0.3**
ZALV Zalesovo Beam 149.32 337 PKPbc **PKPbc** **08 57 33.7 -0.7**
comp=Z,8.6nm,0.7s,baz=20,slow=3.3,SNR=28
ZALV Zalesovo Beam 149.32 337 PKP2 **PKPbc** **08 57 34.2 -0.2**
ZALV Zalesovo Beam 149.32 337 **PKPbc** **08 57 34.2 -0.2**
VRH Novokhopyorsk 149.69 30 *e*PKP2 **PKPbc** **08 57 35.0 -0.4**
VRH pmax pmax
comp=Z,70nm,1.0s
SVE Sverdlovsk 149.79 5 *e*PKP2 **PKiKP** **08 57 35.7 -0.7**
SVE pmax pmax
comp=Z,28nm,1.3s
ARU Arti 149.97 8 *i* PKHKP **PKPdf** **08 57 31.7 +0.7**
BR131 Keskin Array S 150.61 56 PKIKP **PKiKP** **08 57 38.6 -0.3**
BR131 Keskin Array S 150.61 56 **PKiKP** **08 57 38.6 -0.3**
BRTR Keskin Array B 150.61 56 PKPbc **PKPbc** **08 57 37.9 -0.4**
comp=Z,11nm,1.1s,baz=222,slow=1.7,SNR=17
WMQ Urumqi 155.25 319 *e*PKP **PKPdf** **08 57 39.2 -0.1**
WMQ AMB AMB
comp=Z,80nm,9.7s
WMQ LR LR
comp=Z,250nm,29.3s
WMQ LR LR
comp=Z,450nm,29.1s
MKAR Makanchi Array 156.00 331 PKP **PKPdf** **08 57 39.6 -0.6**
comp=Z,1.0nm,0.9s,baz=50,slow=2.1,SNR=5.9
MKAR PKPbc PKPbc 08 57 49.3
comp=Z,1.4nm,0.7s,baz=54,slow=1.6,SNR=10
MKAR PKPab **PKPab** **08 58 07.6 +0.3**
comp=Z,2.0nm,1.0s,baz=57,slow=4.5,SNR=5.3
MKAR Makanchi Array 156.00 331 PKPdf **PKPdf** **08 57 40.1 -0.1**
MKAR PKPab **PKPab** **08 58 07.8 +0.5**
ABKAR Akbulak array 157.17 9 PKPdf **PKPdf** **08 57 42.0 +0.5**
ABKAR PKPab **PKPab** **08 58 12.0 -0.2**
GEYT Alibeck 167.29 27 PKP **PKPdf** **08 57 53.3 +1.2**
comp=Z,1.8nm,0.6s,baz=98,slow=6.0,SNR=3.1
GEYT PKPab **PKPab** **08 58 57.7 +0.8**
comp=Z,1.1nm,0.4s,baz=268,slow=5.5,SNR=2.6

WEL 06 08:38:47.4, 44°S±1°×172°8E±1°0, h13km±2km, M2.1/7, ML2.2/7, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=164.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZ	**McQueen's Vall**	**0.17**	**224**	P	Pb	08 38 52.8	+0.4
OKCZ	**Okains Bay**	**0.23**	**128**	P	Pb	08 38 53.3	-0.1
AKCZ	**Akaroa Harbour**	**0.29**	**167**	P	Pb	08 38 55.0	+0.4
AMCZ	**Amberley**	**0.42**	**344**	P	Pb	08 38 57.3	+0.5
OXZ	**Oxford**	**0.62**	**294**	P	Pb	08 39 00.9	+0.8
GVZ	**Greta Valley S**	**0.64**	**15**	P	Pb	08 39 01.0	+0.6
WACZ	**Wakanui South**	**0.79**	**243**	P	Pn	08 39 05.0	+0.7
LTZ	**Lake Taylor**	**0.90**	**333**	P	Pn	08 39 06.0	+0.2
ARCZ	**Arundel**	**1.24**	**252**	P	Pg	08 39 13.1	+1.8
KHZ	**Kahutara**	**1.28**	**25**	P	Pn	08 39 10.4	-0.6
INZ	**Inchbonnie**	**1.32**	**310**	P	Pg	08 39 13.7	+1.0
ODZ	**Otahua Downs**	**2.13**	**226**	P	Pg	08 39 29.8	+1.4

*IDC **06** 08:43:46.5±1.1, 0°.97S×136°.67E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.8/41, mbtmp3.9/7, ML3.6/2, Error ellipse: s-maj=26.8km s-min=21.6km az=67.0*
*DJA **06** 08:43:50.8±0.8, 1°.5S±5°×13°.7E±°, h14km±4km, M4.2/8, mb4.2/4, MLv4.2/8*

ISC 06 08:43:50.6±0.9, 1°.17S±0°.09×136°.58E±0°.04, h25km, n17, σ1§53/18, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.78**	**206**	P	**Pb**	**08 44 04.5**	**-0.9**
SRPI				S	**Sb**	**08 44 14.2**	**-1.4**
SMPI	**Sarmi**	**2.29**	**111**	P	**Pn**	**08 44 28.0**	**+1.3**
SMPI				S	**Sb**	**08 44 56.7**	**-2.3**
RKPI	**Ransiki, Papua**	**2.42**	**262**	P	**Pn**	**08 44 29.3**	**+0.7**
RKPI				S	**Sn**	**08 44 59.1**	**+1.6**
GENI	**Genyem**	**3.86**	**112**	P	**Pn**	**08 44 50.1**	**+1.7**
JAY	**Jayapura**	**4.34**	**108**	Pn	**Pn**	**08 44 55.1**	**0.0**
	2.4nm,0.3s,baz=205,slow=7.3,SNR=5.7						
JAY				Sn	**Sn**	**08 45 46.3**	**+1.4**
	5.0nm,0.3s,baz=354,slow=23,SNR=6.6						
JAY	**Jayapura**	**4.34**	**108**	P	**Pn**	**08 44 56.9**	**+1.9**
FAKI	**Fak Fak**	**4.66**	**248**	P	**Pn**	**08 44 59.5**	**+0.1**
SIJI	**Sorong**	**5.32**	**273**	Pn	**Pn**	**08 45 09.7**	**+1.3**
	2.5nm,0.3s,baz=44,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**18.79**	**187**	P	**P**	**08 48 06.3**	**-2.0**
	0.5nm,0.3s,baz=9.4,slow=12,SNR=30						
FITZ	**Fitzroy Crossi**	**19.96**	**212**	P	**P**	**08 48 22.4**	**+1.3**
	2.8nm,1.0s,baz=0.2,slow=7.1,SNR=4.3						
ASAR	**Alice Springs**	**22.52**	**186**	P	**P**	**08 48 49.9**	**+1.2**
	22nm,0.8s,baz=13,slow=11,SNR=143						
STKA	**Stephens Creek**	**30.91**	**172**	P	**P**	**08 50 06.5**	**+1.1**
	1.8nm,0.6s,baz=344,slow=7.2,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**35.47**	**55**	T	T	09 28 39.4	
	baz=240,slow=75,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**35.49**	**55**	T	T	09 28 16.5	
	baz=240,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**35.49**	**55**	T	T	09 28 17.3	
	baz=240,slow=75,SNR=4.1						
MKAR	**Makanchi Array**	**67.28**	**323**	P	**P**	**08 54 42.8**	**-0.4**
	0.2nm,0.5s,baz=112,slow=6.9,SNR=3.1						
ILAR	**Eielson Array**	**85.33**	**25**	P	**P**	**08 56 23.4**	**-1.9**
	0.3nm,0.7s,baz=277,slow=4.8,SNR=3.0						

*CRAAG **06** 08:50:39.4, 36°.87N×3°.21E, Ml3.4*
*MDD **06** 08:50:40.4±0.5, 36°.93N×3°.20E, h9km±6km, mb4.1/17, Error ellipse: s-maj=5.6km s-min=5.2km az=145.0, PRXIMO*
*LDG **06** 08:50:42.9±0.5, 37°.16N×3°.26E, h10km, Ml2.9/10, Error ellipse: s-maj=10.2km s-min=5.0km az=147.0*

ISC 06 08:50:38.3±1.0, 37°.00N±0°.05×3°.21E±0°.03, h10km, n86, σ2§52/105, 1C-3D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.24**	**216**	P	**Pg**	**08 50 43.8**	**+0.5**
ABA	**Alger-Bouzarea**	**0.24**	**216**	P	**Pg**	**08 50 43.8**	**+0.5**
ABMS	**Boumerdes**	**0.33**	**139**	P	**Pg**	**08 50 45.8**	**+1.0**
ABMS	**Boumerdes**	**0.33**	**139**	P	**Pg**	**08 50 45.8**	**+1.0**
EMHD	**Djebel Mahouad**	**0.82**	**195**	P	**Pg**	**08 50 54.2**	**0.0**
EMHD	**Djebel Mahouad**	**0.82**	**195**	P	**Pg**	**08 50 54.2**	**0.0**
ADJB	**Djebel Djouab**	**0.86**	**168**	P	**Pg**	**08 50 55.0**	**+0.1**
ADJB	**Djebel Djouab**	**0.86**	**168**	P	**Pg**	**08 50 55.0**	**+0.1**
AKET	**Djebel Ketaf**	**1.09**	**150**	P	**Pg**	**08 50 59.0**	**-0.3**
AKET	**Djebel Ketaf**	**1.09**	**150**	P	**Pg**	**08 50 59.0**	**-0.3**
EBNR	**Beni Rached**	**1.52**	**243**	P	**Pg**	**08 51 08.2**	**+0.6**
ECHA	**Ech Chlef**	**1.71**	**241**	P	**Pn**	**08 51 08.2**	**0.0**
ECHF	**Ech Chlef**	**1.72**	**241**	P	**Pn**	**08 51 08.2**	**-0.2**
SET	**Setif**	**1.93**	**114**	P	**Pg**	**08 51 17.0**	**+1.6**
SET	**Setif**	**1.93**	**114**	P	**Pg**	**08 51 17.0**	**+1.6**
EANR	**'Ain N'Sour**	**2.00**	**239**	P	**Pn**	**08 51 12.2**	**0.0**
EANR	**'Ain N'Sour**	**2.00**	**239**	P	**Pn**	**08 51 12.2**	**0.0**
ETRT	**Tiaret**	**2.23**	**225**	P	**Pn**	**08 51 16.7**	**+1.3**
ETRT	**Tiaret**	**2.23**	**225**	P	**Pn**	**08 51 16.7**	**+1.3**
EIBI	**Ibiza**	**2.51**	**325**	⇓P	**Pn**	**08 51 21.0**	**+1.8**
	16nm,0.2s,SNR=18						
EIBI				S	**Sn**	**08 51 49.0**	**-0.8**
	30nm,0.3s						
ETOS	**Mallorca**	**2.79**	**354**	⇓P	**Pn**	**08 51 24.7**	**+1.7**
	15nm,0.3s,SNR=18						
ETOS				S	**Sn**	**08 51 56.2**	**-0.5**
	3.4nm,0.2s						
MAHO	**Mahon**	**3.01**	**16**	P	**Pn**	**08 51 25.9**	**-0.2**
MAHO				S	Sn	08 51 56.3	-5.9
MAHO	**Mahon**	**3.01**	**16**	*e*P	**Pn**	**08 51 25.9**	**-0.2**
MAHO				*e*S	Sn	08 51 56.3	-5.9
EBEN2	**Beniarda presa**	**3.17**	**303**	S	**Sn**	**08 52 04.8**	**-1.4**
	6.7nm,0.1s,SNR=7.9						
CART	**Cartagena**	**3.41**	**281**	P	**Pn**	**08 51 35.6**	**+4.1**
CART				S	**Sn**	**08 52 05.5**	**-6.6**
CART	**Cartagena**	**3.41**	**281**	*e*P	**Pn**	**08 51 35.6**	**+4.1**
CART				*e*S	**Sn**	**08 52 05.5**	**-6.6**
EMUR	**La Murta**	**3.64**	**285**	P	**Pn**	**08 51 36.7**	**+1.8**
	1.5nm,0.4s,SNR=4.0						
EMUR				S	**Sn**	**08 52 16.8**	**-1.1**
	4.8nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.11**	**295**	P	**Pn**	**08 51 43.4**	**+2.1**
	1.9nm,0.2s,SNR=8.6						
ETOB				S	**Sn**	**08 52 27.7**	**-1.8**
	6.9nm,0.3s						
ECHE	**Chera**	**4.19**	**309**	⇓P	**Pn**	**08 51 44.7**	**+2.4**
	6.3nm,0.3s,SNR=18						
EMOS	**Mosqueruela**	**4.43**	**321**	P	**Pn**	**08 51 47.3**	**+1.5**
	1.8nm,0.2s,SNR=11						
EMOS				S	**Sn**	**08 52 35.5**	**-1.9**
	21nm,1.6s						
ERTA	**Horta de San J**	**4.55**	**331**	P	**Pn**	**08 51 48.7**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**08 52 37.3**	**-2.9**
	7.0nm,0.3s,SNR=6.8						
EPOB	**Poblet**	**4.66**	**340**	P	**Pn**	**08 51 50.4**	**+1.6**
	1.0nm,0.1s,SNR=7.1						
EPOB				S	**Sn**	**08 52 40.5**	**-2.4**
	3.6nm,0.7s						
SESP	**Santiago Espad**	**4.71**	**286**	P	**Pn**	**08 51 52.4**	**+2.8**
	1.3nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**08 52 43.4**	**-1.0**
	11nm,0.6s,SNR=7.9						
CFON	**Fontmartina**	**4.80**	**353**	⇑P	**Pn**	**08 51 52.4**	**+1.7**
	6.6nm,0.2s,SNR=18						
CFON				S	**Sn**	**08 52 42.9**	**-3.5**
	4.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.07**	**281**	P	**Pn**	**08 51 57.0**	**+2.5**
	1.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**08 52 51.9**	**-1.2**
	5.7nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.08**	**346**	P	**Pn**	**08 51 57.2**	**+2.6**
	33nm,0.3s,SNR=13						
EMIR				S	**Sn**	**08 52 50.8**	**-2.6**
	17nm,0.6s						
EJON	**La Jonquera**	**5.45**	**357**	P	**Pn**	**08 52 01.8**	**+2.2**

4.2nm,0.1s,SNR=7.9
SJAF Saint Jean de 5.49 357 P Pn 08 52 01.8 +1.7
8.4nm,0.3s,SNR=7.9
SJAF S **Sn 08 52 59.7 -3.6**
3.8nm,1.1s,SNR=4.0
ESAC San Caprasio 5.51 330 S Sn 08 53 00.5 -3.6
10nm,0.6s,SNR=4.0
CLLI Livia 5.56 351 P Pn 08 52 03.7 +2.4
2.1nm,0.3s,SNR=5.8
CLLI S **Sn 08 53 03.6 -1.6**
1.6nm,0.4s,SNR=5.8
CSOR Sort 5.61 344 P Pn 08 52 04.3 +2.5
3.3nm,0.3s,SNR=16
CSOR S **Sn 08 53 03.4 -3.0**
2.3nm,0.3s,SNR=6.5
ETOR Torete 5.61 315 P Pn 08 52 04.8 +2.9
2.7nm,0.3s,SNR=8.7
ETOR S **Sn 08 53 03.3 -3.1**
7.7nm,1.2s,SNR=7.9
MTLF Montolieu 6.38 353 *e*P **Pn 08 52 15.4 +3.0**
MTLF *e*Sn Sn 08 53 16.0 -9.3
0.6nm,0.3s
MTLF Montolieu 6.38 353 P Pn 08 52 15.4 +3.0
MTLF S Sn 08 53 16.0 -9.3
0.3nm,0.3s
EPF Esparros 6.42 341 *e*P **Pn 08 52 15.3 +2.4**
EPF *e*Sn Sn 08 53 15.6 -11
1.7nm,0.3s
EPF Esparros 6.42 341 P Pn 08 52 15.3 +2.4
EPF S Sn 08 53 15.6 -11
0.9nm,0.3s
PAB San Pablo 6.47 295 P Pn 08 52 15.6 +1.9
0.9nm,0.4s,SNR=4.0
ETSF Etsaut 6.57 335 *e*P **Pn 08 52 16.9 +1.9**
ETSF Etsaut 6.57 335 P Pn 08 52 16.9 +1.9
LMR La Mourre 6.81 21 *e*Pn **Pn 08 52 19.0 +0.7**
LMR *e*Sn Sn 08 53 30.0 -5.9
2.4nm,0.4s
LMR La Mourre 6.81 21 P Pn 08 52 19.0 +0.7
LMR S Sn 08 53 30.0 -5.9
1.2nm,0.4s
SJPF Ste Jean 6.99 332 *e*P **Pn 08 52 22.8 +2.0**
SJPF *e*Sn Sn 08 53 28.7 -12
2.4nm,0.3s
SJPF Ste Jean 6.99 332 P Pn 08 52 22.8 +2.0
SJPF S Sn 08 53 28.7 -12
1.2nm,0.3s
FRF La Foret Royal 7.06 21 *e*Pn **Pn 08 52 22.8 +1.1**
FRF *e*Sn Sn 08 53 35.8 -6.3
0.6nm,0.2s
FRF La Foret Royal 7.06 21 P Pn 08 52 22.8 +1.1
FRF S Sn 08 53 35.8 -6.3
0.3nm,0.2s
LASF Ste Croix 7.09 4 *e*P **Pn 08 52 24.4 +2.3**
LASF *e*Sn Sn 08 53 33.6 -9.2
0.8nm,0.3s
LASF Ste Croix 7.09 4 P Pn 08 52 24.4 +2.3
LASF S Sn 08 53 33.6 -9.2
0.4nm,0.3s
PGF Pioggiola 7.11 37 *e*Pn **Pn 08 52 24.5 +2.0**
PGF *e*Sn **Sn 08 53 39.9 -3.6**
1.2nm,0.3s
PGF Pioggiola 7.11 37 P Pn 08 52 24.5 +2.0
PGF S **Sn 08 53 39.9 -3.6**
0.6nm,0.3s
EALK Alkurruntz 7.19 331 S Sn 08 53 40.6 -4.7
2.8nm,0.3s,SNR=4.0
SMRF Simiane la Rot 7.20 14 *e*Pn **Pn 08 52 23.4 -0.3**
SMRF Simiane la Rot 7.20 14 P Pn 08 52 23.4 -0.3
SBF Sospel 7.58 24 *e*Pn **Pn 08 52 31.2 +2.3**
SBF *e*Sn Sn 08 53 48.4 -6.4
2.2nm,0.3s
SBF Sospel 7.58 24 P Pn 08 52 31.2 +2.3
SBF S Sn 08 53 48.4 -6.4
1.1nm,0.3s
VIVF Saint-Julien-I 7.93 8 *e*P **Pn 08 52 36.2 +2.5**
VIVF Saint-Julien-I 7.93 8 P Pn 08 52 36.2 +2.5
CAF Calviac 7.97 354 *e*P **Pn 08 52 37.8 +3.6**
CAF Calviac 7.97 354 P Pn 08 52 37.8 +3.6
LFF La Frestale 8.15 348 *e*P **Pn 08 52 39.7 +3.0**
LFF La Frestale 8.15 348 P Pn 08 52 39.7 +3.0
ORIF Oris-en-Rattie 8.17 13 *e*P **Pn 08 52 41.3 +4.3**
ORIF Oris-en-Rattie 8.17 13 P Pn 08 52 41.3 +4.3
MBDF Montbardon 8.18 18 *e*P **Pn 08 52 41.8 +4.6**
MBDF Montbardon 8.18 18 P Pn 08 52 41.8 +4.6
RJF Les Rejaudoux 8.40 352 *e*P **Pn 08 52 42.8 +2.7**
RJF Les Rejaudoux 8.40 352 P Pn 08 52 42.8 +2.7
LPG La Plagne 8.90 16 *e*Pn **Pn 08 52 47.6 +0.4**
LPG La Plagne 8.90 16 P Pn 08 52 47.6 +0.4
LPL La Plagne 8.91 16 *e*Pn **Pn 08 52 47.3 0.0**
LPL La Plagne 8.91 16 P Pn 08 52 47.3 0.0
BGF Bois d'Agland 9.56 358 *e*P **Pn 08 52 59.4 +3.4**
BGF Bois d'Agland 9.56 358 P Pn 08 52 59.4 +3.4
SMF Signal de Mont 9.65 3 *e*P **Pn 08 53 00.5 +3.2**
SMF Signal de Mont 9.65 3 P Pn 08 53 00.5 +3.2
CABF La Chapelle 9.84 12 *e*P **Pn 08 53 03.3 +3.3**
CABF La Chapelle 9.84 12 P Pn 08 53 03.3 +3.3

MDD ***06*** *08:58:12.5±1.0,35°.06N×2°.87W,h7km±3km,mbLg2.5/16, Error ellipse: s-maj=9.1km s-min=6.5km az=119.0, PRXIMO*
CNRM ***06*** *08:58:13.6±0.7,35°.07N×2°.89W,h0km, Error ellipse: s-maj=7.6km s-min=4.3km az=56.0*
SFS ***06*** *08:58:14.0,35°.20N×3°.10W, ML2.5,NADOR (MARRUECOS)*
INMG ***06*** *08:58:14.7±2.3,35°.23N×3°.09W,h0km±6km,ML2.3, Error ellipse: s-maj=4.7km s-min=4.0km az=108.0*
ISC 06 08:58:12.8±0.8,**35°.12N**±0°.02×**2°.90W**±0°.03,**h17**km±5km,
n51,σ1§**80**/96,**1C-2D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.13**	**321**	P	**Pg**	**08 58 15.7**	**-1.1**
GOG				S	**Sg**	**08 58 20.6**	**+1.2**
MELI	**Melilla**	**0.17**	**350**	⇓P	**Pg**	**08 58 16.9**	**-0.4**
MELI				S	**Sg**	**08 58 20.7**	**+0.4**
MELI	**Melilla**	**0.17**	**350**	*e*P	**Pg**	**08 58 16.9**	**-0.4**
MELI				*e*S	**Sg**	**08 58 20.3**	**0.0**
EMEL	**Melilla**	**0.18**	**345**	⇓P	**Pg**	**08 58 17.2**	**-0.2**
EMEL				S	**Sg**	**08 58 20.6**	**+0.1**
TAF	**Taforalt**	**0.50**	**128**	P	**Pg**	**08 58 20.6**	**-2.3**
TAF				S	**Sb**	**08 58 29.6**	**-0.7**
EALB	**Alboran**	**0.82**	**352**	P	**Pg**	**08 58 28.1**	**-0.8**
EALB				S	**Sb**	**08 58 41.5**	**+2.0**
JBK	**JBK**	**0.83**	**161**	P	**Pg**	**08 58 26.5**	**-2.6**
JBK				S	**Sg**	**08 58 38.3**	**-1.8**
PALE	**Palemas**	**0.86**	**277**	P	**Pb**	**08 58 29.7**	**+0.4**
PALE				S	**Sb**	**08 58 41.8**	**+1.2**
AKLM	**AKL**	**1.00**	**233**	P	**Pg**	**08 58 31.2**	**-1.1**
AKLM				S	**Sn**	**08 58 46.3**	**+0.3**
PVLZ	**Peæn de**	**1.15**	**273**	P	**Pn**	**08 58 35.4**	**+1.2**
PVLZ				S	**Sg**	**08 58 49.8**	**-0.4**
PVLZ	**Peæn de**	**1.15**	**273**	*e*P	**Pn**	**08 58 35.4**	**+1.2**
PVLZ				*e*S	**Sg**	**08 58 49.8**	**-0.4**
EBER	**Berja**	**1.77**	**0**	P	**Pn**	**08 58 43.6**	**+0.7**
EBER				S	**Sn**	**08 59 04.8**	**-0.4**
ELGU	**Los Guajares,**	**1.84**	**341**	P	**Pn**	**08 58 43.0**	**-0.8**
ELGU				S	**Sn**	**08 59 08.2**	**+1.5**
CHEFC	**Chefchaouen**	**2.00**	**270**	P	**Pn**	**08 58 46.9**	**+0.9**
CHEFC				S	**Sn**	**08 59 13.3**	**+2.6**
EMIJ	**Mijas**	**2.10**	**314**	P	**Pn**	**08 58 46.5**	**-0.8**
EMIJ				S	**Sn**	**08 59 10.2**	**-2.7**
SMIR	**Smir Dam**	**2.10**	**286**	P	**Pn**	**08 58 47.8**	**+0.5**
SMIR				S	**Sn**	**08 59 15.4**	**+2.3**
EQUE	**Quentar**	**2.12**	**348**	P	**Pn**	**08 58 48.0**	**+0.3**
EQUE				S	**Sn**	**08 59 15.9**	**+2.2**
LCRM	**LCR**	**2.16**	**229**	P	**Pg**	**08 58 53.7**	**-0.7**
LCRM				S	**Sg**	**08 59 22.3**	**-0.2**
TDRA	**Tendrara**	**2.20**	**161**	P	**Pb**	**08 58 50.9**	**-1.4**
TDRA				S	**Sb**	**08 59 19.7**	**+0.3**
EGOR	**Sierra Gorda,**	**2.21**	**334**	P	**Pn**	**08 58 49.7**	**+0.8**
EGOR				S	**Sn**	**08 59 17.7**	**+1.7**
SICH	**Sidi Chahed**	**2.24**	**244**	P	**Pb**	**08 58 52.0**	**-0.9**
SICH				S	**Sb**	**08 59 20.0**	**-0.3**
RSA	**Sarsar**	**2.41**	**265**	P	**Pn**	**08 58 53.9**	**+2.3**
RSA				S	**Sb**	**08 59 25.3**	**-0.1**
IFR	**Ifrane**	**2.44**	**230**	*e*P	**Pb**	**08 58 57.7**	**+1.2**
IFR				*e*S	**Sg**	**08 59 29.0**	**-2.4**
EQES	**Quesada**	**2.68**	**357**	P	**Pn**	**08 58 58.4**	**+3.0**
EQES				S	**Sn**	**08 59 29.7**	**+2.3**
MDT	**Midelt**	**2.71**	**212**	P	**Pn**	**08 58 55.5**	**-0.2**
MDT				S	**Sb**	**08 59 32.4**	**-1.5**
MD31	**MD31**	**2.73**	**215**	P	**Pb**	**08 58 58.9**	**-2.4**
CZD	**Col de Zad**	**2.74**	**221**	P	**Pn**	**08 58 56.8**	**+0.4**
CZD				S	**Sb**	**08 59 32.9**	**-2.1**
SESP	**Santiago Espad**	**3.00**	**5**	P	**Pn**	**08 59 01.1**	**+1.3**
SESP				S	**Sn**	**08 59 36.7**	**+1.2**
EMUR	**La Murta**	**3.02**	**26**	P	**Pn**	**08 59 00.6**	**+0.6**
EMUR				S	**Sn**	**08 59 35.9**	**0.0**
FIGM	**Figuig**	**3.28**	**155**	P	**Pn**	**08 59 05.3**	**+1.7**
FIGM				S	**Sn**	**08 59 45.9**	**+3.7**
EADA	**Adamuz**	**3.33**	**337**	P	**Pn**	**08 59 04.6**	**+0.5**
EADA				S	**Sn**	**08 59 42.8**	**-0.5**
ECAB	**El Cabril**	**3.58**	**326**	P	**Pn**	**08 59 07.6**	**0.0**
ECAB				S	**Sn**	**08 59 49.4**	**-0.1**
ETOB	**Tobarra**	**3.68**	**17**	P	**Pn**	**08 59 10.9**	**+1.9**
ETOB				S	**Sn**	**08 59 52.0**	**0.0**
GOLM	**Goulmima**	**3.82**	**207**	P	**Pn**	**08 59 14.6**	**+3.6**
GOLM				S	**Sb**	**09 00 02.8**	**-3.1**
EMIN	**Mina Concepcio**	**4.03**	**312**	P	**Pn**	**08 59 13.7**	**-0.1**
EMIN				S	**Sn**	**08 59 58.3**	**-2.2**
EGRO	**El Granado**	**4.42**	**304**	P	**Pn**	**08 59 18.6**	**-0.5**
EGRO				S	**Sn**	**09 00 07.9**	**-2.2**
PVAQ	**Vaqueiros**	**4.51**	**302**	*e*Pn	**Pn**	**08 59 19.9**	**-0.5**
PVAQ				*e*Sn	**Sn**	**09 00 11.5**	**-1.0**
PVAQ				A	A	09 00 15.7	
PAB	**San Pablo**	**4.56**	**346**	P	**Pn**	**08 59 22.3**	**+1.1**
PBDV	**Barranco-do-Ve**	**4.59**	**299**⇑	*e*Pn	**Pn**	**08 59 21.0**	**-0.5**
PBDV				*e*Sn	**Sn**	**09 00 13.3**	**-1.1**
PBDV				A	A	09 00 21.0	
PCVE	**Castro Verde**	**4.85**	**303**	*e*Pn	**Pn**	**08 59 25.6**	**+0.6**
PCVE				*e*Sn	**Sn**	**09 00 19.8**	**-0.9**
PCVE				A	A	09 00 24.8	
PFVI	**Vila Bisbo**	**5.20**	**294**	P	**Pn**	**08 59 30.5**	**+0.6**
PFVI				S	**Sn**	**09 00 26.1**	**-3.4**
PFVI	**Vila Bisbo**	**5.20**	**294**	*e*Pn	**Pn**	**08 59 30.8**	**+0.9**
PTEO	**Sao Teotonio**	**5.29**	**299**	*e*Pn	**Pn**	**08 59 32.0**	**+0.9**
OUZM	**OUZ**	**5.31**	**219**	P	**Pn**	**08 59 36.1**	**+4.6**
OUZM				S	**Sn**	**09 00 39.7**	**+7.3**
EVO	**Evora**	**5.33**	**311**	*e*Pn	**Pn**	**08 59 32.1**	**+0.4**
EVO				*e*Sn	**Sn**	**09 00 31.7**	**-1.0**
EVO				A	A	09 00 33.5	
2.7nm,0.3s
PNCL Nicolau / Gran 5.42 305 *e*Pn **Pn 08 59 32.9 0.0**
PNCL *e*Sn **Sn 09 00 33.7 -1.2**
PNCL A A 09 00 38.0
2.8nm,0.6s
PMRV Marv??o 5.60 322 *e*Pn **Pn 08 59 36.5 +1.2**
PMRV *e*Sn **Sn 09 00 38.5 -0.7**
OUK Oukaimeden 5.71 228 P Pn 08 59 39.6 +2.4
OUK S **Sn 09 00 46.0 +3.5**
PCBR Castelo Branco 5.95 324 *e*Pn **Pn 08 59 41.0 +0.8**
PSBE So Bento 6.43 315 *e*Pn **Pn 08 59 48.0 +1.3**
EAH EAH 6.58 240 P Pn 08 59 50.6 +1.8
EAH S **Sn 09 01 07.0 +3.6**

IDC ***06*** *09:03:50.1±0.6, 11°.10S×164°.80E,h0km,mb4.3/17, mb1 4.4/20,mb1mx4.2/44,mbtmp4.3/20,ML4.5/3,MS3.6/1, Ms1 3.6/1,ms1mx3.2/40,Error ellipse: s-maj=23.1km s-min=13.9km az=100.0*
NEIC ***06*** *09:03:51.2±1.4, 11°.18S±0°.07×164°.77E±0°.08,h10km±1km, mb4.8/27,Error ellipse: s-maj=14.2km s-min=10.4km az=47.0*
ISC 06 09:03:51.4±0.5,**11°.18S**±0°.06×**164°.79E**±0°.07,**h10**km,**n68,**
σ0§**94**/74,**mb4.6**/32,**Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.84**	**151**	Pn	**Pn**	**09 05 06.1**	**+1.7**
SANVU				Sn	**Sn**	**09 06 01.3**	**+0.7**
HNR	**Honiara**	**5.08**	**290**	Pn	**Pn**	**09 05 09.2**	**+1.6**
31nm,0.3s,baz=138,slow=6.0,SNR=6.9
HNR Sn **Sn 09 06 04.6 -1.7**
32nm,0.3s,baz=163,slow=23,SNR=5.7
HNR LR LR 09 07 11.1
comp=Z,678nm,21.4s,baz=42,slow=40
HNR Honiara 5.08 290 Pn **Pn 09 05 08.2 +0.7**
HNR Sn **Sn 09 06 07.1 +0.8**
DZM Mont Dzumac 10.94 172 Pn **Pn 09 06 29.6 +1.4**
2.8nm,0.3s,baz=12,slow=9.2,SNR=24
DZM Sn **Sn 09 08 26.4 -4.5**
0.3nm,0.3s,baz=59,slow=21,SNR=1.7
DZM Mont Dzumac 10.94 172 Pn 09 06 28.8 +0.6
DZM **Sn 09 08 29.5 -1.4**
PMG Port Moresby 17.44 274 P **Pn 09 07 55.0 0.0**
PMG IAmb IAmb 09 08 02.5
comp=Z,36nm,0.6s
CTA Charters Tower 19.91 241 P **Pn 09 08 25.2 +0.2**
comp=Z,0.7nm,0.3s,baz=73,slow=12,SNR=9.7
CTAO Charters Tower 19.91 241 P **P 09 08 23.4 0.0**
COEN Coen 21.28 260 P **P 09 08 38.6 +0.4**
ARMA Armidale 22.72 211 P **P 09 08 54.4 +0.7**
JAY Jayapura 25.40 288 P **P 09 09 20.2 +0.9**
comp=Z,8.7nm,1.1s
STKA Stephens Creek 29.71 223 P **P 09 09 59.0 +1.3**
comp=Z,2.0nm,0.7s,baz=58,slow=10,SNR=7.7
STKA PcP **PcP 09 13 02.6 +0.7**
comp=Z,2.7nm,0.8s,baz=56,slow=4.2,SNR=5.2
STKA Stephens Creek 29.71 223 P **P 09 09 57.1 -0.7**
BKZ Black Stump Fm 29.75 161 P **P 09 09 57.3 -0.8**
BKZ IAmb IAmb 09 10 06.2
comp=Z,20nm,1.4s
WR0 Warramunga Arr 30.38 250 P **P 09 10 03.5 -0.4**
WR0 IAmb IAmb 09 10 04.3
comp=Z,16nm,1.3s
WB0 Warramunga Arr 30.47 250 P **P 09 10 04.6 -0.2**
WC3 Warramunga Arr 30.53 250 P **P 09 10 04.3 -0.9**
WC3 IAmb IAmb 09 10 06.4
comp=Z,26nm,1.4s
WRAB Tennant Creek 30.55 250 P **P 09 10 05.0 -0.4**
WB2 Warramunga Arr 30.55 250 P **P 09 10 04.7 -0.7**
WB2 IAmb IAmb 09 10 06.5
comp=Z,21nm,1.3s
WRA Warramunga Arr 30.56 250 P **P 09 10 04.9 -0.6**
comp=Z,7.7nm,0.7s,baz=80,slow=8.9,SNR=47
WRA PcP **PcP 09 13 05.0 +0.6**
comp=Z,0.9nm,1.1s,baz=68,slow=3.8,SNR=4.7
WRA Warramunga Arr 30.56 250 P **P 09 10 04.7 -0.8**
TOO Toolangi 31.48 210 P **P 09 10 13.0 -0.4**
AS31 Alice Springs 31.90 243 P **P 09 10 16.6 -0.6**
ASAR Alice Springs 31.90 243 P **P 09 10 16.4 -0.8**
comp=Z,5.4nm,0.7s,baz=63,slow=9.9,SNR=80
ASAR PcP **PcP 09 13 08.2 +0.3**
comp=Z,1.0nm,0.8s,baz=73,slow=2.2,SNR=6.4
ASAR Alice Springs 31.90 243 P **P 09 10 15.9 -1.3**
RPZ Rata Peaks 32.87 172 P **P 09 10 26.4 +0.9**
comp=Z,8.2nm,0.8s,baz=17,slow=6.1,SNR=2.3
RPZ Rata Peaks 32.87 172 P **P 09 10 25.3 -0.2**
BBOO Buckleboo 34.06 226 P **P 09 10 35.8 -0.2**
BBOO IAmb IAmb 09 10 37.1
comp=Z,9.3nm,0.8s
KNRA Kununurra 35.30 259 P **P 09 10 45.8 -1.1**
FITZ Fitzroy Crossi 38.44 255 P **P 09 11 13.2 -0.5**
FITZ IAmb IAmb 09 11 13.7
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 53.67 333 P **P 09 13 12.7 -0.7**
comp=Z,1.6nm,0.7s,baz=166,slow=8.9,SNR=6.8
MJAR Matsushiro Arr 53.67 333 IAmb IAmb 09 13 14.0
comp=Z,1.3nm,0.8s
MAT Matsushiro 53.67 333 P **P 09 13 12.3 -1.1**
JKA Kamikawa-asahi 58.62 341 P **P 09 13 49.1 +0.5**
ASAJ Asahikawa 58.62 341 P **P 09 13 49.1 +0.5**
comp=Z,20nm,1.1s,baz=120,slow=27,SNR=3.7
KSRS Korea Array 59.47 326 P **P 09 13 54.5 -0.1**
comp=Z,1.7nm,0.9s,baz=147,slow=7.1,SNR=8.3
NJ2 Nanjing 61.46 316 *e*P **P 09 14 09.1 +0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
USA0B Ussuriysk Arra 62.65 334 P **P 09 14 16.7 +0.5**
USA0B IAmb IAmb 09 14 17.7
comp=Z,11nm,1.3s
USRK Ussuriysk Ar. 62.65 334 P **P 09 14 16.9 +0.7**
comp=Z,2.7nm,0.7s,baz=124,slow=5.9,SNR=11
PETK Petropavlovsk- 64.32 355 P **P 09 14 27.0 0.0**
comp=Z,2.0nm,0.8s,baz=153,slow=10.0,SNR=7.8
PETK Petropavlovsk- 64.32 355 P **P 09 14 26.0 -1.0**
BKNI Bangkinang 64.35 276 P **P 09 14 27.3 -0.8**
VNDA Vanda 66.34 181 P **P 09 14 41.4 +1.6**
comp=Z,1.6nm,1.0s,baz=349,slow=5.9,SNR=5.8
VNDA Vanda 66.34 181 P **P 09 14 39.5 -0.4**
VNDA IAmb IAmb 09 14 45.3
comp=Z,6.8nm,1.3s
KLR Kul'dur 66.81 337 P **P 09 14 43.2 0.0**
comp=Z,2.7nm,0.9s,baz=106,slow=6.2,SNR=7.7
BJI Beijing 68.00 322 P **P 09 14 51.4 +0.5**
BJI pmax pmax
comp=Z,3.0nm,0.7s
HHC Hu-ho-hao-te 71.33 320 *e*P **P 09 15 12.1 +0.5**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,200nm,7.8s
SEY Seymchan 74.51 354 P **P 09 15 29.8 -0.1**
comp=Z,0.7nm,0.3s,baz=106,slow=5.7,SNR=5.3
ULN Ulaanbaatar 77.86 324 P **P 09 15 50.0 +0.5**
ULN IAmb IAmb 09 15 50.9
comp=Z,9.0nm,1.3s
YAK Yakutsk 77.96 344 P **P 09 15 48.7 -0.8**
comp=Z,13nm,0.4s,baz=54,slow=2.8,SNR=3.2
YAK Yakutsk 77.96 344 IAmb IAmb 09 15 49.0
comp=Z,26nm,0.4s
SONM Songino Array 78.23 324 P **P 09 15 51.6 +0.2**
comp=Z,1.1nm,0.6s,baz=134,slow=6.4,SNR=5.5
SONM Songino Array 78.23 324 P **P 09 15 50.8 -0.6**
QSPA South Pole Qui 78.82 180 P **P 09 15 55.2 +0.7**
QSPA IAmb IAmb 09 15 56.7
comp=Z,5.7nm,1.0s
HDA Harding Lake 83.67 19 P **P 09 16 19.9 -0.1**
HDA IAmb IAmb 09 16 25.5
comp=Z,6.2nm,1.1s
ILAR Eielson Array 83.94 19 P **P 09 16 21.1 -0.3**
comp=Z,0.8nm,0.8s,baz=239,slow=5.2,SNR=9.7
ILAR Eielson Array 83.94 19 P **P 09 16 20.8 -0.6**
BMAR Burnt Mountain 86.41 17 P **P 09 16 32.6 -1.2**
NVAR Mina Array Bea 86.83 50 P **P 09 16 36.4 -0.3**
comp=Z,0.5nm,0.9s,baz=232,slow=7.3,SNR=4.0
WMQ Urumqi 88.53 315 *e*P **P 09 16 45.0 +0.5**
MKAR Makanchi Array 92.98 317 P **P 09 17 05.0 -0.1**
comp=Z,1.1nm,0.8s,baz=98,slow=6.7,SNR=6.5
MKAR Makanchi Array 92.98 317 P **P 09 17 05.2 +0.1**
ZALV Zalesovo Beam 93.12 324 P **P 09 17 04.7 -0.9**
comp=Z,0.4nm,0.4s,baz=126,slow=2.0,SNR=1.4
ZALV Zalesovo Beam 93.12 324 P **P 09 17 04.9 -0.6**
ARCES ARCESS Array B 116.23 345 PKP **PKiKP 09 22 34.0 -0.6**
comp=Z,0.4nm,0.5s,baz=333,slow=0.3,SNR=5.7
FINES FINESS Array B 121.55 338 PKP **PKPdf 09 22 43.9 -1.0**
comp=Z,1.2nm,0.9s,baz=134,slow=24,SNR=2.5
BOSA Boshof 124.38 224 PKP **PKiKP 09 22 52.3 +0.4**
comp=Z,0.9nm,0.7s,baz=98,slow=2.2,SNR=4.2
ESDC Sonseca Array 149.92 343 PKPbc **PKPbc 09 23 42.6 +0.2**
comp=Z,0.6nm,0.7s,baz=30,slow=2.0,SNR=6.0

IDC ***06*** *09:07:02.6±1.3,6°.43S×147°.09E,h0km,mb3.5/3, mb1 3.6/5,mb1mx3.3/45,mbtmp3.5/5,ML1.2/1,Error ellipse: s-maj=62.6km s-min=21.5km az=105.0*
ISC 06 09:07:09.0±1.1,**6°.45S**±0°.10×**146°.9E**±0°.3,**h49**km,**n6,**
σ0§**97**/7,**mb3.8**/3,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.95**	**174**	Pn	**Pn**	**09 07 52.8**	**-0.7**
2.8nm,0.3s,baz=77,slow=18,SNR=1.9
PMG Sn **Sn 09 08 28.6 +1.0**
baz=51,slow=21,SNR=2.0
WRA Warramunga Arr 18.11 221 P **Pn 09 11 17.2 0.0**
baz=50,slow=11,SNR=2.3
ASAR Alice Springs 21.18 215 P **P 09 11 50.2 -0.3**
0.7nm,0.7s,baz=39,slow=12,SNR=4.0
PETK Petropavlovsk- 60.04 8 P **P 09 17 11.8 +1.0**
0.9nm,0.6s,baz=168,slow=7.4,SNR=4.9
ILAR Eielson Array 85.94 23 P **P 09 19 42.6 -1.0**
0.4nm,0.7s,baz=250,slow=4.6,SNR=3.7
TORD Torodi Ar. Bea 145.07 284 PKPbc **PKPdf 09 26 42.6 +0.5**
0.9nm,0.7s,baz=77,slow=3.5,SNR=3.2

MAN ***06*** *09:14:21.4,5°.70N×125°.75E,h134km,mb4.8,ML3.7, MS3.7*
KLM ***06*** *09:14:23.0,5°.92N×125°.41E,h126km,mb4.9*
NEIC ***06*** *09:14:24.4±1.2,5°.96N±0°.05×125°.79E±0°.02,h127km±7km, mb4.6/39,Error ellipse: s-maj=8.5km s-min=2.4km az=198.0*
IDC ***06*** *09:14:24.4±0.6,5°.89N×125°.61E,h120km±5km,mb4.1/28, mb1 4.2/31,mb1mx4.1/48,mbtmp4.5/31,Error ellipse: s-maj=15.4km s-min=7.2km az=84.0*
BJI ***06*** *09:14:24.8±0.0,5°.97N×125°.67E,h117km,mB4.9/13, mb4.5/16*
DJA ***06*** *09:14:25.0±0.4,6°N±3°×12°6E±°,h114km±3km,M4.7/32, mB5.1/16,mb4.9/32,MLv5.0/11,Mw(mB)4.5/16*
ISC 06 09:14:24.3±0.6,**5°.91N**±0°.03×**125°.84E**±0°.05,**h121**km±5km,
n153,σ1§**54**/170,**mb4.5**/49,**3C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.23**	**327**	*e*P	**Pn**	**09 14 39.2**	**-2.0**
DDMP *e*S **Sn 09 14 53.4 -0.5**
MATI Mati 1.11 22 *e*P **Pn 09 14 47.5 -0.1**
MATI *e*S **Sn 09 15 01.8 -3.5**
DAV Davao City (W) 1.19 347 P **Pn 09 14 48.6 +0.2**
268nm,0.3s,baz=154,slow=2.2,SNR=14
DAV S **Sn 09 15 05.9 -0.7**
605nm,0.3s,baz=325,slow=23,SNR=7.0
DAV Davao City (W) 1.19 347 Pn 09 14 48.8 +0.4
DAV Sn **Sn 09 15 06.0 -0.6**
DAV Davao City (W) 1.19 347⇑ *e*P **Pn 09 14 47.7 -0.6**
KCP Kidapawan 1.32 326⇑ *i*P **Pn 09 14 50.9 +1.0**
KCP *i*S **Sn 09 15 12.3 +2.9**
SKMP Bagumbayan, Su 1.43 295 *e*P **Pn 09 14 49.2 -1.8**
SKMP *e*S **Sn 09 15 09.6 -1.7**
BUKP Musuan 2.11 339 *e*P **Pn 09 14 59.6 +0.4**
BUKP *e*S **Sn 09 15 28.7 +2.8**
BIP Bislig 2.34 10⇓ *e*P **Pn 09 15 04.5 +2.4**
BIP *e*S **Sn 09 15 36.7 +5.6**
PAGZ Pagadian 3.11 308 *e*P **Pn 09 15 11.2 -0.9**
PAGZ *e*S **Sn 09 15 49.8 +0.8**
LLP Lapu-Lapu 4.76 337 *e*P **Pn 09 15 34.4 +0.3**
LLP *i*S **Sn 09 16 30.2 +1.8**
TNTI Ternate 5.32 163 P **Pn 09 15 42.1 +0.4**
0.9nm4μm153nm,0.6s
TNTI Ternate 5.32 163 Pn **Pn 09 15 42.7 +1.0**
TNTI Sn **Sn 09 16 44.4 +2.4**
KMSI Cibinong 5.61 199 P **Pn 09 15 47.4 +1.8**
1.4nm328nm,0.6s
GTOI Gorontalo 5.95 208 P **Pn 09 15 50.7 +0.6**
0.6nm2μm168nm,0.7s
MYLDM Lahad Datu 7.34 265 Pn **Pn 09 16 11.8 +2.9**
MYLDM Sn **Sn 09 17 30.5 -0.3**
LUWI Luwuk 7.55 204 P **Pn 09 16 13.4 +1.6**

1.2nm122nm,0.8s
LUWI **Luwuk** **7.55 204** Pn **Pn** **09 16 13.0 +1.2**
LUWI Sn **Sn** **09 17 36.5 +0.6**
SANI **Sanana** **7.90 179** P **Pn** **09 16 14.3 -2.3**
0.6nm4μm132nm,1.0s
MPSI **Mapaga** **8.11 227** P **Pn** **09 16 21.8 +2.4**
980nm32nm,0.7s
SIJI **Sorong** **8.64 141** P **Pn** **09 16 26.8 +0.2**
10nm,0.3s,baz=338,slow=21,SNR=18
SIJI S **Sn** **09 18 00.0 -2.3**
2.0nm,0.3s,baz=186,slow=21,SNR=6.1
NLAI **Namlea** **9.17 172** P **Pn** **09 16 30.0 -3.7**
LQP **Lukban** **9.19 333⇑** *e*P Pn 09 16 39.3 +5.2
KKM **Kota Kinabalu** **9.57 271** Pn **Pn** **09 16 37.7 -1.5**
FAKI **Fak Fak** **10.86 144** P **Pn** **09 17 00.0 +3.6**
FAKI **Fak Fak** **10.86 144** Pn **Pn** **09 16 56.9 +0.5**
SPSI **Sidrap Palu** **11.53 212** P **P** **09 17 09.7 -4.3**
37nm,0.7s
BNSI **Bone** **11.73 209** P **Pn** **09 17 11.5 +3.5**
1μm107nm,0.8s
KAPI **Kappang** **12.44 209** P **Pn** **09 17 16.8 -0.4**
5.0nm,0.3s,baz=22,slow=9.2,SNR=13
BKSI **Bulukumba** **12.53 207** P **P** **09 17 22.8 -2.4**
19nm,1.3s
SBUM **Sibu** **14.01 256** P **Pn** **09 17 38.0 +0.3**
BBKI **Banjar Baru** **14.40 230** P **P** **09 17 46.3 +0.3**
4μm54nm,1.1s
MMRI **Maumere** **14.89 194** P P 09 18 00.0 +8.6
MMRI **Maumere** **14.89 194** P **P** **09 17 50.5 -0.9**
EDFI **Ende, Flores** **15.13 196** P **P** **09 17 53.5 -0.8**
341nm33nm,0.8s
SOEI **Soe** **15.64 186** P **P** **09 18 00.3 +0.4**
58nm,0.6s
SOEI **Soe** **15.64 186** **P** **09 18 00.1 +0.2**
BATI **Baumata** **16.15 188** P **Pn** **09 18 04.7 +0.1**
43nm,0.3s,baz=72,slow=3.5,SNR=16
BATI **Baumata** **16.15 188** P **P** **09 18 08.5 +3.0**
1μm126nm,0.7s
PLAI **Plampang** **16.70 209** P **P** **09 18 11.6 +0.1**
815nm56nm,0.5s
JAY **Jayapura** **17.04 119** P **Pn** **09 18 16.8 +1.4**
1.9nm,0.3s,baz=224,slow=8.0,SNR=6.8
DLV **T Lat** **18.16 290** P **P** **09 18 25.9 -1.9**
DLV IAmb IAmb 09 18 31.6
comp=Z,26nm,1.0s
JAGI **Jajag, Banyuwa** **18.43 219** P **Pn** **09 18 31.3 -0.8**
JAGI IAmb IAmb 09 18 33.7
comp=Z,43nm,1.0s
NACB **Ninganchiao** **18.62 348** P **P** **09 18 31.7 -0.7**
NACB IAmb IAmb 09 18 54.5
comp=Z,16nm,0.8s
MTN **Manton Dam** **19.36 164** P **P** **09 18 41.4 +0.8**
baz=20,SNR=21
MTN **Manton Dam** **19.36 164** P **P** **09 18 41.8 +1.2**
KDU **Kakadu** **19.61 160** P **P** **09 18 44.3 +0.9**
baz=20,SNR=45
GUMO **Guam** **20.23 66** P **P** **09 18 52.1 +2.0**
comp=Z,36nm,0.9s,baz=4.3,slow=15,SNR=2.3
GUMO **Guam** **20.23 66** P **P** **09 18 49.5 -0.6**
KNRA **Kununurra** **21.64 172** P **P** **09 19 05.3 +0.2**
baz=22,SNR=48
KNRA **Kununurra** **21.64 172** P **P** **09 19 05.3 +0.2**
LEM **Lembang** **22.15 235** P **P** **09 19 10.7 -0.1**
comp=Z,28nm,0.5s,baz=5.3,slow=14,SNR=6.2
CISI **Cisompet, Garu** **22.41 234** P **P** **09 19 12.5 -0.7**
CISI IAmb IAmb 09 19 24.0
comp=Z,38nm,1.0s
CBJI **Citeko** **22.57 237** P **P** **09 19 17.0 +2.3**
comp=Z,84nm,0.8s
KLSI **23.56 244** P **P** **09 19 27.3 +3.2**
comp=Z,14nm,1.0s
FITZ **Fitzroy Crossi** **23.85 180** P **P** **09 19 27.1 +0.5**
baz=24,SNR=68
FITZ **Fitzroy Crossi** **23.85 180** P **P** **09 19 27.3 +0.6**
comp=Z,19nm,0.5s,baz=360,slow=7.7,SNR=81
FITZ **Fitzroy Crossi** **23.85 180** P **P** **09 19 26.9 +0.2**
FITZ IAmb IAmb 09 19 29.1
comp=Z,18nm,0.7s
MDSI **Maura Dua** **23.97 245** P **P** **09 19 31.6 +3.8**
comp=Z,982nmcomp=Z,21nm,1.4s
KASI **Kota Agung** **24.14 242** P **P** **09 19 32.8 +3.4**
comp=Z,63nm,0.9s
KULM **Kulim** **25.08 270** P **P** **09 19 39.0 +1.1**
KSI **Kapahiang** **25.08 248** P **P** **09 19 42.4 +4.4**
SDSI **Sungai Dareh** **25.30 255** P **P** **09 19 40.9 +1.0**
comp=Z,782nmcomp=Z,24nm,0.7s
PMG **Port Moresby** **26.13 125** P **P** **09 19 48.6 +1.2**
comp=Z,25nm,0.9s,baz=301,slow=12,SNR=3.7
PMG **Port Moresby** **26.13 125** P **P** **09 19 46.3 -1.1**
PMG IAmb IAmb 09 19 50.6
comp=Z,27nm,0.9s
COEN **Coen** **26.18 139** P **P** **09 19 48.7 +0.9**
baz=26,SNR=11
COEN **Coen** **26.18 139** P **P** **09 19 48.2 +0.3**
COEN IAmb IAmb 09 19 52.9
comp=Z,19nm,0.9s
JCJ **Chichijima** **26.20 35** P **P** **09 19 45.9 -1.9**
comp=Z,35nm,0.5s,baz=273,slow=22,SNR=10
NJ2 **Nanjing** **26.82 347** *e*P **P** **09 19 54.6 +1.3**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
WB0 **Warramunga Arr** **26.86 162** P **P** **09 19 54.0 +0.1**
WB0 IAmb IAmb 09 20 06.2
comp=Z,9.2nm,0.8s
WRAB **Tennant Creek** **27.01 162** P **P** **09 19 55.1 -0.1**
WRAB IAmb IAmb 09 20 01.6
comp=Z,9.7nm,0.5s
WRA **Warramunga Arr** **27.01 162** P **P** **09 19 55.1 -0.2**
comp=Z,2.0nm,0.4s,baz=333,slow=11,SNR=71
WRA S **S** **09 24 21.5 -2.6**
comp=Z,1.4nm,0.8s,baz=344,slow=16,SNR=5.8
WRA **Warramunga Arr** **27.01 162** P **P** **09 19 54.6 -0.6**
WB2 **Warramunga Arr** **27.02 162** P **P** **09 19 55.2 -0.1**
WB2 IAmb IAmb 09 20 01.7
comp=Z,9.8nm,0.5s
WR0 **Warramunga Arr** **27.09 162** P **P** **09 19 56.0 0.0**
JNU **Nakatsue** **27.48 9** P **P** **09 19 59.9 +0.6**
comp=Z,6.4nm,0.8s,baz=181,slow=4.6,SNR=3.9
QIS **Mount Isa** **29.57 153** P **P** **09 20 18.9 +0.9**
baz=30,SNR=4.4
AS31 **Alice Springs** **30.43 165** P **P** **09 20 26.0 +0.5**
ASAR **Alice Springs** **30.43 165** P **P** **09 20 25.9 +0.3**
comp=Z,4.5nm,0.4s,baz=344,slow=7.6,SNR=130
ASAR PcP **PcP** **09 23 22.6 +0.1**
comp=Z,1.7nm,0.4s,baz=344,slow=2.6,SNR=8.3
ASAR S **S** **09 25 16.4 -1.4**
comp=Z,1.2nm,1.0s,baz=348,slow=18,SNR=6.0
ASAR ScP **ScP** **09 26 53.0 -0.9**
comp=Z,0.4nm,0.4s,baz=341,slow=3.4,SNR=5.2
ASAR **Alice Springs** **30.43 165** P **P** **09 20 25.3 -0.2**
GIRL **Giralia** **30.56 201** P **P** **09 20 26.3 -0.3**
baz=31,SNR=3.8
GIRL **Giralia** **30.56 201** P **P** **09 20 26.2 -0.4**
WRKA **Warakurna** **30.85 176** P **P** **09 20 29.8 +0.6**
baz=31,SNR=60
INU **Inuyama** **31.06 18** P **P** **09 20 30.8 -0.1**
INU IAmb IAmb 09 20 34.5
comp=Z,9.4nm,0.8s
KSRS **Korea Array** **31.46 3** P **P** **09 20 35.7 +1.3**
comp=Z,1.2nm,0.5s,baz=183,slow=9.9,SNR=10
KSRS PcP **PcP** **09 23 24.7 -0.1**
comp=Z,0.8nm,0.7s,baz=192,slow=3.0,SNR=4.6
MJAR **Matsushiro Arr** **32.53 19** P **P** **09 20 43.6 -0.2**
comp=Z,2.1nm,0.7s,baz=200,slow=9.6,SNR=7.9
MJAR **Matsushiro Arr** **32.53 19** P **P** **09 20 43.0 -0.8**
MAJO **Matsushiro** **32.53 19** P **P** **09 20 43.3 -0.5**
MAJO IAmb IAmb 09 20 49.5
comp=Z,5.3nm,0.4s
CTA **Charters Tower** **32.72 143** P **P** **09 20 46.4 +0.7**
comp=Z,2.8nm,0.7s,baz=333,slow=11,SNR=2.0
CTAO **Charters Tower** **32.72 143** P **P** **09 20 46.7 +1.1**
CTAO IAmb IAmb 09 20 53.8
comp=Z,11nm,1.0s
MEEK **Meekatharra** **33.10 192** P **P** **09 20 48.8 -0.1**
baz=33,SNR=13
BJI **Beijing** **35.08 347** P **P** **09 21 06.5 +0.7**
BJI pmax pmax
comp=Z,4.0nm,0.6s
MORW **Morawa** **36.03 195** P **P** **09 21 14.1 0.0**
baz=36,SNR=19
MORW **Morawa** **36.03 195** P **P** **09 21 13.7 -0.4**
FORT **Forrest** **36.54 177** P **P** **09 21 18.3 0.0**
HHC **Hu-ho-hao-te** **37.07 342** *e*P **P** **09 21 25.3 +2.4**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax

comp=Z,140nm,7.4s
KMBL **Kambalda** **37.26 186** P **P** **09 21 24.8 +0.3**
baz=38,SNR=9.8
BLDU **Ballidu** **37.35 193** P **P** **09 21 25.3 0.0**
baz=38,SNR=35
KLBR **Kellerberrin** **38.08 191** P **P** **09 21 31.7 +0.3**
baz=38,SNR=19
USA0B **Ussuriysk Arra** **38.52 7** P **P** **09 21 34.9 0.0**
USA0B IAmb IAmb 09 21 38.3
comp=Z,4.9nm,0.8s
USRK **Ussuriysk Ar.** **38.52 7** P **P** **09 21 36.3 +1.4**
comp=Z,4.4nm,0.6s,baz=184,slow=8.0,SNR=22
USRK **Ussuriysk Ar.** **38.52 7** P **P** **09 21 35.6 +0.7**
MUN **Mundaring** **38.78 193** P **P** **09 21 37.6 +0.5**
baz=39,SNR=11
NWAO **Narrogin (SRO)** **39.48 191** P **P** **09 21 43.7 +0.7**
baz=40,SNR=14
NWAO **Narrogin (SRO)** **39.48 191** P **P** **09 21 43.6 +0.6**
comp=Z,15nm,0.5s,baz=29,slow=7.0,SNR=26
NWAO **Narrogin (SRO)** **39.48 191** P **P** **09 21 43.1 +0.1**
BBOO **Buckleboo** **39.71 166** P **P** **09 21 45.9 +1.0**
baz=40,SNR=161
STKA **Stephens Creek** **40.47 159** P **P** **09 21 52.4 +1.1**
baz=41,SNR=52
STKA **Stephens Creek** **40.47 159** P **P** **09 21 52.5 +1.2**
comp=Z,14nm,0.6s,baz=335,slow=8.6,SNR=71
STKA **Stephens Creek** **40.47 159** P **P** **09 21 52.1 +0.9**
GTA **Gaotai** **40.79 329** *e*P **P** **09 21 55.0 +1.0**
GTA pP pP 09 22 23.8 +2.5
GTA sP sP 09 22 38.0 +2.9
GTA pmax pmax
comp=Z,4.0nm,1.0s
ASAJ **Asahikawa** **40.80 19** P **P** **09 21 56.1 +2.3**
comp=Z,4.6nm,0.4s,baz=239,slow=11,SNR=9.0
HTT **Hallett** **41.04 163** P **P** **09 21 57.6 +1.7**
baz=41,SNR=15
RKGY **Rocky Gully** **41.16 191** P **P** **09 21 58.5 +1.6**
baz=41,SNR=23
KLR **Kul'dur** **43.46 6** P **P** **09 22 16.1 +0.8**
comp=Z,1.6nm,0.6s,baz=221,slow=5.7,SNR=7.5
SONM **Songino Array** **44.97 341** PcP **PcP** **09 24 06.6 -0.1**
comp=Z,0.7nm,0.3s,baz=156,slow=3.2,SNR=2.7
ARPS **Mount Arapiles** **45.02 162** P **P** **09 22 29.5 +1.6**
baz=45,SNR=37
CAN **Canberra** **46.44 154** P **P** **09 22 39.4 +0.2**
CAN IAmb IAmb 09 23 01.2
comp=Z,31nm,1.5s
TOO **Toolangi** **46.98 159** P **P** **09 22 45.7 +2.4**
baz=47,SNR=9.2
TOO **Toolangi** **46.98 159** P **P** **09 22 43.6 +0.3**
TOO IAmb IAmb 09 22 46.0
comp=Z,5.8nm,0.7s
DZM **Mont Dzumac** **48.52 126** P **P** **09 22 54.8 -0.7**
WMQ **Urumqi** **50.45 325** *e*P **P** **09 23 12.2 +2.4**
PETK **Petropavlovsk-** **53.78 23** P **P** **09 23 36.3 +2.1**
comp=Z,5.0nm,0.6s,baz=188,slow=5.7,SNR=20
PETK **Petropavlovsk-** **53.78 23** P **P** **09 23 35.3 +1.1**
MK31 **Makanchi Array** **55.27 325** P **P** **09 23 44.7 -0.5**
MKAR **Makanchi Array** **55.27 325** P **P** **09 23 44.8 -0.4**
comp=Z,1.0nm,0.4s,baz=116,slow=7.1,SNR=17
MKAR PcP **PcP** **09 24 43.1 -1.4**
comp=Z,1.0nm,0.6s,baz=117,slow=5.0,SNR=3.8
MKAR **Makanchi Array** **55.27 325** P **P** **09 23 44.3 -0.9**
NIL **Nilore** **55.91 307** P **P** **09 23 49.0 -1.0**
NIL IAmb IAmb 09 23 49.9
comp=Z,19nm,1.5s
ZALV **Zalesovo Beam** **58.26 333** P **P** **09 24 04.7 -1.4**
KURBB **Kurchatov Arra** **59.44 327** P **P** **09 24 13.2 -1.1**
comp=Z,1.2nm,0.6s,baz=125,slow=6.3,SNR=19
KURK **Kurchatov** **59.44 327** P **P** **09 24 13.0 -1.3**
SEY **Seymchan** **60.13 14** P **P** **09 24 21.1 +2.3**
comp=Z,0.8nm,0.4s,baz=193,slow=9.6,SNR=5.1
KK31 **Karatay Array** **61.05 316** P **P** **09 24 24.3 -1.1**
KKAR **Karatay Array** **61.05 316** P **P** **09 24 24.3 -1.1**
KKAR **Karatay Array** **61.05 316** P **P** **09 24 24.5 -1.0**
KKAR IAmb IAmb 09 24 25.6
comp=Z,1.6nm,0.7s
TIXI **Tiksi** **65.69 1** P **P** **09 24 55.2 -0.3**
comp=Z,5.9nm,0.5s,baz=183,slow=4.6,SNR=6.7
TIXI **Tiksi** **65.69 1** P **P** **09 24 55.4 0.0**
TIXI IAmb IAmb 09 25 20.5
comp=Z,10nm,1.0s
ABKAR **Akbulak array** **69.92 320** P **P** **09 25 21.1 -1.2**
AKTO **Aktyubinsk** **71.42 321** P **P** **09 25 30.4 -1.0**
comp=Z,2.0nm,0.6s,baz=79,slow=7.5,SNR=7.9
ARU **Arti** **72.64 328** P **P** **09 25 36.7 -1.9**
CASY **Casey** **72.86 186** P **P** **09 25 39.9 +0.2**
CASY IAmb IAmb 09 25 41.1
comp=Z,7.5nm,0.6s
KIRV **Kirov** **77.91 329** P **P** **09 26 07.6 -1.1**
comp=Z,12nm,0.6s,baz=185,slow=2.3,SNR=3.7
ILAR **Eielson Array** **83.53 26** P **P** **09 26 38.7 +0.1**
comp=Z,6nm,0.5s,baz=248,slow=5.0,SNR=12
MAW **Mawson** **85.48 200** P **P** **09 26 46.5 -1.7**
comp=Z,0.9nm,0.4s,baz=89,slow=7.4,SNR=4.3
VNDA **Vanda** **85.68 173** P **P** **09 26 49.0 -0.1**
comp=Z,0.6nm,0.4s,baz=322,slow=6.6,SNR=8.2
ARCES **ARCESS Array B** **88.11 340** P **P** **09 26 59.8 -1.2**
comp=Z,0.9nm,0.6s,baz=74,slow=6.4,SNR=11
FINES **FINESS Array B** **89.51 332** P **P** **09 27 06.0 -1.7**
comp=Z,1.0nm,0.6s,baz=36,slow=3.9,SNR=7.9
FINES **FINESS Array B** **89.51 332** P **P** **09 27 06.5 -1.2**
QSPA **South Pole Qui** **95.80 180** P **P** **09 27 35.6 -1.1**
NOA **NORSAR Array B** **96.46 334** P **P** **09 27 37.5 -2.3**
comp=Z,0.4nm,0.6s,baz=16,slow=2.3,SNR=2.6
TXAR **Lajitas Array** **120.94 51** PKP **PKiKP** **09 33 03.1 -0.4**
comp=Z,0.3nm,0.6s,baz=257,slow=1.1,SNR=6.0
TORD **Torodi Ar. Bea** **121.39 289** PKP **PKPdf** **09 33 03.1 -1.3**
comp=Z,0.8nm,0.4s,baz=63,slow=1.8,SNR=8.5
PLCA **Paso Flores** **142.34 159** PKhKP PKPpre 09 33 39.9
comp=Z,0.8nm,0.6s,baz=272,slow=5.1,SNR=4.4

IDC ***06*** *09:29:13.1±2.4, 38°.53N×144°.26E, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.3/34, mbtmp3.4/5, ML2.8/3, Error ellipse: s-maj=55.1km s-min=28.6km az=76.0*
JMA ***06*** *09:29:17.1±0.1, 38°.61N×143°.87E, h35km, M3.3*
ISC 06 09:29:18.6±1.4, 38°.63N±0°.06×143°.93E±0°.09, h35km, n17, σ1§30/29, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.82**	**285**	P	**Pn**	**09 29 46.7**	**-0.8**
OFUJ				S	**Sn**	**09 30 08.1**	**-1.3**
MIYJ	**Miyakonagasawa**	**1.90**	**301**	P	**Pn**	**09 29 47.5**	**-1.0**
MIYJ				S	**Sn**	**09 30 10.7**	**-0.5**
JKMT	**Kesennumamotoy**	**1.93**	**276**	P	**Pn**	**09 29 48.2**	**-0.7**
JKMT				S	**Sn**	**09 30 10.8**	**-1.2**
JIKH	**Ishinomakikobu**	**1.96**	**261**	P	**Pn**	**09 29 48.3**	**-1.1**
JIKH				S	**Sn**	**09 30 11.1**	**-1.7**
JMK	**Ichinoseki**	**2.15**	**279**	P	**Pn**	**09 29 51.5**	**-0.4**
JMK				S	**Sn**	**09 30 17.2**	**0.0**
JOM	**Ohasama**	**2.22**	**293**	P	**Pn**	**09 29 52.5**	**-0.4**
JOM				S	**Sn**	**09 30 19.0**	**-0.2**
JANG	**Nango**	**2.56**	**314**	P	**Pn**	**09 29 57.2**	**-0.3**
JANG				S	**Sn**	**09 30 27.3**	**-0.1**
JYK	**Kaneyama**	**2.81**	**277**	P	**Pn**	**09 30 01.5**	**+0.5**
JYK				S	**Sn**	**09 30 34.9**	**+1.3**
JFT	**Otama**	**3.05**	**250**	P	**Pn**	**09 30 04.5**	**+0.2**
JFT				S	**Sn**	**09 30 39.1**	**-0.5**
JOT	**Ohata**	**3.53**	**322**	S	**Sn**	**09 30 50.1**	**-1.3**
JNBK	**Urakawa-nobuka**	**3.76**	**346**	P	**Pn**	**09 30 14.8**	**+0.8**
JNBK				S	**Sn**	**09 30 56.5**	**-0.5**
JKB	**Kayabe**	**3.94**	**327**	S	**Sn**	**09 31 00.6**	**-0.9**
MJAR	**Matsushiro Arr**	**5.00**	**247**	Pn	**Pn**	**09 30 31.6**	**+0.5**
	0.1nm,0.3s,baz=60,slow=10.0,SNR=7.6						
MJAR				Sn	**Sn**	**09 31 26.4**	**-1.4**
	0.1nm,0.3s,baz=278,slow=29,SNR=4.6						
ASAJ	**Asahikawa**	**5.57**	**350**	Pn	**Pn**	**09 30 38.8**	**-0.1**
	0.9nm,0.3s,baz=205,slow=12,SNR=9.5						
ASAJ				Sn	**Sn**	**09 31 38.1**	**-3.6**
	0.1nm,0.3s,baz=268,slow=14,SNR=1.6						
USRK	**Ussuriysk Ar.**	**10.55**	**306**	Pn	**Pn**	**09 31 50.5**	**+3.2**
	baz=108,slow=16,SNR=4.3						
MKAR	**Makanchi Array**	**44.98**	**301**	P	**P**	**09 37 31.9**	**+1.6**
	0.2nm,0.5s,baz=94,slow=8.7,SNR=2.1						
WRA	**Warramunga Arr**	**58.95**	**191**	P	**P**	**09 39 13.9**	**-0.6**
	0.8nm,0.8s,baz=10,slow=7.2,SNR=5.8						

JMA ***06*** *09:45:33.0, 24°.40N×121°.95E, h18km±4km, M2.4*
TAP ***06*** *09:45:33.3, 24°.44N×121°.93E, h18km, ML3.0, C*
ISC 06 09:45:32.9±0.8, 24°.43N±0°.01×121°.96E±0°.02, h16km±6km, n78, σ0§73/142, 4C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.14**	**279**	*i* P	**Pg**	**09 45 37.0**	**+0.2**
	baz=274						
ENAH				S	**Sg**	**09 45 39.8**	**+0.3**
	baz=274						
ENA	**Nanau**	**0.20**	**270⇓**	*i* P	**Pg**	**09 45 37.8**	**+0.1**
	baz=264						
ENA				*e* S	**Sb**	**09 45 40.7**	**-1.1**
	baz=264						
TWC	**Suao**	**0.21**	**330⇑**	*i* P	**Pg**	**09 45 38.0**	**+0.1**
	baz=337						
TWC				*e* S	**Sb**	**09 45 41.0**	**-1.1**
	baz=337						
ILA	**Ilan**	**0.39**	**330**	P	**Pb**	**09 45 41.5**	**0.0**
	baz=328						
ILA				*e* S	**Sb**	**09 45 47.0**	**-0.3**
	baz=328						
TWE	**Neicheng**	**0.40**	**318**	*i* P	**Pg**	**09 45 41.3**	**+0.2**
	baz=320						
TWE				*e* S	**Sg**	**09 45 46.1**	**-0.5**
	baz=320						
EGS		**0.42**	**356**	*e* P	**Pg**	**09 45 41.8**	**+0.4**
	baz=356						
EGS				*e* S	**Sg**	**09 45 47.4**	**+0.2**
	baz=356						
ENTT	**Nioudou**	**0.42**	**301⇑**	*i* P	**Pg**	**09 45 41.6**	**+0.2**
	baz=300						
ENTT				*e* S	**Sg**	**09 45 46.7**	**-0.5**
	baz=300						
NACB	**Ninganchiao**	**0.42**	**233**	⇓P	**Pg**	**09 45 41.2**	**-0.3**
	baz=238						
NACB				*e* S	**Sb**	**09 45 47.5**	**-0.6**
	baz=238						
NTC	**Toucheng**	**0.44**	**344⇑**	*i* P	**Pg**	**09 45 42.2**	**+0.3**
	baz=346						
NTC				*e* S	**Sg**	**09 45 48.2**	**+0.2**
	baz=346						
NDT	**Datong Townshi**	**0.45**	**293**	P	**Pb**	**09 45 42.3**	**-0.1**
	baz=292						
NDT				S	**Sg**	**09 45 47.6**	**-0.4**
	baz=292						
TWD	**Chiawan**	**0.48**	**224**	P	**Pb**	**09 45 42.9**	**-0.2**
	baz=225						
TWD				*e* S	**Sb**	**09 45 49.4**	**-0.4**
	baz=225						
ETLH	**Xiulin Townshi**	**0.49**	**244**	P	**Pg**	**09 45 42.5**	**-0.3**
	baz=248						
ETLH				*e* S	**Sg**	**09 45 49.3**	**-0.1**
	baz=248						
NNSB	**Datong**	**0.53**	**270**	P	**Pg**	**09 45 43.4**	**-0.1**
	baz=269						
NNSB				*e* S	**Sg**	**09 45 50.0**	**-0.6**
	baz=269						
NNSH	**Datong**	**0.53**	**270**	P	**Pg**	**09 45 43.4**	**-0.1**
	baz=269						
NNSH				*e* S	**Sg**	**09 45 50.4**	**-0.2**
	baz=269						
NNS	**Nan Shan**	**0.54**	**272⇓**	*i* P	**Pg**	**09 45 43.5**	**-0.1**
	baz=270						
NNS				S	**Sg**	**09 45 50.3**	**-0.6**
	baz=270						
NWLT	**Wulai**	**0.55**	**310**	P	**Pb**	**09 45 43.9**	**-0.2**
	baz=304						
NWLT				S	**Sg**	**09 45 50.4**	**-0.8**
	baz=304						
TIPB	**Shuangxi**	**0.56**	**347⇑**	*i* P	**Pg**	**09 45 44.2**	**+0.2**
	baz=348						
TIPB				S	**Sg**	**09 45 51.2**	**-0.3**
	baz=348						
TWA	**Mucha**	**0.65**	**328**	P	**Pg**	**09 45 46.3**	**+0.5**
	baz=318						
TWA				*e* S	**Sg**	**09 45 54.5**	**+0.1**
	baz=318						
NWF	**Wu-fen Shan**	**0.66**	**346**	P	**Pg**	**09 45 46.6**	**+0.6**
	baz=337						
NWF				*i* S	**Sg**	**09 45 54.8**	**0.0**
	baz=337						
WFSB	**Wu-fen Shan**	**0.66**	**346**	P	**Pg**	**09 45 46.5**	**+0.5**
	baz=337						
WFSB				S	**Sb**	**09 45 54.8**	**-0.3**
	baz=337						
FUSS	**Fushou**	**0.68**	**255**	P	**Pg**	**09 45 46.1**	**-0.2**
	baz=254						
FUSS				*e* S	**Sb**	**09 45 55.3**	**-0.6**
	baz=254						
TATO	**Taipei**	**0.70**	**322**	P	**Pg**	**09 45 46.8**	**+0.2**
	baz=313						
TATO				*e* S	**Sb**	**09 45 55.6**	**-0.5**
	baz=313						
WHF	**Hehuan Shan**	**0.70**	**246**	P	**Pg**	**09 45 46.3**	**-0.4**
	baz=254						
WHF				*e* S	**Sb**	**09 45 55.9**	**-0.6**
	baz=254						
TDCB	**Techi**	**0.75**	**257**	P	**Pg**	**09 45 47.6**	**-0.1**
	baz=256						
TDCB				*e* S	**Sb**	**09 45 57.3**	**-0.6**
	baz=256						
ESL	**Shilin**	**0.78**	**219**	*e* P	**Pb**	**09 45 47.9**	**-0.2**
	baz=222						
ESL				*e* S	**Sn**	**09 45 60.0**	**-0.7**
	baz=222						
YM01	**YM01**	**0.80**	**334**	P	**Pn**	**09 45 49.2**	**-0.4**
	baz=334						
YM01				*e* S	**Sg**	**09 45 59.7**	**+0.6**
	baz=334						
CHGB	**Renai**	**0.81**	**243**	P	**Pg**	**09 45 48.8**	**+0.1**
	baz=250						
CHGB				*e* S	**Sg**	**09 45 59.8**	**+0.4**
	baz=250						
YM10	**YM10**	**0.81**	**333**	P	**Pn**	**09 45 49.7**	**-0.1**
	baz=333						
YM10				*e* S	**Sn**	**09 46 01.6**	**0.0**
	baz=333						
YM11	**YM11**	**0.82**	**334**	P	**Pn**	**09 45 49.6**	**-0.3**
	baz=340						
YM11				*e* S	**Sn**	**09 46 01.0**	**-0.7**
	baz=340						
YM05	**YM05**	**0.82**	**334**	P	**Pn**	**09 45 49.5**	**-0.4**
	baz=334						
YM05				*e* S	**Sg**	**09 46 00.2**	**+0.4**
	baz=334						
YM04	**YM04**	**0.82**	**332**	P	**Pn**	**09 45 49.5**	**-0.4**
	baz=332						
YM04				*e* S	**Sg**	**09 46 00.3**	**+0.5**
	baz=332						
YM08	**YM08**	**0.83**	**336**	P	**Pg**	**09 45 49.5**	**+0.3**
	baz=341						
YM08				*e* S	**Sn**	**09 46 01.4**	**-0.5**
	baz=341						
TWS1	**Kuangyinshan**	**0.83**	**324**	P	**Pn**	**09 45 50.1**	**+0.1**
	baz=316						
TWS1				*e* S	**Sn**	**09 46 01.5**	**-0.5**
	baz=316						
YM03	**YM03**	**0.84**	**333**	P	**Pn**	**09 45 50.3**	**0.0**
	baz=321						
YM03				*e* S	**Sg**	**09 46 01.3**	**+0.8**
	baz=321						
ANP	**Anpu**	**0.86**	**332**	*e* P	**Pn**	**09 45 50.4**	**-0.1**
	baz=333						
NTST	**Danshui**	**0.87**	**328**	P	**Pn**	**09 45 50.4**	**-0.1**
	baz=327						
NTST				*e* S	**Sn**	**09 46 02.7**	**-0.2**
	baz=327						
NCU	**National Centr**	**0.89**	**308**	*e* S	**Sn**	**09 46 02.7**	**-0.6**
	baz=314						
LIOB	**Emei**	**0.89**	**284**	*e* P	**Pn**	**09 45 51.4**	**+0.5**
	baz=284						
LIOB				*e* S	**Sg**	**09 46 02.2**	**+0.2**
	baz=284						
JYNG	**Yonagunijimaku**	**0.90**	**88**	P	**Pb**	**09 45 50.1**	**0.0**
JYNG				S	**Sb**	**09 46 02.3**	**+0.5**
EGFH	**Guangfu**	**0.90**	**213**	*e* P	**Pn**	**09 45 50.8**	**-0.2**
	baz=227						
NSTT	**Nanjuang**	**0.90**	**283**	*e* P	**Pn**	**09 45 50.6**	**-0.3**
	baz=276						
NSTT				*e* S	**Sg**	**09 46 02.2**	**-0.1**
	baz=276						
TWY	**Chenhua**	**0.91**	**339**	P	**Pn**	**09 45 51.4**	**+0.4**
	baz=339						
TWY				*e* S	**Sg**	**09 46 02.6**	**+0.1**
	baz=339						
WHP	**Taichung City**	**0.94**	**261**	*e* P	**Pn**	**09 45 51.4**	**-0.1**
	baz=261						
WHP				*e* S	**Sg**	**09 46 03.2**	**-0.3**
	baz=261						
YOJ	**Yonaguni jima**	**0.96**	**88**	P	**Pb**	**09 45 51.0**	**-0.1**
YOJ				*e* S	**Sb**	**09 46 03.8**	**+0.3**

SBCB	**Hsinchu**	**0.96 292**	*e*P	**Pn**	**09 45 52.9**	**+1.1**
	baz=287					
SBCB			*e*S	**Sn**	**09 46 06.0**	**+0.9**
	baz=287					
HSN	**Hsinchu**	**0.98 293**	*e*S	**Sn**	**09 46 04.8**	**-0.8**
	baz=284					
VWDT	**VWDT**	**1.01 228**	P	**Pn**	**09 45 52.2**	**-0.2**
	baz=234					
VWDT			*e*S	**Sn**	**09 46 06.7**	**+0.5**
	baz=234					
HGSD	**Ruisui**	**1.05 208**	*e*P	**Pg**	**09 45 53.9**	**+0.5**
	baz=209					
HGSD			*e*S	**Sg**	**09 46 11.8**	**+4.7**
	baz=209					
NMLH	**Miaoli**	**1.07 276**	*e*P	**Pg**	**09 45 55.0**	**+1.3**
	baz=287					
NMLH			*e*S	**Sg**	**09 46 08.7**	**+0.9**
	baz=287					
EHY	**Hungye**	**1.09 213**	*e*P	**Pn**	**09 45 53.5**	**-0.1**
	baz=225					
EHY			*e*S	**Sg**	**09 46 08.6**	**+0.4**
	baz=225					
SMLT	**Sun Moon Lake**	**1.11 241**	*e*P	**Pg**	**09 45 54.7**	**+0.2**
	baz=247					
SSLB	**Suanglung**	**1.12 236**	P	**Pg**	**09 45 54.2**	**-0.4**
	baz=242					
SSLB			*e*S	**Sg**	**09 46 09.4**	**+0.1**
	baz=242					
TYC	**Yuchr**	**1.14 243**	P	**Pg**	**09 45 55.0**	**+0.1**
	baz=242					
YULB	**Yu-li**	**1.20 211**	P	**Pn**	**09 45 54.8**	**-0.2**
	baz=210					
EYUL	**Yuli**	**1.23 209**	*e*P	**Pg**	**09 45 57.3**	**+0.7**
	baz=223					
TWF1	**Yuli**	**1.23 210**	*e*P	**Pn**	**09 45 55.5**	**0.0**
	baz=212					
TWF1			*e*S	**Sg**	**09 46 13.0**	**+0.2**
	baz=212					
WJS	**Zhushan**	**1.28 242**	*e*P	**Pg**	**09 45 58.5**	**+0.9**
	baz=234					
WNT	**Mingjian**	**1.29 245**	*e*P	**Pg**	**09 45 59.1**	**+1.3**
	baz=244					
WNT			*e*S	**Sg**	**09 46 16.3**	**+1.7**
	baz=244					
FULB	**Fuli**	**1.37 207**	*e*P	**Pg**	**09 45 58.8**	**-0.5**
	baz=222					
CHN5	**Tsauling**	**1.44 235**	*e*P	**Pg**	**09 46 00.9**	**+0.2**
	baz=238					
CHN5			*e*S	**Sg**	**09 46 21.0**	**+1.7**
	baz=238					
EDH	**Donghe**	**1.57 203**	*e*P	**Pn**	**09 46 00.1**	**0.0**
	baz=191					
EDH			*e*S	**Sg**	**09 46 22.1**	**-1.4**
	baz=191					
IRIF	**Iriomote-Funau**	**1.61 93**	P	**Pn**	**09 46 00.4**	**-0.4**
IRIF			*e*S	**Sn**	**09 46 20.8**	**-0.4**
TPUB	**Ta-pu**	**1.66 228**	*e*P	**Pb**	**09 46 03.4**	**+0.2**
	baz=231					
TPUB			*e*S	**Sg**	**09 46 26.9**	**+0.5**
	baz=231					
STYT	**Tauyuan**	**1.67 222**	*e*P	**Pb**	**09 46 02.7**	**-0.8**
	baz=222					
HATJ	**Hateruma jima**	**1.72 102**	*e*S	**Sn**	**09 46 24.6**	**+0.7**
SNST	**Tainan City**	**1.80 228**	*e*P	**Pg**	**09 46 06.9**	**-0.7**
	baz=232					
SNST			*e*S	**Sg**	**09 46 31.6**	**+0.6**
	baz=232					
CHN1	**Nanshi**	**1.80 227**	*e*P	**Pb**	**09 46 06.0**	**+0.4**
	baz=231					
CHN1			*e*S	**Sg**	**09 46 31.2**	**+0.2**
	baz=231					
SGST	**Jiashian**	**1.84 224**	*e*P	**Pb**	**09 46 06.0**	**-0.2**
	baz=227					
SGST			*e*S	**Sg**	**09 46 31.7**	**-0.6**
	baz=227					
JKRS	**Kuro-shima**	**1.88 95**	P	**Pn**	**09 46 04.4**	**0.0**
JKRS			*e*S	**Sn**	**09 46 27.3**	**-0.4**
JIJ	**Ishigaki jima**	**1.99 91**	P	**Pn**	**09 46 05.9**	**0.0**
JIJ			*e*S	**Sn**	**09 46 28.7**	**-1.8**
TSMG	**Majia**	**2.10 215**	*e*P	**Pb**	**09 46 09.5**	**-1.1**
	baz=231					
TSMG			*e*S	**Sg**	**09 46 38.4**	**-2.1**
	baz=231					
JISG	**Ishigakijimahi**	**2.15 85**	P	**Pn**	**09 46 07.4**	**-0.7**
JISG			*e*S	**Sn**	**09 46 34.2**	**-0.1**
MASBT	**Mashibuluo**	**2.18 214**	*e*P	**Pb**	**09 46 11.6**	**-0.5**
	baz=219					
MASBT			*e*S	**Sb**	**09 46 39.3**	**+0.5**
	baz=219					
VWUC	**VWUC**	**2.35 284**	*e*P	**Pn**	**09 46 12.2**	**+1.3**
	baz=286					
VWUC			*e*S	**Sn**	**09 46 39.0**	**-0.5**
	baz=286					
PHUB	**P'eng-hu**	**2.37 248**	*e*P	**Pn**	**09 46 11.4**	**+0.3**
	baz=252					
PHUB			*e*S	**Sn**	**09 46 41.2**	**+1.4**
	baz=252					
WDGT	**Dungji**	**2.41 242**	*e*P	**Pn**	**09 46 13.3**	**+1.6**
	baz=242					
JTJ	**Tarama**	**2.50 85**	P	**Pn**	**09 46 13.6**	**+0.6**
JTJ			*e*S	**Sn**	**09 46 43.4**	**+0.2**
MATB	**Ma-tsu**	**2.51 314**	*e*S	**Sn**	**09 46 44.4**	**+1.1**
	baz=313					

IDC 06 10:21:48.7±2.0, 26°.87S×115°.27W, h0km, mb3.8/3, mb1 4.3/3, mb1mx3.8/25, mbtmp3.8/3, MS3.7/1, Ms1 3.7/1, ms1mx3.0/29, Error ellipse: s-maj=93.1km s-min=32.2km az=57.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**31.98**	**111**	T	T	11 01 18.8	
	baz=277,slow=75,SNR=175						
H03N3	**Juan Fernandez**	**31.98**	**111**	T	T	11 01 20.1	
	baz=277,slow=75,SNR=182						
H03N1	**Juan Fernandez**	**31.99**	**111**	T	T	11 01 19.9	
	baz=277,slow=75,SNR=224						
PLCA	**Paso Flores**	**39.23**	**122**	P	P	10 29 18.9	0.0
	4.9nm,1.0s,baz=268,slow=9.0,SNR=6.0						
AFI	**Afiamalu**	**54.12**	**272**	LR	LR	10 49 26.2	
	comp=Z,62nm,18.8s,baz=88,slow=31						
TXAR	**Lajitas Array**	**56.98**	**12**	P	P	10 31 35.3	-0.9
	0.3nm,0.7s,baz=191,slow=9.1,SNR=2.2						
NVAR	**Mina Array Bea**	**65.02**	**357**	P	P	10 32 31.5	+0.7
	1.2nm,0.9s,baz=182,slow=8.7,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**88.05**	**292**	T	T	12 12 43.0	
	baz=119,slow=76,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**88.06**	**292**	T	T	12 12 40.3	
	baz=119,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**88.06**	**292**	T	T	12 12 40.4	
	baz=119,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**88.47**	**293**	T	T	12 13 11.1	
	baz=115,slow=78,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**88.48**	**293**	T	T	12 13 09.8	
	baz=115,slow=78,SNR=13						
H11N2	**WAKE ISLAND Hy**	**88.49**	**293**	T	T	12 13 12.9	
	baz=115,slow=78,SNR=9.9						
ZALV	**Zalesovo Beam**	**149.15**	**337**	PKPbc	PKPbc	10 41 38.0	-0.7
	1.6nm,0.7s,baz=29,slow=3.3,SNR=3.8						
BRTR	**Keskin Array B**	**151.18**	**56**	PKPbc	PKPbc	10 41 44.0	-0.2
	2.9nm,0.9s,baz=197,slow=4.4,SNR=6.3						
KURBB	**Kurchatov Arra**	**154.04**	**340**	PKPbc	PKPbc	10 41 49.8	-0.2
	0.2nm,0.3s,baz=30,slow=1.9,SNR=4.4						

WEL 06 10:26:23.9, 43°S±2°×17°2E±°, h13km±2km, M2.3/6, ML2.4/6, MLv2.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=92.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.11**	**207**	P	Pb	10 26 28.1	+0.2
AMCZ	**Amberley**	**0.40**	**83**	P	Pb	10 26 33.0	+0.2
LTZ	**Lake Taylor**	**0.46**	**15**	P	Pb	10 26 33.7	-0.1
MQZ	**McQueen's Vall**	**0.62**	**140**	P	Pb	10 26 37.0	+0.4
INZ	**Inchbonnie**	**0.70**	**316**	P	Pn	10 26 38.7	-0.7
GVZ	**Greta Valley S**	**0.73**	**69**	P	Pn	10 26 39.2	-0.6
WACZ	**Wakanui South**	**0.74**	**195**	P	Pn	10 26 40.1	+0.1
OKCZ	**Okains Bay**	**0.85**	**126**	P	Pn	10 26 41.3	-0.3
AKCZ	**Akaroa Harbour**	**0.87**	**138**	P	Pn	10 26 41.7	-0.1
ARCZ	**Arundel**	**0.99**	**223**	P	Pn	10 26 43.8	+0.3
ODZ	**Otahua Downs**	**2.10**	**210**	P	Pg	10 27 04.3	+0.2

*IDC **06** 10:30:57.6±1.1, 20°.04S×175°.46W, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/36, mbtmp4.1/10, ML4.3/2, Error ellipse: s-maj=38.4km s-min=19.4km az=115.0*
*NEIC **06** 10:31:00.0±1.6, 20°.4S±0°.1×174°.9W±0°.1, h36km±10km, mb4.5/29, Error ellipse: s-maj=16.6km s-min=13.5km az=138.0*

ISC 06 10:31:00.8±0.5, 20°.28S±0°.07×174°.84W±0°.07, h35km, n46, σ1§76/49, mb4.4/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.78**	**76**	**Pn**	**Pn**	**10 32 10.7**	**+0.4**
NIUE				Sn	**Sn**	**10 32 58.6**	**-6.0**
AFI	**Afiamalu**	**6.98**	**25**	Pn	**Pn**	**10 32 42.2**	**+1.5**
	2.3nm,0.3s,baz=209,slow=8.7,SNR=5.8						
AFI				Sn	**Sn**	**10 33 55.2**	**-3.7**
	1.7nm,0.3s,baz=173,slow=15,SNR=1.6						
AFI	**Afiamalu**	**6.98**	**25**		**Pn**	**10 32 41.9**	**+1.2**
AFI					**Sn**	**10 34 00.3**	**+1.4**
RAR	**Rarotonga**	**14.12**	**96**	Pn	**Pn**	**10 34 19.2**	**+0.8**
	1.0nm,0.3s,baz=244,slow=6.8,SNR=6.4						
RAR				Sn	Sn	10 36 40.2	-14
	0.7nm,0.3s,baz=44,slow=14,SNR=2.2						
RAR	**Rarotonga**	**14.12**	**96**		**Pn**	**10 34 19.6**	**+1.1**
DZM	**Mont Dzumac**	**17.55**	**261**	P	P	10 35 09.8	+6.0
URZ	**Urewera**	**19.23**	**200**	P	**P**	**10 35 22.2**	**+0.3**
	1.7nm,0.3s,baz=290,slow=4.8,SNR=9.6						
URZ				S	Sn	10 38 45.1	-12
	0.4nm,0.3s,baz=326,slow=23,SNR=1.3						
URZ	**Urewera**	**19.23**	**200**	P	**P**	**10 35 21.6**	**-0.3**
URZ				IAmb	IAmb	10 35 36.4	
	comp=Z,63nm,1.5s						
BKZ	**Black Stump Fm**	**20.25**	**200**	P	**P**	**10 35 30.2**	**-3.0**
BKZ				IAmb	IAmb	10 35 34.0	
	comp=Z,29nm,1.5s						
BFZ	**Birch Farm**	**21.71**	**199**	P	**P**	**10 35 46.5**	**-2.4**
QRZ	**Quartz Range**	**23.14**	**205**	P	**P**	**10 36 03.4**	**-0.5**
THZ	**Tophouse**	**23.80**	**203**	P	**P**	**10 36 10.1**	**-0.4**
THZ				IAmb	IAmb	10 36 11.9	
	comp=Z,24nm,1.1s						
KHZ	**Kahutara**	**24.15**	**201**	P	**P**	**10 36 13.2**	**-0.3**
KHZ				IAmb	IAmb	10 36 41.0	
	comp=Z,22nm,1.2s						
LTZ	**Lake Taylor**	**24.92**	**203**	P	**P**	**10 36 20.8**	**+0.1**
LTZ				IAmb	IAmb	10 36 40.5	
	comp=Z,30nm,1.5s						
OXZ	**Oxford**	**25.48**	**203**	P	**P**	**10 36 26.1**	**+0.5**
MQZ	**McQueen's Vall**	**25.59**	**201**	P	**P**	**10 36 25.7**	**-1.0**
RPZ	**Rata Peaks**	**26.17**	**204**	P	**P**	**10 36 34.4**	**+2.4**
	comp=Z,4.5nm,0.6s,baz=244,slow=24,SNR=1.7						
RPZ	**Rata Peaks**	**26.17**	**204**	P	**P**	**10 36 31.5**	**-0.5**
HNR	**Honiara**	**26.61**	**290**	P	**P**	**10 36 34.2**	**-2.0**
CAN	**Canberra**	**35.11**	**237**	P	**P**	**10 37 50.9**	**-0.1**
TAOE	**Nuku Hiva Isla**	**35.36**	**76**	P	**P**	**10 37 53.4**	**0.0**
CTAO	**Charters Tower**	**36.46**	**263**	P	**P**	**10 38 02.6**	**-0.1**
TOO	**Toolangi**	**38.43**	**235**	P	**P**	**10 38 18.8**	**-0.5**
TOO				IAmb	IAmb	10 38 43.8	
	comp=Z,8.5nm,1.3s						
COEN	**Coen**	**40.53**	**272**	P	**P**	**10 38 35.0**	**-2.0**
COEN				IAmb	IAmb	10 38 39.3	
	comp=Z,9.3nm,1.0s						
STKA	**Stephens Creek**	**40.56**	**244**	P	**P**	**10 38 35.3**	**-1.7**
	comp=Z,2.3nm,0.8s,baz=101,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**40.56**	**244**	P	**P**	**10 38 36.2**	**-0.8**
BBOO	**Buckleboo**	**45.30**	**244**	P	**P**	**10 39 14.0**	**-1.5**
BBOO				IAmb	IAmb	10 39 23.3	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**47.38**	**261**	P	**P**	**10 39 30.9**	**-1.0**
ASAR	**Alice Springs**	**47.45**	**256**	P	**P**	**10 39 30.6**	**-1.9**
	comp=Z,1.8nm,0.7s,baz=102,slow=7.9,SNR=17						
ASAR				PcP	**PcP**	**10 41 02.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=104,slow=3.9,SNR=6.3						
ASAR	**Alice Springs**	**47.45**	**256**	P	**P**	**10 39 32.2**	**-0.3**
WB0	**Warramunga Arr**	**47.55**	**261**	P	**P**	**10 39 32.1**	**-1.2**
WB0				IAmb	IAmb	10 39 34.8	
	comp=Z,2.9nm,0.8s						
WB2	**Warramunga Arr**	**47.56**	**261**	P	**P**	**10 39 31.8**	**-1.6**
WB2				IAmb	IAmb	10 39 45.0	
	comp=Z,6.1nm,1.3s						
WRAB	**Tennant Creek**	**47.56**	**261**	P	**P**	**10 39 31.7**	**-1.6**
WRAB				IAmb	IAmb	10 39 43.0	
	comp=Z,5.9nm,1.3s						
WRA	**Warramunga Arr**	**47.57**	**261**	P	**P**	**10 39 31.1**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=96,slow=7.5,SNR=24						
WRA				PcP	**PcP**	**10 41 02.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=97,slow=3.0,SNR=2.8						
WRA	**Warramunga Arr**	**47.57**	**261**	P	**P**	**10 39 32.0**	**-1.4**
MTN	**Manton Dam**	**52.13**	**269**	P	**P**	**10 40 06.7**	**-1.4**
KNRA	**Kununurra**	**53.63**	**265**	P	**P**	**10 40 17.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**56.00**	**261**	P	**P**	**10 40 35.1**	**-1.2**
VNDA	**Vanda**	**58.41**	**186**	P	**P**	**10 40 56.7**	**+4.3**
	comp=Z,0.3nm,0.4s,baz=14,slow=4.2,SNR=2.2						
VNDA	**Vanda**	**58.41**	**186**	P	P	10 40 57.4	+5.0
QSPA	**South Pole Qui**	**69.79**	**180**	P	**P**	**10 42 09.1**	**+1.6**
QSPA				IAmb	IAmb	10 42 20.6	
	comp=Z,6.3nm,1.2s						
PETK	**Petropavlovsk-**	**76.86**	**343**	P	**P**	**10 42 49.6**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=119,slow=8.7,SNR=4.8						
PETK	**Petropavlovsk-**	**76.86**	**343**	P	**P**	**10 42 50.0**	**+1.1**
SEY	**Seymchan**	**86.87**	**346**	P	**P**	**10 43 42.0**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=148,slow=9.1,SNR=6.8						
ILAR	**Eielson Array**	**87.47**	**12**	P	**P**	**10 43 45.5**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=213,slow=6.8,SNR=2.2						
GERES	**GERESS Array B**	**150.69**	**348**	PKPbc	**PKiKP**	**10 50 50.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=87,slow=2.2,SNR=2.4						

*KEA **06** 10°37:31.9±0.0, 39°.96N×114°.95E, h0km, ML4.3/6*
*IDC **06** 10°37:39.8±0.7, 40°.26N×115°.54E, h0km, mb3.8/11, mb1 4.0/15, mb1mx3.8/56, mbtmp3.9/15, ML3.3/4, MS3.4/13, Ms1 3.4/13, ms1mx3.1/49, Error ellipse: s-maj=19.0km s-min=14.8km az=27.0*
*BJI **06** 10°37:41.8±0.0, 40°.27N×115°.42E, h20km, mB4.4/13, mb4.4/16, ML4.6/24, Ms4.3/24, Ms7 4.0/15*
*NEIC **06** 10°37:43.2±1.2, 40°.32N±0°.07×115°.56E±0°.07, h15km±5km, mb4.2/13, Error ellipse: s-maj=11.4km s-min=5.1km az=211.0*

ISC 06 10:37:42.1±0.4, 40°.29N±0°.04×115°.57E±0°.03, h10km, n77, σ2§03/88, mb4.0/14, MS3.5/11, 2D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Beijing**	**0.53**	**118**	Pg	**Pb**	**10 37 53.0**	**-0.4**
BJI				Sg	**Sb**	**10 38 01.7**	**+0.7**
BJI				smax	smax		
	comp=N,23μm,0.4s						
BJI				smax	smax		
	comp=E,13μm,0.5s						
BJT	**Baijiatuau**	**0.53**	**121**	Pg	**Pb**	**10 37 53.0**	**-0.5**
BJT				Sg	**Sb**	**10 38 01.5**	**+0.3**
TIY	**Taiyuan**	**3.55**	**224**	Pn	**Pn**	**10 38 36.6**	**-0.7**
TIY				Pg	**Pb**	**10 38 44.2**	**-0.8**
TIY				Sg	**Sb**	**10 39 28.5**	**+0.3**
TIY				smax	smax		
	comp=N,4μm,0.6s						
TIY				smax	smax		
	comp=E,4μm,0.8s						
BTO	**Baotou**	**4.25**	**276**	*e*Pg	**Pb**	**10 38 58.0**	**+1.1**
BTO				Sg	**Sb**	**10 39 52.4**	**+4.2**
TIA	**Tai'an**	**4.25**	**163**	Pn	**Pn**	**10 38 45.8**	**-1.1**
TIA				Sn	**Sn**	**10 39 35.8**	**-0.8**
TIA				Sg	**Sb**	**10 39 50.6**	**+2.2**
TIA				smax	smax		
	comp=N,570nm,0.5s						
TIA				smax	smax		
	comp=E,570nm,0.6s						
DL2	**Dalian**	**4.88**	**105**	Pn	**Pn**	**10 38 56.3**	**+0.8**
DL2				Pg	**Pb**	**10 39 11.3**	**+3.7**
DL2				Sn	**Sn**	**10 39 50.0**	**-2.0**
DL2				*e*Sg	**Sb**	**10 40 12.7**	**+6.4**
DL2				smax	smax		
	comp=N,460nm,0.7s						
DL2				smax	smax		
	comp=E,400nm,0.6s						
DL2				LR	LR		
	comp=N,820nm,5.8s						
DL2				LR	LR		
	comp=E,740nm,4.8s						
SNY	**Shenyang**	**6.24**	**73**	⇓Pg	Pb	10 39 36.2	+5.4
SNY				Sg	**Sg**	**10 40 58.3**	**-4.1**
SNY				smax	smax		
	comp=N,240nm,0.7s						
SNY				smax	smax		
	comp=E,190nm,0.8s						
SUJ	**Sinuiju**	**6.83**	**89**	Pg	Pb	10 39 46.7	+5.8
SUJ				Sg	**Sg**	**10 41 18.4**	**-3.0**
PYAG	**Pyongyang**	**7.96**	**96**	Sg	**Sg**	**10 41 51.8**	**-5.5**
PYS	**Pyongsong**	**7.99**	**94**	Sg	**Sg**	**10 41 55.3**	**-3.1**
XAN	**Xi'an**	**8.19**	**222**	P	**Pn**	**10 39 44.7**	**+3.7**
XAN				S	**Sn**	**10 41 17.5**	**+3.9**
XAN				LR	LR		
	comp=N,2μm,11.4s						
XAN				LR	LR		
	comp=E,3μm,12.0s						
XAN				LR	LR		
	comp=Z,2μm,11.8s						
XAN	**Xi'an**	**8.19**	**222**	Pn	**Pn**	**10 39 41.4**	**+0.4**
HJU	**Haeju**	**8.20**	**103**	Sg	**Sg**	**10 42 06.0**	**+0.8**
NJ2	**Nanjing**	**8.64**	**161**	*e*P	**Pn**	**10 39 46.7**	**-0.4**
NJ2				S	**Sn**	**10 41 21.8**	**-2.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NJ2				smax	smax		
	comp=N,68nm,1.0s						
NJ2				smax	smax		
	comp=E,94nm,0.8s						
NJ2				LR	LR		
	comp=N,270nm,6.2s						
NJ2				LR	LR		
	comp=E,660nm,9.6s						
HHU	**Hamhung**	**9.17**	**88**	Pg	Pn	10 40 33.0	+39
HHU				Sg	Sn	10 42 34.2	+57
WOSN	**Wonsan**	**9.20**	**93**	Sg	Sn	10 42 38.0	+60
HIA	**Hailar**	**9.45**	**17**		**Pn**	**10 39 58.6**	**+0.4**
ULN	**Ulaanbaatar**	**9.73**	**324**		**Pn**	**10 40 00.0**	**-2.2**
ULN				Sn	**Sn**	**10 41 50.2**	**-1.5**
WHN	**Wuhan**	**9.78**	**186**	P	**Pn**	**10 40 02.5**	**-0.2**
WHN				S	**Sn**	**10 41 55.4**	**+2.9**
WHN				LR	LR		
	comp=N,500nm,7.5s						
WHN				LR	LR		
	comp=E,900nm,7.7s						
WHN				LR	LR		
	comp=Z,590nm,8.6s						
KS19	**Wonju Array Si**	**9.98**	**102**	Pn	**Pn**	**10 40 06.5**	**+1.0**
KS19				Sn	**Sn**	**10 41 58.6**	**+1.0**
KSAR	**Wonju Array Be**	**10.02**	**103**		**Pn**	**10 40 07.1**	**+1.1**
KSAR				Sn	**Sn**	**10 41 58.8**	**+0.4**
SONM	**Songino Array**	**10.02**	**322**	Pn	**Pn**	**10 40 04.0**	**-2.1**
	1.0nm,0.3s,baz=137,slow=14,SNR=8.6						
SONM				Sn	Sn	10 41 44.0	-15
	0.6nm,0.3s,baz=131,slow=15,SNR=2.4						
SONM				Lg	Lg	10 42 52.9	
	2.8nm,0.3s,baz=132,slow=26,SNR=6.9						
SONM	**Songino Array**	**10.02**	**322**	Pn	**Pn**	**10 40 03.6**	**-2.5**
KSRS	**Korea Array**	**10.04**	**102**	Pn	**Pn**	**10 40 06.8**	**+0.6**
	1.2nm,0.3s,baz=289,slow=14,SNR=51						
KSRS				Sn	**Sn**	**10 41 55.2**	**-3.7**
	0.4nm,0.3s,baz=284,slow=25,SNR=5.7						
KSRS				Lg	Lg	10 42 57.0	
	0.3nm,0.3s,baz=293,slow=24,SNR=3.4						
KSRS				LR	LR	10 44 07.1	
	comp=Z,72nm,19.8s,baz=295,slow=39						
LZH	**Lanzhou**	**10.14**	**249**	*e*P	**Pn**	**10 40 11.8**	**+4.0**
LZH				pP		10 40 15.3	
LZH				sP		10 40 17.5	
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
LZH				LR	LR		
	comp=N,960nm,7.3s						
LZH				LR	LR		
	comp=E,700nm,6.0s						
GTA	**Gaotai**	**12.14**	**271**	*e*P	**Pn**	**10 40 33.5**	**-1.7**
GTA				pP		10 40 37.9	
GTA				sP		10 40 40.0	
GTA				S	**Sn**	**10 42 46.8**	**-4.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,37nm,6.5s						
GTA				LR	LR		
	comp=N,480nm,10.8s						
GTA				LR	LR		
	comp=E,420nm,11.7s						
USA0B	**Ussuriysk Arra**	**12.78**	**67**	Pn	**Pn**	**10 40 44.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**12.78**	**67**	Pn	**Pn**	**10 40 43.6**	**-0.1**
	baz=256,slow=12,SNR=5.4						
USRK				Lg	Lg	10 44 23.8	
	baz=320,slow=6.3,SNR=3.3						
USRK				LR	LR	10 46 10.8	
	comp=Z,105nm,19.4s,baz=283,slow=40						
USRK	**Ussuriysk Ar.**	**12.78**	**67**	Pn	**Pn**	**10 40 44.2**	**+0.5**
CD2	**Chengdu**	**13.40**	**229**	*e*P	**Pn**	**10 40 50.0**	**-2.4**
CD2				S	**Sn**	**10 43 18.4**	**-3.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=N,670nm,9.4s						
CD2				LR	LR		
	comp=E,850nm,9.0s						
CD2				LR	LR		
	comp=Z,500nm,12.7s						
TLY	**Talaya**	**14.06**	**328**	Lg	Lg	10 44 58.8	
	0.0nm,0.3s,baz=212,slow=21,SNR=1.9						
JNU	**Nakatsue**	**14.20**	**115**	LR	LR	10 46 12.9	
	comp=Z,57nm,20.6s,baz=322,slow=36						
GYA	**Guiyang**	**15.66**	**211**	*e*P	**P**	**10 41 27.6**	**+0.5**
GYA				S	**S**	**10 44 28.9**	**-2.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				LR	LR		
	comp=N,160nm,5.0s						
GYA				LR	LR		
	comp=E,410nm,7.5s						
GYA				LR	LR		
	comp=Z,270nm,7.7s						
INU	**Inuyama**	**17.64**	**99**	P	**P**	**10 41 48.9**	**+0.1**
INU				IAmb	IAmb	10 41 52.9	
	comp=Z,32nm,1.1s						
MAJO	**Matsushiro**	**18.12**	**95**	P	**Pn**	**10 41 54.0**	**+0.2**
MAT	**Matsushiro**	**18.12**	**95**	P	**P**	**10 41 56.1**	**+2.0**
MAT				*e*S	**S**	**10 45 25.8**	**+4.1**
MJAR	**Matsushiro Arr**	**18.12**	**95**	P	**P**	**10 41 55.2**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=289,slow=12,SNR=12						
MJAR				LR	LR	10 49 10.1	
	comp=Z,45nm,18.8s,baz=310,slow=38						
MJAR	**Matsushiro Arr**	**18.12**	**95**	P	**P**	**10 41 54.8**	**+0.6**
KMI	**Kunming**	**18.55**	**219**	⇓P	**Pn**	**10 42 01.9**	**+2.5**
KMI				S	Sn	10 45 13.1	-14
KMI				pmax	pmax		
	comp=Z,16nm,1.3s						
KMI				pmax	pmax		
	comp=Z,77nm,3.7s						
KMI				LR	LR		
	comp=Z,970nm,11.0s						
KMI				LR	LR		
	comp=Z,1μm,14.7s			

MKAR Makanchi Array 24.85 296 P **P** **10 43 05.8 +1.1**
MAKZ Makanchi 25.07 296 P **P** **10 43 07.1 +0.6**
CMAR Chiang Mai Arr 26.05 218 P **P** **10 43 14.9 -0.7**
comp=Z,1.0nm,0.3s,baz=25,slow=9.0,SNR=5.5
CMAR LR LR 10 54 56.4
comp=Z,84nm,19.8s,baz=75,slow=40
CMAR Chiang Mai Arr 26.05 218 P **P** **10 43 16.2 +0.6**
KURK Kurchatov 27.65 305 P **P** **10 43 30.6 +0.9**
KURK IAmb IAmb 10 43 35.0
comp=Z,2.8nm,0.9s
KURBB Kurchatov Arra 27.69 304 P **P** **10 43 29.7 -0.4**
comp=Z,0.6nm,0.3s,baz=97,slow=9.2,SNR=8.6
AAK Ala-Archa 30.66 288 LR LR 10 55 42.1
comp=Z,72nm,19.3s,baz=76,slow=35
PETK Petropavlovsk- 31.14 51 P **P** **10 44 00.7 0.0**
comp=Z,1.4nm,0.6s,baz=212,slow=5.3,SNR=5.6
PETK Petropavlovsk- 31.14 51 P **P** **10 44 01.2 +0.5**
SEY Seymchan 31.47 32 P **P** **10 44 03.3 -0.2**
comp=Z,1.2nm,0.6s,baz=307,slow=6.5,SNR=4.2
BRVK Borovoye 33.03 308 P **P** **10 44 17.9 +0.6**
BRVK IAmb IAmb 10 44 23.3
comp=Z,4.4nm,1.1s
KKAR Karatay Array 33.46 290 P **P** **10 44 20.9 -0.3**
KKAR Karatay Array 33.46 290 P **P** **10 44 21.7 +0.6**
KKAR IAmb IAmb 10 44 28.2
comp=Z,1.8nm,0.8s
CHGR Chuyangaron 35.55 283 P **P** **10 44 40.0 +0.6**
ARU Arti 39.92 313 P **P** **10 45 16.4 +0.4**
comp=Z,0.9nm,0.4s,baz=121,slow=3.1,SNR=8.4
ARU Arti 39.92 313 P **P** **10 45 15.7 -0.3**
ARU IAmb IAmb 10 45 21.1
comp=Z,7.4nm,0.9s
GEYT Alibeck 43.97 286 LR LR 11 04 33.0
comp=Z,72nm,19.3s,baz=30,slow=37
SPITS Spitsbergen Ar 52.77 345 LR LR 11 12 00.6
comp=Z,38nm,19.1s,baz=170,slow=39
FINES FINESS Array B 55.38 324 P **P** **10 47 13.8 -2.0**
comp=Z,1.2nm,0.6s,baz=59,slow=7.4,SNR=6.4
FINES FINESS Array B 55.38 324 P **P** **10 47 16.6 +0.8**
ILAR Eielson Array 57.39 30 P **P** **10 47 29.3 -0.9**
comp=Z,1.2nm,0.9s,baz=277,slow=6.4,SNR=10
AKASG Malin Array Be 58.12 312 LR LR 11 12 42.5
comp=Z,36nm,18.6s,baz=345,slow=36
NOA NORSAR Array B 61.94 328 P **P** **10 47 59.7 -2.0**
comp=Z,0.4nm,0.8s,baz=50,slow=6.0,SNR=3.0
NOA LR LR 11 15 21.1
comp=Z,46nm,18.4s,baz=335,slow=36
WRA Warramunga Arr 62.42 160 P **P** **10 48 03.7 -1.6**
comp=Z,0.7nm,0.9s,baz=347,slow=7.6,SNR=5.2
ASAR Alice Springs 65.88 162 P **P** **10 48 26.9 -1.0**
comp=Z,0.6nm,0.8s,baz=349,slow=5.8,SNR=5.5
CLL Collm 66.61 318 *e*(P) **P** **10 48 35.0 +2.6**
CLL *e*pP **sP** **10 48 38.0 +0.9**
GERES GERESS Array B 67.69 316 LR LR 11 18 38.3
comp=Z,60nm,19.9s,baz=36,slow=36

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*ISN **06** 10:39:20.8±1.4, 33°.67N×45°.75E, h10km±7km, ML2.8*
*TEH **06** 10:39:23.3, 33°.81N×45°.65E, h27km, ML3.0*
ISC 06 10:39:22.0±1.0, 33°.69N±0°.04×45°.65E±0°.05, h13km, n18, σ1°.39/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.62**	**158**	*e*Pg	**Pg**	**10 39 33.0**	**-1.2**
IBDR				*e*Sg	**Sg**	**10 39 40.0**	**-2.4**
IBDR				AML	AML	10 39 53.4	
	comp=N,168nm,0.4s						
IBDR				AML	AML	10 39 55.1	
	comp=E,156nm,0.3s						
IGHG	**Ghaleghazi**	**0.99**	**50**	*e*Pg	**Pg**	**10 39 40.4**	**-0.8**
BHD	**Baghdad**	**1.15**	**249**	*e*Pg	**Pg**	**10 39 44.0**	**-0.1**
BHD				*e*Sg	**Sn**	**10 40 01.0**	**+1.7**
IDHR	**Dehrash**	**1.18**	**31**	*e*Pg	**Pg**	**10 39 44.0**	**-0.7**
IDHR				*e*		10 40 04.5	
IVIS	**Veis**	**1.30**	**50**	*e*Pg	**Pb**	**10 39 46.0**	**-0.3**
IVIS				*e*Sg	**Sg**	**10 40 04.0**	**+0.1**
IVIS				*e*		10 40 07.2	
KER	**Kermanshah**	**1.41**	**60**	*e*Pg	**Pg**	**10 39 48.6**	**-0.5**
IKOM	**Komasi**	**1.62**	**72**	*e*Pg	**Pb**	**10 39 51.9**	**+0.1**
IKOM				*e*		10 40 17.1	
ILIN	**Lien**	**1.64**	**41**	*e*Pg	**Pg**	**10 39 52.3**	**-1.2**
ILIN				*e*		10 40 15.9	
DHL1	**Dehloran**	**1.69**	**126**	*e*Pg	**Pg**	**10 39 56.0**	**+1.4**
IBZA	**Bozab**	**1.99**	**66**	*e*Pn	**Pn**	**10 39 56.1**	**+0.5**
IBZA				*e*		10 40 31.8	
IDOB	**Doab**	**2.10**	**87**	*e*Pn	**Pn**	**10 39 58.6**	**+1.4**
IALM	**Almabolaq**	**2.39**	**60**	*e*Pn	**Pn**	**10 40 02.2**	**+1.1**
HSAM	**Samen**	**2.50**	**77**	*e*Pn	**Pn**	**10 40 04.3**	**+1.6**
BMDN	**Meydan**	**2.64**	**90**	*e*Pn	**Pn**	**10 40 05.4**	**+0.8**
BMDN				*e*		10 40 59.5	
HSRG	**Sareghieh**	**2.66**	**54**	*e*Pn	**Pb**	**10 40 07.2**	**-2.6**
NSR	**Nassriya**	**2.70**	**171**	*e*Pn	**Pn**	**10 40 05.0**	**-0.2**
NSR				*e*Sn	**Sn**	**10 40 39.0**	**+1.2**
NSR				AML	AML	10 40 40.0	
	comp=E,457nm,0.3s						
HAGD	**Aghdareh**	**3.10**	**68**	*e*Pn	**Pn**	**10 40 13.1**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.81**	**57**	*e*Pn	**Pn**	**10 40 22.0**	**+1.4**

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*NEIC **06** 10:47:56.6±1.2, 25°.49S±0°.10×179°.5E±0°.1, h495km±4km, mb4.4/45, Error ellipse: s-maj=17.6km s-min=14.3km az=86.0*
*IDC **06** 10:47:58.0±1.2, 25°.51S×179°.40E, h502km±12km, mb3.3/8, mb1 3.7/12, mb1mx3.4/35, mbtmp4.3/12, Error ellipse: s-maj=18.8km s-min=12.7km az=155.0*
ISC 06 10:47:57.8±0.4, 25°.51S±0°.05×179°.49E±0°.07, h507km, n144, σ2°.15/160, mb4.2/27, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.37**	**149**	P	**P**	**10 49 23.9**	**+4.3**
RIZ				S	**S**	**10 50 34.3**	**+7.9**
RAO	**Raoul Island**	**4.38**	**149**	P	**P**	**10 49 21.2**	**+1.5**
	160nm,0.3s,baz=115,slow=8.4,SNR=14						
RAO				S	**S**	**10 50 22.5**	**-4.1**
	90nm,0.3s,baz=270,slow=22,SNR=2.0						
RAO	**Raoul Island**	**4.38**	**149**	P	**P**	**10 49 18.4**	**-1.3**
RAO				S	**S**	**10 50 24.0**	**-2.6**
GLKZ	**Green Lake**	**4.39**	**149**	P	**P**	**10 49 24.4**	**+4.7**
MSVF	**Nonsavu**	**7.85**	**350**	P	**P**	**10 49 52.2**	**-0.9**
OUZ	**Omahuta**	**10.93**	**206**	P	**P**	**10 50 27.4**	**+2.5**
OUZ	**Omahuta**	**10.93**	**206**	P	**P**	**10 50 24.8**	**0.0**
KUZ	**Kuaotunu**	**11.65**	**195**	P	P	10 50 38.6	+6.1
WIAZ	**Waiheke Island**	**11.85**	**197**	P	**P**	**10 50 36.9**	**+2.4**
MXZ	**Matakaoa Point**	**12.06**	**185**	P	**P**	**10 50 37.4**	**+0.6**
MXZ	**Matakaoa Point**	**12.06**	**185**	P	**P**	**10 50 36.8**	**0.0**
HAZ	**Te Kaha**	**12.29**	**186**	P	**P**	**10 50 39.5**	**+0.3**
HAZ				S	**S**	**10 52 49.5**	**-2.8**
WMGZ	**Waiomatatini S**	**12.30**	**184**	P	**P**	**10 50 36.3**	**-3.1**
DZM	**Mont Dzumac**	**12.42**	**283**	P	**P**	**10 50 42.3**	**+1.3**
	0.3nm,0.3s,baz=128,slow=20,SNR=5.0						
TGRZ	**Tauranga**	**12.49**	**192**	P	**P**	**10 50 43.8**	**+2.6**
PUZ	**Puketiti**	**12.57**	**184**	P	**P**	**10 50 41.7**	**-0.5**
PUZ				S	**S**	**10 52 55.1**	**-2.6**
TOZ	**Tahuroa Road**	**12.64**	**195**	P	**P**	**10 50 45.0**	**+2.1**
KMRZ	**Kaimai**	**12.66**	**193**	P	**P**	**10 50 45.8**	**+2.6**
KARZ	**Kaharoa**	**12.77**	**192**	P	**P**	**10 50 46.9**	**+2.5**
URZ	**Urewera**	**12.87**	**188**	P	**P**	**10 50 43.6**	**-1.7**
	16nm,0.3s,baz=12,slow=1.4,SNR=65						
URZ				S	**S**	**10 52 59.4**	**-4.0**
	0.7nm,0.3s,baz=347,slow=17,SNR=2.5						
URZ	**Urewera**	**12.87**	**188**	P	**P**	**10 50 44.0**	**-1.3**
URZ				S	**S**	**10 53 00.1**	**-3.3**
URZ	**Urewera**	**12.87**	**188**	P	**P**	**10 50 44.0**	**-1.3**
MWZ	**Matawai**	**12.89**	**187**	P	**P**	**10 50 45.0**	**-0.6**
MWZ				S	**S**	**10 53 02.0**	**-2.0**
CNGZ	**Carnagh Statio**	**12.98**	**184**	P	**P**	**10 50 47.3**	**+0.8**
RRRZ	**Republican Roa**	**13.04**	**190**	P	**P**	**10 50 49.1**	**+2.0**
HSRZ	**Hossack Road**	**13.05**	**191**	P	**P**	**10 50 50.4**	**+3.1**
GRRZ	**Galatos Road**	**13.12**	**192**	P	**P**	**10 50 50.0**	**+2.0**
HRRZ	**Handcock Road**	**13.12**	**191**	P	**P**	**10 50 49.2**	**+1.1**
MUGZ	**Murupara**	**13.13**	**189**	P	**P**	**10 50 45.2**	**-2.9**
MUGZ				S	**S**	**10 53 08.4**	**-0.1**
RIGZ	**Rimuhau**	**13.24**	**186**	P	**P**	**10 50 48.8**	**-0.4**
KUTZ	**Kaahu Road**	**13.31**	**193**	P	**P**	**10 50 53.1**	**+3.1**
SNGZ	**Shannon Statio**	**13.36**	**187**	P	**P**	**10 50 49.0**	**-1.4**
SNGZ				S	**S**	**10 53 15.0**	**+2.1**
MTHZ	**Maungataniwha**	**13.49**	**189**	P	**P**	**10 50 51.8**	**-0.1**
MTHZ				S	**S**	**10 53 13.7**	**-1.8**
RAHZ	**Arahi**	**13.52**	**188**	P	**P**	**10 50 51.1**	**-1.1**
HIZ	**Hauiti**	**13.54**	**196**	P	**P**	**10 50 54.7**	**+2.3**
HIZ	**Hauiti**	**13.54**	**196**	P	**P**	**10 50 51.9**	**-0.6**

BKZ Black Stump Fm 13.85 190 P **P** **10 50 54.6 -1.1**
ARHZ Aropaoanui 13.87 188 P **P** **10 50 55.0 -0.9**
ARHZ S **S** **10 53 22.3 -0.5**
TUVZ Tukino 14.09 192 P **P** **10 50 57.7 -0.7**
VRZ Vera Road 14.15 195 P **P** **10 51 01.0 +2.2**
WNVZ Wahianoa 14.16 192 P **P** **10 50 58.1 -1.0**
AFI Afiamalu 14.16 37 P **P** **10 50 58.9 -0.5**
3.8nm,0.3s,baz=151,slow=8.3,SNR=5.3
AFI S **S** **10 53 21.3 -7.7**
1.9nm,0.3s,baz=57,slow=20,SNR=1.9
AFI Afiamalu 14.16 37 P **P** **10 50 58.2 -1.2**
PKVZ Pokaka 14.17 193 P **P** **10 50 59.7 +0.5**
MOVZ Moawhango 14.21 192 P **P** **10 50 58.4 -1.1**
MOVZ S **S** **10 53 26.6 -2.7**
BHHZ Black Hill Sta 14.23 191 P **P** **10 50 56.8 -2.9**
BHHZ S **S** **10 53 24.6 -5.2**
PKE Pukeiti 14.41 197 P **P** **10 51 04.2 +2.6**
PNHZ Pukenui 14.62 190 P **P** **10 51 01.5 -2.3**
PNHZ S **S** **10 53 32.0 -5.3**
WAZ Wanganui 14.70 194 P **P** **10 51 06.0 +1.4**
DVHZ Dannevirke 15.01 190 P **P** **10 51 05.8 -2.0**
DVHZ S **S** **10 53 38.1 -6.4**
SANVU Saraoutou 15.24 309 P **P** **10 51 09.3 -1.3**
SANVU IAmb IAmb 10 51 13.4
comp=Z,25nm,0.9s
BFZ Birch Farm 15.37 189 P **P** **10 51 09.5 -2.0**
BFZ S **S** **10 53 46.7 -4.7**
BFZ Birch Farm 15.37 189 P **P** **10 51 10.4 -1.1**
OGWZ Otaki Gorge 15.68 192 P **P** **10 51 12.3 -2.5**
OGWZ S **S** **10 53 51.3 -5.9**
HOWZ Holdsworth Sta 15.70 191 P **P** **10 51 13.4 -1.6**
HOWZ S **S** **10 53 50.5 -7.0**
KIW Kapiti Island 15.78 193 P **P** **10 51 13.7 -2.1**
CAW Cannon Point 15.98 192 P **P** **10 51 16.6 -1.3**
MSWZ Moikau Station 16.25 191 P **P** **10 51 19.3 -1.4**
SNZO South Karori 16.25 193 P **P** **10 51 18.8 -1.9**
BHW Baring Head 16.31 192 P **P** **10 51 20.3 -1.0**
QRZ Quartz Range 16.34 199 P **P** **10 51 21.0 -0.6**
PLWZ Palliser 16.40 191 P **P** **10 51 21.3 -1.0**
NNZ Nelson 16.47 196 P **P** **10 51 22.2 -0.7**
TUWZ Tuamarina 16.53 195 P **P** **10 51 22.4 -1.2**
CMWZ Cape Campbell 16.77 194 P **P** **10 51 25.6 -0.4**
BSWZ Blackbirch Sta 16.82 195 P **P** **10 51 26.3 -0.2**
THZ Tophouse 17.10 197 P **P** **10 51 28.9 -0.5**
THZ IAmb IAmb 10 51 32.3
comp=Z,24nm,0.8s
KHZ Kahutara 17.56 195 P **P** **10 51 32.5 -1.1**
LTZ Lake Taylor 18.22 197 P **P** **10 51 39.0 -0.7**
OXZ Oxford 18.79 197 P **P** **10 51 43.8 -1.1**
MQZ McQueen's Vall 18.99 195 P **P** **10 51 46.0 -0.6**
MQZ IAmb IAmb 10 52 13.0
comp=Z,44nm,1.4s
RPZ Rata Peaks 19.42 199 P **P** **10 51 50.2 -0.4**
comp=Z,2.4nm,0.3s,baz=352,slow=2.8,SNR=8.9
RPZ Rata Peaks 19.42 199 P **P** **10 51 50.4 -0.2**
RPZ IAmb IAmb 10 52 01.9
comp=Z,18nm,1.0s
FOZ Fox Glacier 19.64 201 P **P** **10 51 51.0 -1.6**
FOZ IAmb IAmb 10 51 59.3
comp=Z,32nm,0.8s
ODZ Otahua Downs 20.76 198 P **P** **10 52 02.1 -0.6**
ODZ IAmb IAmb 10 52 16.6
comp=Z,27nm,1.5s
WKZ Wanaka 21.05 201 P **P** **10 52 04.1 -1.4**
MLZ Mavora Lakes 21.83 202 P **P** **10 52 11.6 -0.8**
MLZ IAmb IAmb 10 52 26.8
comp=Z,42nm,1.5s
DCZ Deep Cove 22.25 203 P **P** **10 52 16.0 -0.2**
DCZ IAmb IAmb 10 52 25.2
comp=Z,27nm,1.2s
WHZ Wether Hill Ro 22.35 202 P **P** **10 52 16.6 -0.5**
CTAO Charters Tower 31.06 273 P **P** **10 53 34.5 +0.5**
CTAO IAmb IAmb 10 53 35.6
comp=Z,7.7nm,0.9s
TOO Toolangi 31.20 239 P **P** **10 53 35.2 +0.1**
TOO IAmb IAmb 10 53 55.1
comp=Z,6.5nm,1.3s
STKA Stephens Creek 33.72 250 P **P** **10 53 56.5 -0.1**
comp=Z,1.3nm,0.4s,baz=90,slow=9.8,SNR=6.5
STKA Stephens Creek 33.72 250 P **P** **10 53 56.1 -0.4**
COEN Coen 35.95 282 P **P** **10 54 15.0 -0.3**
COEN IAmb IAmb 10 54 16.8
comp=Z,9.1nm,0.8s
BBOO Buckleboo 38.41 249 P **P** **10 54 34.7 -0.7**
BBOO IAmb IAmb 10 54 36.8
comp=Z,11nm,1.2s
AS31 Alice Springs 41.34 263 P **P** **10 54 59.3 +0.2**
AS31 IAmb IAmb 10 55 00.3
comp=Z,2.4nm,0.3s
ASAR Alice Springs 41.34 263 P **P** **10 54 59.3 +0.2**
comp=Z,2.7nm,0.4s,baz=92,slow=7.3,SNR=150
ASAR S **S** **11 00 36.2 -0.6**
comp=Z,0.6nm,0.8s,baz=103,slow=18,SNR=6.3
ASAR Alice Springs 41.34 263 P **P** **10 54 59.0 -0.1**
WR0 Warramunga Arr 41.67 268 P **P** **10 55 01.5 -0.3**
WC3 Warramunga Arr 41.83 268 P **P** **10 55 02.7 -0.3**
WB2 Warramunga Arr 41.85 268 P **P** **10 55 02.9 -0.3**
WB2 IAmb IAmb 10 55 08.1
comp=Z,6.5nm,1.2s
WRAB Tennant Creek 41.85 268 P **P** **10 55 02.8 -0.4**
WRA Warramunga Arr 41.86 268 P **P** **10 55 03.0 -0.3**
comp=Z,2.4nm,0.3s,baz=99,slow=6.9,SNR=171
WRA ScP **ScP** **10 59 51.4 +2.0**
comp=Z,0.6nm,0.6s,baz=97,slow=3.8,SNR=8.4
WRA S **S** **11 00 38.9 -5.5**
comp=Z,1.7nm,1.0s,baz=103,slow=15,SNR=7.9
WRA Warramunga Arr 41.86 268 P **P** **10 55 02.8 -0.5**
WB0 Warramunga Arr 41.86 268 P **P** **10 55 02.7 -0.6**
KNRA Kununurra 48.24 271 P **P** **10 55 52.6 +0.3**
KNRA IAmb IAmb 10 55 53.0
comp=Z,6.4nm,0.4s
FITZ Fitzroy Crossi 50.26 267 P **P** **10 56 07.1 -0.2**
VNDA Vanda 52.74 185 P **P** **10 56 25.2 +0.9**
comp=Z,0.5nm,0.5s,baz=18,slow=7.5,SNR=2.7
VNDA Vanda 52.74 185 P **P** **10 56 25.2 +0.9**
CASY Casey 58.47 206 P **P** **10 57 04.1 -0.2**
QSPA South Pole Qui 64.58 180 P **P** **10 57 44.9 +0.5**
BELA Belgrano 2 74.90 173 P **P** **10 58 45.7 -0.1**
NJ2 Nanjing 81.37 312 *e*P **P** **10 59 22.8 +1.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
USRK Ussuriysk Ar. 81.86 328 P **P** **10 59 23.7 +0.2**
comp=Z,0.5nm,0.4s,baz=144,slow=3.6,SNR=4.4
SNAA Sanae 83.07 179 P **P** **10 59 29.3 -0.1**
SNAA Sanae 83.07 179 P **P** **10 59 28.3 -1.1**
VNA3 Neumayer Olymp 83.30 177 P **P** **10 59 30.7 +0.2**
VNA2 Neumayer--Watz 83.71 178 P **P** **10 59 32.8 +0.2**
NVAR Mina Array Bea 86.23 44 P **P** **10 59 46.8 +1.3**
comp=Z,1.3nm,0.7s,baz=224,slow=8.0,SNR=16
NVAR Mina Array Bea 86.23 44 P **P** **10 59 47.1 +1.6**
TPNV Topopah Spring 86.67 46 P **P** **10 59 49.2 +1.6**
TPNV IAmb IAmb 10 59 50.4
comp=Z,2.9nm,0.9s
K05A Summer Lake 87.29 40 P **P** **10 59 52.6 +2.2**
K05A IAmb IAmb 10 59 53.0
comp=Z,5.1nm,1.1s
BJI Beijing 87.88 317 P **P** **10 59 53.4 +0.5**
BJI pmax pmax
comp=Z,6.0nm,0.6s
PINE Pine Mountain 87.93 39 P **P** **10 59 55.7 +2.3**
PINE IAmb IAmb 10 59 56.4
comp=Z,6.6nm,0.8s
EFI East Falkland 88.09 148 P **P** **10 59 55.6 +1.7**
SVW2 Sparrevohn 88.64 12 P **P** **10 59 56.3 +0.3**
SVW2 IAmb IAmb 10 59 56.3
comp=Z,10nm,1.5s
I07A Izee 88.93 39 P **P** **10 59 59.9 +2.0**
I07A IAmb IAmb 11 00 00.6
comp=Z,3.7nm,0.9s
KNB Kanab 88.98 48 P **P** **11 00 00.6 +2.2**
U15A North Rim 89.02 49 P **P** **11 00 01.1 +2.4**
U15A IAmb IAmb 11 00 01.6
comp=Z,3.2nm,0.8s
J08A Circle Bar Ran 89.08 40 P **P** **11 00 00.8 +2.1**
SUA Susitna One 89.94 14 P **P** **11 00 02.6 +0.4**
SUA IAmb IAmb 11 00 03.3
comp=Z,4.1nm,0.7s
HHC Hu-ho-hao-te 91.23 315 *e*P **P** **11 00 09.4 +0.8**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,47nm,7.6s
TXAR Lajitas Array 91.67 58 P **P** **11 00 12.9 +1.9**
comp=Z,1.2nm,0.8s,baz=212,slow=5.9,SNR=13
ILAR Eielson Array 93.70 14 P **P** **11 00 18.8 -0.5**
comp=Z,0.3nm,0.7s,baz=227,slow=4.8,SNR=4.2
MKAR Makanchi Array 112.89 312 PKiKP **PKiKP** **11 05 35.7 -1.0**
comp=Z,0.2nm,0.4s,baz=180,slow=1.4,SNR=2.1
ARCES ARCESS Array B 133.36 348 PKP **PKPdf** **11 06 15.7 +0.6**
comp=Z,0.9nm,0.5s,baz=78,slow=2.6,SNR=6.3
ARCES SKPbc **SKPbc** **11 08 55.9 +0.1**
comp=Z,3.0nm,0.9s,baz=42,slow=3.9,SNR=7.6
FINES FINESS Array B 139.81 341 PKhKP PKPpre 11 06 19.4
comp=Z,0.4nm,0.3s,baz=57,slow=5.1,SNR=11
FINES PKP sPdif 11 06 28.6 +1.1
comp=Z,0.7nm,0.3s,baz=83,slow=4.4,SNR=5.3
FINES SKPbc **SKPbc** **11 09 15.7 +0.7**
comp=Z,1.6nm,0.6s,baz=48,slow=2.1,SNR=9.4
FINES FINESS Array B 139.81 341 PKPdf **PKPdf** **11 06 27.0 -0.2**
NC303 NORSAR Array S 143.39 350 PKPdf PKPab 11 06 31.8 +0.1
NC405 NORSAR Array S 143.44 350 PKPdf PKPab 11 06 31.9 -0.1
NB201 NORSAR Array S 143.57 350 PKPab **PKPab** 11 06 32.3 -0.2
NB2 NORSAR Subarra 143.59 350 PKP PKPab 11 06 31.9 -0.7
comp=Z,1.9nm,0.5s,baz=16,slow=3.3
NOA NORSAR Array B 143.59 350 PKP PKPab 11 06 32.5 -0.1
comp=Z,1.4nm,0.6s,baz=22,slow=3.8,SNR=32
NAO01 NORSAR Array S 143.83 351 PKPbc 11 06 33.6 +0.2
NC602 NORSAR Array S 143.83 350 PKPbc 11 06 32.9 -0.5
KONO Kongsberg 145.16 351 PKPbc **PKPbc** **11 06 37.5 0.0**
AKASG Malin Array Be 146.05 326 PKPbc **PKPbc** **11 06 39.8 -0.6**
comp=Z,1.3nm,0.4s,baz=38,slow=4.6,SNR=6.6
BR131 Keskin Array S 148.15 305 PKPab **PKPab** **11 06 51.0 -0.4**
BRTR Keskin Array B 148.15 305 **PKPab** **11 06 51.8 +0.4**
CSS Mathiatis 149.40 296 PKPbc **PKPbc** **11 06 50.0 +0.4**
KOLS Kolonicke sedl 150.62 329 *e*PKP **PKPbc** **11 06 52.4 +0.4**
CLL Collm 152.24 342 *i* PKPbc **PKPbc** **11 06 55.7 +0.2**
comp=Z,4.0nm,0.9s
ESDC Sonseca Array 165.58 11 PKPab **PKPab** **11 08 06.2 0.0**
comp=Z,0.4nm,0.9s,baz=356,slow=5.4,SNR=4.3
TORD Torodi Ar. Bea 167.53 190 PKPab **PKPab** **11 08 14.7 -0.5**
comp=Z,0.9nm,0.6s,baz=184,slow=3.3,SNR=3.6

KRSC 06 10:58:18.0±1.7, 50°.41N×159°.91E, h81km±36km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.82**	**321**	*e*P	Pn	10 58 49.1	+1.6
KDTR				*e*S	Sn	10 59 11.6	+1.7
RUS	**Russkaya**	**2.21**	**337**	*e*P	Pn	10 58 54.3	+1.6
RUS				*e*S	Sn	10 59 20.8	+1.7
PAU	**Pauzhetka**	**2.23**	**300**	*e*S	Sn	10 59 21.0	+1.3
MTVR	**Mutnovka**	**2.34**	**333**	*e*P	Pn	10 58 56.8	+2.2
MTVR				*e*S	Sn	10 59 25.3	+2.7
ASAK	**Asacha**	**2.35**	**328**	*e*P	Pn	10 58 57.4	+2.8
ASAK				*e*S	Sn	10 59 25.3	+2.7
GRL	**Gorelyy**	**2.44**	**333**	*e*P	Pn	10 58 58.7	+2.9
GRL				*e*S	Sn	10 59 28.3	+3.5
KRMR	**Karymshinskiy**	**2.67**	**336**	*e*P	Pn	10 59 01.3	+2.5
KRMR				*e*S	Sn	10 59 33.0	+2.8
SPN	**Mys Shipunski**	**2.70**	**1**	*e*P	Pn	10 59 00.8	+1.6
SPN				*e*S	Sn	10 59 32.1	+1.3
MIPR	**Malaya Ipel'ka**	**2.72**	**315**	*e*P	Pn	10 59 02.8	+3.2
MIPR				*e*S	Sn	10 59 34.6	+3.1
DALK	**Dalny**	**2.73**	**345**	*e*P	Pn	10 59 01.0	+1.4
DALK				*e*S	Sn	10 59 32.5	+1.0
ALID	**Alaid**	**2.82**	**281**	*e*P	Pn	10 59 03.8	+2.8
ALID				*e*S	Sn	10 59 35.8	+1.8
SMAR	**Somma**	**2.94**	**347**	*e*P	Pn	10 59 05.8	+3.1
SDLR	**Sedlovina**	**2.95**	**348**	*e*P	Pn	10 59 05.5	+2.8
AVH	**Avacha**	**2.95**	**346**	*e*P	Pn	10 59 06.2	+3.5
KRER	**Koryakskii**	**2.99**	**346**	*e*P	Pn	10 59 06.9	+3.6
KOK	**Koryaka**	**3.00**	**345**	*e*P	Pn	10 59 06.9	+3.6
APC	**Apacha**	**3.05**	**327**	*e*S	Sn	10 59 40.8	+1.4
KRX	**Arik**	**3.06**	**346**	*e*P	Pn	10 59 06.7	+2.5
KZV	**Kizimen**	**4.72**	**3**	*e*P	Pn	10 59 31.0	+4.2
KZV				*e*S	Sn	11 00 23.3	+3.0
TUMD	**Tumrok D**	**4.81**	**3**	*e*S	Sn	11 00 23.7	+1.3
TUMR	**Tumrok**	**4.89**	**2**	*e*P	Pn	10 59 32.9	+3.9
BKI	**Bering**	**6.05**	**35**	*e*P	Pn	10 59 45.5	+0.8

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*IDC **06** 10:58:19.5±2.4, 18°.87N×145°.91E, h148km±22km, mb3.1/5, mb1 3.4/8, mb1mx3.2/53, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.3/18, Error ellipse: s-maj=50.1km s-min=12.1km az=88.0*
*NEIC **06** 10:58:20.3±0.5, 18°.89N±0°.08×145°.6E±0°.3, h148km±8km, mb4.0/9, Error ellipse: s-maj=36.8km s-min=11.4km az=83.0.*
ISC 06 10:58:19.9±0.8, 18°.91N±0°.06×145°.8E±0°.2, h150km, n18, σ0°.81/21, mb3.5/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.36**	**189**	P	**Pn**	**10 59 39.2**	**+1.1**
	10.0nm,0.3s,baz=20,slow=4.0,SNR=14						
GUMO				S	**Sn**	**11 00 37.7**	**-1.5**
	7.3nm,0.3s,baz=0.0,slow=22,SNR=1.6						
GUMO	**Guam**	**5.36**	**189**		**Pn**	**10 59 38.0**	**-0.1**
GUMO					**Sn**	**11 00 38.8**	**-0.4**
JCJ	**Chichijima**	**8.79**	**339**	P	**Pn**	**11 00 24.3**	**+0.5**
	2.9nm,0.3s,baz=258,slow=23,SNR=2.3						
JCJ				S	**Sn**	**11 02 00.9**	**-0.6**
	3.4nm,0.3s,baz=240,slow=22,SNR=1.5						
PATS	**Pohnpei**	**17.11**	**133**		**Pn**	**11 02 10.7**	**+0.5**
MJAR	**Matsushiro Arr**	**18.79**	**341**	P	**Pn**	**11 02 29.8**	**-0.1**
	0.1nm,0.3s,baz=159,slow=9.8,SNR=7.6						
MJAR	**Matsushiro Arr**	**18.79**	**341**	P	**P**	**11 02 27.8**	**+0.1**
MAJO	**Matsushiro**	**18.79**	**341**	P	**P**	**11 02 28.0**	**+0.3**
KSRS	**Korea Array**	**24.19**	**323**	P	**P**	**11 03 24.3**	**+1.9**
	0.4nm,0.7s,baz=160,slow=9.5,SNR=2.9						
KSRS				LR	LR	11 13 35.0	
	comp=Z,30nm,18.3s,baz=72,slow=38						
WB0	**Warramunga Arr**	**40.02**	**197**	P	**P**	**11 05 40.4**	**+0.1**
WR0	**Warramunga Arr**	**40.16**	**196**	P	**P**	**11 05 42.0**	**+0.6**
WR0				IAmb	IAmb	11 05 53.2	
	comp=Z,4.9nm,1.3s						
WRAB	**Tennant Creek**	**40.19**	**197**	P	**P**	**11 05 42.1**	**+0.4**
WRAB				IAmb	IAmb	11 05 59.6	
	comp=Z,3.5nm,1.2s						
WB2	**Warramunga Arr**	**40.20**	**197**	P	**P**	**11 05 41.9**	**+0.2**
WB2				IAmb	IAmb	11 05 49.0	
	comp=Z,3.5nm,1.1s						
WRA	**Warramunga Arr**	**40.20**	**197**	P	**P**	**11 05 41.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=18,slow=8.8,SNR=18						
WRA	**Warramunga Arr**	**40.20**	**197**	P	**P**	**11 05 41.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.75**	**209**	P	**P**	**11 05 54.3**	**-0.2**
FITZ				IAmb	IAmb

s-min=15.3km az=47.0

ISC 06 11:16:59.7±1.3, 14°35N±0°07×93°22W±0°06, h48km±11km, n137, σ1°37/137, mb4.3/33, MS3.5/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**59**	*eP*	**Pn**	**11 17 16.4**	**-2.0**
THIG				*eS*	**Sn**	**11 17 31.7**	**-0.6**
PCIG		**1.35**	**360**	*eP*	**Pn**	**11 17 18.0**	**-4.1**
PCIG				*eS*	**Sn**	**11 17 35.1**	**-3.8**
RTAL	**Retalhuleu**	**1.49**	**83**	*eP*	**Pn**	**11 17 22.8**	**-1.2**
RTAL				*eS*	**Sn**	**11 17 44.1**	**+1.8**
RTAL	**Retalhuleu**	**1.49**	**83**		**Pn**	**11 17 23.2**	**-0.8**
RTAL				Sn	**Sn**	**11 17 42.1**	**-0.1**
HUEH	**Huehuetenango**	**1.92**	**60**	*eP*	**Pn**	**11 17 30.0**	**-0.1**
HUEH				*eS*	**Sn**	**11 17 58.2**	**+5.0**
HUEH	**Huehuetenango**	**1.92**	**60**		**Pn**	**11 17 29.9**	**-0.2**
HUEH				Sn	**Sn**	**11 17 52.2**	**-1.0**
CCIG	**Comitan**	**2.19**	**28**	*eP*	**Pn**	**11 17 33.8**	**0.0**
CCIG				*eS*	**Sn**	**11 18 04.4**	**+4.6**
CCIG	**Comitan**	**2.19**	**28**		**Pn**	**11 17 34.0**	**+0.2**
TGIG		**2.42**	**2**	*eP*	**Pn**	**11 17 35.4**	**-1.4**
TGIG				*eS*	**Sn**	**11 18 05.2**	**-0.1**
APG	**El Apazote**	**2.75**	**76**	P	**Pn**	**11 17 41.3**	**-0.1**
	19nm,0.3s,baz=238,slow=6.7,SNR=182						
APG				S	**Sn**	**11 18 13.1**	**-0.4**
	20nm,0.3s,baz=4.8,slow=23,SNR=6.0						
HUIG	**Huatulco**	**3.13**	**297**	*i* P	Pn	11 17 42.1	-4.4
HUIG				*eS*	Sn	11 18 12.4	-10
CMIG	**Matias Romero**	**3.17**	**330**	*eP*	**Pn**	**11 17 43.6**	**-3.4**
CMIG				*eS*	**Sn**	**11 18 19.3**	**-4.3**
NUBE	**Las Nubes**	**3.37**	**97**	IAML		11 18 40.0	
	comp=Z,171nm,0.5s						
NUBE	**Las Nubes**	**3.37**	**97**	IAML		11 18 40.0	
	comp=Z,171nm,0.5s						
MRL	**Marmol**	**3.50**	**77**	*eP*	**Pn**	**11 17 51.3**	**-0.5**
MRL	**Marmol**	**3.50**	**77**	*eP*	**Pn**	**11 17 51.3**	**-0.5**
SBLS	**San Blas**	**3.52**	**98**	*eP*	**Pn**	**11 17 52.1**	**0.0**
SBLS	**San Blas**	**3.52**	**98**	*eP*	**Pn**	**11 17 52.1**	**0.0**
CEVE	**Cerro Verde**	**3.53**	**98**	*eP*	**Pn**	**11 17 51.5**	**-0.7**
CEVE				*eS*	**Sn**	**11 18 32.2**	**-0.5**
CEVE				IAML		11 18 54.3	
	comp=Z,1μm,0.4s						
CEVE	**Cerro Verde**	**3.53**	**98**	*eP*	**Pn**	**11 17 51.5**	**-0.7**
CEVE				*eS*	**Sn**	**11 18 32.2**	**-0.5**
CEVE				IAML		11 18 54.3	
	comp=Z,1μm,0.4s						
MTO3	**Montecristo**	**3.74**	**89**		**Pn**	**11 17 56.4**	**+1.3**
SNET	**Serv Nac Est T**	**3.92**	**99**	Pn	**Pn**	**11 17 58.7**	**+1.2**
PETF	**Flores**	**4.12**	**51**		**Pn**	**11 18 00.1**	**0.0**
COEG	**Centro de Oper**	**4.27**	**99**	*eP*	**Pn**	**11 18 02.0**	**-0.3**
COEG	**Centro de Oper**	**4.27**	**99**	*eP*	**Pn**	**11 18 02.0**	**-0.3**
TGUH	**Tegucigalpa,Un**	**5.77**	**92**		**Pn**	**11 18 24.5**	**+1.6**
TLIG	**Tlapa**	**6.06**	**303**	Pn	**Pn**	**11 18 30.1**	**+3.2**
MATN	**Matagalpa**	**7.23**	**100**	Pn	**Pn**	**11 18 43.8**	**+0.9**
TEIG	**Tepich**	**7.51**	**38**	P	**Pn**	**11 18 45.2**	**-1.5**
	comp=Z,15nm,0.3s,baz=229,slow=2.6,SNR=73						
TEIG				S	Sn	11 20 00.9	-10
	baz=9.6,slow=20,SNR=1.2						
TEIG				LR	LR	11 22 03.8	
	comp=Z,513nm,21.3s,baz=18,slow=41						
TEIG	**Tepich**	**7.51**	**38**		**Pn**	**11 18 46.0**	**-0.7**
ESPN	**Las Esperanzas**	**8.94**	**103**		**Pn**	**11 19 06.7**	**+0.5**
JTS	**Las Juntas de**	**9.03**	**116**	P	**Pn**	**11 19 08.8**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=314,slow=11,SNR=1.5						
JTS				S	**Sn**	**11 20 42.3**	**-5.5**
	comp=Z,0.7nm,0.3s,baz=336,slow=19,SNR=1.1						
JTS	**Las Juntas de**	**9.03**	**116**		**Pn**	**11 19 09.9**	**+2.4**
MOIG	**Morelia**	**9.29**	**306**	Pn	**Pn**	**11 19 13.4**	**+2.2**
833A	**Chaparral WMA,**	**15.05**	**339**		**Pn**	**11 20 29.3**	**+0.1**
HKT	**Hockley**	**15.72**	**352**		**Pn**	**11 20 37.5**	**-0.2**
H06E1	**SOCORRO T-PHAS**	**17.53**	**287**	T	T	11 38 52.8	
TXAR	**Lajitas Array**	**17.77**	**329**	LR	LR	11 28 25.9	
	comp=Z,73nm,18.7s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**17.77**	**329**		**Pn**	**11 21 03.9**	**+0.1**
352A	**Blakely**	**18.67**	**23**	P	**P**	**11 21 14.1**	**+0.3**
TIGA	**Tifton**	**19.17**	**26**	P	**P**	**11 21 18.8**	**-0.4**
TIGA				IAmb	IAmb	11 21 27.6	
	comp=Z,28nm,0.9s						
Z35A	**Perchaven, San**	**19.25**	**350**	P	**Pn**	**11 21 21.6**	**+0.1**
Z35A				IAmb	IAmb	11 21 27.0	
	comp=Z,24nm,1.1s						
WLAR	**White Oak Lake**	**19.26**	**0**	P	**Pn**	**11 21 21.3**	**-0.2**
WLAR				IAmb	IAmb	11 21 39.0	
	comp=Z,16nm,0.8s						
GDL2	**Guadalupe Moun**	**20.48**	**332**	P	**P**	**11 21 34.8**	**+1.2**
MNTX	**Cornudas Mount**	**20.55**	**329**		**P**	**11 21 35.7**	**+1.4**
X34A	**Smith Ranch, M**	**20.59**	**349**	P	**P**	**11 21 34.2**	**-0.5**
X34A				IAmb	IAmb	11 21 49.4	
	comp=Z,17nm,1.3s						
ROSC	**El Rosal**	**20.87**	**115**	P	Pn	11 21 40.4	-0.9
	comp=Z,35nm,1.1s,baz=78,slow=18,SNR=6.4						
ROSC	**El Rosal**	**20.87**	**115**	P	**P**	**11 21 38.3**	**0.0**
GOGA	**Godfrey**	**20.95**	**23**	P	**P**	**11 21 37.9**	**-0.6**
W35A	**Tecumseh**	**20.98**	**352**	P	**P**	**11 21 37.8**	**-1.1**
FNO	**Franklin**	**21.16**	**350**	P	**P**	**11 21 40.7**	**-0.1**
MSTX	**Muleshoe**	**21.37**	**338**	P	**P**	**11 21 42.4**	**-0.8**
MSTX				IAmb	IAmb	11 21 48.2	
	comp=Z,16nm,0.9s						
OK025	**Westminster Rd**	**21.47**	**351**	P	**P**	**11 21 44.4**	**+0.4**
OK025				IAmb	IAmb	11 21 46.0	
	comp=Z,14nm,0.8s						
BCOK	**Bluff Creek, N**	**21.59**	**350**	P	**P**	**11 21 44.7**	**-0.6**
TUL1	**Leonard**	**21.60**	**354**	P	**P**	**11 21 44.8**	**-0.7**
OK029	**Liberty Lake**	**21.70**	**351**	P	**P**	**11 21 46.8**	**+0.3**
OK029				IAmb	IAmb	11 21 49.0	
	comp=Z,11nm,0.9s						
AMTX	**Amarillo**	**21.83**	**341**	P	**P**	**11 21 47.6**	**-0.4**
QUOK	**Quay**	**21.96**	**352**	P	**P**	**11 21 49.6**	**+0.3**
QUOK				IAmb	IAmb	11 21 50.2	
	comp=Z,11nm,0.8s						
U38A	**Gravette**	**22.03**	**357**	P	**P**	**11 21 49.5**	**-0.6**
BANI	**BANI**	**22.29**	**77**	P	**P**	**11 21 52.1**	**-1.2**
319A	**Douglas**	**22.45**	**322**	P	**P**	**11 21 56.0**	**+1.2**
319A				IAmb	IAmb	11 22 11.0	
	comp=Z,10nm,0.9s						
121A	**Cookes Peak, D**	**22.46**	**326**	P	**P**	**11 21 56.5**	**+1.6**
CROK	**Carrier**	**22.48**	**350**	P	**P**	**11 21 54.5**	**-0.4**
SDV	**Santo Domingo**	**22.77**	**101**	P	**P**	**11 21 59.0**	**+0.6**
	comp=Z,6.2nm,0.6s,baz=257,slow=8.3,SNR=3.0						
SDV	**Santo Domingo**	**22.77**	**101**	P	**P**	**11 21 59.2**	**+0.7**
SDV				IAmb	IAmb	11 22 00.7	
	comp=Z,7.5nm,0.8s						
TKL	**Tuckaleechee C**	**22.86**	**20**	P	**P**	**11 21 58.4**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=153,slow=19,SNR=2.1						
TKL				LR	LR	11 32 44.4	
	comp=Z,83nm,18.5s,baz=193,slow=42						
BNM	**Barren Site**	**23.15**	**331**	P	**P**	**11 22 03.6**	**+1.4**
KAN12	**Harper NE Stat**	**23.25**	**350**	P	**P**	**11 22 02.1**	**-0.8**
S39A	**Bolivar**	**23.25**	**360**	P	**P**	**11 22 01.9**	**-1.0**
S39A				IAmb	IAmb	11 22 02.3	
	comp=Z,6.8nm,0.7s						
BIRD	**Birdtown, Kers**	**23.26**	**27**	P	**P**	**11 22 02.1**	**-0.9**
LENM	**Lemitar**	**23.33**	**330**	P	**P**	**11 22 05.1**	**+1.2**
ANMO	**Albuquerque**	**23.73**	**332**	LR	LR	11 32 55.8	
	comp=Z,5.5nm,19.7s,baz=265,slow=40						
TZTN	**Tazewell**	**23.74**	**20**	P	**P**	**11 22 05.7**	**-1.8**
TZTN				IAmb	IAmb	11 22 06.9	
	comp=Z,8.3nm,0.9s						
TUC	**Tucson**	**24.02**	**321**	P	**P**	**11 22 11.6**	**+1.4**
TUC				IAmb	IAmb	11 22 12.8	
	comp=Z,10nm,1.1s						
WCI	**Wyandotte Cave**	**24.57**	**13**	P	**P**	**11 22 15.1**	**+0.1**
WCI				IAmb	IAmb	11 22 16.6	
	comp=Z,13nm,1.2s						
V58A	**Windy Hill, Pi**	**24.83**	**28**	P	**P**	**11 22 15.3**	**-2.2**
MVCO	**Mesa Verde**	**26.53**	**332**	P	**P**	**11 22 33.4**	**+0.3**
MVCO				IAmb	IAmb	11 22 40.4	
	comp=Z,15nm,1.4s						
PV01	**Paradox Valley**	**27.32**	**333**	P	**P**	**11 22 40.9**	**+0.7**
PV01				IAmb	IAmb	11 22 47.2	
	comp=Z,12nm,1.5s						
PV03	**Paradox Valley**	**27.55**	**333**	P	**P**	**11 22 43.5**	**+1.3**
PV03				IAmb	IAmb	11 22 48.3	
	comp=Z,13nm,1.4s						
PV12	**Saucer Basin,**	**27.58**	**333**	P	**P**	**11 22 43.2**	**+0.7**
PV12				IAmb	IAmb	11 23 00.7	
	comp=Z,9.5nm,1.1s						
PV07	**Paradox Valley**	**27.61**	**333**	P	**P**	**11 22 43.1**	**+0.3**
PV07				IAmb	IAmb	11 22 49.0	
	comp=Z,6.9nm,1.0s						
PV04	**Paradox Valley**	**27.68**	**333**	P	**P**	**11 22 44.0**	**+0.6**
PV04				IAmb	IAmb	11 22 49.5	
	comp=Z,8.6nm,1.0s						
PV22	**Blue Mesa, Par**	**27.75**	**333**	P	**P**	**11 22 45.4**	**+1.3**
W13A	**Hualapai Mount**	**27.81**	**322**	P	**P**	**11 22 45.5**	**+0.9**
PFO	**Pinyon Flats O**	**28.50**	**316**	P	**P**	**11 22 51.4**	**+0.8**
KNB	**Kanab**	**28.55**	**326**	P	**P**	**11 22 51.7**	**+0.5**
CCUT	**Cedar City**	**29.23**	**326**	P	**P**	**11 22 57.6**	**+0.3**
PSUT	**Pine Spring**	**30.22**	**327**	P	**P**	**11 23 06.9**	**+1.0**
NNA	**Nana**	**30.79**	**147**	LR	LR	11 32 49.7	
	comp=Z,80nm,18.7s,baz=339,slow=31						
TCUT	**Toone Canyon**	**31.02**	**333**	P	**P**	**11 23 14.1**	**+1.1**
PDAR	**Pinedale Array**	**31.63**	**337**	P	**P**	**11 23 18.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=240,slow=15,SNR=3.7						
NV11	**Mina Array Sit**	**32.58**	**322**	P	**P**	**11 23 27.5**	**+0.8**
NV11				IAmb	IAmb	11 23 29.0	
	comp=Z,4.6nm,0.9s						
MDPB	**Devils Postpil**	**32.63**	**320**	P	**P**	**11 23 28.0**	**+0.7**
REDW	**Red Top Meadow**	**32.64**	**336**	P	**P**	**11 23 27.6**	**+0.4**
NVAR	**Mina Array Bea**	**32.67**	**322**	P	**P**	**11 23 29.3**	**+1.8**
	comp=Z,3.2nm,0.8s,baz=139,slow=9.0,SNR=30						
NVAR				PcP	**PcP**	**11 26 13.9**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=112,slow=3.4,SNR=4.8						
NVAR				LR	LR	11 38 35.6	
	comp=Z,150nm,19.2s,baz=160,slow=40						
SNOW	**Snow King Moun**	**32.68**	**336**	P	**P**	**11 23 28.2**	**+0.6**
LOHW	**Long Hollow**	**32.75**	**336**	P	**P**	**11 23 28.8**	**+0.6**
LOHW				IAmb	IAmb	11 23 39.3	
	comp=Z,7.1nm,1.2s						
TPAW	**Teton Pass**	**32.78**	**336**	P	**P**	**11 23 29.2**	**+0.7**
TPAW				IAmb	IAmb	11 23 43.8	
	comp=Z,7.5nm,1.1s						
KVN	**Kaiserville**	**32.95**	**323**	P	**P**	**11 23 29.7**	**-0.2**
IMW	**Indian Meadow**	**33.12**	**336**	P	**P**	**11 23 31.6**	**+0.2**
IMW				IAmb	IAmb	11 23 37.6	
	comp=Z,5.7nm,1.4s						
PNTR	**Pine Nut**	**33.87**	**322**	P	**P**	**11 23 37.9**	**-0.1**
PNTR				IAmb	IAmb	11 23 40.5	
	comp=Z,3.0nm,0.8s						
VCNR	**Virginia City**	**34.03**	**322**	P	**P**	**11 23 40.5**	**+1.1**
HLID	**Hailey**	**34.31**	**332**	P	**P**	**11 23 42.1**	**+0.4**
HLID				IAmb	IAmb	11 23 43.5	
	comp=Z,3.5nm,0.9s						
MCMT	**McKenzie Canyo**	**34.66**	**335**	P	**P**	**11 23 45.9**	**+1.2**
MFID	**Camas Ranch**	**34.85**	**331**	P	**P**	**11 23 46.2**	**-0.2**
DLMT	**Dillon**	**34.99**	**336**	P	**P**	**11 23 48.6**	**+1.0**
DLMT				IAmb	IAmb	11 23 49.7	
	comp=Z,4.9nm,0.9s						
LRM	**Limekiln Ridge**	**35.32**	**337**	P	**P**	**11 23 50.4**	**-0.1**
WVOR	**Wild Horse Val**	**35.55**	**327**	P	**P**	**11 23 53.1**	**+0.7**
WVOR				IAmb	IAmb	11 23 54.2	
	comp=Z,3.8nm,1.0s						
HRY	**Holter Researc**	**35.84**	**338**	P	**P**	**11 23 55.1**	**+0.3**
ULM	**Lac du Bonnet**	**35.87**	**357**	LR	LR	11 41 46.8	
	comp=Z,54nm,18.4s,baz=240,slow=42						
J08A	**Circle Bar Ran**	**36.12**	**328**	P	**P**	**11 23 58.2**	**+1.0**
PTGA	**Pitinga**	**36.16**	**112**	P	**P**	**11 23 58.0**	**+0.2**
F10A	**Beach Ranch, E**	**37.45**	**332**	P	**P**	**11 24 08.8**	**+0.4**
SIV	**San Ignacio**	**43.79**	**132**	P	**P**	**11 25 00.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=314,slow=11,SNR=8.0						
SCHQ	**Schefferville**	**45.32**	**21**	LR	LR	11 45 29.9	
	comp=Z,94nm,18.4s,baz=146,slow=38						
YKA	**Yellowknife Ar**	**50.42**	**347**	P	**P**	**11 25 52.0**	**-0.1**
	comp=Z,5.5nm,0.7s,baz=149,slow=6.9,SNR=8.2						
BCAR	**Beaver Creek A**	**59.25**	**337**	P	**P**	**11 26 56.0**	**0.0**
EYAK	**Cordova Ski Ar**	**59.64**	**333**	P	**P**	**11 26 60.0**	**+1.4**
IL31		**62.06**	**337**	P	**P**	**11 27 15.0**	**0.0**
ILAR	**Eielson Array**	**62.06**	**337**	P	**P**	**11 27 14.8**	**-0.2**
	comp=Z,3.2nm,1.1s,baz=139,slow=4.8,SNR=14						
ILAR	**Eielson Array**	**62.06**	**337**	P	**P**	**11 27 15.0**	**0.0**
RND	**Reindeer**	**62.22**	**335**	P	**P**	**11 27 16.8**	**+0.6**
SUA	**Susitna One**	**62.23**	**333**	P	**P**	**11 27 16.6**	**+0.3**
BMAR	**Burnt Mountain**	**62.56**	**340**	P	**P**	**11 27 18.7**	**+0.3**
TRF	**Thorofare Moun**	**62.82**	**335**	P	**P**	**11 27 21.2**	**+0.8**
ESDC	**Sonseca Array**	**80.43**	**52**	P	**P**	**11 29 04.3**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=287,slow=5.4,SNR=6.9						
ESDC	**Sonseca Array**	**80.43**	**52**	P	**P**	**11 29 07.2**	**+0.7**
NB2	**NORSAR Subarra**	**84.40**	**28**	P	**P**	**11 29 26.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=292,slow=5.3						
NOA	**NORSAR Array B**	**84.40**	**28**	P	**P**	**11 29 26.0**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=290,slow=5.2,SNR=4.9						
NOA				LR	LR	12 08 12.9	
	comp=Z,20nm,18.0s,baz=280,slow=36						
ARCES	**ARCESS Array B**	**86.18**	**18**	P	**P**	**11 29 35.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=303,slow=6.7,SNR=5.6						
DBIC	**Dimbokro**	**86.79**	**84**	LR	LR	12 07 49.0	
	comp=Z,17nm,18.8s,baz=288,slow=35						
TIXI	**Tiksi**	**89.67**	**348**	LR	LR	12 17 38.5	
	comp=Z,20nm,18.2s,baz=21,slow=41						
GERES	**GERESS Array B**	**90.09**	**39**	LR	LR	12 11 23.0	
	comp=Z,21nm,18.2s,baz=270,slow=36						
FINES	**FINESS Array B**	**90.69**	**25**	LR	LR	12 10 06.7	
	comp=Z,18nm,20.6s,baz=198,slow=35						
MKAR	**Makanchi Array**	**119.01**	**4**	PKP	**PKPdf**	**11 35 42.1**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=3.0,SNR=3.0						
WRA	**Warramunga Arr**	**134.33**	**256**	PKP	**PKPdf**	**11 36 13.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=47,slow=0.8,SNR=7.5						
CMAR	**Chiang Mai Arr**	**145.27**	**339**	PKPbc	**PKPbc**	**11 36 32.6**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=346,slow=3.5,SNR=13						

DJA 06 11:32:06.0±0.6, 0°N±6°×12°4E±°, h127km±7km, M3.8/11, mB5.0/2, mb3.9/3, MLv3.8/11, Mw(mB)4.3/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.36**	**23**	P	Pn	11 32 24.3	+0.3
KMSI				S	Sn	11 32 41.2	+3.5
LUWI	**Luwuk**	**1.66**	**220**	P	Pn	11 32 36.2	+0.4
SANI	**Sanana**	**3.13**	**137**	P	Pn	11 32 52.1	-2.1
MPSI	**Mapaga**	**3.94**	**271**	P	Pn	11 33 05.1	+0.2
NLAI	**Namlea**	**4.75**	**137**	P	Pn	11 33 15.9	+0.2
SPSI	**Sidrap Palu**	**5.83**	**224**	P	Pn	11 33 30.7	+0.5
	0.1nm13nm,0.9s						
BNSI	**Bone**	**5.93**	**219**	P	Pn	11 33 32.0	+0.4
	0.1nm9.5nm,1.1s						
MSAI	**Masohi**	**6.21**	**125**	P	Pn	11 33 35.8	+0.4

*NEIC **06** 11:52:20.2±2.5, 10°59N±0°08×125°6E±0°2, h35km±2km, mb4.5/21, Error ellipse: s-maj=33.7km s-min=6.0km az=66.0*

*IDC **06** 11:52:31.1±12.0, 10°59N×125°65E, h123km±110km, mb3.7/9, mb1 3.8/9, mb1mx3.4/55, mbtmp4.0/9, Error ellipse: s-maj=72.7km s-min=14.4km az=59.0*

*MAN **06** 11:52:32.0, 10°49N×125°37E, h124km, mb4.5, ML3.3, MS3.1*

ISC 06 11:52:32.1±0.6, 10°49N±0°06×125°34E±0°09, h150km, n40, σ1°91/47, mb4.2/18, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.59**	**233**	*eP*	**Pn**	**11 52 52.6**	**-1.2**
MSLP				*eS*	**Sn**	**11 53 07.7**	**-2.8**
OCLP	**Ormoc**	**0.91**	**308**	*eP*	**Pn**	**11 52 54.9**	**-1.2**
OCLP				*eS*	**Sn**	**11 53 12.7**	**-1.7**
LLP	**Lapu-Lapu**	**1.36**	**263**	*i* P	**Pn**	**11 52 59.9**	**-0.3**
LLP				*i* S	**Sn**	**11 53 19.3**	**-2.3**
TBP	**Tagbilaran**	**1.65**	**242**	*eP*	**Pn**	**11 53 03.1**	**-0.1**
CNP	**Catarman**	**2.12**	**342**	*eP*	**Pn**	**11 53 07.5**	**-1.1**
CNP				*eS*	**Sn**	**11 53 34.7**	**-2.0**
GUIM	**Jordan**	**2.70**	**273**	*eP*	**Pn**	**11 53 11.5**	**-4.2**
PAGZ	**Pagadian**	**3.25**	**216**	*eP*	**Pn**	**11 53 22.4**	**-0.3**
SOEI	**Soe**	**20.14**	**183**	P	**P**	**11 56 51.7**	**-3.1**
SOEI				IAmb	IAmb	11 57 07.9	
	comp=Z,16nm,0.9s						
MTN	**Manton Dam**	**23.88**	**166**	P	**P**	**11 57 32.8**	**+0.8**
MTN				IAmb	IAmb	11 57 41.4	
	comp=Z,15nm,1.4s						
IPM	**Ipoh**	**24.82**	**258**	P	**P**	**11 57 41.7**	**+1.0**
IPM				IAmb	IAmb	11 57 45.5	
	comp=Z,8.3nm,0.8s						
CISI	**Cisompet, Garu**	**25.01**	**225**	P	**P**	**11 57 42.4**	**0.0**
KNRA	**Kununurra**	**26.22**	**173**	P	**P**	**11 57 53.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**26.73**	**290**	P	**P**	**11 58 01.7**	**+3.9**
	comp=Z,2.6nm,0.8s,baz=101,slow=7.3,SNR=14						
FITZ	**Fitzroy Crossi**	**28.41**	**179**	P	**P**	**11 58 14.6**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=346,slow=5.8,SNR=17						
FITZ	**Fitzroy Crossi**	**28.41**	**179**	P	**P**	**11 58 14.1**	**+1.5**
PMG	**Port Moresby**	**29.36**	**132**	P	**P**	**11 58 17.3**	**-3.9**
BJT	**Baijiatuau**	**30.52**	**346**	P	**P**	**11 58 29.3**	**-1.8**
BJT				IAmb	IAmb	11 58 46.5	
	comp=Z,4.9nm,0.4s						
WB0	**Warramunga Arr**	**31.36**	**163**	P	**P**	**11 58 36.9**	**-1.8**
WRAB	**Tennant Creek**	**31.51**	**164**	P	**P**	**11 58 38.4**	**-1.6**
WRAB				IAmb	IAmb	11 58 45.0	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**31.51**	**164**	P	**P**	**11 58 41.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=341,slow=8.2,SNR=17						
WRA				PcP	**PcP**	**12 01 32.4**	**+2.9**
	comp=Z,0.7nm,1.1s,baz=340,slow=2.5,SNR=2.4						
WRA	**Warramunga Arr**	**31.51**	**164**	P	**P**	**11 58 38.6**	**-1.5**
WB2	**Warramunga Arr**	**31.52**	**164**	P	**P**	**11 58 40.2**	**+0.2**
WB2				IAmb	IAmb	11 58 48.1	
	comp=Z,7.1nm,1.4s						
WR0	**Warramunga Arr**	**31.58**	**163**	P	**P**	**11 58 41.0**	**+0.3**
WR0				IAmb	IAmb	11 58 54.5	
	comp=Z,16nm,1.5s						
AS31	**Alice Springs**	**34.96**	**166**	P	**P**	**11 59 09.6**	**-0.4**
ASAR	**Alice Springs**	**34.96**	**166**	P	**P**	**11 59 11.8**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=342,slow=7.1,SNR=23						
ASAR	**Alice Springs**	**34.96**	**166**	P	**P**	**11 59 10.2**	**+0.3**
MORW	**Morawa**	**40.34**	**193**	P	**P**	**11 59 55.3**	**+0.3**
FORT	**Forrest**	**41.11**	**176**	P	**P**	**12 00 01.3**	**-0.1**
EIDS	**Eidsvold**	**43.58**	**145**	P	**P**	**12 00 19.3**	**-2.1**
EIDS				IAmb	IAmb	12 00 22.9	
	comp=Z,17nm,1.4s						
BBOO	**Buckleboo**	**44.26**	**167**	P	**P**	**12 00 27.4**	**+0.7**
BBOO				IAmb	IAmb	12 00 30.0	
	comp=Z,5.2nm,0.8s						
STKA	**Stephens Creek**	**44.91**	**160**	P	**P**	**12 00 34.8**	**+2.9**
	comp=Z,1.5nm,0.4s,baz=346,slow=6.7,SNR=3.8						
MK31	**Makanchi Array**	**51.30**	**323**	P	**P**	**12 01 22.2**	**+1.4**
MKAR	**Makanchi Array**	**51.30**	**323**	P	**P**	**12 01 23.6**	**+2.8**
	comp=Z,0.7nm,0.5s,baz=126,slow=8.5,SNR=12						
MKAR				pP	**pP**	**12 01 54.0**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=118,slow=8.8,SNR=3.2						
MKAR				PcP	**PcP**	**12 02 35.0**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=120,slow=4.3,SNR=4.6						
MKAR	**Makanchi Array**	**51.30**	**323**	P	**P**	**12 01 22.5**	**+1.6**
TOO	**Toolangi**	**51.41**	**159**	P	**P**	**12 01 22.2**	**+0.5**
TOO				IAmb	IAmb	12 01 40.0	
	comp=Z,12nm,1.5s						
ZALV	**Zalesovo Beam**	**54.00**	**332**	P	**P**	**12 01 42.9**	**+2.4**
	comp=Z,0.6nm,0.4s,baz=127,slow=9.2,SNR=1.9						
BRVK	**Borovoye**	**61.04**	**326**	P	**P**	**12 02 30.5**	**+0.8**
ABKAR	**Akbulak array**	**66.11**	**319**	P	**P**	**12 03 01.5**	**-1.6**
ARCES	**ARCESS Array B**	**83.67**	**340**	P	**P**	**12 04 45.5**	**+1.9**
	comp=Z,1.8nm,0.9s,baz=81,slow=5.6,SNR=5.5						
FINES	**FINESS Array B**	**85.26**	**332**	P	**P**	**12 04 53.5**	**+1.9**
	comp=Z,0.8nm,0.4s,baz=78,slow=3.9,SNR=6.0						

*MOS **06** 11:59:26.7±0.9, 52°07N×178°45E, h129km, mb4.4/36, Error ellipse: s-maj=8.1km s-min=7.3km az=144.1*

*NEIC **06** 11:59:27.4±1.5, 51°99N±0°08×178°46E±0°07, h122km±2km, Error ellipse: s-maj=11.7km s-min=6.1km az=175.0*

*AEIC **06** 11:59:27±1.5, 51°85N±0°08×178°55E±0°07, h123km±2km, ML3.9/40, mb4.6/203(NEIC), Error ellipse: s-maj=11.5km s-min=6.5km az=178.0*

*UNK **06** 11:59:27.3, 51°97N×178°40E, h121km*

*IDC **06** 11:59:28.9±0.7, 52°13N×178°45E, h132km±5km, mb4.0/28, mb1 4.1/31, mb1mx4.0/52, mbtmp4.4/31, MS2.9/4, Ms1 2.9/4, ms1mx2.6/44, Error ellipse: s-maj=13.9km s-min=7.5km az=166.0*

**ISC 06 11:59:27.4±0.5, 52°05N±0°07×178°44E±0°03, h122km±3km, h124km; pP-P, n538, σ1°01/561, mb4.6/125, 13C-

KDAK IAmb IAmb 12 03 24.9
comp=Z,43nm,1.0s
SEY Seymchan 17.60 318 P **Pn 12 03 25.6 +1.1**
comp=Z,0.1nm,0.3s,baz=126,slow=9.5,SNR=6.7
SEY ScP **ScP 12 11 19.3 -0.6**
comp=Z,0.3nm,0.3s,baz=153,slow=2.8,SNR=14
RSO Redoubt South 17.95 51 P **Pn 12 03 29.9 +0.8**
HOM Homer 18.31 54 P **Pn 12 03 33.2 +0.1**
baz=258,SNR=6.7
CNPM China Poot 18.49 54 P **P 12 03 34.1 +0.4**
BRLK Bradley Lake 18.71 54 P **P 12 03 36.0 0.0**
CAPN Captain Cook N 18.79 50 P **Pn 12 03 40.6 +1.9**
baz=256
SKT Skwentna 18.95 47 **Pn 12 03 40.5 -0.1**
PPLA Purkeypile 18.97 44 **Pn 12 03 41.4 +0.4**
PPLA IAmb IAmb 12 03 46.6
comp=Z,50nm,1.1s
SUA Susitna One 19.16 49 P **P 12 03 42.2 +1.1**
SUA IAmb IAmb 12 03 47.2
comp=Z,40nm,1.0s
O22K Cooper Landing 19.42 52 P **P 12 03 44.4 +0.7**
baz=258
SEW Seward 19.48 53 P **P 12 03 43.8 -0.5**
RC01 Rabbit Creek A 19.54 50 P **Pn 12 03 46.4 -1.1**
baz=257
CUT Chulitna 19.65 46 P **P 12 03 47.4 +1.3**
baz=252
IMAR Indian Mountai 19.75 34 P **P 12 03 48.6 +1.4**
KTH Kantishna Hill 19.75 42 P **P 12 03 48.6 +1.3**
KTH IAmb IAmb 12 03 53.4
comp=Z,29nm,0.8s
BPAW Bear Paw Mtn. 19.93 41 P **Pn 12 03 50.9 -1.1**
BPAW IAmb IAmb 12 03 54.7
comp=Z,28nm,1.1s
PMR Palmer 19.94 49 P **P 12 03 50.1 +0.8**
PMR pmax pmax
comp=Z,11nm,0.5s
PMR Palmer 19.94 49 P **P 12 03 50.1 +0.8**
PMR IAmb IAmb 12 03 56.6
comp=Z,11nm,0.5s
TRF Thorofare Moun 19.98 43 P **P 12 03 51.2 +1.3**
TRF IAmb IAmb 12 03 54.4
comp=Z,31nm,0.7s
GHO Glory Hole Cre 20.08 48 P **P 12 03 52.3 +1.3**
GHO IAmb IAmb 12 03 54.2
comp=Z,20nm,0.8s
KNK Knik Glacier 20.22 49 P **P 12 03 53.1 +0.8**
SML Sawmill 20.36 48 P **P 12 03 54.8 +0.9**
RND Reindeer 20.57 44 P **P 12 03 57.4 +1.2**
RND pmax pmax
comp=Z,11nm,0.6s
RND Reindeer 20.57 44 P **P 12 03 57.4 +1.2**
MCK McKinley 20.64 43 P **P 12 03 57.6 +0.7**
MCK pmax pmax
comp=Z,21nm,1.0s
MCK McKinley 20.64 43 P **P 12 03 57.5 +0.7**
MCK IAmb IAmb 12 04 00.6
comp=Z,21nm,1.0s
GLI Glacier Island 20.76 51 P **P 12 03 58.6 +0.5**
SCM Sheep Creek Mo 20.84 49 P **P 12 03 59.7 +0.7**
SCM pmax pmax
comp=Z,36nm,0.8s
SCM Sheep Creek Mo 20.84 49 P **P 12 03 59.7 +0.7**
SCM IAmb IAmb 12 04 01.9
comp=Z,36nm,0.8s
NEA2 Nenana 20.89 41 P **P 12 04 00.9 +1.4**
baz=248,SNR=16
HIN Hinchinbrook I 20.98 53 P **P 12 04 01.0 +0.5**
HIN IAmb IAmb 12 04 02.0
comp=Z,28nm,0.7s
FID Port Fidalgo 21.04 52 P **P 12 04 01.0 -0.2**
FID IAmb IAmb 12 04 03.8
comp=Z,38nm,0.9s
DHY Denali Highway 21.11 45 P **P 12 04 02.5 +0.4**
DHY IAmb IAmb 12 04 05.0
comp=Z,34nm,0.8s
WRH Wood River Hil 21.24 41 P **P 12 04 04.1 +0.9**
MDM Murphy Dome 21.36 40 P **P 12 04 05.5 +1.0**
MDM IAmb IAmb 12 04 08.0
comp=Z,17nm,0.8s
EYAK Cordova Ski Ar 21.37 53 P **P 12 04 05.0 +0.4**
EYAK IAmb IAmb 12 04 07.9
comp=Z,28nm,1.1s
CCB Clear Creek Bu 21.42 41 P **P 12 04 05.5 +0.4**
M24K Tolsona, Glenn 21.43 48 P **P 12 04 07.1 +1.7**
baz=258,SNR=14
KLU Klutina 21.43 50 P **P 12 04 05.9 +0.5**
KLU IAmb IAmb 12 04 10.2
comp=Z,24nm,0.8s
TCOL CIGO, UAF Yank 21.47 40 P **P 12 04 06.8 +1.1**
baz=249,SNR=8.5
COLA College 21.48 40*c iP* **P 12 04 06.8 +1.1**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 21.48 40 P **P 12 04 06.2 +0.4**
COLA IAmb IAmb 12 04 09.4
comp=Z,17nm,0.8s
COLD Coldfoot 21.60 33 P **P 12 04 08.4 +1.3**
baz=241
COLD Coldfoot 21.60 33 P **P 12 04 08.0 +0.9**
HDA Harding Lake 21.69 42 P **P 12 04 08.8 +0.8**
baz=252,SNR=12
HDA Harding Lake 21.69 42 P **P 12 04 08.7 +0.7**
POKR Poker Flat Res 21.73 40 P **P 12 04 08.9 +0.5**
baz=249,SNR=6.4
IL31 21.83 41 P **P 12 04 09.5 0.0**
ILAR Eielson Array 21.83 41 P **P 12 04 08.1 -1.4**
comp=Z,2.5nm,0.4s,baz=247,slow=8.6,SNR=53
ILAR ScP **ScP 12 11 27.5 -2.2**
comp=Z,1.2nm,0.7s,baz=284,slow=3.4,SNR=13
ILAR LR LR 12 14 28.4
comp=Z,32nm,18.0s,baz=210,slow=41
ILAR Eielson Array 21.83 41 P **P 12 04 10.4 +0.9**
ILAR Eielson Array 21.83 41 P **P 12 04 10.4 +0.9**
RAGM Ragged Mountai 21.88 53 P **P 12 04 11.1 +0.9**
PAX Paxson 21.93 46 P **P 12 04 11.6 +0.9**
PAX pmax pmax
comp=Z,18nm,0.8s
PAX Paxson 21.93 46 P **P 12 04 11.6 +0.9**
PAX IAmb IAmb 12 04 12.9
comp=Z,18nm,0.8s
HMT Hamilton 22.08 53 P **P 12 04 12.3 +0.1**
RIDG Independent Ri 22.39 44 P **P 12 04 15.6 +0.3**
RIDG IAmb IAmb 12 04 17.3
comp=Z,10nm,0.5s
GLB Gilahina Butte 22.42 50 P **P 12 04 16.1 +0.5**
GLB IAmb IAmb 12 04 20.1
comp=Z,20nm,0.6s
TOLK Toolik Lake Re 22.52 30 P **P 12 04 18.2 +1.6**
baz=239,SNR=13
TOLK Toolik Lake Re 22.52 30 P **P 12 04 17.9 +1.3**
VRDI Verde Repeater 22.57 51 P **P 12 04 17.8 +0.5**
VRDI IAmb IAmb 12 04 20.8
comp=Z,14nm,0.6s
DOT Dot Lake 22.70 45 P **P 12 04 18.0 -0.4**
DOT IAmb IAmb 12 04 20.8
comp=Z,19nm,0.7s
MENT Mentasta 22.71 47 P **P 12 04 18.5 +0.1**
MENT IAmb IAmb 12 04 23.6
comp=Z,21nm,0.6s
MCARA McCarthy VSAT 22.79 51 P **P 12 04 19.6 +0.4**
MCARA IAmb IAmb 12 04 21.8
comp=Z,23nm,0.8s
SCRK Sand Creek 22.81 44 P **P 12 04 19.3 -0.3**
baz=256,SNR=10
BALM Baldy 23.08 52 P **P 12 04 22.5 +0.4**
BALM IAmb IAmb 12 04 25.0
comp=Z,14nm,0.8s
YAH Yahtse 23.33 53 P **P 12 04 25.9 +1.4**
BARN Barnard Glacie 23.41 52 P **P 12 04 26.0 +0.8**
YSS Yuzh-Sakhalins 23.56 272 *eP* **P 12 04 28.0 +1.5**
CTGM Chitina Glacie 23.57 52 P **P 12 04 27.5 +0.9**
BCAR Beaver Creek A 23.60 47 P **P 12 04 27.5 +0.8**
TABL Table Mountain 23.63 53 P **P 12 04 27.1 -0.1**
TABL IAmb IAmb 12 04 30.4
comp=Z,31nm,0.8s
K27K Chicken 23.65 44 P **P 12 04 28.3 +1.2**
baz=258
BMAR Burnt Mountain 23.65 35 P **P 12 04 28.5 +1.3**
PCA Pinnacle 24.06 54 P **P 12 04 30.7 -0.3**
EGAK Eagle 24.19 43 P **P 12 04 32.8 +0.8**
DAWY Dawson 24.82 45 P **P 12 04 38.9 +1.2**
DAWY IAmb IAmb 12 04 41.7
comp=Z,23nm,0.8s
JKA Kamikawa-asahi 25.01 266 P **P 12 04 40.8 +1.1**
comp=Z,2.9nm,0.6s,baz=35,slow=14,SNR=6.5
ASAJ LR LR 12 14 21.2
comp=Z,25nm,21.9s,baz=2.5,slow=36
HYT Haines Junctio 25.43 53 P **P 12 04 45.3 +1.8**
EPYK Eagle Plains 26.32 40 P **P 12 04 52.1 +0.8**
baz=259,SNR=5.5
EPYK Eagle Plains 26.32 40 P **P 12 04 51.8 +0.5**
EPYK IAmb IAmb 12 04 53.5
comp=Z,23nm,1.1s
YAK Yakutsk 27.68 310 *i* P **P 12 05 02.8 -0.6**
YAK pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 29.20 330 *i* P **P 12 05 16.8 0.0**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
KLR Kul'dur 29.35 283 P **P 12 05 18.7 +0.4**
comp=Z,5.3nm,0.8s,baz=61,slow=7.1,SNR=15
KLR Kul'dur 29.35 283*ceP* **P 12 05 18.9 +0.6**
KLR pmax pmax
comp=Z,5.0nm,0.9s
DLBC Dease Lake 29.43 57 P **P 12 05 20.0 +1.0**
comp=Z,3.4nm,0.6s,baz=278,slow=7.7,SNR=11
DLBC Dease Lake 29.43 57 P **P 12 05 19.5 +0.5**
USRK Ussuriysk Ar. 31.52 274 P **P 12 05 37.6 +0.1**
comp=Z,2.6nm,0.5s,baz=56,slow=9.4,SNR=12
USRK PcP **PcP 12 08 27.3 +0.1**
comp=Z,3.1nm,0.7s,baz=51,slow=4.2,SNR=8.1
USRK Ussuriysk Ar. 31.52 274 P **P 12 05 37.3 -0.2**
MAJO Matsushiro 32.22 257 *i P* **P 12 05 44.4 +0.6**
MAJO pmax pmax
comp=Z,4.0nm,0.9s
MAT Matsushiro 32.22 257 P **P 12 05 44.7 +0.9**
MJAR Matsushiro Arr 32.22 257 P **P 12 05 44.9 +1.1**
comp=Z,0.9nm,0.8s,baz=328,slow=9.4,SNR=5.0
MJAR PcP **PcP 12 08 29.6 +0.2**
comp=Z,0.5nm,0.4s,baz=93,slow=1.8,SNR=5.9
MJAR Matsushiro Arr 32.22 257 P **P 12 05 44.5 +0.7**
H11N2 WAKE ISLAND Hy 33.50 200 T T 12 41 26.7
baz=11,slow=76,SNR=41
H11N3 WAKE ISLAND Hy 33.51 200 T T 12 41 24.4
baz=11,slow=76,SNR=27
H11N1 WAKE ISLAND Hy 33.51 200 T T 12 41 25.5
baz=11,slow=76,SNR=45
H11S1 WAKE ISLAND Hy 34.72 200 T T 12 43 02.3
baz=10,slow=76,SNR=22
H11S2 WAKE ISLAND Hy 34.74 200 T T 12 43 03.4
baz=10,slow=76,SNR=9.8
H11S3 WAKE ISLAND Hy 34.74 200 T T 12 43 07.6
baz=10,slow=76,SNR=24
YKA Yellowknife Ar 36.02 47 P **P 12 06 17.2 +1.0**
comp=Z,4.5nm,0.7s,baz=315,slow=16,SNR=11
YKA LR LR 12 21 58.3
comp=Z,29nm,18.2s,baz=0.0,slow=38
NLWA Neilton Lookou 36.74 74 P **P 12 06 22.4 -0.2**
NLWA IAmb IAmb 12 06 30.9
comp=Z,12nm,1.3s
A04D Lummi Island 36.79 71 P **P 12 06 23.8 +0.9**
baz=298
JCJ Chichijima 36.84 242 P **P 12 06 24.4 +0.8**
comp=Z,40nm,0.8s,baz=108,slow=19,SNR=1.9
D03D Eldon 37.13 73 P **P 12 06 27.0 +1.2**
baz=299,SNR=7.4
B05A Bryant 37.36 72 P **P 12 06 28.4 +0.6**
baz=299,SNR=7.1
KSRS Korea Array 37.93 268 P **P 12 06 34.1 +1.5**
comp=Z,3.2nm,0.9s,baz=58,slow=8.2,SNR=16
KSRS PcP **PcP 12 08 47.2 +1.2**
comp=Z,1.6nm,0.7s,baz=53,slow=3.1,SNR=9.0
KSRS LR LR 12 21 20.2
comp=Z,8.7nm,19.8s,baz=95,slow=34
E04D Cinebar 37.93 74 P **P 12 06 33.9 +1.4**
baz=300
KSAR Wonju Array Be 37.96 268 P **P 12 06 33.2 +0.3**
KSAR Wonju Array Be 37.96 268 P **P 12 06 33.2 +0.3**
LON Longmire 38.28 74 P **P 12 06 36.3 +0.7**
LON pmax pmax
comp=Z,5.0nm,1.1s
LON Longmire 38.28 74 P **P 12 06 36.3 +0.7**
F04A Amboy 38.34 75 P **P 12 06 35.9 -0.1**
F04A IAmb IAmb 12 06 37.2
comp=Z,8.5nm,0.7s
LTY Liberty 38.70 72 P **P 12 06 38.8 -0.3**
H04D Lebanon 38.90 77 P **P 12 06 41.8 +1.2**
baz=303
B08A Colville Reser 38.93 70 P **P 12 06 40.6 -0.4**
TJN Taejon 38.96 267*ceP* **P 12 06 41.9 +0.6**
I03D Drain, OR 38.98 79 P **P 12 06 42.9 +1.6**
baz=303
H04A Detroit Lake 39.14 77 P **P 12 06 42.4 -0.3**
H04A IAmb IAmb 12 06 44.2
comp=Z,9.8nm,0.8s
G05D Wamic, OR 39.36 75 P **P 12 06 45.3 +0.7**
baz=302
L02E Cave Junction 39.69 81 P **P 12 06 48.9 +1.6**
baz=305
HAWA Hanford 39.81 73 P **P 12 06 47.7 -0.6**
HAWA IAmb IAmb 12 06 49.4
comp=Z,8.5nm,0.8s
C09A Chrisman Ranch 39.82 70 P **P 12 06 47.5 -0.9**
C09A IAmb IAmb 12 06 48.5
comp=Z,6.1nm,0.5s
D08A Wollman Farm, 39.83 71 P **P 12 06 47.7 -0.7**
HUMO Hull Mountain 39.83 80 P **P 12 06 47.9 -0.6**
I05D Terrebonne, OR 39.84 76 P **P 12 06 49.5 +0.9**
baz=303
J04D Umpqua Nationa 39.98 78 P **P 12 06 51.1 +1.2**
baz=304
NEW Newport 40.25 69 P **P 12 06 51.4 -0.6**
comp=Z,5.6nm,0.5s,baz=300,slow=7.3,SNR=16
NEW Newport 40.25 69 P **P 12 06 51.8 -0.2**
baz=300,SNR=8.7
NEW Newport 40.25 69 P **P 12 06 51.3 -0.6**
NEW IAmb IAmb 12 06 52.5
comp=Z,10nm,0.9s
L04D Klamath Falls 40.44 80 P **P 12 06 54.8 +1.1**
baz=305
YBH Yreka Blue Hor 40.48 81 P **P 12 06 55.6 +1.7**
comp=Z,7.3nm,0.8s,baz=331,slow=5.6,SNR=23
YBH Yreka Blue Hor 40.48 81 P **P 12 06 52.7 -1.2**
YBH IAmb IAmb 12 06 56.5
comp=Z,8.0nm,0.8s
J05D Fort Rock, OR 40.48 78 P **P 12 06 55.3 +1.3**
baz=304,SNR=6.4
E09A Wood Farm, Sta 40.56 72 P **P 12 06 54.2 -0.2**
M02C Callahan 40.59 81 P **P 12 06 56.8 +2.0**
baz=306
G08A Pilot Rock 40.74 74 P **P 12 06 55.4 -0.6**
KMRM Mail Ridge 40.76 83 P **P 12 06 55.5 -0.7**
N02D Trinity Center 40.92 82 P **P 12 06 59.4 +1.9**
baz=306,SNR=5.2
M04C Macdoel 40.98 80 P **P 12 06 59.5 +1.4**
baz=306,SNR=5.3
K05A Summer Lake 41.01 78 P **P 12 06 58.8 +0.4**
K05A IAmb IAmb 12 07 00.2
comp=Z,7.7nm,0.5s
I07A Izee 41.08 76 P **P 12 06 58.2 -0.7**
WDC Whiskeytown Da 41.26 82 P **P 12 07 00.1 -0.1**
WDC pmax pmax
comp=Z,11nm,1.1s
WDC Whiskeytown Da 41.26 82 P **P 12 07 00.1 -0.1**
WDC IAmb IAmb 12 07 02.5
comp=Z,11nm,1.1s
O02D Mt. Diablo Mer 41.35 83 P **P 12 07 02.9 +1.8**
baz=307,SNR=5.4
F10A Beach Ranch, E 41.39 72 P **P 12 07 00.0 -1.3**
WALA Waterton Lakes 41.68 66 P **P 12 07 03.0 -0.8**
WALA IAmb IAmb 12 07 04.5
comp=Z,13nm,0.8s
MOD Modoc Plateau 41.84 79 P **P 12 07 05.1 0.0**
MOD IAmb IAmb 12 07 07.6
comp=Z,8.4nm,0.6s
O03E Paynes Creek 41.88 82 P **P 12 07 06.0 +0.6**
baz=307,SNR=9.7
HOPS Hopland Field 41.89 84 P **P 12 07 06.0 +0.7**
BMO Blue Mountains 41.96 73 P **P 12 07 05.6 -0.4**
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 41.96 73 P **P 12 07 05.5 -0.4**
J08A Circle Bar Ran 42.10 76 P **P 12 07 07.2 0.0**
ORV Oroville 42.51 82 P **P 12 07 10.2 -0.2**
ORV pmax pmax
comp=Z,6.0nm,0.7s
ORV Oroville 42.51 82 P **P 12 07 10.2 -0.2**
ORV IAmb IAmb 12 07 11.6
comp=Z,6.2nm,0.7s
WVOR Wild Horse Val 42.54 77 P **P 12 07 10.7 0.0**
WVOR pmax pmax
comp=Z,5.0nm,0.9s
WVOR Wild Horse Val 42.54 77 P **P 12 07 10.7 0.0**
MSO Missoula 42.84 69 P **P 12 07 12.6 -0.5**
baz=303
MSO Missoula 42.84 69 P **P 12 07 12.6 -0.5**
AFDM Forest Hills D 43.21 83 P **P 12 07 16.2 +0.2**
RUBR Rubicon Trail 43.64 82 P **P 12 07 20.0 +0.2**
MFID Camas Ranch 43.65 74 P **P 12 07 19.3 -0.4**
PAHR Pah Rah Range 43.71 81 P **P 12 07 20.3 0.0**
PAHR IAmb IAmb 12 07 22.0
comp=Z,18nm,1.4s
VCNR Virginia City 43.80 82 P **P 12 07 21.3 +0.2**
VCNR IAmb IAmb 12 07 23.0
comp=Z,11nm,1.1s
PNTR Pine Nut 43.96 82 P **P 12 07 23.0 +0.6**
HRY Holter Researc 44.12 68 P **P 12 07 22.8 -0.6**
CMB Columbia Colle 44.14 83 P **P 12 07 23.9 +0.4**
CMB pmax pmax
comp=Z,10.0nm,1.3s
CMB Columbia Colle 44.14 83 P **P 12 07 23.9 +0.4**
TLY Talaya 44.24 301 *i P* **P 12 07 24.2 0.0**
YERR Yerington 44.24 82 P **P 12 07 24.5 0.0**
YERR IAmb IAmb 12 07 25.9
comp=Z,6.6nm,0.5s
HLID Hailey 44.40 73 P **P 12 07 25.8 +0.1**
baz=306,SNR=10
HLID Hailey 44.40 73 P **P 12 07 25.3 -0.4**
ULN Ulaanbaatar 44.42 294*ceP* **P 12 07 26.3 +0.5**
ULN pmax pmax
comp=Z,3.0nm,1.0s
WAKR Walker 44.42 82 P **P 12 07 26.5 +0.5**
EGMT Eagleton 44.57 65 P **P 12 07 26.0 -0.8**
baz=303
EGMT Eagleton 44.57 65 P **P 12 07 26.1 -0.8**
MCMT McKenzie Canyo 44.59 71 P **P 12 07 26.5 -0.8**
SONM Songino Array 44.80 295 P **P 12 07 30.0 +1.2**
comp=Z,1.8nm,0.6s,baz=66,slow=8.4,SNR=7.5
SONM PcP **PcP 12 09 08.6 0.0**
comp=Z,1.7nm,0.7s,baz=78,slow=3.2,SNR=5.8
SONM ScP **ScP 12 12 49.4 +0.1**
comp=Z,1.5nm,0.8s,baz=26,slow=1.7,SNR=6.9
SONM Songino Array 44.80 295 P **P 12 07 29.4 +0.6**
BOZ Bozeman (W) 44.86 69 P **P 12 07 28.7 -0.6**
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ Bozeman (W) 44.86 69 P **P 12 07 28.8 -0.6**
baz=305,SNR=16
BOZ Bozeman (W) 44.86 69 P **P 12 07 28.7 -0.6**
BOZ IAmb IAmb 12 07 29.6
comp=Z,9.4nm,0.9s
KVN Kaiserville 44.90 81 P **P 12 07 29.2 -0.5**
KVN pmax pmax
comp=Z,5.0nm,0.5s
KVN Kaiserville 44.90 81 P **P 12 07 29.2 -0.5**
KVN IAmb IAmb 12 07 31.6
comp=Z,5.3nm,0.5s
RYN Ryan 44.91 81 P **P 12 07 30.4 +0.6**
PMPB Monarch Peak 45.04 86 P **P 12 07 30.2 -0.6**
PMPB IAmb IAmb 12 07 32.7
comp=Z,8.5nm,0.7s
NVAR Mina Array Bea 45.16 82 P **P 12 07 32.8 +0.9**
comp=Z,5.0nm,0.5s,baz=294,slow=7.6,SNR=69
NVAR pP **pP 12 08 01.1 +1.3**
comp=Z,1.5nm,0.8s,baz=286,slow=7.5,SNR=2.3
NVAR ScP **ScP 12 12 50.3 -0.8**
comp=Z,0.5nm,0.7s,baz=295,slow=4.5,SNR=4.5
NVAR Mina Array Bea 45.16 82 P **P 12 07 32.2 +0.4**
MDPB Devils Postpil 45.19 83 P **P 12 07 32.3 +0.1**
MDPB IAmb IAmb 12 07 34.3
comp=Z,9.2nm,0.7s
NV11 Mina Array Sit 45.25 81 P **P 12 07 32.5 0.0**
NV11 IAmb IAmb 12 07 34.1
comp=Z,11nm,1.4s
YHB Horse Butte 45.60 70 P **P 12 07 34.5 -0.8**
PAGB Antelope Grade 45.70 86 P **P 12 07 36.6 +0.7**
YHH Holmes Hill 45.77 70 P **P 12 07 36.2 -0.6**
HHC Hu-ho-hao-te 45.85 284 *eP* **P 12 07 38.6 +1.5**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,68nm,6.5s
SMMC Simmler 46.12 86 P **P 12 07 40.4 +1.1**
baz=311
H17A Grant Village 46.16 70 P **P 12 07 41.0 +1.3**
baz=306,SNR=6.2
VES Vestal, Richgr 46.34 85 P **P 12 07 41.4 +0.5**
baz=311,SNR=8.2
RLMT Red Lodge 46.49 68 P **P 12 07 42.1 -0.1**
baz=306,SNR=7.7
PKM Mcpherson Peak 46.52 86 P **P 12 07 43.9 +1.4**
baz=312
CWC Cottonwood Cre 46.57 84 P **P 12 07 43.8 +1.0**
baz=310
GRAC Grapevine Rang 46.65 82 P **P 12 07 44.4 +1.1**
baz=310
ISA Isabella, Lake 46.83 85 P **P 12 07 44.8 0.0**
baz=311
R11A Troy Canyon, C 46.87 80 P **P 12 07 45.5 +0.3**
baz=309,SNR=23
R11A Troy Canyon, C 46.87 80 P **P 12 07 44.7 -0.5**
R11A IAmb IAmb 12 07 46.2
comp=Z,6.8nm,0.5s
NJ2 Nanjing 47.09 269 *eP* **P 12 07 44.9 -1.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MPMC Manual Prospec 47.18 83 P **P 12 07 48.3 +0.7**
baz=311,SNR=12
FURC Furnace Creek, 47.30 83 P **P 12 07 49.3 +1.0**
baz=311
TPNV Topopah Spring 47.36 82 P **P 12 07 48.5 -0.5**
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV Topopah Spring 47.36 82 P **P 12 07 49.7 +0.7**
baz=310,SNR=16
TPNV Topopah Spring 47.36 82 P **P 12 07 48.5 -0.5**
TPNV IAmb IAmb 12 07 50.6
comp=Z,12nm,0.8s
DUG Dugway, Tooele 47.38 76 P **P 12 07 48.5 -0.6**
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG Dugway, Tooele 47.38 76 P **P 12 07 49.5 +0.4**
baz=309,SNR=10.0
DUG Dugway, Tooele 47.38 76 P **P 12 07 48.5 -0.6**
DUG IAmb IAmb 12 07 50.3
comp=Z,6.0nm,0.8s
LRMC Laurel Mtn Rad 47.44 84 P **P 12 07 50.0 +0.4**
baz=311
EDW2 Edwards Air Fo 47.64 85 P **P 12 07 51.7 +0.7**
baz=312
BW06 Boulder Array 47.73 71 P **P 12 07 51.5 -0.3**
baz=308,SNR=9.6
BW06 Boulder Array 47.73 71 P **P 12 07 51.0 -0.8**
PD31 Pinedale Array 47.73 71 P **P 12 07 51.0 -0.8**
PDAR Pinedale Array 47.73 71 P **P 12 07 51.5 -0.4**
comp=Z,3.1nm,0.5s,baz=318,slow=3.6,SNR=47
PDAR ScP **ScP 12 12 59.9 -1.9**
comp=Z,0.3nm,0.6s,baz=338,slow=1.0,SNR=2.9
PDAR Pinedale Array 47.73 71 P **P 12 07 51.1 -0.8**
PRN Pahroc Range 47.80 80 P **P 12 07 52.4 +0.1**
PRN IAmb IAmb 12 07 53.9
comp=Z,6.7nm,0.6s
PSUT Pine Spring 47.80 78 P **P 12 07 52.1 -0.4**
SHOC Shoshone, Teco 48.03 83 P **P 12 07 54.8 +0.8**
baz=311,SNR=15
GSC Goldstone, Bar 48.09 84 P **P 12 07 55.4 +0.8**
baz=311,SNR=19
BFSC Mount Baldy Ra 48.28 85 P **P 12 07 56.8 +0.7**
baz=312
CIS Catalina Islan 48.37 87 P **P 12 07 57.3 +0.6**
baz=313
TUQ Turquoise Moun 48.55 83 P **P 12 07 58.9 +0.8**
baz=311
HEC Hector,Ludlow 48.70 84 P **P 12 07 59.7 +0.5**
baz=312,SNR=9.8
BBRC Big Bear Solar 48.72 85 P **P 12 08 00.5 +0.9**
baz=312
CCUT Cedar City 48.73 79 P **P 12 07 59.9 +0.3**
MVU Marysvale 48.81 77 P **P 12 08 00.3 0.0**
MSU Marysvale 48.83 77 P **P 12 08 00.6 +0.2**
MSU Marysvale 48.83 77 P **P 12 08 00.6 +0.2**
TMUT Trail Mountain 48.91 76 P **P 12 08 00.9 -0.1**
MURC Murrieta 48.99 86 P **P 12 08 02.1 +0.7**
baz=312
P17A Butcher Ranch, 49.08 75 P **P 12 08 02.2 +0.1**

RDMU	Red Mountain	49.08	73	P	P	12 08 02.2	-0.1
MTPU	Mount Pierson	49.13	78	P	P	12 08 01.0	-1.8
GMRC	Granite Mounta	49.14	83	P	P	12 08 03.2	+0.6
	baz=312,SNR=11						
LCMT	Little Creek M	49.15	80	P	P	12 08 02.1	-0.6
Q16A	Castle Valley	49.17	76	P	P	12 08 02.0	-1.0
KNB	Kanab	49.40	79	P	P	12 08 04.3	-0.4
KNB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KNB	Kanab	49.40	79	P	P	12 08 04.3	-0.4
PFO	Pinyon Flats O	49.44	85	P	P	12 08 05.3	+0.4
	baz=312						
SRU	San Rafael Swe	49.44	76	P	P	12 08 04.1	-0.8
SRU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SRU	San Rafael Swe	49.44	76	P	P	12 08 04.1	-0.8
TPFO	Pinon Flats	49.44	85	P	P	12 08 05.1	+0.2
	baz=312						
BELC	Belle Mtn. Jos	49.46	84	P	P	12 08 05.2	+0.2
	baz=312,SNR=10						
SPITS	Spitsbergen Ar	49.57	355	P	P	12 08 05.1	-0.1
	comp=Z,1.4nm,0.4s,baz=52,slow=2.4,SNR=11						
IRM	Iron Mountain	49.88	84	P	P	12 08 08.6	+0.5
	baz=312,SNR=6.4						
BAR	Barrett	49.94	86	P	P	12 08 08.0	-0.5
BAR				IAmb	IAmb	12 08 10.0	
	comp=Z,8.2nm,0.8s						
MONP2	Monument Peak	49.95	86	P	P	12 08 09.4	+0.5
	baz=313						
BC3	Big Chuckawall	50.02	84	P	P	12 08 09.4	0.0
	baz=313,SNR=5.1						
U15A	North Rim	50.11	79	P	P	12 08 10.2	+0.1
O20A	White River Ci	50.14	73	P	P	12 08 09.8	-0.4
	baz=310,SNR=8.4						
O20A	White River Ci	50.14	73	P	P	12 08 09.7	-0.6
O20A				IAmb	IAmb	12 08 10.6	
	comp=Z,6.0nm,0.7s						
CBX	Cerro Bola	50.19	87	P	P	12 08 11.1	+0.4
IKP	In-Ko-Pah, Jac	50.30	86	P	P	12 08 11.7	+0.3
	baz=313						
PDMCI	Parker Dam,Lak	50.39	83	P	P	12 08 12.2	+0.3
	baz=312						
ULM	Lac du Bonnet	50.74	56	P	P	12 08 14.1	-0.2
	comp=Z,3.4nm,0.4s,baz=320,slow=10.0,SNR=2.8						
PV23	Carpenter Ridg	50.77	75	P	P	12 08 14.6	-0.5
PV23				IAmb	IAmb	12 08 17.0	
	comp=Z,4.5nm,0.6s						
PV14	Lion Creek, Pa	50.81	75	P	P	12 08 14.6	-0.7
PV14				IAmb	IAmb	12 08 15.8	
	comp=Z,4.6nm,0.6s						
GLA	Glamis	50.82	84	P	P	12 08 15.7	+0.5
GLA				pmax	pmax		
	comp=Z,18nm,0.7s						
GLA	Glamis	50.82	84	P	P	12 08 15.8	+0.6
	baz=313						
GLA	Glamis	50.82	84	P	P	12 08 15.7	+0.5
WHN	Wuhan	50.91	271	P	P	12 08 12.2	-3.6
N23A	Red Feather La	51.01	71	P	P	12 08 16.8	0.0
	baz=310						
PV13	Radium Mtn., P	51.07	75	P	P	12 08 16.7	-0.6
PV01	Paradox Valley	51.24	75	P	P	12 08 18.4	-0.2
WUAZ	Wupatki	51.27	80	P	P	12 08 19.5	+0.8
	baz=312,SNR=6.2						
WUAZ	Wupatki	51.27	80	P	P	12 08 18.6	-0.1
WUAZ				IAmb	IAmb	12 08 19.8	
	comp=Z,4.7nm,0.6s						
MVCO	Mesa Verde	51.88	76	P	P	12 08 23.4	0.0
	baz=311						
MVCO	Mesa Verde	51.88	76	P	P	12 08 21.9	-1.4
ISCO	Idaho Springs	51.91	72	P	P	12 08 24.3	+0.7
	baz=310						
ZALV	Zalesovo Beam	52.31	312	PcP	PcP	12 09 35.2	-0.2
	comp=Z,2.8nm,0.7s,baz=29,slow=3.4,SNR=8.8						
S22A	4UR Ranch, Cre	52.53	74	P	P	12 08 29.0	+0.8
	baz=311,SNR=6.4						
S22A	4UR Ranch, Cre	52.53	74	P	P	12 08 28.0	-0.2
W18A	Petrified Fore	52.53	79	P	P	12 08 28.5	+0.4
	baz=312						
214A	Organ Pipe Nat	52.81	84	P	P	12 08 30.6	+0.7
	baz=314						
SDCO	Great Sand Dun	53.32	74	P	P	12 08 34.1	+0.1
	baz=312						
SDCO	Great Sand Dun	53.32	74	P	P	12 08 32.8	-1.2
GTA	Gaotai	53.72	290	*e*P	P	12 08 37.2	+0.5
GTA				pP	pP	12 09 03.8	-1.0
GTA				sP	sP	12 09 18.4	+0.4
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DGZ	Jazzator, Alta	53.76	306	*i* P	P	12 08 36.8	-0.1
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TUC	Tucson	53.80	82	P	P	12 08 37.8	+0.5
	baz=314						
KSCO	Kaye Shedlock'	54.17	71	P	P	12 08 40.4	+0.4
	baz=312						
T25A	Trinidad	54.37	73	P	P	12 08 42.1	+0.5
	baz=312						
T25A	Trinidad	54.37	73	P	P	12 08 39.5	-2.0
T25A				IAmb	IAmb	12 08 43.4	
	comp=Z,5.1nm,0.9s						
ECSD	EROS Data Cent	54.46	63	P	P	12 08 40.6	-1.2
	baz=311						
ANMO	Albuquerque	54.63	77	*ce*P	P	12 08 43.4	0.0
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.3s						
ANMO	Albuquerque	54.63	77	P	P	12 08 43.6	+0.2
	baz=313						
ANMO	Albuquerque	54.63	77	P	P	12 08 42.4	-1.0
CBKS	Cedar Bluff	55.97	69	P	P	12 08 52.5	-0.3
	baz=312						
ARCES	ARCESS Array B	57.12	349	P	P	12 08 59.2	-1.2
	comp=Z,0.9nm,0.6s,baz=27,slow=8.1,SNR=1.6						
ARCES				pP	pwP	12 09 32.4	-0.6
	comp=Z,1.3nm,0.6s,baz=23,slow=6.6,SNR=2.1						
KURK	Kurchatov	57.30	312	*ce*P	P	12 09 02.6	+0.7
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MSTX	Muleshoe	57.51	75	P	P	12 09 03.8	+0.1
	baz=314						
MNTX	Cornudas Mount	57.52	79	P	P	12 09 04.5	+0.7
	baz=315,SNR=8.0						
AMTX	Amarillo	57.52	74	P	P	12 09 03.9	+0.1
	baz=314						
WMQ	Urumqi	57.52	301	*e*P	P	12 09 05.8	+2.1
MK31	Makanchi Array	58.26	307	P	P	12 09 08.6	-0.2
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	Makanchi Array	58.26	307	P	P	12 09 08.6	-0.2
MKAR	Makanchi Array	58.26	307	P	P	12 09 08.5	-0.3
	comp=Z,1.5nm,0.3s,baz=48,slow=6.6,SNR=26						
MAKZ	Makanchi	58.40	307	P	P	12 09 09.6	-0.2
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAKZ	Makanchi	58.40	307	P	P	12 09 09.6	-0.2
MAKZ				IAmb	IAmb	12 09 10.3	
	comp=Z,3.5nm,0.6s						
JFWS	Jewell Farm	58.45	60	P	P	12 09 09.6	-0.5
	baz=314						
P38A	Dawn	58.94	64	P	P	12 09 12.7	-0.8
D47A	Chapleau	59.21	52	P	P	12 09 15.2	-0.1
	baz=315						
BRVK	Borovoye	59.27	318	*ce*P	P	12 09 16.3	+0.7
BRVK				pmax	pmax		
	comp=Z,12nm,2.5s						
BRVK	Borovoye	59.27	318	P	P	12 09 16.5	+0.9
BRVK				IAmb	IAmb	12 09 17.1	
	comp=Z,5.0nm,0.6s						
WMOK	Wichita Mounta	59.33	72	P	P	12 09 16.0	-0.3
	baz=315						
P40A	Paris	59.82	63	P	P	12 09 19.0	-0.6
W35A	Tecumseh	60.16	70	P	P	12 09 22.0	+0.1
TX31	Lajitas Ar. Si	60.24	80	P	P	12 09 23.0	+0.3
TX32	Lajitas Array	60.24	80	P	P	12 09 23.0	+0.3
TX32				IAmb	IAmb	12 09 23.8	
	comp=Z,4.2nm,0.7s						
TXAR	Lajitas Array	60.24	80	P	P	12 09 22.9	+0.2
	comp=Z,3.4nm,0.5s,baz=306,slow=5.7,SNR=74						
TXAR				ScP	ScP	12 13 55.0	-1.3
	comp=Z,0.3nm,0.6s,baz=292,slow=3.5,SNR=4.8						
TXAR	Lajitas Array	60.24	80	P	P	12 09 22.8	+0.1
TXAR	Lajitas Array	60.24	80	P	P	12 09 22.8	+0.1
ABTX	Abilene, Hawle	60.31	74	P	P	12 09 23.2	+0.1
	baz=315						
HDIL	Hopedale	60.61	61	P	P	12 09 24.3	-0.6
	baz=315						
LSQQ	Lebel-sur-Quev	60.65	47	P	P	12 09 24.0	-1.1
	baz=317						
ARU	Arti	61.11	327	*d* iP	P	12 09 29.1	+1.1
ARU						12 10 08.1	
ARU						12 11 42.2	
ARU				S	S	12 17 42.9	+5.7
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ARU	Arti	61.11	327	P	P	12 09 29.3	+1.2
CHGQ	Chibougamau	61.18	45	P	P	12 09 27.9	-0.8
	baz=318						
CCM	Cathedral Cave	61.31	64	P	P	12 09 28.4	-1.3
	baz=315						
U40A	Yellville	61.61	67	P	P	12 09 30.5	-1.3
	baz=316						
U40A	Yellville	61.61	67	P	P	12 09 30.7	-1.1
U40A				IAmb	IAmb	12 09 31.4	
	comp=Z,3.6nm,0.7s						
D53A	Lac Vacive, Po	61.77	49	P	P	12 09 32.0	-0.6
	baz=317						
W39A	Magazine	61.91	68	P	P	12 09 33.4	-0.3
	baz=316						
SFIN	Lafayette	61.91	60	P	P	12 09 33.5	-0.2
	baz=316						
WHTX	Lake Whitney,	62.06	73	P	P	12 09 35.3	+0.5
	baz=316						
D54A	Lac Fusel, La	62.20	48	P	P	12 09 34.2	-1.3
	baz=318						
E53A	Dumoine, Ponti	62.30	49	P	P	12 09 35.5	-0.7
	baz=317						
FCAR	Ozark Folk Cen	62.36	66	P	P	12 09 35.5	-1.2
E54A	Lac Daplat, Po	62.48	49	P	P	12 09 36.6	-0.8
	baz=318						
MIAR	Mount Ida	62.49	68	P	P	12 09 37.8	+0.1
MIAR	Mount Ida	62.49	68	P	P	12 09 37.7	0.0
	baz=316,SNR=6.0						
MIAR	Mount Ida	62.49	68	P	P	12 09 37.8	+0.1
MIAR				IAmb	IAmb	12 09 38.5	
	comp=Z,13nm,1.4s						
WHAR	Wooly Hollow	62.69	67	P	P	12 09 38.2	-0.8
WHAR				IAmb	IAmb	12 09 38.3	
	comp=Z,4.8nm,0.5s						
W41B	Gary Mavity, V	62.80	67	P	P	12 09 39.0	-0.7
	baz=316						
D55A	Sainte-Anne-du	62.84	48	P	P	12 09 39.2	-0.6
	baz=318						
N49A	Columbus Grove	63.06	57	P	P	12 09 40.8	-0.5
D56A	ZEC Mazanza, M	63.14	47	P	P	12 09 41.0	-0.8
	baz=318						
WLAR	White Oak Lake	63.38	69	P	P	12 09 44.0	+0.6
WLAR				IAmb	IAmb	12 10 01.8	
	comp=Z,8.8nm,1.0s						
E56A	St. Veronique	63.39	48	P	P	12 09 42.5	-1.0
	baz=319						
P48A	Milroy	63.46	59	P	P	12 09 43.2	-0.8
D57A	Chemin Vers le	63.56	47	P	P	12 09 43.7	-0.8
	baz=319						
G55A	Calabogie	63.58	50	P	P	12 09 44.1	-0.6
	baz=318						
DELO	Deloro Mine	63.70	51	P	P	12 09 45.5	0.0
TRQ	Mont Tremblant	63.85	48	P	P	12 09 46.3	-0.3
H55A	Tweed	63.88	50	P	P	12 09 46.2	-0.4
	baz=318						
E57A	Chemin Saint G	63.90	47	P	P	12 09 45.9	-0.8
	baz=319						
D58A	Chemin du LacG	63.95	46	P	P	12 09 46.3	-0.7
	baz=319						
KDJ	Kajisay	64.15	306	P	P	12 09 48.8	+0.1
KDJ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KDJ	Kajisay	64.15	306	P	P	12 09 48.8	+0.1
KDJ				IAmb	IAmb	12 10 07.9	
	comp=Z,6.1nm,1.1s						
E58A	La Victoria	64.32	47	P	P	12 09 48.6	-0.9
	baz=320						
T47A	Sharon Grove	64.36	62	P	P	12 09 50.4	+0.5
T47A				IAmb	IAmb	12 09 50.7	
	comp=Z,4.4nm,0.6s						
WVT	Waverly	64.58	63	P	P	12 09 50.9	-0.4
	baz=317						
FINES	FINESS Array B	64.73	346	P	P	12 09 50.7	-1.2
	comp=Z,0.5nm,0.3s,baz=22,slow=5.7,SNR=7.1						
FINES				pP	PcP	12 10 24.4	0.0
	comp=Z,1.5nm,0.7s,baz=89,slow=7.8,SNR=4.0						
FINES	FINESS Array B	64.73	346	*ce*P	P	12 09 52.7	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WVNY	West Valley, N	64.79	53	P	P	12 09 53.6	+0.9
OXF	Oxford	64.89	66	P	P	12 09 53.3	-0.1
OXF				pmax	pmax		
	comp=Z,17nm,0.5s						
OXF	Oxford	64.89	66	P	P	12 09 53.0	-0.3
	baz=317						
OXF	Oxford	64.89	66	P	P	12 09 53.2	-0.1
F59A	Saint Guilaume	64.94	47	P	P	12 09 52.7	-0.7
	baz=320						
AAK	Ala-Archa	65.10	308	P	P	12 09 55.5	+0.7
	comp=Z,2.5nm,0.4s,baz=115,slow=4.4,SNR=6.1						
AAK	Ala-Archa	65.10	308	*ce*P	P	12 09 55.0	+0.2
AAK				pmax	pmax		
	comp=Z,10.0nm,2.5s						
AAK	Ala-Archa	65.10	308	IAmb	IAmb	12 09 56.2	
	comp=Z,3.9nm,0.6s						
K56A	Middlesex	65.20	52	P	P	12 09 55.5	+0.2
	baz=319						
PLAL	Pickwick Lake	65.29	64	P	P	12 09 55.3	-0.6
PLAL				IAmb	IAmb	12 09 55.8	
	comp=Z,4.0nm,0.6s						
G59A	Clarenceville	65.35	48	P	P	12 09 54.8	-1.4
	baz=320						
V48A	Smith Brothers	65.43	63	P	P	12 09 56.9	+0.1
U49A	Red Boiling Sp	65.43	62	P	P	12 09 56.9	+0.1
U49A				IAmb	IAmb	12 09 57.0	
	comp=Z,3.8nm,0.5s						
CLTN	Cedars of Leba	65.44	62	P	P	12 09 57.4	+0.5
CLTN				IAmb	IAmb	12 09 57.5	
	comp=Z,3.9nm,0.7s						
L56A	Greenwood	65.51	52	P	P	12 09 57.5	+0.1
	baz=319						
L56A	Greenwood	65.51	52	P	P	12 09 57.7	+0.4
K57A	Scipio Center	65.57	51	P	P	12 09 57.5	-0.2
	baz=319						
M56A	Emporium	65.69	53	P	P	12 09 58.4	-0.1
	baz=319						
E62A	Clayton Lake	65.79	44	P	P	12 09 59.0	0.0
	baz=321						
E62A	Clayton Lake	65.79	44	P	P	12 09 58.3	-0.7
E62A				IAmb	IAmb	12 10 00.2	
	comp=Z,11nm,1.3s						
SIJI	Sorong	65.93	233	P	P	12 10 00.8	+0.5
G61A	St-Isidore-de-	65.94	47	P	P	12 09 59.6	-0.4
	baz=321						
L57A	Andrews Acres	65.96	52	P	P	12 10 00.2	0.0
	baz=319						
Q53A	Leroy	65.96	57	P	P	12 10 00.1	-0.1
	baz=318						
K58A	Earlville	65.96	51	P	P	12 10 00.0	-0.1
J59A	Piesco	65.97	50	P	P	12 09 59.3	-0.8
	baz=320						
J59A	Piesco	65.97	50	P	P	12 09 59.4	-0.8
J59A				IAmb	IAmb	12 10 00.4	
	comp=Z,13nm,1.4s						
I59A	Olmsteadville	66.01	49	P	P	12 09 59.6	-0.9
	baz=320						
F62A	Pittston Farm,	66.16	45	P	P	12 10 00.9	-0.4
	baz=321						
BINY	Binghamton	66.22	51	P	P	12 10 01.8	-0.1
	baz=320						
BINY	Binghamton	66.22	51	P	P	12 10 02.1	+0.3
BINY				IAmb	IAmb	12 10 02.8	
	comp=Z,3.8nm,0.6s						
X48A	Hartselle	66.25	64	P	P	12 10 01.6	-0.5
SWET	Sewanee	66.30	63	P	P	12 10 02.1	-0.4
M57A	Sunshine Farm,	66.32	53	P	P	12 10 02.6	+0.1
	baz=319						
M57A	Sunshine Farm,	66.32	53	P	P	12 10 02.6	+0.1
M57A				IAmb	IAmb	12 10 03.3	
	comp=Z,14nm,1.2s						
ABKAR	Akbulak array	66.35	321	P	P	12 10 03.8	+1.3
E63A	Oxbow	66.42	44	P	P	12 10 02.4	-0.6
E63A				IAmb	IAmb	12 10 03.5	
	comp=Z,19nm,1.4s						
ACCN	Adirondack Com	66.42	49	P	P	12 10 03.0	-0.1
ACCN				IAmb	IAmb	12 10 19.5	
	comp=Z,13nm,1.4s						
G62A	West of Eustis	66.44	46	P	P	12 10 03.2	0.0
G62A				IAmb	IAmb	12 10 13.4	
	comp=Z,8.4nm,1.0s						
SSPA	Standing Stone	66.48	54	P	P	12 10 03.4	-0.1
	baz=319						
SSPA	Standing Stone	66.48	54	P	P	12 10 03.7	+0.2
SSPA				IAmb	IAmb	12 10 04.1	
	comp=Z,4.2nm,0.6s						
LBNH	Lisbon	66.57	48	P	P	12 10 04.0	0.0
LBNH				pmax	pmax		
	comp=Z,13nm,1.3s						
LBNH	Lisbon	66.57	48	P	P	12 10 04.0	0.0
LBNH				IAmb	IAmb	12 10 20.0	
	comp=Z,13nm,1.2s						
NC204	NORSAR Array S	66.59	354	P	P	12 10 04.3	+0.3
NC204				IAmb	IAmb	12 10 12.1	
	comp=Z,15nm,1.4s						
Z47A	Carrollton	66.60	66	P	P	12 10 03.9	-0.4
TZTN	Tazewell	66.61	60	P	P	12 10 04.2	-0.2
KK31	Karatay Array	66.65	311	P	P	12 10 05.3	+0.7
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KK31	Karatay Array	66.65	311	P	P	12 10 05.3	+0.7
KKAR	Karatay Array	66.65	311	P	P	12 10 05.5	+0.9
KKAR	Karatay Array	66.65	311	P	P	12 10 05.5	+0.9
W50A	Signal Mountai	66.65	62	P	P	12 10 04.3	-0.4
H62A	Milan	66.66	47	P	P	12 10 04.2	-0.4
	baz=321						
H62A	Milan	66.66	47	P	P	12 10 04.6	0.0
E64A	Bridgewater	66.67	44	P	P	12 10 04.2	-0.4
	baz=322						
F63A	Nahmakanta, Br	66.69	45	P	P	12 10 04.4	-0.3
F63A				IAmb	IAmb	12 10 05.2	
	comp=Z,6.3nm,0.8s						
NB2	NORSAR Subarra	66.80	353	P	P	12 10 05.0	-0.2
	comp=Z,2.1nm,1.0s,baz=7.6,slow=6.2						
NOA	NORSAR Array B	66.80	353	P	P	12 10 05.2	0.0
	comp=Z,0.2nm,0.4s,baz=2.7,slow=5.4,SNR=4.1						
NOA				pP	pwP	12 10 36.8	-2.1
	comp=Z,0.7nm,0.7s,baz=7.6,slow=6.4,SNR=3.1						
M59A	Waymart	66.99	52	P	P	12 10 06.6	-0.2
	baz=320						
T54A	Tazewell	67.28	59	P	P	12 10 08.7	0.0
	baz=319						
N59A	State Game Lan	67.31	52	P	P	12 10 08.8	0.0
	baz=320						
O59A	Robesonia	67.56	53	P	P	12 10 10.2	-0.2
	baz=320						
G65A	Princeton	67.75	44	P	P	12 10 11.7	+0.3
V54A	Nebo	68.04	60	P	P	12 10 13.3	-0.1
	baz=319						
T57A	Hurt	68.54	57	P	P	12 10 16.3	-0.2
OBN	Obninsk	68.61	338	*de*P	P	12 10 17.7	+1.1
OBN				*e**PP	pP	12 10 48.4	+2.8
OBN				*e*		12 12 53.6	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KMSC	Kings Mountain	68.85	60	P	P	12 10 18.1	-0.3
	baz=319						
KMSC	Kings Mountain	68.85	60	P	P	12 10 18.2	-0.3
GOGA	Godfrey	69.00	62	P	P	12 10 18.8	-0.6
GOGA				pmax	pmax		
	comp=Z,13nm,1.5s						
GOGA	Godfrey	69.00	62	P	P	12 10 18.8	-0.6
GOGA				IAmb	IAmb	12 10 19.3	
	comp=Z,13nm,1.4s						
HODGE	Hodges	69.04	61	P	P	12 10 19.7	+0.1
X55A	Gracelyn & Ava	69.20	61	P	P	12 10 20.5	-0.1
	baz=320						
CMAR	Chiang Mai Arr	69.24	274	P	P	12 10 21.4	+0.3
	comp=Z,1.7nm,0.5s,baz=22,slow=6.8,SNR=10						
CMAR	Chiang Mai Arr	69.24	274	*ce*P	P	12 10 21.3	+0.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TAPN	Taplejung	69.36	288	*e*P	P	12 10 23.0	+0.9
	comp=Z,36nm,0.8s						
TAPN	Taplejung	69.36	288	*e*P	P	12 10 23.0	+0.9
	comp=Z,36nm,0.8s						
MSVF	Nonsavu	69.49	180	*i* P	P	12 10 22.5	0.0
JSC	Jenkinsville	69.54	60	P	P	12 10 22.7	0.0
JSC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
JSC	Jenkinsville	69.54	60	P	P	12 10 22.7	0.0
W57A	Gilead	69.55	59	P	P	12 10 22.4	-0.4
W57A				IAmb	IAmb	12 10 24.7	
	comp=Z,14nm,1.4s						
ODAN	Odare	69.92	288	*e*P	P	12 10 26.3	+0.9
	comp=Z,21nm,0.9s						
ODAN	Odare	69.92	288	*e*P	P	12 10 26.3	+0.9
	comp=Z,21nm,0.9s						
GAR	Garm	69.92	308	P	P	12 10 26.3	+1.2
V59A	Middlesex	70.01	57	P	P	12 10 25.4	-0.1
	baz=320						
GUN	Gumba	70.01	290	*e*P	P	12 10 27.2	+1.1
	comp=Z,50nm,0.4s						
GUN	Gumba	70.01	290	*e*P	P	12 10 27.2	+1.1
	comp=Z,50nm,0.4s						
JIRN	Jiri	70.02	289	*e*P	P	12 10 27.4	+1.2
	comp=Z,58nm,0.7s						
JIRN	Jiri	70.02	289	*e*P	P	12 10 27.4	+1.2
	comp=Z,58nm,0.7s						
RAMN	Ramite	70.31	289	*e*P	P	12 10 28.7	+0.9
	comp=Z,31nm,0.6s						
RAMN	Ramite	70.31	289	*e*P	P	12 10 28.7	+0.9
	comp=Z,31nm,0.6s						
PKI	Pulchoki	70.54	290	*e*P	P	12 10 29.8	+0.5
	comp=Z,30nm,0.6s						
PKI	Pulchoki	70.54	290	*e*P	P	12 10 29.8	+0.5
	comp=Z,30nm,0.6s						
GKN	Gorkha	70.66	291	*e*P	P	12 10 30.6	+0.8
	comp=Z,40nm,0.6s						
GKN	Gorkha	70.66	291	*e*P	P	12 10 30.6	+0.8
	comp=Z,40nm,0.6s						
DMN	Daman	70.69	290	*e*P	P	12 10 31.1	+1.0
	comp=Z,26nm,0.9s						
DMN	Daman	70.69	290	*e*P	P	12 10 31.1	+1.0
	comp=Z,26nm,0.9s						
KOLN	Koldanda	71.43	291	*e*P	P	12 10 35.2	+0.6
	comp=Z,24nm,0.9s						
KOLN	Koldanda	71.43	291	*e*P	P	12 10 35.2	+0.6
	comp=Z,24nm,0.9s						
PYUN	Piuthan	71.53	292	*e*P	P	12 10 35.4	+0.2
	comp=Z,40nm,0.9s						
PYUN	Piuthan	71.53	292	*e*P	P	12 10 35.4	+0.2
	comp=Z,40nm,0.9s						
AKASG	Malin Array Be	74.36	340	P	P	12 10 50.9	-0.2
	comp=Z,1.0nm,0.3s,baz=21,slow=6.3,SNR=5.7						
AKASG				pP	pwP	12 11 23.7	-1.0
	comp=Z,3.8nm,0.5s,baz=22,slow=6.5,SNR=9.4						
MTN	Manton Dam	76.43	228	P	P	12 11 03.6	+0.3
KIV	Kislovodsk	77.02	329	*e*P	P	12 11 06.5	-0.1
KIV				pmax	pmax		
	comp=Z,32nm,1.1s						
BURAR	Bucovina Array	78.10	342	⇑P	P	12 11 13.2	+0.7
BURAR	Bucovina Array	78.10	342	P	P	12 11 13.0	+0.5
WB0	Warramunga Arr	81.16	221	P	P	12 11 28.9	-0.3
WB0				IAmb	IAmb	12 11 29.3	
	comp=Z,5.7nm,0.8s						
WR0	Warramunga Arr	81.28	221	P	P	12 11 29.6	-0.1
WR0				IAmb	IAmb	12 11 30.2	
	comp=Z,7.5nm,0.7s						

VNDA	Vanda	129.72 185	PKP	PKiKP	12 18 20.6	-0.4
	comp=Z,0.7nm,0.9s,baz=331,slow=4.4,SNR=2.7					
CPUP	Villa Florida	131.21 80	SKPbc	SKPbc	12 21 37.0	-1.0
	comp=Z,2.0nm,0.7s,baz=308,slow=5.0,SNR=4.9					
PLCA	Paso Flores	132.81 105	SKPbc	SKPbc	12 21 43.5	+0.2
	comp=Z,1.7nm,0.8s,baz=274,slow=3.3,SNR=5.0					
MAW	Mawson	145.96 218	PKPbc	PKPbc	12 18 51.2	0.0
	comp=Z,2.3nm,0.4s,baz=84,slow=4.5,SNR=16					
BOSA	Boshof	149.23 309	PKPbc	PKiKP	12 19 02.2	-0.3
	comp=Z,6.9nm,0.5s,baz=11,slow=3.0,SNR=9.2					
SNAA	Sanae	160.30 179	PKPab	PKPab	12 19 51.4	-0.8
VNA2	Neumayer--Watz	160.87 174	PKPab	PKPab	12 19 54.6	0.0

*DNK **06** 12:00:53.0±2.0, 59°.84N×22°.48E, h1km±30km, Hypocentre not reviewed by the ISC*
*HEL **06** 12:00:54.3±0.1, 59°.83N×22°.34E, h0km, ML2.3, ML2.6(UPP), Explosion*
*NAO **06** 12:00:54.7±1.2, 59°.92N×22°.25E, ML2.1*
*IDC **06** 12:00:54.9±2.0, 59°.86N×22°.42E, h0km, mb1 3.1/3, mb1mx2.9/40, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=24.6km s-min=9.0km az=160.0*
*UPP **06** 12:00:54.7±1.3, 59°.86N×22°.22E, h0km, ML2.6, Suspected explosion*
*BER **06** 12:00:56.8±4.5, 60°.00N×22°.21E, h0km, ML2.1(NAO), Suspected explosion*

ISC 06 12:00:52.8±0.7, 59°.83N±0°.03×22°.45E±0°.02, h0km, n45, σ1§51/76, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	1.05	67	eP	Pb	12 01 14.4	+0.6
MEF				eS	Sb	12 01 27.5	-0.6
RAF	Rauma	1.24	344	eP	Pg	12 01 16.4	-0.2
RAF				eS	Sg	12 01 32.0	-0.6
AAL	Aland	1.28	287	P	Pg	12 01 16.3	-1.0
AAL	Aland	1.28	287	eP	Pg	12 01 16.1	-1.2
AAL				eS	Sg	12 01 31.9	-2.0
MTSE	Matsula	1.32	147	eP	Pn	12 01 18.8	+0.4
MTSE				eS	Sb	12 01 35.7	-0.1
ARBE	Arbavere	1.84	101	ePG	Pg	12 01 28.6	+0.7
ARBE				eSG	Sg	12 01 53.9	+2.2
PVF	Pernaja	1.85	66	ePG	Pg	12 01 28.4	+0.2
PVF				eSG	Sg	12 01 52.9	+0.8
PVF				MSG		12 01 58.6	
	comp=Z,21nm,0.1s						
NRTU	Norrtaelje	1.94	267	P	Pn	12 01 27.2	+0.3
NRTU				S	Sn	12 01 52.4	+0.5
NRTU	Norrtaelje	1.94	267	eP	Pn	12 01 27.2	+0.3
NRTU				eS	Sn	12 01 52.4	+0.5
GRAU	Graesoe	2.02	286	P	Pn	12 01 28.4	+0.3
GRAU				S	Sn	12 01 54.8	+0.8
GRAU	Graesoe	2.02	286	eP	Pn	12 01 28.4	+0.3
GRAU				eS	Sn	12 01 54.8	+0.8
SLIT	Slitere, Latvi	2.21	182	ePG	Pb	12 01 33.3	-0.2
SLIT				eSG	Sg	12 02 03.2	-0.4
FORU	Forsmark	2.21	286	P	Pn	12 01 31.1	+0.5
FORU				S	Sn	12 01 58.6	0.0
FORU	Forsmark	2.21	286	eP	Pn	12 01 31.1	+0.5
FORU				eS	Sn	12 01 58.6	0.0
FIA0	FINESS Array S	2.41	46	Pn	Pb	12 01 37.1	+0.1
	baz=228,slow=14						
FIA0				Lg	Lg	12 02 09.5	
	baz=230,slow=22						
FIA0				Rg	Rg	12 02 21.9	
	baz=235,slow=56						
FIA0	FINESS Array S	2.41	46	ePG	Pb	12 01 38.0	+1.0
FIA0				eSG	Sg	12 02 10.3	+0.2
FIA0				MSG		12 02 13.4	
	comp=Z,9.2nm,0.1s						
FIA0	FINESS Array S	2.41	46	Pn	Pb	12 01 37.1	+0.1
	baz=228,slow=14						
FIA0				Sg	Sg	12 02 09.5	-0.7
	baz=230,slow=22						
FINES	FINESS Array B	2.41	46	Pn	Pb	12 01 37.1	+0.1
	comp=Z,2.0nm,0.3s,baz=226,slow=14,SNR=19						
FINES				Lg	Lg	12 02 09.6	
	comp=Z,4.6nm,0.3s,baz=234,slow=23,SNR=16						
NYNU	Nynaeshamn	2.42	252	P	Pn	12 01 34.5	+1.0
NYNU	Nynaeshamn	2.42	252	eP	Pn	12 01 34.5	+1.0
VSU	Vasula	2.60	120	Pn	Pb	12 01 39.4	-0.8
VSU				Sn	Sb	12 02 13.2	+0.6
VSU	Vasula	2.60	120	ePB	Pb	12 01 39.4	-0.8
VSU				eSG	Sg	12 02 15.3	-0.9
VSU	Vasula	2.60	120	Pn	Pb	12 01 39.4	-0.8
VSU				Sn	Sb	12 02 13.2	+0.6
KEF	Keuruu	2.62	26	ePG	Pb	12 01 41.4	+0.8
KEF				eSG	Sg	12 02 15.5	-1.5
KEF				MSG		12 02 17.6	
	comp=Z,17nm,0.1s						
VJF	Virojoki	2.65	72	ePB	Pb	12 01 41.6	+0.6
VJF				eSG	Sg	12 02 17.1	-0.6
VJF				MSG		12 02 20.5	
	comp=Z,5.5nm,0.1s						
BACU	Backbrunna	2.70	273	P	Pn	12 01 38.2	+0.9
BACU	Backbrunna	2.70	273	eP	Pn	12 01 38.2	+0.9
OSTU	Oestervaala	2.70	281	P	Pn	12 01 38.0	+0.7
OSTU	Oestervaala	2.70	281	eP	Pn	12 01 38.0	+0.7
IGGU	Iggoen	2.76	295	P	Pn	12 01 39.1	+0.9
IGGU	Iggoen	2.76	295	eP	Pn	12 01 39.1	+0.9
VAF	Ylistaro	3.23	2	eSB	Sb	12 02 32.0	+1.4
VAF				MSG		12 02 33.3	
	comp=Z,8.1nm,0.1s						
HEMU	Hemsoen	3.56	325	eP	Pn	12 01 51.4	+2.2
HFS	Hagfors	4.41	278	Pn	Pn	12 02 01.2	+0.4
	baz=100,slow=11						
HFS				Sn	Sn	12 02 51.2	-1.6
	baz=100,slow=22						
HFS				Lg	Lg	12 03 06.4	
	baz=95,slow=22						
HFS	Hagfors	4.41	278	Pn	Pn	12 02 01.2	+0.4
	baz=100,slow=11						
HFS				Sn	Sn	12 02 51.2	-1.6
	baz=100,slow=22						
HFS				Sg	Sb	12 03 06.4	+1.7
	baz=95,slow=22						
NRA0	NORESS Array S	5.50	284	Pn	Pn	12 02 16.1	+0.3
	baz=93,slow=12						
NRA0				Sn	Sn	12 03 18.8	-1.0
	baz=79,slow=28						
NRA0				Lg	Lg	12 03 42.4	
	baz=103,slow=28						
NRA0	NORESS Array S	5.50	284	Pn	Pn	12 02 16.1	+0.3
	baz=93,slow=12						
NRA0				Sn	Sn	12 03 18.8	-1.0
	baz=79,slow=28						
NRA0				Sg	Sb	12 03 42.4	+6.3
	baz=103,slow=28						
NB2	NORSAR Subarra	5.69	287	Pn	Pn	12 02 18.0	-0.6
	baz=96,slow=12						
NB2				Sn	Sn	12 03 22.2	-2.3
NB2				Lg	Lg	12 03 45.7	
	baz=99,slow=37						
NB2	NORSAR Subarra	5.69	287	Pn	Pn	12 02 18.0	-0.6
	baz=96,slow=12						
NB2				Sn	Sn	12 03 22.2	-2.3
NB2				Sg	Sb	12 03 45.7	+4.1
	baz=99,slow=37						
NOA	NORSAR Array B	5.69	287	Pn	Pn	12 02 17.9	-0.7
	comp=Z,0.0nm,0.3s,baz=101,slow=17,SNR=6.3						
NOA				Sn	Sn	12 03 25.8	+1.3
	comp=Z,0.0nm,0.3s,baz=57,slow=12,SNR=1.5						
NOA				Lg	Lg	12 03 52.6	
	comp=Z,0.1nm,0.3s,baz=64,slow=15,SNR=4.1						
APA0	Apatity Array	9.08	26	Pn	Pn	12 03 07.0	+2.1
	baz=220,slow=16						
APA0	Apatity Array	9.08	26	Pn	Pn	12 03 07.0	+2.1
	baz=220,slow=16						
ARA0	ARCESS Array S	9.83	6	Pn	Pn	12 03 14.9	-0.3
	baz=191,slow=14						
ARA0	ARCESS Array S	9.83	6	Pn	Pn	12 03 14.9	-0.3
	baz=191,slow=14						
ARCES	ARCESS Array B	9.83	6	Pn	Pn	12 03 14.9	-0.2
	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=7.0						
ARCES				Sn	Sn	12 04 60.0	-6.1
	comp=Z,0.2nm,0.3s,baz=57,slow=8.8,SNR=1.9						

*NEIC **06** 12:18:56.2±1.3, 6°.33S±0°.06×154°.0E±0°.1, h35km±1km, mb4.0/8, Error ellipse: s-maj=19.1km s-min=10.4km az=80.0*
*IDC **06** 12:19:03.4±3.0, 5°.77S×153°.33E, h57km±23km, mb3.7/9, mb1 3.8/10, mb1mx3.6/35, mbtmp4.0/10, ML2.3/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/29, Error ellipse: s-maj=27.0km s-min=12.5km az=91.0*

ISC 06 12:18:58.9±0.9, 5°.92S±0°.06×153°.61E±0°.09, h32km, n30, σ2§33/30, mb4.0/12, MS3.2/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.24	320	Pn	Pb	12 19 36.8	-1.9
RABL				Sn	Sb	12 20 11.7	+5.5
KRVT	Keravat (AS076	2.25	316	P	Pn	12 19 32.6	-1.3
	9.2nm,0.3s,baz=37,slow=22,SNR=3.9						
KRVT				S	Sn	12 19 58.6	-1.9
	36nm,0.3s,baz=293,slow=22,SNR=6.5						
PMG	Port Moresby	7.26	241	P	Pn	12 20 45.1	+2.2
	3.4nm,0.3s,baz=21,slow=4.6,SNR=7.8						
PMG				S	Sn	12 22 05.3	+0.9
	1.1nm,0.3s,baz=255,slow=19,SNR=2.2						
PMG				LR	LR	12 23 58.0	
	comp=Z,138nm,18.1s,baz=333,slow=41						
PMG	Port Moresby	7.26	241		Pn	12 20 41.7	-1.2
PMG					Sn	12 22 04.5	+0.1
JAY	Jayapura	13.30	284	LR	LR	12 27 39.6	
	comp=Z,66nm,20.1s,baz=340,slow=40						
PATS	Pohnpei	13.52	20	Pn	Pn	12 22 09.7	+1.1
DZM	Mont Dzumac	20.29	144	P	Pn	12 23 38.4	+4.0
	7.3nm,0.8s,baz=358,slow=14,SNR=3.9						
DZM				LR	LR	12 30 50.8	
	comp=Z,98nm,18.1s,baz=218,slow=34						
WR0	Warramunga Arr	23.20	231	P	P	12 23 59.2	-4.1
WR0				IAmb	IAmb	12 24 10.8	
	comp=Z,5.8nm,1.1s						
WB0	Warramunga Arr	23.20	232	P	P	12 23 59.0	-4.3
WB0				IAmb	IAmb	12 24 15.7	
	comp=Z,4.9nm,1.0s						
WRAB	Tennant Creek	23.33	232	P	P	12 24 01.3	-3.2
WRAB				IAmb	IAmb	12 24 21.8	
	comp=Z,5.1nm,1.1s						
WB2	Warramunga Arr	23.33	232	P	P	12 24 02.2	-2.4
WB2				IAmb	IAmb	12 24 11.8	
	comp=Z,4.0nm,0.8s						
WRA	Warramunga Arr	23.34	232	P	P	12 24 05.7	+1.0
	comp=Z,1.4nm,0.8s,baz=54,slow=9.4,SNR=6.7						
WRA				PcP	PcP	12 27 54.0	+2.8
	comp=Z,0.4nm,0.7s,baz=55,slow=2.8,SNR=3.3						
WRA	Warramunga Arr	23.34	232	P	P	12 24 02.5	-2.2
AS31	Alice Springs	25.89	225	P	P	12 24 25.5	-2.7
ASAR	Alice Springs	25.90	225	P	P	12 24 28.4	+0.2
	comp=Z,2.2nm,0.8s,baz=58,slow=9.0,SNR=21						
ASAR				PcP	PcP	12 27 59.5	+2.7
	comp=Z,0.4nm,0.6s,baz=79,slow=2.1,SNR=2.9						
ASAR				LR	LR	12 34 52.2	
	comp=Z,63nm,18.4s,baz=68,slow=37						
ASAR	Alice Springs	25.90	225	P	P	12 24 24.6	-3.6
H11S3	WAKE ISLAND Hy	27.48	28	T	T	12 53 05.0	
	baz=210						
H11S2	WAKE ISLAND Hy	27.48	28	T	T	12 52 58.1	
	baz=210						
H11S1	WAKE ISLAND Hy	27.50	28	T	T	12 53 07.0	
	baz=210						
STKA	Stephens Creek	28.16	202	LR	LR	12 36 50.2	
	comp=Z,84nm,18.5s,baz=24,slow=38						
FITZ	Fitzroy Crossi	29.85	244	P	P	12 25 03.5	-0.1
	comp=Z,1.8nm,0.6s,baz=11,slow=7.4,SNR=3.8						
FITZ				LR	LR	12 37 51.3	
	comp=Z,40nm,19.9s,baz=276,slow=38						
FITZ	Fitzroy Crossi	29.85	244	P	P	12 25 02.1	-1.5
KSRS	Korea Array	49.36	333	P	P	12 27 44.1	-1.2
	comp=Z,0.8nm,0.7s,baz=143,slow=8.0,SNR=6.0						
USRK	Ussuriysk Ar.	53.56	341	P	P	12 28 17.3	+0.6
PETK	Petropavlovsk-	58.91	3	P	P	12 28 54.9	+0.2
	comp=Z,0.9nm,0.7s,baz=182,slow=6.2,SNR=6.3						
SONM	Songino Array	67.69	328	P	P	12 29 53.0	-0.2
	comp=Z,0.7nm,0.6s,baz=142,slow=6.2,SNR=6.2						
SONM	Songino Array	67.69	328	P	P	12 29 52.1	-1.2
MKAR	Makanchi Array	81.69	319	P	P	12 31 14.4	+0.2
	comp=Z,1.9nm,0.7s,baz=106,slow=5.6,SNR=17						
ZALV	Zalesovo Beam	82.53	326	P	P	12 31 17.8	-0.7
	comp=Z,1.0nm,0.4s,baz=129,slow=5.6,SNR=4.4						
TORD	Torodi Ar. Bea	151.41	287	PKPbc	PKiKP	12 38 51.6	+0.5
	comp=Z,2.0nm,0.7s,baz=40,slow=2.5,SNR=6.9						

*ISN **06** 12:28:12.5±1.2, 32°.61N×47°.77E, h14km±7km, ML2.9*
*TEH **06** 12:28:14.8, 32°.67N×47°.80E, h10km, ML3.0*
*THR **06** 12:28:14.2±0.3, 32°.58N×47°.66E, h18km±7km, ML3.1*

ISC 06 12:28:14.1±0.9, 32°.59N±0°.05×47°.69E±0°.04, h10km, n24, σ1§22/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.05	117	ePg	Pg	12 28 34.2	-0.2
SHGR				IAML		12 29 07.8	
	comp=N,367nm,0.6s						
SHGR				IAML		12 29 22.4	
	comp=E,354nm,0.6s						
SHGR	Shooshtar-Gavs	1.05	117	ePg	Pg	12 28 34.2	-0.2
IKMR	Kamar-syah	1.09	32	ePg	Pg	12 28 32.8	-2.3
IDOB	Doab	1.26	19	ePg	Pb	12 28 37.1	-1.0
BMDN	Meydan	1.43	41	ePg	Pn	12 28 40.5	+0.1
BMDN				e		12 29 07.1	
IBDR	Badra	1.57	290	ePg	Pn	12 28 42.0	-0.1
IBDR				eSg	Sb	12 29 04.0	+0.8
IBDR				AML	AML	12 29 10.9	
	comp=E,104nm,0.5s						
IBDR				AML	AML	12 29 12.5	
	comp=N,136nm,0.6s						
IKOM	Komasi	1.58	354	ePg	Pb	12 28 43.4	-0.2
IKOM				e		12 29 09.1	
KCHF	Cheshme Sefid,	1.77	342	ePg	Pb	12 28 47.3	+0.6
HSAM	Samen	1.78	25	ePg	Pb	12 28 46.4	-0.7
HSAM				e		12 29 14.1	
KER	Kermanshah	1.85	345	ePn	Pb	12 28 47.4	-0.7
IBZA	Bozab	1.88	4	ePg	Pb	12 28 48.4	-0.3
IBZA				e		12 29 19.3	
IVIS	Veis	2.05	340	ePn	Pb	12 28 51.6	0.0
IVIS				e		12 28 57.6	
NSR	Nassriya	2.06	220	ePn	Pn	12 28 49.0	+0.2
NSR				eSn	Sn	12 29 14.0	-0.5
NSR				AML	AML	12 29 18.6	
	comp=E,264nm,0.3s						
IALM	Almabolaq	2.30	10	ePn	Pn	12 28 54.0	+1.7
ILIN	Lien	2.40	345	ePn	Pn	12 28 54.8	+1.1
ILIN				e		12 29 38.3	
SNGE	Sanandaj	2.51	353	ePn	Pn	12 28 56.6	+1.4
SNGE	Sanandaj	2.51	353	ePn	Pn	12 28 56.6	+1.4
HAGD	Aghdareh	2.53	28	ePn	Pn	12 28 56.9	+1.4
HAGD				e		12 29 41.8	
HSRG	Sareghieh	2.69	10	ePn	Pn	12 29 00.0	+2.3
HSRG				e		12 29 47.2	
ASAO	Ashtian	2.75	44	ePn	Pn	12 29 00.2	+1.6
ASAO				eSg	Sg	12 29 41.5	-1.2
ASAO	Ashtian	2.75	44	ePn	Pn	12 29 00.2	+1.6
BHD	Baghdad	2.87	285	ePn	Pn	12 29 00.0	+0.1
BHD				eSn	Sn	12 29 36.0	+1.5
IRAZ	Razeghan	3.36	33	ePn	Pn	12 29 08.4	+1.5
QABG	Abgarm-Qazvin	3.48	26	ePn	Pn	12 29 10.1	+1.5

*ISU **06** 12:47:35.4, 40°.28N×71°.30E, h5km*
*KRNET **06** 12:47:37.4±0.1, 40°.27N×71°.26E, h18km, mb3.5*
*SOME **06** 12:47:37.7, 40°.32N×71°.23E, h10km*
*NNC **06** 12:47:40.2±2.0, 40°.47N×71°.41E, h4km±10km, mb3.8, mpv3.5, Error ellipse: s-maj=14.9km s-min=5.9km az=9.0*

ISC 06 12:47:35.7±0.8, 40°.26N±0°.03×71°.42E±0°.03, h10km, n30, σ2§12/52, 22C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.51	247	⇑iP	Pg	12 47 44.7	-0.8
BTK	baz=37			⇑iS	Sg	12 47 51.1	-1.1
	baz=37						
BTK	Batken	0.51	247	eP	Pg	12 47 44.3	-1.2
BTK				i S	Sg	12 47 50.8	-1.4
FRG	Fergana	0.55	30	eP	Pg	12 47 43.9	-2.5
FRG				eS	Sg	12 47 50.2	-3.5
NAM	Namangan	0.76	14	eP	Pn	12 47 52.4	0.0
NAM				eS	Sn	12 48 11.9	+8.0
OHH	Osh	1.07	75	⇑iP	Pn	12 47 59.4	+2.5
	baz=77						
OHH				⇑iS	Sn	12 48 15.4	+3.5
	baz=77						
GAR	Garm	1.52	215	⇓iP	Pg	12 48 03.5	-1.3
	baz=10.0						
GAR				⇓iS	Sg	12 48 23.8	-0.7
	baz=10.0						
ARK	Arkit	1.59	15	⇓iP	Pg	12 48 06.4	+0.1
	baz=20						
ARK				⇓iS	Sg	12 48 27.9	+1.0
	baz=20						
ARK	Arkit	1.59	15	eP	Pg	12 48 06.0	-0.3
ARK				eS	Sg	12 48 26.8	-0.1
CHMG	Chimgan	1.68	321	eP	Pg	12 48 07.3	-0.6
CHMG				eS	Sg	12 48 30.9	+1.2
IUG	Iuzhnay	2.16	331	eP	Pg	12 48 15.8	-1.3
	88nm,0.2s						
IUG				eS	Sg	12 48 43.9	-1.3
	171nm,0.3s						
IUG	Iuzhnay	2.16	331	Pg	Pg	12 48 15.8	-1.3
	88nm,0.2s						
IUG				Lg	Lg	12 48 41.7	
	168nm,0.5s						
CHGR	Chuyangaron	2.37	228	⇑iP	Pb	12 48 17.5	-1.1
	baz=26						
CHGR				⇑iS	Sb	12 48 47.6	-0.3
	baz=26						
AML	Almayashu	2.54	42	⇑iP	Pb	12 48 21.6	0.0
	baz=44						
AML				⇑iS	Sb	12 48 54.8	+1.8
	baz=44						
ARLS	Aral	2.71	53	⇑iP	Pb	12 48 24.1	-0.3
	baz=55						
ARLS				⇑iS	Sb	12 48 58.9	+1.0
	baz=55						
MRKS	Merke	2.83	28	eP	Pg	12 48 29.2	-0.8
	48nm,0.4s						
MRKS				eS	Sg	12 49 06.1	-0.5
	101nm,0.4s						
MRKS	Merke	2.83	28	Pg	Pg	12 48 29.2	-0.8
	48nm,0.4s						
MRKS				Lg	Lg	12 49 04.3	
	101nm,0.4s						
KK31	Karatay Array	2.93	347	⇑Pn	Pb	12 48 24.8	-3.1
	0.3nm,0.3s,baz=172,slow=14,SNR=108						
KK31				⇑Pg	Pg	12 48 29.7	-2.1
	9.2nm,0.4s,baz=168,slow=17,SNR=8.5						
KK31				⇑Lg	Lg	12 49 08.7	
	6.2nm,0.3s,baz=165,slow=25,SNR=6.7						
EKS2	Erkin-Say	2.98	36	⇑iP	Pb	12 48 27.5	-1.5
	baz=38						
EKS2				⇑iS	Sb	12 49 05.2	-0.3
	baz=38						
AAK	Ala-Archa	3.31	43	⇑iP	Pb	12 48 32.1	-2.5
	baz=45						
AAK				⇑iS	Sb	12 49 13.2	-1.9
	baz=45						
AAK	Ala-Archa	3.31	43	Pg	Pb	12 48 36.4	+1.7
	6.9nm,0.7s						
AAK				Lg	Lg	12 49 21.1	
	7.2nm,0.4s						
KZA	Kyzart	3.41	57	⇑iP	Pb	12 48 33.6	-2.9
	baz=58						
KZA				⇑iS	Sb	12 49 15.9	-2.3
	baz=58						
KBK	Karagaybulak	3.57	47	⇑iP	Pb	12 48 35.8	-3.3
	baz=48						
KBK				⇑iS	Sb	12 49 19.6	-2.9
	baz=48						
SGDS	Sogindy	3.99	36	Pg	Pg	12 48 50.4	-1.7
	11nm,0.3s						
SGDS				Lg	Lg	12 49 40.0	
	12nm,0.4s						
TKM2	Tokmak 2	4.11	48	⇓Pn	Pn	12 48 41.6	+2.9
	2.4nm,0.3s						
TKM2				⇑Lg	Lg	12 49 46.1	
	8.5nm,0.6s						
KST	Kastek	4.39	49	eP	Pg	12 48 58.0	-1.9
	5.2nm,0.4s						
KST				eS	Sg	12 49 55.8	-0.9
	16nm,0.4s						
KST	Kastek	4.39	49	Pg	Pg	12 48 59.5	-0.4
	4.7nm,0.5s						
KST				Lg	Lg	12 49 55.8	
	16nm,0.4s						
MTBS	Maitube	4.72	51	eP	Pg	12 49 04.5	-1.6
	3.9nm,0.4s						
MTBS				eS	Sg	12 50 06.6	-0.6
	12nm,0.4s						
MTBS	Maitube	4.72	51	Pg	Pg	12 49 05.8	-0.2
	1.1nm,0.1s						
MTBS				Lg	Lg	12 50 06.6	
	12nm,0.4s						
KUU	Kurty	5.16	44	eP	Pg	12 49 11.6	-2.8
	1.6nm,0.5s						
KUU				eS	Sg	12 50 18.7	-2.4
	6.1nm,0.6s						
KUU	Kurty	5.16	44	Pg	Pg	12 49 12.9	-1.4
	1.2nm,0.2s						
KUU				Lg	Lg	12 50 18.7	
	6.1nm,0.6s						

*IDC **06** 12:51:07.8±1.1, 26°.88S×114°.56W, h0km, mb4.1/6, mb1 4.5/6, mb1mx4.2/26, mbtmp4.1/6, MS4.0/18, Ms1 3.9/18, ms1mx3.9/22, Error ellipse: s-maj=42.8km s-min=25.9km az=52.0*
*NEIC **06** 12:51:10.5±1.8, 26°.6S±0°.1×114°.21W±0°.10, h10km±1km, mb4.9/180, Error ellipse: s-maj=19.5km s-min=14.6km az=191.0*
*GCMT **06** 12:51:11.5±0.3, 27°.07S±0°.03×114°.17W±0°.02, h14km±1km, MW4.8/96, Moment Tensor Solution. s24,c27; s96,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.33±.15; $M_{\theta\theta}$=0.26±.11; $M_{\phi\phi}$=1.07±.10; $M_{r\theta}$=0.94±.28; $M_{\theta\phi}$=1.45±.06; $M_{r\phi}$=0.40±.20; Best double couple: M_0=2.15100×10^{16} NP1:ϕ_s=355.00000°, δ52.00000°, λ-39.00000°. NP2: ϕ_s=111.00000°, δ60.00000°, λ-135.00000°. Principal axes: T 2.1890, Plg5.0000°, Azm231.0000°; N -0.0810, Plg38.0000°, Azm138.0000°; P -2.1120, Plg52.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UNK **06** 12:51:46.1, 20°.79S×114°.03W, h10km*

ISC 06 12:51:10.2±0.5, 26°.59S±0°.08×114°.23W±0°.08, h10km, n308, σ1§24/276, mb4.9/83, MS4.0/21, 2D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	4.41	98	T	T	12 56 29.4	
	35nm,0.3s,baz=54,slow=22,SNR=6.3						
RPN	Rapa Nui	4.41	98	Pn	Pn	12 52 16.8	-0.4
PTCN	Pitcairn Islan	14.37	273	Pn	Pn	12 54 32.7	-1.0
TAOE	Nuku Hiva Isla	30.23	301	eLR	LR	13 05 08.4	
	comp=Z,253nm,24.5s						
H03N2	Juan Fernandez	31.21	111	T	T	13 30 06.0	
	baz=277,slow=74,SNR=4296						
H03N3	Juan Fernandez	31.22	111	T	T	13 30 09.7	
	baz=277,slow=74,SNR=208						
H03N1	Juan Fernandez	31.23	111	T	T	13 30 05.1	
	baz=277,slow=74,SNR=5404						
TBI	Tubuai	32.04	268	eLQ	LQ	13 04 27.8	
	384nm,30.8s						
TBI				eLR	LR	13 05 46.6	
	comp=Z,420nm,30.2s						
TBI	Tubuai	32.04	268	eT	T	13 30 56.8	
	25nm,0

LPAZ LR LR 13 13 30.4
comp=Z,173nm,21.6s,baz=248,slow=30
LPAZ La Paz 43.92 86 P P 12 59 17.7 -0.5
H06E1 SOCORRO T-PHAS 45.21 4 T T 13 48 02.8
SNR=5.9
PETF Flores 49.30 31 P P 12 59 57.6 -1.9
PMSA Palmer Station 49.61 154 P P 13 00 01.2 -0.2
PMSA IAmb IAmb 13 00 05.0
comp=Z,18nm,1.4s
ROSC El Rosal 49.68 57 LR LR 13 16 42.9
comp=Z,242nm,20.3s,baz=251,slow=31
CPUP Villa Florida 50.56 103 LR LR 13 17 45.2
comp=Z,129nm,20.8s,baz=226,slow=32
SAML Samuel 51.32 80 P P 13 00 14.9 -0.1
AFI Afiamalu 55.04 271 P P 13 00 42.4 -0.1
SDV Santo Domingo 55.08 56 P P 13 00 44.7 +1.8
SDV IAmb IAmb 13 00 46.2
comp=Z,7.4nm,0.8s
FSCY Frank Sound, G 55.77 39 P P 13 00 46.7 -0.7
833A Chaparral WMA, 56.43 16 P P 13 00 51.7 -0.3
833A IAmb IAmb 13 00 54.7
comp=Z,12nm,0.8s
TX31 Lajitas Ar. Si 56.52 11 P P 13 00 53.5 +0.7
TX31 IAmb IAmb 13 01 04.0
comp=Z,20nm,1.3s
TX32 Lajitas Array 56.52 11 P P 13 00 53.3 +0.5
TXAR Lajitas Array 56.52 11 P P 13 00 54.5 +1.8
comp=Z,1.7nm,1.0s,baz=187,slow=8.8,SNR=10
TXAR Lajitas Array 56.52 11 P P 13 00 52.8 0.0
SPX San Pedro Mart 57.31 359 P P 13 00 58.4 -0.2
SPX IAmb IAmb 13 01 20.4
comp=Z,12nm,1.3s
214A Organ Pipe Nat 58.23 1 P P 13 01 05.8 +1.0
JCT Junction City 58.40 15 P P 13 01 07.7 +1.8
baz=197,SNR=7.4
JCT Junction City 58.40 15 P P 13 01 07.4 +1.5
MNTX Cornudas Mount 58.57 9 P P 13 01 07.9 +0.8
baz=190,SNR=5.1
TUC Tucson 58.66 3 P P 13 01 09.6 +1.8
baz=184
TKX Tecate 58.87 358 P P 13 01 09.1 -0.1
RMX La Rumorosa 58.89 358 P P 13 01 08.4 -1.1
RMX IAmb IAmb 13 01 12.1
comp=Z,13nm,1.1s
HKT Hockley 58.91 19 P P 13 01 09.7 +0.3
HKT IAmb IAmb 13 01 12.3
comp=Z,15nm,1.3s
IKP In-Ko-Pah, Jac 58.94 358 P P 13 01 12.0 +2.3
baz=178
BAR Barrett 58.99 358 P P 13 01 09.8 -0.1
BAR IAmb IAmb 13 01 12.8
comp=Z,15nm,1.2s
113A Mohawk Valley, 59.03 0 P P 13 01 10.8 +0.7
113A IAmb IAmb 13 01 12.7
comp=Z,10nm,1.1s
121A Cookes Peak, D 59.11 6 P P 13 01 13.0 +2.0
baz=187,SNR=5.7
121A Cookes Peak, D 59.11 6 P P 13 01 12.3 +1.3
121A IAmb IAmb 13 01 14.1
comp=Z,13nm,1.1s
109C Camp Elliot, M 59.21 357 P P 13 01 11.0 -0.5
109C IAmb IAmb 13 01 16.5
comp=Z,16nm,1.4s
435B Jarrell 59.23 17 P P 13 01 14.1 +2.5
baz=199
435B Jarrell 59.23 17 P P 13 01 13.6 +2.0
GLA Glamis 59.31 359 P P 13 01 14.1 +1.8
baz=179
GLA Glamis 59.31 359 P P 13 01 12.8 +0.6
BC3 Big Chuckawall 59.92 359 P P 13 01 18.6 +2.1
baz=178,SNR=6.7
BELC Belle Mtn. Jos 60.28 358 P P 13 01 21.2 +2.2
baz=178,SNR=7.2
WHTX Lake Whitney, 60.41 16 P P 13 01 21.4 +1.7
baz=199
WHTX Lake Whitney, 60.41 16 P P 13 01 20.6 +0.8
WHTX IAmb IAmb 13 01 21.8
comp=Z,8.9nm,1.0s
IRM Iron Mountain 60.42 359 P P 13 01 22.0 +2.2
baz=179,SNR=5.8
ABTX Abilene, Hawle 60.50 14 P P 13 01 21.5 +1.1
baz=196,SNR=5.2
ABTX Abilene, Hawle 60.50 14 P P 13 01 21.0 +0.6
PDMCI Parker Dam,Lak 60.56 0 P P 13 01 22.9 +2.2
baz=180
BFSC Mount Baldy Ra 60.58 357 P P 13 01 23.1 +2.1
baz=176
LENM Lemitar 60.81 7 P P 13 01 23.6 +0.9
BNM Barren Site 60.84 7 P P 13 01 21.9 -1.0
237A Washetta, Mont 60.85 18 P P 13 01 24.8 +2.0
SBC Santa Barbara 60.92 355 P P 13 01 24.0 +0.9
baz=174
NATX Nacogdoches 60.95 19 P P 13 01 25.0 +1.5
POHA Pohakuloa 61.05 315 P P 13 01 24.6 0.0
GMRC Granite Mounta 61.05 359 P P 13 01 26.5 +2.2
baz=178
MSTX Muleshoe 61.20 11 P P 13 01 26.0 +0.8
baz=193,SNR=5.8
MSTX Muleshoe 61.20 11 P P 13 01 25.7 +0.5
MSTX IAmb IAmb 13 01 26.8
comp=Z,10nm,0.9s
EDW2 Edwards Air Fo 61.24 356 P P 13 01 26.6 +1.1
baz=176
W13A Hualapai Mount 61.35 0 P P 13 01 26.8 +0.4
GSC Goldstone, Bar 61.60 358 P P 13 01 29.8 +1.9
baz=177,SNR=5.6
GSC Goldstone, Bar 61.60 358 P P 13 01 28.9 +1.0
GSC IAmb IAmb 13 01 30.9
comp=Z,12nm,1.2s
ANMO Albuquerque 61.64 7 P P 13 01 29.8 +1.5
baz=188
ANMO Albuquerque 61.64 7 P P 13 01 25.3 -3.0
TUQ Turquoise Moun 61.71 358 P P 13 01 30.0 +1.4
baz=178
Z35A Perchaven, San 61.74 16 P P 13 01 29.4 +0.6
LRMC Laurel Mtn Rad 61.82 357 P P 13 01 31.1 +1.7
baz=176,SNR=5.2
WUAZ Wupatki 61.83 3 P P 13 01 31.8 +2.3
baz=183,SNR=5.4
WUAZ Wupatki 61.83 3 P P 13 01 31.6 +2.1
WUAZ IAmb IAmb 13 01 32.7
comp=Z,13nm,1.2s
344A Westbrook Farm 61.92 23 P P 13 01 32.2 +2.2
344A IAmb IAmb 13 01 34.0
comp=Z,12nm,1.1s
BELA Belgrano 2 62.01 166 P P 13 01 30.9 +0.8
ISA Isabella, Lake 62.05 356 P P 13 01 32.5 +1.7
baz=175
ISA Isabella, Lake 62.05 356 P P 13 01 28.7 -2.2
BDFB Brasilia 62.15 94 LR LR 13 26 00.6
comp=Z,88nm,18.6s,baz=320,slow=34
SHOC Shoshone, Teco 62.18 358 P P 13 01 33.9 +2.2
baz=178,SNR=5.6
PAGB Antelope Grade 62.24 354 P P 13 01 33.1 +1.0
AMTX Amarillo 62.28 12 P P 13 01 33.9 +1.4
baz=194
AMTX Amarillo 62.28 12 P P 13 01 31.8 -0.7
AMTX IAmb IAmb 13 01 34.3
comp=Z,9.9nm,0.8s
MPMC Manual Prospec 62.38 357 P P 13 01 35.1 +1.8
baz=176,SNR=7.0
U15A North Rim 62.70 2 P P 13 01 36.4 +0.9
U15A IAmb IAmb 13 01 38.7
comp=Z,7.9nm,1.0s
SHPR Sheep Range 62.76 359 P P 13 01 37.2 +1.5
FURC Furnace Creek, 62.77 358 P P 13 01 37.9 +2.3
baz=177
CWC Cottonwood Cre 62.80 357 P P 13 01 38.0 +2.0
baz=176
X34A Smith Ranch, M 62.81 15 P P 13 01 36.5 +0.6
X34A IAmb IAmb 13 01 38.4
comp=Z,12nm,1.2s
143A Socs Landing, 62.84 22 P P 13 01 37.6 +1.5
Z41A Richland Creek 62.91 20 P P 13 01 37.6 +1.1
VNDA Vanda 62.92 194 LR LR 13 21 37.9
comp=Z,70nm,20.2s,baz=83,slow=29
WLAR White Oak Lake 63.21 20 P P 13 01 40.5 +2.0
TPNV Topopah Spring 63.23 358 P P 13 01 41.3 +2.4
baz=178,SNR=7.7
TPNV Topopah Spring 63.23 358 P P 13 01 39.0 +0.1
TPNV IAmb IAmb 13 01 42.3
comp=Z,6.8nm,1.1s
LCMT Little Creek M 63.27 1 P P 13 01 38.6 -0.5
KNB Kanab 63.28 1 P P 13 01 39.6 +0.4
656A Willston 63.40 31 P P 13 01 39.7 -0.1

QSPA South Pole Qui 63.58 180 P P 13 01 42.1 +1.2
QSPA IAmb IAmb 13 01 44.4
comp=Z,8.5nm,1.1s
PRN Pahroc Range 63.66 359 P P 13 01 43.7 +2.0
PRN IAmb IAmb 13 01 45.3
comp=Z,15nm,1.4s
MVCO Mesa Verde 63.69 5 P P 13 01 43.1 +1.1
baz=186,SNR=6.9
MVCO Mesa Verde 63.69 5 P P 13 01 40.5 -1.5
PKCU Pink Cliffs 63.72 2 P P 13 01 44.5 +2.2
CCUT Cedar City 63.80 1 P P 13 01 43.0 +0.3
CCAR Cane Creek 63.84 21 P P 13 01 44.9 +2.2
SZCU Shurtz Canyon 63.85 1 P P 13 01 44.7 +1.7
OK025 Westminster Rd 63.86 15 P P 13 01 43.7 +0.8
OK025 IAmb IAmb 13 01 53.0
comp=Z,9.2nm,0.9s
BCOK Bluff Creek, N 63.87 15 P P 13 01 44.7 +1.7
MIAR Mount Ida 63.87 19 P P 13 01 43.3 +0.4
MIAR IAmb IAmb 13 01 44.1
comp=Z,9.8nm,1.4s
X40A Basin Creek Fa 64.04 20 P P 13 01 46.3 +2.3
OK029 Liberty Lake 64.04 15 P P 13 01 42.6 -1.5
MDPB Devils Postpil 64.04 356 P P 13 01 45.5 +1.2
T25A Trinidad 64.06 9 P P 13 01 45.5 +1.1
baz=190
T25A Trinidad 64.06 9 P P 13 01 44.7 +0.3
U32A Winter Ranch, 64.26 14 P P 13 01 46.6 +1.1
MTPU Mount Pierson 64.32 2 P P 13 01 47.0 +0.7
S22A 4UR Ranch, Cre 64.37 7 P P 13 01 47.9 +1.3
baz=188,SNR=7.1
S22A 4UR Ranch, Cre 64.37 7 P P 13 01 47.7 +1.2
S22A IAmb IAmb 13 01 49.1
comp=Z,6.9nm,1.2s
TPH Tonopah 64.38 357 P P 13 01 48.3 +1.8
UALR University of 64.45 20 P P 13 01 47.9 +1.2
UALR IAmb IAmb 13 01 48.2
comp=Z,6.0nm,1.0s
SDCO Great Sand Dun 64.52 8 P P 13 01 48.9 +1.5
baz=189,SNR=9.3
SDCO Great Sand Dun 64.52 8 P P 13 01 46.7 -0.8
CMB Columbia Colle 64.54 355 P P 13 01 48.7 +1.4
TUL1 Leonard 64.56 17 P P 13 01 47.2 -0.2
CROK Carrier 64.60 14 P P 13 01 48.6 +0.9
PV01 Paradox Valley 64.60 5 P P 13 01 48.7 +0.7
PV13 Radium Mtn., P 64.61 5 P P 13 01 47.7 -0.3
R11A Troy Canyon, C 64.61 359 P P 13 01 49.9 +2.0
baz=178,SNR=10
R11A Troy Canyon, C 64.61 359 P P 13 01 47.7 -0.2
R11A IAmb IAmb 13 01 51.5
comp=Z,11nm,1.4s
PV02 Paradox Valley 64.66 5 P P 13 01 47.1 -1.2
PV02 IAmb IAmb 13 01 49.9
comp=Z,6.4nm,1.2s
PV16 Nyswonger Mesa 64.75 5 P P 13 01 50.0 +1.1
PV16 IAmb IAmb 13 01 52.0
comp=Z,9.2nm,1.4s
PV12 Saucer Basin, 64.77 5 P P 13 01 49.9 +0.9
PV12 IAmb IAmb 13 01 53.9
comp=Z,11nm,1.1s
PV20 West Nyswonger 64.78 5 P P 13 01 49.5 +0.5
PV20 IAmb IAmb 13 01 52.0
comp=Z,10nm,1.3s
MVU Marysvale 64.78 2 P P 13 01 48.8 -0.3
PSUT Pine Spring 64.78 0 P P 13 01 47.7 -1.4
NV11 Mina Array Sit 64.78 357 P P 13 01 49.9 +0.9
NV11 IAmb IAmb 13 01 52.1
comp=Z,11nm,1.1s
MSU Marysvale 64.79 2 P P 13 01 49.8 +0.7
NVAR Mina Array Bea 64.79 356 P P 13 01 51.0 +1.9
comp=Z,5.1nm,0.9s,baz=183,slow=9.1,SNR=34
NVAR LR LR 13 23 35.9
comp=Z,96nm,20.1s,baz=197,slow=30
NVAR Mina Array Bea 64.79 356 P P 13 01 50.3 +1.2
PV14 Lion Creek, Pa 64.80 5 P P 13 01 50.4 +1.1
PV15 Paradox Valley 64.81 5 P P 13 01 50.5 +1.1
PV15 IAmb IAmb 13 01 51.6
comp=Z,8.5nm,1.0s
PV04 Paradox Valley 64.83 5 P P 13 01 50.6 +1.2
W41B Gary Mavity, V 64.85 20 P P 13 01 50.5 +1.2
baz=204
W41B Gary Mavity, V 64.85 20 P P 13 01 50.3 +1.0
W41B IAmb IAmb 13 01 52.3
comp=Z,14nm,1.2s
TCRU Three Creeks R 64.88 2 P P 13 01 52.2 +2.4
PV23 Carpenter Ridg 64.88 5 P P 13 01 50.0 +0.1
PV23 IAmb IAmb 13 01 52.1
comp=Z,12nm,1.0s
WAKR Walker 64.94 355 P P 13 01 51.6 +1.6
PV22 Blue Mesa, Par 64.98 5 P P 13 01 52.2 +1.8
PV22 IAmb IAmb 13 01 53.6
comp=Z,6.1nm,0.9s
PV21 Cone Mtn., Par 65.00 5 P P 13 01 50.9 +0.4
PV21 IAmb IAmb 13 01 52.7
comp=Z,9.0nm,1.0s
RYN Ryan 65.00 356 P P 13 01 51.9 +1.5
RYN IAmb IAmb 13 01 53.6
comp=Z,9.6nm,1.5s
Q16A Castle Valley 65.23 3 P P 13 01 53.1 +1.2
HHAR Hobbs 65.40 18 P P 13 01 53.5 +0.6
HHAR IAmb IAmb 13 01 54.6
comp=Z,12nm,1.4s
KVN Kaiserville 65.40 357 P P 13 01 54.6 +1.6
KVN IAmb IAmb 13 01 56.0
comp=Z,13nm,1.3s
YERR Yerington 65.40 356 P P 13 01 54.8 +1.7
YERR IAmb IAmb 13 01 56.2
comp=Z,11nm,1.2s
SRU San Rafael Swe 65.45 3 P P 13 01 54.4 +1.0
AFDM Forest Hills D 65.50 354 P P 13 01 54.2 +0.6
AFDM IAmb IAmb 13 01 57.1
comp=Z,8.6nm,1.4s
PNTR Pine Nut 65.53 355 P P 13 01 55.3 +1.4
PNTR IAmb IAmb 13 01 57.0
comp=Z,7.4nm,1.1s
RUBR Rubicon Trail 65.53 355 P P 13 01 54.8 +0.8
RUBR IAmb IAmb 13 01 57.0
comp=Z,10nm,1.0s
TMUT Trail Mountain 65.60 3 P P 13 01 55.7 +1.2
U40A Yellville 65.77 19 P P 13 01 56.0 +0.7
baz=203
U40A Yellville 65.77 19 P P 13 01 55.8 +0.5
U40A IAmb IAmb 13 01 57.9
comp=Z,9.7nm,1.2s
P17A Butcher Ranch, 65.80 3 P P 13 01 56.3 +0.6
KSCO Kaye Shedlock' 66.15 10 P P 13 01 59.0 +1.1
DUG Dugway, Tooele 66.45 1 P P 13 02 01.5 +1.8
baz=181,SNR=8.0
DUG Dugway, Tooele 66.45 1 P P 13 02 00.6 +0.8
DUG IAmb IAmb 13 02 02.6
comp=Z,9.5nm,1.1s
ISCO Idaho Springs 66.53 7 P P 13 02 01.4 +0.9
baz=189
ISCO Idaho Springs 66.53 7 P P 13 02 01.0 +0.5
ISCO IAmb IAmb 13 02 03.0
comp=Z,9.9nm,1.5s
O20A White River Ci 66.61 5 P P 13 02 02.7 +1.8
baz=186
S39A Bolivar 66.89 18 P P 13 02 02.8 +0.4
JLU Jordanelle 66.90 2 P P 13 02 02.7 0.0
O02D Mt. Diablo Mer 66.90 353 P P 13 02 04.6 +2.1
baz=171
T42A Van Buren 66.92 20 P P 13 02 02.4 -0.2
RDMU Red Mountain 66.96 4 P P 13 02 03.4 +0.3
CTU Camp Tracy 66.98 2 P P 13 02 03.5 +0.4
WVT Waverly 67.17 23 P P 13 02 04.6 +0.3
baz=208
WVT Waverly 67.17 23 P P 13 02 04.4 +0.1
BGU Big Grassy Mou 67.18 1 P P 13 02 05.2 +0.8
WDC Whiskeytown Da 67.27 353 P P 13 02 05.4 +0.6
WDC IAmb IAmb 13 02 06.9
comp=Z,6.9nm,1.0s
N23A Red Feather La 67.58 7 P P 13 02 08.4 +1.3
baz=189
N23A Red Feather La 67.58 7 P P 13 02 07.1 0.0
N23A IAmb IAmb 13 02 09.4
comp=Z,5.6nm,0.9s
Y55A Saluda 67.58 29 P P 13 02 07.8 +0.9
baz=214
N02D Trinity Center 67.68 353 P P 13 02 08.9 +1.4
baz=171
R40A Maddies Statio 67.74 19 P P 13 02 08.2 +0.4
CCM Cathedral Cave 67.82 19 P P 13 02 08.9 +0.6
baz=204
M02C Callahan 68.11 353 P P 13 02 12.2 +2.1

baz=171
T47A Sharon Grove 68.20 23 P P 13 02 11.2 +0.5
T47A IAmb IAmb 13 02 12.0
comp=Z,11nm,1.0s
RWWY Rawlins 68.24 6 P P 13 02 10.8 -0.4
RWWY IAmb IAmb 13 02 12.0
comp=Z,11nm,1.4s
MOD Modoc Plateau 68.38 355 P P 13 02 12.8 +0.8
MOD IAmb IAmb 13 02 14.6
comp=Z,6.6nm,0.9s
M04C Macdoel 68.39 354 P P 13 02 13.6 +1.6
baz=172
X56A White Oak 68.41 29 P P 13 02 13.2 +1.1
baz=215
BIRD Birdtown, Kers 68.79 29 P P 13 02 14.7 +0.2
BIRD IAmb IAmb 13 02 18.1
comp=Z,8.7nm,1.0s
WVOR Wild Horse Val 68.80 357 P P 13 02 15.7 +1.1
WVOR IAmb IAmb 13 02 17.5
comp=Z,10nm,1.0s
L04D Klamath Falls 68.87 354 P P 13 02 16.3 +1.3
baz=171
V54A Nebo 69.12 28 P P 13 02 17.1 +0.6
baz=214
BW06 Boulder Array 69.14 4 P P 13 02 17.0 +0.1
baz=185
BW06 Boulder Array 69.14 4 P P 13 02 16.3 -0.5
PD31 Pinedale Array 69.14 4 P P 13 02 16.9 +0.1
PDAR Pinedale Array 69.14 4 P P 13 02 16.8 0.0
comp=Z,2.7nm,0.9s,baz=174,slow=4.5,SNR=20
K05A Summer Lake 69.24 355 P P 13 02 19.0 +1.6
K05A IAmb IAmb 13 02 20.2
comp=Z,10nm,1.0s
K22A Casper 69.26 6 P P 13 02 18.5 +1.0
baz=188
K22A Casper 69.26 6 P P 13 02 17.5 +0.1
VNA3 Neumayer Olymp 69.61 160 P P 13 02 18.2 -1.0
MFID Camas Ranch 69.67 359 P P 13 02 20.2 +0.3
REDW Red Top Meadow 69.67 3 P P 13 02 20.2 +0.1
REDW IAmb IAmb 13 02 27.4
comp=Z,11nm,1.5s
J08A Circle Bar Ran 69.71 357 P P 13 02 21.3 +1.1
J08A IAmb IAmb 13 02 23.2
comp=Z,13nm,1.1s
TPAW Teton Pass 69.80 3 P P 13 02 20.3 -0.6
TPAW IAmb IAmb 13 02 21.6
comp=Z,8.5nm,0.8s
HLID Hailey 69.81 360 P P 13 02 22.3 +1.5
baz=180
HLID Hailey 69.81 360 P P 13 02 21.7 +0.9
HLID IAmb IAmb 13 02 23.5
comp=Z,10nm,0.9s
J05D Fort Rock, OR 69.83 355 P P 13 02 22.5 +1.6
baz=172
LOHW Long Hollow 69.93 3 P P 13 02 21.5 -0.1
FXWY Fox Creek 69.94 2 P P 13 02 21.6 -0.1
FXWY IAmb IAmb 13 02 23.6
comp=Z,7.3nm,1.1s
IMW Indian Meadow 70.20 3 P P 13 02 23.5 +0.1
VNA1 Neumayer--Stat 70.27 160 P P 13 02 23.9 +0.7
PINE Pine Mountain 70.31 355 P P 13 02 24.1 +0.2
PINE IAmb IAmb 13 02 26.6
comp=Z,8.2nm,0.8s
K31A O'Neill 70.33 12 P P 13 02 24.1 +0.2
N41A Harden Midland 70.39 19 P P 13 02 24.8 +0.6
FLWY Flagg Ranch 70.40 3 P P 13 02 25.2 +0.7
FLWY IAmb IAmb 13 02 26.4
comp=Z,9.4nm,0.8s
VNA2 Neumayer--Watz 70.42 160 P P 13 02 23.0 -1.1
I07A Izee 70.49 356 P P 13 02 25.1 +0.2
I07A IAmb IAmb 13 02 27.7
comp=Z,10nm,1.0s
I05D Terrebonne, OR 70.88 355 P P 13 02 28.9 +1.7
baz=172
RSSD Black Hills 70.98 8 P P 13 02 28.8 +0.8
baz=190
YHB Horse Butte 71.05 2 P P 13 02 28.7 +0.3
MCMT McKenzie Canyo 71.08 1 P P 13 02 28.9 +0.3
YHH Holmes Hill 71.10 3 P P 13 02 28.9 +0.1
U58A Oxford 71.10 30 P P 13 02 29.2 +0.6
baz=216
QLMT Earthquake Lak 71.12 2 P P 13 02 29.3 +0.5
YHL Hebgen Lake 71.15 2 P P 13 02 29.5 +0.4
BMO Blue Mountains 71.15 358 P P 13 02 29.4 +0.5
DZM Mont Dzumac 71.33 254 eLR LR 13 23 55.1
comp=Z,269nm,26.4s
DZM Mont Dzumac 71.33 254 LR LR 13 25 47.9
comp=Z,138nm,20.4s,baz=201,slow=29
YNE Yellowstone No 71.35 3 P P 13 02 30.9 +0.6
SNAA Sanae 71.40 162 P P 13 02 29.1 -1.1
SNAA Sanae 71.40 162 P P 13 02 29.9 -0.2
SNAA IAmb IAmb 13 02 31.9
comp=Z,5.9nm,0.9s
RLMT Red Lodge 71.51 4 P P 13 02 32.1 +0.9
baz=185
RLMT Red Lodge 71.51 4 P P 13 02 31.7 +0.5
L40A Anamosa 71.54 18 P P 13 02 32.3 +1.1
DLMT Dillon 71.62 1 P P 13 02 31.6 -0.2
G08A Pilot Rock 71.66 356 P P 13 02 33.2 +1.2
G08A IAmb IAmb 13 02 34.8
comp=Z,14nm,1.0s
BOZ Bozeman (W) 71.88 2 P P 13 02 35.0 +1.7
baz=182
BOZ Bozeman (W) 71.88 2 P P 13 02 34.2 +0.9
F10A Beach Ranch, E 72.27 358 P P 13 02 35.2 -0.4
F10A IAmb IAmb 13 02 37.6
comp=Z,8.5nm,1.2s
E09A Wood Farm, Sta 72.84 357 P P 13 02 40.5 +1.6
E08A Dider Farm, El 72.86 357 P P 13 02 40.2 +1.2
E08A IAmb IAmb 13 02 41.6
comp=Z,10nm,1.0s
HRY Holter Researc 72.99 2 P P 13 02 40.1 +0.2
P54A Burton 72.99 27 P P 13 02 41.1 +1.1
baz=214
MSO Missoula 73.07 0 P P 13 02 42.0 +1.6
baz=180
P55A Reedsville 73.17 27 P P 13 02 41.8 +0.8
baz=214
E04D Cinebar 73.19 354 P P 13 02 42.1 +1.2
baz=171
D08A Wollman Farm, 73.42 357 P P 13 02 42.8 +0.5
LTY Liberty 73.73 355 P P 13 02 45.0 +0.8
D05A Enumclaw 73.76 354 P P 13 02 44.4 +0.1
D05A IAmb IAmb 13 02 46.7
comp=Z,18nm,1.1s
F33A 5 Mile Ranch, 73.91 13 P P 13 02 45.3 +0.1
F33A IAmb IAmb 13 02 46.7
comp=Z,16nm,1.4s
JTMT Jette 73.99 360 P P 13 02 45.7 -0.1
JTMT IAmb IAmb 13 02 47.8
comp=Z,12nm,0.9s
C09A Chrisman Ranch 74.13 357 P P 13 02 47.6 +1.2
C09A IAmb IAmb 13 02 49.6
comp=Z,10nm,1.1s
D03D Eldon 74.21 354 P P 13 02 48.3 +1.4
baz=171
O56A Blue Knob Stat 74.33 28 P P 13 02 48.8 +1.0
baz=215
EGMT Eagleton 74.38 3 P P 13 02 49.5 +1.5
baz=184
EGMT Eagleton 74.38 3 P P 13 02 48.7 +0.8
EGMT IAmb IAmb 13 02 50.7
comp=Z,15nm,1.2s
NEW Newport 74.55 358 P P 13 02 50.1 +1.2
baz=177
NEW Newport 74.55 358 P P 13 02 49.9 +0.9
NEW IAmb IAmb 13 02 51.2
comp=Z,11nm,1.2s
B08A Colville Reser 74.74 356 P P 13 02 50.9 +0.9
B05A Bryant 74.84 355 P P 13 02 51.6 +1.1
baz=172
B06A Marblemount 75.04 355 P P 13 02 52.4 +0.8
B06A IAmb IAmb 13 02 53.3
comp=Z,12nm,1.4s
WALA Waterton Lakes 75.30 0 P P 13 02 55.1 +1.7
A04D Lummi Island 75.35 354 P P 13 02 55.0 +1.6
baz=171
PGC Sidney 75.35 354 P P 13 02 55.4 +2.0
PGC IAmb IAmb 13 02 55.8
comp=Z,16nm,0.9s
GLMI Grayling 76.04 21 P P 13 02 55.5 -2.1
AGMN Agassiz Nation 76.34 13 P P 13 02 59.1 -0.1
AGMN IAmb IAmb 13 03 02.0
comp=Z,8.9nm,1.2s
J55A Hilton 77.15 26 P P 13 03 02.9 -1.0

E53A	Dumoine, Ponti	79.83	25	P	P	13 03 19.6	+1.0
baz=215							
TRQ	Mont Tremblant	80.90	27	P	P	13 03 23.9	-0.5
MOQ	Mont Orford	81.12	29	P	P	13 03 24.2	-1.5
E58A	La Victoria	81.55	27	P	P	13 03 28.7	+1.0
baz=219							
SYO	Syowa Base	82.78	171⇓	*e*pP	P	13 03 35.0	+1.0
SYO	Syowa Base	82.78	171⇓	*e*PP	PP	13 06 39.6	-3.7
DLBC	Dease Lake	85.72	352	P	P	13 03 48.7	-0.3
MAW	Mawson	86.07	179	LR	LR	13 38 21.7	
comp=Z,81nm,19.7s,baz=248,slow=33							
STKA	Stephens Creek	87.28	236	LR	LR	13 37 08.9	
comp=Z,94nm,19.7s,baz=59,slow=32							
YKA	Yellowknife Ar	88.77	360	LR	LR	13 38 37.0	
comp=Z,58nm,19.3s,baz=0.0,slow=32							
H11S2	WAKE ISLAND Hy	88.80	291	T	T	14 42 27.9	
baz=119,slow=75,SNR=58							
H11S1	WAKE ISLAND Hy	88.81	291	T	T	14 42 28.1	
baz=119,slow=75,SNR=102							
H11S3	WAKE ISLAND Hy	88.82	291	T	T	14 42 25.9	
baz=119,slow=75,SNR=27							
H11N3	WAKE ISLAND Hy	89.21	292	T	T	14 42 59.9	
baz=120,slow=75,SNR=27							
H11N1	WAKE ISLAND Hy	89.23	292	T	T	14 42 58.9	
baz=120,slow=75,SNR=73							
H11N2	WAKE ISLAND Hy	89.23	292	T	T	14 42 57.5	
baz=120,slow=75,SNR=33							
SCHQ	Schefferville	90.71	25	LR	LR	13 41 43.2	
comp=Z,52nm,18.4s,baz=318,slow=33							
KRVT	Keravat (AS076	91.44	265	LR	LR	13 37 27.3	
comp=Z,36nm,20.6s,baz=139,slow=30							
PMG	Port Moresby	93.44	258	LR	LR	13 37 01.3	
comp=Z,30nm,20.6s,baz=176,slow=30							
KTH	Kantishna Hill	94.39	344	P	P	13 04 28.9	-0.8
ILAR	Eielson Array	94.54	347	P	P	13 04 30.2	0.0
comp=Z,0.4nm,0.8s,baz=169,slow=6.2,SNR=4.4							
ILAR				LR	LR	13 40 35.1	
comp=Z,50nm,18.3s,baz=154,slow=31							
ILAR	Eielson Array	94.54	347	P	P	13 04 29.7	-0.5
ASAR	Alice Springs	97.36	239	LR	LR	13 44 18.0	
comp=Z,171nm,18.6s,baz=135,slow=33							
WRA	Warramunga Arr	99.02	242	LR	LR	13 45 28.7	
comp=Z,37nm,20.1s,baz=135,slow=33							
KLMR	Klimovskoe	141.38	20	*e*PKPdf	PKPdf	13 10 36.5	-4.2
KLMR				AMP		13 10 41.6	
comp=Z,9.0nm,1.4s							
SONM	Songino Array	141.89	315	PKhKP	PKPpre	13 10 37.2	
comp=Z,0.4nm,0.4s,baz=72,slow=4.7,SNR=4.1							
CMAR	Chiang Mai Arr	148.38	262	PKPbc	PKPdf	13 10 55.4	+1.3
comp=Z,1.3nm,0.7s,baz=81,slow=1.1,SNR=8.5							
ZALV	Zalesovo Beam	149.25	338	PKPbc	PKPbc	13 10 57.9	-0.7
comp=Z,3.2nm,0.7s,baz=31,slow=2.3,SNR=12							
BRTR	Keskin Array B	150.25	56	PKPbc	PKPbc	13 11 02.0	+0.2
comp=Z,3.3nm,0.9s,baz=183,slow=2.2,SNR=7.3							
MKAR	Makanchi Array	155.96	331	PKP	PKPdf	13 11 03.3	-1.3
comp=Z,0.6nm,0.9s,baz=207,slow=7.8,SNR=4.1							

*BJI **06** 13:16:04.0±0.0, 36°.50N×82°.50E, h9km, mB4.4/1, mb4.2/5, ML4.3/7, Ms3.9/4, Ms7 3.8/2*
*IDC **06** 13:16:04.4±0.7, 36°.56N×82°.46E, h0km, mb3.8/16, mb1 3.9/21, mb1mx3.9/48, mbtmp3.8/21, ML3.7/5, MS3.1/12, Ms1 3.1/12, ms1mx2.9/47, Error ellipse: s-maj=22.3km s-min=12.4km az=42.0*
*NNC **06** 13:16:08.5±2.4, 36°.85N×82°.63E, h2km±14km, mb4.7, mpv4.3, Error ellipse: s-maj=25.2km s-min=17.1km az=58.0*
ISC 06 13:16:06.7±0.7, 36°.66N±0°.07×82°.36E±0°.05, h10km, n35, σ2§00/40, mb3.7/16, MS3.2/8, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	5.79	301	Pg	Pg	13 17 56.0	-1.6
KSH				Sg	Sg	13 19 12.5	-0.1
KSH				smax	smax		
comp=N,420nm,0.8s							
KSH				smax	smax		
comp=E,390nm,0.7s							
PDGK	Podgornoye	7.01	343	⇑Pn	Pn	13 17 51.1	+1.4
14nm,0.5s							
PDGK				⇓Sn	Sn	13 19 11.8	+2.3
66nm,0.6s							
PDGK				⇓Lg	Lg	13 19 50.2	
144nm,1.0s							
TKM2	Tokmak 2	8.13	322	⇑Pn	Pn	13 18 07.5	+2.4
10nm,0.9s							
TKM2				⇑Pg	Pg	13 18 36.4	-6.1
23nm,1.1s							
TKM2				⇑Lg	Lg	13 20 26.1	
31nm,0.8s							
WMQ	Urumqi	8.23	28	*e*P	Pn	13 18 07.2	+1.0
WMQ				S	Sn	13 19 40.7	+1.4
WMQ				smax	smax		
comp=N,19nm,0.7s							
WMQ				smax	smax		
comp=E,17nm,0.9s							
AAK	Ala-Archa	8.51	317	Pn	Pn	13 18 11.3	+1.2
0.4nm,0.3s,baz=203,slow=15,SNR=1.6							
AAK				Pg	Pg	13 18 38.3	-11
0.4nm,0.3s,baz=160,slow=8.2,SNR=4.4							
AAK				Sn	Sn	13 19 51.3	+5.0
0.7nm,0.3s,baz=84,slow=10,SNR=1.5							
AAK				Lg	Lg	13 20 33.4	
1.2nm,0.3s,baz=180,slow=8.1,SNR=2.9							
AAK				LR	LR	13 21 59.7	
comp=Z,173nm,19.7s,baz=96,slow=41							
AAK	Ala-Archa	8.51	317	Pg	Pg	13 18 42.7	-6.9
16nm,1.1s							
AAK				⇑Lg	Lg	13 20 39.2	
56nm,0.9s							
MK31	Makanchi Array	10.12	360	⇓Pn	Pn	13 18 32.3	+0.1
4.8nm,0.4s,baz=183,slow=12,SNR=181							
MK31				⇓Sn	Sn	13 20 25.0	-0.7
7.7nm,0.6s,baz=185,slow=23,SNR=7.5							
MKAR	Makanchi Array	10.12	360	Pn	Pn	13 18 32.5	+0.4
5.2nm,0.3s,baz=182,slow=12,SNR=113							
MKAR				Sn	Sn	13 20 21.8	-3.9
1.1nm,0.3s,baz=176,slow=21,SNR=2.7							
MKAR				Lg	Lg	13 21 32.2	
baz=171,slow=28,SNR=1.2							
MKAR				LR	LR	13 23 17.0	
comp=Z,77nm,21.5s,baz=179,slow=42							
MAKZ	Makanchi	10.14	358	⇑Pn	Pn	13 18 32.9	+0.5
21nm,1.0s							
MAKZ				⇓Sn	Sn	13 20 25.0	-1.2
35nm,1.1s							
GTA	Gaotai	14.03	73	*e*P	Pn	13 19 27.5	+1.9
GTA				pP	P	13 19 32.3	-1.3
GTA				sP		13 19 34.8	
GTA				pmax	pmax		
comp=Z,2.0nm,0.9s							
KURBB	Kurchatov Arra	14.23	350	Pn	Pn	13 19 26.4	-1.7
0.1nm,0.3s,baz=173,slow=12,SNR=12							
KURBB				Sn	Sn	13 22 02.5	-3.5
0.1nm,0.3s,baz=178,slow=28,SNR=1.7							
KURBB				Lg	Lg	13 23 50.4	
0.1nm,0.3s,baz=180,slow=28,SNR=1.6							
ZALV	Zalesovo Beam	17.37	5	P	Pn	13 20 06.5	-2.6
0.6nm,0.3s,baz=192,slow=12,SNR=22							
ZALV				LR	LR	13 27 37.6	
comp=Z,41nm,21.2s,slow=40							
BVAR	Borovoye Array	18.39	337	P	Pn	13 20 22.2	+0.5
0.5nm,0.3s,baz=134,slow=11,SNR=42							
GEYT	Alibeck	19.32	281	P	Pn	13 20 33.3	+0.2
0.3nm,0.3s,baz=87,slow=11,SNR=6.2							
GEYT				LR	LR	13 29 36.9	
comp=Z,56nm,19.1s,baz=5.0,slow=42							
SONM	Songino Array	20.91	50	P	P	13 20 49.9	+0.4
6.8nm,0.8s,baz=241,slow=11,SNR=27							
TLY	Talaya	21.30	38	LR	LR	13 29 44.5	
comp=Z,19nm,22.0s,baz=265,slow=38							
XAN	Xi'an	21.80	89	P	P	13 21 05.1	+6.1
XAN				pP	sP	13 21 11.3	+6.9
XAN				pmax	pmax		
comp=Z,5.0nm,1.1s							
AKTO	Aktyubinsk	22.25	316	P	P	13 21 03.5	-0.1
comp=Z,2.1nm,0.8s,baz=113,slow=8.9,SNR=6.7							
AKTO				LR	LR	13 30 31.6	
comp=Z,44nm,21.7s,baz=114,slow=39							
CMAR	Chiang Mai Arr	23.28	137	P	P	13 21 13.1	-1.6
comp=Z,3.1nm,0.8s,baz=318,slow=9.7,SNR=14							
ARU	Arti	25.44	329	P	P	13 21 34.7	+0.3
comp=Z,0.6nm,0.3s,baz=174,slow=11,SNR=3.9							
ARU				LR	LR	13 32 25.6	
comp=Z,56nm,19.0s,baz=161,slow=38							
KSRS	Korea Array	36.09	75	P	P	13 23 06.4	-2.3
comp=Z,0.3nm,0.6s,baz=284,slow=8.9,SNR=2.2							
BRTR	Keskin Array B	38.04	290	P	P	13 23 26.1	+0.6
comp=Z,1.0nm,0.8s,baz=93,slow=6.8,SNR=4.2							
BRTR				LR	LR	13 40 24.9	
comp=Z,21nm,18.3s,baz=358,slow=38							
AKASG	Malin Array Be	40.04	308	P	P	13 23 42.2	+0.4
comp=Z,0.9nm,0.5s,baz=72,slow=7.9,SNR=2.3							
AKASG				LR	LR	13 44 10.3	
comp=Z,49nm,18.3s,baz=110,slow=42							
FINES	FINESS Array B	42.62	324	P	P	13 24 03.2	+0.3
comp=Z,0.9nm,0.6s,baz=85,slow=8.4,SNR=4.6							
FINES				LR	LR	13 42 40.6	
comp=Z,36nm,18.3s,baz=145,slow=37							
KOLS	Kolonicke sedl	44.66	306	*e*P	P	13 24 18.3	-1.2
ARCES	ARCESS Array B	44.67	335	P	P	13 24 20.6	+1.3
comp=Z,1.1nm,0.7s,baz=72,slow=4.0,SNR=4.1							
NB2	NORSAR Subarra	49.77	323	P	P	13 24 58.5	-0.7
comp=Z,0.5nm,0.6s,baz=86,slow=7.9							
NOA	NORSAR Array B	49.77	323	P	P	13 24 59.3	+0.1
comp=Z,0.7nm,0.6s,baz=86,slow=7.5,SNR=5.9							
NOA				LR	LR	13 46 54.4	
comp=Z,28nm,19.8s,baz=285,slow=37							
GERES	GERESS Array B	50.24	307	P	P	13 25 03.4	+0.4
comp=Z,1.2nm,0.6s,baz=74,slow=9.9,SNR=12							
SIJI	Sorong	58.70	118	LR	LR	13 51 38.1	
comp=Z,33nm,21.3s,baz=104,slow=36							
ESDC	Sonseca Array	65.30	302	P	P	13 26 49.1	+0.1
comp=Z,0.4nm,0.7s,baz=49,slow=6.4,SNR=5.4							
ILAR	Eielson Array	71.81	20	P	P	13 27 28.1	-1.1
comp=Z,0.3nm,0.7s,baz=305,slow=6.3,SNR=2.8							
WRA	Warramunga Arr	74.67	130	P	P	13 27 44.9	-1.7
comp=Z,1.4nm,0.7s,baz=324,slow=5.9,SNR=16							
TORD	Torodi Ar. Bea	74.85	275	P	P	13 27 46.1	-1.7
comp=Z,0.8nm,0.8s,baz=46,slow=6.2,SNR=2.2							
ASAR	Alice Springs	77.22	133	P	P	13 27 59.8	-1.3
comp=Z,1.1nm,0.8s,baz=313,slow=5.8,SNR=11							

TAP 06 13:48:56.0, 23°.92N×121°.65E, h11km±1km, ML0.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.07	326	*i* P	Pg	13 48 58.2	-0.2
HWA				*e*S	Sg	13 49 00.8	+0.7
baz=330							
ESL	Shilin	0.22	241	*i* P	Pg	13 49 00.6	-0.1
ESL				S	Sg	13 49 03.8	-0.1
baz=239							
NACB	Ninganchiao	0.26	349	*e*S	Sg	13 49 04.0	-1.0
baz=349							
ETLH	Xiulin Townshi	0.32	332	*e*P	Pg	13 49 02.1	-0.5
baz=332							
ETLH				*e*S	Sg	13 49 06.3	-0.7
baz=332							
WHF	Hehuan Shan	0.41	303	*e*P	Pg	13 49 03.9	-0.5
baz=302							
WHF				*e*S	Sg	13 49 09.8	-0.2
baz=302							
FUSS	Fushou	0.49	312	*e*P	Pg	13 49 06.0	+0.2
baz=311							
VWDT	VWDT	0.49	250	*e*P	Pg	13 49 06.0	+0.3
baz=250							
VWDT				*e*S	Sg	13 49 13.0	+0.8
baz=250							
TDCB	Techi	0.56	307	*e*P	Pg	13 49 07.1	+0.2
baz=306							
TDCB				*e*S	Sg	13 49 14.9	+0.6
baz=306							

*IDC **06** 13:48:54.2±1.3, 17°.89N×120°.30E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/41, mbtmp3.4/4, Error ellipse: s-maj=64.7km s-min=23.1km az=76.0*
*MAN **06** 13:49:01.2, 18°.24N×120°.46E, h26km, mb4.7, ML3.5, MS3.4*
ISC 06 13:49:01.6±1.1, 18°.19N±0°.05×120°.41E±0°.08, h60km±9km, n13, σ1§79/20, mb3.3/3, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.27	169⇑	*e*P	Pn	13 49 12.6	+1.2
SIPP				*e*S	Sn	13 49 17.7	-0.8
APYP	Conner	0.86	112	*e*P	Pn	13 49 17.0	-0.8
APYP				*e*S	Sn	13 49 28.6	-1.1
CVP	Callao Caves	1.43	109	*i*/P	Pn	13 49 25.4	+0.1
CVP				*i* S	Sn	13 49 42.8	-0.4
BCP	Baguio City	1.77	174⇑	*i*P	Pn	13 49 32.1	+2.0
BCP				*i* S	Sn	13 49 49.2	-2.4
CAUP	Cauayan	1.83	132	*e*P	Pn	13 49 31.9	+1.2
CAUP				*e*S	Sn	13 49 56.2	+3.4
SMPP	San Manuel, Pa	2.04	173	*e*P	Pn	13 49 33.1	-0.6
SMPP				*e*S	Sn	13 49 55.6	-2.4
BALP	Baler	2.67	155	*e*P	Pn	13 49 43.3	+1.0
BALP				*e*S	Sn	13 50 16.0	+2.4
BBP	Basco	2.68	33	*e*P	Pn	13 49 42.2	-0.2
BBP				*e*S	Sn	13 50 14.5	+0.8
LQP	Lukban	4.19	165⇑	*e*P	Pn	13 50 04.6	+1.3
KSRS	Korea Array	20.30	17	P	Pn	13 53 34.8	-0.2
1.4nm,0.6s,baz=200,slow=11,SNR=12							
WRA	Warramunga Arr	40.28	159	P	P	13 56 31.3	-1.8
0.4nm,0.8s,baz=340,slow=9.1,SNR=6.8							
MKAR	Makanchi Array	42.33	321	P	P	13 56 51.2	+1.5
0.3nm,0.7s,baz=102,slow=6.5,SNR=3.6							
ASAR	Alice Springs	43.63	162	P	P	13 56 58.5	-1.9
0.5nm,0.7s,baz=340,slow=6.8,SNR=14							

*NEIC **06** 13:49:13.9±3.0, 55°.2S±0°.1×27°.8W±0°.1, h10km±2km, mb4.1/7, Error ellipse: s-maj=24.3km s-min=11.6km az=167.0*
*IDC **06** 13:49:13.2±1.1, 55°.24S×27°.64W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/18, mbtmp3.8/3, MS3.6/4, Ms1 3.6/4, ms1mx3.2/22, Error ellipse: s-maj=50.7km s-min=33.2km az=82.0*
ISC 06 13:49:14.2±0.9, 55°.2S±0°.1×27°.6W±0°.1, h10km, n17, σ1§07/12, mb4.0/3, MS3.7/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.21	276	Pn	Pn	13 50 31.0	-1.1
SNAA	Sanae	19.64	157	P	P	13 53 42.1	-0.5
PMSA	Palmer Station	20.29	227	Pn	P	13 53 51.4	+1.7
PMSA				IAmb	IAmb	13 54 04.2	
comp=Z,11nm,0.9s							
BELA	Belgrano 2	22.92	184	P	P	13 54 16.2	-1.6
QSPA	South Pole Qui	35.07	180	P	P	13 56 07.6	+0.5
BOSA	Boshof	46.01	77	LR	LR	14 13 22.4	
comp=Z,76nm,21.0s,baz=192,slow=32							
VNDA	Vanda	47.43	183	P	P	13 57 48.2	+0.1
comp=Z,1.0nm,0.7s,baz=188,slow=5.1,SNR=8.3							
VNDA	Vanda	47.43	183	P	P	13 57 48.6	+0.5
VNDA				IAmb	IAmb	13 58 01.4	
comp=Z,1.2nm,0.8s							
LPAZ	La Paz	49.67	305	P	P	13 58 07.3	+0.5
comp=Z,0.9nm,0.7s,baz=137,slow=4.9,SNR=3.8							
LPAZ	La Paz	49.67	305	P	P	13 58 02.3	-4.5
LPAZ				IAmb	IAmb	13 58 20.8	
comp=Z,2.1nm,0.9s							
MDP	Montagnes des	63.56	332	LR	LR	14 27 09.7	
comp=Z,56nm,18.9s,baz=116,slow=36							
DBIC	Dimbokro	64.48	25	LR	LR	14 21 58.0	
comp=Z,26nm,19.8s,baz=125,slow=30							
TORD	Torodi Ar. Bea	72.43	30	P	P	14 00 41.5	+1.0
comp=Z,0.3nm,0.3s,baz=196,slow=6.2,SNR=2.1							
TORD	Torodi Ar. Bea	72.43	30	P	P	14 00 39.4	-1.1
KMBO	Kilima Mbogo	74.97	70	LR	LR	14 32 00.5	
comp=Z,65nm,18.8s,baz=94,slow=34							
ILAR	Eielson Array	149.35	313	PKPbc	PKPbc	14 09 02.1	+0.4
comp=Z,2.0nm,0.9s,baz=130,slow=1.9,SNR=17							
SONM	Songino Array	150.91	85	PKPbc	PKiKP	14 09 06.4	-0.4
comp=Z,0.9nm,0.8s,baz=210,slow=2.8,SNR=3.2							

*JMA **06** 14:24:35.5±0.3, 31°.30N×138°.77E, h417km, M3.6*
*IDC **06** 14:24:36.1±0.7, 31°.17N×138°.58E, h382km±8km, mb3.3/11, mb1 3.3/18, mb1mx3.0/62, mbtmp3.9/18, Error ellipse: s-maj=21.8km s-min=9.4km az=74.0*
ISC 06 14:24:37.0±0.6, 31°.25N±0°.06×138°.78E±0°.08, h400km, n37, σ1§92/45, mb3.6/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.47	34	P	Pn	14 25 30.4	+0.5
JAOM				S	S	14 26 13.5	+0.7
JHCJ	Hachijojimakas	2.01	25	P	Pn	14 25 33.2	+0.3
JHCJ				S	S	14 26 18.0	-0.2
JHJ	Hachijo jima 2	2.05	24	P	Pn	14 25 33.0	-0.1
64nm,0.3s,baz=270,slow=20,SNR=13							
JHJ				S	S	14 26 16.4	-2.2
27nm,0.3s,baz=252,slow=20,SNR=1.8							
JHJ2	Mitsune	2.05	25	P	Pn	14 25 33.4	+0.3
TK02	Tokai 2	2.82	342	P	Pn	14 25 39.2	+0.8
TTO2	TONANKAI O.B.S	2.89	330	P	Pn	14 25 39.3	+0.5
TTO1	TONANKAI O.B.S	2.91	325	P	Pn	14 25 39.2	+0.2
HMMJ	Hamamatsu 2	3.70	346	P	Pn	14 25 46.6	+0.4
JTNC	Tanabenakahech	3.71	315	P	Pn	14 25 45.3	-0.9
BSO3	Boso 3	3.83	22	S	S	14 26 43.0	-0.9
BSO1	Boso 1	3.86	28	S	S	14 26 43.5	-0.5
BSO4	Boso 4	3.95	19	S	S	14 26 45.4	-0.9
JAO	Obara	4.20	343	P	Pn	14 25 51.5	+0.6
JHU	Hanno	4.61	5	P	Pn	14 25 54.1	-0.8
JHU				S	S	14 26 53.1	-5.1
JRY	Ryogami san	4.75	1	P	Pn	14 25 56.3	-0.1
CBIJ	Chichi jima	5.10	143	S	S	14 27 02.5	-5.1
JCJ	Chichijima	5.10	143	P	Pn	14 25 57.2	-2.9
6.9nm,0.3s,baz=10,slow=17,SNR=13							
JCJ				S	S	14 27 01.2	-6.4
62nm,0.3s,baz=324,slow=23,SNR=18							
JAG	Ashikaga	5.19	6	P	Pn	14 25 59.9	-0.9
MJAR	Matsushiro Arr	5.30	355	P	Pn	14 26 00.8	-1.2
0.1nm,0.3s,baz=175,slow=11,SNR=4.2							
JHO	Hitachi	5.55	15	P	Pn	14 26 03.9	-0.7
JHO				S	S	14 27 11.0	-5.0
JNU	Nakatsue	6.95	288	P	Pn	14 26 18.6	-1.5
0.6nm,0.3s,baz=68,slow=7.5,SNR=9.6							
KSRS	Korea Array	10.90	308	P	P	14 27 03.4	-0.9
0.2nm,0.3s,baz=121,slow=11,SNR=11							
USRK	Uesurisk Ar.	13.99	339	P	P	14 27 38.6	+0.3
baz=150,slow=9.3,SNR=4.5							
KLR	Kul'dur	18.73	346	P	P	14 28 29.6	+0.6
0.1nm,0.3s,baz=149,slow=18,SNR=2.0							
ZALV	Zalesovo Beam	44.42	317	PcP	PcP	14 33 45.9	+0.5
1.0nm,0.6s,baz=103,slow=3.2,SNR=4.4							
MKAR	Makanchi Array	45.58	307	P	P	14 32 17.7	-1.2
0.4nm,0.5s,baz=82,slow=8.7,SNR=4.7							
KURBB	Kurchatov Arra	48.04	312	P	P	14 32 37.0	-0.6
0.4nm,0.5s,baz=91,slow=6.7,SNR=8.4							
FITZ	Fitzroy Crossi	50.66	196	P	P	14 32 57.2	-0.4
2.3nm,0.7s,baz=358,slow=8.6,SNR=11							
WRA	Warramunga Arr	51.08	185	P	P	14 33 00.4	-0.2
2.4nm,0.8s,baz=15,slow=7.0,SNR=78							
WRA				PcP	PcP	14 34 10.5	+0.6
0.3nm,0.5s,baz=357,slow=3.9,SNR=2.1							
BVAR	Borovoye Array	52.99	315	P	P	14 33 14.4	+0.2
1.2nm,0.5s,baz=96,slow=7.2,SNR=11							
BVAR				PcP	PcP	14 34 17.4	+0.6
0.5nm,0.6s,baz=127,slow=3.9,SNR=3.8							
ASAR	Alice Springs	54.80	185	P	P	14 33 27.5	+0.1
1.1nm,0.4s,baz=22,slow=11,SNR=88							
STKA	Stephens Creek	62.84	177	P	P	14 34 22.6	+0.7
0.8nm,0.3s,baz=359,slow=10.0,SNR=4.4							
ARCES	ARCESS Array B	68.64	340	P	P	14 34 59.0	+1.1
1.9nm,1.0s,baz=66,slow=9.6,SNR=7.7							
FINES	FINESS Array B	72.91	332	P	P	14 35 24.4	+1.0
1.3nm,0.4s,baz=70,slow=5.9,SNR=22							
AKASG	Malin Array Be	77.52	322	P	P	14 35 50.0	+0.4
0.7nm,0.3s,baz=52,slow=5.4,SNR=1.5							
TXAR	Lajitas Array	95.41	51	P	P	14 37 19.2	+1.7
0.1nm,0.6s,baz=298,slow=1.9,SNR=1.9							
LPAZ	La Paz	151.32	65	PKPbc	PKiKP	14 43 47.3	+1.6
0.8nm,0.5s,baz=293,slow=3.2,SNR=4.0							

*KRNET **06** 14:28:47.2±0.1, 42°.93N×78°.13E, h20km, mb2.4*
*NNC **06** 14:28:47.2±0.7, 42°.95N×78°.17E, h1km±4km, mb2.5, mpv2.5, Error ellipse: s-maj=8.1km s-min=2.9km az=177.0*
*SOME **06** 14:28:47.4, 42°.95N×78°.10E, h10km*
ISC 06 14:28:48.0±0.8, 42°.91N±0°.03×78°.11E±0°.02, h10km, n37, σ1§73/72, 13C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	0.27	55	*e*P	Pg	14 28 52.5	-0.9
3.5nm,0.1s							
SATY				*e*S	Sg	14 28 56.4	-0.7
53nm,0.1s							
SATY	Saty	0.27	55	P	Pg	14 28 52.5	-0.9
3.5nm,0.1s							
SATY				S	Sg	14 28 56.4	-0.7
53nm,0.1s							
ANVS	Anan'yevo	0.35	249⇑	*i*P	Pb	14 28 54.8	-1.6
baz=48							
ANVS			⇑	*i*S	Sb	14 29 00.4	-1.6
baz=48							
PRZ	Przheval'sk	0.47	153⇑	*i*P	Pb	14 28 57.6	-1.0
baz=55							
PRZ			⇑	*i*S	Sb	14 29 04.0	-1.7
baz=55							
KPKS	Kokpek	0.70	37	*e*P	Pg	14 29 00.3	-1.3
baz=37							
KPKS				*e*S	Sg	14 29 09.6	-1.1
baz=37							
KPKS	Kokpek	0.70	37	*e*P	Pg	14 29 00.3	-1.3
3.1nm,0.1s							
KPKS				*e*S	Sg	14 29 09.6	-1.1
25nm,0.2s							
UZB	Uzynbulak	0.71	70	*e*P	Pg	14 29 00.1	-1.7
baz=71							
UZB				*e*S	Sg	14 29 09.3	-1.8
baz=71							
UZB	Uzynbulak	0.71	70	*e*P	Pg	14 29 00.1	-1.7
4.7nm,0.1s							
UZB				*e*S	Sg	14 29 09.3	-1.8
20nm,0.1s							
UZB	Uzynbulak	0.71	70	P	Pg	14 29 00.1	-1.7
4.7nm,0.1s							
UZB				S	Sg	14 29 09.3	-1.8
20nm,0.1s							
KOTS

	1.0nm,0.3s							
KTBS				*e*S		**Sb**	**14 29 29.2**	**-0.6**
	6.6nm,0.7s							
KTBS	**Karatobe**	**1.31**	**308**	P		**Pn**	**14 29 11.7**	**-0.8**
	1.0nm,0.3s							
KTBS				S		**Sb**	**14 29 29.2**	**-0.6**
	6.6nm,0.7s							
ARXS	**Arharly**	**1.32**	**351**	*e*P		**Pn**	**14 29 11.8**	**-0.8**
	3.5nm,0.3s							
ARXS				*e*S		**Sb**	**14 29 29.3**	**-0.7**
	8.5nm,0.2s							
ARXS	**Arharly**	**1.32**	**351**	P		**Pn**	**14 29 11.8**	**-0.8**
	3.5nm,0.3s							
ARXS				S		**Sb**	**14 29 29.3**	**-0.7**
	8.5nm,0.2s							
ULHL	**Ulahol**	**1.53**	**245**	⇑*i*P		**Pb**	**14 29 15.6**	**-1.0**
	baz=45							
ULHL				⇑*i*S		**Sg**	**14 29 36.1**	**-1.1**
	baz=45							
KST	**Kastek**	**1.58**	**276**	*e*P		**Pb**	**14 29 17.0**	**-0.4**
	1.7nm,0.3s							
KST				*e*S		**Sg**	**14 29 38.2**	**-0.6**
	4.9nm,0.6s							
KST	**Kastek**	**1.58**	**276**	P		**Pb**	**14 29 17.0**	**-0.4**
	1.7nm,0.3s							
KST				S		**Sg**	**14 29 38.2**	**-0.6**
	4.9nm,0.6s							
KUU	**Kurty**	**1.62**	**308**	*e*P		**Pb**	**14 29 17.0**	**-1.1**
	baz=7.0							
KUU				*e*S		**Sb**	**14 29 38.3**	**-0.3**
	baz=7.0							
KUU	**Kurty**	**1.62**	**308**	*e*P		**Pb**	**14 29 17.0**	**-1.1**
	0.9nm,0.2s							
KUU				*e*S		**Sb**	**14 29 38.3**	**-0.3**
	12nm,0.4s							
KUU	**Kurty**	**1.62**	**308**	P		**Pb**	**14 29 17.0**	**-1.1**
	0.9nm,0.2s							
KUU				S		**Sb**	**14 29 38.3**	**-0.3**
	12nm,0.4s							
BOOM	**Boomskoye usch**	**1.65**	**256**	⇑*i*P		**Pb**	**14 29 17.8**	**-0.8**
	baz=56							
BOOM				⇑*i*S		**Sb**	**14 29 39.6**	**0.0**
	baz=56							
TKM2	**Tokmak 2**	**1.84**	**271**	⇓Pn		**Pg**	**14 29 22.4**	**-1.0**
	3.5nm,0.7s							
TKM2				⇑Sn		**Sg**	**14 29 47.7**	**+0.4**
	1.3nm,0.3s							
DJR	**Jarkent**	**1.88**	**40**	*e*P		**Pb**	**14 29 21.0**	**-1.4**
	2.9nm,0.3s							
DJR				*e*S		**Sb**	**14 29 45.1**	**-0.8**
	4.8nm,0.3s							
DJR	**Jarkent**	**1.88**	**40**	P		**Pb**	**14 29 21.0**	**-1.4**
	2.9nm,0.3s							
DJR				S		**Sb**	**14 29 45.1**	**-0.8**
	4.8nm,0.3s							
KAPS	**Kapalarasan**	**2.54**	**20**	*e*P		**Pb**	**14 29 33.2**	**-0.5**
	0.3nm,0.3s							
KAPS				*e*S		**Sb**	**14 30 06.0**	**+1.0**
	1.0nm,0.1s							
KAPS	**Kapalarasan**	**2.54**	**20**	Pg		**Pb**	**14 29 33.2**	**-0.5**
	0.3nm,0.3s							
KAPS				Lg		Lg	14 30 06.0	
	1.0nm,0.1s							

*IDC **06** 14:30:22.6±1.4, 36°.03N×21°.84E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.3/51, mbtmp3.6/7, Error ellipse: s-maj=45.3km s-min=23.9km az=152.0*
*ATH **06** 14:30:26.3, 36°.02N×21°.61E, h25km±2km, ML3.1/11, Error ellipse: s-maj=3.9km s-min=1.4km az=249.0*
*THE **06** 14:30:26.4, 36°.00N×21°.64E, h0km±1km, ML3.0/9, Error ellipse: s-maj=2.4km s-min=0.9km az=230.0*

ISC 06 14:30:25.7±1.5, 35°.97N±0°.04×21°.61E±0°.05, h16km±9km, n42, σ1°.20/55, mb3.7/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.93**	**7**	P	**Pg**	**14 30 42.9**	**-0.8**
PYL				S	**Sb**	**14 30 56.9**	**+1.5**
	420nm,0.3s						
PYL	**PYLOS**	**0.93**	**7**	P	**Pg**	**14 30 42.9**	**-0.8**
PYL				S	**Sb**	**14 30 55.9**	**+0.4**
KTHA	**Kythira Island**	**1.21**	**76**	P	**Pg**	**14 30 49.1**	**0.0**
KTHA				S	**Sn**	**14 31 05.0**	**+0.9**
	935nm,0.6s						
KTHA	**Kythira Island**	**1.21**	**76**	P	**Pg**	**14 30 49.9**	**+0.7**
KTHA				AML	AML	14 31 14.7	
	comp=E,1977μm,0.5s						
KTHA				AML	AML	14 31 16.9	
	comp=N,1450μm,0.6s						
ITM	**Ithomi**	**1.23**	**12**	P	**Pb**	**14 30 48.4**	**-0.2**
ITM				S	**Sn**	**14 31 06.7**	**+2.2**
	comp=N,545nm,0.3s						
ITM	**Ithomi**	**1.23**	**12**	P	**Pb**	**14 30 48.5**	**-0.1**
ITM				S	**Sn**	**14 31 05.6**	**+1.1**
ITM				AML	AML	14 31 15.2	
	comp=E,1192μm,0.3s						
ITM				AML	AML	14 31 16.0	
	comp=N,930μm,0.5s						
VLI	**Veliai**	**1.31**	**55**	P	**Pn**	**14 30 49.9**	**+0.7**
VLI				S	**Sn**	**14 31 09.0**	**+2.6**
	comp=N,840nm,0.8s						
VLI	**Veliai**	**1.31**	**55**	P	**Pn**	**14 30 49.9**	**+0.7**
VLI				S	**Sn**	**14 31 07.7**	**+1.3**
VLI				AML	AML	14 31 17.2	
	comp=N,1189μm,0.5s						
VLI				AML	AML	14 31 20.5	
	comp=E,2363μm,1.0s						
ANKY	**Antikythira Is**	**1.38**	**94**	P	**Pg**	**14 30 52.3**	**0.0**
ANKY	**Antikythira Is**	**1.38**	**94**	P	**Pg**	**14 30 52.3**	**0.0**
ANKY				AML	AML	14 31 24.9	
	comp=N,1264μm,0.7s						
ANKY				AML	AML	14 31 26.7	
	comp=E,1109μm,0.5s						
VLX	**Vlachokerasia**	**1.53**	**24**	P	**Pb**	**14 30 53.8**	**+0.1**
VLX				S	**Sg**	**14 31 15.0**	**0.0**
	comp=E,790nm,0.6s						
VLX	**Vlachokerasia**	**1.53**	**24**	P	**Pn**	**14 30 53.5**	**+1.1**
VLX				S	**Sb**	**14 31 13.3**	**+0.5**
VLX				AML	AML	14 31 21.1	
	comp=E,1309μm,0.7s						
VLX				AML	AML	14 31 21.1	
	comp=N,1736μm,0.5s						
AMT	**Artemida-Makis**	**1.56**	**3**	P	**Pn**	**14 30 53.4**	**+0.6**
AMT				S	**Sg**	**14 31 16.4**	**+0.4**
	comp=N,745nm,0.5s						
AMT	**Artemida-Makis**	**1.56**	**3**	P	**Pb**	**14 30 54.4**	**+0.2**
AMT				AML	AML	14 31 28.6	
	comp=E,1396μm,0.5s						
AMT				AML	AML	14 31 35.9	
	comp=N,1458μm,0.5s						
TRIP	**Tripoli**	**1.64**	**19**	P	**Pn**	**14 30 54.8**	**+0.9**
TRIP				S	**Sg**	**14 31 17.9**	**-0.7**
	comp=N,308nm,0.8s						
TRIP	**Tripoli**	**1.64**	**19**	P	**Pn**	**14 30 55.0**	**+1.1**
TRIP				AML	AML	14 31 30.0	
	comp=N,704μm,0.9s						
TRIP				AML	AML	14 31 31.9	
	comp=E,529μm,0.6s						
RODP	**Rodopos**	**1.80**	**103**	P	**Pb**	**14 30 58.2**	**0.0**
KNDR	**Palaiochora Ch**	**1.85**	**113**	P	**Pn**	**14 30 58.0**	**+1.3**
KNDR				S	**Sb**	**14 31 22.2**	**+0.2**
	comp=E,138nm,0.6s						
DRO	**Drossia**	**1.98**	**2**	P	**Pn**	**14 30 59.1**	**+0.6**
DRO	**Drossia**	**1.98**	**2**	P	**Pn**	**14 30 60.0**	**+1.5**
DRO				AML	AML	14 31 44.1	
	comp=E,564μm,0.5s						
DRO				AML	AML	14 31 48.8	
	comp=N,656μm,0.8s						
IMMV	**Iera Moni Meta**	**2.00**	**104**	P	**Pn**	**14 31 00.4**	**+1.6**
IMMV	**Iera Moni Meta**	**2.00**	**104**	P	**Pn**	**14 31 00.4**	**+1.6**
DID	**Didima**	**2.01**	**40**	P	**Pn**	**14 30 59.8**	**+0.8**
DID				S	**Sn**	**14 31 24.9**	**+1.0**
	comp=N,242nm,0.6s						
DID	**Didima**	**2.01**	**40**	P	**Pn**	**14 31 00.1**	**+1.0**
DID				AML	AML	14 31 38.7	
	comp=E,492μm,0.4s						
DID				AML	AML	14 31 41.0	
	comp=N,507μm,0.7s						
GUR	**Goura**	**2.05**	**17**	P	**Pn**	**14 31 01.1**	**+1.6**
GUR	**Goura**	**2.05**	**17**	P	**Pn**	**14 31 00.8**	**+1.3**
GUR				AML	AML	14 31 42.8	
	comp=N,633μm,0.4s						
GUR				AML	AML	14 31 49.7	
	comp=E,516μm,0.8s						
KLV	**Kalavryta, Ach**	**2.11**	**12**	P	**Pn**	**14 31 02.0**	**+1.6**
KLV	**Kalavryta, Ach**	**2.11**	**12**	P	**Pn**	**14 31 01.6**	**+1.2**
KLV				AML	AML	14 31 45.6	
	comp=E,175μm,0.7s						
KLV				AML	AML	14 31 48.1	
	comp=N,190μm,1.1s						
LTK	**Loutraki**	**2.32**	**28**	P	**Pn**	**14 31 03.9**	**+0.7**
VLS	**Valsamata**	**2.34**	**340**	P	**Pn**	**14 31 04.8**	**+1.2**
MHLO	**Agia Marina, M**	**2.37**	**72**	P	**Pn**	**14 31 04.2**	**+0.3**
SERG	**Sergoula**	**2.46**	**8**	P	**Pn**	**14 31 06.5**	**+1.3**
SERI	**Serifos**	**2.60**	**62**	P	**Pn**	**14 31 07.0**	**-0.1**
ANX	**Ano Chora**	**2.63**	**5**	P	**Pn**	**14 31 09.8**	**+2.3**
DION	**Dionisos Attik**	**2.81**	**41**	P	**Pn**	**14 31 10.4**	**+0.5**
ESDC	**Sonseca Array**	**20.51**	**288**	P	**P**	**14 35 04.3**	**+1.2**
	comp=N,0.5nm,0.6s,baz=86,slow=9.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**28.94**	**223**	P	**P**	**14 36 25.2**	**+0.9**
	comp=N,0.7nm,0.8s,baz=33,slow=10,SNR=1.8						
ARCES	**ARCESS Array B**	**33.69**	**2**	P	**P**	**14 37 04.3**	**-1.2**
	comp=N,0.8nm,0.8s,baz=183,slow=7.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**42.88**	**52**	P	**P**	**14 38 21.3**	**-1.8**
	comp=N,0.2nm,0.4s,baz=288,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**45.75**	**57**	P	**P**	**14 38 44.4**	**-1.8**
	comp=N,0.6nm,0.4s,baz=270,slow=7.9,SNR=11						
ZALV	**Zalesovo Beam**	**46.54**	**47**	P	**P**	**14 38 49.7**	**-2.6**
	comp=N,0.8nm,0.4s,baz=273,slow=8.7,SNR=3.5						
KSRS	**Korea Array**	**80.05**	**51**	P	**P**	**14 42 33.0**	**-1.5**
	comp=N,0.5nm,0.6s,baz=319,slow=4.0,SNR=4.6						

*REY **06** 14:32:14.7, 64°.62N×17°.40W, h12km*
*IDC **06** 14:32:14.6±0.8, 64°.50N×17°.57W, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.5/52, mbtmp3.6/12, ML2.3/2, MS2.9/9, Ms1 2.9/9, ms1mx2.6/52, Error ellipse: s-maj=25.5km s-min=10.7km az=14.0*
*NEIC **06** 14:32:15.3±1.3, 64°.4N±0°.1×17°.8W±0°.2, h10km±1km, mb4.0/1, Error ellipse: s-maj=24.3km s-min=9.5km az=199.0*

ISC 06 14:32:14.6±1.1, 64°.62N±0°.02×17°.43W±0°.02, h4km±8km, n56, σ1°.28/55, mb3.7/11, MS2.9/5, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.14**	**146**	P	**Pg**	**14 32 17.7**	**+0.2**
	baz=149						
IVON	**Vonarskard**	**0.15**	**290**	P	**Pg**	**14 32 18.1**	**+0.5**
	baz=289						
IDYN	**Dyngjuhals**	**0.17**	**8**	P	**Pg**	**14 32 18.4**	**+0.4**
	baz=4.7						
IGRF	**Grimsfjall**	**0.23**	**162**	P	**Pg**	**14 32 19.1**	**+0.1**
	baz=165						
IURH	**Urdarhals**	**0.23**	**31**	P	**Pg**	**14 32 19.3**	**+0.2**
	baz=28						
IKVE	**Kverkfjoll**	**0.33**	**80**	P	**Pg**	**14 32 20.9**	**-0.1**
	baz=79						
IBJK	**Bruarjokull**	**0.33**	**118**	P	**Pg**	**14 32 20.8**	**-0.2**
	baz=118						
IBJK				S	**Sg**	**14 32 26.0**	**+0.7**
	baz=118						
IHUS	**Husbondi**	**0.34**	**197**	P	**Pg**	**14 32 21.5**	**+0.2**
	baz=199						
IHUS				S	**Sg**	**14 32 26.9**	**+1.1**
	baz=199						
IVOT	**Vottur**	**0.37**	**163**	S	**Sg**	**14 32 27.6**	**+1.1**
	baz=165						
IVOT				P	**Pg**	**14 32 21.7**	**0.0**
	baz=165						
ISKR	**Skrokkalda**	**0.42**	**262**	P	**Pg**	**14 32 22.6**	**-0.1**
	baz=262						
IJOK	**Jokulheimar**	**0.47**	**229**	P	**Pg**	**14 32 23.3**	**-0.2**
	baz=230						
IJOK				S	**Sg**	**14 32 30.8**	**+1.2**
	baz=230						
IKRE	**Kreppuhraun**	**0.48**	**70**	P	**Pg**	**14 32 23.2**	**-0.6**
	baz=69						
IASK	**Askja**	**0.54**	**37**	P	**Pg**	**14 32 24.4**	**-0.7**
	baz=36						
IMKO	**Mokollar**	**0.59**	**52**	P	**Pg**	**14 32 25.2**	**-0.6**
	baz=51						
IIEY	**Innrieyrar**	**0.61**	**210**	P	**Pg**	**14 32 25.8**	**-0.5**
	baz=211						
IIEY				S	**Sg**	**14 32 34.7**	**+0.5**
	baz=211						
IKSK	**Karasker**	**0.62**	**138**	P	**Pg**	**14 32 25.3**	**-1.2**
	baz=139						
ISVA	**Svartarkot**	**0.72**	**6**	P	**Pg**	**14 32 27.4**	**-1.0**
	baz=4.8						
IVSH	**V-Sauoahnukur**	**0.75**	**75**	P	**Pg**	**14 32 27.8**	**-1.2**
	baz=75						
IVAT	**Vatnsfell**	**0.78**	**237**	P	**Pg**	**14 32 28.8**	**-0.8**
	baz=237						
IFAG	**Fagurholsmyri**	**0.82**	**156**	P	**Pg**	**14 32 29.2**	**-1.2**
	baz=156						
IADA	**Aoalbol**	**0.89**	**62**	P	**Pg**	**14 32 30.0**	**-1.6**
	baz=62						
IHVE	**Hveravellir**	**0.95**	**286**	P	**Pg**	**14 32 31.2**	**-1.6**
	baz=286						
IMEL	**Melhnausar**	**1.00**	**19**	P	**Pg**	**14 32 32.0**	**-1.8**
	baz=18						
ISNB	**Snabyli**	**1.04**	**211**	P	**Pb**	**14 32 32.9**	**-2.1**
	baz=212						
ISLY	**Slysaalda**	**1.09**	**223**	P	**Pb**	**14 32 33.8**	**-2.2**
	baz=224						
IKVO	**Krokottuvotn**	**1.12**	**12**	P	**Pb**	**14 32 34.0**	**-2.4**
	baz=11						
BORG	**Borgarnes**	**1.68**	**276**	Pg	**Pn**	**14 32 42.9**	**-1.7**
	41nm,0.3s,baz=96,slow=7.9,SNR=64						
BORG				Lg	Lg	14 33 06.9	
	8.5nm,0.3s,baz=78,slow=9.5,SNR=3.6						
BORG				LR	LR	14 33 14.8	
	comp=Z,36nm,21.4s,baz=107,slow=37						
BORG	**Borgarnes**	**1.68**	**276**		**Pn**	**14 32 43.4**	**-1.3**
SCO	**Scoresbysund**	**6.13**	**346**	*i* P	**Pn**	**14 33 48.4**	**+2.6**
SCO	**Scoresbysund**	**6.13**	**346**		**Pn**	**14 33 48.5**	**+2.7**
JMIC	**Jan Mayen**	**7.22**	**24**	LR	LR	14 36 08.9	
	comp=Z,50nm,19.8s,baz=246,slow=32						
EKA	**Eskdalemuir Ar**	**11.71**	**136**	Pn	**Pn**	**14 35 02.4**	**+0.3**
	baz=323,slow=13,SNR=24						
ESK	**Eskdalemuir**	**11.71**	**136**	Pn	**Pn**	**14 35 01.2**	**-0.9**
NOA	**NORSAR Array B**	**13.50**	**92**	Pn	**Pn**	**14 35 26.5**	**-0.1**
	0.0nm,0.3s,baz=299,slow=13,SNR=1.8						
NOA				LR	LR	14 40 16.7	
	comp=Z,16nm,21.8s,baz=80,slow=36						
SFJD	**Kangerlussuaq**	**13.71**	**295**	LR	LR	14 40 27.0	
	comp=Z,70nm,19.9s,baz=21,slow=36						
ILULI	**Ilulissat**	**13.85**	**304**	Pn	**Pn**	**14 35 30.9**	**-0.4**
HFS	**Hagfors**	**15.01**	**93**	Pn	**P**	**14 35 49.8**	**-3.0**
	0.1nm,0.3s,baz=294,slow=12,SNR=1.7						
HFS				LR	LR	14 41 01.8	
	comp=Z,42nm,18.2s,baz=196,slow=35						
FINES	**FINESS Array B**	**19.68**	**79**	P	**Pn**	**14 36 46.0**	**+0.5**
	0.0nm,0.3s,baz=305,slow=4.9,SNR=1.4						
CLL	**Collm**	**20.66**	**116**	*e*P	Pn	14 36 56.0	-1.2
BRG	**Berggiesshubel**	**21.36**	**115**	*e*(P)	**P**	**14 37 04.0**	**+1.4**
	5.9nm,1.3s						
KHC	**Kasperske Hory**	**22.63**	**118**	*e*P	**P**	**14 37 18.5**	**+2.4**
GERES	**GERESS Array B**	**22.91**	**119**	P	**P**	**14 37 19.2**	**0.0**
	1.2nm,1.0s,baz=327,slow=9.5,SNR=6.3						
GERES				LR	LR	14 47 06.5	
	comp=Z,27nm,19.6s,baz=322,slow=39						
GERES	**GERESS Array B**	**22.91**	**119**	P	**P**	**14 37 19.4**	**+0.2**
DAVOX	**Davos/Dischmat**	**23.27**	**127**	LR	LR	14 46 11.3	
	comp=Z,50nm,19.0s,baz=272,slow=36						
VRAC	**Vranov**	**23.65**	**114**	LR	LR	14 48 09.4	
	comp=Z,28nm,18.2s,baz=342,slow=40						
BNI	**Bardonecchia**	**23.75**	**134**	P	**P**	**14 37 27.6**	**-0.1**
BNI				IAmb	IAmb	14 37 30.8	
	comp=Z,5.9nm,1.3s						
ESDC	**Sonseca Array**	**26.20**	**156**	P	**P**	**14 37 50.5**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=347,slow=8.4,SNR=5.2						
ESDC				LR	LR	14 48 00.0	
	comp=Z,29nm,18.2s,baz=305,slow=36						
RES	**Resolute Bay**	**26.52**	**324**	LR	LR	14 48 43.6	
	comp=Z,56nm,19.9s,baz=195,slow=37						
BRTR	**Keskin Array B**	**38.44**	**105**	P	**P**	**14 39 37.7**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=325,slow=7.0,SNR=2.3						
BVAR	**Borovoye Array**	**43.19**	**49**	P	**P**	**14 40 17.7**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=316,slow=12,SNR=4.2						
ILAR	**Eielson Array**	**45.74**	**332**	P	**P**	**14 40 37.2**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=23,slow=7.2,SNR=4.5						
IMAR	**Indian Mountai**	**45.91**	**337**	P	**P**	**14 40 36.5**	**-1.1**
KURBB	**Kurchatov Arra**	**48.15**	**58**	P	**P**	**14 40 56.4**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=326,slow=7.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**53.09**	**156**	P	**P**	**14 41 32.0**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=342,slow=9.1,SNR=3.0						
PDAR	**Pinedale Array**	**53.22**	**293**	P	**P**	**14 41 34.8**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=62,slow=6.3,SNR=11						
TXAR	**Lajitas Array**	**62.32**	**280**	P	**P**	**14 42 39.1**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=29,slow=2.9,SNR=4.3						

JMA 06 14:33:44.7, 35°.98N×139°.05E, h9km±1km, M0.9, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.13**	**287**	P	Pg	14 33 47.7	+0.1
JRY				S	Sg	14 33 49.8	+0.2
JHU	**Hanno**	**0.23**	**124**	P	Pg	14 33 49.3	0.0
JHU				S	Sg	14 33 52.9	+0.5
JAG	**Ashikaga**	**0.55**	**36**	P	Pg	14 33 55.4	0.0
JYN	**Shimob**	**0.63**	**221**	P	Pg	14 33 57.0	0.0

*NEIC **06** 14:34:31.7±1.9, 37°.54N±0°.04×140°.7E±0°.1, h92km±8km, mb4.5/12, Error ellipse: s-maj=13.3km s-min=1.7km az=113.0*
*JMA **06** 14:34:33.6, 37°.55N×140°.60E, h99km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕ_s=285.00000°, δ15.00000°, λ16.00000°. NP2: ϕ_s=180.00000°, δ86.00000°, λ105.00000°. Principal axes: T Plg47.0000°, Azm105.0000°; N Plg15.0000°, Azm358.0000°; P Plg39.0000°, Azm256.0000°;*
JMA Felt II J1.
*NIED **06** 14:34:33.7, 37°.55N×140°.60E, h99km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.25; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.12; $M_{r\theta}$0.14; $M_{\theta\phi}$0.01; $M_{\phi r}$-1.43; Fault plane solution: $M_0$1.45000×10^{15} NP1: ϕ_s174.00000°, δ86.00000°, λ90.00000°. NP2: ϕ_s350.00000°, δ4.00000°, λ86.00000°.*
*IDC **06** 14:34:34.1±1.5, 37°.53N×140°.43E, h105km±12km, mb3.7/23, mb1 3.8/29, mb1mx3.7/72, mbtmp4.0/29, MS3.1/2, Ms1 3.1/2, ms1mx2.3/47 Error ellipse: s-maj=14.5km s-min=12.1km az=85.0*

ISC 06 14:34:33.3±0.6, 37°.56N±0°.04×140°.57E±0°.05, h103km±5km, n83, σ1°.13/98, mb4.1/29, 10C-6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.19**	**258**	⇑P	**Pn**	**14 34 47.7**	**-0.1**
JFT				S	**Sn**	**14 34 58.6**	**-0.1**
JMST	**Minamisoumatoc**	**0.30**	**56**	⇓P	**Pn**	**14 34 48.1**	**-0.1**
JMST				S	**Sn**	**14 34 58.8**	**-0.6**
JFK	**Kawauchi**	**0.31**	**128**	⇓P	**Pn**	**14 34 48.2**	**-0.1**
JFK				S	**Sn**	**14 34 59.3**	**-0.2**
JMM	**Marumori**	**0.36**	**30**	⇓P	**Pn**	**14 34 48.5**	**0.0**
JMM				S	**Sn**	**14 34 59.4**	**-0.5**
JFY	**Yanaizu**	**0.70**	**258**	⇑P	**Pn**	**14 34 51.2**	**+0.2**
JFY				S	**Sn**	**14 35 04.4**	**+0.1**
JYS	**Shiratake**	**0.77**	**329**	⇑P	**Pn**	**14 34 52.2**	**+0.5**
JYS				S	**Sn**	**14 35 06.2**	**+0.7**
JOU	**Okura**	**0.81**	**5**	⇓P	**Pn**	**14 34 52.5**	**+0.5**
JOU				*e*S	**Sn**	**14 35 07.2**	**+1.1**
JNS	**Sasagawa**	**1.03**	**285**	⇑P	**Pn**	**14 34 54.5**	**+0.3**
JNS				S	**Sn**	**14 35 10.0**	**0.0**
JIO	**Ouri**	**1.09**	**34**	⇓P	**Pn**	**14 34 54.8**	**0.0**
JIO				S	**Sn**	**14 35 10.2**	**-0.9**
JYA	**Atsumi**	**1.23**	**327**	⇑P	**Pn**	**14 34 57.1**	**+0.6**
JYA				S	**Sn**	**14 35 14.7**	**+0.6**
JHK	**Hiroka**	**1.27**	**256**	⇑P	**Pn**	**14 34 57.7**	**+0.7**
JHK				S	**Sn**	**14 35 15.6**	**+0.7**
JKT	**Katashina**	**1.32**	**234**	⇑P	**Pn**	**14 34 58.6**	**+1.0**
JYK	**Kaneyama**	**1.37**	**353**	⇑P	**Pn**	**14 34 58.8**	**+0.7**
JYK				S	**Sn**	**14 35 17.4**	**+0.5**
JAW	**Awa shima**	**1.38**	**311**	⇑P	**Pn**	**14 34 58.5**	**+0.3**
JAG	**Ashikaga**	**1.44**	**219**	⇑P	**Pn**	**14 34 59.7**	**+0.7**
JAG				*e*S	**Sn**	**14 35 18.8**	**+0.4**
JMK	**Ichinoseki**	**1.48**	**20**	⇓P	**Pn**	**14 34 59.8**	**+0.3**
JMK				*e*S	**Sn**	**14 35 19.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.14**	**242**	P	**Pn**	**14 35 09.1**	**+1.2**
	2.0nm,0.3s,baz=45,slow=11,SNR=174						
MJAR				S	**Sn**	**14 35 32.1**	**-2.1**
	2.9nm,0.3s,baz=66,slow=13,SNR=5.5						
MJAR	**Matsushiro Arr**	**2.14**	**242**		**Pn**	**14 35 08.2**	**+0.4**
MAJO	**Matsushiro**	**2.14**	**243**	Pn	**Pn**	**14 35 08.9**	**+1.0**
MAT	**Matsushiro**	**2.14**	**243**	P	**Pn**	**14 35 08.9**	**+1.1**
MAT				S	**Sn**	**14 35 32.3**	**-2.0**
INU	**Inuyama**	**3.61**	**233**	Pn	**Pn**	**14 35 28.4**	**+1.1**
JHJ	**Hachijo jima 2**	**4.47**	**188**	P	**Pn**	**14 35 38.1**	**-0.8**
	19nm,0.3s,baz=69,slow=22,SNR=15						
JHJ				S	**Sn**	**14 36 27.3**	**-2.6**
	51nm,0.3s,baz=112,slow=22,SNR=7.2						
ERM	**Erimo**	**4.88**	**23**	Pn	**Pn**	**14 35 42.9**	**-1.4**
ASAJ	**Asahikawa**	**6.73**	**13**	P	**Pn**	**14 36 07.3**	**-2.1**
	3.2nm,0.3s,baz=190,slow=16,SNR=40						
ASAJ				S	**Sn**	**14 37 20.9**	**-3.7**
	1.5nm,0.3s,baz=138,slow=14,SNR=1.7						
JKA	**Kamikawa-asahi**	**6.73**	**13**		**Pn**	**14 36 07.3**	**-2.1**
JKA					**Sn**	**14 37 20.9**	**-3.7**
JNU	**Nakatsue**	**9.07**	**244**	P	**Pn**	**14 36 40.0**	**-1.3**
	0.3nm,0.3s,baz=110,slow=9.6,SNR=5.4						
JNU				LR	LR	14 40 22.4	
	comp=Z,68nm,18.6s,baz=38,slow=39						
USRK	**Ussuriysk Ar.**	**9.28**	**318**	P	**Pn**	**14 36 45.5**	**+1.4**
	baz=125,slow=12,SNR=7.4						
USRK	**Ussuriysk Ar.**	**9.28**	**318**		**Pn**	**14 36 46.7**	**+2.6**
KSRS	**Korea Array**	**10.05**	**273**	P	**Pn**	**14 36 55.5**	**+0.9**
	0.4nm,0.3s,baz=89,slow=13,SNR=24						
KS19	**Wonju Array Si**	**10.09**	**274**		**Pn**	**14 36 57.9**	**+2.8**
JCJ	**Ch

BCAR	Beaver Creek A	51.84 34	P	P	14 43 32.4	+1.9
KKAR	Karatay Array	52.28 299	P	P	14 43 34.5	+0.4
CHGR	Chuyangaron	54.83 295	P	P	14 43 52.3	-0.6
ARU	Arti	55.52 318	P	P	14 43 56.3	-1.2
	comp=Z,1.1nm,0.4s,baz=66,slow=9.9,SNR=4.3					
ARU	Arti	55.52 318	P	P	14 43 56.2	-1.2
ABKAR	Akbulak array	57.09 310	P	P	14 44 08.3	-0.4
WRA	Warramunga Arr	57.49 187	P	P	14 44 11.7	0.0
	comp=Z,1.2nm,0.7s,baz=3.1,slow=7.4,SNR=17					
WRA	Warramunga Arr	57.49 187	P	P	14 44 11.3	-0.4
AKTO	Aktyubinsk	57.83 311	P	P	14 44 13.2	-0.6
	comp=Z,0.8nm,0.6s,baz=84,slow=12,SNR=4.1					
ASAR	Alice Springs	61.22 187	P	P	14 44 38.1	+0.8
	comp=Z,1.0nm,0.8s,baz=9.8,slow=5.1,SNR=13					
ASAR	Alice Springs	61.22 187	P	P	14 44 36.7	-0.6
GEYT	Alibeck	62.99 298	P	P	14 44 47.5	-1.7
	comp=Z,1.8nm,0.7s,baz=71,slow=11,SNR=3.0					
ARCES	ARCESS Array B	63.27 339	P	P	14 44 50.3	-0.2
	comp=Z,1.4nm,0.8s,baz=54,slow=6.3,SNR=4.0					
FINES	FINESS Array B	68.04 332	P	P	14 45 21.4	+0.3
	comp=Z,1.7nm,0.6s,baz=43,slow=7.9,SNR=12					
FINES	FINESS Array B	68.04 332	P	P	14 45 21.0	-0.2
KBZ	Khabaz	70.05 310	P	P	14 45 34.2	+0.3
	comp=Z,0.8nm,0.4s,baz=17,slow=5.0,SNR=4.4					
HFS	Hagfors	73.33 335	P	P	14 45 53.4	+0.1
	comp=Z,1.2nm,0.7s,baz=90,slow=7.4,SNR=5.0					
NB2	NORSAR Subarra	73.44 337	P	P	14 45 54.4	+0.3
	comp=Z,0.3nm,0.4s,baz=40,slow=5.6					
NOA	NORSAR Array B	73.44 337	P	P	14 45 54.4	+0.3
	comp=Z,0.3nm,0.6s,baz=197,slow=2.9,SNR=3.9					
AKASG	Malin Array Be	73.47 322	P	P	14 45 54.2	-0.1
	comp=Z,0.9nm,0.4s,baz=47,slow=6.4,SNR=5.0					
NVAR	Mina Array Bea	75.21 53	P	P	14 46 06.8	+1.9
	comp=Z,1.2nm,0.8s,baz=292,slow=5.8,SNR=11					
PDAR	Pinedale Array	77.78 45	P	P	14 46 19.4	0.0
	comp=Z,0.5nm,0.7s,baz=299,slow=1.5,SNR=5.6					
GERES	GERESS Array B	81.91 328	P	P	14 46 41.8	+0.4
	comp=Z,0.3nm,0.5s,baz=57,slow=11,SNR=2.8					
ESDC	Sonseca Array	96.52 333	LR	LR	15 36 34.3	
	comp=Z,11nm,18.6s,baz=150,slow=39					
H03N2	Juan Fernandez	147.74 95	T	T	17 39 16.9	
	baz=292,slow=76,SNR=4.2					
H03N3	Juan Fernandez	147.75 95	T	T	17 39 17.3	
	baz=292,slow=76,SNR=3.8					
H03N1	Juan Fernandez	147.76 95	T	T	17 39 15.5	
	baz=292,slow=76,SNR=5.3					

*IDC **06** 14:39:03.8±0.9, 55.°17S×27.°28W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/24, mbtmp4.0/3, MS3.3/5, Ms1 3.3/5, ms1mx3.0/21, Error ellipse: s-maj=44.9km s-min=31.4km az=82.0*

*NEIC **06** 14:39:04.9±2.7, 55.°1S±0.°1×27.°7W±0.°1, h10km±1km, mb4.6/16, Error ellipse: s-maj=19.4km s-min=8.4km az=159.0*

ISC 06 14:39:04.3±0.6, **55.°07S**±0.°09×**27.°6W**±0.°1, **h10**km, **n35**, σ**1**§**32**/31, **mb4.7**/9, **MS3.5**/5, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.21	275	Pn	Pn	14 40 21.2	-0.9
VNA3	Neumayer Olymp	18.00	161	P	P	14 43 16.3	+1.6
VNA2	Neumayer--Watz	18.20	159	P	P	14 43 17.7	+0.8
EFI	East Falkland	18.40	268	P	P	14 43 19.3	0.0
EFI				IAmb	IAmb	14 43 31.4	
	comp=Z,42nm,1.4s						
SNAA	Sanae	19.74	157	P	Pn	14 43 34.6	-0.7
SNAA	Sanae	19.74	157	P	Pn	14 43 34.2	-1.1
PMSA	Palmer Station	20.38	227	P	P	14 43 39.6	-1.1
BELA	Belgrano 2	23.04	184	P	P	14 44 08.3	-0.8
PLCA	Paso Flores	31.60	279	LR	LR	14 56 58.6	
	comp=Z,31nm,21.5s,baz=175,slow=34						
QSPA	South Pole Qui	35.18	180	P	P	14 45 58.6	+0.5
QSPA				IAmb	IAmb	14 46 05.5	
	comp=Z,7.8nm,1.5s						
CPUP	Villa Florida	35.98	311	LR	LR	15 00 07.6	
	comp=Z,27nm,18.6s,baz=215,slow=35						
CO02	Combarbal	38.74	290	P	P	14 46 29.2	+0.5
CO02				IAmb	IAmb	14 46 41.6	
	comp=Z,21nm,1.2s						
SUR	Sutherland	40.63	76	P	P	14 46 43.7	-0.8
SUR				IAmb	IAmb	14 47 02.3	
	comp=Z,27nm,1.4s						
AC04	Llanos de Chal	41.14	293	P	P	14 46 47.4	-1.1
LVC	Limon Verde	44.60	300	P	P	14 47 18.9	+1.9
LVC				IAmb	IAmb	14 47 33.7	
	comp=Z,16nm,1.2s						
BOSA	Boshof	45.98	77	LR	LR	15 03 18.9	
	comp=Z,49nm,18.4s,baz=196,slow=32						
PB08	IPOC Station P	46.80	301	P	P	14 47 32.8	-1.6
PB08				IAmb	IAmb	14 47 38.7	
	comp=Z,14nm,1.5s						
GO01	Chusmiza	47.22	302	P	P	14 47 38.4	+0.6
GO01				IAmb	IAmb	14 47 56.8	
	comp=Z,10nm,1.3s						
VNDA	Vanda	47.54	183	P	P	14 47 38.8	-0.4
	comp=Z,1.6nm,1.0s,baz=202,slow=7.0,SNR=10						
VNDA	Vanda	47.54	183	P	P	14 47 38.7	-0.4
VNDA				IAmb	IAmb	14 47 40.8	
	comp=Z,3.0nm,1.1s						
MNMC	Minye Minye	47.87	302	P	P	14 47 45.6	+3.0
RCBR	Riachuelo	49.55	349	P	P	14 47 52.3	-3.0
LPAZ	La Paz	49.61	305	P	P	14 47 58.3	+1.9
	comp=Z,1.3nm,0.4s,baz=154,slow=10.0,SNR=8.1						
LPAZ	La Paz	49.61	305	P	P	14 47 58.5	+2.1
TORD	Torodi Ar. Bea	72.32	30	P	P	14 50 30.0	0.0
	comp=Z,0.7nm,0.4s,baz=193,slow=5.8,SNR=4.2						
TORD				LR	LR	15 17 07.6	
	comp=Z,25nm,18.4s,baz=215,slow=32						
TORD	Torodi Ar. Bea	72.32	30	P	P	14 50 30.7	+0.8
KEST	Kesra	95.84	29	LR	LR	15 33 00.1	
	comp=Z,27nm,19.2s,baz=296,slow=34						
FINES	FINESS Array B	123.63	28	PKP	PKiKP	14 58 01.1	+0.4
	comp=Z,0.6nm,0.7s,baz=0.0,slow=2.1,SNR=4.2						
ARCES	ARCESS Array B	130.12	22	PKP	PKiKP	14 58 14.4	+0.8
	comp=Z,0.8nm,0.7s,baz=243,slow=0.6,SNR=4.1						
BCAR	Beaver Creek A	146.67	311	PKPbc	PKPab	14 58 47.3	+1.3
KLU	Klutina	148.06	307	PKPab	PKPab	14 58 52.2	+0.6
RIDG	Independent Ri	148.18	311	PKPbc	PKPab	14 58 52.1	+0.1
BMAR	Burnt Mountain	148.79	318	PKPbc	PKiKP	14 58 52.5	+0.7
ILAR	Eielson Array	149.27	313	PKPbc	PKiKP	14 58 54.1	+1.3
	comp=Z,1.8nm,0.7s,baz=124,slow=3.1,SNR=22						
SONM	Songino Array	150.90	85	PKPbc	PKiKP	14 58 57.4	+0.5
	comp=Z,0.7nm,0.6s,baz=225,slow=0.4,SNR=2.6						

*JMA **06** 15:03:57.7±0.5, 20.°73N×122.°16E, h0km, M3.9*

*MAN **06** 15:04:02.1, 20.°17N×121.°21E, h13km, mb4.7, ML3.6, MS3.5*

*IDC **06** 15:04:03.9±13.0, 20.°28N×121.°93E, h197km±121km, mb3.6/4, mb1 3.8/4, mb1mx3.0/43, mbtmp4.2/4, Error ellipse: s-maj=241.9km s-min=15.9km az=61.0*

ISC 06 15:03:57.6±0.9, **20.°50N**±0.°06×**122.°0E**±0.°2, **h142**km±7km, **n19**, σ**1**§**47**/28, **mb4.1**/4, **1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	Basco	0.06	188	eP	Pn	15 04 16.7	0.0
BBP				eS	Sn	15 04 30.6	-0.7
SGCP	Mt. Cagua	2.24	178	eP	Pn	15 04 36.6	+1.4
SGCP				eS	Sn	15 05 03.3	-0.7
APYP	Conner	2.71	195	eP	Pn	15 04 40.8	-0.1
APYP				eS	Sn	15 05 15.2	+0.8
CVP	Callao Caves	2.78	183	⇓P	Pn	15 04 43.6	+1.7
CVP				i S	Sn	15 05 17.8	+1.7
CAUP	Cauayan	3.54	182	eP	Pn	15 04 54.1	+2.5
HATJ	Hateruma jima	3.93	25	P	Pn	15 04 57.1	+0.4
IRIF	Iriomote-Funau	4.15	23	P	Pn	15 05 00.5	+0.9
JKRS	Kuro-shima	4.17	26	P	Pn	15 05 01.1	+1.2
JIJ	Ishigaki jima	4.34	27	P	Pn	15 05 02.6	+0.5
JIJ				S	Sn	15 05 51.5	-0.8
SMPP	San Manuel, Pa	4.49	196	eP	Pn	15 05 04.5	+0.3
SMPP				eS	Sn	15 05 53.5	-2.5
JISG	Ishigakijimahi	4.61	28	P	Pn	15 05 06.0	+0.3
BALP	Baler	4.74	185	eP	Pn	15 05 09.7	+2.2
BALP				eS	Sn	15 05 58.9	-3.1
JTJ	Tarama	4.84	31	P	Pn	15 05 09.6	+0.9
JIRB	Irabujima	5.23	34	P	Pn	15 05 15.0	+1.1
JMJ2	Miyako jima3	5.24	36	P	Pn	15 05 14.8	+0.8
MKAR	Makanchi Array	41.53	319	P	P	15 11 32.9	+2.0
	1.8nm,0.4s,baz=3.72,slow=9.3,SNR=32						
WRA	Warramunga Arr	41.97	162	P	P	15 11 33.5	-1.3
	1.3nm,0.3s,baz=342,slow=8.0,SNR=84						
WRA				PcP	PcP	15 13 26.3	-1.2
	0.5nm,1.0s,baz=336,slow=5.8,SNR=2.2						
ASAR	Alice Springs	45.41	165	P	P	15 12 01.9	-0.3
	0.6nm,0.3s,baz=348,slow=7.3,SNR=43						
ASAR				PcP	PcP	15 13 37.8	-1.3
	0.2nm,0.7s,baz=338,slow=3.2,SNR=1.6						
STKA	Stephens Creek	55.37	160	P	P	15 13 16.4	-0.5
	1.5nm,0.6s,baz=346,slow=8.2,SNR=8.8						

*ISK **06** 15:29:41.5, 37.°35N×42.°59E, h5km, ML2.7/8*

*DDA **06** 15:29:41.3, 37.°31N×42.°61E, h10km±5km, ML2.7*

ISC 06 15:29:41.7±1.2, **37.°35N**±0.°05×**42.°63E**±0.°03, **h7**km±10km, **n22**, σ**1**§**12**/33, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	Sirnak	0.21	315	PG	Pg	15 29 46.2	+0.2
CUKT	Cukurca	0.79	97	PG	Pb	15 29 58.3	+0.5
CUKT				SG	Sn	15 30 10.8	-0.7
CUKT	Cukurca	0.79	97	i P	Pg	15 29 57.0	+0.1
CUKT				i S	Sb	15 30 09.1	+0.3
CUKT				IAML		15 30 22.0	
	comp=E,185nm,0.6s						
HAKT	HAKKARI	0.88	76	i P	Pg	15 29 57.4	-1.3
AKDM	Akdamar-Van	1.01	16	PG	Pb	15 30 01.9	+0.1
AKDM				SG	Sn	15 30 17.3	+0.1
GEVA	Gevas	1.02	19	i P	Pg	15 30 01.2	-0.1
BLIS	Bitlis-Merkez	1.14	339	i P	Pg	15 30 01.9	-1.7
BLIS				i S	Sn	15 30 22.2	+2.0
BTMN	Batman	1.21	297	i P	Pn	15 30 05.3	+0.2
BTMN				i S	Sn	15 30 21.6	-0.2
BTMN				IAML		15 30 26.0	
	comp=N,193nm,0.7s						
BTMN				IAML		15 30 27.0	
	comp=E,282nm,0.5s						
GURO	Guroymak-BITLI	1.29	339	PN	Pg	15 30 07.0	+0.6
GURO				SN	Sn	15 30 25.5	+1.7
TVAN	Van	1.33	27	i P	Pg	15 30 07.6	+0.4
YOVA	Hakkari_Yksek	1.34	79	i P	Pn	15 30 06.2	-0.9
YOVA				i S	Sn	15 30 27.2	+1.9
SVAN	Silvan-Diyarba	1.39	306	PN	Pg	15 30 08.5	+0.2
SVAN	Silvan-Diyarba	1.39	306	i P	Pg	15 30 08.2	-0.2
SVAN				i S	Sg	15 30 27.3	+1.0
MARD	Mardin	1.47	269	i P	Pb	15 30 08.7	-0.8
MARD				i S	Sg	15 30 30.0	+0.9
MARD				IAML		15 30 33.0	
	comp=E,326nm,0.6s						
MARD				IAML		15 30 35.0	
	comp=N,274nm,0.7s						
MUSM	Mu-Merkez	1.63	328	i P	Pb	15 30 11.4	-0.8
MUSM				i S	Sn	15 30 29.5	-2.8
MAZI	Mazidag	1.74	274	PN	Pb	15 30 13.5	-0.6
HANI	Diyarbakir_Han	2.06	302	i P	Pn	15 30 16.1	-0.7
HANI				i S	Sg	15 30 47.9	0.0
DYBB	Diyarbakir	2.06	288	PN	Pb	15 30 18.2	-1.4
DIYA	Diyarbakir	2.07	287	i P	Pb	15 30 19.5	-0.2
DIYA				IAML		15 30 53.0	
	comp=N,42nm,0.5s						
DIYA				IAML		15 31 02.0	
	comp=E,58nm,0.7s						
AGRB	Hanur-Agry	2.24	7	PN	Pb	15 30 21.4	-1.2
SVRC	Sivrice-ELAZID	2.82	292	PN	Pn	15 30 29.3	+1.9
SANL	SANLIURFA_Merk	2.91	268	i P	Pn	15 30 28.3	-0.2
SANL				IAML		15 31 25.0	
	comp=E,32nm,0.7s						
SANL				IAML		15 31 33.0	
	comp=N,27nm,0.6s						

*NEIC **06** 15:48:09.8±1.6, 5.°10S±0.°08×152.°4E±0.°1, h74km±8km, mb4.1/15, Error ellipse: s-maj=21.6km s-min=10.9km az=96.0*

*IDC **06** 15:48:11.2±2.1, 5.°02S×152.°20E, h75km±12km, mb3.4/7, mb1 3.7/8, mb1mx3.4/35, mbtmp3.8/8, Error ellipse: s-maj=47.4km s-min=12.5km az=118.0*

ISC 06 15:48:07.7±0.8, **5.°13S**±0.°06×**152.°5E**±0.°1, **h55**km, **n28**, σ**1**§**47**/31, **mb3.9**/11, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.97	328	P	Pn	15 48 27.1	+1.9
	98nm,0.3s,baz=160,slow=1.4,SNR=411						
KRVT				S	Sn	15 48 39.9	+1.9
	362nm,0.3s,baz=93,slow=18,SNR=25						
KRVT				LR	LR	15 48 54.9	
	comp=Z,102nm,18.5s,baz=188,slow=60						
RABL	Rabaul	1.01	338	Pn	Pn	15 48 28.0	+2.3
PMG	Port Moresby	6.82	231	P	Pn	15 49 47.3	+2.0
	2.9nm,0.3s,baz=40,slow=23,SNR=9.5						
PMG				S	Sn	15 51 00.1	-1.5
	2.5nm,0.3s,baz=60,slow=14,SNR=3.6						
PMG	Port Moresby	6.82	231		Pn	15 49 47.0	+1.7
PATS	Pohnpei	13.21	26	Pn	Pn	15 51 10.7	-2.0
CTAO	Charters Tower	16.08	202	Pn	Pn	15 51 51.0	+0.7
CTAO				IAmb	IAmb	15 52 04.9	
	comp=Z,18nm,1.3s						
EIDS	Eidsvold	20.17	184	P	P	15 52 36.7	-1.0
EIDS				IAmb	IAmb	15 52 43.4	
	comp=Z,18nm,1.4s						
MTN	Manton Dam	22.48	249	P	P	15 53 03.9	+1.2
WB0	Warramunga Arr	22.89	229	P	P	15 53 06.3	-0.7
WB0				IAmb	IAmb	15 53 24.2	
	comp=Z,10nm,1.4s						
WR0	Warramunga Arr	22.89	228	P	P	15 53 07.2	+0.2
WB2	Warramunga Arr	23.02	229	P	P	15 53 08.2	-0.1
WRA	Warramunga Arr	23.03	229	P	P	15 53 08.1	-0.4
	comp=Z,0.9nm,0.4s,baz=54,slow=9.8,SNR=24						
WRA				PcP	PcP	15 56 57.5	+1.0
	comp=Z,0.4nm,1.0s,baz=58,slow=2.0,SNR=2.0						
WRA	Warramunga Arr	23.03	229	P	P	15 53 06.7	-1.7
KNRA	Kununurra	25.59	244	P	P	15 53 31.9	-0.1
KNRA				IAmb	IAmb	15 53 45.6	
	comp=Z,4.1nm,0.7s						
AS31	Alice Springs	25.73	222	P	P	15 53 32.3	-1.0
ASAR	Alice Springs	25.73	222	P	P	15 53 33.7	+0.4
	comp=Z,0.3nm,0.5s,baz=58,slow=8.8,SNR=17						
ASAR				PcP	PcP	15 57 04.0	+1.6
	comp=Z,0.3nm,1.0s,baz=60,slow=2.2,SNR=1.1						
FITZ	Fitzroy Crossi	29.27	242	P	P	15 54 04.2	-0.8
	comp=Z,1.3nm,0.4s,baz=11,slow=1.6,SNR=14						
LUWI	Luwuk	30.00	277	P	P	15 54 07.8	-3.7
CAN	Canberra	30.22	186	P	P	15 54 15.9	+2.7
MJAR	Matsushiro Arr	43.57	343	P	P	15 56 05.5	-0.9
	comp=Z,0.3nm,0.5s,baz=144,slow=8.4,SNR=2.2						
SONM	Songino Array	66.47	328	P	P	15 58 51.1	-0.5
	comp=Z,0.3nm,0.3s,baz=120,slow=5.8,SNR=1.8						
SONM	Songino Array	66.47	328	IAmb	IAmb	15 58 54.5	
	comp=Z,0.6nm,0.8s						
MKAR	Makanchi Array	80.40	319	P	P	16 00 13.7	+0.2
	comp=Z,0.3nm,0.6s,baz=81,slow=7.6,SNR=3.7						
CCB	Clear Creek Bu	82.16	22	P	P	16 00 22.8	+0.4
CCB				IAmb	IAmb	16 00 23.9	
	comp=Z,2.6nm,0.8s						
IL31		82.56	22	P	P	16 00 24.0	-0.4
IL31				IAmb	IAmb	16 00 25.8	
	comp=Z,2.7nm,0.7s						
ILAR	Eielson Array	82.56	22	P	P	16 00 25.2	+0.7
	comp=Z,1.9nm,0.7s,baz=244,slow=5.4,SNR=20						
ILAR	Eielson Array	82.56	22	P	P	16 00 24.4	-0.1
TORD	Torodi Ar. Bea	150.16	287	PKPbc	PKPbc	16 07 53.4	-0.2
	comp=Z,0.5nm,0.5s,baz=64,slow=2.8,SNR=2.5						

*PRU **06** 15:49:20.4±0.0, 51.°45N×16.°11E, h0km*

*IDC **06** 15:49:20.1±0.7, 51.°50N×15.°97E, h0km, mb1 3.1/8, mb1mx3.0/43, mbtmp3.0/8, ML2.6/8, Error ellipse: s-maj=12.8km s-min=7.3km az=108.0*

*VIE **06** 15:49:22.8±0.9, 51.°28N×16.°04E, h0km, mb2.4/7, ml2.7/10, Error ellipse: s-maj=7.3km s-min=5.5km az=52.0 70 km WNW of Wroclaw Suspected Mining induced.*

ISC 06 15:49:17.7±0.7, **51.°57N**±0.°04×**16.°09E**±0.°03, **h0**km, **n40**, σ**1**§**29**/73, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.73	170	ePg	Pg	15 49 32.4	+0.7
KSP				eSg	Sg	15 49 41.3	+0.1
CHVC	Chvalec	0.98	181	ePG	Pg	15 49 36.7	+0.3
CHVC				eSG	Sg	15 49 49.1	0.0
OSTC	Ostas	1.01	176	ePG	Pg	15 49 37.4	+0.3
OSTC				eSG	Sg	15 49 50.0	-0.2
UPC	Upice	1.06	183	ePG	Pg	15 49 38.5	+0.5
UPC				eSG	Sg	15 49 51.5	-0.2
	comp=Z,137nm,0.5s						
DPC	Dobruska-Polom	1.23	173	ePG	Pg	15 49 40.4	-0.8
DPC				eSG	Sg	15 49 55.8	-1.2
	comp=Z,68nm,0.8s						
PVCC	Panska Ves	1.42	223	ePG	Pb	15 49 45.6	+0.6
PVCC				eSG	Sn	15 50 04.7	+0.7
BRG	Berggiesshubel	1.52	244	PN	Pn	15 49 46.6	+0.5
BRG				PG	Pg	15 49 48.4	+1.6
BRG				SG	Sn	15 50 08.0	+1.4
	81nm,0.6s						
KRLC	Kraliky	1.55	163	ePG	Pn	15 49 46.8	+0.1
KRLC				eSG	Sg	15 50 06.8	-0.8
	comp=Z,102nm,0.7s						
GOPC	GO Pecny, Ondr	1.85	207	ePG	Pn	15 49 51.8	+1.1
PRU	Pruhonice	1.86	213	ePG	Pn	15 49 52.3	+1.5
PRU				eSG	Sn	15 50 15.7	+0.7
	comp=Z,48nm,0.9s						
CLL	Collm	1.95	264	ePn	Pn	15 49 53.0	+0.9
CLL				ePg	Pg	15 49 56.0	+0.9
CLL				i		15 49 57.1	
CLL				i		15 49 59.9	
CLL				e		15 50 11.0	
CLL				eSg	Sg	15 50 22.0	+1.6
	comp=Z,34nm,0.7s						
MORC	Moravsky Berou	2.01	152	ePN	Pn	15 49 53.1	+0.1
MORC				eSG	Sn	15 50 18.1	-0.8
VRAC	Vranov	2.28	172	Pn	Pn	15 49 58.4	+1.8
	comp=Z,1.5nm,0.3s,baz=350,slow=17,SNR=13						
VRAC				Lg	Lg	15 50 28.6	
	comp=Z,2.6nm,0.3s,baz=255,slow=22,SNR=8.9						
VRAC	Vranov	2.28	172	ePN	Pn	15 49 57.8	+1.2
VRAC				eSG	Sb	15 50 28.2	-0.3
PBCC	Pribram	2.31	216	ePG	Pb	15 50 01.3	+1.1
KRUC	Moravsky	2.51	175	ePN	Pn	15 50 01.4	+1.6
KRUC				ePG	Pb	15 50 04.5	+0.8
KRUC				eSG	Sb	15 50 35.6	+0.4
NKC	Novy Kostel	2.67	241	ePN	Pn	15 50 03.5	+1.6
NKC				ePG	Pg	15 50 09.6	+0.8
NKC				eSG	Sg	15 50 44.8	+1.5
	comp=Z,37nm,0.4s						
OJC	Ojcow	2.71	118	ePg	Pg	15 50 10.4	+0.9
OJC				eSg	Sg	15 50 46.0	+1.5
JAVC	Velka Javorina	2.89	159	ePN	Pn	15 50 06.6	+1.5
KHC	Kasperske Hory	2.92	214	ePN	Pn	15 50 06.4	+0.9
KHC				ePG	Pb	15 50 12.1	+1.4
KHC				eSN	Sn	15 50 40.0	-1.3
KHC				eSG	Sg	15 50 51.2	-0.3
	comp=Z,15nm,0.6s						
GERES	GERESS Array B	3.13	210	Pn	Pn	15 50 09.4	+1.1
	comp=Z,0.9nm,0.3s,baz=30,slow=12,SNR=29						
GERES				Pg	Pb	15 50 15.6	+1.4
	comp=Z,2.6nm,0.3s,baz=29,slow=17,SNR=39						
GERES				Lg	Lg	15 50 55.0	
	comp=Z,3.1nm,0.3s,baz=32,slow=27,SNR=10						
MODS	Modra-Piesok	3.29	166	ePG	Pg	15 50 21.3	+0.7
MODS				eSG	Sb	15 50 59.9	+2.5
NIE	Niedzica	3.44	127	eP	Pg	15 50 23.6	0.0
NIE				eS	Sg	15 51 08.5	+0.3
VYHS	Vyhne	3.55	149	ePG	Pg	15 50 25.0	-0.7
VYHS				eSG	Sb	15 51 05.7	+0.8
CONA	Conrad Observa	3.64	182	ePn	Pn	15 50 16.4	+0.9
	comp=Z,0.6nm,0.2s						
CONA				Sg	Sg	15 51 14.0	-0.7
	comp=Z,15nm,0.6s						
MOA	Molln	3.90	198	i Pn	Pn	15 50 19.8	+0.9
	comp=Z,0.6nm,0.2s						
MOA				eSg	Sg	15 51 22.0	-1.0
	comp=Z,20nm,0.7s						
ARSA	Arzberg	4.33	185	ePn	Pn	15 50 25.7	+0.9
	comp=Z,1.2nm,0.3s						
ARSA				Sg	Sg	15 51 38.1	+1.2
	comp=Z,14nm,0.7s						
KOLS	Kolonicke sedl	4.76	121	ePN	Pn	15 50 30.6	-0.1
KOLS				ePG	Pg	15 50 52.1	+3.2
KOLS				eSG	Sg	15 51 53.2	+2.7
KBA	Koelnbreinsper	4.84	203	ePn	Pn	15 50 32.4	+0.5
	comp=Z,0.8nm,0.3s						
KBA				eSg	Sg	15 51 52.8	-0.2
	comp=Z,20nm,0.8s						
WATA	Walderalm	5.16	217	ePn	Pn	15 50 37.7	+1.5
	comp=Z,0.4nm,0.1s						
OBKA	Obir	5.16	192	ePg	Pg	15 50 56.5	-0.1
	comp=Z,1.2nm,0.3s						
OBKA				Sg	Sg	15 52 01.4	-2.0
	comp=Z,5.5nm,0.5s						
WTTA	Wattenberg	5.20	216	ePn	Pn	15 50 39.1	+2.2
	comp=Z,0.4nm,0.2s						
MOTA	Moosalm	5.33	220	i Pn	Pn	15 50 41.2	+2.5
	comp=Z,0.5nm,0.1s						
DAVOX	Davos/Dischmat	6.29	223	Pn	Pn	15 50 51.0	-0.8
	comp=Z,0.1nm,0.3s,baz=122,slow=19,SNR=1.7						
DAVOX				Lg	Lg	15 52 37.5	
	comp=Z,0.2nm,0.3s,baz=115,slow=8.1,SNR=3.6						
AKASG	Malin Array Be	8.31	91	Pn	Pn	15 51 19.7	+0.3
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=4.2						
AKASG				Lg	Lg	15 53 47.0	
	comp=Z,0.3nm,0.3s,baz=275,slow=26,SNR=1.5						
HFS	Hagfors	8.69	352	Pn	Pn	15 51 24.9	+0.3
	comp=Z,0.1nm,0.3s,baz=172,slow=11,SNR=1.9						
NOA	NORSAR Array B	9.87	346	Pn	Pn	15 51 40.1	-0.7
	comp=Z,0.0n

LFRS			*e*S	**Sn**	**15 51 32.1**	**+0.2**
LFRS	**El Faro**	**3.61 105**	*e*P	**Pn**	**15 50 50.2**	**-0.3**
LFRS			*e*S	**Sn**	**15 51 32.1**	**+0.2**

WEL 06 15:54:07.7,37°S±4°×17°E±°, h200km±5km, M2.9/33, MLv2.9/33, Error ellipse: s-maj=0.0km s-min=0.0km az=178.7, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.73**	**199**	P	Pn	15 54 35.4	-0.4
TGRZ	**Tauranga**	**0.74**	**219**	P	Pn	15 54 35.9	+0.1
HAZ	**Te Kaha**	**0.96**	**129**	P	Pn	15 54 36.7	-0.4
HAZ				S	Sn	15 54 59.4	-0.5
KUZ	**Kuaotunu**	**0.99**	**294**	P	Pn	15 54 37.2	-0.2
KMRZ	**Kaimai**	**1.00**	**226**	P	Pn	15 54 37.8	+0.4
OMRZ	**Omania**	**1.02**	**202**	P	Pn	15 54 38.4	+0.8
RUGZ	**Raukumara Rang**	**1.04**	**141**	P	Pn	15 54 36.9	-0.9
RUGZ				S	Sn	15 54 59.6	-1.8
URZ	**Urewera**	**1.12**	**169**	P	Pn	15 54 37.9	-0.3
URZ				S	Sn	15 55 00.9	-1.3
RRRZ	**Republican Roa**	**1.21**	**193**	P	Pn	15 54 39.6	+0.6
TOZ	**Tahuroa Road**	**1.22**	**241**	P	Pn	15 54 39.5	+0.6
MXZ	**Matakaoa Point**	**1.23**	**110**	P	Pn	15 54 39.1	0.0
MXZ				S	Sn	15 55 01.8	-1.6
MWZ	**Matawai**	**1.29**	**156**	P	Pn	15 54 39.2	-0.4
MWZ				S	Sn	15 55 03.5	-1.1
MUGZ	**Murupara**	**1.32**	**183**	P	Pn	15 54 39.8	0.0
MUGZ				S	Sn	15 55 03.4	-1.6
MKAZ	**Moumakai**	**1.35**	**272**	P	Pn	15 54 40.5	+0.5
PRRZ	**Plateau Road**	**1.39**	**195**	P	Pn	15 54 40.9	+0.5
WMGZ	**Waiomatatini S**	**1.41**	**119**	P	Pn	15 54 40.8	+0.3
WMGZ				S	Sn	15 55 05.6	-0.5
WIAZ	**Waiheke Island**	**1.42**	**284**	P	Pn	15 54 41.0	+0.3
GRZ	**Great Barrier**	**1.44**	**308**	P	Pn	15 54 40.7	-0.1
PUZ	**Puketiti**	**1.45**	**130**	P	Pn	15 54 40.8	-0.1
PUZ				S	Sn	15 55 04.6	-2.1
ALRZ	**Allen Road**	**1.46**	**196**	P	Pn	15 54 41.6	+0.6
RTZ	**Ruatahuna**	**1.46**	**176**	P	Pn	15 54 40.9	-0.2
RTZ				S	Sn	15 55 06.2	-1.1
TKGZ	**Te Karaka**	**1.51**	**149**	P	Pn	15 54 41.6	+0.2
TKGZ				S	Sn	15 55 06.8	-0.8
ETAZ	**East Tamaki Re**	**1.55**	**277**	P	Pn	15 54 42.5	+0.7
TLZ	**Tolley Road**	**1.57**	**221**	P	Pn	15 54 42.7	+0.8
SNGZ	**Shannon Statio**	**1.67**	**167**	P	Pn	15 54 43.0	+0.1
SNGZ				S	Sn	15 55 08.2	-2.3
MTHZ	**Maungataniwha**	**1.70**	**180**	P	Pn	15 54 42.9	-0.2
CNGZ	**Carnagh Statio**	**1.71**	**141**	P	Pn	15 54 44.0	+0.8
RIGZ	**Rimuhau**	**1.71**	**155**	P	Pn	15 54 43.5	+0.2
RIGZ				S	Sn	15 55 10.9	-0.3
MRHZ	**Matea Rd**	**1.71**	**191**	P	Pn	15 54 43.4	0.0
AWAZ	**Awhitu Peninsu**	**1.77**	**272**	P	Pn	15 54 43.9	+0.1
RAHZ	**Arahi**	**1.77**	**174**	P	Pn	15 54 44.0	+0.2
RAHZ				S	Sn	15 55 10.2	-2.0
WATZ	**Wairara**	**1.79**	**209**	P	Pn	15 54 44.5	+0.5
RVAZ	**Riverhead Bore**	**1.86**	**281**	P	Pn	15 54 45.1	+0.4
RATZ	**Rangitukua**	**1.91**	**206**	P	Pn	15 54 45.9	+0.7
NMHZ	**Naumai**	**1.94**	**181**	P	Pn	15 54 46.1	+0.5
WHHZ	**Waihua**	**1.94**	**171**	P	Pn	15 54 45.8	+0.2
PRGZ	**Paritu Road**	**1.95**	**156**	P	Pn	15 54 45.7	-0.1
KNZ	**Kokohu**	**1.98**	**161**	P	Pn	15 54 45.8	0.0
RITZ	**Rihia Road**	**1.98**	**203**	P	Pn	15 54 47.0	+1.1
BKZ	**Black Stump Fm**	**2.03**	**188**	P	Pn	15 54 45.8	-0.7
HIZ	**Hauiti**	**2.08**	**229**	P	Pn	15 54 47.9	+1.0
ARHZ	**Aropaoanui**	**2.11**	**177**	P	Pn	15 54 47.3	+0.1
MHGZ	**Mahia Peninsul**	**2.16**	**158**	P	Pn	15 54 47.8	0.0
WTVZ	**West Tongariro**	**2.20**	**207**	P	Pn	15 54 48.8	+0.5
OTVZ	**Oturere**	**2.21**	**205**	P	Pn	15 54 49.0	+0.4
MCHZ	**McNeill Hill**	**2.29**	**183**	P	Pn	15 54 49.2	0.0
KWHZ	**Kaweka Forest**	**2.29**	**188**	P	Pn	15 54 49.0	-0.3
TUVZ	**Tukino**	**2.31**	**204**	P	Pn	15 54 49.1	-0.4
FWVZ	**Far West T-bar**	**2.33**	**206**	P	Pn	15 54 50.2	+0.3
WNVZ	**Wahianoa**	**2.38**	**204**	P	Pn	15 54 50.2	-0.2
MOVZ	**Moawhango**	**2.41**	**201**	P	Pn	15 54 48.9	-0.7
BHHZ	**Black Hill Sta**	**2.41**	**195**	P	Pn	15 54 49.9	-0.7
MTVZ	**Mangateitei**	**2.48**	**206**	P	Pn	15 54 51.6	+0.2
CKHZ	**Cape Kidnapper**	**2.51**	**176**	P	Pn	15 54 51.3	-0.2
KRHZ	**Kereru**	**2.51**	**188**	P	Pn	15 54 50.9	-0.7
VRZ	**Vera Road**	**2.57**	**219**	P	Pn	15 54 53.9	+1.6
KAHZ	**Kahuranaki**	**2.64**	**180**	P	Pn	15 54 52.8	-0.3
PNHZ	**Pukenui**	**2.80**	**190**	P	Pn	15 54 54.0	-1.0
PXZ	**Pawanui**	**2.87**	**180**	P	Pn	15 54 54.7	-1.0
WPHZ	**Waipukurau**	**2.92**	**186**	P	Pn	15 54 55.4	-1.0
WAZ	**Wanganui**	**2.98**	**209**	P	Pn	15 54 57.0	0.0
TSZ	**Takapari Road**	**2.98**	**193**	P	Pn	15 54 55.9	-1.2
PKE	**Pukeiti**	**3.04**	**227**	P	Pn	15 54 59.8	+2.1
PRHZ	**Porangahau**	**3.11**	**183**	P	Pn	15 54 57.4	-1.2
DVHZ	**Dannevirke**	**3.19**	**189**	P	Pn	15 54 57.9	-1.6
ANWZ	**Angora Road**	**3.31**	**185**	P	Pn	15 54 59.8	-1.2
POWZ	**Post Office Ro**	**3.34**	**194**	P	Pn	15 55 00.0	-1.3
PRWZ	**Pori Road**	**3.46**	**191**	P	Pn	15 55 01.5	-1.3
BFZ	**Birch Farm**	**3.56**	**187**	P	Pn	15 55 02.0	-1.9
MRZ	**Mangatainoka R**	**3.64**	**195**	P	Pn	15 55 02.9	-2.0
TIWZ	**Tintock**	**3.69**	**191**	P	Pn	15 55 04.0	-1.7
CPWZ	**Castlepoint**	**3.79**	**187**	P	Pn	15 55 05.5	-1.1
HOWZ	**Holdsworth Sta**	**3.88**	**195**	P	Pn	15 55 05.5	-2.4
OGWZ	**Otaki Gorge**	**3.88**	**199**	P	Pn	15 55 06.0	-2.0
KIW	**Kapiti Island**	**4.00**	**202**	P	Pn	15 55 07.0	-2.4
TMWZ	**Te Maipa**	**4.02**	**190**	P	Pn	15 55 07.3	-2.3
MTW	**Mount Morrison**	**4.13**	**194**	P	Pn	15 55 08.2	-2.8
CAW	**Cannon Point**	**4.18**	**199**	P	Pn	15 55 09.1	-2.6
DUWZ	**D'Urville Isla**	**4.30**	**211**	P	Pn	15 55 11.0	-2.2
TRWZ	**Traveller**	**4.33**	**192**	P	Pn	15 55 10.9	-2.7
WEL	**Wellington**	**4.43**	**201**	P	Pn	15 55 11.9	-2.8
MSWZ	**Moikau Station**	**4.43**	**196**	P	Pn	15 55 11.8	-3.0
BHW	**Baring Head**	**4.52**	**199**	P	Pn	15 55 12.9	-3.0
TCW	**Tory Channel**	**4.52**	**205**	P	Pn	15 55 13.2	-2.7
PLWZ	**Palliser**	**4.58**	**195**	P	Pn	15 55 13.6	-3.1
TUWZ	**Tuamarina**	**4.83**	**207**	P	Pn	15 55 17.0	-2.8
NNZ	**Nelson**	**4.87**	**213**	P	Pn	15 55 17.6	-2.8
QRZ	**Quartz Range**	**4.98**	**221**	P	Pn	15 55 19.2	-2.5
BSWZ	**Blackbirch Sta**	**5.10**	**206**	P	Pn	15 55 20.7	-2.6
THZ	**Tophouse**	**5.52**	**212**	P	Pn	15 55 26.9	-1.8
KHZ	**Kahutara**	**5.84**	**205**	P	Pn	15 55 29.6	-3.1
DSZ	**Denniston Nort**	**6.02**	**219**	P	Pn	15 55 32.2	-3.0
GVZ	**Greta Valley S**	**6.50**	**206**	P	Pn	15 55 37.7	-3.6
LTZ	**Lake Taylor**	**6.63**	**211**	P	Pn	15 55 39.6	-3.4
INZ	**Inchbonnie**	**6.94**	**215**	P	Pn	15 55 44.1	-3.0
OKCZ	**Okains Bay**	**7.17**	**203**	P	Pn	15 55 46.4	-3.6
OXZ	**Oxford**	**7.18**	**209**	P	Pn	15 55 46.2	-3.9
MQZ	**McQueen's Vall**	**7.29**	**205**	P	Pn	15 55 46.8	-4.7
AKCZ	**Akaroa Harbour**	**7.35**	**203**	P	Pn	15 55 48.6	-3.7
ODZ	**Otahua Downs**	**9.17**	**209**	P	Pn	15 56 12.7	-3.2

*JMA **06** 16:25:01.6±0.2, 29°.19N×130°.52E, h35km±4km, M3.2*
*IDC **06** 16:25:06.5±3.1, 29°.41N×130°.69E, h77km±29km, mb3.3/8, mb1 3.4/11, mb1mx3.3/37, mbtmp3.6/11, MS2.7/3, Ms1 2.7/3, ms1mx2.5/17, Error ellipse: s-maj=39.0km s-min=20.0km az=78.0*

ISC 06 16:25:01.8±0.9, 29°.15N±0°.04×130°.57E±0°.06, h39km±3km, n31, σ1§08/39, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.92**	**319**	P	**Pn**	**16 25 17.5**	**-0.7**
JNN				*e*S	**Sn**	**16 25 29.2**	**-1.0**
JYAK	**Yakushimahirau**	**1.09**	**357**	P	**Pn**	**16 25 20.3**	**-0.3**
JYAK				*e*S	**Sn**	**16 25 33.8**	**-0.6**
JAM	**Amami Oshima**	**1.12**	**229**	P	**Pn**	**16 25 21.4**	**+0.4**
JAM				*e*S	**Sn**	**16 25 35.0**	**-0.1**
JTAJ	**Takarajima**	**1.19**	**271**	P	**Pn**	**16 25 22.0**	**0.0**
JMTN	**Minamitane**	**1.28**	**13**	P	**Pn**	**16 25 23.2**	**0.0**
JMTN				*e*S	**Sn**	**16 25 38.5**	**-0.6**
JKC	**Kuchinoerabu**	**1.35**	**346**	P	**Pn**	**16 25 24.0**	**-0.1**
JKC				S	**Sn**	**16 25 41.0**	**+0.2**
JAMN	**Amaminishikomi**	**1.52**	**234**	P	**Pn**	**16 25 26.9**	**+0.4**
JAMN				*e*S	**Sn**	**16 25 45.7**	**+0.7**
JTN	**Tanegashima 3**	**1.54**	**13**	P	**Pn**	**16 25 27.0**	**+0.2**
JTN				*e*S	**Sn**	**16 25 46.5**	**+0.9**
JTK	**Tokunoshima**	**1.97**	**227**	P	**Pn**	**16 25 33.8**	**+1.1**
JTSR	**Tashiro 2**	**2.03**	**9**	P	**Pn**	**16 25 34.2**	**+0.6**
JTSR				*e*S	**Sn**	**16 25 58.7**	**+0.9**
JOKE	**Okinoerabujima**	**2.50**	**225**	P	**Pn**	**16 25 40.5**	**+0.5**
JYRO	**Yoronjima**	**2.82**	**222**	P	**Pn**	**16 25 44.9**	**+0.5**
JOW	**Kunigami**	**3.07**	**222**	P	**Pn**	**16 25 49.2**	**+1.3**
JIH	**Iheya**	**3.12**	**228**	P	**Pn**	**16 25 48.7**	**+0.3**
JKDJ	**Kitadaitoujima**	**3.25**	**168**	*e*S	**Sn**	**16 26 26.1**	**-1.7**
JMZ	**Minamidaito 2**	**3.37**	**170**	*e*S	**Sn**	**16 26 28.9**	**-1.7**
JNTH	**Nagotoyohara**	**3.46**	**221**	P	**Pn**	**16 25 53.8**	**+0.7**
JNTH				*e*S	**Sn**	**16 26 32.5**	**-0.3**
JNU	**Nakatsue**	**3.97**	**4**	P	**Pn**	**16 26 01.1**	**+0.9**
JNU				S	**Sn**	**16 26 44.1**	**-1.4**
JNU				LR	LR	16 26 51.4	

1.7nm,0.3s,baz=185,slow=16,SNR=17
1.2nm,0.3s,baz=234,slow=14,SNR=1.3
comp=Z,28nm,21.4s,baz=144,slow=28

JKE	**Kume jima 2**	**4.37**	**231**	P	**Pn**	**16 26 05.8**	**+0.1**
KSRS	**Korea Array**	**8.57**	**346**	P	**Pn**	**16 27 05.6**	**+2.3**
KSRS				LR	LR	16 30 35.6	

0.1nm,0.3s,baz=164,slow=13,SNR=5.5
comp=Z,55nm,19.0s,baz=172,slow=40

MJAR	**Matsushiro Arr**	**9.78**	**39**	P	Pn	16 27 26.9	+7.0

0.0nm,0.3s,baz=233,slow=14,SNR=1.6

KLR	**Kul'dur**	**20.07**	**2**	P	**P**	**16 29 30.5**	**-1.3**

0.1nm,0.3s,baz=196,slow=7.8,SNR=7.0

MKAR	**Makanchi Array**	**41.23**	**309**	P	**P**	**16 32 42.6**	**-0.3**

0.4nm,0.6s,baz=91,slow=9.1,SNR=6.2

ZALV	**Zalesovo Beam**	**41.26**	**320**	LR	LR	16 51 29.9	

comp=Z,40nm,18.5s,slow=38

WRA	**Warramunga Arr**	**48.94**	**175**	P	**P**	**16 33 46.5**	**+2.1**

0.2nm,0.7s,baz=353,slow=8.2,SNR=1.6

ASAR	**Alice Springs**	**52.61**	**176**	P	**P**	**16 34 14.4**	**+2.5**

0.2nm,0.7s,baz=7.3,slow=14,SNR=1.6

ILAR	**Eielson Array**	**60.89**	**29**	P	**P**	**16 35 09.2**	**-1.0**

0.3nm,0.7s,baz=289,slow=5.6,SNR=2.6

KBZ	**Khabaz**	**68.92**	**309**	P	**P**	**16 36 03.7**	**+0.9**

1.3nm,0.5s,baz=95,slow=5.2,SNR=4.4

FINES	**Finess Array B**	**71.35**	**331**	P	**P**	**16 36 15.8**	**-1.5**

0.8nm,0.8s,baz=64,slow=4.4,SNR=5.0

AKASG	**Malin Array Be**	**74.66**	**320**	P	**P**	**16 36 37.0**	**-0.1**

0.9nm,0.6s,baz=59,slow=6.2,SNR=5.9

BRTR	**Keskin Array B**	**76.87**	**308**	P	**P**	**16 36 49.6**	**-0.6**

0.7nm,0.5s,baz=104,slow=4.2,SNR=1.7

IDC 06 16:38:18.5±2.0, 7°.83S×158°.09E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, ML4.5/1, Error ellipse: s-maj=48.2km s-min=32.0km az=26.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.43**	**131**	Pn	Pn	16 38 59.8	+0.3

106nm,0.3s,baz=235,slow=4.4,SNR=77

HNR				S	Sn	16 39 23.8	-6.1

54nm,0.3s,baz=27,slow=21,SNR=2.7

WRA	**Warramunga Arr**	**25.97**	**240**	P	P	16 43 53.7	+0.6

0.3nm,0.8s,baz=68,slow=9.2,SNR=1.7

ASAR	**Alice Springs**	**28.03**	**233**	P	P	16 44 11.1	-0.6

0.1nm,0.7s,baz=64,slow=10,SNR=1.1

MKAR	**Makanchi Array**	**86.06**	**318**	P	P	16 51 01.2	-0.1

0.4nm,0.7s,baz=111,slow=6.5,SNR=4.2

*DNK **06** 16:52:19.4±2.6, 81°.13N×3°.08W, h15km±43km, ML2.8, Hypocentre not reviewed by the ISC*
*BER **06** 16:52:22.0±1.6, 81°.09N×3°.06W, h20km±9km, ML2.1, ML2.8(DNK)*
*IEPN **06** 16:52:25.0, 80°.73N×2°.62W, h15km*

ISC 06 16:52:17.9±0.9, 80°.92N±0°.06×3°.46W±0°.04, h10km, n15, σ2§91/29, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.13**	**295**	*i* P	**Pn**	**16 52 54.6**	**+1.2**
NOR				*i* S	**Sn**	**16 53 18.8**	**-1.0**
NOR	**Nord**	**2.13**	**295**	*i* P	**Pn**	**16 52 54.6**	**+1.2**
NOR				*i* S	**Sn**	**16 53 18.8**	**-1.0**
NOR				IAML		16 53 19.8	

comp=Z,11nm,0.4s

KBS	**Kingsbay**	**3.36**	**119**	*e*P	**Pn**	**16 53 12.7**	**+2.4**
KBS				*e*S	**Sn**	**16 53 48.2**	**-1.9**
KBS	**Kingsbay**	**3.36**	**119**	*e*P	**Pn**	**16 53 12.7**	**+2.4**
KBS				*e*S	**Sn**	**16 53 48.6**	**-1.5**
KBS				IAML		16 53 53.5	

comp=Z,5.3nm,0.6s

SPA0	**Spitsbergen Ar**	**4.51**	**117**	*e*P	**Pn**	**16 53 29.2**	**+3.0**
SPA0				*e*S	**Sn**	**16 54 16.8**	**-1.8**
SPA0	**Spitsbergen Ar**	**4.51**	**117**	*e*P	**Pn**	**16 53 29.1**	**+3.0**
SPA0				*e*Pg	**Pb**	**16 53 38.4**	**+1.2**
SPA0				*e*S	**Sn**	**16 54 16.7**	**-1.9**
SPA0				IAML		16 54 43.5	

comp=Z,4.9nm,0.7s

DAG	**Danmarks Havn**	**5.08**	**223**	*i* P	**Pn**	**16 53 36.9**	**+2.9**
DAG				*i* S	**Sn**	**16 54 29.7**	**-2.9**
DAG	**Danmarks Havn**	**5.08**	**223**	*e*	**Pn**	**16 53 35.9**	**+1.9**

baz=32,slow=16

DAG				*i* P	Pb	16 53 36.9	-10
DAG				*i* S	**Sn**	**16 54 29.7**	**-2.9**
DAG				IAML		16 54 50.5	

comp=Z,5.2nm,0.3s

HSPB	**Hornsund (broa**	**5.33**	**128**	*e*P	**Pn**	**16 53 41.1**	**+3.8**
HSPB				*e*S	**Sn**	**16 54 37.1**	**-1.6**
HSPB	**Hornsund (broa**	**5.33**	**128**	*e*P	**Pn**	**16 53 41.2**	**+3.8**
HSPB				*e*Pg	**Pb**	**16 53 53.6**	**+2.6**
HOPEN	**Hopen**	**7.03**	**114**	P	**Pn**	**16 54 01.9**	**+1.3**
HOPEN				S	**Sn**	**16 55 14.2**	**-6.2**
DBG	**Daneborg**	**7.51**	**217**	*i* P	**Pn**	**16 54 09.7**	**+2.5**
DBG				*i* S	**Sn**	**16 55 29.3**	**-3.0**
DBG				IAML		16 55 46.9	

comp=Z,2.8nm,0.3s

ZFI2	**Zemlya Franca-**	**7.91**	**65**	*e*P	**Pn**	**16 54 14.0**	**+1.4**
ZFI2				*e*S	**Sn**	**16 55 35.1**	**-6.9**

comp=Z,5.9nm,1.0s

SUMG	**Summit**	**11.30**	**242**	*i* P	**Pn**	**16 55 00.0**	**+0.6**
SUMG				*e*S	Sn	16 56 57.6	-8.1
SUMG	**Summit**	**11.30**	**242**	*i* P	**Pn**	**16 55 00.0**	**+0.6**
SUMG				*e*S	Sn	16 56 57.6	-8.0
SUMG				IAML		16 57 03.2	

comp=Z,4.3nm,0.3s

WEL 06 17:04:57.7±0.9, 32°S±21°×18°0W±4°4, h413km±21km, M4.5/15, mB4.4/2, MLv4.5/15, Mw(mB)3.5/2, Error ellipse: s-maj=0.1km s-min=0.0km az=113.9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.70**	**195**	P	P	17 06 28.4	+1.1
WMGZ	**Waiomatatini S**	**5.93**	**194**	P	P	17 06 30.8	+1.2
WMGZ				S	S	17 07 45.6	+0.6
HAZ	**Te Kaha**	**6.02**	**199**	P	P	17 06 29.0	-1.6
HAZ				S	S	17 07 47.3	+0.5
PUZ	**Puketiti**	**6.20**	**194**	P	P	17 06 31.3	-1.4
PUZ				S	S	17 07 50.6	+0.1
RUGZ	**Raukumara Rang**	**6.24**	**199**	P	P	17 06 33.7	+0.6
RUGZ				S	S	17 07 51.6	0.0
CNGZ	**Carnagh Statio**	**6.61**	**194**	P	P	17 06 36.7	-0.9
MWZ	**Matawai**	**6.63**	**199**	P	P	17 06 38.3	+0.4
MWZ				S	S	17 07 59.4	+0.3
URZ	**Urewera**	**6.68**	**202**	P	P	17 06 37.0	-1.4
URZ				S	S	17 08 01.4	+1.4
RIGZ	**Rimuhau**	**6.92**	**196**	P	P	17 06 40.3	-0.8
RIGZ				S	S	17 08 05.1	+0.2
MUGZ	**Murupara**	**6.99**	**203**	P	P	17 06 42.3	+0.5
MUGZ				S	S	17 08 05.6	-0.7
RTZ	**Ruatahuna**	**7.05**	**201**	P	P	17 06 42.3	-0.2
RAHZ	**Arahi**	**7.30**	**200**	P	P	17 06 45.6	+0.4
RAHZ				S	S	17 08 13.0	+0.5
MTHZ	**Maungataniwha**	**7.31**	**201**	P	P	17 06 45.8	+0.5
NMHZ	**Naumai**	**7.54**	**201**	P	P	17 06 48.9	+0.9
BKZ	**Black Stump Fm**	**7.71**	**202**	P	P	17 06 49.3	-0.4
BKZ				S	S	17 08 22.4	+1.5
BHHZ	**Black Hill Sta**	**8.14**	**203**	P	P	17 06 53.9	-0.5
BHHZ				S	S	17 08 30.3	+0.3
KRHZ	**Kereru**	**8.18**	**201**	P	P	17 06 54.8	0.0
KRHZ				S	S	17 08 29.0	-1.8
PNHZ	**Pukenui**	**8.48**	**201**	P	P	17 06 57.3	-0.8
PNHZ				S	S	17 08 37.4	+0.4
TSZ	**Takapari Road**	**8.69**	**202**	P	P	17 06 59.8	-0.6
TSZ				S	S	17 08 41.8	+0.5
BFZ	**Birch Farm**	**9.17**	**199**	P	P	17 07 06.0	+0.3
BFZ				S	S	17 08 52.7	+1.3

*BJI **06** 17:12:17.3±0.0, 25°.16N×95°.35E, h120km, mB4.4/24, mb4.6/39*
*NEIC **06** 17:12:18.4±1.2, 25°.01N±0°.07×95°.37E±0°.07, h134km±6km, mb4.7/109, Error ellipse: s-maj=11.1km s-min=8.6km az=221.0*
*NDI **06** 17:12:18.0±2.5, 25°.09N×95°.24E, h125km, mb4.5, ML4.7, mb4.7(NEIC)*
*IDC **06** 17:12:19.9±2.2, 25°.03N×95°.47E, h148km±21km, mb3.9/24, mb1 4.0/25, mb1mx3.8/45, mbtmp4.3/25, MS2.8/3, Ms1 2.8/3, ms1mx2.5/28, Error ellipse: s-maj=12.7km s-min=9.5km az=54.0*

ISC 06 17:12:17.2±0.7, 25°.04N±0°.04×95°.25E±0°.04, h122km±6km, n240, σ1§66/269, mb4.6/83, 8C-4D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JORH	**JORHAT**	**1.92**	**332**	*e*P	**Pn**	**17 12 50.2**	**+0.6**
JORH				*e*S	**Sn**	**17 13 14.6**	**0.0**
SILR	**SILCHAR**	**2.24**	**264**	*e*x	**Pn**	**17 12 52.0**	**-1.7**
SILR				*e*S	**Sn**	**17 13 24.4**	**+2.8**
SILR				IAML		17 13 29.2	

comp=E,6μm,0.3s

SILR				IAML		17 13 32.1	

comp=N,7μm,0.3s

LKP	**Lekhapani**	**2.34**	**13**	*e*P	**Pn**	**17 12 55.4**	**+0.4**
LKP				*e*S	**Sn**	**17 13 22.9**	**-1.2**
TEZP	**TEZPUR**	**2.71**	**306**	⇑*i*P	**Pn**	**17 13 00.0**	**+0.3**
TEZP				*e*S	**Sn**	**17 13 29.8**	**-2.6**
TEZP				IAML		17 13 33.0	

comp=E,7μm,0.2s

TEZP				IAML		17 13 33.9	

comp=N,9μm,0.2s

ZIRO	**ZIRO**	**2.78**	**333**	⇑*i*P	**Pn**	**17 13 01.0**	**+0.3**
ZIRO				*e*S	**Sn**	**17 13 30.6**	**-3.7**
SHL	**Shillong**	**3.09**	**280**	*e*P	**Pn**	**17 13 05.0**	**+0.1**
SHL				*e*S	**Sn**	**17 13 39.8**	**-1.9**
SHL				IAML		17 13 42.0	

comp=N,3μm,0.2s

SHL				IAML		17 13 42.3	

comp=E,3μm,0.1s

SHL	**Shillong**	**3.09**	**280**		**Pn**	**17 13 04.8**	**-0.1**
SAIH	**SAIHA**	**3.28**	**220**	*e*P	**Pn**	**17 13 08.2**	**+0.8**
SAIH				*e*S	**Sn**	**17 13 45.1**	**-1.0**
SAIH				IAML		17 13 49.9	

comp=N,3μm,0.3s

SAIH				IAML		17 13 53.4	

comp=E,5μm,0.8s

GUWA	**GUWAHATI**	**3.41**	**290**	*e*P	**Pn**	**17 13 08.5**	**-0.4**
GUWA				*e*S	**Sn**	**17 13 46.5**	**-2.4**
LSA	**Lhasa**	**5.90**	**323**		**Pn**	**17 13 44.6**	**+1.9**
GTK	**Tadong**	**6.39**	**292**	*e*P	**Pn**	**17 13 47.7**	**-1.3**
GTK				*e*S	**Sn**	**17 14 57.6**	**-3.1**
KMI	**Kunming**	**6.79**	**88**	P	**Pn**	**17 13 57.3**	**+2.8**
KMI				pmax	pmax		

comp=E,12nm,0.6s

KMI				LR	LR		

comp=E,180nm,3.9s

KMI				LR	LR		

comp=E,72nm,5.7s

KMI				LR	LR		

comp=E,130nm,5.7s

KMI	**Kunming**	**6.79**	**88**	Pn	**Pn**	**17 13 55.8**	**+1.3**
CHTO	**Chiang Mai**	**7.08**	**150**		**Pn**	**17 13 58.8**	**+0.5**
TAPN	**Taplejung**	**7.15**	**290**	*e*Pn	**Pn**	**17 14 00.5**	**+1.0**
TAPN				*e*Sn	**Sn**	**17 15 19.1**	**-0.3**

comp=E,351

XAN	**Xi'an**	**14.88**	**50**	P	**Pn**	**17 15 37.6**	**-3.8**	
XAN				pmax	pmax			
comp=Z,10.0nm,0.6s								
XAN	**Xi'an**	**14.88**	**50**	P	**Pn**	**17 15 41.8**	**+0.3**	
XAN				sP	P	17 16 14.7	+31	
XAN				pmax	pmax			
comp=Z,11nm,0.9s								
XAN	**Xi'an**	**14.88**	**50**	Pn	**Pn**	**17 15 37.6**	**-3.8**	
NGP	**Nagpur**	**15.40**	**259**	*e*P	**Pn**	**17 15 48.3**	**+0.3**	
NGP				*e*S	**Sn**	**17 18 29.0**	**-10**	
MYLAV	**Mylavaram**	**15.95**	**242**	*e*P	**P**	**17 15 58.7**	**+2.8**	
MYLAV				*e*		17 18 43.6		
BHPL	**Bhopal**	**16.37**	**267**	*e*P	**P**	**17 16 01.8**	**+1.1**	
BHPL				IAmb	IAmb	17 16 03.6		
comp=Z,17nm,0.5s								
BHPL				*e*S	Sn	17 18 51.2	-11	
SRSP	**Sriramsagar**	**16.81**	**252**	*e*P	**P**	**17 16 07.7**	**+2.1**	
SRSP				*e*		17 19 00.1		
ADKI	**Addanki**	**16.98**	**240**	*e*P	**Pn**	**17 16 10.1**	**+2.6**	
ADKI				*e*		17 19 06.0		
CUPL	**Choutuppal**	**17.06**	**246**	*e*P	**Pn**	**17 16 10.6**	**+2.2**	
CUPL				*e*		17 19 08.1		
SMLA	**Simla**	**17.06**	**295**	*e*P	**P**	**17 16 07.5**	**-0.6**	
SMLA				IAmb	IAmb	17 16 14.6		
comp=Z,15nm,0.6s								
NJS	**Nagarjunasagar**	**17.12**	**244**	*e*P	**Pn**	**17 16 11.3**	**+2.2**	
NJS				*e*		17 19 13.4		
HYB	**Hyderabad**	**17.31**	**247**	*i* P	**Pn**	**17 16 13.0**	**+1.6**	
HYB				*e*		17 19 13.0		
HYB				*e*S	**Sn**	**17 19 25.0**	**+0.4**	
HYB	**Hyderabad**	**17.31**	**247**	*ex*	**Pn**	**17 16 13.4**	**+1.9**	
HYB				IAmb	IAmb	17 16 15.3		
comp=Z,30nm,0.9s								
HYBB	**Hyderabad (bro**	**17.31**	**247**	*e*P	**Pn**	**17 16 13.3**	**+1.9**	
HYBB				*e*		17 19 12.6		
WHN	**Wuhan**	**17.76**	**68**	P	**P**	**17 16 16.0**	**+0.2**	
DLV	**T Lat**	**18.07**	**134**	P	**Pn**	**17 16 21.7**	**+1.0**	
DHRM	**DHARAMSHALA**	**18.11**	**298**	*e*P	**Pn**	**17 16 21.6**	**+0.5**	
SKHT	**Srikalahasti**	**18.45**	**235**	*e*P	**Pn**	**17 16 26.2**	**+1.1**	
SKHT				*e*		17 19 36.5		
KLRI	**Killari**	**18.68**	**252**	*e*P	**Pn**	**17 16 28.2**	**+0.4**	
KLRI				*e*		17 19 43.9		
URV	**Uravakonda**	**19.64**	**243**	*e*P	**Pn**	**17 16 38.4**	**-0.7**	
URV				*e*		17 20 07.4		
WMQ	**Urumqi**	**19.73**	**344**	*e*P	**Pn**	**17 16 40.1**	**+0.3**	
WMQ				pmax	pmax			
comp=Z,12nm,1.3s								
WMQ				pmax	pmax			
comp=Z,32nm,3.6s								
WMQ				LR	LR			
comp=Z,34nm,5.9s								
WMQ				LR	LR			
comp=Z,15nm,5.5s								
WMQ				LR	LR			
comp=Z,10.0nm,17.9s								
LHMI	**Lhok Sumawe**	**19.77**	**175**	P	**P**	**17 16 36.7**	**-1.1**	
KULM	**Kulim**	**20.31**	**164**	P	**P**	**17 16 43.1**	**-0.5**	
HHC	**Hu-ho-hao-te**	**20.82**	**37**	*e*P	Pn	17 16 51.1	-1.6	
HHC				pmax	pmax			
comp=Z,14nm,0.9s								
HHC				pmax	pmax			
comp=Z,92nm,5.2s								
NIL	**Nilore**	**20.98**	**299**		**P**	**17 16 52.3**	**+1.5**	
IPM	**Ipoh**	**21.18**	**164**	P	**P**	**17 16 53.6**	**+0.5**	
IPM				IAmb	IAmb	17 17 27.6		
comp=Z,52nm,1.8s								
KSH	**Kashi**	**21.71**	**316**	P	**P**	**17 17 00.1**	**+1.5**	
KSH				S	**S**	**17 20 50.0**	**-1.4**	
KSH				pmax	pmax			
comp=Z,6.0nm,0.4s								
KSH				pmax	pmax			
comp=Z,43nm,3.8s								
KSH				LR	LR			
comp=Z,68nm,5.7s								
KSH				LR	LR			
comp=Z,83nm,5.6s								
KSH				LR	LR			
comp=Z,180nm,6.2s								
RPSI	**Rantau Prapat**	**22.50**	**170**	P	**P**	**17 17 07.0**	**+0.3**	
BOOM	**Boomskoye usch**	**23.58**	**322**	P	**P**	**17 17 18.1**	**+1.2**	
BOOM				IAmb	IAmb	17 17 54.4		
comp=Z,18nm,1.4s								
TWG	**Pinlang**	**23.69**	**90**	P	**P**	**17 17 19.1**	**+1.1**	
TWG				IAmb	IAmb	17 17 20.8		
comp=Z,35nm,0.7s								
GSI	**Gunungsitoli**	**23.71**	**174**	P	**P**	**17 17 17.9**	**-0.2**	
GSI				IAmb	IAmb	17 17 19.9		
comp=Z,21nm,0.8s								
YULB	**Yu-li**	**23.80**	**88**	P	**P**	**17 17 17.9**	**-1.0**	
MK31	**Makanchi Array**	**24.05**	**338**	P	**P**	**17 17 22.5**	**+1.6**	
MK31				IAmb	IAmb	17 17 23.2		
comp=Z,5.6nm,0.5s								
MKAR	**Makanchi Array**	**24.05**	**338**	P	**P**	**17 17 22.8**	**+1.9**	
comp=Z,5.7nm,0.4s,baz=150,slow=9.1,SNR=137								
MKAR	**Makanchi Array**	**24.05**	**338**	P	**P**	**17 17 22.3**	**+1.4**	
MAKZ	**Makanchi**	**24.17**	**337**	P	**P**	**17 17 23.7**	**+1.7**	
SONM	**Songino Array**	**24.40**	**18**	P	**P**	**17 17 24.2**	**0.0**	
comp=Z,5.2nm,0.7s,baz=197,slow=9.5,SNR=20								
SONM				LR	LR	17 28 01.3		
comp=Z,36nm,18.4s,baz=48,slow=39								
SONM	**Songino Array**	**24.40**	**18**	P	**P**	**17 17 24.0**	**-0.2**	
KBL	**Kabul**	**24.58**	**299**	P	**P**	**17 17 27.8**	**+1.7**	
KBL				IAmb	IAmb	17 17 29.8		
comp=Z,16nm,0.5s								
ULN	**Ulaanbaatar**	**24.62**	**19**	P	**P**	**17 17 26.2**	**0.0**	
GAR	**Garm**	**25.21**	**310**	P	**P**	**17 17 33.1**	**+1.5**	
GAR				IAmb	IAmb	17 17 35.4		
comp=Z,44nm,1.5s								
BTK	**Batken**	**25.35**	**312**	P	**P**	**17 17 34.9**	**+1.9**	
BTK				IAmb	IAmb	17 18 09.5		
comp=Z,7.6nm,0.6s								
KK31	**Karatay Array**	**27.13**	**318**	P	**P**	**17 17 48.3**	**-0.5**	
KURBB	**Kurchatov Arra**	**28.61**	**338**	P	**P**	**17 18 02.9**	**+1.1**	
comp=Z,1.0nm,0.5s,baz=147,slow=9.2,SNR=8.3								
KURK	**Kurchatov**	**28.66**	**338**	P	**P**	**17 18 02.7**	**+0.5**	
ZAA0	**Zalesovo Array**	**29.91**	**348**	P	**P**	**17 18 14.1**	**+0.9**	
ZALV	**Zalesovo Beam**	**29.91**	**348**	P	**P**	**17 18 14.3**	**+1.1**	
comp=Z,1.3nm,0.4s,baz=157,slow=8.0,SNR=10								
ZALV	**Zalesovo Beam**	**29.91**	**348**	P	**P**	**17 18 13.2**	**0.0**	
KSRS	**Korea Array**	**30.39**	**58**	P	**P**	**17 18 15.9**	**-1.8**	
comp=Z,0.3nm,0.5s,baz=247,slow=7.5,SNR=4.7								
KSRS				LR	LR	17 31 36.8		
comp=Z,22nm,19.1s,baz=282,slow=38								
GEYT	**Alibeck**	**33.95**	**301**	P	**P**	**17 18 51.9**	**+3.0**	
comp=Z,3.1nm,0.7s,baz=128,slow=9.6,SNR=6.6								
GEYT	**Alibeck**	**33.95**	**301**	P	**P**	**17 18 51.0**	**+2.1**	
GYA0B	**ALIBECK ARRAY**	**33.95**	**301**	P	**P**	**17 18 50.3**	**+1.4**	
GYA0B				IAmb	IAmb	17 18 58.8		
comp=Z,6.7nm,1.1s								
USRK	**Ussuriysk Ar.**	**35.38**	**48**	P	**P**	**17 19 01.1**	**0.0**	
comp=Z,0.7nm,0.4s,baz=254,slow=8.6,SNR=5.7								
ABKAR	**Akbulak array**	**36.58**	**321**	P	**P**	**17 19 13.1**	**+1.9**	
MAT	**Matsushiro**	**38.35**	**62**	P	**P**	**17 19 24.9**	**-1.5**	
MJAR	**Matsushiro Arr**	**38.35**	**62**	P	**P**	**17 19 24.1**	**-2.3**	
comp=Z,1.4nm,0.7s,baz=268,slow=10,SNR=12								
MJAR				ScP	**S**	**17 25 10.0**	**-2.0**	
comp=Z,0.8nm,0.8s,baz=265,slow=6.3,SNR=4.1								
MJAR	**Matsushiro Arr**	**38.35**	**62**	P	**P**	**17 19 25.8**	**-0.6**	
SOCY	**Socotra**	**40.98**	**260**	P	**P**	**17 19 48.5**	**+0.1**	
ARU	**Arti**	**41.05**	**330**	P	**P**	**17 19 50.3**	**+1.9**	
ERM	**Erimo**	**42.79**	**54**	P	**P**	**17 20 02.5**	**-0.2**	
ERM				IAmb	IAmb	17 20 36.1		
comp=Z,39nm,1.2s								
YSS	**Yuzh-Sakhalins**	**43.41**	**47**	P	**P**	**17 20 08.2**	**+0.6**	
YSS				IAmb	IAmb	17 20 27.5		
comp=Z,35nm,1.7s								
YAK	**Yakutsk**	**43.62**	**23**	P	**P**	**17 20 04.8**	**-4.3**	
NRIK	**Noril'sk**	**44.55**	**356**	P	**P**	**17 20 17.2**	**+0.7**	
comp=Z,5.0nm,0.4s,baz=172,slow=4.8,SNR=8.0								
SOEI	**Soe**	**44.68**	**137**	P	**P**	**17 20 16.7**	**-1.5**	
SOEI				IAmb	IAmb	17 20 26.8		
comp=Z,40nm,1.3s								
FAKI	**Fak Fak**	**45.39**	**122**	P	**P**	**17 20 22.4**	**-1.4**	
AKH	**Akhalkalaki**	**45.60**	**304**	P	**P**	**17 20 27.1**	**+1.8**	
AKH				IAmb	IAmb	17 20 29.0		
comp=Z,8.4nm,0.9s								
KIV	**Kislovodsk**	**46.42**	**308**	P	**P**	**17 20 31.8**	**+0.1**	
KIV				IAmb	IAmb	17 21 08.4		
comp=Z,24nm,1.4s								
MARD	**Mardin**	**47.60**	**299**	P	**P**	**17 20 42.4**	**+1.5**	
MARD				IAmb	IAmb	17 20 43.5		
comp=Z,33nm,1.5s								
TIXI	**Tiksi**	**50.32**	**13**	P	**P**	**17 21 00.3**	**-0.6**	
TIXI				IAmb	IAmb	17 21 34.6		
comp=Z,19nm,1.4s								
KNRA	**Kununurra**	**52.01**	**138**	P	**P**	**17 21 13.6**	**-0.8**	
KNRA				IAmb	IAmb	17 21 14.2		
comp=Z,33nm,1.6s								
FITZ	**Fitzroy Crossi**	**52.10**	**142**	P	**P**	**17 21 14.2**	**-0.8**	
BR131	**Keskin Array S**	**53.09**	**302**	P	**P**	**17 21 23.3**	**+0.9**	
BRTR	**Keskin Array B**	**53.09**	**302**	P	**P**	**17 21 23.0**	**+0.7**	
comp=Z,1.6nm,0.5s,baz=125,slow=7.3,SNR=7.0								
BRTR	**Keskin Array B**	**53.09**	**302**	P	**P**	**17 21 23.2**	**+0.9**	
CSS	**Mathiatis**	**53.79**	**296**	P	**P**	**17 21 28.1**	**+0.8**	
CSS				IAmb	IAmb	17 21 59.7		
comp=Z,13nm,1.0s								
AKASG	**Malin Array Be**	**56.00**	**316**	P	**P**	**17 21 42.8**	**0.0**	
comp=Z,1.6nm,0.5s,baz=79,slow=6.1,SNR=15								
AKASG	**Malin Array Be**	**56.00**	**316**	P	**P**	**17 21 42.9**	**0.0**	
AKBB	**Malin Array Si**	**56.00**	**316**	P	**P**	**17 21 42.9**	**0.0**	
AKBB				IAmb	IAmb	17 21 43.6		
comp=Z,4.5nm,0.6s								
LVZ	**Lovozero**	**56.07**	**337**	P	**P**	**17 21 44.0**	**+0.8**	
ELL	**Elmali**	**56.31**	**299**	P	**P**	**17 21 46.2**	**+0.7**	
SORM	**Soroca**	**56.57**	**312**	⇓P	**P**	**17 21 46.8**	**-0.2**	
AKAS	**Kas**	**56.62**	**298**	P	**P**	**17 21 48.2**	**+0.4**	
CFR	**Carcaliu**	**56.83**	**309**	⇓P	**P**	**17 21 47.2**	**-1.7**	
HARR	**Harsova**	**57.01**	**308**	⇑P	**P**	**17 21 51.3**	**+1.2**	
MORW	**Morawa**	**57.39**	**158**	P	**P**	**17 21 52.5**	**-0.4**	
VRI	**Vrincioaia**	**57.78**	**310**	⇑P	**P**	**17 21 57.2**	**+1.6**	
PLOR	**Plostina**	**57.83**	**310**	⇑P	**P**	**17 21 57.4**	**+1.4**	
BIZ	**Bicaz**	**58.14**	**311**	⇑P	**P**	**17 21 59.0**	**+0.9**	
MLR	**Muntele Rosu**	**58.35**	**309**	⇓P	**P**	**17 22 01.8**	**+2.0**	
MLR	**Muntele Rosu**	**58.35**	**309**	P	**P**	**17 22 01.3**	**+1.5**	
MLR				IAmb	IAmb	17 22 02.7		
comp=Z,11nm,1.3s								
FIA1	**FINESS Array S**	**58.39**	**328**	P	**P**	**17 21 60.0**	**+0.5**	
FIA1				IAmb	IAmb	17 22 21.1		
comp=Z,12nm,1.6s								
FINES	**FINESS Array B**	**58.39**	**328**	P	**P**	**17 22 00.4**	**+0.9**	
comp=Z,1.2nm,0.5s,baz=94,slow=6.8,SNR=25								
FINES	**FINESS Array B**	**58.39**	**328**	P	**P**	**17 22 00.2**	**+0.7**	
WB0	**Warramunga Arr**	**58.60**	**136**	P	**P**	**17 22 01.0**	**-0.5**	
WB0				IAmb	IAmb	17 22 01.5		
comp=Z,7.4nm,0.5s								
KARP	**Karpathos**	**58.69**	**298**	P	**P**	**17 22 02.7**	**+0.6**	
WRA	**Warramunga Arr**	**58.69**	**136**	P	**P**	**17 22 01.5**	**-0.7**	
comp=Z,4.9nm,0.5s,baz=323,slow=7.3,SNR=148								
WRA	**Warramunga Arr**	**58.69**	**136**	P	**P**	**17 22 00.9**	**-1.3**	
WRAB	**Tennant Creek**	**58.69**	**136**	P	**P**	**17 22 02.0**	**-0.2**	
WRAB				IAmb	IAmb	17 22 02.1		
comp=Z,5.7nm,0.7s								
BURAR	**Bucovina Array**	**58.70**	**312**	⇓P	**P**	**17 22 02.8**	**+0.7**	
BURAR	**Bucovina Array**	**58.70**	**312**	P	**P**	**17 22 02.7**	**+0.6**	
WB2	**Warramunga Arr**	**58.70**	**136**	P	**P**	**17 22 01.7**	**-0.5**	
WB2				IAmb	IAmb	17 22 02.4		
comp=Z,6.2nm,0.6s								
BUR08	**Bucovina Ar. S**	**58.71**	**312**	P	**P**	**17 22 02.7**	**+0.6**	
BUR08				IAmb	IAmb	17 22 14.5		
comp=Z,9.6nm,1.8s								
WC3	**Warramunga Arr**	**58.73**	**136**	P	**P**	**17 22 01.9**	**-0.5**	
WC3				IAmb	IAmb	17 22 02.6		
comp=Z,8.3nm,0.5s								
ALN	**Alexandroupoli**	**58.76**	**304**	P	**P**	**17 22 02.5**	**0.0**	
ALN				IAmb	IAmb	17 22 37.5		
comp=Z,12nm,1.2s								
WR0	**Warramunga Arr**	**58.83**	**136**	P	**P**	**17 22 02.5**	**-0.7**	
WR0				IAmb	IAmb	17 22 03.2		
comp=Z,3.8nm,0.6s								
KEV	**Kevo**	**59.23**	**338**	P	**P**	**17 22 06.1**	**+0.9**	
ARCES	**ARCESS Array B**	**59.70**	**338**	P	**P**	**17 22 09.3**	**+0.8**	
comp=Z,0.8nm,0.5s,baz=93,slow=5.5,SNR=19								
ARE0	**ARCESS Array S**	**59.70**	**338**	P	**P**	**17 22 09.4**	**+0.9**	
SANT	**Santorini**	**59.91**	**299**	P	**P**	**17 22 09.8**	**-0.7**	
IDI	**Anoyia**	**60.56**	**298**	P	**P**	**17 22 15.0**	**0.0**	
AS31	**Alice Springs**	**61.22**	**139**	P	**P**	**17 22 18.9**	**-0.6**	
ASAR	**Alice Springs**	**61.22**	**139**	P	**P**	**17 22 19.0**	**-0.5**	
comp=Z,2.5nm,0.4s,baz=319,slow=6.7,SNR=151								
ASAR	**Alice Springs**	**61.22**	**139**	P	**P**	**17 22 19.0**	**-0.5**	
NWAO	**Narrogin (SRO)**	**61.34**	**159**	P	**P**	**17 22 18.9**	**-1.1**	
NWAO	**Narrogin (SRO)**	**61.34**	**159**	P	**P**	**17 22 18.9**	**-1.1**	
NWAO				IAmb	IAmb	17 22 53.3		
comp=Z,97nm,1.6s								
LIT	**Litokhoron**	**61.56**	**304**	P	**P**	**17 22 23.1**	**+1.6**	
KMBO	**Kilima Mbogo**	**61.81**	**254**	P	**P**	**17 22 26.8**	**+2.9**	
comp=Z,1.3nm,0.6s,baz=33,slow=8.2,SNR=3.5								
KMBO	**Kilima Mbogo**	**61.81**	**254**	P	**P**	**17 22 25.0**	**+1.1**	
KMBO				IAmb	IAmb	17 22 26.3		
comp=Z,4.8nm,1.0s								
AGG	**Agios Georgios**	**61.87**	**302**	P	**P**	**17 22 23.0**	**-0.7**	
AGG				IAmb	IAmb	17 22 31.6		
comp=Z,10nm,1.2s								
ITM	**Ithomi**	**62.54**	**300**	P	**P**	**17 22 27.3**	**-0.9**	
DIVS	**Divibare**	**62.73**	**308**	P	**P**	**17 22 29.8**	**+0.4**	
VYHS	**Vyhne**	**62.87**	**313**	*e*P	**P**	**17 22 31.1**	**+0.9**	
SPA0	**Spitsbergen Ar**	**63.39**	**347**	P	**P**	**17 22 33.6**	**+0.5**	
ABPO	**Ambohimpanom**	**64.05**	**231**	P	**P**	**17 22 39.0**	**+0.5**	
VRAC	**Vranov**	**64.21**	**315**	*e*P	**P**	**17 22 40.0**	**+1.0**	
KRUC	**Moravsky**	**64.38**	**314**	*e*P	**P**	**17 22 40.6**	**+0.5**	
CONA	**Conrad Observa**	**64.92**	**313**	*e*P	**P**	**17 22 44.6**	**+0.9**	
comp=Z,1.4nm,0.6s								
ARSA	**Arzberg**	**65.27**	**312**	*e*P	**P**	**17 22 46.8**	**+0.9**	
comp=Z,0.4nm,0.3s								
NC405	**NORSAR Array S**	**65.32**	**328**	P	**P**	**17 22 46.6**	**+0.7**	
NC602	**NORSAR Array S**	**65.45**	**328**	P	**P**	**17 22 47.4**	**+0.6**	
NC303	**NORSAR Array S**	**65.47**	**328**	P	**P**	**17 22 47.2**	**+0.3**	
NB201	**NORSAR Array S**	**65.53**	**328**	P	**P**	**17 22 47.8**	**+0.4**	
NB2	**NORSAR Subarra**	**65.57**	**328**	P	**P**	**17 22 47.8**	**+0.2**	
comp=Z,1.0nm,0.5s,baz=82,slow=6.5								
NOA	**NORSAR Array B**	**65.57**	**328**	P	**P**	**17 22 48.0**	**+0.5**	
comp=Z,1.0nm,0.5s,baz=83,slow=6.4,SNR=16								
NC204	**NORSAR Array S**	**65.75**	**328**	P	**P**	**17 22 48.9**	**+0.1**	
NC204				IAmb	IAmb	17 22 51.9		
comp=Z,33nm,1.6s								
NAO01	**NORSAR Array S**	**65.75**	**328**	P	**P**	**17 22 49.2**	**+0.5**	
NBO00	**NORSAR Array S**	**65.78**	**328**	P	**P**	**17 22 49.5**	**+0.6**	
MOA	**Molln**	**65.99**	**313**	*i* P	**P**	**17 22 50.7**	**+0.2**	
comp=Z,1.5nm,0.4s								
CLL	**Collm**	**66.14**	**317**	P	**P**	**17 22 51.9**	**+0.5**	
GEC2	**GERESS Array S**	**66.17**	**314**	P	**P**	**17 22 52.1**	**+0.4**	
GEC2				IAmb	IAmb	17 22 53.0		
comp=Z,2.7nm,0.6s								
GERES	**GERESS Array B**	**66.17**	**314**	P	**P**	**17 22 52.5**	**+0.7**	
comp=Z,2.9nm,0.6s,baz=69,slow=6.3,SNR=34								
KHC	**Kasperske Hory**	**66.19**	**315**	P	**P**	**17 22 53.4**	**+1.6**	
KONO	**Kongsberg**	**66.58**	**327**	P	**P**	**17 22 54.8**	**+0.8**	
KONO				IAmb	IAmb	17 23 23.1		
comp=Z,30nm,1.4s								
PRED	**Cave del Predi**	**66.75**	**312**	P	**P**	**17 22 55.5**	**+0.1**	
KBA	**Koelnbreinsper**	**66.76**	**313**	*e*P	**P**	**17 22 55.3**	**-0.4**	
comp=Z,2.4nm,0.5s,SNR=4.5								
TRI	**Trieste**	**66.77**	**311**	P	**P**	**17 22 55.5**	**+0.1**	
TRI				IAmb	IAmb	17 23 05.4		
comp=Z,31nm,1.3s								
CTAO	**Charters Tower**	**66.87**	**127**	P	**P**	**17 22 56.4**	**0.0**	
CTAO				IAmb	IAmb	17 23 35.4		
comp=Z,24nm,1.4s								
ZOU	**Zoufplan**	**67.12**	**312**	P	**P**	**17 22 58.0**	**0.0**	
ZOU				IAmb	IAmb	17 23 18.1		
comp=Z,6.3nm,1.4s								
STAL	**STALIGIAL**	**67.36**	**312**	P	**P**	**17 22 59.2**	**-0.1**	
ABTA	**Abfaltersbach**	**67.39**	**312**	*e*P	**P**	**17 22 59.2**	**-0.3**	
comp=Z,0.9nm,0.4s								
CIMO	**Cimolais**	**67.54**	**312**	P	**P**	**17 23 00.3**	**-0.1**	
WTTA	**Wattenberg**	**67.86**	**313**	*e*P	**P**	**17 23 02.3**	**-0.2**	
comp=Z,2.5nm,0.4s,SNR=4.2								
CTI	**Castel Tesino**	**68.13**	**312**	P	**P**	**17 23 04.4**	**+0.2**	
CTI				IAmb	IAmb	17 23 34.8		
comp=Z,9.4nm,1.8s								
SQTA	**Sankt Quirin**	**68.15**	**313**	*e*P	**P**	**17 23 04.1**	**-0.2**	
comp=Z,3.7nm,0.4s,SNR=4.1								
MOTA	**Moosalm**	**68.19**	**313**	*i* P	**P**	**17 23 04.7**	**+0.1**	
comp=Z,1.5nm,0.3s								
RETA	**Reutte**	**68.38**	**313**	*i* P	**P**	**17 23 05.8**	**+0.1**	
comp=Z,3.2nm,0.4s								
FETA	**Feichten**	**68.52**	**313**	*i* P	**P**	**17 23 06.4**	**-0.2**	
comp=Z,1.1nm,0.4s								
FUORN	**Ofenpass-Fuorn**	**68.92**	**313**	P	**P**	**17 23 09.0**	**-0.3**	
DAVA	**Damuels**	**69.01**	**313**	*i* P	**P**	**17 23 09.6**	**-0.1**	
comp=Z,2.0nm,0.3s								
BBOO	**Buckleboo**	**69.44**	**144**	P	**P**	**17 23 11.4**	**-0.8**	
BBOO				IAmb	IAmb	17 23 29.4		
comp=Z,32nm,1.6s								
TUE	**Stuetta**	**69.57**	**313**	P	**P**	**17 23 13.2**	**0.0**	
SENIN	**Lac Senin/Sane**	**70.97**	**313**	P	**P**	**17 23 22.4**	**+0.6**	
BNI	**Bardonecchia**	**71.76**	**312**	P	**P**	**17 23 25.6**	**-0.8**	
BNI				IAmb	IAmb	17 23 33.8		
comp=Z,11nm,1.8s								
STKA	**Stephens Creek**	**71.85**	**140**	P	**P**	**17 23 26.0**	**-0.9**	
comp=Z,1.1nm,0.4s,baz=329,slow=6.1,SNR=8.6								
STKA	**Stephens Creek**	**71.85**	**140**	P	**P**	**17 23 25.9**	**-0.9**	
KEST	**Kesra**	**72.70**	**302**	P	**P**	**17 23 33.1**	**+1.0**	
comp=Z,2.4nm,0.5s,baz=0.9,slow=2.3,SNR=5.0								
KEST	**Kesra**	**72.70**	**302**	P	**P**	**17 23 33.1**	**+1.0**	
KEST				IAmb	IAmb	17 23 34.0		
comp=Z,4.4nm,0.8s								
EIDS	**Eidsvold**	**73.65**	**129**	P	**P**	**17 23 37.9**	**+0.3**	
EIDS				IAmb	IAmb	17 24 11.6		
comp=Z,27nm,1.5s								
LSZ	**Lusaka**	**76.65**	**246**	P	**P**	**17 23 55.7**	**+0.6**	
comp=Z,7.6nm,0.4s,baz=56,slow=6.8,SNR=20								
LSZ	**Lusaka**	**76.65**	**246**	P	**P**	**17 23 55.1**	**0.0**	
LSZ				IAmb	IAmb	17 23 56.0		
comp=Z,8.2nm,0.6s								
ARMA	**Armidale**	**77.19**	**132**	P	**P**	**17 23 56.6**	**-1.3**	
ARMA				IAmb	IAmb	17 24 35.1		
comp=Z,32nm,1.4s								
SDPT	**Sand Point**	**77.42**	**35**	P	**P**	**17 23 57.8**	**-0.9**	
SDPT				IAmb	IAmb	17 24 04.0		
comp=Z,35nm,1.5s								
BPAW	**Bear Paw Mtn.**	**77.43**	**24**	P	**P**	**17 24 00.0**	**+1.3**	
BPAW				IAmb	IAmb	17 24 32.4		
comp=Z,11nm,1.6s								
PPLA	**Purkeypile**	**77.59**	**26**	P	**P**	**17 23 59.6**	**-0.2**	
PPLA				IAmb	IAmb	17 24 11.0		
comp=Z,28nm,1.8s								
SUMG	**Summit**	**77.73**	**347**	P	**P**	**17 24 00.9**	**+0.3**	
SUMG				IAmb	IAmb	17 24 29.3		
comp=Z,16nm,1.7s								
BMAR	**Burnt Mountain**	**77.74**	**20**	P	**P**	**17 23 59.6**	**-0.8**	
TRF	**Thorofare Moun**	**78.04**	**25**	P	**P**	**17 24 04.0**	**+1.8**	
CNBA	**Chernabura Isl**	**78.11**	**35**	P	**P**	**17 24 02.1**	**-0.4**	
CNBA				IAmb	IAmb	17 24 17.6		
comp=Z,21nm,1.5s								
TOO	**Toolangi**	**78.15**	**141**	P	**P**	**17 24 01.9**	**-1.0**	
TOO				IAmb	IAmb	17 24 19.9		
comp=Z,14nm,1.4s								
SKT	**Skwentna**	**78.33**	**26**	P	**P**	**17 24 03.0**	**-0.7**	
CAN	**Canberra**	**78.68**	**138**	P	**P**	**17 24 05.4**	**-0.5**	
CAN				IAmb	IAmb	17 24 17.6		
comp=Z,37nm,1.7s								
MATP	**Matopo**	**79.06**	**241**	P	**P**	**17 24 08.9**	**+0.4**	
comp=Z,6.8nm,0.7s,baz=61,slow=5.2,SNR=13								
OHAK	**Old Harbor**	**80.05**	**31**	P	**P**	**17 24 13.0**	**-0.1**	
OHAK				IAmb	IAmb	17 24 39.2		
comp=Z,27nm,1.4s								
KDAK	**Kodiak Island**	**80.09**	**30**	P	**P**	**17 24 13.2**	**-0.1**	
ILULI	**Ilulissat**	**82.90**	**349**	P	**P**	**17 24 26.9**	**-0.9**	
LBTB	**Lobatse**	**83.74**	**239**	P	**P**	**17 24 33.5**	**+0.5**	
comp=Z,3.0nm,0.8s,baz=79,slow=6.0,SNR=4.4								
LBTB	**Lobatse**	**83.74**	**239**	P	**P**	**17 24 33.5**	**+0.5**	
LBTB				IAmb	IAmb	17 25 07.6		
comp=Z,16nm,1.4s								
TORD	**Torodi Ar. Bea**	**87.69**	**283**	P	**P**	**17 24 52.3**	**-0.4**	
comp=Z,1.0nm,0.5s,baz=69,slow=4.4,SNR=5.9								
TORD	**Torodi Ar. Bea**	**87.69**	**283**	P	**P**	**17 24

T54A	**Tazewell**	**1.15**	**168**	P	Pb	17 35 09.6	-0.2
	baz=348,SNR=5.5						
T54A				S	Sn	17 35 27.1	+0.2
	baz=348						
S55A	**Lewisburg**	**1.16**	**111**	P	Pg	17 35 09.1	-0.1
	baz=292						
S55A				S	Sg	17 35 24.2	0.0
	baz=292						
T53A	**Wise**	**1.32**	**204**	P	Pg	17 35 12.3	0.0
	baz=23,SNR=18						
T53A				S	Sn	17 35 31.0	0.0
	baz=23						
P53A	**Whipple**	**1.35**	**16**	P	Pg	17 35 11.5	-1.2
	baz=196						
P53A				S	Sn	17 35 32.4	+0.8
	baz=196						
T55A	**Pulaski**	**1.38**	**141**	P	Pg	17 35 12.2	-1.2
	baz=322						
R55A	**Marlinton**	**1.38**	**86**	P	Pg	17 35 11.7	-1.7
	baz=267,SNR=6.4						
R55A				S	Sn	17 35 32.6	0.0
	baz=267						
P52A	**Corning**	**1.45**	**352**	P	Pn	17 35 14.4	-0.1
	baz=172						
BLA	**Blacksburg**	**1.51**	**130**	S	Sn	17 35 36.4	+0.7
	baz=311						
P51A	**Williamsport**	**1.59**	**325**	S	Sn	17 35 37.4	-0.2
	baz=144						
Q55A	**Buckhannon**	**1.61**	**60**	S	Sn	17 35 37.7	-0.6
	baz=241						
U54A	**Nelsons Funny**	**1.67**	**179**	P	Pn	17 35 16.9	-0.6
	baz=359						
P54A	**Burton**	**1.78**	**37**	P	Pn	17 35 18.9	-0.1
	baz=218						
P54A				S	Sb	17 35 43.3	+0.1
	baz=218						
U55A	**TA2, Sparta**	**1.81**	**159**	P	Pn	17 35 19.5	0.0
	baz=339,SNR=6.7						
U55A				S	Sb	17 35 44.0	-0.3
	baz=339						
S56A	**Natural Bridge**	**1.89**	**105**	S	Sb	17 35 47.0	+0.4
	baz=286						
O52A	**Adamsville**	**1.92**	**1**	S	Sb	17 35 47.3	-0.1
	baz=181						
R56A	**Bull Pasture M**	**1.95**	**83**	S	Sb	17 35 47.5	-0.8
	baz=264						

ANF 06 17:35:38.4±0.5,38°.11N×81°.50W,h0km,Error ellipse: s-maj=5.1km s-min=3.6km az=105.0,West Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S54A	**Dingess, Beckl**	**0.34**	**154**	P	Pg	17 35 45.5	+0.6
	baz=334						
S54A				S	Sg	17 35 50.7	+1.3
	baz=334						
R54A	**Victor**	**0.41**	**80**	P	Pg	17 35 45.5	-0.7
	baz=259						
R54A				S	Sg	17 35 50.9	-0.6
	baz=259						
S53A	**Williamson**	**0.66**	**229**	S	Sg	17 35 57.4	-2.0
	baz=49						
R55A	**Marlinton**	**1.10**	**81**	P	Pg	17 35 59.0	-0.5
	baz=261						
P53A	**Whipple**	**1.38**	**4**	P	Pb	17 36 06.0	+0.9
	baz=184						
P53A				S	Sg	17 36 22.9	+0.2
	baz=184						
T53A	**Wise**	**1.39**	**217**	P	Pb	17 36 06.9	+1.6
	baz=36						
S56A	**Natural Bridge**	**1.59**	**105**	P	Pb	17 36 08.4	-0.3
	baz=286						
R56A	**Bull Pasture M**	**1.68**	**79**	P	Pn	17 36 09.0	-0.1
	baz=260						
R56A				S	Sn	17 36 30.8	-0.5
	baz=260						
P54A	**Burton**	**1.69**	**28**	P	Pn	17 36 09.6	+0.4
	baz=208						
P54A				S	Sg	17 36 32.7	0.0
	baz=208						
P55A	**Reedsville**	**1.91**	**43**	S	Sb	17 36 38.3	-0.3
	baz=224						
O53A	**New Philadelph**	**2.15**	**6**	S	Sb	17 36 45.6	+0.2
	baz=186						

WEL 06 17:47:44.9,45°.S±3°×16°.7E±°,h76km±5km,M3.8/11, ML4.0/11,MLv3.8/11,Error ellipse: s-maj=0.0km s-min=0.0km az=54.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.05**	**80**	P	Pn	17 47 55.1	-0.6
DCZ				S	Sn	17 48 02.4	-1.3
WHZ	**Wether Hill Ro**	**0.74**	**125**	P	Pn	17 48 01.6	+0.9
WHZ				S	Sn	17 48 13.5	+1.1
MLZ	**Mavora Lakes**	**0.74**	**82**	P	Pn	17 48 01.1	+0.4
MLZ				S	Sn	17 48 13.3	+0.9
PYZ	**Puysegur Point**	**0.75**	**202**	P	Pn	17 48 01.4	+0.6
PYZ				S	Sn	17 48 12.8	+0.3
MSZ	**Milford Sound**	**1.00**	**37**	P	Pn	17 48 03.5	-0.2
MSZ				S	Sn	17 48 17.6	-0.1
APZ	**The Paps**	**1.50**	**155**	P	Pn	17 48 11.0	+0.9
APZ				S	Sn	17 48 30.3	+1.2
WKZ	**Wanaka**	**1.52**	**65**	P	Pn	17 48 11.1	+0.8
WKZ				S	Sn	17 48 29.6	+0.1
SYZ	**Scrubby Hill**	**1.79**	**127**	P	Pn	17 48 15.0	+1.2
SYZ				S	Sn	17 48 37.3	+1.5
TUZ	**Tuapeka**	**1.85**	**106**	P	Pn	17 48 16.3	+1.6
TUZ				S	Sn	17 48 37.9	+0.6
JCZ	**Jackson Bay**	**1.85**	**42**	P	Pn	17 48 14.3	-0.6
LBZ	**Lake Benmore**	**2.46**	**65**	P	Pn	17 48 22.2	-0.7
LBZ				S	Sn	17 48 50.0	-1.9
HHSZ	**Highcliff Hill**	**2.50**	**101**	P	Pn	17 48 24.5	+1.1
HHSZ				S	Sn	17 48 52.6	-0.4
ODZ	**Otahua Downs**	**2.56**	**82**	P	Pn	17 48 24.0	-0.1
ODZ				S	Sn	17 48 51.8	-2.5
FOZ	**Fox Glacier**	**2.76**	**46**	P	Pn	17 48 25.6	-1.3
FOZ				S	Sn	17 48 57.7	-1.4
GCSZ	**Gaunt Creek Bo**	**3.17**	**48**	P	Pn	17 48 30.8	-1.7
RPZ	**Rata Peaks**	**3.34**	**60**	P	Pn	17 48 33.2	-1.6
WVZ	**Waitaha Valley**	**3.56**	**49**	P	Pn	17 48 36.0	-1.7
OXZ	**Oxford**	**4.15**	**61**	P	Pn	17 48 43.2	-2.6
OXZ				S	Sn	17 49 27.2	-5.9
INZ	**Inchbonnie**	**4.18**	**50**	P	Pn	17 48 44.5	-1.7
MQZ	**McQueen's Vall**	**4.36**	**68**	P	Pn	17 48 46.7	-1.9
MQZ				S	Sn	17 49 32.4	-5.7
AKCZ	**Akaroa Harbour**	**4.46**	**71**	P	Pn	17 48 48.5	-1.5
LTZ	**Lake Taylor**	**4.61**	**56**	P	Pn	17 48 49.7	-2.4
OKCZ	**Okains Bay**	**4.62**	**70**	P	Pn	17 48 50.8	-1.4
DSZ	**Denniston Nort**	**5.07**	**44**	P	Pn	17 48 56.1	-2.3
KHZ	**Kahutara**	**5.58**	**59**	P	Pn	17 49 02.9	-2.4
THZ	**Tophouse**	**5.62**	**51**	P	Pn	17 49 03.1	-2.9
QRZ	**Quarry Range**	**6.12**	**43**	P	Pn	17 49 10.6	-2.1
NNZ	**Nelson**	**6.26**	**49**	P	Pn	17 49 13.4	-1.3
TUWZ	**Tuamarina**	**6.42**	**53**	P	Pn	17 49 18.5	+1.6
KHEZ	**Kahui Hut**	**8.03**	**42**	P	Pn	17 49 38.1	-0.8
PKE	**Pukeiti**	**8.09**	**42**	P	Pn	17 49 39.0	-0.7
VRZ	**Vera Road**	**8.52**	**45**	P	Pn	17 49 44.8	-0.7
HIZ	**Hauiti**	**9.05**	**42**	P	Pn	17 49 52.3	-0.3
AWAZ	**Awhitu Peninsu**	**10.14**	**37**	P	Pn	17 50 07.0	-0.7
WTAZ	**Waiatarua**	**10.23**	**36**	P	Pn	17 50 08.4	-0.4
MKAZ	**Moumakai**	**10.33**	**39**	P	Pn	17 50 10.7	+0.4
RVAZ	**Riverhead Bore**	**10.37**	**36**	P	Pn	17 50 10.0	-0.7
MBAZ	**Motutapu North**	**10.50**	**37**	P	Pn	17 50 12.0	-0.5
WCZ	**Waipu Caves**	**11.00**	**33**	P	Pn	17 50 18.4	-1.0
OUZ	**Omahuta**	**11.38**	**28**	P	Pn	17 50 23.8	-0.7

*MEX **06** 18:18:05.0±1.0, 14°.07N×93°.77W, h9km±30km, MD4.3*
*IDC **06** 18:18:11.6±5.8, 14°.55N×93°.29W, h46km±33km, mb4.0/10, mb1 4.3/13, mb1mx3.9/44, mbtmp4.2/13, ML3.8/3, MS3.6/11, Ms1 3.6/11, ms1mx3.3/27, Error ellipse: s-maj=83.0km s-min=21.6km az=22.0*
*NEIC **06** 18:18:14.2±1.8, 14°.6N±0°.1×93°.46W±0°.08, h65km±8km, mb4.5/121, Error ellipse: s-maj=16.1km s-min=10.5km az=201.0*
ISC 06 18:18:09.3±0.7,14°.34N±0°.08×93°.76W±0°.06,h36km±2km, n180,σ1§56/175,mb4.5/51,MS3.6/9,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.45**	**21**	*i* P	**Pn**	**18 18 30.5**	**-2.5**
PCIG				*i* S	**Sn**	**18 18 51.5**	**+0.7**
THIG		**1.55**	**69**	*i* P	**Pn**	**18 18 31.3**	**-3.0**
THIG				*i* S	**Sn**	**18 18 51.4**	**-1.8**
RTAL	**Retalhuleu**	**2.01**	**85**	Pn	**Pn**	**18 18 37.7**	**-2.9**
HUEH	**Huehuetenango**	**2.39**	**66**		**Pn**	**18 18 44.8**	**-1.3**
CCIG	**Comitan**	**2.48**	**39**	*i* P	**Pn**	**18 18 47.2**	**-0.1**
CCIG				*i* S	**Sn**	**18 19 18.0**	**+1.5**
CCIG	**Comitan**	**2.48**	**39**	Pn	**Pn**	**18 18 46.1**	**-1.3**
TGIG		**2.50**	**14**	*i* P	**Pn**	**18 18 47.4**	**-0.1**
HUIG	**Huatulco**	**2.68**	**302**	*i* P	**Pn**	**18 18 47.7**	**-2.1**
HUIG				*i* S	**Sn**	**18 19 16.1**	**-4.9**
CMIG	**Matias Romero**	**2.94**	**339**	*i* P	**Pn**	**18 18 52.6**	**-0.8**
CMIG				*i* S	**Sn**	**18 19 26.0**	**-1.6**
APG	**El Apazote**	**3.25**	**78**	P	**Pn**	**18 18 53.4**	**-4.6**
	7.5nm,0.3s,baz=260,slow=8.2,SNR=75						
MTO3	**Montecristo**	**4.26**	**89**		**Pn**	**18 19 11.3**	**-0.6**
ESQI	**Esquipulas**	**4.28**	**87**	Pn	**Pn**	**18 19 11.0**	**-1.1**
SNET	**Serv Nac Est T**	**4.44**	**98**	Pn	**Pn**	**18 19 15.7**	**+1.5**
PETF	**Flores**	**4.54**	**55**	Pn	**Pn**	**18 19 13.9**	**-1.5**
TLIG	**Tlapa**	**5.62**	**305**	Pn	**Pn**	**18 19 32.4**	**+1.9**
TGUH	**Tegucigalpa,Un**	**6.30**	**92**	Pn	**Pn**	**18 19 40.7**	**+0.9**
MATN	**Matagalpa**	**7.74**	**100**	Pn	**Pn**	**18 20 01.7**	**+2.2**
TEIG	**Tepich**	**7.85**	**41**	P	**Pn**	**18 19 57.9**	**-3.1**
	3.1nm,0.3s,baz=251,slow=10,SNR=12						
TEIG				LR	LR	18 23 20.5	
	comp=Z,995nm,19.4s,baz=240,slow=42						
TEIG	**Tepich**	**7.85**	**41**	*e*P	**Pn**	**18 19 59.6**	**-1.3**
TEIG	**Tepich**	**7.85**	**41**	Pn	**Pn**	**18 19 58.2**	**-2.7**
BOAB	**BOACO BROADBAN**	**8.10**	**102**		**Pn**	**18 20 04.4**	**+0.1**
ACON	**Acoyapa**	**8.69**	**105**		**Pn**	**18 20 15.8**	**+3.3**
MOIG	**Morelia**	**8.87**	**308**		**Pn**	**18 20 18.5**	**+3.3**
JTS	**Las Juntas de**	**9.50**	**114**	Pn	**Pn**	**18 20 25.4**	**+1.7**
ZAIG	**Zacatecas**	**11.83**	**316**		**Pn**	**18 20 57.9**	**+2.1**
833A	**Chaparral WMA,**	**14.87**	**340**	Pn	**Pn**	**18 21 37.9**	**+1.0**
HKT	**Hockley**	**15.65**	**353**	P	**Pn**	**18 21 48.9**	**+1.8**
HKT				IAmb	IAmb	18 21 59.5	
	comp=Z,51nm,1.8s						
441A	**DeRidder**	**16.34**	**2**	Pn	**Pn**	**18 21 54.9**	**-1.0**
441A				IAmb	IAmb	18 22 01.5	
	comp=Z,29nm,0.8s						
435B	**Jarrell**	**16.74**	**348**	P	**P**	**18 22 02.3**	**-0.7**
435B				IAmb	IAmb	18 22 22.3	
	comp=Z,19nm,0.8s						
JCT	**Junction City**	**17.00**	**342**	P	**P**	**18 22 06.1**	**+0.2**
342A	**Flagon Creek P**	**17.00**	**4**	P	**Pn**	**18 22 04.9**	**+0.6**
342A				IAmb	IAmb	18 22 09.7	
	comp=Z,31nm,0.7s						
344A	**Westbrook Farm**	**17.26**	**9**		**Pn**	**18 22 06.6**	**-0.8**
344A				IAmb	IAmb	18 22 32.8	
	comp=Z,35nm,1.1s						
NATX	**Nacogdoches**	**17.36**	**357**	P	**Pn**	**18 22 07.2**	**-1.5**
NATX				IAmb	IAmb	18 22 20.7	
	comp=Z,15nm,0.6s						
TXAR	**Lajitas Array**	**17.51**	**330**	P	**P**	**18 22 12.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=19						
TXAR				LR	LR	18 29 45.3	
	comp=Z,107nm,18.9s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**17.51**	**330**	P	**P**	**18 22 13.0**	**+1.4**
TX31	**Lajitas Ar. Si**	**17.51**	**330**	P	**P**	**18 22 13.3**	**+1.6**
TX31				IAmb	IAmb	18 22 26.6	
	comp=Z,54nm,1.2s						
TX32	**Lajitas Array**	**17.51**	**330**	P	**P**	**18 22 13.0**	**+1.4**
WHTX	**Lake Whitney,**	**17.89**	**350**	P	**Pn**	**18 22 15.1**	**-0.2**
ABTX	**Abilene, Hawle**	**18.97**	**345**		**Pn**	**18 22 28.6**	**+0.1**
Z35A	**Perchaven, San**	**19.17**	**351**	P	**Pn**	**18 22 30.6**	**-0.2**
Z35A				IAmb	IAmb	18 22 48.3	
	comp=Z,18nm,0.8s						
Z47A	**Carrollton**	**19.47**	**14**	P	**Pn**	**18 22 34.2**	**-0.3**
LRAL	**Lakeview Retre**	**19.60**	**17**		**P**	**18 22 34.5**	**+0.1**
SMLC	**San Martn de**	**20.05**	**104**	*e*P	**P**	**18 22 39.8**	**+0.3**
MIAR	**Mount Ida**	**20.12**	**0**	P	**P**	**18 22 38.5**	**-1.5**
MIAR				IAmb	IAmb	18 22 56.2	
	comp=Z,21nm,1.1s						
X37A	**Clayton**	**20.21**	**356**	P	Pn	18 22 44.7	+1.5
GUY2C	**Guyana, Caldas**	**20.25**	**115**	*e*P	Pn	18 22 44.9	+0.7
MNTX	**Cornudas Mount**	**20.29**	**330**	P	Pn	18 22 43.8	-0.4
UALR	**University of**	**20.39**	**3**		**P**	**18 22 41.7**	**-1.2**
UALR				IAmb	IAmb	18 22 58.1	
	comp=Z,16nm,0.7s						
OXF	**Oxford**	**20.46**	**10**		**P**	**18 22 43.1**	**-0.7**
PTBC	**PUERTO BERRIO,**	**20.49**	**110**	*e*P	**P**	**18 22 44.2**	**-0.1**
TOLC	**Tolima**	**20.59**	**116**	*e*P	Pn	18 22 48.2	+0.1
W39A	**Magazine**	**20.77**	**360**		Pn	18 22 50.5	+0.9
W39A				IAmb	IAmb	18 22 51.4	
	comp=Z,15nm,0.9s						
W41B	**Gary Mavity, V**	**20.79**	**3**	P	Pn	18 22 49.2	-0.6
W41B				IAmb	IAmb	18 23 04.7	
	comp=Z,21nm,1.1s						
WMOK	**Wichita Mounta**	**20.81**	**348**	P	**P**	**18 22 47.1**	**-0.4**
WHAR	**Wooly Hollow**	**20.90**	**3**	P	**P**	**18 22 48.7**	**+0.2**
WHAR				IAmb	IAmb	18 23 05.9	
	comp=Z,36nm,1.2s						
W35A	**Tecumseh**	**20.91**	**353**	P	**P**	**18 22 48.9**	**+0.3**
X48A	**Hartselle**	**20.92**	**16**	P	**P**	**18 22 47.8**	**-1.0**
FNO	**Franklin**	**21.08**	**352**	P	**P**	**18 22 51.8**	**+1.3**
MSTX	**Muleshoe**	**21.18**	**339**	P	**P**	**18 22 52.4**	**+0.7**
MSTX				IAmb	IAmb	18 23 07.0	
	comp=Z,33nm,1.0s						
PLAL	**Pickwick Lake**	**21.18**	**13**	P	**P**	**18 22 50.1**	**-1.5**
PLAL				IAmb	IAmb	18 23 21.3	
	comp=Z,26nm,1.4s						
OKCFA	**Oklahoma City**	**21.25**	**352**	P	**P**	**18 22 53.0**	**+0.8**
OK025	**Westminster Rd**	**21.39**	**352**	P	**P**	**18 22 53.5**	**-0.3**
FPAL	**Fort Paine**	**21.42**	**19**	P	**P**	**18 22 53.5**	**-0.7**
FPAL				IAmb	IAmb	18 23 20.0	
	comp=Z,22nm,1.1s						
BCOK	**Bluff Creek, N**	**21.50**	**351**	P	**P**	**18 22 55.0**	**0.0**
TUL1	**Leonard**	**21.55**	**356**	P	**P**	**18 22 54.8**	**-0.8**
TUL1				IAmb	IAmb	18 23 15.0	
	comp=Z,17nm,0.9s						
BARC	**Barichara**	**21.64**	**109**	*e*P	**P**	**18 22 58.3**	**+1.5**
AMTX	**Amarillo**	**21.67**	**342**	P	**P**	**18 22 57.1**	**+0.2**
LCAR	**Lake Charles**	**21.76**	**6**	P	**P**	**18 22 57.1**	**-0.7**
LCAR				IAmb	IAmb	18 23 14.8	
	comp=Z,26nm,1.3s						
HHAR	**Hobbs**	**21.85**	**360**	P	**P**	**18 22 58.7**	**0.0**
HHAR				IAmb	IAmb	18 23 00.6	
	comp=Z,12nm,0.7s						
QUOK	**Quay**	**21.90**	**354**		**P**	**18 22 59.3**	**0.0**
QUOK				IAmb	IAmb	18 23 18.2	
	comp=Z,31nm,1.0s						
U40A	**Yellville**	**21.94**	**2**	P	**P**	**18 22 59.4**	**-0.3**
U40A				IAmb	IAmb	18 23 28.1	
	comp=Z,16nm,1.1s						
RUSC	**La Rusia**	**22.00**	**110**	*e*P	**P**	**18 22 59.5**	**-1.5**
U38A	**Gravette**	**22.01**	**359**	P	**P**	**18 22 59.5**	**-1.0**
121A	**Cookes Peak, D**	**22.17**	**327**	P	**P**	**18 23 05.1**	**+2.7**
V48A	**Smith Brothers**	**22.20**	**15**	P	**P**	**18 23 01.0**	**-1.5**
WVT	**Waverly**	**22.34**	**13**	P	**P**	**18 23 03.1**	**-0.9**
CROK	**Carrier**	**22.39**	**351**	P	**P**	**18 23 05.0**	**+0.4**
T42A	**Van Buren**	**22.72**	**6**	P	**P**	**18 23 06.2**	**-1.8**
KAN13	**South Haven SW**	**22.82**	**352**	P	**P**	**18 23 07.4**	**-1.7**
BNM	**Barren Site**	**22.91**	**332**	P	**P**	**18 23 11.4**	**+1.1**
LENM	**Lemitar**	**23.08**	**331**	P	**P**	**18 23 13.7**	**+1.7**
KAN12	**Harper NE Stat**	**23.17**	**351**	P	**P**	**18 23 11.7**	**-1.0**
S39A	**Bolivar**	**23.26**	**1**	P	**P**	**18 23 11.9**	**-1.7**
S39A				IAmb	IAmb	18 23 14.3	
	comp=Z,22nm,1.0s						
SDV	**Santo Domingo**	**23.28**	**101**	P	**P**	**18 23 14.3**	**+0.1**
	comp=Z,5.8nm,0.5s,baz=290,slow=4.8,SNR=5.3						
T47A	**Sharon Grove**	**23.32**	**14**	P	**P**	**18 23 12.7**	**-1.5**
T47A				IAmb	IAmb	18 23 14.4	
	comp=Z,9.4nm,0.7s						
ANMO	**Albuquerque**	**23.49**	**333**	P	**P**	**18 23 16.7**	**+0.6**
BIRD	**Birdtown, Kers**	**23.51**	**28**	P	**P**	**18 23 14.9**	**-1.2**
S44A	**Carbondale**	**23.60**	**9**	P	**P**	**18 23 15.7**	**-1.1**
S44A				IAmb	IAmb	18 23 44.4	
	comp=Z,16nm,0.8s						
TUC	**Tucson**	**23.70**	**322**	P	**P**	**18 23 20.4**	**+2.5**
TUC				IAmb	IAmb	18 23 22.1	
	comp=Z,12nm,1.1s						
CCM	**Cathedral Cave**	**23.72**	**5**	P	**P**	**18 23 16.3**	**-1.7**
R40A	**Maddies Statio**	**23.89**	**3**	P	**P**	**18 23 18.1**	**-1.5**
R32A	**Long Quarter,**	**24.38**	**351**	P	**P**	**18 23 23.9**	**-0.2**
T25A	**Trinidad**	**24.61**	**339**	P	**P**	**18 23 28.7**	**+2.3**
T25A				IAmb	IAmb	18 23 30.3	
	comp=Z,23nm,1.0s						
WCI	**Wyandotte Cave**	**24.70**	**14**	P	**P**	**18 23 26.0**	**-1.0**
WCI				IAmb	IAmb	18 23 27.2	
	comp=Z,13nm,0.7s						
Q44A	**Meyer Farm, Va**	**24.82**	**9**	P	**P**	**18 23 26.3**	**-1.8**
Q44A				IAmb	IAmb	18 23 28.7	
	comp=Z,17nm,1.1s						
CBKS	**Cedar Bluff**	**24.94**	**349**	P	**P**	**18 23 28.4**	**-0.9**
CBKS				IAmb	IAmb	18 23 30.4	
	comp=Z,15nm,0.9s						
SDCO	**Great Sand Dun**	**25.54**	**338**	P	**P**	**18 23 36.4**	**+1.5**
P46A	**Rosedale**	**25.83**	**12**	P	**P**	**18 23 35.9**	**-1.3**
P46A				IAmb	IAmb	18 23 38.8	
	comp=Z,20nm,0.8s						
S22A	**4UR Ranch, Cre**	**26.04**	**336**	P	**P**	**18 23 41.0**	**+1.5**
MVCO	**Mesa Verde**	**26.29**	**333**	P	**P**	**18 23 43.4**	**+1.6**
MVCO				IAmb	IAmb	18 23 45.3	
	comp=Z,11nm,1.2s						
N38A	**Joes South For**	**26.36**	**1**	P	**P**	**18 23 40.6**	**-1.4**
WUAZ	**Wupatki**	**26.37**	**326**	P	**P**	**18 23 44.4**	**+2.0**
HDIL	**Hopedale**	**26.41**	**8**	P	**P**	**18 23 41.1**	**-1.3**
HDIL				IAmb	IAmb	18 23 42.3	
	comp=Z,16nm,0.8s						
PV01	**Paradox Valley**	**27.09**	**334**	P	**P**	**18 23 51.3**	**+2.4**
PV13	**Radium Mtn., P**	**27.22**	**333**	P	**P**	**18 23 51.6**	**+1.5**
PV02	**Paradox Valley**	**27.22**	**334**	P	**P**	**18 23 52.4**	**+2.2**
PV02				IAmb	IAmb	18 23 53.9	
	comp=Z,11nm,1.2s						
PV03	**Paradox Valley**	**27.31**	**333**	P	**P**	**18 23 52.4**	**+1.5**
PV18	**Skein Mesa, Pa**	**27.33**	**333**	P	**P**	**18 23 52.7**	**+1.6**
PV18				IAmb	IAmb	18 24 13.1	
	comp=Z,9.2nm,1.1s						
PV12	**Saucer Basin,**	**27.34**	**334**	P	**P**	**18 23 53.1**	**+1.9**
PV12				IAmb	IAmb	18 24 13.5	
	comp=Z,19nm,1.2s						
PV16	**Nyswonger Mesa**	**27.39**	**333**	P	**P**	**18 23 52.2**	**+0.7**
PV16				IAmb	IAmb	18 24 02.5	
	comp=Z,25nm,1.6s						
ISCO	**Idaho Springs**	**27.41**	**340**	P	**P**	**18 23 53.5**	**+1.6**
ISCO				IAmb	IAmb	18 23 54.9	
	comp=Z,8.1nm,0.9s						
PV04	**Paradox Valley**	**27.45**	**334**	P	**P**	**18 23 54.3**	**+2.2**
PV04				IAmb	IAmb	18 23 55.8	
	comp=Z,14nm,1.1s						
PV22	**Blue Mesa, Par**	**27.52**	**334**	P	**P**	**18 23 55.0**	**+2.3**
U15A	**North Rim**	**27.54**	**326**	P	**P**	**18 23 55.8**	**+2.7**
PV23	**Carpenter Ridg**	**27.55**	**333**	P	**P**	**18 23 55.0**	**+2.0**
PV23				IAmb	IAmb	18 23 56.5	
	comp=Z,11nm,1.0s						
O20A	**White River Ci**	**28.66**	**336**	P	**P**	**18 24 04.8**	**+1.9**
O20A				IAmb	IAmb	18 24 59.0	
	comp=Z,29nm,2.0s						
MTPU	**Mount Pierson**	**28.71**	**329**	P	**P**	**18 24 05.2**	**+1.7**
SZCU	**Shurtz Canyon**	**28.84**	**327**	P	**P**	**18 24 06.0**	**+1.4**
ECSD	**EROS Data Cent**	**29.39**	**356**	P	**P**	**18 24 08.0**	**-1.2**
RWWY	**Rawlins**	**29.64**	**339**	P	**P**	**18 24 13.7**	**+2.0**
RWWY				IAmb	IAmb	18 24 15.2	
	comp=Z,17nm,1.1s						
TCUT	**Toone Canyon**	**30.79**	**333**	P	**P**	**18 24 24.1**	**+2.3**
BW06	**Boulder Array**	**31.43**	**337**	P	**P**	**18 24 28.4**	**+1.0**
PD31	**Pinedale Array**	**31.43**	**337**	P	**P**	**18 24 27.9**	**+0.5**
PDAR	**Pinedale Array**	**31.43**	**337**	P	**P**	**18 24 28.4**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=134,slow=8.5,SNR=13						
PDAR				LR	LR	18 38 06.3	
	comp=Z,55nm,19.0s,baz=121,slow=38						
PDAR	**Pinedale Array**	**31.43**	**337**	P	**P**	**18 24 27.8**	**+0.5**
NV11	**Mina Array Sit**	**32.26**	**323**	P	**P**	**18 24 37.1**	**+2.4**
NV11				IAmb	IAmb	18 24 39.1	
	comp=Z,5.8nm,1.1s						
NVAR	**Mina Array Bea**	**32.35**	**322**	P	**P**	**18 24 38.8**	**+3.2**
	comp=Z,3.2nm,0.9s,baz=146,slow=8.9,SNR=22						
NVAR				LR	LR	18 39 35.4	
	comp=Z,108nm,18.4s,baz=134,slow=40						
NVAR	**Mina Array Bea**	**32.35**	**322**	P	**P**	**18 24 37.6**	**+2.0**
REDW	**Red Top Meadow**	**32.43**	**336**	P	**P**	**18 24 37.5**	**+1.4**
LOHW	**Long Hollow**	**32.55**	**337**	P	**P**	**18 24 38.5**	**+1.3**
LOHW				IAmb	IAmb	18 24 40.4	
	comp=Z,13nm,1.4s						
TPAW	**Teton Pass**	**32.58**	**336**	P	**P**	**18 24 38.3**	**+0.8**
FXWY	**Fox Creek**	**32.73**	**337**	P	**P**	**18 24 39.9**	**+1.1**
FXWY				IAmb	IAmb	18 24 50.2	
	comp=Z,7.2nm,1.4s						
IMW	**Indian Meadow**	**32.91**	**337**	P	**P**	**18 24 41.8**	**+1.3**
IMW				IAmb	IAmb	18 24 44.5	
	comp=Z,15nm,1.8s						
RLMT	**Red Lodge**	**33.38**	**340**	P	**P**	**18 24 45.8**	**+1.3**
YNE	**Yellowstone No**	**33.53**	**339**	P	**P**	**18 24 46.3**	**+0.5**
YHH	**Holmes Hill**	**33.64**	**338**	P	**P**	**18 24 48.6**	**+1.8**
YHL	**Hebgen Lake**	**33.82**	**337**	P	**P**	**18 24 50.6**	**+2.2**
LAO	**LASA Array**	**33.90**	**345**	P	**P**	**18 24 49.6**	**+0.9**
HLID	**Hailey**	**34.08**	**333**	P	**P**	**18 24 52.6**	**+2.1**
HLID				IAmb	IAmb	18 24 53.6	
	comp=Z,3.6nm,0.8s						
**

*ANF **06** 18:53:58.7±0.5,36.°62N×97.°72W,h0km,ML4.4/11,Error ellipse: s-maj=5.3km s-min=4.7km az=10.0*
*NEIC **06** 18:53:59.4,36.°62N×97.°68W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=0.48; Mθθ=1.87; Mφφ=-1.39; Mrθ=0.41; Mrφ=-0.53; Mθφ=0.05; Fault plane solution: M0=1.81000×10^14^ NP1:φs=54.14000°, δ88.53000°,λ168.78000°. NP2:φs=144.43000°,δ78.79000°, λ=1.50000°. Principal axes: T 2.0114, Plg9.0000°, Azm9.0000°; N -0.5259, Plg79.0000°, Azm227.0000°; P -1.4855, Plg7.0000°, Azm100.0000°;*
*TUL **06** 18:53:59.1±1.5,36.°64N±0.°02×97.°70W±0.°06,h5km±7km, ML3.5,Mwr3.4/30(NEIC) Error ellipse: s-maj=6.8km s-min=2.6km az=77.0*
*NEIC **06** 18:53:59.3±1.5,36.°62N±0.°01×97.°67W±0.°06,h3km±8km, Error ellipse: s-maj=7.7km s-min=0.7km az=76.0*
*UNK **06** 18:53:59.1,36.°64N×97.°70W,h5km*
ISC 06 18:54:00.1±0.7,36.°64N±0.°03×97.°69W±0.°03,h10km,n110, σ0.98/117,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.27**	**242**		**Pg**	**18 54 04.7**	**-1.0**
CROK				Sg	**Sg**	**18 54 08.6**	**-0.7**
KAN13	**South Haven SW**	**0.41**	**24**		**Pg**	**18 54 07.6**	**-0.6**
KAN10	**Anthony SW Sta**	**0.59**	**326**		**Pg**	**18 54 10.7**	**-0.8**
KAN12	**Harper NE Stat**	**0.71**	**339**		**Pg**	**18 54 12.8**	**-0.9**
OK029	**Liberty Lake**	**0.86**	**167**		**Pg**	**18 54 15.5**	**-1.1**
QUOK	**Quay**	**0.91**	**120**	Pg	**Pg**	**18 54 16.7**	**-1.0**
QUOK				Sg	**Sg**	**18 54 28.9**	**-0.7**
BCOK	**Bluff Creek, N**	**0.98**	**176**		**Pg**	**18 54 17.6**	**-1.3**
T35A	**Sooner Cattle**	**0.98**	**73**	Pg	**Pg**	**18 54 17.9**	**-1.1**
ADOK	**Arcadia Dam**	**1.01**	**165**		**Pg**	**18 54 20.1**	**+0.6**
OK025	**Westminster Rd**	**1.09**	**165**		**Pg**	**18 54 19.4**	**-1.6**
U32A	**Winter Ranch,**	**1.09**	**257**		**Pg**	**18 54 19.1**	**-1.9**
OKCFA	**Oklahoma City**	**1.23**	**171**		**Pn**	**18 54 22.1**	**-1.2**
OKCSW	**OKLAHOMA CITY**	**1.24**	**171**		**Pn**	**18 54 22.5**	**-1.1**
FNO	**Franklin**	**1.39**	**170**		**Pn**	**18 54 25.4**	**-0.2**
W35A	**Tecumseh**	**1.62**	**156**		**Pn**	**18 54 28.5**	**-0.2**
TUL1	**Leonard**	**1.69**	**115**	P	**Pn**	**18 54 29.9**	**+0.3**
	baz=296						
TUL1				S	**Sn**	**18 54 52.9**	**+1.4**
	baz=296						
TUL1	**Leonard**	**1.69**	**115**		**Pn**	**18 54 29.5**	**-0.2**
R32A	**Long Quarter,**	**1.96**	**336**		**Pn**	**18 54 34.0**	**+0.6**
WMOK	**Wichita Mounta**	**2.09**	**206**	P	**Pn**	**18 54 35.2**	**0.0**
	baz=24						
WMOK				S	**Sn**	**18 55 02.8**	**+1.4**
	baz=24						
WMOK	**Wichita Mounta**	**2.09**	**206**	Pn	**Pn**	**18 54 35.2**	**0.0**
KSU1	**Kansas State U**	**2.60**	**19**	Pn	**Pn**	**18 54 42.8**	**+0.6**
U38A	**Gravette**	**2.66**	**93**	Pn	**Pn**	**18 54 43.6**	**+0.5**
CBKS	**Cedar Bluff**	**2.72**	**324**	Sb	**Sb**	**18 55 22.9**	**+0.7**
	baz=143						
CBKS	**Cedar Bluff**	**2.72**	**324**	Pn	**Pn**	**18 54 45.3**	**+1.5**
X37A	**Clayton**	**2.78**	**137**		**Pn**	**18 54 45.5**	**+0.9**
HHAR	**Hobbs**	**3.04**	**96**	Pn	**Pn**	**18 54 48.8**	**+0.6**
Z35A	**Perchaven, San**	**3.32**	**174**		**Pn**	**18 54 52.4**	**+0.4**
W39A	**Magazine**	**3.48**	**113**	P	**Pn**	**18 54 54.9**	**+0.6**
	baz=296						
W39A				Pb	**Pb**	**18 55 02.6**	**+0.9**
	baz=296						
W39A	**Magazine**	**3.48**	**113**	Pn	**Pn**	**18 54 54.8**	**+0.6**
S39A	**Bolivar**	**3.64**	**72**		**Pn**	**18 54 57.2**	**+0.7**
AMTX	**Amarillo**	**3.69**	**243**	Sb	**Sb**	**18 55 53.9**	**+3.6**
	baz=60						
AMTX	**Amarillo**	**3.69**	**243**	Pn	**Pn**	**18 54 58.1**	**+0.9**
U40A	**Yellville**	**3.90**	**93**	P	**Pn**	**18 55 00.3**	**+0.2**
	baz=276						
U40A				S	**Sn**	**18 55 46.4**	**+0.4**
	baz=276						
U40A	**Yellville**	**3.90**	**93**		**Pn**	**18 55 00.4**	**+0.2**
MIAR	**Mount Ida**	**3.94**	**121**	Pb	**Pb**	**18 55 10.3**	**+0.6**
	baz=303						
MIAR	**Mount Ida**	**3.94**	**121**		**Pn**	**18 55 01.1**	**+0.4**
Z38A	**Mt. Pleasant**	**4.03**	**146**	Pn	**Pn**	**18 55 02.8**	**+0.9**
N33A	**J Bar K, Exete**	**4.10**	**2**	Pn	**Pn**	**18 55 02.2**	**-0.6**
ABTX	**Abilene, Hawle**	**4.32**	**203**	Pn	**Pn**	**18 55 05.7**	**-0.1**
P38A	**Dawn**	**4.43**	**46**	Pn	**Pn**	**18 55 07.6**	**+0.3**
X40A	**Basin Creek Fa**	**4.50**	**117**	P	**Pn**	**18 55 09.0**	**+0.8**
	baz=300						
X40A	**Basin Creek Fa**	**4.50**	**117**	Pn	**Pn**	**18 55 08.6**	**+0.3**
N35A	**Tabor**	**4.51**	**20**	Pn	**Pn**	**18 55 07.9**	**-0.5**
FCAR	**Ozark Folk Cen**	**4.55**	**98**	Pn	**Pn**	**18 55 09.4**	**+0.4**
WHAR	**Wooly Hollow**	**4.58**	**105**	Pn	**Pn**	**18 55 09.4**	**0.0**
R40A	**Maddies Statio**	**4.62**	**67**		**Pn**	**18 55 10.2**	**+0.3**
WHTX	**Lake Whitney,**	**4.64**	**178**	P	**Pn**	**18 55 10.0**	**-0.1**
	baz=358						
WHTX				S	**Sn**	**18 56 02.7**	**-1.3**
	baz=358						
WHTX	**Lake Whitney,**	**4.64**	**178**		**Pn**	**18 55 09.7**	**-0.5**
W41B	**Gary Mavity, V**	**4.65**	**107**		**Pn**	**18 55 10.4**	**+0.1**
UALR	**University of**	**4.73**	**112**	Pn	**Pn**	**18 55 11.0**	**-0.4**
WLAR	**White Oak Lake**	**4.76**	**127**	Pn	**Pn**	**18 55 11.8**	**-0.1**
BGNE	**Belgrade**	**4.78**	**356**	P	**Pn**	**18 55 11.9**	**-0.2**
	baz=176						
BGNE	**Belgrade**	**4.78**	**356**		**Pn**	**18 55 11.8**	**-0.4**
237A	**Washetta, Mont**	**4.88**	**161**	Pn	**Pn**	**18 55 13.3**	**-0.2**
MSTX	**Muleshoe**	**4.94**	**239**	Pn	**Pn**	**18 55 14.3**	**-0.2**
Z41A	**Richland Creek**	**5.24**	**129**	Pn	**Pn**	**18 55 19.4**	**+1.0**
LCAR	**Lake Charles**	**5.30**	**94**	Pn	**Pn**	**18 55 19.8**	**+0.5**
P40A	**Paris**	**5.30**	**55**	Pn	**Pn**	**18 55 19.4**	**+0.1**
T42A	**Van Buren**	**5.30**	**84**	Pn	**Pn**	**18 55 19.4**	**+0.1**
CCM	**Cathedral Cave**	**5.32**	**73**	Pn	**Pn**	**18 55 19.0**	**-0.6**
T25A	**Trinidad**	**5.42**	**277**	P	**Pn**	**18 55 21.0**	**-0.1**
	baz=93						
T25A	**Trinidad**	**5.42**	**277**	Pn	**Pn**	**18 55 20.8**	**-0.3**
N38A	**Joes South For**	**5.42**	**39**	Pn	**Pn**	**18 55 20.4**	**-0.5**
L34A	**Svendsen Farm,**	**5.42**	**10**	Pn	**Pn**	**18 55 20.0**	**-1.0**
OGNE	**Ogallala**	**5.48**	**323**	Pn	**Pn**	**18 55 23.3**	**+1.5**
HBAR	**Harrisburg**	**5.79**	**99**	Pn	**Pn**	**18 55 23.0**	**-3.0**
435B	**Jarrell**	**5.84**	**179**	Pn	**Pn**	**18 55 25.1**	**-1.6**
K31A	**O'Neill**	**6.04**	**352**	Pn	**Pn**	**18 55 27.1**	**-2.4**
SLM	**Saint Louis**	**6.24**	**69**	Pn	**Pn**	**18 55 31.1**	**-1.1**
SCIA	**State Center**	**6.30**	**32**	Pn	**Pn**	**18 55 31.5**	**-1.6**
PEBM	**Pemiscott Bayo**	**6.33**	**92**	Pn	**Pn**	**18 55 33.3**	**-0.2**
SDCO	**Great Sand Dun**	**6.34**	**282**	Pn	**Pn**	**18 55 33.8**	**0.0**
HDBT	**Hernando Brdge**	**6.37**	**101**	Pn	**Pn**	**18 55 32.2**	**-1.7**
JCT	**Junction City**	**6.39**	**197**	Pn	**Pn**	**18 55 32.5**	**-1.8**
LNXT	**Lenox**	**6.63**	**92**	Pn	**Pn**	**18 55 38.7**	**+1.1**
N41A	**Harden Midland**	**6.71**	**51**	Pn	**Pn**	**18 55 38.1**	**-0.5**
S44A	**Carbondale**	**6.81**	**79**	Pn	**Pn**	**18 55 40.3**	**+0.2**
ISCO	**Idaho Springs**	**7.00**	**299**		**Pn**	**18 55 43.2**	**+0.3**
OXF	**Oxford**	**7.07**	**105**	Pn	**Pn**	**18 55 42.9**	**-0.7**
GDL2	**Guadalupe Moun**	**7.07**	**233**	Pn	**Pn**	**18 55 44.3**	**+0.5**
P43A	**Skaggs, Pawnee**	**7.10**	**63**	Pn	**Pn**	**18 55 44.4**	**+0.4**
K38A	**Parkersburg**	**7.10**	**31**	Pn	**Pn**	**18 55 44.0**	**+0.1**
ECSD	**EROS Data Cent**	**7.14**	**6**		**Pn**	**18 55 43.2**	**-1.3**
L40A	**Anamosa**	**7.38**	**41**	Pn	**Pn**	**18 55 47.3**	**-0.5**
PHWY	**Pilot Hill**	**7.64**	**310**	Pn	**Pn**	**18 55 52.0**	**+0.3**
HDIL	**Hopedale**	**7.65**	**57**	Pn	**Pn**	**18 55 50.8**	**-0.7**
N23A	**Red Feather La**	**7.73**	**306**	Pn	**Pn**	**18 55 52.2**	**-0.7**
WVT	**Waverly**	**7.96**	**91**	Pn	**Pn**	**18 55 55.2**	**-0.7**
MNTX	**Cornudas Mount**	**8.06**	**235**	Pn	**Pn**	**18 55 57.8**	**+0.6**
146A	**Union**	**8.15**	**117**	Pn	**Pn**	**18 55 59.2**	**+0.8**
L42A	**Oliver, Polo**	**8.21**	**47**	Pn	**Pn**	**18 55 58.9**	**-0.2**
JFWS	**Jewell Farm**	**8.49**	**40**	Pn	**Pn**	**18 56 02.8**	**-0.3**
T47A	**Sharon Grove**	**8.49**	**84**	Pn	**Pn**	**18 56 02.8**	**-0.3**
MVCO	**Mesa Verde**	**8.68**	**277**	Pn	**Pn**	**18 56 06.9**	**+1.0**
TX31	**Lajitas Ar. Si**	**8.84**	**216**	Pn	**Pn**	**18 56 08.5**	**+0.4**
TX32	**Lajitas Array**	**8.84**	**216**	Pn	**Pn**	**18 56 07.9**	**-0.1**
TXAR	**Lajitas Array**	**8.84**	**216**	Pn	**Pn**	**18 56 08.7**	**+0.6**
RWWY	**Rawlins**	**8.95**	**307**	Pn	**Pn**	**18 56 11.7**	**+2.0**
PV11	**David Mesa, Pa**	**9.05**	**284**	Pn	**Pn**	**18 56 10.2**	**-0.7**
SFIN	**Lafayette**	**9.10**	**63**	Pn	**Pn**	**18 56 12.0**	**+0.5**
CLTN	**Cedars of Leba**	**9.18**	**90**	Pn	**Pn**	**18 56 12.0**	**-0.5**
PV23	**Carpenter Ridg**	**9.18**	**285**	Pn	**Pn**	**18 56 13.3**	**+0.6**
WCI	**Wyandotte Cave**	**9.20**	**77**	Pn	**Pn**	**18 56 12.7**	**-0.1**
U49A	**Red Boiling Sp**	**9.58**	**87**	Pn	**Pn**	**18 56 16.4**	**-1.6**
Y49A	**Blount Mountai**	**9.63**	**103**	Pn	**Pn**	**18 56 17.1**	**-1.6**
F36A	**Milaca**	**9.73**	**17**	Pn	**Pn**	**18 56 18.0**	**-2.1**
P48A	**Milroy**	**10.07**	**70**	Pn	**Pn**	**18 56 24.2**	**-0.5**
W50A	**Signal Mountai**	**10.14**	**94**	Pn	**Pn**	**18 56 27.1**	**+1.4**
G40A	**Rib Lake**	**10.31**	**31**	Pn	**Pn**	**18 56 27.0**	**-1.0**
L46A	**Eue Claire**	**10.32**	**55**	Pn	**Pn**	**18 56 26.8**	**-1.4**

*MOS **06** 19:19:14.7±1.0,36.°18N×70.°19E,h104km,mb4.1/7,Error ellipse: s-maj=13.1km s-min=4.9km az=75.0*
*IDC **06** 19:19:17.2±3.3,36.°28N×70.°30E,h103km±29km,mb3.6/6, mb1 3.6/12,mb1mx3.2/48,mbtmp4.0/12,MS2.7/1, Ms1 2.7/1,ms1mx2.2/48,Error ellipse: s-maj=25.9km s-min=20.1km az=14.0*
*NNC **06** 19:19:23.3±7.5,36.°77N×70.°02E,h125km±118km,mb3.8, mpv4.2,Error ellipse: s-maj=61.4km s-min=37.5km az=13.0*
ISC 06 19:19:16.4±0.7,36.°28N±0.°06×70.°27E±0.°07,h100km,n88, σ2.06/97,mb4.0/9,9C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**5.86**	**358**	*i* P	**Pn**	**19 20 43.4**	**+2.5**
	baz=356						
IUG				*e*S	**Sn**	**19 21 46.3**	**-0.4**
	baz=356						
IUG	**luzhnay**	**5.86**	**358**	*i* PN	**Pn**	**19 20 43.3**	**+2.5**
AML	**Almayashu**	**6.42**	**23**	P	**Pn**	**19 20 50.7**	**+2.0**
	SNR=14						
DZA	**Taraz**	**6.65**	**7**	*i* P	**Pn**	**19 20 53.6**	**+2.1**
	29nm,0.6s,baz=5.3						
DZA	**Taraz**	**6.65**	**7**	*i* PN	**Pn**	**19 20 53.6**	**+2.1**
DZA				pmax	pmax		
	comp=Z,29nm,0.6s						
UCH	**Uchtor**	**6.79**	**28**	P	**Pn**	**19 20 56.1**	**+2.3**
	SNR=7.8						
KK31	**Karatay Array**	**6.81**	**2**	⇑P	**Pn**	**19 20 55.5**	**+1.7**
	comp=Z,3.5nm,0.2s,baz=188,slow=13,SNR=390						
KK31				⇓S	**Sn**	**19 22 08.9**	**-0.9**
	comp=Z,6.0nm,0.5s,baz=185,slow=23,SNR=5.7						
KK31	**Karatay Array**	**6.81**	**2**	PN	**Pn**	**19 20 55.0**	**+1.2**
EKS2	**Erkin-Say**	**6.92**	**22**	P	**Pn**	**19 20 57.6**	**+2.2**
	SNR=14						
KZA	**Kyzart**	**6.96**	**32**	P	**Pn**	**19 20 58.1**	**+2.0**
	SNR=6.8						
AAK	**Ala-Archa**	**7.14**	**26**	P	**Pn**	**19 21 00.5**	**+2.2**
	comp=Z,7.4nm,0.3s,baz=173,slow=2.8,SNR=32						
AAK				S	**Sn**	**19 22 18.3**	**+0.4**
	comp=Z,3.4nm,0.3s,baz=333,slow=21,SNR=14						
AAK	**Ala-Archa**	**7.14**	**26**	*ce*PN	**Pn**	**19 21 00.7**	**+2.4**
AAK				pmax	pmax		
	comp=Z,11nm,0.5s						
KBK	**Karagaybulak**	**7.32**	**28**	P	**Pn**	**19 21 03.1**	**+2.4**
	SNR=11						
CHMS	**Chumysh**	**7.55**	**26**	P	**Pn**	**19 21 05.8**	**+2.1**
	SNR=10						
USP	**Ospenovka**	**7.70**	**24**	P	**Pn**	**19 21 07.9**	**+2.1**
	SNR=20						
TKM2	**Tokmak 2**	**7.80**	**30**	P	**Pn**	**19 21 08.9**	**+1.6**
	SNR=25						
TKM2	**Tokmak 2**	**7.80**	**30**	⇑P	**Pn**	**19 21 08.4**	**+1.1**
	comp=Z,14nm,0.6s						
TKM2				⇓S	**Sn**	**19 22 33.2**	**-0.9**
	comp=Z,12nm,0.9s						
TKM2	**Tokmak 2**	**7.80**	**30**	PN	**Pn**	**19 21 08.0**	**+0.7**
SGDS	**Sogindy**	**7.91**	**24**	*i* P	**Pn**	**19 21 09.7**	**+1.1**
	comp=Z,3.8nm,0.4s,baz=23						
SGDS				*e*S	**Sn**	**19 22 34.9**	**-1.5**
	baz=23						
SGDS	**Sogindy**	**7.91**	**24**	*i* PN	**Pn**	**19 21 09.7**	**+1.1**
SGDS				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MTBS	**Maitube**	**8.32**	**33**	*e*P	**Pn**	**19 21 15.5**	**+1.2**
	baz=33						
MTBS	**Maitube**	**8.32**	**33**	*e*PN	**Pn**	**19 21 15.5**	**+1.2**
TNSS	**Tian-Shan**	**8.48**	**35**	*e*P	**Pn**	**19 21 17.6**	**+0.8**
	baz=36						
TNSS	**Tian-Shan**	**8.48**	**35**	*e*PN	**Pn**	**19 21 17.6**	**+0.8**
MDOK	**Medeo**	**8.63**	**35**	*e*P	**Pn**	**19 21 20.5**	**+1.9**
	baz=35						
MDOK	**Medeo**	**8.63**	**35**	*e*PN	**Pn**	**19 21 20.5**	**+1.9**
KUU	**Kurty**	**8.91**	**30**	*e*P	**Pn**	**19 21 22.4**	**+0.1**
	comp=Z,3.6nm,1.0s,baz=30						
KUU	**Kurty**	**8.91**	**30**	*e*P	**Pn**	**19 21 22.3**	**+0.1**
KUU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CHKK	**Chushkaly**	**9.15**	**32**	*e*P	**Pn**	**19 21 25.6**	**+0.1**
	baz=32						
CHKK	**Chushkaly**	**9.15**	**32**	*e*P	**Pn**	**19 21 25.5**	**+0.1**
BTLS	**Baital**	**9.21**	**17**	*e*P	**Pn**	**19 21 26.6**	**+0.3**
	baz=16						
BTLS	**Baital**	**9.21**	**17**	*e*P	**Pn**	**19 21 26.5**	**+0.3**
UZB	**Uzynbulak**	**9.61**	**42**	*e*P	**Pn**	**19 21 32.8**	**+0.9**
	baz=42						
UZB	**Uzynbulak**	**9.61**	**42**	*e*P	**Pn**	**19 21 32.8**	**+0.9**
KPKS	**Kokpek**	**9.66**	**39**	*e*P	**Pn**	**19 21 33.1**	**+0.6**
	comp=Z,4.6nm,1.1s,baz=40						
KPKS	**Kokpek**	**9.66**	**39**	*e*P	**Pn**	**19 21 33.0**	**+0.6**
KPKS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GEYT	**Alibeck**	**9.85**	**283**	P	**Pn**	**19 21 35.7**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=98,slow=12,SNR=9.3						
PYUN	**Piuthan**	**13.50**	**124**	*e*P	**Pn**	**19 22 22.4**	**-1.7**
PYUN	**Piuthan**	**13.50**	**124**	*e*P	**Pn**	**19 22 22.4**	**-1.7**
BRZS	**Berezniki**	**13.80**	**7**	*e*P	**Pn**	**19 22 27.8**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=6.0						
BRZS	**Berezniki**	**13.80**	**7**	*e*P	**Pn**	**19 22 27.8**	**+0.1**
BRZS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**13.82**	**37**	P	**Pn**	**19 22 30.0**	**+2.1**
MKAR	**Makanchi Array**	**13.82**	**37**	P	**Pn**	**19 22 28.0**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=220,slow=13,SNR=22						
KOLN	**Koldanda**	**14.13**	**123**	*e*P	**Pn**	**19 22 30.7**	**-1.5**
KOLN	**Koldanda**	**14.13**	**123**	*e*P	**Pn**	**19 22 30.7**	**-1.5**
AB31	**Akbulak array**	**15.00**	**333**	⇑P	**Pn**	**19 22 43.0**	**0.0**
	comp=Z,8.9nm,0.3s						
AB31				⇑S	**Sn**	**19 25 21.7**	**-6.7**
	comp=Z,4.0nm,0.3s,baz=152,slow=23,SNR=11						
AB31	**Akbulak array**	**15.00**	**333**	P	**Pn**	**19 22 43.0**	**0.0**
DMN	**Daman**	**15.27**	**120**	*e*P	**Pn**	**19 22 45.3**	**-1.5**
	comp=Z,11nm,0.4s						
DMN	**Daman**	**15.27**	**120**	*e*P	**Pn**	**19 22 45.3**	**-1.5**
	comp=Z,11nm,0.4s						
KKN	**Kakani**	**15.28**	**119**	*e*P	**Pn**	**19 22 45.9**	**-1.0**
KKN	**Kakani**	**15.28**	**119**	*e*P	**Pn**	**19 22 45.9**	**-1.0**
PKI	**Pulchoki**	**15.50**	**120**	*e*P	**Pn**	**19 22 48.9**	**-0.9**
	comp=Z,6.3nm,0.3s						
PKI	**Pulchoki**	**15.50**	**120**	*e*P	**Pn**	**19 22 48.9**	**-0.9**
	comp=Z,6.3nm,0.3s						
KURBB	**Kurchatov Arra**	**15.52**	**20**	P	**Pn**	**19 22 48.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=209,slow=10,SNR=15						
KURK	**Kurchatov**	**15.63**	**20**	P	**Pn**	**19 22 48.3**	**-2.6**
JIRN	**Jiri**	**16.00**	**118**	*e*P	**P**	**19 22 56.2**	**-1.4**
	comp=Z,20nm,0.3s						
JIRN	**Jiri**	**16.00**	**118**	*e*P	**P**	**19 22 56.2**	**-1.4**
	comp=Z,20nm,0.3s						
AKTO	**Aktyubinsk**	**16.68**	**332**	P	**P**	**19 23 04.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=138,slow=13,SNR=18						
AKTO				LR	LR	19 30 36.4	
	comp=Z,29nm,20.1s,baz=0.2,slow=41						
AKTO	**Aktyubinsk**	**16.68**	**332**	⇓P	**Pn**	**19 23 04.4**	**+0.4**
	comp=Z,9.2nm,1.1s						
AKTO				⇓S	**Sn**	**19 26 00.4**	**-8.6**
	comp=Z,5.6nm,0.7s						
RAMN	**Ramite**	**16.72**	**119**	*e*P	**P**	**19 23 04.8**	**-0.6**
RAMN	**Ramite**	**16.72**	**119**	*e*P	**P**	**19 23 04.8**	**-0.6**
BVAR	**Borovoye Array**	**16.74**	**0**	P	**Pn**	**19 23 04.7**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=174,slow=10,SNR=18						
BRVK	**Borovoye**	**16.77**	**0**	*ce*P	**Pn**	**19 23 06.1**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TAPN	**Taplejung**	**17.27**	**116**	*e*P	**P**	**19 23 12.7**	**+1.1**
	comp=Z,11nm,0.4s						
TAPN	**Taplejung**	**17.27**	**116**	*e*P	**P**	**19 23 12.7**	**+1.1**
	comp=Z,11nm,0.4s						
ODAN	**Odare**	**17.33**	**118**	*e*P	**Pn**	**19 23 12.9**	**+0.6**
ODAN	**Odare**	**17.33**	**118**	*e*P	**Pn**	**19 23 12.9**	**+0.6**
DGZ	**Jazzator, Alta**	**18.31**	**38**	*i* P	**Pn**	**19 23 24.3**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZALV	**Zalesovo Beam**	**20.36**	**25**	P	**P**	**19 23 45.3**	**+0.6**
	comp=Z,11nm,0.4s,baz=217,slow=11,SNR=66						
ZALV	**Zalesovo Beam**	**20.36**	**25**	*i* P	**P**	**19 23 45.4**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,11nm,0.4s						
ARU	**Arti**	**21.65**	**342**	P	**P**	**19 24 00.2**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=162,slow=7.8,SNR=7.3						
ARU	**Arti**	**21.65**	**342**	*d i* P	**P**	**19 23 59.8**	**+1.3**
ARU						19 24 29.4	
ARU				S	**S**	**19 27 50.6**	**-1.7**
ARU				SS	**SnSn**	**19 28 36.9**	**+11**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**22.37**	**299**	*e*P	**P**	**19 24 08.2**	**+1.8**
KIV				pmax	pmax		
	comp=Z,32nm,1.0s						
TLY	**Talaya**	**28.22**	**46**	*i* P	**P**	**19 24 58.4**	**-1.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.87**	**117**	P	**P**	**19 25 23.7**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=301,slow=7.8,SNR=4.3						
CMAR	**Chiang Mai Arr**	**30.87**	**117**	*ce*P	**P**	**19 25 24.7**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KOLS	**Kolonicke sedl**	**36.92**	**305**	*e*P	**P**	**19 26 13.9**	**-1.5**
KOLS	**Kolonicke sedl**	**36.92**	**305**	*e*P	**P**	**19 26 13.9**	**-1.5**
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**19 26 19.2**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=116,slow=9.2,SNR=13						
VYHS	**Vyhne**	**39.19**	**305**	*e*P	**P**	**19 26 33.9**	**-0.7**
VYHS	**Vyhne**	**39.19**	**305**	*e*P	**P**	**19 26 33.9**	**-0.7**
ARCES	**ARCESS Array B**	**41.12**	**338**	P	**P**	**19 26 51.2**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=102,slow=7.0,SNR=10						
NB2	**NORSAR Subarra**	**44.23**	**322**	P	**P**	**19 27 14.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.20**	**323**	P	**P**	**19 27 15.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=103,slow=7.0,SNR=7.8						
NOA	**NORSAR Array B**	**44.20**	**323**	P	**P**	**19 27 15.0**	**-0.2**
YAK	**Yakutsk**	**44.49**	**35**	⇑*e*P	**P**	**19 27 17.7**	**+0.3**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIXI	**Tiksi**	**46.20**	**22**	*i* P	**P**	**19 27 30.9**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PEA0B	**Petropavlovsk-**	**60.53**	**44**	*ce*P	**P**	**19 29 16.1**	**+0.2**

*IDC **06** 19:22:55.5±0.7,18.°71N×107.°15W,h0km,mb4.5/16, mb1 4.8/20,mb1mx4.6/40,mbtmp4.6/20,ML4.5/4,MS5.4/38, Ms1 5.4/38,ms1mx5.3/46,Error ellipse: s-maj=25.3km s-min=13.1km az=59.0*
*MOS **06** 19:22:57.2±0.9,18.°75N×107.°03W,h18km,mb5.3/17, MS5.4/31,Error ellipse: s-maj=7.6km s-min=4.7km az=94.9*
*BJI **06** 19:22:57.9±0.0,18.°61N×107.°58W,h20km,mB5.6/21, mb5.2/3,Ms5.9/29,Ms7 5.7/29*
*MEX **06** 19:22:58.8±1.1,18.°69N×106.°95W,h10km,MD5.9*
*NEIC **06** 19:22:59.0±1.6,18.°75N±0.°09×107.°05W±0.°08,h17km±1km, mb5.4/282,Ms_20 5.4/738,Mwb5.9/29,Mww6.2, Mwc6.1(GCMT),Error ellipse: s-maj=15.7km s-min=11.0km az=212.0*
*UNK **06** 19:23:00.1,18.°84N×107.°02W,h18km*
*NEIC **06** 19:23:02,18.°94N×106.°96W,h17km,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.05; Mθθ=0.59; Mφφ=0.54; Mrθ=-0.02; Mrφ=-0.84; Mθφ=0.08; Fault plane solution: M0=1.01000×10^18^ NP1:φs=286.88000°, δ85.76000°,λ177.00000°. NP2:φs=17.10000°,δ87.01000°, λ=4.25000°. Principal axes: T 0.9912, Plg5.0000°, Azm242.0000°; N 0.0459, Plg85.0000°, Azm52.0000°; P -1.0372, Plg1.0000°, Azm152.0000°;*
*GCMT **06** 19:23:07.0±0.1,18.°93N×107.°38W,h25km,MW6.1/165, Moment Tensor Solution. s161,c390; s165,c636; Duration: 28 Moment tensor: Scale 10^18^Nm; Mrr=0.07±.01; Mθθ=1.22±.01; Mφφ=1.29±.01; Mrθ=0.06±.02; Mrφ=-1.49±.01; Mθφ=0.07±.02; Best double couple: M0=1.95100×10^18^ NP1:φs=290.00000°,δ87.00000°, λ=-179.00000°. NP2:φs=200.00000°,δ89.00

PEIG Puerto Escondi 9.90 105 *i* P Pn **19 25 20.5 +0.7**
VHO Vista Hermosa 10.01 98 *i* P Pn **19 25 23.1 +1.5**
LVIG Laguna Verde 10.13 83 *i* P Pn **19 25 22.9 -0.1**
HSIG 10.78 342 *i* P Pn **19 25 36.3 +4.3**
HSIG 10.78 342 Pn Pn **19 25 36.0 +4.0**
HUIG Huatulco 10.92 104 *i* P Pn **19 25 34.9 +1.1**
TX31 Lajitas Ar. Si 10.97 16 Pn **19 25 37.6 +3.0**
TX32 Lajitas Array 10.97 16 Pn Pn **19 25 37.2 +2.7**
TXAR Lajitas Array 10.97 16 Pn Pn **19 25 37.3 +2.8**
1.3nm,0.3s,baz=190,slow=13,SNR=94
TXAR LR LR 19 29 52.8
comp=Z,16μm,20.2s,baz=0.0,slow=38
TXAR Lajitas Array 10.97 16 Pn **19 25 37.9 +3.4**
CGIG 11.56 356 *i* P Pn **19 25 47.2 +4.5**
NZIG Nacozari, Sono 11.76 350 *i* P Pn **19 25 50.1 +4.7**
833A Chaparral WMA, 11.84 35 P Pn **19 25 51.1 +4.7**
baz=218,SNR=21
KVTX Kingsville 12.15 42 Pn Pn **19 25 54.2 +3.5**
319A Douglas 12.70 351 Pn Pn **19 26 01.6 +3.4**
MNTX Cornudas Mount 12.96 7 P Pn **19 26 05.2 +3.5**
baz=187,SNR=28
MNTX Cornudas Mount 12.96 7 Pn Pn **19 26 04.0 +2.3**
735A Kenedy 13.14 39 Pn **19 26 07.6 +3.4**
JCT Junction City 13.40 28 P Pn **19 26 11.9 +4.2**
JCT Junction City 13.40 28 P Pn **19 26 12.3 +4.6**
baz=211,SNR=93
JCT Junction City 13.40 28 Pn Pn **19 26 11.9 +4.2**
GDL2 Guadalupe Moun 13.59 10 Pn **19 26 14.6 +4.1**
121A Cookes Peak, D 13.71 358 P Pn **19 26 16.4 +4.2**
baz=177,SNR=61
121A Cookes Peak, D 13.71 358 Pn **19 26 15.6 +3.5**
CLNB Carlsbad 13.74 12 Pn **19 26 16.9 +4.5**
TUC Tucson 13.88 347 P Pn **19 26 18.1 +3.8**
TUC Tucson 13.88 347 P Pn **19 26 18.0 +3.8**
baz=165
TUC Tucson 13.88 347 *i* P Pn **19 26 18.2 +3.9**
TUC Tucson 13.88 347 Pn Pn **19 26 18.1 +3.8**
PIX Pinacate 13.96 337 Pn **19 26 18.5 +3.1**
SFX San Felipe 14.08 332 Pn **19 26 20.0 +3.1**
214A Organ Pipe Nat 14.10 340 P Pn **19 26 21.3 +4.0**
baz=157,SNR=166
214A Organ Pipe Nat 14.10 340 Pn **19 26 20.5 +3.3**
SPX San Pedro Mart 14.36 330 *i* P Pn **19 26 23.1 +1.9**
SPX San Pedro Mart 14.36 330 Pn **19 26 22.8 +1.6**
SPIG San Pedro Mart 14.37 330 *i* P Pn **19 26 24.2 +2.9**
CCIG Comitan 14.49 98 Pn **19 26 23.4 +0.6**
435B Jarrell 14.74 34 P Pn **19 26 28.0 +2.0**
baz=218
435B Jarrell 14.74 34 Pn **19 26 28.0 +2.0**
HKT Hockley 15.12 41 P Pn **19 26 31.8 +0.7**
HKT pmax pmax
comp=Z,1μm,2.0s
HKT Hockley 15.12 41 Pn **19 26 31.8 +0.7**
113A Mohawk Valley, 15.16 338 Pn **19 26 34.5 +2.8**
Y22D IRIS PASSCAL I 15.23 1 P Pn **19 26 36.1 +3.3**
baz=180
Y22D IRIS PASSCAL I 15.23 1 Pn Pn **19 26 35.5 +2.7**
BNM Barren Site 15.32 1 P **19 26 37.5 -1.3**
LENM Lemitar 15.33 0 Pn **19 26 36.6 +2.6**
ABTX Abilene, Hawle 15.33 24 P Pn **19 26 35.4 +1.5**
baz=207,SNR=7.3
ABTX Abilene, Hawle 15.33 24 Pn **19 26 35.6 +1.6**
ABTX IAmb IAmb 19 26 59.1
comp=Z,236nm,1.4s
ESJX Sierra Juarez 15.39 331 Pn **19 26 34.8 -0.2**
ESJX IAmb IAmb 19 26 56.5
comp=Z,223nm,1.5s
MBIG Mexicali 15.40 333 *i* P Pn **19 26 37.9 +3.1**
CPBX Cerro Prieto 15.46 333 Pn **19 26 37.6 +2.0**
MSTX Muleshoe 15.62 13 P Pn **19 26 39.6 +1.8**
baz=195,SNR=32
MSTX Muleshoe 15.62 13 Pn **19 26 39.3 +1.5**
MSTX IAmb IAmb 19 27 02.9
comp=Z,446nm,1.2s
CCX Cicese 15.63 328 Pn **19 26 39.3 +1.5**
CCX IAmb IAmb 19 27 05.7
comp=Z,268nm,1.5s
WHTX Lake Whitney, 15.77 32 P Pn **19 26 41.2 +1.5**
baz=216,SNR=27
WHTX Lake Whitney, 15.77 32 Pn **19 26 41.1 +1.5**
WHTX IAmb IAmb 19 27 09.4
comp=Z,353nm,1.4s
GLA Glamis 15.81 336 P **P** **19 26 43.3 -0.8**
GLA pmax pmax
comp=Z,618nm,1.4s
GLA Glamis 15.81 336 P **P** **19 26 43.7 -0.4**
baz=152,SNR=68
GLA Glamis 15.81 336 P **P** **19 26 43.3 -0.8**
RMX La Rumorosa 15.96 331 P Pn **19 26 44.0 +1.8**
RMX IAmb IAmb 19 26 49.5
comp=Z,346nm,1.4s
CBX Cerro Bola 15.99 329 *i* P Pn **19 26 45.3 +2.6**
CBX Cerro Bola 15.99 329 P **P** **19 26 45.4 -0.7**
IKP In-Ko-Pah, Jac 16.01 331 P **P** **19 26 46.1 -0.2**
baz=147,SNR=40
TJIG Tijuana 16.09 330 *i* P **P** **19 26 46.7 -0.5**
ANMO Albuquerque 16.11 2 Pn **P** **19 26 47.4 -0.3**
comp=Z,0.0nm,0.3s,baz=348,slow=13,SNR=13
ANMO LR LR 19 32 21.5
comp=Z,1μm,19.1s,baz=360,slow=35
ANMO Albuquerque 16.11 2 *de* P Pn **19 26 45.5 +1.2**
ANMO pmax pmax
comp=Z,93nm,1.4s
ANMO Albuquerque 16.11 2 P **P** **19 26 47.2 -0.4**
baz=182
ANMO Albuquerque 16.11 2 P **P** **19 26 47.3 -0.3**
ANMO IAmb IAmb 19 27 15.6
comp=Z,448nm,1.9s
SWSC Sam W. Stewart 16.12 333 P **P** **19 26 47.4 0.0**
baz=149,SNR=32
TKX Tecate 16.17 330 Pn **19 26 46.0 +1.1**
BAR Barrett 16.30 330 Pn **19 26 48.5 +2.1**
BAR IAmb IAmb 19 27 18.3
comp=Z,345nm,1.6s
TJX Tijuana 16.34 329 P **P** **19 26 49.9 0.0**
MONP2 Monument Peak 16.36 331 P **P** **19 26 50.7 +0.4**
baz=147,SNR=67
APG El Apazote 16.36 101 Pn Pn **19 26 46.5 -1.0**
comp=Z,0.6nm,0.3s,baz=314,slow=9.2,SNR=17
APG LR LR 19 32 34.7
comp=Z,3μm,20.3s,baz=283,slow=35
W18A Petrified Fore 16.44 352 P **P** **19 26 51.8 +0.6**
baz=171
PETF Flores 16.51 94 Pn **19 26 49.0 -0.3**
BC3 Big Chuckawall 16.59 335 P **P** **19 26 53.6 +0.8**
baz=151,SNR=132
237A Washetta, Mont 16.64 36 Pn **19 26 52.0 +1.2**
109C Camp Elliot, M 16.67 329 P **P** **19 26 54.0 +0.4**
baz=145,SNR=14
109C Camp Elliot, M 16.67 329 Pn **19 26 53.2 +2.0**
109C IAmb IAmb 19 27 04.8
comp=Z,346nm,1.5s
PDMCI Parker Dam,Lak 16.69 339 P **P** **19 26 54.6 +0.8**
baz=156,SNR=34
AMTX Amarillo 16.75 16 P **P** **19 26 54.6 0.0**
baz=198
AMTX Amarillo 16.75 16 P **P** **19 26 54.4 -0.1**
AMTX IAmb IAmb 19 27 15.7
comp=Z,393nm,1.2s
IRM Iron Mountain 16.91 336 P **P** **19 26 57.5 +1.2**
baz=153,SNR=83
Z35A Perchaven, San 16.96 29 Pn **19 26 56.1 +1.2**
Z35A IAmb IAmb 19 27 51.3
comp=Z,362nm,1.4s
TPFO Pinon Flats 16.97 332 P **P** **19 26 58.8 +1.7**
baz=148,SNR=124
PFO Pinyon Flats O 16.98 332 Pn **P** **19 26 58.9 +1.8**
comp=Z,0.9nm,0.3s,baz=150,slow=13,SNR=124
PFO LR LR 19 32 44.6
comp=Z,40μm,21.8s,baz=177,slow=35
PFO Pinyon Flats O 16.98 332 P **P** **19 26 58.3 +1.2**
PFO pmax pmax
comp=Z,403nm,1.2s
PFO Pinyon Flats O 16.98 332 P **P** **19 26 58.9 +1.8**
baz=148,SNR=122
PFO Pinyon Flats O 16.98 332 P **P** **19 26 58.3 +1.2**
PFO IAmb IAmb 19 27 03.4
comp=Z,403nm,1.2s
WUAZ Wupatki 17.10 348 P **P** **19 27 00.2 +1.8**
baz=166,SNR=69
WUAZ Wupatki 17.10 348 P **P** **19 26 59.6 +1.1**
BELC Belle Mtn. Jos 17.11 334 P **P** **19 27 00.8 +2.2**
baz=150,SNR=88
NATX Nacogdoches 17.12 39 P Pn **19 26 57.7 +0.9**
baz=224,SNR=16
NATX Nacogdoches 17.12 39 P Pn **19 26 57.9 +1.0**
NEE2 Needles Airpor 17.27 339 P **P** **19 27 01.9 +1.7**
baz=155
MURC Murrieta 17.30 331 P **P** **19 27 02.6 +2.0**
baz=146,SNR=33
SCI2 San Clemente I 17.48 326 P **P** **19 27 04.7 +2.3**
baz=141,SNR=10
ESQI Esquipulas 17.52 101 P **P** **19 27 03.9 +0.7**
ESQI IAmb IAmb 19 27 40.8
comp=Z,926nm,1.9s
WMOK Wichita Mounta 17.53 23 P Pn **19 27 02.7 +0.7**
WMOK pmax pmax
comp=Z,201nm,1.5s
WMOK Wichita Mounta 17.53 23 P Pn **19 27 02.7 +0.7**
baz=207,SNR=15
WMOK Wichita Mounta 17.53 23 P Pn **19 27 02.7 +0.7**
GMRC Granite Mounta 17.66 336 P **P** **19 27 07.2 +2.5**
baz=152,SNR=54
BBRC Big Bear Solar 17.73 332 P **P** **19 27 08.8 +3.2**
baz=148
CIS Catalina Islan 17.74 327 P **P** **19 27 07.5 +2.1**
baz=142,SNR=9.4
TEIG Tepich 17.81 82 P Pn **19 27 04.4 -1.1**
comp=Z,1.2nm,0.3s,baz=43,slow=23,SNR=8.6
TEIG LR LR 19 34 21.6
comp=Z,2μm,19.1s,baz=272,slow=38
TEIG Tepich 17.81 82 P Pn **19 27 04.3 -1.1**
FMP Fort Macarthur 17.92 328 P **P** **19 27 09.7 +2.3**
baz=143
HEC Hector,Ludlow 17.97 335 P **P** **19 27 10.6 +2.6**
baz=150,SNR=42
BFSC Mount Baldy Ra 18.05 331 P **P** **19 27 11.8 +2.9**
baz=146,SNR=38
Z38A Mt. Pleasant 18.05 35 P **P** **19 27 09.2 +0.5**
Z38A IAmb IAmb 19 27 11.2
comp=Z,286nm,1.2s
PASC Pasadena Art C 18.24 329 P **P** **19 27 12.6 +1.7**
PASC IAmb IAmb 19 27 19.0
comp=Z,352nm,1.5s
RRX Edison Barstow 18.29 333 P **P** **19 27 14.1 +2.7**
baz=149
342A Flagon Creek P 18.32 44 P Pn **19 27 12.2 +0.6**
TUQ Turquoise Moun 18.34 337 P **P** **19 27 14.9 +2.7**
baz=152,SNR=88
DECC Green Verdugo 18.38 329 P Pn **19 27 14.8 +2.4**
baz=144,SNR=15
MVCO Mesa Verde 18.41 356 P Pn **19 27 15.3 +2.3**
baz=176,SNR=24
T25A Trinidad 18.44 7 P Pn **19 27 15.6 +2.2**
baz=188,SNR=9.4
T25A Trinidad 18.44 7 P Pn **19 27 15.2 +1.7**
FNO Franklin 18.53 26 P Pn **19 27 15.3 +1.0**
GSC Goldstone, Bar 18.57 334 P Pn **19 27 16.8 +1.9**
GSC pmax pmax
comp=Z,643nm,1.8s
GSC Goldstone, Bar 18.57 334 P Pn **19 27 17.2 +2.3**
baz=150,SNR=39
GSC Goldstone, Bar 18.57 334 P Pn **19 27 16.8 +1.9**
GSC IAmb IAmb 19 27 42.5
comp=Z,643nm,1.8s
OKCFA Oklahoma City 18.65 25 P **P** **19 27 15.0 -0.4**
OKCFA IAmb IAmb 19 28 04.0
comp=Z,374nm,1.5s
W35A Tecumseh 18.66 27 P **P** **19 27 15.4 -0.2**
EDW2 Edwards Air Fo 18.73 331 P Pn **19 27 17.7 +0.9**
baz=146,SNR=46
BCOK Bluff Creek, N 18.79 25 P Pn **19 27 18.0 +0.6**
BCOK IAmb IAmb 19 28 02.2
comp=Z,402nm,1.1s
OK025 Westminster Rd 18.84 25 P **P** **19 27 18.4 +0.9**
OK025 IAmb IAmb 19 27 58.0
comp=Z,239nm,1.4s
KNB Kanab 18.85 346 P Pn **19 27 20.4 +2.0**
KNB pmax pmax
comp=Z,536nm,1.7s
KNB Kanab 18.85 346 P Pn **19 27 20.4 +2.0**
OSI Osito Audit: C 18.86 329 P Pn **19 27 19.7 +1.4**
baz=144
OSI Osito Audit: C 18.86 329 P Pn **19 27 19.0 +0.7**
OSI IAmb IAmb 19 27 34.7
comp=Z,229nm,1.3s
SHOC Shoshone, Teco 18.88 336 P Pn **19 27 20.7 +2.1**
baz=152,SNR=13
S22A 4UR Ranch, Cre 18.90 1 P Pn **19 27 21.1 +2.0**
baz=181,SNR=40
S22A 4UR Ranch, Cre 18.90 1 P Pn **19 27 20.4 +1.4**
SDCO Great Sand Dun 18.95 4 P Pn **19 27 21.4 +1.8**
baz=184,SNR=41
SDCO Great Sand Dun 18.95 4 P Pn **19 27 20.5 +0.9**
SHPR Sheep Range 19.03 340 P Pn **19 27 21.4 +0.9**
SHPR IAmb IAmb 19 28 14.2
comp=Z,425nm,1.8s
LRMC Laurel Mtn Rad 19.09 333 P Pn **19 27 22.4 +1.2**
baz=148,SNR=59
PKCU Pink Cliffs 19.15 347 P Pn **19 27 23.7 +1.6**
SBC Santa Barbara 19.22 327 P Pn **19 27 24.2 +1.6**
baz=141
Z41A Richland Creek 19.28 39 P Pn **19 27 23.7 +0.3**
baz=225,SNR=27
Z41A Richland Creek 19.28 39 P Pn **19 27 23.5 +0.1**
ARVC Arvin 19.32 330 P Pn **19 27 25.0 +1.1**
baz=144,SNR=13
PV01 Paradox Valley 19.33 356 P Pn **19 27 24.7 +0.5**
PV01 IAmb IAmb 19 27 59.7
comp=Z,265nm,1.8s
PV13 Radium Mtn., P 19.37 356 P **P** **19 27 24.7 +1.1**
WLAR White Oak Lake 19.41 37 P **P** **19 27 24.8 +1.1**
WLAR IAmb IAmb 19 27 35.1
comp=Z,290nm,1.1s
344A Westbrook Farm 19.43 46 P Pn **19 27 25.8 +0.5**
344A IAmb IAmb 19 27 31.8
comp=Z,275nm,1.1s
SZCU Shurtz Canyon 19.47 346 P Pn **19 27 26.7 +0.9**
CCUT Cedar City 19.49 345 P Pn **19 27 27.5 +1.4**
MPMC Manual Prospec 19.50 334 P Pn **19 27 27.4 +1.2**
baz=149,SNR=50
TGUH Tegucigalpa,Un 19.59 101 P Pn **19 27 27.2 -0.1**
TGUH IAmb IAmb 19 27 58.7
comp=Z,238nm,1.4s
ISA Isabella, Lake 19.60 331 P Pn **19 27 27.7 +0.5**
ISA pmax pmax
comp=Z,164nm,1.6s
ISA Isabella, Lake 19.60 331 P Pn **19 27 27.9 +0.6**
baz=146,SNR=29
ISA Isabella, Lake 19.60 331 P Pn **19 27 27.7 +0.5**
QUOK Quay 19.60 26 P **P** **19 27 25.9 +0.1**
QUOK IAmb IAmb 19 28 13.8
comp=Z,176nm,1.3s
FURC Furnace Creek, 19.61 336 P Pn **19 27 28.3 +1.1**
baz=151,SNR=36
PKM Mcpherson Peak 19.62 327 P Pn **19 27 28.2 +0.6**
baz=142,SNR=36
143A Socs Landing, 19.77 42 P **P** **19 27 28.7 +1.0**
TUL1 Leonard 19.77 28 P **P** **19 27 28.8 +1.0**
baz=213,SNR=18
TUL1 Leonard 19.77 28 P **P** **19 27 28.4 +0.6**
MIAR Mount Ida 19.78 35 P **P** **19 27 28.6 +0.8**
MIAR pmax pmax
comp=Z,138nm,1.5s
MIAR Mount Ida 19.78 35 P **P** **19 27 28.7 +0.9**
baz=221,SNR=27
MIAR Mount Ida 19.78 35 P **P** **19 27 28.6 +0.8**
TPNV Topopah Spring 19.81 338 P Pn **19 27 30.3 +0.5**
TPNV pmax pmax
comp=Z,664nm,1.6s
TPNV Topopah Spring 19.81 338 P Pn **19 27 31.2 +1.4**
baz=153,SNR=119
TPNV Topopah Spring 19.81 338 P Pn **19 27 30.3 +0.5**
VES Vestal, Richgr 20.02 330 P Pn **19 27 32.9 +0.7**
baz=145,SNR=25
VBMS Vicksburg 20.04 45 P **P** **19 27 31.9 +1.2**
baz=232,SNR=9.2
VBMS Vicksburg 20.04 45 P **P** **19 27 31.8 +1.1**
SMMC Simmler 20.05 328 P Pn **19 27 32.9 +0.4**
baz=142
CWC Cottonwood Cre 20.08 333 P Pn **19 27 33.6 +0.6**
baz=148
X40A Basin Creek Fa 20.15 36 P **P** **19 27 32.7 +0.9**
baz=222,SNR=47
W39A Magazine 20.17 33 P **P** **19 27 33.5 +1.4**
baz=219,SNR=24
Q24A Divide 20.19 4 P **P** **19 27 33.7 +1.2**
baz=185
Q24A Divide 20.19 4 P **P** **19 27 33.4 +0.9**
Q24A IAmb IAmb 19 28 00.3
comp=Z,321nm,2.0s
Q24A IAMs_20 IAMs_20 19 34 47.2
comp=Z,20μm,21.0s
GRAC Grapevine Rang 20.27 336 P Pn 19 27 36.0 +0.9
baz=151,SNR=20
346A Big Creek Wild 20.28 48 P **P** **19 27 34.3 +1.0**
346A IAmb IAmb 19 27 41.9
comp=Z,402nm,1.4s
T35A Sooner Cattle 20.32 25 P **P** **19 27 34.4 +0.6**
T35A IAmb IAmb 19 28 07.0
comp=Z,159nm,1.2s
T35A IAMs_20 IAMs_20 19 35 41.0
comp=Z,10μm,19.0s
CCAR Cane Creek 20.36 39 P **P** **19 27 35.4 +1.3**
CCAR IAmb IAmb 19 27 39.1
comp=Z,260nm,1.2s
PAGB Antelope Grade 20.50 328 IAMs_20 IAMs_20 19 34 48.3
comp=Z,23μm,18.0s
KSCO Kaye Shedlock' 20.53 10 P **P** **19 27 37.7 +1.6**
baz=192
KSCO Kaye Shedlock' 20.53 10 P **P** **19 27 37.6 +1.6**
KSCO IAMs_20 IAMs_20 19 35 38.2
comp=Z,17μm,20.0s
VOG Valley Oaks Go 20.56 331 P **P** **19 27 38.0 +1.7**
baz=145
UALR University of 20.63 37 P **P** **19 27 38.0 +0.9**
UALR IAmb IAmb 19 27 51.6
comp=Z,131nm,1.1s
TIN Tinemaha, Big 20.66 334 P Pn 19 27 40.4 +0.6
baz=149,SNR=16
R11A Troy Canyon, C 20.86 341 P Pn 19 27 42.1 0.0
baz=157,SNR=205
R11A Troy Canyon, C 20.86 341 IAMs_20 IAMs_20 19 34 28.4
comp=Z,13μm,22.0s
R32A Long Quarter, 20.89 19 P **P** **19 27 40.4 +0.5**
R32A IAmb IAmb 19 28 01.7
comp=Z,309nm,1.6s
R32A IAMs_20 IAMs_20 19 35 41.3
comp=Z,18μm,19.0s
HHAR Hobbs 20.94 31 P **P** **19 27 40.3 -0.1**
CBKS Cedar Bluff 20.97 16 P **P** **19 27 41.6 +0.9**
CBKS pmax pmax
comp=Z,297nm,1.2s
CBKS MLR MLR
comp=Z,17μm,18.0s
CBKS Cedar Bluff 20.97 16 P **P** **19 27 41.8 +1.1**
baz=200,SNR=21
CBKS Cedar Bluff 20.97 16 P **P** **19 27 41.6 +0.9**
CBKS IAmb IAmb 19 28 00.4
comp=Z,297nm,1.1s
CBKS IAMs_20 IAMs_20 19 35 31.6
comp=Z,17μm,18.0s
W41B Gary Mavity, V 20.98 36 P **P** **19 27 42.0 +1.2**
baz=222,SNR=24
ISCO Idaho Springs 20.99 3 P **P** **19 27 42.8 +1.6**
ISCO pmax pmax
comp=Z,79nm,1.1s
ISCO MLR MLR
comp=Z,29μm,20.0s
ISCO Idaho Springs 20.99 3 P **P** **19 27 43.6 +2.4**
baz=184,SNR=39
ISCO Idaho Springs 20.99 3 P **P** **19 27 42.8 +1.6**
WHAR Wooly Hollow 21.04 36 P **P** **19 27 42.1 +0.6**
PMPB Monarch Peak 21.16 328 IAMs_20 IAMs_20 19 35 07.7
comp=Z,20μm,18.0s
MATN Matagalpa 21.18 103 P **P** **19 27 43.1 -0.1**
MATN IAmb IAmb 19 28 22.9
comp=Z,180nm,1.4s
146A Union 21.28 46 P **P** **19 27 45.0 +0.9**
X43A Marvell 21.30 39 P **P** **19 27 46.1 +1.8**
baz=227
O20A White River Ci 21.31 358 P **P** **19 27 46.6 +2.1**
baz=177,SNR=79
MLAC Mammoth, Mammo 21.41 334 P **P** **19 27 48.3 +2.6**
baz=148
MDPB Devils Postpil 21.51 333 P **P** **19 27 48.9 +2.0**
NLU North Lily Min 21.54 350 P **P** **19 27 49.4 +2.4**
U40A Yellville 21.55 33 P **P** **19 27 47.3 +0.3**
baz=219,SNR=18
U40A Yellville 21.55 33 P **P** **19 27 47.3 +0.3**
BOAB BOACO BROADBAN 21.57 104 P **P** **19 27 48.8 +1.4**
FCAR Ozark Folk Cen 21.57 35 P **P** **19 27 47.6 +0.3**
Y45A Yeager Farm, C 21.71 43 P **P** **19 27 49.5 +0.8**
Y45A IAmb IAmb 19 28 02.9
comp=Z,267nm,1.1s
NV11 Mina Array Sit 21.82 336 P **P** **19 27 52.1 +2.1**
NV11 IAMs_20 IAMs_20 19 35 45.1
comp=Z,14μm,20.0s
RDMU Red Mountain 21.82 355 P **P** **19 27 51.7 +1.6**
NVAR Mina Array Bea 21.88 336 P **P** **19 27 52.6 +1.9**
comp=Z,55nm,1.1s,baz=156,slow=12,SNR=202
NVAR LR LR 19 35 55.6
comp=Z,14μm,19.0s,baz=154,slow=36
NVAR Mina Array Bea 21.88 336 P **P** **19 27 52.3 +1.6**
DUG Dugway, Tooele 21.91 348 P **P** **19 27 53.3 +2.4**
baz=165,SNR=110
DUG Dugway, Tooele 21.91 348 IAMs_20 IAMs_20 19 35 26.1
comp=Z,21μm,22.0s
SAO San Andreas Ge 21.91 328 P **P** **19 27 51.2 +0.3**
SAO pmax pmax
comp=Z,95nm,1.2s
SAO MLR MLR
comp=Z,16μm,21.0s
SAO San Andreas Ge 21.91 328 P **P** **19 27 51.2 +0.3**
SAO IAMs_20 IAMs_20 19 34 37.6
comp=Z,16μm,21.0s
BRAL Brewton 21.92 52 P **P** **19 27 52.6 +1.6**
baz=240,SNR=18
BRAL Brewton 21.92 52 P **P** **19 27 52.3 +1.2**
N23A Red Feather La 22.07 2 P **P** **19 27 54.5 +1.8**
baz=183,SNR=21
N23A Red Feather La 22.07 2 P **P** **19 27 53.9 +1.2**
N23A IAmb IAmb 19 28 30.4
comp=Z,146nm,1.2s
JLU Jordanelle 22.07 351 P **P** **19 27 53.9 +1.1**
RYN Ryan 22.13 336 P **P** **19 27 55.1 +1.7**
RYN IAmb IAmb 19 28 24.0
comp=Z,224nm,1.5s
RYN IAMs_20 IAMs_20 19 35 55.4
comp=Z,21μm,19.0s
HBAR Harrisburg 22.16 38 P **P** **19 27 54.0 +0.5**
HBAR IAmb IAmb 19 27 57.0
comp=Z,175nm,0.9s
ACON Acoyapa 22.19 105 P **P** **19 27 55.0 +1.1**
ACON IAmb IAmb 19 28 11.4
comp=Z,191nm,1.4s
KSU1 Kansas State U 22.20 22 P **P** **19 27 55.2 +1.3**
baz=207
KSU1 Kansas State U 22.20 22 P **P** **19 27 54.9 +0.9**
KSU1 IAmb IAmb 19 28 18.5
comp=Z,178nm,1.1s
KSU1 Kansas State U 22.20 22 IAMs_20 IAMs_20 19 35 42.9
comp=Z,8μm,19.0s
OXF Oxford 22.21 42 P **P** **19 27 53.9 -0.1**
OXF pmax pmax
comp=Z,247nm,1.1s
OXF MLR MLR
comp=Z,5μm,18.0s
OXF Oxford 22.21 42 P **P** **19 27 54.2 +0.2**
baz=229,SNR=10
OXF Oxford 22.21 42 P **P** **19 27 53.9 -0.1**
OXF IAmb IAmb 19 28 19.0
comp=Z,246nm,1.1s
Z47A Carrollton 22.28 46 P **P** **19 27 55.0 +0.2**
KVN Kaiserville 22.34 337 IAMs_20 IAMs_20 19 35 44.8
comp=Z,8μm,19.0s
S39A Bolivar 22.37 30 P **P** **19 27 56.0 +0.3**
LPAR Lepanto 22.40 38 IAMs_20 IAMs_20 19 37 52.6
comp=Z,8μm,19.0s
CMB Columbia Colle 22.42 332 IAMs_20 IAMs_20 19 35 29.0
comp=Z,23μm,22.0s
PHWY Pilot Hill 22.49 3 P **P** **19 27 58.3 +0.9**
PHWY IAmb IAmb 19 28 25.2
comp=Z,202nm,1.5s
PHWY IAMs_20 IAMs_20 19 36 17.3
comp=Z,14μm,22.0s
OGNE Ogallala 22.52 10 P **P** **19 27 58.6 +1.2**
baz=192,SNR=6.5
OGNE Ogallala 22.52 10 P **P** **19 27 57.5 +0.1**
OGNE IAMs_20 IAMs_20 19 36 50.8
comp=Z,19μm,19.0s
BGU Big Grassy Mou 22.65 348 P **P** **19 28 00.2 +1.3**
451A Vernon 22.66 55 P **P** **19 27 59.5 +0.6**
W45A Hickory Valley 22.77 41 P **P** **19 28 00.1 +0.1**
GNAR Gosnell 22.81 38 P **P** **19 28 00.9 +0.4**
RWWY Rawlins 22.84 360 P **P** **19 28 02.0 +1.1**
RWWY IAmb IAmb 19 28 57.6

comp=Z,214nm,1.5s
RWWY IAMs_20 IAMs_20 19 36 46.5
comp=Z,23µm,19.0s
250A Grady 22.90 51 P P 19 28 01.5 +0.1
LRAL Lakeview Retre 22.93 48 P P 19 28 02.0 +0.3
baz=237,SNR=25
LRAL Lakeview Retre 22.93 48 P P 19 28 02.1 +0.3
LRAL IAmb IAmb 19 28 27.5
comp=Z,143nm,1.2s
PEBM Pemiscott Bayo 23.01 38 P P 19 28 02.7 +0.2
JTS Las Juntas de 23.02 108 *e*P **P 19 28 06.7 +3.8**
JTS Las Juntas de 23.02 108 *i* P **P 19 28 03.2 +0.4**
JTS pmax pmax
comp=Z,42nm,1.1s
JTS Las Juntas de 23.02 108 P P 19 28 04.2 +1.4
HWUT Hardware Ranch 23.07 351 IAMs_20 IAMs_20 19 36 36.9
comp=Z,19µm,18.0s
VCNR Virginia City 23.16 335 P P 19 28 05.7 +1.4
VCNR IAmb IAmb 19 28 38.0
comp=Z,150nm,1.2s
R40A Maddies Statio 23.35 31 P P 19 28 06.2 +0.3
PLAL Pickwick Lake 23.35 42 P P 19 28 05.9 -0.2
PLAL IAmb IAmb 19 28 11.6
comp=Z,263nm,1.8s
PAHR Pah Rah Range 23.40 336 P P 19 28 08.1 +1.5
N33A J Bar K, Exete 23.40 19 IAMs_20 IAMs_20 19 37 17.7
comp=Z,15µm,19.0s
AFDM Forest Hills D 23.43 332 P P 19 28 07.8 +1.0
AFDM IAmb IAmb 19 28 46.0
comp=Z,205nm,1.9s
AFDM IAMs_20 IAMs_20 19 36 11.6
comp=Z,18µm,20.0s
553A Crawfordville 23.50 57 P P 19 28 08.3 +0.8
553A IAmb IAmb 19 28 48.0
comp=Z,188nm,1.2s
HENM Henderson Moun 23.65 37 P P 19 28 09.8 +0.9
CCM Cathedral Cave 23.67 32 P P 19 28 09.2 0.0
CCM pmax pmax
comp=Z,233nm,1.5s
CCM MLR MLR
comp=Z,3µm,19.0s
CCM Cathedral Cave 23.67 32 P P 19 28 09.4 +0.3
baz=220
CCM Cathedral Cave 23.67 32 P P 19 28 09.2 0.0
CCM IAmb IAmb 19 28 40.8
comp=Z,233nm,1.5s
MCCM Marconi Confer 23.70 328 IAMs_20 IAMs_20 19 34 30.9
comp=Z,10µm,21.0s
X48A Hartselle 23.70 45 P P 19 28 09.7 +0.2
X48A IAmb IAmb 19 28 13.7
comp=Z,141nm,1.5s
UTMT University of 23.75 39 P P 19 28 11.0 +1.1
Y49A Blount Mountai 23.80 47 P P 19 28 10.5 +0.1
Y49A IAmb IAmb 19 28 34.0
comp=Z,246nm,1.8s
K22A Casper 23.80 1 P P 19 28 11.9 +1.3
baz=181,SNR=22
K22A Casper 23.80 1 P P 19 28 11.3 +0.7
BGNE Belgrade 23.82 17 P P 19 28 11.6 +1.0
BGNE IAmb IAmb 19 28 33.1
comp=Z,170nm,1.1s
BGNE IAMs_20 IAMs_20 19 37 33.1
comp=Z,16µm,20.0s
BW06 Boulder Array 24.00 356 P P 19 28 13.1 +0.5
baz=174,SNR=9.3
BW06 Boulder Array 24.00 356 P P 19 28 12.8 +0.2
BW06 IAMs_20 IAMs_20 19 37 02.5
comp=Z,18µm,21.0s
PDAR Pinedale Array 24.00 356 P P 19 28 13.0 +0.4
comp=Z,9.5nm,0.8s,baz=162,slow=10,SNR=67
PDAR LR LR 19 37 23.2
comp=Z,16µm,19.5s,baz=190,slow=36
PDAR Pinedale Array 24.00 356 P P 19 28 12.6 0.0
N35A Tabor 24.11 22 P P 19 28 14.5 +1.2
N35A IAmb IAmb 19 28 48.0
comp=Z,93nm,1.1s
N35A IAMs_20 IAMs_20 19 37 43.2
comp=Z,10µm,19.0s
AHID Auburn Hatcher 24.15 353 P P 19 28 14.6 +0.7
AHID IAmb IAmb 19 28 40.4
comp=Z,111nm,1.6s
AHID IAMs_20 IAMs_20 19 37 03.4
comp=Z,16µm,20.0s
ORV Oroville 24.16 332 P P 19 28 15.4 +1.6
ORV pmax pmax
comp=Z,503nm,1.9s
ORV MLR MLR
comp=Z,19µm,19.0s
ORV Oroville 24.16 332 P P 19 28 15.4 +1.6
ORV IAMs_20 IAMs_20 19 36 43.1
comp=Z,19µm,19.0s
GDXM Geysers 24.17 329 P P 19 28 15.2 +1.3
WVT Waverly 24.24 41 P P 19 28 14.4 -0.1
WVT pmax pmax
comp=Z,185nm,1.8s
WVT MLR MLR
comp=Z,6µm,19.0s
WVT Waverly 24.24 41 P P 19 28 14.4 -0.1
baz=229
WVT Waverly 24.24 41 P P 19 28 14.4 -0.1
WVT IAmb IAmb 19 28 49.5
comp=Z,185nm,1.8s
T45A Paducah 24.34 38 P P 19 28 16.3 +0.9
T45A IAmb IAmb 19 28 51.5
comp=Z,121nm,0.8s
P40A Paris 24.44 29 P P 19 28 17.0 +0.7
P40A IAmb IAmb 19 28 18.5
comp=Z,173nm,1.6s
ECR Eagle Creek 24.47 352 P P 19 28 17.5 +0.7
V48A Smith Brothers 24.62 43 P P 19 28 18.1 0.0
V48A IAMs_20 IAMs_20 19 39 36.5
comp=Z,6µm,19.0s
SLM Saint Louis 24.63 33 P P 19 28 18.1 0.0
SLM pmax pmax
comp=Z,76nm,0.9s
SLM MLR MLR
comp=Z,3µm,22.0s
SLM Saint Louis 24.63 33 P P 19 28 18.1 0.0
SLM IAmb IAmb 19 28 20.4
comp=Z,76nm,0.8s
TIGA Tifton 24.68 55 P P 19 28 19.3 +0.7
baz=245,SNR=21
TIGA Tifton 24.68 55 P P 19 28 18.6 0.0
REDW Red Top Meadow 24.71 353 IAMs_20 IAMs_20 19 37 32.3
comp=Z,16µm,20.0s
FPAL Fort Paine 24.73 46 P P 19 28 19.0 -0.1
FPAL IAmb IAmb 19 28 40.5
comp=Z,106nm,1.1s
656A Willston 24.73 60 P P 19 28 18.8 -0.3
656A IAmb IAmb 19 28 34.2
comp=Z,141nm,1.2s
K31A O'Neill 24.80 15 P P 19 28 20.2 +0.6
K31A IAmb IAmb 19 28 40.3
comp=Z,174nm,1.2s
K31A IAMs_20 IAMs_20 19 37 53.1
comp=Z,17µm,19.0s
SNOW Snow King Moun 24.80 354 IAMs_20 IAMs_20 19 37 33.6
comp=Z,13µm,20.0s
TPAW Teton Pass 24.85 353 IAMs_20 IAMs_20 19 37 35.9
comp=Z,15µm,20.0s
L34A Svendsen Farm, 24.85 19 P P 19 28 20.7 +0.6
L34A IAMs_20 IAMs_20 19 38 16.1
comp=Z,14µm,19.0s
O03E Paynes Creek 24.90 333 P P 19 28 21.3 +0.7
baz=145,SNR=65
LOHW Long Hollow 24.93 354 P P 19 28 21.7 +0.7
LOHW IAMs_20 IAMs_20 19 37 53.1
comp=Z,12µm,18.0s
FXWY Fox Creek 25.00 353 IAMs_20 IAMs_20 19 37 41.0
comp=Z,14µm,20.0s
CLTN Cedars of Leba 25.15 43 P P 19 28 23.0 +0.1
CLTN IAmb IAmb 19 29 09.4
comp=Z,166nm,1.6s
KCPM Cahto Peak 25.24 329 P P 19 28 24.9 +1.2
KCPM IAmb IAmb 19 28 54.3
comp=Z,146nm,1.4s
O02D Mt. Diablo Mer 25.25 331 P P 19 28 25.6 +1.9
baz=143
IMW Indian Meadow 25.25 353 IAMs_20 IAMs_20 19 37 40.5
comp=Z,9µm,22.0s
DWPF Disney Wildern 25.27 64 P P 19 28 24.5 +0.4
baz=254
DWPF Disney Wildern 25.27 64 P P 19 28 24.4 +0.4
W50A Signal Mountai 25.30 45 P P 19 28 24.1 -0.2
W50A IAmb IAmb 19 28 30.8
comp=Z,98nm,0.9s

RSSD Black Hills 25.40 5 P P 19 28 25.2 0.0
RSSD pmax pmax
comp=Z,31nm,1.0s
RSSD MLR MLR
comp=Z,14µm,20.0s
RSSD Black Hills 25.40 5 P P 19 28 26.0 +0.8
baz=187
RSSD Black Hills 25.40 5 P P 19 28 25.2 0.0
RSSD Black Hills 25.40 5 IAMs_20 IAMs_20 19 37 41.1
comp=Z,14µm,20.0s
FLWY Flagg Ranch 25.41 354 IAMs_20 IAMs_20 19 38 07.7
comp=Z,12µm,18.0s
WDC Whiskeytown Da 25.46 332 P P 19 28 25.3 -0.2
WDC pmax pmax
comp=Z,66nm,1.6s
WDC MLR MLR
comp=Z,16µm,20.0s
WDC Whiskeytown Da 25.46 332 P P 19 28 25.3 -0.2
WDC IAMs_20 IAMs_20 19 37 31.4
comp=Z,16µm,20.0s
Q44A Meyer Farm, Va 25.46 34 P P 19 28 24.7 -0.9
HLID Hailey 25.47 348 P P 19 28 27.5 +1.7
baz=164,SNR=29
HLID Hailey 25.47 348 IAMs_20 IAMs_20 19 37 37.3
comp=Z,18µm,22.0s
WVOR Wild Horse Val 25.54 340 P P 19 28 27.3 +0.9
WVOR pmax pmax
comp=Z,122nm,1.2s
WVOR MLR MLR
comp=Z,9µm,21.0s
WVOR Wild Horse Val 25.54 340 P P 19 28 27.2 +0.9
WVOR IAmb IAmb 19 28 50.9
comp=Z,122nm,1.2s
WVOR IAMs_20 IAMs_20 19 37 20.3
comp=Z,9µm,21.0s
YPP Pitchstone Pla 25.61 354 P P 19 28 28.0 +0.7
456A Hilliard 25.63 58 P P 19 28 27.6 +0.4
MFID Camas Ranch 25.64 345 P P 19 28 27.7 +0.4
MFID IAmb IAmb 19 29 10.3
comp=Z,103nm,1.4s
MFID IAMs_20 IAMs_20 19 37 58.0
comp=Z,16µm,20.0s
MOD Modoc Plateau 25.65 337 P P 19 28 28.8 +1.3
MOD IAmb IAmb 19 28 33.4
comp=Z,107nm,1.2s
GOGA Godfrey 25.66 51 P P 19 28 27.4 -0.1
GOGA pmax pmax
comp=Z,125nm,1.5s
GOGA MLR MLR
comp=Z,3µm,19.0s
GOGA Godfrey 25.66 51 P P 19 28 27.6 +0.1
baz=241,SNR=28
GOGA Godfrey 25.66 51 P P 19 28 27.4 -0.1
GOGA IAmb IAmb 19 28 34.4
comp=Z,125nm,1.4s
H17A Grant Village 25.71 354 P P 19 28 29.8 +1.7
baz=172,SNR=8.7
H17A Grant Village 25.71 354 P P 19 28 28.3 +0.2
H17A IAmb IAmb 19 29 14.5
comp=Z,208nm,1.8s
KMRM Mail Ridge 25.71 330 P P 19 28 29.3 +1.3
255A Hazlehurst 25.75 55 P P 19 28 28.1 -0.1
CBCY The Bluff, Cay 25.82 83 P P 19 28 30.4 +1.4
N02D Trinity Center 25.85 332 P P 19 28 29.1 -0.1
baz=144,SNR=11
SCIA State Center 25.91 24 P P 19 28 30.6 +0.9
N41A Harden Midland 25.93 29 P P 19 28 29.7 -0.1
N41A IAmb IAmb 19 28 51.9
comp=Z,221nm,1.8s
CPCT Cooper Cave 25.97 46 P P 19 28 29.6 -0.7
YMR Madison River 26.02 354 P P 19 28 32.5 +1.6
YHH Holmes Hill 26.12 354 P P 19 28 33.0 +1.1
M04C Macdoel 26.15 334 P P 19 28 33.2 +1.3
baz=147,SNR=31
KHMM Horse Mountain 26.24 331 P P 19 28 33.2 +0.4
KHMM IAmb IAmb 19 29 04.5
comp=Z,101nm,1.3s
M02C Callahan 26.25 332 P P 19 28 33.2 +0.4
baz=144,SNR=6.6
YNE Yellowstone No 26.27 355 P P 19 28 33.6 +0.5
V51A Loudon 26.29 45 IAMs_20 IAMs_20 19 40 51.9
comp=Z,7µm,22.0s
J08A Circle Bar Ran 26.32 341 P P 19 28 34.5 +1.1
J08A IAMs_20 IAMs_20 19 37 47.0
comp=Z,6µm,22.0s
RLMT Red Lodge 26.33 357 P P 19 28 34.8 +1.1
baz=175,SNR=22
RLMT Red Lodge 26.33 357 P P 19 28 34.0 +0.3
RLMT IAmb IAmb 19 29 20.6
comp=Z,141nm,1.6s
RLMT IAMs_20 IAMs_20 19 38 16.0
comp=Z,14µm,22.0s
ECSD EROS Data Cent 26.40 17 P P 19 28 38.0 +3.9
baz=203
ECSD EROS Data Cent 26.40 17 P P 19 28 35.5 +1.4
ECSD EROS Data Cent 26.40 17 IAMs_20 IAMs_20 19 39 12.3
comp=Z,12µm,20.0s
YBH Yreka Blue Hor 26.47 333 P P 19 28 34.6 -0.2
comp=Z,6.6nm,0.9s,baz=149,slow=8.4,SNR=18
YBH LR LR 19 38 47.1
comp=Z,14µm,21.7s,baz=159,slow=36
YBH Yreka Blue Hor 26.47 333 P P 19 28 34.4 -0.5
YBH pmax pmax
comp=Z,27nm,1.3s
YBH MLR MLR
comp=Z,14µm,22.0s
YBH Yreka Blue Hor 26.47 333 P P 19 28 34.4 -0.5
YBH IAMs_20 IAMs_20 19 38 35.2
comp=Z,14µm,22.0s
SUSD Miller 26.48 13 P P 19 28 35.5 +0.6
SUSD IAMs_20 IAMs_20 19 39 27.7
comp=Z,14µm,20.0s
WCI Wyandotte Cave 26.53 39 P P 19 28 35.7 +0.4
WCI pmax pmax
comp=Z,51nm,1.1s
WCI MLR MLR
comp=Z,4µm,19.0s
WCI Wyandotte Cave 26.53 39 P P 19 28 36.2 +0.8
baz=229
WCI Wyandotte Cave 26.53 39 P P 19 28 35.7 +0.4
HDIL Hopedale 26.55 31 P P 19 28 36.0 +0.6
baz=220
HDIL Hopedale 26.55 31 P P 19 28 35.3 -0.2
HDIL IAmb IAmb 19 29 20.3
comp=Z,115nm,1.1s
TKL Tuckaleechee C 26.60 46 P P 19 28 36.4 +0.5
comp=Z,17nm,1.0s,baz=215,slow=7.0,SNR=7.3
TKL LR LR 19 41 03.9
comp=Z,3µm,18.8s,baz=244,slow=41
TKL Tuckaleechee C 26.60 46 P P 19 28 35.5 -0.5
TKL pmax pmax
comp=Z,31nm,1.0s
TKL MLR MLR
comp=Z,5µm,22.0s
TKL Tuckaleechee C 26.60 46 P P 19 28 35.5 -0.5
T50A Nancy 26.67 42 P P 19 28 36.4 -0.2
T50A IAMs_20 IAMs_20 19 40 39.7
comp=Z,7µm,22.0s
L04D Klamath Falls 26.70 334 P P 19 28 37.8 +0.8
baz=146,SNR=21
K38A Parkersburg 26.72 24 IAMs_20 IAMs_20 19 38 04.3
comp=Z,8µm,19.0s
V52A Sevierville 26.82 46 P P 19 28 37.5 -0.5
K04D Chiloquin, OR 26.82 336 P P 19 28 39.4 +1.3
baz=148
BG3 Lake Jocassee 26.83 48 P P 19 28 38.2 +0.1
KRMB Red Mountain 26.83 331 P P 19 28 39.5 +1.3
KRMB IAmb IAmb 19 29 20.7
comp=Z,202nm,1.7s
KRMB IAMs_20 IAMs_20 19 38 18.8
comp=Z,17µm,21.0s
L40A Anamosa 26.86 27 P P 19 28 38.1 -0.1
L40A IAmb IAmb 19 29 32.4
comp=Z,108nm,1.6s
L40A IAMs_20 IAMs_20 19 39 36.9
comp=Z,7µm,22.0s
DLMT Dillon 26.90 351 IAMs_20 IAMs_20 19 38 53.2
comp=Z,16µm,19.0s
HODGE Hodges 26.94 50 P P 19 28 38.9 -0.1
X54A Belton 27.01 49 P P 19 28 40.4 +0.7
baz=241,SNR=15
BOZ Bozeman (W) 27.01 353 P P 19 28 40.4 +0.7
BOZ pmax pmax
comp=Z,47nm,1.1s
BOZ MLR MLR
comp=Z,10µm,19.0s

BOZ Bozeman (W) 27.01 353 P P 19 28 41.4 +1.7
baz=170,SNR=50
BOZ Bozeman (W) 27.01 353 P P 19 28 40.4 +0.7
BOZ IAMs_20 IAMs_20 19 39 33.0
comp=Z,10µm,19.0s
GCMT Greycliff 27.02 356 P P 19 28 40.6 +0.8
BLO Bloomington 27.03 37 P P 19 28 40.1 +0.3
BLO pmax pmax
comp=Z,61nm,1.2s
BLO MLR MLR
comp=Z,4µm,19.0s
BLO Bloomington 27.03 37 P P 19 28 40.1 +0.3
Y55A Saluda 27.09 51 P P 19 28 40.8 +0.4
baz=242,SNR=13
Z56A Williston 27.18 53 P P 19 28 41.7 +0.5
baz=244
J05D Fort Rock, OR 27.19 337 P P 19 28 43.0 +1.7
baz=150,SNR=31
L02E Cave Junction 27.20 332 P P 19 28 42.6 +1.2
baz=144,SNR=7.9
TZTN Tazewell 27.24 45 P P 19 28 42.0 +0.3
baz=236,SNR=8.5
TZTN Tazewell 27.24 45 IAMs_20 IAMs_20 19 41 19.7
comp=Z,5µm,19.0s
R49A Shelbyville 27.25 40 P P 19 28 41.3 -0.4
R49A IAmb IAmb 19 28 46.2
comp=Z,84nm,1.5s
R49A IAMs_20 IAMs_20 19 40 27.0
comp=Z,6µm,21.0s
V53A Saluda 27.26 47 P P 19 28 42.2 +0.2
I07A Izee 27.29 340 IAMs_20 IAMs_20 19 39 49.8
comp=Z,9µm,19.0s
HUMO Hull Mountain 27.29 334 P P 19 28 43.5 +1.3
HUMO IAMs_20 IAMs_20 19 39 13.0
comp=Z,10µm,19.0s
LRM Limekiln Ridge 27.33 352 P P 19 28 43.7 +0.9
BMO Blue Mountains 27.36 344 P P 19 28 43.1 +0.3
BMO pmax pmax
comp=Z,117nm,1.8s
BMO MLR MLR
comp=Z,14µm,22.0s
BMO Blue Mountains 27.36 344 P P 19 28 43.1 +0.3
BMO IAmb IAmb 19 29 22.2
comp=Z,117nm,1.8s
BMO IAMs_20 IAMs_20 19 38 30.5
comp=Z,14µm,22.0s
W54A Cherokee Point 27.41 49 P P 19 28 43.5 +0.3
baz=240
J04D Umpqua Nationa 27.48 336 P P 19 28 45.6 +1.5
baz=148,SNR=24
X55A Gracelyn & Ava 27.51 50 P P 19 28 44.6 +0.4
baz=242
PINE Pine Mountain 27.52 338 P P 19 28 45.6 +1.2
PINE IAmb IAmb 19 29 44.8
comp=Z,144nm,1.7s
SFIN Lafayette 27.55 34 P P 19 28 44.5 0.0
baz=224
K02D Willamette Mer 27.67 333 P P 19 28 47.0 +1.4
baz=144,SNR=18
I37A Lemond, Waseca 27.67 22 P P 19 28 46.6 +1.1
I37A IAmb IAmb 19 29 40.0
comp=Z,156nm,1.7s
I37A IAMs_20 IAMs_20 19 39 48.5
comp=Z,9µm,19.0s
Z57A Bowman 27.68 53 P P 19 28 45.7 +0.1
baz=245,SNR=5.2
JSC Jenkinsville 27.69 51 P P 19 28 45.7 -0.1
JSC pmax pmax
comp=Z,79nm,1.8s
JSC MLR MLR
comp=Z,700nm,19.0s
JSC Jenkinsville 27.69 51 P P 19 28 45.7 -0.1
R50A Paris 27.76 41 IAMs_20 IAMs_20 19 41 00.2
comp=Z,7µm,18.0s
M44A Midewin, Midew 27.80 32 IAMs_20 IAMs_20 19 39 15.8
comp=Z,5µm,18.0s
LAO LASA Array 27.84 1 P P 19 28 47.8 +0.7
baz=182,SNR=9.2
LAO LASA Array 27.84 1 P P 19 28 47.6 +0.5
P48A Milroy 27.86 38 P P 19 28 46.8 -0.4
V54A Nebo 27.92 48 P P 19 28 48.3 +0.5
baz=239
X56A White Oak 27.96 51 P P 19 28 48.5 +0.4
baz=242,SNR=8.7
JFWS Jewell Farm 27.97 27 P P 19 28 47.9 -0.2
JFWS Jewell Farm 27.97 27 P P 19 28 48.8 +0.6
baz=216
JFWS Jewell Farm 27.97 27 P P 19 28 47.9 -0.2
JFWS IAmb IAmb 19 29 43.1
comp=Z,100nm,1.5s
JFWS Jewell Farm 27.97 27 IAMs_20 IAMs_20 19 40 20.3
comp=Z,8µm,22.0s
MTDJ Mount Denham 28.03 86 P P 19 28 48.4 -0.7
CSU Charleston Sou 28.03 54 P P 19 28 49.1 +0.3
KMSC Kings Mountain 28.04 49 P P 19 28 49.4 +0.5
baz=241
KMSC Kings Mountain 28.04 49 P P 19 28 49.2 +0.3
I04A Tendick Farm, 28.07 336 P P 19 28 50.5 +1.4
baz=148,SNR=7.9
KEBM Edson Butte 28.10 332 P P 19 28 50.6 +1.2
KEBM IAMs_20 IAMs_20 19 39 18.3
comp=Z,11µm,19.0s
I05D Terrebonne, OR 28.14 338 P P 19 28 51.2 +1.4
baz=150,SNR=10.0
J01E Myrtle Point 28.16 333 P P 19 28 51.8 +1.9
baz=144,SNR=8.3
G08A Pilot Rock 28.22 342 P P 19 28 51.4 +0.9
G08A IAMs_20 IAMs_20 19 40 05.3
comp=Z,9µm,21.0s
E28A Huff 28.22 9 IAMs_20 IAMs_20 19 39 38.7
comp=Z,11µm,20.0s
P49A Miami Univ. Ec 28.32 38 P P 19 28 51.8 +0.4
baz=229,SNR=8.7
P49A Miami Univ. Ec 28.32 38 P P 19 28 51.4 +0.1
P49A IAmb IAmb 19 28 53.1
comp=Z,85nm,1.2s
I03D Drain, OR 28.36 335 P P 19 28 53.0 +1.4
baz=146,SNR=5.3
F10A Beach Ranch, E 28.39 345 P P 19 28 51.8 -0.2
F10A IAMs_20 IAMs_20 19 39 04.7
comp=Z,12µm,22.0s
U54A Nelsons Funny 28.39 46 IAMs_20 IAMs_20 19 42 09.2
comp=Z,6µm,19.0s
F33A 5 Mile Ranch, 28.43 16 IAMs_20 IAMs_20 19 40 16.0
comp=Z,16µm,20.0s
BIRD Birdtown, Kers 28.45 51 P P 19 28 52.0 -0.5
MSO Missoula 28.54 350 P P 19 28 54.4 +1.0
baz=166,SNR=36
MSO Missoula 28.54 350 P P 19 28 54.0 +0.7
MSO IAmb IAmb 19 28 55.8
comp=Z,87nm,1.2s
MSO IAMs_20 IAMs_20 19 39 52.5
comp=Z,11µm,22.0s
W56A Indian Trail 28.58 50 P P 19 28 53.8 +0.1
baz=242
K43A Burlington 28.66 30 IAMs_20 IAMs_20 19 40 18.7
comp=Z,5µm,20.0s
H04A Detroit Lake 28.74 337 P P 19 28 56.2 +1.1
H04A IAmb IAmb 19 29 33.9
comp=Z,136nm,1.5s
H04D Lebanon 28.81 336 P P 19 28 56.2 +0.6
baz=148
Q51A Peebles 28.82 41 IAMs_20 IAMs_20 19 41 33.7
comp=Z,6µm,18.0s
I02D Swisshome 28.90 335 P P 19 28 58.3 +1.9
baz=146
G05D Wamic, OR 28.92 339 P P 19 28 58.4 +1.8
baz=151
SPMN Marine on St. 28.93 21 IAMs_20 IAMs_20 19 39 44.0
comp=Z,8µm,19.0s
V56A Mocksville 28.96 49 P P 19 28 57.2 0.0
baz=241,SNR=5.7
Q49A Covington 28.97 38 P P 19 28 56.9 -0.2
O49A IAmb IAmb 19 29 44.0
comp=Z,89nm,1.4s
W57A Gilead 29.02 50 P P 19 28 57.2 -0.4
baz=243
W57A Gilead 29.02 50 P P 19 28 57.5 -0.1
F07A Phinny Hill Vi 29.05 341 IAMs_20 IAMs_20 19 40 40.4
comp=Z,11µm,20.0s
COR Corvallis 29.08 336 IAMs_20 IAMs_20 19 39 43.2
comp=Z,12µm,21.0s
E09A Wood Farm, Sta 29.12 344 IAMs_20 IAMs_20 19 40 10.1
comp=Z,8µm,19.0s
EGMT Eagleton 29.25 356 P P 19 29 01.0 +1.3
baz=175,SNR=19
EGMT Eagleton 29.25 356 P P 19 29 00.0 +0.4

EGMT					IAmb	IAmb	19 29 02.1	
	comp=Z,63nm,1.1s							
EGMT					IAMs_20	IAMs_20	19 40 23.3	
	comp=Z,11µm,20.0s							
F36A	**Milaca**	**29.26**	**20**		IAMs_20	IAMs_20	19 40 52.6	
	comp=Z,8µm,20.0s							
P51A	**Williamsport**	**29.28**	**40**		IAMs_20	IAMs_20	19 41 46.0	
	comp=Z,6µm,19.0s							
R53A	**Hurricane**	**29.30**	**43**		P	**P**	**19 29 00.9**	**+0.8**
	baz=235							
I42A	**Draeger Farm,**	**29.33**	**27**		IAMs_20	IAMs_20	19 41 11.4	
	comp=Z,7µm,18.0s							
E08A	**Dider Farm, El**	**29.34**	**343**		IAMs_20	IAMs_20	19 40 23.0	
	comp=Z,8µm,18.0s							
HAWA	**Hanford**	**29.39**	**342**		P	**P**	**19 29 01.2**	**+0.5**
HAWA					IAMs_20	IAMs_20	19 40 42.2	
	comp=Z,8µm,21.0s							
Q52A	**Bidwell**	**29.46**	**42**		P	**P**	**19 29 01.8**	**+0.3**
	baz=234							
JTMT	**Jette**	**29.48**	**350**		P	**P**	**19 29 02.2**	**+0.4**
JTMT					IAMs_20	IAMs_20	19 40 21.6	
	comp=Z,14µm,22.0s							
V57A	**Coltrane Farms**	**29.51**	**49**		P	**P**	**19 29 02.4**	**+0.4**
	baz=242							
W58A	**Raeford**	**29.52**	**51**		P	**P**	**19 29 02.7**	**+0.7**
	baz=244							
F05D	**White Salmon**	**29.53**	**339**		P	**P**	**19 29 04.2**	**+2.1**
	baz=151,SNR=7.7							
N49A	**Columbus Grove**	**29.54**	**37**		P	**P**	**19 29 02.0**	**-0.1**
G03D	**McMinnville, O**	**29.59**	**337**		P	**P**	**19 29 05.2**	**+2.7**
	baz=148							
E07A	**Sunnyside**	**29.63**	**342**		P	**P**	**19 29 04.4**	**+1.4**
E07A					IAmb	IAmb	19 29 40.6	
	comp=Z,94nm,1.6s							
E07A					IAMs_20	IAMs_20	19 41 08.7	
	comp=Z,12µm,18.0s							
MDND	**Maddock**	**29.63**	**10**		IAMs_20	IAMs_20	19 40 39.9	
	comp=Z,10µm,18.0s							
BLA	**Blacksburg**	**29.71**	**46**		IAMs_20	IAMs_20	19 43 00.1	
	comp=Z,5µm,19.0s							
DGMT	**Dagmar**	**29.71**	**4**		P	**P**	**19 29 04.8**	**+1.2**
	baz=185							
ACSO	**Alum Creek Sta**	**29.79**	**39**		P	**P**	**19 29 05.6**	**+1.1**
	baz=231							
ACSO	**Alum Creek Sta**	**29.79**	**39**		P	**P**	**19 29 03.6**	**-0.8**
D08A	**Wollman Farm,**	**29.83**	**344**		IAMs_20	IAMs_20	19 40 38.8	
	comp=Z,9µm,20.0s							
F04A	**Amboy**	**29.90**	**338**		P	**P**	**19 29 05.8**	**+0.5**
F04A					IAmb	IAmb	19 29 07.5	
	comp=Z,86nm,1.4s							
P52A	**Corning**	**29.94**	**41**		P	**P**	**19 29 06.1**	**+0.4**
	baz=233							
P52A	**Corning**	**29.94**	**41**		IAMs_20	IAMs_20	19 42 18.2	
	comp=Z,7µm,19.0s							
V58A	**Windy Hill, Pi**	**29.95**	**50**		P	**P**	**19 29 06.4**	**+0.5**
	baz=243							
O51A	**Pataskala**	**29.96**	**40**		P	**P**	**19 29 06.0**	**0.0**
	baz=232,SNR=10.0							
H43A	**Windswept, Lux**	**30.29**	**28**		IAMs_20	IAMs_20	19 40 26.8	
	comp=Z,6µm,21.0s							
F03A	**Seaside**	**30.31**	**337**		IAMs_20	IAMs_20	19 41 22.7	
	comp=Z,9µm,18.0s							
P53A	**Whipple**	**30.32**	**42**		P	**P**	**19 29 09.5**	**+0.5**
	baz=234							
P53A	**Whipple**	**30.32**	**42**		IAMs_20	IAMs_20	19 42 41.2	
	comp=Z,7µm,18.0s							
C09A	**Chrisman Ranch**	**30.35**	**345**		P	**P**	**19 29 09.8**	**+0.5**
C09A					IAMs_20	IAMs_20	19 40 37.6	
	comp=Z,11µm,21.0s							
Q54A	**Coxs Mills**	**30.39**	**43**		IAMs_20	IAMs_20	19 42 45.0	
	comp=Z,6µm,18.0s							
LON	**Longmire**	**30.41**	**340**		P	**P**	**19 29 10.4**	**+0.5**
LON					pmax	pmax		
	comp=Z,26nm,1.0s							
LON					MLR	MLR		
	comp=Z,14µm,19.0s							
LON	**Longmire**	**30.41**	**340**		P	**P**	**19 29 10.4**	**+0.5**
O52A	**Adamsville**	**30.41**	**40**		P	**P**	**19 29 09.6**	**-0.4**
	baz=233							
O52A	**Adamsville**	**30.41**	**40**		IAMs_20	IAMs_20	19 42 29.7	
	comp=Z,6µm,20.0s							
T57A	**Hurt**	**30.41**	**48**		P	**P**	**19 29 10.9**	**+0.9**
	baz=241							
R55A	**Marlinton**	**30.47**	**45**		P	**P**	**19 29 10.9**	**+0.4**
	baz=238							
E04D	**Cinebar**	**30.49**	**339**		P	**P**	**19 29 12.4**	**+1.8**
	baz=150,SNR=12							
NEW	**Newport**	**30.52**	**347**		P	**P**	**19 29 11.7**	**+0.9**
	baz=161,SNR=15							
NEW	**Newport**	**30.52**	**347**		IAMs_20	IAMs_20	19 40 35.1	
	comp=Z,12µm,22.0s							
E38A	**The Farm, Brul**	**30.56**	**21**		IAMs_20	IAMs_20	19 42 01.1	
	comp=Z,12µm,19.0s							
V59A	**Middlesex**	**30.57**	**51**		P	**P**	**19 29 11.9**	**+0.5**
	baz=244							
N51A	**Ashland**	**30.58**	**39**		P	**P**	**19 29 11.6**	**+0.2**
	baz=231,SNR=7.1							
U58A	**Oxford**	**30.63**	**49**		P	**P**	**19 29 12.6**	**+0.8**
	baz=243							
I45A	**Fountain**	**30.67**	**30**		IAMs_20	IAMs_20	19 40 32.7	
	comp=Z,5µm,21.0s							
WALA	**Waterton Lakes**	**30.70**	**351**		P	**P**	**19 29 13.0**	**+0.5**
AAM	**Ann Arbor**	**30.75**	**35**		P	**P**	**19 29 13.5**	**+0.7**
	baz=227							
AAM	**Ann Arbor**	**30.75**	**35**		IAMs_20	IAMs_20	19 42 13.8	
	comp=Z,4µm,18.0s							
AGMN	**Agassiz Nation**	**30.83**	**15**		P	**P**	**19 29 14.2**	**+0.7**
	baz=201							
AGMN	**Agassiz Nation**	**30.83**	**15**		P	**P**	**19 29 13.6**	**+0.1**
AGMN					IAmb	IAmb	19 29 48.2	
	comp=Z,97nm,1.9s							
D05A	**Enumclaw**	**30.85**	**340**		P	**P**	**19 29 14.8**	**+1.1**
O53A	**New Philadelph**	**30.87**	**41**		P	**P**	**19 29 14.3**	**+0.3**
	baz=234							
O53A	**New Philadelph**	**30.87**	**41**		IAMs_20	IAMs_20	19 42 45.0	
	comp=Z,6µm,19.0s							
Q55A	**Buckhannon**	**30.88**	**44**		P	**P**	**19 29 14.8**	**+0.7**
	baz=237							
T58A	**Grand View Acr**	**30.89**	**48**		P	P	19 29 10.0	-4.3
	baz=242,SNR=5.3							
N52A	**McGinn's Farm,**	**30.92**	**39**		P	**P**	**19 29 14.7**	**+0.2**
	baz=232							
P54A	**Burton**	**30.96**	**42**		P	**P**	**19 29 15.3**	**+0.5**
	baz=236							
S57A	**Dark Hollow, R**	**31.00**	**47**		IAMs_20	IAMs_20	19 43 39.1	
	comp=Z,5µm,22.0s							
COWI	**Conover**	**31.03**	**25**		P	**P**	**19 29 16.1**	**+0.7**
COWI					IAmb	IAmb	19 29 47.4	
	comp=Z,71nm,1.6s							
COWI					IAMs_20	IAMs_20	19 40 29.4	
	comp=Z,8µm,20.0s							
B08A	**Colville Reser**	**31.13**	**344**		P	**P**	**19 29 17.1**	**+0.9**
B08A					IAmb	IAmb	19 29 59.9	
	comp=Z,143nm,1.8s							
B08A					IAMs_20	IAMs_20	19 41 28.4	
	comp=Z,12µm,20.0s							
U59A	**Littleton**	**31.16**	**50**		P	**P**	**19 29 17.2**	**+0.7**
	baz=244							
U59A	**Littleton**	**31.16**	**50**		P	**P**	**19 29 16.6**	**+0.1**
F42A	**Maple Grove Fa**	**31.16**	**26**		IAMs_20	IAMs_20	19 40 48.8	
	comp=Z,4µm,18.0s							
P55A	**Reedsville**	**31.33**	**43**		P	**P**	**19 29 18.7**	**+0.6**
	baz=236							
O54A	**Avella**	**31.36**	**41**		IAMs_20	IAMs_20	19 43 13.7	
	comp=Z,7µm,18.0s							
MCWV	**Mont Chateau**	**31.40**	**43**		P	**P**	**19 29 19.1**	**+0.5**
	baz=236							
N53A	**Lisbon**	**31.43**	**40**		P	**P**	**19 29 19.3**	**+0.4**
	baz=233							
N53A	**Lisbon**	**31.43**	**40**		IAMs_20	IAMs_20	19 43 01.8	
	comp=Z,4µm,19.0s							
Q56A	**Snyder Ridge,**	**31.49**	**44**		P	**P**	**19 29 20.2**	**+0.7**
	baz=238							
Q56A	**Snyder Ridge,**	**31.49**	**44**		IAMs_20	IAMs_20	19 43 50.0	
	comp=Z,6µm,20.0s							
D03D	**Eldon**	**31.52**	**339**		P	**P**	**19 29 20.9**	**+1.4**
	baz=150,SNR=12							
M52A	**Chesterland**	**31.57**	**39**		P	**P**	**19 29 20.8**	**+0.7**
	baz=232							
T59A	**Double "B" Far**	**31.60**	**49**		P	**P**	**19 29 21.2**	**+0.7**
	baz=243							
T59A	**Double "B" Far**	**31.60**	**49**		P	**P**	**19 29 20.8**	**+0.4**
K50A	**Casco**	**31.64**	**36**		IAMs_20	IAMs_20	19 42 28.2	
	comp=Z,5µm,22.0s							
NLWA	**Neilton Lookou**	**31.67**	**338**		P	**P**	**19 29 21.9**	**+0.9**
NLWA					IAmb	IAmb	19 29 24.1	
	comp=Z,55nm,1.4s							
U60A	**Pendleton**	**31.67**	**50**		P	**P**	**19 29 22.0**	**+1.0**
	baz=244							
G45A	**Suttons Bay**	**31.70**	**30**		IAMs_20	IAMs_20	19 41 48.9	
	comp=Z,5µm,19.0s							
EYMN	**Ely**	**31.75**	**20**		P	**P**	**19 29 22.9**	**+1.2**
	baz=209							
EYMN	**Ely**	**31.75**	**20**		IAMs_20	IAMs_20	19 42 28.6	
	comp=Z,10µm,18.0s							
B05A	**Bryant**	**31.84**	**341**		P	**P**	**19 29 23.3**	**+1.0**
	baz=152,SNR=7.4							
B06A	**Marblemount**	**31.88**	**342**		IAMs_20	IAMs_20	19 42 09.1	
	comp=Z,8µm,20.0s							
M53A	**WI Miller and**	**31.91**	**39**		P	**P**	**19 29 23.3**	**+0.2**
	baz=233							
M53A	**WI Miller and**	**31.91**	**39**		IAMs_20	IAMs_20	19 43 27.5	
	comp=Z,4µm,18.0s							
P56A	**Dayton Farm, R**	**31.97**	**44**		P	**P**	**19 29 24.0**	**+0.4**
	baz=238							
GLMI	**Grayling**	**32.03**	**31**		IAMs_20	IAMs_20	19 41 23.7	
	comp=Z,5µm,20.0s							
D41A	**Chassel**	**32.04**	**24**		IAMs_20	IAMs_20	19 40 57.2	
	comp=Z,9µm,19.0s							
N54A	**Moraine State**	**32.05**	**41**		P	**P**	**19 29 24.5**	**+0.2**
	baz=234,SNR=6.7							
N54A	**Moraine State**	**32.05**	**41**		IAMs_20	IAMs_20	19 43 35.0	
	comp=Z,5µm,20.0s							
O55A	**Ligonier**	**32.05**	**42**		P	**P**	**19 29 23.9**	**-0.4**
	baz=236							
MOTC	**Monteria, Cord**	**32.05**	**104**	*e*P		**P**	**19 29 24.8**	**+0.2**
U61A	**Possum Corner**	**32.13**	**51**		IAMs_20	IAMs_20	19 44 47.6	
	comp=Z,5µm,21.0s							
E43A	**Lone Tree Farm**	**32.13**	**27**		IAMs_20	IAMs_20	19 42 54.2	
	comp=Z,5µm,18.0s							
DBBC	**Dabeiba**	**32.24**	**107**	*e*P		P	19 29 32.3	+6.0
ALLY	**Alegheny Colle**	**32.36**	**39**		IAMs_20	IAMs_20	19 43 36.2	
	comp=Z,5µm,21.0s							
A04D	**Lummi Island**	**32.43**	**341**		P	**P**	**19 29 29.7**	**+2.1**
	baz=152							
Q58A	**Fox Den Farm,**	**32.45**	**46**		P	**P**	**19 29 28.3**	**+0.5**
	baz=240							
L53A	**Girard**	**32.47**	**39**		P	**P**	**19 29 28.4**	**+0.4**
	baz=233							
P57A	**Homestead Farm**	**32.50**	**44**		P	**P**	**19 29 28.6**	**+0.3**
	baz=239							
P57A	**Homestead Farm**	**32.50**	**44**		IAMs_20	IAMs_20	19 44 13.6	
	comp=Z,7µm,18.0s							
O56A	**Blue Knob Stat**	**32.55**	**43**		P	**P**	**19 29 29.0**	**+0.1**
	baz=237							
O56A	**Blue Knob Stat**	**32.55**	**43**		IAMs_20	IAMs_20	19 44 03.4	
	comp=Z,6µm,18.0s							
UREC	**San Jos de Ur**	**32.56**	**105**	*e*P		P	19 29 37.4	+8.3
M54A	**Oil Creek Stat**	**32.56**	**40**		P	**P**	**19 29 29.2**	**+0.3**
	baz=234,SNR=10							
N55A	**Marion Center**	**32.57**	**42**		P	**P**	**19 29 29.2**	**+0.3**
	baz=236,SNR=11							
PGC	**Sidney**	**32.61**	**340**		P	**P**	**19 29 28.7**	**-0.4**
PGC					IAmb	IAmb	19 30 26.2	
	comp=Z,50nm,1.4s							
ULM	**Lac du Bonnet**	**32.66**	**13**		P	**P**	**19 29 29.3**	**-0.3**
	comp=Z,16nm,1.0s,baz=202,slow=9.6,SNR=7.0							
ULM					LR	LR	19 43 14.2	
	comp=Z,12µm,19.3s,baz=201,slow=37							
ULM	**Lac du Bonnet**	**32.66**	**13**		P	**P**	**19 29 29.2**	**-0.3**
ULM					pmax	pmax		
	comp=Z,47nm,1.2s							
ULM					MLR	MLR		
	comp=Z,16µm,21.0s							
ULM	**Lac du Bonnet**	**32.66**	**13**		P	**P**	**19 29 29.2**	**-0.3**
ULM					IAmb	IAmb	19 29 55.2	
	comp=Z,47nm,1.1s							
CBOC	**Ciudad Bolivar**	**32.90**	**109**	*e*P		**P**	**19 29 29.1**	**-3.1**
P58A	**Pank, Wackersv**	**32.98**	**45**		P	**P**	**19 29 33.5**	**+1.0**
	baz=240							
N56A	**West Decatur**	**33.08**	**42**		P	**P**	**19 29 33.8**	**+0.4**
	baz=237,SNR=11							
M55A	**Ridgway**	**33.09**	**41**		P	**P**	**19 29 33.6**	**+0.1**
	baz=235,SNR=8.3							
M55A	**Ridgway**	**33.09**	**41**		IAMs_20	IAMs_20	19 44 06.2	
	comp=Z,5µm,20.0s							
O57A	**Amberson**	**33.13**	**44**		P	**P**	**19 29 34.2**	**+0.4**
	baz=238,SNR=16							
SSPA	**Standing Stone**	**33.19**	**43**		P	**P**	**19 29 34.3**	**0.0**
	baz=238							
SSPA	**Standing Stone**	**33.19**	**43**		P	**P**	**19 29 33.8**	**-0.6**
SSPA	**Standing Stone**	**33.19**	**43**		IAMs_20	IAMs_20	19 44 21.7	
	comp=Z,6µm,18.0s							
I51A	**Listowel**	**33.19**	**36**		P	**P**	**19 29 35.2**	**+0.9**
	baz=229							
HELC	**Santa Helena**	**33.19**	**108**	*e*P		P	19 29 48.4	+13
M56A	**Emporium**	**33.46**	**41**		P	**P**	**19 29 36.6**	**-0.2**
	baz=236							
N57A	**Milroy**	**33.47**	**43**		P	**P**	**19 29 36.7**	**0.0**
	baz=238,SNR=11							
SMLC	**San Martn de**	**33.52**	**103**	*e*P		P	19 29 32.2	-5.3
O58A	**Lewisberry**	**33.55**	**44**		P	**P**	**19 29 37.7**	**+0.3**
	baz=239							
RAC02	**Cali,SGC**	**33.59**	**113**	‖*e*P		P	19 29 30.2	-8.1
OTAV	**Otavalo**	**33.62**	**120**	*e*P		**P**	**19 29 41.1**	**+2.2**
OTAV	**Otavalo**	**33.62**	**120**		P	**P**	**19 29 39.6**	**+0.8**
OTAV					pmax	pmax		
	comp=Z,79nm,1.5s							
OTAV					MLR	MLR		
	comp=Z,2µm,20.0s							
OTAV	**Otavalo**	**33.62**	**120**		P	**P**	**19 29 39.6**	**+0.8**
OTAV					IAmb	IAmb	19 30 09.3	
	comp=Z,79nm,1.5s							
OTAV	**Otavalo**	**33.62**	**120**	*e*P		**P**	**19 29 40.5**	**+1.6**
L55A	**Hinsdale**	**33.70**	**40**		P	**P**	**19 29 39.1**	**+0.3**
	baz=235,SNR=8.9							
WVNY	**West Valley, N**	**33.73**	**40**		IAMs_20	IAMs_20	19 44 52.0	
	comp=Z,4µm,18.0s							
Q60A	**Greensboro**	**33.73**	**47**		IAMs_20	IAMs_20	19 44 39.1	
	comp=Z,4µm,18.0s							
PAGS	**Pennsylvania G**	**33.74**	**44**		IAMs_20	IAMs_20	19 45 00.1	
	comp=Z,7µm,19.0s							
GUY2C	**Guyana, Caldas**	**33.76**	**109**	*e*P		**P**	**19 29 44.2**	**+4.1**
K54A	**Basiliko Farm,**	**33.80**	**39**		P	**P**	**19 29 39.1**	**-0.5**
	baz=234							
SDDR	**Presa de Saban**	**33.85**	**84**		P	**P**	**19 29 40.5**	**+0.1**
SDDR					IAmb	IAmb	19 29 46.7	
	comp=Z,44nm,1.1s							
PTBC	**PUERTO BERRIO,**	**34.02**	**107**	*e*P		**P**	**19 29 44.0**	**+2.1**
M57A	**Sunshine Farm,**	**34.05**	**42**		P	**P**	**19 29 41.9**	**+0.1**
	baz=238							
M57A	**Sunshine Farm,**	**34.05**	**42**		IAMs_20	IAMs_20	19 45 03.6	
	comp=Z,7µm,18.0s							
N58A	**Sunbury**	**34.05**	**43**		P	**P**	**19 29 42.0**	**+0.2**
	baz=239							
N58A	**Sunbury**	**34.05**	**43**		IAMs_20	IAMs_20	19 45 00.5	
	comp=Z,6µm,19.0s							
TOLC	**Tolima**	**34.08**	**110**	*e*P		P	19 29 37.4	-5.3
O59A	**Robesonia**	**34.13**	**44**		P	**P**	**19 29 42.6**	**0.0**
	baz=240							
L56A	**Greenwood**	**34.21**	**41**		P	**P**	**19 29 43.4**	**+0.1**
	baz=236,SNR=6.4							
L56A	**Greenwood**	**34.21**	**41**		IAMs_20	IAMs_20	19 44 50.8	
	comp=Z,5µm,21.0s							
J54A	**Appleton**	**34.22**	**38**		IAMs_20	IAMs_20	19 43 37.1	
	comp=Z,4µm,18.0s							
K55A	**Perry**	**34.24**	**39**		P	**P**	**19 29 43.6**	**+0.1**
	baz=235							
P60A	**Greenville**	**34.26**	**46**		P	**P**	**19 29 44.4**	**+0.8**
	baz=241							
MMNY	**Mt. Morris Dam**	**34.34**	**40**		P	**P**	**19 29 44.0**	**-0.3**
MMNY					IAmb	IAmb	19 29 52.4	
	comp=Z,78nm,1.3s							
MMNY					IAMs_20	IAMs_20	19 44 53.1	
	comp=Z,5µm,18.0s							
PSUB	**Penn St. - Bra**	**34.44**	**46**		IAMs_20	IAMs_20	19 45 40.7	
	comp=Z,5µm,18.0s							
M58A	**Price's Panora**	**34.49**	**43**		P	**P**	**19 29 45.9**	**+0.2**
	baz=238,SNR=7.0							
L57A	**Andrews Acres**	**34.58**	**41**		P	**P**	**19 29 46.7**	**+0.2**
	baz=237,SNR=8.4							
O60A	**Telford**	**34.66**	**45**		P	**P**	**19 29 47.5**	**+0.4**
	baz=241							
K56A	**Middlesex**	**34.67**	**40**		P	**P**	**19 29 47.2**	**-0.1**
	baz=236,SNR=14							
J55A	**Hilton**	**34.70**	**39**		P	**P**	**19 29 47.6**	**+0.2**
	baz=234							
J55A	**Hilton**	**34.70**	**39**		IAMs_20	IAMs_20	19 43 53.7	
	comp=Z,4µm,19.0s							
N59A	**State Game Lan**	**34.71**	**44**		P	**P**	**19 29 48.1**	**+0.5**
	baz=240							
N59A	**State Game Lan**	**34.71**	**44**		IAMs_20	IAMs_20	19 45 19.9	
	comp=Z,7µm,20.0s							
SPBC	**San Pablo de B**	**34.73**	**108**	*e*P		**P**	**19 29 52.0**	**+3.8**
LUPA	**Lehigh Univers**	**34.81**	**45**		IAMs_20	IAMs_20	19 45 43.7	
	comp=Z,7µm,20.0s							
SADO	**Sadowa**	**34.85**	**36**		IAMs_20	IAMs_20	19 44 47.6	
	comp=Z,5µm,21.0s							
ROSC	**El Rosal**	**34.86**	**109**		P	**P**	**19 29 50.6**	**+1.1**
H53A	**Bobcaygeon**	**35.04**	**36**		P	**P**	**19 29 50.7**	**+0.4**
	baz=232							
N60A	**Cedar Hill Far**	**35.13**	**44**		P	**P**	**19 29 51.6**	**+0.5**
	baz=241							
BARC	**Barichara**	**35.16**	**106**	*e*P		P	19 29 46.7	-5.3
K57A	**Scipio Center**	**35.19**	**41**		P	**P**	**19 29 51.7**	**+0.1**
	baz=237							
BINY	**Binghamton**	**35.23**	**42**		P	**P**	**19 29 51.8**	**-0.2**
	baz=238,SNR=6.4							
BINY	**Binghamton**	**35.23**	**42**		IAMs_20	IAMs_20	19 45 33.7	
	comp=Z,5µm,19.0s							
L58A	**Harry Jones Me**	**35.23**	**42**		P	**P**	**19 29 52.1**	**+0.1**
	baz=238,SNR=6.5							
M59A	**Waymart**	**35.24**	**43**		P	**P**	**19 29 52.3**	**+0.2**
	baz=239							
PAMC	**Pamplona, Colo**	**35.31**	**104**	*e*P		**P**	**19 29 50.5**	**-3.1**
I55A	**Frankford**	**35.34**	**38**		P	**P**	**19 29 53.1**	**+0.2**
	baz=233							
RUSC	**La Rusia**	**35.53**	**107**	*e*P		**P**	**19 30 00.2**	**+4.8**
DELO	**Deloro Mine**	**35.55**	**37**		IAMs_20	IAMs_20	19 45 13.3	
	comp=Z,5µm,18.0s							
ODNJ	**Ogdensburg**	**35.56**	**44**		IAMs_20	IAMs_20	19 46 06.4	
	comp=Z,8µm,21.0s							
N61A	**South Mountain**	**35.60**	**45**		P	**P**	**19 29 55.7**	**+0.5**
	baz=242							
M60A	**Port Jervis**	**35.66**	**44**		P	**P**	**19 29 56.1**	**+0.3**
	baz=241							
VILC	**Villavicencio,**	**35.74**	**110**	*e*P		P	19 29 52.0	-4.9
K58A	**Earlville**	**35.74**	**41**		P	**P**	**19 29 56.7**	**+0.2**
	baz=238,SNR=8.2							
G54A	**Lake Saint Pet**	**35.82**	**36**		P	**P**	**19 29 57.3**	**+0.2**
	baz=232							
H55A	**Tweed**	**35.82**	**38**		P	**P**	**19 29 56.8**	**-0.3**
	baz=234							
L59A	**Walton**	**35.82**	**42**		P	**P**	**19 29 58.0**	**+0.8**
	baz=239,SNR=8.1							
L59A	**Walton**	**35.82**	**42**		IAMs_20	IAMs_20	19 45 53.6	
	comp=Z,7µm,19.0s							
J57A	**Williamstown**	**35.88**	**40**		P	**P**	**19 29 57.6**	**+0.1**
	baz=236							
J57A	**Williamstown**	**35.88**	**40**		P	**P**	**19 29 57.2**	**-0.3**
J57A					IAMs_20	IAMs_20	19 46 30.8	
	comp=Z,4µm,19.0s							
PAL	**Palisades**	**35.98**	**45**		P	**P**	**19 29 58.9**	**+0.4**
	baz=242							
PAL	**Palisades**	**35.98**	**45**		IAMs_20	IAMs_20	19 46 29.7	
	comp=Z,5µm,20.0s							
FFC	**Flin Flon**	**36.10**	**5**		IAMs_20	IAMs_20	19 44 40.1	
	comp=Z,9µm,18.0s							
ALGO	**Algonquin Park**	**36.19**	**35**		P	**P**	**19 30 00.7**	**+0.5**
	baz=231							
M61A	**Granite Spring**	**36.22**	**44**		P	**P**	**19 30 01.0**	**+0.5**
	baz=242							
K59A	**Cooperstown**	**36.25**	**42**		P	**P**	**19 30 01.1**	**+0.3**
	baz=239							
L60A	**Shokan**	**36.25**	**43**		P	**P**	**19 30 01.5**	**+0.7**
	baz=240							
J58A	**Remsen**	**36.28**	**41**		IAMs_20	IAMs_20	19 46 29.6	
	comp=Z,5µm,22.0s							
TAMC	**Tame, Arauca**	**36.49**	**105**	*e*P		P	19 29 55.6	-7.6
G55A	**Calabogie**	**36.51**	**37**		P	**P**	**19 30 02.6**	**-0.3**
	baz=234							
KSCT	**Kent School, K**	**36.61**	**44**		IAMs_20	IAMs_20	19 46 38.1	
	comp=Z,6µm,20.0s							
I58A	**Old Forge**	**36.65**	**40**		P	**P**	**19 30 03.9**	**-0.3**
	baz=237							
E53A	**Dumoine, Ponti**	**36.67**	**35**		P	**P**	**19 30 04.4**	**+0.1**
	baz=231							
SDV	**Santo Domingo**	**36.68**	**101**		P	**P**	**19 30 04.2**	**-0.8**
SDV					IAmb	IAmb	19 31 01.2	
	comp=Z,132nm,1.5s							
SDV	**Santo Domingo**	**36.68**	**101**	*e*P		**P**	**19 30 05.5**	**+0.5**
YLE	**Yale**	**36.78**	**45**		IAMs_20	IAMs_20	19 46 53.7	
	comp=Z,8µm,20.0s							
L61A	**Hillsdale 1, H**	**36.78**	**43**		P	**P**	**19 30 05.6**	**+0.3**
	baz=241							
H57A	**Richville**	**36.82**	**39**		P	**P**	**19 30 05.6**	**0.0**
	baz=236,SNR=6.3							
J59A	**Piesco**	**36.82**	**41**		P	**P**	**19 30 05.7**	**0.0**
	baz=238							
J59A	**Piesco**	**36.82**	**41**		IAMs_20	IAMs_20	19 45 52.9	
	comp=Z,4µm,18.0s							
E54A	**Lac Daplat, Po**	**36.96**	**35**		P	**P**	**19 30 09.3**	**+2.5**
	baz=232							
TRY	**Troy**	**36.98**	**42**		IAMs_20	IAMs_20	19 46 26.9	
	comp=Z,5µm,19.0s							
F55A	**Otter Lake**	**37.06**	**36**		P	**P**	**19 30 08.2**	**+0.6**
	baz=233							
D53A	**Lac Vacive, Po**	**37.09**	**34**		P	**P**	**19 30 10.5**	**+2

baz=228
PDPR Patillas Dam, 38.93 84 P **P** **19 30 24.5 +0.8**
H61A Lyndonville 38.97 41 P **P** **19 30 25.1 +1.3**
baz=240
G60A Masonville 39.00 40 P **P** **19 30 24.8 +0.7**
baz=239
I62A Tamworth 39.02 42 P **P** **19 30 25.8 +1.6**
baz=242
I62A Tamworth 39.02 42 IAms_20 IAms_20 19 47 40.9
comp=Z,5μm,21.0s
D57A Chemin Vers le 39.13 36 P **P** **19 30 25.3 +0.2**
baz=235
MTP Monte Pirata 39.36 84 P **P** **19 30 28.1 +0.7**
MTP IAmb IAmb 19 30 33.8
comp=Z,95nm,1.1s
H62A Milan 39.47 41 P **P** **19 30 29.2 +1.2**
baz=241
H62A Milan 39.47 41 IAms_20 IAms_20 19 47 02.8
comp=Z,5μm,19.0s
I63A Otisfield 39.58 42 P **P** **19 30 29.3 +0.4**
baz=242
I63A Otisfield 39.58 42 IAms_20 IAms_20 19 48 08.9
comp=Z,5μm,20.0s
G61A St-Isidore-de- 39.59 40 P **P** **19 30 29.6 +0.6**
baz=240
DIB Dawson Inlet, 39.60 336 IAms_20 IAms_20 19 45 22.4
comp=Z,5μm,20.0s
F60A Warwick 39.68 39 P **P** **19 30 30.1 +0.4**
baz=239
G62A West of Eustis 40.17 41 P **P** **19 30 34.8 +1.0**
baz=241
G62A West of Eustis 40.17 41 IAms_20 IAms_20 19 47 14.4
comp=Z,4μm,20.0s
E60A Ste Agathe de 40.19 39 P **P** **19 30 37.2 +3.3**
baz=239
BBSR BB Station 40.32 62 P **P** **19 30 35.4 +0.3**
BBSR IAmb IAmb 19 30 40.8
comp=Z,92nm,1.6s
WVL Waterville 40.41 42 IAms_20 IAms_20 19 48 10.6
comp=Z,4μm,19.0s
G63A Kingsbury 40.69 41 P **P** **19 30 42.0 +3.9**
baz=242
H64A Troy 40.72 42 P **P** **19 30 39.4 +1.1**
baz=243
F62A Pittston Farm, 40.84 40 IAms_20 IAms_20 19 47 32.3
comp=Z,3μm,22.0s
PKME Peaks-Kenny Pk 40.96 41 IAms_20 IAms_20 19 48 49.4
comp=Z,5μm,18.0s
F63A Nahmakanta, Br 41.28 41 P **P** **19 30 43.6 +0.7**
E62A Clayton Lake 41.47 39 P **P** **19 30 45.1 +0.7**
baz=241
E62A Clayton Lake 41.47 39 IAms_20 IAms_20 19 48 35.7
comp=Z,3μm,20.0s
F64A Sherman 41.82 41 IAms_20 IAms_20 19 48 23.2
comp=Z,4μm,18.0s
EMMW East Machias 41.88 43 IAms_20 IAms_20 19 49 28.7
comp=Z,4μm,22.0s
D62A Allapoint, All 41.97 39 P **P** **19 30 49.2 +0.7**
baz=241
D62A Allapoint, All 41.97 39 IAms_20 IAms_20 19 50 15.1
comp=Z,3μm,20.0s
G65A Princeton 42.02 42 IAms_20 IAms_20 19 50 22.5
comp=Z,5μm,22.0s
E63A Oxbow 42.04 40 P **P** **19 30 49.7 +0.6**
baz=242
E63A Oxbow 42.04 40 IAms_20 IAms_20 19 49 11.9
comp=Z,5μm,18.0s
WRAK Wrangell Islan 42.08 339 IAms_20 IAms_20 19 46 30.0
comp=Z,4μm,19.0s
SKI Saint Kitts 42.12 85 P **P** **19 30 50.9 +0.7**
SKI pmax pmax
comp=Z,210nm,1.0s
SKI MLR MLR
comp=Z,1μm,20.0s
SKI Saint Kitts 42.12 85 P **P** **19 30 50.9 +0.7**
GGN Saint George 42.45 43 IAms_20 IAms_20 19 51 02.1
comp=Z,3μm,18.0s
TAOE Nuku Hiva Isla 42.62 233 *e*S **S** **19 37 13.5 -4.1**
comp=Z,5μm,26.7s
TAOE *e*LQ LQ 19 40 49.7
comp=Z,20μm,24.7s
TAOE *e*LR LR 19 42 33.9
comp=Z,32μm,26.6s,baz=48
TAOE Nuku Hiva Isla 42.62 233 *e*T T 20 15 44.5
comp=Z,239nm,0.2s
CZSB Cruzeiro do Su 42.95 125 *e*P **P** **19 30 57.9 +1.0**
DLBC Dease Lake 43.02 343 LR LR 19 48 32.5
comp=Z,19μm,21.9s,baz=152,slow=36
DLBC Dease Lake 43.02 343 P **P** **19 30 58.0 +0.9**
SIT Sitka 43.61 338 IAms_20 IAms_20 19 48 20.4
comp=Z,4μm,19.0s
BATG Bathurst New B 43.87 40 IAms_20 IAms_20 19 49 11.3
comp=Z,3μm,21.0s
YKA Yellowknife Ar 43.99 355 P **P** **19 31 04.6 -0.1**
comp=Z,5.5nm,0.9s,baz=169,slow=7.1,SNR=8.2
YKA LR LR 19 49 36.7
comp=Z,15μm,20.0s,baz=0.0,slow=36
LMN Caledonia Moun 44.06 43 IAms_20 IAms_20 19 50 44.3
comp=Z,5μm,22.0s
JIS Juneau Island 44.23 340 IAms_20 IAms_20 19 48 10.8
comp=Z,5μm,19.0s
HAL Halifax 44.39 45 IAms_20 IAms_20 19 51 16.1
comp=Z,6μm,20.0s
BESE Bessie Mountai 44.62 340 IAms_20 IAms_20 19 48 31.2
comp=Z,4μm,19.0s
SKAG Skagway 45.46 340 IAms_20 IAms_20 19 50 47.4
comp=Z,4μm,19.0s
AIN Ainahou 45.59 279 P **P** **19 31 20.9 +2.6**
MLOA Mauna Loa Obse 45.67 279 P **P** **19 31 21.5 +2.3**
KHLU Kahalu`u 45.96 279 IAms_20 IAms_20 19 49 29.2
comp=Z,6μm,21.0s
HYT Haines Junctio 47.21 340 P **P** **19 31 31.9 +1.6**
HYT IAmb IAmb 19 32 04.7
comp=Z,63nm,1.4s
HYT IAms_20 IAms_20 19 49 14.6
comp=Z,5μm,21.0s
SCHQ Schefferville 47.22 31 LR LR 19 52 37.6
comp=Z,3μm,19.4s,baz=248,slow=38
SCHQ Schefferville 47.22 31 IAms_20 IAms_20 19 52 24.8
comp=Z,5μm,22.0s
BCPM Bancas Point 47.28 338 IAms_20 IAms_20 19 51 42.5
comp=Z,3μm,20.0s
PCA Pinnacle 47.60 338 IAms_20 IAms_20 19 49 43.9
comp=Z,3μm,22.0s
KIP Kipapa 47.72 282 P **P** **19 31 36.6 +1.9**
KIP pmax pmax
comp=Z,185nm,1.5s
KIP MLR MLR
comp=Z,10μm,21.0s
KIP Kipapa 47.72 282 P **P** **19 31 36.6 +1.9**
TABL Table Mountain 48.15 338 P **P** **19 31 40.0 +2.2**
TABL IAmb IAmb 19 32 14.4
comp=Z,60nm,1.2s
TABL IAms_20 IAms_20 19 50 01.6
comp=Z,4μm,21.0s
MESA MESA 48.26 337 IAms_20 IAms_20 19 49 36.5
comp=Z,5μm,22.0s
YAH Yahtse 48.31 338 IAms_20 IAms_20 19 49 52.8
comp=Z,6μm,22.0s
CTGM Chitina Glacie 48.59 339 P **P** **19 31 42.9 +1.8**
CTGM IAms_20 IAms_20 19 50 16.2
comp=Z,5μm,22.0s
ISLE Juniper Island 48.69 338 IAms_20 IAms_20 19 50 02.9
comp=Z,5μm,22.0s
BARN Barnard Glacie 48.77 338 IAms_20 IAms_20 19 50 21.9
comp=Z,5μm,22.0s
BALM Baldy 48.99 338 IAms_20 IAms_20 19 50 25.8
comp=Z,5μm,22.0s
HMT Hamilton 49.22 337 IAms_20 IAms_20 19 52 11.9
comp=Z,4μm,20.0s
KEKH Kekaha 49.23 283 IAms_20 IAms_20 19 46 35.6
comp=Z,5μm,18.0s
ETMB Extrema 49.33 122 *e*P **P** **19 31 48.7 +1.5**
RAGM Ragged Mountai 49.41 336 IAms_20 IAms_20 19 52 28.9
comp=Z,4μm,20.0s
MCARA McCarthy VSAT 49.47 338 IAms_20 IAms_20 19 50 40.5
comp=Z,5μm,22.0s
VRDI Verde Repeater 49.52 338 IAms_20 IAms_20 19 50 39.7
comp=Z,4μm,21.0s
RKT Rikitea 49.75 214 *e*S **S** **19 38 56.7 -2.9**
comp=Z,5μm,27.2s
RKT *e*LQ LQ 19 43 49.6
RKT *e*LR LR 19 45 56.4
comp=Z,12μm,29.2s
GLB Gilahina Butte 49.79 338 P **P** **19 31 51.4 +1.3**
GLB IAms_20 IAms_20 19 49 45.9
comp=Z,3μm,22.0s

DRLN Deer Lake 49.90 41 IAms_20 IAms_20 19 54 06.0
comp=Z,5μm,21.0s
EYAK Cordova Ski Ar 49.92 336 IAms_20 IAms_20 19 50 07.4
comp=Z,4μm,20.0s
HIN Hinchinbrook I 50.12 336 IAms_20 IAms_20 19 50 07.6
comp=Z,4μm,21.0s
PTGA Pitinga 50.18 107 P **P** **19 31 54.4 +0.7**
PTGA IAmb IAmb 19 32 23.0
comp=Z,52nm,1.4s
PTGA Pitinga 50.18 107 *e*P **P** **19 31 54.9 +1.1**
BCAR Beaver Creek A 50.23 340 P **P** **19 31 54.1 +0.6**
FID Port Fidalgo 50.33 336 IAms_20 IAms_20 19 56 23.0
comp=Z,3μm,19.0s
KLU Klutina 50.59 337 P **P** **19 31 57.2 +1.0**
KLU IAmb IAmb 19 32 33.6
comp=Z,76nm,1.3s
KLU IAms_20 IAms_20 19 50 56.1
comp=Z,3μm,20.0s
MACA Manacapuru-AM 50.61 111 *e*P **P** **19 31 58.8 +1.9**
GLI Glacier Island 50.65 336 P **P** **19 31 57.6 +1.0**
GLI IAmb IAmb 19 32 03.3
comp=Z,60nm,1.1s
GLI IAms_20 IAms_20 19 50 35.6
comp=Z,3μm,21.0s
MENT Mentasta 50.78 339 IAms_20 IAms_20 19 54 54.9
comp=Z,3μm,21.0s
K27K Chicken 51.02 341 P **P** **19 32 01.0 +1.7**
baz=136
M24K Tolsona, Glenn 51.08 338 P **P** **19 32 01.6 +1.7**
baz=130,SNR=12
SEW Seward 51.12 334 IAms_20 IAms_20 19 52 03.2
comp=Z,3μm,20.0s
KDAK Kodiak Island 51.24 331 P **P** **19 32 02.3 +1.2**
KDAK pmax pmax
comp=Z,191nm,1.7s
KDAK MLR MLR
comp=Z,7μm,21.0s
KDAK Kodiak Island 51.24 331 P **P** **19 32 02.3 +1.2**
OHAK Old Harbor 51.30 330 IAms_20 IAms_20 19 50 32.0
comp=Z,6μm,21.0s
SCM Sheep Creek Mo 51.33 337 IAms_20 IAms_20 19 53 26.5
comp=Z,3μm,19.0s
EPYK Eagle Plains 51.33 345 P **P** **19 32 02.5 +0.8**
baz=143
SAML Samuel 51.33 119 P **P** **19 32 02.8 +0.5**
SAML pmax pmax
comp=Z,46nm,1.4s
SAML Samuel 51.33 119 P **P** **19 32 02.8 +0.5**
SAML IAmb IAmb 19 32 41.7
comp=Z,46nm,1.4s
SAML Samuel 51.33 119 *e*P **P** **19 32 02.9 +0.6**
DOT Dot Lake 51.38 340 IAms_20 IAms_20 19 53 06.9
comp=Z,4μm,20.0s
PAX Paxson 51.39 339 IAms_20 IAms_20 19 51 31.2
comp=Z,4μm,22.0s
SII Sitkinak Islan 51.42 329 IAms_20 IAms_20 19 50 13.2
comp=Z,6μm,21.0s
KNK Knik Glacier 51.50 336 P **P** **19 32 03.9 +0.9**
KNK IAmb IAmb 19 32 42.9
comp=Z,63nm,1.3s
KNK IAms_20 IAms_20 19 55 36.1
comp=Z,3μm,18.0s
BRLK Bradley Lake 51.53 333 IAms_20 IAms_20 19 52 15.0
comp=Z,4μm,20.0s
CNPM China Poot 51.55 333 IAms_20 IAms_20 19 52 18.5
comp=Z,4μm,19.0s
SCRK Sand Creek 51.58 340 P **P** **19 32 04.8 +1.1**
baz=133,SNR=13
SML Sawmill 51.69 336 IAms_20 IAms_20 19 52 59.1
comp=Z,3μm,19.0s
RIDG Independent Ri 51.70 340 IAms_20 IAms_20 19 52 20.2
comp=Z,6μm,21.0s
RC01 Rabbit Creek A 51.80 335 P **P** **19 32 06.2 +0.9**
baz=125
CHIR Chirikof Islan 51.81 327 IAms_20 IAms_20 19 50 00.6
comp=Z,4μm,22.0s
LPAZ La Paz 51.81 130 P **P** **19 32 06.0 -0.6**
comp=Z,4.2nm,0.9s,baz=316,slow=6.2,SNR=11
LPAZ La Paz 51.81 130 P **P** **19 32 07.7 +1.0**
LPAZ IAmb IAmb 19 32 38.5
comp=Z,55nm,1.6s
LPAZ La Paz 51.81 130 *e*P **P** **19 32 06.5 -0.1**
PMR Palmer 51.86 336 IAms_20 IAms_20 19 55 47.7
comp=Z,3μm,18.0s
GHO Glory Hole Cre 51.89 336 IAms_20 IAms_20 19 53 04.5
comp=Z,2μm,19.0s
DHY Denali Highway 52.12 338 IAms_20 IAms_20 19 55 35.6
comp=Z,3μm,18.0s
PB16 IPOC Station P 52.19 133 P **P** **19 32 09.5 +0.1**
PB16 IAmb IAmb 19 32 42.1
comp=Z,95nm,1.8s
PMOR Pomariorio Ree 52.35 233 *e*T T 20 27 56.8
comp=Z,6.8nm,0.2s
SUA Susitna One 52.42 335 P **P** **19 32 10.7 +0.7**
SUA IAms_20 IAms_20 19 53 08.5
comp=Z,3μm,20.0s
HDA Harding Lake 52.83 340 P **P** **19 32 13.3 +0.4**
baz=130,SNR=8.2
HDA Harding Lake 52.83 340 IAms_20 IAms_20 19 52 54.3
comp=Z,4μm,21.0s
RND Reindeer 52.85 338 P **P** **19 32 13.9 +0.8**
RND pmax pmax
comp=Z,72nm,1.3s
RND MLR MLR
comp=Z,4μm,18.0s
RND Reindeer 52.85 338 P **P** **19 32 13.9 +0.8**
RND IAmb IAmb 19 32 36.2
comp=Z,72nm,1.3s
RND IAms_20 IAms_20 19 56 10.9
comp=Z,4μm,18.0s
SKT Skwentna 53.02 336 P **P** **19 32 14.7 +0.4**
SKT IAms_20 IAms_20 19 51 26.4
comp=Z,3μm,22.0s
IL31 53.05 340 P **P** **19 32 14.5 +0.1**
IL31 IAmb IAmb 19 32 47.1
comp=Z,44nm,1.1s
ILAR Eielson Array 53.05 340 P **P** **19 32 14.7 +0.2**
comp=Z,17nm,1.1s,baz=151,slow=6.1,SNR=70
ILAR LR LR 19 53 23.3
comp=Z,4μm,21.4s,baz=141,slow=34
ILAR Eielson Array 53.05 340 P **P** **19 32 14.3 -0.2**
ILAR Eielson Array 53.05 340 P **P** **19 32 14.3 -0.2**
MCK McKinley 53.08 338 P **P** **19 32 15.1 +0.3**
MCK pmax pmax
comp=Z,65nm,1.3s
MCK MLR MLR
comp=Z,3μm,21.0s
MCK McKinley 53.08 338 P **P** **19 32 15.1 +0.3**
MCK IAmb IAmb 19 32 42.9
comp=Z,64nm,1.3s
MCK IAms_20 IAms_20 19 56 24.0
comp=Z,3μm,21.0s
WRH Wood River Hil 53.26 339 IAms_20 IAms_20 19 54 37.4
comp=Z,4μm,18.0s
CCB Clear Creek Bu 53.27 339 IAms_20 IAms_20 19 53 06.8
comp=Z,4μm,22.0s
GO01 Chusmiza 53.32 134 P **P** **19 32 18.3 +0.8**
TRF Thorofare Moun 53.40 337 IAms_20 IAms_20 19 52 33.3
comp=Z,4μm,22.0s
COLA College 53.43 340 *i* P **P** **19 32 17.2 0.0**
COLA pmax pmax
comp=Z,8.0nm,1.1s
COLA College 53.43 340 IAms_20 IAms_20 19 53 23.2
comp=Z,4μm,22.0s
POKR Poker Plat Res 53.45 340 P **P** **19 32 17.6 +0.1**
baz=130
CNBA Chernabura Isl 53.50 325 IAms_20 IAms_20 19 49 14.6
comp=Z,6μm,22.0s
BWN Browne 53.54 338 IAms_20 IAms_20 19 52 44.5
comp=Z,3μm,20.0s
MDM Murphy Dome 53.61 340 IAms_20 IAms_20 19 53 28.9
comp=Z,4μm,21.0s
NEA2 Nenana 53.66 339 P **P** **19 32 19.5 +0.6**
baz=128,SNR=11
PB08 IPOC Station P 53.67 134 P **P** **19 32 20.1 +0.1**
PB08 IAmb IAmb 19 32 55.1
comp=Z,54nm,1.5s
KTH Kantishna Hill 53.69 337 IAms_20 IAms_20 19 54 20.0
comp=Z,3μm,20.0s
PPLA Purkeypile 53.79 336 IAms_20 IAms_20 19 54 16.6
comp=Z,3μm,19.0s
BPAW Bear Paw Mtn. 54.03 338 IAms_20 IAms_20 19 57 45.0
comp=Z,3μm,20.0s
SDPT Sand Point 54.16 326 IAms_20 IAms_20 19 51 05.0
comp=Z,2μm,21.0s
MLY Manley 54.50 339 IAms_20 IAms_20 19 53 25.3
comp=Z,3μm,22.0s

PPT Papeete 55.21 232 LR LR 19 49 38.7
comp=Z,5μm,20.8s,baz=58,slow=29
PPT2 Papeete2 55.22 232 *e*S **S** **19 40 11.3 -3.5**
comp=Z,9μm,25.2s
PPT2 *e*LR LR 19 48 24.8
comp=Z,33μm,27.5s,baz=43
TTA Tatalina 55.29 335 IAms_20 IAms_20 19 53 30.4
comp=Z,4μm,22.0s
LVC Limon Verde 55.54 136 P **P** **19 32 34.4 +0.8**
LVC pmax pmax
comp=Z,38nm,1.3s
LVC Limon Verde 55.54 136 P **P** **19 32 34.4 +0.8**
LVC IAmb IAmb 19 33 14.5
comp=Z,38nm,1.3s
LVC Limon Verde 55.54 136 *e*P **P** **19 32 34.4 +0.8**
ITTB Itaituba 55.55 109 *e*P **P** **19 32 34.1 +0.7**
FALS False Pass 55.61 324 IAms_20 IAms_20 19 50 09.2
comp=Z,4μm,20.0s
COLD Coldfoot 55.66 341 P **P** **19 32 34.3 +0.8**
baz=128,SNR=15
COLD Coldfoot 55.66 341 P **P** **19 32 34.2 +0.7**
COLD IAmb IAmb 19 33 12.9
comp=Z,82nm,1.7s
COLD IAms_20 IAms_20 19 56 12.1
comp=Z,3μm,20.0s
MALB Monte Alegre 55.82 106 *e*P **P** **19 32 36.5 +1.1**
VILB Vilhena 55.96 121 *e*P **P** **19 32 37.0 +0.7**
IMAR Indian Mountai 56.07 339 P **P** **19 32 35.6 -0.8**
RES Resolute Bay 56.32 4 LR LR 19 55 02.4
comp=Z,3μm,19.0s,baz=184,slow=34
TOLK Toolik Lake Re 56.38 343 P **P** **19 32 39.0 +0.4**
baz=130
AKUT Akutan 56.73 323 IAms_20 IAms_20 19 51 09.9
comp=Z,4μm,19.0s
UNV Unalaska Valle 57.08 323 IAms_20 IAms_20 19 50 19.5
comp=Z,4μm,21.0s
NPGB Novo Progresso 57.09 112 *e*P **P** **19 32 44.7 +0.3**
MCPB Macapa, AP 57.26 103 *e*P **P** **19 32 46.3 +0.7**
PTLB Pontes e Lacer 58.19 123 *e*P **P** **19 32 52.6 +0.6**
H03N2 Juan Fernandez 58.48 152 T T 20 36 09.3
baz=330,slow=77,SNR=170
H03N1 Juan Fernandez 58.48 152 T T 20 36 11.4
baz=330,slow=77,SNR=170
H03N3 Juan Fernandez 58.49 152 T T 20 36 35.2
baz=330,slow=77,SNR=163
CLDB Colider 58.54 116 *e*P **P** **19 32 54.1 -0.6**
TBI Tubuai 58.85 226 *e*S **S** **19 40 59.0 -3.4**
comp=Z,10μm,28.5s
TBI *e*LQ LQ 19 47 39.4
comp=Z,7μm,26.5s
TBI *e*LR LR 19 50 00.4
comp=Z,22μm,29.2s,baz=45
TBI Tubuai 58.85 226 *e*T T 20 36 04.8
comp=Z,12nm,0.2s
ANM Nome 59.75 335 IAms_20 IAms_20 19 58 34.3
comp=Z,3μm,19.0s
SPIA Saint Paul Isl 59.91 326 IAms_20 IAms_20 19 56 53.8
comp=Z,2μm,22.0s
RDOG Red Dog Mine 60.22 339 P **P** **19 33 05.5 +0.1**
RDOG IAmb IAmb 19 33 20.8
comp=Z,51nm,1.1s
RDOG IAms_20 IAms_20 19 56 34.6
comp=Z,3μm,22.0s
CO03 El Pedregal 60.49 144 P **P** **19 33 07.3 -0.5**
CO03 IAmb IAmb 19 33 40.4
comp=Z,48nm,1.2s
PRPB Parauapebas 61.65 108 *e*P **P** **19 33 16.9 +0.9**
VA01 Torpederas 61.65 146 IAms_20 IAms_20 19 53 36.5
comp=Z,2μm,18.0s
TMAB Tom-Au,PA,Br 61.68 103 *e*P **P** **19 33 17.5 +1.3**
VA03 San Esteban 62.03 145 P **P** **19 33 17.6 -0.6**
GAMB Gambell 62.15 333 IAms_20 IAms_20 20 00 23.8
comp=Z,3μm,20.0s
ZON Zonda 62.15 143 P **P** **19 33 19.1 +0.1**
ZON pmax pmax
comp=Z,86nm,1.8s
ZON MLR MLR
comp=Z,900nm,20.0s
ZON Zonda 62.15 143 P **P** **19 33 19.1 +0.1**
BO01 Tunca 63.01 147 IAms_20 IAms_20 19 54 47.4
comp=Z,2μm,22.0s
BO02 Sierra Bellavi 63.48 147 P **P** **19 33 29.3 +1.5**
BO02 IAms_20 IAms_20 19 54 41.8
comp=Z,1μm,18.0s
BI03 Tigo 63.99 150 IAms_20 IAms_20 19 54 43.4
comp=Z,2μm,21.0s
ARAG Araguaiana, MT 64.31 119 *e*P **P** **19 33 34.8 +1.2**
BI02 San Fabin de 64.70 149 P **P** **19 33 35.9 0.0**
BI02 IAmb IAmb 19 34 24.2
comp=Z,60nm,1.4s
SMTB Santa Maria do 64.78 110 *e*P **P** **19 33 38.2 +1.5**
RAR Rarotonga 65.11 235 LR LR 19 54 18.6
comp=Z,8μm,20.6s,baz=61,slow=29
ROSB Rosrio 65.55 102 *e*P **P** **19 33 44.1 +2.3**
PEXB Peixe 65.58 113 *e*P **P** **19 33 42.7 +0.7**
SUMG Summit 65.86 18 *i* P **P** **19 33 42.5 -0.8**
comp=Z,36nm,0.9s
SUMG *i* 19 34 12.1
SUMG Summit 65.86 18 *i* P **P** **19 33 42.5 -0.8**
SUMG *i* 19 34 12.1
SUMG pmax pmax
comp=Z,36nm,0.9s
SUMG Summit 65.86 18 P **P** **19 33 42.9 -0.4**
CPUP Villa Florida 65.92 131 P **P** **19 33 44.0 +0.2**
comp=Z,3.4nm,0.8s,baz=330,slow=8.1,SNR=3.3
CPUP Villa Florida 65.92 131 P **P** **19 33 43.6 -0.3**
CPUP pmax pmax
comp=Z,62nm,1.7s
CPUP Villa Florida 65.92 131 P **P** **19 33 43.5 -0.3**
CPUP IAmb IAmb 19 34 20.3
comp=Z,62nm,1.7s
CPUP Villa Florida 65.92 131 *e*P **P** **19 33 44.1 +0.2**
TRCB Terra Rica 67.36 126 *e*P **P** **19 33 56.0 +2.7**
BDFB Brasilia 67.47 117 P **P** **19 33 54.7 +0.6**
comp=Z,6.8nm,1.0s,baz=315,slow=8.6,SNR=3.2
BDFB Brasilia 67.47 117 P **P** **19 33 54.3 +0.2**
BDFB pmax pmax
comp=Z,95nm,1.8s
BDFB MLR MLR
comp=Z,800nm,22.0s
BDFB Brasilia 67.47 117 P **P** **19 33 54.3 +0.2**
ITRB Iturama 67.53 122 *e*P **P** **19 33 55.5 +1.2**
PCMB Pacaembu 67.80 124 *e*P **P** **19 33 56.9 +1.0**
PLCA Paso Flores 68.26 151 P **P** **19 33 58.8 +0.2**
comp=Z,6.4nm,0.9s,baz=328,slow=5.8,SNR=6.5
PLCA LR LR 19 57 24.3
comp=Z,2μm,18.9s,baz=318,slow=30
PLCA Paso Flores 68.26 151 P **P** **19 33 58.7 +0.2**
PLCA pmax pmax
comp=Z,76nm,1.6s
PLCA Paso Flores 68.26 151 P **P** **19 33 58.7 +0.2**
PLCA Paso Flores 68.26 151 *e*P **P** **19 33 59.9 +1.4**
IPMB Ipameri, GO 68.42 119 *e*P **P** **19 34 01.8 +1.8**
SDBA SAO DESIDERIO 68.69 112 *e*P **P** **19 34 03.2 +1.5**
LL01 San Ignacio de 68.75 153 P **P** **19 34 02.3 +0.9**
LL01 IAmb IAmb 19 34 50.6
comp=Z,39nm,1.4s
LL01 IAms_20 IAms_20 19 57 02.4
comp=Z,2μm,19.0s
PTGB Pitanga 68.86 127 *e*P **P** **19 34 04.2 +1.6**
NBMO Morrinhos-CE 69.49 101 *e*P **P** **19 34 08.0 +1.3**
BB19B Bebedouro 69.69 122 *e*P **P** **19 34 08.1 +0.2**
FRTB Fartura 70.04 124 *e*P **P** **19 34 11.1 +1.1**
ITAB Concordia 70.21 129 *e*P **P** **19 34 12.0 +1.2**
JANB Januaria 70.37 114 *e*P **P** **19 34 13.6 +1.5**
CPSB Cacapava Do Su 71.10 133 *e*P **P** **19 34 17.4 +1.2**
BORG Borgarnes 71.40 27 LR LR 20 05 08.4
comp=Z,3μm,18.2s,baz=295,slow=35
BORG Borgarnes 71.40 27 IAms_20 IAms_20 20 04 57.5
comp=Z,3μm,19.0s
MC01 Montes Claros 71.43 116 *e*P **P** **19 34 19.0 +0.5**
AFI Afiamalu 71.51 248 LR LR 19 56 54.1
comp=Z,4μm,21.9s,baz=74,slow=28
TIJ01 Guaruva-PR 71.52 126 *e*P **P** **19 34 21.5 +2.6**
PLTB Pedras Altas 71.79 134 *e*P **P** **19 34 22.0 +1.6**
SPB Sao Paulo 71.84 124 *e*P **P** **19 34 22.6 +1.7**
VAO Valinhos 71.92 123 *e*P **P** **19 34 22.9 +1.5**
CNLB Canela 72.31 130 *e*P **P** **19 34 24.6 +1.0**
PET01 Itanhaem-SP 72.32 124 *e*P **P** **19 34 24.9 +1.3**
BSCB Bom Sucesso 72.71 120 *e*P **P** **19 34 27.1 +1.0**
PARB Paraibuna 73.16 122 *e*P **P** **19 34 29.7 +0.9**
GDU01 Guandu, BA 73.94 111 *e*P **P** **19 34 34.7 +1.3**
RCBR Riachuelo 74.25 102 *e*P **P** **19 34 36.5 +1.1**
MAN01 Angra dos Reis 74.26 121 *e*P **P** **19 34 38.2 +3.0**
GO09 Cerro Castillo 76.11 158 IAms_20 IAms_20 20 13 27.1

comp=Z,1μm,19.0s
PET Petropavlovsk 77.72 322 *e*P **P** **19 34 55.2 +0.8**
PET *e*S **S** **19 44 46.2 -0.4**
PET *e*PS **PnS** **19 45 28.0 +1.7**
PET *e*PPS PPS 19 45 48.5
PET *e*SS **SS** **19 49 42.4 -3.6**
PET pmax pmax
comp=Z,200nm,12.9s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 77.72 322 P **P** **19 34 54.5 +0.1**
PET IAmb IAmb 19 35 32.1
comp=Z,52nm,1.4s
SEY Seymchan 78.15 333 *i* P **P** **19 34 57.7 +1.1**
PEA0B Petropavlovsk- 78.26 322 *ce*P **P** **19 34 58.0 +0.6**
PEA0B Petropavlovsk- 78.26 322 P **P** **19 34 57.4 -0.1**
PEA0B IAMs_20 IAMs_20 20 01 56.3
comp=Z,3μm,22.0s
PETK Petropavlovsk- 78.26 322 P **P** **19 34 57.5 +0.1**
comp=Z,8.0nm,0.8s,baz=82,slow=9.5,SNR=20
PETK LR LR 20 03 14.7
comp=Z,1μm,20.1s,baz=86,slow=31
PETK Petropavlovsk- 78.26 322 P **P** **19 34 57.3 -0.2**
PETK Petropavlovsk- 78.26 322 P **P** **19 34 57.3 -0.2**
SKR Severo-Kuril's 79.88 320 *e*P P 19 35 02.0 -4.3
SKR *e*S **S** **19 45 01.7 -8.1**
SKR pmax pmax
comp=Z,38nm,1.2s
SKR pmax pmax
comp=Z,100nm,5.6s
SKR pmax pmax
comp=Z,300nm,5.2s
SKR MLR MLR
comp=Z,400nm,17.0s
USHA Ushuaia 80.39 158 LR LR 20 03 28.1
comp=Z,1μm,21.0s,baz=320,slow=30
MG01 Puerto William 80.75 158 IAMs_20 IAMs_20 20 15 43.6
comp=Z,1μm,19.0s
MSVF Nonsavu 82.00 248 P **P** **19 35 18.7 +0.4**
MSVF pmax pmax
comp=Z,87nm,1.7s
MSVF MLR MLR
comp=Z,6μm,22.0s
MSVF Nonsavu 82.00 248 P **P** **19 35 18.7 +0.4**
MSVF IAmb IAmb 19 35 58.0
comp=Z,87nm,1.7s
EFI East Falkland 82.16 152 IAMs_20 IAMs_20 20 18 42.1
comp=Z,2μm,19.0s
TIXI Tiksi 82.21 345 LR LR 20 13 57.6
comp=Z,1μm,20.1s,baz=64,slow=37
TIXI Tiksi 82.21 345 *ce*P **P** **19 35 17.9 -0.5**
TIXI pmax pmax
comp=Z,23nm,1.0s
TIXI Tiksi 82.21 345 P **P** **19 35 19.5 +1.2**
TIXI IAmb IAmb 19 35 59.7
comp=Z,67nm,1.5s
TIXI IAMs_20 IAMs_20 20 12 12.6
comp=Z,3μm,21.0s
ESK Eskdalemuir 82.39 34 IAMs_20 IAMs_20 20 07 30.8
comp=Z,2μm,21.0s
EKA Eskdalemuir Ar 82.41 34 LR LR 20 09 43.2
comp=Z,1μm,20.7s,baz=275,slow=34
RAO Raoul Island 83.31 236 LR LR 20 03 07.3
comp=Z,4μm,21.8s,baz=69,slow=29
PGAV Gavieira, Arco 83.99 48 *e*S **ScS** **19 46 02.3 -3.0**
PGAV *e*SS SS 19 51 36.4 +16
PGAV Gavieira, Arco 83.99 48 *e*LR LR 20 02 40.8
comp=Z,888nm,20.0s
LIS Lisbon 84.45 51 *e*P **P** **19 35 31.1 +0.5**
LIS AMS AMS 20 12 04.8
comp=Z,1μm,20.0s
LIS Lisbon 84.45 51 *e*P **P** **19 35 31.0 +0.5**
PCAS Casmilo, Conde 84.47 50 *e*P **P** **19 35 32.4 +1.7**
comp=Z,50nm,1.7s
COI Coimbra 84.48 50 IAMs_20 IAMs_20 20 12 25.2
comp=Z,1μm,19.0s
PVIS Viseu 84.68 49 *e*P **P** **19 35 35.5 +3.7**
MVO Moncorvo 85.14 48 *e*P **P** **19 35 36.2 +2.1**
comp=Z,32nm,1.5s
MVO Moncorvo 85.14 48 *e*S **ScS** **19 46 10.3 -4.4**
MVO *e*SS SS 19 51 52.0 +15
MVO Moncorvo 85.14 48 *e*LR LR 20 03 23.6
comp=Z,989nm,18.0s
PFVI Vila Bisbo 85.22 53 IAMs_20 IAMs_20 20 13 18.8
comp=Z,912nm,19.0s
PCBR Castelo Branco 85.28 50 *e*P **P** **19 35 35.4 +0.6**
comp=Z,25nm,1.9s
MORF Marmelete 85.29 52 *e*P **P** **19 35 35.4 +0.5**
MORF *e*SKSac **SKSac** **19 45 58.4 -2.0**
MORF AMS AMS 20 08 36.5
comp=N,773nm,27.9s
MORF Marmelete 85.29 52 *e*P **P** **19 35 35.4 +0.5**
MORF *e* 19 45 58.4
EVO Evora 85.35 51 *e*P P 19 35 40.6 +5.5
EVO *e*S **ScS** **19 46 17.0 +0.6**
EVO Evora 85.35 51 *e*P **P** **19 35 35.7 +0.6**
PMRV Marv??o 85.49 50 *e*P **P** **19 35 36.2 +0.4**
comp=N,37nm,1.6s
PMRV Marv??o 85.49 50 *e*S **ScS** **19 46 21.9 +4.3**
PMRV *e*SS SS 19 51 56.6 +14
PMRV Marv??o 85.49 50 *e*LR LR 20 03 07.0
comp=N,921nm,16.0s
MBO M'Bour 85.60 76 IAMs_20 IAMs_20 20 09 02.8
comp=Z,1μm,21.0s
PCVE Castro Verde 85.64 52 *e*P **P** **19 35 37.5 +0.9**
comp=Z,17nm,1.7s
ARCES ARCESS Array B 85.76 15 LR LR 20 13 26.0
comp=Z,4μm,21.6s,baz=316,slow=35
ARE0 ARCESS Array S 85.76 15 **P** **19 35 37.3 +0.7**
PBDV Barranco-do-Ve 85.85 52 *e*P **P** **19 35 38.5 +0.8**
comp=Z,29nm,1.6s
PVAQ Vaqueiros 85.96 52 IAMs_20 IAMs_20 20 14 42.3
comp=Z,1μm,21.0s
PVAQ Vaqueiros 85.96 52 *e*S **ScS** **19 46 27.7 +6.3**
PVAQ *e*SS **SS** **19 51 58.9 +10**
PVAQ Vaqueiros 85.96 52 *e*LR LR 20 03 16.2
comp=Z,871nm,20.0s
NB2 NORSAR Subarra 86.51 25 P **P** **19 35 39.7 -0.8**
comp=Z,18nm,1.4s,baz=306,slow=5.1
NOA NORSAR Array B 86.51 25 P **P** **19 35 39.7 -0.8**
comp=Z,1.3nm,1.1s,baz=302,slow=4.8,SNR=3.2
NOA LR LR 20 13 55.3
comp=Z,1μm,18.9s,baz=310,slow=35
KONO Kongsberg 86.59 27 *i* P **P** **19 35 39.7 -1.1**
KONO pmax pmax
comp=Z,7.0nm,0.9s
KUR Kuril'sk 86.97 317 P **P** **19 35 45.0 +2.0**
KUR *i* 19 46 27.6
KUR *e*SS SS 19 52 07.9 +4.2
KUR *e*SSS SSS 19 55 39.8
SFS San Fernando 87.42 52 *e*P **P** **19 35 49.1 +3.8**
SFS *e*S **S** **19 46 24.4 -2.0**
AVE Averroes 87.63 56 *e*P P 19 35 53.9 +7.4
AVE *e*S **ScS** **19 46 35.1 -0.4**
PAB San Pablo 87.64 49 IAMs_20 IAMs_20 20 13 53.6
comp=Z,1μm,21.0s
TYV Tymovskoe 87.72 323 *e*P P 19 35 56.4 +10
TYV pmax pmax
comp=Z,10.0nm,1.4s
TYV MLR MLR
comp=Z,2μm,25.0s
YAK Yakutsk 87.85 337 *e*P **P** **19 35 46.8 0.0**
YAK *e* 19 35 54.1
YAK *e*S **SKSac** **19 46 08.5 -6.6**
YAK *e* 19 46 27.7
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,66nm,4.4s
YAK pmax pmax
comp=N,98nm,4.1s
YAK pmax pmax
comp=E,61nm,4.7s
YAK smax smax
comp=N,61nm,3.7s
YAK smax smax
comp=E,39nm,3.5s
YAK Yakutsk 87.85 337 P **P** **19 35 46.9 +0.1**
YAK IAMs_20 IAMs_20 20 16 25.7
comp=Z,3μm,21.0s
ESBB Sonseca Array 87.86 49 IAMs_20 IAMs_20 20 14 35.6
comp=Z,1μm,22.0s
ESDC Sonseca Array 87.86 49 P **P** **19 35 47.8 +0.3**
comp=Z,1.1nm,1.0s,baz=322,slow=4.1,SNR=5.7
ESDC LR LR 20 14 23.9
comp=Z,798nm,20.6s,baz=315,slow=35
ESDC Sonseca Array 87.86 49 P **P** **19 35 47.1 -0.4**
ES03 SONSECA Array 87.89 49 IAMs_20 IAMs_20 20 14 44.3
comp=Z,1μm,20.0s
UCM Universidad Co 88.13 48 *e*P P 19 36 01.4 +13
UCM *e*S **S** **19 46 30.4 -2.8**
UCC Uccle 88.44 36 IAMs_20 IAMs_20 20 12 59.9
comp=Z,2μm,20.0s
CLF Chambon-Foret 88.49 39 P **P** **19 35 50.0 -0.2**
CLF IAmb IAmb 19 36 15.3
comp=Z,33nm,1.3s
CLF IAMs_20 IAMs_20 20 13 46.6
comp=Z,2μm,20.0s
SNF Seneffe 88.53 36 P **P** **19 35 49.3 -1.0**
YUK Yuzh-Kuril'sk 88.77 316 *c i*P **P** **19 35 52.7 +1.1**
YUK *e* 19 39 18.0
YUK *e*S **SKSac** **19 46 18.5 -2.8**
YUK pmax pmax
comp=Z,288nm,1.4s
BMRD Maredsous 88.90 37 P **P** **19 35 51.2 -0.9**
DOU Dourbes 88.90 37 P **P** **19 35 52.2 +0.1**
DOU sP **pwP** **19 36 00.4 +2.7**
BGES Gesves 89.04 36 P **P** **19 35 53.2 +0.4**
BCLA Clavier 89.14 36 PcP **P** **19 35 54.8 +1.6**
APA Apatity 89.15 14⇑ *i*P P 19 36 00.2 +7.3
APA *i* 19 39 30.0
APA *i* PPP PPP 19 41 28.0
APA *i* 19 46 16.0
APA *i* PS PS 19 48 14.0 +27
APA *i* SS SS 19 52 42.0 +7.9
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,4μm,19.0s
BEBN Eben Emael 89.17 36 P **P** **19 35 53.0 -0.3**
PVLZ Peæn de 89.34 53 *e*P P 19 35 59.6 +5.1
PVLZ *e*S **SKSac** **19 46 24.4 -0.6**
MEM Membach 89.44 36 PcP **P** **19 35 56.1 +1.5**
MEM pP **pwP** **19 36 00.9 +0.7**
YSS Yuzh-Sakhalins 89.45 320 *e*P **P** **19 35 54.3 -0.4**
YSS *e* 19 36 03.5
YSS *e*S **S** **19 46 43.1 -2.1**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS pmax pmax
comp=Z,100nm,6.6s
YSS MLR MLR
comp=N,1μm,14.0s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS MLR MLR
comp=E,1μm,19.0s
YSS Yuzh-Sakhalins 89.45 320 IAMs_20 IAMs_20 20 06 16.4
comp=Z,2μm,21.0s
PMSA Palmer Station 89.57 163 P **P** **19 35 56.0 +1.4**
PMSA Palmer Station 89.57 163 *e*P **P** **19 35 55.8 +1.2**
BHOU Houvegnez 89.57 36 PcP **P** **19 35 57.3 +2.1**
WLF Walferdange 89.99 37 P **P** **19 35 56.3 -0.9**
WLF Walferdange 89.99 37 P **P** **19 35 57.6 +0.4**
WLF pmax pmax
comp=Z,25nm,1.3s
WLF MLR MLR
comp=Z,2μm,20.0s
WLF Walferdange 89.99 37 P **P** **19 35 57.6 +0.4**
WLF IAmb IAmb 19 36 06.7
comp=Z,25nm,1.3s
WLF IAMs_20 IAMs_20 20 15 24.1
comp=Z,1μm,20.0s
MELI Melilla 90.32 52 *e*P P 19 36 10.4 +11
MELI *e*S **ScS** **19 46 57.8 +0.2**
CART Cartagena 90.82 50 IAMs_20 IAMs_20 20 18 18.0
comp=Z,889nm,20.0s
RGN Rugen 91.11 30 IAMs_20 IAMs_20 20 14 56.6
comp=Z,2μm,18.0s
SSB Saint Sauveur 91.15 41 IAMs_20 IAMs_20 20 17 19.1
comp=Z,2μm,19.0s
GRNR Gornyy 91.21 325⇓ *i*P **P** **19 36 01.4 -1.5**
GRNR pmax pmax
comp=Z,3.0nm,1.0s
GRNR MLR MLR
comp=E,490nm,16.0s
ECH Echery 91.29 38 P **P** **19 36 03.3 -0.1**
ECH pmax pmax
comp=Z,14nm,1.5s
ECH MLR MLR
comp=Z,2μm,18.0s
ECH Echery 91.29 38 P **P** **19 36 03.2 -0.1**
ECH IAMs_20 IAMs_20 20 16 36.4
comp=Z,2μm,18.0s
NRIK Noril'sk 91.50 355 P **P** **19 36 03.7 -0.1**
comp=Z,4.1nm,0.8s,baz=25,slow=1.4,SNR=5.4
NRIK LR LR 20 17 15.4
comp=Z,4μm,21.7s,baz=34,slow=36
FINES FINESS Array B 91.77 21 P **P** **19 36 04.2 -1.0**
comp=Z,2.0nm,1.1s,baz=319,slow=5.5,SNR=3.8
BFO Black Forest 91.90 37 IAMs_20 IAMs_20 20 13 09.7
comp=Z,2μm,22.0s
STU Stuttgart 92.16 36 IAMs_20 IAMs_20 20 18 20.5
comp=Z,2μm,19.0s
SENIN Lac Senin/Sane 92.31 39 IAMs_20 IAMs_20 20 16 32.5
comp=Z,2μm,21.0s
BNI Bardonecchia 92.58 40 IAMs_20 IAMs_20 20 17 03.9
comp=Z,2μm,22.0s
GRA1 Grafenberg Arr 92.79 35 IAMs_20 IAMs_20 20 18 02.9
comp=Z,2μm,21.0s
CLL Collm 92.82 33 *e*P **P** **19 36 12.0 +1.7**
CLL *e*PP **PP** **19 39 51.0 -0.9**
CLL *e*SKKSac **SKKSac** **19 47 03.0 +0.5**
CLL *e*S **S** **19 47 13.0 -2.8**
CLL *e*PS PnS 19 48 32.0 +2.7
CLL *e*SS **SS** **19 53 18.0 -10**
CLL *e*SSSS 20 00 18.0
CLL Collm 92.82 33 IAMs_20 IAMs_20 20 15 21.7
comp=Z,2μm,22.0s
NKC Novy Kostel 93.14 34 *e*PP PP 19 40 12.3 +18
NKC AMS AMS 20 14 50.0
comp=Z,2μm,22.0s
DAVA Damuels 93.34 37 *e*PcP **P** **19 36 12.7 -0.3**
comp=Z,11nm,1.0s
TUE Stuetta 93.46 38 P **P** **19 36 14.1 +0.4**
TUE IAmb IAmb 19 37 00.6
comp=Z,37nm,1.5s
DAVOX Davos/Dischmat 93.61 38 LR LR 20 17 11.8
comp=Z,2μm,20.6s,baz=304,slow=35
RETA Reutte 93.74 37 *e*PcP **P** **19 36 15.1 +0.4**
comp=Z,7.6nm,1.5s
DZM Mont Dzumac 93.74 248 *e*PS PS 19 48 38.3 -1.6
comp=Z,3μm,27.9s
DZM Mont Dzumac 93.74 248 *e*LR LR 20 06 20.2
comp=Z,24μm,30.0s
FUORN Ofenpass-Fuorn 93.92 38 P **P** **19 36 16.3 +0.5**
FUORN IAmb IAmb 19 36 51.9
comp=Z,18nm,1.1s
FUORN IAMs_20 IAMs_20 20 17 01.1
comp=Z,2μm,21.0s
FETA Feichten 93.97 37 *e*P **P** **19 36 12.2 -3.7**
comp=Z,10nm,1.3s
MOTA Moosalm 94.01 37 *e*P **P** **19 36 15.2 -0.9**
comp=Z,22nm,1.3s
ZEA Zeya 94.05 331 *e*P **P** **19 36 15.4 -0.5**
ZEA *e*PPP PPP 19 40 00.5
ZEA *e* 19 48 52.0
ZEA *e* 19 57 23.0
ZEA pmax pmax
comp=Z,28nm,1.4s
PVCC Panska Ves 94.08 33 AMS AMS 20 19 30.0
comp=Z,2μm,20.8s
SQTA Sankt Quirin 94.14 37 *e*P **P** **19 36 14.2 -2.4**
comp=Z,27nm,1.6s
PRA Prague 94.28 33 AMS AMS 20 14 40.0
comp=Z,900nm,21.3s
WATA Walderalm 94.28 37 PcP **P** **19 36 18.0 +0.7**
comp=Z,23nm,1.4s
HOPE Hope Point 94.29 146 IAMs_20 IAMs_20 20 25 28.0
comp=Z,910nm,21.0s
WTTA Wattenberg 94.36 37 *e*PcP **P** **19 36 18.6 +0.9**
comp=Z,13nm,1.4s
KHC Kasperske Hory 94.37 35 *e*PP PP 19 40 22.1 +18
KHC *e*SKS **SKSac** **19 46 57.5 +4.5**
KHC AMS AMS 20 15 40.0
comp=Z,2μm,20.2s
KHC Kasperske Hory 94.37 35 IAMs_20 IAMs_20 20 16 02.9
comp=Z,859nm,21.0s
PRU Pruhonice 94.38 33 *e*PP PP 19 40 24.1 +20
PRU AMS AMS 20 14 50.0
comp=Z,2μm,22.5s
GOPC GO Pecny, Ondr 94.56 33 *e*PP PP 19 40 24.5 +19
GOPC AMS AMS 20 15 00.0
comp=Z,2μm,22.2s
KLR Kul'dur 94.57 326 *ce*P **P** **19 36 19.4 +1.0**
KLR pmax pmax
comp=Z,3.0nm,1.1s
GEC2 GERESS Array S 94.61 35 IAMs_20 IAMs_20 20 16 11.0
comp=Z,2μm,21.0s
GERES GERESS Array B 94.61 35 LR LR 20 19 45.7
comp=Z,1μm,18.0s,baz=314,slow=36
SALO Salr 94.61 39 IAMs_20 IAMs_20 20 19 23.4
comp=Z,2μm,20.0s
UPC Upice 94.83 32 AMS AMS 20 16 40.0
comp=Z,2μm,20.1s
OSTC Ostas 94.91 32 AMS AMS 20 16 50.0
comp=Z,2μm,20.4s
PRMA PARMA 94.94 39 IAMs_20 IAMs_20 20 19 11.3
comp=Z,2μm,21.0s
CTI Castel Tesino 95.04 38 IAMs_20 IAMs_20 20 17 48.6
comp=Z,2μm,21.0s
DPC Dobruska-Polom 95.08 32 *e*PP PP 19 40 27.0 +17
DPC AMS AMS 20 20 10.0
comp=Z,2μm,20.9s
ABTA Abfaltersbach 95.14 37 PcP **P** **19 36 22.0 +0.8**
comp=Z,18nm,1.2s
TREC Trest 95.29 34 AMS AMS 20 15 30.0
comp=Z,2μm,20.9s
VLC Villacollemand 95.31 40 IAMs_20 IAMs_20 20 18 37.1
comp=Z,1μm,20.0s
CIMO Cimolais 95.35 37 P **P** **19 36 21.8 -0.2**
CIMO IAmb IAmb 19 36 33.0
comp=Z,21nm,1.1s
KBA Koelnbreinsper 95.42 36 *e*P **P** **19 36 20.7 -1.9**
comp=Z,6.0nm,1.1s
KRLC Kraliky 95.49 33 *e*PP PP 19 40 36.2 +23
KRLC AMS AMS 20 20 40.0
comp=Z,2μm,20.3s
MOA Molln 95.49 35 *e*PcP **P** **19 36 23.0 +0.3**
comp=Z,5.9nm,1.3s
ZOU Zoufplan 95.51 37 IAMs_20 IAMs_20 20 23 39.2
comp=Z,2μm,20.0s
MYKA Terra Mystica 95.85 37 *e*P **P** **19 36 22.1 -2.3**
comp=Z,5.9nm,1.2s
VRAC Vranov 95.86 33 LR LR 20 17 36.2
comp=Z,1μm,21.3s,baz=310,slow=34
PRED Cave del Predi 95.91 37 IAMs_20 IAMs_20 20 18 36.8
comp=Z,2μm,20.0s
MORC Moravsky Berou 96.06 32 IAMs_20 IAMs_20 20 21 16.3
comp=Z,2μm,21.0s
OSSC Osservatorio P 96.18 40 IAMs_20 IAMs_20 20 19 23.1
comp=Z,1μm,21.0s
KLMR Klimovskoe 96.22 16 *e*P **P** **19 36 23.5 -2.1**
KLMR 19 40 17.9
KLMR *e*SS SS 19 54 11.8 -3.6
KLMR *e*SSS SSS 19 57 58.3
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR MLR MLR
comp=Z,873nm,18.0s
KLMR Klimovskoe 96.22 16 *e*P **P** **19 36 23.5 -2.1**
KLMR AMP 19 36 39.0
comp=Z,11nm,1.3s
KLMR PP **PP** **19 40 18.0 +0.1**
KLMR *e*SS **SS** **19 54 11.9 -3.5**
KLMR *e*SS **SS** **19 54 11.9 -3.5**
KLMR *e*SSS SSS 19 57 58.3
KLMR *e*SSS SSS 19 57 58.3
KLMR LQ LQ 20 09 15.4
KLMR LQ LQ 20 09 15.4
KLMR LR LR 20 15 12.2
KLMR AMP 20 18 51.3
comp=Z,873nm,17.5s
CASP Castiglione de 96.34 41 IAMs_20 IAMs_20 20 15 13.4
comp=Z,832nm,21.0s
BOD Bodaibo 96.42 339 *e*P **P** **19 36 25.6 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.6s
OBKA Obir 96.43 36 *e*PcP **P** **19 36 27.1 0.0**
comp=Z,11nm,1.3s
TRI Trieste 96.45 37 IAMs_20 IAMs_20 20 18 56.9
comp=Z,2μm,20.0s
SOKA Soboth 96.60 36 P **P** **19 36 26.5 -1.4**
comp=Z,5.5nm,1.2s
PRGR Permogore 96.95 13 *e*P **P** **19 36 26.4 -2.5**
PRGR pmax pmax
comp=Z,5.0nm,0.9s
VSL Villasalto 97.13 44 IAMs_20 IAMs_20 20 20 23.6
comp=Z,742nm,21.0s
USA0B Ussuriysk Arra 97.34 322 IAMs_20 IAMs_20 20 11 08.2
comp=Z,2μm,21.0s
USRK Ussuriysk Ar. 97.34 322 LR LR 20 14 43.1
comp=Z,2μm,20.9s,baz=51,slow=32
MJAR Matsushiro Arr 97.41 312 LR LR 20 10 35.0
comp=Z,2μm,22.0s,baz=85,slow=29
MJAR Matsushiro Arr 97.41 312 P **P** **19 36 32.1 +0.4**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR Matsushiro Arr 97.41 312 P **P** **19 36 32.1 +0.4**
MAJO Matsushiro 97.41 312 *i* P **P** **19 36 29.7 -1.9**
MAJO pmax pmax
comp=Z,5.0nm,1.4s
MAT Matsushiro 97.41 312 P P 19 36 24.2 -7.4
MAT S **S** **19 47 50.2 -6.2**
PSZ Piszkesteto 98.44 33 IAMs_20 IAMs_20 20 22 54.3
comp=Z,2μm,20.0s
MDJ Mudanjiang 98.49 323 IAMs_20 IAMs_20 20 11 52.2
comp=Z,1μm,22.0s
INTR Introdacqua 98.65 40 IAMs_20 IAMs_20 20 17 22.4
comp=Z,2μm,20.0s
KWP Kalwaria Pacla 98.70 30 IAMs_20 IAMs_20 20 29 05.3
comp=Z,1μm,18.0s
KEST Kesra 99.05 48 LR LR 20 19 41.6
comp=Z,770nm,21.8s,baz=272,slow=34
KEST Kesra 99.05 48 IAMs_20 IAMs_20 20 19 20.6
comp=Z,1μm,21.0s
DBIC Dimbokro 99.36 80 LR LR 20 20 12.8
comp=Z,306nm,18.7s,baz=276,slow=35
PAOL Paolisi 99.62 41 IAMs_20 IAMs_20 20 24 23.1
comp=Z,2μm,20.0s
OBN Obninsk 100.17 20⇓ *e*P **Pdif** **19 36 43.5 0.0**
OBN *e* 19 40 48.2
OBN *e*SS SS 19 55 09.6 -1.6
OBN pmax pmax
comp=Z,6.0nm,0.3s
OBN MLR MLR
comp=Z,3μm,19.0s
HIA Hailar 100.53 331 IAMs_20 IAMs_20 20 29 56.6
comp=Z,2μm,18.0s
DIVS Divibare 100.94 36 IAMs_20 IAMs_20 20 20 31.7
comp=Z,1μm,21.0s
PDG Podgorica 101.58 37 IAMs_20 IAMs_20 20 20 20.8
comp=Z,2μm,22.0s
CEL Celeste 102.06 42 IAMs_20 IAMs_20 20 30 52.7
comp=Z,839nm,20.0s
TIP Timpagrande 102.06 41 IAMs_20 IAMs_20 20 19 38.8
comp=Z,1μm,21.0s
TAM Tamanrasset 102.30 61 IAMs_20 IAMs_20 20 26 02.6
comp=Z,664nm,19.0s
SCTE Santa Cesarea 102.58 40 IAMs_20 IAMs_20 20 26 27.3
comp=Z,1μm,20.0s
TIR Tirane 102.61 38 IAMs_20 IAMs_20 20 25 34.1
comp=Z,2μm,20.0s
TOC7 Torodi Ar. Sit 102.98 71 IAMs_20 IAMs_20 20 29 14.2
comp=Z,1μm,18.0s
TOB5 Torodi Ar. Sit 102.99 71 IAMs_20 IAMs_20 20 29 14.4
comp=Z,1μm,18.0s
TOC5 Torodi Ar. Sit 103.00 71 IAMs_20 IAMs_20 20 29 24.5
comp=Z,2μm,19.0s
TOB1 Torodi Ar. Sit 103.00 71 IAMs_20 IAMs_20 20 29 24.6
comp=Z,1μm,19.0s
TOB4 Torodi Ar. Sit 103.00 71 IAMs_20 IAMs_20 20 29 24.6
comp=Z,1μm,19.0s
TOC1 Torodi Ar. Sit 103.00 71 IAMs_20 IAMs_20 20 29 23.7
comp=Z,2μm,18.0s
TOA0 Torodi Ar. Sit 103.00 71 IAMs_20 IAMs_20 20 29 15.8
comp=Z,1μm,18.0s
TOA3 Torodi Ar. Sit 103.01 71 IAMs_20 IAMs_20 20 29 24.8
comp=Z,1μm,18.0s
TOA2 Torodi Ar. Sit 103.01 71 IAMs_20 IAMs_20 20 29 24.9
comp=Z,1μm,19.0s
TOB3 Torodi Ar. Sit 103.02 71 IAMs_20 IAMs_20 20 29 25.1
comp=Z,1μm,18.0s
TOC4 Torodi Ar. Sit 103.02 71 IAMs_20 IAMs_20 20 24 33.1

comp=Z,1μm,22.0s
TOC2 Torodi Ar. Sit 103.03 71 IAMs_20 IAMs_20 20 29 24.3
comp=Z,1μm,18.0s
TOC3 Torodi Ar. Sit 103.03 71 IAMs_20 IAMs_20 20 29 25.5
comp=Z,1μm,19.0s
INCN Inchon 104.59 318 IAMs_20 IAMs_20 20 14 42.7
comp=Z,1μm,22.0s
TLY Talaya 104.87 341 IAMs_20 IAMs_20 20 27 58.6
comp=Z,1μm,20.0s
ITM Ithomi 106.50 40 IAMs_20 IAMs_20 20 30 25.1
comp=Z,1μm,22.0s
DL2 Dalian 106.71 322 *e*Pdif **Pdif 19 37 18.2 +5.3**
DL2 PP PP 19 41 49.8 +12
EIDS Eidsvold 108.17 249 IAMs_20 IAMs_20 20 33 50.3
comp=Z,1μm,19.0s
QSPA South Pole Qui 108.68 180 IAMs_20 IAMs_20 20 25 40.0
comp=Z,1μm,20.0s
ARMA Armidale 108.73 243 IAMs_20 IAMs_20 20 32 38.2
comp=Z,1μm,20.0s
BJI Beijing 108.94 326 Pdif **Pdif 19 37 24.9 +2.1**
BJI SS SS 19 57 10.6 -1.4
BJI LR LR
comp=Z,440nm,18.8s
BJI LR LR
comp=Z,2μm,23.7s
BJI LR LR
comp=Z,2μm,24.0s
SANT Santorini 109.16 39 IAMs_20 IAMs_20 20 36 22.6
comp=Z,804nm,20.0s
ILGA Ilgaz 110.25 31 IAMs_20 IAMs_20 20 30 18.7
comp=Z,1μm,21.0s
BOLV Bolvadin 110.60 34 IAMs_20 IAMs_20 20 30 06.3
comp=Z,1μm,21.0s
HHC Hu-ho-hao-te 110.65 330 *e*PKP **PKiKP 19 41 27.2 -3.7**
HHC SKS **SKSdf 19 48 34.0 -9.3**
HHC AMB AMB
comp=Z,300nm,8.6s
HHC LR LR
comp=Z,830nm,18.6s
HHC LR LR
comp=Z,2μm,22.1s
HHC LR LR
comp=Z,2μm,23.0s
ANTO Ankara 110.70 32 IAMs_20 IAMs_20 20 34 08.3
comp=Z,1μm,20.0s
KARP Karpathos 110.73 39 IAMs_20 IAMs_20 20 32 33.2
comp=Z,961nm,20.0s
SOC Sochi 110.88 25 *i* PKIKP **PKiKP 19 41 29.3 -1.7**
SOC *e* 19 42 09.4
SOC *e* 19 48 06.1
SOC *e*PS **PS 19 51 41.5 +2.7**
SOC *e*SS SS 19 57 36.4 -1.3
SOC *e*SSS SSS 20 01 41.8
SOC MLR MLR
comp=Z,2μm,15.0s
ISP Isparta 111.03 35 IAMs_20 IAMs_20 20 28 03.1
comp=Z,1μm,20.0s
AKAS Kas 111.67 37 IAMs_20 IAMs_20 20 29 28.7
comp=Z,1μm,22.0s
KIV Kislovodsk 111.71 23 *i* PKIKP **PKiKP 19 41 30.8 -2.0**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,5μm,21.0s
KIV Kislovodsk 111.71 23 IAMs_20 IAMs_20 20 29 58.7
comp=Z,2μm,19.0s
SSE Sheshan 112.11 316 PKP **PKiKP 19 41 38.1 +4.4**
SSE PP PP 19 42 26.8 +10
SSE Sheshan 112.11 316 SS SS 19 57 57.7 +2.5
SSE AMB AMB
comp=Z,80nm,6.9s
SSE LR LR
comp=N,510nm,35.7s
SSE LR LR
comp=E,470nm,29.2s
SSE Sheshan 112.11 316 IAMs_20 IAMs_20 20 23 48.6
comp=Z,2μm,20.0s
NJ2 Nanjing 112.98 318 *e*Pdif **Pdif 19 37 41.8 +0.8**
NJ2 AMB AMB
comp=Z,150nm,6.7s
NJ2 LR LR
comp=Z,760nm,19.1s
NJ2 LR LR
comp=Z,1μm,21.4s
NJ2 LR LR
comp=Z,2μm,20.6s
KOPT Kop Dagi 114.17 27 IAMs_20 IAMs_20 20 32 16.8
comp=Z,2μm,22.0s
MAK Makhachkala 114.27 20 *e*P **Pdif 19 37 44.3 -2.2**
MAK *i* 19 41 35.8
MAK *e* 19 42 30.9
MAK *e*PPP PPP 19 44 56.1
MAK *e* 19 48 18.3
MAK *e*SSS SSS 20 02 36.3
MAK pmax pmax
comp=Z,473nm,1.6s
MAK MLR MLR
comp=Z,2μm,20.0s
CSS Mathiatis 114.67 35 IAMs_20 IAMs_20 20 30 42.0
comp=Z,877nm,22.0s
GAZ Gaziantep 114.97 31 IAMs_20 IAMs_20 20 35 29.7
comp=Z,1μm,21.0s
NACB Ninganchiao 116.16 310 IAMs_20 IAMs_20 20 30 04.7
comp=Z,1μm,20.0s
WMQ Urumqi 116.25 348 *e*PKP **PKPdf 19 41 42.4 +1.0**
WMQ LR LR
comp=Z,640nm,27.9s
WMQ LR LR
comp=Z,690nm,19.3s
WMQ LR LR
comp=Z,920nm,24.5s
MARD Mardin 116.53 28 IAMs_20 IAMs_20 20 38 12.0
comp=Z,803nm,20.0s
GEVA Gevas 116.68 26 IAMs_20 IAMs_20 20 33 43.2
comp=Z,1μm,20.0s
WHN Wuhan 116.80 320 PKP **PKiKP 19 41 46.3 +3.6**
WHN PP **PP 19 42 53.1 +3.0**
WHN LR LR
comp=Z,1μm,14.9s
WHN LR LR
comp=Z,4μm,22.8s
WHN LR LR
comp=Z,5μm,23.1s
YULB Yu-li 116.85 310 IAMs_20 IAMs_20 20 29 33.0
comp=Z,1μm,19.0s
SSLB Suanglung 116.86 310 IAMs_20 IAMs_20 20 21 44.2
comp=Z,1μm,22.0s
NVL N'lazarevskaya 116.99 161 *e*PKIKP **PKiKP 19 41 43.0 +1.2**
NVL pmax pmax
comp=Z,9.0nm,0.8s
XAN Xi'an 117.26 327 IAMs_20 IAMs_20 20 38 22.0
comp=Z,1μm,20.0s
TPUB Ta-pu 117.39 310 IAMs_20 IAMs_20 20 28 39.3
comp=Z,1μm,20.0s
LZH Lanzhou 118.07 332 *e*PKP **PKPdf 19 41 42.9 -2.4**
LZH PP **PP 19 43 01.8 +3.0**
LZH AMB AMB
comp=Z,220nm,5.7s
LZH LR LR
comp=Z,1μm,17.6s
LZH LR LR
comp=Z,2μm,20.3s
LZH LR LR
comp=Z,3μm,20.9s
KNMB Chin-men Tao 118.26 312 IAMs_20 IAMs_20 20 36 08.1
comp=Z,1μm,19.0s
ENH Enshi 119.84 324 IAMs_20 IAMs_20 20 34 46.5
comp=Z,1μm,22.0s
GEYT Alibeck 121.91 14 PKPdf **PKPdf 19 41 50.8 -1.6**
KSH Kashi 121.94 357 PKP **PKPdf 19 41 51.7 -0.9**
KSH PP PP 19 43 32.9 +8.0
KSH AMB AMB
comp=Z,100nm,4.3s
KSH LR LR
comp=Z,1μm,16.5s
KSH LR LR
comp=Z,1μm,16.7s
KSH LR LR
comp=Z,7μm,20.9s
WRAB Tennant Creek 122.31 258 *i* PKIKP **PKPdf 19 41 53.5 -0.1**
WRA Warramunga Arr 122.32 258 PKP **PKPdf 19 41 52.3 -1.3**
comp=Z,1.5nm,0.7s,baz=80,slow=2.1,SNR=12
WRA Warramunga Arr 122.32 258 **PKPdf 19 41 52.6 -1.0**
CD2 Chengdu 122.38 329 PKP **PKPdf 19 41 53.5 -0.1**
CD2 AMB AMB
comp=Z,280nm,6.7s
CD2 LR LR
comp=Z,2μm,22.6s
CD2 LR LR
comp=Z,3μm,23.0s
CD2 LR LR
comp=Z,2μm,22.6s
ASAR Alice Springs 123.28 254 PKP **PKPdf 19 41 53.6 -1.8**
comp=Z,1.2nm,0.9s,baz=64,slow=2.2,SNR=4.4
ASAR Alice Springs 123.28 254 PKIKP **PKPdf 19 41 52.9 -2.5**
ASAR Alice Springs 123.28 254 **PKPdf 19 41 52.9 -2.5**
GYA Guiyang 124.35 323 *e*PKP **PKPdf 19 41 53.0 -4.5**
GYA SS SS 20 00 35.2 +1.3
GYA AMB AMB
comp=Z,130nm,9.2s
GYA LR LR
comp=Z,870nm,20.8s
GYA LR LR
comp=Z,780nm,20.8s
GYA LR LR
comp=Z,1μm,23.7s
KMI Kunming 127.58 325 PKP **PKPdf 19 42 04.1 +0.2**
KMI SS SS 20 01 15.5 +1.1
KMI LR LR
comp=Z,610nm,28.7s
KMI LR LR
comp=Z,950nm,20.9s
KMI LR LR
comp=Z,1μm,23.5s
KMI Kunming 127.58 325 IAMs_20 IAMs_20 20 46 32.3
comp=Z,1μm,21.0s
QIZ Qiongzhong 127.78 314 PKP **PKiKP 19 42 05.2 +0.5**
QIZ PP **PP 19 44 06.6 +1.6**
QIZ AMB AMB
comp=Z,100nm,5.5s
QIZ LR LR
comp=Z,410nm,29.1s
QIZ LR LR
comp=Z,840nm,25.9s
QIZ LR LR
comp=Z,1μm,28.6s
QIZ Qiongzhong 127.78 314 IAMs_20 IAMs_20 20 36 20.1
comp=Z,1μm,20.0s
LSA Lhasa 128.69 340 IAMs_20 IAMs_20 20 34 07.3
comp=Z,1μm,22.0s
SLVN Son La 129.89 321 IAMs_20 IAMs_20 20 32 11.3
comp=Z,1μm,21.0s
MMRI Maumere 131.16 275 IAMs_20 IAMs_20 20 32 15.2
comp=Z,1μm,21.0s
UBPT Khong Chiam 133.37 314 IAMs_20 IAMs_20 20 44 26.3
comp=Z,860nm,21.0s
DLV T Lat 133.49 308 IAMs_20 IAMs_20 20 51 25.0
comp=Z,1μm,19.0s
UOSS Minazif 133.60 21 IAMs_20 IAMs_20 20 48 30.0
comp=Z,1μm,20.0s
CHTO Chiang Mai 134.73 324 IAMs_20 IAMs_20 20 48 15.8
comp=Z,1μm,20.0s
MBAR Mbarara 134.88 71 IAMs_20 IAMs_20 20 47 00.5
comp=Z,891nm,21.0s
CMAR Chiang Mai Arr 135.01 324 *i* PKIP **PKiKP 19 42 21.7 +2.4**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
FURI Furi 136.46 54 IAMs_20 IAMs_20 20 41 10.1
comp=Z,485nm,21.0s
ATD Arta Tunnel 137.75 47 IAMs_20 IAMs_20 20 51 01.6
comp=Z,611nm,22.0s
KSM Kuching 138.09 295 IAMs_20 IAMs_20 20 31 30.5
comp=Z,638nm,21.0s
KMBO Kilima Mbogo 140.90 67 IAMs_20 IAMs_20 20 53 32.8
comp=Z,566nm,21.0s
HYB Hyderabad 143.60 351 *i* PKP **PKiKP 19 42 40.0 +3.1**
HYB *e* 19 42 51.0
CISI Cisompet, Garu 144.29 284 PKPdf **PKPdf 19 42 34.6 -0.2**
PSI Prapat 146.60 307 PKP2 **PKPdf 19 42 39.0 +0.1**
PSI MLR MLR
comp=Z,1μm,22.0s
RPSI Rantau Prapat 146.67 307 PKPdf **PKPdf 19 42 39.0 +0.1**
GSI Gunungsitoli 148.59 307 **PKPbc 19 42 45.6 -0.1**

*IDC **06** 19:41:55.8±1.2, 6°.81S×146°.00E, h143km±13km, mb3.8/15, mb1 3.8/18, mb1mx3.8/41, mbtmp4.1/18, Error ellipse: s-maj=19.3km s-min=11.8km az=85.0*
*NEIC **06** 19:41:56.2±1.6, 6°.79S±0°.06×145°.97E±0°.08, h146km±5km, mb4.4/39, Error ellipse: s-maj=12.2km s-min=8.3km az=119.0*

ISC 06 19:41:56.5±0.4, **6°.83S**±0°.06×**145°.97E**±0°.07, **h150**km, **n75**, σ0**80**/**77**, **mb4.3**/30, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.82**	**155**	P	**Pn**	**19 42 41.6**	**+0.1**
	52nm,0.3s,baz=17,slow=5.4,SNR=147						
PMG				S	**Sn**	**19 43 15.5**	**-0.9**
	38nm,0.3s,baz=134,slow=15,SNR=20						
JAY	**Jayapura**	**6.78**	**309**	P	**Pn**	**19 43 32.3**	**-1.4**
	1.8nm,0.3s,baz=194,slow=14,SNR=11						
COEN	**Coen**	**7.60**	**201**		**Pn**	**19 43 46.5**	**+1.9**
CTAO	**Charters Tower**	**13.18**	**179**		**P**	**19 45 01.3**	**-1.3**
HNR	**Honiara**	**14.07**	**102**	Pn	**Pn**	**19 45 09.8**	**+0.3**
FAKI	**Fak Fak**	**14.21**	**285**	Pn	**Pn**	**19 45 12.0**	**+0.8**
MTN	**Manton Dam**	**15.79**	**247**		**Pn**	**19 45 31.5**	**+0.7**
WB2	**Warramunga Arr**	**17.24**	**220**	P	**P**	**19 45 47.3**	**-0.2**
WRA	**Warramunga Arr**	**17.25**	**220**	P	**P**	**19 45 47.3**	**-0.4**
	0.3nm,0.3s,baz=38,slow=11,SNR=29						
WRA	**Warramunga Arr**	**17.25**	**220**	P	**P**	**19 45 46.8**	**-0.8**
PATS	**Pohnpei**	**18.33**	**42**	P	**P**	**19 45 59.8**	**+0.4**
KNRA	**Kununurra**	**19.02**	**241**	P	**P**	**19 46 05.5**	**-1.4**
EIDS	**Eidsvold**	**19.07**	**166**	P	**P**	**19 46 08.6**	**+1.1**
EIDS				IAmb	IAmb	19 46 09.9	
	comp=Z,23nm,0.8s						
AS31	**Alice Springs**	**20.36**	**213**	P	**P**	**19 46 21.7**	**+0.2**
ASAR	**Alice Springs**	**20.36**	**213**	P	**P**	**19 46 21.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=50,slow=9.4,SNR=20						
ASAR				S	**S**	**19 49 58.7**	**-3.0**
	comp=Z,1.2nm,0.8s,baz=32,slow=21,SNR=7.2						
ASAR	**Alice Springs**	**20.36**	**213**	P	**P**	**19 46 21.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.76**	**239**	P	**P**	**19 46 46.5**	**+0.3**
	comp=Z,6.4nm,0.8s,baz=50,slow=9.9,SNR=30						
FITZ	**Fitzroy Crossi**	**22.76**	**239**	P	**P**	**19 46 45.4**	**-0.8**
MMRI	**Maumere**	**23.59**	**264**	P	**P**	**19 46 53.7**	**-0.1**
ARMA	**Armidale**	**24.06**	**168**	P	**P**	**19 46 58.7**	**+0.6**
STKA	**Stephens Creek**	**25.25**	**189**	P	**P**	**19 47 09.2**	**+0.4**
	comp=Z,4.2nm,0.6s,baz=354,slow=9.8,SNR=15						
STKA	**Stephens Creek**	**25.25**	**189**	P	**P**	**19 47 08.6**	**-0.1**
CAN	**Canberra**	**28.49**	**175**	P	**P**	**19 47 38.7**	**+1.0**
CAN				IAmb	IAmb	19 47 43.0	
	comp=Z,18nm,1.4s						
MJAR	**Matsushiro Arr**	**43.75**	**351**	P	**P**	**19 49 45.6**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=196,slow=8.9,SNR=6.1						
MJAR	**Matsushiro Arr**	**43.75**	**351**	P	**P**	**19 49 45.8**	**-1.3**
MAJO	**Matsushiro**	**43.75**	**351**	P	**P**	**19 49 46.2**	**-0.8**
MAJO				IAmb	IAmb	19 49 51.1	
	comp=Z,5.5nm,1.2s						
KSRS	**Korea Array**	**47.17**	**340**	P	**P**	**19 50 14.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=161,slow=8.5,SNR=6.2						
KSRS				PcP	**PcP**	**19 51 43.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=159,slow=3.9,SNR=4.8						
USRK	**Ussuriysk Ar.**	**52.34**	**347**	P	**P**	**19 50 53.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=168,slow=9.8,SNR=4.7						
PEA0B	**Petropavlovsk-**	**60.53**	**8**	P	**P**	**19 51 50.7**	**0.0**
PETK	**Petropavlovsk-**	**60.53**	**8**	P	**P**	**19 51 51.2**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=165,slow=6.2,SNR=6.3						
PETK	**Petropavlovsk-**	**60.53**	**8**	P	**P**	**19 51 50.6**	**-0.1**
LSA	**Lhasa**	**63.93**	**308**	P	**P**	**19 52 14.9**	**+0.5**
LSA				IAmb	IAmb	19 52 16.7	
	comp=Z,3.9nm,0.7s						
ULN	**Ulaanbaatar**	**64.35**	**332**	P	**P**	**19 52 16.9**	**+0.6**
ULN				IAmb	IAmb	19 52 18.0	
	comp=Z,2.9nm,0.7s						
SONM	**Songino Array**	**64.64**	**332**	P	**P**	**19 52 19.3**	**+1.1**
	comp=Z,1.9nm,1.0s,baz=152,slow=6.7,SNR=6.8						
SONM	**Songino Array**	**64.64**	**332**	P	**P**	**19 52 18.6**	**+0.4**
SEY	**Seymchan**	**69.73**	**3**	P	**P**	**19 52 50.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=122,slow=5.2,SNR=5.9						
VNDA	**Vanda**	**71.15**	**176**	P	**P**	**19 52 58.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=339,slow=6.7,SNR=5.1						
VNDA	**Vanda**	**71.15**	**176**	P	**P**	**19 52 58.6**	**+0.3**
MK31	**Makanchi Array**	**77.49**	**321**	P	**P**	**19 53 35.6**	**+0.1**
MKAR	**Makanchi Array**	**77.49**	**321**	P	**P**	**19 53 36.1**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=101,slow=7.2,SNR=23						
MKAR	**Makanchi Array**	**77.49**	**321**	P	**P**	**19 53 35.8**	**+0.3**
MAKZ	**Makanchi**	**77.69**	**321**	P	**P**	**19 53 36.5**	**-0.1**
MAKZ				IAmb	IAmb	19 53 38.0	
	comp=Z,11nm,1.4s						
ZAA0	**Zalesovo Array**	**79.17**	**328**	P	**P**	**19 53 43.7**	**-0.9**
ZAA0				IAmb	IAmb	19 53 44.9	
	comp=Z,5.6nm,1.2s						
ZALV	**Zalesovo Beam**	**79.17**	**328**	P	**P**	**19 53 44.0**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=108,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**79.17**	**328**	P	**P**	**19 53 43.7**	**-0.8**
NIL	**Nilore**	**79.58**	**306**	P	**P**	**19 53 47.8**	**+0.5**
OHAK	**Old Harbor**	**80.51**	**29**	P	**P**	**19 53 51.8**	**+0.2**
KDAK	**Kodiak Island**	**81.11**	**28**	P	**P**	**19 53 55.3**	**+0.5**
KDAK				IAmb	IAmb	19 53 57.8	
	comp=Z,12nm,1.1s						
KURK	**Kurchatov**	**81.26**	**324**	P	**P**	**19 53 56.1**	**+0.3**
SVW2	**Sparrevohn**	**81.42**	**25**	P	**P**	**19 53 56.8**	**+0.3**
SVW2				IAmb	IAmb	19 53 58.7	
	comp=Z,8.3nm,1.3s						
CNPM	**China Poot**	**82.54**	**27**	P	**P**	**19 54 02.2**	**-0.2**
CNPM				IAmb	IAmb	19 54 15.0	
	comp=Z,11nm,1.0s						
GAR	**Garm**	**83.24**	**311**	P	**P**	**19 54 06.7**	**+0.1**
GAR				IAmb	IAmb	19 54 06.7	
	comp=Z,5.1nm,0.8s						
KK31	**Karatay Array**	**84.14**	**315**	P	**P**	**19 54 11.0**	**+0.1**
KK31				IAmb	IAmb	19 54 11.4	
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**84.14**	**315**	P	**P**	**19 54 10.8**	**-0.1**
IMAR	**Indian Mountai**	**84.62**	**21**	P	**P**	**19 54 12.8**	**0.0**
GLI	**Glacier Island**	**84.99**	**27**	P	**P**	**19 54 14.1**	**-0.6**
GLI				IAmb	IAmb	19 54 15.2	
	comp=Z,6.5nm,0.7s						
RND	**Reindeer**	**85.29**	**24**	P	**P**	**19 54 15.5**	**-0.7**
NRIK	**Noril'sk**	**85.75**	**342**	P	**P**	**19 54 18.6**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=111,slow=4.8,SNR=3.7						
WRH	**Wood River Hil**	**86.04**	**23**	P	**P**	**19 54 18.8**	**-1.1**
WRH				IAmb	IAmb	19 54 19.6	
	comp=Z,4.1nm,0.8s						
CCB	**Clear Creek Bu**	**86.23**	**23**	P	**P**	**19 54 19.6**	**-1.2**
CCB				IAmb	IAmb	19 54 20.2	
	comp=Z,5.4nm,0.7s						
IL31		**86.64**	**23**	P	**P**	**19 54 21.4**	**-1.3**
IL31				IAmb	IAmb	19 54 22.0	
	comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**86.64**	**23**	P	**P**	**19 54 21.2**	**-1.6**
	comp=Z,3.5nm,0.6s,baz=251,slow=4.9,SNR=40						
ILAR	**Eielson Array**	**86.64**	**23**	P	**P**	**19 54 21.4**	**-1.4**
BALM	**Baldy**	**87.21**	**28**	P	**P**	**19 54 26.0**	**+0.2**
BALM				IAmb	IAmb	19 54 36.2	
	comp=Z,8.4nm,1.2s						
TABL	**Table Mountain**	**87.58**	**28**	P	**P**	**19 54 27.6**	**0.0**
BCAR	**Beaver Creek A**	**88.12**	**26**	P	**P**	**19 54 30.4**	**+0.4**
EGAK	**Eagle**	**88.94**	**24**	P	**P**	**19 54 33.6**	**0.0**
EGAK				IAmb	IAmb	19 54 39.3	
	comp=Z,9.6nm,1.4s						
HYT	**Haines Junctio**	**89.40**	**28**	P	**P**	**19 54 36.6**	**+0.5**
NVAR	**Mina Array Bea**	**98.68**	**52**	P	Pdif	19 55 20.2	+0.9
	comp=Z,0.6nm,0.6s,baz=256,slow=7.3,SNR=6.6						
NOA	**NORSAR Array B**	**116.33**	**337**	PKP	**PKPdf**	**20 00 21.0**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=48,slow=1.9,SNR=2.7						
GERES	**GERESS Array B**	**122.00**	**325**	PKP	**PKPdf**	**20 00 32.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=120,slow=2.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**144.29**	**283**	PKP	**PKPab**	**20 01 14.5**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=68,slow=2.8,SNR=12						
TORD	**Torodi Ar. Bea**	**144.29**	**283**		**PKPab**	**20 01 13.9**	**-0.1**
DBIC	**Dimbokro**	**151.03**	**271**	PKPbc	**PKPbc**	**20 01 33.1**	**+0.3**
	comp=Z,5.0nm,0.6s,baz=60,slow=1.8,SNR=6.8						
DBIC	**Dimbokro**	**151.03**	**271**		**PKiKP**	**20 01 33.3**	**0.0**

*DJA **06** 19:50:21.2±0.7, 10°S±4°×11°2E±°, h18km±6km, M4.9/19, mB5.4/11, mb5.0/17, MLv4.9/19, Mw(mB)4.8/11, Mwp7.4/1*
*NEIC **06** 19:50:21.1±2.6, 9°44S±0°.07×112°.59E±0°.03, h35km±2km, mb4.4/21, Error ellipse: s-maj=12.1km s-min=5.8km az=175.0*
*KLM **06** 19:50:24.0, 9°65S×112°.40E, h67km, mb4.7*
*IDC **06** 19:50:25.6±1.9, 9°21S×112°.55E, h71km±18km, mb3.9/16, mb1 4.0/19, mb1mx3.8/53, mbtmp4.2/19, MS3.3/1, Ms1 3.3/1, ms1mx2.8/32, Error ellipse: s-maj=18.8km s-min=10.4km az=42.0*

ISC 06 19:50:23.2±0.9, **9°53S**±0°.06×**112°.56E**±0°.04, **h58**km±9km, **n96**, σ2**919**/103, **mb4.3**/19, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.52**	**35**	P	**Pn**	**19 50 46.5**	**-1.7**
GMJI				S	**Sn**	**19 51 02.6**	**-4.4**
JAGI	**Jajag, Banyuwa**	**1.89**	**56**	P	**Pn**	**19 50 53.3**	**+0.1**
JAGI				S	**Sn**	**19 51 15.9**	**-0.1**
JAGI	**Jajag, Banyuwa**	**1.89**	**56**	Pn	**Pn**	**19 50 52.1**	**-1.1**
JAGI				Sn	**Sn**	**19 51 11.0**	**-5.1**
WOJI	**Wonogiri, Jawa**	**2.33**	**316**	P	**Pn**	**19 50 58.5**	**-0.8**
WOJI				S	**Sn**	**19 51 24.9**	**-1.9**
NGJI	**Ngawi**	**2.41**	**333**	P	**Pn**	**19 51 02.7**	**+2.4**
NGJI				S	**Sn**	**19 51 34.1**	**+5.5**
UGM	**Wanagama**	**2.58**	**308**	P	**Pn**	**19 51 01.9**	**-0.7**
UGM				S	**Sn**	**19 51 36.9**	**+4.1**
UGM	**Wanagama**	**2.58**	**308**		**Pn**	**19 51 01.7**	**-0.9**
UGM				Sn	**Sn**	**19 51 29.7**	**-3.1**
TBJI	**Tambak Boyo**	**2.79**	**345**	P	**Pn**	**19 51 06.3**	**+0.8**
TBJI				S	**Sn**	**19 51 43.1**	**+5.2**
YOGI	**Yogyakarta**	**2.81**	**307**	P	**Pn**	**19 51 06.7**	**+0.9**
YOGI				S	**Sn**	**19 51 43.4**	**+4.8**
KMMI	**Kalianget**	**2.83**	**30**	P	**Pn**	**19 51 06.4**	**+0.3**
KMMI				S	**Sn**	**19 51 44.3**	**+5.3**
SMRI	**Semarang**	**3.24**	**319**	P	**Pn**	**19 51 11.5**	**-0.1**
SMRI	**Semarang**	**3.24**	**319**		**Pn**	**19 51 11.2**	**-0.5**
TWSI	**Taliwang, Sumb**	**4.34**	**80**	P	**Pn**	**19 51 29.2**	**+2.5**
TWSI				S	**Sn**	**19 52 19.6**	**+3.5**
CMJI	**Cimerak**	**4.42**	**293**	P	**Pn**	**19 51 25.8**	**-2.0**
CISI	**Cisompet, Garu**	**5.09**	**292**	P	**Pn**	**19 51 36.5**	**-0.5**
	3.1nm10μm225nm,0.4s						
CISI	**Cisompet, Garu**	**5.09**	**292**	Pn	**Pn**	**19 51 35.3**	**-1.8**
PLAI	**Plampang**	**5.20**	**83**	P	**Pn**	**19 51 41.1**	**+2.6**
	1.3nm2μm227nm,0.7s						
PLAI				S	**Sn**	**19 52 40.6**	**+3.4**
	1.3nm2μm227nm,0.7s						
LEM	**Lembang**	**5.58**	**298**	P	**Pn**	**19 51 45.0**	**+1.1**
	11nm,0.3s,baz=79,slow=5.8,SNR=11						
LEM				S	**Sn**	**19 52 46.0**	**-0.9**
	8.0nm,0.3s,baz=192,slow=12,SNR=4.1						
CNJI	**Cibinong**	**5.81**	**292**	P	**Pn**	**19 51 45.8**	**-1.1**
	1.6nm3μm97nm,0.7s						
BBKI	**Banjar Baru**	**6.44**	**21**	P	**Pn**	**19 51 56.7**	**+1.1**
	0.4nm3μm64nm,0.6s						
SKJI	**Sukabumi**	**6.45**	**292**	P	**Pn**	**19 51 58.1**	**+2.4**
	1.4nm3μm164nm,0.4s						
DBJI	**Dramaga**	**6.47**	**297**	P	Pn	19 52 02.5	+6.5
WBSI	**Waikabubak, Su**	**6.74**	**91**	P	Pn	19 52 17.2	+18
XMIS	**Christmas Isla**	**6.87**	**262**	Pn	**Pn**	**19 51 59.4**	**-2.0**
KBKI	**Kotabaru**	**7.15**	**30**	P	**Pn**	**19 52 08.6**	**+3.3**
	0.1nm405nm40nm,1.0s						
CGJI	**Cibinong**	**7.39**	**293**	P	**Pn**	**19 52 07.8**	**-0.8**
	0.8nm5μm167nm,0.5s						
KAPI	**Kappang**	**8.43**	**58**	P	**Pn**	**19 52 24.9**	**+2.2**
	1.6nm,0.3s,baz=200,slow=12,SNR=4.1						
KAPI				LR	LR	19 56 09.2	
	comp=Z,178nm,19.1s,baz=259,slow=42						
KAPI	**Kappang**	**8.43**	**58**		**Pn**	**19 52 22.2**	**-0.5**
BKSI	**Bulukumba**	**8.59**	**61**	P	**Pn**	**19 52 26.3**	**+1.4**
	36nm,0.7s						
MTKI	**Muara Teweh, K**	**8.84**	**15**	P	**Pn**	**19 52 29.9**	**+1.4**
	0.1nm1μm18nm,0.8s						
SPSI	**Sidrap Palu**	**9.04**	**53**	P	**Pn**	**19 52 33.1**	**+1.9**
	30nm,1.6s						
EDFI	**Ende, Flores**	**9.05**	**86**	P	**Pn**	**19 52 33.1**	**+1.7**
	25nm,0.7s						
BNSI	**Bone**	**9.06**	**56**	P	Pn	19 52 36.8	+5.4
LWLI	**Liwa**	**9.55**	**297**	P	**Pn**	**19 52 39.0**	**+0.8**
	30μm46nm,0.6s						
MMRI	**Maumere**	**9.60**	**85**	Pn	**Pn**	**19 52 37.6**	**-1.2**
MDSI	**Maura Dua**	**9.71**	**301**	P	**Pn**	**19 52 41.1**	**+0.8**
	14nm,0.8s						
MNAI	**Manna**	**10.83**	**298**	P	**Pn**	**19 52 54.4**	**-1.2**
	245nm,0.6s						
MNAI	**Manna**	**10.83**	**298**	Pn	**Pn**	**19 52 54.0**	**-1.6**
BATI	**Baumata**	**10.96**	**94**	P	**Pn**	**19 52 59.3**	**+1.8**
	4.6nm,0.3s,baz=47,slow=1.1,SNR=11						
BATI	**Baumata**	**10.96**	**94**	P	**Pn**	**19 52 59.1**	**+1.6**
	21nm,0.7s						
KSM	**Kuching**	**11.16**	**348**	P	Pn	19 53 06.0	+5.8
KSI	**Kapahiang**	**11.49**	**300**	P	**Pn**	**19 53 03.9**	**-0.9**
	2μm203nm,0.7s						
SOEI	**Soe**	**11.54**	**92**	Pn	**Pn**	**19 53 05.0**	**-0.5**
SBUM	**Sibu**	**11.91**	**358**	P	**Pn**	**19 53 13.0**	**+2.6**
GIRL	**Giralia**	**13.14**	**173**	Pn	**Pn**	**19 53 25.2**	**-1.9**
KRJI	**Kerinci**	**13.28**	**303**	P	**Pn**	**19 53 28.2**	**-1.0**

91nm,0.7s
KMSI Cibinong 15.17 49 P **P** **19 54 03.6 +5.6**
SANI Sanana 15.28 62 P **P** **19 54 02.2 +2.9**
FITZ Fitzroy Crossi 15.28 125 P **Pn** **19 53 54.3 -1.2**
0.2nm,0.3s,baz=301,slow=9.2,SNR=22
FITZ Fitzroy Crossi 15.28 125 **Pn** **19 53 54.3 -1.2**
MYLDM Lahad Datu 15.77 22 Pn **Pn** **19 53 60.0 -1.8**
MYLDM IAmb IAmb 19 54 16.8
comp=Z,20nm,0.9s
KKM Kota Kinabalu 15.89 13 Pn **Pn** **19 54 01.0 -2.5**
KKM IAmb IAmb 19 54 14.1
comp=Z,52nm,1.5s
KNRA Kununurra 16.95 113 **Pn** **19 54 16.4 -0.2**
KNRA IAmb IAmb 19 54 27.9
comp=Z,33nm,1.5s
TNTI Ternate 17.95 56 **P** **19 54 27.2 -1.6**
TNTI IAmb IAmb 19 54 37.4
comp=Z,17nm,0.9s
MTN Manton Dam 18.51 102 **P** **19 54 35.5 +0.5**
MTN IAmb IAmb 19 54 48.5
comp=Z,22nm,1.1s
KULM Kulim 18.91 321 P **P** **19 54 38.1 -1.3**
KULM Kulim 18.91 321 P Pn 19 54 50.0 +9.4
MORW Morawa 19.71 171 P **P** **19 54 48.7 +0.7**
MORW IAmb IAmb 19 54 50.1
comp=Z,31nm,1.3s
SIJI Sorong 20.50 66 P **P** **19 54 57.5 +0.7**
comp=Z,18nm,0.9s,baz=284,slow=6.2,SNR=6.8
FAKI Fak Fak 20.64 73 P **P** **19 54 56.4 -1.8**
FAKI IAmb IAmb 19 55 02.5
comp=Z,31nm,0.9s
WRA Warramunga Arr 23.44 119 P **P** **19 55 28.7 +1.1**
comp=Z,6.0nm,0.6s,baz=295,slow=11,SNR=75
WRA PcP **PcP** **19 59 14.5 +2.0**
comp=Z,0.8nm,0.6s,baz=299,slow=1.9,SNR=5.6
WRA Warramunga Arr 23.44 119 P **P** **19 55 27.8 +0.2**
WB2 Warramunga Arr 23.45 119 P **P** **19 55 28.5 +0.8**
WB2 IAmb IAmb 19 55 47.8
comp=Z,17nm,1.4s
ASAR Alice Springs 24.77 127 P **P** **19 55 42.1 +2.3**
comp=Z,3.9nm,0.9s,baz=302,slow=8.2,SNR=42
ASAR PcP **PcP** **19 59 17.6 +2.3**
comp=Z,0.9nm,0.6s,baz=290,slow=1.8,SNR=7.3
ASAR Alice Springs 24.77 127 P **P** **19 55 40.4 +0.7**
AS31 Alice Springs 24.77 127 P **P** **19 55 40.7 +1.0**
COEN Coen 30.28 101 P **P** **19 56 29.6 +0.4**
CMAR Chiang Mai Arr 30.89 334 P **P** **19 56 32.9 -1.6**
comp=Z,1.1nm,0.7s,baz=165,slow=8.2,SNR=6.3
CTA Charters Tower 34.15 112 P **P** **19 57 06.5 +3.3**
comp=Z,2.6nm,0.6s,baz=293,slow=13,SNR=4.8
CTAO Charters Tower 34.15 112 P **P** **19 57 04.2 +1.0**
STKA Stephens Creek 34.90 134 P **P** **19 57 12.7 +3.2**
comp=Z,4.8nm,0.6s,baz=309,slow=9.1,SNR=21
STKA Stephens Creek 34.90 134 P **P** **19 57 12.2 +2.8**
H08S2 Diego Garcia H 39.65 270 T T 20 39 51.0
baz=95,slow=75,SNR=20
H08S3 Diego Garcia H 39.66 270 T T 20 39 52.1
baz=95,slow=75,SNR=16
H08S1 Diego Carcia H 39.67 269 T T 20 40 19.8
baz=95,slow=75,SNR=18
KSRS Korea Array 48.91 16 P **P** **19 59 02.5 -0.9**
comp=Z,1.4nm,0.9s,baz=204,slow=8.2,SNR=7.2
MAJO Matsushiro 51.79 26 P **P** **19 59 23.3 -2.0**
MAJO IAmb IAmb 19 59 27.0
comp=Z,4.0nm,0.6s
MAT Matsushiro 51.79 26 P **P** **19 59 22.5 -2.8**
MJAR Matsushiro Arr 51.79 26 P **P** **19 59 23.4 -1.9**
comp=Z,5.8nm,0.7s,baz=280,slow=20,SNR=18
MDJ Mudanjiang 56.05 15 P **P** **19 59 54.2 -2.0**
USA0B Ussuriysk Arra 56.31 17 P **P** **19 59 56.3 -1.7**
USRK Ussuriysk Ar. 56.31 17 P **P** **19 59 56.5 -1.6**
comp=Z,5.9nm,0.7s,baz=209,slow=4.8,SNR=14
SONM Songino Array 57.37 355 P **P** **20 00 04.5 -1.2**
comp=Z,0.9nm,0.6s,baz=172,slow=8.6,SNR=4.5
SONM Songino Array 57.37 355 P **P** **20 00 04.5 -1.2**
MK31 Makanchi Array 62.24 337 P **P** **20 00 37.6 -1.5**
MK31 IAmb IAmb 20 00 52.5
comp=Z,4.4nm,1.5s
MKAR Makanchi Array 62.24 337 P **P** **20 00 37.7 -1.3**
comp=Z,1.4nm,0.6s,baz=148,slow=7.4,SNR=27
MKAR Makanchi Array 62.24 337 P **P** **20 00 37.6 -1.4**
KKAR Karatay Array 64.89 327 P **P** **20 00 55.0 -1.5**
ZAA0 Zalesovo Array 67.46 343 P **P** **20 01 11.2 -1.5**
ZAA0 IAmb IAmb 20 01 13.5
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 67.46 343 P **P** **20 01 10.8 -1.9**
comp=Z,2.4nm,0.7s,baz=144,slow=5.4,SNR=9.5
ZALV Zalesovo Beam 67.46 343 P **P** **20 01 11.0 -1.8**
VNDA Vanda 72.51 170 P **P** **20 01 46.1 +2.7**
comp=Z,0.8nm,0.5s,baz=316,slow=6.4,SNR=6.7
PETK Petropavlovsk- 73.25 27 P **P** **20 01 47.8 -0.4**
comp=Z,1.1nm,0.5s,baz=223,slow=2.7,SNR=14
ABKAR Akbulak array 74.45 327 P **P** **20 01 54.5 -0.7**
ARU Arti 79.32 333 P **P** **20 02 22.1 -0.4**
comp=Z,0.4nm,0.4s,baz=112,slow=11,SNR=3.2
BRTR Keskin Array B 87.62 311 P **P** **20 03 05.7 0.0**
comp=Z,2.5nm,1.1s,baz=224,slow=5.2,SNR=3.9

*IDC **06** 19:52:55.5±0.5, 26°.56S×114°.89W, h0km, mb4.7/20, mb1 4.9/20, mb1mx4.7/40, mbtmp4.7/20, MS5.0/21, Ms1 4.9/21, ms1mx4.8/27, Error ellipse: s-maj=18.3km s-min=16.7km az=83.0*
*MOS **06** 19:52:56.2±1.1, 26°.44S×114°.68W, h10km, mb5.1/15, Error ellipse: s-maj=12.2km s-min=8.0km az=80.9*
*NEIC **06** 19:52:57.2±1.4, 26°.6S±0°.1×114°.7W±0°.1, h12km±3km, mb5.3/183, Error ellipse: s-maj=16.4km s-min=15.1km az=91.0*
*UNK **06** 19:52:57.6, 26°.61S×114°.74W, h10km*
*GCMT **06** 19:53:00.2±0.2, 26°.88S±0°.01×114°.60W±0°.01, h12km, MW5.4/136, Moment Tensor Solution. s73,c96; s136,c243; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.98±.03; $M_{\theta\theta}$=0.79±.03; $M_{\phi\phi}$=0.19±.03; $M_{r\theta}$=0.00±.09; $M_{\theta\phi}$=-1.28±.02; $M_{\phi r}$=0.24±.09; Best double couple: M_0=1.46200×10^{17} NP1:ϕ_s=279.00000°, δ51.00000°, λ-135.00000°. NP2:ϕ_s=157.00000°, δ57.00000°, λ-49.00000°. Principal axes: T 1.8110, Plg3.0000°, Azm219.0000°; N -0.6980, Plg34.0000°, Azm311.0000°; P -1.1140, Plg56.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 19:52:57.7±0.7, 26°.61S±0°.07×114°.81W±0°.07, h16km±3km, h17km:pP-P, n720, σ0.83/693, mb5.2/121, MS5.0/28, 21C-11D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**18.62**	**276**	*e*LQ	LQ	20 00 40.8	
RKT	10μm,28.2s			*e*LR	LR	20 01 27.0	
	comp=Z,4μm,27.5s						
TAOE	**Nuku Hiva Isla**	**29.80**	**302**	*e*LR	LR	20 06 32.0	
	comp=Z,5μm,24.6s,baz=137						
TBI	**Tubuai**	**31.52**	**268**	*e*S	**S**	**20 04 26.6**	**-0.4**
TBI	1μm,30.2s			*e*LQ	LQ	20 06 08.4	
	3μm,32.0s						
TBI				*e*LR	LR	20 07 24.3	
	comp=Z,3μm,28.2s						
TBI	**Tubuai**	**31.52**	**268**	*e*T	T	20 32 25.8	
	51nm,0.3s						
H03N2	**Juan Fernandez**	**31.69**	**111**	T	T	20 32 28.4	
	baz=277,slow=74,SNR=48						
H03N3	**Juan Fernandez**	**31.70**	**111**	T	T	20 32 33.4	
	baz=277,slow=74,SNR=43						
H03N1	**Juan Fernandez**	**31.71**	**111**	T	T	20 32 33.9	
	baz=277,slow=74,SNR=40						
PPT2	**Papeete2**	**33.35**	**278**	*e*S	**S**	**20 04 53.0**	**-2.8**
PPT2	664nm,24.5s			*e*LQ	LQ	20 06 51.9	
	3μm,30.0s						
PPT2				*e*LR	LR	20 08 14.5	
	comp=Z,4μm,24.5s,baz=109						
PPT	**Papeete**	**33.36**	**278**	LR	LR	20 09 18.1	
	comp=Z,2μm,18.2s,baz=110,slow=30						
PAYG	**Puerto Ayora**	**34.95**	**46**	P	**P**	**19 59 48.2**	**-0.9**
LL01	**San Ignacio de**	**37.90**	**126**	P	**P**	**20 00 14.5**	**+0.4**
BI02	**San Fabin de**	**38.12**	**116**	P	**P**	**20 00 16.6**	**+0.5**
BI02				IAmb	IAmb	20 00 23.2	
	comp=Z,76nm,1.6s						
BO01	**Tunca**	**38.23**	**113**	P	**P**	**20 00 18.2**	**+1.2**
ROC1	**El Roble**	**38.32**	**110**	P	**P**	**20 00 18.9**	**+0.8**
NNA	**Nana**	**38.51**	**75**	LR	LR	20 11 48.4	
	comp=Z,2μm,21.6s,baz=242,slow=29						
MT05	**Renca**	**38.54**	**111**	P	**P**	**20 00 19.7**	**0.0**
MT05				IAmb	IAmb	20 00 44.9	
	comp=Z,52nm,1.2s						
GO04	**Tololo Observa**	**38.70**	**106**	P	**P**	**20 00 20.5**	**-0.8**
GO04				IAmb	IAmb	20 00 27.8	
	comp=Z,112nm,1.4s						
AC04	**Llanos de Chal**	**38.71**	**103**	P	**P**	**20 00 20.0**	**-1.1**
AC04				IAmb	IAmb	20 01 16.6	
	comp=Z,135nm,1.6s						
LCO	**Las Campanas**	**38.92**	**104**	P	**P**	**20 00 23.6**	**+0.4**
LCO				pmax	pmax		
	comp=Z,30nm,1.0s						
LCO	**Las Campanas**	**38.92**	**104**	P	**P**	**20 00 23.6**	**+0.4**
PLCA	**Paso Flores**	**39.03**	**123**	P	**P**	**20 00 24.8**	**+1.1**
	comp=Z,43nm,1.1s,baz=275,slow=9.2,SNR=22						
PLCA				LR	LR	20 12 18.2	
	comp=Z,1μm,21.3s,baz=298,slow=30						
PLCA	**Paso Flores**	**39.03**	**123**	P	**P**	**20 00 24.8**	**+1.1**
PLCA				pmax	pmax		
	comp=Z,92nm,1.2s						
PLCA	**Paso Flores**	**39.03**	**123**	P	**P**	**20 00 24.8**	**+1.1**
PLCA				IAmb	IAmb	20 00 31.6	
	comp=Z,92nm,1.1s						
PLCA	**Paso Flores**	**39.03**	**123**	*e*P	**P**	**20 00 25.2**	**+1.5**
AC05	**El Transito**	**39.32**	**104**	P	**P**	**20 00 26.6**	**+0.3**
AC05				IAmb	IAmb	20 00 33.8	
	comp=Z,53nm,1.1s						
CO01	**Juntas del Tor**	**39.33**	**106**	P	**P**	**20 00 27.0**	**+0.4**
AC01	**Pan de Azucar**	**39.46**	**100**	P	**P**	**20 00 27.1**	**-0.3**
AC01				IAmb	IAmb	20 00 52.6	
	comp=Z,70nm,1.2s						
ATAH	**Atahualpa**	**39.65**	**67**	P	**P**	**20 00 30.7**	**+1.1**
	comp=Z,17nm,0.8s,baz=182,slow=6.4,SNR=7.1						
ATAH				LR	LR	20 12 41.3	
	comp=Z,3μm,19.7s,baz=246,slow=30						
ZON	**Zonda**	**40.39**	**108**	P	**P**	**20 00 35.2**	**+0.1**
ZON				pmax	pmax		
	comp=Z,53nm,1.4s						
ZON	**Zonda**	**40.39**	**108**	P	**P**	**20 00 35.2**	**+0.1**
GO09	**Cerro Castillo**	**40.41**	**139**	P	**P**	**20 00 35.6**	**+0.6**
GO09				IAmb	IAmb	20 00 37.5	
	comp=Z,57nm,1.3s						
GO02	**Mina Guanaco**	**40.55**	**98**	P	**P**	**20 00 37.3**	**+0.5**
AC02	**Maricunga**	**40.63**	**101**	P	**P**	**20 00 37.3**	**-0.4**
PB04	**IPOC Station P**	**40.72**	**94**	P	**P**	**20 00 38.2**	**+0.2**
PB04				IAmb	IAmb	20 00 44.4	
	comp=Z,74nm,1.2s						
PB15	**IPOC Station P**	**41.10**	**95**	P	**P**	**20 00 40.6**	**-0.7**
PB15				IAmb	IAmb	20 01 11.1	
	comp=Z,91nm,1.6s						
PB07	**IPOC Station P**	**41.12**	**93**	P	**P**	**20 00 41.6**	**+0.2**
PB07				IAmb	IAmb	20 00 48.7	
	comp=Z,59nm,1.2s						
PATCX	**Punta Patache**	**41.13**	**92**	P	**P**	**20 00 41.0**	**-0.4**
PATCX				IAmb	IAmb	20 00 48.6	
	comp=Z,151nm,1.6s						
PB06	**IPOC Station P**	**41.14**	**95**	P	**P**	**20 00 41.4**	**-0.1**
LVC	**Limon Verde**	**41.75**	**95**	P	**P**	**20 00 48.2**	**+1.3**
	comp=Z,17nm,1.1s,baz=234,slow=8.0,SNR=4.2						
LVC	**Limon Verde**	**41.75**	**95**	*ce*P	**P**	**20 00 48.8**	**+2.0**
LVC				pmax	pmax		
	comp=Z,68nm,2.5s						
LVC	**Limon Verde**	**41.75**	**95**	P	**P**	**20 00 46.7**	**-0.1**
LVC	**Limon Verde**	**41.75**	**95**	*e*P	**P**	**20 00 48.0**	**+1.2**
PB08	**IPOC Station P**	**42.23**	**91**	P	**P**	**20 00 51.8**	**+1.0**
GO01	**Chusmiza**	**42.34**	**91**	P	**P**	**20 00 51.7**	**0.0**
PB16	**IPOC Station P**	**42.49**	**88**	P	**P**	**20 00 53.0**	**-0.1**
PAC1	**Pacto, Paraso**	**43.77**	**58**	*e*P	**P**	**20 01 02.2**	**-0.8**
OTAV	**Otavalo**	**44.02**	**59**	*e*P	**P**	**20 01 05.5**	**+0.2**
OTAV	**Otavalo**	**44.02**	**59**	*ce*P	**P**	**20 01 06.5**	**+1.2**
OTAV				pmax	pmax		
	comp=Z,11nm,1.3s						
OTAV	**Otavalo**	**44.02**	**59**	P	**P**	**20 01 05.5**	**+0.2**
OTAV	**Otavalo**	**44.02**	**59**	*e*P	**P**	**20 01 05.6**	**+0.2**
CZSB	**Cruzeiro do Su**	**44.13**	**73**	*e*P	**P**	**20 01 06.1**	**+0.4**
LPAZ	**La Paz**	**44.43**	**86**	P	**P**	**20 01 09.6**	**+0.8**
	comp=Z,4.4nm,1.0s,baz=270,slow=6.2,SNR=9.1						
LPAZ				LR	LR	20 15 25.6	
	comp=Z,1μm,20.6s,baz=249,slow=30						
LPAZ	**La Paz**	**44.43**	**86**	*e*P	**P**	**20 01 07.0**	**-1.9**
LPAZ	**La Paz**	**44.43**	**86**	P	**P**	**20 01 08.5**	**-0.3**
LPAZ				pmax	pmax		
	comp=Z,29nm,1.6s						
LPAZ	**La Paz**	**44.43**	**86**	P	**P**	**20 01 08.5**	**-0.3**
LPAZ	**La Paz**	**44.43**	**86**	*e*P	**P**	**20 01 08.8**	**-0.1**
H06S1	**SOCORRO T**	**45.23**	**5**	T	T	20 49 44.5	
	SNR=9.4						
H06E1	**SOCORRO T-PHAS**	**45.27**	**5**	T	T	20 49 42.2	
	SNR=30						
GCUF	**Volcan Galeras**	**45.49**	**59**	*e*P	**P**	**20 01 18.9**	**+1.8**
PUAC	**Puerto Asis, P**	**45.66**	**60**	*e*P	**P**	**20 01 15.9**	**-2.0**
TLIG	**Tlapa**	**46.66**	**22**	P	**P**	**20 01 26.7**	**+1.0**
TLIG				IAmb	IAmb	20 01 29.0	
	comp=Z,26nm,0.9s						
JTS	**Las Juntas de**	**46.76**	**42**	P	**P**	**20 01 28.0**	**+1.5**
	comp=Z,15nm,0.9s,baz=274,slow=6.5,SNR=9.1						
JTS	**Las Juntas de**	**46.76**	**42**	*e*P	**P**	**20 01 25.4**	**-1.1**
JTS	**Las Juntas de**	**46.76**	**42**	*i*P	**P**	**20 01 27.2**	**+0.7**
JTS				pmax	pmax		
	comp=Z,16nm,0.9s						
JTS	**Las Juntas de**	**46.76**	**42**	P	**P**	**20 01 27.8**	**+1.3**
JTS				IAmb	IAmb	20 01 29.6	
	comp=Z,21nm,1.0s						
PTLC	**Puerto Leguiza**	**46.81**	**62**	*e*P	**P**	**20 01 24.8**	**-2.2**
POPC	**Popayan, Colom**	**46.85**	**58**	*e*P	**P**	**20 01 28.1**	**+0.6**
PCON	**Cinco Dias**	**46.92**	**58**	*e*P	**P**	**20 01 30.7**	**+2.2**
FLOC	**Florencia**	**47.02**	**60**	*e*P	**P**	**20 01 29.0**	**+0.4**
GARC	**Garzon, Huila**	**47.52**	**59**	*e*P	**P**	**20 01 32.9**	**+0.1**
APG	**El Apazote**	**47.65**	**33**	P	**P**	**20 01 34.9**	**+1.2**
	comp=Z,6.2nm,0.9s,baz=217,slow=12,SNR=6.4						
APG				LR	LR	20 16 42.9	
	comp=Z,2μm,21.4s,baz=210,slow=30						
MTO3	**Montecristo**	**47.68**	**34**	P	**P**	**20 01 34.2**	**+0.3**
ESQI	**Esquipulas**	**47.83**	**34**	P	**P**	**20 01 35.7**	**+0.8**
MOIG	**Morelia**	**47.87**	**17**	P	**P**	**20 01 36.1**	**+0.8**
AZU	**Azuero**	**47.87**	**49**	*e*P	**P**	**20 01 32.3**	**-2.8**
BETC	**Betania**	**47.88**	**59**	*e*P	**P**	**20 01 36.8**	**+1.4**
ACON	**Acoyapa**	**47.96**	**41**	P	**P**	**20 01 36.1**	**+0.4**
ACON				IAmb	IAmb	20 01 37.4	
	comp=Z,31nm,1.2s						
CCIG	**Comitan**	**47.99**	**30**	P	**P**	**20 01 36.6**	**+0.4**
YOTC	**Yotoco, Valle**	**48.04**	**57**	*e*P	**P**	**20 01 36.0**	**-0.7**
BOAB	**BOACO BROADBAN**	**48.06**	**40**	P	**P**	**20 01 37.4**	**+0.9**
MATN	**Matagalpa**	**48.30**	**39**	P	**P**	**20 01 38.6**	**+0.1**
MATN				IAmb	IAmb	20 01 50.0	
	comp=Z,34nm,1.2s						
TGUH	**Tegucigalpa,Un**	**48.48**	**37**	*e*P	**P**	**20 01 41.9**	**+2.0**
TGUH	**Tegucigalpa,Un**	**48.48**	**37**	P	**P**	**20 01 39.8**	**-0.2**
TGUH				IAmb	IAmb	20 01 42.3	
	comp=Z,29nm,0.9s						
ESPN	**Las Esperanzas**	**48.65**	**41**	P	**P**	**20 01 41.6**	**+0.5**
PLMC	**San Jos del P**	**48.70**	**56**	*e*P	**P**	**20 01 41.9**	**+0.3**
MACC	**Macarena, Meta**	**48.77**	**61**	*e*P	**P**	**20 01 42.1**	**-0.1**
ETMB	**Extrema**	**48.77**	**79**	*e*P	**P**	**20 01 41.5**	**-0.7**
ORTC	**Ortega, Tolima**	**48.82**	**58**	*e*P	**P**	**20 01 42.9**	**+0.3**
PRAC	**Prado**	**48.97**	**58**	*e*P	**P**	**20 01 45.4**	**+1.7**
ANIL	**Santa Ana**	**49.08**	**57**	*e*P	**P**	**20 01 46.4**	**+1.5**
EFI	**East Falkland**	**49.14**	**136**	*i*P	**P**	**20 01 44.2**	**-0.3**
EFI				pmax	pmax		
	comp=Z,46nm,1.2s						
TOLC	**Tolima**	**49.20**	**57**	*e*P	**P**	**20 01 46.3**	**+0.4**
CBOC	**Ciudad Bolivar**	**49.54**	**55**	*e*P	**P**	**20 01 49.5**	**+1.3**
PETF	**Flores**	**49.59**	**32**	P	**P**	**20 01 48.0**	**-0.2**
GUY2C	**Guyana, Caldas**	**49.59**	**56**	*e*P	**P**	**20 01 50.3**	**+1.3**
PMSA	**Palmer Station**	**49.82**	**154**	P	**P**	**20 01 49.9**	**+0.4**
PMSA	**Palmer Station**	**49.82**	**154**	*e*P	**P**	**20 01 49.4**	**0.0**
GUVC	**San Jose del G**	**49.97**	**61**	*e*P	**P**	**20 01 51.5**	**+0.1**
HELC	**Santa Helena**	**50.11**	**55**	*e*P	**P**	**20 01 54.0**	**+1.2**
ROSC	**El Rosal**	**50.12**	**57**	LR	LR	20 19 55.6	
	comp=Z,2μm,18.3s,baz=231,slow=32						
ROSC	**El Rosal**	**50.12**	**57**	*e*P	P	20 01 45.9	-7.0
ROSC	**El Rosal**	**50.12**	**57**		**P**	**20 01 54.3**	**+1.4**
ROSC				IAmb	IAmb	20 02 10.8	
	comp=Z,54nm,1.4s						
VILC	**Villavicencio,**	**50.13**	**59**	*e*P	**P**	**20 01 54.1**	**+1.5**
DBBC	**Dabeiba**	**50.17**	**54**	*e*P	**P**	**20 01 53.3**	**+0.3**
NORC	**Norcasia**	**50.18**	**56**	*e*P	**P**	**20 01 53.2**	**+0.2**
SLBS	**Sierra La Lagu**	**50.22**	**6**	P	**P**	**20 01 53.3**	**+0.2**
CHIC	**Chingaza**	**50.43**	**58**	*e*P	**P**	**20 01 57.0**	**+1.8**
ZAIG	**Zacatecas**	**50.49**	**15**	P	**P**	**20 01 56.2**	**+0.8**
ZAIG				IAmb	IAmb	20 02 03.2	
	comp=Z,49nm,2.0s						
LPIG	**La Paz**	**50.60**	**5**	LR	LR	20 18 09.5	
	comp=Z,2μm,20.8s,baz=194,slow=30						
SPBC	**San Pablo de B**	**50.84**	**57**	*e*P	**P**	**20 01 58.5**	**+0.5**
CPUP	**Villa Florida**	**51.06**	**103**	LR	LR	20 20 15.4	
	comp=Z,1μm,18.7s,baz=261,slow=32						
CPUP	**Villa Florida**	**51.06**	**103**	P	**P**	**20 02 00.8**	**+1.3**
CPUP				pmax	pmax		
	comp=Z,29nm,1.5s						
CPUP	**Villa Florida**	**51.06**	**103**	P	**P**	**20 02 00.8**	**+1.3**
PTBC	**PUERTO BERRIO,**	**51.13**	**56**	*e*P	**P**	**20 02 00.1**	**0.0**
UREC	**San Jos de Ur**	**51.16**	**54**	*e*P	**P**	**20 01 57.2**	**-3.1**
ZARC	**Zaragoza, Cauc**	**51.48**	**54**	*e*P	**P**	**20 02 03.2**	**+0.5**
RUSC	**La Rusia**	**51.74**	**57**	*e*P	**P**	**20 02 05.6**	**+0.4**
MOTC	**Monteria, Cord**	**51.77**	**53**	*e*P	**P**	**20 02 05.5**	**+0.7**
SAML	**Samuel**	**51.83**	**80**	*e*P	**P**	**20 02 04.6**	**-0.8**
SAML	**Samuel**	**51.83**	**80**	P	**P**	**20 02 04.4**	**-1.0**
SAML				pmax	pmax		
	comp=Z,14nm,1.3s						
SAML	**Samuel**	**51.83**	**80**	P	**P**	**20 02 04.4**	**-1.0**
SAML	**Samuel**	**51.83**	**80**	*e*P	**P**	**20 02 04.6**	**-0.8**
BRRC	**Barranca, Sant**	**52.06**	**56**	*e*P	**P**	**20 02 07.7**	**+0.7**
BARC	**Barichara**	**52.12**	**57**	*e*P	**P**	**20 02 06.3**	**-1.4**
PTLB	**Pontes e Lacer**	**52.79**	**90**	*e*P	**P**	**20 02 11.7**	**-0.8**
VILB	**Vilhena**	**52.79**	**86**	*e*P	**P**	**20 02 13.1**	**+0.6**
SJCC	**San Jacinto, C**	**52.89**	**52**	*e*P	**P**	**20 02 12.2**	**-1.0**
SMLC	**San Martn de**	**52.93**	**54**	*e*P	**P**	**20 02 12.8**	**-0.7**
PAMC	**Pamplona, Colo**	**52.97**	**56**	*e*P	**P**	**20 02 13.4**	**-0.9**
TAMC	**Tame, Arauca**	**53.06**	**58**	*e*P	**P**	**20 02 15.4**	**+0.9**
OCAC	**Ocana**	**53.10**	**55**	*e*P	P	20 02 07.3	-7.6
TEIG	**Tepich**	**53.19**	**32**	P	**P**	**20 02 15.4**	**+0.2**
	comp=Z,14nm,0.9s,baz=220,slow=10,SNR=5.1						
TEIG				LR	LR	20 19 59.6	
	comp=Z,1μm,20.7s,baz=184,slow=30						
TEIG	**Tepich**	**53.19**	**32**	P	**P**	**20 02 14.9**	**-0.3**
TEIG				IAmb	IAmb	20 02 27.5	
	comp=Z,36nm,1.1s						
ARGC	**Ariguani, Magd**	**53.53**	**53**	*e*P	**P**	**20 02 15.8**	**-2.0**
HSIG		**55.43**	**4**	P	**P**	**20 02 32.5**	**+1.0**
SDV	**Santo Domingo**	**55.52**	**57**	P	**P**	**20 02 32.3**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=224,slow=8.5,SNR=5.7						
SDV	**Santo Domingo**	**55.52**	**57**	*e*P	**P**	**20 02 29.2**	**-3.3**
SDV	**Santo Domingo**	**55.52**	**57**	P	**P**	**20 02 31.4**	**-1.2**
SDV				IAmb	IAmb	20 03 06.7	
	comp=Z,27nm,1.4s						
SDV	**Santo Domingo**	**55.52**	**57**	*e*P	**P**	**20 02 32.4**	**-0.2**
CNLB	**Canela**	**55.92**	**109**	*e*P	**P**	**20 02 37.1**	**+1.8**
KVTX	**Kingsville**	**56.25**	**18**	P	**P**	**20 02 37.8**	**+0.5**
833A	**Chaparral WMA,**	**56.59**	**16**	P	**P**	**20 02 40.7**	**+1.0**
	baz=196,SNR=7.9						
833A	**Chaparral WMA,**	**56.59**	**16**	P	**P**	**20 02 40.0**	**+0.3**
833A				IAmb	IAmb	20 02 42.1	
	comp=Z,31nm,0.8s						
TX31	**Lajitas Ar. Si**	**56.64**	**12**	P	**P**	**20 02 40.5**	**+0.3**
TX31				IAmb	IAmb	20 03 10.7	
	comp=Z,50nm,1.5s						
TX32	**Lajitas Array**	**56.64**	**12**	P	**P**	**20 02 40.9**	**+0.8**
TXAR	**Lajitas Array**	**56.64**	**12**	P	**P**	**20 02 40.8**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=196,slow=8.9,SNR=10						
TXAR				LR	LR	20 22 04.1	
	comp=Z,1μm,20.1s,baz=0.0,slow=31						
SPX	**San Pedro Mart**	**57.32**	**359**	P	**P**	**20 02 46.1**	**+0.8**
735A	**Kenedy**	**57.51**	**18**	P	**P**	**20 02 46.7**	**+0.5**
CLDB	**Colider**	**57.57**	**86**	*e*P	**P**	**20 02 45.9**	**-1.2**
PIX	**Pinacate**	**57.86**	**1**	P	**P**	**20 02 49.2**	**+0.6**
319A	**Douglas**	**57.90**	**6**	P	**P**	**20 02 49.8**	**+0.8**
319A				IAmb	IAmb	20 02 52.1	
	comp=Z,29nm,0.8s						
214A	**Organ Pipe Nat**	**58.27**	**2**	P	**P**	**20 02 53.0**	**+1.5**
	baz=182,SNR=6.5						
214A	**Organ Pipe Nat**	**58.27**	**2**	P	**P**	**20 02 52.3**	**+0.8**
214A				IAmb	IAmb	20 02 54.6	
	comp=Z,21nm,1.1s						
JCT	**Junction City**	**58.55**	**15**	P	**P**	**20 02 53.6**	**0.0**
JCT				pmax	pmax		
	comp=Z,82nm,0.8s						
JCT	**Junction City**	**58.55**	**15**	P	**P**	**20 02 54.3**	**+0.8**
	baz=196,SNR=22						
JCT	**Junction City**	**58.55**	**15**	P	**P**	**20 02 53.6**	**0.0**
PTGA	**Pitinga**	**58.59**	**73**	P	**P**	**20 02 52.9**	**-1.3**
PTGA	**Pitinga**	**58.59**	**73**	*e*P	**P**	**20 02 52.9**	**-1.3**
CBX	**Cerro Bola**	**58.62**	**358**	P	**P**	**20 02 54.9**	**+0.8**
MNTX	**Cornudas Mount**	**58.67**	**9**	P	**P**	**20 02 54.5**	**+0.1**
	baz=190,SNR=11						
MNTX	**Cornudas Mount**	**58.67**	**9**	P	**P**	**20 02 54.3**	**-0.1**
TUC	**Tucson**	**58.72**	**4**	P	**P**	**20 02 55.4**	**+0.7**
TUC				pmax	pmax		
	comp=Z,14nm,1.0s						
TUC	**Tucson**	**58.72**	**4**	P	**P**	**20 02 56.0**	**+1.3**
	baz=184						
TUC	**Tucson**	**58.72**	**4**	P	**P**	**20 02 55.4**	**+0.7**
TKX	**Tecate**	**58.87**	**358**	P	**P**	**20 02 56.0**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**58.94**	**359**	P	**P**	**20 02 57.7**	**+1.5**
	baz=179,SNR=6.2		

baz=177,SNR=8.1
MSTX Muleshoe 61.32 11 P P 20 03 12.5 -0.1
baz=192,SNR=19
MSTX Muleshoe 61.32 11 P P 20 03 12.0 -0.6
342A Flagon Creek P 61.52 22 P P 20 03 14.4 +0.5
GSC Goldstone, Bar 61.60 358 P P 20 03 15.0 +0.6
GSC pmax pmax
comp=Z,26nm,1.3s
GSC Goldstone, Bar 61.60 358 P P 20 03 15.9 +1.5
baz=178,SNR=10
GSC Goldstone, Bar 61.60 358 P P 20 03 15.0 +0.6
GSC IAmb IAmb 20 03 22.9
comp=Z,26nm,1.2s
ANMO Albuquerque 61.73 8 P P 20 03 15.8 +0.4
comp=Z,0.3nm,0.8s,baz=344,slow=6.4,SNR=14
ANMO Albuquerque 61.73 8 P P 20 03 15.6 +0.1
ANMO pmax pmax
comp=Z,15nm,1.4s
ANMO Albuquerque 61.73 8 P P 20 03 15.9 +0.4
baz=188
ANMO Albuquerque 61.73 8 P P 20 03 15.6 +0.1
LRMC Laurel Mtn Rad 61.81 357 P P 20 03 17.2 +1.3
baz=177,SNR=5.8
WUAZ Wupatki 61.87 3 P P 20 03 17.8 +1.5
baz=183,SNR=7.1
WUAZ Wupatki 61.87 3 P P 20 03 17.2 +0.9
WUAZ IAmb IAmb 20 03 19.5
comp=Z,18nm,1.0s
Z35A Perchaven, San 61.90 17 P P 20 03 16.5 +0.1
ISA Isabella, Lake 62.03 357 P P 20 03 17.7 +0.4
ISA pmax pmax
comp=Z,17nm,1.4s
ISA Isabella, Lake 62.03 357 P P 20 03 18.7 +1.4
baz=176
ISA Isabella, Lake 62.03 357 P P 20 03 17.7 +0.4
BELA Belgrano 2 62.12 166 P P 20 03 16.8 -0.6
344A Westbrook Farm 62.14 23 P P 20 03 18.6 +0.5
SHOC Shoshone, Teco 62.19 359 P P 20 03 19.9 +1.6
baz=178
MSVF Nonsavu 62.20 263 *i* P **P 20 03 20.0 +1.0**
MSVF pmax pmax
comp=Z,13nm,1.2s
MSVF Nonsavu 62.20 263 P P 20 03 20.0 +1.0
PAGB Antelope Grade 62.21 355 P P 20 03 19.6 +1.1
VES Vestal, Richgr 62.24 356 P P 20 03 19.8 +1.2
baz=176
MPMC Manual Prospec 62.38 358 P P 20 03 21.1 +1.3
baz=177,SNR=11
AMTX Amarillo 62.41 12 P P 20 03 20.1 +0.2
baz=193
AMTX Amarillo 62.41 12 P P 20 03 19.7 -0.1
BDFB Brasilia 62.66 95 P P 20 03 22.3 +0.2
comp=Z,6.5nm,1.0s,baz=264,slow=6.4,SNR=3.8
BDFB LR LR 20 27 42.3
comp=Z,745nm,19.3s,baz=274,slow=33
BDFB Brasilia 62.66 95 P P 20 03 21.8 -0.3
BDFB pmax pmax
comp=Z,27nm,1.4s
BDFB Brasilia 62.66 95 P P 20 03 21.8 -0.3
BDFB IAmb IAmb 20 03 25.6
comp=Z,27nm,1.4s
FURC Furnace Creek, 62.77 358 P P 20 03 23.1 +1.0
baz=178,SNR=10
SHPR Sheep Range 62.78 360 P P 20 03 23.3 +0.9
SHPR IAmb IAmb 20 03 25.9
comp=Z,30nm,0.9s
VNDA Vanda 62.78 194 P P 20 03 23.1 +1.3
comp=Z,2.2nm,1.1s,baz=113,slow=7.7,SNR=4.8
VNDA LR LR 20 24 32.1
comp=Z,1μm,19.0s,baz=81,slow=30
VNDA Vanda 62.78 194 P P 20 03 22.2 +0.4
VNDA pmax pmax
comp=Z,12nm,1.3s
VNDA Vanda 62.78 194 P P 20 03 22.2 +0.4
CWC Cottonwood Cre 62.78 357 P P 20 03 23.5 +1.1
baz=177
WMOK Wichita Mounta 62.87 15 P P 20 03 22.4 -0.5
WMOK pmax pmax
comp=Z,10.0nm,0.8s
WMOK Wichita Mounta 62.87 15 P P 20 03 22.7 -0.2
baz=196,SNR=8.9
WMOK Wichita Mounta 62.87 15 P P 20 03 22.4 -0.5
Z41A Richland Creek 63.10 21 P P 20 03 25.3 +0.9
baz=202
TPNV Topopah Spring 63.23 359 P P 20 03 27.0 +1.6
baz=178,SNR=15
SAO San Andreas Ge 63.34 354 P P 20 03 26.6 +0.7
SAO pmax pmax
comp=Z,12nm,1.1s
SAO San Andreas Ge 63.34 354 P P 20 03 26.6 +0.7
WLAR White Oak Lake 63.41 20 P P 20 03 27.0 +0.6
QSPA South Pole Qui 63.56 180 P P 20 03 27.7 +0.4
MVCO Mesa Verde 63.76 6 P P 20 03 29.5 +0.6
baz=186,SNR=9.2
MVCO Mesa Verde 63.76 6 P P 20 03 29.2 +0.2
MVCO IAmb IAmb 20 03 36.9
comp=Z,43nm,1.4s
PEXB Peixe 63.78 91 *eP* **P 20 03 28.9 -0.5**
CCAR Cane Creek 64.04 21 P P 20 03 31.5 +0.9
MIAR Mount Ida 64.06 19 P P 20 03 30.3 -0.4
MIAR pmax pmax
comp=Z,19nm,0.9s
MIAR Mount Ida 64.06 19 P P 20 03 30.6 -0.1
baz=201,SNR=13
MIAR Mount Ida 64.06 19 P P 20 03 30.3 -0.4
MIAR IAmb IAmb 20 03 32.1
comp=Z,19nm,0.9s
T25A Trinidad 64.16 9 P P 20 03 32.2 +0.6
baz=190,SNR=6.2
T25A Trinidad 64.16 9 P P 20 03 32.0 +0.4
X40A Basin Creek Fa 64.23 20 P P 20 03 32.4 +0.6
baz=202
S22A 4UR Ranch, Cre 64.45 7 P P 20 03 34.5 +0.9
baz=188,SNR=12
CMB Columbia Colle 64.51 355 P P 20 03 34.8 +1.1
CMB pmax pmax
comp=Z,14nm,1.0s
CMB Columbia Colle 64.51 355 P P 20 03 34.8 +1.1
CMB IAmb IAmb 20 03 36.5
comp=Z,14nm,0.9s
SDCO Great Sand Dun 64.61 8 P P 20 03 35.0 +0.4
baz=189,SNR=18
SDCO Great Sand Dun 64.61 8 P P 20 03 34.6 0.0
SDCO IAmb IAmb 20 03 46.4
comp=Z,38nm,1.6s
W39A Magazine 64.61 19 P P 20 03 34.1 -0.2
baz=201,SNR=8.2
W39A Magazine 64.61 19 P P 20 03 33.7 -0.6
W39A IAmb IAmb 20 03 35.8
comp=Z,14nm,0.8s
R11A Troy Canyon, C 64.62 359 P P 20 03 36.0 +1.5
baz=179,SNR=20
UALR University of 64.65 20 P P 20 03 34.7 +0.1
UALR IAmb IAmb 20 03 36.4
comp=Z,25nm,0.8s
TUL1 Leonard 64.72 17 P P 20 03 34.7 -0.3
baz=199,SNR=8.3
TUL1 Leonard 64.72 17 P P 20 03 34.6 -0.3
TUL1 IAmb IAmb 20 03 36.3
comp=Z,23nm,0.8s
NV11 Mina Array Sit 64.77 357 P P 20 03 36.2 +0.7
NV11 IAmb IAmb 20 03 44.2
comp=Z,45nm,1.4s
NVAR Mina Array Bea 64.78 357 P P 20 03 36.8 +1.2
comp=Z,11nm,1.0s,baz=187,slow=8.7,SNR=36
NVAR LR LR 20 24 24.2
comp=Z,543nm,18.5s,baz=189,slow=29
NVAR Mina Array Bea 64.78 357 P P 20 03 36.4 +0.8
MVU Marysvale 64.81 2 P P 20 03 36.6 +0.7
WAKR Walker 64.92 356 P P 20 03 37.2 +0.7
WAKR IAmb IAmb 20 03 39.8
comp=Z,56nm,1.8s
PRPB Parauapebas 64.92 84 *eP* **P 20 03 35.4 -1.5**
LRAL Lakeview Retre 64.94 26 P P 20 03 36.7 +0.2
baz=207,SNR=12
LRAL Lakeview Retre 64.94 26 P P 20 03 36.1 -0.4
LRAL IAmb IAmb 20 03 38.4
comp=Z,19nm,0.9s
PV07 Paradox Valley 64.96 5 P P 20 03 37.0 +0.1
PV07 IAmb IAmb 20 03 38.9
comp=Z,12nm,0.9s
RYN Ryan 64.99 357 P P 20 03 37.1 +0.2
RYN IAmb IAmb 20 03 45.7
comp=Z,26nm,1.4s
W41B Gary Mavity, V 65.05 20 P P 20 03 37.6 +0.5
baz=202,SNR=18

WHAR Wooly Hollow 65.14 20 P P 20 03 37.8 0.0
OXF Oxford 65.38 23 P P 20 03 38.9 -0.4
baz=205
YERR Yerington 65.38 356 P P 20 03 40.4 +0.9
YERR IAmb IAmb 20 03 48.3
comp=Z,34nm,1.3s
HHAR Hobbs 65.58 18 P P 20 03 40.1 -0.5
HHAR IAmb IAmb 20 03 42.0
comp=Z,16nm,1.1s
MCPB Macapa, AP 65.63 77 *eP* **P 20 03 41.9 +0.4**
SMTB Santa Maria do 65.75 88 *eP* **P 20 03 43.0 +0.7**
P17A Butcher Ranch, 65.85 3 P P 20 03 42.6 +0.2
Q24A Divide 65.85 8 P P 20 03 42.3 -0.4
baz=189
U40A Yellville 65.96 19 P P 20 03 43.0 0.0
baz=201,SNR=20
U40A Yellville 65.96 19 P P 20 03 42.8 -0.3
U40A IAmb IAmb 20 03 44.7
comp=Z,29nm,0.9s
LCAR Lake Charles 66.22 21 P P 20 03 44.4 -0.3
LCAR IAmb IAmb 20 03 51.8
comp=Z,46nm,1.7s
KSCO Kaye Shedlock' 66.26 10 P P 20 03 45.3 +0.2
KSCO IAmb IAmb 20 03 57.5
comp=Z,32nm,1.0s
DUG Dugway, Tooele 66.48 2 P P 20 03 47.5 +1.0
baz=182,SNR=14
ISCO Idaho Springs 66.62 8 P P 20 03 47.7 +0.1
ISCO pmax pmax
comp=Z,14nm,1.4s
ISCO Idaho Springs 66.62 8 P P 20 03 49.1 +1.5
baz=189
ISCO Idaho Springs 66.62 8 P P 20 03 47.7 +0.1
O20A White River Ci 66.68 5 P P 20 03 48.6 +0.7
baz=186,SNR=6.6
O20A White River Ci 66.68 5 P P 20 03 48.2 +0.4
O20A IAmb IAmb 20 03 52.9
comp=Z,19nm,1.1s
GOGA Godfrey 66.71 28 P P 20 03 47.5 -0.4
baz=210,SNR=5.8
Y52A Lilburn 66.85 28 P P 20 03 48.4 -0.4
Y52A IAmb IAmb 20 03 50.2
comp=Z,17nm,1.0s
O02D Mt. Diablo Mer 66.86 353 P P 20 03 50.5 +1.7
baz=172,SNR=9.3
O03E Paynes Creek 66.88 354 P P 20 03 49.5 +0.6
baz=173,SNR=7.4
KMRM Mail Ridge 67.00 353 P P 20 03 51.3 +1.6
KMRM IAmb IAmb 20 03 53.1
comp=Z,30nm,0.9s
T42A Van Buren 67.12 20 P P 20 03 49.5 -0.9
T42A IAmb IAmb 20 03 51.7
comp=Z,17nm,0.8s
BGU Big Grassy Mou 67.21 1 P P 20 03 51.6 +0.5
WVT Waverly 67.39 23 P P 20 03 51.2 -1.0
WVT pmax pmax
comp=Z,19nm,0.9s
WVT Waverly 67.39 23 P P 20 03 51.4 -0.8
baz=206
WVT Waverly 67.39 23 P P 20 03 51.2 -1.0
WVT IAmb IAmb 20 03 53.1
comp=Z,19nm,0.8s
TCUT Toone Canyon 67.45 3 P P 20 03 52.6 -0.2
KSU1 Kansas State U 67.54 15 P P 20 03 53.8 +0.7
baz=198,SNR=10
KSU1 Kansas State U 67.54 15 P P 20 03 53.2 +0.2
SPUT South Promonto 67.61 2 P P 20 03 53.6 -0.1
N02D Trinity Center 67.64 354 P P 20 03 54.9 +1.2
baz=172,SNR=11
N23A Red Feather La 67.66 7 P P 20 03 54.8 +0.7
baz=188,SNR=9.3
Y55A Saluda 67.85 29 P P 20 03 54.5 -0.7
baz=212
CLTN Cedars of Leba 67.91 25 P P 20 03 54.7 -0.7
HODGE Hodges 67.93 29 P P 20 03 54.9 -0.7
R40A Maddies Statio 67.93 19 P P 20 03 55.1 -0.4
R40A IAmb IAmb 20 03 57.0
comp=Z,27nm,0.8s
CCM Cathedral Cave 68.02 20 P P 20 03 55.3 -0.8
CCM pmax pmax
comp=Z,21nm,0.8s
CCM Cathedral Cave 68.02 20 P P 20 03 55.9 -0.2
baz=203
CCM Cathedral Cave 68.02 20 P P 20 03 55.3 -0.8
CCM IAmb IAmb 20 03 57.5
comp=Z,21nm,0.8s
M02C Callahan 68.06 353 P P 20 03 57.8 +1.4
baz=172,SNR=12
TMAB Tom-Au,PA,Br 68.17 81 *eP* **P 20 03 56.8 -0.8**
RWWY Rawlins 68.31 6 P P 20 03 57.6 -0.6
RWWY IAmb IAmb 20 03 59.7
comp=Z,18nm,1.0s
MOD Modoc Plateau 68.35 356 P P 20 03 58.9 +0.6
MOD IAmb IAmb 20 04 01.1
comp=Z,21nm,0.8s
M04C Macdoel 68.36 354 P P 20 03 59.6 +1.3
baz=173,SNR=10
YBH Yreka Blue Hor 68.39 354 P P 20 03 58.5 +0.1
YBH pmax pmax
comp=Z,10.0nm,1.2s
YBH Yreka Blue Hor 68.39 354 P P 20 03 58.5 +0.1
X55A Gracelyn & Ava 68.40 29 P P 20 03 58.5 -0.1
baz=212
JSC Jenkinsville 68.40 29 P P 20 03 58.4 -0.2
JSC pmax pmax
comp=Z,5.0nm,0.9s
JSC Jenkinsville 68.40 29 P P 20 03 58.4 -0.2
T47A Sharon Grove 68.42 24 P P 20 03 58.0 -0.7
TKL Tuckaleechee C 68.52 27 P P 20 03 58.2 -1.1
comp=Z,6.7nm,0.9s,baz=179,slow=8.1,SNR=9.0
PAULI Pauline 68.62 29 P P 20 03 59.7 -0.2
PAULI IAmb IAmb 20 04 07.1
comp=Z,41nm,1.6s
X56A White Oak 68.68 30 P P 20 04 00.3 0.0
baz=212
W54A Cherokee Point 68.69 28 P P 20 03 59.6 -0.8
baz=211
WVOR Wild Horse Val 68.79 357 P P 20 04 00.8 -0.2
WVOR pmax pmax
comp=Z,40nm,1.3s
WVOR Wild Horse Val 68.79 357 P P 20 04 00.8 -0.2
WVOR IAmb IAmb 20 04 13.7
comp=Z,40nm,1.3s
L04D Klamath Falls 68.83 354 P P 20 04 01.7 +0.4
baz=173,SNR=8.1
L02E Cave Junction 68.90 353 P P 20 04 03.9 +2.4
baz=172
AHID Auburn Hatcher 69.11 3 P P 20 04 02.4 -0.7
AHID IAmb IAmb 20 04 13.2
comp=Z,23nm,1.4s
BW06 Boulder Array 69.20 4 P P 20 04 03.1 -0.6
baz=185
BW06 Boulder Array 69.20 4 P P 20 04 03.2 -0.5
BW06 IAmb IAmb 20 04 10.6
comp=Z,31nm,1.5s
PDAR Pinedale Array 69.20 4 P P 20 04 02.9 -0.8
comp=Z,4.9nm,0.8s,baz=205,slow=6.6,SNR=21
PDAR LR LR 20 29 13.3
comp=Z,408nm,20.0s,baz=200,slow=32
K05A Summer Lake 69.22 355 P P 20 04 04.5 +0.8
K22A Casper 69.33 7 P P 20 04 04.6 +0.2
baz=188,SNR=8.4
K22A Casper 69.33 7 P P 20 04 04.2 -0.3
V54A Nebo 69.38 28 P P 20 04 04.3 -0.3
baz=211,SNR=12
TZTN Tazewell 69.38 27 P P 20 04 04.4 -0.2
baz=210,SNR=6.3
TZTN Tazewell 69.38 27 P P 20 04 04.3 -0.4
TZTN IAmb IAmb 20 04 06.2
comp=Z,28nm,1.1s
BGNE Belgrade 69.41 13 P P 20 04 05.6 +0.9
baz=196
BGNE Belgrade 69.41 13 P P 20 04 04.5 -0.2
W56A Indian Trail 69.42 30 P P 20 04 04.4 -0.5
baz=212,SNR=5.3
K02D Willamette Mer 69.44 353 P P 20 04 06.1 +1.2
baz=172
N35A Tabor 69.45 15 P P 20 04 05.1 +0.1
X58A Rowland 69.50 31 P P 20 04 05.6 +0.2
baz=214
MFID Camas Ranch 69.68 359 P P 20 04 06.3 -0.2
MFID IAmb IAmb 20 04 10.4
comp=Z,43nm,1.8s
W57A Gilead 69.70 30 P P 20 04 06.3 -0.3
baz=213
V55A Taylorsville 69.75 29 P P 20 04 07.1 +0.2

baz=212,SNR=5.9
VNA3 Neumayer Olymp 69.77 161 P P 20 04 05.2 -1.5
J05D Fort Rock, OR 69.80 355 P P 20 04 08.3 +1.1
baz=174,SNR=15
WCI Wyandotte Cave 69.81 24 P P 20 04 06.3 -1.0
WCI pmax pmax
comp=Z,13nm,1.0s
WCI Wyandotte Cave 69.81 24 P P 20 04 06.6 -0.6
baz=207
WCI Wyandotte Cave 69.81 24 P P 20 04 06.3 -1.0
WCI Wyandotte Cave 69.81 24 P P 20 04 08.4 +0.9
baz=180,SNR=29
HLID Hailey 69.82 0 P P 20 04 07.9 +0.5
HLID IAmb IAmb 20 04 10.3
comp=Z,19nm,0.9s
W58A Raeford 69.93 31 P P 20 04 08.3 +0.2
baz=214,SNR=8.7
LOHW Long Hollow 69.98 3 P P 20 04 08.0 -0.5
V56A Mocksville 70.03 29 P P 20 04 08.9 +0.3
baz=212
T53A Wise 70.16 27 P P 20 04 09.2 -0.4
baz=210
I03D Drain, OR 70.40 353 P P 20 04 11.6 +0.9
baz=172
I04A Tendick Farm, 70.40 354 P P 20 04 11.4 +0.6
baz=173
V57A Coltrane Farms 70.41 30 P P 20 04 10.7 -0.3
baz=213,SNR=7.6
VNA1 Neumayer--Stat 70.43 160 P P 20 04 11.0 +0.3
FLWY Flagg Ranch 70.44 3 P P 20 04 11.6 +0.3
FLWY IAmb IAmb 20 04 13.4
comp=Z,23nm,0.9s
U56A King 70.53 29 P P 20 04 11.7 0.0
VNA2 Neumayer--Watz 70.57 161 P P 20 04 10.8 -0.9
R50A Paris 70.59 25 P P 20 04 11.0 -1.0
R50A IAmb IAmb 20 04 12.8
comp=Z,20nm,1.1s
T54A Tazewell 70.63 28 P P 20 04 11.2 -1.2
baz=211
V58A Windy Hill, Pi 70.63 30 P P 20 04 11.4 -0.9
baz=213
DZM Mont Dzumac 70.82 254 *e*LR LR 20 25 48.0
comp=Z,2μm,26.9s
I05D Terrebonne, OR 70.85 355 P P 20 04 14.7 +1.1
baz=174,SNR=5.8
HDIL Hopedale 70.91 20 P P 20 04 14.2 +0.3
baz=204,SNR=5.4
V59A Middlesex 71.00 31 P P 20 04 15.0 +0.4
baz=214
T55A Pulaski 71.01 28 P P 20 04 14.3 -0.3
baz=212
SCIA State Center 71.04 17 P P 20 04 15.6 +0.9
baz=200
SCIA State Center 71.04 17 P P 20 04 14.6 -0.1
RSSD Black Hills 71.07 8 P P 20 04 15.0 -0.1
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 71.07 8 P P 20 04 15.3 +0.2
baz=190
RSSD Black Hills 71.07 8 P P 20 04 14.9 -0.1
BLA Blacksburg 71.24 28 P P 20 04 15.5 -0.6
BLA pmax pmax
comp=Z,33nm,1.4s
BLA Blacksburg 71.24 28 P P 20 04 15.6 -0.6
baz=212
BLA Blacksburg 71.24 28 P P 20 04 15.5 -0.6
BLA IAmb IAmb 20 04 18.9
comp=Z,33nm,1.4s
U58A Oxford 71.38 30 P P 20 04 16.6 -0.2
baz=214
SFIN Lafayette 71.46 22 P P 20 04 18.5 +1.3
baz=206
P49A Miami Univ. Ec 71.54 24 P P 20 04 17.0 -0.8
baz=208
SNAA Sanae 71.54 162 P P 20 04 16.9 -0.6
SNAA pmax pmax
comp=Z,78nm,2.0s
SNAA Sanae 71.54 162 P P 20 04 16.9 -0.6
SNAA IAmb IAmb 20 04 23.5
comp=Z,78nm,2.0s
R53A Hurricane 71.56 27 P P 20 04 18.3 +0.4
baz=211
RLMT Red Lodge 71.56 4 P P 20 04 17.9 -0.1
baz=185,SNR=9.7
T57A Hurt 71.57 29 P P 20 04 17.3 -0.7
baz=213
S55A Lewisburg 71.68 28 P P 20 04 18.9 +0.2
baz=212
U59A Littleton 71.69 31 P P 20 04 18.2 -0.5
baz=214
G05D Wamic, OR 71.75 355 P P 20 04 19.8 +0.9
baz=174
T58A Grand View Acr 71.84 30 P P 20 04 19.0 -0.6
baz=214
BOZ Bozeman (W) 71.92 2 P P 20 04 20.5 +0.4
BOZ pmax pmax
comp=Z,20nm,1.5s
BOZ Bozeman (W) 71.92 2 P P 20 04 20.4 +0.4
baz=183,SNR=10
BOZ Bozeman (W) 71.92 2 P P 20 04 20.5 +0.4
ECSD EROS Data Cent 71.96 14 P P 20 04 20.0 -0.2
baz=197,SNR=17
ECSD EROS Data Cent 71.96 14 P P 20 04 19.9 -0.3
ECSD IAmb IAmb 20 04 21.7
comp=Z,21nm,1.1s
Q52A Bidwell 71.97 26 P P 20 04 20.3 -0.1
baz=210,SNR=9.8
S56A Natural Bridge 72.00 29 P P 20 04 20.3 -0.3
baz=213
SUSD Miller 72.18 12 P P 20 04 22.1 +0.6
baz=195
Q53A Leroy 72.18 27 P P 20 04 21.9 +0.3
baz=211
Q54A Coxs Mills 72.57 27 P P 20 04 23.7 -0.2
baz=212
P52A Corning 72.61 26 P P 20 04 24.3 +0.2
baz=210,SNR=6.1
S58A Poland Farm, P 72.61 30 P P 20 04 23.8 -0.4
baz=214
R56A Bull Pasture M 72.68 28 P P 20 04 25.1 +0.4
baz=213,SNR=7.8
P53A Whipple 72.77 27 P P 20 04 25.4 +0.2
baz=211
ACSO Alum Creek Sta 72.80 25 P P 20 04 26.1 +0.8
baz=210
L44A Lake County Fo 72.81 21 P P 20 04 26.1 +0.8
baz=205
E07A Sunnyside 72.96 356 P P 20 04 26.6 +0.4
E07A IAmb IAmb 20 04 30.3
comp=Z,23nm,1.3s
I37A Lemond, Waseca 72.97 16 P P 20 04 26.4 +0.2
R57A Stanardsville 72.97 29 P P 20 04 26.3 -0.1
baz=214
R58B Mineral 72.98 30 P P 20 04 27.1 +0.7
baz=214
MSO Missoula 73.09 1 P P 20 04 27.6 +0.6
baz=181,SNR=11
MSO Missoula 73.09 1 P P 20 04 27.1 +0.1
O52A Adamsville 73.14 26 P P 20 04 27.3 0.0
baz=210,SNR=8.5
E04D Cinebar 73.16 354 P P 20 04 28.4 +1.1
baz=173
R58A Rapidan 73.20 29 P P 20 04 27.3 -0.4
baz=214
P54A Burton 73.24 27 P P 20 04 28.4 +0.4
baz=212,SNR=12
Q56A Snyder Ridge, 73.30 28 P P 20 04 29.6 +1.2
baz=213
LAO LASA Array 73.36 6 P P 20 04 28.8 +0.3
baz=188,SNR=6.3
P55A Reedsville 73.43 28 P P 20 04 29.3 +0.3
baz=212,SNR=8.0
O53A New Philadelph 73.50 26 P P 20 04 29.7 +0.3
baz=211,SNR=6.4
MCWV Mont Chateau 73.55 27 P P 20 04 30.2 +0.4
baz=212,SNR=5.3
N51A Ashland 73.62 25 P P 20 04 30.7 +0.6
baz=210
Q57A Strasburg 73.63 29 P P 20 04 30.6 +0.4
baz=214
LTY Liberty 73.71 356 P P 20 04 30.8 +0.2
LTY IAmb IAmb 20 04 37.6
comp=Z,26nm,1.4s
N52A McGinn's Farm, 73.79 26 P P 20 04 31.5 +0.4
baz=210
P56A Dayton Farm, R 73.84 28 P P 20 04 31.9 +0.5
baz=213,SNR=6.6

Q58A	Fox Den Farm,	73.87	29	P	P	20 04 31.7	0.0
	baz=214						
E28A	Huff	73.95	10	P	P	20 04 32.2	+0.2
JTMT	Jette	74.01	0	P	P	20 04 32.3	-0.1
JTMT				IAmb	IAmb	20 04 34.6	
	comp=Z,23nm,0.9s						
N53A	Lisbon	74.12	26	P	P	20 04 33.5	+0.5
	baz=211						
D03D	Eldon	74.17	354	P	P	20 04 34.1	+0.9
	baz=172,SNR=7.2						
P57A	Homestead Farm	74.17	29	P	P	20 04 33.6	+0.2
	baz=214						
O55A	Ligonier	74.23	28	P	P	20 04 33.8	0.0
	baz=212						
SPMN	Marine on St.	74.25	16	P	P	20 04 33.9	+0.2
	baz=200						
AAM	Ann Arbor	74.35	23	P	P	20 04 34.5	+0.1
	baz=209						
EGMT	Eagleton	74.42	4	P	P	20 04 36.0	+1.3
	baz=185,SNR=7.5						
NEW	Newport	74.56	358	P	P	20 04 36.3	+0.8
	baz=178,SNR=9.6						
N54A	Moraine State	74.59	27	P	P	20 04 36.3	+0.5
	baz=212						
O56A	Blue Knob Stat	74.59	28	P	P	20 04 36.3	+0.4
	baz=213						
B05A	Bryant	74.81	355	P	P	20 04 37.9	+1.0
	baz=173						
N55A	Marion Center	74.85	27	P	P	20 04 37.5	+0.2
	baz=213						
G40A	Rib Lake	74.97	18	P	P	20 04 38.0	+0.1
G40A				IAmb	IAmb	20 04 40.0	
	comp=Z,27nm,1.0s						
P59A	Jarrettsville	74.97	30	P	P	20 04 38.2	+0.2
	baz=215						
M54A	Oil Creek Stat	75.18	27	P	P	20 04 39.2	0.0
	baz=212						
SSPA	Standing Stone	75.18	28	P	P	20 04 39.7	+0.5
	baz=214						
N56A	West Decatur	75.25	28	P	P	20 04 39.6	0.0
	baz=213						
A04D	Lummi Island	75.32	355	P	P	20 04 41.0	+1.2
	baz=173						
DGMT	Dagmar	75.34	7	P	P	20 04 40.9	+0.9
	baz=190						
DGMT	Dagmar	75.34	7	P	P	20 04 40.2	+0.2
O59A	Robesonia	75.65	30	P	P	20 04 41.4	-0.5
	baz=215						
M56A	Emporium	75.77	28	P	P	20 04 43.1	+0.5
	baz=213						
N58A	Sunbury	75.85	29	P	P	20 04 43.0	0.0
	baz=215						
O60A	Telford	76.00	30	P	P	20 04 44.3	+0.3
	baz=216						
COWI	Conover	76.02	18	P	P	20 04 43.6	-0.3
COWI				IAmb	IAmb	20 04 46.0	
	comp=Z,27nm,0.9s						
M57A	Sunshine Farm,	76.09	28	P	P	20 04 44.2	-0.2
	baz=214						
L55A	Hinsdale	76.25	27	P	P	20 04 45.5	+0.2
	baz=213						
N59A	State Game Lan	76.33	29	P	P	20 04 45.7	-0.1
	baz=215						
M58A	Price's Panora	76.40	29	P	P	20 04 46.3	0.0
	baz=215						
AGMN	Agassiz Nation	76.48	13	P	P	20 04 46.7	+0.3
	baz=197						
AGMN	Agassiz Nation	76.48	13	P	P	20 04 46.4	-0.1
AGMN				IAmb	IAmb	20 04 48.4	
	comp=Z,20nm,1.1s						
L56A	Greenwood	76.57	28	P	P	20 04 47.2	+0.1
	baz=214,SNR=7.5						
N60A	Cedar Hill Far	76.59	30	P	P	20 04 47.5	+0.2
	baz=216						
L57A	Andrews Acres	76.75	28	P	P	20 04 47.3	-0.9
	baz=214						
MMNY	Mt. Morris Dam	76.92	27	P	P	20 04 49.3	+0.2
MMNY				IAmb	IAmb	20 04 50.7	
	comp=Z,32nm,1.1s						
M59A	Waymart	76.98	29	P	P	20 04 50.2	+0.6
	baz=216						
EYMN	Ely	77.11	16	P	P	20 04 50.5	+0.4
	baz=201						
EYMN	Ely	77.11	16	P	P	20 04 49.6	-0.5
EYMN				IAmb	IAmb	20 04 51.8	
	comp=Z,19nm,0.9s						
L58A	Harry Jones Me	77.21	29	P	P	20 04 50.8	0.0
	baz=215,SNR=7.4						
BINY	Binghamton	77.28	29	P	P	20 04 51.0	-0.2
	baz=215,SNR=7.1						
BINY	Binghamton	77.28	29	P	P	20 04 50.7	-0.5
BINY				IAmb	IAmb	20 04 53.1	
	comp=Z,28nm,0.9s						
L59A	Walton	77.68	29	P	P	20 04 53.0	-0.4
	baz=216						
K58A	Earlville	77.89	28	P	P	20 04 54.4	-0.1
	baz=215						
E47A	Iron Bridge	78.13	22	P	P	20 04 55.9	+0.1
	baz=208						
SADO	Sadowa	78.14	25	P	P	20 04 56.1	+0.2
	comp=Z,9.6nm,0.9s,baz=202,slow=7.2,SNR=5.2						
H53A	Bobcaygeon	78.19	26	P	P	20 04 55.9	-0.3
	baz=213						
K59A	Cooperstown	78.24	29	P	P	20 04 56.1	-0.4
	baz=216						
I55A	Frankford	78.25	26	P	P	20 04 56.7	+0.3
	baz=213						
ULM	Lac du Bonnet	78.34	12	P	P	20 04 56.7	-0.1
	comp=Z,21nm,0.8s,baz=205,slow=6.0,SNR=12						
ULM				LR	LR	20 35 36.6	
	comp=Z,323nm,19.3s,baz=180,slow=33						
J58A	Remsen	78.53	28	P	P	20 04 57.9	-0.1
	baz=215						
H55A	Tweed	78.72	26	P	P	20 04 58.9	-0.1
	baz=214						
I58A	Old Forge	78.93	28	P	P	20 04 59.8	-0.5
	baz=216						
G54A	Lake Saint Pet	79.08	25	P	P	20 05 00.9	-0.1
	baz=213,SNR=5.6						
J60A	Lant Hill Farm	79.24	29	P	P	20 05 02.6	+0.6
	baz=217						
G55A	Calabogie	79.49	26	P	P	20 05 03.2	0.0
	baz=214						
I60A	Shoreham	79.77	29	P	P	20 05 05.3	+0.5
	baz=217,SNR=5.4						
LONY	Lake Ozonia	79.84	28	P	P	20 05 04.9	-0.4
	baz=216						
H58A	Gabriels	79.85	28	P	P	20 05 05.4	+0.1
	baz=216						
E53A	Dumoine, Ponti	80.06	25	P	P	20 05 06.3	0.0
	baz=213,SNR=5.7						
E54A	Lac Daplat, Po	80.29	25	P	P	20 05 07.6	0.0
	baz=214						
I61A	Oroboro, Fairl	80.32	30	P	P	20 05 08.2	+0.4
	baz=218						
H60A	Morristown	80.60	29	P	P	20 05 08.9	-0.4
	baz=217						
D53A	Lac Vacive, Po	80.63	25	P	P	20 05 09.5	+0.1
	baz=213						
I62A	Tamworth	80.67	30	P	P	20 05 10.5	+0.9
	baz=218						
G59A	Clarenceville	80.81	28	P	P	20 05 10.4	0.0
	baz=217,SNR=5.8						
DIB	Dawson Inlet,	80.95	349	P	P	20 05 11.3	+0.4
DIB				IAmb	IAmb	20 05 14.8	
	comp=Z,24nm,1.1s						
H02N1	VAN INLET T-PH	81.01	349	T	T	21 34 36.4	
	SNR=3.0						
D54A	Lac Fusel, La	81.09	25	P	P	20 05 11.2	-0.7
	baz=214						
I63A	Otisfield	81.14	31	P	P	20 05 13.0	+0.8
	baz=219						
CASY	Casey	81.21	197	P	P	20 05 12.4	0.0
CASY				IAmb	IAmb	20 05 19.5	
	comp=Z,63nm,2.0s						
H62A	Milan	81.29	30	P	P	20 05 13.4	+0.4
	baz=219						
D55A	Sainte-Anne-du	81.44	26	P	P	20 05 13.4	-0.3
	baz=215						
E57A	Chemin Saint G	81.47	27	P	P	20 05 13.8	-0.2
	baz=216						
F59A	Saint Guilaume	81.59	28	P	P	20 05 14.9	+0.5
	baz=217						
G61A	St-Isidore-de-	81.68	29	P	P	20 05 14.7	-0.4
	baz=218						
D56A	ZEC Mazanza, M	81.74	26	P	P	20 05 13.4	-1.9
	baz=216						
FFC	Flin Flon	81.75	7	P	P	20 05 16.3	+1.2
FFC				pmax	pmax		
	comp=Z,51nm,1.8s						
FFC	Flin Flon	81.75	7	P	P	20 05 16.3	+1.2
FFC				IAmb	IAmb	20 05 19.4	
	comp=Z,51nm,1.8s						
E58A	La Victoria	81.80	28	P	P	20 05 15.5	-0.1
	baz=217						
H63A	New Sharon	81.87	31	P	P	20 05 16.3	+0.4
	baz=219						
F60A	Warwick	82.04	29	P	P	20 05 16.9	+0.1
	baz=218						
D57A	Chemin Vers le	82.07	27	P	P	20 05 16.9	-0.1
	baz=216						
H64A	Troy	82.22	31	P	P	20 05 18.1	+0.2
	baz=220						
G63A	Kingsbury	82.40	30	P	P	20 05 18.8	0.0
	baz=220						
D58A	Chemin du LacG	82.54	27	P	P	20 05 19.5	0.0
	baz=217						
LSQQ	Lebel-sur-Quev	82.55	24	P	P	20 05 19.2	-0.3
	baz=214						
E60A	Ste Agathe de	82.57	29	P	P	20 05 19.2	-0.4
	baz=218						
G64A	Maxfield	82.90	31	P	P	20 05 22.1	+0.7
	baz=220						
F63A	Nahmakanta, Br	83.09	30	P	P	20 05 22.4	0.0
	baz=220						
F63A	Nahmakanta, Br	83.09	30	P	P	20 05 22.1	-0.2
F63A				IAmb	IAmb	20 05 24.4	
	comp=Z,31nm,0.9s						
F64A	Sherman	83.55	31	P	P	20 05 24.8	+0.1
	baz=221						
E62A	Clayton Lake	83.60	30	P	P	20 05 25.3	+0.3
	baz=220						
E63A	Oxbow	83.94	30	P	P	20 05 26.7	0.0
	baz=220						
D62A	Allapoint, All	84.17	29	P	P	20 05 27.8	-0.1
	baz=220						
CHGQ	Chibougamau	84.22	25	P	P	20 05 27.6	-0.5
	baz=216,SNR=5.3						
MAW	Mawson	86.06	179	LR	LR	20 39 47.1	
	comp=Z,1μm,20.3s,baz=184,slow=33						
STKA	Stephens Creek	86.84	236	LR	LR	20 38 38.2	
	comp=Z,1μm,19.0s,baz=82,slow=32						
H11S2	WAKE ISLAND Hy	88.33	292	T	T	21 43 39.8	
	baz=119,slow=75,SNR=75						
H11S1	WAKE ISLAND Hy	88.34	292	T	T	21 43 41.6	
	baz=119,slow=75,SNR=144						
H11S3	WAKE ISLAND Hy	88.34	292	T	T	21 43 41.2	
	baz=119,slow=75,SNR=39						
H11N3	WAKE ISLAND Hy	88.74	293	T	T	21 44 15.6	
	baz=115,slow=78,SNR=49						
H11N1	WAKE ISLAND Hy	88.76	293	T	T	21 44 18.5	
	baz=115,slow=78,SNR=78						
H11N2	WAKE ISLAND Hy	88.76	293	T	T	21 44 16.0	
	baz=115,slow=78,SNR=55						
YKA	Yellowknife Ar	88.79	0	P	P	20 05 50.0	-0.1
	comp=Z,7.4nm,0.8s,baz=180,slow=4.1,SNR=12						
YKA				LR	LR	20 41 03.2	
	comp=Z,478nm,18.2s,baz=0.0,slow=32						
SCHQ	Schefferville	90.95	25	LR	LR	20 45 03.3	
	comp=Z,678nm,18.8s,baz=251,slow=34						
BCAR	Beaver Creek A	91.91	348	P	P	20 06 04.1	-0.7
RSO	Redoubt South	92.12	342	P	P	20 06 05.9	-0.1
PMR	Palmer	92.16	344	P	P	20 06 05.7	-0.1
PMR				pmax	pmax		
	comp=Z,15nm,1.1s						
PMR	Palmer	92.16	344	P	P	20 06 05.7	-0.1
PMR				IAmb	IAmb	20 06 12.3	
	comp=Z,15nm,1.1s						
K27K	Chicken	92.84	348	P	P	20 06 08.7	-0.3
	baz=156						
SKT	Skwentna	93.08	344	P	P	20 06 09.7	-0.4
SCRK	Sand Creek	93.15	348	P	P	20 06 10.2	-0.4
	baz=154						
TRF	Thorofare Moun	94.03	345	P	P	20 06 14.5	-0.2
ILAR	Eielson Array	94.44	347	P	P	20 06 16.1	-0.2
	comp=Z,1.7nm,0.9s,baz=183,slow=4.8,SNR=17						
COLA	College	94.73	346	*i* P	P	20 06 17.8	+0.2
COLA				pmax	pmax		
	comp=Z,11nm,1.0s						
NEA2	Nenana	94.74	346	P	P	20 06 17.1	-0.7
	baz=150						
BPAW	Bear Paw Mtn.	94.75	345	P	P	20 06 17.1	-0.7
ASAR	Alice Springs	96.90	239	P	P	20 06 29.3	+0.5
	comp=Z,0.3nm,0.4s,baz=153,slow=1.4,SNR=4.3						
ASAR				LR	LR	20 45 46.8	
	comp=Z,2μm,19.3s,baz=105,slow=33						
ASAR	Alice Springs	96.90	239	P	P	20 06 28.4	-0.4
ASAR	Alice Springs	96.90	239	P	P	20 06 28.4	-0.4
COLD	Coldfoot	97.25	347	P	Pdif	20 06 29.7	+0.6
	baz=148						
TORD	Torodi Ar. Bea	119.33	89	PKP	PKPdf	20 11 46.3	-0.6
	comp=Z,1.4nm,0.9s,baz=283,slow=1.0,SNR=4.0						
TORD				PP	PP	20 13 07.0	-1.3
	comp=Z,2.2nm,1.0s,baz=256,slow=6.0,SNR=4.9						
ESDC	Sonseca Array	121.95	58	PKPdf	PKPdf	20 11 50.9	-0.5
TIXI	Tiksi	123.25	340	*i* PKIKP	PKiKP	20 11 55.1	+2.0
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KLR	Kul'dur	124.74	313	*i* PKIKP	PKPdf	20 11 56.2	-0.2
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YAK	Yakutsk	125.07	329	*i* PKIKP	PKPdf	20 11 56.9	+0.3
YAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MDJ	Mudanjiang	126.02	307	PKPdf	PKPdf	20 11 58.1	-0.9
TAM	Tamanrasset	126.08	80	PKiKP	PKPdf	20 11 58.9	-1.0
TAM	Tamanrasset	126.08	80		PKPdf	20 11 58.9	-1.0
KSRS	Korea Array	126.60	298	PKP	PKPdf	20 12 00.9	+0.6
	comp=Z,1.2nm,0.9s,baz=85,slow=1.5,SNR=5.1						
KSAR	Wonju Array Be	126.62	298	PKiKP	PKPdf	20 12 00.2	-0.1
KSAR	Wonju Array Be	126.62	298	PKPdf	PKPdf	20 12 00.2	-0.1
SNF	Seneffe	128.37	45	PKiKP	PKiKP	20 12 03.9	0.0
SNF				x	x	20 12 09.4	
NOA	NORSAR Array B	130.20	31	PKP	PKPdf	20 12 06.1	-0.3
	comp=Z,1.2nm,1.0s,baz=296,slow=2.1,SNR=3.8						
DAVA	Damuels	132.31	49	*e*PKPdf	PKPdf	20 12 11.6	+0.5
	comp=Z,6.8nm,1.4s						
DAVOX	Davos/Dischmat	132.36	50	PKP	PKPdf	20 12 11.9	+0.6
	comp=Z,1.5nm,0.6s,baz=226,slow=6.1,SNR=4.6						
FUORN	Ofenpass-Fuorn	132.64	50	PKPdf	PKPdf	20 12 11.0	-0.8
RETA	Reutte	132.89	49	*e*PKiKP	PKiKP	20 12 14.3	+1.1
	comp=Z,6.9nm,1.5s						
FETA	Feichten	132.92	49	*e*PKiKP	PKiKP	20 12 13.5	+0.1
	comp=Z,5.5nm,0.9s						
MOTA	Moosalm	133.14	49	*e*PKiKP	PKPdf	20 12 13.3	+0.7
	comp=Z,11nm,1.3s						
SQTA	Sankt Quirin	133.22	49	*e*PKiKP	PKiKP	20 12 13.7	-0.2
	comp=Z,5.8nm,0.8s						
NJ2	Nanjing	133.29	290	*e*PKP	PKPdf	20 12 13.5	+0.3
WATA	Walderalm	133.46	49	*e*PKiKP	PKiKP	20 12 14.8	+0.3
	comp=Z,7.1nm,1.1s						
WTTA	Wattenberg	133.50	49	*e*PKiKP	PKiKP	20 12 14.4	-0.2
	comp=Z,14nm,1.2s						
CLL	Collm	133.73	43	*e*PKPdf	PKPdf	20 12 12.0	-1.4
	comp=Z,45nm,2.4s						
CLL				*e*(PP)		20 14 53.0	
ABTA	Abfaltersbach	134.16	50	*e*PKiKP	PKiKP	20 12 15.7	-0.1
	comp=Z,3.9nm,1.2s						
BRG	Bergqiesshubel	134.40	44	*e*PKP	PKPdf	20 12 15.5	+0.9
	comp=Z,30nm,2.2s						
KHC	Kasperske Hory	134.51	46	*e*PKPDF	PKPdf	20 12 15.4	+0.4
KHC				*ep*PKP	sPKPdf	20 12 21.0	-0.2
KHC	Kasperske Hory	134.51	46	*e*PKiKP	PKPdf	20 12 15.4	+0.4
KHC				*e*		20 12 21.0	
KHC	Kasperske Hory	134.51	46		PKPdf	20 12 15.2	+0.2
GERES	GERESS Array B	134.64	47	PKP	PKPdf	20 12 15.7	+0.4
	comp=Z,0.4nm,0.7s,baz=0.0,slow=1.3,SNR=6.5						
GERES	GERESS Array B	134.64	47	PKIKP	PKPdf	20 12 15.2	-0.1
GERES	GERESS Array B	134.64	47		PKPdf	20 12 15.2	-0.1
KBA	Koelnbreinsper	134.69	49	*e*PKiKP	PKiKP	20 12 16.7	-0.3
	comp=Z,7.1nm,1.4s						
CHVC	Chvalec	135.78	44	*e*PKPDF	PKPdf	20 12 16.9	-0.4
OSTC	Ostas	135.88	44	*e*PKPDF	PKiKP	20 12 18.6	-0.5
SOKA	Soboth	135.89	49	*e*PKPdf	PKPdf	20 12 18.2	+0.5
	comp=Z,6.9nm,1.3s						
DPC	Dobruska-Polom	136.00	44	*e*PKPDF	PKPdf	20 12 18.4	+0.7
DPC				*ep*PKP	sPKPdf	20 12 25.1	+1.2
DPC	Dobruska-Polom	136.00	44	*e*PKIKP	PKPdf	20 12 18.4	+0.7
DPC				*e*		20 12 25.1	
ARSA	Arzberg	136.13	49	*e*PKPdf	PKPdf	20 12 18.4	+0.4
	comp=Z,5.9nm,1.3s						
CONA	Conrad Observa	136.23	48	*e*PKPdf	PKPdf	20 12 18.7	+0.4
	comp=Z,5.5nm,1.2s						
KRUC	Moravsky	136.34	46	*e*PKP	PKPdf	20 12 18.8	+0.5
KRLC	Kraliky	136.35	44	*e*PKPDF	PKiKP	20 12 19.7	-0.4
KRLC	Kraliky	136.35	44	*e*PKIKP	PKiKP	20 12 19.7	-0.4
VRAC	Vranov	136.41	45	PKP	PKPdf	20 12 18.9	+0.4
	comp=Z,2.7nm,0.9s,baz=318,slow=1.3,SNR=6.0						
VRAC	Vranov	136.41	45	*e*PKP	PKPdf	20 12 18.9	+0.4
FIA1	FINESS Array S	136.42	26	PKPdf	PKPdf	20 12 17.5	-0.6
FINES	FINESS Array B	136.42	26	PKP	PKPdf	20 12 17.4	-0.7
	comp=Z,1.8nm,0.8s,baz=126,slow=2.6,SNR=7.2						
FINES				PP	PP	20 14 58.4	-0.9
	comp=Z,3.6nm,1.1s,baz=292,slow=10,SNR=5.1						
MORC	Moravsky Berou	136.90	45	*e*PKP	PKPdf	20 12 19.9	+0.5
MORC	Moravsky Berou	136.90	45	PKIKP	PKPdf	20 12 19.1	-0.3
MORC	Moravsky Berou	136.90	45	PKPdf	PKPdf	20 12 19.1	-0.3
MODS	Modra-Piesok	137.06	47	*e*PKIKP	PKPdf	20 12 19.6	-0.1
MODS	Modra-Piesok	137.06	47	*e*PKP	PKPdf	20 12 19.6	-0.1
JAVC	Velka Javorina	137.21	46	*e*PKP	PKPdf	20 12 20.7	+0.7
VYHS	Vyhne	138.04	46	*e*PKIKP	PKPdf	20 12 22.4	+0.9
VYHS	Vyhne	138.04	46	*e*PKP	PKPdf	20 12 22.4	+0.9
VSU	Vasula	138.37	29	*e*P	PKPdf	20 12 21.8	0.0
PABE	Paberze	138.54	34	*e*P	PKPdf	20 12 22.3	+0.1
SUW	Suwalki	138.78	37	PKIKP	PKPdf	20 12 22.7	+0.1
SUW	Suwalki	138.78	37		PKPdf	20 12 22.7	+0.1
HHC	Hu-ho-hao-te	139.36	303	*e*PKP	PKiKP	20 12 26.3	-0.3
ISAL	Salakas	139.59	34	*e*P	PKPdf	20 12 23.9	-0.2
IIGN	Ignalina	139.75	34	*e*P	PKPdf	20 12 24.9	+0.5
IDID	Didziasalis	140.02	34	*e*P	PKiKP	20 12 26.5	-0.8
KOLS	Kolonicke sedl	140.11	44	*e*PKIKP	PKPdf	20 12 26.1	+0.8
KOLS	Kolonicke sedl	140.11	44	*e*PKP	PKPdf	20 12 26.1	+0.8
UZH	Uzhgorod	140.21	45	*e*PKHKP	PKPpre	20 12 18.0	
ULN	Ulaanbaatar	141.11	314	*i* PKIKP	PKPdf	20 12 28.1	+0.8
ULN	Ulaanbaatar	141.11	314	PKPdf	PKPdf	20 12 28.2	+0.8
SONM	Songino Array	141.54	314	PKhKP	PKPpre	20 12 23.5	
	comp=Z,2.8nm,0.8s,baz=126,slow=2.5,SNR=5.0						
KLMR	Klimovskoe	141.58	20	*e*PKIKP	PKPdf	20 12 26.9	-0.6
KLMR				*e*		20 15 30.4	
KLMR				pmax	pmax		
	comp=Z,26nm,1.5s						
KLMR	Klimovskoe	141.58	20	*e*PKPdf	PKPdf	20 12 26.9	-0.6
KLMR				AMP		20 12 39.6	
	comp=Z,26nm,1.5s						
KLMR				*e*PP	PP	20 15 30.4	-0.6
TLY	Talaya	141.73	321	*i* PKIKP	PKPdf	20 12 28.9	+0.7
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN	Xi'an	141.76	292	PKIKP	PKPdf	20 12 28.1	-0.7
XAN	Xi'an	141.76	292	PKPdf	PKPdf	20 12 28.1	-0.7
BURAR	Bucovina Array	142.40	45	⇓P	PKPdf	20 12 26.8	-2.8
BURAR	Bucovina Array	142.40	45	⇓PKIKP	PKPdf	20 12 26.8	-2.8
ZAK	Zakamensk	142.50	320	*e*PKHKP	PKPdf	20 12 25.4	-4.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
PRGR	Permogore	142.59	15	*e*PKHKP	PKPdf	20 12 24.2	-5.1
PRGR				pmax	pmax		
	comp=Z,12nm,1.0s						
ARR	Arges	142.70	49	⇑P	PKPdf	20 12 28.2	-2.0
GYA	Guiyang	143.01	279	PKP	PKPdf	20 12 30.3	-1.0
MLR	Muntele Rosu	143.55	49	PKhKP	PKPab	20 12 28.9	+0.8
	comp=Z,18nm,1.0s,baz=304,slow=0.9,SNR=14						
MLR	Muntele Rosu	143.55	49	⇓P	PKPbc	20 12 29.0	-0.1
MLR	Muntele Rosu	143.55	49	⇓PKIKP	PKPbc	20 12 29.0	-0.1
AKASG	Malin Array Be	143.57	39	PKhKP	PKPbc	20 12 28.6	-0.2
	comp=Z,0.8nm,0.3s,baz=286,slow=3.3,SNR=6.1						
VRI	Vrincioaia	143.95	48	⇑P	PKPbc	20 12 30.7	+0.6
VRI	Vrincioaia	143.95	48	⇑PKIKP	PKPbc	20 12 30.7	+0.6
SORM	Soroca	144.17	43	⇑P	PKPab	20 12 29.9	-0.3
SORM	Soroca	144.17	43	⇑PKIKP	PKPab	20 12 29.9	-0.3
SLVN	Son La	144.33	270	PKPdf	PKPdf	20 12 34.5	+0.8
IDI	Anoyia	144.57	66	⇓P	PKPdf	20 12 33.3	-0.4
IDI	Anoyia	144.57	66	PKPdf	PKPbc	20 12 32.6	+0.1
TUDR		144.66	48	⇑P	PKPbc	20 12 32.4	+0.1
OBN	Obninsk	144.70	28c	*i* PKIKP	PKPab	20 12 31.9	0.0
OBN				*e*		20 15 50.8	
OBN				*e*		20 19 35.0	
OBN				pmax	pmax		
	comp=Z,94nm,2.2s						
MOS	Moscow	144.71	27	*e*PKIKP	PKPab	20 12 31.1	-0.9
MOS				*e*		20 15 45.8	
MOS				pmax	pmax		
	comp=Z,64nm,1.9s						
MOS				pmax	pmax		
	comp=Z,500nm,4.0s						
AMRR	Amara	144.75	49	⇓P	PKPdf	20 12 33.8	+0.2
AMRR	Amara	144.75	49	⇓PKIKP	PKPdf	20 12 33.8	+0.2
MILM	Milestii Mici	144.93	45	⇑P	PKPab	20 12 32.8	-0.3
APE	Apeiranthos	144.95	63	⇑P	PKPab	20 12 33.5	-0.1
APE	Apeiranthos	144.95	63	⇑PKIKP	PKPab	20 12 33.5	-0.1
SANT	Santorini	144.96	64	⇑P	PKPab	20 12 33.6	0.0
SANT	Santorini	144.96	64	PKPdf	PKPab	20 12 32.6	-1.0
CFR	Carcaliu	145.11	48	⇑P	PKPbc	20 12 33.1	-0.6
CFR	Carcaliu	145.11	48	⇑PKIKP	PKPbc	20 12 33.1	-0.6
HARR	Harsova	145.13	49	⇑P	PKPab	20 12 34.2	+0.3
HARR	Harsova	145.13	49	⇑PKIKP	PKPab	20 12 34.2	+0.3
TLBR	Topalu	145.26	49	⇑P	PKPdf	20 12 35.0	+0.5
TOPG	Topolog	145.37	49	⇑P	PKPbc	20 12 34.6	0.0
TIRR	Tirgusor	145.53	49	⇓P	PKPdf	20 12 34.4	-0.6
TIRR	Tirgusor	145.53	49	⇓PKIKP	PKPdf	20 12 34.4	-0.6
TLCR		145.56	48	⇑P	PKPbc	20 12 35.4	+0.2
TLCR		145.56	48	⇑PKIKP	PKPbc	20 12 35.4	+0.2
PURM	Purcari	145.75	45	⇓P	PKPab	20 12 37.8	+1.7
LZH	Lanzhou	145.85	296	*e*PKPbc	PKPab	20 12 38.3	+1.

comp=Z,8.0nm,1.0s,baz=3.6,slow=0.9,SNR=21
KURK Kurchatov 153.83 340 PKIKP **PKPdf 20 12 48.0 +0.1**
KURK 20 12 55.2
KURK Kurchatov 153.83 340 PKPdf **PKPdf 20 12 48.4 +0.5**
KURBB Kurchatov Arra 153.94 340 PKP **PKPdf 20 12 48.0 0.0**
comp=Z,1.2nm,0.8s,baz=340,slow=0.8,SNR=7.0
KURBB PKPbc **PKPbc 20 12 55.2 -0.8**
comp=Z,6.6nm,0.9s,baz=22,slow=1.9,SNR=27
KIV Kislovodsk 154.89 41 *e*PKIKP **PKPdf 20 12 50.3 +0.5**
KIV pmax pmax
comp=Z,32nm,1.1s
WMQ Urumqi 154.97 319 *e*PKPbc PKPbc 20 12 53.1 -5.5
WMQ LR LR
comp=Z,250nm,28.9s
WMQ LR LR
comp=Z,500nm,29.3s
WMQ LR LR
comp=Z,140nm,21.1s
KBZ Khabaz 155.14 41 PKP **PKPdf 20 12 51.1 +1.1**
comp=Z,4.7nm,0.9s,baz=328,slow=1.4,SNR=7.3
KBZ PKPab **PKPab 20 13 15.9 +1.2**
comp=Z,7.8nm,0.9s,baz=281,slow=0.8,SNR=6.0
MK31 Makanchi Array 155.73 331 PKIKP **PKPdf 20 12 50.5 -0.2**
MK31 Makanchi Array 155.73 331 PKPdf **PKPdf 20 12 50.5 -0.2**
MKAR Makanchi Array 155.73 331 PKP **PKPdf 20 12 50.7 -0.1**
comp=Z,1.6nm,1.0s,baz=342,slow=0.4,SNR=6.9
MKAR PKPbc PKPbc 20 12 59.3
comp=Z,2.7nm,1.0s,baz=29,slow=2.8,SNR=9.3
MKAR Makanchi Array 155.73 331 PKIKP **PKPdf 20 12 50.5 -0.2**
MKAR Makanchi Array 155.73 331 PKPdf **PKPdf 20 12 50.5 -0.2**
ABKAR Akbulak array 157.02 9 PKPdf **PKPdf 20 12 52.2 0.0**
GEYT Alibeck 167.23 26 PKP **PKPdf 20 13 03.7 +0.7**
comp=Z,3.9nm,1.0s,baz=284,slow=1.2,SNR=9.0
GEYT Alibeck 167.23 26 PKPdf 20 13 03.5 +0.5

*IDC **06** 20:01:52.4±2.9, 14°.25N×93°.53W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.6/52, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=67.7km s-min=28.6km az=10.0*
*MEX **06** 20:01:54.8±0.7, 14°.23N×93°.69W, h9km±24km, MD4.3*
*NEIC **06** 20:01:57.2±1.5, 14°.3N±0°.1×93°.55W±0°.08, h36km±15km, Error ellipse: s-maj=21.0km s-min=11.3km az=188.0*
ISC 06 20:01:57.4±1.1, 14°.34N±0°.09×93°.64W±0°.05, h36km, n31, σ1§38/34, mb4.1/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**16**	*i* P	**Pn**	**20 02 18.2**	**-2.5**
PCIG				*i* S	**Sn**	**20 02 37.3**	**-0.8**
THIG		**1.44**	**67**	*i* P	**Pn**	**20 02 19.1**	**-2.0**
THIG				*i* S	**Sn**	**20 02 38.1**	**-0.6**
RTAL	**Retalhuleu**	**1.89**	**84**		**Pn**	**20 02 25.5**	**-1.7**
HUEH	**Huehuetenango**	**2.28**	**64**	Pn	**Pn**	**20 02 30.0**	**-2.8**
CCIG	**Comitan**	**2.42**	**37**	*i* P	**Pn**	**20 02 35.2**	**+0.6**
CCIG	**Comitan**	**2.42**	**37**	Pn	**Pn**	**20 02 34.6**	**0.0**
TGIG		**2.48**	**11**	*i* P	**Pn**	**20 02 34.6**	**-0.7**
TGIG				*e*S	**Sn**	**20 03 04.5**	**+0.1**
HUIG	**Huatulco**	**2.78**	**301**	*i* P	**Pn**	**20 02 36.8**	**-2.6**
CMIG	**Matias Romero**	**2.99**	**336**	*i* P	**Pn**	**20 02 40.5**	**-1.8**
CMIG				*i* S	**Sn**	**20 03 16.0**	**-1.0**
APG	**El Apazote**	**3.14**	**77**	Pn	**Pn**	**20 02 43.9**	**-0.8**
4.3nm,0.3s,baz=280,slow=8.2,SNR=59							
ESQI	**Esquipulas**	**4.17**	**86**	Pn	**Pn**	**20 02 57.8**	**-0.8**
PETF	**Flores**	**4.45**	**54**	Pn	**Pn**	**20 03 01.7**	**-0.6**
TLIG	**Tlapa**	**5.72**	**305**	Pn	**Pn**	**20 03 21.0**	**+0.9**
TEIG	**Tepich**	**7.78**	**40**	Pn	**Pn**	**20 03 46.0**	**-2.1**
2.8nm,0.3s,baz=95,slow=2.6,SNR=12							
TEIG	**Tepich**	**7.78**	**40**		**Pn**	**20 03 45.7**	**-2.5**
TX32	**Lajitas Array**	**17.57**	**330**		**P**	**20 06 00.6**	**+0.1**
TX32				IAmb	IAmb	20 06 11.4	
comp=Z,6.7nm,1.4s							
TXAR	**Lajitas Array**	**17.57**	**330**	P	**P**	**20 06 01.5**	**+1.0**
comp=Z,0.0nm,0.3s,baz=150,slow=9.3,SNR=5.1							
TXAR	**Lajitas Array**	**17.57**	**330**	P	**P**	**20 06 00.6**	**+0.1**
Z47A	**Carrollton**	**19.45**	**14**	P	**P**	**20 06 21.4**	**+0.5**
MNTX	**Cornudas Mount**	**20.36**	**330**		Pn	20 06 32.0	-1.1
FNO	**Franklin**	**21.11**	**351**	P	**P**	**20 06 39.0**	**+0.1**
MSTX	**Muleshoe**	**21.23**	**339**	P	**P**	**20 06 41.2**	**+0.8**
MSTX				IAmb	IAmb	20 06 54.7	
comp=Z,9.6nm,1.0s							
AMTX	**Amarillo**	**21.71**	**342**	P	**P**	**20 06 45.9**	**+0.4**
AMTX				IAmb	IAmb	20 06 49.5	
comp=Z,5.0nm,0.7s							
121A	**Cookes Peak, D**	**22.24**	**327**	P	**P**	**20 06 50.6**	**-0.7**
121A				IAmb	IAmb	20 06 56.0	
comp=Z,8.4nm,0.8s							
BNM	**Barren Site**	**22.97**	**331**	P	**P**	**20 06 58.6**	**-0.5**
PDAR	**Pinedale Array**	**31.48**	**337**	P	**P**	**20 08 17.3**	**+1.3**
comp=Z,0.3nm,0.7s,baz=142,slow=13,SNR=2.7							
NVAR	**Mina Array Bea**	**32.42**	**322**	P	**P**	**20 08 27.0**	**+2.6**
comp=Z,1.0nm,1.0s,baz=129,slow=8.2,SNR=4.1							
ILAR	**Eielson Array**	**61.91**	**337**	P	**P**	**20 12 13.3**	**+0.2**
comp=Z,0.7nm,0.9s,baz=134,slow=4.4,SNR=6.2							
NB2	**NORSAR Subarra**	**84.60**	**28**	P	**P**	**20 14 26.4**	**-0.6**
comp=Z,1.7nm,0.9s,baz=290,slow=5.1							
NOA	**NORSAR Array B**	**84.60**	**28**	P	**P**	**20 14 27.4**	**+0.3**
comp=Z,0.7nm,0.7s,baz=292,slow=4.8,SNR=6.1							
CMAR	**Chiang Mai Arr**	**145.13**	**339**	PKPbc	**PKPdf**	**20 21 31.8**	**-0.2**
comp=Z,0.4nm,0.4s,baz=332,slow=2.8,SNR=6.2							

IDC 06 20:14:04.2±2.1, 1°.51N×126°.29E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/42, mbtmp3.4/3, Error ellipse: s-maj=186.6km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.74**	**160**	P	P	20 19 07.7	-0.4
0.7nm,0.4s,baz=338,slow=11,SNR=22							
ASAR	**Alice Springs**	**26.10**	**164**	P	P	20 19 40.2	+0.2
0.2nm,0.7s,baz=346,slow=12,SNR=4.1							
MKAR	**Makanchi Array**	**59.13**	**326**	P	P	20 24 06.7	0.0
0.3nm,0.5s,baz=124,slow=8.1,SNR=4.9							

*IDC **06** 20:41:49.2±0.6, 17°.61S×172°.82W, h0km, mb4.5/17, mb1 4.7/17, mb1mx4.5/44, mbtmp4.5/17, MS4.3/8, Ms1 4.3/8, ms1mx3.9/36, Error ellipse: s-maj=22.4km s-min=14.0km az=141.0*
*NEIC **06** 20:41:49.1±0.9, 17°.9S±0°.1×172°.58W±0°.09, h10km±1km, mb4.8/84, Error ellipse: s-maj=19.3km s-min=13.7km az=21.0*
*BGR **06** 20:41:54.8±0.0, 17°.77S×172°.34W, h33km*
ISC 06 20:41:50.1±0.4, 17°.69S±0°.08×172°.74W±0°.10, h10km, n226, σ1§26/218, mb4.7/61, MS4.2/10, 2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.01**	**118**		Pn	20 42 32.2	-5.7
NIUE				Sn	Sn	20 43 02.8	-11
AFI	**Afiamalu**	**3.87**	**14**	Pn	Pn	20 42 42.8	-7.1
19nm,0.3s,baz=187,slow=1.7,SNR=17							
AFI				Sn	Sn	20 43 24.3	-11
28nm,0.3s,baz=307,slow=23,SNR=4.4							
AFI	**Afiamalu**	**3.87**	**14**		Pn	20 42 42.6	-7.2
MSVF	**Nonsavu**	**8.78**	**268**		Pn	20 44 03.5	+6.2
SANVU	**Saraoutou**	**19.35**	**274**	P	**Pn**	**20 46 16.6**	**-0.5**
SANVU				IAmb	IAmb	20 46 29.2	
comp=Z,102nm,1.4s							
DZM	**Mont Dzumac**	**20.05**	**254**	*e*P	Pn	20 46 27.7	+2.2
comp=Z,53nm,1.2s							
DZM	**Mont Dzumac**	**20.05**	**254**	LR	LR	20 53 04.2	
comp=Z,476nm,19.5s,baz=80,slow=34							
DZM	**Mont Dzumac**	**20.05**	**254**		**P**	**20 46 22.8**	**-0.9**
HAZ	**Te Kaha**	**21.66**	**201**	P	**P**	**20 46 44.2**	**+3.4**
PPT2	**Papeete2**	**22.07**	**93**	*e*LR	LR	20 51 51.8	
comp=Z,437nm,20.8s							
PPT	**Papeete**	**22.08**	**93**	LR	LR	20 53 50.5	
comp=Z,827nm,18.3s,baz=300,slow=33							
MKAZ	**Moumakai**	**22.09**	**206**	P	**P**	**20 46 49.2**	**+3.7**
MWZ	**Matawai**	**22.26**	**201**	P	**P**	**20 46 52.3**	**+4.9**
URZ	**Urewera**	**22.34**	**201**	P	**P**	**20 46 50.1**	**+2.0**
comp=Z,107nm,1.0s,baz=24,slow=4.3,SNR=18							
URZ	**Urewera**	**22.34**	**201**	P	**P**	**20 46 51.4**	**+3.3**
URZ				S	**S**	**20 50 51.6**	**-2.1**
TOZ	**Tahuroa Road**	**22.48**	**205**	P	**P**	**20 46 54.0**	**+4.3**
TBI	**Tubuai**	**22.50**	**108**	*e*LR	LR	20 52 07.4	
comp=Z,1μm,36.5s							
SNGZ	**Shannon Statio**	**22.73**	**200**	P	**P**	**20 46 56.6**	**+4.2**
MTHZ	**Maungataniwha**	**22.96**	**201**	P	**P**	**20 46 57.0**	**+2.2**
BKZ	**Black Stump Fm**	**23.36**	**201**	P	**P**	**20 47 03.1**	**+4.2**
BKZ	**Black Stump Fm**	**23.36**	**201**	P	**P**	**20 46 56.7**	**-2.2**
BKZ				IAmb	IAmb	20 47 13.4	
comp=Z,31nm,1.0s							
HIZ	**Hauiti**	**23.41**	**205**	P	**P**	**20 47 03.9**	**+4.6**
OTVZ	**Oturere**	**23.66**	**203**	P	**P**	**20 47 04.8**	**+2.9**
BHHZ	**Black Hill Sta**	**23.80**	**202**	P	**P**	**20 47 03.4**	**+0.1**
BHHZ				S	**S**	**20 51 19.5**	**+0.5**
MRZ	**Mangatainoka R**	**25.01**	**201**	P	**P**	**20 47 18.0**	**+3.7**
HNR	**Honiara**	**27.76**	**284**	LR	LR	20 56 58.3	
comp=Z,728nm,19.8s,baz=98,slow=33							
ARMA	**Armidale**	**34.77**	**242**	P	**P**	**20 48 40.3**	**-0.8**
ARMA				IAmb	IAmb	20 48 43.6	
comp=Z,14nm,1.1s							
KRVT	**Keravat (AS076**	**36.96**	**287**	LR	LR	21 02 35.4	
comp=Z,314nm,18.1s,baz=136,slow=34							
CTA	**Charters Tower**	**38.80**	**260**	P	**P**	**20 49 15.3**	**-0.2**
comp=Z,3.6nm,0.7s,baz=90,slow=8.5,SNR=5.3							
CTAO	**Charters Tower**	**38.80**	**260**	P	**P**	**20 49 15.2**	**-0.2**
CTAO				IAmb	IAmb	20 49 19.8	
comp=Z,28nm,1.4s							
TOO	**Toolangi**	**41.56**	**233**		**P**	**20 49 37.3**	**-0.8**
COEN	**Coen**	**42.51**	**268**	P	**P**	**20 49 44.8**	**-1.3**
COEN				IAmb	IAmb	20 49 48.4	
comp=Z,21nm,1.2s							
STKA	**Stephens Creek**	**43.49**	**242**	P	**P**	**20 49 53.4**	**-0.5**
comp=Z,6.0nm,0.9s,baz=180,slow=22,SNR=6.9							
STKA	**Stephens Creek**	**43.49**	**242**	P	**P**	**20 49 53.0**	**-0.9**
BBOO	**Buckleboo**	**48.25**	**242**	P	**P**	**20 50 30.6**	**-0.9**
BBOO				IAmb	IAmb	20 50 44.0	
comp=Z,14nm,0.9s							
WB2	**Warramunga Arr**	**49.97**	**259**	P	**P**	**20 50 43.3**	**-1.6**
WB2				IAmb	IAmb	20 50 57.2	
comp=Z,8.8nm,0.8s							
WRA	**Warramunga Arr**	**49.98**	**259**	P	**P**	**20 50 43.1**	**-1.8**
comp=Z,3.0nm,0.5s,baz=98,slow=7.3,SNR=84							
AS31	**Alice Springs**	**50.04**	**254**	P	**P**	**20 50 44.5**	**-0.9**
AS31				IAmb	IAmb	20 50 58.0	
comp=Z,7.4nm,0.9s							
ASAR	**Alice Springs**	**50.04**	**254**	P	**P**	**20 50 44.1**	**-1.3**
comp=Z,13nm,0.8s,baz=89,slow=8.6,SNR=262							
ASAR	**Alice Springs**	**50.04**	**254**	P	**P**	**20 50 44.3**	**-1.1**
MTN	**Manton Dam**	**54.20**	**267**	P	**P**	**20 51 15.4**	**-1.1**
MTN				IAmb	IAmb	20 51 21.0	
comp=Z,7.4nm,0.9s							
KNRA	**Kununurra**	**55.88**	**263**	P	**P**	**20 51 27.6**	**-0.9**
KNRA				IAmb	IAmb	20 51 29.3	
comp=Z,11nm,0.8s							
FITZ	**Fitzroy Crossi**	**58.38**	**259**	P	**P**	**20 51 46.1**	**-0.1**
comp=Z,1.2nm,0.6s,baz=225,slow=1.6,SNR=5.5							
FITZ	**Fitzroy Crossi**	**58.38**	**259**	P	**P**	**20 51 45.8**	**-0.4**
FITZ				IAmb	IAmb	20 52 01.0	
comp=Z,9.5nm,1.2s							
VNDA	**Vanda**	**61.18**	**186**	P	**P**	**20 52 07.0**	**+2.4**
comp=Z,1.6nm,1.0s,baz=353,slow=5.4,SNR=6.0							
VNDA	**Vanda**	**61.18**	**186**	P	**P**	**20 52 03.0**	**-1.5**
SOEI	**Soe**	**61.47**	**268**	P	**P**	**20 52 07.7**	**0.0**
MJAR	**Matsushiro Arr**	**71.09**	**320**	P	**P**	**20 53 08.9**	**+0.1**
comp=Z,3.7nm,1.0s,baz=156,slow=5.4,SNR=10							
MJAR	**Matsushiro Arr**	**71.09**	**320**	P	**P**	**20 53 07.9**	**-0.8**
MAJO	**Matsushiro**	**71.09**	**320**	P	**P**	**20 53 08.7**	**-0.1**
MAJO				IAmb	IAmb	20 53 20.5	
comp=Z,14nm,1.2s							
MAT	**Matsushiro**	**71.09**	**320**	P	**P**	**20 53 08.1**	**-0.7**
JAGI	**Jajag, Banyuwa**	**71.44**	**267**	P	**P**	**20 53 10.7**	**-0.7**
QSPA	**South Pole Qui**	**72.37**	**180**	P	**P**	**20 53 13.8**	**-2.4**
QSPA				IAmb	IAmb	20 53 19.8	
comp=Z,15nm,1.1s							
ISA	**Isabella, Lake**	**73.85**	**43**	P	**P**	**20 53 24.3**	**-1.1**
CMB	**Columbia Colle**	**74.07**	**41**	P	**P**	**20 53 25.7**	**-0.8**
AFDM	**Forest Hills D**	**74.28**	**40**	P	**P**	**20 53 27.1**	**-0.6**
MDPB	**Devils Postpil**	**74.64**	**42**	P	**P**	**20 53 29.3**	**-0.9**
MDPB				IAmb	IAmb	20 53 42.5	
comp=Z,7.6nm,0.9s							
WAKR	**Walker**	**74.94**	**41**	P	**P**	**20 53 30.8**	**-1.0**
WAKR				IAmb	IAmb	20 53 43.2	
comp=Z,8.8nm,1.3s							
PETK	**Petropavlovsk-**	**74.99**	**342**	P	**P**	**20 53 31.5**	**0.0**
comp=Z,3.9nm,0.9s,baz=146,slow=8.2,SNR=7.3							
PETK	**Petropavlovsk-**	**74.99**	**342**	P	**P**	**20 53 31.3**	**-0.2**
YBH	**Yreka Blue Hor**	**75.04**	**36**	P	**P**	**20 53 32.4**	**+0.3**
comp=Z,3.9nm,1.0s,baz=227,slow=2.7,SNR=9.0							
YBH	**Yreka Blue Hor**	**75.04**	**36**	P	**P**	**20 53 31.5**	**-0.6**
PNTR	**Pine Nut**	**75.20**	**40**	P	**P**	**20 53 32.5**	**-0.8**
PNTR				IAmb	IAmb	20 53 45.9	
comp=Z,9.2nm,1.0s							
VCNR	**Virginia City**	**75.30**	**40**	P	**P**	**20 53 33.1**	**-0.7**
VCNR				IAmb	IAmb	20 53 42.6	
comp=Z,6.3nm,0.6s							
RYN	**Ryan**	**75.59**	**41**	P	**P**	**20 53 34.9**	**-0.6**
RYN				IAmb	IAmb	20 53 38.2	
comp=Z,8.8nm,1.4s							
NVAR	**Mina Array Bea**	**75.61**	**41**	P	**P**	**20 53 36.0**	**+0.3**
comp=Z,4.0nm,0.9s,baz=225,slow=8.9,SNR=18							
NVAR	**Mina Array Bea**	**75.61**	**41**	P	**P**	**20 53 34.8**	**-0.8**
NV11	**Mina Array Sit**	**75.70**	**41**	P	**P**	**20 53 35.9**	**-0.2**
NV11				IAmb	IAmb	20 53 38.9	
comp=Z,9.3nm,1.1s							
PAHR	**Pah Rah Range**	**75.71**	**40**	P	**P**	**20 53 36.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**75.77**	**330**	P	**P**	**20 53 36.6**	**+0.6**
TPNV	**Topopah Spring**	**76.06**	**43**	P	**P**	**20 53 37.3**	**-1.0**
TPH	**Tonopah**	**76.08**	**42**	P	**P**	**20 53 37.8**	**-0.6**
KVN	**Kaiserville**	**76.11**	**41**	P	**P**	**20 53 37.6**	**-0.8**
KVN				IAmb	IAmb	20 53 53.5	
comp=Z,8.7nm,1.3s							
MOD	**Modoc Plateau**	**76.53**	**37**	P	**P**	**20 53 39.6**	**-1.1**
MOD				IAmb	IAmb	20 53 43.5	
comp=Z,6.2nm,1.1s							
K05A	**Summer Lake**	**76.71**	**37**	P	**P**	**20 53 41.4**	**-0.4**
PRN	**Pahroc Range**	**77.11**	**44**	P	**P**	**20 53 43.9**	**-0.2**
PRN				IAmb	IAmb	20 53 56.0	
comp=Z,12nm,1.4s							
R11A	**Troy Canyon, C**	**77.29**	**43**	P	**P**	**20 53 43.5**	**-1.7**
PINE	**Pine Mountain**	**77.37**	**36**	P	**P**	**20 53 44.9**	**-0.6**
WVOR	**Wild Horse Val**	**77.83**	**38**	P	**P**	**20 53 47.2**	**-0.8**
WVOR				IAmb	IAmb	20 54 03.2	
comp=Z,8.1nm,1.2s							
KSM	**Kuching**	**78.03**	**275**	P	**P**	**20 53 49.6**	**0.0**
KSRS	**Korea Array**	**78.23**	**316**	P	**P**	**20 53 52.0**	**+1.9**
comp=Z,9.1nm,1.2s,baz=128,slow=5.2,SNR=25							
KSAR	**Wonju Array Be**	**78.25**	**316**	P	**P**	**20 53 51.5**	**+1.2**
KS19	**Wonju Array Si**	**78.29**	**316**	P	**P**	**20 53 50.8**	**+0.3**
CCUT	**Cedar City**	**78.31**	**44**	P	**P**	**20 53 50.0**	**-0.9**
I07A	**Izee**	**78.36**	**36**	P	**P**	**20 53 49.6**	**-1.2**
U15A	**North Rim**	**78.42**	**46**	P	**P**	**20 53 50.6**	**-1.1**
U15A				IAmb	IAmb	20 54 03.7	
comp=Z,8.0nm,1.4s							
J08A	**Circle Bar Ran**	**78.49**	**37**	P	**P**	**20 53 51.1**	**-0.6**
J08A				IAmb	IAmb	20 53 54.3	
comp=Z,7.9nm,1.2s							
INCN	**Inchon**	**79.11**	**315**	P	**P**	**20 53 55.6**	**+0.6**
G08A	**Pilot Rock**	**79.41**	**35**	P	**P**	**20 53 56.6**	**-0.1**
G08A				IAmb	IAmb	20 53 59.2	
comp=Z,6.8nm,1.0s							
USRK	**Ussuriysk Ar.**	**79.58**	**323**	P	**P**	**20 53 58.5**	**+1.0**
comp=Z,1.8nm,0.9s,baz=104,slow=8.0,SNR=11							
USRK	**Ussuriysk Ar.**	**79.58**	**323**	P	**P**	**20 53 57.6**	**+0.2**
USA0B	**Ussuriysk Arra**	**79.58**	**323**	P	**P**	**20 53 57.8**	**+0.3**
MSU	**Marysvale**	**79.61**	**44**	P	**P**	**20 53 57.5**	**-0.6**
MFID	**Camas Ranch**	**80.07**	**38**	P	**P**	**20 53 59.3**	**-0.9**
TMUT	**Trail Mountain**	**80.67**	**44**	P	**P**	**20 54 02.6**	**-1.3**
GLI	**Glacier Island**	**80.97**	**12**	P	**P**	**20 54 05.3**	**+0.8**
GLI				IAmb	IAmb	20 54 24.1	
comp=Z,14nm,1.0s							
HLID	**Hailey**	**81.00**	**39**	P	**P**	**20 54 04.9**	**-0.4**
MNTX	**Cornudas Mount**	**81.09**	**53**	P	**P**	**20 54 05.2**	**-0.7**
B08A	**Colville Reser**	**81.14**	**33**	P	**P**	**20 54 05.0**	**-0.8**
MDJ	**Mudanjiang**	**81.21**	**322**	P	**P**	**20 54 06.9**	**+0.7**
MDJ				IAmb	IAmb	20 54 10.2	
comp=Z,16nm,1.2s							
PMR	**Palmer**	**81.23**	**11**	P	**P**	**20 54 05.3**	**-0.6**
PMR				IAmb	IAmb	20 54 08.1	
comp=Z,14nm,1.2s							
TX32	**Lajitas Array**	**81.36**	**56**	P	**P**	**20 54 06.5**	**-1.0**
TX32				IAmb	IAmb	20 54 09.4	
comp=Z,8.5nm,1.4s							
TXAR	**Lajitas Array**	**81.36**	**56**	P	**P**	**20 54 08.3**	**+0.8**
comp=Z,2.4nm,1.0s,baz=218,slow=7.4,SNR=13							
TXAR				LR	LR	21 23 50.5	
comp=Z,138nm,18.8s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**81.36**	**56**	P	**P**	**20 54 07.6**	**+0.1**
TTA	**Tatalina**	**81.42**	**8**	P	**P**	**20 54 07.0**	**0.0**
TTA				IAmb	IAmb	20 54 18.6	
comp=Z,9.0nm,1.2s							
GHO	**Glory Hole Cre**	**81.43**	**11**	P	**P**	**20 54 07.2**	**+0.1**
GHO				IAmb	IAmb	20 54 08.8	
comp=Z,15nm,1.2s							
BELA	**Belgrano 2**	**81.66**	**172**	P	**P**	**20 54 07.6**	**-0.5**
ANMO	**Albuquerque**	**81.79**	**49**	P	**P**	**20 54 10.4**	**+0.7**
comp=Z,0.3nm,1.0s,baz=15,slow=6.1,SNR=7.8							
ANMO	**Albuquerque**	**81.79**	**49**	P	**P**	**20 54 09.3**	**-0.4**
ANMO				IAmb	IAmb	20 54 12.8	
comp=Z,5.8nm,1.1s							
SCM	**Sheep Creek Mo**	**81.79**	**12**	P	**P**	**20 54 08.9**	**-0.1**
SCM				IAmb	IAmb	20 54 15.2	
comp=Z,15nm,1.0s							
NJ2	**Nanjing**	**82.04**	**307**	*e*P	**P**	**20 54 12.7**	**+1.8**
NJ2				pmax	pmax		
comp=Z,6.0nm,0.5s							
MCMT	**McKenzie Canyo**	**82.64**	**38**	P	**P**	**20 54 13.6**	**-0.4**
PD31	**Pinedale Array**	**83.55**	**41**	P	**P**	**20 54 17.8**	**-1.0**
PDAR	**Pinedale Array**	**83.55**	**41**	P	**P**	**20 54 18.6**	**-0.2**
comp=Z,3.5nm,1.0s,baz=205,slow=3.1,SNR=11							
PDAR				LR	LR	21 27 36.3	
comp=Z,145nm,18.5s,baz=342,slow=33							
BOZ	**Bozeman (W)**	**83.78**	**38**	P	**P**	**20 54 18.4**	**-1.4**
BOZ				IAmb	IAmb	20 54 31.2	
comp=Z,5.8nm,1.1s							
BCAR	**Beaver Creek A**	**84.06**	**14**	P	**P**	**20 54 20.9**	**+0.2**
WRH	**Wood River Hil**	**84.07**	**10**	P	**P**	**20 54 20.4**	**-0.2**
CCB	**Clear Creek Bu**	**84.28**	**11**	P	**P**	**20 54 20.9**	**-0.8**
CCB				IAmb	IAmb	20 54 23.8	
comp=Z,12nm,1.1s							
MDM	**Murphy Dome**	**84.50**	**10**	P	**P**	**20 54 22.4**	**-0.4**
IL31		**84.56**	**11**	P	**P**	**20 54 22.3**	**-0.8**
IL31				IAmb	IAmb	20 54 29.3	
comp=Z,6.4nm,1.1s							
ILAR	**Eielson Array**	**84.56**	**11**	P	**P**	**20 54 22.0**	**-1.1**
comp=Z,1.8nm,1.0s,baz=217,slow=6.1,SNR=11							
ILAR	**Eielson Array**	**84.56**	**11**	P	**P**	**20 54 21.9**	**-1.2**
IMAR	**Indian Mountai**	**84.64**	**8**	P	**P**	**20 54 22.9**	**-0.6**
WHN	**Wuhan**	**84.89**	**304**	P	**P**	**20 54 29.3**	**+3.7**
TIA	**Tai'an**	**85.16**	**310**	P	**P**	**20 54 28.7**	**+1.9**
TIA				pmax	pmax		
comp=Z,5.0nm,1.0s							
AMTX	**Amarillo**	**85.27**	**51**	P	**P**	**20 54 26.5**	**-1.0**
AMTX				IAmb	IAmb	20 54 42.5	
comp=Z,9.6nm,1.0s							
DAWY	**Dawson**	**85.47**	**14**	P	**P**	**20 54 27.5**	**-0.3**
COLD	**Coldfoot**	**86.30**	**9**	P	**P**	**20 54 31.9**	**+0.1**
COLD				IAmb	IAmb	20 54 35.2	
comp=Z,5.8nm,1.1s							
BMAR	**Burnt Mountain**	**87.37**	**11**	P	**P**	**20 54 37.5**	**+0.5**
BJT	**Baijiatuau**	**87.49**	**313**	P	**P**	**20 54 39.4**	**+1.2**
BJI	**Beijing**	**87.49**	**313**	P	**P**	**20 54 40.0**	**+1.8**
BJI				pmax	pmax		
comp=Z,14nm,1.7s							
IPM	**Ipoh**	**87.77**	**275**	P	**P**	**20 54 39.5**	**-0.6**
HKT	**Hockley**	**87.85**	**58**	P	**P**	**20 54 38.8**	**-1.3**
ENH	**Enshi**	**88.67**	**302**	P	**P**	**20 54 44.4**	**+0.3**
RPSI	**Rantau Prapat**	**89.22**	**273**	P	**P**	**20 54 47.2**	**+0.1**
HIA	**Hailar**	**89.39**	**323**	P	**P**	**20 54 47.3**	**+0.3**
GYA	**Guiyang**	**89.67**	**298**	||P	**P**	**20 54 51.5**	**+2.5**
GYA				sP	pwP	20 55 02.6	+5.7
GYA				pmax	pmax		
comp=Z,9.0nm,1.2s							
SLVN	**Son La**	**90.36**	**292**	P	**P**	**20 54 51.4**	**-0.9**
XAN	**Xi'an**	**90.47**	**306**	P	**P**	**20 54 53.9**	**+1.4**
XAN				sP	pwP	20 55 04.8	+4.4
XAN				pmax	pmax		
comp=Z,9.0nm,1.9s							
XAN	**Xi'an**	**90.47**	**306**	P	**P**	**20 54 51.7**	**-0.8**
HHC	**Hu-ho-hao-te**	**91.04**	**313**	*e*P	**P**	**20 54 56.2**	**+1.2**
HHC				pmax	pmax		
comp=Z,19nm,1.0s							
HHC				pmax	pmax		
comp=Z,150nm,4.3s							
KMI	**Kunming**	**92.58**	**295**	||P	**P**	**20 55 06.0**	**+3.3**
KMI				pP	pwP	20 55 10.6	0.0
KMI				sP	sP	20 55 13.3	+8.2
KMI				pmax	pmax		
comp=Z,12nm,1.1s							
CMAR	**Chiang Mai Arr**	**93.93**	**288**	P	**P**	**20 55 10

BCLA	**Clavier**	**147.31**	**2**	PKiKP	**PKPbc**	**21 01 34.0**	**+0.2**
BCLA				pPKP	**pPKPab**	**21 01 36.8**	**-0.4**
BCLA				pPKPab	**sPKPab**	**21 01 40.9**	**+3.1**
BGES	**Gesves**	**147.33**	**3**	PKPbc	**PKPdf**	**21 01 32.3**	**+0.7**
BGES				x	x	21 01 47.3	
BHOU	**Houvegnez**	**147.40**	**1**	PKiKP	**PKPbc**	**21 01 34.3**	**+0.1**
BHOU				x	x	21 01 46.6	
BMRD	**Maredsous**	**147.40**	**3**	PKiKP	**PKPbc**	**21 01 34.0**	**-0.1**
MANZ	**Manzenberg**	**147.54**	**354**	*e*PKPbc	**PKPbc**	**21 01 34.3**	**-0.3**
	baz=6.4,slow=2.8						
VRAC	**Vranov**	**147.56**	**349**	*e*PKP	**PKPab**	**21 01 35.9**	**-0.8**
DOU	**Dourbes**	**147.60**	**3**	PKiKP	**PKPbc**	**21 01 35.1**	**+0.4**
PBCC	**Pribram**	**147.62**	**352**	*e*PKP	**PKPbc**	**21 01 35.4**	**+0.6**
ROTZ	**Rotzenmuhle**	**147.75**	**354**	*e*PKPbc	**PKiKP**	**21 01 35.9**	**-1.2**
	baz=6.4,slow=2.8						
JAVC	**Velka Javorina**	**147.78**	**347**	*e*PKP	**PKiKP**	**21 01 36.5**	**-0.8**
KRUC	**Moravsky**	**147.84**	**349**	*e*PKP	**PKPbc**	**21 01 35.5**	**+0.1**
VYHS	**Vyhne**	**147.86**	**345**	*e*PKP	**PKPbc**	**21 01 35.7**	**+0.2**
WLF	**Walferdange**	**148.09**	**1**	PKiKP	**PKPab**	**21 01 38.7**	**-0.1**
WLF	**Walferdange**	**148.09**	**1**	*e*PKPbc	**PKiKP**	**21 01 37.9**	**+0.1**
	baz=6.4,slow=2.8						
KHC	**Kasperske Hory**	**148.22**	**352**	*e*PKP	**PKiKP**	**21 01 37.7**	**-0.5**
KHC				*ex*	x	21 01 50.2	
BRTR	**Keskin Array B**	**148.31**	**319**	PKPbc	**PKPbc**	**21 01 37.4**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=323,slow=0.6,SNR=7.9						
BRTR	**Keskin Array B**	**148.31**	**319**		**PKPbc**	**21 01 36.6**	**-0.6**
MODS	**Modra-Piesok**	**148.32**	**347**	*e*PKP	**PKiKP**	**21 01 37.9**	**-0.5**
GEC2	**GERESS Array S**	**148.48**	**352**	*e*PKPbc	**PKiKP**	**21 01 37.9**	**-0.9**
	baz=6.4,slow=2.8						
GERES	**GERESS Array B**	**148.48**	**352**	PKPbc	**PKiKP**	**21 01 38.1**	**-0.7**
	comp=Z,5.4nm,1.0s,baz=36,slow=2.5,SNR=25						
GERES	**GERESS Array B**	**148.48**	**352**		**PKPbc**	**21 01 37.6**	**+0.3**
CONA	**Conrad Observa**	**149.03**	**349**	*e*PKiKP	**PKiKP**	**21 01 39.7**	**-0.3**
	comp=Z,17nm,1.2s,SNR=9.5						
MOA	**Molln**	**149.38**	**351**	*e*PKiKP	**PKiKP**	**21 01 40.5**	**-0.1**
	comp=Z,5.8nm,1.1s						
RJOB	**Jochberg**	**149.69**	**353**	*e*PKPbc	**PKPbc**	**21 01 40.1**	**-0.2**
	baz=6.4,slow=2.8						
ARSA	**Arzberg**	**149.74**	**349**	*e*PKiKP	**PKiKP**	**21 01 40.6**	**-0.8**
	comp=Z,7.0nm,1.1s						
UBR	**Ueberruh**	**150.00**	**356**	*e*PKPbc	**PKiKP**	**21 01 42.0**	**+0.1**
	baz=6.4,slow=2.8						
RETA	**Reutte**	**150.14**	**355**	*e*PKiKP	**PKPbc**	**21 01 41.4**	**0.0**
	comp=Z,9.7nm,1.1s						
WATA	**Walderalm**	**150.22**	**354**	*e*PKiKP	**PKPbc**	**21 01 41.7**	**0.0**
	comp=Z,11nm,1.1s,SNR=5.6						
MOTA	**Moosalm**	**150.25**	**355**	*e*PKiKP	**PKiKP**	**21 01 42.2**	**-0.4**
	comp=Z,15nm,1.1s,SNR=7.9						
KBA	**Koelnbreinsper**	**150.26**	**352**	*e*PKiKP	**PKPbc**	**21 01 41.4**	**-0.4**
	comp=Z,5.7nm,1.0s						
WTTA	**Wattenberg**	**150.28**	**354**	*e*PKiKP	**PKiKP**	**21 01 42.5**	**-0.2**
	comp=Z,15nm,1.1s,SNR=7.3						
SQTA	**Sankt Quirin**	**150.37**	**355**	*e*pPKPbc	**PKiKP**	**21 01 43.3**	**+0.5**
	comp=Z,9.7nm,1.0s						
SOKA	**Soboth**	**150.38**	**349**	*e*PKiKP	**PKiKP**	**21 01 42.9**	**+0.1**
	comp=Z,11nm,1.4s						
DAVA	**Damuels**	**150.40**	**356**	*e*pPKPbc	**PKiKP**	**21 01 43.7**	**+0.7**
	comp=Z,13nm,1.1s						
FETA	**Feichten**	**150.61**	**355**	*e*pPKPbc	**PKiKP**	**21 01 44.0**	**+0.7**
	comp=Z,12nm,1.0s,SNR=8.3						
MYKA	**Terra Mystica**	**150.66**	**351**	*i* PKiKP	**PKPbc**	**21 01 42.4**	**-0.3**
	comp=Z,7.7nm,1.0s						
ABTA	**Abfaltersbach**	**150.70**	**353**	*e*PKiKP	**PKPbc**	**21 01 42.7**	**-0.1**
	comp=Z,16nm,1.0s,SNR=9.2						
TORD	**Torodi Ar. Bea**	**172.99**	**129**	PKPab	**PKPab**	**21 03 27.8**	**+0.5**
	comp=Z,2.9nm,1.0s,baz=251,slow=4.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**172.99**	**129**	PKPab	**PKPab**	**21 03 27.0**	**-0.3**

IDC 06 21:06:22.6±10.0, 22°18S×171°70W, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.9/30, mbtmp4.3/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/34, Error ellipse: s-maj=202.1km s-min=125.9km az=46.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.00**	**217**	LR	LR	21 11 56.5	
	comp=Z,189nm,20.3s,baz=215,slow=37						
DZM	**Mont Dzumac**	**20.25**	**266**	P	P	21 11 00.5	+0.7
	2.8nm,0.5s,baz=89,slow=17,SNR=5.7						
CTA	**Charters Tower**	**39.19**	**265**	P	P	21 13 52.5	-0.2
	6.4nm,0.4s,baz=90,slow=11,SNR=15						
STKA	**Stephens Creek**	**42.44**	**247**	P	P	21 14 18.2	-1.1
	1.0nm,0.5s,baz=98,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**49.87**	**257**	P	P	21 15 17.9	-0.1
	1.1nm,0.5s,baz=95,slow=6.9,SNR=27						
WRA	**Warramunga Arr**	**50.19**	**262**	P	P	21 15 20.9	+0.4
	2.7nm,0.5s,baz=98,slow=8.0,SNR=49						

*BGR **06** 21:34:15.2±0.0, 34°79N×54°69E, h10km, mb4.2*
*TEH **06** 21:34:19.9, 36°67N×54°76E, h10km, ML4.8*
*IDC **06** 21:34:19.1±0.6, 36°58N×54°81E, h0km, mb4.2/27, mb1 4.3/34, mb1mx4.2/55, mbtmp4.3/34, ML4.0/7, MS3.8/8, Ms1 3.8/8, ms1mx3.3/49, Error ellipse: s-maj=13.0km s-min=9.9km az=173.0*
*NEIC **06** 21:34:20.2±2.2, 36°73N×0°07×54°88E×0°07, h10km±1km, mb4.5/100, mb_Lg4.8(TEH), Error ellipse: s-maj=11.9km s-min=9.8km az=189.0*
*MOS **06** 21:34:21.6±1.4, 36°76N×54°90E, h30km, mb4.7/11, Error ellipse: s-maj=5.8km s-min=4.3km az=128.5*
*DSN **06** 21:34:22.0±0.8, 36°52N×55°12E, h10km, mb4.3/1, Error ellipse: s-maj=11.4km s-min=8.0km az=112.0*
*THR **06** 21:34:22.1±0.6, 36°55N×54°78E, h16km±8km, ML4.7*
*NNC **06** 21:34:28.9±12.0, 37°39N×55°08E, h11km±66km, mb4.8, Error ellipse: s-maj=70.2km s-min=56.6km az=46.0*

ISC 06 21:34:20.2±0.6, 36°76N±0°04×54°87E±0°03, h11km±3km, h11km:pP-P, n451, σ2º13/461, mb4.4/113, 27C-12D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.66**	**41**	*e*Pg	**Pb**	**21 34 34.1**	**+0.4**
IGLO	**Ghaloghah**	**0.87**	**253**	*e*Pg	**Pg**	**21 34 34.4**	**-2.7**
IGLO				*e*		21 34 58.8	
SHRO	**Shahrood**	**1.20**	**129**	*e*Pg	**Pg**	**21 34 43.3**	**-0.1**
SHRO	**Shahrood**	**1.20**	**129**	*e*Pg	**Pg**	**21 34 43.3**	**-0.1**
IANJ	**Anjilo**	**1.50**	**211**	*e*Pg	**Pn**	**21 34 46.9**	**-0.4**
IANJ				*e*		21 35 06.4	
ISHM	**Shahmirzad**	**1.59**	**234**	*e*Pg	**Pn**	**21 34 47.5**	**-1.0**
ISHM				*e*		21 35 13.5	
IALA	**Alasht**	**1.79**	**248**	*e*Pg	**Pn**	**21 34 51.7**	**+0.4**
IALA				*e*		21 35 37.1	
IFIR	**Firoozkooh**	**2.04**	**237**	*e*Pn	**Pn**	**21 34 55.3**	**+0.6**
IFIR				*e*		21 35 27.7	
ILAS	**Lasjerd**	**2.07**	**229**	*e*Pn	**Pn**	**21 34 56.0**	**+0.9**
IPRN	**Peran**	**2.10**	**256**	*e*Pn	**Pn**	**21 34 56.5**	**+1.1**
IPRN				*e*		21 35 28.0	
SBZV	**Sabzevar**	**2.24**	**99**	*e*Pn	**Pb**	**21 35 00.6**	**-0.2**
ISFR	**Sfrayin**	**2.53**	**82**	*e*Pn	**Pb**	**21 35 05.4**	**-0.4**
ISFR				*e*		21 35 50.9	
IDMV	**Damavand**	**2.58**	**244**	*e*Pn	**Pn**	**21 35 03.2**	**+1.0**
IDMV				*e*		21 35 56.4	
DAMV	**Damavand**	**2.60**	**245**	*e*Pn	**Pn**	**21 35 04.0**	**+1.6**
DAMV				IAML		21 35 42.7	
	comp=E,3μm,0.6s						
DAMV	**Damavand**	**2.60**	**245**	*e*Pn	**Pn**	**21 35 04.0**	**+1.6**
GEYT	**Alibeck**	**2.84**	**65**	Pn	**Pb**	**21 35 09.2**	**-1.7**
	comp=E,49nm,0.3s,baz=250,slow=14,SNR=746						
GEYT				LR	LR	21 36 43.4	
	comp=E,2μm,19.7s,baz=320,slow=49						
GEYT	**Alibeck**	**2.84**	**65**	Pn	**Pb**	**21 35 08.7**	**-2.2**
GYA0B	**ALIBECK ARRAY**	**2.84**	**65**	⇓Pn	**Pb**	**21 35 09.6**	**-1.4**
GYA0B				⇓Lg	Lg	21 35 47.9	
GYA0B	**ALIBECK ARRAY**	**2.84**	**65**	Pn	**Pb**	**21 35 09.4**	**-1.6**
IKRD	**Kardeh**	**2.93**	**89**	*e*Pn	Pg	21 35 22.3	+5.9
IKRD				*e*		21 36 38.1	
ASHT	**Ashkhabad**	**3.04**	**66**	P	**Pb**	**21 35 11.8**	**-2.6**
ASHT	**Ashkhabad**	**3.04**	**66**		**Pb**	**21 35 11.8**	**-2.6**
IEMG	**Emamgholi**	**3.10**	**77**	*e*Pn	**Pb**	**21 35 13.4**	**-2.1**
IAKL	**Akhelmad**	**3.13**	**92**	*e*Pn	**Pb**	**21 35 13.0**	**-3.1**
IAKL				*e*		21 36 11.8	
TNSJ	**Nastanj**	**3.13**	**152**	*e*Pn	**Pn**	**21 35 10.6**	**+1.0**
TNSJ				*e*		21 36 08.3	
CHTH	**Charan**	**3.14**	**255**	*e*Pn	**Pn**	**21 35 11.6**	**+1.8**
CHTH	**Charan**	**3.14**	**255**	*e*Pn	**Pn**	**21 35 11.6**	**+1.8**
IHSB	**Hasanabad**	**3.19**	**247**	*e*Pn	**Pn**	**21 35 10.9**	**+0.5**
IHSB				*e*		21 35 26.3	
IPAY	**Payeh**	**3.34**	**94**	*e*Pn	**Pn**	**21 35 15.5**	**+2.9**
IPAY				*e*		21 36 08.1	
QALM	**Alamut, Qazvin**	**3.41**	**266**	*e*Pn	**Pn**	**21 35 14.6**	**+1.0**
IMHD	**Mahdasht**	**3.56**	**254**	*e*Pn	**Pn**	**21 35 16.0**	**+0.5**
IMHD				*e*		21 35 26.8	
KRSH	**Karshahi**	**3.57**	**219**	*e*Pn	**Pn**	**21 35 15.6**	**-0.1**
TABS	**Tabas**	**3.61**	**149**	*e*Pn	**Pn**	**21 35 18.0**	**+1.8**
TABS	**Tabas**	**3.61**	**149**	*e*Pn	**Pn**	**21 35 18.0**	**+1.8**
TKDS	**Koohdasht(Taba**	**3.64**	**149**	*e*Pn	**Pn**	**21 35 18.2**	**+1.5**
TKDS				*e*		21 36 25.8	
IMOG	**Moghan**	**3.67**	**99**	*e*Pn	**Pn**	**21 35 20.0**	**+2.9**
IMOG				*e*		21 36 36.4	
GHVR	**GHOM**	**3.69**	**233**	*e*Pn	**Pn**	**21 35 18.4**	**+1.1**
GHVR				IAML		21 36 20.1	
	comp=E,1μm,0.5s						
GHVR	**GHOM**	**3.69**	**233**	*e*Pn	**Pn**	**21 35 18.4**	**+1.1**
IGZV	**Ghazvin**	**3.76**	**266**	*e*Pn	**Pn**	**21 35 19.4**	**+1.1**
IGZV				*e*		21 36 29.4	
TPRV	**Parvadeh(Tabas**	**4.01**	**158**	*e*Pn	**Pn**	**21 35 22.6**	**+0.9**
TPRV				*e*		21 36 39.0	
QAM	**Ghamsar**	**4.10**	**224**	*e*Pn	**Pn**	**21 35 23.1**	**+0.1**
IRAZ	**Razeghan**	**4.22**	**253**	*e*Pn	**Pn**	**21 35 26.4**	**+1.7**
IRAZ				*e*		21 36 44.3	
IMYA	**Miami**	**4.24**	**94**	*e*Pn	**Pn**	**21 35 28.4**	**+3.5**
IKLH	**Kolahrood**	**4.37**	**219**	*e*Pn	**Pn**	**21 35 26.6**	**-0.1**
YZKH	**Yazd**	**4.37**	**183**	*e*Pn	**Pn**	**21 35 26.9**	**+0.3**
YZKH	**Yazd**	**4.37**	**183**	*e*Pn	**Pn**	**21 35 26.9**	**+0.3**
IZEF	**Zefreh**	**4.38**	**209**	*e*Pn	**Pn**	**21 35 26.4**	**-0.6**
QABG	**Abgarm-Qazvin**	**4.40**	**258**	*e*Pn	**Pn**	**21 35 27.5**	**+0.4**
ASAO	**Ashtian**	**4.52**	**242**	*e*Pn	**Pn**	**21 35 29.7**	**+0.9**
ASAO	**Ashtian**	**4.52**	**242**	*e*Pn	**Pn**	**21 35 29.7**	**+0.9**
ICHK	**Chekchek**	**4.52**	**185**	*e*Pn	**Pn**	**21 35 29.5**	**+0.7**
QSDN	**Sirdan**	**4.58**	**268**	*e*Pn	**Pn**	**21 35 31.2**	**+1.5**
AFRZ	**Afriz**	**4.76**	**133**	*e*Pn	**Pn**	**21 35 34.4**	**+2.4**
IGAR	**Gharneh**	**4.93**	**209**	*e*Pn	**Pn**	**21 35 35.4**	**+1.0**
ISAD	**Sadrabad**	**4.93**	**192**	*e*Pn	**Pn**	**21 35 34.5**	**0.0**
ZNJK	**Zanjan**	**4.97**	**271**	*e*Pn	**Pn**	**21 35 37.6**	**+2.7**
ZNJK	**Zanjan**	**4.97**	**271**	*e*Pn	**Pn**	**21 35 37.6**	**+2.7**
ITEG	**Tejag**	**5.01**	**139**	*e*Pn	**Pn**	**21 35 37.6**	**+2.2**
HAGD	**Aghdareh**	**5.04**	**249**	*e*Pn	**Pn**	**21 35 36.9**	**+1.0**
IBAF	**Bafgh**	**5.19**	**173**	*e*Pn	**Pn**	**21 35 38.6**	**+0.7**
IPIR	**Pirpir**	**5.22**	**220**	*e*Pn	**Pn**	**21 35 39.8**	**+1.3**
IMON	**Monand**	**5.31**	**131**	*e*Pn	**Pn**	**21 35 42.0**	**+2.3**
IRAM	**Ramesheh**	**5.35**	**203**	*e*Pn	**Pn**	**21 35 40.6**	**+0.4**
IMEH	**Mehriz**	**5.36**	**182**	*e*Pn	**Pn**	**21 35 40.7**	**+0.3**
ROKH	**ROKH**	**5.42**	**217**	*e*Pn	**Pn**	**21 35 41.9**	**+0.7**
SHRT	**Shahrakht**	**5.42**	**123**	*e*Pn	**Pn**	**21 35 43.3**	**+2.3**
SHRT	**Shahrakht**	**5.42**	**123**	*e*Pn	**Pn**	**21 35 43.3**	**+2.3**
HSRG	**Sareghieh**	**5.55**	**256**	*e*Pn	**Pn**	**21 35 44.4**	**+1.4**
JHBN	**Jahan bin**	**5.70**	**219**	*e*Pn	**Pn**	**21 35 46.7**	**+1.7**
HSAM	**Samen**	**5.71**	**245**	*e*Pn	**Pn**	**21 35 45.5**	**+0.4**
IDAH	**Dahanechah**	**5.75**	**133**	*e*Pn	**Pn**	**21 35 48.1**	**+2.4**
IALM	**Almaboloq**	**5.76**	**253**	*e*Pn	**Pn**	**21 35 47.8**	**+1.9**
BMDN	**Meydan**	**5.83**	**240**	*e*Pn	**Pn**	**21 35 47.8**	**+1.1**
ISRB	**Sarab**	**5.84**	**283**	*e*Pn	**Pn**	**21 35 46.8**	**-0.1**
BSRN	**Basiran**	**5.94**	**142**	*e*Pn	**Pn**	**21 35 49.9**	**+1.7**
BSRN	**Basiran**	**5.94**	**142**	*e*Pn	**Pn**	**21 35 49.9**	**+1.7**
IBZA	**Bozab**	**6.15**	**250**	*e*Pn	**Pn**	**21 35 52.6**	**+1.4**
IKMR	**Kamar-syah**	**6.22**	**241**	*e*Pn	**Pn**	**21 35 53.5**	**+1.6**
IDOB	**Doab**	**6.22**	**243**	*e*Pn	**Pn**	**21 35 53.8**	**+1.6**
IHSH	**Hashtrud**	**6.24**	**287**	*e*Pn	**Pn**	**21 35 52.7**	**+0.3**
KLNJ	**Kolanjah**	**6.35**	**206**	*e*Pn	**Pn**	**21 35 55.1**	**+1.0**
IHRS	**Heris**	**6.41**	**286**	*e*Pn	**Pn**	**21 35 54.9**	**+0.2**
AHAR	**Ahar**	**6.44**	**288**	*e*Pn	**Pn**	**21 35 56.3**	**+1.3**
HRA	**Herat**	**6.46**	**109**	Pn	**Pn**	**21 35 56.4**	**+0.9**
KHGB	**Koh Gabri**	**6.51**	**168**	*e*Pn	**Pn**	**21 35 57.1**	**+1.0**
IKOM	**Komasi**	**6.53**	**249**	*e*Pn	**Pn**	**21 35 57.5**	**+1.1**
ILIN	**Lien**	**6.68**	**256**	*e*Pn	**Pn**	**21 36 00.8**	**+2.4**
NHDN	**Nehbandan**	**6.87**	**140**	*e*Pn	**Pn**	**21 36 02.7**	**+1.7**
KRBR	**Kerman**	**6.94**	**166**	*e*Pn	**Pn**	**21 36 03.4**	**+1.2**
KRBR	**Kerman**	**6.94**	**166**	*e*Pn	**Pn**	**21 36 03.4**	**+1.2**
IDHR	**Dehrash**	**7.20**	**256**	*e*Pn	**Pn**	**21 36 06.9**	**+1.4**
CHMN	**Cheshme madani**	**7.24**	**161**	*e*Pn	**Pn**	**21 36 07.9**	**+1.7**
NGRK	**Negar Kerman**	**7.27**	**167**	*e*Pn	**Pn**	**21 36 07.6**	**+0.9**
AKT	**Akhty**	**7.28**	**313**	*e*P	**Pn**	**21 36 07.2**	**+0.7**
AKT				*e*S	**Sn**	**21 37 27.2**	**-2.0**
AKT				pmax	pmax		
	comp=Z,24nm,0.5s						
AKT				smax	smax		
	comp=N,92nm,0.3s						
AKT				smax	smax		
	comp=E,121nm,0.4s						
AKT				smax	smax		
	comp=E,82nm,0.4s						
AKT				MLR	MLR		
	comp=Z,989nm,16.0s						
IMRD	**Marand**	**7.52**	**288**	*e*Pn	**Pn**	**21 36 11.2**	**+1.3**
GNBR	**Gunib**	**8.29**	**315**	*i* P	**Pn**	**21 36 22.9**	**+2.5**
TBLG	**Delisi**	**9.29**	**305**	P	**Pn**	**21 36 35.5**	**+1.4**
TBLG	**Delisi**	**9.29**	**305**	Pn	**Pn**	**21 36 35.5**	**+1.4**
GROC	**Groznyy**	**9.47**	**316**	*e*P	**Pn**	**21 36 39.2**	**+2.7**
GROC				*e*S	**Sn**	**21 38 30.3**	**+7.3**
GROC				pmax	pmax		
	comp=Z,22nm,0.6s						
GEVA	**Gevas**	**9.51**	**283**		**Pn**	**21 36 37.3**	**+0.1**
AKH	**Akhalkalaki**	**9.98**	**301**	P	**Pn**	**21 36 44.8**	**+1.1**
AKH	**Akhalkalaki**	**9.98**	**301**	Pn	**Pn**	**21 36 44.8**	**+1.1**
ZEI	**Tsey**	**10.36**	**309**	*e*P	Pn	21 36 57.0	+8.1
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SHME	**Shamm**	**10.73**	**174**	*i* P	**Pn**	**21 36 53.4**	**-0.5**
	SNR=6.4						
BANOM	**Banah**	**10.87**	**173**	P	**Pn**	**21 36 55.1**	**-0.7**
MARD	**Mardin**	**11.27**	**277**	Pn	**Pn**	**21 37 04.3**	**+3.0**
MSFE	**Esma-Masafi**	**11.42**	**174**	*i* P	**Pn**	**21 37 03.0**	**-0.3**
	SNR=7.6						
CHGR	**Chuyangaron**	**11.48**	**76**	Pn	**Pn**	**21 37 04.1**	**0.0**
KBZ	**Khabaz**	**11.48**	**311**	Pn	**Pn**	**21 37 05.3**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=134,slow=6.4,SNR=9.2						
KBZ				Sn	**Sn**	**21 39 09.3**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=77,slow=19,SNR=2.2						
KOPT	**Kop Dagi**	**11.73**	**290**	Pn	**Pn**	**21 37 09.3**	**+1.5**
KIV	**Kislovodsk**	**11.74**	**311**	*e*P	**Pn**	**21 37 08.9**	**+1.3**
KIV				pmax	pmax		
	comp=Z,62nm,1.1s						
KIV	**Kislovodsk**	**11.74**	**311**	Pn	**Pn**	**21 37 06.0**	**-1.7**
KBL	**Kabul**	**11.75**	**97**	P	**Pn**	**21 37 10.1**	**+2.2**
KBL	**Kabul**	**11.75**	**97**	Pn	**Pn**	**21 37 10.1**	**+2.2**
NAZ	**Nazwa, Dubai**	**11.76**	**176**	*i* P	**Pn**	**21 37 07.2**	**-0.7**
	SNR=6.3						
UOSS	**Minazif**	**11.83**	**174**	*i* P	**Pn**	**21 37 07.7**	**-1.3**
	SNR=7.2						
UOSS	**Minazif**	**11.83**	**174**		**Pn**	**21 37 08.7**	**-0.2**
HATD	**Hatta, Dubai**	**11.95**	**174**	*i* P	**Pn**	**21 37 09.7**	**-0.7**
	SNR=5.6						
ASHO	**Ashiyiah**	**12.08**	**175**	*i* P	**Pn**	**21 37 11.2**	**-1.1**
	SNR=17						
TAS	**Tashkent**	**12.11**	**63**	P	**Pn**	**21 37 12.2**	**-0.4**
TAS	**Tashkent**	**12.11**	**63**	Pn	**Pn**	**21 37 12.2**	**-0.4**
GOF	**Gofitskoye**	**12.18**	**317**	⇑*e*P	**Pn**	**21 37 12.9**	**-0.7**
GOF				*e*S	**Sn**	**21 39 23.6**	**-5.8**
GOF				pmax	pmax		
	comp=Z,55nm,0.9s						
GOF				smax	smax		
	comp=N,60nm,1.2s						
ARXR	**Arkhyz**	**12.41**	**307**	*i* P	**Pn**	**21 37 19.7**	**+2.8**
GAR	**Garm**	**12.41**	**75**	Pn	**Pn**	**21 37 17.0**	**+0.1**
BTK	**Batken**	**12.94**	**70**	P	**Pn**	**21 37 24.8**	**+0.7**
BTK	**Batken**	**12.94**	**70**	Pn	**Pn**	**21 37 24.8**	**+0.7**
AB31	**Akbulak array**	**13.03**	**15**	⇓P	**Pn**	**21 37 23.1**	**-2.0**
	comp=N,12nm,0.4s,baz=200,slow=13,SNR=55						
AB31				⇑S	**Sn**	**21 39 45.6**	**-4.3**
	comp=N,17nm,0.4s,baz=191,slow=23,SNR=9.3						
AB31	**Akbulak array**	**13.03**	**15**	*i* P	**Pn**	**21 37 23.5**	**-1.6**
AB31				pmax	pmax		
	comp=Z,15nm,0.3s						
ABKAR	**Akbulak array**	**13.03**	**15**		**Pn**	**21 37 23.1**	**-2.0**
ABKAR	**Akbulak array**	**13.03**	**15**	Pn	**Pn**	**21 37 22.2**	**-2.8**
KK31	**Karatay Array**	**13.57**	**57**	⇑P	**Pn**	**21 37 31.8**	**-0.7**
	comp=Z,6.1nm,0.6s,baz=238,slow=17,SNR=57						
KK31				⇓S	**Sn**	**21 40 02.0**	**-1.3**
	comp=Z,10nm,0.9s,baz=164,slow=54,SNR=4.3						
KK31	**Karatay Array**	**13.57**	**57**	P	**Pn**	**21 37 32.1**	**-0.4**
KK31	**Karatay Array**	**13.57**	**57**	Pn	**Pn**	**21 37 32.1**	**-0.4**
KKAR	**Karatay Array**	**13.57**	**57**	P	**Pn**	**21 37 32.1**	**-0.4**
KKAR	**Karatay Array**	**13.57**	**57**		**Pn**	**21 37 32.1**	**-0.4**
KKAR	**Karatay Array**	**13.57**	**57**	Pn	**Pn**	**21 37 32.0**	**-0.6**
AKTO	**Aktyubinsk**	**13.86**	**8**	Pn	**Pn**	**21 37 35.9**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=187,slow=12,SNR=15						
AKTO				Sn	**Sn**	**21 40 04.4**	**-5.8**
	comp=Z,1.3nm,0.3s,baz=36,slow=23,SNR=5.9						
AKTO				LR	LR	21 44 18.9	
	comp=Z,263nm,21.6s,baz=167,slow=43						
AKTO	**Aktyubinsk**	**13.86**	**8**	⇑P	**Pn**	**21 37 36.3**	**-0.2**
	comp=Z,15nm,0.6s						
AKTO				⇑S	**Sn**	**21 40 03.1**	**-7.2**
	comp=Z,17nm,0.6s						
WSAR	**Wadi Sarin**	**13.86**	**165**	LR	LR	21 43 40.1	
	comp=Z,161nm,19.1s,baz=348,slow=41						
GAZ	**Gaziantep**	**14.12**	**277**	Pn	**Pn**	**21 37 40.1**	**-0.2**
CEP	**Cherat**	**14.23**	**97**	P	**P**	**21 37 48.2**	**-1.0**
THW	**Thamme Wali**	**14.42**	**101**	P	**P**	**21 37 50.3**	**-0.9**
TOKA	**Tokat**	**14.82**	**289**	P	**P**	**21 37 55.3**	**-0.3**
NIL	**Nilore**	**15.35**	**96**	P	**P**	**21 38 00.6**	**-0.9**
NIL				pmax	pmax		
	comp=Z,16nm,0.8s						
NIL	**Nilore**	**15.35**	**96**	P	**P**	**21 38 00.6**	**-0.9**
NIL				IAmb	IAmb	21 38 13.0	
	comp=Z,16nm,0.8s						
AAK	**Ala-Archa**	**16.20**	**63**	Pn	**Pn**	**21 38 07.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=220,slow=7.1,SNR=24						
AAK				LR	LR	21 44 41.3	
	comp=Z,238nm,20.1s,baz=232,slow=38						
AAK	**Ala-Archa**	**16.20**	**63**	*i* P	**Pn**	**21 38 08.4**	**+0.6**
	SNR=8.1						
AAK	**Ala-Archa**	**16.20**	**63**	*ce*P	**Pn**	**21 38 07.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,14nm,0.8s						
AAK	**Ala-Archa**	**16.20**	**63**	Pn	**Pn**	**21 38 07.9**	**+0.1**
FRU1	**Bishkek**	**16.34**	**62**	P	**Pn**	**21 38 09.5**	**0.0**
FRU1				pmax	pmax		
	comp=Z,25nm,1.0s						
FRU1	**Bishkek**	**16.34**	**62**	Pn	**Pn**	**21 38 09.5**	**0.0**
KSH	**Kashi**	**16.83**	**74**	⇓*i* P	**Pn**	**21 38 11.4**	**-4.5**
KSH				sP	P	21 38 18.1	+0.1
KSH				PP	**PnPn**	**21 38 28.0**	**+2.7**
KSH				S	**Sn**	**21 41 12.7**	**-10**
KSH				SS	**S**	**21 41 33.1**	**-0.5**
KSH				PcP	**PcP**	**21 43 04.7**	**+1.2**
KSH				ScP	**ScP**	**21 46 37.4**	**-0.7**
KSH				PcS	**PcS**	**21 46 38.7**	**-0.8**
KSH				pmax	pmax		
	comp=Z,45nm,3.8s						
KSH				LR	LR		
	comp=N,270nm,7.1s						
KSH				LR	LR		
	comp=E,280nm,8.1s						
KSH				LR	LR		
	comp=Z,130nm,8.6s						
**BR

ALN IAmb IAmb 21 39 26.1
comp=Z,12nm,1.0s
VRI Vrincioaia 22.91 302 ⇑P **P 21 39 27.5 +3.5**
PLOR Plostina 22.96 302 ⇓P **P 21 39 27.5 +3.0**
AKASG Malin Array Be 23.03 315 P **P 21 39 26.3 +1.1**
comp=Z,7.0nm,0.7s,baz=120,slow=9.5,SNR=20
AKASG Malin Array Be 23.03 315 P **P 21 39 28.6 +3.4**
AKBB Malin Array Si 23.03 315 IAmb IAmb 21 39 30.7
comp=Z,19nm,0.8s
TESR Tescani 23.12 304 ⇑P **P 21 39 29.1 +2.9**
MLR Muntele Rosu 23.37 301 P **P 21 39 31.1 +2.3**
comp=Z,13nm,0.9s,baz=143,slow=10,SNR=14
MLR Muntele Rosu 23.37 301 ⇑P **P 21 39 32.0 +3.2**
MLR Muntele Rosu 23.37 301 P **P 21 39 31.3 +2.5**
MLR IAmb IAmb 21 39 44.0
comp=Z,28nm,1.1s
SANT Santorini 23.58 278 P **P 21 39 31.2 +0.2**
BIZ Bicaz 23.59 305 ⇑P **P 21 39 34.1 +3.2**
VOIR 23.97 301 ⇑P **P 21 39 37.6 +2.9**
IDI Anoyia 24.25 276 P **P 21 39 38.5 +1.2**
comp=Z,6.0nm,0.6s,baz=85,slow=9.0,SNR=7.7
IDI Anoyia 24.25 276 P **P 21 39 38.0 +0.7**
IDI IAmb IAmb 21 39 52.6
comp=Z,19nm,1.0s
BURAR Bucovina Array 24.36 306 ⇑P **P 21 39 41.9 +3.7**
BURAR Bucovina Array 24.36 306 P **P 21 39 39.5 +1.3**
BUR08 Bucovina Ar. S 24.38 306 P **P 21 39 39.0 +0.6**
BUR08 IAmb IAmb 21 39 43.7
comp=Z,11nm,1.0s
SOCY Socotra 24.48 182 P **P 21 39 35.0 -4.5**
ARCR ARCALIA 24.79 304 ⇓P **P 21 39 44.6 +2.5**
LOT Lotru 24.86 300 ⇑P **P 21 39 45.2 +2.4**
PYUN Piuthan 25.19 102 *eP* **P 21 39 48.0 +2.0**
comp=Z,40nm,0.9s
PYUN Piuthan 25.19 102 *eP* **P 21 39 48.0 +2.0**
comp=Z,40nm,0.9s
BMR Baia Mare 25.50 305 ⇓P **P 21 39 52.2 +3.8**
PRGR Permogore 25.57 350 *eP* **P 21 39 51.7 +2.9**
PRGR pmax pmax
comp=Z,82nm,1.5s
MICGM Minsk 25.65 322 *e* **P 21 39 52.0 +2.3**
MNK Minsk 25.65 322 *eP* **P 21 39 52.0 +2.3**
AGG Agios Georgios 25.70 285 P **P 21 39 51.2 +0.8**
AGG pmax pmax
comp=Z,23nm,1.2s
AGG Agios Georgios 25.70 285 P **P 21 39 51.2 +0.8**
AGG IAmb IAmb 21 39 55.0
comp=Z,22nm,1.2s
HERR Herculane 25.73 299 ⇑P **P 21 39 52.2 +1.7**
LVV L'vov 25.76 310 *eP* **P 21 39 54.1 +3.4**
KOLN Koldanda 25.82 102 *eP* **P 21 39 52.7 +0.9**
comp=Z,30nm,0.8s
KOLN Koldanda 25.82 102 *eP* **P 21 39 52.7 +0.9**
comp=Z,30nm,0.8s
WMQ Urumqi 25.89 64 *eP* **P 21 39 57.2 +5.1**
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ pmax pmax
comp=Z,62nm,3.8s
WMQ LR LR
comp=N,50nm,6.9s
WMQ LR LR
comp=E,140nm,8.9s
WMQ LR LR
comp=Z,34nm,29.1s
KLMR Klimovskoe 26.01 343 *eP* **P 21 39 55.3 +2.4**
KLMR pmax pmax
comp=Z,20nm,1.0s
KLMR Klimovskoe 26.01 343 *eP* **P 21 39 55.4 +2.5**
KLMR AMP 21 39 58.3
comp=Z,20nm,1.0s
MDVR Moldovita 26.21 298 ⇑P **P 21 39 57.5 +2.5**
ITM Ithomi 26.25 281 P **P 21 39 55.5 +0.1**
BZS Buzias 26.38 300 ⇑P **P 21 39 58.8 +2.4**
UZH Uzhgorod 26.51 307 *eP* **P 21 40 00.6 +3.1**
UZH *i* 21 40 08.5
UZH *e* 21 40 16.5
KWP Kalwaria Pacla 26.52 309 *eP* **P 21 40 01.6 +4.0**
KWP Kalwaria Pacla 26.52 309 P **P 21 39 58.3 +0.7**
KWP pmax pmax
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 26.52 309 P **P 21 39 58.3 +0.7**
KWP IAmb IAmb 21 40 06.2
comp=Z,15nm,1.0s
GKN Gorkha 26.53 101 *eP* **P 21 40 03.1 +5.0**
comp=Z,82nm,0.8s
GKN Gorkha 26.53 101 *eP* **P 21 40 03.1 +5.0**
comp=Z,82nm,0.8s
KOLS Kolonicke sedl 26.60 308 *eP* **P 21 40 01.8 +3.4**
KOLS Kolonicke sedl 26.60 308 *eP* **P 21 40 01.8 +3.4**
IDID Didziasalis 26.65 323 *eP* **P 21 40 02.5 +3.8**
DGZ Jazzator, Alta 26.79 51 *c iP* **P 21 40 00.4 +0.1**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
ZAA0 Zalesovo Array 26.88 41 P **P 21 40 00.7 -0.1**
ZALV Zalesovo Beam 26.88 41 P **P 21 40 03.1 +2.3**
comp=Z,2.8nm,0.8s,baz=258,slow=7.0,SNR=4.6
ZALV Zalesovo Beam 26.88 41 P **P 21 40 00.8 0.0**
ZALV Zalesovo Beam 26.88 41 P **P 21 40 00.8 0.0**
IIGN Ignalina 26.91 323 *eP* **P 21 40 03.7 +2.6**
ISAL Salakas 27.08 323 *eP* **P 21 40 05.5 +2.9**
DMN Daman 27.08 101 *eP* **P 21 40 05.6 +2.4**
comp=Z,67nm,0.8s
DMN Daman 27.08 101 *eP* **P 21 40 05.6 +2.4**
comp=Z,67nm,0.8s
CRVS Cervenica-Dubn 27.11 307 *eP* **P 21 40 07.9 +4.9**
CRVS Cervenica-Dubn 27.11 307 *eP* **P 21 40 07.8 +4.8**
IZAR Zarasai 27.12 324 *eP* **P 21 40 06.0 +3.1**
PKI Pulchoki 27.34 101 *eP* **P 21 40 07.8 +2.2**
comp=Z,121nm,0.9s
PKI Pulchoki 27.34 101 *eP* **P 21 40 07.8 +2.2**
comp=Z,121nm,0.9s
ATD Arta Tunnel 27.36 206 P **P 21 40 06.3 +0.8**
ATD IAmb IAmb 21 40 19.0
comp=Z,7.8nm,1.0s
DIVS Divibare 27.39 296 IAmb IAmb 21 40 14.7
comp=Z,9.7nm,1.1s
TIR Tirane 27.44 290 P **P 21 40 06.9 +0.8**
TIR pmax pmax
comp=Z,23nm,0.9s
TIR Tirane 27.44 290 P **P 21 40 06.8 +0.8**
GUN Gumba 27.56 100 *eP* **P 21 40 13.6 +6.0**
comp=Z,94nm,0.8s
GUN Gumba 27.56 100 *eP* **P 21 40 13.6 +6.0**
comp=Z,94nm,0.8s
SUW Suwalki 27.83 318 *eP* **P 21 40 13.2 +3.9**
SUW Suwalki 27.83 318 P **P 21 40 10.0 +0.7**
SUW pmax pmax
comp=Z,19nm,0.9s
SUW Suwalki 27.83 318 P **P 21 40 10.0 +0.7**
PDG Podgorica 27.88 293 P **P 21 40 09.6 -0.3**
JIRN Jiri 27.91 100 *eP* **P 21 40 15.9 +5.1**
comp=Z,45nm,0.7s
JIRN Jiri 27.91 100 *eP* **P 21 40 15.9 +5.1**
comp=Z,45nm,0.7s
PSZ Piszkesteto 27.92 305 P **P 21 40 10.8 +0.4**
PSZ pmax pmax
comp=Z,4.0nm,1.0s
PSZ Piszkesteto 27.92 305 P **P 21 40 10.8 +0.4**
NIE Niedzica 27.98 308 *eP* **P 21 40 14.0 +3.3**
PABE Paberze 28.10 322 *eP* **P 21 40 15.8 +4.1**
VSU Vasula 28.46 329 *eP* **P 21 40 17.6 +2.7**
VSU Vasula 28.46 329 *i P* **P 21 40 16.4 +1.6**
VSU pmax pmax
comp=Z,22nm,0.9s
OJC Ojcow 28.49 309 *eP* **P 21 40 19.2 +3.9**
OJC Ojcow 28.49 309 P **P 21 40 16.9 +1.6**
OJC pmax pmax
comp=Z,14nm,1.0s
OJC Ojcow 28.49 309 P **P 21 40 16.9 +1.6**
OJC IAmb IAmb 21 40 20.4
comp=Z,14nm,1.0s
VYHS Vyhne 28.72 305 *eP* **P 21 40 21.9 +4.5**
VYHS pmax pmax
comp=Z,11nm,1.7s
VYHS Vyhne 28.72 305 *eP* **P 21 40 21.9 +4.5**
ODAN Odare 29.23 100 *eP* **P 21 40 24.6 +2.2**
comp=Z,58nm,1.1s
ODAN Odare 29.23 100 *eP* **P 21 40 24.6 +2.2**
comp=Z,58nm,1.1s
MORC Moravsky Berou 29.80 308 P **P 21 40 28.4 +1.4**
MORC pmax pmax
comp=Z,3.0nm,1.0s
MORC Moravsky Berou 29.80 308 P **P 21 40 28.4 +1.4**

TIP Timpagrande 29.99 286 P **P 21 40 30.8 +2.0**
TIP IAmb IAmb 21 40 37.8
comp=Z,5.5nm,0.9s
KRLC Kraliky 30.35 308 *eP* **P 21 40 35.6 +3.8**
KRLC Kraliky 30.35 308 *eP* **P 21 40 35.6 +3.8**
SGRT San Giovanni R 30.51 292 P **P 21 40 35.1 +1.7**
SGRT IAmb IAmb 21 40 42.4
comp=Z,18nm,1.1s
FINES FINESS Array B 30.60 333 P **P 21 40 36.3 +2.5**
comp=Z,0.5nm,0.3s,baz=145,slow=9.3,SNR=9.6
FINES FINESS Array B 30.60 333 P **P 21 40 32.3 -1.5**
FINES FINESS Array B 30.60 333 P **P 21 40 32.3 -1.5**
DPC Dobruska-Polom 30.69 309 *eP* **P 21 40 37.9 +3.1**
DPC Dobruska-Polom 30.69 309 *eP* **P 21 40 37.9 +3.1**
ARSA Arzberg 30.76 302 *eP* **P 21 40 34.8 -0.7**
comp=Z,3.8nm,0.8s
CEL Celeste 30.80 285 P **P 21 40 34.0 -2.0**
OSTC Ostas 30.80 309 *eP* **P 21 40 38.3 +2.5**
KSP Ksiaz 30.81 309 *eP* **P 21 40 39.2 +3.4**
CHVC Chvalec 30.90 309 *eP* **P 21 40 40.7 +4.0**
PRED Cave del Predi 32.04 301 P **P 21 40 47.1 +0.3**
PRED IAmb IAmb 21 40 50.9
comp=Z,6.3nm,1.2s
GEC2 GERESS Array S 32.14 305 *eP* **P 21 40 51.6 +3.9**
comp=Z,2.6nm,1.0s,baz=99,slow=8.6
GEC2 GERESS Array S 32.14 305 P **P 21 40 47.5 -0.3**
GERES GERESS Array B 32.14 305 P **P 21 40 49.5 +1.8**
comp=Z,1.7nm,0.9s,baz=99,slow=6.2,SNR=12
GERES GERESS Array B 32.14 305 P **P 21 40 47.4 -0.3**
GERES GERESS Array B 32.14 305 P **P 21 40 47.4 -0.3**
RAFF Raffo Rosso 32.18 283 P **P 21 40 48.5 +0.4**
KBA Koelnbreinsper 32.23 302 *eP* **P 21 40 48.2 -0.4**
comp=Z,3.6nm,1.3s
KHC Kasperske Hory 32.26 306 *eP* **P 21 40 52.4 +3.8**
KHC Kasperske Hory 32.26 306 P **P 21 40 49.7 +1.1**
KHC pmax pmax
comp=Z,1.0nm,1.0s
KHC Kasperske Hory 32.26 306 P **P 21 40 49.7 +1.1**
BRG Berggiesshubel 32.28 309 *eP* **P 21 40 53.5 +4.8**
comp=Z,8.9nm,1.1s
BRG Berggiesshubel 32.28 309 *eP* **P 21 40 53.2 +4.5**
comp=Z,3.3nm,0.9s,baz=99,slow=8.6
NRCA Norcia 32.39 294 P **P 21 40 48.3 -1.7**
NRCA IAmb IAmb 21 41 03.1
comp=Z,5.4nm,0.8s
ZOU Zoufplan 32.46 301 P **P 21 40 49.8 -0.8**
STAL STALIGIAL 32.63 300 P **P 21 40 51.6 -0.3**
RJOB Jochberg 32.64 303 *eP* **P 21 40 54.8 +2.7**
comp=Z,1.4nm,0.8s,baz=99,slow=8.6
FBE Freiberg 32.65 309 *eP* **P 21 40 56.6 +4.6**
comp=Z,3.6nm,1.0s,baz=99,slow=8.6
WET Wettzell 32.71 306 *eP* **P 21 40 55.6 +3.0**
comp=Z,0.8nm,0.8s,baz=99,slow=8.6
MURB Monte Urbino 32.80 295 P **P 21 40 55.1 +1.6**
CIMO Cimolais 32.82 300 P **P 21 40 54.9 +1.3**
CIMO IAmb IAmb 21 41 04.4
comp=Z,5.9nm,1.2s
CLL Collm 32.93 310 ⇓*iP* **P 21 40 58.5 +4.0**
comp=Z,8.0nm,1.0s
CLL *ep*P **sP 21 41 02.0 +2.3**
CLL *i* 21 41 13.1
CLL *e*(PP) 21 42 15.0
CLL Collm 32.93 310 P **P 21 40 56.5 +2.0**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 32.93 310 *eP* **P 21 40 58.9 +4.4**
comp=Z,5.4nm,0.9s,baz=99,slow=8.6
CLL Collm 32.93 310 P **P 21 40 56.5 +2.0**
CLL IAmb IAmb 21 41 14.3
comp=Z,6.4nm,0.9s
CLTB Caltabellotta 33.01 284 P **P 21 40 54.6 -0.8**
CLTB IAmb IAmb 21 41 00.7
comp=Z,7.4nm,1.0s
LVZ Lovozero 33.20 346 *ceP* **P 21 40 57.2 +0.5**
LVZ pmax pmax
comp=Z,39nm,2.5s
LVZ Lovozero 33.20 346 P **P 21 40 57.7 +1.0**
LVZ IAmb IAmb 21 41 15.9
comp=Z,8.6nm,0.8s
MANZ Manzenberg 33.31 307 *eP* **P 21 41 02.2 +4.4**
comp=Z,2.7nm,1.2s,baz=99,slow=8.6
CTI Castel Tesino 33.36 300 P **P 21 40 59.8 +1.4**
CTI pmax pmax
comp=Z,5.0nm,1.0s
CTI Castel Tesino 33.36 300 P **P 21 40 59.8 +1.4**
CTI IAmb IAmb 21 41 15.0
comp=Z,5.0nm,1.0s
LATE Laterza 33.37 294 P **P 21 40 57.8 -0.7**
LATE IAmb IAmb 21 41 03.4
comp=Z,6.2nm,1.1s
SHL Shillong 33.40 99 P **P 21 40 58.5 -0.5**
SHL pmax pmax
comp=Z,10.0nm,0.9s
SHL Shillong 33.40 99 P **P 21 40 58.5 -0.5**
SHL IAmb IAmb 21 41 05.3
comp=Z,9.8nm,0.9s
WTTA Wattenberg 33.40 302 *eP* **P 21 40 59.8 +0.9**
comp=Z,6.4nm,1.0s
RGN Rugen 33.44 315 P **P 21 40 58.6 -0.2**
WATA Walderalm 33.44 302 *eP* **P 21 40 59.5 +0.3**
comp=Z,4.2nm,1.1s
NEUB Neuenburg 33.68 309 *eP* P 21 41 06.0 +5.0
comp=Z,14nm,0.9s,baz=99,slow=8.6
SQTA Sankt Quirin 33.69 302 *epP* **P 21 41 02.5 +1.2**
comp=Z,6.0nm,1.1s
MOX Moxa 33.70 308 *eP* P 21 41 06.2 +5.0
baz=99,slow=8.6
OSSC Osservatorio P 33.72 295 P **P 21 41 02.3 +0.9**
OSSC IAmb IAmb 21 41 05.8
comp=Z,7.3nm,1.0s
MOTA Moosalm 33.77 302 *epP* **P 21 41 03.0 +1.0**
comp=Z,5.1nm,1.3s
ZCCA Zocca 33.87 297 P **P 21 41 04.0 +1.3**
FETA Feichten 34.01 302 *epP* **P 21 41 05.6 +1.5**
comp=Z,12nm,1.7s
VLC Villacollemand 34.30 297 P **P 21 41 07.9 +1.4**
VLC IAmb IAmb 21 41 16.1
comp=Z,8.3nm,0.9s
PRMA PARMA 34.32 298 P **P 21 41 08.1 +1.4**
FUORN Ofenpass-Fuorn 34.33 301 P **P 21 41 07.4 +0.4**
UBR Ueberruh 34.45 303 *eP* **P 21 41 10.3 +2.5**
comp=Z,1.4nm,0.8s,baz=99,slow=8.6
ASSE Asse, Remlinge 34.50 311 *eP* **P 21 41 12.7 +4.7**
comp=Z,2.8nm,0.9s,baz=99,slow=8.6
DAVOX Davos/Dischmat 34.59 301 P **P 21 41 10.5 +1.4**
comp=Z,1.0nm,0.4s,baz=18,slow=0.3,SNR=5.4
DAVA Damuels 34.60 302 *epP* **P 21 41 10.3 +1.1**
comp=Z,5.4nm,0.8s
CLZ Clausthal 34.64 310 *eP* **P 21 41 14.0 +4.7**
comp=Z,3.8nm,0.8s,baz=99,slow=8.6
UBBA Unterbreizbach 34.74 308 *eP* **P 21 41 14.9 +4.8**
comp=Z,2.2nm,1.0s,baz=99,slow=8.6
TUE Stuetta 34.96 301 P **P 21 41 13.1 +0.8**
HFS Hagfors 35.07 325 P **P 21 41 15.2 +2.2**
comp=Z,4.3nm,0.7s,baz=128,slow=12,SNR=12
VSL Villasalto 35.60 289 P **P 21 41 16.2 -1.6**
VSL IAmb IAmb 21 41 34.2
comp=Z,9.6nm,1.0s
TNS Taunus Mts 35.68 307 *eP* **P 21 41 22.8 +4.4**
comp=Z,11nm,1.3s,baz=99,slow=8.6
NC602 NORSAR Array S 36.29 325 P **P 21 41 23.8 +0.4**
NC602 IAmb IAmb 21 41 24.2
comp=Z,9.2nm,1.1s
NC405 NORSAR Array S 36.35 326 P **P 21 41 25.0 +1.1**
NC405 IAmb IAmb 21 41 28.3
comp=Z,15nm,1.0s
SENIN Lac Senin/Sane 36.38 300 P **P 21 41 24.7 +0.2**
SENIN IAmb IAmb 21 41 36.1
comp=Z,5.2nm,0.8s
ECH Echery 36.44 304 P **P 21 41 24.5 -0.4**
ECH pmax pmax
comp=Z,3.0nm,1.0s
ECH Echery 36.44 304 P **P 21 41 24.5 -0.4**
KEST Kesra 36.46 282 P **P 21 41 27.0 +1.8**
comp=Z,5.0nm,1.0s,baz=5.3,slow=10,SNR=5.1
KEST Kesra 36.46 282 P **P 21 41 25.7 +0.4**
KEST IAmb IAmb 21 41 27.8
comp=Z,8.9nm,1.1s
ARCES ARCESS Array B 36.49 343 P **P 21 41 27.4 +2.4**
comp=Z,2.8nm,0.9s,baz=118,slow=5.2,SNR=4.7
ARCES ARCESS Array B 36.49 343 P **P 21 41 23.3 -1.7**
ARCES ARCESS Array B 36.49 343 P **P 21 41 23.3 -1.7**
NB2 NORSAR Subarra 36.55 326 P **P 21 41 27.3 +1.7**
comp=Z,1.1nm,0.7s,baz=115,slow=8.6
NOA NORSAR Array B 36.55 326 P **P 21 41 27.5 +1.9**

comp=Z,2.5nm,0.9s,baz=115,slow=8.1,SNR=12
NC204 NORSAR Array S 36.84 326 P **P 21 41 28.6 +0.5**
NC204 IAmb IAmb 21 41 31.7
comp=Z,8.4nm,1.1s
BNI Bardonecchia 36.88 298 P **P 21 41 29.8 +0.9**
BNI pmax pmax
comp=Z,12nm,1.1s
BNI Bardonecchia 36.88 298 P **P 21 41 29.8 +0.9**
BNI IAmb IAmb 21 41 34.0
comp=Z,12nm,1.1s
WLF Walferdange 37.13 306 P **P 21 41 32.0 +1.3**
MEM Membach 37.26 308 P **P 21 41 32.0 +0.3**
MEM pP **pP 21 41 35.2 -0.3**
MEM sP **sP 21 41 36.8 -0.2**
BMRD Maredsous 38.04 307 P **P 21 41 37.7 -0.7**
BMRD sP **sP 21 41 43.3 -0.3**
DOU Dourbes 38.15 307 pP **pP 21 41 42.1 -1.0**
DOU sP sP 21 41 44.2 -0.3
SNF Seneffe 38.35 307 P **P 21 41 41.6 +0.6**
SNF pP **pP 21 41 44.2 -0.6**
SNF sP **sP 21 41 45.6 -0.6**
SONM Songino Array 39.02 57 P **P 21 41 46.1 -0.7**
SONM pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 39.02 57 P **P 21 41 46.1 -0.7**
ULN Ulaanbaatar 39.46 57 P **P 21 41 51.5 +1.0**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 39.46 57 P **P 21 41 51.5 +1.0**
KMBO Kilima Mbogo 41.09 207 P **P 21 42 04.2 -0.2**
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 41.09 207 P **P 21 42 04.2 -0.2**
MSEY Mahe Island 41.22 179 P **P 21 42 04.3 -0.9**
MSEY pmax pmax
comp=Z,42nm,1.1s
MSEY Mahe Island 41.22 179 P **P 21 42 04.3 -0.9**
KMI Kunming 42.28 92 ⇑P **P 21 42 15.1 +1.0**
KMI pP sP 21 42 18.5 -0.9
KMI sP pP 21 42 20.6 +2.7
KMI pmax pmax
comp=Z,12nm,0.8s
KMI pmax pmax
comp=Z,140nm,3.8s
KMI Kunming 42.28 92 P **P 21 42 14.2 +0.1**
KMI pmax pmax
comp=Z,35nm,1.0s
KMI Kunming 42.28 92 P **P 21 42 14.2 +0.1**
CHTO Chiang Mai 42.48 103 P **P 21 42 14.9 -0.7**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 42.48 103 P **P 21 42 14.9 -0.7**
CHTO IAmb IAmb 21 42 25.7
comp=Z,7.0nm,0.9s
CM31 Chiang Mai Arr 42.68 103 P **P 21 42 17.6 +0.4**
CM31 IAmb IAmb 21 42 24.8
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 42.68 103 P **P 21 42 18.6 +1.5**
comp=Z,3.2nm,0.6s,baz=300,slow=8.4,SNR=19
CMAR Chiang Mai Arr 42.68 103 P **P 21 42 17.9 +0.7**
CMAR Chiang Mai Arr 42.68 103 P **P 21 42 17.9 +0.7**
EKA Eskdalemuir Ar 42.94 315 P **P 21 42 20.3 +1.4**
comp=Z,2.9nm,0.7s,baz=102,slow=8.5,SNR=14
ESK Eskdalemuir 42.97 315 P **P 21 42 19.0 0.0**
ESK pmax pmax
comp=Z,15nm,1.1s
ESK Eskdalemuir 42.97 315 P **P 21 42 19.0 0.0**
ESK IAmb IAmb 21 42 23.4
comp=Z,15nm,1.1s
BOD Bodaibo 43.63 42 *eP* **P 21 42 25.9 +1.6**
BOD pmax pmax
comp=Z,4.0nm,1.4s
HHC Hu-ho-hao-te 43.72 67 *eP* **P 21 42 25.6 +0.1**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,99nm,5.2s
SPA0 Spitsbergen Ar 44.55 349 P **P 21 42 32.5 +1.1**
TAM Tamanrasset 44.57 266 P **P 21 42 32.0 -0.5**
TAM Tamanrasset 44.57 266 P **P 21 42 32.0 -0.5**
GYA Guiyang 44.82 88 ⇑P **P 21 42 35.9 +1.4**
GYA pmax pmax
comp=Z,4.0nm,1.0s
DSB Dublin 44.89 312 P **P 21 42 34.4 -0.1**
SLVN Son La 45.06 96 P **P 21 42 37.2 +0.8**
SLVN IAmb IAmb 21 42 44.7
comp=Z,6.0nm,1.1s
ESBB Sonseca Array 45.59 292 P **P 21 42 40.1 -0.3**
ESBB IAmb IAmb 21 42 45.2
comp=Z,3.7nm,0.8s
ESDC Sonseca Array 45.59 292 P **P 21 42 40.5 +0.2**
comp=Z,2.6nm,0.7s,baz=68,slow=7.8,SNR=31
ESDC Sonseca Array 45.59 292 P **P 21 42 40.3 -0.1**
PAB San Pablo 45.92 292 P **P 21 42 42.8 -0.2**
PAB pmax pmax
comp=Z,5.0nm,1.1s
PAB San Pablo 45.92 292 P **P 21 42 42.8 -0.2**
PAB IAmb IAmb 21 42 50.6
comp=Z,4.7nm,1.1s
MVO Moncorvo 47.44 295 *eP* **P 21 42 55.5 +0.6**
PCBR Castelo Branco 48.14 294 *eP* **P 21 43 01.6 +1.4**
PVAQ Vaqueiros 49.09 291 P **P 21 43 08.7 +1.1**
PVAQ IAmb IAmb 21 43 12.2
comp=Z,9.6nm,1.1s
WHN Wuhan 49.22 79 P P 21 43 16.5 +7.8
PNCL Nicolau / Gran 49.46 292 *eP* **P 21 43 11.2 +0.8**
comp=Z,21nm,1.4s
YAK Yakutsk 51.34 36 *i P* **P 21 43 28.8 +4.6**
YAK pmax pmax
comp=Z,3.0nm,0.8s
NJ2 Nanjing 52.14 75 *eP* **P 21 43 29.3 -1.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PSI Prapat 52.75 119 P **P 21 43 35.1 -0.4**
PSI pmax pmax
comp=Z,14nm,0.8s
RPSI Rantau Prapat 52.82 119 P **P 21 43 35.0 -0.8**
TOA0 Torodi Ar. Sit 52.87 258 P **P 21 43 35.4 -0.9**
TOA0 IAmb IAmb 21 43 36.1
comp=Z,9.9nm,1.1s
TORD Torodi Ar. Bea 52.87 258 P **P 21 43 35.3 -0.9**
comp=Z,6.9nm,1.0s,baz=38,slow=7.2,SNR=19
TORD Torodi Ar. Bea 52.87 258 P **P 21 43 35.3 -0.9**
GSI Gunungsitoli 52.89 122 P **P 21 43 35.6 -0.7**
KLR Kul'dur 55.29 51 *ceP* **P 21 43 57.9 +4.4**
KLR pmax pmax
comp=Z,1.0nm,0.8s
SUMG Summit 56.34 339 P **P 21 44 00.2 -1.0**
SUMG pmax pmax
comp=Z,3.0nm,0.9s
SUMG Summit 56.34 339 P **P 21 44 00.2 -1.0**
SUMG IAmb IAmb 21 44 19.9
comp=Z,3.1nm,0.9s
KSRS Korea Array 56.83 65 P **P 21 44 06.2 +1.5**
comp=Z,1.8nm,0.8s,baz=278,slow=6.2,SNR=12
USRK Ussuriysk Ar. 57.13 57 P **P 21 44 08.8 +2.1**
comp=Z,1.3nm,0.9s,baz=290,slow=6.0,SNR=4.6
USRK LR LR 22 11 12.8
comp=Z,123nm,18.6s,baz=292,slow=39
USRK Ussuriysk Ar. 57.13 57 P **P 21 44 07.2 +0.5**
USRK Ussuriysk Ar. 57.13 57 P **P 21 44 07.2 +0.5**
SSLB Suanglung 57.51 83 P **P 21 44 05.3 -4.4**
SSLB IAmb IAmb 21 44 14.1
comp=Z,5.4nm,0.9s
RER Riviere de l'E 57.61 179 P **P 21 44 10.2 -0.1**
DBIC Dimbokro 61.90 257 P **P 21 44 39.1 -0.8**
comp=Z,5.2nm,0.7s,baz=19,slow=8.7,SNR=5.9
DBIC Dimbokro 61.90 257 P **P 21 44 39.2 -0.8**
DBIC pmax pmax
comp=Z,9.0nm,0.9s
DBIC Dimbokro 61.90 257 IAmb IAmb 21 44 40.0
comp=Z,8.5nm,0.9s
KIC Kosan Boka 62.00 256 *eP* **P 21 44 39.8 -0.9**
comp=Z,61nm,1.4s
TIC Toumodi 62.05 257 *eP* **P 21 44 40.0 -1.0**
LIC Lamto 62.31 256 *eP* **P 21 44 41.6 -1.2**
comp=Z,37nm,0.8s
YSS Yuzh-Sakhalins 62.98 50 *deP* P 21 44 56.1 +9.3
YSS pmax pmax
comp=Z,200nm,2.8s
YSS MLR MLR
comp=Z,100nm,15.0s
BOSA Boshof 70.73 207 P **P 21 45 36.0 -0.3**
comp=Z,5.9nm,0.7s,baz=39,slow=6.5,SNR=13
ILAR Eielson Array 77.37 9 P **P 21 46 15.6 +0.9**

comp=Z,0.6nm,0.9s,baz=332,slow=4.5,SNR=4.8
BALM Baldy 81.54 8 P P 21 46 36.0 -1.6
BALM IAmb IAmb 21 46 47.9
comp=Z,7.9nm,1.2s
WRA Warramunga Arr 93.67 112 P P 21 47 36.3 -0.7
comp=Z,1.0nm,1.1s,baz=318,slow=4.0,SNR=6.2
ASAR Alice Springs 95.62 115 P P 21 47 45.0 -0.9
comp=Z,0.7nm,0.9s,baz=309,slow=5.1,SNR=6.2
ASAR Alice Springs 95.62 115 P P 21 47 45.0 -0.9

SNET 06 21:38:06.1±0.9, 13°.84N×90°.60W, h70km±7km, ML2.9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.80**	**86**	*e*P	Pn	21 38 22.5	+0.1
NUBE				*e*S	Sn	21 38 34.9	+0.6
RTR	**El Retiro**	**0.93**	**87**	*e*P	Pn	21 38 24.5	+0.6
RTR				*e*S	Sn	21 38 38.9	+1.7
CEVE	**Cerro Verde**	**0.95**	**91**	*e*P	Pn	21 38 24.6	+0.4
CEVE				*e*S	Sn	21 38 38.8	+1.1
CEVE				IAML		21 38 41.8	
	comp=Z,1μm,0.2s						
SBLS	**San Blas**	**0.95**	**90**	*e*P	Pn	21 38 24.6	+0.4
SBLS				*e*S	Sn	21 38 39.4	+1.6
SNJE	**San Jose**	**0.97**	**88**	*e*P	Pn	21 38 25.3	+0.9
SNJE				*e*S	Sn	21 38 39.9	+1.8
TACO	**Tacachico**	**1.22**	**84**	*e*P	Pn	21 38 27.2	-0.2
TACO				*e*S	Sn	21 38 44.8	+1.4
TACO				IAML		21 38 57.2	
	comp=Z,39nm,0.2s						
RTAL	**Retalhuleu**	**1.26**	**303**	*e*P	Pn	21 38 27.8	-0.1
RTAL				*e*S	Sn	21 38 44.9	+0.6
MTO3	**Montecristo**	**1.32**	**65**	*e*P	Pn	21 38 29.0	0.0
LFRS	**El Faro**	**1.51**	**98**	*e*P	Pn	21 38 32.2	+0.8
LFRS				*e*S	Sn	21 38 51.3	+0.9
COEG	**Centro de Oper**	**1.69**	**97**	*e*P	Pn	21 38 34.0	+0.3
LCND	**La Caada**	**2.69**	**101**	*e*P	Pn	21 38 47.3	+0.2

*INET **06** 21:48:57.6, 12°.38N×86°.45W, h8km, ML3.1*
UCR 06 21:48:58.9±1.9, 12°.38N×86°.59W, h27km±16km, MD4.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**0.16**	**317**	*e*P	Pb	21 49 03.5	-1.0
CRIN	**San Cristobal**	**0.55**	**305**	*e*P	Pb	21 49 10.2	+0.1
RCON	**San Juan de Ri**	**1.17**	**21**	*e*P	Pn	21 49 19.0	-0.7
HZTE	**Horizontes, Gu**	**1.92**	**150**	*e*P	Pn	21 49 29.9	+0.1
BUAI	**Buenos Aires**	**1.94**	**140**	*i* S	Sn	21 49 54.0	+0.5
GBS3	**Finca Las Img**	**1.94**	**145**	*i* P	Pn	21 49 29.9	-0.3
GB1A	**Borinquen Arri**	**1.94**	**143**	*e*P	Pn	21 49 30.2	0.0
GB1A				*i* S	Sn	21 49 54.6	+0.8
BUEV	**Buena Vista**	**1.95**	**144**	*i* P	Pn	21 49 30.3	-0.1
LAPC	**Finca la Perla**	**1.96**	**145**	*i* P	Pn	21 49 29.4	-1.0
LAPC				*i* S	Sn	21 49 53.4	-0.8
GPS1	**Guardaparques**	**2.00**	**143**	*i* P	Pn	21 49 30.9	-0.1
GPS3	**Bodega del ICE**	**2.01**	**143**	*i* S	Sn	21 49 55.7	+0.2
GPS2	**Hotel Rincn d**	**2.02**	**143**	*i* P	Pn	21 49 30.0	-1.2
GPS2				*i* S	Sn	21 49 56.1	+0.4
LIM1	**Limonal**	**2.12**	**142**	*i* P	Pn	21 49 33.2	+0.6
LIM1				*i* S	Sn	21 49 59.0	+0.8
COLC	**Colonia**	**2.18**	**141**	*i* P	Pn	21 49 33.9	+0.5
COLC				*i* S	Sn	21 50 01.5	+1.9
CUI	**Cuipilapa**	**2.21**	**141**	*e*P	Pn	21 49 34.0	+0.2
CUI				*i* S	Sn	21 50 01.3	+1.0
ESPN	**Las Esperanzas**	**2.24**	**95**	*e*P	Pn	21 49 34.0	-0.2
PTEN	**Parque Tenorio**	**2.28**	**136**	*i* P	Pn	21 49 33.3	-1.6
ORTG	**Ortega, Santa**	**2.29**	**151**	*e*P	Pn	21 49 34.5	-0.5
ACAL	**Aguas Claras**	**2.31**	**139**	*i* P	Pn	21 49 36.2	+1.0
ACAL				*i* S	Sn	21 50 04.6	+1.8
GUAI	**GUAI**	**2.35**	**153**	*i* P	Pn	21 49 35.8	+0.1
GUAI				*i* S	Sn	21 50 04.3	+0.6
PLVR	**Palo Verde**	**2.36**	**149**	*e*P	Pn	21 49 35.6	-0.4
GRZA	**Playa Garza**	**2.62**	**159**	*e*P	Pn	21 49 39.7	+0.2
JTS	**Las Juntas de**	**2.62**	**142**	*e*P	Pn	21 49 39.8	+0.3
CEDE	**Laguna Cedeo**	**2.64**	**135**	*i* P	Pn	21 49 40.1	+0.4
ARE1	**Arenal 1**	**2.65**	**136**	*e*P	Pn	21 49 41.7	+1.8
LAFE	**Finca La Fe, P**	**3.04**	**147**	*e*P	Pn	21 49 46.5	+1.2
JACO	**JACO, Garabito**	**3.30**	**145**	*e*P	Pn	21 49 50.4	+1.6
RIMA	**Rio Macho**	**3.73**	**134**	*e*P	Pn	21 49 55.8	+0.9
CDM	**Cerro de Muert**	**3.95**	**135**	*e*P	Pn	21 49 59.5	+1.4

*NEIC **06** 21:57:31.7±1.2, 22°.2S±0°.1×179°.8W±0°.1, h615km±10km, mb4.2/27, Error ellipse: s-maj=17.8km s-min=17.2km az=171.0*
*IDC **06** 21:57:35.3±6.2, 22°.23S×179°.92W, h664km±81km, mb3.2/7, mb1 3.4/8, mb1mx3.1/36, mbtmp4.3/8, Error ellipse: s-maj=42.9km s-min=36.5km az=145.0*
ISC 06 21:57:31.1±0.6, 22°.09S±0°.09×179°.86W±0°.09, h600km, n44, σ1°.39/42, mb4.2/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.76**	**335**	P	**S**	**21 59 00.7**	**-1.7**
MSVF				S	**S**	**22 00 22.0**	**+5.4**
RAO	**Raoul Island**	**7.34**	**167**	P	**P**	**21 59 26.2**	**+2.1**
NIUE	**Niue**	**9.78**	**74**	P	**P**	**21 59 49.0**	**+1.3**
DZM	**Mont Dzumac**	**12.70**	**268**	P	**P**	**22 00 19.6**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=98,slow=20,SNR=8.8						
DZM	**Mont Dzumac**	**12.70**	**268**	P	**P**	**22 00 18.5**	**+1.5**
SANVU	**Saraoutou**	**13.91**	**296**	P	**P**	**22 00 26.5**	**-2.8**
THZ	**Tophouse**	**20.53**	**196**	P	**P**	**22 01 27.6**	**-1.9**
THZ				IAmb	IAmb	22 01 43.6	
	comp=Z,12nm,1.2s						
LTZ	**Lake Taylor**	**21.65**	**196**	P	**P**	**22 01 40.5**	**+1.0**
LTZ				IAmb	IAmb	22 01 53.9	
	comp=Z,6.6nm,1.0s						
WKZ	**Wanaka**	**24.45**	**199**	P	**P**	**22 02 02.7**	**-1.6**
EIDS	**Eidsvold**	**26.78**	**257**	P	**P**	**22 02 24.9**	**-0.1**
EIDS				IAmb	IAmb	22 02 26.2	
	comp=Z,4.5nm,0.7s						
ARMA	**Armidale**	**26.82**	**246**	P	**P**	**22 02 25.5**	**0.0**
ARMA				IAmb	IAmb	22 02 28.3	
	comp=Z,8.3nm,1.1s						
CAN	**Canberra**	**30.19**	**237**	P	**P**	**22 02 53.8**	**-0.7**
CAN				IAmb	IAmb	22 02 56.5	
	comp=Z,7.3nm,1.1s						
CTAO	**Charters Tower**	**31.64**	**267**	P	**P**	**22 03 07.0**	**0.0**
TOO	**Toolangi**	**33.56**	**235**	P	**P**	**22 03 22.7**	**-0.3**
TOO				IAmb	IAmb	22 03 23.6	
	comp=Z,4.7nm,0.8s						
STKA	**Stephens Creek**	**35.54**	**246**	P	**P**	**22 03 39.8**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=91,slow=9.5,SNR=15						
STKA	**Stephens Creek**	**35.54**	**246**	IAmb	IAmb	22 03 46.6	
	comp=Z,0.3nm,0.8s						
COEN	**Coen**	**35.99**	**277**	P	**P**	**22 03 43.4**	**0.0**
COEN				IAmb	IAmb	22 03 59.2	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**40.29**	**245**	P	**P**	**22 04 17.2**	**-0.7**
BBOO				IAmb	IAmb	22 04 20.8	
	comp=Z,8.7nm,1.1s						
AS31	**Alice Springs**	**42.48**	**259**	P	**P**	**22 04 35.5**	**+0.1**
ASAR	**Alice Springs**	**42.48**	**259**	P	**P**	**22 04 35.2**	**-0.1**
	comp=Z,8.0nm,0.8s,baz=100,slow=7.7,SNR=86						
WR0	**Warramunga Arr**	**42.50**	**264**	P	**P**	**22 04 34.9**	**-0.6**
WB0	**Warramunga Arr**	**42.67**	**264**	P	**P**	**22 04 36.2**	**-0.5**
WB0				IAmb	IAmb	22 04 37.0	
	comp=Z,6.9nm,0.7s						
WB2	**Warramunga Arr**	**42.67**	**264**	P	**P**	**22 04 36.6**	**-0.2**
WB2				IAmb	IAmb	22 04 37.1	
	comp=Z,7.9nm,0.9s						
WRAB	**Tennant Creek**	**42.68**	**264**	P	**P**	**22 04 36.1**	**-0.7**
WRA	**Warramunga Arr**	**42.69**	**264**	P	**P**	**22 04 36.4**	**-0.5**
	comp=Z,2.5nm,0.4s,baz=94,slow=8.0,SNR=84						
WRA	**Warramunga Arr**	**42.69**	**264**	P	**P**	**22 04 36.4**	**-0.5**
JAY	**Jayapura**	**42.95**	**291**	P	**P**	**22 04 39.4**	**+0.4**
	comp=Z,8.0nm,0.7s,baz=160,slow=4.3,SNR=6.2						
FORT	**Forrest**	**47.08**	**248**	P	**P**	**22 05 09.5**	**-0.7**
MTN	**Manton Dam**	**47.47**	**273**	P	**P**	**22 05 13.3**	**-0.1**
KNRA	**Kununurra**	**48.85**	**268**	P	**P**	**22 05 23.6**	**0.0**
FAKI	**Fak Fak**	**50.21**	**285**	P	**P**	**22 05 33.3**	**-0.3**
FAKI				IAmb	IAmb	22 05 43.7	
	comp=Z,9.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.12**	**264**	P	**P**	**22 05 40.5**	**+0.5**
SOEI	**Soe**	**54.84**	**274**	P	**P**	**22 06 07.3**	**+0.6**
GIRL	**Giralia**	**60.47**	**256**	P	**P**	**22 06 43.9**	**-0.6**
GIRL				IAmb	IAmb	22 06 50.3	
	comp=Z,16nm,1.0s						
QSPA	**South Pole Qui**	**67.98**	**180**	P	**P**	**22 07 30.1**	**-1.2**
UGM	**Wanagama**	**68.21**	**270**	P	**P**	**22 07 33.2**	**-0.3**
MJAR	**Matsushiro Arr**	**70.49**	**325**	P	**P**	**22 07 46.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=169,slow=4.9,SNR=4.8						
MJAR	**Matsushiro Arr**	**70.49**	**325**	IAmb	IAmb	22 07 50.2	
	comp=Z,1.2nm,1.1s						
NVAR	**Mina Array Bea**	**83.37**	**44**	P	**P**	**22 08 56.0**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=246,slow=7.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.02**	**290**	P	**P**	**22 09 25.7**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=131,slow=4.1,SNR=6.0						
TXAR	**Lajitas Array**	**89.37**	**58**	P	**P**	**22 09 24.5**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=206,slow=5.4,SNR=4.2						
TOLK	**Toolik Lake Re**	**93.13**	**11**	P	**P**	**22 09 40.5**	**-1.0**
TOLK				IAmb	IAmb	22 09 57.0	
	comp=Z,1.6nm,0.8s						
AKASG	**Malin Array Be**	**143.51**	**329**	PKP	PKPab	22 15 55.6	-1.5
	comp=Z,0.9nm,0.4s,baz=39,slow=4.2,SNR=5.6						
CLL	**Collm**	**149.16**	**344**	*i* PKPbc	**PKPbc**	**22 16 11.9**	**-0.7**

*JMA **06** 22:24:12.3±0.1, 23°.77N×122°.88E, h55km, M2.1*
*TAP **06** 22:24:13.4, 23°.78N×122°.83E, h66km±2km, ML2.5, D*
ISC 06 22:24:11.8±1.3, 23°.71N±0°.04×122°.89E±0°.03, h29km±13km, n50, σ1°.22/86, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.74**	**4**	P	**Pb**	**22 24 26.3**	**+0.1**
JYNG				S	**Sb**	**22 24 35.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.76**	**9**	P	**Pb**	**22 24 26.4**	**0.0**
YOJ				S	**Sb**	**22 24 35.9**	**-0.6**
HATJ	**Hateruma jima**	**0.91**	**67**	P	**Pn**	**22 24 28.8**	**+0.2**
HATJ				*e*S	**Sb**	**22 24 41.0**	**+0.3**
IRIF	**Iriomote-Funau**	**0.99**	**51**	P	**Pn**	**22 24 29.9**	**+0.1**
IRIF				*e*S	**Sb**	**22 24 42.4**	**-0.7**
JKRS	**Kuro-shima**	**1.16**	**63**	P	**Pn**	**22 24 32.4**	**+0.4**
JKRS				*e*S	**Sn**	**22 24 47.0**	**+0.2**
ENA	**Nanau**	**1.27**	**305**	*e*P	**Pn**	**22 24 34.6**	**+1.0**
	baz=304						
ENA				*e*S	**Sn**	**22 24 49.5**	**-0.2**
	baz=304						
NACB	**Ninganchiao**	**1.27**	**292**	*e*P	**Pn**	**22 24 33.1**	**-0.5**
	baz=283						
NACB				*e*S	**Sn**	**22 24 46.9**	**-2.8**
	baz=283						
TWC	**Suao**	**1.30**	**314**	*e*S	**Sn**	**22 24 50.9**	**+0.4**
	baz=313						
JIJ	**Ishigaki jima**	**1.32**	**60**	P	**Pn**	**22 24 34.1**	**-0.2**
ESL	**Shilin**	**1.33**	**275**	*e*P	**Pn**	**22 24 34.0**	**-0.4**
	baz=272						
EGFH	**Guangfu**	**1.34**	**269**	*e*P	**Pn**	**22 24 34.8**	**+0.3**
	baz=266						
HGSD	**Ruisui**	**1.36**	**261**	*e*P	**Pn**	**22 24 34.5**	**-0.2**
	baz=258						
HGSD				*e*S	**Sn**	**22 24 50.0**	**-1.9**
	baz=258						
ETLH	**Xiulin Townshi**	**1.38**	**291**	*e*P	**Pn**	**22 24 35.1**	**0.0**
	baz=284						
ETLH				*e*S	**Sn**	**22 24 50.5**	**-1.9**
	baz=284						
EHY	**Hungye**	**1.45**	**262**	P	**Pn**	**22 24 36.7**	**+0.7**
	baz=260						
EHY				*e*S	**Sn**	**22 24 53.8**	**-0.3**
	baz=260						
EYUL	**Yuli**	**1.48**	**256**	*e*P	**Pn**	**22 24 37.1**	**+0.7**
	baz=248						
EYUL				*e*S	**Sn**	**22 24 54.4**	**-0.5**
	baz=248						
YULB	**Yu-li**	**1.49**	**258**	*e*P	**Pn**	**22 24 37.2**	**+0.6**
	baz=250						
YULB				*e*S	**Sn**	**22 24 54.9**	**-0.3**
	baz=250						
TWF1	**Yuli**	**1.50**	**257**	P	**Pn**	**22 24 37.4**	**+0.6**
	baz=249						
TWF1				S	**Sn**	**22 24 55.0**	**-0.3**
	baz=249						
ENTT	**Nioudou**	**1.52**	**308**	*e*P	**Pn**	**22 24 38.6**	**+1.6**
	baz=298						
NDT	**Datong Townshi**	**1.54**	**306**	*e*P	**Pn**	**22 24 40.0**	**+2.7**
	baz=297						
NDT				*e*S	**Sn**	**22 24 55.1**	**-1.2**
	baz=297						
WHF	**Hehuan Shan**	**1.54**	**287**	*e*P	**Pn**	**22 24 37.8**	**0.0**
	baz=285						
WHF				*e*S	**Sn**	**22 24 55.3**	**-1.8**
	baz=285						
FULB	**Fuli**	**1.55**	**251**	P	**Pn**	**22 24 37.6**	**+0.2**
	baz=242						
FULB				*e*S	**Sn**	**22 24 55.0**	**-1.5**
	baz=242						
NNSB	**Datong**	**1.55**	**298**	*e*P	**Pn**	**22 24 37.6**	**+0.1**
	baz=297						
NNSB				*e*S	**Sn**	**22 24 56.1**	**-0.7**
	baz=297						
NNSH	**Datong**	**1.55**	**298**	*e*P	**Pn**	**22 24 38.2**	**+0.6**
	baz=292						
NNSH				*e*S	**Sn**	**22 24 55.9**	**-0.9**
	baz=292						
FUSS	**Fushou**	**1.59**	**290**	*e*P	**Pn**	**22 24 38.9**	**+0.6**
	baz=289						
FUSS				*e*S	**Sn**	**22 24 57.3**	**-0.8**
	baz=289						
VWDT	**VWDT**	**1.60**	**272**	*e*P	**Pn**	**22 24 38.5**	**+0.4**
	baz=270						
VWDT				*e*S	**Sn**	**22 24 57.6**	**-0.2**
	baz=270						
CHGB	**Renai**	**1.60**	**283**	*e*P	**Pn**	**22 24 39.3**	**+0.9**
	baz=281						
CHGB				*e*S	**Sn**	**22 24 56.3**	**-2.0**
	baz=281						
EDH	**Donghe**	**1.63**	**244**	*e*P	**Pn**	**22 24 38.4**	**-0.1**
	baz=237						
EDH				*e*S	**Sn**	**22 24 57.0**	**-1.5**
	baz=237						
NWLT	**Wulai**	**1.65**	**310**	*e*P	**Pn**	**22 24 41.2**	**+2.3**
	baz=302						
NWLT				*e*S	**Sn**	**22 24 58.8**	**-0.3**
	baz=302						
LDUT	**Ludao**	**1.66**	**232**	*e*P	**Pn**	**22 24 38.6**	**-0.4**
	baz=234						
LDUT				*e*S	**Sn**	**22 24 56.9**	**-2.4**
	baz=234						
TDCB	**Techi**	**1.67**	**289**	*e*P	**Pn**	**22 24 39.8**	**+0.6**
	baz=288						
TDCB				*e*S	**Sn**	**22 24 59.1**	**-0.6**
	baz=288						
SSLB	**Suanglung**	**1.77**	**273**	*e*P	**Pn**	**22 24 42.3**	**+1.8**
	baz=271						
ELDTW	**Lidau**	**1.79**	**254**	*e*P	**Pn**	**22 24 41.0**	**+0.1**
	baz=251						
ELDTW				*e*S	**Sn**	**22 25 01.3**	**-1.4**
	baz=251						
LONT	**Longtian**	**1.80**	**244**	*e*P	**Pn**	**22 24 41.0**	**+0.1**
	baz=237						
LONT				*e*S	**Sn**	**22 25 01.8**	**-1.0**
	baz=237						
SMLT	**Sun Moon Lake**	**1.83**	**276**	*e*P	**Pn**	**22 24 41.3**	**-0.1**
	baz=268						
WHP	**Taichung City**	**1.86**	**288**	*e*P	**Pn**	**22 24 43.4**	**+1.6**
	baz=287						
WHP				*e*S	**Sn**	**22 25 04.8**	**+0.4**
	baz=287						
TYC	**Yuchr**	**1.87**	**276**	*e*P	**Pn**	**22 24 43.5**	**+1.7**
	baz=275						
JTJ	**Tarama**	**1.90**	**60**	P	**Pn**	**22 24 42.9**	**+0.6**
JTJ				*e*S	**Sn**	**22 25 05.5**	**+0.2**
ALS	**Alishan**	**1.92**	**265**	*e*P	**Pn**	**22 24 43.2**	**+0.4**
	baz=257						
CHN5	**Tsauling**	**2.03**	**267**	*e*P	**Pn**	**22 24 45.5**	**+1.5**
	baz=266						
CHN5				*e*S	**Sn**	**22 25 10.3**	**+1.7**
	baz=266						
STYT	**Tauyuan**	**2.03**	**255**	*e*P	**Pn**	**22 24 45.8**	**+1.7**
	baz=247						
TPUB	**Ta-pu**	**2.11**	**259**	*e*P	**Pn**	**22 24 46.5**	**+1.3**
	baz=253						
TPUB				*e*S	**Sn**	**22 25 12.3**	**+1.8**
	baz=253						
WTP	**Ta-pu**	**2.13**	**258**	*e*P	**Pn**	**22 24 47.6**	**+2.0**
	baz=253						
WTP				*e*S	**Sn**	**22 25 12.8**	**+1.6**
	baz=253						
CHN1	**Nanshi**	**2.23**	**257**	*e*P	**Pn**	**22 24 49.1**	**+2.3**
	baz=250						
CHN1				*e*S	**Sn**	**22 25 16.4**	**+3.1**
	baz=250						
SNST	**Tainan City**	**2.25**	**258**	*e*P	**Pn**	**22 24 47.3**	**+0.3**
	baz=256						
TSMG	**Majia**	**2.29**	**245**	*e*P	**Pn**	**22 24 50.8**	**+3.1**
	baz=238						
EAST	**Anshuo**	**2.29**	**235**	*e*P	**Pn**	**22 24 48.4**	**+0.7**
	baz=240						
MASBT	**Mashibuluo**	**2.34**	**243**	*e*P	**Pn**	**22 24 49.8**	**+1.5**
	baz=240						
MASBT				*e*S	**Sn**	**22 25 16.2**	**0.0**
	baz=240						
SCZT	**Fangliau**	**2.47**	**238**	*e*P	**Pn**	**22 24 50.8**	**+0.6**
	baz=239						
PHUB	**P'eng-hu**	**3.04**	**267**	*e*P	**Pn**	**22 24 58.2**	**+0.2**
	baz=279						
PHUB				*e*S	**Sn**	**22 25 33.2**	**-0.3**
	baz=279						
VWUC	**VWUC**	**3.38**	**293**	*e*P	**Pn**	**22 25 01.9**	**-0.8**
	baz=293						
VWUC				*e*S	**Sn**	**22 25 39.8**	**-2.0**
	baz=293						

IDC 06 22:31:46.8±3.0, 6°.21S×133°.61E, h0km, mb3.4/1, mb1 4.0/5, mb1mx3.6/31, mbtmp3.8/5, ML3.4/4, Error ellipse: s-maj=115.0km s-min=25.5km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.79**	**336**	Pn	Pn	22 33 13.6	-0.5
	2.8nm,0.3s,baz=213,slow=20,SNR=22						
SIJI				Sn	Sn	22 34 11.9	-9.4
	4.4nm,0.3s,baz=262,slow=23,SNR=11						
WRA	**Warramunga Arr**	**13.67**	**177**	Pn	Pn	22 35 02.0	-0.1
	0.5nm,0.3s,baz=356,slow=13,SNR=33						
FITZ	**Fitzroy Crossi**	**14.14**	**213**	Pn	Pn	22 35 08.7	+0.1
	0.3nm,0.3s,baz=34,slow=9.8,SNR=12						
FITZ				Sn	Sn	22 37 37.4	-9.0
	0.7nm,0.3s,baz=241,slow=19,SNR=10						
ASAR	**Alice Springs**	**17.36**	**179**	P	Pn	22 35 50.5	-0.2
	0.3nm,0.3s,baz=359,slow=13,SNR=23						
MKAR	**Makanchi Array**	**69.58**	**325**	P	P	22 42 58.0	+0.2
	0.2nm,0.5s,baz=119,slow=7.3,SNR=3.6						

*IDC **06** 23:04:29.7±3.6, 37°.83N×70°.76E, h0km, mb3.2/1, mb1 3.6/7, mb1mx3.3/49, mbtmp3.5/7, ML3.2/6, MS2.7/1, Ms1 2.7/1, ms1mx2.2/26, Error ellipse: s-maj=56.1km s-min=18.4km az=154.0*
*KRNET **06** 23:04:35.5±0.1, 38°.51N×70°.47E, h12km, mb4.8*
*NNC **06** 23:04:40.7±4.4, 38°.94N×69°.88E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=37.1km s-min=31.8km az=46.0*
ISC 06 23:04:38.5±1.3, 38°.63N±0°.08×70°.20E±0°.06, h10km, n26, σ2°.53/34, 13C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.38**	**14**	⇓*i*P	**Pg**	**23 04 45.3**	**-0.8**
	baz=47						
GAR				⇓*i*S	**Sg**	**23 04 52.6**	**+1.4**
	baz=47						
CHGR	**Chuyangaron**	**0.81**	**272**	⇑*i*P	**Pg**	**23 04 55.4**	**+1.2**
	baz=79						
CHGR				⇑*i*S	**Sn**	**23 05 09.7**	**+1.4**
	baz=79						
BTK	**Batken**	**1.51**	**18**	⇑*i*P	**Pn**	**23 05 04.9**	**-0.8**
	baz=10.0						
BTK				⇑*i*S	**Sn**	**23 05 26.5**	**+1.1**
	baz=10.0						
OHH	**Osh**	**2.75**	**46**	⇑*e*P	**Pn**	**23 05 22.6**	**-0.2**
	baz=41						
OHH				⇑*i*S	**Sn**	**23 05 56.5**	**+0.3**
	baz=41						
TAS	**Tashkent**	**2.78**	**346**	⇑*i*P	**Pn**	**23 05 25.8**	**+2.7**
	baz=43						
TAS				⇑*i*S	**Sb**	**23 06 02.4**	**0.0**
	baz=43						
IUG	**Iuzhnay**	**3.52**	**358**	Pg	**Pn**	**23 05 36.2**	**+2.8**
	14nm,0.4s						
IUG				Lg	Lg	23 06 22.7	
	319nm,0.7s						
DZA	**Taraz**	**4.35**	**11**	Pg	**Pn**	**23 05 47.2**	**+2.6**
	54nm,0.7s						
DZA				Lg	Lg	23 06 41.1	
	120nm,0.4s						
AML	**Almayashu**	**4.40**	**36**	P	**Pn**	**23 05 48.3**	**+2.6**
	SNR=26						
BRLS	**Borolday**	**4.41**	**357**	Pg	**Pn**	**23 05 47.8**	**+2.3**
	14nm,0.2s						
BRLS				Lg	Lg	23 06 42.3	
	17nm,0.5s						
KK31	**Karatay Array**	**4.48**	**3**	Pn	**Pn**	**23 05 48.0**	**+1.6**
	5.8nm,0.5s,baz=179,slow=12,SNR=127						
KK31				⇓Lg	Lg	23 06 59.8	
	22nm,0.5s,baz=174,slow=28,SNR=7.9						
MRKS	**Merke**	**4.71**	**28**	Pg	**Pn**	**23 05 52.0**	**+2.2**
	16nm,0.4s						
MRKS				Lg	Lg	23 06 49.2	
	20nm,0.9s						
EKS2	**Erkin-Say**	**4.86**	**33**	P	**Pn**	**23 05 56.0**	**+4.1**
	SNR=10						
AAK	**Ala-Archa**	**5.17**	**38**	Pn	**Pn**	**23 05 56.6**	**+0.5**
	2.3nm,0.3s,baz=205,slow=9.0,SNR=14						
AAK				Sn	**Sn**	**23 07 02.5**	**+6.7**
	1.7nm,0.3s,baz=342,slow=19,SNR=2.7						
KBK	**Karagaybulak**	**5.41**	**40**	P	**Pn**	**23 06 03.2**	**+3.9**
	SNR=24						
CHMS	**Chumysh**	**5.57**	**37**	P	**Pn**	**23 06 01.5**	**+0.1**
	SNR=14						
USP	**Ospenovka**	**5.66**	**34**	P	**Pn**	**23 06 05.6**	**+2.8**
	SNR=14						
TKM2	**Tokmak 2**	**5.93**	**42**	P	**Pn**	**23 06 10.1**	**+3.5**
	SNR=15						
TKM2	**Tokmak 2**	**5.93**	**42**	⇑Pn	**Pn**	**23 06 09.3**	**+2.7**
	27nm,0.7s						
TKM2				⇓Lg	Lg	23 07 48.2	
	29nm,0.9s						
GEYT	**Alibeck**	**9.53**	**270**	Pn	**Pn**	**23 06 54.4**	**-1.3**
	0.2nm,0.3s,baz=71,slow=26,SNR=3.2						
MKAR	**Makanchi Array**	**12.06**	**44**	Pn	**Pn**	**23 07 28.5**	**-1.8**
	0.1nm,0.3s,baz

PZZ				AML	AML		
	comp=E,447μm,0.6s						
DOI	**San Damiano**	**0.35**	**90**	P	**Pg**	**23 14 10.8**	**-0.4**
DOI				S	**Sg**	**23 14 16.3**	**+0.1**
DOI				AML	AML		
	comp=E,136μm,0.5s						
DOI				AML	AML		
	comp=N,133μm,0.7s						
ISO	**Isola**	**0.38**	**147**	Pg	**Pg**	**23 14 11.0**	**-0.9**
ISO				Sg	**Sg**	**23 14 15.9**	**-1.4**
RRL	**Rocca Remolon**	**0.41**	**3**	P	**Pg**	**23 14 12.3**	**-0.3**
RRL				S	**Sg**	**23 14 18.6**	**+0.2**
RRL	**Rocca Remolon**	**0.41**	**3**	P	**Pg**	**23 14 12.3**	**-0.3**
RRL				S	**Sg**	**23 14 18.6**	**+0.2**
RRL				AML	AML		
	comp=E,56μm,0.4s						
RRL				AML	AML		
	comp=N,61μm,1.1s						
STV	**Sant Anna di V**	**0.48**	**123**	P	**Pg**	**23 14 13.1**	**-0.5**
STV				S	**Sg**	**23 14 19.6**	**-0.6**
STV	**Sant Anna di V**	**0.48**	**123**	*i* P	**Pg**	**23 14 13.1**	**-0.5**
STV				S	**Sg**	**23 14 20.2**	**0.0**
STV				AML	AML		
	comp=E,106μm,0.3s						
STV				AML	AML		
	comp=N,128μm,0.6s						
OGDI	**Digne**	**0.52**	**220**	Pg	**Pb**	**23 14 14.5**	**0.0**
ENR	**Entracque**	**0.55**	**120**	P	**Pg**	**23 14 14.4**	**-0.5**
ENR				S	**Sg**	**23 14 21.7**	**-0.6**
ENR	**Entracque**	**0.55**	**120**	*i* P	**Pg**	**23 14 14.4**	**-0.5**
ENR				S	**Sg**	**23 14 22.5**	**+0.2**
ENR				AML	AML		
	comp=N,118μm,1.5s						
ENR				AML	AML		
	comp=E,100μm,1.4s						
ENR				AML	AML		
	comp=N,118μm,1.5s						
BNI	**Bardonecchia**	**0.55**	**354**	P	**Pg**	**23 14 14.7**	**-0.3**
BNI				S	**Sg**	**23 14 22.7**	**+0.4**
TURF	**col de Turini**	**0.70**	**139**	Pg	**Pg**	**23 14 17.0**	**-0.6**
TURF				Sg	**Sg**	**23 14 26.7**	**-0.3**
RSP	**Reno Superiore**	**0.73**	**29**	P	**Pg**	**23 14 18.2**	**-0.2**
RSP				S	**Sg**	**23 14 27.9**	**-0.2**
RSP	**Reno Superiore**	**0.73**	**29**	P	**Pg**	**23 14 18.1**	**-0.2**
RSP				S	**Sg**	**23 14 28.2**	**0.0**
RSP				AML	AML		
	comp=E,37μm,0.6s						
RSP				AML	AML		
	comp=N,40μm,0.2s						
ORIF	**Oris-en-Rattie**	**0.75**	**304**	*e*Pg	**Pg**	**23 14 17.3**	**-1.4**
ORIF				*e*Sg	**Sg**	**23 14 26.3**	**-2.4**
	comp=N,14nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.75**	**304**	*i* P	**Pg**	**23 14 17.3**	**-1.4**
ORIF				S	**Sg**	**23 14 27.4**	**-1.3**
BLAF	**les Blancs**	**0.76**	**223**	Pg	**Pg**	**23 14 17.8**	**-0.9**
CALF	**Calern**	**0.76**	**171**	Pg	**Pg**	**23 14 18.2**	**-0.6**
SAOF	**Saorge**	**0.77**	**132**	Pg	**Pg**	**23 14 18.5**	**-0.5**
SAOF				Sg	**Sg**	**23 14 29.0**	**-0.2**
SAOF	**Saorge**	**0.77**	**132**	P	**Pg**	**23 14 18.5**	**-0.5**
SAOF				S	**Sg**	**23 14 29.0**	**-0.2**
SAOF	**Saorge**	**0.77**	**132**	AML	AML		
	comp=E,50μm,0.2s						
SAOF				AML	AML		
	comp=N,38μm,0.6s						
SBF	**Sospel**	**0.81**	**143**	*e*Pg	**Pg**	**23 14 19.0**	**-0.6**
SBF				*e*Sg	**Sg**	**23 14 29.2**	**-1.1**
	comp=N,14nm,0.2s						
ESCA	**l'Escarene**	**0.81**	**147**	Pg	**Pg**	**23 14 19.2**	**-0.5**
ESCA				Sg	**Sg**	**23 14 29.7**	**-0.6**
GBOS	**Grotte di Boss**	**0.82**	**109**	P	**Pg**	**23 14 19.4**	**-0.5**
GBOS				S	**Sg**	**23 14 30.3**	**-0.4**
GBOS	**Grotte di Boss**	**0.82**	**109**	*i* P	**Pg**	**23 14 19.4**	**-0.5**
GBOS				S	**Sg**	**23 14 30.4**	**-0.3**
GBOS				AML	AML		
	comp=N,46μm,0.4s						
GBOS				AML	AML		
	comp=E,66μm,1.4s						
MGRO	**Montegrosso**	**0.88**	**121**	P	**Pg**	**23 14 20.5**	**-0.6**
MGRO				S	**Sg**	**23 14 32.3**	**-0.5**
MGRO	**Montegrosso**	**0.88**	**121**	P	**Pg**	**23 14 20.5**	**-0.6**
MGRO				S	**Sg**	**23 14 32.4**	**-0.5**
MGRO				AML	AML		
	comp=N,34μm,1.0s						
MGRO				AML	AML		
	comp=N,34μm,1.0s						
MGRO				AML	AML		
	comp=E,38μm,0.3s						
FRF	**La Foret Royal**	**0.95**	**185**	*e*Pg	**Pg**	**23 14 21.2**	**-1.1**
FRF				*e*Sg	**Sb**	**23 14 35.9**	**+1.8**
	comp=E,36nm,0.2s						
LSD	**Lago del Serru**	**0.99**	**15**	P	**Pg**	**23 14 22.6**	**-0.6**
LSD				S	**Sg**	**23 14 35.9**	**-0.3**
LSD				AML	AML		
	comp=N,18μm,0.3s						
LSD				AML	AML		
	comp=E,29μm,0.9s						
SMRF	**Simiane la Rot**	**1.00**	**239**	*e*Pg	**Pg**	**23 14 22.8**	**-0.6**
SMRF				*e*Sg	**Sb**	**23 14 36.7**	**+1.0**
	comp=E,11nm,0.3s						
IMI	**Imperia**	**1.01**	**126**	P	**Pg**	**23 14 22.8**	**-0.7**
LPL	**La Plagne**	**1.01**	**359**	*e*Pg	**Pb**	**23 14 23.6**	**+0.5**
LPL				*e*Sg	**Sg**	**23 14 33.2**	**-3.7**
	comp=E,6.3nm,0.3s						
RORO	**Rocca Rossa**	**1.02**	**112**	*i* P	**Pg**	**23 14 22.9**	**-0.7**
RORO				S	**Sg**	**23 14 36.4**	**-0.5**
RORO				AML	AML		
	comp=N,33μm,1.0s						
RORO				AML	AML		
	comp=E,40μm,0.6s						
BSTF	**la Bastide-des**	**1.02**	**232**	Pg	**Pn**	**23 14 24.4**	**+1.0**
GRN	**Grenoble**	**1.03**	**316**	Pg	**Pg**	**23 14 23.0**	**-0.9**
ARTF	**Artigues**	**1.15**	**217**	Pg	**Pg**	**23 14 25.4**	**-0.8**
QLNO	**Quiliano**	**1.15**	**99**	P	**Pg**	**23 14 24.9**	**-1.2**
QLNO				S	**Sg**	**23 14 40.6**	**-0.6**
QLNO				AML	AML		
	comp=E,26μm,0.2s						
QLNO				AML	AML		
	comp=N,25μm,1.2s						
FINB	**Finale Ligure**	**1.17**	**106**	P	**Pg**	**23 14 25.3**	**-1.2**
FINB				S	**Sg**	**23 14 41.1**	**-0.7**
FINB				AML	AML		
	comp=N,18μm,0.2s						
FINB				AML	AML		
	comp=E,22μm,1.4s						
LMR	**La Mourre**	**1.19**	**189**	*e*Pg	**Pg**	**23 14 26.2**	**-0.6**
LMR				*e*Sg	**Sg**	**23 14 40.3**	**-2.0**
	comp=E,9.5nm,0.2s						
VIVF	**Saint-Julien-l**	**1.53**	**284**	*e*Pg	**Pn**	**23 14 31.1**	**+0.7**
VIVF				*e*Sg	**Sn**	**23 14 50.6**	**+0.7**
	comp=E,4.9nm,0.3s						
OG35	**Corcelles**	**1.75**	**332**	Pg	**Pg**	**23 14 36.9**	**-0.7**
LASF	**Ste Croix**	**2.13**	**259**	*e*Pn	**Pn**	**23 14 38.7**	**+0.1**
LASF				*e*Sn	**Sn**	**23 15 03.8**	**-0.9**
	comp=E,0.9nm,0.2s						
CABF	**La Chapelle**	**2.16**	**348**	*e*Pn	**Pn**	**23 14 40.1**	**+1.0**

*SNET **06** 23:14:14.7±1.2, 14°.15N×91°.11W, h10km±15km, ML3.8*
*IDC **06** 23:14:16.0±3.3, 13°.96N×91°.16W, h83km±27km, mb3.6/4, mb1 4.0/6, mb1mx3.5/40, mbtmp4.0/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=41.0km s-min=19.8km az=52.0*
*NEIC **06** 23:14:15.7±1.5, 14°.11N±0°.07×91°.18W±0°.06, h76km±10km, mb4.1/42, Error ellipse: s-maj=11.9km s-min=6.8km az=211.0*
*UCR **06** 23:14:15.3±1.4, 14°.15N×91°.13W, h18km±38km, ML3.8, mb4.1(NEIC)*

ISC 06 23:14:14.0±0.9, 14°.00N±0°.06×91°.25W±0°.05, h67km±9km, n87, σ1§46/93, mb4.1/17, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.68**	**321**	⅊ *iP*	**Pn**	**23 14 27.3**	**-1.2**
RTAL				*e*S	**Sn**	**23 14 37.5**	**-1.7**
RTAL				IAML		23 14 42.4	
	comp=Z,3μm,0.3s						
RTAL	**Retalhuleu**	**0.68**	**321**		**Pn**	**23 14 27.4**	**-1.2**
APG	**El Apazote**	**1.26**	**37**	P	**Pn**	**23 14 36.3**	**+0.3**
	comp=Z,57nm,0.3s,baz=203,slow=13,SNR=893						
APG				S	**Sn**	**23 14 55.4**	**+3.1**
	comp=Z,148nm,0.3s,baz=75,slow=17,SNR=21						
APG				LR	LR	23 15 20.8	
	comp=Z,307nm,18.6s,baz=204,slow=52						
HUEH	**Huehuetenango**	**1.33**	**350**	*e*P	**Pn**	**23 14 37.0**	**+0.1**
HUEH				*e*S	**Sn**	**23 14 55.3**	**+1.2**
HUEH				IAML		23 15 02.8	
	comp=Z,3μm,0.4s						
HUEH	**Huehuetenango**	**1.33**	**350**		**Pn**	**23 14 37.1**	**+0.1**
HUEH				Sn	**Sn**	**23 14 55.0**	**+0.9**
RTR	**El Retiro**	**1.56**	**94**	*e*P	**Pn**	**23 14 41.3**	**+1.4**
RTR	**El Retiro**	**1.56**	**94**	*e*P	**Pn**	**23 14 41.3**	**+1.4**
SBLS	**San Blas**	**1.59**	**96**	*e*P	**Pn**	**23 14 41.3**	**+1.0**
SBLS				*e*S	**Sn**	**23 15 02.1**	**+1.9**
SBLS	**San Blas**	**1.59**	**96**	*e*P	**Pn**	**23 14 41.3**	**+1.0**
SBLS				*e*S	**Sn**	**23 15 02.1**	**+1.9**
SNJE	**San Jose**	**1.60**	**94**	*e*P	**Pn**	**23 14 41.7**	**+1.3**
SNJE	**San Jose**	**1.60**	**94**	*e*P	**Pn**	**23 14 41.7**	**+1.3**
MTO3	**Montecristo**	**1.88**	**78**	‖ *iP*	**Pn**	**23 14 44.3**	**+0.1**
MTO3	**Montecristo**	**1.88**	**78**	‖ *iP*	**Pn**	**23 14 44.3**	**+0.1**
MTO3	**Montecristo**	**1.88**	**78**	Pn	**Pn**	**23 14 44.3**	**+0.1**
MTO3				Sn	**Sn**	**23 15 02.2**	**-4.9**
BOQS	**Boqueron**	**1.93**	**98**	*e*P	**Pn**	**23 14 47.5**	**+2.6**
BOQS	**Boqueron**	**1.93**	**98**	*e*P	**Pn**	**23 14 47.5**	**+2.6**
ESQI	**Esquipulas**	**1.93**	**73**	Pn	**Pn**	**23 14 45.2**	**+0.4**
ESQI				Sn	**Sn**	**23 15 03.5**	**-4.8**
SNET	**Serv Nac Est T**	**1.99**	**99**	Pn	**Pn**	**23 14 46.9**	**+1.3**
LBRS	**Las Brisas**	**2.16**	**97**	*e*P	**Pn**	**23 14 48.8**	**+0.9**
LBRS	**Las Brisas**	**2.16**	**97**	*e*P	**Pn**	**23 14 48.8**	**+0.9**
LFRS	**El Faro**	**2.16**	**100**	*e*P	**Pn**	**23 14 49.4**	**+1.5**
LFRS	**El Faro**	**2.16**	**100**	*e*P	**Pn**	**23 14 49.4**	**+1.5**
CCIG	**Comitan**	**2.42**	**339**		**Pn**	**23 14 52.0**	**+0.4**
PETF	**Flores**	**3.19**	**25**	Pn	**Pn**	**23 15 02.4**	**+0.5**
TGUH	**Tegucigalpa,Un**	**3.86**	**89**	Pn	**Pn**	**23 15 12.3**	**+1.2**
MATN	**Matagalpa**	**5.29**	**101**	Pn	**Pn**	**23 15 32.5**	**+1.9**
BOAB	**BOACO BROADBAN**	**5.65**	**105**		**Pn**	**23 15 36.6**	**+1.1**
ACON	**Acoyapa**	**6.26**	**108**	Pn	**Pn**	**23 15 45.0**	**+1.2**
TEIG	**Tepich**	**6.81**	**24**	P	**Pn**	**23 15 52.1**	**+0.7**
	comp=Z,30nm,0.3s,baz=203,slow=14,SNR=140						
TEIG				LR	LR	23 18 35.1	
	comp=Z,115nm,20.0s,baz=0.5,slow=38						
TEIG	**Tepich**	**6.81**	**24**	Pn	**Pn**	**23 15 51.9**	**+0.5**
ESPN	**Las Esperanzas**	**7.01**	**104**	Pn	**Pn**	**23 15 55.6**	**+1.6**
JTS	**Las Juntas de**	**7.18**	**120**	P	**Pn**	**23 15 60.0**	**+3.5**
	comp=Z,0.9nm,0.3s,baz=290,slow=12,SNR=3.9						
JTS				S	**Sn**	**23 17 12.3**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=9.0,slow=22,SNR=3.9						
JTS	**Las Juntas de**	**7.18**	**120**	Pn	**Pn**	**23 15 58.6**	**+2.2**
TLIG	**Tlapa**	**7.88**	**298**	Pn	**Pn**	**23 16 08.3**	**+2.2**
GTBY	**Guantanamo Bay**	**16.52**	**67**	Pn	**Pn**	**23 18 01.2**	**-0.3**
553A	**Crawfordville**	**17.30**	**20**	P	**P**	**23 18 11.5**	**-0.1**
OTAV	**Otavalo**	**18.64**	**136**	P	**Pn**	**23 18 27.8**	**-0.1**
TXAR	**Lajitas Array**	**19.11**	**325**	P	**Pn**	**23 18 33.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=142,slow=9.7,SNR=14						
TXAR	**Lajitas Array**	**19.11**	**325**	P	**Pn**	**23 18 32.7**	**-0.4**
TX31	**Lajitas Ar. Si**	**19.11**	**325**	P	**P**	**23 18 31.0**	**-0.6**
TX31				IAmb	IAmb	23 18 38.6	
	comp=Z,6.1nm,0.7s						
TX32	**Lajitas Array**	**19.11**	**325**	P	**P**	**23 18 32.0**	**+0.4**
Z47A	**Carrollton**	**19.33**	**8**	P	**P**	**23 18 33.9**	**0.0**
Z47A				IAmb	IAmb	23 18 43.2	
	comp=Z,11nm,0.9s						
LRAL	**Lakeview Retre**	**19.34**	**11**	P	**P**	**23 18 34.7**	**+0.7**
152A	**Waverly Hall**	**19.52**	**17**	P	**P**	**23 18 36.6**	**+0.6**
WLAR	**White Oak Lake**	**19.67**	**355**	P	**P**	**23 18 37.0**	**-0.6**
Z51A	**Franklin**	**20.01**	**15**	P	**Pn**	**23 18 42.8**	**-0.7**
Z51A				IAmb	IAmb	23 18 46.1	
	comp=Z,7.0nm,0.8s						
ABTX	**Abilene, Hawle**	**20.06**	**339**	P	**P**	**23 18 42.2**	**+0.4**
ABTX				IAmb	IAmb	23 18 43.4	
	comp=Z,6.0nm,0.7s						
Y49A	**Blount Mountai**	**20.25**	**12**	P	**P**	**23 18 44.0**	**+0.1**
SC01	**Santiago de lo**	**20.38**	**72**	P	**P**	**23 18 46.0**	**+0.6**
GOGA	**Godfrey**	**20.58**	**19**	P	**P**	**23 18 46.8**	**-0.7**
GOGA				IAmb	IAmb	23 18 50.0	
	comp=Z,4.6nm,0.6s						
UALR	**University of**	**20.71**	**357**	P	**P**	**23 18 47.7**	**-1.1**
UALR				IAmb	IAmb	23 18 52.4	
	comp=Z,8.3nm,0.7s						
WHAR	**Wooly Hollow**	**21.22**	**358**	P	**P**	**23 18 53.6**	**-0.7**
X51A	**Calhoun**	**21.28**	**15**	P	**P**	**23 18 54.2**	**-0.8**
X51A				IAmb	IAmb	23 19 13.0	
	comp=Z,25nm,1.7s						
DR12	**Loma Pena Alta**	**21.51**	**74**	P	**P**	**23 18 57.4**	**-0.2**
SWET	**Sewanee**	**21.66**	**12**	P	**P**	**23 18 59.2**	**+0.1**
HODGE	**Hodges**	**21.73**	**20**	P	**P**	**23 18 58.9**	**-0.9**
HODGE				IAmb	IAmb	23 19 23.7	
	comp=Z,13nm,1.4s						
FCAR	**Ozark Folk Cen**	**21.81**	**358**	IAmb	IAmb	23 19 00.7	
	comp=Z,4.6nm,0.7s						
MNTX	**Cornudas Mount**	**21.86**	**326**	P	**P**	**23 19 01.6**	**+0.3**
JSC	**Jenkinsville**	**22.13**	**22**	P	**P**	**23 19 03.5**	**-0.5**
JSC				IAmb	IAmb	23 19 08.2	
	comp=Z,14nm,1.9s						
U40A	**Yellville**	**22.31**	**357**	IAmb	IAmb	23 19 06.1	
	comp=Z,4.4nm,0.7s						
CLTN	**Cedars of Leba**	**22.44**	**10**	P	**P**	**23 19 06.5**	**-0.8**
TKL	**Tuckaleechee C**	**22.59**	**16**	P	**P**	**23 19 08.7**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=175,slow=9.5,SNR=11						
TKL	**Tuckaleechee C**	**22.59**	**16**	P	**P**	**23 19 08.5**	**-0.6**
TKL				IAmb	IAmb	23 19 33.7	
	comp=Z,9.4nm,1.0s						
V55A	**Taylorsville**	**23.55**	**21**	P	**P**	**23 19 16.9**	**-1.6**
V55A				IAmb	IAmb	23 19 19.1	
	comp=Z,4.9nm,0.8s						
KAN13	**South Haven SW**	**23.58**	**347**	P	**P**	**23 19 17.6**	**-1.1**
CCM	**Cathedral Cave**	**23.96**	**0**	P	**P**	**23 19 21.1**	**-1.0**
CCM				IAmb	IAmb	23 19 21.6	
	comp=Z,6.0nm,0.6s						
R40A	**Maddies Statio**	**24.21**	**358**	IAmb	IAmb	23 19 24.7	
	comp=Z,6.8nm,0.8s						
V58A	**Windy Hill, Pi**	**24.29**	**25**	P	**P**	**23 19 23.3**	**-1.7**
V58A				IAmb	IAmb	23 19 24.4	
	comp=Z,6.5nm,0.6s						
BNM	**Barren Site**	**24.43**	**328**	P	**P**	**23 19 27.2**	**+0.6**
GCPR	**Guaynabo City**	**24.54**	**77**	P	**P**	**23 19 27.9**	**+0.3**
PDPR	**Patillas Dam,**	**24.57**	**77**	P	**P**	**23 19 28.0**	**+0.2**
LENM	**Lemitar**	**24.62**	**327**	P	**P**	**23 19 29.6**	**+1.2**
BLA	**Blacksburg**	**25.05**	**21**	P	**P**	**23 19 31.2**	**-1.0**
BLA				IAmb	IAmb	23 20 30.3	
	comp=Z,7.8nm,0.7s						
P40A	**Paris**	**25.44**	**359**	P	**P**	**23 19 34.1**	**-1.4**
P40A				IAmb	IAmb	23 19 36.2	
	comp=Z,5.3nm,0.8s						
TUC	**Tucson**	**25.51**	**319**	P	**P**	**23 19 37.2**	**+0.8**
P38A	**Dawn**	**25.61**	**356**	P	**P**	**23 19 35.9**	**-1.2**
P38A				IAmb	IAmb	23 19 38.2	
	comp=Z,4.4nm,0.8s						
LUPA	**Lehigh Univers**	**29.92**	**25**	P	**P**	**23 20 13.7**	**-1.9**
KNB	**Kanab**	**29.93**	**324**	P	**P**	**23 20 16.7**	**+0.7**
MTPU	**Mount Pierson**	**30.30**	**326**	P	**P**	**23 20 20.5**	**+1.1**
CCUT	**Cedar City**	**30.61**	**324**	P	**P**	**23 20 22.8**	**+0.8**
MSU	**Marysvale**	**30.64**	**327**	P	**P**	**23 20 22.6**	**+0.3**
PDAR	**Pinedale Array**	**32.73**	**335**	P	**P**	**23 20 41.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=148,slow=5.3,SNR=2.9						
NV11	**Mina Array Sit**	**34.04**	**321**	P	**P**	**23 20 52.9**	**+1.0**
NV11				IAmb	IAmb	23 20 54.6	
	comp=Z,1.9nm,0.8s						
NVAR	**Mina Array Bea**	**34.13**	**320**	P	**P**	**23 20 54.9**	**+2.1**
	comp=Z,2.8nm,0.8s,baz=130,slow=8.9,SNR=21						
NVAR	**Mina Array Bea**	**34.13**	**320**	P	**P**	**23 20 54.3**	**+1.5**
SIV	**San Ignacio**	**42.16**	**134**	P	**P**	**23 22 00.5**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=310,slow=8.2,SNR=9.4						
CMAR	**Chiang Mai Arr**	**146.22**	**342**	PKPbc	**PKPdf**	**23 33 46.6**	**0.0**
	comp=Z,1.9nm,0.6s,baz=336,slow=3.3,SNR=10						

*IDC **06** 23:33:05.5±0.5, 24°.15N×122°.95E, h0km, mb4.3/27, mb1 4.4/28, mb1mx4.2/52, mbtmp4.3/28, ML3.2/1, MS3.7/20, Ms1 3.7/20, ms1mx3.4/51, Error ellipse: s-maj=16.1km s-min=10.8km az=89.0*
*JMA **06** 23:33:07.6±0.1, 24°.06N×122°.90E, h18km±2km, M5.0*
JMA Felt II J1.
*NIED **06** 23:33:07.7, 24°.06N×122°.90E, h18km, MW4.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}=7.09; $M_{\theta\theta}$=1.27; $M_{\phi\phi}$=8.36; $M_{r\theta}$=5.36; $M_{\theta\phi}$=2.75; $M_{r\phi}$=0.43; Fault plane solution: M_0=9.83000×10^{15} NP1: ϕ_s=137.00000°, δ=59.00000°, λ=-126.00000°. NP2: ϕ_s=12.00000°, δ=46.00000°, λ=-45.00000°.*
*TAP **06** 23:33:07.5, 24°.07N×122°.90E, h18km±2km, ML4.8, D*
*NEIC **06** 23:33:07.1±1.5, 24°.01N±0°.07×122°.92E±0°.08, h18km±4km, mb4.8/168, Error ellipse: s-maj=11.7km s-min=8.9km az=137.0*
*BJI **06** 23:33:08.0±0.0, 24°.00N×122°.77E, h24km, mB4.6/45, mb4.4/52, ML4.4/6, Ms4.4/58, Ms7 4.2/48*

ISC 06 23:33:06.9±0.9, 24°.02N±0°.02×122°.90E±0°.02, h16km±5km, n369, σ1§35/462, mb4.8/109, MS3.8/18, 1C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**5**	P	**Pg**	**23 33 15.5**	**-0.1**
JYNG				S	**Sg**	**23 33 20.9**	**-0.7**
YOJ	**Yonaguni jima**	**0.45**	**13**	P	**Pb**	**23 33 16.0**	**-0.5**
YOJ				S	**Sg**	**23 33 21.7**	**-0.5**
IRIF	**Iriomote-Funau**	**0.82**	**67**	P	**Pb**	**23 33 22.8**	**0.0**
IRIF				*e*S	**Sg**	**23 33 34.2**	**+0.5**
HATJ	**Hateruma jima**	**0.83**	**87**	P	**Pb**	**23 33 22.8**	**-0.1**
HATJ				*e*S	**Sg**	**23 33 34.8**	**+0.9**
JKRS	**Kuro-shima**	**1.03**	**77**	P	**Pb**	**23 33 26.8**	**+0.4**
JKRS				*e*S	**Sb**	**23 33 40.3**	**+0.5**
ENA	**Nanau**	**1.14**	**291**	*e*P	**Pn**	**23 33 27.9**	**-0.3**
	baz=289						
ENA				*e*S	**Sn**	**23 33 42.9**	**-0.6**
	baz=289						
JIJ	**Ishigaki jima**	**1.19**	**73**	P	**Pn**	**23 33 28.8**	**0.0**
JIJ				S	**Sn**	**23 33 44.5**	**-0.1**
HWA	**Hwalien**	**1.19**	**268**	*e*P	**Pn**	**23 33 29.0**	**+0.2**
	baz=265						
NACB	**Ninganchiao**	**1.21**	**278**	*e*P	**Pn**	**23 33 29.2**	**+0.1**
	baz=259						
NACB				*e*S	**Sg**	**23 33 46.0**	**+0.1**
	baz=259						
NACB	**Ninganchiao**	**1.21**	**278**		**Pn**	**23 33 29.1**	**0.0**
EGS		**1.21**	**313**	*e*P	**Pb**	**23 33 29.4**	**0.0**
	baz=325						
EGS				*e*S	**Sg**	**23 33 45.0**	**-1.0**
	baz=325						
ILA	**Ilan**	**1.29**	**306**	*e*P	**Pg**	**23 33 31.5**	**-0.2**
	baz=318						
ILA				*e*S	**Sg**	**23 33 47.9**	**-0.6**
	baz=318						
TWE	**Neicheng**	**1.33**	**302**	P	**Pn**	**23 33 31.0**	**+0.2**
	baz=314						
TWE				S	**Sb**	**23 33 48.1**	**-0.1**
	baz=314						
ESL	**Shilin**	**1.36**	**262**	*e*P	**Pn**	**23 33 30.5**	**-0.7**
	baz=259						
TIPB	**Shuangxi**	**1.37**	**314**	*e*P	**Pb**	**23 33 31.6**	**-0.5**
	baz=328						
TIPB				S	**Sb**	**23 33 49.2**	**-0.2**
	baz=328						
ENTT	**Nioudou**	**1.37**	**297**	P	**Pb**	**23 33 32.2**	**0.0**
	baz=295						
ENTT				S	**Sg**	**23 33 50.5**	**-0.6**
	baz=295						
NDT	**Datong Townshi**	**1.40**	**295**	*e*P	**Pb**	**23 33 32.8**	**+0.2**
	baz=293						
NDT				*e*S	**Sg**	**23 33 51.5**	**-0.5**
	baz=293						
JISG	**Ishigakijimahi**	**1.41**	**66**	P	**Pn**	**23 33 32.4**	**+0.6**
JISG				S	**Sb**	**23 33 51.1**	**+0.6**
NNSB	**Datong**	**1.45**	**287**	P	**Pb**	**23 33 33.5**	**0.0**
	baz=285						
NNSB				*e*S	**Sb**	**23 33 52.6**	**+0.9**
	baz=285						
HGSD	**Ruisui**	**1.45**	**249**	*e*P	**Pn**	**23 33 31.9**	**-0.6**
	baz=248						
HGSD				*e*S	**Sn**	**23 33 51.4**	**+0.2**
	baz=248						
NNS	**Nan Shan**	**1.46**	**287**	P	**Pb**	**23 33 33.8**	**+0.1**
	baz=285						
NNS				*e*S	**Sb**	**23 33 51.7**	**-0.4**
	baz=285						
WFSB	**Wu-fen Shan**	**1.46**	**316**	*e*P	**Pb**	**23 33 33.2**	**-0.6**
	baz=315						
WFSB				*e*S	**Sg**	**23 33 54.0**	**-0.1**
	baz=315						
WHF	**Hehuan Shan**	**1.50**	**275**	P	**Pn**	**23 33 34.0**	**+0.4**
	baz=273						
WHF				*e*S	**Sb**	**23 33 53.9**	**+0.3**
	baz=273						
FUSS	**Fushou**	**1.53**	**279**	P	**Pb**	**23 33 34.8**	**-0.3**
	baz=277						
TWA	**Mucha**	**1.54**	**309**	P	**Pb**	**23 33 34.5**	**-0.5**
	baz=321						
TWA				*e*S	**Sb**	**23 33 54.3**	**0.0**
	baz=321						
CHGB	**Renai**	**1.58**	**272**	P	**Pn**	**23 33 35.1**	**+0.6**
	baz=258						
TWT	**Tachien**	**1.59**	**279**	*e*P	**Pb**	**23 33 36.2**	**+0.1**
	baz=262						
TWT				*e*S	**Sg**	**23 33 58.4**	**+0.1**
	baz=262						
EYUL	**Yuli**	**1.60**	**246**	*e*P	**Pn**	**23 33 33.9**	**-0.6**
	baz=232						
EYUL				*e*S	**Sn**	**23 33 56.0**	**+1.2**
	baz=232						
YULB	**Yu-li**	**1.60**	**247**	P	**Pn**	**23 33 34.2**	**-0.3**
	baz=234						
YULB				*e*S	**Sn**	**23 33 54.3**	**-0.5**
	baz=234						
YULB	**Yu-li**	**1.60**	**247**		**Pn**	**23 33 34.3**	**-0.2**
TATO	**Taipei**	**1.60**	**307**		**Pb**	**23 33 35.4**	**-0.7**
TDCB	**Techi**	**1.61**	**279**	P	**Pn**	**23 33 35.6**	**+0.8**
	baz=263						
TDCB				*e*S	**Sb**	**23 33 57.7**	**+1.2**
	baz=263						
TWF1	**Yuli**	**1.61**	**246**	*e*P	**Pn**	**23 33 34.4

LIOB	**Emei**	**1.83 290**	*e*P	**Pb**	**23 33 40.0**	**0.0**
	baz=289					
LIOB			*e*S	**Sg**	**23 34 04.6**	**-1.3**
	baz=289					
SMLT	**Sun Moon Lake**	**1.84 266**	*e*P	**Pn**	**23 33 38.6**	**+0.8**
	baz=265					
SMLT			*e*S	**Sn**	**23 34 01.7**	**+0.8**
	baz=265					
NSTT	**Nanjuang**	**1.84 290**	*e*P	**Pb**	**23 33 40.3**	**+0.1**
	baz=288					
NSTT			*e*S	**Sg**	**23 34 04.5**	**-1.6**
	baz=288					
TYC	**Yuchr**	**1.87 267**	*e*P	**Pn**	**23 33 39.4**	**+1.1**
	baz=266					
TYC			*e*S	**Sn**	**23 34 03.0**	**+1.4**
	baz=266					
LDUT	**Ludao**	**1.88 225**	*e*P	**Pn**	**23 33 36.4**	**-1.9**
	baz=224					
LDUT			*e*S	**Sn**	**23 33 59.6**	**-2.1**
	baz=224					
SBCB	**Hsinchu**	**1.91 294**	*e*P	**Pb**	**23 33 41.4**	**+0.1**
	baz=293					
SBCB			*e*S	**Sb**	**23 34 06.2**	**+1.2**
	baz=293					
ELDTW	**Lidau**	**1.92 245**	*e*P	**Pn**	**23 33 38.5**	**-0.4**
	baz=243					
HSN	**Hsinchu**	**1.93 294**	*e*P	**Pb**	**23 33 41.3**	**-0.4**
	baz=294					
HSN			*e*S	**Sb**	**23 34 04.6**	**-0.9**
	baz=294					
LONT	**Longtian**	**1.97 236**	*e*P	**Pn**	**23 33 39.3**	**-0.3**
	baz=226					
LONT			*e*S	**Sn**	**23 34 05.3**	**+1.3**
	baz=226					
TWQ1	**Liyutan**	**1.97 280**	*e*P	**Pb**	**23 33 42.6**	**+0.2**
	baz=266					
TWQ1			*e*S	**Sb**	**23 34 07.8**	**+1.0**
	baz=266					
ALS	**Alishan**	**1.99 256**	*e*P	**Pn**	**23 33 41.1**	**+0.9**
	baz=254					
ALS			*e*S	**Sb**	**23 34 07.2**	**-0.3**
	baz=254					
NSY	**Sanyi**	**2.00 282**	*e*P	**Pb**	**23 33 42.8**	**0.0**
	baz=281					
NSY			*e*S	**Sb**	**23 34 07.0**	**-0.5**
	baz=281					
WNT	**Mingjian**	**2.03 267**	*e*P	**Pb**	**23 33 43.4**	**-0.1**
	baz=265					
WNT			*e*S	**Sb**	**23 34 09.5**	**+0.9**
	baz=265					
TCU	**Taichung**	**2.04 274**	*e*P	**Pb**	**23 33 43.8**	**+0.3**
	baz=272					
TTN	**Taitung**	**2.04 232**	*e*P	**Pn**	**23 33 42.4**	**+1.8**
	baz=231					
TTN			*e*S	**Sn**	**23 34 07.6**	**+1.7**
	baz=231					
PTSB	**Yuanli**	**2.05 283**	*e*P	**Pb**	**23 33 43.6**	**-0.2**
	baz=281					
PTSB			*e*S	**Sb**	**23 34 10.2**	**+1.1**
	baz=281					
TWGBT	**Beinan**	**2.06 235**	*e*P	**Pn**	**23 33 40.6**	**-0.2**
	baz=224					
TWGBT			*e*S	**Sn**	**23 34 05.1**	**-1.0**
	baz=224					
TWG	**Pinlang**	**2.06 235**	*e*P	**Pn**	**23 33 40.5**	**-0.3**
	baz=224					
TWG			*e*S	**Sn**	**23 34 05.5**	**-0.7**
	baz=224					
TWG	**Pinlang**	**2.06 235**		**Pn**	**23 33 40.4**	**-0.5**
CHN5	**Tsauling**	**2.08 259**	*e*P	**Pn**	**23 33 43.3**	**+2.0**
	baz=247					
CHN5			*e*S	**Sb**	**23 34 11.5**	**+1.5**
	baz=247					
STYT	**Tauyuan**	**2.14 247**	*e*P	**Pn**	**23 33 43.2**	**+1.1**
	baz=236					
STYT			*e*S	**Sn**	**23 34 09.4**	**+1.0**
	baz=236					
WGK	**Gukeng**	**2.17 262**	*e*P	**Pb**	**23 33 45.0**	**-0.8**
	baz=260					
WGK			*e*S	**Sb**	**23 34 14.4**	**+2.0**
	baz=260					
WDLH	**Douliu**	**2.19 262**	*e*P	**Pb**	**23 33 45.5**	**-0.6**
	baz=261					
WDLH			*e*S	**Sb**	**23 34 14.4**	**+1.4**
	baz=261					
TPUB	**Ta-pu**	**2.20 252**	*e*P	**Pn**	**23 33 43.4**	**+0.5**
	baz=242					
TPUB			*e*S	**Sb**	**23 34 13.3**	**-0.1**
	baz=242					
TPUB	**Ta-pu**	**2.20 252**	Pn	**Pn**	**23 33 42.9**	**+0.1**
JIRB	**Irabujima**	**2.22 68**	P	**Pn**	**23 33 44.5**	**+1.4**
WTP	**Ta-pu**	**2.23 250**	*e*P	**Pn**	**23 33 45.0**	**+1.7**
	baz=240					
WTP			*e*S	**Sb**	**23 34 14.1**	**-0.3**
	baz=240					
ECL	**Taimali**	**2.28 232**	*e*P	**Pn**	**23 33 43.5**	**-0.4**
	baz=231					
ECL			*e*S	**Sn**	**23 34 10.5**	**-1.2**
	baz=231					
JIKM	**Ikemajima**	**2.32 67**	P	**Pn**	**23 33 46.1**	**+1.7**
SGST	**Jiashian**	**2.32 247**	*e*P	**Pn**	**23 33 45.8**	**+1.3**
	baz=235					
SGST			*e*S	**Sb**	**23 34 16.1**	**-0.8**
	baz=235					
WTK	**Tuku**	**2.32 262**	*e*P	**Pb**	**23 33 47.5**	**-0.9**
	baz=261					
WTK			*e*S	**Sb**	**23 34 15.7**	**-1.3**
	baz=261					
JMJ2	**Miyako jima3**	**2.33 71**	P	**Pn**	**23 33 46.7**	**+2.2**
LAY	**Lan-yu**	**2.33 213**	*e*P	**Pn**	**23 33 43.9**	**-0.7**
	baz=211					
LAY			*e*S	**Sn**	**23 34 10.5**	**-2.5**
	baz=211					
RLNB	**Erlin**	**2.33 267**	*e*P	**Pb**	**23 33 47.3**	**-1.2**
	baz=280					
RLNB			*e*S	**Sb**	**23 34 18.7**	**+1.6**
	baz=280					
CHN1	**Nanshi**	**2.33 250**	*e*P	**Pn**	**23 33 47.1**	**+2.5**
	baz=249					
CHN1			*e*S	**Sb**	**23 34 17.1**	**0.0**
	baz=249					
SSD	**Sandimen**	**2.44 239**	*e*P	**Pn**	**23 33 48.4**	**+2.3**
	baz=231					
SSD			*e*S	**Sn**	**23 34 15.3**	**-0.3**
	baz=231					
WLGB	**Puzi**	**2.44 258**	*e*P	**Pb**	**23 33 49.0**	**-1.4**
	baz=257					
WLGB			*e*S	**Sb**	**23 34 19.7**	**-0.7**
	baz=257					
TSMG	**Majia**	**2.45 238**	*e*P	**Pn**	**23 33 48.6**	**+2.4**
	baz=231					
TSMG			*e*S	**Sn**	**23 34 18.0**	**+2.1**
	baz=231					
WMLT	**Mailiao**	**2.46 266**	*e*S	**Sb**	**23 34 21.3**	**+0.5**
	baz=280					
SCST	**Cishan**	**2.48 244**	*e*P	**Pb**	**23 33 49.8**	**-1.3**
	baz=243					
SCST			*e*S	**Sb**	**23 34 20.4**	**-1.0**
	baz=243					
WSF	**Szhu**	**2.48 262**	*e*P	**Pb**	**23 33 49.7**	**-1.4**
	baz=261					
WSF			*e*S	**Sb**	**23 34 21.5**	**0.0**
	baz=261					
ICHU	**Yijhu**	**2.49 255**	*e*P	**Pn**	**23 33 49.0**	**+2.2**
	baz=254					
EAST	**Anshuo**	**2.49 230**	*e*P	**Pn**	**23 33 46.8**	**-0.1**
	baz=239					
EAST			*e*S	**Sn**	**23 34 17.3**	**+0.3**
	baz=239					
MASBT	**Mashibuluo**	**2.51 237**	*e*P	**Pn**	**23 33 47.9**	**+0.8**
	baz=229					
MASBT			*e*S	**Sn**	**23 34 18.8**	**+1.4**
	baz=229					
CHN8	**Yiju**	**2.56 255**	*e*P	**Pn**	**23 33 50.3**	**+2.7**
	baz=254					
CHN8			*e*S	**Sb**	**23 34 22.1**	**-1.4**
	baz=254					
TWM1	**Shoushan**	**2.57 243**	*e*P	**Pb**	**23 33 51.9**	**-0.7**
	baz=241					
SCLT	**Jiali**	**2.62 252**	*e*P	**Pn**	**23 33 50.9**	**+2.3**
	baz=251					
SCLT			*e*S	**Sb**	**23 34 24.8**	**-0.7**
	baz=251					
SLIU	**Shizi**	**2.64 228**	*e*P	**Pn**	**23 33 49.1**	**+0.2**
	baz=227					
SLIU			*e*S	**Sn**	**23 34 21.2**	**+0.7**
	baz=227					
SCZT	**Fangliau**	**2.66 233**	*e*P	**Pn**	**23 33 51.0**	**+1.9**
	baz=232					
SCZT			*e*S	**Sn**	**23 34 22.4**	**+1.3**
	baz=232					
TSEB	**Hengchuen, Pin**	**2.80 222**	*e*P	**Pn**	**23 33 54.1**	**+3.0**
	baz=221					
TSEB			*e*S	**Sn**	**23 34 27.1**	**+2.6**
	baz=221					
TWKBT	**Hengchun**	**2.82 223**	*e*P	**Pn**	**23 33 51.5**	**+0.1**
	baz=223					
TWKBT			*e*S	**Sn**	**23 34 26.2**	**+1.1**
	baz=223					
HEN	**Hengchun**	**2.83 225**	*e*P	**Pn**	**23 33 54.3**	**+3.0**
	baz=224					
HEN			*e*S	**Sn**	**23 34 26.7**	**+1.6**
	baz=224					
TWK1	**Hengchun**	**2.83 224**	*e*P	**Pn**	**23 33 52.9**	**+1.4**
	baz=223					
TWK1			*e*S	**Sn**	**23 34 25.3**	**+0.1**
	baz=223					
SNW	**Nanwan**	**2.85 225**	*e*S	**Sn**	**23 34 27.8**	**+2.1**
	baz=224					
WDGT	**Dungji**	**3.07 256**	*e*P	**Pn**	**23 33 56.7**	**+2.0**
	baz=255					
WDGT			*e*S	**Sn**	**23 34 33.1**	**+2.0**
	baz=255					
PHUB	**P'eng-hu**	**3.09 261**	*e*P	**Pn**	**23 33 57.0**	**+2.0**
	baz=275					
PHUB			*e*S	**Sn**	**23 34 34.8**	**+3.1**
	baz=275					
PNG	**Penghu**	**3.10 262**	*e*P	**Pn**	**23 33 56.8**	**+1.7**
	baz=277					
PNG			*e*S	**Sn**	**23 34 33.6**	**+1.7**
	baz=277					
PTTC	**Pingtan**	**3.21 298**	*e*P	**Pn**	**23 33 58.0**	**+1.4**
	baz=298					
VWUC	**VWUC**	**3.29 288**	*e*P	**Pn**	**23 33 58.0**	**+0.3**
	baz=286					
MATB	**Ma-tsu**	**3.42 309**	*e*P	**Pn**	**23 34 00.5**	**+0.9**
	baz=311					
PTMZ	**Houxiangcun**	**3.59 287**	*e*P	**Pn**	**23 34 02.5**	**+0.6**
	baz=286					
XPSS	**Dashiqiu**	**3.80 320**	*e*P	**Pn**	**23 34 05.4**	**+0.6**
	baz=323					
LYJJ	**Jianjiangzhen**	**3.80 312**	*e*P	**Pn**	**23 34 07.4**	**+2.6**
	baz=315					
QZH	**Quanzhou**	**4.03 284**	⇓*i*Pn	**Pn**	**23 34 08.8**	**+0.8**
QZH			Sn	**Sn**	**23 34 50.7**	**-4.3**
QZH			smax	smax		
	comp=N,330nm,1.1s					
QZH			LR	LR		
	comp=N,2μm,7.3s					
QZH			LR	LR		
	comp=E,2μm,7.3s					
QZH			LR	LR		
	comp=Z,2μm,8.1s					
MHZQ	**Yeshan**	**4.08 301**	*e*P	**Pn**	**23 34 09.9**	**+1.3**
	baz=302					
KNM	**Kinmen**	**4.10 276**	*e*P	**Pn**	**23 34 11.8**	**+2.9**
	baz=274					
KNMB	**Chin-men Tao**	**4.14 277**	*e*P	**Pn**	**23 34 10.7**	**+1.2**
	baz=275					
KNMB	**Chin-men Tao**	**4.14 277**	Pn	**Pn**	**23 34 10.3**	**+0.8**
JKE	**Kume jima 2**	**4.20 56**	P	**Pn**	**23 34 12.1**	**+1.8**
AXDP	**Jialang**	**4.58 282**	*e*P	**Pn**	**23 34 16.4**	**+0.9**
	baz=269					
JAGN	**Aguni-jima**	**4.69 56**	P	**Pn**	**23 34 19.4**	**+2.4**
ZPLA	**Ao Xicun**	**4.71 270**	*e*P	**Pn**	**23 34 19.3**	**+1.9**
	baz=268					
ZZJH	**Jiuhuzhen**	**4.83 276**	*e*P	**Pn**	**23 34 20.9**	**+1.9**
	baz=274					
JIH	**Iheya**	**5.47 56**	P	**Pn**	**23 34 29.4**	**+1.6**
JOW	**Kunigami**	**5.61 59**	P	**Pn**	**23 34 30.7**	**+1.0**
CVP	**Callao Caves**	**6.36 189**	⇓*i*P	**Pn**	**23 34 42.2**	**+2.1**
SSE	**Sheshan**	**7.21 348**	Pn	**Pn**	**23 34 52.7**	**+1.0**
SSE			Sn	**Sn**	**23 36 16.9**	**+3.6**
SSE			LR	LR		
	comp=N,540nm,7.0s					
SSE			LR	LR		
	comp=E,460nm,11.9s					
SSE	**Sheshan**	**7.21 348**	Pn	**Pn**	**23 34 51.2**	**-0.5**
HKPS	**Hong Kong Po S**	**8.25 260**	Pn	**Pn**	**23 35 06.4**	**+0.5**
NJ2	**Nanjing**	**8.77 337**	*e*P	**Pn**	**23 35 14.7**	**+1.7**
NJ2			S	**Sn**	**23 36 53.6**	**+2.1**
NJ2			sS		23 37 06.1	
NJ2			pmax	pmax		
	comp=Z,28nm,0.5s					
NJ2			LR	LR		
	comp=N,910nm,7.6s					
NJ2			LR	LR		
	comp=E,1μm,7.4s					
NJ2			LR	LR		
	comp=Z,1μm,9.0s					
GZH	**Guangzhou**	**8.82 266**	P	**Pn**	**23 35 10.9**	**-2.8**
WHN	**Wuhan**	**10.00 312**	P	Pn	23 35 36.9	+6.9
WHN			S	Sn	23 37 32.0	+10
WHN			LR	LR		
	comp=N,3μm,8.7s					
WHN			LR	LR		
	comp=E,1μm,5.3s					
WHN			LR	LR		
	comp=Z,3μm,10.6s					
TGY	**Tagaytay City**	**10.04 191**	LR	LR	23 39 17.9	
	comp=Z,265nm,18.2s,baz=298,slow=37					
JNU	**Nakatsue**	**11.46 36**	LR	LR	23 41 09.4	
	comp=Z,420nm,18.9s,baz=214,slow=43					
QIZ	**Qiongzhong**	**13.12 250**	P	**Pn**	**23 36 13.5**	**+0.7**
QIZ			S	**Sn**	**23 38 39.1**	**+0.6**
QIZ			LR	LR		
	comp=N,610nm,17.4s					
QIZ			LR	LR		
	comp=E,290nm,14.3s					
QIZ			LR	LR		
	comp=Z,370nm,14.7s					
TIA	**Tai'an**	**13.14 339**	P	**P**	**23 36 18.8**	**-4.2**
TIA			pmax	pmax		
	comp=Z,5.0nm,0.6s					
TIA			pmax	pmax		
	comp=Z,120nm,3.6s					
TIA			LR	LR		
	comp=N,380nm,7.8s					
TIA			LR	LR		
	comp=E,360nm,8.3s					
TIA			LR	LR		
	comp=Z,650nm,8.5s					
KSAR	**Wonju Array Be**	**14.05 17**	Pn	**Pn**	**23 36 25.8**	**+0.5**
KSRS	**Korea Array**	**14.07 17**	Pn	**Pn**	**23 36 28.8**	**+3.3**
	0.5nm,0.3s,baz=197,slow=12,SNR=40					
KSRS			LR	LR	23 42 07.2	
	comp=Z,253nm,20.4s,baz=190,slow=39					
KS19	**Wonju Array Si**	**14.10 16**		**Pn**	**23 36 28.7**	**+2.7**
DL2	**Dalian**	**14.88 356**	P	**P**	**23 36 42.2**	**-0.1**
DL2			S	**S**	**23 39 33.5**	**-5.8**
DL2			pmax	pmax		
	comp=Z,22nm,0.7s					
DL2			pmax	pmax		
	comp=Z,180nm,4.8s					
DL2			LR	LR		
	comp=N,470nm,14.2s					
DL2			LR	LR		
	comp=E,610nm,13.2s					
DL2			LR	LR		
	comp=Z,720nm,11.8s					
GYA	**Guiyang**	**14.89 283**	⇓P	**P**	**23 36 43.4**	**+0.7**
GYA			S	**S**	**23 39 39.8**	**-0.1**
GYA			pmax	pmax		
	comp=Z,7.0nm,1.2s					
GYA			pmax	pmax		
	comp=Z,56nm,4.3s					
GYA			LR	LR		
	comp=N,870nm,7.9s					
GYA			LR	LR		
	comp=E,810nm,6.6s					
GYA			LR	LR		
	comp=Z,940nm,8.5s					
XAN	**Xi'an**	**15.77 312**	P	**P**	**23 36 54.4**	**+2.1**
XAN			pP	sP	23 36 58.5	+1.2
XAN			S	**S**	**23 39 50.1**	**-7.5**
XAN			pmax	pmax		
	comp=Z,9.0nm,1.3s					
XAN			pmax	pmax		
	comp=Z,78nm,3.3s					
XAN			LR	LR		
	comp=Z,2μm,14.3s					
XAN			LR	LR		
	comp=Z,1μm,15.1s					
XAN			LR	LR		
	comp=Z,1μm,14.7s					
XAN	**Xi'an**	**15.77 312**	Pn	**Pn**	**23 36 46.9**	**-1.5**
INU	**Inuyama**	**16.65 44**	Pn	**Pn**	**23 37 00.2**	**+0.5**
BJT	**Baijiatuau**	**16.94 342**		**P**	**23 37 03.8**	**-1.3**
BJI	**Beijing**	**16.95 342**	P	**P**	**23 37 08.1**	**+2.8**
BJI			S	**S**	**23 40 17.0**	**-4.6**
BJI			pmax	pmax		
	comp=Z,7.0nm,1.1s					
BJI			pmax	pmax		
	comp=Z,150nm,7.1s					
BJI			LR	LR		
	comp=Z,230nm,13.2s					
BJI			LR	LR		
	comp=Z,280nm,13.2s					
SLVN	**Son La**	**17.73 265**		**P**	**23 37 14.1**	**0.0**
MAJO	**Matsushiro**	**18.15 43**		**P**	**23 37 18.4**	**-0.2**
MAT	**Matsushiro**	**18.15 43**	P	**P**	**23 37 18.6**	**0.0**
MAT			*e*S	**Sn**	**23 40 41.2**	**+0.5**
MJAR	**Matsushiro Arr**	**18.15 43**	P	**P**	**23 37 19.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=230,slow=9.8,SNR=11					
MJAR			LR	LR	23 45 30.1	
	comp=Z,162nm,18.3s,baz=230,slow=41					
MJAR	**Matsushiro Arr**	**18.15 43**	P	**P**	**23 37 18.8**	**+0.2**
DLV	**T Lat**	**18.20 231**		**Pn**	**23 37 19.8**	**+0.5**
DLV			IAmb	IAmb	23 37 28.9	
	comp=Z,61nm,1.1s					
CD2	**Chengdu**	**18.31 296**	P	**P**	**23 37 21.0**	**+0.6**
CD2			pP	pwP	23 37 27.7	-0.5
CD2			sP	sP	23 37 31.2	+5.6
CD2			S	**Sn**	**23 40 45.8**	**+1.1**
CD2			pmax	pmax		
	comp=Z,30nm,0.6s					
CD2			pmax	pmax		
	comp=Z,170nm,5.4s					
CD2			LR	LR		
	comp=Z,1μm,15.2s					
CD2			LR	LR		
	comp=Z,1μm,10.6s					
CD2			LR	LR		
	comp=Z,2μm,11.8s					
KMI	**Kunming**	**18.37 278**	⇑P	**Pn**	**23 37 26.4**	**+5.0**
KMI			pP	sP	23 37 30.6	+3.9
KMI			sP	pP	23 37 33.6	+8.6
KMI			pmax	pmax		
	comp=Z,6.0nm,1.0s					
KMI			pmax	pmax		
	comp=Z,130nm,7.8s					
KMI			LR	LR		
	comp=Z,560nm,8.1s					
KMI			LR	LR		
	comp=Z,1μm,9.2s					
KMI			LR	LR		
	comp=Z,1μm,10.8s					
UBPT	**Khong Chiam**	**18.56 245**		**P**	**23 37 23.7**	**+0.5**
BTO	**Baotou**	**19.76 330**	*e*P	**Pn**	**23 37 37.7**	**-0.2**
BTO			S	**Sn**	**23 41 23.6**	**+3.9**
MDJ	**Mudanjiang**	**21.26 13**	P	**P**	**23 37 51.8**	**-0.6**
USA0B	**Ussuriysk Arra**	**21.47 18**	P	**P**	**23 37 54.6**	**0.0**
USRK	**Ussuriysk Ar.**	**21.47 18**	P	**P**	**23 37 54.0**	**-0.6**
	comp=Z,8.2nm,0.7s,baz=209,slow=11,SNR=17					
USRK	**Ussuriysk Ar.**	**21.47 18**	P	**P**	**23 37 54.1**	**-0.5**
CHTO	**Chiang Mai**	**22.88 262**	P	**P**	**23 38 11.6**	**+1.5**
CM31	**Chiang Mai Arr**	**22.99 261**	P	**P**	**23 38 12.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**22.99 261**	P	**P**	**23 38 14.2**	**+3.0**
	comp=Z,2.1nm,0.7s,baz=58,slow=8.4,SNR=12					
CMAR			LR	LR	23 46 56.7	
	comp=Z,159nm,19.3s,baz=75,slow=36					
CMAR	**Chiang Mai Arr**	**22.99 261**	P	**P**	**23 38 11.7**	**+0.6**
GUMO	**Guam**	**23.20 113**	LR	LR	23 47 46.0	
	comp=Z,58nm,18.1s,baz=295,slow=38					
GUMO	**Guam**	**23.20 113**	P	**P**	**23 38 12.2**	**-1.1**
GUMO			IAmb	IAmb	23 38 22.9	
	comp=Z,43nm,0.9s					
SBUM	**Sibu**	**23.80 207**	P	**P**	**23 38 19.4**	**+0.3**
SBUM			IAmb	IAmb	23 38 24.3	
	comp=Z,31nm,1.1s					
GTA	**Gaotai**	**24.82 314**	*e*P	**P**	**23 38 31.3**	**+2.7**
GTA			pP	pwP	23 38 39.8	+4.3
GTA			sP	sP	23 38 43.6	+9.2
GTA			S	**S**	**23 42 52.6**	**+1.8**
GTA			sS	sS	23 43 00.4	+3.2
GTA			pmax	pmax		
	comp=Z,9.0nm,1.1s					
GTA			pmax	pmax		
	comp=Z,73nm,6.8s					
GTA			LR	LR		
	comp=Z,440nm,17.1s					
GTA			LR	LR		
	comp=Z,300nm,16.5s					
GTA			LR	LR		
	comp=Z,430nm,15.5s					
KSM	**Kuching**	**25.51 210**	P	**P**	**23 38 32.4**	**-2.4**
KSM			IAmb	IAmb	23 38 50.3	
	comp=Z,16nm,1.1s					
ASAJ	**Asahikawa**	**25.73 34**	P	**P**	**23 38 36.3**	**-0.2**
	comp=Z,5.1nm,0.4s,baz=226,slow=11,SNR=11					
ASAJ			LR	LR	23 50 08.7	
	comp=Z,193nm,18.4s,baz=314,slow=40					
KLR	**Kul'dur**	**26.11 13**	P	**P**	**23 38 39.7**	**-0.2**
	comp=Z,19nm,1.0s,baz=215,slow=7.4,SNR=29					
KLR			PcP	**PcP**	**23 42 09.1**	**+1.9**
	comp=Z,1.5nm,0.6s,baz=250,slow=7.1,SNR=3.9					
ULN	**Ulaanbaatar**	**26.93 336**	P	**P**	**23 38 47.0**	**-0.6**
SONM	**Songino Array**	**27.15 335**	P	**P**	**23 38 49.6**	**0.0**
	comp=Z,3.3nm,0.8s,baz=142,slow=9.0,SNR=15					
SONM			LR	LR	23 50 49.8	
	comp=Z,149nm,21.1s,baz=105,slow=39					
SONM	**Songino Array**	**27.15 335**	P	**P**	**23 38 49.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**27.87 30**	P	**P**	**23 38 55.8**	**0.0**
YSS			IAmb	IAmb	23 39 05.6	
	comp=Z,15nm,1.1s					
SHL	**Shillong**	**28.17 280**	P	**P**	**23 38 59.2**	**+0.2**
SHL			IAmb	IAmb	23 39 12.7	
	comp=Z,15nm,1.2s					
LSA	**Lhasa**	**28.83 288**	P	**P**	**23 39 04.6**	**-0.6**
PSI	**Prapat**	**31.33 231**	P	**P**	**23 39 30.1**	**+3.2**
	comp=Z,2.3nm,0.4s,baz=358,slow=3.0,SNR=3.6					
PSI			LR	LR	23 53 03.0	
	comp=Z,68nm,18.6s,baz=86,slow=38					
TLY	**Talaya**	**31.33 337**	P	**P**	**23 39 26.3**	**-0.2**
MMRI	**Maumere**	**32.46 181**	P	**P**	**23 39 37.0**	**+0.3**
SAUI	**Saumlaki**	**32.84 165**	P	**P**	**23 39 36.2**	**-3.9**
SMRI	**Semarang**	**33.19 203**	P	**P**	**23 39 42.7**	**-0.3**
GSI	**Gunungsitoli**	**33.33 231**	P	**P**	**23 39 44.1**	**-0.3**
GSI			IAmb	IAmb	23 39 45.2	
	comp=Z,14nm,1.0s					
SOEI	**Soe**	**33.59 178**	P	**P**	**23 39 46.5**	**-0.1**
BATI	**Baumata**	**34.02 179**	P	**P**	**23 39 50.6**	**+0.3**
	comp=Z,30nm,0.7s,baz=186,slow=1.5,SNR=6.1					
CISI	**Cisompet, Garu**	**34.66 207**	P	**P**	**23 39 53.9**	**-2.0**
WMQ	**Urumqi**	**34.91 313**	*e*P	P	23 40 04.1	+6.2
WMQ			sP	pwP	23 40 10.1	+5.3
WMQ			PP	**PP**	**23 41 20.0**	**+3.0**
WMQ			pmax	pmax		
	comp=Z,17nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,140nm,11.8s					
WMQ			LR	LR		
	comp=Z,83nm,8.1s					
WMQ			LR	LR		
	comp=Z,160nm,16.1s					
MTN	**Manton Dam**	**37.51 167**	P	**P**	**23 40 19.3**	**-0.9**
XMIS	**Christmas Isla**	**38.21 208**	P	P	23 40 20.9	-5.3
XMIS			IAmb	IAmb	23 40 26.5	
	comp=Z,36nm,1.1s					
YAK	**Yakutsk**	**38.28 5**	P	**P**	**23 40 25.4**	**-0.8**
	comp=Z,5.9nm,0.4s,baz=5.2,slow=10,SNR=7.2					
YAK	**Yakutsk**	**38.28 5**	P	**P**	**23 40 25.1**	**-1.1**
YAK			IAmb	IAmb	23 40 26.4	
	comp=Z,27nm,0.8s					
PEA0B	**Petropavlovsk-**	**39.14 33**	P	**P**	**23 40 32.1**	**-1.5**
PETK	**Petropavlovsk-**	**39.14 33**	P	**P**	**23 40 32.4**	**-1.2**
	comp=Z,2.1nm,0.6s,baz=202,slow=6.8,SNR=4.7					
PETK			LR	LR	23 57 58.0	
	comp=Z,136nm,18.4s,baz=229,slow=38					
PETK	**Petropavlovsk-**	**39.14 33**	P	**P**	**23 40 32.1**	**-1.5**
MK31	**Makanchi Array**	**39.55 315**	P	**P**	**23 40 37.0**	**-0.3**
MKAR	**Makanchi Array**	**39.55 315**	P	**P**	**23 40 35.6**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=99,slow=12,SNR=10					
MKAR			LR	LR	23 56 24.2	
	comp=Z,93nm,19.3s,baz=110,slow=35					
MKAR	**Makanchi Array**	**39.55 315**	P	**P**	**23 40 35.7**	**-1.5**
PET	**Petropavlovsk**	**39.57 34**	P	**P**	**23 40 36.1**	**-1.1**
PET			IAmb	IAmb	23 40 36.6	
	comp=Z,12nm,0.9s					
MAKZ	**Makanchi**	**39.76 315**	P	**P**	**23 40 35.8**	**-3.1**

KNRA	Kununurra	39.86	171	P	P	23 40 39.7	-0.3
KNRA				IAmb	IAmb	23 40 42.6	
comp=Z,16nm,1.1s							
H11N1	WAKE ISLAND Hy	40.93	87	T	T	00 23 42.3	
baz=281							
H11N2	WAKE ISLAND Hy	40.93	87	T	T	00 23 46.9	
baz=281							
H11N3	WAKE ISLAND Hy	40.94	87	T	T	00 23 43.8	
baz=281							
ZAA0	Zalesovo Array	41.24	326	P	P	23 40 50.4	-0.7
ZALV	Zalesovo Beam	41.24	326	P	P	23 40 50.7	-0.4
comp=Z,1.3nm,0.5s,baz=120,slow=8.7,SNR=5.8							
ZALV				LR	LR	23 59 59.9	
comp=Z,84nm,21.1s,slow=39							
ZALV	Zalesovo Beam	41.24	326	P	P	23 40 50.2	-0.8
FITZ	Fitzroy Crossi	41.94	176	P	P	23 40 58.4	+1.3
comp=Z,7.9nm,0.9s,baz=16,slow=5.1,SNR=12							
FITZ	Fitzroy Crossi	41.94	176	P	P	23 40 56.9	-0.2
KSH	Kashi	42.31	303	P	P	23 41 04.8	+4.7
KSH				pP	pwP	23 41 09.7	+2.7
KSH				S	S	23 47 25.1	+4.5
KSH				SS	SS	23 50 29.3	+0.2
KSH				pmax	pmax		
comp=Z,4.0nm,0.8s							
KSH				pmax	pmax		
comp=Z,56nm,4.1s							
KSH				LR	LR		
comp=Z,120nm,6.9s							
KSH				LR	LR		
comp=Z,82nm,5.8s							
KSH				LR	LR		
comp=Z,150nm,6.5s							
KURK	Kurchatov	43.23	320	P	P	23 41 07.4	+0.1
KURBB	Kurchatov Arra	43.25	319	P	P	23 41 07.6	+0.2
comp=Z,1.1nm,0.7s,baz=111,slow=10,SNR=9.6							
SEY	Seymchan	43.61	19	P	P	23 41 10.2	0.0
comp=Z,1.2nm,0.3s,baz=224,slow=5.2,SNR=12							
SEY				LR	LR	00 00 48.7	
comp=Z,114nm,18.1s,baz=184,slow=38							
PALK	Pallekele	43.70	255	P	P	23 41 09.8	-1.8
PALK				IAmb	IAmb	23 41 27.0	
comp=Z,26nm,1.1s							
NIL	Nilore	44.19	294	P	P	23 41 15.6	+0.3
WB0	Warramunga Arr	44.94	165	P	P	23 41 21.9	+0.6
WB0				IAmb	IAmb	23 41 26.4	
comp=Z,8.8nm,1.0s							
WRAB	Tennant Creek	45.09	165	P	P	23 41 23.0	+0.5
WRAB				IAmb	IAmb	23 41 28.1	
comp=Z,7.2nm,0.8s							
WRA	Warramunga Arr	45.09	165	P	P	23 41 24.2	+1.7
comp=Z,6.3nm,0.8s,baz=345,slow=8.6,SNR=19							
WRA	Warramunga Arr	45.09	165	P	P	23 41 23.2	+0.7
WB2	Warramunga Arr	45.09	165	P	P	23 41 22.5	0.0
WB2				IAmb	IAmb	23 41 28.6	
comp=Z,9.6nm,0.8s							
WR0	Warramunga Arr	45.16	164	P	P	23 41 23.0	0.0
WR0				IAmb	IAmb	23 41 29.1	
comp=Z,11nm,1.0s							
BTK	Batken	46.31	303	P	P	23 41 32.9	+0.8
GAR	Garm	46.64	302	P	P	23 41 35.0	+0.2
GAR				IAmb	IAmb	23 41 50.6	
comp=Z,7.8nm,0.9s							
KK31	Karatay Array	46.82	307	P	P	23 41 36.3	+0.2
KKAR	Karatay Array	46.82	307	P	P	23 41 36.3	+0.3
CHGR	Chuyangaron	47.53	301	P	P	23 41 42.1	+0.4
CHGR				IAmb	IAmb	23 41 48.5	
comp=Z,6.5nm,0.8s							
KBL	Kabul	47.65	296	P	P	23 41 42.5	-0.3
KBL				IAmb	IAmb	23 41 57.1	
comp=Z,8.8nm,0.9s							
TIXI	Tiksi	47.78	3	P	P	23 41 42.9	-0.1
comp=Z,9.5nm,0.8s,baz=135,slow=4.3,SNR=4.0							
TIXI	Tiksi	47.78	3	P	P	23 41 41.7	-1.3
TIXI				IAmb	IAmb	23 41 43.4	
comp=Z,18nm,1.1s							
AS31	Alice Springs	48.59	167	P	P	23 41 49.9	0.0
ASAR	Alice Springs	48.59	167	P	P	23 41 52.2	+2.4
comp=Z,5.1nm,1.0s,baz=350,slow=6.9,SNR=22							
ASAR	Alice Springs	48.59	167	P	P	23 41 49.7	-0.1
BVAR	Borovoye Array	48.80	320	P	P	23 41 51.6	+0.4
comp=Z,0.9nm,0.5s,baz=103,slow=7.8,SNR=6.4							
BVAR				PcP	PcP	23 43 16.5	+0.6
comp=Z,1.0nm,0.6s,baz=126,slow=3.0,SNR=4.6							
BRVK	Borovoye	48.87	320	P	P	23 41 52.5	+0.8
HRA	Herat	53.27	296	P	P	23 42 24.4	-0.9
ABKAR	Akbulak array	54.68	314	P	P	23 42 35.2	0.0
GEYT	Alibeck	56.23	301	P	P	23 42 48.8	+2.2
comp=Z,3.2nm,0.7s,baz=81,slow=4.9,SNR=7.6							
GEYT				LR	LR	00 12 03.4	
comp=Z,72nm,18.2s,baz=35,slow=42							
GEYT	Alibeck	56.23	301	P	P	23 42 48.8	+2.2
GAMB	Gambell	57.88	28	P	P	23 42 58.2	+0.6
GAMB				IAmb	IAmb	23 43 02.7	
comp=Z,16nm,1.1s							
BBOO	Buckleboo	57.89	167	P	P	23 42 58.2	+0.1
NIKH	Nikolski High	58.18	41	P	P	23 42 59.6	-0.4
STKA	Stephens Creek	58.38	161	P	P	23 43 04.0	+2.4
comp=Z,7.4nm,0.8s,baz=326,slow=7.4,SNR=7.1							
STKA	Stephens Creek	58.38	161	P	P	23 43 02.1	+0.6
SDPT	Sand Point	63.06	39	P	P	23 43 33.1	-0.2
CNBA	Chernabura Isl	63.61	39	P	P	23 43 36.7	-0.2
TTA	Tatalina	64.87	30	P	P	23 43 44.4	-0.8
TTA				IAmb	IAmb	23 43 47.5	
comp=Z,3.5nm,0.8s							
LHI	Lord Howe Isla	65.17	146	P	P	23 43 46.6	-0.7
PPLA	Purkeypile	66.61	30	P	P	23 43 56.5	0.0
PPLA				IAmb	IAmb	23 43 59.0	
comp=Z,6.5nm,0.8s							
KBZ	Khabaz	66.81	309	LR	LR	00 15 04.6	
comp=Z,92nm,18.6s,baz=72,slow=38							
COLD	Coldfoot	66.92	25	P	P	23 43 57.7	-0.4
TOLK	Toolik Lake Re	66.98	23	P	P	23 43 57.9	-0.7
TOLK				IAmb	IAmb	23 44 00.9	
comp=Z,3.7nm,0.7s							
BPAW	Bear Paw Mtn.	66.99	28	P	P	23 43 57.8	-0.9
BPAW				IAmb	IAmb	23 44 01.2	
comp=Z,7.2nm,0.9s							
SKT	Skwentna	67.04	31	P	P	23 43 59.6	+0.6
SKT				IAmb	IAmb	23 44 04.8	
comp=Z,4.8nm,0.9s							
KDAK	Kodiak Island	67.13	35	P	P	23 43 60.0	+0.3
TRF	Thorofare Moun	67.39	29	P	P	23 44 01.8	+0.3
TRF				IAmb	IAmb	23 44 17.9	
comp=Z,4.8nm,1.0s							
MCK	McKinley	67.94	29	P	P	23 44 05.0	+0.2
MCK				IAmb	IAmb	23 44 07.7	
comp=Z,8.1nm,0.9s							
RND	Reindeer	68.04	29	P	P	23 44 05.8	+0.4
MDM	Murphy Dome	68.04	27	P	P	23 44 05.6	+0.2
WRH	Wood River Hil	68.19	28	P	P	23 44 07.6	+1.4
WRH				IAmb	IAmb	23 44 09.6	
comp=Z,9.3nm,1.0s							
PMR	Palmer	68.23	31	P	P	23 44 06.7	+0.3
PMR				IAmb	IAmb	23 44 08.4	
comp=Z,5.5nm,0.9s							
CCB	Clear Creek Bu	68.28	28	P	P	23 44 04.2	-2.6
GHO	Glory Hole Cre	68.29	31	P	P	23 44 07.1	+0.1
GHO				IAmb	IAmb	23 44 09.1	
comp=Z,7.6nm,1.0s							
SEW	Seward	68.34	33	P	P	23 44 06.7	-0.5
SML	Sawmill	68.56	31	P	P	23 44 08.4	-0.3
SML				IAmb	IAmb	23 44 10.4	
comp=Z,16nm,1.2s							
KNK	Knik Glacier	68.58	31	P	P	23 44 08.9	+0.1
IL31		68.64	27	P	P	23 44 09.2	+0.2
ILAR	Eielson Array	68.64	27	P	P	23 44 08.8	-0.3
comp=Z,0.8nm,0.5s,baz=265,slow=4.3,SNR=11							
ILAR				LR	LR	00 16 28.1	
comp=Z,67nm,18.9s,baz=222,slow=38							
ILAR	Eielson Array	68.64	27	P	P	23 44 08.2	-0.8
HDA	Harding Lake	68.68	28	P	P	23 44 08.3	-1.0
HDA				IAmb	IAmb	23 44 10.8	
comp=Z,11nm,1.1s							
DHY	Denali Highway	68.75	29	P	P	23 44 10.4	+0.4
DHY				IAmb	IAmb	23 44 19.5	
comp=Z,4.6nm,1.0s							
KNTN	Kanton	68.83	103	P	P	23 44 08.4	-2.7
SCM	Sheep Creek Mo	69.02	31	P	P	23 44 11.5	-0.1
BMAR	Burnt Mountain	69.03	24	P	P	23 44 12.0	+0.5
GLI	Glacier Island	69.33	32	P	P	23 44 14.0	+0.6
PAX	Paxson	69.63	29	P	P	23 44 15.2	-0.2
PAX				IAmb	IAmb	23 44 17.2	
comp=Z,11nm,1.2s							
FID	Port Fidalgo	69.65	32	P	P	23 44 15.4	0.0
FID				IAmb	IAmb	23 44 17.8	
comp=Z,7.6nm,0.9s							
RIDG	Independent Ri	69.73	28	P	P	23 44 15.5	-0.4
RIDG				IAmb	IAmb	23 44 18.0	
comp=Z,15nm,1.2s							
KLU	Klutina	69.75	31	P	P	23 44 16.8	+0.7
KLU				IAmb	IAmb	23 44 20.2	
comp=Z,12nm,1.2s							
DOT	Dot Lake	70.09	28	P	P	23 44 17.5	-0.6
DOT				IAmb	IAmb	23 44 20.1	
comp=Z,8.9nm,1.0s							
ARCES	ARCESS Array B	70.28	338	P	P	23 44 21.0	+1.9
comp=Z,1.2nm,0.8s,baz=60,slow=7.2,SNR=4.2							
ARCES	ARCESS Array B	70.28	338	P	P	23 44 18.9	-0.2
MENT	Mentasta	70.41	29	P	P	23 44 20.6	+0.5
RAGM	Ragged Mountai	70.61	32	P	P	23 44 21.0	-0.3
GLB	Gilahina Butte	70.75	31	P	P	23 44 22.4	+0.3
GLB				IAmb	IAmb	23 44 34.7	
comp=Z,11nm,1.0s							
HMT	Hamilton	70.82	32	P	P	23 44 23.2	+0.6
HMT				IAmb	IAmb	23 44 32.4	
comp=Z,14nm,1.0s							
KAIM	Kayak Island	70.84	32	P	P	23 44 23.3	+0.6
VRDI	Verde Repeater	70.97	31	P	P	23 44 24.1	+0.4
VRDI				IAmb	IAmb	23 44 28.9	
comp=Z,8.5nm,1.1s							
EGAK	Eagle	71.03	27	P	P	23 44 23.7	0.0
EGAK				IAmb	IAmb	23 44 26.0	
comp=Z,7.7nm,1.0s							
MCARA	McCarthy VSAT	71.13	30	P	P	23 44 24.8	+0.3
BCAR	Beaver Creek A	71.23	29	P	P	23 44 26.5	+1.4
BALM	Baldy	71.54	31	P	P	23 44 27.2	+0.2
BALM				IAmb	IAmb	23 44 33.7	
comp=Z,14nm,1.1s							
BARN	Barnard Glacie	71.85	31	P	P	23 44 28.9	-0.2
BARN				IAmb	IAmb	23 44 31.4	
comp=Z,7.2nm,0.9s							
OPA	Opana	71.96	74	P	P	23 44 28.9	-1.2
DAWY	Dawson	71.97	27	P	P	23 44 29.4	-0.1
DAWY				IAmb	IAmb	23 44 31.6	
comp=Z,9.4nm,0.9s							
CTGM	Chitina Glacie	72.03	31	P	P	23 44 30.3	+0.2
TABL	Table Mountain	72.28	31	P	P	23 44 33.0	+1.3
EPYK	Eagle Plains	72.30	25	P	P	23 44 31.8	+0.4
EPYK				IAmb	IAmb	23 44 32.6	
comp=Z,13nm,1.1s							
FIA1	FINESS Array S	72.38	330	P	P	23 44 32.4	+0.5
FINES	FINESS Array B	72.38	330	P	P	23 44 32.0	+0.1
comp=Z,1.3nm,0.4s,baz=56,slow=6.5,SNR=19							
FINES				LR	LR	00 19 31.6	
comp=Z,86nm,18.8s,baz=77,slow=38							
FINES	FINESS Array B	72.38	330	P	P	23 44 32.0	+0.1
PCA	Pinnacle	72.80	31	P	P	23 44 34.3	-0.3
BCPM	Bancas Point	73.14	31	P	P	23 44 37.3	+0.7
BCPM				IAmb	IAmb	23 44 39.2	
comp=Z,16nm,1.0s							
KHLH	Kahului Airpor	73.61	74	P	P	23 44 37.6	-2.4
HYT	Haines Junctio	73.85	30	P	P	23 44 40.6	-0.2
HYT				IAmb	IAmb	23 44 48.6	
comp=Z,18nm,1.2s							
AKASG	Malin Array Be	74.03	319	P	P	23 44 42.3	+0.4
comp=Z,0.5nm,0.4s,baz=57,slow=6.7,SNR=3.5							
WHY	Whitehorse	75.11	30	P	P	23 44 48.3	+0.2
WHY				IAmb	IAmb	23 44 51.0	
comp=Z,12nm,0.9s							
SKAG	Skagway	75.36	31	P	P	23 44 49.9	+0.5
SKAG				IAmb	IAmb	23 44 52.4	
comp=Z,16nm,1.0s							
BESE	Bessie Mountai	75.93	32	P	P	23 44 51.2	-1.6
JIS	Juneau Island	76.28	32	P	P	23 44 55.0	+0.4
BUR08	Bucovina Ar. S	77.57	317	P	P	23 45 01.4	-1.0
WRAK	Wrangell Islan	78.05	33	P	P	23 45 01.1	-3.5
DLBC	Dease Lake	78.29	31	P	P	23 45 05.0	-1.1
DLBC				IAmb	IAmb	23 45 09.4	
comp=Z,16nm,1.0s							
NC405	NORSAR Array S	78.85	333	P	P	23 45 09.2	+0.2
NC405				IAmb	IAmb	23 45 10.7	
comp=Z,8.4nm,0.8s							
NB2	NORSAR Subarra	79.10	333	P	P	23 45 10.9	+0.5
comp=Z,1.9nm,0.9s,baz=54,slow=6.2							
NOA	NORSAR Array B	79.10	333	P	P	23 45 11.0	+0.5
comp=Z,0.6nm,0.5s,baz=54,slow=5.5,SNR=8.8							
NOA				LR	LR	00 23 36.9	
comp=Z,68nm,20.2s,baz=70,slow=38							
NBO00	NORSAR Array S	79.29	333	P	P	23 45 11.4	-0.1
DIB	Dawson Inlet,	79.37	36	P	P	23 45 12.6	+0.7
DIB				IAmb	IAmb	23 45 14.3	
comp=Z,13nm,1.0s							
VYHS	Vyhne	81.12	319	eP	P	23 45 25.0	+3.4
YKA	Yellowknife Ar	82.51	23	P	P	23 45 29.6	+1.1
comp=Z,15nm,1.0s,baz=314,slow=5.2,SNR=16							
YKA				LR	LR	00 27 35.8	
comp=Z,50nm,18.0s,baz=0.0,slow=40							
CLL	Collm	83.13	324	eP	P	23 45 34.0	+2.0
CLL				LmV		00 29 00.0	
comp=Z,100nm,18.8s							
PDG	Podgorica	83.55	314	P	P	23 45 33.7	-0.7
PDG				IAmb	IAmb	23 45 36.5	
comp=Z,8.7nm,1.1s							
GEC2	GERESS Array S	83.96	321	P	P	23 45 36.5	0.0
GERES	GERESS Array B	83.96	321	P	P	23 45 37.2	+0.7
comp=Z,0.5nm,0.6s,baz=60,slow=3.5,SNR=7.9							
GERES				LR	LR	00 24 05.9	
comp=Z,44nm,18.0s,baz=72,slow=36							
TRI	Trieste	85.49	318	P	P	23 45 43.3	-0.8
TRI				IAmb	IAmb	23 45 45.6	
comp=Z,12nm,1.0s							
KMBO	Kilima Mbogo	86.48	267	P	P	23 45 48.8	-1.1
KMBO				IAmb	IAmb	23 45 54.0	
comp=Z,5.5nm,1.1s							
PGC	Sidney	86.58	37	P	P	23 45 49.0	-0.5
PGC				IAmb	IAmb	23 45 54.0	
comp=Z,5.2nm,1.0s							
CTI	Castel Tesino	86.58	319	P	P	23 45 48.9	-0.8
INTR	Introdacqua	87.25	315	P	P	23 45 52.5	-0.4
INTR				IAmb	IAmb	23 46 08.6	
comp=Z,5.9nm,1.1s							
BFO	Black Forest	87.27	323	P	P	23 45 52.6	-0.2
ECH	Echery	87.98	323	P	P	23 45 56.2	-0.1
D05A	Enumclaw	88.21	38	P	P	23 45 57.3	-0.1
LTY	Liberty	88.91	38	P	P	23 46 00.8	0.0
LTY				IAmb	IAmb	23 46 04.3	
comp=Z,5.8nm,1.0s							
B08A	Colville Reser	89.00	36	P	P	23 45 60.0	-1.2
E07A	Sunnyside	89.77	38	P	P	23 46 04.1	-0.6
E07A				IAmb	IAmb	23 46 09.7	
comp=Z,9.9nm,0.9s							
C09A	Chrisman Ranch	89.90	36	P	P	23 46 03.9	-1.4
C09A				IAmb	IAmb	23 46 12.3	
comp=Z,6.1nm,0.6s							
D08A	Wollman Farm,	89.99	37	P	P	23 46 05.2	-0.6
D08A				IAmb	IAmb	23 46 11.6	
comp=Z,8.4nm,0.9s							
HAWA	Hanford	90.05	38	P	P	23 46 05.3	-0.7
HAWA				IAmb	IAmb	23 46 10.3	
comp=Z,8.0nm,1.0s							
NEW	Newport	90.24	35	P	P	23 46 06.3	-0.6
E08A	Dider Farm, El	90.25	38	P	P	23 46 07.7	+0.7
E08A				IAmb	IAmb	23 46 11.2	
comp=Z,5.6nm,0.8s							
CASY	Casey	90.50	185	P	P	23 46 08.1	+0.7
CASY				IAmb	IAmb	23 46 14.6	
comp=Z,4.2nm,1.1s							
KHMM	Horse Mountain	90.64	44	P	P	23 46 07.6	-1.5
KHMM				IAmb	IAmb	23 46 09.0	
comp=Z,3.3nm,0.9s							
PINE	Pine Mountain	90.73	41	P	P	23 46 08.9	-0.6
E09A	Wood Farm, Sta	90.75	37	P	P	23 46 08.9	-0.3
G08A	Pilot Rock	91.02	39	P	P	23 46 09.8	-0.9
G08A				IAmb	IAmb	23 46 20.5	
comp=Z,3.9nm,1.0s							
WALA	Waterton Lakes	91.40	33	P	P	23 46 12.3	-0.1
I07A	Izee	91.41	40	P	P	23 46 12.3	-0.2
I07A				IAmb	IAmb	23 46 17.2	
comp=Z,5.1nm,1.1s							
F10A	Beach Ranch, E	91.58	37	P	P	23 46 13.5	+0.3
F10A				IAmb	IAmb	23 46 26.6	
comp=Z,5.7nm,1.0s							
JTMT	Jette	92.05	35	P	P	23 46 14.4	-1.0
MOD	Modoc Plateau	92.20	42	P	P	23 46 16.8	+0.5
MOD				IAmb	IAmb	23 46 23.6	
comp=Z,6.2nm,1.1s							
BMO	Blue Mountains	92.22	38	P	P	23 46 16.6	+0.4
BMO				IAmb	IAmb	23 46 23.6	
comp=Z,4.9nm,0.9s							
J08A	Circle Bar Ran	92.44	40	P	P	23 46 17.0	-0.4
FFC	Flin Flon	92.65	24	P	P	23 46 17.6	-0.3
ORV	Oroville	92.79	44	P	P	23 46 18.6	-0.3
MSO	Missoula	92.82	35	P	P	23 46 18.0	-1.0
MSO				IAmb	IAmb	23 46 25.3	
comp=Z,4.1nm,0.9s							
WVOR	Wild Horse Val	92.90	41	P	P	23 46 19.5	0.0
WVOR				IAmb	IAmb	23 46 23.9	
comp=Z,3.7nm,1.1s							
MFID	Camas Ranch	93.94	39	P	P	23 46 23.4	-0.8
MFID				IAmb	IAmb	23 46 29.2	
comp=Z,5.1nm,1.0s							
PAHR	Pah Rah Range	94.05	43	P	P	23 46 22.5	-2.4
PAHR				IAmb	IAmb	23 46 30.1	
comp=Z,3.5nm,1.0s							
EGMT	Eagleton	94.15	32	P	P	23 46 24.7	-0.4
EGMT				IAmb	IAmb	23 46 28.3	
comp=Z,6.1nm,1.0s							
LRM	Limekiln Ridge	94.26	35	P	P	23 46 26.2	+0.3
CMB	Columbia Colle	94.37	45	P	P	23 46 26.4	+0.1
CMB				IAmb	IAmb	23 46 31.4	
comp=Z,2.9nm,0.9s							
DLMT	Dillon	94.48	36	P	P	23 46 26.6	-0.1
DLMT				IAmb	IAmb	23 46 30.8	
comp=Z,6.6nm,1.1s							
HLID	Hailey	94.65	38	P	P	23 46 27.4	-0.2
HLID				IAmb	IAmb	23 46 34.6	
comp=Z,5.0nm,1.1s							
BOZ	Bozeman (W)	94.84	35		P	23 46 26.6	-1.8
CRZF	Crozet Islands	94.98	221	P	P	23 46 26.9	-1.6
KVN	Kaiserville	95.23	43	P	P	23 46 30.4	0.0
KVN				IAmb	IAmb	23 46 35.9	
comp=Z,3.8nm,1.2s							
NVAR	Mina Array Bea	95.47	44	P	P	23 46 33.5	+2.0
comp=Z,1.0nm,0.6s,baz=295,slow=4.7,SNR=8.4							
NVAR	Mina Array Bea	95.47	44	P	P	23 46 32.2	+0.6
VNA2	Neumayer--Watz	125.22	198	PKiKP	PKiKP	23 52 07.6	+1.3
VNA1	Neumayer--Stat	125.61	198	PKiKP	PKiKP	23 52 07.9	+0.8
VNA3	Neumayer Olymp	125.67	197	PKiKP	PKiKP	23 52 08.2	+0.9

*JMA **06** 23:34:30.6±0.1, 24°.09N×122°.88E, h18km±3km, M3.6*
*TAP **06** 23:34:31.8, 23°.95N×122°.66E, h13km±1km, ML4.0, D*
ISC 06 23:34:28.7±1.3, **23°.96N**±0°.05×**122°.86E**±0°.02, **h12**km±10km,
n42, σ0°.79/58, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.50	8	P	Pg	23 34 38.2	-0.3
JYNG				S	Sg	23 34 43.6	-1.5
YOJ	Yonaguni jima	0.52	15	P	Pg	23 34 38.6	-0.3
YOJ				eS	Sg	23 34 44.2	-1.6
HATJ	Hateruma jima	0.87	83	P	Pb	23 34 46.2	+0.5
HATJ				eS	Sg	23 34 58.0	+1.3
IRIF	Iriomote-Funau	0.88	64	P	Pb	23 34 45.8	0.0
IRIF				eS	Sg	23 34 57.0	-0.1
JKRS	Kuro-shima	1.08	75	P	Pb	23 34 49.9	+0.5
JKRS				eS	Sb	23 35 04.0	+0.5
ENA	Nanau	1.13	295	P	Pb	23 34 50.1	-0.1
baz=312							
ENA				S	Sb	23 35 04.2	-0.6
baz=312							
TWD	Chiawan	1.17	276	eP	Pb	23 34 49.2	-1.6
baz=278							
NACB	Ninganchiao	1.18	281	eP	Pb	23 34 49.9	-1.1
baz=283							
EGS		1.23	316	eP	Pg	23 34 53.0	+0.7
baz=324							
EGS				eS	Sg	23 35 08.7	+0.5
baz=324							
JIJ	Ishigaki jima	1.24	71	P	Pn	23 34 52.0	+0.2
JIJ				S	Sb	23 35 07.4	-0.5
ILA	Ilan	1.30	309	eP	Pg	23 34 55.1	+1.5
baz=315							
TWE	Neicheng	1.33	305	P	Pg	23 34 54.5	+0.2
baz=320							
TWE				S	Sn	23 35 10.7	-0.1
baz=320							
ENTT	Nioudou	1.37	300	P	Pb	23 34 55.0	+0.8
baz=305							
ENTT				S	Sn	23 35 11.7	0.0
baz=305							
TIPB	Shuangxi	1.39	317	eP	Pb	23 34 55.3	+0.7
baz=323							
TIPB				eS	Sb	23 35 11.4	-0.9
baz=323							
NDT	Datong Townshi	1.39	298	P	Pb	23 34 55.6	+0.9
baz=302							
NDT				eS	Sb	23 35 12.2	-0.2
baz=302							
HGSD	Ruisui	1.40	251	eP	Pn	23 34 51.7	-2.3
baz=249							
NNSB	Datong	1.43	290	eP	Pb	23 34 56.0	+0.6
baz=278							
NNS	Nan Shan	1.45	290	eP	Pg	23 34 56.7	+0.3
baz=278							
JISG	Ishigakijimahi	1.46	64	P	Pn	23 34 55.3	+0.4
JISG				eS	Sn	23 35 12.2	-1.8
WHF	Hehuan Shan	1.47	278	eP	Pn	23 34 55.3	-0.2
baz=279							
WFSB	Wu-fen Shan	1.49	319	eP	Pn	23 34 55.9	+0.7
baz=324							
FUSS	Fushou	1.51	281	eP	Pn	23 34 56.2	+0.4
baz=284							
EYUL	Yuli	1.54	247	eP	Pn	23 34 56.9	+0.9
baz=231							
YULB	Yu-li	1.54	249	eP	Pn	23 34 56.4	+0.3
baz=247							
CHGB	Renai	1.55	274	eP	Pn	23 34 56.0	-0.3
baz=276							
TWA	Mucha	1.55	311	eP	Pg	23 34 58.5	+0.1
baz=329							
TWA				eS	Sb	23 35 17.4	+0.4
baz=329							
TWF1	Yuli	1.56	248	eP	Pn	23 34 56.1	-0.2
baz=231							
TWT	Tachien	1.57	281	eP	Pn	23 34 57.4	+0.8
baz=268							
TDCB	Techi	1.59	281	eP	Pn	23 34 56.4	-0.4
baz=269							
TATO	Taipei	1.61	309	eP	Pb	23 34 59.1	+0.7
baz=331							
TAP	Taipei	1.64	311	eP	Pb	23 34 59.8	+0.9
baz=335							
TAP				eS	Sb	23 35 19.3	-0.3

JKRS	**Kuro-shima**	**1.05**	**78**	P		**Pb**	**23 36 24.5**	**+0.2**
JKRS				*e*S		**Sb**	**23 36 38.2**	**+0.3**
ENAH	**Nanao** baz=308	**1.07**	**294**	*e*P		**Pb**	**23 36 24.4**	**-0.3**
ENAH	baz=308			*e*S		**Sg**	**23 36 38.8**	**-0.2**
TWC	**Suao** baz=305	**1.11**	**302**	P		**Pb**	**23 36 24.8**	**-0.6**
TWC	baz=305			*e*S		**Sg**	**23 36 39.9**	**-0.4**
ENA	**Nanau** baz=306	**1.12**	**291**	*e*P		**Pb**	**23 36 25.3**	**-0.3**
ENA	baz=306			*e*S		**Sn**	**23 36 40.4**	**-0.5**
NACB	**Ninganchiao** baz=258	**1.19**	**277**	*e*P		**Pb**	**23 36 26.7**	**-0.1**
NACB	baz=258			*e*S		**Sg**	**23 36 43.2**	**+0.4**
EGS		**1.19**	**313**	*e*P		**Pg**	**23 36 28.4**	**+1.0**
JIJ	**Ishigaki jima** baz=317	**1.20**	**73**	P		**Pn**	**23 36 26.5**	**-0.2**
JIJ				S		**Sb**	**23 36 42.2**	**0.0**
NTC	**Toucheng** baz=315	**1.27**	**311**	*e*P		**Pb**	**23 36 28.5**	**+0.5**
NTC	baz=315			*e*S		**Sg**	**23 36 45.4**	**0.0**
ETLH	**Xiulin Townshi** baz=262	**1.29**	**278**	*e*P		**Pn**	**23 36 28.5**	**+0.4**
ETLH	baz=262			*e*S		**Sg**	**23 36 46.5**	**+0.2**
TWE	**Neicheng** baz=305	**1.31**	**302**	P		**Pb**	**23 36 29.1**	**+0.3**
TWE	baz=305			*e*S		**Sg**	**23 36 47.1**	**+0.4**
ESL	**Shilin** baz=260	**1.34**	**261**	*e*S		**Sg**	**23 36 47.1**	**-0.7**
TIPB	**Shuangxi** baz=319	**1.35**	**315**	*e*P		**Pb**	**23 36 30.0**	**+0.5**
TIPB	baz=319			*e*S		**Sg**	**23 36 47.1**	**-0.8**
ENTT	**Nioudou** baz=300	**1.35**	**297**	P		**Pb**	**23 36 29.9**	**+0.4**
ENTT	baz=300			S		**Sg**	**23 36 47.2**	**-0.8**
NDT	**Datong Townshi** baz=306	**1.38**	**295**	P		**Pb**	**23 36 30.4**	**+0.5**
NDT	baz=306			*e*S		**Sg**	**23 36 48.0**	**-0.8**
JISG	**Ishigakijimahi**	**1.42**	**66**	P		**Pn**	**23 36 29.7**	**0.0**
JISG				*e*S		**Sn**	**23 36 47.1**	**-1.1**
NNSB	**Datong** baz=289	**1.43**	**287**	*e*P		**Pb**	**23 36 31.2**	**+0.2**
NNSB	baz=289			*e*S		**Sg**	**23 36 49.6**	**-0.9**
NNS	**Nan Shan** baz=290	**1.44**	**287**	*e*P		**Pb**	**23 36 31.4**	**+0.3**
NNS	baz=290			*e*S		**Sg**	**23 36 50.1**	**-0.8**
NWF	**Wu-fen Shan** baz=321	**1.45**	**316**	*e*S		**Sb**	**23 36 49.8**	**+0.3**
WFSB	**Wu-fen Shan** baz=321	**1.45**	**316**	*e*S		**Sg**	**23 36 49.9**	**-1.2**
WHF	**Hehuan Shan** baz=258	**1.49**	**275**	P		**Pn**	**23 36 31.5**	**+0.4**
WHF	baz=258			*e*S		**Sb**	**23 36 50.9**	**-0.1**
FUSS	**Fushou** baz=281	**1.52**	**279**	*e*P		**Pb**	**23 36 32.7**	**+0.2**
FUSS	baz=281			*e*S		**Sb**	**23 36 51.8**	**+0.2**
TWA	**Mucha** baz=331	**1.52**	**309**	*e*P		**Pg**	**23 36 33.8**	**+0.2**
TWA	baz=331			*e*S		**Sg**	**23 36 52.4**	**-1.0**
EHY	**Hungye** baz=249	**1.52**	**251**	*e*P		**Pn**	**23 36 31.5**	**+0.3**
EHY	baz=249			*e*S		**Sn**	**23 36 50.7**	**-0.2**
CHGB	**Renai** baz=256	**1.56**	**272**	*e*P		**Pb**	**23 36 33.0**	**-0.3**
CHGB	baz=256			*e*S		**Sb**	**23 36 53.5**	**+0.5**
TWT	**Tachien** baz=263	**1.58**	**279**	*e*P		**Pb**	**23 36 33.3**	**-0.2**
YULB	**Yu-li** baz=245	**1.59**	**247**	*e*P		**Pn**	**23 36 32.1**	**0.0**
YULB	baz=245			*e*S		**Sn**	**23 36 52.5**	**+0.1**
TDCB	**Techi** baz=262	**1.59**	**279**	*e*P		**Pb**	**23 36 33.7**	**-0.1**
TDCB	baz=262			*e*S		**Sb**	**23 36 54.1**	**+0.2**
TWF1	**Yuli** baz=244	**1.60**	**246**	*e*P		**Pn**	**23 36 32.1**	**-0.2**
TWF1	baz=244			*e*S		**Sb**	**23 36 53.9**	**-0.1**
YM01	**YM01** baz=334	**1.64**	**313**	*e*P		**Pg**	**23 36 35.7**	**-0.1**
YM01	baz=334			*e*S		**Sb**	**23 36 54.2**	**-0.8**
YM04	**YM04** baz=331	**1.67**	**313**	*e*P		**Pb**	**23 36 35.0**	**+0.2**
JTJ	**Tarama**	**1.77**	**69**	P		**Pn**	**23 36 35.4**	**+0.8**
JTJ				*e*S		**Sn**	**23 36 57.8**	**+0.9**

*ISN **06** 23:39:39.6±1.1, 33.°75N×45.°71E, h11km±5km, ML2.2*
*TEH **06** 23:39:41.0, 33.°73N×45.°72E, h11km, ML2.5*
ISC 06 23:39:39.3±1.7, **33.°77N**±0.°05×**45.°65E**±0.°06, **h1**km±13km, **n11**, σ1°**03**/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.70**	**160**	*e*Pg	**Pg**	**23 39 53.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**23 40 02.0**	**+0.3**
IBDR	comp=N,27nm,0.4s			AML	AML	23 40 08.1	
IBDR	comp=E,38nm,0.5s			AML	AML	23 40 09.4	
IGHG	**Ghaleghazi**	**0.94**	**53**	*e*Pg	**Pn**	**23 39 59.0**	**-1.0**
IGHG				*e*		23 40 01.8	
IDHR	**Dehrash**	**1.11**	**33**	*e*		23 40 03.9	
IDHR				*e*Pg	**Pb**	**23 40 01.5**	**0.0**
IDHR				*e*Sg	**Sn**	**23 40 19.7**	**+1.4**
BHD	**Baghdad**	**1.17**	**245**	*e*Pg	**Pn**	**23 40 02.0**	**-0.9**
BHD				*e*Sg	**Sn**	**23 40 20.0**	**+0.5**
BHD	comp=E,247nm,0.5s			AML	AML	23 40 25.3	
IVIS	**Veis**	**1.25**	**52**	*e*		23 40 27.5	
IVIS				*e*Pg	**Pg**	**23 40 03.8**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.26**	**66**	*e*Sg	**Sn**	**23 40 23.0**	**+1.0**
KCHF				*e*Pg	**Pg**	**23 40 03.9**	**+0.4**
KCHF				*e*		23 40 26.0	
ILIN	**Lien**	**1.58**	**43**	*e*Pg	**Pb**	**23 40 09.8**	**+0.3**
IKOM	**Komasi**	**1.60**	**75**	*e*Pg	**Pg**	**23 40 10.2**	**+0.3**
IKOM				*e*		23 40 11.6	
IBZA	**Bozab**	**1.96**	**68**	*e*Pn	**Pb**	**23 40 14.6**	**-1.4**
IBZA				*e*		23 40 18.2	
IALM	**Almabolaq**	**2.35**	**62**	*e*Pn	**Pb**	**23 40 20.7**	**-1.9**
IALM				*e*		23 40 26.0	
NSR	**Nassriya**	**2.78**	**171**	*e*Pn	**Pn**	**23 40 26.0**	**+1.0**
NSR				*e*Sn	**Sn**	**23 40 59.0**	**-0.2**
NSR	comp=E,51nm,0.3s			AML	AML	23 41 00.8	

*ISN **06** 23:57:24.7±1.1, 33.°68N×45.°61E, h0km±4km, ML2.3*
*TEH **06** 23:57:27.3, 33.°69N×45.°63E, h10km, ML2.6*
ISC 06 23:57:25.9±1.0, **33.°59N**±0.°04×**45.°72E**±0.°06, **h13**km, **n12**, σ0°**83**/15, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.52**	**160**	*e*Pg	**Pb**	**23 57 37.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**23 57 47.0**	**-0.6**
IBDR	comp=N,30nm,0.7s			AML	AML	23 58 02.1	
IBDR	comp=E,26nm,0.3s			AML	AML	23 58 04.3	
IGHG	**Ghaleghazi**	**1.02**	**44**	*e*Pg	**Pg**	**23 57 45.9**	**+0.2**
IGHG				*e*		23 57 49.5	
BHD	**Baghdad**	**1.16**	**254**	*e*Pg	**Pn**	**23 57 47.0**	**-0.9**
BHD				*e*Sg	**Sb**	**23 58 04.0**	**+1.2**
BHD	comp=E,173nm,0.7s			AML	AML	23 58 11.8	
IDHR	**Dehrash**	**1.23**	**27**	*e*Pg	**Pb**	**23 57 49.4**	**+0.1**
IDHR				*e*		23 58 09.4	
KCHF	**Cheshme Sefid,**	**1.29**	**58**	*e*Pg	**Pg**	**23 57 51.5**	**+0.6**
KCHF				*e*		23 57 53.7	
IVIS	**Veis**	**1.32**	**45**	*e*Pg	**Pg**	**23 57 52.5**	**+1.1**
IVIS				*e*		23 58 13.5	
KER	**Kermanshah**	**1.42**	**56**	*e*Pg	**Pg**	**23 57 54.5**	**+1.3**
KER				*e*		23 57 55.4	
IKOM	**Komasi**	**1.60**	**68**	*e*Pg	**Pg**	**23 57 57.5**	**+0.8**
IKOM				*e*		23 58 01.2	
ILIN	**Lien**	**1.68**	**38**	*e*Pg	**Pg**	**23 57 57.7**	**-0.5**
ILIN				*e*		23 58 21.7	
IALM	**Almabolaq**	**2.39**	**57**	*e*		23 58 14.3	
IALM				*e*Pn	**Pb**	**23 58 08.6**	**-0.4**
BMDN	**Meydan**	**2.59**	**87**	*e*Pn	**Pb**	**23 58 11.6**	**-0.8**
BMDN				*e*		23 58 55.0	
NSR	**Nassriya**	**2.60**	**172**	*e*Pn	**Pb**	**23 58 12.0**	**-0.4**
NSR				*e*Sn	**Sb**	**23 58 45.0**	**+0.7**
NSR	comp=E,181nm,0.3s			AML	AML	23 59 03.2	

*TAP **07** 00:03:38.6, 23.°98N×122.°86E, h9km±1km, ML3.3, D*
*JMA **07** 00:03:38.7±0.1, 24.°09N×122.°89E, h21km±2km, M3.1*
ISC 07 00:03:36.4±1.2, **24.°01N**±0.°03×**122.°94E**±0.°02, **h10**km±10km, **n90**, σ0°**91**/124, **4C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.44**	**1**	P	**Pb**	**00 03 46.3**	**0.0**
JYNG				S	**Sb**	**00 03 51.5**	**-1.5**
YOJ	**Yonaguni jima**	**0.46**	**8**	P	**Pn**	**00 03 46.8**	**-2.2**
YOJ				S	**Sb**	**00 03 52.4**	**-1.0**
HATJ	**Hateruma jima**	**0.79**	**86**	P	**Pn**	**00 03 54.0**	**+0.4**
HATJ				*e*S	**Sn**	**00 04 05.7**	**+0.2**
IRIF	**Iriomote-Funau**	**0.79**	**65**	P	**Pn**	**00 03 53.7**	**+0.1**
IRIF				S	**Sn**	**00 04 04.7**	**-0.8**
JKRS	**Kuro-shima**	**1.00**	**77**	P	**Pn**	**00 03 57.9**	**+1.4**
JKRS				S	**Sn**	**00 04 11.2**	**+0.5**
ENAH	**Nanao** baz=296	**1.12**	**293**	*i* P	**Pn**	**00 03 58.0**	**-0.1**
ENAH	baz=296			*i* S	**Sn**	**00 04 12.5**	**-1.1**
JIJ	**Ishigaki jima**	**1.16**	**72**	P	**Pg**	**00 03 59.9**	**+1.2**
JIJ				S	**Sg**	**00 04 15.3**	**+1.6**
TWC	**Suao** baz=304	**1.16**	**301**	*i* P	**Pb**	**00 03 58.5**	**-0.1**
TWC	baz=304			*e*S	**Sn**	**00 04 13.5**	**-1.1**
ENA	**Nanau** baz=293	**1.17**	**291**	*i* P	**Pb**	**00 03 58.7**	**-0.1**
ENA	baz=293			*i* S	**Sb**	**00 04 13.4**	**-0.6**
TWD	**Chiawan** baz=275	**1.23**	**274**	*i* P	**Pn**	**00 03 59.7**	**+0.1**
TWD	baz=275			*e*S	**Sb**	**00 04 14.8**	**-0.8**
NACB	**Ninganchiao** baz=279	**1.24**	**278**	*e*P	**Pb**	**00 04 00.1**	**+0.2**
EGS	baz=315	**1.24**	**312**	*e*P	**Pg**	**00 04 00.7**	**+0.4**
NTC	**Toucheng** baz=312	**1.32**	**310**	*e*P	**Pg**	**00 04 01.6**	**-0.1**
ETLH	**Xiulin Townshi** baz=280	**1.35**	**279**	⇑P	**Pb**	**00 04 01.8**	**0.0**
TWE	**Neicheng** baz=304	**1.36**	**302**	*e*P	**Pg**	**00 04 02.9**	**+0.3**
JISG	**Ishigakijimahi**	**1.38**	**65**	P	**Pg**	**00 04 02.8**	**-0.1**
JISG				*e*S	**Sg**	**00 04 21.0**	**+0.1**
ESL	**Shilin** baz=262	**1.39**	**262**	*e*P	**Pn**	**00 04 01.6**	**-0.3**
TIPB	**Shuangxi** baz=316	**1.40**	**314**	*e*P	**Pb**	**00 04 02.4**	**-0.2**
TIPB	baz=316			*e*S	**Sb**	**00 04 20.1**	**-0.5**
ENTT	**Nioudou** baz=299	**1.40**	**297**	*e*P	**Pg**	**00 04 03.1**	**-0.3**
EGFH	**Guangfu** baz=256	**1.42**	**257**	P	**Pn**	**00 04 02.7**	**+0.3**
EGFH	baz=256			*e*S	**Sn**	**00 04 20.5**	**-0.6**
NDT	**Datong Townshi** baz=296	**1.43**	**295**	*e*P	**Pg**	**00 04 03.6**	**-0.3**
NDT	baz=296			*i* S	**Sb**	**00 04 21.4**	**-0.1**
HGSD	**Ruisui** baz=249	**1.48**	**250**	*e*P	**Pn**	**00 04 02.9**	**-0.2**
HGSD	baz=249			*i* S	**Sn**	**00 04 22.0**	**-0.5**
NNSH	**Datong** baz=288	**1.48**	**287**	*e*P	**Pb**	**00 04 04.4**	**+0.2**
NNSB	**Datong** baz=288	**1.48**	**287**	*e*P	**Pb**	**00 04 04.6**	**+0.4**
NNS	**Nan Shan** baz=288	**1.49**	**287**	*e*P	**Pg**	**00 04 05.0**	**-0.2**
NNS	baz=288			S	**Sb**	**00 04 23.0**	**-0.4**
NWF	**Wu-fen Shan** baz=317	**1.50**	**315**	*e*P	**Pb**	**00 04 04.2**	**-0.2**
NWF	baz=317			*e*S	**Sg**	**00 04 24.3**	**-0.3**
WFSB	**Wu-fen Shan** baz=317	**1.50**	**315**	*e*P	**Pb**	**00 04 04.0**	**-0.3**
WFSB	baz=317			*e*S	**Sg**	**00 04 24.4**	**-0.2**
NWLT	**Wulai** baz=302	**1.52**	**301**	*e*P	**Pg**	**00 04 05.5**	**-0.1**
NWLT	baz=302			S	**Sb**	**00 04 24.1**	**+0.1**
WHF	**Hehuan Shan** baz=276	**1.54**	**275**	⇑P	**Pb**	**00 04 04.7**	**+0.4**
EHY	**Hungye** baz=251	**1.56**	**252**	*e*P	**Pn**	**00 04 04.6**	**+0.3**
EHY	baz=251			*e*S	**Sn**	**00 04 24.4**	**-0.2**
FUSS	**Fushou** baz=280	**1.57**	**279**	P	**Pb**	**00 04 05.7**	**0.0**
TWA	**Mucha** baz=310	**1.57**	**308**	*e*P	**Pg**	**00 04 07.2**	**+0.6**
TWA	baz=310			*e*S	**Sb**	**00 04 25.2**	**-0.3**
NSK	**Sanguang** baz=296	**1.59**	**295**	⇑*e*P	**Pb**	**00 04 06.4**	**+0.5**
NSK	baz=296			S	**Sb**	**00 04 26.0**	**-0.1**
CHGB	**Renai** baz=273	**1.61**	**272**	⇑P	**Pb**	**00 04 06.0**	**-0.5**
EYUL	**Yuli** baz=246	**1.62**	**246**	*e*P	**Pn**	**00 04 05.2**	**+0.1**
YULB	**Yu-li** baz=247	**1.62**	**248**	*e*P	**Pn**	**00 04 05.5**	**+0.4**
TWT	**Tachien** baz=279	**1.63**	**279**	*e*P	**Pb**	**00 04 07.0**	**+0.3**
TWT	baz=279			S	**Sb**	**00 04 26.9**	**-0.4**
TATO	**Taipei** baz=308	**1.64**	**306**	*e*P	**Pg**	**00 04 08.3**	**+0.5**
TATO	baz=308			*e*S	**Sb**	**00 04 26.9**	**-0.5**
TWF1	**Yuli** baz=246	**1.64**	**247**	*e*P	**Pn**	**00 04 05.7**	**+0.4**
TWF1	baz=246			S	**Sn**	**00 04 26.5**	**0.0**
TDCB	**Techi** baz=279	**1.65**	**279**	*e*P	**Pb**	**00 04 06.8**	**-0.2**
TDCB	baz=279			S	**Sn**	**00 04 27.0**	**+0.2**
VWDT	**VWDT** baz=261	**1.67**	**262**	*e*P	**Pn**	**00 04 06.4**	**+0.7**
VWDT	baz=261			S	**Sn**	**00 04 27.2**	**+0.2**
YM01	**YM01** baz=314	**1.69**	**313**	*e*P	**Pb**	**00 04 07.8**	**+0.2**
YM01	baz=314			*e*S	**Sb**	**00 04 28.7**	**-0.1**
YM11	**YM11** baz=315	**1.70**	**313**	P	**Pb**	**00 04 07.9**	**+0.2**
YM05	**YM05** baz=315	**1.70**	**313**	*e*P	**Pg**	**00 04 09.0**	**-0.1**
CHKT	**Chengkung** baz=237	**1.70**	**238**	*e*P	**Pn**	**00 04 05.8**	**-0.4**
FULB	**Fuli** baz=241	**1.71**	**242**	*e*P	**Pn**	**00 04 06.0**	**-0.3**
YM04	**YM04** baz=314	**1.71**	**312**	*e*P	**Pg**	**00 04 08.4**	**-0.9**
JTJ	**Tarama**	**1.73**	**68**	P	**Pg**	**00 04 08.8**	**-0.8**
JTJ				*e*S	**Sg**	**00 04 31.1**	**-0.9**
PCYT	**Pengchaiyu** baz=336	**1.80**	**334**	*e*P	**Pg**	**00 04 09.8**	**-1.1**
EDH	**Donghe** baz=235	**1.82**	**236**	*e*P	**Pn**	**00 04 07.4**	**-0.4**
EDH	baz=235			*e*S	**Sn**	**00 04 29.4**	**-1.4**
SSLB	**Suanglung** baz=263	**1.83**	**264**	P	**Pn**	**00 04 09.1**	**+1.1**
WHP	**Taichung City** baz=279	**1.84**	**279**	*e*P	**Pb**	**00 04 10.0**	**-0.2**
LIOB	**Emei** baz=291	**1.87**	**290**	*e*P	**Pb**	**00 04 11.2**	**+0.6**
SMLT	**Sun Moon Lake** baz=266	**1.87**	**267**	*e*P	**Pn**	**00 04 09.8**	**+1.2**
NSTT	**Nanjuang** baz=291	**1.87**	**290**	*e*P	**Pb**	**00 04 11.2**	**+0.4**
LDUT	**Ludao** baz=224	**1.89**	**226**	*e*P	**Pn**	**00 04 08.2**	**-0.5**
TYC	**Yuchr** baz=267	**1.91**	**267**	*e*P	**Pb**	**00 04 10.4**	**-0.9**
ELDTW	**Lidau** baz=244	**1.94**	**246**	*e*P	**Pn**	**00 04 09.7**	**+0.1**
ALS	**Alishan** baz=256	**2.02**	**256**	*e*P	**Pn**	**00 04 12.2**	**+1.5**
NSY	**Sanyi** baz=282	**2.03**	**282**	*e*P	**Pb**	**00 04 13.3**	**-0.1**
WJS	**Zhushan** baz=265	**2.03**	**265**	*e*P	**Pb**	**00 04 13.4**	**-0.1**
WNT	**Mingjian** baz=267	**2.07**	**267**	*e*P	**Pb**	**00 04 13.9**	**-0.1**
TWGBT	**Beinan** baz=234	**2.08**	**236**	*e*P	**Pn**	**00 04 11.8**	**+0.5**
TWG	**Pinlang** baz=234	**2.08**	**236**	*e*P	**Pn**	**00 04 11.8**	**+0.5**
TWG	baz=234			*e*S	**Sn**	**00 04 37.6**	**+0.2**
CHN5	**Tsauling** baz=259	**2.11**	**259**	*e*P	**Pb**	**00 04 13.9**	**-0.9**
STYT	**Tauyuan** baz=247	**2.17**	**248**	P	**Pn**	**00 04 13.9**	**+1.2**
WCHH	**Zhanghua** baz=272	**2.18**	**272**	*e*P	**Pb**	**00 04 15.4**	**-0.6**
WDLH	**Douliu** baz=262	**2.22**	**262**	*e*P	**Pb**	**00 04 15.9**	**-0.8**
TPUB	**Ta-pu** baz=251	**2.23**	**252**	*e*P	**Pb**	**00 04 15.6**	**-1.2**
WTP	**Ta-pu** baz=250	**2.26**	**251**	*e*P	**Pn**	**00 04 15.9**	**+2.0**
ECL	**Taimali** baz=231	**2.30**	**233**	*e*P	**Pn**	**00 04 14.5**	**+0.1**
SGST	**Jiashian** baz=246	**2.35**	**247**	*e*P	**Pn**	**00 04 16.4**	**+1.3**
WTK	**Tuku** baz=262	**2.36**	**263**	*e*P	**Pb**	**00 04 17.4**	**-1.5**
CHN1	**Nanshi** baz=249	**2.36**	**250**	*e*P	**Pb**	**00 04 17.7**	**-1.3**
SNST	**Tainan City** baz=250	**2.37**	**251**	*e*P	**Pb**	**00 04 18.1**	**-1.2**
SSD	**Sandimen** baz=238	**2.46**	**240**	*e*P	**Pb**	**00 04 19.7**	**-1.1**
TSMG	**Majia** baz=238	**2.47**	**239**	*e*P	**Pb**	**00 04 20.0**	**-1.0**
ICHU	**Yijhu** baz=255	**2.52**	**256**	*e*P	**Pn**	**00 04 19.7**	**+2.3**
MASBT	**Mashibuluo** baz=236	**2.53**	**237**	*e*P	**Pn**	**00 04 19.2**	**+1.6**
SLIU	**Shizi** baz=227	**2.66**	**228**	*e*P	**Pn**	**00 04 19.8**	**+0.5**
SCZT	**Fangliau** baz=232	**2.68**	**233**	*e*P	**Pb**	**00 04 22.8**	**-1.8**
TWKBT	**Hengchun** baz=222	**2.84**	**224**	*e*P	**Pn**	**00 04 23.3**	**+1.5**
TWKBT	baz=222			*e*S	**Sn**	**00 04 58.0**	**+2.0**
TWK1	**Hengchun** baz=222	**2.84**	**224**	*e*P	**Pn**	**00 04 23.5**	**+1.6**
TWK1	baz=222			*e*S	**Sn**	**00 04 56.7**	**+0.5**
TWP	**Hsiaoliuchiu** baz=234	**2.89**	**236**	*e*P	**Pn**	**00 04 23.9**	**+1.4**
WDGT	**Dungji** baz=256	**3.10**	**257**	*e*P	**Pn**	**00 04 27.1**	**+1.7**
PNG	**Penghu** baz=262	**3.13**	**263**	*e*P	**Pn**	**00 04 27.5**	**+1.7**
PNG	baz=262			*e*S	**Sn**	**00 05 04.1**	**+0.9**
VWUC	**VWUC** baz=288	**3.33**	**288**	*e*P	**Pn**	**00 04 29.4**	**+1.0**
MATB	**Ma-tsu** baz=309	**3.45**	**309**	*e*P	**Pn**	**00 04 32.3**	**+2.0**
PTMZ	**Houxiangcun** baz=287	**3.63**	**287**	*e*P	**Pn**	**00 04 33.8**	**+1.2**
XPSS	**Dashiqiu** baz=320	**3.83**	**320**	*e*P	**Pn**	**00 04 38.2**	**+2.8**

IDC 07 00:04:55.3±7.5, **53.°70N×159.°62E, h0**km, **Error ellipse: s-maj=63.3km s-min=27.8km az=63.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-** baz=61,slow=312,SNR=17	**1.28**	**243**	*i*		00 10 00.0	
PETK	**Petropavlovsk-** 0.6nm,0.3s,baz=65,slow=21,SNR=8.6	**1.29**	**243**	Pn	Pb	00 05 20.5	0.0
PETK	0.5nm,0.3s,baz=80,slow=40,SNR=7.7			Sn	Sn	00 05 40.1	+1.5
I53US	**FAIRBANKS INFR** baz=272,slow=328,SNR=4.7	**28.17**	**46**	*i*		02 51 20.0	

*IDC **07** 00:13:46.2±0.8, 55.°88N×110.°25E, h0km, mb3.8/10, mb1 4.0/16, mb1mx3.8/40, mbtmp3.8/16, ML3.5/5, Error ellipse: s-maj=18.0km s-min=11.6km az=117.0*
*NEIC **07** 00:13:46.8±1.9, 55.°97N±0.°07×110.°3E±0.°1, h10km±1km, mb4.3/21, Error ellipse: s-maj=13.7km s-min=12.2km az=115.0*
*MOS **07** 00:13:46.0±1.0, 55.°90N×110.°20E, h10km, mb4.3/7, Error ellipse: s-maj=9.3km s-min=6.0km az=74.9*
*BYKL **07** 00:13:47.9±0.2, 55.°85N×110.°19E*
ISC 07 00:13:45.7±1.0, **55.°85N**±0.°03×**110.°26E**±0.°02, **h1**km±7km, **n121**, σ2°**43**/173, **mb4.1**/20, **3C-7D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk** 174nm,0.5s	**0.41**	**260**	⇑*i*Pg	**Pg**	**00 13 55.6**	**+2.1**
NIZ	565nm,0.5s			⇑*i*Pg	**Pg**	**00 13 55.6**	**+2.1**
NIZ	2μm,0.5s			⇓*i*Pg	**Pg**	**00 13 55.6**	**+2.1**
NIZ	2μm,0.3s			Pmax		00 13 56.3	
NIZ				*e*		00 13 59.0	
NIZ				*e*Sg	**Sg**	**00 14 00.8**	**+1.9**
NIZ	4μm,0.2s			Smax		00 14 02.9	
NIZ	**Nizh Angarsk**	**0.41**	**260**	⇓*i*PG	**Pg**	**00 13 55.6**	**+2.1**
NIZ				*e*		00 14 01.1	
NIZ	comp=Z,2μm,0.7s			pmax	pmax		
NIZ	comp=N,4μm,0.5s			smax	smax		
KMO	**Kumora**	**0.53**	**85**	⇓*i*Pg	**Pg**	**00 13 58.2**	**+2.4**
KMO	comp=N,3μm,0.3s			Pmax		00 13 58.7	
KMO				*e*Sg	**Sg**	**00 14 06.0**	**+3.3**
KMO	comp=N,5μm,0.5s			Smax		00 14 06.4	
KMO	**Kumora**	**0.53**	**85**	⇓*i*PG	**Pg**	**00 13 58.2**	**+2.4**
KMO				*e*		00 14 06.3	
KMO	comp=Z,3μm,0.5s			pmax	pmax		
KMO	comp=N,5μm,1.0s			smax	smax		
YLYR	**Ulyunkhan**	**1.10**	**152**	⇑*i*Pg	**Pb**	**00 14 08.3**	**+0.8**
YLYR	comp=N,273nm,0.3s			Pmax		00 14 08.8	
YLYR				*e*Sg	**Sg**	**00 14 22.8**	**+1.8**
YLYR				*e*Sb	**Sn**	**00 14 26.3**	**+2.2**
YLYR	comp=N,981nm,0.2s			max		00 14 27.9	
YLYR	**Ulyunkhan**	**1.10**	**152**	⇓*i*PG	**Pb**	**00 14 08.1**	**+0.6**
YLYR				*e*		00 14 23.1	
YLYR				pmax	pmax		

comp=Z,272nm,0.7s
YLYR smax smax
comp=N,1μm,0.6s
SVKR Severomuysk 1.87 80 ePg Pn 00 14 21.6 +2.7
SVKR e 00 14 22.7
SVKR max 00 14 23.1
comp=N,3μm,0.5s
SVKR eSg **Sb 00 14 46.6 +2.0**
SVKR Smax 00 14 49.9
comp=N,9μm,0.4s
SVKR e 00 14 54.3
SVKR Severomuysk 1.87 80 ePN Pn 00 14 21.6 +2.7
SVKR e 00 14 22.6
SVKR e 00 14 46.2
SVKR pmax pmax
comp=Z,3μm,0.6s
SVKR smax smax
comp=E,9μm,0.4s
UKT Uakit 1.94 99 ePg Pb 00 14 23.0 +1.1
UKT eSg **Sb 00 14 49.5 +2.9**
SYVR Suvo 2.20 184 ePn Pn 00 14 24.4 +1.1
SYVR ePg **Pb 00 14 27.0 +0.8**
SYVR Pmax 00 14 34.2
comp=E,209nm,0.5s
SYVR eSg **Sg 00 14 57.3 +1.0**
SYVR Smax 00 14 58.9
comp=E,2μm,0.6s
SYVR Suvo 2.20 184 ePN Pn 00 14 25.1 +1.8
SYVR e 00 14 27.5
SYVR e 00 14 57.4
SYVR pmax pmax
comp=Z,646nm,0.7s
SYVR smax smax
comp=E,2μm,0.4s
OGRR Ongureny 2.70 216 e Pn 00 14 33.2 +3.1
OGRR e 00 14 35.9
OGRR max 00 14 38.1
comp=E,202nm,0.4s
OGRR e 00 15 06.1
OGRR eSg **Sb 00 15 11.2 +3.0**
OGRR Smax 00 15 18.9
comp=E,775nm,0.4s
OGRR Ongureny 2.70 216 ePN Pn 00 14 33.3 +3.1
OGRR e 00 14 36.3
OGRR eS **Sb 00 15 06.2 -2.0**
OGRR e 00 15 11.1
OGRR pmax pmax
comp=Z,220nm,0.6s
OGRR smax smax
comp=E,772nm,0.4s
BOD Bodaibo 2.85 45 ǁ iPn Pn 00 14 34.2 +1.9
BOD e 00 14 35.6
BOD ePg **Pb 00 14 39.0 +1.7**
BOD Pmax 00 14 40.6
comp=E,221nm,0.4s
BOD eSn **Sn 00 15 07.2 0.0**
BOD eSg **Sb 00 15 16.2 +3.5**
BOD Smax 00 15 17.9
comp=E,1μm,0.8s
BOD Bodaibo 2.85 45 ePN Pn 00 14 33.7 +1.4
BOD e 00 14 38.8
BOD e 00 15 15.8
BOD pmax pmax
comp=Z,220nm,0.3s
BOD smax smax
comp=N,1μm,0.8s
NLYR Nelyaty 3.11 76 ePn Pn 00 14 38.1 +2.3
NLYR ePg **Pb 00 14 43.8 +2.1**
NLYR Pmax 00 14 48.4
comp=N,252nm,0.5s
NLYR e 00 15 15.6
NLYR eSg **Sb 00 15 25.2 +5.0**
NLYR Smax 00 15 35.1
comp=N,1μm,0.8s
KELR Kotokel 3.35 203 e Pn 00 14 38.5 -0.6
KELR e 00 15 12.4
KELR eSg **Sg 00 15 31.8 -1.3**
ZRHB Zarechye 3.77 210 e Pb 00 14 52.8 -0.2
ZRHB e 00 14 58.5
ZRHB max 00 15 01.8
comp=N,306nm,0.6s
ZRHB eSg **Sg 00 15 44.1 -2.6**
ZRHB Smax 00 15 52.1
comp=N,1μm,0.9s
VTMR Vitim 3.81 18 ePn Pn 00 14 47.1 +1.8
VTMR ePg **Pb 00 14 57.3 +3.8**
VTMR eSg **Sb 00 15 45.6 +5.5**
VTMR e 00 15 49.5
TRG Tyrgan 3.85 218 ePn Pn 00 14 48.0 +2.0
TRG e 00 14 53.6
TRG e 00 14 58.7
TRG max 00 15 06.5
comp=N,137nm,0.9s
TRG eSn **Sn 00 15 31.7 -0.2**
TRG eSg **Sb 00 15 46.2 +4.8**
TRG Smax 00 15 47.2
comp=N,551nm,1.2s
TRG Tyrgan 3.85 218 ePN Pn 00 14 48.0 +2.0
TRG e 00 14 56.6
TRG eS **Sn 00 15 31.5 -0.4**
TRG e 00 15 46.5
TRG pmax pmax
comp=Z,134nm,0.6s
TRG smax smax
comp=E,419nm,0.5s
UUDB Ulan-Yde 4.28 202 ePn Pn 00 14 53.8 +2.0
UUDB e 00 14 56.7
UUDB ePg **Pb 00 15 03.8 +2.2**
UUDB Pmax 00 15 07.2
comp=E,45nm,0.7s
UUDB e 00 15 26.6
UUDB eSg **Sb 00 15 59.3 +5.7**
UUDB Smax 00 16 11.1
comp=E,319nm,0.7s
CIT Chita 4.30 152 eSg Sg 00 16 01.6 -2.1
CIT Smax 00 16 04.9
comp=E,284nm,0.4s
FFNB Fofonovo 4.33 210 ePn Pn 00 14 54.1 +1.5
FFNB e 00 14 58.9
FFNB ePg **Pb 00 15 06.3 +3.8**
FFNB eSn **Sn 00 15 42.6 -1.1**
FFNB eSg **Sb 00 16 00.8 +5.5**
STDB Stepnoy Dvoret 4.34 214 ePn Pn 00 14 55.2 +2.4
STDB e 00 14 59.1
STDB e 00 15 07.2
STDB eSg **Sg 00 16 02.3 -2.8**
KAB Kabansk 4.36 211 eSg Sg 00 16 02.0 -3.6
KAB e 00 16 07.2
KAB max 00 16 24.4
comp=E,1μm,1.3s
CRS Chara 4.58 73 ePn Pn 00 14 58.1 +2.1
CRS ePg **Pb 00 15 10.6 +3.9**
CRS Pmax 00 15 13.5
comp=E,271nm,1.0s
CRS eSg **Sg 00 16 10.9 -1.6**
CRS Smax 00 16 26.2
comp=E,482nm,1.3s
CRS Chara 4.58 73 ePN Pn 00 14 58.8 +2.8
CRS e 00 15 10.2
CRS e 00 16 09.2
CRS pmax pmax
comp=Z,271nm,0.9s
CRS smax smax
comp=E,464nm,1.3s
HRMR Khuramsha 4.66 206 ePn Pn 00 14 59.2 +2.1
HRMR ePg **Pb 00 15 09.6 +1.4**
HRMR Pmax 00 15 15.1
comp=E,92nm,0.4s
HRMR e 00 15 52.7
HRMR eSg **Sg 00 16 11.2 -4.1**
HRMR Smax 00 16 23.8
comp=E,1μm,0.5s
BGT Bolshoye Golou 4.77 219 ePn Pn 00 14 58.5 -0.1
BGT e 00 15 00.8
BGT ePg **Pb 00 15 12.6 +2.6**
BGT Pmax 00 15 14.2
comp=E,117nm,0.5s
BGT e 00 15 51.0
BGT eSg **Sg 00 16 14.6 -4.1**
BGT Smax 00 16 26.7
comp=E,321nm,0.5s
IRK Irkutsk 5.05 227 eSn Sn 00 15 59.6 -1.8
IRK eSg **Sg 00 16 24.4 -3.3**
IRK Smax 00 16 30.3
comp=E,723nm,0.5s
IRK Irkutsk 5.05 227 ePN Pn 00 15 04.1 +1.6
IRK e 00 15 19.2
IRK eS **Sn 00 16 00.5 -0.9**
IRK e 00 16 24.0
IRK pmax pmax
comp=Z,190nm,0.3s
IRK smax smax
comp=N,713nm,0.9s
LSTR Listvyanka 5.12 221 ePg Pb 00 15 17.8 +1.8
LSTR Pmax 00 15 23.2
comp=N,45nm,0.6s
LSTR eSn **Sn 00 16 00.2 -2.9**
LSTR eSg **Sb 00 16 24.2 +6.3**
LSTR Smax 00 16 34.8
comp=N,242nm,0.9s
IVK Ivanovka 5.33 223 ePn Pn 00 15 07.6 +1.3
IVK max 00 15 15.8
comp=N,23nm,0.4s
IVK eSn **Sn 00 16 07.2 -1.1**
IVK Sg **Sb 00 16 31.2 +7.2**
IVK Smax 00 16 31.5
comp=N,323nm,0.9s
KHNR Khani 5.51 75 e Sb 00 16 22.9 -6.1
KHNR eSg **Sg 00 16 39.7 -2.7**
TLY Talaya 5.73 226 Pn Pn 00 15 12.9 +1.1
comp=N,0.0nm,0.3s,baz=62,slow=2.0,SNR=15
TLY Sn **Sn 00 16 17.4 -0.7**
comp=N,0.1nm,0.3s,baz=231,slow=20,SNR=21
TLY Talaya 5.73 226 ePn Pn 00 15 12.6 +0.8
TLY ePg **Pb 00 15 29.3 +3.0**
TLY Pmax 00 15 33.1
comp=N,46nm,0.8s
TLY eSn **Sn 00 16 16.0 -2.1**
TLY eSg **Sg 00 16 44.3 -5.2**
TLY Smax 00 16 49.7
comp=N,169nm,0.8s
TLY Talaya 5.73 226 ePN Pn 00 15 12.6 +0.8
TLY e 00 15 31.1
TUP Tupik 5.74 100 ePn Pn 00 15 13.4 +1.4
TUP ePg Pb 00 15 31.8 +5.3
TUP Pmax 00 15 51.1
comp=N,33nm,0.6s
TUP eSn **Sn 00 16 17.7 -0.7**
TUP e 00 16 29.5
TUP eSg **Sg 00 16 47.1 -2.8**
TUP Smax 00 16 52.7
comp=N,456nm,0.8s
TUP Tupik 5.74 100 ePN Pn 00 15 13.8 +1.8
TUP e 00 15 31.5
TUP eS **Sn 00 16 19.4 +1.0**
TUP e 00 16 47.1
TUP pmax pmax
comp=Z,28nm,0.6s
TUP smax smax
comp=N,459nm,0.9s
ARS Arshan 6.08 233 ePn Pn 00 15 17.7 +1.1
ARS e 00 15 23.3
ARS max 00 15 38.9
comp=N,104nm,0.6s
ARS eSn **Sn 00 16 23.5 -3.3**
ARS eSg **Sg 00 16 56.9 -3.8**
ARS Smax 00 17 12.4
comp=N,687nm,1.5s
KPC Khapcheranga 6.29 167 ePg Pb 00 15 40.4 +4.5
KPC Pmax 00 15 48.1
comp=N,11nm,0.5s
KPC e 00 16 56.9
KPC eSg **Sg 00 17 03.4 -4.1**
KPC Smax 00 17 15.2
comp=N,170nm,1.3s
YKLR Yuktali 6.40 79 ePn Pn 00 15 23.6 +2.6
YKLR ePg Pb 00 15 43.8 +6.1
YKLR e 00 17 05.5
YKLR eSg **Sg 00 17 08.6 -2.4**
ZAK Zakamensk 6.90 220 e Pn 00 15 27.7 -0.2
ZAK ePg Pb 00 15 52.2 +5.9
ZAK Pmax 00 15 53.8
comp=N,28nm,1.1s
ZAK e 00 16 47.8
ZAK e 00 17 11.1
ZAK Sg **Sg 00 17 20.5 -6.6**
ZAK Smax 00 17 26.3
comp=N,147nm,1.1s
ZAK Zakamensk 6.90 220 ePN Pn 00 15 30.1 +2.2
ZAK e 00 15 52.3
ZAK e 00 17 21.9
ZAK pmax pmax
comp=Z,28nm,0.5s
ZAK smax smax
comp=E,147nm,1.1s
ORL Orlik 6.97 246 ǁ iPn Pn 00 15 30.8 +1.9
ORL max 00 15 32.2
comp=E,28nm,0.8s
ORL eSn **Sn 00 16 45.3 -3.5**
ORL Sg **Sg 00 17 22.7 -6.6**
ORL Smax 00 17 25.2
comp=E,112nm,0.8s
ORL Orlik 6.97 246 ePN Pn 00 15 31.0 +2.1
ORL eS **Sn 00 16 46.5 -2.3**
CLNS Chul'man 8.19 77 eSg Sg 00 18 02.8 -5.6
CLNS e 00 18 10.7
ULN Ulaanbaatar 8.24 195 e Pg 00 16 25.0 +1.7
ULN e 00 17 47.2
ULN eSg Sg 00 18 02.2 -7.8
ULN e 00 18 06.6
ULN Ulaanbaatar 8.24 195 PN Pn 00 15 47.7 +1.4
ULN Ulaanbaatar 8.24 195 Pn Pn 00 15 47.7 +1.4
SONM Songino Array 8.37 198 Pn Pn 00 15 50.7 +2.5
comp=E,0.5nm,0.3s,baz=8,7,slow=15,SNR=8.1
SONM Lg Lg 00 18 12.4
comp=E,3.6nm,0.3s,baz=17,slow=28,SNR=11
SONM Songino Array 8.37 198 Pn 00 15 49.2 +1.0
HIA Hailar 8.76 135 i PN Pn 00 15 54.4 +1.0
TDJR Todzha 9.00 253 e 00 17 43.4
TDJR eSg 00 18 25.8
ARDR Aradan 10.38 259 e 00 18 08.0
ARDR eSg Sn 00 19 07.2 +55
YAK Yakutsk 11.76 50 P Pn 00 16 33.2 -1.1
YAK Yakutsk 11.76 50 Pn Pn 00 16 33.2 -1.1
KLR Kul'dur 14.62 108 Pn Pn 00 17 14.1 +0.6
comp=E,0.2nm,0.3s,baz=310,slow=16,SNR=3.6
KLR Kul'dur 14.62 108 i P Pn 00 17 15.0 +1.5
KLR pmax pmax
comp=Z,1.0nm,0.7s
ZAA0 Zalesovo Array 14.73 273 Pn Pn 00 17 15.0 +0.1
ZALV Zalesovo Beam 14.73 273 Pn Pn 00 17 17.2 +2.2
baz=61,slow=12,SNR=4.2
ZALV Zalesovo Beam 14.73 273 Pn Pn 00 17 14.9 -0.1
DGZ Jazzator, Alta 15.08 255 i P Pn 00 17 21.3 +1.4
NRIK Noril'sk 16.93 332 Pn Pn 00 17 39.3 -4.1
comp=Z,0.7nm,0.3s,baz=122,slow=10,SNR=6.1
TIXI Tiksi 17.72 19 i P Pn 00 17 52.8 -0.4
TIXI pmax pmax
comp=Z,5.0nm,0.7s
TIXI Tiksi 17.72 19 Pn 00 17 51.4 -1.8
TIXI IAmb IAmb 00 18 09.8
comp=Z,12nm,1.1s
USA0B Ussuriysk Arra 18.10 121 P Pn 00 17 56.6 -1.5
USA0B pmax pmax
comp=Z,2.0nm,0.8s
USA0B Ussuriysk Arra 18.10 121 Pn Pn 00 17 56.5 -1.5
USRK Ussuriysk Ar. 18.10 121 Lg Lg 00 23 21.6
baz=320,slow=26,SNR=4.8
KURK Kurchatov 19.49 268 P Pn 00 18 17.0 +2.0
MK31 Makanchi Array 19.57 254 P P 00 18 15.5 +0.7
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 19.57 254 P P 00 18 15.4 +0.7
MKAR Makanchi Array 19.57 254 P P 00 18 15.3 +0.6
comp=Z,0.3nm,0.3s,baz=42,slow=8.3,SNR=13
MKAR Makanchi Array 19.57 254 i P Pn 00 18 16.0 0.0
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 19.57 254 P P 00 18 15.7 +0.9
KURBB Kurchatov Arra 19.59 268 P Pn 00 18 17.0 +0.8
comp=Z,0.2nm,0.3s,baz=64,slow=12,SNR=9.1
MAKZ Makanchi 19.73 255 P P 00 18 16.9 +0.4
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 19.73 255 P P 00 18 16.9 +0.4
INCN Inchon 21.43 142 P P 00 18 35.7 +0.7
INCN pmax pmax
comp=Z,7.0nm,0.7s
INCN Inchon 21.43 142 P P 00 18 35.7 +0.7
INCN IAmb IAmb 00 18 38.5
comp=Z,7.1nm,0.7s
XAN Xi'an 21.83 183 P P 00 18 40.5 +1.2
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN Xi'an 21.83 183 P P 00 18 40.5 +1.2
SEY Seymchan 22.23 54 i P P 00 18 44.6 +1.3
BVAR Borovoye Array 23.14 280 P P 00 18 53.3 +0.3
comp=Z,1.1nm,0.6s,baz=78,slow=9.7,SNR=7.9
BRVK Borovoye 23.18 280 P P 00 18 53.1 -0.4
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 23.18 280 P P 00 18 53.1 -0.4
BRVK IAmb IAmb 00 19 00.3
comp=Z,2.2nm,0.8s
FRU1 Bishkek 26.30 255 P P 00 19 23.5 +0.9
FRU1 Bishkek 26.30 255 P P 00 19 23.5 +0.9
NACB Ninganchiao 32.72 161 P P 00 20 19.6 0.0
SSLB Suanglung 32.98 162 P P 00 20 22.1 +0.2
SSLB IAmb IAmb 00 20 23.4
comp=Z,6.1nm,0.9s
KEV Kevo 37.13 325 P P 00 20 57.5 +0.2
KEV pmax pmax
comp=Z,10.0nm,1.1s
KEV Kevo 37.13 325 P P 00 20 57.5 +0.2
KEV IAmb IAmb 00 21 10.4
comp=Z,9.8nm,1.1s
KBS Kingsbay 37.40 342 P P 00 20 57.6 -1.8
KBS Kingsbay 37.40 342 P P 00 20 57.6 -1.8
ARCES ARCESS Array B 37.70 325 P P 00 21 02.0 -0.1
comp=Z,1.2nm,0.4s,baz=62,slow=9.8,SNR=16
ARCES ARCESS Array B 37.70 325 P P 00 20 54.9 -7.2
FIA1 FINESS Array S 41.26 314 P P 00 21 31.9 +0.1
FIA1 IAmb IAmb 00 21 32.7
comp=Z,4.1nm,0.8s
FINES FINESS Array B 41.26 314 P P 00 21 31.9 +0.1
comp=Z,2.5nm,0.6s,baz=58,slow=8.4,SNR=29
FINES FINESS Array B 41.26 314 eP P 00 21 32.1 +0.3
ILAR Eielson Array 46.18 35 P P 00 22 12.9 +1.5
comp=Z,0.6nm,0.6s,baz=309,slow=12,SNR=3.4
ILAR Eielson Array 46.18 35 P P 00 22 11.8 +0.4
RND Reindeer 46.41 38 P P 00 22 13.2 -0.1
RND pmax pmax
comp=Z,4.0nm,1.1s
RND Reindeer 46.41 38 P P 00 22 13.2 -0.1
RND IAmb IAmb 00 22 16.4
comp=Z,4.4nm,1.1s
NB2 NORSAR Subarra 47.29 319 P P 00 22 19.9 -0.3
comp=Z,1.0nm,0.5s,baz=48,slow=7.4
NOA NORSAR Array B 47.29 319 P P 00 22 20.2 0.0
comp=Z,1.2nm,0.7s,baz=51,slow=7.8,SNR=14
NORES NORESS Array B 47.37 319 eP P 00 22 20.6 -0.1
DOT Dot Lake 47.86 35 P P 00 22 24.5 -0.1
DOT IAmb IAmb 00 22 25.4
comp=Z,2.2nm,0.7s
GERES GERESS Array B 54.73 307 P P 00 23 17.1 +0.8
comp=Z,0.4nm,0.8s,baz=44,slow=7.8,SNR=4.8
GERES GERESS Array B 54.73 307 P P 00 23 16.1 -0.2
CSS Mathiatis 54.84 282 P P 00 23 16.4 -0.9
CSS IAmb IAmb 00 23 28.9
comp=Z,11nm,1.1s
AGG Agios Georgios 57.74 293 P P 00 23 35.7 -2.3
AGG pmax pmax
comp=Z,6.0nm,1.2s
AGG Agios Georgios 57.74 293 P P 00 23 35.6 -2.3
AGG IAmb IAmb 00 23 40.7
comp=Z,6.0nm,1.2s
MOBC Moresby Island 59.94 38 P P 00 23 51.4 -1.6
ESDC Sonseca Array 69.72 311 P P 00 24 57.8 +0.8
comp=Z,0.9nm,0.8s,baz=22,slow=6.1,SNR=6.8
ESDC Sonseca Array 69.72 311 P P 00 24 57.0 +0.1
WRA Warramunga Arr 78.20 157 P P 00 25 46.9 +0.3
comp=Z,0.5nm,0.7s,baz=349,slow=5.7,SNR=4.6
WRA Warramunga Arr 78.20 157 IAmb IAmb 00 25 51.0
comp=Z,0.2nm,1.1s
ASAR Alice Springs 81.72 158 P P 00 26 06.2 +0.7
comp=Z,0.3nm,0.6s,baz=354,slow=5.2,SNR=5.7
TORD Torodi Ar. Bea 89.33 293 P P 00 26 44.0 +0.3
comp=Z,0.6nm,0.6s,baz=35,slow=4.2,SNR=2.7
TORD Torodi Ar. Bea 89.33 293 IAmb IAmb 00 26 48.0
comp=Z,1.5nm,1.0s

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*IDC **07** 00:14:00.7±1.3, 55°.80N×110°.11E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.6/34, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.2/39, Error ellipse: s-maj=40.6km s-min=28.3km az=41.0*

*BYKL **07** 00:14:02.5±0.3, 55°.88N×110°.17E*

ISC 07 00:14:02.0±0.6, 55°.74N±0°.03×109°.90E±0°.03, h10km, n39, σ2s63/47, mb3.8/8, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.21**	**281**	*e*Sg	**Sg**	**00 14 14.9**	**+5.7**
KMO	**Kumora**	**0.75**	**78**	*e*Sg	**Sg**	**00 14 20.7**	**-5.5**
KMO				Smax		00 14 21.1	
6μm,0.6s							
KMO				*e*		00 14 24.3	
YLYR	**Ulyunkhan**	**1.13**	**140**	*e*Sg	**Sb**	**00 14 38.0**	**-0.2**
YLYR				*e*		00 14 41.7	
YLYR				max		00 14 43.8	
1μm,0.2s							
SYVR	**Suvo**	**2.08**	**178**	*e*Pg	**Pg**	**00 14 41.8**	**-0.1**
SYVR				Pmax		00 14 42.8	
635nm,0.7s							
SYVR				*e*Sg	**Sg**	**00 15 10.4**	**+1.5**
SYVR				*e*		00 15 13.7	
SYVR				max		00 15 13.9	
1μm,0.4s							
SVKR	**Severomuysk**	**2.10**	**78**	*e*Pg	**Pn**	**00 14 37.0**	**-0.2**
SVKR				*e*Sg	**Sn**	**00 15 02.3**	**-1.0**
SVKR				Smax		00 15 04.5	
8μm,0.4s							
SVKR				*e*		00 15 09.7	
UKT	**Uakit**	**2.13**	**95**	*e*Pg	**Pn**	**00 14 37.9**	**+0.2**
UKT				*e*Sg	**Sn**	**00 15 04.6**	**+0.4**
OGRR	**Ongureny**	**2.49**	**213**	*e*Sg	**Sg**	**00 15 26.2**	**+4.3**
OGRR				*e*		00 15 30.6	
OGRR				max		00 15 31.3	
462nm,0.4s							
BOD	**Bodaibo**	**3.08**	**46**	*e*Sg	**Sb**	**00 15 30.9**	**-3.4**
BOD				Smax		00 15 31.6	
1μm,0.7s							
KELR	**Kotokel**	**3.17**	**200**	*e*Sg	**Sg**	**00 15 46.7**	**+3.0**
KELR				*e*		00 15 52.1	
NLYR	**Nelyaty**	**3.34**	**75**	*e*Sg	**Sb**	**00 15 40.2**	**-1.6**
NLYR				Smax		00 15 44.0	
2μm,1.1s							
NLYR				*e*		00 15 45.5	
ZRHB	**Zarechye**	**3.58**	**208**	*e*Sg	**Sg**	**00 15 59.5**	**+2.8**
ZRHB				Smax		00 16 02.4	
1μm,1.0s							
TRG	**Tyrgan**	**3.64**	**216**	*e*Pn	**Pb**	**00 15 03.4**	**-3.0**
TRG				*e*Sg	**Sg**	**00 16 01.1**	**+2.4**
TRG				Smax		00 16 07.5	
356nm,0.5s							
VTMR	**Vitim**	**3.98**	**20**	*e*	**Pn**	**00 15 01.9**	**-1.0**
VTMR				*e*Sg	**Sb**	**00 15 58.9**	**-1.3**
UUDB	**Ulan-Yde**	**4.10**	**200**	*e*Sg	**Sg**	**00 16 14.5**	**+1.0**
UUDB				Smax		00 16 25.2	
320nm,0.8s							
FFNB	**Fofonovo**	**4.14**	**208**	*e*Sg	**Sg**	**00 16 16.5**	**+1.8**
STDB	**Stepnoy Dvoret**	**4.14**	**212**	Sg	**Sg**	**00 16 18.4**	**+3.6**
CIT	**Chita**	**4.30**	**148**	*e*Sg	**Sg**	**00 16 16.8**	**-3.3**
CIT				Smax		00 16 20.1	
378nm,0.2s							
HRMR	**Khuramsha**	**4.47**	**204**	*e*Sg	**Sg**	**00 16 27.6**	**+2.1**
HRMR				Smax		00 16 32.2	
785nm,0.7s							
CRS	**Chara**	**4.80**	**73**	*e*Sg	**Sb**	**00 16 25.3**	**+1.3**
CRS				Smax		00 16 32.2	
469nm,1.2s							
LSTR	**Listvyanka**	**4.90**	**220**	*e*Sg	**Sg**	**00 16 40.3**	**+1.0**
LSTR				Smax		00 16 52.7	
2μm,0.8s							
IVK	**Ivanovka**	**5.11**	**222**	*e*Sg	**Sg**	**00 16 46.2**	**+0.2**
IVK				Smax		00 16 48.2	
254nm,1.1s							
TLY	**Talaya**	**5.50**	**225**	*e*Pg	**Pg**	**00 15 45.6**	**-1.7**
TLY				Pmax		00 15 48.2	
20nm,0.5s							
TLY				Sg	**Sg**	**00 16 59.7**	**+1.1**

TLY					Smax			00 17 11.3	
	89nm,0.6s								
KHNR	**Khani**	**5.73**	**74**		Sg		**Sb**	**00 16 54.6**	**+3.9**
TUP	**Tupik**	**5.92**	**99**		*e*Pn		**Pn**	**00 15 30.0**	**+0.3**
TUP					*e*Pg		**Pb**	**00 15 45.5**	**+0.2**
TUP					*e*Sg		**Sb**	**00 17 01.9**	**+5.7**
TUP					Smax			00 17 06.8	
	406nm,0.9s								
KPC	**Khapcheranga**	**6.23**	**165**		*e*Pg		**Pg**	**00 15 56.9**	**-4.3**
KPC					Pmax			00 16 03.7	
	30nm,0.6s								
KPC					*e*Sg		**Sg**	**00 17 19.2**	**-2.6**
KPC					Smax			00 17 25.0	
	214nm,1.7s								
YKLR	**Yuktali**	**6.62**	**78**		*e*Sg		**Sb**	**00 17 22.2**	**+5.9**
ZAK	**Zakamensk**	**6.68**	**219**		*e*Sg		**Sg**	**00 17 36.4**	**+0.1**
ZAK					Smax			00 17 44.6	
	137nm,1.1s								
ORL	**Orlik**	**6.74**	**246**		*e*Sg		**Sg**	**00 17 38.7**	**+0.6**
ORL					Smax			00 17 48.9	
	122nm,1.4s								
ULN	**Ulaanbaatar**	**8.08**	**194**		*e*Sg		**Sg**	**00 18 18.6**	**-2.5**
TDJR	**Todzha**	**8.78**	**253**		*e*Sg		**Sg**	**00 18 39.5**	**-3.8**
ASAJ	**Asahikawa**	**23.81**	**105**		LR		LR	00 29 05.0	
	comp=Z,38nm,18.8s,baz=168,slow=38								
ARCES	**ARCESS Array B**	**37.68**	**325**		P		**P**	**00 21 16.9**	**0.0**
	0.9nm,0.5s,baz=64,slow=10,SNR=6.4								
FINES	**FINESS Array B**	**41.19**	**314**		P		**P**	**00 21 46.6**	**+0.4**
	1.9nm,0.5s,baz=56,slow=9.5,SNR=8.4								
ILAR	**Eielson Array**	**46.39**	**35**		P		**P**	**00 22 27.2**	**-0.8**
	0.8nm,0.8s,baz=307,slow=7.8,SNR=5.0								
NOA	**NORSAR Array B**	**47.24**	**319**		P		**P**	**00 22 35.0**	**+0.2**
	0.7nm,0.5s,baz=52,slow=7.8,SNR=8.3								
GERES	**GERESS Array B**	**54.63**	**306**		P		**P**	**00 23 31.5**	**+1.0**
	0.3nm,0.6s,baz=41,slow=9.1,SNR=3.5								
ESDC	**Sonseca Array**	**69.64**	**311**		P		**P**	**00 25 12.5**	**+1.1**
	0.6nm,0.7s,baz=30,slow=7.5,SNR=4.4								
ASAR	**Alice Springs**	**81.69**	**158**		P		**P**	**00 26 20.7**	**+0.4**
	0.6nm,0.9s,baz=2.7,slow=5.2,SNR=4.5								
TORD	**Torodi Ar. Bea**	**89.18**	**292**		P		**P**	**00 26 58.2**	**+0.3**
	0.4nm,0.6s,baz=29,slow=3.3,SNR=2.1								

NNC 07 00:16:21.9±2.2, 38°.30N×70°.39E, h0km, mb4.1, mpv3.9, 3C-2D, Error ellipse: s-maj=17.1km s-min=16.5km az=1.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**4.74**	**355**	Pg	Pb	00 17 45.0	-0.9
	124nm,1.0s						
BRLS				Lg	Lg	00 18 47.2	
	46nm,0.9s						
KK31	**Karatay Array**	**4.80**	**1**	⇑Pn	Pn	00 17 34.9	-0.6
	1.7nm,0.4s,baz=195,slow=13,SNR=42						
KK31				⇑Pg	Pb	00 17 48.8	+1.9
	6.9nm,0.6s,baz=179,slow=13,SNR=13						
KK31				⇑Lg	Lg	00 18 53.6	
	18nm,0.6s,baz=183,slow=28,SNR=5.8						
MRKS	**Merke**	**4.94**	**25**	Pg	Pg	00 17 53.0	-3.5
	14nm,0.5s						
MRKS				Lg	Lg	00 18 59.9	
	10.0nm,0.5s						
SGDS	**Sogindy**	**6.07**	**31**	Pg	Pb	00 18 10.8	+2.3
	8.2nm,0.5s						
SGDS				Lg	Lg	00 19 30.3	
	5.0nm,0.7s						
TKM2	**Tokmak 2**	**6.08**	**39**	⇓Pn	Pn	00 17 53.9	+0.6
	4.0nm,0.6s						
TKM2				⇓Lg	Lg	00 19 37.3	
	11nm,0.9s						
KRBS	**Karabastau**	**6.71**	**35**	Pg	Pb	00 18 24.8	+5.4
	3.2nm,0.7s						
KRBS				Lg	Lg	00 19 54.4	
	2.4nm,0.8s						

*ISN **07** 00:43:03.1±0.4, 33°.72N×45°.64E, h7km±2km, ML2.9*
*TEH **07** 00:43:04.8, 33°.72N×45°.63E, h12km, ML3.1*
ISC 07 00:43:04.7±1.0, 33°.70N±0°.04×45°.63E±0°.04, h13km, n21, σ1§48/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.64**	**157**	*e*Pg	**Pg**	**00 43 16.0**	**-1.2**
IBDR				*e*Sg	**Sg**	**00 43 25.0**	**-0.6**
IBDR				AML	AML	00 43 34.8	
	comp=N,197nm,0.5s						
IBDR				AML	AML	00 43 36.6	
	comp=E,150nm,0.3s						
IGHG	**Ghaleghazi**	**1.00**	**51**	*e*Pg	**Pb**	**00 43 23.6**	**-0.5**
IGHG				*e*		00 43 46.2	
BHD	**Baghdad**	**1.13**	**248**	*e*Pg	**Pb**	**00 43 25.0**	**-1.1**
BHD				*e*Sg	**Sg**	**00 43 41.0**	**-0.2**
BHD				AML	AML	00 43 49.6	
	comp=E,862nm,0.5s						
IDHR	**Dehrash**	**1.18**	**32**	*e*Pg	**Pg**	**00 43 26.8**	**-0.7**
IDHR				*e*		00 43 47.9	
KCHF	**Cheshme Sefid,**	**1.30**	**63**	*e*Pg	**Pg**	**00 43 29.3**	**-0.6**
KCHF				*e*		00 43 52.5	
IVIS	**Veis**	**1.30**	**50**	*e*Pg	**Pg**	**00 43 29.4**	**-0.5**
IVIS				*e*		00 43 50.9	
KER	**Kermanshah**	**1.42**	**61**	*e*Pg	**Pg**	**00 43 31.4**	**-0.7**
IKOM	**Komasi**	**1.63**	**73**	*e*Pg	**Pg**	**00 43 35.3**	**-0.8**
IKOM				*e*		00 43 40.3	
ILIN	**Lien**	**1.64**	**42**	*e*Pg	**Pg**	**00 43 35.5**	**-0.8**
ILIN				*e*		00 43 59.6	
DHL1	**Dehloran**	**1.71**	**126**	*e*Pg	**Pg**	**00 43 36.7**	**-1.0**
IBZA	**Bozab**	**2.00**	**67**	*e*Pn	**Pb**	**00 43 40.4**	**-0.8**
IBZA				*e*		00 43 43.9	
IDOB	**Doab**	**2.12**	**87**	*e*Pn	**Pb**	**00 43 41.7**	**-1.5**
IKMR	**Kamar-syah**	**2.30**	**94**	*e*Pn	**Pb**	**00 43 44.4**	**-1.7**
IKMR				*e*		00 44 23.3	
IALM	**Almabolaq**	**2.40**	**60**	*e*Pn	**Pb**	**00 43 46.1**	**-1.9**
HSAM	**Samen**	**2.52**	**77**	*e*Pn	**Pn**	**00 43 47.0**	**+1.3**
BMDN	**Meydan**	**2.66**	**90**	*e*Pn	**Pn**	**00 43 49.1**	**+1.6**
BMDN				*e*		00 44 32.6	
HSRG	**Sareghieh**	**2.67**	**54**	*e*Pn	**Pb**	**00 43 50.4**	**-2.3**
HSRG				*e*		00 44 33.6	
NSR	**Nassriya**	**2.71**	**171**	*e*Pn	**Pn**	**00 43 49.0**	**+1.0**
NSR				*e*Sn	**Sn**	**00 44 23.0**	**+2.3**
NSR				AML	AML	00 44 25.6	
	comp=E,164nm,0.2s						
HAGD	**Aghdareh**	**3.11**	**68**	*e*Pn	**Pn**	**00 43 55.6**	**+1.8**
HAGD				*e*		00 44 35.7	
QABG	**Abgarm-Qazvin**	**3.82**	**57**	*e*Pn	**Pn**	**00 44 04.9**	**+1.4**
IPIR	**Pirpir**	**4.52**	**101**	*e*Pn	**Pn**	**00 44 16.2**	**+3.0**

IDC 07 01:03:16.7±1.2, 28°.77N×100°.72E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/35, mbtmp3.5/5, ML3.0/1, MS3.1/4, Ms1 3.2/4, ms1mx2.7/41, Error ellipse: s-maj=73.5km s-min=21.0km az=62.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.39**	**189**	LR	LR	01 09 16.2	
	comp=Z,36nm,18.1s,baz=153,slow=35						
SONM	**Songino Array**	**19.54**	**11**	P	P	01 07 45.8	-0.2
	0.0nm,0.3s,baz=186,slow=7.2,SNR=2.2						
TLY	**Talaya**	**22.99**	**5**	LR	LR	01 18 28.7	
	comp=Z,27nm,20.6s,baz=125,slow=40						
MKAR	**Makanchi Array**	**23.05**	**326**	P	P	01 08 23.8	+0.1
	0.5nm,0.7s,baz=132,slow=14,SNR=4.1						
PSI	**Prapat**	**25.88**	**184**	LR	LR	01 20 02.4	
	comp=Z,104nm,18.5s,baz=90,slow=39						
SEY	**Seymchan**	**47.56**	**29**	LR	LR	01 31 48.3	
	comp=Z,39nm,18.7s,baz=16,slow=36						
FINES	**FINESS Array B**	**57.89**	**327**	P	P	01 13 10.0	-0.1
	0.8nm,0.9s,baz=81,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**58.30**	**142**	P	P	01 13 13.4	-0.2
	1.0nm,0.5s,baz=326,slow=8.0,SNR=23						
ASAR	**Alice Springs**	**61.15**	**145**	P	P	01 13 33.3	+0.1
	0.3nm,0.8s,baz=327,slow=6.7,SNR=3.5						

*PGC **07** 01:09:18.6±0.7, 49°.12N×112°.66W, h15km, ML2.9/5, 65km Sse of Lethbridge, Alberta Alberta, Canada*
*BUT **07** 01:09:18.3±1.8, 49°.21N±0°.05×112°.72W±0°.10, h30km±8km, Error ellipse: s-maj=11.2km s-min=1.8km az=54.0*
*OTT **07** 01:09:19.6±1.6, 49°.12N±0°.05×112°.66W±0°.09, h15km±4km, ML2.9, Md3.4(BUT), Error ellipse: s-maj=8.8km s-min=6.1km az=64.0*
*NEIC **07** 01:09:19.7±1.4, 49°.10N±0°.06×112°.75W±0°.03, h30km±8km, Error ellipse: s-maj=9.2km s-min=1.4km az=197.0*

ISC 07 01:09:18.1±1.2, 49°.09N±0°.04×112°.70W±0°.05, h10km, n47, σ1§05/52, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALA	**Waterton Lakes**	**0.80**	**269**	P	**Pb**	**01 09 34.3**	**+0.3**
WALA				S	**Sb**	**01 09 45.0**	**0.0**
WALA	**Waterton Lakes**	**0.80**	**269**	Pg	**Pb**	**01 09 34.1**	**+0.1**
YBMT	**Yellow Bay**	**1.50**	**216**	Pn	**Pn**	**01 09 45.8**	**+0.6**
JTMT	**Jette**	**1.70**	**219**	Pn	**Pn**	**01 09 47.9**	**-0.1**
JTMT	**Jette**	**1.70**	**219**		**Pn**	**01 09 47.6**	**-0.3**
SWMT	**Swartz Lake**	**1.80**	**209**	Pn	**Pn**	**01 09 49.6**	**+0.4**
BSMT	**Bassoo Peak**	**1.86**	**229**	Pn	**Pn**	**01 09 49.9**	**-0.2**
SLMT	**Seeley Lake**	**1.92**	**196**	Pn	**Pn**	**01 09 51.8**	**+0.9**
SLMT				Sn	**Sn**	**01 10 16.1**	**+0.9**
OVMT	**Ovando**	**2.03**	**186**	Pn	**Pn**	**01 09 53.2**	**+0.8**
FBMT	**Ferry Basin**	**2.04**	**215**	Pn	**Pn**	**01 09 52.4**	**-0.1**
PRDA	**Priddis**	**2.06**	**331**	Pn	**Pn**	**01 09 52.7**	**-0.1**
PRDA				Sn	**Sn**	**01 10 17.4**	**-1.2**
LYMT	**Lyon Mountain**	**2.13**	**172**	Pn	**Pn**	**01 09 54.3**	**+0.4**
BHMT	**Big Hole Peak**	**2.17**	**227**	Pn	**Pn**	**01 09 54.2**	**-0.1**
EGMT	**Eagleton**	**2.23**	**117**	Pn	**Pn**	**01 09 54.7**	**-0.4**
MSO	**Missoula**	**2.41**	**201**		**Pn**	**01 09 58.3**	**+0.8**
HRY	**Holter Researc**	**2.45**	**166**	Pn	**Pn**	**01 09 58.7**	**+0.5**
HRY	**Holter Researc**	**2.45**	**166**	Pn	**Pn**	**01 09 59.3**	**+1.1**
ELMT	**Elliston**	**2.57**	**177**	Pn	**Pn**	**01 10 00.1**	**+0.2**
BPMT	**Black Pine Rid**	**2.70**	**191**	Pn	**Pn**	**01 10 01.8**	**+0.1**
NEW	**Newport**	**3.04**	**256**	Pn	**Pn**	**01 10 05.0**	**-1.3**
LRM	**Limekiln Ridge**	**3.27**	**177**	Pn	**Pn**	**01 10 09.2**	**-0.4**
LRM				Sg	**Sg**	**01 11 00.7**	**-2.3**
LRM	**Limekiln Ridge**	**3.27**	**177**	Pn	**Pn**	**01 10 08.9**	**-0.7**
BOZ	**Bozeman (W)**	**3.56**	**168**		**Pn**	**01 10 13.0**	**-0.6**
DLMT	**Dillon**	**3.73**	**179**	Pn	**Pn**	**01 10 15.9**	**+0.1**
GCMT	**Greycliff**	**3.89**	**147**	Pn	**Pn**	**01 10 17.6**	**-0.3**
C09A	**Chrisman Ranch**	**3.93**	**253**	Pn	**Pn**	**01 10 18.6**	**+0.2**
SLEB	**Sale Mountain**	**4.07**	**303**	Pn	**Pn**	**01 10 20.1**	**-0.4**
SLEB				Sg	**Sb**	**01 11 23.6**	**+4.5**
MCMT	**McKenzie Canyo**	**4.26**	**181**		**Pn**	**01 10 24.0**	**+0.8**
QLMT	**Earthquake Lak**	**4.34**	**168**	Pn	**Pn**	**01 10 24.1**	**-0.2**
YHL	**Hebgen Lake**	**4.36**	**166**	Pn	**Pn**	**01 10 23.6**	**-1.1**
F10A	**Beach Ranch, E**	**4.37**	**226**	Pn	**Pn**	**01 10 24.3**	**-0.2**
B08A	**Colville Reser**	**4.45**	**263**	Pn	**Pn**	**01 10 24.2**	**-1.3**
B08A	**Colville Reser**	**4.45**	**263**	Pn	**Pn**	**01 10 24.7**	**-0.9**
YNE	**Yellowstone No**	**4.47**	**155**	Pn	**Pn**	**01 10 25.3**	**-0.9**
E09A	**Wood Farm, Sta**	**4.48**	**237**	Pn	**Pn**	**01 10 25.1**	**-0.9**
YHH	**Holmes Hill**	**4.48**	**163**	Pn	**Pn**	**01 10 24.9**	**-1.3**
PNT	**Penticton**	**4.54**	**276**	Pn	**Pn**	**01 10 25.6**	**-1.2**
YMR	**Madison River**	**4.58**	**164**	Pn	**Pn**	**01 10 27.3**	**-0.2**
YNR	**Norris Junctio**	**4.58**	**162**	Pn	**Pn**	**01 10 26.9**	**-0.8**
RLMT	**Red Lodge**	**4.61**	**148**	Pn	**Pn**	**01 10 27.8**	**-0.1**
D08A	**Wollman Farm,**	**4.64**	**246**	Pn	**Pn**	**01 10 27.0**	**-1.1**
YMP	**Mirror Lake Pl**	**4.68**	**157**	Pn	**Pn**	**01 10 30.7**	**+1.7**
MNB	**Mounoet Dainar**	**4.77**	**313**	Pn	**Pn**	**01 10 30.2**	**0.0**
BMO	**Blue Mountains**	**5.28**	**218**	Pn	**Pn**	**01 10 35.0**	**-2.1**
HAWA	**Hanford**	**5.34**	**242**	Pn	**Pn**	**01 10 37.0**	**-0.8**
HLID	**Hailey**	**5.65**	**193**		**Pn**	**01 10 42.5**	**+0.3**
G08A	**Pilot Rock**	**5.71**	**231**	Pn	**Pn**	**01 10 43.1**	**+0.2**

*IDC **07** 01:17:48.8±5.5, 29°.76S×141°.87E, h0km, mb1 3.0/3, mb1mx3.0/34, mbtmp2.8/3, ML2.7/2, Error ellipse: s-maj=108.4km s-min=18.1km az=80.0*
*AUST **07** 01:17:51.0±0.5, 29°.83S×141°.82E, h10km, Error ellipse: s-maj=7.6km s-min=4.3km az=142.0*
ISC 07 01:17:48.0±0.9, 29°.68S±0°.05×141°.96E±0°.05, h10km, n10, σ2§05/16, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INKA	**Innaminka**	**2.21**	**331**	P	**Pb**	**01 18 28.7**	**+0.7**
	baz=2.3						
STKA	**Stephens Creek**	**2.21**	**188**	Pn	**Pb**	**01 18 27.0**	**-1.1**
	0.8nm,0.3s,baz=13,slow=13,SNR=9.0						
STKA				Lg	Lg	01 18 55.1	
	2.9nm,0.3s,baz=270,slow=18,SNR=7.7						
STKA	**Stephens Creek**	**2.21**	**188**	P	**Pb**	**01 18 26.8**	**-1.2**
	baz=2.1						
LCRK	**Leigh Creek**	**3.33**	**256**	P	**Pn**	**01 18 42.1**	**+2.0**
	baz=3.2						
LCRK				S	**Sn**	**01 19 20.0**	**+0.2**
	baz=3.2						
QLP	**Quilpie**	**3.69**	**34**	P	**Pb**	**01 18 51.8**	**-1.4**
	baz=3.9						
QLP				S	**Sb**	**01 19 36.2**	**-1.8**
	baz=3.9						
CMSA	**Cobar Meteorol**	**3.71**	**121**	P	**Pn**	**01 18 48.1**	**+2.6**
	baz=3.7						
CMSA				S	**Sn**	**01 19 30.1**	**+0.8**
	baz=3.7						
OOD	**Oodnadatta**	**5.81**	**287**	P	**Pn**	**01 19 16.8**	**+2.5**
	baz=5.7						
OOD				S	**Sn**	**01 20 21.2**	**+0.1**
	baz=5.7						
BBOO	**Buckleboo**	**5.93**	**237**	P	**Pn**	**01 19 16.4**	**+0.5**
	baz=5.8						
BBOO				S	**Sn**	**01 20 22.0**	**-2.0**
	baz=5.8						
ASAR	**Alice Springs**	**9.37**	**308**	Pn	**Pn**	**01 20 05.6**	**+2.4**
	baz=134,slow=12,SNR=3.1						
ASAR				Sn	**Sn**	**01 21 44.4**	**-4.2**
	0.1nm,0.3s,baz=136,slow=23,SNR=4.3						
WRA	**Warramunga Arr**	**11.91**	**323**	Pn	**Pn**	**01 20 38.4**	**+0.5**
	0.1nm,0.3s,baz=140,slow=13,SNR=5.2						

IDC 07 01:23:23.3±7.4, 15°.13S×177°.15W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/38, mbtmp3.9/3, Error ellipse: s-maj=329.0km s-min=37.0km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.38**	**257**	P	P	01 31 51.6	-0.2
	0.4nm,0.3s,baz=91,slow=6.2,SNR=27						
ASAR	**Alice Springs**	**46.75**	**252**	P	P	01 31 54.6	-0.2
	3.7nm,0.6s,baz=84,slow=7.6,SNR=55						
ILAR	**Eielson Array**	**82.92**	**13**	P	P	01 35 49.9	+0.2
	0.6nm,1.0s,baz=223,slow=6.9,SNR=4.3						

*JMA **07** 01:27:04.5±0.1, 29°.20N×142°.03E, h39km, M4.6*
*NIED **07** 01:27:04.6, 29°.20N×142°.03E, h39km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.42; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$0.84; $M_{r\theta}$0.43; $M_{\theta\phi}$-0.57; $M_{\phi r}$0.73; Fault plane solution: $M_0$1.25000×10^{15} NP1: ϕ_s197.00000°, δ76.00000°, λ-48.00000°. NP2: ϕ_s301.00000°, δ44.00000°, λ-160.00000°.*
*NEIC **07** 01:27:06.1±1.2, 29°.08N±0°.05×141°.7E±0°.2, h34km±5km, mb4.2/12 Error ellipse: s-maj=22.1km s-min=4.8km az=75.0*
*IDC **07** 01:27:06.2±3.3, 29°.07N×141°.77E, h34km±26km, mb3.9/17, mb1 4.1/20, mb1mx3.9/49, mbtmp4.1/20, ML3.1/3, MS3.1/5, Ms1 3.1/5, ms1mx2.7/51, Error ellipse: s-maj=24.0km s-min=12.2km az=77.0*
ISC 07 01:27:05.2±0.5, 29°.12N±0°.05×141°.9E±0°.1, h30km, n61, σ1§43/64, mb4.1/18, MS3.2/3, 2C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.04**	**172**	P	**Pn**	**01 27 38.5**	**+1.0**
JCJ	**Chichijima**	**2.04**	**172**	Pn	**Pn**	**01 27 38.2**	**+0.7**
	26nm,0.3s,baz=289,slow=23,SNR=43						
JCJ				Sn	**Sn**	**01 28 00.1**	**-1.8**
	121nm,0.3s,baz=9.5,slow=18,SNR=11						
JCJ				LR	LR	01 28 31.6	
	comp=Z,163nm,18.8s,baz=280,slow=43						
JHH2	**Haha-jima-NKT2**	**2.50**	**173**	P	**Pn**	**01 27 45.1**	**+1.3**
JHH2				eS	**Sn**	**01 28 15.0**	**+1.8**
JHCJ	**Hachijojimakas**	**4.31**	**336**	S	**Sn**	**01 28 58.3**	**+0.2**
JHJ2	**Mitsune**	**4.34**	**337**	S	**Sn**	**01 28 59.1**	**+0.3**
JHJ	**Hachijo jima 2**	**4.36**	**337**	Pn	**Pn**	**01 28 10.8**	**+1.4**
	4.9nm,0.3s,baz=108,slow=23,SNR=6.5						
JHJ				Sn	**Sn**	**01 28 58.3**	**-1.0**
	70nm,0.3s,baz=87,slow=23,SNR=10						
JMKN	**Mikurajimanish**	**5.13**	**339**	S	**Sn**	**01 29 17.9**	**-0.4**
BSO1	**Boso 1**	**5.57**	**353**	P	**Pn**	**01 28 27.0**	**+1.5**
JOD2	**Odawara 2**	**6.56**	**340**	P	**Pn**	**01 28 42.0**	**+2.4**
JRY	**Ryogami san**	**7.31**	**341**	P	**Pn**	**01 28 52.1**	**+2.1**
JRY				eS	**Sn**	**01 30 14.2**	**+2.2**
MJAR	**Matsushiro Arr**	**8.01**	**338**	Pn	**Pn**	**01 29 00.8**	**+1.2**
	0.3nm,0.3s,baz=160,slow=11,SNR=18						
MJAR				Sn	**Sn**	**01 30 30.1**	**+1.0**
	0.3nm,0.3s,baz=264,slow=23,SNR=5.4						
MJAR	**Matsushiro Arr**	**8.01**	**338**	Pn	**Pn**	**01 29 01.0**	**+1.5**
MAJO	**Matsushiro**	**8.01**	**338**	Pn	**Pn**	**01 29 00.2**	**+0.6**
MAT	**Matsushiro**	**8.01**	**338**	P	**Pn**	**01 29 01.1**	**+1.5**
MAT				*e*S	**Sn**	**01 30 26.4**	**-2.8**
JMK	**Ichinoseki**	**9.82**	**357**	P	**Pn**	**01 29 24.3**	**-0.1**
JMK				*e*S	**Sn**	**01 31 06.8**	**-6.8**
ERM	**Erimo**	**12.91**	**4**	Pn	**Pn**	**01 30 04.3**	**-2.3**
KSRS	**Korea Array**	**14.30**	**309**	Pn	**P**	**01 30 30.0**	**-2.4**
	0.1nm,0.3s,baz=110,slow=13,SNR=5.1						
KSRS				LR	LR	01 35 28.6	
	comp=Z,45nm,19.2s,baz=181,slow=35						
ASAJ	**Asahikawa**	**14.98**	**2**	LR	LR	01 37 24.4	
	comp=Z,30nm,19.7s,baz=360,slow=41						
USA0B	**Ussuriysk Arra**	**16.98**	**335**	Pn	**Pn**	**01 30 59.4**	**-1.0**
USRK	**Ussuriysk Ar.**	**16.98**	**335**	Pn	**P**	**01 30 59.7**	**-2.5**
	baz=142,slow=9.6,SNR=12						
USRK	**Ussuriysk Ar.**	**16.98**	**335**		**Pn**	**01 30 59.5**	**-0.9**
MDJ	**Mudanjiang**	**18.28**	**331**	P	**Pn**	**01 31 16.8**	**+0.2**
MDJ				IAmb	IAmb	01 31 19.8	
	comp=Z,8.6nm,0.7s						
KLR	**Kul'dur**	**21.52**	**342**	P	**P**	**01 31 52.0**	**+0.4**
	comp=Z,5.4nm,0.8s,baz=134,slow=9.7,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**24.60**	**107**	T	T	01 58 01.6	
	baz=297,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**24.61**	**107**	T	T	01 58 00.1	
	baz=297,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**24.62**	**107**	T	T	01 58 02.9	
	baz=297,slow=75,SNR=30						
SIJI	**Sorong**	**31.49**	**201**	LR	LR	01 42 55.4	
	comp=Z,50nm,20.8s,baz=72,slow=30						
SEY	**Seymchan**	**34.51**	**8**	P	**P**	**01 33 51.5**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=237,slow=4.6,SNR=5.0						
LUWI	**Luwuk**	**35.11**	**215**	P	**P**	**01 33 55.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.48**	**265**	LR	LR	01 51 20.9	
	comp=Z,23nm,20.2s,baz=95,slow=36						
ZAA0	**Zalesovo Array**	**47.78**	**318**	P	**P**	**01 35 39.9**	**+0.4**
ZAA0					**PcP**	**01 37 08.3**	**+0.2**
ZALV	**Zalesovo Beam**	**47.78**	**318**	P	**P**	**01 35 40.3**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=84,slow=5.1,SNR=5.6						
ZALV				PcP	**PcP**	**01 37 07.9**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=97,slow=2.8,SNR=9.6						
MKAR	**Makanchi Array**	**48.98**	**308**	P	**P**	**01 35 48.4**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=88,slow=10,SNR=5.6						
WB2	**Warramunga Arr**	**49.31**	**189**	P	**P**	**01 35 51.5**	**-0.2**
WRA	**Warramunga Arr**	**49.31**	**189**	P	**P**	**01 35 51.0**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=10.0,slow=8.2,SNR=29						
NRIK	**Noril'sk**	**50.66**	**338**	P	**P**	**01 36 02.0**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=156,slow=6.9,SNR=4.6						
KURK	**Kurchatov**	**51.37**	**313**	P	**P**	**01 36 06.7**	**-0.2**
KURK				IAmb	IAmb	01 36 08.1	
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**53.04**	**189**	P	**P**	**01 36 18.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=16,slow=8.1,SNR=6.2						
ILAR	**Eielson Array**	**56.09**	**29**	P	**P**	**01 36 41.5**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=261,slow=6.1,SNR=12						
BRVK	**Borovoye**	**56.43**	**317**	P	**P**	**01 36 43.7**	**-0.2**
KK31	**Karatay Array**	**57.68**	**305**	P	**P**	**01 36 52.4**	**-0.5**
KKAR	**Karatay Array**	**57.68**	**305**	P	**P**	**01 36 52.8**	**-0.2**
CHGR	**Chuyangaron**	**59.67**	**300**	P	**P**	**01 37 06.0**	**-1.0**
ARU	**Arti**	**62.65**	**322**	P	**P**	**01 37 25.7**	**-1.1**
ABKAR	**Abkulak array**	**63.48**	**314**	P	**P**	**01 37 32.2**	**-0.1**
ARCES	**ARCESS Array B**	**71.54**	**341**	P	**P**	**01 38 23.5**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=52,slow=6.9,SNR=6.9						
FINES	**FINESS Array B**	**76.01**	**334**	P	**P**	**01 38 49.1**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=72,slow=4.8,SNR=27						
FINES				LR	LR	02 13 48.9	
	comp=Z,26nm,19.3s,baz=43,slow=37						
KBZ	**Khabaz**	**76.42**	**313**	P	**P**	**01 38 53.2**	**+1.3**
	comp=Z,5.6nm,0.7s,baz=84,slow=4.6,SNR=12						
NVAR	**Mina Array Bea**	**79.50**	**52**	P	**P**	**01 39 10.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=297,slow=5.9,SNR=5.6						
AKASG	**Malin Array Be**	**80.82**	**324**	P	**P**	**01 39 15.7**	**-0.3**
	comp=Z,

ZALV	**Zalesovo Beam**	**72.70**	**327**	P	**P**	**01 43 34.2**	**-0.9**
KURK	**Kurchatov**	**75.17**	**323**	P	**P**	**01 43 48.8**	**-0.8**
KURK				IAmb	IAmb	01 43 49.8	
	comp=Z,4.4nm,0.8s						
NIL	**Nilore**	**75.30**	**304**	P	**P**	**01 43 51.2**	**+0.3**
IMAR	**Indian Mountai**	**77.19**	**21**	P	**P**	**01 44 00.8**	**-0.1**
WRH	**Wood River Hil**	**78.73**	**24**	IAmb	IAmb	01 44 10.1	
	comp=Z,5.2nm,1.0s						
VNDA	**Vanda**	**78.97**	**177**	P	**P**	**01 44 10.8**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=318,slow=7.2,SNR=6.6						
CHGR	**Chuyangaron**	**79.27**	**309**	P	**P**	**01 44 11.8**	**-1.3**
IL31		**79.32**	**24**	P	**P**	**01 44 11.6**	**-1.1**
ILAR	**Eielson Array**	**79.32**	**24**	P	**P**	**01 44 11.9**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=250,slow=5.3,SNR=34						
DOT	**Dot Lake**	**80.12**	**25**	IAmb	IAmb	01 44 18.7	
	comp=Z,7.1nm,1.1s						
BRVK	**Borovoye**	**80.74**	**324**	P	**P**	**01 44 20.1**	**-0.5**
BCAR	**Beaver Creek A**	**80.93**	**26**	P	**P**	**01 44 22.0**	**+0.5**
BMAR	**Burnt Mountain**	**81.11**	**21**	P	**P**	**01 44 23.4**	**+1.1**
YKA	**Yellowknife Ar**	**93.28**	**27**	LR	LR	02 26 41.5	
	comp=Z,45nm,19.3s,baz=0.0,slow=35						
NVAR	**Mina Array Bea**	**93.60**	**52**	P	**P**	**01 45 25.2**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=278,slow=5.4,SNR=6.8						
HLID	**Hailey**	**96.02**	**46**	P	**P**	**01 45 35.4**	**+0.3**
LPAZ	**La Paz**	**142.89**	**116**	PKP	**PKPdf**	**01 51 41.0**	**-1.8**
	comp=Z,1.7nm,0.6s,baz=261,slow=5.8,SNR=12						
LPAZ	**La Paz**	**142.89**	**116**		**PKPdf**	**01 51 41.0**	**-1.8**
CPUP	**Villa Florida**	**146.14**	**140**	PKPbc	**PKPab**	**01 51 48.7**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=224,slow=0.4,SNR=3.6						
DBIC	**Dimbokro**	**150.17**	**285**	PKPbc	**PKPbc**	**01 51 59.4**	**0.0**
	comp=Z,4.9nm,1.1s,baz=66,slow=3.3,SNR=4.4						

*TEH **07** 01:33:42.9, 33.°77N×45.°73E, h21km, ML2.7*
*ISN **07** 01:33:42.5±0.8, 33.°71N×45.°65E, h0km±3km, ML2.5*
ISC 07 01:33:42.6±1.0, 33.78N±0.°04×45.72E±0.°06, h10km, n12,
σ0§95/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.69**	**165**	*e*Pg	**Pg**	**01 33 56.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**01 34 05.0**	**+0.1**
IBDR				AML	AML	01 34 18.2	
	comp=E,66nm,0.5s						
IGHG	**Ghaleghazi**	**0.89**	**52**	*e*Pg	**Pg**	**01 33 59.8**	**-0.1**
IGHG				*e*		01 34 03.3	
IDHR	**Dehrash**	**1.07**	**31**	*e*Pg	**Pg**	**01 34 02.8**	**-0.5**
IDHR				*e*		01 34 23.6	
IVIS	**Veis**	**1.20**	**51**	*e*		01 34 26.7	
IVIS				*e*Pg	**Pb**	**01 34 05.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.20**	**65**	*e*		01 34 28.3	
KCHF				*e*Pg	**Pb**	**01 34 05.5**	**-0.1**
BHD	**Baghdad**	**1.23**	**246**	*e*Pg	**Pn**	**01 34 06.0**	**+0.1**
BHD				*e*Sg	**Sn**	**01 34 23.0**	**+0.5**
BHD				AML	AML	01 34 25.3	
	comp=E,354nm,0.6s						
KER	**Kermanshah**	**1.32**	**62**	*e*		01 34 08.8	
KER				*e*Pg	**Pb**	**01 34 07.7**	**+0.1**
KER				*e*Sg	**Sg**	**01 34 25.7**	**+0.6**
ILIN	**Lien**	**1.53**	**42**	*e*Pg	**Pb**	**01 34 11.2**	**-0.1**
ILIN				*e*		01 34 35.1	
IKOM	**Komasi**	**1.54**	**75**	*e*Pg	**Pb**	**01 34 11.2**	**-0.1**
IKOM				*e*		01 34 38.2	
IALM	**Almabolaq**	**2.29**	**61**	*e*Pn	**Pn**	**01 34 21.9**	**+1.1**
IALM				*e*		01 34 25.9	
BMDN	**Meydan**	**2.59**	**91**	*e*Pn	**Pn**	**01 34 24.5**	**-0.2**
NSR	**Nassriya**	**2.78**	**173**	*e*Pn	**Pn**	**01 34 29.0**	**+1.8**
NSR				*e*Sn	**Sb**	**01 35 04.0**	**-2.5**

ROM 07 01:37:17.5±0.1, 43.°426N±0.°002×12.°541E±0.°003,
h8km, Md1.1/5, Error ellipse: s-maj=0.2km s-min=0.0km
az=54.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.06**	**160**	P	Pg	01 37 19.5	0.0
ATFO				S	Sg	01 37 21.0	+0.1
ATFO				END			
ATFO				END			
ATPI	**Pietralunga -**	**0.10**	**284**	P	Pg	01 37 20.3	+0.4
ATPI				S	Sg	01 37 22.5	+0.7
ATPI				END			
ATPI				END			
ATVO	**AVT- Monte Val**	**0.11**	**246**	P	Pg	01 37 20.4	+0.4
ATVO				S	Sg	01 37 22.6	+0.8
ATVO				END			
ATVO				END			
PIEI	**Pieia**	**0.11**	**358**	P	Pg	01 37 20.4	+0.3
PIEI				S	Sg	01 37 22.6	+0.7
PIEI				END			
PIEI				END			
APEC	**Apecchio**	**0.16**	**326**	P	Pg	01 37 21.4	+0.5
APEC				S	Sg	01 37 24.0	+0.8
FRON	**Frontone**	**0.16**	**56**	P	Pg	01 37 21.4	+0.5
FRON				S	Sg	01 37 24.4	+1.1
FRON				END			
MURB	**Monte Urbino**	**0.16**	**184**	P	Pg	01 37 21.5	+0.6
MURB				S	Sg	01 37 24.5	+1.2
SSFR	**Montelago di S**	**0.18**	**87**	P	Pg	01 37 21.9	+0.8
SSFR				S	Sg	01 37 24.9	+1.2
NARO	**Abbazia di Nar**	**0.19**	**9**	P	Pg	01 37 21.9	+0.5
NARO				S	Sg	01 37 25.1	+1.2
FOSV	**Fossato di Vic**	**0.21**	**129**	P	Pg	01 37 22.2	+0.5
FOSV				S	Sg	01 37 26.2	+1.6
BADI	**Badiali**	**0.23**	**291**	P	Pg	01 37 22.7	+0.6
BADI				S	Sg	01 37 27.0	+1.7
ATCC	**AVT- Casa Cast**	**0.25**	**163**	P	Pg	01 37 23.0	+0.4
ATCC				S	Sb	01 37 27.6	-1.2

*NNC **07** 01:59:46.8±3.0, 37.°73N×71.°30E, h0km, mb5.0, mpv4.9,*
Error ellipse: s-maj=27.4km s-min=14.7km az=160.0
*BJI **07** 01:59:47.9±0.0, 37.°46N×71.°85E, h127km, mB4.3/7,*
mb4.6/15
*MOS **07** 01:59:47.1±0.8, 37.°39N×71.°87E, h130km, mb4.1/4, Error*
ellipse: s-maj=10.3km s-min=5.8km az=84.0
*NEIC **07** 01:59:48.2±1.3, 37.°40N±0.°05×71.°85E±0.°09, h124km±7km,*
mb4.1/13, Error ellipse: s-maj=10.7km s-min=7.3km
az=94.0
*IDC **07** 01:59:49.0±2.8, 37.°40N×71.°94E, h128km±24km, mb3.4/13,*
mb1 3.7/17, mb1mx3.4/55, mbtmp4.0/17, MS2.5/1,
Ms1 2.5/1, ms1mx2.0/36, Error ellipse: s-maj=19.2km
s-min=13.1km az=28.0
ISC 07 01:59:48.1±0.4, 37.°31N±0.°04×71.°72E±0.°04, h150km, n130,
σ2§61/134, mb3.8/18, 8C-7D, Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.02**	**327**	Pn	**Pn**	**02 00 22.1**	**-1.5**
CHGR	**Chuyangaron**	**2.43**	**304**	Pn	**Pn**	**02 00 26.9**	**-1.5**
BTK	**Batken**	**2.84**	**346**	PN	**Pn**	**02 00 33.1**	**-0.4**
BTK	**Batken**	**2.84**	**346**		**Pn**	**02 00 33.1**	**-0.4**
KBL	**Kabul**	**3.51**	**219**	PN	**Pn**	**02 00 43.9**	**+1.7**
KBL	**Kabul**	**3.51**	**219**		**Pn**	**02 00 43.9**	**+1.7**
NIL	**Nilore**	**3.86**	**161**	PN	**Pn**	**02 00 46.8**	**+0.2**
NIL	**Nilore**	**3.86**	**161**		**Pn**	**02 00 46.8**	**+0.2**
KSH	**Kashi**	**4.01**	**55**	P	Pn	02 00 43.4	-5.1
KSH				S	Sn	02 01 23.2	-12
KSH				smax	smax		
	comp=N,5μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.4s						
TAS	**Tashkent**	**4.43**	**336**	PN	**Pn**	**02 00 52.7**	**-1.3**
TAS	**Tashkent**	**4.43**	**336**	Pn	**Pn**	**02 00 52.7**	**-1.3**
AML	**Almayashu**	**5.05**	**17**	P	**Pn**	**02 01 01.2**	**-1.4**
	SNR=252						
UCH	**Uchtor**	**5.37**	**23**	P	**Pn**	**02 01 05.6**	**-1.2**
	SNR=28						
KZA	**Kyzart**	**5.49**	**29**	P	**Pn**	**02 01 06.6**	**-1.7**
	SNR=22						
EKS2	**Erkin-Say**	**5.58**	**16**	P	**Pn**	**02 01 08.3**	**-0.9**
	SNR=236						
AAK	**Ala-Archa**	**5.74**	**21**	P	**Pn**	**02 01 10.7**	**-0.7**
	115nm,0.3s,baz=181,slow=6.3,SNR=341						
AAK				S	**Sn**	**02 02 12.9**	**-3.7**
	15nm,0.3s,baz=310,slow=23,SNR=13						
AAK	**Ala-Archa**	**5.74**	**21**	*de*PN	**Pn**	**02 01 10.5**	**-0.9**
AAK				pmax	pmax		
	comp=Z,156nm,0.5s						
AAK	**Ala-Archa**	**5.74**	**21**	Pn	**Pn**	**02 01 10.4**	**-1.0**
KK31	**Karatay Array**	**5.86**	**351**	P	**Pn**	**02 01 10.4**	**-2.6**
	comp=Z,130nm,0.3s,baz=176,slow=13,SNR=762						
KK31				⇑S	**Sn**	**02 02 13.3**	**-6.1**
	comp=Z,50nm,0.5s,baz=169,slow=22,SNR=6.2						
KK31	**Karatay Array**	**5.86**	**351**	PN	**Pn**	**02 01 12.1**	**-0.8**
KK31	**Karatay Array**	**5.86**	**351**	Pn	**Pn**	**02 01 12.1**	**-0.8**
KKAR	**Karatay Array**	**5.86**	**351**	PN	**Pn**	**02 01 12.0**	**-1.0**
KKAR	**Karatay Array**	**5.86**	**351**		**Pn**	**02 01 12.0**	**-1.0**
KKAR	**Karatay Array**	**5.86**	**351**	Pn	**Pn**	**02 01 12.0**	**-1.0**
THN	**Thein Dam**	**5.87**	**145**	*e*PG	**Pn**	**02 01 14.0**	**+0.9**
THN				*e*SG	**Sn**	**02 02 12.0**	**-7.4**
KBK	**Karagaybulak**	**5.89**	**24**	P	**Pn**	**02 01 12.7**	**-0.8**
	SNR=57						
FRU1	**Bishkek**	**5.93**	**21**	PN	**Pn**	**02 01 13.2**	**-0.7**
FRU1	**Bishkek**	**5.93**	**21**		**Pn**	**02 01 13.2**	**-0.7**
ULHL	**Ulahol**	**6.04**	**34**	P	**Pn**	**02 01 13.8**	**-1.7**
	SNR=6.7						
BOOM	**Boomskoye usch**	**6.11**	**31**	PN	**Pn**	**02 01 14.2**	**-2.2**
BOOM	**Boomskoye usch**	**6.11**	**31**		**Pn**	**02 01 14.2**	**-2.2**
CHMS	**Chumysh**	**6.14**	**21**	P	**Pn**	**02 01 15.8**	**-0.9**
	SNR=144						
DHRM	**DHARAMSHALA**	**6.30**	**142**	*e*PG	**Pn**	**02 01 17.2**	**-1.9**
DHRM				*e*SG	**Sn**	**02 02 22.9**	**-7.2**
DHRM				IAML		02 02 28.6	
	comp=E,1μm,0.6s						
DHRM				IAML		02 02 28.8	
	comp=N,957nm,0.6s						
USP	**Ospenovka**	**6.32**	**19**	P	**Pn**	**02 01 17.7**	**-1.4**
	SNR=42						
TKM2	**Tokmak 2**	**6.35**	**27**	P	**Pn**	**02 01 18.3**	**-1.3**
	SNR=110						
TKM2	**Tokmak 2**	**6.35**	**27**	⇓P	**Pn**	**02 01 18.3**	**-1.3**
	comp=N,82nm,0.6s						
TKM2				⇓S	**Sn**	**02 02 28.6**	**-2.6**
	comp=N,33nm,0.7s						
TKM2	**Tokmak 2**	**6.35**	**27**	PN	**Pn**	**02 01 18.5**	**-1.1**
TKM2				S	**Sn**	**02 02 28.5**	**-2.6**
BHK	**Bhakra**	**7.04**	**145**	*e*PG	**Pn**	**02 01 28.0**	**-0.8**
BHK				*e*SG	**Sn**	**02 02 40.6**	**-7.1**
SMLA	**Simla**	**7.64**	**142**	*e*PG	**Pn**	**02 01 34.5**	**-2.1**
SMLA				*e*SG	Sn	02 02 52.1	-10
SMLA				IAML		02 03 01.6	
	comp=N,415nm,0.4s						
SMLA				IAML		02 03 02.0	
	comp=E,388nm,0.6s						
HRA	**Herat**	**8.22**	**252**	Pn	**Pn**	**02 01 46.2**	**+1.5**
PDGK	**Podgornoye**	**8.45**	**42**	⇑P	Pn	02 01 50.8	+3.3
	comp=E,13nm,0.5s						
PDGK				⇑S	**Sn**	**02 03 28.2**	**+6.6**
	comp=E,38nm,0.8s						
PDGK	**Podgornoye**	**8.45**	**42**	PN	**Pn**	**02 01 45.0**	**-2.6**
SONA	**Sohna**	**10.09**	**152**	*e*P	**Pn**	**02 02 07.7**	**-1.6**
SONA				*e*S	Sn	02 03 50.1	-11
ASHT	**Ashkhabad**	**10.60**	**277**	P	**Pn**	**02 02 16.8**	**+0.8**
ASHT	**Ashkhabad**	**10.60**	**277**	Pn	**Pn**	**02 02 16.8**	**+0.8**
GEYT	**Alibeck**	**10.81**	**277**	P	**Pn**	**02 02 17.0**	**-1.8**
	comp=E,4.5nm,0.3s,baz=115,slow=9.6,SNR=38						
GEYT				S	**Sn**	**02 04 13.4**	**-4.9**
	comp=E,7.3nm,0.3s,baz=126,slow=20,SNR=14						
GEYT	**Alibeck**	**10.81**	**277**	Pn	**Pn**	**02 02 17.2**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**10.81**	**277**	⇑P	**Pn**	**02 02 16.4**	**-2.3**
GYA0B				⇑S	**Sn**	**02 04 15.2**	**-3.0**
GYA0B	**ALIBECK ARRAY**	**10.81**	**277**	Pn	**Pn**	**02 02 16.9**	**-1.9**
MAKZ	**Makanchi**	**12.17**	**35**	P	**Pn**	**02 02 33.4**	**-3.1**
MAKZ	**Makanchi**	**12.17**	**35**	Pn	**Pn**	**02 02 33.4**	**-3.1**
MK31	**Makanchi Array**	**12.30**	**36**	*i* P	**Pn**	**02 02 36.4**	**-1.8**
MK31	**Makanchi Array**	**12.30**	**36**	Pn	**Pn**	**02 02 35.7**	**-2.5**
MKAR	**Makanchi Array**	**12.30**	**36**	P	**Pn**	**02 02 36.6**	**-1.6**
	comp=E,0.6nm,0.3s,baz=225,slow=13,SNR=27						
MKAR				LR	LR	02 07 32.3	
	comp=E,20nm,19.5s,baz=127,slow=38						
MKAR	**Makanchi Array**	**12.30**	**36**	P	**Pn**	**02 02 36.1**	**-2.1**
MKAR	**Makanchi Array**	**12.30**	**36**	Pn	**Pn**	**02 02 36.1**	**-2.1**
PYUN	**Piuthan**	**13.19**	**131**	*e*P	**Pn**	**02 02 46.3**	**-3.7**
	comp=E,80nm,0.3s						
PYUN	**Piuthan**	**13.19**	**131**	*e*P	**Pn**	**02 02 46.3**	**-3.7**
	comp=E,80nm,0.3s						
WMQ	**Urumqi**	**13.77**	**57**	P	**Pn**	**02 02 56.0**	**-1.1**
WMQ	**Urumqi**	**13.77**	**57**	Pn	**Pn**	**02 02 56.0**	**-1.1**
KOLN	**Koldanda**	**13.80**	**130**	*e*P	**Pn**	**02 02 54.5**	**-3.3**
	comp=E,24nm,0.3s						
KOLN	**Koldanda**	**13.80**	**130**	*e*P	**Pn**	**02 02 54.5**	**-3.3**
	comp=E,24nm,0.3s						
KURBB	**Kurchatov Arra**	**14.18**	**18**	P	**Pn**	**02 02 58.6**	**-3.5**
	comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=15						
GKN	**Gorkha**	**14.29**	**127**	*e*P	**Pn**	**02 03 00.3**	**-3.5**
	comp=E,47nm,0.3s						
GKN	**Gorkha**	**14.29**	**127**	*e*P	**Pn**	**02 03 00.3**	**-3.5**
	comp=E,47nm,0.3s						
KURK	**Kurchatov**	**14.29**	**18**	*ce*P	**P**	**02 03 06.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**14.29**	**18**	Pn	**Pn**	**02 03 02.7**	**-0.7**
AB31	**Akbulak array**	**14.68**	**328**	P	**Pn**	**02 03 07.5**	**-0.9**
	comp=Z,17nm,0.4s,baz=133,slow=12,SNR=194						
AB31				⇓S	**Sn**	**02 05 46.8**	**-4.4**
	comp=Z,8.6nm,0.3s,baz=149,slow=22,SNR=16						
AB31	**Akbulak array**	**14.68**	**328**	*i* P	**Pn**	**02 03 07.5**	**-0.9**
ABKAR	**Akbulak array**	**14.68**	**328**		**Pn**	**02 03 07.6**	**-0.8**
KKN	**Kakani**	**14.85**	**126**	*e*P	**Pn**	**02 03 07.6**	**-3.3**
	comp=Z,24nm,0.3s						
KKN	**Kakani**	**14.85**	**126**	*e*P	**Pn**	**02 03 07.6**	**-3.3**
	comp=Z,24nm,0.3s						
BHPL	**Bhopal**	**14.85**	**159**	*ex*	**P**	**02 03 14.8**	**+2.0**
BHPL				*e*S	Sn	02 05 44.8	-11
DMN	**Daman**	**14.86**	**127**	*e*P	**Pn**	**02 03 08.0**	**-3.1**
	comp=Z,32nm,0.4s						
DMN	**Daman**	**14.86**	**127**	*e*P	**Pn**	**02 03 08.0**	**-3.1**
	comp=Z,32nm,0.4s						
PKI	**Pulchoki**	**15.08**	**126**	*e*P	**Pn**	**02 03 10.5**	**-3.4**
	comp=Z,19nm,0.2s						
PKI	**Pulchoki**	**15.08**	**126**	*e*P	**Pn**	**02 03 10.5**	**-3.4**
	comp=Z,19nm,0.2s						
GUN	**Gumba**	**15.16**	**124**	*e*P	**Pn**	**02 03 11.5**	**-3.3**
GUN	**Gumba**	**15.16**	**124**	*e*P	**Pn**	**02 03 11.5**	**-3.3**
JIRN	**Jiri**	**15.53**	**124**	*e*P	**Pn**	**02 03 16.7**	**-2.8**
	comp=Z,70nm,0.3s						
JIRN	**Jiri**	**15.53**	**124**	*e*P	**Pn**	**02 03 16.7**	**-2.8**
	comp=Z,70nm,0.3s						
BVAR	**Borovoye Array**	**15.75**	**357**	P	**Pn**	**02 03 20.2**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=158,slow=14,SNR=20						
BRVK	**Borovoye**	**15.79**	**357**	⇑P	**P**	**02 03 23.5**	**+0.8**
	comp=Z,5.6nm,0.6s						
BRVK	**Borovoye**	**15.79**	**357**	*ce*P	**Pn**	**02 03 21.2**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,17nm,1.7s						
BRVK	**Borovoye**	**15.79**	**357**	Pn	**Pn**	**02 03 21.1**	**-0.8**
RAMN	**Ramite**	**16.27**	**125**	*e*P	**Pn**	**02 03 25.7**	**-2.8**
	comp=Z,28nm,0.4s						
RAMN	**Ramite**	**16.27**	**125**	*e*P	**Pn**	**02 03 25.7**	**-2.8**
	comp=Z,28nm,0.4s						
AKTO	**Aktyubinsk**	**16.39**	**328**	P	**P**	**02 03 31.3**	**+1.8**
	comp=Z,2.3nm,0.3s,baz=135,slow=10,SNR=21						
AKTO	**Aktyubinsk**	**16.39**	**328**	⇓P	**P**	**02 03 31.5**	**+1.9**
	comp=Z,4.4nm,0.4s						
AKTO				⇓S	**S**	**02 06 25.6**	**-5.7**
	comp=Z,12nm,1.1s						
AKTO	**Aktyubinsk**	**16.39**	**328**	P	**P**	**02 03 31.4**	**+1.9**
TAPN	**Taplejung**	**16.75**	**122**	*e*P	**Pn**	**02 03 32.2**	**-2.1**
	comp=Z,23nm,0.3s						
TAPN	**Taplejung**	**16.75**	**122**	*e*P	**Pn**	**02 03 32.2**	**-2.1**
	comp=Z,23nm,0.3s						
ODAN	**Odare**	**16.86**	**124**	*e*P	**Pn**	**02 03 33.8**	**-1.7**
	comp=Z,33nm,0.5s						
ODAN	**Odare**	**16.86**	**124**	*e*P	**Pn**	**02 03 33.8**	**-1.7**
	comp=Z,33nm,0.5s						
LSA	**Lhasa**	**17.88**	**109**	P	**Pn**	**02 03 46.3**	**-1.6**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s						
LSA	**Lhasa**	**17.88**	**109**	P	**Pn**	**02 03 46.3**	**-1.6**
LSA				IAmb	IAmb	02 03 49.2	
	comp=Z,11nm,0.8s						
WSAR	**Wadi Sarin**	**17.98**	**222**	P	**Pn**	**02 03 51.8**	**+3.1**
	comp=Z,0.7nm,0.3s,baz=61,slow=7.0,SNR=7.8						
UOSS	**Minazif**	**18.09**	**231**	P	**Pn**	**02 03 50.0**	**0.0**
ZAA0	**Zalesovo Array**	**18.95**	**24**	P	**Pn**	**02 03 57.8**	**-2.0**
ZAA0				IAmb	IAmb	02 03 59.3	
	comp=Z,5.7nm,0.8s						
ZALV	**Zalesovo Beam**	**18.95**	**24**	P	**Pn**	**02 03 58.1**	**-1.6**
	comp=Z,2.1nm,0.3s,baz=219,slow=11,SNR=20						
SHL	**Shillong**	**20.76**	**119**	P	Pn	02 04 18.6	-3.1
SHL				pmax	pmax		
	comp=Z,16nm,0.7s						
SHL	**Shillong**	**20.76**	**119**	P	Pn	02 04 18.6	-3.1
ARU	**Arti**	**21.07**	**339**	P	**P**	**02 04 22.6**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=165,slow=14,SNR=4.4						
ARU	**Arti**	**21.07**	**339**	*d* iP	**P**	02 04 28.4	+8.2
ARU				S	**S**	**02 08 05.4**	**-0.6**
ARU				SS		02 08 21.0	
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARU	**Arti**	**21.07**	**339**	P	**P**	**02 04 20.2**	**0.0**
ARU				IAmb	IAmb	02 04 29.5	
	comp=Z,5.2nm,0.6s						
GTA	**Gaotai**	**22.10**	**76**	P	**P**	**02 04 34.4**	**+3.0**
GTA				sP	sP	02 05 18.8	-0.1
GTA				pmax	pmax		
	comp=Z,15nm,0.9s						
SONM	**Songino Array**	**27.41**	**56**	P	**P**	**02 05 22.1**	**+2.5**
	comp=Z,1.6nm,0.8s,baz=264,slow=7.0,SNR=6.2						
SONM	**Songino Array**	**27.41**	**56**	P	**P**	**02 05 21.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**30.35**	**121**	P	**P**	**02 05 48.6**	**+2.7**
	comp=Z,1.0nm,0.6s,baz=318,slow=10,SNR=4.3						
GYA	**Guiyang**	**31.42**	**100**	*e*P	**P**	**02 05 57.8**	**+2.5**
GYA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BUR08	**Bucovina Ar. S**	**35.35**	**302**	P	**P**	**02 06 31.6**	**+2.5**
BUR08				IAmb	IAmb	02 06 39.8	
	comp=Z,5.4nm,1.5s						
WHN	**Wuhan**	**35.78**	**88**	P	P	02 06 39.6	+6.8
FIA1	**FINESS Array S**	**37.14**	**325**	P	**P**	**02 06 46.5**	**+2.5**
FINES	**FINESS Array B**	**37.14**	**325**	P	**P**	**02 06 47.5**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=119,slow=9.1,SNR=17						
FINES	**FINESS Array B**	**37.14**	**325**	P	**P**	**02 06 46.9**	**+3.0**
ARCES	**ARCESS Array B**	**40.62**	**337**	P	**P**	**02 07 16.4**	**+3.5**
	comp=Z,1.0nm,0.6s,baz=117,slow=8.9,SNR=12						
BRG	**Berggiesshubel**	**42.58**	**308**	*e*P	P	02 07 33.8	+4.8
	comp=Z,2.9nm,1.1s						
GSI	**Gunungsitoli**	**43.03**	**140**	P	**P**	**02 07 35.2**	**+2.2**
KSRS	**Korea Array**	**44.08**	**72**	P	**P**	**02 07 42.8**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=270,slow=7.5,SNR=7.6						
NB2	**NORSAR Subarra**	**44.09**	**322**	P	**P**	**02 07 44.0**	**+3.1**
	comp=Z,0.4nm,0.6s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.09**	**322**	P	**P**	**02 07 44.1**	**+3.1**
	comp=Z,0.7nm,0.7s,baz=95,slow=7.7,SNR=5.8						
TIXI	**Tiksi**	**44.81**	**22**	*i* P	P	02 08 06.0	+20
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MJAR	**Matsushiro Arr**	**52.13**	**69**	P	**P**	**02 08 44.9**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=290,slow=11,SNR=9.2						
ESDC	**Sonseca Array**	**57.59**	**298**	P	**P**	**02 09 26.1**	**+3.9**
	comp=Z,0.6nm,0.7s,baz=63,slow=6.0,SNR=6.5						
ESDC				pP	**pP**	**02 09 57.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=56,slow=7.2,SNR=7.6						
ESDC	**Sonseca Array**	**57.59**	**298**	IAmb	IAmb	02 09 26.8	
	comp=Z,1.6nm,1.1s						
ILAR	**Eielson Array**	**73.85**	**16**	P	**P**	**02 11 07.5**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=335,slow=4.3,SNR=5.7						
YKA	**Yellowknife Ar**	**80.41**	**3**	P	**P**	**02 11 45.3**	**+2.8**
	comp=Z,1.9nm,0.7s,baz=78,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**81.93**	**122**	P	**P**	**02 11 53.0**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=324,slow=5.1,SNR=9.5						
WRA	**Warramunga Arr**	**81.93**	**122**	IAmb	IAmb	02 11 59.7	
	comp=Z,0.3nm,1.4s						
ASAR	**Alice Springs**	**84.25**	**125**	P	**P**	**02 12 05.9**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=310,slow=5.7,SNR=3.3						

IDC 07 02:15:07.3±13.0, 26.°16N×92.°90E, h0km, mb3.6/5,
mb1 3.7/5, mb1mx3.3/51, mbtmp3.6/5, Error ellipse:
s-maj=370.8km s-min=82.3km az=102.0, Northeastern
India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**22.25**	**340**	P	P	02 20 04.9	-0.8
	0.5nm,0.4s,baz=150,slow=11,SNR=14						
KURBB	**Kurchatov Arra**	**26.80**	**339**	P	P	02 20 50.7	+1.8
	0.5nm,0.8s,baz=159,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**56.32**	**328**	P	P	02 24 49.0	-0.6
	0.5nm,0.7s,baz=119,slow=8.3,SNR=3.8						
NB2	**NORSAR Subarra**	**63.49**	**327**	P	P	02 25 38.9	-0.1
	comp=Z,0.4nm,0.6s,ba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.40**	**337**		**Pn**	**03 08 26.6**	**+0.5**
ETKA	**Kagalaska Isla**	**0.42**	**297**		**Pn**	**03 08 26.3**	**+0.1**
ETKA					**Sn**	**03 08 33.8**	**+0.4**
GSTD	**Great Sitkin T**	**0.44**	**331**		**Pn**	**03 08 27.1**	**+0.6**
GSTR	**Great Sitkin T**	**0.45**	**339**		**Pn**	**03 08 27.5**	**+0.9**
ADAG	**Mount Adagdak**	**0.59**	**302**		**Pn**	**03 08 29.1**	**+0.9**
ADK	**Adak**	**0.59**	**291**		**Pn**	**03 08 27.7**	**-0.5**
KIKV	**Kanaga Island**	**0.88**	**284**		**Pn**	**03 08 32.3**	**+0.2**
KIMD	**Kanaga Island**	**0.90**	**276**		**Pn**	**03 08 32.1**	**-0.2**
KICM	**Kanaga Island**	**0.90**	**286**		**Pn**	**03 08 32.7**	**+0.3**
ATKA	**Atka Island**	**1.12**	**61**		**Pn**	**03 08 35.6**	**+0.2**
ATKA					**Sn**	**03 08 50.2**	**+0.5**
KOWE	**Korovin West**	**1.18**	**53**		**Pn**	**03 08 37.7**	**+1.5**
KOFP	**Korovin Flat P**	**1.21**	**60**		**Pn**	**03 08 37.7**	**+1.0**
TAPA	**Tanaga Point A**	**1.26**	**277**		**Pn**	**03 08 37.7**	**+0.4**
TAPA					**Sn**	**03 08 54.2**	**+1.1**
TAFP	**Tanaga Falls P**	**1.38**	**280**		**Pn**	**03 08 39.5**	**+0.6**
TAFP					**Sn**	**03 08 56.3**	**+0.4**
TASE	**Tanaga Southea**	**1.40**	**278**		**Pn**	**03 08 40.0**	**+0.8**
TANO	**Tanaga North**	**1.46**	**280**		**Pn**	**03 08 41.3**	**+1.3**
CERB	**Semis' Cerberu**	**2.85**	**277**		**Pn**	**03 09 01.0**	**+2.0**
AMKA	**Amchitka**	**3.08**	**266**		**Pn**	**03 09 03.1**	**+1.1**
LSPA	**Little Sitkin**	**3.50**	**277**		**Pn**	**03 09 09.9**	**+1.9**
LSNW	**Little Sitkin**	**3.54**	**277**		**Pn**	**03 09 09.6**	**+1.1**
LSSA	**Little Sitkin**	**3.54**	**277**		**Pn**	**03 09 09.8**	**+1.2**
KDAK	**Kodiak Island**	**14.70**	**56**	P	**Pn**	**03 11 39.2**	**-1.5**
	0.5nm,0.3s,baz=311,slow=5.7,SNR=17						
KDAK				S	**Sn**	**03 14 21.6**	**-0.5**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.7						
PETK	**Petropavlovsk-**	**16.21**	**286**	LR	LR	03 17 03.1	
	comp=Z,33nm,21.8s,baz=78,slow=33						
BPAW	**Bear Paw Mtn.**	**17.98**	**37**		**P**	**03 12 25.2**	**+2.9**
ILAR	**Eielson Array**	**19.85**	**38**	P	**P**	**03 12 41.1**	**-1.6**
	0.4nm,0.3s,baz=240,slow=10,SNR=22						
JKA	**Kamikawa-asahi**	**28.58**	**271**	P	**P**	**03 14 08.0**	**+0.6**
ASAJ	**Asahikawa**	**28.58**	**271**	P	**P**	**03 14 08.0**	**+0.6**
	2.7nm,0.8s,baz=32,slow=9.5,SNR=2.2						
KLR	**Kul'dur**	**32.90**	**287**	LR	LR	03 27 54.6	
	comp=Z,18nm,19.9s,baz=118,slow=36						
H11N2	**WAKE ISLAND Hy**	**34.65**	**210**	T	T	03 51 56.8	
	baz=19,slow=76,SNR=197						
H11N3	**WAKE ISLAND Hy**	**34.66**	**209**	T	T	03 51 55.3	
	baz=19,slow=76,SNR=179						
H11N1	**WAKE ISLAND Hy**	**34.67**	**210**	T	T	03 51 51.3	
	baz=19,slow=76,SNR=140						
H11S1	**WAKE ISLAND Hy**	**35.86**	**209**	T	T	03 53 30.2	
	baz=19,slow=76,SNR=131						
H11S2	**WAKE ISLAND Hy**	**35.88**	**209**	T	T	03 53 30.0	
	baz=19,slow=76,SNR=88						
H11S3	**WAKE ISLAND Hy**	**35.88**	**209**	T	T	03 53 30.1	
	baz=19,slow=76,SNR=58						
KSRS	**Korea Array**	**41.50**	**273**	P	**P**	**03 15 58.5**	**+0.1**
	1.3nm,0.8s,baz=53,slow=7.6,SNR=6.4						
NVAR	**Mina Array Bea**	**41.66**	**85**	P	**P**	**03 16 01.2**	**+1.3**
	0.1nm,0.5s,baz=318,slow=6.6,SNR=2.1						
PDAR	**Pinedale Array**	**44.43**	**74**	P	**P**	**03 16 23.2**	**+0.9**
	0.4nm,0.3s,baz=264,slow=4.5,SNR=5.5						
TXAR	**Lajitas Array**	**56.76**	**84**	P	**P**	**03 17 55.5**	**+0.3**
	0.2nm,0.5s,baz=323,slow=5.7,SNR=3.7						
MKAR	**Makanchi Array**	**61.30**	**310**	P	**P**	**03 18 24.2**	**-2.1**
	0.3nm,0.5s,baz=52,slow=5.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**72.84**	**278**	P	**P**	**03 19 39.7**	**-0.2**
	0.5nm,0.3s,baz=22,slow=5.9,SNR=1.6						
WRA	**Warramunga Arr**	**83.55**	**226**	P	**P**	**03 20 38.0**	**-1.0**
	0.3nm,0.5s,baz=29,slow=5.8,SNR=5.3						
ASAR	**Alice Springs**	**87.00**	**225**	P	**P**	**03 20 55.6**	**-0.5**
	0.7nm,0.9s,baz=32,slow=4.8,SNR=4.9						
H03N2	**Juan Fernandez**	**119.43**	**108**	T	T	05 38 02.2	
	baz=317,slow=77,SNR=100						
H03N1	**Juan Fernandez**	**119.45**	**108**	T	T	05 38 04.3	
	baz=317,slow=77,SNR=113						
H03N3	**Juan Fernandez**	**119.45**	**108**	T	T	05 38 16.8	
	baz=317,slow=77,SNR=113						
BOSA	**Boshof**	**152.09**	**318**	PKPbc	**PKPbc**	**03 28 05.2**	**-0.8**
	1.1nm,0.5s,baz=27,slow=2.3,SNR=6.4						

*IDC **07** 03:18:13.4±1.6, 22°.63N×141°.95E, h244km±14km, mb3.7/26, mb1 3.8/29, mb1mx3.7/53, mbtmp4.3/29, Error ellipse: s-maj=14.0km s-min=10.3km az=87.0*
*NEIC **07** 03:18:13.4±1.5, 22°.63N±0°.05×141°.9E±0°.2, h247km±5km, mb4.2/41, Error ellipse: s-maj=20.9km s-min=7.2km az=82.0*
*JMA **07** 03:18:15.8±0.1, 22°.98N×141°.80E, h274km±1km, M5.2*
ISC 07 03:18:13.8±0.5,**22°.70N**±0°.06×**142°.0E**±0°.1,**h250**km,**n99,**
σ1$**20**/107,**mb4.1**/39,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.92**	**3**	P	**Pn**	**03 19 17.1**	**+0.5**
JHH2				S	**S**	**03 20 05.5**	**-1.1**
CBIJ	**Chichi jima**	**4.38**	**3**	P	**Pn**	**03 19 22.1**	**0.0**
CBIJ				S	**S**	**03 20 14.1**	**-2.3**
JCJ	**Chichijima**	**4.38**	**3**	P	**Pn**	**03 19 21.8**	**-0.3**
	88nm,0.3s,baz=267,slow=18,SNR=195						
JCJ				S	**S**	**03 20 13.5**	**-2.9**
	50nm,0.3s,baz=238,slow=24,SNR=12						
JHCJ	**Hachijojimakas**	**10.51**	**350**	P	**Pn**	**03 20 37.2**	**-1.5**
JHJ2	**Mitsune**	**10.54**	**350**	P	**Pn**	**03 20 38.4**	**-0.7**
JHJ	**Hachijo jima 2**	**10.55**	**350**	P	**Pn**	**03 20 38.2**	**-1.0**
	13nm,0.3s,baz=221,slow=20,SNR=12						
JHJ				S	**S**	**03 22 31.9**	**-5.7**
	2.7nm,0.3s,baz=72,slow=20,SNR=1.7						
JMKN	**Mikurajimanish**	**11.34**	**350**	P	**Pn**	**03 20 47.9**	**-1.2**
BSO1	**Boso 1**	**11.94**	**356**	P	**Pn**	**03 20 55.4**	**-0.6**
BSO3	**Boso 3**	**12.12**	**354**	P	**Pn**	**03 20 57.4**	**-1.2**
BSO4	**Boso 4**	**12.32**	**354**	P	**Pn**	**03 20 59.9**	**-1.4**
INU	**Inuyama**	**13.32**	**342**		**Pn**	**03 21 13.1**	**-0.5**
MJAR	**Matsushiro Arr**	**14.17**	**348**	P	**Pn**	**03 21 22.4**	**-1.6**
	0.1nm,0.3s,baz=163,slow=8.3,SNR=9.3						
MJAR	**Matsushiro Arr**	**14.17**	**348**	Pn	**Pn**	**03 21 22.8**	**-1.2**
MAJO	**Matsushiro**	**14.17**	**348**		**Pn**	**03 21 24.1**	**+0.2**
JNU	**Nakatsue**	**14.26**	**319**	P	**P**	**03 21 28.2**	**+2.7**
	0.8nm,0.3s,baz=184,slow=3.8,SNR=7.0						
KSRS	**Korea Array**	**19.03**	**324**	P	**P**	**03 22 19.0**	**+1.6**
	0.2nm,0.3s,baz=137,slow=9.9,SNR=8.3						
KSAR	**Wonju Array Be**	**19.05**	**324**	P	**P**	**03 22 17.7**	**+0.1**
KS19	**Wonju Array Si**	**19.10**	**324**	P	**P**	**03 22 17.5**	**-0.7**
KS19				IAmb	IAmb	03 22 36.9	
	comp=Z,8.0nm,1.0s						
JKA	**Kamikawa-asahi**	**21.36**	**1**	P	**P**	**03 22 43.2**	**+1.5**
ASAJ	**Asahikawa**	**21.36**	**1**	P	**P**	**03 22 43.2**	**+1.5**
	comp=Z,4.5nm,0.8s,baz=185,slow=9.6,SNR=5.5						
USA0B	**Ussuriysk Arra**	**22.96**	**341**	P	**P**	**03 22 55.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**22.96**	**341**	P	**P**	**03 22 57.5**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=163,slow=10,SNR=4.5						
USRK	**Ussuriysk Ar.**	**22.96**	**341**	P	**P**	**03 22 57.2**	**+0.7**
SONM	**Songino Array**	**37.84**	**320**	P	**P**	**03 25 07.4**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=131,slow=7.9,SNR=3.2						
SONM	**Songino Array**	**37.84**	**320**	IAmb	IAmb	03 25 15.3	
	comp=Z,0.6nm,0.7s						
SEY	**Seymchan**	**40.83**	**7**	P	**P**	**03 25 32.2**	**+1.3**
	comp=Z,2.0nm,0.2s,baz=272,slow=17,SNR=4.0						
WRAB	**Tennant Creek**	**43.02**	**191**	P	**P**	**03 25 48.1**	**-1.0**
WRAB				IAmb	IAmb	03 25 52.5	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**43.03**	**191**	P	**P**	**03 25 47.9**	**-1.3**
WB2				IAmb	IAmb	03 25 57.2	
	comp=Z,21nm,1.6s						
WRA	**Warramunga Arr**	**43.03**	**191**	P	**P**	**03 25 48.7**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=9.1,slow=9.3,SNR=28						
WRA				ScP	**ScP**	**03 31 01.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=8.6,slow=4.5,SNR=5.5						
ASAR	**Alice Springs**	**46.75**	**190**	P	**P**	**03 26 17.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=16,slow=11,SNR=13						
ASAR				ScP	**ScP**	**03 31 17.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=0.4,slow=3.8,SNR=3.0						
ASAR				S	**S**	**03 32 46.5**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=14,slow=17,SNR=4.8						
ZAA0	**Zalesovo Array**	**52.72**	**321**	P	**P**	**03 27 03.0**	**+0.1**
ZALV	**Zalesovo Beam**	**52.72**	**321**	P	**P**	**03 27 03.3**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=104,slow=7.1,SNR=6.0						
ZALV				PcP	**PcP**	**03 28 08.7**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=97,slow=5.3,SNR=3.1						
MK31	**Makanchi Array**	**53.18**	**312**	P	**P**	**03 27 06.1**	**-0.4**
MKAR	**Makanchi Array**	**53.18**	**312**	P	**P**	**03 27 07.7**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=91,slow=9.5,SNR=18						
MKAR				PcP	**PcP**	**03 28 11.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=104,slow=3.7,SNR=7.3						
MKAR	**Makanchi Array**	**53.18**	**312**	P	**P**	**03 27 05.8**	**-0.6**
STKA	**Stephens Creek**	**54.27**	**180**	P	**P**	**03 27 13.4**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=5.2,slow=11,SNR=3.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRIK	**Noril'sk**	**56.66**	**340**	P	**P**	**03 27 32.2**	**+1.3**
	comp=Z,3.2nm,0.7s,baz=136,slow=11,SNR=2.7						
KDAK	**Kodiak Island**	**58.03**	**35**	P	**P**	**03 27 41.1**	**+0.6**
	comp=Z,5.4nm,0.7s,baz=242,slow=4.1,SNR=11						
IMAR	**Indian Mountai**	**59.07**	**25**	P	**P**	**03 27 48.0**	**+0.5**
BPAW	**Bear Paw Mtn.**	**59.81**	**28**	P	**P**	**03 27 53.6**	**+0.9**
BPAW				IAmb	IAmb	03 27 54.9	
	comp=Z,5.3nm,0.8s						
TRF	**Thorofare Moun**	**60.01**	**29**	P	**P**	**03 27 54.7**	**+0.4**
TRF				IAmb	IAmb	03 27 55.7	
	comp=Z,6.4nm,0.8s						
BWN	**Browne**	**60.48**	**28**	P	**P**	**03 27 57.6**	**+0.4**
COLD	**Coldfoot**	**60.72**	**24**	P	**P**	**03 28 00.0**	**+1.2**
BRVK	**Borovoye**	**61.23**	**319**	P	**P**	**03 28 03.5**	**+1.0**
BRVK				IAmb	IAmb	03 28 04.1	
	comp=Z,3.2nm,0.6s						
TOLK	**Toolik Lake Re**	**61.24**	**23**	P	**P**	**03 28 04.0**	**+1.7**
TOLK				IAmb	IAmb	03 28 04.7	
	comp=Z,5.0nm,0.6s						
HIN	**Hinchinbrook I**	**61.43**	**32**	P	**P**	**03 28 01.6**	**-2.0**
KK31	**Karatay Array**	**61.54**	**308**	P	**P**	**03 28 05.0**	**+0.2**
KKAR	**Karatay Array**	**61.54**	**308**	P	**P**	**03 28 05.7**	**+0.9**
BTK	**Batken**	**61.63**	**304**	P	**P**	**03 28 03.2**	**-2.2**
ILAR	**Eielson Array**	**61.67**	**27**	P	**P**	**03 28 04.8**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=256,slow=5.6,SNR=32						
ILAR	**Eielson Array**	**61.67**	**27**	P	**P**	**03 28 04.7**	**-0.5**
GAR	**Garm**	**62.15**	**303**	P	**P**	**03 28 09.5**	**+0.5**
RIDG	**Independent Ri**	**62.46**	**29**	P	**P**	**03 28 10.8**	**+0.3**
DOT	**Dot Lake**	**62.80**	**29**	P	**P**	**03 28 13.2**	**+0.5**
DOT				IAmb	IAmb	03 28 14.0	
	comp=Z,4.1nm,0.9s						
BMAR	**Burnt Mountain**	**62.91**	**25**	P	**P**	**03 28 14.8**	**+1.4**
CHGR	**Chuyangaron**	**63.09**	**303**	P	**P**	**03 28 15.7**	**+0.5**
MCARA	**McCarthy VSAT**	**63.18**	**31**	P	**P**	**03 28 16.5**	**+1.3**
BCAR	**Beaver Creek A**	**63.80**	**30**	P	**P**	**03 28 19.1**	**-0.2**
KBL	**Kabul**	**63.86**	**298**	P	**P**	**03 28 20.1**	**-0.2**
HYT	**Haines Junctio**	**65.86**	**32**	P	**P**	**03 28 31.3**	**-1.4**
ABKAR	**Akbulak array**	**68.04**	**316**	P	**P**	**03 28 46.8**	**+0.4**
GEYT	**Alibeck**	**71.74**	**304**	P	**P**	**03 29 10.6**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=90,slow=3.3,SNR=2.7						
GEYT	**Alibeck**	**71.74**	**304**	IAmb	IAmb	03 29 11.3	
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**76.10**	**28**	P	**P**	**03 29 34.2**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=292,slow=6.6,SNR=5.1						
ARCES	**ARCESS Array B**	**77.61**	**341**	P	**P**	**03 29 42.9**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=69,slow=8.0,SNR=15						
B08A	**Colville Reser**	**78.89**	**42**	P	**P**	**03 29 50.0**	**+0.4**
B08A				IAmb	IAmb	03 29 51.3	
	comp=Z,4.5nm,0.9s						
YBH	**Yreka Blue Hor**	**79.03**	**49**	P	**P**	**03 29 51.9**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=28,slow=3.4,SNR=8.2						
PINE	**Pine Mountain**	**79.52**	**47**	P	**P**	**03 29 54.8**	**+1.6**
NEW	**Newport**	**80.29**	**42**	P	**P**	**03 29 57.6**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=271,slow=6.0,SNR=7.4						
NEW	**Newport**	**80.29**	**42**	P	**P**	**03 29 57.5**	**+0.4**
NEW				IAmb	IAmb	03 29 59.2	
	comp=Z,4.7nm,1.1s						
KBZ	**Khabaz**	**80.85**	**314**	P	**P**	**03 30 00.4**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=89,slow=6.6,SNR=4.2						
J08A	**Circle Bar Ran**	**81.34**	**47**	P	**P**	**03 30 03.5**	**+0.7**
J08A				IAmb	IAmb	03 30 05.2	
	comp=Z,6.5nm,1.0s						
WVOR	**Wild Horse Val**	**81.59**	**48**	P	**P**	**03 30 04.8**	**+0.6**
FINES	**FINESS Array B**	**81.78**	**334**	P	**P**	**03 30 04.3**	**-0.3**
	comp=Z,7.2nm,0.4s,baz=68,slow=4.7,SNR=248						
CMB	**Columbia Colle**	**82.05**	**52**	P	**P**	**03 30 06.9**	**+0.3**
CMB				IAmb	IAmb	03 30 08.1	
	comp=Z,4.1nm,0.9s						
MFID	**Camas Ranch**	**83.08**	**46**	P	**P**	**03 30 12.0**	**+0.1**
MFID				IAmb	IAmb	03 30 13.6	
	comp=Z,3.3nm,0.8s						
NVAR	**Mina Array Bea**	**83.41**	**51**	P	**P**	**03 30 14.6**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=281,slow=5.4,SNR=40						
NVAR	**Mina Array Bea**	**83.41**	**51**	P	**P**	**03 30 13.9**	**+0.1**
HRY	**Holter Researc**	**84.20**	**42**	P	**P**	**03 30 18.2**	**+0.7**
R11A	**Troy Canyon, C**	**85.39**	**50**	P	**P**	**03 30 24.5**	**+0.9**
R11A				IAmb	IAmb	03 30 25.6	
	comp=Z,3.7nm,0.9s						
FFC	**Flin Flon**	**85.57**	**32**	P	**P**	**03 30 24.3**	**+0.3**
GSC	**Goldstone, Bar**	**85.78**	**54**	P	**P**	**03 30 25.7**	**+0.2**
RLMT	**Red Lodge**	**86.53**	**42**	P	**P**	**03 30 30.2**	**+1.1**
HFS	**Hagfors**	**87.36**	**337**	P	**P**	**03 30 31.2**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=92,slow=4.5,SNR=18						
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**03 30 33.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=294,slow=3.1,SNR=2.2						
NB2	**NORSAR Subarra**	**87.60**	**338**	P	**P**	**03 30 32.4**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=46,slow=4.4						
NB2	**NORSAR Subarra**	**87.60**	**338**	P	**P**	**03 30 32.4**	**-1.2**
	baz=46,slow=4.4						
NOA	**NORSAR Array B**	**87.60**	**338**	P	**P**	**03 30 32.5**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=48,slow=4.8,SNR=5.2						
MSU	**Marysvale**	**87.71**	**49**	P	**P**	**03 30 35.0**	**+0.1**
BRTR	**Keskin Array B**	**88.83**	**313**	P	**P**	**03 30 39.5**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=102,slow=1.7,SNR=4.8						
BRTR	**Keskin Array B**	**88.83**	**313**	P	**P**	**03 30 38.9**	**-1.1**
SFX	**San Felipe**	**89.09**	**57**	P	**P**	**03 30 38.9**	**-2.3**
PV11	**David Mesa, Pa**	**90.10**	**48**	P	**P**	**03 30 46.7**	**+0.7**
ISCO	**Idaho Springs**	**91.54**	**45**	P	**P**	**03 30 54.6**	**+1.8**
ISCO				IAmb	IAmb	03 30 55.0	
	comp=Z,1.7nm,0.8s						
GERES	**GERESS Array B**	**95.14**	**329**	P	**P**	**03 31 08.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=36,slow=3.4,SNR=4.2						
TXAR	**Lajitas Array**	**98.38**	**54**	P	**P**	**03 31 23.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=358,slow=3.8,SNR=4.2						
PLCA	**Paso Flores**	**147.27**	**131**	PKPbc	**PKPbc**	**03 37 28.1**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=274,slow=3.0,SNR=4.7						
LPAZ	**La Paz**	**150.97**	**83**	PKPbc	**PKPbc**	**03 37 38.8**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=336,slow=2.8,SNR=26						
LPAZ				PKPab	**PKPab**	**03 37 48.1**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=337,slow=3.7,SNR=6.4						
LPAZ	**La Paz**	**150.97**	**83**		**PKiKP**	**03 37 39.2**	**+0.2**

*MAN **07** 03:21:17.4, 5°.27N×125°.21E, h195km, mb4.6, ML3.5, MS3.4*
*IDC **07** 03:21:21.2±3.5, 5°.45N×125°.23E, h193km±42km, mb3.2/4, mb1 3.3/4, mb1mx3.0/38, mbtmp3.7/4, Error ellipse: s-maj=150.3km s-min=19.7km az=69.0*
ISC 07 03:21:20.8±1.1,**5°.5N**±0°.1×**125°.2E**±0°.1,**h191**km±9km,**n10,**
σ1$**17**/16,**mb3.5**/4,**1C**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.81**	**38**	*e*P	**Pn**	**03 21 48.7**	**+0.3**
DDMP				*e*S	**Sn**	**03 22 09.3**	**-0.5**
SKMP	**Bagumbayan, Su**	**1.25**	**328**	*e*P	**Pn**	**03 21 49.9**	**-1.6**
SKMP				*e*S	**Sn**	**03 22 16.5**	**+1.1**
KCP	**Kidapawan**	**1.55**	**356**	↑*i*P	Pn	03 21 58.6	+4.4
KCP				*i* S	**Sn**	**03 22 20.9**	**+0.6**
DAV	**Davao City (W)**	**1.65**	**13**	P	**Pn**	**03 21 56.0**	**+1.0**
	40nm,0.3s,baz=215,slow=11,SNR=4.0						
DAV				S	**Sn**	**03 22 22.5**	**+0.7**
	57nm,0.3s,baz=275,slow=22,SNR=3.7						
MATI	**Mati**	**1.81**	**35**	*e*P	**Pn**	**03 21 54.9**	**-1.8**
MATI				*e*S	**Sn**	**03 22 25.4**	**+0.8**
BUKP	**Musuan**	**2.41**	**356**	*e*P	**Pn**	**03 22 03.4**	**+0.2**
BUKP				*e*S	**Sn**	**03 22 34.9**	**-1.4**
WRA	**Warramunga Arr**	**26.79**	**161**	P	**P**	**03 26 43.1**	**-0.1**
	0.5nm,0.5s,baz=334,slow=9.9,SNR=2.0						
ASAR	**Alice Springs**	**30.16**	**164**	P	**P**	**03 27 13.6**	**+0.4**
	0.2nm,0.3s,baz=340,slow=7.2,SNR=7.9						
ASAR				PcP	**PcP**	**03 30 10.0**	**+0.3**
	0.1nm,0.3s,baz=335,slow=2.1,SNR=1.7						
MKAR	**Makanchi Array**	**55.28**	**325**	P	**P**	**03 30 35.9**	**+1.4**
	0.4nm,0.5s,baz=121,slow=7.9,SNR=3.0						
FINES	**FINESS Array B**	**89.61**	**332**	P	**P**	**03 33 55.0**	**-1.5**
	0.4nm,0.8s,baz=77,slow=7.3,SNR=1.1						

*REY **07** 03:27:41.4, 64°.67N×17°.45W, h8km*
*IDC **07** 03:27:42.7±0.7, 64°.64N×17°.83W, h0km, mb3.8/12, mb1 3.9/17, mb1mx3.8/56, mbtmp3.8/17, ML2.4/3, MS2.8/5, Ms1 2.8/5, ms1mx2.5/48, Error ellipse: s-maj=20.6km s-min=11.8km az=19.0*
*NEIC **07** 03:27:44.3±1.9, 64°.68N±0°.09×17°.6W±0°.2, h10km±1km, mb4.3/45, Error ellipse: s-maj=15.2km s-min=11.0km az=188.0*
ISC 07 03:27:43.9±0.4,**64°.63N**±0°.03×**17°.63W**±0°.03,**h10**km,**n147,**
σ1$**75**/130,**mb4.1**/36,**MS2.9**/3,**Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.07**	**311**	P	**Pg**	**03 27 44.2**	**-2.1**
	baz=270						
IDYN	**Dyngjuhals**	**0.20**	**34**	P	Pg	03 27 44.3	-3.9
	baz=17						
IDYN				S	**Sg**	**03 27 46.9**	**-4.2**
	baz=17						
IGRF	**Grimsfjall**	**0.27**	**144**	P	**Pg**	**03 27 46.7**	**-2.7**
	baz=163						
IURH	**Urdarhals**	**0.28**	**47**	P	Pg	03 27 45.6	-4.1
	baz=41						
IHUS	**Husbondi**	**0.33**	**182**	P	**Pg**	**03 27 49.0**	**-1.6**
	baz=193						
ISKR	**Skrokkalda**	**0.33**	**259**	P	**Pg**	**03 27 49.1**	**-1.4**
	baz=255						
IJOK	**Jokulheimar**	**0.41**	**220**	P	**Pb**	**03 27 50.6**	**-2.6**
	baz=223						
IVOT	**Vottur**	**0.41**	**151**	P	**Pg**	**03 27 49.3**	**-2.6**
	baz=164						
IBJK	**Bruarjokull**	**0.41**	**112**	P	Pg	03 27 48.2	-3.8
	baz=124						
IKVE	**Kverkfjoll**	**0.41**	**82**	P	Pg	03 27 47.9	-4.1
	baz=89						
IKRE	**Kreppuhraun**	**0.56**	**73**	P	Pg	03 27 50.0	-4.8
	baz=76						
IIEY	**Innrieyrar**	**0.57**	**202**	P	**Pg**	**03 27 53.1**	**-1.9**
	baz=207						
IASK	**Askja**	**0.60**	**44**	P	Pg	03 27 50.7	-4.8
	baz=42						
IMKO	**Mokollar**	**0.66**	**57**	P	Pg	03 27 51.7	-4.9
	baz=57						
IKSK	**Karasker**	**0.69**	**132**	P	**Pg**	**03 27 52.9**	**-4.3**
	baz=140						
IVAT	**Vatnsfell**	**0.71**	**232**	P	**Pb**	**03 27 56.0**	**-2.4**
	baz=233						
ISVA	**Svartarkot**	**0.73**	**12**	P	Pg	03 27 53.5	-4.5
	baz=7.1						
IVSH	**V-Sauoahnukur**	**0.84**	**77**	P	Pg	03 27 54.6	-5.4
	baz=79						
IHVE	**Hveravellir**	**0.87**	**287**	P	**Pg**	**03 27 57.3**	**-3.2**
	baz=283						
IFAG	**Fagurholsmyri**	**0.87**	**150**	P	**Pg**	**03 27 57.0**	**-3.5**
	baz=156						
IADA	**Aoalbol**	**0.96**	**65**	P	Pg	03 27 56.6	-5.8
	baz=66						
ISNB	**Snabyli**	**0.99**	**207**	P	**Pg**	**03 28 00.4**	**-2.6**
	baz=209						
IMEL	**Melhnausar**	**1.03**	**23**	P	Pb	03 27 58.2	-5.7
	baz=20						
ISLY	**Slysaalda**	**1.03**	**220**	P	**Pg**	**03 28 01.1**	**-2.6**
	baz=221						
IREN	**Reynihlio**	**1.07**	**16**	P	Pb	03 27 58.9	-5.5
	baz=13						
IFED	**Fedgar**	**1.08**	**237**	P	**Pg**	**03 28 02.2**	**-2.4**
	baz=237						
IRJU	**Rjupnafell**	**1.11**	**205**	P	**Pg**	**03 28 02.5**	**-2.7**
	baz=207						
IMJO	**Mjoaskard**	**1.13**	**233**	P	**Pg**	**03 28 02.9**	**-2.6**
	baz=234				

OJC	Ojcow	24.30	108	eP		P	03 32 57.8	-3.4
OJC	Ojcow	24.30	108	P		P	03 33 00.0	-1.1
OJC				IAmb		IAmb	03 33 40.1	
	comp=Z,9.1nm,1.4s							
JAVC	Velka Javorina	24.52	113	eP		P	03 33 06.0	+2.8
CONA	Conrad Observa	24.56	117	eP		P	03 33 05.6	+1.9
	comp=Z,3.6nm,0.9s							
SMOL	Smolenice	24.70	114	e		P	03 33 06.7	+1.9
LANS	Liptovska Anna	25.00	110	e		P	03 33 10.4	+2.9
NIE	Niedzica	25.13	109	eP		P	03 33 04.8	-3.9
VYHS	Vyhne	25.27	112	e		P	03 33 10.6	+0.7
SOKA	Soboth	25.29	120	eP		P	03 33 10.8	+0.6
	comp=Z,4.0nm,1.3s							
KLMR	Klimovskoe	25.67	72	eP		P	03 33 11.6	-1.8
	comp=Z,7.5nm,1.1s							
KLMR	Klimovskoe	25.67	72	e		P	03 33 11.7	-1.7
KLMR				AMP			03 33 27.7	
	comp=Z,10.0nm,1.4s							
KWP	Kalwaria Pacla	25.95	106	P		P	03 33 16.6	+0.5
PSZ	Piszkesteto	26.16	112	P		P	03 33 18.1	+0.1
ESDC	Sonseca Array	26.24	156	P		P	03 33 19.3	+0.4
	comp=Z,1.4nm,1.0s,baz=347,slow=8.8,SNR=8.5							
ESDC	Sonseca Array	26.24	156	IAmb		IAmb	03 33 22.7	
	comp=Z,8.5nm,1.4s							
KOLS	Kolonicke sedl	26.32	107	eP		P	03 33 15.5	-3.9
KOLS				e			03 33 20.4	
AKBB	Malin Array Si	27.89	97	P		P	03 33 33.4	-0.1
AKBB				IAmb		IAmb	03 33 38.8	
	comp=Z,5.6nm,1.2s							
OBN	Obninsk	27.94	84	P		P	03 33 34.9	+1.0
BRTR	Keskin Array B	38.52	105	P		P	03 35 08.7	+2.4
	comp=Z,1.8nm,0.9s,baz=339,slow=7.7,SNR=5.1							
BRTR				LR		LR	03 51 42.3	
	comp=Z,15nm,18.4s,baz=141,slow=37							
AKH	Akhalkalaki	41.31	94	P		P	03 35 31.6	+2.2
AKH				IAmb		IAmb	03 35 35.8	
	comp=Z,5.7nm,1.0s							
ULM	Lac du Bonnet	41.56	289	P		P	03 35 32.6	+1.4
ABKAR	Akbulak array	42.06	73	P		P	03 35 34.9	-0.3
TOLK	Toolik Lake Re	42.76	336	P		P	03 35 40.9	+0.1
TOLK				IAmb		IAmb	03 35 43.3	
	comp=Z,7.9nm,1.1s							
BMAR	Burnt Mountain	42.91	333	P		P	03 35 42.8	+0.8
BRVK	Borovoye	43.20	62	P		P	03 35 43.6	-0.9
IL31		45.70	332	P		P	03 36 04.7	+0.5
IL31				IAmb		IAmb	03 36 06.4	
	comp=Z,8.7nm,1.4s							
ILAR	Eielson Array	45.70	332	P		P	03 36 05.2	+0.9
	comp=Z,3.3nm,1.2s,baz=24,slow=5.5,SNR=17							
ILAR				PcP		PcP	03 37 42.4	+0.4
	comp=Z,0.5nm,0.8s,baz=12,slow=4.6,SNR=3.8							
ILAR	Eielson Array	45.70	332	P		P	03 36 05.0	+0.7
MDM	Murphy Dome	45.79	333	P		P	03 36 06.0	+0.9
IMAR	Indian Mountai	45.87	337	P		P	03 36 06.5	+0.8
BCAR	Beaver Creek A	46.11	328	P		P	03 36 07.8	+0.1
O44A	Mansfield	46.53	274	P		P	03 36 13.4	+2.3
DHY	Denali Highway	47.31	332	P		P	03 36 14.9	-2.3
ZAA0	Zalesovo Array	47.70	51	P		P	03 36 19.5	-0.6
ZAA0				IAmb		IAmb	03 37 58.9	
	comp=Z,5.4nm,1.4s							
ZALV	Zalesovo Beam	47.70	51	P		P	03 36 20.3	+0.2
	comp=Z,0.5nm,0.4s,baz=330,slow=6.1,SNR=3.8							
ZALV	Zalesovo Beam	47.70	51	P		P	03 36 19.5	-0.6
KURK	Kurchatov	48.18	58	P		P	03 36 23.3	-0.5
KURK				IAmb		IAmb	03 36 24.0	
	comp=Z,3.7nm,1.1s							
KURBB	Kurchatov Arra	48.23	58	P		P	03 36 23.7	-0.5
	comp=Z,1.9nm,0.9s,baz=320,slow=7.5,SNR=14							
TKL	Tuckaleechee C	48.27	266	LR		LR	03 53 33.0	
	comp=Z,26nm,18.9s,baz=332,slow=32							
KK31	Karatay Array	51.34	70	P		P	03 36 48.2	+0.1
KKAR	Karatay Array	51.34	70	P		P	03 36 47.4	-0.6
BOZ	Bozeman (W)	51.58	297	IAmb		IAmb	03 36 51.7	
	comp=Z,7.7nm,1.4s							
H17A	Grant Village	52.17	295	IAmb		IAmb	03 37 00.0	
	comp=Z,6.1nm,1.3s							
MCMT	McKenzie Canyo	52.69	297	P		P	03 36 59.8	+1.5
MKAR	Makanchi Array	52.79	58	P		P	03 36 58.9	+0.1
	comp=Z,1.7nm,1.1s,baz=335,slow=9.5,SNR=3.1							
TORD	Torodi Ar. Bea	53.13	156	P		P	03 37 01.6	+0.1
	comp=Z,1.4nm,0.7s,baz=342,slow=8.2,SNR=3.8							
PDAR	Pinedale Array	53.14	293	P		P	03 37 01.6	0.0
	comp=Z,1.5nm,0.8s,baz=53,slow=6.1,SNR=12							
PDAR	Pinedale Array	53.14	293	P		P	03 37 00.9	-0.8
N23A	Red Feather La	53.26	289	P		P	03 37 03.6	+1.0
BTK	Batken	54.03	71	P		P	03 37 08.6	+0.6
GAR	Garm	54.72	73	P		P	03 37 13.4	+0.3
WMOK	Wichita Mounta	55.49	279	P		P	03 37 19.3	+0.6
AOPR	Arecibo Observ	56.62	239	P		P	03 37 28.2	+1.4
PV11	David Mesa, Pa	56.66	290	P		P	03 37 28.7	+1.6
PV03	Paradox Valley	56.69	290	IAmb		IAmb	03 37 28.6	
	comp=Z,3.2nm,1.0s							
MSU	Marysvale	57.80	292	P		P	03 37 35.7	+0.5
JCT	Junction City	59.59	277	P		P	03 37 48.4	+0.8
ULN	Ulaanbaatar	59.86	40	P		P	03 37 51.1	+1.8
TXAR	Lajitas Array	62.23	280	P		P	03 38 06.1	+0.5
	comp=Z,0.8nm,1.0s,baz=57,slow=3.3,SNR=4.8							
PETF	Flores	67.24	261	P		P	03 38 40.7	+2.4

*NNC **07** 03:28:45.7±0.7, 42.°13N×77.°68E, h0km, mb3.4, mpv3.5,*
Error ellipse: s-maj=4.6km s-min=2.2km az=179.0
*SOME **07** 03:28:46.8, 42.°13N×77.°67E, h15km*
*KRNET **07** 03:28:46.8±0.1, 42.°13N×77.°67E, h20km, mb3.2*
ISC 07 03:28:47.7±1.1, **42.°17N**±0.°04×**77.°63E**±0.°02, **h12**km±9km,
n69, σ1§**33**/127, **37C-35D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KDJ	Kajisay	0.34	263	⇓iP		Pg	03 28 53.9	-0.8
KDJ	baz=69			⇓iS		Sg	03 28 59.2	-0.1
ANVS	Anan'yevo	0.61	2	⇓iP		Pg	03 28 59.2	-0.5
ANVS	baz=60			⇓iS		Sg	03 29 08.3	+0.5
PRZ	Przheval'sk	0.65	61	⇑iP		Pg	03 28 59.2	-1.1
PRZ	baz=58			⇑iS		Sg	03 29 08.4	-0.5
ULHL	Ulahol	1.04	274	⇑iP		Pb	03 29 06.8	-1.0
ULHL	baz=76			⇑iS		Sb	03 29 21.0	-0.5
SATY	Saty	1.05	32	⇓iP		Pb	03 29 06.5	-1.5
SATY	21nm,0.1s			⇓iS		Sb	03 29 20.5	-1.4
SATY	Saty	1.05	32	P		Pb	03 29 06.5	-1.5
SATY	21nm,0.1s			S		Sb	03 29 20.5	-1.4
MDOK	Medeo	1.08	337	⇓eP		Pb	03 29 07.5	-1.0
MDOK	baz=36			⇓iS		Sb	03 29 22.4	-0.2
MDOK	Medeo	1.08	337	⇓eP		Pb	03 29 07.5	-1.0
MDOK	12nm,0.1s			⇓iS		Sb	03 29 22.5	-0.2
MDOK	Medeo	1.08	337	Pg		Pb	03 29 07.7	-0.9
MDOK	12nm,0.1s			Lg		Lg	03 29 22.5	
KOTS	Kotyrbulak	1.13	340	⇑eP		Pn	03 29 08.5	-1.1
KOTS	baz=40			⇓iS		Sn	03 29 24.4	-0.7
KOTS	Kotyrbulak	1.13	340	⇑eP		Pn	03 29 08.5	-1.1
KOTS	20nm,0.2s			⇓iS		Sn	03 29 24.4	-0.7
KOTS	Kotyrbulak	1.13	340	P		Pn	03 29 08.5	-1.1
KOTS	20nm,0.2s			S		Sn	03 29 24.7	-0.4
IZV	Izvestkoviy	1.15	319	⇓eP		Pb	03 29 09.3	-0.3
IZV	baz=19			⇑iS		Sg	03 29 25.4	+0.6
IZV	Izvestkoviy	1.15	319	⇓eP		Pb	03 29 09.2	-0.3
IZV	5.3nm,0.1s			⇑iS		Sg	03 29 25.3	+0.6
IZV	29nm,0.1s			S		Sg	03 29 25.4	+0.6
KNDC	Almaty	1.16	335	⇓iP		Pn	03 29 08.3	-1.5
KNDC	13nm,0.5s			⇑iS		Sg	03 29 25.5	+0.5
AAA	Alma-Ata	1.16	333	⇓iP		Pb	03 29 09.6	-0.3
AAA	baz=33			⇓iS		Sg	03 29 26.2	+0.9
AAA	Alma-Ata	1.16	333	⇓iP		Pb	03 29 09.6	-0.3
AAA	57nm,0.2s			⇓iS		Sg	03 29 26.2	+0.9
AAA	Alma-Ata	1.16	333	P		Pb	03 29 09.5	-0.3
AAA	57nm,0.2s			S		Sg	03 29 26.2	+0.9
BOOM	Boomskoye usch	1.30	285	⇑iP		Pn	03 29 11.2	-0.7
BOOM	baz=86			⇑iS		Sn	03 29 29.0	-0.3
MTBS	Maitube	1.31	318	⇓iP		Pb	03 29 12.0	-0.3
MTBS	baz=18			⇓iS		Sg	03 29 30.0	+0.1
MTBS	Maitube	1.31	318	⇓iP		Pb	03 29 12.0	-0.3
MTBS	3.9nm,0.1s			⇓iS		Sg	03 29 29.9	+0.1
MTBS	Maitube	1.31	318	P		Pb	03 29 12.0	-0.3
MTBS	3.9nm,0.1s			S		Sg	03 29 29.8	0.0
KURS	Kuram	1.37	17	⇑iP		Pb	03 29 12.6	-0.8
KURS	baz=15			⇑iS		Sb	03 29 31.0	0.0
KURS	Kuram	1.37	17	⇑iP		Pb	03 29 12.6	-0.8
KURS	6.8nm,0.1s			⇑iS		Sb	03 29 31.0	0.0
KURS	Kuram	1.37	17	P		Pb	03 29 12.6	-0.8
KURS	6.8nm,0.1s			S		Sb	03 29 30.4	-0.6
UZB	Uzynbulak	1.41	46	⇑iP		Pn	03 29 12.6	-0.9
UZB	baz=44			⇓iS		Sb	03 29 31.4	-0.8
UZB	Uzynbulak	1.41	46	⇑iP		Pn	03 29 12.6	-0.9
UZB	19nm,0.2s			⇓iS		Sb	03 29 31.4	-0.8
UZB	Uzynbulak	1.41	46	P		Pn	03 29 12.6	-0.9
UZB	19nm,0.2s			S		Sb	03 29 31.5	-0.7
KPKS	Kokpek	1.51	30	⇓iP		Pb	03 29 14.4	-1.3
KPKS	baz=29			⇑iS		Sb	03 29 34.6	-0.3
KPKS	Kokpek	1.51	30	⇓iP		Pb	03 29 14.4	-1.3
KPKS	59nm,0.1s			⇑iS		Sb	03 29 34.6	-0.3
KST	Kastek	1.51	306	⇓eP		Pb	03 29 15.2	-0.7
KST	5.5nm,0.2s			⇓eS		Sb	03 29 35.8	+0.8
KST	Kastek	1.51	306	P		Pb	03 29 15.1	-0.7
KST	5.5nm,0.2s			S		Sb	03 29 35.8	+0.8
SHLS	Shalkode	1.67	53	eP		Pg	03 29 21.8	+2.1
SHLS	baz=57			eS		Sg	03 29 47.1	+5.7
SHLS	Shalkode	1.67	53	eP		Pg	03 29 21.8	+2.1
SHLS	15nm,0.2s			eS		Sg	03 29 47.2	+5.7
SHLS	Shalkode	1.67	53	Pg		Pg	03 29 21.8	+2.1
SHLS	15nm,0.2s			Lg		Lg	03 29 47.2	
TKM2	Tokmak 2	1.68	297	⇑iP		Pb	03 29 18.0	-0.8
TKM2	baz=98			⇑iS		Sb	03 29 40.9	+0.9
TKM2	Tokmak 2	1.68	297	⇓P		Pn	03 29 16.2	-1.0
TKM2	1.5nm,0.3s			⇑S		Sb	03 29 39.7	-0.3
KTBS	Karatobe	1.69	336	⇑iP		Pb	03 29 18.6	-0.3
KTBS	5.4nm,0.2s			⇓iS		Sg	03 29 41.4	-0.7
KTBS	Karatobe	1.69	336	P		Pb	03 29 18.6	-0.3
KTBS	5.4nm,0.2s			S		Sg	03 29 41.4	-0.7
CHKK	Chushkaly	1.75	344	⇓iP		Pb	03 29 19.4	-0.4
CHKK	baz=44			⇓iS		Sb	03 29 43.0	+1.3
CHKK	Chushkaly	1.75	344	⇓iP		Pb	03 29 19.4	-0.4
CHKK	20nm,0.3s			⇓iS		Sb	03 29 43.0	+1.3
CHKK	Chushkaly	1.75	344	P		Pb	03 29 19.3	-0.5
CHKK	17nm,0.5s			S		Sb	03 29 42.4	+0.8
KZA	Kyzart	1.78	268	⇑iP		Pb	03 29 19.5	-1.0
KZA	baz=69			⇑iS		Sb	03 29 43.1	+0.2
PDGK	Podgornoye	1.79	49	P		Pb	03 29 18.9	-1.7
PDGK	15nm,0.2s			S		Sb	03 29 41.8	-1.2
PDGK	Podgornoye	1.79	49	⇑P		Pn	03 29 17.2	-1.5
PDGK	8.5nm,0.3s			⇑S		Sb	03 29 41.4	-1.6
KUU	Kurty	1.96	332	eP		Pb	03 29 23.3	-0.2
KUU	3.9nm,0.1s			eS		Sb	03 29 49.6	+1.7
KUU	Kurty	1.96	332	Pg		Pb	03 29 23.3	-0.2
KUU	3.9nm,0.1s			Lg		Lg	03 29 49.6	
MNBS	Baschi	1.99	16	eP		Pb	03 29 23.3	-0.6
MNBS	22nm,0.3s			eS		Sg	03 29 50.1	-1.4
MNBS	Baschi	1.99	16	Pg		Pb	03 29 23.3	-0.6
MNBS	22nm,0.3s			Lg		Lg	03 29 50.1	
ARXS	Arharly	2.04	4	eP		Pb	03 29 23.9	-0.9
ARXS	14nm,0.1s			eS		Sb	03 29 50.5	+0.1
ARXS	Arharly	2.04	4	Pg		Pb	03 29 24.0	-0.9
ARXS	14nm,0.1s			Lg		Lg	03 29 50.5	
KBK	Karagaybulak	2.05	285	⇑iP		Pb	03 29 23.2	-1.8
KBK	baz=85			⇑iS		Sb	03 29 49.5	-1.0
KRBS	Karabastau	2.10	317	eP		Pb	03 29 25.5	-0.2
KRBS	2.5nm,0.2s			eS		Sb	03 29 53.1	+1.4
KRBS	Karabastau	2.10	317	Pg		Pb	03 29 25.5	-0.2
KRBS	2.5nm,0.2s			Lg		Lg	03 29 53.1	
CHMS	Chumysh	2.28	292	⇑iP		Pb	03 29 26.8	-2.1
CHMS	baz=93			⇑iS		Sb	03 29 55.4	-1.8
KTMS	Ketmen	2.37	57	eP		Pb	03 29 29.3	-1.2
KTMS	3.3nm,0.1s			eS		Sb	03 29 59.6	-0.1
KTMS	Ketmen	2.37	57	Pg		Pb	03 29 29.3	-1.2
KTMS	3.3nm,0.1s			Lg		Lg	03 29 59.7	
SGDS	Sogindy	2.55	301	Pg		Pb	03 29 32.9	-0.7
SGDS	3.8nm,0.3s			Lg		Lg	03 30 05.6	
USP	Ospenovka	2.56	296	⇑eP		Pn	03 29 30.6	+1.5
USP	baz=97			⇑iS		Sb	03 30 02.2	-2.8
DJR	Jarkent	2.67	35	eP		Pb	03 29 34.7	-0.9
DJR	2.9nm,0.2s			eS		Sb	03 30 08.8	+0.4
DJR	Jarkent	2.67	35	Pg		Pb	03 29 33.8	-1.8
DJR	3.8nm,0.3s			Lg		Lg	03 30 07.4	
TDK	Taldyqorghan	2.88	11	eP		Pb	03 29 39.5	+0.3
TDK	50nm,0.2s			eS		Sb	03 30 17.1	+2.7
EKS2	Erkin-Say	2.90	281	⇑iP		Pn	03 29 34.9	+1.0
EKS2	baz=82			⇑iS		Sn	03 30 09.8	+1.1
AML	Almayashu	2.93	271	⇑iP		Pn	03 29 35.6	+1.0
AML	baz=71			⇑iS		Sn	03 30 11.1	+1.2
MRKS	Merke	3.31	281	eP		Pb	03 29 47.0	+0.5
MRKS	1.2nm,0.2s			eS		Sb	03 30 30.0	+3.2
MRKS	Merke	3.31	281	Pg		Pb	03 29 47.0	+0.5
MRKS	1.2nm,0.2s			Lg		Lg	03 30 30.0	
BTLS	Baital	3.87	319	eP		Pb	03 29 57.6	+1.6
BTLS	1.1nm,0.4s			eS		Sg	03 30 48.2	-3.9
BTLS	Baital	3.87	319	Pg		Pb	03 29 57.6	+1.6
BTLS	1.1nm,0.4s			Lg		Lg	03 30 48.2	
BTLS	1.1nm,0.2s							

*TAP **07** 03:29:37.5, 25.°26N×122.°25E, h231km, ML4.2, D*
*JMA **07** 03:29:39.6±0.2, 25.°15N×122.°19E, h210km±2km, M4.2*
*IDC **07** 03:29:40.4±5.6, 25.°30N×122.°17E, h245km±58km, mb3.3/5,*
mb1 3.4/7, mb1mx3.0/61, mbtmp3.8/7, Error ellipse:
s-maj=45.0km s-min=15.7km az=80.0
ISC 07 03:29:37.9±0.7, **25.°27N**±0.°05×**122.°21E**±0.°03, **h221**km±5km,
n136, σ0§**74**/202, **mb3.5**/5, **33D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PCYT	Pengchaiyu	0.38	341	⇓iP		Pn	03 30 08.5	+1.5
NWF	baz=337 Wu-fen Shan	0.43	243	P		Pn	03 30 07.9	+0.6
WFSB	baz=245 Wu-fen Shan	0.43	243	P		Pn	03 30 07.9	+0.7
WFSB	baz=245			S		S	03 30 30.2	+0.1
TIPB	Shuangxi	0.46	230	i P		Pn	03 30 07.8	+0.5
TIPB	baz=232			eS		S	03 30 30.0	-0.3
EGS	baz=213	0.49	211	eP		Pn	03 30 08.2	+0.8
NTC	Toucheng	0.54	220	P		Pn	03 30 07.9	+0.4
NTC	baz=222			eS		S	03 30 30.5	-0.1
YM08	YM08	0.57	262	eP		Pn	03 30 08.1	+0.4
YM11	baz=262 YM11	0.58	260	eP		Pn	03 30 09.0	+1.2
YM01	baz=260 YM01	0.59	258	P		Pn	03 30 08.4	+0.6
YM10	baz=259 YM10	0.60	259	eP		Pn	03 30 08.3	+0.5
YM04	baz=260 YM04	0.62	259	i P		Pn	03 30 08.5	+0.6
TWA	baz=260 Mucha	0.64	243	i P		Pn	03 30 08.5	+0.6
TWA	baz=244			eS		S	03 30 32.6	+1.2
ILA	Ilan	0.65	220	eP		Pn	03 30 09.7	+1.7
TAP1	baz=221 Taipei	0.66	250	eP		Pn	03 30 09.0	+1.0
TAP	baz=251 Taipei	0.68	250	P		Pn	03 30 08.9	+0.9
NTST	baz=251 Danshui	0.69	262	P		Pn	03 30 08.8	+0.7
TATO	baz=262 Taipei	0.71	246	eP		Pn	03 30 08.6	+0.3
TATO	baz=246			eS		S	03 30 31.5	-0.4
TWC	baz=246 Suao	0.73	206	P		Pn	03 30 08.7	+0.3
TWC	baz=208			eS		S	03 30 30.4	-1.7
TWE	Neicheng	0.73	222	P		Pn	03 30 09.1	+0.7
TWE	baz=223			eS		S	03 30 32.7	+0.6
TWS1	Kuangyinshan	0.73	257	i P		Pn	03 30 09.1	+0.8
TWS1	baz=257			eS		S	03 30 32.4	+0.3
NWLT	Wulai	0.81	233	⇓eP		Pn	03 30 09.0	+0.2
NWLT	baz=234			eS		S	03 30 31.8	-1.0
ENTT	Nioudou	0.86	223	i P		Pn	03 30 09.7	+0.7
ENTT	baz=224			eS		S	03 30 33.5	+0.2
ENAH	Nanao	0.89	204	eP		Pn	03 30 10.1	+0.9
ENAH	baz=205			i S		S	03 30 33.3	-0.3
NDT	Datong Townshi	0.92	224	⇓P		Pn	03 30 09.9	+0.5
NDT	baz=225			S		S	03 30 34.0	+0.1
ENA	Nanau	0.94	207	eP		Pn	03 30 10.4	+0.9
ENA	baz=208			S		S	03 30 33.9	-0.2
NCU	National Centr	0.97	252	P		Pn	03 30 10.6	+0.9
NCU	baz=252			S		S	03 30 34.4	+0.1
NSK	Sanguang	0.97	233	⇓eP		Pn	03 30 09.9	+0.2
NSK	baz=233			eS		S	03 30 33.2	-1.3
JYNG	Yonagunijimaku	1.05	140	P		Pn	03 30 10.4	+0.2
JYNG				S		S	03 30 34.1	-1.2
NHW	Xinwu Township	1.08	256	P		Pn	03 30 11.2	+0.9
YOJ	baz=256 Yonaguni jima	1.09	138	P		Pn	03 30 11.0	+0.6
YOJ				S		S	03 30 35.0	-0.6
NNS	Nan Shan	1.12	223	⇓P		Pn	03 30 11.4	+0.6
NNS	baz=223			eS		S	03 30 36.5	+0.1
NNSB	Datong	1.12	222	⇓iP		Pn	03 30 11.4	+0.6
NNSB	baz=223			i S		S	03 30 36.1	-0.3
NNSH	Datong	1.12	222	⇓iP		Pn	03 30 11.3	+0.5
NNSH	baz=223			eS		S	03 30 35.8	-0.5
SBCB	Hsinchu	1.21	247	P		Pn	03 30 12.0	+0.8
	baz=247							

HSN	Hsinchu	1.22 248	P	Pn	03 30 11.8	+0.6
	baz=248					
NACB	Ninganchiao	1.23 207	⇓eP	Pn	03 30 11.2	-0.2
	baz=208					
NACB			eS	S	03 30 36.7	-0.7
	baz=208					
ETLH	Xiulin Townshi	1.25 212	⇓eP	Pn	03 30 11.8	+0.2
	baz=213					
ETLH			S	S	03 30 37.3	-0.5
	baz=213					
LIOB	Emei	1.25 240	⇓P	Pn	03 30 12.1	+0.6
	baz=241					
LIOB			eS	S	03 30 37.7	+0.1
	baz=241					
NSTT	Nanjuang	1.27 240	⇓eP	Pn	03 30 12.2	+0.5
	baz=240					
NSTT			eS	S	03 30 37.4	-0.4
	baz=240					
TWD	Chiawan	1.31 205	eP	Pn	03 30 11.9	-0.1
	baz=206					
TWD			eS	S	03 30 37.5	-1.0
	baz=206					
FUSS	Fushou	1.34 221	eP	Pn	03 30 13.5	+0.9
	baz=221					
FUSS			eS	S	03 30 39.5	0.0
	baz=221					
TWT	Tachien	1.38 223	eP	Pn	03 30 13.7	+1.0
	baz=224					
TWT			eS	S	03 30 40.7	+0.9
	baz=224					
TDCB	Techi	1.39 224	i P	Pn	03 30 13.5	+0.7
	baz=224					
TDCB			eS	S	03 30 39.9	0.0
	baz=224					
HWA	Hwalien	1.40 203	P	Pn	03 30 13.3	+0.6
	baz=204					
HWA			eS	S	03 30 39.9	+0.2
	baz=204					
WHF	Hehuan Shan	1.41 218	⇓eP	Pn	03 30 14.1	+0.8
	baz=218					
WHF			eS	S	03 30 40.9	+0.2
	baz=218					
NMLH	Miaoli	1.48 241	eP	Pn	03 30 14.1	+0.8
	baz=241					
NMLH			eS	S	03 30 40.8	0.0
	baz=241					
WHP	Taichung City	1.51 230	⇓P	Pn	03 30 14.3	+0.6
	baz=230					
WHP			eS	S	03 30 41.8	+0.3
	baz=230					
CHGB	Renai	1.53 218	eP	Pn	03 30 14.9	+0.9
	baz=219					
CHGB			eS	S	03 30 42.5	+0.5
	baz=219					
NSY	Sanyi	1.56 237	⇓P	Pn	03 30 15.0	+0.9
	baz=237					
NSY			eS	S	03 30 42.3	+0.2
	baz=237					
PTSB	Yuanli	1.59 239	⇓P	Pn	03 30 15.2	+0.9
	baz=239					
TWQ1	Liyutan	1.59 235	⇓eP	Pn	03 30 14.8	+0.5
	baz=235					
TWQ1			eS	S	03 30 42.7	+0.2
	baz=235					
ESL	Shilin	1.61 206	eP	Pn	03 30 14.0	-0.5
	baz=206					
IRIF	Iriomote-Funau	1.67 124	P	Pn	03 30 15.3	+0.4
IRIF			S	S	03 30 42.8	-0.8
WDJ	Dajia District	1.69 238	⇓P	Pn	03 30 16.1	+0.9
	baz=237					
WDJ			eS	S	03 30 44.3	+0.2
	baz=237					
EGFH	Guangfu	1.75 204	eP	Pn	03 30 15.2	-0.4
	baz=205					
EGFH			eS	S	03 30 44.5	-0.4
	baz=205					
TCU	Taichung	1.79 232	eP	Pn	03 30 17.0	+1.0
	baz=231					
TCU			eS	S	03 30 45.6	0.0
	baz=231					
VWDT	VWDT	1.79 213	⇓eP	Pn	03 30 17.2	+1.2
	baz=213					
VWDT			eS	S	03 30 46.0	+0.3
	baz=213					
SMLT	Sun Moon Lake	1.82 221	P	Pn	03 30 17.2	+0.7
	baz=221					
SMLT			eS	S	03 30 46.6	+0.2
	baz=221					
TYC	Yuchr	1.83 222	⇓P	Pn	03 30 17.0	+0.6
	baz=222					
TYC			eS	S	03 30 46.3	0.0
	baz=222					
SSLB	Suanglung	1.87 218	⇓P	Pn	03 30 17.3	+0.5
	baz=218					
SSLB			eS	S	03 30 47.4	+0.4
	baz=218					
HATJ	Hateruma jima	1.89 129	P	Pn	03 30 18.0	+1.1
HATJ			S	S	03 30 46.6	-0.6
HGSD	Ruisui	1.91 202	⇓P	Pn	03 30 17.7	+0.6
	baz=202					
WCHH	Zhanghua	1.91 232	P	Pn	03 30 17.9	+0.8
	baz=232					
JKRS	Kuro-shima	1.93 122	P	Pn	03 30 18.4	+1.1
JKRS			S	S	03 30 47.4	-0.5
WNT	Mingjian	1.96 225	⇓P	Pn	03 30 18.4	+0.8
	baz=225					
WNT			eS	S	03 30 48.9	+0.4
	baz=225					
WJS	Zhushan	1.97 223	P	Pn	03 30 18.4	+0.7
	baz=223					
WJS			eS	S	03 30 49.1	+0.4
	baz=223					
JIJ	Ishigaki jima	1.98 117	P	Pn	03 30 18.3	+0.5
JIJ			S	S	03 30 47.3	-1.4
WHYT	Xinyi Township	1.99 219	P	Pn	03 30 18.8	+0.8
	baz=219					
JISG	Ishigakijimahi	2.03 109	P	Pn	03 30 18.9	+0.7
JISG			S	S	03 30 48.7	-0.8
YULB	Yu-li	2.04 204	eP	Pn	03 30 17.9	-0.6
	baz=204					
EYUL	Yuli	2.08 203	eP	Pn	03 30 18.7	-0.1
	baz=203					
TWF1	Yuli	2.08 204	eP	Pn	03 30 18.4	-0.4
	baz=204					
ALS	Alishan	2.17 216	⇓eP	Pn	03 30 20.7	+0.7
	baz=216					
ALS			eS	S	03 30 52.7	0.0
	baz=216					
RLNB	Erlin	2.17 231	P	Pn	03 30 20.7	+1.0
	baz=231					
CHN5	Tsauling	2.17 220	P	Pn	03 30 20.5	+0.7
	baz=220					
CHN5			eS	S	03 30 52.2	-0.2
	baz=220					
WDLH	Douliu	2.19 224	⇓P	Pn	03 30 20.6	+0.7
	baz=224					
WDLH			eS	S	03 30 52.4	-0.1
	baz=224					
PTTC	Pingtan	2.22 276	eP	Pn	03 30 20.1	0.0
	baz=275					
MATB	Ma-tsu	2.22 294	eP	Pn	03 30 20.4	+0.3
	baz=292					
FULB	Fuli	2.22 202	eP	Pn	03 30 20.4	+0.1
	baz=202					
WTK	Tuku	2.29 227	eP	Pn	03 30 21.4	+0.6
	baz=227					
WTK			eS	S	03 30 53.6	-0.7
	baz=227					
CHKT	Chengkung	2.29 200	eP	Pn	03 30 21.6	+0.6
	baz=200					
ELDTW	Lidau	2.34 208	P	Pn	03 30 22.1	+0.5
	baz=208					
CHN2	Minshiung	2.34 223	P	Pn	03 30 22.3	+0.9
	baz=223					
JTJ	Tarama	2.35 105	P	Pn	03 30 22.5	+1.0
JTJ			S	S	03 30 55.2	-0.2
CHY	Chiayi	2.40 223	P	Pn	03 30 22.6	+0.6
	baz=223					
EDH	Donghe	2.43 200	eP	Pn	03 30 22.1	-0.3
	baz=200					
TPUB	Ta-pu	2.43 217	⇓eP	Pn	03 30 23.0	+0.5
	baz=217					
TPUB			eS	S	03 30 56.6	-0.5
	baz=217					
XPSS	Dashiqiu	2.46 313	eP	Pn	03 30 23.0	+0.4
	baz=311					
STYT	Tauyuan	2.48 213	⇓P	Pn	03 30 23.8	+0.8
	baz=212					
STYT			eS	S	03 30 57.7	-0.4
	baz=212					
WTP	Ta-pu	2.48 216	⇓P	Pn	03 30 23.5	+0.5
	baz=216					
VWUC	VWUC	2.52 264	eP	Pn	03 30 23.3	+0.1
	baz=263					
LYJJ	Jianjiangzhen	2.55 301	eP	Pn	03 30 24.1	+0.5
	baz=299					
LONT	Longtian	2.55 203	eP	Pn	03 30 23.2	-0.5
	baz=203					
SNST	Tainan City	2.57 218	eP	Pn	03 30 24.5	+0.6
	baz=218					
SNST			eS	S	03 30 59.2	-0.5
	baz=218					
CHN1	Nanshi	2.58 217	⇓P	Pn	03 30 24.7	+0.6
	baz=217					
CHN1			eS	S	03 30 59.5	-0.5
	baz=217					
ICHU	Yijhu	2.59 223	eP	Pn	03 30 24.7	+0.6
	baz=223					
SGST	Jiashian	2.63 215	eP	Pn	03 30 24.6	0.0
	baz=214					
SGST			eS	S	03 31 00.4	-0.6
	baz=214					
TWG	Pinlang	2.65 203	eP	Pn	03 30 25.3	+0.5
	baz=203					
TWGBT	Beinan	2.65 203	eP	Pn	03 30 25.4	+0.6
	baz=203					
LDUT	Ludao	2.67 195	eP	Pn	03 30 25.0	0.0
	baz=195					
JIRB	Irabujima	2.73 99	P	Pn	03 30 26.6	+1.1
JIRB			S	S	03 31 02.0	-0.6
JIKM	Ikemajima	2.78 96	P	Pn	03 30 27.5	+1.4
JIKM			S	S	03 31 03.8	+0.1
SCLT	Jiali	2.78 222	eP	Pn	03 30 27.2	+1.0
	baz=221					
PTMZ	Houxiangcun	2.81 266	⇓eP	Pn	03 30 26.6	+0.2
	baz=265					
SCST	Cishan	2.84 214	eP	Pn	03 30 28.1	+1.2
	baz=214					
JMJ2	Miyako jima3	2.88 100	P	Pn	03 30 28.8	+1.5
JMJ2			S	S	03 31 06.0	+0.3
SSD	Sandimen	2.90 210	⇓eP	Pn	03 30 28.5	+1.0
	baz=210					
ECL	Taimali	2.90 204	eP	Pn	03 30 29.1	+1.6
	baz=203					
TSMG	Majia	2.92 210	⇓eP	Pn	03 30 28.8	+0.9
	baz=209					
TSMG			eS	S	03 31 06.3	-0.5
	baz=209					
TWM1	Shoushan	2.93 214	eP	Pn	03 30 29.9	+2.0
	baz=214					
JOGS	Gusukube	2.95 99	P	Pn	03 30 29.7	+1.7
JOGS			S	S	03 31 07.4	+0.3
PNG	Penghu	2.95 236	eP	Pn	03 30 28.2	+0.1
	baz=235					
PHUB	P'eng-hu	2.97 235	eP	Pn	03 30 29.1	+0.7
	baz=234					
MHZQ	Yeshan	2.98 287	eP	Pn	03 30 29.1	+0.7
	baz=286					
MASBT	Mashibuluo	3.01 209	⇓eP	Pn	03 30 29.8	+0.9
	baz=209					
MASBT			eS	S	03 31 07.9	-0.7
	baz=209					
SNJT	Kaohsiung City	3.03 215	eP	Pn	03 30 30.4	+1.3
	baz=214					
WDGT	Dungji	3.07 230	eP	Pn	03 30 30.0	+0.6
	baz=229					
EAST	Anshuo	3.13 204	eP	Pn	03 30 31.5	+1.2
	baz=203					
TAW	Tawu	3.14 203	eP	Pn	03 30 31.5	+1.2
	baz=202					
SSPT	Xinbi	3.15 209	eP	Pn	03 30 31.7	+1.3
	baz=209					
SCZT	Fangliau	3.23 207	⇓eP	Pn	03 30 32.1	+0.8
	baz=207					
LAY	Lan-yu	3.27 191	eP	Pn	03 30 32.5	+0.6
	baz=191					
SLIU	Shizi	3.30 203	eP	Pn	03 30 32.9	+0.7
	baz=203					
WLCH	Liuqiu	3.35 210	eP	Pn	03 30 34.7	+1.9
	baz=210					
TWK1	Hengchun	3.55 202	eP	Pn	03 30 36.0	+0.9
	baz=201					
TWKBT	Hengchun	3.55 201	eP	Pn	03 30 35.9	+0.8
	baz=201					
KNMB	Chin-men Tao	3.56 258	eP	Pn	03 30 35.1	0.0
	baz=257					
TSEB	Hengchuen, Pin	3.56 200	eP	Pn	03 30 36.6	+1.4
	baz=200					
AXDP	Jialang	3.86 265	eP	Pn	03 30 39.4	+0.7
	baz=264					
KSRS	Korea Array	13.09 20	P	P	03 32 37.8	-0.3
	0.3nm,0.3s,baz=199,slow=11,SNR=11					
MJAR	Matsushiro Arr	17.71 47	P	Pn	03 33 30.0	-1.4
	0.0nm,0.3s,baz=228,slow=8.8,SNR=2.6					
SONM	Songino Array	25.76 335	P	P	03 34 48.2	-0.1
	0.7nm,0.6s,baz=142,slow=7.3,SNR=2.7					
WRA	Warramunga Arr	46.46 164	P	P	03 37 43.0	0.0
	1.6nm,0.5s,baz=347,slow=8.7,SNR=32					
ASAR	Alice Springs	49.95 166	P	P	03 38 10.3	+0.8
	0.9nm,0.6s,baz=352,slow=6.6,SNR=16					
ASAR			PcP	PcP	03 39 26.3	-0.1
	0.2nm,0.5s,baz=348,slow=3.0,SNR=1.8					
ILAR	Eielson Array	67.83 28	P	P	03 40 11.9	+0.1
	0.3nm,0.6s,baz=282,slow=6.3,SNR=2.7					
ARCES	ARCESS Array B	68.89 338	P	P	03 40 18.1	-0.2
	3.1nm,0.9s,baz=59,slow=6.6,SNR=2.5					

IDC 07 03:41:17.6±1.4, 4°.45S×151°.19E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/44, mbtmp3.7/4, Error ellipse: s-maj=48.7km s-min=10.4km az=163.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.85	80	Pg	Pg	03 41 33.9	+0.1
	362nm,0.3s,baz=272,slow=1.7,SNR=99						
KRVT				Lg	Lg	03 41 45.5	
	354nm,0.3s,baz=346,slow=22,SNR=6.4						
WRA	Warramunga Arr	22.51	225	P	P	03 46 18.8	-0.2
	1.2nm,0.7s,baz=50,slow=10.0,SNR=3.2						
ASAR	Alice Springs	25.36	219	P	P	03 46 47.1	+0.5
	1.1nm,0.6s,baz=59,slow=8.4,SNR=4.5						
FITZ	Fitzroy Crossi	28.43	239	P	P	03 47 13.2	-1.1
	1.1nm,0.9s,baz=77,slow=8.9,SNR=1.8						
ILAR	Eielson Array	82.45	22	P	P	03 53 42.3	+0.7
	0.3nm,0.6s,baz=240,slow=5.6,SNR=3.1						

*IDC **07** 03:44:52.5±3.1, 23°.96S×179°.97W, h510km±23km, mb3.3/7, mb1 3.4/8, mb1mx3.1/46, mbtmp4.2/8, Error ellipse: s-maj=41.2km s-min=29.6km az=129.0*

ISC 07 03:44:51.2±1.3, 24°.0S±0°.1×179°.9W±0°.2, h500km, n10, σ1§26/13, mb3.7/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.43	189	P	P	03 47 57.2	+1.9
	1.0nm,0.3s,baz=107,slow=13,SNR=5.9						
URZ				S	S	03 50 24.7	-2.3
	0.5nm,0.3s,baz=78,slow=21,SNR=8.4						
CTA	Charters Tower	31.56	270	P	P	03 50 33.2	+0.9
	4.7nm,0.4s,baz=93,slow=11,SNR=12						
ASAR	Alice Springs	42.10	261	P	P	03 51 58.8	-0.4
	1.1nm,0.5s,baz=97,slow=7.7,SNR=7.5						
WRA	Warramunga Arr	42.49	266	P	P	03 52 01.6	-0.6
	1.8nm,0.3s,baz=97,slow=8.1,SNR=60						
WRA				ScP	ScP	03 56 46.4	-0.3
	0.6nm,0.9s,baz=100,slow=3.4,SNR=3.6						
JAY	Jayapura	43.64	293	P	P	03 52 10.9	-0.4
	3.5nm,0.5s,baz=98,slow=6.7,SNR=5.3						
FITZ	Fitzroy Crossi	50.91	266	P	P	03 53 06.0	0.0
	0.8nm,0.4s,baz=109,slow=6.4,SNR=2.1						
MJAR	Matsushiro Arr	72.04	326	P	P	03 55 24.0	-0.1
	0.8nm,0.7s,baz=152,slow=7.3,SNR=4.2						
PETK	Petropavlovsk-	79.23	346	P	P	03 56 03.8	+0.1
	1.0nm,0.6s,baz=116,slow=9.8,SNR=2.6						
FINES	FINESS Array B	138.58	341	PKhKP	PKPpre	04 03 08.2	
	1.2nm,1.0s,baz=50,slow=4.3,SNR=2.0						
FINES				PKP	PKPdf	04 03 19.8	+0.7
	0.2nm,0.4s,baz=54,slow=2.4,SNR=3.8						
FINES				SKPbc	SKPbc	04 06 04.3	-2.2
	0.7nm,0.8s,baz=54,slow=2.6,SNR=3.8						
AKASG	Malin Array Be	145.11	327	PKPbc	PKPdf	04 03 30.6	-0.5
	0.7nm,0.3s,baz=43,slow=4.5,SNR=3.6						

TRN 07 03:51:13.1, 10°.44N×62°.04W, h11km, MD3.9, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.66	72	eP	Pg	03 51 25.3	-0.8
TRN				eS	Sb	03 51 36.5	+0.5
TOSP	Speyside	1.71	60	eP	Pn	03 51 42.8	-0.2
TOSP				eS	Sn	03 52 05.3	+0.5
GRGR	Grenville	1.73	13	eP	Pn	03 51 42.6	-0.6
GRGR				eS	Sb	03 52 06.0	-0.7
GRHS	Sauteurs	1.82	12	eP	Pn	03 51 45.1	+0.7
GRHS				eS	Sn	03 52 08.1	+0.6
ORIV	Oritupano	1.91	225	eP	Pn	03 51 45.2	-0.5
ORIV				eS	Sb	03 52 11.0	-1.0
GCMP	Grenada, Carri	2.12	17	eP	Pn	03 51 48.1	-0.5
GCMP				eS	Sn	03 52 15.3	+0.3
SVB	Belmont	2.92	15	eP	Pn	03 52 01.7	+2.1
SVB				eS	Sn	03 52 33.0	-1.8
SVCV	St. Vincent, C	2.95	17	eP	Pn	03 52 01.0	+1.0
SVCV				eS	Sn	03 52 36.2	+0.7
SVV	Soufriere Volc	2.98	16	eP	Pn	03 52 01.8	+1.4
SVV				eS	Sn	03 52 35.8	-0.3
MCLT	Moule a Chique	3.43	18	eP	Pn	03 52 07.7	+1.2
MCLT				eS	Sn	03 52 46.6	-0.6
SLB	Belfond	3.51	16	eP	Pn	03 52 09.2	+1.5
SLAC	Saint Lucia, A	3.62	18	eP	Pn	03 52 09.6	+0.5
SLAC				eS	Sn	03 52 52.1	+0.2
SLBI	Saint Lucia, B	3.71	16	eP	Pn	03 52 11.1	+0.6
SLBI				eS	Sn	03 52 53.8	-0.5
MPOM	Morne Pois Mar	4.15	16	eS	Sn	03 53 06.2	+1.2
BIM	Bigot	4.17	13	eP	Pn	03 52 17.4	+0.6
BIM	Bigot	4.17	13	eS	Sn	03 53 04.2	-1.3
MAGL	Barre de l'ile	5.53	8	eP	Pn	03 52 36.6	+1.1
ABD	La Joyeuse, An	6.03	5	eP	Pn	03 52 44.0	+1.7
BAUV	El Baul	6.10	256	eP	Pn	03 52 41.8	-1.4
BAUV	El Baul	6.10	256	eS	Sn	03 53 50.9	-2.2

*IDC **07** 04:18:01.3±1.4, 10°.37S×66°.46E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/28, mbtmp3.7/6, MS3.4/4, Ms1 3.5/4, ms1mx2.9/39, Error ellipse: s-maj=62.3km s-min=28.0km az=37.0*

ISC 07 04:18:03.2±1.4, 10°.4S±0°.3×66°.4E±0°.3, h14km, n19, σ0§65/10, mb3.8/6, MS3.5/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	6.56	66	T	T	04 26 28.1	
	baz=245,slow=75,SNR=175						
H08S3	Diego Garcia H	6.58	66	T	T	04 26 31.8	
	baz=245,slow=75,SNR=159						
H08S2	Diego Garcia H	6.58	66	T	T	04 26 18.8	
	baz=245,slow=75,SNR=167						
CMAR	Chiang Mai Arr	43.02	48	LR	LR	04 42 15.9	
	comp=Z,27nm,18.7s,baz=135,slow=34						
H01W3	Cape Leeuwin H	49.74	127	T	T	05 20 03.4	
	baz=287,slow=75,SNR=10						
H01W2	Cape Leeuwin H	49.74	127	T	T	05 20 07.0	
	baz=287,slow=75,SNR=11						
H01W1	Cape Leeuwin H	49.76	127	T	T	05 20 10.3	
	baz=287,slow=75,SNR=12						
FITZ	Fitzroy Crossi	57.70	105	LR	LR	04 47 55.8	
	comp=Z,36nm,21.4s,baz=272,slow=31						
MKAR	Makanchi Array	58.67	13	P	P	04 27 59.6	-0.6
	0.5nm,0.7s,baz=206,slow=8.8,SNR=2.2						
ASAR	Alice Springs	65.35	111	P	P	04 28 45.8	+0.1
	0.8nm,1.0s,baz=275,slow=6.5,SNR=2.8						
WRA	Warramunga Arr	65.87	107	P	P	04 28 48.9	-0.2
	1.3nm,1.0s,baz=280,slow=5.8,SNR=4.9						
SONM	Songino Array	67.94	28	P	P	04 29 02.5	+0.8
	1.2nm,1.2s,baz=235,slow=6.4,SNR=1.9						
SONM				LR	LR	04 57 55.8	
	comp=Z,48nm,20.8s,baz=242,slow=35						
KSRS	Korea Array	74.62	46	LR	LR	05 02 34.6	
	comp=Z,24nm,18.6s,baz=195,slow=36						
GERES	GERESS Array B	74.99	327	P	P	04 29 44.4	+0.2
	0.1nm,0.2s,baz=140,slow=5.2,SNR=3.9						
ESDC	Sonseca Array	81.90	313	P	P	04 30 22.9	+0.2
	0.7nm,0.9s,baz=114,slow=4.2,SNR=6.3						
ULM	Lac du Bonnet	137.66	343	PKP	PKiKP	04 37 28.8	-0.1
	3.6nm,0.6s,baz=354,slow=9.2,SNR=3.6						
PDAR	Pinedale Array	147.56	354	PKPbc	PKPbc	04 37 46.5	-1.2
	0.3nm,0.7s,baz=80,slow=1.1,SNR=2.8						
NVAR	Mina Array Bea	151.76	8	PKPbc	PKiKP	04 37 59.3	+0.7
	0.8nm,0.8s,baz=307,slow=1.3,SNR=5.9						
TXAR	Lajitas Array	159.00	335	PKPab	PKPab	04 38 37.8	-0.1
	0.3nm,0.9s,baz=31,slow=4.2,SNR=3.2						

IDC 07 04:29:12.9±12.0, 35°.99N×70°.02E, h106km±93km, mb3.4/2, mb1 3.3/3, mb1mx2.9/35, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=134.1km s-min=29.1km az=153.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	9.72	285	P	Pn	04 31 29.8	0.0
	0.4nm,0.3s,baz=118,slow=16,SNR=2.5						
GEYT				S	Sn	04 33 17.7	+0.6
	0.4nm,0.3s,baz=150,slow=18,SNR=1.7						
ZALV	Zalesovo Beam	20.71	25	P	P	04 33 44.5	0.0
	1.3nm,0.5s,baz=214,slow=12,SNR=5.1						
TORD	Torodi Ar. Bea	64.92	268	P	P	04 39 41.3	0.0
	0.8nm,0.5s,baz=44,slow=6.0,SNR=1.6						

*IDC **07** 04:35:46.9±1.1, 21°.36S×178°.90W, h548km±11km, mb3.9/21, mb1 4.0/24, mb1mx3.9/35, mbtmp4.7/24, Error ellipse: s-maj=11.5km s-min=10.1km az=132.0*

*NEIC **07** 04:35:47.3±2.1, 21°.42S±0°.09×178°.9W±0°.1, h558km±5km, mb4.6/173, Error ellipse: s-maj=15.2km s-min=13.4km az=111.0*

*UNK **07** 04:35:48.0, 21°.47S×178°.88W, h560km*

*BGR **07** 04:36:02.6±0.0, 20°.24S×178°.27W, h587km±2km*

ISC 07 04:35:46.8±0.5, 21°.43S±0°.05×178°.83W±0°.06, h554km±5km, h554km; pP-P, n417, σ1§34/415, mb4.6/90, 26C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.71	321	P	P	04 37 17.0	+2.3
RIZ	Raoul Island	7.83	174	P	P	04 37 43.3	+0.5
RAO	Raoul Island	7.83	174	P	P	04 37 43.8	+1.0
	128nm,0.3s,baz=64,slow=8.1,SNR=7.9						
RAO				S	S	04 39 17.5	-0.6
	64nm,0.3s,baz=90,slow=20,SNR=1.7						
GLKZ	Green Lake	7.84	174	P	P	04 37 43.3	+0.4
GLKZ				S	S	04 39 17.7	-0.5
AFI	Afiamalu	10.05	43	P	P	04 38 03.7	-1.7
	5.3nm,0.3s,baz=243,slow=18,SNR=7.4						
AFI				S	S	04 39 51.4	-7.9
	5.4nm,0.3s,baz=252,slow=20,SNR=6.7						
DZM	Mont Dzumac	13.71	265	P	P	04 38 43.3	+0.2
	0.6nm,0.3s,baz=87,slow=16,SNR=6.5						
DZM	Mont Dzumac	13.71	265	P	P	04 38 43.4	+0.4
OUZ	Omahuta	15.27	204	P	P	04 39 00.5	+1.8
WCZ	Waipu Caves	15.64	201	P	P	04 39 03.5	+1.1
KUZ	Kuaotunu	15.98	196	P	P	04 39 06.5	+0.7
WIAZ	Waiheke Island	16.19	198	P	P	04 39 08.6	+0.9
MXZ	Matakaoa Point	16.27	188	P	P	04 39 07.9	-0.6
WTAZ	Waiatarua	16.48	199	P	P	04 39 11.6	+1.1
HAZ	Te Kaha	16.53	189	P	P	04 39 10.4	-0.5
PUZ	Puketiti	16.78	188	P	P	04 39 12.1	-1.0
TGRZ	Tauranga	16.79	194	P	P	04 39 15.6	+2.4
TOZ	Tahuroa Road	16.97	196	P	P	04 39 17.2	+2.4
KMRZ	Kaimai	16.98	194	P	P	04 39 17.5	+2.5
EDRZ	Edgecumbe	17.06	192	P	P	04 39 16.9	+1.2
KARZ	Kaharoa	17.07	193	P	P	04 39 18.2	+2.3
OMRZ	Omania	17.13	193	P	P	04 39 16.4	0.0
URZ	Urewera	17.14	191	P	P	04 39 14.1	-2.2
	6.8nm,0.3s,baz=310,slow=4.3,SNR=26						
URZ				S	S	04 42 00.3	-6.9
	1.0nm,0.3s,baz=90,slow=20,SNR=6.3						
URZ	Urewera	17.14	191	P	P	04 39 13.4	-2.9
URZ	Urewera	17.14	191	P	P	04 39 15.2	-1.1
MWZ	Matawai	17.14	190	P	P	04 39 16.0	-0.4
MWZ				S	S	04 42 03.6	-3.7
CNGZ	Carnagh Statio	17.19	188	P	P	04 39 18.2	+1.4
TARZ	Mount Tarawera	17.23	193	P	P	04 39 18.9	+1.6

RIGZ Rimuhau 17.47 189 P **P 04 39 19.1 -0.3**
RIGZ S **S 04 42 09.8 -2.9**
PRRZ Plateau Road 17.50 193 P **P 04 39 20.8 +1.0**
RTZ Ruatahuna 17.51 191 P **P 04 39 18.8 -1.0**
ALRZ Allen Road 17.58 193 P **P 04 39 19.1 -1.3**
SNGZ Shannon Statio 17.61 190 P **P 04 39 20.9 +0.2**
RAR Rarotonga 17.75 93 P **P 04 39 23.2 +1.0**
0.6nm,0.3s,baz=277,slow=6.1,SNR=3.8
RAR Rarotonga 17.75 93 IAmb IAmb 04 39 25.0
comp=Z,22nm,0.9s
RAHZ Arahi 17.78 190 P **P 04 39 22.3 +0.1**
MRHZ Matea Rd 17.82 192 P **P 04 39 23.2 +0.5**
WATZ Wairara 17.85 194 P **P 04 39 23.9 +1.0**
HIZ Hauiti 17.88 196 P **P 04 39 26.1 +3.0**
RATZ Rangitukua 17.99 194 P **P 04 39 22.5 -1.7**
NMHZ Naumai 18.00 191 P **P 04 39 23.9 -0.5**
RITZ Rihia Road 18.08 193 P **P 04 39 26.7 +1.7**
KATZ Kakaramea 18.11 194 P **P 04 39 27.6 +2.2**
BKZ Black Stump Fm 18.13 192 P **P 04 39 25.6 +0.1**
BKZ S **S 04 42 17.6 -5.9**
KRVZ Karewarewa 18.24 194 P **P 04 39 27.6 +1.0**
WTVZ West Tongariro 18.27 194 P **P 04 39 26.4 -0.5**
OTVZ Oturere 18.30 194 P **P 04 39 26.2 -0.9**
WNVZ Wahianoa 18.47 194 P **P 04 39 28.3 -0.4**
MOVZ Moawhango 18.51 193 P **P 04 39 28.6 -0.4**
BHHZ Black Hill Sta 18.53 193 P **P 04 39 27.2 -1.9**
PXZ Pawanui 18.91 190 P **P 04 39 32.8 +0.4**
PXZ S **S 04 42 36.1 +0.2**
PNHZ Pukenui 18.91 192 P **P 04 39 32.6 0.0**
WAZ Wanganui 19.02 195 P **P 04 39 34.6 +1.1**
TSZ Takapari Road 19.10 192 P **P 04 39 34.6 +0.4**
PRHZ Porangahau 19.17 191 P **P 04 39 35.2 +0.3**
DVHZ Dannevirke 19.29 192 P **P 04 39 35.9 -0.1**
BFZ Birch Farm 19.64 191 P **P 04 39 40.5 +1.3**
KNTN Kanton 19.79 21 P **P 04 39 39.5 -1.4**
KHZ Kahutara 21.89 195 P **P 04 39 58.4 -1.0**
RPZ Rata Peaks 23.77 198 P **P 04 40 15.2 -1.0**
comp=Z,5.6nm,0.4s,baz=352,slow=1.3,SNR=7.6
RPZ Rata Peaks 23.77 198 IAmb IAmb 04 40 27.9
comp=Z,9.2nm,0.7s
TARA Tarawa 24.04 339 P **P 04 40 18.5 -0.5**
EIDS Eidsvold 27.87 256 P **P 04 40 52.9 +0.4**
EIDS IAmb IAmb 04 41 08.7
comp=Z,24nm,1.5s
ARMA Armidale 27.97 245 P **P 04 40 54.7 +1.1**
CTAO Charters Tower 32.64 266 P **P 04 41 33.7 0.0**
TOO Toolangi 34.73 234 P **P 04 41 51.7 +0.6**
PMG Port Moresby 34.82 285 P **P 04 41 52.1 +0.1**
STKA Stephens Creek 36.70 245 P **P 04 42 08.0 +0.6**
comp=Z,2.6nm,0.5s,baz=72,slow=9.6,SNR=23
STKA Stephens Creek 36.70 245 P **P 04 42 07.8 +0.4**
BBOO Buckleboo 41.45 244 P **P 04 42 45.3 -0.4**
BBOO IAmb IAmb 04 42 54.8
comp=Z,24nm,1.4s
WR0 Warramunga Arr 43.53 263 P **P 04 43 01.4 -0.7**
AS31 Alice Springs 43.56 258 P **P 04 43 01.9 -0.5**
AS31 IAmb IAmb 04 43 03.5
comp=Z,6.3nm,0.2s
ASAR Alice Springs 43.56 258 P **P 04 43 02.2 -0.2**
comp=Z,5.4nm,0.3s,baz=92,slow=8.6,SNR=175
ASAR PcP **PcP 04 44 37.6 -0.1**
comp=Z,1.6nm,0.6s,baz=106,slow=3.9,SNR=8.2
ASAR ScP **ScP 04 47 38.0 +1.3**
comp=Z,2.5nm,1.0s,baz=96,slow=4.4,SNR=8.0
ASAR S **S 04 48 47.9 -3.9**
comp=Z,1.6nm,0.7s,baz=95,slow=16,SNR=11
ASAR PKiKP **PKiKP 04 51 36.1 -1.7**
comp=Z,0.3nm,0.6s,baz=67,slow=1.9,SNR=4.7
ASAR ScS **ScS 04 52 00.8 +0.4**
comp=Z,0.9nm,0.9s,baz=102,slow=7.0,SNR=5.2
ASAR Alice Springs 43.56 258 P **P 04 43 01.4 -1.0**
ASAR Alice Springs 43.56 258 **ScP 04 47 37.5 +0.9**
JAY Jayapura 43.62 290 P **P 04 43 02.9 0.0**
comp=Z,8.6nm,0.4s,baz=149,slow=12
WB0 Warramunga Arr 43.70 263 P **P 04 43 02.8 -0.7**
WB2 Warramunga Arr 43.71 263 P **P 04 43 02.6 -0.9**
WRA Warramunga Arr 43.72 263 P **P 04 43 02.8 -0.8**
comp=Z,5.0nm,0.3s,baz=96,slow=7.7,SNR=370
WRA PcP **PcP 04 44 38.5 +0.3**
comp=Z,2.9nm,1.1s,baz=96,slow=4.2,SNR=4.9
WRA ScP **ScP 04 47 38.3 +1.0**
comp=Z,2.5nm,1.1s,baz=96,slow=4.1,SNR=5.7
WRA S **S 04 48 48.7 -5.3**
comp=Z,1.0nm,0.8s,baz=98,slow=15,SNR=7.0
WRA PKiKP **PKiKP 04 51 36.3 -1.7**
comp=Z,0.2nm,0.5s,baz=97,slow=0.5,SNR=5.5
MTN Manton Dam 48.41 272 P **P 04 43 38.4 -0.8**
KNRA Kununurra 49.84 267 P **P 04 43 49.4 -0.3**
FITZ Fitzroy Crossi 52.15 263 P **P 04 44 06.4 -0.1**
SIJI Sorong 52.74 286 P **P 04 44 10.7 -0.1**
comp=Z,24nm,0.8s,baz=198,slow=20,SNR=5.1
VNDA Vanda 56.92 185 P **P 04 44 41.2 +2.3**
comp=Z,1.7nm,0.6s,baz=356,slow=7.0,SNR=26
VNDA Vanda 56.92 185 P **P 04 44 40.9 +2.0**
JCJ Chichijima 61.25 320 P **P 04 45 08.4 -0.2**
comp=Z,32nm,0.7s,baz=90,slow=20,SNR=5.1
CASY Casey 62.80 205 P **P 04 45 17.8 -0.3**
QSPA South Pole Qui 68.64 180 P **P 04 45 55.3 +0.6**
QSPA IAmb IAmb 04 45 57.2
comp=Z,18nm,0.8s
MJAR Matsushiro Arr 70.50 324 P **P 04 46 04.6 -1.5**
MAJO Matsushiro 70.51 324 P **P 04 46 04.7 -1.3**
ASAJ Asahikawa 74.18 332 P **P 04 46 27.5 +0.4**
comp=Z,4.5nm,0.7s,baz=216,slow=14,SNR=5.2
PETK Petropavlovsk- 76.97 346 P **P 04 46 42.3 0.0**
comp=Z,4.8nm,0.7s,baz=136,slow=7.0,SNR=12
PETK Petropavlovsk- 76.97 346 P **P 04 46 42.5 +0.1**
KSRS Korea Array 77.08 319 P **P 04 46 44.5 +1.3**
comp=Z,1.0nm,0.9s,baz=142,slow=5.4,SNR=6.2
KSAR Wonju Array Be 77.09 319 P **P 04 46 43.4 0.0**
BELA Belgrano 2 78.74 173 P **P 04 46 51.6 -0.1**
USA0B Ussuriysk Arra 79.30 326 P **P 04 46 55.5 +0.4**
USRK Ussuriysk Ar. 79.30 326 P **P 04 46 56.1 +1.1**
comp=Z,4.3nm,0.9s,baz=151,slow=3.7,SNR=11
HOPS Hopland Field 79.57 41 P **P 04 46 58.3 +1.7**
HOPS IAmb IAmb 04 46 59.5
comp=Z,20nm,0.9s
GDXM Geysers 79.63 41 P **P 04 46 58.3 +1.3**
KCPM Cahto Peak 79.70 40 P **P 04 46 58.6 +1.2**
KCPM IAmb IAmb 04 47 00.4
comp=Z,26nm,1.0s
KMRM Mail Ridge 79.96 40 P **P 04 47 00.8 +2.0**
VES Vestal, Richgr 80.23 45 P **P 04 47 01.6 +1.5**
baz=235,SNR=5.3
MURC Murrieta 80.25 48 P **P 04 47 02.1 +1.8**
baz=236
ESJX Sierra Juarez 80.25 50 P **P 04 47 00.3 -0.2**
BFSC Mount Baldy Ra 80.28 47 P **P 04 47 02.1 +1.5**
baz=236
KHMM Horse Mountain 80.36 39 P **P 04 47 02.0 +1.2**
KHMM IAmb IAmb 04 47 03.6
comp=Z,15nm,0.9s
MONP2 Monument Peak 80.40 49 P **P 04 47 03.3 +2.0**
baz=237,SNR=6.2
EDW2 Edwards Air Fo 80.41 47 P **P 04 47 02.7 +1.5**
baz=236,SNR=7.2
MAW Mawson 80.43 200 P **P 04 47 01.3 +0.7**
comp=Z,3.6nm,0.6s,baz=125,slow=7.8,SNR=5.3
O02D Mt. Diablo Mer 80.48 40 P **P 04 47 03.7 +2.3**
baz=232,SNR=23
IKP In-Ko-Pah, Jac 80.49 49 P **P 04 47 03.4 +1.7**
baz=237
ISA Isabella, Lake 80.53 46 P **P 04 47 03.4 +1.5**
baz=235,SNR=9.3
ISA Isabella, Lake 80.53 46 P **P 04 47 03.2 +1.4**
CMB Columbia Colle 80.66 43 IAmb IAmb 04 47 04.8
comp=Z,21nm,1.4s
PFO Pinyon Flats O 80.76 49 P **P 04 47 04.8 +1.7**
baz=237
AFDM Forest Hills D 80.84 42 P **P 04 47 04.3 +1.0**
SWSC Sam W. Stewart 80.86 49 P **P 04 47 05.3 +1.9**
baz=237,SNR=5.6
WDC Whiskeytown Da 80.88 40 P **P 04 47 05.0 +1.6**
WDC IAmb IAmb 04 47 06.3
comp=Z,24nm,1.1s
ORV Oroville 80.88 41 P **P 04 47 04.5 +1.1**
ORV IAmb IAmb 04 47 05.9
comp=Z,17nm,1.1s
LRMC Laurel Mtn Rad 80.96 46 P **P 04 47 05.7 +1.6**
baz=236
N02D Trinity Center 81.02 40 P **P 04 47 06.7 +2.4**
baz=231,SNR=6.9
O03E Paynes Creek 81.15 40 P **P 04 47 06.4 +1.6**
baz=232,SNR=25

M02C Callahan 81.20 39 P **P 04 47 07.5 +2.4**
baz=231,SNR=19
CWC Cottonwood Cre 81.24 45 P **P 04 47 07.1 +1.5**
baz=235
L02E Cave Junction 81.24 38 P **P 04 47 07.1 +1.8**
baz=231
MDPB Devils Postpil 81.27 44 IAmb IAmb 04 47 08.3
comp=Z,13nm,0.9s
BELC Belle Mtn. Jos 81.30 48 P **P 04 47 07.6 +1.7**
baz=237,SNR=6.8
MPMC Manual Prospec 81.42 46 P **P 04 47 07.9 +1.4**
baz=236,SNR=11
GSC Goldstone, Bar 81.45 47 P **P 04 47 07.6 +1.0**
baz=236,SNR=6.1
GSC Goldstone, Bar 81.45 47 P **P 04 47 07.6 +1.0**
TIN Tinemaha, Big 81.49 45 P **P 04 47 08.4 +1.7**
baz=235
BC3 Big Chuckawall 81.49 49 P **P 04 47 08.7 +1.9**
baz=237,SNR=5.3
YBH Yreka Blue Hor 81.49 39 P **P 04 47 08.5 +1.9**
YBH IAmb IAmb 04 47 09.7
comp=Z,19nm,0.9s
HEC Hector,Ludlow 81.52 48 P **P 04 47 08.3 +1.4**
baz=237,SNR=10
WAKR Walker 81.54 43 P **P 04 47 08.6 +1.5**
K02D Willamette Mer 81.55 38 P **P 04 47 08.9 +2.0**
baz=230,SNR=5.9
GLA Glamis 81.61 50 P **P 04 47 09.7 +2.3**
baz=238,SNR=5.7
J01E Myrtle Point 81.69 37 P **P 04 47 09.6 +2.2**
baz=230
PNTR Pine Nut 81.78 42 P **P 04 47 10.0 +1.7**
HUMO Hull Mountain 81.90 38 P **P 04 47 10.5 +1.9**
HUMO IAmb IAmb 04 47 11.9
comp=Z,30nm,1.2s
GMRC Granite Mounta 81.96 48 P **P 04 47 10.6 +1.4**
baz=237,SNR=7.1
IRM Iron Mountain 81.98 49 P **P 04 47 10.8 +1.5**
baz=237
GRAC Grapevine Rang 82.02 45 P **P 04 47 11.3 +1.9**
baz=236,SNR=8.5
L04D Klamath Falls 82.03 39 P **P 04 47 11.1 +1.7**
baz=232,SNR=15
M04C Macdoel 82.04 39 P **P 04 47 11.1 +1.7**
baz=232,SNR=5.8
FURC Furnace Creek, 82.06 46 P **P 04 47 10.8 +1.3**
baz=236,SNR=6.9
TUQ Turquoise Moun 82.13 47 P **P 04 47 11.7 +1.6**
baz=237,SNR=7.1
SHOC Shoshone, Teco 82.14 47 P **P 04 47 11.3 +1.3**
baz=236
RYN Ryan 82.20 43 P **P 04 47 10.2 -0.1**
113A Mohawk Valley, 82.22 50 IAmb IAmb 04 47 13.3
comp=Z,15nm,1.1s
NVAR Mina Array Bea 82.23 44 P **P 04 47 11.9 +1.3**
comp=Z,8.6nm,0.7s,baz=223,slow=8.5,SNR=66
PAHR Pah Rah Range 82.28 42 P **P 04 47 11.9 +1.2**
PAHR IAmb IAmb 04 47 13.2
comp=Z,17nm,1.0s
NV11 Mina Array Sit 82.32 44 P **P 04 47 11.4 +0.4**
NV11 IAmb IAmb 04 47 13.3
comp=Z,21nm,1.2s
I03D Drain, OR 82.36 37 P **P 04 47 12.7 +1.9**
baz=231
HSIG 82.41 55 P **P 04 47 12.4 +0.9**
HSIG IAmb IAmb 04 47 13.5
comp=Z,12nm,0.9s
214A Organ Pipe Nat 82.49 52 P **P 04 47 13.8 +1.9**
baz=239
NEE2 Needles Airpor 82.67 48 P **P 04 47 14.6 +1.9**
baz=238
KVN Kaiserville 82.71 43 P **P 04 47 14.0 +1.0**
KVN IAmb IAmb 04 47 15.2
comp=Z,16nm,1.0s
TPH Tonopah 82.72 44 P **P 04 47 13.7 +0.6**
TPNV Topopah Spring 82.74 46 P **P 04 47 14.9 +1.7**
baz=236,SNR=19
TPNV Topopah Spring 82.74 46 P **P 04 47 14.4 +1.2**
TPNV IAmb IAmb 04 47 15.6
comp=Z,14nm,0.9s
PDMCI Parker Dam,Lak 82.76 49 P **P 04 47 15.0 +2.0**
baz=238,SNR=7.7
J04D Umpqua Nationa 82.78 38 P **P 04 47 15.1 +1.8**
baz=232,SNR=18
I04A Tendick Farm, 82.95 37 P **P 04 47 15.3 +1.4**
baz=231,SNR=7.7
MOD Modoc Plateau 83.02 40 P **P 04 47 15.7 +1.3**
MOD IAmb IAmb 04 47 16.9
comp=Z,11nm,0.8s
K05A Summer Lake 83.17 39 P **P 04 47 16.8 +1.6**
H04D Lebanon 83.22 37 P **P 04 47 16.8 +1.7**
baz=231
SHPR Sheep Range 83.23 47 P **P 04 47 16.9 +1.3**
J05D Fort Rock, OR 83.31 38 P **P 04 47 17.8 +2.0**
baz=232,SNR=27
G03D McMinnville, O 83.36 36 P **P 04 47 17.5 +1.7**
baz=231
H04A Detroit Lake 83.63 37 IAmb IAmb 04 47 19.4
comp=Z,20nm,1.0s
I05D Terrebonne, OR 83.89 37 P **P 04 47 20.1 +1.5**
baz=232
R11A Troy Canyon, C 83.95 45 P **P 04 47 20.0 +0.9**
baz=237
BRLK Bradley Lake 84.07 14 IAmb IAmb 04 47 20.1
comp=Z,14nm,0.8s
TUC Tucson 84.16 52 P **P 04 47 22.3 +2.1**
baz=240
TUC Tucson 84.16 52 P **P 04 47 22.1 +1.9**
TUC IAmb IAmb 04 47 23.4
comp=Z,14nm,1.1s
F04A Amboy 84.28 36 IAmb IAmb 04 47 22.1
comp=Z,12nm,0.9s
WVOR Wild Horse Val 84.33 40 IAmb IAmb 04 47 23.4
comp=Z,9.8nm,1.0s
NLWA Neilton Lookou 84.43 34 IAmb IAmb 04 47 23.9
comp=Z,20nm,1.1s
GSI Gunungsitoli 84.51 274 P **P 04 47 23.0 +0.7**
E04D Cinebar 84.59 35 P **P 04 47 23.6 +1.8**
baz=231
I07A Izee 84.79 38 IAmb IAmb 04 47 25.8
comp=Z,16nm,1.1s
D03D Eldon 84.93 34 P **P 04 47 25.1 +1.6**
baz=231
J08A Circle Bar Ran 84.97 40 IAmb IAmb 04 47 26.5
comp=Z,19nm,1.3s
WUAZ Wupatki 85.33 49 P **P 04 47 27.7 +1.7**
baz=240
PGC Sidney 85.46 33 IAmb IAmb 04 47 28.2
comp=Z,13nm,0.9s
RC01 Rabbit Creek A 85.52 14 P **P 04 47 26.1 +0.1**
baz=207
F07A Phinny Hill Vi 85.63 37 IAmb IAmb 04 47 29.4
comp=Z,15nm,1.2s
SUA Susitna One 85.63 13 P **P 04 47 26.2 -0.5**
SUA IAmb IAmb 04 47 27.4
comp=Z,12nm,0.7s
SYO Syowa Base 85.65 193 *iP* **P 04 47 24.6 -2.1**
G08A Pilot Rock 85.82 38 P **P 04 47 28.8 +0.8**
A04D Lummi Island 85.88 33 P **P 04 47 29.8 +1.8**
baz=231
B05A Bryant 85.91 34 P **P 04 47 29.4 +1.2**
baz=231
ENH Enshi 85.92 305 P **P 04 47 29.2 +0.5**
ENH IAmb IAmb 04 47 30.5
comp=Z,17nm,1.2s
LTY Liberty 86.05 35 P **P 04 47 29.6 +0.6**
LTY IAmb IAmb 04 47 30.5
comp=Z,8.0nm,0.9s
KNK Knik Glacier 86.09 14 IAmb IAmb 04 47 29.4
comp=Z,11nm,0.8s
PMR Palmer 86.10 14 IAmb IAmb 04 47 29.8
comp=Z,20nm,1.4s
ZAIG Zacatecas 86.30 64 IAmb IAmb 04 47 33.6
comp=Z,7.7nm,0.9s
GYA Guiyang 86.44 300 *eP* **P 04 47 28.6 -2.8**
GYA pmax pmax
comp=Z,6.0nm,1.5s
E08A Dider Farm, El 86.47 37 IAmb IAmb 04 47 33.3
comp=Z,10nm,0.7s
121A Cookes Peak, D 86.48 53 P **P 04 47 33.0 +1.4**
baz=242
121A Cookes Peak, D 86.48 53 IAmb IAmb 04 47 34.8
comp=Z,20nm,1.4s
CUT Chulitna 86.58 13 P **P 04 47 31.0 +0.1**
baz=206
MFID Camas Ranch 86.59 41 P **P 04 47 32.4 +0.7**
MFID IAmb IAmb 04 47 34.0
comp=Z,13nm,1.1s
KLU Klutina 86.75 15 IAmb IAmb 04 47 32.7
comp=Z,9.0nm,1.0s
ISLE Juniper Island 86.92 17 P **P 04 47 32.3 -0.5**
SEY Seymchan 87.10 347 P **P 04 47 33.5 +0.1**
comp=Z,5.6nm,0.8s,baz=154,slow=5.2,SNR=15
SNAA Sanae 87.11 179 P **P 04 47 33.1 -0.5**
SNAA Sanae 87.11 179 P **P 04 47 33.2 -0.5**
VRDI Verde Repeater 87.15 16 IAmb IAmb 04 47 53.8
comp=Z,17nm,1.4s
M24K Tolsona, Glenn 87.23 15 P **P 04 47 35.1 +1.0**
baz=210
GLB Gilahina Butte 87.24 16 IAmb IAmb 04 47 35.1
comp=Z,8.4nm,0.8s
VNA3 Neumayer Olymp 87.27 177 P **P 04 47 34.2 -0.2**
BALM Baldy 87.28 17 IAmb IAmb 04 47 35.6
comp=Z,12nm,0.8s
B08A Colville Reser 87.43 35 P **P 04 47 35.3 -0.1**
KTH Kantishna Hill 87.48 12 IAmb IAmb 04 47 35.3
comp=Z,11nm,0.9s
HLID Hailey 87.53 41 P **P 04 47 37.7 +1.5**
baz=237
HLID Hailey 87.53 41 IAmb IAmb 04 47 38.8
comp=Z,10nm,0.9s
VNA2 Neumayer--Watz 87.70 177 P **P 04 47 35.2 -1.1**
MNTX Cornudas Mount 87.91 55 P **P 04 47 39.5 +1.5**
baz=243
MNTX Cornudas Mount 87.91 55 P **P 04 47 39.2 +1.1**
MNTX IAmb IAmb 04 47 40.7
comp=Z,11nm,0.9s
VNA1 Neumayer--Stat 87.93 177 P **P 04 47 37.7 +0.3**
MCK McKinley 88.04 13 IAmb IAmb 04 47 39.5
comp=Z,9.6nm,0.8s
XAN Xi'an 88.08 308 P **P 04 47 38.1 -0.8**
TXAR Lajitas Array 88.20 58 P **P 04 47 41.3 +1.8**
comp=Z,8.2nm,0.9s,baz=218,slow=5.8,SNR=78
TXAR Lajitas Array 88.20 58 P **P 04 47 41.2 +1.6**
HWUT Hardware Ranch 88.29 44 IAmb IAmb 04 47 41.6
comp=Z,5.4nm,0.9s
PV14 Lion Creek, Pa 88.38 48 IAmb IAmb 04 47 42.3
comp=Z,6.9nm,1.0s
PV18 Skein Mesa, Pa 88.39 48 IAmb IAmb 04 47 44.2
comp=Z,8.8nm,1.2s
NEW Newport 88.57 36 P **P 04 47 41.2 +0.5**
baz=235
ANMO Albuquerque 88.58 52 P **P 04 47 42.4 +1.1**
comp=Z,0.4nm,1.0s,baz=275,slow=12,SNR=13
ANMO Albuquerque 88.58 52 P **P 04 47 42.4 +1.1**
baz=242
ANMO Albuquerque 88.58 52 P **P 04 47 42.0 +0.7**
ANMO IAmb IAmb 04 47 44.2
comp=Z,11nm,1.2s
NEA2 Nenana 88.78 12 P **P 04 47 40.4 -0.8**
baz=208
RIDG Independent Ri 88.95 14 IAmb IAmb 04 47 43.3
comp=Z,8.6nm,1.0s
DOT Dot Lake 89.05 15 IAmb IAmb 04 47 43.7
comp=Z,6.2nm,0.8s
HDA Harding Lake 89.06 13 P **P 04 47 42.2 -0.4**
baz=210
HDA Harding Lake 89.06 13 IAmb IAmb 04 47 43.2
comp=Z,6.6nm,0.8s
BCAR Beaver Creek A 89.12 16 P **P 04 47 42.9 0.0**
PLCA Paso Flores 89.19 134 P **P 04 47 45.6 +1.6**
comp=Z,4.5nm,0.9s,baz=230,slow=4.4,SNR=6.3
PLCA Paso Flores 89.19 134 P **P 04 47 45.3 +1.2**
TCOL CIGO, UAF Yank 89.27 13 P **P 04 47 43.2 -0.3**
baz=209
COLA College 89.28 13 P **P 04 47 43.4 -0.1**
SCRK Sand Creek 89.35 15 P **P 04 47 44.5 +0.4**
baz=212
IL31 89.39 13 IAmb IAmb 04 47 45.2
comp=Z,4.7nm,0.8s
ILAR Eielson Array 89.39 13 P **P 04 47 43.5 -0.6**
comp=Z,2.9nm,0.8s,baz=225,slow=5.3,SNR=20
ILAR Eielson Array 89.39 13 P **P 04 47 43.3 -0.8**
HHC Hu-ho-hao-te 89.45 315 *eP* **P 04 47 46.9 +1.8**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,70nm,5.7s
S22A 4UR Ranch, Cre 89.61 49 P **P 04 47 47.3 +1.2**
baz=242
S22A 4UR Ranch, Cre 89.61 49 IAmb IAmb 04 47 49.3
comp=Z,8.6nm,1.1s
TPAW Teton Pass 89.64 42 IAmb IAmb 04 47 47.4
comp=Z,8.5nm,0.9s
CMAR Chiang Mai Arr 89.70 290 P **P 04 47 48.1 +1.5**
comp=Z,1.9nm,0.5s,baz=129,slow=2.9,SNR=12
CMAR Chiang Mai Arr 89.70 290 P **P 04 47 47.6 +1.0**
O20A White River Ci 89.76 46 P **P 04 47 47.4 +0.8**
baz=241
O20A White River Ci 89.76 46 IAmb IAmb 04 47 48.6
comp=Z,7.5nm,0.8s
K27K Chicken 89.85 15 P **P 04 47 46.7 +0.5**
baz=214
LOHW Long Hollow 89.92 42 IAmb IAmb 04 47 48.9
comp=Z,4.6nm,0.8s
BW06 Boulder Array 90.16 44 P **P 04 47 49.0 +0.4**
baz=240
BW06 Boulder Array 90.16 44 IAmb IAmb 04 47 50.1
comp=Z,7.9nm,0.8s
PD31 Pinedale Array 90.16 44 IAmb IAmb 04 47 50.1
comp=Z,7.2nm,0.8s
PDAR Pinedale Array 90.16 44 P **P 04 47 48.9 +0.4**
comp=Z,5.3nm,0.7s,baz=207,slow=3.0,SNR=50
PDAR Pinedale Array 90.16 44 P **P 04 47 48.1 -0.4**
BOZ Bozeman (W) 90.29 40 P **P 04 47 50.0 +1.1**
baz=239
BOZ Bozeman (W) 90.29 40 IAmb IAmb 04 47 51.2
comp=Z,7.0nm,1.0s
H17A Grant Village 90.33 42 P **P 04 47 51.2 +1.9**
baz=240
H17A Grant Village 90.33 42 IAmb IAmb 04 47 52.7
comp=Z,6.1nm,1.1s
SDCO Great Sand Dun 90.54 49 P **P 04 47 50.8 +0.4**
baz=243
DAWY Dawson 90.56 16 IAmb IAmb 04 47 51.0
comp=Z,7.7nm,1.1s
EGAK Eagle 90.70 15 IAmb IAmb 04 47 51.4
comp=Z,7.0nm,0.9s
MSTX Muleshoe 90.88 54 P **P 04 47 52.6 +0.7**
baz=245
T25A Trinidad 91.05 50 P **P 04 47 53.6 +0.9**
baz=244
T25A Trinidad 91.05 50 IAmb IAmb 04 47 54.4
comp=Z,4.5nm,0.9s
ISCO Idaho Springs 91.39 48 P **P 04 47 55.2 +0.9**
baz=243
ISCO Idaho Springs 91.39 48 P **P 04 47 54.5 +0.1**
RLMT Red Lodge 91.50 42 P **P 04 47 56.0 +1.4**
baz=241
N23A Red Feather La 91.66 46 P **P 04 47 56.6 +1.1**
baz=243
N23A Red Feather La 91.66 46 IAmb IAmb 04 47 57.7
comp=Z,6.6nm,1.1s
JCT Junction City 91.73 58 P **P 04 47 56.8 +1.0**
baz=246
K22A Casper 92.08 45 P **P 04 47 58.6 +1.3**
baz=243
BMAR Burnt Mountain 92.16 13 P **P 04 47 57.1 +0.2**
ABTX Abilene, Hawle 92.71 56 P **P 04 48 01.0 +0.8**
baz=246
LZH Lanzhou 92.72 308 *eP* **P 04 48 03.8 +3.4**
LZH pP pP 04 50 00.5 -0.5
LZH sP sP 04 50 43.9 -12
LZH pmax pmax
comp=Z,15nm,1.3s
YKA Yellowknife Ar 97.67 25 P **P 04 48 22.6 +0.7**
comp=Z,2.3nm,0.7s,baz=225,slow=4.4,SNR=4.2
MKAR Makanchi Array 111.27 313 PKiKP **PKiKP 04 53 16.9 -1.0**
comp=Z,0.4nm,0.4s,baz=108,slow=3.2,SNR=5.4
KSH Kashi 114.78 305 PKP **PKiKP 04 53 26.9 +1.9**
KSH sPKP 04 56 26.2
KSH PKS **PKSdf 04 57 01.7 0.0**
KSH SKS **SKSdf 04 59 49.4 +4.6**
KSH SKKS **SKKSac 05 00 38.1 +0.7**
KSH Kashi 114.78 305 SS SS 05 09 55.5 +8.2
KSH LR LR
comp=N,330nm,7.9s
KSH LR LR
comp=E,190nm,6.4s
KSH LR LR
comp=Z,140nm,7.5s
KKAR Karatay Array 119.22 308 **PKPdf 04 53 32.0 -1.2**
SUMG Summit 124.23 13 **PKPdf 04 53 42.5 0.0**
BOSA Boshof 125.09 206 PKP **PKiKP 04 53 45.8 +0.2**

comp=Z,3.4nm,1.1s,baz=153,slow=2.3,SNR=2.3
ARU Arti 125.52 325 PKPdf 04 53 44.6 -0.3
ABKAR Akbulak array 126.22 316 PKPdf **PKPdf 04 53 45.8 -0.7**
GEYT Alibeck 128.63 302 PKP **PKiKP 04 53 51.9 -0.3**
comp=Z,2.7nm,0.8s,baz=70,slow=4.1,SNR=4.9
ARCES ARCESS Array B 129.69 349 PKP **PKPdf 04 53 51.8 -0.7**
comp=Z,3.5nm,0.6s,baz=15,slow=1.1,SNR=17
ARCES SKPbc SKPab 04 56 23.4 +0.1
comp=Z,12nm,0.9s,baz=22,slow=5.1,SNR=12
ARCES ARCESS Array B 129.69 349 PKPdf **PKPdf 04 53 50.6 -1.8**
FINES FINESS Array B 136.44 343 PKhKP PKPpre 04 53 52.2
comp=Z,1.4nm,0.9s,baz=64,slow=4.4,SNR=4.2
FINES PKP **PKPdf 04 54 05.8 +0.5**
comp=Z,3.2nm,0.8s,baz=70,slow=4.6,SNR=11
FINES SKPbc **SKPbc 04 56 45.5 -0.3**
comp=Z,1.7nm,0.7s,baz=80,slow=4.5,SNR=6.4
FINES FINESS Array B 136.44 343 PKPdf 04 54 04.6 -0.7
NB2 NORSAR Subarra139.80 352 PKP PKPpre 04 54 03.5
comp=Z,0.4nm,0.5s,baz=12,slow=3.2
NOA NORSAR Array B 139.80 352 PKhKP PKPpre 04 54 04.5
comp=Z,1.2nm,0.9s,baz=4.8,slow=2.4,SNR=7.2
NOA PKP **PKPdf 04 54 11.4 -0.1**
comp=Z,0.8nm,0.8s,baz=14,slow=3.8,SNR=4.0
NOA SKPbc **SKPbc 04 56 55.0 -0.4**
comp=Z,2.9nm,1.1s,baz=16,slow=4.3,SNR=3.7
SUW Suwalki 143.42 338 *e*PKP PKPab 04 54 16.2 -0.4
AKASG Malin Array Be 143.44 330 PKhKP PKPab 04 54 15.6 -1.1
comp=Z,9.6nm,0.6s,baz=42,slow=4.6,SNR=62
AKASG SKPbc **SKPbc 04 57 04.2 -0.5**
comp=Z,0.7nm,0.5s,baz=39,slow=2.6,SNR=4.2
AKASG Malin Array Be 143.44 330 PKPdf PKPab 04 54 15.8 -0.9
MBAR Mbarara 143.76 237 PKPdf 04 54 20.1 -0.2
GAZ Gaziantep 145.12 305 PKPbc **PKPbc 04 54 22.9 +0.2**
SORM Soroca 145.58 327 ⇑P **PKPdf 04 54 22.7 +0.7**
RGN Rugen 145.68 347 *e*PKPbc **PKPab 04 54 24.5 -0.6**
baz=18,slow=2.5
GKP Gorka Klasztor 145.91 343 *e*PKP **PKPbc 04 54 23.9 -0.4**
BEL Belsk 146.04 338 *e*PKP **PKPbc 04 54 24.8 +0.1**
BSEG Bad Segeberg 146.81 350 *e*PKPbc **PKPbc 04 54 27.1 +0.5**
baz=18,slow=2.5
BRTR Keskin Array B 146.88 311 PKPbc **PKPbc 04 54 26.6 -1.0**
comp=Z,3.4nm,0.7s,baz=137,slow=4.0,SNR=9.8
BRTR Keskin Array B 146.88 311 PKPbc 04 54 26.8 -0.8
TLCR 147.19 323 ⇑P **PKPbc 04 54 26.6 -1.4**
BR231 Keskin MP Arra 147.43 311 PKPbc **PKPbc 04 54 29.1 +0.1**
BURAR Bucovina Array 147.47 329 ⇑P **PKPbc 04 54 29.4 +0.6**
BURAR Bucovina Array 147.47 329 PKPbc 04 54 28.5 -0.3
RUE Ruedersdorf 147.51 346 *e*PKPbc **PKPbc 04 54 29.0 +0.4**
baz=18,slow=2.5
BIZ Bicaz 147.51 327 ⇓P **PKPbc 04 54 29.0 +0.2**
TESR Tescani 147.52 326 ⇑P **PKPbc 04 54 28.8 0.0**
OJC Ojcow 147.73 337 *e*PKP **PKPbc 04 54 29.1 -0.2**
KOLS Kolonicke sedl 147.81 334 *e*PKP **PKPbc 04 54 29.1 -0.4**
CRVS Cervenica-Dubn 148.17 334 *e*PKP **PKPbc 04 54 29.8 -0.6**
NIE Niedzica 148.21 336 *e*PKP **PKPbc 04 54 31.0 +0.5**
NRDL Niedersach Rie 148.23 350 *e*PKPbc **PKPbc 04 54 30.9 +0.6**
baz=18,slow=2.5
KSP Ksiaz 148.34 342 *e*PKP **PKPbc 04 54 31.1 +0.4**
ASSE Asse, Remlinge 148.48 349 *e*PKPbc **PKPbc 04 54 31.4 +0.4**
baz=18,slow=2.5
OSTC Ostas 148.61 341⇑*e*PKP **PKPbc 04 54 32.1 +0.6**
OSTC *e*PKPAB **PKPab 04 54 37.7 +0.4**
CHVC Chvalec 148.63 342⇑*e*PKP **PKPbc 04 54 31.9 +0.3**
UPC Upice 148.72 342⇑*e*PKP **PKPbc 04 54 31.9 +0.2**
UPC *e*PKPAB **PKPab 04 54 37.9 +0.2**
LANS Liptovska Anna 148.74 337 *e*PKP **PKiKP 04 54 33.1 +0.2**
IBBN Ibbenburen 148.76 352 *e*PKPbc **PKPbc 04 54 32.1 +0.3**
baz=18,slow=2.5
DPC Dobruska-Polom 148.76 341⇑*e*PKP **PKiKP 04 54 32.5 -0.4**
DPC *e*PKPAB **PKPab 04 54 38.7 +0.8**
CSS Mathiatis 148.77 303 *e*PKPbc **PKPbc 04 54 31.8 -0.6**
CLL Collm 148.78 346 *e*PKPdf **PKPdf 04 54 27.0 -0.2**
CLL ⇓*i*PKPbc **PKPbc 04 54 31.8 0.0**
comp=Z,27nm,1.1s
CLL *i* PKPab **PKPab 04 54 37.4 -0.5**
comp=Z,7.0nm,1.0s
CLL *e*pPKPbc **pPKPab 04 56 43.0 +1.6**
CLL *e*(pPKPab) 04 56 47.0
CLL Collm 148.78 346 *e*PKPbc **PKPbc 04 54 32.2 +0.4**
baz=18,slow=2.5
CLZ Clausthal 148.81 349 *e*PKPbc **PKPbc 04 54 32.1 +0.1**
baz=18,slow=2.5
KRLC Kraliky 148.87 340⇑*e*PKP **PKPbc 04 54 32.3 +0.1**
KRLC *e*PKPAB **PKPab 04 54 38.6 +0.2**
MORC Moravsky Berou 148.88 339 ⇑P **PKPbc 04 54 31.9 -0.3**
MORC Moravsky Berou 148.88 339 *e*PKP **PKPbc 04 54 32.3 +0.1**
MORC Moravsky Berou 148.88 339 PKPbc 04 54 31.5 -0.7
BRG Berggiesshubel 148.95 344 *i* PKP **PKPbc 04 54 32.4 +0.1**
comp=Z,25nm,1.3s
BRG *e* 04 54 38.8
comp=Z,9.3nm,1.2s
BRG pPKP **pPKPab 04 56 48.1 +6.2**
comp=Z,6.3nm,1.4s
BRG Berggiesshubel 148.95 344 *e*PKPbc **PKPbc 04 54 32.7 +0.4**
baz=18,slow=2.5
FBE Freiberg 149.05 345 *e*PKPbc **PKPbc 04 54 33.0 +0.5**
baz=18,slow=2.5
PVCC Panska Ves 149.10 343⇑*e*PKP **PKPbc 04 54 33.1 +0.4**
NEUB Neuenburg 149.14 347 *e*PKPbc **PKPbc 04 54 32.8 +0.1**
baz=18,slow=2.5
GTTG Gottingen 149.17 349 *e*PKPbc **PKiKP 04 54 33.3 -0.3**
baz=18,slow=2.5
ARR Arges 149.33 327 ⇑P **PKiKP 04 54 34.2 -0.1**
VYHS Vyhne 149.51 337 *e*PKP **PKPbc 04 54 33.7 0.0**
PRA Prague 149.56 343⇑*e*PKP **PKiKP 04 54 34.2 -0.3**
VRAC Vranov 149.60 340 ⇑P **PKPbc 04 54 33.8 -0.1**
VRAC Vranov 149.60 340 *e*PKP **PKPbc 04 54 33.9 0.0**
GOPC GO Pecny, Ondr 149.60 343⇑*e*PKP **PKPbc 04 54 33.6 -0.3**
PRU Pruhonice 149.60 343⇑*e*PKP **PKPbc 04 54 33.6 -0.3**
PRU *e*PKPAB **PKPab 04 54 41.5 +0.2**
JAVC Velka Javorina 149.62 338 *e*PKP **PKiKP 04 54 35.2 +0.4**
BUG Bochum--Univer 149.67 352 *e*PKPbc **PKPbc 04 54 34.2 +0.2**
baz=18,slow=2.5
MOX Moxa 149.71 347 *e*PKPbc **PKPbc 04 54 34.4 +0.3**
baz=18,slow=2.5
LOT Lotru 149.71 328 ⇑P **PKPbc 04 54 33.9 -0.5**
TANN Tannenbergstha 149.74 346 *e*PKPbc **PKPbc 04 54 34.4 +0.1**
baz=18,slow=2.5
GUNZ Gunzen 149.81 346 *e*PKPbc **PKPbc 04 54 34.6 +0.2**
baz=18,slow=2.5
DEV Deva 149.82 329 ⇑P **PKPbc 04 54 34.8 +0.3**
UBBA Unterbreizbach 149.86 349 *e*PKPbc **PKPbc 04 54 34.5 +0.2**
baz=18,slow=2.5
KRUC Moravsky 149.87 340 *e*PKP **PKPbc 04 54 34.5 0.0**
WERN Wernitzgruen 149.87 346 *e*PKPbc **PKPbc 04 54 34.7 +0.2**
baz=18,slow=2.5
NKC Novy Kostel 149.91 346⇑*e*PKP **PKPbc 04 54 34.6 0.0**
TREC Trest 149.95 341⇑*e*PKP **PKPbc 04 54 34.9 +0.1**
TREC *e*PKPAB **PKPab 04 54 42.2 -0.7**
SMOL Smolenice 150.00 338 *e*PKP **PKiKP 04 54 35.7 +0.2**
PBCC Pribram 150.02 343⇑*e*PKP **PKPbc 04 54 35.0 +0.1**
PBCC *e*PKPAB **PKPab 04 54 43.2 +0.1**
SIRR Siria 150.12 331 ⇑P **PKPbc 04 54 35.5 +0.2**
MODS Modra-Piesok 150.18 338 *e*PKP **PKPbc 04 54 34.9 -0.4**
MANZ Manzenberg 150.22 346 *e*PKPbc **PKPbc 04 54 35.6 +0.3**
baz=18,slow=2.5
ROTZ Rotzenmuhle 150.40 345 *e*PKPbc **PKPbc 04 54 35.9 +0.2**
baz=18,slow=2.5
AHRW Bad Neuenahr-A 150.58 352 *e*PKPbc **PKiKP 04 54 36.8 +0.2**
baz=18,slow=2.5
BZS Buzias 150.63 330 ⇑P **PKPbc 04 54 36.4 0.0**
MEM Membach 150.63 354 PKiKP **PKPbc 04 54 36.0 -0.2**
KHC Kasperske Hory 150.64 343⇑*e*PKP **PKPbc 04 54 36.1 -0.3**
KHC *e*PKPAB **PKPab 04 54 46.3 +0.5**
KHC Kasperske Hory 150.64 343 PKPbc 04 54 36.6 +0.2
GRF Grafenberg Arr 150.69 347 *e*PKPbc **PKiKP 04 54 36.8 -0.1**
baz=18,slow=2.5
TNS Taunus Mts 150.70 350 *e*PKPbc **PKiKP 04 54 37.1 +0.2**
baz=18,slow=2.5
BSTI Sart Tilman 150.70 354 PKiKP **PKPbc 04 54 36.5 +0.2**
HERR Herculane 150.79 328 ⇓P **PKPbc 04 54 36.7 -0.1**
WET Wettzell 150.81 344 *e*PKPbc **PKiKP 04 54 37.1 -0.1**
baz=18,slow=2.5
GEC2 GERESS Array S 150.87 343 *e*PKPbc **PKPbc 04 54 37.2 +0.2**
baz=18,slow=2.5
GERES GERESS Array B 150.87 343 PKP **PKPdf 04 54 30.1 -0.6**
comp=Z,0.3nm,0.7s,baz=49,slow=3.3,SNR=2.7
GERES PKPab **PKPbc 04 54 36.8 -0.2**
comp=Z,6.1nm,0.8s,baz=45,slow=2.1,SNR=51
GERES PKPab **PKPab 04 54 46.8 -0.1**
comp=Z,1.0nm,0.8s,baz=46,slow=5.1,SNR=3.3
GERES pPKPbc **pPKPab 04 56 48.1 -1.8**
comp=Z,0.6nm,0.8s,baz=32,slow=3.9,SNR=3.6
SNF Seneffe 150.88 356 PKiKP **PKPbc 04 54 36.6 -0.1**

SNF PKPab **PKPab 04 54 45.7 -0.9**
BHOU Houvegnez 150.88 354 PKiKP **PKPbc 04 54 37.0 +0.2**
BHOU PKPab **PKPab 04 54 46.4 -0.3**
BCLA Clavier 150.88 355 PKiKP **PKPbc 04 54 36.6 -0.2**
BGES Gesves 150.94 355 PKiKP **PKPbc 04 54 36.4 -0.6**
BGES PKPab **PKPab 04 54 46.2 -0.7**
CONA Conrad Observa 151.04 339 *e*PKPbc **PKPbc 04 54 37.3 -0.1**
comp=Z,16nm,1.0s,SNR=11
BMRD Maredsous 151.05 355 PKiKP **PKPbc 04 54 37.4 +0.2**
BMRD PKPab **PKPab 04 54 46.1 -1.2**
MDVR Moldovita 151.20 329 ⇑P **PKPbc 04 54 37.7 -0.1**
DOU Dourbes 151.26 355 PKiKP **PKPbc 04 54 37.7 0.0**
WLF Walferdange 151.55 353 PKiKP **PKPbc 04 54 38.4 0.0**
WLF Walferdange 151.55 353 *e*PKPbc **PKiKP 04 54 39.2 +0.6**
baz=18,slow=2.5
MOA Molln 151.61 341 *i* PKPbc **PKPbc 04 54 38.4 -0.2**
comp=Z,5.9nm,0.9s
ARSA Arzberg 151.74 339 *i* PKPbc **PKPbc 04 54 38.5 -0.4**
comp=Z,5.2nm,1.2s
STU Stuttgart 151.97 349 *e*PKPbc **PKiKP 04 54 39.7 +0.2**
baz=18,slow=2.5
FUR Furstenfeldbru 152.12 345 *e*PKPbc **PKiKP 04 54 40.3 +0.4**
baz=18,slow=2.5
RJOB Jochberg 152.13 343 *e*PKPbc **PKPbc 04 54 38.4 -1.4**
baz=18,slow=2.5
SOKA Soboth 152.41 339 *i* PKPbc **PKPbc 04 54 39.9 -0.6**
comp=Z,5.6nm,1.0s
BFO Black Forest 152.55 350 *e*PKPbc **PKPbc 04 54 40.6 0.0**
baz=18,slow=2.5
BFO *e*pPKPbc **pPKPab 04 56 55.5 -1.2**
BFO Black Forest 152.55 350 PKPbc 04 54 40.3 -0.3
BFO **PKPab 04 54 52.5 -1.4**
KBA Koelnbreinsper 152.57 342 *i* PKPbc **PKPbc 04 54 39.9 -1.1**
comp=Z,5.1nm,0.7s
WATA Walderalm 152.82 344 *i* PKiKP **PKPbc 04 54 41.4 -0.1**
comp=Z,8.2nm,1.1s
UBR Ueberruh 152.84 347 *e*PKPbc **PKiKP 04 54 41.6 +0.2**
baz=18,slow=2.5
UBR *e*pPKPbc **pPKPab 04 56 55.6 -2.4**
WTTA Wattenberg 152.87 344 *i* PKPbc **PKPbc 04 54 41.0 -0.6**
comp=Z,5.1nm,0.6s
MOTA Moosalm 152.93 345 *e*PKPbc **PKPbc 04 54 41.2 -0.5**
comp=Z,9.2nm,1.1s
SQTA Sankt Quirin 153.02 345 *i* PKPbc **PKPbc 04 54 41.5 -0.3**
comp=Z,7.2nm,1.0s
ABTA Abfaltersbach 153.11 343 *e*PKPbc **PKPbc 04 54 41.3 -0.7**
comp=Z,6.3nm,0.8s
DAVA Damuels 153.26 347 *e*PKiKP **PKiKP 04 54 42.5 +0.1**
comp=Z,4.1nm,0.8s
FETA Feichten 153.32 345 *i* PKiKP **PKPbc 04 54 42.5 -0.1**
comp=Z,6.7nm,1.1s
ESDC Sonseca Array 161.29 12 PKP **PKPdf 04 54 44.4 0.0**
comp=Z,0.5nm,0.9s,baz=2.1,slow=2.3,SNR=3.0
ESDC PKPab **PKPab 04 55 31.7 -0.2**
comp=Z,2.7nm,1.1s,baz=353,slow=3.9,SNR=11
ESDC Sonseca Array 161.29 12 PKPab 04 55 32.0 +0.1
KEST Kesra 164.06 335 PKPab **PKPab 04 55 44.5 +0.2**
comp=Z,3.6nm,0.9s,baz=0.0,slow=5.1,SNR=4.5
DBIC Dimbokro 164.21 157 PKP **PKPdf 04 54 46.9 -0.9**
comp=Z,5.3nm,0.8s,baz=109,slow=3.9,SNR=6.5
DBIC PKPab **PKPab 04 55 46.2 +1.0**
comp=Z,3.9nm,1.0s,baz=183,slow=5.5,SNR=4.7
TORD Torodi Ar. Bea 171.75 184 PKP **PKPdf 04 54 51.6 -1.2**
comp=Z,3.8nm,1.0s,baz=236,slow=1.6,SNR=7.0
TORD PKPab **PKPab 04 56 18.2 -0.4**
comp=Z,2.3nm,0.8s,baz=171,slow=3.9,SNR=3.9
TORD Torodi Ar. Bea 171.75 184 PKPdf 04 54 52.0 -0.8
TAM Tamanrasset 175.75 289 PKPdf 04 54 53.7 -0.6

IDC 07 04:45:26.4±24.0, 20°.56S×178°.25W, h411km±230km, mb2.7/3, mb1 3.0/3, mbtmx2.7/34, mbtmp3.5/3, Error ellipse: s-maj=125.6km s-min=39.1km az=51.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.27**	**257**	P	P	04 52 57.7	-0.1
	0.5nm,0.5s,baz=96,slow=7.7,SNR=11						
ASAR				PcP	PcP	04 54 33.1	-0.8
	0.4nm,0.8s,baz=99,slow=2.9,SNR=2.3						
WRA	**Warramunga Arr**	**44.36**	**262**	P	P	04 52 58.4	-0.1
	0.2nm,0.3s,baz=96,slow=7.8,SNR=14						
VNDA	**Vanda**	**57.83**	**185**	P	P	04 54 36.1	-0.1
	0.2nm,0.3s,baz=27,slow=9.0,SNR=1.6						
AKASG	**Malin Array Be**	**142.95**	**331**	PKP	PKPdf	05 04 11.0	-0.8
	0.2nm,0.4s,baz=42,slow=4.3,SNR=4.7						
GERES	**GERESS Array B**	**150.19**	**344**	PKPbc	PKPbc	05 04 29.7	+0.1
	0.3nm,0.5s,baz=358,slow=2.9,SNR=2.7						

*NEIC **07** 05:02:04.9±1.2, 7°.41S±0°.09×120°.1E±0°.1, h561km±15km, mb4.3/10, Error ellipse: s-maj=17.0km s-min=12.9km az=112.0*
*IDC **07** 05:02:05.5±1.3, 7°.24S×120°.27E, h570km±16km, mb3.0/6, mb1 3.2/9, mb1mx2.9/33, mbtmp3.9/9, Error ellipse: s-maj=50.9km s-min=13.3km az=65.0*
ISC 07 05:02:04.2±0.7, 7°.36S±0°.10×120°.2E±0°.1, h550km, n30, σ1§26/32, mb3.4/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.36**	**350**	P	P	05 03 18.8	+3.0
	6.5nm,0.3s,baz=152,slow=2.9,SNR=17						
KAPI	**Kappang**	**2.36**	**350**	P	P	05 03 18.9	+3.2
BATI	**Baumata**	**4.48**	**129**	S	S	05 04 38.6	-1.1
	8.2nm,0.3s,baz=218,slow=23,SNR=11						
SOEI	**Soe**	**4.72**	**121**	P	P	05 03 32.9	+1.0
SOEI					S	05 04 43.9	+0.6
KNRA	**Kununurra**	**11.81**	**135**	P	P	05 04 41.7	+0.8
FITZ	**Fitzroy Crossi**	**11.94**	**154**	P	P	05 04 42.5	+0.4
	0.5nm,0.3s,baz=331,slow=7.8,SNR=26						
FITZ	**Fitzroy Crossi**	**11.94**	**154**	P	P	05 04 42.8	+0.7
MTN	**Manton Dam**	**12.11**	**118**	P	P	05 04 44.2	+0.2
SBUM	**Sibu**	**12.55**	**321**	P	P	05 04 50.4	+1.8
XMIS	**Christmas Isla**	**14.65**	**257**	P	P	05 05 08.9	-1.4
WB0	**Warramunga Arr**	**18.52**	**133**	P	P	05 05 47.5	+0.5
WB0				IAmb	IAmb	05 05 49.2	
	comp=Z,5.9nm,0.6s						
WRA	**Warramunga Arr**	**18.59**	**134**	P	P	05 05 47.8	+0.1
	comp=Z,0.8nm,0.3s,baz=310,slow=11,SNR=57						
WRA	**Warramunga Arr**	**18.59**	**134**	P	P	05 05 48.1	+0.4
WRAB	**Tennant Creek**	**18.60**	**134**	P	P	05 05 49.7	+2.0
WRAB				IAmb	IAmb	05 05 50.4	
	comp=Z,7.7nm,0.7s						
WB2	**Warramunga Arr**	**18.60**	**134**	P	P	05 05 48.4	+0.7
WB2				IAmb	IAmb	05 05 49.9	
	comp=Z,6.5nm,0.7s						
WR0	**Warramunga Arr**	**18.75**	**133**	P	P	05 05 49.8	+0.7
WR0				IAmb	IAmb	05 05 52.0	
	comp=Z,5.9nm,0.7s						
AS31	**Alice Springs**	**20.91**	**142**	P	P	05 06 09.4	+0.8
AS31				IAmb	IAmb	05 06 13.1	
	comp=Z,1.3nm,0.3s						
ASAR	**Alice Springs**	**20.91**	**142**	P	P	05 06 09.1	+0.4
	comp=Z,1.4nm,0.3s,baz=320,slow=8.6,SNR=46						
ASAR				PcP	PcP	05 09 51.7	-1.0
	comp=Z,0.3nm,0.7s,baz=324,slow=1.3,SNR=2.1						
ASAR	**Alice Springs**	**20.91**	**142**	P	P	05 06 08.9	+0.3
BBOO	**Buckleboo**	**29.32**	**152**	P	P	05 07 22.9	+0.1
STKA	**Stephens Creek**	**31.54**	**144**	P	P	05 07 42.7	+0.8
	comp=Z,1.2nm,0.4s,baz=316,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**31.54**	**144**	P	P	05 07 42.7	+0.8
KNMB	**Chin-men Tao**	**31.68**	**357**	P	P	05 07 42.6	-0.5
MJAR	**Matsushiro Arr**	**46.84**	**20**	P	P	05 09 43.0	-2.0
	comp=Z,0.8nm,0.7s,baz=207,slow=8.4,SNR=3.5						
USRK	**Ussuriysk Ar.**	**52.42**	**11**	P	P	05 10 24.9	-0.9
	comp=Z,0.5nm,0.4s,baz=200,slow=6.6,SNR=4.0						
MK31	**Makanchi Array**	**63.54**	**332**	P	P	05 11 41.0	-0.1
MKAR	**Makanchi Array**	**63.54**	**332**	P	P	05 11 40.6	-0.4
	comp=Z,0.4nm,0.5s,baz=134,slow=7.7,SNR=4.9						
MKAR	**Makanchi Array**	**63.54**	**332**	P	P	05 11 40.8	-0.2
ZALV	**Zalesovo Beam**	**67.93**	**338**	P	P	05 12 06.8	-1.5
	comp=Z,0.7nm,0.3s,baz=126,slow=4.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**67.93**	**338**	P	P	05 12 07.0	-1.2

IDC 07 05:10:13.4±1.8, 3°.03N×83°.34W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.7/21, mbtmp3.4/5, Error ellipse: s-maj=280.1km s-min=26.5km az=55.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**24.38**	**142**	P	P	05 15 34.4	+0.1
	3.3nm,1.1s,baz=330,slow=8.1,SNR=5.1						
TXAR	**Lajitas Array**	**32.51**	**326**	P	P	05 16 46.3	+0.1
	0.1nm,0.6s,baz=151,slow=11,SNR=1.7						
H03N2	**Juan Fernandez**	**36.51**	**174**	T	T	05 55 12.2	
	baz=351,slow=76,SNR=7.2						
H03N1	**Juan Fernandez**	**36.52**	**174**	T	T	05 55 08.8	
	baz=351,slow=76,SNR=11						
H03N3	**Juan Fernandez**	**36.53**	**174**	T	T	05 55 09.1	
	baz=351,slow=76,SNR=11						
PDAR	**Pinedale Array**	**45.95**	**333**	P	P	05 18 39.3	+0.8
	0.2nm,0.7s,baz=132,slow=7.4,SNR=2.2						
NVAR	**Mina Array Bea**	**47.52**	**222**	P	P	05 18 50.7	-0.2
	0.6nm,0.8s,baz=143,slow=7.6,SNR=4.1						
ILAR	**Eielson Array**	**76.22**	**337**	P	P	05 22 02.8	-0.7
	0.5nm,0.9s,baz=126,slow=4.6,SNR=4.6						

IDC 07 05:15:40.9±389.0, 28°.47N×78°.92W, h0km, Error ellipse: s-maj=312.4km s-min=148.6km az=66.0, Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I51GB	**BERMUDA INFRAST**	**2.87**	**69**	*i*		06 34 40.0	
	baz=260,slow=314,SNR=0.6						
I10CA	**LAC DU BONNET**	**25.30**	**334**	*i*		07 51 40.0	
	baz=141,slow=305,SNR=1.4						
I08BO	**LAS PENAS INFR**	**45.56**	**166**	*i*		09 53 10.0	
	baz=343,slow=328,SNR=1.0						

MEX 07 05:18:18.8±0.4, 13°.97N×92°.48W, h18km±30km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.95**	**12**	*i* P	Pb	05 18 34.2	-2.6
THIG				*i* S	Sb	05 18 45.5	-3.5
PCIG		**1.86**	**337**	*i* P	Pn	05 18 46.5	-3.4
PCIG				*i* S	Sn	05 19 09.4	-3.6
CCIG	**Comitan**	**2.32**	**8**	*i* P	Pn	05 18 56.9	+0.6
TGIG		**2.86**	**348**	*i* P	Pn	05 19 01.8	-1.8
TGIG				*i* S	Sn	05 19 34.7	-2.9
CMIG	**Matias Romero**	**3.87**	**324**	*i* P	Pn	05 19 15.0	-2.4
CMIG				*i* S	Sn	05 19 58.8	-3.8

*ISK **07** 05:23:05.0, 37°.26N×26°.33E, h10km, ML2.3/8*
*DDA **07** 05:23:05.0, 37°.21N×26°.32E, h19km±2km, ML2.0*
*THE **07** 05:23:05.5, 37°.19N×26°.33E, h5km±3km, ML2.2/4, Error ellipse: s-maj=3.7km s-min=0.9km az=80.0*
*ATH **07** 05:23:05.3, 37°.19N×26°.35E, h22km±4km, ML2.5/3, Error ellipse: s-maj=5.2km s-min=1.3km az=325.0*
ISC 07 05:23:05.7±1.0, 37°.21N±0°.03×26°.33E±0°.02, h10km±9km, n30, σ0§65/47, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.64**	**39**	P	**Pg**	**05 23 18.0**	**-0.1**
SMG				S	**Sg**	**05 23 27.2**	**+0.7**
	650nm,0.3s						
SMG	**Samos**	**0.64**	**39**	P	**Pg**	**05 23 18.0**	**-0.1**
SMG				S	**Sg**	**05 23 27.2**	**+0.7**
SMG				AML	AML	05 23 30.4	
	comp=N,1383μm,0.3s						
SMG				AML	AML	05 23 30.6	
	comp=E,1477μm,0.5s						
APE	**Apeiranthos**	**0.66**	**258**	P	**Pg**	**05 23 18.7**	**+0.3**
APE				S	**Sb**	**05 23 27.9**	**-0.5**
	comp=E,148nm,0.2s						
APE	**Apeiranthos**	**0.66**	**258**	P	**Pg**	**05 23 18.4**	**0.0**
APE				S	**Sg**	**05 23 27.4**	**+0.4**
APE				AML	AML	05 23 30.3	
	comp=N,287μm,0.2s						
APE				AML	AML	05 23 30.9	
	comp=E,290μm,0.2s						
APE	**Apeiranthos**	**0.66**	**258**	PG	**Pg**	**05 23 18.7**	**+0.3**
APE				SG	**Sg**	**05 23 27.6**	**+0.6**
KOSK	**Kos Island**	**0.69**	**131**	PG	**Pb**	**05 23 20.1**	**+0.2**
KOSK				SG	**Sb**	**05 23 30.2**	**+0.7**
DIDI	**Didim-Aydin**	**0.74**	**77**	PG	**Pg**	**05 23 19.6**	**-0.5**
BODT	**Bodrum**	**0.80**	**101**	P	**Pg**	**05 23 20.0**	**-1.1**
BODT				S	**Sb**	**05 23 32.5**	**0.0**
BODT	**Bodrum**	**0.80**	**101**	PG	**Pg**	**05 23 20.9**	**-0.2**
BODT				SG	**Sb**	**05 23 32.7**	**+0.2**
GCAM	**G?zelcaml?**	**0.87**	**56**	PG	**Pg**	**05 23 21.9**	**-0.6**
GCAM				SG	**Sg**	**05 23 34.1**	**+0.3**
GCAM	**G?zelcaml?**	**0.87**	**56**	*i* P	**Pg**	**05 23 22.1**	**-0.4**
GCAM				*i* S	**Sb**	**05 23 34.8**	**+0.3**
GCAM				IAML		05 23 37.0	
	comp=N,112nm,0.3s						
GCAM				IAML		05 23 38.0	
	comp=E,84nm,0.2s						
DGB	**zmir**	**0.95**	**27**	*i* P	**Pg**	**05 23 23.1**	**-0.8**
DGB				*i* S	**Sg**	**05 23 36.0**	**-0.2**
DGB				IAML		05 23 38.0	
	comp=E,73nm,0.3s						
DGB				IAML		05 23 40.0	
	comp=N,31nm,0.2s						
ANAF	**Anafi Island**	**0.96**	**208**	P	**Pg**	**05 23 23.8**	**-0.5**
ANAF				S	**Sb**	**05 23 36.9**	**-0.4**
	comp=N,352nm,0.2s						
ANAF	**Anafi Island**	**0.96**	**208**	P	**Pg**	**05 23 23.9**	**-0.4**
ANAF				AML	AML	05 23 41.3	
	comp=E,761μm,0.3s						
ANAF				AML	AML	05 23 44.2	
	comp=N,829μm,0.3s						
TNSA	**Tinos**	**0.98**	**290**	P	**Pb**	**05 23 25.4**	**+0.6**
SANT	**Santorini**	**1.09**	**220**	P	**Pg**	**05 23 25.9**	**-0.8**
DAT	**Datca**	**1.11**	**115**	P	**Pg**	**05 23 26.2**	**-0.9**
DAT				S	**Sb**	**05 23 42.0**	**+0.4**
DAT	**Datca**	**1.11**	**115**	PN	**Pg**	**05 23 26.8**	**-0.3**
DAT	**Datca**	**1.11**	**115**	*i* P	**Pg**	**05 23 26.1**	**-1.0**
DAT				*i* S	**Sb**	**05 23 41.6**	**0.0**
URLA	**Izmir**	**1.17**	**10**	PN	**Pg**	**05 23 26.9**	**-1.2**
URLA	**Izmir**	**1.17**	**10**	*i* P	**Pg**	**05 23 26.9**	**-1.2**
URLA				*i* S	**Sg**	**05 23 43.8**	**+0.5**
CHOS	**Chios island**	**1.19**	**350**	S	**Sn**	**05 23 46.0**	**+1.2**
CHOS	**Chios island**	**1.19**	**350**	PN	**Pg**	**05 23 27.5**	**-1.2**
BLCB	**Balcova**	**1.30**	**26**	PN	**Pn**	**05 23 29.3**	**-0.6**
AYDN	**Tasoluk**	**1.31**	**70**	*i* P	**Pn**	**05 23 29.7**	**-0.4**
AYDN				*i* S	**Sn**	**05 23 48.6**	**+0.9**
AYDN				IAML		05 23 50

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.78**	**133**	Pn	**Pb**	**05 24 04.7**	**+0.2**
	2μm,0.3s,baz=259,slow=1.8,SNR=236						
KRVT				Sn	**Sb**	**05 24 15.8**	**+0.7**
	2μm,0.3s,baz=59,slow=19,SNR=10						
RABL	**Rabaul**	**0.82**	**121**		**Pb**	**05 24 05.5**	**+0.3**
RABL				Sg	**Sn**	**05 24 17.2**	**-1.5**
PMG	**Port Moresby**	**7.04**	**217**	Pn	**Pn**	**05 25 33.9**	**+1.8**
	3.0nm,0.3s,baz=32,slow=11,SNR=13						
PMG				LR	LR	05 28 12.3	
	comp=Z,2μm,21.7s,baz=14,slow=38						
PMG	**Port Moresby**	**7.04**	**217**	Pn	**Pn**	**05 25 34.1**	**+2.0**
HNR	**Honiara**	**10.13**	**124**	LR	LR	05 30 17.2	
	comp=Z,2μm,21.5s,baz=295,slow=39						
JAY	**Jayapura**	**10.81**	**276**	LR	LR	05 29 57.3	
	comp=Z,3μm,18.2s,baz=51,slow=34						
PATS	**Pohnpei**	**12.57**	**33**	Pn	**Pn**	**05 26 47.8**	**-0.1**
COEN	**Coen**	**13.01**	**218**	Pn	**Pn**	**05 26 54.6**	**+0.6**
MTSU	**Mount Surprise**	**15.89**	**206**	P	**P**	**05 27 36.2**	**-0.4**
	baz=16,SNR=11						
CTA	**Charters Tower**	**16.99**	**197**	Pn	**P**	**05 27 48.3**	**-0.4**
	0.6nm,0.3s,baz=19,slow=12,SNR=15						
CTA				LR	LR	05 33 11.2	
	comp=Z,651nm,21.6s,baz=16,slow=33						
CTA	**Charters Tower**	**16.99**	**197**	P	**P**	**05 27 50.5**	**+1.8**
	baz=17						
CTAO	**Charters Tower**	**16.99**	**197**	P	**P**	**05 27 48.4**	**-0.4**
GUMO	**Guam**	**18.45**	**339**	P	**Pn**	**05 28 06.0**	**+1.1**
	1.9nm,0.3s,baz=125,slow=13,SNR=3.4						
GUMO				LR	LR	05 35 23.5	
	comp=Z,180nm,18.2s,baz=157,slow=38						
GUMO	**Guam**	**18.45**	**339**		**P**	**05 28 04.4**	**-0.4**
GUMO				IAmb	IAmb	05 28 10.8	
	comp=Z,187nm,1.3s						
QIS	**Mount Isa**	**20.29**	**214**	P	**P**	**05 28 26.2**	**+1.2**
	baz=20,SNR=4.7						
SIJI	**Sorong**	**20.38**	**278**	P	**P**	**05 28 27.3**	**+1.2**
	comp=Z,28nm,0.8s,baz=151,slow=21,SNR=8.2						
SAUI	**Saumlaki**	**20.48**	**257**	P	**P**	**05 28 24.1**	**-3.0**
KDU	**Kakadu**	**20.76**	**244**	P	**P**	**05 28 29.7**	**-0.4**
	baz=21,SNR=5.7						
EIDS	**Eidsvold**	**21.48**	**181**	P	**P**	**05 28 40.8**	**+3.1**
	baz=22,SNR=3.1						
EIDS	**Eidsvold**	**21.48**	**181**	P	**P**	**05 28 37.6**	**-0.2**
RMQ	**Roma**	**22.73**	**186**	P	**P**	**05 28 53.0**	**+1.7**
	baz=23,SNR=6.7						
WB0	**Warramunga Arr**	**23.02**	**225**	P	**P**	**05 28 54.2**	**-0.2**
WR0	**Warramunga Arr**	**23.04**	**224**	P	**P**	**05 28 53.5**	**-1.1**
WRAB	**Tennant Creek**	**23.16**	**225**	P	**P**	**05 28 53.4**	**-2.4**
WRAB				IAmb	IAmb	05 29 02.9	
	comp=Z,54nm,1.4s						
WB2	**Warramunga Arr**	**23.16**	**225**	P	**P**	**05 28 57.0**	**+1.1**
	baz=23						
WB2	**Warramunga Arr**	**23.16**	**225**	P	**P**	**05 28 54.1**	**-1.7**
WB2				IAmb	IAmb	05 29 03.0	
	comp=Z,55nm,1.4s						
WRA	**Warramunga Arr**	**23.17**	**225**	P	**P**	**05 28 54.7**	**-1.2**
	comp=Z,6.6nm,0.7s,baz=51,slow=9.6,SNR=41						
WRA				S	**S**	**05 33 07.5**	**-0.3**
	comp=Z,4.6nm,1.3s,baz=44,slow=17,SNR=6.0						
WRA				LR	LR	05 38 59.8	
	comp=Z,292nm,18.1s,baz=50,slow=39						
WRA	**Warramunga Arr**	**23.17**	**225**	P	**P**	**05 28 55.6**	**-0.3**
DZM	**Mont Dzumac**	**23.28**	**143**	*e*P	**P**	**05 28 58.5**	**+1.4**
	comp=Z,453nm,1.6s						
DZM				*e*S	**S**	**05 33 04.2**	**-5.6**
	comp=Z,185nm,23.2s						
DZM				*e*LR	LR	05 34 27.5	
	comp=Z,2μm,24.9s						
DZM	**Mont Dzumac**	**23.28**	**143**	P	**P**	**05 28 57.9**	**+0.8**
	comp=Z,65nm,0.9s,baz=268,slow=3.3,SNR=51						
DZM				LR	LR	05 37 11.4	
	comp=Z,504nm,20.8s,baz=322,slow=35						
DZM	**Mont Dzumac**	**23.28**	**143**	P	**P**	**05 28 59.2**	**+2.1**
KNRA	**Kununurra**	**25.27**	**241**	P	**P**	**05 29 13.4**	**-2.2**
KNRA				IAmb	IAmb	05 29 39.6	
	comp=Z,20nm,1.1s						
SANI	**Sanana**	**25.50**	**273**	P	**P**	**05 29 18.1**	**+0.4**
	comp=Z,680nmcomp=Z,37nm,1.1s						
AS31	**Alice Springs**	**26.05**	**219**	P	**P**	**05 29 22.4**	**-0.3**
ASAR	**Alice Springs**	**26.05**	**219**	P	**P**	**05 29 22.3**	**-0.4**
	comp=Z,7.8nm,0.8s,baz=51,slow=8.2,SNR=41						
ASAR				LR	LR	05 39 50.5	
	comp=Z,365nm,18.8s,baz=46,slow=37						
ASAR	**Alice Springs**	**26.05**	**219**	P	**P**	**05 29 21.4**	**-1.3**
ARMA	**Armidale**	**26.50**	**180**	P	**P**	**05 29 26.9**	**+0.1**
SOEI	**Soe**	**27.64**	**256**	P	**P**	**05 29 37.4**	**+0.2**
	comp=Z,1μmcomp=Z,78nm,1.2s						
SOEI	**Soe**	**27.64**	**256**	P	**P**	**05 29 36.1**	**-1.1**
DAV	**Davao City (W)**	**27.99**	**293**	LR	LR	05 40 21.6	
	comp=Z,305nm,19.0s,baz=142,slow=35						
BATI	**Baumata**	**28.30**	**255**	P	**P**	**05 29 44.6**	**+1.6**
	comp=Z,56nm,0.9s,baz=45,slow=8.6,SNR=2.4						
BATI				LR	LR	05 43 22.0	
	comp=Z,472nm,20.0s,baz=85,slow=41						
BATI	**Baumata**	**28.30**	**255**	P	**P**	**05 29 42.6**	**-0.5**
	comp=Z,44nm,1.2s						
LUWI	**Luwuk**	**28.79**	**275**	P	**P**	**05 29 46.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**29.01**	**239**	P	**P**	**05 29 49.9**	**+0.6**
	comp=Z,22nm,1.1s,baz=70,slow=5.5,SNR=10						
FITZ				LR	LR	05 43 17.9	
	comp=Z,311nm,18.2s,baz=68,slow=40						
FITZ	**Fitzroy Crossi**	**29.01**	**239**	P	**P**	**05 29 50.1**	**+0.9**
	baz=29,SNR=11						
FITZ	**Fitzroy Crossi**	**29.01**	**239**	P	**P**	**05 29 48.2**	**-1.0**
FITZ				IAmb	IAmb	05 29 54.9	
	comp=Z,18nm,1.0s						
STKA	**Stephens Creek**	**29.45**	**197**	P	**P**	**05 29 52.6**	**-0.4**
	comp=Z,6.5nm,0.7s,baz=14,slow=10,SNR=13						
STKA				LR	LR	05 40 55.3	
	comp=Z,496nm,21.8s,baz=14,slow=35						
STKA	**Stephens Creek**	**29.45**	**197**	P	**P**	**05 29 53.3**	**+0.3**
	baz=30,SNR=6.9						
STKA	**Stephens Creek**	**29.45**	**197**	P	**P**	**05 29 52.0**	**-1.1**
EDFI	**Ende, Flores**	**29.99**	**259**	P	**P**	**05 29 57.0**	**-1.1**
	comp=Z,27nm,1.2s						
WRKA	**Warakurna**	**30.71**	**224**	P	**P**	**05 30 03.7**	**-0.6**
	baz=31,SNR=10						
CAN	**Canberra**	**31.47**	**184**	P	**P**	**05 30 11.4**	**+0.5**
CAN				IAmb	IAmb	05 30 22.9	
	comp=Z,16nm,1.3s						
SPSI	**Sidrap Palu**	**31.62**	**269**	P	**P**	**05 30 12.5**	**+0.1**
	comp=Z,894nmcomp=Z,13nm,0.5s						
JCJ	**Chichijima**	**31.97**	**344**	LR	LR	05 42 56.4	
	comp=Z,211nm,19.9s,baz=150,slow=36						
WBSI	**Waikabubak, Su**	**32.36**	**258**	P	**P**	**05 30 18.3**	**-0.7**
	comp=Z,55nm,1.5s						
TOO	**Toolangi**	**34.08**	**188**	P	**P**	**05 30 32.3**	**-1.3**
FORT	**Forrest**	**34.77**	**217**	P	**P**	**05 30 39.2**	**-0.5**
TGY	**Tagaytay City**	**35.10**	**301**	LR	LR	05 43 30.8	
	comp=Z,183nm,21.2s,baz=90,slow=34						
JAGI	**Jajag, Banyuwa**	**37.37**	**261**	P	**P**	**05 31 03.3**	**+1.1**
	comp=Z,41nm,1.2s						
OUZ	**Omahuta**	**37.41**	**149**	P	**P**	**05 31 02.3**	**0.0**
JHJ	**Hachijo jima 2**	**38.32**	**344**	LR	LR	05 44 46.2	
	comp=Z,188nm,20.2s,baz=160,slow=33						
YULB	**Yu-li**	**39.93**	**314**	P	**P**	**05 31 22.4**	**-1.2**
WOJI	**Wonogiri, Jawa**	**40.51**	**262**	P	**P**	**05 31 29.6**	**+1.0**
	comp=Z,30nm,1.5s						
KSM	**Kuching**	**41.46**	**276**	P	**P**	**05 31 34.9**	**-1.5**
KSM				IAmb	IAmb	05 31 42.5	
	comp=Z,45nm,1.4s						
QRZ	**Quartz Range**	**41.48**	**156**	P	**P**	**05 31 35.4**	**-0.8**
URZ	**Urewera**	**41.54**	**149**	P	**P**	**05 31 37.5**	**+0.8**
URZ				IAmb	IAmb	05 31 40.0	
	comp=Z,21nm,0.9s						
JNU	**Nakatsue**	**41.55**	**334**	P	**P**	**05 31 39.3**	**+2.5**
	comp=Z,23nm,1.0s,baz=180,slow=6.1,SNR=3.9						
BKZ	**Black Stump Fm**	**41.93**	**151**	P	**P**	**05 31 39.8**	**-0.2**
BKZ				IAmb	IAmb	05 31 47.0	
	comp=Z,30nm,1.3s						
MJAR	**Matsushiro Arr**	**41.97**	**344**	P	**P**	**05 31 38.4**	**-1.8**
	comp=Z,1.9nm,1.1s,baz=171,slow=9.2,SNR=2.7						
MJAR				PcP	**PcP**	**05 33 37.2**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=156,slow=4.4,SNR=5.1						
MJAR				LR	LR	05 47 27.6	
	comp=Z,198nm,20.9s,baz=170,slow=34						
MAT	**Matsushiro**	**41.98**	**344**	P	**P**	**05 31 39.3**	**-1.0**
MAT				S	**S**	**05 37 53.6**	**-5.4**
THZ	**Tophouse**	**42.42**	**156**	P	**P**	**05 31 44.1**	**+0.2**
THZ				IAmb	IAmb	05 31 59.3	
	comp=Z,15nm,0.8s						
TUWZ	**Tuamarina**	**42.57**	**155**	P	**P**	**05 31 44.7**	**-0.3**
BSWZ	**Blackbirch Sta**	**42.78**	**155**	P	**P**	**05 31 47.1**	**+0.4**
BHW	**Baring Head**	**42.95**	**154**	P	**P**	**05 31 48.3**	**+0.2**
BFZ	**Birch Farm**	**42.99**	**152**	P	**P**	**05 31 48.2**	**-0.3**
LTZ	**Lake Taylor**	**43.03**	**157**	P	**P**	**05 31 49.9**	**+1.0**
LTZ				IAmb	IAmb	05 31 51.1	
	comp=Z,32nm,1.4s						
MSWZ	**Moikau Station**	**43.13**	**154**	P	**P**	**05 31 50.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**43.17**	**224**	LR	LR	05 49 18.0	
	comp=Z,352nm,20.7s,baz=80,slow=36						
KHZ	**Kahutara**	**43.22**	**156**	P	**P**	**05 31 50.2**	**-0.1**
KHZ				IAmb	IAmb	05 32 01.2	
	comp=Z,44nm,1.5s						
PLWZ	**Palliser**	**43.25**	**154**	P	**P**	**05 31 51.0**	**+0.3**
RPZ	**Rata Peaks**	**43.39**	**159**	P	**P**	**05 31 51.8**	**+0.1**
RPZ				IAmb	IAmb	05 31 53.9	
	comp=Z,20nm,0.8s						
CISI	**Cisompet, Garu**	**43.58**	**263**	P	**P**	**05 31 52.8**	**-0.9**
	comp=Z,82nm,1.4s						
WKZ	**Wanaka**	**43.70**	**162**	P	**P**	**05 31 52.9**	**-1.3**
LEM	**Lembang**	**43.75**	**264**	LR	LR	05 53 28.2	
	comp=Z,84nm,18.2s,baz=172,slow=41						
MQZ	**McQueen's Vall**	**43.97**	**158**	P	**P**	**05 31 56.7**	**+0.4**
MQZ				IAmb	IAmb	05 32 05.2	
	comp=Z,29nm,1.2s						
SSE	**Sheshan**	**45.12**	**322**	P	**P**	**05 32 07.1**	**+1.5**
SSE				S	**S**	**05 38 46.8**	**+1.7**
SSE				pmax	pmax		
	comp=Z,21nm,0.7s						
SSE				pmax	pmax		
	comp=Z,95nm,3.3s						
SSE				LR	LR		
	comp=Z,130nm,20.2s						
SSE				LR	LR		
	comp=Z,97nm,19.2s						
KSRS	**Korea Array**	**46.49**	**334**	P	**P**	**05 32 17.4**	**+1.0**
	comp=Z,1.5nm,1.0s,baz=152,slow=9.1,SNR=6.8						
KSRS				LR	LR	05 50 01.7	
	comp=Z,178nm,21.6s,baz=152,slow=34						
QIZ	**Qiongzhong**	**46.80**	**300**	P	**P**	**05 32 17.5**	**-1.7**
QIZ				S	**S**	**05 39 08.7**	**-1.1**
QIZ				LR	LR		
	comp=Z,140nm,15.5s						
MDSI	**Maura Dua**	**47.16**	**267**	P	**P**	**05 32 21.1**	**-1.0**
	comp=Z,987nmcomp=Z,16nm,1.1s						
NJ2	**Nanjing**	**47.21**	**321**	‖P	**P**	**05 32 21.8**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
JKA	**Kamikawa-asahi**	**48.33**	**351**	P	**P**	**05 32 32.2**	**+1.5**
ASAJ	**Asahikawa**	**48.33**	**351**	P	**P**	**05 32 32.2**	**+1.5**
	comp=Z,5.8nm,0.9s,baz=245,slow=16,SNR=6.4						
WHN	**Wuhan**	**49.20**	**317**	P	**P**	**05 32 38.1**	**+0.6**
WHN				S	**S**	**05 39 45.4**	**+2.0**
WHN				LR	LR		
	comp=Z,290nm,7.1s						
WHN				LR	LR		
	comp=Z,560nm,14.6s						
WHN				LR	LR		
	comp=Z,650nm,19.1s						
KRJI	**Kerinci**	**49.95**	**270**	P	**P**	**05 32 44.3**	**+0.6**
	comp=Z,9μmcomp=Z,627nm,0.5s						
SDSI	**Sungai Dareh**	**50.06**	**272**	P	**P**	**05 32 43.8**	**-0.6**
	comp=Z,2μmcomp=Z,16nm,0.9s						
RAR	**Rarotonga**	**50.42**	**114**	LR	LR	05 51 28.1	
	comp=Z,90nm,21.9s,baz=286,slow=33						
USA0B	**Ussuriysk Arra**	**50.86**	**342**	P	**P**	**05 32 48.8**	**-1.1**
USRK	**Ussuriysk Ar.**	**50.86**	**342**	P	**P**	**05 32 51.2**	**+1.3**
	comp=Z,3.2nm,0.8s,baz=164,slow=8.1,SNR=7.0						
USRK				LR	LR	05 54 08.9	
	comp=Z,141nm,18.1s,baz=155,slow=36						
USRK	**Ussuriysk Ar.**	**50.86**	**342**	P	**P**	**05 32 48.4**	**-1.5**
MDJ	**Mudanjiang**	**52.00**	**340**	P	**P**	**05 32 57.1**	**-1.4**
MDJ				IAmb	IAmb	05 33 07.0	
	comp=Z,14nm,1.1s						
MNSI	**Mandailing Nat**	**52.05**	**274**	P	**P**	**05 32 59.0**	**-0.4**
	comp=Z,3μmcomp=Z,18nm,0.5s						
RPSI	**Rantau Prapat**	**52.90**	**276**	P	**P**	**05 33 04.0**	**-1.7**
GSI	**Gunungsitoli**	**54.09**	**274**	P	**P**	**05 33 12.6**	**-1.9**
GSI				IAmb	IAmb	05 33 21.0	
	comp=Z,17nm,0.9s						
KLR	**Kul'dur**	**55.50**	**344**	P	**P**	**05 33 25.4**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=140,slow=5.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	**56.23**	**295**	P	**P**	**05 33 31.2**	**+1.4**
	comp=Z,4.4nm,0.7s,baz=107,slow=4.1,SNR=15						
CMAR				LR	LR	05 57 50.5	
	comp=Z,69nm,18.8s,baz=145,slow=36						
CMAR	**Chiang Mai Arr**	**56.23**	**295**	P	**P**	**05 33 29.0**	**-0.9**
CHTO	**Chiang Mai**	**56.34**	**295**	P	**P**	**05 33 30.5**	**-0.1**
CHTO				IAmb	IAmb	05 33 39.6	
	comp=Z,21nm,1.4s						
PEA0B	**Petropavlovsk-**	**56.92**	**4**	P	**P**	**05 33 33.0**	**-1.1**
PETK	**Petropavlovsk-**	**56.92**	**4**	P	**P**	**05 33 35.5**	**+1.4**
	comp=Z,3.4nm,0.6s,baz=168,slow=6.3,SNR=7.4						
PETK				LR	LR	05 53 04.5	
	comp=Z,182nm,21.6s,baz=181,slow=31						
PETK	**Petropavlovsk-**	**56.92**	**4**	P	**P**	**05 33 33.4**	**-0.6**
CD2	**Chengdu**	**57.06**	**311**	*e*P	**P**	**05 33 35.0**	**-0.6**
CD2				S	**S**	**05 41 30.7**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,310nm,15.7s						
CD2				LR	LR		
	comp=Z,340nm,17.2s						
CD2				LR	LR		
	comp=Z,380nm,18.6s						
HHC	**Hu-ho-hao-te**	**57.44**	**325**	*e*P	**P**	**05 33 38.3**	**+0.1**
HHC				PP	**PP**	**05 35 47.3**	**+1.5**
HHC				S	**S**	**05 41 33.0**	**-2.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,60nm,5.8s						
HHC				LR	LR		
	comp=Z,180nm,18.2s						
HHC				LR	LR		
	comp=Z,180nm,13.9s						
HHC				LR	LR		
	comp=Z,330nm,17.5s						
PPT	**Papeete**	**59.31**	**108**	LR	LR	05 56 17.8	
	comp=Z,73nm,18.6s,baz=288,slow=33						
PPT2	**Papeete2**	**59.31**	**108**	*e*LQ	LQ	05 48 40.5	
	comp=Z,455nm,29.8s						
PPT2				*e*LR	LR	05 51 08.8	
	comp=Z,145nm,24.2s						
TBI	**Tubuai**	**60.20**	**115**	*e*LR	LR	05 51 36.5	
	comp=Z,232nm,29.2s						
GTA	**Gaotai**	**64.00**	**317**	*e*P	**P**	**05 34 23.7**	**+0.7**
GTA				pP	pwP	05 34 28.1	+0.1
GTA				sP	sP	05 34 31.0	+4.4
GTA				S	**S**	**05 43 01.2**	**+1.7**
GTA				sS	sS	05 43 09.9	+6.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,28nm,6.3s						
GTA				LR	LR		
	comp=Z,80nm,20.0s						
GTA				LR	LR		
	comp=Z,240nm,20.3s						
GTA				LR	LR		
	comp=Z,210nm,20.9s						
SHL	**Shillong**	**64.64**	**300**	P	**P**	**05 34 28.1**	**+0.6**
SHL				IAmb	IAmb	05 34 29.0	
	comp=Z,8.5nm,1.0s						
SONM	**Songino Array**	**64.75**	**328**	P	**P**	**05 34 28.9**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=131,slow=4.6,SNR=4.3						
SONM				LR	LR	06 00 54.5	
	comp=Z,236nm,21.9s,baz=112,slow=34						
SONM	**Songino Array**	**64.75**	**328**	P	**P**	**05 34 27.7**	**0.0**
VNDA	**Vanda**	**73.90**	**178**	P	**P**	**05 35 23.9**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=337,slow=6.9,SNR=15						
VNDA				LR	LR	06 03 58.1	
	comp=Z,103nm,19.7s,baz=346,slow=33						
VNDA	**Vanda**	**73.90**	**178**	P	**P**	**05 35 24.3**	**+0.6**
WMQ	**Urumqi**	**74.09**	**318**	*e*P	**P**	**05 35 26.7**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,56nm,4.5s						
WMQ				LR	LR		
	comp=Z,400nm,28.1s						
WMQ				LR	LR		
	comp=Z,250nm,24.1s						
WMQ				LR	LR		
	comp=Z,87nm,21.5s						
MKAR	**Makanchi Array**	**78.68**	**319**	P	**P**	**05 35 52.6**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=94,slow=7.4,SNR=2.7						
MKAR				LR	LR	06 09 37.4	
	comp=Z,96nm,20.3s,baz=88,slow=35						
ZALV	**Zalesovo Beam**	**79.56**	**327**	P	**P**	**05 35 55.9**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=104,slow=6.1,SNR=3.5						
ZALV				LR	LR	06 11 06.3	
	comp=Z,111nm,20.5s,baz=104,slow=36						
ZALV	**Zalesovo Beam**	**79.56**	**327**	P	**P**	**05 35 55.6**	**-0.5**
KTH	**Kantishna Hill**	**79.58**	**23**	P	**P**	**05 35 56.0**	**-0.1**
KTH				IAmb	IAmb	05 36 04.0	
	comp=Z,16nm,1.1s						
MCK	**McKinley**	**80.44**	**23**	P	**P**	**05 36 00.9**	**+0.2**
WRH	**Wood River Hil**	**81.12**	**22**	P	**P**	**05 36 03.7**	**-0.5**
WRH				IAmb	IAmb	05 36 12.1	
	comp=Z,22nm,1.3s						
COLA	**College**	**81.41**	**22**	P	**P**	**05 36 05.8**	**0.0**
COLA				IAmb	IAmb	05 36 15.2	
	comp=Z,10nm,0.8s						
IL31		**81.72**	**22**	P	**P**	**05 36 08.0**	**+0.6**
IL31				IAmb	IAmb	05 36 14.7	
	comp=Z,7.1nm,0.8s						
ILAR	**Eielson Array**	**81.72**	**22**	P	**P**	**05 36 07.0**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=254,slow=5.4,SNR=24						
ILAR				LR	LR	06 16 03.1	
	comp=Z,60nm,18.3s,baz=262,slow=38						
ILAR	**Eielson Array**	**81.72**	**22**	P	**P**	**05 36 07.5**	**0.0**
NRIK	**Noril'sk**	**84.57**	**341**	P	**P**	**05 36 23.4**	**+1.4**
	comp=Z,6.5nm,0.9s,baz=107,slow=7.6,SNR=4.5						
NRIK				LR	LR	06 13 58.2	
	comp=Z,80nm,20.9s,baz=196,slow=36						
WHY	**Whitehorse**	**85.33**	**28**	P	**P**	**05 36 26.1**	**-0.2**
WHY				IAmb	IAmb	05 36 34.7	
	comp=Z,16nm,1.5s						
KK31	**Karatay Array**	**85.96**	**314**	P	**P**	**05 36 29.1**	**-0.5**
KK31				IAmb	IAmb	05 36 38.5	
	comp=Z,7.6nm,1.1s						
KKAR	**Karatay Array**	**85.96**	**314**	P	**P**	**05 36 30.0**	**+0.4**
KKAR	**Karatay Array**	**85.96**	**314**	P	**P**	**05 36 29.6**	**0.0**
KKAR				IAmb	IAmb	05 36 38.4	
	comp=Z,7.6nm,1.1s						
MAW	**Mawson**	**86.00**	**203**	LR	LR	06 11 53.8	
	comp=Z,186nm,22.0s,baz=68,slow=34						
QSPA	**South Pole Qui**	**86.18**	**180**	P	**P**	**05 36 29.9**	**-0.4**
QSPA				IAmb	IAmb	05 36 37.7	
	comp=Z,17nm,1.1s						
BRVK	**Borovoye**	**87.69**	**323**	P	**P**	**05 36 37.6**	**-0.2**
NVAR	**Mina Array Bea**	**92.51**	**52**	P	**P**	**05 37 01.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=266,slow=7.1,SNR=1.4						
NVAR				LR	LR	06 11 32.6	
	comp=Z,77nm,19.7s,baz=271,slow=31						
SYO	**Syowa Base**	**94.18**	**200‖**	*e*P	**P**	**05 37 07.0**	**-0.7**
SYO	**Syowa Base**	**94.18**	**200‖**	*e*sP	sP	05 37 13.8	+2.5
GEYT	**Alibeck**	**94.94**	**308**	LR	LR	06 20 52.5	
	comp=Z,45nm,21.5s,baz=180,slow=36						
YKA	**Yellowknife Ar**	**95.15**	**28**	LR	LR	06 16 47.4	
	comp=Z,99nm,20.6s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**99.15**	**47**	P	**Pdif**	**05 37 33.3**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=248,slow=3.8,SNR=1.7						
PDAR				LR	LR	06 20 24.5	
	comp=Z,70nm,18.1s,baz=294,slow=34						
KRLC	**Kraliky**	**120.14**	**328**	AMS	AMS	06 34 20.0	
	comp=Z,100nm,21.4s						
OSTC	**Ostas**	**120.15**	**329**	AMS	AMS	06 35 20.0	
	comp=Z,100nm,18.6s						
CHVC	**Chvalec**	**120.22**	**329**	AMS	AMS	06 35 20.0	
	comp=Z,100nm,20.9s						
DPC	**Dobruska-Polom**	**120.22**	**328**	AMS	AMS	06 33 10.0	
	comp=Z,100nm,25.4s						
UPC	**Upice**	**120.29**	**329**	AMS	AMS	06 35 20.0	
	comp=Z,100nm,25.3s						
PVCC	**Panska Ves**	**121.02**	**329**	AMS	AMS	06 32 00.0	
	comp=Z,100nm,23.4s						
TREC	**Trest**	**121.27**	**328**	AMS	AMS	06 33 30.0	
	comp=Z,200nm,23.0s						
GOPC	**GO Pecny, Ondr**	**121.28**	**329**	AMS	AMS	06 35 40.0	
	comp=Z,100nm,23.9s						
PRU	**Pruhonice**	**121.36**	**329**	AMS	AMS	06 31 20.0	
	comp=Z,100nm,23.9s						
PRA	**Prague**	**121.36**	**329**	AMS	AMS	06 37 10.0	
	comp=Z,100nm,21.2s						
NKC	**Novy Kostel**	**122.27**	**330**	AMS	AMS	06 33 40.0	
	comp=Z,100nm,23.6s						
KHC	**Kasperske Hory**	**122.38**	**329**	AMS	AMS	06 31 50.0	
	comp=Z,200nm,27.2s						
GERES	**GERESS Array B**	**122.48**	**328**	PKP	**PKiKP**	**05 42 45.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=14,slow=3.2,SNR=1.7						
LPAZ	**La Paz**	**136.08**	**118**	PKP	**PKPdf**	**05 43 13.0**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=236,slow=3.6,SNR=2.2						
SIV	**San Ignacio**	**142.30**	**122**	PKhKP	**PKPdf**	**05 43 18.6**	**-4.3**
	comp=Z,1.7nm,0.8s,baz=254,slow=2.4,SNR=3.6						
PTGA	**Pitinga**	**148.28**	**97**	PKPbc	**PKPbc**	**05 43 37.0**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=197,slow=2.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.71**	**289**	PKPbc	**PKiKP**	**05 43 38.8**	**-0.3**
	comp=Z,10nm,0.8s,baz=45,slow=1.7,SNR=7.5						
BDFB	**Brasilia**	**152.73**	**135**	PKPbc	**PKi

GUMO LR LR 05 48 26.1
comp=Z,66nm,20.2s,baz=233,slow=33
FITZ Fitzroy Crossi 20.82 188 P **P 05 42 21.1 +1.0**
1.1nm,0.6s,baz=9.2,slow=9.2,SNR=2.6
FITZ Fitzroy Crossi 20.82 188 P **P 05 42 19.9 -0.2**
YULB Yu-li 21.78 342 P **P 05 42 28.6 -1.8**
COEN Coen 21.97 139 P **P 05 42 32.0 -0.6**
COEN IAmb IAmb 05 42 53.7
comp=Z,43nm,1.6s
WB0 Warramunga Arr 23.01 166 P **P 05 42 43.9 +0.3**
WB0 IAmb IAmb 05 42 48.5
comp=Z,62nm,1.9s
CISI Cisompet, Garu 23.04 244 P **P 05 42 43.3 -0.7**
CISI IAmb IAmb 05 43 26.4
comp=Z,52nm,1.3s
WRA Warramunga Arr 23.16 166 P **P 05 42 45.4 +0.3**
comp=Z,4.3nm,0.5s,baz=339,slow=11,SNR=63
WRA Warramunga Arr 23.16 166 P **P 05 42 44.4 -0.8**
WB2 Warramunga Arr 23.17 166 P **P 05 42 45.7 +0.6**
WR0 Warramunga Arr 23.23 166 P **P 05 42 46.4 +0.6**
WR0 IAmb IAmb 05 43 14.5
comp=Z,34nm,1.8s
MDSI Maura Dua 25.36 254 P **P 05 43 07.5 +1.9**
comp=Z,10nm,1.2s
AS31 Alice Springs 26.68 169 P **P 05 43 17.1 -0.3**
ASAR Alice Springs 26.68 169 P **P 05 43 17.1 -0.4**
comp=Z,1.5nm,0.5s,baz=351,slow=7.5,SNR=32
ASAR PcP **PcP 05 46 40.2 -0.6**
comp=Z,1.9nm,0.4s,baz=352,slow=2.1,SNR=27
ASAR ScP **ScP 05 50 15.4 -3.0**
comp=Z,0.6nm,0.7s,baz=340,slow=2.4,SNR=6.6
ASAR Alice Springs 26.68 169 P **P 05 43 17.0 -0.5**
JCJ Chichijima 27.59 27 LR LR 05 52 04.2
comp=Z,63nm,20.9s,baz=310,slow=31
JNU Nakatsue 30.39 4 P **P 05 43 51.8 +1.3**
comp=Z,6.7nm,0.8s,baz=178,slow=6.0,SNR=3.9
NJ2 Nanjing 30.63 344 *e*P **P 05 43 52.5 0.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 32.98 301 P **P 05 44 14.3 +0.9**
comp=Z,0.7nm,0.4s,baz=109,slow=6.4,SNR=4.1
CMAR Chiang Mai Arr 32.98 301 P **P 05 44 09.9 -3.5**
INU Inuyama 33.47 13 P **P 05 44 17.4 0.0**
INU IAmb IAmb 05 44 19.1
comp=Z,10nm,0.6s
KSAR Wonju Array Be 34.63 359 P **P 05 44 29.3 +1.9**
KSRS Korea Array 34.64 359 P **P 05 44 28.8 +1.3**
comp=Z,7.0nm,0.6s,baz=175,slow=9.8,SNR=50
KS19 Wonju Array Si 34.69 359 P **P 05 44 29.2 +1.2**
KS19 IAmb IAmb 05 44 29.9
comp=Z,8.3nm,0.8s
MAJO Matsushiro 34.88 14 P **P 05 44 26.4 -3.3**
MAJO IAmb IAmb 05 44 31.1
comp=Z,6.0nm,0.7s
MAT Matsushiro 34.88 14 P **P 05 44 29.4 -0.3**
MJAR Matsushiro Arr 34.88 14 P **P 05 44 29.2 -0.5**
comp=Z,5.5nm,0.7s,baz=188,slow=9.8,SNR=25
MJAR Matsushiro Arr 34.88 14 P **P 05 44 27.1 -2.6**
BBOO Buckleboo 35.98 169 P **P 05 44 38.8 -0.4**
XAN Xi'an 36.20 332 P **P 05 44 42.1 +1.0**
XAN pP pP 05 44 49.3 -1.8
XAN pmax pmax
comp=Z,8.0nm,1.4s
XAN pmax pmax
comp=Z,60nm,6.9s
XAN LR LR
comp=N,170nm,23.0s
XAN LR LR
comp=E,220nm,20.6s
XAN LR LR
comp=Z,360nm,25.0s
STKA Stephens Creek 36.51 161 P **P 05 44 43.5 -0.1**
comp=Z,1.4nm,0.4s,baz=336,slow=9.6,SNR=8.0
STKA Stephens Creek 36.51 161 P **P 05 44 43.6 -0.1**
CD2 Chengdu 36.58 323 *e*P **P 05 44 43.5 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BJI Beijing 38.87 345 P **P 05 45 04.6 +1.1**
BJI pmax pmax
comp=Z,6.0nm,0.9s
ARMA Armidale 39.59 148 P **P 05 45 10.6 +0.8**
ARMA IAmb IAmb 05 46 17.2
comp=Z,33nm,1.6s
LZH Lanzhou 40.35 328 *e*P **P 05 45 16.4 +0.2**
LZH pP pwP 05 45 27.7 +1.5
LZH sP sP 05 45 31.4 +1.0
LZH pmax pmax
comp=Z,26nm,1.1s
LZH LR LR
comp=N,130nm,16.3s
LZH LR LR
comp=E,200nm,15.4s
LZH LR LR
comp=Z,230nm,17.1s
H11S3 WAKE ISLAND Hy 40.53 64 T T 06 28 44.4
baz=252,slow=75,SNR=36
H11S2 WAKE ISLAND Hy 40.55 64 T T 06 28 46.1
baz=252,slow=75,SNR=28
H11S1 WAKE ISLAND Hy 40.55 64 T T 06 28 42.8
baz=252,slow=75,SNR=23
HHC Hu-ho-hao-te 41.00 340 *e*P **P 05 45 21.5 +0.2**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,65nm,6.4s
H11N1 WAKE ISLAND Hy 41.10 63 T T 06 29 15.4
baz=250,slow=75,SNR=106
H11N2 WAKE ISLAND Hy 41.12 63 T T 06 29 15.5
baz=250,slow=75,SNR=50
H11N3 WAKE ISLAND Hy 41.12 63 T T 06 29 16.4
baz=250,slow=75,SNR=106
USA0B Ussuriysk Arra 41.48 4 P **P 05 45 26.1 +0.9**
USRK Ussuriysk Ar. 41.48 4 P **P 05 45 25.8 +0.7**
comp=Z,4.3nm,0.7s,baz=182,slow=5.6,SNR=15
USRK Ussuriysk Ar. 41.48 4 P **P 05 45 26.6 +1.4**
LHI Lord Howe Isla 44.68 142 P **P 05 45 52.0 +0.8**
GTA Gaotai 44.95 328 ⇑P **P 05 45 54.3 +0.9**
GTA pP sP 05 46 07.0 -0.7
GTA sP pwP 05 46 12.0 +8.4
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,59nm,6.7s
GTA LR LR
comp=N,77nm,16.5s
GTA LR LR
comp=E,150nm,18.1s
GTA LR LR
comp=Z,150nm,18.1s
SONM Songino Array 48.90 340 P **P 05 46 24.1 0.0**
comp=Z,1.4nm,0.6s,baz=150,slow=8.7,SNR=8.2
SONM Songino Array 48.90 340 P **P 05 46 22.3 -1.8**
HYB Hyderabad 51.18 290 *i*P **P 05 46 42.0 -0.2**
WMQ Urumqi 54.64 325 *e*P **P 05 47 07.0 0.0**
PEA0B Petropavlovsk- 55.76 21 P **P 05 47 16.8 +2.0**
PEA0B IAmb IAmb 05 47 17.2
comp=Z,8.7nm,0.8s
PETK Petropavlovsk- 55.76 21 P **P 05 47 16.4 +1.6**
comp=Z,7.3nm,0.7s,baz=172,slow=3.2,SNR=19
PETK Petropavlovsk- 55.76 21 P **P 05 47 16.8 +2.0**
MK31 Makanchi Array 59.47 325 P **P 05 47 40.9 -0.1**
MKAR Makanchi Array 59.47 325 P **P 05 47 40.7 -0.3**
comp=Z,1.9nm,0.5s,baz=114,slow=7.8,SNR=15
MKAR Makanchi Array 59.47 325 P **P 05 47 40.9 -0.1**
MAKZ Makanchi 59.66 325 P **P 05 47 42.5 +0.2**
MAKZ IAmb IAmb 05 47 43.0
comp=Z,3.9nm,0.8s
ZALV Zalesovo Beam 62.37 333 P **P 05 47 59.0 -1.6**
comp=Z,1.3nm,0.8s,baz=111,slow=7.4,SNR=2.0
ZALV Zalesovo Beam 62.37 333 P **P 05 47 58.7 -1.8**
KURK Kurchatov 63.62 327 P **P 05 48 07.7 -1.2**
KURK IAmb IAmb 05 48 09.2
comp=Z,4.1nm,0.7s
CASY Casey 69.98 188 P **P 05 48 47.9 -1.3**
CASY IAmb IAmb 05 49 58.9
comp=Z,3.8nm,0.7s
NRIK Noril'sk 71.90 346 P **P 05 49 00.1 -0.7**
comp=Z,2.2nm,0.5s,baz=140,slow=8.0,SNR=4.3
AKUT Akutan 73.79 34 P **P 05 49 13.9 +1.7**
ABKAR Akbulak array 74.12 321 P **P 05 49 13.2 -1.2**
ANM Nome 77.50 24 P **P 05 49 35.2 +1.9**
ANM IAmb IAmb 05 49 48.6
comp=Z,21nm,1.4s
TTA Tatalina 81.04 27 P **P 05 49 53.0 +0.2**
TTA IAmb IAmb 05 49 55.3
comp=Z,11nm,1.3s
KDAK Kodiak Island 81.83 32 P **P 05 49 58.6 +1.7**
VNDA Vanda 82.14 173 P **P 05 49 57.0 -1.1**
comp=Z,1.1nm,0.8s,baz=291,slow=6.1,SNR=6.2
VNDA Vanda 82.14 173 P **P 05 49 57.4 -0.8**
IMAR Indian Mountai 82.59 24 P **P 05 50 02.4 +1.7**
PPLA Purkeypile 82.76 27 P **P 05 50 03.8 +1.9**
PPLA IAmb IAmb 05 50 28.1
comp=Z,24nm,1.7s
CNPM China Poot 82.76 30 P **P 05 50 02.9 +1.1**
BPAW Bear Paw Mtn. 83.46 26 P **P 05 50 04.5 -0.9**
BPAW IAmb IAmb 05 50 07.3
comp=Z,3.4nm,0.8s
TRF Thorofare Moun 83.68 27 P **P 05 50 05.5 -1.2**
TRF IAmb IAmb 05 50 08.0
comp=Z,7.3nm,0.9s
PMR Palmer 84.02 28 P **P 05 50 08.3 +0.2**
PMR IAmb IAmb 05 50 09.5
comp=Z,10nm,0.8s
COLD Coldfoot 84.17 23 P **P 05 50 08.6 -0.3**
MCK McKinley 84.32 26 P **P 05 50 09.4 -0.3**
TOLK Toolik Lake Re 84.58 21 P **P 05 50 11.2 +0.2**
TOLK IAmb IAmb 05 50 14.2
comp=Z,8.2nm,1.1s
GLI Glacier Island 84.94 29 P **P 05 50 13.4 +0.5**
DHY Denali Highway 84.96 27 P **P 05 50 13.2 +0.1**
DHY IAmb IAmb 05 50 21.0
comp=Z,13nm,1.6s
FID Port Fidalgo 85.24 29 P **P 05 50 13.2 -1.2**
ILAR Eielson Array 85.29 25 P **P 05 50 13.9 -0.7**
comp=Z,0.5nm,0.6s,baz=241,slow=5.5,SNR=12
ILAR Eielson Array 85.29 25 P **P 05 50 14.3 -0.3**
KLU Klutina 85.55 29 P **P 05 50 15.2 -0.8**
KLU IAmb IAmb 05 50 18.1
comp=Z,6.7nm,0.6s
RIDG Independent Ri 86.13 26 P **P 05 50 19.3 +0.5**
RIDG IAmb IAmb 05 50 55.5
comp=Z,18nm,1.8s
BMAR Burnt Mountain 86.36 23 P **P 05 50 21.4 +1.5**
DOT Dot Lake 86.48 27 P **P 05 50 20.9 +0.4**
DOT IAmb IAmb 05 50 48.1
comp=Z,9.2nm,1.8s
BCAR Beaver Creek A 87.50 27 P **P 05 50 26.7 +1.1**
EGAK Eagle 87.75 25 P **P 05 50 27.0 +0.5**
EGAK IAmb IAmb 05 53 47.1
comp=Z,16nm,1.8s
DAWY Dawson 88.54 26 P **P 05 50 31.3 +0.9**
KMBO Kilima Mbogo 91.34 269 LR LR 06 28 50.5
comp=Z,32nm,19.7s,baz=103,slow=34
ARCES ARCESS Array B 92.08 340 P **P 05 50 45.8 -1.0**
comp=Z,2.8nm,1.0s,baz=65,slow=5.1,SNR=1.6
SYO Syowa Base 92.08 201‖ *e*PcP **PcP 05 50 50.2 +2.7**
TXAR Lajitas Array 120.80 53 PKP **PKPdf 05 56 31.0 +0.1**
comp=Z,0.5nm,0.7s,baz=227,slow=1.1,SNR=6.8
TORD Torodi Ar. Bea 124.97 288 PKP **PKPdf 05 56 37.5 -1.5**
comp=Z,0.6nm,0.6s,baz=65,slow=2.4,SNR=1.7

IDC 07 05:45:08.0±1.9, 4°.68S×124°.07E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.5/36, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=56.3km s-min=25.4km az=54.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.32**	**265**	Pn	Pn	05 46 15.0	0.0
	0.8nm,0.3s,baz=120,slow=12,SNR=4.1						
KAPI				Sn	Sn	05 47 02.7	-3.4
	1.6nm,0.3s,baz=158,slow=24,SNR=2.4						
FITZ	**Fitzroy Crossi**	**13.42**	**174**	Pn	Pn	05 48 18.7	-1.2
	0.1nm,0.3s,baz=348,slow=9.3,SNR=2.7						
WRA	**Warramunga Arr**	**18.17**	**147**	P	Pn	05 49 20.4	-1.5
	0.1nm,0.3s,baz=322,slow=13,SNR=7.2						
ASAR	**Alice Springs**	**21.12**	**154**	P	P	05 49 56.1	+1.6
	3.8nm,0.9s,baz=326,slow=11,SNR=13						
MKAR	**Makanchi Array**	**63.15**	**329**	P	P	05 55 37.4	-0.3
	0.3nm,0.6s,baz=122,slow=6.9,SNR=2.5						

*IDC **07** 05:57:36.1±0.7, 3°.74S×149°.93E, h0km, mb3.9/11, mb1 4.1/13, mb1mx4.0/30, mbtmp3.9/13, ML2.6/2, MS3.5/13, Ms1 3.5/13, ms1mx3.3/28, Error ellipse: s-maj=21.2km s-min=16.5km az=98.0*
*NEIC **07** 05:57:37.8±1.2, 3°.6S±0°.1×150°.21E±0°.09, h62km±12km, mb4.5/15, Error ellipse: s-maj=20.5km s-min=12.9km az=170.0*
ISC 07 05:57:36.4±0.6, 3°.78S±0°.09×150°.15E±0°.06, h10km, n43, σ2°.02/33, mb4.3/18, MS3.5/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.94**	**106**	Pn	**Pb**	**05 58 11.9**	**0.0**
	8.5nm,0.3s,baz=333,slow=9.0,SNR=2.3						
RABL	**Rabaul**	**2.05**	**102**		**Pn**	**05 58 09.5**	**-1.5**
PMG	**Port Moresby**	**6.33**	**208**	Pn	**Pn**	**05 59 09.9**	**0.0**
	3.2nm,0.3s,baz=340,slow=3.8,SNR=5.0						
PMG				LR	LR	06 01 02.6	
	comp=Z,156nm,21.3s,baz=39,slow=33						
PMG	**Port Moresby**	**6.33**	**208**		**Pn**	**05 59 11.4**	**+1.6**
JAY	**Jayapura**	**9.52**	**277**	LR	LR	06 02 38.1	
	comp=Z,287nm,21.1s,baz=30,slow=32						
HNR	**Honiara**	**11.23**	**120**	LR	LR	06 05 09.7	
	comp=Z,281nm,18.9s,baz=292,slow=40						
HNR	**Honiara**	**11.23**	**120**	Pn	**Pn**	**06 00 16.9**	**-0.2**
COEN	**Coen**	**12.23**	**214**	Pn	**Pn**	**06 00 31.3**	**+0.4**
FAKI	**Fak Fak**	**17.89**	**272**	P	**Pn**	**06 01 42.3**	**-3.3**
FAKI				IAmb	IAmb	06 01 52.5	
	comp=Z,46nm,1.2s						
MTN	**Manton Dam**	**20.85**	**243**	P	**P**	**06 02 15.9**	**-2.7**
WB0	**Warramunga Arr**	**22.11**	**223**	P	**P**	**06 02 29.6**	**-2.5**
WB0				IAmb	IAmb	06 02 39.2	
	comp=Z,23nm,1.1s						
WR0	**Warramunga Arr**	**22.14**	**222**	P	**P**	**06 02 30.8**	**-1.7**
WR0				IAmb	IAmb	06 02 40.4	
	comp=Z,19nm,1.1s						
WRAB	**Tennant Creek**	**22.25**	**223**	P	**P**	**06 02 32.0**	**-1.8**
WC3	**Warramunga Arr**	**22.26**	**222**	P	**P**	**06 02 31.8**	**-2.0**
WC3				IAmb	IAmb	06 02 41.0	
	comp=Z,18nm,0.8s						
WB2	**Warramunga Arr**	**22.26**	**223**	P	**P**	**06 02 31.7**	**-2.1**
WB2				IAmb	IAmb	06 02 45.6	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**22.27**	**223**	P	**P**	**06 02 33.8**	**-0.1**
	comp=Z,11nm,0.9s,baz=46,slow=9.9,SNR=39						
WRA				LR	LR	06 11 20.2	
	comp=Z,146nm,21.0s,baz=50,slow=37						
WRA	**Warramunga Arr**	**22.27**	**223**	P	**P**	**06 02 31.9**	**-2.0**
DZM	**Mont Dzumac**	**24.09**	**140**	P	**P**	**06 02 57.0**	**+4.5**
	comp=Z,5.8nm,0.7s,baz=351,slow=23,SNR=6.4						
DZM	**Mont Dzumac**	**24.09**	**140**	P	**P**	**06 02 49.2**	**-3.2**
DZM				IAmb	IAmb	06 03 03.9	
	comp=Z,23nm,1.3s						
KNRA	**Kununurra**	**24.14**	**239**	P	**P**	**06 02 48.8**	**-4.0**
AS31	**Alice Springs**	**25.24**	**217**	P	**P**	**06 03 03.3**	**+0.5**
ASAR	**Alice Springs**	**25.24**	**217**	P	**P**	**06 03 03.1**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=53,slow=8.4,SNR=28						
ASAR				LR	LR	06 13 22.1	
	comp=Z,180nm,20.2s,baz=61,slow=38						
ASAR	**Alice Springs**	**25.24**	**217**	P	**P**	**06 03 03.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.90**	**238**	P	**P**	**06 03 25.5**	**-1.4**
	comp=Z,19nm,0.6s,baz=61,slow=15,SNR=15						
FITZ				LR	LR	06 15 40.6	
	comp=Z,89nm,20.8s,baz=322,slow=39						
FITZ	**Fitzroy Crossi**	**27.90**	**238**	P	**P**	**06 03 30.2**	**+3.3**
STKA	**Stephens Creek**	**29.08**	**195**	LR	LR	06 15 24.5	
	comp=Z,102nm,18.2s,baz=20,slow=37						
MORW	**Morawa**	**40.98**	**228**	P	**P**	**06 05 19.3**	**-0.5**
NWAO	**Narrogin (SRO)**	**42.28**	**223**	LR	LR	06 25 30.6	
	comp=Z,182nm,20.5s,baz=72,slow=40						
KSRS	**Korea Array**	**45.94**	**335**	P	**P**	**06 05 58.2**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=163,slow=7.9,SNR=2.8						
KSRS				LR	LR	06 21 29.8	
	comp=Z,18nm,20.6s,baz=160,slow=31						
RAR	**Rarotonga**	**51.60**	**114**	LR	LR	06 26 39.9	
	comp=Z,53nm,20.9s,baz=266,slow=34						
CMAR	**Chiang Mai Arr**	**55.06**	**296**	P	**P**	**06 07 09.2**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=120,slow=5.5,SNR=9.9						
CMAR				LR	LR	06 30 05.2	
	comp=Z,20nm,19.4s,baz=225,slow=36						
PETK	**Petropavlovsk-**	**57.04**	**5**	P	**P**	**06 07 23.9**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=171,slow=10,SNR=4.1						
PETK				LR	LR	06 27 16.3	
	comp=Z,53nm,21.0s,baz=180,slow=31						
PPT	**Papeete**	**60.55**	**108**	LR	LR	06 30 54.7	
	comp=Z,32nm,19.0s,baz=64,slow=33						
SONM	**Songino Array**	**64.08**	**329**	P	**P**	**06 08 11.6**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=134,slow=6.2,SNR=2.0						
VNDA	**Vanda**	**73.95**	**177**	P	**P**	**06 09 13.0**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=330,slow=6.9,SNR=2.1						
MKAR	**Makanchi Array**	**77.83**	**319**	P	**P**	**06 09 34.7**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=108,slow=5.8,SNR=2.2						
ZALV	**Zalesovo Beam**	**78.86**	**327**	P	**P**	**06 09 41.8**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=103,slow=4.6,SNR=1.5						
ILAR	**Eielson Array**	**82.23**	**23**	P	**P**	**06 09 58.4**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=253,slow=5.3,SNR=14						
ILAR	**Eielson Array**	**82.23**	**23**	P	P	06 09 51.0	-6.7
KK31	**Karatay Array**	**85.02**	**314**	P	P	06 10 07.7	-4.8
KK31				IAmb	IAmb	06 10 14.3	
	comp=Z,5.2nm,1.1s						
KKAR	**Karatay Array**	**85.02**	**314**	P	P	06 10 07.4	-5.1
KKAR	**Karatay Array**	**85.02**	**314**	P	P	06 10 07.3	-5.2
KKAR				IAmb	IAmb	06 10 14.4	
	comp=Z,5.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**147.48**	**289**	PKPbc	**PKPbc**	**06 17 21.9**	**0.0**
	comp=Z,2.0nm,0.6s,baz=74,slow=3.4,SNR=4.6						

WEL 07 05:59:15.7, 44°.S±2°.×17°.2E±°, h8km±5km, M2.3/7, ML2.4/7, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=106.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.33**	**341**	P	Pg	05 59 22.8	+0.5
MOZ	**McQueen's Vall**	**0.35**	**101**	P	Pb	05 59 24.0	-0.1
WACZ	**Wakanui South**	**0.39**	**220**	P	Pb	05 59 25.7	+0.8
AKCZ	**Akaroa Harbour**	**0.57**	**114**	P	Pb	05 59 28.6	+0.6
AMCZ	**Amberley**	**0.57**	**36**	P	Pb	05 59 28.3	+0.3
OKCZ	**Okains Bay**	**0.64**	**98**	P	Pb	05 59 29.9	+0.8
ARCZ	**Arundel**	**0.79**	**247**	P	Pb	05 59 32.4	+0.6
RPZ	**Rata Peaks**	**0.82**	**264**	P	Pb	05 59 32.9	+0.6
LTZ	**Lake Taylor**	**0.86**	**4**	P	Pg	05 59 31.9	-0.3
INZ	**Inchbonnie**	**1.06**	**329**	P	Pn	05 59 36.8	-0.1
ODZ	**Otahua Downs**	**1.79**	**218**	P	Pg	05 59 50.5	+0.5

*ISN **07** 06:00:29.8±1.1, 33°.71N×45°.73E, h7km±5km, ML2.9*
*TEH **07** 06:00:32.5, 33°.77N×45°.78E, h19km, ML3.1*
ISC 07 06:00:31.1±0.9, 33°.70N±0°.03×45°.69E±0°.04, h10km, n21, σ1°.36/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.62**	**161**	*e*Pg	**Pg**	**06 00 42.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**06 00 51.0**	**-0.2**
IBDR				AML	AML	06 00 57.1	
	comp=N,192nm,0.4s						
IBDR				AML	AML	06 01 00.6	
	comp=E,117nm,0.5s						
IGHG	**Ghaleghazi**	**0.96**	**49**	*e*Pg	**Pb**	**06 00 49.4**	**-0.6**
IDHR	**Dehrash**	**1.15**	**30**	*e*Pg	**Pg**	**06 00 52.4**	**-0.8**
IDHR				*e*		06 01 13.4	
BHD	**Baghdad**	**1.18**	**249**	*e*Pg	**Pb**	**06 00 52.0**	**-1.5**
BHD				*e*Sg	**Sn**	**06 01 10.0**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.26**	**62**	*e*Pg	**Pg**	**06 00 54.6**	**-0.6**
KCHF				*e*		06 01 18.1	
IVIS	**Veis**	**1.26**	**49**	*e*Pg	**Pg**	**06 00 54.9**	**-0.5**
IVIS				*e*		06 01 19.7	
KER	**Kermanshah**	**1.38**	**60**	*e*Pg	**Pg**	**06 00 57.1**	**-0.4**
IKOM	**Komasi**	**1.58**	**72**	*e*Pg	**Pg**	**06 01 00.8**	**-0.7**
IKOM				*e*		06 01 02.3	
ILIN	**Lien**	**1.61**	**40**	*e*Pg	**Pg**	**06 01 00.9**	**-1.0**
DHL1	**Dehloran**	**1.67**	**127**	*e*Sg	**Sg**	**06 01 26.9**	**+2.0**
DHL1				*e*Pg	**Pg**	**06 01 03.6**	**+0.4**
IBZA	**Bozab**	**1.96**	**66**	*e*		06 01 09.5	
IBZA				*e*Pn	**Pb**	**06 01 05.5**	**-1.4**
IDOB	**Doab**	**2.07**	**87**	*e*Pn	**Pb**	**06 01 07.1**	**-1.8**
IKMR	**Kamar-syah**	**2.25**	**94**	*e*Pn	**Pb**	**06 01 09.9**	**-1.9**
IALM	**Almabolaq**	**2.35**	**60**	*e*Pn	**Pb**	**06 01 11.8**	**-1.9**
HSAM	**Samen**	**2.47**	**77**	*e*Pn	**Pn**	**06 01 12.4**	**+0.7**
BMDN	**Meydan**	**2.61**	**90**	*e*Pn	**Pn**	**06 01 14.7**	**+1.2**
BMDN				*e*		06 01 58.2	
HSRG	**Sareghieh**	**2.63**	**54**	*e*Pn	**Pb**	**06 01 16.0**	**-2.5**
HSRG				*e*		06 01 59.2	
NSR	**Nassriya**	**2.71**	**172**	*e*Pn	**Pn**	**06 01 15.0**	**+0.3**
NSR				*e*Sn	**Sn**	**06 01 49.0**	**+1.5**
NSR				AML	AML	06 01 49.7	
	comp=E,912nm,0.2s						
HAGD	**Aghdareh**	**3.06**	**68**	*e*Pn	**Pn**	**06 01 20.9**	**+1.1**
MSL	**Mosul**	**3.43**	**323**	*e*Pn	**Pn**	**06 01 26.0**	**+1.4**
MSL				*e*Sn	**Sn**	**06 02 07.0**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.78**	**57**	*e*Pn	**Pn**	**06 01 30.9**	**+1.3**

*IDC **07** 06:14:49.8±0.8, 23°.03S×169°.55E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.3/27, mbtmp4.1/16, ML4.1/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/32, Error ellipse: s-maj=23.7km s-min=18.4km az=163.0*
*NEIC **07** 06:14:51.7±1.6, 22°.98S±0°.07×169°.56E±0°.07, h10km±1km, mb4.7/33, Error ellipse: s-maj=11.6km s-min=11.1km az=107.0*
ISC 07 06:14:51.6±0.4, 22°.97S±0°.06×169°.54E±0°.07, h10km, n121, σ0°.87/121, mb4.5/29, MS3.4/4, 2C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.00**	**287**	Pn	**Pn**	**06 15 40.2**	**+0.9**
	27nm,0.3s,baz=122,slow=11,SNR=682						
DZM				Sn	**Sn**	**06 16 15.2**	**-0.1**
	28nm,0.3s,baz=58,slow=23,SNR=3.3						
DZM				LR	LR	06 16 50.9	
	comp=Z,459nm,19.0s,baz=226,slow=40						
SANVU	**Saraoutou**	**7.80**	**343**	Pn	**Pn**	**06 16 45.0**	**-0.2**
SANVU				Sn	**Sn**	**06 18 12.9**	**-0.8**
MSVF	**Nonsavu**	**9.53**	**58**		**Pn**	**06 17 10.4**	**+1.4**
LHI	**Lord Howe Isla**	**12.62**	**225**	Pn	**Pn**	**06 17 52.3**	**+1.1**
LHI				Sn	**Sn**	**06 20 10.5**	**-1.3**
OUZ	**Omahuta**	**12.71**	**165**	Pn	**Pn**	**06 17 53.8**	**+1.4**
URZ	**Urewera**	**16.56**	**159**	LR	LR	06 23 42.7	
	comp=Z,90nm,18.2s,baz=4.0,slow=32						
EIDS	**Eidsvold**	**17.01**	**258**	P	**P**	**06 18 50.9**	**-0.7**
ARMA	**Armidale**	**17.63**	**241**	P	**P**	**06 19 03.1**	**+4.6**
TUWZ	**Tuamarina**	**18.77**	**170**		**Pn**	**06 19 11.6**	**+0.3**
THZ	**Tophouse**	**18.95**	**172**		**Pn**	**06 19 14.2**	**+0.6**
KHZ	**Kahutara**	**19.68**	**171**	P	**P**	**06 19 19.3**	**-1.5**
KHZ				IAmb	IAmb	06 19 32.3	
	comp=Z,23nm,1.1s						
LTZ	**Lake Taylor**	**19.89**	**174**	Pn	**Pn**	**06 19 24.4**	**-0.4**
LTZ				IAmb	IAmb	06 19 36.5	
	comp=Z,33nm,1.5s						
FOZ	**Fox Glacier**	**20.51**	**179**	P	**P**	**06 19 29.8**	**0.0**
RPZ	**Rata Peaks**	**20.73**	**177**		**P**	**06 19 32.8**	**+0.6**
WKZ	**Wanaka**	**21.81**	**181**	P	**P**	**06 19 43.4**	**-0.4**
CTA	**Charters Tower**	**21.85**	**273**	P	**P**	**06 19 44.9**	**+0.4**
	comp=Z,6.9nm,0.7s,baz=90,slow=12,SNR=8.8						
CTAO	**Charters Tower**	**21.85**	**273**	P	**P**	**06 19 46.8**	**+2.3**
CTAO				IAmb	IAmb	06 19 58.4	
	comp=Z,13nm,0.8s						
TOO	**Toolangi**	**25.27**	**229**	P	**P**	**06 20 18.4**	**+0.3**
TOO				IAmb	IAmb	06 20 22.9	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**26.29**	**244**	P	**P**	**06 20 26.8**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=96,slow=10,SNR=2.1						
STKA				LR	LR	06 29 07.5	
	comp=Z,38nm,19.4s,baz=30,slow=33						
STKA	**Stephens Creek**	**26.29**	**244**	P	**P**	**06 20 27.2**	**-0.2**
COEN	**Coen**	**26.53**	**285**	P	**P**	**06 20 29.8**	**+0.2**
COEN				IAmb	IAmb	06 20 48.9	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**32.68**	**262**	P	**P**	**06 21 24.6**	**+0.3**
ASAR	**Alice Springs**	**32.68**	**262**	P	**P**	**06 21 24.6**	**+0.2**
	comp=Z,3.5nm,

QSPA	South Pole Qui	67.10	180	P	P	06 25 45.4 +0.2
ASAJ	Asahikawa	71.18	340	LR	LR	06 52 45.1
	comp=Z,33nm,21.6s,baz=173,slow=32					
KSRS	Korea Array	71.74	326	P	P	06 26 14.9 +0.9
	comp=Z,1.7nm,1.1s,baz=148,slow=7.8,SNR=5.8					
USRK	Ussuriysk Ar.	75.17	333	P	P	06 26 34.7 +0.7
	comp=Z,2.5nm,1.0s,baz=133,slow=7.1,SNR=4.3					
USRK	Ussuriysk Ar.	75.17	333	P	P	06 26 34.3 +0.2
PEA0B	Petropavlovsk-	76.45	353	P	P	06 26 42.0 +0.8
PEA0B				IAmb	IAmb	06 26 49.2
	comp=Z,9.4nm,1.1s					
PETK	Petropavlovsk-	76.45	353	P	P	06 26 41.2 0.0
	comp=Z,2.2nm,0.7s,baz=142,slow=7.5,SNR=4.9					
PETK	Petropavlovsk-	76.45	353	P	P	06 26 42.2 +1.0
CMAR	Chiang Mai Arr	80.30	295	P	P	06 27 03.7 +0.4
	comp=Z,1.4nm,0.5s,baz=137,slow=4.8,SNR=6.7					
SYO	Syowa Base	81.45	196⇑	*e*P	P	06 27 06.0 -2.5
SYO	Syowa Base	81.45	196⇑	*e*PcP	PcP	06 27 15.3 +0.8
SNAA	Sanae	85.47	182	P	P	06 27 28.5 -0.8
OHAK	Old Harbor	85.76	19	P	P	06 27 30.1 -0.5
CMB	Columbia Colle	89.43	48	P	P	06 27 48.3 -0.6
CMB				IAmb	IAmb	06 27 59.4
	comp=Z,4.9nm,1.0s					
AFDM	Forest Hills D	89.49	47	P	P	06 27 49.5 +0.4
AFDM				IAmb	IAmb	06 28 00.2
	comp=Z,5.7nm,1.1s					
ISA	Isabella, Lake	89.61	51	P	P	06 27 49.6 -0.2
ISA				IAmb	IAmb	06 27 51.5
	comp=Z,8.4nm,1.1s					
MDPB	Devils Postpil	90.13	49	P	P	06 27 53.1 +0.7
MDPB				IAmb	IAmb	06 27 54.1
	comp=Z,8.1nm,1.3s					
WAKR	Walker	90.31	48	P	P	06 27 52.9 -0.3
WAKR				IAmb	IAmb	06 28 04.2
	comp=Z,6.4nm,1.0s					
SONM	Songino Array	90.36	323	P	P	06 27 53.4 +0.3
	comp=Z,1.9nm,1.0s,baz=130,slow=3.9,SNR=6.2					
SONM	Songino Array	90.36	323	P	P	06 27 52.3 -0.7
PNTR	Pine Nut	90.49	47	P	P	06 27 54.6 +0.6
PNTR				IAmb	IAmb	06 28 04.8
	comp=Z,6.1nm,0.9s					
PAHR	Pah Rah Range	90.94	47	P	P	06 27 55.8 -0.2
PAHR				IAmb	IAmb	06 28 07.1
	comp=Z,5.5nm,1.1s					
RYN	Ryan	91.00	48	P	P	06 27 56.2 -0.1
RYN				IAmb	IAmb	06 28 06.9
	comp=Z,4.0nm,0.9s					
NVAR	Mina Array Bea	91.05	48	P	P	06 27 57.2 +0.6
	comp=Z,1.9nm,0.8s,baz=226,slow=7.6,SNR=14					
NVAR	Mina Array Bea	91.05	48	P	P	06 27 56.8 +0.1
GLA	Glamis	91.06	54	P	P	06 27 56.6 +0.1
NV11	Mina Array Sit	91.16	48	P	P	06 27 56.6 -0.5
NV11				IAmb	IAmb	06 28 07.6
	comp=Z,3.9nm,0.8s					
KVN	Kaiserville	91.49	48	P	P	06 27 58.1 -0.5
KVN				IAmb	IAmb	06 28 09.1
	comp=Z,4.4nm,0.8s					
TPNV	Topopah Spring	91.80	50	P	P	06 27 59.5 -0.5
TPNV				IAmb	IAmb	06 28 11.3
	comp=Z,4.0nm,0.9s					
ILAR	Eielson Array	93.69	17	P	P	06 28 06.2 -1.7
	comp=Z,0.9nm,0.9s,baz=236,slow=6.5,SNR=7.2					
TXAR	Lajitas Array	98.28	62	P	P	06 28 30.1 +0.3
	comp=Z,0.2nm,0.8s,baz=193,slow=3.7,SNR=2.7					
BDFB	Brasilia	126.87	133	PKP	PKPdf	06 33 55.9 -0.8
	comp=Z,18nm,0.6s,baz=166,slow=4.2,SNR=2.0					
FINES	FINESS Array B	134.12	337	PKP	PKPdf	06 34 07.9 -0.9
	comp=Z,0.6nm,0.8s,baz=166,slow=8.8,SNR=4.1					
RUE	Ruedersdorf	145.18	334	*e*PKPbc	PKPdf	06 34 30.1 +0.9
	baz=40,slow=2.6					
BSEG	Bad Segeberg	145.33	338	*e*PKPbc	PKPdf	06 34 30.4 +1.0
	baz=40,slow=2.6					
OSTC	Ostas	145.50	330	*e*PKP	PKPab	06 34 30.7 +0.6
OSTC				*ex*	x	06 34 36.9
CHVC	Chvalec	145.56	330	*e*PKP	PKPab	06 34 30.9 +0.6
KRLC	Kraliky	145.56	329	*e*PKP	PKPab	06 34 31.0 +0.6
KRLC				*ex*	x	06 34 35.7
DPC	Dobruska-Polom	145.59	329	*e*PKP	PKPab	06 34 31.2 +0.7
DPC				*ex*	x	06 34 40.8
UPC	Upice	145.63	330	*e*PKP	PKPab	06 34 31.2 +0.6
UPC				*ex*	x	06 34 37.5
JAVC	Velka Javorina	145.91	326	*e*PKP	PKPab	06 34 33.2 +1.4
VRAC	Vranov	146.16	328	*e*PKP	PKPab	06 34 32.7 +0.1
BRG	Berggiesshubel	146.30	332	*e*PKPbc	PKPab	06 34 33.5 +0.4
	baz=40,slow=2.6					
CLL	Collm	146.38	333	*i* PKPbc	PKPbc	06 34 33.1 +0.6
	comp=Z,8.0nm,1.0s					
CLL				*e*		06 34 41.0
CLL	Collm	146.38	333	*e*PKPbc	PKPbc	06 34 33.2 +0.6
	baz=40,slow=2.6					
KRUC	Moravsky	146.42	328	*e*PKP	PKPab	06 34 33.4 +0.7
FBE	Freiberg	146.52	332	*e*PKPbc	PKPbc	06 34 33.7 +0.7
	baz=40,slow=2.6					
NRDL	Niedersach Rie	146.58	337	*e*PKPbc	PKPab	06 34 34.5 +0.5
	baz=40,slow=2.6					
GOPC	GO Pecny, Ondr	146.61	330	*e*PKP	PKPab	06 34 34.2 -0.2
ASSE	Asse, Remlinge	146.66	336	*e*PKPbc	PKPbc	06 34 33.8 +0.5
	baz=40,slow=2.6					
PRU	Pruhonice	146.67	330	*e*PKP	PKPbc	06 34 34.0 +0.6
NEUB	Neuenburg	146.96	334	*e*PKPbc	PKPab	06 34 35.4 -0.2
	baz=40,slow=2.6					
CLZ	Clausthal	147.01	336	*e*PKPbc	PKPab	06 34 35.7 -0.2
	baz=40,slow=2.6					
PBCC	Pribram	147.13	330	*e*PKP	PKPbc	06 34 35.5 +0.7
PBCC				*ex*	x	06 34 44.1
TANN	Tannenbergstha	147.28	333	*e*PKPbc	PKPbc	06 34 36.2 +1.0
	baz=40,slow=2.6					
GUNZ	Gunzen	147.37	333	*e*PKPbc	PKPbc	06 34 36.6 +1.2
	baz=40,slow=2.6					
GTTG	Gottingen	147.40	336	*e*PKPbc	PKPab	06 34 36.7 -0.6
	baz=40,slow=2.6					
WERN	Wernitzgruen	147.41	332	*e*PKPbc	PKPbc	06 34 36.4 +0.8
	baz=40,slow=2.6					
NKC	Novy Kostel	147.42	332	*e*PKP	PKPbc	06 34 36.4 +0.8
NKC				*ex*	x	06 34 45.7
CONA	Conrad Observa	147.43	326	*e*PKPab	PKPbc	06 34 36.8 +1.0
	comp=Z,3.3nm,0.9s					
MOX	Moxa	147.46	334	*e*PKPbc	PKPbc	06 34 36.5 +0.8
	baz=40,slow=2.6					
IBBN	Ibbenburen	147.54	339	*e*PKPbc	PKPbc	06 34 36.8 +1.0
	baz=40,slow=2.6					
KHC	Kasperske Hory	147.72	330	*e*PKP	PKPbc	06 34 37.0 +0.5
KHC				*ex*	x	06 34 42.4
MANZ	Manzenberg	147.75	332	*e*PKPbc	PKPbc	06 34 37.5 +1.0
	baz=40,slow=2.6					
GEC2	GERESS Array S	147.87	329	*e*PKPbc	PKPbc	06 34 38.0 +1.1
	baz=40,slow=2.6					
GERES	GERESS Array B	147.87	329	PKPbc	PKPbc	06 34 36.9 0.0
	comp=Z,3.1nm,0.9s,baz=43,slow=2.4,SNR=23					
ROTZ	Rotzenmuhle	147.87	332	*e*PKPbc	PKPbc	06 34 37.5 +0.7
	baz=40,slow=2.6					
UBBA	Unterbreizbach	147.96	335	*e*PKPbc	PKPbc	06 34 37.9 +1.1
	baz=40,slow=2.6					
WET	Wettzell	148.03	331	*e*PKPbc	PKPbc	06 34 38.2 +0.9
	baz=40,slow=2.6					
MOA	Molln	148.28	328	*e*pPKPdf	PKPbc	06 34 38.5 +0.5
	comp=Z,2.9nm,1.0s					
GRF	Grafenberg Arr	148.35	333	*e*PKPbc	PKPbc	06 34 38.8 +0.7
	baz=40,slow=2.6					
SOKA	Soboth	148.67	325	*e*PKPbc	PKPbc	06 34 39.1 0.0
	comp=Z,3.5nm,0.9s					
TNS	Taunus Mts	149.03	336	*e*PKPbc	PKPbc	06 34 40.7 +0.9
	baz=40,slow=2.6					
RJOB	Jochberg	149.08	329	*e*PKPbc	PKPbc	06 34 38.7 -1.4
	baz=40,slow=2.6					
AHRW	Bad Neuenahr-A	149.26	338	*e*PKPbc	PKiKP	06 34 41.6 0.0
	baz=40,slow=2.6					
MYKA	Terra Mystica	149.42	326	*e*PKPbc	PKPbc	06 34 40.8 -0.2
	comp=Z,4.1nm,1.0s					
STU	Stuttgart	149.90	334	*e*PKPbc	PKiKP	06 34 42.8 -0.1
	baz=40,slow=2.6					
ABTA	Abfaltersbach	149.91	328	*e*PKPbc	PKPbc	06 34 41.8 -0.4
	comp=Z,9.4nm,1.4s					
WATA	Walderalm	149.94	329	*e*PKPbc	PKPbc	06 34 42.3 -0.1
	comp=Z,6.6nm,1.0s					
WTTA	Wattenberg	149.97	329	*e*PKPbc	PKPbc	06 34 42.3 -0.2
	comp=Z,9.5nm,0.9s,SNR=5.2					
MOTA	Moosalm	150.16	330	*e*PKPbc	PKPbc	06 34 42.7 -0.1
	comp=Z,9.4nm,0.9s					
SQTA	Sankt Quirin	150.20	330	*e*PKPbc	PKPbc	06 34 43.0 +0.1
	comp=Z,7.7nm,0.7s					
RETA	Reutte	150.21	330	*i* PKiKP	PKPbc	06 34 43.2 +0.4
	comp=Z,4.1nm,1.1s					
WLF	Walferdange	150.32	338	*e*PKPbc	PKiKP	06 34 44.2 +0.4
	baz=40,slow=2.6					
UBR	Ueberruh	150.36	331	*e*PKPbc	PKPbc	06 34 43.6 +0.4
	baz=40,slow=2.6					
FETA	Feichten	150.57	330	*e*PKPbc	PKPbc	06 34 43.7 -0.1
	comp=Z,7.3nm,0.8s,SNR=5.4					
BFO	Black Forest	150.60	334	*e*PKPbc	PKPbc	06 34 44.0 +0.3
	baz=40,slow=2.6					
DAVA	Damuels	150.75	331	*i* PKiKP	PKPbc	06 34 44.4 +0.1
	comp=Z,2.8nm,0.7s					
TORD	Torodi Ar. Bea	164.88	232	PKPab	PKPab	06 35 51.0 -1.7
	comp=Z,0.8nm,0.8s,baz=137,slow=3.5,SNR=2.4					

IDC 07 06:14:59.9±2.8, 30°29S×138°44E, h0km, mb1 3.3/4, mb1mx3.3/28, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=71.4km s-min=14.4km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.14	121	Pn	Pn	06 15 50.1	-0.5
	0.3nm,0.3s,baz=303,slow=17,SNR=1.4						
STKA				Pg	Pb	06 15 58.1	+1.6
	1.1nm,0.3s,baz=298,slow=17,SNR=8.0						
STKA				Sn	Sn	06 16 29.9	+1.1
	1.5nm,0.3s,baz=267,slow=20,SNR=6.1						
STKA				Lg	Lg	06 16 39.1	
	4.4nm,0.3s,baz=225,slow=14,SNR=6.3						
ASAR	Alice Springs	7.74	327	Pn	Pn	06 16 53.4	-0.5
	0.1nm,0.3s,baz=152,slow=12,SNR=5.5						
ASAR				Sn	Sn	06 18 23.6	+1.3
	0.2nm,0.3s,baz=152,slow=22,SNR=5.3						
WRA	Warramunga Arr	10.95	339	Pn	Pn	06 17 37.7	-0.2
	0.1nm,0.3s,baz=154,slow=13,SNR=7.6						
WRA				Sn	Sn	06 19 44.1	+2.8
	0.1nm,0.3s,baz=160,slow=24,SNR=1.8						
FITZ	Fitzroy Crossi	16.82	313	Pn	Pn	06 18 57.0	+0.1
	0.1nm,0.3s,baz=148,slow=13,SNR=2.9						

REY ***07*** *07:07:56.9, 64°61N×17°47W, h3km*
BJI ***07*** *07:07:56.1±0.0, 64°49N×17°97W, h9km, mB5.7/68, mb5.0/60, Ms5.6/73, Ms7.5.4/68*
MOS ***07*** *07:07:58.5±0.8, 64°54N×17°44W, h9km, mb5.5/121, MS5.1/86, Error ellipse: s-maj=6.6km s-min=4.1km az=104.3*
IDC ***07*** *07:07:58.4±0.4, 64°46N×17°63W, h0km, mb4.7/30, mb1 4.8/37, mb1mx4.7/43, mbtmp4.7/37, ML3.4/6, MS5.1/42, Ms1 5.1/42, ms1mx5.1/44, Error ellipse: s-maj=12.2km s-min=7.3km az=15.0*
BGS ***07*** *07:07:58.3±1.9, 64°54N×17°40W, h5km, MS5.2*
DNK ***07*** *07:07:59.7±5.0, 64°58N×17°53W, h0km±209km, Ms5.0, Hypocentre not reviewed by the ISC*
NEIC ***07*** *07:07:59.8±1.3, 64°54N±0°06×17°4W±0°1, h5km±3km, mb5.2/504, Ms_20 5.2/757, Mwb5.3/58, Mww5.5, Mwc5.6(GCMT), Error ellipse: s-maj=9.2km s-min=7.1km az=174.0*
UNK ***07*** *07:07:59.4, 64°57N×17°54W, h5km*
NAO ***07*** *07:07:59.2±4.6, 64°50N×17°25W, ML5.2*
NEIC ***07*** *07:07:59.3, 64°61N×17°40W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=1.22; Mθθ=0.96; Mφφ=0.26; Mrθ=0.18; Mrφ=-0.51; Mθφ=0.17; Fault plane solution: M0=1.25000×10^17 NP1:φs=287.54000°, δ=47.89000°, λ=-104.25000°. NP2:φs=128.28000°, δ=44.03000°, λ=-74.77000°. Principal axes: T 1.2299, Plg=2.0000°, Azm=28.0000°; N 0.0324, Plg=11.0000°, Azm=297.0000°; P -1.2622, Plg=79.0000°, Azm=128.0000°;*
IEPN ***07*** *07:08:01.0, 64°34N×17°50W, h10km*
GCMT ***07*** *07:08:02.8±0.1, 64°60N±0°01×17°16W±0°01, h12km, MW5.5/156, Moment Tensor Solution. s124,c222; s156,c352; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr=2.86±.02; Mθθ=1.78±.02; Mφφ=1.09±.02; Mrθ=0.14±.06; Mrφ=-0.36±.02; Mθφ=-0.68±.06; Best double couple: M0=2.47400×10^17 NP1:φs=107.00000°, δ=41.00000°, λ=-102.00000°. NP2:φs=303.00000°, δ=51.00000°, λ=-80.00000°. Principal axes: T 1.9730, Plg=5.0000°, Azm=26.0000°; N 1.0120, Plg=8.0000°, Azm=117.0000°; P -2.9760, Plg=81.0000°, Azm=264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***07*** *07:08:03, 64°47N×17°30W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=2.41; Mθθ=1.51; Mφφ=0.89; Mrθ=0.81; Mrφ=-0.19; Mθφ=0.31; Fault plane solution: M0=2.29000×10^17 NP1:φs=109.00000°, δ=35.00000°, λ=-77.00000°. NP2:φs=273.00000°, δ=56.00000°, λ=-98.00000°. Principal axes: T 1.6919, Plg=10.0000°, Azm=10.0000°; N 0.9075, Plg=7.0000°, Azm=278.0000°; P -2.5994, Plg=77.0000°, Azm=153.0000°;*
NEIC ***07*** *07:08:03, 64°61N×17°15W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=3.04; Mθθ=1.98; Mφφ=1.06; Mrθ=-0.28; Mrφ=-0.48; Mθφ=-1.17; Fault plane solution: M0=2.97000×10^17 NP1:φs=100.00000°, δ=44.00000°, λ=-112.00000°. NP2:φs=310.00000°, δ=50.00000°, λ=-69.00000°. Principal axes: T 2.1985, Plg=3.0000°, Azm=26.0000°; N 1.1810, Plg=16.0000°, Azm=117.0000°; P -3.3795, Plg=74.0000°, Azm=286.0000°;*

ISC 07 08:08:01.1±0.2, 64°55N±0°02×17°27W±0°02, h10km, h10km:pP-P, n1770, σ2=27/1766, mb5.2/407, MS5.2/505, 40C-83D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRF	Grimsfjall	0.14	179	P	Pg	07 08 01.5	-2.9
	baz=157						
IBJK	Bruarjokull	0.24	109	P	Pg	07 08 03.4	-2.7
	baz=115						
IBJK				S	Sg	07 08 08.4	-1.0
	baz=115						
IVON	Vonarskard	0.24	302	P	Pg	07 07 59.8	-6.4
	baz=296						
IVON				S	Sg	07 08 02.2	-7.3
	baz=296						
IDYN	Dyngjuhals	0.25	351	P	Pg	07 08 00.8	-5.4
	baz=14						
IVOT	Vottur	0.28	172	S	Sg	07 08 09.2	-1.3
	baz=160						
IVOT				P	Pg	07 08 03.9	-2.9
	baz=160						
IURH	Urdarhals	0.28	11	P	Pg	07 08 02.0	-4.9
	baz=34						
IKVE	Kverkfjoll	0.29	62	P	Pg	07 08 03.6	-3.4
	baz=79						
IKVE				S	Sg	07 08 08.8	-2.1
	baz=79						
IKRE	Kreppuhraun	0.45	58	P	Pg	07 08 06.0	-3.9
	baz=70						
IKRE				S	Sg	07 08 13.2	-2.7
	baz=70						
IJOK	Jokulheimar	0.47	241	P	Pg	07 08 05.0	-5.3
	baz=228						
ISKR	Skrokkalda	0.48	272	P	Pg	07 08 04.3	-6.2
	baz=263						
IKSK	Karasker	0.52	138	P	Pg	07 08 07.8	-3.4
	baz=136						
IASK	Askja	0.57	27	P	Pg	07 08 07.0	-5.3
	baz=38						
IASK				S	Sg	07 08 15.3	-4.6
	baz=38						
IIEY	Innrieyrar	0.58	220	P	Pg	07 08 07.7	-4.8
	baz=209						
IMKO	Mokollar	0.59	42	P	Pg	07 08 07.9	-4.6
	baz=52						
IMKO				S	Sg	07 08 16.4	-4.0
	baz=52						
IVSH	V-Sauoahnukur	0.71	68	P	Pg	07 08 10.6	-4.3
	baz=75						
IVSH				S	Sg	07 08 20.7	-3.6
	baz=75						
IFAG	Fagurholsmyri	0.73	158	P	Pg	07 08 11.5	-3.6
	baz=154						
IFAG				S	Sg	07 08 22.4	-2.2
	baz=154						
ISVA	Svartarkot	0.80	1	P	Pg	07 08 09.9	-6.5
	baz=7.2						
IVAT	Vatnsfell	0.80	244	P	Pg	07 08 10.6	-6.0
	baz=236						
IADA	Aoalbol	0.87	56	P	Pg	07 08 12.8	-5.1
	baz=63						
IHVE	Hveravellir	1.04	289	P	Pg	07 08 13.1	-7.9
	baz=287						
IHVE				S	Sg	07 08 25.6	-8.9
	baz=287						
IMEL	Melhnausar	1.06	14	P	Pg	07 08 14.6	-6.9
	baz=19						
IREN	Reynihlio	1.12	8	P	Pb	07 08 15.3	-7.2
	baz=13						
IKVO	Krokottuvotn	1.19	8	P	Pb	07 08 16.4	-7.3
	baz=12						
IKVO				S	Pg	07 08 20.2	-3.7
	baz=12						
IGRS	Grimsstaoir	1.20	23	P	Pn	07 08 17.2	-6.7
	baz=28						
IHVO	Lagu-Hvolar	1.24	215	P	Pn	07 08 19.2	-5.2
	baz=210						
IGYG	Gygjarholskot	1.30	260	P	Pn	07 08 18.4	-6.9
	baz=256						
IHAU	Haukadalur	1.31	245	P	Pn	07 08 19.6	-5.8
	baz=240						
IGHA	Grjothals	1.33	11	P	Pn	07 08 18.7	-7.0
	baz=15						
ISKI	Skildingahlsh	1.33	4	P	Pn	07 08 18.8	-7.0
	baz=8.3						
IGRA	Granastaoir	1.38	355	P	Pn	07 08 19.3	-7.2
	baz=358						
IESK	Eystri-Skogar	1.40	224	P	Pn	07 08 21.4	-5.3
	baz=219						
IDIM	Dimmadalss	1.43	6	P	Pn	07 08 20.2	-6.8
	baz=9.3						
IMID	Miomork	1.45	233	P	Pn	07 08 22.0	-5.4
	baz=229						
ISAU	Saurbar	1.48	249	P	Pn	07 08 21.4	-6.3
	baz=245						
IHLA	Hella	1.48	342	P	Pn	07 08 20.9	-6.9
	baz=344						
IHED	Heoinshofoi	1.54	359	P	Pn	07 08 21.8	-6.8
	baz=2.6						
IGIL	Gilhagi	1.59	14	P	Pn	07 08 23.0	-6.2
	baz=17						
IBRE	Brettingsstaoi	1.61	351	P	Pn	07 08 22.8	-6.7
	baz=353						
IASM	Asmuli	1.63	245	P	Pn	07 08 23.9	-5.9
	baz=242						
ISOL	Solvholt	1.72	251	P	Pn	07 08 24.6	-6.4
	baz=247						
IKRO	Krokur	1.73	257	P	Pn	07 08 25.1	-6.2
	baz=254						
ISIG	Siglufjorour	1.74	337	P	Pn	07 08 24.6	-6.6
	baz=339						
BORG	Borgarnes	1.76	278	Pg	Pn	07 08 26.1	-5.5
	217nm,0.3s,baz=102,slow=8.0,SNR=354						
BORG				Lg	Lg	07 08 50.3	
	142nm,0.3s,baz=271,slow=22,SNR=6.2						
BORG				LR	LR	07 09 14.1	
	comp=Z,39μm,18.8s,baz=105,slow=47						
BORG	Borgarnes	1.76	278	P	Pn	07 08 26.5	-5.1
BORG						07 08 49.3	
BORG	Borgarnes	1.76	278		Pn	07 08 26.5	-5.1
BORG				Sn	Sn	07 08 49.3	-4.6
IHEI	Heioarbar	1.76	260	P	Pn	07 08 25.5	-6.1
	baz=257						
IHRN	Hraun	1.97	324	P	Pn	07 08 28.2	-6.3
	baz=325						
SOFL	Sornfelli, Far	5.27	113	*e*P	Pn	07 09 05.0	-15
SCO	Scoresbysund	6.23	345	*i* P	Pn	07 09 30.7	-2.2
	comp=Z,39μm,16.0s						
SCO	Scoresbysund	6.23	345	P	Pn	07 09 30.9	-2.0
SCO						07 10 42.7	
SCO	Scoresbysund	6.23	345	Pn	Pn	07 09 30.9	-2.0
SCO				Sn	Sn	07 10 42.7	-1.3
JMIC	Jan Mayen	7.26	23	Pn	Pn	07 09 45.0	-2.1
	baz=165,slow=19,SNR=2.6						
LEWI	Lewis, Hebride	8.13	137	*e*P	Pn	07 09 56.8	-2.2
LEWI				IAMs_20	IAMs_20	07 14 28.1	
	comp=Z,18μm,10.1s						
LRW	Lerwick	8.68	113	*e*P	Pn	07 10 06.0	-0.6
LRW				IAMs_20	IAMs_20	07 13 32.1	
	comp=Z,18μm,15.4s						
LRW	Lerwick	8.68	113	*e*P	Pn	07 10 08.9	+2.3
BIGH	Upper Bighouse	8.79	127	*e*P	Pn	07 10 06.7	-1.5
BIGH				IAMs_20	IAMs_20	07 14 07.2	
	comp=Z,14μm,14.1s						
KAC	Achnashellach	9.13	135	*e*P	Pn	07 10 10.7	-2.1
KPL	Plockton	9.16	137	*e*P	Pn	07 10 10.7	-2.4
KPL				IAMs_20	IAMs_20	07 14 35.8	
	comp=Z,18μm,11.8s						
KPL	Plockton	9.16	137	*e*P	Pn	07 10 12.2	-0.9
MCD	Coleburn Disti	9.72	129	*e*P	Pn	07 10 19.8	-1.0
LAWE	Loch Awe, Argy	10.16	139	*e*P	Pn	07 10 25.0	-1.8
LAWE				IAMs_20	IAMs_20	07 14 45.4	
	comp=Z,17μm,15.4s						
INVG	Invergeldie, C	10.41	135	*e*P	Pn	07 10 28.8	-1.5
INVG				IAMs_20	IAMs_20	07 15 23.4	
	comp=Z,18μm,10.5s						
FOO	Floro	10.52	96	*e*P	Pn	07 10 32.7	+1.0
EAB	Aberfoyle	10.52	137	*e*P	Pn	07 10 30.9	-0.9
SUE	Sulen	10.65	99	*e*P	Pn	07 10 34.0	+0.5
PGBU	Glenifferbraes	10.80	138	*e*P	Pn	07 10 34.4	-1.2
EDI	Edinburgh	11.10	135	*e*P	Pn	07 10 38.0	-1.6
EDI	Edinburgh	11.10	135	*e*P	Pn	07 10 38.3	-1.3
SUMG	Summit	11.10	326	*i* P	Pn	07 10 39.7	-0.2
	comp=Z,40μm,10.0s						
SUMG	Summit	11.10	326	P	Pn	07 10 39.4	-0.5
SUMG						07 12 43.0	
SUMG	Summit	11.10	326	Pn	Pn	07 10 39.4	-0.5
SUMG				Sn	Sn	07 12 43.0	-1.0
ASK	Askoy	11.12	101	*e*P	Pn	07 10 40.8	+0.8
AKN	Aaknes	11.12	91	Pn	Pn	07 10 37.6	-2.4
AKN	Aaknes	11.12	91	Pn	Pn	07 10 37.6	-2.4
HYA	Hoyanger	11.21	97	*e*P	Pn	07 10 41.5	+0.4
MOL	Molde	11.21	89	*e*P	Pn	07 10 39.1	-2.1
BER	Bergen	11.23	101	*e*P	Pn	07 10 42.6	+1.2
ESY	Stoneypath	11.28	133	*e*P	Pn	07 10 41.4	-0.8
NEWG	New Galloway	11.48	139	*e*P	Pn	07 10 43.9	-0.9
NEWG				IAMs_20	IAMs_20	07 15 34.6	
	comp=Z,20μm,15.8s						
GAL1	Galloway	11.57	141	*e*P	Pn	07 10 45.0	-1.0
GAL1				IAMs_20	IAMs_20	07 15 43.5	
	comp=Z,22μm,14.8s						
EKA	Eskdalemuir Ar	11.60	136	Pn	Pn	07 10 45.3	-1.3
EKA	Eskdalemuir Ar	11.60	136	Pn	Pn	07 10 45.6	-1.0
	baz=323,slow=13,SNR=70						
EKA				LR	LR	07 14 55.0	
	comp=Z,8μm,20.9s,baz=325,slow=36						
EKA	Eskdalemuir Ar	11.60	136	Pn	Pn	07 10 45.3	-1.3
ESK	Eskdalemuir	11.60	136	*e

comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=13
NOA Sn **Sn 07 13 41.2 +0.5**
comp=Z,0.0nm,0.3s,baz=303,slow=20,SNR=1.6
NOA LR LR 07 16 21.8
comp=Z,4μm,18.9s,baz=300,slow=37
STEI Steigen 13.43 61 *e*P **Pn 07 11 11.3 -0.2**
KONO Kongsberg 13.44 99 *ce*P **Pn 07 11 13.6 +2.0**
KONO Kongsberg 13.44 99 Pn 07 11 11.4 -0.1
KONO Kongsberg 13.44 99 *e*P **Pn 07 11 11.6 +0.1**
NB201 NORSAR Array S 13.46 92 Pn 07 11 11.8 -0.2
FAUS Fauske 13.47 63 *e*P **Pn 07 11 11.9 -0.1**
NC405 NORSAR Array S 13.61 91 Pn 07 11 13.3 -0.7
LBWR Ladybower, Pea 13.70 137 *e*P **Pn 07 11 14.1 -1.0**
LBWR IAMs_20 IAMs_20 07 17 25.2
comp=Z,16μm,10.9s
NC602 NORSAR Array S 13.72 93 Pn 07 11 15.7 +0.3
NC602 NORSAR Array S 13.72 93 *e*P **Pn 07 11 16.6 +1.2**
NRA0 NORESS Array S 13.72 93 Pn **Pn 07 11 15.3 -0.1**
NRA0 NORESS Array S 13.72 93 Pn **Pn 07 11 15.3 -0.1**
OSL Oslo 13.76 97 *e*P **Pn 07 11 14.8 -1.2**
HOMB Homborsund 13.78 105 *e*P **Pn 07 11 17.0 +0.8**
SFJD Kangerlussuaq 13.80 295 Pn **Pn 07 11 11.8 -4.7**
comp=Z,0.3nm,0.3s,baz=101,slow=17,SNR=1.3
SFJD Lg Lg 07 14 54.8
comp=Z,0.5nm,0.3s,baz=4.5,slow=11,SNR=3.7
SFJD LR LR 07 16 10.4
comp=Z,15μm,18.5s,baz=80,slow=36
SFJD Kangerlussuaq 13.80 295 *i*P **Pn 07 11 17.0 +0.5**
comp=Z,930nm,16.0s
SFJD Kangerlussuaq 13.80 295 P **Pn 07 11 15.3 -1.3**
SFJD Kangerlussuaq 13.80 295 Pn 07 11 15.2 -1.3
STNC Stoke 13.83 139 *e*P **Pn 07 11 15.3 -1.7**
STNC IAMs_20 IAMs_20 07 17 41.4
comp=Z,17μm,11.7s
ILULI Ilulissat 13.94 304 *i*P **Pn 07 11 14.2 -4.2**
ILULI Ilulissat 13.94 304 P **Pn 07 11 17.0 -1.4**
ILULI Ilulissat 13.94 304 Pn 07 11 17.0 -1.4
HLM1 Long Mynd 14.16 142 *e*P **Pn 07 11 20.1 -1.4**
HLM1 IAMs_20 IAMs_20 07 17 27.0
comp=Z,14μm,16.5s
IVI Ivigtut 14.40 271 Pn **Pn 07 11 24.2 -0.5**
CWF Charnwood Fore 14.40 138 *e*P **Pn 07 11 22.4 -2.3**
CWF IAMs_20 IAMs_20 07 17 54.0
comp=Z,13μm,11.4s
MCH1 Michaelchurch 14.60 143 *e*P **Pn 07 11 26.1 -1.3**
MCH1 IAMs_20 IAMs_20 07 16 53.7
comp=Z,9μm,17.4s
MONM Monmouth 14.79 143 *e*P **Pn 07 11 29.6 -0.4**
MONM IAMs_20 IAMs_20 07 17 16.8
comp=Z,11μm,17.4s
TRO Tromso 14.80 54 P **Pn 07 11 30.9 +0.8**
TRO Tromso 14.80 54 *e*P **Pn 07 11 30.3 +0.2**
TRO P **Pn 07 11 30.9 +0.8**
HFS Hagfors 14.94 93 P **Pn 07 11 31.4 -0.7**
HFS Hagfors 14.94 93 Pn **Pn 07 11 29.3 -2.8**
comp=Z,0.2nm,0.3s,baz=320,slow=13,SNR=3.4
HFS LR LR 07 16 58.7
comp=Z,6μm,21.9s,baz=287,slow=36
HFS Hagfors 14.94 93 P **Pn 07 11 31.4 -0.7**
WACR West Acre 15.00 134 *e*P **Pn 07 11 30.3 -2.5**
WACR IAMs_20 IAMs_20 07 18 12.1
comp=Z,12μm,11.8s
STRD Stroud 15.02 141 *e*P **Pn 07 11 31.5 -1.6**
STRD IAMs_20 IAMs_20 07 18 10.2
comp=Z,12μm,13.6s
MUD Monsted U'grnd 15.23 110 *e*P **Pn 07 11 32.8 -3.1**
SWN1 Swindon 15.36 141 *e*P **Pn 07 11 35.6 -1.9**
SWN1 IAMs_20 IAMs_20 07 18 08.1
comp=Z,16μm,13.9s
KIF Kilpisjarvi 15.46 56 P **Pn 07 11 39.7 +0.8**
KIF Kilpisjarvi 15.46 56 P **Pn 07 11 39.7 +0.8**
BJO1 Bjornoya 15.79 36 P **Pn 07 11 44.4 +1.3**
BJO1 Bjornoya 15.79 36 P **Pn 07 11 44.4 +1.3**
HSPB Hornsund (broa 16.13 26 P **Pn 07 11 48.1 +0.6**
HSPB *e*S **Sn 07 14 50.0 +3.8**
KTK1 Kautokeino 16.34 56 *e*P **Pn 07 11 49.7 -0.5**
HLG Helgoland 16.36 118 *e*P **Pn 07 11 49.4 -1.2**
baz=325,slow=11
HAMF Hammerfest 16.46 50 P **Pn 07 11 51.6 -0.1**
HAMF Hammerfest 16.46 50 *e*P **Pn 07 11 51.7 -0.1**
HMNX Herstmonceux 16.54 138 *e*P **Pn 07 11 50.2 -2.6**
HMNX IAMs_20 IAMs_20 07 19 00.6
comp=Z,13μm,11.0s
SKMB Sankelmark Bun 16.57 114 *e*P **Pn 07 11 52.1 -1.1**
comp=Z,3μm,1.9s,baz=325,slow=11
KBS Kingsbay 16.72 19 P **P 07 11 56.0 -1.3**
KBS Kingsbay 16.72 19⇑ *i*P **P 07 11 56.0 -1.3**
KBS *e*S **Sn 07 15 02.4 +2.0**
KBS Kingsbay 16.72 19 *ce*P **P 07 11 56.5 -0.8**
KBS pmax pmax
comp=Z,38nm,2.2s
KBS Kingsbay 16.72 19 P **P 07 11 56.4 -1.0**
KBS Kingsbay 16.72 19 *e*P **P 07 11 56.5 -0.8**
SPA0 Spitsbergen Ar 16.94 23 P **P 07 11 59.3 -0.5**
SPA0 Spitsbergen Ar 16.94 23 *e*P **P 07 12 01.6 +1.9**
SPA0 *e*S **S 07 15 14.1 -2.0**
SPA0 Spitsbergen Ar 16.94 23 P **P 07 11 58.8 -1.0**
SPA0 Spitsbergen Ar 16.94 23 P **P 07 11 59.8 -0.5**
SPITS Spitsbergen Ar 16.94 23 P **Pn 07 11 58.3 +0.5**
baz=83,slow=13,SNR=5.6
SPITS LR LR 07 16 50.6
comp=Z,9μm,19.1s,baz=210,slow=31
COP Copenhagen 17.09 107 *i*P **P 07 12 00.6 -0.9**
comp=Z,4μm,22.0s
COP Copenhagen 17.09 107 *i*P **P 07 12 00.6 -0.9**
COP MLR MLR
comp=Z,4μm,22.0s
ARA0 ARCESS Array S 17.11 54 P **Pn 07 11 58.0 -2.0**
baz=276,slow=12
ARA0 ARCESS Array S 17.11 54 P **Pn 07 11 58.0 -2.0**
baz=276,slow=12
ARCES ARCESS Array B 17.11 54 P **P 07 12 00.5 -1.2**
comp=Z,0.2nm,0.3s,baz=274,slow=11,SNR=12
ARCES LR LR 07 17 21.8
comp=Z,11μm,19.6s,baz=275,slow=33
ARCES ARCESS Array B 17.11 54 Pn 07 11 58.8 -1.2
ARE0 ARCESS Array S 17.11 54 P **Pn 07 11 59.2 -0.7**
ARE0 ARCESS Array S 17.11 54 *e*P P 07 12 08.9 +7.2
NOR Nord 17.15 0 P **Pn 07 11 59.2 -1.1**
NOR Nord 17.15 0⇑ *i*P **Pn 07 11 59.2 -1.1**
comp=Z,10μm,24.0s
NOR Nord 17.15 0⇑ *i*P **Pn 07 11 59.2 -1.1**
NOR Nord 17.15 0 P **Pn 07 11 59.2 -1.1**
BSEG Bad Segeberg 17.50 114 *e*P **Pn 07 12 02.4 -2.5**
baz=325,slow=11
KEV Kevo 17.62 53 P **Pn 07 12 05.3 -1.0**
KEV pmax pmax
comp=Z,75nm,1.1s
KEV Kevo 17.62 53 Pn 07 12 05.3 -1.0
IBBN Ibbenburen 17.78 122 *e*P **Pn 07 12 06.7 -1.7**
comp=Z,3μm,2.3s,baz=325,slow=11
UCC Uccle 17.85 130⇓ P **Pn 07 12 07.0 -2.1**
UCC Uccle 17.85 130 P **Pn 07 12 07.1 -2.1**
UCC pmax pmax
comp=Z,160nm,1.4s
UCC Uccle 17.85 130 P **Pn 07 12 07.1 -2.1**
HOPEN Hopen 17.89 31 P **Pn 07 12 09.4 -0.2**
HOPEN *e*S **Sn 07 15 29.4 +0.8**
SNF Seneffe 18.07 131⇓ P **Pn 07 12 09.6 -2.4**
comp=Z,149nm,2.1s
RGN Rugen 18.26 109 *e*P **P 07 12 14.7 +0.3**
RGN Rugen 18.26 109 *e*P **P 07 12 14.8 +0.5**
comp=Z,2μm,1.6s,baz=325,slow=11
RGN Rugen 18.26 109 P **P 07 12 13.8 -0.5**
BEBN Eben Emael 18.29 128⇓ P **Pn 07 12 12.2 -2.5**
BUG Bochum--Univer 18.31 124 *e*P **Pn 07 12 13.5 -1.4**
comp=Z,4μm,3.2s,baz=325,slow=11
BMRD Maredsous 18.41 130⇓ P **P 07 12 13.6 -2.5**
comp=Z,217nm,2.3s
BSTI Sart Tilman 18.43 129 P **P 07 12 14.3 -2.1**
comp=Z,64nm,2.7s
BGES Gesves 18.44 130⇓ P **P 07 12 13.9 -2.6**
comp=Z,243nm,2.3s
BCLA Clavier 18.48 129⇓ P **P 07 12 14.3 -2.6**
comp=Z,235nm,2.4s
NRDL Niedersach Rie 18.52 118 *e*P **P 07 12 14.8 -2.4**
comp=Z,2μm,2.1s,baz=325,slow=11
DOU Dourbes 18.53 131 P **P 07 12 15.0 -2.4**
comp=Z,116nm,2.3s
MEM Membach 18.56 128⇓ P **P 07 12 15.3 -2.5**
BHOU Houvegnez 18.78 128⇓ P **P 07 12 18.1 -2.0**
comp=Z,392nm,2.6s
AHRW Bad Neuenahr-A 18.99 126 *e*P **Pn 07 12 22.3 -0.8**
comp=Z,1μm,1.8s,baz=325,slow=11

ASSE Asse, Remlinge 19.02 118 *e*P **P 07 12 20.9 -1.8**
comp=Z,2μm,2.3s,baz=325,slow=11
CLZ Clausthal 19.13 119 *e*P **P 07 12 22.5 -1.6**
comp=Z,6μm,3.4s,baz=325,slow=11
GTTG Gottingen 19.21 120 *e*P **P 07 12 24.1 -0.8**
comp=Z,2μm,2.1s,baz=325,slow=11
WLF Walferdange 19.41 129 P **P 07 12 26.5 -0.6**
WLF Walferdange 19.41 129 P **Pn 07 12 27.3 -1.0**
WLF pmax pmax
comp=Z,99nm,1.2s
WLF Walferdange 19.41 129 *e*P **P 07 12 26.4 -0.8**
comp=Z,922nm,2.1s,baz=325,slow=11
WLF Walferdange 19.41 129 P **Pn 07 12 27.3 -1.0**
FIA0 FINESS Array S 19.63 79 P **P 07 12 29.2 -0.2**
baz=325,slow=11
FIA0 FINESS Array S 19.63 79 P **P 07 12 29.2 -0.2**
baz=325,slow=11
FINES FINESS Array B 19.63 79 P **P 07 12 29.6 +0.2**
comp=Z,0.3nm,0.3s,baz=296,slow=5.7,SNR=30
FINES LR LR 07 19 41.1
comp=Z,6μm,20.4s,baz=304,slow=36
FINES FINESS Array B 19.63 79 P **P 07 12 28.5 -0.9**
FIA1 FINESS Array S 19.63 79 P **P 07 12 28.2 -1.2**
FIA1 IAmb IAmb 07 12 35.1
comp=Z,128nm,1.2s
CLF Chambon-Foret 19.64 138 P **P 07 12 29.1 -0.5**
TNS Taunus Mts 19.74 124 *e*P **P 07 12 30.8 0.0**
comp=Z,3μm,3.0s,baz=325,slow=11
UBBA Unterbreizbach 19.81 121 *e*P **Pn 07 12 31.8 -1.1**
comp=Z,1μm,1.9s,baz=325,slow=11
RUE Ruedersdorf 19.97 112 *e*P **P 07 12 33.4 +0.3**
RUE Ruedersdorf 19.97 112 *e*P **Pn 07 12 33.5 -1.3**
comp=Z,1μm,2.0s,baz=325,slow=11
TULEG Thule 20.00 328 P **P 07 12 31.6 -1.8**
TULEG IAmb IAmb 07 12 40.4
comp=Z,229nm,1.4s
SLIT Slitere, Latvi 20.05 92 *e*P **P 07 12 34.3 +0.4**
APA0 Apatity Array 20.14 59 P **P 07 12 33.5 -1.5**
APA0 Apatity Array 20.14 59 P **P 07 12 33.5 -1.5**
NEUB Neuenburg 20.17 118 *e*P **P 07 12 35.6 +0.3**
baz=325,slow=11
APA Apatity 20.31 59⇑ *i*P **P 07 12 34.6 -2.1**
APA *i*S **S 07 16 18.0 -6.0**
APA MLR MLR
comp=Z,9μm,18.0s
MOX Moxa 20.56 119 *e*P **P 07 12 39.9 +0.3**
comp=Z,710nm,1.7s,baz=325,slow=11
MOX *e*L L 07 21 03.1
comp=Z,6μm,20.6s
CLL Collm 20.57 116⇓ *i*P **P 07 12 40.0 +0.4**
comp=Z,696nm,1.6s
CLL *e*Pmax 07 12 42.0
CLL *e* 07 14 23.0
CLL *e*S Sn 07 16 33.0 -0.4
CLL *e*SSS SSS 07 17 06.0
CLL Lmax 07 24 00.0
CLL Collm 20.57 116 P **P 07 12 38.7 -1.0**
CLL pmax pmax
comp=Z,165nm,1.4s
CLL MLR MLR
comp=Z,5μm,18.0s
CLL Collm 20.57 116 *e*P **P 07 12 39.4 -0.2**
comp=Z,696nm,1.6s,baz=325,slow=11
CLL Collm 20.57 116 P **P 07 12 38.6 -1.0**
CLL IAmb IAmb 07 12 46.8
comp=Z,164nm,1.4s
LVZ Lovozero 20.68 58 *ce*P **P 07 12 40.5 -0.3**
LVZ pmax pmax
comp=Z,190nm,1.5s
LVZ Lovozero 20.68 58 P **P 07 12 39.0 -1.8**
LVZ IAmb IAmb 07 12 44.5
comp=Z,255nm,1.5s
LVZ IAMs_20 IAMs_20 07 19 20.4
comp=Z,10μm,19.0s
GKP Gorka Klasztor 20.79 107 *e*P Pn 07 12 43.0 -1.4
GKP *e*S Sn 07 16 37.7 -1.1
PBUR Paburge 20.89 96 *e*P **P 07 12 43.2 +0.1**
PLN Plauen 20.89 118 *e*P **P 07 12 43.1 -0.2**
comp=Z,4μm,3.0s,baz=325,slow=11
WERD Werda 20.98 118 *e*P **P 07 12 44.7 +0.5**
comp=Z,996nm,2.1s,baz=325,slow=11
ECH Echery 21.00 129 P **P 07 12 43.9 -0.5**
ECH pmax pmax
comp=Z,280nm,1.5s
ECH MLR MLR
comp=Z,4μm,18.0s
ECH Echery 21.00 129 P **P 07 12 43.9 -0.5**
ECH IAmb IAmb 07 12 51.2
comp=Z,280nm,1.5s
FBE Freiberg 21.01 116 *e*P **P 07 12 44.4 0.0**
comp=Z,4μm,2.8s,baz=325,slow=11
GUNZ Gunzen 21.06 118 *e*P **P 07 12 45.2 +0.2**
comp=Z,1μm,1.8s,baz=325,slow=11
TANN Tannenbergstha 21.07 118 *e*P **P 07 12 45.0 -0.2**
comp=Z,14μm,3.6s,baz=325,slow=11
WERN Weimtzgruen 21.14 118 *e*P **P 07 12 45.9 0.0**
baz=325,slow=11
GRA1 Grafenberg Arr 21.19 121 P **P 07 12 46.9 +0.5**
GRA1 IAmb IAmb 07 13 04.5
comp=Z,250nm,1.4s
GRF Grafenberg Arr 21.19 121 P **P 07 12 46.9 +0.5**
GRF pmax pmax
comp=Z,250nm,1.4s
GRF MLR MLR
comp=Z,6μm,21.0s
GRF Grafenberg Arr 21.19 121 *e*P **P 07 12 46.5 +0.1**
comp=Z,805nm,1.8s,baz=325,slow=11
GRF *e*L L 07 21 22.2
comp=Z,2μm,20.5s
NKC Novy Kostel 21.21 118 *e*P **P 07 12 46.8 +0.2**
NKC *e*pP **sP 07 12 51.5 +0.1**
NKC *e*S Sn 07 16 48.0 -1.0
NKC AMS AMS 07 21 50.0
comp=Z,6μm,17.0s
NKC Novy Kostel 21.21 118 *e*P **P 07 12 46.8 +0.2**
NKC *e* 07 12 51.5
NKC *e*S Sn 07 16 48.0 -1.0
NKC MLR MLR
comp=Z,6μm,17.0s
STU Stuttgart 21.22 125 P **P 07 12 47.3 +0.5**
STU pmax pmax
comp=Z,261nm,1.2s
STU MLR MLR
comp=Z,6μm,18.0s
STU Stuttgart 21.22 125 *e*P **P 07 12 48.0 +1.2**
comp=Z,937nm,1.7s,baz=325,slow=11
STU Stuttgart 21.22 125 P **P 07 12 47.3 +0.5**
BRG Berggiesshubel 21.27 115 *i*P **P 07 12 47.9 +0.6**
comp=Z,869nm,1.7s
BRG S Sn 07 16 52.0 +1.5
comp=Z,8μm,16.9s
comp=N,7μm,16.4s
comp=E,2μm,16.4s
BRG Berggiesshubel 21.27 115 *e*P **P 07 12 47.2 -0.1**
baz=325,slow=11
MANZ Manzenberg 21.28 119 *e*P **P 07 12 47.0 -0.4**
comp=E,545nm,1.8s,baz=325,slow=11
BFO Black Forest 21.30 127 P **P 07 12 48.0 +0.4**
BFO pmax pmax
comp=Z,317nm,1.3s
BFO MLR MLR
comp=Z,4μm,18.0s
BFO Black Forest 21.30 127 *e*P **P 07 12 47.8 +0.2**
comp=Z,874nm,1.7s,baz=325,slow=11
BFO Black Forest 21.30 127 P **P 07 12 48.0 +0.4**
VSU Vasula 21.48 86 *e*P **P 07 12 49.0 -0.4**
VSU Vasula 21.48 86 *d i*P **P 07 12 48.8 -0.6**
VSU pmax pmax
comp=Z,262nm,1.2s
ROTZ Rotzenmuhle 21.49 119 *e*P **P 07 12 49.3 -0.3**
comp=Z,690nm,1.9s,baz=325,slow=11
PVCC Panska Ves 21.79 115 *e*P **P 07 12 53.5 +0.7**
PVCC *e*pP **sP 07 12 57.6 0.0**
PVCC *e*S Sn 07 17 00.4 -2.5
PVCC AMS AMS 07 22 20.0
comp=Z,6μm,16.8s
PVCC Panska Ves 21.79 115 *e*P **P 07 12 53.5 +0.7**
PVCC *e* 07 12 57.6
PVCC *e*S Sn 07 17 00.4 -2.5
PVCC MLR MLR
comp=Z,6μm,16.8s
FRB Frobisher Bay 21.88 291 P **P 07 12 51.3 -2.4**
comp=Z,12nm,0.7s,baz=77,slow=8.1,SNR=12
FRB LR LR 07 20 51.4
comp=Z,5μm,18.6s,baz=69,slow=36
SLVR Solovky 22.03 65⇓ *i*P **P 07 12 54.4 -0.8**

comp=Z,266nm,1.4s
SLVR *e*S **S 07 16 57.1 -0.8**
PRA Prague 22.10 116 *e*P **P 07 12 56.9 +0.7**
PRA *e*S **S 07 17 04.1 +4.6**
PRA AMS AMS 07 22 40.0
comp=Z,2μm,14.8s
PRA Prague 22.10 116 *e*P **P 07 12 56.9 +0.7**
PRA *e*S **S 07 17 04.1 +4.6**
PRA MLR MLR
comp=Z,2μm,14.8s
PABE Paberze 22.10 95 *e*P **P 07 12 55.7 -0.4**
PRU Pruhonice 22.21 116 *e*P **P 07 12 57.7 +0.4**
PRU *ex* x 07 13 23.6
PRU *e*S Sn 07 17 07.1 -5.8
PRU AMS AMS 07 22 40.0
comp=Z,4μm,17.1s
PRU Pruhonice 22.21 116 *e*P **P 07 12 57.7 +0.4**
PRU *e* 07 13 23.6
PRU MLR MLR
comp=Z,4μm,17.1s
KSP Ksiaz 22.23 112 *e*P **P 07 12 57.3 -0.2**
KSP *e*S Sn 07 17 07.4 -6.0
PBCC Pribram 22.24 117 *e*P **P 07 12 58.1 +0.4**
PBCC *ex* x 07 13 03.2
PBCC *e*S **S 07 17 05.6 +3.4**
WET Wettzell 22.26 119 *e*P **P 07 12 58.0 +0.2**
comp=Z,614nm,1.8s,baz=325,slow=11
PUL Pulkovo 22.29 80⇑ *e*P **P 07 12 58.1 +0.1**
PUL pmax pmax
comp=Z,82nm,0.4s
CHVC Chvalec 22.33 113 *e*P **P 07 12 58.6 -0.1**
CHVC *e*S Sn 07 17 10.6 -5.3
CHVC AMS AMS 07 21 40.0
comp=Z,6μm,18.7s
GOPC GO Pecny, Ondr 22.36 116 *e*P **P 07 12 59.1 +0.1**
GOPC *e*S **S 07 17 10.1 +5.6**
GOPC AMS AMS 07 22 50.0
comp=Z,5μm,17.2s
GOPC GO Pecny, Ondr 22.36 116 *e*P **P 07 12 59.1 +0.1**
GOPC MLR MLR
comp=Z,5μm,17.2s
UPC Upice 22.38 113 *e*P **P 07 12 59.3 +0.2**
UPC *ex* x 07 13 15.9
UPC *e*S **S 07 17 09.3 +4.6**
UPC AMS AMS 07 21 50.0
comp=Z,6μm,18.7s
UPC Upice 22.38 113 *e*P **P 07 12 59.3 +0.2**
UPC *e*S **S 07 17 09.3 +4.6**
UPC MLR MLR
comp=Z,6μm,18.7s
OSTC Ostas 22.42 113 *e*P **P 07 12 59.3 -0.3**
OSTC *e*S Sn 07 17 17.5 -0.5
OSTC AMS AMS 07 21 50.0
comp=Z,6μm,18.6s
UBR Ueberruh 22.47 126 *e*P **P 07 13 00.5 +0.2**
baz=325,slow=11
FUR Furstenfeldbru 22.48 123 *e*P **P 07 13 00.6 +0.3**
comp=Z,3μm,2.1s,baz=325,slow=11
KHC Kasperske Hory 22.53 118 *e*P **P 07 13 01.5 +0.7**
KHC *e*pP **sP 07 13 04.7 -0.9**
KHC *ex* x 07 13 11.5
KHC *e*S Sn 07 17 14.4 -6.3
KHC AMS AMS 07 22 00.0
comp=Z,6μm,18.9s
KHC Kasperske Hory 22.53 118 *e*P **P 07 13 01.5 +0.7**
KHC *e* 07 13 04.7
KHC MLR MLR
comp=Z,6μm,18.9s
KHC Kasperske Hory 22.53 118 P **P 07 13 00.2 -0.6**
DPC Dobruska-Polom 22.62 113 *e*P **P 07 13 02.1 +0.3**
DPC *e*S **S 07 17 14.5 +5.1**
DPC AMS AMS 07 21 50.0
comp=Z,5μm,18.3s
DPC Dobruska-Polom 22.62 113 *e*P **P 07 13 02.1 +0.3**
DPC *e*S **S 07 17 14.5 +5.1**
DPC MLR MLR
comp=Z,5μm,18.3s
SENIN Lac Senin/Sane 22.67 132 P **P 07 13 01.9 -0.6**
DAVA Damuels 22.73 126 *e*P **P 07 13 03.3 +0.2**
comp=Z,181nm,1.4s,SNR=86
SUW Suwalki 22.77 98 *e*P **P 07 13 02.3 -1.0**
SUW *e*S **S 07 17 15.0 +3.2**
SUW Suwalki 22.77 98 P **P 07 13 02.1 -1.1**
SUW pmax pmax
comp=Z,409nm,1.5s
SUW Suwalki 22.77 98 P **P 07 13 02.1 -1.1**
SSB Saint Sauveur 22.80 137 P **P 07 13 03.0 -0.7**
SSB pmax pmax
comp=Z,129nm,1.5s
SSB MLR MLR
comp=Z,8μm,18.0s
SSB Saint Sauveur 22.80 137 P **P 07 13 03.0 -0.7**
SSB IAmb IAmb 07 13 13.6
comp=Z,129nm,1.5s
SSB Saint Sauveur 22.80 137 IAMs_20 IAMs_20 07 22 02.5
comp=Z,8μm,18.0s
GEC2 GERESS Array S 22.81 119 *e*P **P 07 13 03.1 -0.7**
comp=Z,1μm,2.0s,baz=325,slow=11
GEC2 GERESS Array S 22.81 119 P **P 07 13 03.4 -0.5**
GEC2 IAMs_20 IAMs_20 07 22 32.1
comp=Z,7μm,20.0s
GERES GERESS Array B 22.81 119 P **P 07 13 03.8 -0.1**
comp=Z,39nm,1.1s,baz=324,slow=8.4,SNR=95
GERES LR LR 07 22 42.8
comp=Z,6μm,19.5s,baz=324,slow=39
GERES GERESS Array B 22.81 119 P **P 07 13 03.5 -0.4**
GERES GERESS Array B 22.81 119 P **P 07 13 03.5 -0.4**
RETA Reutte 22.87 125 *e*P **P 07 13 04.5 +0.1**
comp=Z,177nm,2.4s,SNR=65
IZAR Zarasai 22.93 92 *e*P **P 07 13 05.5 +0.6**
ISAL Salakas 22.99 92 *e*P **P 07 13 06.2 +0.7**
KRLC Kraliky 23.02 113 *e*P **P 07 13 06.4 +0.4**
KRLC *e*S **S 07 17 22.1 +5.7**
KRLC AMS AMS 07 22 10.0
comp=Z,5μm,19.0s
KRLC Kraliky 23.02 113 *e*P **P 07 13 06.4 +0.4**
KRLC MLR MLR
comp=Z,5μm,19.0s
MOTA Moosalm 23.11 125 *i*P **P 07 13 06.8 -0.3**
comp=Z,271nm,1.8s,SNR=94
TREC Trest 23.13 116 *e*P **P 07 13 08.6 +1.5**
TREC *e*S **S 07 17 25.9 +7.6**
TREC Trest 23.13 116 *e*P **P 07 13 08.6 +1.5**
DAVOX Davos/Dischmat 23.17 127 P **P 07 13 06.7 -1.0**
comp=Z,48nm,1.2s,baz=335,slow=10,SNR=61
DAVOX LR LR 07 23 10.5
comp=Z,5μm,19.5s,baz=328,slow=39
IIGN Ignalina 23.18 93 *e*P **P 07 13 07.7 +0.2**
PGAV Gavieira, Arco 23.21 163 *e*P **P 07 13 07.3 -0.7**
comp=Z,380nm,2.0s
PGAV A A 07 21 23.7
comp=Z,8μm,20.0s
TUE Stuetta 23.25 128 P **P 07 13 08.7 +0.1**
TUE IAmb IAmb 07 13 16.0
comp=Z,121nm,1.5s
TUE IAMs_20 IAMs_20 07 22 21.7
comp=Z,6μm,20.0s
SQTA Sankt Quirin 23.25 125 *i*P **P 07 13 08.6 +0.1**
comp=Z,179nm,1.6s,SNR=87
FETA Feichten 23.26 126 *e*P **P 07 13 08.4 -0.1**
comp=Z,105nm,1.4s,SNR=48
WATA Walderalm 23.29 124 *i*P **P 07 13 09.0 +0.1**
comp=Z,195nm,1.6s,SNR=52
TMCR Tamitsa 23.31 66 *e*P **P 07 13 08.0 -0.7**
TMCR *e*S **S 07 17 21.9 +1.1**
TMCR Tamitsa 23.31 66 *e*P **P 07 13 06.4 -2.3**
TMCR *e*S **S 07 17 21.5 +0.7**
TMCR pmax pmax
comp=Z,261nm,1.3s
BEL Belsk 23.32 105 *e*P **P 07 13 08.6 -0.3**
BEL *e*S **S 07 17 26.8 +5.7**
WTTA Wattenberg 23.37 124 *e*P **P 07 13 09.3 -0.4**
comp=Z,239nm,1.6s,SNR=102
RJOB Jochberg 23.39 122 *e*P **P 07 13 08.2 -1.5**
baz=325,slow=11
IDID Didziasalis 23.42 92 *e*P **P 07 13 10.2 +0.3**
FUORN Ofenpass-Fuorn 23.44 127 P **P 07 13 10.2 -0.3**
FUORN IAMs_20 IAMs_20 07 23 18.7
comp=Z,6μm,20.0s
PCAB Cabril 23.49 162 *e*P **P 07 13 10.7 -0.1**
comp=Z,301nm,1.8s
VRAC Vranov 23.56 114 P **P 07 13 10.6 -0.8**
comp=Z,54nm,1.3s,baz=322,slow=10,SNR=116
VRAC LR LR 07 23 36.3
comp=Z,6μm,18.2s,baz=320,slow=40

VRAC	**Vranov**	**23.56 114**	⇓*i*P	**P**	**07 13 10.9**	**-0.4**	
VRAC			*e*S	**S**	**07 17 32.7**	**+7.6**	
MORC	**Moravsky Berou**	**23.56 112**	⇓*i*P	**P**	**07 13 10.9**	**-0.5**	
MORC			*e*S	**S**	**07 17 32.3**	**+7.0**	
MORC	**Moravsky Berou**	**23.56 112**	P	**P**	**07 13 10.7**	**-0.7**	
MORC			pmax	pmax			
	comp=Z,144nm,1.5s						
MORC			MLR	MLR			
	comp=Z,5μm,20.0s						
MORC	**Moravsky Berou**	**23.56 112**	P	**P**	**07 13 10.7**	**-0.7**	
MORC			IAmb	IAmb	07 13 24.8		
	comp=Z,144nm,1.5s						
PBRG	**Braganca**	**23.57 160**	*e*P	**P**	**07 13 11.2**	**-0.4**	
	comp=Z,290nm,1.9s						
BNI	**Bardonecchia**	**23.64 134**	P	**P**	**07 13 11.6**	**-0.8**	
BNI			pmax	pmax			
	comp=Z,151nm,1.5s						
BNI			MLR	MLR			
	comp=Z,8μm,20.0s						
BNI	**Bardonecchia**	**23.64 134**	P	**P**	**07 13 11.6**	**-0.8**	
BNI			IAmb	IAmb	07 13 22.3		
	comp=Z,151nm,1.5s						
BNI			IAMs_20	IAMs_20	07 23 11.0		
	comp=Z,8μm,20.0s						
KRUC	**Moravsky**	**23.68 115**	⇓*i*P	**P**	**07 13 11.6**	**-0.9**	
KRUC			*e*S	**S**	**07 17 33.7**	**+6.7**	
NACGM	**Naroch**	**23.71 93**	*e*P	**P**	**07 13 12.0**	**-0.8**	
NACGM			*e*PP	**PnPn**	**07 13 36.0**	**-3.9**	
NACGM			*e*S	**S**	**07 17 24.0**	**-3.5**	
NACGM			*e*SS	SnSn	07 18 28.0	+23	
NACGM			*e*LQ	LQ	07 20 22.0		
NACGM			*e*LR	LR	07 23 16.0		
NACGM			LRM	MLR	07 24 22.0		
	comp=Z,7.9nm,14.0s						
EUNU	**Eureka**	**23.82 336**	P	**P**	**07 13 12.6**	**-1.2**	
EUNU			IAmb	IAmb	07 13 17.5		
	comp=Z,110nm,1.1s						
MOA	**Molln**	**23.85 119**	*i* P	**P**	**07 13 13.7**	**-0.4**	
	comp=Z,99nm,1.6s,SNR=52						
ABTA	**Abfaltersbach**	**24.12 123**	*e*pP	**P**	**07 13 17.4**	**+0.5**	
	comp=Z,110nm,1.6s,SNR=49						
OJC	**Ojcow**	**24.13 109**	*e*P	**P**	**07 13 15.5**	**-1.3**	
OJC			*e*S	**S**	**07 17 38.4**	**+4.2**	
OJC	**Ojcow**	**24.13 109**	P	**P**	**07 13 15.7**	**-1.1**	
OJC	**Ojcow**	**24.13 109**	P	**P**	**07 13 15.7**	**-1.1**	
KBA	**Koelnbreinsper**	**24.15 122**	*i* pP	**P**	**07 13 17.6**	**+0.4**	
	comp=Z,110nm,1.7s,SNR=50						
MVO	**Moncorvo**	**24.16 161**	*e*P	**P**	**07 13 16.9**	**-0.3**	
	comp=Z,414nm,2.1s						
MVO			A	A	07 22 16.4		
	comp=Z,5μm,18.0s						
JAVC	**Velka Javorina**	**24.34 113**	⇓*i*P	**P**	**07 13 19.3**	**+0.5**	
JAVC			*e*S	**S**	**07 17 47.5**	**+10**	
CONA	**Conrad Observa**	**24.39 117**	*e*P	**P**	**07 13 18.9**	**-0.4**	
	comp=Z,80nm,1.1s,SNR=71						
SALO	**Salr**	**24.40 128**	P	**P**	**07 13 18.4**	**-0.9**	
CTI	**Castel Tesino**	**24.42 125**	P	**P**	**07 13 19.1**	**-0.5**	
CTI			pmax	pmax			
	comp=Z,108nm,1.1s						
CTI			MLR	MLR			
	comp=Z,2μm,21.0s						
CTI	**Castel Tesino**	**24.42 125**	P	**P**	**07 13 19.1**	**-0.5**	
CTI			IAmb	IAmb	07 13 29.4		
	comp=Z,108nm,1.1s						
ZOU	**Zoufplan**	**24.45 123**	P	**P**	**07 13 19.9**	**-0.1**	
ZOU			IAmb	IAmb	07 13 34.4		
	comp=Z,82nm,1.3s						
MICGM	**Minsk**	**24.46 93**	⇓*i*P	**P**	**07 13 19.0**	**-0.8**	
MICGM			⇓*i*P	**P**	**07 13 19.0**	**-0.8**	
MICGM			PM		07 13 20.0		
	comp=Z,1.1nm,2.0s						
MICGM			PM		07 13 20.0		
	comp=Z,6.0nm,5.0s						
MICGM			PM		07 13 21.0		
	comp=N,1.3nm,2.0s						
MICGM			PM		07 13 21.0		
	comp=E,0.7nm,2.0s						
MICGM			*e*PP	**PnPn**	**07 13 58.0**	**+7.9**	
MICGM			*e*S	**S**	**07 17 38.0**	**-1.4**	
MICGM			SM		07 17 42.0		
	comp=N,9.6nm,7.0s						
MICGM			SM		07 17 44.0		
	comp=E,9.0nm,8.0s						
MICGM			*e*SS	SnSn	07 18 44.0	+21	
MICGM			*e*LQ	LQ	07 21 46.0		
MICGM			*e*LR	LR	07 23 30.0		
MICGM			LRM	MLR	07 24 48.0		
	comp=Z,6.8nm,12.0s						
MICGM			LRM	MLR	07 24 56.0		
	comp=E,3.1nm,12.0s						
MNK	**Minsk**	**24.46 93**	⇓*i*P	**P**	**07 13 19.0**	**-0.8**	
MNK			*i*		07 13 19.0		
MNK			*e*		07 13 58.0		
MNK			*e*S	**S**	**07 17 38.0**	**-1.4**	
MNK			*e*		07 18 44.0		
MNK			smax	smax			
	comp=N,10μm,7.0s						
MNK			smax	smax			
	comp=E,9μm,8.0s						
MNK			MLR	MLR			
	comp=E,3μm,12.0s						
MNK			MLR	MLR			
	comp=Z,7μm,12.0s						
CIMO	**Cimolais**	**24.47 124**	P	**P**	**07 13 19.7**	**-0.3**	
PVIS	**Viseu**	**24.48 163**	*e*P	**P**	**07 13 20.0**	**-0.2**	
	comp=Z,319nm,1.9s						
SMOL	**Smolenice**	**24.52 114**	*e*P	**P**	**07 13 20.9**	**+0.5**	
SMOL			pmax	pmax			
	comp=Z,795nm,2.7s						
SMOL	**Smolenice**	**24.52 114**	*e*P	**P**	**07 13 20.9**	**+0.5**	
MODS	**Modra-Piesok**	**24.58 115**	*e*P	**P**	**07 13 20.0**	**-0.9**	
MODS			pmax	pmax			
	comp=Z,681nm,2.0s						
MODS	**Modra-Piesok**	**24.58 115**	*e*P	**P**	**07 13 20.0**	**-0.9**	
MODS			*e*S	**S**	**07 17 47.8**	**+6.3**	
STAL	**STALIGIAL**	**24.61 124**	P	**P**	**07 13 20.4**	**-0.9**	
MYKA	**Terra Mystica**	**24.64 122**	*e*P	**P**	**07 13 21.8**	**+0.2**	
	comp=Z,91nm,1.5s,SNR=43						
PRED	**Cave del Predi**	**24.77 122**	P	**P**	**07 13 22.6**	**-0.1**	
PRED			IAmb	IAmb	07 13 25.6		
	comp=Z,66nm,1.2s						
ARSA	**Arzberg**	**24.82 118**	*e*P	**P**	**07 13 23.0**	**-0.1**	
	comp=Z,53nm,1.4s,SNR=49						
LANS	**Liptovska Anna**	**24.83 111**	*e*P	**P**	**07 13 24.4**	**+1.2**	
LANS			pmax	pmax			
	comp=Z,45nm,1.1s						
LANS	**Liptovska Anna**	**24.83 111**	*e*P	**P**	**07 13 24.4**	**+1.2**	
COI	**Coimbra**	**24.92 164**	P	**P**	**07 13 23.5**	**-0.6**	
COI			pmax	pmax			
	comp=Z,205nm,1.4s						
COI			MLR	MLR			
	comp=Z,7μm,18.0s						
COI	**Coimbra**	**24.92 164**	P	**P**	**07 13 23.5**	**-0.6**	
COI			IAMs_20	IAMs_20	07 22 19.2		
	comp=Z,7μm,18.0s						
COI	**Coimbra**	**24.92 164**	*e*P	**P**	**07 13 23.4**	**-0.6**	
	comp=Z,389nm,1.6s						
NIE	**Niedzica**	**24.96 109**	*e*P	**P**	**07 13 23.6**	**-0.7**	
NIE			*e*S	**S**	**07 17 53.4**	**+5.7**	
PCAS	**Casmilo, Conde**	**25.06 164**	*e*P	**P**	**07 13 24.4**	**-0.9**	
	comp=Z,478nm,1.7s						
OBKA	**Obir**	**25.07 121**	*i* P	**P**	**07 13 25.1**	**-0.4**	
	comp=Z,57nm,1.4s,SNR=16						
PRMA	**PARMA**	**25.08 129**	P	**P**	**07 13 25.9**	**+0.5**	
VYHS	**Vyhne**	**25.10 112**	*e*P	**P**	**07 13 26.3**	**+0.7**	
VYHS			pmax	pmax			
	comp=Z,278nm,1.5s						
VYHS	**Vyhne**	**25.10 112**	*e*P	**P**	**07 13 26.3**	**+0.7**	
VYHS			*e*S	S	07 18 01.1	+11	
SOKA	**Soboth**	**25.11 120**	*e*P	**P**	**07 13 25.5**	**-0.3**	
	comp=Z,79nm,1.5s,SNR=55						
PERS	**Pernice**	**25.18 120**	*i* P	**P**	**07 13 26.1**	**-0.3**	
PCBR	**Castelo Branco**	**25.40 162**	*e*P	**P**	**07 13 28.5**	**+0.1**	
	comp=Z,272nm,1.8s						
LJU	**Ljubljana**	**25.46 121**	*i* P	**P**	**07 13 29.1**	**+0.2**	
LJU			*i* S	**S**	**07 17 58.2**	**+2.6**	
LJU			*e*		07 18 17.6		
LJU	**Ljubljana**	**25.46 121**	⇓*i*P	**P**	**07 13 27.7**	**-1.2**	
TRI	**Trieste**	**25.46 123**	P	**P**	**07 13 28.2**	**-0.7**	
TRI			pmax	pmax			
	comp=Z,109nm,1.4s						
TRI			MLR	MLR			
	comp=Z,3μm,20.0s						
TRI	**Trieste**	**25.46 123**	P	**P**	**07 13 28.2**	**-0.7**	
TRI			IAmb	IAmb	07 13 31.6		
	comp=Z,109nm,1.4s						
SRO2	**Moca**	**25.51 114**	*e*P	**P**	**07 13 29.2**	**-0.1**	
SRO2			pmax	pmax			
	comp=Z,79nm,1.1s						
SRO2	**Moca**	**25.51 114**	*e*P	**P**	**07 13 29.2**	**-0.1**	
KLMR	**Klimovskoe**	**25.55 72**	⇓*i*P	**P**	**07 13 28.7**	**-0.8**	
	comp=Z,199nm,1.3s						
KLMR			*i* PcP	**PcP**	**07 17 00.4**	**+0.2**	
KLMR			*e*S	**S**	**07 17 58.0**	**+1.2**	
KLMR	**Klimovskoe**	**25.55 72**	*d i*P	**P**	**07 13 28.7**	**-0.8**	
KLMR			*e*		07 17 00.4		
KLMR			*e*S	**S**	**07 17 58.0**	**+1.2**	
KLMR			pmax	pmax			
	comp=Z,199nm,1.3s						
KLMR			MLR	MLR			
	comp=Z,4μm,16.0s						
KLMR	**Klimovskoe**	**25.55 72**	⇓*i*P	**P**	**07 13 28.8**	**-0.8**	
KLMR			*i* P	**P**	**07 13 28.8**	**-0.8**	
KLMR			*i* P	**P**	**07 13 28.8**	**-0.8**	
KLMR			AMP		07 13 32.6		
	comp=Z,199nm,1.3s						
KLMR			*e*PcP	**PcP**	**07 17 00.5**	**+0.3**	
KLMR			*e*S	**S**	**07 17 58.1**	**+1.3**	
KLMR			*e*S	**S**	**07 17 58.1**	**+1.3**	
KLMR			LQ	LQ	07 20 37.4		
KLMR			LQ	LQ	07 20 37.4		
KLMR			LR	LR	07 21 40.7		
KLMR			AMP		07 23 10.3		
	comp=Z,4μm,16.2s						
PSBE	**So Bento**	**25.56 165**	*e*P	**P**	**07 13 29.8**	**-0.1**	
	comp=Z,374nm,1.8s						
UCM	**Universidad Co**	**25.62 155**	⇓*i*P	**P**	**07 13 29.2**	**-1.2**	
UCM			*i* S	**S**	**07 17 58.6**	**+0.3**	
VLC	**Villacollemand**	**25.64 129**	P	**P**	**07 13 30.3**	**-0.3**	
ZCCA	**Zocca**	**25.66 128**	P	**P**	**07 13 31.2**	**+0.4**	
ZCCA			IAMs_20	IAMs_20	07 23 41.6		
	comp=Z,6μm,18.0s						
CEY	**Cerknica**	**25.68 122**	⇓*i*P	**P**	**07 13 30.4**	**-0.5**	
KECS	**Kecovo**	**25.77 110**	*e*P	**P**	**07 13 32.6**	**+0.9**	
KECS			pmax	pmax			
	comp=Z,54nm,1.5s						
KECS	**Kecovo**	**25.77 110**	*e*P	**P**	**07 13 32.5**	**+0.9**	
KWP	**Kalwaria Pacla**	**25.78 106**	*e*P	**P**	**07 13 32.4**	**+0.6**	
KWP			*e*S	**S**	**07 18 03.7**	**+3.0**	
KWP	**Kalwaria Pacla**	**25.78 106**	P	**P**	**07 13 32.2**	**+0.4**	
KWP			pmax	pmax			
	comp=Z,935nm,1.5s						
KWP			MLR	MLR			
	comp=Z,3μm,21.0s						
KWP	**Kalwaria Pacla**	**25.78 106**	P	**P**	**07 13 32.2**	**+0.4**	
PMRV	**Marv??o**	**25.82 162**	*e*P	**P**	**07 13 31.4**	**-0.8**	
	comp=Z,396nm,1.8s						
PMRV			A	A	07 23 04.0		
	comp=Z,7μm,20.0s						
CRVS	**Cervenica-Dubn**	**25.84 109**	*e*P	**P**	**07 13 32.8**	**+0.5**	
CRVS			pmax	pmax			
	comp=Z,663nm,2.0s						
CRVS	**Cervenica-Dubn**	**25.84 109**	*e*P	**P**	**07 13 32.8**	**+0.5**	
CRVS			*e*S	**S**	**07 18 08.1**	**+6.5**	
LSH	**Leshukonskoye**	**25.94 60**	⇓*i*P	**P**	**07 13 31.8**	**-1.2**	
	comp=Z,167nm,1.2s						
LSH			*i* S	**S**	**07 18 02.8**	**-0.1**	
BEHE	**Becsehely**	**25.95 118**	⇓*i*P	**P**	**07 13 35.2**	**+1.9**	
PSZ	**Piszkesteto**	**25.98 112**	P	**P**	**07 13 33.3**	**-0.4**	
PSZ			pmax	pmax			
	comp=Z,373nm,1.5s						
PSZ			MLR	MLR			
	comp=Z,4μm,20.0s						
PSZ	**Piszkesteto**	**25.98 112**	P	**P**	**07 13 33.3**	**-0.4**	
CRES	**Cresnjev**	**25.99 120**	⇓*i*P	**P**	**07 13 32.7**	**-1.0**	
PMAFR	**Mafra**	**26.06 166**	*e*P	**P**	**07 13 33.4**	**-1.0**	
	comp=Z,463nm,2.1s						
ES18	**SONSECA Array**	**26.07 156**	IAMs_20	IAMs_20	07 23 51.8		
	comp=Z,7μm,19.0s						
ES17	**SONSECA Array**	**26.08 156**	IAMs_20	IAMs_20	07 23 52.0		
	comp=Z,7μm,18.0s						
ES16	**SONSECA Array**	**26.09 156**	IAMs_20	IAMs_20	07 23 51.2		
	comp=Z,7μm,18.0s						
ES19	**SONSECA Array**	**26.09 156**	IAMs_20	IAMs_20	07 23 52.3		
	comp=Z,8μm,19.0s						
ES07	**SONSECA Array**	**26.09 156**	IAMs_20	IAMs_20	07 23 40.4		
	comp=Z,6μm,18.0s						
ES08	**SONSECA Array**	**26.09 156**	IAMs_20	IAMs_20	07 23 57.4		
	comp=Z,8μm,18.0s						
ESBB	**Sonseca Array**	**26.10 156**	P	**P**	**07 13 34.5**	**-0.3**	
ESBB			IAmb	IAmb	07 13 48.6		
	comp=Z,56nm,1.4s						
ESBB			IAMs_20	IAMs_20	07 23 59.7		
	comp=Z,7μm,18.0s						
ES06	**SONSECA Array**	**26.10 156**	IAMs_20	IAMs_20	07 23 57.7		
	comp=Z,8μm,18.0s						
ESDC	**Sonseca Array**	**26.10 156**	P	**P**	**07 13 33.3**	**-1.6**	
	comp=Z,10nm,0.9s,baz=347,slow=8.1,SNR=64						
ESDC			LR	LR	07 23 52.7		
	comp=Z,6μm,18.1s,baz=335,slow=37						
ESDC	**Sonseca Array**	**26.10 156**	P	**P**	**07 13 33.1**	**-1.7**	
ES02	**SONSECA Array**	**26.11 156**	IAMs_20	IAMs_20	07 23 57.7		
	comp=Z,7μm,18.0s						
ES15	**SONSECA Array**	**26.11 156**	IAMs_20	IAMs_20	07 24 10.8		
	comp=Z,8μm,18.0s						
ES01	**SONSECA Array**	**26.11 156**	IAMs_20	IAMs_20	07 23 40.9		
	comp=Z,6μm,18.0s						
ES09	**SONSECA Array**	**26.11 156**	IAMs_20	IAMs_20	07 23 52.9		
	comp=Z,7μm,18.0s						
ES05	**SONSECA Array**	**26.11 156**	IAMs_20	IAMs_20	07 23 53.0		
	comp=Z,8μm,18.0s						
ES03	**SONSECA Array**	**26.12 156**	IAMs_20	IAMs_20	07 23 53.0		
	comp=Z,7μm,18.0s						
ES14	**SONSECA Array**	**26.12 156**	IAMs_20	IAMs_20	07 24 11.2		
	comp=Z,7μm,18.0s						
ES04	**SONSECA Array**	**26.12 156**	IAMs_20	IAMs_20	07 23 59.3		
	comp=Z,7μm,18.0s						
ES13	**SONSECA Array**	**26.13 156**	IAMs_20	IAMs_20	07 23 52.3		
	comp=Z,7μm,18.0s						
ES10	**SONSECA Array**	**26.13 156**	IAMs_20	IAMs_20	07 23 52.4		
	comp=Z,7μm,18.0s						
ES11	**SONSECA Array**	**26.14 156**	IAMs_20	IAMs_20	07 23 34.6		
	comp=Z,6μm,20.0s						
SCHQ	**Schefferville**	**26.14 272**	P	**P**	**07 13 32.4**	**-2.6**	
	comp=Z,28nm,0.9s,baz=50,slow=10,SNR=13						
SCHQ			LR	LR	07 22 44.6		
	comp=Z,2μm,19.1s,baz=64,slow=34						
SCHQ	**Schefferville**	**26.14 272**	P	**P**	**07 13 34.4**	**-0.7**	
SCHQ			IAmb	IAmb	07 13 37.5		
	comp=Z,53nm,1.1s						
KOLS	**Kolonicke sedl**	**26.14 108**	*e*P	**P**	**07 13 35.0**	**-0.1**	
KOLS			pmax	pmax			
	comp=Z,244nm,1.6s						
KOLS	**Kolonicke sedl**	**26.14 108**	*e*P	**P**	**07 13 35.0**	**-0.1**	
KOLS			*e*S	**S**	**07 18 10.9**	**+4.5**	
PAB	**San Pablo**	**26.16 157**	P	**P**	**07 13 34.2**	**-1.2**	
PAB			pmax	pmax			
	comp=Z,60nm,1.3s						
PAB			MLR	MLR			
	comp=Z,5μm,18.0s						
PAB	**San Pablo**	**26.16 157**	P	**P**	**07 13 34.2**	**-1.2**	
PAB			IAmb	IAmb	07 13 44.8		
	comp=Z,60nm,1.2s						
PAB	**San Pablo**	**26.16 157**	IAMs_20	IAMs_20	07 23 50.3		
	comp=Z,5μm,18.0s						
DRLN	**Deer Lake**	**26.18 254**	P	**P**	**07 13 34.4**	**-1.0**	
BOJS	**Bojanci**	**26.18 121**	*i* P	**P**	**07 13 34.6**	**-0.8**	
LVV	**L'vov**	**26.19 104**	*c i*P	**P**	**07 13 35.1**	**-0.4**	
LVV			*e*S	**S**	**07 18 03.4**	**-3.7**	
LVV			pmax	pmax			
	comp=Z,2μm,1.8s						
LVV			smax	smax			
	comp=N,4μm,5.5s						
LVV			smax	smax			
	comp=E,4μm,5.5s						
LVV			MLR	MLR			
	comp=N,800nm,12.0s						
LVV			MLR	MLR			
	comp=E,4μm,12.0s						
LVV			MLR	MLR			
	comp=Z,3μm,12.0s						
LIS	**Lisbon**	**26.31 166**	*e*P	**P**	**07 13 35.7**	**-0.9**	
LIS			AMb	AMB	07 13 41.0		
	comp=Z,194nm,2.2s						
LIS			*e*S	**S**	**07 18 10.6**	**+1.5**	
LIS	**Lisbon**	**26.31 166**	*e*P	**P**	**07 13 35.7**	**-0.9**	
LIS			*e*S	**S**	**07 18 10.5**	**+1.5**	
LIS			pmax	pmax			
	comp=Z,194nm,2.2s						
LIS	**Lisbon**	**26.31 166**	*e*P	**P**	**07 13 35.5**	**-1.1**	
	comp=Z,227nm,1.6s						
UZH	**Uzhgorod**	**26.39 108**	*e*P	**P**	**07 13 35.1**	**-2.2**	
UZH			*e*		07 14 18.1		
UZH			*e*S	**S**	**07 18 04.1**	**-6.1**	
UZH			MLR	MLR			
	comp=N,700nm,14.0s						
UZH			MLR	MLR			
	comp=Z,300nm,14.0s						
OSSC	**Osservatorio P**	**26.49 129**	P	**P**	**07 13 37.3**	**-0.9**	
EVO	**Evora**	**26.62 164**	⇓*i*P	**P**	**07 13 37.6**	**-1.9**	
EVO			*i* S	S	07 18 25.4	+11	
EVO	**Evora**	**26.62 164**	*e*P	**P**	**07 13 38.3**	**-1.2**	
	comp=Z,100nm,1.7s						
RES	**Resolute Bay**	**26.62 325**	LR	LR	07 24 19.6		
	comp=Z,4μm,18.8s,baz=66,slow=37						
RES	**Resolute Bay**	**26.62 325**	IAMs_20	IAMs_20	07 24 09.4		
	comp=Z,5μm,18.0s						
ROSA	**Rosais**	**26.66 199**	P	**P**	**07 13 40.4**	**+0.5**	
ROSA			IAmb	IAmb	07 13 53.4		
	comp=Z,64nm,1.2s						
ROSA			IAMs_20	IAMs_20	07 21 15.5		
	comp=Z,6μm,18.0s						
MORH	**Mrgy, Hungar**	**26.88 116**	⇓*i*P	**P**	**07 13 40.2**	**-1.5**	
PNCL	**Nicolau / Gran**	**26.98 165**	*e*P	**P**	**07 13 40.7**	**-1.9**	
	comp=Z,126nm,1.9s						
CASP	**Castiglione de**	**27.01 130**	P	**P**	**07 13 41.7**	**-1.2**	
CASP			IAmb	IAmb	07 13 47.4		
	comp=Z,64nm,1.5s						
PBEJ	**Beja**	**27.14 164**	*e*P	**P**	**07 13 43.0**	**-1.1**	
	comp=Z,168nm,1.9s						
MURB	**Monte Urbino**	**27.15 127**	P	**P**	**07 13 43.9**	**-0.4**	
LATE	**Laterza**	**27.48 129**	P	**P**	**07 13 46.8**	**-0.4**	
PCVE	**Castro Verde**	**27.51 164**	*e*P	**P**	**07 13 46.3**	**-1.1**	
	comp=Z,156nm,2.0s						
PTEO	**Sao Teotonio**	**27.51 165**	*e*P	**P**	**07 13 47.1**	**-0.4**	
	comp=Z,207nm,1.9s						
BLY	**Banja Luka**	**27.55 119**	⇓*i*P	**P**	**07 13 47.3**	**-0.4**	
PRGR	**Permogore**	**27.58 67**	*e*P	**P**	**07 13 47.5**	**-0.4**	
	comp=Z,421nm,1.6s						
PRGR	**Permogore**	**27.58 67**	⇑*i*P	**P**	**07 13 47.5**	**-0.4**	
AKASG	**Malin Array Be**	**27.73 98**	P	**P**	**07 13 48.6**	**-0.7**	
	comp=Z,9.6nm,0.9s,baz=325,slow=9.4,SNR=39						
AKASG			LR	LR	07 24 35.0		
	comp=Z,3μm,21.3s,baz=315,slow=36						
AKASG	**Malin Array Be**	**27.73 98**	*c e*P	**P**	**07 13 49.2**	**-0.1**	
AKASG			pmax	pmax			
	comp=Z,11nm,1.0s						
AKBB	**Malin Array Si**	**27.73 98**	P	**P**	**07 13 48.6**	**-0.7**	
AKBB			pmax	pmax			
	comp=Z,97nm,1.5s						
AKBB			MLR	MLR			
	comp=Z,3μm,21.0s						
AKBB	**Malin Array Si**	**27.73 98**	P	**P**	**07 13 48.6**	**-0.7**	
AKBB			IAmb	IAmb	07 13 56.3		
	comp=Z,97nm,1.5s						
NRCA	**Norcia**	**27.73 127**	P	**P**	**07 13 48.8**	**-0.7**	
NRCA			IAMs_20	IAMs_20	07 25 52.3		
	comp=Z,5μm,21.0s						
MORF	**Marmelete**	**27.76 165**	*e*P	**P**	**07 13 49.1**	**-0.7**	
MORF			AMb	AMB	07 13 53.5		
	comp=Z,89nm,2.1s						
MORF			*e*S	**S**	**07 18 33.7**	**+1.5**	
MORF	**Marmelete**	**27.76 165**	*e*P	**P**	**07 13 49.0**	**-0.7**	
MORF			*e*S	**S**	**07 18 33.6**	**+1.5**	
MORF			pmax	pmax			
	comp=Z,89nm,2.1s						
MORF	**Marmelete**	**27.76 165**	*e*P	**P**	**07 13 49.2**	**-0.5**	
	comp=Z,89nm,1.7s						
PVAQ	**Vaqueiros**	**27.77 164**	P	**P**	**07 13 49.1**	**-0.7**	
PVAQ			IAMs_20	IAMs_20	07 23 08.7		
	comp=Z,7μm,20.0s						
PVAQ	**Vaqueiros**	**27.77 164**	*e*P	**P**	**07 13 49.2**	**-0.6**	
	comp=Z,84nm,1.6s						
PVAQ			A	A	07 23 38.3		
	comp=Z,6μm,22.0s						
MGRS	**Mrkonjic Grad**	**27.79 120**	*e*P	P	07 14 02.4	+12	
OBN	**Obninsk**	**27.80 84**	P	**P**	**07 13 50.0**	**+0.2**	
	comp=Z,12nm,0.4s,baz=301,slow=4.0,SNR=34						
OBN			LR	LR	07 24 26.6		
	comp=Z,653nm,21.7s,baz=318,slow=35						
OBN	**Obninsk**	**27.80 84**	*d i*P	**P**	**07 13 49.4**	**-0.4**	
OBN			*i*		07 14 35.6		
OBN			*i* S	**S**	**07 18 33.4**	**+1.1**	
OBN			*i* SS	**SnSn**	**07 19 47.7**	**+3.2**	
OBN			pmax	pmax			
	comp=Z,141nm,1.3s						
OBN			MLR	MLR			
	comp=Z,3μm,17.0s						
OBN	**Obninsk**	**27.80 84**	P	**P**	**07 13 49.7**	**-0.2**	
MOS	**Moscow**	**27.84 82**	*e*P	**P**	**07 13 48.0**	**-2.2**	
MOS			*e*		07 17 03.5		
MOS			*e*S	**S**	**07 18 31.8**	**-1.2**	
MOS			*e*SS	SnSn	07 20 04.9	+19	
MOS			pmax	pmax			
	comp=Z,900nm,3.4s						
MOS			pmax	pmax			
	comp=Z,168nm,1.8s						
MOS			smax	smax			
	comp=E,2μm,7.1s						
MOS			smax	smax			
	comp=N,3μm,6.4s						
MOS			MLR	MLR			
	comp=Z,2μm,14.0s						
PBDV	**Barranco-do-Ve**	**27.90 164**	*e*P	**P**	**07 13 50.0**	**-1.0**	
	comp=Z,137nm,2.0s						
PFVI	**Vila Bisbo**	**27.91 165**	P	**P**	**07 13 50.6**	**-0.4**	
PFVI			IAMs_20	IAMs_20	07 22 44.3		
	comp=Z,5μm,21.0s						
PFVI	**Vila Bisbo**	**27.91 165**	*e*P	**P**	**07 13 50.3**	**-0.7**	
	comp=Z,146nm,2.0s						
FRGS	**Fruska Gora**	**28.21 116**	⇓*i*P	**P**	**07 13 53.7**	**0.0**	
BUR08	**Bucovina Ar. S**	**28.37 106**	P	**P**	**07 13 55.3**	**+0.1**	
BUR08			IAmb	IAmb	07 14 06.0		
	comp=Z,82nm,1.4s						
BURAR	**Bucovina Array**	**28.40 106**	P	**P**	**07 13 55.2**	**-0.2**	
BZS	**Buzias**	**28.54 113**	⇑P	**P**	**07 13 57.9**	**+1.3**	
CART	**Cartagena**	**28.68 152**	⇓*i*P	**P**	**07 13 58.0**	**+0.1**	
CART			*i* S	S	07 18 54.9	+8.5	
CART	**Cartagena**	**28.68 152**	P	**P**	**07 13 57.7**	**-0.1**	
CART			IAmb	IAmb	07 13 59.5		
	comp=Z,38nm,1.1s						
CART			IAMs_20	IAMs_20	07 25 02.0		
	comp=Z,4μm,19.0s						

PDG	Podgorica	30.31 119	P	P	07 14 11.3	-0.9
PDG			IAmb	IAmb	07 14 15.1	
	comp=Z,39nm,1.1s					
KIS	Kishinev	30.39 103	↓iP	P	07 14 11.0	-2.0
	comp=Z,600nm,5.5s					
KIS	Kishinev	30.39 103	ePP	PP	07 15 14.0	-7.3
KIS			eS	S	07 19 08.0	-5.2
	comp=Z,780nm,9.0s					
KIS			eLR	LR	07 28 47.0	
	comp=Z,1μm,14.0s					
KIS	Kishinev	30.39 103	diP	P	07 14 11.0	-2.0
KIS			e		07 15 14.0	
KIS			eS	S	07 19 08.0	-5.2
KIS			pmax	pmax		
	comp=Z,600nm,5.5s					
KIS			smax	smax		
	comp=E,780nm,9.0s					
KIS			smax	smax		
	comp=N,800nm,7.0s					
PLOR	Plostina	30.40 107	⇑P	P	07 14 14.3	+1.2
MLR	Muntele Rosu	30.40 108	⇑P	P	07 14 14.2	+0.9
MLR	Muntele Rosu	30.40 108	P	P	07 14 13.0	-0.2
MLR			pmax	pmax		
	comp=Z,109nm,1.5s					
MLR			MLR	MLR		
	comp=Z,3μm,20.0s					
MLR	Muntele Rosu	30.40 108	P	P	07 14 13.0	-0.2
VRI	Vrincioaia	30.42 107	⇓P	P	07 14 14.1	+0.9
PVLZ	Peæn de	30.44 159	↓iP	P	07 14 11.1	-2.4
PVLZ			i S	S	07 19 20.7	+6.6
MILM	Milestii Mici	30.45 103	⇑P	P	07 14 13.1	-0.4
DRME	Dracevica, Mon	30.49 120	↓iP	P	07 14 12.6	-1.3
LPSR	Galich'ya Gora	30.54 86	eP	P	07 14 13.5	-0.7
LPSR			eS	S	07 19 17.5	+2.1
LPSR			pmax	pmax		
	comp=Z,90nm,1.5s					
LPSR			smax	smax		
	comp=E,1μm,8.8s					
LPSR			MLR	MLR		
	comp=Z,3μm,18.0s					
MELI	Melilla	30.55 157	↓iP	P	07 14 13.6	-0.8
MELI			i S	S	07 19 20.7	+5.0
NEHR	Nehoiu	30.60 108	⇑P	P	07 14 16.2	+1.4
BISRR	Bisoca	30.67 107	⇓P	P	07 14 16.6	+1.1
GBN	Guysborough	30.89 253	P	P	07 14 15.7	-1.6
MPEP	Malo Peshtene	31.27 113	iP	P	07 14 21.2	+0.5
DFRA	Djebel Bou Aff	31.28 142	P	P	07 14 21.8	+0.8
BATG	Bathurst New B	31.32 260	P	P	07 14 19.9	-1.2
BATG			IAmb	IAmb	07 14 22.5	
	comp=Z,60nm,1.4s					
BATG			IAMs_20	IAMs_20	07 24 39.4	
	comp=Z,5μm,20.0s					
CAEH	'Ain El Ouahch	31.32 141	P	P	07 14 22.0	+0.7
TIR	Tirane	31.47 119	P	P	07 14 22.1	-0.4
TIR			pmax	pmax		
	comp=Z,86nm,1.3s					
TIR			MLR	MLR		
	comp=Z,4μm,19.0s					
TIR	Tirane	31.47 119	P	P	07 14 22.1	-0.4
TIR			IAMs_20	IAMs_20	07 28 08.3	
	comp=Z,4μm,19.0s					
PMPST	Porto Santo, M	31.50 178	eP	P	07 14 21.6	-1.2
PMPS	Porto Santo	31.52 178	eP	P	07 14 22.4	-0.6
	comp=Z,193nm,1.7s					
SKO	Skopje	31.54 117	iP	P	07 14 23.5	+0.4
SKO			eS	S	07 19 37.6	+6.4
CMAH	Djebel Manchou	31.62 140	P	P	07 14 23.9	-0.1
VSR	Storozhevoye	31.64 88	eP	P	07 14 23.4	-0.5
VSR			eS	S	07 19 33.7	+1.1
VSR			pmax	pmax		
	comp=Z,160nm,1.6s					
VSR			smax	smax		
	comp=E,1μm,9.7s					
VSR			MLR	MLR		
	comp=Z,4μm,19.0s					
CKFL	Kef-Lekhel	31.64 141	P	P	07 14 22.8	-1.4
VTS	Vitosha	31.69 114	iP	P	07 14 22.7	-1.9
CASM	Ain Smara	31.71 142	P	P	07 14 22.4	-2.4
PMAR	Madeira	31.85 179	eP	P	07 14 24.7	-1.4
	comp=Z,220nm,1.6s					
AVE	Averroes	31.86 164	↓iP	P	07 14 24.9	-1.1
AVE			i S	S	07 19 42.4	+6.0
HARR	Harsova	31.87 107	⇓P	P	07 14 27.4	+1.4
CTEI	Djebel Teioual	31.88 142	P	P	07 14 22.7	-3.6
VORD	Divnogorie	31.88 88	eP	P	07 14 25.5	-0.5
VORD			eS	S	07 19 38.4	+2.1
VORD			pmax	pmax		
	comp=Z,70nm,1.2s					
VORD			smax	smax		
	comp=E,100nm,4.6s					
LMN	Caledonia Moun	31.91 257	P	P	07 14 24.1	-2.2
IFR	Ifrane	31.94 161	↓iP	P	07 14 25.9	-1.1
IFR			i S	S	07 19 42.5	+4.5
OHR	Ohrid	32.03 119	iP	P	07 14 27.9	+0.4
OHR			eS	S	07 19 45.0	+5.9
STIP	Stip	32.06 116	iP	P	07 14 27.4	-0.3
SCTE	Santa Cesarea	32.07 122	P	P	07 14 27.6	-0.2
PGB	Panagyurishte	32.11 113	iP	P	07 14 26.8	-1.5
RAZG	Razgrad	32.21 109	⇓P	P	07 14 29.2	+0.2
SZH	Strazhica	32.22 110	iP	P	07 14 28.4	-0.7
CORL	Corleone	32.23 131	P	P	07 14 29.9	+0.7
CORL			IAMs_20	IAMs_20	07 27 36.2	
	comp=Z,5μm,18.0s					
TIP	Timpagrande	32.25 125	P	P	07 14 28.3	-1.1
TIRR	Tirgusor	32.26 106	⇑P	P	07 14 29.4	0.0
TIRR	Tirgusor	32.26 106	P	P	07 14 28.4	-1.0
TIRR			pmax	pmax		
	comp=Z,291nm,1.5s					
TIRR			MLR	MLR		
	comp=Z,4μm,18.0s					
TIRR	Tirgusor	32.26 106	P	P	07 14 28.4	-1.0
TIRR			IAMs_20	IAMs_20	07 29 02.2	
	comp=Z,4μm,18.0s					
TIRR	Tirgusor	32.26 106	iP	P	07 14 29.3	-0.1
KKB	Krupnik	32.27 115	iP	P	07 14 30.2	+0.7
CLTB	Caltabellotta	32.49 131	P	P	07 14 31.2	-0.4
VAY	Valandovo	32.53 116	iP	P	07 14 31.9	+0.1
VAY			eS	S	07 19 54.4	+7.7
PLD	Plovdiv	32.70 113	iP	P	07 14 32.3	-1.0
D62A	Allapoint, All	32.74 263	P	P	07 14 33.2	-0.5
	baz=39					
VRH	Novokhopyorsk	32.75 85	eP	P	07 14 33.3	-0.4
VRH			eS	S	07 19 51.8	+1.9
VRH			pmax	pmax		
	comp=Z,120nm,1.2s					
VRH			smax	smax		
	comp=N,960nm,6.8s					
VRH			MLR	MLR		
	comp=Z,3μm,13.0s					
MMB	Musomiste	32.75 115	iP	P	07 14 34.3	+0.5
CEL	Celeste	32.77 127	P	P	07 14 32.6	-1.4
CEL			IAmb	IAmb	07 14 42.3	
	comp=Z,30nm,1.1s					
PRD	Provadia	32.88 109	iP	P	07 14 34.9	+0.1
CHGQ	Chibougamau	32.89 271	P	P	07 14 33.0	-1.9
	baz=42					
CHGQ			S	S	07 19 55.1	+3.0
	baz=42					
E63A	Oxbow	32.99 262	IAMs_20	IAMs_20	07 25 43.8	
	comp=Z,3μm,19.0s					
KEST	Kesra	33.00 138	P	P	07 14 36.5	+0.3
	comp=Z,90nm,1.4s,baz=288,slow=4.2,SNR=39					
KEST			LR	LR	07 27 56.0	
	comp=Z,3μm,18.9s,baz=292,slow=36					
KEST	Kesra	33.00 138	P	P	07 14 36.0	-0.1
KEST			IAMs_20	IAMs_20	07 27 54.6	
	comp=Z,5μm,18.0s					
RZN	Rozhen	33.06 113	iP	P	07 14 36.7	0.0
RAFF	Raffo Rosso	33.19 130	P	P	07 14 36.8	-0.8
RAFF			IAmb	IAmb	07 14 54.6	
	comp=Z,64nm,1.5s					
E62A	Clayton Lake	33.31 263	IAMs_20	IAMs_20	07 25 54.1	
	comp=Z,4μm,22.0s					
KDZ	Kurdzhali	33.37 113	iP	P	07 14 38.7	-0.5
F64A	Sherman	33.40 261	IAMs_20	IAMs_20	07 26 04.6	
	comp=Z,4μm,19.0s					
LIT	Litokhoron	33.55 117	P	P	07 14 39.9	-0.9
LIT			pmax	pmax		
	comp=Z,14nm,0.9s					
LIT	Litokhoron	33.55 117	P	P	07 14 39.9	-0.9
G65A	Princeton	33.60 259	IAMs_20	IAMs_20	07 26 08.8	
	comp=Z,4μm,20.0s					
F63A	Nahmakanta, Br	33.85 262	P	P	07 14 41.1	-2.2
	baz=37					
F63A	Nahmakanta, Br	33.85 262	IAMs_20	IAMs_20	07 26 18.5	
	comp=Z,4μm,19.0s					
E61A	Lac Etchemin	33.87 264	P	P	07 14 42.8	-0.7
	baz=38					
G64A	Maxfield	34.06 261	P	P	07 14 43.9	-1.2
	baz=37					
F62A	Pittston Farm,	34.07 263	P	P	07 14 44.3	-0.9
	baz=38					
F62A	Pittston Farm,	34.07 263	P	P	07 14 43.5	-1.7
F62A			IAmb	IAmb	07 14 49.0	
	comp=Z,62nm,1.4s					
F62A			IAMs_20	IAMs_20	07 26 27.2	
	comp=Z,3μm,20.0s					
LATQ	La Tuque	34.12 267	P	P	07 14 44.8	-0.8
	baz=39					
LATQ	La Tuque	34.12 267	P	P	07 14 44.3	-1.3
ALN	Alexandroupoli	34.26 113	P	P	07 14 45.8	-1.1
ALN			pmax	pmax		
	comp=Z,111nm,1.3s					
ALN	Alexandroupoli	34.26 113	P	P	07 14 45.8	-1.1
PKME	Peaks-Kenny Pk	34.28 261	IAMs_20	IAMs_20	07 26 31.9	
	comp=Z,4μm,19.0s					
H65A	Eastbrook	34.29 260	S	S	07 20 19.1	+5.2
	baz=36					
E60A	Ste Agathe de	34.33 265	P	P	07 14 46.4	-1.1
	baz=38					
D58A	Chemin du LacG	34.38 267	P	P	07 14 46.4	-1.5
	baz=39					
D58A			S	S	07 20 20.6	+5.3
	baz=39					
MATQ	Matagami	34.41 274	P	P	07 14 46.4	-1.7
	baz=42					
AGG	Agios Georgios	34.43 119	P	P	07 14 47.9	-0.5
AGG			pmax	pmax		
	comp=Z,238nm,1.4s					
AGG	Agios Georgios	34.43 119	P	P	07 14 47.9	-0.5
F61A	St Evariste	34.45 264	P	P	07 14 47.9	-0.6
	baz=38					
G63A	Kingsbury	34.54 261	P	P	07 14 49.6	+0.3
	baz=37					
LSQQ	Lebel-sur-Quev	34.65 273	P	P	07 14 47.8	-2.4
	baz=41					
H64A	Troy	34.75 260	S	S	07 20 25.7	+4.7
	baz=36					
G62A	West of Eustis	34.85 262	IAMs_20	IAMs_20	07 26 40.8	
	comp=Z,3μm,21.0s					
D57A	Chemin Vers le	34.88 268	P	P	07 14 51.0	-1.2
	baz=39,SNR=8.8					
WVL	Waterville	35.00 261	IAMs_20	IAMs_20	07 27 01.8	
	comp=Z,4μm,19.0s					
H63A	New Sharon	35.08 261	S	S	07 20 31.5	+5.4
	baz=37					
G61A	St-Isidore-de-	35.22 263	P	P	07 14 55.9	+0.7
	baz=37					
G61A			S	S	07 20 33.4	+5.1
	baz=37					
D56A	ZEC Mazanza, M	35.23 268	P	P	07 14 54.1	-1.1
	baz=39					
D56A			S	S	07 20 33.9	+5.5
	baz=39					
A36M	Sachs Harbour	35.36 329	S	S	07 20 37.0	+7.2
	baz=45					
E57A	Chemin Saint G	35.46 267	P	P	07 14 56.3	-1.0
	baz=38					
E57A			S	S	07 20 36.8	+4.7
	baz=38					
I64A	Boothbay	35.51 260	S	S	07 20 39.2	+6.6
	baz=36					
MOQ	Mont Orford	35.51 264	P	P	07 14 56.2	-1.6
D55A	Sainte-Anne-du	35.56 269	P	P	07 14 57.0	-1.1
	baz=39					
VLDQ	Val d'Or	35.58 272	P	P	07 14 57.1	-1.0
VLDQ			IAmb	IAmb	07 15 01.5	
	comp=Z,34nm,1.2s					
H62A	Milan	35.63 262	S	S	07 20 40.2	+5.6
	baz=37					
H62A	Milan	35.63 262	IAMs_20	IAMs_20	07 27 15.5	
	comp=Z,3μm,21.0s					
G60A	Masonville	35.72 264	P	P	07 14 58.1	-1.4
	baz=37					
E56A	St. Veronique	35.74 268	P	P	07 14 58.4	-1.2
	baz=39					
TRQ	Mont Tremblant	35.79 267	P	P	07 14 58.3	-1.8
ANN	Anapa	35.80 97	eP	P	07 14 59.5	-0.6
ANN			e*PP	pP	07 15 03.0	-0.7
ANN			e		07 16 15.9	
ANN			eS	S	07 20 41.0	+3.9
ANN			pmax	pmax		
	comp=Z,130nm,1.7s					
ANN			MLR	MLR		
	comp=Z,4μm,14.0s					
ANN			MLR	MLR		
	comp=N,582nm,16.0s					
I63A	Otisfield	35.80 261	S	S	07 20 43.8	+6.6
	baz=36					
I63A	Otisfield	35.80 261	P	P	07 14 59.0	-1.2
I63A			IAmb	IAmb	07 15 16.7	
	comp=Z,56nm,1.5s					
I63A			IAMs_20	IAMs_20	07 27 27.2	
	comp=Z,4μm,19.0s					
ITM	Ithomi	35.89 121	P	P	07 15 00.8	-0.2
ITM			IAmb	IAmb	07 15 07.5	
	comp=Z,61nm,1.2s					
ITM			IAMs_20	IAMs_20	07 32 27.3	
	comp=Z,3μm,18.0s					
D54A	Lac Fusel, La	35.97 270	P	P	07 14 59.9	-1.7
	baz=39					
D54A			S	S	07 20 43.9	+4.2
	baz=39					
H61A	Lyndonville	35.99 263	S	S	07 20 45.9	+5.7
	baz=37					
ARU	Arti	36.04 66	diP	P	07 15 01.4	-0.7
ARU					07 16 21.4	
ARU					07 17 27.4	
ARU			S	S	07 20 42.1	+1.5
ARU			pmax	pmax		
	comp=Z,89nm,1.9s					
ARU			MLR	MLR		
	comp=Z,6μm,18.0s					
ARU	Arti	36.04 66	P	P	07 15 02.3	+0.2
ARU			IAmb	IAmb	07 15 09.5	
	comp=Z,49nm,1.3s					
LBNH	Lisbon	36.23 263	S	S	07 20 51.1	+7.4
	baz=36					
LBNH	Lisbon	36.23 263	IAMs_20	IAMs_20	07 27 44.3	
	comp=Z,3μm,20.0s					
E55A	Montcerf-Lytto	36.25 269	P	P	07 15 02.9	-1.1
	baz=38					
I62A	Tamworth	36.27 262	IAMs_20	IAMs_20	07 27 43.4	
	comp=Z,3μm,19.0s					
H60A	Morristown	36.30 264	S	S	07 20 50.9	+6.0
	baz=37					
FRNY	Flat Rock	36.47 265	P	P	07 15 04.1	-1.7
FRNY			IAmb	IAmb	07 15 15.2	
	comp=Z,75nm,1.4s					
D53A	Lac Vacive, Po	36.48 271	P	P	07 15 04.9	-1.1
	baz=39,SNR=6.2					
D53A	Lac Vacive, Po	36.48 271	P	P	07 15 04.4	-1.6
D53A			IAmb	IAmb	07 15 05.8	
	comp=Z,51nm,1.2s					
NRIK	Noril'sk	36.50 35	P	P	07 15 06.0	+0.2
	comp=Z,18nm,1.0s,baz=311,slow=5.7,SNR=23					
NRIK			LR	LR	07 31 58.2	
	comp=Z,4μm,18.3s,baz=338,slow=39					
VT1	Waterbury	36.51 264	IAMs_20	IAMs_20	07 27 53.0	
	comp=Z,3μm,21.0s					
SVE	Sverdlovsk	36.58 64	eP	P	07 15 06.8	+0.1
SVE			eS	S	07 20 51.0	+2.2
SVE			e		07 23 09.9	
SVE			pmax	pmax		
	comp=Z,58nm,1.6s					
SVE			MLR	MLR		
	comp=Z,6μm,18.0s					
H59A	Cadyville	36.66 265	P	P	07 15 06.2	-1.3
	baz=37					
MDUB	Mudurnu	36.71 107	P	P	07 15 08.9	+0.8
MDUB			IAMs_20	IAMs_20	07 32 25.1	
	comp=Z,4μm,20.0s					
FFD	Franklin Falls	36.73 262	IAMs_20	IAMs_20	07 27 57.7	
	comp=Z,3μm,19.0s					
E54A	Lac Daplat, Po	36.76 270	P	P	07 15 07.4	-0.9
	baz=38					
E54A			S	S	07 20 57.5	+5.7
	baz=38					
ORIO	Orleans, Innes	36.81 267	P	P	07 15 08.2	-0.5
	baz=38					
ORIO	Orleans, Innes	36.81 267	P	P	07 15 07.3	-1.4
HNH	Hanover	36.81 263	P	P	07 15 08.2	-0.6
HNH			IAMs_20	IAMs_20	07 28 01.8	
	comp=Z,3μm,21.0s					
G57A	Newington	36.85 267	P	P	07 15 08.8	-0.4
	baz=37					
F55A	Otter Lake	36.87 269	P	P	07 15 08.4	-0.8
	baz=38					
F55A			S	S	07 20 57.8	+4.4
	baz=38					
C36M	Paulatuk	36.98 326	S	S	07 21 00.6	+6.0
	baz=44					
C36M	Paulatuk	36.98 326	IAMs_20	IAMs_20	07 30 51.2	
	comp=Z,3μm,20.0s					
E53A	Dumoine, Ponti	37.01 270	P	P	07 15 09.6	-0.8
	baz=38,SNR=7.9					
H58A	Gabriels	37.05 265	S	S	07 21 00.8	+4.5
	baz=37					
LONY	Lake Ozonia	37.06 266	P	P	07 15 09.9	-1.1
	baz=37					
LONY			S	S	07 21 02.7	+6.1
	baz=37					
LONY	Lake Ozonia	37.06 266	P	P	07 15 10.5	-0.5
LONY			IAmb	IAmb	07 15 19.1	
	comp=Z,55nm,1.4s					
I60A	Shoreham	37.13 264	S	S	07 21 04.0	+6.6
	baz=36					
ILGA	Ilgaz	37.28 104	P	P	07 15 13.0	-0.1
ILGA			IAmb	IAmb	07 15 18.4	
	comp=Z,47nm,1.2s					
APE	Apeiranthos	37.36 116	deP	P	07 15 12.4	-1.2
APE			pmax	pmax		
	comp=Z,49nm,1.3s					
BCX	Boston College	37.45 260	IAMs_20	IAMs_20	07 28 59.7	
	comp=Z,3μm,18.0s					
WES	Weston	37.47 260	IAMs_20	IAMs_20	07 28 34.3	
	comp=Z,3μm,18.0s					
HRV	Adam Dziewonsk	37.47 261	IAMs_20	IAMs_20	07 28 44.4	
	comp=Z,3μm,18.0s					
G55A	Calabogie	37.48 268	P	P	07 15 14.0	-0.4
	baz=38					
G55A			S	S	07 21 07.3	+4.5
	baz=38					
ALGO	Algonquin Park	37.51 270	P	P	07 15 12.9	-1.7
	baz=38					
H57A	Richville	37.54 266	S	S	07 21 09.8	+6.1
	baz=37					
K62A	Royalston	37.63 262	IAMs_20	IAMs_20	07 28 32.6	
	comp=Z,3μm,19.0s					
L64A	Middleborough	37.63 259	S	S	07 21 12.5	+7.4
	baz=34					
ACCN	Adirondack Com	37.66 264	IAMs_20	IAMs_20	07 28 38.3	
	comp=Z,3μm,18.0s					
SOC	Sochi	37.76 96	diP	P	07 15 16.7	-0.1
SOC			i		07 16 41.1	
SOC			eS	S	07 21 09.9	+2.9
SOC			eSS	SnSn	07 23 48.8	+2.3
SOC			pmax	pmax		
	comp=Z,24nm,0.7s					
SOC			MLR	MLR		
	comp=Z,2μm,14.0s					
PLVO	Plevna	37.81 268	IAMs_20	IAMs_20	07 28 46.1	
	comp=Z,4μm,21.0s					
H56A	Elgin	37.81 267	S	S	07 21 13.8	+6.0
	baz=37					
SANT	Santorini	37.94 117	P	P	07 15 17.3	-1.2
BRYW	Bryant College	37.95 260	IAMs_20	IAMs_20	07 28 48.9	
	comp=Z,2μm,18.0s					
J59A	Piesco	37.96 264	S	S	07 21 16.0	+5.8
	baz=36					
G54A	Lake Saint Pet	37.96 270	P	P	07 15 17.2	-1.4
	baz=38					
G54A			S	S	07 21 15.0	+4.9
	baz=38					
I58A	Old Forge	37.98 265	S	S	07 21 18.2	+7.8
	baz=36					
L61B	Northampton	38.00 262	S	S	07 21 18.0	+7.3
	baz=35					
QUA2	Belchertown	38.00 261	IAMs_20	IAMs_20	07 28 52.2	
	comp=Z,3μm,18.0s					
GOF	Gofitskoye	38.02 91	⇑eP	P	07 15 19.6	+0.6
GOF			eS	SS	07 24 19.9	+22
GOF			pmax	pmax		
	comp=Z,248nm,1.0s					
K61A	Williamstown	38.07 263	S	S	07 21 19.3	+7.5
	baz=35					
I57A	Carthage	38.08 266	P	P	07 15 18.9	-0.6
	baz=36					
I57A			S	S	07 21 19.0	+7.2
	baz=36					
BOLV	Bolvadin	38.09 109	P	P	07 15 19.5	-0.4
TRY	Troy	38.19 263	IAMs_20	IAMs_20	07 28 55.3	
	comp=Z,4μm,20.0s					
H55A	Tweed	38.24 268	P	P	07 15 20.3	-0.6
	baz=37					
H55A			S	S	07 21 21.1	+6.8
	baz=37					
BR131	Keskin Array S	38.35 105	P	P	07 15 23.5	+1.4
	SNR=23					
BR131	Keskin Array S	38.35 105	P	P	07 15 22.2	+0.1
BR131			pmax	pmax		
	comp=Z,42nm,1.1s					
BR131	Keskin Array S	38.35 105	P	P	07 15 22.2	+0.1
BR131			IAmb	IAmb	07 15 27.3	
	comp=Z,42nm,1.1s					
BRTR	Keskin Array B	38.35 105	P	P	07 15 22.8	+0.7
	comp=Z,17nm,0.9s,baz=316,slow=5.2,SNR=45					
BRTR			LR	LR	07 33 48.7	
	comp=Z,1μm,18.5s,baz=270,slow=40					
BRTR	Keskin Array B	38.35 105	P	P	07 15 21.8	-0.3
J58A	Remsen	38.38 265	P	P	07 15 22.9	+0.8
	baz=36					
J58A			S	S	07 21 23.2	+6.8
	baz=36					
J58A	Remsen	38.38 265	P	P	07 15 20.9	-1.2
J58A			IAMs_20	IAMs_20	07 29 02.2	
	comp=Z,3μm,21.0s					
DELO	Deloro Mine	38.46 268	P	P	07 15 21.0	-1.7
DELO			IAMs_20	IAMs_20	07 29 05.3	
	comp=Z,4μm,22.0s					
L61A	Hillsdale 1, H	38.58 262	S	S	07 21 28.7	+9.2
	baz=35					
PECO	Prince Edward	38.65 267	IAMs_20	IAMs_20	07 28 58.5	
	comp=Z,3μm,22.0s					
K59A	Cooperstown	38.67 264	P	P	07 15 24.2	-0.3
	baz=36					
IDI	Anoyia	38.68 119	P	P	07 15 24.4	-0.3
IDI			IAmb	IAmb	07 15 24.8	
	comp=Z,52nm,1.2s					
ISP	Isparta	38.69 110	P	P	07 15 24.0	-0.8
ISP			pmax	pmax		
	comp=Z,20nm,1.1s					
ISP			MLR	MLR		
	comp=Z,2μm,22.0s					
ISP	Isparta	38.69 110	P	P	07 15 24.0	-0.8
I55A	Frankford	38.73 268	S	S	07 21 27.6	+6.0
	baz=37					
KIV	Kislovodsk	38.74 92	iP	P	07 15 25.8	+0.6
	SNR=16					
KIV	Kislovodsk	38.74 92	P	P	07 15 25.8	+0.6
KIV	Kislovodsk	38.74 92	eP	P	07 15 25.8	+0.6
KIV			e		07 16 51.4	
KIV			eS	S	07 21 23.8	+1.7
KIV			pmax	pmax		
	comp=Z,126nm,1.1s					
KIV			pmax	pmax		
	comp=Z,683nm,3.5s					
KIV			MLR	MLR		
	comp=Z,5μm,16.0s					
KIV	Kislovodsk	38.74 92	P	P	07 15 25.4	+0.2
KIV			IAmb	IAmb	07 15 28.6	
	comp=Z,56nm,1.3s					
KIV			IAMs_20	IAMs_20	07 31 00.5	
	comp=Z,3μm,22.0s					
H53A	Bobcaygeon	38.83 269	P	P	07 15 25.1	-0.7
	baz=37					
H53A			S	S	07 21 29.8	+6.6
	baz=37					
M62A	Hamden	38.91 261	S	S	07 21 32.1	+7.6
	baz=34					
SADO	Sadowa	38.91 270	P	P	07 15 25.8	-0.7
SADO			IAMs_20	IAMs_20	07 29 19.4	
	comp=Z,3μm,21.0s					
KBZ	Khabaz	39.01 93	P	P	07 15 27.6	+0.2
	comp=Z,24nm,1.1s,baz=316,slow=8.7,SNR=30					
KBZ			LR	LR	07 31 56.8	
	comp=Z,3μm,21.2s,baz=332,slow=37					
KBZ	Khabaz	39.01 93	deP	P	07 15 28.6	+1.3

KBZ pmax pmax
comp=Z,111nm,1.6s
K58A Earlville 39.02 265 S **S 07 21 32.6 +6.4**
baz=36
K58A Earlville 39.02 265 P **P 07 15 26.6 -0.9**
K58A IAMs_20 IAMs_20 07 29 21.1
comp=Z,3µm,21.0s
YLE Yale 39.04 261 IAMs_20 IAMs_20 07 29 56.8
comp=Z,3µm,18.0s
J56A Wolcott 39.12 267 S **S 07 21 34.7 +7.1**
baz=36
L59A Walton 39.22 264 IAMs_20 IAMs_20 07 29 26.6
comp=Z,3µm,21.0s
KARP Karpathos 39.32 116 IAMs_20 IAMs_20 07 33 08.1
comp=Z,3µm,21.0s
WSPT Westport, CT 39.33 261 IAMs_20 IAMs_20 07 30 06.3
comp=Z,3µm,18.0s
D46A Sault St. Mari 39.35 276 P **P 07 15 29.5 -0.7**
baz=39
ELL Elmali 39.36 112 P **P 07 15 31.2 +0.7**
ELL pmax pmax
comp=Z,425nm,1.4s
ELL MLR MLR
comp=Z,9µm,18.0s
ELL Elmali 39.36 112 P **P 07 15 31.2 +0.7**
YKA Yellowknife Ar 39.37 313 P **P 07 15 28.4 -1.7**
comp=Z,17nm,1.2s,baz=39,slow=9.1,SNR=5.9
YKA PcP **PcP 07 17 37.1 -1.0**
comp=Z,5.2nm,1.0s,baz=38,slow=4.1,SNR=4.2
YKA LR LR 07 31 38.6
comp=Z,2µm,18.8s,baz=0.0,slow=36
E47A Iron Bridge 39.37 275 P **P 07 15 28.6 -1.8**
baz=38
E47A S **S 07 21 36.2 +4.9**
baz=38
K57A Scipio Center 39.42 266 S **S 07 21 38.9 +6.8**
baz=36
J55A Hilton 39.55 267 S **S 07 21 40.5 +6.6**
baz=36
AKAS Kas 39.69 112 P **P 07 15 32.2 -1.0**
AKAS IAmb IAmb 07 15 34.9
comp=Z,137nm,1.4s
K56A Middlesex 39.79 266 P **P 07 15 36.7 +2.7**
baz=36
E46A Sault Ste Mari 39.88 276 P **P 07 15 33.4 -1.2**
E46A IAMs_20 IAMs_20 07 31 00.9
comp=Z,3µm,18.0s
J54A Appleton 39.90 268 IAMs_20 IAMs_20 07 29 48.3
comp=Z,3µm,22.0s
MEDO Medina 39.90 268 P **P 07 15 33.3 -1.5**
MEDO IAMs_20 IAMs_20 07 29 47.5
comp=Z,3µm,22.0s
ODNJ Ogdensburg 39.94 262 IAMs_20 IAMs_20 07 29 55.7
comp=Z,3µm,19.0s
MMNY Mt. Morris Dam 40.02 267 P **P 07 15 34.9 -0.9**
KSPA Keystone Colle 40.05 264 IAMs_20 IAMs_20 07 29 52.6
comp=Z,4µm,22.0s
K55A Perry 40.09 267 P **P 07 15 35.9 -0.5**
baz=36
L57A Andrews Acres 40.16 265 P **P 07 15 40.0 +3.1**
baz=35
L57A S **S 07 21 49.8 +6.5**
baz=35
ZEI Tsey 40.20 92 *e*P **P 07 15 37.2 -0.4**
ZEI pmax pmax
comp=Z,56nm,1.7s
N60A Cedar Hill Far 40.33 263 P **P 07 15 39.8 +1.4**
baz=34
L56A Greenwood 40.35 266 P **P 07 15 38.0 -0.6**
baz=35
L56A S **S 07 21 53.7 +7.6**
baz=35
L56A Greenwood 40.35 266 P **P 07 15 37.1 -1.5**
L56A IAmb IAmb 07 15 43.2
comp=Z,86nm,1.5s
K54A Basiliko Farm, 40.45 268 P **P 07 15 38.8 -0.6**
baz=36
K54A S **S 07 21 55.0 +7.4**
baz=36
N59A State Game Lan 40.58 263 S **S 07 21 57.4 +7.9**
baz=34
WVNY West Valley, N 40.58 267 P **P 07 15 39.1 -1.3**
WVNY IAmb IAmb 07 15 44.9
comp=Z,93nm,1.4s
LUPA Lehigh Univers 40.67 263 IAMs_20 IAMs_20 07 30 19.9
comp=Z,4µm,20.0s
GROC Groznyy 40.69 90 *e*P **P 07 15 41.5 +0.2**
GROC *e* 07 17 18.3
GROC *e* 07 17 47.3
GROC *e*S **S 07 21 57.3 +6.2**
GROC pmax pmax
comp=Z,159nm,1.3s
L55A Hinsdale 40.69 267 P **P 07 15 40.9 -0.4**
baz=35
L55A S **S 07 21 58.6 +7.4**
baz=35
FFC Flin Flon 40.74 298 P **P 07 15 40.0 -1.6**
FFC MLR MLR
comp=Z,6µm,18.0s
FFC Flin Flon 40.74 298 P **P 07 15 40.0 -1.6**
M57A Sunshine Farm, 40.82 265 P **P 07 15 43.1 +0.7**
baz=35
M57A S **S 07 22 00.5 +7.4**
baz=35
M57A Sunshine Farm, 40.82 265 P **P 07 15 41.2 -1.2**
M57A IAmb IAmb 07 15 51.4
comp=Z,62nm,1.4s
KOPT Kop Dagi 41.01 98 P **P 07 15 45.2 +0.8**
E43A Lone Tree Farm 41.03 278 P **P 07 15 43.3 -0.8**
E43A IAmb IAmb 07 15 46.4
comp=Z,44nm,1.2s
E43A IAMs_20 IAMs_20 07 30 49.2
comp=Z,4µm,22.0s
L54A Sinclairville 41.03 268 P **P 07 15 44.1 -0.1**
baz=35
N58A Sunbury 41.05 264 P **P 07 15 43.6 -0.7**
baz=34
N58A S S 07 22 05.0 +8.5
baz=34
N58A Sunbury 41.05 264 IAMs_20 IAMs_20 07 30 32.9
comp=Z,3µm,22.0s
AKH Akhalkalaki 41.15 94 P **P 07 15 45.7 +0.3**
AKH pmax pmax
comp=Z,151nm,1.5s
AKH MLR MLR
comp=Z,2µm,22.0s
AKH Akhalkalaki 41.15 94 P **P 07 15 45.7 +0.3**
AKH IAMs_20 IAMs_20 07 32 48.4
comp=Z,2µm,22.0s
M56A Emporium 41.15 266 P **P 07 15 44.8 -0.4**
baz=35
M56A Emporium 41.15 266 P **P 07 15 44.5 -0.6**
D41A Chassel 41.16 280 P **P 07 15 44.0 -1.1**
D41A IAmb IAmb 07 15 53.0
comp=Z,55nm,1.1s
D41A IAMs_20 IAMs_20 07 31 16.6
comp=Z,3µm,20.0s
GLMI Grayling 41.23 275 IAMs_20 IAMs_20 07 31 40.7
comp=Z,3µm,19.0s
PSUB Penn St. - Bra 41.26 262 IAMs_20 IAMs_20 07 30 36.5
comp=Z,2µm,19.0s
ERPA Erie 41.41 268 IAMs_20 IAMs_20 07 30 44.5
comp=Z,3µm,22.0s
M55A Ridgway 41.41 267 P **P 07 15 47.1 -0.3**
baz=35
M55A Ridgway 41.41 267 P **P 07 15 46.2 -1.2**
M55A IAmb IAmb 07 15 51.8
comp=Z,62nm,1.4s
TBLG Delisi 41.42 93 P **P 07 15 47.7 +0.3**
TBLG pmax pmax
comp=Z,76nm,1.3s
TBLG Delisi 41.42 93 P **P 07 15 47.7 +0.3**
TBLG IAmb IAmb 07 15 51.7
comp=Z,76nm,1.3s
P60A Greenville 41.44 262 IAMs_20 IAMs_20 07 30 42.2
comp=Z,2µm,20.0s
N57A Milroy 41.48 265 P **P 07 15 47.3 -0.5**
baz=34
N57A S **S 07 22 10.3 +7.4**
baz=34
G45A Suttons Bay 41.51 276 IAMs_20 IAMs_20 07 30 59.0
comp=Z,3µm,22.0s
MVL Millersville 41.59 263 P **P 07 15 47.2 -1.5**
MAK Makhachkala 41.62 89 *e*P **P 07 15 47.1 -1.9**
MAK *e* 07 17 23.0
MAK *e*S **S 07 22 03.5 -1.4**
MAK *e*SS **SS 07 25 09.7 +0.2**

MAK pmax pmax
comp=Z,328nm,1.3s
MAK MLR MLR
comp=Z,3µm,19.0s
N56A West Decatur 41.66 266 P **P 07 15 48.7 -0.7**
baz=34
EYMN Ely 41.70 283 P **P 07 15 48.8 -0.9**
baz=39
EYMN Ely 41.70 283 P **P 07 15 48.7 -0.9**
EYMN Ely 41.70 283 IAMs_20 IAMs_20 07 31 51.0
comp=Z,3µm,20.0s
SSPA Standing Stone 41.72 265 P **P 07 15 48.4 -1.4**
baz=34
SSPA S **S 07 22 13.6 +7.2**
baz=34
SSPA Standing Stone 41.72 265 P **P 07 15 49.2 -0.6**
SSPA IAmb IAmb 07 15 54.3
comp=Z,78nm,1.5s
O58A Lewisberry 41.73 264 P **P 07 15 49.4 -0.5**
baz=34
ULM Lac du Bonnet 41.73 289 P **P 07 15 47.6 -2.2**
comp=Z,6.9nm,1.0s,baz=32,slow=9.9,SNR=6.0
ULM LR LR 07 33 00.2
comp=Z,2µm,18.4s,baz=43,slow=36
ULM Lac du Bonnet 41.73 289 P **P 07 15 47.9 -1.9**
M54A Oil Creek Stat 41.77 268 P **P 07 15 50.1 -0.2**
baz=35
M54A Oil Creek Stat 41.77 268 P **P 07 15 48.6 -1.7**
M54A IAmb IAmb 07 15 59.0
comp=Z,62nm,1.1s
M54A IAMs_20 IAMs_20 07 31 20.0
comp=Z,2µm,20.0s
ABKAR Akbulak array 41.93 73 P **P 07 15 50.8 -0.7**
O57A Amberson 41.96 265 P **P 07 15 51.4 -0.4**
baz=34
O57A S **S 07 22 16.7 +6.7**
baz=34
F42A Maple Grove Fa 42.00 279 IAMs_20 IAMs_20 07 31 29.9
comp=Z,4µm,22.0s
GAZ Gaziantep 42.01 104 P **P 07 15 53.1 +0.8**
GAZ IAmb IAmb 07 16 02.9
comp=Z,77nm,1.2s
N55A Marion Center 42.08 266 P **P 07 15 52.8 +0.1**
baz=34
N55A S **S 07 22 18.2 +6.5**
baz=34
TIXI Tiksi 42.12 15 *d i*P **P 07 15 54.5 +1.8**
TIXI pmax pmax
comp=Z,89nm,1.7s
TIXI Tiksi 42.12 15 P **P 07 15 53.1 +0.4**
TIXI IAmb IAmb 07 15 57.7
comp=Z,56nm,1.1s
COWI Conover 42.16 280 P **P 07 15 52.0 -1.4**
COWI IAMs_20 IAMs_20 07 31 46.1
comp=Z,3µm,21.0s
M53A WI Miller and 42.26 268 P **P 07 15 53.5 -0.7**
baz=35
M53A S **S 07 22 21.3 +6.9**
baz=35
M53A WI Miller and 42.26 268 P **P 07 15 53.2 -1.0**
M53A IAmb IAmb 07 15 58.6
comp=Z,65nm,1.4s
M53A IAMs_20 IAMs_20 07 31 22.0
comp=Z,3µm,21.0s
CSS Mathiatis 42.29 109 P **P 07 15 54.4 -0.1**
CSS IAmb IAmb 07 16 05.3
comp=Z,50nm,1.2s
EPYK Eagle Plains 42.30 329 P **P 07 15 53.0 -1.3**
baz=34
EPYK Eagle Plains 42.30 329 P **P 07 15 53.3 -1.0**
O56A Blue Knob Stat 42.32 265 P **P 07 15 54.7 -0.1**
baz=34
O56A Blue Knob Stat 42.32 265 P **P 07 15 53.5 -1.2**
N54A Moraine State 42.36 267 P **P 07 15 54.6 -0.5**
baz=35
N54A Moraine State 42.36 267 P **P 07 15 54.4 -0.6**
N54A IAMs_20 IAMs_20 07 31 37.5
comp=Z,3µm,21.0s
P58A Pank, Wackersv 42.42 264 P **P 07 15 56.0 +0.5**
baz=34
M52A Chesterland 42.48 269 P **P 07 15 56.0 0.0**
baz=35
M52A S **S 07 22 24.0 +6.4**
baz=35
M52A Chesterland 42.48 269 P **P 07 15 56.0 0.0**
M52A IAmb IAmb 07 15 57.8
comp=Z,37nm,0.9s
M52A IAMs_20 IAMs_20 07 31 28.6
comp=Z,3µm,21.0s
I45A Fountain 42.56 276 IAMs_20 IAMs_20 07 32 32.8
comp=Z,2µm,18.0s
J47A Sunmer 42.59 274 P **P 07 15 55.8 -1.1**
O55A Ligonier 42.68 266 P **P 07 15 57.1 -0.6**
baz=34
O55A S **S 07 22 27.8 +7.1**
baz=34
P57A Homestead Farm 42.73 264 P **P 07 15 57.9 -0.2**
P57A IAMs_20 IAMs_20 07 31 24.4
comp=Z,4µm,22.0s
E38A The Farm, Brul 42.78 282 P **P 07 15 57.8 -0.6**
AAM Ann Arbor 42.85 272 P **P 07 15 58.6 -0.4**
AAM pmax pmax
comp=Z,93nm,1.5s
AAM Ann Arbor 42.85 272 P **P 07 15 58.6 -0.4**
baz=36
AAM S **S 07 22 29.1 +6.1**
baz=36
AAM Ann Arbor 42.85 272 P **P 07 15 58.6 -0.4**
AAM IAmb IAmb 07 16 02.5
comp=Z,93nm,1.5s
N53A Lisbon 42.85 268 P **P 07 15 59.0 0.0**
baz=34
N53A Lisbon 42.85 268 P **P 07 15 58.5 -0.6**
N53A IAmb IAmb 07 16 03.5
comp=Z,94nm,1.5s
N53A IAMs_20 IAMs_20 07 31 29.6
comp=Z,3µm,22.0s
H43A Windswept, Lux 42.87 277 P **P 07 15 59.2 +0.1**
H43A IAMs_20 IAMs_20 07 32 05.0
comp=Z,4µm,22.0s
TOLK Toolik Lake Re 42.90 337 P **P 07 15 59.3 +0.1**
baz=28,SNR=29
TOLK S **S 07 22 30.1 +6.8**
baz=28
TOLK Toolik Lake Re 42.90 337 P **P 07 15 58.6 -0.5**
TOLK IAMs_20 IAMs_20 07 35 25.7
comp=Z,3µm,20.0s
AKT Akhty 42.92 90 *e*P **P 07 15 59.7 0.0**
AKT *e* 07 17 40.5
AKT *e* 07 17 48.5
AKT pmax pmax
comp=Z,54nm,1.2s
M51A Elyria 43.00 270 P **P 07 16 00.5 +0.2**
baz=35
M51A S **S 07 22 31.8 +6.5**
baz=35
Q58A Fox Den Farm, 43.04 264 S **S 07 22 32.3 +6.5**
baz=33
BMAR Burnt Mountain 43.05 333 P **P 07 16 00.2 -0.1**
P56A Dayton Farm, R 43.07 265 S **S 07 22 33.8 +7.5**
baz=34
BRVK Borovoye 43.10 62 P **P 07 16 00.9 0.0**
BRVK P **P 07 16 00.9 0.0**
BRVK Borovoye 43.10 62 *d i*P **P 07 16 00.7 -0.2**
BRVK pmax pmax
comp=Z,79nm,1.7s
BRVK Borovoye 43.10 62 P **P 07 16 00.9 0.0**
BRVK Borovoye 43.10 62 IAMs_20 IAMs_20 07 33 36.4
comp=Z,2µm,18.0s
O54A Avella 43.17 267 P **P 07 16 01.0 -0.6**
baz=34
O54A S **S 07 22 35.2 +7.4**
baz=34
O54A Avella 43.17 267 P **P 07 16 01.0 -0.6**
O54A IAMs_20 IAMs_20 07 32 14.0
comp=Z,3µm,20.0s
N52A McGinn's Farm, 43.22 269 P **P 07 16 01.2 -0.8**
baz=34
AGMN Agassiz Nation 43.25 287 P **P 07 16 01.4 -0.8**
baz=38,SNR=9.4
AGMN S **S 07 22 34.7 +5.9**
baz=38
AGMN Agassiz Nation 43.25 287 P **P 07 16 01.0 -1.1**
AGMN IAmb IAmb 07 16 05.4
comp=Z,50nm,1.4s
AGMN IAMs_20 IAMs_20 07 33 18.9
comp=Z,2µm,19.0s

Q57A Strasburg 43.27 264 P **P 07 16 02.2 -0.2**
baz=33
G40A Rib Lake 43.27 280 P **P 07 16 02.0 -0.4**
G40A IAmb IAmb 07 16 06.3
comp=Z,72nm,1.5s
G40A IAMs_20 IAMs_20 07 32 30.5
comp=Z,3µm,21.0s
M50A Fremont 43.32 271 P **P 07 16 02.2 -0.5**
M50A IAmb IAmb 07 16 07.1
comp=Z,100nm,1.5s
M50A IAMs_20 IAMs_20 07 32 05.8
comp=Z,3µm,20.0s
MCWV Mont Chateau 43.37 266 P **P 07 16 03.0 -0.3**
baz=34
MARD Mardin 43.39 100 P **P 07 16 04.0 +0.4**
N51A Ashland 43.42 270 P **P 07 16 03.1 -0.6**
baz=35,SNR=6.2
N51A S **S 07 22 37.7 +6.1**
baz=35
N51A Ashland 43.42 270 P **P 07 16 03.2 -0.4**
N51A IAmb IAmb 07 16 04.2
comp=Z,41nm,1.0s
N51A IAMs_20 IAMs_20 07 32 07.7
comp=Z,3µm,20.0s
O53A New Philadelph 43.47 268 P **P 07 16 03.9 -0.2**
baz=34
O53A S **S 07 22 39.2 +7.0**
baz=34
O53A New Philadelph 43.47 268 P **P 07 16 03.4 -0.7**
O53A IAmb IAmb 07 16 07.9
comp=Z,103nm,1.5s
O53A IAMs_20 IAMs_20 07 31 49.0
comp=Z,3µm,22.0s
L48A N Adams 43.48 272 P **P 07 16 03.6 -0.5**
L48A IAmb IAmb 07 16 12.5
comp=Z,51nm,1.1s
P55A Reedsville 43.49 266 P **P 07 16 04.3 +0.1**
baz=34
CBN Corbin Frederi 43.52 263 IAMs_20 IAMs_20 07 32 05.4
comp=Z,2µm,19.0s
GEVA Gevas 43.53 97 P **P 07 16 04.5 -0.2**
GEVA IAmb IAmb 07 16 12.5
comp=Z,74nm,1.4s
Q56A Snyder Ridge, 43.60 265 P **P 07 16 05.1 0.0**
baz=33
Q56A S **S 07 22 40.8 +6.7**
baz=33
Q56A Snyder Ridge, 43.60 265 P **P 07 16 04.5 -0.7**
Q56A IAmb IAmb 07 16 13.9
comp=Z,50nm,1.5s
Q56A IAMs_20 IAMs_20 07 32 04.5
comp=Z,2µm,22.0s
P54A Burton 43.69 267 P **P 07 16 06.0 +0.1**
baz=34
P54A S **S 07 22 43.4 +7.9**
baz=34
R58A Rapidan 43.71 263 P **P 07 16 05.7 -0.2**
baz=33
R58A S **S 07 22 43.0 +7.3**
baz=33
I42A Draeger Farm, 43.83 278 P **P 07 16 06.5 -0.3**
I42A IAmb IAmb 07 16 10.4
comp=Z,52nm,1.4s
I42A IAMs_20 IAMs_20 07 32 45.2
comp=Z,4µm,22.0s
O52A Adamsville 43.85 268 P **P 07 16 06.6 -0.6**
baz=34,SNR=9.7
O52A S **S 07 22 44.8 +7.0**
baz=34
O52A Adamsville 43.85 268 P **P 07 16 06.9 -0.3**
O52A IAMs_20 IAMs_20 07 32 11.1
comp=Z,3µm,21.0s
R57A Stanardsville 43.94 264 P **P 07 16 07.0 -0.8**
baz=33
R57A S S 07 22 47.4 +8.4
baz=33
R58B Mineral 43.94 263 P **P 07 16 07.1 -0.7**
baz=33
R58B S **S 07 22 46.4 +7.3**
baz=33
R58B Mineral 43.94 263 P **P 07 16 07.2 -0.7**
R58B IAMs_20 IAMs_20 07 32 18.4
comp=Z,3µm,18.0s
Q55A Buckhannon 44.02 266 P **P 07 16 07.8 -0.8**
baz=33
Q55A S S 07 22 48.6 +8.2
baz=33
O51A Pataskala 44.16 269 P **P 07 16 09.1 -0.5**
baz=34,SNR=12
BHL Bhannes 44.16 108 *e*P **P 07 16 09.2 -0.6**
P53A Whipple 44.18 267 P **P 07 16 09.6 -0.2**
baz=34,SNR=11
P53A S **S 07 22 49.6 +7.0**
baz=34
P53A Whipple 44.18 267 P **P 07 16 08.6 -1.2**
P53A IAmb IAmb 07 16 17.3
comp=Z,46nm,1.1s
P53A IAMs_20 IAMs_20 07 32 22.8
comp=Z,3µm,22.0s
N49A Columbus Grove 44.20 271 P **P 07 16 08.8 -1.1**
N49A IAMs_20 IAMs_20 07 32 45.3
comp=Z,2µm,19.0s
F36A Milaca 44.20 283 P **P 07 16 09.2 -0.7**
R56A Bull Pasture M 44.22 265 P **P 07 16 09.9 -0.3**
baz=33
R56A S S 07 22 51.6 +8.2
baz=33
L46A Eue Claire 44.22 274 P **P 07 16 10.0 -0.1**
L46A IAMs_20 IAMs_20 07 33 31.8
comp=Z,2µm,18.0s
ACSO Alum Creek Sta 44.25 270 P **P 07 16 10.0 -0.4**
ACSO IAmb IAmb 07 16 10.8
comp=Z,37nm,1.1s
ACSO IAMs_20 IAMs_20 07 32 33.6
comp=Z,3µm,21.0s
COLD Coldfoot 44.27 336 P **P 07 16 10.2 +0.1**
baz=27,SNR=12
COLD S **S 07 22 50.4 +7.2**
baz=27
COLD Coldfoot 44.27 336 P **P 07 16 09.6 -0.6**
COLD IAMs_20 IAMs_20 07 36 31.9
comp=Z,3µm,20.0s
S58A Poland Farm, P 44.31 263 P **P 07 16 11.8 +1.0**
baz=32
S58A Poland Farm, P 44.31 263 P **P 07 16 09.3 -1.5**
S58A IAMs_20 IAMs_20 07 32 30.2
comp=Z,2µm,18.0s
TAM Tamanrasset 44.36 149 P **P 07 16 11.2 -0.3**
TAM pmax pmax
comp=Z,61nm,1.5s
TAM MLR MLR
comp=Z,3µm,20.0s
TAM Tamanrasset 44.36 149 P **P 07 16 11.2 -0.3**
TAM IAmb IAmb 07 16 16.4
comp=Z,61nm,1.5s
TAM IAMs_20 IAMs_20 07 34 36.2
comp=Z,3µm,20.0s
Q54A Coxs Mills 44.36 267 P **P 07 16 11.1 -0.1**
baz=34
Q54A S **S 07 22 53.0 +7.8**
baz=34
Q54A Coxs Mills 44.36 267 P **P 07 16 10.3 -0.9**
Q54A IAMs_20 IAMs_20 07 32 50.5
comp=Z,2µm,20.0s
P52A Corning 44.38 268 P **P 07 16 10.9 -0.4**
baz=34,SNR=8.7
P52A S **S 07 22 51.8 +6.3**
baz=34
P52A Corning 44.38 268 P **P 07 16 09.4 -1.9**
P52A IAmb IAmb 07 16 19.9
comp=Z,50nm,1.2s
P52A IAMs_20 IAMs_20 07 32 27.0
comp=Z,3µm,22.0s
SPMN Marine on St. 44.41 282 P **P 07 16 10.8 -0.8**
baz=37
SPMN S **S 07 22 52.9 +7.1**
baz=37
SPMN Marine on St. 44.41 282 P **P 07 16 11.0 -0.6**
SPMN IAmb IAmb 07 16 15.7
comp=Z,29nm,1.1s
K43A Burlington 44.54 276 P **P 07 16 11.7 -0.9**
K43A IAmb IAmb 07 16 16.0
comp=Z,72nm,1.3s
I40A Norwalk 44.55 279 P **P 07 16 12.5 -0.2**
I40A IAmb IAmb 07 16 21.4
comp=Z,34nm,1.2s
S57A Dark Hollow, R 44.57 264 P **P 07 16 13.6 +0.8**

baz=33
S57A Dark Hollow, R 44.57 264 P **P** **07 16 11.3 -1.6**
S57A IAmb IAmb 07 16 16.9
comp=Z,41nm,1.5s
T59A Double "B" Far 44.63 262 P **P** **07 16 14.3 +0.9**
baz=32
T59A S **S** **07 22 56.6 +7.4**
baz=32
T59A Double "B" Far 44.63 262 P **P** **07 16 12.8 -0.6**
R55A Marlinton 44.63 265 P **P** **07 16 14.4 +1.0**
baz=33
R55A S **S** **07 22 57.4 +8.0**
baz=33
R55A Marlinton 44.63 265 P **P** **07 16 12.3 -1.1**
R55A IAms_20 IAms_20 07 32 36.8
comp=Z,3μm,22.0s
EGAK Eagle 44.64 330 P **P** **07 16 12.3 -0.8**
EGAK IAms_20 IAms_20 07 35 59.5
comp=Z,3μm,20.0s
D32A Dogwood Acres, 44.65 287 IAms_20 IAms_20 07 34 09.8
comp=Z,3μm,19.0s
SHBL Chebaa 44.68 108 *e*P **P** **07 16 14.0 0.0**
Q53A Leroy 44.76 267 P **P** **07 16 14.1 -0.3**
baz=33
L44A Lake County Fo 44.78 275 IAms_20 IAms_20 07 33 58.6
comp=Z,2μm,19.0s
DAWY Dawson 44.85 328 P **P** **07 16 14.8 -0.1**
DAWY IAmb IAmb 07 16 21.3
comp=Z,29nm,1.2s
DAWY IAms_20 IAms_20 07 36 04.3
comp=Z,3μm,20.0s
O49A Covington 44.87 271 P **P** **07 16 14.7 -0.6**
O49A IAmb IAmb 07 16 16.9
comp=Z,39nm,0.9s
O49A IAms_20 IAms_20 07 33 05.0
comp=Z,3μm,20.0s
U60A Pendleton 44.89 261 S **S** **07 23 00.9 +8.0**
baz=32
N47A Urbana 44.89 272 P **P** **07 16 14.6 -0.8**
N47A IAmb IAmb 07 16 16.7
comp=Z,25nm,1.0s
S56A Natural Bridge 44.90 264 S S 07 23 03.1 +10
baz=33
P51A Williamsport 44.91 269 P **P** **07 16 14.6 -1.0**
baz=34,SNR=9.0
P51A S **S** **07 22 57.8 +4.7**
baz=34
P51A Williamsport 44.91 269 P **P** **07 16 14.8 -0.8**
P51A IAmb IAmb 07 16 15.7
comp=Z,43nm,1.1s
P51A IAms_20 IAms_20 07 32 53.9
comp=Z,2μm,20.0s
Q52A Bidwell 44.99 268 P **P** **07 16 15.1 -1.2**
baz=34
Q52A S **S** **07 23 00.8 +6.4**
baz=34
R54A Victor 45.09 266 P **P** **07 16 16.7 -0.4**
baz=33
MDND Maddock 45.14 290 P **P** **07 16 16.7 -0.6**
baz=37
MDND Maddock 45.14 290 P **P** **07 16 16.6 -0.8**
V62A Hyde County Ai 45.15 259 IAms_20 IAms_20 07 33 08.5
comp=Z,3μm,20.0s
JFWS Jewell Farm 45.19 278 P **P** **07 16 17.6 -0.2**
JFWS pmax pmax
comp=Z,27nm,1.2s
JFWS Jewell Farm 45.19 278 P **P** **07 16 17.4 -0.4**
baz=36
JFWS S **S** **07 23 04.0 +6.8**
baz=36
JFWS Jewell Farm 45.19 278 P **P** **07 16 17.6 -0.2**
JFWS IAmb IAmb 07 16 20.2
comp=Z,27nm,1.2s
S55A Lewisburg 45.23 265 P **P** **07 16 17.5 -0.7**
baz=33
S55A S S 07 23 07.3 +9.4
baz=33
U59A Littleton 45.26 262 S **S** **07 23 05.3 +7.0**
baz=32
U59A Littleton 45.26 262 IAms_20 IAms_20 07 34 05.4
comp=Z,2μm,18.0s
T57A Hurt 45.34 264 P **P** **07 16 18.8 -0.2**
baz=32
T57A S **S** **07 23 06.8 +7.3**
baz=32
T57A Hurt 45.34 264 P **P** **07 16 17.7 -1.3**
T57A IAmb IAmb 07 16 23.8
comp=Z,39nm,1.3s
T57A IAms_20 IAms_20 07 33 02.5
comp=Z,3μm,20.0s
F33A 5 Mile Ranch, 45.38 285 P **P** **07 16 18.6 -0.7**
F33A IAmb IAmb 07 16 22.8
comp=Z,55nm,1.4s
F33A IAms_20 IAms_20 07 33 51.3
comp=Z,2μm,20.0s
R53A Hurricane 45.38 267 P **P** **07 16 19.3 -0.1**
baz=33
R53A S **S** **07 23 07.0 +6.9**
baz=33
R53A Hurricane 45.38 267 IAms_20 IAms_20 07 33 22.6
comp=Z,3μm,21.0s
Q51A Peebles 45.41 269 P **P** **07 16 18.1 -1.4**
Q51A IAms_20 IAms_20 07 33 09.2
comp=Z,2μm,21.0s
RDOG Red Dog Mine 45.45 343 P **P** **07 16 18.6 -1.0**
K27K Chicken 45.49 330 P **P** **07 16 19.7 -0.1**
baz=30
M44A Midewin, Midew 45.49 275 P **P** **07 16 18.6 -1.6**
M44A IAmb IAmb 07 16 21.8
comp=Z,52nm,1.1s
U58A Oxford 45.55 262 S **S** **07 23 08.4 +6.0**
baz=32
S54A Dingess, Beckl 45.55 266 P **P** **07 16 19.0 -1.7**
baz=33
S54A S **S** **07 23 09.6 +7.0**
baz=33
S54A Dingess, Beckl 45.55 266 P **P** **07 16 20.4 -0.4**
S54A IAmb IAmb 07 16 21.3
comp=Z,39nm,1.4s
S54A IAms_20 IAms_20 07 34 02.1
comp=Z,2μm,18.0s
P49A Miami Univ. Ec 45.58 271 P **P** **07 16 19.3 -1.6**
baz=34
P49A S **S** **07 23 08.7 +5.9**
baz=34
P49A Miami Univ. Ec 45.58 271 P **P** **07 16 20.0 -0.9**
P49A IAmb IAmb 07 16 29.0
comp=Z,45nm,1.2s
P49A IAms_20 IAms_20 07 33 25.7
comp=Z,3μm,20.0s
I37A Lemond, Waseca 45.64 282 P **P** **07 16 21.2 -0.1**
I37A IAms_20 IAms_20 07 33 55.1
comp=Z,2μm,19.0s
POKR Poker Plat Res 45.64 333 P **P** **07 16 20.8 -0.2**
baz=28
POKR S **S** **07 23 11.2 +8.1**
baz=28
T56A Rocky Mt 45.65 264 P **P** **07 16 22.0 +0.5**
baz=32
T56A S **S** **07 23 11.3 +7.4**
baz=32
BLA Blacksburg 45.66 265 P **P** **07 16 20.2 -1.4**
BLA pmax pmax
comp=Z,30nm,1.4s
BLA Blacksburg 45.66 265 P **P** **07 16 21.6 0.0**
baz=32
BLA Blacksburg 45.66 265 P **P** **07 16 20.2 -1.4**
BLA IAmb IAmb 07 16 30.5
comp=Z,30nm,1.4s
L42A Oliver, Polo 45.68 277 P **P** **07 16 21.2 -0.5**
L42A IAmb IAmb 07 16 30.1
comp=Z,49nm,1.1s
L42A IAms_20 IAms_20 07 33 39.3
comp=Z,3μm,22.0s
IL31 45.84 333 P **P** **07 16 22.7 +0.1**
IL31 IAmb IAmb 07 16 30.1
comp=Z,54nm,1.4s
ILAR Eielson Array 45.84 333 P **P** **07 16 22.3 -0.4**
comp=Z,8.2nm,1.0s,baz=24,slow=6.1,SNR=33
ILAR PcP **PcP** **07 17 58.2 -1.5**
comp=Z,6.4nm,0.9s,baz=358,slow=3.0,SNR=15
ILAR LR LR 07 37 58.2
comp=Z,2μm,19.9s,baz=34,slow=39
ILAR Eielson Array 45.84 333 P **P** **07 16 22.1 -0.5**
U57A Blanch 45.85 263 P **P** **07 16 22.2 -0.9**
baz=32
T55A Pulaski 45.90 265 P **P** **07 16 22.7 -0.8**
baz=32
SFIN Lafayette 45.91 273 P **P** **07 16 22.2 -1.2**
SFIN IAmb IAmb 07 16 25.2
comp=Z,36nm,0.8s
MDM Murphy Dome 45.93 333 P **P** **07 16 23.1 -0.4**
MDM IAMs_20 IAMs_20 07 38 33.9
comp=Z,2μm,19.0s
COLA College 45.94 333 *ce*P **P** **07 16 23.6 +0.2**
COLA pmax pmax
comp=Z,21nm,1.0s
COLA College 45.94 333 P **P** **07 16 23.2 -0.1**
COLA IAmb IAmb 07 16 26.6
comp=Z,53nm,1.3s
TCOL CIGO, UAF Yank 45.94 333 P **P** **07 16 23.4 0.0**
baz=27
SCRK Sand Creek 45.94 331 P **P** **07 16 23.7 +0.1**
baz=29,SNR=13
P48A Milroy 45.95 271 P **P** **07 16 21.9 -1.9**
P48A IAmb IAmb 07 16 25.0
comp=Z,31nm,0.9s
P48A IAMs_20 IAMs_20 07 33 38.4
comp=Z,2μm,21.0s
V59A Middlesex 45.95 262 P **P** **07 16 24.2 +0.4**
baz=32
S53A Williamson 46.00 267 P **P** **07 16 24.2 -0.1**
baz=33
IMAR Indian Mountai 46.01 337 P **P** **07 16 23.1 -0.9**
CCB Clear Creek Bu 46.13 333 P **P** **07 16 23.8 -1.1**
HDA Harding Lake 46.17 332 P **P** **07 16 25.3 0.0**
baz=28,SNR=15
HDA Harding Lake 46.17 332 P **P** **07 16 25.3 0.0**
HDA IAmb IAmb 07 16 32.7
comp=Z,51nm,1.4s
HDA IAMs_20 IAMs_20 07 37 57.2
comp=Z,2μm,20.0s
DOT Dot Lake 46.25 330 P **P** **07 16 24.6 -1.4**
DOT IAmb IAmb 07 16 29.3
comp=Z,30nm,1.3s
BCAR Beaver Creek A 46.26 329 P **P** **07 16 25.4 -0.7**
T54A Tazewell 46.29 266 P **P** **07 16 25.7 -0.9**
baz=32,SNR=8.1
T54A S **S** **07 23 19.9 +6.7**
baz=32
V58A Windy Hill, Pi 46.30 263 P **P** **07 16 26.2 -0.4**
baz=32
V58A Windy Hill, Pi 46.30 263 P **P** **07 16 25.3 -1.3**
V58A IAmb IAmb 07 16 29.4
comp=Z,26nm,1.4s
V58A IAMs_20 IAMs_20 07 34 29.9
comp=Z,2μm,18.0s
L40A Anamosa 46.30 278 P **P** **07 16 25.5 -1.0**
L40A IAMs_20 IAMs_20 07 34 23.7
comp=Z,3μm,21.0s
RIDG Independent Ri 46.34 331 P **P** **07 16 26.5 -0.1**
RIDG IAMs_20 IAMs_20 07 37 50.4
comp=Z,2μm,19.0s
WRH Wood River Hil 46.34 333 P **P** **07 16 26.3 -0.3**
U56A King 46.37 264 P **P** **07 16 27.1 -0.1**
baz=32
U56A S **S** **07 23 21.5 +7.1**
baz=32
U56A King 46.37 264 P **P** **07 16 26.9 -0.3**
U56A IAMs_20 IAMs_20 07 33 44.9
comp=Z,3μm,20.0s
NEA2 Nenana 46.42 334 P **P** **07 16 27.3 +0.1**
baz=26,SNR=19
R50A Paris 46.45 269 P **P** **07 16 27.1 -0.6**
R50A IAmb IAmb 07 16 34.6
comp=Z,28nm,1.1s
R50A IAMs_20 IAMs_20 07 33 41.8
comp=Z,3μm,21.0s
BRZS Berezniki 46.45 63 *e*P **P** **07 16 27.4 -0.3**
comp=Z,145nm,1.9s,baz=63
BRZS *i* PP **PP** **07 18 15.9 -0.5**
baz=63
BRZS *e*S **S** **07 23 16.7 +1.5**
baz=63
BRZS LR LR 07 34 50.7
comp=Z,784nm,14.6s,baz=63
BRZS Berezniki 46.45 63 *e*P **P** **07 16 27.3 -0.3**
BRZS *i* 07 18 15.8
BRZS *e*S **S** **07 23 16.6 +1.4**
BRZS pmax pmax
comp=Z,145nm,1.9s
BRZS MLR MLR
comp=Z,784nm,15.0s
K38A Parkersburg 46.48 280 P **P** **07 16 27.2 -0.8**
K38A IAmb IAmb 07 16 30.3
comp=Z,26nm,0.8s
K38A IAMs_20 IAMs_20 07 34 08.5
comp=Z,3μm,21.0s
DGMT Dagmar 46.48 294 P **P** **07 16 28.1 +0.1**
baz=36,SNR=9.8
DGMT Dagmar 46.48 294 P **P** **07 16 26.9 -1.0**
DGMT Dagmar 46.48 294 IAMs_20 IAMs_20 07 34 49.4
comp=Z,3μm,21.0s
V57A Coltrane Farms 46.50 263 P **P** **07 16 27.0 -1.2**
baz=32
V57A S **S** **07 23 22.7 +6.5**
baz=32
U55A TA2, Sparta 46.53 265 P **P** **07 16 27.9 -0.6**
baz=32,SNR=9.5
U55A S **S** **07 23 22.2 +5.5**
baz=32
P46A Rosedale 46.59 273 P **P** **07 16 28.3 -0.5**
P46A IAmb IAmb 07 16 37.2
comp=Z,26nm,1.1s
E28A Huff 46.60 289 P **P** **07 16 28.5 -0.5**
BLO Bloomington 46.66 272 P **P** **07 16 28.8 -0.6**
BLO pmax pmax
comp=Z,23nm,0.9s
BLO Bloomington 46.66 272 P **P** **07 16 28.8 -0.6**
BLO IAmb IAmb 07 16 31.9
comp=Z,23nm,0.8s
WHY Whitehorse 46.67 323 P **P** **07 16 28.5 -0.8**
WHY IAmb IAmb 07 16 36.1
comp=Z,24nm,1.4s
WHY IAMs_20 IAMs_20 07 36 01.2
comp=Z,3μm,21.0s
S51A Beattyville 46.67 268 P **P** **07 16 28.9 -0.6**
S51A IAmb IAmb 07 16 38.0
comp=Z,37nm,1.1s
S51A IAMs_20 IAMs_20 07 34 12.7
comp=Z,2μm,22.0s
O44A Mansfield 46.69 274 P **P** **07 16 29.5 -0.1**
HDIL Hopedale 46.71 275 P **P** **07 16 29.5 -0.2**
baz=34,SNR=8.6
HDIL Hopedale 46.71 275 P **P** **07 16 29.7 -0.1**
T53A Wise 46.77 267 P **P** **07 16 29.6 -0.7**
baz=32,SNR=7.6
T53A S **S** **07 23 28.0 +7.9**
baz=32
MENT Mentasta 46.80 330 IAMs_20 IAMs_20 07 37 16.8
comp=Z,3μm,19.0s
R49A Shelbyville 46.81 270 P **P** **07 16 29.6 -0.9**
R49A IAmb IAmb 07 16 35.6
comp=Z,36nm,1.4s
R49A IAMs_20 IAMs_20 07 34 03.3
comp=Z,3μm,21.0s
U54A Nelsons Funny 46.85 266 P **P** **07 16 30.1 -0.8**
baz=32
U54A S **S** **07 23 26.7 +5.4**
baz=32
V56A Mocksville 46.88 264 P **P** **07 16 30.7 -0.5**
baz=32,SNR=8.8
V56A S **S** **07 23 27.4 +5.8**
baz=32
BWN Browne 46.88 334 IAMs_20 IAMs_20 07 39 01.0
comp=Z,2μm,20.0s
W58A Raeford 47.01 262 S **S** **07 23 29.5 +6.2**
baz=31
V55A Taylorsville 47.15 265 P **P** **07 16 33.1 -0.2**
baz=32,SNR=8.4
V55A S **S** **07 23 31.7 +6.2**
baz=32
V55A Taylorsville 47.15 265 P **P** **07 16 33.0 -0.2**
V55A IAmb IAmb 07 16 40.7
comp=Z,31nm,1.2s
MCK McKinley 47.17 333 P **P** **07 16 33.2 +0.1**
MCK pmax pmax
comp=Z,57nm,1.3s
MCK MLR MLR
comp=Z,2μm,20.0s
MCK McKinley 47.17 333 P **P** **07 16 33.2 +0.1**
MCK IAMs_20 IAMs_20 07 39 11.7
comp=Z,2μm,20.0s
W57A Gilead 47.22 263 P **P** **07 16 35.0 +1.3**
baz=31
W57A S **S** **07 23 32.5 +6.1**
baz=31
W57A Gilead 47.22 263 P **P** **07 16 32.3 -1.5**
W57A IAmb IAmb 07 16 37.1
comp=Z,41nm,1.5s
W57A IAMs_20 IAMs_20 07 34 58.3
comp=Z,2μm,18.0s
ECSD EROS Data Cent 47.22 284 P **P** **07 16 33.0 -0.8**
baz=35,SNR=6.2
ECSD S **S** **07 23 32.8 +6.5**
baz=35
ECSD EROS Data Cent 47.22 284 P **P** **07 16 33.3 -0.5**
ECSD IAmb IAmb 07 16 42.3
comp=Z,25nm,1.4s
ECSD EROS Data Cent 47.22 284 IAMs_20 IAMs_20 07 34 59.0
comp=Z,3μm,21.0s
DLBC Dease Lake 47.23 319 LR LR 07 36 46.0
comp=Z,1μm,19.3s,baz=26,slow=37
DLBC Dease Lake 47.23 319 P **P** **07 16 33.7 0.0**
BPAW Bear Paw Mtn. 47.23 334 P **P** **07 16 32.5 -1.1**
N41A Harden Midland 47.26 277 P **P** **07 16 33.4 -0.6**
N41A IAMs_20 IAMs_20 07 35 28.0
comp=Z,2μm,18.0s
SCIA State Center 47.28 280 P **P** **07 16 32.9 -1.3**
baz=35
SCIA S **S** **07 23 32.9 +5.8**
baz=35
SCIA State Center 47.28 280 P **P** **07 16 33.3 -0.9**
SCIA IAMs_20 IAMs_20 07 34 43.5
comp=Z,3μm,21.0s
WCI Wyandotte Cave 47.34 271 P **P** **07 16 33.7 -1.0**
WCI pmax pmax
comp=Z,33nm,0.9s
WCI Wyandotte Cave 47.34 271 P **P** **07 16 33.6 -1.2**
baz=33
WCI S **S** **07 23 34.7 +6.5**
baz=33
WCI Wyandotte Cave 47.34 271 P **P** **07 16 33.7 -1.0**
WCI IAMs_20 IAMs_20 07 34 32.5
comp=Z,3μm,21.0s
X58A Rowland 47.45 262 S **S** **07 23 36.7 +7.1**
baz=31
RND Reindeer 47.45 333 P **P** **07 16 34.9 -0.5**
RND pmax pmax
comp=Z,11nm,1.1s
RND MLR MLR
comp=Z,2μm,20.0s
RND Reindeer 47.45 333 P **P** **07 16 34.9 -0.5**
RND IAMs_20 IAMs_20 07 38 25.0
comp=Z,2μm,20.0s
DHY Denali Highway 47.45 332 P **P** **07 16 33.6 -1.9**
DHY IAMs_20 IAMs_20 07 37 45.0
comp=Z,3μm,18.0s
W56A Indian Trail 47.49 263 P **P** **07 16 34.9 -1.0**
baz=31
W56A S **S** **07 23 36.6 +6.4**
baz=31
V54A Nebo 47.53 265 P **P** **07 16 34.8 -1.5**
baz=32,SNR=9.6
V54A S **S** **07 23 37.4 +6.5**
baz=32
P43A Skaggs, Pawnee 47.56 275 P **P** **07 16 36.2 -0.3**
TZTN Tazewell 47.57 267 P **P** **07 16 36.0 -0.6**
baz=32
TZTN Tazewell 47.57 267 P **P** **07 16 36.4 -0.2**
TZTN IAMs_20 IAMs_20 07 34 49.6
comp=Z,2μm,20.0s
ZAA0 Zalesovo Array 47.63 51 P **P** **07 16 35.9 -0.9**
ZAA0 IAmb IAmb 07 16 44.4
comp=Z,41nm,1.4s
ZALV Zalesovo Beam 47.63 51 P **P** **07 16 37.3 +0.4**
comp=Z,6.7nm,0.9s,baz=324,slow=7.3,SNR=15
ZALV PcP **PcP** **07 18 05.4 -0.8**
comp=Z,3.7nm,0.8s,baz=333,slow=1.6,SNR=4.4
ZALV LR LR 07 39 27.2
comp=Z,1μm,19.1s,baz=320,slow=40
ZALV Zalesovo Beam 47.63 51 *i* P **P** **07 16 37.2 +0.4**
ZALV pmax pmax
comp=Z,10.0nm,1.0s
TRF Thorofare Moun 47.69 334 P **P** **07 16 36.7 -0.6**
TRF IAmb IAmb 07 16 41.1
comp=Z,22nm,1.3s
TRF IAMs_20 IAMs_20 07 37 58.3
comp=Z,2μm,20.0s
OLIL Olney 47.70 273 P **P** **07 16 36.3 -1.3**
OLIL IAMs_20 IAMs_20 07 35 29.9
comp=Z,2μm,18.0s
KTH Kantishna Hill 47.72 334 P **P** **07 16 36.0 -1.5**
KTH IAMs_20 IAMs_20 07 38 08.1
comp=Z,2μm,20.0s
T50A Nancy 47.73 269 P **P** **07 16 37.1 -0.6**
T50A IAmb IAmb 07 16 46.1
comp=Z,35nm,1.4s
T50A IAMs_20 IAMs_20 07 34 21.7
comp=Z,2μm,22.0s
KMSC Kings Mountain 47.80 264 P **P** **07 16 37.4 -1.0**
baz=32,SNR=7.7
KMSC Kings Mountain 47.80 264 P **P** **07 16 37.8 -0.5**
KMSC IAMs_20 IAMs_20 07 34 29.7
comp=Z,2μm,21.0s
SKAG Skagway 47.81 323 IAMs_20 IAMs_20 07 37 23.5
comp=Z,3μm,19.0s
BIRD Birdtown, Kers 47.85 263 P **P** **07 16 37.4 -1.4**
BIRD IAmb IAmb 07 16 43.1
comp=Z,36nm,1.3s
BIRD IAMs_20 IAMs_20 07 35 18.0
comp=Z,2μm,18.0s
Q44A Meyer Farm, Va 47.96 274 P **P** **07 16 38.8 -0.7**
Q44A IAMs_20 IAMs_20 07 35 37.7
comp=Z,2μm,18.0s
BARN Barnard Glacie 47.99 327 IAMs_20 IAMs_20 07 37 13.3
comp=Z,2μm,20.0s
V53A Saluda 47.99 266 P **P** **07 16 38.0 -1.9**
V53A IAmb IAmb 07 16 53.4
comp=Z,23nm,1.4s
CTGM Chitina Glacie 48.00 327 IAMs_20 IAMs_20 07 37 46.5
comp=Z,3μm,18.0s
KURK Kurchatov 48.09 58 P **P** **07 16 39.9 -0.5**
KURK P **P** **07 16 39.9 -0.5**
KURK Kurchatov 48.09 58 *d i* P **P** **07 16 39.8 -0.6**
KURK pmax pmax
comp=Z,34nm,1.0s
GLB Gilahina Butte 48.15 329 IAMs_20 IAMs_20 07 37 46.4
comp=Z,3μm,21.0s
BALM Baldy 48.17 328 IAMs_20 IAMs_20 07 37 38.0
comp=Z,3μm,19.0s
V52A Sevierville 48.19 267 P **P** **07 16 40.8 -0.6**
W54A Cherokee Point 48.22 265 P **P** **07 16 40.6 -0.9**
baz=32,SNR=7.9
W54A S **S** **07 23 47.7 +7.1**
baz=32
X56A White Oak 48.23 263 P **P** **07 16 40.4 -1.2**
baz=31
X56A S **S** **07 23 47.1 +6.4**
baz=31
VRDI Verde Repeater 48.26 328 IAMs_20 IAMs_20 07 37 49.2
comp=Z,3μm,20.0s
PAULI Pauline 48.28 264 P **P** **07 16 42.0 -0.1**
PAULI IAMs_20 IAMs_20 07 34 45.4
comp=Z,2μm,21.0s
TKL Tuckaleechee C 48.42 267 P **P** **07 16 42.6 -0.5**
TKL pmax pmax
comp=Z,41nm,1.5s
TKL Tuckaleechee C 48.42 267 P **P** **07 16 42.6 -0.5**
TKL IAmb IAmb 07 16 45.8
comp=Z,41nm,1.4s
TKL IAMs_20 IAMs_20 07 35 07.9
comp=Z,3μm,21.0s
BESE Bessie Mountai 48.45 322 IAMs_20 IAMs_20 07 37 22.2
comp=Z,3μm,18.0s
BCPM Bancas Point 48.48 325 IAMs_20 IAMs_20 07 37 48.1
comp=Z,2μm,19.0s
X55A Gracelyn & Ava 48.50 264 P **P** **07 16 42.9 -0.9**
baz=31,SNR=8.0
X55A S **S** **07 23 49.1 +4.4**
baz=31
PCA Pinnacle 48.51 326 IAMs_20 IAMs_20 07 37 55.8
comp=Z,3μm,19.0s
V51A Loudon 48.54 267 P **P** **07 16 43.8 -0.3**
V51A IAMs_20 IAMs_20 07 35 31.3
comp=Z,2μm,19.0s
ISLE Juniper Island 48.55 327 IAMs_20 IAMs_20 07 37 40.1
comp=Z,3μm,20.0s
PPLA Purkeypile 48.56 334 P **P** **07 16 42.6 -1.4**
PPLA IAmb IAmb 07 16 52.7
comp=Z,24nm,1.0s

U49A	**Red Boiling Sp**	**48.56 269**	P	**P**	**07 16 43.5**	**-0.7**
U49A			IAmb	IAmb	07 16 45.7	
	comp=Z,23nm,1.1s					
U49A			IAMs_20	IAMs_20	07 34 58.7	
	comp=Z,2μm,21.0s					
KLU	**Klutina**	**48.57 330**	P	**P**	**07 16 42.5**	**-1.5**
KLU			IAmb	IAmb	07 16 51.3	
	comp=Z,28nm,1.3s					
KLU			IAMs_20	IAMs_20	07 38 25.4	
	comp=Z,2μm,20.0s					
JIS	**Juneau Island**	**48.58 321**	IAMs_20	IAMs_20	07 37 25.8	
	comp=Z,2μm,20.0s					
BG3	**Lake Jocassee**	**48.62 266**	P	**P**	**07 16 43.4**	**-1.3**
BG3			IAMs_20	IAMs_20	07 35 10.3	
	comp=Z,3μm,20.0s					
YAH	**Yahtse**	**48.63 327**	IAMs_20	IAMs_20	07 38 17.2	
	comp=Z,3μm,19.0s					
CUT	**Chulitna**	**48.64 333**	P	**P**	**07 16 45.8**	**+1.4**
	baz=25					
LAO	**LASA Array**	**48.73 294**	P	**P**	**07 16 43.8**	**-1.7**
LAO			IAMs_20	IAMs_20	07 35 59.9	
	comp=Z,3μm,22.0s					
T47A	**Sharon Grove**	**48.73 271**	P	**P**	**07 16 44.4**	**-1.1**
T47A			IAMs_20	IAMs_20	07 35 25.3	
	comp=Z,3μm,19.0s					
P40A	**Paris**	**48.74 277**	P	**P**	**07 16 44.0**	**-1.5**
P40A			IAmb	IAmb	07 16 47.2	
	comp=Z,21nm,1.1s					
P40A			IAMs_20	IAMs_20	07 35 34.3	
	comp=Z,3μm,21.0s					
X54A	**Belton**	**48.76 265**	P	**P**	**07 16 45.0**	**-0.8**
	baz=31					
X54A			S	**S**	**07 23 53.4**	**+5.2**
	baz=31					
SML	**Sawmill**	**48.79 332**	IAMs_20	IAMs_20	07 38 25.4	
	comp=Z,2μm,18.0s					
MESA	**MESA**	**48.84 327**	IAMs_20	IAMs_20	07 38 23.6	
	comp=Z,3μm,19.0s					
CPCT	**Cooper Cave**	**48.92 267**	P	**P**	**07 16 46.6**	**-0.4**
CPCT			IAmb	IAmb	07 16 50.0	
	comp=Z,34nm,1.4s					
CPCT			IAMs_20	IAMs_20	07 35 42.1	
	comp=Z,2μm,20.0s					
SEM	**Semipalatinsk**	**48.94 57**	*e*P	**P**	**07 16 47.0**	**-0.3**
	comp=Z,112nm,3.4s,baz=57					
SEM			LR	LR	07 36 56.4	
	comp=Z,1μm,17.3s,baz=57					
SEM	**Semipalatinsk**	**48.94 57**	*e*P	**P**	**07 16 46.9**	**-0.3**
SEM			pmax	pmax		
	comp=Z,112nm,3.4s					
SEM			MLR	MLR		
	comp=Z,1μm,17.0s					
GHO	**Glory Hole Cre**	**48.94 332**	P	**P**	**07 16 46.4**	**-0.5**
GHO			IAmb	IAmb	07 16 54.3	
	comp=Z,40nm,1.2s					
GHO			IAMs_20	IAMs_20	07 38 30.5	
	comp=Z,2μm,19.0s					
W52A	**Murphy**	**48.96 267**	P	**P**	**07 16 46.9**	**-0.5**
W52A			IAmb	IAmb	07 16 49.2	
	comp=Z,45nm,1.4s					
HODGE	**Hodges**	**48.98 264**	P	**P**	**07 16 46.9**	**-0.5**
HODGE			IAmb	IAmb	07 16 51.9	
	comp=Z,18nm,1.0s					
HODGE			IAMs_20	IAMs_20	07 35 16.8	
	comp=Z,2μm,19.0s					
EGMT	**Eagleton**	**49.02 297**	P	**P**	**07 16 47.3**	**-0.4**
	baz=35,SNR=41					
EGMT	**Eagleton**	**49.02 297**	P	**P**	**07 16 47.5**	**-0.2**
K31A	**O'Neill**	**49.03 285**	IAMs_20	IAMs_20	07 36 25.8	
	comp=Z,2μm,19.0s					
NHSC	**New Hope**	**49.05 262**	P	**P**	**07 16 48.0**	**0.0**
	baz=30					
Y55A	**Saluda**	**49.05 264**	P	**P**	**07 16 47.4**	**-0.6**
	baz=31					
Y55A			S	**S**	**07 23 57.4**	**+5.0**
	baz=31					
S44A	**Carbondale**	**49.07 273**	IAMs_20	IAMs_20	07 36 14.1	
	comp=Z,2μm,19.0s					
ANM	**Nome**	**49.09 342**	P	**P**	**07 16 45.6**	**-2.3**
ANM			pmax	pmax		
	comp=Z,28nm,1.1s					
ANM			MLR	MLR		
	comp=Z,2μm,18.0s					
ANM	**Nome**	**49.09 342**	P	**P**	**07 16 45.6**	**-2.3**
ANM			IAmb	IAmb	07 16 55.3	
	comp=Z,28nm,1.1s					
ANM			IAMs_20	IAMs_20	07 38 57.3	
	comp=Z,2μm,18.0s					
PMR	**Palmer**	**49.15 332**	P	**P**	**07 16 46.9**	**-1.5**
PMR	**Palmer**	**49.15 332**	P	**P**	**07 16 46.9**	**-1.5**
CLTN	**Cedars of Leba**	**49.16 269**	P	**P**	**07 16 48.2**	**-0.6**
CLTN			IAmb	IAmb	07 16 57.2	
	comp=Z,28nm,1.2s					
CLTN			IAMs_20	IAMs_20	07 35 16.4	
	comp=Z,2μm,22.0s					
KNK	**Knik Glacier**	**49.17 331**	IAMs_20	IAMs_20	07 38 37.5	
	comp=Z,3μm,20.0s					
TTA	**Tatalina**	**49.21 337**	P	**P**	**07 16 48.4**	**-0.5**
TTA			pmax	pmax		
	comp=Z,25nm,1.2s					
TTA			MLR	MLR		
	comp=Z,2μm,19.0s					
TTA	**Tatalina**	**49.21 337**	P	**P**	**07 16 48.4**	**-0.5**
TTA			IAmb	IAmb	07 16 55.8	
	comp=Z,24nm,1.2s					
TTA			IAMs_20	IAMs_20	07 37 57.6	
	comp=Z,2μm,19.0s					
SKT	**Skwentna**	**49.27 333**	P	**P**	**07 16 48.8**	**-0.6**
SKT			IAmb	IAmb	07 16 55.7	
	comp=Z,60nm,1.4s					
SKT			IAMs_20	IAMs_20	07 40 07.1	
	comp=Z,2μm,20.0s					
P38A	**Dawn**	**49.30 278**	P	**P**	**07 16 48.3**	**-1.5**
FVM	**French Village**	**49.33 274**	P	**P**	**07 16 49.0**	**-1.1**
FVM			pmax	pmax		
	comp=Z,29nm,1.1s					
FVM	**French Village**	**49.33 274**	P	**P**	**07 16 49.0**	**-1.1**
FVM			IAmb	IAmb	07 16 58.2	
	comp=Z,29nm,1.1s					
FID	**Port Fidalgo**	**49.35 330**	P	**P**	**07 16 49.1**	**-0.9**
FID			IAmb	IAmb	07 16 55.5	
	comp=Z,37nm,1.4s					
FID			IAMs_20	IAMs_20	07 38 53.5	
	comp=Z,2μm,18.0s					
Z56A	**Williston**	**49.37 263**	P	**P**	**07 16 49.5**	**-0.9**
	baz=31					
GLI	**Glacier Island**	**49.37 330**	IAMs_20	IAMs_20	07 39 01.7	
	comp=Z,2μm,19.0s					
EYAK	**Cordova Ski Ar**	**49.38 329**	P	**P**	**07 16 49.0**	**-1.1**
EYAK			IAmb	IAmb	07 16 55.5	
	comp=Z,54nm,1.5s					
W50A	**Signal Mountai**	**49.47 268**	P	**P**	**07 16 50.4**	**-0.8**
W50A			IAMs_20	IAMs_20	07 35 25.8	
	comp=Z,3μm,22.0s					
SUA	**Susitna One**	**49.59 333**	IAMs_20	IAMs_20	07 39 41.5	
	comp=Z,2μm,19.0s					
CCM	**Cathedral Cave**	**49.63 275**	P	**P**	**07 16 50.9**	**-1.4**
CCM			pmax	pmax		
	comp=Z,26nm,1.3s					
CCM	**Cathedral Cave**	**49.63 275**	P	**P**	**07 16 50.8**	**-1.5**
	baz=33					
CCM			S	**S**	**07 24 04.9**	**+4.5**
	baz=33					
CCM	**Cathedral Cave**	**49.63 275**	P	**P**	**07 16 50.9**	**-1.4**
CCM			IAmb	IAmb	07 16 59.8	
	comp=Z,26nm,1.3s					
V48A	**Smith Brothers**	**49.66 270**	P	**P**	**07 16 51.8**	**-0.8**
V48A			IAmb	IAmb	07 16 55.2	
	comp=Z,65nm,1.5s					
V48A			IAMs_20	IAMs_20	07 35 31.9	
	comp=Z,2μm,22.0s					
HIN	**Hinchinbrook I**	**49.68 330**	P	**P**	**07 16 51.7**	**-0.7**
HIN			IAMs_20	IAMs_20	07 39 04.8	
	comp=Z,2μm,18.0s					
SACV	**Santiago Islan**	**49.71 188**	IAMs_20	IAMs_20	07 32 40.3	
	comp=Z,2μm,20.0s					
SWET	**Sewanee**	**49.72 268**	P	**P**	**07 16 52.3**	**-0.8**
SWET			IAmb	IAmb	07 17 01.1	
	comp=Z,40nm,1.5s					
SWET			IAMs_20	IAMs_20	07 35 44.5	
	comp=Z,2μm,22.0s					
RC01	**Rabbit Creek A**	**49.73 332**	P	**P**	**07 16 52.3**	**-0.5**
	baz=25					
RC01			S	**S**	**07 24 07.6**	**+6.3**
	baz=25					
WALA	**Waterton Lakes**	**49.73 301**	P	**P**	**07 16 52.5**	**-0.6**
WALA			IAmb	IAmb	07 16 56.8	
	comp=Z,36nm,1.4s					
WVT	**Waverly**	**49.77 271**	P	**P**	**07 16 52.6**	**-0.8**
WVT			pmax	pmax		
	comp=Z,13nm,1.4s					
WVT	**Waverly**	**49.77 271**	P	**P**	**07 16 51.2**	**-2.2**
	baz=32					
WVT			S	**S**	**07 24 08.0**	**+5.6**
	baz=32					
WVT	**Waverly**	**49.77 271**	P	**P**	**07 16 52.6**	**-0.8**
WVT			IAMs_20	IAMs_20	07 35 56.7	
	comp=Z,3μm,20.0s					
BGNE	**Belgrade**	**49.78 283**	IAMs_20	IAMs_20	07 36 18.6	
	comp=Z,2μm,20.0s					
X51A	**Calhoun**	**49.81 267**	P	**P**	**07 16 53.4**	**-0.4**
R40A	**Maddies Statio**	**49.87 276**	P	**P**	**07 16 52.3**	**-1.9**
R40A			IAMs_20	IAMs_20	07 36 30.2	
	comp=Z,2μm,19.0s					
SIT	**Sitka**	**49.89 321**	IAMs_20	IAMs_20	07 38 16.4	
	comp=Z,2μm,19.0s					
RSSD	**Black Hills**	**49.97 290**	P	**P**	**07 16 54.5**	**-0.6**
RSSD			pmax	pmax		
	comp=Z,13nm,1.1s					
RSSD	**Black Hills**	**49.97 290**	P	**P**	**07 16 54.1**	**-1.1**
	baz=34					
RSSD			S	**S**	**07 24 13.0**	**+7.5**
	baz=34					
RSSD	**Black Hills**	**49.97 290**	P	**P**	**07 16 54.5**	**-0.6**
RSSD	**Black Hills**	**49.97 290**	IAMs_20	IAMs_20	07 36 34.6	
	comp=Z,2μm,20.0s					
Y52A	**Lilburn**	**50.07 266**	P	**P**	**07 16 55.1**	**-0.7**
Y52A			IAmb	IAmb	07 16 57.5	
	comp=Z,56nm,1.4s					
PARMO	**Parma**	**50.15 273**	IAMs_20	IAMs_20	07 36 55.7	
	comp=Z,2μm,18.0s					
FPAL	**Fort Paine**	**50.16 268**	P	**P**	**07 16 55.3**	**-1.2**
FPAL			IAmb	IAmb	07 17 04.7	
	comp=Z,30nm,1.2s					
FPAL			IAMs_20	IAMs_20	07 35 36.0	
	comp=Z,2μm,22.0s					
GOGA	**Godfrey**	**50.20 265**	P	**P**	**07 16 56.0**	**-0.7**
GOGA			pmax	pmax		
	comp=Z,21nm,1.0s					
GOGA	**Godfrey**	**50.20 265**	P	**P**	**07 16 55.4**	**-1.3**
	baz=31,SNR=7.7					
GOGA			S	**S**	**07 24 14.1**	**+5.7**
	baz=31					
GOGA	**Godfrey**	**50.20 265**	P	**P**	**07 16 56.0**	**-0.7**
GOGA	**Godfrey**	**50.20 265**	IAMs_20	IAMs_20	07 35 56.1	
	comp=Z,2μm,20.0s					
GEYT	**Alibeck**	**50.34 84**	P	**P**	**07 16 58.4**	**+0.6**
	comp=Z,3.4nm,0.6s,baz=302,slow=6.8,SNR=24					
GEYT			LR	LR	07 40 41.8	
	comp=Z,3μm,18.5s,baz=350,slow=39					
GEYT	**Alibeck**	**50.34 84**	P	**P**	**07 16 57.9**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**50.34 84**	P	**P**	**07 16 57.5**	**-0.3**
GYA0B			IAmb	IAmb	07 17 04.3	
	comp=Z,64nm,1.4s					
257A	**Skidaway Islan**	**50.38 262**	IAMs_20	IAMs_20	07 36 16.1	
	comp=Z,2μm,19.0s					
T42A	**Van Buren**	**50.42 274**	P	**P**	**07 16 56.8**	**-1.5**
LNXT	**Lenox**	**50.51 272**	P	**P**	**07 16 58.8**	**-0.3**
MID	**Middleton Isla**	**50.52 329**	IAMs_20	IAMs_20	07 39 27.0	
	comp=Z,2μm,18.0s					
SEW	**Seward**	**50.57 331**	IAMs_20	IAMs_20	07 39 22.4	
	comp=Z,2μm,21.0s					
HALT	**Halls**	**50.61 272**	IAMs_20	IAMs_20	07 36 42.8	
	comp=Z,2μm,19.0s					
154A	**Montrose**	**50.73 264**	P	**P**	**07 17 00.1**	**-0.6**
154A			IAmb	IAmb	07 17 05.7	
	comp=Z,54nm,1.1s					
MGMO	**Mountain Grove**	**50.82 275**	P	**P**	**07 17 00.1**	**-1.3**
S39A	**Bolivar**	**50.83 277**	P	**P**	**07 16 59.8**	**-1.7**
S39A			IAmb	IAmb	07 17 03.2	
	comp=Z,28nm,1.0s					
S39A			IAMs_20	IAMs_20	07 36 38.5	
	comp=Z,2μm,21.0s					
SVW2	**Sparrevohn**	**50.84 335**	P	**P**	**07 17 00.8**	**-0.4**
PLAL	**Pickwick Lake**	**50.85 270**	P	**P**	**07 16 59.9**	**-1.7**
PLAL			IAmb	IAmb	07 17 02.2	
	comp=Z,43nm,1.5s					
PLAL			IAMs_20	IAMs_20	07 36 29.2	
	comp=Z,2μm,21.0s					
X48A	**Hartselle**	**50.85 269**	P	**P**	**07 16 59.6**	**-2.1**
X48A			IAmb	IAmb	07 17 03.5	
	comp=Z,30nm,1.1s					
X48A			IAMs_20	IAMs_20	07 36 19.4	
	comp=Z,3μm,22.0s					
GNAR	**Gosnell**	**50.85 273**	P	**P**	**07 17 01.4**	**-0.3**
HRY	**Holter Researc**	**50.90 298**	P	**P**	**07 17 01.3**	**-0.7**
JTMT	**Jette**	**50.96 300**	P	**P**	**07 17 01.5**	**-1.0**
Z51A	**Franklin**	**51.01 266**	P	**P**	**07 17 02.2**	**-0.7**
BTLS	**Baital**	**51.03 66**	*j i*P	**P**	**07 17 02.9**	**+0.1**
	comp=Z,54nm,2.0s,baz=66					
BTLS			*e*S	**S**	**07 24 21.1**	**+1.3**
	baz=66					
BTLS			LR	LR	07 37 34.0	
	comp=Z,904nm,17.3s,baz=66					
BTLS	**Baital**	**51.03 66**	*d i*P	**P**	**07 17 02.9**	**+0.1**
BTLS			*e*S	**S**	**07 24 21.0**	**+1.3**
BTLS			pmax	pmax		
	comp=Z,54nm,2.0s					
BTLS			MLR	MLR		
	comp=Z,904nm,17.0s					
255A	**Hazlehurst**	**51.05 263**	P	**P**	**07 17 01.8**	**-1.4**
255A			IAMs_20	IAMs_20	07 37 17.6	
	comp=Z,1μm,18.0s					
KSU1	**Kansas State U**	**51.05 280**	P	**P**	**07 17 01.8**	**-1.3**
	baz=33					
Y49A	**Blount Mountai**	**51.09 268**	P	**P**	**07 17 02.3**	**-1.1**
Y49A			IAMs_20	IAMs_20	07 36 47.6	
	comp=Z,2μm,20.0s					
BRLK	**Bradley Lake**	**51.18 332**	P	**P**	**07 17 03.2**	**-0.6**
W45A	**Hickory Valley**	**51.18 271**	P	**P**	**07 17 01.8**	**-2.3**
W45A			IAmb	IAmb	07 17 13.6	
	comp=Z,43nm,1.2s					
W45A			IAMs_20	IAMs_20	07 36 50.0	
	comp=Z,2μm,20.0s					
KK31	**Karatay Array**	**51.23 70**	P	**P**	**07 17 04.3**	**-0.1**
KK31			pmax	pmax		
	comp=Z,72nm,1.4s					
KK31	**Karatay Array**	**51.23 70**	P	**P**	**07 17 04.3**	**-0.1**
KKAR	**Karatay Array**	**51.23 70**	P	**P**	**07 17 04.4**	**0.0**
KKAR	**Karatay Array**	**51.23 70**	P	**P**	**07 17 04.3**	**-0.1**
KKAR	**Karatay Array**	**51.23 70**	P	**P**	**07 17 04.4**	**0.0**
RLMT	**Red Lodge**	**51.23 295**	P	**P**	**07 17 04.1**	**-0.5**
	baz=34,SNR=31					
RLMT	**Red Lodge**	**51.23 295**	P	**P**	**07 17 04.2**	**-0.5**
LCAR	**Lake Charles**	**51.26 274**	P	**P**	**07 17 03.2**	**-1.4**
LCAR			IAMs_20	IAMs_20	07 37 40.0	
	comp=Z,2μm,18.0s					
YAK	**Yakutsk**	**51.35 19**	*e*P	**P**	**07 17 04.1**	**-0.9**
YAK			*e**PP	**pP**	**07 17 07.6**	**-1.1**
YAK			*e*S	**S**	**07 24 26.9**	**+3.2**
YAK			*e**SS	**sS**	**07 24 33.3**	**+3.5**
YAK			*e*		07 27 00.7	
YAK			*e*SS	**SS**	**07 28 04.8**	**+6.3**
YAK			pmax	pmax		
	comp=Z,9.0nm,0.4s					
YAK			smax	smax		
	comp=N,465nm,4.8s					
YAK			smax	smax		
	comp=E,132nm,4.1s					
YAK			MLR	MLR		
	comp=Z,1μm,20.0s					
YAK			MLR	MLR		
	comp=N,818nm,17.0s					
YAK			MLR	MLR		
	comp=E,275nm,16.0s					
152A	**Waverly Hall**	**51.37 266**	P	**P**	**07 17 04.8**	**-0.8**
152A			IAmb	IAmb	07 17 13.9	
	comp=Z,37nm,1.4s					
MET	**Memphis--Engin**	**51.53 272**	IAMs_20	IAMs_20	07 37 11.3	
	comp=Z,2μm,18.0s					
NEW	**Newport**	**51.57 303**	P	**P**	**07 17 05.7**	**-1.2**
NEW	**Newport**	**51.57 303**	P	**P**	**07 17 05.8**	**-1.2**
	baz=33					
NEW	**Newport**	**51.57 303**	P	**P**	**07 17 05.7**	**-1.2**
MSO	**Missoula**	**51.60 300**	P	**P**	**07 17 05.8**	**-1.5**
	baz=33,SNR=9.9					
MSO	**Missoula**	**51.60 300**	P	**P**	**07 17 06.0**	**-1.3**
YNE	**Yellowstone No**	**51.61 295**	P	**P**	**07 17 07.1**	**-0.5**
DZA	**Taraz**	**51.73 69**	*j e*P	**P**	**07 17 08.7**	**+0.4**
	comp=Z,42nm,1.5s,baz=69					
DZA			*e*S	**S**	**07 24 31.2**	**+1.5**
	baz=69					
DZA			LR	LR	07 38 26.1	
	comp=Z,1μm,17.3s,baz=69					
DZA	**Taraz**	**51.73 69**	*de*P	**P**	**07 17 08.6**	**+0.4**
DZA			*e*S	**S**	**07 24 31.1**	**+1.5**
DZA			pmax	pmax		
	comp=Z,41nm,1.5s					
DZA			MLR	MLR		
	comp=Z,1μm,17.0s					
U40A	**Yellville**	**51.75 275**	P	**P**	**07 17 06.7**	**-1.7**
	baz=32,SNR=14					
U40A	**Yellville**	**51.75 275**	P	**P**	**07 17 06.8**	**-1.5**
U40A			IAmb	IAmb	07 17 10.2	
	comp=Z,58nm,1.5s					
BOZ	**Bozeman (W)**	**51.75 297**	P	**P**	**07 17 07.5**	**-1.0**
BOZ			pmax	pmax		
	comp=Z,70nm,1.4s					
BOZ			MLR	MLR		
	comp=Z,6μm,18.0s					
BOZ	**Bozeman (W)**	**51.75 297**	P	**P**	**07 17 07.7**	**-0.8**
	baz=33,SNR=63					
BOZ	**Bozeman (W)**	**51.75 297**	P	**P**	**07 17 07.5**	**-1.0**
OGNE	**Ogallala**	**51.78 286**	S	**S**	**07 24 34.5**	**+4.1**
	baz=33					
OXF	**Oxford**	**51.82 271**	IAMs_20	IAMs_20	07 37 09.0	
	comp=Z,2μm,20.0s					
FCAR	**Ozark Folk Cen**	**51.83 274**	P	**P**	**07 17 07.6**	**-1.4**
FCAR			IAMs_20	IAMs_20	07 38 07.1	
	comp=Z,1μm,18.0s					
IUG	**Iuzhnay**	**51.83 71**	*e*P	**P**	**07 17 09.2**	**+0.1**
	comp=Z,104nm,1.8s,baz=71					
IUG			LR	LR	07 38 36.5	
	comp=Z,611nm,15.7s,baz=71					
IUG	**Iuzhnay**	**51.83 71**	*e*P	**P**	**07 17 09.1**	**+0.1**
IUG			pmax	pmax		
	comp=Z,104nm,1.8s					
IUG			MLR	MLR		
	comp=Z,611nm,16.0s					
LRM	**Limekiln Ridge**	**51.88 298**	P	**P**	**07 17 08.8**	**-0.7**
456A	**Hilliard**	**51.89 262**	IAMs_20	IAMs_20	07 37 29.9	
	comp=Z,2μm,18.0s					
YMP	**Mirror Lake Pl**	**51.89 295**	P	**P**	**07 17 09.5**	**-0.3**
TIGA	**Tifton**	**51.94 264**	P	**P**	**07 17 08.8**	**-1.0**
	baz=30					
TIGA			S	**S**	**07 24 35.5**	**+2.9**
	baz=30					
BBB	**Bella Bella**	**51.98 313**	IAMs_20	IAMs_20	07 43 14.6	
	comp=Z,1μm,18.0s					
LRAL	**Lakeview Retre**	**52.04 268**	P	**P**	**07 17 08.6**	**-1.9**
	baz=31,SNR=8.7					
LRAL	**Lakeview Retre**	**52.04 268**	P	**P**	**07 17 08.8**	**-1.8**
LRAL			IAMs_20	IAMs_20	07 36 45.9	
	comp=Z,2μm,22.0s					
DGZ	**Jazzator, Alta**	**52.08 53**	*d i*P	**P**	**07 17 11.2**	**+0.4**
DGZ			pmax	pmax		
	comp=Z,22nm,1.2s					
DGZ			MLR	MLR		
	comp=Z,2μm,18.0s					
YHH	**Holmes Hill**	**52.12 296**	P	**P**	**07 17 11.2**	**-0.2**
K22A	**Casper**	**52.20 291**	P	**P**	**07 17 10.3**	**-1.5**
	baz=33,SNR=13					
K22A	**Casper**	**52.20 291**	P	**P**	**07 17 10.3**	**-1.5**
K22A			IAmb	IAmb	07 17 14.2	
	comp=Z,30nm,1.1s					
K22A			IAMs_20	IAMs_20	07 38 07.6	
	comp=Z,2μm,19.0s					
YHL	**Hebgen Lake**	**52.20 296**	P	**P**	**07 17 10.7**	**-1.3**
TAS	**Tashkent**	**52.21 72**	IAMs_20	IAMs_20	07 39 39.6	
	comp=Z,2μm,20.0s					
HHAR	**Hobbs**	**52.28 276**	P	**P**	**07 17 10.4**	**-1.9**
B08A	**Colville Reser**	**52.29 304**	P	**P**	**07 17 11.3**	**-1.0**
B08A			IAMs_20	IAMs_20	07 40 44.8	
	comp=Z,2μm,18.0s					
YHB	**Horse Butte**	**52.29 296**	P	**P**	**07 17 10.6**	**-2.0**
QLMT	**Earthquake Lak**	**52.31 296**	P	**P**	**07 17 12.7**	**-0.1**
DLMT	**Dillon**	**52.32 298**	P	**P**	**07 17 12.2**	**-0.5**
H17A	**Grant Village**	**52.35 295**	P	**P**	**07 17 13.9**	**+0.8**
	baz=33,SNR=20					
H17A	**Grant Village**	**52.35 295**	P	**P**	**07 17 12.4**	**-0.7**
H17A			IAmb	IAmb	07 17 21.2	
	comp=Z,65nm,1.4s					
C09A	**Chrisman Ranch**	**52.38 303**	P	**P**	**07 17 12.2**	**-0.8**
WHAR	**Wooly Hollow**	**52.41 274**	P	**P**	**07 17 12.0**	**-1.2**
WHAR			IAmb	IAmb	07 17 23.9	
	comp=Z,55nm,1.4s					
WHAR			IAMs_20	IAMs_20	07 38 23.4	
	comp=Z,2μm,18.0s					
Y45A	**Yeager Farm, C**	**52.43 271**	IAMs_20	IAMs_20	07 37 27.1	
	comp=Z,2μm,19.0s					
DIB	**Dawson Inlet,**	**52.43 317**	IAMs_20	IAMs_20	07 39 38.7	
	comp=Z,2μm,18.0s					
X43A	**Marvell**	**52.45 272**	P	**P**	**07 17 12.4**	**-1.2**
	baz=31					
X43A	**Marvell**	**52.45 272**	P	**P**	**07 17 13.2**	**-0.4**
X43A			IAmb	IAmb	07 17 24.2	
	comp=Z,66nm,1.4s					
X43A			IAMs_20	IAMs_20	07 37 41.7	
	comp=Z,1μm,18.0s					
BOD	**Bodaibo**	**52.47 30**	*e*P	**P**	**07 17 11.5**	**-1.9**
BOD			pmax	pmax		
	comp=Z,23nm,2.4s					
352A	**Blakely**	**52.48 265**	P	**P**	**07 17 12.3**	**-1.5**
352A			IAmb	IAmb	07 17 24.3	
	comp=Z,47nm,1.4s					
352A			IAMs_20	IAMs_20	07 37 50.6	
	comp=Z,2μm,18.0s					
W41B	**Gary Mavity, V**	**52.49 274**	P	**P**	**07 17 11.9**	**-1.9**
	baz=32					
W41B	**Gary Mavity, V**	**52.49 274**	P	**P**	**07 17 12.6**	**-1.3**
W41B			IAmb	IAmb	07 17 16.0	
	comp=Z,47nm,1.4s					
R32A	**Long Quarter,**	**52.51 282**	P	**P**	**07 17 12.1**	**-1.9**
R32A			IAmb	IAmb	07 17 21.1	
	comp=Z,27nm,1.1s					
R32A			IAMs_20	IAMs_20	07 38 11.9	
	comp=Z,2μm,18.0s					
YPP	**Pitchstone Pla**	**52.54 295**	P	**P**	**07 17 14.3**	**-0.2**
MAKZ	**Makanchi**	**52.58 59**	P	**P**	**07 17 14.6**	**+0.2**
MAKZ			pmax	pmax		
	comp=Z,56nm,1.4s					
MAKZ			MLR	MLR		
	comp=Z,2μm,22.0s					
MAKZ	**Makanchi**	**52.58 59**	P	**P**	**07 17 14.6**	**+0.2**
MAKZ			IAmb	IAmb	07 17 15.9	
	comp=Z,56nm,1.4s					
MAKZ			IAMs_20	IAMs_20	07 39 29.9	
	comp=Z,2μm,22.0s					
SGDS	**Sogindy**	**52.59 66**	*i* P	**P**	**07 17 14.7**	**+0.1**
	comp=Z,95nm,2.0s,baz=66					
SGDS	**Sogindy**	**52.59 66**	*i* P	**P**	**07 17 14.7**	**+0.1**
SGDS			pmax	pmax		
	comp=Z,95nm,2.0s					
SEY	**Seymchan**	**52.60 6**	*j e*P	**P**	**07 17 14.9**	**+0.6**
CBKS	**Cedar Bluff**	**52.61 283**	P	**P**	**07 17 14.0**	**-0.8**
CBKS			pmax	pmax		
	comp=Z,60nm,1.5s					
CBKS	**Cedar Bluff**	**52.61 283**	P	**P**	**07 17 13.5**	**-1.3**
	baz=32					
CBKS	**Cedar Bluff**	**52.61 283**	P	**P**	**07 17 14.0**	**-0.8**
CBKS			IAmb	IAmb	07 17 20.8	
	comp=Z,60nm,1.5s					
CBKS			IAMs_20	IAMs_20	07 38 08.7	
	comp=Z,2μm,20.0s					
FLWY	**Flagg Ranch**	**52.66 295**	P	**P**	**07 17 15.2**	**-0.1**
FLWY			IAmb	IAmb	07 17 28.9	
	comp=Z,38nm,1.4s					
USP	**Ospenovka**	**52.69 67**	P	**P**	**07 17 16.3**	**+0.9**
	SNR=12					
MKAR	**Makanchi Array**	**52.71 58**	LR

KUU	**Kurty**	**52.89**	**65**	*i* P	**P**	**07 17 16.4**	**-0.4**	
	comp=Z,168nm,1.9s,baz=65							
KUU				*e*S	**S**	**07 24 46.1**	**+0.7**	
	baz=65							
KUU				LR	LR	07 38 46.9		
	comp=Z,3μm,15.9s,baz=65							
KUU	**Kurty**	**52.89**	**65**	*i* P	**P**	**07 17 16.3**	**-0.5**	
KUU				*e*S	**S**	**07 24 46.0**	**+0.7**	
KUU				pmax	pmax			
	comp=Z,168nm,1.9s							
KUU				MLR	MLR			
	comp=Z,3μm,16.0s							
PHWY	**Pilot Hill**	**52.90**	**289**	P	**P**	**07 17 16.2**	**-1.0**	
PHWY				IAmb	IAmb	07 17 19.4		
	comp=Z,35nm,1.4s							
PHWY				IAMs_20	IAMs_20	07 39 22.1		
	comp=Z,2μm,18.0s							
IMW	**Indian Meadow**	**52.91**	**295**	P	**P**	**07 17 17.2**	**-0.1**	
IMW				IAmb	IAmb	07 17 24.0		
	comp=Z,28nm,1.2s							
EKS2	**Erkin-Say**	**52.91**	**68**	P	**P**	**07 17 18.5**	**+1.4**	
	SNR=24							
TOC1	**Torodi Ar. Sit**	**52.97**	**157**	IAMs_20	IAMs_20	07 39 38.3		
	comp=Z,2μm,20.0s							
TOC7	**Torodi Ar. Sit**	**52.97**	**157**	IAMs_20	IAMs_20	07 39 47.4		
	comp=Z,2μm,18.0s							
TOB1	**Torodi Ar. Sit**	**52.98**	**157**	IAMs_20	IAMs_20	07 39 47.5		
	comp=Z,2μm,18.0s							
TOB5	**Torodi Ar. Sit**	**52.98**	**157**	IAMs_20	IAMs_20	07 39 47.7		
	comp=Z,2μm,18.0s							
TOC2	**Torodi Ar. Sit**	**52.99**	**157**	IAMs_20	IAMs_20	07 39 56.8		
	comp=Z,2μm,18.0s							
TOA0	**Torodi Ar. Sit**	**52.99**	**157**	P	**P**	**07 17 17.1**	**-0.7**	
	SNR=12							
TOA0	**Torodi Ar. Sit**	**52.99**	**157**	P	**P**	**07 17 17.2**	**-0.5**	
TOA0				IAmb	IAmb	07 17 26.1		
	comp=Z,35nm,1.2s							
TORD	**Torodi Ar. Bea**	**52.99**	**157**	P	**P**	**07 17 14.9**	**-2.9**	
	comp=Z,19nm,1.1s,baz=344,slow=7.9,SNR=30							
TORD				LR	LR	07 39 58.8		
	comp=Z,2μm,18.7s,baz=340,slow=36							
TORD	**Torodi Ar. Bea**	**52.99**	**157**	P	**P**	**07 17 16.8**	**-0.9**	
TOA2	**Torodi Ar. Sit**	**52.99**	**157**	IAMs_20	IAMs_20	07 39 39.9		
	comp=Z,1μm,20.0s							
TOB4	**Torodi Ar. Sit**	**53.00**	**157**	IAMs_20	IAMs_20	07 39 49.1		
	comp=Z,2μm,18.0s							
TOC3	**Torodi Ar. Sit**	**53.01**	**157**	IAMs_20	IAMs_20	07 39 48.3		
	comp=Z,2μm,18.0s							
TOC5	**Torodi Ar. Sit**	**53.01**	**157**	IAMs_20	IAMs_20	07 39 47.3		
	comp=Z,2μm,18.0s							
LOHW	**Long Hollow**	**53.02**	**295**	P	**P**	**07 17 17.6**	**-0.4**	
LOHW				IAmb	IAmb	07 17 22.3		
	comp=Z,37nm,1.4s							
CHMS	**Chumysh**	**53.02**	**67**	P	**P**	**07 17 19.1**	**+1.3**	
	SNR=14							
TOC4	**Torodi Ar. Sit**	**53.02**	**157**	IAMs_20	IAMs_20	07 39 48.6		
	comp=Z,2μm,18.0s							
ZSN	**Zaisan**	**53.09**	**56**⇓	*i* P	**P**	**07 17 17.9**	**-0.3**	
	comp=Z,67nm,2.2s,baz=56							
ZSN				LR	LR	07 39 41.4		
	comp=Z,769nm,14.6s,baz=56							
ZSN	**Zaisan**	**53.09**	**56**	*d i* P	**P**	**07 17 17.9**	**-0.3**	
ZSN				pmax	pmax			
	comp=Z,67nm,2.2s							
ZSN				MLR	MLR			
	comp=Z,769nm,15.0s							
W39A	**Magazine**	**53.13**	**275**	P	**P**	**07 17 17.1**	**-1.4**	
	baz=32							
W39A	**Magazine**	**53.13**	**275**	P	**P**	**07 17 17.2**	**-1.4**	
FXWY	**Fox Creek**	**53.16**	**295**	P	**P**	**07 17 18.7**	**-0.3**	
FXWY				IAmb	IAmb	07 17 27.9		
	comp=Z,38nm,1.5s							
KAN13	**South Haven SW**	**53.17**	**280**	P	**P**	**07 17 17.4**	**-1.5**	
CHKK	**Chushkaly**	**53.17**	**64**	*e*P	**P**	**07 17 18.8**	**-0.1**	
	baz=64							
CHKK	**Chushkaly**	**53.17**	**64**	*e*P	**P**	**07 17 18.8**	**-0.1**	
SNOW	**Snow King Moun**	**53.20**	**295**	P	**P**	**07 17 19.2**	**-0.1**	
SNOW				IAmb	IAmb	07 17 28.3		
	comp=Z,44nm,1.2s							
SNOW				IAMs_20	IAMs_20	07 39 27.1		
	comp=Z,3μm,20.0s							
AAK	**Ala-Archa**	**53.22**	**67**	*i* P	**P**	**07 17 19.5**	**+0.1**	
	SNR=17							
AAK	**Ala-Archa**	**53.22**	**67**	P	**P**	**07 17 20.4**	**+1.0**	
AAK	**Ala-Archa**	**53.22**	**67**	*de*P	**P**	**07 17 20.3**	**+0.9**	
AAK				pmax	pmax			
	comp=Z,66nm,1.3s							
AAK	**Ala-Archa**	**53.22**	**67**	P	**P**	**07 17 19.0**	**-0.3**	
D08A	**Wollman Farm,**	**53.24**	**303**	P	**P**	**07 17 18.2**	**-1.1**	
TPAW	**Teton Pass**	**53.25**	**295**	P	**P**	**07 17 18.5**	**-1.2**	
TPAW				IAmb	IAmb	07 17 27.7		
	comp=Z,36nm,1.2s							
TPAW				IAMs_20	IAMs_20	07 39 06.5		
	comp=Z,3μm,21.0s							
146A	**Union**	**53.27**	**270**	P	**P**	**07 17 18.0**	**-1.7**	
146A				IAmb	IAmb	07 17 28.8		
	comp=Z,47nm,1.4s							
656A	**Willston**	**53.28**	**261**	IAMs_20	IAMs_20	07 38 10.9		
	comp=Z,2μm,18.0s							
RWWY	**Rawlins**	**53.28**	**291**	P	**P**	**07 17 19.0**	**-1.0**	
RWWY				IAmb	IAmb	07 17 23.7		
	comp=Z,45nm,1.4s							
BW06	**Boulder Array**	**53.31**	**293**	P	**P**	**07 17 17.9**	**-2.3**	
	baz=32,SNR=58							
BW06	**Boulder Array**	**53.31**	**293**	P	**P**	**07 17 18.3**	**-1.9**	
BW06				IAmb	IAmb	07 17 26.1		
	comp=Z,65nm,1.4s							
PD31	**Pinedale Array**	**53.31**	**293**	P	**P**	**07 17 18.3**	**-1.9**	
PD31				IAmb	IAmb	07 17 26.1		
	comp=Z,60nm,1.4s							
PDAR	**Pinedale Array**	**53.31**	**293**	P	**P**	**07 17 17.2**	**-3.0**	
	comp=Z,11nm,0.7s,baz=50,slow=4.6,SNR=95							
PDAR				LR	LR	07 39 06.7		
	comp=Z,2μm,21.0s,baz=31,slow=35							
PDAR	**Pinedale Array**	**53.31**	**293**	P	**P**	**07 17 18.0**	**-2.2**	
REDW	**Red Top Meadow**	**53.32**	**295**	P	**P**	**07 17 19.8**	**-0.4**	
REDW				IAmb	IAmb	07 17 27.4		
	comp=Z,46nm,1.4s							
X40A	**Basin Creek Fa**	**53.32**	**274**	P	**P**	**07 17 18.4**	**-1.6**	
	baz=31							
X40A	**Basin Creek Fa**	**53.32**	**274**	P	**P**	**07 17 18.2**	**-1.8**	
X40A				IAMs_20	IAMs_20	07 38 53.7		
	comp=Z,2μm,19.0s							
AML	**Almayashu**	**53.32**	**68**	P	**P**	**07 17 23.2**	**+2.7**	
	SNR=8.4							
CCAR	**Cane Creek**	**53.35**	**273**	IAMs_20	IAMs_20	07 38 54.4		
	comp=Z,2μm,18.0s							
KDAK	**Kodiak Island**	**53.35**	**332**	IAMs_20	IAMs_20	07 41 21.0		
	comp=Z,2μm,22.0s							
KBK	**Karagaybulak**	**53.38**	**67**	P	**P**	**07 17 22.3**	**+1.7**	
	SNR=6.7							
TUL1	**Leonard**	**53.39**	**278**	IAMs_20	IAMs_20	07 38 18.3		
	comp=Z,3μm,22.0s							
TKM2	**Tokmak 2**	**53.42**	**66**	P	**P**	**07 17 22.4**	**+1.5**	
	SNR=17							
N23A	**Red Feather La**	**53.44**	**289**	P	**P**	**07 17 19.7**	**-1.5**	
	baz=32,SNR=29							
N23A	**Red Feather La**	**53.44**	**289**	P	**P**	**07 17 19.9**	**-1.3**	
N23A				IAMs_20	IAMs_20	07 39 48.4		
	comp=Z,2μm,18.0s							
F10A	**Beach Ranch, E**	**53.54**	**301**	P	**P**	**07 17 20.0**	**-1.7**	
MTBS	**Maitube**	**53.57**	**65**	*e*P	**P**	**07 17 22.3**	**+0.4**	
	baz=65							
MTBS	**Maitube**	**53.57**	**65**	*e*P	**P**	**07 17 22.2**	**+0.4**	
451A	**Vernon**	**53.58**	**265**	IAMs_20	IAMs_20	07 37 27.7		
	comp=Z,2μm,22.0s							
MIAR	**Mount Ida**	**53.59**	**275**	P	**P**	**07 17 20.7**	**-1.3**	
MIAR				pmax	pmax			
	comp=Z,36nm,1.5s							
MIAR	**Mount Ida**	**53.59**	**275**	P	**P**	**07 17 20.6**	**-1.5**	
	baz=31							
MIAR	**Mount Ida**	**53.59**	**275**	P	**P**	**07 17 20.7**	**-1.3**	
MIAR				IAmb	IAmb	07 17 32.4		
	comp=Z,36nm,1.5s							
MIAR				IAMs_20	IAMs_20	07 39 04.8		
	comp=Z,2μm,19.0s							
KSCO	**Kaye Shedlock'**	**53.66**	**285**	P	**P**	**07 17 21.7**	**-1.0**	
	baz=32							
KSCO	**Kaye Shedlock'**	**53.66**	**285**	P	**P**	**07 17 22.2**	**-0.4**	
KSCO				IAMs_20	IAMs_20	07 39 01.3		
	comp=Z,2μm,20.0s							
AAA	**Alma-Ata**	**53.69**	**65**	*e*P	**P**	**07 17 23.3**	**+0.6**	
	comp=Z,35nm,1.3s,baz=65							
AAA				LR	LR	07 39 14.1		
	comp=Z,3μm,16.4s,baz=65							
AAA	**Alma-Ata**	**53.69**	**65**	*e*P	**P**	**07 17 23.3**	**+0.6**	
AAA				pmax	pmax			
	comp=Z,35nm,1.3s							
AAA				MLR	MLR			
	comp=Z,3μm,16.0s							
LTY	**Liberty**	**53.70**	**305**	IAMs_20	IAMs_20	07 40 21.2		
	comp=Z,2μm,18.0s							
MDOK	**Medeo**	**53.78**	**65**	*i* P	**P**	**07 17 23.8**	**+0.3**	
	baz=65							
MDOK				*e*PP	**PP**	**07 19 24.7**	**+0.6**	
	baz=65							
MDOK				*e*S	**S**	**07 24 59.4**	**+1.6**	
	baz=65							
MDOK				LR	LR	07 39 13.3		
	comp=Z,2μm,15.5s,baz=65							
MDOK	**Medeo**	**53.78**	**65**	*i* P	**P**	**07 17 23.8**	**+0.3**	
MDOK				*e*		07 19 24.7		
MDOK				*e*S	**S**	**07 24 59.3**	**+1.6**	
MDOK				MLR	MLR			
	comp=Z,2μm,16.0s							
ECR	**Eagle Creek**	**53.79**	**295**	P	**P**	**07 17 23.7**	**+0.1**	
TNSS	**Tian-Shan**	**53.85**	**65**	*e*P	**P**	**07 17 24.1**	**-0.3**	
	baz=65							
TNSS	**Tian-Shan**	**53.85**	**65**	*e*P	**P**	**07 17 24.0**	**-0.3**	
BOOM	**Boomskoye usch**	**53.91**	**66**	P	**P**	**07 17 24.3**	**-0.2**	
BOOM				pmax	pmax			
	comp=Z,72nm,1.5s							
BOOM	**Boomskoye usch**	**53.91**	**66**	P	**P**	**07 17 24.3**	**-0.2**	
AHID	**Auburn Hatcher**	**53.92**	**295**	P	**P**	**07 17 23.9**	**-0.7**	
AHID				IAmb	IAmb	07 17 30.1		
	comp=Z,48nm,1.5s							
KZA	**Kyzart**	**53.99**	**67**	P	**P**	**07 17 27.2**	**+1.8**	
	SNR=6.0							
E07A	**Sunnyside**	**54.00**	**304**	P	**P**	**07 17 24.5**	**-0.4**	
OHAK	**Old Harbor**	**54.01**	**332**	IAMs_20	IAMs_20	07 41 44.5		
	comp=Z,2μm,19.0s							
KPKS	**Kokpek**	**54.16**	**63**⇓	*i* P	**P**	**07 17 26.4**	**+0.1**	
	comp=Z,118nm,1.9s,baz=63							
KPKS				*e*PP	**PP**	**07 19 28.1**	**+0.7**	
	baz=63							
KPKS				LR	LR	07 39 49.4		
	comp=Z,969nm,15.4s,baz=63							
KPKS	**Kokpek**	**54.16**	**63**	*d i* P	**P**	**07 17 26.3**	**+0.1**	
KPKS				*e*		07 19 28.1		
KPKS				pmax	pmax			
	comp=Z,118nm,1.9s							
KPKS				MLR	MLR			
	comp=Z,969nm,15.0s							
OK029	**Liberty Lake**	**54.19**	**279**	P	**P**	**07 17 25.5**	**-0.9**	
OK029				IAmb	IAmb	07 17 33.9		
	comp=Z,42nm,1.2s							
ISCO	**Idaho Springs**	**54.23**	**288**	P	**P**	**07 17 26.3**	**-0.7**	
ISCO				pmax	pmax			
	comp=Z,12nm,1.3s							
ISCO	**Idaho Springs**	**54.23**	**288**	P	**P**	**07 17 25.6**	**-1.3**	
	baz=32							
ISCO	**Idaho Springs**	**54.23**	**288**	P	**P**	**07 17 26.3**	**-0.7**	
143A	**Socs Landing,**	**54.23**	**272**	IAMs_20	IAMs_20	07 38 55.7		
	comp=Z,2μm,20.0s							
VBMS	**Vicksburg**	**54.26**	**271**	IAMs_20	IAMs_20	07 38 53.6		
	comp=Z,2μm,19.0s							
OK025	**Westminster Rd**	**54.33**	**279**	P	**P**	**07 17 26.4**	**-1.0**	
OK025				IAmb	IAmb	07 17 34.8		
	comp=Z,32nm,1.2s							
X37A	**Clayton**	**54.33**	**276**	P	**P**	**07 17 26.6**	**-0.7**	
U32A	**Winter Ranch,**	**54.36**	**281**	P	**P**	**07 17 26.4**	**-1.3**	
U32A				IAmb	IAmb	07 17 36.1		
	comp=Z,40nm,1.2s							
Z41A	**Richland Creek**	**54.36**	**273**	P	**P**	**07 17 26.8**	**-0.8**	
	baz=31							
Z41A	**Richland Creek**	**54.36**	**273**	P	**P**	**07 17 27.1**	**-0.5**	
Z41A				IAmb	IAmb	07 17 35.5		
	comp=Z,24nm,1.1s							
Z41A				IAMs_20	IAMs_20	07 39 37.1		
	comp=Z,2μm,18.0s							
BCOK	**Bluff Creek, N**	**54.38**	**279**	P	**P**	**07 17 26.9**	**-0.8**	
SATY	**Saty**	**54.40**	**64**	*e*P	**P**	**07 17 28.3**	**+0.3**	
	comp=Z,70nm,1.9s,baz=64							
SATY				LR	LR	07 39 43.8		
	comp=Z,852nm,15.5s,baz=64							
SATY	**Saty**	**54.40**	**64**	*e*P	**P**	**07 17 28.3**	**+0.3**	
SATY				pmax	pmax			
	comp=Z,70nm,1.9s							
SATY				MLR	MLR			
	comp=Z,852nm,15.0s							
CHGR	**Chuyangaron**	**54.40**	**74**	P	**P**	**07 17 27.8**	**-0.3**	
346A	**Big Creek Wild**	**54.52**	**269**	P	**P**	**07 17 27.6**	**-1.2**	
346A				IAMs_20	IAMs_20	07 38 45.5		
	comp=Z,2μm,20.0s							
BMO	**Blue Mountains**	**54.53**	**301**	P	**P**	**07 17 27.3**	**-1.6**	
BMO				pmax	pmax			
	comp=Z,37nm,1.5s							
BMO				MLR	MLR			
	comp=Z,5μm,19.0s							
BMO	**Blue Mountains**	**54.53**	**301**	P	**P**	**07 17 27.3**	**-1.6**	
BMO				IAmb	IAmb	07 17 30.3		
	comp=Z,37nm,1.5s							
HLID	**Hailey**	**54.53**	**298**	P	**P**	**07 17 28.3**	**-0.8**	
	baz=32,SNR=20							
HLID	**Hailey**	**54.53**	**298**	P	**P**	**07 17 28.2**	**-0.8**	
LON	**Longmire**	**54.54**	**305**	P	**P**	**07 17 27.3**	**-1.5**	
LON				pmax	pmax			
	comp=Z,12nm,1.4s							
LON				MLR	MLR			
	comp=Z,2μm,22.0s							
LON	**Longmire**	**54.54**	**305**	P	**P**	**07 17 27.3**	**-1.5**	
LON				IAMs_20	IAMs_20	07 40 50.3		
	comp=Z,2μm,22.0s							
UZB	**Uzynbulak**	**54.56**	**63**⇓	*i* P	**P**	**07 17 29.5**	**+0.3**	
	comp=Z,69nm,1.9s,baz=63							
UZB				*e*S	**S**	**07 25 10.0**	**+1.7**	
	baz=63							
UZB				LR	LR	07 39 43.0		
	comp=Z,423nm,13.4s,baz=63							
UZB	**Uzynbulak**	**54.56**	**63**	*d i* P	**P**	**07 17 29.5**	**+0.3**	
UZB				*e*S	**S**	**07 25 10.0**	**+1.7**	
UZB				pmax	pmax			
	comp=Z,69nm,1.9s							
UZB				MLR	MLR			
	comp=Z,423nm,13.0s							
GAR	**Garm**	**54.59**	**73**	P	**P**	**07 17 29.7**	**+0.2**	
F07A	**Phinny Hill Vi**	**54.60**	**303**	P	**P**	**07 17 28.6**	**-0.6**	
FNO	**Franklin**	**54.63**	**279**	P	**P**	**07 17 28.8**	**-0.8**	
MOY	**Mondy**	**54.68**	**42**	*e*P	**P**	**07 17 31.1**	**+1.2**	
MOY				pmax	pmax			
	comp=Z,254nm,3.5s							
NLWA	**Neilton Lookou**	**54.70**	**307**	IAMs_20	IAMs_20	07 40 13.7		
	comp=Z,2μm,20.0s							
SHLS	**Shalkode**	**54.72**	**63**⇓	*i* P	**P**	**07 17 32.1**	**+1.8**	
	comp=Z,55nm,1.2s,baz=63							
SHLS				LR	LR	07 40 07.8		
	comp=Z,201nm,11.7s,baz=63							
SHLS	**Shalkode**	**54.72**	**63**	*d i* P	**P**	**07 17 32.1**	**+1.8**	
SHLS				pmax	pmax			
	comp=Z,55nm,1.2s							
SHLS				MLR	MLR			
	comp=Z,201nm,12.0s							
Q24A	**Divide**	**54.74**	**287**	P	**P**	**07 17 29.7**	**-1.0**	
	baz=32							
G08A	**Pilot Rock**	**54.76**	**302**	P	**P**	**07 17 30.1**	**-0.4**	
344A	**Westbrook Farm**	**55.01**	**270**	P	**P**	**07 17 30.6**	**-1.8**	
344A				IAmb	IAmb	07 17 45.6		
	comp=Z,27nm,1.2s							
344A				IAMs_20	IAMs_20	07 39 10.5		
	comp=Z,2μm,19.0s							
O20A	**White River Ci**	**55.01**	**291**	P	**P**	**07 17 31.8**	**-0.7**	
	baz=32,SNR=27							
O20A	**White River Ci**	**55.01**	**291**	P	**P**	**07 17 32.0**	**-0.6**	
HWUT	**Hardware Ranch**	**55.09**	**294**	P	**P**	**07 17 32.4**	**-0.7**	
IRK	**Irkutsk**	**55.10**	**40**	*e*P	**P**	**07 17 30.6**	**-2.2**	
IRK				*e*		07 19 38.3		
IRK				pmax	pmax			
	comp=Z,142nm,3.0s							
HRA	**Herat**	**55.11**	**82**	P	**P**	**07 17 32.9**	**-0.4**	
HRA				IAmb	IAmb	07 17 39.5		
	comp=Z,37nm,1.5s							
RDMU	**Red Mountain**	**55.18**	**292**	P	**P**	**07 17 33.2**	**-0.5**	
MFID	**Camas Ranch**	**55.20**	**299**	P	**P**	**07 17 33.6**	**-0.2**	
E03A	**Lebam**	**55.33**	**306**	IAMs_20	IAMs_20	07 39 57.2		
	comp=Z,2μm,22.0s							
TLY	**Talaya**	**55.43**	**40**	*e*P	**P**	**07 17 35.9**	**+0.7**	
TLY				*e*		07 19 37.2		
TLY				*e*S	**S**	**07 25 21.5**	**+2.1**	
TLY				*e*SS	**SS**	**07 29 05.6**	**+2.5**	
TLY				pmax	pmax			
	comp=Z,53nm,1.3s							
TLY				MLR	MLR			
	comp=Z,11μm,21.0s							
TLY	**Talaya**	**55.43**	**40**	P	**P**	**07 17 35.5**	**+0.3**	
TLY				IAmb	IAmb	07 17 39.2		
	comp=Z,22nm,1.2s							
F04A	**Amboy**	**55.45**	**305**	IAMs_20	IAMs_20	07 41 18.6		
	comp=Z,2μm,20.0s							
GRTK	**Grand Turk**	**55.52**	**246**	IAMs_20	IAMs_20	07 37 14.6		
	comp=Z,2μm,20.0s							
WMOK	**Wichita Mounta**	**55.66**	**279**	P	**P**	**07 17 36.1**	**-1.0**	
WMOK				pmax	pmax			
	comp=Z,30nm,1.3s							
WMOK	**Wichita Mounta**	**55.66**	**279**	P	**P**	**07 17 36.1**	**-1.0**	
	baz=31,SNR=20							
WMOK	**Wichita Mounta**	**55.66**	**279**	P	**P**	**07 17 36.0**	**-1.0**	
WMOK				IAmb	IAmb	07 17 46.0		
	comp=Z,30nm,1.2s							
WMOK	**Wichita Mounta**	**55.66**	**279**	IAMs_20	IAMs_20	07 39 32.4		
	comp=Z,2μm,22.0s							
SPUT	**South Promonto**	**55.69**	**295**	P	**P**	**07 17 36.0**	**-1.4**	
342A	**Flagon Creek P**	**55.77**	**272**	IAMs_20	IAMs_20	07 40 03.4		
	comp=Z,2μm,19.0s							
CHIR	**Chirikof Islan**	**55.79**	**333**	IAMs_20	IAMs_20	07 43 33.5		
	comp=Z,2μm,21.0s							
JLU	**Jordanelle**	**55.90**	**293**	P	**P**	**07 17 38.3**	**-0.7**	
SDCO	**Great Sand Dun**	**55.92**	**287**	P	**P**	**07 17 38.5**	**-0.7**	
	baz=31,SNR=12							
CTU	**Camp Tracy**	**55.94**	**294**	P	**P**	**07 17 39.1**	**-0.1**	
T25A	**Trinidad**	**55.99**	**286**	P	**P**	**07 17 39.5**	**-0.1**	
	baz=31,SNR=12							
T25A	**Trinidad**	**55.99**	**286**	P	**P**	**07 17 39.8**	**+0.1**	
T25A				IAmb	IAmb	07 17 43.2		
	comp=Z,38nm,1.4s							
T25A				IAMs_20	IAMs_20	07 40 56.0		
	comp=Z,2μm,18.0s							
I07A	**Izee**	**56.00**	**302**	P	**P**	**07 17 38.8**	**-0.7**	
Z35A	**Perchaven, San**	**56.21**	**277**	P	**P**	**07 17 40.4**	**-0.6**	
Z35A				IAMs_20	IAMs_20	07 40 58.0		
	comp=Z,1μm,18.0s							
J08A	**Circle Bar Ran**	**56.24**	**301**	P	**P**	**07 17 40.8**	**-0.4**	
BGU	**Big Grassy Mou**	**56.24**	**295**	P	**P**	**07 17 41.0**	**-0.4**	
G03D	**McMinnville, O**	**56.38**	**305**	P	**P**	**07 17 41.9**	**-0.1**	
	baz=30							
NATX	**Nacogdoches**	**56.44**	**274**	IAMs_20	IAMs_20	07 41 21.3		
	comp=Z,1μm,18.0s							
I05D	**Terrebonne, OR**	**56.45**	**303**	P	**P**	**07 17 41.7**	**-0.9**	
	baz=30							
H04A	**Detroit Lake**	**56.45**	**304**	P	**P**	**07 17 41.6**	**-1.0**	
H04A				IAmb	IAmb	07 17 48.2		
	comp=Z,26nm,1.4s							
H04A				IAMs_20	IAMs_20	07 42 06.0		
	comp=Z,2μm,19.0s							
KSH	**Kashi**	**56.45**	**68**⇑	*i* P	**P**	**07 17 45.1**	**+2.3**	
KSH				PP	**PP**	**07 19 51.5**	**+3.4**	
KSH				PcS	**PcS**	**07 22 41.3**	**+1.0**	
KSH				S	**S**	**07 25 34.7**	**+1.1**	
KSH				sS	sS	07 25 46.1	+6.4	
KSH				ScS	**ScS**	**07 27 32.7**	**+0.8**	
KSH				pmax	pmax			
	comp=Z,85nm,1.3s							
KSH				pmax	pmax			
	comp=Z,950nm,5.8s							
KSH				LR	LR			
	comp=Z,5μm,18.9s							
KSH				LR	LR			
	comp=Z,5μm,20.3s							
S22A	**4UR Ranch, Cre**	**56.47**	**288**	P	**P**	**07 17 42.5**	**-0.6**	
	baz=31,SNR=15							
S22A	**4UR Ranch, Cre**	**56.47**	**288**	P	**P**	**07 17 42.6**	**-0.6**	
ZAK	**Zakamensk**	**56.49**	**41**	*e*P	**P**	**07 17 42.9**	**0.0**	
ZAK				pmax	pmax			
	comp=Z,23nm,1.3s							
GCPR	**Guaynabo City**	**56.50**	**239**	P	**P**	**07 17 41.7**	**-1.5**	
P17A	**Butcher Ranch,**	**56.58**	**292**	P	**P**	**07 17 43.0**	**-0.8**	
PV22	**Blue Mesa, Par**	**56.59**	**290**	P	**P**	**07 17 43.9**	**0.0**	
PV22				IAMs_20	IAMs_20	07 40 39.0		
	comp=Z,2μm,21.0s							
PV07	**Paradox Valley**	**56.62**	**290**	P	**P**	**07 17 43.4**	**-0.8**	
PV15	**Paradox Valley**	**56.64**	**290**	P	**P**	**07 17 43.6**	**-0.7**	
PV15				IAMs_20	IAMs_20	07 40 39.1		
	comp=Z,2μm,21.0s							
PV21	**Cone Mtn., Par**	**56.65**	**290**	P	**P**	**07 17 43.5**	**-0.9**	
PV21				IAmb	IAmb	07 17 53.3		
	comp=Z,46nm,1.4s							
441A	**DeRidder**	**56.68**	**272**	IAMs_20	IAMs_20	07 40 44.6		
	comp=Z,2μm,18.0s							
AOPR	**Arecibo Observ**	**56.71**	**240**	P	**P**	**07 17 43.5**	**-1.2**	
AOPR				IAmb	IAmb	07 17 47.4		
	comp=Z,55nm,1.4s							
237A	**Washetta, Mont**	**56.73**	**275**	IAMs_20	IAMs_20	07 41 30.9		
	comp=Z,2μm,18.0s							
AGPR	**Aguadilla, PR**	**56.74**	**240**	P	**P**	**07 17 43.6**	**-1.2**	
PDPR	**Patillas Dam,**	**56.74**	**239**	P	**P**	**07 17 43.8**	**-1.0**	
PV23	**Carpenter Ridg**	**56.76**	**290**	P	**P**	**07 17 44.4**	**-0.8**	
PV23				IAmb	IAmb	07 17 50.5		
	comp=Z,30nm,0.9s							
PV04	**Paradox Valley**	**56.76**	**290**	P	**P**	**07 17 44.1**	**-1.0**	
PV04				IAmb	IAmb	07 17 47.4		
	comp=Z,27nm,1.1s							
AMTX	**Amarillo**	**56.77**	**282**	P	**P**	**07 17 45.1**	**0.0**	
	baz=31							
AMTX	**Amarillo**	**56.77**	**282**	P	**P**	**07 17 43.8**	**-1.2**	
AMTX				IAMs_20	IAMs_20	07 40 46.7		
	comp=Z,3μm,21.0s						

OBIP	Obispado Ponce	56.94	239	IAMs_20	IAMs_20	07 36 29.3		
	comp=Z,2μm,22.0s							
WVOR	Wild Horse Val	57.10	300	P	P	07 17 46.1	-1.2	
WVOR				pmax	pmax			
	comp=Z,16nm,1.5s							
WVOR				MLR	MLR			
	comp=Z,4μm,18.0s							
WVOR	Wild Horse Val	57.10	300	P	P	07 17 46.1	-1.2	
SDPT	Sand Point	57.14	336	IAMs_20	IAMs_20	07 43 06.2		
	comp=Z,1μm,20.0s							
MLPR	Magueyes Islan	57.17	240	P	P	07 17 46.4	-1.5	
WMQ	Urumqi	57.22	56	P	P	07 17 49.0	+0.9	
WMQ				pP	sP	07 17 54.0	+0.8	
WMQ				S	S	07 25 47.3	+3.8	
WMQ				pmax	pmax			
	comp=Z,19nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,480nm,6.1s							
WMQ				LR	LR			
	comp=Z,1μm,19.1s							
WMQ				LR	LR			
	comp=Z,1μm,19.7s							
WMQ				LR	LR			
	comp=Z,1μm,21.5s							
Q16A	Castle Valley	57.23	292	P	P	07 17 47.6	-0.8	
I04A	Tendick Farm,	57.30	304	P	P	07 17 49.6	+1.0	
	baz=30							
J05D	Fort Rock, OR	57.32	303	P	P	07 17 49.0	+0.1	
	baz=30,SNR=27							
WHTX	Lake Whitney,	57.45	277	P	P	07 17 48.8	-0.9	
	baz=30							
WHTX				S	S	07 25 51.7	+5.1	
	baz=30							
WHTX	Lake Whitney,	57.45	277	P	P	07 17 48.4	-1.4	
WHTX				IAmb	IAmb	07 17 57.6		
	comp=Z,38nm,1.4s							
WHTX				IAMs_20	IAMs_20	07 40 46.8		
	comp=Z,2μm,20.0s							
CNBA	Chernabura Isl	57.49	335	IAMs_20	IAMs_20	07 42 02.1		
	comp=Z,3μm,22.0s							
MVCO	Mesa Verde	57.61	289	P	P	07 17 50.6	-0.6	
	baz=31,SNR=9.7							
MVCO	Mesa Verde	57.61	289	P	P	07 17 50.9	-0.3	
MVCO				IAmb	IAmb	07 18 02.8		
	comp=Z,53nm,1.5s							
K05A	Summer Lake	57.68	302	P	P	07 17 51.5	-0.1	
I03D	Drain, OR	57.72	304	P	P	07 17 50.8	-0.7	
	baz=29							
ABTX	Abilene, Hawle	57.84	279	P	P	07 17 51.2	-1.4	
	baz=30,SNR=12							
ABTX	Abilene, Hawle	57.84	279	P	P	07 17 51.6	-1.0	
ABTX				IAmb	IAmb	07 18 01.4		
	comp=Z,30nm,1.2s							
KBL	Kabul	57.87	77	P	P	07 17 53.3	+0.3	
KBL				P	P	07 17 53.3	+0.3	
KBL				P	P	07 17 53.9	+1.0	
	SNR=9.8							
KBL				P	P	07 17 53.9	+1.0	
	SNR=9.8							
KBL	Kabul	57.87	77	P	P	07 17 51.8	-1.1	
KBL				pmax	pmax			
	comp=Z,44nm,1.5s							
KBL				MLR	MLR			
	comp=Z,2μm,19.0s							
KBL	Kabul	57.87	77	P	P	07 17 51.8	-1.1	
KBL				IAmb	IAmb	07 17 54.7		
	comp=Z,44nm,1.5s							
SDDR	Presa de Saban	57.87	245	P	P	07 17 51.9	-1.0	
SDDR				IAmb	IAmb	07 18 02.1		
	comp=Z,23nm,1.0s							
MSU	Marysvale	57.98	293	P	P	07 17 53.7	0.0	
MSU	Marysvale	57.98	293	P	P	07 17 53.7	0.0	
MVU	Marysvale	58.00	293	P	P	07 17 53.9	0.0	
MSTX	Muleshoe	58.01	282	P	P	07 17 51.9	-2.0	
	baz=30							
MSTX	Muleshoe	58.01	282	P	P	07 17 52.0	-1.8	
MSTX				IAMs_20	IAMs_20	07 41 15.6		
	comp=Z,2μm,21.0s							
FDF	Fort de France	58.04	232	IAMs_20	IAMs_20	07 39 10.6		
	comp=Z,2μm,19.0s							
MOD	Modoc Plateau	58.18	301	P	P	07 17 54.3	-0.7	
MTPU	Mount Pierson	58.39	293	P	P	07 17 56.6	-0.1	
DBIC	Dimbokro	58.45	165	P	P	07 17 55.6	-1.2	
	comp=Z,12nm,1.1s,baz=330,slow=8.7,SNR=6.3							
DBIC				LR	LR	07 43 42.7		
	comp=Z,3μm,18.6s,baz=340,slow=37							
DBIC	Dimbokro	58.45	165	P	P	07 17 56.1	-0.8	
DBIC				pmax	pmax			
	comp=Z,23nm,1.2s							
DBIC	Dimbokro	58.45	165	P	P	07 17 56.1	-0.8	
DBIC				IAmb	IAmb	07 17 59.2		
	comp=Z,23nm,1.2s							
TIC	Toumodi	58.45	166	eP	P	07 17 55.2	-1.8	
HKT	Hockley	58.51	274	P	P	07 17 56.5	-0.7	
HKT				pmax	pmax			
	comp=Z,19nm,1.5s							
HKT				MLR	MLR			
	comp=Z,2μm,21.0s							
HKT	Hockley	58.51	274	P	P	07 17 56.5	-0.7	
HKT	Hockley	58.51	274	IAMs_20	IAMs_20	07 43 47.8		
	comp=Z,1μm,21.0s							
HUMO	Hull Mountain	58.53	304	IAMs_20	IAMs_20	07 43 17.1		
	comp=Z,2μm,19.0s							
435B	Jarrell	58.55	276	P	P	07 17 57.2	-0.3	
	baz=30							
435B	Jarrell	58.55	276	IAMs_20	IAMs_20	07 41 30.9		
	comp=Z,2μm,21.0s							
PSUT	Pine Spring	58.62	294	P	P	07 17 57.6	-0.6	
L04D	Klamath Falls	58.64	303	P	P	07 17 55.8	-2.4	
	baz=29							
K02D	Willamette Mer	58.71	304	P	P	07 17 57.1	-1.5	
	baz=29							
ANMO	Albuquerque	58.72	286	deP	P	07 17 58.4	-0.5	
ANMO				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ANMO	Albuquerque	58.72	286	P	P	07 17 58.3	-0.5	
	baz=30							
ANMO	Albuquerque	58.72	286	P	P	07 17 58.7	-0.2	
ANMO	Albuquerque	58.72	286	IAMs_20	IAMs_20	07 42 56.2		
	comp=Z,2μm,20.0s							
KIC	Kosan Boka	58.77	165	eP	P	07 17 57.4	-1.7	
	comp=Z,196nm,1.7s							
LIC	Lamto	58.87	166	eP	P	07 17 58.1	-1.7	
	comp=Z,156nm,1.6s							
ZEA	Zeya	58.91	24	eP	P	07 18 00.5	+0.8	
ZEA				eS	S	07 26 12.0	+6.9	
ZEA				pmax	pmax			
	comp=Z,800nm,4.0s							
ZEA				pmax	pmax			
	comp=Z,150nm,2.5s							
ZEA				smax	smax			
	comp=E,600nm,8.0s							
ZEA				MLR	MLR			
	comp=N,1μm,17.0s							
ZEA				MLR	MLR			
	comp=Z,2μm,17.0s							
PKCU	Pink Cliffs	58.95	292	P	P	07 18 00.5	-0.2	
SZCU	Shurtz Canyon	59.13	293	P	P	07 18 01.7	0.0	
L02E	Cave Junction	59.16	304	P	P	07 18 02.0	+0.4	
	baz=29							
YBH	Yreka Blue Hor	59.21	303	P	P	07 18 01.3	-0.7	
YBH				pmax	pmax			
	comp=Z,11nm,1.5s							
YBH				MLR	MLR			
	comp=Z,1μm,19.0s							
YBH	Yreka Blue Hor	59.21	303	P	P	07 18 01.3	-0.7	
YBH				IAMs_20	IAMs_20	07 43 49.9		
	comp=Z,1μm,19.0s							
CCUT	Cedar City	59.28	293	P	P	07 18 02.8	0.0	
R11A	Troy Canyon, C	59.46	295	P	P	07 18 03.6	-0.3	
	baz=30,SNR=36							
R11A				S	S	07 26 20.7	+7.6	
	baz=30							
R11A	Troy Canyon, C	59.46	295	P	P	07 18 03.7	-0.3	
BNM	Barren Site	59.47	286	P	P	07 18 04.3	+0.2	
KNB	Kanab	59.52	292	P	P	07 18 03.6	-0.8	
KNB				pmax	pmax			
	comp=Z,49nm,1.4s							
KNB	Kanab	59.52	292	P	P	07 18 03.6	-0.8	
M02C	Callahan	59.56	303	P	P	07 18 04.6	+0.1	
	baz=29							
Y22D	IRIS PASSCAL I	59.66	286	P	P	07 18 05.2	-0.2	
SONM	Songino Array	59.67	41	P	P	07 18 05.2	0.0	
	comp=Z,3.0nm,0.8s,baz=320,slow=4.8,SNR=23							
SONM				LR	LR	07 46 12.5		
	comp=Z,4μm,20.1s,baz=339,slow=38							
SONM	Songino Array	59.67	41	P	P	07 18 04.7	-0.5	
SHME	Shamm	59.68	93	P	P	07 18 03.9	-1.5	
LCMT	Little Creek M	59.70	293	P	P	07 18 05.0	-0.5	
PAHR	Pah Rah Range	59.74	299	P	P	07 18 05.7	-0.2	
PAHR				IAmb	IAmb	07 18 14.7		
	comp=Z,28nm,1.4s							
JCT	Junction City	59.76	278	P	P	07 18 04.7	-1.2	
JCT				pmax	pmax			
	comp=Z,51nm,1.2s							
JCT	Junction City	59.76	278	P	P	07 18 04.8	-1.2	
	baz=30,SNR=16							
JCT	Junction City	59.76	278	P	P	07 18 04.7	-1.2	
JCT				IAMs_20	IAMs_20	07 42 31.0		
	comp=Z,2μm,20.0s							
U15A	North Rim	59.82	292	P	P	07 18 04.9	-1.7	
U15A				IAMs_20	IAMs_20	07 42 35.4		
	comp=Z,2μm,19.0s							
KVN	Kaiserville	59.83	298	P	P	07 18 05.8	-0.7	
KVN				pmax	pmax			
	comp=Z,23nm,1.2s							
KVN				MLR	MLR			
	comp=Z,6μm,18.0s							
KVN	Kaiserville	59.83	298	P	P	07 18 05.8	-0.7	
KVN				IAmb	IAmb	07 18 06.7		
	comp=Z,23nm,1.2s							
ULN	Ulaanbaatar	59.83	40	P	P	07 18 06.3	0.0	
ULN				P	P	07 18 06.3	0.0	
ULN	Ulaanbaatar	59.83	40	dP	P	07 18 06.3	0.0	
ULN				pmax	pmax			
	comp=Z,28nm,1.7s							
ULN	Ulaanbaatar	59.83	40	P	P	07 18 05.7	-0.7	
ULN				IAmb	IAmb	07 18 10.8		
	comp=Z,20nm,1.2s							
BANOM	Banah	59.86	93	P	P	07 18 05.3	-1.3	
BANOM	Banah	59.86	93	P	P	07 18 06.0	-0.7	
N02D	Trinity Center	59.87	302	P	P	07 18 05.9	-0.7	
	baz=29							
PRN	Pahroc Range	60.07	294	P	P	07 18 07.0	-1.1	
PRN				IAmb	IAmb	07 18 16.1		
	comp=Z,39nm,1.4s							
PRN				IAMs_20	IAMs_20	07 43 36.9		
	comp=Z,2μm,20.0s							
O03E	Paynes Creek	60.13	301	P	P	07 18 06.2	-2.2	
	baz=29							
WDC	Whiskeytown Da	60.15	302	P	P	07 18 07.2	-1.3	
WDC				pmax	pmax			
	comp=Z,10.0nm,1.4s							
WDC				MLR	MLR			
	comp=Z,2μm,19.0s							
WDC	Whiskeytown Da	60.15	302	P	P	07 18 07.2	-1.3	
VCNR	Virginia City	60.20	299	P	P	07 18 09.0	-0.1	
VCNR				IAmb	IAmb	07 18 17.8		
	comp=Z,30nm,1.5s							
WUAZ	Wupatki	60.24	290	P	P	07 18 07.9	-1.5	
	baz=30,SNR=27							
WUAZ	Wupatki	60.24	290	P	P	07 18 07.7	-1.7	
MSFE	Esma-Masafi	60.29	93	iP	P	07 18 08.5	-1.1	
	SNR=6.1							
YERR	Yerington	60.32	299	P	P	07 18 09.7	-0.2	
YERR				IAmb	IAmb	07 18 10.5		
	comp=Z,41nm,1.4s							
KHMM	Horse Mountain	60.33	303	P	P	07 18 08.5	-1.4	
KHMM				IAmb	IAmb	07 18 14.9		
	comp=Z,37nm,1.5s							
KHMM				IAMs_20	IAMs_20	07 44 13.6		
	comp=Z,2μm,19.0s							
TPH	Tonopah	60.34	297	P	P	07 18 09.3	-0.7	
TPH				pmax	pmax			
	comp=Z,89nm,1.4s							
TPH	Tonopah	60.34	297	P	P	07 18 09.3	-0.7	
RYN	Ryan	60.35	298	P	P	07 18 08.8	-1.3	
PNTR	Pine Nut	60.36	299	P	P	07 18 09.3	-0.9	
PNTR				IAmb	IAmb	07 18 13.1		
	comp=Z,22nm,1.2s							
NV11	Mina Array Sit	60.39	297	P	P	07 18 09.2	-1.1	
NIL	Nilore	60.39	74	P	P	07 18 10.5	+0.3	
NIL				pmax	pmax			
	comp=Z,100nm,1.4s							
NIL				MLR	MLR			
	comp=Z,2μm,18.0s							
NIL	Nilore	60.39	74	P	P	07 18 10.5	+0.3	
NIL	Nilore	60.39	74	IAMs_20	IAMs_20	07 45 34.4		
	comp=Z,1μm,18.0s							
MDH	Madha	60.40	93	iP	P	07 18 09.4	-0.9	
	SNR=7.5							
MDH	Madha	60.40	93	P	P	07 18 12.0	+1.6	
	SNR=5.1							
NVAR	Mina Array Bea	60.44	298	P	P	07 18 09.0	-1.8	
	comp=Z,2.0nm,0.8s,baz=52,slow=4.0,SNR=16							
NVAR				LR	LR	07 44 20.4		
	comp=Z,6μm,18.7s,baz=20,slow=36							
NVAR	Mina Array Bea	60.44	298	P	P	07 18 09.0	-1.8	
JCC	Jacoby Creek,	60.49	303	IAMs_20	IAMs_20	07 44 44.8		
	comp=Z,2μm,21.0s							
O02D	Mt. Diablo Mer	60.60	302	P	P	07 18 10.1	-1.5	
	baz=28							
ORV	Oroville	60.67	301	P	P	07 18 11.3	-0.7	
ORV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ORV				MLR	MLR			
	comp=Z,5μm,18.0s							
ORV	Oroville	60.67	301	P	P	07 18 11.3	-0.7	
UOSS	Minazif	60.67	93	iP	P	07 18 11.3	-0.9	
	SNR=7.8							
UOSS	Minazif	60.67	93	P	P	07 18 11.7	-0.5	
UOSS	Minazif	60.67	93	P	P	07 18 11.9	-0.4	
UOSS				IAmb	IAmb	07 18 20.4		
	comp=Z,29nm,1.2s							
HATD	Hatta, Dubai	60.75	94	iP	P	07 18 11.8	-0.9	
	SNR=8.6							
HATD	Hatta, Dubai	60.75	94	P	P	07 18 12.6	-0.1	
	SNR=12							
WAKR	Walker	60.81	299	P	P	07 18 13.1	-0.2	
WAKR				IAmb	IAmb	07 18 16.2		
	comp=Z,37nm,1.5s							
ASHO	Ashiyiah	60.84	94	iP	P	07 18 11.5	-1.9	
	SNR=10							
ASHO	Ashiyiah	60.84	94	P	P	07 18 14.0	+0.6	
	SNR=11							
KMRM	Mail Ridge	60.89	303	P	P	07 18 13.4	-0.2	
KMRM				IAMs_20	IAMs_20	07 44 40.0		
	comp=Z,2μm,19.0s							
SHPR	Sheep Range	60.90	294	P	P	07 18 13.9	+0.1	
SHPR				IAmb	IAmb	07 18 14.9		
	comp=Z,36nm,1.5s							
SHPR				IAMs_20	IAMs_20	07 44 25.8		
	comp=Z,2μm,19.0s							
TPNV	Topopah Spring	60.94	295	P	P	07 18 12.6	-1.5	
TPNV	Topopah Spring	60.94	295	P	P	07 18 13.3	-0.8	
	baz=29,SNR=14							
TPNV	Topopah Spring	60.94	295	P	P	07 18 12.6	-1.5	
TPNV				IAmb	IAmb	07 18 27.6		
	comp=Z,35nm,1.4s							
AFDM	Forest Hills D	61.00	300	P	P	07 18 13.0	-1.3	
MTDJ	Mount Denham	61.05	251	IAMs_20	IAMs_20	07 40 50.8		
	comp=Z,2μm,19.0s							
MNTX	Cornudas Mount	61.07	283	P	P	07 18 13.8	-1.1	
	baz=29,SNR=8.6							
MNTX	Cornudas Mount	61.07	283	P	P	07 18 13.7	-1.2	
MNTX				IAmb	IAmb	07 18 22.8		
	comp=Z,21nm,1.4s							
MNTX				IAMs_20	IAMs_20	07 44 06.7		
	comp=Z,1μm,18.0s							
ALNE	Al Ain	61.26	94	iP	P	07 18 15.3	-0.9	
	SNR=7.0							
GRAC	Grapevine Rang	61.33	296	P	P	07 18 15.6	-1.0	
	baz=29							
121A	Cookes Peak, D	61.35	286	P	P	07 18 17.0	0.0	
	baz=29,SNR=7.4							
121A	Cookes Peak, D	61.35	286	P	P	07 18 17.0	0.0	
121A				IAmb	IAmb	07 18 20.2		
	comp=Z,25nm,1.3s							
121A				IAMs_20	IAMs_20	07 44 10.1		
	comp=Z,1μm,18.0s							
MDPB	Devils Postpil	61.44	298	P	P	07 18 17.6	+0.1	
MDPB				IAmb	IAmb	07 18 32.3		
	comp=Z,27nm,1.5s							
833A	Chaparral WMA,	61.45	276	P	P	07 18 16.5	-1.0	
	baz=29							
833A	Chaparral WMA,	61.45	276	P	P	07 18 16.8	-0.6	
833A				IAMs_20	IAMs_20	07 43 22.9		
	comp=Z,2μm,20.0s							
EPT	El Paso	61.48	284	IAMs_20	IAMs_20	07 43 40.5		
	comp=Z,2μm,22.0s							
KVTX	Kingsville	61.48	274	IAMs_20	IAMs_20	07 46 45.8		
	comp=Z,2μm,19.0s							
SOHO	SOHO	61.52	94	iP	P	07 18 16.5	-1.4	
	SNR=6.5							
CMB	Columbia Colle	61.58	299	P	P	07 18 17.2	-1.1	
CMB				pmax	pmax			
	comp=Z,13nm,1.5s							
CMB				MLR	MLR			
	comp=Z,2μm,20.0s							
CMB	Columbia Colle	61.58	299	P	P	07 18 17.2	-1.1	
FURC	Furnace Creek,	61.60	295	P	P	07 18 16.9	-1.4	
	baz=29,SNR=11							
W13A	Hualapai Mount	61.62	292	P	P	07 18 18.8	0.0	
W13A				IAMs_20	IAMs_20	07 43 55.8		
	comp=Z,2μm,20.0s							
GDXM	Geysers	61.80	301	P	P	07 18 19.8	0.0	
GDXM				IAmb	IAmb	07 18 27.1		
	comp=Z,30nm,1.5s							
SHOC	Shoshone, Teco	61.87	295	P	P	07 18 19.9	-0.3	
	baz=29,SNR=12							
CWC	Cottonwood Cre	62.10	296	P	P	07 18 21.2	-0.7	
	baz=29							
MPMC	Manual Prospec	62.20	296	P	P	07 18 21.7	-1.0	
	baz=29,SNR=9.7							
ARQ	Araqi	62.22	94	P	P	07 18 22.0	-0.7	
ARQ				P	P	07 18 22.0	-0.7	
HOQ	Hoqain	62.34	93	P	P	07 18 23.2	-0.4	
	SNR=5.0							
TX31	Lajitas Ar. Si	62.40	280	P	P	07 18 22.4	-1.6	
TX32	Lajitas Array	62.40	280	P	P	07 18 22.4	-1.6	
TX32				IAmb	IAmb	07 18 32.1		
	comp=Z,18nm,1.4s							
TXAR	Lajitas Array	62.40	280	P	P	07 18 22.0	-2.0	
	comp=Z,3.6nm,0.9s,baz=66,slow=3.4,SNR=23							
TXAR				PcP	PcP	07 19 03.1	-0.3	
	comp=Z,2.6nm,0.9s,baz=93,slow=2.5,SNR=5.4							
TXAR				LR	LR	07 44 34.7		
	comp=Z,3μm,20.6s,baz=0.0,slow=35							
TXAR	Lajitas Array	62.40	280	P	P	07 18 22.3	-1.7	
PDMCI	Parker Dam,Lak	62.41	292	P	P	07 18 23.5	-0.3	
	baz=29,SNR=16							
GMRC	Granite Mounta	62.60	293	P	P	07 18 24.9	-0.4	
	baz=29,SNR=17							
GSC	Goldstone, Bar	62.60	295	P	P	07 18 25.3	+0.1	
GSC				pmax	pmax			
	comp=Z,11nm,1.2s							
GSC				MLR	MLR			
	comp=Z,2μm,18.0s							
GSC	Goldstone, Bar	62.60	295	P	P	07 18 24.0	-1.2	
	baz=29							
GSC	Goldstone, Bar	62.60	295	P	P	07 18 25.3	+0.1	
PEA0B	Petropavlovsk-	62.62	3⇓	eP	P	07 18 25.2	+0.3	
PEA0B	Petropavlovsk-	62.62	3	P	P	07 18 23.4	-1.5	
PETK	Petropavlovsk-	62.62	3	P	P	07 18 24.5	-0.5	
	comp=Z,4.9nm,1.0s,baz=331,slow=5.8,SNR=8.6							
PET	Petropavlovsk	62.72	3⇑	eP	P	07 18 28.5	+2.9	
PET				pmax	pmax			
	comp=Z,121nm,1.1s							
PET	Petropavlovsk	62.72	3	IAMs_20	IAMs_20	07 47 08.3		
	comp=Z,1μm,20.0s							
BIDO	Bidbid	62.75	92	P	P	07 18 25.3	-0.9	
BIDO				P	P	07 18 25.3	-0.9	
TUC	Tucson	62.79	288	P	P	07 18 25.6	-0.9	
TUC				pmax	pmax			
	comp=Z,38nm,1.5s							
TUC	Tucson	62.79	288	P	P	07 18 25.5	-0.9	
	baz=29							
TUC				S	S	07 27 02.3	+7.0	
	baz=29							
TUC	Tucson	62.79	288	P	P	07 18 25.6	-0.9	
TUC				IAmb	IAmb	07 18 29.8		
	comp=Z,38nm,1.4s							
TUC	Tucson	62.79	288	IAMs_20	IAMs_20	07 44 51.0		
	comp=Z,1μm,18.0s							
ISA	Isabella, Lake	62.93	296	P	P	07 18 27.3	-0.1	
ISA				pmax	pmax			
	comp=Z,49nm,1.5s							
ISA				MLR	MLR			
	comp=Z,3μm,18.0s							
ISA	Isabella, Lake	62.93	296	P	P	07 18 27.0	-0.4	
	baz=28,SNR=13							
ISA	Isabella, Lake	62.93	296	P	P	07 18 27.3	-0.1	
IRM	Iron Mountain	62.94	293	P	P	07 18 27.0	-0.4	
	baz=29							
319A	Douglas	62.98	286	P	P	07 18 27.3	-0.6	
319A				IAMs_20	IAMs_20	07 45 43.2		
	comp=Z,1μm,20.0s							
BSY	Bisya	63.03	94	P	P	07 18 27.3	-0.9	
BSY				P	P	07 18 27.3	-0.9	
SMDO	Samad	63.12	93	P	P	07 18 29.3	+0.5	
	SNR=5.5							
SMDO				P	P	07 18 29.3	+0.5	
	SNR=5.5							
PMPB	Monarch Peak	63.34	298	P	P	07 18 28.8	-1.3	
BELC	Belle Mtn. Jos	63.42	293	P	P	07 18 31.1	+0.4	
	baz=28,SNR=19							
EDW2	Edwards Air Fo	63.43	295	P	P	07 18 30.5	-0.2	
	baz=28							
BC3	Big Chuckawall	63.50	293	P	P	07 18 31.2	0.0	
	baz=28,SNR=12							
PAGB	Antelope Grade	63.55	298	P	P	07 18 31.1	-0.4	
PAGB				IAmb	IAmb	07 18 33.1		
	comp=Z,24nm,1.5s							
113A	Mohawk Valley,	63.60	291	P	P	07 18 31.4	-0.3	
113A				IAmb	IAmb	07 18 36.1		
	comp=Z,23nm,1.4s							
JMDO	Jabal Madar	63.75	93	P	P	07 18 32.4	-0.5	
JMDO				P	P	07 18 32.4	-0.5	
TEIG	Tepich	63.77	262	IAMs_20	IAMs_20	07 44 57.6		
	comp=Z,1μm,19.0s							
GLA	Glamis	63.78	292	P	P	07 18 33.3	+0.2	
	baz=28							
GLA	Glamis	63.78	292	IAMs_20	IAMs_20	07 45 09.2		
	comp=Z,2μm,21.0s							
WBK	Wadi Bani Khal	63.92	92	P	P	07 18 34.8	+0.8	
214A	Organ Pipe Nat	63.93	290	P	P	07 18 33.8	-0.2	
	baz=28,SNR=10							
214A	Organ Pipe Nat	63.93	290	P	P	07 18 34.1	+0.1	
214A				IAmb	IAmb	07 18 38.4		
	comp=Z,28nm,1.4s							
214A				IAMs_20	IAMs_20	07 44 39.1		
	comp=Z,1μm,20.0s							
PFO	Pinyon Flats O	63.94	294	P	P	07 18 33.9	-0.3	
PFO				pmax	pmax			
	comp=Z,12nm,1.4s							
PFO	Pinyon Flats O	63.94	294	P	P	07 18 33.8	-0.4	
	baz=28							
PFO	Pinyon Flats O	63.94	294	P	P	07 18 33.9	-0.3	
TPFO	Pinon Flats	63.94	293	P	P	07 18 34.4	+0.2	
	baz=28							
KLR	Kul'dur	64.02	22⇓	eP	P	07 18 34.6	+0.3	
KLR				pmax	pmax			
	comp=Z,14nm,1.9s							
KLR				MLR	MLR			
	comp=Z,1μm,19.0s							
MWC	Mount Wilson	64.03	295	P	P	07 18 34.4	-0.5	
MWC				pmax	pmax			
	comp=Z,13nm,1.1s							
MWC				MLR	MLR			
	comp=Z,2μm,18.0s							
MWC	Mount Wilson	64.03	295	P	P	07 18 34.4	-0.5	
MWC				IAmb	IAmb	07 18 37.5		
	comp=Z,13nm,1.1s							
MURC	Murrieta	64.24	294	P	P	07 18 35.5	-0.5	
	baz=28							
SWSC	Sam W. Stewart	64.26	293	P	P	07 18 35.3	-

GTA				sS	sS	07 27 37.6	+5.0
GTA				pmax	pmax		
	comp=Z,25nm,1.8s						
GTA				pmax	pmax		
	comp=Z,570nm,8.6s						
GTA				LR	LR		
	comp=Z,1µm,17.1s						
GTA				LR	LR		
	comp=Z,1µm,18.7s						
GTA				LR	LR		
	comp=Z,2µm,18.7s						
HSIG		**65.73**	**287**	P	**P**	**07 18 45.2**	**-0.6**
HSIG				IAmb	IAmb	07 18 48.3	
	comp=Z,34nm,1.3s						
HSIG				IAMs_20	IAMs_20	07 48 52.1	
	comp=Z,1µm,20.0s						
SPX	**San Pedro Mart**	**65.81**	**291**	P	**P**	**07 18 45.8**	**-0.8**
SPX				IAmb	IAmb	07 18 55.5	
	comp=Z,36nm,1.5s						
SDV	**Santo Domingo**	**66.84**	**240**	*e*P	**P**	**07 18 50.7**	**-2.5**
SDV	**Santo Domingo**	**66.84**	**240**	P	**P**	**07 18 53.1**	**-0.1**
SDV	**Santo Domingo**	**66.84**	**240**	*e*P	**P**	**07 18 53.0**	**-0.1**
ARGC	**Ariguani, Magd**	**67.33**	**244**	*e*P	**P**	**07 18 54.3**	**-1.7**
BTO	**Baotou**	**67.34**	**41**	*e*P	**P**	**07 18 51.6**	**-4.4**
HHC	**Hu-ho-hao-te**	**67.54**	**40**	*e*P	**P**	**07 18 59.6**	**+2.3**
HHC				PP	**PP**	**07 21 30.4**	**+4.9**
HHC				S	**S**	**07 27 56.1**	**+2.6**
HHC				SS	**SS**	**07 32 17.9**	**+4.9**
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,540nm,6.6s						
HHC				LR	LR		
	comp=Z,420nm,13.7s						
HHC				LR	LR		
	comp=Z,960nm,18.5s						
HHC				LR	LR		
	comp=Z,510nm,20.1s						
ZAIG	**Zacatecas**	**67.68**	**276**	P	**P**	**07 18 58.3**	**-0.3**
ZAIG				IAmb	IAmb	07 19 08.1	
	comp=Z,25nm,1.2s						
YSS	**Yuzh-Sakhalins**	**67.74**	**15**	*e*P	**P**	**07 18 58.5**	**+0.2**
YSS				*e*		07 19 04.5	
YSS				*e*		07 19 22.1	
YSS				*e*		07 21 30.3	
YSS				*e*PPP	PPP	07 23 07.0	
YSS				*e*S	**S**	**07 27 54.2**	**-1.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				pmax	pmax		
	comp=Z,700nm,6.3s						
YSS				smax	smax		
	comp=N,800nm,7.8s						
YSS				MLR	MLR		
	comp=Z,800nm,15.0s						
YSS				MLR	MLR		
	comp=N,800nm,17.0s						
YSS				MLR	MLR		
	comp=E,1µm,18.0s						
MDJ	**Mudanjiang**	**68.11**	**25**	IAMs_20	IAMs_20	07 51 09.6	
	comp=Z,1µm,18.0s						
SMLC	**San Martn de**	**68.22**	**243**	*e*P	**P**	**07 19 05.1**	**+3.4**
OCAC	**Ocana**	**68.45**	**242**	*e*P	P	07 18 57.9	-5.4
TGUH	**Tegucigalpa,Un**	**68.83**	**258**	IAMs_20	IAMs_20	07 50 15.9	
	comp=Z,843nm,18.0s						
MOTC	**Monteria, Cord**	**68.86**	**244**	*e*P	P	07 18 57.9	-7.8
USA0B	**Ussuriysk Arra**	**68.94**	**23**	IAMs_20	IAMs_20	07 55 00.4	
	comp=Z,1µm,18.0s						
USRK	**Ussuriysk Ar.**	**68.94**	**23**	P	**P**	**07 19 05.6**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=15,slow=8.3,SNR=6.8						
USRK				LR	LR	07 51 25.5	
	comp=Z,678nm,18.1s,baz=331,slow=38						
MATN	**Matagalpa**	**69.28**	**256**	IAMs_20	IAMs_20	07 47 13.7	
	comp=Z,2µm,20.0s						
MTO3	**Montecristo**	**69.41**	**260**	IAMs_20	IAMs_20	07 51 05.2	
	comp=Z,941nm,20.0s						
HUEH	**Huehuetenango**	**69.51**	**262**	IAMs_20	IAMs_20	07 46 18.7	
	comp=Z,1µm,21.0s						
BJI	**Beijing**	**69.53**	**37**	P	**P**	**07 19 08.2**	**-1.3**
BJI				PP	**PP**	**07 21 40.6**	**-2.0**
BJI				S	**S**	**07 28 16.1**	**-0.8**
BJI				SS	**SS**	**07 32 44.2**	**+0.9**
BJI				pmax	pmax		
	comp=Z,580nm,6.2s						
BJI				LR	LR		
	comp=Z,3µm,17.8s						
BJI				LR	LR		
	comp=Z,2µm,16.5s						
BJI				LR	LR		
	comp=Z,2µm,19.2s						
TAMC	**Tame, Arauca**	**69.53**	**240**	*e*P	**P**	**07 19 05.1**	**-4.8**
MCPB	**Macapa, AP**	**69.56**	**218**	*e*P	**P**	**07 19 09.4**	**-0.6**
SNY	**Shenyang**	**69.59**	**30**	⇓P	**P**	**07 19 09.4**	**-0.5**
SNY				S	**S**	**07 28 23.8**	**+6.2**
SNY				SKS	**SKSac**	**07 29 03.3**	**-6.7**
SNY				pmax	pmax		
	comp=Z,380nm,5.8s						
SNY				LR	LR		
	comp=Z,1µm,22.1s						
SNY				LR	LR		
	comp=Z,380nm,18.5s						
SNY				LR	LR		
	comp=Z,2µm,21.0s						
BOAB	**BOACO BROADBAND**	**69.60**	**256**	P	**P**	**07 19 09.5**	**-0.7**
LZH	**Lanzhou**	**69.64**	**48**	⇑P	**P**	**07 19 11.4**	**+0.9**
LZH				pP	pP	07 19 14.4	+0.1
LZH				sP	sP	07 19 17.1	+1.4
LZH				PP	**PP**	**07 21 43.2**	**-0.7**
LZH				S	**S**	**07 28 22.1**	**+3.4**
LZH				sS	sS	07 28 26.4	+1.6
LZH				pmax	pmax		
	comp=Z,34nm,1.4s						
LZH				pmax	pmax		
	comp=Z,800nm,4.1s						
LZH				LR	LR		
	comp=Z,2µm,16.0s						
LZH				LR	LR		
	comp=Z,1µm,14.4s						
LZH				LR	LR		
	comp=Z,2µm,19.2s						
ZARC	**Zaragoza, Cauc**	**69.72**	**243**	*e*P	**P**	**07 19 09.0**	**-2.1**
UREC	**San Jos de Ur**	**69.75**	**244**	*e*P	P	07 19 01.5	-10
ACON	**Acoyapa**	**69.82**	**255**	P	**P**	**07 19 09.7**	**-1.9**
KUR	**Kuril'sk**	**69.94**	**11**	*e*P	P	07 19 05.8	-6.2
KUR				*e*		07 28 54.4	
KUR				*e*		07 29 10.7	
PTBC	**PUERTO BERRIO,**	**70.44**	**242**	*e*P	**P**	**07 19 15.9**	**+0.4**
DBBC	**Dabeiba**	**70.68**	**244**	*e*P	**P**	**07 19 15.9**	**-1.1**
TIY	**Taiyuan**	**70.71**	**40**	*e*P	**P**	**07 19 17.4**	**+0.5**
TIY				S	**S**	**07 28 34.2**	**+3.2**
TIY				pmax	pmax		
	comp=Z,420nm,3.6s						
TIY				LR	LR		
	comp=Z,2µm,15.4s						
TIY				LR	LR		
	comp=Z,530nm,14.6s						
TIY				LR	LR		
	comp=Z,2µm,15.5s						
SPBC	**San Pablo de B**	**71.11**	**242**	*e*P	**P**	**07 19 23.0**	**+3.4**
HDC	**Heredia**	**71.16**	**253**	IAMs_20	IAMs_20	07 47 17.6	
	comp=Z,1µm,20.0s						
HELC	**Santa Helena**	**71.18**	**243**	*e*P	**P**	**07 19 15.9**	**-4.5**
SUJ	**Sinuiju**	**71.44**	**30**	P	**P**	**07 19 23.0**	**+1.8**
SUJ				S	**S**	**07 28 46.0**	**+6.8**
DL2	**Dalian**	**71.94**	**33**	⇓P	**P**	**07 19 23.5**	**-0.7**
DL2				PP	**PP**	**07 22 08.0**	**+4.7**
DL2				S	**S**	**07 28 48.8**	**+3.8**
DL2				pmax	pmax		
	comp=Z,690nm,4.9s						
DL2				LR	LR		
	comp=Z,2µm,19.3s						
DL2				LR	LR		
	comp=Z,790nm,15.6s						
DL2				LR	LR		
	comp=Z,3µm,18.8s						
ROSC	**El Rosal**	**71.95**	**242**	P	**P**	**07 19 23.2**	**-1.8**
	comp=Z,6.1nm,0.6s,baz=38,slow=5.0,SNR=21						
ROSC				LR	LR	07 47 25.3	
	comp=Z,1µm,21.8s,baz=356,slow=33						
ROSC	**El Rosal**	**71.95**	**242**	*e*P	P	07 19 19.4	-5.6
ROSC	**El Rosal**	**71.95**	**242**	P	**P**	**07 19 25.4**	**+0.3**
GUY2C	**Guyana, Caldas**	**72.00**	**243**	*e*P	P	07 19 19.4	-6.0
PTGA	**Pitinga**	**72.17**	**225**	P	**P**	**07 19 25.0**	**-0.8**
PTGA				IAmb	IAmb	07 19 27.7	
	comp=Z,47nm,1.4s						
HHU	**Hamhung**	**72.25**	**28**	P	**P**	**07 19 28.5**	**+2.5**
HHU				S	**S**	**07 28 52.0**	**+3.6**
VILC	**Villavicencio,**	**72.38**	**241**	*e*P	**P**	**07 19 23.4**	**-3.9**
TOLC	**Tolima**	**72.57**	**242**	*e*P	P	07 19 23.0	-5.6
ERM	**Erimo**	**72.67**	**15**	⇑*e*P	**P**	**07 19 31.3**	**+2.8**
ERM				pmax	pmax		
	comp=Z,38nm,1.2s						
ERM	**Erimo**	**72.67**	**15**	IAMs_20	IAMs_20	07 53 59.8	
	comp=Z,1µm,20.0s						
PYAG	**Pyongyang**	**72.72**	**29**	P	**P**	**07 19 31.5**	**+2.6**
XAN	**Xi'an**	**73.11**	**44**	P	**P**	**07 19 30.5**	**-0.8**
XAN				PcP	**PcP**	**07 19 49.4**	**+1.4**
XAN				PP	**PP**	**07 22 13.5**	**0.0**
XAN				S	**S**	**07 28 59.5**	**+0.9**
XAN				ScS	**ScS**	**07 29 38.7**	**-0.6**
XAN				pmax	pmax		
	comp=Z,22nm,1.8s						
XAN				pmax	pmax		
	comp=Z,650nm,6.5s						
XAN				LR	LR		
	comp=Z,3µm,23.5s						
XAN				LR	LR		
	comp=Z,1µm,21.1s						
XAN				LR	LR		
	comp=Z,4µm,23.5s						
XAN	**Xi'an**	**73.11**	**44**	P	**P**	**07 19 31.2**	**-0.2**
XAN				pmax	pmax		
	comp=Z,22nm,1.2s						
XAN				MLR	MLR		
	comp=Z,2µm,18.0s						
XAN	**Xi'an**	**73.11**	**44**	P	**P**	**07 19 31.2**	**-0.2**
XAN				IAmb	IAmb	07 19 35.0	
	comp=Z,22nm,1.2s						
PRAC	**Prado**	**73.20**	**242**	*e*P	P	07 19 26.6	-5.4
TIA	**Tai'an**	**73.39**	**37**	P	**P**	**07 19 33.5**	**+0.6**
TIA				S	**SKiKP**	**07 29 05.9**	**+2.5**
TIA				pmax	pmax		
	comp=Z,590nm,5.9s						
TIA				LR	LR		
	comp=Z,2µm,19.6s						
TIA				LR	LR		
	comp=Z,810nm,19.2s						
TIA				LR	LR		
	comp=Z,3µm,21.6s						
YOTC	**Yotoco, Valle**	**73.51**	**243**	*e*P	**P**	**07 19 31.7**	**-2.3**
MBAR	**Mbarara**	**73.76**	**129**	IAMs_20	IAMs_20	07 54 14.5	
	comp=Z,854nm,18.0s						
BETC	**Betania**	**74.36**	**242**	*e*P	P	07 19 30.2	-8.6
CD2	**Chengdu**	**74.37**	**50**	P	**P**	**07 19 37.6**	**-1.2**
CD2				sP	sP	07 19 46.4	+2.4
CD2				S	**S**	**07 29 16.8**	**+3.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
CD2				pmax	pmax		
	comp=Z,730nm,5.2s						
CD2				LR	LR		
	comp=Z,2µm,19.1s						
CD2				LR	LR		
	comp=Z,2µm,20.1s						
CD2				LR	LR		
	comp=Z,3µm,18.1s						
ITTB	**Itaituba**	**74.38**	**220**	*e*P	**P**	**07 19 38.0**	**-0.8**
INCN	**Inchon**	**74.42**	**29**	IAMs_20	IAMs_20	07 53 30.7	
	comp=Z,2µm,21.0s						
PRPB	**Parauapebas**	**74.58**	**214**	*e*P	**P**	**07 19 38.6**	**-1.4**
MACA	**Manacapuru-AM**	**74.69**	**225**	*e*P	**P**	**07 19 40.2**	**-0.4**
KSRS	**Korea Array**	**74.71**	**28**	P	**P**	**07 19 39.8**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=350,slow=5.0,SNR=2.0						
KSRS				PP	**PP**	**07 22 26.3**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=350,slow=6.4,SNR=4.2						
KSRS				LR	LR	07 55 59.2	
	comp=Z,997nm,18.2s,baz=341,slow=38						
KSAR	**Wonju Array Be**	**74.71**	**28**	P	**P**	**07 19 39.3**	**-1.3**
KSAR	**Wonju Array Be**	**74.71**	**28**	P	**P**	**07 19 39.3**	**-1.3**
GARC	**Garzon, Huila**	**74.83**	**242**	*e*P	P	07 19 33.8	-8.0
SHL	**Shillong**	**74.99**	**62**	P	**P**	**07 19 42.4**	**-0.2**
SHL				pmax	pmax		
	comp=Z,38nm,1.4s						
SHL				MLR	MLR		
	comp=Z,2µm,19.0s						
SHL	**Shillong**	**74.99**	**62**	P	**P**	**07 19 42.4**	**-0.2**
SHL				IAmb	IAmb	07 19 44.2	
	comp=Z,38nm,1.4s						
FLOC	**Florencia**	**75.45**	**242**	*e*P	P	07 19 37.4	-7.7
TJN	**Taejon**	**75.63**	**29**	⇓*e*P	**P**	**07 19 46.4**	**+0.5**
BBAC	**Balboa, Cauca**	**75.66**	**243**	*e*P	P	07 19 41.0	-5.6
GCUF	**Volcan Galeras**	**76.42**	**243**	*e*P	**P**	**07 19 48.2**	**-3.1**
KMBO	**Kilima Mbogo**	**76.52**	**123**	LR	LR	07 56 50.8	
	comp=Z,1µm,19.3s,baz=290,slow=38						
KMBO	**Kilima Mbogo**	**76.52**	**123**	*i*P	**P**	**07 19 54.5**	**+3.0**
KMBO	**Kilima Mbogo**	**76.52**	**123**	IAMs_20	IAMs_20	07 56 55.6	
	comp=Z,1µm,19.0s						
SMTB	**Santa Maria do**	**76.67**	**211**	*e*P	**P**	**07 19 50.2**	**-1.8**
ENH	**Enshi**	**76.79**	**45**	P	**P**	**07 19 53.1**	**+0.5**
NPGB	**Novo Progresso**	**76.84**	**219**	*e*P	**P**	**07 19 52.0**	**-0.9**
HYB	**Hyderabad**	**76.92**	**77**	*i*P	**P**	**07 19 53.0**	**-0.5**
MAJO	**Matsushiro**	**77.41**	**20**	⇑*e*P	**P**	**07 19 57.9**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MAJO	**Matsushiro**	**77.41**	**20**	IAMs_20	IAMs_20	07 57 12.4	
	comp=Z,850nm,21.0s						
MAT	**Matsushiro**	**77.41**	**20**	P	**P**	**07 19 55.4**	**-0.6**
MAT				S	**S**	**07 29 40.6**	**-5.6**
MJAR	**Matsushiro Arr**	**77.41**	**20**	P	**P**	**07 19 55.4**	**-0.6**
	comp=Z,5.5nm,1.2s,baz=321,slow=5.7,SNR=8.7						
MJAR	**Matsushiro Arr**	**77.41**	**20**	P	**P**	**07 19 55.4**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MJAR	**Matsushiro Arr**	**77.41**	**20**	P	**P**	**07 19 55.4**	**-0.6**
OTAV	**Otavalo**	**77.76**	**244**	P	**P**	**07 19 58.7**	**0.0**
OTAV				pmax	pmax		
	comp=Z,48nm,1.5s						
OTAV	**Otavalo**	**77.76**	**244**	P	**P**	**07 19 58.7**	**0.0**
OTAV				IAmb	IAmb	07 20 01.1	
	comp=Z,48nm,1.5s						
OTAV	**Otavalo**	**77.76**	**244**	IAMs_20	IAMs_20	07 50 47.9	
	comp=Z,1µm,21.0s						
OTAV	**Otavalo**	**77.76**	**244**	*e*P	**P**	**07 19 58.0**	**-0.6**
NJ2	**Nanjing**	**77.78**	**37**	*e*P	**P**	**07 19 57.0**	**-1.1**
NJ2				S	**S**	**07 29 54.7**	**+4.5**
NJ2				SKS	**SKSac**	**07 30 06.1**	**-5.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,630nm,5.2s						
NJ2				LR	LR		
	comp=Z,2µm,20.6s						
NJ2				LR	LR		
	comp=Z,940nm,18.1s						
NJ2				LR	LR		
	comp=Z,3µm,19.2s						
KIBK	**Kibwezi**	**77.93**	**123**	P	**P**	**07 20 00.4**	**+1.2**
WHN	**Wuhan**	**77.97**	**41**	⇓P	**P**	**07 19 58.1**	**-1.1**
WHN				PP	**PP**	**07 22 56.7**	**+2.2**
WHN				S	**S**	**07 29 53.7**	**+1.3**
WHN				ScS	**SKKSac**	**07 30 15.1**	**+1.2**
WHN				pmax	pmax		
	comp=Z,850nm,6.7s						
WHN				LR	LR		
	comp=Z,3µm,19.0s						
WHN				LR	LR		
	comp=Z,2µm,14.1s						
WHN				LR	LR		
	comp=Z,4µm,22.1s						
INU	**Inuyama**	**78.40**	**21**	IAMs_20	IAMs_20	07 56 34.7	
	comp=Z,859nm,18.0s						
SSE	**Sheshan**	**79.28**	**35**	P	**P**	**07 20 06.0**	**-0.4**
SSE				S	**S**	**07 30 07.9**	**+1.5**
SSE				pmax	pmax		
	comp=Z,22nm,0.7s						
SSE				pmax	pmax		
	comp=Z,280nm,6.0s						
SSE				LR	LR		
	comp=Z,890nm,19.2s						
SSE				LR	LR		
	comp=Z,540nm,19.4s						
KMI	**Kunming**	**79.35**	**53**	⇓*e*P	**P**	**07 20 05.1**	**-2.0**
KMI				pP	pP	07 20 07.7	-3.3
KMI				PP	**PP**	**07 23 08.0**	**+1.5**
KMI				S	**S**	**07 30 06.5**	**-1.3**
KMI				SS	**SS**	**07 35 13.3**	**-0.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,490nm,6.5s						
KMI				LR	LR		
	comp=Z,630nm,23.1s						
KMI				LR	LR		
	comp=Z,680nm,23.8s						
KMI				LR	LR		
	comp=Z,1µm,26.4s						
KMI	**Kunming**	**79.35**	**53**	IAMs_20	IAMs_20	08 00 45.4	
	comp=Z,1µm,18.0s						
GYA	**Guiyang**	**79.44**	**49**	⇑P	**P**	**07 20 07.4**	**-0.1**
GYA				PP	**PP**	**07 23 09.7**	**+2.7**
GYA				S	**S**	**07 30 09.6**	**+1.2**
GYA				pmax	pmax		
	comp=Z,23nm,1.5s						
GYA				pmax	pmax		
	comp=Z,440nm,6.0s						
GYA				LR	LR		
	comp=Z,600nm,19.1s						
GYA				LR	LR		
	comp=Z,620nm,15.5s						
GYA				LR	LR		
	comp=Z,910nm,20.9s						
SDBA	**SAO DESIDERIO**	**79.54**	**207**	*e*P	**P**	**07 20 08.2**	**+0.3**
CLDB	**Colider**	**80.61**	**218**	*e*P	**P**	**07 20 12.9**	**-0.7**
SAML	**Samuel**	**80.93**	**226**	P	**P**	**07 20 14.4**	**-0.9**
SAML				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SAML	**Samuel**	**80.93**	**226**	P	**P**	**07 20 14.4**	**-0.9**
SAML	**Samuel**	**80.93**	**226**	IAMs_20	IAMs_20	07 50 02.5	
	comp=Z,1µm,22.0s						
SAML	**Samuel**	**80.93**	**226**	*e*P	**P**	**07 20 15.1**	**-0.2**
ETMB	**Extrema**	**82.70**	**229**	*e*P	**P**	**07 20 24.0**	**-0.7**
CZSB	**Cruzeiro do Su**	**82.96**	**235**	*e*P	**P**	**07 20 23.7**	**-2.4**
SLVN	**Son La**	**83.25**	**53**	P	**P**	**07 20 27.0**	**-0.7**
SLVN				IAmb	IAmb	07 20 30.7	
	comp=Z,18nm,1.2s						
BDFB	**Brasilia**	**83.33**	**210**	P	**P**	**07 20 26.4**	**-1.6**
	comp=Z,2.4nm,0.9s,baz=152,slow=3.3,SNR=2.1						
BDFB				LR	LR	07 51 07.2	
	comp=Z,2µm,21.3s,baz=335,slow=31						
BDFB	**Brasilia**	**83.33**	**210**	P	**P**	**07 20 26.4**	**-1.6**
BDFB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BDFB	**Brasilia**	**83.33**	**210**	IAmb	IAmb	07 20 34.0	
	comp=Z,8.5nm,1.1s						
BDFB				IAMs_20	IAMs_20	07 54 07.6	
	comp=Z,2µm,18.0s						
MC01	**Montes Claros**	**83.55**	**206**	*e*P	**P**	**07 20 29.2**	**+0.2**
CHTO	**Chiang Mai**	**83.79**	**59**	P	**P**	**07 20 30.2**	**-0.3**
CHTO	**Chiang Mai**	**83.79**	**59**	IAMs_20	IAMs_20	08 00 12.2	
	comp=Z,1µm,21.0s						
VILB	**Vilhena**	**83.82**	**222**	*e*P	**P**	**07 20 30.0**	**-0.4**
NAN01	**Guarapari, ES**	**83.99**	**202**	*e*P	**P**	**07 20 30.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**07 20 32.0**	**0.0**
	comp=Z,4.6nm,0.9s,baz=320,slow=6.0,SNR=18						
CMAR				LR	LR	08 00 42.8	
	comp=Z,918nm,19.6s,baz=358,slow=38						
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**07 20 30.7**	**-1.4**
ARAG	**Araguaiana, MT**	**84.25**	**213**	*e*P	**P**	**07 20 32.5**	**0.0**
QZH	**Quanzhou**	**84.45**	**39**	⇓*i*P	**P**	**07 20 32.1**	**-1.6**
QZH				PP	**PP**	**07 23 50.8**	**+2.7**
QZH				S	**S**	**07 31 01.6**	**+1.7**
QZH				pmax	pmax		
	comp=Z,280nm,6.4s						
QZH				LR	LR		
	comp=Z,2µm,17.6s						
QZH				LR	LR		
	comp=Z,420nm,13.7s						
QZH				LR	LR		
	comp=Z,3µm,17.1s						
SJMB	**Sao Joao De Ma**	**85.01**	**203**	*e*P	**P**	**07 20 34.4**	**-1.9**
IPMB	**Ipameri, GO**	**85.64**	**209**	*e*P	**P**	**07 20 39.7**	**+0.1**
PTLB	**Pontes e Lacer**	**85.89**	**220**	*e*P	**P**	**07 20 41.1**	**+0.3**
SSLB	**Suanglung**	**86.19**	**38**	IAMs_20	IAMs_20	08 00 35.8	
	comp=Z,1µm,22.0s						
LSZ	**Lusaka**	**86.77**	**136**	P	**P**	**07 20 43.8**	**-1.5**
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
LSZ				MLR	MLR		
	comp=Z,2µm,18.0s						
LSZ	**Lusaka**	**86.77**	**136**	P	**P**	**07 20 43.8**	**-1.5**
QIZ	**Qiongzhong**	**87.39**	**49**	P	**P**	**07 20 47.4**	**-0.9**
QIZ				S	**S**	**07 31 28.6**	**-0.2**
QIZ				SS	**SS**	**07 37 13.5**	**+1.1**
QIZ				LR	LR		
	comp=Z,320nm,30.4s						
QIZ				LR	LR		
	comp=Z,970nm,16.3s						
QIZ				LR	LR		
	comp=Z,1µm,17.7s						
TSUM	**Tsumeb**	**87.69**	**147**	P	**P**	**07 20 49.7**	**0.0**
LPAZ	**La Paz**	**89.39**	**228**	P	**P**	**07 20 56.9**	**-1.5**
	comp=Z,1.6nm,0.9s,baz=357,slow=3.3,SNR=5.9						
LPAZ				LR	LR	07 58 24.0	
	comp=Z,418nm,19.5s,baz=7.5,slow=34						
LPAZ	**La Paz**	**89.39**	**228**	P	**P**	**07 20 57.0**	**-1.4**
LPAZ	**La Paz**	**89.39**	**228**	*e*P	**P**	**07 20 56.2**	**-2.1**
UBPT	**Khong Chiam**	**89.39**	**54**	IAMs_20	IAMs_20	08 03 51.6	
	comp=Z,966nm,18.0s						
DLV	**T Lat**	**93.54**	**53**	IAMs_20	IAMs_20	08 08 35.1	
	comp=Z,968nm,20.0s						
CPUP	**Villa Florida**	**95.80**	**215**	LR	LR	08 00 30.9	
	comp=Z,993nm,18.7s,baz=22,slow=33						
KULM	**Kulim**	**96.83**	**62**	IAMs_20	IAMs_20	08 14 01.1	
	comp=Z,776nm,19.0s						
RPSI	**Rantau Prapat**	**98.54**	**65**	IAMs_20	IAMs_20	08 10 20.5	
	comp=Z,692nm,21.0s						
BOSA	**Boshof**	**98.61**	**143**	LR	LR	08 08 39.4	
	comp=Z,2µm,18.4s,baz=345,slow=37						
BKNI	**Bangkinang**	**101.53**	**64**	IAMs_20	IAMs_20	08 12 39.7	
	comp=Z,999nm,22.0s						
KKM	**Kota Kinabalu**	**101.62**	**47**	IAMs_20	IAMs_20	08 09 59.3	
	comp=Z,917nm,21.0s						
DAV	**Davao City (W)**	**103.39**	**38**	IAMs_20	IAMs_20	08 12 17.7	
	comp=Z,791nm,21.0s						
KSM	**Kuching**	**103.91**	**55**	IAMs_20	IAMs_20	08 13 15.4	
	comp=Z,755nm,19.0s						
PMBI	**Palembang**	**105.95**	**62**	IAMs_20	IAMs_20	08 14 54.4	
	comp=Z,832nm,22.0s						
LUWI	**Luwuk**	**110.33**	**43**	IAMs_20	IAMs_20	08 18 17.0	
	comp=Z,430nm,18.0s						
TAOE	**Nuku Hiva Isla**	**111.70**	**297**	*e*LR	LR	07 59 36.6	
	comp=Z,770nm,26.0s						
JAGI	**Jajag, Banyuwa**	**114.51**	**55**	IAMs_20	IAMs_20	08 18 14.2	
	comp=Z,521nm,22.0s						
FAKI	**Fak Fak**	**114.68**	**34**	IAMs_20	IAMs_20	08 21 15.7	
	comp=Z,546nm,19.0s						
MMRI	**Maumere**	**117.36**	**46**	IAMs_20	IAMs_20	08 22 23.2	
	comp=Z,484nm,22.0s						
SOEI	**Soe**	**119.04**	**45**	IAMs_20	IAMs_20	08 26 13.7	
	comp=Z,670nm,21.0s						
PPT2	**Papeete2**	**123.25**	**302**	*e*SS	SS	07 45 26.3	+3.1
	comp=Z,617nm,34.8s						
PPT2	**Papeete2**	**123.25**	**302**	*e*LR	LR	08 05 06.2	
	comp=Z,1µm,22.0s						
GIRL	**Giralia**	**127.57**	**61**	PKPdf	**PKPdf**	**07 27 03.8**	**-2.1**
COEN	**Coen**	**127.70**	**24**	IAMs_20	IAMs_20	08 24 47.1	
	comp=Z,430nm,20.0s						
TBI	**Tubuai**	**128.47**	**300**	*e*SS	SS	07 46 23.8	-4.7
	comp=Z,268nm,40.0s						
TBI	**Tubuai**	**128.47**	**300**	*e*LR	LR	08 07 30.4

MAW	Mawson	143.57	141	PKPdf	PKPdf	07 27 32.9	-1.2
BBOO	Buckleboo	144.25	40		PKPbc	07 27 34.9	+0.2
STKA	Stephens Creek	144.77	32	PKP	PKPab	07 27 35.5	-0.8
	comp=Z,5.0nm,0.8s,baz=318,slow=9.1,SNR=7.1						
STKA	Stephens Creek	144.77	32	PKPdf	PKPdf	07 27 36.4	-1.1
ARMA	Armidale	145.15	17		PKPdf	07 27 37.9	-0.3
CAN	Canberra	149.58	23	PKP2	PKiKP	07 27 50.2	-0.8
CAN	Canberra	149.58	23		PKiKP	07 27 50.2	-0.8
OUZ	Omahuta	149.91	342	PKPab	PKPab	07 27 54.7	-1.6
TOO	Toolangi	151.10	29	PKIKP	PKiKP	07 27 53.6	-0.5
TOO	Toolangi	151.10	29		PKiKP	07 27 53.5	-0.5
QSPA	South Pole Qui	154.47	180		PKPdf	07 27 51.8	+0.1
VNDA	Vanda	166.96	179	PKPab	PKPab	07 29 06.7	-2.1
	comp=Z,3.7nm,1.3s,baz=249,slow=2.4,SNR=6.3						
VNDA	Vanda	166.96	179	PKPab	PKPab	07 29 09.7	+0.9

*NNC **07** 07:14:34.0±2.6, 41°.72N×78°.28E, h0^km, mb3.5, mpv3.1, Error ellipse: s-maj=20.4km s-min=9.3km az=162.0, Suspected Mining explosion.*
*KRNET **07** 07:14:40.9±0.1, 41°.88N×77°.92E, h11^km, mb1.9*

ISC 07 07:14:34.1±2.4, 41°.7N±0°.1×78°.26E±0°.05, h0^km, n14, σ1§12/18, 12C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.75	8	↑iP	Pn	07 14 54.7	+2.5
	baz=31						
PRZ				↑iS	Sn	07 15 04.7	+0.3
	baz=31						
KDJ	Kajisay	0.90	296	↓iP	Pb	07 14 52.5	-0.2
	baz=95						
KDJ				↓iS	Sg	07 15 01.1	-1.9
	baz=95						
ANVS	Anan'yevo	1.13	337	↑iP	Pn	07 14 58.6	+1.1
	baz=48						
ANVS				↑iS	Sb	07 15 11.8	-0.4
	baz=48						
PDGK	Podgornoye	1.83	29	↑P	Pn	07 15 06.3	-0.7
	1.0nm,0.3s						
PDGK				↑S	Sn	07 15 31.1	+0.2
	3.2nm,1.0s						
BOOM	Boomskoye usch	1.89	294	↑iP	Pg	07 15 11.1	+0.8
	baz=93						
BOOM				↑iS	Sb	07 15 32.9	-0.8
	baz=93						
TKM2	Tokmak 2	2.30	302	↑Pg	Pb	07 15 16.5	-0.2
	1.6nm,0.2s						
TKM2				↓Lg	Lg	07 15 45.2	
	2.5nm,0.4s						
CHKK	Chushkaly	2.31	337	Pg	Pb	07 15 17.4	+0.6
	14nm,0.4s						
CHKK				Lg	Lg	07 15 48.1	
	8.9nm,0.3s						
MNBS	Baschi	2.34	2	Pg	Pb	07 15 17.9	+0.6
	2.8nm,0.2s						
MNBS				Lg	Lg	07 15 48.9	
	11nm,0.2s						
ARXS	Arharly	2.50	353	Pg	Pb	07 15 20.0	+0.1
	14nm,0.3s						
ARXS				Lg	Lg	07 15 52.8	
	5.5nm,0.3s						
DJR	Jarkent	2.82	23	Pg	Pb	07 15 26.3	+0.8
	2.6nm,0.2s						
DJR				Lg	Lg	07 16 03.7	
	5.2nm,0.3s						
MAKZ	Makanchi	5.73	26	↑Pg	Pg	07 16 21.8	-2.1
	2.4nm,0.8s						
MK31	Makanchi Array	5.82	28	↓Lg	Lg	07 17 20.3	
	5.1nm,0.5s,baz=327,slow=28,SNR=5.0						
MK31	Makanchi Array	5.82	28	↑Pn	Pb	07 16 16.5	0.0
	0.1nm,0.2s,baz=324,slow=10,SNR=22						
MK31	Makanchi Array	5.82	28	↑Pg	Pg	07 16 26.0	+0.3
	1.4nm,0.5s,baz=328,slow=15,SNR=10						

NNC 07 07:15:13.8±0.4, 50°.13N×79°.09E, h0^km, mb3.0, mpv2.8, 11C-9D, Error ellipse: s-maj=7.8km s-min=1.9km az=57.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR14	Kurchatov Arra	0.58	327	↑P	Pg	07 15 25.4	+0.4
KUR14				↑S	Sb	07 15 34.2	-1.5
KUR07	Kurchatov Arra	0.59	321	↑P	Pg	07 15 25.0	0.0
KUR07				↓S	Sg	07 15 33.8	+1.1
KUR15	Kurchatov Arra	0.60	326	↓P	Pg	07 15 25.5	+0.2
KUR15				↑S	Sg	07 15 34.5	+1.5
KUR06	Kurchatov Arra	0.60	323	↑P	Pg	07 15 25.3	0.0
KUR06				↓S	Sg	07 15 34.3	+1.2
KURBB	Kurchatov Arra	0.61	324	↑P	Pg	07 15 25.8	+0.2
	19nm,0.4s						
KURBB				↓S	Sg	07 15 34.5	+1.0
	158nm,0.6s						
KUR05	Kurchatov Arra	0.63	326	↓P	Pg	07 15 26.2	+0.4
KUR05				↑S	Sg	07 15 35.1	+1.1
KUR16	Kurchatov Arra	0.63	323	↓P	Pg	07 15 25.9	0.0
KUR16				↑S	Sg	07 15 34.6	+0.6
KUR04	Kurchatov Arra	0.64	327	↓P	Pg	07 15 26.4	+0.3
KUR04				↓S	Sg	07 15 35.3	+0.9
KUR17	Kurchatov Arra	0.65	322	↓P	Pg	07 15 26.1	0.0
KUR17				↑S	Sg	07 15 34.7	+0.3
KURK	Kurchatov	0.66	333	↑P	Pg	07 15 27.0	+0.5
	16nm,0.6s						
KURK				↑S	Sg	07 15 35.8	+0.8
	33nm,0.7s						

*IDC **07** 07:27:14.2±1.5, 19°.11S×177°.72W, h552^km±18^km, mb2.8/7, mb1 3.2/9, mb1mx3.0/33, mbtmp3.9/9, Error ellipse: s-maj=21.3km s-min=12.3km az=144.0*
*NEIC **07** 07:27:15.5±2.2, 19°.2S±0°.1×177°.7W±0°.1, h556^km±7^km, mb4.6/9, Error ellipse: s-maj=20.3km s-min=18.4km az=127.0*

ISC 07 07:27:14.2±0.5, 19°.07S±0°.09×177°.74W±0°.08, h550^km, n28, σ1§19/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.21	288	P	P	07 28 44.0	+6.2
NIUE	Niue	7.39	91	P	P	07 29 07.4	+1.5
NIUE				S	S	07 30 37.8	+0.2
AFI	Afiamalu	7.68	49	P	P	07 29 09.5	+0.5
	6.4nm,0.3s,baz=270,slow=1.5,SNR=11						
AFI				S	S	07 30 41.5	-1.5
	9.6nm,0.3s,baz=223,slow=22,SNR=7.0						
AFI	Afiamalu	7.68	49	P	P	07 29 10.0	+1.0
AFI					S	07 30 42.2	-0.7
RAO	Raoul Island	10.14	181	P	P	07 29 32.8	-0.6
DZM	Mont Dzumac	15.11	256	P	P	07 30 24.1	-0.8
DZM				IAmb	IAmb	07 31 18.6	
	comp=Z,32nm,1.4s						
URZ	Urewera	19.64	192	P	P	07 31 04.5	-2.3
	comp=Z,1.1nm,0.3s,baz=352,slow=3.2,SNR=6.6						
URZ	Urewera	19.64	192	P	P	07 31 04.6	-2.3
WHZ	Wether Hill Ro	29.25	201	P	P	07 32 33.2	+1.3
CTA	Charters Tower	33.90	262	P	P	07 33 11.2	-0.8
	comp=Z,1.7nm,0.5s,baz=78,slow=17,SNR=1.9						
CTAO	Charters Tower	33.90	262	P	P	07 33 14.0	+2.1
CTAO				IAmb	IAmb	07 34 47.2	
	comp=Z,31nm,1.6s						
COEN	Coen	37.76	272	P	P	07 33 46.7	+2.7
COEN				IAmb	IAmb	07 35 19.7	
	comp=Z,25nm,1.4s						
WRA	Warramunga Arr	45.05	261	P	P	07 34 41.9	+0.3
	comp=Z,0.7nm,0.6s,baz=96,slow=8.5,SNR=5.7						
WRA				PcP	PcP	07 36 11.2	+0.4
	comp=Z,0.4nm,0.5s,baz=98,slow=3.4,SNR=3.1						
WRA				S	S	07 40 40.3	-0.6
	comp=Z,0.4nm,0.8s,baz=94,slow=14,SNR=2.5						
ASAR	Alice Springs	45.10	255	P	P	07 34 43.0	+1.1
	comp=Z,1.5nm,0.8s,baz=89,slow=8.7,SNR=15						
ASAR				PcP	PcP	07 36 10.5	-0.4
	comp=Z,0.8nm,0.7s,baz=107,slow=4.0,SNR=5.4						
ASAR				S	S	07 40 39.3	-2.2
	comp=Z,0.7nm,0.7s,baz=90,slow=15,SNR=5.8						
VNDA	Vanda	59.35	185	P	P	07 36 23.5	+0.4
	comp=Z,0.9nm,0.7s,baz=354,slow=4.5,SNR=9.0						
VNDA	Vanda	59.35	185	P	P	07 36 23.4	+0.3
QSPA	South Pole Qui	71.00	180	P	P	07 37 37.1	+0.6
NVAR	Mina Array Bea	79.82	43	P	P	07 38 25.2	-0.9
	comp=Z,0.2nm,0.6s,baz=224,slow=3.4,SNR=3.4						
TXAR	Lajitas Array	86.08	57	P	P	07 38 56.7	-0.7
	comp=Z,0.4nm,0.7s,baz=214,slow=7.3,SNR=3.8						
CCB	Clear Creek Bu	86.57	12	P	P	07 38 59.4	+0.6
CCB				IAmb	IAmb	07 40 00.2	
	comp=Z,14nm,2.0s						
ILAR	Eielson Array	86.87	13	P	P	07 39 00.1	0.0
	comp=Z,0.2nm,0.6s,baz=227,slow=5.9,SNR=4.5						
SNAA	Sanae	89.43	178	P	P	07 39 12.0	-0.3
SNAA				IAmb	IAmb	07 41 40.5	
	comp=Z,14nm,1.8s						
SCHQ	Schefferville	117.40	37	PKP	PKiKP	07 44 57.7	+0.4
	comp=Z,2.7nm,0.6s,baz=280,slow=17,SNR=2.8						
ARCES	ARCESS Array B	127.56	350	PKP	PKPdf	07 45 15.8	-0.5
	comp=Z,1.9nm,0.8s,baz=357,slow=1.8,SNR=4.2						
BRTR	Keskin Array B	146.04	314	PKPbc	PKPbc	07 45 52.7	-0.5
	comp=Z,1.5nm,0.8s,baz=60,slow=3.3,SNR=4.0						
CLL	Collm	146.72	348	*i* PKPbc	PKPbc	07 45 55.1	+0.6
GERES	GERESS Array B	148.89	345	PKPbc	PKPbc	07 45 59.1	-1.1
	comp=Z,1.1nm,0.7s,baz=42,slow=2.2,SNR=10						
GERES	GERESS Array B	148.89	345	PKPbc	PKPbc	07 46 01.1	+0.9

*DJA **07** 07:45:27.5±1.2, 4°.5±9°.×10°.0E±°, h10^km, M4.3/7, mB5.5/1, mb4.8/1, MLv4.0/7, Mw(mB)5.0/1*
*IDC **07** 07:45:30.6±4.6, 4°.78S×100°.17E, h0^km, mb3.5/4, mb1 3.6/4, mb1mx3.3/48, mbtmp3.5/4, MS3.9/2, Ms1 3.9/2, ms1mx3.0/42, Error ellipse: s-maj=188.1km s-min=26.5km az=55.0*

ISC 07 07:45:30.4±1.4, 4°.46S±0°.10×100°.04E±0°.10, h10^km, n24, σ2§55/14, mb3.5/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	1.69	359	P	Pn	07 45 54.6	-5.3
PPSI				S	Sg	07 46 24.0	-0.7
MASI	Maura Aman, Be	2.56	59	P	Pn	07 46 09.1	-2.9
KSI	Kapahiang	2.67	73	P	Pb	07 46 19.0	+0.6
MNAI	Manna	2.91	88	P	Pn	07 46 13.6	-3.2
LHSI	Lahat	3.53	80	P	Pb	07 46 30.9	-2.1
PDSI	Padang	3.55	7	P	Pn	07 46 26.6	+1.0
SDSI	Sungai Dareh	3.77	22	P	Pn	07 46 25.7	-2.9
MDSI	Maura Dua	4.13	90	P	Pb	07 46 43.8	+0.6
KLSI		4.68	93	P	Pg	07 47 01.9	+1.7
GSI	Gunungsitoli	6.23	337	P	Pn	07 46 58.2	-4.3
H08S2	Diego Garcia H	27.57	262	T	T	08 20 54.5	
	baz=83,slow=75,SNR=52						
H08S3	Diego Garcia H	27.58	262	T	T	08 20 49.3	
	baz=83,slow=75,SNR=16						
H08S1	Diego Carcia H	27.59	262	T	T	08 20 50.2	
	baz=83,slow=75,SNR=20						
H01W3	Cape Leeuwin H	32.97	158	T	T	08 27 33.5	
	baz=336						
H01W2	Cape Leeuwin H	32.98	158	T	T	08 27 37.0	
	baz=336						
H01W1	Cape Leeuwin H	32.98	158	T	T	08 27 38.4	
	baz=336						
WRA	Warramunga Arr	36.77	118	P	P	07 52 38.1	-0.4
	0.4nm,0.8s,baz=288,slow=8.2,SNR=2.5						
ASAR	Alice Springs	37.83	124	P	P	07 52 47.4	-0.1
	0.2nm,0.3s,baz=291,slow=7.8,SNR=4.1						
PMG	Port Moresby	47.00	99	LR	LR	08 16 50.1	
	comp=Z,116nm,20.6s,baz=300,slow=40						
SONM	Songino Array	52.38	5	P	P	07 54 46.8	+4.0
	1.4nm,0.8s,baz=180,slow=8.9,SNR=5.4						
MKAR	Makanchi Array	53.40	345	P	P	07 54 55.6	+5.3
	0.5nm,0.7s,baz=153,slow=8.2,SNR=4.5						
ATD	Arta Tunnel	59.06	286	LR	LR	08 16 30.5	
	comp=Z,105nm,21.1s,baz=262,slow=31						
NVAR	Mina Array Bea	131.45	41	PKhKP	PKPpre	08 04 26.5	
	0.1nm,0.3s,baz=225,slow=2.4,SNR=2.0						
TXAR	Lajitas Array	146.59	40	PKPbc	PKPbc	08 05 12.7	-0.4
	0.5nm,0.6s,baz=284,slow=1.0,SNR=6.4						

IDC 07 08:07:35.5±2.2, 3°.77S×150°.11E, h0^km, mb3.4/4, mb1 3.7/4, mb1mx3.4/34, mbtmp3.4/4, Error ellipse: s-maj=133.5km s-min=31.5km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.25	222	P	P	08 12 35.0	+0.8
	0.8nm,0.9s,baz=48,slow=10,SNR=2.0						
ASAR	Alice Springs	25.23	217	P	P	08 13 02.8	-0.5
	0.4nm,0.8s,baz=50,slow=8.6,SNR=3.5						
FITZ	Fitzroy Crossi	27.87	237	P	P	08 13 26.9	-0.3
	0.6nm,0.5s,baz=72,slow=11,SNR=1.8						
ILAR	Eielson Array	82.23	23	P	P	08 19 58.6	+0.2
	0.3nm,0.9s,baz=247,slow=6.7,SNR=2.1						

IDC 07 08:10:21.9±7.2, 16°.55S×75°.50W, h75^km±57^km, mb3.4/2, mb1 3.6/3, mb1mx3.2/26, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=89.1km s-min=37.6km az=23.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.08	89	P	Pn	08 12 04.6	+1.1
	0.3nm,0.3s,baz=289,slow=7.3,SNR=21						
LPAZ				S	Sn	08 13 22.2	-0.6
	baz=255,slow=24,SNR=1.1						
H03N1	Juan Fernandez	17.10	190	T	T	08 33 12.7	
	baz=12,slow=74,SNR=538						
H03N2	Juan Fernandez	17.10	190	T	T	08 33 11.9	
	baz=12,slow=74,SNR=424						
H03N3	Juan Fernandez	17.11	190	T	T	08 33 11.8	
	baz=12,slow=74,SNR=366						
TXAR	Lajitas Array	53.11	329	P	P	08 19 31.5	-0.6
	0.2nm,0.7s,baz=139,slow=8.4,SNR=2.2						
TORD	Torodi Ar. Bea	81.78	74	P	P	08 22 33.7	+0.5
	2.2nm,0.9s,baz=264,slow=4.3,SNR=3.1						
H11N3	WAKE ISLAND Hyl	20.89	283	T	T	10 41 36.6	
	baz=97,slow=75,SNR=10						
H11N2	WAKE ISLAND Hyl	20.90	283	T	T	10 41 37.6	
	baz=97,slow=75,SNR=9.8						
H11N1	WAKE ISLAND Hyl	20.91	283	T	T	10 41 37.8	
	baz=97,slow=75,SNR=7.7						
H11S2	WAKE ISLAND Hyl	20.91	282	T	T	10 41 42.8	
	baz=99						
H11S1	WAKE ISLAND Hyl	20.91	282	T	T	10 41 45.1	
	baz=99						
H11S3	WAKE ISLAND Hyl	20.92	282	T	T	10 41 43.7	
	baz=99						
WRA	Warramunga Arr	133.37	220	PKP	PKPdf	08 29 29.9	-0.4
	0.8nm,1.1s,baz=155,slow=2.1,SNR=2.4						

*IDC **07** 08:10:51.8±2.2, 48°.14S×99°.21E, h0^km, mb3.9/4, mb1 4.1/4, mb1mx3.8/37, mbtmp3.9/4, Error ellipse: s-maj=79.7km s-min=24.0km az=123.0*
*NEIC **07** 08:10:52.8±1.0, 48°.0S±0°.2×99°.1E±0°.2, h10^km±1^km, mb4.1/8, Error ellipse: s-maj=27.3km s-min=18.0km az=5.0*

ISC 07 08:10:52.7±1.0, 48°.1S±0°.2×99°.1E±0°.2, h10^km, n19, σ0§56/13, mb4.0/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	17.25	46	T	T	08 32 31.4	
	baz=215,slow=74						
H01W1	Cape Leeuwin H	17.27	46	T	T	08 32 31.9	
	baz=215						
H01W3	Cape Leeuwin H	17.27	46	T	T	08 32 33.6	
	baz=215,slow=74						
ASAR	Alice Springs	36.74	61	P	P	08 17 60.0	-0.3
	1.4nm,0.9s,baz=215,slow=7.1,SNR=6.8						
VNDA	Vanda	37.75	162	P	P	08 18 08.0	-0.2
	1.6nm,0.9s,baz=286,slow=9.1,SNR=11						
VNDA	Vanda	37.75	162	P	P	08 18 08.6	+0.5
VNDA				IAmb	IAmb	08 18 10.3	
	comp=Z,2.4nm,1.0s						
CAN	Canberra	38.70	90	P	P	08 18 16.0	-0.7
CAN				IAmb	IAmb	08 18 43.4	
	comp=Z,7.2nm,1.2s						
WRA	Warramunga Arr	39.90	58	P	P	08 18 27.6	+0.8
	comp=Z,2.2nm,1.0s,baz=215,slow=8.1,SNR=7.4						
WRA	Warramunga Arr	39.90	58	P	P	08 18 27.4	+0.6
WB2	Warramunga Arr	39.91	58	P	P	08 18 27.4	+0.5
WB2				IAmb	IAmb	08 18 29.6	
	comp=Z,4.0nm,1.0s						
WB0	Warramunga Arr	40.07	58	P	P	08 18 28.7	+0.4
QSPA	South Pole Qui	42.09	180	P	P	08 18 44.6	0.0
H08S2	Diego Garcia H	46.18	322	T	T	09 08 51.7	
	baz=155,slow=76,SNR=4.3						
H08S1	Diego Carcia H	46.19	322	T	T	09 08 52.4	
	baz=155,slow=76,SNR=7.0						
H08S3	Diego Garcia H	46.20	322	T	T	09 08 53.3	
	baz=155,slow=76,SNR=4.7						
SNAA	Sanae	48.74	204	P	P	08 19 36.7	-0.4
	comp=Z,2.3nm,1.0s,baz=114,slow=5.9,SNR=7.2						
SNAA	Sanae	48.74	204	P	P	08 19 37.5	+0.4
KMBO	Kilima Mbogo	70.70	291	P	P	08 22 08.8	-0.3
NVAR	Mina Array Bea	151.33	96	PKPbc	PKiKP	08 30 47.6	+0.7
	comp=Z,0.7nm,0.8s,baz=211,slow=5.7,SNR=5.0						

*TEH **07** 08:12:53.0, 36°.66N×54°.76E, h8^km, ML4.5*
*NEIC **07** 08:12:53.3±2.2, 36°.63N±0°.05×54°.80E±0°.05, h10^km±1^km, Error ellipse: s-maj=8.8km s-min=6.3km az=348.0*
*IDC **07** 08:12:53.6±0.8, 36°.88N×54°.79E, h0^km, mb4.0/22, mb1 4.1/32, mb1mx4.0/57, mbtmp4.0/32, ML3.8/9, MS3.5/5, Ms1 3.5/5, ms1mx3.0/49, Error ellipse: s-maj=16.3km s-min=10.3km az=3.0*
*THR **07** 08:12:55.9±0.8, 36°.56N×54°.83E, h16^km±7^km, ML4.5*
*MOS **07** 08:12:57.0±1.2, 36°.90N×54°.79E, h36^km, mb4.5/13, Error ellipse: s-maj=7.0km s-min=4.8km az=125.7*
*NNC **07** 08:12:59.3±6.6, 37°.36N×55°.19E, h0^km, mb4.3, Error ellipse: s-maj=58.2km s-min=26.5km az=28.0*

ISC 07 08:12:54.3±0.4, 36°.82N±0°.03×54°.86E±0°.03, h10^km, n256, σ1§92/268, mb4.2/42, 20C-15D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	Minoodasht	0.62	45	*e*Pg	Pb	08 13 07.6	+0.3
IMND	Minoodasht	0.62	45	Pg	Pb	08 13 07.6	+0.3
IGLO	Ghaloghah	0.88	249	*e*		08 13 32.6	
IGLO				*e*Pg	Pg	08 13 08.6	-2.8
SHRO	Shahrood	1.25	131	*e*Pg	Pb	08 13 16.5	-1.5
SHRO	Shahrood	1.25	131	*e*Pg	Pb	08 13 16.5	-1.5
SHRO	Shahrood	1.25	131		Pb	08 13 16.5	-1.5
IANJ	Anjilo	1.55	210	*e*Pg	Pn	08 13 19.6	-2.6
IANJ				*e*	Sn	08 13 39.5	-3.0
IANJ	Anjilo	1.55	210		Pn	08 13 19.6	-2.6
ISHM	Shahmirzad	1.62	232	*e*Pg	Pn	08 13 20.7	-2.5
ISHM				*e*		08 13 52.8	
ISHM	Shahmirzad	1.62	232		Pn	08 13 20.6	-2.6
IALA	Alasht	1.81	247	*e*Pg	Pn	08 13 25.3	-0.5
IALA				*e*	Sg	08 13 56.3	+3.8
IALA	Alasht	1.81	247		Pn	08 13 25.3	-0.5
IFIR	Firoozkooh	2.07	236	*e*Pg	Pn	08 13 29.2	-0.1
IFIR				*e*		08 13 38.1	
IFIR	Firoozkooh	2.07	236	Pg	Pn	08 13 29.2	-0.1
ILAS	Lasjerd	2.10	227	*e*	Sg	08 14 01.7	-0.2
IPRN	Peran	2.11	255	*e*Pn	Pn	08 13 30.1	+0.3
SBZV	Sabzevar	2.26	100	*e*Pn	Pb	08 13 34.1	-1.2
ISFR	Sfrayin	2.53	84	*e*Pn	Pb	08 13 38.7	-1.3
ISFR				*e*		08 14 34.3	
IDMV	Damavand	2.60	242	*e*Pn	Pn	08 13 35.7	-1.0
IDMV				*e*		08 13 44.8	
DAMV	Damavand	2.62	244	*e*Pn	Pn	08 13 38.7	+1.8
DAMV				*e*Sg	Sb	08 14 14.2	+0.4
DAMV				IAML		08 14 24.8	
	comp=E,1μm,0.6s						
DAMV	Damavand	2.62	244	*e*Pn	Pn	08 13 38.7	+1.8
GEYT	Alibeck	2.82	66	Pn	Pb	08 13 42.5	-2.3
	comp=E,26nm,0.3s,baz=252,slow=12,SNR=150						
GEYT				Lg	Lg	08 14 21.2	
	comp=E,24nm,0.3s,baz=246,slow=17,SNR=4.2						
GEYT	Alibeck	2.82	66		Pb	08 13 42.7	-2.2
GYA0	ALIBECK ARRAY	2.82	66	*e*Pn	Pb	08 13 42.0	+2.5
GYA0B	ALIBECK ARRAY	2.82	66	↓↓P	Pb	08 13 42.9	-1.9
GYA0B				↓↓Lg	Lg	08 14 16.1	
GYA0B	ALIBECK ARRAY	2.82	66		Pb	08 13 43.0	-1.9
IKRD	Kardeh	2.94	90	*e*Pn	Pg	08 13 56.2	+5.6
IKRD				*e*		08 15 11.9	
TEH	Tehran	3.01	250	*e*	Sg	08 14 37.7	+6.7
ASHT	Ashkhabad	3.02	67	P	Pb	08 13 46.4	-1.9
ASHT	Ashkhabad	3.02	67	*e*Pn	Pn	08 13 44.8	+2.5
ASHT	Ashkhabad	3.02	67	Pn	Pb	08 13 46.4	-1.9
IEMG	Emamgholi	3.09	78	*e*Pn	Pb	08 13 46.8	-2.8
IEMG				*e*		08 14 56.2	
IVRN	Varamin	3.12	235	*e*Pn	Pn	08 13 43.5	-0.2
IVRN				*e*		08 14 30.9	
IAKL	Akhelmad	3.14	93	*e*Pn	Pn	08 13 46.3	+2.2
IAKL				*e*		08 14 43.7	
TNSJ	Nastanj	3.19	153	*e*Pn	Pn	08 13 44.3	-0.3
IHSB	Hasanabad	3.21	246	*e*Pn	Pn	08 13 45.1	+0.2
IHSB				*e*		08 13 54.7	
THKV	Tehran--Karaj	3.33	255	IAML		08 14 20.7	
	comp=N,598nm,0.6s						
IPAY	Payeh	3.35	95	*e*Pn	Pn	08 13 49.8	+2.8
IPAY				*e*		08 14 55.4	
QALM	Alamut, Qazvin	3.41	265	*e*Pn	Pn	08 13 48.6	+0.8
KRSH	Karshahi	3.61	219	*e*Pn	Pn	08 13 48.8	-1.7
IQOM	Qom	3.66	238	*e*Pn	Pn	08 13 50.1	-1.1
TABS	Tabas	3.67	149	*e*Pn	Pn	08 13 51.2	0.0
TABS	Tabas	3.67	149	*e*Pn	Pn	08 13 51.2	0.0
TKDS	Koohdasht(Taba	3.70	149	*e*Pn	Pn	08 13 51.5	-0.1
TKDS				*e*		08 15 01.1	
GHVR	GHOM	3.72	232	IAML		08 15 12.5	
	comp=E,1μm,0.9s						
ANAR	Anarak	3.74	195	*e*Pn	Pn	08 13 50.0	-2.2
TPRV	Parvadeh(Tabas	4.07	158	*e*Pn	Pn	08 13 56.3	-0.4
TPRV				*e*		08 15 12.7	
QAM	Ghamsar	4.14	223	*e*Pn	Pn	08 13 56.0	-1.8
IRAZ	Razeghan	4.23	252	*e*Pn	Pn	08 14 00.0	+0.9
IMYA	Miami	4.25	95	*e*Pn	Pn	08 14 02.6	+3.3
IMYA				*e*		08 15 33.9	
QABG	Abgarm-Qazvin	4.40	257	*e*Pn	Pn	08 14 01.8	+0.4
IKLH	Kolahrood	4.41	219	*e*Pn	Pn	08 13 59.5	-2.0
YZKH	Yazd	4.42	183	*e*Pn	Pn	08 14 00.8	-0.7
YZKH	Yazd	4.42	183	*e*Pn	Pn	08 14 00.9	-0.

IMRD Marand 7.49 287 *e*Pn **Pn 08 14 45.3 +1.5**
MAK Makhachkala 8.34 320⇑ *e*P **Pn 08 14 58.9 +3.7**
MAK pmax pmax
comp=Z,136nm,1.1s
DBC Dubki 8.73 318 *de*P **Pn 08 15 03.0 +2.3**
TBLG Delisi 9.25 305 P **Pn 08 15 07.7 0.0**
TBLG Delisi 9.25 305 Pn **Pn 08 15 07.7 0.0**
GROC Groznyy 9.43 315 *e*P **Pn 08 15 09.4 -0.7**
GROC *e*S **Sn 08 16 55.4 -0.7**
GROC pmax pmax
comp=Z,19nm,0.5s
GENO Geno 9.46 173 *e*Pn **Pn 08 15 09.6 -1.2**
GEVA Gevas 9.48 283 Pn **Pn 08 15 09.0 -2.1**
GEVA Sn **Sn 08 16 57.5 -0.4**
AKH Akhalkalaki 9.95 301 P **Pn 08 15 15.9 -1.6**
AKH Akhalkalaki 9.95 301 Pn **Pn 08 15 15.8 -1.6**
ZEI Tsey 10.32 309 *e*P Pn 08 15 09.4 -13
MARD Mardin 11.26 277 Pn **Pn 08 15 33.4 -2.0**
KBZ Khabaz 11.44 311 Pn **Pn 08 15 38.2 +0.5**
comp=Z,0.4nm,0.3s,baz=129,slow=16,SNR=3.7
KBZ Sn **Sn 08 17 39.8 -5.7**
comp=Z,0.2nm,0.3s,baz=141,slow=20,SNR=1.3
KBZ Khabaz 11.44 311⇑ *e*P **Pn 08 15 40.8 +3.1**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
CHGR Chuyangaron 11.47 76 **Pn 08 15 38.0 -0.3**
KVAR Kislovodsk Arr 11.69 311 Pn **Pn 08 15 42.1 +0.9**
baz=48,slow=23,SNR=1.6
KVAR Sn Sn 08 17 43.9 -7.9
baz=255,slow=14,SNR=2.1
KIV Kislovodsk 11.69 311 *e*P **Pn 08 15 43.0 +1.8**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,83nm,11.0s
KIV Kislovodsk 11.69 311 Pn **Pn 08 15 40.7 -0.5**
UOSS Minazif 11.89 174 Pn **Pn 08 15 40.9 -3.1**
GAR Garm 12.40 75 **Pn 08 15 51.7 +0.6**
AB31 Akbulak array 12.97 15 ⇓P **Pn 08 15 56.4 -2.2**
comp=Z,0.9nm,0.3s,baz=196,slow=13,SNR=34
AB31 ⇓S **Sn 08 18 16.2 -6.7**
comp=Z,2.5nm,0.4s,baz=192,slow=22
ABKAR Akbulak array 12.97 15 **Pn 08 15 58.6 0.0**
SOC Sochi 13.39 305 *e*P **Pn 08 16 05.1 +0.8**
SOC *e* 08 18 35.3
SOC MLR MLR
comp=Z,199nm,11.0s
KK31 Karatay Array 13.54 58 P **Pn 08 16 04.9 -1.5**
comp=Z,2.9nm,0.6s,baz=243,slow=16,SNR=21
KK31 ⇓S **Sn 08 18 34.6 -2.3**
comp=Z,5.3nm,0.8s
KK31 Karatay Array 13.54 58 P **Pn 08 16 06.9 +0.5**
KK31 Karatay Array 13.54 58 **Pn 08 16 06.9 +0.5**
KKAR Karatay Array 13.54 58 P **Pn 08 16 07.1 +0.7**
KKAR Karatay Array 13.54 58 **Pn 08 16 06.9 +0.5**
KKAR Karatay Array 13.54 58 Pn **Pn 08 16 07.0 +0.7**
AKTO Aktyubinsk 13.80 9 Pn **Pn 08 16 06.9 -3.0**
comp=Z,0.9nm,0.3s,baz=172,slow=13,SNR=9.1
AKTO Sn Sn 08 18 32.4 -11
comp=Z,0.3nm,0.3s,baz=167,slow=22,SNR=2.0
AKTO LR LR 08 23 00.6
comp=Z,282nm,19.1s,baz=160,slow=44
AKTO Aktyubinsk 13.80 9 ⇓P **Pn 08 16 09.0 -0.9**
comp=Z,6.6nm,0.7s
AKTO ⇓S **Sn 08 18 36.3 -6.8**
comp=Z,5.1nm,0.6s
ASF Jabal al Asfar 15.51 258 Pn **P 08 16 38.8 +1.1**
comp=Z,0.2nm,0.3s,baz=134,slow=21,SNR=4.7
AAK Ala-Archa 16.17 63 Pn **Pn 08 16 40.8 -1.0**
comp=Z,1.0nm,0.3s,baz=248,slow=5.5,SNR=14
AAK Sn **Sn 08 19 39.5 -1.8**
comp=Z,0.3nm,0.3s,baz=180,slow=21,SNR=1.5
AAK LR LR 08 24 15.4
comp=Z,145nm,20.1s,baz=176,slow=42
AAK Ala-Archa 16.17 63⇑ *e*P **Pn 08 16 41.6 -0.2**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 16.17 63 **Pn 08 16 41.4 -0.4**
MMAI Mount Meron Ar 16.40 262 Pn **Pn 08 16 43.9 -0.8**
baz=96,slow=10,SNR=1.4
KSH Kashi 16.82 74 P **Pn 08 16 45.3 -4.7**
KSH pP P 08 16 52.4 +0.2
KSH PP **PnPn 08 17 02.7 +3.3**
KSH S **Sn 08 19 52.7 -4.3**
KSH SS **SnSn 08 20 11.5 +1.5**
KSH PcP **PcP 08 21 42.3 +4.5**
KSH ScP **ScP 08 25 11.7 -0.8**
KSH Kashi 16.82 74 ScS ScS 08 28 50.0 -2.0
KSH pmax pmax
comp=Z,25nm,0.7s
KSH pmax pmax
comp=Z,160nm,4.9s
KSH LR LR
comp=N,570nm,7.8s
KSH LR LR
comp=E,510nm,7.8s
KSH LR LR
comp=Z,150nm,9.3s
BR131 Keskin Array S 16.91 286 P **Pn 08 16 48.6 -2.6**
BR131 pmax pmax
comp=Z,5.0nm,0.8s
BR131 Keskin Array S 16.91 286 **Pn 08 16 48.6 -2.6**
BRTR Keskin Array B 16.91 286 Pn **P 08 16 53.0 -0.2**
comp=Z,0.1nm,0.3s,baz=103,slow=10,SNR=2.7
BRTR Keskin Array B 16.91 286 P **P 08 16 53.0 -0.2**
BRTR Keskin Array B 16.91 286 **Pn 08 16 48.6 -2.6**
VRH Novokhopyorsk 17.16 331 *e*P **Pn 08 16 53.9 -0.2**
VRH pmax pmax
comp=Z,30nm,0.7s
BOOM Boomskoye usch 17.18 64 P **P 08 16 55.8 -0.4**
BOOM pmax pmax
comp=Z,31nm,1.5s
BOOM Boomskoye usch 17.18 64 P **P 08 16 55.8 -0.4**
BOOM IAmb IAmb 08 17 05.4
comp=Z,31nm,1.4s
ANTO Ankara 17.57 287 P **Pn 08 16 58.8 -0.5**
ANTO Ankara 17.57 287 P **Pn 08 16 58.8 -0.5**
EIL Elat 18.09 253 P **P 08 17 06.9 +0.7**
comp=Z,0.6nm,0.3s,baz=29,slow=5.8,SNR=5.2
EIL LR LR 08 25 22.4
comp=Z,99nm,18.1s,baz=64,slow=42
VSR Storozhevoye 18.23 327 *e*P **Pn 08 17 05.5 -1.8**
VSR pmax pmax
comp=Z,20nm,1.1s
LPSR Galich'ya Gora 19.35 330 *e*P **P 08 17 20.0 +0.3**
LPSR pmax pmax
comp=Z,70nm,0.8s
BRVK Borovoye 19.50 29⇑ *e*P **Pn 08 17 23.7 +1.1**
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 19.50 29 **P 08 17 21.6 +0.2**
BVAR Borovoye Array 19.51 29 P **Pn 08 17 23.0 +0.2**
comp=Z,1.1nm,0.3s,baz=209,slow=12,SNR=23
BVAR Borovoye Array 19.51 29 P **Pn 08 17 23.0 +0.2**
ARU Arti 19.77 6 P **P 08 17 24.2 -0.2**
comp=Z,0.0nm,0.3s,baz=168,slow=6.4,SNR=11
ARU LR LR 08 26 18.6
comp=Z,138nm,20.9s,baz=186,slow=41
ARU Arti 19.77 6 *c i*P **Pn 08 17 25.8 -0.1**
ARU pmax pmax
comp=Z,19nm,0.8s
ARU Arti 19.77 6 P **P 08 17 25.1 +0.7**
ARU IAmb IAmb 08 17 30.8
comp=Z,21nm,0.8s
ELL Elmali 19.97 277 P **P 08 17 23.9 -2.9**
ELL pmax pmax
comp=Z,58nm,1.0s
ELL Elmali 19.97 277 P **P 08 17 23.9 -2.9**
TLCR 21.29 301 ⇓P **P 08 17 41.9 +1.0**
TOPG Topolog 21.52 300 ⇑P **P 08 17 45.4 +2.1**
CFR Carcaliu 21.75 301 ⇑P **P 08 17 48.5 +2.6**
HARR Harsova 21.79 300 ⇑P **P 08 17 48.6 +2.3**
KURBB Kurchatov Arra 21.86 43 P **P 08 17 46.9 0.0**
comp=Z,1.7nm,0.5s,baz=243,slow=10.0,SNR=7.6
KURK Kurchatov 21.95 43 *de*P **P 08 17 50.0 +2.1**
KURK pmax pmax
comp=Z,16nm,1.6s
KURK Kurchatov 21.95 43 P **P 08 17 49.3 +1.4**
KURK IAmb IAmb 08 17 54.0
comp=Z,6.3nm,0.8s
KIRV Kirov 22.07 352 P **P 08 17 49.2 +0.1**
comp=Z,22nm,0.7s,baz=346,slow=6.7,SNR=8.6
KIRV LR LR 08 27 39.1
comp=Z,146nm,18.8s,baz=163,slow=40
OBN Obninsk 22.16 331 P **P 08 17 50.7 +0.6**
comp=Z,7.5nm,0.3s,baz=68,slow=3.2,SNR=5.2
OBN Obninsk 22.16 331 *d i*P **P 08 17 51.2 +1.1**
OBN *i* 08 18 03.3
OBN *i* 08 18 18.5
OBN pmax pmax
comp=Z,18nm,0.8s
OBN Obninsk 22.16 331 P **P 08 17 50.9 +0.8**
MOS Moscow 22.24 334 *e*P **P 08 17 51.2 +0.2**
MOS *e* 08 18 09.2
MOS *e*S **S 08 21 54.6 -1.0**
MOS pmax pmax
comp=Z,31nm,0.9s
MAKZ Makanchi 22.44 55 P **P 08 17 52.9 -0.4**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
MAKZ Makanchi 22.44 55 P **P 08 17 52.9 -0.4**
MAKZ IAmb IAmb 08 18 05.7
comp=Z,8.6nm,1.1s
SORM Soroca 22.47 309 ⇑P **P 08 17 53.7 +0.2**
MK31 Makanchi Array 22.64 55 P **P 08 17 55.4 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 22.64 55 P **P 08 17 55.4 -0.1**
MKAR Makanchi Array 22.64 55 P **P 08 17 56.6 +1.1**
comp=Z,2.3nm,0.9s,baz=246,slow=7.3,SNR=11
MKAR Makanchi Array 22.64 55 P **P 08 17 56.7 +1.2**
VRI Vrincioaia 22.87 302 ⇑P **P 08 17 58.9 +1.0**
PLOR Plostina 22.92 302 ⇑P **P 08 18 01.0 +2.6**
AKASG Malin Array Be 22.99 315 P **P 08 17 59.4 +0.5**
comp=Z,5.0nm,0.7s,baz=118,slow=10,SNR=12
AKASG Malin Array Be 22.99 315 P **P 08 17 58.2 -0.7**
AKBB Malin Array Si 22.99 315 P **P 08 17 59.7 +0.8**
AKBB pmax pmax
comp=Z,14nm,0.9s
AKBB Malin Array Si 22.99 315 P **P 08 17 59.7 +0.8**
AKBB IAmb IAmb 08 18 05.4
comp=Z,14nm,0.9s
TESR Tescani 23.08 304 ⇑P **P 08 18 01.0 +1.0**
MLR Muntele Rosu 23.33 301 P **P 08 18 03.3 +0.7**
comp=Z,7.0nm,0.9s,baz=166,slow=4.2,SNR=3.8
MLR Muntele Rosu 23.33 301 ⇑P **P 08 18 05.7 +3.0**
MLR Muntele Rosu 23.33 301 P **P 08 18 02.8 +0.1**
MLR pmax pmax
comp=Z,13nm,1.0s
MLR Muntele Rosu 23.33 301 P **P 08 18 02.8 +0.1**
MLR IAmb IAmb 08 18 19.9
comp=Z,13nm,1.0s
VOIR 23.94 300 ⇓P **P 08 18 10.3 +1.8**
ARR Arges 24.21 300 ⇓P **P 08 18 13.8 +2.7**
BURAR Bucovina Array 24.32 306 P **P 08 18 12.6 +0.5**
BUR08 Bucovina Ar. S 24.33 306 P **P 08 18 12.6 +0.3**
BUR08 IAmb IAmb 08 18 17.1
comp=Z,5.8nm,1.0s
LOT Lotru 24.83 300 ⇑P **P 08 18 19.0 +2.2**
PRGR Permogore 25.51 350 *e*P **P 08 18 22.8 +0.3**
WMQ Urumqi 25.88 64 *e*P **P 08 18 28.8 +2.6**
KLMR Klimovskoe 25.95 343 *e*P **P 08 18 27.9 +1.3**
KLMR pmax pmax
comp=Z,16nm,1.1s
KLMR Klimovskoe 25.95 343 *e*P **P 08 18 27.9 +1.3**
KLMR AMP 08 18 33.3
comp=Z,16nm,1.1s
MDVR Moldovita 26.18 298 ⇓P **P 08 18 30.8 +1.8**
BZS Buzias 26.35 300 ⇓P **P 08 18 33.2 +2.8**
SIRR Siria 26.41 301 ⇑P **P 08 18 34.1 +3.1**
KOLS Kolonicke sedl 26.56 307 *e*P **P 08 18 35.7 +3.4**
KOLS Kolonicke sedl 26.56 307 *e*P **P 08 18 35.7 +3.4**
DGZ Jazzator, Alta 26.76 51⇑ *e*P **P 08 18 35.1 +0.8**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
ZALV Zalesovo Beam 26.84 41 P **P 08 18 35.1 +0.3**
comp=Z,0.4nm,0.3s,baz=250,slow=12,SNR=1.4
CRVS Cervenica-Dubn 27.07 307 *e*P **P 08 18 41.4 +4.5**
CRVS Cervenica-Dubn 27.07 307 *e*P **P 08 18 41.4 +4.5**
DIVS Divibare 27.35 296 P **P 08 18 39.2 -0.4**
DIVS IAmb IAmb 08 18 44.0
comp=Z,6.2nm,0.9s
OJC Ojcow 28.44 309 P **P 08 18 47.8 -1.4**
OJC pmax pmax
comp=Z,9.0nm,1.0s
OJC Ojcow 28.44 309 P **P 08 18 47.8 -1.4**
OJC IAmb IAmb 08 18 53.8
comp=Z,8.8nm,1.0s
VYHS Vyhne 28.68 305 *e*P **P 08 18 53.2 +1.9**
VYHS Vyhne 28.68 305 *e*P **P 08 18 53.2 +1.9**
FINES FINESS Array B 30.54 333 P **P 08 19 08.4 +0.8**
comp=Z,1.7nm,0.9s,baz=137,slow=8.3,SNR=9.1
DPC Dobruska-Polom 30.65 308 *e*P **P 08 19 13.0 +4.3**
DPC Dobruska-Polom 30.65 308 *e*P **P 08 19 13.0 +4.3**
OSTC Ostas 30.75 309 *e*P **P 08 19 14.2 +4.6**
CHVC Chvalec 30.86 309 *e*P **P 08 19 13.4 +2.8**
VAE Valguarnera 32.07 284 P **P 08 19 22.6 +1.2**
comp=Z,3.3nm,0.4s,baz=99,slow=19,SNR=1.7
GERES GERESS Array B 32.10 305 P **P 08 19 22.1 +0.5**
comp=Z,0.5nm,0.7s,baz=100,slow=7.3,SNR=6.9
BRG Berggiesshubel 32.23 309 *e*P **P 08 19 26.6 +4.0**
comp=Z,4.8nm,1.0s
MURB Monte Urbino 32.77 295 P **P 08 19 28.2 +0.7**
CLL Collm 32.89 310 *i*P **P 08 19 33.1 +4.7**
comp=Z,6.0nm,1.0s
CLL Collm 32.89 310 P **P 08 19 28.2 -0.2**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 32.89 310 P **P 08 19 28.1 -0.2**
CLL IAmb IAmb 08 19 34.5
comp=Z,4.0nm,0.8s
DAVOX Davos/Dischmat 34.55 301 P **P 08 19 44.0 +0.9**
comp=Z,1.5nm,0.6s,baz=348,slow=12,SNR=3.8
HFS Hagfors 35.02 325 P **P 08 19 45.3 -1.5**
comp=Z,1.2nm,0.7s,baz=80,slow=7.9,SNR=2.2
GTA Gaotai 35.19 72 *e*P **P 08 19 50.8 +2.1**
GTA pP sP 08 19 55.5 +2.4
GTA sP pP 08 19 58.3 +6.5
GTA pmax pmax
comp=Z,4.0nm,0.6s
SENIN Lac Senin/Sane 36.34 300 P **P 08 19 56.5 -2.1**
SENIN IAmb IAmb 08 20 01.5
comp=Z,4.1nm,1.0s
ARCES ARCESS Array B 36.43 343 P **P 08 19 59.3 +0.5**
comp=Z,2.5nm,0.9s,baz=121,slow=9.6,SNR=2.1
NB2 NORSAR Subarra 36.49 326 P **P 08 19 59.6 +0.1**
comp=Z,4.7nm,1.2s,baz=116,slow=8.6
NOA NORSAR Array B 36.49 326 P **P 08 19 59.7 +0.3**
comp=Z,0.5nm,0.9s,baz=114,slow=8.1,SNR=2.2
BNI Bardonecchia 36.85 298 P **P 08 20 02.4 -0.4**
BNI pmax pmax
comp=Z,10.0nm,1.2s
BNI Bardonecchia 36.85 298 P **P 08 20 02.4 -0.4**
BNI IAmb IAmb 08 20 12.7
comp=Z,9.6nm,1.2s
SSB Saint Sauveur 38.34 299 P **P 08 20 15.1 -0.2**
SSB pmax pmax
comp=Z,6.0nm,1.2s
SSB Saint Sauveur 38.34 299 P **P 08 20 15.1 -0.2**
SSB IAmb IAmb 08 20 23.2
comp=Z,5.7nm,1.2s
SONM Songino Array 38.99 57 P **P 08 20 20.6 -0.2**
comp=Z,0.3nm,0.3s,baz=256,slow=5.8,SNR=1.8
ULN Ulaanbaatar 39.43 57⇑ *e*P **P 08 20 26.9 +2.3**
ULN pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 42.70 103 P **P 08 20 53.2 +1.6**
comp=Z,5.8nm,0.8s,baz=302,slow=8.5,SNR=12
EKA Eskdalemuir Ar 42.90 315 P **P 08 20 52.9 +0.1**
comp=Z,1.3nm,0.5s,baz=100,slow=8.4,SNR=7.2
BOD Bodaibo 43.59 42 *e*P **P 08 20 59.7 +1.4**
BOD pmax pmax
comp=Z,4.0nm,1.8s
HHC Hu-ho-hao-te 43.70 67 *e*P **P 08 21 01.0 +1.4**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,150nm,7.1s
ESDC Sonseca Array 45.56 292 P **P 08 21 13.3 -1.1**
comp=Z,1.9nm,0.9s,baz=63,slow=7.8,SNR=13
ESDC Sonseca Array 45.56 292 P **P 08 21 12.9 -1.5**
WHN Wuhan 49.22 79 P **P** 08 21 51.6 +8.7
BORG Borgarnes 51.59 328 P **P 08 21 59.4 -0.9**
BORG pmax pmax
comp=Z,42nm,1.3s
BORG Borgarnes 51.59 328 P **P 08 21 59.4 -0.9**
TORD Torodi Ar. Bea 52.88 258 P **P 08 22 11.0 +0.4**
comp=Z,1.3nm,0.8s,baz=51,slow=6.0,SNR=1.9
TORD Torodi Ar. Bea 52.88 258 P **P 08 22 09.0 -1.6**
KS19 Wonju Array Si 56.76 65 P **P 08 22 37.9 -0.5**
KSAR Wonju Array Be 56.79 65 P **P 08 22 37.7 -1.0**
KSAR Wonju Array Be 56.79 65 P **P 08 22 37.7 -1.0**
KSRS Korea Array 56.81 65 P **P 08 22 39.1 +0.3**
comp=Z,2.6nm,0.7s,baz=282,slow=6.5,SNR=24
TJN Taejon 56.84 67⇑ *e*P **P 08 22 41.0 +2.0**
COLA College 77.08 10⇑ *e*P **P 08 24 47.9 +0.6**
COLA pmax pmax
comp=Z,9.0nm,2.7s
WRA Warramunga Arr 93.70 112 P **P 08 26 12.7 +1.2**
comp=Z,0.3nm,0.5s,baz=322,slow=4.3,SNR=2.3
ASAR Alice Springs 95.65 115 P **P 08 26 21.2 +0.9**
comp=Z,0.5nm,1.0s,baz=317,slow=4.2,SNR=2.8

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*ISN **07** 08:38:39.0±1.4, 33°.62N×45°.71E, h1km±6km, ML3.0*
*TEH **07** 08:38:41.6, 33°.78N×45°.55E, h27km, ML3.3*
ISC 07 08:38:41.6±0.9, 33°.62N±0°.03×45°.70E±0°.04, h10km, n21, σ1§55/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.54**	**159**	*e*Pg	**Pg**	**08 38 51.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**08 38 58.0**	**-1.2**
IBDR				AML	AML	08 39 07.7	
	comp=N,236nm,0.3s						
IBDR				AML	AML	08 39 13.1	
	comp=E,129nm,0.4s						
IGHG	**Ghaleghazi**	**1.02**	**45**	*e*Pg	**Pg**	**08 39 00.4**	**-0.8**
IGHG				*e*		08 39 19.8	
BHD	**Baghdad**	**1.15**	**253**	*e*Pg	**Pb**	**08 39 02.0**	**-1.6**
BHD				*e*Sg	**Sn**	**08 39 21.0**	**+1.4**
BHD				AML	AML	08 39 26.1	
	comp=E,2μm,0.6s						
IDHR	**Dehrash**	**1.22**	**28**	*e*		08 39 24.4	
IDHR				*e*Pg	**Pb**	**08 39 03.6**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.30**	**59**	*e*		08 39 28.9	
KCHF				*e*Pg	**Pg**	**08 39 06.1**	**-0.4**
IVIS	**Veis**	**1.32**	**46**	*e*Sg	**Sg**	**08 39 24.9**	**+0.8**
IVIS				*e*Pg	**Pn**	**08 39 05.6**	**-0.6**
IVIS				*e*		08 39 27.5	
KER	**Kermanshah**	**1.42**	**57**	*e*Pg	**Pg**	**08 39 08.4**	**-0.4**
IKOM	**Komasi**	**1.61**	**69**	*e*Pg	**Pg**	**08 39 11.7**	**-0.8**
IKOM				*e*		08 39 13.5	
DHL1	**Dehloran**	**1.62**	**125**	*e*Pg	**Pg**	**08 39 15.1**	**+2.4**
ILIN	**Lien**	**1.67**	**39**	*e*Pg	**Pb**	**08 39 12.0**	**-0.6**
ILIN				*e*		08 39 35.9	
IBZA	**Bozab**	**1.99**	**64**	*e*Pn	**Pb**	**08 39 16.8**	**-1.2**
IBZA				*e*		08 39 19.3	
IDOB	**Doab**	**2.07**	**85**	*e*Pn	**Pb**	**08 39 18.0**	**-1.5**
IKMR	**Kamar-syah**	**2.24**	**92**	*e*Pn	**Pb**	**08 39 20.4**	**-1.8**
IKMR				*e*		08 40 02.3	
IALM	**Almabolaq**	**2.39**	**58**	*e*Pn	**Pb**	**08 39 22.7**	**-2.3**
HSAM	**Samen**	**2.49**	**75**	*e*Pn	**Pb**	**08 39 23.9**	**-2.7**
BMDN	**Meydan**	**2.61**	**88**	*e*Pn	**Pn**	**08 39 25.5**	**+1.5**
BMDN				*e*		08 40 09.2	
NSR	**Nassriya**	**2.62**	**172**	*e*Pn	**Pn**	**08 39 24.0**	**0.0**
NSR				*e*Sn	**Sn**	**08 39 58.0**	**+2.1**
NSR				AML	AML	08 40 03.9	
	comp=E,716nm,0.4s						
HSRG	**Sareghieh**	**2.68**	**52**	*e*Pn	**Pn**	**08 39 26.8**	**+1.7**
HSRG				*e*		08 40 10.2	
MSL	**Mosul**	**3.50**	**323**	*e*Pn	**Pn**	**08 39 37.0**	**+1.0**
MSL				*e*Sn	**Sn**	**08 40 19.0**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.82**	**56**	*e*Pn	**Pn**	**08 39 40.7**	**0.0**
IRAZ	**Razeghan**	**3.92**	**62**	*e*Pn	**Pn**	**08 39 44.5**	**+2.4**

IDC 07 08:50:53.0±10.0, 18°.75S×178°.03W, h443km±107km, mb3.1/7, mb1 3.3/7, mb1mx3.0/38, mbtmp3.9/7, Error ellipse: s-maj=68.1km s-min=32.7km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.55**	**242**	P	P	08 57 35.7	-0.4
	0.9nm,0.4s,baz=80,slow=9.2,SNR=4.6						
WRA	**Warramunga Arr**	**44.84**	**260**	P	P	08 58 25.8	-0.6
	0.3nm,0.3s,baz=97,slow=7.3,SNR=5.0						
WRA				PcP	PcP	08 59 58.9	-0.4
	0.4nm,1.0s,baz=106,slow=2.8,SNR=2.1						
ASAR	**Alice Springs**	**44.92**	**255**	P	P	08 58 27.2	+0.3
	3.8nm,0.5s,baz=90,slow=8.5,SNR=53						
ASAR				PcP	PcP	08 59 59.3	-0.2
	0.2nm,0.5s,baz=99,slow=4.8,SNR=1.6						
FITZ	**Fitzroy Crossi**	**53.25**	**261**	P	P	08 59 29.0	-0.1
	0.8nm,0.5s,baz=90,slow=7.1,SNR=1.5						
PETK	**Petropavlovsk-**	**74.58**	**345**	P	P	09 01 45.5	+0.3
	1.8nm,0.9s,baz=116,slow=9.8,SNR=3.7						
TXAR	**Lajitas Array**	**86.14**	**57**	P	P	09 02 46.8	+0.3
	0.3nm,0.7s,baz=233,slow=5.2,SNR=2.8						
ILAR	**Eielson Array**	**86.62**	**13**	P	P	09 02 47.0	-0.7
	0.2nm,0.4s,baz=209,slow=5.4,SNR=4.4						

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*IDC **07** 08:52:31.1±2.0, 6°.95S×150°.99E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/40, mbtmp3.8/6, ML1.5/1, Error ellipse: s-maj=83.6km s-min=17.8km az=127.0*
ISC 07 08:52:32.0±1.6, 7°.1S±0°.2×151°.2E±0°.3, h10km, n7, σ0§71/9, mb3.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.92**	**16**	Pn	**Pn**	**08 53 18.1**	**-0.4**
	11nm,0.3s,baz=180,slow=4.6,SNR=9.9						
KRVT				Sn	**Sn**	**08 53 54.4**	**+0.7**
	31nm,0.3s,baz=177,slow=23,SNR=10						
PMG	**Port Moresby**	**4.60**	**240**	Pn	**Pn**	**08 53 42.1**	**+0.5**
	1.5nm,0.3s,baz=45,slow=17,SNR=1.8						
PMG				Sn	**Sn**	**08 54 34.9**	**-0.3**
	5.0nm,0.3s,baz=295,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**20.74**	**230**	P	**P**	**08 57 12.1**	**-0.9**
	1.7nm,0.7s,baz=55,slow=10,SNR=19						
ASAR	**Alice Springs**	**23.38**	**223**	P	**P**	**08 57 41.8**	**+0.8**
	2.4nm,0.7s,baz=55,slow=8.8,SNR=39						
FITZ	**Fitzroy Crossi**	**27.19**	**244**	P	**P**	**08 58 15.3**	**-0.7**
	3.3nm,0.8s,baz=51,slow=7.2,SNR=10						
ILAR	**Eielson Array**	**84.90**	**22**	P	**P**	**09 05 07.1**	**+0.3**
	0.4nm,0.8s,baz=240,slow=5.5,SNR=2.0						
TORD	**Torodi Ar. Bea**	**149.42**	**284**	PKPbc	**PKPbc**	**09 12 22.1**	**-0.3**
	1.2nm,0.5s,baz=70,slow=3.5,SNR=2.7						

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*IDC **07** 08:59:31.9±1.1, 8°.11S×106°.37E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/30, mbtmp3.9/6, MS3.6/3, Ms1 3.6/3, ms1mx2.9/46, Error ellipse: s-maj=37.5km s-min=20.4km az=48.0*
*DJA **07** 08:59:33.9±0.4, 8°.S±4°×10°.7E±°, h10km, M3.8/13, MLv3.8/13*
*NEIC **07** 08:59:37.1±2.8, 8°.12S±0°.06×106°.49E±0°.06, h36km±7km, mb4.3/14, Error ellipse: s-maj=10.4km s-min=6.5km az=127.0*
ISC 07 08:59:33.3±0.5, 8°.05S±0°.04×106°.55E±0°.05, h10km, n49, σ1§49/48, mb4.2/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.94**	**38**	P	**Pn**	**08 59 51.6**	**-0.9**
SKJI	**Sukabumi**	**1.04**	**1**	P	**Pn**	**08 59 54.4**	**+0.5**
CISI	**Cisompet, Garu**	**1.35**	**69**	P	**Pn**	**08 59 57.4**	**-0.9**
CISI	**Cisompet, Garu**	**1.35**	**69**	Pn	**Pn**	**08 59 57.8**	**-0.5**
CISI				Sn	**Sb**	**09 00 14.3**	**-1.8**
DBJI	**Dramaga**	**1.50**	**8**	P	**Pg**	**09 00 01.5**	**-0.6**
LEM	**Lembang**	**1.61**	**41**	Pn	**Pg**	**09 00 04.2**	**-0.1**
	154nm,0.3s,baz=250,slow=17,SNR=27						
LEM				Sn	**Sg**	**09 00 25.4**	**+0.2**
	101nm,0.3s,baz=289,slow=14,SNR=6.4						
LEM	**Lembang**	**1.61**	**41**	P	**Pg**	**09 00 03.8**	**-0.5**
CGJI	**Cibinong**	**1.66**	**329**	P	**Pb**	**09 00 04.0**	**+0.1**
CMJI	**Cimerak**	**1.90**	**82**	P	**Pn**	**09 00 05.3**	**-0.5**
SBJI	**Serang**	**1.96**	**348**	P	**Pb**	**09 00 08.7**	**-0.4**
XMIS	**Christmas Isla**	**2.57**	**200**		**Pn**	**09 00 14.2**	**-0.9**
XMIS					**Sn**	**09 00 42.2**	**-4.2**
KLSI		**3.79**	**332**	P	**Pn**	**09 00 35.1**	**+3.3**
UGM	**Wanagama**	**3.94**	**88**	P	**Pn**	**09 00 33.5**	**-0.4**
UGM	**Wanagama**	**3.94**	**88**	Pn	**Pn**	**09 00 35.1**	**+1.2**
MDSI	**Maura Dua**	**4.25**	**326**	P	**Pn**	**09 00 40.9**	**+2.8**
JAGI	**Jajag, Banyuwa**	**7.54**	**94**	Pn	**Pn**	**09 01 27.2**	**+3.8**
GSI	**Gunungsitoli**	**12.90**	**316**	Pn	**Pn**	**09 02 36.2**	**-0.6**
KAPI	**Kappang**	**13.46**	**78**	LR	LR	09 08 03.2	
	comp=Z,218nm,20.1s,baz=168,slow=38						
GIRL	**Giralia**	**16.29**	**154**	Pn	**Pn**	**09 03 20.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.09**	**120**	P	**P**	**09 04 19.2**	**+1.2**
	2.8nm,0.7s,baz=310,slow=6.4,SNR=9.0						

FITZ	Fitzroy Crossi	21.09	120	P	P	09 04 19.8	+1.7
MTN	Manton Dam	24.64	103	P	P	09 04 53.1	-1.2
MTN				IAmb	IAmb	09 04 56.7	
	comp=Z,14nm,1.3s						
CMAR	Chiang Mai Arr	27.39	344	P	P	09 05 16.0	-3.1
WB0	Warramunga Arr	29.38	116	P	P	09 05 37.4	+0.5
WB0				IAmb	IAmb	09 05 50.7	
	comp=Z,7.1nm,1.3s						
WRA	Warramunga Arr	29.39	117	P	P	09 05 37.7	+0.7
	comp=Z,1.1nm,0.8s,baz=291,slow=10,SNR=18						
WRA				PcP	PcP	09 08 43.4	+0.1
	comp=Z,0.7nm,1.1s,baz=304,slow=1.9,SNR=2.9						
WRA	Warramunga Arr	29.39	117	P	P	09 05 37.9	+0.9
WRAB	Tennant Creek	29.40	117	P	P	09 05 37.9	+0.9
WRAB				IAmb	IAmb	09 05 41.0	
	comp=Z,8.6nm,1.4s						
WB2	Warramunga Arr	29.40	117	P	P	09 05 37.5	+0.4
WB2				IAmb	IAmb	09 06 01.9	
	comp=Z,7.6nm,1.4s						
WR0	Warramunga Arr	29.57	117	P	P	09 05 39.3	+0.7
WR0				IAmb	IAmb	09 05 39.4	
	comp=Z,12nm,1.5s						
ASAR	Alice Springs	30.47	124	P	P	09 05 47.4	+0.9
	comp=Z,0.5nm,0.6s,baz=293,slow=7.9,SNR=9.7						
ASAR				PcP	PcP	09 08 46.9	+0.9
	comp=Z,0.3nm,0.8s,baz=306,slow=3.1,SNR=2.0						
ASAR	Alice Springs	30.47	124	P	P	09 05 47.3	+0.7
H08S2	Diego Garcia H	33.73	268	T	T	09 41 55.1	
	baz=92,slow=75,SNR=11						
H08S3	Diego Garcia H	33.74	268	T	T	09 41 59.0	
	baz=92,slow=75,SNR=12						
H08S1	Diego Garcia H	33.75	268	T	T	09 41 59.7	
	baz=92,slow=75,SNR=8.9						
BBOO	Buckleboo	36.80	136	P	P	09 06 42.6	+1.1
STKA	Stephens Creek	40.29	131	P	P	09 07 12.4	+1.5
	comp=Z,2.0nm,0.6s,baz=303,slow=8.7,SNR=9.8						
STKA	Stephens Creek	40.29	131	P	P	09 07 12.5	+1.7
SONM	Songino Arrayy	55.64	360	PcP	PcP	09 10 08.8	-0.2
	comp=Z,0.6nm,0.5s,baz=189,slow=4.9,SNR=3.0						
BOOM	Boomskoye usch	57.53	333	P	P	09 09 22.5	-0.7
MK31	Makanchi Array	58.72	341	P	P	09 09 31.7	+0.5
MKAR	Makanchi Array	58.72	341	P	P	09 09 31.6	+0.4
	comp=Z,0.3nm,0.3s,baz=150,slow=8.4,SNR=4.9						
ABKAR	Abkulak array	70.08	330	P	P	09 10 45.6	+0.1
YAK	Yakutsk	72.14	11	LR	LR	09 44 51.8	
	comp=Z,27nm,18.1s,baz=182,slow=38						
PETK	Petropavlovsk-	74.72	29	P	P	09 11 12.4	-0.8
TIXI	Tiksi	80.90	7	LR	LR	09 51 37.5	
	comp=Z,37nm,18.6s,baz=130,slow=39						
QSPA	South Pole Qui	81.95	180	P	P	09 11 54.4	+1.2
QSPA				IAmb	IAmb	09 12 06.6	
	comp=Z,2.9nm,1.4s						
BRTR	Keskin Array B	82.19	312	P	P	09 11 54.3	-0.6
	comp=Z,0.3nm,0.5s,baz=101,slow=6.4,SNR=4.1						
SNAA	Sanae	88.40	197	P	P	09 12 28.0	+2.7
SNAA				IAmb	IAmb	09 12 51.5	
	comp=Z,2.7nm,1.4s						
TXAR	Lajitas Array	144.59	49	PKP	PKPdf	09 19 10.7	-0.3
	comp=Z,0.1nm,0.4s,baz=125,slow=0.6,SNR=4.4						

*IDC **07** 09:11:07.1±6.0, 13°.07N×86°.69W, h0km, mb3.5/2, mb1 4.0/2, mb1mx3.5/39, mbtmp3.5/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/21, Error ellipse: s-maj=227.4km s-min=94.2km az=57.0*
*INET **07** 09:11:15.3, 12°.47N×88°.19W, h20km, ML3.6*
*UCR **07** 09:11:16.7±0.7, 12°.54N×88°.24W, h30km±3km, ML3.7, mb4.1(NEIC)*
*SNET **07** 09:11:16.4±0.8, 12°.53N×88°.25W, h27km±3km, ML3.7*
*NEIC **07** 09:11:18.0±2.1, 12°.43N±0°.07×88°.09W±0°.06, h61km±10km, mb4.1/43, Error ellipse: s-maj=11.1km s-min=6.6km az=212.0*

ISC 07 09:11:14.9±1.6, 12°.46N±0°.06×88°.21W±0°.04, h28km±11km, n112, σ1§03/121, mb4.1/22, 2C-22D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.89	24	‖iP	Pb	09 11 31.9	0.0
CNCH				eS	Sn	09 11 45.2	+1.4
CNCH	Conchagua	0.89	24	‖iP	Pb	09 11 31.9	0.0
CNCH				eS	Sn	09 11 45.2	+1.4
LCND	La Caada	0.90	20	‖iP	Pb	09 11 31.8	-0.2
LCND				eS	Sn	09 11 44.3	+0.5
LCND				IAML		09 11 53.4	
	comp=Z,3μm,0.4s						
LCND	La Caada	0.90	20	‖iP	Pb	09 11 31.8	-0.2
LCND				eS	Sn	09 11 44.3	+0.5
LCND				IAML		09 11 53.4	
	comp=Z,3μm,0.4s						
ALJI	Alcalda de J	0.93	338	‖iP	Pn	09 11 32.5	+0.4
ALJI				eS	Sb	09 11 44.5	-0.1
ALJI				IAML		09 11 45.5	
	comp=Z,2μm,0.1s						
ALJI	Alcalda de J	0.93	338	‖iP	Pn	09 11 32.5	+0.4
ALJI				eS	Sb	09 11 44.5	-0.1
ALJI				IAML		09 11 45.5	
	comp=Z,2μm,0.1s						
LCY	Lacayo	0.96	355	‖eP	Pn	09 11 33.1	+0.4
LCY	Lacayo	0.96	355	‖eP	Pn	09 11 33.1	+0.4
VSM	San Miguel	0.96	356	eP	Pn	09 11 33.3	+0.4
VSM	San Miguel	0.96	356	eP	Pn	09 11 33.3	+0.4
BLLM	Bellamira	0.98	358	‖iP	Pn	09 11 33.2	+0.3
BLLM	Bellamira	0.98	358	‖iP	Pn	09 11 33.2	+0.3
PACA	Pacayal	1.01	354	eP	Pn	09 11 33.8	+0.5
PACA				eS	Sn	09 11 47.0	+0.3
PACA	Pacayal	1.01	354	eP	Pn	09 11 33.8	+0.5
PACA				eS	Sn	09 11 47.0	+0.3
TECA	Tecapa	1.07	344	‖iP	Pn	09 11 34.6	+0.4
TECA	Tecapa	1.07	344	‖iP	Pn	09 11 34.6	+0.4
COEB	Comit de Eme	1.08	343	‖iP	Pn	09 11 34.6	+0.3
COEB				IAML		09 11 54.8	
	comp=Z,2μm,0.3s						
COEB	Comit de Eme	1.08	343	‖iP	Pn	09 11 34.6	+0.3
COEB				IAML		09 11 54.8	
	comp=Z,2μm,0.3s						
CRIN	San Cristobal	1.15	78		Pn	09 11 35.8	+0.5
CRIN				Sn	Sn	09 11 50.8	+0.6
FAGO	Alcalda de S	1.23	5	‖iP	Pn	09 11 36.8	+0.5
FAGO	Alcalda de S	1.23	5	‖iP	Pn	09 11 36.8	+0.5
COEG	Centro de Oper	1.33	330	eP	Pn	09 11 38.0	+0.3
COEG				IAML		09 12 03.2	
	comp=Z,2μm,0.2s						
COEG	Centro de Oper	1.33	330	eP	Pn	09 11 38.0	+0.3
COEG				IAML		09 12 03.2	
	comp=Z,2μm,0.2s						
LFRS	El Faro	1.43	324	‖eP	Pn	09 11 39.3	+0.2
LFRS	El Faro	1.43	324	‖eP	Pn	09 11 39.3	+0.2
PAVA	Las Pavas	1.44	330	eP	Pn	09 11 39.8	+0.6
PAVA				eS	Sn	09 11 57.8	+0.5
PAVA	Las Pavas	1.44	330	eP	Pn	09 11 39.8	+0.6
PAVA				eS	Sn	09 11 57.8	+0.5
LBRS	Las Brisas	1.51	327	eP	Pn	09 11 41.1	+0.9
LBRS	Las Brisas	1.51	327	eP	Pn	09 11 41.1	+0.9
LFU	La Fuente	1.56	325	eP	Pn	09 11 41.6	+0.7
LFU	La Fuente	1.56	325	eP	Pn	09 11 41.6	+0.7
OPAM	Oficina de Pla	1.57	322	eP	Pn	09 11 41.4	+0.3
OPAM				IAML		09 12 05.8	
	comp=Z,907nm,0.2s						
OPAM	Oficina de Pla	1.57	322	eP	Pn	09 11 41.4	+0.3
OPAM				IAML		09 12 05.8	
	comp=Z,907nm,0.2s						
SNET	Serv Nac Est T	1.58	321	eP	Pn	09 11 41.3	+0.2
SNET				IAML		09 12 05.5	
	comp=Z,620nm,0.2s						
SNET	Serv Nac Est T	1.58	321	eP	Pn	09 11 41.3	+0.2
SNET				IAML		09 12 05.5	
	comp=Z,620nm,0.2s						
SNET	Serv Nac Est T	1.58	321		Pn	09 11 41.0	-0.1
UEES	Universidad Ev	1.60	321	eP	Pn	09 11 42.0	+0.5
UEES	Universidad Ev	1.60	321	eP	Pn	09 11 42.0	+0.5
BOQS	Boqueron	1.64	321	eP	Pn	09 11 42.9	+0.8
BOQS	Boqueron	1.64	321	eP	Pn	09 11 42.9	+0.8
CEDA	San Andres	1.77	319	eP	Pn	09 11 44.6	+0.9
CEDA				IAML		09 12 20.9	
	comp=Z,1μm,0.8s						
CEDA	San Andres	1.77	319	eP	Pn	09 11 44.6	+0.9
CEDA				IAML		09 12 20.9	
	comp=Z,1μm,0.8s						
TGUH	Tegucigalpa,Un	1.83	30	‖iP	Pn	09 11 45.5	+0.9
TGUH	Tegucigalpa,Un	1.83	30	‖iP	Pn	09 11 45.5	+0.9
TGUH	Tegucigalpa,Un	1.83	30		Pn	09 11 45.4	+0.7
TGUH				Sn	Sb	09 12 08.3	-2.0
TACO	Tacachico	1.87	323	‖eP	Pn	09 11 46.0	+0.8
TACO	Tacachico	1.87	323	‖eP	Pn	09 11 46.0	+0.8
NUBE	Las Nubes	2.10	313	eP	Pn	09 11 49.0	+0.6
NUBE	Las Nubes	2.10	313	eP	Pn	09 11 49.0	+0.6
MTO3	Montecristo	2.23	330	‖eP	Pn	09 11 51.3	+1.0
MTO3	Montecristo	2.23	330	‖eP	Pn	09 11 51.3	+1.0
MTO3	Montecristo	2.23	330	Pn	Pn	09 11 51.0	+0.7
MTO3				Sn	Sb	09 12 20.5	-1.5
MATN	Matagalpa	2.27	78	Pn	Pn	09 11 49.8	-0.9
BOAB	BOACO BROADBAN	2.48	90	Pn	Pn	09 11 52.6	-0.9
ACON	Acoyapa	3.00	99		Pn	09 12 01.4	+0.6
ESPN	Las Esperanzas	3.83	94		Pn	09 12 15.5	+3.5
JTS	Las Juntas de	3.85	124		Pn	09 12 14.4	+2.0
HUEH	Huehuetenango	4.28	312	Pn	Pn	09 12 24.1	+5.7
PETF	Flores	4.71	340	Pn	Pn	09 12 27.2	+3.0
CCIG	Comitan	5.38	315	Pn	Pn	09 12 38.8	+5.3
TEIG	Tepich	7.72	360	Pn	Pn	09 13 09.0	+3.5
833A	Chaparral WMA,	18.93	328	P	P	09 15 34.5	+0.7
JCT	Junction City	20.90	331	P	Pn	09 15 59.0	+1.1
GOGA	Godfrey	21.30	11	P	P	09 16 01.8	+2.4
GOGA				IAmb	IAmb	09 16 02.4	
	comp=Z,4.1nm,0.6s						
Y49A	Blount Mountai	21.36	4	P	P	09 16 01.3	+1.1
TXAR	Lajitas Array	22.10	322	P	P	09 16 09.3	+1.0
	comp=Z,1.5nm,0.7s,baz=135,slow=10,SNR=15						
TXAR	Lajitas Array	22.10	322	P	P	09 16 09.4	+1.2
TX31	Lajitas Ar. Si	22.10	322	P	P	09 16 10.1	+1.8
TX31				IAmb	IAmb	09 16 11.4	
	comp=Z,7.2nm,1.0s						
TX32	Lajitas Array	22.10	322	P	P	09 16 10.2	+1.9
HODGE	Hodges	22.34	13	P	P	09 16 11.8	+1.2
HODGE				IAmb	IAmb	09 16 12.3	
	comp=Z,7.1nm,0.7s						
MIAR	Mount Ida	22.52	348	P	P	09 16 13.6	+1.0
MIAR				IAmb	IAmb	09 16 30.1	
	comp=Z,6.1nm,1.1s						
UALR	University of	22.53	351	P	P	09 16 13.5	+0.9
UALR				IAmb	IAmb	09 16 29.9	
	comp=Z,13nm,1.5s						
JSC	Jenkinsville	22.62	15	P	P	09 16 14.3	+0.7
JSC				IAmb	IAmb	09 16 30.8	
	comp=Z,5.3nm,1.1s						
BIRD	Birdtown, Kers	23.18	16	P	P	09 16 19.5	+0.1
BIRD				IAmb	IAmb	09 16 19.8	
	comp=Z,4.1nm,0.7s						
KMSC	Kings Mountain	23.43	14	P	P	09 16 21.9	+0.1
KMSC				IAmb	IAmb	09 16 24.0	
	comp=Z,3.3nm,0.7s						
V53A	Saluda	23.62	11	P	P	09 16 25.3	+1.6
V53A				IAmb	IAmb	09 16 25.7	
	comp=Z,4.4nm,0.7s						
LCAR	Lake Charles	23.66	354	P	P	09 16 22.6	-1.5
W57A	Gilead	23.79	17	P	P	09 16 24.7	-0.6
W57A				IAmb	IAmb	09 16 32.2	
	comp=Z,8.7nm,1.1s						
U40A	Yellville	24.16	351	P	P	09 16 30.0	+1.2
FNO	Franklin	24.18	341	P	P	09 16 28.8	-0.2
HHAR	Hobbs	24.27	349	P	P	09 16 30.1	+0.2
T47A	Sharon Grove	24.44	2	P	P	09 16 30.4	-1.0
T47A				IAmb	IAmb	09 16 30.7	
	comp=Z,4.1nm,0.6s						
V58A	Windy Hill, Pi	24.64	18	P	P	09 16 32.7	-0.5
MSTX	Muleshoe	25.19	331	P	P	09 16 37.5	-0.9
MSTX				IAmb	IAmb	09 16 38.7	
	comp=Z,3.9nm,0.7s						
S39A	Bolivar	25.54	351	P	P	09 16 40.4	-0.9
S39A				IAmb	IAmb	09 16 40.8	
	comp=Z,4.4nm,0.6s						
CCM	Cathedral Cave	25.63	354	P	P	09 16 41.1	-1.1
WCI	Wyandotte Cave	25.72	3	P	P	09 16 41.9	-1.0
WCI				IAmb	IAmb	09 16 55.9	
	comp=Z,6.1nm,1.4s						
R55A	Marlinton	26.71	14	P	P	09 16 52.1	+0.1
R55A				IAmb	IAmb	09 16 59.0	
	comp=Z,7.6nm,1.2s						
P53A	Whipple	27.59	11	P	P	09 16 59.5	-0.3
Q56A	Snyder Ridge,	27.66	15	P	P	09 17 00.5	+0.1
N54A	Moraine State	29.29	13	P	P	09 17 14.3	-0.7
M54A	Oil Creek Stat	29.89	13	P	P	09 17 19.6	-0.6
M54A				IAmb	IAmb	09 17 34.7	
	comp=Z,3.7nm,0.9s						
SAML	Samuel	32.72	129	P	P	09 17 45.1	-0.3
F33A	5 Mile Ranch,	33.97	350	P	P	09 17 54.2	-1.8
H62A	Milan	35.18	21	P	P	09 18 04.8	-1.7
PDAR	Pinedale Array	35.42	332	P	P	09 18 06.6	-2.3
	comp=Z,0.3nm,0.5s,baz=122,slow=11,SNR=4.0						
REDW	Red Top Meadow	36.48	332	P	P	09 18 18.3	+0.4
SNOW	Snow King Moun	36.51	332	P	P	09 18 19.2	+1.0
LOHW	Long Hollow	36.55	332	P	P	09 18 18.9	+0.3
LOHW				IAmb	IAmb	09 18 24.3	
	comp=Z,1.8nm,0.8s						
TPAW	Teton Pass	36.62	332	P	P	09 18 18.9	-0.3
TPAW				IAmb	IAmb	09 18 19.7	
	comp=Z,2.3nm,0.7s						
FXWY	Fox Creek	36.77	332	P	P	09 18 21.2	+0.8
NVAR	Mina Array Bea	37.21	319	PcP	PcP	09 20 44.5	+0.6
	comp=Z,0.2nm,0.6s,baz=134,slow=5.2,SNR=3.6						
YHB	Horse Butte	37.71	333	P	P	09 18 30.4	+2.0
YHL	Hebgen Lake	37.78	333	P	P	09 18 30.0	+0.9
MCMT	McKenzie Canyo	38.52	332	P	P	09 18 36.5	+1.3
BOZ	Bozeman (W)	38.56	333	P	P	09 18 35.8	+0.3
BOZ				IAmb	IAmb	09 18 36.4	
	comp=Z,1.6nm,0.7s						
LRM	Limekiln Ridge	39.10	333	P	P	09 18 40.7	+0.6
DLBC	Dease Lake	55.58	335	LR	LR	09 48 32.0	
	comp=Z,72nm,18.4s,baz=232,slow=40						
DLBC	Dease Lake	55.58	335	P	P	09 20 48.4	+0.5
DOT	Dot Lake	64.12	336	P	P	09 21 45.5	-0.9
DOT				IAmb	IAmb	09 21 48.6	
	comp=Z,2.8nm,1.4s						
WRH	Wood River Hil	66.07	336	P	P	09 21 57.5	-1.6
WRA	Warramunga Arr	138.56	254	PKP	PKPdf	09 30 38.6	-0.4
	comp=Z,0.2nm,0.5s,baz=90,slow=2.3,SNR=1.6						

IDC 07 09:23:40.0±1.2, 48°.14S×99°.23E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/42, mbtmp4.0/5, MS3.9/8, Ms1 3.9/8, ms1mx3.5/24, Error ellipse: s-maj=46.5km s-min=20.5km az=116.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	17.27	45	T	T	09 45 19.0	
	baz=215,slow=73,SNR=59						
H01W3	Cape Leeuwin H	17.28	45	T	T	09 45 21.0	
	baz=215,slow=73,SNR=86						
H01W1	Cape Leeuwin H	17.28	45	T	T	09 45 22.8	
	baz=215,slow=73,SNR=83						
MAW	Mawson	26.80	210	LR	LR	09 38 04.6	
	comp=Z,198nm,18.3s,baz=56,slow=32						
STKA	Stephens Creek	35.78	79	LR	LR	09 42 16.3	
	comp=Z,141nm,19.4s,baz=204,slow=31						
ASAR	Alice Springs	36.73	61	P	P	09 30 48.6	-0.4
	2.0nm,0.9s,baz=218,slow=8.4,SNR=12						
FITZ	Fitzroy Crossi	36.88	45	P	P	09 30 50.2	0.0
	baz=232,slow=9.4,SNR=4.2						
FITZ				LR	LR	09 44 41.5	
	comp=Z,78nm,18.2s,baz=227,slow=34						
VNDA	Vanda	37.65	162	P	P	09 30 56.2	0.0
	2.1nm,1.0s,baz=284,slow=8.9,SNR=12						
VNDA				LR	LR	09 44 54.6	
	comp=Z,260nm,20.3s,baz=278,slow=34						
WRA	Warramunga Arr	39.89	58	P	P	09 31 15.0	-0.6
	2.3nm,0.9s,baz=217,slow=8.0,SNR=9.8						
WRA				LR	LR	09 46 02.8	
	comp=Z,131nm,18.7s,baz=215,slow=34						
LEM	Lembang	41.78	13	LR	LR	09 46 16.0	
	comp=Z,212nm,18.2s,baz=162,slow=32						
H08S2	Diego Garcia H	46.28	322	T	T	10 21 39.2	
	baz=156,slow=74						
H08S1	Diego Garcia H	46.29	322	T	T	10 21 39.6	
	baz=156,slow=74						
H08S3	Diego Garcia H	46.30	322	T	T	10 21 40.8	
	baz=156						
SNAA	Sanae	48.69	204	P	P	09 32 24.8	-0.8
	2.5nm,0.9s,baz=139,slow=6.4,SNR=10						
CMAR	Chiang Mai Arr	66.29	360	P	P	09 34 30.0	0.0
	0.9nm,0.5s,baz=199,slow=5.2,SNR=1.4						
CMAR				LR	LR	10 00 06.5	
	comp=Z,108nm,19.7s,baz=201,slow=33						
PLCA	Paso Flores	91.05	188	LR	LR	10 16 47.7	
	comp=Z,83nm,19.4s,baz=176,slow=35						
NVAR	Mina Array Bea	151.26	96	PKPbc	PKiKP	09 43 36.1	+0.4
	1.5nm,0.9s,baz=223,slow=3.3,SNR=9.7						

IDC 07 09:24:46.9±1.8, 4°.42S×123°.15E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/51, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=52.5km s-min=26.2km az=48.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	3.44	260	Pn	Pn	09 25 41.2	-0.7
	5.2nm,0.3s,baz=77,slow=9.2,SNR=10						
KAPI				Sn	Sn	09 26 19.9	-3.4
	4.5nm,0.3s,baz=55,slow=23,SNR=7.8						
WRA	Warramunga Arr	18.89	146	P	P	09 29 08.2	-1.0
	0.0nm,0.3s,baz=320,slow=12,SNR=3.1						
ASAR	Alice Springs	21.77	153	P	P	09 29 41.1	+0.7
	0.8nm,0.6s,baz=346,slow=16,SNR=16						
MKAR	Makanchi Array	62.45	330	P	P	09 35 12.2	+0.1
	0.7nm,0.9s,baz=132,slow=8.3,SNR=3.5						

*IDC **07** 09:32:57.7±0.6, 6°.43S×104°.09E, h0km, mb4.2/21, mb1 4.3/23, mb1mx4.1/50, mbtmp4.2/23, ML4.5/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/39, Error ellipse: s-maj=21.6km s-min=12.5km az=53.0*
*NEIC **07** 09:32:59.8±1.6, 6°.83S±0°.07×103°.88E±0°.07, h21km±4km, mb4.5/26, Error ellipse: s-maj=11.3km s-min=8.0km az=48.0*
*DJA **07** 09:33:02.1±0.9, 7°.S±3°×10°.4E±°, h26km±9km, M4.6/19, mB6.2/1, mb4.6/3, MLv4.6/19, Mw(mB)5.9/1*

ISC 07 09:33:01.1±3.3, 6°.83S±0°.05×103°.92E±0°.05, h29km±23km, n139, σ1§42/143, mb4.5/33, MS3.6/3, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	1.77	83	P	Pn	09 33 29.2	-0.6
CGJI				S	Sn	09 33 52.1	+0.6
LWLI	Liwa	1.80	4	P	Pn	09 33 29.9	-0.5
LWLI				S	Sn	09 33 50.6	-1.7
BLSI	Bandar Lampung	1.96	42	P	Pn	09 33 31.3	-1.1
BLSI				S	Sn	09 33 53.3	-2.8
KLSI		2.27	21	P	Pn	09 33 36.2	-0.5
KLSI				S	Sn	09 34 03.8	+0.1
SBJI	Serang	2.31	72	P	Pn	09 33 37.1	-0.1
SBJI				S	Sn	09 34 03.6	-1.0
MDSI	Maura Dua	2.34	6	P	Pn	09 33 37.4	-0.2
SKJI	Sukabumi	2.62	94	P	Pn	09 33 41.5	-0.1
MNAI	Manna	2.63	339	P	Pn	09 33 42.3	+0.7
MNAI	Manna	2.63	339	Pn	Pn	09 33 42.3	+0.7
DBJI	Dramaga	2.83	85	P	Pn	09 33 44.7	+0.4
DBJI				S	Sn	09 34 17.2	-0.3
CBJI	Citeko	2.94	82	P	Pn	09 33 47.6	+1.7
CBJI				S	Sn	09 34 21.6	+1.4
LHSI	Lahat	3.01	352	P	Pn	09 33 47.3	+0.5
CNJI	Cibinong	3.22	99	P	Pn	09 33 50.2	+0.4
KSI	Kapahiang	3.42	337	P	Pn	09 33 53.3	+0.7
LEM	Lembang	3.67	90	Pn	Pn	09 33 55.9	-0.3
	8.2nm,0.3s,baz=335,slow=14,SNR=3.6						
LEM				Sn	Sn	09 34 33.7	-4.9
	16nm,0.3s,baz=301,slow=17,SNR=6.5						
LEM				LR	LR	09 34 57.7	
	comp=Z,100nm,19.2s,baz=7.0,slow=34						
CISI	Cisompet, Garu	3.93	101	P	Pn	09 33 58.9	-0.7
CISI	Cisompet, Garu	3.93	101	Pn	Pn	09 34 00.4	+0.8
CISI				Sn	Sn	09 34 41.5	-3.4
XMIS	Christmas Isla	4.01	155	Pn	Pn	09 33 59.2	-1.5
XMIS				Sn	Sn	09 34 41.5	-5.3
CMJI	Cimerak	4.59	102	P	Pn	09 34 09.4	+0.8
PPBI	Pangkal Pinang	5.13	26	P	Pn	09 34 16.3	+0.2
TPI	Tanjungpandan	5.50	43	P	Pn	09 34 20.3	-0.8
	0.2nm35nm,1.2s						
PPSI	Pulau Pagai	5.61	316	P	Pn	09 34 23.9	+1.3
	1.4nm153nm,0.7s						
UGM	Wanagama	6.64	100	Pn	Pn	09 34 38.6	+1.8
PWJI	Pagerwojo	7.91	99	P	Pn	09 34 55.6	+1.4
GSI	Gunungsitoli	10.26	322	Pn	Pn	09 35 25.1	-1.4
JAGI	Jajag, Banyuwa	10.27	100	Pn	Pn	09 35 27.4	+0.7
SPSI	Sidrap Palu	16.03	81	P	Pn	09 36 35.7	-9.0
MMRI	Maumere	18.24	97	P	P	09 37 12.6	+0.3
MMRI				IAmb	IAmb	09 37 28.6	
	comp=Z,29nm,0.9s						
GIRL	Giralia	18.61	149	P	Pn	09 37 18.4	+1.7
MYLDM	Lahad Datu	18.82	51	P	Pn	09 37 20.4	+1.1
BATI	Baumata	19.81	101	P	P	09 37 29.5	-0.1
	comp=Z,7.5nm,0.3s,baz=300,slow=22,SNR=1.7						
SOEI	Soe	20.34	100	P	P	09 37 35.7	+0.2
SOEI	Soe	20.34	100	P	P	09 37 33.3	-2.2
FITZ	Fitzroy Crossi	23.95	120	P	P	09 38 13.8	+0.7
	comp=Z,2.3nm,0.9s,baz=198,slow=5.6,SNR=4.3						
FITZ	Fitzroy Crossi	23.95	120	P	P	09 38 15.0	+1.9
CMAR	Chiang Mai Arr	25.60	349	P	P	09 38 25.7	-2.4
	comp=Z,2.2nm,0.7s,baz=180,slow=8.9,SNR=10.0						
CMAR	Chiang Mai Arr	25.60	349	P	P	09 38 26.1	-2.0
KNRA	Kununurra	25.88	112	P	P	09 38 32.4	+1.7
KNRA				IAmb	IAmb	09 38 33.0	
	comp=Z,11nm,0.8s						
NWAO	Narrogin (SRO)	28.77	156	LR	LR	09 49 20.4	
	comp=Z,164nm,20.5s,baz=260,slow=34						
H01W3	Cape Leeuwin H	29.47	163	T	T	10 10 03

PYUN	Piuthan	40.18	331	*eP*		P	09 40 36.6	+1.4
	comp=Z,18nm,0.4s							
XAN	Xi'an	40.92	6	P		P	09 40 39.1	-2.0
XAN				IAmb		IAmb	09 40 40.3	
	comp=Z,5.6nm,0.8s							
NJ2	Nanjing	41.20	19	*eP*		P	09 40 47.0	+3.7
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
STKA	Stephens Creek	43.05	130	P		P	09 41 00.9	+2.3
	comp=Z,3.2nm,0.5s,baz=297,slow=7.3,SNR=13							
STKA				LR		LR	09 59 32.2	
	comp=Z,67nm,19.6s,baz=266,slow=37							
STKA	Stephens Creek	43.05	130	P		P	09 41 00.8	+2.3
HHC	Hu-ho-hao-te	47.96	8	*eP*		P	09 41 38.6	+1.3
HHC				pmax		pmax		
	comp=Z,20nm,0.7s							
HHC				pmax		pmax		
	comp=Z,97nm,6.4s							
KSAR	Wonju Array Be	49.40	25	P		P	09 41 48.0	-0.3
KSRS	Korea Array	49.43	25	P		P	09 41 46.3	-2.2
	comp=Z,3.3nm,0.7s,baz=219,slow=7.7,SNR=25							
KS19	Wonju Array Si	49.45	25	P		P	09 41 48.2	-0.5
KS19				IAmb		IAmb	09 42 04.2	
	comp=Z,5.5nm,1.0s							
NIL	Nilore	49.66	326	P		P	09 41 50.7	+0.3
WMQ	Urumqi	52.51	345	*eP*		P	09 42 14.4	+2.7
MJAR	Matsushiro Arr	53.79	34	P		P	09 42 17.7	-3.6
	comp=Z,0.8nm,0.6s,baz=231,slow=7.7,SNR=5.1							
MJAR	Matsushiro Arr	53.79	34	P		P	09 42 17.6	-3.6
SONM	Songino Array	54.47	2	P		P	09 42 25.0	-1.1
	comp=Z,5.4nm,0.8s,baz=179,slow=9.2,SNR=25							
SONM	Songino Array	54.47	2	P		P	09 42 25.9	-0.1
SONM				PcP		PcP	09 43 29.8	+0.4
GAR	Garm	55.22	328	P		P	09 42 31.2	-0.5
MK31	Makanchi Array	56.74	342	P		P	09 42 42.1	-0.2
MKAR	Makanchi Array	56.74	342	P		P	09 42 41.2	-1.1
	comp=Z,2.2nm,0.4s,baz=149,slow=9.2,SNR=34							
MKAR	Makanchi Array	56.74	342	P		P	09 42 41.7	-0.6
USA0B	Ussuriysk Arra	56.76	24	P		P	09 42 41.0	-1.4
USA0B				IAmb		IAmb	09 42 41.7	
	comp=Z,5.0nm,0.8s							
USRK	Ussuriysk Ar.	56.76	24	P		P	09 42 39.6	-2.8
	comp=Z,3.5nm,0.6s,baz=216,slow=7.6,SNR=18							
USRK	Ussuriysk Ar.	56.76	24	P		P	09 42 41.2	-1.2
KKAR	Karatay Array	58.22	332	P		P	09 42 52.3	-0.4
TLY	Talaya	58.27	360	P		P	09 42 51.5	-1.5
	comp=Z,2.3nm,0.7s,baz=188,slow=6.7,SNR=3.7							
TLY	Talaya	58.27	360			P	09 42 52.5	-0.5
TLY				IAmb		IAmb	09 42 53.6	
	comp=Z,3.2nm,0.9s							
KLR	Kul'dur	60.89	21	P		P	09 43 09.1	-2.0
	comp=Z,1.5nm,0.4s,baz=214,slow=7.4,SNR=9.2							
GEYT	Alibeck	61.63	320	P		P	09 43 15.8	-0.5
	comp=Z,1.1nm,0.4s,baz=141,slow=4.8,SNR=2.2							
GEYT	Alibeck	61.63	320	P		P	09 43 17.7	+1.3
ZAA0	Zalesovo Array	62.65	347	P		P	09 43 22.5	-0.2
ZALV	Zalesovo Beam	62.65	347	P		P	09 43 21.7	-1.1
	comp=Z,3.7nm,0.3s,baz=157,slow=5.6,SNR=19							
ZALV	Zalesovo Beam	62.65	347	P		P	09 43 21.8	-1.0
BRVK	Borovoye	66.12	339	P		P	09 43 45.4	-0.1
BRVK				IAmb		IAmb	09 43 45.5	
	comp=Z,2.0nm,0.5s							
MAW	Mawson	66.67	196	LR		LR	10 04 44.3	
	comp=Z,51nm,21.2s,baz=316,slow=28							
ABKAR	Akbulak array	67.73	331	P		P	09 43 56.1	+0.3
KBZ	Khabaz	74.49	319	P		P	09 44 36.5	-0.4
	comp=Z,6.2nm,1.0s,baz=53,slow=5.1,SNR=3.8							
LBTB	Lobatse	76.58	246	P		P	09 44 46.6	-2.9
VNDA	Vanda	76.71	169	P		P	09 44 52.1	+3.0
	comp=Z,0.8nm,1.1s,baz=302,slow=7.4,SNR=2.1							
BOSA	Boshof	76.83	242	P		P	09 44 54.3	+3.4
	comp=Z,0.9nm,0.6s,baz=104,slow=4.2,SNR=1.6							
BOSA	Boshof	76.83	242	P		P	09 44 53.9	+3.0
SEY	Seymchan	78.68	20	P		P	09 44 58.8	-1.4
	comp=Z,1.4nm,0.8s,baz=155,slow=5.0,SNR=5.1							
BRTR	Keskin Array B	79.44	312	P		P	09 45 05.8	+0.7
	comp=Z,1.7nm,0.8s,baz=127,slow=6.3,SNR=8.0							
BRTR	Keskin Array B	79.44	312	P		P	09 45 06.0	+0.8
AKASG	Malin Array Be	85.67	322	P		P	09 45 37.0	-0.1
	comp=Z,0.2nm,0.3s,baz=89,slow=5.1,SNR=4.2							
FINES	FINESS Array B	90.17	332	P		P	09 45 58.7	+0.2
	comp=Z,1.4nm,0.8s,baz=114,slow=4.6,SNR=6.2							
FINES	FINESS Array B	90.17	332	P		P	09 45 59.0	+0.5
RPN	Rapa Nui	133.36	138	PKP		PKiKP	09 52 17.2	+0.8
	comp=Z,18nm,0.3s,baz=166,slow=6.5,SNR=3.6							
BDFB	Brasilia	144.35	231	PKP		PKPdf	09 52 36.3	+0.6
	comp=Z,1.6nm,0.4s,baz=76,slow=4.2,SNR=2.1							
BDFB	Brasilia	144.35	231			PKPdf	09 52 36.8	+1.1
KSCT	Kent School, K	145.17	357			PKPbc	09 52 35.5	-0.2
WMOK	Wichita Mounta	145.23	34			PKPbc	09 52 36.2	0.0
M54A	Oil Creek Stat	145.32	5			PKPbc	09 52 36.0	-0.3
R40A	Maddies Statio	145.41	23			PKPbc	09 52 36.2	-0.5
M55A	Ridgway	145.42	4			PKPbc	09 52 36.4	-0.2
M56A	Emporium	145.44	3	PKPdf		PKPbc	09 52 36.4	-0.3
N51A	Ashland	145.59	8	PKPdf		PKPbc	09 52 37.2	+0.1
TX31	Lajitas Ar. Si	145.69	46	PKPbc		PKPab	09 52 39.2	+0.9
TX32	Lajitas Array	145.69	46	PKPbc		PKPab	09 52 39.2	+0.9
TXAR	Lajitas Array	145.69	46	PKPbc		PKPab	09 52 38.5	+0.2
	comp=Z,2.3nm,0.7s,baz=301,slow=0.8,SNR=23							
TXAR	Lajitas Array	145.69	46	PKPbc		PKPab	09 52 39.0	+0.7
O49A	Covington	145.97	11			PKPdf	09 52 37.5	-0.1
N58A	Sunbury	146.13	1	PKPbc		PKPbc	09 52 39.0	+0.1
O56A	Blue Knob Stat	146.63	3	PKPbc		PKPbc	09 52 39.9	-0.5
T42A	Van Buren	146.97	22	PKPbc		PKPbc	09 52 41.8	+0.4
P57A	Homestead Farm	147.44	3	PKPbc		PKPbc	09 52 42.7	+0.1
R53A	Hurricane	148.19	9	PKPbc		PKPbc	09 52 44.7	0.0
WVT	Waverly	148.91	19	PKPbc		PKPbc	09 52 47.1	+0.4
U49A	Red Boiling Sp	149.15	15	PKPbc		PKPbc	09 52 46.8	-0.5
CLTN	Cedars of Leba	149.40	16	PKPbc		PKPbc	09 52 48.0	+0.2
V52A	Sevierville	150.31	12	PKPbc		PKPbc	09 52 50.5	+0.4
TKL	Tuckaleechee C	150.45	13	PKPbc		PKPbc	09 52 50.7	+0.2
CPCT	Cooper Cave	150.47	14	PKPbc		PKiKP	09 52 51.0	-0.2

*ISK **07** 09:41:18.5, 41.°01N×43.°93E, h9km, ML2.9/7*
*DDA **07** 09:41:19.8, 41.°05N×43.°89E, h7km±2km, ML2.7*
*TIF **07** 09:41:19.2, 41.°02N×43.°89E, h11km±1km*
*NSSP **07** 09:41:19.9, 41.°03N×43.°90E, h8km, Ms2.8*

ISC 07 09:41:20.0±0.9, 41.°02N±0.°02×43.°89E±0.°02, h12km±7km, n35, σ0°64/66, 4C, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMRZ	Gyumri	0.22	192	*e*P	Pg	09 41 25.0	+0.3
GMRZ				*e*S	Sg	09 41 28.0	0.0
STE	Stepanavan	0.36	93	⇑*i*P	Pb	09 41 28.7	+0.2
STE				⇑*i*S	Sb	09 41 35.6	+1.4
DMNI	Dmanisi	0.38	36	P	Pg	09 41 27.7	0.0
DMNI				S	Sb	09 41 33.3	-1.5
EAK	Akyaka	0.40	213	*i* P	Pg	09 41 27.6	-0.3
EAK				*i* S	Sg	09 41 33.4	+0.1
EAK				IAML		09 41 42.0	
	comp=E,840nm,0.4s						
EAK				IAML		09 41 43.0	
	comp=N,787nm,0.4s						
AKH	Akhalkalaki	0.49	322	PG	Pg	09 41 29.3	-0.4
AKH				SG	Sg	09 41 36.7	+0.5
AKH	Akhalkalaki	0.49	322	P	Pg	09 41 29.6	-0.1
AKH				S	Sg	09 41 36.5	+0.3
KZRT	Kazreti	0.53	46	*i* P	Pg	09 41 30.2	-0.2
KZRT				*i* S	Sg	09 41 36.9	-0.5
KZRT	Kazreti	0.53	46	P	Pg	09 41 30.1	-0.2
KZRT				S	Sg	09 41 37.6	+0.2
TRLG	Trialeti	0.54	17	P	Pg	09 41 30.5	-0.2
TRLG				S	Sg	09 41 38.1	+0.2
DIGO	Kars	0.72	213	*i* P	Pg	09 41 33.7	-0.3
DIGO				*i* S	Sg	09 41 42.5	-1.0
DIGO				IAML		09 41 47.0	
	comp=E,522nm,0.4s						
DIGO				IAML		09 41 50.0	
	comp=N,295nm,0.4s						
KARS	Kars	0.73	238	PG	Pg	09 41 33.6	-0.6
KARS				SG	Sg	09 41 43.9	+0.1
ARUZ	Aruch	0.75	168	*i* P	Pg	09 41 34.5	-0.1
ARUZ				⇑*i* S	Sb	09 41 45.2	-0.1
BKRG	Bakuriani	0.79	340	P	Pb	09 41 35.3	-0.4
BKRG				S	Sb	09 41 46.4	0.0
METS	Metsamor	0.88	170	*i* P	Pg	09 41 36.9	-0.1
METS				*i* S	Sb	09 41 49.4	+0.3
VNNZ	Vanand	0.92	183	*i* P	Pg	09 41 37.6	-0.1
VNNZ				⇑*i* S	Sb	09 41 50.9	+0.7
TBLG	Delisi	0.95	42	PG	Pg	09 41 37.1	-1.3
TBLG				SG	Sg	09 41 50.4	-0.5
TBLG	Delisi	0.95	42	P	Pg	09 41 37.9	-0.5
TBLG				S	Sb	09 41 51.2	+0.1
TASB	TASBURUN-IGDIR	1.07	165	PG	Pg	09 41 39.3	-1.3
TASB				SG	Sg	09 41 53.6	-0.9
SENK	Senkaya-Erzuru	1.26	249	PN	Pn	09 41 42.9	-0.6
TKB	Tkibuli	1.49	334	P	Pb	09 41 47.6	0.0
TKB				S	Sg	09 42 07.8	-0.1
DAGI	Agillar	1.50	273	*i* P	Pb	09 41 47.9	+0.1
DAGI				*i* S	Sb	09 42 07.3	+0.5
EATA	Eleskirt	1.57	223	*i* P	Pn	09 41 48.9	+0.8
EATA				*i* S	Sb	09 42 09.8	+0.6
AGRB	Hanur-Agry	1.60	206	PN	Pn	09 41 47.9	-0.4
ONI	Oni	1.60	348	P	Pb	09 41 49.4	-0.1
ONI				S	Sg	09 42 11.4	-0.2
DDEM	Demirkent	1.62	266	*i* P	Pb	09 41 49.6	-0.3
DDEM				*i* S	Sb	09 42 11.5	+1.1
DDEM				IAML		09 42 16.0	
	comp=E,95nm,0.4s						
DDEM				IAML		09 42 23.0	
	comp=N,109nm,0.4s						
DBAD	Bademkaya	1.66	271	*i* P	Pb	09 41 51.0	+0.4
DBAD				*i* S	Sn	09 42 11.0	+0.7
PNSH	Pansheti	1.70	18	P	Pb	09 41 51.3	0.0
PNSH				S	Sg	09 42 14.0	-0.8
DBOC	Borcka	1.71	282	*i* P	Pn	09 41 50.4	+0.8
DBOC				*i* S	Sn	09 42 12.0	+0.6
DDFL	Dedoflistskaro	1.73	75	*i* P	Pg	09 41 53.6	+0.3
DDFL				*i* S	Sg	09 42 17.6	+1.8
BATM	Batumi	1.75	290	PN	Pn	09 41 49.9	-0.3
BATM	Batumi	1.75	290	*i* P	Pb	09 41 51.8	-0.3
BATM				*i* S	Sn	09 42 12.8	+0.4
BATM	Batumi	1.75	290	P	Pb	09 41 52.2	+0.1
BATM				S	Sb	09 42 14.8	+0.8
HOMI	Horasan	1.80	238	*i* P	Pg	09 41 54.0	-0.5
HOMI				*i* S	Sn	09 42 12.5	-1.4
HOMI				IAML		09 42 29.0	
	comp=N,70nm,0.8s						
KOPR	Koprukoy-ERZUR	1.86	237	PN	Pn	09 41 51.5	-0.4
LGD	Lagodekhi	1.95	65	P	Pb	09 41 55.3	-0.1
LGD				S	Sb	09 42 20.2	+0.6

*IDC **07** 09:43:34.5±0.8, 17.°22S×72.°02W, h34km±5km, mb4.0/7, mb1 4.1/10, mb1mx3.7/37, mbtmp4.2/10, ML3.9/3, MS3.5/8, Ms1 3.4/8, ms1mx3.2/32, Error ellipse: s-maj=23.2km s-min=22.0km az=127.0*
*NEIC **07** 09:43:34.5±1.8, 17.°41S±0.°07×72.°31W±0.°02, h42km±7km, mb4.2/7, Error ellipse: s-maj=10.9km s-min=2.3km az=187.0*
*VAO **07** 09:43:51.1±0.7, 16.°43S×71.°38W, h112km±5km, mb4.4*

ISC 07 09:43:32.7±0.6, 17.°34S±0.°05×72.°51W±0.°07, h35km, n88, σ2°00/82, mb4.2/6, MS3.3/5, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	2.31	117	Pn	Pn	09 44 09.5	+1.3
PB12	IPOC Station P	2.44	122	*e*P	Pn	09 44 09.2	-0.9
PB12				*i* S	Sn	09 44 41.6	+2.9
PB12				IAML		09 44 49.5	
	comp=E,2μm,0.6s						
PB12	IPOC Station P	2.44	122	Pn	Pn	09 44 09.3	-0.8
PB16	IPOC Station P	3.03	110	⇓*i*P	Pn	09 44 18.5	-0.2
PB16				*i* S	Sn	09 45 00.8	+6.8
PB16				IAML		09 45 10.5	
	comp=N,448nm,0.3s						
PB16	IPOC Station P	3.03	110	Pn	Pn	09 44 18.5	-0.2
PSGC	Pisagua	3.19	135	*e*P	Pn	09 44 19.7	-0.8
PSGC				*i* S	Sn	09 44 56.5	-1.0
PSGCX	Pisagua	3.19	135	Pn	Pn	09 44 20.2	-0.3
MNMC	Minye Minye	3.30	123	Pn	Pn	09 44 22.0	-0.1
PB11	IPOC Station P	3.63	132	Pn	Pn	09 44 25.4	-1.1
TA01	Diego Aracena	3.90	146	Pn	Pn	09 44 30.2	+0.1
GO01	Chusmiza	3.91	127	Pn	Pn	09 44 30.7	0.0
PATCX	Punta Patache	4.12	148	Pn	Pn	09 44 32.0	-1.2
PB08	IPOC Station P	4.23	132	Pn	Pn	09 44 34.5	-0.6
LPAZ	La Paz	4.32	77	Pn	Pn	09 44 39.0	+2.5
	comp=N,9.9nm,0.3s,baz=254,slow=9.1,SNR=87						
LPAZ				Sn	Sn	09 45 26.7	+0.7
	baz=273,slow=15,SNR=1.3						
LPAZ				LR	LR	09 46 36.0	
	comp=N,421nm,19.5s,baz=248,slow=47						
LPAZ	La Paz	4.32	77	Pn	Pn	09 44 38.7	+2.2
LPAZ	La Paz	4.32	77	*e*P	Pn	09 44 38.5	+1.9
PB01	IPOC Station P	4.67	143	Pn	Pn	09 44 39.7	-1.0
PB07	IPOC Station P	5.02	151	Pn	Pn	09 44 45.4	-0.3
PB09	IPOC Station P	5.40	146	Pn	Pn	09 44 51.6	+0.6
PB04	IPOC Station P	5.45	156	Pn	Pn	09 44 51.2	-0.4
PB06	IPOC Station P	6.01	153	Pn	Pn	09 44 58.5	-0.9
LVC	Limon Verde	6.24	148	Pn	Pn	09 45 03.0	+0.3
	comp=N,3.4nm,0.3s,baz=341,slow=7.8,SNR=31						
LVC				Sn	Sn	09 46 08.8	-4.2
	comp=N,7.3nm,0.3s,baz=107,slow=23,SNR=14						
LVC	Limon Verde	6.24	148	Pn	Pn	09 45 02.3	-0.4
PB10	IPOC Station P	6.41	164	Pn	Pn	09 45 04.2	-0.5
PB15	IPOC Station P	6.50	154	Pn	Pn	09 45 05.7	-0.4
NNA	Nana	6.77	321	Pn	Pn	09 45 13.9	+4.2
PB14	IPOC Station P	7.52	165	Pn	Pn	09 45 18.7	-1.4
GO02	Mina Guanaco	8.25	161	Pn	Pn	09 45 29.9	-0.3
CZSB	Cruzeiro do Su	9.55	359	*e*S	Sn	09 47 31.8	-2.2
ETMB	Extrema	9.66	40	*e*P	Pn	09 45 48.4	-0.9
SIV	San Ignacio	11.04	85	Pn	Pn	09 46 05.1	-3.1
	comp=N,2.1nm,0.3s,baz=277,slow=10,SNR=30						
SIV				Sn	Sn	09 48 08.9	-1.7
	comp=N,0.5nm,0.3s,baz=18,slow=18,SNR=1.6						
SIV				LR	LR	09 50 56.6	
	comp=N,191nm,19.2s,baz=258,slow=42						
ATAH	Atahualpa	11.65	330	Pn	Pn	09 46 20.8	+3.8
	comp=N,0.4nm,0.3s,baz=153,slow=4.5,SNR=1.4						
SAML	Samuel	12.32	49	Pn	Pn	09 46 24.2	-1.6
SAML	Samuel	12.32	49	*e*P	Pn	09 46 24.8	-1.0
VILB	Vilhena	12.66	72	*e*P	Pn	09 46 29.2	-1.1
AQDB	Aquidauana	16.21	104	*e*P	P	09 47 23.1	+2.5
CPUP	Villa Florida	16.68	125	LR	LR	09 54 57.2	
	comp=N,84nm,18.8s,baz=279,slow=42						
CPUP	Villa Florida	16.68	125	*e*P	P	09 47 34.5	+8.7
H03N1	Juan Fernandez	17.04	199	T	T	10 05 39.4	
	baz=22,slow=73,SNR=323						
H03N2	Juan Fernandez	17.05	199	T	T	10 05 39.0	
	baz=22,slow=73,SNR=322						
H03N3	Juan Fernandez	17.06	199	T	T	10 05 38.1	
	baz=22,slow=73,SNR=261						
CLDB	Colider	17.43	71	*e*P	Pn	09 47 30.8	-2.4
MACA	Manacapuru-AM	18.25	41	*e*P	P	09 47 41.7	-1.6
OTAV	Otavalo	18.42	341	P	Pn	09 47 51.6	+5.8
OTAV				IAmb	IAmb	09 47 56.5	
	comp=Z,5.4nm,0.5s						
OTAV	Otavalo	18.42	341	*e*P	Pn	09 47 52.9	+7.1
ARAG	Araguaiana, MT	19.91	88	*e*P	Pn	09 48 02.4	-0.9
PCMB	Pacaembu	20.48	105	*e*P	Pn	09 48 12.4	+2.4
PTGA	Pitinga	20.61	38	P	P	09 48 07.0	-2.0
	comp=Z,13nm,0.5s,baz=214,slow=10,SNR=43						
PTGA				LR	LR	09 56 54.2	
	comp=Z,87nm,19.6s,baz=195,slow=40						
PTGA	Pitinga	20.61	38	P	P	09 48 06.9	-2.1
PTGA				IAmb	IAmb	09 48 11.2	
	comp=Z,13nm,0.5s						
PTGA	Pitinga	20.61	38	*e*P	P	09 48 07.3	-1.7
ITTB	Itaituba	20.89	54	*e*P	P	09 48 09.6	-2.5
ITRB	Iturama	21.14	100	*e*P	P	09 48 17.6	+2.8
FRTB	Fartura	22.32	109	*e*P	P	09 48 32.1	+4.7
PLTB	Pedras Altas	22.36	133	*e*P	P	09 48 38.5	+11
PLCA	Paso Flores	23.38	176	P	P	09 48 41.2	+2.9
	comp=Z,2.6nm,1.0s,baz=348,slow=10,SNR=3.5						
PLCA	Paso Flores	23.38	176	P	P	09 48 41.2	+2.9
BDFB	Brasilia	23.55	89	P	P	09 48 37.3	-2.9
	comp=Z,3.7nm,1.0s,baz=165,slow=27,SNR=1.6						
BDFB				LR	LR	09 58 06.7	
	comp=Z,103nm,20.8s,baz=320,slow=38						
BDFB	Brasilia	23.55	89	P	P	09 48 39.2	-0.9
BDFB				IAmb	IAmb	09 48 55.1	
	comp=Z,16nm,1.5s						
PRPB	Paraupebas	24.80	66	*e*P	P	09 48 49.8	-1.9
SMTB	Santa Maria do	25.67	74	*e*P	P	09 48 58.5	-1.1
PARB	Paraibuna	25.89	108	*e*P	P	09 49 06.7	+5.1
MCPB	Macapa, AP	26.27	52	*e*P	P	09 49 03.8	-1.1
MAN01	Angra dos Reis	27.34	106	*e*P	P	09 49 17.8	+3.2
MDP	Montagnes des	29.70	43	LR	LR	10 02 02.8	
	comp=Z,146nm,18.7s,baz=178,slow=38						
JTS	Las Juntas de	30.08	335	LR	LR	10 00 51.3	
	comp=Z,37nm,18.6s,baz=215,slow=34						
GDU01	Guandu, BA	31.91	88	*e*S	S	09 54 52.8	-11
DBIC	Dimbokro	70.94	76	P	P	09 54 47.6	+0.6
	comp=Z,2.8nm,0.8s,baz=245,slow=9.5,SNR=3.7						
DBIC				pP	pP	09 54 56.5	-1.1
	comp=Z,4.1nm,0.6s,baz=222,slow=6.4,SNR=2.7						
DBIC	Dimbokro	70.94	76	P	P	09 54 47.0	0.0
TORD	Torodi Ar. Bea	79.26	73	P	P	09 55 33.8	-1.2
	comp=Z,2.3nm,0.6s,baz=249,slow=6.0,SNR=6.1						
TORD				pP	pP	09 55 44.7	-1.0
	comp=Z,4.9nm,0.6s,baz=252,slow=5.2,SNR=10						
TORD	Torodi Ar. Bea	79.26	73	P	P	09 55 33.5	-1.6
ESDC	Sonseca Array	85.34	46	P	P	09 56 05.9	-0.5
	comp=Z,1.1nm,0.9s,baz=245,slow=5.1,SNR=10						
MAW	Mawson	89.25	164	P	P	09 56 25.9	+1.1
	comp=Z,1.4nm,0.3s,baz=226,slow=20,SNR=2.2						
MAW	Mawson	89.25	164	P	P	09 56 26.3	+1.5
MAW				IAmb	IAmb	09 56 44.4	
	comp=Z,0.5nm,0.6s						
KDAK	Kodiak Island	99.31	328	LR	LR	10 45 04.5	
	comp=Z,78nm,21.1s,baz=52,slow=37						
H11N3	WAKE ISLAND Hyl	23.86	282	T	T	12 18 37.1	
	baz=98,slow=75,SNR=7.7						
H11N2	WAKE ISLAND Hyl	23.87	282	T	T	12 18 38.1	
	baz=98,slow=75,SNR=7.7						
H11N1	WAKE ISLAND Hyl	23.87	282	T	T	12 18 38.6	
	baz=98,slow=75,SNR=4.8						
ASAR	Alice Springs	131.77	213	PKP	PKiKP	10 02 45.4	+1.4
	comp=Z,0.2nm,0.7s,baz=146,slow=2.7,SNR=1.6						
ASAR				pPKP	sPKPdf	10 02 56.5	-1.3
	comp=Z,0.5nm,0.7s,baz=142,slow=2.5,SNR=3.4						
ASAR	Alice Springs	131.77	213	PKiKP	PKiKP	10 02 43.9	-0.1
WRA	Warramunga Arr	134.53	217	PKP	PKiKP	10 02 50.4	+0.8
	comp=Z,0.2nm,0.8s,baz=139,slow=1.8,SNR=1.8						
WRA				pPKP	sPKPdf	10 03 02.0	-1.1
	comp=Z,0.4nm,0.6s,baz=135,slow=1.8,SNR=2.5						
WRA	Warramunga Arr	134.53	217		PKiKP	10 02 49.5	-0.1
MKAR	Makanchi Array	144.00	30	PKP	PKPdf	10 03 03.6	-1.0
	comp=Z,0.3nm,0.4s,baz=0.0,slow=2.4,SNR=3.8						
MKAR	Makanchi Array	144.00	30		PKPdf	10 03 04.0	-0.6
MJAR	Matsushiro Arr	146.81	311	PKPbc	PKiKP	10 03 14.0	-0.2
	comp=Z,0.4nm,0.6s,baz=100,slow=1.1,SNR=4.4						
MJAR	Matsushiro Arr	146.81	311		PKiKP	10 03 13.4	-0.8
SONM	Songino Array	149.57	1	PKPbc	PKiKP	10 03 20.3	+0.6
	comp=Z,0.5nm,0.5s,baz=0.0,slow=1.4,SNR=2.6						
SONM	Songino Array	149.57	1		PKiKP	10 03 20.2	+0.5
KSRS	Korea Array	153.08	322	PKPbc	PKiKP	10 03 29.3	+2.3
	comp=Z,0.7nm,0.9s,baz=10,slow=2.3,SNR=3.0						
KSRS				pPKPbc	sPKPbc	10 03 40.7	-0.9
	comp=Z,0.6nm,0.6s,baz=359,slow=2.4,SNR=3.6						

*SKO **07** 09:47:41.2, 41.°47N×20.°37E, h15km*
*TIR **07** 09:47:45.7, 41.°52N×20.°34E, h5km±3km, Md2.5*
*BEO **07** 09:47:46.7±0.3, 41.°45N×20.°39E, h5km±2km, ML2.0/9*

ISC 07 09:47:46.5±1.0, 41.°52N±0.°02×20.°33E±0.°02, h8km±9km, n22, σ1°66/43, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.18	26	P	Pg	09 47 50.1	-0.2
	baz=24						
PHP				S	Sg	09 47 53.0	+0.1
	baz=24						
TIR	Tirane	0.39	244	*e*Pg	Pg	09 47 53.6	-0.5
TIR				*e*Sg	Sb	09 48 00.7	-1.1
TIR	Tirane	0.39	244	P	Pg	09 47 54.0	-0.1
	baz=245						
TIR				S	Sb	09 48 00.1	-1.6
	baz=245						
OHR	Ohrid	0.54	139	*i* Pg	Pg	09 47 55.8	-1.1
OHR				*i* Sg	Sb	09 48 04.0	-2.0
OHR				*e*Lg	Lg	09 48 04.2	
	comp=E,126nm,0.5s						
OHR				*e*Lg	Lg	09 48 04.8	
	comp=N,186

ATFO				S	Sb	09 55 38.9	-0.7
ATFO				AML	AML		
	comp=E,81μm,1.0s						
ATFO				AML	AML		
	comp=N,116μm,0.6s						
ATFO				AML	AML		
	comp=E,81μm,1.0s						
NRCA	**Norcia**	**0.38**	**120**	P	Pg	09 55 33.7	+0.7
ATVO	**AVT- Monte Val**	**0.40**	**332**	P	Pg	09 55 33.9	+0.5
ATVO				S	Sb	09 55 40.5	-0.6
ATVO				AML	AML		
	comp=E,66μm,1.2s						
ATVO				AML	AML		
	comp=N,58μm,0.4s						
ATVO				AML	AML		
	comp=E,66μm,1.2s						
ATVO				AML	AML		
	comp=N,58μm,0.4s						
CSP1	**Cessapalombo**	**0.40**	**81**	P	Pg	09 55 33.9	+0.5
MGAB	**Montegabbione**	**0.42**	**254**	P	Pb	09 55 34.8	-0.3
MGAB				AML	AML		
	comp=N,98μm,0.3s						
MGAB				AML	AML		
	comp=E,71μm,0.5s						
ATMI	**Monte Miggiano**	**0.42**	**317**	P	Pb	09 55 34.8	-0.3
ATMI				AML	AML		
	comp=N,130μm,0.3s						
ATMI				AML	AML		
	comp=E,134μm,0.7s						
CESX	**Cesi**	**0.42**	**188**	P	Pb	09 55 34.9	-0.2
CESX				S	Sb	09 55 41.0	-0.6
EL6	**Elcito**	**0.44**	**47**	P	Pg	09 55 34.6	+0.6
ATPI	**Pietralunga -**	**0.46**	**336**	P	Pg	09 55 34.9	+0.4
ATPI				S	Sb	09 55 42.3	-0.6
LNSS	**Leonessa**	**0.51**	**147**	P	Pg	09 55 35.8	+0.5
LNSS				AML	AML		
	comp=E,80μm,0.4s						
LNSS				AML	AML		
	comp=N,60μm,0.9s						
PIEI	**Pieia**	**0.52**	**350**	P	Pg	09 55 35.9	+0.4
PIEI				S	Sb	09 55 44.0	-0.4
CAFI	**Castiglion Fio**	**0.59**	**301**	P	Pg	09 55 37.5	+0.5
CAFI				AML	AML		
	comp=E,37μm,0.3s						
CAFI				AML	AML		
	comp=N,35μm,0.7s						

BGR ***07*** *09:56:04.1±0.0,36°.39N×20°.78E,h10km*
ATH ***07*** *09:56:21.1,37°.45N×19°.71E,h9km±1km,ML4.4/14,Error ellipse: s-maj=2.0km s-min=0.8km az=63.0*
IDC ***07*** *09:56:22.9±0.5,37°.63N×20°.06E,h0km,mb4.3/25, mb1 4.4/38,mb1mx4.3/51,mbtmp4.2/38,ML4.0/12, MS3.6/20,Ms1 3.6/20,ms1mx3.4/50,Error ellipse: s-maj=12.2km s-min=10.9km az=3.0*
THE ***07*** *09:56:22.8,37°.50N×19°.76E,h2km±2km,ML4.3/20,Error ellipse: s-maj=2.3km s-min=1.1km az=97.0*
GII ***07*** *09:56:23.2±0.0,37°.50N×20°.00E,h10km*
NEIC ***07*** *09:56:25.0±2.4,37°.64N±0°.06×19°.90E±0°.05,h10km±4km, mb4.6/54,ML4.3(THE),ML4.4(ATH),Error ellipse: s-maj=8.6km s-min=6.2km az=174.0*
MOS ***07*** *09:56:24.7±1.2,37°.75N×19°.99E,h17km,mb4.7/23,Error ellipse: s-maj=6.8km s-min=4.0km az=73.6*
MED_RC ***07*** *09:56:25.0±1.1,37°.41N×19°.96E,h19km±1km,MW4.6/13, Moment Tensor Solution.Mantle waves: s13,c18; Duration: 1s0 Moment tensor: Scale 10^16Nm; M_{rr}0.78±.11; $M_{\theta\theta}$-0.29±.06; $M_{\phi\phi}$-0.49±.07; $M_{r\theta}$0.33±.07; $M_{\theta\phi}$0.49±.03; $M_{\phi r}$-0.23±.08; Best double couple: $M_0$0.93000×10^16 NP1:ϕ_s329.00000°,δ33.00000°, λ104.00000°. NP2:ϕ_s133.00000°,δ58.00000°,λ81.00000°. Principal axes: T 0.8800, Plg75.0000°, Azm17.0000°; N 0.1000, Plg8.0000°, Azm138.0000°; P -0.9800, Plg12.0000°, Azm229.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PDG ***07*** *09:56:25.4±0.7,37°.63N×19°.90E,h21km±1km,ML4.4/13 Error ellipse: s-maj=1.3km s-min=1.3km az=0.0*
HLW ***07*** *09:56:29.0,37°.79N×21°.30E,h10km±26km,Md4.5,Ml4.9*
BEO ***07*** *09:56:32.1±0.6,38°.10N×19°.90E,h18km±4km,ML4.3/13*
ISC 07 09:56:25.8±0.6,**37°.65N**±0°.03×**19°.92E**±0°.02,**h19**km±2km, **n589**,σ1§**84**/660,**mb4.6**/68,**MS3.8**/17,**38C-23D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLMS	**Volimes, Zakyn**	**0.64**	**68**	P	**Pg**	**09 56 37.6**	**-0.9**
VLMS				S	**Sn**	**09 56 50.1**	**+0.6**
VLMS				AML	AML	09 56 54.8	
VLMS				AML	AML	09 56 55.7	
	comp=E,74660μm,0.4s						
KEF3	**Kipouria, Keph**	**0.65**	**31**	P	**Pb**	**09 56 38.7**	**+0.1**
KEF3				S	**Sn**	**09 56 50.8**	**+0.9**
ARGA	**Argostoli. Kep**	**0.69**	**40**	P	**Pg**	**09 56 39.0**	**-0.5**
ARGA				S	**Sn**	**09 56 51.9**	**+1.1**
ARG2	**Argostoli**	**0.70**	**40**	P	**Pb**	**09 56 39.2**	**-0.2**
ARG2				S	**Sn**	**09 56 52.8**	**+1.8**
	comp=E,63μm,0.2s						
KRI1	**kERI**	**0.72**	**88**	P	**Pg**	**09 56 39.1**	**-0.8**
KRI1				S	**Sb**	**09 56 50.5**	**+1.4**
	comp=E,51μm,0.4s						
KEF4	**Livadi, Kephal**	**0.73**	**33**	P	**Pb**	**09 56 39.8**	**-0.2**
KEF4				S	**Sn**	**09 56 53.0**	**+1.2**
VLS	**Valsamata**	**0.75**	**45**	P	**Pg**	**09 56 39.7**	**-0.9**
VLS				S	**Sn**	**09 56 53.8**	**+1.4**
	comp=E,24μm,0.4s						
VLS	**Valsamata**	**0.75**	**45**	P	**Pg**	**09 56 39.7**	**-0.9**
VLS				S	**Sn**	**09 56 53.6**	**+1.3**
VLS				AML	AML	09 56 59.3	
	comp=E,34512μm,0.4s						
VLS				AML	AML	09 57 02.0	
	comp=N,58263μm,0.5s						
KEF5	**Kardakata, Kep**	**0.77**	**35**	P	**Pg**	**09 56 40.2**	**-0.7**
KEF5				S	**Sn**	**09 56 54.6**	**+1.8**
ZAK2	**Zakynthos**	**0.79**	**79**	P	**Pg**	**09 56 40.3**	**-1.1**
ZAK2				S	**Sn**	**09 56 54.5**	**+1.2**
	comp=N,141μm,0.4s						
FSK	**Fiskardo**	**0.96**	**32**	P	**Pn**	**09 56 44.5**	**+0.2**
FSK				S	**Sn**	**09 57 00.5**	**+3.1**
	comp=N,11μm,0.5s						
FSK	**Fiskardo**	**0.96**	**32**	P	**Pg**	**09 56 43.4**	**-1.1**
FSK				S	**Sn**	**09 57 00.5**	**+3.1**
FSK				AML	AML	09 57 06.3	
	comp=E,29714μm,0.4s						
FSK				AML	AML	09 57 09.3	
	comp=N,16935μm,0.6s						
VTN	**Vitineika**	**1.04**	**75**	P	**Pn**	**09 56 45.9**	**+0.5**
VTN				S	**Sn**	**09 57 04.0**	**+4.5**
VTN	**Vitineika**	**1.04**	**75**	P	**Pb**	**09 56 45.6**	**+0.3**
VTN				S	**Sn**	**09 57 02.8**	**+3.3**
EVGI	**Lefkada island**	**1.14**	**31**	P	**Pn**	**09 56 48.0**	**+1.3**
EVGI				S	**Sn**	**09 57 06.2**	**+4.4**
EVGI	**Lefkada island**	**1.14**	**31**	P	**Pb**	**09 56 46.7**	**-0.2**
EVGI				S	**Sn**	**09 57 05.8**	**+4.0**
LKD2	**Lefkada island**	**1.28**	**27**	P	**Pg**	**09 56 50.0**	**-0.7**
LKD2				S	**Sg**	**09 57 09.7**	**+2.2**
	comp=N,11μm,0.5s						
LKD2	**Lefkada island**	**1.28**	**27**	P	**Pg**	**09 56 50.3**	**-0.3**
LKD2				S	**Sg**	**09 57 10.4**	**+2.9**
LKD2				AML	AML	09 57 19.7	
	comp=N,23901μm,0.4s						
LKD2				AML	AML	09 57 20.0	
	comp=E,16610μm,0.6s						
AST1	**Astakos**	**1.29**	**46**	P	**Pg**	**09 56 50.4**	**-0.3**
AST1				S	**Sg**	**09 57 11.0**	**+3.4**
RLS	**Riolos of Patr**	**1.30**	**71**	P	**Pb**	**09 56 49.9**	**+0.3**
RLS				S	**Sg**	**09 57 08.4**	**+0.6**
RLS	**Riolos of Patr**	**1.30**	**71**	P	**Pb**	**09 56 49.9**	**+0.3**
RLS				AML	AML	09 57 20.5	
	comp=N,15156μm,0.8s						
RLS				AML	AML	09 57 22.1	
	comp=E,12516μm,0.5s						
TSLK	**Tsoukalades, L**	**1.31**	**26**	P	**Pg**	**09 56 50.7**	**-0.5**
TSLK				S	**Sg**	**09 57 10.1**	**+1.7**
	comp=E,12μm,0.6s						
TSLK	**Tsoukalades, L**	**1.31**	**26**	P	**Pg**	**09 56 50.8**	**-0.4**
TSLK				S	**Sg**	**09 57 12.3**	**+3.9**
TSLK				AML	AML	09 57 19.4	
	comp=N,28153μm,0.7s						
TSLK				AML	AML	09 57 20.5	
	comp=E,22101μm,0.5s						
AMT	**Artemida-Makis**	**1.43**	**94**	P	**Pn**	**09 56 50.7**	**-0.1**
AMT				S	**Sg**	**09 57 13.5**	**+1.4**
	comp=E,9μm,0.7s						
AMT	**Artemida-Makis**	**1.43**	**94**	P	**Pn**	**09 56 51.0**	**+0.2**
AMT				AML	AML	09 57 26.9	
	comp=E,14153μm,0.8s						
AMT				AML	AML	09 57 29.9	
	comp=N,20406μm,0.6s						
DRO	**Drossia**	**1.46**	**77**	P	**Pb**	**09 56 52.2**	**-0.1**
DRO				S	**Sg**	**09 57 15.4**	**+2.5**
	comp=N,12μm,0.4s						
DRO	**Drossia**	**1.46**	**77**	P	**Pb**	**09 56 52.3**	**-0.1**
DRO				AML	AML	09 57 27.8	
	comp=E,22153μm,0.4s						
DRO				AML	AML	09 57 29.0	
	comp=N,24329μm,0.5s						
PVO	**Paravola**	**1.60**	**52**	P	**Pb**	**09 56 55.3**	**+0.6**
PVO				S	**Sg**	**09 57 18.9**	**+1.4**
	comp=N,7μm,0.6s						
PVO	**Paravola**	**1.60**	**52**	P	**Pb**	**09 56 55.4**	**+0.6**
PVO				S	**Sg**	**09 57 20.4**	**+2.9**
PVO				AML	AML	09 57 28.6	
	comp=E,13292μm,0.7s						
PVO				AML	AML	09 57 28.6	
	comp=N,15098μm,0.4s						
PYL	**PYLOS**	**1.64**	**117**	P	**Pn**	**09 56 53.6**	**0.0**
PYL	**PYLOS**	**1.64**	**117**	P	**Pn**	**09 56 52.9**	**-0.7**
ITM	**Ithomi**	**1.67**	**106**	P	**Pn**	**09 56 53.8**	**-0.2**
ITM	**Ithomi**	**1.67**	**106**	P	**Pn**	**09 56 53.9**	**-0.2**
ITM	**Ithomi**	**1.67**	**106**	*eP*	**Pn**	**09 56 53.9**	**-0.2**
ITM	**Ithomi**	**1.67**	**106**	Pn	**Pn**	**09 56 54.2**	**+0.1**
LAKA	**Lakka**	**1.74**	**69**	P	**Pb**	**09 56 57.1**	**0.0**
EFP	**Efpalio**	**1.75**	**63**	P	**Pb**	**09 56 57.2**	**-0.2**
EFP				S	**Sg**	**09 57 23.3**	**+0.8**
	comp=N,5μm,0.9s						
EFP	**Efpalio**	**1.75**	**63**	P	**Pb**	**09 56 57.1**	**-0.2**
EFP				AML	AML	09 57 33.9	
	comp=E,7522μm,0.4s						
EFP				AML	AML	09 57 38.7	
	comp=N,10082μm,0.6s						
KLV	**Kalavryta, Ach**	**1.81**	**77**	P	**Pn**	**09 56 57.5**	**+1.4**
KLV				S	**Sg**	**09 57 22.7**	**-1.6**
	comp=N,4μm,1.2s						
KLV	**Kalavryta, Ach**	**1.81**	**77**	P	**Pb**	**09 56 57.9**	**-0.6**
ALIK	**Aliki, Aigiali**	**1.84**	**70**	P	**Pb**	**09 56 58.3**	**-0.6**
ALIK				S	**Sg**	**09 57 24.7**	**-0.5**
ANX	**Ano Chora**	**1.84**	**59**	P	**Pb**	**09 56 58.8**	**-0.2**
ANX				S	**Sg**	**09 57 24.6**	**-0.7**
	comp=N,8μm,0.8s						
ANX	**Ano Chora**	**1.84**	**59**	P	**Pb**	**09 56 58.9**	**-0.2**
ANX				AML	AML	09 57 38.4	
	comp=E,12392μm,0.8s						
ANX				AML	AML	09 57 40.9	
	comp=N,20139μm,0.8s						
TRIP	**Tripoli**	**1.88**	**93**	P	**Pn**	**09 56 57.8**	**+0.8**
TRIP	**Tripoli**	**1.88**	**93**	P	**Pn**	**09 56 57.8**	**+0.8**
IGT	**Igoumenitsa**	**1.91**	**10**	P	**Pn**	**09 56 58.3**	**+0.8**
IGT				S	**Sb**	**09 57 25.4**	**+1.8**
	comp=N,4μm,0.6s						
IGT	**Igoumenitsa**	**1.91**	**10**	*e*Pg	**Pn**	**09 56 58.3**	**+0.8**
IGT				*e*Sg	**Sn**	**09 57 19.0**	**-2.0**
IGT	**Igoumenitsa**	**1.91**	**10**	P	**Pn**	**09 56 58.2**	**+0.8**
GUR	**Goura**	**1.94**	**81**	P	**Pn**	**09 56 59.4**	**+1.4**
GUR				S	**Sb**	**09 57 26.7**	**+2.0**
	comp=N,6μm,0.5s						
GUR	**Goura**	**1.94**	**81**	P	**Pn**	**09 56 59.2**	**+1.3**
GUR				AML	AML	09 57 39.4	
	comp=E,8665μm,0.5s						
GUR				AML	AML	09 57 43.8	
	comp=N,14546μm,0.5s						
EVR	**Evrytania**	**1.96**	**49**	P	**Pb**	**09 57 00.4**	**-0.5**
EVR	**Evrytania**	**1.96**	**49**	P	**Pb**	**09 57 00.9**	**0.0**
VLX	**Vlachokerasia**	**1.98**	**97**	P	**Pn**	**09 56 58.7**	**+0.3**
VLX	**Vlachokerasia**	**1.98**	**97**	P	**Pn**	**09 56 59.0**	**+0.5**
KASA	**Kassiopi**	**2.10**	**0**	P	**Pn**	**09 57 00.9**	**+0.9**
JAN	**Janina**	**2.14**	**20**	P	**Pn**	**09 57 02.3**	**+1.7**
JAN				S	**Sb**	**09 57 31.3**	**+1.2**
	comp=N,3μm,0.5s						
JAN	**Janina**	**2.14**	**20**	P	**Pb**	**09 57 03.2**	**-0.7**
DLFA	**Delphi**	**2.20**	**67**	P	**Pn**	**09 57 03.0**	**+1.6**
DSF	**Desfina**	**2.20**	**69**	P	**Pn**	**09 57 02.6**	**+1.2**
DSF				S	**Sb**	**09 57 33.7**	**+1.8**
	comp=N,2μm,0.7s						
DSF	**Desfina**	**2.20**	**69**	P	**Pn**	**09 57 02.7**	**+1.3**
DSF				AML	AML	09 57 44.0	
	comp=E,3526μm,0.3s						
DSF				AML	AML	09 57 53.5	
	comp=N,3972μm,0.5s						
SRN	**Sarande**	**2.23**	**2**	P	**Pn**	**09 57 02.5**	**+0.7**
SRN				S	**Sb**	**09 57 33.0**	**+0.2**
	comp=N,3μm,0.6s						
AGG	**Agios Georgios**	**2.34**	**53**	P	**Pn**	**09 57 05.1**	**+1.7**
AGG	**Agios Georgios**	**2.34**	**53**	P	**Pn**	**09 57 05.3**	**+2.0**
AGG	**Agios Georgios**	**2.34**	**53**	*e*P	**Pn**	**09 57 05.3**	**+2.0**
AGG	**Agios Georgios**	**2.34**	**53**	P	**Pn**	**09 57 05.4**	**+2.0**
AGG	**Agios Georgios**	**2.34**	**53**	Pn	**Pn**	**09 57 05.4**	**+2.0**
MEV	**Metsovon**	**2.37**	**25**	P	**Pn**	**09 57 06.1**	**+2.2**
MEV	**Metsovon**	**2.37**	**25**	P	**Pb**	**09 57 06.5**	**-1.5**
LTK	**Loutraki**	**2.45**	**80**	P	**Pn**	**09 57 05.5**	**+0.8**
LTK	**Loutraki**	**2.45**	**80**	P	**Pn**	**09 57 05.5**	**+0.8**
THL	**Klokotos Trika**	**2.52**	**40**	P	**Pn**	**09 57 08.3**	**+2.5**
THL	**Klokotos Trika**	**2.52**	**40**	P	**Pn**	**09 57 08.1**	**+2.3**
KPRO	**Kipourio**	**2.57**	**26**	P	**Pb**	**09 57 09.2**	**-2.1**
KPRO	**Kipourio**	**2.57**	**26**	P	**Pb**	**09 57 09.3**	**-2.0**
VLI	**Veliai**	**2.58**	**110**	P	**Pn**	**09 57 06.0**	**-0.7**
VLI	**Veliai**	**2.58**	**110**	P	**Pn**	**09 57 08.1**	**+1.5**
LKR	**Lokris**	**2.63**	**67**	P	**Pn**	**09 57 08.0**	**+0.7**
LKR	**Lokris**	**2.63**	**67**	P	**Pn**	**09 57 08.0**	**+0.7**
DID	**Didima**	**2.64**	**92**	P	**Pn**	**09 57 07.3**	**-0.2**
DID	**Didima**	**2.64**	**92**	P	**Pn**	**09 57 07.3**	**-0.2**
DID				AML	AML	09 58 07.6	
	comp=E,3776μm,0.6s						
DID				AML	AML	09 58 08.9	
	comp=N,4422μm,0.7s						
MNVA	**Monemvasia**	**2.67**	**110**	P	**Pn**	**09 57 08.8**	**+0.9**
SCTE	**Santa Cesarea**	**2.67**	**335**	P	**Pn**	**09 57 08.5**	**+0.7**
SCTE	**Santa Cesarea**	**2.67**	**335**	Pn	**Pn**	**09 57 08.6**	**+0.7**
VIL2	**Platees**	**2.71**	**77**	P	**Pn**	**09 57 09.2**	**+0.8**
PENT	**Pentalofos**	**2.72**	**20**	P	**Pn**	**09 57 11.4**	**+2.8**
PENT	**Pentalofos**	**2.72**	**20**	P	**Pb**	**09 57 12.0**	**-2.0**
VILL	**Villia**	**2.74**	**78**	P	**Pn**	**09 57 09.3**	**+0.5**
VILL				S	**Sb**	**09 57 46.0**	**-1.4**
VLO	**Vlora**	**2.84**	**354**	P	**Pn**	**09 57 11.6**	**+1.5**
KTHA	**Kythira Island**	**2.88**	**118**	P	**Pn**	**09 57 11.1**	**+0.4**
KTHA				S	**Sn**	**09 57 46.1**	**+1.3**
	comp=N,945nn,1.2s						
KTHA	**Kythira Island**	**2.88**	**118**	P	**Pn**	**09 57 12.0**	**+1.3**
KTHA	**Kythira Island**	**2.88**	**118**	*e*P	**Pn**	**09 57 12.3**	**+1.6**
NEST	**Nestorio**	**2.90**	**17**	P	**Pn**	**09 57 14.2**	**+3.0**
TIP	**Timpagrande**	**2.91**	**303**	P	**Pn**	**09 57 12.1**	**+0.8**
TIP	**Timpagrande**	**2.91**	**303**	⇓P	**Pn**	**09 57 12.6**	**+1.4**
TIP	**Timpagrande**	**2.91**	**303**	⇑S	**Sn**	**09 57 45.2**	**-0.6**
TIP	**Timpagrande**	**2.91**	**303**	Pn	**Pn**	**09 57 12.3**	**+1.0**
TIP				Sn	**Sn**	**09 57 43.3**	**-2.5**
VOL3	**Nea Ionia, Vol**	**2.93**	**53**	P	**Pn**	**09 57 11.1**	**-0.3**
VOL2	**Volos**	**2.94**	**53**	P	**Pn**	**09 57 13.0**	**+1.6**
KZN	**Kozani**	**3.03**	**28**	P	**Pn**	**09 57 15.5**	**+2.7**
ATH	**Athens Observa**	**3.03**	**83**	P	**Pn**	**09 57 13.6**	**+0.9**
ATH				S	**Sn**	**09 57 51.6**	**+3.1**
	comp=N,1μm,0.7s						
ATH	**Athens Observa**	**3.03**	**83**	P	**Pn**	**09 57 13.2**	**+0.4**
NEO	**Neokhori**	**3.08**	**56**	P	**Pn**	**09 57 14.1**	**+0.6**
ATHU	**Athens Univers**	**3.08**	**83**	P	**Pn**	**09 57 13.7**	**+0.2**
ATHU				S	**Sb**	**09 57 55.4**	**-1.9**
ATHU	**Athens Univers**	**3.08**	**83**	P	**Pn**	**09 57 13.8**	**+0.3**
VLY	**Voula,Athens**	**3.08**	**85**	P	**Pn**	**09 57 13.4**	**-0.1**
PTL	**Penteli**	**3.15**	**81**	P	**Pn**	**09 57 14.7**	**+0.2**
LIT	**Litokhoron**	**3.17**	**39**	P	**Pn**	**09 57 16.3**	**+1.6**
LIT	**Litokhoron**	**3.17**	**39**	P	**Pn**	**09 57 16.2**	**+1.5**
LIT	**Litokhoron**	**3.17**	**39**	Pn	**Pn**	**09 57 16.2**	**+1.5**
DION	**Dionisos Attik**	**3.21**	**81**	P	**Pn**	**09 57 15.5**	**+0.2**
CEL	**Celeste**	**3.24**	**282**	Pn	**Pn**	**09 57 16.8**	**+1.1**
CEL				Sn	**Sn**	**09 57 54.0**	**+0.2**
ANKY	**Antikythira Is**	**3.25**	**122**	P	**Pn**	**09 57 14.1**	**-1.7**
KYMI	**Kymi, Euboea I**	**3.44**	**72**	P	**Pn**	**09 57 19.8**	**+1.3**
ALNA	**Alonissos**	**3.45**	**63**	P	**Pn**	**09 57 19.2**	**+0.7**
OHR	**Ohrid**	**3.53**	**11**	*i* Pn	**Pn**	**09 57 22.2**	**+2.6**
TAR1	**Taranto**	**3.53**	**325**	⇓*i*Pn	**Pn**	**09 57 20.6**	**+1.0**
TAR1				Sn	**Sn**	**09 58 00.4**	**-0.4**
TIR	**Tirane**	**3.70**	**359**	*e*Pn	**Pn**	**09 57 22.2**	**+0.3**
TIR				*e*Sn	**Sn**	**09 58 00.7**	**-4.3**
TIR	**Tirane**	**3.70**	**359**	⇓P	**Pn**	**09 57 23.4**	**+1.5**
TIR	**Tirane**	**3.70**	**359**	P	**Pn**	**09 57 22.3**	**+0.3**
TIR	**Tirane**	**3.70**	**359**	Pn	**Pn**	**09 57 22.3**	**+0.3**
RODP	**Rodopos**	**3.73**	**123**	P	**Pn**	**09 57 23.1**	**+0.7**
RODP	**Rodopos**	**3.73**	**123**	*e*P	**Pn**	**09 57 23.6**	**+1.2**
THE	**Thessaloniki**	**3.81**	**38**	P	**Pn**	**09 57 24.6**	**+1.1**
NOCI	**Noci**	**3.84**	**326**	P	**Pn**	**09 57 24.2**	**+0.3**
HORT	**Hortiatis**	**3.85**	**39**	*e*P	**Pn**	**09 57 24.9**	**+0.8**
KNDR	**Palaiochora Ch**	**3.88**	**127**	*e*P	**Pn**	**09 57 23.8**	**-0.6**
MATE	**Matera**	**3.90**	**321**	⇓P	**Pn**	**09 57 25.8**	**+1.1**
MATE	**Matera**	**3.90**	**321**	⇓S	**Sn**	**09 58 09.2**	**-0.8**
IMMV	**Iera Moni Meta**	**3.93**	**122**	P	**Pn**	**09 57 25.6**	**+0.4**
IMMV	**Iera Moni Meta**	**3.93**	**122**	*e*P	**Pn**	**09 57 26.2**	**+1.0**
VAM	**Vamos**	**4.11**	**122**	P	**Pn**	**09 57 28.1**	**+0.5**
SOH	**Sokhos**	**4.15**	**39**	P	**Pn**	**09 57 30.0**	**+1.9**
OUR	**Ouranopolis**	**4.15**	**48**	*e*P	**Pn**	**09 57 28.7**	**+0.5**
BAI	**Bari**	**4.18**	**327**	⇓*i*Pn	**Pn**	**09 57 29.4**	**+0.8**
BAI				Sn	**Sn**	**09 58 16.3**	**-0.6**
KNT	**Kendrikon**	**4.20**	**32**	*e*P	**Pn**	**09 57 30.2**	**+1.3**
VAY	**Valandovo**	**4.21**	**28**	*e*Pn	**Pn**	**09 57 29.9**	**+1.0**
VAY				*e*Sn	**Sn**	**09 58 13.6**	**-3.9**
VAY	**Valandovo**	**4.21**	**28**	*i* Pn	**Pn**	**09 57 30.1**	**+1.2**
ULC	**Ulcinj**	**4.34**	**353**	⇑*i*Pn	**Pn**	**09 57 30.4**	**-0.5**
ULC				*i* Sn	**Sn**	**09 58 18.8**	**-2.2**
VAE	**Valguarnera**	**4.38**	**269**	Pn	**Pn**	**09 57 33.1**	**+1.8**
	comp=N,2.9nm,0.3s,baz=176,slow=3.8,SNR=6.8						
VAE				Sn	**Sn**	**09 58 23.9**	**+2.0**
	comp=N,14nm,0.3s,baz=339,slow=22,SNR=5.5						
GVD	**Gavdhos**	**4.38**	**128**	P	**Pn**	**09 57 31.1**	**-0.2**
GVD	**Gavdhos**	**4.38**	**128**	*e*P	**Pn**	**09 57 32.6**	**+1.4**
STIP	**Stip**	**4.41**	**23**	*i* Pn	**Pn**	**09 57 34.6**	**+2.9**
RAFF	**Raffo Rosso**	**4.44**	**266**	Pn	**Pn**	**09 57 32.4**	**+0.3**
RAFF				Sn	**Sn**	**09 58 21.3**	**-2.0**
SKO	**Skopje**	**4.48**	**15**	*e*Pn	**Pn**	**09 57 33.8**	**+1.1**
SKO	**Skopje**	**4.48**	**15**	*i* Pn	**Pn**	**09 57 34.0**	**+1.3**
SRS	**Serrai**	**4.49**	**38**	*e*Pn	**Pn**	**09 57 32.9**	**+0.1**
APE	**Apeiranthos**	**4.51**	**96**	⇑P	**Pn**	**09 57 36.0**	**+2.8**
APE	**Apeiranthos**	**4.51**	**96**	*de*P	**Pn**	**09 57 32.2**	**-1.0**
DRME	**Dracevica, Mon**	**4.57**	**353**	⇑*i*Pn	**Pn**	**09 57 33.9**	**-0.1**
DRME				*i* Sn	**Sn**	**09 58 24.2**	**-2.3**
DRME	**Dracevica, Mon**	**4.57**	**353**	*e*Pn	**Pn**	**09 57 33.9**	**-0.1**
SANT	**Santorini**	**4.62**	**104**	*e*P	**Pn**	**09 57 34.5**	**-0.1**
SANT	**Santorini**	**4.62**	**104**	Pn	**Pn**	**09 57 34.7**	**+0.1**
IDI	**Anoyia**	**4.65**	**119**	Pn	**Pn**	**09 57 34.7**	**-0.4**
	comp=N,13nm,0.3s,baz=284,slow=13,SNR=31						
IDI				Sn	**Sn**	**09 58 28.1**	**-0.5**
	comp=N,15nm,0.3s,baz=11,slow=23,SNR=9.5						
IDI	**Anoyia**	**4.65**	**119**		**Pn**	**09 57 35.0**	**-0.1**
BUM	**Brajici-Budva**	**4.71**	**351**	⇑*i*Pn	**Pn**	**09 57 35.8**	**-0.2**
BUM				*i* Sn	**Sn**	**09 58 27.9**	**-2.3**
PDG	**Podgorica**	**4.81**	**354**	*e*Pn	**Pn**	**09 57 36.8**	**-0.4**
PDG				*e*Sn	**Sn**	**09 58 26.2**	**-6.1**
PDG	**Podgorica**	**4.81**	**354**	⇑P	**Pn**	**09 57 37.9**	**+0.8**
PDG	**Podgorica**	**4.81**	**354**	⇑S	**Sn**	**09 58 30.6**	**-1.7**
PDG	**Podgorica**	**4.81**	**354**	*e*Pn	**Pn**	**09 57 36.4**	**-0.8**
PDG	**Podgorica**	**4.81**	**354**	Pn	**Pn**	**09 57 37.4**	**+0.2**
PDG				Sn	**Sn**	**09 58 32.4**	**+0.1**
TTG	**Podgorica**	**4.81**	**354**	⇑*i*Pn	**Pn**	**09 57 37.2**	**0.0**
TTG				*i* Sn	**Sn**	**09 58 29.9**	**-2.4**
KKB	**Krupnik**	**4.87**	**29**	*i* P	**Pn**	**09 57 39.3**	**+1.2**
CHOS	**Chios island**	**4.91**	**79**	*e*P	**Pn**	**09 57 39.5**	**+0.9**
MMB	**Musomiste**	**4.92**	**36**	*i* P	**Pn**	**09 57 39.7**	**+1.0**
HCY	**Herceg Novi**	**4.92**	**348**	⇑*i*Pn	**Pn**	**09 57 37.8**	**-0.9**
HCY				*i* Sn	**Sn**	**09 58 32.7**	**-2.4**
HCY	**Herceg Novi**	**4.92**	**348**	*e*Pn	**Pn**	**09 57 37.5**	**-1.2**
SIGR	**SIGRI**	**4.92**	**70**	*e*P	**Pn**	**09 57 40.6**	**+1.9**
PVY	**Plav**	**4.94**	**0**	*e*Pn	**Pn**	**09 57 38.9**	**-0.3**
PVY				*i* Sn	**Sn**	**09 58 33.3**	**-2.6**
CEME	**Cevo**	**4.96**	**351**	⇑*i*Pn	**Pn**	**09 57 38.7**	**-0.6**
CEME				*i* Sn	**Sn**	**09 58 33.6**	**-2.5**
NKME	**Niksic**	**5.17**	**352**	⇑*i*Pn	**Pn**	**09 57 42.0**	**-0.2**
NKME				*i* Sn	**Sn**	**09 58 38.7**	**-2.6**
TREB	**Trebinje**	**5.21**	**347**	*e*Pn	**Pn**	**09 57 42.3**	**-0.4

MORH	Mrgy, Hungar	8.62	354	*e*Pn		Pn	09 58 25.2 -4.2
VOIR		8.68	25	⇓P		Pn	09 58 32.2 +1.7
KEST	Kesra	8.70	261	Pn		Pn	09 58 30.9 +0.1
	comp=N,0.3nm,0.3s,baz=129,slow=1.1,SNR=8.8						
KEST				Sn		Sn	10 00 03.2 -5.2
	comp=N,0.2nm,0.3s,baz=313,slow=17,SNR=1.5						
KEST				LR		LR	10 03 07.4
	comp=N,185nm,18.6s,baz=9.0,slow=46						
KEST	Kesra	8.70	261	Pn		Pn	09 58 32.2 +1.4
CRES	Cresnjev	8.82	339	*e*Pn		Pn	09 58 32.0 -0.3
ISR	Istrita	8.97	32	⇑P		Pn	09 58 36.7 +2.3
MLR	Muntele Rosu	9.04	28	Pn		Pn	09 58 36.3 +0.9
	comp=N,2.2nm,0.3s,baz=239,slow=4.7,SNR=18						
MLR				LR		LR	10 02 57.8
	comp=N,717nm,19.6s,baz=152,slow=44						
MLR	Muntele Rosu	9.04	28	⇑P		Pn	09 58 37.2 +1.8
MLR	Muntele Rosu	9.04	28	P		Pn	09 58 37.3 +1.8
MLR	Muntele Rosu	9.04	28	Pn		Pn	09 58 37.3 +1.8
CEY	Cerknica	9.07	335	*e*Pn		Pn	09 58 35.8 +0.1
BEHE	Becsehely	9.12	346	*e*Pn		Pn	09 58 34.8 -1.6
NEHR	Nehoiu	9.12	30	⇓P		Pn	09 58 38.7 +2.2
HARR	Harsova	9.27	38	⇑P		Pn	09 58 39.9 +1.5
TRI	Trieste	9.28	332	P		Pn	09 58 42.3 +3.8
TRI	Trieste	9.28	332	Pn		Pn	09 58 42.3 +3.8
LJU	Ljubljana	9.30	336	*e*Pn		Pn	09 58 39.4 +0.5
TIRR	Tirgusor	9.35	41	P		Pn	09 58 41.0 +1.5
TIRR	Tirgusor	9.35	41	Pn		Pn	09 58 41.0 +1.5
GRER		9.36	32	⇑P		Pn	09 58 41.7 +2.0
BISRR	Bisoca	9.39	31	⇑P		Pn	09 58 40.7 +0.6
OZUR		9.51	26	⇑P		Pn	09 58 43.8 +2.0
SWA2		9.57	150	P		Pn	09 58 41.9 -0.7
	baz=156						
SWA2				AMP			10 00 00.0
	baz=156						
PLOR	Plostina	9.62	29	⇑P		Pn	09 58 45.5 +2.2
TOPG	Topolog	9.63	39	⇑P		Pn	09 58 44.1 +0.8
OBKA	Obir	9.71	337	*e*Pn		Pn	09 58 45.6 +1.0
	comp=N,2.2nm,0.2s						
OBKA				Sn		Sn	10 00 28.6 -4.5
	comp=N,16nm,0.4s						
SOKA	Soboth	9.72	340	*e*Pn		Pn	09 58 44.6 -0.1
	comp=N,15nm,0.6s,SNR=37						
CFR	Carcaliu	9.73	37	⇓P		Pn	09 58 45.3 +0.6
PRED	Cave del Predi	9.97	334	Pn		Pn	09 58 50.9 +2.7
MYKA	Terra Mystica	10.11	335	*e*Pn		Pn	09 58 52.1 +2.1
	comp=N,1.5nm,0.4s						
MYKA				*e*Sn		Sn	10 00 39.0 -3.9
	comp=N,4.7nm,0.5s						
ARSA	Arzberg	10.13	343	*e*Pn		Pn	09 58 50.0 -0.3
	comp=N,2.7nm,0.2s,SNR=10.0						
STAL	STALIGIAL	10.14	330	Pn		Pn	09 58 50.8 +0.4
TESR	Tescani	10.17	27	⇓P		Pn	09 58 51.2 +0.4
PSZ	Piszkesteto	10.27	360	⇑P		Pn	09 58 52.0 -0.1
PSZ	Piszkesteto	10.27	360	P		Pn	09 58 53.1 +0.9
PSZ	Piszkesteto	10.27	360	Pn		Pn	09 58 53.1 +0.9
ZOU	Zoufplan	10.29	332	Pn		Pn	09 58 52.4 -0.2
CIMO	Cimolais	10.29	330	Pn		Pn	09 58 54.4 +2.0
CTI	Castel Tesino	10.41	326	P		Pn	09 58 53.4 -0.7
CTI	Castel Tesino	10.41	326	Pn		Pn	09 58 53.4 -0.7
SALO	Salr	10.62	322	Pn		Pn	09 58 56.4 -0.5
ABTA	Abfaltersbach	10.62	331	*e*Pn		Pn	09 58 56.9 -0.1
	comp=N,1.7nm,0.3s						
ABTA				*e*Sn		Sn	10 00 50.0 -5.3
	comp=N,24nm,0.6s						
BURAR	Bucovina Array	10.70	20	⇑P		Pn	09 58 59.9 +1.8
BURAR	Bucovina Array	10.70	20	Pn		Pn	09 58 58.6 +0.6
CONA	Conrad Observa	10.70	345	*e*Pn		Pn	09 58 58.9 +0.8
	comp=N,0.6nm,0.3s						
BUR08	Bucovina Ar. S	10.72	20	Pn		Pn	09 58 59.2 +0.8
VYHS	Vyhne	10.87	356	*e*P		Pn	09 59 00.3 -0.1
VYHS	Vyhne	10.87	356	*e*PN		Pn	09 59 00.3 -0.1
BRTR	Keskin Array B	10.93	75	Pn		Pn	09 59 02.6 +1.3
	comp=N,0.2nm,0.3s,baz=260,slow=15,SNR=7.8						
BRTR				LR		LR	10 03 23.1
	comp=N,414nm,19.5s,baz=240,slow=39						
BRTR	Keskin Array B	10.93	75	*i* P		Pn	09 59 04.3 +3.0
BRTR				pmax		pmax	
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	10.93	75	Pn		Pn	09 59 04.3 +3.0
MOA	Molln	11.01	340	*e*Pn		Pn	09 59 02.6 +0.4
	comp=Z,3.8nm,0.2s,SNR=20						
MOA				Sn		Sn	10 01 02.7 -2.1
	comp=Z,8.7nm,0.7s						
CSS	Mathiatis	11.15	100	Pn		Pn	09 59 02.2 -2.1
CRVS	Cervenica-Dubn	11.31	5	*e*P		Pn	09 59 13.1 +6.8
CRVS	Cervenica-Dubn	11.31	5	*e*PN		Pn	09 59 13.1 +6.8
RJOB	Jochberg	11.36	335	*e*Pn		Pn	09 59 10.6 +3.5
WTTA	Wattenberg	11.38	330	*e*Pn		Pn	09 59 08.7 +1.2
	comp=Z,1.1nm,0.3s						
WTTA				Sn		Sn	10 01 10.2 -4.0
	comp=Z,14nm,0.6s						
WATA	Walderalm	11.47	330	*e*Pn		Pn	09 59 09.1 +0.5
	comp=Z,0.9nm,0.2s						
FUORN	Ofenpass-Fuorn	11.47	324	Pn		Pn	09 59 09.8 +1.0
SQTA	Sankt Quirin	11.52	329	*e*Pn		Pn	09 59 10.7 +1.3
	comp=Z,1.5nm,0.2s						
SQTA				*e*Sn		Sn	10 01 11.8 -5.7
	comp=Z,14nm,0.7s						
FETA	Feichten	11.57	327	*e*Pn		Pn	09 59 11.6 +1.6
	comp=Z,1.0nm,0.4s						
FETA				*e*Sn		Sn	10 01 13.8 -4.8
	comp=Z,5.3nm,0.7s						
MOTA	Moosalm	11.66	329	Pn		Pn	09 59 11.7 +0.3
	comp=Z,0.2nm,0.1s						
MOTA				*e*Sn		Sn	10 01 17.6 -3.5
	comp=Z,11nm,0.6s						
DAVOX	Davos/Dischmat	11.77	324	Pn		Pn	09 59 14.5 +1.8
	comp=Z,0.4nm,0.3s,baz=141,slow=16,SNR=12						
DAVOX				Sn		Sn	10 01 17.2 -6.4
	comp=Z,0.7nm,0.3s,baz=315,slow=23,SNR=2.0						
NIE	Niedzica	11.77	1	*e*P		Pn	09 59 14.3 +1.6
TUE	Stuetta	11.80	322	Pn		Pn	09 59 14.4 +1.1
VRAC	Vranov	11.90	349	LR		LR	10 04 52.2
	comp=Z,174nm,20.1s,baz=172,slow=43						
GEC2	GERESS Array S	12.07	340	*e*Pn		Pn	09 59 17.1 +0.3
GEC2	GERESS Array S	12.07	340	Pn		Pn	09 59 15.2 -1.7
GERES	GERESS Array B	12.07	340	Pn		Pn	09 59 16.6 -0.2
	comp=Z,0.4nm,0.3s,baz=154,slow=13,SNR=12						
GERES				Sn		Sn	10 01 24.2 -6.7
	comp=Z,0.4nm,0.3s,baz=155,slow=24,SNR=2.1						
GERES				LR		LR	10 05 17.9
	comp=Z,172nm,19.7s,baz=150,slow=44						
GERES	GERESS Array B	12.07	340	Pn		Pn	09 59 16.2 -0.7
DAVA	Damuels	12.14	326	*e*Pn		Pn	09 59 19.1 +1.2
	comp=Z,1.9nm,0.4s						
DAVA				*e*Sn		Sn	10 01 27.3 -5.4
	comp=Z,34nm,0.7s						
KHC	Kasperske Hory	12.36	340	*e*P		Pn	09 59 19.7 -1.1
KHC				*e*S		Sn	10 01 35.8 -2.2
KHC				AMS		AMS	10 05 10.0
	comp=Z,500nm,12.6s						
KHC	Kasperske Hory	12.36	340	*c e*P		Pn	09 59 20.8 0.0
KHC				pmax		pmax	
	comp=Z,10.0nm,1.3s						
KHC	Kasperske Hory	12.36	340	Pn		Pn	09 59 20.5 -0.3
LVV	L'vov	12.53	12	*e*P		Pn	09 59 26.0 +3.1
LVV				MLR		MLR	
	comp=N,600nm,12.0s						
LVV				MLR		MLR	
	comp=E,500nm,12.0s						
LVV				MLR		MLR	
	comp=Z,700nm,12.0s						
OJC	Ojcow	12.57	360	*e*P		Pn	09 59 31.3 +7.8
WET	Wettzell	12.57	338	*e*Pn		Pn	09 59 24.4 +0.8
KRLC	Kraliky	12.63	351	AMS		AMS	10 05 50.0
	comp=Z,700nm,10.5s						
GLL	Jalalah	12.69	126	P		Pn	09 59 20.7 -4.7
	baz=130						
PBCC	Pribram	12.77	342	*e*P		Pn	09 59 25.5 -0.8
SENIN	Lac Senin/Sane	12.79	317	Pn		Pn	09 59 31.0 +4.2
GOPC	GO Pecny, Ondr	12.81	345	AMS		AMS	10 05 20.0
	comp=Z,600nm,12.5s						
PRU	Pruhonice	12.93	344	*e*P		Pn	09 59 27.7 -0.8
PRU				AMS		AMS	10 05 20.0
	comp=Z,800nm,11.2s						
PRU	Pruhonice	12.93	344	*e*P		Pn	09 59 27.7 -0.8
PRU				MLR		MLR	
	comp=Z,800nm,11.2s						
DPC	Dobruska-Polom	12.96	350	AMS		AMS	10 05 40.0
	comp=Z,400nm,12.8s						
PRA	Prague	13.03	344	AMS		AMS	10 05 20.0
	comp=Z,400nm,11.4s						
NBNS	Bani Suef	13.10	130	P		Pn	09 59 26.5 -4.4
	baz=134						
UPC	Upice	13.16	349	AMS		AMS	10 05 50.0
	comp=Z,600nm,10.3s						
OSTC	Ostas	13.18	350	AMS		AMS	10 06 10.0
	comp=Z,400nm,12.8s						
CHVC	Chvalec	13.23	349	AMS		AMS	10 05 50.0
	comp=Z,500nm,11.2s						
ROTZ	Rotzenmuhle	13.33	338	*e*Pn		P	09 59 45.7 +2.3
PVCC	Panska Ves	13.44	345	AMS		AMS	10 05 40.0
	comp=Z,500nm,12.2s						
KSP	Ksiaz	13.45	350	*e*P		P	09 59 47.7 +3.0
MMAI	Mount Meron Ar	13.46	105	Pn		Pn	09 59 31.8 -4.0
	comp=Z,1.2nm,0.3s,baz=277,slow=12,SNR=1.2						
MMAI				LR		LR	10 05 06.7
	comp=Z,107nm,19.8s,baz=255,slow=39						
MANZ	Manzenberg	13.55	338	*e*Pn		P	09 59 46.8 +0.8
GRF	Grafenberg Arr	13.57	335	*e*Pn		Pn	09 59 39.2 +2.0
BFO	Black Forest	13.62	325	P		Pn	09 59 38.6 +0.7
BFO	Black Forest	13.62	325	*e*Pn		Pn	09 59 39.3 +1.4
BFO	Black Forest	13.62	325	Pn		Pn	09 59 38.5 +0.7
NKC	Novy Kostel	13.68	339	AMS		AMS	10 06 00.0
	comp=Z,500nm,10.9s						
KZIT	Kziot	13.72	115	Pn		Pn	09 59 36.5 -2.9
WERN	Wernitzgruen	13.74	339	*e*Pn		P	09 59 49.8 +1.7
GUNZ	Gunzen	13.82	339	*e*Pn		P	09 59 46.6 -2.4
TANN	Tannenbergstha	13.84	340	*e*Pn		P	09 59 51.3 +2.1
BRG	Berggiesshubel	13.89	344	*i* P		Pn	09 59 44.0 +2.4
	comp=Z,13nm,1.6s						
BRG				*e*			09 59 57.1
	comp=Z,4.2nm,0.8s comp=Z,630nm,10.7s comp=N,360nm,12.2s comp=E,350nm,12.2s						
BRG	Berggiesshubel	13.89	344	*e*Pn		Pn	09 59 41.7 +0.1
FBE	Freiberg	14.07	343	*e*Pn		Pn	09 59 42.9 -1.1
ECH	Echery	14.08	323	P		Pn	09 59 44.4 +0.1
ECH	Echery	14.08	323	Pn		Pn	09 59 44.4 +0.1
DSI	Dead Sea	14.10	111	Pn		Pn	09 59 40.9 -3.6
MOX	Moxa	14.28	338	*e*Pn		Pn	09 59 47.5 +0.6
GHAJ	Ghor Haditha	14.37	111	Pn		Pn	09 59 45.4 -2.8
PRNI	Paran	14.47	116	Pn		Pn	09 59 46.0 -3.6
CLL	Collm	14.51	342	*e*P		Pn	09 59 52.0 +1.9
CLL				*i* PP		P	09 59 59.0 +2.4
	comp=Z,26nm,1.4s						
CLL				*e*			10 02 57.0
CLL				Lmax			10 06 00.0
CLL	Collm	14.51	342	P		Pn	09 59 51.6 +1.5
CLL	Collm	14.51	342	*e*Pn		P	09 59 58.9 +2.4
CLL	Collm	14.51	342	Pn		Pn	09 59 51.6 +1.5
AKASG	Malin Array Be	14.64	24	Pn		Pn	09 59 49.8 -2.0
	comp=Z,0.7nm,0.3s,baz=214,slow=11,SNR=13						
AKASG	Malin Array Be	14.64	24	*c e*P		Pn	09 59 50.7 -1.2
AKASG				pmax		pmax	
	comp=Z,3.0nm,0.7s						
AKASG	Malin Array Be	14.64	24	Pn		Pn	09 59 49.6 -2.3
AKBB	Malin Array Si	14.64	24	P		Pn	09 59 50.4 -1.5
AKBB	Malin Array Si	14.64	24	Pn		Pn	09 59 50.4 -1.5
HRFI	Mount Harif	14.67	117	Pn		Pn	09 59 48.9 -3.5
NEUB	Neuenburg	14.74	340	*e*Pn		P	09 59 58.9 -0.2
EIL	Elat	14.82	118	Pn		Pn	09 59 51.1 -3.4
	comp=Z,2.2nm,0.3s,baz=326,slow=12,SNR=12						
EIL				Sn		Sn	10 02 24.4 -14
	comp=Z,0.8nm,0.3s,baz=331,slow=17,SNR=2.6						
EIL	Elat	14.82	118	Pn		Pn	09 59 51.0 -3.4
UBBA	Unterbreizbach	14.94	335	*e*Pn		P	10 00 02.2 +1.0
ASF	Jabal al Asfar	14.96	106	Pn		Pn	09 59 53.1 -3.2
	comp=Z,0.3nm,0.3s,baz=168,slow=14,SNR=2.0						
ASF				Sn		Sn	10 02 39.3 -2.2
	baz=18,slow=8.3,SNR=1.5						
TNS	Taunus Mts	15.02	330	*e*Pn		P	10 00 04.8 +2.5
RUE	Ruedersdorf	15.44	346	*e*P		P	10 00 07.2 +0.3
RUE	Ruedersdorf	15.44	346	*e*Pn		P	10 00 08.1 +1.2
WLF	Walferdange	15.57	325	P		P	10 00 08.0 -0.4
WLF	Walferdange	15.57	325	pPn		P	10 00 12.2 +3.8
WLF	Walferdange	15.57	325	P		P	10 00 11.0 +2.6
WLF				pmax		pmax	
	comp=Z,29nm,1.0s						
WLF	Walferdange	15.57	325	P		P	10 00 11.0 +2.6
WLF				IAmb		IAmb	10 00 13.0
	comp=Z,28nm,1.0s						
GTTG	Gottingen	15.58	336	*e*Pn		P	10 00 10.5 +2.1
CLZ	Clausthal	15.71	338	*e*Pn		P	10 00 12.2 +2.3
ASSE	Asse, Remlinge	15.87	339	*e*Pn		P	10 00 15.1 +3.5
KOPT	Kop Dagi	16.21	75	P		P	10 00 17.2 +1.4
MEM	Membach	16.32	327	Pn		Pn	10 00 15.3 +1.5
MEM				pPn		sP	10 00 20.3 -2.8
NRDL	Niedersach Rie	16.36	338	*e*Pn		P	10 00 18.6 +1.6
BUG	Bochum--Univer	16.44	331	*e*Pn		P	10 00 20.3 +2.3
BSTI	Sart Tilman	16.50	326	pPn		P	10 00 22.7 +4.1
SUW	Suwalki	16.52	7	*e*P		Pn	10 00 16.1 -0.2
SUW	Suwalki	16.52	7	P		Pn	10 00 15.9 -0.4
SUW				pmax		pmax	
	comp=Z,26nm,0.7s						
SUW	Suwalki	16.52	7	P		Pn	10 00 15.9 -0.4
SUW				IAmb		IAmb	10 00 31.2
	comp=Z,26nm,0.7s						
MARD	Mardin	16.57	85	P		P	10 00 20.0 +0.3
DOU	Dourbes	16.60	323	Pn		Pn	10 00 16.6 -0.7
BEBN	Eben Emael	16.60	327	Pn		Pn	10 00 16.8 -0.6
BEBN				pPn		sP	10 00 23.6 -2.6
IBBN	Ibbenburen	16.96	334	*e*Pn		P	10 00 26.2 +2.5
SNF	Seneffe	17.03	324	pPn		P	10 00 27.5 +3.1
UCC	Uccle	17.19	325	P		P	10 00 29.2 +2.9
UCC				pmax		pmax	
	comp=Z,14nm,0.9s						
UCC	Uccle	17.19	325	P		P	10 00 29.2 +2.9
MICGM	Minsk	17.72	15	*e*		Pn	10 00 28.0 -3.4
MNK	Minsk	17.72	15	*e*P		Pn	10 00 28.0 -3.4
NACGM	Naroch	17.89	13	*e*		Pn	10 00 32.0 -1.4
PABE	Paberze	18.08	7	*e*P		Pn	10 00 35.4 -0.3
PABE				IAmb		IAmb	10 00 36.2
	comp=Z,83nm,0.8s						
IIGN	Ignalina	18.22	12	*e*P		Pn	10 00 37.1 -0.3
GEVA	Gevas	18.25	81	P		P	10 00 40.2 +1.9
IDID	Didziasalis	18.27	13	*e*P		Pn	10 00 37.7 -0.4
IDID				IAmb		IAmb	10 00 37.8
	comp=Z,12nm,0.9s						
KIV	Kislovodsk	18.33	63	*e*P		Pn	10 00 36.8 -2.2
KIV				*e*S		Sn	10 04 02.9 -0.3
KIV				pmax		pmax	
	comp=Z,54nm,1.1s						
KIV				MLR		MLR	
	comp=Z,206nm,14.0s						
ISAL	Salakas	18.42	11	*e*P		P	10 00 39.5 -0.3
ISAL				IAmb		IAmb	10 00 40.2
	comp=Z,18nm,1.0s						
KBZ	Khabaz	18.43	64	P		P	10 00 38.8 -1.2
	comp=Z,0.4nm,0.3s,baz=281,slow=7.7,SNR=8.5						
KBZ	Khabaz	18.43	64	*d e*P		Pn	10 00 41.5 +1.4
PBUR	Paburge	18.44	4	*e*P		Pn	10 00 40.6 +0.5
AKH	Akhalkalaki	18.56	71	P		Pn	10 00 42.8 +0.9
AKH				pmax		pmax	
	comp=Z,15nm,1.1s						
AKH	Akhalkalaki	18.56	71	P		Pn	10 00 42.8 +0.9
IZAR	Zarasai	18.61	11	*e*P		P	10 00 41.6 -0.2
IZAR				IAmb		IAmb	10 00 42.0
	comp=Z,12nm,0.9s						
ESDC	Sonseca Array	18.75	284	P		Pn	10 00 44.7 +0.6
	comp=Z,0.0nm,0.3s,baz=77,slow=11,SNR=20						
ESDC	Sonseca Array	18.75	284	P		Pn	10 00 44.7 +0.6
ZEI	Tsey	19.00	67	*e*P		P	10 00 46.6 +0.1
ZEI				pmax		pmax	
	comp=Z,22nm,1.0s						
VSR	Storozhevoye	19.24	39	*e*P		P	10 00 48.6 -0.2
VSR				pmax		pmax	
	comp=Z,10.0nm,0.7s						
VSR				MLR		MLR	
	comp=Z,670nm,11.0s						
TBLG	Delisi	19.51	70	P		P	10 00 51.6 -0.4
TBLG				pmax		pmax	
	comp=Z,29nm,1.2s						
TBLG	Delisi	19.51	70	P		P	10 00 51.6 -0.4
TBLG				IAmb		IAmb	10 01 02.5
	comp=Z,28nm,1.2s						
LPSR	Galich'ya Gora	20.00	36	*e*P		P	10 00 57.5 +0.4
LPSR				pmax		pmax	
	comp=Z,80nm,0.9s						
LPSR				MLR		MLR	
	comp=Z,270nm,12.0s						
SLIT	Slitere, Latvi	20.06	4	*e*P		P	10 00 58.1 +0.5
SLIT				IAmb		IAmb	10 00 58.7
	comp=Z,165nm,0.5s						
GROC	Groznyy	20.43	66	*e*P		P	10 01 01.9 0.0
GROC				*e*			10 01 18.2
GROC				pmax		pmax	
	comp=Z,41nm,1.4s						
VRH	Novokhopyorsk	20.54	42	*e*P		P	10 01 03.1 +0.1
VRH				pmax		pmax	
	comp=Z,100nm,1.9s						
MDT	Midelt	20.58	264	P		P	10 01 04.7 +0.9
	comp=Z,2.1nm,0.9s,baz=103,slow=15,SNR=2.1						
MDT				LR		LR	10 10 39.4
	comp=Z,98nm,18.3s,baz=132,slow=41						
OBN	Obninsk	20.82	28	LR		LR	10 10 42.4
	comp=Z,48nm,19.2s,baz=174,slow=41						
OBN	Obninsk	20.82	28	*i* P		P	10 01 05.5 -0.4
OBN				*i*			10 01 23.6
OBN				*i* S		S	10 04 51.5 -5.7
OBN				pmax		pmax	
	comp=Z,11nm,0.9s						
OBN				MLR		MLR	
	comp=Z,227nm,14.0s						
PBRG	Braganca	20.89	290	*e*P		Pn	10 01 08.7 -0.7
	comp=Z,16nm,1.4s						
MVO	Moncorvo	21.08	288	*e*P		P	10 01 10.1 +1.0
	comp=Z,22nm,1.9s						
DBC	Dubki	21.16	67	*d i e*P		P	10 01 09.8 -0.1
GNBR	Gunib	21.21	69	‖ *e*P		P	10 01 11.2 +0.8
VSU	Vasula	21.30	10	*e*P		P	10 01 11.9 +0.8
VSU				IAmb		IAmb	10 01 13.2
	comp=Z,476nm,1.0s						
VSU	Vasula	21.30	10	*c i*P		P	10 01 11.6 +0.5
VSU				pmax		pmax	
	comp=Z,310nm,0.8s						
PMRV	Marv??o	21.41	283	*e*P		P	10 01 16.0 +3.5
PCBR	Castelo Branco	21.45	284	*e*P		P	10 01 13.9 +1.0
	comp=Z,12nm,1.4s						
MAK	Makhachkala	21.65	67	*e*P		P	10 01 10.9 -4.1
MAK				*e*S		S	10 05 08.5 -5.4
MAK				pmax		pmax	
	comp=Z,251nm,0.9s						
MAK				MLR		MLR	
	comp=Z,299nm,14.0s						
MOS	Moscow	21.68	28	*e*P		P	10 01 13.8 -1.4
MOS				*e*			10 01 46.9
MOS				pmax		pmax	
	comp=Z,33nm,0.9s						
PVIS	Viseu	21.74	287	*e*P		P	10 01 16.7 +0.6
	comp=Z,29nm,1.6s						
AKT	Akhty	21.74	71	*e*P		P	10 01 16.4 +0.2
AKT				*e*			10 01 36.5
AKT				pmax		pmax	
	comp=Z,34nm,1.2s						
PVAQ	Vaqueiros	21.89	278	*e*P		P	10 01 17.9 +0.2
PBEJ	Beja	21.92	280	*e*P		P	10 01 18.3 +0.3
	comp=Z,14nm,2.2s						
EVO	Evora	21.97	281	*e*P		P	10 01 18.6 +0.1
	comp=Z,10nm,1.2s						
PGAV	Gavieira, Arco	22.03	290	*e*P		P	10 01 20.2 +0.9
PNCL	Nicolau / Gran	22.43	280	*e*P		P	10 01 23.8 +0.4
HFS	Hagfors	22.86	352	P		P	10 01 28.0 +0.2
	comp=Z,11nm,0.5s,baz=161,slow=11,SNR=52						
HFS				LR		LR	10 11 29.4
	comp=Z,82nm,19.6s,baz=155,slow=40						
HFS	Hagfors	22.86	352	P		P	10 01 28.0 +0.2
KONO	Kongsberg	23.00	347	*e*P		P	10 01 29.7 +0.5
OSL	Oslo	23.07	348	*e*P		P	10 01 29.9 -0.1
BLS5	Blasjo	23.45	343	*e*P		P	10 01 35.0 +1.2
EKA	Eskdalemuir Ar	23.59	326	P		P	10 01 36.4 +1.1
	comp=Z,13nm,0.9s,baz=130,slow=11,SNR=26						
NC602	NORSAR Array S	23.71	350	P		P	10 01 37.0 +0.7
NC602				IAmb		IAmb	10 01 37.9
	comp=Z,22nm,1.1s						
NC602	NORSAR Array S	23.71	350	*e*P		P	10 01 36.4 +0.1
NAO01	NORSAR Array S	23.91	349	P		P	10 01 38.4 +0.2
NB201	NORSAR Array S	24.05	350	P		P	10 01 39.8 +0.3
NB2	NORSAR Subarra	24.05	350	P		P	10 01 39.6 0.0
	comp=Z,32nm,1.1s,baz=163,slow=9.3						
NB2	NORSAR Subarra	24.05	350	P		P	10 01 39.6 0.0
	baz=163,slow=9.3						
NC405	NORSAR Array S	24.05	350	P		P	10 01 39.1 -0.4
NC405				IAmb		IAmb	10 01 41.0
	comp=Z,36nm,1.1s						
NOA	NORSAR Array B	24.05	350	P		P	10 01 39.5 0.0
	comp=Z,10nm,0.9s,baz=160,slow=8.9,SNR=38						
NBO00	NORSAR Array S	24.11	349	P		P	10 01 40.5 +0.4
FINES	FINESS Array B	24.13	7	P		P	10 01 39.9 -0.4
	comp=Z,7.6nm,0.8s,baz=184,slow=7.7,SNR=39						
FINES	FINESS Array B	24.13	7	P		P	10 01 39.5 -0.8
FIA1	FINESS Array S	24.13	7	P		P	10 01 40.6 +0.3
FIA1				IAmb		IAmb	10 01 42.3
	comp=Z,25nm,1.2s						
SKAR	Skarsla	24.20	346	*e*P		P	10 01 42.9 +1.9
NC303	NORSAR Array S	24.21	350	P		P	10 01 41.1 +0.1
NC204	NORSAR Array S	24.34	349	P		P	10 01 42.6 +0.4
NC204				IAmb		IAmb	10 01 43.8
	comp=Z,36nm,1.1s						
DOMB	Dombas	25.33	348	*e*P		P	10 01 52.5 +1.3
KLMR	Klimovskoe	26.31	22	*e*P		P	10 01 58.8 -1.2
K

SPA0 Spitsbergen Ar 40.67 359 *eP* **P 10 04 05.9 +1.5**
SPITS Spitsbergen Ar 40.67 359 P **P 10 04 05.0 +0.6**
comp=Z,30nm,1.2s,baz=163,slow=5.9,SNR=6.5
KURK Kurchatov 42.98 53*c iP* **P 10 04 22.5 -1.1**
KURK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 42.98 53 P **P 10 04 22.0 -1.6**
MK31 Makanchi Array 45.99 58 P **P 10 04 46.5 -1.3**
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MK31 Makanchi Array 45.99 58 P **P 10 04 46.5 -1.3**
MK31 IAmb IAmb 10 04 47.2
comp=Z,4.8nm,0.5s
MKAR Makanchi Array 45.99 58 P **P 10 04 46.8 -1.0**
comp=Z,4.8nm,0.4s,baz=275,slow=7.4,SNR=109
MKAR Makanchi Array 45.99 58 P **P 10 04 46.9 -0.9**
ZAA0 Zalesovo Array 46.40 48 P **P 10 04 50.0 -0.8**
ZALV Zalesovo Beam 46.40 48 P **P 10 04 50.2 -0.7**
comp=Z,9.3nm,0.4s,baz=273,slow=8.5,SNR=40
NRIK Noril'sk 47.48 26 P **P 10 04 59.0 -0.1**
comp=Z,5.5nm,0.4s,baz=271,slow=6.0,SNR=10
NRIK LR LR 10 28 01.8
comp=Z,93nm,18.3s,baz=202,slow=40
NRIK Noril'sk 47.48 26 P **P 10 04 59.0 -0.1**
DGZ Jazzator, Alta 48.73 53‖*eP* **P 10 05 08.9 -0.3**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
WMQ Urumqi 50.44 60 *eP* **P 10 05 24.2 +2.0**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,54nm,4.7s
TLY Talaya 58.00 47⇑*eP* **P 10 06 17.9 +0.8**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 58.00 47 P **P 10 06 17.9 +0.8**
TLY IAmb IAmb 10 06 18.5
comp=Z,7.3nm,1.3s
SCHQ Schefferville 58.52 317 P **P 10 06 22.0 +1.3**
comp=Z,7.2nm,1.0s,baz=63,slow=4.3,SNR=5.7
SCHQ Schefferville 58.52 317 P **P 10 06 22.4 +1.6**
TIXI Tiksi 60.31 20 LR LR 10 36 38.7
comp=Z,253nm,18.1s,baz=302,slow=40
BOD Bodaibo 61.09 38 *eP* **P 10 06 38.0 -0.3**
BOD pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 61.17 50 P **P 10 06 38.9 -0.2**
comp=Z,1.9nm,0.6s,baz=289,slow=7.2,SNR=16
SONM LR LR 10 37 56.8
comp=Z,61nm,18.0s,baz=256,slow=41
SONM Songino Array 61.17 50 P **P 10 06 39.0 -0.2**
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 61.17 50 P **P 10 06 39.0 -0.2**
ULN Ulaanbaatar 61.55 50 P **P 10 06 42.3 +0.5**
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 61.55 50 P **P 10 06 42.3 +0.5**
ULN IAmb IAmb 10 06 42.9
comp=Z,4.0nm,1.0s
YAK Yakutsk 65.81 29 LR LR 10 37 53.1
comp=Z,52nm,18.1s,baz=290,slow=38
YAK Yakutsk 65.81 29 P **P 10 07 08.9 -0.5**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK Yakutsk 65.81 29 P **P 10 07 08.8 -0.5**
BOSA Boshof 66.10 175 P **P 10 07 11.9 +0.2**
comp=Z,2.7nm,1.1s,baz=322,slow=4.1,SNR=3.6
BOSA LR LR 10 39 13.3
comp=Z,75nm,18.0s,baz=56,slow=39
BOSA Boshof 66.10 175 P **P 10 07 13.5 +1.8**
BOSA Boshof 66.10 175 P **P 10 07 13.5 +1.8**
HHC Hu-ho-hao-te 67.73 55 *eP* **P 10 07 24.2 +2.0**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,59nm,5.6s
XAN Xi'an 69.49 62 P **P 10 07 33.5 +0.3**
XAN pmax pmax
comp=Z,12nm,1.3s
XAN pmax pmax
comp=Z,110nm,4.2s
CMAR Chiang Mai Arr 70.44 81 P **P 10 07 38.7 -0.5**
comp=Z,3.8nm,0.9s,baz=304,slow=7.4,SNR=14
CMAR Chiang Mai Arr 70.44 81 P **P 10 07 39.1 -0.1**
CMAR Chiang Mai Arr 70.44 81 P **P 10 07 39.1 -0.1**
GYA Guiyang 71.95 70 *eP* **P 10 07 49.0 +0.6**
GYA pmax pmax
comp=Z,14nm,0.9s
SLVN Son La 72.69 76 P **P 10 07 52.0 -0.8**
SLVN IAmb IAmb 10 07 54.1
comp=Z,5.2nm,1.0s
SEY Seymchan 72.80 21*deP* **P 10 07 54.3 +1.6**
YKA Yellowknife Ar 73.72 340 P **P 10 07 58.7 +0.6**
comp=Z,2.2nm,0.9s,baz=35,slow=4.5,SNR=1.9
KLR Kul'dur 74.59 39‖*eP* **P 10 08 04.1 +0.7**
COLD Coldfoot 75.18 356 P **P 10 08 07.9 +1.4**
DAWY Dawson 77.31 351 P **P 10 08 19.7 +1.0**
DAWY IAmb IAmb 10 08 21.0
comp=Z,4.7nm,1.0s
ILAR Eielson Array 77.39 354 P **P 10 08 19.7 +0.5**
comp=Z,1.1nm,0.9s,baz=2.2,slow=4.1,SNR=9.4
NJ2 Nanjing 77.50 59 *eP* **P 10 08 20.0 -0.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
HDA Harding Lake 77.75 354 P **P 10 08 22.0 +0.9**
HDA IAmb IAmb 10 08 23.6
comp=Z,5.2nm,0.8s
WRH Wood River Hil 77.78 355 P **P 10 08 22.0 +0.8**
WRH IAmb IAmb 10 08 23.4
comp=Z,4.3nm,0.8s
DHY Denali Highway 79.11 354 P **P 10 08 29.7 +0.9**
DHY IAmb IAmb 10 08 30.6
comp=Z,4.8nm,0.9s
KSAR Wonju Array Be 80.02 50 P **P 10 08 33.6 -0.5**
KSAR Wonju Array Be 80.02 50 P **P 10 08 33.5 -0.5**
KSRS Korea Array 80.04 50 P **P 10 08 34.5 +0.3**
comp=Z,1.2nm,0.9s,baz=314,slow=5.3,SNR=6.1
KSRS LR LR 10 47 57.8
comp=Z,30nm,21.2s,baz=308,slow=39
PETK Petropavlovsk- 82.48 24 LR LR 10 50 46.1
comp=Z,60nm,18.7s,baz=352,slow=40
EGMT Eagleton 83.65 329 P **P 10 08 54.8 +1.6**
T35A Sooner Cattle 85.38 314 P **P 10 08 60.0 -2.0**
JTMT Jette 85.68 331 P **P 10 09 05.0 +1.5**
YNE Yellowstone No 86.14 327 P **P 10 09 07.9 +1.9**
NEW Newport 86.31 333 P **P 10 09 07.0 +0.5**
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW Newport 86.31 333 P **P 10 09 07.0 +0.5**
NEW IAmb IAmb 10 09 08.7
comp=Z,3.5nm,0.9s
BOZ Bozeman (W) 86.36 328 P **P 10 09 08.3 +1.4**
BOZ pmax pmax
comp=Z,2.0nm,1.3s
BOZ Bozeman (W) 86.36 328 P **P 10 09 08.2 +1.4**
MJAR Matsushiro Arr 86.70 45 P **P 10 09 07.5 -1.1**
comp=Z,0.7nm,0.9s,baz=316,slow=5.2,SNR=2.2
MJAR LR LR 10 50 17.1
comp=Z,27nm,18.2s,baz=45,slow=37
MJAR Matsushiro Arr 86.70 45 P **P 10 09 08.7 +0.1**
MJAR pmax pmax
comp=Z,1.0nm,0.9s
MJAR Matsushiro Arr 86.70 45 P **P 10 09 08.7 +0.1**
BCOK Bluff Creek, N 86.89 314 P **P 10 09 09.6 +0.1**
FNO Franklin 87.05 313 P **P 10 09 10.1 -0.2**
PDAR Pinedale Array 87.71 325 P **P 10 09 14.5 +0.9**
comp=Z,0.6nm,0.9s,baz=15,slow=3.7,SNR=3.7
PDAR Pinedale Array 87.71 325 P **P 10 09 15.0 +1.4**
HWUT Hardware Ranch 89.54 326 P **P 10 09 23.7 +1.5**
HWUT IAmb IAmb 10 09 24.3
comp=Z,4.5nm,0.9s
SDCO Great Sand Dun 89.65 320 P **P 10 09 23.5 +0.6**
PV12 Saucer Basin, 90.86 322 P **P 10 09 30.0 +1.5**
PV12 IAmb IAmb 10 09 31.0
comp=Z,3.9nm,0.9s
PV16 Nyswonger Mesa 90.92 322 P **P 10 09 30.7 +2.0**
PV16 IAmb IAmb 10 09 31.2
comp=Z,3.6nm,0.9s
PV03 Paradox Valley 90.93 322 P **P 10 09 30.0 +1.2**
PV03 IAmb IAmb 10 09 31.2
comp=Z,4.2nm,1.1s
SRU San Rafael Swe 91.06 324 P **P 10 09 28.5 -0.8**
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 91.06 324 P **P 10 09 28.5 -0.8**
TXAR Lajitas Array 94.99 313 P **P 10 09 48.6 +1.1**
comp=Z,0.7nm,0.8s,baz=84,slow=5.2,SNR=7.0
TXAR Lajitas Array 94.99 313 P **P 10 09 49.0 +1.5**
TXAR Lajitas Array 94.99 313 P **P 10 09 49.0 +1.5**
WB0 Warramunga Arr 120.95 92 PKPdf **PKPdf 10 15 17.4 +0.1**
WRA Warramunga Arr 121.00 92 PKP **PKPdf 10 15 17.1 -0.3**
comp=Z,0.3nm,0.4s,baz=315,slow=1.9,SNR=19
WRA Warramunga Arr 121.00 92 PKIKP **PKPdf 10 15 17.7 +0.3**
WRA Warramunga Arr 121.00 92 **PKPdf 10 15 17.7 +0.3**
WRAB Tennant Creek 121.00 92 PKIKP **PKPdf 10 15 17.6 +0.2**
WRAB Tennant Creek 121.00 92 PKPdf **PKPdf 10 15 17.6 +0.2**
WB2 Warramunga Arr 121.01 92 PKPdf **PKPdf 10 15 17.6 +0.1**
WC3 Warramunga Arr 121.03 92 PKPdf **PKPdf 10 15 17.6 +0.1**
AS31 Alice Springs 122.59 96 PKPdf **PKPdf 10 15 20.9 +0.4**
ASAR Alice Springs 122.59 96 PKP **PKPdf 10 15 20.6 +0.1**
comp=Z,0.6nm,0.5s,baz=297,slow=1.5,SNR=18
ASAR Alice Springs 122.59 96 PKIKP **PKPdf 10 15 20.8 +0.4**
ASAR Alice Springs 122.59 96 PKPdf **PKPdf 10 15 20.8 +0.4**
QSPA South Pole Qui 127.50 180 PKPdf **PKiKP 10 15 29.7 +0.7**
STKA Stephens Creek 132.40 101 PKP **PKPdf 10 15 38.2 -0.7**
comp=Z,1.3nm,0.7s,baz=12,slow=8.6,SNR=2.1
STKA Stephens Creek 132.40 101 PKIKP **PKPdf 10 15 39.5 +0.6**
STKA Stephens Creek 132.40 101 PKPdf **PKPdf 10 15 39.5 +0.6**
VNDA Vanda 136.85 169 PKIKP **PKPdf 10 15 46.5 +0.7**
VNDA Vanda 136.85 169 PKPdf **PKPdf 10 15 46.5 +0.7**
URZ Urewera 162.01 99 PKPdf **PKPdf 10 16 26.4 +0.8**

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*NNC **07** 10:04:21.2±4.5,36°.26N×69°.48E,h0km,mb4.3,mpv4.0,*
Error ellipse: s-maj=37.4km s-min=30.0km az=162.0
ISC 07 10:04:20.4±3.8,35°.9N±0°.2×69°.4E±0°.1,h35km,n11,
σ1§16/15,5C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=27	**7.04**	**27**	P	**Pn**	**10 06 02.2**	**+1.0**
KK31	**Karatay Array** 2.4nm,0.5s,baz=198,slow=16,SNR=28	**7.23**	**6**	P	**Pn**	**10 06 05.2**	**+1.7**
KK31	11nm,0.6s,baz=192,slow=23,SNR=14			⇑S	**Sn**	**10 07 24.7**	**+0.3**
EKS2	**Erkin-Say** SNR=5.7	**7.53**	**25**	P	**Pn**	**10 06 09.4**	**+1.6**
KZA	**Kyzart** SNR=6.1	**7.64**	**35**	P	**Pn**	**10 06 09.5**	**0.0**
AAK	**Ala-Archa** SNR=8.5	**7.78**	**29**	P	**Pn**	**10 06 11.9**	**+0.8**
AAK	**Ala-Archa** 4.0nm,0.4s	**7.78**	**29**	⇓P	**Pn**	**10 06 11.4**	**+0.2**
AAK	29nm,0.9s			⇑S	**Sn**	**10 07 37.4**	**-0.7**
CHMS	**Chumysh** SNR=7.4	**8.18**	**28**	P	**Pn**	**10 06 18.5**	**+1.9**
USP	**Ospenovka** SNR=7.9	**8.32**	**26**	P	**Pn**	**10 06 20.0**	**+1.5**
TKM2	**Tokmak 2** SNR=9.3	**8.46**	**32**	P	**Pn**	**10 06 20.9**	**+0.2**
TKM2	**Tokmak 2** 5.1nm,0.4s	**8.46**	**32**	⇑P	**Pn**	**10 06 20.7**	**0.0**
TKM2	7.6nm,0.7s			⇑S	**Sn**	**10 07 54.7**	**-0.4**
AB31	**Akbulak array** 1.9nm,0.2s,baz=156,slow=12,SNR=26	**15.04**	**335**	P	**Pn**	**10 07 48.9**	**-1.3**
AB31	0.9nm,0.2s,baz=144,slow=26,SNR=3.0			⇑S	**Sn**	**10 10 34.5**	**-1.1**

WEL 07 10:27:13.6±1.1,37°.5S±8°.7×17°.9W±°,h33km,M3.6/13,
ML3.8/13,MLv3.6/13,Error ellipse: s-maj=0.0km
s-min=0.0km az=10.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.07**	**248**	P	Pn	10 27 45.6	-0.4
MXZ	**Matakaoa Point**	**2.07**	**255**	P	Pn	10 27 45.2	-0.9
MXZ				S	Sn	10 28 09.6	-1.2
PUZ	**Puketiti**	**2.28**	**243**	P	Pn	10 27 48.9	-0.1
PUZ				S	Sn	10 28 16.9	+0.9
CNGZ	**Carnagh Statio**	**2.52**	**235**	P	Pn	10 27 53.2	+1.0
HAZ	**Te Kaha**	**2.52**	**253**	P	Pn	10 27 52.0	-0.3
HAZ				S	Sn	10 28 22.9	+1.0
RUGZ	**Raukumara Rang**	**2.67**	**249**	P	Pn	10 27 54.0	-0.4
MWZ	**Matawai**	**2.91**	**243**	P	Pn	10 27 57.4	-0.3
MWZ				S	Sn	10 28 32.3	+0.7
RIGZ	**Rimuhau**	**2.93**	**235**	P	Pn	10 27 58.3	+0.4
RIGZ				S	Sn	10 28 33.0	+0.9
PRGZ	**Paritu Road**	**2.98**	**230**	P	Pn	10 27 59.1	+0.4
MHGZ	**Mahia Peninsul**	**3.12**	**227**	P	Pn	10 28 00.5	+0.1
KNZ	**Kokohu**	**3.17**	**231**	P	Pn	10 28 01.2	0.0
URZ	**Urewera**	**3.19**	**247**	P	Pn	10 28 01.2	-0.2
URZ				S	Sn	10 28 39.4	+1.1
SNGZ	**Shannon Statio**	**3.25**	**237**	P	Pn	10 28 02.6	+0.2
SNGZ				S	Sn	10 28 41.0	+1.0
MUGZ	**Murupara**	**3.52**	**245**	P	Pn	10 28 06.0	+0.1
MTHZ	**Maungataniwha**	**3.63**	**239**	P	Pn	10 28 07.5	0.0
MTHZ				S	Sn	10 28 50.0	+0.8
ARHZ	**Aropaoanui**	**3.74**	**233**	P	Pn	10 28 09.5	+0.5
ARHZ				S	Sn	10 28 53.7	+1.8
BKZ	**Black Stump Fm**	**4.02**	**237**	P	Pn	10 28 12.2	-0.7
BKZ				S	Sn	10 28 59.5	+0.7
CTZ	**Chatham Island**	**6.95**	**165**	P	Pn	10 28 56.2	+3.1
CTZ				S	Sn	10 30 09.2	-1.8

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*IDC **07** 10:31:52.9±0.6,43°.22N×29°.15W,h0km,mb4.0/21,*
mb1 4.1/22,mb1mx4.0/51,mbtmp4.0/22,ML4.7/1,MS4.0/33,
Ms1 4.0/33,ms1mx3.9/39,Error ellipse: s-maj=16.4km
s-min=13.4km az=173.0
*IGIL **07** 10:31:53.2,43°.16N×29°.01W,h10km*
*INMG **07** 10:31:54.0,43°.16N×29°.01W,h10km,Mb5.2*
*NEIC **07** 10:31:54.1±1.3,43°.17N±0°.09×29°.1W±0°.1,h10km±1km,*
mb4.7/131,Error ellipse: s-maj=16.2km s-min=14.9km
az=59.0
*GCMT **07** 10:31:54.2±0.2,43°.15N±0°.03×29°.04W±0°.02,h12km,*
MW4.8/112,Moment Tensor Solution. s20,c22;
s112,c151; Duration: 0 Moment tensor: Scale 10^16^Nm;
Mrr-1.88±.05; Mθθ0.25±.06; Mφφ1.62±.05; Mrθ-0.03±.30;
Mθφ0.39±.04; Mφr-0.06±.23; Best double couple:
M0 1.80300×10^16^ NP1:φs195.00000°,δ44.00000°,
λ-91.00000°. NP2:φs15.00000°,δ46.00000°,λ-89.00000°.
Principal axes: T 1.7250, Plg1.0000°, Azm105.0000°; N
0.1500, Plg0.0000°, Azm195.0000°; P -1.8810,
Plg89.0000°, Azm304.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 07 10:31:53.9±0.4,43°.04N±0°.06×28°.98W±0°.06,h10km,n187,
σ1§23/131,mb4.6/73,MS3.9/32,3C,Northern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**4.06**	**170**	*eP*	**Pn**	**10 32 55.3**	**-0.8**
PGRA	**Graciosa**	**4.08**	**169**	*eP*	**Pn**	**10 32 57.9**	**+1.6**
ROSA	**Rosais**	**4.35**	**172**	Pn	**Pn**	**10 32 59.1**	**-1.0**
ROSA	**Rosais**	**4.35**	**172**	*eP*	**Pn**	**10 32 59.4**	**-0.7**
ROSA				*eS*	**Sn**	**10 33 50.1**	**-0.8**
ROSA	16nm,0.2s			A	A	10 33 53.5	
PMAN	**Manadas**	**4.46**	**171**	*eP*	**Pn**	**10 33 01.1**	**-0.4**
PSCM	**Serra do Cume**	**4.56**	**161**	*eP*	**Pn**	**10 33 01.4**	**-1.6**
PSET	**Sete Cidades**	**5.77**	**153**	*eP*	**Pn**	**10 33 18.5**	**-1.2**
PDA	**Ponta Delgada**	**5.86**	**153**	*eP*	**Pn**	**10 33 20.5**	**-0.3**
CMLA	**Cha da Macela**	**5.89**	**152**	Pn	**Pn**	**10 33 20.4**	**-0.9**
CMLA	**Cha da Macela**	**5.89**	**152**	*eP*	**Pn**	**10 33 20.9**	**-0.4**
CMLA				*eS*	**Sn**	**10 34 27.7**	**-1.2**
CMLA	29nm,0.5s			A	A	10 34 32.5	
BART	**Pico Bartolome**	**6.01**	**150**	*eP*	**Pn**	**10 33 21.9**	**-1.0**
BART				*eS*	**Sn**	**10 34 29.3**	**-2.5**
BART	22nm,0.3s			A	A	10 34 33.8	
PSMA	**Santa Maria**	**6.72**	**153**	*eP*	**Pn**	**10 33 31.7**	**-0.9**
PSMA				*eS*	**Sn**	**10 34 47.1**	**-2.2**
PSMA				*eS*	**Sn**	**10 34 47.4**	**-1.9**
PSMA	8.3nm,0.2s			A	A	10 34 49.5	
PSMN	**Pico do Norte,**	**6.74**	**152**	*eP*	**Pn**	**10 33 32.0**	**-0.9**
PSMN				*eS*	**Sn**	**10 34 47.8**	**-1.8**
PSMN	14nm,0.5s			A	A	10 34 52.1	
PMPST	**Porto Santo, M** 124nm,1.4s	**14.06**	**131**	A	A	10 36 00.0	
PGAV	**Gavieira, Arco** 37nm,1.6s	**15.32**	**87**	*eP*	**Pn**	**10 35 27.4**	**-2.8**
PGAV	977nm,18.0s			A	A	10 40 12.6	
PGAV	**Gavieira, Arco** 977nm,18.0s	**15.32**	**87**	A	A	10 40 09.1	
PMAFR	**Mafra** 87nm,1.6s	**15.42**	**99**	A	A	10 35 43.9	
PCAB	**Cabril** 25nm,2.1s	**15.54**	**88**	A	A	10 35 48.0	
PSBE	**So Bento** 32nm,1.8s	**15.58**	**96**	A	A	10 36 11.6	
LIS	**Lisbon**	**15.61**	**99**	*eP*	**Pn**	**10 35 30.5**	**-3.4**
PCAS	**Casmilo, Conde** 50nm,1.6s	**15.62**	**94**	*eP*	**Pn**	**10 35 32.7**	**-1.4**
COI	**Coimbra**	**15.64**	**93**	P	**P**	**10 35 39.8**	**+1.3**
COI	comp=Z,43nm,1.2s			IAmb	IAmb	10 35 54.7	
PNCL	**Nicolau / Gran** comp=Z,50nm,1.8s	**16.29**	**101**	*eP*	**Pn**	**10 35 41.3**	**-1.4**
PTEO	**Sao Teotonio**	**16.39**	**103**	*eP*	**Pn**	**10 35 43.0**	**-1.0**
MVO	**Moncorvo** comp=Z,19nm,2.0s	**16.40**	**89**	A	A	10 36 00.2	
MVO	comp=Z,535nm,20.0s			A	A	10 40 53.5	
MVO	**Moncorvo** comp=Z,535nm,20.0s	**16.40**	**89**	A	A	10 40 49.6	
PCBR	**Castelo Branco** comp=Z,40nm,1.7s	**16.43**	**94**	*eP*	**Pn**	**10 35 43.4**	**-1.1**
PBRG	**Braganca** comp=Z,19nm,2.0s	**16.47**	**87**	A	A	10 35 55.9	
EVO	**Evora** comp=Z,23nm,1.7s	**16.50**	**99**	*eP*	**Pn**	**10 35 43.6**	**-1.8**
PFVI	**Vila Bisbo**	**16.50**	**104**	P	**Pn**	**10 35 44.3**	**-1.1**
PFVI	**Vila Bisbo** comp=Z,73nm,1.7s	**16.50**	**104**	*eP*	**Pn**	**10 35 45.0**	**-0.4**
MORF	**Marmelete**	**16.55**	**103**	*eP*	**Pn**	**10 35 45.9**	**-0.1**
MORF	**Marmelete**	**16.55**	**103**	*eP*	**Pn**	**10 35 45.6**	**-0.5**
PMRV	**Marv??o** comp=Z,24nm,1.7s	**16.63**	**95**	*eP*	**Pn**	**10 35 45.3**	**-1.8**
PMRV	comp=Z,819nm,20.0s			A	A	10 41 01.1	
PBEJ	**Beja** comp=Z,44nm,1.6s	**16.80**	**100**	A	A	10 36 06.8	
PCVE	**Castro Verde**	**16.84**	**102**	*eP*	**Pn**	**10 35 49.0**	**-0.8**
PBDV	**Barranco-do-Ve** comp=Z,56nm,2.0s	**17.09**	**103**	A	A	10 36 11.3	
PVAQ	**Vaqueiros**	**17.17**	**102**	P	**Pn**	**10 35 54.2**	**+0.3**
PVAQ	**Vaqueiros** comp=Z,25nm,1.8s	**17.17**	**102**	*eP*	**P**	**10 35 54.9**	**-0.6**
PVAQ	comp=Z,754nm,20.0s			A	A	10 41 09.2	
PVAQ	**Vaqueiros** comp=Z,754nm,20.0s	**17.17**	**102**	A	A	10 41 08.0	
PAB	**San Pablo**	**18.82**	**92**	P	**Pn**	**10 36 14.9**	**+0.6**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.3s,baz=289,slow=13,SNR=14	**19.06**	**92**	P	**Pn**	**10 36 18.0**	**+0.9**
ESDC	comp=Z,374nm,20.4s,baz=265,slow=32			LR	LR	10 42 04.8	
ESDC	**Sonseca Array**	**19.06**	**92**	P	**Pn**	**10 36 18.5**	**+1.4**
ESBB	**Sonseca Array**	**19.06**	**92**	P	**Pn**	**10 36 18.7**	**+1.5**
ESK	**Eskdalemuir**	**20.71**	**45**	P	Pn	10 36 35.2	-1.2
EKA	**Eskdalemuir Ar** comp=Z,4.6nm,0.7s,baz=245,slow=8.8,SNR=19	**20.74**	**45**	P	**P**	**10 36 35.1**	**+0.7**
MDT	**Midelt** comp=Z,2.0nm,1.0s,baz=320,slow=12,SNR=7.1	**21.70**	**110**	P	**P**	**10 36 48.9**	**+3.8**
MDT	comp=Z,318nm,21.0s,baz=345,slow=32			LR	LR	10 43 24.2	
BORG	**Borgarnes** comp=Z,250nm,21.7s,baz=180,slow=30	**22.18**	**9**	LR	LR	10 42 56.4	
BORG	**Borgarnes**	**22.18**	**9**	P	P	10 36 40.2	-10
CLF	**Chambon-Foret**	**22.36**	**66**	P	**P**	**10 36 53.7**	**+1.8**
CLF	comp=Z,57nm,1.5s			IAmb	IAmb	10 37 04.7	
UCC	**Uccle**	**23.90**	**59**	P	**P**	**10 37 08.4**	**+0.8**
UCC				IAmb	IAmb	10 37 26.9	
BMRD	**Maredsous**	**24.11**	**61**	P	**P**	**10 37 09.0**	**-0.6**
BCLA	**Clavier**	**24.46**	**60**	P	**P**	**10 37 13.9**	**+1.0**
BNI	**Bardonecchia**	**25.59**	**73**	P	**P**	**10 37 25.1**	**+1.9**
BNI	comp=Z,17nm,1.3s			IAmb	IAmb	10 37 42.8	
ECH	**Echery**	**25.64**	**66**	P	**P**	**10 37 24.1**	**+0.6**
SENIN	**Lac Senin/Sane**	**25.86**	**70**	P	**P**	**10 37 26.4**	**+0.6**
SFJD	**Kangerlussuaq** comp=Z,359nm,19.7s,baz=136,slow=31	**26.73**	**341**	LR	LR	10 45 44.3	
SCHQ	**Schefferville** comp=Z,448nm,20.4s,baz=40,slow=33	**27.17**	**309**	LR	LR	10 46 32.1	
DAVOX	**Davos/Dischmat** comp=Z,318nm,18.2s,baz=248,slow=36	**27.58**	**69**	LR	LR	10 48 32.6	
D62A	**Allapoint, All**	**28.37**	**292**	P	**P**	**10 37 48.3**	**+0.3**
LATE	**Laterza**	**29.71**	**77**	P	**P**	**10 38 00.6**	**+0.5**
ZOU	**Zoufplan**	**29.72**	**69**	P	**P**	**10 38 01.1**	**+0.8**
JMIC	**Jan Mayen** comp=Z,161nm,18.6s,baz=272,slow=31	**29.82**	**13**	LR	LR	10 47 07.6	
KHC	**Kasperske Hory**	**29.83**	**63**	*eP*	**P**	**10 38 00.3**	**-0.8**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.7s,baz=253,slow=9.8,SNR=4.5	**29.93**	**39**	P	**P**	**10 38 00.8**	**-1.0**
GERES	**GERESS Array B** comp=Z,0.3nm,0.6s,baz=294,slow=13,SNR=2.2	**29.94**	**64**	P	**P**	**10 38 04.1**	**+2.0**
GERES	comp=Z,412nm,19.9s,baz=220,slow=33			LR	LR	10 48 32.4	
GERES	**GERESS Array B**	**29.94**	**64**	P	**P**	**10 38 03.5**	**+1.4**
PRED	**Cave del Predi**	**30.15**	**69**	P	**P**	**10 38 04.5**	**+0.6**
KEST	**Kesra** comp=Z,3.0nm,0.9s,baz=297,slow=4.3,SNR=3.1	**30.31**	**91**	P	**P**	**10 38 06.8**	**+1.3**
KEST	comp=Z,231nm,19.9s,baz=271,slow=35			LR	LR	10 49 36.9	
KEST	**Kesra**	**30.31**	**91**	P	**P**	**10 38 05.7**	**+0.2**
KEST	comp=Z,18nm,1.4s			IAmb	IAmb	10 38 21.6	
HFS	**Hagfors**	**30.85**	**41**	LR	LR	10 48 52.6	
VRAC	**Vranov** comp=Z,429nm,19.3s,baz=252,slow=33	**31.78**	**63**	LR	LR	10 49 23.5	
VAE	**Valguarnera** comp=Z,600nm,21.4s,baz=17,slow=34	**33.30**	**85**	LR	LR	10 50 33.0	
DIVS	**Divibare**	**35.08**	**71**	P	**P**	**10 38 49.3**	**+2.2**
BZS	**Buzias**	**35.80**	**68**	⇑P	P	10 38 59.0	+5.8
FINES	**FINESS Array B** comp=Z,2.8nm,0.8s,baz=238,slow=6.5,SNR=12	**37.05**	**41**	P	**P**	**10 39 03.9**	**+0.3**
FINES	comp=Z,170nm,21.9s,baz=243,slow=33			LR	LR	10 52 23.2	
FINES	**FINESS Array B**	**37.05**	**41**	P	**P**	**10 39 03.2**	**-0.4**
FIA1	**FINESS Array S**	**37.05**	**41**	P	**P**	**10 39 02.8**	**-0.8**
BURAR	**Bucovina Array**	**37.73**	**64**	⇑P	**P**	**10 39 10.9**	**+1.2**
BURAR	**Bucovina Array**	**37.73**	**64**	P	**P**	**10 39 09.0**	**-0.7**
ARCES	**ARCESS Array B** comp=Z,3.0nm,0.7s,baz=266,slow=4.6,SNR=5.0	**38.15**	**28**	P	**P**	**10 39 12.4**	**-0.5**
ARCES	comp=Z,119nm,22.0s,baz=260,slow=31			LR	LR	10 51 41.1	
ARCES	**ARCESS Array B**	**38.15**	**28**	P	**P**	**10 39 11.5**	**-1.4**
MLR	**Muntele Rosu**	**38.77**	**67**	⇑P	**P**	**10 39 17.5**	**-1.0**
AKASG	**Malin Array Be** comp=Z,0.1nm,0.2s,baz=275,slow=8.8,SNR=1.8	**39.60**	**58**	P	**P**	**10 39 25.5**	**+0.2**
AKASG	comp=Z,380nm,19.1s,baz=275,slow=35			LR	LR	10 55 14.7	
TOA0	**Torodi Ar. Sit**	**39.83**	**129**	P	**P**	**10 39 28.4**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,7.1nm,1.1s,baz=330,slow=8.6,SNR=7.7	**39.83**	**129**	P	**P**	**10 39 29.4**	**+1.9**
TORD	comp=Z,374nm,19.1s,baz=320,slow=35			LR	LR	10 54 56.4	
TORD	**Torodi Ar. Bea**	**39.83**	**129**	P	**P**	**10 39 28.2**	**+0.7**
DBIC	**Dimbokro** comp=Z,2.9nm,0.7s,baz=333,slow=9.0,SNR=2.7	**42.00**	**143**	P	**P**	**10 39 46.3**	**+0.9**
DBIC	comp=Z,209nm,19.4s,baz=316,slow=34			LR	LR	10 55 50.6	
DBIC	**Dimbokro**	**42.00**	**143**	P	**P**	**10 39 46.3**	**+0.9**
DBIC	comp=Z,19nm,1.3s			IAmb	IAmb	10 40 02.5	
KLMR	**Klimovskoe**	**43.57**	**41**	*eP*	**P**	**10 39 53.6**	**-4.0**
KLMR				AMP		10 40 01.1	
KLMR	comp=Z,13nm,1.5s			*eP*cP	**PP**	**10 41 41.6**	**+2.9**
SPMN	**Marine on St.**	**44.79**	**296**	P	**P**	**10 40 07.5**	**-0.1**
SPMN	comp=Z,8.9nm,1.1s			IAmb	IAmb	10 40 08.4	
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352A	Blakely	45.24 274	P	P	10 40 11.7	+0.4
250A	Grady	45.96 276	P	P	10 40 17.1	0.0
BRTR	Keskin Array B	46.14 72	P	P	10 40 19.6	+1.0
	comp=Z,1.8nm,0.9s,baz=270,slow=6.9,SNR=6.7					
BRTR			LR	LR	11 01 04.5	
	comp=Z,119nm,18.2s,baz=278,slow=38					
BRTR	Keskin Array B	46.14 72	P	P	10 40 18.4	-0.1
P40A	Paris	46.53 288	P	P	10 40 20.9	-0.6
P40A			IAmb	IAmb	10 40 22.1	
	comp=Z,10nm,1.1s					
CCM	Cathedral Cave	46.62 286	P	P	10 40 21.3	-0.9
CCM			IAmb	IAmb	10 40 22.7	
	comp=Z,9.4nm,1.1s					
T42A	Van Buren	46.98 285	IAmb	IAmb	10 40 25.3	
	comp=Z,9.7nm,1.2s					
R40A	Maddies Statio	47.23 287	IAmb	IAmb	10 40 27.5	
	comp=Z,6.3nm,1.1s					
MGMO	Mountain Grove	47.76 285	P	P	10 40 30.3	-0.8
MGMO			IAmb	IAmb	10 40 31.7	
	comp=Z,11nm,1.1s					
ECSD	EROS Data Cent	47.88 295	P	P	10 40 31.1	-0.9
S39A	Bolivar	48.25 287	IAmb	IAmb	10 40 35.3	
	comp=Z,9.0nm,1.0s					
W39A	Magazine	49.77 284	IAmb	IAmb	10 40 48.5	
	comp=Z,9.5nm,1.2s					
KBZ	Khabaz	50.67 63	LR	LR	11 03 03.7	
	comp=Z,104nm,20.1s,baz=311,slow=37					
YKA	Yellowknife Ar	51.08 323	P	P	10 40 55.2	-0.8
	comp=Z,1.8nm,0.7s,baz=75,slow=7.1,SNR=3.0					
YKA			LR	LR	10 59 52.4	
	comp=Z,156nm,18.1s,baz=0.0,slow=33					
PTGA	Pitinga	51.69 221	P	P	10 41 02.3	+1.1
LAO	LASA Array	52.79 303	P	P	10 41 08.7	-0.5
LAO			IAmb	IAmb	10 41 10.7	
	comp=Z,11nm,1.0s					
ROSC	El Rosal	55.21 240	LR	LR	11 01 03.2	
	comp=Z,123nm,21.7s,baz=46,slow=32					
RLMT	Red Lodge	55.40 302	IAmb	IAmb	10 41 33.5	
	comp=Z,11nm,1.4s					
ISCO	Idaho Springs	55.65 295	IAmb	IAmb	10 41 31.6	
	comp=Z,9.7nm,1.4s					
T25A	Trinidad	56.20 291	P	P	10 41 33.8	-0.5
T25A			IAmb	IAmb	10 41 35.8	
	comp=Z,8.2nm,1.2s					
BOZ	Bozeman (W)	56.62 304	IAmb	IAmb	10 41 38.9	
	comp=Z,9.9nm,1.4s					
BW06	Boulder Array	56.73 300	IAmb	IAmb	10 41 37.9	
	comp=Z,6.4nm,1.1s					
PDAR	Pinedale Array	56.73 300	P	P	10 41 37.0	-1.1
	comp=Z,2.4nm,1.0s,baz=69,slow=8.6,SNR=14					
PDAR			LR	LR	11 05 23.5	
	comp=Z,223nm,18.3s,baz=84,slow=36					
PDAR	Pinedale Array	56.73 300	P	P	10 41 37.1	-1.0
MSTX	Muleshoe	56.75 287	IAmb	IAmb	10 41 38.5	
	comp=Z,13nm,1.1s					
FLWY	Flagg Ranch	56.80 302	IAmb	IAmb	10 41 45.7	
	comp=Z,8.0nm,1.1s					
LOHW	Long Hollow	56.97 301	P	P	10 41 39.2	-0.5
LOHW			IAmb	IAmb	10 41 40.4	
	comp=Z,8.6nm,1.2s					
IMW	Indian Meadow	57.04 301	IAmb	IAmb	10 41 41.0	
	comp=Z,5.6nm,0.8s					
SNOW	Snow King Moun	57.14 301	IAmb	IAmb	10 41 41.9	
	comp=Z,7.6nm,1.0s					
TPAW	Teton Pass	57.25 301	IAmb	IAmb	10 41 41.4	
	comp=Z,9.5nm,1.2s					
REDW	Red Top Meadow	57.25 301	IAmb	IAmb	10 41 42.4	
	comp=Z,15nm,1.3s					
DLMT	Dillon	57.33 304	IAmb	IAmb	10 41 43.2	
	comp=Z,11nm,1.4s					
MSO	Missoula	57.41 306	IAmb	IAmb	10 41 44.1	
	comp=Z,11nm,1.4s					
S22A	4UR Ranch, Cre	57.52 293	IAmb	IAmb	10 41 46.0	
	comp=Z,8.8nm,1.4s					
AHID	Auburn Hatcher	57.72 300	IAmb	IAmb	10 41 45.5	
	comp=Z,8.2nm,1.1s					
EPYK	Eagle Plains	57.84 333	P	P	10 41 43.7	-1.5
EPYK			IAmb	IAmb	10 41 45.1	
	comp=Z,9.5nm,1.3s					
PV22	Blue Mesa, Par	58.42 295	IAmb	IAmb	10 41 53.0	
	comp=Z,12nm,1.3s					
ABKAR	Akbulak array	58.48 50	P	P	10 41 49.6	-0.3
PV04	Paradox Valley	58.57 295	IAmb	IAmb	10 41 56.6	
	comp=Z,15nm,1.5s					
HWUT	Hardware Ranch	58.61 299	IAmb	IAmb	10 41 51.7	
	comp=Z,8.3nm,0.9s					
ANMO	Albuquerque	58.77 290	P	P	10 41 52.2	-0.3
BMAR	Burnt Mountain	59.66 336	P	P	10 41 57.5	-0.4
B08A	Colville Reser	59.75 309	IAmb	IAmb	10 41 59.8	
	comp=Z,11nm,1.5s					
F10A	Beach Ranch, E	59.80 306	IAmb	IAmb	10 42 02.1	
	comp=Z,8.2nm,1.5s					
TX32	Lajitas Array	59.96 283	IAmb	IAmb	10 42 06.8	
	comp=Z,8.2nm,1.5s					
TXAR	Lajitas Array	59.96 283	P	P	10 42 00.4	-0.2
	comp=Z,0.9nm,0.9s,baz=79,slow=6.5,SNR=7.6					
TXAR			LR	LR	11 07 48.3	
	comp=Z,166nm,18.7s,baz=0.0,slow=36					
TXAR	Lajitas Array	59.96 283	P	P	10 41 59.3	-1.3
E09A	Wood Farm, Sta	60.05 307	IAmb	IAmb	10 42 06.2	
	comp=Z,5.4nm,1.2s					
SAML	Samuel	60.40 220	P	P	10 42 04.0	+0.6
SAML			IAmb	IAmb	10 42 04.7	
	comp=Z,8.7nm,1.4s					
MVU	Marysvale	60.70 297	P	P	10 42 05.6	-0.1
BDFB	Brasilia	60.95 201	P	P	10 42 09.5	+2.2
	comp=Z,1.7nm,0.4s,baz=322,slow=3.7,SNR=3.3					
BDFB			LR	LR	11 04 12.2	
	comp=Z,138nm,21.4s,baz=302,slow=32					
BDFB	Brasilia	60.95 201	P	P	10 42 08.5	+1.2
BDFB			IAmb	IAmb	10 42 09.4	
	comp=Z,6.9nm,1.0s					
LTY	Liberty	61.11 309	IAmb	IAmb	10 42 19.3	
	comp=Z,7.3nm,1.1s					
PKCU	Pink Cliffs	61.35 296	P	P	10 42 09.9	-0.3
WUAZ	Wupatki	61.80 293	IAmb	IAmb	10 42 14.7	
	comp=Z,9.1nm,1.3s					
ILAR	Eielson Array	62.13 335	P	P	10 42 14.3	-0.3
	comp=Z,0.6nm,0.7s,baz=43,slow=5.8,SNR=5.5					
ILAR			LR	LR	11 06 44.3	
	comp=Z,109nm,18.2s,baz=114,slow=34					
ILAR	Eielson Array	62.13 335	P	P	10 42 13.3	-1.4
HDA	Harding Lake	62.40 334	P	P	10 42 15.5	-1.0
HDA			IAmb	IAmb	10 42 16.5	
	comp=Z,4.5nm,1.0s					
CCB	Clear Creek Bu	62.51 335	P	P	10 42 16.5	-0.6
WRH	Wood River Hil	62.72 335	P	P	10 42 17.5	-1.1
WRH			IAmb	IAmb	10 42 19.4	
	comp=Z,5.1nm,1.0s					
PINE	Pine Mountain	63.20 306	P	P	10 42 22.6	+0.3
IMAR	Indian Mountai	63.30 338	P	P	10 42 21.5	-0.9
W13A	Hualapai Mount	63.72 294	IAmb	IAmb	10 42 27.6	
	comp=Z,7.5nm,1.4s					
K05A	Summer Lake	63.78 305	P	P	10 42 26.7	+0.4
MOD	Modoc Plateau	63.90 304	IAmb	IAmb	10 42 29.4	
	comp=Z,10.0nm,1.4s					
NV11	Mina Array Sit	64.58 300	IAmb	IAmb	10 42 31.8	
	comp=Z,5.5nm,1.3s					
PAHR	Pah Rah Range	64.61 301	IAmb	IAmb	10 42 32.3	
	comp=Z,5.2nm,1.2s					
NVAR	Mina Array Bea	64.67 300	P	P	10 42 31.3	-0.9
	comp=Z,0.8nm,1.0s,baz=64,slow=6.8,SNR=6.9					
NVAR			LR	LR	11 10 11.2	
	comp=Z,138nm,19.9s,baz=85,slow=36					
NVAR	Mina Array Bea	64.67 300	P	P	10 42 31.2	-1.0
VCNR	Virginia City	65.02 301	IAmb	IAmb	10 42 35.5	
	comp=Z,8.8nm,1.3s					
GSC	Goldstone, Bar	65.54 296	IAmb	IAmb	10 42 44.3	
	comp=Z,9.3nm,1.4s					
KKAR	Karatay Array	68.01 51	P	P	10 42 53.8	+0.5
ZALV	Zalesovo Beam	68.06 36	P	P	10 42 53.5	+0.1
	comp=Z,2.2nm,0.7s,baz=299,slow=9.8,SNR=8.1					
ZALV			LR	LR	11 11 54.4	
	comp=Z,61nm,21.6s,baz=322,slow=35					
ZALV	Zalesovo Beam	68.06 36	P	P	10 42 51.9	-1.4
LPAZ	La Paz	69.11 220	P	P	10 43 02.1	+1.1
	comp=Z,2.7nm,1.1s,baz=24,slow=4.3,SNR=6.6					
LPAZ			LR	LR	11 09 59.1	
	comp=Z,50nm,21.7s,baz=34,slow=33					
LPAZ	La Paz	69.11 220	P	P	10 43 01.6	+0.6
LPAZ			IAmb	IAmb	10 43 03.9	
	comp=Z,7.0nm,1.2s					
MAKZ	Makanchi	71.69 43	P	P	10 43 15.1	-0.7
MAKZ			IAmb	IAmb	10 43 18.1	
	comp=Z,8.7nm,1.4s					
MK31	Makanchi Array	71.86 42	IAmb	IAmb	10 43 18.1	
	comp=Z,5.1nm,1.1s					
MKAR	Makanchi Array	71.86 42	P	P	10 43 17.2	+0.4
	comp=Z,3.1nm,0.8s,baz=322,slow=5.9,SNR=24					
MKAR	Makanchi Array	71.86 42	P	P	10 43 16.9	+0.1
CPUP	Villa Florida	73.80 206	LR	LR	11 12 35.1	
	comp=Z,32nm,19.8s,baz=50,slow=33					
WMQ	Urumqi	76.65 42	*eP*	P	10 43 46.6	+1.7
SONM	Songino Array	81.32 29	P	P	10 44 10.4	-0.1
	comp=Z,1.2nm,0.8s,baz=327,slow=6.2,SNR=7.1					
SONM			LR	LR	11 21 14.5	
	comp=Z,39nm,19.4s,baz=306,slow=36					
SONM	Songino Array	81.32 29	P	P	10 44 10.2	-0.3
PETK	Petropavlovsk-	84.06 356	LR	LR	11 23 15.3	
	comp=Z,37nm,18.3s,baz=19,slow=37					
BOSA	Boshof	86.98 134	LR	LR	11 20 22.8	
	comp=Z,178nm,21.9s,baz=3.0,slow=33					
HHC	Hu-ho-hao-te	89.22 29	*eP*	P	10 44 50.0	-0.1
HHC			pmax	pmax		
	comp=Z,16nm,0.9s					
HHC			pmax	pmax		
	comp=Z,85nm,6.2s					
LZH	Lanzhou	90.28 36	*eP*	P	10 44 49.9	-5.3
LZH			pP	PcP	10 44 53.2	-3.2
LZH			sP	pP	10 44 55.3	-2.6
LZH			pmax	pmax		
	comp=Z,16nm,1.1s					
NJ2	Nanjing	99.67 27	*eP*	Pdif	10 45 35.9	-1.9
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.6s					
VNDA	Vanda	145.13 184	PKPbc	PKPdf	10 51 30.4	+0.3
	comp=Z,8.1nm,1.3s,baz=200,slow=2.7,SNR=15					
FITZ	Fitzroy Crossi	147.14 49	PKPbc	PKPbc	10 51 37.6	+0.2
	comp=Z,1.6nm,0.6s,baz=342,slow=3.2,SNR=2.7					
FITZ	Fitzroy Crossi	147.14 49		PKPbc	10 51 37.3	-0.1
WRA	Warramunga Arr	153.04 37	PKPbc	PKPbc	10 51 50.1	-1.8
	comp=Z,0.8nm,1.1s,baz=329,slow=2.6,SNR=3.1					
WRA	Warramunga Arr	153.04 37	PKPbc	PKPbc	10 51 51.0	-0.8

WEL 07 10:32:10.3, 40.7°S×0.6°×175.8°E±0.8, h23km±1km, M3.5/19, ML3.8/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=99.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIWZ	Tintock	0.10	157	P	Pb	10 32 15.3	+0.5
TIWZ				S	Sb	10 32 18.9	+1.1
PRWZ	Pori Road	0.16	40	P	Pb	10 32 15.8	+0.5
PRWZ				S	Sb	10 32 19.9	+1.1
MRZ	Mangatainoka R	0.19	276	P	Pb	10 32 16.3	+0.6
MRZ				S	Sb	10 32 20.2	+0.9
POWZ	Post Office Ro	0.29	350	P	Pb	10 32 17.5	+0.5
POWZ				S	Sb	10 32 22.9	+1.2
BFZ	Birch Farm	0.32	90	P	Pb	10 32 17.8	+0.4
BFZ				S	Sb	10 32 23.6	+1.4
HOWZ	Holdsworth Sta	0.32	228	P	Pb	10 32 18.4	+0.8
HOWZ				S	Sb	10 32 24.0	+1.4
CPWZ	Castlepoint	0.36	129	P	Pn	10 32 19.7	-0.5
TMWZ	Te Maipa	0.43	174	P	Pn	10 32 20.5	-0.6
TMWZ				S	Sn	10 32 28.2	-0.1
DVHZ	Dannevirke	0.46	34	P	Pb	10 32 19.9	+0.1
DVHZ				S	Sb	10 32 27.0	+0.9
OGWZ	Otaki Gorge	0.52	255	P	Pn	10 32 21.8	-0.5
OGWZ				S	Sb	10 32 29.2	+1.2
ANWZ	Angora Road	0.54	66	P	Pb	10 32 21.8	+0.7
OHWZ	Ohakea	0.62	320	P	Pn	10 32 23.9	+0.3
TSZ	Takapari Road	0.63	9	P	Pb	10 32 22.0	-0.7
TSZ				S	Sb	10 32 31.6	+0.5
CAW	Cannon Point	0.72	233	P	Pn	10 32 25.1	0.0
CAW				S	Sn	10 32 34.7	-0.7
KIW	Kapiti Island	0.72	255	P	Pn	10 32 25.4	+0.3
KIW				S	Sn	10 32 35.9	+0.4
TRWZ	Traveller	0.73	189	P	Pn	10 32 24.8	-0.4
PRHZ	Porangahau	0.74	56	P	Pb	10 32 24.8	+0.3
PRHZ				S	Sn	10 32 36.6	+0.8
WPHZ	Waipukurau	0.77	37	P	Pn	10 32 25.7	0.0
WPHZ				S	Sn	10 32 38.2	+1.6
PNHZ	Pukenui	0.82	20	P	Pn	10 32 26.5	0.0
PNHZ				S	Sn	10 32 38.7	+0.9
MSWZ	Moikau Station	0.86	211	P	Pb	10 32 26.4	-0.1
PLWZ	Palliser	0.99	206	P	Pb	10 32 28.1	-0.7
PXZ	Pawanui	1.02	51	P	Pn	10 32 28.6	-0.6
BHW	Baring Head	1.03	225	P	Pn	10 32 28.9	-0.4
BHW				S	Sn	10 32 42.8	-0.2
KRHZ	Kereru	1.11	22	P	Pn	10 32 30.6	+0.1
KRHZ				S	Sn	10 32 46.2	+1.0
WAZ	Wanganui	1.13	325	P	Pb	10 32 32.5	+1.4
WAZ				S	Sn	10 32 49.3	+3.8
KAHZ	Kahuranaki	1.19	42	P	Pn	10 32 31.2	-0.4
BHHZ	Black Hill Sta	1.20	9	P	Pb	10 32 32.3	-0.1
MOVZ	Moawhango	1.27	357	P	Pb	10 32 33.5	-0.1
MOVZ				S	Sb	10 32 51.4	+1.8
TCW	Tory Channel	1.29	245	P	Pn	10 32 32.9	0.0
TCW				S	Sb	10 32 51.5	+1.4
MTVZ	Mangateitei	1.32	348	P	Pb	10 32 35.0	+0.5
MTVZ				S	Sb	10 32 53.1	+2.0
KWHZ	Kaweka Forest	1.33	20	P	Pn	10 32 33.8	+0.2
WNVZ	Wahianoa	1.36	352	P	Pb	10 32 35.1	-0.1
MCHZ	McNeill Hill	1.40	29	P	Pn	10 32 34.6	+0.1
TUVZ	Tukino	1.42	354	P	Pb	10 32 36.4	+0.3
DRZ	Dome Shelter	1.42	352	P	Pb	10 32 36.8	+0.5
PKVZ	Pokaka	1.44	345	P	Pb	10 32 36.5	0.0
FWVZ	Far West T-bar	1.44	351	P	Pb	10 32 36.6	0.0
DUWZ	D'Urville Isla	1.46	265	P	Pn	10 32 35.7	+0.5
NGZ	Ngauruhoe	1.51	353	P	Pb	10 32 37.5	-0.3
ETVZ	East Tongariro	1.54	356	P	Pb	10 32 37.7	-0.6
TMVZ	Te Maari	1.56	356	P	Pb	10 32 38.0	-0.7
WTVZ	West Tongariro	1.57	353	P	Pb	10 32 38.2	-0.6
KRVZ	Karewarewa	1.59	355	P	Pb	10 32 38.5	-0.6
BKZ	Black Stump Fm	1.59	19	P	Pn	10 32 37.0	-0.2
TUWZ	Tuamarina	1.61	242	P	Pn	10 32 36.8	-0.6
TWVZ	Taurewa	1.64	349	P	Pb	10 32 39.0	-0.9
ARHZ	Aropaoanui	1.67	33	P	Pn	10 32 38.2	+0.1
RITZ	Rihia Road	1.70	1	P	Pn	10 32 39.7	+1.1
KATZ	Kakaramea	1.71	356	P	Pb	10 32 40.1	-0.9
NMHZ	Naumai	1.75	26	P	Pn	10 32 39.6	+0.3
VRZ	Vera Road	1.76	332	P	Pb	10 32 41.2	-0.7
BSWZ	Blackbirch Sta	1.80	234	P	Pn	10 32 39.4	-0.5
RATZ	Rangitukua	1.81	359	P	Pn	10 32 41.1	+0.9
PREZ	Palmer Road	1.85	316	P	Pb	10 32 43.9	+0.4
MRHZ	Matea Rd	1.90	14	P	Pn	10 32 41.2	-0.2
NNZ	Nelson	1.93	253	P	Pn	10 32 42.0	+0.3
NEZ	North Egmont	1.94	316	P	Pb	10 32 44.2	-0.8
DREZ	Durham Road	1.95	319	P	Pb	10 32 45.6	+0.5
MTHZ	Maungataniwha	1.98	23	P	Pn	10 32 42.8	+0.3
RAHZ	Arahi	2.01	29	P	Pn	10 32 43.0	+0.2
ALRZ	Allen Road	2.15	11	P	Pn	10 32 45.1	+0.3
MHGZ	Mahia Peninsul	2.21	47	P	Pn	10 32 44.0	-1.5
SNGZ	Shannon Statio	2.22	32	P	Pn	10 32 45.0	-0.8
RTZ	Ruatahuna	2.24	24	P	Pn	10 32 46.8	+0.7
HIZ	Hauiti	2.29	340	P	Pn	10 32 48.1	+1.4
MUGZ	Murupara	2.32	19	P	Pn	10 32 46.5	-0.5
TLZ	Tolley Road	2.36	354	P	Pn	10 32 49.6	+2.0
PRGZ	Paritu Road	2.36	43	P	Pn	10 32 46.1	-1.6
KHZ	Kahutara	2.44	224	P	Pn	10 32 47.2	-1.6
THZ	Tophouse	2.46	243	P	Pn	10 32 48.2	-0.9
RIGZ	Rimuhau	2.47	38	P	Pn	10 32 47.9	-1.3
QRZ	Quartz Range	2.51	266	P	Pn	10 32 49.7	0.0
URZ	Urewera	2.61	23	P	Pn	10 32 49.5	-1.6
MWZ	Matawai	2.69	30	P	Pn	10 32 50.6	-1.6
CNGZ	Carnagh Statio	2.86	41	P	Pn	10 32 53.5	-1.0
RUGZ	Raukumara Rang	3.07	28	P	Pn	10 32 56.0	-1.4
GVZ	Greta Valley S	3.10	222	P	Pn	10 32 56.5	-1.3
PUZ	Puketiti	3.21	37	P	Pn	10 32 57.5	-1.9
DSZ	Denniston Nort	3.22	249	P	Pn	10 32 58.7	-0.7
HAZ	Te Kaha	3.29	28	P	Pn	10 32 59.7	-0.7
LTZ	Lake Taylor	3.39	231	P	Pn	10 33 00.2	-1.7
AMCZ	Amberley	3.44	223	P	Pn	10 33 05.4	+2.9
WMGZ	Waiomatatini S	3.49	36	P	Pn	10 33 01.5	-1.7
OKCZ	Okains Bay	3.67	213	P	Pn	10 33 04.2	-1.5
MQZ	McQueen's Vall	3.84	217	P	Pn	10 33 06.0	-1.9
INZ	Inchbonnie	3.87	237	P	Pn	10 33 06.7	-1.6
ODZ	Otahua Downs	5.79	219	P	Pn	10 33 32.6	-2.2
JCZ	Jackson Bay	6.22	235	P	Pn	10 33 38.8	-2.0

IDC 07 10:37:44.8±2.7, 48.07S×99.29E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/28, mbtmp3.7/4, MS3.5/4, Ms1 3.5/4, ms1mx3.1/28, Error ellipse: s-maj=93.5km s-min=25.1km az=124.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	17.19	45	T	T	10 59 22.7	
	baz=215,slow=74,SNR=17						
H01W3	Cape Leeuwin H	17.20	45	T	T	10 59 23.4	
	baz=215,slow=74,SNR=20						
H01W1	Cape Leeuwin H	17.20	45	T	T	10 59 23.7	
	baz=215,slow=74,SNR=21						
MAW	Mawson	26.88 210	LR	LR	10 51 05.6		
	comp=Z,137nm,18.6s,baz=53,slow=30						
STKA	Stephens Creek	35.73 79	LR	LR	10 56 42.5		
	comp=Z,58nm,19.7s,baz=204,slow=32						
ASAR	Alice Springs	36.66 61	P	P	10 44 52.3	-0.9	
	1.1nm,0.8s,baz=217,slow=7.9,SNR=8.6						
VNDA	Vanda	37.70 162	P	P	10 45 01.4	0.0	
	0.7nm,0.7s,baz=295,slow=6.4,SNR=5.0						
VNDA			LR	LR	10 59 10.3		
	comp=Z,64nm,20.9s,baz=272,slow=34						
WRA	Warramunga Arr	39.82 58	P	P	10 45 20.6	+0.8	
	1.2nm,0.9s,baz=217,slow=8.5,SNR=6.0						
H08S2	Diego Garcia H	46.26 322	T	T	11 35 44.5		
	baz=155						
H08S1	Diego Garcia H	46.26 322	T	T	11 35 40.5		
	baz=155						
H08S3	Diego Garcia H	46.27 322	T	T	11 35 46.9		
	baz=155						
SNAA	Sanae	48.77 204	P	P	10 46 30.7	-0.2	
	1.0nm,0.8s,baz=145,slow=9.6,SNR=5.0						
CMAR	Chiang Mai Arr	66.22 360	LR	LR	11 12 30.1		
	comp=Z,43nm,21.7s,baz=228,slow=32						

BGR ***07*** *10:44:59.9±0.8, 43.7°S×10.7°E, h10km, ML4.3/11, Error ellipse: s-maj=14.5km s-min=8.9km az=33.0*
STR ***07*** *10:44:59.5±1.0, 44°N±10°×1°E±°, h0km, mB6.0/2, mb3.5/2, MLv4.0/8, Mw(mB)5.7/2, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
PRU ***07*** *10:45:00.2±0.0, 44°18N×10°72E, h0km, M4.4*
MOS ***07*** *10:45:00.5±0.9, 44°21N×10°78E, h12km, mb4.4/12, Error ellipse: s-maj=7.5km s-min=3.7km az=68.8*
MED_RC ***07*** *10:45:01.7±0.6, 44°11N×10°66E, h10km, MW4.4/12, Moment Tensor Solution. Mantle waves: s12,c15; Duration: 1s0 Moment tensor: Scale 10^15^Nm; Mrr-3.80±.27; Mθθ1.7±.30; Mφφ2.63±.25; Mrθ-2.00±.88; Mθφ-1.80±.23; Mφr-4.07±.87; Best double couple: M0 5.71000×10^15^ NP1:φs130.00000°, δ31.00000°, λ-139.00000°. NP2:φs3.00000°, δ70.00000°, λ-66.00000°. Principal axes: T 4.7900, Plg22.0000°, Azm75.0000°; N 1.8400, Plg23.0000°, Azm175.0000°; P -6.6300, Plg58.0000°, Azm306.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GEN ***07*** *10:45:01.8, 44°14N×10°68E, h12km±2km, Ml4.0*
ROM ***07*** *10:45:01.1±0.1, 44°119N±0°005×10°672E±0°005, h18km, ML3.9/80, Mw4.1, Mw4.1, Mw4.1, Error ellipse: s-maj=0.5km s-min=0.4km az=191.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr-0.60; Mθθ0.61; Mφφ-0.01; Mrθ0.87; Mθφ-0.77; Mφr-1.09; Fault plane solution: M0 1.66417×10^15^ NP1:φs92.00000°, δ22.00000°, λ-140.00000°. NP2:φs323.00000°, δ76.00000°, λ-73.00000°. Moment Tensor Solution. Moment tensor: Scale 10^15^ Nm; Mrr-0.73; Mθθ0.83; Mφφ-0.11; Mrθ-0.03; Mθφ-1.09; Mφr-0.75; Fault plane solution: M0 1.53185×10^15^ NP1:φs86.00000°, δ52.00000°, λ-152.00000°. NP2:φs339.00000°, δ69.00000°, λ-41.00000°. hypocenter*
PDG ***07*** *10:45:01.6±0.8, 44°11N×10°73E, h19km, ML4.1/11 Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
IDC ***07*** *10:45:01.2±0.8, 44°28N×10°66E, h0km, mb3.9/12, mb1 3.9/24, mb1mx3.8/51, mbtmp3.7/24, ML3.6/11, MS3.3/4, Ms1 3.3/4, ms1mx3.0/36, Error ellipse: s-maj=15.1km s-min=10.0km az=126.0*
LDG ***07*** *10:45:02.8±0.2, 44°09N×10°62E, h12km, Md3.7/2, Ml3.9/48, Error ellipse: s-maj=4.3km s-min=3.8km az=166.0*
NEIC ***07*** *10:45:02.7±3.0, 44°14N±0°05×10°76E±0°07, h12km±4km, mb4.4/8, ML4.0(ROM), ML4.0(VIE), Error ellipse: s-maj=7.6km s-min=6.2km az=57.0*

ISC 07 10:45:02.4±0.6, 44°15N±0°02×10°66E±0°01, h16km±3km, n518, g2§14/661, mb4.1/26, MS3.5/4, 35C-15D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDI	Bagni Di Lucca	0.09	208	P	Pg	10 45 04.7	-1.1
BDI				S	Sg	10 45 07.2	-0.9
BDI				AML	AML		
BDI				AML	AML		
BDI				AML	AML		
BDI				AML	AML		
POPM	Popiglio	0.12	144	P	Pg	10 45 04.8	-1.3
POPM				S	Sg	10 45 07.4	-1.0
POPM	Popiglio	0.12	144	P	Pg	10 45 04.8	-1.3
POPM				S	Sg	10 45 07.3	-1.2
POPM				AML	AML		
POPM				AML	AML		
POPM				AML	AML		
CARD	Cardoso	0.17	227	P	Pg	10 45 05.8	-0.9
CARD				S	Sg	10 45 09.5	-0.1
CARD	Cardoso	0.17	227	P	Pg	10 45 05.8	-0.9
CARD				S	Sg	10 45 09.4	-0.3
CARD				AML	AML		
	comp=E,85300μm,0.4s						
CARD				AML	AML		
CARD				AML	AML		
	comp=E,85300μm,0.4s						
SARO	Sassorosso	0.19	282	P	Pg	10 45 06.3	-0.8
SARO				S	Sg	10 45 09.9	-0.3
SARO	Sassorosso	0.19	282	P	Pg	10 45 06.3	-0.8
SARO				S	Sg	10 45 09.4	-0.8
SARO				AML	AML		
	comp=E,27700μm,0.4s						
SARO			

ZCCA				AML	AML		
	comp=N,92350µm,0.8s						
ZCCA				AML	AML		
	comp=N,99650µm,0.8s						
ZCCA				AML	AML		
	comp=N,92350µm,0.8s						
ZCCA				AML	AML		
	comp=E,95050µm,1.0s						
ZCCA				AML	AML		
ZCCA	**Zocca**	**0.31**	**48**	Pg	**Pg**	**10 45 08.5**	**-0.5**
ZCCA				Sg	**Sb**	**10 45 15.1**	**+0.7**
ERBM	**Eremo**	**0.33**	**327**	P	**Pg**	**10 45 08.7**	**-0.5**
ERBM				AML	AML		
	comp=E,12400µm,1.3s						
ERBM				AML	AML		
	comp=N,13600µm,1.2s						
FNVD	**Fontana Vidola**	**0.34**	**86**	P	**Pg**	**10 45 08.0**	**-1.4**
FNVD				S	**Sg**	**10 45 12.5**	**-1.7**
FNVD				AML	AML		
FNVD				AML	AML		
PTF	**Prato**	**0.35**	**122**	P	**Pg**	**10 45 08.0**	**-1.6**
EQUI	**Equi**	**0.36**	**274**	P	**Pg**	**10 45 08.6**	**-1.2**
EQUI				S	**Sg**	**10 45 14.4**	**-0.6**
EQUI	**Equi**	**0.36**	**274**	P	**Pg**	**10 45 08.8**	**-1.1**
EQUI				S	**Sg**	**10 45 14.2**	**-0.8**
EQUI				AML	AML		
	comp=E,11700µm,0.5s						
EQUI				AML	AML		
	comp=N,19950µm,1.3s						
EQUI				AML	AML		
	comp=N,19950µm,1.3s						
FIVI	**Fivizzano**	**0.39**	**284**	P	**Pg**	**10 45 09.8**	**-0.6**
FIVI				AML	AML		
	comp=E,42600µm,0.2s						
FIVI				AML	AML		
	comp=N,68150µm,0.8s						
FIVI				AML	AML		
	comp=E,42600µm,0.2s						
FIVI				AML	AML		
	comp=N,68150µm,0.8s						
CRMI	**Carmignano**	**0.42**	**148**	P	**Pg**	**10 45 09.6**	**-1.3**
CRMI				AML	AML		
	comp=E,23850µm,0.4s						
CRMI				AML	AML		
	comp=N,25850µm,0.9s						
CRMI				AML	AML		
	comp=E,23850µm,0.4s						
CRMI				AML	AML		
	comp=N,25900µm,0.9s						
CRMI				AML	AML		
	comp=N,10730µm,0.9s						
CRMI				AML	AML		
	comp=E,9955µm,0.4s						
CRMI				AML	AML		
	comp=N,25900µm,0.9s						
CRMI				AML	AML		
	comp=E,23850µm,0.4s						
PII	**Pisa**	**0.43**	**193**	P	**Pg**	**10 45 10.0**	**-1.1**
PII				AML	AML		
	comp=E,33800µm,0.2s						
PII				AML	AML		
	comp=N,29250µm,0.4s						
PII				AML	AML		
	comp=E,33800µm,0.2s						
NEVI	**Neviano degli**	**0.50**	**331**	P	**Pb**	**10 45 13.7**	**+0.8**
NEVI				AML	AML		
	comp=N,20500µm,0.9s						
NEVI				AML	AML		
	comp=E,19300µm,0.9s						
NEVI				AML	AML		
	comp=N,20550µm,0.9s						
NEVI				AML	AML		
	comp=E,19300µm,0.9s						
NEVI				AML	AML		
	comp=N,20550µm,0.9s						
NEVI				AML	AML		
	comp=E,19250µm,0.9s						
SEI	**Scarperia**	**0.51**	**100**	P	**Pg**	**10 45 11.0**	**-1.6**
SEI				AML	AML		
SEI				AML	AML		
SEI				AML	AML		
MODE	**Modena**	**0.53**	**23**	P	**Pg**	**10 45 12.7**	**-0.2**
MODE				AML	AML		
	comp=N,41550µm,0.9s						
MODE				AML	AML		
	comp=N,47900µm,1.0s						
MODE				AML	AML		
MODE				AML	AML		
	comp=N,47900µm,1.0s						
GRAM	**Graiana**	**0.55**	**309**	P	**Pg**	**10 45 12.6**	**-0.7**
GRAM				S	**Sb**	**10 45 21.2**	**-0.1**
GRAM	**Graiana**	**0.55**	**309**	P	**Pg**	**10 45 12.5**	**-0.7**
GRAM				AML	AML		
	comp=N,34200µm,0.3s						
GRAM				AML	AML		
	comp=E,65500µm,0.3s						
GRAM				AML	AML		
	comp=N,34200µm,0.3s						
GRAM				AML	AML		
	comp=E,65500µm,0.3s						
PLMA	**Palmaria, Port**	**0.59**	**261**	P	**Pg**	**10 45 13.1**	**-0.9**
PLMA				S	**Sg**	**10 45 20.6**	**-1.3**
PLMA				AML	AML		
	comp=N,11580µm,0.3s						
PLMA				AML	AML		
	comp=E,17200µm,0.7s						
BRIS	**BRISIGHELLA**	**0.61**	**89**	P	**Pn**	**10 45 16.2**	**-0.2**
BRIS				AML	AML		
	comp=N,26000µm,0.4s						
BRIS				AML	AML		
	comp=N,326µm,0.8s						
BRIS				AML	AML		
	comp=E,142µm,0.7s						
BRIS				AML	AML		
	comp=E,34050µm,0.6s						
BRIS				AML	AML		
	comp=N,327µm,0.8s						
MTRZ	**Monterenzio**	**0.62**	**68**	P	**Pg**	**10 45 13.0**	**-1.6**
MTRZ				AML	AML		
	comp=E,62500µm,0.4s						
MTRZ				AML	AML		
	comp=N,59450µm,0.6s						
MTRZ				AML	AML		
	comp=E,64300µm,0.4s						
MTRZ				AML	AML		
	comp=E,62450µm,0.4s						
MTRZ				AML	AML		
	comp=N,59450µm,0.6s						
MTRZ				AML	AML		
	comp=N,60350µm,0.6s						
MTRZ				AML	AML		
	comp=N,60350µm,0.6s						
MTRZ				AML	AML		
	comp=N,59450µm,0.6s						
MTRZ				AML	AML		
	comp=E,64300µm,0.4s						
MTRZ				AML	AML		
	comp=E,62450µm,0.4s						
NOVE	**Novellara**	**0.66**	**4**	AML	AML		
	comp=E,99100µm,0.8s						
NOVE				AML	AML		
	comp=N,52100µm,0.8s						
NOVE				AML	AML		
	comp=E,98900µm,0.8s						
NOVE				AML	AML		
	comp=N,52100µm,0.8s						
NOVE				AML	AML		
	comp=N,52100µm,0.8s						
NOVE				AML	AML		
	comp=E,98900µm,0.8s						
PRMA	**PARMA**	**0.67**	**338**	AML	AML		
	comp=N,21900µm,0.8s						
PRMA				AML	AML		
	comp=E,9725µm,0.5s						
PRMA				AML	AML		
	comp=N,21900µm,0.8s						
PRMA	**PARMA**	**0.67**	**338**	Pg	**Pb**	**10 45 16.2**	**+0.6**
RUFI	**Rufina**	**0.69**	**116**	P	**Pg**	**10 45 14.0**	**-1.8**
RUFI				AML	AML		
	comp=E,12850µm,1.1s						
RUFI				AML	AML		
	comp=N,17200µm,0.6s						
RUFI				AML	AML		
	comp=N,17250µm,0.6s						
RUFI				AML	AML		
	comp=E,12890µm,1.1s						
RUFI				AML	AML		
	comp=N,17250µm,0.6s						
RUFI				AML	AML		
	comp=E,12865µm,1.1s						
RAVA	**Ravarino**	**0.69**	**28**	P	**Pn**	**10 45 16.8**	**-0.7**
RAVA				AML	AML		
	comp=E,51150µm,0.5s						
RAVA				AML	AML		
	comp=N,29550µm,0.8s						
RAVA				AML	AML		
	comp=E,51100µm,0.5s						
RAVA				AML	AML		
	comp=N,29600µm,0.8s						
RAVA				AML	AML		
	comp=E,51100µm,0.5s						
RAVA				AML	AML		
	comp=N,29600µm,0.8s						
OSSC	**Osservatorio P**	**0.75**	**145**	P	**Pg**	**10 45 15.8**	**-1.3**
OSSC				AML	AML		
	comp=E,28250µm,0.6s						
OSSC				AML	AML		
	comp=N,31650µm,0.9s						
OSSC				AML	AML		
	comp=E,28300µm,0.6s						
OSSC				AML	AML		
	comp=N,31650µm,0.9s						
OSSC				AML	AML		
	comp=E,27450µm,0.6s						
OSSC				AML	AML		
	comp=N,32000µm,0.9s						
OSSC				AML	AML		
	comp=E,28300µm,0.6s						
OSSC				AML	AML		
	comp=N,31650µm,0.9s						
OSSC	**Osservatorio P**	**0.75**	**145**	Pg	**Pg**	**10 45 16.3**	**-0.8**
OSSC				Sg	**Sg**	**10 45 25.7**	**-1.2**
LMD	**Lutirano**	**0.76**	**95**	P	**Pg**	**10 45 15.0**	**-2.1**
LMD				AML	AML		
	comp=N,22400µm,0.5s						
LMD				AML	AML		
	comp=E,13650µm,0.5s						
LMD				AML	AML		
	comp=N,22400µm,0.5s						
CAVE	**Cavezzo**	**0.76**	**19**	AML	AML		
	comp=N,22350µm,0.9s						
CAVE				AML	AML		
	comp=E,39800µm,1.0s						
CAVE				AML	AML		
	comp=E,39800µm,1.0s						
CAVE				AML	AML		
	comp=N,22350µm,0.9s						
ASQU	**Asqua**	**0.89**	**113**	P	**Pb**	**10 45 17.7**	**-1.7**
ASQU				AML	AML		
	comp=E,9685µm,1.2s						
ASQU				AML	AML		
	comp=N,11825µm,1.6s						
SFI	**Santa Sofia**	**0.89**	**105**	P	**Pb**	**10 45 18.3**	**-1.1**
SFI				AML	AML		
	comp=E,12150µm,0.8s						
SFI				AML	AML		
	comp=N,9650µm,1.1s						
SFI				AML	AML		
	comp=E,10800µm,0.6s						
SFI				AML	AML		
	comp=N,13200µm,0.7s						
SFI				AML	AML		
	comp=N,13150µm,0.7s						
GROG	**Isola di Gorgo**	**0.91**	**218**	P	**Pb**	**10 45 18.8**	**-0.9**
GROG				AML	AML		
	comp=N,5110µm,0.5s						
GROG				AML	AML		
	comp=E,6170µm,0.6s						
SERM	**Sermide**	**0.98**	**28**	P	**Pn**	**10 45 21.5**	**+0.1**
SERM				AML	AML		
	comp=E,4780µm,0.8s						
SERM				AML	AML		
	comp=N,3485µm,1.1s						
SERM				AML	AML		
	comp=E,10195µm,0.8s						
SERM				AML	AML		
	comp=N,5630µm,0.8s						
SERM				AML	AML		
	comp=E,10220µm,0.8s						
SERM				AML	AML		
	comp=E,4785µm,0.8s						
FERS	**Ferrara-Casagl**	**0.99**	**39**	AML	AML		
	comp=N,23250µm,1.6s						
FERS				AML	AML		
	comp=N,23300µm,1.6s						
FERS				AML	AML		
	comp=E,30550µm,0.7s						
FERS				AML	AML		
	comp=N,23300µm,1.6s						
FROS	**Frosini**	**1.00**	**159**	P	**Pb**	**10 45 19.8**	**-1.6**
FROS				AML	AML		
	comp=N,10900µm,1.2s						
FROS				AML	AML		
	comp=E,14850µm,0.6s						
FROS				AML	AML		
	comp=N,10900µm,1.2s						
GAZZ	**Gazzo Veronese**	**1.02**	**18**	*e*Pg	**Pn**	**10 45 22.4**	**+0.5**
TRIF	**Trifonti**	**1.04**	**170**	P	**Pb**	**10 45 20.6**	**-1.5**
TRIF				AML	AML		
	comp=N,5175µm,0.6s						
TRIF				AML	AML		
	comp=E,4335µm,0.9s						
BOB	**Bobbio (Coli)**	**1.07**	**306**	P	**Pb**	**10 45 22.4**	**-0.1**
BOB				AML	AML		
	comp=N,11900µm,0.7s						
BOB				AML	AML		
	comp=E,8325µm,0.4s						
BOB				AML	AML		
	comp=N,11400µm,0.7s						
BOB				AML	AML		
	comp=E,6105µm,0.4s						
GORR	**Gorreto**	**1.08**	**296**	P	**Pb**	**10 45 22.6**	**-0.2**
GORR	**Gorreto**	**1.08**	**296**	P	**Pb**	**10 45 22.1**	**-0.6**
GORR				AML	AML		
	comp=E,6045µm,0.5s						
GORR				AML	AML		
	comp=N,8110µm,0.3s						
SSP9	**Sansepolcro**	**1.21**	**118**	P	**Pn**	**10 45 23.3**	**-1.3**
SSP9				AML	AML		
	comp=N,7300µm,1.4s						
SSP9				AML	AML		
	comp=E,5790µm,1.3s						
SSP9				AML	AML		
	comp=N,7290µm,1.4s						
PARC	**Parchiule**	**1.25**	**113**	P	**Pn**	**10 45 23.5**	**-1.6**
PARC				AML	AML		
	comp=E,4555µm,0.7s						
PARC				AML	AML		
	comp=N,4345µm,1.0s						
CPGN	**Carpegna, Ital**	**1.25**	**105**	P	**Pn**	**10 45 24.3**	**-1.0**
CPGN				AML	AML		
	comp=E,70µm,1.6s						
CPGN				AML	AML		
	comp=E,6205µm,0.8s						
CPGN				AML	AML		
	comp=N,6395µm,1.6s						
CPGN				AML	AML		
	comp=N,6265µm,0.8s						
CPGN				AML	AML		
	comp=N,6400µm,1.6s						
CAFI	**Castiglion Fio**	**1.25**	**130**	AML	AML		
	comp=N,3250µm,0.7s						
CAFI				AML	AML		
	comp=E,3220µm,0.6s						
CAFI				AML	AML		
	comp=N,3080µm,0.8s						
CAFI				AML	AML		
	comp=E,3305µm,0.7s						
BADI	**Badiali**	**1.31**	**118**	P	**Pn**	**10 45 24.4**	**-1.6**
BADI				AML	AML		
	comp=N,4820µm,0.8s						
BADI				AML	AML		
	comp=E,6285µm,1.3s						
CDCA	**Citt' di Caste**	**1.33**	**120**	P	**Pb**	**10 45 26.7**	**-0.2**
CDCA				AML	AML		
	comp=N,16950µm,1.0s						
CDCA				AML	AML		
	comp=E,9780µm,0.7s						
CDCA				AML	AML		
	comp=E,9765µm,0.7s						
CASP	**Castiglione de**	**1.36**	**174**	P	**Pn**	**10 45 24.6**	**-2.1**
CASP				AML	AML		
	comp=E,2110µm,1.0s						
CASP				AML	AML		
	comp=N,1545µm,0.8s						
CASP	**Castiglione de**	**1.36**	**174**	Pn	**Pn**	**10 45 25.1**	**-1.6**
PE3	**Peglio**	**1.40**	**108**	P	**Pn**	**10 45 26.6**	**-0.7**
PE3				AML	AML		
	comp=N,9010µm,0.6s						
PE3				AML	AML		
	comp=E,9175µm,0.6s						
TEOL	**Teolo**	**1.41**	**30**	*e*Pg	**Pb**	**10 45 28.4**	**+0.1**
ATMI	**Monte Miggiano**	**1.42**	**124**	AML	AML		
	comp=N,9225µm,0.7s						
ATMI				AML	AML		
	comp=E,8770µm,0.9s						
ARCI	**Arcidosso**	**1.42**	**155**	P	**Pn**	**10 45 26.3**	**-1.3**
ARCI				AML	AML		
	comp=N,1675µm,1.0s						
ARCI				AML	AML		
	comp=E,1515µm,1.1s						
ATPI	**Pietralunga -**	**1.44**	**118**	P	**Pn**	**10 45 26.9**	**-1.0**
ATPI				AML	AML		
	comp=E,4260µm,0.8s						
ATPI				AML	AML		
	comp=N,4230µm,1.4s						
ATPI				AML	AML		
	comp=E,4265µm,0.8s						
SALO	**Salr**	**1.48**	**356**	AML	AML		
	comp=N,6065µm,0.6s						
SALO				AML	AML		
	comp=E,5740µm,0.8s						
SALO				AML	AML		
	comp=N,6170µm,0.9s						
SALO				AML	AML		
	comp=E,5690µm,0.8s						
SALO	**Salr**	**1.48**	**356**	Pn	**Pb**	**10 45 29.0**	**-0.4**
ATVO	**AVT- Monte Val**	**1.48**	**120**	P	**Pn**	**10 45 26.5**	**-1.9**
ATVO				AML	AML		
	comp=N,4390µm,0.9s						
ATVO				AML	AML		
	comp=E,3460µm,0.7s						
PIEI	**Piela**	**1.49**	**113**	P	**Pn**	**10 45 26.8**	**-1.6**
PIEI				AML	AML		
	comp=E,2070µm,1.0s						
PIEI				AML	AML		
	comp=N,2425µm,1.0s						
NARO	**Abbazia di Nar**	**1.49**	**110**	P	**Pn**	**10 45 28.0**	**-0.5**
NARO				AML	AML		
	comp=E,1720µm,0.9s						
NARO				AML	AML		
	comp=N,1700µm,1.6s						
ROVR	**Rover Verones**	**1.53**	**11**	P	**Pn**	**10 45 28.5**	**-0.7**
ROVR				AML	AML		
	comp=N,4425µm,0.3s						
ROVR				AML	AML		
	comp=E,3205µm,0.4s						
ROVR				AML	AML		
	comp=N,1805µm,0.3s						
ROVR				AML	AML		
	comp=E,1349µm,1.2s						
MARN	**Marana (Italy)**	**1.54**	**15**	*e*Pg	**Pb**	**10 45 30.3**	**-0.3**
MARN				*e*Sg	**Sg**	**10 45 52.6**	**+0.4**
GARGN	**Gargnano BS**	**1.55**	**0**	*e*Pg	**Pb**	**10 45 30.3**	**-0.4**
GARGN				*e*Sg	**Sg**	**10 45 52.8**	**+0.5**
ATTE	**AVT- Monte Tez**	**1.55**	**127**	P	**Pn**	**10 45 28.0**	**-1.4**
ATTE				AML	AML		
	comp=N,3590µm,1.6s						
ATTE				AML	AML		
	comp=E,4060µm,0.8s						
MCIV	**Monte Civitell**	**1.55**	**151**	P	**Pn**	**10 45 29.0**	**-0.4**
MCIV				AML	AML		
	comp=N,1029µm,0.8s						
MCIV				AML	AML		
	comp=E,646µm,0.7s						
PCP	**Piancastagn**	**1.57**	**285**	P	**Pn**	**10 45 28.8**	**-0.8**
PCP	**Piancastagn**	**1.57**	**285**	P	**Pn**	**10 45 28.6**	**-1.0**
PCP				AML	AML		
	comp=E,2665µm,0.8s						
PCP				AML	AML		
	comp=N,2325µm,0.7s						
SACS	**San Casciano d**	**1.58**	**144**	P	**Pn**	**10 45 28.7**	**-1.1**
SACS				AML	AML		
	comp=N,1185µm,0.8s						
SACS				AML	AML		
	comp=E,1250µm,1.3s						
SACS				AML	AML		
	comp=N,1195µm,0.7s						
SACS				AML	AML		
	comp=E,1210µm,1.3s						
PESA	**Pesaro**	**1.59**	**97**	AML	AML		
	comp=E,4150µm,1.3s						
PESA				AML	AML		
	comp=N,4695µm,1.6s						
ATFO	**Monte Foce - G**	**1.59**	**119**	AML	AML		
	comp=E,4145µm,0.9s						
ATFO				AML	AML		
	comp=N,2685µm,0.7s						
FSSB	**Fossombrone**	**1.60**	**106**	P	**Pn**	**10 45 29.4**	**-0.6**
FSSB				AML	AML		
	comp=N,5265µm,0.5s						
FSSB				AML	AML		
	comp=E,3900µm,1.5s						
MURB	**Monte Urbino**	**1.61**	**122**	P	**Pn**	**10 45 28.3**	**-1.9**
MURB				AML	AML		
	comp=E,6470µm,0.8s						
MURB				AML	AML		
	comp=N,5645µm,1.6s						
MURB				AML	AML		
	comp=E,6400µm,0.6s						
MURB				AML	AML		
	comp=N,5350µm,1.6s						
MURB				AML	AML		
	comp=N,5355µm,1.6s						
MURB	**Monte Urbino**	**1.61**	**122**	Pn	**Pn**	**10 45 29.4**	**-0.8**
MGAB	**Montegabbione**	**1.62**	**139**	P	**Pn**	**10 45 28.8**	**-1.6**
MGAB				AML	AML		
	comp=E,2090µm,1.1s						
MGAB				AML	AML		
	comp=N,2670µm,0.6s						
MGAB				AML	AML		
	comp=E,2225µm,0.6s						
MGAB				AML	AML		
	comp=N,2625µm,0.9s						
MAGA	**Magasa**	**1.63**	**359**	P	**Pn**	**10 45 30.2**	**-0.3**
MAGA				AML	AML		
	comp=E,10550µm,0.5s						
MAGA				AML	AML		
	comp=N,4275µm,0.5s						
QLNO	**Quiliano**	**1.67**	**277**	P	**Pn**	**10 45 30.0**	**-1.0**
QLNO				AML	AML		
	comp=E,1575µm,0.8s						
QLNO				AML	AML		
	comp=N,2625µm,0.6s						
FINB	**Finale Ligure**	**1.68**	**272**	P	**Pn**	**10 45 29.8**	**-1.3**
FINB				AML	AML		
	comp=E,1860µm,1.6s						
FINB				AML	AML		
	comp=N,2065µm,1.1s						
LATE	**Laterza**	**1.74**	**151**	Pn	**Pn**	**10 45 30.9**	**-1.1**
DOSS	**Dosso del Somm**	**1.78**	**12**	*e*Pn	**Pb**	**10 45 33.5**	**-1.1**
ROTM	**Rocchetta Tana**	**1.79**	**294**	P	**Pb**	**10 45 34.6**	**-0.2**
ROTM				AML	AML		
	comp=N,15000µm,0.5s						
ROTM				AML	AML		
	comp=N,15000µm,0.5s						
ROTM				AML	AML		
	comp=E,7855µm,0.5s						
MABI	**Malga Bissina**	**1.91**	**357**	AML	AML		
	comp=E,854µm,0.5s						
MABI				AML	AML		
	comp=N,800µm,0.6s						
CGRP	**Cima Grappa**	**1.92**	**25**	*e*Pn	**Pn**	**10 45 35.4**	**+0.9**
CGRP				*e*Sn	**Sb**	**10 46 02.0**	**+1.3**
EL6	**Elcito**	**1.95**	**114**	P	**Pn**	**10 45 35.1**	**+0.3**
EL6				AML	AML		
	comp=N,3765µm,0.6s						
EL6				AML	AML		
	comp=E,3330µm,0.6s						
EL6				AML	AML		
	comp=N,3770µm,0.6s						
CESI	**CESI - Serrava**	**1.99**	**124**	P	**Pn**	**10 45 34.1**	**-1.3**
CESI				AML	AML		
	comp=E,678µm,0.6s						
CESI				AML	AML		
	comp=N,718µm,1.0s						
PGF	**Pioggiola**	**2.00**	**218**	*e*Pn	**Pn**	**10 45 33.9**	**-1.7**
PGF	**Pioggiola**	**2.00**	**218**	*e*Pg	**Pb**	**10 45 38.5**	**0.0**
PGF				*e*Sn	**Sn**	**10 45 55.9**	**-4.5**
	comp=N,474nm,0.4s						

PGF	**Pioggiola**	**2.00 218**	P	**Pn**	**10 45 33.9 -1.7**
PGF			AML	AML	
	comp=E,756µm,0.7s				
PGF			AML	AML	
	comp=N,1052µm,1.4s				
IMI	**Imperia**	**2.01 264**	P	**Pn**	**10 45 34.0 -1.7**
IMI			AML	AML	
	comp=E,965µm,1.2s				
IMI			AML	AML	
	comp=N,1795µm,1.5s				
CTI	**Castel Tesino**	**2.03 20**	P	**Pn**	**10 45 35.4 -0.6**
CTI	**Castel Tesino**	**2.03 20**	P	**Pn**	**10 45 35.1 -0.9**
CTI			AML	AML	
	comp=E,1975µm,0.5s				
CTI			AML	AML	
	comp=N,2010µm,0.5s				
CTI	**Castel Tesino**	**2.03 20**	Pn	**Pn**	**10 45 35.4 -0.6**
GBOS	**Grotte di Boss**	**2.03 274**	P	**Pn**	**10 45 34.8 -1.2**
GBOS			AML	AML	
	comp=E,510µm,0.8s				
GBOS			AML	AML	
	comp=N,868µm,0.5s				
MGRO	**Montegrosso**	**2.06 268**	P	**Pn**	**10 45 34.8 -1.7**
MGRO			AML	AML	
	comp=E,1400µm,0.6s				
MGRO			AML	AML	
	comp=N,1063µm,1.4s				
CESX	**Cesi**	**2.08 137**	P	**Pn**	**10 45 34.0 -2.5**
CESX			AML	AML	
	comp=N,1340µm,1.1s				
CESX			AML	AML	
	comp=E,1400µm,0.8s				
FDMO	**Fiordimonte**	**2.08 121**	P	**Pn**	**10 45 35.5 -1.2**
FDMO			AML	AML	
	comp=E,1125µm,0.7s				
FDMO			AML	AML	
	comp=N,982µm,0.9s				
MUGIO	**Muggio**	**2.12 328**	P	**Pn**	**10 45 37.4 +0.3**
MUGIO			AML	AML	
	comp=N,1033µm,1.3s				
MUGIO			AML	AML	
	comp=E,998µm,0.8s				
MUGIO			AML	AML	
	comp=N,1033µm,1.3s				
CSP1	**Cessapalombo**	**2.13 119**	P	**Pn**	**10 45 37.2 -0.1**
CSP1			AML	AML	
	comp=N,2495µm,0.6s				
CSP1			AML	AML	
	comp=E,2455µm,0.7s				
CSP1			AML	AML	
	comp=N,2520µm,0.6s				
CSP1			AML	AML	
	comp=E,2452µm,0.7s				
MONC	**Moncucco Torin**	**2.16 296**	P	**Pb**	**10 45 41.9 +0.8**
NRCA	**Norcia**	**2.22 125**	Pn	**Pn**	**10 45 36.9 -1.6**
SAOF	**Saorge**	**2.24 267**	Pg	**Pn**	**10 45 38.1 -0.8**
SAOF			Sn	**Sn**	**10 46 05.9 -0.3**
SAOF	**Saorge**	**2.24 267**	P	**Pn**	**10 45 37.2 -1.6**
SAOF	**Saorge**	**2.24 267**	AML	AML	
	comp=E,1295µm,0.6s				
SAOF			AML	AML	
	comp=N,1275µm,0.7s				
SMPL	**Sampolo**	**2.28 207**	P	**Pn**	**10 45 39.2 -0.2**
SMPL			AML	AML	
	comp=E,19350µm,0.6s				
SMPL			AML	AML	
	comp=N,28200µm,0.7s				
SMPL			AML	AML	
	comp=E,19350µm,0.6s				
LNSS	**Leonessa**	**2.32 131**	P	**Pn**	**10 45 38.6 -1.4**
LNSS			AML	AML	
	comp=N,1415µm,0.9s				
LNSS			AML	AML	
	comp=E,1475µm,0.8s				
ENR	**Entracque**	**2.33 273**	P	**Pn**	**10 45 40.2 +0.1**
ENR			AML	AML	
	comp=E,716µm,0.9s				
ENR			AML	AML	
	comp=N,1060µm,0.5s				
SBF	**Sospel**	**2.34 264**	*e*P	**Pn**	**10 45 39.6 -0.7**
SBF	**Sospel**	**2.34 264**	*e*Pg	**Pb**	**10 45 45.0 +0.8**
SBF			*e*Sn	**Sn**	**10 46 04.4 -4.3**
	comp=N,747nm,0.6s				
SBF			*e*Sg	**Sb**	**10 46 14.9 +2.0**
	comp=N,483nm,0.4s				
TURF	**col de Turini**	**2.36 267**	Pg	**Pn**	**10 45 39.8 -0.8**
TURF			Pn	**Pb**	**10 45 40.6 -4.0**
TURF			Sn	**Sn**	**10 46 08.9 -0.4**
KOSI	**Kohlern**	**2.37 12**	P	**Pn**	**10 45 40.2 -0.6**
KOSI			AML	AML	
	comp=E,1610µm,0.8s				
KOSI			AML	AML	
	comp=N,1280µm,1.3s				
STV	**Sant Anna di V**	**2.40 274**	P	**Pn**	**10 45 40.2 -0.8**
STV			AML	AML	
	comp=E,502µm,0.9s				
STV			AML	AML	
	comp=N,549µm,0.6s				
MOSI	**Grossmontoni**	**2.47 358**	AML	AML	
	comp=N,3625µm,1.0s				
MOSI			AML	AML	
	comp=E,2645µm,0.7s				
DOI	**San Damiano**	**2.48 280**	P	**Pn**	**10 45 42.0 0.0**
DOI			AML	AML	
	comp=N,1135µm,0.6s				
DOI			AML	AML	
	comp=E,1415µm,0.5s				
RM33	**Pellescritta (**	**2.48 130**	P	**Pn**	**10 45 42.4 +0.2**
RM33			AML	AML	
	comp=E,1004µm,0.9s				
RM33			AML	AML	
	comp=N,927µm,0.9s				
TRAV	**Traversella**	**2.48 304**	P	**Pn**	**10 45 41.8 -0.4**
TRAV			AML	AML	
	comp=E,1145µm,0.8s				
TRAV			AML	AML	
	comp=N,948µm,0.5s				
FUORN	**Ofenpass-Fuorn**	**2.49 354**	P	**Pn**	**10 45 42.1 -0.4**
FUORN			AML	AML	
	comp=E,674µm,1.0s				
FUORN			AML	AML	
	comp=N,744µm,1.1s				
FUORN	**Ofenpass-Fuorn**	**2.49 354**	Pn	**Pn**	**10 45 43.8 +1.4**
CIMO	**Cimolais**	**2.50 30**	Pn	**Pn**	**10 45 41.8 -0.6**
TUE	**Stuetta**	**2.50 339**	P	**Pn**	**10 45 43.0 +0.4**
TUE			AML	AML	
	comp=N,1020µm,1.6s				
TUE			AML	AML	
	comp=E,754µm,0.7s				
TUE			AML	AML	
	comp=N,784µm,1.6s				
TUE			AML	AML	
	comp=E,939µm,0.7s				
TUE	**Stuetta**	**2.50 339**	Pn	**Pn**	**10 45 43.7 +1.1**
STAL	**STALIGIAL**	**2.56 34**	P	**Pn**	**10 45 42.1 -1.1**
STAL	**STALIGIAL**	**2.56 34**	Pn	**Pn**	**10 45 42.3 -1.0**
PZZ	**Stroppo**	**2.57 279**	P	**Pn**	**10 45 42.3 -1.2**
PZZ			AML	AML	
	comp=N,1230µm,0.6s				
PZZ			AML	AML	
	comp=E,1063µm,0.6s				
ISO	**Isola**	**2.60 272**	Pn	**Pn**	**10 45 43.8 0.0**
ISO			Sn	**Sn**	**10 46 15.1 +0.1**
ABSI	**Aberstueckl**	**2.63 10**	P	**Pn**	**10 45 44.3 0.0**
ABSI			AML	AML	
	comp=N,1980µm,0.9s				
ABSI			AML	AML	
	comp=E,2420µm,0.7s				
CIRO	**Champorcher**	**2.64 305**	P	**Pn**	**10 45 43.8 -0.7**
CIRO			AML	AML	
	comp=E,572µm,1.3s				
CIRO			AML	AML	
	comp=N,876µm,0.8s				
DAVOX	**Davos/Dischmat**	**2.69 349**	Pn	**Pn**	**10 45 45.7 +0.5**
	comp=N,13nm,0.3s,baz=172,slow=11,SNR=91				
DAVOX			Sn	**Sn**	**10 46 16.8 -0.7**
	comp=N,18nm,0.3s,baz=164,slow=20,SNR=3.2				
DAVOX	**Davos/Dischmat**	**2.69 349**	P	**Pn**	**10 45 45.0 -0.2**
DAVOX			AML	AML	
	comp=E,436µm,0.6s				
DAVOX			AML	AML	
	comp=E,436µm,0.6s				
DAVOX			AML	AML	
	comp=E,654µm,0.6s				
MMK	**Mattmark**	**2.70 316**	AML	AML	
	comp=E,562µm,1.1s				
MMK			AML	AML	
	comp=N,598µm,0.5s				
TRI	**Trieste**	**2.70 54**	P	**Pn**	**10 45 43.6 -1.5**
TRI	**Trieste**	**2.70 54**	P	**Pn**	**10 45 43.7 -1.4**
TRI			S	**Sn**	**10 46 18.0 +0.5**
TRI			AML	AML	
	comp=E,850µm,0.9s				
TRI			AML	AML	
	comp=N,649µm,1.0s				
TRI	**Trieste**	**2.70 54**	Pn	**Pn**	**10 45 43.6 -1.5**
FUSIO	**Fusio**	**2.71 329**	P	**Pn**	**10 45 45.4 +0.1**
FUSIO			AML	AML	
	comp=N,610µm,0.8s				
FUSIO			AML	AML	
	comp=E,820µm,1.2s				
CALF	**Calern**	**2.73 263**	Pn	**Pn**	**10 45 44.6 -1.0**
GEPF	**Gemona**	**2.76 39**	P	**Pn**	**10 45 45.6 -0.3**
GEPF			AML	AML	
	comp=E,766µm,0.9s				
GEPF			AML	AML	
	comp=N,1190µm,0.8s				
SKDS	**Skadanscina**	**2.77 58**	⇑*i*Pn	**Pn**	**10 45 44.6 -1.4**
SKDS			*e*Sn	**Sn**	**10 46 18.5 -0.6**
	comp=Z,261nm,0.6s				
RMP	**Rome, Mte Porz**	**2.77 147**	P	**Pn**	**10 45 43.0 -3.1**
RMP			AML	AML	
	comp=E,449µm,1.1s				
RMP			AML	AML	
	comp=N,561µm,0.9s				
SABO	**M.te Sabotino**	**2.78 48**	P	**Pn**	**10 45 45.5 -0.7**
SABO			AML	AML	
	comp=N,2100µm,0.9s				
SABO			AML	AML	
	comp=E,1595µm,1.5s				
SURF	**Saint Ours**	**2.78 278**	Pn	**Pn**	**10 45 46.2 -0.2**
VINO	**Villanova**	**2.81 40**	P	**Pn**	**10 45 45.5 -1.1**
VINO			S	**Sn**	**10 46 20.0 -0.2**
LSD	**Lago del Serru**	**2.83 299**	AML	AML	
	comp=N,342µm,0.5s				
LSD			AML	AML	
	comp=E,276µm,1.1s				
ROSI	**Rosskopf**	**2.83 11**	P	**Pn**	**10 45 48.7 +1.6**
ROSI			AML	AML	
	comp=N,1510µm,0.7s				
ROSI			AML	AML	
	comp=E,1490µm,1.0s				
MBDF	**Montbardon**	**2.84 283**	*e*P	**Pn**	**10 45 46.9 -0.3**
MBDF	**Montbardon**	**2.84 283**	*e*Pg	**Pb**	**10 45 54.8 +2.0**
MBDF			*e*Sn	**Sn**	**10 46 17.0 -4.2**
MBDF			*e*Sg	**Sg**	**10 46 31.0 -2.8**
	comp=E,364nm,0.7s				
RRL	**Rocca Remolon**	**2.87 287**	P	**Pn**	**10 45 47.7 0.0**
FETA	**Feichten**	**2.88 1**	*e*Pn	**Pn**	**10 45 49.5 +1.8**
	comp=E,9.6nm,0.4s,SNR=35				
FETA			*e*Sn	**Sn**	**10 46 24.2 +2.2**
	comp=E,72nm,0.4s				
FETA	**Feichten**	**2.88 1**		**Pn**	**10 45 49.5 +1.8**
FETA				**Sn**	**10 46 24.2 +2.2**
ROBS	**Robic**	**2.91 43**	⇑*i*Pn	**Pn**	**10 45 47.0 -1.0**
ROBS			*i* Sn	**Sn**	**10 46 22.5 -0.2**
	comp=Z,223nm,0.5s				
ABTA	**Abfaltersbach**	**2.91 26**	*e*Pn	**Pn**	**10 45 48.6 +0.5**
	comp=Z,45nm,0.4s,SNR=52				
ABTA			*e*Sn	**Sn**	**10 46 24.5 +1.7**
	comp=Z,125nm,0.5s				
ABTA	**Abfaltersbach**	**2.91 26**		**Pn**	**10 45 48.6 +0.5**
ABTA				**Sn**	**10 46 24.5 +1.7**
ZOU	**Zoufplan**	**2.91 33**		**Pn**	**10 45 48.1 -0.1**
PTCC	**Patocco-Chiusa**	**2.96 39**	P	**Pn**	**10 45 47.7 -1.0**
PTCC			S	**Sn**	**10 46 24.0 +0.2**
PTCC			AML	AML	
	comp=N,541µm,1.1s				
PTCC			AML	AML	
	comp=E,508µm,0.6s				
FRF	**La Foret Royal**	**2.96 260**	*e*P	**Pn**	**10 45 48.7 0.0**
FRF	**La Foret Royal**	**2.96 260**	*e*Pg	**Pb**	**10 45 55.6 +0.9**
FRF			*e*Sn	**Sn**	**10 46 19.3 -4.6**
	comp=E,182nm,0.6s				
OGAG	**Argentiere**	**2.97 277**	Pn	**Pn**	**10 45 50.0 +1.0**
RISI	**Rein**	**2.98 19**	P	**Pn**	**10 45 50.7 +1.6**
RISI			AML	AML	
	comp=N,1730µm,0.5s				
RISI			AML	AML	
	comp=E,1605µm,0.5s				
BNI	**Bardonecchia**	**2.98 289**	P	**Pn**	**10 45 51.0 +1.9**
BNI	**Bardonecchia**	**2.98 289**	Pn	**Pn**	**10 45 51.0 +1.9**
REMY	**Saint-Rhmy-en**	**3.01 305**	P	**Pn**	**10 45 49.6 0.0**
REMY			AML	AML	
	comp=E,774µm,0.6s				
REMY			AML	AML	
	comp=N,1045µm,0.7s				
REMY			AML	AML	
	comp=E,774µm,0.6s				
CADS	**Cadrg**	**3.01 45**	⇑*i*Pn	**Pn**	**10 45 48.4 -1.1**
CADS			*i* Sn	**Sn**	**10 46 25.0 -0.2**
	comp=Z,153nm,0.3s				
PLONS	**Plons/SG**	**3.04 343**	*e*Pn	**Pn**	**10 45 52.3 +2.4**
PLONS			*e*Sn	**Sn**	**10 46 29.2 +3.2**
PLONS	**Plons/SG**	**3.04 343**	P	**Pn**	**10 45 52.5 +2.6**
PLONS			AML	AML	
	comp=E,457µm,0.5s				
PLONS			AML	AML	
	comp=N,475µm,0.8s				
PLONS	**Plons/SG**	**3.04 343**	*e*Pn	**Pn**	**10 45 52.3 +2.4**
PLONS			*e*Sn	**Sn**	**10 46 29.2 +3.2**
PRED	**Cave del Predi**	**3.08 41**	Pn	**Pn**	**10 45 49.7 -0.7**
LPG	**La Plagne**	**3.09 297**	*e*P	**Pn**	**10 45 51.9 +1.1**
LPG	**La Plagne**	**3.09 297**	*e*Pg	**Pg**	**10 45 59.6 -2.0**
LPG			*e*Sn	**Sn**	**10 46 23.1 -4.4**
LPG			*e*Sg	**Sg**	**10 46 39.4 -2.3**
	comp=N,303nm,0.7s				
SQTA	**Sankt Quirin**	**3.10 7**	*i* Pn	**Pn**	**10 45 52.5 +1.8**
	comp=N,9.7nm,0.3s,SNR=36				
SQTA			*i* Sn	**Sn**	**10 46 30.5 +3.0**
	comp=N,342nm,0.5s				
SQTA	**Sankt Quirin**	**3.10 7**		**Pn**	**10 45 52.5 +1.8**
SQTA				**Sn**	**10 46 30.5 +3.0**
LPL	**La Plagne**	**3.11 298**	*e*P	**Pn**	**10 45 52.6 +1.6**
LPL	**La Plagne**	**3.11 298**	*e*Pg	**Pb**	**10 45 59.7 +2.3**
LPL			*e*Sn	**Sn**	**10 46 23.6 -4.3**
	comp=N,270nm,0.6s				
CEY	**Cerknica**	**3.11 58**	⇑*i*Pn	**Pn**	**10 45 49.1 -1.7**
LMR	**La Mourre**	**3.11 256**	*e*P	**Pn**	**10 45 49.2 -1.6**
LMR			*e*Sn	**Sn**	**10 46 24.5 -3.1**
	comp=N,85nm,0.3s				
LMR			*e*Sg	**Sb**	**10 46 38.5 +3.4**
	comp=N,35nm,0.3s				
ACOM	**Acomizza, Ital**	**3.13 39**	P	**Pn**	**10 45 51.2 -0.1**
ACOM			AML	AML	
	comp=E,1555µm,1.1s				
ACOM			AML	AML	
	comp=N,1085µm,0.6s				
DAVA	**Damuels**	**3.19 350**	*e*Pn	**Pn**	**10 45 54.1 +2.1**
DAVA			*e*Sn	**Sb**	**10 46 33.7 -3.6**
DAVA	**Damuels**	**3.19 350**	*i* Pn	**Pn**	**10 45 54.3 +2.3**
	comp=N,14nm,0.4s,SNR=42				
DAVA			*i* Sn	**Sb**	**10 46 33.8 -3.6**
	comp=N,260nm,0.7s				
DAVA	**Damuels**	**3.19 350**	*e*Pn	**Pn**	**10 45 54.1 +2.1**
DAVA			*e*Sn	**Sb**	**10 46 33.7 -3.6**
DAVA	**Damuels**	**3.19 350**		**Pn**	**10 45 54.3 +2.3**
DAVA				**Sb**	**10 46 33.8 -3.6**
INTR	**Introdacqua**	**3.19 131**	Pn	**Pn**	**10 45 52.0 0.0**
WTTA	**Wattenberg**	**3.19 12**	*e*Pn	**Pn**	**10 45 54.8 +2.7**
WTTA	**Wattenberg**	**3.19 12**	*i* Pn	**Pn**	**10 45 54.8 +2.7**
	comp=N,70nm,0.4s,SNR=45				
WTTA			*i* Sn	**Sb**	**10 46 34.1 -3.4**
	comp=N,182nm,0.6s				
WTTA	**Wattenberg**	**3.19 12**	P	**Pn**	**10 45 54.8 +2.7**
WTTA					10 46 34.1
WTTA	**Wattenberg**	**3.19 12**	P	**Pn**	**10 45 54.9 +2.7**
WTTA			AML	AML	
	comp=N,748µm,0.8s				
WTTA			AML	AML	
	comp=E,1315µm,1.0s				
WTTA	**Wattenberg**	**3.19 12**	*e*Pn	**Pn**	**10 45 54.8 +2.7**
WTTA	**Wattenberg**	**3.19 12**		**Pn**	**10 45 54.8 +2.7**
WTTA				**Sb**	**10 46 34.1 -3.4**
MOTA	**Moosalm**	**3.22 5**	*i* Pn	**Pn**	**10 45 54.4 +2.1**
	comp=E,53nm,0.4s,SNR=40				
MOTA			*i* Sn	**Sb**	**10 46 34.9 -3.3**
	comp=E,162nm,0.5s				
MOTA	**Moosalm**	**3.22 5**	P	**Pn**	**10 45 54.4 +2.1**
MOTA					10 46 34.9
MOTA	**Moosalm**	**3.22 5**		**Pn**	**10 45 54.4 +2.1**
MOTA				**Sb**	**10 46 34.9 -3.3**
SENIN	**Lac Senin/Sane**	**3.25 314**	Pn	**Pn**	**10 45 55.8 +3.0**
RSL	**Roselend**	**3.25 300**	Pn	**Pn**	**10 45 55.7 +2.8**
MYKA	**Terra Mystica**	**3.25 39**	*i* Pn	**Pn**	**10 45 52.8 0.0**
	comp=E,17nm,0.5s,SNR=18				
MYKA			*i* Sn	**Sn**	**10 46 32.6 +1.4**
	comp=E,113nm,0.5s				
MYKA	**Terra Mystica**	**3.25 39**		**Pn**	**10 45 52.8 0.0**
MYKA				**Sn**	**10 46 32.6 +1.4**
WATA	**Walderalm**	**3.26 11**	*i* Pn	**Pn**	**10 45 55.4 +2.6**
	comp=E,22nm,0.4s,SNR=56				
WATA			*i* Sn	**Sb**	**10 46 35.8 -3.5**
	comp=E,201nm,0.7s				
WATA	**Walderalm**	**3.26 11**		**Pn**	**10 45 55.4 +2.6**
WATA				**Sb**	**10 46 35.8 -3.5**
OBER	**Oberstdorf**	**3.27 356**	*e*Pn	**Pn**	**10 45 55.4 +2.3**
OBER	**Oberstdorf**	**3.27 356**	*e*Pn	**Pn**	**10 45 55.4 +2.3**
ZUGS	**Zugspitze, Sch**	**3.28 4**	*e*Pn	**Pn**	**10 45 55.6 +2.2**
LJU	**Ljubljana**	**3.33 54**	P	**Pn**	**10 45 53.2 -0.6**
LJU			AML	AML	
	comp=E,2275µm,1.5s				
LJU			AML	AML	
	comp=N,2160µm,0.6s				
LJU	**Ljubljana**	**3.33 54**	⇑*i*Pn	**Pn**	**10 45 53.1 -0.7**
RETA	**Reutte**	**3.34 1**	*i* Pn	**Pn**	**10 45 55.7 +1.6**
	comp=N,8.0nm,0.2s,SNR=21				
RETA			*e*Sn	**Sb**	**10 46 37.8 -3.9**
	comp=N,194nm,0.7s				
RETA	**Reutte**	**3.34 1**		**Pn**	**10 45 55.7 +1.6**
RETA				**Sb**	**10 46 37.8 -3.9**
PART	**Garmisch-Parte**	**3.37 5**	*e*Pn	**Pn**	**10 45 56.3 +2.0**
PART	**Garmisch-Parte**	**3.37 5**	*e*Pn	**Pn**	**10 45 56.3 +2.0**
GDM	**Grand'Maison**	**3.41 290**	Pn	**Pn**	**10 45 58.5 +3.5**
KBA	**Koelnbreinsper**	**3.49 32**	*e*Pn	**Pn**	**10 45 57.8 +1.7**
KBA	**Koelnbreinsper**	**3.49 32**	*e*Pn	**Pn**	**10 45 57.5 +1.4**
	comp=N,12nm,0.3s,SNR=16				
KBA			*i* Sn	**Sn**	**10 46 39.6 +2.5**
	comp=N,119nm,0.7s				
KBA	**Koelnbreinsper**	**3.49 32**	*e*Pn	**Pn**	**10 45 57.8 +1.7**
KBA	**Koelnbreinsper**	**3.49 32**		**Pn**	**10 45 57.5 +1.4**
KBA				**Sn**	**10 46 39.6 +2.5**
WILA	**Wila**	**3.49 340**	*e*Pn	**Pn**	**10 45 57.5 +1.4**
WILA			*e*Sn	**Sn**	**10 46 40.1 +3.0**
WILA	**Wila**	**3.49 340**	*e*Pn	**Pn**	**10 45 57.5 +1.4**
WILA			*e*Sn	**Sn**	**10 46 40.1 +3.0**
ORIF	**Oris-en-Rattie**	**3.50 284**	*e*P	**Pn**	**10 45 58.1 +1.8**
ORIF	**Oris-en-Rattie**	**3.50 284**	*e*Pn	**Pn**	**10 45 59.1 +2.9**
ORIF	**Oris-en-Rattie**	**3.50 284**	*e*Pg	**Pb**	**10 46 06.1 +2.1**
ORIF			*e*Sn	**Sn**	**10 46 33.0 -4.4**
	comp=N,231nm,0.6s				
ORIF			*e*Sg	**Sg**	**10 46 52.1 -2.8**
	comp=N,210nm,0.7s				
ORIF	**Oris-en-Rattie**	**3.50 284**	P	**Pn**	**10 45 58.1 +1.8**
ORIF			AML	AML	
	comp=N,221µm,1.1s				
ORIF			AML	AML	
	comp=E,244µm,0.8s				
ASEAF	**Site Antares,**	**3.54 249**	Pn	**Pn**	**10 45 56.1 -0.2**
BOJS	**Bojanci**	**3.54 66**	P	**Pn**	**10 45 56.2 -0.4**
BOJS			AML	AML	
	comp=N,620µm,0.8s				
BOJS			AML	AML	
	comp=E,424µm,1.0s				
ARTF	**Artigues**	**3.55 263**	Pn	**Pn**	**10 45 56.6 -0.3**
UBR	**Ueberruh**	**3.56 354**	*e*Pn	**Pn**	**10 45 58.4 +1.4**
UBR			*e*Sn	**Sn**	**10 46 41.4 +2.7**
UBR	**Ueberruh**	**3.56 354**	*e*Pn	**Pn**	**10 45 58.4 +1.4**
UBR			*e*Sn	**Sn**	**10 46 41.4 +2.7**
OBKA	**Obir**	**3.62 48**	*e*Pn	**Pn**	**10 45 57.6 -0.2**
OBKA	**Obir**	**3.62 48**	*i* Pn	**Pn**	**10 45 57.7 -0.1**
	comp=E,9.5nm,0.3s,SNR=14				
OBKA			*i* Sn	**Sn**	**10 46 42.1 +1.8**
	comp=E,244nm,0.5s				
OBKA	**Obir**	**3.62 48**	*e*Pn	**Pn**	**10 45 57.6 -0.2**
OBKA	**Obir**	**3.62 48**		**Pn**	**10 45 57.7 -0.1**
OBKA				**Sn**	**10 46 42.1 +1.8**
SMRF	**Simiane la Rot**	**3.67 269**	*e*P	**Pn**	**10 45 58.8 +0.3**
SMRF	**Simiane la Rot**	**3.67 269**	*e*Pg	**Pb**	**10 46 09.5 +2.7**
SMRF			*e*Sn	**Sn**	**10 46 36.1 -5.3**
SMRF			*e*Sg	**Sg**	**10 46 56.7 -3.4**
	comp=E,93nm,0.5s				
GRN	**Grenoble**	**3.67 289**	Pn	**Pn**	**10 46 01.1 +2.6**
BE1	**Monatshausen**	**3.79 6**	*e*Pn	**Pn**	**10 46 02.5 +2.4**
CRES	**Cresnjev**	**3.80 62**	⇑*i*Pn	**Pn**	**10 45 59.1 -1.1**
BALST	**Balsthal**	**3.81 328**	*e*Pn	**Pn**	**10 46 01.3 +0.9**
BALST	**Balsthal**	**3.81 328**	*e*Pn	**Pn**	**10 46 01.3 +0.9**
OGSM	**Saint Maurice**	**3.82 294**	Pn	**Pn**	**10 46 02.4 +1.9**
SULZ	**Cheisacher**	**3.82 333**	*e*Pn	**Pn**	**10 46 01.9 +1.3**
SULZ	**Cheisacher**	**3.82 333**	*e*Pn	**Pn**	**10 46 01.9 +1.3**
RJOB	**Jochberg**	**3.89 22**	*e*Pn	**Pn**	**10 46 02.4 +0.9**
RJOB	**Jochberg**	**3.89 22**	*e*Pn	**Pn**	**10 46 02.4 +0.9**
SLE	**Schleitheim**	**3.92 338**	*e*Pn	**Pn**	**10 46 02.4 +0.4**
SLE	**Schleitheim**	**3.92 338**	*e*Pn	**Pn**	**10 46 02.4 +0.4**
SOKA	**Soboth**	**3.99 49**	*i* Pn	**Pn**	**10 46 03.1 +0.2**
	comp=E,22nm,0.5s,SNR=19				
SOKA			*i* Sn	**Sn**	**10 46 48.5 -0.8**
	comp=E,68nm,0.6s				
SOKA	**Soboth**	**3.99 49**		**Pn**	**10 46 03.1 +0.2**
SOKA				**Sn**	**10 46 48.5 -0.8**
CABF	**La Chapelle**	**4.06 309**	*e*P	**Pn**	**10 46 05.3 +1.5**
CABF			*e*Sn	**Sn**	**10 46 46.7 -4.3**
	comp=E,227nm,0.9s				
KW1	**Garching a.d.**	**4.20 18**	*e*Pn	**Pn**	**10 46 08.9 +3.1**
VIVF	**Saint-Julien-l**	**4.34 282**	*e*P	**Pn**	**10 46 08.0 +0.3**
VIVF			*e*Sn	**Sn**	**10 46 52.7 -5.3**
VIVF			*e*Sg	**Sg**	**10 47 17.5 -4.2**
	comp=E,106nm,0.8s				
SGRT	**San Giovanni R**	**4.43 121**	Pn	**Pn**	**10 46 08.1 -0.9**
MOA	**Molln**	**4.48 33**	*e*Pn	**Pn**	**10 46 09.8 +0.2**
MOA	**Molln**	**4.48 33**	*i* Pn	**Pn**	**10 46 09.9 +0.4**
	comp=E,24nm,0.2s,SNR=25				
MOA			*i* Sn	**Sn**	**10 47 03.0 +1.7**
	comp=E,88nm,0.5s				
MOA	**Molln**	**4.48 33**	*e*Pn	**Pn**	**10 46 09.8 +0.2**
MOA	**Molln**	**4.48 33**		**Pn**	**10 46 09.9 +0.4**
MOA				**Sn**	**10 47 03.0 +1.7**
BFO	**Black Forest**	**4.49 340**	*e*Pn	**Pn**	**10 46 10.0 +0.4**
BFO	**Black Forest**	**4.49 340**	P	**Pn**	**10 46 10.1 +0.4**
BFO	**Black Forest**	**4.49 340**	*e*Pn	**Pn**	**10 46 10.0 +0.4**
BFO	**Black Forest**	**4.49 340**	Pn	**Pn**	**10 46 10.1 +0.4**
SSB	**Saint Sauveur**	**4.50 287**	P	**Pn**	**10 46 10.7 +0.8**
SSB	**Saint Sauveur**	**4.50 287**	Pn	**Pn**	**10 46 10.7 +0.8**
HINF	**Hinteralfeld**	**4.53 326**	*e*P	**Pn**	**10 46 10.9 +0.6**
HINF			*e*Sn	**Sn**	**10 46 57.7 -4.9**
	comp=E,169nm,0.6s				
KOGS	**Kog**	**4.57 58**	P	**Pn**	**10 46 13.2 +2.5**
KOGS			AML	AML	
	comp=E,1015µm,0.9s				
KOGS			AML	AML	
	comp=N,818µm,1.2s				
NORI	**Noerdlinger Ri**	**4.58 360**	*e*Pn	**Pn**	**10 46 10.6 -0.3**
NORI			*e*Sn	**Sn**	**10 47 02.3 -1.4**
NORI	**Noerdlinger Ri**	**4.58 360**	*e*Pn	**Pn**	**10 46 10.6 -0.3**
NORI			*e*Sn	**Sn**	**10 47 02.3 -1.4**
ARSA	**Arzberg**	**4.61 46**	*e*Pn	**Pn**	**10 46 10.7 -0.7**
ARSA	**Arzberg**	**4.61 46**	*i* Pn	**Pn**	**10 46 10.7 -0.7**
	comp=N,15nm,0.3s,SNR=21				
ARSA			*e*Sn	**Sn**	**10 47 03.8 -0.8**
	comp=N,23nm,0.5s				
ARSA	**Arzberg**	**4.61 46**	P	**Pn**	**10 46 10.4 -1.0**
ARSA	**Arzberg**	**4.61 46**	*e*Pn	**Pn**	**10 46 10.7 -0.7**
ARSA	**Arzberg**	**4.61 46**		**Pn**	**10 46 10.7 -0.7**
ARSA				**Sn**	**10 47 03.8 -0.8**
MGRS	**Mrkonjic Grad**	**4.62 84**	*e*Pn	**Pb**	**10 46 24.0 +1.0**
BLY	**Banja Luka**	**4.71 80**	P	**Pn**	**10 46 14.2 +1.5**
BLY	**Banja Luka**	**4.71 80**	*e*Pn	**Pn**	**10 46 12.7 0.0**
STU	**Stuttgart**	**4.74 348**	P	**Pn**	**10

GEC2 GERESS Array S 5.15 23 *e*Pn **Pn 10 46 18.5 -0.3**
GEC2 GERESS Array S 5.15 23 Pn **Pn 10 46 18.7 -0.1**
GERES GERESS Array B 5.15 23 Pn **Pn 10 46 18.8 -0.1**
comp=N,3.6nm,0.3s,baz=195,slow=13,SNR=64
GERES Sn **Sn 10 47 16.4 -1.5**
comp=N,7.9nm,0.3s,baz=201,slow=21,SNR=11
GERES Lg Lg 10 47 45.0
comp=N,1.7nm,0.3s,baz=211,slow=32,SNR=1.3
GERES GERESS Array B 5.15 23 Pn **Pn 10 46 18.0 -0.9**
PZUN Potenza 5.17 131 P Pn 10 46 24.0 +5.0
WET Wettzell 5.23 16 *e*Pn **Pn 10 46 19.3 -0.6**
WET Wettzell 5.23 16 *e*Pn **Pn 10 46 19.3 -0.6**
CONA Conrad Observa 5.24 42 *i* Pn **Pn 10 46 19.7 -0.3**
comp=N,30nm,0.5s,SNR=47
CONA *i* Sn **Sn 10 47 20.4 +0.2**
comp=N,126nm,0.9s
CONA Conrad Observa 5.24 42 **Pn 10 46 19.7 -0.3**
CONA **Sn 10 47 20.4 +0.2**
KHC Kasperske Hory 5.38 21 *e*PN **Pn 10 46 21.5 -0.4**
KHC *e*SN **Sn 10 47 21.3 -2.2**
KHC AMS AMS 10 48 30.0
comp=N,1µm,11.6s
KHC Kasperske Hory 5.38 21 *e*P **Pn 10 46 21.5 -0.4**
KHC *e* 10 47 21.3
KHC MLR MLR
comp=Z,1µm,11.6s
KHC Kasperske Hory 5.38 21 Pn **Pn 10 46 21.9 0.0**
LBL Lubilhac 5.39 284 Pn **Pn 10 46 23.0 +0.8**
SMF Signal de Mont 5.41 300 *e*P **Pn 10 46 23.9 +1.5**
SMF *e*Sn **Sn 10 47 18.6 -5.7**
comp=Z,144nm,0.6s
GRA1 Grafenberg Arr 5.56 4 Pn **Pn 10 46 25.6 +1.2**
GRF Grafenberg Arr 5.56 4 P **Pn 10 46 25.6 +1.2**
PAGF Fort de Pagny 5.58 324 *e*P **Pn 10 46 26.5 +1.9**
baz=144
PAGF *e*Sn **Sn 10 47 22.6 -5.8**
comp=Z,125nm,0.7s
SFTF Sexfontaines 5.63 318 *e*P **Pn 10 46 26.9 +1.5**
baz=137
SFTF *e*Sn **Sn 10 47 25.1 -4.6**
comp=Z,79nm,0.7s
AGO Saint Agoulin 5.66 292 Pn **Pn 10 46 27.1 +1.3**
MATE Matera 5.68 126 ⇑P **Pn 10 46 28.3 +2.3**
LOR Lormes 5.69 306 *e*P **Pn 10 46 27.9 +1.6**
baz=126
LOR *e*Sn **Sn 10 47 25.6 -5.7**
comp=Z,113nm,0.4s
ROTZ Rotzenmuhle 5.72 10 *e*Pn **Pn 10 46 26.2 -0.4**
ROTZ Rotzenmuhle 5.72 10 *e*Pn **Pn 10 46 26.2 -0.4**
AVF Avril sur Loir 5.78 300 *e*P **Pn 10 46 29.1 +1.7**
AVF *e*Sn **Sn 10 47 26.9 -6.4**
comp=Z,44nm,0.5s
TREB Trebinje 5.78 102 *e*Pn **Pn 10 46 28.0 +0.6**
SSF Saint Saulge 5.80 303 *e*P **Pn 10 46 28.8 +1.1**
SSF *e*Sn **Sn 10 47 28.1 -5.8**
comp=Z,21nm,0.3s
MEZF Maizieres J'vi 5.84 320 *e*P **Pn 10 46 29.9 +1.7**
baz=141
MEZF *e*Sn **Sn 10 47 29.0 -5.7**
comp=Z,106nm,0.6s
BRY Bratogost 5.86 100 ⇑*i*Pn **Pn 10 46 28.8 +0.1**
BRY *i* Sn **Sn 10 47 33.8 -1.8**
BRY Bratogost 5.86 100 *e*Pn **Pn 10 46 30.2 +1.5**
SJAF Saint Jean de 5.91 256 Pn **Pn 10 46 28.7 -0.5**
MANZ Manzenberg 5.93 9 *e*Pn **Pn 10 46 29.8 +0.3**
MANZ Manzenberg 5.93 9 *e*Pn **Pn 10 46 29.8 +0.3**
HCY Herceg Novi 5.96 104 ⇑*i*Pn **Pn 10 46 30.1 +0.1**
HCY *i* Sn **Sn 10 47 35.9 -2.0**
HCY Herceg Novi 5.96 104 *e*Pn **Pn 10 46 31.2 +1.2**
PBCC Pribram 6.00 21 *e*PN **Pn 10 46 30.2 -0.2**
PBCC *e*SN **Sn 10 47 36.6 -2.1**
BGF Bois d'Agland 6.01 296 *e*P **Pn 10 46 31.9 +1.3**
BGF *e*Sn **Sn 10 47 32.9 -6.1**
comp=Z,86nm,0.5s
MORH Mrgy, Hungar 6.01 67 *e*Pn **Pn 10 46 28.3 -2.3**
UPM Unac-Piva 6.05 96 ⇑*i*Pn **Pn 10 46 31.5 +0.1**
UPM *i* Sn **Sn 10 47 38.3 -2.1**
UPM Unac-Piva 6.05 96 *e*Pn **Pn 10 46 32.6 +1.2**
MTLF Montolieu 6.17 265 *e*P **Pn 10 46 32.9 +0.2**
MTLF *e*Sn **Sn 10 47 36.7 -6.2**
comp=Z,12nm,0.3s
MTLF Montolieu 6.17 265 P **Pn 10 46 33.6 +0.8**
NKME Niksic 6.19 100 ⇓*i*Pn **Pn 10 46 33.0 -0.1**
NKME *i* Sn **Sn 10 47 41.5 -2.1**
CAF Calviac 6.19 280 *e*P **Pn 10 46 33.4 +0.3**
CAF *e*Sn **Sn 10 47 36.9 -6.7**
comp=Z,13nm,0.5s
NKY Niksic 6.21 99 ⇑*i*Pn **Pn 10 46 33.6 +0.2**
NKY *i* Sn **Sn 10 47 42.1 -2.0**
NKC Novy Kostel 6.21 11 *e*PN **Pn 10 46 33.6 +0.2**
NKC *e*SN **Sn 10 47 41.1 -2.9**
NKC AMS AMS 10 49 10.0
comp=Z,700nm,10.2s
NKC Novy Kostel 6.21 11 *e*P **Pn 10 46 33.6 +0.2**
NKC *e* 10 47 41.1
NKC MLR MLR
comp=Z,700nm,10.2s
MODS Modra-Piesok 6.24 45 *e*P **Pn 10 46 32.0 -1.7**
MODS *e* 10 47 40.4
MODS MLR MLR
comp=Z,100nm,0.8s
MODS Modra-Piesok 6.24 45 *e*PN **Pn 10 46 32.0 -1.7**
MODS *e*SN **Sn 10 47 40.4 -4.3**
MODS *e*LG Lg 10 47 42.4
TNS Taunus Mts 6.26 347 *e*Pn **Pn 10 46 34.1 0.0**
TNS Taunus Mts 6.26 347 *e*Pn **Pn 10 46 34.1 0.0**
BUM Brajici-Budva 6.29 104 ⇑*i*Pn **Pn 10 46 34.3 -0.2**
BUM *i* Sn **Sn 10 47 44.2 -1.9**
KRUC Moravsky 6.31 37 *e*PN **Pn 10 46 33.5 -1.2**
KRUC *e*SN **Sn 10 47 43.0 -3.3**
BBLS Lazići 6.32 89 *e*Pn **Pn 10 46 35.2 +0.4**
RUDO Rudo 6.32 92 *e*Pn **Pn 10 46 35.3 +0.5**
WLF Walferdange 6.33 332 Pn **Pn 10 46 36.5 +1.6**
WLF PnPn **PnPn 10 46 43.3 +0.9**
WLF Sn **Sn 10 47 47.9 +1.1**
WLF Walferdange 6.33 332 *e*Pn **Pn 10 46 36.5 +1.6**
WLF Walferdange 6.33 332 P **Pn 10 46 36.7 +1.8**
WLF Walferdange 6.33 332 *e*Pn **Pn 10 46 36.5 +1.6**
WLF Walferdange 6.33 332 Pn **Pn 10 46 36.7 +1.8**
TCF Toulx Ste Croi 6.34 293 *e*P **Pn 10 46 37.0 +1.9**
TCF *e*Sn **Sn 10 47 40.3 -6.9**
comp=Z,48nm,0.8s
PLE Pljevlja 6.38 94 *e*Pn **Pn 10 46 36.0 +0.3**
PLE *i* Sn **Sn 10 47 46.3 -1.9**
SMOL Smolenice 6.41 45 *e*P **Pn 10 46 35.4 -0.6**
SMOL *e* 10 47 45.7
SMOL Smolenice 6.41 45 *e*PN **Pn 10 46 35.4 -0.6**
SMOL *e*SN **Sn 10 47 45.7 -3.1**
PRU Pruhonice 6.42 23 *e*PN **Pn 10 46 36.0 -0.2**
PRU *e*SN **Sn 10 47 45.6 -3.4**
PRU AMS AMS 10 49 10.0
comp=Z,800nm,12.7s
PRU Pruhonice 6.42 23 *e*P **Pn 10 46 36.0 -0.2**
PRU *e* 10 47 45.6
PRU MLR MLR
comp=Z,800nm,12.7s
GOPC GO Pecny, Ondr 6.42 25 *e*PN **Pn 10 46 35.8 -0.5**
GOPC *e*SN **Sn 10 47 46.0 -3.2**
GOPC AMS AMS 10 49 20.0
comp=Z,1µm,11.7s
GOPC GO Pecny, Ondr 6.42 25 *e*P **Pn 10 46 35.8 -0.5**
GOPC *e* 10 47 46.0
GOPC MLR MLR
comp=Z,1µm,11.7s
HYF Humbligny 6.42 302 *e*P **Pn 10 46 38.3 +2.0**
HYF *e*Sn **Sn 10 47 42.2 -7.0**
PRA Prague 6.46 22 *e*PN **Pn 10 46 36.8 0.0**
PRA AMS AMS 10 49 10.0
comp=Z,500nm,13.7s
PRA Prague 6.46 22 *e*P **Pn 10 46 36.8 0.0**
PRA MLR MLR
comp=Z,500nm,13.7s
SRO Srobarova 6.47 53 *e*SN **Sn 10 47 48.4 -2.0**
PDG Podgorica 6.50 102 ⇑P **Pn 10 46 38.5 +1.2**
PDG Podgorica 6.50 102 *e*Pn **Pn 10 46 37.9 +0.6**
PDG Podgorica 6.50 102 Pn **Pn 10 46 38.0 +0.7**
TTG Podgorica 6.50 102 ⇑*i*Pn **Pn 10 46 37.2 -0.1**
TTG *i* Sn **Sn 10 47 49.2 -2.0**
DRME Dracevica, Mon 6.53 104 ⇓*i*Pn **Pn 10 46 37.6 -0.2**
DRME *i* Sn **Sn 10 47 49.6 -2.3**
DRME Dracevica, Mon 6.53 104 *e*Pn **Pn 10 46 37.7 -0.1**
MOX Moxa 6.54 5 *e*Pn **Pn 10 46 37.8 0.0**
MOX Moxa 6.54 5 *e*Pn **Pn 10 46 37.8 0.0**

VRAC Vranov 6.58 36 Pn **Pn 10 46 36.7 -1.6**
comp=Z,1.0nm,0.3s,baz=224,slow=14,SNR=8.4
VRAC Sn **Sn 10 47 51.1 -1.9**
comp=Z,1.4nm,0.3s,baz=173,slow=23,SNR=7.6
VRAC Lg Lg 10 48 28.3
comp=Z,0.5nm,0.3s,baz=148,slow=22,SNR=1.2
VRAC Vranov 6.58 36 ⇓P **Pn 10 46 37.6 -0.8**
VRAC Vranov 6.58 36 *e*PN **Pn 10 46 36.8 -1.6**
VRAC *e*SN **Sn 10 47 49.8 -3.3**
VRAC Vranov 6.58 36 ⇓P **Pn 10 46 37.6 -0.8**
FRGS Fruska Gora 6.61 78 *e*Pn **Pn 10 46 37.3 -1.5**
RJF Les Rejaudoux 6.62 283 *e*P **Pn 10 46 40.6 +1.7**
RJF *e*Sn **Sn 10 47 46.8 -7.1**
comp=Z,21nm,0.7s
ULC Ulcinj 6.66 106 ⇑*i*Pn **Pn 10 46 39.8 +0.3**
ULC *i* Sn **Sn 10 47 52.5 -2.5**
MMGO Monte Magaggia 6.71 164 P **Pn 10 46 44.4 +4.1**
DIVS Divibare 6.72 87 *e*Pn **Pn 10 46 37.7 -2.7**
DIVS Divibare 6.72 87 Pn **Pn 10 46 40.0 -0.4**
JAVC Velka Javorina 6.75 43 *e*PN **Pn 10 46 40.8 0.0**
PETRA Petralia Sopra 6.83 156 P **Pb 10 47 00.1 -0.5**
IVA Berane 6.83 98 ⇑*i*Pn **Pn 10 46 42.0 0.0**
IVA *i* Sn **Sn 10 47 57.2 -2.3**
PVCC Panska Ves 6.92 21 *e*PN **Pn 10 46 43.2 +0.2**
PVCC AMS AMS 10 49 40.0
comp=Z,700nm,10.7s
PVCC Panska Ves 6.92 21 *e*P **Pn 10 46 43.2 +0.2**
PVCC MLR MLR
comp=Z,700nm,10.7s
PVY Plav 6.95 100 ⇑*i*Pn **Pn 10 46 44.0 +0.4**
PVY *i* Sn **Sn 10 48 00.1 -2.3**
CLF Chambon-Foret 7.01 307 Pn **Pn 10 46 46.1 +1.8**
BRG Berggiesshubel 7.09 17 PN **Pn 10 46 44.5 -0.8**
comp=Z,13nm,0.8s
BRG *e* 10 47 19.3
BRG *e* 10 48 16.1
BRG *e* 10 48 45.6
comp=Z,49nm,1.4s
comp=Z,980nm,11.5s
comp=N,460nm,10.7s
comp=E,560nm,10.7s
LFF La Frestale 7.13 280 *e*P **Pn 10 46 47.5 +1.5**
LFF *e*Sn **Sn 10 47 59.4 -7.2**
comp=E,41nm,0.9s
VYHS Vyhne 7.14 50 *e*P **Pn 10 46 44.8 -1.3**
VYHS *e* 10 48 00.5
VYHS Vyhne 7.14 50 *e*PN **Pn 10 46 44.8 -1.3**
VYHS *e*SN **Sn 10 48 00.5 -6.3**
GIVF Givet 7.17 328 *e*P **Pn 10 46 49.1 +2.7**
GIVF *e*Sn **Sn 10 48 00.7 -6.7**
GIVF *e*Sg **Sg 10 48 46.3 -5.8**
comp=E,30nm,0.6s
MEM Membach 7.20 336 sPn **Pn 10 46 50.0 +3.2**
MEM Sn **Sn 10 48 06.6 -1.6**
DOU Dourbes 7.25 327 Pn **Pn 10 46 48.5 +1.0**
DOU Sn **Sn 10 48 10.6 +1.1**
DOU sSn **sSn 10 48 14.3 -1.5**
KRLC Kraliky 7.25 33 *e*PN **Pn 10 46 46.1 -1.6**
KRLC *e*SN **Sn 10 48 05.5 -4.2**
KRLC AMS AMS 10 49 40.0
comp=E,700nm,12.2s
KRLC Kraliky 7.25 33 *e*P **Pn 10 46 46.1 -1.6**
KRLC *e* 10 48 05.5
KRLC MLR MLR
comp=Z,700nm,12.2s
BCLA Clavier 7.26 332 Pn **Pn 10 46 49.2 +1.6**
BCLA PnPn **PnPn 10 46 56.2 +1.1**
BCLA Sn **Sn 10 48 09.9 +0.3**
DPC Dobruska-Polom 7.30 30 *e*PN **Pn 10 46 46.5 -1.9**
DPC *e*SN **Sn 10 48 06.4 -4.5**
DPC AMS AMS 10 49 40.0
comp=Z,900nm,11.8s
DPC Dobruska-Polom 7.30 30 *e*P **Pn 10 46 46.5 -1.9**
DPC *e* 10 48 06.4
DPC MLR MLR
comp=Z,900nm,11.8s
TIR Tirane 7.33 109 ⇑P **Pn 10 46 49.6 +0.9**
TIR Tirane 7.33 109 ⇑P **Pn 10 46 49.6 +0.9**
TIR Tirane 7.33 109 Pn **Pn 10 46 46.5 -2.2**
UPC Upice 7.33 28 *e*PN **Pn 10 46 47.5 -1.2**
UPC *e*SN **Sn 10 48 08.2 -3.3**
UPC AMS AMS 10 49 40.0
comp=Z,800nm,10.2s
UPC Upice 7.33 28 *e*P **Pn 10 46 47.5 -1.2**
UPC *e* 10 48 08.2
UPC MLR MLR
comp=Z,800nm,10.2s
CLL Collm 7.34 12 *e*Pn **Pn 10 46 49.0 +0.2**
CLL *e* 10 46 55.0
CLL *e*Sn **Sn 10 48 07.0 -4.7**
CLL *e* 10 48 16.0
CLL *e* 10 48 35.0
CLL *e*Sg **Sg 10 48 58.0 +0.3**
comp=Z,83nm,1.2s
CLL Collm 7.34 12 P **Pn 10 46 48.6 -0.2**
CLL Collm 7.34 12 Pn **Pn 10 46 48.5 -0.2**
MORC Moravsky Berou 7.34 37 ⇑P **Pn 10 46 48.4 -0.5**
MORC Moravsky Berou 7.34 37 *e*PN **Pn 10 46 47.8 -1.1**
MORC *e*SN **Sn 10 48 08.6 -3.2**
MORC Moravsky Berou 7.34 37 ⇑P **Pn 10 46 48.4 -0.5**
MORC Moravsky Berou 7.34 37 Pn **Pn 10 46 47.7 -1.2**
BMRD Maredsous 7.35 329 sPn **Pn 10 46 53.2 +4.3**
BMRD PnPn **PnPn 10 46 57.6 +1.2**
BMRD Sn **Sn 10 48 13.3 +1.4**
BAIF Baives 7.37 326 *e*P **Pn 10 46 51.7 +2.5**
BAIF *e*Sn **Sn 10 48 05.5 -7.0**
comp=Z,41nm,1.0s
CHVC Chvalec 7.41 28 *e*PN **Pn 10 46 48.7 -1.1**
CHVC *e*SN **Sn 10 48 09.3 -4.3**
CHVC AMS AMS 10 49 40.0
comp=Z,900nm,11.2s
OSTC Ostas 7.44 28 *e*PN **Pn 10 46 48.6 -1.6**
OSTC AMS AMS 10 49 50.0
comp=Z,700nm,9.5s
PSZ Piszkesteto 7.45 56 ⇑P **Pn 10 46 51.2 +0.8**
PSZ Piszkesteto 7.45 56 ⇑P **Pn 10 46 51.2 +0.8**
PSZ Piszkesteto 7.45 56 Pn **Pn 10 46 49.2 -1.3**
EPF Esparros 7.58 265 *e*P **Pn 10 46 54.0 +1.9**
EPF *e*Sn **Sn 10 48 09.9 -7.7**
comp=Z,6.0nm,0.5s
SNF Seneffe 7.70 328 PnPn **PnPn 10 47 03.1 +1.9**
KSP Ksiaz 7.71 28 *e*Pn **Pn 10 46 53.2 -0.7**
LANS Liptovska Anna 7.86 47 *e*P **Pn 10 46 56.0 0.0**
LANS *e* 10 48 21.4
LANS Liptovska Anna 7.86 47 *e*PN **Pn 10 46 56.0 0.0**
LANS *e*SN **Sn 10 48 21.4 -3.2**
BZS Buzias 7.92 75 ⇑P **Pn 10 46 57.7 +0.9**
BZS Buzias 7.92 75 ⇑P **Pn 10 46 57.7 +0.9**
MDVR Moldovita 7.94 82 ⇓P **Pn 10 46 57.6 +0.6**
MFF Saint Martin d 8.00 292 *e*P **Pn 10 47 00.1 +2.3**
MFF *e*Sn Sn 10 48 19.0 -8.8
comp=Z,16nm,0.7s
SIRR Siria 8.05 71 ⇑P **Pn 10 46 59.4 +0.7**
ETSF Etsaut 8.25 265 *e*P **Pn 10 47 04.1 +2.7**
ETSF *e*Sn **Sn 10 48 25.6 -8.6**
comp=Z,6.4nm,0.6s
HERR Herculane 8.44 81 ⇓P **Pn 10 47 04.4 +0.5**
NIE Niedzica 8.46 48 *e*Pn **Pn 10 47 04.8 +0.6**
NIE *e*Sn **Sn 10 48 36.5 -2.7**
KEST Kesra 8.46 187 Pn **Pn 10 47 08.0 +3.6**
comp=Z,0.1nm,0.3s,baz=348,slow=3.8,SNR=3.4
KEST Kesra 8.46 187 Pn **Pn 10 47 07.5 +3.2**
LDF La Druitiere 8.68 305 *e*P **Pn 10 47 09.8 +2.6**
LDF *e*Sn **Sn 10 48 36.8 -7.8**
comp=Z,7.0nm,0.5s
SJPF Ste Jean 8.68 267 *e*P **Pn 10 47 09.7 +2.4**
SJPF *e*Sn **Sn 10 48 36.1 -8.7**
comp=Z,1.8nm,0.3s
OJC Ojcow 8.70 42 *e*Pn **Pn 10 47 07.3 -0.1**
OJC *e*Sn **Sn 10 48 42.3 -2.8**
DRGR 8.87 68 P **Pn 10 47 09.3 -0.6**
DRGR 8.87 68 P **Pn 10 47 09.3 -0.6**
FLN La Foliniere 8.97 305 *e*P **Pn 10 47 13.0 +1.9**
baz=125
GRR Gorron 9.03 302 *e*P **Pn 10 47 14.5 +2.5**
GRR *e*Sn **Sn 10 48 45.2 -8.1**
comp=Z,10nm,0.6s
LOT Lotru 9.41 77 ⇑P **Pn 10 47 17.8 +0.4**
KWP Kalwaria Pacla 9.90 52 *e*Pn **Pn 10 47 25.3 +1.4**
KWP Kalwaria Pacla 9.90 52 P **Pn 10 47 24.7 +0.7**
KWP Kalwaria Pacla 9.90 52 Pn **Pn 10 47 24.7 +0.7**
SGMF Saint Gilles 10.04 299 *e*P **Pn 10 47 26.3 +0.5**
SGMF *e*Sn Sn 10 49 09.1 -8.9

comp=Z,5.6nm,0.6s
VOIR 10.31 78 ⇓P **Pn 10 47 30.2 +0.5**
VOIR 10.31 78 ⇓P **Pn 10 47 30.2 +0.5**
QUIF Quistinic 10.33 296 *e*P **Pn 10 47 29.9 +0.2**
QUIF *e*Sn Sn 10 49 15.4 -10
comp=Z,1.5nm,0.3s
ROSF Rostrenen 10.52 298 *e*P **Pn 10 47 33.0 +0.6**
ROSF *e*Sn Sn 10 49 20.7 -9.1
comp=Z,5.3nm,0.6s
BURAR Bucovina Array 10.73 66 ⇑P **Pn 10 47 35.7 +0.4**
BURAR Bucovina Array 10.73 66 ⇑P **Pn 10 47 35.7 +0.4**
BURAR Bucovina Array 10.73 66 Pn **Pn 10 47 36.8 +1.5**
MLR Muntele Rosu 10.95 78 Pn **Pn 10 47 40.4 +2.1**
comp=Z,0.4nm,0.3s,baz=271,slow=15,SNR=2.7
MLR Muntele Rosu 10.95 78 **Pn 10 47 39.2 +0.9**
VRI Vrincioaia 11.51 76 ⇓P **Pn 10 47 45.6 -0.3**
VRI Vrincioaia 11.51 76 ⇓P **Pn 10 47 45.6 -0.3**
ESBB Sonseca Array 11.77 253 Pn **Pn 10 47 54.3 +4.7**
ESDC Sonseca Array 11.77 253 Pn **Pn 10 47 51.3 +1.7**
comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=14
ESDC LR LR 10 51 51.6
comp=Z,79nm,19.6s,baz=140,slow=35
ESDC Sonseca Array 11.77 253 Pn **Pn 10 47 52.7 +3.1**
PAB San Pablo 12.10 253 P **Pn 10 47 54.9 +0.8**
PAB San Pablo 12.10 253 Pn **Pn 10 47 54.9 +0.8**
AKASG Malin Array Be 14.16 56 Pn **Pn 10 48 20.4 -1.7**
comp=Z,0.5nm,0.3s,baz=248,slow=12,SNR=2.8
EKA Eskdalemuir Ar 14.29 326 Pn **Pn 10 48 22.6 -1.2**
baz=140,slow=14,SNR=3.5
HFS Hagfors 16.12 5 Pn **Pn 10 48 45.0 -3.1**
comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=1.4
HFS Hagfors 16.12 5 P **Pn 10 48 45.0 -3.1**
NB2 NORSAR Subarra 16.93 1 P **Pn 10 48 59.1 +0.8**
comp=Z,4.3nm,1.4s,baz=171,slow=9.3
NOA NORSAR Array B 16.93 1 Pn **Pn 10 48 55.0 -3.3**
comp=Z,0.0nm,0.3s,baz=182,slow=11,SNR=2.8
NC405 NORSAR Array S 17.01 2 P **P 10 49 02.6 +1.5**
NC405 IAmb IAmb 10 49 08.4
comp=Z,54nm,1.4s
VSU Vasula 17.44 29 ⇓*e*P **Pn 10 49 04.8 +0.2**
VSU pmax pmax
comp=Z,24nm,1.1s
BRTR Keskin Array B 17.64 97 P **P 10 49 10.2 +1.7**
comp=Z,0.0nm,0.3s,baz=303,slow=6.7,SNR=2.7
BRTR Keskin Array B 17.64 97 P **P 10 49 09.5 +1.1**
BRTR Keskin Array B 17.64 97 P **P 10 49 09.5 +1.1**
FINES FINESS Array B 19.58 22 P **P 10 49 29.1 -0.3**
comp=Z,0.3nm,0.3s,baz=206,slow=11,SNR=11
FINES FINESS Array B 19.58 22 P **P 10 49 29.2 -0.2**
PUL Pulkovo 19.67 30 ⇓*e*P **P 10 49 30.1 -0.2**
PUL pmax pmax
comp=Z,50nm,0.9s
OBN Obninsk 19.93 47 ⇑*e*P **P 10 49 32.2 -1.0**
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,256nm,16.0s
VSR Storozhevoye 20.37 60 *e*P **P 10 49 37.6 -0.4**
VSR pmax pmax
comp=Z,20nm,0.7s
MOS Moscow 20.73 46 *e*P Pn 10 49 45.9 +1.6
KIV Kislovodsk 22.95 79 *e*P **P 10 50 01.8 -4.1**
KIV pmax pmax
comp=Z,31nm,0.9s
KBZ Khabaz 23.14 80 P **P 10 50 09.3 +1.6**
comp=Z,5.3nm,0.9s,baz=274,slow=1.7,SNR=2.7
KBZ Khabaz 23.14 80 ⇑*e*P **P 10 50 05.9 -1.9**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KLMR Klimovskoe 23.95 36 *e*P **P 10 50 14.6 -0.9**
KLMR pmax pmax
comp=Z,17nm,1.5s
KLMR Klimovskoe 23.95 36 *e*P **P 10 50 14.7 -0.8**
KLMR AMP 10 50 22.7
comp=Z,17nm,1.5s
ARCES ARCESS Array B 26.56 12 LR LR 11 00 02.2
comp=Z,42nm,20.7s,baz=22,slow=34
LVZ Lovozero 26.96 20 ⇓*e*P **P 10 50 40.5 -2.3**
LVZ pmax pmax
comp=Z,11nm,1.2s
TOA0 Torodi Ar. Sit 31.83 197 P **P 10 51 29.9 +3.4**
TOA0 IAmb IAmb 10 51 40.3
comp=Z,4.1nm,1.2s
TORD Torodi Ar. Bea 31.83 197 P **P 10 51 30.5 +4.1**
comp=Z,0.8nm,0.6s,baz=23,slow=7.8,SNR=2.1
TORD Torodi Ar. Bea 31.83 197 P **P 10 51 29.6 +3.1**
ARU Arti 32.30 50 P **P 10 51 29.9 -0.3**
comp=Z,0.6nm,0.4s,baz=262,slow=19,SNR=1.4
ARU Arti 32.30 50 P **P 10 51 28.8 -1.4**
ARU 10 52 33.2
ARU S **S 10 56 43.2 +0.2**
ARU SS **SnSn 10 58 34.6 -0.2**
ARU MLR MLR
comp=Z,150nm,15.0s
ARU Arti 32.30 50 P **P 10 51 29.3 -0.9**
BRVK Borovoye 39.37 55 ⇑*e*P **P 10 52 30.1 -0.7**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 42.49 70 P **P 10 52 57.0 +0.3**
KK31 pmax pmax
comp=Z,2.0nm,1.0s
KK31 Karatay Array 42.49 70 P **P 10 52 57.0 +0.3**
KKAR Karatay Array 42.49 70 P **P 10 52 57.4 +0.7**
KKAR Karatay Array 42.49 70 P **P 10 52 57.4 +0.7**
KURK Kurchatov 44.97 56 ⇑*e*P **P 10 53 16.7 +0.2**
KURK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 45.36 69 ⇓*e*P **P 10 53 19.9 0.0**
AAK pmax pmax
comp=Z,3.0nm,1.2s
FRB Frobisher Bay 47.03 323 LR LR 11 12 13.4
comp=Z,40nm,18.8s,baz=152,slow=35
ZALV Zalesovo Beam 47.47 51 P **P 10 53 37.8 +1.7**
comp=Z,0.7nm,0.4s,baz=317,slow=10,SNR=2.1
ZALV Zalesovo Beam 47.47 51 P **P 10 53 37.0 +0.9**
ZALV Zalesovo Beam 47.47 51 P **P 10 53 37.0 +0.9**
MKAR Makanchi Array 48.69 60 P **P 10 53 46.0 +0.4**
comp=Z,1.8nm,0.9s,baz=277,slow=6.7,SNR=12
MKAR Makanchi Array 48.69 60 P **P 10 53 46.6 +0.9**
DGZ Jazzator, Alta 50.59 55 ⇓*e*P **P 10 54 01.7 +1.4**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
WMQ Urumqi 53.43 61 *e*P **P 10 54 24.4 +3.0**
TIXI Tiksi 56.60 20 ⇑*e*P **P 10 54 43.8 +0.1**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 62.33 49 P **P 10 55 25.6 +1.7**
comp=Z,1.3nm,1.0s,baz=282,slow=7.4,SNR=4.6
SONM Songino Array 62.33 49 P **P 10 55 25.2 +1.3**
SONM pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 62.33 49 P **P 10 55 25.2 +1.3**
YKA Yellowknife Ar 65.06 335 P **P 10 55 41.5 +0.1**
comp=Z,3.0nm,0.7s,baz=37,slow=6.1,SNR=7.0
SEY Seymchan 68.98 18 ⇑*e*P **P 10 56 07.2 +0.8**
HHC Hu-ho-hao-te 69.58 53 *e*P **P 10 56 11.0 +0.4**
HHC pmax pmax
comp=Z,27nm,1.0s
HHC pmax pmax
comp=Z,99nm,6.8s
ILAR Eielson Array 70.00 350 P **P 10 56 13.5 +0.8**
comp=Z,0.3nm,0.7s,baz=17,slow=6.6,SNR=3.1
ILAR Eielson Array 70.00 350 P **P 10 56 12.7 0.0**
HDA Harding Lake 70.36 350 P **P 10 56 16.3 +1.4**
HDA IAmb IAmb 10 56 21.4
comp=Z,2.3nm,1.0s
DHY Denali Highway 71.70 350 P **P 10 56 24.5 +1.4**
DHY IAmb IAmb 10 56 29.9
comp=Z,4.1nm,1.0s
XAN Xi'an 72.49 60 P **P 10 56 29.0 +0.7**
XAN pP pP 10 56 33.5 -0.4
XAN pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 76.18 78 P **P 10 56 50.7 +0.8**
comp=Z,0.7nm,0.2s,baz=311,slow=7.1,SNR=1.5
CMAR Chiang Mai Arr 76.18 78 P **P 10 56 50.3 +0.3**
PDAR Pinedale Array 78.30 319 P **P 10 57 01.3 -0.5**
comp=Z,0.3nm,0.6s,baz=38,slow=6.0,SNR=2.7
PDAR Pinedale Array 78.30 319 P **P 10 57 00.4 -1.4**
TXAR Lajitas Array 85.45 307 P **P 10 57 40.2 +0.7**
comp=Z,0.6nm,0.7s,baz=68,slow=3.6,SNR=7.1
TXAR Lajitas Array 85.45 307 P **P 10 57 39.8 +0.3**
NVAR Mina Array Bea 85.75 322 P **P 10 57 42.0 +1.1**
comp=Z,0.8nm,0.9s,baz=27,slow=2.2,SNR=5.3
NVAR Mina Array Bea 85.75 322 P **P 10 57 42.7 +1.7**

CPUP Villa Florida 93.67 236 LR LR 11 38 07.8
comp=Z,20nm,19.7s,baz=170,slow=34

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*IDC **07** 10:52:52.8±1.6, 8.45S×110.79E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/37, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=84.7km s-min=22.1km az=39.0*
*DJA **07** 10:52:55.1±0.4, 9.S±4.×11.0E±.°, h10km, M4.2/13, mb4.2/1, MLv4.1/13*
ISC 07 10:52:50.8±1.0, **9.22S**±0.09×**109.91E**±0.05, **h10**km, **n18**, σ1§**01**/20, **mb3.4**/3, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.44**	**25**	P	**Pn**	**10 53 16.9**	**-0.1**
YOGI	**Yogyakarta**	**1.45**	**15**	P	**Pb**	**10 53 17.7**	**-0.3**
WOJI	**Wonogiri, Jawa**	**1.70**	**36**	P	**Pn**	**10 53 20.5**	**-0.1**
CMJI	**Cimerak**	**2.03**	**315**	P	**Pg**	**10 53 29.6**	**-0.3**
PWJI	**Pagerwojo**	**2.22**	**58**	P	**Pn**	**10 53 27.7**	**-0.1**
SMRI	**Semarang**	**2.22**	**14**	P	**Pb**	**10 53 30.5**	**-0.7**
NGJI	**Ngawi**	**2.40**	**40**	P	**Pb**	**10 53 33.7**	**-0.5**
NGJI				S	**Pb**	**10 53 33.7**	**-0.5**
CISI	**Cisompet, Garu**	**2.65**	**309**	P	**Pb**	**10 53 39.0**	**+0.5**
TBJI	**Tambak Boyo**	**3.07**	**39**	P	**Pn**	**10 53 41.4**	**+2.0**
LEM	**Lembang**	**3.29**	**316**	Pn	**Pb**	**10 53 50.2**	**+0.8**
	10nm,0.3s,baz=115,slow=15,SNR=6.0						
LEM				Sn	**Sb**	**10 54 30.1**	**+0.5**
	12nm,0.3s,baz=137,slow=18,SNR=7.5						
CNJI	**Cibinong**	**3.34**	**304**	P	**Pb**	**10 53 48.5**	**-1.8**
GRJI	**Gresik**	**3.43**	**48**	P	**Pn**	**10 53 44.5**	**+0.1**
GMJI	**Gumukmas**	**3.62**	**75**	P	**Pn**	**10 53 48.5**	**+1.5**
JAGI	**Jajag, Banyuwa**	**4.26**	**80**	P	**Pn**	**10 53 56.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.64**	**122**	P	**Pn**	**10 56 55.2**	**-1.6**
	0.1nm,0.3s,baz=117,slow=23,SNR=1.4						
FITZ				S	Sn	10 59 57.5	-16
	0.1nm,0.3s,baz=93,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**25.89**	**117**	P	**P**	**10 58 24.6**	**+1.3**
	0.8nm,0.9s,baz=292,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.06**	**125**	P	**P**	**10 58 33.4**	**-0.4**
	0.7nm,1.1s,baz=302,slow=8.7,SNR=2.7						
MKAR	**Makanchi Array**	**60.97**	**339**	P	**P**	**11 03 04.5**	**+0.2**
	0.4nm,0.4s,baz=137,slow=5.9,SNR=4.1						

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*NEIC **07** 10:53:28.9±2.1, 30.37S±0.10×178.66W±0.2, h145km±6km, mb4.6/19, Error ellipse: s-maj=20.3km s-min=12.1km az=115.0*
*IDC **07** 10:53:29.6±0.9, 30.14S×178.66W, h145km±7km, mb3.8/11, mb1 4.0/11, mb1mx3.9/30, mbtmp4.3/11, Error ellipse: s-maj=24.7km s-min=16.3km az=144.0*
ISC 07 10:53:27.1±0.5, **30.42S**±0.07×**178.69W**±0.10, **h124**km, **n67**, σ1§**51**/70, **mb4.6**/20, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.35**	**30**	P	**Pn**	**10 53 54.4**	**+1.4**
	310nm,0.3s,baz=90,slow=12,SNR=18						
RAO				S	**Sn**	**10 54 14.1**	**+1.4**
	547nm,0.3s,baz=70,slow=22,SNR=13						
RAO	**Raoul Island**	**1.35**	**30**		**Pn**	**10 53 54.3**	**+1.3**
RAO				Sn	**Sn**	**10 54 14.2**	**+1.5**
URZ	**Urewera**	**8.55**	**203**	P	**Pn**	**10 55 25.5**	**-2.4**
	0.3nm,0.3s,baz=319,slow=21,SNR=1.7						
URZ				S	**Sn**	**10 57 01.6**	**-1.0**
	1.4nm,0.3s,baz=15,slow=22,SNR=1.9						
URZ	**Urewera**	**8.55**	**203**		**Pn**	**10 55 25.2**	**-2.7**
BKZ	**Black Stump Fm**	**9.58**	**203**	Pn	**Pn**	**10 55 38.6**	**-3.1**
THZ	**Tophouse**	**13.19**	**209**	Pn	**Pn**	**10 56 27.6**	**-1.9**
RPZ	**Rata Peaks**	**15.57**	**209**	S	Sn	10 59 40.0	-12
	0.5nm,0.3s,baz=283,slow=18,SNR=1.7						
AFI	**Afiamalu**	**17.63**	**23**	S	S	11 00 21.8	-20
	1.0nm,0.3s,baz=247,slow=19,SNR=0.8						
RAR	**Rarotonga**	**19.32**	**66**	P	**P**	**10 57 41.2**	**-1.4**
EIDS	**Eidsvold**	**27.14**	**273**	P	**P**	**10 59 00.9**	**+2.2**
EIDS				IAmb	IAmb	10 59 13.1	
	comp=Z,32nm,1.5s						
CTAO	**Charters Tower**	**33.22**	**280**	P	**P**	**10 59 54.2**	**+1.9**
CTAO				IAmb	IAmb	10 59 56.2	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**33.89**	**257**	P	**P**	**11 00 00.4**	**+2.3**
	comp=Z,8.0nm,0.7s,baz=90,slow=8.4,SNR=13						
STKA	**Stephens Creek**	**33.89**	**257**	P	**P**	**11 00 00.3**	**+2.3**
BBOO	**Buckleboo**	**38.39**	**254**	P	**P**	**11 00 37.4**	**+1.0**
COEN	**Coen**	**38.71**	**287**	P	**P**	**11 00 40.1**	**+0.9**
COEN				IAmb	IAmb	11 00 46.9	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**42.51**	**267**	P	**P**	**11 01 10.6**	**+0.1**
ASAR	**Alice Springs**	**42.51**	**267**	P	**P**	**11 01 10.7**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=105,slow=7.4,SNR=88						
ASAR				PcP	**PcP**	**11 02 59.8**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=112,slow=4.2,SNR=5.0						
ASAR				ScP	**ScP**	**11 06 35.5**	**-4.7**
	comp=Z,0.5nm,0.8s,baz=110,slow=4.0,SNR=3.0						
ASAR	**Alice Springs**	**42.51**	**267**	P	**P**	**11 01 10.1**	**-0.3**
WR0	**Warramunga Arr**	**43.32**	**273**	P	**P**	**11 01 17.4**	**+0.4**
WR0				IAmb	IAmb	11 01 17.5	
	comp=Z,7.4nm,0.5s						
WB2	**Warramunga Arr**	**43.49**	**273**	P	**P**	**11 01 18.6**	**+0.3**
WB2				IAmb	IAmb	11 01 19.2	
	comp=Z,9.4nm,0.7s						
WRAB	**Tennant Creek**	**43.50**	**273**	P	**P**	**11 01 18.6**	**+0.3**
WRAB				IAmb	IAmb	11 01 18.8	
	comp=Z,8.4nm,0.5s						
WRA	**Warramunga Arr**	**43.50**	**273**	P	**P**	**11 01 18.6**	**+0.2**
	comp=Z,7.8nm,0.4s,baz=110,slow=8.1,SNR=142						
WRA				PcP	**PP**	**11 03 03.2**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=112,slow=3.4,SNR=5.8						
WRA	**Warramunga Arr**	**43.50**	**273**	P	**P**	**11 01 18.7**	**+0.3**
WB0	**Warramunga Arr**	**43.53**	**273**	P	**P**	**11 01 18.6**	**0.0**
WB0				IAmb	IAmb	11 01 19.4	
	comp=Z,10nm,0.6s						
FORT	**Forrest**	**45.47**	**255**	P	**P**	**11 01 32.3**	**-1.5**
VNDA	**Vanda**	**48.01**	**186**	P	**P**	**11 01 56.2**	**+3.2**
	comp=Z,0.6nm,0.7s,baz=2.8,slow=5.7,SNR=5.0						
KNRA	**Kununurra**	**50.11**	**275**	P	**P**	**11 02 10.1**	**+0.3**
KNRA				IAmb	IAmb	11 02 12.8	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.76**	**270**	P	**P**	**11 02 22.6**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=137,slow=8.7,SNR=6.1						
FITZ	**Fitzroy Crossi**	**51.76**	**270**	P	**P**	**11 02 23.0**	**+0.8**
FITZ				IAmb	IAmb	11 02 42.2	
	comp=Z,8.9nm,1.4s						
CASY	**Casey**	**54.84**	**208**	P	**P**	**11 02 44.8**	**+0.8**
QSPA	**South Pole Qui**	**59.69**	**180**	P	**P**	**11 03 21.1**	**+2.9**
QSPA				IAmb	IAmb	11 03 22.0	
	comp=Z,3.0nm,0.7s						
MJAR	**Matsushiro Arr**	**77.92**	**326**	P	**P**	**11 05 10.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=120,slow=7.2,SNR=3.0						
SNAA	**Sanae**	**78.15**	**179**	P	**P**	**11 05 13.7**	**+1.6**
SNAA	**Sanae**	**78.15**	**179**	P	**P**	**11 05 12.9**	**+0.7**
VNA3	**Neumayer Olymp**	**78.32**	**176**	P	**P**	**11 05 14.1**	**+1.1**
VNA2	**Neumayer--Watz**	**78.75**	**177**	P	**P**	**11 05 17.8**	**+2.4**
VNA1	**Neumayer--Stat**	**78.98**	**177**	P	**P**	**11 05 17.7**	**+1.1**
H03S2	**Juan Fernandez**	**80.95**	**124**	T	T	12 34 49.2	
	baz=243,slow=74						
H03S1	**Juan Fernandez**	**80.96**	**124**	T	T	12 34 56.5	
	baz=243,slow=74						
H03S3	**Juan Fernandez**	**80.97**	**124**	T	T	12 34 55.0	
	baz=243						
KSRS	**Korea Array**	**83.98**	**320**	P	**P**	**11 05 43.0**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=127,slow=5.2,SNR=4.8						
PETK	**Petropavlovsk-**	**85.69**	**346**	P	**P**	**11 05 50.9**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=129,slow=7.1,SNR=12						
PETK	**Petropavlovsk-**	**85.69**	**346**	P	**P**	**11 05 50.7**	**-0.8**
USRK	**Ussuriysk Ar.**	**86.85**	**327**	P	**P**	**11 05 57.5**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=108,slow=6.2,SNR=5.1						
USRK	**Ussuriysk Ar.**	**86.85**	**327**	P	**P**	**11 05 57.9**	**+0.5**
NVAR	**Mina Array Bea**	**88.66**	**43**	P	**P**	**11 06 06.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=225,slow=9.5,SNR=7.6						
NVAR	**Mina Array Bea**	**88.66**	**43**	P	**P**	**11 06 06.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**92.85**	**290**	P	**P**	**11 06 27.2**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=134,slow=3.9,SNR=1.7						
E08A	**Dider Farm, El**	**93.58**	**37**	P	**P**	**11 06 27.2**	**-1.6**
MKAR	**Makanchi Array**	**117.33**	**310**	PKP	**PKPdf**	**11 11 55.5**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=64,slow=2.8,SNR=4.2						
MKAR	**Makanchi Array**	**117.33**	**310**		**PKPdf**	**11 11 55.9**	**-1.7**
GEYT	**Alibeck**	**133.03**	**295**	PKP	**PKiKP**	**11 12 29.0**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=113,slow=3.3,SNR=2.8						
ARCES	**ARCESS Array B**	**138.48**	**347**	PKP	**PKPdf**	**11 12 37.1**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=62,slow=2.1,SNR=3.9						
KBZ	**Khabaz**	**144.63**	**304**	PKP	**PKPdf**	**11 12 48.1**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=101,slow=5.2,SNR=5.7						
FINES	**FINESS Array B**	**144.96**	**339**	PKP	**PKPbc**	**11 12 46.4**	**-1.9**
	comp=Z,10nm,0.5s,baz=62,slow=3.9,SNR=72						
NB2	**NORSAR Subarra**	**148.68**	**351**	PKP	**PKPbc**	**11 12 57.2**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.68**	**351**	PKPbc	**PKPbc**	**11 12 57.6**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=15,slow=4.2,SNR=11						
AKASG	**Malin Array Be**	**150.96**	**322**	PKPbc	**PKPbc**	**11 13 03.4**	**-1.4**
	comp=Z,7.8nm,0.7s,baz=52,slow=2.8,SNR=19						
AKASG	**Malin Array Be**	**150.96**	**322**	PKPbc	**PKPbc**	**11 13 03.5**	**-1.3**
BRTR	**Keskin Array B**	**152.09**	**298**	PKPbc	**PKPbc**	**11 13 06.7**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=129,slow=4.1,SNR=8.6						
BRTR				PKPab	**PKPab**	**11 13 17.3**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=127,slow=4.1,SNR=5.1						
BRTR	**Keskin Array B**	**152.09**	**298**	PKPbc	**PKPbc**	**11 13 07.0**	**-1.0**
BRTR					**PKPab**	**11 13 16.6**	**-1.4**
CLL	**Collm**	**157.40**	**341**	*i* PKPab	**PKPab**	**11 13 39.0**	**-1.0**
	comp=Z,3.0nm,0.7s						
KHC	**Kasperske Hory**	**159.12**	**337**	*e*PKPab	**PKPab**	**11 13 46.5**	**-1.1**
GERES	**GERESS Array B**	**159.32**	**336**	PKPab	**PKPab**	**11 13 47.2**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=46,slow=5.8,SNR=6.5						
GERES	**GERESS Array B**	**159.32**	**336**	PKPab	**PKPab**	**11 13 48.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**162.80**	**181**	PKPab	**PKPab**	**11 14 05.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=158,slow=4.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**162.80**	**181**	PKPab	**PKPab**	**11 14 04.3**	**0.0**

IDC 07 11:25:00.8±4.4, **18.98S**×**65.00E**, **h0**km, **mb3.9**/7, **mb1 4.1**/7, **mb1mx3.7**/28, **mbtmp3.9**/7, **MS3.6**/5, **Ms1 3.5**/5, **ms1mx3.1**/38, **Error ellipse: s-maj=127.5km s-min=33.4km az=61.0, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.41**	**34**	T	T	11 41 17.8	
	baz=211,slow=76,SNR=89						
H08S2	**Diego Garcia H**	**13.42**	**34**	T	T	11 41 18.6	
	baz=211,slow=76,SNR=44						
H08S3	**Diego Garcia H**	**13.43**	**34**	T	T	11 41 19.3	
	baz=211,slow=76,SNR=75						
KMBO	**Kilima Mbogo**	**32.47**	**300**	LR	LR	11 42 39.8	
	comp=Z,72nm,21.5s,baz=106,slow=33						
BOSA	**Boshof**	**37.46**	**248**	LR	LR	11 45 10.1	
	comp=Z,73nm,19.9s,baz=96,slow=32						
MAW	**Mawson**	**48.63**	**181**	LR	LR	11 51 15.2	
	0.4nm,0.3s,baz=248,slow=7.8,SNR=5.4						
ASAR	**Alice Springs**	**63.81**	**108**	P	P	11 35 35.6	+0.2
	0.7nm,0.8s,baz=267,slow=5.8,SNR=8.0						
WRA	**Warramunga Arr**	**64.93**	**104**	P	P	11 35 42.4	-0.4
	1.3nm,1.1s,baz=256,slow=5.9,SNR=6.2						
MKAR	**Makanchi Array**	**67.30**	**13**	P	P	11 35 57.4	+0.1
	0.5nm,0.8s,baz=188,slow=2.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**70.06**	**292**	LR	LR	12 05 27.7	
	comp=Z,28nm,19.7s,baz=145,slow=35						
DBIC	**Dimbokro**	**73.35**	**283**	LR	LR	12 08 14.0	
	comp=Z,49nm,18.6s,baz=116,slow=35						
ZALV	**Zalesovo Beam**	**74.61**	**12**	P	P	11 36 41.2	-0.3
	1.0nm,0.5s,baz=198,slow=4.1,SNR=4.9						
KSRS	**Korea Array**	**81.55**	**46**	P	P	11 37 20.2	-0.2
	0.6nm,0.9s,baz=235,slow=4.4,SNR=4.5						
MJAR	**Matsushiro Arr**	**88.37**	**50**	P	P	11 37 55.5	+0.7
	0.8nm,0.6s,baz=226,slow=4.2,SNR=5.4						

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*IDC **07** 11:46:18.6±0.5, 0.77N×146.30E, h0km, mb4.6/28, mb1 4.7/32, mb1mx4.6/47, mbtmp4.6/32, ML3.1/3, MS4.0/31, Ms1 4.0/31, ms1mx3.9/39, Error ellipse: s-maj=17.9km s-min=9.2km az=99.0*
*MOS **07** 11:46:19.2±1.0, 0.80N×146.10E, h12km, mb5.1/33, Error ellipse: s-maj=9.3km s-min=5.5km az=105.2*
*NEIC **07** 11:46:21.6±1.7, 0.82N±0.07×146.16E±0.03, h16km±3km, mb5.1/102, Error ellipse: s-maj=10.1km s-min=3.5km az=192.0*
*UNK **07** 11:46:21.6, 0.82N×146.16E, h16km*
*DJA **07** 11:46:22.0±1.1, 1.N±3.×14.6E±.°, h29km±8km, M5.0/60, mb5.1/60, mB5.4/25, MLv5.2/3, Mw(mB)4.9/25, Mwp5.1/5*
*GCMT **07** 11:46:24.6±0.1, 0.86N±0.01×146.10E±0.01, h23km, MW5.2/119, Moment Tensor Solution. s80,c117; s119,c215; Duration: 1§0 Moment tensor: Scale 10^17 Nm; M_{rr}0.14±.02; $M_{\theta\theta}$-0.82±.01; $M_{\phi\phi}$0.67±.02; $M_{r\theta}$-0.04±.02; $M_{r\phi}$0.32±.01; $M_{\theta\phi}$0.02±.02; Best double couple: $M_0$0.81400×10^17 NP1:ϕ_s57.00000°, δ87.00000°, λ-1.00000°. NP2:ϕ_s147.00000°, δ89.00000°, λ-177.00000°. Principal axes: T 0.7430, Plg1.0000°, Azm282.0000°; N 0.1420, Plg87.0000°, Azm162.0000°; P -0.8850, Plg2.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 11:46:20.6±0.3, **0.79N**±0.04×**146.29E**±0.05, **h10**km, **n332**, σ1§**56**/322, **mb5.0**/118, **MS4.1**/37, **10C-10D, Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.47**	**240**	Pn	**Pn**	**11 47 53.2**	**-2.9**
	2.4nm,0.3s,baz=19,slow=1.5,SNR=13						
JAY				Sn	Sn	11 49 00.2	-10
	6.4nm,0.3s,baz=13,slow=20,SNR=1.6						
JAY				LR	LR	11 50 06.9	
	comp=Z,4μm,18.6s,baz=55,slow=35						
JAY	**Jayapura**	**6.47**	**240**	P	**Pn**	**11 47 54.8**	**-1.3**
	0.3nm420nm38nm,1.0s						
GENI	**Genyem**	**6.98**	**241**	P	**Pn**	**11 48 02.9**	**-0.1**
	1.8nm2μm140nm,0.6s						
KRVT	**Keravat (AS076**	**7.65**	**131**	Pn	**Pn**	**11 48 13.2**	**+1.0**
	16nm,0.3s,baz=191,slow=1.7,SNR=16						
KRVT				Sn	**Sn**	**11 49 36.5**	**-2.4**
	baz=8.4,slow=17,SNR=1.2						
KRVT				LR	LR	11 50 14.1	
	comp=Z,502nm,20.2s,baz=313,slow=31						
RABL	**Rabaul**	**7.68**	**130**	Pn	**Pn**	**11 48 15.4**	**+2.8**
SMPI	**Sarmi**	**8.06**	**250**	P	**Pn**	**11 48 18.7**	**+0.8**
	2μm1μm86nm,1.2s						
WAMI	**Wamena**	**8.88**	**238**	P	**Pn**	**11 48 29.9**	**+0.8**
	187nm,0.8s						
PMG	**Port Moresby**	**10.16**	**175**	Pn	**Pn**	**11 48 44.5**	**-2.2**
	1.0nm,0.3s,baz=355,slow=16,SNR=2.2						
PMG				LR	LR	11 52 25.8	
	comp=Z,2μm,19.8s,baz=1.5,slow=36						
PMG	**Port Moresby**	**10.16**	**175**	*eP*	**Pn**	**11 48 45.9**	**-0.8**
PMG				pmax	pmax		
	comp=Z,13nm,0.9s						
PMG	**Port Moresby**	**10.16**	**175**		**Pn**	**11 48 48.2**	**+1.5**
GUMO	**Guam**	**12.80**	**354**	Pn	**Pn**	**11 49 20.4**	**-2.4**
	comp=Z,5.9nm,0.3s,baz=171,slow=10,SNR=19						
GUMO				LR	LR	11 53 25.1	
	comp=Z,299nm,18.1s,baz=190,slow=33						
GUMO	**Guam**	**12.80**	**354**	P	**Pn**	**11 49 21.2**	**-1.6**
GUMO	**Guam**	**12.80**	**354**		**Pn**	**11 49 21.2**	**-1.6**
PATS	**Pohnpei**	**13.41**	**63**	Pn	**Pn**	**11 49 30.9**	**-0.3**
FAKI	**Fak Fak**	**14.51**	**255**	P	**Pn**	**11 49 45.8**	**-0.4**
	comp=Z,2μmcomp=Z,970nmcomp=Z,70nm,1.1s						
FAKI	**Fak Fak**	**14.51**	**255**	Pn	**Pn**	**11 49 45.1**	**-1.1**
COEN	**Coen**	**14.97**	**192**	P	**Pn**	**11 49 54.2**	**+1.8**
SIJI	**Sorong**	**15.11**	**264**	Pn	**Pn**	**11 49 54.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=76,slow=12,SNR=14						
HNR	**Honiara**	**16.97**	**127**	LR	LR	11 56 53.9	
	comp=Z,745nm,19.0s,baz=294,slow=38						
MSAI	**Masohi**	**17.83**	**257**	P	**P**	**11 50 29.5**	**-0.3**
	comp=Z,790nmcomp=Z,18nm,1.3s						
TNTI	**Ternate**	**18.92**	**270**	P	Pn	11 50 56.7	+14
TNTI	**Ternate**	**18.92**	**270**	P	**P**	**11 50 40.5**	**-1.2**
NLAI	**Namlea**	**19.59**	**258**	P	**Pn**	**11 50 50.5**	**0.0**
	comp=Z,2μmcomp=Z,64nm,0.9s						
MTN	**Manton Dam**	**20.24**	**227**	P	Pn	11 50 56.9	-1.2
SANI	**Sanana**	**20.49**	**262**	P	**P**	**11 50 58.8**	**-0.2**
	comp=Z,1μmcomp=Z,1μmcomp=Z,78nm,1.1s						
CTA	**Charters Tower**	**20.75**	**180**	P	**P**	**11 50 59.7**	**-1.9**
	comp=Z,32nm,1.0s,baz=343,slow=9.7,SNR=8.6						
CTAO	**Charters Tower**	**20.75**	**180**	P	**P**	**11 51 02.7**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,130nm,1.2s						
CTAO	**Charters Tower**	**20.75**	**180**		**P**	**11 51 02.7**	**+1.1**
CTAO				IAmb	IAmb	11 51 04.9	
	comp=Z,130nm,1.2s						
DAV	**Davao City (W)**	**21.57**	**287**	P	**P**	**11 51 12.6**	**+2.0**
DAV	**Davao City (W)**	**21.57**	**287**	*iP*	**P**	**11 51 15.4**	**+4.7**
KMSI	**Cibinong**	**22.31**	**270**	P	**P**	**11 51 17.9**	**-0.6**
	comp=Z,304nm,1.1s						
WB0	**Warramunga Arr**	**23.52**	**209**	P	**P**	**11 51 29.7**	**-1.4**
WB0				IAmb	IAmb	11 51 31.7	
	comp=Z,64nm,1.0s						
LUWI	**Luwuk**	**23.59**	**266**	P	**P**	**11 51 27.9**	**-3.9**
	comp=Z,3μmcomp=Z,289nm,1.0s						
LUWI	**Luwuk**	**23.59**	**266**	P	**P**	**11 51 31.6**	**-0.2**
WR0	**Warramunga Arr**	**23.62**	**209**	P	**P**	**11 51 30.8**	**-1.2**
WR0				IAmb	IAmb	11 51 32.7	
	comp=Z,74nm,0.8s						
WRAB	**Tennant Creek**	**23.69**	**209**	*d iP*	**P**	**11 51 31.7**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,92nm,0.7s						
WRAB	**Tennant Creek**	**23.69**	**209**	P	**P**	**11 51 31.8**	**-1.0**
WB2	**Warramunga Arr**	**23.69**	**209**	P	**P**	**11 51 32.0**	**-0.8**
WRA	**Warramunga Arr**	**23.70**	**209**	P	**P**	**11 51 31.7**	**-1.2**
	comp=Z,56nm,0.7s,baz=32,slow=11,SNR=64						
WRA				S	**S**	**11 55 49.2**	**+1.2**
	comp=Z,4.3nm,1.3s,baz=28,slow=16,SNR=2.6						
WRA				LR	LR	12 01 21.3	
	comp=Z,915nm,18.0s,baz=40,slow=38						
WRA	**Warramunga Arr**	**23.70**	**209**	*ceP*	**P**	**11 51 30.3**	**-2.5**
WRA				pmax	pmax		
	comp=Z,58nm,0.7s						
WRA	**Warramunga Arr**	**23.70**	**209**	P	**P**	**11 51 31.3**	**-1.5**
KNRA	**Kununurra**	**23.82**	**226**	P	**P**	**11 51 32.9**	**-1.1**
KNRA				IAmb	IAmb	11 51 52.9	
	comp=Z,57nm,1.0s						
SOEI	**Soe**	**24.30**	**244**	P	**P**	**11 51 39.4**	**+0.7**
	comp=Z,2μmcomp=Z,117nm,1.4s						
SOEI	**Soe**	**24.30**	**244**	P	**P**	**11 51 39.6**	**+1.0**
BATI	**Baumata**	**25.02**	**244**	P	**P**	**11 51 46.6**	**+1.4**
	comp=Z,77nm,0.9s,baz=248,slow=2.2,SNR=6.7						
MMRI	**Maumere**	**25.73**	**248**	P	**P**	**11 51 51.6**	**+0.1**
MMRI				IAmb	IAmb	11 52 01.9	
	comp=Z,40nm,1.0s						
EDFI	**Ende, Flores**	**26.28**	**248**	P	**P**	**11 51 53.7**	**-2.9**
	comp=Z,9.9nm,1.4s						
MPSI	**Mapaga**	**26.39**	**269**	P	**P**	**11 51 56.3**	**-1.3**
	comp=Z,566nmcomp=Z,37nm,1.0s						
EIDS	**Eidsvold**	**26.41**	**170**	P	**P**	**11 51 59.2**	**+1.6**
EIDS				IAmb	IAmb	11 52 04.2	
	comp=Z,56nm,1.4s						
JCJ	**Chichijima**	**26.45**	**352**	P	**P**	**11 51 57.9**	**0.0**
	comp=Z,41nm,0.6s,baz=102,slow=2.9,SNR=4.1						
TARA	**Tarawa**	**26.64**	**89**	P	**P**	**11 52 00.9**	**+1.2**
H11S3	**WAKE ISLAND Hy**	**26.66**	**47**	T	T	12 20 43.5	
	baz=230,slow=76						
BNSI	**Bone**	**26.66**	**259**	P	**P**	**11 51 59.8**	**-0.2**
	comp=Z,745nmcomp=Z,50nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**26.67**	**48**	T	T	12 20 37.7	
	baz=230						
H11S1	**WAKE ISLAND Hy**	**26.68**	**47**	T	T	12 20 31.8	
	baz=230,slow=76						
SPSI	**Sidrap Palu**	**26.92**	**260**	P	**P**	**11 52 01.1**	**-1.2**
	comp=Z,37nm,0.9s						
AS31	**Alice Springs**	**27.12**	**206**	P	**P**	**11 52 04.6**	**+0.6**
ASAR	**Alice Springs**	**27.12**	**206**	P	**P**	**11 52 04.1**	**0.0**
	comp=Z,41nm,0.9s,baz=36,slow=6.5,SNR=53						
ASAR				LR	LR	12 01 52.1	
	comp=Z,740nm,21.3s,baz=30,slow=34						
ASAR	**Alice Springs**	**27.12**	**206**	P	**P**	**11 52 03.8**	**-0.3**
ASAR	**Alice Springs**	**27.12**	**206**	P	**P**	**11 52 03.8**	**-0.3**
KAPI	**Kappang**	**27.13**	**257**	P	**P**	**11 52 04.0**	**-0.2**
	comp=Z,8.3nm,0.6s,baz=126,slow=12,SNR=1.6						
KAPI	**Kappang**	**27.13**	**257**	P	**P**	**11 52 03.9**	**-0.3**
KAPI				pmax	pmax		
	comp=Z,43nm,1.0s						
KAPI	**Kappang**	**27.13**	**257**	P	**P**	**11 52 03.9**	**-0.3**
KAPI				IAmb	IAmb	11 52 15.7	
	comp=Z,43nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.66**	**226**	P	**P**	**11 52 08.2**	**-0.7**
	comp=Z,25nm,0.9s,baz=52,slow=9.1,SNR=11						
FITZ				LR	LR

VLA Vladivostok 44.08 345⇓ eP P 11 54 30.8 +2.0
VLA pmax pmax
comp=Z,15nm,1.1s
KUR Kuril'sk 44.28 2⇓ eP P 11 54 32.8 +2.4
SDSI Sungai Dareh 44.89 268 P P 11 54 32.7 -3.2
comp=Z,6µmcomp=Z,26nm,0.8s
KRJI Kerinci 44.91 266 P P 11 54 36.4 +0.3
comp=Z,5µmcomp=Z,146nm,0.5s
USA0B Ussuriysk Arra 45.06 345 P P 11 54 35.9 -0.8
USA0B pmax pmax
comp=Z,16nm,0.8s
USA0B Ussuriysk Arra 45.06 345 P P 11 54 35.9 -0.8
USA0B IAmb IAmb 11 54 49.9
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 45.06 345 P P 11 54 37.0 +0.4
comp=Z,5.0nm,0.7s,baz=176,slow=7.4,SNR=19
USRK Ussuriysk Ar. 45.06 345 P P 11 54 37.1 +0.4
USRK Ussuriysk Ar. 45.06 345 P P 11 54 37.1 +0.4
IPM Ipoh 45.35 275 P P 11 54 38.9 -0.7
IPM IAmb IAmb 11 54 53.4
comp=Z,27nm,1.1s
KULM Kulim 45.78 277 P P 11 54 43.3 +0.4
KULM Kulim 45.78 277 P P 11 54 47.0 +4.1
GYA Guiyang 45.86 307 eP P 11 54 47.2 +3.7
GYA PP **PP 11 56 30.4 -0.6**
GYA S **S 12 01 27.0 -1.0**
GYA pmax pmax
comp=Z,7.0nm,0.8s
GYA pmax pmax
comp=Z,72nm,4.6s
GYA LR LR
comp=Z,100nm,3.8s
GYA LR LR
comp=Z,95nm,3.8s
GYA LR LR
comp=Z,140nm,7.7s
PDSI Padang 45.86 268 P P 11 54 42.2 -1.4
comp=Z,16nm,1.0s
YSS Yuzh-Sakhalins 46.08 357 eP P 11 54 46.4 +1.7
YSS e*SP **pwP 11 54 51.6 -0.7**
YSS e 11 56 29.5
YSS ePPP PPP 11 57 17.0
YSS eS **S 12 01 33.8 +3.5**
YSS eSS **ScS 12 04 44.7 +4.1**
YSS pmax pmax
comp=Z,200nm,4.6s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=Z,200nm,15.0s
MDJ Mudanjiang 46.09 343 P P 11 54 55.6 +11
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,67nm,3.6s
SLVN Son La 46.09 299 P P 11 54 45.2 -0.1
MNSI Mandailing Nat 46.70 270 P P 11 54 49.5 -0.7
comp=Z,3µmcomp=Z,1µmcomp=Z,46nm,0.8s
RPSI Rantau Prapat 47.38 273 P P 11 54 54.3 -1.1
PSI Prapat 47.38 273 P P 11 54 54.3 -1.3
PSI pmax pmax
comp=Z,36nm,1.2s
BJI Beijing 47.72 329 P P 11 54 58.3 +0.7
BJI S **S 12 01 55.1 +1.2**
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJI LR LR
comp=Z,260nm,16.7s
BJI LR LR
comp=Z,140nm,11.3s
XAN Xi'an 48.12 317 P P 11 55 00.2 -0.8
XAN pP sP 11 55 05.2 +1.7
XAN PP **PP 11 56 57.2 +3.8**
XAN S **S 12 01 57.4 -2.6**
XAN SS **SS 12 05 24.7 -4.7**
XAN pmax pmax
comp=Z,7.0nm,1.3s
XAN pmax pmax
comp=Z,90nm,4.5s
XAN LR LR
comp=Z,350nm,22.8s
XAN LR LR
comp=Z,290nm,22.2s
XAN LR LR
comp=Z,260nm,28.2s
XAN Xi'an 48.12 317 P P 11 55 00.1 -0.9
XAN pmax pmax
comp=Z,11nm,0.9s
XAN Xi'an 48.12 317 P P 11 55 00.1 -0.9
GSI Gunungsitoli 48.71 271 P P 11 55 04.0 -1.7
comp=Z,99nm,0.9s
GSI Gunungsitoli 48.71 271 P P 11 55 04.1 -1.7
TPTI 49.13 274 P P 11 55 04.8 -4.2
comp=Z,26nm,0.9s
RPZ Rata Peaks 49.54 156 LR LR 12 11 59.6
comp=Z,509nm,21.9s,baz=317,slow=31
CM31 Chiang Mai Arr 49.66 294 P P 11 55 12.1 -0.8
CM31 IAmb IAmb 11 55 20.1
comp=Z,31nm,1.3s
CMAR Chiang Mai Arr 49.66 294 P P 11 55 14.2 +1.2
comp=Z,10.0nm,1.1s,baz=113,slow=6.2,SNR=18
CMAR LR LR 12 14 05.2
comp=Z,99nm,21.8s,baz=115,slow=34
CMAR Chiang Mai Arr 49.66 294 P P 11 55 13.0 0.0
CMAR Chiang Mai Arr 49.66 294 P P 11 55 13.0 0.0
CHTO Chiang Mai 49.75 294 P P 11 55 13.1 -0.6
CHTO pmax pmax
comp=Z,10.0nm,1.1s
CHTO Chiang Mai 49.75 294 P P 11 55 13.1 -0.6
KLR Kul'dur 49.85 348 P P 11 55 13.8 -0.1
comp=Z,5.8nm,0.7s,baz=145,slow=4.9,SNR=22
MLSI Meulaboh, Aceh 49.95 275 P P 11 55 12.2 -3.0
comp=Z,98nm,0.9s
CD2 Chengdu 50.19 311 P P 11 55 16.0 -0.9
CD2 S **S 12 02 27.8 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,620nm,14.7s
CD2 LR LR
comp=Z,390nm,19.6s
CD2 LR LR
comp=Z,390nm,15.2s
HHC Hu-ho-hao-te 50.78 326 eP P 11 55 22.1 +0.9
HHC PP **PP 11 57 20.4 +2.9**
HHC S **S 12 02 45.5 +8.4**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,78nm,6.1s
HHC LR LR
comp=Z,170nm,11.5s
HHC LR LR
comp=Z,160nm,13.0s
HHC LR LR
comp=Z,140nm,18.1s
LZH Lanzhou 52.72 317 eP P 11 55 41.7 +5.8
LZH pP pwP 11 55 47.2 +3.6
LZH sP sP 11 55 49.7 +11
LZH pmax pmax
comp=Z,16nm,1.2s
LZH LR LR
comp=Z,330nm,15.2s
LZH LR LR
comp=Z,190nm,16.0s
LZH LR LR
comp=Z,220nm,18.7s
PEA0B Petropavlovsk- 53.00 9 P P 11 55 36.5 -0.9
PEA0B pmax pmax
comp=Z,24nm,0.9s
PEA0B Petropavlovsk- 53.00 9 P P 11 55 36.5 -0.9
PEA0B IAmb IAmb 11 55 49.3
comp=Z,24nm,0.8s
PETK Petropavlovsk- 53.00 9 P P 11 55 37.5 0.0
comp=Z,9.7nm,0.7s,baz=150,slow=5.7,SNR=30
PETK Petropavlovsk- 53.00 9 P P 11 55 35.7 -1.7
PETK Petropavlovsk- 53.00 9 P P 11 55 35.7 -1.7
PET Petropavlovsk 53.07 9⇓ eP P 11 55 37.1 -0.8
PET pmax pmax
comp=Z,53nm,1.0s
HIA Hailar 53.40 339⇑ eP P 11 55 40.5 0.0
HIA pmax pmax
comp=Z,4.0nm,1.0s
ZEA Zeya 55.08 346 eP P 11 55 52.4 -0.2
ZEA pmax pmax
comp=Z,15nm,0.8s
RAR Rarotonga 57.02 116 LR LR 12 17 19.3
comp=Z,74nm,18.8s,baz=291,slow=33
GTA Gaotai 57.17 318 eP P 11 56 09.2 +1.1
GTA pP pwP 11 56 14.1 -1.6
GTA sP sP 11 56 16.4 +5.9
GTA S **S 12 04 04.9 +1.1**
GTA sS sS 12 04 13.0 +6.3
GTA pmax pmax
comp=Z,3.0nm,0.6s
GTA pmax pmax
comp=Z,71nm,8.1s
GTA LR LR
comp=Z,200nm,20.3s
GTA LR LR
comp=Z,180nm,19.4s
GTA LR LR
comp=Z,160nm,18.4s
ULN Ulaanbaatar 57.89 330 deP P 11 56 13.5 +0.5
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 57.89 330 P P 11 56 13.7 +0.7
ULN IAmb IAmb 11 56 27.3
comp=Z,15nm,1.1s
SHL Shillong 57.89 300 P P 11 56 12.8 -0.6
SHL pmax pmax
comp=Z,22nm,0.8s
SHL Shillong 57.89 300 P P 11 56 12.8 -0.6
SHL IAmb IAmb 11 56 25.1
comp=Z,22nm,0.8s
SONM Songino Array 58.20 329 P P 11 56 15.6 +0.5
comp=Z,3.2nm,0.8s,baz=145,slow=8.2,SNR=13
SONM LR LR 12 20 19.7
comp=Z,101nm,22.0s,baz=128,slow=35
SONM Songino Array 58.20 329 P P 11 56 15.0 -0.1
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 58.20 329 P P 11 56 15.0 -0.1
ZAK Zakamensk 61.41 330 eP P 11 56 37.3 +0.2
ZAK pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 62.06 331 P P 11 56 41.6 +0.2
comp=Z,2.0nm,0.7s,baz=138,slow=3.5,SNR=3.2
TLY Talaya 62.06 331 eP P 11 56 42.6 +1.2
TLY eS S 12 05 25.0 +19
TLY pmax pmax
comp=Z,29nm,1.1s
TLY Talaya 62.06 331 P P 11 56 41.2 -0.1
TLY IAmb IAmb 11 56 55.1
comp=Z,9.3nm,0.9s
SEY Seymchan 62.16 3 P P 11 56 41.6 -0.2
comp=Z,7.9nm,1.0s,baz=191,slow=5.1,SNR=22
SEY Seymchan 62.16 3⇓ eP P 11 56 42.6 +0.8
BOD Bodaibo 62.36 341 eP P 11 56 42.8 -0.4
BOD pmax pmax
comp=Z,9.0nm,1.0s
YAK Yakutsk 62.37 351 P P 11 56 42.8 -0.4
YAK pmax pmax
comp=Z,16nm,0.9s
YAK Yakutsk 62.37 351 P P 11 56 42.8 -0.4
YAK IAmb IAmb 11 57 02.7
comp=Z,16nm,0.9s
PPT Papeete 65.67 110 LR LR 12 19 27.8
comp=Z,42nm,20.6s,baz=288,slow=30
PPT2 Papeete2 65.67 110 eS S 12 05 49.0 -3.3
comp=Z,133nm,31.5s
PPT2 Papeete2 65.67 110 eLR LR 12 16 43.8
comp=Z,435nm,34.2s
TBI Tubuai 66.81 116 eLR LR 12 17 17.0
comp=Z,1µm,33.5s
WMQ Urumqi 67.26 318 eP P 11 57 16.9 +1.3
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,60nm,5.7s
WMQ LR LR
comp=Z,140nm,18.3s
DGZ Jazzator, Alta 69.75 324⇑ eP P 11 57 30.5 -0.6
DGZ pmax pmax
comp=Z,3.0nm,0.6s
ZSN Zaisan 70.45 321 eP P 11 57 35.0 -0.4
baz=321
ZSN Zaisan 70.45 321 eP P 11 57 34.9 -0.4
CASY Casey 71.59 194 P P 11 57 40.5 -1.3
MK31 Makanchi Array 71.88 319 P P 11 57 42.4 -1.6
MK31 pmax pmax
comp=Z,12nm,1.2s
MK31 Makanchi Array 71.88 319 P P 11 57 42.4 -1.6
MKAR Makanchi Array 71.88 319 P P 11 57 44.0 0.0
comp=Z,1.8nm,0.7s,baz=95,slow=7.4,SNR=15
MKAR LR LR 12 27 44.2
comp=Z,62nm,22.0s,baz=108,slow=35
MKAR Makanchi Array 71.88 319 ceP P 11 57 44.0 0.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 71.88 319 P P 11 57 43.0 -1.0
MAKZ Makanchi 72.08 319 P P 11 57 44.9 -0.3
MAKZ pmax pmax
comp=Z,13nm,0.9s
MAKZ Makanchi 72.08 319 P P 11 57 44.9 -0.3
MAKZ IAmb IAmb 11 57 59.3
comp=Z,12nm,0.9s
SHLS Shalkode 72.71 315 eP P 11 57 46.2 -3.0
baz=315
SHLS Shalkode 72.71 315 eP P 11 57 46.2 -3.0
ZAA0 Zalesovo Array 72.94 327 P P 11 57 51.5 +1.4
ZALV Zalesovo Beam 72.94 327 P P 11 57 49.1 -1.0
comp=Z,1.3nm,0.5s,baz=101,slow=4.7,SNR=4.9
ZALV LR LR 12 29 39.0
comp=Z,99nm,20.9s,baz=97,slow=36
ZALV Zalesovo Beam 72.94 327 P P 11 57 47.7 -2.4
ZALV Zalesovo Beam 72.94 327 P P 11 57 47.7 -2.4
UZB Uzynbulak 73.02 315 eP P 11 57 49.8 -1.3
baz=315
UZB Uzynbulak 73.02 315 eP P 11 57 49.7 -1.3
KPKS Kokpek 73.34 315 eP P 11 57 51.3 -1.5
baz=315
KPKS Kokpek 73.34 315 eP P 11 57 51.3 -1.5
SATY Saty 73.43 315 eP P 11 57 52.4 -1.1
baz=315
SATY Saty 73.43 315 eP P 11 57 52.3 -1.1
TDK Taldyqorghan 73.94 317 eP P 11 57 55.5 -0.8
baz=317
TDK Taldyqorghan 73.94 317 eP P 11 57 55.4 -0.8
SEM Semipalatinsk 74.32 323 eP P 11 57 57.7 -1.0
baz=323
SEM Semipalatinsk 74.32 323 eP P 11 57 57.6 -1.0
KDAK Kodiak Island 74.33 29 P P 11 57 58.3 +0.2
comp=Z,5.5nm,1.1s,baz=316,slow=17,SNR=2.2
KDAK Kodiak Island 74.33 29 P P 11 57 57.5 -0.7
KDAK pmax pmax
comp=Z,150nm,2.0s
KDAK Kodiak Island 74.33 29 P P 11 57 57.5 -0.7
KSH Kashi 74.39 311 P P 11 58 05.4 +6.3
KSH PcP **PcP 11 58 16.7 +2.9**
KSH pmax pmax
comp=Z,29nm,1.4s
MDOK Medeo 74.42 315 eP P 11 57 58.0 -1.3
baz=315
MDOK Medeo 74.42 315 eP P 11 57 57.9 -1.3
SVW2 Sparrevohn 74.43 25 P P 11 58 01.4 +2.6
TNSS Tian-Shan 74.46 315 eP P 11 57 58.4 -1.4
baz=315
TNSS Tian-Shan 74.46 315 eP P 11 57 58.4 -1.4
AAA Alma-Ata 74.52 315 eP P 11 57 58.4 -1.5
baz=315
AAA Alma-Ata 74.52 315 eP P 11 57 58.3 -1.5
CHKK Chushkaly 74.63 315 eP P 11 57 59.2 -1.2
baz=316
CHKK Chushkaly 74.63 315 eP P 11 57 59.1 -1.2
MTBS Maitube 74.85 315 eP P 11 58 00.5 -1.3
baz=315
MTBS Maitube 74.85 315 eP P 11 58 00.4 -1.3
KUU Kurty 75.09 315 eP P 11 58 02.0 -1.0
baz=315
KUU Kurty 75.09 315 eP P 11 58 02.0 -1.0
TTA Tatalina 75.13 24 P P 11 58 03.8 +0.9
TTA pmax pmax
comp=Z,20nm,1.2s
TTA Tatalina 75.13 24 P P 11 58 03.8 +0.9
TTA IAmb IAmb 11 58 17.1
comp=Z,20nm,1.2s
KURK Kurchatov 75.40 323⇓ eP P 11 58 04.0 -0.6
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 75.40 323 P P 11 58 03.6 -0.9
KURK IAmb IAmb 11 58 18.3
comp=Z,31nm,1.2s
KURBB Kurchatov Arra 75.43 322 P P 11 58 02.9 -1.8
comp=Z,1.7nm,0.7s,baz=110,slow=5.1,SNR=8.0
NIL Nilore 75.47 304 P P 11 58 05.2 -0.2
NIL pmax pmax
comp=Z,54nm,0.7s
NIL Nilore 75.47 304 P P 11 58 05.2 -0.2
RDOG Red Dog Mine 75.51 18 P P 11 58 04.6 -0.3
RDOG IAmb IAmb 11 58 12.2
comp=Z,19nm,0.8s
CNPM China Poot 75.68 28 P P 11 58 06.8 +0.8
AAK Ala-Archa 76.13 314⇑ eP P 11 58 10.4 +1.2
AAK pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 76.13 314 P P 11 58 09.5 +0.4
IMAR Indian Mountai 77.45 21 P P 11 58 15.6 -0.2
PMR Palmer 77.45 26 P P 11 58 17.9 +1.9
PMR pmax pmax
comp=Z,11nm,0.8s
PMR Palmer 77.45 26 P P 11 58 17.9 +1.9
PMR IAmb IAmb 11 58 21.8
comp=Z,11nm,0.8s
KTH Kantishna Hill 77.47 24 P P 11 58 15.6 -0.6
BPAW Bear Paw Mtn. 77.67 24 P P 11 58 17.4 +0.2
KNK Knik Glacier 77.68 27 P P 11 58 17.9 +0.6
KNK IAmb IAmb 11 58 36.1
comp=Z,16nm,0.8s
TRF Thorofare Moun 77.69 24 P P 11 58 20.1 +2.6
TRF IAmb IAmb 11 58 32.0
comp=Z,45nm,1.9s
SML Sawmill 77.89 26 P P 11 58 18.0 -0.5
GLI Glacier Island 78.11 27 P P 11 58 19.1 -0.6
GLI IAmb IAmb 11 58 25.9
comp=Z,17nm,0.7s
RND Reindeer 78.27 25 P P 11 58 20.3 -0.3
RND pmax pmax
comp=Z,16nm,0.8s
RND Reindeer 78.27 25 P P 11 58 20.2 -0.3
RND IAmb IAmb 11 58 26.6
comp=Z,16nm,0.8s
SCM Sheep Creek Mo 78.34 26 P P 11 58 21.4 +0.3
SCM pmax pmax
comp=Z,44nm,1.1s
SCM Sheep Creek Mo 78.34 26 P P 11 58 21.4 +0.3
MCK McKinley 78.36 24 P P 11 58 21.5 +0.5
MCK pmax pmax
comp=Z,23nm,1.0s
MCK McKinley 78.36 24 P P 11 58 21.5 +0.5
MCK IAmb IAmb 11 58 34.1
comp=Z,23nm,1.0s
NEA2 Nenana 78.64 23 P P 11 58 22.8 +0.2
baz=247
NRIK Noril'sk 78.64 342 P P 11 58 21.7 -0.8
comp=Z,1.5nm,0.4s,baz=132,slow=3.5,SNR=2.5
NRIK LR LR 12 32 21.1
comp=Z,84nm,20.4s,baz=179,slow=35
VNDA Vanda 78.68 177 P P 11 58 21.8 -0.7
comp=Z,2.3nm,0.8s,baz=339,slow=6.6,SNR=14
VNDA LR LR 12 30 45.0
comp=Z,118nm,18.6s,baz=354,slow=34
VNDA Vanda 78.68 177 P P 11 58 22.6 +0.1
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 78.68 177 P P 11 58 22.6 +0.1
DHY Denali Highway 78.76 25 P P 11 58 23.0 -0.4
DHY IAmb IAmb 11 58 37.1
comp=Z,19nm,0.9s
KLU Klutina 78.85 27 P P 11 58 24.0 +0.1
KLU IAmb IAmb 11 58 38.1
comp=Z,21nm,0.8s
M24K Tolsona, Glenn 78.95 26 P P 11 58 27.2 +2.9
baz=250
WRH Wood River Hil 78.98 24 P P 11 58 23.8 -0.6
WRH IAmb IAmb 11 58 45.9
comp=Z,22nm,1.2s
KKAR Karatay Array 79.09 314 P P 11 58 26.9 +1.4
KKAR Karatay Array 79.09 314 P P 11 58 26.9 +1.4
MDM Murphy Dome 79.11 23 P P 11 58 25.9 +0.7
CCB Clear Creek Bu 79.16 24 P P 11 58 24.5 -0.9
COLA College 79.23 23⇓ eP P 11 58 26.1 +0.4
COLA pmax pmax
comp=Z,4.0nm,1.0s
COLA College 79.23 23 P P 11 58 25.4 -0.3
COLD Coldfoot 79.27 21 P P 11 58 26.8 +0.9
baz=246
COLD Coldfoot 79.27 21 P P 11 58 26.0 +0.1
HDA Harding Lake 79.42 24 P P 11 58 27.4 +0.6
baz=249
HDA Harding Lake 79.42 24 P P 11 58 25.8 -1.1
IL31 79.57 24 P P 11 58 26.0 -1.5
IL31 IAmb IAmb 11 58 38.2
comp=Z,10nm,0.6s
ILAR Eielson Array 79.57 24 P P 11 58 26.7 -1.0
comp=Z,7.2nm,0.7s,baz=249,slow=5.4,SNR=43
ILAR LR LR 12 28 55.2
comp=Z,88nm,20.0s,baz=254,slow=32
ILAR Eielson Array 79.57 24 P P 11 58 27.0 -0.6
ILAR Eielson Array 79.57 24 P P 11 58 27.0 -0.6
VRDI Verde Repeater 79.90 28 P P 11 58 32.1 +2.3
VRDI IAmb IAmb 11 58 45.1
comp=Z,39nm,1.6s
RIDG Independent Ri 80.06 25 P P 11 58 30.5 +0.1
RIDG IAmb IAmb 11 58 52.7
comp=Z,15nm,1.0s
TOLK Toolik Lake Re 80.07 20 P P 11 58 32.0 +1.7
baz=246
DOT Dot Lake 80.36 25 P P 11 58 31.9 -0.1
DOT IAmb IAmb 11 58 37.9
comp=Z,20nm,1.2s
SCRK Sand Creek 80.50 25 P P 11 58 34.4 +1.6
baz=252
BARN Barnard Glacie 80.69 28 P P 11 58 34.1 +0.1
BARN IAmb IAmb 11 58 48.3
comp=Z,21nm,0.8s
CTGM Chitina Glacie 80.82 28 P P 11 58 33.8 -0.8
BVAR Borovoye Array 80.91 324 P P 11 58 34.9 -0.2
comp=Z,2.3nm,0.7s,baz=116,slow=6.9,SNR=15
BRVK Borovoye 80.98 324 ceP P 11 58 35.5 +0.1
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 80.98 324 P P 11 58 34.8 -0.7
BRVK IAmb IAmb 11 58 49.6
comp=Z,19nm,1.1s
K27K Chicken 81.32 25 P P 11 58 39.0 +1.9
baz=254
BMAR Burnt Mountain 81.37 21 P P 11 58 37.7 +0.4
EGAK Eagle 81.91 24 P P 11 58 40.8 +0.7
EGAK IAmb IAmb 11 58 55.2
comp=Z,27nm,1.5s
DAWY Dawson 82.47 25 P P 11 58 43.5 +0.3
DAWY IAmb IAmb 11 58 57.5
comp=Z,22nm,1.1s
HYT Haines Junctio 82.61 29 P P 11 58 44.8 +0.8
HYT IAmb IAmb 11 59 04.1
comp=Z,16nm,1.0s
EPYK Eagle Plains 84.08 23 P P 11 58 54.6 +3.2
baz=258
BBB Bella Bella 86.67 38 LR LR 12 36 34.1
comp=Z,75nm,18.1s,baz=247,slow=35
GEYT Alibeck 88.08 308 LR LR 12 39 27.8
comp=Z,49nm,21.6s,baz=190,slow=36
ARU Arti 88.09 326 P P 11 59 25.0 +14
ARU S **S 12 09 57.4 +2.1**
MAW Mawson 88.21 202 LR LR 12 35 44.8
comp=Z,137nm,19.4s,baz=64,slow=34
O02D Mt. Diablo Mer 90.20 50 P P 11 59 22.9 +1.1
baz=271
O03E Paynes Creek 90.96 50 P P 11 59 25.8 +0.5
baz=272
I05D Terrebonne, OR 91.16 46 P P 11 59 26.9 +0.8
baz=272
PINE Pine Mountain 91.47 46 P P 11 59 28.2 +0.4
AFDM Forest Hills D 91.64 51 P P 11 59 28.5 +0.1
AFDM IAmb IAmb 11 59 42.1
comp=Z,8.3nm,1.1s
MOD Modoc Plateau 92.02 48 P P 11 59 30.6 +0.3
MOD IAmb IAmb 11 59 44.1
comp=Z,9.9nm,1.4s
YERR Yerington 92.99 51 P P 11 59 35.0 +0.1
J08A Circle Bar Ran 93.28 47 P P 11 59 36.7 +0.7
J08A IAmb IAmb 11 59 49.8
comp=Z,6.2nm,1.0s
YKA Yellowknife Ar 93.52 27 LR LR 12 37 16.9

comp=Z,58nm,21.9s,baz=0.0,slow=33
NVAR Mina Array Bea 93.76 52 P **P 11 59 39.6 +1.2**
comp=Z,0.8nm,0.7s,baz=250,slow=6.3,SNR=9.3
NVAR LR LR 12 37 48.6
comp=Z,56nm,18.5s,baz=274,slow=33
NVAR Mina Array Bea 93.76 52 P **P 11 59 38.8 +0.3**
NEW Newport 93.81 42 LR LR 12 33 30.0
comp=Z,52nm,21.5s,baz=345,slow=30
KVN Kaiserville 93.87 51 P **P 11 59 39.6 +0.6**
KVN Kaiserville 93.87 51 P **P 11 59 39.6 +0.6**
BMO Blue Mountains 94.00 45 P **P 11 59 39.6 +0.3**
BMO pmax pmax
comp=Z,9.0nm,1.1s
BMO Blue Mountains 94.00 45 P **P 11 59 39.6 +0.3**
BMO IAmb IAmb 11 59 52.8
comp=Z,9.3nm,1.1s
MFID Camas Ranch 95.20 46 P **P 11 59 45.4 +0.6**
HLID Hailey 96.20 46 P **P 11 59 49.8 +0.3**
HLID IAmb IAmb 12 00 03.5
comp=Z,8.5nm,1.0s
RES Resolute Bay 96.60 14 LR LR 12 39 13.9
comp=Z,49nm,21.1s,baz=246,slow=33
SYO Syowa Base 96.68 200⇑ *e*pP **P 11 59 54.6 +3.8**
KBZ Khabaz 99.12 314 LR LR 12 46 34.8
comp=Z,49nm,20.9s,baz=58,slow=36
ARCES ARCESS Array B 99.62 342 LR LR 12 47 44.1
comp=Z,35nm,20.0s,baz=9.5,slow=37
PDAR Pinedale Array 99.83 46 LR LR 12 43 30.6
comp=Z,72nm,18.2s,baz=294,slow=34
CLL Collm 114.82 330 *e*PS PS 12 15 38.0 -0.7
CLL *e*PPS PPS 12 16 46.0
CLL *e*SS SS 12 21 53.0 -0.8
CLL *e*SSS SSS 12 26 06.0
CLL *e* 12 27 42.0
CLL *e*(SSSS) 12 29 00.0
CLL *e* 12 32 54.0
CLL LmH 12 46 00.0
comp=N,100nm,21.0s
CLL LmH 12 46 00.0
comp=E,100nm,21.6s
LPAZ La Paz 142.75 116 PKP **PKPdf 12 05 55.4 -0.7**
comp=E,0.8nm,0.8s,baz=243,slow=2.3,SNR=1.8
LPAZ La Paz 142.75 116 PKIKP **PKPdf 12 05 54.3 -1.8**
LPAZ La Paz 142.75 116 PKPdf **PKPdf 12 05 54.3 -1.8**
CPUP Villa Florida 145.91 140 PKPbc **PKPdf 12 05 59.7 -0.9**
comp=E,3.2nm,1.0s,baz=238,slow=2.5,SNR=2.9
CPUP Villa Florida 145.91 140 PKIKP **PKPdf 12 05 59.4 -1.2**
CPUP Villa Florida 145.91 140 PKPdf **PKPdf 12 05 59.4 -1.2**
SAML Samuel 149.56 106 PKP2 **PKPbc 12 06 11.1 -0.4**
SAML Samuel 149.56 106 PKPbc **PKPbc 12 06 11.1 -0.4**
KIC Kosan Boka 150.22 284 *e*P **PKPdf 12 06 13.0 +2.3**
comp=E,80nm,1.4s
DBIC Dimbokro 150.27 285 PKPbc **PKPbc 12 06 12.5 -0.7**
comp=E,7.0nm,0.9s,baz=2.8,slow=2.9,SNR=3.4
TIC Toumodi 150.43 285 *e*P **PKPbc 12 06 12.5 -1.2**
LIC Lamto 150.53 284 *e*P **PKPbc 12 06 12.7 -1.2**
comp=E,58nm,1.5s

DJA 07 11:56:06.5±0.4,8°S±3°×10°7E±°,h10km,M4.1/11,mb4.6/1, MLv3.8/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.04**	**14**	P	Pg	11 56 25.7	-0.9
CNJI				S	Sg	11 56 39.5	-0.7
CISI	**Cisompet, Garu**	**1.20**	**50**	P	Pb	11 56 28.3	-1.2
CISI				S	Sb	11 56 40.6	-4.5
SKJI	**Sukabumi**	**1.35**	**346**	P	Pn	11 56 30.7	-0.8
SKJI				S	Sg	11 56 50.0	-0.2
CMJI	**Cimerak**	**1.65**	**71**	P	Pn	11 56 34.8	-0.7
CMJI				S	Sn	11 56 56.3	-0.4
CGJI	**Cibinong**	**2.07**	**325**	P	Pn	11 56 41.4	0.0
CGJI				S	Sn	11 57 07.9	+0.6
SBJI	**Serang**	**2.32**	**341**	P	Pn	11 56 45.5	+0.7
KLSI		**4.20**	**329**	P	Pn	11 57 11.3	+0.6
MDSI	**Maura Dua**	**4.67**	**325**	P	Pn	11 57 17.3	+0.2

*NEIC **07** 12:07:30.7±2.1,25°.13S±0°.08×180°.0E±0°.1,h486km±8km, mb4.5/34,Error ellipse: s-maj=19.2km s-min=7.3km az=119.0*
*IDC **07** 12:07:31.0±2.5,25°.20S×179°.90E,h489km±27km,mb3.4/9, mb1 3.7/12,mb1mx3.3/41,mbtmp4.3/12,Error ellipse: s-maj=22.8km s-min=18.5km az=164.0*
ISC 07 12:07:32.0±0.5,25°.14S±0°.08×179°.88E±0°.08,h500km,n82, σ1$43/82,mb4.3/21,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.56**	**347**	P	**P**	**12 09 23.0**	**-1.2**
NIUE	**Niue**	**11.21**	**59**	P	**P**	**12 10 00.3**	**-2.0**
DZM	**Mont Dzumac**	**12.69**	**281**	P	**P**	**12 10 19.3**	**+1.3**
0.4nm,0.3s,baz=205,slow=23,SNR=5.8
DZM Mont Dzumac 12.69 281 P **P 12 10 19.5 +1.4**
URZ Urewera 13.29 190 P **P 12 10 23.8 -0.3**
1.6nm,0.3s,baz=334,slow=1.6,SNR=10
URZ S **S 12 12 43.9 -2.1**
0.3nm,0.3s,baz=48,slow=24,SNR=1.6
URZ Urewera 13.29 190 P **P 12 10 23.3 -0.7**
AFI Afiamalu 13.65 37 P P 12 10 22.9 -5.4
2.4nm,0.3s,baz=326,slow=7.3,SNR=2.7
AFI S S 12 12 42.5 -11
0.5nm,0.3s,baz=18,slow=17,SNR=1.6
BKZ Black Stump Fm 14.28 191 P **P 12 10 33.8 -0.8**
TMVZ Te Maari 14.38 193 P **P 12 10 35.9 +0.2**
ETVZ East Tongariro 14.39 193 P **P 12 10 36.0 +0.1**
TUVZ Tukino 14.53 193 P **P 12 10 37.1 -0.2**
WNVZ Wahianoa 14.60 193 P **P 12 10 37.4 -0.7**
BHHZ Black Hill Sta 14.67 192 P **P 12 10 37.0 -1.6**
BFZ Birch Farm 15.80 190 P **P 12 10 48.2 -2.1**
BFZ Birch Farm 15.80 190 P **P 12 10 48.0 -2.4**
BFZ IAmb IAmb 12 10 57.5
comp=Z,29nm,1.2s
MRZ Mangatainoka R 15.89 192 P **P 12 10 49.3 -2.0**
HOWZ Holdsworth Sta 16.13 192 P **P 12 10 52.9 -1.0**
CAW Cannon Point 16.42 193 P **P 12 10 56.2 -0.8**
WEL Wellington 16.66 194 P P 12 10 49.4 -10
MSWZ Moikau Station 16.68 192 P **P 12 10 59.4 -0.3**
MSWZ Moikau Station 16.68 192 P **P 12 11 00.0 +0.4**
SNZO South Karori 16.69 194 P **P 12 10 59.1 -0.6**
TCW Tory Channel 16.70 195 P **P 12 10 58.4 -1.3**
BHW Baring Head 16.75 193 P **P 12 11 05.0 +4.7**
BHW Baring Head 16.75 193 P **P 12 10 59.9 -0.4**
QRZ Quartz Range 16.80 200 P **P 12 11 00.1 -0.7**
QRZ Quartz Range 16.80 200 P **P 12 11 00.5 -0.3**
PLWZ Palliser 16.83 192 P **P 12 10 59.8 -1.4**
PLWZ Palliser 16.83 192 P **P 12 11 00.9 -0.3**
NNZ Nelson 16.93 197 P **P 12 11 00.9 -1.2**
NNZ Nelson 16.93 197 P **P 12 11 01.1 -1.0**
TUWZ Tuamarina 16.98 195 P **P 12 11 01.5 -1.1**
TUWZ Tuamarina 16.98 195 P **P 12 11 01.1 -1.5**
BSWZ Blackbirch Sta 17.27 195 P **P 12 11 04.8 -0.6**
THZ Tophouse 17.56 198 P **P 12 11 07.6 -0.6**
THZ IAmb IAmb 12 11 12.2
comp=Z,12nm,0.7s
KHZ Kahutara 18.01 195 P **P 12 11 11.2 -1.0**
KHZ IAmb IAmb 12 11 16.8
comp=Z,15nm,0.7s
LTZ Lake Taylor 18.68 198 P **P 12 11 17.4 -1.1**
LTZ IAmb IAmb 12 11 19.9
comp=Z,16nm,0.8s
OXZ Oxford 19.25 198 P **P 12 11 22.6 -1.1**
LHI Lord Howe Isla 19.38 246 P **P 12 11 27.6 +2.6**
RPZ Rata Peaks 19.89 199 P **P 12 11 28.0 -1.5**
comp=Z,1.2nm,0.3s,baz=13,slow=5.5,SNR=8.5
RPZ Rata Peaks 19.89 199 P **P 12 11 28.3 -1.1**
ARMA Armidale 25.50 252 P **P 12 12 21.9 +1.8**
ARMA IAmb IAmb 12 12 22.6
comp=Z,13nm,0.8s
EIDS Eidsvold 26.02 263 P **P 12 12 25.2 +0.6**
EIDS IAmb IAmb 12 12 26.0
comp=Z,12nm,0.8s
CAN Canberra 28.44 242 P **P 12 12 47.6 +1.8**
CAN IAmb IAmb 12 12 48.2
comp=Z,16nm,1.2s
CTA Charters Tower 31.39 272 P **P 12 13 12.0 +0.4**
comp=Z,28nm,0.7s,baz=95,slow=11,SNR=44
CTAO Charters Tower 31.39 272 P **P 12 13 12.2 +0.6**
CTAO IAmb IAmb 12 13 12.8
comp=Z,22nm,0.8s
TOO Toolangi 31.70 239 P **P 12 13 15.0 +1.0**
STKA Stephens Creek 34.17 250 P **P 12 13 35.4 +0.4**
comp=Z,2.6nm,0.7s,baz=67,slow=7.7,SNR=4.5
STKA Stephens Creek 34.17 250 P **P 12 13 35.7 +0.7**
PMG Port Moresby 34.81 291 P **P 12 13 40.5 0.0**
PMG IAmb IAmb 12 13 45.2
comp=Z,28nm,1.1s
COEN Coen 36.22 281 P **P 12 13 52.9 +0.6**
COEN IAmb IAmb 12 13 53.5
comp=Z,7.3nm,0.8s
BBOO Buckleboo 38.87 248 P **P 12 14 13.3 -0.6**
BBOO IAmb IAmb 12 14 21.0
comp=Z,20nm,1.4s
AS31 Alice Springs 41.74 262 P **P 12 14 36.7 -0.3**
ASAR Alice Springs 41.74 262 P **P 12 14 36.6 -0.4**
comp=Z,8.6nm,0.9s,baz=87,slow=8.3,SNR=72
ASAR S **S 12 20 12.9 -4.8**
comp=Z,0.4nm,1.0s,baz=118,slow=33,SNR=1.6
WR0 Warramunga Arr 42.04 268 P **P 12 14 38.5 -0.9**
WR0 IAmb IAmb 12 14 39.6
comp=Z,15nm,1.4s
WB2 Warramunga Arr 42.21 268 P **P 12 14 40.1 -0.7**
WB2 IAmb IAmb 12 14 41.5
comp=Z,7.3nm,0.8s
WRAB Tennant Creek 42.22 268 P **P 12 14 40.0 -0.8**
WRAB IAmb IAmb 12 14 41.4
comp=Z,6.1nm,0.8s
WB0 Warramunga Arr 42.22 268 P **P 12 14 40.2 -0.7**
WB0 IAmb IAmb 12 14 41.5
comp=Z,10.0nm,0.7s
WRA Warramunga Arr 42.23 268 P **P 12 14 39.9 -1.0**
comp=Z,5.4nm,0.6s,baz=98,slow=6.7,SNR=127
WRA ScP **ScP 12 19 29.5 +3.1**
comp=Z,1.2nm,0.8s,baz=106,slow=3.6,SNR=6.0
WRA S **S 12 20 20.7 -4.1**
comp=Z,1.1nm,0.9s,baz=100,slow=14,SNR=5.5
WRA Warramunga Arr 42.23 268 P **P 12 14 40.0 -1.0**
FORT Forrest 45.79 251 P **P 12 15 07.5 -0.9**
KNRA Kununurra 48.58 271 P **P 12 15 29.6 -0.1**
KNRA IAmb IAmb 12 15 30.1
comp=Z,16nm,1.0s
FITZ Fitzroy Crossi 50.63 267 P **P 12 15 44.9 +0.1**
MORW Morawa 56.35 251 P **P 12 16 25.0 -0.3**
CASY Casey 58.96 206 P **P 12 16 42.5 +0.2**
QSPA South Pole Qui 64.95 180 P **P 12 17 23.1 +1.4**
QSPA IAmb IAmb 12 17 26.9
comp=Z,9.2nm,1.4s
XMIS Christmas Isla 71.42 267 P **P 12 18 03.1 +1.3**
PETK Petropavlovsk- 80.27 347 P **P 12 18 50.1 +0.1**
comp=Z,1.0nm,0.6s,baz=134,slow=4.2,SNR=3.0
PETK Petropavlovsk- 80.27 347 P **P 12 18 50.4 +0.4**
SNAA Sanae 83.44 179 P **P 12 19 06.1 0.0**
YBH Yreka Blue Hor 85.11 39 P **P 12 19 14.5 -0.3**
comp=Z,0.7nm,0.8s,baz=180,slow=6.1,SNR=2.7
NVAR Mina Array Bea 85.72 44 P **P 12 19 19.1 +1.1**
comp=Z,0.8nm,0.8s,baz=231,slow=7.9,SNR=3.3
NVAR Mina Array Bea 85.72 44 P **P 12 19 16.5 -1.5**
I07A Izee 88.42 39 P **P 12 19 31.7 +1.3**
TXAR Lajitas Array 91.18 58 P **P 12 19 45.0 +1.5**
comp=Z,1.1nm,0.8s,baz=222,slow=6.7,SNR=10
TXAR Lajitas Array 91.18 58 P **P 12 19 44.8 +1.2**
ILAR Eielson Array 93.25 14 P **P 12 19 51.2 -1.0**
comp=Z,0.2nm,0.8s,baz=224,slow=5.0,SNR=2.0
NB2 NORSAR Subarra 143.28 351 PKP PKPab 12 26 05.9 -0.4
comp=Z,0.8nm,0.7s,baz=14,slow=3.3
NOA NORSAR Array B 143.28 351 PKP PKPab 12 26 05.9 -0.4
comp=Z,0.4nm,0.7s,baz=16,slow=4.9,SNR=5.4
AKASG Malin Array Be 145.94 326 PKPbc **PKPdf 12 26 14.0 +0.7**
comp=Z,0.2nm,0.3s,baz=50,slow=3.6,SNR=2.2
BRTR Keskin Array B 148.22 306 PKPbc **PKPbc 12 26 20.8 -0.9**
comp=Z,0.4nm,0.6s,baz=130,slow=2.3,SNR=2.0
CLL Collm 152.00 342 *e*PKPbc **PKPbc 12 26 30.0 +0.1**
comp=Z,2.0nm,0.8s

*NEIC **07** 12:13:55.5±1.9,32°.18N±0°.03×117°.67W±0°.05,h19km±7km, Error ellipse: s-maj=6.3km s-min=3.9km az=54.0*
*SCEDC **07** 12:13:56.5,32°.22N×117°.61W,h30km*
*ECX **07** 12:13:56.5±0.7,32°.16N×117°.62W,h20km±21km,MD3.8, ML4.1,Fault plane solution: NP1:φ=344.90000°, δ75.52000°,λ-26.57000°.*
*PAS **07** 12:13:56.8±2.5,32°.22N±0°.02×117°.60W±0°.02,h32km±6km, ML4.0/225,Error ellipse: s-maj=3.3km s-min=2.1km az=221.0*
*ANF **07** 12:13:56.8±0.6,32°.28N×117°.60W,h22km±4km,ML4.1/36, Error ellipse: s-maj=4.5km s-min=2.3km az=17.0*
*MEX **07** 12:13:58.0±0.4,32°.21N×117°.61W,h10km,MD4.3*
ISC 07 12:13:54.6±1.2,32°.19N±0°.03×117°.65W±0°.03,h8km±9km, n182,σ1$24/253,9C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TJX	**Tijuana**	**0.60**	**57**		**Pb**	**12 14 07.3**	**0.0**
TJX	**Tijuana**	**0.60**	**57**		**Sb**	**12 14 15.6**	**-0.4**
TJX	**Tijuana**	**0.60**	**57⇑**	*e*P	**Pb**	**12 14 07.4**	**0.0**
TJX				*e*S	**Sb**	**12 14 15.6**	**-0.4**
OLP	**Otay Lakes Par**	**0.74**	**55**		**Pg**	**12 14 09.4**	**+0.5**
OLP					**Sg**	**12 14 18.3**	**-0.2**
OLP	**Otay Lakes Par**	**0.74**	**55⇑**	*e*P	**Pg**	**12 14 09.4**	**+0.5**
OLP				*e*S	**Sg**	**12 14 18.3**	**-0.2**
SDRC	**San Diego Road**	**0.81**	**47**		**Pg**	**12 14 10.5**	**+0.2**
SDRC					**Sg**	**12 14 20.1**	**-0.7**
SDRC	**San Diego Road**	**0.81**	**47⇑**	*e*P	**Pg**	**12 14 10.5**	**+0.2**
SDRC				*e*S	**Sg**	**12 14 20.4**	**-0.4**
109C	**Camp Elliot, M**	**0.84**	**33**	P	**Pg**	**12 14 10.7**	**0.0**
baz=213,SNR=629
109C S **Sg 12 14 21.3 -0.3**
baz=213
109C Camp Elliot, M 0.84 33 **Pg 12 14 11.2 +0.5**
CPE Camp Elliot 0.84 33 **Pg 12 14 11.2 +0.4**
CPE **Sg 12 14 21.3 -0.4**
CBX Cerro Bola 0.85 81 *e*P **Pb 12 14 11.6 -0.1**
CBX *e*S **Sg 12 14 22.3 +0.4**
CBX Cerro Bola 0.85 81 **Pg 12 14 11.3 +0.5**
CBX **Sg 12 14 21.9 0.0**
CBX Cerro Bola 0.85 81⇑ *e*P **Pg 12 14 11.4 +0.5**
CBX *e*S **Sg 12 14 22.5 +0.6**
CBX IAML 12 14 24.3
comp=E,14μm,0.4s
CBX ⇑*e* 12 14 24.3
CBX *e* 12 14 24.4
CBX IAML 12 14 24.4
comp=N,19μm,0.3s
TJIG Tijuana 0.86 73 *e*P **Pg 12 14 11.6 +0.4**
TJIG *e*S **Sg 12 14 22.3 -0.1**
TJIG Tijuana 0.86 73⇑ *e*P **Pg 12 14 11.1 -0.2**
CCX Cicese 0.90 111 Pn **Pb 12 14 12.1 -0.4**
CCX Cicese 0.90 111⇓ *e*P **Pg 12 14 11.8 0.0**
CCX *e*S **Sg 12 14 23.4 -0.1**
TKX Tecate 0.96 66 Pn **Pg 12 14 11.8 -1.4**
TKX Sn **Sg 12 14 23.6 -2.0**
TKX Tecate 0.96 66⇑ *e*P **Pg 12 14 11.7 -1.4**
BAR Barrett 0.96 59 Pn **Pg 12 14 13.0 -0.2**
BAR Sn **Sg 12 14 24.5 -1.1**
BAR Barrett 0.96 59⇑ *e*P **Pg 12 14 12.8 -0.4**
DPP Dos Picos Cty 1.01 36 **Pg 12 14 13.4 -0.6**
DPP **Sg 12 14 25.2 -1.9**
HWB Hans Werner Br 1.02 35 **Pg 12 14 13.5 -0.7**
HWB **Sg 12 14 26.1 -1.4**
GORC Green Oak Ranc 1.03 20 **Pg 12 14 13.6 -0.8**
GORC **Sg 12 14 25.8 -2.0**
SCI2 San Clemente I 1.09 317 Pn **Pg 12 14 15.5 -0.1**
baz=134,SNR=119
SCI2 Pb **Pn 12 14 16.9 +0.6**
baz=134
SCI2 S **Sn 12 14 32.1 +0.5**
baz=134
SCI2 San Clemente I 1.09 317 **Pg 12 14 15.2 -0.5**
MONP2 Monument Peak 1.25 56 Pn **Pn 12 14 17.4 -1.2**
baz=236,SNR=380
MONP2 Pb **Pb 12 14 18.3 -0.3**
baz=236
MONP2 S **Sb 12 14 32.9 -2.2**
baz=236
MONP2 Monument Peak 1.25 56 **Pn 12 14 17.5 -1.2**
MONP2 **Sb 12 14 32.5 -2.6**
MATG Mataguay Scout 1.32 40 **Pn 12 14 18.1 -1.3**
MATG **Sb 12 14 35.2 -1.6**
PLM Palomar 1.34 30 **Pn 12 14 18.5 -1.4**
PLM **Sb 12 14 33.8 -3.8**
CIAC Catalina I. Ai 1.37 332 **Pn 12 14 18.2 -1.9**
CIS Catalina Islan 1.37 332 P **Pn 12 14 18.2 -1.9**
baz=150,SNR=150
CIS S **Sb 12 14 37.1 -1.1**
baz=150
CBKC Canebrake 1.38 59 **Pn 12 14 19.8 -0.4**
IKP In-Ko-Pah, Jac 1.38 70 Pn **Pn 12 14 19.7 -0.6**
baz=252,SNR=965
IKP Pb **Pb 12 14 20.7 -0.1**
baz=252
IKP Sb **Sb 12 14 37.7 -1.0**
baz=252
IKP In-Ko-Pah, Jac 1.38 70 **Pn 12 14 19.9 -0.4**
IKP **Sb 12 14 37.7 -1.0**
IKP In-Ko-Pah, Jac 1.38 70⇑ *e*P **Pn 12 14 19.8 -0.6**
RMX La Rumorosa 1.39 72 Pn **Pn 12 14 20.4 -0.1**
ESJX Sierra Juarez 1.46 97 Pn **Pn 12 14 20.0 -1.4**
MURC Murrieta 1.46 15 Pn **Pn 12 14 20.0 -1.4**
baz=194,SNR=305
MURC Pb **Pb 12 14 21.6 -0.5**
baz=194
MURC Sb **Sn 12 14 39.4 -1.3**
baz=194
MURC Murrieta 1.46 15 **Pn 12 14 20.0 -1.4**
MURC **Sn 12 14 40.3 -0.4**
ELS Elsinore Mount 1.47 7 **Pn 12 14 20.2 -1.3**
BORC Borrego Spring 1.50 44 **Pn 12 14 21.9 0.0**
BORC **Sn 12 14 40.8 -0.8**
SJX San Joaquin 1.50 106 *e*P **Pn 12 14 20.0 -1.9**
SJX *e*S **Sn 12 14 39.0 -2.5**
SJX IAML 12 14 40.0
comp=N,3μm,0.2s
SJX ⇓*e* 12 14 40.0
SJX *e* 12 14 41.1
SJX IAML 12 14 41.1
comp=E,2μm,0.2s
BACC Bachelor Mtn. 1.51 20 **Pn 12 14 22.2 +0.2**
BACC **Sn 12 14 40.9 -1.0**
SANC Santa Ana 1.53 353 **Pn 12 14 21.2 -1.0**
YUH Yuha Desert 1.53 72 **Pn 12 14 22.2 -0.1**
BZNA Buzz No.'s Pla 1.54 32 **Pn 12 14 21.9 -0.7**
BZNA **Sn 12 14 42.2 -0.7**
SLH Sleepy Hollow 1.55 49 **Pn 12 14 22.8 +0.3**
SLH **Sn 12 14 43.2 +0.4**
CRY Cary Ranch 1.57 29 **Pn 12 14 22.3 -0.7**
CRY **Sn 12 14 43.0 -0.6**
FRD Ford Ranch, An 1.57 34 **Pn 12 14 22.5 -0.5**
FRD **Sn 12 14 43.0 -0.6**
FRD Ford Ranch, An 1.57 34 **Pn 12 14 22.5 -0.5**
FRD **Sn 12 14 42.9 -0.8**
CRR Carrizo Plain 1.58 63 **Pn 12 14 23.2 +0.2**
CRR **Sb 12 14 44.8 +0.5**
HMTC Hemet 1.61 20 **Pn 12 14 23.9 +0.4**
FMP Fort Macarthur 1.61 341 P **Pn 12 14 21.8 -1.6**
baz=159,SNR=9.0
POB Polly Butte 1.62 22 **Pn 12 14 24.2 +0.7**
POB **Sn 12 14 43.9 -0.7**
SNDA J Saunders Pla 1.62 32 **Pn 12 14 23.3 -0.4**
SNDA **Sn 12 14 44.7 0.0**
DNR Dunn Ranch,Anz 1.62 32 **Pn 12 14 23.4 -0.3**
DNR **Sn 12 14 45.1 +0.2**
SME Santa Rosa Min 1.65 9 **Pn 12 14 22.7 -1.2**
GVDA Garner Valley 1.69 29 **Sn 12 14 46.4 -0.2**
SGL Mount Signal 1.69 74 **Pn 12 14 25.0 +0.5**
SGL **Sb 12 14 47.5 0.0**
SWSC Sam W. Stewart 1.74 64 Pn **Pn 12 14 24.6 -0.5**
baz=245,SNR=411
SWSC Pb **Pb 12 14 27.0 +0.3**
baz=245
SWSC Sb **Sb 12 14 48.8 0.0**
baz=245
SWSC Sam W. Stewart 1.74 64 **Pn 12 14 26.0 +0.9**
PFO Pinyon Flats O 1.74 35 P **Pn 12 14 25.1 -0.2**
baz=215,SNR=198
PFO Sb **Sn 12 14 47.6 -0.1**
baz=215
PFO Pinyon Flats O 1.74 35 **Pn 12 14 25.4 +0.1**
PFO **Sn 12 14 47.9 +0.2**
PFO Pinyon Flats O 1.74 35 Pn **Pn 12 14 25.1 -0.2**
XPFO Pion Flat 1.74 35 **Pn 12 14 25.6 +0.3**
PEC Perris 1.75 13 **Pn 12 14 25.2 -0.1**
COK2 Cook Ranch 2 1.75 67 **Pn 12 14 25.6 +0.2**
VTX Valle De La Tr 1.78 116 *e*P **Pn 12 14 24.9 -0.9**
ERRC Elmore Ranch 1.80 59 **Pn 12 14 25.9 -0.1**
PMD Palm Desert 1.81 36 **Pn 12 14 26.4 +0.3**
RVR Riverside 1.82 7 **Pn 12 14 25.4 -0.8**
RVR **Sb 12 14 50.6 -0.4**
RHC Rose Hills Cem 1.83 351 **Pn 12 14 25.6 -0.9**
CFT Crafton Hills 1.90 14 **Pn 12 14 27.5 +0.1**
GVRC Garvey Reservo 1.90 348 **Pn 12 14 26.7 -0.6**
PSRC Puddingstone R 1.90 356 **Pn 12 14 26.7 -0.7**
UABX UABC, Campus M 1.92 76 Pn **Pn 12 14 27.5 -0.1**
SVD Seven Oaks Dam 1.97 13 **Pn 12 14 28.5 +0.1**
PEM Pine Mountain 1.98 355 **Pn 12 14 27.7 -0.8**
SNR Schaffner Ranc 1.99 70 **Pb 12 14 31.2 +0.1**
PASC Pasadena Art C 2.03 347 Pn **Pn 12 14 27.6 -1.5**
EW2 E Wide Canyon 2.04 30 **Pb 12 14 32.5 +0.6**
BFSC Mount Baldy Ra 2.05 360 Pn **Pn 12 14 28.5 -1.0**
baz=179,SNR=65
BFSC Pb **Pb 12 14 31.6 -0.6**
baz=179
BFSC Sb **Sb 12 14 57.3 -0.5**
baz=179
BFSC Mount Baldy Ra 2.05 360 **Pn 12 14 28.6 -1.0**
MWC Mount Wilson 2.06 351 Pn **Pn 12 14 28.5 -1.3**
FRK Frink 2.08 54 **Pn 12 14 30.9 +1.1**
MBIG Mexicali 2.09 83 *e*P **Pn 12 14 30.8 +0.8**
MBIG *e*P **Pb 12 14 33.8 +1.0**
MBIG *e*S **Sn 12 14 54.6 -1.5**
MBIG *e*S **Sg 12 15 00.9 -0.8**
CTW Cottonwood Mou 2.11 45 **Pn 12 14 31.7 +1.4**
XTL Crystal Lake, 2.11 355 **Pn 12 14 29.6 -0.9**
CSP Cedar Springs 2.12 7 **Pn 12 14 30.3 -0.2**
DECC Green Verdugo 2.14 345 P **Pn 12 14 29.5 -1.2**
baz=163,SNR=11
BLAC Blackrock camp 2.15 29 **Pb 12 14 34.2 +0.2**
BBRC Big Bear Solar 2.16 16 P **Pn 12 14 31.2 +0.1**
baz=196,SNR=78
BBRC Sb **Sb 12 15 00.6 -0.5**
baz=196
BBRC Big Bear Solar 2.16 16 **Pn 12 14 31.6 +0.4**
CHFC Chilao Flat St 2.16 352 **Pn 12 14 30.1 -1.1**
SPIG San Pedro Mart 2.18 121 *i* P **Pn 12 14 31.3 -0.3**
SPIG *e*S **Sn 12 14 57.6 -1.3**
SPIG San Pedro Mart 2.18 121⇓ *e*P **Pn 12 14 31.2 -0.3**
SPX San Pedro Mart 2.19 121 *e*P **Pn 12 14 30.8 -0.8**
SPX *e*S **Sn 12 14 56.6 -2.5**
SPX San Pedro Mart 2.19 121 Pn **Pn 12 14 30.6 -1.0**
SQX San Quintin 2.21 136⇓ *e* **Sg 12 15 08.8 +3.2**
SQX IAML 12 15 08.8
comp=N,525nm,0.3s
HAY Hayfield 2.24 47 **Pb 12 14 34.5 -0.9**
JNH Juniper Hills 2.27 354 **Pn 12 14 31.8 -0.7**
HOLC Holcomb Ridge 2.27 356 **Pn 12 14 32.0 -0.6**
BELC Belle Mtn. Jos 2.28 37 P **Pn 12 14 32.6 -0.1**
baz=218,SNR=240
BELC Sb **Sb 12 15 04.8 +0.3**
baz=218
BELC Belle Mtn. Jos 2.28 37 **Pb 12 14 36.2 +0.1**
EMSC East Mesa 2.32 76 **Pn 12 14 33.3 +0.2**
TPC Twentynine Pal 2.34 35 **Pb 12 14 35.7 -1.3**
LRRC Littlerock Res 2.35 352 **Pn 12 14 33.3 -0.3**
BC3 Big Chuckawall 2.36 51 P **Pn 12 14 33.4 -0.4**
baz=232,SNR=124
BC3 Sb **Sb 12 15 07.5 +0.7**
baz=232
GTM Goat Mountain 2.37 27 **Pb 12 14 38.2 +0.6**
CJV Casa Juvan 2.37 350 **Pn 12 14 33.5 -0.5**
SBB Saddle Back Bu 2.50 357 **Pn 12 14 35.7 0.0**
GLA Glamis 2.53 69 P **Pn 12 14 36.0 -0.1**
baz=251,SNR=42
GLA Sb **Sb 12 15 11.5 -0.3**
baz=251
GLA Glamis 2.53 69 Pn **Pn 12 14 35.8 -0.4**
SFX San Felipe 2.65 115 Pn **Pn 12 14 37.0 -0.7**
HYS Haystack Butte 2.67 1 **Pn 12 14 38.5 +0.4**
EDW2 Edwards Air Fo 2.70 354 P **Pn 12 14 38.6 +0.1**
baz=173,SNR=66
EDW2 Sb **Sb 12 15 17.1 +0.5**
baz=173
EDW2 Edwards Air Fo 2.70 354 **Pn 12 14 38.7 +0.2**
TPO Tropico Hills 2.73 350 **Pn 12 14 39.0 +0.2**
RRX Edison Barstow 2.74 11 P **Pn 12 14 39.4 +0.5**
baz=191
RRX Sb **Sb 12 15 18.0 +0.5**
baz=191

HEC	**Hector,Ludlow**	**2.85**	**22**	Pn	**Pn**	**12 14 41.0**	**+0.4**
	baz=203						
HEC				Pb	**Pb**	**12 14 45.8**	**-0.1**
	baz=203,SNR=28						
HEC				Sb	**Sb**	**12 15 22.2**	**+1.1**
	baz=203						
HEC	**Hector,Ludlow**	**2.85**	**22**		**Pb**	**12 14 46.7**	**+0.8**
IRM	**Iron Mountain**	**2.88**	**46**	P	**Pn**	**12 14 42.6**	**+1.8**
	baz=228,SNR=47						
IRM				Sb	**Sb**	**12 15 23.3**	**+1.6**
	baz=228						
CCAC	**Calif City Air**	**2.97**	**354**		**Pn**	**12 14 42.4**	**+0.3**
DTP	**Desert Tortois**	**3.08**	**357**		**Pn**	**12 14 43.9**	**+0.2**
GMRC	**Granite Mounta**	**3.08**	**32**	P	**Pn**	**12 14 44.1**	**+0.3**
	baz=213,SNR=19						
GMRC				Sb	**Sb**	**12 15 28.7**	**+1.1**
	baz=213						
ARVC	**Arvin**	**3.09**	**342**	P	**Pn**	**12 14 44.1**	**+0.3**
	baz=160,SNR=22						
GSC	**Goldstone, Bar**	**3.19**	**13**	P	**Pn**	**12 14 45.6**	**+0.5**
	baz=192,SNR=28						
GSC				Sb	**Sb**	**12 15 31.4**	**+0.8**
	baz=192						
GSC	**Goldstone, Bar**	**3.19**	**13**	Pn	**Pn**	**12 14 45.3**	**+0.2**
PKM	**Mcpherson Peak**	**3.24**	**327**	P	**Pn**	**12 14 47.7**	**+1.7**
	baz=145						
LRMC	**Laurel Mtn Rad**	**3.28**	**360**	P	**Pn**	**12 14 46.9**	**+0.4**
	baz=179,SNR=30						
LRMC				S	**Sn**	**12 15 23.4**	**-2.4**
	baz=179						
LRMC	**Laurel Mtn Rad**	**3.28**	**360**		**Pn**	**12 14 47.0**	**+0.4**
113A	**Mohawk Valley,**	**3.33**	**79**	Pn	**Pn**	**12 14 47.0**	**-0.1**
SRTC	**Snort**	**3.50**	**359**		**Pn**	**12 14 50.0**	**+0.7**
ISA	**Isabella, Lake**	**3.53**	**349**	P	**Pn**	**12 14 50.1**	**+0.2**
	baz=168,SNR=8.6						
ISA	**Isabella, Lake**	**3.53**	**349**	Pn	**Pn**	**12 14 49.9**	**0.0**
TUQ	**Turquoise Moun**	**3.54**	**23**	P	**Pn**	**12 14 50.5**	**+0.4**
	baz=204,SNR=12						
TUQ				Sb	**Sb**	**12 15 42.9**	**+1.9**
	baz=204						
NEE2	**Needles Airpor**	**3.61**	**44**	Sb	**Sb**	**12 15 45.8**	**+3.1**
	baz=225						
TOW	**Tower One**	**3.61**	**359**		**Pn**	**12 14 51.7**	**+0.8**
CLC	**China Lake**	**3.62**	**1**		**Pn**	**12 14 51.6**	**+0.5**
PIX	**Pinacate**	**3.62**	**99**	Pn	**Pn**	**12 14 50.4**	**-0.6**
WNMM	**Nine Mile Cany**	**3.65**	**357**		**Pn**	**12 14 52.0**	**+0.5**
SMMC	**Simmler**	**3.68**	**329**	P	**Pn**	**12 14 52.9**	**+1.0**
	baz=147						
VES	**Vestal, Richgr**	**3.83**	**342**	P	**Pn**	**12 14 54.1**	**+0.1**
	baz=161,SNR=14						
MPMC	**Manual Prospec**	**3.86**	**2**	P	**Pn**	**12 14 55.1**	**+0.5**
	baz=182,SNR=27						
SHOC	**Shoshone, Teco**	**3.88**	**17**	P	**Pn**	**12 14 55.3**	**+0.7**
	baz=197,SNR=5.9						
SHOC				Sb	**Sb**	**12 15 53.4**	**+3.1**
	baz=197						
214A	**Organ Pipe Nat**	**4.12**	**92**	P	**Pn**	**12 14 57.8**	**-0.1**
	baz=275,SNR=8.8						
214A	**Organ Pipe Nat**	**4.12**	**92**	Pn	**Pn**	**12 14 57.4**	**-0.5**
CWC	**Cottonwood Cre**	**4.26**	**355**	P	**Pn**	**12 15 00.8**	**+0.9**
	baz=175						
W13A	**Hualapai Mount**	**4.28**	**46**	Pn	**Pn**	**12 15 01.5**	**+1.2**
FURC	**Furnace Creek,**	**4.32**	**8**	P	**Pn**	**12 15 01.4**	**+0.8**
	baz=188,SNR=13						
SHPR	**Sheep Range**	**4.78**	**25**	Pn	**Pn**	**12 15 07.5**	**+0.5**
PMPB	**Monarch Peak**	**4.79**	**328**	Pn	**Pn**	**12 15 07.8**	**+0.6**
GRAC	**Grapevine Rang**	**4.80**	**3**	P	**Pn**	**12 15 09.2**	**+1.9**
	baz=182,SNR=31						
TPNV	**Topopah Spring**	**4.89**	**13**	P	**Pn**	**12 15 10.1**	**+1.5**
	baz=194,SNR=84						
TPNV				Sb	**Sb**	**12 16 24.1**	**+4.5**
	baz=194						
TPNV	**Topopah Spring**	**4.89**	**13**	Pn	**Pn**	**12 15 09.8**	**+1.2**
MLAC	**Mammoth, Mammo**	**5.52**	**350**	P	**Pn**	**12 15 20.2**	**+2.9**
	baz=169,SNR=6.0						
SAO	**San Andreas Ge**	**5.54**	**327**	Pn	**Pn**	**12 15 17.7**	**+0.3**
MDPB	**Devils Postpil**	**5.56**	**348**	Pn	**Pn**	**12 15 19.9**	**+2.0**
PRN	**Pahroc Range**	**5.63**	**22**	Pn	**Pn**	**12 15 20.5**	**+1.7**
TPH	**Tonopah**	**5.88**	**3**	Pn	**Pn**	**12 15 23.6**	**+1.3**
LCMT	**Little Creek M**	**6.03**	**36**	Pn	**Pn**	**12 15 25.8**	**+1.5**
WUAZ	**Wupatki**	**6.19**	**56**	P	**Pn**	**12 15 29.8**	**+3.3**
	baz=239						
WUAZ	**Wupatki**	**6.19**	**56**	Pn	**Pn**	**12 15 29.1**	**+2.6**
NV11	**Mina Array Sit**	**6.24**	**356**	Pn	**Pn**	**12 15 29.4**	**+2.2**
KNB	**Kanab**	**6.25**	**38**	Pn	**Pn**	**12 15 29.6**	**+2.3**
NVAR	**Mina Array Bea**	**6.25**	**355**	Pn	**Pn**	**12 15 29.1**	**+1.7**
R11A	**Troy Canyon, C**	**6.38**	**15**	P	**Pn**	**12 15 30.6**	**+1.5**
	baz=196						
R11A	**Troy Canyon, C**	**6.38**	**15**	Pn	**Pn**	**12 15 30.7**	**+1.6**
CCUT	**Cedar City**	**6.41**	**32**	Pn	**Pn**	**12 15 34.3**	**+4.7**
RYN	**Ryan**	**6.47**	**354**	Pn	**Pn**	**12 15 32.1**	**+1.9**
SZCU	**Shurtz Canyon**	**6.57**	**34**	Pn	**Pn**	**12 15 33.1**	**+1.4**
KVN	**Kaiserville**	**6.86**	**357**	Pn	**Pn**	**12 15 37.7**	**+2.0**
PSUT	**Pine Spring**	**7.05**	**25**	Pn	**Pn**	**12 15 40.1**	**+1.7**
VCNR	**Virginia City**	**7.28**	**348**	Pn	**Pn**	**12 15 43.9**	**+2.5**
PAHR	**Pah Rah Range**	**7.63**	**350**	Pn	**Pn**	**12 15 49.5**	**+3.2**
121A	**Cookes Peak, D**	**8.35**	**85**	Pn	**Pn**	**12 15 57.6**	**+1.4**
LENM	**Lemitar**	**9.16**	**75**	Pn	**Pn**	**12 16 07.3**	**0.0**
TX31	**Lajitas Ar. Si**	**12.36**	**100**	Pn	**Pn**	**12 16 53.5**	**+2.5**
TX32	**Lajitas Array**	**12.36**	**100**	Pn	**Pn**	**12 16 54.3**	**+3.3**
TXAR	**Lajitas Array**	**12.36**	**100**	Pn	**Pn**	**12 16 53.1**	**+2.1**
YMP	**Mirror Lake Pl**	**13.83**	**23**	Pn	**Pn**	**12 17 06.7**	**-4.5**

*IDC **07** 12:27:22.9±1.4, 6°.89S×127°.33E, h399km±19km, mb3.1/4, mb1 3.1/8, mb1mx2.8/37, mbtmp3.8/8, Error ellipse: s-maj=23.9km s-min=16.7km az=63.0*

ISC 07 12:27:22.4±0.8, 6°.87S±0°.07×127°.5E±0°.1, h400km, n9, σ1°.82/13, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.03**	**229**	P	**Pn**	**12 28 45.0**	**+0.2**
	55nm,0.3s,baz=111,slow=1.4,SNR=37						
BATI				S	**S**	**12 29 49.5**	**-2.1**
	29nm,0.3s,baz=312,slow=20,SNR=21						
SIJI	**Sorong**	**7.06**	**32**	P	**P**	**12 29 08.1**	**+0.7**
	1.4nm,0.3s,baz=328,slow=15,SNR=1.8						
SIJI				S	**S**	**12 30 29.0**	**-3.0**
	4.1nm,0.3s,baz=61,slow=16,SNR=44						
FITZ	**Fitzroy Crossi**	**11.30**	**189**	P	**P**	**12 29 54.5**	**+0.1**
	0.2nm,0.3s,baz=15,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**14.60**	**154**	P	**P**	**12 30 31.0**	**+0.4**
	0.7nm,0.3s,baz=330,slow=12,SNR=40						
WRA				S	**S**	**12 33 02.7**	**-3.6**
	0.1nm,0.3s,baz=326,slow=20,SNR=4.7						
ASAR	**Alice Springs**	**17.80**	**160**	P	**P**	**12 31 05.7**	**+0.8**
	0.5nm,0.3s,baz=347,slow=13,SNR=36						
ASAR				S	**S**	**12 34 08.8**	**-0.3**
	0.1nm,0.3s,baz=334,slow=17,SNR=4.8						
CTA	**Charters Tower**	**22.45**	**128**	P	**P**	**12 31 51.0**	**+1.7**
	2.5nm,0.9s,baz=288,slow=13,SNR=1.4						
STKA	**Stephens Creek**	**28.15**	**154**	P	**P**	**12 32 41.3**	**+1.4**
	1.0nm,0.4s,baz=319,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**66.77**	**328**	P	**P**	**12 37 32.4**	**0.0**
	0.3nm,0.4s,baz=125,slow=7.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**70.39**	**335**	P	**P**	**12 37 54.8**	**+0.6**
	0.5nm,0.5s,baz=136,slow=5.9,SNR=2.8						

*CRAAG **07** 13:19:22.9, 36°.78N×3°.25E, MI2.9*
*MDD **07** 13:19:23.6±0.5, 36°.88N×3°.25E, h0km, mb3.8/5, Error ellipse: s-maj=7.4km s-min=5.3km az=33.0, PRXIMO*

ISC 07 13:19:22.6±1.1, 36°.94N±0°.07×3°.26E±0°.05, h10km, n14, σ1°.56/18, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.22**	**233**	P	**Pg**	**13 19 27.1**	**-0.1**
ABA	**Alger-Bouzarea**	**0.22**	**233**	P	**Pg**	**13 19 27.1**	**-0.1**
ABMS	**Boumerdes**	**0.26**	**136**	P	**Pg**	**13 19 27.8**	**-0.1**
ABMS	**Boumerdes**	**0.26**	**136**	P	**Pg**	**13 19 27.8**	**-0.1**
ADJB	**Djebel Djouab**	**0.79**	**169**	P	**Pg**	**13 19 37.1**	**-0.8**
ADJB	**Djebel Djouab**	**0.79**	**169**	P	**Pg**	**13 19 37.1**	**-0.8**
EIBI	**Ibiza**	**2.58**	**325**	P	**Pn**	**13 20 05.5**	**+1.0**
	1.6nm,0.1s,SNR=6.9						
EIBI				S	**Sn**	**13 20 34.5**	**-1.4**
	6.0nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.85**	**353**	P	**Pn**	**13 20 09.5**	**+1.3**
	1.7nm,0.1s,SNR=20						
ETOS				S	**Sn**	**13 20 40.5**	**-2.1**
	4.4nm,0.5s,SNR=5.7						
ETOB	**Tobarra**	**4.17**	**296**	P	**Pn**	**13 20 28.3**	**+1.9**
	1.3nm,0.2s,SNR=8.3						
ETOB				S	**Sn**	**13 21 13.8**	**-1.5**
	0.8nm,0.4s,SNR=6.3						
ECHE	**Chera**	**4.25**	**310**	P	**Pn**	**13 20 29.4**	**+2.0**
	1.6nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.50**	**321**	P	**Pn**	**13 20 32.6**	**+1.6**
	0.7nm,0.2s,SNR=7.3						
EMOS				S	**Sn**	**13 21 20.9**	**-2.6**
	0.5nm,0.4s,SNR=7.9						
CFON	**Fontmartina**	**4.86**	**353**	P	**Pn**	**13 20 37.3**	**+1.4**
	2.7nm,0.2s,SNR=11						
EJON	**La Jonquera**	**5.51**	**357**	P	**Pn**	**13 20 46.5**	**+1.7**
	0.8nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**5.55**	**357**	P	**Pn**	**13 20 47.0**	**+1.7**
	0.7nm,0.2s,SNR=7.9						

*MDD **07** 13:27:48.3±2.0, 39°.61N×14°.50W, h30km, mb4.6/17, Error ellipse: s-maj=18.9km s-min=13.3km az=88.0, PRXIMO*
*IGIL **07** 13:27:48.3, 39°.65N×14°.18W, h2km, ML3.0*
*INMG **07** 13:27:49.6±2.3, 39°.56N×14°.70W, h10km±72km, ML2.9, Error ellipse: s-maj=41.5km s-min=5.7km az=86.0*
*CNRM **07** 13:27:51.5±1.5, 38°.95N×14°.22W, h16km±38km, Error ellipse: s-maj=42.0km s-min=8.6km az=120.0*

ISC 07 13:27:47.7±3.3, 39°.54N±0°.05×14°.1W±0°.2, h10km, n55, σ2°.10/105, 1C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.79**	**97**	P	**Pn**	**13 28 48.3**	**+2.1**
	19nm,0.1s,SNR=5.7						
PMAFR				S	**Sn**	**13 29 32.6**	**+1.8**
	16nm,0.3s,SNR=7.4						
PMAFR	**Mafra**	**3.79**	**97**	*e*Pn	**Pn**	**13 28 48.8**	**+2.6**
PMAFR				*e*Sn	**Sn**	**13 29 32.9**	**+2.0**
PMAFR				A	A	13 29 38.6	
	30nm,0.3s						
PSBE	**So Bento**	**4.11**	**89**	*e*Pn	**Pn**	**13 28 52.8**	**+2.2**
PSBE				*e*Sn	**Sn**	**13 29 40.3**	**+1.6**
PSBE				A	A	13 29 48.1	
	8.8nm,0.4s						
PCAS	**Casmilo, Conde**	**4.35**	**81**	*e*Pn	**Pn**	**13 28 56.1**	**+2.2**
PCAS				*e*Sn	**Sn**	**13 29 45.6**	**+0.9**
PCAS				A	A	13 29 48.5	
	13nm,0.1s						
COI	**Coimbra**	**4.43**	**80**	*e*Sn	**Sn**	**13 29 48.5**	**+1.9**
PNCL	**Nicolau / Gran**	**4.59**	**106**	*e*Pn	**Pn**	**13 28 58.2**	**+1.1**
PNCL				*e*Sn	**Sn**	**13 29 50.8**	**+0.4**
PNCL				A	A	13 29 55.7	
	6.3nm,0.1s						
PTEO	**Sao Teotonio**	**4.67**	**114**	*e*Pn	**Pn**	**13 28 59.2**	**+1.0**
PTEO				*e*Sn	**Sn**	**13 29 52.1**	**-0.3**
PTEO				A	A	13 29 55.3	
	18nm,0.5s						
PFVI	**Vila Bisbo**	**4.80**	**118**	P	**Pn**	**13 29 00.7**	**+0.7**
	37nm,0.1s,SNR=41						
PFVI				S	**Sn**	**13 29 54.3**	**-1.3**
	8.3nm,0.6s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.80**	**118**	*e*Pn	**Pn**	**13 29 00.7**	**+0.7**
PFVI				*e*Sn	**Sn**	**13 29 55.6**	**-0.1**
MORF	**Marmelete**	**4.83**	**116**	*e*P	**Pn**	**13 29 01.4**	**+0.8**
MORF				*e*S	**Sn**	**13 29 54.6**	**-2.0**
MORF				AML	AML	13 29 58.3	
	comp=N,21nm,0.4s						
MORF	**Marmelete**	**4.83**	**116**	P	**Pn**	**13 29 01.4**	**+0.8**
MORF				S	**Sn**	**13 29 54.6**	**-2.0**
	comp=N,21nm,0.4s						
MORF	**Marmelete**	**4.83**	**116**	*e*Pn	**Pn**	**13 29 01.6**	**+1.1**
MORF				*e*Sn	**Sn**	**13 29 56.3**	**-0.3**
MORF				A	A	13 29 57.5	
	comp=N,15nm,0.2s						
EVO	**Evora**	**4.85**	**100**	P	**Pn**	**13 29 02.6**	**+1.9**
EVO				S	**Sn**	**13 29 57.8**	**+0.8**
EVO	**Evora**	**4.85**	**100**	*e*P	**Pn**	**13 29 02.6**	**+1.9**
EVO				*e*S	**Sn**	**13 29 57.8**	**+0.8**
EVO	**Evora**	**4.85**	**100**	*e*Pn	**Pn**	**13 29 02.4**	**+1.6**
EVO				*e*Sn	**Sn**	**13 29 57.9**	**+0.9**
EVO				A	A	13 30 01.6	
	comp=N,14nm,0.1s						
EZAM	**Zamans**	**4.86**	**56**	P	**Pn**	**13 29 01.8**	**+0.9**
	comp=N,1.0nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**13 29 53.7**	**-3.5**
	comp=N,16nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.91**	**74**	*e*Pn	**Pn**	**13 29 03.3**	**+1.8**
PVIS				*e*Sn	**Sn**	**13 29 59.0**	**+0.6**
PVIS				A	A	13 30 03.9	
	comp=N,18nm,0.1s						
PGAV	**Gavieira, Arco**	**5.05**	**60**	*e*Pn	**Pn**	**13 29 04.8**	**+1.2**
PGAV				*e*Sn	**Sn**	**13 30 00.5**	**-1.6**
PGAV				A	A	13 30 03.7	
	comp=N,12nm,0.1s						
PBEJ	**Beja**	**5.11**	**105**	*e*Pn	**Pn**	**13 29 05.9**	**+1.6**
PBEJ				*e*Sn	**Sn**	**13 30 03.5**	**+0.2**
PBEJ				A	A	13 30 06.2	
	comp=N,5.7nm,0.2s						
PCAB	**Cabril**	**5.11**	**63**	*e*Pn	**Pn**	**13 29 05.4**	**+1.1**
PCAB				*e*Sn	**Sn**	**13 30 03.3**	**-0.1**
PCAB				A	A	13 30 08.5	
	comp=N,17nm,0.2s						
PCVE	**Castro Verde**	**5.12**	**110**	*e*Pn	**Pn**	**13 29 06.2**	**+1.7**
PCVE				*e*Sn	**Sn**	**13 30 04.1**	**+0.4**
PCVE				A	A	13 30 06.9	
	comp=N,6.7nm,0.4s						
PCBR	**Castelo Branco**	**5.13**	**85**	*e*Pn	**Pn**	**13 29 06.5**	**+2.0**
PCBR				*e*Sn	**Sn**	**13 30 04.4**	**+0.7**
PCBR				A	A	13 30 06.9	
	comp=N,10nm,0.1s						
ELOB	**Lobios**	**5.15**	**61**	P	**Pn**	**13 29 05.9**	**+1.0**
	comp=N,2.6nm,0.1s,SNR=29						
ELOB				S	**Sn**	**13 30 02.6**	**-1.9**
	comp=N,3.9nm,0.3s,SNR=5.5						
EMAZ	**Mazaricos**	**5.15**	**47**	P	**Pn**	**13 29 04.9**	**0.0**
	comp=N,1.6nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**13 30 00.2**	**-4.2**
	comp=N,1.6nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**5.20**	**89**	*e*Pn	**Pn**	**13 29 07.4**	**+1.9**
PMRV				*e*Sn	**Sn**	**13 30 06.2**	**+0.6**
PMRV				A	A	13 30 09.4	
	comp=N,11nm,0.3s						
PBDV	**Barranco-do-Ve**	**5.37**	**113**	*e*Pn	**Pn**	**13 29 09.3**	**+1.4**
PBDV				*e*Sn	**Sn**	**13 30 09.2**	**-0.6**
PBDV				A	A	13 30 14.6	
	comp=N,9.2nm,0.2s						
PVAQ	**Vaqueiros**	**5.45**	**111**	P	**Pn**	**13 29 10.6**	**+1.6**
PVAQ				S	**Sn**	**13 30 12.4**	**+0.6**
PVAQ	**Vaqueiros**	**5.45**	**111**	*e*Pn	**Pn**	**13 29 10.6**	**+1.6**
PVAQ				*e*Sn	**Sn**	**13 30 11.4**	**-0.3**
PVAQ				A	A	13 30 15.7	
	comp=N,7.6nm,0.1s						
EGRO	**El Granado**	**5.57**	**109**	⇑P	**Pn**	**13 29 12.3**	**+1.8**
	comp=N,12nm,0.2s,SNR=18						
EGRO				S	**Sn**	**13 30 13.4**	**-1.3**
	comp=N,1.5nm,0.3s						
EAGO	**Agolada(Pontev**	**5.59**	**52**	P	**Pn**	**13 29 11.6**	**+0.7**
	comp=N,2.7nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**13 30 11.8**	**-3.4**
	comp=N,9.9nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**5.65**	**71**	P	**Pn**	**13 29 12.8**	**+1.0**
	comp=N,2.6nm,0.1s,SNR=22						
MVO				S	**Sn**	**13 30 14.2**	**-2.5**
	comp=N,6.6nm,0.2s,SNR=14						
MVO	**Moncorvo**	**5.65**	**71**	*e*Pn	**Pn**	**13 29 13.4**	**+1.7**
MVO				*e*Sn	**Sn**	**13 30 16.4**	**-0.3**
MVO				A	A	13 30 18.6	
	comp=N,14nm,0.4s						
PBRG	**Braganca**	**6.04**	**66**	*e*Pn	**Pn**	**13 29 18.1**	**+1.0**
PBRG				*e*Sn	**Sn**	**13 30 25.6**	**-0.7**
PBRG				A	A	13 30 28.7	
	comp=N,4.3nm,0.3s						
EMIN	**Mina Concepcio**	**6.08**	**105**	P	**Pn**	**13 29 19.4**	**+1.7**
	comp=N,3.7nm,0.2s,SNR=31						
EMIN				S	**Sn**	**13 30 25.8**	**-1.5**
	comp=N,4.8nm,0.7s,SNR=7.9						
ECAL	**Calabor**	**6.09**	**64**	P	**Pn**	**13 29 19.0**	**+1.2**
	comp=N,1.6nm,0.1s,SNR=8.3						
ECAL				S	**Sn**	**13 30 24.6**	**-3.0**
	comp=N,1.8nm,0.3s,SNR=6.0						
EPLA	**Plasencia**	**6.21**	**83**	P	**Pn**	**13 29 21.2**	**+1.8**
	comp=N,1.7nm,0.1s,SNR=10						
EPLA				S	**Sn**	**13 30 28.4**	**-2.0**
	comp=N,3.7nm,0.4s,SNR=5.9						
EPON	**Pontenova**	**6.45**	**52**	P	**Pn**	**13 29 23.7**	**+0.9**
	comp=N,0.8nm,0.1s,SNR=5.9						
EPON				S	**Sn**	**13 30 31.3**	**-5.1**
	comp=N,1.0nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**6.94**	**99**	P	**Pn**	**13 29 31.3**	**+1.8**
	comp=N,0.9nm,0.1s,SNR=18						
ECAB				S	**Sn**	**13 30 48.0**	**-0.6**
	comp=N,2.6nm,0.7s,SNR=7.9						
ESPR	**Espera**	**7.03**	**110**	P	**Pn**	**13 29 33.1**	**+2.5**
	comp=N,2.3nm,0.1s,SNR=14						
ESPR				S	**Sn**	**13 30 50.0**	**-0.5**
	comp=N,13nm,0.8s,SNR=7.9						
HORN	**Hornachuelos**	**7.13**	**101**	P	**Pn**	**13 29 33.3**	**+1.3**
HORN				S	**Sn**	**13 30 57.3**	**+4.3**
PAB	**San Pablo**	**7.54**	**87**	P	**Pn**	**13 29 39.4**	**+1.6**
	comp=N,1.2nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**13 31 00.7**	**-2.7**
	comp=N,0.6nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**7.56**	**97**	P	**Pn**	**13 29 40.1**	**+2.1**
	comp=N,1.4nm,0.1s,SNR=16						
EADA				S	**Sn**	**13 31 02.1**	**-1.8**
	comp=N,1.1nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**7.67**	**58**	P	**Pn**	**13 29 40.1**	**+0.7**
	comp=N,0.4nm,0.1s,SNR=6.2						
EARI				S	**Sn**	**13 31 03.2**	**-3.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.84**	**86**	P	**Pn**	**13 29 43.7**	**+2.0**
	comp=N,0.7nm,0.3s,baz=270,slow=13,SNR=16						
ESDC				S	**Sn**	**13 31 07.8**	**-2.7**
	comp=N,0.4nm,0.3s,baz=269,slow=24,SNR=6.2						
EMIJ	**Mijas**	**7.94**	**109**	P	**Pn**	**13 29 45.5**	**+2.3**
	comp=N,1.4nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**13 31 11.6**	**-1.5**
	comp=N,0.4nm,0.4s,SNR=7.9						
UCM	**Universidad Co**	**8.39**	**81**	P	**Pn**	**13 29 48.2**	**-1.0**
UCM				S	**Sn**	**13 31 20.0**	**-4.0**
UCM	**Universidad Co**	**8.39**	**81**	*e*P	**Pn**	**13 29 48.2**	**-1.0**
UCM				*e*S	**Sn**	**13 31 20.0**	**-4.0**
ELGU	**Los Guajares,**	**8.67**	**105**	P	Pn	13 29 57.8	+4.5
	comp=N,0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**8.81**	**98**	P	**Pn**	**13 29 57.3**	**+2.1**
	comp=N,0.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**13 31 32.4**	**-2.2**
	comp=N,0.5nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**8.83**	**62**	S	**Sn**	**13 31 31.3**	**-3.6**
	comp=N,2.0nm,0.6s,SNR=7.9						
ETOR	**Torete**	**9.32**	**78**	P	**Pn**	**13 30 05.1**	**+3.1**
	comp=N,2.9nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**13 31 43.1**	**-3.9**
	comp=N,2.5nm,0.3s,SNR=7.9						
OUK	**Oukaimeden**	**9.75**	**147**	P	**Pn**	**13 30 05.4**	**-2.9**
OUK				S	**Sn**	**13 31 51.3**	**-6.7**
ETOB	**Tobarra**	**9.81**	**91**	P	**Pn**	**13 30 10.3**	**+1.4**
	comp=N,0.5nm,0.2s,SNR=5.8						
MD31	**MD31**	**10.07**	**129**	P	**Pn**	**13 30 12.4**	**0.0**
MD31				S	**Sn**	**13 32 01.8**	**-3.6**
MDT	**Midelt**	**10.20**	**128**	P	**Pn**	**13 30 14.0**	**-0.2**
MDT				S	**Sn**	**13 32 04.9**	**-3.8**

*IDC **07** 13:31:32.1±3.2, 2°.70N×96°.21E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/40, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=122.9km s-min=30.8km az=62.0*
*DJA **07** 13:31:37.6±1.3, 3°N±4°×9°7E±°, h32km±13km, M3.3/7, MLv3.3/7*

ISC 07 13:31:37.8±1.1, 2°.79N±0°.06×96°.6E±0°.1, h35km, n12, σ0°.94/12, mb3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**0.71**	**49**	P	**Pn**	**13 31 51.4**	**0.0**
TPTI				S	**Sn**	**13 32 01.2**	**+0.1**
MLSI	**Meulaboh, Aceh**	**1.49**	**351**	P	**Pn**	**13 32 02.9**	**+0.8**
MLSI				S	**Sn**	**13 32 19.6**	**-0.7**
GSI	**Gunungsitoli**	**1.74**	**148**	P	**Pn**	**13 32 05.5**	**-0.1**
GSI				S	**Sn**	**13 32 26.2**	**-0.5**
LHMI	**Lhok Sumawe**	**2.44**	**7**	P	**Pn**	**13 32 16.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**15.73**	**8**	Pn	**P**	**13 35 19.1**	**-1.4**
	0.1nm,0.3s,baz=192,slow=13,SNR=1.6						
H08S2	**Diego Garcia H**	**26.23**	**247**	T	T	14 03 52.3	
	baz=68,slow=76,SNR=5.9						
H08S3	**Diego Garcia H**	**26.23**	**247**	T	T	14 03 42.3	
	baz=68,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**26.25**	**247**	T	T	14 03 47.8	
	baz=68,slow=76,SNR=6.2						
ASAR	**Alice Springs**	**44.80**	**128**	P	**P**	**13 39 50.5**	**+1.8**
	0.3nm,0.8s,baz=300,slow=8.2,SNR=2.0						
MKAR	**Makanchi Array**	**45.58**	**346**	P	**P**	**13 39 54.0**	**-0.4**
	0.4nm,0.4s,

baz=100,slow=75,SNR=55
H11S1 WAKE ISLAND Hyl 26.07 279 T T 16 14 51.1
baz=100,slow=75,SNR=74
H11S3 WAKE ISLAND Hyl 26.08 279 T T 16 14 51.9
baz=100,slow=75,SNR=61
H11N3 WAKE ISLAND Hyl 26.09 281 T T 16 14 51.8
baz=100,slow=75,SNR=9.5
H11N2 WAKE ISLAND Hyl 26.11 281 T T 16 14 52.9
baz=100,slow=75,SNR=12
H11N1 WAKE ISLAND Hyl 26.11 281 T T 16 14 50.7
baz=100,slow=75,SNR=11
MKAR Makanchi Array 144.90 33 PKP **PKPab 13 56 16.0 0.0**
comp=E,0.3nm,0.5s,baz=291,slow=2.7,SNR=5.0

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*JMA **07** 13:38:22.2, 23°.86N×121°.91E, h0km, M2.3*
*TAP **07** 13:38:23.7, 24°.05N×121°.68E, h45km, ML2.6, C*
ISC 07 13:38:23.9±1.2, 24°.05N±0°.02×121°.70E±0°.02, h46km±5km, n95, σ1.9°05/183, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=296	**0.10**	**290**	P	**Pn**	**13 38 31.2**	**0.0**
TWD	baz=296			eS	**Sn**	**13 38 36.9**	**+0.6**
HWA	**Hwalien** baz=217	**0.11**	**230**	P	**Pn**	**13 38 32.0**	**+0.7**
HWA	baz=217			S	**Sn**	**13 38 38.6**	**+2.2**
NACB	**Ninganchiao** baz=329	**0.16**	**324**	P	**Pn**	**13 38 31.4**	**-0.2**
NACB	baz=329			S	**Sn**	**13 38 37.0**	**+0.1**
ETLH	**Xiulin Townshi** baz=311	**0.25**	**309**	P	**Pn**	**13 38 32.0**	**-0.3**
ETLH	baz=311			S	**Sn**	**13 38 38.0**	**-0.2**
ESL	**Shilin** baz=222	**0.33**	**226**	P	**Pn**	**13 38 32.4**	**-0.7**
ESL	baz=222			S	**Sn**	**13 38 38.4**	**-1.0**
ENA	**Nanau** baz=10.0	**0.38**	**6**	P	**Pn**	**13 38 34.0**	**+0.5**
ENA	baz=10.0			S	**Sn**	**13 38 40.5**	**+0.2**
WHF	**Hehuan Shan** baz=284	**0.41**	**284**	eP	**Pn**	**13 38 33.9**	**-0.3**
WHF	baz=284			S	**Sn**	**13 38 41.1**	**-0.5**
ENAH	**Nanao** baz=17	**0.41**	**15**	P	**Pn**	**13 38 34.4**	**+0.4**
ENAH	baz=17			S	**Sn**	**13 38 42.3**	**+1.3**
EGFH	**Guangfu** baz=210	**0.45**	**213**	eP	**Pn**	**13 38 33.8**	**-0.5**
EGFH	baz=210			eS	**Sn**	**13 38 40.8**	**-1.0**
FUSS	**Fushou** baz=296	**0.46**	**296**	eP	**Pn**	**13 38 34.6**	**-0.1**
FUSS	baz=296			eS	**Sn**	**13 38 42.2**	**-0.1**
NNSB	**Datong** baz=324	**0.47**	**323**	eP	**Pn**	**13 38 34.5**	**-0.3**
NNSB	baz=324			eS	**Sn**	**13 38 42.0**	**-0.4**
NNSH	**Datong** baz=324	**0.47**	**323**	P	**Pn**	**13 38 34.5**	**-0.3**
NNSH	baz=324			S	**Sn**	**13 38 42.0**	**-0.5**
CHGB	**Renai** baz=271	**0.48**	**272**	eP	**Pn**	**13 38 34.8**	**-0.1**
CHGB	baz=271			eS	**Sn**	**13 38 42.6**	**-0.1**
OWD	**Renai** baz=258	**0.48**	**259**	eP	**Pn**	**13 38 34.9**	**0.0**
OWD	baz=258			eS	**Sn**	**13 38 42.3**	**-0.4**
NNS	**Nan Shan** baz=325	**0.49**	**323**	eP	**Pn**	**13 38 34.6**	**-0.4**
NNS	baz=325			eS	**Sn**	**13 38 42.2**	**-0.6**
TDCB	**Techi** baz=293	**0.53**	**293**	eP	**Pn**	**13 38 35.6**	**+0.2**
TDCB	baz=293			S	**Sn**	**13 38 43.6**	**-0.1**
NDT	**Datong Townshi** baz=344	**0.58**	**343**	eP	**Pn**	**13 38 36.1**	**+0.2**
NDT	baz=344			eS	**Sn**	**13 38 44.5**	**-0.1**
TWC	**Suao** baz=16	**0.58**	**14**	eP	**Pn**	**13 38 36.2**	**+0.3**
TWC	baz=16			eS	**Sn**	**13 38 46.2**	**+1.7**
VWDT	**VWDT** baz=239	**0.59**	**240**	eP	**Pn**	**13 38 36.2**	**+0.1**
VWDT	baz=239			eS	**Sn**	**13 38 44.7**	**0.0**
ENTT	**Nioudou** baz=351	**0.60**	**349**	eP	**Pn**	**13 38 36.0**	**-0.2**
ENTT	baz=351			eS	**Sn**	**13 38 45.7**	**+0.6**
HGSD	**Ruisui** baz=202	**0.61**	**204**	eP	**Pn**	**13 38 36.5**	**+0.2**
HGSD	baz=202			eS	**Sn**	**13 38 46.0**	**+0.9**
EHY	**Hungye** baz=210	**0.64**	**213**	eP	**Pn**	**13 38 36.8**	**0.0**
EHY	baz=210			eS	**Sn**	**13 38 44.3**	**-1.6**
TWE	**Neicheng**	**0.67**	**358**	P	**Pn**	**13 38 37.4**	**+0.2**
TWE				eS	**Sn**	**13 38 47.0**	**+0.4**
WHP	**Taichung City** baz=288	**0.72**	**289**	eP	**Pn**	**13 38 38.6**	**+0.7**
WHP	baz=288			eS	**Sn**	**13 38 48.4**	**+0.4**
SSLB	**Suanglung** baz=248	**0.73**	**249**	eP	**Pn**	**13 38 38.2**	**+0.3**
SSLB	baz=248			eS	**Sn**	**13 38 47.2**	**-0.8**
SMLT	**Sun Moon Lake** baz=256	**0.75**	**258**	eP	**Pn**	**13 38 38.9**	**+0.6**
SMLT	baz=256			eS	**Sn**	**13 38 48.7**	**+0.1**
YULB	**Yu-li** baz=207	**0.75**	**209**	eP	**Pn**	**13 38 36.6**	**-1.5**
YULB	baz=207			eS	**Sn**	**13 38 46.8**	**-1.7**
NWLT	**Wulai** baz=347	**0.75**	**346**	eP	**Pn**	**13 38 38.3**	**+0.1**
NWLT	baz=347			eS	**Sn**	**13 38 49.4**	**+0.9**
EYUL	**Yuli** baz=205	**0.78**	**206**	eP	**Pn**	**13 38 39.2**	**+0.6**
EYUL	baz=205			eS	**Sn**	**13 38 49.6**	**+0.4**
TWF1	**Yuli** baz=206	**0.78**	**208**	eP	**Pn**	**13 38 38.8**	**+0.2**
TWF1	baz=206			eS	**Sn**	**13 38 48.0**	**-1.3**
NTC	**Toucheng** baz=9.0	**0.81**	**9**	eP	**Pn**	**13 38 38.8**	**-0.3**
NTC	baz=9.0			eS	**Sn**	**13 38 52.3**	**+2.3**
EGS	baz=17	**0.82**	**15**	eP	**Pn**	**13 38 39.9**	**+0.7**
EGS	baz=17			eS	**Sn**	**13 38 51.3**	**+1.1**
WHYT	**Xinyi Township** baz=245	**0.85**	**246**	eP	**Pn**	**13 38 40.6**	**+1.1**
WHYT	baz=245			eS	**Sn**	**13 38 52.6**	**+1.7**
LIOB	**Emei** baz=314	**0.86**	**314**	eP	**Pn**	**13 38 40.5**	**+0.8**
LIOB	baz=314			eS	**Sn**	**13 38 52.6**	**+1.4**
NSTT	**Nanjuang** baz=313	**0.86**	**313**	eP	**Pn**	**13 38 41.0**	**+1.4**
NSTT	baz=313			eS	**Sn**	**13 38 52.3**	**+1.2**
TWQ1	**Liyutan** baz=289	**0.89**	**290**	eP	**Pn**	**13 38 40.3**	**+0.1**
TWQ1	baz=289			eS	**Sn**	**13 38 53.1**	**+1.1**
WJS	**Zhushan** baz=255	**0.91**	**256**	eP	**Pn**	**13 38 41.2**	**+0.8**
WJS	baz=255			eS	**Sn**	**13 38 54.6**	**+2.1**
FULB	**Fuli** baz=202	**0.92**	**204**	eP	**Pn**	**13 38 40.7**	**+0.2**
TIPB	**Shuangxi** baz=8.0	**0.93**	**7**	eP	**Pn**	**13 38 41.2**	**+0.5**
TIPB	baz=8.0			eS	**Sn**	**13 38 55.3**	**+2.4**
NSY	**Sanyi** baz=293	**0.93**	**293**	eP	**Pn**	**13 38 40.1**	**-0.5**
NSY	baz=293			eS	**Sn**	**13 38 50.7**	**-2.1**
TWA	**Mucha** baz=355	**0.94**	**354**	eP	**Pn**	**13 38 41.9**	**+1.2**
TWA	baz=355			eS	**Sn**	**13 38 53.5**	**+0.4**
WNT	**Mingjian** baz=259	**0.94**	**260**	eP	**Pn**	**13 38 41.6**	**+0.9**
WNT	baz=259			eS	**Sn**	**13 38 55.2**	**+2.1**
TATO	**Taipei** baz=350	**0.94**	**348**	eP	**Pn**	**13 38 39.9**	**-0.9**
TATO	baz=350			eS	**Sn**	**13 38 53.6**	**+0.4**
NMLH	**Miaoli** baz=301	**0.96**	**301**	eP	**Pn**	**13 38 40.3**	**-0.7**
NMLH	baz=301			eS	**Sn**	**13 38 54.2**	**+0.6**
ALS	**Alishan** baz=235	**0.97**	**237**	eP	**Pn**	**13 38 41.8**	**+0.3**
ALS	baz=235			eS	**Sn**	**13 38 55.1**	**+0.8**
PTSB	**Yuanli** baz=294	**0.99**	**294**	eP	**Pn**	**13 38 42.1**	**+0.7**
PTSB	baz=294			eS	**Sn**	**13 38 54.7**	**+0.4**
CHKT	**Chengkung** baz=196	**0.99**	**198**	eP	**Pn**	**13 38 41.8**	**+0.4**
CHKT	baz=196			eS	**Sn**	**13 38 54.1**	**-0.2**
NWF	**Wu-fen Shan** baz=5.0	**1.02**	**4**	eP	**Pn**	**13 38 42.8**	**+0.9**
NWF	baz=5.0			eS	**Sn**	**13 38 55.7**	**+0.5**
WFSB	**Wu-fen Shan** baz=5.0	**1.02**	**4**	eP	**Pn**	**13 38 42.9**	**+1.0**
WFSB	baz=5.0			eS	**Sn**	**13 38 55.7**	**+0.6**
CHN5	**Tsauling** baz=243	**1.03**	**245**	eP	**Pn**	**13 38 42.5**	**+0.4**
CHN5	baz=243			eS	**Sn**	**13 38 57.2**	**+1.7**
ELDTW	**Lidau** baz=214	**1.06**	**216**	eP	**Pn**	**13 38 41.6**	**-0.9**
ELDTW	baz=214			eS	**Sn**	**13 38 55.0**	**-1.1**
TWS1	**Kuangyinshan** baz=347	**1.08**	**346**	eP	**Pn**	**13 38 43.0**	**+0.3**
TWS1	baz=347			eS	**Sn**	**13 38 57.4**	**+0.9**
WGK	**Gukeng** baz=250	**1.10**	**251**	eP	**Pn**	**13 38 44.0**	**+1.1**
WGK	baz=250			eS	**Sn**	**13 38 57.4**	**+0.5**
YM01	**YM01** baz=354	**1.10**	**354**	eP	**Pn**	**13 38 43.4**	**+0.4**
YM01	baz=354			eS	**Sn**	**13 38 57.8**	**+0.7**
YM10	**YM10** baz=354	**1.11**	**354**	eP	**Pn**	**13 38 43.4**	**+0.3**
YM10	baz=354			eS	**Sn**	**13 38 56.6**	**-0.8**
YM04	**YM04** baz=353	**1.11**	**353**	eP	**Pn**	**13 38 43.6**	**+0.4**
YM04	baz=353			eS	**Sn**	**13 38 58.0**	**+0.7**
WDLH	**Douliu** baz=251	**1.12**	**252**	eP	**Pn**	**13 38 44.0**	**+0.8**
WDLH	baz=251			eS	**Sn**	**13 38 59.4**	**+2.0**
YM05	**YM05** baz=354	**1.12**	**354**	eP	**Pn**	**13 38 43.6**	**+0.4**
YM05	baz=354			eS	**Sn**	**13 38 57.4**	**-0.1**
EDH	**Donghe** baz=197	**1.13**	**199**	P	**Pn**	**13 38 42.3**	**-1.1**
EDH	baz=197			eS	**Sn**	**13 38 57.2**	**-0.5**
YM08	**YM08** baz=356	**1.14**	**355**	eS	**Sn**	**13 38 58.6**	**+0.6**
JYNG	**Yonagunijimaku**	**1.21**	**70**	P	**Pn**	**13 38 44.2**	**-0.2**
JYNG				eS	**Sn**	**13 38 59.4**	**-0.2**
TPUB	**Ta-pu** baz=232	**1.23**	**233**	P	**Pn**	**13 38 45.2**	**+0.5**
TPUB	baz=232			S	**Sn**	**13 39 01.7**	**+1.5**
CHN2	**Minshiung** baz=244	**1.23**	**246**	eP	**Pn**	**13 38 44.8**	**+0.1**
STYT	**Tauyuan** baz=223	**1.23**	**225**	eP	**Pn**	**13 38 45.3**	**+0.5**
STYT	baz=223			eS	**Sn**	**13 39 01.1**	**+0.8**
RLNB	**Erlin** baz=262	**1.23**	**263**	eP	**Pn**	**13 38 45.1**	**+0.4**
RLNB	baz=262			eS	**Sn**	**13 39 02.4**	**+2.2**
LONT	**Longtian** baz=203	**1.25**	**205**	eP	**Pn**	**13 38 44.7**	**-0.3**
LONT	baz=203			eS	**Sn**	**13 38 59.2**	**-1.5**
WTK	**Tuku** baz=253	**1.25**	**254**	eP	**Pn**	**13 38 45.0**	**0.0**
WTK	baz=253			eS	**Sn**	**13 39 02.6**	**+2.0**
YOJ	**Yonaguni jima**	**1.27**	**71**	P	**Pn**	**13 38 45.0**	**-0.2**
YOJ				eS	**Sn**	**13 39 00.2**	**-0.9**
WTP	**Ta-pu** baz=230	**1.27**	**231**	eP	**Pn**	**13 38 45.9**	**+0.6**
WTP	baz=230			eS	**Sn**	**13 39 03.8**	**+2.5**
CHY	**Chiayi** baz=244	**1.29**	**245**	eP	**Pn**	**13 38 46.5**	**+1.0**
CHY	baz=244			eS	**Sn**	**13 39 03.6**	**+2.1**
WTCT	**Ta-ch'eng** baz=261	**1.31**	**262**	eS	**Sn**	**13 39 02.7**	**+0.6**
TWGBT	**Beinan** baz=204	**1.35**	**205**	eP	**Pn**	**13 38 46.6**	**+0.2**
TWGBT	baz=204			eS	**Sn**	**13 39 03.6**	**+0.5**
TWG	**Pinlang** baz=204	**1.35**	**205**	eP	**Pn**	**13 38 46.5**	**+0.2**
TWG	baz=204			eS	**Sn**	**13 39 01.6**	**-1.4**
CHN1	**Nanshi** baz=230	**1.37**	**232**	eP	**Pn**	**13 38 47.5**	**+0.9**
CHN1	baz=230			eS	**Sn**	**13 39 05.6**	**+1.9**
SNST	**Tainan City** baz=232	**1.37**	**233**	eP	**Pn**	**13 38 46.7**	**+0.1**
SNST	baz=232			eS	**Sn**	**13 39 05.6**	**+1.9**
LDUT	**Ludao** baz=187	**1.38**	**189**	eS	**Sn**	**13 39 03.3**	**-0.6**
SGST	**Jiashian** baz=225	**1.40**	**227**	eP	**Pn**	**13 38 47.2**	**+0.2**
SGST	baz=225			eS	**Sn**	**13 39 05.7**	**+1.2**
ICHU	**Yijhu** baz=241	**1.47**	**243**	eP	**Pn**	**13 38 48.5**	**+0.6**
ICHU	baz=241			eS	**Sn**	**13 39 07.7**	**+1.7**
TSMG	**Majia** baz=215	**1.65**	**216**	eP	**Pn**	**13 38 51.3**	**+0.8**
TSMG	baz=215			eS	**Sn**	**13 39 10.3**	**-0.1**
MASBT	**Mashibuluo** baz=213	**1.73**	**215**	eP	**Pn**	**13 38 52.6**	**+1.0**
MASBT	baz=213			eS	**Sn**	**13 39 13.1**	**+0.6**
EAST	**Anshuo** baz=204	**1.83**	**205**	eP	**Pn**	**13 38 55.7**	**+2.7**
EAST	baz=204			eS	**Sn**	**13 39 16.2**	**+1.3**
IRIF	**Iriomote-Funau**	**1.88**	**81**	P	**Pn**	**13 38 53.2**	**-0.4**
IRIF				eS	**Sn**	**13 39 16.0**	**-0.1**
SCZT	**Fangliau** baz=209	**1.94**	**211**	eP	**Pn**	**13 38 56.0**	**+1.6**
SCZT	baz=209			eS	**Sn**	**13 39 18.0**	**+0.4**
SLIU	**Shizi** baz=203	**2.00**	**205**	eP	**Pn**	**13 38 56.8**	**+1.6**
SLIU	baz=203			eS	**Sn**	**13 39 19.1**	**0.0**
PHUB	**P'eng-hu** baz=254	**2.02**	**255**	eP	**Pn**	**13 38 54.6**	**-0.8**
PHUB	baz=254			eS	**Sn**	**13 39 18.8**	**-0.7**
PNG	**Penghu** baz=256	**2.02**	**257**	eP	**Pn**	**13 38 53.4**	**-2.1**
PNG	baz=256			eS	**Sn**	**13 39 18.6**	**-0.9**
WDGT	**Dungji** baz=246	**2.02**	**248**	P	**Pn**	**13 38 55.1**	**-0.4**
WDGT	baz=246			eS	**Sn**	**13 39 19.6**	**-0.1**
JKRS	**Kuro-shima**	**2.12**	**84**	P	**Pn**	**13 38 57.3**	**+0.4**
JKRS				eS	**Sn**	**13 39 23.1**	**+1.0**
VWUC	**VWUC** baz=294	**2.25**	**295**	eP	**Pn**	**13 38 57.2**	**-1.5**
VWUC	baz=294			eS	**Sn**	**13 39 22.2**	**-3.1**
JIJ	**Ishigaki jima**	**2.26**	**81**	P	**Pn**	**13 38 58.3**	**-0.5**
JIJ				eS	**Sn**	**13 39 24.0**	**-1.4**
PTTC	**Pingtan** baz=309	**2.27**	**310**	eP	**Pn**	**13 38 59.3**	**+0.4**
PTTC	baz=309			eS	**Sn**	**13 39 22.8**	**-2.9**
JISG	**Ishigakijimahi**	**2.45**	**77**	P	**Pn**	**13 39 00.7**	**-0.7**
PTMZ	**Houxiangcun** baz=292	**2.54**	**293**	eP	**Pn**	**13 39 01.3**	**-1.4**
PTMZ	baz=292			eS	**Sn**	**13 39 29.2**	**-3.2**
MATB	**Ma-tsu** baz=322	**2.63**	**323**	eP	**Pn**	**13 39 03.2**	**-0.7**
MATB	baz=322			eS	**Sn**	**13 39 33.2**	**-1.3**
JTJ	**Tarama**	**2.81**	**77**	eS	**Sn**	**13 39 38.4**	**-0.5**

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*JMA **07** 14:08:36.4±0.1, 24°.47N×122°.07E, h72km±2km, M2.0*
*TAP **07** 14:08:36.6, 24°.52N×122°.08E, h66km, ML2.5, D*
ISC 07 14:08:37.0±1.2, 24°.53N±0°.03×122°.07E±0°.02, h67km±6km, n83, σ0.9°95/142, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=295	**0.22**	**292**	eP	**Pn**	**14 08 47.5**	**+0.2**
TWC	baz=295			S	**Sn**	**14 08 54.8**	**-0.2**
ENAH	**Nanao** baz=254	**0.25**	**252**	P	**Pn**	**14 08 47.6**	**0.0**
ENAH	baz=254			S	**Sn**	**14 08 55.5**	**+0.3**
ENA	**Nanau** baz=253	**0.32**	**252**	P	**Pn**	**14 08 48.0**	**0.0**
ENA	baz=253			S	**Sn**	**14 08 56.2**	**+0.1**
EGS	baz=339	**0.34**	**338**	eS	**Sn**	**14 08 56.2**	**-0.1**
NTC	**Toucheng** baz=326	**0.39**	**326**	eS	**Sn**	**14 08 56.5**	**-0.5**
TWE	**Neicheng** baz=299	**0.42**	**297**	eP	**Pn**	**14 08 49.2**	**+0.4**
TWE	baz=299			eS	**Sn**	**14 08 57.9**	**+0.5**
ENTT	**Nioudou** baz=284	**0.48**	**284**	eP	**Pn**	**14 08 49.7**	**+0.4**
ENTT	baz=284			eS	**Sn**	**14 08 58.9**	**+0.5**
TIPB	**Shuangxi** baz=333	**0.50**	**333**	eP	**Pn**	**14 08 49.1**	**-0.5**
TIPB	baz=333			eS	**Sn**	**14 08 57.9**	**-0.9**
NDT	**Datong Townshi** baz=279	**0.52**	**278**	P	**Pn**	**14 08 49.9**	**+0.2**
NDT	baz=279			eS	**Sn**	**14 08 58.2**	**-0.9**
NACB	**Ninganchiao** baz=232	**0.56**	**231**	eP	**Pn**	**14 08 49.8**	**-0.3**
NACB	baz=232			eS	**Sn**	**14 08 59.8**	**-0.1**
NWLT	**Wulai** baz=296	**0.58**	**296**	eP	**Pn**	**14 08 50.7**	**+0.4**
NWLT	baz=296			eS	**Sn**	**14 09 00.7**	**+0.5**
WFSB	**Wu-fen Shan** baz=334	**0.60**	**334**	eS	**Sn**	**14 08 59.9**	**-0.7**
TWD	**Chiawan** baz=224	**0.62**	**224**	eP	**Pn**	**14 08 50.6**	**-0.2**
TWD	baz=224			eS	**Sn**	**14 09 01.1**	**+0.1**
ETLH	**Xiulin Townshi** baz=240	**0.63**	**239**	eP	**Pn**	**14 08 50.7**	**-0.3**
ETLH	baz=240			eS	**Sn**	**14 09 00.7**	**-0.6**
TWA	**Mucha** baz=316	**0.63**	**315**	eP	**Pn**	**14 08 51.5**	**+0.5**
TWA	baz=316			eS	**Sn**	**14 09 01.3**	**0.0**
NNSB	**Datong** baz=262	**0.64**	**261**	eP	**Pn**	**14 08 51.1**	**0.0**
NNSB	baz=262			eS	**Sn**	**14 09 01.5**	**0.0**
NNSH	**Datong** baz=262	**0.64**	**261**	eP	**Pn**	**14 08 51.1**	**0.0**
NNSH	baz=262			eS	**Sn**	**14 09 01.5**	**0.0**
NNS	**Nan Shan** baz=263	**0.65**	**262**	eP	**Pn**	**14 08 51.3**	**+0.1**
NNS	baz=263			eS	**Sn**	**14 09 01.6**	**-0.1**
TATO	**Taipei** baz=310	**0.69**	**310**	eP	**Pn**	**14 08 51.7**	**+0.1**
TATO	baz=310			eS	**Sn**	**14 09 02.8**	**+0.4**
YM01	**YM01** baz=323	**0.77**	**323**	eP	**Pn**	**14 08 53.1**	**+0.6**
YM01	baz=323			eS	**Sn**	**14 09 04.2**	**+0.2**
YM10	**YM10** baz=323	**0.78**	**323**	eS	**Sn**	**14 09 05.1**	**+0.8**
YM05	**YM05** baz=324	**0.78**	**324**	eS	**Sn**	**14 09 04.8**	**+0.4**
YM08	**YM08** baz=326	**0.79**	**326**	eS	**Sn**	**14 09 03.3**	**-1.2**
YM04	**YM04** baz=322	**0.79**	**322**	eP	**Pn**	**14 08 53.1**	**+0.3**
YM04	baz=322			eS	**Sn**	**14 09 03.7**	**-0.8**
JYNG	**Yonagunijimaku**	**0.80**	**95**	P	**Pn**	**14 08 52.8**	**0.0**
JYNG				eS	**Sn**	**14 09 04.4**	**-0.1**
FUSS	**Fushou** baz=250	**0.81**	**250**	eP	**Pn**	**14 08 53.3**	**+0.1**
FUSS	baz=250			eS	**Sn**	**14 09 05.0**	**-0.2**
TWS1	**Kuangyinshan** baz=314	**0.82**	**314**	eP	**Pn**	**14 08 53.4**	**+0.2**
TWS1	baz=314			eS	**Sn**	**14 09 05.8**	**+0.7**
WHF	**Hehuan Shan** baz=243	**0.83**	**243**	eP	**Pn**	**14 08 53.7**	**0.0**
WHF	baz=243			eS	**Sn**	**14 09 05.4**	**-0.6**
NTST	**Danshui** baz=318	**0.85**	**318**	eS	**Sn**	**14 09 06.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.86**	**94**	P	**Pn**	**14 08 53.4**	**-0.1**
YOJ				eS	**Sn**	**14 09 06.2**	**+0.4**
TDCB	**Techi** baz=252	**0.88**	**252**	eP	**Pn**	**14 08 54.5**	**+0.6**
TDCB	baz=252			eS	**Sn**	**14 09 06.5**	**0.0**
ESL	**Shilin** baz=219	**0.92**	**220**	eP	**Pn**	**14 08 53.5**	**-0.8**
ESL	baz=219			eS	**Sn**	**14 09 06.5**	**-0.7**
CHGB	**Renai** baz=241	**0.94**	**241**	eP	**Pn**	**14 08 54.8**	**0.0**
CHGB	baz=241			eS	**Sn**	**14 09 07.6**	**-0.5**
LIOB	**Emei** baz=277	**0.97**	**277**	eP	**Pn**	**14 08 55.1**	**+0.2**
LIOB	baz=277			eS	**Sn**	**14 09 09.2**	**+0.8**
NSTT	**Nanjuang** baz=276	**0.98**	**276**	eP	**Pn**	**14 08 55.3**	**+0.2**
NSTT				eS	**Sn**	**14 09 09.1**	**+0.5**

	baz=276						
EGFH	Guangfu	1.04	215	eP		Pn	14 08 54.7 -1.1
	baz=215						
EGFH				eS		Sn	14 09 08.6 -1.3
	baz=215						
NHW	Xinwu Township	1.05	297	eS		Sn	14 09 10.8 +0.7
	baz=297						
WHP	Taichung City	1.06	257	eP		Pn	14 08 57.3 +1.1
	baz=257						
WHP				eS		Sn	14 09 11.3 +0.8
	baz=257						
VWDT	VWDT	1.15	228	eP		Pn	14 08 57.3 +0.1
	baz=228						
VWDT				eS		Sn	14 09 12.1 -0.2
	baz=228						
NMLH	Miaoli	1.17	271	eS		Sn	14 09 13.0 +0.2
	baz=271						
HGSD	Ruisui	1.19	210	eP		Pn	14 08 57.4 -0.4
	baz=210						
HGSD				eS		Sn	14 09 14.2 +0.8
	baz=210						
EHY	Hungye	1.23	214	eP		Pn	14 08 57.1 -1.2
	baz=214						
EHY				eS		Sn	14 09 12.0 -2.2
	baz=214						
SMLT	Sun Moon Lake	1.25	239	eP		Pn	14 08 59.5 +0.9
	baz=239						
SMLT				eS		Sn	14 09 17.0 +2.2
	baz=239						
SSLB	Suanglung	1.26	234	eP		Pn	14 08 59.1 +0.4
	baz=234						
SSLB				eS		Sn	14 09 16.1 +1.0
	baz=234						
TYC	Yuchr	1.27	241	eP		Pn	14 08 60.0 +1.2
	baz=241						
TYC				eS		Sn	14 09 17.4 +2.2
	baz=241						
YULB	Yu-li	1.33	212	eP		Pn	14 08 58.6 -1.1
	baz=212						
YULB				eS		Sn	14 09 16.6 -0.2
	baz=212						
EYUL	Yuli	1.36	211	eP		Pn	14 09 00.3 +0.2
	baz=210						
TWF1	Yuli	1.37	211	eP		Pn	14 08 58.9 -1.3
	baz=211						
TWF1				eS		Sn	14 09 16.4 -1.1
	baz=211						
WHYT	Xinyi Township	1.39	234	eS		Sn	14 09 20.0 +1.9
	baz=233						
WJS	Zhushan	1.42	241	eS		Sn	14 09 20.6 +2.0
	baz=240						
WNT	Mingjian	1.43	243	eS		Sn	14 09 20.1 +1.3
	baz=243						
FULB	Fuli	1.50	209	eP		Pn	14 09 01.4 -0.5
	baz=208						
FULB				eS		Sn	14 09 20.3 -0.4
	baz=208						
IRIF	Iriomote-Funau	1.52	97	P		Pn	14 09 01.9 -0.2
IRIF				eS		Sn	14 09 20.4 -0.7
ALS	Alishan	1.54	229	eP		Pn	14 09 03.5 +0.8
	baz=229						
ALS				eS		Sn	14 09 22.6 +0.6
	baz=229						
CHN5	Tsauling	1.58	234	eP		Pn	14 09 03.8 +0.9
	baz=234						
CHN5				eS		Sn	14 09 24.1 +1.5
	baz=234						
WDLH	Douliu	1.63	240	eS		Sn	14 09 25.0 +1.2
	baz=239						
ELDTW	Lidau	1.65	216	eP		Pn	14 09 03.1 -0.8
	baz=216						
ELDTW				eS		Sn	14 09 23.5 -0.8
	baz=216						
EDH	Donghe	1.70	205	eP		Pn	14 09 02.9 -1.6
	baz=204						
EDH				eS		Sn	14 09 23.2 -2.2
	baz=204						
WTK	Tuku	1.75	242	eP		Pn	14 09 05.5 +0.3
	baz=241						
WTK				eS		Sn	14 09 27.2 +0.5
	baz=241						
JKRS	Kuro-shima	1.79	99	P		Pn	14 09 06.2 +0.5
JKRS				eS		Sn	14 09 28.1 +0.6
TPUB	Ta-pu	1.80	228	eS		Sn	14 09 30.2 +2.3
	baz=227						
LONT	Longtian	1.83	208	eP		Pn	14 09 06.1 -0.2
	baz=208						
LONT				eS		Sn	14 09 28.4 -0.2
	baz=208						
WTP	Ta-pu	1.85	227	eP		Pn	14 09 07.5 +1.0
	baz=226						
WTP				eS		Sn	14 09 29.9 +0.9
	baz=226						
JIJ	Ishigaki jima	1.89	95	P		Pn	14 09 07.0 -0.1
JIJ				eS		Sn	14 09 29.8 -0.2
WSF	Szhu	1.91	243	eS		Sn	14 09 31.0 +0.6
	baz=242						
TWGBT	Beinan	1.93	208	eP		Pn	14 09 07.7 +0.1
	baz=208						
TWGBT				eS		Sn	14 09 29.9 -1.1
	baz=208						
TWG	Pinlang	1.93	209	eP		Pn	14 09 08.0 +0.4
	baz=208						
TWG				eS		Sn	14 09 30.6 -0.4
	baz=208						
SNST	Tainan City	1.94	228	eS		Sn	14 09 32.1 +0.8
	baz=228						
CHN1	Nanshi	1.95	227	eP		Pn	14 09 08.8 +1.0
	baz=226						
CHN1				eS		Sn	14 09 32.5 +1.1
	baz=226						
JISG	Ishigakijimahi	2.04	88	P		Pn	14 09 09.1 +0.1
JISG				eS		Sn	14 09 33.8 +0.3
TSMG	Majia	2.24	216	eS		Sn	14 09 40.3 +1.9
	baz=216						
MASBT	Mashibuluo	2.32	215	eP		Pn	14 09 14.4 +1.5
	baz=214						
MASBT				eS		Sn	14 09 40.0 -0.4
	baz=214						
JTJ	Tarama	2.40	87	P		Pn	14 09 14.6 +0.7
JTJ				eS		Sn	14 09 43.7 +1.5
EAST	Anshuo	2.41	208	eP		Pn	14 09 15.2 +1.0
	baz=207						
EAST				eS		Sn	14 09 41.4 -1.3
	baz=207						
VWUC	VWUC	2.43	281	eP		Pn	14 09 13.9 -0.5
	baz=281						
VWUC				eS		Sn	14 09 40.3 -2.7
	baz=281						
PNG	Penghu	2.49	248	eS		Sn	14 09 42.8 -1.8
	baz=247						
PHUB	P'eng-hu	2.50	247	eS		Sn	14 09 43.6 -1.2
	baz=246						
MATB	Ma-tsu	2.51	310	eP		Pn	14 09 14.9 -0.6
	baz=309						
MATB				eS		Sn	14 09 43.6 -1.5
	baz=309						
SCZT	Fangliau	2.53	212	eP		Pn	14 09 17.1 +1.4
	baz=211						
WDGT	Dungji	2.54	241	eP		Pn	14 09 16.5 +0.5
	baz=240						
WDGT				eS		Sn	14 09 44.7 -1.1
	baz=240						
SLIU	Shizi	2.58	207	eP		Pn	14 09 16.7 +0.2
	baz=207						
PTMZ	Houxiangcun	2.73	281	eS		Sn	14 09 46.6 -3.8
	baz=281						
HEN	Hengchun	2.79	206	eS		Sn	14 09 51.1 -0.9
	baz=206						

*KRNET **07** 14:27:12.3±0.1, 41.°21N×72.°78E, h10km, mb3.0*
*NNC **07** 14:27:12.9±1.0, 41.°23N×72.°75E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=9.0km s-min=3.4km az=174.0*
*SOME **07** 14:27:12.6, 41.°17N×72.°72E, h15km*
ISC 07 14:27:11.8±1.2, 41.°19N±0.°02×72.°78E±0.°02, h2km±14km, n55, σ1°55/87, 32C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	Osh	0.66	180	⇑iP		Pg	14 27 25.6 +1.1
	baz=80						
OHH				⇑iS		Sg	14 27 34.8 +1.7
	baz=80						
ARK	Arkit	0.86	315	⇑iP		Pg	14 27 27.7 -0.7
	baz=14						
ARK				⇑iS		Sg	14 27 39.9 +0.2
	baz=14						
AML	Almayashu	1.17	36	⇑iP		Pg	14 27 34.1 -0.1
	baz=36						
AML				⇑iS		Sg	14 27 50.2 +0.9
	baz=36						
AML	Almayashu	1.17	36	P		Pg	14 27 34.6 +0.5
	SNR=10						
ARLS	Aral	1.34	59	⇑iP		Pn	14 27 37.6 -0.1
	baz=60						
ARLS				⇑iS		Sg	14 27 56.0 +1.1
	baz=60						
MRKS	Merke	1.59	12	eP		Pb	14 27 42.0 0.0
	24nm,0.6s						
MRKS				eS		Sg	14 28 03.1 +0.1
	45nm,0.3s						
MRKS	Merke	1.59	12	P		Pb	14 27 42.0 0.0
	24nm,0.6s						
MRKS				S		Sg	14 28 03.1 +0.1
	45nm,0.3s						
EKS2	Erkin-Say	1.65	26	⇑iP		Pb	14 27 43.2 +0.2
	baz=27						
EKS2				⇑iS		Sg	14 28 05.4 +0.6
	baz=27						
EKS2	Erkin-Say	1.65	26	P		Pg	14 27 44.1 +0.6
	SNR=9.9						
UCH	Uchtor	1.66	51	P		Pg	14 27 45.0 +1.3
	SNR=20						
BTK	Batken	1.87	234	⇑iP		Pg	14 27 48.0 +0.3
	baz=33						
BTK				⇑iS		Sg	14 28 13.1 +1.1
	baz=33						
AAK	Ala-Archa	1.93	41	⇑iP		Pb	14 27 48.3 +0.4
	baz=41						
AAK				⇑iS		Sg	14 28 14.2 +0.3
	baz=41						
AAK	Ala-Archa	1.93	41	P		Pg	14 27 49.4 +0.5
	SNR=14						
AAK	Ala-Archa	1.93	41	⇑Pg		Pg	14 27 49.2 +0.3
	4.1nm,0.3s						
AAK				⇑Lg		Lg	14 28 15.0
	9.0nm,0.3s						
DZA	Taraz	2.02	328	eP		Pg	14 27 51.1 +0.6
	86nm,0.1s						
DZA				eS		Sg	14 28 18.7 +2.1
	198nm,0.3s						
DZA	Taraz	2.02	328	Pg		Pg	14 27 51.1 +0.6
	86nm,0.1s						
DZA				Lg		Lg	14 28 18.7
	198nm,0.3s						
KZA	Kyzart	2.05	64	⇑iP		Pb	14 27 50.4 +0.3
	baz=64						
KZA				⇑iS		Sg	14 28 17.9 +0.1
	baz=64						
KZA	Kyzart	2.05	64	P		Pg	14 27 52.2 +1.0
	SNR=24						
FRU1	Bishkek	2.13	40	⇑iP		Pb	14 27 51.2 +0.1
	baz=40						
FRU1				⇑iS		Sb	14 28 19.0 +1.0
	baz=40						
KBK	Karagaybulak	2.18	47	⇑iP		Pb	14 27 51.9 -0.2
	baz=47						
KBK				⇑iS		Sb	14 28 20.4 +0.7
	baz=47						
KBK	Karagaybulak	2.18	47	P		Pg	14 27 53.7 0.0
	SNR=10						
IUG	Iuzhnay	2.27	296	eP		Pb	14 27 53.7 +0.1
	55nm,0.2s						
IUG				eS		Sg	14 28 23.0 -1.9
	135nm,0.3s						
IUG	Iuzhnay	2.27	296	Pg		Pb	14 27 53.7 +0.1
	55nm,0.2s						
IUG				Lg		Lg	14 28 23.0
	135nm,0.3s						
CHMS	Chumysh	2.33	38	⇓iP		Pb	14 27 53.4 -1.1
	baz=39						
CHMS				⇓iS		Sb	14 28 24.1 +0.3
	baz=39						
CHMS	Chumysh	2.33	38	P		Pb	14 27 55.3 +0.8
	SNR=8.6						
USP	Ospenovka	2.44	31	⇑iP		Pb	14 27 54.9 -1.5
	baz=31						
USP				⇑iS		Sb	14 28 26.8 -0.1
	baz=31						
USP	Ospenovka	2.44	31	P		Pb	14 27 56.4 0.0
	SNR=8.8						
KK31	Karatay Array	2.55	319	⇓Pg		Pb	14 27 57.6 -0.7
	2.0nm,0.3s,baz=136,slow=15,SNR=53						
KK31				⇑Lg		Lg	14 28 31.3
	5.8nm,0.3s,baz=135,slow=26,SNR=10.0						
BOOM	Boomskoye usch	2.70	60	⇓iP		Pb	14 27 59.0 -1.9
	baz=60						
BOOM				⇓iS		Sb	14 28 32.9 -1.5
	baz=60						
TKM2	Tokmak 2	2.72	50	⇑iP		Pb	14 27 59.2 -2.1
	baz=50						
TKM2				⇑iS		Sb	14 28 33.4 -1.8
	baz=50						
TKM2	Tokmak 2	2.72	50	P		Pb	14 28 00.8 -0.5
	SNR=24						
TKM2	Tokmak 2	2.72	50	⇓Pg		Pb	14 28 00.9 -0.5
	6.1nm,0.5s						
TKM2				⇑Lg		Lg	14 28 39.5
	16nm,0.7s						
ULHL	Ulahol	2.80	67	⇑iP		Pn	14 28 00.2 +2.4
	baz=67						
ULHL				⇑iS		Sb	14 28 35.0 -2.4
	baz=67						
ULHL	Ulahol	2.80	67	P		Pb	14 28 03.5 +0.8
	SNR=6.0						
BRLS	Borolday	2.86	311	eP		Pb	14 28 03.1 -0.5
	7.3nm,0.4s						
BRLS				eS		Sb	14 28 39.5 +0.4
	38nm,0.4s						
BRLS	Borolday	2.86	311	Pg		Pb	14 28 03.1 -0.5
	7.3nm,0.4s						
BRLS				Lg		Lg	14 28 39.5
	38nm,0.4s						
GAR	Garm	2.89	222	⇑iP		Pb	14 28 01.8 -2.3
	baz=21						
GAR				⇑iS		Sb	14 28 38.4 -1.5
	baz=21						
KST	Kastek	3.01	51	eP		Pb	14 28 07.9 +1.8
	6.2nm,0.5s						
KST				eS		Sg	14 28 47.6 -0.8
	16nm,0.5s						
KST	Kastek	3.01	51	Pg		Pb	14 28 07.9 +1.8
	6.2nm,0.5s						
KST				Lg		Lg	14 28 47.6
	16nm,0.5s						
KRBS	Karabastau	3.30	40	eP		Pb	14 28 12.7 +1.6
	4.8nm,0.5s						
KRBS				eS		Sg	14 28 55.9 -1.8
	14nm,0.4s						
KRBS	Karabastau	3.30	40	Pg		Pb	14 28 12.7 +1.6
	4.8nm,0.5s						
KRBS				Lg		Lg	14 28 55.9
	14nm,0.4s						
MTBS	Maitube	3.33	53	eP		Pb	14 28 13.5 +1.8
	3.3nm,0.1s						
MTBS				eS		Sg	14 28 57.3 -1.7
	9.0nm,0.3s						
MDOK	Medeo	3.74	57	eP		Pb	14 28 20.6 +2.0
	2.3nm,0.5s						
MDOK				eS		Sg	14 29 09.6 -2.2
	4.3nm,0.7s						
MDOK	Medeo	3.74	57	Pg		Pb	14 28 20.6 +2.0
	2.3nm,0.5s						
MDOK				Lg		Lg	14 29 09.7
	5.7nm,0.5s						
KUU	Kurty	3.77	43	eP		Pb	14 28 21.4 +2.3
	1.2nm,0.3s						
KUU				eS		Sg	14 29 10.8 -2.1
	5.2nm,0.6s						
KUU	Kurty	3.77	43	Pg		Pb	14 28 21.4 +2.3
	1.2nm,0.3s						
KUU				Lg		Lg	14 29 10.8
	5.2nm,0.6s						
KOTS	Kotyrbulak	3.81	56	eP		Pb	14 28 22.0 +2.1
	11nm,0.6s						
KOTS				eS		Sg	14 29 12.1 -2.2
	6.1nm,0.5s						
KOTS	Kotyrbulak	3.81	56	Pg		Pb	14 28 22.0 +2.1
	11nm,0.6s						
KOTS				Lg		Lg	14 29 12.1
	6.1nm,0.5s						
KTBS	Karatobe	3.83	48	eP		Pb	14 28 23.0 +2.8
	2.4nm,0.5s						
KTBS				eS		Sg	14 29 13.6 -1.4
	15nm,0.5s						
KTBS	Karatobe	3.83	48	Pg		Pb	14 28 23.0 +2.8
	2.4nm,0.5s						
KTBS				Lg		Lg	14 29 13.6
	15nm,0.5s						
BTLS	Baital	3.96	13	eP		Pb	14 28 23.8 +1.5
	1.0nm,0.1s						
BTLS				eS		Sg	14 29 15.2 -3.8
	13nm,0.6s						
CHKK	Chushkaly	4.09	48	eP		Pb	14 28 27.7 +3.1
	0.7nm,0.1s						
CHKK				eS		Sg	14 29 21.9 -1.4
	5.7nm,0.3s						
CHKK	Chushkaly	4.09	48	Pg		Pb	14 28 27.7 +3.1
	0.7nm,0.1s						
CHKK				Lg		Lg	14 29 21.9
	5.7nm,0.3s						
SATY	Saty	4.58	64	eP		Pg	14 28 37.3 -2.3
	4.2nm,1.1s						
SATY				eS		Sg	14 29 37.8 -1.3
	3.3nm,0.8s						
UZB	Uzynbulak	5.04	65	eP		Pg	14 28 45.4 -2.9
	1.2nm,0.4s						
UZB				eS		Sg	14 29 51.8 -1.7
	2.1nm,0.4s						

*IDC **07** 14:31:43.3±5.2, 25.°46S×68.°90W, h75km±39km, mb3.8/6, mb1 3.9/8, mb1mx3.6/27, mbtmp4.0/8, ML3.7/2, Error ellipse: s-maj=47.4km s-min=28.0km az=10.0*
*GUC **07** 14:31:44.3±0.7, 25.°35S×69.°25W, h121km±4km, ML4.0*
*NEIC **07** 14:31:45.9±1.8, 25.°23S±0.°05×69.°2W±0.°1, h106km±5km, mb4.2/7, Error ellipse: s-maj=15.5km s-min=7.1km az=93.0*
ISC 07 14:31:45.2±0.8, 25.°30S±0.°04×69.°18W±0.°08, h108km±7km, n73, σ1°31/76, mb4.2/7, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	0.40	291	⇑iP		Pn	14 32 02.0 +0.3
GO02				eS		Sn	14 32 14.9 +0.9
GO02	Mina Guanaco	0.40	291	Pn		Pn	14 32 02.2 +0.6
GO02				Sn		Sn	14 32 14.3 +0.4
PB14	IPOC Station P	1.30	301	⇑iP		Pn	14 32 10.5 +0.7
PB14				eS		Sn	14 32 29.0 +0.5
PB14				IAML			14 32 30.2
	comp=E,2μm,0.3s						
PB14	IPOC Station P	1.30	301	Pn		Pn	14 32 10.6 +0.7
AC02	Maricunga	1.53	178			Pn	14 32 15.0 +2.2
AC01	Pan de Azucar	1.53	236	Pn		Pn	14 32 13.3 +1.0
PB15	IPOC Station P	2.10	353	⇑iP		Pn	14 32 20.2 +0.5
PB15				eS		Sn	14 32 47.8 +1.8
PB15	IPOC Station P	2.10	353			Pn	14 32 20.2 +0.5
PB10	IPOC Station P	2.18	325	⇑iP		Pn	14 32 20.8 +0.3
PB10				eS		Sn	14 32 47.4 0.0
PB10				IAML			14 32 53.8
	comp=E,402nm,0.1s						
PB10	IPOC Station P	2.18	325			Pn	14 32 20.7 +0.3
GO03	Copiap	2.47	202	⇑iP		Pn	14 32 23.8 -0.5
GO03				eS		Sn	14 32 52.8 -1.4
GO03				IAML			14 32 57.9
	comp=E,859nm,0.2s						
GO03	Copiap	2.47	202			Pn	14 32 25.3 +1.0
PB06	IPOC Station P	2.61	352	⇑iP		Pn	14 32 26.2 0.0
PB06				eS		Sn	14 32 57.7 0.0
PB06	IPOC Station P	2.61	352			Pn	14 32 26.4 +0.2
PB05	IPOC Station P	2.61	339	⇑iP		Pn	14 32 26.1 -0.1
PB05				IAML			14 33 24.5
	comp=E,397nm,0.3s						
LVC	Limon Verde	2.69	5	P		Pn	14 32 27.7 +0.3
	comp=E,20nm,0.3s,baz=163,slow=9.0,SNR=152						
LVC				S		Sn	14 32 58.7 -1.2
	comp=E,107nm,0.3s,baz=191,slow=12,SNR=11						
LVC	Limon Verde	2.69	5	eP		Pn	14 32 27.8 +0.3
LVC				i S		Sn	14 32 58.6 -1.2
LVC	Limon Verde	2.69	5	Pn		Pn	14 32 27.6 +0.1
PB04	IPOC Station P	3.08	343	Pn		Pn	14 32 31.6 -0.9
PB03	IPOC Station P	3.28	351	IAML			14 33 21.9
	comp=N,464nm,0.4s						
AC04	Llanos de Chal	3.35	210	Pn		Pn	14 32 35.3 -0.6
PB09	IPOC Station P	3.49	359			Pn	14 32 38.5 +0.6
PB07	IPOC Station P	3.62	350	Pn		Pn	14 32 38.7 -0.9
AC05	El Transito	3.65	195	Pn		Pn	14 32 40.9 +0.9
LCO	Las Campanas	3.93	200	Pn		Pn	14 32 44.0 +0.1
PB01	IPOC Station P	4.25	356	Pn		Pn	14 32 47.1 -0.9
PATCX	Punta Patache	4.55	348	Pn		Pn	14 32 50.0 -2.1
CO01	Juntas del Tor	4.73	190			Pn	14 32 56.1 +1.6
TA01	Diego Aracena	4.80	349	Pn		Pn	14 32 54.9 -0.5
GO04	Tololo Observa	5.06	196			Pn	14 32 58.5 -0.6
PB08	IPOC Station P	5.14	0	Pn		Pn	14 32 59.2 -1.1
PB11	IPOC Station P	5.53	355	Pn		Pn	14 33 03.3 -2.1
GO01	Chusmiza	5.61	360	Pn		Pn	14 33 05.4 -1.3
PSGCX	Pisagua	5.74	351	Pn		Pn	14 33 07.9 -0.3
CO02	Combarbal	6.09	195	Pn		Pn	14 33 11.6 -1.4
MNMC	Minye Minye	6.15	356			Pn	14 33 12.1 -1.9
PB12	IPOC Station P	6.74	351	Pn		Pn	14 33 19.0 -2.8
PB16	IPOC Station P	6.94	357	Pn		Pn	14 33 24.4 -0.5
VA03	San Esteban	7.53	189	Pn		Pn	14 33 31.5 -0.9
ROC1	El Roble	7.81	191	Pn		Pn	14 33 34.8 -1.6
VA01	Torpederas	7.99	195	Pn		Pn	14 33 35.1 -3.4
MT02	Curacav	8.11	192	Pn		Pn	14 33 37.3 -2.8
LPAZ	La Paz	9.02	6	P		Pn	14 33 53.0 -0.3
	comp=N,0.2nm,0.3s,baz=162,slow=9.4,SNR=10						
LPAZ				S		Sn	14 35 30.6 -2.8
	baz=258,slow=3.4,SNR=1.6						
LPAZ	La Paz	9.02	6	Pn		Pn	14 33 52.3 -0.9
H03N1	Juan Fernandez	11.73	224	P		Pn	14 34 28.2 -0.6
H03N1				T		T	14 46 37.2
	baz=44,slow=72,SNR=22						
H03N2	Juan Fernandez	11.74	224	P		Pn	14 34 28.2 -0.8
H03N2				T		T	14 46 31.3
	baz=44,slow=72,SNR=18						
H03N3	Juan Fernandez	11.75	224	P		Pn	14 34 28.0 -1.2
H03N3				T		T	14 46 30.2
	baz=44,slow=72,SNR=17						
SIV	San Ignacio	11.97	41	P		Pn	14 34 27.5 -5.0
	comp=N,1.4nm,0.3s,baz=249,slow=9.2,SNR=32						
SIV				S		Sn	14 36 33.7 -11
	comp=N,0.1nm,0.3s,baz=353,slow=20,SNR=1.4						
H03S3	Juan Fernandez	11.99	223	P		Pn	14 34 31.2 -1.0
H03S1	Juan Fernandez	12.00	223	P		Pn	14 34 31.0 -1.3
H03S2	Juan Fernandez	12.00	223	P		Pn	14 34 31.2 -1.2
BDFB	Brasilia	22.01	68	P		P	14 36 28.6 -2.4
	comp=N,1.4nm,0.5s,baz=202,slow=11,SNR=3.4						
PTGA	Pitinga	26.00	21	P		P	14 37 08.7 +0.6
	comp=N,0.9nm,0.3s,baz=236,slow=16,SNR=4.8						
PTGA	Pitinga	26.00	21	IAmb	IAmb		14 37 09.3
	comp=Z,4.8nm,1.1s						
SNAA	Sanae	58.79	160	P		P	14 41 33.5 +1.7
TXAR	Lajitas Array	63.62	327	P		P	14 42 06.9 +2.0
	comp=Z,0.1nm,0.5s,baz=148,slow=5.6,SNR=2.7						
DBIC	Dimbokro	70.09	72	P		P	14 42 47.1 +0.9
	comp=Z,3.2nm,0.6s,baz=193,slow=10,SNR=4.2						
DBIC	Dimbokro	70.09	72	P		P	14 42 47.0 +0.9
D53A	Lac Vacive, Po	72.45	354	P		P	14 43 00.8 +1.2
MSU	Marysvale	75.18	326	P		P	14 43 17.1 +1.1
PDAR	Pinedale Array	77.28	331	P		P	14 43 32.2 +4.3
	comp=Z,1.3nm,0.3s,baz=174,slow=3.6,SNR=2.5						
TOA0	Torodi Ar. Sit	78.89	70	P		P	14 43 37.9 +0.9
TOA0				IAmb	IAmb		14 43 38.7
	comp=Z,5.3nm,0.7s						
TORD	Torodi Ar. Bea	78.89	70	P		P	14 43 38.0 +1.0
	comp=Z,4.1nm,0.7s,baz=261,slow=5.2,SNR=8.8						
TORD	Torodi Ar. Bea	78.89	70	P		P	14 43 37.7 +0.7
ASAR	Alice Springs	126.43	207	PKP		PKiKP	14 50 37.5 +1.0
	comp=Z,0.3nm,0.8s,baz=150,slow=2.5,SNR=5.5						
H11S2	WAKE ISLAND Hyl	28.01	274	T		T	17 10 56.4
	baz=108,slow=75,SNR=14						
H11S1	WAKE ISLAND Hyl	28.02	274	T		T	17 10 58.2
	baz=108,slow=75,SNR=33						
H11S3	WAKE ISLAND Hyl	28.02	274	T		T	17 10 55.4
	baz=108,slow=75,SNR=24						
WRA	Warramunga Arr	129.54	209	PKP		PKiKP	14 50 43.5 +0.6
	comp=Z,0.2nm,0.4s,baz=150,slow=1.8,SNR=7.7						
ZALV	Zalesovo Beam	145.46	27	PKPbc		PKiKP	14 51 12.4 -1.7
	comp=Z,6.2nm,0.7s,baz=307,slow=4.1,SNR=23						
ZALV	Zalesovo Beam	145.46	27			PKiKP	14 51 12.0 -2.1
MKAR	Makanchi Array	148.79	39	PKPbc		PKPab	14 51 22.0 -2.1
	comp=Z,2.6nm,0.6s,baz=314,slow=2.8,SNR=32						
MKA

ISC 07 14:32:40.6±1.7, 7°22N±0°03×77°24W±0°03, h10km±13km, n31, σ1°963/56, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.57**	**263**	*eP*	**Pg**	**14 32 51.7**	**0.0**
SOLC	**Bahia Solano**	**1.00**	**190**	*eP*	**Pb**	**14 32 59.6**	**-0.4**
SOLC				*eS*	**Sb**	**14 33 13.9**	**+0.6**
SOLC				*i*		14 33 18.4	
	comp=Z,487nm,0.5s						
DBBC	**Dabeiba**	**1.04**	**101**	*eP*	**Pb**	**14 33 00.0**	**-0.8**
DBBC				*eS*	**Sb**	**14 33 14.5**	**0.0**
UPD2	**Meteti**	**1.53**	**330**	*eP*	**Pn**	**14 33 06.5**	**-1.4**
UPD2				*eS*	**Sn**	**14 33 27.4**	**-0.5**
UPD2				*i*		14 33 32.9	
	comp=Z,116nm,0.5s						
UPD2	**Meteti**	**1.53**	**330**	*eP*	**Pn**	**14 33 09.2**	**+1.3**
UPD2				*eS*	**Sn**	**14 33 29.0**	**+1.2**
UREC	**San Jos de Ur**	**1.77**	**73**	*eP*	**Pn**	**14 33 11.0**	**-0.4**
UREC				*eS*	**Sn**	**14 33 33.0**	**-1.0**
UREC				*i*		14 33 37.7	
	comp=Z,83nm,0.3s						
CBOC	**Ciudad Bolivar**	**1.82**	**138**	*eP*	**Pn**	**14 33 10.8**	**-1.4**
CBOC				*eS*	**Sn**	**14 33 32.1**	**-3.2**
CBOC				*i*		14 33 42.4	
	comp=Z,57nm,0.4s						
LCBC	**Los crdobas,**	**1.84**	**28**	*eS*	**Sn**	**14 33 34.9**	**-0.8**
LCBC				*i*		14 33 43.1	
	comp=Z,38nm,0.6s						
HELC	**Santa Helena**	**1.98**	**121**	*eP*	**Pn**	**14 33 15.0**	**+0.5**
HELC				*eS*	**Sn**	**14 33 38.6**	**-1.1**
HELC				*i*		14 33 45.3	
	comp=Z,66nm,0.6s						
HELC	**Santa Helena**	**1.98**	**121**	*eP*	**Pn**	**14 33 15.2**	**+0.6**
HELC				*i* S	**Sn**	**14 33 40.4**	**+0.7**
MONA	**Monteria**	**2.19**	**45**	*eP*	**Pn**	**14 33 17.6**	**+0.4**
MONA				*eS*	**Sn**	**14 33 44.0**	**-0.4**
MOTC	**Monteria, Cord**	**2.20**	**45**	*eP*	**Pn**	**14 33 16.6**	**-0.6**
MOTC				*eS*	**Sn**	**14 33 43.0**	**-1.5**
ZARC	**Zaragoza, Cauc**	**2.38**	**83**	*eP*	**Pn**	**14 33 19.9**	**+0.3**
ZARC				*eS*	**Sn**	**14 33 48.0**	**-1.0**
ZARC				*i*		14 33 58.1	
	comp=Z,66nm,0.4s						
PLMC	**San Jos del P**	**2.49**	**157**	*eP*	**Pn**	**14 33 20.1**	**-1.1**
PLMC				*eS*	**Sn**	**14 33 48.5**	**-3.2**
GUY2C	**Guyana, Caldas**	**2.72**	**137**	*eP*	**Pn**	**14 33 26.0**	**+1.2**
GUY2C				*eS*	**Sn**	**14 33 56.6**	**-1.4**
GUY2C				*i*		14 34 05.5	
	comp=Z,30nm,0.6s						
PTBC	**PUERTO BERRIO,**	**2.84**	**104**	*eP*	**Pn**	**14 33 27.0**	**+0.9**
PTBC				*eS*	**Sn**	**14 34 02.6**	**+2.1**
PTBC				*i*		14 34 05.8	
	comp=Z,14nm,0.6s						
UPA	**Univ. de Panam**	**2.87**	**308**	*eP*	**Pn**	**14 33 29.0**	**+2.6**
UPA				*eS*	**Sn**	**14 34 03.3**	**+2.3**
NORC	**Norcasia**	**2.87**	**125**	*eP*	**Pn**	**14 33 28.3**	**+1.7**
NORC				*eS*	**Sn**	**14 34 01.3**	**0.0**
NORC				*i*		14 34 07.0	
	comp=Z,14nm,0.7s						
AZU	**Azuero**	**3.06**	**281**	*eP*	**Pn**	**14 33 28.1**	**-1.0**
AZU				*eS*	**Sn**	**14 34 03.9**	**-1.9**
AZU				*i*		14 34 11.4	
	comp=Z,51nm,0.6s						
ZANG	**Zanguenga, Cho**	**3.12**	**304**	*eP*	**Pn**	**14 33 33.4**	**+3.5**
BCIP	**Isla Barro Col**	**3.22**	**307**	*eP*	**Pn**	**14 33 29.7**	**-1.5**
BCIP				*eS*	**Sb**	**14 34 17.4**	**+0.2**
BCIP				*i*		14 34 17.7	
	comp=Z,9.2nm,0.7s						
TOLC	**Tolima**	**3.24**	**144**	*eP*	**Pn**	**14 33 32.0**	**+0.2**
ANIL	**Santa Ana**	**3.27**	**146**	*eP*	**Pn**	**14 33 33.7**	**+1.5**
SJCC	**San Jacinto, C**	**3.35**	**37**	*eP*	**Pn**	**14 33 33.8**	**+0.6**
SJCC				*eS*	**Sn**	**14 34 10.1**	**-3.0**
SJCC				*i*		14 34 16.4	
	comp=Z,17nm,0.4s						
SJCC	**San Jacinto, C**	**3.35**	**37**	*eP*	**Pn**	**14 33 33.6**	**+0.5**
SJCC				*eS*	**Sn**	**14 34 12.1**	**-0.9**
BRRC	**Barranca, Sant**	**3.50**	**92**	*eP*	**Pn**	**14 33 37.1**	**+1.9**
BRRC				*eS*	**Sn**	**14 34 16.7**	**0.0**
BRRC				*i*		14 34 22.6	
	comp=Z,15nm,0.3s						
SMLC	**San Martn de**	**3.51**	**63**	*eP*	**Pn**	**14 33 35.6**	**+0.3**
SMLC				*eS*	**Sn**	**14 34 16.6**	**-0.2**
SMLC				*i*		14 34 19.3	
	comp=Z,23nm,0.3s						
SPBC	**San Pablo de B**	**3.51**	**116**	*eP*	**Pn**	**14 33 37.6**	**+2.2**
SPBC				*eS*	**Sn**	**14 34 21.0**	**+4.0**
SPBC				*i*		14 34 34.0	
	comp=Z,9.0nm,0.4s						
OCAC	**Ocana**	**4.01**	**75**	*eP*	**Pn**	**14 33 41.4**	**-0.9**
OCAC				*eS*	**Sn**	**14 34 27.5**	**-2.1**
OCAC				*i*		14 34 32.7	
	comp=Z,32nm,0.4s						
BARC	**Barichara**	**4.08**	**99**	*eP*	**Pn**	**14 33 44.9**	**+1.7**
BARC				*eS*	**Sn**	**14 34 32.7**	**+1.5**
BARC				*i*		14 34 52.5	
	comp=Z,16nm,0.5s						
RUSC	**La Rusia**	**4.33**	**107**	*eS*	**Sn**	**14 34 41.0**	**+3.1**
RUSC				*i*		14 34 59.0	
	comp=Z,9.2nm,0.6s						

*EAF **07** 14:43:35.0±43.0, 3°04S×36°73E, h52km±999km*

ISC 07 14:43:25.7±2.4, 2°70S×36°00E, h17km±4km, n36, 20C-2D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LN34	**Lwondulwo boma**	**0.07**	**135**	*i P*	**Pg**	**14 43 28.5**	**-0.6**
LN34				*i S*	**Sg**	**14 43 29.8**	**-1.6**
LN34				IAML		14 43 30.1	
	comp=Z,153μm,0.2s						
LN35	**Magadini PS**	**0.07**	**3**	*i P*	**Pg**	**14 43 29.3**	**+0.2**
LN35				*i S*	**Sg**	**14 43 30.9**	**-0.5**
LN35				IAML		14 43 31.4	
	comp=Z,254μm,0.5s						
LN26	**Engaresero PS**	**0.15**	**307**	⇑*iP*	**Pg**	**14 43 30.4**	**+0.5**
LN26				*i S*	**Sg**	**14 43 33.2**	**+0.4**
LN26				IAML		14 43 34.8	
	comp=Z,27μm,0.2s						
PR33	**Engutoto Boma**	**0.19**	**134**	⇑*iP*	**Pg**	**14 43 30.3**	**-0.2**
PR33				*i S*	**Sg**	**14 43 33.1**	**-0.7**
PR33				IAML		14 43 33.3	
	comp=Z,31μm,0.5s						
LN15	**Lekule Girls S**	**0.20**	**67**	⇓*iP*	**Pg**	**14 43 31.0**	**+0.4**
LN15				*i S*	**Sg**	**14 43 34.0**	**0.0**
LN15				IAML		14 43 35.6	
	comp=Z,12μm,0.4s						
PR31	**Engaruka Boma**	**0.22**	**168**	⇑*iP*	**Pg**	**14 43 30.8**	**-0.1**
PR31				IAML		14 43 34.4	
	comp=Z,26μm,0.3s						
PR53	**Nayobi Boma**	**0.22**	**228**	*i P*	**Pg**	**14 43 31.4**	**+0.3**
PR53				*i S*	**Sg**	**14 43 34.9**	**0.0**
LN25	**Lake Natron SS**	**0.23**	**330**	⇑*iP*	**Pg**	**14 43 31.9**	**+0.7**
LN25				IAML		14 43 44.0	
	comp=Z,34μm,0.6s						
PR32	**Iloiriento PS**	**0.25**	**134**	⇑*iP*	**Pg**	**14 43 31.6**	**+0.1**
PR32				IAML		14 43 37.5	
	comp=Z,31μm,0.2s						
MW36	**Oldoinyo Lenga**	**0.31**	**181**	⇓*iP*	**Pb**	**14 43 32.5**	**-0.3**
PR11	**Kitumbeine SS**	**0.32**	**112**	⇑*iP*	**Pb**	**14 43 32.8**	**-0.2**
PR11				IAML		14 43 38.6	
	comp=Z,25μm,0.2s						
PR52	**Alailelai Boma**	**0.39**	**230**	*i P*	**Pb**	**14 43 34.4**	**+0.1**
PR52				IAML		14 43 42.7	
	comp=Z,12μm,0.2s						
LN45	**Noondotu PS**	**0.41**	**135**	⇑*iP*	**Pb**	**14 43 34.2**	**-0.4**
LN45				IAML		14 43 40.3	
	comp=Z,14μm,0.2s						
LL22	**Malambo SS**	**0.44**	**294**	⇑*iP*	**Pb**	**14 43 35.4**	**+0.2**
LL22				IAML		14 43 45.8	
	comp=Z,15μm,0.2s						
LN16	**Kitarini PS**	**0.47**	**80**	⇑*iP*	**Pb**	**14 43 35.5**	**-0.2**
LN16				IAML		14 43 44.6	
	comp=Z,3μm,0.5s						
LL24	**Masusu PS**	**0.48**	**336**	⇑*iP*	**Pb**	**14 43 36.1**	**+0.4**
LL24				IAML		14 43 48.6	
	comp=Z,10μm,0.2s						
LN14	**Matela PS**	**0.49**	**58**	*i P*	**Pb**	**14 43 35.9**	**0.0**
LN14				IAML		14 43 47.5	
	comp=Z,3μm,0.3s						
LL23	**Sali PS**	**0.51**	**322**	⇑*iP*	**Pg**	**14 43 36.5**	**+0.5**
LL23				IAML		14 43 48.2	
	comp=Z,9μm,0.3s						
LL66	**Piyaya bomas**	**0.53**	**280**	⇑*iP*	**Pg**	**14 43 36.5**	**+0.2**
LL66				IAML		14 43 47.3	
	comp=Z,2μm,0.2s						
NG55	**Lemala Gate**	**0.54**	**216**	*i P*	**Pg**	**14 43 36.7**	**+0.2**
NG55				IAML		14 43 46.0	
	comp=Z,8μm,0.3s						
PR63	**Meshili Boma**	**0.57**	**240**	*i P*	**Pg**	**14 43 37.9**	**+0.8**
PR63				IAML		14 43 47.5	
	comp=Z,3μm,0.2s						
KEN3	**Shompole Clini**	**0.62**	**11**	⇑*iP*	**Pg**	**14 43 38.6**	**+0.6**
KEN3				IAML		14 43 54.1	
	comp=Z,9μm,0.4s						
LL65	**Arash bomas**	**0.64**	**297**	⇑*iP*	**Pg**	**14 43 38.5**	**+0.2**
LL65				IAML		14 43 48.8	
	comp=Z,8μm,0.1s						
NG54	**Nasera Bomas**	**0.64**	**268**	⇑*iP*	**Pb**	**14 43 38.3**	**-0.3**
NG54				IAML		14 43 47.5	
	comp=Z,2μm,0.1s						
MW41	**Ole Sokoine**	**0.69**	**140**	⇑*iP*	**Pg**	**14 43 39.5**	**+0.3**
MW41				IAML		14 43 56.6	
	comp=Z,17μm,0.4s						
PR62	**Oldupai Boma**	**0.69**	**246**	*i P*	**Pg**	**14 43 39.3**	**+0.1**
PR62				IAML		14 43 59.2	
	comp=Z,3μm,0.2s						
NG56	**Ngoile bomas**	**0.71**	**237**	*i P*	**Pg**	**14 43 40.0**	**+0.3**
NG56				IAML		14 43 55.6	
	comp=Z,4μm,0.2s						
MW44	**Karatu Welwel**	**0.72**	**208**	⇑*iP*	**Pg**	**14 43 39.7**	**-0.2**
MW44				IAML		14 43 51.8	
	comp=Z,6μm,0.2s						
LN46	**New Vision PS**	**0.74**	**114**	⇑*iP*	**Pg**	**14 43 40.0**	**-0.2**
LN46				IAML		14 43 49.4	
	comp=Z,5μm,0.3s						
LL21	**Loliondo SS**	**0.78**	**325**	*i P*	**Pg**	**14 43 41.3**	**+0.3**
LL21				IAML		14 43 58.7	
	comp=Z,6μm,0.3s						
PR61	**Kiloki Boma**	**0.80**	**251**	*i P*	**Pg**	**14 43 41.3**	**0.0**
PR61				IAML		14 44 00.5	
	comp=Z,6μm,0.2s						
KEN2	**Magadi Soda Va**	**0.83**	**20**	⇑*iP*	**Pn**	**14 43 42.5**	**-0.2**
KEN2				IAML		14 43 57.7	
	comp=Z,7μm,0.4s						
KEN4	**Ngurumani**	**0.92**	**3**	⇑*iP*	**Pg**	**14 43 44.0**	**+0.5**
KEN4				IAML		14 44 00.1	
	comp=Z,6μm,0.4s						
KMBO	**Kilima Mbogo**	**2.00**	**39**	*eP*	**Pb**	**14 44 01.1**	**-0.8**
KMBO				*eS*	**Sb**	**14 44 27.8**	**+1.2**
KMBO	**Kilima Mbogo**	**2.00**	**39**	*eP*	**Pb**	**14 44 01.9**	**0.0**
KMBO				*eS*	**Sb**	**14 44 26.7**	**+0.2**
KMBO	**Kilima Mbogo**	**2.00**	**39**	*eP*	**Pb**	**14 44 01.1**	**-0.8**
KMBO				*eS*	**Sb**	**14 44 27.8**	**+1.2**
KMBO	**Kilima Mbogo**	**2.00**	**39**	*i P*	**Pb**	**14 44 00.6**	**-1.2**
KMBO				IAML		14 44 33.1	
	comp=Z,1μm,0.9s						
KOND	**Kondoa**	**2.20**	**186**	*eP*	**Pb**	**14 44 05.5**	**+0.4**
KOND				*eS*	**Sn**	**14 44 29.4**	**+0.9**
DODT	**Dodoma, Tanzan**	**3.47**	**184**	*i P*	**Pn**	**14 44 20.2**	**+1.1**
MBAR	**Mbarara**	**5.66**	**292**	*eP*	**Pn**	**14 44 51.6**	**+2.4**
MBAR				*eS*	**Sn**	**14 45 52.1**	**-1.9**
MBAR	**Mbarara**	**5.66**	**292**	*i P*	**Pn**	**14 44 50.3**	**+1.1**
MBAR				IAML		14 46 25.9	
	comp=Z,410nm,0.3s						
KIL	**Kilembe**	**6.65**	**296**	*eP*	Pg	14 46 08.8	+36
KIL				*eS*	**Sg**	**14 46 52.9**	**-6.4**

NNC 07 14:53:50.2±10.0, 37°77N×71°23E, h0km, mb3.6, mpv3.1, 5C-1D, Error ellipse: s-maj=77.0km s-min=61.1km az=176.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.35**	**354**	⇑Pn	Pn	14 55 13.1	+1.6
	0.7nm,0.5s,baz=177,slow=13,SNR=20						
KK31				⇑Sn	Sn	14 56 15.7	+1.9
	1.5nm,0.5s,baz=182,slow=22,SNR=6.5						
AAK	**Ala-Archa**	**5.46**	**26**	⇓Pn	Pn	14 55 13.4	+0.3
	1.9nm,0.3s						
AAK				⇑Sn	Sn	14 56 17.7	+0.9
	3.6nm,0.6s						
TKM2	**Tokmak 2**	**6.13**	**32**	⇑Pn	Pn	14 55 21.1	-1.1
	0.6nm,0.3s						
TKM2				⇑Sn	Sn	14 56 32.5	-0.7
	0.8nm,0.5s						

*ARE **07** 15:11:44±2.1, 14°82S±0°06×75°42W±0°09, h53km±4km, Error ellipse: s-maj=12.8km s-min=7.7km az=68.0*
*NEIC **07** 15:11:45.7±1.4, 14°70S±0°07×75°2W±0°1, h64km±5km, mb4.6/41, ML4.6(ARE), Error ellipse: s-maj=16.1km s-min=8.4km az=63.0*
*IDC **07** 15:11:47.2±1.6, 14°69S×75°34W, h73km±14km, mb3.7/10, mb1 4.1/14, mb1mx3.9/28, mbtmp4.1/14, MS3.2/5, Ms1 3.2/5, ms1mx3.0/22, Error ellipse: s-maj=26.2km s-min=10.4km az=51.0*
*VAO **07** 15:11:49.5±0.9, 14°61S×75°10W, h89km±7km, mb4.1*

ISC 07 15:11:48.4±0.5, 14°76S±0°06×75°22W±0°08, h100km, n118, σ1°871/109, mb4.4/24, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.18**	**330**	P	Pn	15 12 32.3	-4.3
	19nm,0.3s,baz=152,slow=11,SNR=42						
NNA				S	**Sn**	**15 13 09.7**	**-4.1**
	151nm,0.3s,baz=49,slow=20,SNR=15						
PB12	**IPOC Station P**	**6.05**	**130**	Pn	**Pn**	**15 13 12.9**	**-2.6**
PB16	**IPOC Station P**	**6.53**	**124**	Pn	**Pn**	**15 13 20.8**	**-1.6**
PSGCX	**Pisagua**	**6.84**	**135**		**Pn**	**15 13 23.8**	**-2.4**
MNMC	**Minye Minye**	**6.91**	**130**		**Pn**	**15 13 25.2**	**-2.1**
LPAZ	**La Paz**	**7.00**	**103**	P	**Pn**	**15 13 31.1**	**+2.4**
	4.4nm,0.3s,baz=305,slow=8.6,SNR=92						
LPAZ	**La Paz**	**7.00**	**103**	Pn	**Pn**	**15 13 30.6**	**+1.8**
LPAZ	**La Paz**	**7.00**	**103**	*eP*	**Pn**	**15 13 28.9**	**+0.1**
PB11	**IPOC Station P**	**7.27**	**134**	Pn	**Pn**	**15 13 29.5**	**-2.6**
CZSB	**Cruzeiro do Su**	**7.41**	**20**	*eP*	**Pn**	**15 13 31.8**	**-2.1**
TA01	**Diego Aracena**	**7.51**	**141**		**Pn**	**15 13 33.6**	**-1.6**
GO01	**Chusmiza**	**7.54**	**131**		**Pn**	**15 13 34.3**	**-1.8**
PATCX	**Punta Patache**	**7.72**	**142**		**Pn**	**15 13 35.6**	**-2.5**
PB08	**IPOC Station P**	**7.88**	**134**		**Pn**	**15 13 38.6**	**-2.0**
ATAH	**Atahualpa**	**8.20**	**337**	P	**Pn**	**15 13 43.1**	**-1.9**
	0.4nm,0.3s,baz=111,slow=5.5,SNR=1.7						
ATAH				S	**Sn**	**15 15 11.4**	**-4.8**
	0.7nm,0.3s,baz=300,slow=12,SNR=1.3						
PB01	**IPOC Station P**	**8.29**	**140**		**Pn**	**15 13 43.9**	**-2.0**
PB07	**IPOC Station P**	**8.58**	**145**	Pn	**Pn**	**15 13 48.1**	**-1.8**
PB04	**IPOC Station P**	**8.93**	**148**	Pn	**Pn**	**15 13 53.0**	**-1.8**
PB09	**IPOC Station P**	**9.01**	**142**		**Pn**	**15 13 54.3**	**-1.4**
PB06	**IPOC Station P**	**9.54**	**147**	Pn	**Pn**	**15 14 01.5**	**-1.5**
PB10	**IPOC Station P**	**9.76**	**154**	Pn	**Pn**	**15 14 03.9**	**-1.9**
LVC	**Limon Verde**	**9.83**	**144**	P	**Pn**	**15 14 07.3**	**+0.2**
	4.1nm,0.3s,baz=339,slow=9.5,SNR=38						
LVC				S	**Sn**	**15 15 49.0**	**-6.8**
	6.1nm,0.3s,baz=146,slow=22,SNR=11						
LVC	**Limon Verde**	**9.83**	**144**	Pn	**Pn**	**15 14 06.0**	**-1.0**
LVC	**Limon Verde**	**9.83**	**144**	*eP*	**Pn**	**15 14 08.0**	**+0.9**
PB15	**IPOC Station P**	**10.00**	**148**		**Pn**	**15 14 07.3**	**-2.0**
ETMB	**Extrema**	**10.07**	**62**	*eP*	**Pn**	**15 14 09.1**	**-1.1**
PB14	**IPOC Station P**	**10.81**	**156**	Pn	**Pn**	**15 14 18.4**	**-1.9**
GO02	**Mina Guanaco**	**11.62**	**154**	Pn	**Pn**	**15 14 30.2**	**-1.1**
SAML	**Samuel**	**13.11**	**65**		**Pn**	**15 14 46.8**	**-4.0**
GO03	**Copiap**	**13.58**	**161**	P	**P**	**15 15 02.7**	**+0.2**
SIV	**San Ignacio**	**13.70**	**97**	P	**Pn**	**15 14 56.1**	**-2.3**
	0.9nm,0.3s,baz=301,slow=8.6,SNR=14						
SIV				LR	LR	15 20 52.6	
	comp=Z,190nm,20.7s,baz=288,slow=40						
LCO	**Las Campanas**	**14.78**	**164**	P	**P**	**15 15 15.4**	**-0.6**
OTAV	**Otavalo**	**15.24**	**348**	*eP*	**Pn**	**15 15 19.0**	**+0.3**
PTLB	**Pontes e Lacer**	**15.54**	**95**	*eP*	**P**	**15 15 23.9**	**-0.3**
ORTC	**Ortega, Tolima**	**18.55**	**360**	*eP*	**P**	**15 15 58.7**	**+1.3**
YOTC	**Yotoco, Valle**	**18.66**	**356**	*eP*	Pn	15 16 12.3	+12
H03N1	**Juan Fernandez**	**18.90**	**190**	T	T	15 35 06.2	
	baz=14,slow=74,SNR=530						
H03N2	**Juan Fernandez**	**18.90**	**190**	T	T	15 35 05.6	
	baz=14,slow=74,SNR=568						
H03N3	**Juan Fernandez**	**18.91**	**190**	T	T	15 35 04.9	
	baz=14,slow=74,SNR=709						
TOLC	**Tolima**	**19.22**	**360**	*eP*	**P**	**15 16 06.7**	**+1.6**
CLDB	**Colider**	**19.32**	**81**	*eP*	**P**	**15 16 06.5**	**+0.7**
ROSC	**El Rosal**	**19.49**	**3**	LR	LR	15 24 11.7	
	comp=Z,68nm,18.7s,baz=233,slow=38						
GUY2C	**Guyana, Caldas**	**19.86**	**360**	*eP*	**P**	**15 16 13.3**	**+1.2**
NORC	**Norcasia**	**20.20**	**1**	*eP*	**P**	**15 16 16.4**	**+1.0**
CPUP	**Villa Florida**	**20.29**	**127**	P	Pn	15 16 18.4	-0.8
	5.0nm,0.8s,baz=312,slow=12,SNR=8.0						
CPUP				LR	LR	15 24 07.9	
	comp=Z,30nm,18.3s,baz=316,slow=36						
CPUP	**Villa Florida**	**20.29**	**127**	Pn	Pn	15 16 18.4	-0.8
GO05	**Huala**	**20.38**	**172**	Pn	Pn	15 16 19.9	-0.2
GO05				IAmb	IAmb	15 16 21.4	
	comp=Z,22nm,1.4s						
PTGA	**Pitinga**	**20.53**	**49**	P	**P**	**15 16 19.1**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=307,slow=20,SNR=2.2						
PTGA				LR	LR	15 23 57.3	
	comp=Z,59nm,18.6s,baz=118,slow=36						
PTGA	**Pitinga**	**20.53**	**49**	IAmb	IAmb	15 16 28.0	
	comp=Z,3.4nm,0.8s						
NPGB	**Novo Progresso**	**20.94**	**71**	*eP*	**P**	**15 16 22.9**	**-0.4**
PTBC	**PUERTO BERRIO,**	**21.18**	**2**	*eP*	**P**	**15 16 24.5**	**-1.3**
ZARC	**Zaragoza, Cauc**	**22.11**	**1**	*eP*	**P**	**15 16 35.5**	**-0.3**
ARAG	**Araguaiana, MT**	**22.60**	**95**	*eP*	**P**	**15 16 40.1**	**-0.8**
TRCB	**Terra Rica**	**22.80**	**114**	*eP*	**P**	**15 16 45.1**	**+2.2**
MOTC	**Monteria, Cord**	**23.39**	**359**	*eP*	P	15 16 56.4	+8.0
SMLC	**San Martn de**	**23.44**	**3**	*eP*	**P**	**15 16 48.1**	**-0.8**
PTGB	**Pitanga**	**23.90**	**118**	*eP*	**P**	**15 16 55.9**	**+2.8**
SDV	**Santo Domingo**	**23.93**	**11**	*eP*	**P**	**15 16 54.3**	**+0.8**
SJCC	**San Jacinto, C**	**24.50**	**0**	*eP*	P	15 17 08.1	+10
IPMB	**Ipameri, GO**	**26.10**	**101**	*eP*	**P**	**15 17 13.9**	**+0.8**
PLCA	**Paso Flores**	**26.19**	**172**	P	**P**	**15 17 15.3**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=356,slow=13,SNR=6.0						
BDFB	**Brasilia**	**26.26**	**95**	P	**P**	**15 17 17.4**	**+2.8**
	comp=Z,1.7nm,0.5s,baz=263,slow=8.8,SNR=4.5						
BDFB	**Brasilia**	**26.26**	**95**	P	**P**	**15 17 15.6**	**+1.0**
PCRV	**Puerto La Cruz**	**26.90**	**24**	P	**P**	**15 17 21.6**	**+1.3**
	comp=Z,9.6nm,0.8s,baz=274,slow=13,SNR=2.8						
PLCV	**Puerto La Cruz**	**26.91**	**24**	P	**P**	**15 17 21.6**	**+1.3**
Z56A	**Williston**	**48.17**	**353**	P	**P**	**15 20 18.4**	**-0.2**
WLAR	**White Oak Lake**	**51.11**	**341**	P	**P**	**15 20 40.8**	**-0.1**
TX31	**Lajitas Ar. Si**	**51.74**	**328**	P	**P**	**15 20 46.3**	**+0.5**
TX31				IAmb	IAmb	15 21 14.6	
	comp=Z,8.1nm,1.1s						
TX32	**Lajitas Array**	**51.74**	**328**	P	**P**	**15 20 46.5**	**+0.7**
TXAR	**Lajitas Array**	**51.74**	**328**	P	**P**	**15 20 46.5**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=153,slow=8.8,SNR=19						
TXAR				LR	LR	15 43 52.1	
	comp=Z,25nm,18.6s,baz=0.0,slow=37						
TXAR	**Lajitas Array**	**51.74**	**328**	P	**P**	**15 20 46.4**	**+0.6**
ABTX	**Abilene, Hawle**	**52.60**	**334**	P	**P**	**15 20 52.5**	**+0.5**
ABTX				IAmb	IAmb	15 20 53.5	
	comp=Z,5.6nm,0.7s						
T47A	**Sharon Grove**	**52.68**	**348**	P	**P**	**15 20 52.8**	**+0.3**
T47A				IAmb	IAmb	15 21 00.5	
	comp=Z,6.2nm,1.2s						
X37A	**Clayton**	**52.69**	**339**	P	**P**	**15 20 53.1**	**+0.5**
X37A				IAmb	IAmb	15 20 54.2	
	comp=Z,4.1nm,0.8s						
U40A	**Yellville**	**53.50**	**342**	P	**P**	**15 20 58.5**	**0.0**
U40A				IAmb	IAmb	15 20 59.2	
	comp=Z,3.7nm,0.8s						
R49A	**Shelbyville**	**53.59**	**350**	P	**P**	**15 20 58.3**	**-0.9**
R49A				IAmb	IAmb	15 20 59.5	
	comp=Z,8.5nm,1.4s						
T42A	**Van Buren**	**53.64**	**344**	P	**P**	**15 20 58.9**	**-0.7**
T42A				IAmb	IAmb	15 21 03.0	
	comp=Z,5.9nm,1.4s						
S44A	**Carbondale**	**53.82**	**346**	P	**P**	**15 20 60.0**	**-0.8**
TUL1	**Leonard**	**54.03**	**339**	P	**P**	**15 21 02.5**	**+0.1**
TUL1				IAmb	IAmb	15 21 03.4	
	comp=Z,5.6nm,0.8s						
L59A	**Walton**	**56.67**	**0**	P	**P**	**15 21 22.1**	**+0.9**
J59A	**Piesco**	**57.94**	**1**	P	**P**	**15 21 30.7**	**+0.5**
L42A	**Oliver, Polo**	**58.03**	**347**	P	**P**	**15 21 32.1**	**+1.3**
L42A				IAmb	IAmb	15 21 58.4	
	comp=Z,3.7nm,0.8s						
NCB	**Newcomb**	**58.45**	**1**	P	**P**	**15 21 34.5**	**+0.8**
NCB				IAmb	IAmb	15 21 57.6	
	comp=Z,8.7nm,1.3s						
LONY	**Lake Ozonia**	**59.10**	**1**	P	**P**	**15 21 39.1**	**+1.0**
H62A	**Milan**	**59.16**	**3**	P	**P**	**15 21 39.4**	**+0.8**
FRNY	**Flat Rock**	**59.33**	**1**	P	**P**	**15 21 40.5**	**+0.8**
SADO	**Sadowa**	**59.35**	**357**	P	**P**	**15 21 39.2**	**-0.7**
SDCO	**Great Sand Dun**	**59.48**	**332**	P	**P**	**15 21 42.4**	**+1.1**
SDCO				IAmb	IAmb	15 21 43.2	
	comp=Z,2.1nm,0.7s						
G62A	**West of Eustis**	**59.84**	**4**	P	**P**	**15 21

GURO	Guroymak-BITLI	1.33	339	PN	Pg	15 28 04.5 +0.1
GURO				SN	Sn	15 28 22.1 -0.6
SVAN	Silvan-Diyarba	1.42	306	PN	Pg	15 28 05.6 -0.6
SVAN	Silvan-Diyarba	1.42	306	*i* P	Pg	15 28 05.8 -0.3
SVAN				*i* S	Sg	15 28 26.1 +1.6
MARD	Mardin	1.49	270	*i* P	Pg	15 28 07.2 -0.3
MARD				*i* S	Sg	15 28 26.9 +0.1
MARD				IAML		15 28 30.0
	comp=E,84nm,0.6s					
MARD				IAML		15 28 33.0
	comp=N,155nm,0.5s					
MUSM	Mu-Merkez	1.67	328	*i* P	Pn	15 28 08.8 -0.4
MUSM				*i* S	Sg	15 28 32.0 -0.6
MAZI	Mazidag	1.76	275	PN	Pb	15 28 11.1 -0.8
SVRC	Sivrice-ELAZID	2.85	293	PN	Pn	15 28 26.5 +1.0
URFA	Urfa	3.05	274	PN	Pn	15 28 29.6 +1.5

NCEDC ***07*** *15:45:35±2.0, 40°.31N±0°.03×124°.61W±0°.05, h20km±3km, ML3.0/23, Error ellipse: s-maj=5.1km s-min=3.9km az=97.0*

ANF ***07*** *15:45:35.9±0.8, 40°.47N×124°.43W, h20km, ML3.0/12, Error ellipse: s-maj=8.2km s-min=3.7km az=57.0*

ISC 07 15:45:34.0±1.5, 40°.32N±0°.03×124°.67W±0°.06, h30km±10km, n112, σ0.85/126, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.30	58		Pn	15 45 41.9	-0.6
KCTM					Sn	15 45 47.4	-0.5
KSMM	Slide Mountain	0.40	109		Pb	15 45 42.7	-0.3
KMPM	Mount Pierce	0.43	76		Pb	15 45 43.5	0.0
KMPM					Sb	15 45 49.7	-0.2
KCRM	Chalk Rock	0.66	80		Pn	15 45 47.0	-0.5
JCC	Jacoby Creek,	0.70	44	Pg	Pn	15 45 46.9	-1.0
KMRM	Mail Ridge	0.74	97		Pn	15 45 48.5	-0.1
KMRM					Sn	15 45 59.6	+0.7
KHMM	Horse Mountain	0.91	52		Pn	15 45 50.5	-0.4
KCSM	Cold Springs	0.91	76		Pn	15 45 50.7	-0.3
KBSM	Bell Springs	0.92	115		Pn	15 45 50.7	-0.3
KRPM	Rodgers	0.97	30		Pn	15 45 51.3	-0.5
KPPM	Pickett Peak	1.00	88		Pn	15 45 52.1	-0.2
KIPM	Iron Peak	1.04	119		Pn	15 45 52.6	-0.2
KCPM	Cahto Peak	1.05	127		Pn	15 45 52.5	-0.3
KHBM	Hayfork Bally	1.16	72		Pn	15 45 54.0	-0.4
KFPM	Farley Peak	1.17	125		Pn	15 45 54.2	-0.3
KBNM	Bluenose Ridge	1.21	110		Pn	15 45 55.1	0.0
GTC	Three Chop Rid	1.26	137		Pn	15 45 55.2	-0.4
KOMM	Orleans Mounta	1.33	44		Pn	15 45 56.5	-0.3
KRMB	Red Mountain	1.34	25		Pn	15 45 56.5	-0.3
LBPM	Beegum Peak	1.37	89		Pn	15 45 57.0	-0.2
GNAM	Navarro Ridge	1.38	144		Pn	15 45 56.9	-0.3
O02D	Mt. Diablo Mer	1.45	95	P	Pn	15 45 58.4	+0.1
	baz=276,SNR=190						
O02D				S	Sn	15 46 15.9	-0.4
	baz=276						
O02D	Mt. Diablo Mer	1.45	95		Pn	15 45 58.4	+0.1
LGPM	Granite Peak	1.52	66		Pn	15 45 59.2	-0.1
GWRM	Wonder Ranch	1.53	136		Pn	15 45 59.3	-0.1
GHOM	Hamilton Openi	1.54	145		Pn	15 45 59.2	-0.4
GHMM	Hull Mountain	1.57	121		Pn	15 45 59.8	-0.3
GROM	Round Mountain	1.58	104		Pn	15 45 60.8	+0.6
GVV	Valley View	1.62	109		Pn	15 46 00.6	-0.2
KSXB	Camp Six Broad	1.63	21		Pn	15 46 00.5	-0.3
N02D	Trinity Center	1.63	66	P	Pn	15 46 00.7	-0.1
	baz=246,SNR=43						
N02D				S	Sn	15 46 19.8	-1.1
	baz=246						
N02D	Trinity Center	1.63	66		Pn	15 46 00.8	-0.1
GASB	Alder Springs	1.64	113		Pn	15 46 00.8	-0.2
WDC	Whiskeytown Da	1.65	80		Pn	15 46 00.8	-0.1
WDC	Whiskeytown Da	1.65	80	Pn	Pn	15 46 00.5	-0.5
LBKM	Bonanza King	1.71	63		Pn	15 46 02.0	+0.1
GGUM	Gualala	1.72	148		Pn	15 46 01.5	-0.5
M02C	Callahan	1.75	51	P	Pn	15 46 02.2	-0.2
	baz=231,SNR=89						
M02C				S	Sn	15 46 22.0	-1.7
	baz=231						
M02C	Callahan	1.75	51		Pn	15 46 02.2	-0.2
GSNM	Snow Mountain	1.79	140		Pn	15 46 03.0	0.0
GHLM	Highland Sprin	1.80	134		Pn	15 46 02.9	-0.3
HOPS	Hopland Field	1.81	136		Pn	15 46 03.1	0.0
HOPS	Hopland Field	1.81	136	Pn	Pn	15 46 03.0	-0.1
KTRM	Thompson Ridge	1.87	31		Pn	15 46 03.9	-0.2
GCK	Clark Valley	1.88	114		Pn	15 46 05.5	+1.3
GDCM	Dry Creek	1.90	144		Pn	15 46 05.3	+0.8
KBO	Bosley Butte	1.92	10		Pn	15 46 04.2	-0.6
LTCM	Tuscan Springs	1.95	92		Pn	15 46 05.7	+0.5
L02E	Cave Junction	2.01	23	P	Pn	15 46 05.7	-0.2
	baz=203,SNR=1000						
L02E				S	Sn	15 46 29.3	-0.8
	baz=203						
L02E	Cave Junction	2.01	23		Pn	15 46 06.2	+0.2
GACM	Adobe Creek	2.01	135		Pn	15 46 06.3	+0.3
LCSM	College of the	2.05	57		Pn	15 46 06.7	+0.1
YBH	Yreka Blue Hor	2.05	46		Pn	15 46 06.8	+0.2
YBH	Yreka Blue Hor	2.05	46	Pn	Pn	15 46 06.6	0.0
GHCM	House Creek	2.06	146		Pn	15 46 06.5	-0.1
GSSM	Skaggs Springs	2.06	141		Pn	15 46 07.8	+1.1
GDXM	Geysers	2.09	136	Pn	Pn	15 46 07.6	+0.4
FTR	Fort Ross	2.14	146		Pn	15 46 07.6	-0.2
LGBM	Gray Butte	2.14	61		Pn	15 46 09.0	+1.0
M03C	McCloud	2.16	63		Pn	15 46 09.2	+1.1
O03E	Paynes Creek	2.19	90	P	Pn	15 46 08.2	-0.4
	baz=271,SNR=14						
O03E				S	Sn	15 46 34.2	-0.6
	baz=271						
O03E	Paynes Creek	2.19	90		Pn	15 46 08.3	-0.2
NMCNC	Mill Creek, So	2.20	141		Pn	15 46 08.5	0.0
LDBM	Digger Butte	2.21	86		Pn	15 46 08.6	-0.2
LMPM	Military Pass	2.23	58		Pn	15 46 10.6	+1.4
MNRC	McLaughlin Min	2.24	129		Pn	15 46 10.5	+1.3
LHEM	Herd Peak	2.27	54		Pn	15 46 10.9	+1.1
B040	Montague	2.28	48		Pn	15 46 10.2	+0.6
NMTM	Middletown	2.29	131		Pn	15 46 10.8	+1.0
LBFM	Black Fox Moun	2.35	63		Pn	15 46 11.9	+1.1
OSUM	Sutter Buttes	2.41	115		Pn	15 46 11.2	-0.3
MGL	Magalia	2.44	101		Pn	15 46 11.6	-0.4
SUTB	Sutter Butte	2.47	115		Pn	15 46 12.4	+0.1
K02D	Willamette Mer	2.49	17	P	Pn	15 46 12.6	-0.1
	baz=197,SNR=14						
K02D				S	Sn	15 46 40.6	-1.5
	baz=197						
LGMM	Garner Mountai	2.50	58		Pn	15 46 13.8	+0.9
ORV	Oroville	2.55	106		Pn	15 46 13.3	-0.1
ORV	Oroville	2.55	106	Pn	Pn	15 46 13.2	-0.2
KEBM	Edson Butte	2.56	6	Pn	Pn	15 46 13.3	-0.3
LTIM	Timbered Crate	2.56	69		Pn	15 46 14.3	+0.6
MCCM	Marconi Confer	2.58	147	Pn	Pn	15 46 14.0	+0.3
L04D	Klamath Falls	2.60	42	P	Pn	15 46 15.8	+1.6
	baz=223,SNR=45						
L04D				S	Sn	15 46 45.6	+0.7
	baz=223						
L04D	Klamath Falls	2.60	42		Pn	15 46 16.0	+1.8
CVS	Carmenet Viney	2.61	138		Pn	15 46 15.1	+0.9
HUMO	Hull Mountain	2.62	29		Pn	15 46 14.7	+0.3
HUMO	Hull Mountain	2.62	29	Pn	Pn	15 46 14.6	+0.2
LASM	Arnica Sink	2.67	60		Pn	15 46 15.6	+0.4
J01E	Myrtle Point	2.90	11	P	Pn	15 46 18.9	+0.8
	baz=190,SNR=18						
J01E				S	Sn	15 46 50.5	-1.4
	baz=190						
FARB	Farallon Islan	2.92	153		Pn	15 46 18.9	+0.4
AFDM	Forest Hills D	3.17	114		Pn	15 46 22.4	+0.5
K04D	Chiloquin, OR	3.18	43	P	Pn	15 46 23.5	+1.3
	baz=224						
J04D	Umpqua Nationa	3.49	32	P	Pn	15 46 28.8	+2.2
	baz=213						
I03D	Drain, OR	3.52	16	P	Pn	15 46 27.9	+1.2
	baz=196,SNR=11						
I03D				S	Sn	15 47 06.3	-0.9
	baz=196						
JPSM		3.60	149		Pn	15 46 28.6	+0.7
MOD	Modoc Plateau	3.66	63	Pn	Pn	15 46 29.1	+0.3
K05A	Summer Lake	3.72	48		Pn	15 46 30.6	+1.0
JBNB	Ben Lomond Mou	3.75	148		Pn	15 46 34.6	+4.7
I02D	Swisshome	3.83	9	P	Pn	15 46 33.2	+2.2
	baz=189,SNR=22						
I02D				S	Sn	15 47 13.7	-1.4
	baz=189						
I04A	Tendick Farm,	3.86	25	P	Pn	15 46 33.5	+2.1
	baz=206,SNR=13						
I04A				S	Sn	15 47 16.0	+0.2
	baz=206						
J05D	Fort Rock, OR	3.92	40	P	Pn	15 46 33.9	+1.6
	baz=221,SNR=12						
J05D				S	Sn	15 47 16.5	-1.0
	baz=221						
PNTR	Pine Nut	4.10	106		Pn	15 46 35.8	+0.9
PAHR	Pah Rah Range	4.11	97		Pn	15 46 35.4	+0.5
HMOM	Monterey	4.29	149		Pn	15 46 37.7	+0.4
SAO	San Andreas Ge	4.36	144	Pn	Pn	15 46 37.9	-0.4
YERR	Yerington	4.40	106		Pn	15 46 39.9	+1.0
H04D	Lebanon	4.44	18	P	Pn	15 46 42.2	+2.9
	baz=199						
PINE	Pine Mountain	4.45	37		Pn	15 46 41.3	+1.7
H04A	Detroit Lake	4.73	22		Pn	15 46 45.3	+1.9
RYN	Ryan	5.05	108	Pn	Pn	15 46 48.6	+0.8
KVN	Kaiserville	5.22	102		Pn	15 46 50.8	+0.5
NVAR	Mina Array Bea	5.28	109	Pn	Pn	15 46 52.8	+1.6
I07A	Izee	5.37	44	Pn	Pn	15 46 53.0	+0.7
NV11	Mina Array Sit	5.39	108	Pn	Pn	15 46 54.3	+1.8

MOS ***07*** *15:55:46.0±0.8, 4°.54N×127°.91E, h37km, mb5.4/55, MS4.0/5, Error ellipse: s-maj=7.9km s-min=4.3km az=113.1*

BJI ***07*** *15:55:46.4±0.0, 4°.26N×128°.20E, h65km, mB5.0/48, mb4.9/64, Ms4.3/54, Ms7 4.1/52*

IDC ***07*** *15:55:49.9±0.9, 4°.48N×127°.94E, h59km±7km, mb4.6/46, mb1 4.6/50, mb1mx4.6/57, mbtmp4.9/50, MS4.0/38, Ms1 4.0/38, ms1mx3.9/44, Error ellipse: s-maj=12.6km s-min=7.5km az=78.0*

NEIC ***07*** *15:55:49.6±1.6, 4°.46N±0°.06×127°.89E±0°.07, h58km±4km, mb5.2/150, Error ellipse: s-maj=10.8km s-min=8.1km az=70.0*

UNK ***07*** *15:55:50.5, 4°.47N×127°.91E, h67km*

GCMT ***07*** *15:55:50.7±0.3, 4°.59N±0°.02×127°.83E±0°.03, h33km±1km, MW5.0/80, Moment Tensor Solution. s46,c53; s80,c107; Duration: 0 Moment tensor: Scale 1016Nm; Mrr2.22±.16; Mθθ-0.34±.09; Mφφ-1.88±.10; Mrθ-1.81±.15; Mθφ0.60±.07; Mrφ2.76±.18; Best double couple: M0 3.93800×1016 NP1:φs170.00000°, δ17.00000°, λ110.00000°. NP2: φs329.00000°, δ74.00000°, λ84.00000°. Principal axes: T 4.0460, Plg61.0000°, Azm231.0000°; N -0.2170, Plg6.0000°, Azm331.0000°; P -3.8300, Plg28.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***07*** *15:55:51.6±0.3, 4°.N±2°×12°.8E±°, h59km±3km, M5.0/85, mb5.2/85, mB5.5/48, MLv5.4/12, Mw(mB)5.0/48, Mwp5.1/5*

KLM ***07*** *15:55:54.0, 4°.33N×127°.94E, h94km, mb5.3*

MAN ***07*** *15:55:54.7, 5°.44N×128°.27E, h63km, mb6.0, ML5.1, MS5.6*

ISC 07 15:55:49.6±0.4, 4°.47N±0°.03×127°.91E±0°.04, h56km±3km, n571, σ1§48/636, mb5.1/188, MS4.0/54, 21C-23D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	2.73	307	*e*P	Pn	15 56 30.6	-0.4
DDMP				*e*S	Sn	15 57 04.3	+1.6
MATI	Mati	2.96	326	*e*P	Pn	15 56 33.7	-0.5
MATI				*e*S	Sn	15 57 04.1	-4.4
DAV	Davao City (W)	3.47	318	P	Pn	15 56 43.0	+1.9
	85nm,0.3s,baz=90,slow=10,SNR=7.0						
DAV				S	Sn	15 57 28.0	+6.9
	291nm,0.3s,baz=126,slow=23,SNR=8.2						
DAV				LR	LR	15 57 48.9	
	comp=Z,2μm,19.0s,baz=30,slow=34						
DAV	Davao City (W)	3.47	318		Pn	15 56 41.4	+0.2
DAV	Davao City (W)	3.47	318⇑	*e*P	Pn	15 56 44.2	+3.0
TNTI	Ternate	3.72	188	P	Pn	15 56 46.8	+2.2
TNTI	Ternate	3.72	188	Pn	Pn	15 56 46.0	+1.5
KCP	Kidapawan	3.77	312⇑	*e*P	Pn	15 56 47.5	+2.1
KCP				*i* S	Sn	15 57 40.7	+12
SKMP	Bagumbayan, Su	3.92	301	*e*P	Pn	15 56 48.9	+1.5
SKMP				*e*S	Sn	15 57 36.2	+4.0
BUKP	Musuan	4.41	320	*e*P	Pn	15 56 56.4	+2.3
BUKP				*e*S	Sn	15 57 45.5	+1.1
KMSI	Cibinong	5.51	226	P	Pn	15 57 11.2	+2.0
	7.7nm17μm2μm,0.8s						
GLSP	General Luna,	5.57	342	*e*P	Pn	15 57 08.0	-1.9
GLSP				*e*S	Sn	15 58 05.1	-7.5
PAGZ	Pagadian	5.62	307	*e*P	Pn	15 57 12.1	+1.5
GTOI	Gorontalo	6.21	232	P	Pn	15 57 20.6	+1.9
	1.1nm3μm303nm,0.7s						
SIJI	Sorong	6.28	148	P	Pn	15 57 20.3	+0.6
	17nm,0.3s,baz=331,slow=23,SNR=48						
SIJI				S	Sn	15 58 27.4	-2.7
	9.2nm,0.3s,baz=304,slow=21,SNR=6.6						
ZCP	Zamboanga City	6.30	293⇑	*i* P	Pn	15 57 20.2	+0.2
ZCP				*i* S	Sn	15 58 29.9	-0.8
SANI	Sanana	6.76	197	P	Pn	15 57 25.4	-0.9
	3.1nm13μm790nm,1.0s						
LLP	Lapu-Lapu	7.00	326	*e*P	Pn	15 57 29.9	+0.3
LLP				*e*S	Sn	15 58 49.2	+1.3
OCLP	Ormoc	7.31	334	*e*P	Pn	15 57 32.4	-1.4
CNOP	Candoni, Negro	7.46	316	*e*P	Pn	15 57 38.0	+2.1
LUWI	Luwuk	7.51	223	P	Pn	15 57 38.1	+1.5
	4.0nm3μm8μm684nm,0.8s						
LUWI	Luwuk	7.51	223	Pn	Pn	15 57 38.5	+2.0
NLAI	Namlea	7.70	186	P	Pn	15 57 40.3	+1.1
	0.8nm2μm109nm,0.5s						
MSAI	Masohi	7.83	173	P	Pn	15 57 44.5	+3.5
	0.2nm896nm47nm,1.4s						
GUIM	Jordan	8.07	320	*e*P	Pn	15 57 47.5	+3.2
FAKI	Fak Fak	8.53	149	P	Pn	15 57 52.1	+1.6
	76nm,1.1s						
FAKI	Fak Fak	8.53	149	Pn	Pn	15 57 51.7	+1.2
JAP	San Jose, Anti	8.59	317⇓	*e*P	Pn	15 58 01.8	+10
CNP	Cataman	8.61	338	*e*P	Pn	15 57 48.9	-2.7
CNP				*e*S	Sn	15 59 17.2	-10
MPSI	Mapaga	9.00	243	P	Pn	15 57 59.2	+2.2
	2μm1μm138nm,1.0s						
BNDI	Bandanaira	9.15	167	P	Pn	15 58 00.0	+0.9
	338nm,0.6s						
MYLDM	Lahad Datu	9.40	275	Pn	Pn	15 58 04.8	+2.2
OTRP	Odiongan	9.77	324	*e*P	Pn	15 58 08.2	+0.8
PVCP	Virac	9.79	338	*e*P	Pn	15 58 07.8	-0.1
SRPI	Serui, Papua	10.44	127	P	Pn	15 58 18.0	+1.3
LQP	Lukban	11.46	327⇑	*e*P	Pn	15 58 36.7	+6.0
SPSI	Sidrap Palu	11.68	224	P	Pn	15 58 34.5	+0.8
	791nm87nm,0.8s						
KKM	Kota Kinabalu	11.75	278	Pn	Pn	15 58 36.1	+1.4
SMKI	Samarinda	11.76	246	P	Pn	15 58 31.6	-3.1
	9μm451nm,0.9s						
BNSI	Bone	11.77	222	P	Pn	15 58 29.6	-5.3
	72nm,1.1s						
TGY	Tagaytay City	11.78	325	LR	LR	16 04 46.9	
	comp=Z,668nm,18.6s,baz=148,slow=46						
BKB	Balikpapan	12.39	243	Pn	Pn	15 58 42.8	-0.6
BKSI	Bulukumba	12.46	219	P	Pn	15 58 43.9	-0.4
	650nm57nm,0.7s						
KAPI	Kappang	12.46	221	P	Pn	15 58 44.4	+0.1
	3.7nm,0.3s,baz=22,slow=6.4,SNR=11						
KAPI				S	Sn	16 00 59.8	-1.9
	0.6nm,0.3s,baz=82,slow=24,SNR=1.6						
KAPI				LR	LR	16 04 11.7	
	comp=Z,745nm,19.2s,baz=28,slow=40						
KAPI	Kappang	12.46	221	Pn	Pn	15 58 44.1	-0.2
SMPP	San Manuel, Pa	13.61	329	*e*P	Pn	15 59 00.0	0.0
CAUP	Cauayan	13.76	335	*e*P	Pn	15 58 57.6	-4.3
KBKI	Kotabaru	14.05	237	P	Pn	15 59 06.3	+0.4
	1μm144nm,1.1s						
MTKI	Muara Teweh, K	14.07	248	P	Pn	15 59 07.7	+1.4
	96nm,1.1s						
GENI	Genyem	14.12	120	P	P	15 59 17.1	+4.2
MMRI	Maumere	14.20	203	P	Pn	15 59 07.9	0.0
	3μm222nm,0.8s						
MMRI	Maumere	14.20	203	Pn	Pn	15 59 07.1	-0.8
EDFI	Ende, Flores	14.53	205	P	Pn	15 59 12.3	0.0
	1μm95nm,0.8s						
JAY	Jayapura	14.55	118	P	P	15 59 21.4	+3.8
	2.2nm,0.3s,baz=297,slow=6.3,SNR=17						
JAY				LR	LR	16 03 42.9	
	comp=Z,1μm,21.4s,baz=305,slow=33						
JAY	Jayapura	14.55	118	P	P	15 59 19.4	+1.7
	548nm54nm,1.0s						
SOEI	Soe	14.59	194	P	Pn	15 59 13.4	+0.2
	2μm227nm,1.0s						
SOEI	Soe	14.59	194	Pn	Pn	15 59 14.3	+1.1
BATI	Baumata	15.18	196	P	Pn	15 59 22.5	+1.7
	3.6nm,0.3s,baz=338,slow=4.0,SNR=21						
BATI				LR	LR	16 06 00.0	
	comp=Z,592nm,21.7s,baz=20,slow=40						
BATI	Baumata	15.18	196	P	Pn	15 59 21.3	+0.5
	1μm115nm,0.8s						
BBKI	Banjar Baru	15.25	239	P	Pn	15 59 22.8	+1.1
SBUM	Sibu	15.79	263	Pn	Pn	15 59 28.8	+0.3
SBUM	Sibu	15.79	263	P	Pn	15 59 30.0	+1.4
WSI	Waingapu	15.97	208	P	Pn	15 59 31.1	+0.3
	6μm455nm,1.1s						
BASI	Baing, Sumba	16.32	207	P	Pn	15 59 35.9	+0.6
	2μm147nm,1.6s						
WBSI	Waikabubak, Su	16.39	211	P	P	15 59 37.4	-0.8
	3μm448nm,0.9s						
PLAI	Plampang	16.63	217	P	P	15 59 40.5	-0.3
	5μm561nm,0.9s						
STKI	Sintang	16.99	256	P	P	15 59 46.5	+1.7
	82nm,1.2s						
TWSI	Taliwang, Sumb	17.12	220	P	P	15 59 46.2	0.0
	2μm239nm,0.7s						
MTN	Manton Dam	17.50	170	P	Pn	15 59 48.6	-1.3
	baz=18,SNR=45						
MTN	Manton Dam	17.50	170	Pn	Pn	15 59 48.2	-1.6
MTN				IAmb	IAmb	15 59 51.5	
	comp=Z,62nm,0.6s						
KDU	Kakadu	17.64	165	P	Pn	15 59 50.6	-1.0
	baz=18,SNR=26						
PBKI	Pangkalan Bun	17.73	247	P	P	15 59 53.8	+0.9
	comp=Z,254nm,0.9s						
KSM	Kuching	17.83	261	P	Pn	15 59 53.8	-0.2
KSM				IAmb	IAmb	15 59 58.4	
	comp=Z,176nm,1.0s						
KSM	Kuching	17.83	261	P	P	15 59 55.0	+0.9
JAGI	Jajag, Banyuwa	18.80	227	P	Pn	16 00 07.4	+1.6
	comp=Z,1μmcomp=Z,4μmcomp=Z,411nm,0.9s						
JAGI	Jajag, Banyuwa	18.80	227		P	16 00 04.1	-0.7
GUMO	Guam	19.02	60	P	Pn	16 00 09.5	+1.2
	comp=Z,2.9nm,0.3s,baz=192,slow=8.7,SNR=6.4						
GUMO				LR	LR	16 06 12.7	
	comp=Z,992nm,20.9s,baz=203,slow=33						
GUMO	Guam	19.02	60	P	Pn	16 00 09.6	+1.2
GUMO				pmax	pmax		
	comp=Z,68nm,0.9s						
GUMO	Guam	19.02	60	IAmb	IAmb	16 00 10.8	
	comp=Z,68nm,0.9s						
GMJI	Gumukmas	19.20	229	P	Pn	16 00 11.5	+1.0
	comp=Z,2μmcomp=Z,183nm,0.8s						
TWG	Pinlang	19.40	341	P	P	16 00 10.3	-0.9
TWG				IAmb	IAmb	16 00 22.3	
	comp=Z,126nm,0.6s						
YULB	Yu-li	19.86	342	P	P	16 00 15.2	-1.1
TPUB	Ta-pu	20.00	340	P	P	16 00 16.2	-1.6
TPUB				IAmb	IAmb	16 00 32.4	
	comp=Z,60nm,1.0s						
KNRA	Kununurra	20.04	178	P	P	16 00 17.7	-0.5
	baz=20,SNR=116						
KNRA	Kununurra	20.04	178	P	P	16 00 17.2	-1.0
KNRA				IAmb	IAmb	16 00 27.8	
	comp=Z,76nm,0.7s						
NGJI	Ngawi	20.20	234	P	Pn	16 00 21.6	-0.7
	comp=Z,130nm,1.1s						
PWJI	Pagerwojo	20.30	232	P	P	16 00 20.8	-0.3
	comp=Z,116nm,1.0s						
SSLB	Suanglung	20.34	341	P	P	16 00 20.5	-1.0
NACB	Ninganchiao	20.51	343	P	P	16 00 23.5	+0.2
DLV	T Lat	20.60	292	P	P	16 00 23.8	-0.7
DLV				IAmb	IAmb	16 00 29.2	
	comp=Z,80nm,1.0s						
SMRI	Semarang	20.86	237	P	P	16 00 28.4	+1.2
	comp=Z,155nm,1.1s						
SMRI	Semarang	20.86	237	P	P	16 00 26.7	-0.5
WOJI	Wonogiri, Jawa	20.90	234	P	P	16 00 28.6	+1.0
	comp=Z,59nm,1.3s						
UGM	Wanagama	21.27	235	P	P	16 00 30.5	-1.1
YOGI	Yogyakarta	21.40	235	P	P	16 00 34.3	+1.3
	comp=Z,278nm,0.9s						
TPI	Tanjungpandan	21.48	251	P	P	16 00 33.7	-0.1
	comp=Z,1μmcomp=Z,94nm,1.0s						
KNMB	Chin-men Tao	21.89	336	P	P	16 00 37.2	-0.9
KNMB				IAmb	IAmb	16 00 51.7	
	comp=Z,55nm,0.7s						
FITZ	Fitzroy Crossi	22.54	186	P	P	16 00 44.5	-0.6
	comp=Z,11nm,0.5s,baz=17,slow=7.9,SNR=46						
FITZ				S	S	16 04 43.2	-5.5
	comp=Z,4.2nm,1.0s,baz=341,slow=17,SNR=1.4						
FITZ				ScP	ScP	16 08 08.7	-1.7
	comp=Z,5.2nm,0.7s,baz=259,slow=1.0,SNR=9.2						
FITZ				LR	LR	16 10 49.6	
	comp=Z,204nm,20.2s,baz=18,slow=40						
FITZ	Fitzroy Crossi	22.54	186	P	P	16 00 44.8	-0.3
	baz=23,SNR=22						
FITZ	Fitzroy Crossi	22.54	186	P	P	16 00 43.7	-1.4
PPBI	Pangkal Pinang	22.73	254	P	P	16 00 47.7	+0.4
	comp=Z,1μmcomp=Z,58nm,1.1s						
QIZ	Qiongzhong	22.81	311	P	P	16 00 47.7	-0.3
QIZ				S	S	16 04 53.6	+0.3
QIZ				LR	LR		
	comp=Z,340nm,18.1s						
QIZ				LR	LR		
	comp=Z,410nm,12.5s						
QIZ				LR	LR		
	comp=Z,450nm,19.0s						
QIZ	Qiongzhong	22.81	311	P	P	16 00 46.3	-1.8
LEM	Lembang	23.16	241	P	P	16 00 52.5	+0.7
	comp=Z,118nm,0.8s,baz=24,slow=8.0,SNR=23						
LEM				LR	LR	16 10 28.0	
	comp=Z

comp=Z,886nm,21.2s,baz=288,slow=32
LWLI Liwa 25.62 249 P **P 16 01 15.1 +0.8**
comp=Z,8μmcomp=Z,96nm,1.0s
LHSI Lahat 25.72 252 P **P 16 01 16.5 +1.4**
comp=Z,65nm,2.0s
JCJ Chichijima 26.30 30 P **P 16 01 19.6 -0.6**
comp=Z,202nm,0.5s,baz=228,slow=2.8,SNR=36
JCJ LR LR 16 09 31.3
comp=Z,684nm,21.7s,baz=256,slow=31
MNAI Manna 26.43 251 P **P 16 01 20.7 -0.8**
KSI Kapahiang 26.55 253 P **P 16 01 28.2 +5.5**
XMIS Christmas Isla 26.68 236 P **P 16 01 22.6 -1.2**
IPM Ipoh 26.80 271 P **P 16 01 27.0 +2.1**
SDSI Sungai Dareh 27.00 259 P **P 16 01 26.2 -0.4**
comp=Z,40nm,1.4s
KULM Kulim 27.18 273 P **P 16 01 30.0 +1.8**
KRJI Kerinci 27.22 257 P **P 16 01 30.1 +1.4**
comp=Z,4μmcomp=Z,118nm,1.2s
SSE Sheshan 27.23 347 P **P 16 01 29.7 +1.3**
SSE S **S 16 06 05.3 +1.7**
SSE pmax pmax
comp=Z,10.0nm,0.7s
SSE LR LR
comp=Z,120nm,16.9s
SSE LR LR
comp=Z,100nm,23.9s
SSE LR LR
comp=Z,120nm,18.2s
QIS Mount Isa 27.40 156 P **P 16 01 29.8 -0.3**
baz=28,SNR=10
MTSU Mount Surprise 27.68 145 P **P 16 01 32.8 +0.1**
baz=28,SNR=6.6
PDSI Padang 27.94 260 P **P 16 01 34.2 -0.9**
comp=Z,27nm,0.9s
MNSI Mandailing Nat 28.53 263 P **P 16 01 40.9 +0.6**
comp=Z,47nm,0.9s
AS31 Alice Springs 28.57 168 P **P 16 01 39.8 -0.7**
ASAR Alice Springs 28.57 168 P **P 16 01 40.2 -0.4**
comp=Z,6.1nm,0.5s,baz=357,slow=7.8,SNR=195
ASAR S **S 16 06 21.4 -3.7**
comp=Z,2.0nm,0.8s,baz=352,slow=21,SNR=5.2
ASAR ScP **ScP 16 08 27.4 -0.2**
comp=Z,7.3nm,0.8s,baz=345,slow=2.9,SNR=20
ASAR PKiKP **PKiKP 16 12 18.9 -7.2**
comp=Z,1.0nm,0.8s,baz=345,slow=5.2,SNR=7.4
ASAR LR LR 16 14 40.9
comp=Z,354nm,18.5s,baz=338,slow=40
ASAR Alice Springs 28.57 168 P **P 16 01 41.9 +1.3**
JNU Nakatsue 28.64 5 P **P 16 01 40.0 -1.0**
comp=Z,19nm,0.6s,baz=186,slow=2.5,SNR=24
JNU LR LR 16 11 32.0
comp=Z,405nm,21.9s,baz=178,slow=33
SLVN Son La 28.70 308 P **P 16 01 42.0 +0.1**
NJ2 Nanjing 28.72 344 *e*P **P 16 01 43.7 +2.0**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
WHN Wuhan 28.92 335 P P 16 01 48.5 +5.0
WHN S **S 16 06 33.0 +2.8**
WHN LR LR
comp=Z,330nm,11.2s
WHN LR LR
comp=Z,280nm,6.9s
WHN LR LR
comp=Z,630nm,16.3s
PSI Prapat 28.98 268 P **P 16 01 45.1 +0.7**
comp=Z,4.5nm,0.6s,baz=356,slow=1.8,SNR=4.9
PSI ScP **ScP 16 08 28.7 -0.6**
comp=Z,2.9nm,0.3s,baz=360,slow=1.7,SNR=4.4
PSI LR LR 16 14 10.2
comp=Z,472nm,21.6s,baz=90,slow=38
RPSI Rantau Prapat 28.98 268 P **P 16 01 45.1 +0.8**
RPSI **ScP 16 08 28.7 -0.5**
WRKA Warakurna 29.34 179 P **P 16 01 47.4 +0.1**
baz=30,SNR=16
SISI Saibi 29.37 259 P **P 16 01 44.9 -2.9**
comp=Z,22nm,0.8s
GYA Guiyang 29.85 319 ⇑P **P 16 01 54.0 +2.0**
GYA pP sP 16 02 13.2 +1.9
GYA S **S 16 06 44.2 -1.1**
GYA pmax pmax
comp=Z,13nm,0.6s
GYA pmax pmax
comp=Z,110nm,3.7s
GYA LR LR
comp=Z,270nm,10.4s
GYA LR LR
comp=Z,220nm,14.9s
GYA LR LR
comp=Z,390nm,18.0s
GSI Gunungsitoli 30.46 265 P **P 16 01 57.0 -0.4**
comp=Z,47nm,0.8s
GSI Gunungsitoli 30.46 265 P **P 16 01 56.1 -1.3**
GSI IAmb IAmb 16 02 08.5
comp=Z,42nm,0.9s
ENH Enshi 31.00 328 P **P 16 02 02.1 +0.1**
ENH IAmb IAmb 16 02 06.9
comp=Z,37nm,0.8s
CM31 Chiang Mai Arr 31.54 298 P **P 16 02 07.2 +0.3**
CMAR Chiang Mai Arr 31.54 298 P **P 16 02 07.4 +0.5**
comp=Z,8.4nm,0.8s,baz=113,slow=6.9,SNR=40
CMAR PcP **PcP 16 04 59.3 +0.6**
comp=Z,1.6nm,0.7s,baz=96,slow=5.5,SNR=2.2
CMAR ScP **ScP 16 08 38.3 +0.9**
comp=Z,4.4nm,1.0s,baz=143,slow=1.7,SNR=13
CMAR LR LR 16 16 02.7
comp=Z,328nm,18.2s,baz=151,slow=38
CMAR Chiang Mai Arr 31.54 298 P **P 16 02 06.2 -0.6**
CHTO Chiang Mai 31.67 299 P **P 16 02 07.6 -0.5**
CHTO pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 31.67 299 P **P 16 02 07.6 -0.5**
KMI Kunming 31.72 313 *e*P **P 16 02 10.7 +2.1**
KMI pP pwP 16 02 27.1 +1.0
KMI sP sP 16 02 35.0 +7.2
KMI PP **PP 16 03 17.9 -3.2**
KMI S **S 16 07 14.8 0.0**
KMI sS sS 16 07 43.5 +6.2
KMI SS **SnSn 16 09 09.2 +3.2**
KMI pmax pmax
comp=Z,12nm,0.7s
KMI pmax pmax
comp=Z,110nm,6.5s
KMI LR LR
comp=Z,170nm,20.6s
KMI LR LR
comp=Z,150nm,19.1s
KMI LR LR
comp=Z,260nm,20.5s
TJN Taejon 31.75 359 ⇑*i*P **P 16 02 08.0 -0.5**
INU Inuyama 31.86 14 P **P 16 02 08.7 -0.7**
INU IAmb IAmb 16 02 10.1
comp=Z,30nm,0.8s
MEEK Meekatharra 32.21 196 P **P 16 02 12.6 -0.1**
baz=32,SNR=12
KSAR Wonju Array Be 32.81 360 P **P 16 02 17.1 -0.7**
KSAR Wonju Array Be 32.81 360 P **P 16 02 17.1 -0.7**
KSAR ScP **ScP 16 08 41.3 -0.1**
KSRS Korea Array 32.83 0 P **P 16 02 17.5 -0.4**
comp=Z,20nm,0.7s,baz=177,slow=9.8,SNR=146
KSRS PcP **PcP 16 05 01.8 -0.1**
comp=Z,1.8nm,0.8s,baz=177,slow=3.6,SNR=5.2
KSRS ScP **ScP 16 08 41.8 +0.4**
comp=Z,7.1nm,0.9s,baz=188,slow=3.8,SNR=24
KSRS LR LR 16 20 09.9
comp=Z,148nm,18.4s,baz=174,slow=44
KS19 Wonju Array Si 32.87 360 P **P 16 02 17.4 -0.9**
KS19 IAmb IAmb 16 02 18.5
comp=Z,21nm,0.8s
INCN Inchon 32.88 358 P **P 16 02 17.4 -1.0**
INCN pmax pmax
comp=Z,11nm,0.7s
INCN Inchon 32.88 358 P **P 16 02 17.4 -1.0**
TIA Tai'an 33.11 344 P **P 16 02 19.6 -0.8**
TIA pmax pmax
comp=Z,9.0nm,0.5s
TIA LR LR
comp=Z,160nm,20.2s
MAJO Matsushiro 33.29 15*c i*P **P 16 02 20.7 -1.3**
MAJO pmax pmax
comp=Z,11nm,1.1s
MAJO Matsushiro 33.29 15 P **P 16 02 20.0 -2.0**
MAT Matsushiro 33.29 15 P **P 16 02 20.2 -1.8**
MAT S **S 16 07 46.4 +7.8**
MJAR Matsushiro Arr 33.29 15 P **P 16 02 20.6 -1.4**
comp=Z,9.1nm,0.6s,baz=186,slow=10,SNR=51
MJAR PcP **PcP 16 05 04.2 +1.0**
comp=Z,4.0nm,0.8s,baz=188,slow=2.7,SNR=6.7
MJAR ScP **ScP 16 08 42.4 -0.7**
comp=Z,2.5nm,1.0s,baz=189,slow=3.1,SNR=6.7
MJAR LR LR 16 13 52.6
comp=Z,888nm,21.4s,baz=200,slow=32
MJAR Matsushiro Arr 33.29 15 P **P 16 02 19.7 -2.3**
MJAR ScP **ScP 16 08 42.4 -0.7**
XAN Xi'an 34.31 331 P **P 16 02 30.7 -0.2**
XAN pP sP 16 02 51.1 +1.2
XAN PcP **PcP 16 05 06.4 +0.2**
XAN S **S 16 07 48.6 -5.9**
XAN pmax pmax
comp=Z,59nm,0.8s
XAN pmax pmax
comp=Z,190nm,3.6s
XAN LR LR
comp=Z,270nm,23.5s
XAN LR LR
comp=Z,130nm,15.2s
XAN LR LR
comp=Z,410nm,19.6s
XAN Xi'an 34.31 331 P **P 16 02 30.4 -0.5**
XAN pmax pmax
comp=Z,73nm,0.9s
XAN Xi'an 34.31 331 P **P 16 02 30.4 -0.5**
DL2 Dalian 34.75 351 P **P 16 02 34.6 +0.1**
DL2 S **S 16 08 01.0 0.0**
DL2 pmax pmax
comp=Z,22nm,0.7s
DL2 LR LR
comp=Z,180nm,20.9s
DL2 LR LR
comp=Z,220nm,19.2s
DL2 LR LR
comp=Z,280nm,18.4s
CD2 Chengdu 34.77 322 P **P 16 02 35.4 +0.5**
CD2 S **S 16 08 02.3 +0.7**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,620nm,15.7s
CD2 LR LR
comp=Z,540nm,15.7s
CD2 LR LR
comp=Z,570nm,17.7s
FORT Forrest 35.05 180 P **P 16 02 37.6 +0.3**
baz=35,SNR=26
FORT Forrest 35.05 180 P **P 16 02 36.7 -0.5**
MORW Morawa 35.25 198 P **P 16 02 39.3 +0.3**
baz=36,SNR=7.0
MORW Morawa 35.25 198 P **P 16 02 38.6 -0.4**
MORW IAmb IAmb 16 02 52.9
comp=Z,39nm,0.9s
KMBL Kambalda 36.10 189 P **P 16 02 46.3 0.0**
baz=36,SNR=11
BLDU Ballidu 36.50 196 P **P 16 02 50.0 +0.3**
baz=37,SNR=8.5
BJI Beijing 36.96 345 P **P 16 02 53.0 -0.5**
BJI S **S 16 08 38.9 +4.1**
BJI pmax pmax
comp=Z,14nm,0.7s
BJI LR LR
comp=Z,140nm,17.3s
BJI LR LR
comp=Z,150nm,16.7s
KLBR Kellerberrin 37.15 194 P **P 16 02 55.5 +0.3**
baz=37,SNR=14
BBOO Buckleboo 37.88 169 P **P 16 03 01.6 +0.3**
baz=38,SNR=14
BBOO Buckleboo 37.88 169 P **P 16 03 00.9 -0.5**
BBOO IAmb IAmb 16 03 06.0
comp=Z,35nm,1.0s
MUN Mundaring 37.92 196 P **P 16 03 03.5 +1.8**
baz=38,SNR=6.0
SAIH SAIHA 38.23 301 *e*P **P 16 03 04.8 0.0**
STKA Stephens Creek 38.42 161 P **P 16 03 05.8 -0.2**
comp=Z,54nm,0.8s,baz=328,slow=10,SNR=42
STKA ScP **ScP 16 09 02.4 +0.5**
comp=Z,3.0nm,0.9s,baz=315,slow=4.3,SNR=2.8
STKA LR LR 16 20 09.2
comp=Z,175nm,21.1s,baz=343,slow=38
STKA Stephens Creek 38.42 161 P **P 16 03 05.8 -0.2**
baz=39,SNR=29
STKA Stephens Creek 38.42 161 P **P 16 03 05.5 -0.5**
LZH Lanzhou 38.48 328 *e*P **P 16 03 08.2 +1.6**
LZH pP pwP 16 03 22.5 -1.1
LZH S **S 16 08 58.8 +0.4**
LZH pmax pmax
comp=Z,62nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.6s
LZH LR LR
comp=Z,530nm,15.5s
LZH LR LR
comp=Z,330nm,15.7s
LZH LR LR
comp=Z,300nm,17.3s
NWAO Narrogin (SRO) 38.55 194 P **P 16 03 07.7 +0.7**
baz=39,SNR=6.1
NWAO Narrogin (SRO) 38.55 194 P **P 16 03 06.9 -0.1**
NWAO pmax pmax
comp=Z,65nm,1.2s
NWAO Narrogin (SRO) 38.55 194 P **P 16 03 06.9 -0.1**
VLA Vladivostok 38.65 5*de*P **P 16 03 07.8 +0.1**
VLA pmax pmax
comp=Z,23nm,0.9s
HHC Hu-ho-hao-te 39.09 340 *e*P **P 16 03 12.8 +1.3**
HHC S **S 16 09 07.9 +0.7**
HHC SS **SS 16 11 54.9 -6.6**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,77nm,6.3s
HHC LR LR
comp=Z,140nm,19.4s
HHC LR LR
comp=Z,250nm,20.4s
HHC LR LR
comp=Z,240nm,20.2s
HTT Hallett 39.11 165 P **P 16 03 13.8 +2.0**
baz=39,SNR=5.3
USRK Ussuriysk Ar. 39.73 5 P **P 16 03 16.7 0.0**
comp=Z,11nm,0.8s,baz=187,slow=7.6,SNR=51
USRK ScP **ScP 16 09 06.4 -0.2**
comp=Z,4.3nm,1.1s,baz=204,slow=4.2,SNR=6.3
USRK LR LR 16 17 20.1
comp=Z,200nm,20.9s,baz=168,slow=32
USRK Ussuriysk Ar. 39.73 5 P **P 16 03 16.3 -0.4**
ZIRO ZIRO 39.73 309 *e*P **P 16 03 15.7 -1.5**
ZIRO *e*S **S 16 09 10.7 -6.7**
USA0B Ussuriysk Arra 39.73 5 P **P 16 03 16.4 -0.3**
USA0B pmax pmax
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 39.73 5 P **P 16 03 16.4 -0.3**
ERM Erimo 39.78 18 P **P 16 03 17.5 +0.3**
ERM pmax pmax
comp=Z,64nm,1.3s
ERM Erimo 39.78 18 P **P 16 03 17.5 +0.3**
ERM IAmb IAmb 16 03 42.1
comp=Z,64nm,1.2s
MDJ Mudanjiang 40.01 2 P **P 16 03 19.1 +0.1**
MDJ pmax pmax
comp=Z,22nm,0.9s
MDJ pmax pmax
comp=Z,70nm,3.9s
MDJ Mudanjiang 40.01 2 P **P 16 03 18.9 -0.1**
TEZP TEZPUR 40.13 307 *e*P **P 16 03 20.4 +0.1**
H11S3 WAKE ISLAND Hy 40.35 67 T T 16 46 57.0
baz=253,slow=75,SNR=18
H11S1 WAKE ISLAND Hy 40.37 67 T T 16 46 56.0
baz=253,slow=75,SNR=10
H11S2 WAKE ISLAND Hy 40.37 67 T T 16 46 58.0
baz=253,slow=75,SNR=15
SHL Shillong 40.40 305 *e*P **P 16 03 22.4 -0.5**
SHL IAmb IAmb 16 03 25.7
comp=Z,44nm,0.9s
SHL Shillong 40.40 305 P **P 16 03 22.2 -0.6**
SHL pmax pmax
comp=Z,65nm,0.5s
SHL Shillong 40.40 305 P **P 16 03 22.2 -0.6**
H11N1 WAKE ISLAND Hy 40.87 65 T T 16 48 43.3
baz=264,slow=74
H11N2 WAKE ISLAND Hy 40.88 65 T T 16 48 46.8
baz=264
H11N3 WAKE ISLAND Hy 40.89 65 T T 16 48 50.9
baz=264,slow=74
ARMA Armidale 41.46 148 P **P 16 03 32.6 +1.3**
baz=42,SNR=6.6
ARMA Armidale 41.46 148 P **P 16 03 31.5 +0.2**
LSA Lhasa 42.85 310 P **P 16 03 43.8 +0.6**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 42.85 310 P **P 16 03 43.8 +0.6**
ARPS Mount Arapiles 43.04 164 P **P 16 03 44.8 +0.9**
baz=43,SNR=22
GTA Gaotai 43.09 328 ⇓P **P 16 03 45.3 +0.8**
GTA pP pP 16 03 59.6 +1.7
GTA sP sP 16 04 06.8 +2.9
GTA ScP **ScP 16 09 19.8 -0.5**
GTA S **S 16 10 04.4 -2.3**
GTA ScS **ScS 16 13 39.1 -1.1**
GTA pmax pmax
comp=Z,39nm,0.8s
GTA pmax pmax
comp=Z,100nm,7.6s
GTA LR LR
comp=Z,150nm,21.6s
GTA LR LR
comp=Z,190nm,18.4s
GTA LR LR
comp=Z,290nm,18.4s
YSS Yuzh-Sakhalins 44.22 15 *e*P **P 16 03 53.1 -0.2**
YSS *e**PP **pP 16 04 07.2 +1.3**
YSS *e* 16 05 37.4
YSS *e*S **S 16 10 28.3 +5.5**
YSS *e*SS **ScS 16 13 52.2 +5.5**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS MLR MLR
comp=N,200nm,16.0s
YSS Yuzh-Sakhalins 44.22 15 P **P 16 03 52.4 -0.9**
TAPN Taplejung 44.54 305 *e*P **P 16 03 56.9 +0.3**
comp=N,66nm,0.5s
TAPN Taplejung 44.54 305 *e*P **P 16 03 56.9 +0.3**
comp=N,66nm,0.5s
ODAN Odare 44.62 304 *e*P **P 16 03 57.3 +0.2**
comp=N,78nm,0.5s
ODAN Odare 44.62 304 *e*P **P 16 03 57.3 +0.2**
comp=N,78nm,0.5s
KLR Kul'dur 44.72 4 P **P 16 03 57.0 -0.2**
comp=N,5.8nm,0.5s,baz=165,slow=5.7,SNR=21
KLR ScP **ScP 16 09 25.9 -0.6**
comp=N,3.4nm,0.9s,baz=236,slow=2.6,SNR=5.6
KLR Kul'dur 44.72 4*d i*P **P 16 03 56.7 -0.5**
KLR pmax pmax
comp=Z,5.0nm,0.6s
BOK Bokaro 44.81 300 *e*P **P 16 04 00.0 +1.6**
TOO Toolangi 44.91 160 P **P 16 04 00.1 +1.0**
baz=45,SNR=3.9
TOO Toolangi 44.91 160 P **P 16 03 59.3 +0.3**
TOO pmax pmax
comp=Z,30nm,1.4s
TOO Toolangi 44.91 160 P **P 16 03 59.3 +0.3**
RAMN Ramite 45.30 304 *e*P **P 16 04 02.7 +0.1**
comp=Z,46nm,0.6s
RAMN Ramite 45.30 304 *e*P **P 16 04 02.7 +0.1**
comp=Z,46nm,0.6s
JIRN Jiri 45.91 305 *e*P **P 16 04 07.8 +0.3**
comp=Z,101nm,0.6s
JIRN Jiri 45.91 305 *e*P **P 16 04 07.8 +0.3**
comp=Z,101nm,0.6s
DZM Mont Dzumac 46.01 127 *e*LR LR 16 17 08.2
comp=Z,459nm,26.2s
GUN Gumba 46.26 305 *e*P **P 16 04 10.3 +0.1**
comp=Z,76nm,0.6s
GUN Gumba 46.26 305 *e*P **P 16 04 10.3 +0.1**
comp=Z,76nm,0.6s
LHI Lord Howe Isla 46.50 142 P **P 16 04 11.1 -0.5**
PKI Pulchoki 46.52 304 *e*P **P 16 04 11.8 -0.4**
comp=Z,74nm,1.2s
PKI Pulchoki 46.52 304 *e*P **P 16 04 11.8 -0.4**
comp=Z,74nm,1.2s
KKN Kakani 46.70 304 *e*P **P 16 04 13.3 -0.3**
comp=Z,63nm,1.1s
KKN Kakani 46.70 304 *e*P **P 16 04 13.3 -0.3**
comp=Z,63nm,1.1s
DMN Daman 46.78 304 *e*P **P 16 04 14.4 +0.2**
comp=Z,42nm,0.8s
DMN Daman 46.78 304 *e*P **P 16 04 14.4 +0.2**
comp=Z,42nm,0.8s
ULN Ulaanbaatar 46.80 341*d i*P **P 16 04 14.2 +0.3**
ULN pmax pmax
comp=Z,50nm,1.0s
ULN Ulaanbaatar 46.80 341 P **P 16 04 13.4 -0.4**
ULN IAmb IAmb 16 04 15.2
comp=Z,34nm,0.7s
SONM Songino Array 46.99 340 P **P 16 04 15.6 +0.2**
comp=Z,13nm,0.7s,baz=156,slow=8.2,SNR=48
SONM PcP **PcP 16 05 47.0 0.0**
comp=Z,2.2nm,0.5s,baz=165,slow=4.8,SNR=1.8
SONM ScP **ScP 16 09 35.0 -1.2**
comp=Z,2.6nm,0.9s,baz=151,slow=4.1,SNR=5.9
SONM LR LR 16 25 41.5
comp=Z,115nm,21.7s,baz=152,slow=38
SONM Songino Array 46.99 340 P **P 16 04 15.1 -0.2**
SONM Songino Array 46.99 340 ScP **ScP 16 09 35.6 -0.7**
GKN Gorkha 47.31 304 *e*P **P 16 04 18.0 -0.2**
comp=Z,24nm,0.5s
GKN Gorkha 47.31 304 *e*P **P 16 04 18.0 -0.2**
comp=Z,24nm,0.5s
KOLN Koldanda 48.08 304 *e*P **P 16 04 24.5 +0.2**
comp=Z,111nm,0.6s
KOLN Koldanda 48.08 304 *e*P **P 16 04 24.5 +0.2**
comp=Z,111nm,0.6s
PYUN Piuthan 48.70 304 *e*P **P 16 04 29.4 +0.3**
comp=Z,61nm,0.5s
PYUN Piuthan 48.70 304 *e*P **P 16 04 29.4 +0.3**
comp=Z,61nm,0.5s
ZEA Zeya 49.11 359 *e*P **P 16 04 30.2 -1.3**
ZEA pmax pmax
comp=Z,9.0nm,1.0s
HYB Hyderabad 49.98 289 *i*P **P 16 04 39.0 +0.2**
HYB Hyderabad 49.98 289 *e*P **P 16 04 40.3 +1.5**
ZAK Zakamensk 50.23 340 *e*P **P 16 04 39.6 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TLY Talaya 51.21 341 P **P 16 04 47.6 +0.2**
comp=Z,2.4nm,0.3s,baz=193,slow=4.8,SNR=11
TLY Talaya 51.21 341 *e*P **P 16 04 48.0 +0.6**
TLY pmax pmax
comp=Z,24nm,0.8s
TLY Talaya 51.21 341 P **P 16 04 46.4 -1.0**
IRK Irkutsk 51.49 342 *e*P **P 16 04 49.4 -0.1**
IRK pmax pmax
comp=Z,28nm,2.2s
MOY Mondy 52.10 339 *e*P **P 16 04 55.0 +0.8**
MOY pmax pmax
comp=Z,30nm,1.9s
BHPL Bhopal 52.13 296 *e*P **P 16 04 54.4 -0.4**
WMQ Urumqi 52.81 324 *e*P **P 16 05 03.6 +4.1**
WMQ pP sP 16 05 19.7 +0.5
WMQ sP pwP 16 05 25.6 +7.7
WMQ S **S 16 12 26.1 +2.0**
WMQ pmax pmax
comp=Z,25nm,1.3s
WMQ pmax pmax
comp=Z,77nm,4.1s
WMQ LR LR
comp=Z,260nm,17.3s
WMQ LR LR
comp=Z,230nm,20.3s
WMQ LR LR
comp=Z,120nm,22.7s
DDI Dehra Dun 53.51 305 *e*P **P 16 05 05.7 +0.8**
MSVF Nonsavu 54.16 116⇑*e*P **P 16 05 10.7 +0.9**
MSVF pmax pmax
comp=Z,16nm,0.9s
MSVF Nonsavu 54.16 116 P **P 16 05 09.2 -0.6**
MSVF IAmb IAmb 16 05 28.9
comp=Z,35nm,1.1s
PEA0B Petropavlovsk- 54.30 22*c i*P **P 16 05 11.0 +0.8**
PEA0B Petropavlovsk- 54.30 22 P **P 16 05 10.7 +0.5**
PETK Petropavlovsk- 54.30 22 P **P 16 05 11.2 +1.0**
comp=Z,32nm,0.6s,baz=187,slow=5.7,SNR=100
PETK LR LR 16 25 05.0
comp=Z,150nm,21.9s,slow=32
PETK Petropavlovsk- 54.30 22 P **P 16 05 10.6 +0.4**
BOD Bodaibo 54.31 351 *e*P **P 16 05 10.1 -0.1**

BOD pmax pmax
comp=Z,18nm,1.1s
SMLA Simla 54.49 305 *e*P **P 16 05 11.7 -0.2**
SMLA IAmb IAmb 16 05 16.5
comp=Z,24nm,0.6s
PET Petropavlovsk 54.59 22 P **P 16 05 12.6 +0.3**
PET pmax pmax
comp=Z,13nm,0.7s
PET Petropavlovsk 54.59 22 P **P 16 05 12.6 +0.3**
PET IAmb IAmb 16 05 13.2
comp=Z,13nm,0.7s
DHRM DHARAMSHALA 55.55 306 *e*P **P 16 05 19.5 -0.3**
ZSN Zaisan 56.54 326 *e*P **P 16 05 27.6 +1.2**
baz=326
ZSN *e*S **S 16 13 15.6 +1.7**
baz=326
ZSN Zaisan 56.54 326 *e*P **P 16 05 27.6 +1.2**
ZSN *e*S **S 16 13 15.6 +1.7**
DGZ Jazzator, Alta 56.54 330 *d i*P **P 16 05 27.1 +0.5**
DGZ pmax pmax
comp=Z,8.0nm,0.7s
YAK Yakutsk 57.44 1 *d i*P **P 16 05 31.9 -0.5**
YAK *e**PP **pP 16 05 43.6 -2.8**
YAK *e* 16 06 24.8
YAK *e*S **S 16 13 22.5 -2.8**
YAK *e**SS **sS 16 13 44.9 -2.4**
YAK *e* 16 15 13.7
YAK *e*SS **SS 16 17 11.4 -4.3**
YAK *e*SSS SSS 16 19 40.2
YAK pmax pmax
comp=Z,39nm,0.8s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,6.0nm,1.0s
YAK smax smax
comp=N,13nm,2.0s
YAK smax smax
comp=E,16nm,2.1s
YAK Yakutsk 57.44 1 P **P 16 05 32.3 -0.1**
SHLS Shalkode 57.54 320 *e*P **P 16 05 32.5 -1.2**
comp=E,30nm,1.1s,baz=320
SHLS *e*S **S 16 13 25.3 -2.2**
baz=320
SHLS Shalkode 57.54 320 *e*P **P 16 05 32.5 -1.2**
SHLS *e*S **S 16 13 25.3 -2.2**
SHLS pmax pmax
comp=Z,30nm,1.1s
PDGK Podgornoye 57.60 320 P **P 16 05 34.1 -0.1**
MK31 Makanchi Array 57.63 324 *e*P **P 16 05 34.5 +0.3**
MK31 Makanchi Array 57.63 324 P **P 16 05 34.5 +0.3**
MK31 IAmb IAmb 16 05 39.0
comp=Z,23nm,0.9s
MKAR Makanchi Array 57.63 324 P **P 16 05 34.8 +0.6**
comp=Z,9.5nm,0.3s,baz=118,slow=8.5,SNR=113
MKAR ScP **ScP 16 10 20.1 -2.2**
comp=Z,0.5nm,0.6s,baz=148,slow=5.1,SNR=4.6
MKAR S **S 16 13 29.0 +0.6**
comp=Z,0.5nm,0.8s,baz=123,slow=16,SNR=3.9
MKAR LR LR 16 32 02.2
comp=Z,135nm,19.9s,baz=110,slow=38
MKAR Makanchi Array 57.63 324 P **P 16 05 34.5 +0.3**
MAKZ Makanchi 57.82 324 P **P 16 05 35.9 +0.4**
MAKZ pmax pmax
comp=Z,34nm,1.0s
MAKZ Makanchi 57.82 324 P **P 16 05 35.9 +0.4**
UZB Uzynbulak 57.82 319 *e*P **P 16 05 36.3 +0.6**
comp=Z,17nm,1.0s,baz=319
UZB Uzynbulak 57.82 319 *e*P **P 16 05 36.3 +0.6**
UZB pmax pmax
comp=Z,17nm,1.0s
PRZ Przheval'sk 57.93 318 P **P 16 05 37.7 +1.2**
PRZ pmax pmax
comp=Z,40nm,1.0s
PRZ Przheval'sk 57.93 318 P **P 16 05 37.6 +1.2**
SATY Saty 58.18 319 *e*P **P 16 05 39.0 +0.8**
comp=Z,14nm,0.8s,baz=319
SATY Saty 58.18 319 *e*P **P 16 05 39.0 +0.8**
SATY pmax pmax
comp=Z,14nm,0.8s
KPKS Kokpek 58.19 320 *i*P **P 16 05 38.8 +0.5**
comp=Z,32nm,1.1s,baz=320
KPKS Kokpek 58.19 320 *i*P **P 16 05 38.7 +0.5**
KPKS pmax pmax
comp=Z,32nm,1.1s
KSH Kashi 58.36 314⇓ *i*P **P 16 05 41.9 +2.4**
KSH pP sP 16 05 58.8 -1.3
KSH PcS **PcS 16 10 33.7 +2.0**
KSH S **S 16 13 43.7 +5.3**
KSH sS sS 16 14 05.5 +4.5
KSH ScS **ScS 16 15 25.9 +1.1**
KSH pmax pmax
comp=Z,170nm,2.6s
KSH LR LR
comp=Z,260nm,5.1s
KSH LR LR
comp=Z,180nm,4.8s
KSH LR LR
comp=Z,160nm,8.2s
NIL Nilore 58.41 307 P **P 16 05 40.0 +0.1**
NIL pmax pmax
comp=Z,42nm,1.0s
NIL Nilore 58.41 307 P **P 16 05 40.0 +0.1**
KDJ Kajisay 58.59 318 P **P 16 05 41.6 +0.4**
KDJ pmax pmax
comp=Z,47nm,1.2s
KDJ Kajisay 58.59 318 P **P 16 05 41.5 +0.4**
TDK Taldyqorghan 59.08 321 *e*P **P 16 05 44.9 +0.6**
baz=321
TDK LR LR 16 31 11.0
comp=Z,96nm,17.7s,baz=321
TDK Taldyqorghan 59.08 321 *e*P **P 16 05 44.8 +0.6**
TDK MLR MLR
comp=Z,96nm,18.0s
MDOK Medeo 59.12 319 *i*P **P 16 05 45.5 +0.7**
baz=319
MDOK LR LR 16 30 54.3
comp=Z,49nm,19.4s,baz=319
MDOK Medeo 59.12 319 *i*P **P 16 05 45.4 +0.7**
MDOK MLR MLR
comp=Z,49nm,19.0s
TNSS Tian-Shan 59.13 318 *e*P **P 16 05 45.8 +0.6**
baz=318
TNSS Tian-Shan 59.13 318 *e*P **P 16 05 45.7 +0.6**
AAA Alma-Ata 59.23 319 *e*P **P 16 05 46.2 +0.8**
baz=319
AAA Alma-Ata 59.23 319 *e*P **P 16 05 46.2 +0.8**
ULHL Ulahol 59.27 317 P **P 16 05 46.8 +0.9**
SNR=8.5
CHKK Chushkaly 59.46 319 *e*P **P 16 05 47.1 +0.2**
baz=319
CHKK Chushkaly 59.46 319 *e*P **P 16 05 47.1 +0.2**
BOOM Boomskoye usch 59.57 317 P **P 16 05 48.3 +0.3**
BOOM pmax pmax
comp=Z,29nm,1.4s
BOOM Boomskoye usch 59.57 317 P **P 16 05 48.3 +0.3**
BOOM IAmb IAmb 16 05 52.6
comp=Z,29nm,1.4s
KZA Kyzart 59.88 317 P **P 16 05 51.7 +1.4**
SNR=25
KUU Kurty 59.90 319 *e*P **P 16 05 50.4 +0.4**
comp=Z,50nm,0.9s,baz=319
KUU Kurty 59.90 319 *e*P **P 16 05 50.4 +0.4**
KUU pmax pmax
comp=Z,50nm,0.9s
TKM2 Tokmak 2 59.98 318 P **P 16 05 51.7 +0.9**
SNR=28
TKM2 Tokmak 2 59.98 318 P **P 16 05 50.9 +0.1**
KBK Karagaybulak 60.31 317 P **P 16 05 54.4 +1.4**
SNR=16
UCH Uchtor 60.44 317 P **P 16 05 55.0 +0.8**
SNR=8.0
ZAA0 Zalesovo Array 60.47 332 P **P 16 05 52.5 -1.1**
ZAA0 IAmb IAmb 16 06 07.8
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 60.47 332 P **P 16 05 52.8 -0.8**
comp=Z,4.6nm,0.4s,baz=124,slow=7.0,SNR=23
ZALV ScP **ScP 16 10 31.6 -3.0**
comp=Z,0.3nm,0.4s,baz=173,slow=2.5,SNR=3.7
ZALV S **S 16 14 04.1 -0.7**
comp=Z,0.5nm,0.5s,baz=145,slow=19,SNR=2.3
ZALV LR LR 16 35 00.0
comp=Z,90nm,18.3s,baz=107,slow=39
ZALV Zalesovo Beam 60.47 332 P **P 16 05 52.4 -1.3**

CHMS Chumysh 60.58 318 P **P 16 05 55.2 +0.6**
SNR=13
AAK Ala-Archa 60.61 317 P **P 16 05 56.0 +1.0**
comp=Z,7.0nm,0.6s,baz=109,slow=7.4,SNR=18
AAK ScP **ScP 16 10 34.5 -1.2**
comp=Z,1.2nm,0.4s,baz=153,slow=4.5,SNR=1.8
AAK Ala-Archa 60.61 317 P **P 16 05 56.0 +1.0**
SNR=9.9
AAK Ala-Archa 60.61 317 *de*P **P 16 05 55.6 +0.6**
AAK pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 60.61 317 P **P 16 05 55.1 +0.1**
AAK IAmb IAmb 16 05 59.3
comp=Z,12nm,0.8s
SEM Semipalatinsk 60.71 327 *e*P **P 16 05 55.8 +0.2**
baz=327
SEM Semipalatinsk 60.71 327 *e*P **P 16 05 55.8 +0.2**
SGDS Sogindy 60.84 318 *e*P **P 16 05 56.4 -0.1**
comp=Z,14nm,1.6s,baz=318
SGDS Sogindy 60.84 318 *e*P **P 16 05 56.4 -0.1**
SGDS pmax pmax
comp=Z,14nm,1.6s
USP Ospenovka 60.86 318 P **P 16 05 57.3 +0.7**
SNR=30
AML Almayashu 60.96 316 P **P 16 05 58.9 +1.2**
SNR=27
SEY Seymchan 61.05 13 P **P 16 05 58.2 +0.8**
comp=Z,5.1nm,0.5s,baz=237,slow=5.4,SNR=55
SEY Seymchan 61.05 13 *de*P **P 16 05 58.0 +0.6**
EKS2 Erkin-Say 61.11 317 P **P 16 05 59.2 +0.8**
SNR=44
KURK Kurchatov 61.76 327 *d i*P **P 16 06 02.5 +0.1**
KURK pmax pmax
comp=Z,72nm,1.3s
KURK Kurchatov 61.76 327 P **P 16 06 01.9 -0.5**
KURK Kurchatov 61.76 327 **S 16 14 22.4 +1.2**
KURBB Kurchatov Arra 61.76 327 P **P 16 06 02.5 +0.1**
comp=Z,19nm,0.7s,baz=125,slow=6.1,SNR=258
KURBB S **S 16 14 22.4 +1.1**
comp=Z,0.3nm,0.3s,baz=128,slow=11,SNR=4.8
KURBB Kurchatov Arra 61.76 327 P **P 16 06 01.9 -0.5**
BTLS Baital 61.87 320 *e*P **P 16 06 03.5 +0.2**
comp=Z,15nm,1.3s,baz=320
BTLS Baital 61.87 320 *e*P **P 16 06 03.5 +0.2**
BTLS pmax pmax
comp=Z,15nm,1.3s
KBL Kabul 62.02 307 P **P 16 06 04.6 -0.1**
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 62.02 307 P **P 16 06 04.6 -0.1**
KBL IAmb IAmb 16 06 06.0
comp=Z,16nm,0.8s
GAR Garm 62.30 312 P **P 16 06 06.5 +0.1**
KHZ Kahutara 62.34 143 P **P 16 06 06.0 -0.4**
BKZ Black Stump Fm 62.35 139 P **P 16 06 06.3 -0.4**
BKZ IAmb IAmb 16 06 22.7
comp=Z,21nm,1.1s
DZA Taraz 62.87 316 *e*P **P 16 06 10.3 +0.2**
baz=316
DZA Taraz 62.87 316 *e*P **P 16 06 10.2 +0.2**
CHGR Chuyangaron 63.06 311 P **P 16 06 11.4 -0.1**
AMKA Amchitka 63.24 33 P **P 16 06 12.1 -0.1**
KK31 Karatay Array 63.50 316 *i*P **P 16 06 14.5 +0.3**
KK31 Karatay Array 63.50 316 P **P 16 06 14.5 +0.3**
KK31 IAmb IAmb 16 06 18.5
comp=Z,36nm,1.0s
KKAR Karatay Array 63.50 316 P **P 16 06 14.5 +0.3**
KKAR pmax pmax
comp=Z,36nm,1.0s
KKAR Karatay Array 63.50 316 P **P 16 06 14.5 +0.3**
KKAR IAmb IAmb 16 06 18.5
comp=Z,36nm,1.0s
KKAR Karatay Array 63.50 316 P **P 16 06 14.3 +0.1**
IUG luzhnay 63.51 315 *e*P **P 16 06 15.2 +0.7**
comp=Z,17nm,0.8s,baz=315
IUG luzhnay 63.51 315 *e*P **P 16 06 15.1 +0.7**
IUG pmax pmax
comp=Z,17nm,0.8s
BRZS Berezniki 64.78 324 *e*P **P 16 06 22.5 +0.1**
comp=Z,32nm,1.3s,baz=324
BRZS Berezniki 64.78 324 *e*P **P 16 06 22.5 +0.1**
BRZS pmax pmax
comp=Z,32nm,1.3s
TIXI Tiksi 67.09 0 P **P 16 06 36.4 -0.4**
comp=Z,20nm,0.5s,baz=338,slow=19,SNR=15
TIXI Tiksi 67.09 0 *d i*P **P 16 06 36.1 -0.7**
TIXI pmax pmax
comp=Z,8.0nm,0.5s
TIXI Tiksi 67.09 0 P **P 16 06 35.9 -1.0**
TIXI IAmb IAmb 16 06 37.0
comp=Z,21nm,0.6s
BVAR Borovoye Array 67.35 326 P **P 16 06 39.1 +0.2**
comp=Z,16nm,0.9s,baz=120,slow=8.8,SNR=82
BVAR S **S 16 15 27.7 -2.5**
comp=Z,0.9nm,0.9s,baz=133,slow=12,SNR=5.8
BRVK Borovoye 67.42 326 P **P 16 06 39.1 -0.2**
BRVK pmax pmax
comp=Z,47nm,1.0s
BRVK Borovoye 67.42 326 P **P 16 06 39.1 -0.2**
HRA Herat 67.46 305 P **P 16 06 40.1 -0.2**
WSAR Wadi Sarin 69.22 293 P **P 16 06 51.0 -0.1**
comp=Z,3.5nm,0.6s,baz=180,slow=1.0
NRIK Noril'sk 70.00 346 P **P 16 06 54.3 -0.7**
comp=Z,16nm,1.0s,baz=136,slow=6.3,SNR=21
NRIK LR LR 16 40 44.9
comp=Z,88nm,21.0s,baz=195,slow=38
GEYT Alibeck 71.35 308 P **P 16 07 05.2 +1.2**
comp=Z,13nm,0.9s,baz=131,slow=4.1,SNR=26
GEYT LR LR 16 43 08.0
comp=Z,62nm,20.8s,baz=325,slow=40
GEYT Alibeck 71.35 308 P **P 16 07 04.8 +0.8**
GYA0B ALIBECK ARRAY 71.35 308 P **P 16 07 05.1 +1.1**
GYA0B IAmb IAmb 16 07 13.6
comp=Z,23nm,1.0s
UOSS Minazif 71.55 295 P **P 16 07 04.8 -0.6**
CASY Casey 71.69 187 P **P 16 07 05.5 +0.2**
UNV Unalaska Valle 72.14 35 P **P 16 07 08.9 +0.7**
UNV IAmb IAmb 16 07 09.7
comp=Z,37nm,0.8s
ABKAR Akbulak array 72.33 320 P **P 16 07 09.2 -0.3**
AKUT Akutan 72.64 34 P **P 16 07 11.5 +0.2**
GAMB Gambell 73.24 24 P **P 16 07 15.4 +0.8**
GAMB IAmb IAmb 16 07 16.7
comp=Z,22nm,0.8s
SOCY Socotra 73.37 281 P **P 16 07 15.7 -0.8**
AKTO Aktyubinsk 73.82 321 P **P 16 07 18.4 +0.1**
comp=Z,9.8nm,0.6s,baz=94,slow=7.2,SNR=33
AKTO S **SKiKP 16 16 43.5 +0.7**
comp=Z,0.8nm,0.5s,baz=358,slow=23,SNR=7.8
SVE Sverdlovsk 73.95 328 *e*P **P 16 07 18.4 -0.5**
SVE pmax pmax
comp=Z,31nm,1.2s
ARU Arti 74.95 327 P **P 16 07 24.1 -0.7**
comp=Z,2.7nm,0.5s,baz=127,slow=3.0,SNR=15
ARU S **S 16 16 53.3 -4.6**
comp=Z,0.3nm,0.3s,baz=75,slow=22,SNR=1.2
ARU Arti 74.95 327 *c i*P **P 16 07 24.0 -0.7**
ARU *PP **PcP 16 07 38.1 -0.2**
ARU 16 10 07.7
ARU S **S 16 16 59.2 +1.3**
ARU SS **SS 16 21 44.0 -3.2**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 74.95 327 P **P 16 07 23.8 -1.0**
ARU IAmb IAmb 16 07 30.3
comp=Z,15nm,0.6s
SDPT Sand Point 75.92 34 P **P 16 07 30.0 -0.3**
CNBA Chernabura Isl 76.31 35 P **P 16 07 32.7 +0.2**
CNBA IAmb IAmb 16 07 39.7
comp=Z,21nm,1.0s
RDOG Red Dog Mine 78.17 21 P **P 16 07 43.2 +0.4**
RDOG IAmb IAmb 16 07 49.4
comp=Z,21nm,1.1s
CHIR Chirikof Islan 78.72 34 P **P 16 07 46.5 +0.6**
SVW2 Sparrevohn 79.59 29 P **P 16 07 51.4 +0.7**
SII Sitkinak Islan 79.62 33 P **P 16 07 51.8 +0.9**
AKT Akhty 79.70 311 *e*P **P 16 07 51.4 -0.4**
AKT *e* 16 07 58.7
AKT *e**PP **pP 16 08 05.6 -0.9**
AKT pmax pmax
comp=Z,14nm,1.0s
TTA Tatalina 79.71 27 P **P 16 07 51.8 +0.4**
TTA pmax pmax
comp=Z,10.0nm,0.6s
TTA Tatalina 79.71 27 P **P 16 07 51.8 +0.4**

OHAK Old Harbor 80.19 33 P **P 16 07 54.6 +0.6**
OHAK IAmb IAmb 16 07 55.5
comp=Z,24nm,0.7s
KIRV Kirov 80.20 329 P **P 16 07 53.8 -0.2**
comp=Z,19nm,0.6s,baz=271,slow=1.5,SNR=7.7
KDAK Kodiak Island 80.64 32 LR LR 16 40 57.9
comp=Z,105nm,19.1s,baz=248,slow=34
KDAK Kodiak Island 80.64 32 P **P 16 07 56.8 +0.5**
KDAK pmax pmax
comp=Z,32nm,0.7s
KDAK Kodiak Island 80.64 32 P **P 16 07 56.8 +0.5**
KDAK IAmb IAmb 16 07 57.8
comp=Z,32nm,0.7s
RSO Redoubt South 80.87 30 P **P 16 07 57.7 -0.1**
GROC Groznyy 81.21 313 *e*P **P 16 07 59.3 -0.4**
GROC *e**PP **pP 16 08 13.8 -0.6**
GROC *e* 16 11 05.4
GROC pmax pmax
comp=Z,30nm,1.2s
PPLA Purkeypile 81.43 27 P **P 16 08 01.1 +0.5**
PPLA IAmb IAmb 16 08 02.4
comp=Z,15nm,0.7s
CNPM China Poot 81.52 31 P **P 16 08 00.9 -0.2**
CNPM IAmb IAmb 16 08 01.8
comp=Z,25nm,0.8s
SKT Skwentna 81.63 28 P **P 16 08 01.0 -0.5**
SKT IAmb IAmb 16 08 03.2
comp=Z,18nm,0.8s
BRLK Bradley Lake 81.72 30 P **P 16 08 01.7 -0.4**
BRLK IAmb IAmb 16 08 06.5
comp=Z,27nm,0.9s
TBLG Delisi 81.95 311 P **P 16 08 03.6 -0.1**
TBLG pmax pmax
comp=Z,23nm,1.0s
TBLG Delisi 81.95 311 P **P 16 08 03.6 -0.1**
TBLG IAmb IAmb 16 08 20.3
comp=Z,23nm,1.0s
SUA Susitna One 81.95 29 P **P 16 08 02.9 -0.5**
KTH Kantishna Hill 82.08 27 P **P 16 08 03.9 -0.1**
BPAW Bear Paw Mtn. 82.11 26 P **P 16 08 04.4 +0.4**
BPAW IAmb IAmb 16 08 05.7
comp=Z,22nm,0.9s
TRF Thorofare Moun 82.35 27 P **P 16 08 05.2 -0.3**
TRF IAmb IAmb 16 08 06.4
comp=Z,13nm,0.8s
O22K Cooper Landing 82.36 30 P **P 16 08 05.5 +0.2**
baz=266
RC01 Rabbit Creek A 82.40 29 P **P 16 08 05.4 -0.2**
baz=266
PRGR Permogore 82.42 331 *e*P **P 16 08 08.7 +3.1**
SEW Seward 82.47 30 P **P 16 08 05.6 -0.3**
SEW IAmb IAmb 16 08 09.8
comp=Z,25nm,1.1s
ZEI Tsey 82.59 312 *e*P **P 16 08 06.7 -0.6**
ZEI pmax pmax
comp=Z,16nm,0.9s
PMR Palmer 82.73 29 P **P 16 08 06.8 -0.5**
PMR pmax pmax
comp=Z,22nm,0.7s
PMR Palmer 82.73 29 P **P 16 08 06.8 -0.5**
PMR IAmb IAmb 16 08 08.0
comp=Z,22nm,0.7s
COLD Coldfoot 82.75 23 P **P 16 08 08.6 +1.2**
baz=264
COLD Coldfoot 82.75 23 P **P 16 08 07.8 +0.5**
COLD IAmb IAmb 16 08 09.5
comp=Z,16nm,0.7s
GHO Glory Hole Cre 82.84 28 P **P 16 08 07.7 -0.3**
GHO IAmb IAmb 16 08 12.7
comp=Z,12nm,0.7s
AKH Akhalkalaki 82.88 311 ⇑P **P 16 08 10.7 +1.9**
AKH Akhalkalaki 82.88 311 P **P 16 08 08.6 -0.1**
AKH pmax pmax
comp=Z,20nm,1.1s
AKH Akhalkalaki 82.88 311 P **P 16 08 08.6 -0.1**
AKH IAmb IAmb 16 08 24.1
comp=Z,20nm,1.1s
MCK McKinley 82.98 26 P **P 16 08 08.1 -0.5**
MCK pmax pmax
comp=Z,28nm,0.8s
MCK McKinley 82.98 26 P **P 16 08 08.1 -0.5**
MCK IAmb IAmb 16 08 09.5
comp=Z,28nm,0.8s
NEA2 Nenana 82.98 26 P **P 16 08 09.1 +0.5**
baz=266
RND Reindeer 82.99 27 P **P 16 08 08.3 -0.4**
RND pmax pmax
comp=Z,17nm,0.8s
RND Reindeer 82.99 27 P **P 16 08 08.3 -0.4**
RND IAmb IAmb 16 08 09.3
comp=Z,17nm,0.8s
KNK Knik Glacier 83.04 29 P **P 16 08 09.3 +0.3**
TOLK Toolik Lake Re 83.13 21 P **P 16 08 10.2 +0.9**
baz=265
TOLK Toolik Lake Re 83.13 21 P **P 16 08 09.9 +0.6**
TOLK IAmb IAmb 16 08 11.5
comp=Z,23nm,0.8s
GEVA Gevas 83.21 308 P **P 16 08 11.0 +0.5**
GEVA IAmb IAmb 16 08 26.1
comp=Z,33nm,1.0s
KBZ Khabaz 83.33 313 P **P 16 08 11.8 +1.1**
comp=Z,3.0nm,0.7s,baz=112,slow=4.7,SNR=4.0
KBZ LR LR 16 50 49.0
comp=Z,43nm,18.2s,baz=66,slow=40
MDM Murphy Dome 83.37 25 P **P 16 08 10.2 -0.4**
MDM IAmb IAmb 16 08 13.3
comp=Z,19nm,1.2s
WRH Wood River Hil 83.40 26 P **P 16 08 10.4 -0.3**
WRH IAmb IAmb 16 08 11.4
comp=Z,16nm,1.0s
KIV Kislovodsk 83.48 314 *e*P **P 16 08 11.7 0.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,153nm,19.0s
TCOL CIGO, UAF Yank 83.52 25 P **P 16 08 11.4 +0.1**
baz=267
COLA College 83.52 25 *ce*P **P 16 08 11.0 -0.3**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 83.52 25 P **P 16 08 10.7 -0.6**
COLA IAmb IAmb 16 08 13.2
comp=Z,15nm,0.7s
CCB Clear Creek Bu 83.53 26 P **P 16 08 10.9 -0.5**
CCB IAmb IAmb 16 08 11.8
comp=Z,17nm,1.0s
GLI Glacier Island 83.68 29 P **P 16 08 12.3 +0.1**
GLI IAmb IAmb 16 08 13.5
comp=Z,23nm,0.8s
POKR Poker Plat Res 83.71 25 P **P 16 08 13.3 +1.0**
baz=267
HDA Harding Lake 83.89 26 P **P 16 08 12.3 -0.9**
baz=268
HDA Harding Lake 83.89 26 P **P 16 08 12.4 -0.9**
HDA IAmb IAmb 16 08 13.6
comp=Z,20nm,0.7s
IL31 83.93 25 P **P 16 08 12.1 -1.2**
ILAR Eielson Array 83.93 25 P **P 16 08 12.2 -1.3**
comp=Z,7.8nm,0.6s,baz=242,slow=5.0,SNR=89
ILAR LR LR 16 44 25.9
comp=Z,78nm,19.5s,baz=292,slow=35
ILAR Eielson Array 83.93 25 P **P 16 08 11.8 -1.6**
HIN Hinchinbrook I 83.95 30 P **P 16 08 14.2 +0.5**
FID Port Fidalgo 83.97 29 P **P 16 08 14.1 +0.4**
FID IAmb IAmb 16 08 15.1
comp=Z,23nm,0.8s
VNDA Vanda 84.01 173 P **P 16 08 13.6 +0.1**
comp=Z,3.4nm,0.9s,baz=323,slow=5.2,SNR=11
VNDA LR LR 16 45 55.2
comp=Z,81nm,19.4s,baz=335,slow=36
VNDA Vanda 84.01 173 P **P 16 08 13.0 -0.5**
VRH Novokhopyorsk 84.15 321 *e*P **P 16 08 14.3 -0.5**
VRH pmax pmax
comp=Z,30nm,0.6s
M24K Tolsona, Glenn 84.16 28 P **P 16 08 15.6 +0.9**
baz=268
PPT Papeete 84.22 108 LR LR 16 41 03.6
comp=Z,52nm,20.1s,baz=322,slow=32
PPT2 Papeete2 84.22 108 *e*LR LR 16 34 43.8
comp=Z,234nm,29.8s
KLU Klutina 84.26 29 P **P 16 08 15.6 +0.3**
KLU IAmb IAmb 16 08 16.8
comp=Z,23nm,0.6s
PAX Paxson 84.50 27 P **P 16 08 16.7 +0.2**
PAX pmax pmax
comp=Z,12nm,0.7s

PAX	Paxson	84.50	27	P	P	16 08 16.7	+0.2
PAX				IAmb	IAmb	16 08 17.9	
	comp=Z,12nm,0.7s						
RIDG	Independent Ri	84.80	26	P	P	16 08 17.9	0.0
RIDG				IAmb	IAmb	16 08 18.9	
	comp=Z,15nm,0.8s						
MAW	Mawson	84.86	200	P	P	16 08 18.1	+0.1
	comp=Z,2.5nm,0.9s,baz=59,slow=12,SNR=3.9						
KAIM	Kayak Island	84.99	30	P	P	16 08 20.2	+1.4
TBI	Tubuai	85.01	114	eLR	LR	16 35 16.9	
	comp=Z,290nm,28.2s						
DOT	Dot Lake	85.14	27	P	P	16 08 19.5	-0.2
SCRK	Sand Creek	85.18	26	P	P	16 08 20.6	+0.7
	baz=270						
GLB	Gilahina Butte	85.28	29	P	P	16 08 20.9	+0.5
GLB				IAmb	IAmb	16 08 22.1	
	comp=Z,25nm,0.8s						
KLMR	Klimovskoe	85.34	331	eP	P	16 08 19.4	-1.1
KLMR				pmax	pmax		
	comp=Z,20nm,1.2s						
KLMR	Klimovskoe	85.34	331	eP	P	16 08 19.5	-1.1
KLMR				AMP		16 08 31.4	
	comp=Z,20nm,1.2s						
VRDI	Verde Repeater	85.45	29	P	P	16 08 21.6	+0.2
VRDI				IAmb	IAmb	16 08 22.9	
	comp=Z,19nm,0.7s						
VORD	Divnogorie	85.69	321	eP	P	16 08 21.2	-1.3
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	Storozhevoye	85.76	321	eP	P	16 08 21.9	-1.0
VSR				pmax	pmax		
	comp=Z,30nm,1.3s						
LPSR	Galich'ya Gora	85.86	322	eP	P	16 08 22.9	-0.4
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
TMCR	Tamitsa	85.95	334	eP	P	16 08 24.9	+1.4
BALM	Baldy	86.00	29	P	P	16 08 24.4	+0.4
BALM				IAmb	IAmb	16 08 26.2	
	comp=Z,21nm,0.8s						
ISLE	Juniper Island	86.01	30	P	P	16 08 24.3	+0.1
K27K	Chicken	86.02	26	P	P	16 08 25.0	+1.1
	baz=272						
BARN	Barnard Glacie	86.33	29	P	P	16 08 26.5	+0.8
BARN				IAmb	IAmb	16 08 28.0	
	comp=Z,19nm,0.6s						
EGAK	Eagle	86.38	25	P	P	16 08 25.4	-0.2
CTGM	Chitina Glacie	86.49	29	P	P	16 08 27.4	+0.9
MOS	Moscow	86.50	325	eP	P	16 08 32.7	+6.3
MOS				e		16 08 48.8	
MOS				e		16 18 48.1	
MOS				pmax	pmax		
	comp=Z,28nm,0.9s						
OBN	Obninsk	87.14	325	P	P	16 08 29.4	-0.1
	comp=Z,5.4nm,0.5s,baz=270,slow=22,SNR=3.9						
OBN	Obninsk	87.14	325	i P	P	16 08 28.5	-1.0
OBN				i S	SKSac	16 18 53.2	+1.1
OBN				pmax	pmax		
	comp=Z,14nm,0.8s						
OBN				MLR	MLR		
	comp=Z,120nm,21.0s						
OBN	Obninsk	87.14	325	IAmb	IAmb	16 08 30.3	
	comp=Z,26nm,0.6s						
DAWY	Dawson	87.19	26	P	P	16 08 29.5	-0.2
ANN	Anapa	87.22	315	eP	P	16 08 34.9	+4.7
ANN				pmax	pmax		
	comp=Z,21nm,0.9s						
EPYK	Eagle Plains	88.09	24	P	P	16 08 33.9	-0.1
	baz=277						
EPYK	Eagle Plains	88.09	24	P	P	16 08 32.9	-1.0
HYT	Haines Junctio	88.37	29	P	P	16 08 34.6	-0.9
ASF	Jabal al Asfar	88.51	302	P	P	16 08 37.3	+0.5
	comp=Z,1.1nm,0.4s,baz=113,slow=11,SNR=2.2						
SPITS	Spitsbergen Ar	89.98	349	P	P	16 08 41.7	-0.9
	comp=Z,2.7nm,0.6s,baz=124,slow=7.2,SNR=1.7						
ARCES	ARCESS Array B	90.16	340	P	P	16 08 42.3	-1.3
	comp=Z,4.4nm,0.7s,baz=83,slow=5.9,SNR=20						
ARCES				LR	LR	16 55 17.2	
	comp=Z,63nm,18.9s,baz=141,slow=40						
EIL	Elat	90.38	300	P	P	16 08 46.4	+0.9
	comp=Z,2.9nm,0.8s,baz=90,slow=11,SNR=2.3						
BRTR	Keskin Array B	90.46	310	P	P	16 08 45.0	-0.8
	comp=Z,1.4nm,0.8s,baz=114,slow=4.0,SNR=8.3						
BRTR				LR	LR	16 56 13.5	
	comp=Z,35nm,20.3s,baz=29,slow=40						
BRTR	Keskin Array B	90.46	310	P	P	16 08 44.6	-1.1
KMBO	Kilima Mbogo	90.74	269	P	P	16 08 47.6	-0.1
	comp=Z,0.6nm,0.4s,baz=41,slow=19,SNR=1.6						
KMBO				LR	LR	16 45 39.9	
	comp=Z,66nm,21.1s,baz=95,slow=33						
KMBO	Kilima Mbogo	90.74	269	P	P	16 08 46.2	-1.5
KMBO				IAmb	IAmb	16 08 53.6	
	comp=Z,9.9nm,1.2s						
WRAK	Wrangell Islan	91.68	33	P	P	16 08 50.6	-0.3
FINES	FINESS Array B	91.74	332	P	P	16 08 49.7	-1.3
	comp=Z,1.5nm,0.5s,baz=71,slow=5.0,SNR=20						
FINES				PP	PP	16 12 34.4	+4.3
	comp=Z,2.3nm,0.9s,baz=90,slow=5.6,SNR=3.9						
FINES				LR	LR	16 55 23.1	
	comp=Z,102nm,19.4s,baz=73,slow=39						
FINES	FINESS Array B	91.74	332	P	P	16 08 49.3	-1.7
VSU	Vasula	92.05	329⇓	eP	P	16 08 52.9	+0.4
VSU				pmax	pmax		
	comp=Z,12nm,0.8s						
AKASG	Malin Array Be	92.06	321	P	P	16 08 51.4	-1.4
	comp=Z,2.1nm,0.6s,baz=66,slow=4.7,SNR=14						
AKASG	Malin Array Be	92.06	321	P	P	16 08 51.0	-1.8
AKBB	Malin Array Si	92.06	321	P	P	16 08 50.6	-2.1
AKBB				pmax	pmax		
	comp=Z,12nm,1.4s						
AKBB	Malin Array Si	92.06	321	P	P	16 08 50.6	-2.1
AKBB				IAmb	IAmb	16 09 07.5	
	comp=Z,12nm,1.4s						
DLBC	Dease Lake	92.50	31	LR	LR	16 45 55.6	
	comp=Z,151nm,20.9s,baz=324,slow=32						
TLCR		93.25	316	⇓P	P	16 08 57.9	-0.4
TLCR		93.25	316	⇓P	P	16 08 57.9	-0.4
SYO	Syowa Base	93.54	201	⇓eP	P	16 09 01.4	+2.3
SYO	Syowa Base	93.54	201	⇓epP	pP	16 09 15.0	+0.5
CFR	Carcaliu	93.72	316	⇓P	P	16 08 60.0	-0.5
CFR	Carcaliu	93.72	316	⇓P	P	16 09 00.0	-0.5
ICOR	Ion Corvin	94.15	315	⇓P	P	16 09 05.4	+2.9
TESR	Tescani	94.50	317	⇑P	P	16 09 03.3	-0.8
VRI	Vrincioaia	94.57	317	⇓P	P	16 09 05.2	+0.7
VRI	Vrincioaia	94.57	317	⇓P	P	16 09 05.2	+0.7
MLR	Muntele Rosu	95.18	316	P	P	16 09 06.2	-1.2
	comp=Z,3.2nm,0.8s,baz=217,slow=3.8,SNR=5.4						
MLR	Muntele Rosu	95.18	316	⇑P	P	16 09 07.6	+0.2
MLR	Muntele Rosu	95.18	316	⇑P	P	16 09 07.6	+0.2
MLR	Muntele Rosu	95.18	316	IAmb	IAmb	16 09 24.7	
	comp=Z,5.7nm,0.9s						
BURAR	Bucovina Array	95.23	318	⇑P	P	16 09 07.2	-0.4
BURAR	Bucovina Array	95.23	318	⇑P	P	16 09 07.2	-0.4
BURAR	Bucovina Array	95.23	318	P	P	16 09 06.3	-1.3
BUR08	Bucovina Ar. S	95.24	319	P	P	16 09 06.6	-1.0
BUR08				IAmb	IAmb	16 09 23.2	
	comp=Z,6.2nm,1.1s						
VOIR		95.81	316	⇑P	P	16 09 11.9	+1.6
VOIR		95.81	316	⇑P	P	16 09 11.9	+1.6
ARR	Arges	96.11	316	⇓P	P	16 09 15.0	+3.4
UZH	Uzhgorod	96.90	320	eP	P	16 09 18.5	+3.5
UZH				e		16 09 28.1	
UZH				e		16 09 37.5	
HFS	Hagfors	97.91	333	P	P	16 09 17.8	-1.5
	comp=Z,2.3nm,0.5s,baz=174,slow=3.0,SNR=8.2						
YKA	Yellowknife Ar	98.34	25	P	P	16 09 21.0	-0.1
	comp=Z,1.4nm,0.7s,baz=309,slow=5.1,SNR=3.4						
YKA				LR	LR	16 52 48.2	
	comp=Z,26nm,21.6s,baz=0.0,slow=35						
NB2	NORSAR Subarra	98.65	334	P	P	16 09 21.4	-1.2
	comp=Z,7.5nm,1.7s,baz=64,slow=4.6						
NB2	NORSAR Subarra	98.65	334	P	P	16 09 21.4	-1.2
	baz=64,slow=4.6						
NOA	NORSAR Array B	98.65	334	P	P	16 09 21.0	-1.6
	comp=Z,0.5nm,0.6s,baz=66,slow=4.5,SNR=3.4						
NOA				LR	LR	16 59 09.9	
	comp=Z,66nm,20.4s,baz=20,slow=38						
NOA	NORSAR Array B	98.65	334	P	P	16 09 21.0	-1.6
GERES	GERESS Array B	102.24	322	P	Pdif	16 09 36.6	-2.4
	comp=Z,0.5nm,0.9s,baz=29,slow=3.0,SNR=3.5						
GERES				PKiKP	PKiKP	16 14 01.4	+0.6
	comp=Z,0.2nm,0.5s,baz=64,slow=3.1,SNR=3.7						
NVAR	Mina Array Bea	105.54	48	Pdiff	Pdif	16 09 55.8	+1.7
	comp=Z,0.8nm,0.7s,baz=272,slow=5.2,SNR=9.1						
ESDC	Sonseca Array	117.67	320	PKP	PKiKP	16 14 30.9	+0.8
	comp=Z,0.2nm,0.4s,baz=19,slow=36,SNR=1.5						
ESDC				PP	PP	16 15 43.9	+1.0
	comp=Z,0.8nm,1.0s,baz=56,slow=5.3,SNR=5.3						
MNTX	Cornudas Mount	117.87	51	P	PKiKP	16 14 31.5	+0.8
	baz=295						
SCHQ	Schefferville	119.65	10	PKP	PKiKP	16 14 33.6	+0.2
	comp=Z,3.0nm,0.9s,baz=351,slow=13,SNR=1.6						
TXAR	Lajitas Array	120.21	52	PKP	PKiKP	16 14 35.8	+0.4
	comp=Z,0.4nm,0.6s,baz=222,slow=1.7,SNR=5.3						
TXAR				SKP	SKPdf	16 18 06.0	-0.3
	comp=Z,0.2nm,0.6s,baz=336,slow=7.9,SNR=3.9						
TXAR				PKKPbc	PKKPbc	16 24 42.7	-0.7
	comp=Z,0.4nm,0.9s,baz=156,slow=8.9,SNR=2.7						
JCT	Junction City	122.68	49	P	PKiKP	16 14 40.6	+0.5
	baz=299						
TORD	Torodi Ar. Bea	123.80	289	PKP	PKPdf	16 14 42.1	-0.2
	comp=Z,1.8nm,0.7s,baz=68,slow=1.8,SNR=6.4						
TORD				PKKPbc	PKKPbc	16 24 28.4	-0.7
	comp=Z,0.7nm,0.6s,baz=267,slow=5.8,SNR=1.9						
DBIC	Dimbokro	131.57	283	SKPbc	SKPbc	16 18 18.4	+0.3
	comp=Z,7.3nm,0.7s,baz=72,slow=4.0,SNR=9.7						
PLCA	Paso Flores	140.26	158	PKP	PKiKP	16 15 16.1	+0.8
	comp=Z,1.1nm,0.7s,baz=243,slow=2.5,SNR=3.7						
PLCA				SKPbc	SKPbc	16 18 45.3	+0.9
	comp=Z,1.5nm,0.7s,baz=212,slow=5.9,SNR=5.2						
SJCC	San Jacinto, C	152.93	58	eP	PKPab	16 15 53.2	+0.1
MOTC	Monteria, Cord	153.06	61	eP	PKPbc	16 15 40.6	-1.5
SMLC	San Martn de	154.42	59	eP	PKPab	16 15 58.4	-1.0
GUY2C	Guyana, Caldas	154.84	68	eP	PKiKP	16 15 46.7	+0.2
PTBC	PUERTO BERRIO	155.13	64	eP	PKPab	16 16 02.2	-0.3
NORC	Norcasia	155.16	67	eP	PKPab	16 16 04.4	+1.7
BARC	Barichara	156.25	63	eP	PKPab	16 16 06.5	-1.1
PAMC	Pamplona, Colo	156.32	60	eP	PKPab	16 16 09.3	+1.2

*UCR **07** 16:26:33.7±1.5, 12°.83N×88°.44W, h61km±13km, ML4.2, mb4.5(NEIC)*
*INET **07** 16:26:33.4, 12°.73N×88°.50W, h26km, ML4.3*
*SNET **07** 16:26:33.7±1.0, 12°.86N×88°.44W, h66km±8km, ML4.2*
*NEIC **07** 16:26:34±1.8, 12°.84N±0°.08×88°.36W±0°.07, h75km±9km, mb4.5/45, Md4.2(SNET), Error ellipse: s-maj=13.0km s-min=7.4km az=213.0*
*IDC **07** 16:26:37.6±17.0, 13°.43N×87°.80W, h97km±134km, mb3.3/6, mb1 3.7/6, mb1mx3.4/27, mbtmp3.6/6, Error ellipse: s-maj=117.0km s-min=52.4km az=7.0*

ISC 07 16:26:33.5±0.8, 12°.86N±0°.05×88°.42W±0°.04, h73km±6km, n132, σ0.97/154, mb4.4/29, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	Jucuarı¡n	0.43	23	i P	Pn	16 26 45.2	-0.8
JUCU				eS	Sn	16 26 54.3	-0.9
JUCU	Jucuarı¡n	0.43	23	i P	Pn	16 26 45.2	-0.8
JUCU				eS	Sn	16 26 54.3	-0.9
ALJI	Alcalda de J	0.49	342	i P	Pn	16 26 46.0	-0.5
ALJI				eS	Sn	16 26 56.0	0.0
ALJI				IAML		16 26 56.9	
	comp=Z,15µm,0.2s						
ALJI	Alcalda de J	0.49	342	i P	Pn	16 26 46.0	-0.5
ALJI				eS	Sn	16 26 56.0	0.0
ALJI				IAML		16 26 56.9	
	comp=Z,15µm,0.2s						
LCY	Lacayo	0.57	12	eP	Pn	16 26 47.2	-0.3
LCY	Lacayo	0.57	12	eP	Pn	16 26 47.2	-0.3
BLLM	Bellamira	0.61	17	i P	Pn	16 26 47.6	-0.2
BLLM	Bellamira	0.61	17	i P	Pn	16 26 47.6	-0.2
PACA	Pacayal	0.61	9	eS	Sn	16 26 59.1	+0.6
PACA				IAML		16 27 02.0	
	comp=Z,3µm,0.2s						
PACA	Pacayal	0.61	9	eS	Sn	16 26 59.1	+0.6
PACA				IAML		16 27 02.0	
	comp=Z,3µm,0.2s						
COEB	Comit de Eme	0.65	350	eP	Pn	16 26 48.0	-0.2
COEB				eS	Sn	16 26 58.9	-0.1
COEB	Comit de Eme	0.65	350	eP	Pn	16 26 48.0	-0.2
COEB				eS	Sn	16 26 58.9	-0.1
LCND	La Caada	0.68	49	eP	Pn	16 26 48.1	-0.3
LCND				eS	Sn	16 27 00.1	+0.7
LCND				IAML		16 27 05.1	
	comp=Z,10µm,0.3s						
LCND	La Caada	0.68	49	eP	Pn	16 26 48.1	-0.3
LCND				eS	Sn	16 27 00.1	+0.7
LCND				IAML		16 27 05.1	
	comp=Z,10µm,0.3s						
CNCH	Conchagua	0.70	54	eP	Pn	16 26 48.4	-0.4
CNCH				eS	Sn	16 27 01.0	+0.8
CNCH	Conchagua	0.70	54	eP	Pn	16 26 48.4	-0.4
CNCH				eS	Sn	16 27 01.0	+0.8
COEG	Centro de Oper	0.88	329	eP	Pn	16 26 50.8	-0.1
COEG				eS	Sn	16 27 03.9	+0.2
COEG	Centro de Oper	0.88	329	eP	Pn	16 26 50.8	-0.1
COEG				eS	Sn	16 27 03.9	+0.2
FAGO	Alcalda de S	0.89	20	i P	Pn	16 26 50.7	-0.1
FAGO				eS	Sn	16 27 03.4	-0.2
FAGO	Alcalda de S	0.89	20	i P	Pn	16 26 50.7	-0.1
FAGO				eS	Sn	16 27 03.4	-0.2
LFRS	El Faro	0.99	321	eP	Pn	16 26 51.8	-0.4
LFRS	El Faro	0.99	321	eP	Pn	16 26 51.8	-0.4
OPAM	Oficina de Pla	1.14	318	eP	Pn	16 26 54.3	+0.2
OPAM	Oficina de Pla	1.14	318	eP	Pn	16 26 54.3	+0.2
SNET	Serv Nac Est T	1.14	316	eP	Pn	16 26 54.4	+0.3
SNET				IAML		16 27 11.0	
	comp=Z,4µm,0.2s						
SNET	Serv Nac Est T	1.14	316	eP	Pn	16 26 54.4	+0.3
SNET				IAML		16 27 11.0	
	comp=Z,4µm,0.2s						
SNET	Serv Nac Est T	1.14	316	Pn	Pn	16 26 54.0	-0.1
BOQS	Boqueron	1.21	316	eP	Pn	16 26 55.0	0.0
BOQS				eS	Sn	16 27 11.9	+0.8
BOQS	Boqueron	1.21	316	eP	Pn	16 26 55.0	0.0
BOQS				eS	Sn	16 27 11.9	+0.8
CEDA	San Andres	1.34	315	eS	Sn	16 27 13.9	+0.1
CEDA	San Andres	1.34	315	eS	Sn	16 27 13.9	+0.1
CRIN	San Cristobal	1.34	97	Pn	Pn	16 26 56.9	+0.3
CEVE	Cerro Verde	1.52	310	eS	Sn	16 27 19.0	+0.6
CEVE				IAML		16 27 21.1	
	comp=Z,4µm,0.3s						
CEVE	Cerro Verde	1.52	310	eS	Sn	16 27 19.0	+0.6
CEVE				IAML		16 27 21.1	
	comp=Z,4µm,0.3s						
TGUH	Tegucigalpa,Un	1.63	43	Pn	Pn	16 27 00.9	+0.4
NUBE	Las Nubes	1.69	308	eS	Sn	16 27 21.6	-0.6
NUBE	Las Nubes	1.69	308	eS	Sn	16 27 21.6	-0.6
MTO3	Montecristo	1.79	329	Pn	Pn	16 27 02.8	+0.1
ESQI	Esquipulas	1.92	332	eP	Pn	16 27 04.7	+0.5
ESQI	Esquipulas	1.92	332	Pn	Pn	16 27 04.8	+0.5
MATN	Matagalpa	2.43	88	Pn	Pn	16 27 10.8	-0.4
BOAB	BOACO BROADBAN	2.71	98	Pn	Pn	16 27 14.2	-0.7
ACON	Acoyapa	3.29	105	Pn	Pn	16 27 22.1	-0.7
HZTE	Horizontes, Gu	3.49	127	eP	Pn	16 27 26.6	+1.2
HZTE				eS	Sn	16 28 05.9	+0.3
GBS3	Finca Las Img	3.56	125	eP	Pn	16 27 26.7	+0.2
GB1A	Boringuen Arri	3.58	124	eP	Pn	16 27 26.3	-0.5
LAPC	Finca la Perla	3.58	125	eP	Pn	16 27 28.1	+1.3
BUEV	Buena Vista	3.59	124	eP	Pn	16 27 28.5	+1.6
RTAL	Retalhuleu	3.59	298	Pn	Pn	16 27 27.9	+1.0
GPS1	Guardaparques	3.65	124	eP	Pn	16 27 27.8	+0.1
GPS2	Hotel Rincn d	3.66	125	eP	Pn	16 27 29.1	+1.2
ORTG	Ortega, Santa	3.81	130	eP	Pn	16 27 30.4	+0.4
COLC	Colonia	3.83	124	eP	Pn	16 27 31.2	+1.1
GUAI	GUAI	3.84	132	eP	Pn	16 27 31.0	+0.8
CUI	Cuipilapa	3.86	124	eP	Pn	16 27 31.4	+0.8
CUI				eS	Sn	16 28 14.5	-0.3
HUEH	Huehuetenango	3.87	310	Pn	Pn	16 27 32.1	+1.3
PLVR	Palo Verde	3.90	129	eP	Pn	16 27 32.3	+1.0
ACAL	Aguas Claras	3.98	123	eP	Pn	16 27 32.8	+0.5
GRZA	Playa Garza	4.00	137	eP	Pn	16 27 32.6	+0.2
JTS	Las Juntas de	4.25	127	eP	Pn	16 27 36.4	+0.5
JTS				eS	Sn	16 28 24.4	+0.2
JTS	Las Juntas de	4.25	127	Pn	Pn	16 27 36.3	+0.5
PETF	Flores	4.27	341		Pn	16 27 37.9	+1.7
CEDE	Laguna Cedeo	4.33	123	eP	Pn	16 27 39.0	+1.9
ARE1	Arenal 1	4.33	123	eP	Pn	16 27 38.2	+1.2
ARE1				eS	Sn	16 28 27.6	+1.2
LAFE	Finca La Fe, P	4.58	131	eP	Pn	16 27 40.8	+0.4
JACO	JACO, Garabito	4.87	130	eP	Pn	16 27 44.8	+0.6
CCIG	Comitan	4.96	314	Pn	Pn	16 27 47.8	+2.2
HDC	Heredia	5.08	123	Pn	Pn	16 27 48.7	+1.3
LCR2	La Lucha 2	5.32	125	eP	Pn	16 27 52.6	+1.9
RIMA	Rio Macho	5.42	124	eP	Pn	16 27 54.2	+2.2
CDM	Cerro de Muert	5.62	125	eP	Pn	16 27 57.3	+2.2
RIOS	Rincon, Osa	6.34	130	eP	Pn	16 28 06.2	+1.7
PIRO	Carate, Puerto	6.67	131	eP	Pn	16 28 11.1	+2.2
TEIG	Tepich	7.33	1	Pn	Pn	16 28 20.4	+2.4
061Z	Ochoppi	14.74	28	Pn	Pn	16 29 58.0	-0.2
735A	Kenedy	18.16	333		Pn	16 30 42.0	+1.2
BANI	BANI	18.24	70	Pn	Pn	16 30 42.6	+0.7
GOGA	Godfrey	20.95	12	P	P	16 31 11.7	+1.1
Z56A	Williston	21.37	16	P	P	16 31 15.3	+0.3
TXAR	Lajitas Array	21.67	322	P	P	16 31 19.6	+1.2
	comp=Z,0.9nm,0.5s,baz=141,slow=10,SNR=12						
TX31	Lajitas Ar. Si	21.67	322		P	16 31 19.6	+1.2
TX31				IAmb	IAmb	16 31 47.4	
	comp=Z,36nm,1.9s						
TX32	Lajitas Array	21.67	322	P	P	16 31 19.5	+1.1
HODGE	Hodges	22.00	14	P	P	16 31 22.6	+0.8
MIAR	Mount Ida	22.09	349	P	P	16 31 24.3	+1.5
MIAR				IAmb	IAmb	16 31 26.4	
	comp=Z,29nm,1.9s						
Y57A	Sumter	22.30	18	P	P	16 31 26.1	+1.2
JSC	Jenkinsville	22.30	16	P	P	16 31 26.0	+1.0
W52A	Murphy	22.51	10	P	P	16 31 28.1	+0.8
X37A	Clayton	22.54	345	P	P	16 31 27.9	+0.3
X37A				IAmb	IAmb	16 31 52.0	
	comp=Z,15nm,1.4s						
MTP	Monte Pirata	22.63	74	P	P	16 31 27.4	-1.4
MTP				IAmb	IAmb	16 32 16.8	
	comp=Z,32nm,1.3s						
CPCT	Cooper Cave	22.77	8	P	P	16 31 29.8	-0.2
CPCT				IAmb	IAmb	16 32 06.1	
	comp=Z,16nm,1.6s						
BIRD	Birdtown, Kers	22.86	17	P	P	16 31 31.1	+0.2
BIRD				IAmb	IAmb	16 31 32.0	
	comp=Z,12nm,0.5s						
TKL	Tuckaleechee C	23.09	10	P	P	16 31 32.9	-0.3
TKL				IAmb	IAmb	16 32 02.5	
	comp=Z,24nm,1.8s						
KMSC	Kings Mountain	23.09	15	P	P	16 31 33.7	+0.4
STVI	Saint Thomas	23.24	73	P	P	16 31 33.3	-1.5
STVI				IAmb	IAmb	16 31 33.5	
	comp=Z,17nm,0.7s						
V53A	Saluda	23.27	12	P	P	16 31 36.6	+1.6
V52A	Sevierville	23.29	10	P	P	16 31 35.7	+0.5
V52A				IAmb	IAmb	16 32 11.4	
	comp=Z,23nm,1.6s						
W57A	Gilead	23.47	18	P	P	16 31 36.7	-0.1
W57A				IAmb	IAmb	16 31 59.2	
	comp=Z,16nm,1.3s						
U49A	Red Boiling Sp	23.67	5	P	P	16 31 38.0	-0.6
U49A				IAmb	IAmb	16 31 52.3	
	comp=Z,32nm,1.9s						
U40A	Yellville	23.74	351	P	P	16 31 40.4	+1.3
V55A	Taylorsville	23.80	15	P	P	16 31 40.0	+0.3
TZTN	Tazewell	23.99	10	P	P	16 31 42.6	+1.2
TZTN				IAmb	IAmb	16 31 47.2	
	comp=Z,38nm,2.0s						
U54A	Nelsons Funny	24.30	13	P	P	16 31 43.9	-0.4
U54A				IAmb	IAmb	16 31 47.2	
	comp=Z,17nm,1.2s						
V58A	Windy Hill, Pi	24.33	19	P	P	16 31 44.6	+0.1
V58A				IAmb	IAmb	16 31 45.6	
	comp=Z,11nm,0.7s						
MNTX	Cornudas Mount	24.39	323	P	P	16 31 45.4	+0.3
S39A	Bolivar	25.12	351	P	P	16 31 50.8	-0.8
S54A	Dingess, Beckl	25.64	13	P	P	16 31 55.8	-0.7
S54A				IAmb	IAmb	16 32 16.1	
	comp=Z,40nm,1.8s						
R55A	Marlinton	26.38	15	P	P	16 32 03.3	+0.2
R55A				IAmb	IAmb	16 32 36.1	
	comp=Z,46nm,1.9s						
Q54A	Coxs Mills	26.88	13	P	P	16 32 07.6	0.0
Q54A				IAmb	IAmb	16 32 33.4	
	comp=Z,44nm,1.9s						
P52A	Corning	27.24	11	P	P	16 32 12.6	+1.8
P52A				IAmb	IAmb	16 33 09.0	
	comp=Z,52nm,2.0s						
O53A	New Philadelph	28.01	12	P	P	16 32 19.2	+1.5
P57A	Homestead Farm	28.07	17	P	P	16 32 18.9	+0.7
N59A	State Game Lan	30.07	19	P	P	16 32 36.0	0.0
ODNJ	Ogdensburg	30.61	21	P	P	16 32 40.9	+0.2
MMNY	Mt. Morris Dam	31.13	15	P	P	16 32 44.5	-0.7
MMNY				IAmb	IAmb	16 33 32.5	
	comp=Z,22nm,1.3s						
PV12	Saucer Basin,	31.17	328	P	P	16 32 47.2	+1.3
PV12				IAmb	IAmb	16 32 59.0	
	comp=Z,10nm,1.5s						
J56A	Wolcott	31.91	16	P	P	16 32 51.3	-0.8
SAML	Samuel	33.13	130	P	P	16 33 02.0	-1.1
SAML				IAmb	IAmb	16 33 42.0	
	comp=Z,15nm,2.0s						
PDAR	Pinedale Array	34.97	332	P	P	16 33 20.1	+1.1
	comp=Z,0.3nm,0.4s,baz=138,slow=8.5,SNR=3.6						
AGMN	Agassiz Nation	35.87	352	P	P

ZARC				*i*			16 36 32.5
	comp=Z,95nm,0.4s						
SMLC	**San Martn de**	**2.13**	**334**	*eP*	**Pn**		**16 36 03.9 +0.3**
SMLC				*eS*	**Sn**		**16 36 33.8 +1.9**
SMLC				*i*			16 36 35.6
	comp=Z,105nm,0.3s						
NORC	**Norcasia**	**2.16**	**233**	*eP*	**Pn**		**16 36 03.5 -0.5**
NORC				*eS*	**Sn**		**16 36 31.3 -1.4**
NORC				*i*			16 36 34.1
	comp=Z,63nm,0.5s						
CHIC	**Chingaza**	**2.31**	**195**	*eP*	**Pn**		**16 36 05.6 -0.6**
CHIC				*eS*	**Sn**		**16 36 34.4 -2.0**
CHIC				*i*			16 36 41.0
	comp=Z,47nm,0.6s						
ROSC	**El Rosal**	**2.34**	**210**	P	**Pn**		**16 36 07.4 +0.9**
	comp=Z,18nm,0.3s,baz=300,slow=15,SNR=16						
ROSC				S	**Sn**		**16 36 39.0 +2.0**
	comp=Z,30nm,0.3s,baz=69,slow=19,SNR=14						
ROSC	**El Rosal**	**2.34**	**210**	*eP*	**Pn**		**16 36 07.2 +0.7**
ROSC				*eS*	**Sn**		**16 36 37.6 +0.6**
ROSC				*i*			16 36 41.0
	comp=Z,74nm,0.4s						
HELC	**Santa Helena**	**2.48**	**254**	*eP*	**Pn**		**16 36 08.8 +0.7**
HELC				*eS*	**Sn**		**16 36 40.2 +0.3**
HELC				*i*			16 36 45.8
	comp=Z,57nm,0.3s						
UREC	**San Jos de Ur**	**2.54**	**290**	*eS*	**Sn**		**16 36 38.4 -2.2**
UREC				*i*			16 36 52.6
	comp=Z,54nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.76**	**234**	*eP*	**Pn**		**16 36 12.6 +0.8**
GUY2C				*eS*	**Sn**		**16 36 48.0 +1.7**
GUY2C				*i*			16 36 54.2
	comp=Z,62nm,0.7s						
VILC	**Villavicencio,**	**2.80**	**192**	*eP*	**Pn**		**16 36 11.4 -0.5**
VILC				*eS*	**Sn**		**16 36 43.8 -2.9**
VILC				*i*			16 36 50.8
	comp=Z,54nm,0.6s						
CBOC	**Ciudad Bolivar**	**3.03**	**251**	*eP*	**Pn**		**16 36 15.3 +0.4**
CBOC				*eS*	**Sn**		**16 36 51.8 -0.2**
CBOC				*i*			16 36 58.0
	comp=Z,21nm,0.3s						
DBBC	**Dabeiba**	**3.06**	**273**	*eP*	**Pn**		**16 36 14.9 -0.2**
DBBC				*eS*	**Sn**		**16 36 51.9 -0.5**
MOTC	**Monteria, Cord**	**3.14**	**307**	*eP*	**Pn**		**16 36 14.7 -1.4**
MOTC				*eS*	**Sn**		**16 36 52.4 -1.8**
MOTC				*i*			16 37 10.2
	comp=Z,20nm,0.5s						
TOLC	**Tolima**	**3.15**	**224**	*eP*	**Pn**		**16 36 16.9 +0.5**
TOLC				*eS*	**Sn**		**16 36 54.2 -0.7**
TOLC				*i*			16 37 02.1
	comp=Z,76nm,0.4s						
ARGC	**Ariguani, Magd**	**3.16**	**340**	*eP*	**Pn**		**16 36 16.6 +0.3**
ARGC				*eS*	**Sn**		**16 36 56.7 +2.0**
ARGC				*i*			16 36 58.5
	comp=Z,23nm,0.4s						
SDV	**Santo Domingo**	**3.18**	**51**	*eP*	**Pn**		**16 36 17.1 +0.3**
SDV				*eS*	**Sn**		**16 36 52.9 -2.5**
SDV				*i*			16 36 56.2
	comp=Z,22nm,0.4s						
ANIL	**Santa Ana**	**3.27**	**224**	*eP*	**Pn**		**16 36 17.5 -0.5**
ANIL				*eS*	**Sn**		**16 36 58.3 +0.7**
ANIL				*i*			16 37 04.3
	comp=Z,12nm,0.4s						
PRAC	**Prado**	**3.59**	**209**	*eP*	**Pn**		**16 36 21.3 -0.6**
PRAC				*eS*	**Sn**		**16 37 03.1 -1.5**
PRAC				*i*			16 37 08.7
	comp=Z,40nm,0.3s						
ORTC	**Ortega, Tolima**	**3.62**	**216**	*eP*	**Pn**		**16 36 21.6 -0.6**
ORTC				*eS*	**Sn**		**16 37 04.3 -1.0**
ORTC				*i*			16 37 11.3
	comp=Z,26nm,0.3s						
SJCC	**San Jacinto, C**	**3.62**	**326**	*eP*	**Pn**		**16 36 21.4 -1.0**
SJCC				*eS*	**Sn**		**16 37 00.9 -4.5**
SJCC				*i*			16 37 08.0
	comp=Z,16nm,0.4s						
SMRC	**Santa Marta, M**	**4.40**	**346**	*eS*	**Sn**		**16 37 20.0 -3.5**
SMRC				*i*			16 37 25.2
	comp=Z,23nm,0.2s						
TXAR	**Lajitas Array**	**36.42**	**312**	P	**P**		**16 42 16.9 -0.1**
	comp=Z,0.2nm,0.7s,baz=127,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPdf**		**16 54 58.8 +3.0**
	comp=Z,0.1nm,0.4s,baz=107,slow=2.9,SNR=1.3						

*IDC **07** 16:43:15.5±1.4, 27°.17N×104°.23E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.3/55, mbtmp3.2/5, Error ellipse: s-maj=47.5km s-min=23.7km az=71.0*

ISC 07 16:43:16.3±1.4, 26°.9N±0°.1×103°.9E±0°.2, h10km, n6, σ2=41/7, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**8.29**	**30**	P	**Pn**	**16 45 17.5**	**+0.9**
XAN				S	**Sn**	**16 46 52.3**	**+2.0**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,90nm,6.6s						
XAN				LR	LR		
	comp=N,190nm,9.8s						
XAN				LR	LR		
	comp=E,190nm,9.3s						
XAN				LR	LR		
	comp=Z,150nm,10.8s						
SONM	**Songino Array**	**20.95**	**5**	P	**P**	**16 47 57.9**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=195,slow=7.0,SNR=2.3						
KSRS	**Korea Array**	**22.80**	**57**	P	**P**	**16 48 15.4**	**-3.7**
	comp=Z,0.2nm,0.6s,baz=257,slow=10.0,SNR=1.5						
MKAR	**Makanchi Array**	**26.16**	**325**	P	**P**	**16 48 51.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=129,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**55.15**	**145**	P	**P**	**16 52 49.9**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=333,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**58.05**	**147**	P	**P**	**16 53 11.1**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=327,slow=6.8,SNR=9.4						

IDC 07 16:51:44.0±8.1, 3°.64N×124°.62E, h312km±80km, mb2.7/4, mb1 2.8/4, mb1mx2.6/44, mbtmp3.3/4, Error ellipse: s-maj=101.3km s-min=19.1km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.63**	**177**	P	P	16 56 09.7	-0.1
	0.9nm,0.5s,baz=350,slow=6.8,SNR=13						
WRA	**Warramunga Arr**	**25.31**	**158**	P	P	16 56 43.3	+0.1
	0.2nm,0.8s,baz=338,slow=9.9,SNR=7.0						
WRA				PcP	PcP	17 00 06.7	-0.3
	0.2nm,0.8s,baz=344,slow=2.3,SNR=1.3						
ASAR	**Alice Springs**	**28.61**	**162**	P	P	16 57 12.6	+0.1
	0.2nm,0.8s,baz=334,slow=8.0,SNR=5.5						
ASAR				PcP	PcP	17 00 14.3	-0.7
	0.5nm,1.0s,baz=342,slow=1.7,SNR=2.3						
MKAR	**Makanchi Array**	**56.44**	**326**	P	P	17 00 53.9	-0.1
	0.5nm,0.4s,baz=119,slow=7.9,SNR=11						

IDC 07 17:04:31.8±13.0, 24°.19S×177°.30W, h335km±126km, mb3.1/4, mb1 3.2/5, mb1mx3.0/44, mbtmp3.9/5, Error ellipse: s-maj=68.8km s-min=52.3km az=42.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.81**	**197**	P	P	17 07 44.5	-0.3
	0.7nm,0.3s,baz=354,slow=9.2,SNR=5.6						
URZ				S	S	17 10 23.8	-1.2
	0.2nm,0.3s,baz=241,slow=10,SNR=1.9						
STKA	**Stephens Creek**	**36.91**	**249**	P	P	17 11 10.9	+1.2
	1.4nm,0.8s,baz=108,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**44.42**	**260**	P	P	17 12 10.4	-0.3
	0.4nm,0.4s,baz=95,slow=6.9,SNR=29						
WRA	**Warramunga Arr**	**44.85**	**266**	P	P	17 12 13.1	-1.0
	0.5nm,0.3s,baz=105,slow=8.3,SNR=87						
FITZ	**Fitzroy Crossi**	**53.27**	**265**	P	P	17 13 18.1	+0.8
	3.5nm,1.3s,baz=103,slow=4.6,SNR=3.2						
AKASG	**Malin Array Be**	**146.53**	**329**	PKPbc	PKPbc	17 23 32.9	-0.8
	0.3nm,0.4s,baz=46,slow=4.1,SNR=1.9						

*IDC **07** 17:04:44.0±0.6, 27°.03N×67°.24E, h0km, mb4.2/30, mb1 4.3/32, mb1mx4.1/63, mbtmp4.2/32, ML3.9/2, MS3.7/29, Ms1 3.7/29, ms1mx3.5/58, Error ellipse: s-maj=16.1km s-min=11.3km az=9.0*

*MOS **07** 17:04:48.1±1.1, 27°.30N×67°.35E, h31km, mb4.7/28, Error ellipse: s-maj=7.4km s-min=4.0km az=83.8*

*NEIC **07** 17:04:48.0±2.0, 27°.07N±0°.08×67°.23E±0°.08, h30km±3km, mb4.6/28, Error ellipse: s-maj=12.3km s-min=9.4km az=150.0*

ISC 07 17:04:49.0±0.4, 27°.16N±0°.05×67°.24E±0°.04, h35km, n276, σ2=19/292, mb4.4/86, MS3.7/35, 18C-14D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**4.46**	**150**	*eP*	**Pn**	**17 05 53.6**	**-0.6**
BHUJ				*eS*	**Sn**	**17 06 45.2**	**+0.3**
BHUJ				IAML		17 06 48.3	
	comp=E,189nm,0.6s						
BHUJ				IAML		17 06 50.0	
	comp=N,240nm,0.2s						
AJM	**Ajmer**	**6.65**	**94**	*iP*	**Pn**	**17 06 23.0**	**-1.3**
AJM				*i* S	**Sn**	**17 07 45.0**	**+6.1**
THW	**Thamme Wali**	**6.84**	**34**	P	**Pn**	**17 06 26.1**	**-0.8**
KBL	**Kabul**	**7.52**	**11**	P	**Pn**	**17 06 38.6**	**+2.2**
	SNR=20						
KBL				S	**Sn**	**17 08 02.9**	**+2.4**
KBL	**Kabul**	**7.52**	**11**	P	**Pn**	**17 06 35.9**	**-0.4**
KBL						17 07 57.4	
KBL	**Kabul**	**7.52**	**11**	Pn	**Pn**	**17 06 35.9**	**-0.4**
KBL				Sn	**Sn**	**17 07 57.4**	**-3.1**
CEP	**Cherat**	**7.77**	**30**	P	**Pn**	**17 06 39.2**	**-0.5**
NIL	**Nilore**	**8.29**	**37**	P	**Pn**	**17 06 45.2**	**-1.6**
NIL	**Nilore**	**8.29**	**37**	P	**Pn**	**17 06 45.7**	**-1.1**
NIL	**Nilore**	**8.29**	**37**	Pn	**Pn**	**17 06 45.7**	**-1.1**
HRA	**Herat**	**8.39**	**330**	Pn	**Pn**	**17 06 49.1**	**+0.8**
JLN	**Jalan Bani Buh**	**8.69**	**237**	P	**Pn**	**17 06 50.9**	**-1.3**
JLN				S	**Sn**	**17 08 27.2**	**-1.9**
WSAR	**Wadi Sarin**	**8.72**	**245**	Pn	**Pn**	**17 06 50.8**	**-1.9**
	comp=N,3.2nm,0.3s,baz=104,slow=10,SNR=25						
WSAR				Sn	**Sn**	**17 08 21.1**	**-8.6**
	comp=N,1.8nm,0.3s,baz=61,slow=6.5,SNR=6.2						
WSAR				LR	LR	17 11 01.9	
	comp=N,301nm,19.4s,baz=86,slow=44						
WSAR	**Wadi Sarin**	**8.72**	**245**	P	**Pn**	**17 06 50.9**	**-1.7**
	SNR=23						
WSAR				S	**Sn**	**17 08 26.9**	**-2.9**
WBK	**Wadi Bani Khal**	**8.77**	**241**	P	**Pn**	**17 06 51.5**	**-1.9**
	SNR=15						
WBK				S	**Sn**	**17 08 30.2**	**-0.8**
SONA	**Sohna**	**8.79**	**81**	*eP*	**Pn**	**17 06 52.9**	**-0.7**
SONA				*eS*	**Sn**	**17 08 28.3**	**-3.3**
NDI	**New Delhi**	**8.96**	**78**	*eP*	**Pn**	**17 06 55.0**	**-0.9**
NDI				*eS*	**Sn**	**17 08 31.0**	**-4.6**
BIDO	**Bidbid**	**9.00**	**248**	P	**Pn**	**17 06 56.6**	**0.0**
BIDO				S	**Sn**	**17 08 36.5**	**-0.2**
THN	**Thein Dam**	**9.05**	**52**	*eP*	**Pn**	**17 06 57.5**	**+0.4**
THN				*eS*		17 07 34.0	
BHK	**Bhakra**	**9.07**	**60**	*eP*	**Pn**	**17 06 56.6**	**-0.8**
BHK				*eS*	**Sn**	**17 08 38.8**	**+0.5**
SMDO	**Samad**	**9.27**	**246**	P	**Pn**	**17 06 59.5**	**-0.9**
	SNR=5.7						
SMDO				S	**Sn**	**17 08 42.4**	**-1.2**
DHRM	**DHARAMSHALA**	**9.37**	**55**	*eP*	**Pn**	**17 07 00.2**	**-1.6**
DHRM				*eS*	**Sn**	**17 08 43.6**	**-2.3**
DHRM				IAML		17 08 56.4	
	comp=E,478nm,1.0s						
DHRM				IAML		17 08 56.6	
	comp=N,185nm,1.0s						
SMLA	**Simla**	**9.54**	**63**	*eP*	**Pn**	**17 07 02.3**	**-1.5**
SMLA				*eS*	**Sn**	**17 08 44.8**	**-5.0**
SMLA				IAML		17 08 49.1	
	comp=E,248nm,0.9s						
SMLA				IAML		17 08 50.8	
	comp=N,383nm,0.5s						
JMDO	**Jabal Madar**	**9.57**	**242**	P	**Pn**	**17 07 02.4**	**-2.0**
JMDO				S	**Sn**	**17 08 50.3**	**-0.4**
HOQ	**Hoqain**	**9.66**	**251**	P	**Pn**	**17 07 04.5**	**-1.0**
	SNR=8.7						
BANOM	**Banah**	**9.87**	**265**	S	**Sn**	**17 08 56.9**	**-1.3**
MDH	**Madha**	**10.00**	**262**	P	**Pn**	**17 07 10.5**	**+0.3**
	SNR=6.1						
MDH				S	**Sn**	**17 08 58.8**	**-2.4**
BHPL	**Bhopal**	**10.01**	**111**	*eP*	**Pn**	**17 07 09.2**	**-1.3**
BSY	**Bisya**	**10.11**	**246**	P	**Pn**	**17 07 10.6**	**-1.2**
UOSS	**Minazif**	**10.16**	**260**	Pn	**Pn**	**17 07 13.6**	**+1.1**
GAR	**Garm**	**12.09**	**12**	Pn	**Pn**	**17 07 38.6**	**-0.2**
GEYT	**Alibeck**	**13.20**	**327**	Pn	**Pn**	**17 07 54.9**	**+0.9**
	comp=N,0.3nm,0.3s,baz=114,slow=9.9,SNR=5.1						
GEYT				LR	LR	17 12 50.6	
	comp=N,148nm,20.6s,baz=160,slow=37						
GEYT	**Alibeck**	**13.20**	**327**	Pn	**Pn**	**17 07 50.6**	**-3.4**
PYUN	**Piuthan**	**14.00**	**83**	*eP*	**Pn**	**17 08 01.7**	**-3.4**
	comp=N,80nm,0.5s						
PYUN	**Piuthan**	**14.00**	**83**	*eP*	**Pn**	**17 08 01.7**	**-3.4**
	comp=N,80nm,0.5s						
KOLN	**Koldanda**	**14.54**	**84**	*eP*	Pn	17 08 07.4	-5.1
	comp=N,48nm,0.7s						
KOLN	**Koldanda**	**14.54**	**84**	*eP*	Pn	17 08 07.4	-5.1
	comp=N,48nm,0.7s						
GKN	**Gocha**	**15.45**	**83**	*eP*	**Pn**	**17 08 19.0**	**-5.6**
	comp=N,34nm,0.5s						
GKN	**Gorkha**	**15.45**	**83**	*eP*	**Pn**	**17 08 19.0**	**-5.6**
	comp=N,34nm,0.5s						
DMN	**Daman**	**15.88**	**84**	*eP*	**Pn**	**17 08 24.3**	**-5.9**
	comp=N,86nm,0.9s						
DMN	**Daman**	**15.88**	**84**	*eP*	**Pn**	**17 08 24.3**	**-5.9**
	comp=N,86nm,0.9s						
DZA	**Taraz**	**16.05**	**11**	*eP*	**Pn**	**17 08 31.1**	**-0.8**
	comp=N,9.9nm,0.7s,baz=11						
DZA	**Taraz**	**16.05**	**11**	*eP*	**Pn**	**17 08 31.1**	**-0.8**
DZA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KK31	**Karatay Array**	**16.13**	**9**	P	**Pn**	**17 08 32.0**	**-1.0**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KK31	**Karatay Array**	**16.13**	**9**	Pn	**Pn**	**17 08 32.0**	**-1.0**
KKAR	**Karatay Array**	**16.13**	**9**	P	**Pn**	**17 08 31.9**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	**Karatay Array**	**16.13**	**9**		**Pn**	**17 08 32.9**	**-0.1**
KKAR	**Karatay Array**	**16.13**	**9**	Pn	**Pn**	**17 08 31.9**	**-1.1**
KKAR				IAmb	IAmb	17 08 41.6	
	comp=Z,7.0nm,0.7s						
PKI	**Pulchoki**	**16.15**	**84**	*eP*	**Pn**	**17 08 27.8**	**-5.9**
	comp=Z,73nm,0.9s						
PKI	**Pulchoki**	**16.15**	**84**	*eP*	**Pn**	**17 08 27.8**	**-5.9**
	comp=Z,73nm,0.9s						
AAK	**Ala-Archa**	**16.54**	**19**	Pn	**Pn**	**17 08 35.8**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=222,slow=4.9,SNR=15						
AAK				LR	LR	17 16 27.9	
	comp=Z,237nm,19.4s,baz=190,slow=42						
AAK	**Ala-Archa**	**16.54**	**19**	P	**Pn**	**17 08 36.1**	**-2.2**
GUN	**Gumba**	**16.55**	**83**	*eP*	**Pn**	**17 08 33.9**	**-4.9**
	comp=Z,212nm,0.9s						
GUN	**Gumba**	**16.55**	**83**	*eP*	**Pn**	**17 08 33.9**	**-4.9**
	comp=Z,212nm,0.9s						
JIRN	**Jiri**	**16.84**	**84**	*eP*	**Pn**	**17 08 37.0**	**-5.5**
	comp=Z,76nm,0.6s						
JIRN	**Jiri**	**16.84**	**84**	*eP*	**Pn**	**17 08 37.0**	**-5.5**
	comp=Z,76nm,0.6s						
BOOM	**Boomskoye usch**	**16.86**	**23**	P	**Pn**	**17 08 39.6**	**-2.9**
BOOM				pmax	pmax		
	comp=Z,12nm,0.8s						
BOOM	**Boomskoye usch**	**16.86**	**23**	P	**Pn**	**17 08 39.6**	**-2.9**
TKM2	**Tokmak 2**	**17.13**	**21**	P	**Pn**	**17 08 42.3**	**-3.6**
SGDS	**Sogindy**	**17.33**	**18**	*eP*	**Pn**	**17 08 45.8**	**-2.4**
	baz=18						
SGDS	**Sogindy**	**17.33**	**18**	*eP*	**Pn**	**17 08 45.7**	**-2.4**
AAA	**Alma-Ata**	**17.84**	**24**	*eP*	**Pn**	**17 08 52.5**	**-1.9**
	baz=24						
AAA				LR	LR	17 16 07.9	
	comp=Z,247nm,13.9s,baz=24						
AAA	**Alma-Ata**	**17.84**	**24**	*eP*	**Pn**	**17 08 52.5**	**-1.9**
AAA				MLR	MLR		
	comp=Z,247nm,14.0s						
MDOK	**Medeo**	**17.84**	**24**	*eP*	**Pn**	**17 08 52.8**	**-1.8**
	comp=Z,64nm,0.9s,baz=24						
MDOK				LR	LR	17 16 18.8	
	comp=Z,296nm,13.2s,baz=24						
MDOK	**Medeo**	**17.84**	**24**	*eP*	**Pn**	**17 08 52.8**	**-1.8**
MDOK				pmax	pmax		
	comp=Z,64nm,0.9s						
MDOK				MLR	MLR		
	comp=Z,296nm,13.0s						
ODAN	**Odare**	**17.96**	**86**	*eP*	**Pn**	**17 08 51.9**	**-4.4**
	comp=Z,41nm,0.8s						
ODAN	**Odare**	**17.96**	**86**	*eP*	**Pn**	**17 08 51.9**	**-4.4**
	comp=Z,41nm,0.8s						
TAPN	**Taplejung**	**18.20**	**85**	*eP*	**Pn**	**17 08 56.8**	**-2.5**
	comp=Z,49nm,0.9s						
TAPN	**Taplejung**	**18.20**	**85**	*eP*	**Pn**	**17 08 56.8**	**-2.5**
	comp=Z,49nm,0.9s						
KUU	**Kurty**	**18.24**	**21**	*eP*	**P**	**17 08 58.5**	**-0.9**
	comp=Z,5.3nm,0.8s,baz=21						
KUU	**Kurty**	**18.24**	**21**	*eP*	**P**	**17 08 58.4**	**-0.9**
KUU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
UZB	**Uzynbulak**	**18.60**	**28**	*eP*	**P**	**17 09 02.8**	**-0.7**
	baz=28						
UZB				LR	LR	17 17 02.2	
	comp=Z,66nm,10.8s,baz=28						
UZB	**Uzynbulak**	**18.60**	**28**	*eP*	**P**	**17 09 02.7**	**-0.7**
UZB				MLR	MLR		
	comp=Z,66nm,11.0s						
BTLS	**Baital**	**18.66**	**15**	*eP*	**P**	**17 09 03.1**	**-0.7**
	baz=15						
BTLS	**Baital**	**18.66**	**15**	*eP*	**P**	**17 09 03.1**	**-0.7**
KPKS	**Kokpek**	**18.73**	**27**	*eP*	**P**	**17 09 04.0**	**-0.7**
	comp=Z,6.4nm,0.7s,baz=27						
KPKS				LR	LR	17 17 34.2	
	comp=Z,125nm,10.1s,baz=27						
KPKS	**Kokpek**	**18.73**	**27**	*eP*	**P**	**17 09 04.0**	**-0.7**
KPKS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KPKS				MLR	MLR		
	comp=Z,125nm,10.0s						
SHLS	**Shalkode**	**18.80**	**29**	*eP*	**Pn**	**17 09 06.9**	**+0.7**
	baz=30						
SHLS	**Shalkode**	**18.80**	**29**	*eP*	**Pn**	**17 09 06.9**	**+0.7**
PDGK	**Podgornoye**	**18.95**	**28**	P	**P**	**17 09 07.3**	**+0.1**
TDK	**Taldyqorghan**	**19.93**	**24**	*eP*	**P**	**17 09 17.3**	**-0.5**
	comp=Z,6.5nm,0.6s,baz=24						
TDK	**Taldyqorghan**	**19.93**	**24**	*eP*	**P**	**17 09 17.2**	**-0.5**
TDK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**21.17**	**78**	P	**P**	**17 09 31.1**	**-0.7**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**21.17**	**78**	P	**P**	**17 09 31.1**	**-0.7**
LSA				IAmb	IAmb	17 09 39.2	
	comp=Z,13nm,0.8s						
AKT	**Akhty**	**21.46**	**317**	*eP*	**P**	**17 09 35.7**	**+1.2**
AKT				*e*		17 09 57.4	
AKT				pmax	pmax		
	comp=Z,34nm,0.8s						
SHL	**Shillong**	**22.13**	**89**	P	**P**	**17 09 41.1**	**-0.8**
SHL				pmax	pmax		
	comp=Z,22nm,1.1s						
SHL	**Shillong**	**22.13**	**89**	P	**P**	**17 09 41.1**	**-0.8**
SHL				IAmb	IAmb	17 09 52.2	
	comp=Z,22nm,1.1s						
MAK	**Makhachkala**	**22.49**	**320**	*eP*	**P**	**17 09 41.9**	**-3.4**
MAK				*eS*	**S**	**17 13 44.7**	**-5.1**
MAK				pmax	pmax		
	comp=Z,333nm,1.5s						
MAK				MLR	MLR		
	comp=Z,117nm,14.0s						
ABKAR	**Akbulak array**	**22.77**	**348**	P	**P**	**17 09 48.5**	**+0.3**
MAKZ	**Makanchi**	**22.80**	**27**	P	**P**	**17 09 48.0**	**-0.6**
MAKZ	**Makanchi**	**22.80**	**27**	P	**P**	**17 09 49.3**	**+0.6**
MAKZ				IAmb	IAmb	17 09 51.4	
	comp=Z,16nm,0.8s						
MK31	**Makanchi Array**	**22.92**	**27**	*i* P	**P**	**17 09 48.4**	**-1.4**
MK31	**Makanchi Array**	**22.92**	**27**	P	**P**	**17 09 49.9**	**0.0**
MKAR	**Makanchi Array**	**22.92**	**27**	P	**P**	**17 09 50.7**	**+0.9**
	comp=Z,6.6nm,0.8s,baz=213,slow=8.7,SNR=32						
MKAR				LR	LR	17 20 03.9	
	comp=Z,262nm,18.3s,baz=204,slow=40						
MKAR	**Makanchi Array**	**22.92**	**27**	P	**P**	**17 09 50.1**	**+0.2**
MKAR	**Makanchi Array**	**22.92**	**27**	P	**P**	**17 09 50.1**	**+0.2**
BRZS	**Berezniki**	**23.17**	**9**	*eP*	**P**	**17 09 52.2**	**-0.1**
	comp=Z,13nm,1.0s,baz=8.8						
BRZS	**Berezniki**	**23.17**	**9**	*eP*	**P**	**17 09 52.2**	**-0.1**
BRZS				pmax	pmax		
	comp=Z,13nm,1.0s						
WMQ	**Urumqi**	**23.43**	**40**	*eP*	**P**	**17 09 56.4**	**+1.3**
WMQ				pP	pP	17 10 00.9	-3.9
WMQ				sP	sP	17 10 08.6	-0.5
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,69nm,6.3s						
WMQ				LR	LR		
	comp=N,280nm,13.5s						
WMQ				LR	LR		
	comp=E,250nm,12.9s						
WMQ				LR	LR		
	comp=Z,16nm,12.9s						
PALK	**Pallekele**	**23.55**	**145**	LR	LR	17 19 00.5	
	comp=Z,183nm,21.3s,baz=73,slow=36						
GROC	**Groznyy**	**23.63**	**318**	*eP*	**P**	**17 09 57.0**	**+0.1**
GROC				*e*		17 10 24.9	
GROC				*eS*	**S**	**17 14 04.5**	**-4.6**
GROC				pmax	pmax		
	comp=Z,59nm,1.4s						
AKTO	**Aktyubinsk**	**24.29**	**346**	P	**P**	**17 10 04.7**	**+1.8**
	comp=Z,6.7nm,0.8s,baz=172,slow=8.5,SNR=16						
AKTO				LR	LR	17 20 41.8	
	comp=Z,141nm,18.6s,baz=154,slow=39						
MARD	**Mardin**	**24.49**	**301**	P	**P**	**17 10 06.0**	**+0.9**
ZSN	**Zaisan**	**24.53**	**30**	*eP*	**P**	**17 10 05.5**	**+0.2**
	baz=30						
ZSN	**Zaisan**	**24.53**	**30**	*eP*	**P**	**17 10 05.4**	**+0.2**
ZEI	**Tsey**	**24.56**	**315**	*eP*	**P**	**17 10 09.0**	**+3.3**
ZEI				pmax	pmax		
	comp=Z,14nm,1.4s						
KURBB	**Kurchatov Arra**	**24.97**	**17**	P	**P**	**17 10 10.1**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=210,slow=9.3,SNR=17						
KURBB	**Kurchatov Arra**	**24.97**	**17**	P	**P**	**17 10 09.2**	**+0.1**
KURK	**Kurchatov**	**25.07**	**17**	*de*P	**P**	**17 10 11.1**	**+1.1**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**25.07**	**

GTA LR LR
comp=N,390nm,16.2s
GTA LR LR
comp=E,130nm,15.6s
GTA LR LR
comp=Z,150nm,16.5s
ZAA0 Zalesovo Array 29.74 21 P **P 17 10 50.9 -1.0**
ZALV Zalesovo Beam 29.74 21 P **P 17 10 52.6 +0.8**
comp=Z,2.8nm,0.6s,baz=226,slow=10,SNR=9.6
ZALV LR LR 17 24 41.5
comp=Z,112nm,18.6s,baz=220,slow=40
ZALV Zalesovo Beam 29.74 21 P **P 17 10 51.9 0.0**
ZALV Zalesovo Beam 29.74 21 P **P 17 10 51.9 0.0**
ARU Arti 29.91 350 P **P 17 10 55.2 +2.0**
comp=Z,0.9nm,0.6s,baz=79,slow=4.1,SNR=5.0
ARU LR LR 17 24 05.7
comp=Z,129nm,18.6s,baz=192,slow=39
ARU Arti 29.91 350 *d iP* **P 17 10 54.7 +1.4**
ARU 17 11 45.8
ARU S **S 17 15 52.4 +4.3**
ARU SS **SnSn 17 17 18.4 -2.4**
ARU pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 30.41 100 P **P 17 10 58.9 +0.6**
comp=Z,0.7nm,0.7s,baz=302,slow=8.1,SNR=4.6
CMAR LR LR 17 25 56.0
comp=Z,139nm,19.0s,baz=333,slow=42
BRTR Keskin Array B 30.53 303 P **P 17 10 59.9 +0.7**
comp=Z,1.6nm,1.0s,baz=129,slow=9.7,SNR=7.8
VSR Storozhevoye 32.06 326 *eP* **P 17 11 12.6 +0.2**
VSR pmax pmax
comp=Z,5.0nm,0.6s
LZH Lanzhou 32.26 65 *eP* **P 17 11 17.3 +2.8**
LZH pP pP 17 11 25.8 +1.2
LZH sP sP 17 11 29.7 +0.8
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=N,590nm,14.6s
LZH LR LR
comp=E,170nm,13.0s
LZH LR LR
comp=Z,350nm,17.1s
LPSR Galich'ya Gora 33.04 328 *eP* **P 17 11 22.1 +1.2**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
GYA Guiyang 35.10 82 *eP* **P 17 11 40.3 +1.1**
GYA pmax pmax
comp=Z,7.0nm,0.9s
GYA LR LR
comp=Z,170nm,12.8s
MOY Mondy 35.26 37 *eP* **P 17 11 41.9 +1.6**
MOS Moscow 35.66 331 *eP* P 17 11 35.5 -8.0
MOS *e* 17 11 44.7
OBN Obninsk 35.72 330 *i P* **P 17 11 46.0 +2.0**
OBN pmax pmax
comp=Z,8.0nm,0.8s
ZAK Zakamensk 35.90 40 *eP* **P 17 11 46.6 +0.8**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
XAN Xi'an 36.34 69 P **P 17 11 49.6 -0.1**
XAN pP pP 17 11 58.2 -1.7
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN pmax pmax
comp=Z,120nm,5.5s
XAN LR LR
comp=N,280nm,17.2s
XAN LR LR
comp=E,130nm,20.1s
XAN LR LR
comp=Z,330nm,15.7s
ALN Alexandroupoli 36.45 303 P **P 17 11 52.1 +1.6**
ALN pmax pmax
comp=Z,12nm,1.0s
ALN Alexandroupoli 36.45 303 P **P 17 11 52.1 +1.6**
ALN IAmb IAmb 17 11 53.3
comp=Z,12nm,1.0s
RAZG Razgrad 36.62 307 ⇑P **P 17 11 53.8 +1.9**
TLY Talaya 36.70 38 *eP* P 17 11 43.8 -8.7
TLY pmax pmax
comp=Z,13nm,0.6s
SORM Soroca 36.71 315 ⇓P **P 17 11 53.7 +1.1**
SONM Songino Array 36.77 45 P **P 17 11 54.9 +1.5**
comp=Z,3.2nm,0.8s,baz=245,slow=8.8,SNR=19
SONM LR LR 17 30 03.0
comp=Z,95nm,18.1s,baz=242,slow=41
SONM Songino Array 36.77 45 P **P 17 11 53.6 +0.3**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 36.77 45 P **P 17 11 53.6 +0.3**
BISRR Bisoca 36.97 311 ⇑P **P 17 11 57.2 +2.2**
VRI Vrincioaia 37.05 311 ⇓P **P 17 11 58.2 +2.6**
PLOR Plostina 37.09 311 ⇑P **P 17 11 57.9 +1.9**
AKASG Malin Array Be 37.17 320 P **P 17 11 56.6 +0.1**
comp=Z,3.7nm,0.8s,baz=109,slow=7.3,SNR=13
AKASG PP **PP 17 13 20.6 -0.9**
comp=Z,1.2nm,0.8s,baz=96,slow=9.2,SNR=2.2
AKASG PcP **PcP 17 14 17.8 +1.8**
comp=Z,0.5nm,0.5s,baz=90,slow=3.0,SNR=2.8
AKBB Malin Array Si 37.17 320 P **P 17 11 55.4 -1.1**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 37.17 320 P **P 17 11 55.4 -1.1**
AKBB IAmb IAmb 17 11 58.3
comp=Z,6.6nm,0.9s
ULN Ulaanbaatar 37.20 45 *d iP* **P 17 11 59.0 +2.0**
ULN pmax pmax
comp=Z,7.0nm,1.7s
NEHR Nehoiu 37.22 310 ⇓P **P 17 11 60.0 +2.9**
TESR Tescani 37.28 312 ⇓P **P 17 11 59.6 +2.0**
PRGR Permogore 37.39 343 *eP* **P 17 11 58.3 +0.1**
MLR Muntele Rosu 37.48 310 ⇑P **P 17 12 01.9 +2.5**
MLR Muntele Rosu 37.48 310 P **P 17 11 59.9 +0.5**
MLR pmax pmax
comp=Z,24nm,1.0s
MLR Muntele Rosu 37.48 310 P **P 17 11 59.9 +0.5**
BIZ Bicaz 37.77 313 ⇑P **P 17 12 03.1 +1.4**
VOIR 38.07 310 ⇓P **P 17 12 06.4 +2.1**
MMB Musomiste 38.28 304 *eP* **P 17 12 07.1 +1.0**
ARR Arges 38.34 310 ⇑P **P 17 12 08.1 +1.5**
BURAR Bucovina Array 38.54 313 ⇑P **P 17 12 09.5 +1.3**
BURAR Bucovina Array 38.54 313 P **P 17 12 09.1 +0.8**
KLMR Klimovskoe 38.55 339 *eP* **P 17 12 07.9 -0.1**
KLMR *e* 17 13 35.3
KLMR pmax pmax
comp=Z,8.0nm,1.2s
KLMR Klimovskoe 38.55 339 *eP* **P 17 12 08.0 -0.1**
KLMR AMP 17 12 12.5
comp=Z,8.0nm,1.2s
KLMR *e*PP **PP 17 13 35.4 -1.1**
BUR08 Bucovina Ar. S 38.56 313 P **P 17 12 08.8 +0.3**
BUR08 IAmb IAmb 17 12 10.9
comp=Z,6.4nm,0.8s
VTS Vitosha 38.80 305 *eP* **P 17 12 11.4 +0.9**
HHC Hu-ho-hao-te 38.80 58 *eP* **P 17 12 11.4 +0.9**
HHC PP **PnPn 17 13 44.4 +2.4**
HHC S **S 17 18 05.8 -0.1**
HHC SS **SnSn 17 20 48.0 -8.8**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,57nm,5.4s
HHC LR LR
comp=N,230nm,17.8s
HHC LR LR
comp=E,150nm,19.4s
HHC LR LR
comp=Z,88nm,13.1s
LOT Lotru 38.95 310 ⇓P **P 17 12 13.6 +1.9**
ARCR ARCALIA 38.96 312 ⇓P **P 17 12 14.2 +2.6**
LIT Litokhoron 39.04 301 P **P 17 12 13.1 +0.6**
LIT pmax pmax
comp=Z,12nm,0.8s
LIT Litokhoron 39.04 301 P **P 17 12 13.1 +0.6**
LIT IAmb IAmb 17 12 14.2
comp=Z,12nm,0.8s
VAY Valandovo 39.11 303 *i* P **P 17 12 13.8 +0.8**
CJR Cluj-Napoca 39.36 312 ⇑P **P 17 12 17.6 +2.5**
STIP Stip 39.44 303 *i* P **P 17 12 14.7 -1.0**
DEV Deva 39.64 310 ⇓P **P 17 12 19.9 +2.6**
HERR Herculane 39.77 308 ⇑P **P 17 12 20.3 +1.8**
SKO Skopje 40.03 304 *i* P **P 17 12 21.3 +0.7**
KMBO Kilima Mbogo 40.30 231 LR LR 17 27 38.4
comp=Z,25nm,21.4s,baz=94,slow=34

KOLS Kolonicke sedl 40.80 314 *eP* **P 17 12 28.4 +1.5**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 40.80 314 *eP* **P 17 12 28.4 +1.5**
WHN Wuhan 41.17 74 P **P 17 12 31.7 +1.5**
CRVS Cervenica-Dubn 41.30 314 *eP* **P 17 12 33.3 +2.2**
CRVS pmax pmax
comp=Z,14nm,1.0s
CRVS Cervenica-Dubn 41.30 314 *eP* **P 17 12 33.3 +2.2**
TMCR Tamitsa 41.50 341 *eP* **P 17 12 32.2 -0.2**
PDG Podgorica 41.69 304 ⇑P **P 17 12 35.9 +1.6**
PDG Podgorica 41.69 304 P **P 17 12 35.5 +1.2**
PDG IAmb IAmb 17 12 36.4
comp=Z,11nm,0.9s
VSU Vasula 42.07 329 ⇑*eP* **P 17 12 38.5 +1.4**
VSU pmax pmax
comp=Z,14nm,0.9s
VYHS Vyhne 42.90 313 *eP* **P 17 12 45.4 +1.3**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 42.90 313 *eP* **P 17 12 45.4 +1.3**
TIP Timpagrande 43.42 299 P **P 17 12 49.9 +1.4**
TIP IAmb IAmb 17 12 51.8
comp=Z,16nm,1.1s
JAVC Velka Javorina 43.73 313 *eP* **P 17 12 52.8 +1.9**
NRIK Noril'sk 43.86 10 P **P 17 12 52.1 +0.6**
comp=Z,5.7nm,0.8s,baz=194,slow=6.4,SNR=6.1
MODS Modra-Piesok 43.90 313 *eP* **P 17 12 53.0 +0.8**
MODS pmax pmax
comp=Z,8.0nm,0.9s
MODS Modra-Piesok 43.90 313 *eP* **P 17 12 53.0 +0.8**
FINES FINESS Array B 43.90 333 P **P 17 12 52.4 +0.5**
comp=Z,4.6nm,0.8s,baz=120,slow=11,SNR=17
FINES LR LR 17 33 26.6
comp=Z,126nm,20.9s,baz=118,slow=39
FINES FINESS Array B 43.90 333 P **P 17 12 53.1 +1.1**
FINES FINESS Array B 43.90 333 P **P 17 12 53.1 +1.1**
MORC Moravsky Berou 44.00 315 ⇓P **P 17 12 55.2 +2.2**
MORC Moravsky Berou 44.00 315 *eP* **P 17 12 54.6 +1.6**
VRAC Vranov 44.51 314 *eP* **P 17 12 58.7 +1.6**
KRLC Kraliky 44.54 315 *eP* **P 17 12 59.0 +1.7**
KRLC Kraliky 44.54 315 *eP* **P 17 12 59.0 +1.7**
KRUC Moravsky 44.60 313 *eP* **P 17 12 59.3 +1.6**
DPC Dobruska-Polom 44.89 315 *eP* **P 17 13 02.0 +1.9**
DPC Dobruska-Polom 44.89 315 *eP* **P 17 13 02.0 +1.9**
ARSA Arzberg 44.89 311 *i P* **P 17 13 02.2 +2.0**
comp=Z,5.4nm,1.2s
OSTC Ostas 44.99 315 *eP* **P 17 13 03.1 +2.2**
CHVC Chvalec 45.10 315 *eP* **P 17 13 03.8 +2.0**
UPC Upice 45.11 315 *eP* **P 17 13 04.2 +2.4**
UPC Upice 45.11 315 *eP* **P 17 13 04.2 +2.4**
SOKA Soboth 45.15 310 *i P* **P 17 13 05.8 +3.6**
comp=Z,4.8nm,1.2s
GERES GERESS Array B 46.32 313 P **P 17 13 11.0 -0.5**
comp=Z,1.3nm,0.6s,baz=99,slow=8.2,SNR=14
GERES GERESS Array B 46.32 313 P **P 17 13 11.5 0.0**
KBA Koelnbreinsper 46.35 310 *i P* **P 17 13 14.7 +2.9**
comp=Z,2.9nm,0.7s
KHC Kasperske Hory 46.44 313 *eP* **P 17 13 13.4 +1.1**
KHC Kasperske Hory 46.44 313 ⇑*eP* **P 17 13 13.7 +1.4**
KHC pmax pmax
comp=Z,14nm,1.7s
BRG Berggiesshubel 46.47 316 *i P* **P 17 13 14.3 +1.8**
comp=Z,7.5nm,1.3s
ABTA Abfaltersbach 46.88 310 *i P* **P 17 13 17.2 +1.3**
comp=Z,5.6nm,0.8s
CLL Collm 47.13 316 *e*(P) **P 17 13 22.0 +4.3**
CLL *e*PP **PP 17 15 07.0 -1.6**
CLL LmH 17 35 00.0
comp=N,100nm,19.1s
CLL LmH 17 35 00.0
comp=E,100nm,21.5s
CLL LmV 17 37 00.0
comp=Z,100nm,19.6s
WATA Walderalm 47.57 310 *i P* **P 17 13 23.1 +1.8**
comp=Z,3.6nm,0.8s
SQTA Sankt Quirin 47.81 310 *i P* **P 17 13 23.7 +0.5**
comp=Z,2.7nm,0.7s
MOTA Moosalm 47.89 310 *i P* **P 17 13 24.0 +0.2**
comp=Z,4.2nm,0.8s
GRF Grafenberg Arr 48.03 314 *eP* **P 17 13 27.2 +2.5**
comp=Z,4.4nm,0.8s,baz=105,slow=8.1
FETA Feichten 48.12 310 *i P* **P 17 13 26.3 +0.7**
comp=Z,4.1nm,0.8s
RETA Reutte 48.13 311 *i P* **P 17 13 28.1 +2.5**
comp=Z,1.7nm,0.5s
FUORN Ofenpass-Fuorn 48.42 309 P **P 17 13 29.0 +0.9**
DAVA Damuels 48.72 310 *i P* **P 17 13 30.0 -0.2**
comp=Z,7.2nm,0.8s
ARCES ARCESS Array B 48.78 342 P **P 17 13 31.3 +1.1**
comp=Z,4.8nm,0.9s,baz=131,slow=6.6,SNR=9.5
ARCES LR LR 17 35 37.0
comp=Z,145nm,19.2s,baz=146,slow=38
TUE Stuetta 49.05 309 P **P 17 13 31.4 -1.4**
TUE IAmb IAmb 17 13 35.4
comp=Z,5.0nm,0.7s
KEST Kesra 49.51 295 P **P 17 13 38.2 +1.8**
comp=Z,11nm,0.8s,baz=315,slow=3.2,SNR=14
KEST LR LR 17 40 56.4
comp=Z,52nm,18.2s,baz=6.5,slow=44
KEST Kesra 49.51 295 P **P 17 13 37.2 +0.8**
NB2 NORSAR Subarra 50.28 328 P **P 17 13 41.3 -0.5**
comp=Z,1.1nm,0.8s,baz=109,slow=7.4
NOA NORSAR Array B 50.28 328 P **P 17 13 41.6 -0.2**
comp=Z,1.5nm,0.8s,baz=108,slow=7.4,SNR=9.8
NOA LR LR 17 36 15.4
comp=Z,50nm,19.7s,baz=135,slow=38
BNI Bardonecchia 50.90 307 P **P 17 13 46.5 -0.3**
BNI pmax pmax
comp=Z,6.0nm,1.0s
BNI Bardonecchia 50.90 307 P **P 17 13 46.5 -0.3**
BNI IAmb IAmb 17 13 48.3
comp=Z,5.6nm,1.0s
KSRS Korea Array 51.53 62 P **P 17 13 51.8 +0.3**
comp=Z,2.2nm,0.8s,baz=268,slow=7.4,SNR=17
KSRS LR LR 17 40 23.3
comp=Z,63nm,18.3s,baz=267,slow=42
YAK Yakutsk 53.51 31 P **P 17 14 06.4 +0.7**
comp=Z,2.5nm,0.4s,baz=285,slow=1.9,SNR=5.2
YAK Yakutsk 53.51 31 *i P* **P 17 14 05.9 +0.2**
YAK pmax pmax
comp=Z,6.0nm,0.8s
KLR Kul'dur 53.54 47 P **P 17 14 06.8 +0.7**
comp=Z,4.3nm,0.9s,baz=290,slow=10,SNR=15
KLR Kul'dur 53.54 47 *ceP* **P 17 14 07.0 +0.8**
KLR pmax pmax
comp=Z,5.0nm,0.8s
USRK Ussuriysk Ar. 53.93 54 LR LR 17 38 33.7
comp=Z,58nm,19.4s,baz=257,slow=38
DAV Davao City (W) 58.69 99 LR LR 17 44 19.6
comp=Z,58nm,18.1s,baz=294,slow=40
ESDC Sonseca Array 59.32 302 P **P 17 14 46.8 -0.8**
comp=Z,1.5nm,0.8s,baz=64,slow=6.6,SNR=15
ESDC LR LR 17 43 09.1
comp=Z,16nm,18.1s,baz=110,slow=39
ESDC Sonseca Array 59.32 302 P **P 17 14 45.7 -1.8**
KAPI Kappang 59.95 114 LR LR 17 41 09.5
comp=Z,58nm,21.9s,baz=274,slow=36
ASAJ Asahikawa 61.50 52 LR LR 17 42 57.3
comp=Z,84nm,20.0s,baz=271,slow=37
PCBR Castelo Branco 61.93 303 *eP* **P 17 15 05.1 -0.2**
TOA0 Torodi Ar. Sit 62.49 271 P **P 17 15 09.8 +0.4**
TORD Torodi Ar. Bea 62.49 271 P **P 17 15 09.6 +0.2**
comp=Z,5.5nm,0.8s,baz=56,slow=5.9,SNR=14
TORD LR LR 17 44 09.5
comp=Z,35nm,20.9s,baz=35,slow=38
TORD Torodi Ar. Bea 62.49 271 P **P 17 15 09.3 -0.1**
EVO Evora 62.64 301 *eP* **P 17 15 10.3 +0.2**
DAG Danmarks Havn 62.84 345 *i P* **P 17 15 12.5 +1.8**
comp=Z,16nm,1.1s
DAG Danmarks Havn 62.84 345 *i P* **P 17 15 12.5 +1.8**
DAG pmax pmax
comp=Z,17nm,1.1s
PNCL Nicolau / Gran 63.14 301 *eP* **P 17 15 13.9 +0.5**
SEY Seymchan 64.01 30 P **P 17 15 20.0 +1.4**
comp=Z,1.9nm,0.6s,baz=267,slow=6.9,SNR=23
SEY Seymchan 64.01 30 ⇑*eP* **P 17 15 19.5 +0.8**
SUMG Summit 68.88 342 *i P* **P 17 15 52.0 +1.8**
comp=Z,46nm,1.2s
SUMG Summit 68.88 342 P **P 17 15 49.9 -0.3**
SUMG pmax pmax
comp=Z,15nm,1.1s
SUMG Summit 68.88 342 P **P 17 15 49.9 -0.3**
PETK Petropavlovsk- 69.03 40 P **P 17 15 51.6 +0.7**
comp=Z,0.7nm,0.5s,baz=318,slow=3.2,SNR=7.8

DBIC Dimbokro 71.06 268 LR LR 17 52 21.3
comp=Z,58nm,19.4s,baz=308,slow=40
FITZ Fitzroy Crossi 72.31 122 P **P 17 16 11.1 -0.2**
comp=Z,2.4nm,1.0s,baz=240,slow=14,SNR=2.8
WRA Warramunga Arr 80.08 118 P **P 17 16 55.3 -0.3**
comp=Z,2.9nm,0.8s,baz=316,slow=4.8,SNR=10
WRAB Tennant Creek 80.09 118 ⇑*iP* **P 17 16 58.2 +2.6**
WRAB pmax pmax
comp=Z,5.0nm,1.1s
ASAR Alice Springs 81.82 122 P **P 17 17 04.6 -0.2**
comp=Z,2.0nm,1.0s,baz=303,slow=5.3,SNR=19
ASAR LR LR 17 57 44.0
comp=Z,60nm,18.1s,baz=278,slow=39
ASAR Alice Springs 81.82 122 P **P 17 17 04.9 +0.1**
COLA College 84.30 14 ⇓*eP* **P 17 17 20.1 +3.2**
COLA pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 84.60 14 P **P 17 17 20.1 +1.6**
comp=Z,0.7nm,0.9s,baz=318,slow=4.2,SNR=6.4
ILAR LR LR 18 02 08.0
comp=Z,59nm,18.7s,baz=187,slow=41
STKA Stephens Creek 91.96 125 LR LR 18 03 37.2
comp=Z,37nm,18.5s,baz=209,slow=38
TXAR Lajitas Array 123.16 351 PKP **PKiKP 17 23 45.8 +3.0**
comp=Z,0.7nm,0.9s,baz=159,slow=0.8,SNR=6.6

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*IDC **07** 17:10:43.5±1.9, 37.00N×141.43E, h47km±17km, mb3.3/6, mb1 3.4/9, mb1mx3.2/62, mbtmp3.5/9, ML3.1/3, Error ellipse: s-maj=18.4km s-min=12.3km az=95.0*
*JMA **07** 17:10:44.5±0.1, 37.06N×141.20E, h50km±1km, M3.5*
JMA Felt II J1.
*NIED **07** 17:10:44.6, 37.06N×141.20E, h50km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}0.83; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$-0.36; $M_{r\theta}$0.72; $M_{\theta\phi}$-0.59; $M_{\phi r}$1.71; Fault plane solution: $M_0$2.08000×10¹⁴ NP1:ϕ_s25.00000°, δ78.00000°, λ78.00000°. NP2:ϕ_s250.00000°, δ17.00000°, λ133.00000°.*

ISC 07 17:10:43.1±1.2, 37.02N±0.05×141.39E±0.08, h35km, n28, σ1§18/34, mb3.4/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**280**	P	**Pn**	**17 10 53.8**	**+0.3**
ONAJ				*e*S	**Sn**	**17 11 00.2**	**-0.5**
JFK	**Kawauchi**	**0.54**	**310**	P	**Pn**	**17 10 54.5**	**+0.2**
JFK				S	**Sn**	**17 11 01.3**	**-0.8**
JFFD	**Fukushimafurud**	**0.67**	**276**	P	**Pn**	**17 10 55.9**	**-0.1**
JFFD				S	**Sn**	**17 11 03.9**	**-1.4**
JHO	**Hitachi**	**0.77**	**238**	P	**Pn**	**17 10 57.5**	**0.0**
JHO				*e*S	**Sn**	**17 11 06.7**	**-1.2**
JMM	**Marumori**	**0.97**	**331**	P	**Pn**	**17 11 00.4**	**+0.2**
JMM				*e*S	**Sn**	**17 11 11.9**	**-0.8**
JFT	**Otama**	**0.97**	**301**	P	**Pn**	**17 11 00.9**	**+0.6**
JFT				S	**Sn**	**17 11 12.1**	**-0.8**
JFY	**Yanaizu**	**1.40**	**286**	P	**Pn**	**17 11 06.1**	**0.0**
JIO	**Ouri**	**1.43**	**359**	P	**Pn**	**17 11 07.3**	**+0.8**
JIO				*e*S	**Sn**	**17 11 23.6**	**-0.5**
JOU	**Okura**	**1.46**	**337**	P	**Pn**	**17 11 07.5**	**+0.5**
JOU				*e*S	**Sn**	**17 11 25.7**	**+0.8**
JYS	**Shiratake**	**1.59**	**319**	P	**Pn**	**17 11 09.4**	**+0.6**
JAG	**Ashikaga**	**1.66**	**250**	P	**Pn**	**17 11 09.8**	**0.0**
MJAR	**Matsushiro Arr**	**2.60**	**260**	P	**Pn**	**17 11 23.5**	**+0.9**
	0.7nm,0.3s,baz=83,slow=14,SNR=47						
MJAR				S	**Sn**	**17 11 54.2**	**+1.3**
	0.6nm,0.3s,baz=88,slow=28,SNR=7.3						
MAT	**Matsushiro**	**2.60**	**260**	P	**Pn**	**17 11 23.7**	**+1.1**
MAT				S	**Sn**	**17 11 54.6**	**+1.6**
JHJ	**Hachijo jima 2**	**4.11**	**199**	P	**Pn**	**17 11 45.4**	**+2.0**
	9.6nm,0.3s,baz=57,slow=14,SNR=1.5						
JHJ				S	**Sn**	**17 12 30.4**	**+0.2**
	13nm,0.3s,baz=253,slow=21,SNR=6.0						
ASAJ	**Asahikawa**	**7.15**	**7**	P	**Pn**	**17 12 25.7**	**+0.6**
	0.5nm,0.3s,baz=214,slow=11,SNR=16						
ASAJ				S	**Sn**	**17 13 45.3**	**+0.4**
	0.2nm,0.3s,baz=16,slow=26,SNR=2.2						
USRK	**Ussuriysk Ar.**	**10.12**	**318**	P	**Pn**	**17 13 10.2**	**+4.5**
	baz=106,slow=11,SNR=4.4						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**17 16 27.3**	**-1.4**
	0.4nm,0.6s,baz=112,slow=6.1,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	17 46 44.9	
	baz=314,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	17 46 45.1	
	baz=314,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	17 46 47.0	
	baz=314,slow=75,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	17 47 32.6	
	baz=316,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	17 47 32.7	
	baz=316,slow=76,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	17 47 33.8	
	baz=316,slow=76,SNR=3.9						
ZALV	**Zalesovo Beam**	**41.91**	**312**	P	**P**	**17 18 29.5**	**-0.4**
	0.9nm,0.6s,baz=79,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**17 18 47.6**	**-0.3**
	0.4nm,0.7s,baz=92,slow=10,SNR=3.6						
KURBB	**Kurchatov Arra**	**45.99**	**308**	P	**P**	**17 19 01.8**	**-0.9**
	0.5nm,0.5s,baz=83,slow=8.1,SNR=9.1						
BVAR	**Borovoye Array**	**50.56**	**312**	P	**P**	**17 19 37.0**	**-1.0**
	0.3nm,0.6s,baz=78,slow=6.8,SNR=3.7						
WRA	**Warramunga Arr**	**57.05**	**188**	P	**P**	**17 20 25.3**	**-0.3**
	0.3nm,0.8s,baz=5.4,slow=7.3,SNR=1.1						

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*IDC **07** 17:12:33.7±1.6, 6.94S×154.52E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/45, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=38.3km s-min=27.7km az=104.0*

ISC 07 17:12:39.5±1.3, 6.9S±0.2×154.5E±0.2, h39km, n6, σ0§34/7, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.57**	**317**	Pn	**Pn**	**17 13 32.1**	**-0.3**
	5.3nm,0.3s,baz=212,slow=1.8,SNR=36						
KRVT				Sn	**Sn**	**17 14 13.5**	**+0.2**
	2.8nm,0.3s,baz=104,slow=5.2,SNR=4.0						
WRA	**Warramunga Arr**	**23.42**	**235**	P	**P**	**17 17 45.3**	**+0.1**
	0.6nm,1.1s,baz=57,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**25.82**	**228**	P	**P**	**17 18 07.1**	**-0.2**
	0.7nm,0.8s,baz=60,slow=9.7,SNR=6.0						
SONM	**Songino Array**	**69.01**	**328**	P	**P**	**17 23 41.0**	**-0.2**
	0.3nm,0.4s,baz=114,slow=3.6,SNR=2.2						
MKAR	**Makanchi Array**	**83.02**	**319**	P	**P**	**17 25 01.4**	**+0.5**
	0.5nm,0.9s,baz=115,slow=4.8,SNR=5.8						
NVAR	**Mina Array Bea**	**92.10**	**52**	P	**P**	**17 25 45.2**	**-0.1**
	0.3nm,0.7s,baz=272,slow=5.3,SNR=3.1						

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*IDC **07** 17:13:44.4±1.5, 19.75S×175.04W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.7/42, mbtmp4.0/5, ML4.0/2, MS2.7/2, Ms1 2.7/2, ms1mx2.5/40, Error ellipse: s-maj=52.2km s-min=27.0km az=135.0*
*NEIC **07** 17:13:49.9±1.2, 19.8S±0.1×174.80W±0.07, h57km±12km, mb4.2/7, Error ellipse: s-maj=21.6km s-min=6.3km az=163.0*

ISC 07 17:13:47.9±0.7, 19.76S±0.10×174.77W±0.08, h35km, n20, σ1§97/22, mb3.9/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.62**	**82**		**Pn**	**17 14 58.0**	**+2.7**
NIUE					**Sn**	**17 15 44.2**	**-3.5**
AFI	**Afiamalu**	**6.48**	**27**	Pn	**Pn**	**17 15 24.1**	**+3.2**
	1.6nm,0.3s,baz=312,slow=12,SNR=2.0						
AFI				Sn	**Sn**	**17 16 29.5**	**-4.3**
	4.4nm,0.3s,baz=151,slow=3.8,SNR=7.3						
AFI				LR	LR	17 17 17.8	
	comp=Z,17nm,18.6s,baz=262,slow=32						
AFI	**Afiamalu**	**6.48**	**27**		**Pn**	**17 15 23.8**	**+2.9**
DZM	**Mont Dzumac**	**17.70**	**259**		**Pn**	**17 17 52.1**	**+0.1**
DZM				IAmb	IAmb	17 18 09.3	
	comp=Z,21nm,1.2s						
URZ	**Urewera**	**19.74**	**199**	P	**P**	**17 18 15.4**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=274,slow=0.7,SNR=8.4						
URZ	**Urewera**	**19.74**	**199**	IAmb	IAmb	17 18 31.4	
	comp=Z,26nm,1.4s						
CTA	**Charters Tower**	**36.59**	**263**	P	**P**	**17 20 51.6**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=86,slow=9.1,SNR=10						
BBOO	**Buckleboo**	**45.59**	**243**	P	**P**	**17 22 02.2**	**-2.7**
WR0	**Warramunga Arr**	**47.52**	**261**	P	**P**	**17 22 19.3**	**-0.9**
WR0				IAmb	IAmb	17 22 21.7	
	comp=Z,7.2nm,1.4s						
AS31	**Alice Springs**	**47.64**	**256**	P	**P**	**17 22 19.5**	**-1.6**

ASAR Alice Springs 47.65 256 P **P 17 22 20.4 -0.7**
comp=Z,0.8nm,0.6s,baz=90,slow=8.4,SNR=15
ASAR PcP **PcP 17 23 50.6 +0.2**
comp=Z,0.5nm,1.0s,baz=98,slow=4.7,SNR=1.9
WB0 Warramunga Arr 47.69 261 P **P 17 22 21.2 -0.3**
WB2 Warramunga Arr 47.70 261 P **P 17 22 21.0 -0.6**
WB2 IAmb IAmb 17 22 26.1
comp=Z,0.9nm,0.8s
WRAB Tennant Creek 47.71 261 P **P 17 22 21.5 -0.1**
WRA Warramunga Arr 47.72 261 P **P 17 22 20.8 -0.9**
comp=Z,0.3nm,0.3s,baz=96,slow=7.4,SNR=20
WRA PcP **PcP 17 23 51.0 +0.3**
comp=Z,0.1nm,0.4s,baz=93,slow=3.5,SNR=1.3
WRA Warramunga Arr 47.72 261 P **P 17 22 20.8 -0.9**
PMSA Palmer Station 80.75 156 LR LR 17 54 31.5
comp=Z,15nm,20.4s,baz=247,slow=30
ARCES ARCESS Array B 128.70 351 PKP **PKiKP 17 32 52.6 +1.1**
comp=Z,1.9nm,1.0s,baz=14,slow=4.1,SNR=4.9
GERES GERESS Array B 150.19 349 PKPbc **PKiKP 17 33 36.9 +0.8**
comp=Z,0.2nm,0.4s,baz=48,slow=1.5,SNR=3.6
GERES GERESS Array B 150.19 349 PKiKP 17 33 37.3 +1.2

*IDC **07** 17:14:03.6±1.4, 6°.88S×154°.62E, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.7/42, mbtmp3.8/8, ML1.7/1, MS3.1/2, Ms1 3.0/2, ms1mx2.6/41, Error ellipse: s-maj=35.5km s-min=23.8km az=132.0*
ISC 07 17:14:09.6±1.1, 6°.91S±0°.10×154°.6E±0°.1, h39km, n10, σ0s45/10, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.62**	**316**	Pn	**Pn**	**17 15 03.0**	**-0.1**
KRVT	6.7nm,0.3s,baz=80,slow=15,SNR=1.3			Sn	**Sn**	**17 15 44.8**	**+0.2**
PMG	**Port Moresby**	**7.74**	**251**	Pn	**Pn**	**17 15 59.7**	**0.0**
PMG	0.6nm,0.3s,baz=189,slow=22,SNR=1.6			LR	LR	17 18 18.5	
CTA	**Charters Tower**	**15.38**	**211**	Pn	**P**	**17 17 48.5**	**+0.4**
WRA	0.1nm,0.3s,baz=71,slow=3.3,SNR=2.4 **Warramunga Arr**	**23.51**	**235**	P	**P**	**17 19 15.7**	**-0.6**
ASAR	1.2nm,0.7s,baz=57,slow=9.3,SNR=6.3 **Alice Springs**	**25.91**	**228**	P	**P**	**17 19 38.0**	**-0.2**
STKA	0.7nm,0.7s,baz=60,slow=9.4,SNR=5.0 **Stephens Creek**	**27.63**	**204**	LR	LR	17 30 02.3	
FITZ	comp=Z,46nm,18.6s,baz=27,slow=35 **Fitzroy Crossi**	**30.30**	**246**	P	**P**	**17 20 17.2**	**-0.2**
MKAR	1.9nm,0.9s,baz=289,slow=22,SNR=2.5 **Makanchi Array**	**83.06**	**319**	P	**P**	**17 26 31.3**	**+0.2**
ILAR	0.8nm,0.9s,baz=107,slow=5.8,SNR=4.4 **Eielson Array**	**83.45**	**22**	P	**P**	**17 26 32.1**	**-0.7**
NVAR	0.4nm,0.9s,baz=272,slow=6.2,SNR=2.1 **Mina Array Bea**	**92.00**	**52**	P	**P**	**17 27 15.4**	**+0.5**
	0.5nm,1.0s,baz=266,slow=5.4,SNR=2.3						

IDC 07 17:32:00.7±7.8, 17°.92S×174°.48W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.6/46, mbtmp4.0/3, Error ellipse: s-maj=341.2km s-min=38.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.30**	**259**	P	P	17 40 43.3	-1.0
ASAR	0.5nm,0.3s,baz=97,slow=8.2,SNR=21 **Alice Springs**	**48.39**	**254**	P	P	17 40 45.6	+0.8
ILAR	2.9nm,0.5s,baz=89,slow=8.0,SNR=74 **Eielson Array**	**85.10**	**11**	P	P	17 44 38.1	0.0
	0.2nm,0.4s,baz=210,slow=4.9,SNR=4.6						

IDC 07 17:34:57.5±1.3, 4°.30N×127°.51E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.3/50, mbtmp3.5/7, ML3.8/1, Error ellipse: s-maj=83.2km s-min=18.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.36**	**144**	Pn	Pn	17 36 33.9	+1.3
SIJI	2.1nm,0.3s,baz=169,slow=22,SNR=14			Sn	Sn	17 37 41.0	-5.1
FITZ	0.1nm,0.3s,baz=192,slow=22,SNR=1.2 **Fitzroy Crossi**	**22.33**	**185**	P	P	17 39 58.9	+1.8
WRA	0.7nm,0.5s,baz=9.4,slow=13,SNR=1.9 **Warramunga Arr**	**25.01**	**165**	P	P	17 40 23.2	-0.1
STKA	1.1nm,0.6s,baz=343,slow=10.0,SNR=20 **Stephens Creek**	**38.39**	**161**	P	P	17 42 18.6	-2.1
MKAR	0.3nm,0.3s,baz=324,slow=12,SNR=0.9 **Makanchi Array**	**57.54**	**325**	P	P	17 44 48.8	-0.1
KURBB	0.2nm,0.3s,baz=122,slow=7.2,SNR=7.3 **Kurchatov Arra**	**61.68**	**327**	P	P	17 45 17.2	-0.2
BVAR	0.3nm,0.6s,baz=122,slow=6.3,SNR=2.4 **Borovoye Array**	**67.27**	**327**	P	P	17 45 54.4	+0.4
	0.2nm,0.4s,baz=132,slow=6.0,SNR=2.0						

*IDC **07** 17:38:28.6±2.5, 10°.37N×126°.34E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.2/43, mbtmp3.3/4, Error ellipse: s-maj=108.4km s-min=25.4km az=57.0*
*MAN **07** 17:38:34.1, 10°.41N×126°.04E, h3km, mb4.7, ML3.6, MS3.6*
ISC 07 17:38:33.9±1.6, 10°.33N±0°.05×126°.17E±0°.07, h26km±12km, n20, σ1s44/20, mb3.3/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.55**	**185**	*e*P	**Pb**	**17 38 45.0**	**+0.1**
GLSP				*e*S	**Sb**	**17 38 52.2**	**-0.1**
MSLP	**Maasin**	**1.31**	**262**	*e*P	**Pn**	**17 38 57.0**	**+0.5**
MSLP				*e*S	**Sb**	**17 39 14.1**	**-0.2**
OCLP	**Ormoc**	**1.70**	**295**	*e*P	**Pb**	**17 39 03.5**	**-0.9**
LLP	**Lapu-Lapu**	**2.17**	**270**	*e*P	**Pn**	**17 39 09.6**	**+1.2**
LLP				*e*S	**Sn**	**17 39 36.4**	**+1.9**
TBP	**Tagbilaran**	**2.36**	**255**↑	*e*P	**Pb**	**17 39 14.8**	**-1.0**
CNP	**Cataman**	**2.62**	**326**	*e*P	**Pn**	**17 39 16.2**	**+1.6**
CNP				*e*S	**Sn**	**17 39 46.7**	**+1.1**
BUKP	**Musuan**	**2.67**	**204**	*e*P	**Pn**	**17 39 17.9**	**+2.5**
BUKP				*e*S	**Sb**	**17 39 53.0**	**-0.5**
CNOP	**Candoni, Negro**	**3.52**	**262**	*e*P	**Pn**	**17 39 28.6**	**+1.7**
CNOP				*e*S	**Sn**	**17 40 08.6**	**+0.9**
GUIM	**Jordan**	**3.54**	**275**	*e*P	**Pn**	**17 39 28.4**	**+1.2**
PVCP	**Virac**	**3.80**	**329**	*e*P	**Pn**	**17 39 33.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**27.56**	**290**	P	**P**	**17 44 18.8**	**-0.2**
WRA	0.5nm,0.7s,baz=110,slow=7.8,SNR=3.0 **Warramunga Arr**	**31.14**	**165**	P	**P**	**17 44 48.8**	**-1.9**
ASAR	0.3nm,0.8s,baz=345,slow=9.3,SNR=1.7 **Alice Springs**	**34.62**	**167**	P	**P**	**17 45 20.0**	**-1.2**
H11S3	0.2nm,0.3s,baz=349,slow=7.3,SNR=7.6 **WAKE ISLAND Hy 39.99**	**74**		T	T	18 29 05.2	
H11S1	baz=260,slow=73,SNR=10 **WAKE ISLAND Hy 40.01**	**74**		T	T	18 29 03.3	
H11S2	baz=260,slow=73,SNR=9.4 **WAKE ISLAND Hy 40.01**	**74**		T	T	18 29 05.6	
H11N1	baz=260,slow=73,SNR=10 **WAKE ISLAND Hy 40.33**	**72**		T	T	18 29 28.4	
H11N2	baz=264,slow=74,SNR=21 **WAKE ISLAND Hy 40.33**	**72**		T	T	18 29 29.5	
H11N3	baz=264,slow=74,SNR=19 **WAKE ISLAND Hy 40.34**	**72**		T	T	18 29 26.7	
MKAR	baz=264,slow=74,SNR=26 **Makanchi Array**	**51.92**	**323**	P	**P**	**17 47 39.7**	**-0.8**
	0.2nm,0.5s,baz=131,slow=8.2,SNR=2.2						

*IDC **07** 17:47:55.2±3.0, 10°.13N×124°.31E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/41, mbtmp3.5/3, MS2.4/1, Ms1 2.4/1, ms1mx2.2/31, Error ellipse: s-maj=262.6km s-min=28.3km az=64.0*
*MAN **07** 17:48:02.0, 9°.37N×122°.40E, h28km, mb4.8, ML3.7, MS3.6*
ISC 07 17:48:02.4±1.6, 9°.38N±0°.05×122°.41E±0°.04, h32km±13km, n17, σ1s27/25, mb3.4/3, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**0.50**	**27**	*e*P	**Pb**	**17 48 13.0**	**+0.1**
CNOP				*e*S	**Sn**	**17 48 20.8**	**0.0**
GUIM	**Jordan**	**1.25**	**8**	*e*P	**Pn**	**17 48 23.9**	**+0.2**
GUIM				*e*S	**Sn**	**17 48 40.0**	**+0.6**
JAP	**San Jose, Anti**	**1.43**	**341**↑	*e*P	**Pb**	**17 48 28.1**	**-0.5**
TBP	**Tagbilaran**	**1.46**	**78**↑	*e*P	**Pb**	**17 48 28.6**	**-0.4**
LLP	**Lapu-Lapu**	**1.79**	**59**	*e*P	**Pn**	**17 48 31.3**	**+0.1**
LLP				*i* S	**Sn**	**17 48 51.9**	**-1.0**
PAGZ	**Pagadian**	**1.80**	**148**	*e*P	**Pn**	**17 48 31.0**	**-0.2**
PAGZ				*e*S	**Sn**	**17 48 53.9**	**+0.9**
CUYO	**Cuyo Island**	**2.01**	**317**	*e*P	**Pn**	**17 48 35.2**	**+1.1**
CUYO				*e*S	**Sn**	**17 48 58.9**	**+0.8**
MSLP	**Maasin**	**2.52**	**73**	*e*P	**Pn**	**17 48 42.5**	**+1.3**
MSLP				*e*S	**Sn**	**17 49 09.8**	**-1.1**
OCLP	**Ormoc**	**2.73**	**52**	*e*P	**Pn**	**17 48 44.4**	**+0.4**
OTRP	**Odiongan**	**2.99**	**353**	*e*P	**Pn**	**17 48 49.0**	**+1.4**
OTRP				*e*S	**Sn**	**17 49 22.8**	**+0.4**
BUKP	**Musuan**	**3.01**	**119**	*e*P	**Pn**	**17 48 48.4**	**+0.4**
BUKP				*e*S	**Sn**	**17 49 26.9**	**+3.8**
BUSP	**Coron**	**3.40**	**320**	*e*P	**Pn**	**17 48 54.3**	**+1.1**
BUSP				*e*S	**Sn**	**17 49 31.6**	**-0.9**
ENPP	**El Nido**	**3.46**	**302**	*e*P	**Pn**	**17 48 54.0**	**-0.1**
GUMO	**Guam**	**22.39**	**77**	LR	LR	17 58 45.0	
	comp=Z,12nm,21.3s,baz=180,slow=32						
WRA	**Warramunga Arr**	**31.41**	**158**	P	**P**	**17 54 18.6**	**-2.3**
	0.3nm,0.7s,baz=342,slow=9.3,SNR=4.6						
ASAR	**Alice Springs**	**34.71**	**161**	P	**P**	**17 54 48.5**	**-1.2**
	0.7nm,0.7s,baz=338,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**50.50**	**325**	P	**P**	**17 56 58.7**	**+1.1**
	0.3nm,0.8s,baz=111,slow=7.9,SNR=3.9						

*IDC **07** 17:54:44.8±1.7, 9°.61S×115°.52E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.7/37, mbtmp3.8/9, ML3.8/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/32, Error ellipse: s-maj=46.2km s-min=20.0km az=53.0*
*NEIC **07** 17:54:56.5±1.6, 9°.3S±0°.1×116°.01E±0°.04, h96km±12km, mb4.1/7, Error ellipse: s-maj=16.1km s-min=3.9km az=163.0*
ISC 07 17:54:56.7±0.7, 9°.43S±0°.08×116°.08E±0°.06, h100km, n25, σ2s46/29, mb3.4/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.13**	**297**	Pn	**Pn**	**17 55 29.9**	**-1.1**
JAGI				Sn	**Sn**	**17 55 53.6**	**-3.6**
UGM	**Wanagama**	**5.69**	**285**	Pn	**Pn**	**17 56 20.9**	**+1.9**
KAPI	**Kappang**	**5.71**	**40**	Pn	**Pn**	**17 56 18.7**	**-0.4**
KAPI	3.1nm,0.3s,baz=164,slow=7.4,SNR=8.4			Sn	**Sn**	**17 57 20.8**	**-2.5**
KAPI	3.3nm,0.3s,baz=64,slow=23,SNR=12 **Kappang**	**5.71**	**40**		**Sn**	**17 57 22.2**	**-1.1**
BATI	**Baumata**	**7.52**	**96**	Pn	**Pn**	**17 56 41.2**	**-2.5**
BATI	1.5nm,0.3s,baz=353,slow=18,SNR=2.0			Sn	**Sn**	**17 58 02.6**	**-4.9**
CISI	0.8nm,0.3s,baz=68,slow=22,SNR=1.4 **Cisompet, Garu**	**8.38**	**282**	Pn	**Pn**	**17 56 54.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**12.66**	**134**	Pn	**Pn**	**17 57 49.6**	**-3.6**
FITZ	0.2nm,0.3s,baz=332,slow=9.4,SNR=24			Sn	Sn	18 00 01.5	-11
FITZ	0.9nm,0.3s,baz=187,slow=21,SNR=10			LR	LR	18 02 15.2	
FITZ	comp=Z,47nm,19.1s,baz=328,slow=35 **Fitzroy Crossi**	**12.66**	**134**		**Pn**	**17 57 50.7**	**-2.6**
WB0	**Warramunga Arr**	**20.46**	**122**	P	**P**	**17 59 27.5**	**+0.9**
WB0	comp=Z,6.8nm,0.6s			IAmb	IAmb	17 59 28.7	
WRA	**Warramunga Arr**	**20.50**	**123**	P	**P**	**17 59 28.6**	**+1.6**
WRA	comp=Z,6.4nm,0.7s,baz=299,slow=12,SNR=61			S	**S**	**18 03 09.5**	**-1.6**
WRA	comp=Z,0.7nm,0.9s,baz=291,slow=24,SNR=5.7 **Warramunga Arr**	**20.50**	**123**	P	**P**	**17 59 27.7**	**+0.7**
WRAB	**Tennant Creek**	**20.51**	**123**	P	**P**	**17 59 28.4**	**+1.3**
WRAB				IAmb	IAmb	17 59 29.3	
WB2	comp=Z,4.3nm,0.7s **Warramunga Arr**	**20.51**	**123**	P	**P**	**17 59 28.4**	**+1.2**
WB2				IAmb	IAmb	17 59 29.3	
WR0	comp=Z,6.2nm,0.8s **Warramunga Arr**	**20.68**	**122**	P	**P**	**17 59 30.6**	**+1.8**
WR0	comp=Z,8.1nm,0.7s			IAmb	IAmb	17 59 31.2	
AS31	**Alice Springs**	**22.15**	**132**	P	**P**	**17 59 46.0**	**+1.4**
ASAR	**Alice Springs**	**22.15**	**132**	P	**P**	**17 59 46.2**	**+1.7**
ASAR	comp=Z,1.3nm,0.6s,baz=309,slow=8.7,SNR=35			S	**S**	**18 03 48.5**	**+6.1**
ASAR	comp=Z,1.3nm,0.8s,baz=300,slow=22,SNR=7.9 **Alice Springs**	**22.15**	**132**	P	**P**	**17 59 46.0**	**+1.4**
CTA	**Charters Tower**	**30.99**	**113**	LR	LR	18 15 27.8	
CTAO	comp=Z,122nm,18.9s,baz=264,slow=40 **Charters Tower**	**30.99**	**113**	P	**P**	**18 01 07.7**	**+2.8**
KSRS	**Korea Array**	**47.94**	**13**	P	**P**	**18 03 27.3**	**+2.1**
MJAR	comp=Z,0.5nm,0.7s,baz=177,slow=6.4,SNR=2.7 **Matsushiro Arr**	**50.25**	**23**	P	**P**	**18 03 45.6**	**+2.8**
MKAR	comp=Z,1.2nm,0.8s,baz=205,slow=8.1,SNR=5.4 **Makanchi Array**	**63.57**	**335**	P	**P**	**18 05 16.8**	**0.0**
ZALV	comp=Z,0.1nm,0.4s,baz=143,slow=7.4,SNR=2.1 **Zalesovo Beam**	**68.46**	**341**	P	**P**	**18 05 15.7**	**-1.1**
MKAR	comp=Z,0.3nm,0.4s,baz=162,slow=6.1,SNR=1.7 **Makanchi Array**	**63.57**	**335**	P	**P**	**18 05 48.1**	**+0.2**
ZALV	comp=Z,0.3nm,0.4s,baz=162,slow=6.1,SNR=1.7 **Zalesovo Beam**	**68.46**	**341**	P	**P**	**18 05 46.1**	**-1.7**

*IDC **07** 18:01:09.3±0.8, 10°.34N×126°.23E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.7/40, mbtmp3.7/11, MS3.1/4, Ms1 3.1/4, ms1mx2.6/42, Error ellipse: s-maj=39.9km s-min=15.8km az=75.0*
*NEIC **07** 18:01:14.6±1.8, 10°.2N±0°.1×125°.9E±0°.2, h35km±2km, mb4.1/5, Error ellipse: s-maj=30.5km s-min=14.5km az=120.0*
*MAN **07** 18:01:15.2, 10°.36N×126°.11E, h9km, mb4.9, ML3.9, MS3.9*
ISC 07 18:01:13.3±1.6, 10°.38N±0°.04×126°.25E±0°.06, h23km±12km, n38, σ1s90/39, mb3.7/12, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.60**	**192**	*e*P	**Pb**	**18 01 25.8**	**+0.7**
GLSP				*e*S	**Sb**	**18 01 33.2**	**0.0**
MSLP	**Maasin**	**1.39**	**260**	*e*P	**Pn**	**18 01 37.8**	**+0.6**
MSLP				*e*S	**Sn**	**18 01 54.9**	**-0.1**
OCLP	**Ormoc**	**1.75**	**293**	*e*P	**Pb**	**18 01 44.1**	**-0.5**
OCLP				*e*S	**Sb**	**18 02 09.3**	**+3.1**
LLP	**Lapu-Lapu**	**2.25**	**269**↓	*i* P	**Pn**	**18 01 50.7**	**+1.7**
LLP				*i* S	**Sb**	**18 02 18.4**	**-2.2**
TBP	**Tagbilaran**	**2.45**	**254**↑	*e*P	**Pb**	**18 01 55.9**	**-0.7**
TBP				*i* S	**Sb**	**18 02 25.9**	**-0.5**
CNP	**Cataman**	**2.63**	**324**	*e*P	**Pn**	**18 01 57.4**	**+3.1**
CNP				*e*S	**Sn**	**18 02 29.5**	**+3.9**
BUKP	**Musuan**	**2.74**	**205**	*e*P	**Pn**	**18 01 58.8**	**+2.9**
BUKP				*e*S	**Sb**	**18 02 33.6**	**-1.4**
KCP	**Kidapawan**	**3.54**	**199**↓	*i* P	**Pn**	**18 02 10.8**	**+3.9**
CNOP	**Candoni, Negro**	**3.60**	**262**	*e*P	**Pn**	**18 02 09.6**	**+1.9**
CNOP				*e*S	**Sn**	**18 02 51.6**	**+2.2**
GUIM	**Jordan**	**3.61**	**274**	*e*P	**Pn**	**18 02 10.0**	**+2.2**
PAGZ	**Pagadian**	**3.79**	**229**	*e*P	**Pn**	**18 02 11.1**	**+0.9**
PVCP	**Virac**	**3.80**	**328**	*e*P	**Pb**	**18 02 16.4**	**-3.3**
PVCP				*e*S	**Sn**	**18 02 57.4**	**+3.0**
DDMP	**Don Marcelino,**	**4.28**	**187**	*e*P	**Pn**	**18 02 18.2**	**+1.2**
JHJ	**Hachijo jima 2**	**25.84**	**27**	LR	LR	18 15 22.1	
	comp=Z,10.0nm,21.7s,baz=148,slow=33						
KSRS	**Korea Array**	**27.00**	**3**	P	**P**	**18 06 55.1**	**+1.6**
	0.5nm,0.8s,baz=176,slow=11,SNR=3.8						
KSRS				LR	LR	18 17 50.9	
	comp=Z,20nm,19.4s,baz=192,slow=37						
CMAR	**Chiang Mai Arr**	**27.61**	**290**	P	**P**	**18 06 59.1**	**-0.1**
	0.7nm,0.4s,baz=126,slow=6.1,SNR=6.4						
FITZ	**Fitzroy Crossi**	**28.30**	**181**	P	**P**	**18 07 04.9**	**-0.3**
	0.5nm,0.3s,baz=8.3,slow=9.7,SNR=7.2						
FITZ	**Fitzroy Crossi**	**28.30**	**181**	P	**P**	**18 07 03.3**	**-1.9**
FITZ				IAmb	IAmb	18 07 19.5	
	comp=Z,4.8nm,1.3s						
WRA	**Warramunga Arr**	**31.16**	**165**	P	**P**	**18 07 29.4**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=327,slow=10,SNR=11						
WRA	**Warramunga Arr**	**31.16**	**165**	P	**P**	**18 07 29.5**	**-1.1**
WR0	**Warramunga Arr**	**31.23**	**165**	P	**P**	**18 07 29.6**	**-1.6**
AS31	**Alice Springs**	**34.65**	**168**	P	**P**	**18 08 00.9**	**-0.3**
ASAR	**Alice Springs**	**34.65**	**168**	P	**P**	**18 08 00.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=351,slow=7.2,SNR=25						
ASAR				LR	LR	18 25 01.0	
	comp=Z,50nm,18.1s,baz=254,slow=41						
H11S3	**WAKE ISLAND Hy 39.91**	**74**		T	T	18 51 46.9	
	baz=261,slow=74,SNR=28						
H11S1	**WAKE ISLAND Hy 39.92**	**74**		T	T	18 51 43.8	
	baz=261,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy 39.93**	**74**		T	T	18 51 48.7	
	baz=261,slow=74,SNR=9.9						
H11N1	**WAKE ISLAND Hy 40.24**	**72**		T	T	18 52 13.5	
	baz=265,slow=74,SNR=37						
H11N2	**WAKE ISLAND Hy 40.25**	**72**		T	T	18 52 11.6	
	baz=265,slow=74,SNR=37						
H11N3	**WAKE ISLAND Hy 40.26**	**72**		T	T	18 52 11.6	
	baz=265,slow=74,SNR=48						
SONM	**Songino Array**	**40.91**	**340**	P	**P**	**18 08 51.9**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=156,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**51.93**	**323**	P	**P**	**18 10 20.5**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=116,slow=7.4,SNR=7.4						
MKAR	**Makanchi Array**	**51.93**	**323**	P	**P**	**18 10 20.3**	**-0.1**
MAKZ	**Makanchi**	**52.13**	**323**	P	**P**	**18 10 19.9**	**-2.0**
MAKZ				IAmb	IAmb	18 10 39.7	
	comp=Z,3.8nm,1.4s						
ZALV	**Zalesovo Beam**	**54.52**	**331**	P	**P**	**18 10 39.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=122,slow=7.0,SNR=1.9						
ILAR	**Eielson Array**	**79.36**	**26**	P	**P**	**18 13 16.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=257,slow=7.1,SNR=4.3						
ARCES	**ARCESS Array B**	**84.09**	**340**	P	**P**	**18 13 42.4**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=41,slow=11,SNR=0.5						
FINES	**FINESS Array B**	**85.79**	**332**	P	**P**	**18 13 49.5**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=71,slow=10,SNR=2.1						
VNDA	**Vanda**	**90.04**	**173**	LR	LR	18 53 16.3	
	comp=Z,34nm,19.9s,baz=270,slow=35						

*IDC **07** 18:13:28.6±1.4, 2°.02N×99°.05E, h128km±4km, mb3.7/7, mb1 3.8/8, mb1mx3.3/41, mbtmp4.0/8, Error ellipse: s-maj=56.4km s-min=13.6km az=62.0*
*NEIC **07** 18:13:28.4±1.0, 1°.99N±0°.07×99°.01E±0°.07, h136km±3km, mb4.3/13, Error ellipse: s-maj=10.3km s-min=9.2km az=218.0*
*DJA **07** 18:13:29.6±0.3, 2°.N±3°×9°.9E±°, h113km±5km, M3.8/14, mb3.8/1, MLv3.9/14*
ISC 07 18:13:29.4±0.6, 2°.02N±0°.04×98°.96E±0°.05, h150km, n44, σ1s56/46, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.68**	**357**		**Pn**	**18 13 49.4**	**-2.4**
RPSI	**Rantau Prapat**	**0.68**	**357**		**Pn**	**18 13 49.7**	**-2.1**
PSI	**Prapat**	**0.78**	**357**	P	**Pn**	**18 13 49.7**	**-2.9**
PSI	123nm,0.3s,baz=180,slow=8.3,SNR=304			S	**Sn**	**18 14 05.2**	**-5.2**
MNSI	51nm,0.3s,baz=360,slow=18,SNR=38 **Mandailing Nat**	**1.36**	**153**	P	**Pn**	**18 13 55.8**	**-1.7**
GSI	**Gunungsitoli**	**1.56**	**243**	P	**Pn**	**18 13 58.3**	**-1.3**
GSI				S	**Sn**	**18 14 19.4**	**-3.2**
GSI	**Gunungsitoli**	**1.56**	**243**		**Pn**	**18 13 58.2**	**-1.3**
PBSI	**Pulau Batu**	**2.17**	**198**	P	**Pn**	**18 14 05.0**	**-1.5**
TPTI		**2.17**	**305**	P	**Pn**	**18 14 05.1**	**-1.4**
BKNI	**Bangkinang**	**2.67**	**129**	P	**Pn**	**18 14 11.6**	**-1.0**
BKNI	**Bangkinang**	**2.67**	**129**		**Pn**	**18 14 10.1**	**-2.5**
IPM	**Ipoh**	**3.20**	**40**		**Pn**	**18 14 18.4**	**-1.0**
PDSI	**Padang**	**3.27**	**153**	P	**Pn**	**18 14 19.1**	**-1.2**
SISI	**Saibi**	**3.32**	**178**	P	**Pn**	**18 14 19.2**	**-1.7**
MLSI	**Meulaboh, Aceh**	**3.40**	**311**	P	**Pn**	**18 14 21.0**	**-0.8**
KULM	**Kulim**	**3.66**	**27**		**Pn**	**18 14 23.7**	**-1.6**
LHMI	**Lhok Sumawe**	**3.77**	**328**	P	**Pn**	**18 14 26.3**	**-0.4**
LHMI	**Lhok Sumawe**	**3.77**	**328**	Pn	**Pn**	**18 14 26.0**	**-0.7**
SDSI	**Sungai Dareh**	**3.83**	**140**	P	**Pn**	**18 14 26.4**	**-1.0**
KRJI	**Kerinci**	**4.78**	**148**	P	**Pn**	**18 14 39.3**	**-0.8**
MYKOM	**Kota Tinggi**	**4.89**	**93**		**Pn**	**18 14 39.7**	**-1.7**
CMAR	**Chiang Mai Arr**	**16.34**	**360**	P	**P**	**18 17 11.7**	**+1.1**
	0.6nm,0.3s,baz=191,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**33.01**	**128**	P	**P**	**18 19 51.3**	**+0.8**
	2.1nm,0.6s,baz=310,slow=5.7,SNR=11						
FITZ	**Fitzroy Crossi**	**33.01**	**128**	P	**P**	**18 19 51.1**	**+0.6**
FITZ				IAmb	IAmb	18 19 51.8	
	comp=Z,3.4nm,0.9s						
KNRA	**Kununurra**	**34.31**	**122**	P	**P**	**18 20 01.8**	**0.0**
KNRA				IAmb	IAmb	18 20 02.9	
	comp=Z,4.8nm,0.9s						
WB0	**Warramunga Arr**	**40.96**	**124**	P	**P**	**18 20 57.0**	**-0.7**
WB0				IAmb	IAmb	18 20 60.0	
	comp=Z,6.2nm,0.6s						
WRA	**Warramunga Arr**	**41.00**	**124**	P	**P**	**18 20 57.6**	**-0.4**
	comp=Z,6.9nm,0.4s,baz=302,slow=9.0,SNR=104						
WRA				PcP	**PcP**	**18 22 56.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=314,slow=2.6,SNR=3.2						
WRA	**Warramunga Arr**	**41.00**	**124**	P	**P**	**18 20 57.8**	**-0.2**
WRAB	**Tennant Creek**	**41.00**	**124**	P	**P**	**18 20 57.8**	**-0.2**
WB2	**Warramunga Arr**	**41.01**	**124**	P	**P**	**18 20 57.8**	**-0.3**
WB2				IAmb	IAmb	18 21 00.5	
	comp=Z,7.2nm,0.5s						
WR0	**Warramunga Arr**	**41.17**	**124**	P	**P**	**18 20 59.3**	**-0.1**
ASAR	**Alice Springs**	**42.51**	**129**	P	**P**	**18 21 11.9**	**+1.6**
	comp=Z,1.1nm,0.4s,baz=299,slow=7.8,SNR=30						
ASAR	**Alice Springs**	**42.51**	**129**	P	**P**	**18 21 10.7**	**+0.5**
KSRS	**Korea Array**	**44.19**	**34**	P	**P**	**18 21 24.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=224,slow=8.7,SNR=5.4						
SONM	**Songino Array**	**46.09**	**7**	P	**P**	**18 21 39.8**	**+1.4**
	comp=Z,0.5nm,0

baz=180
EYUL Yuli 0.23 3 eP Pg 18 40 15.8 +0.9
baz=3.0
TWF1 Yuli 0.23 358 eP Pg 18 40 15.3 +0.4
TWF1 eS Sg 18 40 19.9 +1.2
LONT Longtian 0.26 218 eP Pg 18 40 16.1 +0.7
baz=217
LONT eS Sg 18 40 21.1 +1.6
baz=217
ELDTW Lidau 0.27 285 i P Pb 18 40 16.1 +0.4
baz=285
ELDTW S Sg 18 40 20.6 +0.6
baz=285
YULB Yu-li 0.28 359 eP Pb 18 40 15.7 0.0
baz=358
YULB eS Sg 18 40 20.6 +0.8
baz=358
TWGBT Beinan 0.36 215 eP Pn 18 40 19.5 -0.1
baz=214
TWGBT eS Sb 18 40 23.2 +0.6
baz=214
TWG Pinlang 0.36 216 eS Sb 18 40 23.2 +0.5
baz=214
HGSD Ruisui 0.39 16 eP Pb 18 40 18.1 +0.3
baz=16
STYT Tauyuan 0.51 275 P Pb 18 40 20.1 +0.4
baz=275
STYT S Sb 18 40 27.6 +0.9
baz=275
ALS Alishan 0.60 311 eP Pb 18 40 21.1 -0.3
baz=310

*IDC **07** 18:40:40.2±1.5, 37.°15N×142.°38E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.3/59, mbtmp3.5/7, ML3.2/3, MS2.0/1, Ms1 2.0/1, ms1mx1.8/35, Error ellipse: s-maj=34.4km s-min=23.5km az=106.0*
*JMA **07** 18:40:43.7±0.2, 37.°24N×142.°18E, h33km±5km, M3.7*
*NIED **07** 18:40:43.7, 37.°24N×142.°18E, h33km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.45; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.33; $M_{r\theta}$-0.60; $M_{\theta\phi}$0.24; $M_{\phi r}$1.72; Fault plane solution: $M_0$1.88000×10^{14} NP1: ϕ_s340.00000°, δ83.00000°, λ94.00000°. NP2: ϕ_s132.00000°, δ8.00000°, λ62.00000°.*
ISC 07 18:40:41.7±2.1, 37.°24N±0.°05×142.°20E±0.°07, h11km±12km, n28, σ1°35/29, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.07**	**277**	P	**Pg**	**18 41 02.4**	**+0.1**
JFK				S	**Sg**	**18 41 15.4**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.13**	**263**	P	**Pb**	**18 41 03.1**	**-0.2**
ONAJ				eS	**Sg**	**18 41 17.8**	**-0.4**
JMST	**Minamisoumatoc**	**1.15**	**295**	P	**Pb**	**18 41 03.6**	**0.0**
JMST				eS	**Sb**	**18 41 18.1**	**-0.5**
JIKH	**Ishinomakikobu**	**1.22**	**332**	P	**Pn**	**18 41 04.4**	**-0.2**
JMM	**Marumori**	**1.28**	**300**	P	**Pn**	**18 41 05.7**	**+0.2**
JMM				eS	**Sb**	**18 41 21.7**	**-0.6**
JIO	**Ouri**	**1.39**	**331**	P	**Pn**	**18 41 07.2**	**+0.2**
JFT	**Otama**	**1.51**	**281**	P	**Pb**	**18 41 09.8**	**0.0**
JFT				eS	**Sn**	**18 41 28.3**	**-0.1**
JOU	**Okura**	**1.66**	**313**	P	**Pb**	**18 41 11.9**	**-0.4**
JMK	**Ichinoseki**	**1.88**	**336**	P	**Pb**	**18 41 15.3**	**-0.7**
JYS	**Shiratake**	**1.96**	**301**	P	**Pb**	**18 41 17.0**	**-0.4**
JFY	**Yanaizu**	**2.00**	**276**	P	**Pn**	**18 41 17.0**	**+1.6**
JYK	**Kaneyama**	**2.22**	**320**	P	**Pn**	**18 41 19.4**	**+1.0**
JAG	**Ashikaga**	**2.35**	**251**	eS	**Sn**	**18 41 48.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.28**	**259**	Pn	**Pn**	**18 41 35.2**	**+2.3**
	0.7nm,0.3s,baz=86,slow=14,SNR=20						
MAT	**Matsushiro**	**3.28**	**259**	P	**Pn**	**18 41 35.2**	**+2.2**
MAT				S	**Sb**	**18 42 16.6**	**-3.2**
JHJ	**Hachijo jima 2**	**4.56**	**206**	Pn	**Pn**	**18 41 51.5**	**+0.9**
	7.1nm,0.3s,baz=322,slow=23,SNR=16						
JHJ				Sn	**Sn**	**18 42 40.2**	**-3.4**
	6.9nm,0.3s,baz=55,slow=20,SNR=1.1						
ASAJ	**Asahikawa**	**6.88**	**2**	Pn	**Pn**	**18 42 23.4**	**+1.0**
	0.5nm,0.3s,baz=204,slow=14,SNR=8.0						
ASAJ				Sn	**Sn**	**18 43 39.4**	**-1.2**
	0.1nm,0.3s,baz=332,slow=34,SNR=1.5						
KSRS	**Korea Array**	**11.37**	**275**	Pn	Pn	18 43 30.0	+6.0
	0.1nm,0.3s,baz=86,slow=14,SNR=2.8						
KSRS				LR	LR	18 48 08.3	
	comp=Z,8.3nm,20.4s,baz=150,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.72**	**122**	T	T	19 15 38.9	
	baz=314,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.73**	**122**	T	T	19 15 46.8	
	baz=314,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.73**	**122**	T	T	19 15 56.6	
	baz=314,slow=75,SNR=15						
SONM	**Songino Array**	**28.20**	**303**	P	**P**	**18 46 35.7**	**+1.3**
	0.3nm,0.4s,baz=105,slow=8.7,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	19 16 21.6	
	baz=316,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	19 16 39.4	
	baz=316,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	19 16 19.1	
	baz=316,slow=76,SNR=16						
MKAR	**Makanchi Array**	**44.54**	**302**	P	**P**	**18 48 54.3**	**+0.9**
	0.2nm,0.5s,baz=87,slow=8.7,SNR=2.8						
ILAR	**Eielson Array**	**48.98**	**32**	P	**P**	**18 49 28.8**	**+1.0**
	0.3nm,0.6s,baz=263,slow=7.9,SNR=2.7						
WRA	**Warramunga Arr**	**57.35**	**189**	P	**P**	**18 50 28.9**	**-0.9**
	0.3nm,0.7s,baz=7.2,slow=7.2,SNR=5.0						

*IDC **07** 19:10:26.3±9.6, 17.°51S×178.°77W, h584km±124km, mb2.9/7, mb1 3.2/7, mb1mx2.9/26, mbtmp3.8/7, Error ellipse: s-maj=117.5km s-min=37.7km az=160.0*
ISC 07 19:10:23.6±1.8, 17.°4S±0.°7×178.°7W±0.°3, h550km, n9, σ0°71/9, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.50**	**64**	S	**S**	**19 13 48.6**	**-0.5**
	4.4nm,0.3s,baz=256,slow=20,SNR=6.2						
CTA	**Charters Tower**	**33.27**	**260**	P	**P**	**19 16 16.9**	**+0.8**
	2.6nm,0.9s,baz=95,slow=11,SNR=1.4						
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**19 17 45.8**	**-0.6**
	0.5nm,0.5s,baz=97,slow=7.2,SNR=31						
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**19 17 47.4**	**-0.7**
	2.5nm,0.5s,baz=86,slow=9.0,SNR=62						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	**P**	**19 21 33.3**	**+0.9**
	0.1nm,0.5s,baz=220,slow=6.9,SNR=2.4						
ILAR	**Eielson Array**	**85.43**	**13**	P	**P**	**19 22 02.6**	**-0.2**
	0.2nm,0.5s,baz=227,slow=4.8,SNR=4.6						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**19 22 06.5**	**+0.4**
	0.6nm,0.7s,baz=216,slow=6.1,SNR=7.7						
PDAR	**Pinedale Array**	**87.15**	**44**	P	**P**	**19 22 11.5**	**-0.2**
	0.2nm,0.4s,baz=193,slow=6.5,SNR=2.6						
GERES	**GERESS Array B**	**147.03**	**345**	PKPbc	**PKPbc**	**19 29 04.5**	**-0.5**
	0.2nm,0.4s,baz=48,slow=2.0,SNR=4.9						

IDC 07 19:18:33.1±4.6, 20.°15S×176.°65W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.5/31, mbtmp3.9/4, Error ellipse: s-maj=112.3km s-min=48.3km az=35.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.08**	**244**	P	P	19 26 01.4	-0.8
	1.6nm,0.7s,baz=84,slow=9.2,SNR=4.5						
ASAR	**Alice Springs**	**45.83**	**256**	P	P	19 26 57.4	+0.1
	1.8nm,0.7s,baz=98,slow=8.3,SNR=29						
ASAR				PcP	PcP	19 28 34.2	-0.7
	0.3nm,0.7s,baz=105,slow=4.2,SNR=2.6						
WRA	**Warramunga Arr**	**45.91**	**261**	P	P	19 26 58.1	+0.2
	1.5nm,0.8s,baz=97,slow=8.2,SNR=26						
VNDA	**Vanda**	**58.37**	**185**	P	P	19 28 29.9	+0.2
	0.6nm,1.0s,baz=19,slow=3.6,SNR=2.6						

*TEH **07** 20:06:53.7, 32.°68N×47.°55E, h10km, ML2.9*
*ISN **07** 20:06:53.2±1.5, 32.°67N×47.°56E, h15km±7km, ML3.0*
ISC 07 20:06:53.3±1.1, 32.°59N±0.°06×47.°53E±0.°05, h10km, n14, σ0°94/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**293**	*e*Pg	**Pg**	**20 06 58.1**	**+0.1**
DHL1				*e*		20 07 03.3	
IKMR	**Kamar-syah**	**1.17**	**38**	*e*Pg	**Pb**	**20 07 13.9**	**-1.7**
IKMR				*e*		20 07 33.5	
IDOB	**Doab**	**1.31**	**24**	*e*Pg	**Pn**	**20 07 17.2**	**-0.7**
IDOB				*e*		20 07 37.3	
IBDR	**Badra**	**1.44**	**291**	*e*Pg	**Pn**	**20 07 19.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**20 07 39.0**	**-0.7**
IBDR				AML	AML	20 07 45.0	
	comp=N,311nm,0.5s						
BMDN	**Meydan**	**1.53**	**45**	*e*Pg	**Pb**	**20 07 21.9**	**0.0**
BMDN				*e*		20 07 25.0	
IKOM	**Komasi**	**1.58**	**359**	*e*Pg	**Pb**	**20 07 22.2**	**-0.5**
IKOM				*e*		20 07 23.3	
HSAM	**Samen**	**1.85**	**29**	*e*Pn	**Pb**	**20 07 27.1**	**-0.3**
HSAM				*e*Sg	**Sg**	**20 07 52.6**	**-0.2**
HSAM				*e*		20 07 58.8	
IBZA	**Bozab**	**1.89**	**8**	*e*Pn	**Pn**	**20 07 26.8**	**+0.8**
IBZA				*e*		20 07 54.9	
IGHG	**Ghaleghazi**	**1.91**	**335**	*e*Pn	**Pb**	**20 07 27.9**	**-0.5**
IGHG				*e*		20 08 06.4	
NSR	**Nassriya**	**1.97**	**217**	*e*Pn	**Pb**	**20 07 29.0**	**-0.3**
NSR				*e*Sn	**Sb**	**20 07 53.0**	**-0.9**
IVIS	**Veis**	**2.01**	**344**	*e*Pn	**Pb**	**20 07 29.1**	**-0.9**
IVIS				*e*		20 08 01.6	
IALM	**Almabolaq**	**2.32**	**13**	*e*Pn	**Pn**	**20 07 33.0**	**+1.1**
IALM				*e*		20 07 37.7	
HAGD	**Aghdareh**	**2.60**	**31**	*e*Pn	**Pn**	**20 07 36.8**	**+1.2**
HAGD				*e*		20 08 21.5	
BHD	**Baghdad**	**2.73**	**285**	*e*Pn	**Pn**	**20 07 38.0**	**+0.8**
BHD				*e*Sn	**Sn**	**20 08 12.0**	**+1.7**
BHD				AML	AML	20 08 12.3	
	comp=E,89nm,0.3s						

NNC 07 20:10:34.6±16.0, 37.°96N×71.°89E, h0km, mb3.5, mpv3.1, 4C-1D, Error ellipse: s-maj=130.7km s-min=95.5km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.08**	**22**	⇑Pn	Pn	20 11 52.7	+0.6
	2.7nm,0.5s						
AAK				⇑Sn	Sn	20 12 51.7	0.0
	9.1nm,0.5s						
KK31	**Karatay Array**	**5.25**	**349**	Pn	Pn	20 11 57.3	+2.9
	0.5nm,0.3s,baz=181,slow=15,SNR=11						
KK31				⇑Sn	Sn	20 12 58.5	+3.0
	7.8nm,0.3s,baz=178,slow=25,SNR=22						
TKM2	**Tokmak 2**	**5.71**	**29**	⇑Pn	Pn	20 11 59.5	-1.3
	1.5nm,0.8s						
TKM2				⇓Sn	Sn	20 13 05.2	-1.9
	1.0nm,0.6s						

*VAO **07** 20:33:04.4±1.0, 24.°13S×67.°07W, h193km±10km, mb4.5*
*SJA **07** 20:33:05.2±0.6, 24.°16S×66.°95W, h207km±5km, ML4.8, MW4.2*
*NEIC **07** 20:33:05.7±1.7, 24.°12S±0.°06×66.°83W±0.°08, h190km±3km, mb4.5/41, Error ellipse: s-maj=10.4km s-min=9.1km az=71.0*
*IDC **07** 20:33:05.9±0.9, 24.°04S×66.°76W, h187km±7km, mb3.9/16, mb1 4.0/23, mb1mx4.0/27, mbtmp4.4/23, Error ellipse: s-maj=11.3km s-min=9.6km az=76.0*
*GUC **07** 20:33:07.2±0.5, 24.°08S×67.°34W, h242km±8km, ML5.0, MW5.0*
ISC 07 20:33:05.8±0.6, 24.°13S±0.°03×66.°96W±0.°03, h192km±5km, n177, σ1°41/202, mb4.3/33, 13C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.46**	**114**	*e*P	**Pn**	**20 33 39.9**	**+1.3**
SLA				*e*S	**Sn**	**20 34 05.4**	**+1.4**
AZAP	**Zapla**	**1.73**	**94**	*e*P	**Pn**	**20 33 42.1**	**+0.8**
FSA	**Cafayete**	**2.17**	**156**	*e*P	**Pn**	**20 33 46.1**	**+0.4**
ASTB	**Santa Barbara**	**2.30**	**86**	*e*P	**Pn**	**20 33 47.9**	**+0.8**
ASTB				*e*S	**Sn**	**20 34 19.2**	**-0.1**
LVC	**Limon Verde**	**2.34**	**310**	P	**Pn**	**20 33 49.1**	**+1.2**
	113nm,0.3s,baz=137,slow=6.5,SNR=72						
LVC				S	**Sn**	**20 34 21.5**	**+1.0**
	113nm,0.3s,baz=137,slow=5.4,SNR=8.7						
LVC	**Limon Verde**	**2.34**	**310**	⇓*i*P	**Pn**	**20 33 49.7**	**+1.9**
LVC				*i* S	**Sn**	**20 34 21.7**	**+1.2**
LVC	**Limon Verde**	**2.34**	**310**		**Pn**	**20 33 49.8**	**+1.9**
LVC					**Sn**	**20 34 21.8**	**+1.3**
LVC	**Limon Verde**	**2.34**	**310**	*e*S	**Sn**	**20 34 23.2**	**+2.7**
YJA	**Yavi**	**2.35**	**35**	*e*P	**Pn**	**20 33 49.8**	**+1.7**
YJA				*e*S	**Sn**	**20 34 22.8**	**+1.9**
PB15	**IPOC Station P**	**2.48**	**291**	⇑*i*P	**Pn**	**20 33 50.8**	**+1.6**
PB15				*i* S	**Sn**	**20 34 23.8**	**+0.9**
PB15	**IPOC Station P**	**2.48**	**291**		**Pn**	**20 33 50.7**	**+1.5**
PB15	**IPOC Station P**	**2.48**	**291**	*e*P	**Pn**	**20 33 50.8**	**+1.6**
PB15				*e*S	**Sn**	**20 34 23.9**	**+1.0**
GO02	**Mina Guanaco**	**2.60**	**246**	⇑*i*P	**Pn**	**20 33 51.7**	**+1.0**
GO02				*i* S	**Sn**	**20 34 26.2**	**+0.5**
GO02	**Mina Guanaco**	**2.60**	**246**		**Pn**	**20 33 51.8**	**+1.0**
PB06	**IPOC Station P**	**2.78**	**300**	⇑*i*P	**Pn**	**20 33 54.2**	**+1.5**
PB06				*i* S	**Sn**	**20 34 29.3**	**+0.1**
PB06				IAML		20 34 34.0	
	comp=N,5μm,0.4s						
PB06	**IPOC Station P**	**2.78**	**300**		**Pn**	**20 33 54.2**	**+1.5**
PB06	**IPOC Station P**	**2.78**	**300**	*e*P	**Pn**	**20 33 54.2**	**+1.5**
PB06				*e*S	**Sn**	**20 34 29.7**	**+0.5**
PB06				IAML		20 34 33.3	
	comp=Z,2μm,0.3s						
AHML	**Horco Molle**	**3.03**	**151**	*e*P	**Pn**	**20 33 55.6**	**+0.2**
AHML				*e*S	**Sn**	**20 34 33.3**	**-1.0**
PB09	**IPOC Station P**	**3.13**	**317**	⇑*i*P	**Pn**	**20 33 58.6**	**+1.8**
PB09				*i* S	**Sn**	**20 34 37.3**	**+0.7**
PB09				IAML		20 34 39.2	
	comp=E,2μm,0.4s						
PB09	**IPOC Station P**	**3.13**	**317**		**Pn**	**20 33 58.3**	**+1.5**
PB09	**IPOC Station P**	**3.13**	**317**	*e*S	**Sn**	**20 34 36.1**	**-0.5**
PB09				IAML		20 34 38.6	
	comp=Z,2μm,0.8s						
PB14	**IPOC Station P**	**3.18**	**260**	⇑*i*P	**Pn**	**20 33 58.0**	**+0.5**
PB14				*e*S	**Sn**	**20 34 36.8**	**-1.1**
PB14				IAML		20 34 39.7	
	comp=N,1μm,0.5s						
PB14	**IPOC Station P**	**3.18**	**260**		**Pn**	**20 33 57.8**	**+0.3**
PB14	**IPOC Station P**	**3.18**	**260**	*e*S	**Sn**	**20 34 37.6**	**-0.2**
PB14				IAML		20 34 39.2	
	comp=Z,1μm,0.4s						
PB05	**IPOC Station P**	**3.23**	**292**	*e*S	**Sn**	**20 34 37.7**	**-1.1**
PB05				IAML		20 34 46.2	
	comp=Z,865nm,0.5s						
PB03	**IPOC Station P**	**3.30**	**308**	⇑*i*P	**Pn**	**20 33 59.9**	**+1.1**
PB03				*i* S	**Sn**	**20 34 39.4**	**-0.9**
PB03	**IPOC Station P**	**3.30**	**308**	*e*S	**Sn**	**20 34 40.1**	**-0.2**
PB03				IAML		20 34 45.9	
	comp=Z,2μm,0.3s						
AC02	**Maricunga**	**3.33**	**216**		**Pn**	**20 34 00.5**	**+0.9**
PB10	**IPOC Station P**	**3.35**	**280**	⇑*i*P	**Pn**	**20 34 00.2**	**+1.0**
PB10				*i* S	**Sn**	**20 34 40.3**	**-0.7**
PB10	**IPOC Station P**	**3.35**	**280**		**Pn**	**20 34 00.3**	**+1.0**
PB10	**IPOC Station P**	**3.35**	**280**	*e*P	**Pn**	**20 34 00.2**	**+1.0**
PB10				*e*S	**Sn**	**20 34 40.5**	**-0.5**
PB10				IAML		20 34 44.3	
	comp=Z,1μm,0.3s						
PB04	**IPOC Station P**	**3.43**	**301**	⇑*i*P	**Pn**	**20 34 01.4**	**+0.9**
PB04				*i* S	**Sn**	**20 34 41.9**	**-1.3**
PB04	**IPOC Station P**	**3.43**	**301**		**Pn**	**20 34 01.4**	**+0.9**
PB04	**IPOC Station P**	**3.43**	**301**	*e*P	**Pn**	**20 34 01.6**	**+1.2**
PB04				*e*S	**Sn**	**20 34 42.5**	**-0.7**
PB04				IAML		20 34 46.0	
	comp=Z,2μm,0.7s						
PB07	**IPOC Station P**	**3.60**	**311**	⇑*i*P	**Pn**	**20 34 03.5**	**+0.9**
PB07				*i* S	**Sn**	**20 34 45.8**	**-1.2**
PB07	**IPOC Station P**	**3.60**	**311**		**Pn**	**20 34 03.4**	**+0.8**
PB01	**IPOC Station P**	**3.85**	**322**	⇑*i*P	**Pn**	**20 34 06.3**	**+0.6**
PB01				*i* S	**Sn**	**20 34 51.5**	**-1.1**
PB01	**IPOC Station P**	**3.85**	**322**		**Pn**	**20 34 06.4**	**+0.7**
AC01	**Pan de Azucar**	**3.86**	**238**		**Pn**	**20 34 05.0**	**-0.6**
PB02	**IPOC Station P**	**3.89**	**315**	⇑*i*P	**Pn**	**20 34 06.6**	**+0.5**
PB02				*i* S	**Sn**	**20 34 51.8**	**-1.5**
PATCX	**Punta Patache**	**4.42**	**317**	⇑*i*P	**Pn**	**20 34 12.4**	**-0.3**
PATCX				*i* S	**Sn**	**20 35 03.4**	**-1.9**
PATCX	**Punta Patache**	**4.42**	**317**		**Pn**	**20 34 12.5**	**-0.3**
CYA	**Choya**	**4.42**	**167**	*e*P	**Pn**	**20 34 12.8**	**+0.2**
CYA				*e*S	**Sn**	**20 35 05.2**	**-0.1**
PB08	**IPOC Station P**	**4.46**	**332**	⇑*i*P	**Pn**	**20 34 14.9**	**+1.4**
PB08				*e*S	**Sn**	**20 35 07.1**	**+0.5**
PB08	**IPOC Station P**	**4.46**	**332**		**Pn**	**20 34 14.4**	**+0.9**
GO03	**Copiap**	**4.54**	**220**	*e*P	**Pn**	**20 34 13.1**	**-1.2**
GO03				*i* S	**Sn**	**20 35 04.9**	**-3.1**
GO03	**Copiap**	**4.54**	**220**		**Pn**	**20 34 13.0**	**-1.2**
GO03	**Copiap**	**4.54**	**220**	*e*P	**Pn**	**20 34 13.5**	**-0.7**
GO03				*e*S	**Sn**	**20 35 05.4**	**-2.6**
TA01	**Diego Aracena**	**4.63**	**319**	*e*P	**Pn**	**20 34 15.4**	**+0.1**
TA01				*e*S	**Sn**	**20 35 07.5**	**-2.5**
TA01	**Diego Aracena**	**4.63**	**319**		**Pn**	**20 34 15.2**	**-0.1**
VCA	**Vinchina**	**4.72**	**193**	*e*P	**Pn**	**20 34 17.4**	**+0.8**
VCA				*e*S	**Sn**	**20 35 13.5**	**+1.0**
GO01	**Chusmiza**	**4.90**	**335**	*e*P	**Pn**	**20 34 20.2**	**+1.0**
GO01				*i* S	**Sn**	**20 35 16.7**	**-0.2**
GO01	**Chusmiza**	**4.90**	**335**		**Pn**	**20 34 20.3**	**+1.0**
PB11	**IPOC Station P**	**5.01**	**330**	*e*P	**Pn**	**20 34 19.5**	**-0.9**
PB11				*i* S	**Sn**	**20 35 16.0**	**-3.1**
PB11	**IPOC Station P**	**5.01**	**330**	Pn	**Pn**	**20 34 19.9**	**-0.5**
PSGC	**Pisagua**	**5.38**	**326**	*e*P	**Pn**	**20 34 23.7**	**-1.4**
PSGC				*i* S	**Sn**	**20 35 18.7**	**-8.8**
PSGCX	**Pisagua**	**5.38**	**326**		**Pn**	**20 34 23.8**	**-1.3**
AC04	**Llanos de Chal**	**5.49**	**221**		**Pn**	**20 34 24.6**	**-1.7**
AGUA	**GUANDACOL**	**5.51**	**194**	*e*P	**Pn**	**20 34 26.7**	**0.0**
AGUA				*e*S	**Sn**	**20 35 32.9**	**+2.3**
MNMC	**Minye Minye**	**5.54**	**333**		**Pn**	**20 34 27.5**	**+0.1**
AC05	**El Transito**	**5.55**	**212**		**Pn**	**20 34 26.2**	**-1.1**
LCO	**Las Campanas**	**5.91**	**214**	Pn	**Pn**	**20 34 30.2**	**-1.8**
APLL	**PUNTA DE LOS L**	**6.26**	**177**	*e*P	**Pn**	**20 34 35.3**	**-1.0**
PB12	**IPOC Station P**	**6.32**	**330**	Pn	**Pn**	**20 34 36.7**	**-0.6**
AROD	**Rodeo**	**6.42**	**200**	*e*P	**Pn**	**20 34 39.3**	**+0.6**
CO01	**Juntas del Tor**	**6.46**	**205**		**Pn**	**20 34 39.7**	**+0.6**
RTLL	**Cerro Villicun**	**7.30**	**190**	*e*P	**Pn**	**20 34 48.5**	**-1.4**
RTLL				*e*S	**Sn**	**20 36 08.3**	**-4.3**
RTLL				IAML		20 36 14.0	
	comp=Z,54nm,0.5s						
TCA	**Tanti**	**7.48**	**164**	*e*P	**Pn**	**20 34 50.9**	**-1.5**
TCA				*e*S	**Sn**	**20 36 11.2**	**-5.7**
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**20 34 56.7**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=164,slow=10.0,SNR=62						
LPAZ				S	**Sn**	**20 36 25.8**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=56,slow=21,SNR=2.9						
LPAZ	**La Paz**	**7.88**	**352**	Pn	**Pn**	**20 34 59.0**	**+0.9**
CPUP	**Villa Florida**	**8.99**	**106**	P	**Pn**	**20 35 09.6**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=276,slow=10,SNR=10						
CPUP	**Villa Florida**	**8.99**	**106**		**Pn**	**20 35 10.8**	**-1.2**
VA03	**San Esteban**	**9.17**	**199**		**Pn**	**20 35 12.9**	**-1.5**
SIV	**San Ignacio**	**9.80**	**35**	P	**Pn**	**20 35 21.2**	**-1.5**
	comp=Z,3.0nm,0.3s,baz=224,slow=12,SNR=71						
SIV				S	Sn	20 37 02.0	-10
	comp=Z,0.3nm,0.3s,baz=226,slow=15,SNR=3.7						
AQDB	**Aquidauana**	**11.04**	**73**	*e*P	**Pn**	**20 35 38.2**	**-0.4**
PTLB	**Pontes e Lacer**	**11.34**	**42**	*e*P	**Pn**	**20 35 42.1**	**-0.5**
TRCB	**Terra Rica**	**13.22**	**87**	*e*P	**Pn**	**20 36 04.9**	**-1.5**
CPSB	**Cacapava Do Su**	**13.55**	**120**	*e*P	**Pn**	**20 36 09.8**	**-0.6**
PTGB	**Pitanga**	**13.59**	**96**	*e*P	**Pn**	**20 36 11.8**	**+0.8**
ITAB	**Concordia**	**13.73**	**106**	*e*P	**Pn**	**20 36 13.1**	**+0.5**
PLTB	**Pedras Altas**	**14.04**	**126**	*e*P	**Pn**	**20 36 15.5**	**-1.0**
ETMB	**Extrema**	**14.25**	**3**	*e*P	**Pn**	**20 36 16.6**	**-2.6**
PCMB	**Pacaembu**	**14.69**	**83**	*e*P	**Pn**	**20 36 24.4**	**-0.2**
NNA	**Nana**	**15.29**	**320**	P	**P**	**20 36 33.6**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=147,slow=9.5,SNR=7.1						
CNLB	**Canela**	**15.29**	**113**	*e*P	**Pn**	**20 36 31.0**	**-0.9**
SAML	**Samuel**	**15.52**	**14**		**Pn**	**20 36 34.0**	**-0.8**
SAML	**Samuel**	**15.52**	**14**	*e*P	**Pn**	**20 36 33.8**	**-1.0**
ITRB	**Iturama**	**16.02**	**77**	*e*P	**Pn**	**20 36 40.8**	**-0.1**
ARAG	**Araguaiana, MT**	**16.51**	**62**	*e*P	**Pn**	**20 36 47.1**	**+0.3**
PLCA	**Paso Flores**	**16.83**	**189**	P	**Pn**	**20 36 50.5**	**0.0**
	comp=Z,1.0nm,0.3s,baz=354,slow=11,SNR=8.3						
PLCA	**Paso Flores**	**16.83**	**189**	P	**Pn**	**20 36 50.1**	**-0.3**
CLDB	**Colider**	**16.93**	**41**	*e*P	**P**	**20 36 49.1**	**-1.4**
CZSB	**Cruzeiro do Su**	**17.21**	**340**	*e*P	**P**	**20 36 50.8**	**-2.8**
BB19B	**Bebedouro**	**17.29**	**84**	*e*P	**P**	**20 36 54.3**	**-0.3**
PET01	**Itanhaem-SP**	**17.96**	**95**	*e*P	**P**	**20 37 01.1**	**-0.7**
VAO	**Valinhos**	**18.37**	**91**	*e*P	**P**	**20 37 05.5**	**-0.8**
IPMB	**Ipameri, GO**	**18.53**	**74**	*e*P	**P**	**20 37 07.6**	**-0.5**
LL01	**San Ignacio de**	**18.76**	**193**	P	**Pn**	**20 37 13.2**	**+0.3**
LL01				IAmb	IAmb	20 37 14.2	
	comp=Z,17nm,0.5s						
PARB	**Paraibuna**	**19.55**	**92**	*e*P	**P**	**20 37 19.5**	**+0.4**
BDFB	**Brasilia**	**19.70**	**68**	P	**P**	**20 37 19.8**	**-1.0**
	comp=Z,3.2nm,0.3s,baz=239,slow=11,SNR=69						
BDFB	**Brasilia**	**19.70**	**68**	P	**P**	**20 37 20.6**	**-0.2**
ATAH	**Atahualpa**	**20.14**	**325**	P	Pn	20 37 28.2	-2.1
	comp=Z,2.5nm,0.6s,baz=117,slow=9.1,SNR=1.6						
PEXB	**Peixe**	**21.36**	**59**	*e*P	**P**	**20 37 36.5**

SCHQ	Schefferville	78.63	0	P	P	20 44 46.5 +0.6
	comp=Z,2.6nm,0.6s,baz=56,slow=3.6,SNR=2.2					
NVAR	Mina Array Bea	78.66 321		P	P	20 44 48.6 +1.9
	comp=Z,1.4nm,0.8s,baz=146,slow=6.4,SNR=7.4					
RLMT	Red Lodge	78.97 331		IAmb	IAmb	20 44 50.6
	comp=Z,4.6nm,0.7s					
HLID	Hailey	80.21 327		IAmb	IAmb	20 44 58.4
	comp=Z,6.6nm,0.8s					
BOSA	Boshof	80.64 117		P	P	20 44 56.8 -0.9
	comp=Z,3.2nm,0.8s,baz=268,slow=4.0,SNR=4.5					
BOSA	Boshof	80.64 117		P	P	20 44 56.0 -1.7
MAW	Mawson	81.31 163		P	P	20 45 01.1 +0.9
	comp=Z,5.7nm,0.6s,baz=213,slow=6.4,SNR=17					
PINE	Pine Mountain	83.75 324		IAmb	IAmb	20 45 16.4
	comp=Z,6.3nm,0.8s					
ESDC	Sonseca Array	86.46 44		P	P	20 45 27.9 +1.0
	comp=Z,1.0nm,0.8s,baz=268,slow=4.7,SNR=5.2					
YKA	Yellowknife Ar	94.25 340		P	P	20 46 02.6 +0.1
	comp=Z,1.6nm,0.6s,baz=132,slow=4.5,SNR=6.6					
ASAR	Alice Springs	128.36 205		PKP	PKPdf	20 51 50.5 +0.3
	comp=Z,1.9nm,0.6s,baz=136,slow=1.9,SNR=30					
ASAR	Alice Springs	128.36 205		PKPdf	PKiKP	20 51 50.6 -0.2
WRA	Warramunga Arr	131.53 207		PKP	PKiKP	20 51 56.8 -0.4
	comp=Z,1.4nm,0.5s,baz=157,slow=1.7,SNR=58					
WRA				SKPbc	SKPbc	20 55 02.9 -0.8
	comp=Z,2.1nm,0.9s,baz=159,slow=3.8,SNR=7.5					
WRA	Warramunga Arr	131.53 207			PKiKP	20 51 57.0 -0.3
AAK	Ala-Archa	143.29 50		PKP	PKPdf	20 52 16.4 -0.9
	comp=Z,1.0nm,0.3s,baz=142,slow=3.0,SNR=4.6					
ZALV	Zalesovo Beam	143.49 28		PKP	PKPbc	20 52 15.6 +0.7
	comp=Z,6.1nm,0.6s,baz=303,slow=4.3,SNR=32					
ZALV	Zalesovo Beam	143.49 28		PKPdf	PKPbc	20 52 15.8 +0.9
BATI	Baumata	144.33 198		PKP	PKPbc	20 52 19.1 +0.5
	comp=Z,11nm,0.5s,baz=307,slow=1.3,SNR=4.8					
MKAR	Makanchi Array	146.60 40		PKPbc	PKPbc	20 52 23.9 -0.7
	comp=Z,8.6nm,0.6s,baz=333,slow=1.9,SNR=73					
MKAR	Makanchi Array	146.60 40			PKPbc	20 52 24.1 -0.5
LEM	Lembang	148.78 170		PKPbc	PKiKP	20 52 32.1 -0.7
	comp=Z,27nm,0.7s,baz=186,slow=19,SNR=7.8					
KLR	Kul'dur	150.95 334		PKP	PKPdf	20 52 31.1 +1.5
	comp=Z,5.9nm,0.7s,baz=326,slow=2.1,SNR=1.5					
KLR				PKPbc	PKiKP	20 52 36.1 +0.1
	comp=Z,5.3nm,0.6s,baz=61,slow=2.7,SNR=12					
MJAR	Matsushiro Arr	155.08 306		PKPab	PKPab	20 53 03.0 +1.5
	comp=Z,0.3nm,0.4s,baz=87,slow=1.9,SNR=7.1					
SONM	Songino Array	155.76 11		PKP	PKPdf	20 52 38.7 +1.9
	comp=Z,0.7nm,0.8s,baz=294,slow=1.4,SNR=4.8					
SONM				PKPab	PKPab	20 53 05.0 +0.9
	comp=Z,0.8nm,0.6s,baz=319,slow=5.1,SNR=6.2					
CMAR	Chiang Mai Arr	165.71 111		PKPab	PKPab	20 53 47.2 -1.2
	comp=Z,0.7nm,0.4s,baz=253,slow=5.1,SNR=5.9					

*IDC **07** 20:45:02.4±1.0, 17°.18N×119°.68E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/41, mbtmp3.8/7, ML4.9/1, Error ellipse: s-maj=60.2km s-min=18.9km az=72.0*
*MAN **07** 20:45:05.6, 17°.28N×119°.46E, h19km, mb5.0, ML4.0, MS4.0*
*NEIC **07** 20:45:07.3±2.8, 17°.25N±0°.03×119°.8E±0°.2, h43km±12km, mb4.3/8, Error ellipse: s-maj=31.6km s-min=3.7km az=85.0*

ISC 07 20:45:03.7±0.6, 17°.24N±0°.04×119°.57E±0°.05, h10km, n27, σ1§45/30, mb3.8/11, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.92	159	eP	Pn	20 45 23.8	+1.2
SIPP	Brgy, Tapao	1.09	51⇑	eP	Pb	20 45 24.0	-0.6
SIPP				eS	Sn	20 45 52.3	+12
BCP	Baguio City	1.29	129	‖ iP	Pg	20 45 29.5	+0.9
SMPP	San Manuel, Pa	1.52	135	eP	Pg	20 45 32.4	-0.5
SMPP				eS	Sg	20 45 53.5	+0.9
APYP	Conner	1.72	69	eP	Pb	20 45 35.0	-0.3
APYP				eS	Sg	20 45 59.5	+0.6
CAUP	Cauayan	2.18	97	eP	Pg	20 45 44.7	-0.8
CAUP				eS	Sg	20 46 23.1	+9.3
CVP	Callao Caves	2.20	78⇑	eP	Pb	20 45 43.1	-0.5
BALP	Baler	2.44	127	eP	Pb	20 45 47.6	0.0
SGCP	Mt. Cagua	2.56	67	eP	Pn	20 45 46.8	+1.5
SGCP				eS	Sg	20 46 26.5	+0.3
TGY	Tagaytay City	3.39	157	Pn	Pn	20 45 56.2	-0.5
	117nm,0.3s,baz=18,slow=20,SNR=3.3						
LQP	Lukban	3.65	148⇑	eP	Pb	20 46 08.1	-0.2
TPUB	Ta-pu	6.11	9	Pn	Pn	20 46 34.3	+0.2
KSRS	Korea Array	21.44	18	P	P	20 49 52.5	+0.4
	1.8nm,0.8s,baz=201,slow=12,SNR=14						
FITZ	Fitzroy Crossi	35.62	170	P	P	20 52 01.9	+0.1
FITZ				IAmb	IAmb	20 52 08.2	
	comp=Z,5.7nm,1.1s						
PALK	Pallekele	39.17	260	P	P	20 52 33.0	+0.8
WB0	Warramunga Arr	39.56	158	P	P	20 52 32.9	-2.3
WB0				IAmb	IAmb	20 52 51.8	
	comp=Z,12nm,1.5s						
WRAB	Tennant Creek	39.69	158	P	P	20 52 33.3	-3.0
WRAB				IAmb	IAmb	20 52 43.0	
	comp=Z,8.5nm,1.5s						
WRA	Warramunga Arr	39.70	158	P	P	20 52 35.4	-1.0
	comp=Z,1.3nm,0.8s,baz=339,slow=9.2,SNR=6.9						
WRA	Warramunga Arr	39.70	158	P	P	20 52 31.9	-4.4
WB2	Warramunga Arr	39.70	158	P	P	20 52 35.5	-0.8
MK31	Makanchi Array	42.57	322	P	P	20 53 01.6	+1.9
MK31				IAmb	IAmb	20 53 02.9	
	comp=Z,1.8nm,0.9s						
MKAR	Makanchi Array	42.57	322	P	P	20 53 02.0	+2.2
	comp=Z,1.0nm,0.8s,baz=139,slow=6.8,SNR=2.2						
ASAR	Alice Springs	43.00	161	P	P	20 53 03.1	-0.3
	comp=Z,0.8nm,0.7s,baz=332,slow=7.3,SNR=7.5						
NIL	Nilore	44.52	301	P	P	20 53 16.5	+0.8
NIL				IAmb	IAmb	20 53 16.7	
	comp=Z,3.9nm,0.9s						
ABKAR	Akbulak array	57.37	318	P	P	20 54 50.5	-1.7
FINES	FINESS Array B	76.68	330	P	P	20 56 55.2	+0.5
	comp=Z,1.8nm,1.1s,baz=84,slow=5.7,SNR=3.9						
NOA	NORSAR Array B	83.63	332	P	P	20 57 32.5	+0.1
	comp=Z,0.3nm,0.7s,baz=64,slow=4.7,SNR=3.2						

JMA 07 20:52:32.2±0.3, 25°.03N×123°.21E, h136km±5km, M1.7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.59	198	P	Pn	20 52 52.4	-0.1
JYNG	Yonagunijimaku	0.62	203	P	Pn	20 52 53.0	+0.3
IRIF	Iriomote-Funau	0.84	146	P	Pn	20 52 54.4	+0.1
IRIF				S	Sn	20 53 11.1	+0.1
JKRS	Kuro-shima	1.07	137	P	Pn	20 52 56.7	+0.4
JKRS				S	Sn	20 53 15.5	+0.9
JIJ	Ishigaki jima	1.08	128	P	Pn	20 52 56.3	-0.1
JIJ				S	Sn	20 53 14.6	-0.1
JISG	Ishigakijimahi	1.09	114	P	Pn	20 52 56.7	+0.2
JISG				eS	Sn	20 53 15.7	+0.8
JTJ	Tarama	1.41	106	P	Pn	20 53 00.2	+0.5
JTJ				S	Sn	20 53 21.7	+1.0
JMJ2	Miyako jima3	1.94	98	P	Pn	20 53 06.3	+0.5

TAP 07 20:52:35.7, 24°.11N×121°.48E, h43km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	Xiulin Townshi	0.09	359	eP	Pn	20 52 43.3	+0.5
	baz=359						
ETLH				eS	Sn	20 52 48.8	+0.9
	baz=359						
NACB	Ninganchiao	0.12	59	eP	Pn	20 52 42.5	-0.3
	baz=68						
NACB				eS	Sn	20 52 47.2	-0.6
	baz=68						
WHF	Hehuan Shan	0.20	279	eP	Pn	20 52 42.8	-1.1
	baz=279						
WHF				eS	Sn	20 52 49.6	0.0
	baz=279						
FUSS	Fushou	0.26	302	eP	Pn	20 52 44.7	+0.6
	baz=307						
FUSS				eS	Sn	20 52 51.1	+1.1
	baz=307						
CHGB	Renai	0.29	260	eP	Pn	20 52 44.1	-0.3
	baz=259						
CHGB				eS	Sn	20 52 50.6	+0.2
	baz=259						
ESL	Shilin	0.30	189	eP	Pn	20 52 43.9	-0.3
	baz=182						
ESL				eS	Sn	20 52 50.0	-0.2
	baz=182						

TWT	Tachien	0.32	297	eP	Pn	20 52 45.0 +0.4
	baz=290					
TWT				eS	Sn	20 52 51.9 +1.1
	baz=290					
TDCB	Techi	0.33	295	eP	Pn	20 52 44.9 +0.2
	baz=291					
TDCB				eS	Sn	20 52 51.4 +0.3
	baz=291					
EGFH	Guangfu	0.44	187	eP	Pn	20 52 45.4 -0.4
	baz=180					
EGFH				eS	Sn	20 52 52.7 -0.4
	baz=180					
VWDT	VWDT	0.47	221	eP	Pn	20 52 46.0 -0.2
	baz=227					
WHP	Taichung City	0.52	289	eS	Sn	20 52 56.3 +1.5
	baz=288					
EHY	Hungye	0.62	194	eP	Pn	20 52 48.2 0.0
	baz=183					
EHY				eS	Sn	20 52 57.2 +0.1
	baz=183					
YULB	Yu-li	0.74	193	eP	Pn	20 52 49.1 -0.6
	baz=184					
YULB				eS	Sn	20 52 58.6 -1.2
	baz=184					
EYUL	Yuli	0.78	191	eP	Pn	20 52 50.4 +0.1
	baz=183					
EYUL				eS	Sn	20 53 01.0 +0.2
	baz=183					
TWF1	Yuli	0.78	193	eP	Pn	20 52 50.1 -0.1
	baz=184					
TWF1				eS	Sn	20 53 00.3 -0.5
	baz=184					

*IDC **07** 21:35:12.2±5.5, 20°.44S×178°.63W, h598km±60km, mb2.9/8, mb1 3.2/8, mb1mx2.9/30, mbtmp3.9/8, Error ellipse: s-maj=57.6km s-min=25.6km az=146.0*

ISC 07 21:35:12.1±1.3, 20°.5S±0°.4×178°.6W±0°.2, h600km, n12, σ0§91/14, mb3.3/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.93	264	P	P	21 40 59.3	+0.4
	1.1nm,0.3s,baz=63,slow=14,SNR=1.9						
ASAR	Alice Springs	43.98	257	P	P	21 42 28.1	+0.2
	1.5nm,0.6s,baz=96,slow=7.9,SNR=21						
ASAR				PcP	PcP	21 44 00.8	+0.7
	0.1nm,0.4s,baz=100,slow=3.6,SNR=4.7						
WRA	Warramunga Arr	44.05	262	P	P	21 42 28.1	-0.4
	0.8nm,0.5s,baz=97,slow=7.3,SNR=27						
WRA				PcP	PcP	21 43 59.9	-0.5
	0.1nm,0.7s,baz=91,slow=8.7,SNR=1.6						
PETK	Petropavlovsk-	76.11	346	P	P	21 45 58.8	-0.3
	0.8nm,0.6s,baz=134,slow=4.2,SNR=2.2						
USRK	Ussuriysk Ar.	78.63	326	P	P	21 46 13.5	+0.7
	0.5nm,0.6s,baz=132,slow=4.3,SNR=2.4						
NVAR	Mina Array Bea	81.39	44	P	P	21 46 28.3	+0.6
	0.5nm,0.7s,baz=230,slow=9.3,SNR=4.5						
TXAR	Lajitas Array	87.52	58	P	P	21 46 58.0	+0.4
	0.3nm,0.8s,baz=226,slow=4.9,SNR=3.5						
ILAR	Eielson Array	88.42	13	P	P	21 47 00.3	-0.5
	0.3nm,0.8s,baz=241,slow=6.4,SNR=4.1						
FINES	FINESS Array B	135.59	343	PKP	PKPdf	21 53 24.3	-0.2
	0.7nm,0.8s,baz=0.0,slow=2.1,SNR=3.5						
AKASG	Malin Array Be	142.72	331	PKP	PKPdf	21 53 35.2	-2.5
	2.0nm,0.5s,baz=42,slow=4.2,SNR=12						
BRTR	Keskin Array B	146.41	312	PKPbc	PKPbc	21 53 47.5	+0.2
	0.5nm,0.6s,baz=134,slow=5.3,SNR=5.3						
GERES	GERESS Array B	150.02	344	PKPbc	PKPbc	21 53 56.3	+0.4
	0.5nm,0.6s,baz=11,slow=2.7,SNR=5.9						

*SKHL **07** 21:49:08.5±0.1, 44°.15N×148°.23E, h37km±7km, mb4.0/2*

JMA 07 21:49:13.3±0.6, 44°.41N×146°.69E, h144km, M2.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.70	238	eP	Pn	21 49 35.1	0.0
YUK				AMB	AMB	21 49 37.0	
	80nm,0.4s						
YUK				i S	Sn	21 49 55.1	+3.4
YUK				A	A	21 49 57.0	
	300nm,0.3s						
YUK				A	A	21 49 57.0	
	280nm,0.3s						
GRPR	Tuman	0.78	238	eP	Pn	21 49 36.5	+0.8
GRPR				AMB	AMB	21 49 38.0	
	61nm,0.4s						
GRPR				i S	Sn	21 49 57.4	+4.7
GRPR				A	A	21 49 58.0	
	194nm,0.4s						
GRPR				A	A	21 49 58.0	
	316nm,0.4s						
NEM2	Nemuro 2	1.25	214	P	Pn	21 49 39.8	0.0
NEM2				eS	Sn	21 49 59.8	-0.2
NMR	Nemuro--Hokkai	1.25	214	i P	Pn	21 49 39.9	+0.1
NMR				i S	Sn	21 50 01.5	+1.5
JNK	Nakash	1.64	241	P	Pn	21 49 44.6	+0.6
JKHN	Kushirohamanak	1.73	220	P	Pn	21 49 45.4	+0.5
JAK	Akkeshi	2.02	226	eS	Sn	21 50 15.3	+0.2
JAR	Ashorobuto	2.39	243	P	Pn	21 49 53.2	+0.5
JOB	Onbets	2.56	235	P	Pn	21 49 55.7	+0.9
JOB				eS	Sn	21 50 28.0	+1.2
JKK2	Kamakawa 2	2.89	261	P	Pn	21 49 58.1	-0.9
ASAJ	Asahikawa	2.96	266	P	Pn	21 49 58.9	-0.9
JCH	Churui	3.01	235	P	Pn	21 50 00.6	0.0
JNBK	Urakawa-nobuka	3.58	235	P	Pn	21 50 07.0	-0.8

*IDC **07** 21:57:46.5±1.1, 3°.59S×77°.65W, h0km, mb3.7/6, mb1 3.9/11, mb1mx3.8/31, mbtmp3.8/11, ML3.5/5, MS3.1/7, Ms1 3.1/7, ms1mx2.9/31, Error ellipse: s-maj=28.1km s-min=18.7km az=70.0*
*IGQ **07** 21:57:54.1±0.5, 4°.5±3°.×7°.8W±°, h10km, M4.2*

ISC 07 21:57:46.6±0.6, 3°.70S±0°.04×77°.74W±0°.04, h10km, n57, σ1§91/57, mb3.8/4, MS3.0/4, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	San Juan Bosco	0.94	306	P	Pg	21 58 02.8	-1.9
BOSC				S	Sg	21 58 13.0	-3.8
GONZ	Gonzanam	1.74	252	P	Pn	21 58 18.4	+1.2
GONZ				S	Sn	21 58 38.3	-1.4
SANGA	Volcan Sangay	1.76	339	P	Pg	21 58 20.1	-0.3
SANGA				S	Sg	21 58 43.7	+0.4
PKYU	Pakayacu	2.04	4	P	Pg	21 58 27.6	+1.7
PUYO	Puyo, Santa Ro	2.21	353	P	Pg	21 58 29.0	-0.1
BPAT	Tungurahua Vol	2.29	342	P	Pb	21 58 25.6	+0.7
ARRY	Arrayan	2.30	342	P	Pb	21 58 28.3	-0.1
BMAS	Trigal station	2.31	341	P	Pb	21 58 28.9	+0.3
MCRA	Macar, Loja	2.31	253	P	Pn	21 58 26.7	+1.9
ARNL	Arenillas	2.33	274	P	Pn	21 58 26.8	+1.8
RETU	Refugio	2.35	342	P	Pb	21 58 29.3	0.0
BULB	Ulba Tungurahu	2.35	343	P	Pb	21 58 28.8	-0.5
BBIL	Ulba Tungurahu	2.36	341	P	Pb	21 58 29.6	+0.1
BRUN	Tungurahua Vol	2.36	343	P	Pb	21 58 29.7	+0.2
IGUA	Igualata	2.38	338	P	Pg	21 58 31.3	-1.0
JUI6	Juive	2.38	342	P	Pb	21 58 29.8	0.0
ISPG	Isla Puna-Puer	2.54	287	P	Pb	21 58 31.9	-0.4
ARDO	Archidona, Ten	2.69	359	P	Pn	21 58 32.0	+1.9
MORR	Playas El Morr	2.80	292	P	Pn	21 58 34.3	+2.8
VCES	Cotopaxi	2.96	347	P	Pb	21 58 38.3	-1.5
BMOR	Cotopaxi Volca	3.04	346	P	Pb	21 58 39.9	-1.3
TAMB	Tambo	3.05	348	P	Pb	21 58 39.6	-1.8
BTAM	Cotopaxi Volca	3.08	348	P	Pb	21 58 40.3	-1.5
BREF	Cotopaxi Volca	3.09	347	P	Pb	21 58 42.0	-0.2
BNAS	Cotopaxi Volca	3.10	346	P	Pb	21 58 40.9	-1.3
VC1	Cotopaxi 1	3.11	348	P	Pb	21 58 41.2	-1.2
ANTS	Antisana-Sarah	3.21	352	P	Pb	21 58 44.1	-0.1
ANTG	Antisana-Guama	3.22	351	P	Pb	21 58 44.3	0.0
ATAH	Atahualpa	3.47	191	Pn	Pn	21 58 44.6	+3.5
	7.1nm,0.3s,baz=17,slow=10,SNR=27						
ATAH				Lg	Lg	21 59 29.7	
	6.8nm,0.3s,baz=97,slow=13,SNR=5.2						
CONE	Cono NE Rev Vo	3.61	1	P	Pn	21 58 45.3	+2.4
PPLP	Puerto Lpez	3.72	305	P	Pn	21 58 45.3	+1.1
OTAV	Otavalo	3.98	350	eP	Pb	21 58 55.5	-1.6
CUSE	Cuicocha Este	4.04	351	eP	Pg	21 59 03.7	-0.3
PAC1	Pacto, Paraso	4.08	345	eP	Pb	21 58 55.4	-3.3
PUAC	Puerto Asis, P	4.38	15	eP	Pn	21 58 56.0	+2.7
PTLC	Puerto Leguiza	4.84	37	eP	Pn	21 58 58.9	-0.7
GCUF	Volcan Galeras	4.91	5	eP	Pg	21 59 18.1	-2.7
CRUC	La Cruz	5.29	9	eP	Pn	21 59 08.3	+2.2

FLOC	Florencia	5.65	22	eP	Pn	21 59 12.8 +2.1
BBAC	Balboa, Cauca	5.71	5	eP	Pn	21 59 18.0 +6.3
PCON	Cinco Dias	6.14	13	eP	Pn	21 59 08.3 -10
GARC	Garzon, Huila	6.26	21	eP	Pn	21 59 21.6 +2.2
POPC	Popayan, Colom	6.29	10	eP	Pn	21 59 25.0 +5.2
YOTC	Yotoco, Valle	7.76	10	eP	Pn	21 59 42.9 +3.0
ORTC	Ortega, Tolima	7.96	18	eP	Pn	21 59 49.6 +7.1
NNA	Nana	8.28	174	Pn	Pn	21 59 48.4 +1.5
	2.2nm,0.3s,baz=325,slow=13,SNR=5.0					
NNA				Sn	Sn	22 01 17.5 -3.1
	4.7nm,0.3s,baz=274,slow=20,SNR=7.3					
NNA				LR	LR	22 02 54.7
	comp=Z,83nm,21.2s,baz=38,slow=37					
ROSC	El Rosal	9.14	22	Pn	Pn	21 59 59.5 +0.4
	1.1nm,0.3s,baz=141,slow=20,SNR=1.4					
ROSC				Lg	Lg	22 02 41.5
	3.5nm,0.3s,baz=318,slow=23,SNR=2.5					
ROSC				LR	LR	22 03 36.6
	comp=Z,39nm,21.1s,baz=244,slow=39					
LPAZ	La Paz	15.67	144	Pn	Pn	22 01 28.4 +0.2
	0.2nm,0.3s,baz=304,slow=5.1,SNR=4.1					
LPAZ				Sn	Sn	22 04 20.2 -2.2
	0.2nm,0.3s,baz=31,slow=15,SNR=1.8					
PTGA	Pitinga	18.00	81	P	Pn	22 01 56.0 -1.1
	0.3nm,0.3s,baz=288,slow=20,SNR=1.9					
PTGA				S	Sn	22 05 12.2 -5.9
	0.4nm,0.3s,baz=319,slow=21,SNR=2.5					
PTGA				Lg	Lg	22 07 11.8
	0.2nm,0.3s,baz=279,slow=23,SNR=2.0					
PTGA				LR	LR	22 09 41.9
	comp=Z,81nm,21.1s,baz=220,slow=40					
SIV	San Ignacio	20.44	128	P	P	22 02 25.1 +0.7
	1.5nm,0.8s,baz=325,slow=11,SNR=5.9					
SIV				LR	LR	22 11 28.7
	comp=Z,51nm,19.5s,baz=112,slow=40					
LVC	Limon Verde	20.65	156	P	P	22 02 30.3 +3.3
	3.2nm,0.8s,baz=75,slow=20,SNR=2.0					
LVC				LR	LR	22 10 01.4
	comp=Z,42nm,19.7s,baz=82,slow=36					
APG	El Apazote	22.46	326	LR	LR	22 11 03.9
	comp=Z,59nm,18.5s,baz=216,slow=36					
MDP	Montagnes des	26.55	71	P	P	22 03 26.0 +1.0
	3.2nm,0.8s,baz=249,slow=9.7,SNR=1.5					
MDP				LR	LR	22 14 33.0
	comp=Z,81nm,19.9s,baz=224,slow=38					
TXAR	Lajitas Array	41.20	325	P	P	22 05 33.2 +1.4
	0.3nm,0.5s,baz=135,slow=9.0,SNR=5.0					
PDAR	Pinedale Array	54.48	332	P	P	22 07 14.9 +0.2
	0.3nm,0.3s,baz=134,slow=8.4,SNR=4.2					
TORD	Torodi Ar. Bea	80.57	76	P	P	22 10 01.1 +1.1
	0.7nm,0.8s,baz=283,slow=7.0,SNR=1.7					
WRA	Warramunga Arr	140.69	232	PKhKP	PKPdf	22 17 10.4 -7.2
	0.2nm,0.8s,baz=109,slow=1.9,SNR=1.1					

*IDC **07** 22:41:56.0±0.9, 7°.26N×94°.23E, h0km, mb3.6/15, mb1 3.7/17, mb1mx3.7/42, mbtmp3.6/17, ML3.4/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/40, Error ellipse: s-maj=34.4km s-min=16.7km az=53.0*
*DJA **07** 22:42:00.5±1.5, 8°N±15°×9°5E±°, h96km±44km, M4.2/6, mB4.7/1, mb4.2/5, MLv4.2/6, Mw(mB)4.0/1*

ISC 07 22:41:57.8±0.7, 7°.23N±0°.10×94°.3E±0°.1, h10km, n29, σ1§55/28, mb3.7/16, MS3.2/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	3.30	127	P	Pn	22 42 49.0	-0.6
LHMI				S	Sn	22 43 27.2	-1.8
MLSI	Meulaboh, Aceh	3.61	144	P	Pn	22 42 55.7	+1.8
TPTI		4.88	144	P	Pn	22 43 11.9	+0.6
PSI	Prapat	6.37	133	Pn	Pn	22 43 34.3	+2.3
	0.9nm,0.3s,baz=360,slow=13,SNR=4.9						
PSI				Sn	Sn	22 44 43.9	-1.1
	0.4nm,0.3s,baz=0.8,slow=7.1,SNR=1.7						
PSI				LR	LR	22 46 13.7	
	comp=Z,159nm,18.6s,baz=269,slow=40						
GSI	Gunungsitoli	6.73	151	P	Pn	22 43 38.2	+1.4
	0.1nm14nm,0.9s						
CMAR	Chiang Mai Arr	12.05	22	Pn	Pn	22 44 51.2	+1.4
	baz=211,slow=16,SNR=1.3						
CMAR				LR	LR	22 49 24.8	
	comp=Z,106nm,19.4s,baz=230,slow=37						
PALK	Pallekele	13.48	271	LR	LR	22 49 58.5	
	comp=Z,115nm,18.4s,baz=222,slow=36						
H08S3	Diego Garcia H	26.28	236	T	T	23 14 19.5	
	baz=56,slow=75,SNR=83						
H08S2	Diego Garcia H	26.28	236	T	T	23 14 19.5	
	baz=56,slow=75,SNR=63						
H08S1	Diego Carcia H	26.30	236	T	T	23 14 19.5	
	baz=56,slow=75,SNR=70						
TGY	Tagaytay City	27.04	73	LR	LR	22 56 47.0	
	comp=Z,254nm,21.7s,baz=360,slow=33						
KAPI	Kappang	28.17	115	LR	LR	23 00 28.5	
	comp=Z,64nm,19.4s,baz=259,slow=39						
MKAR	Makanchi Array	40.75	347	P	P	22 49 38.1	-0.9
	1.1nm,0.7s,baz=165,slow=7.6,SNR=9.5						
MKAR				LR	LR	23 10 18.2	
	comp=Z,22nm,18.4s,baz=190,slow=42						
SONM	Songino Array	41.76	12	P	P	22 49 46.5	-1.0
	0.5nm,0.9s,baz=198,slow=4.1,SNR=2.5						
KSRS	Korea Array	42.86	40	P	P	22 49 56.1	-0.2
	0.5nm,0.9s,baz=219,slow=8.9,SNR=2.1						
GEYT	Alibeck	44.78	319	P	P	22 50 12.5	+0.5
	1.1nm,0.7s,baz=144,slow=10.0,SNR=2.6						
KURBB	Kurchatov Arra	45.21	346	P	P	22 50 14.0	-1.0
	1.2nm,0.7s,baz=168,slow=7.2,SNR=14						
KURBB	

CHVC				*e*SG	Sg	23 01 12.0	+0.5
VYHS	**Vyhne**	**1.77**	**178**	*e*PN	Pn	23 00 46.5	-0.4
VYHS				*e*SN	Sn	23 01 09.1	-1.0
KRUC	**Moravsky**	**1.95**	**233**	*e*PN	Pn	23 00 48.2	-1.1
KRUC				*e*SG	Sb	23 01 16.4	+0.2
KHC	**Kasperske Hory**	**3.55**	**253**	*e*SG	Sg	23 02 07.1	-1.8
	comp=Z,2.7nm,0.4s						

*IDC **07** 23:12:41.4±1.0, 36°.40N×64°.69E, h0km, mb3.6/9, mb1 3.6/13, mb1mx3.4/43, mbtmp3.6/13, ML3.1/4, MS2.9/5, Ms1 2.9/5, ms1mx2.6/38, Error ellipse: s-maj=21.4km s-min=16.6km az=168.0*

*NEIC **07** 23:12:45.0±2.4, 36°.64N±0°.07×64°.56E±0°.06, h18km±4km, mb4.6/15, Error ellipse: s-maj=10.9km s-min=7.4km az=180.0*

*NNC **07** 23:12:49.0±3.7, 37°.24N×64°.68E, h0km, mb4.2, mpv3.2, Error ellipse: s-maj=32.6km s-min=17.8km az=8.0*

ISC 07 23:12:43.8±0.6, 36°.77N±0°.06×64°.59E±0°.05, h10km, n55, σ1§96/62, mb4.0/18, MS2.8/3, 6C-4D, Turkmenistan-Afghanistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRA	**Herat**	**3.06**	**220**	Pn	**Pn**	**23 13 31.5**	**-0.8**
CHGR	**Chuyangaron**	**4.08**	**61**	Pn	**Pn**	**23 13 48.5**	**+2.2**
KBL	**Kabul**	**4.25**	**120**	Pn	**Pn**	**23 13 49.1**	**+0.3**
GAR	**Garm**	**5.04**	**62**	Pn	**Pn**	**23 14 01.5**	**+1.9**
ASHT	**Ashkhabad**	**5.08**	**285**	Pn	**Pn**	**23 13 59.1**	**-0.9**
GEYT	**Alibeck**	**5.29**	**285**	Pn	**Pn**	**23 14 04.3**	**+1.4**
	0.4nm,0.3s,baz=134,slow=13,SNR=3.6						
GEYT				Sn	**Sn**	**23 15 05.0**	**+1.2**
	3.3nm,0.3s,baz=143,slow=14,SNR=1.7						
GEYT				LR	LR	23 17 02.3	
	comp=Z,68nm,19.8s,baz=165,slow=48						
GYA0B	**ALIBECK ARRAY**	**5.29**	**285**		**Pn**	**23 14 03.7**	**+0.8**
TAS	**Tashkent**	**5.83**	**37**	Pn	**Pn**	**23 14 10.8**	**+0.4**
BTK	**Batken**	**5.88**	**54**	Pn	**Pn**	**23 14 13.7**	**+2.6**
KK31	**Karatay Array**	**7.79**	**34**	⇑P	**Pn**	**23 14 39.6**	**+2.5**
	0.5nm,0.3s,baz=221,slow=16,SNR=11						
KK31				⇑S	**Sn**	**23 16 04.1**	**-1.3**
	3.6nm,0.5s,baz=231,slow=23,SNR=5.6						
KK31	**Karatay Array**	**7.79**	**34**	Pn	**Pn**	**23 14 39.9**	**+2.8**
KKAR	**Karatay Array**	**7.79**	**34**		**Pn**	**23 14 39.9**	**+2.8**
KKAR	**Karatay Array**	**7.79**	**34**	Pn	**Pn**	**23 14 39.4**	**+2.3**
AAK	**Ala-Archa**	**9.61**	**49**	Pn	**Pn**	**23 15 04.3**	**+1.9**
	0.9nm,0.3s,baz=204,slow=8.8,SNR=6.9						
AAK				Sn	**Sn**	**23 16 50.3**	**-0.2**
	0.9nm,0.3s,baz=170,slow=11,SNR=9.9						
AAK	**Ala-Archa**	**9.61**	**49**	⇓P	**Pn**	**23 15 03.6**	**+1.2**
	2.5nm,0.5s						
AAK				⇓S	**Sn**	**23 16 50.5**	**0.0**
	9.0nm,0.7s						
AAK	**Ala-Archa**	**9.61**	**49**	Pn	**Pn**	**23 15 03.5**	**+1.2**
FRU1	**Bishkek**	**9.79**	**49**	Pn	**Pn**	**23 15 06.3**	**+1.6**
BOOM	**Boomskoye usch**	**10.44**	**53**	Pn	**Pn**	**23 15 13.2**	**-0.5**
TKM2	**Tokmak 2**	**10.45**	**51**	⇑P	**Pn**	**23 15 14.3**	**+0.5**
	1.3nm,0.4s						
TKM2				⇑S	**Sn**	**23 17 09.5**	**-1.5**
	5.2nm,0.7s						
KDJ	**Kajisay**	**11.10**	**57**	Pn	**Pn**	**23 15 22.9**	**+0.2**
PRZ	**Przheval'sk**	**12.07**	**58**	Pn	**Pn**	**23 15 36.4**	**+0.4**
AB31	**Akbulak array**	**12.93**	**346**	⇑P	**Pn**	**23 15 48.6**	**+1.2**
	9.6nm,0.4s,baz=164,slow=13,SNR=5.9						
AB31				⇓S	**Sn**	**23 18 09.6**	**-1.7**
	3.7nm,0.3s,baz=56,slow=14,SNR=6.3						
AKTO	**Aktyubinsk**	**14.46**	**343**	Pn	**Pn**	**23 16 09.2**	**+0.8**
	0.2nm,0.3s,baz=159,slow=9.4,SNR=5.3						
AKTO				Sn	**Sn**	**23 18 42.6**	**-6.0**
	0.1nm,0.3s,baz=180,slow=14,SNR=1.9						
AKTO				LR	LR	23 22 40.6	
	comp=Z,42nm,18.3s,baz=127,slow=40						
AKTO	**Aktyubinsk**	**14.46**	**343**	⇑P	**Pn**	**23 16 08.2**	**-0.1**
	3.4nm,1.1s						
AKTO				⇓S	**Sn**	**23 18 44.9**	**-3.7**
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**16.53**	**47**	Pn	**Pn**	**23 16 35.4**	**-0.3**
	0.0nm,0.3s,baz=235,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**16.53**	**47**		**P**	**23 16 39.5**	**+1.3**
BVAR	**Borovoye Array**	**16.75**	**12**	P	**Pn**	**23 16 38.7**	**+0.3**
	0.5nm,0.3s,baz=186,slow=13,SNR=12						
BVAR				S	**Sn**	**23 19 39.9**	**-4.5**
	0.4nm,0.3s,baz=162,slow=16,SNR=4.0						
BRVK	**Borovoye**	**16.77**	**12**	Pn	**Pn**	**23 16 39.6**	**+1.1**
KURBB	**Kurchatov Arra**	**17.08**	**31**	P	**Pn**	**23 16 43.5**	**+1.0**
	0.0nm,0.3s,baz=222,slow=13,SNR=3.6						
ARU	**Arti**	**20.08**	**350**	P	Pn	23 17 20.6	+1.6
	0.4nm,0.4s,baz=199,slow=18,SNR=1.8						
ARU				LR	LR	23 26 40.2	
	comp=Z,24nm,19.0s,baz=190,slow=41						
ZAA0	**Zalesovo Array**	**22.16**	**33**	P	**P**	**23 17 43.5**	**+3.9**
ZAA0				IAmb	IAmb	23 17 48.9	
	comp=Z,4.9nm,0.9s						
ZALV	**Zalesovo Beam**	**22.16**	**33**	P	**P**	**23 17 41.1**	**+1.5**
	comp=Z,3.5nm,0.7s,baz=227,slow=12,SNR=6.4						
ZALV	**Zalesovo Beam**	**22.16**	**33**	P	**P**	**23 17 42.2**	**+2.6**
KIRV	**Kirov**	**23.99**	**340**	LR	LR	23 29 11.0	
	comp=Z,37nm,21.1s,baz=163,slow=41						
FINES	**FINESS Array B**	**34.45**	**328**	P	**P**	**23 19 33.8**	**+2.5**
	comp=Z,1.2nm,0.9s,baz=129,slow=13,SNR=9.0						
KHC	**Kasperske Hory**	**38.63**	**305**	P	**P**	**23 20 09.4**	**+2.3**
KEV	**Kevo**	**38.72**	**340**	P	**P**	**23 20 09.8**	**+2.2**
KEV				IAmb	IAmb	23 20 27.0	
	comp=Z,11nm,1.0s						
ZOU	**Zoufplan**	**39.16**	**301**	P	**P**	**23 20 12.2**	**+0.3**
NOA	**NORSAR Array B**	**41.08**	**324**	P	**P**	**23 20 31.2**	**+3.8**
	comp=Z,0.3nm,0.7s,baz=102,slow=8.0,SNR=1.7						
NOA				LR	LR	23 40 11.8	
	comp=Z,21nm,18.5s,baz=235,slow=40						
KSRS	**Korea Array**	**49.63**	**69**	P	**P**	**23 21 34.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=277,slow=7.5,SNR=2.2						
SSLB	**Suanglung**	**49.72**	**89**	P	**P**	**23 21 37.6**	**+1.3**
SSLB				IAmb	IAmb	23 21 50.8	
	comp=Z,2.9nm,0.8s						
ESDC	**Sonseca Array**	**52.73**	**295**	P	**P**	**23 21 59.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=46,slow=7.3,SNR=1.9						
KKM	**Kota Kinabalu**	**56.07**	**110**	P	**P**	**23 22 22.9**	**-0.5**
PFVI	**Vila Bisbo**	**57.22**	**294**	P	**P**	**23 22 28.0**	**-3.2**
TORD	**Torodi Ar. Bea**	**60.59**	**265**	P	**P**	**23 22 53.2**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=54,slow=3.7,SNR=2.0						
ANGG	**Ammassalik, Gr**	**61.86**	**333**	P	**P**	**23 23 02.5**	**-0.2**
ANGG				IAmb	IAmb	23 23 09.6	
	comp=Z,16nm,1.0s						
OHAK	**Old Harbor**	**81.06**	**20**	P	**P**	**23 24 58.9**	**+0.2**
OHAK				IAmb	IAmb	23 25 17.0	
	comp=Z,11nm,1.1s						
HYT	**Haines Junctio**	**81.08**	**11**	P	**P**	**23 24 56.9**	**-2.0**
HYT				IAmb	IAmb	23 25 04.5	
	comp=Z,1.9nm,1.1s						
NWAO	**Narrogin (SRO)**	**84.99**	**138**	P	**P**	**23 25 17.5**	**-1.8**
WRA	**Warramunga Arr**	**86.59**	**118**	P	**P**	**23 25 25.8**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=326,slow=4.9,SNR=7.1						
ASAR	**Alice Springs**	**88.73**	**121**	P	**P**	**23 25 36.2**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=314,slow=4.8,SNR=6.0						
ULM	**Lac du Bonnet**	**91.65**	**348**	P	**P**	**23 25 51.7**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=325,slow=4.1,SNR=2.2						
DELO	**Deloro Mine**	**92.15**	**334**	P	**P**	**23 25 54.2**	**+0.8**
DELO				IAmb	IAmb	23 26 13.6	
	comp=Z,2.1nm,0.9s						
AGMN	**Agassiz Nation**	**93.53**	**347**	P	**P**	**23 26 00.2**	**+0.4**
AGMN				IAmb	IAmb	23 26 00.4	
	comp=Z,2.3nm,0.9s						
MMNY	**Mt. Morris Dam**	**93.81**	**333**	P	**P**	**23 26 00.5**	**-0.6**
MMNY				IAmb	IAmb	23 26 07.2	
	comp=Z,8.0nm,1.1s						

*TEH **07** 23:24:32.4, 36°.68N×54°.72E, h8km, ML3.5*

*THR **07** 23:24:35.5±0.4, 36°.56N×54°.82E, h17km±3km, ML3.5*

ISC 07 23:24:34.1±1.0, 36°.67N±0°.06×54°.73E±0°.04, h10km, n49, σ1§44/51, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.74**	**258**	*e*Pg	**Pg**	**23 24 47.9**	**-0.6**
IGLO				*e*		23 25 10.4	
IMND	**Minoodasht**	**0.80**	**42**	*e*Pg	**Pg**	**23 24 47.2**	**-2.3**
SHRO	**Shahrood**	**1.23**	**123**	*e*Pg	**Pb**	**23 24 56.2**	**-1.3**
SHRO	**Shahrood**	**1.23**	**123**	*e*Pg	**Pb**	**23 24 56.2**	**-1.3**
IANJ	**Anjilo**	**1.37**	**209**	*e*Pg	**Pn**	**23 24 58.4**	**-1.1**
IANJ				*e*		23 25 17.6	
ISHM	**Shahmirzad**	**1.45**	**234**	*e*Pg	**Pn**	**23 25 00.0**	**-0.6**
ISHM				*e*		23 25 29.4	
IALA	**Alasht**	**1.66**	**250**	*e*Pg	**Pn**	**23 25 04.0**	**+0.5**
IALA				*e*		23 25 43.1	
IFIR	**Firoozkooh**	**1.90**	**238**	*e*		23 25 38.8	
IFIR				*e*Pn	**Pn**	**23 25 07.9**	**+1.1**
ILAS	**Lasjerd**	**1.93**	**229**	*e*		23 25 41.2	
ILAS				*e*Pg	**Pn**	**23 25 09.4**	**+2.3**
IPRN	**Peran**	**1.98**	**258**	*e*Pn	**Pn**	**23 25 09.4**	**+1.7**
IDMV	**Damavand**	**2.44**	**244**	*e*Pn	**Pn**	**23 25 15.9**	**+1.6**
IDMV				*e*		23 26 07.3	
DAMV	**Damavand**	**2.46**	**246**	*e*Pn	**Pn**	**23 25 17.6**	**+3.0**
DAMV				*e*Sg	**Sg**	**23 25 53.4**	**+0.2**
DAMV				IAML		23 25 56.6	
	comp=E,176nm,0.5s						
ISFR	**Sfrayin**	**2.65**	**81**	*e*Pn	**Pn**	**23 25 18.4**	**+1.3**
IKRD	**Kardeh**	**3.04**	**87**	*e*Pn	**Pg**	**23 25 34.7**	**+2.3**
TNSJ	**Nastanj**	**3.10**	**150**	*e*Pn	**Pn**	**23 25 24.4**	**+1.2**
IEMG	**Emamgholi**	**3.22**	**75**	*e*Pn	**Pn**	**23 25 26.2**	**+1.2**
IAKL	**Akhelmad**	**3.24**	**90**	*e*Pn	**Pn**	**23 25 26.0**	**+0.8**
QALM	**Alamut, Qazvin**	**3.30**	**267**	*e*Pn	**Pn**	**23 25 27.1**	**+1.1**
KRSH	**Karshahi**	**3.43**	**219**	*e*Pn	**Pn**	**23 25 28.6**	**+0.9**
IMHD	**Mahdasht**	**3.43**	**255**	*e*Pn	**Pn**	**23 25 29.3**	**+1.6**
IPAY	**Payeh**	**3.44**	**92**	*e*Pn	**Pn**	**23 25 29.6**	**+1.6**
IPAY				*e*		23 26 23.0	
GHVR	**GHOM**	**3.55**	**233**	*e*Pn	**Pn**	**23 25 32.3**	**+2.9**
GHVR				*e*Sg	**Sg**	**23 26 26.8**	**-1.3**
ANAR	**Anarak**	**3.56**	**194**	*e*Pn	**Pn**	**23 25 30.0**	**+0.4**
TABS	**Tabas**	**3.59**	**146**	*e*Pn	**Pn**	**23 25 30.9**	**+1.0**
TABS	**Tabas**	**3.59**	**146**	*e*Pn	**Pn**	**23 25 30.9**	**+1.0**
TKDS	**Koohdasht(Taba**	**3.62**	**147**	*e*Pn	**Pn**	**23 25 31.5**	**+1.2**
QAM	**Ghamsar**	**3.96**	**224**	*e*Pn	**Pn**	**23 25 35.7**	**+0.6**
TPRV	**Parvadeh(Tabas**	**3.97**	**156**	*e*Pn	**Pn**	**23 25 36.2**	**+1.1**
IKLH	**Kolahrood**	**4.22**	**219**	*e*Pn	**Pn**	**23 25 38.9**	**+0.1**
YZKH	**Yazd**	**4.27**	**182**	*e*Pn	**Pn**	**23 25 40.4**	**+1.2**
YZKH	**Yazd**	**4.27**	**182**	*e*Pn	**Pn**	**23 25 40.4**	**+1.2**
QABG	**Abgarm-Qazvin**	**4.27**	**259**	*e*Pn	**Pn**	**23 25 40.1**	**+0.7**
IMYA	**Miami**	**4.34**	**93**	*e*Pn	**Pn**	**23 25 41.7**	**+1.4**
ICHK	**Chekchek**	**4.42**	**184**	*e*Pn	**Pn**	**23 25 42.4**	**+1.0**
QSDN	**Sirdan**	**4.48**	**270**	*e*Pn	**Pn**	**23 25 44.1**	**+1.9**
AFRZ	**Afriz**	**4.78**	**131**	*e*Pn	**Pn**	**23 25 47.5**	**+1.3**
ISAD	**Sadrabad**	**4.82**	**191**	*e*Pn	**Pn**	**23 25 47.6**	**+0.6**
ITEG	**Tejag**	**5.01**	**138**	*e*Pn	**Pn**	**23 25 51.0**	**+1.5**
IBAF	**Bafgh**	**5.11**	**172**	*e*Pn	**Pn**	**23 25 52.5**	**+1.6**
IRAM	**Ramesheh**	**5.22**	**203**	*e*Pn	**Pn**	**23 25 53.6**	**+1.2**
IMON	**Monand**	**5.33**	**129**	*e*Pn	**Pn**	**23 25 54.7**	**+0.7**
HSRG	**Sareghieh**	**5.42**	**257**	*e*Pn	**Pn**	**23 25 57.9**	**+2.6**
HSAM	**Samen**	**5.57**	**246**	*e*Pn	**Pn**	**23 25 59.4**	**+2.1**
ISRB	**Sarab**	**5.75**	**284**	*e*Pn	**Pn**	**23 26 00.7**	**+1.0**
IDAH	**Dahanechah**	**5.76**	**131**	*e*Pn	**Pn**	**23 26 00.8**	**+0.9**
IHRS	**Heris**	**6.33**	**287**	*e*Pn	**Pn**	**23 26 08.2**	**+0.5**
IKOM	**Komasi**	**6.40**	**249**	*e*Pn	**Pn**	**23 26 09.1**	**+0.5**
NHDN	**Nehbandan**	**6.87**	**138**	*e*Pn	**Pn**	**23 26 15.9**	**+0.9**
IMRD	**Marand**	**7.45**	**289**	*e*Pn	**Pn**	**23 26 24.3**	**+1.4**

IDC 07 23:28:02.3±1.3, 5°.34S×150°.67E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/23, mbtmp3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=91.4km s-min=18.0km az=141.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.69**	**53**	Pn	Pb	23 28 34.1	-0.3
	24nm,0.3s,baz=188,slow=1.0,SNR=16						
KRVT				Sn	Sg	23 28 56.7	-0.1
	78nm,0.3s,baz=307,slow=20,SNR=24						
WRA	**Warramunga Arr**	**21.52**	**226**	P	P	23 32 54.1	+0.9
	1.0nm,0.4s,baz=53,slow=10,SNR=17						
ASAR	**Alice Springs**	**24.35**	**220**	P	P	23 33 21.6	-0.7
	0.6nm,0.6s,baz=55,slow=8.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	**27.55**	**240**	P	P	23 33 52.1	+1.0
	1.3nm,0.7s,baz=62,slow=7.4,SNR=7.3						
MJAR	**Matsushiro Arr**	**43.26**	**345**	LR	LR	23 53 51.7	
	comp=Z,16nm,19.1s,baz=330,slow=36						
TORD	**Torodi Ar. Bea**	**148.44**	**286**	PKPbc	PKPdf	23 47 49.4	+0.9
	0.4nm,0.6s,baz=75,slow=2.5,SNR=1.2						

MAN 07 23:34:56.9, 9°.95N×124°.30E, h14km, mb4.8, ML3.7, MS3.7, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.49**	**318**	⇓*e*P	Pg	23 35 06.0	-0.6
LLP				*e* S	Sg	23 35 13.6	+0.5
TBP	**Tagbilaran**	**0.50**	**239**	⇑*e*P	Pb	23 35 08.4	+0.9
TBP				*e* S	Sb	23 35 15.5	+0.8
MSLP	**Maasin**	**0.58**	**72**	*e*P	Pg	23 35 08.0	-0.4
MSLP				*e*S	Sb	23 35 17.6	+0.6
OCLP	**Ormoc**	**1.13**	**16**	*e*P	Pb	23 35 18.1	-0.1
OCLP				*e*S	Sg	23 35 33.5	-0.1
CNOP	**Candoni, Negro**	**1.64**	**266**	*e*P	Pn	23 35 24.5	-0.8
CNOP				*e*S	Sn	23 35 46.7	+0.5
GLSP	**General Luna,**	**1.81**	**95**	*e*P	Pn	23 35 26.7	-1.0
GLSP				*e*S	Sn	23 35 49.6	-0.9
GUIM	**Jordan**	**1.81**	**292**	*e*P	Pn	23 35 27.5	-0.2
GUIM				*e*S	Sb	23 35 52.5	+0.1
BUKP	**Musuan**	**2.20**	**160**	*e*P	Pn	23 35 33.3	+0.3
BUKP				*e*S	Sn	23 36 01.6	+1.5
PAGZ	**Pagadian**	**2.28**	**203**	*e*P	Pn	23 35 33.5	-0.7
PAGZ				*e*S	Sn	23 36 01.2	-0.8
JAP	**San Jose, Anti**	**2.44**	**289**	⇓*e*P	Pb	23 35 38.7	-2.0
JAP				*e*S	Sg	23 36 21.6	+6.0

*IDC **08** 00:58:48.5±0.9, 5°.62S×146°.54E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/31, mbtmp3.9/11, ML3.9/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/27, Error ellipse: s-maj=30.1km s-min=18.8km az=104.0*

*NEIC **08** 00:58:55.8±1.7, 5°.61S±0°.09×146°.6E±0°.1, h66km±9km, mb4.0/12, Error ellipse: s-maj=17.1km s-min=11.9km az=67.0*

ISC 08 00:58:53.5±0.6, 5°.65S±0°.06×146°.73E±0°.07, h35km, n32, σ1§36/33, mb3.7/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.75**	**174**	Pn	**Pn**	**00 59 50.6**	**+1.7**
	16nm,0.3s,baz=348,slow=5.3,SNR=11						
PMG				Sn	**Sn**	**01 00 30.9**	**-1.0**
	9.8nm,0.3s,baz=262,slow=9.3,SNR=3.4						
PMG				LR	LR	01 01 32.9	
	comp=Z,236nm,18.2s,baz=16,slow=43						
PMG	**Port Moresby**	**3.75**	**174**		**Pn**	**00 59 52.0**	**+3.0**
KRVT	**Keravat (AS076**	**5.44**	**76**	Pn	**Pn**	**01 00 14.1**	**+1.9**
	2.4nm,0.3s,baz=201,slow=15,SNR=1.1						
KRVT				Sn	**Sn**	**01 01 13.5**	**-0.1**
	4.2nm,0.3s,baz=185,slow=24,SNR=1.1						
JAY	**Jayapura**	**6.77**	**297**	Pn	**Pn**	**01 00 30.8**	**+0.3**
	0.3nm,0.3s,baz=340,slow=12,SNR=1.6						
COEN	**Coen**	**8.97**	**203**		**Pn**	**01 01 02.9**	**+2.3**
CTA	**Charters Tower**	**14.36**	**182**	Pn	**P**	**01 02 19.5**	**-1.4**
	1.0nm,0.3s,baz=353,slow=14,SNR=8.8						
CTAO	**Charters Tower**	**14.36**	**182**	Pn	**Pn**	**01 02 15.5**	**+1.1**
SIJI	**Sorong**	**16.15**	**287**	Pn	**P**	**01 02 43.7**	**+2.8**
	1.9nm,0.3s,baz=42,slow=8.5,SNR=4.2						
PATS	**Pohnpei**	**16.95**	**43**		**P**	**01 02 49.7**	**-0.1**
PATS				IAmb	IAmb	01 02 50.0	
	comp=Z,214nm,1.5s						
WB0	**Warramunga Arr**	**18.46**	**219**	P	**P**	**01 03 06.1**	**-0.4**
WB0				IAmb	IAmb	01 03 19.6	
	comp=Z,4.6nm,1.1s						
WR0	**Warramunga Arr**	**18.52**	**219**		**P**	**01 03 07.0**	**0.0**
WR0				IAmb	IAmb	01 03 11.5	
	comp=Z,8.4nm,1.4s						
WRAB	**Tennant Creek**	**18.61**	**219**	P	**P**	**01 03 07.7**	**-0.4**
WRAB				IAmb	IAmb	01 03 25.0	
	comp=Z,8.5nm,1.3s						
WB2	**Warramunga Arr**	**18.62**	**219**	P	**P**	**01 03 07.8**	**-0.4**
WB2				IAmb	IAmb	01 03 14.0	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**18.63**	**219**	P	**P**	**01 03 07.2**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=54,slow=10,SNR=41						
WRA				LR	LR	01 10 53.1	
	comp=Z,100nm,21.2s,baz=185,slow=39						
GUMO	**Guam**	**19.21**	**354**	LR	LR	01 09 08.1	
	comp=Z,25nm,18.3s,baz=114,slow=32						
AS31	**Alice Springs**	**21.76**	**213**	P	**P**	**01 03 42.5**	**+0.3**
ASAR	**Alice Springs**	**21.76**	**213**	P	**P**	**01 03 41.9**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=43,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**24.02**	**237**	P	**P**	**01 04 03.7**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=48,slow=12,SNR=16						
FITZ				LR	LR	01 14 41.1	
	comp=Z,91nm,20.1s,baz=226,slow=40						
FITZ	**Fitzroy Crossi**	**24.02**	**237**	P	**P**	**01 04 05.4**	**0.0**
FITZ				IAmb	IAmb	01 04 10.5	
	comp=Z,3.2nm,0.8s						
STKA	**Stephens Creek**	**26.53**	**190**	P	**P**	**01 04 27.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=350,slow=11,SNR=1.7						
MBWA	**Marble Bar**	**30.37**	**237**	P	**P**	**01 04 59.4**	**-3.0**
KNTN	**Kanton**	**41.53**	**88**	P	**P**	**01 06 37.3**	**-0.6**
QRZ	**Quartz Range**	**41.95**	**150**	P	**P**	**01 06 41.1**	**+0.1**
KSRS	**Korea Array**	**46.33**	**339**	P	**P**	**01 07 17.4**	**+1.3**
	comp=Z,1.4nm,1.0s,baz=163,slow=9.9,SNR=5.2						
VNDA	**Vanda**	**72.27**	**177**	P	**P**	**01 10 14.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=336,slow=5.9,SNR=7.0						
VNDA	**Vanda**	**72.27**	**177**	P	**P**	**01 10 15.0**	**+0.2**
MKAR	**Makanchi Array**	**77.06**	**321**	P	**P**	**01 10 41.6**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=238,slow=21,SNR=1.4						
MAW	**Mawson**	**82.46**	**203**	P	**P**	**01 11 12.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=45,slow=11,SNR=3.2						
KNK	**Knik Glacier**	**83.23**	**26**	P	**P**	**01 11 14.3**	**-1.7**
KNK				IAmb	IAmb	01 11 24.6	
	comp=Z,5.0nm,0.9s						
IMAR	**Indian Mountai**	**83.26**	**21**	P	**P**	**01 11 14.9**	**-1.2**
ILAR	**Eielson Array**	**85.27**	**23**	P	**P**	**01 11 26.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=250,slow=5.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.75**	**285**	PKP	**PKPdf**	**01 18 27.6**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=90,slow=3.3,SNR=0.7						

TAP 08 01:02:22.4, 24°.37N×121°.84E, h14km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.08**	**342**	*i* P	Pg	01 02 25.8	+0.6
	baz=342						
ENAH				S	Sg	01 02 27.8	+0.6
	baz=342						
ENA	**Nanau**	**0.10**	**303**	*i* P	Pb	01 02 26.1	-0.1
	baz=303						
ENA				*i* S	Sb	01 02 28.6	-0.2
	baz=303						
TWC	**Suao**	**0.24**	**3**	*i* P	Pg	01 02 28.0	+0.5
	baz=4.0						
TWC				S	Sg	01 02 31.6	+0.7
	baz=4.0						
NACB	**Ninganchiao**	**0.30**	**228**	P	Pg	01 02 28.9	+0.4
	baz=228						
NACB				S	Sb	01 02 33.6	-0.6
	baz=228						
ETLH	**Xiulin Townshi**	**0.36**	**243**	P	Pg	01 02 29.7	-0.1
	baz=243						
ETLH				S	Sb	01 02 36.0	-0.3
	baz=243						
ENTT	**Nioudou**	**0.36**	**317**	*i* P	Pb	01 02 30.9	+0.2
	baz=317						
ENTT				*i* S	Sb	01 02 36.4	+0.2
	baz=317						
TWE	**Neicheng**	**0.38**	**336**	*i* P	Pb	01 02 31.1	+0.1
	baz=337						
TWE				S	Sb	01 02 36.5	-0.2
	baz=337						
NNSB	**Datong**	**0.42**	**278**	P	Pb	01 02 31.9	+0.2
	baz=277						
NNSB				S	Sb	01 02 38.0	+0.1
	baz=277						
NNSH	**Datong**	**0.42**	**278**	*i* P	Pb	01 02 31.8	+0.2
	baz=277						
NNSH				*i* S	Sb	01 02 38.0	+0.1
	baz=277						
NWLT	**Wulai**	**0.51**	**323**	P	Pb	01 02 33.0	-0.1
	baz=322						
NWLT				*i* S	Sb	01 02 40.1	-0.2
	baz=322						
NSK	**Sanguang**	**0.53**	**305**	P	Pb	01 02 34.1	+0.6
	baz=304						
NSK				*i* S

WB2			IAmb	IAmb	01 33 36.7	
	comp=Z,18nm,1.4s					
WRA	**Warramunga Arr**	**23.78 209**	P	**P**	**01 33 34.4**	**-0.6**
	comp=Z,3.3nm,0.5s,baz=31,slow=11,SNR=48					
WRA			LR	LR	01 42 59.1	
	comp=Z,135nm,21.3s,baz=200,slow=37					
WRA	**Warramunga Arr**	**23.78 209**	P	**P**	**01 33 33.8**	**-1.2**
AS31	**Alice Springs**	**27.20 205**	P	**P**	**01 34 08.9**	**+2.8**
ASAR	**Alice Springs**	**27.21 205**	P	**P**	**01 34 07.5**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=40,slow=8.6,SNR=18					
ASAR			LR	LR	01 45 42.9	
	comp=Z,66nm,18.4s,baz=178,slow=38					
ASAR	**Alice Springs**	**27.21 205**	P	**P**	**01 34 08.4**	**+2.2**
FITZ	**Fitzroy Crossi**	**27.72 226**	P	**P**	**01 34 09.9**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=39,slow=8.4,SNR=10					
FITZ	**Fitzroy Crossi**	**27.72 226**	P	**P**	**01 34 10.2**	**-0.5**
FITZ			IAmb	IAmb	01 34 12.3	
	comp=Z,8.4nm,1.3s					
TGY	**Tagaytay City**	**28.30 299**	LR	LR	01 43 45.8	
	comp=Z,97nm,19.9s,baz=16,slow=33					
MJAR	**Matsushiro Arr**	**36.26 349**	P	**P**	**01 35 26.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=171,slow=11,SNR=1.5					
MJAR			LR	LR	01 49 16.1	
	comp=Z,29nm,19.2s,baz=175,slow=35					
KSRS	**Korea Array**	**40.14 337**	P	**P**	**01 35 57.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=157,slow=7.7,SNR=2.0					
KSRS			LR	LR	01 50 23.7	
	comp=Z,36nm,19.8s,baz=184,slow=33					
CMAR	**Chiang Mai Arr**	**49.61 294**	P	**P**	**01 37 14.6**	**+0.6**
	comp=Z,0.5nm,0.2s,baz=122,slow=6.9,SNR=4.4					
CMAR			LR	LR	01 56 46.8	
	comp=Z,20nm,20.5s,baz=160,slow=34					
SONM	**Songino Array**	**58.12 329**	P	**P**	**01 38 15.2**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=108,slow=41,SNR=2.8					
SONM	**Songino Array**	**58.12 329**	P	**P**	**01 38 14.8**	**-1.0**
MKAR	**Makanchi Array**	**71.80 319**	P	**P**	**01 39 45.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=126,slow=7.4,SNR=2.6					
MKAR	**Makanchi Array**	**71.80 319**	P	**P**	**01 39 44.4**	**-0.5**
ZALV	**Zalesovo Beam**	**72.86 327**	P	**P**	**01 39 51.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=94,slow=4.3,SNR=1.3					
VNDA	**Vanda**	**78.78 177**	P	**P**	**01 40 23.6**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=317,slow=6.7,SNR=1.7					
ILAR	**Eielson Array**	**79.49 24**	P	**P**	**01 40 27.2**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=244,slow=5.3,SNR=10.0					
ILAR	**Eielson Array**	**79.49 24**	P	**P**	**01 40 27.7**	**-0.8**
BARN	**Barnard Glacie**	**80.61 28**	P	**P**	**01 40 35.8**	**+0.9**
BCAR	**Beaver Creek A**	**81.09 26**	P	**P**	**01 40 37.6**	**+0.3**
PDAR	**Pinedale Array**	**99.78 46**	LR	LR	02 21 01.3	
	comp=Z,14nm,20.1s,baz=304,slow=32					

*TUL **08** 01:52:57.6±1.3, 36°.82N±0°.02×97°.72W±0°.02, h5km±7km,*
MLS.1, Error ellipse: s-maj=3.0km s-min=2.6km az=184.0
*UNK **08** 01:52:57.9, 36°.82N×97°.71W, h5km*
*NEIC **08** 01:52:58.1±1.3, 36°.81N±0°.02×97°.72W±0°.02, h4km±7km,*
Error ellipse: s-maj=3.0km s-min=2.7km az=190.0
*ANF **08** 01:52:59.6±0.9, 36°.82N×97°.79W, h16km±6km, ML4.0/11,*
Error ellipse: s-maj=2.2km s-min=2.1km az=80.0

ISC 08 01:52:57.7±1.1, 36°.81N±0°.02×97°.71W±0°.02, h3km±10km, n72, σ0°98/86, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.27**	**42**		**Pg**	**01 53 03.5**	**+0.5**
KAN13					**Sg**	**01 53 07.4**	**+0.8**
CROK	**Carrier**	**0.38 217**		Pg	**Pg**	**01 53 05.4**	**+0.4**
CROK				Sg	**Sg**	**01 53 10.8**	**+0.9**
KAN10	**Anthony SW Sta**	**0.44 315**		Pg	**Pg**	**01 53 06.4**	**+0.2**
KAN10				Sg	**Sg**	**01 53 12.1**	**0.0**
KAN12	**Harper NE Stat**	**0.54 334**		Pg	**Pg**	**01 53 08.2**	**+0.1**
KAN12				Sg	**Sg**	**01 53 15.0**	**-0.2**
T35A	**Sooner Cattle**	**0.96**	**83**	Pg	**Pg**	**01 53 16.1**	**0.0**
T35A				Sg	**Sg**	**01 53 29.1**	**+0.5**
QUOK	**Quay**	**1.02 128**		Pg	**Pg**	**01 53 17.4**	**0.0**
QUOK				Sg	**Sg**	**01 53 30.8**	**+0.2**
OK029	**Liberty Lake**	**1.03 169**		Pg	**Pg**	**01 53 17.3**	**-0.1**
OK029				Sg	**Sg**	**01 53 31.4**	**+0.6**
U32A	**Winter Ranch,**	**1.13 248**			**Pg**	**01 53 18.7**	**-0.6**
U32A				Sg	**Sg**	**01 53 34.0**	**+0.1**
BCOK	**Bluff Creek, N**	**1.15 176**		Pg	**Pg**	**01 53 19.6**	**-0.2**
BCOK				Sg	**Sg**	**01 53 35.2**	**+0.5**
OK025	**Westminster Rd**	**1.26 166**		Pg	**Pg**	**01 53 21.5**	**-0.3**
OK025				Sg	**Sg**	**01 53 38.9**	**+0.7**
OKCFA	**Oklahoma City**	**1.41 172**			**Pn**	**01 53 24.1**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.42 171**			**Pn**	**01 53 24.3**	**-0.1**
W35A	**Tecumseh**	**1.78 158**			**Pn**	**01 53 29.7**	**+0.3**
TUL1	**Leonard**	**1.79 120**		P	**Pn**	**01 53 30.1**	**+0.7**
	baz=301						
TUL1				S	**Sb**	**01 53 54.4**	**+0.6**
	baz=301						
TUL1	**Leonard**	**1.79 120**			**Pn**	**01 53 29.8**	**+0.4**
R32A	**Long Quarter,**	**1.80 334**		Pn	**Pn**	**01 53 29.6**	**-0.1**
WMOK	**Wichita Mounta**	**2.24 203**		P	**Pn**	**01 53 35.8**	**+0.1**
	baz=22						
WMOK				S	**Sn**	**01 54 04.7**	**+0.7**
	baz=22						
WMOK	**Wichita Mounta**	**2.24 203**		Pn	**Pn**	**01 53 35.6**	**-0.1**
KSU1	**Kansas State U**	**2.45**	**20**	P	**Pn**	**01 53 39.5**	**+1.0**
	baz=201						
KSU1				Sb	**Sg**	**01 54 15.2**	**-1.1**
	baz=201						
KSU1	**Kansas State U**	**2.45**	**20**	Pn	**Pn**	**01 53 39.5**	**+1.0**
CBKS	**Cedar Bluff**	**2.57 322**		Sb	**Sb**	**01 54 17.1**	**+0.7**
	baz=141						
CBKS	**Cedar Bluff**	**2.57 322**		Pn	**Pn**	**01 53 40.5**	**+0.2**
U38A	**Gravette**	**2.70**	**97**	Pn	**Pn**	**01 53 43.0**	**+1.0**
X37A	**Clayton**	**2.92 139**		Pn	**Pn**	**01 53 46.1**	**+1.1**
HHAR	**Hobbs**	**3.08**	**99**	Pn	**Pn**	**01 53 47.9**	**+0.7**
Z35A	**Perchaven, San**	**3.49 174**		Pn	**Pn**	**01 53 54.3**	**+1.5**
W39A	**Magazine**	**3.56 116**		Sb	**Sg**	**01 54 49.5**	**-2.6**
	baz=298						
S39A	**Bolivar**	**3.61**	**75**	Pn	**Pn**	**01 53 55.4**	**+0.9**
AMTX	**Amarillo**	**3.76 240**		Pb	**Pb**	**01 54 04.3**	**-0.4**
	baz=58						
AMTX	**Amarillo**	**3.76 240**		Pn	**Pn**	**01 53 56.9**	**+0.3**
U40A	**Yellville**	**3.93**	**95**	P	**Pn**	**01 54 00.5**	**+1.6**
	baz=278						
U40A	**Yellville**	**3.93**	**95**	Pn	**Pn**	**01 54 00.4**	**+1.4**
MIAR	**Mount Ida**	**4.05 123**		Sb	**Sg**	**01 55 05.2**	**-2.5**
	baz=305						
MIAR	**Mount Ida**	**4.05 123**		Pn	**Pn**	**01 54 02.5**	**+2.0**
Z38A	**Mt. Pleasant**	**4.18 147**		Pn	**Pn**	**01 54 03.5**	**+1.1**
P38A	**Dawn**	**4.33**	**48**	Pn	**Pn**	**01 54 05.6**	**+1.3**
MGMO	**Mountain Grove**	**4.37**	**84**	Pn	**Pn**	**01 54 07.0**	**+2.1**
ABTX	**Abilene, Hawle**	**4.47 201**		Pn	**Pn**	**01 54 06.5**	**+0.1**
KSCO	**Kaye Shedlock'**	**4.47 301**		Pn	**Pn**	**01 54 06.0**	**-0.4**
R40A	**Maddies Statio**	**4.57**	**69**	Pn	**Pn**	**01 54 08.2**	**+0.5**
X40A	**Basin Creek Fa**	**4.59 119**		Pn	**Pn**	**01 54 09.2**	**+1.2**
FCAR	**Ozark Folk Cen**	**4.60 100**		Pn	**Pn**	**01 54 08.7**	**+0.6**
BGNE	**Belgrade**	**4.61 356**		Pn	**Pn**	**01 54 09.4**	**+1.1**
WHAR	**Wooly Hollow**	**4.64 107**		Pn	**Pn**	**01 54 10.8**	**+2.0**
W41B	**Gary Mavity, V**	**4.72 109**		Pn	**Pn**	**01 54 11.9**	**+2.2**
WHTX	**Lake Whitney,**	**4.81 177**		P	**Pn**	**01 54 11.6**	**+0.6**
	baz=358						
WHTX				S	**Sn**	**01 55 07.7**	**+0.5**
	baz=358						
WHTX	**Lake Whitney,**	**4.81 177**		Pn	**Pn**	**01 54 11.4**	**+0.4**
WLAR	**White Oak Lake**	**4.88 128**		Pn	**Pn**	**01 54 14.0**	**+2.0**
MSTX	**Muleshoe**	**5.01 237**		P	**Pn**	**01 54 14.1**	**+0.1**
	baz=54						
MSTX	**Muleshoe**	**5.01 237**		Pn	**Pn**	**01 54 13.5**	**-0.4**
237A	**Washetta, Mont**	**5.04 161**		Pn	**Pn**	**01 54 14.9**	**+0.7**
P40A	**Paris**	**5.22**	**57**	Pn	**Pn**	**01 54 17.9**	**+1.2**
CCM	**Cathedral Cave**	**5.29**	**74**	P	**Pn**	**01 54 18.6**	**+1.0**
	baz=258						
CCM	**Cathedral Cave**	**5.29**	**74**	Pn	**Pn**	**01 54 18.2**	**+0.6**
N38A	**Joes South For**	**5.29**	**40**	Pn	**Pn**	**01 54 17.5**	**-0.2**
T42A	**Van Buren**	**5.30**	**86**	Pn	**Pn**	**01 54 18.8**	**+1.0**
LCAR	**Lake Charles**	**5.33**	**96**	Pn	**Pn**	**01 54 19.2**	**+1.1**
OGNE	**Ogallala**	**5.33 322**		Pn	**Pn**	**01 54 19.2**	**+0.9**
FVM	**French Village**	**5.91**	**76**	Pn	**Pn**	**01 54 26.6**	**+0.4**
SCIA	**State Center**	**6.17**	**33**	Pn	**Pn**	**01 54 31.5**	**+1.9**
JCT	**Junction City**	**6.55 196**		Pn	**Pn**	**01 54 35.1**	**+0.1**
N41A	**Harden Midland**	**6.62**	**52**	Pn	**Pn**	**01 54 36.0**	**+0.2**
S44A	**Carbondale**	**6.80**	**80**	Pn	**Pn**	**01 54 39.2**	**+0.9**
ECSD	**EROS Data Cent**	**6.97**	**7**	Pn	**Pn**	**01 54 38.9**	**-1.8**
L40A	**Anamosa**	**7.26**	**42**	Pn	**Pn**	**01 54 44.8**	**+0.2**
HDIL	**Hopedale**	**7.57**	**58**	Pn	**Pn**	**01 54 49.3**	**+0.4**
O44A	**Mansfield**	**7.98**	**62**	Pn	**Pn**	**01 54 54.5**	**0.0**
L42A	**Oliver, Polo**	**8.10**	**48**	Pn	**Pn**	**01 54 56.7**	**+0.5**
MNTX	**Cornudas Mount**	**8.14 233**		Pn	**Pn**	**01 54 56.9**	**0.0**
JFWS	**Jewell Farm**	**8.37**	**41**	Pn	**Pn**	**01 54 59.8**	**-0.1**
TX31	**Lajitas Ar. Si**	**8.97 216**		Pn	**Pn**	**01 55 07.3**	**-1.0**
TX32	**Lajitas Array**	**8.97 216**		Pn	**Pn**	**01 55 07.8**	**-0.6**

*JMA **08** 02:06:53.7±0.3, 43°.68N×147°.75E, h5km, M3.7*
*SKHL **08** 02:06:54.1±0.3, 43°.80N×148°.04E, h46km±3km, mb4.1/4*

ISC 08 02:06:50.5±3.7, 43°.9N±0°.1×148°.0E±0°.2, h7km±24km, n15, σ1°29/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.38 356**		*e*P	**Pn**	**02 07 17.0**	**+0.8**
KUR				AMB	AMB	02 07 19.3	
	20nm,0.3s						
KUR				*i* S	**Sg**	**02 07 33.8**	**-1.2**
KUR				A	A	02 07 35.0	
	180nm,0.3s						
KUR				A	A	02 07 35.0	
	260nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.55 277**		AMB	AMB	02 07 19.0	
	70nm,0.3s						
YUK				*e*P	**Pn**	**02 07 19.3**	**+0.7**
YUK				*e*S	**Sn**	**02 07 38.4**	**-0.6**
YUK				A	A	02 07 39.5	
	380nm,0.3s						
YUK				A	A	02 07 39.5	
	420nm,0.3s						
GRPR	**Tuman**	**1.61 276**		*e*P	Pn	02 07 19.9	+0.5
GRPR				AMB	AMB	02 07 21.3	
	120nm,0.4s						
GRPR				*e*S	**Sn**	**02 07 39.5**	**-1.0**
GRPR				A	A	02 07 44.0	
	300nm,0.3s						
GRPR				A	A	02 07 44.0	
	390nm,0.3s						
NEM2	**Nemuro 2**	**1.71 254**		P	**Pn**	**02 07 21.2**	**+0.5**
NEM2				*e*S	**Sn**	**02 07 41.0**	**-1.8**
NMR	**Nemuro--Hokkai**	**1.72 254**		*e*P	**Pn**	**02 07 21.0**	**+0.2**
NMR				*i* S	**Sn**	**02 07 41.0**	**-2.0**
GLVR	**Golovnino**	**1.80 267**		*e*P	**Pn**	**02 07 22.6**	**+0.7**
GLVR				AMB	AMB	02 07 24.0	
	100nm,0.4s						
GLVR				*e*S	**Sn**	**02 07 44.0**	**-1.0**
GLVR				A	A	02 07 45.0	
	600nm,0.6s						
GLVR				A	A	02 07 45.0	
	470nm,0.6s						
JRA	**Rausu**	**2.08 273**		P	**Pn**	**02 07 27.4**	**+1.6**
JRA				*e*S	**Sn**	**02 07 52.8**	**+0.8**
JNSB	**Nemuroshibetsu**	**2.17 269**		P	**Pn**	**02 07 28.7**	**+1.7**
JKHN	**Kushirohamanak**	**2.20 251**		P	**Pn**	**02 07 28.6**	**+1.1**
JNK	**Nakash**	**2.39 265**		P	**Pn**	**02 07 31.3**	**+1.2**
JNK				*e*S	**Sn**	**02 07 59.5**	**-0.2**
AKK	**Akkeshi**	**2.44 251**		*i* P	**Pn**	**02 07 31.6**	**+0.8**
AKK				*e*S	**Sn**	**02 07 59.4**	**-1.6**
JTKR	**Abashiri--Toko**	**2.96 274**		P	**Pn**	**02 07 39.6**	**+1.7**
JAR	**Ashorobuto**	**3.12 261**		P	**Pn**	**02 07 41.5**	**+1.3**
JOB	**Onbets**	**3.18 254**		P	**Pn**	**02 07 42.6**	**+1.7**
JOB				*e*S	**Sn**	**02 08 18.5**	**-0.6**
JCH	**Churui**	**3.61 252**		P	**Pn**	**02 07 47.8**	**+1.0**

*DRS **08** 02:11:22.9±0.0, 43°.08N×47°.37E, h14km*
*MOS **08** 02:11:23.5±0.0, 43°.00N×47°.23E, h14km, MPVA3.5*
*NORS **08** 02:11:24.0±0.0, 42°.93N×47°.19E, h10km, MPVA3.5*

ISC 08 02:11:25.4±1.0, 43°.01N±0°.04×47°.22E±0°.03, h14km±7km, n21, σ1°16/42, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUJR	**Buynaksk**	**0.20 204**		*i* Pg	**Pg**	**02 11 29.6**	**-0.4**
BUJR				*e*Sg	**Sg**	**02 11 34.0**	**+1.0**
MAK	**Makhachkala**	**0.21 102**		*e*Pg	**Pg**	**02 11 29.7**	**-0.5**
MAK				*e*Sg	**Sg**	**02 11 33.2**	**-0.2**
DBC	**Dubki**	**0.29 273**		*e*Pg	**Pg**	**02 11 30.6**	**-0.9**
DBC				*e*Sg	**Sg**	**02 11 35.9**	**+0.3**
KRNR	**Karanay**	**0.29 232**		*i* Pg	**Pg**	**02 11 31.0**	**-0.6**
KRNR				*i* Sg	**Sb**	**02 11 37.0**	**-0.2**
UNCR	**Uncukul**	**0.43 227**		*i* Pg	**Pg**	**02 11 33.0**	**-1.0**
UNCR				*i* Sg	**Sg**	**02 11 40.0**	**+0.3**
DLMR	**Dylym**	**0.44 279**		*e*Pg	**Pg**	**02 11 34.0**	**-0.1**
DLMR				*e*Sg	**Sn**	**02 11 43.0**	**-2.1**
XNZR	**Khunzakh**	**0.60 219**		*e*Pg	**Pg**	**02 11 36.5**	**-0.7**
XNZR				*e*Sg	**Sg**	**02 11 44.9**	**-0.3**
GNBR	**Gunib**	**0.64 197**		*e*Pg	**Pg**	**02 11 37.8**	**-0.2**
GNBR				*e*Sg	**Sb**	**02 11 48.3**	**+0.9**
BTLR	**Botlikh**	**0.81 245**		*e*Pg	**Pb**	**02 11 40.3**	**-1.0**
BTLR				*e*Sg	**Sb**	**02 11 51.6**	**-0.5**
KMKR	**Kumukh**	**0.88 186**		*i* Pg	**Pb**	**02 11 42.0**	**-0.6**
KMKR				*i* Sg	**Sn**	**02 11 56.0**	**-0.2**
GROC	**Groznyy**	**1.06 281**		*e*Pg	**Pg**	**02 11 46.5**	**+0.7**
GROC				*e*Sg	**Sg**	**02 12 02.2**	**+2.5**
DRN	**Derbent**	**1.27 140**		*e*Pg	**Pb**	**02 11 49.2**	**0.0**
DRN				*e*Sg	**Sg**	**02 12 07.3**	**+0.8**
LGD	**Lagodekhi**	**1.38 212**		P	**Pn**	**02 11 49.8**	**-0.4**
LGD				S	**Sb**	**02 12 08.9**	**+0.5**
AKT	**Akhty**	**1.57 166**		*e*Pg	**Pn**	**02 11 52.9**	**-0.1**
AKT				*e*Sg	**Sb**	**02 12 14.7**	**+0.6**
DDFL	**Dedoflistskaro**	**1.76 208**		P	**Pg**	**02 11 59.1**	**-0.1**
DDFL				S	**Sg**	**02 12 25.2**	**+3.2**
PNSH	**Pansheti**	**1.95 260**		P	**Pb**	**02 12 00.8**	**0.0**
PNSH				S	**Sb**	**02 12 26.0**	**+0.9**
DGRG	**David-gareji**	**2.07 222**		P	**Pb**	**02 12 02.8**	**0.0**
DGRG				S	**Sg**	**02 12 33.4**	**+1.3**
TBLG	**Delisi**	**2.24 236**		P	**Pn**	**02 12 03.2**	**+1.2**
TBLG				S	**Sb**	**02 12 32.8**	**-0.4**
DMNI	**Dmanisi**	**2.81 234**		P	**Pn**	**02 12 10.6**	**+0.6**
DMNI				S	**Sb**	**02 12 47.2**	**-2.4**
BKRG	**Bakuriani**	**3.01 247**		P	**Pb**	**02 12 20.8**	**+1.9**
BKRG				S	**Sg**	**02 12 59.4**	**-2.7**
KBZ	**Khabaz**	**3.23 284**		*e*Pn	**Pn**	**02 12 16.0**	**+0.3**
KBZ				*e*Sn	**Sn**	**02 12 53.5**	**-0.5**

*SJA **08** 02:28:06.4±0.7, 20°.72S×67°.10W, h217km±5km, ML4.6, MW4.2*
*NEIC **08** 02:28:06.5±2.2, 20°.63S±0°.05×67°.00W±0°.08, h192km±5km, mb4.6/90, Error ellipse: s-maj=10.7km s-min=7.9km az=87.0*
*IDC **08** 02:28:06.1±0.8, 20°.56S×66°.98W, h188km±7km, mb3.9/16, mb1 4.0/22, mb1mx3.9/41, mbtmp4.5/22, MS2.5/1, Ms1 2.5/1, ms1mx2.4/27, Error ellipse: s-maj=12.5km s-min=8.2km az=116.0*
*VAO **08** 02:28:08.1±0.3, 20°.59S×67°.05W, h211km±3km, mb4.3*
*GUC **08** 02:28:08.3±0.6, 20°.73S×67°.26W, h223km±5km, ML4.7*

ISC 08 02:28:07.4±0.5, 20°.65S±0°.03×67°.09W±0°.04, h202km±5km, n286, σ1°37/337, mb4.5/51, 7C-3D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**2.00 284**		*e*P	**Pn**	**02 28 47.5**	**+1.1**
PB08				*i* S	**S**	**02 29 17.5**	**+1.4**
PB08				IAML		02 29 21.3	
	comp=E,918nm,0.2s						
PB08	**IPOC Station P**	**2.00 284**		Pn	**Pn**	**02 28 47.5**	**+1.1**
PB08				Sn	**S**	**02 29 17.9**	**+1.8**
PB08	**IPOC Station P**	**2.00 284**		*e*P	**Pn**	**02 28 47.5**	**+1.1**
PB08				*e*S	**S**	**02 29 17.7**	**+1.6**
YJA	**Yavi**	**2.12 136**		*e*P	**Pn**	**02 28 48.4**	**+0.7**
YJA				*e*P		02 28 48.4	
YJA				*e*S	**S**	**02 29 19.2**	**+0.7**
GO01	**Chusmiza**	**2.20 296**		⇓*i*P	**Pn**	**02 28 49.6**	**+1.0**
GO01				*e*S	**S**	**02 29 21.2**	**+1.1**
GO01				IAML		02 29 31.4	
	comp=E,2μm,0.1s						
GO01	**Chusmiza**	**2.20 296**		Pn	**Pn**	**02 28 49.7**	**+1.0**
GO01				Sn	**S**	**02 29 22.3**	**+2.2**
PB01	**IPOC Station P**	**2.27 260**		*e*P	**Pn**	**02 28 48.7**	**-0.2**
PB01				*i* S	**S**	**02 29 20.2**	**-0.5**
PB01				IAML		02 29 22.4	
	comp=N,1μm,0.4s						
PB01	**IPOC Station P**	**2.27 260**		Pn	**Pn**	**02 28 48.8**	**-0.2**
PB01				Sn	**S**	**02 29 20.6**	**-0.2**
PB01	**IPOC Station P**	**2.27 260**		*e*S	**S**	**02 29 20.7**	**-0.1**
PB09	**IPOC Station P**	**2.31 240**		⇑*i*P	**Pn**	**02 28 50.0**	**+0.6**
PB09				*e*S	**S**	**02 29 21.9**	**+0.3**
PB09				IAML		02 29 28.1	
	comp=E,684nm,0.7s						
PB09	**IPOC Station P**	**2.31 240**		Pn	**Pn**	**02 28 50.1**	**+0.7**
PB09				Sn	**S**	**02 29 22.6**	**+0.9**
PB09	**IPOC Station P**	**2.31 240**		*e*P	**Pn**	**02 28 50.4**	**+0.9**
PB09				*e*S	**S**	**02 29 22.3**	**+0.7**
PB11	**IPOC Station P**	**2.56 290**		*e*P	**Pn**	**02 28 52.6**	**+0.3**
PB11				*i* S	**S**	**02 29 26.3**	**-0.3**
PB11				IAML		02 29 30.3	
	comp=N,3μm,0.3s						
PB11	**IPOC Station P**	**2.56 290**		Pn	**Pn**	**02 28 52.5**	**+0.3**
PB11				Sn	**S**	**02 29 26.2**	**-0.4**
PB11	**IPOC Station P**	**2.56 290**		*e*P	**Pn**	**02 28 52.6**	**+0.3**
PB11				*e*S	**S**	**02 29 26.5**	**-0.1**
PB11				IAML		02 29 28.7	
	comp=Z,993nm,0.1s						
LVC	**Limon Verde**	**2.58 221**		P	**Pn**	**02 28 52.7**	**+0.1**
	comp=Z,13nm,0.3s,baz=24,slow=9.2,SNR=99						
LVC				S	**S**	**02 29 27.4**	**-0.1**
	comp=Z,26nm,0.3s,baz=70,slow=12,SNR=3.9						
LVC				LR	LR	02 30 10.4	
	comp=Z,101nm,21.2s,baz=234,slow=46						
LVC	**Limon Verde**	**2.58 221**		*e*P	**Pn**	**02 28 52.7**	**+0.1**
LVC				*i* S	**S**	**02 29 27.3**	**-0.1**
LVC	**Limon Verde**	**2.58 221**		Pn	**Pn**	**02 28 52.7**	**+0.1**
LVC				Sn	**S**	**02 29 27.7**	**+0.3**
LVC	**Limon Verde**	**2.58 221**		*e*P	**Pn**	**02 28 52.6**	**-0.1**
LVC				*e*S	**S**	**02 29 26.9**	**-0.5**
LVC	**Limon Verde**	**2.58 221**		*e*P	**Pn**	**02 28 52.8**	**+0.1**
PB02	**IPOC Station P**	**2.70 255**		*e*P	**Pn**	**02 28 54.8**	**+1.0**
PB02				*i* S	**S**	**02 29 28.2**	**-1.1**
PB02				IAML		02 29 31.8	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**2.70 255**		*e*P	**Pn**	**02 28 54.8**	**+1.0**
PB02				*e*S	**S**	**02 29 28.7**	**-0.7**
PB02				IAML		02 29 30.9	
	comp=Z,2μm,0.2s						
MNMC	**Minye Minye**	**2.80 302**		⇑*i*P	**Pn**	**02 28 56.1**	**+1.0**
MNMC				*e*S	**S**	**02 29 32.4**	**+0.8**
MNMC				IAML		02 29 35.1	
	comp=E,6μm,0.2s						
MNMC	**Minye Minye**	**2.80 302**		Pn	**Pn**	**02 28 56.7**	**+1.7**
MNMC				Sn	**S**	**02 29 32.8**	**+1.2**
MNMCX	**Minye Minye**	**2.80 302**		*e*P	**Pn**	**02 28 56.1**	**+1.1**
PB07	**IPOC Station P**	**2.82 247**		*e*P	**Pn**	**02 28 55.1**	**0.0**
PB07				*i* S	**S**	**02 29 30.4**	**-1.5**
PB07				IAML		02 29 32.3	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**2.82 247**		Pn	**Pn**	**02 28 55.4**	**+0.2**
PB07				Sn	**S**	**02 29 30.6**	**-1.3**
PB07	**IPOC Station P**	**2.82 247**		*e*P	**Pn**	**02 28 55.4**	**+0.2**
PB07				*e*S	**S**	**02 29 30.7**	**-1.2**
PB07				IAML		02 29 34.9	
	comp=Z,1μm,0.2s						
PB03	**IPOC Station P**	**2.84 240**		*e*P	**Pn**	**02 28 55.2**	**-0.2**
PB03				*i* S	**S**	**02 29 30.7**	**-1.7**
PB03				IAML		02 29 32.8	
	comp=N,2μm,0.4s						
PB03	**IPOC Station P**	**2.84 240**		*e*P	**Pn**	**02 28 55.6**	**+0.1**
PB03				*e*S	**S**	**02 29 31.1**	**-1.2**
PB03				IAML		02 29 33.0	
	comp=Z,966nm,0.2s						
PATCX	**Punta Patache**	**2.87 266**		*e*P	**Pn**	**02 28 55.5**	**-0.1**
PATCX				*e*S	**S**	**02 29 30.9**	**-1.8**
PATCX				IAML		02 29 32.0	
	comp=N,1μm,0.2s						
PATCX	**Punta Patache**	**2.87 266**		Pn	**Pn**	**02 28 55.6**	**-0.1**
PATCX				Sn	**S**	**02 29 31.3**	**-1.4**
PATCX	**Punta Patache**	**2.87 266**		*e*P	**Pn**	**02 28 55.6**	**0.0**
TA02	**Huaiquique**	**2.87 277**		*e*P	**Pn**	**02 28 55.4**	**-0.3**
TA02				*e*S	**S**	**02 29 31.3**	**-1.3**
TA02				IAML		02 29 32.7	
	comp=N,3μm,0.2s						
TA01	**Diego Aracena**	**2.89 271**		⇓*e*P	**Pn**	**02 28 55.4**	**-0.5**
TA01				*i* S	**S**	**02 29 31.0**	**-2.0**
TA01				IAML		02 29 31.8	
	comp=E,1μm,0.4s						
TA01	**Diego Aracena**	**2.89 271**		Pn	**Pn**	**02 28 55.4**	**-0.5**
TA01				Sn	**S**	**02 29 30.6**	**-2.4**
PSGC	**Pisagua**	**3.03 290**		⇓*i*P	**Pn**	**02 28 57.3**	**-0.3**
PSGC				*i* S	**S**	**02 29 34.8**	**-1.4**
PSGC				IAML		02 29

GO04	Tololo Observa	10.06	199	Pn		Pn	02 30 23.4 -4.1
VILB	Vilhena	10.10	42	eP		Pn	02 30 26.9 -1.1
CPUP	Villa Florida	10.59	124	P		Pn	02 30 32.9 -1.4
comp=Z,1.8nm,0.3s,baz=307,slow=12,SNR=36							
CPUP	Villa Florida	10.59	124	eP		Pn	02 30 34.1 -0.1
AQDB	Aquidauana	10.68	91	eP		Pn	02 30 34.8 -0.5
AQDB				eS		S	02 32 34.6 -0.3
ETMB	Extrema	10.80	5	eP		Pn	02 30 36.5 -0.5
SAML	Samuel	12.23	19	Pn		Pn	02 30 53.2 -1.9
SAML	Samuel	12.23	19	eP		Pn	02 30 54.8 -0.4
NNA	Nana	12.71	311	P		Pn	02 31 01.2 -0.1
comp=Z,5.1nm,0.3s,baz=115,slow=9.4,SNR=3.5							
NNA				S		S	02 33 15.4 -7.7
comp=Z,7.0nm,0.3s,baz=214,slow=17,SNR=7.1							
NNA	Nana	12.71	311	Pn		Pn	02 31 00.8 -0.5
MT05	Renca	13.10	194	Pn		Pn	02 31 07.2 +1.2
TRCB	Terra Rica	13.61	102	eP		Pn	02 31 13.4 +1.0
CZSB	Cruzeiro do Su	13.94	336	eP		Pn	02 31 16.8 +0.2
BO01	Tunca	14.14	194			Pn	02 31 17.8 -1.1
BO01				PcP		PcP	02 36 17.6 -4.9
PTGB	Pitanga	14.45	109	eP		Pn	02 31 22.8 -0.1
CLDB	Colider	14.57	50	eP		Pn	02 31 23.9 -0.6
PCMB	Pacaembu	14.80	97	eP		P	02 31 27.7 -0.4
GO05	Huala	14.93	196	P		P	02 31 29.7 +0.3
ITAB	Concordia	15.16	118	eP		P	02 31 32.4 +0.4
ARAG	Araguaiana, MT	15.33	74	eP		P	02 31 34.0 +0.2
CPSB	Cacapava Do Su	15.68	131	eP		Pn	02 31 38.5 +0.8
ITRB	Iturama	15.74	89	eP		P	02 31 38.5 +0.1
PLTB	Pedras Altas	16.39	135	eP		P	02 31 45.3 -0.1
CNLB	Canela	17.05	124	eP		P	02 31 52.2 -0.6
ATAH	Atahualpa	17.33	319	P		P	02 31 56.9 +0.6
comp=Z,1.0nm,0.3s,baz=166,slow=8.3,SNR=8.0							
BB19B	Bebedouro	17.36	95	eP		P	02 31 56.2 0.0
NPGB	Novo Progresso	17.66	42	eP		P	02 31 59.4 -0.1
IPMB	Ipameri, GO	18.02	85	eP		P	02 32 03.9 +0.5
MACA	Manacapuru-AM	18.47	21	eP		P	02 32 07.2 -1.1
LC01	Cunco	18.65	192	P		P	02 32 09.3 -0.7
LC01				IAmb		IAmb	02 32 15.9
comp=Z,36nm,1.4s							
PET01	Itanhaem-SP	18.67	105	eP		P	02 32 10.1 -0.3
BDFB	Brasilia	18.80	78	P		P	02 32 11.3 -0.7
comp=Z,0.8nm,0.3s,baz=253,slow=11,SNR=11							
BDFB	Brasilia	18.80	78	P		P	02 32 12.0 +0.1
VAO	Valinhos	18.83	101	eP		P	02 32 11.4 -0.8
ITTB	Itaituba	19.59	36	eP		P	02 32 19.5 -1.0
PEXB	Peixe	19.91	68	eP		P	02 32 22.8 -1.1
PARB	Paraibuna	20.09	102	eP		P	02 32 25.0 -0.7
PLCA	Paso Flores	20.24	188	P		P	02 32 27.3 +0.1
comp=Z,34nm,0.7s,baz=1.9,slow=11,SNR=62							
PLCA	Paso Flores	20.24	188	P		P	02 32 28.8 +1.6
PLCA				PcP		PcP	02 36 33.5 +1.1
PLCA	Paso Flores	20.24	188	eP		P	02 32 27.6 +0.4
BSCB	Bom Sucesso	20.86	95	eP		P	02 32 33.3 -0.7
PTGA	Pitinga	20.98	20	P		P	02 32 32.8 -2.4
comp=Z,11nm,0.3s,baz=218,slow=15,SNR=42							
PTGA	Pitinga	20.98	20	P		P	02 32 32.9 -2.4
PTGA				IAmb		IAmb	02 32 35.0
comp=Z,10nm,0.5s							
MAN01	Angra dos Reis	21.59	100	eP		P	02 32 40.7 -0.9
VAS01	Vassouras-RJ	22.07	99	eP		P	02 32 46.3 +0.1
PRPB	Parauapebas	22.09	52	eP		P	02 32 45.1 -1.3
LL01	San Ignacio de	22.13	191	P		P	02 32 46.2 -0.2
SMTB	Santa Maria do	22.17	61	eP		P	02 32 47.1 -0.1
MC01	Montes Claros	22.27	84	eP		P	02 32 46.8 -1.4
JANB	Januaria	22.38	79	eP		P	02 32 48.1 -1.1
MALB	Monte Alegre	22.49	35	eP		P	02 32 48.5 -1.6
SDBA	SAO DESIDERIO	22.77	72	eP		P	02 32 51.9 -0.9
OTAV	Otavalo	23.54	330	eP		P	02 33 03.4 +3.2
OTAV	Otavalo	23.54	330	P		P	02 33 02.9 +2.8
OTAV				IAmb		IAmb	02 33 05.5
comp=Z,12nm,0.9s							
OTAV	Otavalo	23.54	330	eP		P	02 33 00.1 0.0
OTAV				eS		S	02 36 57.2 -2.4
MACC	Macarena, Meta	23.60	343	eP		P	02 33 02.4 +2.2
FLOC	Florencia	23.63	338	eP		P	02 33 00.1 -0.3
GUVC	San Jose del G	23.68	346	eP		P	02 32 59.7 -1.1
PAC1	Pacto, Paraso	23.73	330	eP		P	02 33 03.2 +1.7
SJMB	Sao Joao De Ma	24.46	90	eP		P	02 33 07.3 -0.7
BBAC	Balboa, Cauca	24.63	335	eP		P	02 33 10.9 +1.2
BSFB	Barra de Sao F	24.76	90	eP		P	02 33 10.5 -0.2
POPC	Popayan, Colom	24.89	337	eP		P	02 33 12.0 -0.1
PRAC	Prado	25.39	342	eP		P	02 33 16.4 0.0
VILC	Villavicencio,	25.44	345	eP		P	02 33 17.9 +0.9
NAN01	Guarapari, ES	25.60	88	eP		P	02 33 17.0 -1.3
ORTC	Ortega, Tolima	25.68	341	eP		P	02 33 18.1 -0.9
CHIC	Chingaza	25.95	345	eP		P	02 33 21.7 -0.1
TOLC	Tolima	26.34	341	eP		P	02 33 23.4 -1.9
PLMC	San Jos del P	26.95	339	eP		P	02 33 31.2 +0.8
GUY2C	Guyana, Caldas	26.96	342	eP		P	02 33 31.2 +0.3
RUSC	La Rusia	27.02	347	eP		P	02 33 31.2 -0.3
NORC	Norcasia	27.14	343	eP		P	02 33 32.1 0.0
GDU01	Guandu, BA	27.15	80	eP		P	02 33 32.5 +0.3
BARC	Barichara	27.72	347	eP		P	02 33 36.4 -1.0
HELC	Santa Helena	27.93	342	eP		P	02 33 38.2 -1.2
PTBC	PUERTO BERRIO,	27.97	344	eP		P	02 33 37.4 -2.0
MDP	Montagnes des	29.26	31	P		P	02 33 49.3 -1.5
comp=Z,3.6nm,1.0s,baz=205,slow=9.7,SNR=4.7							
SDV	Santo Domingo	29.55	353	P		P	02 33 53.0 -0.6
comp=Z,7.4nm,0.4s,baz=99,slow=3.6,SNR=3.3							
SDV	Santo Domingo	29.55	353	eP		P	02 33 53.3 -0.3
SMLC	San Martn de	30.06	346	eP		P	02 33 54.9 -3.0
MOTC	Monteria, Cord	30.43	343	eP		P	02 33 58.4 -2.8
ARGC	Ariguani, Magd	31.12	346	eP		P	02 34 03.4 -3.8
NBMO	Morrinhos-CE	31.48	60	eP		P	02 34 09.9 -0.5
GRGR	Grenville	33.01	10	P		P	02 34 23.6 -0.1
RCBR	Riachuelo	33.65	68	P		P	02 34 27.9 -1.4
comp=Z,9.4nm,0.9s,baz=38,slow=13,SNR=1.9							
RCBR	Riachuelo	33.65	68	P		P	02 34 29.2 -0.1
RCBR				IAmb		IAmb	02 34 44.1
comp=Z,33nm,1.4s							
SVB	Belmont	34.19	10	P		P	02 34 33.1 -0.7
MCLT	Moule a Chique	34.67	11	P		P	02 34 37.6 -0.4
SLBI	Saint Lucia, B	34.97	10	eP		P	02 34 40.2 -0.3
MPOM	Morne Pois Mar	35.41	10	eP		P	02 34 43.3 -0.9
JTS	Las Juntas de	35.41	329	P		P	02 34 47.1 +2.8
comp=Z,2.0nm,0.5s,baz=222,slow=24,SNR=1.7							
JTS	Las Juntas de	35.41	329	P		P	02 34 46.9 +2.6
JTS				IAmb		IAmb	02 34 55.6
comp=Z,27nm,1.4s							
ZAM	Aeronautique	35.50	10	eP		P	02 34 44.5 -0.6
LPMF	Morne Lapointe	35.52	10	eP		P	02 34 44.5 -0.7
FDF	Fort de France	35.64	10	eP		P	02 34 45.3 -0.9
PML	Morne Lenard	35.68	10	eP		P	02 34 45.9 -0.7
GBMF	Grand Be	35.70	10	eP		P	02 34 46.1 -0.7
PCM	Pelee Case Pet	35.71	10	eP		P	02 34 45.9 -0.9
CXM	Morne La Croix	35.72	10	eP		P	02 34 46.4 -0.7
BAMF	Morne Balai	35.72	10	eP		P	02 34 46.2 -0.7
SVN	Savane Anatole	35.74	10	eP		P	02 34 46.6 -0.6
CDVI	St. Croix	38.23	4	P		P	02 35 06.2 -1.8
MLPR	Magueyes Islan	38.38	0	P		P	02 35 08.6 -0.6
CRPR	Cabo Rojo, PR	38.41	360	P		P	02 35 08.4 -1.1
ANWB	Willy Bob	38.43	8	P		P	02 35 07.3 -2.4
OBIP	Obispado Ponce	38.45	1	P		P	02 35 07.7 -2.2
HUMP	Col San Antoni	38.57	2	IAmb		IAmb	02 35 12.8
comp=Z,15nm,0.8s							
MPR	Mayaguez	38.62	360	P		P	02 35 09.8 -1.4
GCPR	Guaynabo City	38.73	2	P		P	02 35 10.4 -1.7
AGPR	Aguadilla, PR	38.87	360	P		P	02 35 11.6 -1.7
EMPR	Esperanza - Ma	38.89	1	P		P	02 35 11.4 -2.0
DR12	Loma Pena Alta	39.26	357	P		P	02 35 16.0 -0.6
HOPE	Hope Point	40.83	153	P		P	02 35 30.5 +1.5
HOPE				IAmb		IAmb	02 35 32.0
comp=Z,34nm,1.1s							
HOPE				PcP		PcP	02 37 26.7 +0.8
GRTK	Grand Turk	42.09	354	P		P	02 35 39.3 -0.3
PMSA	Palmer Station	44.15	178	P		P	02 35 57.1 +1.5
comp=Z,5.3nm,0.6s,baz=356,slow=7.6,SNR=10							
PMSA	Palmer Station	44.15	178	P		P	02 35 57.3 +1.7
PMSA	Palmer Station	44.15	178	eP		P	02 35 57.3 +1.7
TEIG	Tepich	45.61	332	P		P	02 36 08.6 +1.0
656A	Willston	51.91	343	P		P	02 36 55.6 +0.2
553A	Crawfordville	53.23	341	P		P	02 37 05.9 +0.9
553A				IAmb		IAmb	02 37 06.6
comp=Z,27nm,0.8s							
JSC	Jenkinsville	56.27	346	P		P	02 37 27.0 +0.2
BIRD	Birdtown, Kers	56.44	347	P		P	02 37 28.2 +0.2
BIRD				IAmb		IAmb	02 37 29.0
comp=Z,9.3nm,1.0s							
LRAL	Lakeview Retre	56.67	340	P		P	02 37 29.1 -0.6
PAULI	Pauline	56.91	346	P		P	02 37 31.7 +0.4
Y49A	Blount Mountai	57.24	341	P		P	02 37 33.3 -0.4
V58A	Windy Hill, Pi	57.28	348	P		P	02 37 33.7 -0.2
V58A				IAmb		IAmb	02 37 44.0
comp=Z,9.7nm,1.2s							
V55A	Taylorsville	57.76	346	IAmb		IAmb	02 37 38.6
comp=Z,9.2nm,0.8s							
X48A	Hartselle	57.99	341	P		P	02 37 38.8 -0.1
X48A				IAmb		IAmb	02 37 39.3
comp=Z,6.3nm,0.7s							
W50A	Signal Mountai	58.17	342	P		P	02 37 40.2 0.0
W50A				IAmb		IAmb	02 37 40.7
comp=Z,5.6nm,0.7s							
SWET	Sewanee	58.36	342	P		P	02 37 41.1 -0.4
SWET				IAmb		IAmb	02 37 41.8
comp=Z,7.6nm,0.6s							
U54A	Nelsons Funny	58.54	346	IAmb		IAmb	02 37 43.4
comp=Z,7.3nm,0.7s							
PLAL	Pickwick Lake	58.80	340	P		P	02 37 44.3 -0.2
V48A	Smith Brothers	59.11	341	IAmb		IAmb	02 37 47.1
comp=Z,8.5nm,0.8s							
CLTN	Cedars of Leba	59.30	342	IAmb		IAmb	02 37 48.3
comp=Z,7.7nm,0.8s							
BELA	Belgrano 2	59.36	172	P		P	02 37 49.2 +1.4
S54A	Dingess, Beckl	59.66	347	IAmb		IAmb	02 37 51.4
comp=Z,10nm,0.8s							
WVT	Waverly	59.78	341	P		P	02 37 50.7 -0.5
WVT				IAmb		IAmb	02 37 51.2
comp=Z,12nm,0.7s							
VNA3	Neumayer Olymp	60.34	162	P		P	02 37 55.5 +0.9
MIAR	Mount Ida	60.39	335	P		P	02 37 55.6 +0.2
VNA1	Neumayer--Stat	60.52	161	P		P	02 37 57.2 +1.4
WHAR	Wooly Hollow	60.55	336	P		P	02 37 57.4 +1.0
VNA2	Neumayer--Watz	60.90	161	P		P	02 37 59.3 +1.0
TXAR	Lajitas Array	60.93	323	P		P	02 37 59.3 0.0
comp=Z,0.3nm,0.5s,baz=146,slow=8.0,SNR=4.3							
TXAR	Lajitas Array	60.93	323	P		P	02 37 59.9 +0.6
FCAR	Ozark Folk Cen	61.02	337	P		P	02 37 59.1 -0.5
WCI	Wyandotte Cave	61.28	343	P		P	02 38 00.8 -0.5
WCI				IAmb		IAmb	02 38 01.2
comp=Z,7.5nm,0.6s							
P53A	Whipple	61.30	347	IAmb		IAmb	02 38 02.5
comp=Z,10nm,0.7s							
P52A	Corning	61.59	347	IAmb		IAmb	02 38 03.9
comp=Z,7.9nm,0.8s							
O53A	New Philadelph	61.99	348	P		P	02 38 06.3 +0.3
O53A				IAmb		IAmb	02 38 06.5
comp=Z,7.4nm,0.6s							
FVM	French Village	62.31	339	IAmb		IAmb	02 38 08.8
comp=Z,14nm,1.0s							
BRYW	Bryant College	62.38	356	P		P	02 38 09.5 +0.9
BRYW				IAmb		IAmb	02 38 09.7
comp=Z,11nm,0.8s							
KSPA	Keystone Colle	62.41	353	P		P	02 38 09.2 +0.5
KSPA				IAmb		IAmb	02 38 09.5
comp=Z,14nm,1.3s							
SNAA	Sanae	62.53	161	P		P	02 38 10.1 +0.7
SNAA	Sanae	62.53	161	P		P	02 38 10.0 +0.7
comp=Z,7.4nm,0.6s,baz=297,slow=3.7,SNR=60							
SNAA	Sanae	62.53	161	P		P	02 38 10.3 +1.0
SNAA				IAmb		IAmb	02 38 11.0
comp=Z,9.1nm,0.7s							
CCM	Cathedral Cave	62.65	339	P		P	02 38 10.5 +0.1
CCM				IAmb		IAmb	02 38 11.0
comp=Z,10nm,0.8s							
M56A	Emporium	62.66	351	IAmb		IAmb	02 38 11.4
comp=Z,7.0nm,0.6s							
M55A	Ridgway	62.74	350	P		P	02 38 11.4 +0.5
M55A				IAmb		IAmb	02 38 11.6
comp=Z,5.0nm,0.6s							
M54A	Oil Creek Stat	62.93	349	P		P	02 38 12.5 +0.3
M54A				IAmb		IAmb	02 38 12.8
comp=Z,6.6nm,0.8s							
S39A	Bolivar	63.06	337	IAmb		IAmb	02 38 13.9
comp=Z,8.1nm,0.7s							
R40A	Maddies Statio	63.22	338	IAmb		IAmb	02 38 14.6
comp=Z,6.8nm,0.6s							
N49A	Columbus Grove	63.28	346	P		P	02 38 14.6 +0.1
N49A				IAmb		IAmb	02 38 14.9
comp=Z,10nm,0.8s							
N47A	Urbana	63.61	344	IAmb		IAmb	02 38 16.6
comp=Z,8.3nm,0.8s							
J59A	Piesco	64.16	354	P		P	02 38 21.1 +0.9
J59A				IAmb		IAmb	02 38 28.5
comp=Z,8.5nm,1.1s							
J55A	Hilton	64.36	351	P		P	02 38 21.6 +0.2
LONY	Lake Ozonia	65.31	354	P		P	02 38 28.4 +0.8
LONY				IAmb		IAmb	02 38 44.2
comp=Z,11nm,1.5s							
GGN	Saint George	65.45	0	P		P	02 38 29.5 +1.1
GGN				IAmb		IAmb	02 38 33.3
comp=Z,21nm,1.4s							
PKME	Peaks-Kenny Pk	65.62	358	P		P	02 38 30.3 +0.7
F64A	Sherman	66.20	359	P		P	02 38 34.0 +0.7
F64A				IAmb		IAmb	02 38 46.2
comp=Z,13nm,1.3s							
E63A	Oxbow	66.76	359	P		P	02 38 38.0 +1.2
DBIC	Dimbokro	66.86	73	P		P	02 38 37.0 -1.2
comp=Z,4.7nm,0.9s,baz=247,slow=9.6,SNR=5.2							
DBIC	Dimbokro	66.86	73	IAmb		IAmb	02 38 37.2
comp=Z,25nm,1.4s							
TRQ	Mont Tremblant	66.89	354	P		P	02 38 38.2 +0.4
BATG	Bathurst New B	67.61	1	P		P	02 38 42.8 +0.7
BATG				IAmb		IAmb	02 38 57.1
comp=Z,10nm,1.0s							
QSPA	South Pole Qui	69.54	180	P		P	02 38 55.1 +1.0
comp=Z,6.6nm,0.7s,baz=152,slow=1.4,SNR=49							
QSPA	South Pole Qui	69.54	180	P		P	02 38 55.3 +1.2
QSPA				IAmb		IAmb	02 38 56.3
comp=Z,7.2nm,0.8s							
ECSD	EROS Data Cent	69.56	338	P		P	02 38 54.5 +0.2
F36A	Milaca	70.41	341	P		P	02 38 59.4 0.0
PDAR	Pinedale Array	74.24	329	P		P	02 39 22.9 +0.4
comp=Z,0.5nm,0.5s,baz=129,slow=9.1,SNR=9.3							
PDAR	Pinedale Array	74.24	329	P		P	02 39 23.4 +0.9
REDW	Red Top Meadow	75.32	329	P		P	02 39 30.6 +2.0
TOA0	Torodi Ar. Sit	75.47	70	P		P	02 39 28.7 -1.0
TORD	Torodi Ar. Bea	75.47	70	P		P	02 39 28.6 -1.1
comp=Z,3.8nm,0.5s,baz=255,slow=5.4,SNR=22							
TORD	Torodi Ar. Bea	75.47	70	P		P	02 39 28.6 -1.1
YNE	Yellowstone No	76.14	330	P		P	02 39 35.3 +2.1
VNDA	Vanda	77.97	190	P		P	02 39 43.8 +1.1
comp=Z,1.5nm,0.9s,baz=137,slow=4.9,SNR=10							
VNDA	Vanda	77.97	190	P		P	02 39 44.9 +2.2
TSUM	Tsumeb	78.65	106	P		P	02 39 48.3 +0.6
TSUM				IAmb		IAmb	02 39 48.9
comp=Z,9.2nm,0.8s							
BOSA	Boshof	82.34	118	P		P	02 40 06.8 -0.4
comp=Z,2.7nm,0.7s,baz=250,slow=5.8,SNR=5.5							
BOSA	Boshof	82.34	118	P		P	02 40 07.0 -0.2
ESDC	Sonseca Array	84.04	44	P		P	02 40 15.5 +0.1
comp=Z,0.5nm,0.9s,baz=255,slow=5.7,SNR=4.4							
MAW	Mawson	84.65	163	P		P	02 40 18.5 +0.6
comp=Z,3.4nm,0.8s,baz=218,slow=3.7,SNR=9.3							
MAW	Mawson	84.65	163	P		P	02 40 18.9 +1.1
ASAR	Alice Springs	131.44	206	PKP		PKPdf	02 46 56.7 +0.2
comp=Z,1.5nm,0.4s,baz=133,slow=1.8,SNR=26							
ASAR				SKPbc		SKPbc	02 50 02.8 -0.1
comp=Z,0.9nm,0.8s,baz=121,slow=3.7,SNR=5.8							
WRA	Warramunga Arr	134.53	209	PKhKP		PKPpre	02 46 48.3
comp=Z,0.2nm,0.4s,baz=169,slow=1.7,SNR=6.0							
WRA				PKP		PKPdf	02 47 02.9 +0.4
comp=Z,2.1nm,0.7s,baz=132,slow=1.4,SNR=20							
WRA	Warramunga Arr	134.53	209	PKPdf		PKPdf	02 47 02.6 +0.2
KURK	Kurchatov	139.69	34	PKPdf		PKPdf	02 47 10.4 -0.5
KURBB	Kurchatov Arra	139.69	34	PKP		PKPdf	02 47 10.0 -0.9
comp=Z,0.7nm,0.8s,baz=301,slow=2.3,SNR=4.7							
ZALV	Zalesovo Beam	140.46	26	PKP		PKPdf	02 47 12.1 -0.1
comp=Z,1.4nm,0.4s,baz=270,slow=1.5,SNR=5.4							
MKAR	Makanchi Array	143.95	36	PKP		PKPab	02 47 16.7 +0.3
comp=Z,1.1nm,0.4s,baz=338,slow=2.9,SNR=14							
MKAR				SKPbc		SKiKP	02 50 39.1 -0.1
comp=Z,0.8nm,0.8s,baz=308,slow=4.5,SNR=4.9							
MKAR	Makanchi Array	143.95	36	PKPdf		PKPdf	02 47 17.9 -0.8
JAY	Jayapura	144.33	233	PKP		PKPdf	02 47 20.6 +0.3
comp=Z,10nm,0.8s,baz=305,slow=17,SNR=3.7							
USRK	Ussuriysk Ar.	151.66	330	PKPbc		PKiKP	02 47 38.8 +0.6
comp=Z,1.7nm,0.6s,baz=339,slow=2.4,SNR=4.4							
USRK	Ussuriysk Ar.	151.66	330	PKPbc		PKiKP	02 47 39.2 +1.0
SONM	Songino Array	152.37	9	PKPbc		PKiKP	02 47 40.2 +0.5
comp=Z,1.2nm,0.5s,baz=350,slow=0.8,SNR=5.0							
SONM	Songino Array	152.37	9	PKPbc		PKiKP	02 47 40.4 +0.7

JMA 08 02:37:19.6±0.4, 30°.44N×139°.15E, h457km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.27	141	S	S	02 39 38.7	-2.3
JIE	Ise	4.45	333	P	P	02 38 40.4	+1.3
BSO1	Boso 1	4.48	20	P	P	02 38 41.4	+2.7
BSO1				S	S	02 39 44.5	+1.2
BSO3	Boso 3	4.50	14	S	S	02 39 44.1	-0.1
JHH2	Haha-jima-NKT2	4.63	144	S	S	02 39 44.7	-2.4
BSO4	Boso 4	4.65	12	S	S	02 39 48.8	+1.8
JEG	Eigenji	5.23	334	P	P	02 38 46.7	+0.3
JHU	Hanno	5.40	1	S	S	02 39 56.0	-4.3
JRY	Ryogami san	5.57	358	P	P	02 38 50.8	+1.1
JRY				S	S	02 39 59.8	-3.6
JAG	Ashikaga	5.97	2	P	P	02 38 53.8	0.0
JAG				S	S	02 40 06.2	-4.6
JHO	Hitachi	6.27	11	eS	S	02 40 14.5	-1.8

UCR ***08*** *02:39:32.2±0.8, 13°.09N×88°.76W, h68km±5km, ML4.2, mb4.0(NEIC)*
NEIC ***08*** *02:39:32.7±2.9, 13°.06N±0°.07×88°.72W±0°.06, h47km±12km, mb4.0/8, Md4.2(SNET), Error ellipse: s-maj=12.3km s-min=4.7km az=222.0*
SNET ***08*** *02:39:32.2±1.2, 13°.10N×88°.77W, h67km±8km, ML4.2*
INET ***08*** *02:39:33.1, 13°.07N×88°.73W, h42km, ML4.1*
ISC 08 02:39:33.1±0.9, 13°.05N±0°.07×88°.76W±0°.04, h64km±7km, n91, o0±94/108, mb3.9/3, 14C-20D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.33	34	⇓iP	Pn	02 39 43.2	-0.7
ALJI				IAML		02 39 43.6	
comp=Z,9μm,0.1s							
ALJI				eS	Sn	02 39 52.2	+0.6
ALJI	Alcalda de J	0.33	34	⇓iP	Pn	02 39 43.2	-0.7
ALJI				IAML		02 39 43.6	
comp=Z,9μm,0.1s							
ALJI				eS	Sn	02 39 52.2	+0.6
COEB	Comit de Eme	0.49	27	⇓iP	Pn	02 39 44.7	-0.8
COEB				eS	Sn	02 39 54.5	0.0
COEB	Comit de Eme	0.49	27	⇓iP	Pn	02 39 44.7	-0.8
COEB				eS	Sn	02 39 54.5	0.0
TECA	Tecapa	0.50	30	⇓eP	Pn	02 39 44.9	-0.8
TECA	Tecapa	0.50	30	⇓eP	Pn	02 39 44.9	-0.8
JUCU	Jucuarın	0.54	68	⇓eP	Pn	02 39 44.5	-1.4
JUCU				eS	Sn	02 39 55.0	-0.2
JUCU				IAML		02 39 57.4	
comp=Z,8μm,0.3s							
JUCU	Jucuarın	0.54	68	⇓eP	Pn	02 39 44.5	-1.4
JUCU				eS	Sn	02 39 55.0	-0.2
JUCU				IAML		02 39 57.4	
comp=Z,8μm,0.3s							
COEG	Centro de Oper	0.57	348	⇓iP	Pn	02 39 45.4	-0.9
COEG				eS	Sn	02 39 55.5	-0.4
COEG				IAML		02 40 00.9	
comp=Z,6μm,0.2s							
COEG	Centro de Oper	0.57	348	⇓iP	Pn	02 39 45.4	-0.9
COEG				eS	Sn	02 39 55.5	-0.4
COEG				IAML		02 40 00.9	
comp=Z,6μm,0.2s							
LCY	Lacayo	0.58	51	⇓eP	Pn	02 39 45.6	-0.8
LCY	Lacayo	0.58	51	⇓eP	Pn	02 39 45.6	-0.8
RANC	El Ranchito	0.59	50	⇑eP	Pn	02 39 46.0	-0.6
RANC	El Ranchito	0.59	50	⇑eP	Pn	02 39 46.0	-0.6
VSM	San Miguel	0.60	52	eP	Pn	02 39 46.0	-0.7
VSM	San Miguel	0.60	52	eP	Pn	02 39 46.0	-0.7
BLLM	Bellamira	0.64	53	⇑eP	Pn	02 39 46.2	-0.8
BLLM	Bellamira	0.64	53	⇑eP	Pn	02 39 46.2	-0.8
LFRS	El Faro	0.64	333	eP	Pn	02 39 46.0	-1.1
LFRS	El Faro	0.64	333	eP	Pn	02 39 46.0	-1.1
PAVA	Las Pavas	0.68	345	⇓iP	Pn	02 39 46.6	-0.9
PAVA				IAML		02 39 59.6	
comp=Z,8μm,0.3s							
PAVA	Las Pavas	0.68	345	⇓iP	Pn	02 39 46.6	-0.9
PAVA				IAML		02 39

MTO3	Montecristo	1.46	336	Pn	Pn	02 39 56.8	-0.8
ESQI	Esquipulas	1.60	339	Pn	Pn	02 39 58.9	-0.5
CRIN	San Cristobal	1.70	102	Pn	Pn	02 40 00.5	-0.2
TGUH	Tegucigalpa,Un	1.76	55	Pn	Pn	02 40 00.7	-0.8
MATN	Matagalpa	2.77	92	Pn	Pn	02 40 13.8	-1.4
BOAB	BOACO BROADBAN	3.08	101		Pn	02 40 17.8	-1.5
RTAL	Retalhuleu	3.21	297	Pn	Pn	02 40 21.5	+0.4
ACON	Acoyapa	3.66	107		Pn	02 40 25.0	-2.4
PETF	Flores	3.99	345	Pn	Pn	02 40 32.7	+0.9
CCIG	Comitan	4.58	315	Pn	Pn	02 40 40.8	+0.7
JTS	Las Juntas de	4.63	126	Pn	Pn	02 40 40.5	-0.1
TEIG	Tepich	7.15	4	Pn	Pn	02 41 15.6	+0.6
TLIG	Tlapa	10.47	297	Pn	Pn	02 42 02.2	+1.6
MTDJ	Mount Denham	11.97	63	Pn	Pn	02 42 22.4	+1.3
352A	Blakely	18.68	10	P	P	02 43 43.4	-2.7
352A				IAmb	IAmb	02 43 43.5	
	comp=Z,7.7nm,0.8s						
TXAR	Lajitas Array	21.31	322	P	P	02 44 14.8	+0.1
TX31	Lajitas Ar. Si	21.31	322	P	P	02 44 14.6	-0.1
TX32	Lajitas Array	21.31	322	P	P	02 44 14.7	-0.1
M44A	Midewin, Midew	28.23	1	P	P	02 45 18.6	-1.4
PV14	Lion Creek, Pa	30.98	328	P	P	02 45 45.2	+0.5
PV14				IAmb	IAmb	02 46 00.9	
	comp=Z,2.5nm,1.0s						
HRY	Holter Researc	38.76	334	P	P	02 46 51.8	+0.4
WVOR	Wild Horse Val	39.07	324	P	P	02 46 56.3	+2.3
WVOR				IAmb	IAmb	02 46 56.9	
	comp=Z,3.3nm,0.6s						
D08A	Wollman Farm,	42.28	329	P	P	02 47 19.5	-0.9
D08A				IAmb	IAmb	02 47 28.4	
	comp=Z,1.5nm,0.9s						
CPUP	Villa Florida	49.67	142	P	P	02 48 19.8	+1.2

*IDC **08** 02:40:36.8±0.7,27˚.18N×103˚.54E, h0km, mb3.8/18, mb1 4.0/19, mb1mx3.8/63, mbtmp3.8/19, MS3.1/1, Ms1 3.1/1, ms1mx2.5/48, Error ellipse: s-maj=24.6km s-min=15.2km az=52.0*

*NEIC **08** 02:40:38.9±2.1,27˚.20N±0˚.07×103˚.5E±0˚.1, h10km±1km, mb4.4/24, Error ellipse: s-maj=18.4km s-min=10.5km az=117.0*

*BJI **08** 02:40:39.6±0.0,27˚.08N×103˚.43E, h12km, ML3.8/17*

ISC 08 02:40:38.8±0.5,27˚.16N±0˚.04×103˚.50E±0˚.05, h10km, n67, σ1§44/74, mb4.1/26, 2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.14	199	‖ ePg	Pn	02 41 16.4	+1.6
KMI				Sg	Sn	02 41 42.3	+0.7
KMI				smax	smax		
	comp=N,130nm,1.1s						
KMI				smax	smax		
	comp=E,170nm,1.7s						
KMI	Kunming	2.14	199	Pn	Pb	02 41 16.8	-1.0
GYA	Guiyang	2.92	103	‖ Pn	Pb	02 41 28.6	-2.4
GYA				Sn	Sb	02 42 06.1	-0.6
GYA				smax	smax		
	comp=N,200nm,0.8s						
GYA				smax	smax		
	comp=E,190nm,0.9s						
CD2	Chengdu	3.74	3	Pn	Pn	02 41 39.5	+2.9
CD2				Sn	Sb	02 42 26.6	-3.8
CD2				Sg	Sg	02 42 43.8	+4.9
CD2				smax	smax		
	comp=N,410nm,0.7s						
CD2				smax	smax		
	comp=E,640nm,0.8s						
SLVN	Son La	5.82	176	Pn	Pn	02 42 08.0	+2.8
ENH	Enshi	6.10	58	Pn	Pn	02 42 11.2	+2.1
XAN	Xi'an	8.29	33	P	Pn	02 42 40.4	+1.2
XAN				S	Sn	02 44 13.2	+0.2
XAN				smax	smax		
	comp=N,73nm,1.0s						
XAN				smax	smax		
	comp=E,69nm,1.1s						
XAN	Xi'an	8.29	33	Pn	Pn	02 42 39.9	+0.7
LZH	Lanzhou	8.90	2	eP	Pn	02 42 49.6	+2.0
CMAR	Chiang Mai Arr	9.63	207	Pn	Pn	02 42 57.6	+0.2
	baz=28,slow=10,SNR=1.6						
CMAR	Chiang Mai Arr	9.63	207	Pn	Pn	02 42 57.3	-0.2
WHN	Wuhan	10.09	68	P	Pn	02 43 06.3	+2.5
WHN				S	Sn	02 44 55.9	-1.2
SONM	Songino Array	20.76	6	P	P	02 45 20.3	+0.5
	0.8nm,0.4s,baz=181,slow=12,SNR=4.3						
SONM	Songino Array	20.76	6	P	P	02 45 18.8	-1.0
WMQ	Urumqi	20.96	327	eP	P	02 45 23.4	+1.5
KSAR	Wonju Array Be	22.96	57	P	P	02 45 43.4	+0.1
KS19	Wonju Array Si	22.97	57	P	P	02 45 45.2	+1.8
KSRS	Korea Array	23.00	57	P	P	02 45 43.0	-0.6
	1.1nm,0.7s,baz=245,slow=11,SNR=8.4						
PRZ	Przheval'sk	25.52	313	P	P	02 46 08.1	+0.4
PRZ				IAmb	IAmb	02 46 10.6	
	comp=Z,26nm,1.3s						
MK31	Makanchi Array	25.76	325	P	P	02 46 11.5	+1.9
MKAR	Makanchi Array	25.76	325	P	P	02 46 09.6	0.0
	comp=Z,0.6nm,0.5s,baz=128,slow=12,SNR=6.8						
MKAR	Makanchi Array	25.76	325	P	P	02 46 11.7	+2.2
AAK	Ala-Archa	28.18	311	P	P	02 46 32.4	+0.8
	comp=Z,0.8nm,0.3s,baz=96,slow=10,SNR=1.8						
AAK				LR	LR	02 58 57.0	
	comp=Z,35nm,19.0s,baz=140,slow=39						
AAK	Ala-Archa	28.18	311	P	P	02 46 33.1	+1.5
ZALV	Zalesovo Beam	30.10	338	P	P	02 46 47.5	-0.7
	comp=Z,0.6nm,0.3s,baz=143,slow=8.1,SNR=2.2						
ZALV	Zalesovo Beam	30.10	338	P	P	02 46 47.1	-1.1
KURBB	Kurchatov Arra	30.17	328	P	P	02 46 49.2	+0.3
	comp=Z,0.6nm,0.6s,baz=132,slow=10,SNR=6.4						
KURBB				PcP	PcP	02 49 46.9	-3.1
	comp=Z,0.4nm,0.6s,baz=115,slow=2.4,SNR=4.1						
KURK	Kurchatov	30.19	328	P	P	02 46 48.5	-0.6
KKAR	Karatay Array	31.07	309	P	P	02 46 54.8	-2.3
GEYT	Alibeck	39.39	298	P	P	02 48 10.0	+1.3
	comp=Z,1.6nm,0.7s,baz=160,slow=4.7,SNR=4.4						
GEYT	Alibeck	39.39	298	P	P	02 48 10.2	+1.5
ABKAR	Abkulak array	39.99	315	P	P	02 48 14.4	+0.8
AKH	Akhalkalaki	50.63	303	P	P	02 49 39.6	+1.3
AKH				IAmb	IAmb	02 49 41.7	
	comp=Z,3.9nm,0.9s						
WB0	Warramunga Arr	55.43	144	P	P	02 50 13.9	+0.2
WB0				IAmb	IAmb	02 50 20.4	
	comp=Z,4.1nm,1.1s						
WRA	Warramunga Arr	55.55	144	P	P	02 50 14.1	-0.4
	comp=Z,1.6nm,0.8s,baz=333,slow=8.4,SNR=27						
WRA	Warramunga Arr	55.55	144	P	P	02 50 14.3	-0.2
WB2	Warramunga Arr	55.56	144	P	P	02 50 15.1	+0.5
WR0	Warramunga Arr	55.67	144	P	P	02 50 15.9	+0.6
WR0				IAmb	IAmb	02 50 18.0	
	comp=Z,2.9nm,0.8s						
LVZ	Lovozero	57.18	335	P	P	02 50 25.2	-0.4
BR131	Keskin Array S	58.29	302	P	P	02 50 34.0	+0.1
BR131				IAmb	IAmb	02 50 35.4	
	comp=Z,3.4nm,1.3s						
BRTR	Keskin Array B	58.29	302	P	P	02 50 33.8	-0.2
	comp=Z,0.6nm,0.5s,baz=127,slow=5.9,SNR=9.8						
BRTR	Keskin Array B	58.29	302	P	P	02 50 33.9	-0.1
ASAR	Alice Springs	58.45	147	P	P	02 50 35.0	0.0
	comp=Z,0.6nm,0.4s,baz=328,slow=6.6,SNR=8.6						
ASAR	Alice Springs	58.45	147	P	P	02 50 36.5	+1.5
AKASG	Malin Array Be	59.73	315	P	P	02 50 43.1	-0.5
	comp=Z,0.6nm,0.4s,baz=69,slow=6.0,SNR=1.9						
FINES	FINESS Array B	60.56	327	P	P	02 50 48.6	-0.4
	comp=Z,0.7nm,0.5s,baz=80,slow=7.2,SNR=8.2						
ARCES	ARCESS Array B	60.64	337	P	P	02 50 49.2	-0.3
	comp=Z,3.8nm,0.9s,baz=90,slow=7.5,SNR=4.1						
MLR	Muntele Rosu	62.75	309	P	P	02 51 04.4	+0.1
	comp=Z,2.4nm,0.9s,baz=210,slow=2.4,SNR=5.3						
MLR	Muntele Rosu	62.75	309	P	P	02 51 04.1	-0.2
MLR				IAmb	IAmb	02 51 11.7	
	comp=Z,4.3nm,1.0s						
HFS	Hagfors	66.75	327	P	P	02 51 29.5	-0.5
	comp=Z,1.1nm,0.6s,baz=87,slow=11,SNR=4.8						
NC405	NORSAR Array S	67.45	328	P	P	02 51 34.1	-0.3
NB2	NORSAR Subarra	67.70	328	P	P	02 51 34.7	-1.4
	comp=Z,0.4nm,0.5s,baz=72,slow=6.5						
NOA	NORSAR Array B	67.70	328	P	P	02 51 34.2	-1.9
	comp=Z,0.4nm,0.5s,baz=74,slow=6.4,SNR=5.7						
GERES	GERESS Array B	69.94	315	P	P	02 51 49.9	-0.5
	comp=Z,0.4nm,0.4s,baz=64,slow=6.1,SNR=7.0						
GERES	GERESS Array B	69.94	315	P	P	02 51 50.9	+0.5
IMAR	Indian Mountai	70.50	25	P	P	02 51 53.2	-0.1
TIP	Tinpagrandie	71.03	305	P	P	02 51 56.5	-0.6
BPAW	Bear Paw Mtn.	72.34	26	P	P	02 52 05.0	+0.5
PPLA	Purkeypile	72.38	28	P	P	02 52 05.5	+0.6
PPLA				IAmb	IAmb	02 52 19.0	
	comp=Z,9.2nm,1.3s						
MDM	Murphy Dome	73.02	25	P	P	02 52 09.6	+1.1
MDM				IAmb	IAmb	02 52 10.5	
	comp=Z,3.1nm,1.2s						
BMAR	Burnt Mountain	73.11	22	P	P	02 52 09.7	+0.7
TUE	Stuetta	73.52	314	P	P	02 52 09.3	-2.8
TUE				IAmb	IAmb	02 52 09.9	
	comp=Z,3.9nm,1.2s						
ILAR	Eielson Array	73.61	25	P	P	02 52 11.7	-0.3
	comp=Z,0.2nm,0.5s,baz=302,slow=4.5,SNR=3.6						
ILAR	Eielson Array	73.61	25	P	P	02 52 10.7	-1.3
KDAK	Kodiak Island	74.42	33	P	P	02 52 16.7	-0.1
KLU	Klutina	75.63	28	P	P	02 52 24.6	+0.7
KLU				IAmb	IAmb	02 52 26.0	
	comp=Z,4.7nm,1.0s						
BNI	Bardonecchia	75.80	313	P	P	02 52 24.8	-0.4
BNI				IAmb	IAmb	02 52 29.4	
	comp=Z,4.1nm,1.2s						

*IDC **08** 02:42:13.9±1.3,55˚.29N×167˚.32E, h0km, mb3.5/6, mb1 3.9/7, mb1mx3.5/61, mbtmp3.5/7, ML2.3/1, Error ellipse: s-maj=84.2km s-min=21.8km az=147.0*

*MOS **08** 02:42:20.4±1.0,54˚.52N×168˚.30E, h45km, mb4.2/3, Error ellipse: s-maj=10.4km s-min=7.2km az=7.1*

*KRSC **08** 02:42:20.5±1.9,54˚.51N×168˚.00E, h52km±30km, ML4.1*

*NEIC **08** 02:42:21.9±1.8,54˚.6N±0˚.1×168˚.36E±0˚.09, h35km±6km, mb4.1/23, Error ellipse: s-maj=15.9km s-min=6.4km az=199.0*

ISC 08 02:42:21.4±0.6,54˚.50N±0˚.06×168˚.28E±0˚.05, h35km, n111, σ1§42/118, mb4.0/19, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.51	299	eP	Pn	02 42 43.5	-2.4
BKI				eS	Sn	02 43 00.9	-3.4
BKI	Bering	1.51	299	PN	Pn	02 42 43.5	-2.4
BKI				S	Sn	02 43 00.9	-3.4
KBTR	Krutoberegovo	3.56	301	eP	Pn	02 43 12.9	-1.1
KBTR	Krutoberegovo	3.56	301	PN	Pn	02 43 12.9	-1.1
SMY	Shemya	3.89	115	PN	Pn	02 43 18.5	-0.2
SMY	Shemya	3.89	115	Pn	Pn	02 43 18.5	-0.2
SMKR	Semkarok	4.39	301	eP	Pn	02 43 26.1	+0.5
SMKR	Semkarok	4.39	301	PN	Pn	02 43 26.1	+0.5
ZLN	Zelenaya	4.54	293	eP	Pn	02 43 29.5	+1.9
ZLN	Zelenaya	4.54	293	PN	Pn	02 43 29.5	+1.9
BZGR	Bezymyannyi-Gr	4.58	291	eP	Pn	02 43 30.5	+2.4
BZGR				eS	Sn	02 44 20.3	+0.2
BZGR	Bezymyannyi-Gr	4.58	291	PN	Pn	02 43 30.5	+2.4
BZGR				S	Sn	02 44 20.3	+0.2
SRKR	Sorokina	4.58	301	eP	Pn	02 43 28.8	+0.7
SRKR	Sorokina	4.58	301	PN	Pn	02 43 28.8	+0.7
CIRR	Tsirk	4.60	294	eS	Sn	02 44 18.3	-2.4
TUMD	Tumrok D	4.61	282	eS	Sn	02 44 19.8	-1.0
KZV	Kizimen	4.66	281	eP	Pn	02 43 31.4	+2.0
KZV				eS	Sn	02 44 21.4	-0.9
KZV	Kizimen	4.66	281	PN	Pn	02 43 31.4	+2.0
BZWR	Bezymyannyi-We	4.69	291	eP	Pn	02 43 31.8	+2.0
BZWR	Bezymyannyi-We	4.69	291	PN	Pn	02 43 31.8	+2.0
KRSR	Krestovskiy	4.73	294	eS	Sn	02 44 23.0	-0.8
TUMR	Tumrok	4.76	283	eP	Pn	02 43 32.1	+1.4
TUMR	Tumrok	4.76	283	PN	Pn	02 43 32.1	+1.4
KIRR	Kirishev	4.77	291	eP	Pn	02 43 32.5	+1.6
KIRR	Kirishev	4.77	291	PN	Pn	02 43 32.5	+1.6
KMNR	Kamenistaya	4.78	288	eP	Pn	02 43 32.5	+1.5
KMNR				eS	Sn	02 44 24.1	-1.1
KMNR	Kamenistaya	4.78	288	PN	Pn	02 43 32.5	+1.5
SPN	Mys Shipunski	5.09	257	eP	Pn	02 43 34.2	-0.9
SPN				eS	Sn	02 44 30.6	-2.1
SPN	Mys Shipunski	5.09	257	PN	Pn	02 43 34.2	-0.9
KII	Karymskiy	5.20	268	eP	Pn	02 43 38.2	+1.5
KII				eS	Sn	02 44 35.9	+0.5
KII	Karymskiy	5.20	268	PN	Pn	02 43 38.2	+1.5
SRDR	Sredinnyy	5.21	294	eP	Pn	02 43 38.6	+1.8
SRDR	Sredinnyy	5.21	294	PN	Pn	02 43 38.6	+1.8
SDLR	Sedlovina	5.69	261	eP	Pn	02 43 44.3	+0.8
SDLR				eS	Sn	02 44 46.2	-1.4
SDLR	Sedlovina	5.69	261	PN	Pn	02 43 44.3	+0.8
SMAR	Somma	5.74	261	eP	Pn	02 43 45.9	+1.6
SMAR	Somma	5.74	261	PN	Pn	02 43 45.9	+1.6
UGLR	Uglovaya	5.75	261	eP	Pn	02 43 45.2	+1.0
UGLR				eS	Sn	02 44 47.0	-1.9
UGLR	Uglovaya	5.75	261	PN	Pn	02 43 45.2	+1.0
KRER	Koryakskii	5.76	262	eP	Pn	02 43 45.7	+1.2
KRER				eS	Sn	02 44 48.4	-1.0
KRER	Koryakskii	5.76	262	PN	Pn	02 43 45.7	+1.2
AVH	Avacha	5.78	261	eP	Pn	02 43 45.9	+1.3
AVH				eS	Sn	02 44 49.2	-0.5
AVH	Avacha	5.78	261	PN	Pn	02 43 45.9	+1.3
KRX	Arik	5.80	263	eP	Pn	02 43 46.0	+0.9
KRX				eS	Sn	02 44 49.6	-0.8
KRX	Arik	5.80	263	PN	Pn	02 43 46.0	+0.9
KOK	Koryaka	5.83	262	eP	Pn	02 43 46.5	+1.1
KOK	Koryaka	5.83	262	PN	Pn	02 43 46.5	+1.1
TILK	Tilichiki	6.07	350	eP	Pn	02 43 48.5	0.0
TILK	Tilichiki	6.07	350	PN	Pn	02 43 48.5	0.0
KRMR	Karymshinskiy	6.26	259	P	Pn	02 43 52.0	+0.8
KRMR				eS	Sn	02 44 59.5	-1.9
KRMR	Karymshinskiy	6.26	259	PN	Pn	02 43 52.0	+0.8
MTVR	Mutnovka	6.36	256	eP	Pn	02 43 54.0	+1.4
MTVR				eS	Sn	02 45 01.9	-2.1
MTVR	Mutnovka	6.36	256	PN	Pn	02 43 54.0	+1.4
GRL	Gorelyy	6.39	256	eP	Pn	02 43 54.7	+1.6
GRL				eS	Sn	02 45 02.6	-2.3
GRL	Gorelyy	6.39	256	PN	Pn	02 43 54.7	+1.6
PEA0B	Petropavlovsk-	6.42	262	PN	Pn	02 43 55.3	+1.9
PEA0B	Petropavlovsk-	6.42	262	Pn	Pn	02 43 55.3	+1.9
PETK	Petropavlovsk-	6.42	262	Pn	Pn	02 43 42.5	-11
	0.3nm,0.3s,baz=348,slow=16,SNR=7.1						
PETK				Sn	Sn	02 45 05.8	+0.4
	0.5nm,0.3s,baz=99,slow=9.8,SNR=1.6						
ASAK	Asacha	6.56	255	eP	Pn	02 43 56.6	+1.3
ASAK	Asacha	6.56	255	PN	Pn	02 43 56.6	+1.3
KDTR	Khodutka, Kamc	6.70	250	eP	Pn	02 43 57.3	+0.1
KDTR				eS	Sn	02 45 09.4	-2.9
KDTR	Khodutka, Kamc	6.70	250	PN	Pn	02 43 57.3	+0.1
GSTR	Great Sitkin T	9.68	98	Pn	Pn	02 44 37.0	-1.1
TTA	Tatalina	20.12	51	P	P	02 46 53.1	+1.1
TTA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TTA	Tatalina	20.12	51	Pn	P	02 46 53.1	+1.1
JEM	Erimo	20.74	243	Pn	P	02 46 49.1	-10
OHAK	Old Harbor	21.54	67	P	P	02 47 09.0	+1.8
OHAK				IAmb	IAmb	02 47 24.1	
	comp=Z,22nm,1.5s						
IMAR	Indian Mountai	21.67	43	P	P	02 47 10.3	+1.7
KDAK	Kodiak Island	21.84	65	P	P	02 47 10.4	0.0
KDAK				pmax	pmax		
	comp=Z,22nm,1.5s						
KDAK	Kodiak Island	21.84	65	P	P	02 47 10.4	0.0
KDAK				IAmb	IAmb	02 47 23.3	
	comp=Z,22nm,1.4s						
SUA	Susitna One	22.48	55	P	P	02 47 17.1	-0.4
BPAW	Bear Paw Mtn.	22.50	48	P	P	02 47 18.3	+0.7
TRF	Thorofare Moun	22.75	50	P	P	02 47 21.3	+0.9
TRF				IAmb	IAmb	02 47 21.5	
	comp=Z,4.4nm,0.9s						
TOLK	Toolik Lake Re	23.90	37	P	P	02 47 31.5	0.0
TOLK				IAmb	IAmb	02 47 42.1	
	comp=Z,10nm,1.2s						
CCB	Clear Creek Bu	23.93	47	P	P	02 47 31.4	-0.3
CCB				IAmb	IAmb	02 47 33.8	
	comp=Z,8.2nm,1.4s						
DHY	Denali Highway	24.06	51	P	P	02 47 32.6	-0.5
DHY				IAmb	IAmb	02 47 37.9	
	comp=Z,4.5nm,1.2s						
SCM	Sheep Creek Mo	24.11	54	P	P	02 47 32.9	-0.6
SCM				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SCM	Sheep Creek Mo	24.11	54	P	P	02 47 32.9	-0.6
SCM				IAmb	IAmb	02 47 33.2	
	comp=Z,6.2nm,1.1s						
GLI	Glacier Island	24.28	57	P	P	02 47 33.8	-1.2
GLI				IAmb	IAmb	02 47 39.5	
	comp=Z,8.1nm,1.2s						
IL31		24.33	47	P	P	02 47 34.6	-0.7
ILAR	Eielson Array	24.33	47	P	P	02 47 33.2	-2.2
	comp=Z,1.2nm,0.6s,baz=251,slow=8.4,SNR=14						
ILAR	Eielson Array	24.33	47	P	P	02 47 32.5	-3.0
KLU	Klutina	24.80	55	P	P	02 47 40.3	+0.5
KLU				IAmb	IAmb	02 47 44.3	
	comp=Z,4.1nm,1.1s						
BMAR	Burnt Mountain	25.51	41	P	P	02 47 46.0	-0.2
DOT	Dot Lake	25.55	50	P	P	02 47 45.4	-1.1
DOT				IAmb	IAmb	02 47 47.4	
	comp=Z,3.8nm,0.9s						
BCAR	Beaver Creek A	26.60	51	P	P	02 47 56.1	0.0
EGAK	Eagle	26.78	47	P	P	02 47 56.2	-1.4
H11N2	WAKE ISLAND Hy	34.73	182	T	T	03 25 56.9	
	baz=1.3,slow=76,SNR=329						
H11N3	WAKE ISLAND Hy	34.74	182	T	T	03 25 57.5	
	baz=1.3,slow=76,SNR=260						
H11N1	WAKE ISLAND Hy	34.74	182	T	T	03 25 57.7	
	baz=1.3,slow=76,SNR=242						
H11S1	WAKE ISLAND Hy	35.95	183	T	T	03 27 27.7	
	baz=1.4,slow=76,SNR=114						
H11S3	WAKE ISLAND Hy	35.96	183	T	T	03 27 30.0	
	baz=1.4,slow=76,SNR=66						
H11S2	WAKE ISLAND Hy	35.97	183	T	T	03 27 22.0	
	baz=1.4,slow=76,SNR=106						
SPA0	Spitsbergen Ar	46.47	352	P	P	02 50 45.8	+1.5
WAKR	Walker	49.99	77	P	P	02 51 13.6	+1.5
WAKR				IAmb	IAmb	02 51 22.8	
	comp=Z,3.1nm,1.3s						
NVAR	Mina Array Bea	50.69	77	P	P	02 51 16.4	-1.0
	comp=Z,0.2nm,0.5s,baz=316,slow=6.2,SNR=2.8						
NVAR	Mina Array Bea	50.69	77	P	P	02 51 18.7	+1.3
PDAR	Pinedale Array	52.55	67	P	P	02 51 28.7	-2.6
	comp=Z,0.1nm,0.3s,baz=325,slow=4.5,SNR=2.9						
PV22	Blue Mesa, Par	55.93	70	P	P	02 51 57.2	+1.3
PV22				IAmb	IAmb	02 52 00.9	
	comp=Z,2.4nm,1.1s						
ABKAR	Abkulak array	60.43	314	P	P	02 52 27.0	0.0
NC303	NORSAR Array S	63.17	348	P	P	02 52 45.4	+0.1
TX31	Lajitas Ar. Si	65.59	73	P	P	02 53 02.3	+0.7
TX32	Lajitas Array	65.59	73	P	P	02 53 02.5	+0.8
TX32				IAmb	IAmb	02 53 19.2	
	comp=Z,2.3nm,1.4s						
TXAR	Lajitas Array	65.59	73	P	P	02 53 01.9	+0.2
	comp=Z,0.7nm,0.6s,baz=306,slow=4.5,SNR=8.7						
TXAR	Lajitas Array	65.59	73	P	P	02 53 02.2	+0.5
FCAR	Ozark Folk Cen	66.72	61	P	P	02 53 07.9	-0.8
WRA	Warramunga Arr	79.64	212	P	P	02 54 25.1	+0.2
	comp=Z,0.4nm,0.9s,baz=24,slow=6.4,SNR=2.0						
ASAR	Alice Springs	83.27	211	P	P	02 54 45.5	+1.4
	comp=Z,0.2nm,0.5s,baz=27,slow=6.3,SNR=1.8						
H03N2	Juan Fernandez	129.38	94	T	T	05 23 48.9	
	baz=16,slow=74,SNR=12						
H03N1	Juan Fernandez	129.39	94	T	T	05 23 49.0	
	baz=16,slow=74,SNR=15						
H03N3	Juan Fernandez	129.39	94	T	T	05 23 47.0	
	baz=16,slow=74,SNR=14						

*IDC **08** 02:49:39.1±5.7,35˚.33N×135˚.76E, h355km±72km, mb2.6/1, mb1 2.8/4, mb1mx2.5/43, mbtmp3.4/4, Error ellipse: s-maj=119.8km s-min=33.5km az=98.0*

*JMA **08** 02:49:40.2±0.2,35˚.41N×135˚.51E, h362km±2km, M2.5*

ISC 08 02:49:40.0±1.3,35˚.4N±0˚.1×135˚.6E±0˚.1, h364km±11km, n7, σ0§64/8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	Wachi	0.15	243	P	Pn	02 50 25.5	+0.2
JWT				eS	S	02 51 01.0	-0.7
JIE	Ise	1.34	135	P	Pn	02 50 29.4	+0.7
JTNC	Tanabenakahech	1.53	179	P	Pn	02 50 30.2	+0.4
JNU	Nakatsue	4.47	242	P	Pn	02 50 55.1	+0.4
	0.9nm,0.3s,baz=44,slow=2.3,SNR=4.1						
KSRS	Korea Array	6.51	291	P	Pn	02 51 17.3	+0.4
	0.1nm,0.3s,baz=110,slow=11,SNR=4.9						
USRK	Ussuriysk Ar.	9.26	344	P	Pn	02 51 49.0	+0.1
	baz=154,slow=12,SNR=6.1						
WRA	Warramunga Arr	55.00	181	P	P	02 58 34.7	-0.4
	0.2nm,0.3s,baz=359,slow=7.8,SNR=5.6						

*IDC **08** 03:05:04.8±1.6, 14˚.36S×166˚.68E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/29, mbtmp3.8/5, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=49.4km s-min=28.2km az=136.0*

*NEIC **08** 03:05:09.4±2.1, 14˚.60S±0˚.09×166˚.8E±0˚.1, h36km±7km, mb4.4/6, Error ellipse: s-maj=20.7km s-min=13.2km az=93.0*

ISC 08 03:05:08.6±0.7, 14˚.59S±0˚.08×167˚.0E±0˚.1, h35km, n17, σ1§69/17, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.88	165		Pn	03 05 25.2	+0.6
DZM	Mont Dzumac	7.46	184	Pn	Pn	03 06 57.2	+2.2
	0.8nm,0.3s,baz=186,slow=20,SNR=7.9						
DZM				Sn	Sn	03 08 16.3	-2.2

AEIL	**Aeropuerto Ilo**	**0.59**	**13**⇓	*e*P	**Pn**	**03 15 03.0**	**+0.2**
AEIL				*e*S	**Sn**	**03 15 12.9**	**+1.0**
AEIL				IAML		03 15 14.8	
comp=Z,14μm,0.2s							
OPAM	**Oficina de Pla**	**0.59**	**5**	*e*P	**Pn**	**03 15 02.7**	**-0.2**
OPAM				*e*S	**Sn**	**03 15 12.4**	**+0.5**
OPAM				IAML		03 15 14.6	
comp=Z,13μm,0.3s							
OPAM	**Oficina de Pla**	**0.59**	**5**	*e*P	**Pn**	**03 15 02.7**	**-0.2**
OPAM				*e*S	**Sn**	**03 15 12.4**	**+0.5**
OPAM				IAML		03 15 14.6	
comp=Z,13μm,0.3s							
UEES	**Universidad Ev**	**0.59**	**1**	⇓*i*P	**Pn**	**03 15 02.8**	**-0.1**
UEES				*e*S	**Sn**	**03 15 12.2**	**+0.2**
UEES				IAML		03 15 13.4	
comp=Z,22μm,0.1s							
UEES	**Universidad Ev**	**0.59**	**1**	⇓*i*P	**Pn**	**03 15 02.8**	**-0.1**
UEES				*e*S	**Sn**	**03 15 12.2**	**+0.2**
UEES				IAML		03 15 13.4	
comp=Z,22μm,0.1s							
IGN	**Direccin Gen**	**0.59**	**8**	*e*P	**Pn**	**03 15 02.8**	**-0.1**
IGN				*e*S	**Sn**	**03 15 12.3**	**+0.3**
IGN	**Direccin Gen**	**0.59**	**8**	*e*P	**Pn**	**03 15 02.8**	**-0.1**
IGN				*e*S	**Sn**	**03 15 12.3**	**+0.3**
UDBS	**Universidad Do**	**0.60**	**9**	*e*P	**Pn**	**03 15 02.8**	**-0.2**
UDBS				*e*S	**Sn**	**03 15 12.6**	**+0.5**
UDBS				IAML		03 15 14.0	
comp=Z,12μm,0.2s							
UDBS	**Universidad Do**	**0.60**	**9**	*e*P	**Pn**	**03 15 02.8**	**-0.2**
UDBS				*e*S	**Sn**	**03 15 12.6**	**+0.5**
UDBS				IAML		03 15 14.0	
comp=Z,12μm,0.2s							
BOQS	**Boqueron**	**0.61**	**357**⇓	*e*P	**Pn**	**03 15 03.2**	**-0.1**
BOQS	**Boqueron**	**0.61**	**357**⇓	*e*P	**Pn**	**03 15 03.2**	**-0.1**
COEG	**Centro de Oper**	**0.61**	**36**⇓	*i*P	**Pn**	**03 15 03.0**	**-0.1**
COEG				*e*S	**Sn**	**03 15 12.6**	**+0.2**
COEG				IAML		03 15 19.8	
comp=Z,7μm,0.2s							
COEG	**Centro de Oper**	**0.61**	**36**⇓	*i*P	**Pn**	**03 15 03.0**	**-0.1**
COEG				*e*S	**Sn**	**03 15 12.6**	**+0.2**
COEG				IAML		03 15 19.8	
comp=Z,7μm,0.2s							
LFU	**La Fuente**	**0.64**	**12**	*e*P	**Pn**	**03 15 03.4**	**0.0**
LFU	**La Fuente**	**0.64**	**12**	*e*P	**Pn**	**03 15 03.4**	**0.0**
LBRS	**Las Brisas**	**0.65**	**18**	*e*P	**Pn**	**03 15 03.7**	**+0.2**
LBRS	**Las Brisas**	**0.65**	**18**	*e*P	**Pn**	**03 15 03.7**	**+0.2**
PAVA	**Las Pavas**	**0.66**	**27**	⇓*i*P	**Pn**	**03 15 04.0**	**+0.2**
PAVA				IAML		03 15 17.5	
comp=Z,7μm,0.4s							
PAVA	**Las Pavas**	**0.66**	**27**	⇓*i*P	**Pn**	**03 15 04.0**	**+0.2**
PAVA				IAML		03 15 17.5	
comp=Z,7μm,0.4s							
UESV	**Universidad de**	**0.68**	**41**	⇓*i*P	**Pn**	**03 15 04.0**	**0.0**
UESV	**Universidad de**	**0.68**	**41**	⇓*i*P	**Pn**	**03 15 04.0**	**0.0**
ALJI	**Alcalda de J**	**0.69**	**73**⇓	*e*P	**Pn**	**03 15 04.5**	**+0.5**
ALJI				*e*S	**Sn**	**03 15 13.9**	**-0.1**
ALJI	**Alcalda de J**	**0.69**	**73**⇓	*e*P	**Pn**	**03 15 04.5**	**+0.5**
ALJI				*e*S	**Sn**	**03 15 13.9**	**-0.1**
CEDA	**San Andres**	**0.69**	**348**⇓	*i*P	**Pn**	**03 15 03.9**	**-0.2**
CEDA				IAML		03 15 18.3	
comp=Z,17μm,0.3s							
CEDA	**San Andres**	**0.69**	**348**⇓	*i*P	**Pn**	**03 15 03.9**	**-0.2**
CEDA				IAML		03 15 18.3	
comp=Z,17μm,0.3s							
QUEZ	**Alcaldia de Qu**	**0.71**	**358**	*i*P	**Pn**	**03 15 04.3**	**0.0**
CEVE	**Cerro Verde**	**0.79**	**333**⇓	*e*P	**Pn**	**03 15 05.3**	**-0.3**
CEVE				IAML		03 15 25.2	
comp=Z,14μm,0.4s							
CEVE	**Cerro Verde**	**0.79**	**333**⇓	*e*P	**Pn**	**03 15 05.3**	**-0.3**
CEVE				IAML		03 15 25.2	
comp=Z,14μm,0.4s							
COEB	**Comit de Eme**	**0.80**	**62**	*e*P	**Pn**	**03 15 05.7**	**+0.2**
COEB				IAML		03 15 19.5	
comp=Z,6μm,0.2s							
COEB	**Comit de Eme**	**0.80**	**62**	*e*P	**Pn**	**03 15 05.7**	**+0.2**
COEB				IAML		03 15 19.5	
comp=Z,6μm,0.2s							
SBLS	**San Blas**	**0.80**	**333**	*e*P	**Pn**	**03 15 05.2**	**-0.5**
SBLS				*e*S	**Sn**	**03 15 19.5**	**+2.6**
SBLS	**San Blas**	**0.80**	**333**	*e*P	**Pn**	**03 15 05.2**	**-0.5**
SBLS				*e*S	**Sn**	**03 15 19.5**	**+2.6**
TECA	**Tecapa**	**0.82**	**63**	*e*P	**Pn**	**03 15 05.9**	**+0.1**
TECA	**Tecapa**	**0.82**	**63**	*e*P	**Pn**	**03 15 05.9**	**+0.1**
SNJE	**San Jose**	**0.82**	**335**	*e*P	**Pn**	**03 15 05.4**	**-0.5**
SNJE	**San Jose**	**0.82**	**335**	*e*P	**Pn**	**03 15 05.4**	**-0.5**
TACO	**Tacachico**	**0.85**	**353**	⇓*i*P	**Pn**	**03 15 05.8**	**-0.4**
TACO	**Tacachico**	**0.85**	**353**	⇓*i*P	**Pn**	**03 15 05.8**	**-0.4**
RTR	**El Retiro**	**0.86**	**334**	*e*P	**Pn**	**03 15 06.3**	**-0.2**
RTR	**El Retiro**	**0.86**	**334**	*e*P	**Pn**	**03 15 06.3**	**-0.2**
UNIC	**Universidad Ca**	**0.90**	**341**	*e*P	**Pn**	**03 15 06.6**	**-0.3**
UNIC	**Universidad Ca**	**0.90**	**341**	*e*P	**Pn**	**03 15 06.6**	**-0.3**
NUBE	**Las Nubes**	**0.93**	**327**	⇓*i*P	**Pn**	**03 15 06.8**	**-0.6**
NUBE	**Las Nubes**	**0.93**	**327**	⇓*i*P	**Pn**	**03 15 06.8**	**-0.6**
PACA	**Pacayal**	**0.97**	**69**	*e*P	**Pn**	**03 15 08.8**	**+1.0**
PACA	**Pacayal**	**0.97**	**69**	*e*P	**Pn**	**03 15 08.8**	**+1.0**
LCY	**Lacayo**	**0.98**	**72**	*e*P	**Pn**	**03 15 08.4**	**+0.5**
LCY				*e*S	**Sn**	**03 15 22.2**	**+1.4**
LCY	**Lacayo**	**0.98**	**72**	*e*P	**Pn**	**03 15 08.4**	**+0.5**
LCY				*e*S	**Sn**	**03 15 22.2**	**+1.4**
JUCU	**Jucuarn**	**0.98**	**82**	IAML		03 15 23.9	
comp=Z,7μm,0.2s							
JUCU	**Jucuarn**	**0.98**	**82**	IAML		03 15 23.9	
comp=Z,7μm,0.2s							
RANC	**El Ranchito**	**0.99**	**71**	*e*P	**Pn**	**03 15 08.6**	**+0.5**
RANC	**El Ranchito**	**0.99**	**71**	*e*P	**Pn**	**03 15 08.6**	**+0.5**
VSM	**San Miguel**	**1.00**	**72**	*e*P	**Pn**	**03 15 09.0**	**+0.7**
VSM	**San Miguel**	**1.00**	**72**	*e*P	**Pn**	**03 15 09.0**	**+0.7**
BLLM	**Bellamira**	**1.04**	**72**	*e*P	**Pn**	**03 15 09.1**	**+0.5**
BLLM	**Bellamira**	**1.04**	**72**	*e*P	**Pn**	**03 15 09.1**	**+0.5**
LLGN	**La Laguna**	**1.08**	**16**	⇓*i*P	**Pn**	**03 15 09.1**	**-0.2**
LLGN	**La Laguna**	**1.08**	**16**	⇓*i*P	**Pn**	**03 15 09.1**	**-0.2**
FAGO	**Alcalda de S**	**1.25**	**63**	⇓*i*P	**Pn**	**03 15 11.6**	**+0.1**
FAGO	**Alcalda de S**	**1.25**	**63**	⇓*i*P	**Pn**	**03 15 11.6**	**+0.1**
MTO3	**Montecristo**	**1.28**	**355**⇓	*e*P	**Pn**	**03 15 11.8**	**-0.2**
MTO3	**Montecristo**	**1.28**	**355**⇓	*e*P	**Pn**	**03 15 11.8**	**-0.2**
MTO3	**Montecristo**	**1.28**	**355**	Pn	**Pn**	**03 15 11.6**	**-0.4**
MTO3				Sn	**Sn**	**03 15 28.0**	**-0.2**
LCND	**La Caada**	**1.34**	**82**	⇓*i*P	**Pn**	**03 15 13.4**	**+0.7**
LCND				IAML		03 15 36.5	
comp=Z,3μm,0.5s							
LCND	**La Caada**	**1.34**	**82**	⇓*i*P	**Pn**	**03 15 13.4**	**+0.7**
LCND				IAML		03 15 36.5	
comp=Z,3μm,0.5s							
ESQI	**Esquipulas**	**1.43**	**356**	Pn	**Pn**	**03 15 14.2**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.14**	**64**	Pn	**Pn**	**03 15 24.0**	**+0.3**
CRIN	**San Cristobal**	**2.19**	**101**	Pn	**Pn**	**03 15 24.9**	**+0.6**
APG	**El Apazote**	**2.21**	**328**	P	**Pn**	**03 15 24.9**	**0.0**
comp=Z,5.6nm,0.3s,baz=322,slow=7.0,SNR=72							
APG				S	**Sn**	**03 15 55.5**	**+4.4**
comp=Z,11nm,0.3s,baz=205,slow=11,SNR=4.0							
RTAL	**Retalhuleu**	**2.75**	**301**	Pn	**Pn**	**03 15 32.5**	**+0.4**
MATN	**Matagalpa**	**3.25**	**93**	Pn	**Pn**	**03 15 38.8**	**-0.1**
BOAB	**BOACO BROADBAN**	**3.56**	**100**	Pn	**Pn**	**03 15 42.9**	**-0.2**
PETF	**Flores**	**3.82**	**351**	Pn	**Pn**	**03 15 47.9**	**+1.2**
ACON	**Acoyapa**	**4.14**	**106**	Pn	Pn	03 15 55.5	+4.4
CCIG	**Comitan**	**4.21**	**319**	Pn	Pn	03 15 55.1	+3.0
JTS	**Las Juntas de**	**5.06**	**123**	P	**Pn**	**03 16 05.3**	**+1.6**
comp=Z,1.3nm,0.3s,baz=176,slow=22,SNR=18							
JTS				S	**Sn**	**03 17 01.2**	**+0.2**
baz=142,slow=23,SNR=1.2							
JTS	**Las Juntas de**	**5.06**	**123**	Pn	**Pn**	**03 16 05.4**	**+1.7**
TEIG	**Tepich**	**7.13**	**7**	Pn	**Pn**	**03 16 33.0**	**+1.0**
TIGA	**Tifton**	**18.96**	**15**	P	**Pn**	**03 19 09.8**	**+1.4**
250A	**Grady**	**18.97**	**8**	P	**P**	**03 19 07.9**	**+0.4**
Y49A	**Blount Mountai**	**20.80**	**7**	P	**P**	**03 19 27.9**	**+0.5**
TXAR	**Lajitas Array**	**20.96**	**323**	P	**P**	**03 19 28.9**	**-0.4**
comp=Z,0.7nm,0.5s,baz=142,slow=9.7,SNR=15							
TXAR	**Lajitas Array**	**20.96**	**323**	P	**P**	**03 19 29.6**	**+0.4**
TX31	**Lajitas Ar. Si**	**20.96**	**323**	P	**P**	**03 19 29.6**	**+0.4**
TX32	**Lajitas Array**	**20.96**	**323**	P	**P**	**03 19 29.6**	**+0.3**
LCAR	**Lake Charles**	**22.91**	**356**	P	**P**	**03 19 50.7**	**+0.8**
LCAR				IAmb	IAmb	03 19 52.1	
comp=Z,6.3nm,1.5s							
TKL	**Tuckaleechee C**	**22.98**	**11**	LR	LR	03 28 17.2	
comp=Z,34nm,19.0s,baz=194,slow=36							
WMOK	**Wichita Mounta**	**23.19**	**340**	P	**P**	**03 19 54.1**	**+1.4**
T42A	**Van Buren**	**23.87**	**356**	P	**P**	**03 19 57.1**	**-1.9**
T42A				IAmb	IAmb	03 19 59.7	
comp=Z,2.2nm,0.6s							
S22A	**4UR Ranch, Cre**	**29.11**	**331**	P	**P**	**03 20 46.5**	**-0.1**
S22A				IAmb	IAmb	03 21 01.4	
comp=Z,3.4nm,1.4s							
PV21	**Cone Mtn., Par**	**30.80**	**329**	P	**P**	**03 21 02.6**	**+1.1**
PV21				IAmb	IAmb	03 21 04.4	
comp=Z,2.5nm,0.9s							
ESJX	**Sierra Juarez**	**30.86**	**312**	P	**P**	**03 21 01.9**	**-0.1**
ESJX				IAmb	IAmb	03 21 08.2	
comp=Z,2.5nm,1.3s							
SAML	**Samuel**	**33.92**	**129**	P	**P**	**03 21 27.6**	**-1.2**
SAML				IAmb	IAmb	03 21 42.9	
comp=Z,2.1nm,0.9s							
PDAR	**Pinedale Array**	**34.37**	**333**	P	**P**	**03 21 30.0**	**-2.7**
comp=Z,0.1nm,0.3s,baz=138,slow=12,SNR=2.0							
REDW	**Red Top Meadow**	**35.42**	**332**	P	**P**	**03 21 41.5**	**-0.2**
LOHW	**Long Hollow**	**35.51**	**333**	P	**P**	**03 21 42.0**	**-0.4**
LOHW				IAmb	IAmb	03 21 43.2	
comp=Z,1.1nm,0.7s							
TPAW	**Teton Pass**	**35.56**	**332**	P	**P**	**03 21 41.7**	**-1.3**
TPAW				IAmb	IAmb	03 21 45.1	
comp=Z,1.1nm,0.8s							
RLMT	**Red Lodge**	**36.16**	**336**	P	**P**	**03 21 48.3**	**+0.3**
RLMT				IAmb	IAmb	03 21 55.5	
comp=Z,1.6nm,0.9s							
EGMT	**Eagleton**	**38.76**	**338**	P	**P**	**03 22 08.9**	**-1.0**
ILAR	**Eielson Array**	**64.70**	**336**	P	P	03 25 18.4	-4.4
comp=Z,0.3nm,0.9s,baz=130,slow=4.1,SNR=4.1							
WRA	**Warramunga Arr**	**137.76**	**255**	PKP	**PKPdf**	**03 34 08.2**	**-1.6**
comp=Z,0.3nm,0.7s,baz=84,slow=2.1,SNR=4.9							

*IDC **08** 03:23:58.7±0.8, 12°.30S×41°.18E, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.8/47, mbtmp3.9/15, ML4.0/5, MS3.5/5, Ms1 3.4/5, ms1mx3.0/41, Error ellipse: s-maj=24.2km s-min=19.3km az=102.0*

*NEIC **08** 03:24:00.8±2.3, 12°.36S±0°.09×41°.16E±0°.08, h14km±4km, mb4.3/5, Error ellipse: s-maj=14.0km s-min=10.7km az=214.0*

ISC 08 03:23:59.8±0.5,**12°.40S**±0°.06×**41°.12E**±0°.06,**h10**km,**n41,** σ1**9**0/45,**mb4.0**/12,**MS3.4**/3,**Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**8.48**	**137**	Pn	**Pn**	**03 26 03.4**	**+0.4**
4.4nm,0.3s,baz=298,slow=14,SNR=23							
OPO				Sn	**Sn**	**03 27 32.4**	**-6.5**
14nm,0.3s,baz=213,slow=21,SNR=8.1							
ABPO	**Ambohimpanom**	**8.83**	**139**	*i*P	**Pn**	**03 26 08.9**	**+1.1**
ABPO				*i*S	**Sn**	**03 27 45.5**	**-2.0**
ABPO	**Ambohimpanom**	**8.83**	**139**		**Pn**	**03 26 08.1**	**+0.4**
ABPO	**Ambohimpanom**	**8.83**	**139**	*i*P	**Pn**	**03 26 08.9**	**+1.1**
ABPO				*i*S	**Sn**	**03 27 45.5**	**-2.0**
KMBO	**Kilima Mbogo**	**11.83**	**341**	Pn	**Pn**	**03 26 47.9**	**-1.1**
0.2nm,0.3s,baz=232,slow=21,SNR=1.8							
KMBO				Sn	Sn	03 28 49.3	-12
0.3nm,0.3s,baz=72,slow=18,SNR=2.0							
KMBO	**Kilima Mbogo**	**11.83**	**341**	Pn	**Pn**	**03 26 46.7**	**-2.2**
LSZ	**Lusaka**	**12.88**	**256**	Pn	**Pn**	**03 27 02.5**	**-0.6**
1.3nm,0.3s,baz=84,slow=10,SNR=16							
LSZ				Sn	**Sn**	**03 29 19.8**	**-6.9**
1.0nm,0.3s,baz=134,slow=2.6,SNR=6.7							
LSZ				Lg	Lg	03 30 38.3	
0.4nm,0.3s,baz=174,slow=22,SNR=3.9							
LSZ				LR	LR	03 31 58.5	
comp=Z,242nm,21.6s,baz=154,slow=37							
LSZ	**Lusaka**	**12.88**	**256**	*i*P	**Pn**	**03 27 01.9**	**-1.2**
LSZ				*i*S	Sn	03 29 17.1	-10
LSZ	**Lusaka**	**12.88**	**256**		**Pn**	**03 27 02.7**	**-0.5**
LSZ	**Lusaka**	**12.88**	**256**	*i*P	**Pn**	**03 27 01.9**	**-1.2**
LSZ				*i*S	Sn	03 29 17.1	-10
MATP	**Matopo**	**14.49**	**235**	Pn	**Pn**	**03 27 25.0**	**-0.2**
0.2nm,0.3s,baz=54,slow=15,SNR=9.0							
MATP				Lg	Lg	03 31 27.8	
0.8nm,0.3s,baz=98,slow=14,SNR=4.3							
MATP				LR	LR	03 31 59.0	
comp=Z,97nm,19.4s,baz=108,slow=33							
MATP	**Matopo**	**14.49**	**235**	*i*P	**Pn**	**03 27 26.1**	**+0.9**
MATP				*i*S	**Sn**	**03 30 07.6**	**+1.4**
MATP	**Matopo**	**14.49**	**235**	*i*P	**Pn**	**03 27 26.1**	**+0.9**
MATP				*i*S	**Sn**	**03 30 07.6**	**+1.4**
LBTB	**Lobatse**	**19.30**	**227**	P	**P**	**03 28 26.6**	**+1.4**
0.2nm,0.3s,baz=47,slow=10,SNR=4.6							
LBTB	**Lobatse**	**19.30**	**227**	P	**Pn**	**03 28 27.2**	**+1.0**
BOSA	**Boshof**	**21.89**	**220**	P	**P**	**03 28 55.8**	**+2.6**
3.1nm,0.9s,baz=48,slow=10,SNR=5.9							
BOSA				LR	LR	03 36 17.2	
comp=Z,78nm,21.8s,baz=76,slow=34							
BOSA	**Boshof**	**21.89**	**220**	P	**P**	**03 28 56.1**	**+2.9**
TSUM	**Tsumeb**	**23.61**	**250**	LR	LR	03 38 16.4	
comp=Z,117nm,19.4s,baz=134,slow=36							
TOA0	**Torodi Ar. Sit**	**46.61**	**302**	P	**P**	**03 32 27.7**	**-0.8**
TOA0				IAmb	IAmb	03 32 45.3	
comp=Z,6.6nm,1.4s							
BRTR	**Keskin Array B**	**52.32**	**353**	P	**P**	**03 33 12.6**	**+0.7**
comp=Z,0.8nm,0.7s,baz=174,slow=12,SNR=7.0							
BRTR	**Keskin Array B**	**52.32**	**353**	P	**P**	**03 33 12.3**	**+0.5**
AGG	**Agios Georgios**	**54.07**	**342**	P	**P**	**03 33 26.8**	**+2.1**
KKAR	**Karatay Array**	**61.43**	**24**	P	**P**	**03 34 16.7**	**+0.3**
ABKAR	**Akbulak array**	**63.59**	**14**	P	**P**	**03 34 30.8**	**+0.2**
GERES	**GERESS Array B**	**65.62**	**340**	P	**P**	**03 34 43.3**	**-0.7**
comp=Z,0.8nm,0.8s,baz=134,slow=3.9,SNR=7.8							
GERES	**GERESS Array B**	**65.62**	**340**	P	**P**	**03 34 45.0**	**+0.9**
ESDC	**Sonseca Array**	**66.62**	**323**	P	**P**	**03 34 51.7**	**+1.0**
comp=Z,1.4nm,0.8s,baz=133,slow=5.7,SNR=13							
MKAR	**Makanchi Array**	**69.50**	**29**	P	**P**	**03 35 08.1**	**-0.4**
comp=Z,0.2nm,0.5s,baz=239,slow=10.0,SNR=1.6							
MKAR	**Makanchi Array**	**69.50**	**29**	P	**P**	**03 35 08.3**	**-0.2**
FINES	**FINESS Array B**	**74.56**	**353**	P	**P**	**03 35 39.3**	**+0.8**
comp=Z,1.2nm,0.8s,baz=225,slow=38,SNR=2.3							
FINES	**FINESS Array B**	**74.56**	**353**	P	**P**	**03 35 40.4**	**+1.9**
ZAA0	**Zalesovo Array**	**75.79**	**25**	P	**P**	**03 35 46.7**	**+0.9**
ZAA0				IAmb	IAmb	03 35 51.2	
comp=Z,1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**75.79**	**25**	P	**P**	**03 35 45.1**	**-0.6**
comp=Z,0.3nm,0.3s,baz=181,slow=7.4,SNR=3.9							
ZALV	**Zalesovo Beam**	**75.79**	**25**	P	**P**	**03 35 45.5**	**-0.3**
ARCES	**ARCESS Array B**	**82.46**	**355**	P	**P**	**03 36 20.9**	**-1.0**
comp=Z,2.8nm,1.0s,baz=167,slow=6.1,SNR=2.1							
BDFB	**Brasilia**	**85.90**	**255**	LR	LR	04 14 24.9	
comp=Z,42nm,18.4s,baz=124,slow=35							
ASAR	**Alice Springs**	**87.62**	**114**	P	**P**	**03 36 50.4**	**+1.3**
comp=Z,0.3nm,0.4s,baz=319,slow=39,SNR=2.2							
WRA	**Warramunga Arr**	**88.82**	**110**	P	**P**	**03 36 54.6**	**-0.2**
comp=Z,0.4nm,0.8s,baz=258,slow=3.4,SNR=2.8							
WRA	**Warramunga Arr**	**88.82**	**110**	P	**P**	**03 36 55.5**	**+0.8**
NVAR	**Mina Array Bea**	**148.25**	**328**	PKPbc	**PKPbc**	**03 43 47.0**	**+0.1**
comp=Z,1.0nm,1.0s,baz=67,slow=3.1,SNR=5.0							
NVAR	**Mina Array Bea**	**148.25**	**328**		**PKPbc**	**03 43 46.5**	**-0.4**

*NEIC **08** 03:27:08.7±1.2, 33°.07S±0°.04×70°.2W±0°.1, h108km±5km, mb4.1/5, ML3.8(GUC), Error ellipse: s-maj=13.4km s-min=6.0km az=94.0*

*GUC **08** 03:27:08.1±0.8, 33°.05S×70°.23W, h105km±3km, ML3.7*

ISC 08 03:27:09.0±0.8,**33°.07S**±0°.03×**70°.26W**±0°.07,**h112**km±5km, **n49,** σ0**8**8/67,**mb4.0**/3,**4C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.37**	**258**	*e*P	**Pn**	**03 27 24.3**	**-0.9**
PEL				*i*S	**Sn**	**03 27 36.9**	**-0.6**
PEL				IAML		03 27 38.1	
comp=E,7μm,0.4s							
PEL	**Peldehue**	**0.37**	**258**		**Pn**	**03 27 24.7**	**-0.5**
VA03	**San Esteban**	**0.39**	**321**	⇑*i*P	**Pn**	**03 27 24.9**	**-0.6**
VA03				*i*S	**Sn**	**03 27 37.6**	**-0.3**
VA03				IAML		03 27 38.8	
comp=E,6μm,0.5s							
VA03	**San Esteban**	**0.39**	**321**		**Pn**	**03 27 24.8**	**-0.6**
CLCH	**Cerro Calan**	**0.40**	**216**	⇓*i*P	**Pn**	**03 27 25.1**	**-0.4**
CLCH				*i*S	**Sn**	**03 27 37.6**	**-0.4**
CLCH				IAML		03 27 38.6	
comp=N,3μm,0.5s							
FSR	**Penalolen**	**0.47**	**209**	*e*P	**Pn**	**03 27 26.4**	**+0.5**
FSR				*i*S	**Sn**	**03 27 39.3**	**+0.7**
MT03	**Universidad Ad**	**0.47**	**206**	⇓*i*P	**Pn**	**03 27 25.3**	**-0.7**
MT03				*i*S	**Sn**	**03 27 38.3**	**-0.4**
MT03				IAML		03 27 39.1	
comp=E,10μm,0.2s							
MT05	**Renca**	**0.52**	**231**	⇑*i*P	**Pn**	**03 27 25.9**	**-0.3**
MT05				*i*S	**Sn**	**03 27 39.1**	**+0.1**
MT05				IAML		03 27 40.7	
comp=E,6μm,0.1s							
MT05	**Renca**	**0.52**	**231**		**Pn**	**03 27 25.9**	**-0.3**
ROCH	**El Roble**	**0.64**	**278**	⇑*i*P	**Pn**	**03 27 26.9**	**-0.3**
ROCH				*i*S	**Sn**	**03 27 41.1**	**+0.1**
ROCH				IAML		03 27 42.2	
comp=N,4μm,0.3s							
ROC1	**El Roble**	**0.64**	**278**	Pn	**Pn**	**03 27 26.7**	**-0.6**
MT02	**Curacav**	**0.76**	**255**	⇑*i*P	**Pn**	**03 27 27.6**	**-0.3**
MT02				*i*S	**Sn**	**03 27 42.0**	**-0.4**
MT02	**Curacav**	**0.76**	**255**		**Pn**	**03 27 27.7**	**-0.3**
LMEL	**Las Melosas**	**0.78**	**177**	⇓*i*P	**Pn**	**03 27 27.5**	**-0.9**
LMEL				*i*S	**Sn**	**03 27 42.9**	**-0.1**
LMEL				IAML		03 27 46.4	
comp=N,2μm,0.1s							
VA01	**Torpederas**	**1.17**	**272**	*e*P	**Pn**	**03 27 31.9**	**-0.1**
VA01				*i*S	**Sn**	**03 27 49.5**	**+0.1**
VA01				IAML		03 27 56.2	
comp=N,803nm,0.1s							
VA01	**Torpederas**	**1.17**	**272**	Pn	**Pn**	**03 27 31.9**	**-0.1**
BO01	**Tunca**	**1.49**	**207**	*e*P	**Pn**	**03 27 35.1**	**-0.6**
BO01				*i*S	**Sn**	**03 27 55.6**	**-0.4**
BO01				IAML		03 27 56.4	
comp=E,652nm,0.4s							
BO01	**Tunca**	**1.49**	**207**	Pn	**Pn**	**03 27 35.2**	**-0.6**
BO02	**Sierra Bellavi**	**1.77**	**194**	⇓*i*P	**Pn**	**03 27 39.3**	**0.0**
BO02				*i*S	**Sn**	**03 28 03.2**	**+0.9**
BO02	**Sierra Bellavi**	**1.77**	**194**	Pn	**Pn**	**03 27 39.2**	**0.0**
CO02	**Combarbal**	**1.96**	**341**	*e*P	**Pn**	**03 27 41.4**	**-0.2**
CO02				*i*S	**Sn**	**03 28 06.7**	**+0.1**
CO02				IAML		03 28 08.3	
comp=E,1μm,0.3s							
CO02	**Combarbal**	**1.96**	**341**	Pn	**Pn**	**03 27 41.5**	**-0.2**
ZON	**Zonda**	**2.02**	**42**		**Pn**	**03 27 41.6**	**-0.8**
CO03	**El Pedregal**	**2.25**	**351**	*e*P	**Pn**	**03 27 45.7**	**+0.3**
CO03				*i*S	**Sn**	**03 28 13.1**	**-0.1**
CO03				IAML		03 28 14.8	
comp=E,527nm,0.2s							
CO03	**El Pedregal**	**2.25**	**351**		**Pn**	**03 27 45.7**	**+0.3**
GO05	**Huala**	**2.38**	**215**	*e*P	**Pn**	**03 27 45.7**	**-1.3**
GO05				*i*S	**Sn**	**03 28 14.0**	**-2.0**
GO05				IAML		03 28 22.4	
comp=E,160nm,0.4s							
GO05	**Huala**	**2.38**	**215**	Pn	**Pn**	**03 27 46.1**	**-0.8**
GO04	**Tololo Observa**	**2.92**	**351**	*e*P	**Pn**	**03 27 53.5**	**-0.8**
GO04				*i*S	**Sn**	**03 28 27.3**	**-1.8**
GO04				IAML		03 28 32.7	
comp=N,433nm,0.2s							
GO04	**Tololo Observa**	**2.92**	**351**	Pn	**Pn**	**03 27 53.5**	**-0.8**
CO01	**Juntas del Tor**	**3.08**	**3**	*e*P	**Pn**	**03 27 57.1**	**+0.7**
CO01				*i*S	**Sn**	**03 28 33.7**	**+0.8**
CO01	**Juntas del Tor**	**3.08**	**3**	Pn	**Pn**	**03 27 57.0**	**+0.7**
LCO	**Las Campanas**	**4.06**	**355**	Pn	**Pn**	**03 28 08.1**	**-1.4**
AC05	**El Transito**	**4.22**	**360**	*e*P	**Pn**	**03 28 11.1**	**-0.3**
AC05				*i*S	**Sn**	**03 28 58.0**	**-1.9**
AC05	**El Transito**	**4.22**	**360**	Pn	**Pn**	**03 28 11.1**	**-0.3**
BI03	**Tigo**	**4.40**	**210**	Pn	**Pn**	**03 28 11.4**	**-2.2

ISC 08 03:53:13.1±0.6, 12°23N±0'.08×144°.2E±0'.1, h35km, n39, σ0993/32, mb4.3/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**25**	P	**Pn**	**03 53 37.3**	**-0.2**
	263nm,0.3s,baz=22,slow=7.2,SNR=79						
GUMO				S	**Sn**	**03 53 57.6**	**+1.7**
	288nm,0.3s,baz=357,slow=22,SNR=20						
GUMO				LR	LR	03 54 29.1	
	comp=Z,466nm,21.8s,baz=323,slow=50						
PATS	**Pohnpei**	**14.90**	**110**	Pn	**Pn**	**03 56 40.3**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**22.54**	**71**	T	T	04 21 48.5	
	baz=256,slow=74,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**22.56**	**71**	T	T	04 21 42.4	
H11S2	**WAKE ISLAND Hy**	**22.56**	**71**	T	T	04 21 48.5	
	baz=312,slow=74,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**23.02**	**68**	T	T	04 22 18.3	
	baz=255,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**23.03**	**68**	T	T	04 22 17.6	
	baz=255,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**23.04**	**68**	T	T	04 22 23.7	
	baz=255,slow=75,SNR=11						
KSRS	**Korea Array**	**29.05**	**333**	P	**P**	**03 59 10.1**	**+0.1**
	0.7nm,0.7s,baz=137,slow=9.1,SNR=2.2						
WB0	**Warramunga Arr**	**33.23**	**197**	P	**P**	**03 59 47.1**	**+0.1**
WR0	**Warramunga Arr**	**33.37**	**197**	P	**P**	**03 59 48.3**	**+0.1**
WR0				IAmb	IAmb	03 59 55.4	
	comp=Z,4.4nm,1.2s						
WB2	**Warramunga Arr**	**33.41**	**197**	P	**P**	**03 59 48.7**	**+0.1**
WB2				IAmb	IAmb	03 59 50.3	
	comp=Z,5.8nm,1.1s						
WRA	**Warramunga Arr**	**33.41**	**197**	P	**P**	**03 59 48.8**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=20,slow=9.7,SNR=21						
WRA	**Warramunga Arr**	**33.41**	**197**	P	**P**	**03 59 48.5**	**-0.1**
ASAR	**Alice Springs**	**37.07**	**196**	P	**P**	**04 00 20.8**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=20,slow=10,SNR=21						
ASAR	**Alice Springs**	**37.07**	**196**	P	**P**	**04 00 21.0**	**+0.9**
EIDS	**Eidsvold**	**37.96**	**170**	P	**P**	**04 00 28.1**	**+0.5**
MORW	**Morawa**	**49.25**	**213**	P	**P**	**04 01 59.0**	**+0.6**
RPZ	**Rata Peaks**	**60.82**	**158**	LR	LR	04 24 29.1	
	comp=Z,231nm,21.9s,baz=224,slow=31						
MK31	**Makanchi Array**	**62.03**	**317**	P	**P**	**04 03 30.4**	**+0.3**
MK31				IAmb	IAmb	04 03 32.6	
	comp=Z,4.4nm,1.4s						
MKAR	**Makanchi Array**	**62.03**	**317**	P	**P**	**04 03 29.7**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=91,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**62.03**	**317**	P	**P**	**04 03 30.3**	**+0.2**
KURK	**Kurchatov**	**65.21**	**320**	P	**P**	**04 03 50.7**	**-0.3**
KURK				IAmb	IAmb	04 03 51.7	
	comp=Z,6.5nm,1.5s						
BRLK	**Bradley Lake**	**66.96**	**30**	P	**P**	**04 04 01.4**	**-0.7**
BRLK				IAmb	IAmb	04 04 19.7	
	comp=Z,3.1nm,0.7s						
IL31		**70.07**	**25**	P	**P**	**04 04 20.3**	**-1.0**
ILAR	**Eielson Array**	**70.07**	**25**	P	**P**	**04 04 20.1**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=259,slow=5.6,SNR=4.0						
ILAR	**Eielson Array**	**70.07**	**25**	P	**P**	**04 04 20.3**	**-1.1**
BRVK	**Borovoye**	**70.66**	**322**	P	**P**	**04 04 25.4**	**+0.2**
BRVK				IAmb	IAmb	04 04 25.6	
	comp=Z,2.9nm,0.5s						
BMAR	**Burnt Mountain**	**71.60**	**23**	P	**P**	**04 04 31.8**	**+1.1**
ABKAR	**Akbulak array**	**77.12**	**318**	P	**P**	**04 05 02.5**	**-0.5**
GEYT	**Alibeck**	**79.54**	**307**	P	**P**	**04 05 16.6**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=215,slow=1.8,SNR=3.5						
GEYT	**Alibeck**	**79.54**	**307**	P	**P**	**04 05 16.9**	**+0.1**
ARCES	**ARCESS Array B**	**88.18**	**342**	P	**P**	**04 05 58.3**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=74,slow=24,SNR=3.6						
NVAR	**Mina Array Bea**	**88.27**	**51**	P	**P**	**04 06 02.4**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=269,slow=4.7,SNR=6.0						
NVAR	**Mina Array Bea**	**88.27**	**51**	P	**P**	**04 06 03.3**	**+1.8**
KBZ	**Khabaz**	**89.66**	**315**	P	**P**	**04 06 08.1**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=50,slow=4.9,SNR=3.6						
FINES	**FINESS Array B**	**92.12**	**335**	P	**P**	**04 06 17.1**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=70,slow=4.6,SNR=10.0						
FINES	**FINESS Array B**	**92.12**	**335**	P	**P**	**04 06 16.9**	**-1.8**
DBIC	**Dimbokro**	**143.97**	**300**	PKP	PKPbc	04 12 44.0	+0.2
	comp=Z,1.3nm,0.5s,baz=70,slow=4.5,SNR=4.5						

*ISK **08** 03:55:57.4, 34'.92N×26'.88E, h84km, ML3.1/16*
*ATH **08** 03:56:00.6, 35'.11N×26'.76E, h43km±1km, ML2.8/7, Error ellipse: s-maj=2.7km s-min=1.0km az=153.0*
*THE **08** 03:56:01.4, 35'.03N×26'.80E, h57km±3km, ML2.9/6, Error ellipse: s-maj=3.2km s-min=1.0km az=241.0*
*NIC **08** 03:56:01.2±0.0, 34'.82N×27'.19E, h33km±20km, Ml3.5/2*
*DDA **08** 03:56:02.9, 35'.31N×27'.43E, h23km±3km, ML2.7*
*HLW **08** 03:56:04.0, 34'.24N×27'.10E, h10km±32km, Md4.2, Ml3.9*

ISC 08 03:55:55.3±1.2, 34°.90N±0'.03×26°.98E±0'.02, h13km±9km, n96, σ1980/128, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.66**	**289**	P	**Pn**	**03 56 11.2**	**+0.9**
ZKR				S	**Sb**	**03 56 20.8**	**+3.2**
	1μm,0.3s						
ZKR	**Zakros**	**0.66**	**289**	P	**Pn**	**03 56 11.1**	**+0.9**
ZKR				S	**Sb**	**03 56 18.8**	**+1.2**
ZKR				AML	AML	03 56 23.0	
	comp=E,3737μm,0.3s						
ZKR				AML	AML	03 56 26.4	
	comp=N,1493μm,0.4s						
KARP	**Karpathos**	**0.66**	**13**	P	**Pn**	**03 56 13.1**	**+2.8**
KARP				S	**Sn**	**03 56 24.2**	**+3.6**
	comp=N,2μm,0.4s						
KARP	**Karpathos**	**0.66**	**13**	P	**Pn**	**03 56 13.1**	**+2.8**
KARP				S	**Sn**	**03 56 21.9**	**+1.3**
KARP				AML	AML	03 56 27.7	
	comp=N,5388μm,0.5s						
KARP				AML	AML	03 56 27.9	
	comp=E,3851μm,0.3s						
KARP	**Karpathos**	**0.66**	**13**	PG	**Pn**	**03 56 13.3**	**+3.0**
KARP				SG	**Sn**	**03 56 25.7**	**+5.2**
KARP	**Karpathos**	**0.66**	**13**	S	**Sn**	**03 56 25.8**	**+5.2**
KARP				AML	AML	03 56 27.1	
	comp=E,5.4nm,0.5s						
KARP				AML	AML	03 56 27.4	
	comp=E,3.8nm,0.3s						
STIA	**Sitia Lasithi**	**0.78**	**293**	P	**Pn**	**03 56 13.5**	**+1.5**
STIA				S	**Sn**	**03 56 24.2**	**+0.7**
NPS	**Neapolis**	**1.17**	**288**	P	**Pn**	**03 56 19.1**	**+1.8**
NPS				S	**Sg**	**03 56 32.2**	**-1.0**
	comp=E,425nm,0.4s						
NPS	**Neapolis**	**1.17**	**288**	P	**Pn**	**03 56 18.8**	**+1.5**
NPS				S	**Sg**	**03 56 32.2**	**-1.0**
NPS				AML	AML	03 56 43.1	
	comp=N,711μm,0.6s						
NPS				AML	AML	03 56 43.8	
	comp=E,1034μm,0.5s						
LAST	**Lasithi**	**1.25**	**282**	P	**Pn**	**03 56 20.1**	**+1.6**
LAST	**Lasithi**	**1.25**	**282**	P	**Pn**	**03 56 20.1**	**+1.6**
LAST				S	**Sg**	**03 56 34.2**	**-1.6**
LAST				AML	AML	03 56 46.9	
	comp=E,414μm,0.5s						
LAST				AML	AML	03 56 48.1	
	comp=N,547μm,0.6s						
HRKL	**Herakleio**	**1.59**	**285**	PN	**Pn**	**03 56 23.8**	**+0.8**
ARG	**Arkhangelos**	**1.61**	**35**	P	**Pg**	**03 56 27.1**	**+0.9**
ARG				S	**Sg**	**03 56 46.4**	**-0.7**
	comp=N,175nm,0.3s						
ARG	**Arkhangelos**	**1.61**	**35**	P	**Pg**	**03 56 27.0**	**+0.9**
ARG				S	**Sg**	**03 56 46.4**	**-0.7**
ARG				AML	AML	03 56 47.8	
	comp=E,385μm,0.3s						
ARG				AML	AML	03 56 48.4	
	comp=N,314μm,0.3s						
ARG	**Arkhangelos**	**1.61**	**35**	PN	**Pg**	**03 56 26.5**	**+0.3**
ARG	**Arkhangelos**	**1.61**	**35**	P	**Pg**	**03 56 26.9**	**+0.7**
ARG				S	**Sg**	**03 56 47.3**	**+0.1**
ANAF	**Anafi Island**	**1.75**	**326**	P	**Pn**	**03 56 26.5**	**+1.2**
ANAF				S	**Sn**	**03 56 45.5**	**-1.9**
	comp=N,942nm,0.4s						
ANAF	**Anafi Island**	**1.75**	**326**	P	**Pn**	**03 56 26.5**	**+1.2**
ANAF				S	**Sn**	**03 56 44.6**	**-2.8**
ANAF				AML	AML	03 56 53.0	
	comp=N,1421μm,0.4s						
ANAF				AML	AML	03 56 53.3	
	comp=E,2364μm,0.5s						
IDI	**Anoyia**	**1.75**	**283**	P	**Pb**	**03 56 27.2**	**-0.1**
IDI	**Anoyia**	**1.75**	**283**	P	**Pb**	**03 56 27.2**	**-0.1**
IDI				S	**Sn**	**03 56 46.5**	**-1.0**
IDI				AML	AML	03 57 05.6	
	comp=N,219μm,0.4s						
IDI				AML	AML	03 57 11.8	
	comp=E,123μm,0.6s						
IDI	**Anoyia**	**1.75**	**283**	PN	**Pn**	**03 56 26.4**	**+1.0**
SIVA	**Sivas**	**1.78**	**274**	P	**Pb**	**03 56 27.8**	**+0.1**
SIVA	**Sivas**	**1.78**	**274**	P	**Pb**	**03 56 27.8**	**+0.1**
KOSK	**Kos Island**	**1.84**	**0**	PN	**Pb**	**03 56 28.4**	**-0.4**
DAT	**Datca**	**1.89**	**15**	P	**Pb**	**03 56 29.0**	**-0.5**
DAT	**Datca**	**1.89**	**15**	PN	**Pb**	**03 56 29.1**	**-0.5**
DAT	**Datca**	**1.89**	**15**	*i* P	**Pb**	**03 56 29.1**	**-0.5**
DAT				*i* S	**Sn**	**03 56 49.4**	**-1.5**
SANT	**Santorini**	**1.92**	**320**	P	**Pn**	**03 56 28.4**	**+0.8**
SANT	**Santorini**	**1.92**	**320**	P	**Pn**	**03 56 28.4**	**+0.8**
SANT	**Santorini**	**1.92**	**320**	PN	**Pn**	**03 56 28.6**	**+1.0**
THT2	**Imerovigli**	**1.98**	**321**	PN	**Pn**	**03 56 29.6**	**+1.1**
THT2				SN	**Sn**	**03 56 52.9**	**-0.3**
CMBO	**Columbo, Santo**	**2.02**	**321**	P	**Pn**	**03 56 29.7**	**+0.8**
CMBO	**Columbo, Santo**	**2.02**	**321**	P	**Pn**	**03 56 29.7**	**+0.8**
AMGA	**Amorgos Island**	**2.11**	**336**	P	**Pn**	**03 56 31.0**	**+0.7**
AMGA				S	**Sn**	**03 56 54.4**	**-2.0**
	comp=E,168nm,0.3s						
AMGA	**Amorgos Island**	**2.11**	**336**	P	**Pn**	**03 56 31.0**	**+0.7**
AMGA				S	**Sn**	**03 56 54.3**	**-2.2**
TURN	**Turunc**	**2.13**	**29**	PN	**Pb**	**03 56 32.9**	**-0.8**
TURN				SN	**Sb**	**03 56 58.8**	**-1.3**
TURN	**Turunc**	**2.13**	**29**	*i* P	**Pb**	**03 56 33.1**	**-0.6**
TURN				*i* S	**Sb**	**03 56 58.6**	**-1.4**
BODT	**Bodrum**	**2.17**	**7**	PN	**Pb**	**03 56 32.9**	**-1.5**
VAM	**Vamos**	**2.33**	**283**	P	**Pn**	**03 56 35.4**	**+2.2**
VAM	**Vamos**	**2.33**	**283**	P	**Pn**	**03 56 35.4**	**+2.2**
DALY	**Dalyan (Mula)**	**2.35**	**35**	PN	**Pb**	**03 56 36.2**	**-1.1**
DALY	**Dalyan (Mula)**	**2.35**	**35**	*i* P	**Pb**	**03 56 36.4**	**-0.9**
DALY				*i* S	**Sn**	**03 57 00.2**	**-1.8**
GVDS	**Gavdos**	**2.37**	**269**	PN	**Pn**	**03 56 34.9**	**+1.1**
GVD	**Gavdhos**	**2.38**	**269**	PN	**Pn**	**03 56 34.9**	**+1.0**
FETY	**Fethiye**	**2.43**	**44**	P	**Pb**	**03 56 37.1**	**-1.8**
FETY	**Fethiye**	**2.43**	**44**	PN	**Pb**	**03 56 37.2**	**-1.7**
FETY	**Fethiye**	**2.43**	**44**	*i* P	**Pb**	**03 56 36.9**	**-2.0**
FETY				*i* S	**Sn**	**03 57 01.9**	**-2.5**
APE	**Apeiranthos**	**2.46**	**332**	P	**Pn**	**03 56 36.0**	**+1.0**
APE	**Apeiranthos**	**2.46**	**332**	P	**Pn**	**03 56 36.0**	**+1.0**
APE	**Apeiranthos**	**2.46**	**332**	PN	**Pn**	**03 56 36.3**	**+1.3**
KSL	**Kastellorizon**	**2.46**	**59**	S	**Sn**	**03 57 06.4**	**+1.4**
YER	**Yerkesik**	**2.46**	**25**	P	**Pb**	**03 56 37.8**	**-1.6**
YER	**Yerkesik**	**2.46**	**25**	PN	**Pb**	**03 56 37.3**	**-2.1**
IMMV	**Iera Moni Meta**	**2.51**	**284**	P	**Pn**	**03 56 38.2**	**+2.4**
IMMV	**Iera Moni Meta**	**2.51**	**284**	P	**Pn**	**03 56 38.2**	**+2.4**
IMMV	**Iera Moni Meta**	**2.51**	**284**	PN	**Pn**	**03 56 37.2**	**+1.4**
AKAS	**Kas**	**2.52**	**58**	PN	**Pb**	**03 56 38.7**	**-1.7**
AKAS	**Kas**	**2.52**	**58**	*i* P	**Pb**	**03 56 38.3**	**-2.1**
AKAS				*i* S	**Sn**	**03 57 04.1**	**-2.6**
RODP	**Rodopos**	**2.71**	**285**	P	**Pn**	**03 56 40.3**	**+1.8**
RODP	**Rodopos**	**2.71**	**285**	PN	**Pn**	**03 56 39.5**	**+1.0**
KNDR	**Palaiochora Ch**	**2.72**	**278**	PN	**Pn**	**03 56 39.9**	**+1.3**
MHLO	**Agia Marina, M**	**2.75**	**311**	P	**Pn**	**03 56 40.2**	**+1.2**
MHLO	**Agia Marina, M**	**2.75**	**311**	P	**Pn**	**03 56 40.2**	**+1.2**
SMG	**Samos**	**2.80**	**358**	P	**Pn**	**03 56 41.2**	**+1.5**
SMG	**Samos**	**2.80**	**358**	P	**Pn**	**03 56 41.2**	**+1.5**
AYDN	**Tasoluk**	**2.85**	**15**	*i* P	**Pn**	**03 56 42.4**	**+2.0**
AYDN				*i* S	**Sn**	**03 57 11.5**	**-3.1**
TAVA	**DENIZLI_Tavas**	**3.00**	**31**	*i* P	**Pn**	**03 56 44.7**	**+2.2**
TAVA				*i* S	**Sn**	**03 57 16.1**	**-2.3**
ELL	**Elmali**	**3.01**	**51**	PN	**Pn**	**03 56 45.3**	**+2.6**
GOLH	**Golhisar**	**3.13**	**41**	*i* P	**Pn**	**03 56 47.3**	**+3.0**
GOLH				*i* S	**Sn**	**03 57 20.4**	**-1.2**
GOLH				IAML		03 58 52.0	
	comp=E,54nm,3.8s						
DGB	**zmir**	**3.14**	**359**	*i* P	**Pn**	**03 56 45.3**	**+0.9**
DGB				*i* S	**Sn**	**03 57 19.2**	**-2.5**
URLA	**Izmir**	**3.46**	**355**	PN	**Pn**	**03 56 50.4**	**+1.6**
KTHA	**Kythira Island**	**3.46**	**294**	P	**Pn**	**03 56 49.5**	**+0.7**
KTHA	**Kythira Island**	**3.46**	**294**	P	**Pn**	**03 56 49.6**	**+0.7**
KTHA	**Kythira Island**	**3.46**	**294**	PN	**Pn**	**03 56 49.6**	**+0.7**
CHOS	**Chios island**	**3.55**	**348**	P	**Pn**	**03 56 51.3**	**+1.2**
CHOS	**Chios island**	**3.55**	**348**	P	**Pn**	**03 56 51.4**	**+1.2**
CHOS	**Chios island**	**3.55**	**348**	PN	**Pn**	**03 56 51.3**	**+1.2**
MATC	**Matruh**	**3.56**	**176**	P	**Pn**	**03 56 50.4**	**+0.3**
	baz=177						
VLI	**Veliai**	**3.75**	**300**	P	**Pn**	**03 56 53.0**	**+0.3**
VLI	**Veliai**	**3.75**	**300**	P	**Pn**	**03 56 53.2**	**+0.5**
MANT	**Manisa**	**3.80**	**19**	*i* P	**Pn**	**03 56 54.9**	**+1.2**
MANT				*i* S	**Sn**	**03 57 32.0**	**-6.3**
OSC1	**CSNet OBS 1**	**3.83**	**110**	P	**Pn**	**03 56 55.7**	**+1.9**
OSC1				S	**Sn**	**03 57 38.2**	**-0.5**
KULA	**Kula-Manisa**	**3.85**	**20**	PN	**Pn**	**03 56 56.1**	**+1.9**
BCK	**Bucak**	**3.88**	**48**	PN	**Pn**	**03 56 56.9**	**+2.3**
DID	**Didima**	**3.98**	**312**	P	**Pn**	**03 56 56.9**	**+0.9**
DID	**Didima**	**3.98**	**312**	P	**Pn**	**03 56 57.0**	**+0.9**
KEPZ	**Antalya-Kepez**	**4.25**	**61**	*i* P	**Pn**	**03 57 02.0**	**+2.3**
KEPZ				*i* S	Sn	03 57 40.5	-8.7
KEPZ				IAML		03 58 11.0	
	comp=N,11nm,1.9s						
AKMS	**Akamas**	**4.40**	**87**	P	**Pn**	**03 57 04.1**	**+2.3**
AKMS				S	**Sn**	**03 57 53.0**	**+0.1**
AKMS				AML	AML	03 57 54.5	
	comp=N,0.3nm,0.4s						
AKMS				AML	AML	03 57 54.5	
	comp=N,0.3nm,0.4s						
AKMS				AML	AML	03 57 54.6	
	comp=N,0.3nm,0.4s						
AKMS				AML	AML	03 57 54.6	
	comp=N,0.3nm,0.4s						
VLX	**Vlachokerasia**	**4.46**	**305**	P	**Pn**	**03 57 03.5**	**+0.9**
ALFC	**Alefka**	**4.62**	**85**	P	**Pn**	**03 57 07.5**	**+2.7**
OSC2	**CSNet OBS 4**	**4.76**	**111**	P	**Pn**	**03 57 09.7**	**+3.1**
OSC2				S	**Sn**	**03 58 00.6**	**-1.0**
ASGA	**Asgata**	**5.16**	**90**	P	**Pn**	**03 57 14.1**	**+1.9**
SWA2		**5.79**	**193**	P	**Pn**	**03 57 20.6**	**-0.2**
	baz=197						
SWA2				AMP		03 58 00.0	
	baz=197						
SWA2				S	Sn	03 58 18.0	-9.0
	baz=197						
GLL	**Jalalah**	**6.65**	**142**	P	**Pn**	**03 57 32.0**	**-0.7**
	baz=138						
NBNS	**Bani Suef**	**7.26**	**148**	P	**Pn**	**03 57 41.1**	**+0.1**
	baz=146						
HFRF	**Wahat Farafira**	**7.82**	**171**	P	**Pn**	**03 57 48.6**	**0.0**
	baz=171						
HFRF				S	Sn	03 59 04.8	-12
	baz=171						

*IDC **08** 04:06:37.8±0.6, 11°.39S×164°.45E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/35, mbtmp4.3/20, ML4.2/3, MS3.7/21, Ms1 3.7/21, ms1mx3.7/29, Error ellipse: s-maj=18.3km s-min=16.2km az=104.0*
*GCMT **08** 04:06:41.8±0.3, 11°.72S±0°.03×164°.18E±0°.03, h20km±1km, MW4.9/76, Moment Tensor Solution. s17,c21; s76,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.78±.17; $M_{\theta\theta}$0.55±.12; $M_{\phi\phi}$1.24±.11; $M_{r\theta}$-1.82±.26; $M_{\theta\phi}$1.04±.07; $M_{\phi r}$0.80±.19; Best double couple: $M_0$2.59100×10^{16} NP1:ϕ_s192.00000°, δ44.00000°, λ-139.00000°. NP2: ϕ_s70.00000°, δ63.00000°, λ-54.00000°. Principal axes: T 2.0690, Plg11.0000°, Azm135.0000°; N 1.0500, Plg32.0000°, Azm232.0000°; P -3.1120, Plg56.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 04:06:43.9±1.7, 11°.38S±0°.09×164°.43E±0°.10, h39km±5km, mb4.7/45 Error ellipse: s-maj=15.8km s-min=10.7km az=47.0*

ISC 08 04:06:43.4±0.4, 11°.39S±0°.07×164°.39E±0°.07, h35km, n115, σ1915/96, mb4.6/37, MS3.7/22, 2C, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.79**	**294**	Pn	**Pn**	**04 07 51.6**	**-1.5**
	33nm,0.3s,baz=240,slow=6.9,SNR=3.0						
HNR				Sn	**Sn**	**04 08 45.2**	**-2.2**
	15nm,0.3s,baz=16,slow=23,SNR=1.4						
HNR				LR	LR	04 09 41.3	
	comp=Z,2μm,21.4s,baz=134,slow=38						
HNR	**Honiara**	**4.79**	**294**	Pn	**Pn**	**04 07 52.8**	**-0.3**
SANVU	**Saraoutou**	**4.87**	**146**	Pn	**Pn**	**04 07 53.2**	**-1.1**
DZM	**Mont Dzumac**	**10.80**	**170**	*e*Pn	**Pn**	**04 09 15.7**	**0.0**
	10nm,0.5s						
DZM				*e*LR	LR	04 11 46.6	
	comp=Z,1μm,24.1s						
DZM	**Mont Dzumac**	**10.80**	**170**	Pn	**Pn**	**04 09 14.6**	**-1.2**
	1.1nm,0.3s,baz=346,slow=19,SNR=12						
DZM				LR	LR	04 12 49.8	
	comp=Z,729nm,18.1s,baz=22,slow=34						
DZM	**Mont Dzumac**	**10.80**	**170**	Pn	**Pn**	**04 09 15.4**	**-0.3**
PMG	**Port Moresby**	**17.07**	**275**	LR	LR	04 16 55.3	
	comp=Z,900nm,19.1s,baz=100,slow=36						
CTA	**Charters Tower**	**19.47**	**241**	P	**P**	**04 11 07.8**	**+0.4**
	0.3nm,0.3s,baz=67,slow=12,SNR=10						
CTAO	**Charters Tower**	**19.47**	**241**	P	**Pn**	**04 11 08.7**	**-0.1**
COEN	**Coen**	**20.86**	**261**	P	**P**	**04 11 23.3**	**+0.7**
COEN				IAmb	IAmb	04 11 28.4	
	comp=Z,37nm,1.2s						
URZ	**Urewera**	**29.07**	**159**	LR	LR	04 22 36.1	
	comp=Z,118nm,18.9s,baz=352,slow=33						
STKA	**Stephens Creek**	**29.29**	**222**	P	**P**	**04 12 41.7**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=14,slow=7.2,SNR=3.3						
STKA				LR	LR	04 22 50.6	
	comp=Z,169nm,19.3s,baz=32,slow=33						
STKA	**Stephens Creek**	**29.29**	**222**	P	**P**	**04 12 42.1**	**-0.5**
BKZ	**Black Stump Fm**	**29.68**	**161**	P	**P**	**04 12 46.7**	**+0.6**
BKZ				IAmb	IAmb	04 13 00.6	
	comp=Z,20nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**29.78**	**4**	T	T	04 43 58.5	
	baz=184,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.78**	**4**	T	T	04 44 04.7	
	baz=184,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**29.80**	**4**	T	T	04 44 06.0	
	baz=184,slow=76,SNR=12						
WR0	**Warramunga Arr**	**29.94**	**250**	P	**P**	**04 12 48.4**	**-0.2**
WB0	**Warramunga Arr**	**30.04**	**250**	P	**P**	**04 12 49.6**	**+0.2**
WB0				IAmb	IAmb	04 12 50.5	
	comp=Z,9.3nm,0.8s						
WB2	**Warramunga Arr**	**30.11**	**250**	P	**P**	**04 12 50.0**	**0.0**
WB2				IAmb	IAmb	04 12 52.8	
	comp=Z,25nm,1.4s						
WRA	**Warramunga Arr**	**30.12**	**250**	P	**P**	**04 12 50.0**	**-0.2**
	comp=Z,9.6nm,1.1s,baz=79,slow=9.0,SNR=26						
WRA				LR	LR	04 24 56.7	
	comp=Z,246nm,18.6s,baz=80,slow=36						
WRA	**Warramunga Arr**	**30.12**	**250**	P	**P**	**04 12 50.0**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**31.00**	**5**	T	T	04 45 33.9	
	baz=185,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**31.01**	**5**	T	T	04 45 23.6	
	baz=185,slow=76,SNR=9.5						
H11N2	**WAKE ISLAND Hy**	**31.02**	**5**	T	T	04 45 26.6	
	baz=185,slow=76,SNR=12						
AS31	**Alice Springs**	**31.45**	**243**	P	**P**	**04 13 02.8**	**+0.9**
ASAR	**Alice Springs**	**31.45**	**243**	P	**P**	**04 13 01.0**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=72,slow=9.5,SNR=19						
ASAR				PcP	**PcP**	**04 15 54.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=63,slow=2.9,SNR=6.1						
ASAR				LR	LR	04 25 01.3	
	comp=Z,145nm,19.7s,baz=78,slow=35						
ASAR	**Alice Springs**	**31.45**	**243**	P	**P**	**04 13 00.1**	**-1.8**
FOZ	**Fox Glacier**	**32.37**	**173**	P	**P**	**04 13 10.8**	**+1.3**
MTN	**Manton Dam**	**32.54**	**264**	P	**P**	**04 13 12.9**	**+1.4**
MTN				IAmb	IAmb	04 13 14.1	
	comp=Z,12nm,1.3s						
BBOO	**Buckleboo**	**33.63**	**226**	P	**P**	**04 13 21.1**	**+0.3**
SIJI	**Sorong**	**34.51**	**285**	LR	LR	04 29 06.4	
	comp=Z,137nm,18.3s,baz=188,slow=39						
KNRA	**Kununurra**	**34.88**	**259**	P	**P**	**04 13 32.1**	**+0.3**
RAR	**Rarotonga**	**35.67**	**111**	P	**P**	**04 13 36.2**	**-2.4**
	comp=Z,20nm,1.0s,baz=276,slow=9.2,SNR=4.1						
RAR	**Rarotonga**	**35.67**	**111**	P	**P**	**04 13 37.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**38.01**	**255**	LR	LR	04 29 03.2	
	comp=Z,79nm,18.0s,baz=92,slow=35						
FITZ	**Fitzroy Crossi**	**38.01**	**255**	P	**P**	**04 13 58.0**	**-0.5**
FITZ				IAmb	IAmb	04 14 00.8	
	comp=Z,20nm,1.1s						
BATI	**Baumata**	**40.01**	**268**	LR	LR	04 32 56.3	
	comp=Z,266nm,18.6s,baz=166,slow=39						
DAV	**Davao City (W)**	**42.75**	**294**	LR	LR	04 32 50.2	
	comp=Z,67nm,18.6s,baz=141,slow=37						
PPT	**Papeete**	**44.90**	**103**	LR	LR	04 30 59.1	
	comp=Z,54nm,21.4s,baz=190,slow=33						
PPT2	**Papeete2**	**44.90**	**103**	*e*LR	LR	04 27 28.9	
	comp=Z,241nm,28.8s						
TBI	**Tubuai**	**45.44**	**112**	*e*LR	LR	04 27 51.4	
	comp=Z,341nm,31.5

MFID	**Camas Ranch**	**90.43**	**46**	P	**P**	**04 19 40.6**	**-1.0**
MFID				IAmb	IAmb	04 19 43.6	
comp=Z,4.8nm,1.4s							
LCMT	**Little Creek M**	**90.76**	**53**	P	**P**	**04 19 44.4**	**+1.1**
CCUT	**Cedar City**	**90.80**	**52**	P	**P**	**04 19 44.9**	**+1.2**
HSIG		**90.84**	**61**	P	**P**	**04 19 44.3**	**+0.6**
HSIG				IAmb	IAmb	04 19 46.3	
comp=Z,2.5nm,0.7s							
SYO	**Syowa Base**	**91.07**	**197⇑**	*eX*	**P**	**04 19 40.0**	**-4.0**
SYO	**Syowa Base**	**91.07**	**197⇑**	*ePcP*	**PcP**	**04 19 47.0**	**+2.1**
U15A	**North Rim**	**91.37**	**53**	P	**P**	**04 19 47.1**	**+0.7**
U15A				IAmb	IAmb	04 19 48.7	
comp=Z,3.7nm,1.1s							
HLID	**Hailey**	**91.47**	**46**	P	**P**	**04 19 47.1**	**+0.6**
HLID				IAmb	IAmb	04 19 48.6	
comp=Z,2.9nm,1.2s							
PKCU	**Pink Cliffs**	**91.58**	**52**	P	**P**	**04 19 49.5**	**+2.1**
TUC	**Tucson**	**91.69**	**58**	P	**P**	**04 19 47.5**	**-0.1**
MVU	**Marysvale**	**91.90**	**51**	P	**P**	**04 19 49.0**	**+0.3**
MKAR	**Makanchi Array**	**92.87**	**317**	P	**P**	**04 19 52.7**	**0.0**
comp=Z,1.1nm,0.8s,baz=98,slow=6.2,SNR=5.3							
MKAR				LR	LR	05 02 49.6	
comp=Z,28nm,20.0s,baz=116,slow=36							
MKAR	**Makanchi Array**	**92.87**	**317**	P	**P**	**04 19 52.3**	**-0.4**
ZAA0	**Zalesovo Array**	**93.06**	**324**	P	**P**	**04 19 52.8**	**-0.6**
ZAA0				IAmb	IAmb	04 20 11.1	
comp=Z,3.0nm,1.2s							
ZALV	**Zalesovo Beam**	**93.06**	**324**	P	**P**	**04 19 52.3**	**-1.0**
comp=Z,0.5nm,0.4s,baz=73,slow=2.0,SNR=1.5							
ZALV				LR	LR	05 02 12.3	
comp=Z,17nm,19.0s,baz=105,slow=36							
ZALV	**Zalesovo Beam**	**93.06**	**324**	P	**P**	**04 19 52.9**	**-0.5**
MAKZ	**Makanchi**	**93.08**	**317**	P	**P**	**04 19 51.4**	**-2.3**
MAKZ				IAmb	IAmb	04 19 56.3	
comp=Z,5.9nm,1.1s							
YPP	**Pitchstone Pla**	**94.17**	**46**	P	**P**	**04 19 55.8**	**-3.4**
PDAR	**Pinedale Array**	**94.76**	**47**	P	**P**	**04 20 02.1**	**+0.3**
comp=Z,0.3nm,0.6s,baz=231,slow=4.3,SNR=2.8							
PDAR	**Pinedale Array**	**94.76**	**47**	P	**P**	**04 20 01.6**	**-0.2**
YKA	**Yellowknife Ar**	**95.89**	**27**	LR	LR	04 56 56.8	
comp=Z,28nm,20.4s,baz=0.0,slow=32							
KSH	**Kashi**	**95.94**	**309**	P	**P**	**04 20 09.2**	**+2.1**
KSH	**Kashi**	**95.94**	**309**	S	**S**	**04 31 27.4**	**+4.1**
KSH				pmax	pmax		
comp=Z,190nm,6.6s							
KSH				pmax	pmax		
comp=Z,68nm,6.2s							
KSH				LR	LR		
comp=N,250nm,7.2s							
KSH				LR	LR		
comp=E,130nm,5.6s							
KSH				LR	LR		
comp=Z,240nm,9.9s							
NRIK	**Noril'sk**	**95.98**	**340**	LR	LR	05 05 37.2	
comp=Z,33nm,18.9s,baz=202,slow=37							
SNAA	**Sanae**	**96.69**	**184**	P	**P**	**04 20 09.6**	**-0.2**
SNAA	**Sanae**	**96.69**	**184**	P	**P**	**04 20 09.4**	**-0.5**
comp=Z,1.9nm,0.8s,baz=171,slow=5.4,SNR=6.7							
SNAA	**Sanae**	**96.69**	**184**	P	**P**	**04 20 08.7**	**-1.1**
SNAA				IAmb	IAmb	04 20 10.4	
comp=Z,4.2nm,1.1s							
TXAR	**Lajitas Array**	**97.16**	**62**	LR	LR	05 00 00.9	
comp=Z,35nm,18.0s,baz=0.0,slow=33							
VNA3	**Neumayer Olymp**	**97.46**	**182**	P	**P**	**04 20 13.1**	**-0.2**
VNA2	**Neumayer--Watz**	**97.69**	**183**	P	Pdif	04 20 14.5	+0.2
LPAZ	**La Paz**	**121.22**	**117**	PKP	**PKiKP**	**04 25 35.3**	**+0.7**
comp=Z,0.8nm,0.7s,baz=244,slow=6.7,SNR=4.7							
LPAZ	**La Paz**	**121.22**	**117**		**PKiKP**	**04 25 34.6**	**0.0**
CPUP	**Villa Florida**	**124.77**	**133**	PKP	**PKiKP**	**04 25 40.5**	**-0.1**
comp=Z,2.0nm,1.0s,baz=177,slow=6.3,SNR=3.1							
CPUP	**Villa Florida**	**124.77**	**133**	PKPdf	**PKPdf**	**04 25 40.0**	**-0.3**
NOA	**NORSAR Array B**	**126.68**	**344**	PKP	**PKPdf**	**04 25 42.1**	**-0.9**
comp=Z,0.6nm,0.8s,baz=324,slow=16,SNR=1.5							
ESDC	**Sonseca Array**	**149.99**	**342**	PKPbc	**PKPbc**	**04 26 30.7**	**+0.1**
comp=Z,1.2nm,0.8s,baz=6.7,slow=2.3,SNR=8.9							
ESDC	**Sonseca Array**	**149.99**	**342**		**PKPbc**	**04 26 30.9**	**+0.2**

*ANF **08** 04:18:55.8±0.2, 34.°50N×118.°77W, h17km±1km, ML3.7/32, Error ellipse: s-maj=2.1km s-min=1.4km az=51.0*
*NEIC **08** 04:18:56.2±1.7, 34.°52N±0.°02×118.°76W±0.°02, h20km±4km, Error ellipse: s-maj=2.3km s-min=2.2km az=54.0*
*PAS **08** 04:18:56.7±1.5, 34.°518N±0.°008×118.°78W±0.°01, h14km±1km, ML3.6/232, Error ellipse: s-maj=1.3km s-min=1.1km az=67.0*
*SCEDC **08** 04:18:56.7, 34.°52N×118.°78W, h14km*
ISC 08 04:18:56.1±0.8, 34.°50N±0.°01×118.°79W±0.°01, h18km±4km, n145, σ0§91/201, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYR	**Pyramid**	**0.07**	**29**		**Pg**	**04 18 59.1**	**-0.6**
OSI	**Osito Audit: C**	**0.12**	**24**	P	**Pg**	**04 18 59.6**	**-0.6**
baz=207,SNR=1000							
OSI				S	**Sg**	**04 19 02.0**	**-0.8**
baz=207							
OSI	**Osito Audit: C**	**0.12**	**24**		**Pg**	**04 18 59.5**	**-0.6**
OSI				Sg	**Sg**	**04 19 01.8**	**-1.0**
PDE	**Pardee, Santa**	**0.18**	**110**		**Pg**	**04 19 01.1**	**+0.4**
PDE					**Sg**	**04 19 05.3**	**+1.4**
OAT	**Oat Mountain**	**0.21**	**138**		**Pg**	**04 19 01.8**	**+0.5**
OAT					**Sg**	**04 19 06.2**	**+1.4**
BLCC	**Black Canyon**	**0.28**	**160**		**Pb**	**04 19 02.9**	**+0.3**
BLCC					**Sg**	**04 19 08.0**	**+1.6**
IR2C	**Iron Canyon**	**0.34**	**110**		**Pb**	**04 19 03.5**	**-0.2**
AGOC	**Agoura**	**0.36**	**178**		**Pg**	**04 19 03.6**	**0.0**
STCC	**Santa Clara**	**0.39**	**239**		**Pb**	**04 19 05.5**	**+1.0**
STCC					**Sn**	**04 19 13.3**	**-0.6**
LEOC	**Leona Valley**	**0.42**	**72**		**Pg**	**04 19 04.3**	**-0.5**
THC	**Tehachapi Micr**	**0.42**	**14**		**Pg**	**04 19 04.4**	**-0.4**
THC					**Sg**	**04 19 10.6**	**-0.1**
MPI	**Mount Pinos, F**	**0.43**	**316**		**Pg**	**04 19 04.7**	**-0.4**
MPI					**Sg**	**04 19 10.8**	**-0.3**
ALPC	**Antelope**	**0.44**	**65**		**Pg**	**04 19 05.0**	**-0.2**
ALPC					**Sg**	**04 19 10.8**	**-0.5**
DECC	**Green Verdugo**	**0.45**	**124**	P	**Pb**	**04 19 05.5**	**-0.1**
baz=306,SNR=124							
DECC				S	**Sg**	**04 19 10.8**	**-0.6**
baz=306							
DECC	**Green Verdugo**	**0.45**	**124**		**Pb**	**04 19 05.5**	**-0.1**
DECC					**Sb**	**04 19 12.2**	**+0.2**
HLLC	**North Hollywoo**	**0.48**	**133**		**Pb**	**04 19 06.0**	**0.0**
HLLC					**Sb**	**04 19 13.6**	**+0.8**
RYS	**Reyes Peak**	**0.49**	**287**		**Pg**	**04 19 05.8**	**-0.3**
ABL	**Mount Abel**	**0.50**	**314**		**Pg**	**04 19 05.7**	**-0.6**
TJR	**Tejon Ranch**	**0.52**	**4**		**Pg**	**04 19 06.0**	**-0.6**
TJR					**Sg**	**04 19 13.1**	**-0.7**
CJV	**Casa Juvan**	**0.53**	**87**		**Pg**	**04 19 06.3**	**-0.6**
CJV					**Sg**	**04 19 13.6**	**-0.4**
GR2C	**Griffith Obs.**	**0.56**	**134**		**Pb**	**04 19 06.8**	**-0.5**
TPO	**Tropico Hills**	**0.59**	**51**		**Pb**	**04 19 07.6**	**-0.4**
TPO					**Sb**	**04 19 15.8**	**-0.4**
PASC	**Pasadena Art C**	**0.60**	**124**	Pg	**Pb**	**04 19 07.7**	**-0.4**
PASC				Sg	**Sg**	**04 19 16.5**	**+0.5**
LCGC	**La Cienega, Cu**	**0.60**	**146**		**Pg**	**04 19 08.3**	**+0.1**
BHPC	**Baldwin Hills**	**0.62**	**145**		**Pg**	**04 19 08.3**	**-0.1**
ARVC	**Arvin**	**0.62**	**357**	P	**Pb**	**04 19 08.0**	**-0.5**
baz=176,SNR=303							
ARVC				S	**Sb**	**04 19 16.3**	**-0.7**
baz=176							
ARVC	**Arvin**	**0.62**	**357**		**Pb**	**04 19 08.0**	**-0.5**
ARVC					**Sb**	**04 19 16.3**	**-0.7**
LRRC	**Littlerock Res**	**0.62**	**88**		**Pb**	**04 19 08.0**	**-0.5**
LRRC					**Sg**	**04 19 16.8**	**-0.1**
USC	**University of**	**0.64**	**139**		**Pg**	**04 19 08.6**	**-0.1**
CHFC	**Chilao Flat St**	**0.65**	**105**		**Pb**	**04 19 08.5**	**-0.6**
CHFC					**Sb**	**04 19 17.5**	**-0.4**
CACC	**Caltech Cellar**	**0.66**	**123**		**Pb**	**04 19 08.8**	**-0.4**
MWC	**Mount Wilson**	**0.66**	**115**	Pg	**Pb**	**04 19 08.9**	**-0.4**
MWC				Sg	**Sg**	**04 19 18.3**	**+0.2**
BCW	**Bitter Crk WRg**	**0.68**	**310**		**Pb**	**04 19 09.1**	**-0.5**
JNH	**Juniper Hills**	**0.69**	**94**		**Pb**	**04 19 09.1**	**-0.6**
JNH					**Sb**	**04 19 18.6**	**-0.4**
GVRC	**Garvey Reservo**	**0.71**	**129**		**Pb**	**04 19 09.6**	**-0.4**
TEJ	**El Tejon**	**0.73**	**6**		**Pb**	**04 19 09.7**	**-0.7**
EDW2	**Edwards Air Fo**	**0.75**	**60**	P	**Pb**	**04 19 10.3**	**-0.5**
baz=241,SNR=165							
EDW2				S	**Sb**	**04 19 20.3**	**-0.5**
baz=241							
EDW2	**Edwards Air Fo**	**0.75**	**60**		**Pb**	**04 19 10.3**	**-0.5**
EDW2					**Sb**	**04 19 20.1**	**-0.6**
SBC	**Santa Barbara**	**0.77**	**266**	P	**Pg**	**04 19 11.2**	**0.0**
baz=84,SNR=18							
SBC				S	**Sg**	**04 19 22.0**	**+0.6**
baz=84							
SBC	**Santa Barbara**	**0.77**	**266**		**Pg**	**04 19 11.2**	**0.0**
HOLC	**Holcomb Ridge**	**0.78**	**93**		**Pb**	**04 19 10.7**	**-0.6**
HOLC					**Sg**	**04 19 22.3**	**+0.6**
XTL	**Crystal Lake,**	**0.79**	**105**		**Pb**	**04 19 10.9**	**-0.5**
RHC	**Rose Hills Cem**	**0.81**	**128**		**Pb**	**04 19 11.4**	**-0.4**
SBB	**Saddle Back Bu**	**0.81**	**77**		**Pb**	**04 19 11.2**	**-0.6**
SBB					**Sb**	**04 19 22.3**	**-0.2**
RPV	**Rancho Palos V**	**0.82**	**157**		**Pb**	**04 19 10.9**	**-1.0**
RPV					**Sg**	**04 19 23.0**	**0.0**
PEM	**Pine Mountain**	**0.83**	**114**		**Pb**	**04 19 11.6**	**-0.4**
MAGC	**SCE Magundon P**	**0.86**	**353**		**Pb**	**04 19 12.2**	**-0.5**
BAKC	**Calstate**	**0.88**	**343**		**Pb**	**04 19 12.5**	**-0.4**
BAKC					**Sg**	**04 19 24.9**	**0.0**
FMP	**Fort Macarthur**	**0.89**	**153**	P	**Pb**	**04 19 12.4**	**-0.7**
baz=334,SNR=19							
FMP				S	**Sg**	**04 19 24.9**	**-0.2**
baz=334							
FMP	**Fort Macarthur**	**0.89**	**153**		**Pb**	**04 19 12.3**	**-0.7**
FMP					**Sg**	**04 19 25.1**	**0.0**
CCAC	**Calif City Air**	**0.91**	**44**		**Pb**	**04 19 13.1**	**-0.3**
PSRC	**Puddingstone R**	**0.91**	**117**		**Pb**	**04 19 13.1**	**-0.3**
PSRC					**Sg**	**04 19 25.7**	**-0.1**
PKM	**Mcpherson Peak**	**0.93**	**295**	P	**Pb**	**04 19 13.6**	**-0.3**
baz=113,SNR=275							
PKM				S	**Sg**	**04 19 26.5**	**-0.1**
baz=113							
PKM	**Mcpherson Peak**	**0.93**	**295**		**Pb**	**04 19 13.6**	**-0.3**
SSK	**Sunset Peak**	**0.95**	**108**		**Pb**	**04 19 13.7**	**-0.5**
SYP	**Santa Ynez Pea**	**0.98**	**272**		**Sg**	**04 19 28.0**	**-0.3**
WOFM	**Oak Flat**	**1.03**	**3**		**Pb**	**04 19 14.9**	**-0.7**
WOFM					**Sb**	**04 19 28.5**	**-0.4**
SBI	**Santa Barbara**	**1.04**	**191**		**Sg**	**04 19 30.1**	**+0.2**
CHNC	**Chino**	**1.04**	**118**		**Pb**	**04 19 15.2**	**-0.5**
HYS	**Haystack Butte**	**1.06**	**70**		**Pb**	**04 19 15.9**	**-0.2**
HYS					**Sn**	**04 19 30.0**	**-0.7**
DTP	**Desert Tortois**	**1.09**	**45**		**Pb**	**04 19 16.0**	**-0.5**
DTP					**Sn**	**04 19 30.9**	**-0.4**
SS2	**San Sevaine**	**1.10**	**105**		**Pn**	**04 19 16.3**	**-0.4**
ADO	**Adelanto Recei**	**1.12**	**87**		**Pn**	**04 19 16.7**	**-0.3**
CIS	**Catalina Islan**	**1.14**	**164**	P	**Pn**	**04 19 16.0**	**-1.3**
baz=345,SNR=48							
CIS				S	**Sb**	**04 19 30.6**	**-1.2**
baz=345							
CIAC	**Catalina I. Ai**	**1.14**	**164**		**Pn**	**04 19 16.0**	**-1.3**
CIAC					**Sb**	**04 19 30.7**	**-1.2**
NJQ	**Nojoqui County**	**1.15**	**272**		**Pn**	**04 19 17.0**	**-0.4**
NJQ					**Sg**	**04 19 32.9**	**-0.6**
WBSM	**Bird Springs**	**1.16**	**27**		**Pn**	**04 19 17.4**	**-0.4**
ISA	**Isabella, Lake**	**1.19**	**12**	P	**Pn**	**04 19 17.7**	**-0.2**
baz=192,SNR=376							
ISA				S	**Sg**	**04 19 34.0**	**-0.6**
baz=192							
ISA	**Isabella, Lake**	**1.19**	**12**		**Pn**	**04 19 17.5**	**-0.5**
CARC	**Carrizo Plain**	**1.19**	**313**		**Pb**	**04 19 17.9**	**-0.2**
CSP	**Cedar Springs**	**1.20**	**99**		**Pb**	**04 19 18.1**	**-0.3**
VTV	**Victorville**	**1.20**	**87**		**Pb**	**04 19 18.2**	**-0.2**
VTV					**Sn**	**04 19 33.8**	**-0.3**
WHFM	**Hanning Flat**	**1.24**	**17**		**Pb**	**04 19 18.8**	**-0.4**
WASM	**Alta Sierra Ca**	**1.25**	**9**		**Pb**	**04 19 18.9**	**-0.4**
WASM					**Sn**	**04 19 35.2**	**-0.2**
BCH	**Branch Mountai**	**1.27**	**303**		**Pn**	**04 19 19.0**	**-0.1**
RVR	**Riverside**	**1.27**	**113**		**Pn**	**04 19 18.3**	**-0.8**
RVR					**Sn**	**04 19 35.3**	**-0.4**
SMMC	**Simmler**	**1.28**	**309**	P	**Pb**	**04 19 19.4**	**-0.4**
baz=128,SNR=232							
SMMC				S	**Sb**	**04 19 36.5**	**+0.5**
baz=128							
SMMC	**Simmler**	**1.28**	**309**		**Pb**	**04 19 19.4**	**-0.4**
LRMC	**Laurel Mtn Rad**	**1.33**	**43**	P	**Pb**	**04 19 20.1**	**-0.6**
baz=224,SNR=58							
LRMC	**Laurel Mtn Rad**	**1.33**	**43**		**Pb**	**04 19 20.2**	**-0.4**
VES	**Vestal, Richgr**	**1.36**	**350**	P	**Pn**	**04 19 19.8**	**-0.4**
baz=169,SNR=266							
VES				S	**Sn**	**04 19 37.3**	**-0.6**
baz=169							
VES	**Vestal, Richgr**	**1.36**	**350**		**Pn**	**04 19 19.8**	**-0.4**
VES					**Sn**	**04 19 37.2**	**-0.6**
SME	**Santa Rosa Min**	**1.37**	**119**		**Pn**	**04 19 19.8**	**-0.6**
BSM	**San Miguel Isl**	**1.38**	**251**		**Pb**	**04 19 20.7**	**-0.6**
ELS	**Elsinore Mount**	**1.41**	**127**		**Pn**	**04 19 20.2**	**-0.9**
SVD	**Seven Oaks Dam**	**1.45**	**105**		**Pb**	**04 19 22.1**	**-0.6**
SRTC	**Snort**	**1.46**	**35**		**Pn**	**04 19 21.9**	**+0.2**
CFT	**Crafton Hills**	**1.46**	**108**		**Pn**	**04 19 22.0**	**+0.3**
PEC	**Perris**	**1.48**	**114**		**Pn**	**04 19 21.4**	**-0.5**
WCHM	**Chimney Peak**	**1.50**	**23**		**Pb**	**04 19 22.8**	**-0.8**
RRX	**Edison Barstow**	**1.52**	**75**	P	**Pn**	**04 19 21.6**	**-0.8**
baz=257,SNR=21							
RRX				S	**Sb**	**04 19 42.0**	**-0.8**
baz=257							
RRX	**Edison Barstow**	**1.52**	**75**		**Pb**	**04 19 24.4**	**+0.6**
SCI2	**San Clemente I**	**1.53**	**172**	P	**Pn**	**04 19 21.7**	**-0.9**
baz=353,SNR=14							
BBRC	**Big Bear Solar**	**1.56**	**98**	P	**Pn**	**04 19 22.1**	**-1.1**
baz=280,SNR=153							
BBRC				Sg	**Sg**	**04 19 47.0**	**+0.4**
baz=280							
BBRC	**Big Bear Solar**	**1.56**	**98**		**Pb**	**04 19 24.3**	**-0.4**
MURC	**Murrieta**	**1.60**	**124**	P	**Pn**	**04 19 22.6**	**-1.0**
baz=305,SNR=75							
MURC				S	**Sn**	**04 19 43.6**	**-0.2**
baz=305							
PAGB	**Antelope Grade**	**1.71**	**316**		**Pn**	**04 19 25.2**	**0.0**
GSC	**Goldstone, Bar**	**1.81**	**63**	P	**Pn**	**04 19 26.7**	**+0.1**
baz=245,SNR=159							
GSC				Sg	**Sg**	**04 19 55.1**	**+0.6**
baz=245							
GSC	**Goldstone, Bar**	**1.81**	**63**	Pn	**Pn**	**04 19 26.8**	**+0.1**
MPMC	**Manual Prospec**	**1.88**	**34**	P	**Pn**	**04 19 27.6**	**0.0**
baz=215,SNR=288							
MPMC				Sg	**Sg**	**04 19 57.7**	**+1.0**
baz=215							
VOG	**Valley Oaks Go**	**1.88**	**345**	P	**Pn**	**04 19 27.7**	**+0.3**
baz=165,SNR=9.5							
VOG				S	**Sn**	**04 19 51.1**	**+0.5**
baz=165							
CWC	**Cottonwood Cre**	**2.02**	**16**	Sb	**Sg**	**04 19 59.7**	**-1.4**
baz=197							
HEC	**Hector,Ludlow**	**2.04**	**80**	P	**Pn**	**04 19 29.6**	**-0.1**
baz=262							
HEC				S	**Sn**	**04 19 55.0**	**0.0**
baz=262							
PFO	**Pinyon Flats O**	**2.12**	**114**	P	**Pn**	**04 19 31.0**	**0.0**
baz=296,SNR=42							
PFO				S	**Sn**	**04 19 56.8**	**-0.1**
baz=296							
PFO	**Pinyon Flats O**	**2.12**	**114**	Pn	**Pn**	**04 19 30.9**	**0.0**
TPFO	**Pinon Flats**	**2.13**	**114**	P	**Pn**	**04 19 30.9**	**-0.1**
baz=296							
109C	**Camp Elliot, M**	**2.13**	**139**	P	**Pn**	**04 19 30.0**	**-0.9**
baz=320,SNR=13							
109C				S	**Sn**	**04 19 56.1**	**-0.8**
baz=320							
109C	**Camp Elliot, M**	**2.13**	**139**	Pn	**Pn**	**04 19 29.9**	**-1.0**
BELC	**Belle Mtn. Jos**	**2.36**	**101**	P	**Pn**	**04 19 34.5**	**+0.3**
baz=283							
PMPB	**Monarch Peak**	**2.37**	**317**	Pn	**Pn**	**04 19 34.7**	**+0.4**
TJX	**Tijuana**	**2.46**	**143**	Pn	**Pn**	**04 19 36.2**	**+0.8**
TUQ	**Turquoise Moun**	**2.53**	**68**	P	**Pn**	**04 19 35.1**	**-1.4**
baz=249							
BAR	**Barrett**	**2.53**	**135**	Pn	**Pn**	**04 19 36.0**	**-0.4**
MONP2	**Monument Peak**	**2.54**	**129**	P	**Pn**	**04 19 36.6**	**-0.1**
baz=310,SNR=10							
MONP2				S	**Sn**	**04 20 07.1**	**-0.3**
baz=310							
TIN	**Tinemaha, Big**	**2.59**	**10**	Sb	**Sb**	**04 20 16.2**	**+2.7**
baz=190							
GMRC	**Granite Mounta**	**2.59**	**83**	P	**Pn**	**04 19 36.9**	**-0.4**
baz=265							
TKX	**Tecate**	**2.65**	**136**	Pn	**Pn**	**04 19 37.0**	**-1.1**
CBX	**Cerro Bola**	**2.81**	**140**	Pn	**Pn**	**04 19 40.2**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**2.90**	**129**	P	**Pn**	**04 19 42.1**	**+0.6**
baz=311							
RMX	**La Rumorosa**	**2.95**	**129**	Pn	**Pn**	**04 19 44.3**	**+2.0**
IRM	**Iron Mountain**	**3.03**	**96**	P	**Pn**	**04 19 43.4**	**+0.1**
baz=278,SNR=26							
SAO	**San Andreas Ge**	**3.13**	**317**	Pn	**Pn**	**04 19 45.9**	**+1.3**
MDPB	**Devils Postpil**	**3.13**	**356**	Pn	**Pn**	**04 19 47.0**	**+2.1**
TPNV	**Topopah Spring**	**3.19**	**39**	P	**Pn**	**04 19 46.2**	**+0.5**
baz=221,SNR=14							
TPNV	**Topopah Spring**	**3.19**	**39**	Pn	**Pn**	**04 19 46.1**	**+0.5**
ESJX	**Sierra Juarez**	**3.44**	**136**	Pn	**Pn**	**04 19 48.9**	**-0.2**
SHPR	**Sheep Range**	**3.57**	**55**	Pn	**Pn**	**04 19 52.3**	**+1.5**
GLA	**Glamis**	**3.60**	**113**	Pn	**Pn**	**04 19 53.3**	**+2.2**
CMB	**Columbia Colle**	**3.75**	**340**	Pn	**Pn**	**04 19 54.1**	**+0.8**
WAKR	**Walker**	**4.03**	**353**	Pn	**Pn**	**04 19 59.8**	**+2.7**
W13A	**Hualapai Mount**	**4.08**	**80**	Pn	**Pn**	**04 19 58.8**	**+0.9**
PRN	**Pahroc Range**	**4.19**	**45**		**Pg**	**04 20 14.4**	**-2.0**
SPX	**San Pedro Mart**	**4.45**	**140**	Pn	**Pn**	**04 20 04.6**	**+1.6**
KVN	**Kaiserville**	**4.57**	**7**		**Pn**	**04 20 05.9**	**+1.3**
PNTR	**Pine Nut**	**4.62**	**352**		**Pn**	**04 20 06.4**	**+1.0**
AFDM	**Forest Hills D**	**4.77**	**339**		**Pn**	**04 20 08.0**	**+0.8**
VCNR	**Virginia City**	**4.83**	**352**		**Pn**	**04 20 08.3**	**0.0**
LCMT	**Little Creek M**	**5.15**	**59**	Pn	**Pn**	**04 20 14.7**	**+2.1**
CCUT	**Cedar City**	**5.34**	**54**	Pg	**Pb**	**04 20 32.5**	**+3.4**
KNB	**Kanab**	**5.46**	**61**	Pn	**Pn**	**04 20 17.7**	**+0.9**
U15A	**North Rim**	**5.64**	**68**	Pn	**Pn**	**04 20 21.3**	**+2.0**
PKCU	**Pink Cliffs**	**6.01**	**59**	Pn	**Pn**	**04 20 28.7**	**+4.2**
MTPU	**Mount Pierson**	**6.39**	**55**	Pn	**Pn**	**04 20 33.2**	**+3.4**
KMRM	**Mail Ridge**	**6.92**	**327**	Pn	**Pn**	**04 20 38.3**	**+1.5**
KEBM	**Edson Butte**	**9.41**	**334**	Pn	**Pn**	**04 21 14.0**	**+3.1**

*IDC **08** 04:20:35.5±0.4, 4.°56S×151.°86E, h150km±2km, mb3.7/14, mb1 3.9/16, mb1mx3.8/31, mbtmp4.2/16, Error ellipse: s-maj=16.1km s-min=8.7km az=114.0*
*NEIC **08** 04:20:36.6±1.9, 4.°54S±0.°09×151.°9E±0.°1, h157km±5km, mb4.4/22, Error ellipse: s-maj=17.3km s-min=12.5km az=112.0*
ISC 08 04:20:36.0±0.5, 4.°53S±0.°07×151.°88E±0.°08, h150km, n54, σ1§31/62, mb4.2/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.26**	**34**	P	**Pn**	**04 20 57.5**	**+1.1**
246nm,0.3s,baz=256,slow=0.9,SNR=64							
KRVT				S	**Sn**	**04 21 12.8**	**+0.8**
228nm,0.3s,baz=14,slow=23,SNR=18							
RABL	**Rabaul**	**0.44**	**41**		**Pn**	**04 20 58.5**	**+1.3**
PMG	**Port Moresby**	**6.74**	**224**	P	**Pn**	**04 22 13.3**	**+0.6**
1.0nm,0.3s,baz=346,slow=21,SNR=1.9							
PMG				S	**Sn**	**04 23 28.8**	**+0.4**
4.6nm,0.3s,baz=348,slow=22,SNR=3.3							
PMG	**Port Moresby**	**6.74**	**224**	Pn	**Pn**	**04 22 14.0**	**+1.4**
PATS	**Pohnpei**	**12.98**	**30**	Pn	**Pn**	**04 23 35.9**	**+0.7**
GUMO	**Guam**	**19.29**	**339**	P	**P**	**04 24 49.7**	**+0.3**
3.0nm,0.3s,baz=162,slow=19,SNR=4.2							
GUMO	**Guam**	**19.29**	**339**	P	**Pn**	**04 24 51.1**	**-1.0**
MTN	**Manton Dam**	**22.09**	**247**	P	**P**	**04 25 22.4**	**+3.1**
MTN				IAmb	IAmb	04 25 37.0	
comp=Z,14nm,1.4s							
DZM	**Mont Dzumac**	**22.44**	**142**	P	**P**	**04 25 22.7**	**0.0**
comp=Z,17nm,0.6s,baz=172,slow=20,SNR=16							
DZM	**Mont Dzumac**	**22.44**	**142**	P	**P**	**04 25 23.9**	**+1.2**
DZM				IAmb	IAmb	04 25 24.8	
comp=Z,24nm,0.8s							
WB0	**Warramunga Arr**	**22.80**	**227**	P	**P**	**04 25 26.2**	**+0.1**
WB0				IAmb	IAmb	04 25 27.6	
comp=Z,19nm,1.2s							
WR0	**Warramunga Arr**	**22.82**	**226**	P	**P**	**04 25 26.1**	**-0.1**
WRAB	**Tennant Creek**	**22.94**	**227**	P	**P**	**04 25 27.2**	**-0.1**
WRAB				IAmb	IAmb	04 25 28.3	
comp=Z,12nm,1.0s							
WB2	**Warramunga Arr**	**22.94**	**227**	P	**P**	**04 25 27.3**	**-0.1**
WB2				IAmb	IAmb	04 25 28.5	
comp=Z,9.4nm,0.9s							
WB2				PcP	**PcP**	**04 29 13.5**	**+0.5**
WRA	**Warramunga Arr**	**22.95**	**227**	P	**P**	**04 25 26.8**	**-0.7**
comp=Z,6.1nm,0.5s,baz=50,slow=10.0,SNR=127							
WRA				pP	**pP**	**04 25 56.3**	**+0.6**
comp=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.30**	**202**	Pg	**Pg**	**04 39 58.2**	**-0.5**
	0.9nm,0.3s,baz=34,slow=18,SNR=13						
CMAR				Lg	Lg	04 41 39.0	
	1.0nm,0.3s,baz=17,slow=30,SNR=7.1						
XAN	**Xi'an**	**10.68**	**33**	P	**Pn**	**04 40 11.8**	**-0.3**
XAN				S	Sn	04 42 02.4	-9.4
GTA	**Gaotai**	**14.21**	**354**	*eP*	**Pn**	**04 41 01.4**	**+1.0**
GTA				pP	P	04 41 07.7	-0.2
GTA				sP		04 41 10.6	
WMQ	**Urumqi**	**21.82**	**332**	*eP*	**P**	**04 42 28.7**	**-2.8**
KSRS	**Korea Array**	**25.27**	**55**	LR	LR	04 53 00.6	
	comp=Z,26nm,18.9s,baz=15,slow=37						
MKAR	**Makanchi Array**	**26.54**	**329**	P	**P**	**04 43 17.8**	**+0.8**
	0.5nm,0.7s,baz=118,slow=13,SNR=3.6						
ZALV	**Zalesovo Beam**	**31.34**	**341**	P	**P**	**04 44 00.3**	**+0.8**
	0.6nm,0.5s,baz=146,slow=10,SNR=2.0						
MJAR	**Matsushiro Arr**	**32.97**	**61**	LR	LR	04 58 00.6	
	comp=Z,27nm,20.4s,baz=130,slow=38						
WRA	**Warramunga Arr**	**54.93**	**142**	P	**P**	**04 47 10.7**	**+0.4**
	0.5nm,0.8s,baz=330,slow=8.0,SNR=5.4						
KRVT	**Keravat (AS076**	**56.86**	**114**	LR	LR	05 11 59.7	
	comp=Z,36nm,19.1s,baz=268,slow=36						
ASAR	**Alice Springs**	**57.71**	**145**	P	**P**	**04 47 29.4**	**-0.7**
	0.3nm,0.5s,baz=329,slow=6.9,SNR=1.7						

NEIC ***08*** *05:02:23.5±1.8,20°.9S±0°.1×178°.7W±0°.1,h581km±6km, mb4.3/63, Error ellipse: s-maj=18.0km s-min=15.1km az=105.0*

IDC ***08*** *05:02:28.6±1.9,20°.89S×178°.84W,h637km±22km, mb3.4/13,mb1 3.6/13,mb1mx3.5/22,mbtmp4.3/13, Error ellipse: s-maj=16.9km s-min=13.2km az=134.0*

ISC 08 05:02:24.8±0.4,20°.97S±0°.07×178°.78W±0°.09,h600km, n156,σ1§01/163,mb4.2/41,16C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.39**	**317**	P	**P**	**05 03 50.7**	**-2.6**
DZM	**Mont Dzumac**	**13.79**	**263**	P	**P**	**05 05 21.4**	**-0.4**
	0.9nm,0.3s,baz=270,slow=23,SNR=9.1						
DZM	**Mont Dzumac**	**13.79**	**263**	P	**P**	**05 05 20.3**	**-1.5**
SANVU	**Saraoutou**	**14.40**	**290**	P	**P**	**05 05 27.1**	**-0.5**
OUZ	**Omahuta**	**15.70**	**204**	P	**P**	**05 05 38.7**	**-0.5**
OUZ				IAmb	IAmb	05 05 44.9	
	comp=Z,19nm,1.2s						
URZ	**Urewera**	**17.59**	**191**	S	**S**	**05 08 43.3**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=146,slow=15,SNR=1.1						
BKZ	**Black Stump Fm**	**18.59**	**192**	P	**P**	**05 06 03.7**	**-2.0**
BFZ	**Birch Farm**	**20.10**	**191**	P	**P**	**05 06 19.6**	**+0.3**
QRZ	**Quartz Range**	**21.13**	**199**	P	**P**	**05 06 27.7**	**-0.8**
NNZ	**Nelson**	**21.25**	**196**	P	**P**	**05 06 28.6**	**-1.1**
THZ	**Tophouse**	**21.89**	**197**	P	**P**	**05 06 34.8**	**-0.6**
KHZ	**Kahutara**	**22.34**	**195**	P	**P**	**05 06 37.8**	**-1.4**
WKZ	**Wanaka**	**25.84**	**200**	P	**P**	**05 07 10.1**	**-0.2**
MLZ	**Mavora Lakes**	**26.62**	**201**	P	**P**	**05 07 18.3**	**+1.3**
WHZ	**Wether Hill Ro**	**27.14**	**201**	P	**P**	**05 07 20.3**	**-1.3**
ARMA	**Armidale**	**28.20**	**244**	P	**P**	**05 07 30.1**	**-1.1**
ARMA				IAmb	IAmb	05 07 34.7	
	comp=Z,9.4nm,1.0s						
PMG	**Port Moresby**	**34.74**	**284**	P	**P**	**05 08 26.2**	**-0.5**
STKA	**Stephens Creek**	**36.93**	**245**	P	**P**	**05 08 46.1**	**+1.5**
	comp=Z,2.6nm,0.5s,baz=83,slow=9.5,SNR=6.8						
STKA	**Stephens Creek**	**36.93**	**245**	P	**P**	**05 08 46.5**	**+1.9**
BBOO	**Buckleboo**	**41.68**	**244**	P	**P**	**05 09 23.2**	**+0.5**
WR0	**Warramunga Arr**	**43.62**	**263**	P	**P**	**05 09 38.4**	**+0.4**
WR0				IAmb	IAmb	05 09 40.1	
	comp=Z,5.7nm,0.9s						
AS31	**Alice Springs**	**43.70**	**257**	P	**P**	**05 09 39.8**	**+1.3**
ASAR	**Alice Springs**	**43.70**	**257**	P	**P**	**05 09 39.4**	**+0.9**
	comp=Z,7.8nm,0.6s,baz=97,slow=7.7,SNR=66						
ASAR				PcP	**PcP**	**05 11 12.4**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=96,slow=3.9,SNR=9.2						
ASAR				ScP	**ScP**	**05 14 11.2**	**+4.1**
	comp=Z,0.5nm,0.9s,baz=90,slow=3.8,SNR=4.1						
ASAR				S	**S**	**05 15 25.6**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=95,slow=16,SNR=6.7						
ASAR	**Alice Springs**	**43.70**	**257**	P	**P**	**05 09 38.9**	**+0.4**
WB0	**Warramunga Arr**	**43.79**	**263**	P	**P**	**05 09 39.8**	**+0.5**
WB0				IAmb	IAmb	05 09 40.0	
	comp=Z,6.5nm,0.7s						
WB2	**Warramunga Arr**	**43.80**	**263**	P	**P**	**05 09 39.9**	**+0.6**
WB2				IAmb	IAmb	05 09 40.6	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**43.80**	**263**	P	**P**	**05 09 39.4**	**+0.1**
WRAB				IAmb	IAmb	05 09 40.6	
	comp=Z,7.7nm,1.0s						
WRA	**Warramunga Arr**	**43.81**	**263**	P	**P**	**05 09 39.6**	**+0.3**
	comp=Z,2.4nm,0.3s,baz=97,slow=7.5,SNR=128						
WRA	**Warramunga Arr**	**43.81**	**263**	P	**P**	**05 09 38.9**	**-0.5**
MLOA	**Mauna Loa Obse**	**46.22**	**31**	P	**P**	**05 09 56.5**	**-1.7**
MTN	**Manton Dam**	**48.44**	**271**	P	**P**	**05 10 14.7**	**+0.3**
MTN				IAmb	IAmb	05 10 15.4	
	comp=Z,9.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.24**	**263**	P	**P**	**05 10 43.0**	**+1.0**
VNDA	**Vanda**	**57.38**	**185**	P	**P**	**05 11 18.7**	**+2.0**
	comp=Z,1.2nm,0.7s,baz=0,slow=7.0,SNR=18						
VNDA	**Vanda**	**57.38**	**185**	P	**P**	**05 11 18.2**	**+1.6**
MORW	**Morawa**	**58.97**	**248**	P	**P**	**05 11 28.4**	**+0.1**
MORW				IAmb	IAmb	05 11 35.7	
	comp=Z,41nm,1.4s						
QSPA	**South Pole Qui**	**69.10**	**180**	P	**P**	**05 12 32.4**	**+0.6**
QSPA				IAmb	IAmb	05 12 33.7	
	comp=Z,4.6nm,0.8s						
MJAR	**Matsushiro Arr**	**70.16**	**324**	P	**P**	**05 12 38.5**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=137,slow=4.4,SNR=4.9						
MJAR	**Matsushiro Arr**	**70.16**	**324**	P	**P**	**05 12 38.5**	**+0.1**
YULB	**Yu-li**	**73.15**	**304**	P	**P**	**05 12 54.7**	**-1.3**
YULB				IAmb	IAmb	05 13 01.0	
	comp=Z,12nm,1.3s						
PETK	**Petropavlovsk-**	**76.54**	**346**	P	**P**	**05 13 14.4**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=129,slow=8.2,SNR=8.0						
PETK	**Petropavlovsk-**	**76.54**	**346**	P	**P**	**05 13 14.6**	**+0.4**
KSRS	**Korea Array**	**76.75**	**319**	P	**P**	**05 13 17.0**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=128,slow=8.2,SNR=4.7						
USRK	**Ussuriysk Ar.**	**78.94**	**326**	P	**P**	**05 13 28.3**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=142,slow=4.2,SNR=7.6						
USRK	**Ussuriysk Ar.**	**78.94**	**326**	P	**P**	**05 13 27.7**	**+0.5**
BELA	**Belgrano 2**	**79.19**	**173**	P	**P**	**05 13 27.5**	**-0.6**
KMRM	**Mail Ridge**	**79.58**	**40**	P	**P**	**05 13 32.2**	**+1.4**
KMRM				IAmb	IAmb	05 13 33.2	
	comp=Z,15nm,0.9s						
ESJX	**Sierra Juarez**	**79.93**	**50**	P	**P**	**05 13 31.7**	**-1.3**
ORV	**Oroville**	**80.51**	**41**	P	**P**	**05 13 36.7**	**+1.1**
MAW	**Mawson**	**80.88**	**200**	P	**P**	**05 13 38.0**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=313,slow=16,SNR=2.1						
MAW	**Mawson**	**80.88**	**200**	P	**P**	**05 13 38.0**	**+1.0**
PNTR	**Pine Nut**	**81.42**	**43**	P	**P**	**05 13 41.4**	**+0.8**
PNTR				IAmb	IAmb	05 13 42.4	
	comp=Z,8.1nm,0.9s						
KDAK	**Kodiak Island**	**81.44**	**14**	P	**P**	**05 13 39.6**	**-0.3**
VCNR	**Virginia City**	**81.51**	**42**	P	**P**	**05 13 41.8**	**+0.8**
HUMO	**Hull Mountain**	**81.51**	**38**	P	**P**	**05 13 41.0**	**+0.3**
HUMO				IAmb	IAmb	05 13 43.2	
	comp=Z,5.5nm,1.1s						
NVAR	**Mina Array Bea**	**81.87**	**44**	P	**P**	**05 13 43.8**	**+0.9**
PAHR	**Pah Rah Range**	**81.92**	**42**	P	**P**	**05 13 42.9**	**0.0**
NV11	**Mina Array Sit**	**81.96**	**44**	P	**P**	**05 13 42.4**	**-0.9**
KVN	**Kaiserville**	**82.35**	**43**	P	**P**	**05 13 45.7**	**+0.4**
TPNV	**Topopah Spring**	**82.39**	**46**	P	**P**	**05 13 46.0**	**+0.5**
MOD	**Modoc Plateau**	**82.64**	**40**	P	**P**	**05 13 47.5**	**+0.9**
K05A	**Summer Lake**	**82.79**	**39**	P	**P**	**05 13 48.6**	**+1.2**
K05A				IAmb	IAmb	05 13 49.4	
	comp=Z,15nm,1.1s						
H04A	**Detroit Lake**	**83.24**	**37**	P	**P**	**05 13 49.9**	**+0.5**
H04A				IAmb	IAmb	05 13 50.7	
	comp=Z,5.1nm,1.0s						
CNPM	**China Poot**	**83.32**	**14**	P	**P**	**05 13 49.0**	**-0.3**
CNPM				IAmb	IAmb	05 13 50.2	
	comp=Z,4.7nm,0.8s						
PINE	**Pine Mountain**	**83.40**	**38**	P	**P**	**05 13 51.8**	**+1.4**
PINE				IAmb	IAmb	05 13 52.5	
	comp=Z,9.0nm,0.9s						
PRN	**Pahroc Range**	**83.44**	**46**	P	**P**	**05 13 51.5**	**+0.8**
SVW2	**Sparrevohn**	**83.89**	**11**	P	**P**	**05 13 52.1**	**-0.1**
I07A	**Izee**	**84.41**	**38**	P	**P**	**05 13 55.9**	**+0.7**
I07A				IAmb	IAmb	05 13 57.2	
	comp=Z,4.5nm,1.0s						
U15A	**North Rim**	**84.82**	**48**	P	**P**	**05 13 58.3**	**+0.6**
U15A				IAmb	IAmb	05 13 59.6	
	comp=Z,3.2nm,0.7s						
F10A	**Beach Ranch, E**	**86.82**	**38**	P	**P**	**05 14 06.7**	**0.0**
F10A				IAmb	IAmb	05 14 07.8	
	comp=Z,8.3nm,0.9s						
B08A	**Colville Reser**	**87.03**	**35**	P	**P**	**05 14 07.0**	**-0.6**
B08A				IAmb	IAmb	05 14 08.6	
	comp=Z,3.7nm,0.8s						
VNA3	**Neumayer Olymp**	**87.72**	**176**	P	**P**	**05 14 10.7**	**+0.2**
TXAR	**Lajitas Array**	**87.92**	**58**	P	**P**	**05 14 13.1**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=223,slow=5.1,SNR=12						
TXAR	**Lajitas Array**	**87.92**	**58**	P	**P**	**05 14 13.6**	**+1.3**
VNA2	**Neumayer--Watz**	**88.16**	**177**	P	**P**	**05 14 12.9**	**+0.5**
VNA1	**Neumayer--Stat**	**88.39**	**177**	P	**P**	**05 14 13.6**	**+0.1**
WRH	**Wood River Hil**	**88.42**	**13**	P	**P**	**05 14 13.0**	**-0.5**
CCB	**Clear Creek Bu**	**88.63**	**13**	P	**P**	**05 14 13.5**	**-1.0**
CCB				IAmb	IAmb	05 14 14.6	
	comp=Z,6.4nm,0.8s						
BCAR	**Beaver Creek A**	**88.67**	**16**	P	**P**	**05 14 14.5**	**-0.4**
IMAR	**Indian Mountai**	**88.74**	**10**	P	**P**	**05 14 14.7**	**-0.3**
MCMT	**McKenzie Canyo**	**88.78**	**41**	P	**P**	**05 14 16.7**	**+0.7**
MDM	**Murphy Dome**	**88.82**	**12**	P	**P**	**05 14 15.0**	**-0.5**
IL31		**88.93**	**13**	P	**P**	**05 14 15.4**	**-0.5**
IL31				IAmb	IAmb	05 14 16.2	
	comp=Z,3.6nm,1.0s						
ILAR	**Eielson Array**	**88.93**	**13**	P	**P**	**05 14 15.1**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=215,slow=5.3,SNR=23						
ILAR	**Eielson Array**	**88.93**	**13**	P	**P**	**05 14 14.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**89.16**	**315**	*eP*	**P**	**05 14 19.8**	**+2.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,74nm,6.5s						
REDW	**Red Top Meadow**	**89.27**	**43**	P	**P**	**05 14 17.9**	**-0.5**
REDW				IAmb	IAmb	05 14 20.0	
	comp=Z,5.7nm,1.1s						
SNOW	**Snow King Moun**	**89.38**	**42**	P	**P**	**05 14 19.6**	**+0.7**
SNOW				IAmb	IAmb	05 14 20.6	
	comp=Z,4.1nm,0.9s						
IMW	**Indian Meadow**	**89.48**	**42**	P	**P**	**05 14 19.3**	**-0.1**
IMW				IAmb	IAmb	05 14 21.1	
	comp=Z,3.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	**P**	**05 14 21.6**	**+1.5**
	comp=Z,1.5nm,0.4s,baz=124,slow=2.8,SNR=13						
BW06	**Boulder Array**	**89.80**	**44**	P	**P**	**05 14 21.0**	**+0.2**
BW06				IAmb	IAmb	05 14 21.7	
	comp=Z,2.2nm,0.8s						
PD31	**Pinedale Array**	**89.80**	**44**	P	**P**	**05 14 19.4**	**-1.4**
PD31				IAmb	IAmb	05 14 21.7	
	comp=Z,2.1nm,0.9s						
PDAR	**Pinedale Array**	**89.80**	**44**	P	**P**	**05 14 20.4**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=207,slow=3.1,SNR=14						
PDAR	**Pinedale Array**	**89.80**	**44**	P	**P**	**05 14 21.0**	**+0.2**
DAWY	**Dawson**	**90.11**	**16**	P	**P**	**05 14 21.5**	**+0.1**
DAWY				IAmb	IAmb	05 14 22.6	
	comp=Z,5.2nm,0.9s						
ZALV	**Zalesovo Beam**	**110.40**	**321**	PKiKP	**PKiKP**	**05 19 49.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=276,slow=28,SNR=1.9						
ZALV	**Zalesovo Beam**	**110.40**	**321**		**PKiKP**	**05 19 49.2**	**-0.2**
MKAR	**Makanchi Array**	**110.98**	**313**	PKiKP	**PKiKP**	**05 19 49.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=274,slow=1.3,SNR=7.1						
MKAR	**Makanchi Array**	**110.98**	**313**		**PKiKP**	**05 19 49.2**	**-1.7**
ABKAR	**Abkulak array**	**125.92**	**316**		**PKPdf**	**05 20 19.6**	**+0.2**
ARCES	**ARCESS Array B**	**129.24**	**349**	PKP	**PKPdf**	**05 20 25.0**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=36,slow=0.6,SNR=7.0						
ARCES	**ARCESS Array B**	**129.24**	**349**		**PKPdf**	**05 20 25.3**	**+0.1**
FINES	**FINESS Array B**	**136.01**	**343**	PKP	**PKiKP**	**05 20 39.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=118,slow=2.0,SNR=7.4						
FINES				SKP		05 23 12.4	
	comp=Z,1.4nm,0.7s,baz=76,slow=5.9,SNR=2.0						
FINES	**FINESS Array B**	**136.01**	**343**		**PKiKP**	**05 20 39.8**	**-0.1**
AKASG	**Malin Array Be**	**143.06**	**330**	PKhKP	PKPab	05 20 48.9	-0.2
	comp=Z,4.0nm,0.3s,baz=42,slow=4.5,SNR=48						
SORM	**Soroca**	**145.21**	**328**	⇑P	**PKPbc**	**05 20 56.6**	**+0.5**
BR131	**Keskin Array S**	**146.60**	**311**		**PKPbc**	**05 21 00.3**	**-0.1**
BRTR	**Keskin Array B**	**146.60**	**311**	PKPbc	**PKPbc**	**05 21 00.8**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=133,slow=4.6,SNR=14						
BRTR	**Keskin Array B**	**146.60**	**311**		**PKPbc**	**05 21 00.5**	**0.0**
BUR08	**Bucovina Ar. S**	**147.09**	**330**		**PKiKP**	**05 21 02.9**	**-0.3**
BURAR	**Bucovina Array**	**147.10**	**330**	⇑P	**PKiKP**	**05 21 02.8**	**-0.4**
BURAR	**Bucovina Array**	**147.10**	**330**		**PKPbc**	**05 21 02.4**	**+0.9**
BIZ	**Bicaz**	**147.14**	**328**	⇑P	**PKiKP**	**05 21 03.1**	**-0.2**
TESR	**Tescani**	**147.16**	**327**	⇑P	**PKPbc**	**05 21 02.5**	**+0.9**
TOPG	**Topolog**	**147.29**	**323**	⇑P	**PKiKP**	**05 21 03.0**	**-0.5**
KOLS	**Kolonicke sedl**	**147.41**	**334**	*e*PKP	**PKPbc**	**05 21 02.2**	**+0.1**
KOLS				*e*		05 21 06.6	
VRI	**Vrincioaia**	**147.55**	**326**	⇑P	**PKPbc**	**05 21 03.1**	**+0.5**
CRVS	**Cervenica-Dubn**	**147.77**	**335**	*e*PKP	**PKiKP**	**05 21 04.2**	**-0.2**
CRVS				*e*		05 21 09.2	
MLR	**Muntele Rosu**	**148.21**	**326**	⇑P	**PKPbc**	**05 21 04.8**	**+0.3**
MLR	**Muntele Rosu**	**148.21**	**326**		**PKPbc**	**05 21 03.7**	**-0.8**
CLL	**Collm**	**148.34**	**346**	*i* PKPbc	**PKPbc**	**05 21 05.0**	**+0.7**
	comp=Z,13nm,1.0s						
CLL				*i* PKPab	**PKPab**	**05 21 10.3**	**+0.4**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**148.34**	**346**	PKPbc	**PKPbc**	**05 21 05.1**	**+0.7**
KRLC	**Kraliky**	**148.45**	**341**	⇑*e*PKP	**PKiKP**	**05 21 05.7**	**-0.1**
MORC	**Moravsky Berou**	**148.47**	**340**	⇓P	**PKiKP**	**05 21 07.4**	**+1.5**
MORC	**Moravsky Berou**	**148.47**	**340**	*e*PKP	**PKiKP**	**05 21 05.7**	**-0.2**
BRG	**Berggiesshubel**	**148.52**	**344**	*i* PKP	**PKiKP**	**05 21 05.7**	**-0.2**
	comp=Z,8.2nm,1.1s						
VOIR		**148.71**	**327**	⇑P	**PKiKP**	**05 21 06.3**	**-0.2**
ARR	**Arges**	**148.97**	**327**	⇑P	**PKiKP**	**05 21 07.8**	**+0.7**
VYHS	**Vyhne**	**149.11**	**337**	*e*PKP	**PKiKP**	**05 21 07.3**	**+0.1**
VYHS				*e*		05 21 14.4	
PRU	**Pruhonice**	**149.17**	**343**	⇑*e*PKP	**PKiKP**	**05 21 07.4**	**+0.1**
VRAC	**Vranov**	**149.18**	**340**	*e*PKP	**PKiKP**	**05 21 07.5**	**+0.2**
JAVC	**Velka Javorina**	**149.21**	**339**	*e*PKP	**PKiKP**	**05 21 08.6**	**+1.1**
KRUC	**Moravsky**	**149.46**	**340**	*e*PKP	**PKiKP**	**05 21 07.7**	**-0.2**
SIRR	**Siria**	**149.74**	**331**	⇑P	**PKiKP**	**05 21 08.7**	**+0.1**
MODS	**Modra-Piesok**	**149.76**	**339**	*e*PKP	**PKPbc**	**05 21 08.3**	**+0.4**
MODS				*e*		05 21 17.2	
KHC	**Kasperske Hory**	**150.22**	**344**	⇑*e*PKP	**PKiKP**	**05 21 09.7**	**+0.2**
KHC	**Kasperske Hory**	**150.22**	**344**	PKPdf	**PKPdf**	**05 21 02.3**	**-0.9**
KHC					**PKiKP**	**05 21 10.1**	**+0.6**
KHC					**PKPab**	**05 21 19.4**	**+0.6**
BZS	**Buzias**	**150.25**	**330**	⇑P	**PKiKP**	**05 21 09.6**	**0.0**
HERR	**Herculane**	**150.42**	**329**	⇑P	**PKPbc**	**05 21 09.6**	**+0.1**
GEC2	**GERESS Array S**	**150.44**	**343**	PKPdf	**PKPdf**	**05 21 00.6**	**-3.0**
GEC2					**PKiKP**	**05 21 10.4**	**+0.4**
GERES	**GERESS Array B**	**150.44**	**343**	PKPbc	**PKPbc**	**05 21 09.8**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=50,slow=2.1,SNR=14						
GERES	**GERESS Array B**	**150.44**	**343**		**PKiKP**	**05 21 10.0**	**0.0**
BMRD	**Maredsous**	**150.59**	**355**	PKiKP	**PKiKP**	**05 21 10.8**	**+0.6**
CONA	**Conrad Observa**	**150.62**	**340**	*i* PKiKP	**PKiKP**	**05 21 10.7**	**+0.3**
	comp=Z,7.3nm,1.3s						
MDVR	**Moldovita**	**150.83**	**329**	⇑P	**PKiKP**	**05 21 11.2**	**+0.3**
KBA	**Koelnbreinsper**	**152.15**	**342**	*i* PKiKP	**PKPbc**	**05 21 13.8**	**+0.2**
	comp=Z,3.6nm,0.9s						
DIVS	**Divibare**	**152.16**	**330**		**PKiKP**	**05 21 14.2**	**+0.5**
WATA	**Walderalm**	**152.39**	**345**	*i* PKPbc	**PKPbc**	**05 21 13.9**	**-0.2**
	comp=Z,2.6nm,0.4s						
WTTA	**Wattenberg**	**152.44**	**345**	*i* PKiKP	**PKPbc**	**05 21 14.4**	**+0.2**
	comp=Z,0.7nm,0.3s						
MOTA	**Moosalm**	**152.49**	**345**	*i* PKPbc	**PKPbc**	**05 21 13.6**	**-0.7**
	comp=Z,3.1nm,0.8s						
SQTA	**Sankt Quirin**	**152.58**	**345**	*i* PKiKP	**PKiKP**	**05 21 14.9**	**+0.3**
	comp=Z,3.6nm,0.8s						
PRED	**Cave del Predi**	**152.66**	**341**	PKPbc	**PKPbc**	**05 21 12.0**	**-2.6**
PRED				PKPab	**PKPab**	**05 21 27.4**	**-0.9**
ABTA	**Abfaltersbach**	**152.69**	**343**	*i* PKPbc	**PKPbc**	**05 21 14.4**	**-0.2**
	comp=Z,5.2nm,1.0s						
FETA	**Feichten**	**152.88**	**346**	*i* PKPbc	**PKPbc**	**05 21 14.4**	**-0.8**
	comp=Z,1.6nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**153.37**	**346**	PKPab	**PKPab**	**05 21 31.6**	**0.0**
ESDC	**Sonseca Array**	**160.83**	**12**	PKPab	**PKPab**	**05 22 03.1**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=350,slow=4.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**172.21**	**183**	PKPab	**PKPab**	**05 22 54.3**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=199,slow=4.0,SNR=3.6						

WEL 08 05:11:09.8±0.8,44°.S±5°.×16°.8E±°.,h5km,M3.6/11, ML3.8/11,MLv3.6/11,Error ellipse: s-maj=0.0km s-min=0.0km az=129.2,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.37**	**199**	P	Pg	05 11 17.7	+0.6
MSZ				S	Sg	05 11 22.7	+0.7
JCZ	**Jackson Bay**	**0.55**	**64**	P	Pg	05 11 20.9	+0.4
JCZ				S	Sg	05 11 28.5	+0.8
WKZ	**Wanaka**	**0.83**	**128**	P	Pg	05 11 26.3	+0.5
WKZ				S	Sg	05 11 36.7	+0.1
MLZ	**Mavora Lakes**	**1.05**	**179**	P	Pg	05 11 29.7	-0.2
FOZ	**Fox Glacier**	**1.47**	**58**	P	Pn	05 11 35.6	-1.3
FOZ				S	Sg	05 11 56.9	-0.1
LBZ	**Lake Benmore**	**1.50**	**93**	P	Pb	05 11 38.1	0.0
LBZ				S	Sn	05 11 57.4	0.0
WHZ	**Wether Hill Ro**	**1.58**	**184**	P	Pb	05 11 39.0	-0.5
ODZ	**Otahua Downs**	**1.96**	**113**	P	Pn	05 11 44.5	+0.9
TUZ	**Tuapeka**	**1.96**	**147**	P	Pn	05 11 44.5	+0.7
RPZ	**Rata Peaks**	**2.22**	**75**	P	Pn	05 11 47.5	+0.3
WVZ	**Waitaha Valley**	**2.28**	**58**	P	Pn	05 11 46.5	-1.7
SYZ	**Scrubby Hill**	**2.33**	**162**	P	Pn	05 11 48.4	-0.5
HHSZ	**Highcliff Hill**	**2.36**	**132**	P	Pn	05 11 47.8	-1.5
APZ	**The Paps**	**2.51**	**182**	P	Pn	05 11 52.7	+1.3
WACZ	**Wakanui South**	**2.72**	**83**	P	Pn	05 11 54.0	-0.2
INZ	**Inchbonnie**	**2.91**	**58**	P	Pn	05 11 56.2	-0.6
OXZ	**Oxford**	**3.02**	**72**	P	Pn	05 11 58.1	-0.2
MQZ	**McQueen's Vall**	**3.34**	**81**	P	Pn	05 12 02.1	-0.6
LTZ	**Lake Taylor**	**3.40**	**65**	P	Pn	05 12 02.5	-1.1
DSZ	**Denniston Nort**	**3.74**	**48**	P	Pn	05 12 07.0	-1.2
GVZ	**Greta Valley S**	**3.83**	**71**	P	Pn	05 12 08.4	-1.1
THZ	**Tophouse**	**4.35**	**56**	P	Pn	05 12 15.9	-0.8
QRZ	**Quartz Range**	**4.79**	**45**	P	Pn	05 12 21.1	-1.4
NNZ	**Nelson**	**4.97**	**53**	P	Pn	05 12 24.9	-0.2
TCW	**Tory Channel**	**5.51**	**58**	P	Pn	05 12 34.0	+1.5
DUWZ	**D'Urville Isla**	**5.55**	**53**	P	Pn	05 12 33.2	0.0
TMWZ	**Te Maipa**	**6.58**	**63**	P	Pn	05 12 46.2	-1.0
KHEZ	**Kahui Hut**	**6.69**	**43**	P	Pn	05 12 47.8	-1.0
PKE	**Pukeiti**	**6.75**	**43**	P	Pn	05 12 48.5	-1.1
TIWZ	**Tintock**	**6.75**	**61**	P	Pn	05 12 48.3	-1.4
WTVZ	**West Tongariro**	**7.64**	**50**	P	Pn	05 13 04.2	+2.3
PUZ	**Puketiti**	**9.87**	**54**	P	Pn	05 13 31.6	-0.8

IDC ***08*** *05:40:56.2±0.6,55°.06N×165°.58E,h0km,mb4.1/21, mb1 4.3/22,mb1mx4.2/38,mbtmp4.1/22,ML3.7/1,MS3.5/10, Ms1 3.5/10,ms1mx3.1/47, Error ellipse: s-maj=23.5km s-min=11.9km az=163.0*

KRSC ***08*** *05:40:56.8±1.9,54°.96N×165°.49E,h41km±15km,ML4.8, FELT [III] at Nikolskoe.*

NEIC ***08*** *05:40:57.8±2.0,55°.0N±0°.1×165°.7E±0°.1,h10km±1km, mb4.6/202, Error ellipse: s-maj=19.3km s-min=10.0km az=162.0*

UNK ***08*** *05:40:57.9,55°.06N×165°.62E,h10km*

MOS ***08*** *05:40:59.0±0.8,55°.02N×165°.59E,h34km,mb4.6/36, Error ellipse: s-maj=5.7km s-min=4.6km az=140.2*

PET Sn **Sn** **05 42 57.3 -1.1**
KRMR Karymshinskiy 4.91 247 *e*P **Pn** **05 42 12.7 +1.5**
KRMR *e*S **Sn** **05 43 05.4 -2.2**
KRMR Karymshinskiy 4.91 247 PN **Pn** **05 42 12.7 +1.5**
RUS Russkaya 4.92 242 *e*P **Pn** **05 42 12.0 +0.7**
RUS *e*S **Sn** **05 43 04.7 -3.1**
RUS Russkaya 4.92 242 PN **Pn** **05 42 12.0 +0.7**
PEA0B Petropavlovsk- 5.02 251 *d i* PN **Pn** **05 42 14.5 +1.9**
PEA0B Petropavlovsk- 5.02 251 Pn **Pn** **05 42 13.9 +1.2**
PEA0B Sn **Sn** **05 43 10.7 +0.4**
PETK Petropavlovsk- 5.02 251 Pn **Pn** **05 42 14.0 +1.4**
comp=Z,15nm,0.3s,baz=77,slow=19,SNR=117
PETK Sn **Sn** **05 43 09.4 -0.8**
comp=Z,11nm,0.3s,baz=93,slow=21,SNR=4.6
PETK LR LR 05 44 26.4
comp=Z,341nm,19.7s,baz=65,slow=42
PETK Petropavlovsk- 5.02 251 PN **Pn** **05 42 13.8 +1.1**
PETK Petropavlovsk- 5.02 251 Pn **Pn** **05 42 13.8 +1.1**
MTVR Mutnovka 5.06 244 *e*P **Pn** **05 42 14.4 +1.0**
MTVR *e*S **Sn** **05 43 08.5 -3.0**
MTVR Mutnovka 5.06 244 PN **Pn** **05 42 14.4 +1.0**
GRL Gorelyy 5.08 245 *e*P **Pn** **05 42 15.2 +1.6**
GRL *e*S **Sn** **05 43 10.2 -1.8**
GRL Gorelyy 5.08 245 PN **Pn** **05 42 15.2 +1.6**
PALN Palana 5.15 326 *e*P **Pn** **05 42 15.0 +0.6**
PALN Palana 5.15 326 PN **Pn** **05 42 15.0 +0.6**
ASAK Asacha 5.26 244 *e*P **Pn** **05 42 18.1 +2.0**
ASAK *e*S **Sn** **05 43 14.7 -1.6**
ASAK Asacha 5.26 244 PN **Pn** **05 42 18.1 +2.0**
APC Apacha 5.39 251 *e*P **Pn** **05 42 19.8 +2.1**
APC Apacha 5.39 251 PN **Pn** **05 42 19.8 +2.1**
TILK Tilichiki 5.50 3 *e*P **Pn** **05 42 20.2 +1.0**
TILK Tilichiki 5.50 3 PN **Pn** **05 42 20.2 +1.0**
KDTR Khodutka, Kamc 5.50 238 *e*P **Pn** **05 42 19.3 0.0**
KDTR *e*S **Sn** **05 43 17.2 -5.0**
KDTR Khodutka, Kamc 5.50 238 PN **Pn** **05 42 19.3 0.0**
SMY Shemya 5.51 111 PN **Pn** **05 42 18.5 -0.9**
SMY Shemya 5.51 111 Pn **Pn** **05 42 18.5 -0.9**
MIPR Malaya Ipel'ka 5.91 246 *e*P **Pn** **05 42 27.5 +2.5**
MIPR Malaya Ipel'ka 5.91 246 PN **Pn** **05 42 27.5 +2.5**
PAU Pauzhetka 6.34 240 *e*P **Pn** **05 42 32.2 +1.4**
PAU Pauzhetka 6.34 240 PN **Pn** **05 42 32.2 +1.4**
SKR Severo-Kuril's 7.17 237 *e*P **Pn** **05 42 43.1 +0.9**
SKR Severo-Kuril's 7.17 237 *e*PN **Pn** **05 42 43.1 +0.9**
SKR pmax pmax
comp=Z,29nm,0.3s
SKR MLR MLR
comp=Z,500nm,11.0s
ALID Alaid 7.33 240 *e*P **Pn** **05 42 45.8 +1.2**
ALID Alaid 7.33 240 PN **Pn** **05 42 45.8 +1.2**
KMSK Kamenskaya 7.52 2 *e*P **Pn** **05 42 47.9 +0.9**
KMSK Kamenskaya 7.52 2 PN **Pn** **05 42 47.9 +0.9**
ATKA Atka Island 12.31 95 Pn **Pn** **05 43 51.2 -1.3**
GAMB Gambell 14.46 43 Pn **Pn** **05 44 22.5 +0.7**
KUR Kuril'sk 14.94 237 *i* P **Pn** **05 44 29.4 +1.0**
UNV Unalaska Valle 16.24 82 Pn **Pn** **05 44 43.5 -1.8**
UNV IAmb IAmb 05 45 00.5
comp=Z,42nm,1.1s
YSS Yuzh-Sakhalins 16.42 250 *e*P **Pn** **05 44 44.7 -2.9**
YSS *e*S **Sn** **05 47 44.2 -5.1**
YSS MLR MLR
comp=Z,300nm,11.0s
YSS MLR MLR
comp=N,200nm,12.0s
YSS MLR MLR
comp=E,200nm,14.0s
AKUT Akutan 16.58 81 Pn **Pn** **05 44 48.9 -0.7**
ERM Erimo 19.62 238 P **Pn** **05 45 27.1 +0.2**
ERM pmax pmax
comp=Z,39nm,1.4s
ERM Erimo 19.62 238 P **Pn** **05 45 27.1 +0.2**
ERM IAmb IAmb 05 45 45.9
comp=Z,39nm,1.4s
YAK Yakutsk 19.83 305 *i* P **P** **05 45 26.5 -1.3**
YAK pmax pmax
comp=Z,16nm,0.8s
TTA Tatalina 21.05 52 P **P** **05 45 41.6 +0.6**
TTA pmax pmax
comp=Z,12nm,1.1s
TTA Tatalina 21.05 52 P **P** **05 45 41.6 +0.6**
IMAR Indian Mountai 22.40 44 P **P** **05 45 55.1 -0.4**
RSO Redoubt South 22.60 59 P **P** **05 45 57.1 -0.7**
PPLA Purkeypile 22.79 53 P **P** **05 46 00.4 +0.6**
OHAK Old Harbor 22.80 67 P **P** **05 45 58.0 -1.7**
OHAK IAmb IAmb 05 46 00.8
comp=Z,30nm,1.2s
SPU Mount Spurr 22.90 57 P **P** **05 46 01.1 +0.3**
KDAK Kodiak Island 23.06 66 P **P** **05 46 01.3 -1.1**
comp=Z,14nm,0.7s,baz=269,slow=3.8,SNR=39
KDAK Kodiak Island 23.06 66 P **P** **05 46 01.4 -1.0**
KDAK IAmb IAmb 05 46 04.2
comp=Z,14nm,0.7s
SKT Skwentna 23.11 55 P **P** **05 46 03.4 +0.5**
HOM Homer 23.24 61 P **P** **05 46 03.4 -0.9**
baz=278
BPAW Bear Paw Mtn. 23.37 50 P **P** **05 46 04.8 -0.8**
KTH Kantishna Hill 23.38 51 P **P** **05 46 06.4 +0.7**
CNPM China Poot 23.46 61 P **P** **05 46 05.6 -0.9**
CNPM IAmb IAmb 05 46 09.9
comp=Z,30nm,1.2s
SUA Susitna One 23.51 56 P **P** **05 46 07.3 +0.3**
SUA IAmb IAmb 05 46 08.7
comp=Z,17nm,0.9s
BRLK Bradley Lake 23.61 60 P **P** **05 46 08.1 +0.1**
TRF Thorofare Moun 23.66 51 P **P** **05 46 09.4 +0.8**
TRF IAmb IAmb 05 46 10.8
comp=Z,22nm,1.1s
CUT Chulitna 23.68 54 P **P** **05 46 08.0 -0.6**
baz=272
COLD Coldfoot 24.00 42 P **P** **05 46 11.3 -0.3**
baz=261,SNR=19
COLD Coldfoot 24.00 42 P **P** **05 46 11.8 +0.2**
COLD IAmb IAmb 05 46 13.8
comp=Z,21nm,1.0s
RC01 Rabbit Creek A 24.02 57 P **P** **05 46 11.2 -0.6**
baz=276
USRK Ussuriysk Ar. 24.07 257 LR LR 05 55 42.2
comp=Z,100nm,19.9s,baz=89,slow=37
O22K Cooper Landing 24.09 59 P **P** **05 46 11.9 -0.6**
baz=277
NEA2 Nenana 24.22 48 P **P** **05 46 13.9 +0.3**
baz=268,SNR=5.4
MCK McKinley 24.27 51 P **P** **05 46 13.4 -0.7**
MCK pmax pmax
comp=Z,21nm,1.0s
MCK McKinley 24.27 51 P **P** **05 46 13.4 -0.7**
MCK IAmb IAmb 05 46 15.7
comp=Z,21nm,1.0s
PMR Palmer 24.27 56 P **P** **05 46 12.8 -1.3**
PMR pmax pmax
comp=Z,9.0nm,1.2s
PMR Palmer 24.27 56 P **P** **05 46 12.8 -1.3**
SEW Seward 24.28 59 P **P** **05 46 13.3 -0.9**
SEW IAmb IAmb 05 46 13.9
comp=Z,11nm,0.7s
RND Reindeer 24.31 51 P **P** **05 46 14.1 -0.5**
RND pmax pmax
comp=Z,13nm,0.8s
RND Reindeer 24.31 51 P **P** **05 46 14.1 -0.5**
RND IAmb IAmb 05 46 15.1
comp=Z,13nm,0.8s
GHO Glory Hole Cre 24.35 55 P **P** **05 46 15.6 +0.6**
GHO IAmb IAmb 05 46 17.0
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 24.49 39 P **P** **05 46 16.1 0.0**
baz=259,SNR=6.2
TOLK Toolik Lake Re 24.49 39 P **P** **05 46 16.7 +0.6**
MDM Murphy Dome 24.59 48 P **P** **05 46 17.5 +0.4**
MDM IAmb IAmb 05 46 19.0
comp=Z,14nm,1.0s
KNK Knik Glacier 24.61 56 P **P** **05 46 16.7 -0.5**
KNK IAmb IAmb 05 46 18.1
comp=Z,21nm,0.9s
SML Sawmill 24.63 55 P **P** **05 46 16.9 -0.6**
SML IAmb IAmb 05 46 18.5
comp=Z,16nm,0.8s
WRH Wood River Hil 24.64 49 P **P** **05 46 17.5 +0.1**
TCOL CIGO, UAF Yank 24.75 48 P **P** **05 46 18.1 -0.3**
baz=269
COLA College 24.75 48 P **P** **05 46 18.8 +0.4**
COLA pmax pmax
comp=Z,17nm,0.8s
COLA College 24.75 48 P **P** **05 46 18.8 +0.4**
COLA IAmb IAmb 05 46 21.0
comp=Z,17nm,0.8s
CCB Clear Creek Bu 24.77 48 P **P** **05 46 18.6 0.0**
POKR Poker Plat Res 24.93 47 P **P** **05 46 18.8 -1.3**
baz=269
DHY Denali Highway 24.99 52 P **P** **05 46 19.8 -1.0**
DHY IAmb IAmb 05 46 22.7
comp=Z,14nm,0.9s
SCM Sheep Creek Mo 25.10 55 P **P** **05 46 21.6 -0.2**
SCM pmax pmax
comp=Z,29nm,0.9s
SCM Sheep Creek Mo 25.10 55 P **P** **05 46 21.6 -0.2**
HDA Harding Lake 25.14 49 P **P** **05 46 21.5 -0.5**
baz=271,SNR=10
HDA Harding Lake 25.14 49 P **P** **05 46 21.1 -0.9**
HDA IAmb IAmb 05 46 31.6
comp=Z,11nm,1.0s
IL31 25.16 48 P **P** **05 46 20.8 -1.3**
IL31 IAmb IAmb 05 46 24.4
comp=Z,14nm,0.8s
ILAR Eielson Array 25.16 48 P **P** **05 46 21.9 -0.3**
comp=Z,11nm,0.9s,baz=258,slow=8.8,SNR=66
ILAR Eielson Array 25.16 48 P **P** **05 46 20.9 -1.3**
ILAR Eielson Array 25.16 48 P **P** **05 46 20.9 -1.3**
GLI Glacier Island 25.33 57 P **P** **05 46 22.8 -0.9**
GLI IAmb IAmb 05 46 25.8
comp=Z,15nm,0.8s
M24K Tolsona, Glenn 25.62 54 P **P** **05 46 26.1 -0.3**
baz=276,SNR=15
FID Port Fidalgo 25.64 57 P **P** **05 46 25.4 -1.2**
FID IAmb IAmb 05 46 29.8
comp=Z,12nm,0.8s
HIN Hinchinbrook I 25.69 58 P **P** **05 46 26.8 -0.2**
HIN IAmb IAmb 05 46 27.4
comp=Z,23nm,1.1s
KLU Klutina 25.81 56 P **P** **05 46 27.9 -0.3**
KLU IAmb IAmb 05 46 34.2
comp=Z,12nm,0.8s
PAX Paxson 25.86 52 P **P** **05 46 28.9 +0.2**
PAX pmax pmax
comp=Z,17nm,1.5s
PAX Paxson 25.86 52 P **P** **05 46 28.9 +0.2**
PAX IAmb IAmb 05 46 30.8
comp=Z,17nm,1.5s
EYAK Cordova Ski Ar 26.03 58 P **P** **05 46 30.0 0.0**
RIDG Independent Ri 26.08 50 P **P** **05 46 30.0 -0.6**
RIDG IAmb IAmb 05 46 30.4
comp=Z,10nm,1.0s
BMAR Burnt Mountain 26.19 42 P **P** **05 46 31.7 +0.2**
MAJO Matsushiro 26.28 237 *i* P **P** **05 46 34.1 +1.5**
MJAR Matsushiro Arr 26.28 237 P **P** **05 46 33.8 +1.2**
comp=Z,0.9nm,0.3s,baz=16,slow=11,SNR=1.3
MJAR Matsushiro Arr 26.28 237 P **P** **05 46 32.0 -0.6**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 26.28 237 P **P** **05 46 32.0 -0.6**
DOT Dot Lake 26.44 50 P **P** **05 46 32.4 -1.4**
SCRK Sand Creek 26.45 50 P **P** **05 46 33.1 -0.9**
baz=274,SNR=11
RAGM Ragged Mountai 26.58 58 P **P** **05 46 35.3 +0.2**
RAGM IAmb IAmb 05 46 50.2
comp=Z,13nm,1.0s
MENT Mentasta 26.66 52 P **P** **05 46 36.0 +0.2**
HMT Hamilton 26.80 58 P **P** **05 46 36.8 -0.2**
HMT IAmb IAmb 05 46 38.1
comp=Z,12nm,0.8s
GLB Gilahina Butte 26.82 55 P **P** **05 46 37.0 -0.3**
CRQM Cirque 27.26 57 P **P** **05 46 41.6 +0.2**
CRQM IAmb IAmb 05 46 43.3
comp=Z,25nm,1.2s
K27K Chicken 27.28 49 P **P** **05 46 40.2 -1.1**
baz=276
BCAR Beaver Creek A 27.52 52 P **P** **05 46 43.6 +0.1**
EGAK Eagle 27.61 48 P **P** **05 46 43.7 -0.6**
EGAK IAmb IAmb 05 46 44.2
comp=Z,8.8nm,0.9s
BARN Barnard Glacie 27.91 56 P **P** **05 46 47.2 0.0**
DAWY Dawson 28.45 49 P **P** **05 46 51.4 -0.5**
EPYK Eagle Plains 29.31 44 P **P** **05 46 59.2 -0.2**
baz=276,SNR=7.8
EPYK Eagle Plains 29.31 44 P **P** **05 46 60.0 +0.6**
EPYK IAmb IAmb 05 47 00.8
comp=Z,12nm,0.9s
HYT Haines Junctio 29.94 55 P **P** **05 47 05.6 +0.5**
HYT IAmb IAmb 05 47 06.8
comp=Z,7.3nm,0.8s
KSRS Korea Array 30.92 251 P **P** **05 47 15.4 +1.6**
comp=Z,0.7nm,0.7s,baz=39,slow=10.0,SNR=4.1
KSRS LR LR 05 59 29.2
comp=Z,67nm,18.7s,baz=63,slow=36
A36M Sachs Harbour 32.82 32 P **P** **05 47 29.8 -0.4**
baz=276
C36M Paulatuk 33.62 37 P **P** **05 47 36.3 -0.8**
baz=281
DLBC Dease Lake 34.30 57 LR LR 06 02 55.5
comp=Z,122nm,18.2s,baz=302,slow=38
DLBC Dease Lake 34.30 57 P **P** **05 47 44.7 +1.3**
DLBC IAmb IAmb 05 47 46.3
comp=Z,7.6nm,0.8s
H11N2 WAKE ISLAND Hy 35.20 178 T T 06 25 24.7
baz=359,slow=76,SNR=805
H11N3 WAKE ISLAND Hy 35.21 178 T T 06 25 31.1
baz=359,slow=76,SNR=586
H11N1 WAKE ISLAND Hy 35.21 178 T T 06 25 29.8
baz=359,slow=76,SNR=608
TLY Talaya 36.09 291 *i* P **P** **05 47 55.9 -2.8**
TLY pmax pmax
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 36.23 284 *i* P **P** **05 47 58.0 -2.2**
ULN pmax pmax
comp=Z,2.0nm,0.7s
H11S1 WAKE ISLAND Hy 36.41 178 T T 06 26 51.8
baz=359,slow=76,SNR=75
H11S3 WAKE ISLAND Hy 36.42 178 T T 06 26 50.1
baz=359,slow=76,SNR=25
H11S2 WAKE ISLAND Hy 36.43 178 T T 06 26 51.3
baz=359,slow=76,SNR=79
SONM Songino Array 36.62 284 P **P** **05 48 03.2 -0.2**
comp=Z,1.5nm,0.6s,baz=67,slow=9.3,SNR=6.0
SONM Songino Array 36.62 284 P **P** **05 48 03.7 +0.3**
HHC Hu-ho-hao-te 37.89 271 *e*P **P** **05 48 16.1 +1.9**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,79nm,5.3s
HHC LR LR
comp=N,140nm,12.2s
HHC LR LR
comp=E,110nm,12.9s
HHC LR LR
comp=Z,140nm,12.6s
YKA Yellowknife Ar 39.55 46 P **P** **05 48 28.2 +0.4**
comp=Z,3.4nm,0.7s,baz=291,slow=10,SNR=12
NJ2 Nanjing 39.91 255 *e*P **P** **05 48 31.9 +0.8**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NLWA Neilton Lookou 43.11 70 P **P** **05 48 58.7 +1.5**
NLWA IAmb IAmb 05 48 59.6
comp=Z,8.6nm,0.9s
D03D Eldon 43.44 69 P **P** **05 48 59.8 -0.1**
baz=308
B05A Bryant 43.53 68 P **P** **05 49 01.1 +0.5**
baz=307
D04E Lakebay 43.83 69 P **P** **05 49 03.1 +0.1**
baz=308
D05A Enumclaw 44.25 69 P **P** **05 49 08.0 +1.7**
D05A IAmb IAmb 05 49 08.6
comp=Z,8.4nm,0.6s
E04D Cinebar 44.33 70 P **P** **05 49 08.0 +1.0**
baz=309
GUMO Guam 44.35 209 LR LR 06 07 14.6
comp=Z,20nm,19.0s,baz=210,slow=36
LTY Liberty 44.91 68 P **P** **05 49 12.1 +0.3**
B08A Colville Reser 44.94 66 P **P** **05 49 12.5 +0.6**
B08A IAmb IAmb 05 49 13.4
comp=Z,6.8nm,0.7s
I02D Swisshome 45.17 73 P **P** **05 49 14.6 +0.8**
baz=310
H04D Lebanon 45.52 72 P **P** **05 49 16.6 +0.1**
baz=310
GTA Gaotai 45.59 278 *e*P **P** **05 49 19.9 +2.6**
GTA pP pwP 05 49 24.2 -4.9
GTA sP sP 05 49 27.0 +5.6
GTA PcP **PcP** **05 50 55.6 +0.1**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,43nm,7.6s
GTA LR LR
comp=N,110nm,18.4s
GTA LR LR
comp=E,460nm,18.4s
GTA LR LR
comp=Z,90nm,19.0s
I03D Drain, OR 45.71 73 P **P** **05 49 18.6 +0.6**
baz=311
H04A Detroit Lake 45.72 72 P **P** **05 49 18.8 +0.6**
DGZ Jazzator, Alta 45.72 297 *i* P **P** **05 49 18.9 +0.7**
DGZ pmax pmax
comp=Z,6.0nm,1.7s
J01E Myrtle Point 45.74 74 P **P** **05 49 18.4 +0.2**
baz=311
E07A Sunnyside 45.78 68 P **P** **05 49 18.8 +0.2**
G05D Wamic, OR 45.83 70 P **P** **05 49 19.3 +0.3**
baz=310
C09A Chrisman Ranch 45.84 66 P **P** **05 49 19.2 +0.1**
C09A IAmb IAmb 05 49 20.3
comp=Z,5.2nm,0.7s
HAWA Hanford 46.06 68 P **P** **05 49 21.1 +0.4**
HAWA IAmb IAmb 05 49 22.3
comp=Z,6.3nm,1.1s
NEW Newport 46.15 65 P **P** **05 49 21.9 +0.4**
comp=Z,3.1nm,0.7s,baz=314,slow=8.4,SNR=5.4
NEW Newport 46.15 65 P **P** **05 49 21.9 +0.4**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 46.15 65 P **P** **05 49 21.3 -0.2**
baz=309,SNR=5.0
NEW Newport 46.15 65 P **P** **05 49 21.9 +0.4**
NEW IAmb IAmb 05 49 22.8
comp=Z,4.4nm,0.8s
F07A Phinny Hill Vi 46.16 69 P **P** **05 49 22.6 +1.0**
I04A Tendick Farm, 46.17 73 P **P** **05 49 21.6 -0.1**
baz=311
K02D Willamette Mer 46.19 75 P **P** **05 49 21.9 -0.1**
baz=311
I05D Terrebonne, OR 46.40 71 P **P** **05 49 23.9 +0.4**
baz=311
L02E Cave Junction 46.58 75 P **P** **05 49 25.5 +0.6**
baz=312
HUMO Hull Mountain 46.64 74 P **P** **05 49 26.7 +1.3**
J04D Umpqua Nationa 46.69 73 P **P** **05 49 25.9 -0.1**
baz=311,SNR=7.2
E09A Wood Farm, Sta 46.72 67 P **P** **05 49 26.4 +0.4**
E09A IAmb IAmb 05 49 27.2
comp=Z,7.8nm,0.8s
PINE Pine Mountain 46.97 72 P **P** **05 49 28.3 +0.1**
PINE IAmb IAmb 05 49 30.3
comp=Z,4.6nm,0.9s
J05D Fort Rock, OR 47.15 72 P **P** **05 49 30.2 +0.7**
baz=311,SNR=9.1
L04D Klamath Falls 47.26 74 P **P** **05 49 31.1 +0.7**
baz=312,SNR=6.6
WALA Waterton Lakes 47.31 62 P **P** **05 49 30.8 +0.1**
YBH Yreka Blue Hor 47.36 75 P **P** **05 49 31.0 -0.1**
comp=Z,3.1nm,0.7s,baz=219,slow=9.3,SNR=5.6
YBH Yreka Blue Hor 47.36 75 P **P** **05 49 30.8 -0.3**
YBH pmax pmax
comp=Z,3.0nm,0.8s
YBH Yreka Blue Hor 47.36 75 P **P** **05 49 30.8 -0.3**
M02C Callahan 47.51 75 P **P** **05 49 33.5 +1.2**
baz=312
F10A Beach Ranch, E 47.56 67 P **P** **05 49 33.5 +0.9**
K05A Summer Lake 47.70 73 P **P** **05 49 34.9 +1.0**
M04C Macdoel 47.81 74 P **P** **05 49 35.0 +0.3**
baz=312
JTMT Jette 47.95 64 P **P** **05 49 36.2 +0.5**
BMO Blue Mountains 48.25 68 P **P** **05 49 38.5 +0.5**
BMO pmax pmax
comp=Z,4.0nm,1.1s
BMO Blue Mountains 48.25 68 P **P** **05 49 38.5 +0.5**
O02D Mt. Diablo Mer 48.36 77 P **P** **05 49 39.2 +0.3**
baz=313
MOD Modoc Plateau 48.58 73 P **P** **05 49 41.3 +0.7**
MOD IAmb IAmb 05 49 42.5
comp=Z,6.2nm,0.7s
MSO Missoula 48.73 64 P **P** **05 49 41.2 -0.4**
baz=311
MSO Missoula 48.73 64 P **P** **05 49 41.5 -0.2**
MSO IAmb IAmb 05 49 42.8
comp=Z,5.2nm,1.1s
O03E Paynes Creek 48.84 76 P **P** **05 49 42.9 +0.3**
baz=313
WVOR Wild Horse Val 49.14 72 P **P** **05 49 45.6 +0.7**
WVOR pmax pmax
comp=Z,3.0nm,1.0s
WVOR Wild Horse Val 49.14 72 P **P** **05 49 45.6 +0.7**
WMQ Urumqi 49.37 291 *e*P **P** **05 49 49.1 +2.6**
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,46nm,5.3s
KURK Kurchatov 49.46 303 *i* P **P** **05 49 46.5 -0.5**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 49.46 303 P **P** **05 49 47.7 +0.7**
KURK IAmb IAmb 05 49 57.4
comp=Z,4.1nm,0.8s
ORV Oroville 49.51 76 P **P** **05 49 47.8 +0.2**
ORV pmax pmax
comp=Z,3.0nm,0.7s
ORV Oroville 49.51 76 P **P** **05 49 47.8 +0.2**
HRY Holter Researc 49.90 63 P **P** **05 49 51.0 +0.4**
MFID Camas Ranch 50.00 69 P **P** **05 49 51.8 +0.3**
EGMT Eagleton 50.08 61 P **P** **05 49 51.9 0.0**
baz=312
EGMT Eagleton 50.08 61 P **P** **05 49 52.0 0.0**
EGMT IAmb IAmb 05 49 52.8
comp=Z,7.8nm,0.8s
LRM Limekiln Ridge 50.17 64 P **P** **05 49 53.2 +0.4**
MKAR Makanchi Array 50.22 297 P **P** **05 49 52.9 0.0**
comp=Z,0.3nm,0.6s,baz=80,slow=7.2,SNR=2.3
MKAR Makanchi Array 50.22 297 P **P** **05 49 52.8 -0.2**
MKAR Makanchi Array 50.22 297 P **P** **05 49 52.8 -0.2**
PAHR Pah Rah Range 50.59 75 P **P** **05 49 56.8 +0.8**
MCMT McKenzie Canyo 50.63 66 P **P** **05 49 55.5 -0.8**
HLID Hailey 50.66 68 P **P** **05 49 56.8 +0.4**
baz=313
HLID Hailey 50.66 68 P **P** **05 49 57.3 +0.8**
VCNR Virginia City 50.72 75 P **P** **05 49 58.2 +1.1**
VCNR IAmb IAmb 05 49 59.1
comp=Z,4.9nm,0.8s
BOZ Bozeman (W) 50.75 64 P **P** **05 49 57.2 +0.1**
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BOZ Bozeman (W) 50.75 64 P **P** **05 49 57.4 +0.3**
baz=313,SNR=6.8
BOZ Bozeman (W) 50.75 64 P **P** **05 49 57.2 +0.1**
PNTR Pine Nut 50.90 75 P **P** **05 49 59.8 +1.4**
YERR Yerington 51.17 75 P **P** **05 50 01.4 +1.0**
YERR IAmb IAmb 05 50 02.3
comp=Z,5.1nm,0.6s
CMB Columbia Colle 51.19 77 P **P** **05 50 01.6 +1.2**
CMB pmax pmax
comp=Z,3.0nm,1.3s
CMB Columbia Colle 51.19 77 P **P** **05 50 01.6 +1.2**
QLMT Earthquake Lak 51.37 65 P **P** **05 50 02.9 +1.1**
WAKR Walker 51.40 76 P **P** **05 50 03.5 +1.4**
YHL Hebgen Lake 51.48 65 P **P** **05 50 04.0 +1.2**
YHB Horse Butte 51.55 65 P **P** **05 50 03.1 -0.1**
GCMT Greycliff 51.63 63 P **P** **05 50 05.1 +1.4**
YHH Holmes Hill 51.70 64 P **P** **05 50 05.6 +1.2**
BRVK Borovoye 51.74 310 *i* P **P** **05 50 04.5 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
KVN Kaiserville 51.76 74 P **P** **05 50 06.2 +1.4**
KVN pmax pmax
comp=Z,6.0nm,0.7s
KVN Kaiserville 51.76 74 P **P** **05 50 06.2 +1.4**
KVN IAmb IAmb 05 50 06.8
comp=Z,5.7nm,0.7s
RYN Ryan 51.82 75 P **P** **05 50 06.5 +1.3**
RYN IAmb IAmb 05 50 07.2
comp=Z,4.5nm,0.6s
YNE Yellowstone No 51.99 64 P **P** **05 50 07.4 +0.9**
YPP Pitchstone Pla 52.08 65 P **P** **05 50 07.5 +0.2**
NVAR Mina Array Bea 52.08 75 P **P** **05 50 08.4 +1.2**
comp=Z,3.1nm,0.6s,baz=305,slow=7.9,SNR=30
NVAR Mina Array Bea 52.08 75 P **P** **05 50 08.7 +1.5**
H17A Grant Village 52.11 65 P **P** **05 50 09.2 +1.8**
baz=314
H17A Grant Village 52.11 65 P **P** **05 50 09.3 +1.8**

H17A				IAmb	IAmb	05 50 10.6	
	comp=Z,8.2nm,1.1s						
NV11	Mina Array Sit	52.16	75	P	P	05 50 09.2	+1.5
MDPB	Devils Postpil	52.21	76	P	P	05 50 10.0	+1.8
FLWY	Flagg Ranch	52.26	65	P	P	05 50 10.0	+1.5
FLWY				IAmb	IAmb	05 50 10.9	
	comp=Z,7.0nm,0.8s						
IMW	Indian Meadow	52.27	65	P	P	05 50 09.9	+1.3
IMW				IAmb	IAmb	05 50 10.8	
	comp=Z,5.7nm,0.8s						
RLMT	Red Lodge	52.29	63	P	P	05 50 09.6	+0.9
	baz=314,SNR=16						
RLMT	Red Lodge	52.29	63	P	P	05 50 09.8	+1.1
FXWY	Fox Creek	52.40	66	P	P	05 50 10.7	+1.2
ARCES	ARCESS Array B	52.46	343	P	P	05 50 09.7	+0.3
	comp=Z,2.8nm,0.9s,baz=9.6,slow=11,SNR=1.6						
DGMT	Dagmar	52.52	57	P	P	05 50 10.5	+0.3
	baz=314						
TPAW	Teton Pass	52.54	66	P	P	05 50 10.8	+0.2
LOHW	Long Hollow	52.64	65	P	P	05 50 12.0	+0.7
LAO	LASA Array	52.75	60	P	P	05 50 12.5	+0.6
	baz=314,SNR=5.9						
LAO	LASA Array	52.75	60	P	P	05 50 13.0	+1.0
TPH	Tonopah	52.93	75	P	P	05 50 14.7	+1.2
TPH				pmax	pmax		
	comp=Z,32nm,0.6s						
TPH	Tonopah	52.93	75	P	P	05 50 14.7	+1.2
SPUT	South Promonto	53.26	69	P	P	05 50 17.0	+1.1
SMMC	Simmler	53.35	79	P	P	05 50 16.7	+0.3
	baz=316						
VES	Vestal, Richgr	53.48	78	P	P	05 50 17.9	+0.6
	baz=316						
HWUT	Hardware Ranch	53.53	68	P	P	05 50 19.1	+1.2
CWC	Cottonwood Cre	53.62	77	P	P	05 50 19.5	+1.0
	baz=316						
R11A	Troy Canyon, C	53.65	73	P	P	05 50 19.7	+1.0
	baz=316						
R11A	Troy Canyon, C	53.65	73	P	P	05 50 19.4	+0.6
BW06	Boulder Array	53.77	65	P	P	05 50 20.2	+0.5
	baz=315,SNR=8.9						
BW06	Boulder Array	53.77	65	P	P	05 50 20.8	+1.0
BW06				IAmb	IAmb	05 50 21.4	
	comp=Z,7.6nm,1.0s						
PD31	Pinedale Array	53.77	65	P	P	05 50 20.2	+0.5
PD31				IAmb	IAmb	05 50 21.4	
	comp=Z,7.0nm,1.0s						
PDAR	Pinedale Array	53.77	65	P	P	05 50 20.6	+0.9
	comp=Z,4.3nm,0.8s,baz=330,slow=3.6,SNR=31						
PDAR	Pinedale Array	53.77	65	P	P	05 50 20.5	+0.8
DUG	Dugway, Tooele	53.85	70	P	P	05 50 21.5	+1.3
DUG				pmax	pmax		
	comp=Z,8.0nm,1.3s						
DUG	Dugway, Tooele	53.85	70	P	P	05 50 20.8	+0.6
	baz=315						
DUG	Dugway, Tooele	53.85	70	P	P	05 50 21.4	+1.3
DUG				IAmb	IAmb	05 50 22.3	
	comp=Z,8.2nm,1.3s						
ISA	Isabella, Lake	53.96	78	P	P	05 50 21.3	+0.3
	baz=316						
TCUT	Toone Canyon	53.96	68	P	P	05 50 22.1	+1.0
ARU	Arti	54.16	319	LR	LR	06 16 45.5	
	comp=Z,45nm,19.6s,baz=340,slow=40						
ARU	Arti	54.16	319	*d i P*	P	05 50 20.4	-1.6
ARU				S	S	05 58 01.0	+3.2
ARU				SS	SS	06 01 40.1	+1.4
ARU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MPMC	Manual Prospec	54.23	77	P	P	05 50 24.0	+1.0
	baz=316						
TPNV	Topopah Spring	54.28	75	P	P	05 50 24.6	+1.2
TPNV				pmax	pmax		
	comp=Z,14nm,1.3s						
TPNV	Topopah Spring	54.28	75	P	P	05 50 24.2	+0.8
	baz=316,SNR=9.4						
TPNV	Topopah Spring	54.28	75	P	P	05 50 24.6	+1.2
FURC	Furnace Creek,	54.28	76	P	P	05 50 24.7	+1.6
	baz=316						
PSUT	Pine Spring	54.47	72	P	P	05 50 26.1	+1.3
PRN	Pahroc Range	54.61	74	P	P	05 50 27.7	+1.9
EDW2	Edwards Air Fo	54.79	78	P	P	05 50 27.7	+0.7
	baz=317						
ULM	Lac du Bonnet	55.14	51	P	P	05 50 28.9	-0.3
	comp=Z,6.9nm,0.7s,baz=290,slow=7.5,SNR=5.3						
ULM				LR	LR	06 16 38.2	
	comp=Z,73nm,18.2s,baz=123,slow=39						
ULM	Lac du Bonnet	55.14	51	P	P	05 50 29.1	-0.2
ULM				IAmb	IAmb	05 50 30.9	
	comp=Z,8.5nm,0.8s						
GSC	Goldstone, Bar	55.16	77	P	P	05 50 30.8	+1.1
GSC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GSC	Goldstone, Bar	55.16	77	P	P	05 50 30.8	+1.1
	baz=317						
GSC	Goldstone, Bar	55.16	77	P	P	05 50 30.8	+1.1
GSC				IAmb	IAmb	05 50 31.6	
	comp=Z,5.2nm,0.8s						
RDMU	Red Mountain	55.33	67	P	P	05 50 32.8	+1.8
TMUT	Trail Mountain	55.36	69	P	P	05 50 33.1	+1.7
MVU	Marysvale	55.38	71	P	P	05 50 33.1	+1.7
MSU	Marysvale	55.40	71	P	P	05 50 33.6	+2.1
MSU	Marysvale	55.40	71	P	P	05 50 33.6	+2.1
K22A	Casper	55.44	64	P	P	05 50 32.7	+1.0
	baz=316						
K22A	Casper	55.44	64	P	P	05 50 32.8	+1.1
K22A				IAmb	IAmb	05 50 33.3	
	comp=Z,12nm,1.3s						
CCUT	Cedar City	55.44	72	P	P	05 50 33.3	+1.4
P17A	Butcher Ranch,	55.49	69	P	P	05 50 33.5	+1.4
E28A	Huff	55.54	57	P	P	05 50 33.1	+0.9
TUQ	Turquoise Moun	55.55	76	P	P	05 50 33.7	+1.1
	baz=317						
SZCU	Shurtz Canyon	55.56	72	P	P	05 50 34.2	+1.5
Q16A	Castle Valley	55.65	70	P	P	05 50 34.6	+1.3
RSSD	Black Hills	55.65	61	P	P	05 50 34.0	+0.7
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.7s						
RSSD	Black Hills	55.65	61	P	P	05 50 33.6	+0.3
	baz=316						
RSSD	Black Hills	55.65	61	P	P	05 50 34.0	+0.7
RSSD				IAmb	IAmb	05 50 34.6	
	comp=Z,5.6nm,0.7s						
MTPU	Mount Pierson	55.73	71	P	P	05 50 35.8	+1.7
HEC	Hector,Ludlow	55.76	77	P	P	05 50 35.3	+1.2
	baz=317						
RWWY	Rawlins	55.77	65	P	P	05 50 34.9	+0.7
RWWY				IAmb	IAmb	05 50 35.7	
	comp=Z,6.5nm,0.8s						
SRU	San Rafael Swe	55.86	69	P	P	05 50 35.9	+1.1
SRU				pmax	pmax		
	comp=Z,19nm,0.7s						
SRU	San Rafael Swe	55.86	69	P	P	05 50 35.9	+1.1
LCMT	Little Creek M	55.90	73	P	P	05 50 36.5	+1.5
PKCU	Pink Cliffs	56.09	72	P	P	05 50 38.4	+1.7
KNB	Kanab	56.12	72	P	P	05 50 38.2	+1.5
KNB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KNB	Kanab	56.12	72	P	P	05 50 38.2	+1.5
GMRC	Granite Mounta	56.17	76	P	P	05 50 38.1	+1.1
	baz=317,SNR=6.2						
MURC	Murrieta	56.18	78	P	P	05 50 37.6	+0.7
	baz=318						
O20A	White River Ci	56.34	67	P	P	05 50 39.1	+0.9
	baz=316,SNR=13						
O20A	White River Ci	56.34	67	P	P	05 50 39.3	+1.0
BELC	Belle Mtn. Jos	56.56	77	P	P	05 50 40.0	+0.2
	baz=318						
AGMN	Agassiz Nation	56.56	52	P	P	05 50 39.6	+0.2
	baz=317						
AGMN	Agassiz Nation	56.56	52	P	P	05 50 40.0	+0.6
AGMN				IAmb	IAmb	05 50 40.7	
	comp=Z,8.2nm,0.9s						
PFO	Pinyon Flats O	56.59	78	P	P	05 50 40.2	+0.2
	comp=Z,1.9nm,0.5s,baz=302,slow=8.5,SNR=6.0						
PFO	Pinyon Flats O	56.59	78	P	P	05 50 40.5	+0.6
	baz=318						
PFO	Pinyon Flats O	56.59	78	P	P	05 50 40.8	+0.9
PFO				IAmb	IAmb	05 50 47.6	
	comp=Z,6.3nm,1.1s						
U15A	North Rim	56.84	73	P	P	05 50 42.7	+0.7
IRM	Iron Mountain	56.92	76	P	P	05 50 43.1	+0.9
	baz=318						
W13A	Hualapai Mount	56.94	75	P	P	05 50 43.4	+0.8
N23A	Red Feather La	57.00	65	P	P	05 50 44.1	+1.1
	baz=317,SNR=8.8						
N23A	Red Feather La	57.00	65	P	P	05 50 43.9	+0.8
AAK	Ala-Archa	57.10	299	*i P*	P	05 50 45.4	+1.9
AAK				pmax	pmax		
	comp=Z,4.0nm,1.8s						
BC3	Big Chuckawall	57.12	77	P	P	05 50 44.1	+0.3
	baz=318						
PV23	Carpenter Ridg	57.15	69	P	P	05 50 45.9	+1.8
PV22	Blue Mesa, Par	57.21	68	P	P	05 50 46.3	+1.9
PV22				IAmb	IAmb	05 50 48.4	
	comp=Z,5.9nm,0.7s						
PV18	Skein Mesa, Pa	57.36	69	P	P	05 50 46.7	+1.2
PV18				IAmb	IAmb	05 50 47.4	
	comp=Z,7.6nm,0.9s						
PDMCI	Parker Dam,Lak	57.38	76	P	P	05 50 46.1	+0.7
	baz=318						
PV03	Paradox Valley	57.38	69	P	P	05 50 46.7	+1.0
PV03				IAmb	IAmb	05 50 47.6	
	comp=Z,6.8nm,0.8s						
PV02	Paradox Valley	57.48	69	P	P	05 50 47.7	+1.3
PV02				IAmb	IAmb	05 50 50.5	
	comp=Z,4.4nm,0.8s						
GLA	Glamis	57.92	77	P	P	05 50 50.3	+1.0
GLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GLA	Glamis	57.92	77	P	P	05 50 50.2	+0.9
	baz=318						
GLA	Glamis	57.92	77	P	P	05 50 50.3	+1.0
GLA				IAmb	IAmb	05 50 51.3	
	comp=Z,5.8nm,0.8s						
ISCO	Idaho Springs	57.97	65	P	P	05 50 51.3	+1.4
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ISCO	Idaho Springs	57.97	65	P	P	05 50 51.1	+1.2
	baz=317,SNR=10						
ISCO	Idaho Springs	57.97	65	P	P	05 50 51.3	+1.4
ISCO				IAmb	IAmb	05 50 52.5	
	comp=Z,6.8nm,1.1s						
WUAZ	Wupatki	58.02	73	P	P	05 50 51.5	+1.4
	baz=318						
WUAZ	Wupatki	58.02	73	P	P	05 50 51.3	+1.2
WUAZ				IAmb	IAmb	05 50 52.0	
	comp=Z,3.4nm,0.7s						
MVCO	Mesa Verde	58.34	69	P	P	05 50 53.3	+0.9
	baz=318						
KK31	Karatay Array	58.74	301	P	P	05 50 53.8	-1.1
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KK31	Karatay Array	58.74	301	P	P	05 50 53.8	-1.1
KKAR	Karatay Array	58.74	301	P	P	05 50 53.9	-1.0
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	Karatay Array	58.74	301	P	P	05 50 55.0	+0.1
KKAR	Karatay Array	58.74	301	P	P	05 50 53.9	-1.0
KKAR				IAmb	IAmb	05 51 12.3	
	comp=Z,1.9nm,0.8s						
EYMN	Ely	58.78	50	P	P	05 50 55.5	+0.4
	baz=319						
EYMN	Ely	58.78	50	P	P	05 50 55.1	0.0
S22A	4UR Ranch, Cre	58.84	68	P	P	05 50 57.4	+1.4
	baz=318,SNR=8.3						
S22A	4UR Ranch, Cre	58.84	68	P	P	05 50 57.3	+1.4
S22A				IAmb	IAmb	05 50 58.5	
	comp=Z,4.8nm,0.9s						
AKTO	Aktyubinsk	58.88	315	LR	LR	06 17 56.8	
	comp=Z,41nm,19.0s,baz=198,slow=38						
ABKAR	Akbulak array	58.98	313	P	P	05 50 56.3	-0.1
F36A	Milaca	59.44	53	P	P	05 51 00.1	+0.5
F36A				IAmb	IAmb	05 51 03.3	
	comp=Z,4.7nm,0.9s						
SDCO	Great Sand Dun	59.55	67	P	P	05 51 01.9	+1.1
	baz=318,SNR=5.2						
SDCO	Great Sand Dun	59.55	67	P	P	05 51 02.1	+1.3
ECSD	EROS Data Cent	59.59	56	P	P	05 51 00.1	-0.6
	baz=319						
FINES	FINESS Array B	59.61	339	P	P	05 51 00.5	-0.1
	comp=Z,1.2nm,0.8s,baz=139,slow=35,SNR=2.6						
214A	Organ Pipe Nat	59.87	76	P	P	05 51 04.0	+1.1
	baz=319						
SPMN	Marine on St.	60.25	53	P	P	05 51 05.5	+0.3
	baz=320						
T25A	Trinidad	60.58	67	P	P	05 51 08.5	+0.6
	baz=319						
TUC	Tucson	60.73	75	P	P	05 51 09.7	+0.9
	baz=319						
ANMO	Albuquerque	61.12	70	P	P	05 51 12.4	+0.8
	comp=Z,0.1nm,0.6s,baz=133,slow=7.9,SNR=11						
ANMO	Albuquerque	61.12	70	P	P	05 51 12.3	+0.8
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	Albuquerque	61.12	70	P	P	05 51 11.9	+0.3
	baz=319						
ANMO	Albuquerque	61.12	70	P	P	05 51 12.3	+0.8
BNM	Barren Site	61.63	70	P	P	05 51 16.5	+1.5
CMAR	Chiang Mai Arr	61.71	262	LR	LR	06 20 47.9	
	comp=Z,39nm,18.5s,baz=190,slow=39						
NB2	NORSAR Subarra	62.56	346	P	P	05 51 19.8	-0.9
	comp=Z,1.3nm,0.7s,baz=16,slow=6.9						
NOA	NORSAR Array B	62.56	346	P	P	05 51 19.7	-1.0
	comp=Z,0.4nm,0.5s,baz=18,slow=6.9,SNR=3.6						
MSTX	Muleshoe	63.84	68	P	P	05 51 29.4	-0.3
	baz=320						
LSQQ	Lebel-sur-Quev	63.85	41	P	P	05 51 28.3	-1.0
	baz=325						
MNTX	Cornudas Mount	64.17	71	P	P	05 51 32.7	+1.0
	baz=320,SNR=7.5						
MNTX	Cornudas Mount	64.17	71	P	P	05 51 32.8	+1.1
MNTX				IAmb	IAmb	05 51 33.8	
	comp=Z,4.3nm,0.9s						
L44A	Lake County Fo	64.85	52	P	P	05 51 35.3	-0.7
	baz=322						
P40A	Paris	65.00	56	P	P	05 51 37.0	0.0
D53A	Lac Vacive, Po	65.20	42	P	P	05 51 37.6	-0.6
	baz=326						
WMOK	Wichita Mounta	65.36	64	P	P	05 51 39.9	+0.5
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMOK	Wichita Mounta	65.36	64	P	P	05 51 39.6	+0.2
	baz=321,SNR=6.3						
WMOK	Wichita Mounta	65.36	64	P	P	05 51 39.9	+0.5
WMOK				IAmb	IAmb	05 51 40.5	
	comp=Z,3.4nm,0.7s						
HDIL	Hopedale	65.50	54	P	P	05 51 39.7	-0.5
	baz=322,SNR=5.9						
HDIL	Hopedale	65.50	54	P	P	05 51 40.3	+0.1
R40A	Maddies Statio	65.87	57	P	P	05 51 42.2	-0.4
E54A	Lac Daplat, Po	65.93	42	P	P	05 51 41.5	-1.4
	baz=326						
D55A	Sainte-Anne-du	66.11	41	P	P	05 51 42.9	-1.1
	baz=327						
D56A	ZEC Mazanza, M	66.35	40	P	P	05 51 44.6	-1.0
	baz=327						
ABTX	Abilene, Hawle	66.54	66	P	P	05 51 47.2	+0.1
	baz=321						
CCM	Cathedral Cave	66.55	57	P	P	05 51 46.9	-0.1
	baz=322						
MGMO	Mountain Grove	66.76	58	P	P	05 51 47.4	-1.0
MGMO				IAmb	IAmb	05 51 48.0	
	comp=Z,3.6nm,0.6s						
TX31	Lajitas Ar. Si	66.93	72	P	P	05 51 50.8	+1.1
TX32	Lajitas Array	66.93	72	P	P	05 51 50.9	+1.2
TX32				IAmb	IAmb	05 51 51.3	
	comp=Z,3.9nm,0.7s						
TXAR	Lajitas Array	66.93	72	P	P	05 51 50.6	+0.9
	comp=Z,2.9nm,0.6s,baz=301,slow=4.4,SNR=39						
FVM	French Village	67.00	56	P	P	05 51 50.1	+0.2
FVM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
FVM	French Village	67.00	56	P	P	05 51 50.1	+0.2
G55A	Calabogie	67.10	43	P	P	05 51 48.9	-1.5
	baz=326						
U40A	Yellville	67.10	59	P	P	05 51 49.9	-0.6
	baz=322						
E57A	Chemin Saint G	67.11	40	P	P	05 51 49.4	-1.1
	baz=327						
ORIO	Orleans, Innes	67.40	42	P	P	05 51 51.1	-1.1
	baz=327						
E58A	La Victoria	67.47	40	P	P	05 51 51.5	-1.2
	baz=328						
H55A	Tweed	67.50	43	P	P	05 51 51.9	-1.0
	baz=326						
FCAR	Ozark Folk Cen	67.83	59	P	P	05 51 54.6	-0.6
G57A	Newington	67.89	42	P	P	05 51 54.4	-1.0
	baz=327						
F59A	Saint Guilaume	68.09	40	P	P	05 51 56.0	-0.6
	baz=328						
JCT	Junction City	68.13	68	P	P	05 51 57.0	-0.2
	baz=322						
P48A	Milroy	68.16	52	P	P	05 51 56.3	-0.9
LCAR	Lake Charles	68.17	58	P	P	05 51 56.2	-1.1
MIAR	Mount Ida	68.17	61	P	P	05 51 57.7	+0.4
MIAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MIAR	Mount Ida	68.17	61	P	P	05 51 56.9	-0.4
	baz=323						
MIAR	Mount Ida	68.17	61	P	P	05 51 57.7	+0.4
MIAR				IAmb	IAmb	05 51 58.0	
	comp=Z,3.1nm,0.6s						
WHAR	Wooly Hollow	68.22	59	P	P	05 51 56.2	-1.5
M52A	Chesterland	68.26	48	P	P	05 51 57.3	-0.5
	baz=325						
H57A	Richville	68.28	42	P	P	05 51 56.6	-1.2
	baz=327						
J55A	Hilton	68.31	45	P	P	05 51 57.2	-0.8
	baz=326						
W41B	Gary Mavity, V	68.34	60	P	P	05 51 57.9	-0.4
	baz=323						
W41B	Gary Mavity, V	68.34	60	P	P	05 51 58.1	-0.2
W41B				IAmb	IAmb	05 51 58.8	
	comp=Z,7.9nm,1.4s						
D62A	Allapoint, All	68.38	37	P	P	05 51 57.4	-1.0
	baz=330						
D62A	Allapoint, All	68.38	37	P	P	05 51 58.1	-0.2
PARMO	Parma	68.38	57	P	P	05 51 59.6	+1.1
L53A	Girard	68.39	47	P	P	05 51 58.3	-0.3
	baz=326						
E61A	Lac Etchemin	68.43	38	P	P	05 51 57.7	-1.1
	baz=329						
K54A	Basiliko Farm,	68.50	46	P	P	05 51 59.1	-0.2
	baz=326						
E62A	Clayton Lake	68.61	37	P	P	05 51 59.1	-0.8
	baz=330						
M53A	WI Miller and	68.64	48	P	P	05 51 59.5	-0.6
	baz=326						
M53A	WI Miller and	68.64	48	P	P	05 51 59.5	-0.6
K55A	Perry	68.66	45	P	P	05 51 59.8	-0.4
	baz=326						
N52A	McGinn's Farm,	68.72	49	P	P	05 52 00.3	-0.4
	baz=325						
MOQ	Mont Orford	68.75	40	P	P	05 52 00.6	-0.2
WCI	Wyandotte Cave	68.75	53	P	P	05 52 00.7	-0.2
WCI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WCI	Wyandotte Cave	68.75	53	P	P	05 52 00.7	-0.2
	baz=324						
WCI	Wyandotte Cave	68.75	53	P	P	05 52 00.7	-0.2
WCI				IAmb	IAmb	05 52 01.7	
	comp=Z,5.5nm,0.8s						
O51A	Pataskala	68.86	50	P	P	05 52 01.2	-0.3
	baz=325						
K56A	Middlesex	68.99	45	P	P	05 52 01.5	-0.8
	baz=327						
M54A	Oil Creek Stat	69.01	47	P	P	05 52 02.0	-0.5
	baz=326						
G61A	St-Isidore-de-	69.04	39	P	P	05 52 02.4	-0.2
	baz=329						
O52A	Adamsville	69.22	49	P	P	05 52 03.2	-0.6
	baz=326						
J58A	Remsen	69.24	43	P	P	05 52 02.3	-1.6
	baz=328						
N54A	Moraine State	69.32	47	P	P	05 52 04.0	-0.4
	baz=326						
L56A	Greenwood	69.36	45	P	P	05 52 04.0	-0.7
	baz=327						
L56A	Greenwood	69.36	45	P	P	05 52 03.9	-0.8
E64A	Bridgewater	69.37	36	P	P	05 52 04.4	-0.2
	baz=330						
T47A	Sharon Grove	69.38	55	P	P	05 52 04.8	0.0
O53A	New Philadelph	69.38	49	P	P	05 52 04.2	-0.6
	baz=326						
M55A	Ridgway	69.42	46	P	P	05 52 04.5	-0.5
	baz=326						
I59A	Olmsteadville	69.42	42	P	P	05 52 03.6	-1.4
	baz=328						
J59A	Piesco	69.46	42	P	P	05 52 04.3	-0.9
	baz=328						
P52A	Corning	69.49	50	P	P	05 52 04.2	-1.2
	baz=325						
H61A	Lyndonville	69.53	40	P	P	05 52 05.3	-0.4
	baz=329						
F64A	Sherman	69.67	37	P	P	05 52 05.6	-0.8
	baz=330						
WVT	Waverly	69.72	56	P	P	05 52 07.5	+0.5
WVT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WVT	Waverly	69.72	56	P	P	05 52 06.9	0.0
	baz=324						
WVT	Waverly	69.72	56	P	P	05 52 07.5	+0.5
H62A	Milan	69.78	40	P	P	05 52 06.8	-0.4
	baz=329						
O54A	Avella	69.80	48	P	P	05 52 06.8	-0.6
	baz=326						
PKME	Peaks-Kenny Pk	69.86	38	P	P	05 52 07.6	0.0
	baz=330						
N55A	Marion Center	69.90	47	P	P	05 52 07.4	-0.6
	baz=326						
J60A	Lant Hill Farm	70.07	42	P	P	05 52 08.7	-0.2
	baz=328						
N56A	West Decatur	70.07	46	P	P	05 52 08.5	-0.5
	baz=327						
M57A	Sunshine Farm,	70.20	45	P	P	05 52 09.0	-0.8
	baz=327						
M57A	Sunshine Farm,	70.20	45	P	P	05 52 09.4	-0.5
P54A	Burton	70.24	49	P	P	05 52 09.5	-0.6
	baz=326						
OXF	Oxford	70.27	58	P	P	05 52 10.1	-0.2
	baz=324						
J61A	Chester	70.31	41	P	P	05 52 09.7	-0.8
	baz=329						
L59A	Walton	70.33	43	P	P	05 52 09.9	-0.7
L59A				IAmb	IAmb	05 52 25.8	
	comp=Z,7.1nm,1.1s						
Q53A	Leroy	70.39	50	P	P	05 52 10.3	-0.8
	baz=326						
M58A	Price's Panora	70.45	45	P	P	05 52 10.5	-0.9
	baz=327						
CLTN	Cedars of Leba	70.47	55	P	P	05 52 12.1	+0.6
SSPA	Standing Stone	70.48	46	P	P	05 52 11.0	-0.5
SSPA				IAmb	IAmb	05 52 11.1	
	comp=Z,5.1nm,1.0s						
O56A	Blue Knob Stat	70.50	47	P	P	05 52 10.7	-1.0
	baz=327						
N57A	Milroy	70.52	46	P	P	05 52 11.3	-0.5
	baz=327						
V48A	Smith Brothers	70.52	55	P	P	05 52 11.0	-0.8
G65A	Princeton	70.52	37	P	P	05 52 11.3	-0.4
	baz=331						
PLAL	Pickwick Lake	70.53	57	P	P	05 52 12.1	+0.2
P55A	Reedsville	70.60	48	P	P	05 52 12.0	-0.3
	baz=326						
K61A	Williamstown	70.61	42	P	P	05 52 11.5	-0.8
	baz=329						
R53A	Hurricane	70.64	50	P	P	05 52 12.0	-0.5
	baz=326						
J62A	Henniker	70.69	41	P	P	05 52 11.9	-0.9
	baz=329						
M59A	Waymart	70.72	44	P	P	05 52 11.8	-1.2
	baz=328						
N58A	Sunbury	70.79	45	P	P	05 52 12.6	-0.8
	baz=327						
GGN	Saint George	70.84	36	P	P	05 52 13.4	-0.2
GGN				IAmb	IAmb	05 52 21.9	
	comp=Z,3.7nm,0.9s						
Q55A	Buckhannon	70.91	49	P	P	05 52 13.6	-0.6
	baz=326						
P56A	Dayton Farm, R	71.02	48	P	P	05 52 14.9	0.0
	baz=327						
N59A	State Game Lan	71.11	45	P	P	05 52 14.2

T53A	**Wise**	71.49	52	P		P	05 52 17.5	-0.3
	baz=326							
V51A	**Loudon**	71.63	54	P		P	05 52 19.0	+0.4
V51A				IAmb		IAmb	05 52 19.1	
	comp=Z,7.5nm,0.9s							
CLL	**Collm**	71.65	342	*e*P		P	05 52 19.0	+0.6
W50A	**Signal Mountai**	71.67	55	P		P	05 52 19.1	+0.2
CPCT	**Cooper Cave**	71.84	54	P		P	05 52 19.8	-0.1
CPCT				IAmb		IAmb	05 52 20.7	
	comp=Z,5.4nm,1.0s							
T54A	**Tazewell**	71.86	51	P		P	05 52 20.0	0.0
	baz=326							
V52A	**Sevierville**	71.94	53	P		P	05 52 20.9	+0.4
Q58A	**Fox Den Farm,**	71.98	47	P		P	05 52 20.6	-0.1
	baz=327							
FPAL	**Fort Paine**	72.07	55	P		P	05 52 21.1	-0.2
R57A	**Stanardsville**	72.17	48	P		P	05 52 21.6	-0.2
	baz=327							
L64A	**Middleborough**	72.17	41	P		P	05 52 21.0	-0.7
	baz=330							
U54A	**Nelsons Funny**	72.19	51	P		P	05 52 20.9	-1.1
	baz=326							
S56A	**Natural Bridge**	72.23	49	P		P	05 52 21.4	-0.8
	baz=327							
BLA	**Blacksburg**	72.25	50	P		P	05 52 21.5	-0.8
	baz=327							
Y49A	**Blount Mountai**	72.25	56	P		P	05 52 22.0	-0.3
Y49A				IAmb		IAmb	05 52 22.3	
	comp=Z,5.2nm,0.6s							
R58A	**Rapidan**	72.39	48	P		P	05 52 22.7	-0.4
	baz=327							
S57A	**Dark Hollow, R**	72.43	49	P		P	05 52 23.2	-0.2
	baz=327							
U55A	**TA2, Sparta**	72.56	51	P		P	05 52 23.8	-0.4
	baz=326							
LRAL	**Lakeview Retre**	72.63	57	P		P	05 52 24.3	-0.3
	baz=325							
LRAL	**Lakeview Retre**	72.63	57	P		P	05 52 24.3	-0.3
R58B	**Mineral**	72.72	48	P		P	05 52 25.2	+0.2
	baz=328							
V54A	**Nebo**	72.75	52	P		P	05 52 25.3	0.0
	baz=326							
VRAC	**Vranov**	72.89	339	LR		LR	06 28 20.4	
	comp=Z,25nm,18.4s,baz=0.0,slow=39							
BG3	**Lake Jocassee**	72.95	53	P		P	05 52 26.4	0.0
BG3				IAmb		IAmb	05 52 27.2	
	comp=Z,3.1nm,0.7s							
W54A	**Cherokee Point**	73.22	52	P		P	05 52 28.0	-0.1
	baz=326							
Y52A	**Lilburn**	73.36	55	P		P	05 52 28.7	-0.2
Y52A				IAmb		IAmb	05 52 29.6	
	comp=Z,5.4nm,0.7s							
V56A	**Mocksville**	73.38	51	P		P	05 52 28.7	-0.3
	baz=327							
KMSC	**Kings Mountain**	73.56	52	P		P	05 52 29.6	-0.4
	baz=327							
X54A	**Belton**	73.58	53	P		P	05 52 30.0	-0.2
	baz=326							
W56A	**Indian Trail**	73.90	51	P		P	05 52 32.0	-0.1
	baz=327							
X55A	**Gracelyn & Ava**	73.98	52	P		P	05 52 32.0	-0.5
	baz=327							
V58A	**Windy Hill, Pi**	74.00	50	P		P	05 52 32.6	-0.1
	baz=327							
V58A	**Windy Hill, Pi**	74.00	50	P		P	05 52 32.8	+0.2
V58A				IAmb		IAmb	05 52 33.4	
	comp=Z,5.9nm,0.8s							
GOGA	**Godfrey**	74.01	54	P		P	05 52 32.7	0.0
GOGA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
GOGA	**Godfrey**	74.01	54	P		P	05 52 32.7	0.0
U59A	**Littleton**	74.11	49	P		P	05 52 32.9	-0.3
	baz=328							
W57A	**Gilead**	74.15	51	P		P	05 52 33.2	-0.3
	baz=327							
U60A	**Pendleton**	74.28	48	P		P	05 52 33.7	-0.5
	baz=328							
Y55A	**Saluda**	74.32	53	P		P	05 52 34.0	-0.5
	baz=327							
V59A	**Middlesex**	74.41	49	P		P	05 52 34.5	-0.5
	baz=328							
W58A	**Raeford**	74.60	50	P		P	05 52 35.7	-0.4
	baz=327							
V60A	**Jim Taylor Roa**	74.84	49	P		P	05 52 37.3	-0.2
	baz=328							
X58A	**Rowland**	74.94	51	P		P	05 52 37.9	-0.3
	baz=327							
Z57A	**Bowman**	75.38	52	P		P	05 52 40.1	-0.6
	baz=327							
BRTR	**Keskin Array B**	77.13	324	P		P	05 52 52.3	+1.6
	comp=Z,0.6nm,0.8s,baz=56,slow=3.6,SNR=1.8							
BRTR	**Keskin Array B**	77.13	324	P		P	05 52 50.9	+0.2
BRTR	**Keskin Array B**	77.13	324	P		P	05 52 50.9	+0.2
WRA	**Warramunga Arr**	79.25	210	P		P	05 53 02.2	-0.1
	comp=Z,0.9nm,0.9s,baz=25,slow=5.9,SNR=4.7							
DWPF	**Disney Wildern**	79.38	56	P		P	05 53 03.5	+0.4
	baz=328							
ASAR	**Alice Springs**	82.90	209	P		P	05 53 22.8	+1.1
	comp=Z,0.5nm,0.8s,baz=25,slow=6.2,SNR=4.0							
ASAR	**Alice Springs**	82.90	209	P		P	05 53 22.3	+0.6
ASAR	**Alice Springs**	82.90	209	P		P	05 53 22.3	+0.6
ESDC	**Sonseca Array**	85.30	352	P		P	05 53 33.4	-0.6
	comp=Z,0.7nm,0.8s,baz=358,slow=3.5,SNR=3.2							

ISC 08 05:45:49.6±1.1, 2°72S×36°01E, h11km±2km, n32, 4C, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LN34	**Lwondulwo boma**	0.05	132	*i* P	Pg	05 45 51.7	-0.1
LN34				*i* S	Sg	05 45 53.0	-0.5
LN34				IAML		05 45 53.3	
	comp=Z,8μm,0.1s						
LN35	**Magadini PS**	0.09	355	*i* P	Pg	05 45 52.5	+0.2
LN35				*i* S	Sg	05 45 54.2	0.0
LN35				IAML		05 45 55.1	
	comp=Z,3μm,0.1s						
PR33	**Engutoto Boma**	0.17	133	*i* P	Pg	05 45 53.5	0.0
PR33				*i* S	Sg	05 45 56.3	0.0
PR33				IAML		05 45 56.6	
	comp=Z,2μm,0.4s						
LN26	**Engaresero PS**	0.17	309	⇑*i* P	Pg	05 45 53.9	+0.4
LN26				*i* S	Sg	05 45 56.7	+0.5
LN26				IAML		05 45 58.0	
	comp=Z,1μm,0.4s						
LN15	**Lekule Girls S**	0.19	62	*i* P	Pg	05 45 54.2	+0.4
LN15				*i* S	Sg	05 45 57.3	+0.5
LN15				IAML		05 45 59.2	
	comp=Z,631nm,0.1s						
PR31	**Engaruka Boma**	0.20	170	*i* P	Pg	05 45 54.0	+0.1
PR31				*i* S	Sg	05 45 56.9	-0.1
PR31				IAML		05 45 57.3	
	comp=Z,944nm,0.3s						
PR53	**Nayobi Boma**	0.22	233	*i* P	Pg	05 45 54.8	+0.3
PR53				*i* S	Sg	05 45 58.5	+0.8
PR32	**Iloiriento PS**	0.23	133	⇑*i* P	Pg	05 45 54.9	+0.4
PR32				*i* S	Sg	05 45 58.6	+0.7
LN25	**Lake Natron SS**	0.25	330	*i* P	Pb	05 45 55.6	-0.7
PR11	**Kitumbeine SS**	0.30	110	*i* P	Pg	05 45 55.9	0.0
LN45	**Noondotu PS**	0.39	134	⇑*i* P	Pg	05 45 57.5	+0.1
PR52	**Alailelai Boma**	0.39	233	*i* P	Pg	05 45 57.9	+0.4
LL22	**Malambo SS**	0.46	296	*i* P	Pg	05 45 58.9	+0.2
LN16	**Kitarini PS**	0.46	78	*i* P	Pg	05 45 59.0	+0.3
LN14	**Matela PS**	0.49	55	*i* P	Pg	05 45 59.6	+0.4
LL24	**Masusu PS**	0.50	335	*i* P	Pg	05 45 59.6	+0.3
LL23	**Sali PS**	0.53	322	*i* P	Pg	05 46 00.2	+0.2
NG55	**Lemala Gate**	0.53	218	*i* P	Pg	05 46 00.2	+0.2
LL66	**Piyaya bomas**	0.54	281	*i* P	Pg	05 46 00.1	-0.1
PR63	**Meshili Boma**	0.57	242	*i* P	Pb	05 46 01.4	-0.4
KEN3	**Shompole Clini**	0.63	9	*i* P	Pg	05 46 02.1	+0.2
LL65	**Arash bomas**	0.65	297	*i* P	Pg	05 46 02.1	-0.2
NG54	**Nasera Bomas**	0.65	269	*i* P	Pg	05 46 02.7	+0.4
MW41	**Ole Sokoine**	0.67	140	⇑*i* P	Pg	05 46 02.9	+0.3
PR62	**Oldupai Boma**	0.69	248	*i* P	Pb	05 46 03.6	-0.2
NG56	**Ngoile bomas**	0.71	238	*i* P	Pb	05 46 04.0	-0.1
LN46	**New Vision PS**	0.72	113	*i* P	Pg	05 46 03.5	-0.1
LL21	**Loliondo SS**	0.80	325	*i* P	Pg	05 46 04.9	-0.3
PR61	**Kiloki Boma**	0.80	253	*i* P	Pb	05 46 04.8	-0.4
KEN2	**Magadi Soda Va**	0.84	19	*i* P	Pb	05 46 06.0	-0.3
KEN4	**Ngurumani**	0.93	2	*i* P	Pg	05 46 07.6	0.0
KMBO	**Kilima Mbogo**	2.01	38	*i* P	Pb	05 46 25.9	-0.4
KOND	**Kondoa**	2.19	186	*i* P	Pb	05 46 28.7	-0.6
KOND				*i* S	Sb	05 46 56.7	+0.2

*IDC **08** 05:55:38.0±1.2, 26°76N×66°85E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/56, mbtmp3.7/7, Error ellipse: s-maj=32.6km s-min=28.8km az=59.0*
*NEIC **08** 05:55:40.9±2.8, 27°02N±0°10×66°79E±0°05, h10km±2km, mb4.2/2, Error ellipse: s-maj=16.4km s-min=7.0km az=168.0*
ISC 08 05:55:39.4±0.9, 26°93N±0°10×66°95E±0°08, h10km, n23, σ1§81/25, mb3.6/9, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	7.79	13	Pn	Pn	05 57 30.4	-2.7
KBL				Sn	Sn	05 59 02.2	+0.7
HRA	**Herat**	8.46	333	Pn	Pn	05 57 40.7	-1.5
HRA				Sn	Sn	05 59 16.8	-1.1
NIL	**Nilore**	8.63	38	Pn	Pn	05 57 46.5	+2.2
DHRM	**DHARAMSHALA**	9.71	55	*e*P	Pn	05 57 52.4	-7.0
DHRM				*e*S	Sn	05 59 46.0	-2.6
DHRM				IAML		05 59 55.0	
	comp=N,61nm,0.4s						
DHRM				IAML		05 59 56.4	
	comp=E,60nm,0.8s						
SMLA	**Simla**	9.87	63	*e*P	Pn	05 57 54.9	-6.5
SMLA				*e*S	Sn	05 59 48.5	-3.7
SMLA				IAML		05 59 51.6	
	comp=E,25nm,0.3s						
SMLA				IAML		05 59 52.7	
	comp=N,26nm,0.1s						
UOSS	**Minazif**	9.87	261	Pn	Pn	05 57 59.7	-1.7
ABKAR	**Akbulak array**	22.94	348	P	P	06 00 44.9	+1.3
MKAR	**Makanchi Array**	23.24	27	P	P	06 00 49.6	+2.9
	comp=N,0.5nm,0.7s,baz=212,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	23.24	27	P	P	06 00 48.0	+1.3
KURBB	**Kurchatov Arra**	25.26	17	P	P	06 01 06.8	+1.2
	comp=N,0.4nm,0.7s,baz=211,slow=8.5,SNR=2.0						
KURK	**Kurchatov**	25.37	17	P	P	06 01 05.2	-1.3
KURK				IAmb	IAmb	06 01 19.2	
	comp=Z,5.0nm,1.4s						
BURAR	**Bucovina Array**	38.51	314	P	P	06 03 00.4	-1.5
FINES	**FINESS Array B**	43.99	333	P	P	06 03 47.0	+0.4
	comp=Z,0.6nm,0.6s,baz=115,slow=9.4,SNR=3.8						
FINES	**FINESS Array B**	43.99	333	P	P	06 03 47.1	+0.4
GERES	**GERESS Array B**	46.28	313	P	P	06 04 05.9	+0.7
ARCES	**ARCESS Array B**	48.92	342	P	P	06 04 26.6	+1.4
	comp=Z,2.7nm,0.9s,baz=149,slow=7.2,SNR=2.0						
ARCES	**ARCESS Array B**	48.92	342	P	P	06 04 26.2	+1.0
TOA0	**Torodi Ar. Sit**	62.23	271	P	P	06 06 02.2	+0.4
TOA0				IAmb	IAmb	06 06 15.5	
	comp=Z,2.9nm,1.1s						
TORD	**Torodi Ar. Bea**	62.23	271	P	P	06 06 01.6	-0.1
	comp=Z,2.1nm,0.7s,baz=60,slow=5.8,SNR=5.3						
WRA	**Warramunga Arr**	80.20	118	P	P	06 07 51.3	+0.8
	comp=Z,0.8nm,1.1s,baz=317,slow=4.9,SNR=2.8						
ASAR	**Alice Springs**	81.92	122	P	P	06 07 59.0	-0.6
	comp=Z,0.4nm,0.7s,baz=297,slow=5.7,SNR=2.6						
IMAR	**Indian Mountai**	82.30	16	P	P	06 07 59.3	-1.6
BMAR	**Burnt Mountain**	83.00	12	P	P	06 08 07.3	+2.7

*EAF **08** 05:58:13.0±0.3, 3°26S×37°53E, h10km±999km*
ISC 08 05:58:12.5±1.3, 2°69S×36°02E, h16km±3km, n30, 9C, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LN35	**Magadini PS**	0.06	349	*i* P	Pg	05 58 15.7	0.0
LN35				*i* S	Sg	05 58 17.6	-0.2
LN35				IAML		05 58 18.6	
	comp=Z,36μm,0.1s						
LN34	**Lwondulwo boma**	0.07	153	*i* P	Pg	05 58 15.1	-0.7
LN34				*i* S	Sg	05 58 16.6	-1.3
LN34				IAML		05 58 17.7	
	comp=Z,13μm,0.2s						
LN26	**Engaresero PS**	0.16	300	⇑*i* P	Pg	05 58 17.2	+0.4
LN26				*i* S	Sg	05 58 20.1	+0.6
LN26				IAML		05 58 22.8	
	comp=Z,3μm,0.2s						
LN15	**Lekule Girls S**	0.18	69	*i* P	Pg	05 58 17.7	+0.6
LN15				*i* S	Sg	05 58 20.7	+0.6
LN15				IAML		05 58 21.6	
	comp=Z,3μm,0.1s						
PR33	**Engutoto Boma**	0.19	140	*i* P	Pg	05 58 16.9	-0.3
PR33				*i* S	Sg	05 58 19.8	-0.6
PR33				IAML		05 58 20.0	
	comp=Z,4μm,0.4s						
PR31	**Engaruka Boma**	0.23	173	*i* P	Pg	05 58 17.3	-0.5
PR31				*i* S	Sg	05 58 20.5	-0.9
PR31				IAML		05 58 26.2	
	comp=Z,2μm,0.4s						
LN25	**Lake Natron SS**	0.23	325	⇑*i* P	Pg	05 58 18.6	+0.8
LN25				IAML		05 58 30.7	
	comp=Z,5μm,0.6s						
PR32	**Iloiriento PS**	0.24	138	⇑*i* P	Pg	05 58 18.3	+0.1
PR32				*i* S	Sg	05 58 22.0	0.0
PR32				IAML		05 58 22.9	
	comp=Z,4μm,0.6s						
PR11	**Kitumbeine SS**	0.31	115	*i* P	Pg	05 58 19.7	+0.5
LN45	**Noondotu PS**	0.41	138	⇑*i* P	Pg	05 58 20.7	-0.1
PR52	**Alailelai Boma**	0.41	230	*i* P	Pg	05 58 21.3	+0.3
PR52				IAML		05 58 34.2	
	comp=Z,689nm,0.4s						
LL22	**Malambo SS**	0.45	292	⇑*i* P	Pg	05 58 22.1	+0.4
LL22				IAML		05 58 29.4	
	comp=Z,1μm,0.4s						
LN16	**Kitarini PS**	0.45	81	*i* P	Pg	05 58 22.2	+0.5
LN14	**Matela PS**	0.47	58	*i* P	Pb	05 58 23.2	+0.6
LL24	**Masusu PS**	0.47	334	⇑*i* P	Pg	05 58 22.8	+0.7
LL24				IAML		05 58 30.9	
	comp=Z,1μm,0.6s						
LL23	**Sali PS**	0.51	320	⇑*i* P	Pg	05 58 23.2	+0.4
LL23				IAML		05 58 30.9	
	comp=Z,879nm,0.5s						
LL66	**Piyaya bomas**	0.54	278	*i* P	Pg	05 58 23.5	+0.2
LL66				IAML		05 58 34.5	
	comp=Z,140nm,0.5s						
NG55	**Lemala Gate**	0.56	216	*i* P	Pg	05 58 23.5	-0.1
NG55				IAML		05 58 33.3	
	comp=Z,257nm,0.4s						
PR63	**Meshili Boma**	0.59	240	*i* P	Pb	05 58 25.1	+0.5
PR63				IAML		05 58 50.0	
	comp=Z,108nm,0.2s						
KEN3	**Shompole Clini**	0.60	10	⇑*i* P	Pg	05 58 25.3	+0.9
KEN3				IAML		05 58 37.0	
	comp=Z,1μm,0.8s						
LL65	**Arash bomas**	0.64	295	*i* P	Pg	05 58 25.5	+0.2
LL65				IAML		05 58 35.8	
	comp=Z,451nm,0.3s						
NG54	**Nasera Bomas**	0.66	267	*i* P	Pb	05 58 26.7	+0.9
NG54				IAML		05 58 35.9	
	comp=Z,140nm,0.2s						
PR62	**Oldupai Boma**	0.71	246	*i* P	Pb	05 58 27.3	+0.7
PR62				IAML		05 58 47.2	
	comp=Z,169nm,0.4s						
LN46	**New Vision PS**	0.73	115	*i* P	Pg	05 58 26.8	0.0
NG56	**Ngoile bomas**	0.73	237	*i* P	Pb	05 58 27.8	+0.8
NG56				IAML		05 58 42.2	
	comp=Z,251nm,0.6s						
LL21	**Loliondo SS**	0.78	323	*i* P	Pg	05 58 28.2	+0.4
LL21				IAML		05 58 45.4	
	comp=Z,595nm,0.4s						
KEN2	**Magadi Soda Va**	0.81	19	*i* P	Pb	05 58 29.4	+1.0
KEN2				IAML		05 58 44.5	
	comp=Z,1μm,0.4s						
PR61	**Kiloki Boma**	0.81	251	*i* P	Pn	05 58 30.5	+1.0
PR61				IAML		05 58 39.7	
	comp=Z,250nm,0.3s						
KEN4	**Ngurumani**	0.90	2	⇑*i* P	Pg	05 58 30.6	+0.5
KEN4				IAML		05 58 46.8	
	comp=Z,855nm,0.5s						
KMBO	**Kilima Mbogo**	1.98	38	*i* P	Pb	05 58 48.5	+0.1
KMBO				*i* S	Sn	05 59 12.4	+2.1
KMBO				*i* S	Sb	05 59 15.0	+2.0
KMBO	**Kilima Mbogo**	1.98	38	*e*P	Pb	05 58 48.7	+0.2
KMBO				*e*S	Sb	05 59 14.6	+1.6
KMBO	**Kilima Mbogo**	1.98	38	*i* P	Pb	05 58 49.3	+0.8
KMBO				IAML		05 59 19.3	
	comp=Z,300nm,0.4s						
KIBK	**Kibwezi**	2.06	80	*i* P	Pn	05 58 46.4	-0.2
KIBK				*i* S	Sn	05 59 13.3	+1.4
KIBK				*i* S	Sb	05 59 13.7	-1.2
KOND	**Kondoa**	2.21	186	*e*P	Pb	05 58 51.9	-0.4
KOND				*e*S	Sb	05 59 20.5	+0.9
LODK	**Lodwar**	6.11	354	*i* P	Pn	05 59 39.0	-3.3
LODK				*i* S	Sg	06 01 22.0	-6.7
LODK				*i* S	Sb	06 01 24.2	+13
LODK	**Lodwar**	6.11	354	*e*P	Pn	05 59 48.0	+5.7
LODK				*e*S	Sg	06 01 25.9	-2.9

*NCEDC **08** 06:10:57.7±2.1, 35°64N±0°01×121°08W±0°02, h4km±6km, ML3.1/24, Error ellipse: s-maj=2.6km s-min=1.7km az=66.0*
*NEIC **08** 06:10:57.5±1.1, 35°64N±0°01×121°12W±0°02, h10km±4km, Error ellipse: s-maj=2.9km s-min=1.9km az=65.0*
*ANF **08** 06:10:58.4±1.8, 35°51N×121°14W, h23km±12km, ML3.2/7, Error ellipse: s-maj=12.2km s-min=10.2km az=156.0*
ISC 08 06:10:57.4±0.9, 35°63N±0°02×121°13W±0°03, h12km±6km, n197, σ0§95/203, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHCM	**Hearst Castle**	0.05	335		Pg	06 10 59.5	-0.2
PCBM	**Cambria**	0.13	155		Pg	06 11 00.5	0.0
BLDC	**Black Mountain**	0.20	119		Pg	06 11 01.9	+0.1
BLDC	**Black Mountain**	0.20	119		Pg	06 11 01.8	+0.1
ARDC	**Alexander Ranc**	0.21	145		Pg	06 11 01.9	+0.1
ARDC					Sg	06 11 05.7	+0.9
RAMR	**Ramage Ranch**	0.21	89		Pg	06 11 01.7	-0.2
RAMR					Sg	06 11 05.3	+0.4
PANM	**San Antonio Re**	0.23	51		Pg	06 11 02.1	-0.1
PAPM	**Alder Peak**	0.34	325		Pg	06 11 04.7	+0.4
LSDC	**Los Osos Digit**	0.41	145		Pg	06 11 06.0	+0.6
PTAM	**Tassajara Cree**	0.42	125		Pg	06 11 05.8	+0.2
PSAM	**San Ardo**	0.44	26		Pg	06 11 06.2	+0.2
VPDC	**Valencia Peak**	0.45	152		Pb	06 11 07.0	-0.2
EFD	**Emergency Oper**	0.45	134		Pg	06 11 06.3	0.0
PCCM	**Crazy Canyon**	0.46	356		Pb	06 11 07.0	-0.4
PPO	**Portuguese Can**	0.47	61		Pg	06 11 06.9	+0.2
DCD	**Diablo Creek**	0.48	151		Pg	06 11 07.2	+0.4
DPD	**Davis Peak**	0.49	145		Pg	06 11 07.5	+0.6
PHPM	**Hope Ranch**	0.55	50		Pg	06 11 07.8	-0.3
PVCM	**Vineyard Canyo**	0.56	59		Pg	06 11 08.1	-0.2
PKD	**Bear Valley Ra**	0.57	57		Pg	06 11 08.1	-0.4
PSTM	**Stockdale Moun**	0.58	59		Pg	06 11 08.3	-0.4
TCHL	**Shandon**	0.59	85		Pg	06 11 09.1	+0.2
PCMM	**Cholame Hills**	0.61	73		Pg	06 11 09.2	0.0
PSMM	**Smith Mountain**	0.61	45		Pg	06 11 09.3	0.0
LRC	**Lone Oak Road**	0.61	6		Pg	06 11 09.4	+0.1
PHAM	**Harlan Ranch**	0.62	71		Pg	06 11 09.4	-0.2
PMPB	**Monarch Peak**	0.64	24		Pg	06 11 09.9	+0.1
PHFM	**Heflinger Ranc**	0.64	67		Pg	06 11 09.1	-0.7
TSCN	**Private Proper**	0.64	98		Pg	06 11 10.0	+0.2
PKLM	**Kerr Lake**	0.65	77		Pg	06 11 10.0	-0.1
GHC	**Gold Hill**	0.66	72		Pg	06 11 09.9	-0.2
BAPM	**Anderson Peak**	0.69	322		Pg	06 11 11.0	+0.3
PSNM	**Stone Corral**	0.69	77		Pg	06 11 10.5	-0.3
TRAM	**Private Proper**	0.70	86		Pg	06 11 10.8	0.0
PBWM	**Bitterwater Cr**	0.70	13		Pg	06 11 11.0	+0.1
CTM	**Castle Mountai**	0.71	65		Pg	06 11 11.3	+0.2
PAGB	**Antelope Grade**	0.72	82		Pg	06 11 11.0	-0.3
PSRM	**Scobie Ranch**	0.72	72		Pg	06 11 11.1	-0.3
THIS	**South End of C**	0.74	83		Pg	06 11 11.4	-0.2
PMRM	**Maxey Ranch**	0.74	78		Pg	06 11 11.4	-0.3
PTRM	**Twissleman Ran**	0.74	88		Pg	06 11 11.6	-0.2
BCWM	**Chews Ridge**	0.76	332		Pg	06 11 12.5	+0.4
PHRM	**Hernandez Vall**	0.78	19		Pg	06 11 12.7	+0.2
BSGM	**Shirttail Gulc**	0.79	352		Pg	06 11 12.4	-0.2
BSMM	**Soledad Missio**	0.79	342		Pg	06 11 12.8	+0.2
BPOM	**Post Ranch**	0.79	319		Pg	06 11 12.7	+0.1
LRV	**Little Rabbit**	0.79	6		Pb	06 11 13.0	-0.1
HAST	**Hastings Reser**	0.83	335		Pg	06 11 13.6	+0.2
PMLM	**Mount Lospe**	0.85	150		Pb	06 11 14.2	+0.2
BPIM	**Pinnacles**	0.85	358		Pg	06 11 13.7	-0.2
PBPM	**Bitterwater Pu**	0.86	93		Pg	06 11 13.8	-0.1
PARM	**Anticline Ridg**	0.88	46		Pb	06 11 15.3	+0.6
PKEM	**Kettleman Hill**	0.93	62		Pn	06 11 16.4	+0.1
BJCM	**Johnson Can.**	0.94	347		Pg	06 11 15.3	-0.2
BVL	**Bear Valley**	0.94	357		Pg	06 11 15.4	-0.1
BBGB	**Big Mountain B**	0.95	4		Pn	06 11 16.6	-0.1
BCH	**Branch Mountai**	0.96	117		Pg	06 11 15.7	-0.2
SMMC	**Simmler**	0.97	109	P	Pg	06 11 16.0	-0.2
SMMC	baz=291			S	Sb	06 11 29.7	+0.6
SMMC	**Simmler**	0.97	109		Pg	06 11 16.2	+0.1
SCZ	**Santa Cruz**	0.99	347		Pg	06 11 16.3	-0.2
BJOM	**Mount Johnson**	1.00	351		Pg	06 11 16.2	-0.5
BAVM	**Antelope Valle**	1.01	4		Pn	06 11 17.4	-0.1
BPCNC	**Pine Canyon**	1.02	337		Pg	06 11 17.1	0.0
BEMM	**Emmet**	1.03	1		Pb	06 11 17.4	+0.3
BEHM	**Elkhorn Ranch**	1.03	358		Pn	06 11 17.9	+0.2
BLRM	**Lewis Ranch**	1.04	353		Pg	06 11 17.2	-0.1
BMSM	**Mercy Hot Spri**	1.06	15		Pn	06 11 18.5	+0.4
BSRM	**Salinas Radio**	1.08	343		Pg	06 11 17.8	-0.3
BCGM	**Cienega Road**	1.09	351		Pb	06 11 18.0	-0.2
CARC	**Carrizo Plain**	1.09	107		Pg	06

JRSC	Jasper Ridge	1.98	333		Pn	06 11 29.8	-1.0
HELL	Mitchell Peak,	2.00	58		Pn	06 11 30.8	-0.2
TEJ	El Tejon	2.03	101		Pn	06 11 30.4	-1.0
CNIC	Niles Canyon	2.08	341		Pn	06 11 31.9	-0.3
MMIM	Miami Mountain	2.10	32		Pn	06 11 33.3	+0.7
JCHM	Cahill Ridge	2.13	332		Pn	06 11 32.9	0.0
ISA	Isabella, Lake	2.16	88	P	Pn	06 11 33.2	-0.1
	baz=270						
ISA	Isabella, Lake	2.16	88	Pn	Pn	06 11 33.1	-0.2
OSI	Osito Audit: C	2.22	117		Pn	06 11 34.4	+0.4
CLCB	Lake Chabot	2.23	340		Pn	06 11 34.4	+0.2
MCUB	Copperopolis B	2.37	10		Pn	06 11 36.6	+0.4
BKS	Berkeley--Byer	2.41	339		Pn	06 11 36.0	-0.7
BRIB	Briones	2.42	340		Pn	06 11 36.7	-0.2
CMB	Columbia Colle	2.47	14	Pn	Pn	06 11 38.4	+0.9
WCHM	Chimney Peak	2.49	83		Pn	06 11 38.9	+0.8
MRDM	Red Cones	2.57	40		Pn	06 11 41.0	+1.9
MDPB	Devils Postpil	2.59	39		Pn	06 11 41.3	+2.0
CWC	Cottonwood Cre	2.60	71	P	Pn	06 11 40.6	+1.3
	baz=253						
CWC				S	Sn	06 12 12.7	+1.7
	baz=253						
CWC	Cottonwood Cre	2.60	71		Pn	06 11 41.0	+1.6
MMPM	Mammoth Pass	2.60	40		Pn	06 11 41.5	+2.0
MMSM	Mammoth Summit	2.61	40		Pn	06 11 42.1	+2.3
SCHCA	Scheelite	2.61	48		Pn	06 11 41.3	+1.6
MINS	Minaret Summit	2.61	39		Pn	06 11 41.8	+2.0
OMMB	Old Mammoth Mi	2.61	40		Pn	06 11 41.7	+2.0
MDYM	Dry Creek	2.64	39		Pn	06 11 42.5	+2.3
MLCM	Laurel Creek C	2.66	41		Pn	06 11 42.4	+2.0
MMLB	Mammoth Lakes	2.66	40		Pn	06 11 42.5	+2.1
MDCM	Deadman Creek	2.66	38		Pn	06 11 42.5	+2.0
MGPM	Gravel Pit	2.67	41		Pn	06 11 42.5	+2.0
RCCR	Rock Creek Can	2.68	46		Pn	06 11 42.5	+1.9
MCMM	Convict Lake	2.68	42		Pn	06 11 42.5	+2.0
MEMM	East Mammoth H	2.68	40		Pb	06 11 43.3	-2.2
MTUM	Tungsten Hills	2.68	50		Pn	06 11 42.5	+1.9
MCVM	Convict Lake	2.69	43		Pn	06 11 43.0	+2.2
MCBM	Casa Benchmark	2.69	41		Pb	06 11 43.7	-1.9
MLAC	Mammoth, Mammo	2.71	42	P	Pn	06 11 43.5	+2.5
	baz=223						
MLAC	Mammoth, Mammo	2.71	42		Pn	06 11 43.6	+2.5
MDRNC	Doe Ridge	2.72	42		Pn	06 11 43.7	+2.6
ORC	Owens River	2.82	44		Pn	06 11 44.9	+2.4
PASC	Pasadena Art C	2.82	120		Pn	06 11 42.1	-0.2
MCCM	Marconi Confer	2.87	331	Pn	Pn	06 11 42.4	-0.6
MWC	Mount Wilson	2.89	118	Pn	Pn	06 11 43.3	0.0
WAKR	Walker	3.17	25		Pn	06 11 50.0	+2.7
AFDM	Forest Hills D	3.31	2	Pn	Pn	06 11 50.8	+1.7
GSC	Goldstone, Bar	3.54	94	Pn	Pn	06 11 52.0	-0.3
NVAR	Mina Array Bea	3.59	38	Pn	Pn	06 11 55.9	+2.8
RYN	Ryan	3.64	34	Pn	Pn	06 11 54.0	+0.2
PNTR	Pine Nut	3.66	19	Pn	Pn	06 11 55.8	+1.8
NV11	Mina Array Sit	3.67	40	Pn	Pb	06 11 58.4	-3.8
YERR	Yerington	3.67	24	Pn	Pn	06 11 53.5	-0.6
HOPS	Hopland Field	3.70	336	Pn	Pn	06 11 53.8	-0.5
VCNR	Virginia City	3.84	17	Pn	Pn	06 11 57.3	+0.8
ORV	Oroville	3.92	356	Pn	Pn	06 11 57.5	0.0
TPH	Tonopah	3.97	51		Pn	06 11 59.0	+0.8
TPNV	Topopah Spring	4.15	70	Pn	Pn	06 12 01.9	+1.1
KVN	Kaiserville	4.18	34	Pn	Pn	06 12 00.7	-0.4
PAHR	Pah Rah Range	4.29	18	Pn	Pn	06 12 01.9	-0.8
PFO	Pinyon Flats O	4.34	116	Pn	Pn	06 12 03.6	+0.2
BAR	Barrett	4.72	127	Pn	Pn	06 12 08.2	-0.3
SHPR	Sheep Range	4.91	78	Pn	Pn	06 12 12.9	+1.8
CBX	Cerro Bola	4.97	131	Pn	Pn	06 12 11.3	-0.7
KMRM	Mail Ridge	5.01	337	Pn	Pn	06 12 11.3	-1.2
R11A	Troy Canyon, C	5.20	57	Pn	Pn	06 12 13.5	-1.6
PRN	Pahroc Range	5.20	68	Pn	Pn	06 12 14.9	-0.3
ESJX	Sierra Juarez	5.63	129	Pn	Pn	06 12 21.4	+0.4
CCUT	Cedar City	6.53	71	Pn	Pn	06 12 34.6	+1.1
SPX	San Pedro Mart	6.59	132	Pn	Pn	06 12 33.1	-1.3

*IDC **08** 06:15:41.2±0.5, 64°.61N×17°.70W, h0km, mb3.9/21, mb1 4.1/25, mb1mx3.9/56, mbtmp3.9/25, ML2.7/3, MS2.9/3, Ms1 2.9/3, ms1mx2.4/41, Error ellipse: s-maj=17.8km s-min=8.8km az=10.0*
*REY **08** 06:15:41.3, 64°.67N×17°.47W, h7km*
*NEIC **08** 06:15:43.6±1.9, 64°.69N±0°.09×17°.7W±0°.2, h10km±1km, mb4.4/51, Error ellipse: s-maj=15.1km s-min=11.2km az=192.0*

ISC 08 06:15:43.0±0.4, **64°.69N**±0°.02×**17°.50W**±0°.02, **h10**km, **n134**, σ1§**77**/143, **mb4.3**/45, **Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**264**	P	**Pg**	**06 15 44.0**	**-1.8**
	baz=271						
IDYN	**Dyngjuhals**	**0.12**	**29**	P	**Pg**	**06 15 44.1**	**-1.8**
	baz=20						
IDYN				S	**Sg**	**06 15 46.6**	**-1.5**
	baz=20						
IURH	**Urdarhals**	**0.20**	**48**	P	**Pg**	**06 15 45.5**	**-1.8**
	baz=42						
IDJK	**Dyngjujokull**	**0.21**	**148**	P	**Pg**	**06 15 45.2**	**-2.3**
	baz=149						
IGRF	**Grimsfjall**	**0.30**	**160**	P	**Pg**	**06 15 46.8**	**-2.2**
	baz=162						
IGRF				S	**Sg**	**06 15 51.3**	**-1.7**
	baz=162						
IKVE	**Kverkfjoll**	**0.35**	**91**	P	**Pg**	**06 15 47.8**	**-2.3**
	baz=88						
IBJK	**Bruarjokull**	**0.39**	**124**	P	**Pg**	**06 15 48.0**	**-2.7**
	baz=123						
ISKR	**Skrokkalda**	**0.40**	**252**	P	**Pg**	**06 15 49.0**	**-1.9**
	baz=255						
IVOT	**Vottur**	**0.44**	**161**	P	**Pg**	**06 15 49.2**	**-2.4**
	baz=163						
IJOK	**Jokulheimar**	**0.49**	**220**	P	**Pg**	**06 15 50.0**	**-2.4**
	baz=223						
IJOK				S	**Sg**	**06 15 56.7**	**-2.1**
	baz=223						
IKRE	**Kreppuhraun**	**0.49**	**78**	P	**Pg**	**06 15 49.9**	**-2.7**
	baz=76						
IKRE				S	**Sg**	**06 15 57.0**	**-2.0**
	baz=76						
IASK	**Askja**	**0.52**	**44**	P	**Pg**	**06 15 50.6**	**-2.4**
	baz=42						
IASK				S	**Sg**	**06 15 57.9**	**-2.0**
	baz=42						
IMKO	**Mokollar**	**0.58**	**59**	P	**Pg**	**06 15 51.7**	**-2.5**
	baz=57						
IMKO				S	**Sg**	**06 16 00.4**	**-1.4**
	baz=57						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**06 15 52.8**	**-2.8**
	baz=206						
IIEY				S	**Sg**	**06 16 01.5**	**-2.6**
	baz=206						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**06 15 53.3**	**-2.5**
	baz=7.7						
IKSK	**Karasker**	**0.69**	**139**	P	**Pg**	**06 15 52.6**	**-3.7**
	baz=139						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P	**Pg**	**06 15 54.5**	**-3.3**
	baz=79						
IVSH				S	**Sg**	**06 16 05.1**	**-2.8**
	baz=79						
IVAT	**Vatnsfell**	**0.79**	**231**	P	**Pg**	**06 15 55.4**	**-2.8**
	baz=233						
IADA	**Aoalbol**	**0.89**	**67**	P	**Pg**	**06 15 56.5**	**-3.6**
	baz=66						
IADA				S	**Sg**	**06 16 08.8**	**-2.8**
	baz=66						
IHVE	**Hveravellir**	**0.90**	**283**	P	**Pg**	**06 15 57.1**	**-3.2**
	baz=284						
IHVE				S	**Sg**	**06 16 09.8**	**-2.3**
	baz=284						
IMEL	**Melhnausar**	**0.96**	**22**	P	**Pg**	**06 15 58.0**	**-3.4**
	baz=20						
IREN	**Reynihlio**	**1.00**	**14**	P	**Pg**	**06 15 58.7**	**-3.4**
	baz=13						
IREN				S	**Sg**	**06 16 11.8**	**-3.3**
	baz=13						
IKVO	**Krokottuvotn**	**1.07**	**14**	P	**Pg**	**06 15 59.9**	**-3.5**
	baz=13						
IGRS	**Grimsstaoir**	**1.12**	**31**	P	**Pb**	**06 16 00.7**	**-3.7**
	baz=30						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pb**	**06 16 02.2**	**-3.7**
	baz=8.6						
BORG	**Borgarnes**	**1.64**	**274**	Pg	**Pn**	**06 16 08.3**	**-3.6**
	37nm,0.3s,baz=100,slow=10,SNR=78						
BORG				Lg	Lg	06 16 30.7	
	23nm,0.3s,baz=207,slow=17,SNR=8.6						
BORG	**Borgarnes**	**1.64**	**274**	Pn	**Pn**	**06 16 08.8**	**-3.1**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**06 17 13.2**	**+0.7**
SCO				*i* S	**Sn**	**06 18 27.0**	**+5.1**
SCO	**Scoresbysund**	**6.07**	**346**	Pn	**Pn**	**06 17 11.3**	**-1.3**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**06 18 30.2**	**-0.5**
	baz=331,slow=13,SNR=11						
NOA	**NORSAR Array B**	**13.54**	**92**	Pn	**Pn**	**06 18 55.3**	**+0.5**
	0.0nm,0.3s,baz=299,slow=13,SNR=2.1						
SFJD	**Kangerlussuaq**	**13.66**	**295**	LR	LR	06 23 30.8	
	comp=Z,54nm,19.9s,baz=89,slow=34						
HFS	**Hagfors**	**15.05**	**93**	LR	LR	06 24 55.7	
	comp=Z,28nm,19.4s,baz=170,slow=37						
ARCES	**ARCESS Array B**	**17.11**	**55**	P	**Pn**	**06 19 42.1**	**+0.3**
	0.0nm,0.3s,baz=269,slow=9.0,SNR=2.8						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**06 20 13.3**	**-0.2**
	0.1nm,0.3s,baz=302,slow=11,SNR=6.3						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**06 20 14.2**	**+0.7**
CLL	**Collm**	**20.71**	**116**	*i* P	**P**	**06 20 24.7**	**+1.6**
	comp=Z,5.0nm,0.6s						
CLL				*e* S	Sn	06 24 22.0	+3.1
CLL	**Collm**	**20.71**	**116**	P	**P**	**06 20 24.4**	**+1.3**
ECH	**Echery**	**21.17**	**129**	P	**P**	**06 20 29.1**	**+1.1**
BRG	**Berggiesshubel**	**21.42**	**115**	*e* P	**P**	**06 20 31.0**	**+0.3**
	comp=Z,21nm,1.6s						
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**06 20 32.5**	**+1.2**
KSP	**Ksiaz**	**22.37**	**112**	*e* P	**P**	**06 20 41.8**	**+0.9**
CHVC	**Chvalec**	**22.48**	**113**	*e* P	**P**	**06 20 44.2**	**+2.1**
KHC	**Kasperske Hory**	**22.68**	**118**	*e* P	**P**	**06 20 45.2**	**+0.8**
KHC	**Kasperske Hory**	**22.68**	**118**	P	**P**	**06 20 45.1**	**+0.8**
DPC	**Dobruska-Polom**	**22.77**	**113**	*e* P	**P**	**06 20 47.2**	**+2.0**
SENIN	**Lac Senin/Sane**	**22.84**	**132**	P	**P**	**06 20 46.4**	**+0.2**
GEC2	**GERESS Array S**	**22.97**	**119**	P	**P**	**06 20 47.9**	**+0.6**
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**06 20 47.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=324,slow=8.2,SNR=10						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**06 20 47.7**	**+0.3**
DAVOX	**Davos/Dischmat**	**23.33**	**127**	P	**P**	**06 20 51.4**	**+0.2**
	comp=Z,1.0nm,0.2s,baz=56,slow=3.2,SNR=1.6						
EUNU	**Eureka**	**23.65**	**336**	P	**P**	**06 20 53.1**	**-0.8**
EUNU				IAmb	IAmb	06 20 56.0	
	comp=Z,12nm,1.1s						
VRAC	**Vranov**	**23.70**	**114**	P	**P**	**06 20 54.9**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=262,slow=19,SNR=1.8						
MORC	**Moravsky Berou**	**23.71**	**112**	P	**P**	**06 20 55.6**	**+0.9**
OJC	**Ojcow**	**24.27**	**109**	P	**P**	**06 21 02.4**	**+2.5**
CTI	**Castel Tesino**	**24.58**	**125**	P	**P**	**06 21 04.4**	**+1.5**
CIMO	**Cimolais**	**24.63**	**124**	P	**P**	**06 21 04.4**	**+1.1**
CIMO				IAmb	IAmb	06 21 17.3	
	comp=Z,9.0nm,1.5s						
STAL	**STALIGIAL**	**24.77**	**124**	P	**P**	**06 21 05.4**	**+0.8**
NIE	**Niedzica**	**25.10**	**109**	*e* P	**P**	**06 21 08.8**	**+1.3**
VYHS	**Vyhne**	**25.24**	**112**	*e* P	**P**	**06 21 08.9**	**+0.1**
KLMR	**Klimovskoe**	**25.60**	**72**	*e* P	**P**	**06 21 10.9**	**-1.0**
	comp=Z,15nm,1.5s						
KLMR	**Klimovskoe**	**25.60**	**72**	*e*	**P**	**06 21 10.9**	**-1.0**
KLMR				AMP		06 21 15.1	
	comp=Z,10.0nm,1.2s						
TRI	**Trieste**	**25.62**	**123**	P	**P**	**06 21 15.2**	**+3.0**
TRI				IAmb	IAmb	06 21 25.8	
	comp=Z,7.8nm,0.8s						
KWP	**Kalwaria Pacla**	**25.92**	**106**	*e* P	**P**	**06 21 16.5**	**+1.7**
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**06 21 14.6**	**-1.3**
	comp=Z,5.8nm,0.8s,baz=51,slow=8.3,SNR=3.9						
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**06 21 14.8**	**-1.2**
SCHQ				IAmb	IAmb	06 21 18.1	
	comp=Z,9.6nm,0.9s						
PSZ	**Piszkesteto**	**26.13**	**112**	P	**P**	**06 21 17.5**	**+0.6**
PSZ				IAmb	IAmb	06 21 31.3	
	comp=Z,6.3nm,1.0s						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**06 21 16.7**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=347,slow=9.3,SNR=5.7						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**06 21 18.4**	**+0.2**
AKASG	**Malin Array Be**	**27.85**	**98**	P	**P**	**06 21 30.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=319,slow=9.8,SNR=2.0						
BR131	**Keskin Array S**	**38.49**	**105**	P	**P**	**06 23 05.0**	**0.0**
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**06 23 05.0**	**0.0**
	comp=Z,1.0nm,0.7s,baz=329,slow=7.0,SNR=5.2						
KBZ	**Khabaz**	**39.12**	**92**	P	**P**	**06 23 12.2**	**+2.1**
	comp=Z,0.8nm,0.4s,baz=327,slow=13,SNR=4.9						
AKTO	**Aktyubinsk**	**40.28**	**73**	P	**P**	**06 23 19.4**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=289,slow=7.0,SNR=4.3						
ABKAR	**Akbulak array**	**41.99**	**73**	P	**P**	**06 23 34.6**	**+0.9**
BMAR	**Burnt Mountain**	**42.88**	**333**	P	**P**	**06 23 42.7**	**+1.9**
BRVK	**Borovoye**	**43.12**	**62**	P	**P**	**06 23 43.4**	**+0.5**
BVAR	**Borovoye Array**	**43.19**	**62**	P	**P**	**06 23 44.6**	**+1.1**
	comp=Z,2.9nm,0.9s,baz=316,slow=6.2,SNR=12						
N49A	**Columbus Grove**	**44.10**	**271**	P	**P**	**06 23 51.4**	**+0.5**
DAWY	**Dawson**	**44.68**	**328**	P	**P**	**06 23 56.2**	**+0.8**
DAWY				IAmb	IAmb	06 23 58.4	
	comp=Z,5.5nm,1.2s						
IL31		**45.67**	**332**	P	**P**	**06 24 03.8**	**+0.8**
IL31				IAmb	IAmb	06 24 05.3	
	comp=Z,6.6nm,1.2s						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**06 24 03.8**	**+0.6**
	comp=Z,2.8nm,1.1s,baz=18,slow=5.8,SNR=15						
ILAR				PcP	**PcP**	**06 25 40.1**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=2.0,slow=2.6,SNR=5.1						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**06 24 03.6**	**+0.4**
MDM	**Murphy Dome**	**45.76**	**333**	P	**P**	**06 24 05.9**	**+1.9**
MDM				IAmb	IAmb	06 24 08.7	
	comp=Z,7.2nm,1.2s						
IMAR	**Indian Mountai**	**45.84**	**337**	P	**P**	**06 24 05.3**	**+0.8**
DOT	**Dot Lake**	**46.08**	**330**	P	**P**	**06 24 08.3**	**+1.9**
DOT				IAmb	IAmb	06 24 09.6	
	comp=Z,6.3nm,1.4s						
BCAR	**Beaver Creek A**	**46.09**	**329**	P	**P**	**06 24 08.6**	**+2.1**
WCI	**Wyandotte Cave**	**47.24**	**271**	P	**P**	**06 24 16.7**	**+0.9**
ZAA0	**Zalesovo Array**	**47.62**	**51**	P	**P**	**06 24 19.7**	**+1.1**
ZAA0				IAmb	IAmb	06 24 20.2	
	comp=Z,4.2nm,1.2s						
ZALV	**Zalesovo Beam**	**47.62**	**51**	P	**P**	**06 24 19.9**	**+1.3**
Q44A	**Meyer Farm, Va**	**47.85**	**274**	P	**P**	**06 24 20.2**	**-0.3**
KURK	**Kurchatov**	**48.10**	**58**	P	**P**	**06 24 22.5**	**+0.1**
KURK				IAmb	IAmb	06 24 23.6	
	comp=Z,4.7nm,0.9s						
KURBB	**Kurchatov Arra**	**48.15**	**58**	P	**P**	**06 24 23.0**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=322,slow=7.4,SNR=20						
T47A	**Sharon Grove**	**48.63**	**270**	P	**P**	**06 24 26.4**	**-0.2**
EGMT	**Eagleton**	**48.86**	**297**	P	**P**	**06 24 28.5**	**+0.1**
KK31	**Karatay Array**	**51.27**	**70**	P	**P**	**06 24 48.2**	**+1.6**
KK31				IAmb	IAmb	06 24 48.9	
	comp=Z,6.6nm,1.4s						
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**06 24 47.5**	**+0.9**
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**06 24 48.1**	**+1.6**
KKAR				IAmb	IAmb	06 24 48.9	
	comp=Z,6.6nm,1.4s						
YNE	**Yellowstone No**	**51.46**	**295**	P	**P**	**06 24 46.7**	**-1.6**
BOZ	**Bozeman (W)**	**51.60**	**297**	P	**P**	**06 24 49.8**	**+0.6**
BOZ				IAmb	IAmb	06 24 51.4	
	comp=Z,6.5nm,1.2s						
H17A	**Grant Village**	**52.20**	**295**	P	**P**	**06 24 54.7**	**+0.9**
H17A				IAmb	IAmb	06 24 57.8	
	comp=Z,7.1nm,1.3s						
MKAR	**Makanchi Array**	**52.72**	**58**	P	**P**	**06 24 56.8**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=321,slow=6.9,SNR=5.9						
MKAR	**Makanchi Array**	**52.72**	**58**	P	**P**	**06 24 58.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**06 25 00.1**	**-0.8**
	comp=Z,2.9nm,1.0s,baz=341,slow=7.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**06 25 02.5**	**+1.7**
PD31	**Pinedale Array**	**53.17**	**293**	P	**P**	**06 25 01.3**	**+0.3**
PD31				IAmb	IAmb	06 25 02.1	
	comp=Z,3.9nm,1.0s						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**06 25 00.7**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=54,slow=7.5,SNR=16						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**06 25 01.0**	**0.0**
BW06	**Boulder Array**	**53.17**	**293**	P	**P**	**06 25 01.3**	**+0.3**
BW06				IAmb	IAmb	06 25 02.1	
	comp=Z,4.2nm,1.0s						
AAK	**Ala-Archa**	**53.25**	**67**	P	**P**	**06 25 02.2**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=299,slow=9.9,SNR=4.5						
AAK	**Ala-Archa**	**53.25**	**67**	P	**P**	**06 25 02.5**	**+1.0**
AAK				IAmb	IAmb	06 25 04.0	
	comp=Z,5.7nm,1.2s						
N23A	**Red Feather La**	**53.30**	**289**	P	**P**	**06 25 01.9**	**0.0**
N23A				IAmb	IAmb	06 25 04.3	
	comp=Z,5.6nm,1.1s						
CHGR	**Chuyangaron**	**54.46**	**74**	P	**P**	**06 25 11.2**	**+0.9**
GAR	**Garm**	**54.65**	**73**	P	**P**	**06 25 13.3**	**+1.6**
HWUT	**Hardware Ranch**	**54.94**	**294**	P	**P**	**06 25 14.9**	**+1.1**
HWUT				IAmb	IAmb	06 25 16.3	
	comp=Z,4.8nm,1.1s						
WMOK	**Wichita Mounta**	**55.54**	**279**	P	**P**	**06 25 18.6**	**+0.6**
WMOK				IAmb	IAmb	06 25 21.5	
	comp=Z,4.1nm,1.4s						
PV01	**Paradox Valley**	**56.71**	**289**	P	**P**	**06 25 27.6**	**+0.9**
PV01				IAmb	IAmb	06 25 28.5	
	comp=Z,4.1nm,1.0s						
PV13	**Radium Mtn., P**	**56.79**	**290**	P	**P**	**06 25 27.5**	**+0.3**
WMQ	**Urumqi**	**57.22**	**56**	*e* P	**P**	**06 25 34.4**	**+4.4**
MVU	**Marysvale**	**57.85**	**293**	P	**P**	**06 25 35.9**	**+1.1**
TCRU	**Three Creeks R**	**57.86**	**293**	P	**P**	**06 25 35.0**	**+0.3**
DBIC	**Dimbokro**	**58.61**	**165**	P	**P**	**06 25 41.1**	**+1.3**
	comp=Z,3.8nm,0.9s,baz=9.3,slow=9.3,SNR=3.0						
DBIC	**Dimbokro**	**58.61**	**165**	IAmb	IAmb	06 25 48.3	
	comp=Z,13nm,1.4s						
SONM	**Songino Array**	**59.63**	**40**	P	**P**	**06 25 46.9**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=117,slow=45,SNR=2.7						
SONM	**Songino Array**	**59.63**	**40**	P	**P**	**06 25 47.2**	**+0.4**
U15A	**North Rim**	**59.68**	**291**	P	**P**	**06 25 47.6**	**+0.1**
U15A				IAmb	IAmb	06 25 48.8	
	comp=Z,2.7nm,1.0s						
YERR	**Yerington**	**60.16**	**298**	P	**P**	**06 25 50.7**	**+0.1**
YERR				IAmb	IAmb	06 25 53.0	
	comp=Z,3.3nm,1.1s						
NVAR	**Mina Array Bea**	**60.29**	**297**	P	**P**	**06 25 52.2**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=35,slow=5.4,SNR=3.7						
NVAR	**Mina Array Bea**	**60.29**	**297**	P	**P**	**06 25 52.0**	**+0.4**
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**06 26 04.7**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=46,slow=7.3,SNR=5.5						
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**06 26 05.6**	**+0.6**
HHC	**Hu-ho-hao-te**	**67.50**	**40**	*e* P	**P**	**06 26 40.0**	**+1.2**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,77nm,6.5s						
KSRS	**Korea Array**	**74.63**	**28**	LR	LR	07 03 10.2	
	comp=Z,8.2nm,18.2s,baz=200,slow=38						
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**06 28 14.4**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=307,slow=5.2,SNR=4.8						

*NEIC **08** 06:34:13.3±1.4, 51°.72N±0°.08×178°.5E±0°.1, h104km±5km, Error ellipse: s-maj=14.2km s-min=7.4km az=48.0*

AEIC 08 06:34:14±1.1, **51°.69N**±0°.07×**178°.5E**±0°.1, **h102**km±4km, **ML3.1**, **mb3.5**/1(NEIC), **Error ellipse: s-maj=14.6km s-min=7.8km az=53.0**, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.26**	**15**		Pn	06 34 27.9	-0.8
LSSA	**Little Sitkin**	**0.26**	**7**		Pn	06 34 28.0	-0.8
LSPA	**Little Sitkin**	**0.28**	**15**		Pn	06 34 28.1	-0.7
LSPA					Sn	06 34 39.9	+0.1
LSNW	**Little Sitkin**	**0.28**	**7**		Pn	06 34 28.0	-0.8
AMKA	**Amchitka**	**0.61**	**120**		Pn	06 34 30.4	-0.4
AMKA					Sn	06 34 42.5	-0.9
CETU	**Semis' Tuman**	**0.70**	**66**		Pn	06 34 31.4	-0.2
CESW	**Semis' Southwe**	**0.72**	**72**		Pn	06 34 30.7	-1.0
CESW					Sn	06 34 43.0	-2.2
CEAP	**Semis' Anvil P**	**0.76**	**65**		Pn	06 34 31.4	-0.8
CERAA	**Semis' Rag'd T**	**0.79**	**73**		Pn	06 34 31.4	-1.0
CERAA					Sn	06 34 45.5	-0.9
GALAA	**Gareloi Lava P**	**1.72**	**86**		Pn	06 34 42.9	-0.2
TASE	**Tanaga Southea**	**2.18**	**85**		Pn	06 34 48.6	-0.4
TAFP	**Tanaga Falls P**	**2.22**	**83**		Pn	06 34 49.4	-0.1
TAFP					Sn	06 35 15.0	-1.6
KIMD	**Kanaga Island**	**2.68**	**87**		Pn	06 34 55.0	-0.4
KICM	**Kanaga Island**	**2.71**	**83**		Pn	06 34 55.6	-0.2
ADK	**Adak**	**3.02**	**84**	Pn	Pn	06 34 59.7	-0.3
GSMY	**Great Sitkin M**	**3.42**	**82**		Pn	06 35 04.3	-1.0
GSTR	**Great Sitkin T**	**3.42**	**81**	Pn	Pn	06 35 05.3	-0.1
KDAK	**Kodiak Island**	**17.70**	**

ISNB	Snabyli	0.95 211	P	Pb	07 20 22.8	-2.3
	baz=212					
ISNB			S	Sn	07 20 37.1	-2.5
	baz=212					
IADA	Aoalbol	0.96 60	P	Pg	07 20 19.8	-5.1
	baz=62					
IADA			S	Sg	07 20 32.6	-4.7
	baz=62					
ISLY	Slysaalda	1.01 224	P	Pb	07 20 24.0	-2.1
	baz=224					
IRJU	Rjupnafell	1.07 209	P	Pb	07 20 24.9	-2.1
	baz=210					
IFED	Fedgar	1.08 242	P	Pg	07 20 25.1	-2.2
	baz=240					
IMEL	Melhnausar	1.08 19	P	Pb	07 20 22.1	-5.2
	baz=18					
IMEL			S	Sb	07 20 37.4	-4.2
	baz=18					
IREN	Reynihlio	1.13 13	P	Pn	07 20 23.2	-5.1
	baz=11					
IHVO	Lagu-Hvolar	1.19 210	P	Pb	07 20 27.0	-2.0
	baz=211					
IGOD	Go??abunga	1.20 222	P	Pn	07 20 27.3	-2.1
	baz=222					
IKVO	Krokottuvotn	1.20 13	P	Pn	07 20 24.4	-4.9
	baz=11					
IGYG	Gygjarholskot	1.20 258	P	Pb	07 20 26.5	-2.7
	baz=256					
IHAU	Haukadalur	1.22 242	P	Pg	07 20 27.6	-2.3
	baz=241					
IGRS	Grimsstaoir	1.24 28	P	Pn	07 20 25.1	-4.8
	baz=27					
ISMJ	Smjorgil	1.29 228	P	Pg	07 20 28.7	-2.4
	baz=227					
IALF	Alftagrof	1.29 215	P	Pb	07 20 28.5	-2.3
	baz=216					
IESK	Eystri-Skogar	1.34 220	P	Pn	07 20 29.2	-2.0
	baz=220					
IGRA	Granastaoir	1.37 359	P	Pn	07 20 27.3	-4.3
	baz=357					
IMID	Miomork	1.37 230	P	Pg	07 20 30.3	-2.5
	baz=230					
ISAU	Saurbar	1.38 247	P	Pn	07 20 29.5	-2.3
	baz=246					
IDIM	Dimmadalss	1.44 10	P	Pn	07 20 28.3	-4.3
	baz=8.0					
IHLA	Hella	1.44 346	P	Pn	07 20 29.1	-3.5
	baz=343					
IASM	Asmuli	1.54 243	P	Pn	07 20 32.2	-1.7
	baz=242					
IASM			S	Sg	07 20 54.6	-1.2
	baz=242					
IHED	Heoinshofoi	1.54 3	P	Pn	07 20 30.1	-3.8
	baz=1.4					
IGIL	Gilhagi	1.61 17	P	Pn	07 20 31.1	-3.8
	baz=16					
ISOL	Solvholt	1.62 249	P	Pn	07 20 33.8	-1.3
	baz=248					
IKRO	Krokur	1.63 255	P	Pn	07 20 33.3	-1.9
	baz=254					
BORG	Borgarnes	1.65 278	Pg	Pn	07 20 33.3	-2.1
	94nm,0.3s,baz=100,slow=8.0,SNR=138					
BORG			Lg	Lg	07 20 57.3	
	22nm,0.3s,baz=218,slow=23,SNR=15					
BORG	Borgarnes	1.65 278	Pn	Pn	07 20 33.1	-2.4
IHEI	Heioarbar	1.65 259	P	Pn	07 20 33.6	-1.9
	baz=258					
ISAN	Sandskeio	1.83 256	P	Pn	07 20 36.5	-1.6
	baz=255					
IHRN	Hraun	1.91 326	P	Pn	07 20 35.8	-3.2
	baz=324					
IVOS	Vogsosar	1.96 251	P	Pn	07 20 39.1	-0.6
	baz=250					
IKAS	Kald??rsel	1.96 256	P	Pn	07 20 38.8	-0.9
	baz=255					
IVOG	Vogar	2.21 257	P	Pn	07 20 42.6	-0.5
	baz=256					
SCO	Scoresbysund	6.19 346	*i* P	Pn	07 21 37.0	-0.8
SCO			*i* S	Sn	07 22 52.0	+3.5
SCO	Scoresbysund	6.19 346	*i* P	Pn	07 21 37.0	-0.8
SCO			*i* S	Sn	07 22 50.1	+1.6
SCO	Scoresbysund	6.19 346	Pn	Pn	07 21 36.8	-1.0
JMIC	Jan Mayen	7.30 24	LR	LR	07 23 35.4	
	comp=Z,20nm,19.9s,baz=240,slow=28					
EKA	Eskdalemuir Ar	11.68 136	Pn	Pn	07 22 52.0	-1.0
	baz=326,slow=13,SNR=7.7					
ESK	Eskdalemuir	11.68 136	Pn	Pn	07 22 52.5	-0.6
NOA	NORSAR Array B	13.54 92	Pn	Pn	07 23 18.0	-0.3
	0.0nm,0.3s,baz=293,slow=16,SNR=3.3					
NOA			LR	LR	07 27 55.4	
	comp=Z,39nm,20.6s,baz=310,slow=35					
HFS	Hagfors	15.05 93	Pn	Pn	07 23 38.5	-0.4
	0.1nm,0.3s,baz=274,slow=7.1,SNR=4.3					
HFS			LR	LR	07 29 16.7	
	comp=Z,40nm,20.8s,baz=292,slow=36					
SPITS	Spitsbergen Ar	16.98 23	LR	LR	07 29 43.2	
	comp=Z,28nm,21.0s,baz=105,slow=34					
ARCES	ARCESS Array B	17.19 54	P	Pn	07 24 08.0	+1.6
	0.1nm,0.3s,baz=331,slow=9.7,SNR=1.9					
ARCES	ARCESS Array B	17.19 54		Pn	07 24 08.2	+1.8
FINES	FINESS Array B	19.74 79	P	Pn	07 24 37.8	+0.4
	0.1nm,0.3s,baz=327,slow=10.0,SNR=5.7					
FINES	FINESS Array B	19.74 79	P	P	07 24 37.2	+1.3
CLL	Collm	20.66 115	‖ *i* P	P	07 24 46.8	+0.7
	comp=Z,21nm,1.4s					
CLL			*e*S	Sn	07 28 42.0	+0.8
CLL	Collm	20.66 115	P	P	07 24 46.6	+0.6
ECH	Echery	21.09 129	P	P	07 24 51.7	+1.0
GRA1	Grafenberg Arr	21.28 121	P	P	07 24 54.3	+1.5
NKC	Novy Kostel	21.30 118	*e*P	P	07 25 01.8	+8.8
NKC			*e*S	Sn	07 29 01.0	+4.3
STU	Stuttgart	21.32 125	P	P	07 24 54.4	+1.3
STU			IAmb	IAmb	07 24 54.9	
	comp=Z,19nm,0.5s					
BRG	Berggiesshubel	21.37 115	*e*P	P	07 24 54.2	+0.5
	comp=Z,28nm,1.6s					
BFO	Black Forest	21.39 127	P	P	07 24 51.9	-2.0
KSP	Ksiaz	22.33 112	*e*P	P	07 25 04.0	0.0
CHVC	Chvalec	22.43 113	*e*P	P	07 25 06.9	+1.8
KHC	Kasperske Hory	22.63 118	*e*P	P	07 25 09.5	+2.2
KHC			*e*S	Sn	07 29 24.6	-3.8
KHC	Kasperske Hory	22.63 118	P	P	07 25 05.6	-1.7
DPC	Dobruska-Polom	22.73 113	*e*P	P	07 25 08.7	+0.4
DPC			*e*S	Sn	07 29 27.1	-3.6
SSB	Saint Sauveur	22.87 137	P	P	07 25 08.8	-1.1
GEC2	GERESS Array S	22.91 118	P	P	07 25 08.3	-2.0
GERES	GERESS Array B	22.91 118	P	P	07 25 10.2	-0.1
	comp=Z,1.1nm,0.8s,baz=330,slow=7.8,SNR=12					
GERES			LR	LR	07 35 07.3	
	comp=Z,36nm,18.5s,baz=321,slow=39					
GERES	GERESS Array B	22.91 118	P	P	07 25 08.8	-1.4
TUE	Stuetta	23.34 128	P	P	07 25 13.3	-1.5
FUORN	Ofenpass-Fuorn	23.53 126	P	P	07 25 14.3	-2.4
VRAC	Vranov	23.66 114	P	P	07 25 18.2	+0.5
	comp=Z,2.5nm,0.4s,baz=340,slow=10,SNR=4.9					
VRAC			LR	LR	07 33 58.7	
	comp=Z,35nm,20.7s,baz=329,slow=35					
VRAC	Vranov	23.66 114	*e*P	P	07 25 17.7	0.0
MORC	Moravsky Berou	23.66 112	*e*P	P	07 25 17.4	-0.4
MORC	Moravsky Berou	23.66 112	P	P	07 25 16.0	-1.8
BNI	Bardonecchia	23.73 134	P	P	07 25 18.1	-0.4
EUNU	Eureka	23.77 336	P	P	07 25 20.4	+1.8
EUNU			IAmb	IAmb	07 25 22.8	
	comp=Z,14nm,0.9s					
KRUC	Moravsky	23.78 114	*e*P	P	07 25 18.1	-0.7
OJC	Ojcow	24.23 108	*e*P	P	07 25 22.9	-0.2
OJC	Ojcow	24.23 108	P	P	07 25 22.9	-0.2
JAVC	Velka Javorina	24.44 113	*e*P	P	07 25 24.9	-0.2
CTI	Castel Tesino	24.51 125	P	P	07 25 24.9	-0.9
PVIS	Viseu	24.52 162	*e*P	P	07 25 31.1	+5.2
ZOU	Zoufplan	24.55 123	P	P	07 25 27.1	+0.8
MODS	Modra-Piesok	24.68 114	*e*P	P	07 25 27.5	+0.3
PRED	Cave del Predi	24.86 122	P	P	07 25 29.6	+0.7
PRED			IAmb	IAmb	07 25 34.3	
	comp=Z,14nm,1.4s					
NIE	Niedzica	25.06 109	*e*P	P	07 25 32.1	+1.4
VYHS	Vyhne	25.20 112	*e*P	P	07 25 32.3	+0.4
PCBR	Castelo Branco	25.44 162	*e*P	P	07 25 39.4	+5.3
KLMR	Klimovskoe	25.65 72	*e*P	P	07 25 31.4	-4.5
	comp=Z,10nm,1.3s					
PMRV	Marv??o	25.86 162	*e*P	P	07 25 45.0	+7.1
KWP	Kalwaria Pacla	25.89 106	*e*P	P	07 25 39.1	+0.9
KWP	Kalwaria Pacla	25.89 106	P	P	07 25 38.0	-0.2
PSZ	Piszkesteto	26.09 112	P	P	07 25 38.7	-1.3
PSZ			IAmb	IAmb	07 25 49.8	
	comp=Z,23nm,1.5s					
ESBB	Sonseca Array	26.15 156	P	P	07 25 42.6	+1.9
ESDC	Sonseca Array	26.15 156	P	P	07 25 40.2	-0.4
	comp=Z,1.6nm,0.8s,baz=346,slow=9.0,SNR=8.8					
ESDC			LR	LR	07 35 49.3	
	comp=Z,45nm,19.0s,baz=105,slow=36					
ESDC	Sonseca Array	26.15 156	P	P	07 25 40.4	-0.3
RES	Resolute Bay	26.55 325	LR	LR	07 35 18.6	
	comp=Z,35nm,19.2s,baz=129,slow=34					
AKASG	Malin Array Be	27.84 97	P	P	07 25 55.5	-0.1
	comp=Z,0.3nm,0.4s,baz=0.2,slow=14,SNR=1.8					
AKASG	Malin Array Be	27.84 97	IAmb	IAmb	07 25 59.2	
	comp=Z,0.6nm,0.8s					
BURAR	Bucovina Array	28.50 106	P	P	07 26 01.4	-0.3
CLTB	Caltabellotta	32.57 131	P	P	07 26 36.2	-1.5
KEST	Kesra	33.08 138	P	P	07 26 42.7	+0.6
	comp=Z,1.6nm,0.6s,baz=216,slow=3.4,SNR=3.6					
KEST	Kesra	33.08 138	P	P	07 26 42.3	+0.2
AGG	Agios Georgios	34.52 118	P	P	07 26 53.3	-1.3
NRIK	Noril'sk	36.56 35	P	P	07 27 12.9	+1.2
	comp=Z,1.3nm,0.3s,baz=308,slow=7.2,SNR=3.7					
BR131	Keskin Array S	38.46 105	P	P	07 27 29.1	+0.7
BRTR	Keskin Array B	38.46 105	P	P	07 27 29.6	+1.3
	comp=Z,2.8nm,1.1s,baz=329,slow=4.6,SNR=7.1					
ABKAR	Akbulak array	42.03 73	P	P	07 27 58.1	+0.5
EPYK	Eagle Plains	42.23 328	P	P	07 28 00.2	+1.1
EPYK			IAmb	IAmb	07 28 02.9	
	comp=Z,14nm,1.4s					
CSS	Mathiatis	42.40 109	P	P	07 28 00.7	-0.1
CSS			IAmb	IAmb	07 28 03.3	
	comp=Z,15nm,1.3s					
TOLK	Toolik Lake Re	42.85 336	P	P	07 28 05.5	+1.4
TOLK			IAmb	IAmb	07 28 08.1	
	comp=Z,13nm,1.0s					
BMAR	Burnt Mountain	42.99 333	P	P	07 28 07.5	+2.2
M50A	Fremont	43.21 270	P	P	07 28 08.2	+0.9
O53A	New Philadelph	43.37 268	P	P	07 28 08.7	+0.1
O53A			IAmb	IAmb	07 28 14.0	
	comp=Z,16nm,1.2s					
N49A	Columbus Grove	44.10 271	P	P	07 28 15.9	+1.4
O49A	Covington	44.77 270	P	P	07 28 21.4	+1.5
DAWY	Dawson	44.79 328	P	P	07 28 21.0	+1.2
DAWY			IAmb	IAmb	07 28 23.7	
	comp=Z,12nm,1.4s					
Q51A	Peebles	45.30 269	P	P	07 28 24.6	+0.6
IL31		45.78 332	P	P	07 28 28.3	+0.8
IL31			IAmb	IAmb	07 28 31.8	
	comp=Z,8.9nm,1.4s					
ILAR	Eielson Array	45.78 332	P	P	07 28 29.1	+1.5
	comp=Z,3.2nm,1.1s,baz=22,slow=6.4,SNR=24					
ILAR			PcP	PcP	07 30 05.7	+0.8
	comp=Z,0.9nm,0.8s,baz=346,slow=2.7,SNR=7.8					
ILAR	Eielson Array	45.78 332	P	P	07 28 28.8	+1.2
P48A	Milroy	45.84 271	P	P	07 28 28.9	+0.6
P48A			IAmb	IAmb	07 28 32.0	
	comp=Z,8.2nm,1.1s					
MDM	Murphy Dome	45.88 333	P	P	07 28 29.2	+0.8
COLA	College	45.88 333	P	P	07 28 29.5	+1.2
IMAR	Indian Mountai	45.96 337	P	P	07 28 31.1	+2.2
CCB	Clear Creek Bu	46.08 333	P	P	07 28 30.9	+1.0
CCB			IAmb	IAmb	07 28 33.9	
	comp=Z,6.1nm,1.2s					
HDA	Harding Lake	46.12 332	P	P	07 28 31.2	+1.0
HDA			IAmb	IAmb	07 28 34.2	
	comp=Z,10nm,1.4s					
DOT	Dot Lake	46.19 330	P	P	07 28 32.8	+1.9
BCAR	Beaver Creek A	46.20 329	P	P	07 28 32.1	+1.2
PAX	Paxson	47.09 331	P	P	07 28 38.4	+0.4
PAX			IAmb	IAmb	07 28 41.8	
	comp=Z,9.4nm,1.4s					
MCK	McKinley	47.12 333	P	P	07 28 38.7	+0.6
DLBC	Dease Lake	47.15 318	P	P	07 28 39.8	+1.3
DLBC			IAmb	IAmb	07 28 42.3	
	comp=Z,6.3nm,1.1s					
BPAW	Bear Paw Mtn.	47.18 334	P	P	07 28 38.6	0.0
WCI	Wyandotte Cave	47.24 271	P	P	07 28 39.4	+0.1
P43A	Skaggs, Pawnee	47.46 275	P	P	07 28 41.3	+0.3
ZALV	Zalesovo Beam	47.71 51	P	P	07 28 43.1	+0.3
	comp=Z,0.3nm,0.3s,baz=322,slow=11,SNR=1.4					
KLU	Klutina	48.51 330	P	P	07 28 49.1	+0.2
KLU			IAmb	IAmb	07 28 57.8	
	comp=Z,6.9nm,1.4s					
T47A	Sharon Grove	48.63 271	P	P	07 28 51.2	+1.1
LAO	LASA Array	48.63 294	P	P	07 28 49.0	-1.1
GHO	Glory Hole Cre	48.89 332	P	P	07 28 52.8	+0.9
GHO			IAmb	IAmb	07 28 55.2	
	comp=Z,4.0nm,0.8s					
EGMT	Eagleton	48.92 297	P	P	07 28 53.0	+0.7
T42A	Van Buren	50.31 274	P	P	07 29 02.5	-0.5
GEYT	Alibeck	50.45 83	P	P	07 29 03.6	-0.4
	comp=Z,0.6nm,0.3s,baz=340,slow=34,SNR=1.7					
GEYT	Alibeck	50.45 83	P	P	07 29 03.9	-0.1
S39A	Bolivar	50.72 276	P	P	07 29 06.4	+0.4
GCMT	Greycliff	50.73 295	P	P	07 29 04.5	-1.6
X48A	Hartselle	50.75 269	P	P	07 29 05.0	-1.2
X48A			IAmb	IAmb	07 29 08.9	
	comp=Z,10.0nm,1.3s					
HRY	Holter Researc	50.80 298	P	P	07 29 06.6	0.0
RLMT	Red Lodge	51.13 295	P	P	07 29 09.3	+0.1
RLMT			IAmb	IAmb	07 29 14.4	
	comp=Z,13nm,1.5s					
KKAR	Karatay Array	51.32 70	P	P	07 29 11.3	+0.8
YNE	Yellowstone No	51.51 295	P	P	07 29 11.8	-0.4
BOZ	Bozeman (W)	51.65 297	P	P	07 29 15.0	+1.9
BOZ			IAmb	IAmb	07 29 17.2	
	comp=Z,9.9nm,1.2s					
LRM	Limekiln Ridge	51.78 298	P	P	07 29 15.7	+1.5
YMP	Mirror Lake Pl	51.79 295	P	P	07 29 15.0	+0.6
BBB	Bella Bella	51.90 313	LR	LR	07 51 50.7	
	comp=Z,69nm,19.5s,baz=240,slow=37					
K22A	Casper	52.09 291	P	P	07 29 16.0	-0.5
K22A			IAmb	IAmb	07 29 18.9	
	comp=Z,4.9nm,0.9s					
YHL	Hebgen Lake	52.10 296	P	P	07 29 19.1	+2.4
YHB	Horse Butte	52.19 296	P	P	07 29 18.9	+1.7
H17A	Grant Village	52.25 295	P	P	07 29 18.2	+0.5
H17A			IAmb	IAmb	07 29 23.0	
	comp=Z,8.6nm,1.2s					
IMW	Indian Meadow	52.81 295	P	P	07 29 21.8	0.0
IMW			IAmb	IAmb	07 29 26.3	
	comp=Z,7.8nm,1.4s					
TORD	Torodi Ar. Bea	53.04 156	P	P	07 29 22.6	-0.9
	comp=Z,2.3nm,0.6s,baz=340,slow=8.1,SNR=5.0					
TORD			LR	LR	07 53 43.2	
	comp=Z,38nm,18.0s,baz=135,slow=38					
TORD	Torodi Ar. Bea	53.04 156	P	P	07 29 23.2	-0.3
FXWY	Fox Creek	53.06 295	P	P	07 29 25.2	+1.5
SNOW	Snow King Moun	53.10 295	P	P	07 29 26.2	+2.2
SNOW			IAmb	IAmb	07 29 28.4	
	comp=Z,6.4nm,1.2s					
TPAW	Teton Pass	53.15 295	P	P	07 29 25.1	+0.7
TPAW			IAmb	IAmb	07 29 28.4	
	comp=Z,6.5nm,1.3s					
BW06	Boulder Array	53.21 293	P	P	07 29 24.8	0.0
BW06			IAmb	IAmb	07 29 27.9	
	comp=Z,8.1nm,1.4s					
PD31	Pinedale Array	53.21 293	P	P	07 29 25.0	+0.1
PD31			IAmb	IAmb	07 29 27.9	
	comp=Z,6.7nm,1.3s					
PDAR	Pinedale Array	53.21 293	P	P	07 29 25.6	+0.8
	comp=Z,3.0nm,0.9s,baz=59,slow=7.1,SNR=18					
PDAR	Pinedale Array	53.21 293	P	P	07 29 24.8	0.0
REDW	Red Top Meadow	53.22 295	P	P	07 29 26.0	+1.1
REDW			IAmb	IAmb	07 29 29.0	
	comp=Z,6.6nm,1.2s					
N23A	Red Feather La	53.33 289	P	P	07 29 24.7	-1.0
N23A			IAmb	IAmb	07 29 30.0	
	comp=Z,12nm,1.1s					
BTK	Batken	54.00 71	P	P	07 29 31.4	+0.9
BMO	Blue Mountains	54.43 300	P	P	07 29 33.8	+0.3
GAR	Garm	54.69 73	P	P	07 29 36.1	+0.6
O20A	White River Ci	54.91 290	P	P	07 29 36.5	-0.7
O20A			IAmb	IAmb	07 29 42.6	
	comp=Z,5.7nm,1.1s					
HWUT	Hardware Ranch	54.99 294	P	P	07 29 37.0	-0.7
HWUT			IAmb	IAmb	07 29 41.0	
	comp=Z,6.7nm,1.1s					
TCUT	Toone Canyon	55.34 294	P	P	07 29 41.4	+1.1
WMOK	Wichita Mounta	55.55 279	IAmb	IAmb	07 29 46.1	
	comp=Z,6.0nm,1.2s					
PV21	Cone Mtn., Par	56.55 290	IAmb	IAmb	07 29 51.8	
	comp=Z,4.2nm,1.0s					
PV23	Carpenter Ridg	56.65 290	IAmb	IAmb	07 29 52.6	
	comp=Z,6.4nm,1.1s					
SRU	San Rafael Swe	56.70 292	P	P	07 29 51.1	+1.1
PV01	Paradox Valley	56.75 289	P	P	07 29 50.9	+0.5
PV01			IAmb	IAmb	07 29 54.3	
	comp=Z,7.7nm,1.2s					
TMUT	Trail Mountain	56.82 292	P	P	07 29 50.3	-0.7
PV13	Radium Mtn., P	56.83 290	P	P	07 29 50.9	-0.1
PV05	Paradox Valley	57.01 290	P	P	07 29 52.5	+0.2
WMQ	Urumqi	57.30 56	*e*P	P	07 29 58.1	+4.0
WMQ			pmax	pmax		
	comp=Z,11nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,82nm,5.3s					
MSU	Marysvale	57.88 293	P	P	07 29 58.4	0.0
MVU	Marysvale	57.90 293	P	P	07 30 00.0	+1.5
TCRU	Three Creeks R	57.90 293	P	P	07 29 59.6	+1.1
MSTX	Muleshoe	57.91 282	P	P	07 29 59.7	+1.2
MSTX			IAmb	IAmb	07 30 01.5	
	comp=Z,6.1nm,1.2s					
MTPU	Mount Pierson	58.28 292	P	P	07 30 02.7	+1.3
PSUT	Pine Spring	58.52 294	P	P	07 30 04.8	+1.9
ANMO	Albuquerque	58.61 286	P	P	07 30 03.2	-0.3
ANMO			IAmb	IAmb	07 30 08.1	
	comp=Z,5.7nm,1.4s					
PKCU	Pink Cliffs	58.85 292	P	P	07 30 06.0	+0.7
SZCU	Shurtz Canyon	59.03 293	P	P	07 30 06.8	+0.4
CCUT	Cedar City	59.18 293	P	P	07 30 09.1	+1.6
R11A	Troy Canyon, C	59.36 295	P	P	07 30 10.1	+1.4
R11A			IAmb	IAmb	07 30 15.6	
	comp=Z,4.9nm,1.4s					
BNM	Barren Site	59.37 285	P	P	07 30 08.3	-0.5
KNB	Kanab	59.42 292	P	P	07 30 10.9	+1.8
LCMT	Little Creek M	59.60 293	P	P	07 30 10.3	+0.1
PAHR	Pah Rah Range	59.65 299	P	P	07 30 10.7	+0.1
PAHR			IAmb	IAmb	07 30 14.8	
	comp=Z,4.1nm,1.2s					
JCT	Junction City	59.65 278	P	P	07 30 10.6	0.0
U15A	North Rim	59.72 291	P	P	07 30 11.7	+0.4
U15A			IAmb	IAmb	07 30 16.3	
	comp=Z,6.3nm,1.2s					
KVN	Kaiserville	59.73 298	P	P	07 30 12.9	+1.7
KVN			IAmb	IAmb	07 30 14.3	
	comp=Z,3.4nm,1.0s					
SONM	Songino Array	59.73 40	P	P	07 30 11.9	+0.8
	comp=Z,0.4nm,0.3s,baz=145,slow=45,SNR=1.6					
SONM	Songino Array	59.73 40	P	P	07 30 12.2	+1.1
WUAZ	Wupatki	60.14 290	P	P	07 30 15.1	+1.1
NVAR	Mina Array Bea	60.35 297	P	P	07 30 16.0	+0.6
	comp=Z,0.8nm,0.9s,baz=41,slow=4.7,SNR=5.2					
SHPR	Sheep Range	60.80 294	P	P	07 30 18.8	+0.2
SHPR			IAmb	IAmb	07 30 23.1	
	comp=Z,5.9nm,1.3s					
121A	Cookes Peak, D	61.25 286	P	P	07 30 21.6	-0.1
121A			IAmb	IAmb	07 30 26.1	
	comp=Z,7.3nm,1.1s					
TX31	Lajitas Ar. Si	62.30 280	P	P	07 30 29.4	+0.8
TX31			IAmb	IAmb	07 30 40.5	
	comp=Z,7.6nm,1.4s					
TX32	Lajitas Array	62.30 280	P	P	07 30 29.3	+0.6
TXAR	Lajitas Array	62.30 280	P	P	07 30 29.2	+0.6
	comp=Z,1.4nm,1.0s,baz=57,slow=4.6,SNR=9.8					
TXAR			LR	LR	07 55 29.6	
	comp=Z,25nm,19.9s,baz=0.0,slow=34					
TXAR	Lajitas Array	62.30 280	P	P	07 30 28.1	-0.5
TUC	Tucson	62.68 288	P	P	07 30 31.3	+0.1
TUC			IAmb	IAmb	07 30 35.8	
	comp=Z,3.3nm,1.1s					
GTA	Gaotai	65.38 49	*e*P	P	07 30 48.8	-0.1
GTA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
NJ2	Nanjing	77.83 37	*e*P	P	07 32 02.9	-0.9
NJ2			pmax	pmax		
	comp=Z,6.0nm,0.5s					

*IDC **08** 07:56:18.3±1.4, 0°.52N×145°.76E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/43, mbtmp3.9/6, ML3.0/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=51.7km s-min=23.1km az=124.0*

*NEIC **08** 07:56:19.4± 1.8, 0°.4N±0°.1×145°.9E±0°.2, h10km±2km, mb4.3/7, Error ellipse: s-maj=31.0km s-min=17.6km az=126.0*

ISC 08 07:56:19.1±1.4, 0°.5N±0°.2×145°.9E±0°.2, h10km, n17, σ1§19/16, mb4.2/9, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	5.98	240	Pn	Pn	07 57 47.0	-0.8
	0.4nm,0.3s,baz=98,slow=16,SNR=1.0						
JAY				Sn	Sn	07 58 57.6	+1.2
	1.4nm,0.3s,baz=344,slow=3.1,SNR=1.6						
GUMO	Guam	13.09	356	LR	LR	08 03 22.0	
	comp=Z,24nm,18.1s,baz=184,slow=32						
HNR	Honiara	17.09	125	LR	LR	08 05 48.0	
	comp=Z,65nm,18.6s,baz=196,slow=33						
WB0	Warramunga Arr	23.05	209	P	P	08 01 24.7	-0.1
WB0				IAmb	IAmb	08 01 36.0	
	comp=Z,16nm,1.5s						
WR0	Warramunga Arr	23.15	208	P	P	08 01 25.6	-0.2
WR0				IAmb	IAmb	08 01 26.1	
	comp=Z,5.5nm,0.8s						
WRAB	Tennant Creek	23.22	209	P	P	08 01 26.6	+0.1
WRAB				IAmb	IAmb	08 01 27.1	
	comp=Z,6.8nm,0.6s						
WB2	Warramunga Arr	23.22	209	P	P	08 01 26.6	+0.1
WB2				IAmb	IAmb	08 01 27.2	
	comp=Z,6.3nm,0.6s						
WRA	Warramunga Arr	23.23	209	P	P	08 01 26.5	-0.1
	comp=Z,3.9nm,0.6s,baz=31,slow=11,SNR=96						
WRA	Warramunga Arr	23.23	209	P	P	08 01 24.6	-2.1
SOEI	Soe	23.81	244	P	P	08 01 31.7	-0.9
ASAR	Alice Springs	26.66	205	P	P	08 02 01.0	+2.6
	comp=Z,1.2nm,0.8s,baz=28,slow=12,SNR=12						
ASAR	Alice Springs	26.66	205	P	P	08 01 59.2	+0.8
FITZ	Fitzroy Crossi	27.16	226	P	P	08 02 02.1	-0.7
	comp=Z,1.0nm,0.5s,baz=46,slow=8.8,SNR=5.4						
FITZ	Fitzroy Crossi	27.16	226	P	P	08 02 01.9	-1.0
STKA	Stephens Creek	32.42	187	P	P	08 02 50.2	+0.9
	comp=Z,2.6nm,1.1s,baz=336,slow=12,SNR=3.7						
STKA	Stephens Creek	32.42	187	P	P	08 02 48.1	-1.2
ILAR	Eielson Array	80.03	24	P	P	08 08 28.9	+0.4
	comp=Z,0.4nm,0.6s,baz=248,slow=5.4,SNR=5.6						

*IDC **08** 07:57:46.

0.5nm,0.3s,baz=260,slow=8.9,SNR=4.9
SONM Songino Array 61.69 45 P **P 08 08 08.0 +0.9**
0.4nm,0.4s,baz=232,slow=7.1,SNR=1.3
KSRS Korea Array 78.22 54 LR LR 08 48 26.2
comp=Z,29nm,19.3s,baz=246,slow=39
TXAR Lajitas Array 121.76 322 PKP **PKPdf 08 16 41.8 -1.9**
0.3nm,0.9s,baz=58,slow=3.4,SNR=2.2

*IDC **08** 08:46:16.2±1.6, 17°.76N×40°.09E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/40, mbtmp3.9/11, MS3.4/19, Ms1 3.4/19, ms1mx3.2/49, Error ellipse: s-maj=37.9km s-min=23.2km az=172.0*
*SGS **08** 08:46:18, 17°.97N×40°.12E, h15km, Ml3.6*
*NEIC **08** 08:46:19.1±1.8, 18°.22N±0°.02×40°.0E±0°.1, h10km±1km, mb4.3/25, Error ellipse: s-maj=18.5km s-min=4.1km az=270.0*
ISC 08 08:46:17.4±0.7, 17°.9N±0°.1×40°.16E±0°.07, h10km, n63, σ1§56/52, mb4.2/20, MS3.5/16, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRBS	**Ad Darb**	**2.04**	**93**	P	**Pn**	**08 46 51.3**	**-0.6**
DRBS				S	**Sn**	**08 47 15.4**	**-2.0**
FRSS	**Farasan al Kab**	**2.21**	**122**	P	**Pn**	**08 46 53.4**	**-0.8**
FRSS				S	**Sn**	**08 47 20.0**	**-1.7**
BESHS	**BESHS**	**2.62**	**102**	P	**Pn**	**08 46 59.1**	**-0.7**
JAZS	**Jizan**	**2.77**	**108**	P	**Pn**	**08 47 00.9**	**-0.9**
DJNS	**Zahran al Janu**	**3.23**	**94**	P	**Pn**	**08 47 09.2**	**+0.7**
ATD	**Arta Tunnel**	**6.88**	**157**	Pn	Pn	08 48 04.4	+5.9
	1.3nm,0.3s,baz=264,slow=19,SNR=1.8						
EIL	**Elat**	**12.61**	**339**	LR	LR	08 53 15.4	
	comp=Z,139nm,18.3s,baz=108,slow=33						
MMAI	**Mount Meron Ar**	**15.61**	**345**	LR	LR	08 55 17.7	
	comp=Z,70nm,20.5s,baz=185,slow=34						
UOSS	**Minazif**	**16.48**	**62**	Pn	**P**	**08 50 10.2**	**-1.3**
UOSS				IAmb	IAmb	08 50 17.9	
	comp=Z,24nm,1.0s						
CSS	**Mathiatis**	**18.02**	**342**	P	**Pn**	**08 50 26.8**	**-1.2**
WSAR	**Wadi Sarin**	**18.07**	**70**	P	P	08 50 36.2	+7.0
	comp=Z,0.3nm,0.3s,baz=236,slow=7.3,SNR=2.4						
KMBO	**Kilima Mbogo**	**19.16**	**189**	LR	LR	08 57 20.5	
	comp=Z,134nm,18.6s,baz=98,slow=35						
MARD	**Mardin**	**19.31**	**1**	P	**P**	**08 50 41.7**	**-1.1**
GAZ	**Gaziantep**	**19.34**	**353**	P	**P**	**08 50 39.4**	**-3.7**
GEVA	**Gevas**	**20.46**	**7**	P	**P**	**08 50 53.8**	**-1.6**
GEVA				IAmb	IAmb	08 51 03.4	
	comp=Z,10nm,0.4s						
BR131	**Keskin Array S**	**22.44**	**347**	P	**P**	**08 51 14.2**	**-2.5**
BR131				IAmb	IAmb	08 51 29.7	
	comp=Z,13nm,1.3s						
BRTR	**Keskin Array B**	**22.44**	**347**	P	**P**	**08 51 19.3**	**+2.6**
	comp=Z,3.5nm,0.9s,baz=170,slow=8.8,SNR=15						
BRTR				LR	LR	08 59 29.0	
	comp=Z,48nm,19.4s,baz=160,slow=35						
BRTR	**Keskin Array B**	**22.44**	**347**	P	**P**	**08 51 14.4**	**-2.3**
TOKA	**Tokat**	**22.54**	**353**	P	**P**	**08 51 15.9**	**-1.8**
AKH	**Akhalkalaki**	**23.57**	**6**	P	**P**	**08 51 27.3**	**-1.1**
AKH				IAmb	IAmb	08 51 35.8	
	comp=Z,5.8nm,0.5s						
GEYT	**Alibeck**	**25.38**	**35**	LR	LR	09 02 41.4	
	comp=Z,136nm,19.6s,baz=220,slow=38						
HRA	**Herat**	**25.53**	**46**	P	**P**	**08 51 48.3**	**+0.8**
KBZ	**Khabaz**	**25.82**	**5**	P	**P**	**08 51 51.9**	**+3.1**
	comp=Z,2.7nm,0.9s,baz=225,slow=5.7,SNR=3.2						
KBZ				LR	LR	09 02 36.0	
	comp=Z,62nm,20.1s,baz=210,slow=38						
ALN	**Alexandroupoli**	**25.91**	**335**	P	**P**	**08 51 49.2**	**-0.4**
ALN				IAmb	IAmb	08 51 54.3	
	comp=Z,5.9nm,0.9s						
LIT	**Litokhoron**	**26.86**	**329**	P	**P**	**08 51 58.0**	**-0.3**
LIT				IAmb	IAmb	08 52 02.6	
	comp=Z,5.9nm,1.1s						
TIP	**Timpagrande**	**29.35**	**321**	P	**P**	**08 52 20.8**	**+0.2**
TIP				IAmb	IAmb	08 52 39.3	
	comp=Z,9.5nm,1.5s						
VAE	**Valguarnera**	**29.82**	**316**	LR	LR	09 04 45.0	
	comp=Z,30nm,19.7s,baz=264,slow=37						
BUR08	**Bucovina Ar. S**	**32.07**	**341**	P	**P**	**08 52 43.7**	**-0.9**
BUR08				IAmb	IAmb	08 53 03.7	
	comp=Z,4.9nm,1.4s						
TAM	**Tamanrasset**	**32.78**	**284**	P	**P**	**08 52 51.6**	**+0.4**
TAM				IAmb	IAmb	08 52 54.1	
	comp=Z,3.9nm,1.0s						
AKTO	**Aktyubinsk**	**35.43**	**20**	LR	LR	09 10 20.2	
	comp=Z,37nm,18.2s,baz=184,slow=40						
KK31	**Karatay Array**	**35.89**	**39**	P	**P**	**08 53 15.6**	**-2.2**
KKAR	**Karatay Array**	**35.89**	**39**	P	**P**	**08 53 14.8**	**-3.0**
KKAR	**Karatay Array**	**35.89**	**39**	P	**P**	**08 53 15.4**	**-2.4**
KKAR				IAmb	IAmb	08 53 25.1	
	comp=Z,1.6nm,0.8s						
ZOU	**Zoufplan**	**36.30**	**328**	P	**P**	**08 53 21.6**	**+0.2**
ZOU				IAmb	IAmb	08 53 24.4	
	comp=Z,5.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**37.32**	**268**	P	**P**	**08 53 30.6**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=76,slow=7.9,SNR=5.3						
TORD				LR	LR	09 09 56.4	
	comp=Z,65nm,18.3s,baz=100,slow=38						
TORD	**Torodi Ar. Bea**	**37.32**	**268**	P	**P**	**08 53 28.0**	**-2.2**
GERES	**GERESS Array B**	**37.55**	**331**	P	**P**	**08 53 32.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=123,slow=8.6,SNR=7.1						
GERES	**GERESS Array B**	**37.55**	**331**	P	**P**	**08 53 30.2**	**-1.7**
AAK	**Ala-Archa**	**38.12**	**42**	LR	LR	09 11 44.8	
	comp=Z,63nm,18.4s,baz=210,slow=40						
ARU	**Arti**	**40.86**	**16**	P	**P**	**08 53 59.6**	**+0.3**
ARU				IAmb	IAmb	08 54 19.8	
	comp=Z,4.0nm,0.6s						
KIRV	**Kirov**	**41.16**	**7**	LR	LR	09 12 03.5	
	comp=Z,32nm,19.8s,baz=143,slow=37						
ESDC	**Sonseca Array**	**43.78**	**309**	P	**P**	**08 54 24.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=102,slow=6.3,SNR=4.7						
ESDC	**Sonseca Array**	**43.78**	**309**	P	**P**	**08 54 23.0**	**-0.5**
FINES	**FINESS Array B**	**44.59**	**350**	P	**P**	**08 54 30.7**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=176,slow=9.1,SNR=4.6						
FINES	**FINESS Array B**	**44.59**	**350**	P	**P**	**08 54 29.7**	**+0.2**
KURK	**Kurchatov**	**44.75**	**34**	P	**P**	**08 54 30.8**	**-0.2**
KURK				IAmb	IAmb	08 54 36.9	
	comp=Z,2.9nm,0.8s						
MKAR	**Makanchi Array**	**44.97**	**41**	P	**P**	**08 54 34.9**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=232,slow=4.7,SNR=4.8						
MKAR				LR	LR	09 15 49.4	
	comp=Z,106nm,18.0s,baz=225,slow=39						
MKAR	**Makanchi Array**	**44.97**	**41**	P	**P**	**08 54 33.4**	**+0.6**
LBTB	**Lobatse**	**44.99**	**199**	LR	LR	09 13 01.6	
	comp=Z,148nm,18.1s,baz=58,slow=36						
DBIC	**Dimbokro**	**45.27**	**261**	LR	LR	09 13 28.8	
	comp=Z,103nm,18.1s,baz=80,slow=36						
NB2	**NORSAR Subarra**	**47.71**	**341**	P	**P**	**08 54 54.8**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=142,slow=7.9						
NOA	**NORSAR Array B**	**47.71**	**341**	P	**P**	**08 54 54.5**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=138,slow=8.4,SNR=4.7						
NOA				LR	LR	09 17 52.2	
	comp=Z,11nm,20.4s,baz=65,slow=40						
SHL	**Shillong**	**48.39**	**71**	P	**P**	**08 55 01.9**	**+1.7**
ZAA0	**Zalesovo Array**	**49.67**	**33**	P	**P**	**08 55 09.7**	**+0.4**
ZALV	**Zalesovo Beam**	**49.67**	**33**	P	**P**	**08 55 10.7**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=264,slow=7.3,SNR=8.8						
ZALV				LR	LR	09 19 58.2	
	comp=Z,45nm,18.7s,baz=16,slow=41						
ZALV	**Zalesovo Beam**	**49.67**	**33**	P	**P**	**08 55 08.7**	**-0.6**
KMI	**Kunming**	**58.22**	**71**	P	**P**	**08 56 14.7**	**+2.1**
SONM	**Songino Array**	**61.01**	**45**	P	**P**	**08 56 33.4**	**+2.0**
	comp=Z,1.3nm,0.9s,baz=257,slow=7.6,SNR=5.1						
SONM				LR	LR	09 26 36.3	
	comp=Z,75nm,19.4s,baz=248,slow=40						
SONM	**Songino Array**	**61.01**	**45**	P	**P**	**08 56 33.2**	**+1.8**
SPITS	**Spitsbergen Ar**	**61.37**	**355**	LR	LR	09 23 48.4	
	comp=Z,13nm,18.9s,baz=120,slow=37						
KSAR	**Wonju Array Be**	**77.56**	**55**	P	**P**	**08 58 15.1**	**+1.2**
KSRS	**Korea Array**	**77.59**	**55**	P	**P**	**08 58 15.1**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=279,slow=8.1,SNR=4.7						
KSRS				LR	LR	09 36 52.0	
	comp=Z,38nm,18.5s,baz=240,slow=39						
NVAR	**Mina Array Bea**	**120.40**	**340**	PKP	**PKPdf**	**09 05 09.7**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=350,slow=4.6,SNR=3.6						

*IDC **08** 09:01:29.0±7.1, 32°.47S×179°.47E, h473km±93km, mb2.4/2, mb1 2.6/2, mb1mx2.5/22, mbtmp3.2/2, Error ellipse: s-maj=114.1km s-min=45.5km az=7.0*
*WEL **08** 09:01:34.9±0.8, 33°.S±7°×17°.9E±1°.5, h474km±13km, M4.0/32, mB4.4/7, MLv4.5/32, Mw(mB)3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=97.4*

ISC 08 09:01:28.1±1.9, 32°.3S±0°.1×179°.6E±0°.2, h450km, n50, σ2§36/67, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.32**	**192**	P	**P**	**09 02 56.6**	**+1.1**
MXZ				S	**S**	**09 04 08.6**	**+1.7**
KUZ	**Kuaotunu**	**5.46**	**215**	P	**P**	**09 03 00.7**	**+3.9**
HAZ	**Te Kaha**	**5.61**	**195**	P	**P**	**09 03 01.1**	**+2.8**
HAZ				S	**S**	**09 04 11.8**	**-0.3**
WCZ	**Waipu Caves**	**5.67**	**229**	P	**P**	**09 03 02.0**	**+3.0**
WIAZ	**Waiheke Island**	**5.79**	**219**	P	**P**	**09 03 03.3**	**+3.1**
OUZ	**Omahuta**	**5.79**	**239**	P	**P**	**09 03 02.8**	**+2.6**
PUZ	**Puketiti**	**5.83**	**191**	P	**P**	**09 03 02.5**	**+1.9**
PUZ				S	**S**	**09 04 15.8**	**-0.5**
RUGZ	**Raukumara Rang**	**5.84**	**195**	P	**P**	**09 03 03.4**	**+2.6**
RUGZ				S	**S**	**09 04 15.6**	**-0.9**
OPRZ	**Ohinepanea**	**6.04**	**204**	P	**P**	**09 03 06.8**	**+4.0**
MARZ	**Manawahe**	**6.13**	**203**	P	**P**	**09 03 08.0**	**+4.3**
MWZ	**Matawai**	**6.22**	**196**	P	**P**	**09 03 06.8**	**+2.1**
MWZ				S	**S**	**09 04 23.9**	**+0.3**
CNGZ	**Carnagh Statio**	**6.24**	**190**	P	**P**	**09 03 07.7**	**+3.0**
URZ	**Urewera**	**6.26**	**199**	P	**P**	**09 03 06.5**	**+1.6**
	15nm,0.3s,baz=9.3,slow=6.0,SNR=104						
URZ				S	**S**	**09 04 22.3**	**-1.8**
	6.5nm,0.3s,baz=238,slow=23,SNR=10						
URZ	**Urewera**	**6.26**	**199**	P	**P**	**09 03 06.1**	**+1.1**
URZ				S	**S**	**09 04 22.3**	**-1.8**
TKGZ	**Te Karaka**	**6.26**	**193**	P	**P**	**09 03 06.7**	**+1.7**
OMRZ	**Omania**	**6.34**	**204**	P	**P**	**09 03 10.0**	**+4.1**
TOZ	**Tahuroa Road**	**6.36**	**211**	P	**P**	**09 03 10.1**	**+4.1**
RIGZ	**Rimuhau**	**6.53**	**193**	P	**P**	**09 03 10.1**	**+2.3**
MUGZ	**Murupara**	**6.56**	**200**	P	**P**	**09 03 07.9**	**-0.2**
RTZ	**Ruatahuna**	**6.63**	**198**	P	**P**	**09 03 11.2**	**+2.3**
SNGZ	**Shannon Statio**	**6.70**	**196**	P	**P**	**09 03 12.2**	**+2.7**
SNGZ				S	**S**	**09 04 34.1**	**+1.5**
PRGZ	**Paritu Road**	**6.72**	**192**	P	**P**	**09 03 13.7**	**+3.8**
TLZ	**Tolley Road**	**6.85**	**208**	P	**P**	**09 03 14.9**	**+3.7**
KNZ	**Kokohu**	**6.86**	**193**	P	**P**	**09 03 14.3**	**+3.1**
KNZ				S	**S**	**09 04 35.1**	**-0.5**
RAHZ	**Arahi**	**6.88**	**197**	P	**P**	**09 03 13.7**	**+2.2**
RAHZ				S	**S**	**09 04 34.9**	**-1.3**
MTHZ	**Maungataniwha**	**6.89**	**199**	P	**P**	**09 03 14.4**	**+2.8**
MTHZ				S	**S**	**09 04 34.8**	**-1.5**
MHGZ	**Mahia Peninsul**	**6.94**	**191**	P	P	09 03 17.4	+5.3
MRHZ	**Matea Rd**	**6.99**	**201**	P	**P**	**09 03 15.2**	**+2.6**
NMHZ	**Naumai**	**7.12**	**198**	P	**P**	**09 03 16.2**	**+2.1**
NMHZ				S	**S**	**09 04 41.1**	**+0.1**
ARHZ	**Aropaoanui**	**7.23**	**197**	P	**P**	**09 03 17.5**	**+2.3**
BKZ	**Black Stump Fm**	**7.28**	**200**	P	**P**	**09 03 14.9**	**-0.8**
BKZ				S	**S**	**09 04 41.1**	**-2.8**
HIZ	**Hauiti**	**7.29**	**211**	P	P	09 03 21.0	+5.2
MCHZ	**McNeill Hill**	**7.48**	**198**	P	**P**	**09 03 19.4**	**+1.6**
MCHZ				S	**S**	**09 04 48.8**	**+1.0**
WTVZ	**West Tongariro**	**7.52**	**205**	P	**P**	**09 03 20.8**	**+2.4**
KWHZ	**Kaweka Forest**	**7.54**	**199**	P	**P**	**09 03 20.1**	**+1.6**
KWHZ				S	**S**	**09 04 44.8**	**-4.2**
BHHZ	**Black Hill Sta**	**7.70**	**201**	P	**P**	**09 03 20.9**	**+0.7**
BHHZ				S	**S**	**09 04 49.3**	**-3.0**
WNVZ	**Wahianoa**	**7.71**	**204**	P	**P**	**09 03 22.2**	**+1.7**
KRHZ	**Kereru**	**7.75**	**199**	P	**P**	**09 03 22.6**	**+1.8**
KRHZ				S	**S**	**09 04 51.0**	**-2.2**
PKVZ	**Pokaka**	**7.76**	**205**	P	**P**	**09 03 22.7**	**+1.9**
KAHZ	**Kahuranaki**	**7.77**	**196**	P	**P**	**09 03 23.4**	**+2.5**
KAHZ				S	**S**	**09 04 55.2**	**+1.7**
VRZ	**Vera Road**	**7.85**	**209**	P	**P**	**09 03 25.0**	**+3.2**
PXZ	**Pawanui**	**8.00**	**196**	P	**P**	**09 03 23.7**	**+0.4**
PXZ				S	**S**	**09 04 55.5**	**-2.4**
PNHZ	**Pukenui**	**8.05**	**199**	P	**P**	**09 03 25.5**	**+1.3**
TSZ	**Takapari Road**	**8.26**	**200**	P	**P**	**09 03 27.8**	**+1.6**
BFZ	**Birch Farm**	**8.76**	**197**	P	**P**	**09 03 32.7**	**+1.1**
MRZ	**Mangatainoka R**	**8.92**	**200**	P	**P**	**09 03 34.6**	**+1.2**
OGWZ	**Otaki Gorge**	**9.19**	**202**	P	**P**	**09 03 37.7**	**+1.4**
ASAR	**Alice Springs**	**41.04**	**270**	P	**P**	**09 08 29.2**	**-1.8**
	0.3nm,0.9s,baz=104,slow=7.7,SNR=1.7						
WRA	**Warramunga Arr**	**42.21**	**276**	P	**P**	**09 08 38.3**	**-2.1**
	0.4nm,0.7s,baz=114,slow=7.9,SNR=6.6						
FINES	**FINESS Array B**	**146.21**	**337**	PKPbc	**PKPdf**	**09 20 13.9**	**-0.5**
	0.7nm,0.5s,baz=61,slow=6.5,SNR=5.6						

*UCR **08** 09:17:32.1±1.5, 8°.60N×82°.95W, h6km±5km, MD3.7*
*UPA **08** 09:17:32.0±1.5, 8°.59N×82°.89W, h14km±4km, MW4.0*
ISC 08 09:17:30.7±0.9, 8°.58N±0°.04×82°.90W±0°.03, h28km±6km, n35, σ1§23/51, 7C-10D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.02**	**114**	⇓*i*P	**Pb**	**09 17 34.8**	**-0.7**
CDITO				*e*S	**Sb**	**09 17 36.9**	**-1.8**
LESP3	**La Esperanza,**	**0.20**	**149**	⇑*i*P	**Pb**	**09 17 37.0**	**+0.3**
MLIR3	**Monte Lirio, C**	**0.22**	**19**	*i* P	**Pb**	**09 17 38.0**	**+0.9**
BRU2	**Volcan**	**0.29**	**44**	⇓*i*P	**Pn**	**09 17 39.0**	**-0.3**
BRU2				*i* S	**Sn**	**09 17 44.4**	**-0.4**
BRU2	**Volcan**	**0.29**	**44**	⇓*i*P	**Pn**	**09 17 39.0**	**-0.3**
BRU2				*e*S	**Sn**	**09 17 44.2**	**-0.6**
BAGA3	**Bagala, Chiriq**	**0.38**	**108**	⇓*i*P	**Pn**	**09 17 40.6**	**+0.2**
BAGA3				*e*S	**Sn**	**09 17 50.3**	**+3.5**
BCO2	**Palmira**	**0.39**	**70**	*i* P	**Pn**	**09 17 40.6**	**0.0**
BCO2				*e*S	**Sn**	**09 17 46.1**	**-1.1**
PTJ1	**Puerto Jimnez**	**0.41**	**263**	⇓*i*P	**Pb**	**09 17 40.0**	**+0.4**
PTJ1				*e*S	**Sb**	**09 17 46.7**	**+1.1**
PTJ1	**Puerto Jimnez**	**0.41**	**263**	⇓*i*P	**Pb**	**09 17 40.0**	**+0.4**
PTJ1				*e*S	**Sb**	**09 17 44.7**	**-0.9**
PTAR3	**Potrerillos Ar**	**0.41**	**74**	⇓*i*P	**Pn**	**09 17 41.0**	**+0.2**
DVD	**David**	**0.46**	**108**	*e*P	**Pn**	**09 17 41.7**	**+0.2**
DVD				*i* S	**Sn**	**09 17 48.8**	**-0.1**
PIRO	**Carate, Puerto**	**0.47**	**246**	⇓*i*P	**Pb**	**09 17 40.9**	**+0.3**
LOCO3	**Loma Colorada,**	**0.50**	**110**	*i* P	**Pn**	**09 17 42.4**	**+0.3**
PSOM3	**Paja de Sombre**	**0.57**	**80**	*e*P	**Pn**	**09 17 43.2**	**+0.1**
GUAL3	**Gualaca, Chiri**	**0.59**	**95**	*e*P	**Pn**	**09 17 43.6**	**+0.3**
RIOS	**Rincon, Osa**	**0.62**	**281**	⇓*i*P	**Pb**	**09 17 42.8**	**-0.3**
DRK0	**Durika**	**0.76**	**333**	⇑*e*P	**Pn**	**09 17 46.4**	**+0.6**
DRK0				*e*S	**Sn**	**09 17 56.8**	**+0.5**
DRK0	**Durika**	**0.76**	**333**	⇑*i*P	**Pn**	**09 17 46.4**	**+0.6**
DRK0				*e*S	**Sn**	**09 17 56.9**	**+0.5**
CHGR2	**Aguacate**	**0.82**	**65**	*e*P	**Pn**	**09 17 47.2**	**+0.7**
CHGR2				*e*S	**Sn**	**09 17 58.4**	**+0.7**
EDLM	**Las Mercedes**	**0.97**	**315**	*i* P	**Pn**	**09 17 49.0**	**+0.4**
EDLM				*i* S	**Sn**	**09 18 03.0**	**+1.4**
PEZE	**Perez Zeledon,**	**1.11**	**316**	*e*P	**Pn**	**09 17 51.4**	**+0.9**
CDM	**Cerro de Muert**	**1.29**	**318**	⇑*i*P	**Pb**	**09 17 54.5**	**-0.1**
RIMA	**Rio Macho**	**1.52**	**321**	⇑*i*P	**Pb**	**09 17 57.7**	**-0.7**
BATAN	**Batan**	**1.58**	**343**	*e*P	**Pb**	**09 18 00.1**	**+0.8**
BATAN				*e*S	**Sb**	**09 18 21.5**	**+2.7**
LCR2	**La Lucha 2**	**1.59**	**317**	⇑*e*P	**Pb**	**09 17 58.7**	**-0.9**
SJS	**Escuela Geolog**	**1.77**	**320**	*e*P	**Pb**	**09 18 01.3**	**-1.3**
GMAL	**Guarumal, Vera**	**1.84**	**116**	*e*P	**Pn**	**09 18 01.8**	**+1.4**
GMAL				*e*S	**Sn**	**09 18 20.7**	**-2.0**
HDC	**Heredia**	**1.85**	**320**	*e*P	**Pb**	**09 18 03.5**	**-0.5**
HDC				*e*S	**Sb**	**09 18 27.3**	**+0.4**
HDC	**Heredia**	**1.85**	**320**	*e*P	**Pb**	**09 18 03.5**	**-0.5**
JACO	**JACO, Garabito**	**2.05**	**302**	⇑*e*P	**Pb**	**09 18 06.0**	**-1.3**
PNME	**Penonome**	**2.54**	**92**	*e*P	**Pb**	**09 18 14.9**	**-0.8**
ARE1	**Arenal 1**	**2.59**	**316**	*e*P	**Pb**	**09 18 14.4**	**-2.2**
JTS	**Las Juntas de**	**2.65**	**310**	*e*P	**Pb**	**09 18 15.2**	**-2.3**
JTS				*e*S	**Sb**	**09 18 49.5**	**-0.1**
JTS	**Las Juntas de**	**2.65**	**310**	⇓*e*P	**Pb**	**09 18 15.1**	**-2.3**
GRZA	**Playa Garza**	**3.01**	**296**	*e*P	**Pb**	**09 18 20.7**	**-3.0**

*KRSC **08** 09:28:41.4±1.4, 48°.88N×156°.02E, h7km±21km, ML4.2*
*SKHL **08** 09:28:43.9±0.4, 49°.10N×154°.42E, h47km±2km, mb4.1/2*
ISC 08 09:28:45.3±2.0, 49°.1N±0°.1×154°.7E±0°.2, h35km, n16, σ1§22/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.83**	**30**	*e*P	**Pn**	**09 29 13.7**	**-0.5**
SKR				*e*S	**Sn**	**09 29 36.3**	**+0.2**
SKR	**Severo-Kuril's**	**1.83**	**30**	*e*P	**Pn**	**09 29 13.5**	**-0.7**
SKR				AMB	AMB	09 29 15.0	
	70nm,0.6s						
SKR				*e*S	**Sn**	**09 29 36.0**	**-0.1**
SKR				A	A	09 29 38.0	
	360nm,0.5s						
SKR				A	A	09 29 38.0	
	400nm,0.5s						
ALID	**Alaid**	**1.85**	**18**	*e*P	**Pn**	**09 29 15.1**	**+0.5**
PAU	**Pauzhetka**	**2.73**	**29**	*e*P	**Pn**	**09 29 27.5**	**+1.0**
PAU				AMB	AMB	09 29 31.9	
	30nm,0.2s						
PAU				*e*S	**Sn**	**09 29 59.3**	**+1.0**
PAU				A	A	09 30 04.5	
	320nm,0.5s						
PAU				A	A	09 30 04.5	
	260nm,0.5s						
KDTR	**Khodutka, Kamc**	**3.47**	**38**	*e*P	**Pn**	**09 29 35.1**	**-1.6**
KDTR				*e*S	**Sn**	**09 30 14.7**	**-1.8**
ASAK	**Asacha**	**3.87**	**31**	*e*P	**Pn**	**09 29 42.6**	**+0.4**
MTVR	**Mutnovka**	**4.05**	**32**	*e*P	**Pn**	**09 29 45.0**	**+0.2**
MTVR				*e*S	**Sn**	**09 30 31.7**	**+0.8**
GRL	**Gorelyy**	**4.07**	**31**	*e*P	**Pn**	**09 29 45.6**	**+0.6**
GRL				*e*S	**Sn**	**09 30 33.2**	**+1.8**
RUS	**Russkaya**	**4.12**	**35**	*e*P	**Pn**	**09 29 44.3**	**-1.4**
RUS				*e*S	**Sn**	**09 30 31.5**	**-1.2**
PET	**Petropavlovsk**	**4.66**	**31**	*e*P	**Pn**	**09 29 53.0**	**0.0**
PET				*e*S	**Sn**	**09 30 45.9**	**+0.2**
DALK	**Dalny**	**4.70**	**32**	*e*P	**Pn**	**09 29 53.4**	**-0.1**
DALK				*e*S	**Sn**	**09 30 47.2**	**+0.5**
KOK	**Koryaka**	**4.87**	**29**	*e*P	**Pn**	**09 29 57.7**	**+1.6**
AVH	**Avacha**	**4.88**	**30**	*e*P	**Pn**	**09 29 58.2**	**+2.0**
KRX	**Arik**	**4.93**	**29**	*e*P	**Pn**	**09 29 58.0**	**+1.0**
KUR	**Kuril'sk**	**6.04**	**233**	*e*P	**Pn**	**09 30 11.0**	**-1.1**
TYV	**Tymovskoe**	**7.94**	**287**	*e*P	**Pn**	**09 30 35.4**	**-2.7**

PGC 08 09:32:59.2±0.0, 62°.60N×127°.98W, h1km, ML3.5/9, 279km Nne of Watson Lk., Yt Nw Territories - Nunavut, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHY	**Whitehorse**	**3.83**	**243**	Pn	Pn	09 33 58.9	-0.4
WHY				Pg	Pb	09 34 07.7	+0.2
WHY				Sg	Sb	09 34 56.9	+2.6
NBC2	**NorthernBC 2**	**3.88**	**134**	Pn	Pn	09 33 58.6	-1.3
NBC2				Sn	Sn	09 34 42.9	-3.1
DLBC	**Dease Lake**	**4.30**	**195**	Pn	Pn	09 34 04.7	-1.0
DLBC				Sn	Sn	09 34 53.4	-3.0
DLBC				Sg	Sg	09 35 12.9	-4.1
HYT	**Haines Junctio**	**4.87**	**253**	Pn	Pn	09 34 12.9	-0.7
HYT				Sg	Sg	09 35 30.0	-5.4
YUK5	**Granite Creek**	**4.91**	**257**	Pn	Pn	09 34 13.3	-0.8
YUK5				Sn	Sn	09 35 07.7	-3.9
YUK5				Sg	Sb	09 35 30.6	+5.2
PLBC	**Pleasant Camp**	**5.15**	**236**	Pn	Pn	09 34 16.6	-0.8
PLBC				Sg	Sg	09 35 38.5	-6.1
NBC6	**NorthernBC 6**	**5.19**	**138**	Pn	Pn	09 34 16.0	-1.9
NBC6				Sn	Sn	09 35 15.1	-3.2
YUK6	**Outpost Mounta**	**5.20**	**256**	Pn	Pn	09 34 17.3	-0.9
YUK6				Sg	Sb	09 35 40.1	+6.0
BESE	**Bessie Mountai**	**5.27**	**223**	Pn	Pn	09 34 17.3	-1.6
BESE				Sg	Sg	09 35 42.4	-5.8
YUK7	**Dusty Glacier**	**5.28**	**251**	Sg	Sb	09 35 42.4	+6.1
DAWY	**Dawson**	**5.35**	**291**	Pn	Pn	09 34 19.7	-0.4
DAWY				Sg	Sg	09 35 44.8	-6.0
DHRN	**Dharma Camp**	**5.73**	**35**	Pn	Pn	09 34 23.2	-2.1
DHRN				Sn	Sn	09 35 27.6	-4.0
NBC5	**NorthernBC 5**	**5.74**	**150**	Pn	Pn	09 34 24.5	-1.0
NBC5				Sn	Sn	09 35 28.1	-3.9
YUK3	**Moose Creek**	**5.90**	**268**	Sg	Sb	09 36 00.9

SKMP	Bagumbayan, Su	3.87 341	eP		Pn	09 52 10.6	+2.9
SKMP			eS		Sn	09 52 56.1	+2.9
KCP	Kidapawan	4.20 350⇑	eP		Pb	09 52 18.8	-3.4
KCP			i S		Sb	09 53 09.1	-4.0
DAV	Davao City (W)	4.20 357	LR		LR	09 54 10.3	
comp=Z,142nm,18.5s,baz=336,slow=41							
SANI	Sanana	4.87 178	P		Pn	09 52 25.0	+3.5
LUWI	Luwuk	4.93 218	P		Pb	09 52 30.3	-4.4
BUKP	Musuan	5.06 351	eP		Pn	09 52 23.6	-0.6
BUKP			eS		Sn	09 53 21.6	-1.1
PAGZ	Pagadian	5.53 334	eP		Pn	09 52 32.2	+1.6
MPSI	Mapaga	6.44 247	P		Pn	09 52 47.4	+4.3
0.1nm17nm,0.6s							
FITZ	Fitzroy Crossi	20.82 181	P		P	09 55 50.0	+0.1
1.7nm,0.6s,baz=3.4,slow=12,SNR=8.2							
WRA	Warramunga Arr	24.14 160	P		P	09 56 24.6	0.0
6.1nm,0.4s,baz=335,slow=10,SNR=14							
WRA			S		S	10 00 39.5	-3.2
1.8nm,0.5s,baz=346,slow=20,SNR=6.1							
ASAR	Alice Springs	27.50 164	P		P	09 56 55.5	+0.5
1.6nm,0.5s,baz=346,slow=8.3,SNR=35							
KSRS	Korea Array	34.49 3	P		P	09 57 57.5	+1.1
0.7nm,0.8s,baz=186,slow=10,SNR=4.0							
STKA	Stephens Creek	37.64 158	P		P	09 58 23.9	+0.3
7.5nm,1.1s,baz=327,slow=6.5,SNR=7.1							
VNDA	Vanda	82.67 173	P		P	10 03 33.0	+1.6
0.4nm,0.6s,baz=319,slow=7.8,SNR=7.0							

*IDC **08** 10:02:28.0±3.7, 10°.96S×165°.92E, h61km±32km, mb3.7/7, mb1 4.0/9, mb1mx3.7/37, mbtmp4.1/9, ML4.2/2, MS3.3/8, Ms1 3.3/8, ms1mx3.0/35, Error ellipse: s-maj=27.0km s-min=24.4km az=94.0*

*NEIC **08** 10:02:28.4±1.0, 10°.93S±0°.05×165°.87E±0°.08, h62km±9km, mb4.4/8, Error ellipse: s-maj=11.8km s-min=6.3km az=105.0*

ISC 08 10:02:27.9±0.7, 10°.96S±0°.09×165°.8E±0°.1, h61km, n32, σ1§27/25, mb4.1/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	Saraoutou	4.66	163				Pn	10 03 36.5	+0.8
HNR	Honiara	5.98	284	P			Pn	10 03 54.6	+0.7
14nm,0.3s,baz=49,slow=20,SNR=1.9									
HNR				S			Sn	10 04 59.0	-2.1
15nm,0.3s,baz=117,slow=11,SNR=2.4									
HNR				LR			LR	10 06 29.1	
comp=Z,327nm,19.6s,baz=120,slow=40									
DZM	Mont Dzumac	11.07	177	P			Pn	10 05 04.6	+1.1
0.7nm,0.3s,baz=355,slow=6.3,SNR=21									
DZM				S			Sn	10 07 02.8	-3.1
0.2nm,0.3s,baz=264,slow=18,SNR=1.5									
DZM				LR			LR	10 08 42.4	
comp=Z,146nm,20.1s,baz=123,slow=34									
PMG	Port Moresby	18.44	273	LR			LR	10 13 03.4	
comp=Z,103nm,20.9s,baz=132,slow=34									
AFI	Afiamalu	22.07	100	LR			LR	10 13 52.9	
comp=Z,76nm,21.5s,baz=199,slow=31									
URZ	Urewera	29.01	161	P			P	10 08 20.9	-1.1
3.2nm,0.7s,baz=321,slow=6.5,SNR=1.6									
H11S2	WAKE ISLAND Hy	29.27	2	T			T	10 38 49.8	
baz=181,slow=76									
H11S3	WAKE ISLAND Hy	29.28	2	T			T	10 38 48.9	
baz=181,slow=76									
H11S1	WAKE ISLAND Hy	29.29	2	T			T	10 38 49.6	
baz=181,slow=76									
BKZ	Black Stump Fm	29.66	163	P			P	10 08 28.1	+0.3
BKZ				IAmb			IAmb	10 08 29.0	
comp=Z,9.2nm,0.5s									
H11N1	WAKE ISLAND Hy	30.50	2	T			T	10 40 20.0	
baz=182,slow=76									
H11N3	WAKE ISLAND Hy	30.50	2	T			T	10 40 20.3	
baz=182,slow=76									
H11N2	WAKE ISLAND Hy	30.51	2	T			T	10 40 21.3	
baz=182,slow=76									
STKA	Stephens Creek	30.56	223	LR			LR	10 19 50.8	
comp=Z,104nm,18.4s,baz=207,slow=34									
TUWZ	Tuamarina	31.18	168	P			P	10 08 41.9	+0.7
THZ	Tophouse	31.31	170	P			P	10 08 43.5	+1.1
WB0	Warramunga Arr	31.50	250	P			P	10 08 46.0	+1.6
WB0				IAmb			IAmb	10 08 46.4	
comp=Z,3.4nm,0.7s									
WRAB	Tennant Creek	31.58	250	P			P	10 08 46.1	+1.1
WRAB				IAmb			IAmb	10 08 47.1	
comp=Z,8.0nm,1.1s									
WB2	Warramunga Arr	31.58	250	P			P	10 08 46.1	+1.1
WRA	Warramunga Arr	31.59	250	P			P	10 08 45.8	+0.7
comp=Z,1.6nm,0.7s,baz=81,slow=9.2,SNR=6.8									
WRA				LR			LR	10 21 56.7	
comp=Z,54nm,18.2s,baz=290,slow=37									
LTZ	Lake Taylor	32.20	171	P			P	10 08 50.7	+0.5
ASAR	Alice Springs	32.90	243	P			P	10 08 57.2	+0.6
comp=Z,0.6nm,0.5s,baz=64,slow=10,SNR=14									
ASAR				PcP			PcP	10 11 39.9	-0.2
comp=Z,0.4nm,0.7s,baz=81,slow=2.3,SNR=4.5									
ASAR				LR			LR	10 22 33.1	
comp=Z,55nm,18.2s,baz=138,slow=36									
SIJI	Sorong	35.76	284	LR			LR	10 23 07.0	
comp=Z,27nm,21.5s,baz=348,slow=35									
FITZ	Fitzroy Crossi	39.48	255	P			P	10 09 54.3	+1.5
FITZ				IAmb			IAmb	10 09 58.3	
comp=Z,5.4nm,1.2s									
ILAR	Eielson Array	83.40	18	P			P	10 14 48.1	-0.1
comp=Z,0.7nm,0.5s,baz=234,slow=5.0,SNR=17									
MAW	Mawson	84.83	202	P			P	10 14 56.4	+0.8
comp=Z,1.4nm,0.8s,baz=138,slow=4.3,SNR=5.0									
MAW	Mawson	84.83	202	IAmb			IAmb	10 14 58.1	
comp=Z,1.1nm,1.1s									
NVAR	Mina Array Bea	85.91	50	P			P	10 15 01.4	-0.3
comp=Z,0.3nm,0.6s,baz=266,slow=7.1,SNR=2.3									
MKAR	Makanchi Array	93.51	317	P			P	10 15 37.4	+0.2
comp=Z,0.5nm,0.7s,baz=92,slow=6.1,SNR=5.7									
MKAR	Makanchi Array	93.51	317	P			P	10 15 35.0	-2.1
ARCES	ARCESS Array B	116.27	345	PKP			PKPdf	10 21 02.8	-1.2
comp=Z,2.1nm,0.9s,baz=56,slow=2.3,SNR=4.6									
ESDC	Sonseca Array	150.00	344	PKPbc			PKiKP	10 22 12.2	-0.7
comp=Z,0.4nm,0.5s,baz=1.1,slow=3.7,SNR=4.3									
ESDC				PKPab			PKPab	10 22 18.5	+0.8
comp=Z,0.6nm,0.6s,baz=9.1,slow=4.9,SNR=4.8									

*IDC **08** 10:10:23.5±0.8, 55°.39N×162°.30E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/47, mbtmp3.6/11, ML2.3/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/59, Error ellipse: s-maj=32.0km s-min=15.6km az=147.0*

*KRSC **08** 10:10:25.0±0.8, 55°.16N×162°.57E, h42km±21km, ML4.2*

*MOS **08** 10:10:26.7±0.5, 55°.21N×162°.63E, h34km, mb4.6/2, Error ellipse: s-maj=7.4km s-min=4.7km az=76.6*

*NEIC **08** 10:10:29.6±1.4, 55°.4N±0°.2×162°.2E±0°.2, h45km±7km, mb4.1/13, Error ellipse: s-maj=25.7km s-min=13.1km az=147.0*

ISC 08 10:10:25.6±1.8, 55°.23N±0°.03×162°.57E±0°.03, h16km±12km, n124, σ1§15/164, mb4.1/17, MS3.3/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.00	8	eP			Pb	10 10 43.8	-0.6
KBTR				eS			Sg	10 10 58.2	+0.3
KBTR	Krutoberegovo	1.00	8	PN			Pb	10 10 43.8	-0.6
KBTR				S			Sg	10 10 58.2	+0.3
KBG	Krutoberegovo	1.04	4	eP			Pb	10 10 44.4	-0.7
KBG				eS			Sb	10 10 58.9	+0.5
KBG	Krutoberegovo	1.04	4	PN			Pb	10 10 44.4	-0.7
KBG				S			Sb	10 10 58.9	+0.5
TUMD	Tumrok D	1.25	270	eP			Pn	10 10 47.6	-0.7
TUMD				eS			Sb	10 11 02.7	-1.8
ZLN	Zelenaya	1.28	309	eP			Pn	10 10 49.2	+0.3
ZLN				eS			Sb	10 11 05.5	-0.1
ZLN	Zelenaya	1.28	309	PN			Pn	10 10 49.2	+0.3
ZLN				S			Sb	10 11 05.5	-0.1
BZGR	Bezymyannyi-Gr	1.28	305	eP			Pn	10 10 49.2	+0.3
BZGR				eS			Sb	10 11 05.8	+0.1
BZGR	Bezymyannyi-Gr	1.28	305	PN			Pn	10 10 49.2	+0.3
BZGR				S			Sb	10 11 05.8	+0.1
KZV	Kizimen	1.31	266	eP			Pn	10 10 48.7	-0.7
KZV	Kizimen	1.31	266	PN			Pn	10 10 48.7	-0.7
CIRR	Tsirk	1.37	312	eP			Pn	10 10 50.4	+0.3
CIRR	Tsirk	1.37	312	PN			Pn	10 10 50.4	+0.3
LGNR	Loginova	1.37	310	eP			Pn	10 10 50.7	+0.4
LGNR	Loginova	1.37	310	PN			Pn	10 10 50.7	+0.4
TUMR	Tumrok	1.39	273	eP			Pn	10 10 50.4	0.0
TUMR				eS			Sn	10 11 07.7	-0.8
TUMR	Tumrok	1.39	273	PN			Pn	10 10 50.4	0.0
TUMR				S			Sn	10 11 07.7	-0.8
BZWR	Bezymyannyi-We	1.39	303	eP			Pn	10 10 50.8	+0.3
BZWR	Bezymyannyi-We	1.39	303	PN			Pn	10 10 50.8	+0.3
KMNR	Kamenistaya	1.43	293	eP			Pn	10 10 51.1	+0.1
KMNR	Kamenistaya	1.43	293	PN			Pn	10 10 51.1	+0.1
KIRR	Kirishev	1.46	301	eP			Pn	10 10 51.9	+0.5
KIRR				eS			Sn	10 11 10.0	-0.3
KIRR	Kirishev	1.46	301	PN			Pn	10 10 51.9	+0.5
KIRR				S			Sn	10 11 10.0	-0.3
SMKR	Semkarok	1.50	336	eP			Pn	10 10 51.6	-0.2
SMKR				eS			Sn	10 11 11.3	+0.3
SMKR	Semkarok	1.50	336	PN			Pn	10 10 51.6	-0.2
SMKR				S			Sn	10 11 11.3	+0.3
KRSR	Krestovskiy	1.51	312	eP			Pn	10 10 52.0	0.0
KRSR				eS			Sn	10 11 10.2	-1.2
KRSR	Krestovskiy	1.51	312	PN			Pn	10 10 52.0	0.0
KRSR				S			Sn	10 11 10.2	-1.2
KPT	Kopyto	1.53	300	eP			Pn	10 10 52.7	+0.4
KPT	Kopyto	1.53	300	PN			Pn	10 10 52.7	+0.4
KLY	Klyuchi	1.54	316	eP			Pn	10 10 51.3	-1.0
KLY				eS			Sn	10 11 09.1	-2.8
KLY	Klyuchi	1.54	316	PN			Pn	10 10 51.3	-1.0
KLY				S			Sn	10 11 09.1	-2.8
BDR	Baidarnaya	1.55	331	eP			Pn	10 10 53.0	+0.4
BDR				eS			Sn	10 11 12.4	0.0
BDR	Baidarnaya	1.55	331	PN			Pn	10 10 53.0	+0.4
BDR				S			Sn	10 11 12.4	0.0
SRKR	Sorokina	1.64	332	eP			Pn	10 10 54.2	+0.5
SRKR	Sorokina	1.64	332	PN			Pn	10 10 54.2	+0.5
KOZ	Kozyrevsk	1.74	300	eP			Pn	10 10 56.5	+1.3
KOZ	Kozyrevsk	1.74	300	PN			Pn	10 10 56.5	+1.3
BKI	Bering	1.95	89	eP			Pn	10 10 57.8	-0.1
BKI				eS			Sn	10 11 20.2	-1.8
BKI	Bering	1.95	89	PN			Pn	10 10 57.8	-0.1
BKI				S			Sn	10 11 20.2	-1.8
SRDR	Sredinnyy	1.95	305	eP			Pn	10 10 58.7	+0.7
SRDR	Sredinnyy	1.95	305	PN			Pn	10 10 58.7	+0.7
KII	Karymskiy	2.17	238	eP			Pn	10 11 00.7	-0.4
KII	Karymskiy	2.17	238	PN			Pn	10 11 00.7	-0.4
ESO	Esso	2.31	289	eP			Pn	10 11 02.8	-0.1
ESO	Esso	2.31	289	PN			Pn	10 11 02.8	-0.1
SPN	Mys Shipunski	2.61	216	eP			Pn	10 11 06.1	-0.9
SPN				eS			Sn	10 11 35.8	-2.4
SPN	Mys Shipunski	2.61	216	PN			Pn	10 11 06.1	-0.9
SPN				S			Sn	10 11 35.8	-2.4
NLC	Nalytchevo	2.80	224	eP			Pn	10 11 09.8	+0.2
NLC				eS			Sn	10 11 42.5	-0.5
NLC	Nalytchevo	2.80	224	PN			Pn	10 11 09.8	+0.2
NLC				S			Sn	10 11 42.5	-0.5
SDLR	Sedlovina	2.91	229	eP			Pn	10 11 11.7	+0.4
SDLR				eS			Sn	10 11 44.7	-1.3
SDLR	Sedlovina	2.91	229	PN			Pn	10 11 11.7	+0.4
SDLR				S			Sn	10 11 44.7	-1.3
KRER	Koryakskii	2.96	231	eP			Pn	10 11 13.2	+1.2
KRER	Koryakskii	2.96	231	PN			Pn	10 11 13.2	+1.2
SMAR	Somma	2.96	230	eP			Pn	10 11 12.4	+0.3
SMAR				eS			Sn	10 11 46.2	-1.1
SMAR	Somma	2.96	230	PN			Pn	10 11 12.4	+0.3
SMAR				S			Sn	10 11 46.2	-1.1
KRX	Arik	2.96	233	eP			Pn	10 11 12.9	+0.9
KRX	Arik	2.96	233	PN			Pn	10 11 12.9	+0.9
AVH	Avacha	2.99	230	eP			Pn	10 11 12.9	+0.6
AVH				eS			Sn	10 11 46.3	-1.5
AVH	Avacha	2.99	230	PN			Pn	10 11 12.9	+0.6
AVH				S			Sn	10 11 46.3	-1.5
KOK	Koryaka	3.01	232	eP			Pn	10 11 13.7	+1.0
KOK	Koryaka	3.01	232	PN			Pn	10 11 13.7	+1.0
DALK	Dalny	3.14	227	eP			Pn	10 11 14.5	+0.2
DALK				eS			Sn	10 11 49.4	-2.1
DALK	Dalny	3.14	227	PN			Pn	10 11 14.5	+0.2
PET	Petropavlovsk	3.19	228	eP			Pn	10 11 15.6	+0.6
PET				eS			Sn	10 11 51.6	-1.1
PET	Petropavlovsk	3.19	228	ePN			Pn	10 11 16.9	+1.9
PET				eS			Sn	10 11 53.9	+1.2
PET				pmax			pmax		
comp=Z,79nm,0.5s									
PET				smax			smax		
comp=N,333nm,0.6s									
PET				smax			smax		
comp=E,374nm,0.5s									
PET	Petropavlovsk	3.19	228				Pn	10 11 15.3	+0.3
KRMR	Karymshinskiy	3.55	229	eP			Pn	10 11 21.9	+1.9
KRMR				eS			Sn	10 12 02.2	+0.6
KRMR	Karymshinskiy	3.55	229	PN			Pn	10 11 21.9	+1.9
KRMR				S			Sn	10 12 02.2	+0.6
PEA0B	Petropavlovsk-	3.56	235	PN			Pn	10 11 22.4	+2.2
PEA0B	Petropavlovsk-	3.56	235				Pn	10 11 22.4	+2.2
PETK	Petropavlovsk-	3.56	235	Pn			Pn	10 11 20.2	0.0
comp=E,1.5nm,0.3s,baz=66,slow=17,SNR=31									
PETK				Sn			Sn	10 12 04.6	+2.7
comp=E,2.4nm,0.3s,baz=102,slow=20,SNR=3.9									
PETK	Petropavlovsk-	3.56	235				Pn	10 11 22.4	+2.2
RUS	Russkaya	3.69	222	eP			Pn	10 11 23.0	+1.2
RUS				eS			Sn	10 12 04.5	-0.4
RUS	Russkaya	3.69	222	PN			Pn	10 11 23.0	+1.2
RUS				S			Sn	10 12 04.5	-0.4
GRL	Gorelyy	3.78	227	eP			Pn	10 11 23.5	+0.3
GRL				eS			Sn	10 12 07.8	+0.5
GRL	Gorelyy	3.78	227	PN			Pn	10 11 23.5	+0.3
GRL				S			Sn	10 12 07.8	+0.5
MTVR	Mutnovka	3.78	225	eP			Pn	10 11 21.3	-2.0
MTVR				eS			Sn	10 12 07.7	+0.2
MTVR	Mutnovka	3.78	225	PN			Pn	10 11 21.3	-2.0
MTVR				S			Sn	10 12 07.7	+0.2
APC	Apacha	3.94	236	eP			Pn	10 11 27.8	+2.6
APC	Apacha	3.94	236	PN			Pn	10 11 27.8	+2.6
ASAK	Asacha	3.97	226	eP			Pn	10 11 27.2	+1.4
ASAK	Asacha	3.97	226	PN			Pn	10 11 27.2	+1.4
KDTR	Khodutka, Kamc	4.35	220	eP			Pn	10 11 31.8	+0.9
KDTR				eS			Sn	10 12 20.1	-1.1
KDTR	Khodutka, Kamc	4.35	220	PN			Pn	10 11 31.8	+0.9
SKR	Severo-Kuril's	5.99	223	ePN			Pn	10 11 56.2	+2.7
ALID	Alaid	6.08	227	P			Pn	10 11 57.2	+2.4
ALID	Alaid	6.08	227	PN			Pn	10 11 57.2	+2.4
ERM	Erimo	18.34	232	P			Pn	10 14 36.9	-2.1
ERM				pmax			pmax		
comp=Z,18nm,1.2s									
ERM	Erimo	18.34	232				Pn	10 14 36.9	-2.1
ERM				IAmb			IAmb	10 14 55.4	
comp=Z,18nm,1.2s									
TIXI	Tiksi	21.82	332	LR			LR	10 24 18.1	
comp=Z,40nm,19.1s,baz=130,slow=39									
IMAR	Indian Mountai	23.45	45	P			P	10 15 34.8	+1.0
OHAK	Old Harbor	24.30	67	P			P	10 15 40.7	-1.2
KDAK	Kodiak Island	24.54	65	P			P	10 15 44.2	+0.2
comp=Z,1.8nm,0.4s,baz=98,slow=0.4,SNR=17									
KDAK	Kodiak Island	24.54	65	P			P	10 15 43.4	-0.6
KDAK				pmax			pmax		
comp=Z,12nm,1.2s									
KDAK	Kodiak Island	24.54	65	P			P	10 15 43.4	-0.6
CNPM	China Poot	24.86	61	P			P	10 15 47.0	0.0
CNPM				IAmb			IAmb	10 16 01.7	
comp=Z,8.5nm,1.2s									
COLD	Coldfoot	24.99	43	P			P	10 15 48.8	+0.8
COLD				IAmb			IAmb	10 15 51.4	
comp=Z,4.9nm,1.0s									
MJAR	Matsushiro Arr	25.02	232	P			P	10 15 48.8	+0.3
comp=Z,1.4nm,0.6s,baz=3.2,slow=14,SNR=2.2									
TOLK	Toolik Lake Re	25.38	39	P			P	10 15 53.5	+1.9
TOLK				IAmb			IAmb	10 16 00.5	
comp=Z,14nm,1.4s									
CCB	Clear Creek Bu	25.90	49	P			P	10 15 57.4	+1.0
CCB				IAmb			IAmb	10 16 10.5	
comp=Z,6.3nm,1.3s									
IL31		26.29	48	P			P	10 16 01.1	+1.3
ILAR	Eielson Array	26.29	48	P			P	10 16 00.1	+0.3
comp=Z,1.4nm,0.8s,baz=265,slow=8.3,SNR=15									
ILAR	Eielson Array	26.29	48	P			P	10 16 00.5	+0.7
SCM	Sheep Creek Mo	26.38	55	P			P	10 16 01.7	+0.9
SCM				pmax			pmax		
comp=Z,6.0nm,0.6s									
SCM	Sheep Creek Mo	26.38	55	P			P	10 16 01.7	+0.9
SCM				IAmb			IAmb	10 16 02.5	
comp=Z,5.9nm,0.6s									
BMAR	Burnt Mountain	27.17	42	P			P	10 16 09.0	+1.1
RAGM	Ragged Mountai	27.92	58	P			P	10 16 16.4	+1.8
GLB	Gilahina Butte	28.11	55	P			P	10 16 14.7	-1.5
VRDI	Verde Repeater	28.32	56	P			P	10 16 19.1	+0.8
BCAR	Beaver Creek A	28.73	51	P			P	10 16 23.2	+1.4
EGAK	Eagle	28.73	48	P			P	10 16 21.8	+0.1
EGAK				IAmb			IAmb	10 16 34.8	
comp=Z,4.2nm,1.1s									
H11N2	WAKE ISLAND Hy	35.59	173	T			T	10 54 59.2	
baz=356									
H11N3	WAKE ISLAND Hy	35.60	173	T			T	10 55 00.3	
baz=356									
H11N1	WAKE ISLAND Hy	35.60	173	T			T	10 55 03.1	
baz=356									
MKAR	Makanchi Array	48.55	295	P			P	10 19 06.1	-1.6
comp=Z,0.1nm,0.4s,baz=63,slow=6.6,SNR=2.1									
ARU	Arti	52.81	317	LR			LR	10 46 01.5	
comp=Z,26nm,18.3s,baz=213,slow=41									
NVAR	Mina Array Bea	53.68	73	P			P	10 19 48.7	+2.1
comp=Z,0.4nm,0.8s,baz=288,slow=4.2,SNR=4.3									
PDAR	Pinedale Array	55.24	64	P			P	10 19 59.3	+1.5
comp=Z,0.6nm,0.9s,baz=29,slow=3.4,SNR=4.0									
FINES	FINESS Array B	58.73	337	P			P	10 20 20.9	-0.9
comp=Z,1.3nm,0.5s,baz=38,slow=9.6,SNR=9.1									
FINES	FINESS Array B	58.73	337	P			P	10 20 21.0	-0.9
NB2	NORSAR Subarra	61.88	345	P			P	10 20 51.6	+8.0
comp=Z,2.9nm,1.0s,baz=20,slow=6.9									
TXAR	Lajitas Array	68.49	69	P			P	10 21 28.2	+1.2
comp=Z,0.4nm,0.6s,baz=130,slow=2.0,SNR=3.4									
TXAR				LR			LR	10 51 30.4	
comp=Z,30nm,18.1s,baz=0.0,slow=36									
WRA	Warramunga Arr	78.64	207	P			P	10 22 26.7	+0.3
comp=Z,0.2nm,0.6s,baz=15,slow=6.0,SNR=2.0									
ASAR	Alice Springs	82.31	206	P			P	10 22 46.8	+0.6
comp=Z,0.7nm,1.0s,baz=16,slow=5.6,SNR=4.3									

*DJA **08** 10:36:09.1±0.9, 2°.N±9°×122°.3E±°, h451km±7km, M4.2/10, mB4.6/4, mb4.4/5, MLv4.2/10, Mw(mB)3.8/4*

*IDC **08** 10:36:09.7±2.1, 2°.04N×122°.57E, h474km±28km, mb3.3/14, mb1 3.3/15, mb1mx3.2/46, mbtmp4.1/15, Error ellipse: s-maj=24.4km s-min=11.6km az=80.0*

*NEIC **08** 10:36:09.2±1.7, 2°.1N±0°.1×122°.6E±0°.1, h468km±12km, mb4.1/12, Error ellipse: s-maj=17.8km s-min=17.5km az=74.0*

ISC 08 10:36:08.3±0.6, 2°.13N±0°.07×122°.54E±0°.09, h450km, n51, σ1§32/52, mb3.9/18, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.55	162	P			P	10 37 06.3	-0.3
LUWI	Luwuk	3.15	176	P			P	10 37 16.5	0.0
LUWI	Luwuk	3.15	176	P			P	10 37 16.8	+0.3
MPSI	Mapaga	3.18	236	P			P	10 37 18.2	+1.5
TNTI	Ternate	5.01	105	P			P	10 37 32.4	-0.4
TNTI	Ternate	5.01	105	P			P	10 37 33.9	+1.1
DDMP	Don Marcelino,	5.06	39	eP			P	10 37 35.3	+2.0
DDMP				eS			S	10 38 46.2	+3.7
SANI	Sanana	5.39	140	P			P	10 37 36.5	0.0
0.3nm1μm78nm,0.6s									
KCP	Kidapawan	5.48	28⇑	iP			P	10 37 40.4	+3.0
MATI	Mati	6.06	38	eP			P	10 37 45.8	+2.6
SPSI	Sidrap Palu	6.65	205	P			P	10 37 50.9	+1.5
0.4nm2μm98nm,0.5s									
BNSI	Bone	6.92	201	P			P	10 37 54.8	+2.6
0.3nm978nm94nm,0.7s									
KKM	Kota Kinabalu	7.41	302	P			P	10 37 56.2	-1.3
KAPI	Kappang	7.62	201	P			P	10 38 00.2	+0.6
1.1nm,0.3s,baz=45,slow=24,SNR=6.9									
KAPI	Kappang	7.62	201	P			P	10 38 01.3	+1.6
SBUM	Sibu	10.32	272	P			P	10 38 31.4	+2.4
FAKI	Fak Fak	10.92	117	P			P	10 38 36.6	+1.1
KSM	Kuching	12.24	267	P			P	10 38 52.0	+2.1
FITZ	Fitzroy Crossi	20.33	171	P			P	10 40 12.9	+0.2
1.0nm,0.7s,baz=6.4,slow=12,SNR=1.6									
FITZ	Fitzroy Crossi	20.33	171	IAmb			IAmb	10 40 17.2	
comp=Z,9.8nm,1.4s									
WB0	Warramunga Arr	24.67	152	P			P	10 40 50.8	-1.2
WB0				IAmb			IAmb	10 41 06.1	
comp=Z,11nm,1.4s									
WRAB	Tennant Creek	24.80	153	P			P	10 40 51.9	-1.1
WRAB				IAmb			IAmb	10 41 10.1

UOSS Minazif 16.57 62 Pn 10 53 44.3 +1.5
UOSS IAmb IAmb 10 53 50.0
comp=Z,33nm,0.9s
WSAR Wadi Sarin 18.15 69 P **P 10 54 03.9 +1.0**
comp=Z,0.3nm,0.3s,baz=294,slow=8.8,SNR=3.5
WSAR LR LR 11 02 18.7
comp=Z,359nm,18.3s,baz=274,slow=41
KMBO Kilima Mbogo 18.97 189 LR LR 11 01 27.4
comp=Z,219nm,18.4s,baz=338,slow=37
MARD Mardin 19.50 1 P **P 10 54 18.4 +0.7**
IDI Anoyia 22.13 325 LR LR 11 03 37.1
comp=Z,24nm,18.9s,baz=76,slow=38
BRTR Keskin Array B 22.62 347 P **P 10 54 52.6 +1.2**
comp=Z,2.5nm,0.8s,baz=165,slow=10,SNR=11
BRTR LR LR 11 03 43.8
comp=Z,52nm,18.2s,baz=152,slow=37
BRTR Keskin Array B 22.62 347 P **P 10 54 50.8 -0.6**
BR131 Keskin Array S 22.62 347 P **P 10 54 51.3 -0.1**
BR131 IAmb IAmb 10 55 02.3
comp=Z,20nm,1.2s
AKH Akhalkalaki 23.76 6 P **P 10 55 04.9 +1.9**
AKH IAmb IAmb 10 55 09.2
comp=Z,13nm,1.2s
ILGA Ilgaz 23.88 348 P **P 10 55 00.2 -4.1**
ILGA IAmb IAmb 10 55 01.1
comp=Z,21nm,0.9s
GEYT Alibeck 25.54 34 P **P 10 55 22.2 +3.0**
comp=Z,4.3nm,0.8s,baz=224,slow=8.3,SNR=7.4
GEYT LR LR 11 06 00.3
comp=Z,179nm,20.6s,baz=205,slow=38
GEYT Alibeck 25.54 34 P **P 10 55 19.0 -0.2**
GYA0B ALIBECK ARRAY 25.54 34 P **P 10 55 21.1 +1.9**
GYA0B IAmb IAmb 10 55 25.6
comp=Z,15nm,1.4s
HRA Herat 25.76 46 P **P 10 55 22.9 +1.5**
HRA IAmb IAmb 10 55 28.6
comp=Z,7.7nm,0.8s
KBZ Khabaz 26.01 5 P **P 10 55 24.1 +0.8**
comp=Z,4.6nm,0.9s,baz=178,slow=4.2,SNR=6.7
KBZ LR LR 11 06 27.3
comp=Z,99nm,18.6s,baz=190,slow=38
KVAR Kislovodsk Arr 26.22 4 LR LR 11 06 19.3
comp=Z,131nm,21.8s,baz=90,slow=38
CHGR Chuyangaron 32.75 45 P **P 10 56 23.6 +0.1**
TAM Tamanrasset 32.82 285 P **P 10 56 23.8 -0.6**
TAM IAmb IAmb 10 56 30.3
comp=Z,4.5nm,0.8s
GAR Garm 33.70 45 P **P 10 56 33.3 +1.4**
AKASG Malin Array Be 34.02 348 P **P 10 56 35.5 +1.3**
comp=Z,1.0nm,0.6s,baz=168,slow=7.7,SNR=4.4
AKASG LR LR 11 12 06.0
comp=Z,27nm,19.6s,baz=165,slow=39
BTK Batken 34.58 44 P **P 10 56 39.9 +0.5**
BTK IAmb IAmb 10 56 49.2
comp=Z,7.4nm,0.8s
ABKAR Akbulak array 35.27 23 P **P 10 56 45.1 0.0**
KK31 Karatay Array 36.05 39 P **P 10 56 55.6 +3.7**
KKAR Karatay Array 36.05 39 P **P 10 56 55.6 +3.7**
KKAR Karatay Array 36.05 39 P **P 10 56 53.0 +1.1**
TOA0 Torodi Ar. Sit 37.31 269 P **P 10 57 04.2 +1.3**
TORD Torodi Ar. Bea 37.31 269 P **P 10 57 03.1 +0.2**
comp=Z,5.1nm,1.0s,baz=82,slow=7.9,SNR=7.8
TORD LR LR 11 11 39.1
comp=Z,82nm,18.2s,baz=35,slow=35
TORD Torodi Ar. Bea 37.31 269 P **P 10 57 03.1 +0.2**
GERES GERESS Array B 37.71 331 P **P 10 57 05.4 -0.7**
comp=Z,0.5nm,0.5s,baz=104,slow=5.6,SNR=5.4
BRG Berggiesshubel 39.10 334 *e*(P) **P 10 57 17.0 -0.5**
comp=Z,5.9nm,1.2s
ESDC Sonseca Array 43.89 309 P **P 10 57 57.2 +0.1**
comp=Z,0.6nm,0.9s,baz=98,slow=8.1,SNR=6.4
ESDC LR LR 11 18 09.4
comp=Z,34nm,18.1s,baz=165,slow=39
ESDC Sonseca Array 43.89 309 P **P 10 57 56.9 -0.2**
FINES FINESS Array B 44.78 350 P **P 10 58 02.6 -1.2**
comp=Z,1.6nm,0.7s,baz=191,slow=11,SNR=4.8
FINES LR LR 11 17 48.2
comp=Z,25nm,19.6s,baz=237,slow=38
KURK Kurchatov 44.91 34 P **P 10 58 05.9 +0.8**
KURK IAmb IAmb 10 58 10.8
comp=Z,8.9nm,1.2s
MAKZ Makanchi 44.93 40 P **P 10 58 05.9 +0.6**
MAKZ IAmb IAmb 10 58 10.3
comp=Z,3.7nm,0.8s
MK31 Makanchi Array 45.12 41 P **P 10 58 07.0 +0.2**
MK31 IAmb IAmb 10 58 12.4
comp=Z,6.9nm,1.4s
MKAR Makanchi Array 45.12 41 P **P 10 58 07.7 +0.9**
comp=Z,1.6nm,0.8s,baz=257,slow=7.3,SNR=9.1
MKAR LR LR 11 19 31.4
comp=Z,147nm,18.7s,baz=238,slow=40
MKAR Makanchi Array 45.12 41 P **P 10 58 07.4 +0.6**
DBIC Dimbokro 45.23 262 P **P 10 58 09.1 +0.9**
comp=Z,4.3nm,1.0s,baz=54,slow=17,SNR=3.7
DBIC LR LR 11 17 01.9
comp=Z,108nm,18.2s,baz=68,slow=36
DBIC Dimbokro 45.23 262 IAmb IAmb 10 58 11.5
comp=Z,14nm,1.4s
NOA NORSAR Array B 47.89 341 P **P 10 58 27.1 -1.3**
comp=Z,2.0nm,0.9s,baz=138,slow=7.9,SNR=3.4
NOA LR LR 11 19 53.6
comp=Z,14nm,18.2s,baz=190,slow=38
BOSA Boshof 48.29 198 LR LR 11 20 36.8
comp=Z,128nm,18.6s,baz=68,slow=38
ZAA0 Zalesovo Array 49.83 33 P **P 10 58 44.0 +0.6**
ZALV Zalesovo Beam 49.83 33 P **P 10 58 43.1 -0.2**
comp=Z,6.2nm,0.9s,baz=251,slow=8.8,SNR=11
ZALV LR LR 11 20 50.9
comp=Z,38nm,19.9s,baz=231,slow=37
ZALV Zalesovo Beam 49.83 33 P **P 10 58 43.5 +0.1**
ARCES ARCESS Array B 52.56 354 P **P 10 59 03.2 -0.4**
comp=Z,1.8nm,0.9s,baz=150,slow=5.6,SNR=3.9
CMAR Chiang Mai Arr 55.66 79 P **P 10 59 28.6 +1.6**
comp=Z,0.9nm,0.3s,baz=296,slow=6.8,SNR=4.7
CMAR LR LR 11 24 10.7
comp=Z,31nm,18.9s,baz=302,slow=37
NRIK Noril'sk 59.19 18 LR LR 11 29 09.8
comp=Z,66nm,19.0s,baz=202,slow=40
SONM Songino Array 61.15 45 P **P 11 00 05.1 0.0**
comp=Z,3.0nm,1.1s,baz=258,slow=7.2,SNR=8.3
SONM LR LR 11 30 19.5
comp=Z,118nm,20.0s,baz=253,slow=40
SONM Songino Array 61.15 45 P **P 11 00 05.3 +0.2**
KSRS Korea Array 77.70 54 P **P 11 01 47.5 0.0**
comp=Z,1.3nm,0.9s,baz=266,slow=6.2,SNR=4.2
KSRS LR LR 11 41 07.1
comp=Z,42nm,18.8s,baz=258,slow=40
PETK Petropavlovsk- 91.38 32 LR LR 11 47 12.7
comp=Z,45nm,18.6s,baz=298,slow=38
BDFB Brasilia 92.97 255 LR LR 11 41 03.4
comp=Z,38nm,20.9s,baz=125,slow=38
GUMO Guam 99.48 72 LR LR 11 53 57.5
comp=Z,7.5nm,18.0s,baz=226,slow=39

*IDC **08** 11:19:19.3±3.0, 30.°32S×177.°48W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/23, mbtmp3.9/4, ML3.1/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/35, Error ellipse: s-maj=62.7km s-min=26.1km az=104.0*

ISC 08 11:19:23.3±2.5, 30.°31S±0.°08×177.°5W±0.°3, h35km, n8, σ19=85/8, mb4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.12**	**339**	Pn	**Pn**	**11 19 42.0**	**-0.5**
	96nm,0.3s,baz=120,slow=20,SNR=10						
RAO				Sn	**Sn**	**11 19 54.9**	**-1.9**
	1μm,0.3s,baz=137,slow=22,SNR=18						
URZ	**Urewera**	**9.11**	**208**	Pn	**Pn**	**11 21 30.0**	**-2.2**
	0.2nm,0.3s,baz=109,slow=3.5,SNR=2.6						
URZ				Sn	**Sn**	**11 23 13.0**	**-0.5**
	1.0nm,0.3s,baz=178,slow=18,SNR=10						
STKA	**Stephens Creek**	**34.95**	**257**	P	**P**	**11 26 14.6**	**+2.5**
	1.1nm,0.6s,baz=101,slow=10,SNR=1.2						
ASAR	**Alice Springs**	**43.58**	**267**	P	**P**	**11 27 25.1**	**+0.9**
	0.3nm,0.3s,baz=105,slow=7.4,SNR=20						
WRA	**Warramunga Arr**	**44.56**	**272**	P	**P**	**11 27 32.5**	**+0.4**
	0.8nm,0.3s,baz=110,slow=8.1,SNR=68						
BATI	**Baumata**	**58.10**	**277**	LR	LR	11 54 04.9	
	comp=Z,254nm,18.4s,baz=192,slow=36						
TXAR	**Lajitas Array**	**91.95**	**57**	LR	LR	12 07 43.4	
	comp=Z,14nm,19.9s,baz=0.0,slow=32						
FINES	**FINESS Array B**	**145.22**	**340**	PKPbc	**PKPdf**	**11 38 57.3**	**+0.9**
	1.2nm,0.5s,baz=47,slow=4.3,SNR=9.3						

*IDC **08** 11:46:19.5±1.2, 36.°56N×3.°16E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.4/51, mbtmp3.6/7, ML3.4/3, MS2.6/4, Ms1 2.6/4, ms1mx2.3/42, Error ellipse: s-maj=30.8km s-min=18.4km az=154.0*
*CRAAG **08** 11:46:19.4, 36.°48N×3.°06E, Ml4.0*
*MDD **08** 11:46:21.5±0.5, 36.°50N×3.°07E, h3km±5km, mb4.3/19, Error ellipse: s-maj=5.7km s-min=4.2km az=119.0, PRXIMO*
*NEIC **08** 11:46:21.9±2.5, 36.°54N±0.°08×3.°06E±0.°09, h14km±8km, ML4.0(ALG), Error ellipse: s-maj=11.7km s-min=10.1km az=150.0*
*LDG **08** 11:46:24.7±0.2, 36.°55N×3.°11E, h15km, Ml3.3/25, Error ellipse: s-maj=4.3km s-min=2.6km az=156.0*

ISC 08 11:46:20.3±0.7, 36.°55N±0.°03×3.°11E±0.°03, h10km, n144, σ29=66/218, mb3.6/4, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.26**	**346**	P	**Pg**	**11 46 27.1**	**+1.5**
ABA	**Alger-Bouzarea**	**0.26**	**346**	P	**Pg**	**11 46 27.1**	**+1.5**
ABMS	**Boumerdes**	**0.35**	**56**	P	**Pb**	**11 46 29.1**	**+0.3**
ABMS	**Boumerdes**	**0.35**	**56**	P	**Pb**	**11 46 29.1**	**+0.3**
EMHD	**Djebel Mahouad**	**0.37**	**200**	P	**Pg**	**11 46 26.3**	**-1.5**
EMHD	**Djebel Mahouad**	**0.37**	**200**	P	**Pg**	**11 46 26.3**	**-1.5**
AKET	**Djebel Ketaf**	**0.80**	**129**	P	**Pg**	**11 46 36.9**	**+1.1**
AKET	**Djebel Ketaf**	**0.80**	**129**	P	**Pg**	**11 46 36.9**	**+1.1**
EBNR	**Beni Rached**	**1.30**	**259**	P	**Pn**	**11 46 45.2**	**+0.5**
ECHA	**Ech Chlef**	**1.47**	**255**	P	**Pg**	**11 46 50.6**	**+2.1**
ECHF	**Ech Chlef**	**1.48**	**255**	P	**Pg**	**11 46 50.6**	**+1.8**
EANR	**'Ain N'Sour**	**1.73**	**250**	P	**Pn**	**11 46 52.8**	**+2.2**
EANR	**'Ain N'Sour**	**1.73**	**250**	P	**Pn**	**11 46 52.8**	**+2.2**
ETRT	**Tiaret**	**1.87**	**232**	P	**Pn**	**11 46 53.8**	**+1.2**
ETRT	**Tiaret**	**1.87**	**232**	P	**Pn**	**11 46 53.8**	**+1.2**
SET	**Setif**	**1.88**	**100**	P	**Pg**	**11 46 58.0**	**+1.6**
SET	**Setif**	**1.88**	**100**	P	**Pg**	**11 46 58.0**	**+1.6**
CKHR	**Kef el Ahmar**	**2.01**	**105**	P	**Pg**	**11 47 00.7**	**+1.8**
CKHR	**Kef el Ahmar**	**2.01**	**105**	P	**Pg**	**11 47 00.7**	**+1.8**
DFRA	**Djebel Bou Aff**	**2.23**	**89**	P	**Pn**	**11 46 58.9**	**+1.5**
DFRA	**Djebel Bou Aff**	**2.23**	**89**	P	**Pn**	**11 46 58.9**	**+1.5**
CASM	**Ain Smara**	**2.74**	**95**	P	**Pn**	**11 47 06.2**	**+1.8**
EIBI	**Ibiza**	**2.84**	**331**	P	**Pn**	**11 47 07.4**	**+1.6**
	21nm,0.2s,SNR=28						
EIBI				S	**Sn**	**11 47 38.9**	**-1.2**
	29nm,0.2s,SNR=6.0						
EIBI	**Ibiza**	**2.84**	**331**		**Pn**	**11 47 07.4**	**+1.6**
ETOS	**Mallorca**	**3.22**	**356**	P	**Pn**	**11 47 11.7**	**+0.7**
	8.6nm,0.2s,SNR=24						
ETOS				S	**Sn**	**11 47 48.0**	**-1.4**
	11nm,0.2s						
ETOS	**Mallorca**	**3.22**	**356**		**Pn**	**11 47 12.3**	**+1.3**
CART	**Cartagena**	**3.45**	**289**	P	**Pn**	**11 47 16.1**	**+2.0**
CART				S	**Sn**	**11 47 52.5**	**-2.5**
CART	**Cartagena**	**3.45**	**289**	*e*P	**Pn**	**11 47 16.1**	**+2.0**
CART				*e*S	**Sn**	**11 47 52.5**	**-2.5**
CART	**Cartagena**	**3.45**	**289**	Pn	**Pn**	**11 47 14.6**	**+0.5**
MAHO	**Mahon**	**3.46**	**15**	P	**Pn**	**11 47 14.9**	**+0.6**
MAHO				S	**Sn**	**11 47 51.9**	**-3.4**
MAHO	**Mahon**	**3.46**	**15**	*e*P	**Pn**	**11 47 14.9**	**+0.6**
MAHO				*e*S	**Sn**	**11 47 51.9**	**-3.4**
MAHO				*e*Cod		11 50 13.4	
CMAH	**Djebel Manchou**	**3.47**	**88**	P	**Pn**	**11 47 15.3**	**+0.9**
CMAH	**Djebel Manchou**	**3.47**	**88**	P	**Pn**	**11 47 15.3**	**+0.9**
AFON	**Font Roja**	**3.59**	**307**	P	**Pn**	**11 47 17.3**	**+1.2**
	0.5nm,0.1s,SNR=7.9						
AFON				S	**Sn**	**11 47 57.6**	**-1.0**
	11nm,0.3s,SNR=7.9						
AFON	**Font Roja**	**3.59**	**307**		**Pn**	**11 47 17.3**	**+1.2**
EMUR	**La Murta**	**3.71**	**292**	P	**Pn**	**11 47 18.0**	**+0.3**
	4.5nm,0.3s,SNR=5.4						
EMUR				S	**Sn**	**11 47 59.4**	**-2.1**
	4.5nm,0.3s						
EMUR	**La Murta**	**3.71**	**292**		**Pn**	**11 47 18.0**	**+0.3**
ETOB	**Tobarra**	**4.25**	**301**	P	**Pn**	**11 47 26.3**	**+1.1**
	24nm,0.4s,SNR=18						
ETOB				S	**Sn**	**11 48 14.2**	**-0.8**
	8.8nm,0.4s						
ETOB	**Tobarra**	**4.25**	**301**		**Pn**	**11 47 26.3**	**+1.1**
ENIJ	**Nijar**	**4.29**	**277**	S	**Sn**	**11 48 12.9**	**-3.0**
	5.4nm,0.3s,SNR=7.9						
ECHE	**Chera**	**4.42**	**315**	P	**Pn**	**11 47 29.2**	**+1.6**
	11nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**11 48 18.5**	**-0.7**
	SNR=7.9						
EMOS	**Mosqueruela**	**4.73**	**325**	P	**Pn**	**11 47 33.7**	**+1.8**
	3.2nm,0.1s,SNR=28						
EMOS				S	**Sn**	**11 48 25.2**	**-1.8**
	10nm,0.4s						
EMOS	**Mosqueruela**	**4.73**	**325**		**Pn**	**11 47 33.7**	**+1.8**
SESP	**Santiago Espad**	**4.77**	**291**	P	**Pn**	**11 47 34.1**	**+1.6**
	8.0nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**11 48 26.0**	**-2.0**
	2.0nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.77**	**291**	S	**Sn**	**11 48 29.0**	**+1.0**
SESP	**Santiago Espad**	**4.77**	**291**		**Pn**	**11 47 34.1**	**+1.6**
TAF	**Taforalt**	**4.82**	**251**	P	**Pn**	**11 47 31.6**	**-1.5**
TAF				S	**Sb**	**11 48 44.7**	**+1.7**
EBER	**Berja**	**4.83**	**276**	P	**Pn**	**11 47 32.1**	**-1.3**
	1.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**11 48 28.3**	**-1.2**
	1.8nm,0.1s,SNR=7.9						
EBER	**Berja**	**4.83**	**276**		**Pn**	**11 47 32.1**	**-1.3**
ERTA	**Horta de San J**	**4.91**	**335**	P	**Pn**	**11 47 36.2**	**+2.0**
	4.4nm,0.4s,SNR=6.5						
ERTA				S	**Sn**	**11 48 28.6**	**-2.4**
	7.6nm,0.3s,SNR=5.9						
ERTA	**Horta de San J**	**4.91**	**335**		**Pn**	**11 47 36.2**	**+2.0**
EPOB	**Poblet**	**5.05**	**342**	P	**Pn**	**11 47 37.1**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**11 48 32.0**	**-2.6**
	2.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.05**	**342**		**Pn**	**11 47 38.3**	**+2.1**
EQES	**Quesada**	**5.09**	**286**	P	**Pn**	**11 47 39.1**	**+2.2**
	7.3nm,0.3s,SNR=10						
EQES				S	**Sn**	**11 48 36.4**	**+0.6**
	8.2nm,0.4s						
EQES	**Quesada**	**5.09**	**286**		**Pn**	**11 47 39.1**	**+2.2**
KEST	**Kesra**	**5.11**	**97**	Pn	**Pn**	**11 47 38.6**	**+1.6**
	2.9nm,0.3s,baz=224,slow=12,SNR=18						
KEST				Sn	**Sn**	**11 48 36.7**	**+0.6**
	1.4nm,0.3s,baz=242,slow=18,SNR=1.6						
KEST	**Kesra**	**5.11**	**97**		**Pn**	**11 47 39.2**	**+2.2**
JBK	**JBK**	**5.14**	**246**	P	**Pn**	**11 47 36.2**	**-1.3**
JBK				S	**Sb**	**11 48 58.6**	**+6.3**
TDRA	**Tendrara**	**5.49**	**232**	P	**Pn**	**11 47 43.2**	**+0.8**
TDRA				S	**Sb**	**11 49 03.5**	**+1.1**
EMIR	**Miracle**	**5.50**	**348**	P	**Pn**	**11 47 43.2**	**+0.9**
	24nm,0.4s,SNR=6.6						
EMIR				S	**Sn**	**11 48 43.2**	**-2.4**
	41nm,0.4s						
EMIR	**Miracle**	**5.50**	**348**		**Pn**	**11 47 43.2**	**+0.9**
VSL	**Villasalto**	**5.75**	**57**		**Pn**	**11 47 45.7**	**-0.1**
ESAC	**San Caprasio**	**5.87**	**333**	P	**Pn**	**11 47 48.7**	**+1.3**
	8.8nm,0.3s,SNR=7.9						
ESAC				S	**Sn**	**11 48 52.4**	**-2.3**
	31nm,0.5s,SNR=7.9						
ETOR	**Torete**	**5.87**	**318**	P	**Pn**	**11 47 50.8**	**+3.3**
	6.1nm,0.4s,SNR=6.5						
ETOR				S	**Sn**	**11 48 55.1**	**+0.1**
	1.8nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**5.93**	**358**	P	**Pn**	**11 47 50.1**	**+1.9**
	4.1nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**11 48 53.1**	**-3.1**
	0.9nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**5.99**	**352**	P	**Pn**	**11 47 51.4**	**+2.3**
	2.8nm,0.3s,SNR=7.9						
CLLI				S	**Sn**	**11 48 55.2**	**-2.6**
	1.7nm,0.4s,SNR=7.9						
CSOR	**Sort**	**6.01**	**346**	P	**Pn**	**11 47 51.3**	**+1.8**
	2.9nm,0.2s,SNR=9.3						
CSOR				S	**Sn**	**11 48 56.0**	**-2.5**
	3.0nm,0.2s,SNR=7.9						
AKLM	**AKL**	**6.04**	**252**	P	**Pn**	**11 47 49.0**	**-0.9**
AKLM				S	**Sb**	**11 49 17.5**	**-0.7**
ESBB	**Sonseca Array**	**6.39**	**301**	Pn	**Pn**	**11 47 54.1**	**-0.5**
ESDC	**Sonseca Array**	**6.39**	**301**	Pn	**Pn**	**11 47 55.1**	**+0.5**
	0.3nm,0.3s,baz=115,slow=13,SNR=8.0						
ESDC				Sn	**Sn**	**11 49 06.2**	**-1.4**
	0.2nm,0.3s,baz=117,slow=22,SNR=2.8						
ESDC				LR	LR	11 49 55.9	
	comp=Z,37nm,21.7s,baz=125,slow=34						
ESDC	**Sonseca Array**	**6.39**	**301**		**Pn**	**11 47 54.7**	**+0.1**
PAB	**San Pablo**	**6.60**	**299**		**Pn**	**11 47 56.8**	**-0.8**
HORN	**Hornachuelos**	**6.81**	**283**	P	**Pn**	**11 47 58.7**	**-1.5**
EPF	**Esparros**	**6.81**	**343**	*e*Pn	**Pn**	**11 48 01.9**	**+1.5**
EPF				*e*Sn	**Sn**	**11 49 14.6**	**-3.4**
	1.4nm,0.2s						
EPF	**Esparros**	**6.81**	**343**	P	**Pn**	**11 48 01.9**	**+1.5**
EPF				S	**Sn**	**11 49 14.6**	**-3.4**
	0.7nm,0.2s						
MTLF	**Montolieu**	**6.82**	**354**	*e*Pn	**Pn**	**11 48 02.1**	**+1.7**
MTLF				*e*Sn	**Sn**	**11 49 14.6**	**-3.4**
	1.6nm,0.3s						
MTLF	**Montolieu**	**6.82**	**354**	P	**Pn**	**11 48 02.1**	**+1.7**
MTLF				S	**Sn**	**11 49 14.6**	**-3.4**
	0.8nm,0.3s						
ETSF	**Etsaut**	**6.94**	**337**	*e*Pn	**Pn**	**11 48 03.9**	**+1.7**
ETSF				*e*Sn	**Sn**	**11 49 17.6**	**-3.6**
	1.6nm,0.3s						
ETSF	**Etsaut**	**6.94**	**337**	P	**Pn**	**11 48 03.9**	**+1.7**
ETSF				S	**Sn**	**11 49 17.6**	**-3.6**
	0.8nm,0.3s						
LCRM	**LCR**	**7.13**	**249**	P	**Pn**	**11 48 08.4**	**+3.6**
ATE	**Arette**	**7.16**	**337**	S	**Sn**	**11 49 21.9**	**-4.4**
	4.7nm,0.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.19**	**333**	P	**Pn**	**11 48 07.8**	**+2.2**
	1.8nm,0.3s,SNR=6.9						
EORO				S	**Sn**	**11 49 22.7**	**-4.6**
	0.6nm,0.5s,SNR=7.9						
LMR	**La Mourre**	**7.26**	**20**	*e*Pn	**Pn**	**11 48 06.8**	**+0.4**
LMR				*e*Sn	**Sn**	**11 49 25.7**	**-3.2**
	4.0nm,0.2s						
LMR	**La Mourre**	**7.26**	**20**	P	**Pn**	**11 48 06.8**	**+0.4**
LMR				S	**Sn**	**11 49 25.7**	**-3.2**
	2.0nm,0.2s						
SJPF	**Ste Jean**	**7.35**	**334**	*e*Pn	**Pn**	**11 48 09.0**	**+1.2**
SJPF				*e*Sn	**Sn**	**11 49 27.5**	**-3.8**
	3.5nm,0.3s						
SJPF	**Ste Jean**	**7.35**	**334**	P	**Pn**	**11 48 09.0**	**+1.2**
SJPF				S	**Sn**	**11 49 27.5**	**-3.8**
	1.8nm,0.3s						
MDT	**Midelt**	**7.37**	**242**	Pn	**Pn**	**11 48 09.4**	**+1.3**
	0.3nm,0.3s,baz=83,slow=16,SNR=14						
MDT				Lg	Lg	11 50 16.0	
	0.3nm,0.3s,baz=91,slow=18,SNR=3.4						
MDT	**Midelt**	**7.37**	**242**	P	**Pn**	**11 48 07.9**	**-0.2**
MDT				S	**Sb**	**11 49 51.4**	**-5.0**
MD31	**MD31**	**7.45**	**243**	P	**Pn**	**11 48 10.2**	**+1.0**
MD31				P	**Pn**	**11 48 10.6**	**+1.4**
MD31				S	Sn	11 49 47.6	+14
FRF	**La Foret Royal**	**7.51**	**20**	*e*Pn	**Pn**	**11 48 10.4**	**+0.6**
FRF				*e*Sn	**Sn**	**11 49 31.8**	**-3.2**
	6.7nm,0.3s						
FRF	**La Foret Royal**	**7.51**	**20**	P	**Pn**	**11 48 10.4**	**+0.6**
FRF				S	**Sn**	**11 49 31.8**	**-3.2**
	3.3nm,0.3s						
PGF	**Pioggiola**	**7.52**	**35**	*e*Pn	**Pn**	**11 48 11.0**	**+0.9**
PGF				*e*Sn	**Sn**	**11 49 32.5**	**-2.9**
	4.0nm,0.2s						
PGF	**Pioggiola**	**7.52**	**35**	P	**Pn**	**11 48 11.0**	**+0.9**
PGF				S	**Sn**	**11 49 32.5**	**-2.9**
	2.0nm,0.2s						
LASF	**Ste Croix**	**7.54**	**4**	*e*Pn	**Pn**	**11 48 11.9**	**+1.6**
LASF				*e*Sn	**Sn**	**11 49 32.1**	**-3.7**
	1.4nm,0.2s						
LASF	**Ste Croix**	**7.54**	**4**	P	**Pn**	**11 48 11.9**	**+1.6**
LASF				S	**Sn**	**11 49 32.1**	**-3.7**
	0.7nm,0.2s						
EALK	**Alkurruntz**	**7.55**	**333**	S	**Sn**	**11 49 32.9**	**-3.2**
	12nm,0.5s,SNR=7.9						
CZD	**Col de Zad**	**7.57**	**245**	P	**Pn**	**11 48 13.5**	**+2.5**
CZD				S	**Sb**	**11 49 56.7**	**-5.6**
SMRF	**Simiane la Rot**	**7.65**	**13**	*e*Pn	**Pn**	**11 48 14.2**	**+2.3**
SMRF				*e*Sn	**Sn**	**11 49 35.1**	**-3.5**
	0.6nm,0.2s						
SMRF	**Simiane la Rot**	**7.65**	**13**	P	**Pn**	**11 48 14.2**	**+2.3**
SMRF				S	**Sn**	**11 49 35.1**	**-3.5**
	0.6nm,0.2s						
SBF	**Sospel**	**8.02**	**23**	*e*Pn	**Pn**	**11 48 17.7**	**+0.8**
SBF				*e*Sn	**Sn**	**11 49 44.0**	**-3.6**
	10nm,0.3s						
SBF	**Sospel**	**8.02**	**23**	P	**Pn**	**11 48 17.7**	**+0.8**
SBF				S	**Sn**	**11 49 44.0**	**-3.6**
	5.1nm,0.3s						
ELAN	**Lanestosa**	**8.36**	**325**	P	**Pn**	**11 48 23.8**	**+2.2**
	1.1nm,0.3s,SNR=7.9						
VIVF	**Saint-Julien-l**	**8.38**	**8**	*e*Pn	**Pn**	**11 48 23.7**	**+1.8**
VIVF				*e*Sn	**Sn**	**11 49 52.3**	**-4.2**
	3.0nm,0.4s						
VIVF	**Saint-Julien-l**	**8.38**	**8**	P	**Pn**	**11 48 23.7**	**+1.8**
VIVF				S	**Sn**	**11 49 52.3**	**-4.2**
	1.5nm,0.4s						
CAF	**Calviac**	**8.40**	**355**	*e*Pn	**Pn**	**11 48 23.6**	**+1.4**
CAF				*e*Sn	**Sn**	**11 49 52.6**	**-4.5**
	0.5nm,0.2s						
CAF	**Calviac**	**8.40**	**355**	P	**Pn**	**11 48 23.6**	**+1.4**
CAF				S	**Sn**	**11 49 52.6**	**-4.5**
	0.2nm,0.2s						
LFF	**La Frestale**	**8.57**	**349**	*e*Pn	**Pn**	**11 48 24.9**	**+0.5**
LFF				*e*Sn	**Sn**	**11 49 56.5**	**-4.6**
	2.8nm,0.3s						
LFF	**La Frestale**	**8.57**	**349**	P	**Pn**	**11 48 24.9**	**+0.5**
LFF				S	**Sn**	**11 49 56.5**	**-4.6**
	1.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**8.62**	**13**	*e*Pn	**Pn**	**11 48 27.5**	**+2.3**
ORIF				*e*Sn	**Sn**	**11 49 58.4**	**-4.0**
	1.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**8.62**	**13**	P	**Pn**	**11 48 27.5**	**+2.3**
ORIF				S	**Sn**	**11 49 58.4**	**-4.0**
	0.8nm,0.3s						
MBDF	**Montbardon**	**8.63**	**18**	*e*Pn	**Pn**	**11 48 26.9**	**+1.6**
MBDF				*e*Sn	**Sn**	**11 49 58.5**	**-4.2**
	0.5nm,0.2s						
MBDF	**Montbardon**	**8.63**	**18**	P	**Pn**	**11 48 26.9**	**+1.6**
MBDF				S	**Sn**	**11 49 58.5**	**-4.2**
	0.2nm,0.2s						
CASP	**Castiglione de**	**8.63**	**41**	Pn	**Pn**	**11 48 25.8**	**+0.5**
PMRV	**Marv??o**	**8.78**	**292**	*

SMF S Sn 11 50 33.4 -5.3
0.4nm,0.2s
AVF Avril sur Loir 10.23 1 *e*Pn Pn 11 48 48.2 +1.0
AVF *e*Sn Sn 11 50 36.5 -5.4
1.1nm,0.3s
AVF Avril sur Loir 10.23 1 P Pn 11 48 48.2 +1.0
AVF S Sn 11 50 36.5 -5.4
0.6nm,0.3s
HYF Humbligny 10.71 358 *e*Pn Pn 11 48 56.2 +2.4
HYF *e*Sn Sn 11 50 48.0 -5.8
HYF Humbligny 10.71 358 P Pn 11 48 56.2 +2.4
HYF S Sn 11 50 48.0 -5.8
DAVOX Davos/Dischmat 11.40 24 LR LR 11 53 05.0
comp=Z,43nm,18.7s,baz=263,slow=36
VRAC Vranov 16.09 33 LR LR 11 56 05.1
comp=Z,22nm,21.9s,baz=307,slow=36
TORD Torodi Ar. Bea 23.34 183 P P 11 51 28.6 -0.2
0.5nm,0.5s,baz=359,slow=11,SNR=2.6
AKASG Malin Array Be 23.45 45 P P 11 51 29.0 -0.7
1.3nm,0.6s,baz=242,slow=11,SNR=1.9
OBN Obninsk 29.39 40 LR LR 12 06 20.6
comp=Z,7.8nm,19.6s,baz=100,slow=41
ZALV Zalesovo Beam 56.84 44 P P 11 56 05.9 +1.1
0.4nm,0.2s,baz=300,slow=7.3,SNR=1.8
MKAR Makanchi Array 57.67 53 P P 11 56 11.4 +0.6
0.4nm,0.6s,baz=285,slow=5.5,SNR=4.9

*VAO **08** 11:46:20.6±0.5,22°.25S×69°.32W,h119km±3km, mb4.2*
*SJA **08** 11:46:25.6±0.6,22°.46S×68°.67W,h131km±4km,ML4.1, MW3.9*
*IDC **08** 11:46:25.9±0.6,22°.38S×68°.44W,h97km±6km, mb3.4/6, mb1 3.6/9, mb1mx3.4/37, mbtmp3.8/9, Error ellipse: s-maj=20.9km s-min=17.8km az=123.0*
*NEIC **08** 11:46:26.5±1.9,22°.51S±0°.06×68°.49W±0°.09,h108km±3km, Error ellipse: s-maj=11.8km s-min=8.0km az=92.0*
*GUC **08** 11:46:27.6±0.7,22°.46S×68°.60W,h112km±4km,ML4.0*
ISC 08 11:46:26.4±0.6,22°.45S±0°.03×68°.56W±0°.04,h122km±5km, n112,σ1°.99/138,mb3.9/5,8C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.36**	**244**	P	**Pn**	**11 46 43.6**	**-0.8**
	295nm,0.3s,baz=75,slow=7.6,SNR=3382						
LVC				S	**Sn**	**11 46 55.3**	**-2.6**
	1μm,0.3s,baz=230,slow=20,SNR=30						
LVC	**Limon Verde**	**0.36**	**244**	*e*P	**Pn**	**11 46 43.5**	**-0.8**
LVC				*i* S	**Sn**	**11 46 55.1**	**-2.7**
LVC	**Limon Verde**	**0.36**	**244**		**Pn**	**11 46 43.5**	**-0.9**
LVC	**Limon Verde**	**0.36**	**244**	*e*P	**Pn**	**11 46 43.5**	**-0.9**
LVC				*e*S	**Sn**	**11 46 55.8**	**-2.1**
LVC				IAML		11 46 56.6	
	comp=Z,3μm,0.1s						
PB09	**IPOC Station P**	**0.91**	**316**	⇓*i*P	**Pn**	**11 46 48.3**	**+0.3**
PB09				*i* S	**Sn**	**11 47 03.1**	**-1.3**
PB09				IAML		11 47 05.2	
	comp=E,4μm,0.4s						
PB09	**IPOC Station P**	**0.91**	**316**		**Pn**	**11 46 48.1**	**+0.1**
PB09	**IPOC Station P**	**0.91**	**316**	*e*P	**Pn**	**11 46 48.3**	**+0.3**
PB09				*e*S	**Sn**	**11 47 04.6**	**+0.3**
PB09				IAML		11 47 04.9	
	comp=Z,3μm,0.6s						
PB06	**IPOC Station P**	**0.97**	**255**	⇑*i*P	**Pn**	**11 46 48.0**	**-0.5**
PB06				*i* S	**Sn**	**11 47 03.8**	**-1.5**
PB06				IAML		11 47 06.2	
	comp=E,4μm,0.4s						
PB06	**IPOC Station P**	**0.97**	**255**		**Pn**	**11 46 47.7**	**-0.8**
PB06	**IPOC Station P**	**0.97**	**255**	*e*P	**Pn**	**11 46 48.1**	**-0.5**
PB06				*e*S	**Sn**	**11 47 05.2**	**-0.1**
PB06				IAML		11 47 08.4	
	comp=Z,3μm,0.2s						
PB15	**IPOC Station P**	**1.13**	**228**	⇑*i*P	**Pn**	**11 46 50.1**	**0.0**
PB15				*i* S	**Sn**	**11 47 07.7**	**-0.5**
PB15	**IPOC Station P**	**1.13**	**228**		**Pn**	**11 46 49.9**	**-0.2**
PB15	**IPOC Station P**	**1.13**	**228**	*e*P	**Pn**	**11 46 50.1**	**0.0**
PB15				*e*S	**Sn**	**11 47 08.4**	**+0.3**
PB03	**IPOC Station P**	**1.18**	**290**	⇑*i*P	**Pn**	**11 46 50.4**	**-0.2**
PB03				*i* S	**Sn**	**11 47 07.6**	**-1.4**
PB03				IAML		11 47 08.4	
	comp=N,5μm,0.1s						
PB03	**IPOC Station P**	**1.18**	**290**	*e*P	**Pn**	**11 46 50.3**	**-0.2**
PB03				*e*S	**Sn**	**11 47 08.3**	**-0.7**
PB03				IAML		11 47 09.4	
	comp=Z,3μm,0.2s						
PB07	**IPOC Station P**	**1.43**	**300**	⇑*i*P	**Pn**	**11 46 53.4**	**0.0**
PB07				*i* S	**Sn**	**11 47 12.9**	**-0.9**
PB07				IAML		11 47 13.5	
	comp=N,5μm,0.3s						
PB07	**IPOC Station P**	**1.43**	**300**		**Pn**	**11 46 53.5**	**+0.1**
PB07	**IPOC Station P**	**1.43**	**300**	*e*S	**Sn**	**11 47 13.2**	**-0.6**
PB07				IAML		11 47 14.8	
	comp=Z,2μm,0.3s						
PB04	**IPOC Station P**	**1.48**	**274**	*i*P	**Pn**	**11 46 53.5**	**-0.3**
PB04				*i* S	**Sn**	**11 47 13.7**	**-1.1**
PB04				IAML		11 47 15.9	
	comp=N,3μm,0.2s						
PB04	**IPOC Station P**	**1.48**	**274**		**Pn**	**11 46 53.7**	**-0.2**
PB04	**IPOC Station P**	**1.48**	**274**	*e*P	**Pn**	**11 46 53.5**	**-0.3**
PB04				*e*S	**Sn**	**11 47 14.4**	**-0.4**
PB04				IAML		11 47 17.1	
	comp=Z,3μm,0.2s						
PB05	**IPOC Station P**	**1.57**	**255**	⇑*i*P	**Pn**	**11 46 54.5**	**-0.5**
PB05				*i* S	**Sn**	**11 47 15.6**	**-1.1**
PB05				IAML		11 47 20.5	
	comp=E,1μm,0.3s						
PB05	**IPOC Station P**	**1.57**	**255**	*e*P	**Pn**	**11 46 54.4**	**-0.5**
PB05				*e*S	**Sn**	**11 47 15.7**	**-1.0**
PB01	**IPOC Station P**	**1.65**	**328**	*e*P	**Pn**	**11 46 56.2**	**+0.3**
PB01				*i* S	**Sn**	**11 47 18.2**	**-0.1**
PB01				IAML		11 47 20.7	
	comp=N,3μm,0.3s						
PB01	**IPOC Station P**	**1.65**	**328**		**Pn**	**11 46 55.3**	**-0.5**
PB01	**IPOC Station P**	**1.65**	**328**	*e*P	**Pn**	**11 46 56.1**	**+0.3**
PB01				*e*S	**Sn**	**11 47 17.9**	**-0.3**
PB01				IAML		11 47 20.6	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**1.68**	**312**	*e*S	**Sn**	**11 47 18.4**	**-0.5**
PB02				IAML		11 47 20.6	
	comp=Z,3μm,0.4s						
PB10	**IPOC Station P**	**2.12**	**240**	⇑*e*P	**Pn**	**11 47 00.6**	**-0.9**
PB10				IAML		11 47 40.8	
	comp=N,373nm,0.6s						
PB10	**IPOC Station P**	**2.12**	**240**		**Pn**	**11 47 00.6**	**-0.9**
PB10	**IPOC Station P**	**2.12**	**240**	*e*P	**Pn**	**11 47 00.8**	**-0.7**
PB10				*e*S	**Sn**	**11 47 26.9**	**-1.5**
PATCX Punta Patache		**2.20**	**317**	⇑*i*P	**Pn**	**11 47 02.2**	**-0.3**
PATCX				*i* S	**Sn**	**11 47 29.4**	**-0.9**
PATCX				IAML		11 47 34.1	
	comp=E,1μm,0.5s						
PATCX Punta Patache		**2.20**	**317**		**Pn**	**11 47 02.4**	**-0.2**
PATCX Punta Patache		**2.20**	**317**	*e*P	**Pn**	**11 47 02.4**	**-0.2**
PATCX				*e*S	**Sn**	**11 47 29.6**	**-0.7**
PB08	**IPOC Station P**	**2.37**	**346**	*e*P	**Pn**	**11 47 06.3**	**+1.3**
PB08				*i* S	**Sn**	**11 47 36.8**	**+2.3**
PB08				IAML		11 47 42.5	
	comp=N,256nm,0.6s						
PB08	**IPOC Station P**	**2.37**	**346**		**Pn**	**11 47 06.3**	**+1.3**
PB08	**IPOC Station P**	**2.37**	**346**	*e*S	**Sn**	**11 47 37.0**	**+2.5**
TA01	**Diego Aracena**	**2.41**	**321**	*e*P	**Pn**	**11 47 04.4**	**-0.7**
TA01				*i* S	**Sn**	**11 47 32.5**	**-2.4**
TA01				IAML		11 47 42.6	
	comp=E,804nm,0.7s						
TA01	**Diego Aracena**	**2.41**	**321**		**Pn**	**11 47 04.8**	**-0.4**
PB14	**IPOC Station P**	**2.75**	**218**	*e*P	**Pn**	**11 47 08.9**	**-0.8**
PB14				*i* S	**Sn**	**11 47 37.3**	**-5.8**
PB14				IAML		11 47 44.2	
	comp=E,205nm,0.3s						
PB14	**IPOC Station P**	**2.75**	**218**		**Pn**	**11 47 09.3**	**-0.4**
PB14	**IPOC Station P**	**2.75**	**218**	*e*P	**Pn**	**11 47 09.2**	**-0.6**
PB14				*e*S	**Sn**	**11 47 41.0**	**-2.1**
PB14				IAML		11 47 49.4	
	comp=Z,272nm,0.5s						
YJA	**Yavi**	**2.83**	**85**	*e*P	**Pn**	**11 47 13.6**	**+2.6**
GO01	**Chusmiza**	**2.83**	**346**	⇓*i*P	**Pn**	**11 47 12.1**	**+1.0**
GO01				*i* S	**Sn**	**11 47 47.1**	**+1.7**
GO01				IAML		11 47 50.0	
	comp=N,610nm,0.8s						
GO01	**Chusmiza**	**2.83**	**348**		**Pn**	**11 47 12.1**	**+1.0**
GO02	**Mina Guanaco**	**2.86**	**199**	⇑*i*P	**Pn**	**11 47 10.9**	**-0.2**
GO02				IAML		11 47 46.6	
	comp=N,1μm,0.2s						
GO02	**Mina Guanaco**	**2.86**	**199**		**Pn**	**11 47 11.0**	**-0.2**
PB11	**IPOC Station P**	**2.87**	**339**	*e*P	**Pn**	**11 47 11.1**	**-0.1**
PB11				IAML		11 48 15.4	
	comp=N,501nm,0.6s						
PB11	**IPOC Station P**	**2.87**	**339**	Pn	**Pn**	**11 47 11.1**	**-0.1**
PB11	**IPOC Station P**	**2.87**	**339**	*e*S	**Sn**	**11 47 46.2**	**+0.5**
PB11				IAML		11 48 15.4	
	comp=Z,273nm,0.7s						
PSGC Pisagua		**3.20**	**332**	*e*P	**Pn**	**11 47 14.0**	**-1.5**
PSGC				IAML		11 48 15.6	
	comp=E,367nm,0.5s						
PSGCX Pisagua		**3.20**	**332**	*e*P	**Pn**	**11 47 14.2**	**-1.3**
PSGCX				*e*S	**Sn**	**11 47 46.3**	**-7.0**
MNMCX Minye Minye		**3.45**	**343**	*e*P	**Pn**	**11 47 18.9**	**-0.1**
MNMCX				*e*P		11 47 19.0	
AZAP Zapla		**3.66**	**119**	*e*P	**Pn**	**11 47 23.4**	**+1.7**
AC01 Pan de Azucar		**4.12**	**206**	*e*P	**Pn**	**11 47 25.7**	**-1.9**
AC01 Pan de Azucar		**4.12**	**206**		**Pn**	**11 47 26.0**	**-1.6**
PB12 IPOC Station P		**4.17**	**336**	*e*P	**Pn**	**11 47 26.9**	**-1.4**
PB12 IPOC Station P		**4.17**	**336**		**Pn**	**11 47 30.2**	**+1.9**
PB16 IPOC Station P		**4.19**	**348**	*e*P	**Pn**	**11 47 30.7**	**+1.5**
PB16 IPOC Station P		**4.19**	**348**		**Pn**	**11 47 30.9**	**+1.8**
AC02 Maricunga		**4.39**	**187**	Pn	**Pn**	**11 47 31.9**	**+0.3**
AHML Horco Molle		**5.21**	**146**	*e*P	**Pn**	**11 47 44.1**	**+1.8**
GO03 Copiap		**5.34**	**196**		**Pn**	**11 47 42.2**	**-1.8**
LPAZ La Paz		**6.15**	**4**	P	**Pn**	**11 47 58.1**	**+2.6**
	comp=E,0.6nm,0.3s,baz=186,slow=6.4,SNR=18						
LPAZ La Paz		**6.15**	**4**	Pn	**Pn**	**11 47 59.2**	**+3.7**
LPAZ La Paz		**6.15**	**4**	*e*P	Pn	11 47 46.7	-8.7
VCA Vinchina		**6.26**	**177**	*e*P	**Pn**	**11 47 57.2**	**+0.7**
VCA				IAML		11 49 55.4	
	comp=Z,26nm,4.0s						
SIV San Ignacio		**9.55**	**49**	P	**Pn**	**11 48 38.6**	**-2.3**
	comp=Z,3.1nm,0.3s,baz=249,slow=12,SNR=51						
SIV				S	**Sn**	**11 50 18.8**	**-7.8**
	comp=Z,0.3nm,0.3s,baz=300,slow=20,SNR=2.2						
CPUP Villa Florida		**10.94**	**113**	P	**Pn**	**11 48 58.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=274,slow=13,SNR=2.9						
PTLB Pontes e Lacer		**11.31**	**54**	*e*P	**Pn**	**11 49 04.5**	**+0.1**
AQDB Aquidauana		**12.13**	**83**	*e*P	**Pn**	**11 49 17.3**	**+2.0**
AQDB				*e*S	**S**	**11 51 40.9**	**-8.1**
TRCB Terra Rica		**14.71**	**94**	*e*P	**P**	**11 49 52.6**	**+1.2**
PTGB Pitanga		**15.29**	**102**	*e*P	**P**	**11 49 59.9**	**+2.0**
ITAB Concordia		**15.65**	**111**	*e*P	**P**	**11 50 03.9**	**+2.1**
CPSB Cacapava Do Su		**15.68**	**124**	*e*P	**P**	**11 50 01.9**	**-0.1**
PCMB Pacaembu		**16.06**	**90**	*e*P	**P**	**11 50 09.2**	**+2.9**
PLTB Pedras Altas		**16.21**	**128**	*e*P	**P**	**11 50 09.6**	**+1.6**
CLDB Colider		**16.78**	**49**	*e*P	**Pn**	**11 50 13.8**	**-0.3**
ARAG Araguaiana, MT		**17.18**	**70**	*e*P	**Pn**	**11 50 19.2**	**+0.1**
ITRB Iturama		**17.20**	**84**	*e*P	**Pn**	**11 50 21.3**	**+1.9**
CNLB Canela		**17.32**	**117**	*e*P	**Pn**	**11 50 22.7**	**+1.9**
FRTB Fartura		**17.52**	**97**	*e*P	**Pn**	**11 50 23.8**	**+0.6**
TIJ01 Guaruva-PR		**18.11**	**103**	*e*P	**Pn**	**11 50 31.9**	**+1.7**
PLCA Paso Flores		**18.30**	**185**	P	**Pn**	**11 50 33.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=12,slow=11,SNR=3.7						
PLCA Paso Flores		**18.30**	**185**	P	**P**	**11 50 31.2**	**+0.3**
PLCA Paso Flores		**18.30**	**185**	*e*P	**P**	**11 50 27.4**	**-3.5**
BB19B Bebedouro		**18.66**	**90**	*e*P	**Pn**	**11 50 36.9**	**+0.2**
IPMB Ipameri, GO		**19.60**	**81**	*e*P	**P**	**11 50 45.8**	**+0.6**
NPGB Novo Progresso		**19.91**	**42**	*e*P	**P**	**11 50 46.6**	**-2.0**
BDFB Brasilia		**20.55**	**74**	P	**P**	**11 50 55.6**	**0.0**
	comp=Z,3.1nm,0.5s,baz=249,slow=12,SNR=4.9						
BDFB Brasilia		**20.55**	**74**	P	**P**	**11 50 55.8**	**+0.2**
BDFB				IAmb	IAmb	11 50 57.0	
	comp=Z,9.3nm,1.3s						
MACA Manacapuru-AM		**20.64**	**23**	*e*P	**P**	**11 50 51.7**	**-4.7**
ITTB Itaituba		**21.85**	**36**	*e*P	**P**	**11 51 05.8**	**-3.5**
PEXB Peixe		**21.88**	**65**	*e*P	**P**	**11 51 09.1**	**-0.6**
PTGA Pitinga		**23.15**	**22**	P	**P**	**11 51 22.5**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=208,slow=15,SNR=12						
PTGA Pitinga		**23.15**	**22**	P	**P**	**11 51 22.8**	**+0.6**
PTGA				IAmb	IAmb	11 51 24.6	
	comp=Z,7.2nm,1.4s						
MC01 Montes Claros		**23.87**	**81**	*e*P	**P**	**11 51 29.2**	**+0.4**
JANB Januaria		**24.09**	**76**	*e*P	**P**	**11 51 30.5**	**-0.2**
SMTB Santa Maria do		**24.25**	**59**	*e*P	**P**	**11 51 31.5**	**-0.7**
PRPB Parauapebas		**24.27**	**51**	*e*P	**P**	**11 51 31.4**	**-1.0**
SDBA SAO DESIDERIO		**24.64**	**70**	*e*P	**P**	**11 51 36.1**	**+0.3**
MALB Monte Alegre		**24.74**	**36**	*e*P	**P**	**11 51 33.9**	**-2.8**
SJMB Sao Joao De Ma		**25.88**	**87**	*e*P	**P**	**11 51 47.0**	**0.0**
SDV Santo Domingo		**31.21**	**356**	*e*S	**S**	**11 57 24.4**	**-7.6**
SNAA Sanae		**61.28**	**161**	P	**P**	**11 56 30.6**	**+2.3**
	comp=Z,1.2nm,0.6s,baz=270,slow=9.5,SNR=15						
SNAA Sanae		**61.28**	**161**	IAmb	IAmb	11 56 31.5	
	comp=Z,2.1nm,0.9s						
TXAR Lajitas Array		**61.59**	**325**	P	**P**	**11 56 33.5**	**+2.4**
	comp=Z,0.1nm,0.5s,baz=129,slow=7.1,SNR=1.4						
NVAR Mina Array Bea		**76.44**	**322**	P	**P**	**11 58 05.3**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=127,slow=6.0,SNR=2.4						
TORD Torodi Ar. Bea		**77.37**	**70**	P	**P**	**11 58 10.1**	**+1.8**
	comp=Z,1.3nm,0.4s,baz=262,slow=5.5,SNR=9.5						
TORD Torodi Ar. Bea		**77.37**	**70**	IAmb	IAmb	11 58 12.9	
	comp=Z,1.6nm,0.8s						
ASAR Alice Springs		**129.22**	**207**	PKP	**PKiKP**	**12 05 23.3**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=119,slow=1.2,SNR=4.4						
WRA Warramunga Arr		**132.30**	**210**	PKP	**PKiKP**	**12 05 29.4**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=157,slow=1.7,SNR=10						
MKAR Makanchi Array		**146.20**	**37**	PKPbc	**PKPab**	**12 05 54.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=313,slow=3.1,SNR=6.0						

*KRSZO **08** 11:51:44.0,48°.35N×19°.86E,h0km,ML1.8,Explosion. locality : Velke Dravce GT info : GT2 explosion*
BUD 08 11:51:44.0,48°.37N×19°.84E,h0km±405km,ML1.8/1,2C, Suspected Mining explosion.,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZAB Izabela		**0.22**	**338**	*e*Pg	Pg	11 51 48.6	+0.4
IZAB				*e*Sg	Sg	11 51 52.3	+1.2
IZAB Izabela		**0.22**	**338**	Pg	Pg	11 51 48.6	+0.4
IZAB				*e*Pg	Pg	11 51 48.6	+0.4
IZAB				Lg	Lg	11 51 52.3	
IZAB				*e*Lg	Lg	11 51 52.3	
KECS Kecovo		**0.45**	**74**	*e*Pg	Pg	11 51 52.7	+0.2
KECS				*e*Sg	Sg	11 51 58.9	+0.6
KECS Kecovo		**0.45**	**74**	Pg	Pg	11 51 52.7	+0.2
KECS				*e*Pg	Pg	11 51 52.7	+0.2
KECS				Lg	Lg	11 51 58.9	
KECS				*e*Lg	Lg	11 51 58.9	
KECS Kecovo		**0.45**	**74**	*e*PG	Pg	11 51 52.7	+0.2
KECS				*e*SG	Sg	11 51 58.9	+0.6
KECS				*e*LG	Lg	11 52 17.8	
PSZ Piszkesteto		**0.45**	**175**	⇑*e*Pg	Pg	11 51 53.1	+0.5
PSZ				⇑*e*Sg	Sg	11 52 00.0	+1.6
PSZ Piszkesteto		**0.45**	**175**	Pg	Pg	11 51 53.1	+0.5
PSZ				*e*Pg	Pg	11 51 53.1	+0.5
PSZ				*e*Lg	Lg	11 51 60.0	
PSZ				Sb	Sg	11 52 00.0	+1.6
VYHS Vyhne		**0.68**	**281**	*e*Pg	Pg	11 51 57.5	+0.5
VYHS				*e*Sg	Sg	11 52 07.1	+1.2
VYHS Vyhne		**0.68**	**281**	Pg	Pg	11 51 57.5	+0.5
VYHS				*e*Pg	Pg	11 51 57.5	+0.5
VYHS				Lg	Lg	11 52 07.1	
VYHS				*e*Lg	Lg	11 52 07.1	
VYHS Vyhne		**0.68**	**281**	*e*PG	Pg	11 51 57.5	+0.5
VYHS				*e*SG	Sg	11 52 07.0	+1.1

*IDC **08** 12:00:46.4±1.8,29°.63S×175°.97W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.7/32,mbtmp3.8/3,ML3.3/1,MS3.4/1, Ms1 3.4/1,ms1mx2.6/32,Error ellipse: s-maj=39.1km s-min=30.1km az=164.0*
ISC 08 12:00:46.2±1.5,29°.5S±0°.1×175°.8W±0°.1,h10km,n8, σ0°.59/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO Raoul Island		**1.83**	**276**	Pn	**Pb**	**12 01 19.7**	**0.0**
	96nm,0.3s,baz=59,slow=12,SNR=9.6						
RAO				Sn	**Sn**	**12 01 40.9**	**+0.1**
	316nm,0.3s,baz=248,slow=23,SNR=7.9						
URZ Urewera		**10.56**	**212**	Pn	**Pn**	**12 03 17.1**	**-0.4**
	0.3nm,0.3s,baz=100,slow=12,SNR=1.2						
URZ				Sn	**Sn**	**12 05 16.3**	**+0.4**
	1.1nm,0.3s,baz=66,slow=22,SNR=10						
DZM Mount Dzumac		**17.56**	**291**	LR	LR	12 11 17.0	
	comp=Z,103nm,18.2s,baz=188,slow=36						
ASAR Alice Springs		**45.05**	**265**	P	**P**	**12 09 02.6**	**+0.1**
	0.8nm,0.6s,baz=105,slow=7.4,SNR=22						
WRA Warramunga Arr		**45.95**	**270**	P	**P**	**12 09 09.4**	**-0.2**
	1.2nm,0.6s,baz=109,slow=7.9,SNR=16						
FINES FINESS Array B		**144.86**	**342**	PKPbc	**PKPdf**	**12 20 23.9**	**+1.1**
	0.8nm,0.8s,baz=41,slow=2.6,SNR=1.7						
NB2 NORSAR Subarra		**148.06**	**354**	PKP	**PKPab**	**12 20 33.7**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=9.2,slow=2.6						
NOA NORSAR Array B		**148.06**	**354**	PKPbc	**PKPab**	**12 20 33.7**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=13,slow=4.3,SNR=3.9						

*NEIC **08** 12:21:27.4±2.0,35°.99N±0°.03×140°.18E±0°.08,h72km±8km, mb4.3/6,Error ellipse: s-maj=9.9km s-min=4.3km az=85.0*
*IDC **08** 12:21:27.8±1.7,35°.98N×140°.15E,h73km±16km,mb3.5/8, mb1 3.6/12,mb1mx3.5/51,mbtmp3.8/12,MS3.3/3, Ms1 3.3/3,ms1mx2.6/44,Error ellipse: s-maj=22.1km s-min=10.4km az=63.0*
*JMA **08** 12:21:28.2±0.1,36°.02N×140°.07E,h62km±1km,M3.3 Broadband fault plane solution: P waves. NP1: ϕ_s=205.00000°,δ=25.00000°,λ=115.00000°. NP2: ϕ_s=359.00000°,δ=67.00000°,λ=79.00000°. Principal axes: T Plg66.0000°, Azm249.0000°; N Plg10.0000°, Azm3.0000°; P Plg21.0000°, Azm97.0000°;*
JMA Felt I J1.
ISC 08 12:21:27.0±0.8,36°.00N±0°.04×140°.16E±0°.05,h70km±7km, n54,σ1°.12/59,mb3.8/10,1C-8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT Yasato		**0.23**	**7**	⇑P	**Pn**	**12 21 38.1**	**+0.3**
JYT				S	**Sn**	**12 21 45.3**	**-0.3**
JYT Yasato		**0.23**	**7**	Pn	**Pn**	**12 21 38.2**	**+0.5**
JIHU Itakohorinouch		**0.30**	**97**	P	**Pn**	**12 21 39.5**	**+1.3**
JAG Ashikaga		**0.71**	**307**	⇓P	**Pn**	**12 21 42.1**	**+0.1**
JAG				S	**Sn**	**12 21 52.4**	**-0.7**
JRY Ryogami san		**1.02**	**271**	⇓P	**Pn**	**12 21 45.9**	**+0.1**
JKT Katashina		**1.06**	**316**	⇓P	**Pn**	**12 21 46.4**	**+0.1**
JOD2 Odawara 2		**1.14**	**230**	⇓P	**Pn**	**12 21 47.4**	**+0.1**
JOD2				S	**Sn**	**12 22 01.2**	**-1.3**
BSO3 Boso 3		**1.23**	**166**	P	**Pn**	**12 21 49.0**	**+0.8**
JYN Shimob		**1.41**	**249**	⇓P	**Pn**	**12 21 51.3**	**+0.5**
JYN				*e*S	**Sn**	**12 22 08.4**	**-0.3**
JIM2 Oshima 3		**1.41**	**205**	P	**Pn**	**12 21 50.8**	**-0.1**
JIM2				S	**Sn**	**12 22 07.5**	**-1.3**
JFNN Fujinakano		**1.45**	**237**	⇓P	**Pn**	**12 21 51.6**	**+0.3**
JFY Yanaizu		**1.45**	**346**	⇓P	**Pn**	**12 21 52.0**	**+0.7**
JFY				*e*S	**Sn**	**12 22 10.2**	**+0.6**
JFK Kawauchi		**1.48**	**23**	P	**Pn**	**12 21 52.5**	**+0.8**
JFK				*e*S	**Sn**	**12 22 11.1**	**+0.8**
JHK Hiroka		**1.54**	**324**	⇓P	**Pn**	**12 21 53.1**	**+0.5**
MJAR Matsushiro Arr		**1.66**	**289**	P	**Pn**	**12 21 54.3**	**+0.1**
	15nm,0.3s,baz=82,slow=9.4,SNR=728						
MJAR				S	**Sn**	**12 22 15.0**	**+0.3**
	2.9nm,0.3s,baz=242,slow=25,SNR=3.0						
MJAR				LR	LR	12 22 31.7	
	comp=Z,54nm,18.4s,baz=185,slow=39						
MJAR Matsushiro Arr		**1.66**	**289**		**Pn**	**12 21 54.2**	**0.0**
MAJO Matsushiro		**1.67**	**289**		**Pn**	**12 21 55.0**	**+0.8**
MAT Matsushiro		**1.67**	**289**	P	**Pn**	**12 21 54.8**	**+0.6**
MAT				S	**Sn**	**12 22 15.2**	**+0.4**
JMM Marumori		**1.93**	**15**	Pn	**Pn**	**12 21 59.2**	**+1.5**
JSG Sagara		**2.09**	**231**	Pn	**Pn**	**12 21 58.3**	**-1.6**
JGF Kuroka		**2.31**	**261**	Pn	**Pn**	**12 22 04.5**	**+1.6**
JSD Sado		**2.54**	**324**	Pn	**Pn**	**12 22 06.4**	**+0.5**
INU Inuyama		**2.64**	**257**		**Pn**	**12 22 08.3**	**+1.0**
JHJ Hachijo jima 2		**2.89**	**186**	P	**Pn**	**12 22 11.4**	**+0.6**
	18nm,0.3s,baz=107,slow=19,SNR=1.0						
JHJ				S	**Sn**	**12 22 45.4**	**+0.9**
	50nm,0.3s,baz=90,slow=20,SNR=1.8						
JWT Wachi		**3.94**	**261**	Pn	**Pn**	**12 22 26.5**	**+1.5**
JHS Saijyo		**5.83**	**262**	Pn	**Pn**	**12 22 52.1**	**+1.2**
ERM Erimo		**6.44**	**20**	Pn	**Pn**	**12 22 58.0**	**-1.2**
ERM					**Sn**	**12 24 08.1**	**-3.0**
JNU Nakatsue		**8.18**	**252**	P	**Pn**	**12 23 23.6**	**+0.6**
	0.4nm,0.3s,baz=56,slow=6.9,SNR=6.1						
ASAJ Asahikawa		**8.32**	**12**	P	**Pn**	**12 23 24.9**	**+0.1**
	0.4nm,0.3s,baz=251,slow=6.9,SNR=4.9						
ASAJ				S	**Sn**	**12 24 54.6**	**-2.5**
	0.2nm,0.3s,baz=330,slow=20,SNR=1.4						
JKA Kamikawa-asahi		**8.32**	**12**		**Pn**	**12

n78,σ1$54/84, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.13**	**315**	P	**Pg**	**12 28 32.4**	**-0.3**
WVZ				S	**Sg**	**12 28 34.3**	**-0.4**
RPZ	**Rata Peaks**	**0.57**	**166**	Pg	**Pg**	**12 28 40.9**	**+0.2**
	164nm,0.3s,baz=320,slow=7.0,SNR=322						
RPZ				Lg	Lg	12 28 48.6	
	652nm,0.3s,baz=124,slow=20,SNR=39						
RPZ	**Rata Peaks**	**0.57**	**166**	P	**Pg**	**12 28 41.0**	**+0.2**
RPZ				S	**Sg**	**12 28 48.7**	**+0.4**
INZ	**Inchbonnie**	**0.61**	**45**	P	**Pg**	**12 28 40.7**	**-0.9**
FOZ	**Fox Glacier**	**0.84**	**244**	P	**Pg**	**12 29 45.6**	**-0.4**
FOZ				S	**Sg**	**12 28 57.1**	**+0.1**
OXZ	**Oxford**	**0.88**	**101**	P	**Pg**	**12 28 46.8**	**+0.2**
LTZ	**Lake Taylor**	**1.10**	**70**	P	**Pg**	**12 28 50.7**	**-0.2**
LTZ				S	**Sb**	**12 29 06.8**	**+1.3**
LBZ	**Lake Benmore**	**1.31**	**202**	P	**Pg**	**12 28 53.8**	**-1.2**
LBZ				S	**Sb**	**12 29 12.3**	**+0.7**
MQZ	**McQueen's Vall**	**1.42**	**113**	P	**Pn**	**12 28 55.3**	**-0.3**
DSZ	**Denniston Nort**	**1.58**	**27**	P	**Pn**	**12 28 57.5**	**-0.5**
DSZ				S	**Sg**	**12 29 19.9**	**-0.6**
AKCZ	**Akaroa Harbour**	**1.65**	**116**	P	**Pn**	**12 28 58.8**	**-0.1**
OKCZ	**Okains Bay**	**1.70**	**110**	P	**Pn**	**12 28 59.8**	**+0.3**
JCZ	**Jackson Bay**	**1.76**	**238**	P	**Pn**	**12 29 00.1**	**-0.3**
ODZ	**Otahua Downs**	**1.89**	**185**	P	**Pn**	**12 29 02.5**	**+0.4**
THZ	**Tophouse**	**2.06**	**48**	P	**Pn**	**12 29 05.2**	**+0.6**
KHZ	**Kahutara**	**2.11**	**70**	P	**Pn**	**12 29 04.7**	**-0.4**
WKZ	**Wanaka**	**2.13**	**218**	P	**Pn**	**12 29 05.5**	**0.0**
MSZ	**Milford Sound**	**2.60**	**234**	P	**Pn**	**12 29 12.6**	**+0.6**
QRZ	**Quartz Range**	**2.65**	**29**	P	**Pn**	**12 29 12.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**2.66**	**58**	P	**Pn**	**12 29 13.7**	**+1.0**
NNZ	**Nelson**	**2.70**	**45**	P	**Pn**	**12 29 14.0**	**+0.7**
TUWZ	**Tuamarina**	**2.87**	**54**	P	**Pn**	**12 29 16.4**	**+0.8**
TUZ	**Tuapeka**	**2.92**	**197**	P	**Pn**	**12 29 17.0**	**+0.7**
MLZ	**Mavora Lakes**	**2.95**	**221**	P	**Pn**	**12 29 16.6**	**-0.2**
TCW	**Tory Channel**	**3.20**	**54**	P	**Pn**	**12 29 21.3**	**+1.1**
DUWZ	**D'Urville Isla**	**3.28**	**45**	P	**Pn**	**12 29 22.4**	**+1.1**
WHZ	**Wether Hill Ro**	**3.43**	**216**	P	**Pn**	**12 29 22.6**	**-0.8**
WEL	**Wellington**	**3.46**	**58**	P	**Pn**	**12 29 24.1**	**+0.4**
DCZ	**Deep Cove**	**3.52**	**228**	P	**Pn**	**12 29 24.0**	**-0.5**
SYZ	**Scrubby Hill**	**3.59**	**199**	P	**Pn**	**12 29 25.9**	**+0.4**
CAW	**Cannon Point**	**3.74**	**58**	P	**Pn**	**12 29 26.9**	**-0.8**
KIW	**Kapiti Island**	**3.79**	**54**	P	**Pn**	**12 29 28.1**	**-0.2**
OGWZ	**Otaki Gorge**	**3.98**	**55**	P	**Pn**	**12 29 30.4**	**-0.5**
HOWZ	**Holdsworth Sta**	**4.14**	**58**	P	**Pn**	**12 29 33.8**	**+0.6**
APZ	**The Paps**	**4.19**	**208**	P	**Pn**	**12 29 32.8**	**-1.0**
TMWZ	**Te Maipa**	**4.27**	**63**	P	**Pn**	**12 29 33.8**	**-1.1**
MRZ	**Mangatainoka R**	**4.32**	**58**	P	**Pn**	**12 29 34.3**	**-1.2**
NMEZ	**Namu Road**	**4.38**	**32**	P	**Pn**	**12 29 37.9**	**+1.4**
NBEZ	**Newall Road No**	**4.50**	**31**	P	**Pn**	**12 29 39.3**	**+1.2**
KHEZ	**Kahui Hut**	**4.54**	**33**	P	**Pn**	**12 29 40.0**	**+1.4**
PREZ	**Palmer Road**	**4.56**	**34**	P	**Pn**	**12 29 40.3**	**+1.4**
LREZ	**Lake Rotokare**	**4.56**	**37**	P	**Pn**	**12 29 41.4**	**+2.5**
NEZ	**North Egmont**	**4.59**	**33**	P	**Pn**	**12 29 40.7**	**+1.3**
WAZ	**Wanganui**	**4.61**	**44**	P	**Pn**	**12 29 41.6**	**+2.1**
PKE	**Pukeiti**	**4.62**	**32**	P	**Pn**	**12 29 41.0**	**+1.4**
PRWZ	**Pori Road**	**4.62**	**57**	P	**Pn**	**12 29 39.0**	**-0.8**
BFZ	**Birch Farm**	**4.72**	**60**	P	**Pn**	**12 29 40.3**	**-0.8**
DVHZ	**Dannevirke**	**4.89**	**56**	P	**Pn**	**12 29 43.3**	**-0.2**
TSZ	**Takapari Road**	**4.92**	**53**	P	**Pn**	**12 29 47.9**	**+4.0**
VRZ	**Vera Road**	**5.00**	**37**	P	**Pn**	**12 29 46.0**	**+1.2**
PKVZ	**Pokaka**	**5.14**	**43**	P	**Pn**	**12 29 49.3**	**+2.4**
PNHZ	**Pukenui**	**5.16**	**53**	P	**Pn**	**12 29 47.1**	**0.0**
WNVZ	**Wahianoa**	**5.24**	**45**	P	**Pn**	**12 29 49.6**	**+1.3**
MOVZ	**Moawhango**	**5.26**	**45**	P	**Pn**	**12 29 49.0**	**+0.4**
FWVZ	**Far West T-bar**	**5.27**	**44**	P	**Pn**	**12 29 52.5**	**+3.7**
TUVZ	**Tukino**	**5.31**	**44**	P	**Pn**	**12 29 52.1**	**+2.7**
NGZ	**Ngauruhoe**	**5.36**	**44**	P	**Pn**	**12 29 52.6**	**+2.7**
TWVZ	**Taurewa**	**5.36**	**42**	P	**Pn**	**12 29 52.4**	**+2.5**
BHHZ	**Black Hill Sta**	**5.37**	**49**	P	**Pn**	**12 29 50.2**	**+0.1**
WTVZ	**West Tongariro**	**5.39**	**43**	P	**Pn**	**12 29 53.5**	**+3.0**
OTVZ	**Oturere**	**5.40**	**44**	P	**Pn**	**12 29 51.1**	**+0.6**
KRHZ	**Kereru**	**5.43**	**52**	P	Pn	12 29 57.9	+7.0
KRVZ	**Karewarewa**	**5.44**	**43**	P	**Pn**	**12 29 55.2**	**+4.2**
ETVZ	**East Tongariro**	**5.44**	**44**	P	**Pn**	**12 29 53.9**	**+2.8**
TMVZ	**Te Maari**	**5.45**	**44**	P	**Pn**	**12 29 54.3**	**+3.0**
HIZ	**Hauiti**	**5.55**	**34**	P	**Pn**	**12 29 52.8**	**+0.4**
KATZ	**Kakaramea**	**5.55**	**43**	P	**Pn**	**12 29 56.3**	**+3.6**
KWHZ	**Kaweka Forest**	**5.61**	**50**	P	**Pn**	**12 29 54.4**	**+1.0**
TLZ	**Tolley Road**	**6.00**	**38**	P	**Pn**	**12 29 59.3**	**+0.7**
TOZ	**Tahuroa Road**	**6.48**	**35**	P	**Pn**	**12 30 05.7**	**+0.5**
AWAZ	**Awhitu Peninsu**	**6.75**	**27**	P	**Pn**	**12 30 09.6**	**+0.7**
URZ	**Urewera**	**6.82**	**46**	Pn	**Pn**	**12 30 09.0**	**-0.9**
	0.5nm,0.3s,baz=240,slow=8.1,SNR=2.2						
URZ				Sn	**Sn**	**12 31 22.8**	**-4.9**
	1.9nm,0.3s,baz=41,slow=21,SNR=6.6						
WTAZ	**Waiatarua**	**6.84**	**26**	P	**Pn**	**12 30 11.5**	**+1.2**
ETAZ	**East Tamaki Re**	**6.94**	**28**	P	**Pn**	**12 30 13.1**	**+1.5**
ASAR	**Alice Springs**	**36.08**	**291**	P	**P**	**12 35 31.7**	**-0.1**
	0.4nm,0.7s,baz=134,slow=8.4,SNR=4.7						
WRA	**Warramunga Arr**	**38.34**	**296**	P	**P**	**12 35 51.3**	**+0.3**
	0.4nm,0.7s,baz=136,slow=7.6,SNR=7.0						
ARCES	**ARCESS Array B**	**148.19**	**338**	PKPbc	**PKPbc**	**12 48 15.6**	**+0.8**
	1.8nm,0.8s,baz=41,slow=3.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**148.66**	**201**	PKPbc	**PKPbc**	**12 48 18.8**	**+1.2**
	2.5nm,1.0s,baz=180,slow=1.7,SNR=5.1						

TAP 08 12:40:23.6, 24.°02N×120.°60E, h25km, ML1.8, 1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCHH	**Zhanghua**	**0.07**	**329**	*i* P	Pb	12 40 28.2	+0.1
	baz=328						
WCHH				*e*S	Sb	12 40 31.3	+0.3
	baz=328						
WNT	**Mingjian**	**0.16**	**151**	*i* P	Pb	12 40 29.2	+0.4
	baz=148						
WNT				*i* S	Sb	12 40 33.3	+1.1
	baz=148						
WJS	**Zhushan**	**0.23**	**149**	*e*P	Pb	12 40 29.8	+0.2
	baz=148						
WJS				S	Sb	12 40 34.8	+1.2
	baz=148						
RLNB	**Erlin**	**0.25**	**241**	*e*P	Pb	12 40 30.6	+0.6
	baz=240						
RLNB				*e*S	Sn	12 40 35.9	-1.0
	baz=240						
SMLT	**Sun Moon Lake**	**0.30**	**116**	⇓*i* P	Pb	12 40 31.4	+0.6
	baz=115						
SMLT				*i* S	Sn	12 40 37.3	-1.1
	baz=115						
WGK	**Gukeng**	**0.33**	**186**	*e*S	Sb	12 40 37.3	+1.1
	baz=184						
WTCT	**Ta-ch'eng**	**0.33**	**243**	*e*P	Pb	12 40 31.3	+0.2
	baz=241						
WTCT				S	Sn	12 40 37.5	-1.3
	baz=241						
WDLH	**Douliu**	**0.33**	**190**	*e*S	Sn	12 40 37.7	-1.2
	baz=190						
WDJ	**Dajia District**	**0.33**	**6**	*e*S	Sn	12 40 37.7	-1.3
	baz=6.0						
WHYT	**Xinyi Township**	**0.39**	**144**	P	Pb	12 40 32.5	+0.4
	baz=143						
WHYT				S	Sb	12 40 39.0	+1.2
	baz=143						
SSLB	**Suanglung**	**0.40**	**125**	P	Pb	12 40 32.4	+0.3
	baz=125						
SSLB				S	Sb	12 40 38.4	+0.5
	baz=125						
WHP	**Taichung City**	**0.41**	**50**	*e*P	Pb	12 40 32.6	+0.2
	baz=50						
WHP				S	Sb	12 40 39.6	+1.3
	baz=50						
CHN5	**Tsauling**	**0.42**	**170**	*i* P	Pb	12 40 33.1	+0.4
	baz=170						
CHN5				*i* S	Sb	12 40 39.7	+1.0
	baz=170						
PTSB	**Yuanli**	**0.44**	**12**	*e*S	Sn	12 40 40.7	-1.0
	baz=12						
WSF	**Szhu**	**0.51**	**223**	P	Pb	12 40 34.1	+0.1
	baz=222						
WSF				S	Sb	12 40 41.0	-0.1
	baz=222						
CHGB	**Renai**	**0.53**	**85**	P	Pb	12 40 34.6	+0.1
	baz=85						
CHGB				S	Sb	12 40 42.5	+0.7
	baz=85						
ALS	**Alishan**	**0.54**	**160**	*i* P	Pb	12 40 35.1	+0.5
	baz=158						
ALS				*i* S	Sn	12 40 43.4	-1.0
	baz=158						
VWDT	**VWDT**	**0.56**	**118**	P	Pb	12 40 35.2	+0.4
	baz=117						
VWDT				S	Sn	12 40 43.7	-0.8
	baz=117						
TDCB	**Techi**	**0.56**	**65**	P	Pb	12 40 35.2	+0.2
	baz=65						
TDCB				S	Sb	12 40 42.6	-0.1
	baz=65						
FUSS	**Fushou**	**0.63**	**68**	*e*P	Pn	12 40 37.4	+0.1
	baz=68						
TPUB	**Ta-pu**	**0.71**	**178**	P	Pb	12 40 37.5	+0.1
	baz=177						
TPUB				S	Sn	12 40 48.0	-0.4
	baz=177						
NSTT	**Nanjuang**	**0.71**	**31**	*e*S	Sn	12 40 48.1	-0.3
	baz=31						
ICHU	**Yijhu**	**0.71**	**204**	*e*P	Pn	12 40 37.9	-0.3
	baz=204						
ICHU				*e*S	Sn	12 40 48.0	-0.4
	baz=204						
LIOB	**Emei**	**0.73**	**31**	*e*P	Pn	12 40 38.3	-0.2
	baz=31						
LIOB				*e*S	Sn	12 40 48.3	-0.6
	baz=31						
CHN8	**Yiju**	**0.76**	**208**	*e*P	Pb	12 40 38.3	+0.2
	baz=207						
CHN8				*e*S	Sn	12 40 48.9	-0.5
	baz=207						
WTP	**Ta-pu**	**0.77**	**179**	P	Pn	12 40 38.8	-0.2
	baz=178						
WTP				S	Sn	12 40 49.8	+0.1
	baz=178						
ESL	**Shilin**	**0.79**	**105**	P	Pn	12 40 39.3	+0.1
	baz=104						
ESL				S	Sn	12 40 50.4	+0.2
	baz=104						
SNST	**Tainan City**	**0.80**	**187**	*e*P	Pb	12 40 39.0	+0.2
	baz=186						
SNST				*e*S	Sn	12 40 50.7	+0.2
	baz=186						
CHN1	**Nanshi**	**0.83**	**185**	P	Pn	12 40 39.6	-0.2
	baz=184						
CHN1				S	Sn	12 40 51.9	+0.6
	baz=184						
EHY	**Hungye**	**0.83**	**127**	P	Pn	12 40 40.2	+0.4
	baz=127						
EHY				S	Sn	12 40 51.9	+0.5
	baz=127						
STYT	**Tauyuan**	**0.86**	**170**	*e*S	Sn	12 40 52.0	-0.1
	baz=169						
YULB	**Yu-li**	**0.89**	**134**	P	Pn	12 40 40.7	+0.1
	baz=134						
YULB				S	Sn	12 40 53.4	+0.6
	baz=134						
ELDTW	**Lidau**	**0.91**	**155**	P	Pn	12 40 41.3	+0.3
	baz=154						
ELDTW				S	Sn	12 40 53.4	+0.1
	baz=154						
HGSD	**Ruisui**	**0.92**	**124**	*e*P	Pn	12 40 42.0	+1.1
	baz=124						
HGSD				*e*S	Sn	12 40 54.2	+0.9
	baz=124						
TWF1	**Yuli**	**0.92**	**136**	*e*P	Pn	12 40 41.6	+0.6
	baz=135						
TWF1				*e*S	Sn	12 40 54.0	+0.5
	baz=135						
NACB	**Ninganchiao**	**0.92**	**80**	*e*S	Sn	12 40 53.8	+0.3
	baz=80						
SGST	**Jiashian**	**0.93**	**181**	*e*P	Pb	12 40 40.7	-0.4
	baz=180						
SGST				*e*S	Sn	12 40 54.2	+0.5
	baz=180						
CHN3	**Shinhua**	**0.96**	**193**	*e*S	Sn	12 40 54.7	+0.3
	baz=193						
PNG	**Penghu**	**1.06**	**245**	*e*P	Pb	12 40 43.8	+0.6
	baz=244						
PNG				*e*S	Sn	12 40 57.7	+0.9
	baz=244						
PHUB	**P'eng-hu**	**1.07**	**242**	*e*P	Pn	12 40 42.6	-0.4
	baz=241						
PHUB				*e*S	Sn	12 40 57.5	+0.5
	baz=241						
WDGT	**Dungji**	**1.14**	**229**	*e*S	Sb	12 40 59.5	+0.3
	baz=228						

TAP 08 12:40:27.2, 24.°34N×121.°79E, h10km±1km, ML1.6, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.10**	**333**	*i* P	Pg	12 40 30.6	+0.8
	baz=336						
ENA				*i* S	Sg	12 40 32.4	+0.8
	baz=336						
ENAH	**Nanao**	**0.11**	**10**	*i* P	Pb	12 40 30.8	-0.5
	baz=10.0						
ENAH				*i* S	Sg	12 40 32.8	+0.8
	baz=10.0						
NACB	**Ninganchiao**	**0.24**	**227**	⇓P	Pg	12 40 32.8	+0.6
	baz=226						
NACB				S	Sg	12 40 36.6	+1.1
	baz=226						
TWC	**Suao**	**0.27**	**12**	P	Pb	12 40 34.5	+0.4
	baz=13						
TWC				S	Sb	12 40 37.8	-1.0
	baz=13						
ETLH	**Xiulin Townshi**	**0.31**	**244**	P	Pb	12 40 34.6	-0.3
	baz=244						
ETLH				S	Sb	12 40 39.3	-0.7
	baz=244						
TWD	**Chiawan**	**0.32**	**214**	*i* P	Pg	12 40 34.1	+0.7
	baz=212						
TWD				S	Sb	12 40 39.6	-0.4
	baz=212						
ENTT	**Nioudou**	**0.36**	**326**	*i* P	Pb	12 40 35.8	+0.1
	baz=326						
ENTT				*i* S	Sb	12 40 41.0	-0.4
	baz=326						
NDT	**Datong Townshi**	**0.36**	**316**	*i* P	Pb	12 40 36.0	+0.3
	baz=315						
NDT				S	Sb	12 40 41.5	+0.1
	baz=315						
NNSB	**Datong**	**0.38**	**283**	P	Pb	12 40 36.2	+0.1
	baz=283						
NNSB				S	Sb	12 40 41.1	-0.9
	baz=283						
NNSH	**Datong**	**0.38**	**283**	*e*P	Pb	12 40 36.1	0.0
	baz=283						
NNSH				*e*S	Sb	12 40 41.1	-0.9
	baz=283						
NNS	**Nan Shan**	**0.39**	**285**	*e*P	Pg	12 40 35.5	+0.5
	baz=284						
NNS				S	Sb	12 40 42.5	+0.1
	baz=284						
ILA	**Ilan**	**0.42**	**355**	P	Pg	12 40 35.8	+0.3
	baz=355						
ILA				S	Sb	12 40 42.8	-0.4
	baz=355						
FUSS	**Fushou**	**0.51**	**259**	*e*P	Pb	12 40 38.3	0.0
	baz=259						
FUSS				*e*S	Sb	12 40 45.8	0.0
	baz=259						
FUSS	**Fushou**	**0.51**	**259**	*e*S	Sb	12 40 45.5	-0.3
	baz=68						
NWLT	**Wulai**	**0.51**	**329**	*e*P	Pb	12 40 38.6	+0.5
	baz=328						
NWLT				*e*S	Sb	12 40 45.4	-0.2
	baz=328						
WHF	**Hehuan Shan**	**0.52**	**248**	*i* P	Pg	12 40 37.1	-0.2
	baz=78						
WHF				*i* S	Sb	12 40 45.9	-0.4
	baz=78						
WHF	**Hehuan Shan**	**0.52**	**248**	*e*P	Pg	12 40 37.1	-0.2
	baz=247						
WHF				*e*S	Sb	12 40 46.0	-0.2
	baz=247						
TIPB	**Shuangxi**	**0.63**	**3**	*e*P	Pb	12 40 40.1	-0.2
	baz=3.0						
TIPB				*e*S	Sb	12 40 49.5	+0.4
	baz=3.0						

*NEIC **08** 12:56:52.9±0.7, 37.°26N±0.°03×97.°64W±0.°02, h5km±2km, mb_Lg3.9/163, Mwr3.4/14(SLM), Error ellipse: s-maj=6.0km s-min=3.0km az=200.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.59; $M_{\theta\theta}$0.21; $M_{\phi\phi}$0.37; $M_{r\theta}$-0.52; $M_{\theta\phi}$-1.23; $M_{\phi r}$-0.54; Fault plane solution: $M_0$1.53000×10^{14} NP1:ϕ_s99.00000°, δ63.00000°, λ-152.00000°. NP2:ϕ_s355.00000°, δ65.00000°, λ-30.00000°. Principal axes: T 1.5265, Plg1.0000°, Azm47.0000°; N 0.0016, Plg52.0000°, Azm139.0000°; P -1.5281, Plg38.0000°, Azm316.0000°;*

*UNK **08** 12:56:52.9, 37.°26N×97.°64W, h5km*

*IDC **08** 12:56:52.5±0.7, 37.°36N×97.°61W, h0km, mb4.0/3, mb1 4.1/9, mb1mx3.7/58, mbtmp3.8/9, ML2.8/4, MS3.4/2, Ms1 3.4/2, ms1mx2.5/53, Error ellipse: s-maj=10.5km s-min=8.9km az=149.0*

*ANF **08** 12:56:54.3±0.5, 37.°25N×97.°62W, h21km±4km, ML4.8/15, Error ellipse: s-maj=2.2km s-min=1.5km az=36.0*

ISC 08 12:56:52.4±1.1, 37.°26N±0.°03×97.°61W±0.°03, h8km±8km, n161,σ0$91/145, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.27**	**157**		**Pg**	**12 56 58.4**	**+0.8**
KAN12	**Harper NE Stat**	**0.31**	**277**		**Pg**	**12 56 58.5**	**0.0**
KAN12				Sg	**Sg**	**12 57 02.8**	**+0.1**
KAN10	**Anthony SW Sta**	**0.41**	**251**		**Pg**	**12 57 00.4**	**+0.1**
KAN10				Sg	**Sg**	**12 57 05.9**	**+0.1**
CROK	**Carrier**	**0.81**	**202**		**Pg**	**12 57 08.2**	**+0.2**
T35A	**Sooner Cattle**	**0.94**	**111**	Pg	**Pg**	**12 57 10.8**	**+0.3**
QUOK	**Quay**	**1.31**	**146**		**Pb**	**12 57 17.3**	**+0.2**
U32A	**Winter Ranch,**	**1.42**	**232**	Pn	**Pn**	**12 57 18.6**	**0.0**
R32A	**Long Quarter,**	**1.45**	**323**		**Pn**	**12 57 19.0**	**0.0**
OK029	**Liberty Lake**	**1.47**	**175**		**Pb**	**12 57 20.1**	**+0.2**
BCOK	**Bluff Creek, N**	**1.60**	**180**		**Pb**	**12 57 22.1**	**-0.1**
OK025	**Westminster Rd**	**1.69**	**173**		**Pb**	**12 57 23.5**	**-0.3**
TUL1	**Leonard**	**1.99**	**132**	P	**Pn**	**12 57 27.6**	**+1.3**
	baz=313,SNR=107						
TUL1				Sb	**Sg**	**12 57 55.5**	**-0.8**
	baz=313						
TUL1	**Leonard**	**1.99**	**132**	Pn	**Pn**	**12 57 27.6**	**+1.3**
KSU1	**Kansas State U**	**2.00**	**23**	P	**Pn**	**12 57 27.8**	**+1.4**
	baz=204,SNR=42						
KSU1				Sb	**Sb**	**12 57 55.2**	**+1.1**
	baz=204						
KSU1	**Kansas State U**	**2.00**	**23**		**Pb**	**12 57 28.2**	**-0.8**
KSU1				IAmb_Lg		12 57 55.7	
	comp=Z,563nm,0.8s						
FNO	**Franklin**	**2.01**	**175**		**Pb**	**12 57 28.1**	**-1.0**
W35A	**Tecumseh**	**2.19**	**164**		**Pn**	**12 57 30.0**	**+1.0**
CBKS	**Cedar Bluff**	**2.29**	**313**	P	**Pn**	**12 57 31.3**	**+0.9**
	baz=132,SNR=71						
CBKS				S	**Sn**	**12 58 00.6**	**+1.7**
	baz=132						
CBKS	**Cedar Bluff**	**2.29**	**313**	Pn	**Pn**	**12 57 31.5**	**+1.0**
WMOK	**Wichita Mounta**	**2.69**	**201**	P	**Pn**	**12 57 36.8**	**+0.8**
	baz=20,SNR=54						
WMOK				S	**Sn**	**12 58 10.5**	**+1.7**
	baz=20						
WMOK	**Wichita Mounta**	**2.69**	**201**		**Pn**	**12 57 36.8**	**+0.8**
U38A	**Gravette**	**2.71**	**107**	Pn	**Pn**	**12 57 35.6**	**-0.6**
HHAR	**Hobbs**	**3.10**	**107**		**Pn**	**12 57 42.9**	**+1.2**
HHAR				IAmb_Lg		12 58 32.9	
	comp=Z,304nm,0.7s						
X37A	**Clayton**	**3.23**	**145**	Pn	**Pn**	**12 57 44.4**	**+1.1**
S39A	**Bolivar**	**3.44**	**82**	Pn	**Pn**	**12 57 47.1**	**+0.8**
S39A				IAmb_Lg		12 58 47.9	
	comp=Z,324nm,0.8s						
N33A	**J Bar K, Exete**	**3.48**	**2**	Pn	**Pn**	**12 57 47.4**	**+0.6**
W39A	**Magazine**	**3.71**	**123**	P	**Pn**	**12 57 50.7**	**+0.7**
	baz=305,SNR=13						
W39A				S	**Sn**	**12 58 35.3**	**+1.3**
	baz=305						
W39A	**Magazine**	**3.71**	**123**		**Pn**	**12 57 50.8**	**+0.7**
U40A	**Yellville**	**3.92**	**102**	P	**Pn**	**12 57 53.6**	**+0.7**
	baz=285,SNR=131						
U40A				S	**Sn**	**12 58 40.8**	**+1.7**
	baz=285						
U40A	**Yellville**	**3.92**	**102**	IAmb_Lg		12 59 03.4	
	comp=Z,235nm,0.7s						
Z35A	**Perchaven, San**	**3.93**	**176**		**Pn**	**12 57 53.8**	**+0.8**
P38A	**Dawn**	**3.98**	**52**	Pn	**Pn**	**12 57 54.5**	**+0.9**
AMTX	**Amarillo**	**4.06**	**235**	Pn	**Pn**	**12 57 56.5**	**+1.6**
BGNE	**Belgrade**	**4.16**	**354**	P	**Pn**	**12 57 56.9**	**+0.7**
	baz=174,SNR=6.6						
BGNE				S	**Sn**	**12 58 45.7**	**+0.6**
	baz=174						
BGNE	**Belgrade**	**4.16**	**354**		**Pn**	**12 57 56.9**	**+0.7**
MIAR	**Mount Ida**	**4.25**	**128**	P	**Pn**	**12 57 58.3**	**+0.9**
	baz=311,SNR=14						
MIAR				S	**Sn**	**12 58 48.2**	**+1.0**
	baz=311						
MGMO	**Mountain Grove**	**4.26**	**90**	Pn	**Pn**	**12 57 58.7**	**+1.1**
KSCO	**Kaye Shedlock'**	**4.33**	**295**	P	**Pn**	**12 57 59.2**	**+0.6**
	baz=112,SNR=14						
R40A	**Maddies Statio**	**4.35**	**75**	IAmb_Lg		12 59 10.1	
	comp=Z,221nm,0.8s						
Z38A	**Mt. Pleasant**	**4.53**	**151**		**Pn**	**12 58 02.4**	**+1.1**
Z38A				IAmb_Lg		12 59 19.8	
	comp=Z,222nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.62**	**106**	Pn	**Pn**	**12 58 02.9**	**+0.4**
FCAR				IAmb_Lg		12 59 28.7	
	comp=Z,228nm,1.0s						
WHAR	**Wooly Hollow**	**4.73**	**113**	Pn	**Pn**	**12 58 04.3**	**+0.3**
X40A	**Basin Creek Fa**	**4.76**	**124**	P	**Pn**	**12 58 05.1**	**+0.7**
	baz=307,SNR=7.5						
X40A				S	**Sn**	**12 59 00.7**	**+0.9**
	baz=307						
X40A	**Basin Creek Fa**	**4.76**	**124**	IAmb_Lg		12 59 21.8	
	comp=Z,286nm,0.8s						
L34A	**Svendsen Farm,**	**4.79**	**11**	Pn	**Pn**	**12 58 05.5**	**+0.5**
L34A				IAmb_Lg		12 59 35.7	
	comp=Z,216nm,0.8s						
W41B	**Gary Mavity, V**	**4.81**	**114**	P	**Pn**	**12 58 05.3**	**+0.2**
	baz=297,SNR=44						
W41B				S	**Sn**	**12 59 01.3**	**+0.4**
	baz=297						
N38A	**Joes South For**	**4.90**	**43**	IAmb_Lg		12 59 32.9	
	comp=Z,189nm,0.7s						
ABTX	**Abilene, Hawle**	**4.92**	**200**	P	**Pn**	**12 58 07.1**	**+0.5**
	baz=19						
ABTX				S	**Sn**	**12 59 03.1**	**-0.7**
	baz=19						
**P

SCIA	**State Center**	5.75	35		Pn		12 58 18.3 +0.3
SCIA				IAmb_Lg			13 00 09.6
	comp=Z,162nm,0.7s						
CCAR	**Cane Creek**	5.81	123	Pn	Pn		12 58 19.4 +0.6
CCAR				IAmb_Lg			13 00 08.8
	comp=Z,166nm,0.8s						
HBAR	**Harrisburg**	5.86	105		Pn		12 58 20.2 +0.7
SLM	**Saint Louis**	5.99	75		Sn		12 59 28.6 -1.4
SLM				IAmb_Lg			13 00 05.0
	comp=Z,196nm,0.8s						
NATX	**Nacogdoches**	6.00	155	S	Sn		12 59 29.8 -0.6
	baz=337						
NATX	**Nacogdoches**	6.00	155	IAmb_Lg			13 00 13.4
	comp=Z,104nm,0.8s						
X43A	**Marvell**	6.11	115	S	Sn		12 59 33.5 +0.5
	baz=299						
Q24A	**Divide**	6.18	288	P	Pn		12 58 24.3 0.0
Q24A	baz=104						
				S	Sn		12 59 34.6 -0.8
	baz=104						
GNAR	**Gosnell**	6.24	100	Pn	Pn		12 58 26.0 +1.2
N41A	**Harden Midland**	6.29	55	Pn	Pn		12 58 25.9 +0.6
N41A				IAmb_Lg			13 00 15.9
	comp=Z,168nm,0.8s						
SDCO	**Great Sand Dun**	6.29	277	P	Pn		12 58 26.1 +0.3
	baz=92,SNR=22						
435B	**Jarrell**	6.46	180	P	Pn		12 58 27.6 -0.2
	baz=360						
435B	**Jarrell**	6.46	180	Pn	Pn		12 58 27.9 +0.1
435B				IAmb_Lg			13 00 25.8
	comp=Z,142nm,0.9s						
ECSD	**EROS Data Cent**	6.51	6	P	Pn		12 58 28.6 +0.1
	baz=187,SNR=9.4						
K38A	**Parkersburg**	6.54	33	IAmb_Lg			13 00 30.0
	comp=Z,133nm,0.8s						
LNXT	**Lenox**	6.62	98	Pn	Pn		12 58 30.4 +0.3
CPRX	**Cap Rock**	6.64	232	Pn	Pn		12 58 32.2 +1.8
ISCO	**Idaho Springs**	6.77	294	P	Pn		12 58 31.7 -0.6
	baz=110						
P43A	**Skaggs, Pawnee**	6.78	67	Pn	Pn		12 58 32.4 +0.3
143A	**Socs Landing,**	6.83	130	IAmb_Lg			13 00 43.8
	comp=Z,105nm,0.8s						
L40A	**Anamosa**	6.87	44	IAmb_Lg			13 00 37.4
	comp=Z,162nm,1.0s						
JCT	**Junction City**	7.00	196	P	Pn		12 58 35.3 0.0
	baz=14						
OXF	**Oxford**	7.20	110	P	Pn		12 58 37.7 -0.2
	baz=295,SNR=8.7						
OXF	**Oxford**	7.20	110	IAmb_Lg			13 00 50.8
	comp=Z,136nm,0.8s						
SUSD	**Miller**	7.25	352	P	Pn		12 58 38.7 +0.1
	baz=172						
SUSD	**Miller**	7.25	352	Pn	Pn		12 58 38.9 +0.3
HDIL	**Hopedale**	7.27	61	P	Pn		12 58 39.3 +0.4
	baz=246,SNR=16						
HDIL	**Hopedale**	7.27	61	IAmb_Lg			13 00 55.6
	comp=Z,209nm,0.8s						
S22A	**4UR Ranch, Cre**	7.35	277	Pn	Pn		12 58 41.5 +1.3
Y45A	**Yeager Farm, C**	7.39	115	IAmb_Lg			13 00 53.8
	comp=Z,145nm,0.7s						
N23A	**Red Feather La**	7.43	302	P	Pn		12 58 41.7 +0.4
	baz=117						
HKT	**Hockley**	7.44	168	IAmb_Lg			13 01 09.1
	comp=Z,12nm,1.1s						
I37A	**Lemond, Waseca**	7.47	24	IAmb_Lg			13 01 05.0
	comp=Z,101nm,0.9s						
ANMO	**Albuquerque**	7.53	255	Pn	Pn		12 58 44.1 +1.5
	comp=Z,0.0nm,0.3s,baz=110,slow=13,SNR=5.3						
ANMO				Lg	Lg		13 00 44.9
	comp=Z,0.2nm,0.3s,baz=142,slow=19,SNR=4.7						
ANMO	**Albuquerque**	7.53	255	P	Pn		12 58 43.8 +1.2
	baz=70						
ANMO	**Albuquerque**	7.53	255	IAmb_Lg			13 01 02.1
	comp=Z,35nm,1.1s						
ANMO				IAmb_Lg			13 01 02.1
	comp=Z,36nm,1.1s						
O44A	**Mansfield**	7.71	65	Pn	Pn		12 58 45.4 +0.5
O44A				IAmb_Lg			13 01 00.7
	comp=Z,101nm,0.8s						
L42A	**Oliver, Polo**	7.74	50	IAmb_Lg			13 01 13.1
	comp=Z,92nm,0.8s						
WVT	**Waverly**	7.94	95	P	Pn		12 58 48.1 +0.1
	baz=281						
BNM	**Barren Site**	7.97	250	Pn	Pn		12 58 50.0 +1.3
JFWS	**Jewell Farm**	7.98	43	P	Pn		12 58 48.3 -0.4
	baz=227,SNR=11						
JFWS	**Jewell Farm**	7.98	43	IAmb_Lg			13 01 18.0
	comp=Z,70nm,0.7s						
T47A	**Sharon Grove**	8.39	89	Pn	Pn		12 58 54.4 +0.1
T47A				IAmb_Lg			13 01 22.7
	comp=Z,126nm,1.1s						
146A	**Union**	8.40	121	IAmb_Lg			13 01 41.6
	comp=Z,93nm,0.9s						
RSSD	**Black Hills**	8.41	327	P	Pn		12 58 56.0 +1.3
	baz=143						
RSSD	**Black Hills**	8.41	327	IAmb_Lg			13 01 31.8
	comp=Z,114nm,1.2s						
M44A	**Midewin, Midew**	8.48	58		Pn		12 58 55.7 +0.3
M44A				IAmb_Lg			13 01 22.4
	comp=Z,74nm,0.8s						
MNTX	**Cornudas Mount**	8.48	231	P	Pn		12 58 56.5 +0.9
	baz=47						
P46A	**Rosedale**	8.49	71	Pn	Pn		12 58 56.4 +0.7
P46A				IAmb_Lg			13 01 30.1
	comp=Z,146nm,0.7s						
RWWY	**Rawlins**	8.64	304	Pn	Pn		12 58 59.3 +1.4
PV15	**Paradox Valley**	8.68	280	Pn	Pn		12 58 59.8 +1.4
K22A	**Casper**	8.71	311	P	Pn		12 58 59.0 +0.2
	baz=125,SNR=6.2						
SPMN	**Marine on St.**	8.74	23	IAmb_Lg			13 01 29.6
	comp=Z,82nm,1.2s						
SFIN	**Lafayette**	8.78	66	P	Pn		12 59 00.0 +0.5
	baz=253						
SFIN	**Lafayette**	8.78	66	IAmb_Lg			13 01 27.4
	comp=Z,143nm,1.0s						
HQIL	**Hanson Quary C**	8.79	56	IAmb_Lg			13 01 28.2
	comp=Z,141nm,1.2s						
V48A	**Smith Brothers**	8.82	97	IAmb_Lg			13 01 46.7
	comp=Z,63nm,0.7s						
L44A	**Lake County Fo**	8.94	54	IAmb_Lg			13 01 36.5
	comp=Z,147nm,1.2s						
K43A	**Burlington**	8.96	50	IAmb_Lg			13 01 41.0
	comp=Z,61nm,0.8s						
WCI	**Wyandotte Cave**	9.02	80	IAmb_Lg			13 01 52.4
	comp=Z,92nm,0.7s						
X48A	**Hartselle**	9.02	105	IAmb_Lg			13 01 34.8
	comp=Z,118nm,1.2s						
833A	**Chaparral WMA,**	9.04	190	Pn	Pn		12 59 02.9 -0.2
PV21	**Cone Mtn., Par**	9.08	282	Pn	Pn		12 59 04.3 +0.4
F36A	**Milaca**	9.12	18	Pn	Pn		12 59 04.0 -0.3
CLTN	**Cedars of Leba**	9.13	94	IAmb_Lg			13 01 55.6
	comp=Z,57nm,0.9s						
TXAR	**Lajitas Array**	9.39	214	Pn	Pn		12 59 07.9 -0.2
	comp=Z,0.8nm,0.3s,baz=38,slow=11,SNR=43						
TXAR				Sn	Sn		13 00 52.1 -1.8
	comp=Z,0.5nm,0.3s,baz=47,slow=17,SNR=2.1						
TXAR				Lg	Lg		13 01 46.7
	comp=Z,1.3nm,0.3s,baz=28,slow=26,SNR=6.2						
U49A	**Red Boiling Sp**	9.51	91	IAmb_Lg			13 01 53.4
	comp=Z,59nm,0.9s						
SWET	**Sewanee**	9.65	99	Pn	Pn		12 59 11.9 +0.3
Y49A	**Blount Mountai**	9.73	107	Pn	Pn		12 59 12.5 -0.2
P48A	**Milroy**	9.82	73	IAmb_Lg			13 02 09.0
	comp=Z,71nm,0.7s						
R49A	**Shelbyville**	9.90	80	IAmb_Lg			13 02 10.8
	comp=Z,106nm,1.3s						
L46A	**Eue Claire**	9.93	58	IAmb_Lg			13 02 09.8
	comp=Z,106nm,1.0s						
N47A	**Urbana**	9.94	65	IAmb_Lg			13 02 12.8
	comp=Z,85nm,0.8s						
FPAL	**Fort Paine**	10.10	102		Pn		12 59 18.2 +0.4
T50A	**Nancy**	10.20	87		Pn		12 59 19.2 +0.2
H43A	**Windswept, Lux**	10.36	43	Pn	Pn		12 59 21.0 -0.1
PDAR	**Pinedale Array**	10.68	305	Pn	Pn		12 59 25.8 -0.1
	comp=Z,0.5nm,0.3s,baz=114,slow=15,SNR=5.6						
PDAR				Lg	Lg		13 02 23.2
	comp=Z,0.9nm,0.3s,baz=117,slow=29,SNR=2.7						
PDAR				LR	LR		13 04 28.1
	comp=Z,30nm,19.1s,baz=162,slow=43						
X51A	**Calhoun**	10.69	101	Pn	Pn		12 59 26.4 +0.7
CPCT	**Cooper Cave**	10.71	96		Pn		12 59 27.1 +1.1
TKL	**Tuckaleechee C**	11.26	94	Pn	Pn		12 59 34.1 +0.5
	comp=Z,1.8nm,0.3s,baz=284,slow=12,SNR=15						
TKL				Sn	Sn		13 01 38.8 -0.8
	comp=Z,0.6nm,0.3s,baz=137,slow=11,SNR=1.7						
TKL				Lg	Lg		13 02 40.6
	comp=Z,1.8nm,0.3s,baz=61,slow=12,SNR=13						
TZTN	**Tazewell**	11.28	89	P	Pn		12 59 34.2 +0.3
	baz=278						
TZTN	**Tazewell**	11.28	89	Pn	Pn		12 59 34.4 +0.4
EYMN	**Ely**	11.59	21	P	Pn		12 59 36.5 -1.5
	baz=205						
DGMT	**Dagmar**	12.19	339	P	Pn		12 59 45.3 -1.0
	baz=154						
P52A	**Corning**	12.36	74	P	Pn		12 59 46.9 -1.8
	baz=264						
Q53A	**Leroy**	12.78	78	P	Pn		12 59 52.6 -1.8
	baz=268						
ULM	**Lac du Bonnet**	13.04	5	Pn	Pn		12 59 54.4 -3.6
	comp=Z,0.8nm,0.3s,baz=181,slow=15,SNR=2.1						
ULM				Sn	Sn		13 02 10.2 -13
	comp=Z,0.3nm,0.3s,baz=354,slow=15,SNR=1.6						
ULM				Lg	Lg		13 03 33.0
	comp=Z,0.6nm,0.3s,baz=282,slow=20,SNR=1.4						
T55A	**Pulaski**	13.42	86	P	Pn		13 00 03.0 -0.2
	baz=276						
EGMT	**Eagleton**	13.97	324	P	Pn		13 00 09.2 -1.4
	baz=136						
SADO	**Sadowa**	15.81	56	Sn	Sn		13 03 19.7 -11
	comp=Z,0.3nm,0.3s,baz=304,slow=18,SNR=1.5						
SADO				Lg	Lg		13 04 59.2
	comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=1.7						
NVAR	**Mina Array Bea**	16.39	280	Pn	P		13 00 44.9 -1.0
	comp=Z,0.0nm,0.3s,baz=86,slow=12,SNR=2.5						
YBH	**Yreka Blue Hor**	19.85	291	P	Pn		13 01 26.5 +1.1
	comp=Z,0.1nm,0.3s,baz=92,slow=7.8,SNR=5.0						
ILAR	**Eielson Array**	39.85	330	P	P		13 04 27.3 +1.3
	comp=Z,1.9nm,0.7s,baz=109,slow=7.5,SNR=18						
ARCES	**ARCESS Array B**	65.73	19	P	P		13 07 37.3 +0.1
	comp=Z,1.5nm,0.8s,baz=313,slow=5.8,SNR=5.8						
FINES	**FINESS Array B**	71.57	25	P	P		13 08 14.2 +0.5
	comp=Z,0.9nm,0.6s,baz=292,slow=7.4,SNR=2.2						
JCJ	**Chichijima**	94.86	309	LR	LR		13 48 48.6
	comp=Z,130nm,19.2s,baz=82,slow=33						

MAN 08 13:01:50.4, 13°.64N×122°.67E, h15km, mb4.4, ML3.2, MS3.0, Luzon

*NDI **08** 13:10:55.8±3.0, 14°.07N×92°.10E, h15km±148km, mb4.5, mb4.6(NEIC)*
*IDC **08** 13:10:55.7±0.5, 14°.12N×92°.81E, h0km, mb4.4/26, mb1 4.5/28, mb1mx4.2/55, mbtmp4.4/28, ML4.5/2, MS3.3/17, Ms1 3.4/17, ms1mx3.1/56, Error ellipse: s-maj=18.3km s-min=10.6km az=54.0*
*DJA **08** 13:11:00.4±0.4, 14°.N±3°.×9°.3E±°, h57km±8km, M4.7/13, mb4.4/13, mB5.2/5, MLv4.9/4, Mw(mB)4.6/5*
*NEIC **08** 13:11:00.4±1.6, 14°.29N±0°.06×92°.87E±0°.08, h28km±4km, mb4.6/44, Error ellipse: s-maj=11.6km s-min=9.2km az=100.0*
ISC 08 13:11:01.0±0.3, 14°.31N±0°.04×92°.86E±0°.04, h35km, n188, σ1§87/194, mb4.6/48, MS3.4/17, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	2.64	182		Pn	13 11 41.3	+0.1
SRDT	**SRDT**	6.07	89	P	Pn	13 12 30.3	+2.0
SRDT				S	Sn	13 13 35.4	-1.3
PHET	**Kaeng Krachan**	6.73	101	P	Pn	13 12 39.4	+2.0
PHET				S	Sn	13 13 52.0	-0.9
CM13	**Chiang Mai Arr**	7.10	54	P	Pn	13 12 43.2	+0.7
CM13				S	Sn	13 13 59.6	-2.4
CM01	**Chiang Mai Arr**	7.14	54	P	Pn	13 12 43.5	+0.4
CM01				S	Sn	13 14 01.4	-1.6
CM04	**Chiang Mai Arr**	7.15	55	P	Pn	13 12 44.2	+1.1
CM04				S	Sn	13 13 58.4	-4.8
CM31	**Chiang Mai Arr**	7.15	54		Pn	13 12 44.5	+1.3
CMAR	**Chiang Mai Arr**	7.15	54	Pn	Pn	13 12 44.1	+0.9
	2.4nm,0.3s,baz=242,slow=16,SNR=20						
CMAR				Sn	Sn	13 14 01.3	-2.0
	5.0nm,0.3s,baz=242,slow=19,SNR=7.2						
CMAR				LR	LR	13 16 19.4	
	comp=Z,183nm,18.2s,baz=272,slow=44						
CMAR	**Chiang Mai Arr**	7.15	54		Pn	13 12 44.0	+0.8
SUKH	**Sukhothai**	7.24	63	P	Pn	13 12 45.2	+0.8
SUKH				S	Sn	13 14 03.7	-1.8
CHTO	**Chiang Mai**	7.36	52		Pn	13 12 46.5	+0.5
PHIT	**Phitsanulok**	7.82	68	P	Pn	13 12 54.3	+1.9
PHIT				S	Sn	13 14 16.8	-2.9
PATY	**Pattaya**	7.91	99	P	Pn	13 12 54.7	+1.1
SAIH	**SAIHA**	8.14	1	eP	Pn	13 12 57.9	+1.1
SAIH				eS	Sn	13 14 26.4	-1.3
SAIH				IAmb	IAmb	13 14 29.7	
	comp=E,350nm,0.5s						
PBKT	**Sadao Pong**	8.14	73	P	Pn	13 12 59.7	+3.0
PBKT	**Sadao Pong**	8.14	73	Pn	Pn	13 12 57.6	+0.9
PHRA	**Phrae**	8.21	59	P	Pn	13 12 58.7	+1.0
PHRA				S	Sn	13 14 25.9	-3.4
PAYA	**Payao**	8.38	52	P	Pn	13 13 02.7	+2.5
PAYA				S	Sn	13 14 31.1	-2.5
CHAI	**Chaiyaphum**	8.96	79	P	Pn	13 13 12.1	+4.1
BWNR	**Bhubaneshwar**	8.98	312	eP	Pn	13 13 05.0	-3.3
BWNR				eS	Sn	13 14 29.8	-19
TRTT	**Trang**	9.29	133	P	Pn	13 13 15.2	+2.6
CHLP	**Challavanipeta**	9.42	297	eP	Pn	13 13 14.5	+0.3
CHLP				e		13 14 47.5	
LHMI	**Lhok Sumawe**	9.88	156	Pn	Pn	13 13 23.3	+2.6
NONG	**Nongkai**	10.56	68	P	Pn	13 13 35.0	+5.0
MLSI	**Meulaboh, Aceh**	10.58	160	P	Pn	13 13 28.4	-1.8
	comp=E,3μmcomp=E,153nm,0.7s						
PVM	**Polavaram**	11.20	287	eP	Pn	13 13 39.2	+0.5
PVM				e		13 15 32.4	
SHL	**Shillong**	11.23	355		Pn	13 13 37.4	-1.9
TPTI		11.78	158	P	Pn	13 13 44.0	-2.7
	comp=E,558nmcomp=E,16nm,0.6s						
KULM	**Kulim**	11.80	139		Pn	13 13 48.7	+1.8
GUWA	**GUWAHATI**	11.87	355	eP	Pn	13 13 45.2	-2.7
GUWA				eS	Sn	13 15 51.0	-8.2
MYLAV	**Mylavaram**	12.03	283	eP	Pn	13 13 50.1	+0.1
MYLAV				e		13 15 51.5	
TEZP	**TEZPUR**	12.24	360	eP	Pn	13 13 51.2	-1.8
TEZP				IAmb	IAmb	13 16 04.4	
	comp=N,37nm,0.6s						
PSI	**Prapat**	12.91	152	Pn	Pn	13 14 05.3	+3.0
	comp=N,1.1nm,0.3s,baz=360,slow=10,SNR=15						
PSI				LR	LR	13 18 26.2	
	comp=N,203nm,19.2s,baz=87,slow=35						
RPSI	**Rantau Prapat**	13.00	152		Pn	13 14 04.4	+1.0
RPSI	**Rantau Prapat**	13.00	152		Pn	13 14 05.3	+1.9
ZIRO	**ZIRO**	13.18	4	eP	Pn	13 14 05.0	-0.9
ZIRO				eS	Sn	13 16 24.6	-6.8
NJS	**Nagarjunasagar**	13.25	281	eP	Pn	13 14 08.4	+1.6
NJS				e		13 16 19.2	
ODAN	**Odare**	13.49	339	eP	Pn	13 14 08.1	-2.1
	comp=N,60nm,0.3s						
ODAN	**Odare**	13.49	339	eP	Pn	13 14 08.1	-2.1
	comp=N,60nm,0.3s						
GTK	**Tadong**	13.54	344	eP	Pn	13 14 09.0	-1.8
GTK				eS	Sn	13 16 27.4	-13
SRLM	**Srisailam**	13.60	279	eP	Pn	13 14 12.4	+0.9
SRLM				e		13 16 30.8	
GSI	**Gunungsitoli**	13.74	160	Pn	Pn	13 14 08.6	-4.9
PALK	**Pallekele**	13.83	241	Pn	Pn	13 14 12.5	-2.3
	comp=N,2.4nm,0.3s,baz=169,slow=12,SNR=13						
PALK				Sn	Sn	13 16 32.6	-15
	comp=N,5.5nm,0.3s,baz=73,slow=18,SNR=8.4						
PALK				LR	LR	13 19 11.0	
	comp=N,118nm,19.1s,baz=176,slow=36						
PALK	**Pallekele**	13.83	241	Pn	Pn	13 14 12.9	-1.8
TAPN	**Taplejung**	13.83	341	eP	Pn	13 14 12.6	-2.3
	comp=N,98nm,0.5s						
TAPN	**Taplejung**	13.83	341	eP	Pn	13 14 12.6	-2.3
	comp=N,98nm,0.5s						
RAMN	**Ramite**	13.87	336	eP	Pn	13 14 13.1	-2.3
	comp=N,80nm,0.3s						
RAMN	**Ramite**	13.87	336	eP	Pn	13 14 13.1	-2.3
	comp=N,80nm,0.3s						
HYB	**Hyderabad**	14.10	285	i P	Pn	13 14 18.5	+0.1
HYB				e		13 16 40.0	
HYB				eS	Sn	13 16 55.0	+1.2
HYBB	**Hyderabad (bro**	14.10	285	eP	Pn	13 14 18.4	-0.1
HYBB				e		13 16 40.6	
SRSP	**Sriramsagar**	14.64	290	eP	Pn	13 14 25.9	+0.2
SRSP				e		13 16 55.6	
JIRN	**Jiri**	14.66	336	eP	Pn	13 14 24.4	-1.9
	comp=N,108nm,0.4s						
JIRN	**Jiri**	14.66	336	eP	Pn	13 14 24.4	-1.9
	comp=N,108nm,0.4s						
NGP	**Nagpur**	14.80	299	ex	Pn	13 14 29.3	+1.4
NGP				IAmb	IAmb	13 14 37.8	
	comp=Z,7.9nm,0.8s						
NGP				eS	Sn	13 16 55.9	-15
PKI	**Pulchoki**	14.91	333	eP	Pn	13 14 26.5	-3.1
PKI	**Pulchoki**	14.91	333	eP	Pn	13 14 26.5	-3.1
GUN	**Gumba**	15.01	335	eP	Pn	13 14 27.6	-3.3
GUN	**Gumba**	15.01	335	eP	Pn	13 14 27.6	-3.3
DMN	**Daman**	15.07	333	eP	Pn	13 14 29.2	-2.5
DMN	**Daman**	15.07	333	eP	Pn	13 14 29.2	-2.5
URV	**Uravakonda**	15.11	274	eP	P	13 14 34.6	-2.3
URV				e		13 17 02.9	
LSA	**Lhasa**	15.40	354	Pn	Pn	13 14 35.1	-1.0
LSA				IAmb	IAmb	13 15 01.2	
	comp=Z,16nm,0.6s						
GKN	**Gorkha**	15.62	332	eP	Pn	13 14 35.7	-3.1
	comp=Z,84nm,0.2s						
GKN	**Gorkha**	15.62	332	eP	Pn	13 14 35.7	-3.1
	comp=Z,84nm,0.2s						
KOLN	**Koldanda**	15.93	329	eP	Pn	13 14 38.3	-4.4
	comp=Z,98nm,0.6s						
KOLN	**Koldanda**	15.93	329	eP	Pn	13 14 38.3	-4.4
	comp=Z,98nm,0.6s						
KLRI	**Killari**	16.05	286	eP	Pn	13 14 44.6	+0.4
KLRI				e		13 17 26.3	
MYKOM	**Kota Tinggi**	16.52	138	P	P	13 14 52.0	-0.4
SDSI	**Sungai Dareh**	17.36	150	P	Pn	13 14 58.3	-2.4
	comp=Z,8.2nm,1.0s						
GYA	**Guiyang**	17.69	45	⇓P	P	13 15 07.4	+1.9
GYA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CD2	**Chengdu**	19.32	29	P	Pn	13 15 25.8	+1.2
CD2				S	S	13 18 58.1	-2.1
CD2				pmax	pmax		
	comp=Z,60nm,0.9s						
CD2				pmax	pmax		
	comp=Z,70nm,3.9s						
KSM	**Kuching**	21.45	125	P	P	13 15 46.0	-0.5
KSM				IAmb	IAmb	13 15 49.3	
	comp=Z,18nm,0.9s						
MDSI	**Maura Dua**	21.79	148	P	P	13 15 47.3	-2.8
	comp=Z,8.2nm,1.0s						
ENH	**Enshi**	22.07	41	P	P	13 15 53.1	+0.1
ENH				IAmb	IAmb	13 15 56.7	
	comp=Z,16nm,0.7s						
SBUM	**Sibu**	22.46	120	P	P	13 15 56.6	-0.8
SBUM				IAmb	IAmb	13 15 59.0	
	comp=Z,11nm,0.7s						
LZH	**Lanzhou**	23.82	22	eP	P	13 16 12.7	+1.7
LZH				pP	pP	13 16 21.1	+0.6
LZH				sP	sP	13 16 24.5	-0.1
LZH				pmax	pmax		
	comp=Z,28nm,1.2s						
KKM	**Kota Kinabalu**	24.39	107	P	P	13 16 15.5	-1.0
KKM				IAmb	IAmb	13 16 16.5	
	comp=Z,16nm,1.0s						
XAN	**Xi'an**	24.44	34	P	P	13 16 16.7	+0.1
XAN				S	S	13 20 41.3	+6.8
XAN				pmax	pmax		
	comp=Z,29nm,0.9s						
XAN				pmax	pmax		
	comp=Z,210nm,5.5s						
XAN				LR	LR		
	comp=N,130nm,9.3s						
XAN				LR	LR		
	comp=E,110nm,5.4s						
XAN				LR	LR		
	comp=Z,150nm,18.6s						
XAN	**Xi'an**	24.44	34	P	P	13 16 15.6	-1.0
XAN				IAmb	IAmb	13 16 18.4	
	comp=Z,19nm,0.8s						
GTA	**Gaotai**	25.74	12	⇑P	P	13 16 30.8	+2.3
GTA				pP	pP	13 16 39.8	+1.8
GTA				sP	sP	13 16 44.0	+1.9
GTA				sS	sS	13 21 15.5	+4.2
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,99nm,8.7s						
GTA				LR	LR		
	comp=N,81nm,17.5s						
GTA				LR	LR		
	comp=E,76nm,17.8s						
GTA				LR	LR		
	comp=Z,81nm,17.1s						
MYLDM	**Lahad Datu**	26.82	107	P	P	13 16 38.7	+0.4
MYLDM				IAmb	IAmb	13 16 40.1	
	comp=Z,10.0nm,0.8s						
BKB	**Balikpapan**	28.39	121	P	P	13 16 52.2	-0.2
KBL	**Kabul**	29.46	317	P	P	13 17 02.6	+0.7
NJ2	**Nanjing**	29.59	49	eP	P	13 17 04.3	+1.5
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
H08S3	**Diego Garcia H**	29.73	224	T	T	13 47 59.3	
	baz=42,slow=76,SNR=6.1						
H08S2	**Diego Garcia H**	29.73	224	T	T	13 47 59.5	
	baz=42,slow=76,SNR=6.1						
WMQ	**Urumqi**	29.74	352	eP	P	13 17 06.6	+2.5
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,45nm,5.1s						
H08S1	**Diego Carcia H**	29.75	224	T	T	13 48 02.8	
	baz=42,slow=76,SNR=6.3						
HHC	**Hu-ho-hao-te**	31.07	28	eP	P	13 17 18.2	+2.3
HHC				S	S	13 22 17.8	-1.2
HHC				SS	SnSn	13 24 02.8	+1.0
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,4.4s						
HHC				LR	LR		
	comp=N,150nm,13.8s						
HHC				LR	LR		
	comp=E,150nm,12.0s						
HHC				LR	LR		
	comp=Z,100nm,13.6s						
CHGR	**Chuyangaron**	32.03	324	P	P	13 17 24.7	+0.3
BTK	**Batken**	32.10	327	P	P	13 17 26.8	+1.8
BTK				IAmb	IAmb	13 17 42.6	
	comp=Z,6.0n

SOEI			IAmb	IAmb	13 18 26.6	
	comp=Z,21nm,1.2s					
ZAA0	**Zalesovo Array**	**40.05 353**	P	**P**	**13 18 33.2**	**+0.5**
ZAA0			IAmb	IAmb	13 18 34.5	
	comp=Z,7.3nm,0.8s					
ZALV	**Zalesovo Beam**	**40.05 353**	P	**P**	**13 18 33.7**	**+1.0**
	comp=Z,8.0nm,0.7s,baz=176,slow=8.5,SNR=36					
ZALV			LR	LR	13 37 38.2	
	comp=Z,24nm,18.6s,baz=178,slow=40					
ZALV	**Zalesovo Beam**	**40.05 353**	P	**P**	**13 18 33.3**	**+0.7**
SIJI	**Sorong**	**40.91 108**	P	**P**	**13 18 39.7**	**-0.6**
	comp=Z,14nm,0.7s,baz=256,slow=12,SNR=4.7					
BVAR	**Borovoye Array**	**42.54 340**	P	**P**	**13 18 54.0**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=138,slow=9.1,SNR=8.1					
FAKI	**Fak Fak**	**42.63 111**	P	**P**	**13 18 53.5**	**-0.9**
ABKAR	**Akbulak array**	**44.05 329**	P	**P**	**13 19 06.3**	**+0.9**
USRK	**Ussuriysk Ar.**	**44.65 40**	P	**P**	**13 19 10.9**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=249,slow=7.6,SNR=3.0					
FITZ	**Fitzroy Crossi**	**45.63 134**	P	**P**	**13 19 16.9**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=332,slow=7.3,SNR=1.18					
FITZ	**Fitzroy Crossi**	**45.63 134**	P	**P**	**13 19 16.9**	**-1.4**
	baz=46,SNR=19					
FITZ	**Fitzroy Crossi**	**45.63 134**	P	**P**	**13 19 16.6**	**-1.7**
AKTO	**Aktyubinsk**	**45.76 329**	P	**P**	**13 19 19.9**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=120,slow=14,SNR=4.0					
AKTO			LR	LR	13 40 02.2	
	comp=Z,33nm,19.4s,baz=137,slow=38					
KNRA	**Kununurra**	**46.34 129**	P	**P**	**13 19 22.5**	**-1.5**
	baz=46,SNR=3.8					
KNRA	**Kununurra**	**46.34 129**	P	**P**	**13 19 22.7**	**-1.2**
KNRA			IAmb	IAmb	13 19 25.3	
	comp=Z,6.2nm,0.6s					
MTN	**Manton Dam**	**46.53 124**	P	**P**	**13 19 23.3**	**-2.2**
	baz=46,SNR=4.7					
KDU	**Kakadu**	**47.54 122**	P	**P**	**13 19 31.5**	**-1.8**
	baz=48,SNR=6.0					
MEEK	**Meekatharra**	**47.79 148**	P	**P**	**13 19 33.8**	**-1.3**
	baz=48,SNR=5.7					
MORW	**Morawa**	**48.60 153**	P	**P**	**13 19 40.7**	**-0.6**
	baz=48,SNR=16					
MORW	**Morawa**	**48.60 153**	P	**P**	**13 19 40.4**	**-0.9**
ARU	**Arti**	**49.52 336**	LR	LR	13 43 45.1	
	comp=Z,14nm,20.1s,baz=208,slow=40					
BLDU	**Ballidu**	**50.22 153**	P	**P**	**13 19 52.6**	**-1.0**
	baz=50,SNR=7.2					
MUN	**Mundaring**	**51.18 154**	P	**P**	**13 20 00.6**	**-0.3**
	baz=51,SNR=8.2					
KLBR	**Kellerberrin**	**51.52 153**	P	**P**	**13 20 02.4**	**-1.0**
	baz=51,SNR=8.6					
WRKA	**Warakurna**	**52.19 138**	P	**P**	**13 20 07.5**	**-1.2**
	baz=52,SNR=30					
WB0	**Warramunga Arr**	**53.07 129**	P	**P**	**13 20 13.9**	**-1.4**
WRA	**Warramunga Arr**	**53.14 129**	P	**P**	**13 20 14.7**	**-1.0**
	comp=Z,5.2nm,0.6s,baz=304,slow=9.8,SNR=212					
WRA			PcP	**PcP**	**13 21 23.1**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=320,slow=3.1,SNR=9.3					
WRA	**Warramunga Arr**	**53.14 129**	P	**P**	**13 20 13.9**	**-1.8**
WRAB	**Tennant Creek**	**53.14 129**	P	**P**	**13 20 14.5**	**-1.2**
WB2	**Warramunga Arr**	**53.15 129**	P	**P**	**13 20 14.5**	**-1.3**
KMBL	**Kambalda**	**53.29 149**	P	**P**	**13 20 15.7**	**-0.9**
	baz=53,SNR=7.7					
WR0	**Warramunga Arr**	**53.30 129**	P	**P**	**13 20 15.6**	**-1.3**
YAK	**Yakutsk**	**54.38 20**	P	**P**	**13 20 24.1**	**0.0**
AS31	**Alice Springs**	**55.09 133**	P	**P**	**13 20 28.8**	**-1.2**
ASAR	**Alice Springs**	**55.09 133**	P	**P**	**13 20 29.1**	**-0.9**
	comp=Z,6.7nm,0.4s,baz=311,slow=7.2,SNR=373					
ASAR	**Alice Springs**	**55.09 133**	P	**P**	**13 20 28.8**	**-1.1**
NRIK	**Noril'sk**	**55.10 358**	P	**P**	**13 20 30.2**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=142,slow=5.5,SNR=3.5					
MMAI	**Mount Meron Ar**	**55.15 300**	LR	LR	13 46 06.2	
	comp=Z,40nm,19.3s,baz=170,slow=38					
EIL	**Elat**	**55.30 296**	LR	LR	13 46 41.6	
	comp=Z,41nm,18.5s,baz=99,slow=39					
FORT	**Forrest**	**56.18 143**	P	**P**	**13 20 37.2**	**-0.3**
	baz=56,SNR=7.8					
FORT	**Forrest**	**56.18 143**	P	**P**	**13 20 37.1**	**-0.4**
COEN	**Coen**	**57.18 117**	P	**P**	**13 20 44.3**	**-0.6**
	baz=57,SNR=6.9					
BRTR	**Keskin Array B**	**57.39 308**	P	**P**	**13 20 47.6**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=102,slow=6.1,SNR=1.4					
BRTR			LR	LR	13 48 52.6	
	comp=Z,21nm,18.3s,baz=140,slow=40					
QIS	**Mount Isa**	**57.54 126**	P	**P**	**13 20 46.8**	**-0.6**
	baz=58,SNR=6.9					
PMG	**Port Moresby**	**58.79 110**	P	**P**	**13 20 56.6**	**+0.4**
	comp=Z,24nm,0.7s,baz=186,slow=11,SNR=5.6					
PMG	**Port Moresby**	**58.79 110**	P	**P**	**13 20 56.6**	**+0.4**
RABL	**Rabaul**	**61.60 103**	P	**P**	**13 21 16.5**	**+0.9**
CTA	**Charters Tower**	**62.65 122**	P	**P**	**13 21 22.8**	**+0.2**
	comp=Z,6.7nm,0.9s,baz=302,slow=9.5					
MLR	**Muntele Rosu**	**63.77 314**	LR	LR	13 52 27.5	
	comp=Z,38nm,21.5s,baz=241,slow=39					
QLP	**Quilpie**	**64.37 129**	P	**P**	**13 21 33.7**	**0.0**
	baz=64,SNR=5.2					
BURAR	**Bucovina Array**	**64.51 316**	P	**P**	**13 21 35.1**	**+0.6**
HTT	**Hallett**	**64.67 138**	P	**P**	**13 21 35.4**	**-0.2**
	baz=65,SNR=4.4					
STKA	**Stephens Creek**	**65.49 135**	P	**P**	**13 21 40.3**	**-0.6**
	comp=Z,7.9nm,0.6s,baz=310,slow=4.6,SNR=24					
STKA			LR	LR	13 52 40.6	
	comp=Z,56nm,18.9s,baz=208,slow=38					
STKA	**Stephens Creek**	**65.49 135**	P	**P**	**13 21 40.5**	**-0.5**
	baz=65,SNR=11					
STKA	**Stephens Creek**	**65.49 135**	P	**P**	**13 21 40.2**	**-0.8**
FIA1	**FINESS Array S**	**66.48 331**	P	**P**	**13 21 46.9**	**+0.1**
FIA1			IAmb	IAmb	13 22 13.8	
	comp=Z,7.4nm,1.2s					
FINES	**FINESS Array B**	**66.48 331**	P	**P**	**13 21 47.1**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=101,slow=6.0,SNR=7.2					
FINES	**FINESS Array B**	**66.48 331**	P	**P**	**13 21 46.9**	**+0.1**
RMQ	**Roma**	**67.78 127**	P	**P**	**13 21 56.8**	**+1.1**
	baz=68,SNR=4.0					
CMSA	**Cobar Meteorol**	**68.15 133**	P	**P**	**13 21 57.7**	**-0.1**
	baz=68,SNR=41					
ARCES	**ARCESS Array B**	**68.82 340**	P	**P**	**13 22 02.2**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=86,slow=6.5,SNR=13					
ARCES			LR	LR	13 55 34.6	
	comp=Z,36nm,19.6s,baz=162,slow=39					
ARCES	**ARCESS Array B**	**68.82 340**	P	**P**	**13 22 02.1**	**+0.6**
ARE0	**ARCESS Array S**	**68.82 340**	P	**P**	**13 22 01.6**	**+0.1**
EIDS	**Eidsvold**	**69.08 125**	P	**P**	**13 22 03.4**	**-0.4**
ARMA	**Armidale**	**71.92 129**	P	**P**	**13 22 22.3**	**+1.1**
	baz=72,SNR=6.7					
ARMA	**Armidale**	**71.92 129**	P	**P**	**13 22 22.2**	**+1.0**
GERES	**GERESS Array B**	**72.25 317**	P	**P**	**13 22 23.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=94,slow=5.4,SNR=2.1					
GERES	**GERESS Array B**	**72.25 317**	P	**P**	**13 22 23.1**	**+0.2**
NB2	**NORSAR Subarra**	**73.55 330**	P	**P**	**13 22 30.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=89,slow=5.9					
NOA	**NORSAR Array B**	**73.55 330**	P	**P**	**13 22 29.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=90,slow=5.8,SNR=2.7					
LBTB	**Lobatse**	**76.31 239**	P	**P**	**13 22 47.3**	**+0.4**
LBTB			IAmb	IAmb	13 23 03.4	
	comp=Z,7.2nm,1.1s					
BOSA	**Boshof**	**78.01 236**	P	**P**	**13 22 56.2**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=9.2,slow=3.1,SNR=6.5					
BOSA	**Boshof**	**78.01 236**	P	**P**	**13 22 56.4**	**0.0**
ESDC	**Sonseca Array**	**86.14 310**	P	**P**	**13 23 39.2**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=64,slow=3.0,SNR=1.4					
ESDC	**Sonseca Array**	**86.14 310**	IAmb	IAmb	13 23 39.4	
	comp=Z,6.2nm,1.5s					
ILAR	**Eielson Array**	**89.28 22**	P	**P**	**13 23 54.7**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=306,slow=6.1,SNR=2.4					
NVAR	**Mina Array Bea**	**119.96 28**	PKP	**PKPdf**	**13 29 48.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=273,slow=1.7,SNR=8.0					
TXAR	**Lajitas Array**	**133.77 20**	PKP	**PKPdf**	**13 30 15.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=171,slow=1.2,SNR=4.5					
CPUP	**Villa Florida**	**149.67 242**	PKPbc	**PKPbc**	**13 30 46.9**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=172,slow=1.9,SNR=4.8					

SOME ***08*** *13:22:35.0, 39.°67N×74.°92E, h10km*
KRNET ***08*** *13:22:37.0±0.1, 39.°46N×74.°96E, mb3.4*
NNC ***08*** *13:22:38.9±2.9, 39.°76N×75.°02E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=21.7km s-min=13.3km az=164.0*

ISC 08 13:22:42.9±1.5, 39.°75N±0.°07×74.°88E±0.°03, h10km, n57, σ2°55/89, 26C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.78**	**296**	⇑*iP*	**Pb**	**13 23 13.7**	**-2.0**
	baz=3.0						
OHH				⇑*iS*	**Sg**	**13 23 40.3**	**+0.1**
	baz=3.0						
ARLS	**Aral**	**2.15**	**349**	⇑*eP*	**Pb**	**13 23 20.4**	**-1.7**
	baz=49						
ARLS				⇑*iS*	**Sg**	**13 23 52.1**	**0.0**
	baz=49						
KZA	**Kyzart**	**2.34**	**7**	⇑*eP*	**Pn**	**13 23 23.1**	**+1.2**
	baz=5.0						
KZA				⇑*iS*	**Sb**	**13 23 56.3**	**+1.6**
	baz=5.0						
KZA	**Kyzart**	**2.34**	**7**	P	**Pb**	**13 23 24.0**	**-1.5**
	SNR=11						
UCH	**Uchtor**	**2.49**	**354**	P	**Pb**	**13 23 26.3**	**-1.7**
	SNR=9.0						
AML	**Almayashu**	**2.54**	**340**	⇑*iP*	**Pn**	**13 23 25.8**	**+1.2**
	baz=41						
AML				⇑*iS*	**Sb**	**13 24 01.7**	**+1.3**
	baz=41						
AML	**Almayashu**	**2.54**	**340**	P	**Pn**	**13 23 26.0**	**+1.3**
	SNR=9.6						
ULHL	**Ulahol**	**2.70**	**22**	⇑*iP*	**Pn**	**13 23 27.0**	**+0.4**
	baz=19						
ULHL				⇑*iS*	**Sb**	**13 24 03.7**	**-1.0**
	baz=19						
BOOM	**Boomskoye usch**	**2.85**	**16**	⇑*iP*	**Pn**	**13 23 29.8**	**+1.1**
	baz=13						
BOOM				⇑*iS*	**Sb**	**13 24 08.0**	**-1.1**
	baz=13						
AAK	**Ala-Archa**	**2.90**	**354**	⇓*iP*	**Pn**	**13 23 30.7**	**+1.3**
	baz=54						
AAK				⇓*iS*	**Sb**	**13 24 09.9**	**-0.6**
	baz=54						
AAK	**Ala-Archa**	**2.90**	**354**	P	**Pb**	**13 23 32.0**	**-2.8**
	SNR=18						
AAK	**Ala-Archa**	**2.90**	**354**	Pn	**Pn**	**13 23 30.6**	**+1.3**
	9.6nm,0.5s						
AAK				Lg	Lg	13 24 12.7	
	38nm,1.1s						
KBK	**Karagaybulak**	**2.91**	**1**	⇓*iP*	**Pn**	**13 23 30.6**	**+1.2**
	baz=60						
KBK				⇓*iS*	**Sb**	**13 24 09.8**	**-0.8**
	baz=60						
KDJ	**Kajisay**	**2.95**	**35**	⇑*iP*	**Pn**	**13 23 30.0**	**0.0**
	baz=32						
KDJ				⇑*iS*	**Sn**	**13 24 08.7**	**+3.1**
	baz=32						
FRU1	**Bishkek**	**3.06**	**357**	⇑*iP*	**Pn**	**13 23 33.3**	**+1.8**
	baz=56						
FRU1				⇑*iS*	**Sb**	**13 24 14.2**	**-0.9**
	baz=56						
BTK	**Batken**	**3.14**	**277**	⇑*iP*	**Pn**	**13 23 31.7**	**-0.8**
	baz=82						
BTK				⇑*iS*	**Sn**	**13 24 11.0**	**+0.9**
	baz=82						
TKM2	**Tokmak 2**	**3.21**	**9**	P	**Pn**	**13 23 35.8**	**+2.1**
	SNR=22						
TKM2	**Tokmak 2**	**3.21**	**9**	⇓Pn	**Pn**	**13 23 35.5**	**+1.8**
	8.3nm,0.4s						
TKM2				⇑Lg	Lg	13 24 19.1	
	18nm,0.6s						
MRKS	**Merke**	**3.24**	**338**	⇓*iP*	**Pn**	**13 23 36.1**	**+2.2**
	7.8nm,0.4s						
MRKS				*eS*	**Sb**	**13 24 20.2**	**0.0**
	10nm,0.6s						
MRKS	**Merke**	**3.24**	**338**	Pg	**Pn**	**13 23 36.1**	**+2.2**
	12nm,0.3s						
MRKS				Lg	Lg	13 24 20.2	
	10nm,0.6s						
KST	**Kastek**	**3.39**	**14**	⇑*iP*	**Pn**	**13 23 38.6**	**+2.5**
	14nm,0.5s						
KST				⇓*iS*	**Sb**	**13 24 24.3**	**-0.2**
	37nm,0.7s						
KST	**Kastek**	**3.39**	**14**	Pg	**Pn**	**13 23 38.6**	**+2.5**
	16nm,0.3s						
KST				Lg	Lg	13 24 24.3	
	37nm,0.5s						
IZV	**Izvestkoviy**	**3.53**	**21**	*eP*	**Pn**	**13 23 40.7**	**+2.6**
	4.4nm,0.3s						
IZV				*eS*	**Sb**	**13 24 27.9**	**-0.8**
	18nm,0.5s						
IZV	**Izvestkoviy**	**3.53**	**21**	Pg	**Pn**	**13 23 40.7**	**+2.6**
	4.4nm,0.3s						
IZV				Lg	Lg	13 24 27.9	
	18nm,0.5s						
MTBS	**Maitube**	**3.57**	**19**	⇑*iP*	**Pn**	**13 23 41.4**	**+2.9**
	13nm,0.2s						
MTBS				*eS*	**Sb**	**13 24 29.4**	**-0.3**
	10nm,0.6s						
MTBS	**Maitube**	**3.57**	**19**	Pg	**Pn**	**13 23 41.4**	**+2.9**
	13nm,0.2s						
MTBS				Lg	Lg	13 24 29.4	
	16nm,0.3s						
ANVS	**Anan'yevo**	**3.69**	**34**	⇑*iP*	**Pn**	**13 23 40.5**	**+0.3**
	baz=31						
ANVS				⇑*iS*	**Sn**	**13 24 27.2**	**+3.4**
	baz=31						
SGDS	**Sogindy**	**3.71**	**357**	Pg	**Pn**	**13 23 43.8**	**+3.5**
	5.2nm,0.7s						
SGDS				Lg	Lg	13 24 33.6	
	5.5nm,0.5s						
MDOK	**Medeo**	**3.78**	**25**	*eP*	**Pb**	**13 23 45.5**	**-4.4**
	4.2nm,0.5s						
MDOK				*eS*	**Sb**	**13 24 36.3**	**+0.5**
	15nm,0.4s						
MDOK	**Medeo**	**3.78**	**25**	Pg	**Pb**	**13 23 45.5**	**-4.4**
	4.1nm,1.0s						
MDOK				Lg	Lg	13 24 36.3	
	15nm,0.4s						
KOTS	**Kotyrbulak**	**3.87**	**25**	*eP*	**Pb**	**13 23 47.1**	**-4.2**
	8.6nm,0.5s						
KOTS				*eS*	**Sb**	**13 24 38.9**	**+0.7**
	8.7nm,0.7s						
KOTS	**Kotyrbulak**	**3.87**	**25**	Pg	**Pb**	**13 23 47.1**	**-4.2**
	16nm,0.4s						
KOTS				Lg	Lg	13 24 38.9	
	72nm,0.5s						
KRBS	**Karabastau**	**3.99**	**8**	*eP*	**Pb**	**13 23 50.2**	**-3.1**
	3.1nm,0.6s						
KRBS				*eS*	**Sb**	**13 24 43.6**	**+1.9**
	4.8nm,0.6s						
KRBS	**Karabastau**	**3.99**	**8**	Pg	**Pb**	**13 23 50.0**	**-3.3**
	3.1nm,0.6s						
KRBS				Lg	Lg	13 24 43.6	
	4.8nm,0.6s						
KTBS	**Karatobe**	**4.18**	**18**	*eP*	**Pb**	**13 23 53.4**	**-3.2**
	2.6nm,0.3s						
KTBS				*eS*	**Sb**	**13 24 49.8**	**+2.5**
	12nm,0.4s						
KTBS	**Karatobe**	**4.18**	**18**	Pg	**Pb**	**13 23 53.4**	**-3.2**
	4.8nm,0.3s						
KTBS				Lg	Lg	13 24 49.8	
	12nm,0.4s						
SATY	**Saty**	**4.24**	**38**	*eP*	**Pb**	**13 23 53.8**	**-3.9**
	4.2nm,0.4s						
SATY				*eS*	**Sb**	**13 24 50.6**	**+1.7**
	11nm,1.1s						
SATY	**Saty**	**4.24**	**38**	Pg	**Pb**	**13 23 53.8**	**-3.9**
	3.8nm,0.5s						
SATY				Lg	Lg	13 24 50.6	
	10.0nm,0.4s						
KUU	**Kurty**	**4.28**	**14**	*eP*	**Pb**	**13 23 55.2**	**-3.1**
	2.2nm,0.4s						
KUU				*eS*	**Sb**	**13 24 53.0**	**+3.0**
	23nm,0.3s						
KUU	**Kurty**	**4.28**	**14**	Pg	**Pb**	**13 23 55.2**	**-3.1**
	2.7nm,0.3s						
KUU				Lg	Lg	13 24 53.0	
	23nm,0.3s						
CHKK	**Chushkaly**	**4.39**	**20**	*eP*	**Pb**	**13 23 57.1**	**-3.1**
	3.9nm,0.2s						
CHKK				*eS*	**Sb**	**13 24 56.0**	**+2.8**
	10nm,0.2s						
CHKK	**Chushkaly**	**4.39**	**20**	Pg	**Pb**	**13 23 57.1**	**-3.1**
	3.9nm,0.2s						
CHKK				Lg	Lg	13 24 56.0	
	10nm,0.2s						
KURS	**Kuram**	**4.48**	**32**	*eP*	**Pb**	**13 23 58.5**	**-3.1**
	4.2nm,0.5s						
KURS				*eS*	**Sb**	**13 24 58.4**	**+2.7**
	4.8nm,0.9s						
KURS	**Kuram**	**4.48**	**32**	Pg	**Pb**	**13 23 58.5**	**-3.1**
	4.2nm,0.5s						
KURS				Lg	Lg	13 24 58.3	
	4.2nm,0.9s						
UZB	**Uzynbulak**	**4.61**	**41**	*eP*	**Pb**	**13 24 00.4**	**-3.5**
	2.6nm,0.3s						
UZB				*eS*	**Sb**	**13 25 01.4**	**+1.9**
	4.3nm,0.6s						
UZB	**Uzynbulak**	**4.61**	**41**	Pg	**Pb**	**13 24 00.4**	**-3.5**
	2.6nm,0.3s						
UZB				Lg	Lg	13 25 01.4	
	7.0nm,0.7s						
KPKS	**Kokpek**	**4.68**	**36**	*eP*	**Pb**	**13 24 01.7**	**-3.5**
	9.5nm,0.2s						
KPKS				*eS*	**Sb**	**13 25 04.0**	**+2.4**
	15nm,0.6s						
KK31	**Karatay Array**	**4.69**	**317**	⇑Pn	**Pn**	**13 23 53.1**	**-0.7**
	0.4nm,0.3s,baz=141,slow=14,SNR=6.5						
KK31				⇓Pg	**Pb**	**13 24 05.2**	**-0.1**
	baz=146,slow=14						
KK31				⇑Sn	**Sn**	**13 24 50.3**	**+2.0**
	1.7nm,0.4s,baz=140,slow=26						
KK31				⇑Lg	Lg	13 25 06.8	
	1.4nm,0.4s,baz=143,slow=30						
SHLS	**Shalkode**	**4.84**	**44**	*eP*	**Pb**	**13 24 08.9**	**+1.0**
	10nm,0.4s						
SHLS				*eS*	**Sg**	**13 25 16.5**	**-1.9**
	13nm,0.7s						
SHLS	**Shalkode**	**4.84**	**44**	Pg	**Pb**	**13 24 08.9**	**+1.0**
	10nm,0.4s						
SHLS				Lg	Lg	13 25 16.5	
	13nm,0.7s						
PDGK	**Podgornoye**	**4.98**	**43**	Pg	**Pb**	**13 24 07.5**	**-2.7**
	1.7nm,1.0s						
PDGK				Lg	Lg	13 25 13.9	
	4.8nm,0.9s						
MNBS	**Baschi**	**5.06**	**30**	*eP*	**Pb**	**13 24 10.0**	**-1.7**
	2.5nm,0.2s						
MNBS				*eS*	**Sb**	**13 25 18.4**	**+5.8**
	12nm,0.8s						
MNBS	**Baschi**	**5.06**	**30**	Pg	**Pb**	**13 24 10.0**	**-1.7**
	2.5nm,0.2s						
MNBS				Lg	Lg	13 25 18.4	
	12nm,0.8s						
BTLS	**Baital**	**5.33**	**354**	*eP*	**Pb**	**13 24 16.0**	**-0.1**
	0.8nm,0.2s						
BTLS				*eS*	**Sg**	**13 25 28.8**	**-5.1**
	3.8nm,0.7s						
BTLS	**Baital**	**5.33**	**354**	Pg	**Pb**	**13 24 16.0**	**-0.1**
	0.8nm,0.2s						
BTLS				Lg	Lg	13 25 28.8	
	3.8nm,0.7s						
KAPS	**Kapalarasan**	**6.45**	**29**	*eP*	**Pb**	**13 24 36.3**	**+1.1**
	1.0nm,0.6s						
KAPS				*eS*	**Sg**	**13 26 03.0**	**-6.8**
	2.4nm,0.8s						
KAPS	**Kapalarasan**	**6.45**	**29**	Pg	**Pb**	**13 24 36.3**	**+1.1**
	1.0nm,0.6s						
KAPS				Lg	Lg	13 26 03.0	
	2.4nm,0.8s						

IDC 08 13:38:52.4±6.9, 19.°43S×176.°53W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/35, mbtmp3.5/2, Error ellipse: s-maj=311.4km s-min=107.2km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.12**	**256**	P	P	13 47 18.7	-0.2
	0.4nm,0.5s,baz=92,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**46.13**	**261**	P	P	13 47 18.9	-0.1
	0.2nm,0.4s,baz=98,slow=7.7,SNR=14						
AKASG	**Malin Array Be**	**142.72**	**333**	PKP	PKPdf	13 58 26.7	-0.8
	0.6nm,0.4s,baz=42,slow=3.9,SNR=5.9						

IDC ***08*** *13:42:05.0±0.7, 18.°66N×107.°02W, h0km, mb4.4/19, mb1 4.6/22, mb1mx4.5/43, mbtmp4.5/22, ML4.3/3, MS4.3/22, Ms1 4.4/22, ms1mx4.3/27, Error ellipse: s-maj=28.2km s-min=11.7km az=59.0*

NEIC ***08*** *13:42:06.5±2.1, 18.°70N±0.°07×107.°01W±0.°08, h10km±1km, mb4.9/364, Error ellipse: s-maj=14.2km s-min=11.1km az=229.0*

GCMT ***08*** *13:42:07.5±0.1, 18.°82N±0.°01×107.°05W±0.°01, h25km, MW5.3/141, Moment Tensor Solution. s113,c178; s141,c255; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.10±.02; Mθθ-0.74±.02; Mφφ0.84±.02; Mrθ-0.01±.04; Mrφ-1.06±.01; Mθφ0.06±.04; Best double couple: M0 1.32600×10^17 NP1:φs288.00000°, δ88.00000°, λ179.00000°. NP2:φs18.00000°, δ89.00000°, λ2.00000°. Principal axes: T 1.3780, Plg2.0000°, Azm243.0000°; N -0.1030, Plg88.0000°, Azm46.0000°; P -1.2740, Plg1.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MEX ***08*** *13:42:08.9±0.9, 18.°75N×106.°92W, h13km±28km, MD5.0*

UNK ***08*** *13:42:12.6, 18.°80N×106.°95W, h56km*

ISC 08 13:42:07.5±0.4, 18.°85N±0.°05×106.°89W±0.°05, h10km, n813, σ1°07/777, mb4.8/140, MS4.5/24, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.86**	**69**	*eP*	**Pn**	**13 42 37.5**	**-1.9**
CJM				*i* S	**Sn**	**13 43 00.2**	**-2.8**
CJM				*eS*	**Sb**	**13 43 00.7**	**-4.3**
COIG	**Colima**	**3.05**	**83**	*eP*	**Pn**	**13 42 53.8**	**-2.0**
COIG				*eS*	**Sn**	**13 43 30.5**	**-1.9**
ANIG	**Ahuacatlan**	**3.13**	**45**	*eP*	**Pn**	**13 42 57.1**	**+0.1**
ANIG				*i* S	**Sn**	**13 43 35.0**	**+0.5**
EZ5V		**3.17**	**78**	*eP*	**Pn**	**13 42 57.3**	**-0.4**
MMIG	**Aquila**	**3.41**	**99**	*eP*	**Pn**	**13 42 58.4**	**-2.3**
MMIG				*i* S	**Sn**	**13 43 39.1**	**-2.0**
MAIG	**Mazatlaan**	**4.34**	**6**	*i* P	**Pn**	**13 43 13.1**	**-0.5**
MAIG				*i* S	**Sn**	**13 44 03.0**	**-1.3**
ZIIG	**Zihuatanejo**	**5.30**	**103**	*i* P	**Pn**	**13 43 25.5**	**-1.3**
MOIG	**Morelia**	**5.45**	**80**	Pn	**Pn**	**13 43 30.2**	**+1.2**
SLBS	**Sierra La Lagu**	**5.60**	**330**	Pn	**Pn**	**13 43 31.0**	**+0.1**
ZAIG	**Zacatecas**	**5.62**	**45**	Pn	**Pn**	**13 43 33.4**	**+2.0**
LPIG	**La Paz**	**6.12**	**329**	Pn	**Pn**	**13 43 39.8**	**+1.8**
	3.7nm,0.3s,baz=193,slow=3.4,SNR=14						
LPIG	**La Paz**	**6.12**	**329**	*i* P	**Pn**	**13 43 39.4**	**+1.3**
ARIG	**Puente Sto Nin**	**6.23**	**94**	*eP*	**Pn**	**13 43 40.4**	**+0.8**

comp=Z,73nm,1.5s
BNM Barren Site 15.25 1 P P 13 45 47.6 -0.5
LENM Lemitar 15.26 360 Pn 13 45 45.1 +1.9
ESJX Sierra Juarez 15.44 330 Pn 13 45 46.5 +0.9
CPBX Cerro Prieto 15.49 332 Pn **Pn 13 45 47.6 +1.5**
MSTX Muleshoe 15.51 13 P **Pn 13 45 48.3 +1.9**
baz=195,SNR=20
MSTX Muleshoe 15.51 13 Pn **Pn 13 45 48.3 +1.9**
MSTX IAmb IAmb 13 46 06.2
comp=Z,86nm,1.1s
WHTX Lake Whitney, 15.61 31 P **Pn 13 45 49.6 +2.0**
baz=215,SNR=16
WHTX Lake Whitney, 15.61 31 Pn 13 45 49.6 +2.0
WHTX IAmb IAmb 13 45 54.5
comp=Z,66nm,1.1s
CCX Cicese 15.68 328 Pn 13 45 49.4 +0.9
GLA Glamis 15.84 335 P **Pn 13 45 52.1 +1.5**
baz=152,SNR=11
GLA Glamis 15.84 335 Pn 13 45 51.9 +1.3
GLA IAmb IAmb 13 45 59.9
comp=Z,119nm,1.3s
RMX La Rumorosa 15.99 331 Pn 13 45 53.5 +0.8
RMX IAmb IAmb 13 45 59.8
comp=Z,72nm,1.2s
CBX Cerro Bola 16.04 329 Pn 13 45 53.9 +0.6
ANMO Albuquerque 16.04 1 Pn **P 13 45 56.8 -0.1**
comp=Z,0.0nm,0.3s,baz=345,slow=12,SNR=22
ANMO LR LR 13 51 50.5
comp=Z,98nm,20.2s,baz=358,slow=36
ANMO Albuquerque 16.04 1 P **Pn 13 45 55.7 +2.2**
baz=182
ANMO Albuquerque 16.04 1 Pn **Pn 13 45 55.0 +1.6**
IKP In-Ko-Pah, Jac 16.05 331 P **Pn 13 45 55.0 +1.6**
baz=147,SNR=15
SWSC Sam W. Stewart 16.16 332 P **Pn 13 45 56.3 +1.6**
baz=149,SNR=9.8
APG El Apazote 16.17 101 Pn **P 13 45 58.0 -0.4**
comp=Z,0.8nm,0.3s,baz=290,slow=10,SNR=10
APG LR LR 13 50 54.1
comp=Z,920nm,20.9s,baz=282,slow=32
PETF Flores 16.32 94 P 13 45 59.1 -0.7
PETF IAmb IAmb 13 46 11.8
comp=Z,97nm,1.3s
BAR Barrett 16.34 329 Pn **Pn 13 45 58.1 +1.1**
MONP2 Monument Peak 16.39 330 P **P 13 45 60.0 -0.8**
baz=147,SNR=21
W18A Petrified Fore 16.41 352 P **P 13 46 00.3 -0.6**
baz=171,SNR=11
W18A Petrified Fore 16.41 352 P **P 13 46 00.0 -0.9**
237A Washetta, Mont 16.47 35 Pn **Pn 13 46 00.3 +1.6**
BC3 Big Chuckawall 16.62 334 P **P 13 46 02.3 -0.9**
baz=151,SNR=30
AMTX Amarillo 16.63 15 P **P 13 46 03.7 +0.4**
baz=198
AMTX Amarillo 16.63 15 Pn **Pn 13 46 02.2 +1.4**
AMTX IAmb IAmb 13 46 15.5
comp=Z,87nm,1.4s
PDMCI Parker Dam,Lak 16.70 339 P **P 13 46 03.4 -0.5**
baz=156,SNR=12
109C Camp Elliot, M 16.72 329 P **Pn 13 46 03.0 +1.1**
baz=145
109C Camp Elliot, M 16.72 329 Pn 13 46 03.0 +1.1
Z35A Perchaven, San 16.81 29 Pn 13 46 04.6 +1.6
Z35A IAmb IAmb 13 46 09.2
comp=Z,91nm,1.1s
IRM Iron Mountain 16.93 336 P **P 13 46 06.2 -0.4**
baz=152,SNR=23
NATX Nacogdoches 16.94 38 P **Pn 13 46 05.8 +1.1**
baz=223,SNR=7.1
NATX Nacogdoches 16.94 38 Pn **Pn 13 46 06.1 +1.4**
PFO Pinyon Flats O 17.01 332 Pn **P 13 46 07.7 +0.1**
comp=Z,0.3nm,0.3s,baz=150,slow=9.6,SNR=23
PFO LR LR 13 51 52.7
comp=Z,2µm,21.7s,baz=168,slow=34
PFO Pinyon Flats O 17.01 332 P **P 13 46 07.9 +0.3**
baz=148,SNR=35
PFO Pinyon Flats O 17.01 332 P 13 46 06.8 -0.7
PFO IAmb IAmb 13 46 13.5
comp=Z,125nm,1.2s
WUAZ Wupatki 17.07 347 P **P 13 46 08.9 +0.6**
baz=166,SNR=26
WUAZ Wupatki 17.07 347 P 13 46 08.4 +0.1
WUAZ IAmb IAmb 13 46 12.6
comp=Z,60nm,1.0s
BELC Belle Mtn. Jos 17.14 334 P **P 13 46 09.3 +0.3**
baz=150,SNR=29
441A DeRidder 17.16 44 P **P 13 46 09.4 +0.4**
NEE2 Needles Airpor 17.28 338 P **P 13 46 10.9 +0.5**
baz=155
ESQI Esquipulas 17.34 102 P **P 13 46 14.0 +2.8**
W13A Hualapai Mount 17.34 340 P **P 13 46 11.4 +0.2**
MURC Murrieta 17.34 330 P **P 13 46 11.5 +0.3**
baz=146
MTO3 Montecristo 17.37 102 P **P 13 46 14.8 +3.1**
MTO3 IAmb IAmb 13 46 23.8
comp=Z,76nm,0.9s
WMOK Wichita Mounta 17.39 23 P **P 13 46 12.7 +1.0**
baz=207,SNR=19
WMOK Wichita Mounta 17.39 23 Pn 13 46 11.7 +1.3
SCI2 San Clemente I 17.53 326 P **P 13 46 13.8 +0.7**
baz=141
TEIG Tepich 17.60 82 Pn **Pn 13 46 12.7 -0.3**
GMRC Granite Mounta 17.69 336 P **P 13 46 16.0 +1.0**
baz=152,SNR=23
BBRC Big Bear Solar 17.77 332 P **P 13 46 17.2 +1.2**
baz=148
CIS Catalina Islan 17.79 327 P **Pn 13 46 15.7 +0.4**
baz=142,SNR=6.7
Z38A Mt. Pleasant 17.88 34 P 13 46 17.6 +0.6
Z38A IAmb IAmb 13 46 22.4
comp=Z,157nm,1.2s
FMP Fort Macarthur 17.97 328 P **P 13 46 17.9 -0.1**
baz=143
HEC Hector,Ludlow 18.00 334 P **P 13 46 19.6 +1.2**
baz=150,SNR=6.5
342A Flagon Creek P 18.13 44 P 13 46 20.3 +0.6
U15A North Rim 18.15 346 P **P 13 46 21.1 +0.8**
MWC Mount Wilson 18.27 329 P 13 46 22.0 +0.6
MWC IAmb IAmb 13 46 29.4
comp=Z,96nm,1.3s
PASC Pasadena Art C 18.29 329 P **P 13 46 22.5 +1.0**
RRX Edison Barstow 18.32 333 P **Pn 13 46 22.8 +1.1**
baz=148
MVCO Mesa Verde 18.35 356 P **Pn 13 46 24.0 +1.6**
baz=175,SNR=8.2
MVCO Mesa Verde 18.35 356 P **P 13 46 22.8 +0.3**
T25A Trinidad 18.36 6 P **Pn 13 46 24.4 +1.9**
baz=188,SNR=6.0
T25A Trinidad 18.36 6 Pn 13 46 24.3 +1.9
TUQ Turquoise Moun 18.36 336 P **Pn 13 46 23.6 +1.2**
baz=152,SNR=14
DECC Green Verdugo 18.42 329 P **Pn 13 46 23.6 +0.5**
baz=144
GSC Goldstone, Bar 18.60 334 P **Pn 13 46 25.5 +0.3**
baz=150,SNR=11
GSC Goldstone, Bar 18.60 334 P **Pn 13 46 25.9 +0.6**
BCOK Bluff Creek, N 18.65 24 P **Pn 13 46 28.0 +2.2**
BCOK IAmb IAmb 13 46 51.2
comp=Z,92nm,0.9s
X37A Clayton 18.73 31 P **Pn 13 46 27.9 +1.1**
X37A IAmb IAmb 13 46 40.4
comp=Z,142nm,1.4s
EDW2 Edwards Air Fo 18.77 331 P **Pn 13 46 27.3 0.0**
baz=146,SNR=6.1
OK029 Liberty Lake 18.83 24 P **Pn 13 46 29.8 +1.8**
OK029 IAmb IAmb 13 46 37.3
comp=Z,67nm,1.2s
S22A 4UR Ranch, Cre 18.83 0 P **Pn 13 46 29.8 +1.5**
baz=180,SNR=20
S22A 4UR Ranch, Cre 18.83 0 Pn 13 46 29.4 +1.1
KNB Kanab 18.84 345 P **Pn 13 46 28.8 +0.5**
SDCO Great Sand Dun 18.87 3 P **Pn 13 46 29.5 +0.8**
baz=184,SNR=37
SDCO Great Sand Dun 18.87 3 P **Pn 13 46 29.9 +1.1**
SHOC Shoshone, Teco 18.90 336 P **Pn 13 46 29.2 +0.3**
baz=152
OSI Osito Audit: C 18.91 329 P **Pn 13 46 29.1 +0.1**
baz=144
LCMT Little Creek M 18.94 344 P **Pn 13 46 30.0 +0.5**
SHPR Sheep Range 19.04 339 P **Pn 13 46 30.9 +0.3**
Z41A Richland Creek 19.11 39 P **Pn 13 46 32.3 +1.0**
baz=225,SNR=9.4
Z41A Richland Creek 19.11 39 P **Pn 13 46 32.6 +1.3**
LRMC Laurel Mtn Rad 19.13 332 P **P 13 46 31.4 +0.5**
baz=148
PKCU Pink Cliffs 19.13 347 P **Pn 13 46 33.2 +1.3**

WLAR White Oak Lake 19.23 37 P **Pn 13 46 34.5 +1.6**
344A Westbrook Farm 19.25 46 Pn 13 46 34.6 +1.6
PV05 Paradox Valley 19.26 355 P **Pn 13 46 34.3 +0.9**
SBC Santa Barbara 19.27 326 P **Pn 13 46 33.5 +0.1**
baz=141
PV01 Paradox Valley 19.28 356 P **Pn 13 46 34.0 +0.4**
PV13 Radium Mtn., P 19.32 355 P **Pn 13 46 34.2 +0.1**
PV02 Paradox Valley 19.36 356 P **Pn 13 46 34.8 +0.2**
ARVC Arvin 19.37 329 P **Pn 13 46 34.2 -0.3**
baz=144
TGUH Tegucigalpa,Un 19.40 101 P **Pn 13 46 37.0 +1.9**
TGUH IAmb IAmb 13 46 43.7
comp=Z,120nm,1.4s
PV18 Skein Mesa, Pa 19.41 355 P **P 13 46 35.0 +0.9**
PV03 Paradox Valley 19.41 355 P **Pn 13 46 35.2 0.0**
PV03 IAmb IAmb 13 46 42.4
comp=Z,56nm,1.4s
PV17 East Wray Mesa 19.45 355 P **Pn 13 46 35.6 0.0**
SZCU Shurtz Canyon 19.45 345 P **Pn 13 46 36.0 +0.3**
QUOK Quay 19.46 25 P **Pn 13 46 36.0 +0.4**
QUOK IAmb IAmb 13 46 44.5
comp=Z,48nm,1.1s
PV11 David Mesa, Pa 19.46 355 P **Pn 13 46 35.7 0.0**
PV11 IAmb IAmb 13 46 43.6
comp=Z,55nm,1.1s
PV12 Saucer Basin, 19.48 355 P **P 13 46 35.7 +0.9**
PV12 IAmb IAmb 13 46 43.2
comp=Z,62nm,1.3s
PV15 Paradox Valley 19.48 356 P **Pn 13 46 36.6 +0.6**
PV15 IAmb IAmb 13 46 43.4
comp=Z,47nm,1.2s
PV16 Nyswonger Mesa 19.48 355 P **Pn 13 46 35.9 -0.1**
CCUT Cedar City 19.48 344 P **Pn 13 46 36.4 +0.4**
PV19 Morning Glory 19.48 355 P **Pn 13 46 36.0 0.0**
PV20 West Nyswonger 19.51 355 P **Pn 13 46 36.4 +0.1**
MPMC Manual Prospec 19.53 334 P **P 13 46 35.5 +0.1**
baz=149,SNR=39
PV14 Lion Creek, Pa 19.55 355 P **Pn 13 46 36.8 -0.1**
PV10 Paradox Valley 19.55 355 P 13 46 36.0 +0.4
PV04 Paradox Valley 19.56 355 P **Pn 13 46 37.1 +0.2**
PV07 Paradox Valley 19.58 356 P **Pn 13 46 37.4 +0.2**
143A Socs Landing, 19.59 42 P **Pn 13 46 37.9 +0.8**
MIAR Mount Ida 19.61 34 P **Pn 13 46 37.7 +0.2**
baz=220,SNR=8.8
MIAR Mount Ida 19.61 34 P **P 13 46 36.7 +0.7**
TUL1 Leonard 19.62 28 P **P 13 46 37.3 +1.2**
baz=213,SNR=7.0
TUL1 Leonard 19.62 28 P **P 13 46 36.6 +0.5**
TUL1 IAmb IAmb 13 46 49.2
comp=Z,70nm,1.1s
PV23 Carpenter Ridg 19.62 355 P **Pn 13 46 37.8 0.0**
FURC Furnace Creek, 19.63 335 P **P 13 46 36.5 +0.3**
baz=151,SNR=7.9
ISA Isabella, Lake 19.64 331 P **P 13 46 36.7 +0.3**
baz=146,SNR=12
ISA Isabella, Lake 19.64 331 P **Pn 13 46 37.8 +0.1**
PKM Mcpherson Peak 19.67 327 P **P 13 46 37.0 +0.1**
baz=141
MTPU Mount Pierson 19.68 348 P **Pn 13 46 39.1 +0.6**
PV22 Blue Mesa, Par 19.69 356 P **Pn 13 46 38.9 +0.4**
PV21 Cone Mtn., Par 19.73 355 P **P 13 46 38.3 +0.7**
TPNV Topopah Spring 19.82 337 P **Pn 13 46 39.7 -0.4**
baz=153,SNR=54
TPNV Topopah Spring 19.82 337 P **Pn 13 46 40.0 -0.1**
TPNV IAmb IAmb 13 46 42.5
comp=Z,42nm,0.9s
PRN Pahroc Range 19.83 341 P **Pn 13 46 39.8 -0.3**
VBMS Vicksburg 19.86 45 P **Pn 13 46 40.1 -0.2**
baz=232
VBMS Vicksburg 19.86 45 P **Pn 13 46 40.8 +0.5**
KAN13 South Haven SW 19.90 23 P Pn 13 46 40.9 +0.2
X40A Basin Creek Fa 19.98 36 P Pn 13 46 42.2 +0.5
baz=222,SNR=17
X40A Basin Creek Fa 19.98 36 P **P 13 46 40.2 +0.2**
X40A IAmb IAmb 13 46 47.6
comp=Z,88nm,1.4s
W39A Magazine 20.00 33 P Pn 13 46 42.0 0.0
baz=219,SNR=14
W39A Magazine 20.00 33 P **P 13 46 41.7 +1.4**
W39A IAmb IAmb 13 47 02.9
comp=Z,98nm,1.4s
VES Vestal, Richgr 20.07 330 P Pn 13 46 42.0 -0.8
baz=145
346A Big Creek Wild 20.09 48 P Pn 13 46 43.0 -0.1
SMMC Simmler 20.10 327 P **P 13 46 41.7 +0.3**
baz=142,SNR=8.0
Q24A Divide 20.11 4 P **P 13 46 43.1 +1.4**
baz=185
Q24A Divide 20.11 4 P Pn 13 46 43.5 -0.1
CWC Cottonwood Cre 20.11 333 P **P 13 46 42.6 +1.0**
baz=148
MVU Marysvale 20.13 348 P Pn 13 46 43.8 0.0
MSU Marysvale 20.13 348 P Pn 13 46 43.5 -0.3
T35A Sooner Cattle 20.18 25 P **Pn 13 46 43.5 +1.3**
T35A IAmb IAmb 13 46 50.7
comp=Z,61nm,1.1s
CCAR Cane Creek 20.18 39 P Pn 13 46 44.4 +0.3
TCRU Three Creeks R 20.28 347 P Pn 13 46 45.1 -0.4
GRAC Grapevine Rang 20.29 335 P Pn 13 46 44.6 -0.8
baz=150,SNR=14
Q16A Castle Valley 20.34 350 P **P 13 46 45.6 +1.4**
KSCO Kaye Shedlock' 20.43 10 P **P 13 46 46.7 +1.6**
baz=192
KSCO Kaye Shedlock' 20.43 10 P **P 13 46 46.5 +1.4**
KSCO IAmb IAmb 13 47 13.1
comp=Z,94nm,1.4s
SRU San Rafael Swe 20.44 352 P **P 13 46 45.8 +0.6**
UALR University of 20.46 36 P **P 13 46 46.4 +1.1**
UALR IAmb IAmb 13 46 53.1
comp=Z,94nm,1.2s
PSUT Pine Spring 20.53 344 P **P 13 46 47.4 +1.1**
PAGB Antelope Grade 20.55 328 P **P 13 46 47.0 +0.7**
PAGB IAmb IAmb 13 46 57.5
comp=Z,54nm,1.3s
VOG Valley Oaks Go 20.60 330 P **P 13 46 47.6 +0.9**
baz=145
TIN Tinemaha, Big 20.69 334 P **P 13 46 49.1 +1.2**
baz=148,SNR=8.7
U38A Gravette 20.70 30 P **P 13 46 48.5 +0.6**
TMUT Trail Mountain 20.72 350 P **P 13 46 49.4 +1.0**
R32A Long Quarter, 20.77 18 P **P 13 46 49.9 +1.3**
R32A IAmb IAmb 13 46 57.4
comp=Z,66nm,1.0s
HHAR Hobbs 20.78 31 P **P 13 46 49.5 +0.7**
HHAR IAmb IAmb 13 46 56.5
comp=Z,80nm,1.3s
W41B Gary Mavity, V 20.81 36 P **P 13 46 50.1 +1.0**
baz=222,SNR=14
W41B Gary Mavity, V 20.81 36 P **P 13 46 50.0 +1.0**
W41B IAmb IAmb 13 47 13.8
comp=Z,46nm,1.2s
P17A Butcher Ranch, 20.82 352 P **P 13 46 50.2 +0.8**
CBKS Cedar Bluff 20.85 16 P **P 13 46 50.1 +0.6**
baz=199
CBKS Cedar Bluff 20.85 16 P **P 13 46 50.4 +0.9**
R11A Troy Canyon, C 20.86 340 P **P 13 46 50.6 +0.9**
baz=157,SNR=97
R11A Troy Canyon, C 20.86 340 P **P 13 46 50.7 +0.9**
R11A IAmb IAmb 13 46 52.4
comp=Z,34nm,0.9s
WHAR Wooly Hollow 20.87 35 P **P 13 46 51.0 +1.3**
WHAR IAmb IAmb 13 46 55.0
comp=Z,57nm,1.0s
ISCO Idaho Springs 20.91 3 P **P 13 46 52.1 +1.6**
baz=184,SNR=30
ISCO Idaho Springs 20.91 3 P **P 13 46 51.3 +0.8**
146A Union 21.09 46 P **P 13 46 54.3 +2.2**
X43A Marvell 21.13 39 P **P 13 46 53.4 +0.9**
baz=226
X43A Marvell 21.13 39 P **P 13 46 54.4 +1.9**
TPH Tonopah 21.18 337 P **P 13 46 53.8 +0.6**
PMPB Monarch Peak 21.21 327 P **P 13 46 53.6 +0.2**
O20A White River Ci 21.25 357 P **P 13 46 55.2 +1.2**
baz=177,SNR=46
O20A White River Ci 21.25 357 P **P 13 46 55.5 +1.5**
O20A IAmb IAmb 13 47 07.3
comp=Z,70nm,1.0s
U40A Yellville 21.38 32 P **P 13 46 56.0 +0.7**
baz=219,SNR=20
U40A Yellville 21.38 32 P **P 13 46 55.8 +0.5**
U40A IAmb IAmb 13 47 06.8
comp=Z,34nm,0.9s
BOAB BOACO BROADBA 21.39 104 P **P 13 46 57.9 +2.4**
FCAR Ozark Folk Cen 21.41 35 P **P 13 46 55.8 +0.3**

MLAC Mammoth, Mammo 21.43 333 P **P 13 46 56.9 +0.9**
baz=148
NLU North Lily Min 21.51 349 P **P 13 46 58.1 +1.3**
MDPB Devils Postpil 21.54 333 P **P 13 46 57.9 +0.7**
BRAL Brewton 21.73 52 P **P 13 47 00.9 +1.9**
baz=240,SNR=9.5
BRAL Brewton 21.73 52 P **P 13 47 01.2 +2.3**
RDMU Red Mountain 21.78 354 P **P 13 47 00.5 +0.8**
NV11 Mina Array Sit 21.84 336 P **P 13 47 00.9 +0.6**
NV11 IAmb IAmb 13 47 05.6
comp=Z,44nm,1.2s
DUG Dugway, Tooele 21.88 348 P **P 13 47 01.6 +0.9**
baz=165,SNR=32
DUG Dugway, Tooele 21.88 348 P **P 13 47 01.7 +0.9**
DUG IAmb IAmb 13 47 05.0
comp=Z,42nm,1.1s
NVAR Mina Array Bea 21.90 335 P **P 13 47 02.1 +1.1**
comp=Z,16nm,0.9s,baz=156,slow=12,SNR=90
NVAR LR LR 13 54 55.1
comp=Z,943nm,18.4s,baz=154,slow=35
NVAR Mina Array Bea 21.90 335 P **P 13 47 01.5 +0.5**
HBAR Harrisburg 21.98 38 P **P 13 47 03.6 +1.9**
N23A Red Feather La 21.99 2 P **P 13 47 02.8 +0.8**
baz=182,SNR=25
N23A Red Feather La 21.99 2 P **P 13 47 02.9 +0.9**
N23A IAmb IAmb 13 47 05.9
comp=Z,49nm,1.2s
ACON Acoyapa 22.01 105 P **P 13 47 05.3 +3.2**
OXF Oxford 22.02 41 P **P 13 47 03.8 +1.7**
baz=229,SNR=10
OXF Oxford 22.02 41 P **P 13 47 05.2 +3.1**
JLU Jordanelle 22.04 351 P **P 13 47 03.4 +0.9**
KSU1 Kansas State U 22.07 22 P **P 13 47 03.3 +0.8**
baz=207
KSU1 Kansas State U 22.07 22 P **P 13 47 04.6 +2.0**
LCAR Lake Charles 22.07 36 P **P 13 47 03.8 +1.2**
Z47A Carrollton 22.09 46 P **P 13 47 04.5 +1.6**
RYN Ryan 22.16 335 P **P 13 47 04.2 +0.5**
CTU Camp Tracy 22.17 350 P **P 13 47 04.7 +0.8**
S39A Bolivar 22.21 29 P **P 13 47 04.2 +0.1**
S39A IAmb IAmb 13 47 14.3
comp=Z,38nm,1.1s
MGMO Mountain Grove 22.30 32 P **P 13 47 05.2 +0.1**
MGMO IAmb IAmb 13 47 15.2
comp=Z,48nm,0.9s
KVN Kaiserville 22.36 337 P **P 13 47 06.3 +0.4**
KVN IAmb IAmb 13 47 09.2
comp=Z,65nm,1.1s
PHWY Pilot Hill 22.42 3 P **P 13 47 06.6 -0.1**
PHWY IAmb IAmb 13 47 31.0
comp=Z,46nm,1.2s
OGNE Ogallala 22.42 10 P **P 13 47 06.5 +0.1**
baz=192
WAKR Walker 22.43 333 P **P 13 47 07.1 +0.5**
WAKR IAmb IAmb 13 47 10.1
comp=Z,52nm,1.1s
451A Vernon 22.45 55 P **P 13 47 09.1 +2.3**
CMB Columbia Colle 22.45 331 P **P 13 47 06.1 -0.7**
TCUT Toone Canyon 22.54 351 P **P 13 47 08.7 +0.9**
W45A Hickory Valley 22.59 40 P **P 13 47 09.6 +1.4**
BGU Big Grassy Mou 22.63 348 P **P 13 47 08.5 -0.3**
GNAR Gosnell 22.64 38 P **P 13 47 09.8 +1.1**
250A Grady 22.71 51 P **P 13 47 11.5 +2.0**
LRAL Lakeview Retre 22.74 48 P **P 13 47 10.8 +1.0**
baz=236,SNR=16
LRAL Lakeview Retre 22.74 48 P **P 13 47 11.3 +1.5**
LRAL IAmb IAmb 13 47 29.8
comp=Z,69nm,1.4s
YERR Yerington 22.75 334 P **P 13 47 10.4 +0.3**
YERR IAmb IAmb 13 47 13.0
comp=Z,31nm,1.1s
RWWY Rawlins 22.77 359 P **P 13 47 12.0 +1.6**
RWWY IAmb IAmb 13 47 36.0
comp=Z,31nm,1.1s
T42A Van Buren 22.81 34 P **P 13 47 11.1 +0.6**
JTS Las Juntas de 22.85 109 P **P 13 47 16.3 +5.1**
comp=Z,19nm,1.0s,baz=355,slow=11,SNR=6.7
SPUT South Promonto 22.89 349 P **P 13 47 11.4 -0.1**
PNTR Pine Nut 22.99 334 P **P 13 47 12.9 +0.3**
PNTR IAmb IAmb 13 47 39.5
comp=Z,25nm,1.0s
HWUT Hardware Ranch 23.04 351 P **P 13 47 12.9 -0.1**
LNXT Lenox 23.04 38 P **P 13 47 14.6 +1.7**
PLAL Pickwick Lake 23.17 42 P **P 13 47 14.2 -0.1**
PLAL IAmb IAmb 13 47 26.0
comp=Z,22nm,0.9s
VCNR Virginia City 23.18 334 P **P 13 47 15.3 +0.7**
R40A Maddies Statio 23.19 30 P **P 13 47 14.3 -0.1**
R40A IAmb IAmb 13 47 25.7
comp=Z,31nm,1.1s
RUBR Rubicon Trail 23.19 333 P **P 13 47 15.2 +0.5**
HVU Hansel Valley 23.41 349 P **P 13 47 17.4 +0.6**
PAHR Pah Rah Range 23.43 335 P **P 13 47 17.4 +0.4**
PAHR IAmb IAmb 13 47 22.1
comp=Z,57nm,1.3s
352A Blakely 23.47 53 P **P 13 47 18.1 +0.7**
HICK Hickman 23.50 38 P **P 13 47 19.2 +1.7**
CCM Cathedral Cave 23.51 32 P **P 13 47 17.9 +0.3**
baz=220
CCM Cathedral Cave 23.51 32 P **P 13 47 18.1 +0.5**
CCM IAmb IAmb 13 47 35.2
comp=Z,24nm,0.9s
X48A Hartselle 23.52 45 P **P 13 47 18.3 +0.5**
X48A IAmb IAmb 13 47 23.9
comp=Z,61nm,1.2s
Y49A Blount Mountai 23.60 47 P **P 13 47 19.4 +0.8**
Y49A IAmb IAmb 13 47 25.0
comp=Z,47nm,1.1s
BGNE Belgrade 23.70 17 P **P 13 47 19.4 -0.1**
baz=201
P38A Dawn 23.71 26 P **P 13 47 18.4 -1.2**
K22A Casper 23.73 1 P **P 13 47 19.9 0.0**
baz=181,SNR=16
K22A Casper 23.73 1 P **P 13 47 19.6 -0.4**
K22A IAmb IAmb 13 47 23.2
comp=Z,40nm,1.2s
FVM French Village 23.87 34 P **P 13 47 20.7 -0.5**
FVM IAmb IAmb 13 47 34.7
comp=Z,52nm,1.2s
PD31 Pinedale Array 23.95 355 P **P 13 47 20.9 -1.3**
PDAR Pinedale Array 23.95 355 P **P 13 47 22.4 +0.2**
comp=Z,3.7nm,0.8s,baz=171,slow=10,SNR=18
PDAR LR LR 13 56 17.2
comp=Z,1µm,20.8s,baz=187,slow=35
PDAR Pinedale Array 23.95 355 P **P 13 47 20.0 -2.2**
BW06 Boulder Array 23.95 355 P **P 13 47 21.9 -0.3**
baz=174,SNR=11
WVT Waverly 24.06 40 P **P 13 47 23.0 +0.1**
baz=229
WVT Waverly 24.06 40 P **P 13 47 22.1 -0.8**
Z51A Franklin 24.18 49 P **P 13 47 23.8 -0.3**
Z51A IAmb IAmb 13 47 31.7
comp=Z,27nm,1.0s
152A Waverly Hall 24.19 51 P **P 13 47 23.9 -0.3**
152A IAmb IAmb 13 47 38.3
comp=Z,27nm,1.1s
P40A Paris 24.28 29 P **P 13 47 24.6 -0.4**
S44A Carbondale 24.29 36 P **P 13 47 23.7 -1.4**
S44A IAmb IAmb 13 47 50.3
comp=Z,26nm,0.9s
ECR Eagle Creek 24.43 352 P **P 13 47 24.9 -1.7**
V48A Smith Brothers 24.44 42 P **P 13 47 26.1 -0.4**
V48A IAmb IAmb 13 47 41.1
comp=Z,45nm,1.2s
SLM Saint Louis 24.46 33 P **P 13 47 26.3 -0.3**
TIGA Tifton 24.48 55 P **P 13 47 27.2 +0.4**
baz=245
FPAL Fort Paine 24.54 46 P **P 13 47 27.0 -0.4**
REDW Red Top Meadow 24.67 353 P **P 13 47 27.6 -1.2**
SWET Sewanee 24.71 44 P **P 13 47 28.7 -0.3**
SWET IAmb IAmb 13 47 57.2
comp=Z,54nm,1.4s
SNOW Snow King Moun 24.76 353 P **P 13 47 29.3 -0.3**
TPAW Teton Pass 24.81 353 P **P 13 47 28.9 -1.2**
N38A Joes South For 24.81 25 P **P 13 47 29.9 +0.1**
LOHW Long Hollow 24.89 354 P **P 13 47 30.3 -0.4**
O03E Paynes Creek 24.93 332 P **P 13 47 30.0 -1.0**
baz=145
FXWY Fox Creek 24.96 353 P **P 13 47 30.9 -0.5**
FXWY IAmb IAmb 13 47 44.9
comp=Z,19nm,0.9s
CLTN Cedars of Leba 24.97 42 P **P 13 47 30.9 -0.3**
CLTN IAmb IAmb 13 47 42.4
comp=Z,54nm,1.5s

T47A	Sharon Grove	25.06	40	P	P	13 47 31.0	-1.1
T47A				IAmb	IAmb	13 47 35.8	
comp=Z,27nm,0.9s							
DWPF	Disney Wildern	25.06	64	P	P	13 47 31.8	-0.4
X51A	Calhoun	25.07	47	P	P	13 47 32.0	-0.2
X51A				IAmb	IAmb	13 47 40.2	
comp=Z,43nm,1.2s							
W50A	Signal Mountai	25.11	45	P	P	13 47 32.2	-0.4
IMW	Indian Meadow	25.21	353	P	P	13 47 33.0	-0.6
IMW				IAmb	IAmb	13 47 39.6	
comp=Z,20nm,1.1s							
Y52A	Lilburn	25.26	49	P	P	13 47 33.3	-0.6
O02D	Mt. Diablo Mer	25.29	331	P	P	13 47 33.8	-0.4
baz=143							
Q44A	Meyer Farm, Va	25.30	34	P	P	13 47 33.8	-0.4
RSSD	Black Hills	25.32	5	P	P	13 47 34.2	-0.3
baz=186							
RSSD	Black Hills	25.32	5	P	P	13 47 32.8	-1.7
154A	Montrose	25.36	53	P	P	13 47 34.9	+0.1
FLWY	Flagg Ranch	25.37	354	P	P	13 47 33.9	-1.1
FLWY				IAmb	IAmb	13 47 57.4	
comp=Z,32nm,1.2s							
HLID	Hailey	25.45	347	P	P	13 47 36.0	+0.3
baz=163,SNR=18							
HLID	Hailey	25.45	347	P	P	13 47 35.1	-0.6
GOGA	Godfrey	25.47	51	P	P	13 47 37.2	+1.4
baz=241,SNR=5.1							
GOGA	Godfrey	25.47	51	P	P	13 47 35.5	-0.3
WVOR	Wild Horse Val	25.54	340	P	P	13 47 36.2	-0.3
WVOR				IAmb	IAmb	13 47 38.5	
comp=Z,29nm,1.1s							
YPP	Pitchstone Pla	25.56	353	P	P	13 47 37.2	+0.3
U49A	Red Boiling Sp	25.58	42	P	P	13 47 37.3	+0.5
P43A	Skaggs, Pawnee	25.59	32	P	P	13 47 37.2	+0.5
MFID	Camas Ranch	25.63	345	P	P	13 47 37.2	-0.1
H17A	Grant Village	25.66	354	P	P	13 47 38.2	+0.4
baz=172							
H17A	Grant Village	25.66	354	P	P	13 47 38.0	+0.2
MOD	Modoc Plateau	25.67	336	P	P	13 47 37.5	-0.2
MOD				IAmb	IAmb	13 47 45.2	
comp=Z,42nm,1.1s							
OLIL	Olney	25.67	36	P	P	13 47 37.9	+0.3
OLIL				IAmb	IAmb	13 47 58.7	
comp=Z,34nm,0.9s							
KMRM	Mail Ridge	25.76	329	P	P	13 47 38.0	-0.5
KMRM				IAmb	IAmb	13 47 43.5	
comp=Z,29nm,0.9s							
SCIA	State Center	25.77	24	P	P	13 47 38.2	-0.3
baz=211							
CPCT	Cooper Cave	25.78	46	P	P	13 47 38.1	-0.5
CPCT				IAmb	IAmb	13 48 07.2	
comp=Z,34nm,1.3s							
LKWY	Lake	25.81	354	P	P	13 47 40.3	+1.2
LKWY				IAmb	IAmb	13 47 48.4	
comp=Z,18nm,1.0s							
N02D	Trinity Center	25.89	332	P	P	13 47 38.1	-1.5
baz=144							
YMP	Mirror Lake Pl	25.96	355	P	P	13 47 40.1	-0.5
YMR	Madison River	25.97	353	P	P	13 47 40.7	+0.1
W52A	Murphy	26.00	47	P	P	13 47 40.2	-0.4
W52A				IAmb	IAmb	13 47 46.7	
comp=Z,31nm,1.2s							
YHH	Holmes Hill	26.08	354	P	P	13 47 40.7	-0.9
YHB	Horse Butte	26.08	353	P	P	13 47 42.0	+0.5
V51A	Loudon	26.10	45	P	P	13 47 41.4	-0.1
V51A				IAmb	IAmb	13 47 50.0	
comp=Z,35nm,1.0s							
M04C	Macdoel	26.17	334	P	P	13 47 41.2	-1.1
baz=147,SNR=8.4							
YHL	Hebgen Lake	26.18	353	P	P	13 47 43.1	+0.7
QLMT	Earthquake Lak	26.19	353	P	P	13 47 42.7	+0.2
YNE	Yellowstone No	26.22	355	P	P	13 47 42.7	-0.1
RLMT	Red Lodge	26.28	356	P	P	13 47 43.1	-0.2
baz=175							
M02C	Callahan	26.29	332	P	P	13 47 42.0	-1.3
baz=144							
J08A	Circle Bar Ran	26.32	341	P	P	13 47 43.8	+0.3
J08A				IAmb	IAmb	13 47 48.7	
comp=Z,25nm,1.1s							
WCI	Wyandotte Cave	26.36	39	P	P	13 47 43.6	-0.2
baz=229							
WCI	Wyandotte Cave	26.36	39	P	P	13 47 44.9	+1.1
WCI				IAmb	IAmb	13 47 53.0	
comp=Z,20nm,0.9s							
JCC	Jacoby Creek,	26.37	330	P	P	13 47 43.1	-0.8
SUSD	Miller	26.37	13	P	P	13 47 43.9	0.0
MCMT	McKenzie Canyo	26.38	350	P	P	13 47 44.6	+0.4
HDIL	Hopedale	26.39	31	P	P	13 47 44.4	+0.3
baz=220							
HDIL	Hopedale	26.39	31	P	P	13 47 44.4	+0.3
TKL	Tuckaleechee C	26.41	46	P	P	13 47 45.6	+1.3
comp=Z,8.0nm,1.0s,baz=208,slow=7.8,SNR=5.3							
TKL	Tuckaleechee C	26.41	46	P	P	13 47 45.1	+0.8
TKL				IAmb	IAmb	13 48 03.5	
comp=Z,16nm,1.0s							
T50A	Nancy	26.49	42	P	P	13 47 44.9	-0.1
YBH	Yreka Blue Hor	26.50	333	P	P	13 47 46.8	+1.6
comp=Z,2.5nm,0.8s,baz=170,slow=11,SNR=4.0							
YBH				LR	LR	13 57 55.4	
comp=Z,747nm,20.9s,baz=157,slow=36							
YBH	Yreka Blue Hor	26.50	333	IAmb	IAmb	13 47 50.0	
comp=Z,5.0nm,0.9s							
K05A	Summer Lake	26.60	337	P	P	13 47 46.3	+0.1
K05A				IAmb	IAmb	13 47 51.0	
comp=Z,26nm,1.0s							
BG3	Lake Jocassee	26.64	48	P	P	13 47 47.0	+0.6
BG3				IAmb	IAmb	13 47 54.0	
comp=Z,22nm,1.0s							
L40A	Anamosa	26.71	27	P	P	13 47 47.0	+0.1
L40A				IAmb	IAmb	13 47 57.4	
comp=Z,25nm,1.2s							
L04D	Klamath Falls	26.73	334	P	P	13 47 46.4	-0.9
baz=146,SNR=10							
X54A	Belton	26.81	49	P	P	13 47 48.7	+0.7
baz=240,SNR=9.1							
DLMT	Dillon	26.86	351	P	P	13 47 49.1	+0.6
KRMB	Red Mountain	26.87	331	P	P	13 47 48.9	+0.3
KRMB				IAmb	IAmb	13 47 53.6	
comp=Z,18nm,1.1s							
Y55A	Saluda	26.90	51	P	P	13 47 49.2	+0.5
baz=242							
BOZ	Bozeman (W)	26.97	353	P	P	13 47 49.5	+0.1
baz=170,SNR=19							
BOZ	Bozeman (W)	26.97	353	P	P	13 47 49.9	+0.5
GCMT	Greycliff	26.97	356	P	P	13 47 47.3	-2.1
157A	Early Branch	26.99	54	P	P	13 47 50.1	+0.5
baz=246							
TZTN	Tazewell	27.05	45	P	P	13 47 50.3	+0.2
baz=236							
TZTN	Tazewell	27.05	45	P	P	13 47 49.8	-0.4
TZTN				IAmb	IAmb	13 47 58.4	
comp=Z,26nm,1.0s							
V53A	Saluda	27.07	47	P	P	13 47 50.5	+0.1
V53A				IAmb	IAmb	13 48 01.3	
comp=Z,18nm,0.9s							
J05D	Fort Rock, OR	27.21	337	P	P	13 47 51.5	-0.1
baz=149,SNR=13							
W54A	Cherokee Point	27.21	49	P	P	13 47 51.9	+0.3
baz=240							
L02E	Cave Junction	27.24	332	P	P	13 47 50.5	-1.2
baz=144							
LRM	Limekiln Ridge	27.30	352	P	P	13 47 52.2	-0.3
I07A	Izee	27.30	340	P	P	13 47 51.9	-0.5
X55A	Gracelyn & Ava	27.31	50	P	P	13 47 52.7	+0.3
baz=242							
L42A	Oliver, Polo	27.34	29	P	P	13 47 51.8	-0.8
L42A				IAmb	IAmb	13 48 02.2	
comp=Z,29nm,0.9s							
BMO	Blue Mountains	27.35	344	P	P	13 47 52.1	-0.7
SFIN	Lafayette	27.39	34	P	P	13 47 53.9	+0.8
baz=224							
SFIN	Lafayette	27.39	34	P	P	13 47 53.9	+0.8
SFIN				IAmb	IAmb	13 48 03.4	
comp=Z,20nm,1.0s							
Z57A	Bowman	27.48	53	P	P	13 47 54.3	+0.3
baz=245							
JSC	Jenkinsville	27.50	51	P	P	13 47 53.9	-0.2
JSC				IAmb	IAmb	13 48 01.3	
comp=Z,36nm,1.5s							
J04D	Umpqua Nationa	27.50	335	P	P	13 47 54.3	0.0
baz=148,SNR=17							
PINE	Pine Mountain	27.54	338	P	P	13 47 54.1	-0.5
R50A	Paris	27.58	41	P	P	13 47 53.7	-1.1
158A	Hollywood	27.64	55	P	P	13 47 55.6	+0.2
baz=246							

S51A	Beattyville	27.65	43	P	P	13 47 55.0	-0.5
K02D	Willamette Mer	27.70	333	P	P	13 47 55.6	-0.4
baz=144,SNR=13							
V54A	Nebo	27.73	47	P	P	13 47 55.4	-0.9
baz=239							
X56A	White Oak	27.76	51	P	P	13 47 55.7	-0.8
baz=242							
LAO	LASA Array	27.77	1	P	P	13 47 56.6	0.0
baz=182							
LAO	LASA Array	27.77	1	P	P	13 47 56.1	-0.4
LAO				IAmb	IAmb	13 48 17.1	
comp=Z,25nm,1.2s							
NHSC	New Hope	27.80	54	P	P	13 47 55.1	-1.7
baz=246							
NHSC	New Hope	27.80	54	P	P	13 47 56.6	-0.2
JFWS	Jewell Farm	27.82	27	P	P	13 47 56.5	-0.4
baz=216							
JFWS	Jewell Farm	27.82	27	P	P	13 47 56.8	-0.1
KMSC	Kings Mountain	27.85	49	P	P	13 47 57.3	0.0
baz=241							
HRY	Holter Researc	28.09	353	P	P	13 47 59.4	0.0
I04A	Tendick Farm,	28.09	336	P	P	13 47 58.4	-1.0
baz=148							
E28A	Huff	28.12	9	P	P	13 47 59.3	-0.4
E28A				IAmb	IAmb	13 48 21.8	
comp=Z,22nm,1.1s							
KEBM	Edson Butte	28.13	332	P	P	13 47 58.9	-0.9
P49A	Miami Univ. Ec	28.14	38	P	P	13 47 59.7	-0.2
baz=229							
P49A	Miami Univ. Ec	28.14	38	P	P	13 47 59.5	-0.3
I05D	Terrebonne, OR	28.15	338	P	P	13 47 59.1	-0.8
baz=150							
J01E	Myrtle Point	28.19	333	P	P	13 47 59.2	-1.0
baz=144							
U54A	Nelsons Funny	28.20	46	P	P	13 47 58.8	-1.7
baz=238							
V55A	Taylorsville	28.28	48	P	P	13 47 59.4	-1.8
baz=240							
F10A	Beach Ranch, E	28.38	345	P	P	13 48 01.3	-0.6
I03D	Drain, OR	28.38	334	P	P	13 48 01.1	-0.8
baz=146							
W56A	Indian Trail	28.39	50	P	P	13 48 01.2	-0.9
baz=242							
MSO	Missoula	28.51	350	P	P	13 48 02.9	-0.3
baz=166,SNR=10.0							
MSO	Missoula	28.51	350	P	P	13 48 03.2	0.0
MSO				IAmb	IAmb	13 48 05.0	
comp=Z,25nm,1.1s							
T54A	Tazewell	28.66	45	P	P	13 48 03.9	-0.7
baz=238							
U55A	TA2, Sparta	28.73	47	P	P	13 48 04.5	-0.7
baz=239							
H04A	Detroit Lake	28.76	337	P	P	13 48 03.8	-1.5
H04A				IAmb	IAmb	13 48 09.1	
comp=Z,20nm,1.0s							
O49A	Covington	28.79	38	P	P	13 48 05.5	-0.1
O49A				IAmb	IAmb	13 48 11.9	
comp=Z,20nm,0.8s							
W57A	Gilead	28.82	50	P	P	13 48 04.9	-1.0
baz=243							
H04D	Lebanon	28.83	336	P	P	13 48 04.6	-1.3
baz=148							
I02D	Swisshome	28.92	334	P	P	13 48 05.2	-1.5
baz=145							
G05D	Wamic, OR	28.93	339	P	P	13 48 06.3	-0.5
baz=151							
X58A	Rowland	29.04	52	P	P	13 48 07.5	-0.3
baz=244							
P51A	Williamsport	29.10	40	P	P	13 48 08.8	+0.5
baz=232							
P51A	Williamsport	29.10	40	P	P	13 48 08.5	+0.1
R53A	Hurricane	29.11	43	P	P	13 48 08.4	-0.1
baz=235							
R53A	Hurricane	29.11	43	P	P	13 48 09.3	+0.8
R53A				IAmb	IAmb	13 48 14.0	
comp=Z,23nm,1.1s							
EGMT	Eagleton	29.20	356	P	P	13 48 08.6	-0.6
baz=175,SNR=12							
EGMT	Eagleton	29.20	356	P	P	13 48 09.3	0.0
EGMT				IAmb	IAmb	13 48 11.3	
comp=Z,21nm,1.0s							
T55A	Pulaski	29.22	46	P	P	13 48 09.4	-0.1
baz=238							
S54A	Dingess, Beckl	29.23	44	P	P	13 48 08.6	-1.1
baz=237							
V57A	Coltrane Farms	29.32	49	P	P	13 48 10.0	-0.3
baz=242							
BLA	Blacksburg	29.52	46	P	P	13 48 11.3	-0.9
baz=239							
F05D	White Salmon	29.54	339	P	P	13 48 11.7	-0.5
baz=151							
G03D	McMinnville, O	29.61	336	P	P	13 48 12.0	-0.8
baz=148							
ACSO	Alum Creek Sta	29.61	39	P	P	13 48 13.0	+0.1
baz=231							
ACSO	Alum Creek Sta	29.61	39	P	P	13 48 12.5	-0.4
ACSO				IAmb	IAmb	13 48 29.0	
comp=Z,14nm,0.9s							
Q53A	Leroy	29.69	42	P	P	13 48 14.0	+0.4
baz=235							
T56A	Rocky Mt	29.70	47	P	P	13 48 13.6	-0.1
baz=240							
V58A	Windy Hill, Pi	29.75	50	P	P	13 48 14.0	-0.2
baz=243							
P52A	Corning	29.76	41	P	P	13 48 14.4	+0.2
baz=233							
P52A	Corning	29.76	41	P	P	13 48 13.9	-0.3
P52A				IAmb	IAmb	13 48 22.5	
comp=Z,12nm,0.8s							
S55A	Lewisburg	29.76	45	P	P	13 48 13.8	-0.5
baz=238							
O51A	Pataskala	29.78	39	P	P	13 48 14.1	-0.4
baz=232							
U57A	Blanch	29.89	48	P	P	13 48 14.9	-0.5
baz=241							
F04A	Amboy	29.91	338	P	P	13 48 15.0	-0.5
F04A				IAmb	IAmb	13 48 19.2	
comp=Z,32nm,1.3s							
L48A	N Adams	29.92	35	P	P	13 48 16.3	+0.7
L48A				IAmb	IAmb	13 48 17.6	
comp=Z,17nm,1.1s							
P53A	Whipple	30.14	42	P	P	13 48 16.9	-0.6
baz=234							
P53A	Whipple	30.14	42	P	P	13 48 17.5	-0.1
P53A				IAmb	IAmb	13 48 19.5	
comp=Z,20nm,1.1s							
H43A	Windswept, Lux	30.14	28	P	P	13 48 18.4	+0.9
H43A				IAmb	IAmb	13 48 26.6	
comp=Z,24nm,1.1s							
Q54A	Coxs Mills	30.20	43	P	P	13 48 18.2	+0.1
baz=236							
Q54A	Coxs Mills	30.20	43	P	P	13 48 18.5	+0.4
Q54A				IAmb	IAmb	13 48 23.0	
comp=Z,23nm,1.3s							
T57A	Hurt	30.22	48	P	P	13 48 18.1	-0.2
baz=241							
O52A	Adamsville	30.23	40	P	P	13 48 19.1	+0.7
baz=233							
O52A	Adamsville	30.23	40	P	P	13 48 18.2	-0.2
O52A				IAmb	IAmb	13 48 26.4	
comp=Z,18nm,0.8s							
F04D	Rainier, OR	30.25	337	P	P	13 48 17.8	-0.7
baz=149							
R55A	Marlinton	30.29	45	P	P	13 48 19.1	+0.2
baz=238							
R55A	Marlinton	30.29	45	P	P	13 48 19.6	+0.7
R55A				IAmb	IAmb	13 48 24.0	
comp=Z,23nm,1.1s							
M50A	Fremont	30.33	37	P	P	13 48 19.6	+0.4
V59A	Middlesex	30.38	50	P	P	13 48 19.6	0.0
baz=244							
N51A	Ashland	30.40	38	P	P	13 48 19.8	-0.1
baz=231							
N51A	Ashland	30.40	38	P	P	13 48 19.7	-0.3
LON	Longmire	30.42	340	P	P	13 48 20.0	0.0
U58A	Oxford	30.43	49	P	P	13 48 19.2	-1.0
baz=242							
NEW	Newport	30.50	346	P	P	13 48 20.3	-0.5
baz=161							
E04D	Cinebar	30.50	338	P	P	13 48 20.2	-0.5
baz=150							
LTY	Liberty	30.50	341	P	P	13 48 20.9	+0.1
LTY				IAmb	IAmb	13 48 25.4	
comp=Z,23nm,1.4s							
WALA	Waterton Lakes	30.67	351	P	P	13 48 22.2	-0.1
O53A	New Philadelph	30.69	41	P	P	13 48 22.9	+0.4
baz=233							

O53A	New Philadelph	30.69	41	P	P	13 48 22.2	-0.2
O53A				IAmb	IAmb	13 48 27.1	
comp=Z,22nm,1.1s							
Q55A	Buckhannon	30.70	44	P	P	13 48 22.8	+0.2
baz=237							
N52A	McGinn's Farm,	30.75	39	P	P	13 48 22.3	-0.6
baz=232							
M51A	Elyria	30.78	38	P	P	13 48 23.9	+0.7
baz=231							
P54A	Burton	30.78	42	P	P	13 48 23.6	+0.4
baz=235							
S57A	Dark Hollow, R	30.80	46	P	P	13 48 23.2	-0.3
baz=240							
R56A	Bull Pasture M	30.83	45	P	P	13 48 23.6	-0.2
baz=238							
E03A	Lebam	30.85	337	P	P	13 48 22.9	-0.8
D05A	Enumclaw	30.86	340	P	P	13 48 22.1	-1.7
COWI	Conover	30.89	24	P	P	13 48 24.2	+0.1
U59A	Littleton	30.96	50	P	P	13 48 25.0	+0.2
baz=244							
B08A	Colville Reser	31.13	344	P	P	13 48 26.3	+0.1
B08A				IAmb	IAmb	13 48 30.7	
comp=Z,19nm,1.1s							
P55A	Reedsville	31.14	43	P	P	13 48 26.8	+0.3
baz=236							
O54A	Avella	31.17	41	P	P	13 48 26.6	-0.2
baz=235							
O54A	Avella	31.17	41	P	P	13 48 26.2	-0.6
O54A				IAmb	IAmb	13 48 28.7	
comp=Z,26nm,1.4s							
N53A	Lisbon	31.25	40	P	P	13 48 27.0	-0.4
baz=233							
Q56A	Snyder Ridge,	31.31	44	P	P	13 48 27.4	-0.5
baz=238							
Q56A	Snyder Ridge,	31.31	44	P	P	13 48 27.8	-0.1
Q56A				IAmb	IAmb	13 48 37.0	
comp=Z,16nm,1.0s							
R57A	Stanardsville	31.37	46	P	P	13 48 28.4	-0.1
baz=240							
M52A	Chesterland	31.39	38	P	P	13 48 28.7	+0.1
baz=232							
M52A	Chesterland	31.39	38	P	P	13 48 28.1	-0.5
U60A	Pendleton	31.47	50	P	P	13 48 28.9	-0.5
baz=244							
D03D	Eldon	31.53	339	P	P	13 48 29.2	-0.5
baz=150,SNR=6.0							
V61A	Roper	31.61	52	P	P	13 48 30.6	+0.1
baz=246							
R58B	Mineral	31.64	47	P	P	13 48 30.6	-0.3
baz=241							
R58A	Rapidan	31.72	46	P	P	13 48 31.2	-0.3
baz=240							
M53A	WI Miller and	31.73	39	P	P	13 48 31.4	-0.2
baz=233							
M53A	WI Miller and	31.73	39	P	P	13 48 31.2	-0.4
M53A				IAmb	IAmb	13 48 34.1	
comp=Z,20nm,1.1s							
P56A	Dayton Farm, R	31.78	44	P	P	13 48 32.3	+0.2
baz=238							
Q57A	Strasburg	31.82	45	P	P	13 48 32.8	+0.4
baz=239							
B05A	Bryant	31.84	341	P	P	13 48 32.0	-0.4
baz=152							
O55A	Ligonier	31.86	42	P	P	13 48 33.4	+0.6
baz=236							
N54A	Moraine State	31.87	40	P	P	13 48 33.4	+0.6
baz=234							
N54A	Moraine State	31.87	40	P	P	13 48 32.2	-0.6
B06A	Marblemount	31.88	342	P	P	13 48 32.3	-0.5
B06A				IAmb	IAmb	13 48 37.0	
comp=Z,17nm,1.2s							
U61A	Possum Corner	31.93	51	P	P	13 48 33.1	-0.3
baz=245							
E43A	Lone Tree Farm	31.98	26	P	P	13 48 33.3	-0.4
E43A				IAmb	IAmb	13 48 37.8	
comp=Z,24nm,1.4s							
I49A	Point Hope	32.15	34	P	P	13 48 35.1	-0.1
Q58A	Fox Den Farm,	32.26	45	P	P	13 48 36.6	+0.4
baz=240							
L53A	Girard	32.29	39	P	P	13 48 36.6	0.0
baz=233							
O56A	Blue Knob Stat	32.37	43	P	P	13 48 37.5	+0.2
baz=237							
M54A	Oil Creek Stat	32.38	40	P	P	13 48 37.1	-0.3
baz=234,SNR=9.9							
M54A	Oil Creek Stat	32.38	40	P	P	13 48 37.0	-0.3
N55A	Marion Center	32.39	42	P	P	13 48 37.3	-0.1
baz=236							
ULM	Lac du Bonnet	32.55	13	P	P	13 48 37.7	-1.0
comp=Z,4.6nm,0.6s,baz=190,slow=5.1,SNR=3.5							
ULM				LR	LR	14 02 07.3	
comp=Z,1µm,21.8s,baz=204,slow=37							
N56A	West Decatur	32.90	42	P	P	13 48 42.1	+0.2
baz=236							
M55A	Ridgway	32.91	41	P	P	13 48 42.3	+0.3
baz=235							
M55A	Ridgway	32.91	41	P	P	13 48 41.0	-1.0
M55A				IAmb	IAmb	13 48 46.5	
comp=Z,16nm,0.9s							
O57A	Amberson	32.94	43	P	P	13 48 42.2	0.0
baz=238							
SSPA	Standing Stone	33.00	43	P	P	13 48 42.8	0.0
baz=237							
I51A	Listowel	33.02	35	P	P	13 48 43.2	+0.3
baz=229							
L54A	Sinclairville	33.02	39	P	P	13 48 42.3	-0.6
baz=234							
S61A	Accomac	33.07	49	P	P	13 48 43.3	-0.1
baz=244							
M56A	Emporium	33.28	41	P	P	13 48 45.8	+0.6
baz=236							
N57A	Milroy	33.28	43	P	P	13 48 45.8	+0.6
baz=238							
O58A	Lewisberry	33.36	44	P	P	13 48 46.5	+0.6
baz=239							
OTAV	Otavalo	33.48	120	P	P	13 48 47.5	-0.2
OTAV	Otavalo	33.48	120	eP	P	13 48 48.6	+0.9
L55A	Hinsdale	33.52	40	P	P	13 48 47.8	+0.5
baz=235							
WVNY	West Valley, N	33.55	39	P	P	13 48 47.0	-0.6
R61A	Willards	33.59	48	P	P	13 48 46.7	-1.2
baz=244							
K54A	Basiliko Farm,	33.62	39	P	P	13 48 47.8	-0.3
baz=234							
E47A	Iron Bridge	33.70	30	P	P	13 48 49.6	+0.8
baz=223							
M57A	Sunshine Farm,	33.87	42	P	P	13 48 50.8	+0.5
baz=238							
N58A	Sunbury	33.87	43	P	P	13 48 50.2	-0.1
baz=239							
N58A	Sunbury	33.87	43	P	P	13 48 50.8	+0.5
O59A	Robesonia	33.95	44	P	P	13 48 51.0	0.0
baz=240							
L56A	Greenwood	34.03	41	P	P	13 48 51.5	-0.2
baz=236							
L56A	Greenwood	34.03	41	P	P	13 48 51.6	-0.2
L56A				IAmb	IAmb	13 49 03.6	
comp=Z,17nm,1.1s							
J54A	Appleton	34.04	38	P	P	13 48 52.0	+0.2
baz=233							
J54A	Appleton	34.04	38	P	P	13 48 52.1	+0.3
J54A				IAmb	IAmb	13 48 53.3	
comp=Z,17nm,0.8s							
K55A	Perry	34.06	39	P	P	13 48 51.6	-0.3
baz=234							
P60A	Greenville	34.07	46	P	P	13 48 52.1	+0.1
baz=241							
P60A	Greenville	34.07	46	P	P	13 48 52.9	+0.9
P60A				IAmb	IAmb	13 48 57.7	
comp=Z,13nm,0.8s							
MEDO	Medina	34.09	38	P	P	13 48 52.5	+0.3
PSUB	Penn St. - Bra	34.25	45	P	P	13 48 54.5	+0.9
PSUB				IAmb	IAmb	13 49 04.6	
comp=Z,18nm,0.9s							
M58A	Price's Panora	34.31	43	P	P	13 48 53.6	-0.6
baz=238							
L57A	Andrews Acres	34.40	41	P	P	13 48 54.9	-0.1
baz=237							
O60A	Telford	34.47	45	P	P	13 48 55.0	-0.5
baz=241							
K56A	Middlesex	34.49	40	P	P

baz=242
K57A Scipio Center 35.01 40 P **P 13 49 00.6 +0.5**
baz=236
BINY Binghamton 35.05 42 P **P 13 49 00.3 -0.2**
baz=238
BINY Binghamton 35.05 42 P **P 13 49 00.9 +0.4**
BINY IAmb IAmb 13 49 02.4
comp=Z,34nm,1.4s
L58A Harry Jones Me 35.05 42 P **P 13 49 00.1 -0.5**
baz=238
M59A Waymart 35.06 43 P **P 13 48 59.7 -0.9**
baz=239
J56A Wolcott 35.10 39 P **P 13 49 00.7 -0.2**
baz=236
I55A Frankford 35.16 38 P **P 13 49 01.0 -0.4**
baz=233
PECO Prince Edward 35.40 38 P **P 13 49 03.7 +0.2**
PECO IAmb IAmb 13 49 11.6
comp=Z,17nm,0.9s
K58A Earlville 35.56 41 P **P 13 49 04.9 -0.1**
baz=238
K58A Earlville 35.56 41 P **P 13 49 04.4 -0.5**
K58A IAmb IAmb 13 49 13.2
comp=Z,14nm,0.9s
L59A Walton 35.64 42 P **P 13 49 05.2 -0.4**
baz=239
H55A Tweed 35.65 37 P **P 13 49 05.3 -0.3**
baz=234
G54A Lake Saint Pet 35.65 36 P **P 13 49 05.6 -0.1**
baz=232
J57A Williamstown 35.70 40 P **P 13 49 06.3 +0.2**
baz=236
J57A Williamstown 35.70 40 P **P 13 49 05.9 -0.2**
J57A IAmb IAmb 13 49 14.1
comp=Z,16nm,0.8s
PAL Palisades 35.80 45 P **P 13 49 06.7 -0.2**
baz=242
PLVO Plevna 36.00 37 P **P 13 49 09.1 +0.4**
PLVO IAmb IAmb 13 49 16.4
comp=Z,18nm,1.1s
ALGO Algonquin Park 36.02 35 P **P 13 49 08.2 -0.6**
baz=231
M61A Granite Spring 36.03 44 P **P 13 49 08.7 -0.3**
baz=242
K59A Cooperstown 36.06 42 P **P 13 49 09.1 -0.1**
baz=238
L60A Shokan 36.07 43 P **P 13 49 10.0 +0.7**
baz=240
J58A Remsen 36.10 40 P **P 13 49 09.5 -0.1**
baz=237
I57A Carthage 36.19 39 P **P 13 49 09.5 -0.9**
baz=236
H56A Elgin 36.21 38 P **P 13 49 10.6 +0.2**
baz=235
G55A Calabogie 36.33 37 P **P 13 49 11.9 +0.4**
baz=233
I58A Old Forge 36.47 40 P **P 13 49 13.1 +0.4**
baz=237
SDV Santo Domingo 36.49 101 P **P 13 49 14.0 +0.5**
SDV Santo Domingo 36.49 101 *e*P **P 13 49 15.1 +1.6**
E53A Dumoine, Ponti 36.50 35 P **P 13 49 12.9 0.0**
baz=231
L61A Hillsdale 1, H 36.60 43 P **P 13 49 13.4 -0.4**
baz=241
J59A Piesco 36.64 41 P **P 13 49 13.9 -0.3**
baz=238
H57A Richville 36.65 39 P **P 13 49 14.6 +0.4**
baz=236
M62A Hamden 36.68 45 P **P 13 49 13.8 -0.6**
baz=242
E54A Lac Daplat, Po 36.79 35 P **P 13 49 15.2 -0.2**
baz=232
NCB Newcomb 37.08 40 P **P 13 49 18.4 +0.4**
I59A Olmsteadville 37.20 41 P **P 13 49 18.8 -0.2**
baz=238
J60A Lant Hill Farm 37.20 42 P **P 13 49 18.5 -0.5**
baz=240
LONY Lake Ozonia 37.21 39 P **P 13 49 18.6 -0.5**
baz=237
M63A Gales Ferry 37.23 45 P **P 13 49 18.5 -0.7**
baz=243
G57A Newington 37.24 38 P **P 13 49 19.4 +0.2**
baz=236
L61B Northampton 37.29 43 P **P 13 49 19.3 -0.4**
baz=241
H58A Gabriels 37.35 40 P **P 13 49 20.0 -0.2**
baz=238
I60A Shoreham 37.59 41 P **P 13 49 22.0 -0.2**
baz=239
K62A Royalston 37.68 43 P **P 13 49 23.0 0.0**
baz=242
L63A North Scituate 37.73 45 P **P 13 49 23.5 +0.1**
baz=243
H59A Cadyville 37.77 40 P **P 13 49 24.0 +0.3**
baz=238
J61A Chester 37.81 42 P **P 13 49 24.9 +0.9**
baz=241
G58A Ormstown 37.82 39 P **P 13 49 24.2 +0.1**
baz=237
M64A Tiverton 37.85 46 P **P 13 49 23.3 -1.1**
baz=244
E56A St. Veronique 38.04 36 P **P 13 49 26.9 +0.9**
baz=234
HRV Adam Dziewonsk 38.05 44 P **P 13 49 26.0 -0.1**
baz=243
HRV Adam Dziewonsk 38.05 44 P **P 13 49 25.8 -0.3**
HRV IAmb IAmb 13 49 37.7
comp=Z,24nm,1.2s
D55A Sainte-Anne-du 38.08 35 P **P 13 49 26.3 -0.1**
baz=233
TRQ Mont Tremblant 38.13 37 P **P 13 49 26.7 -0.1**
ATAH Atahualpa 38.15 130 LR LR 14 00 53.1
comp=Z,403nm,18.4s,baz=312,slow=30
K63A Dunstable 38.15 44 P **P 13 49 27.1 +0.1**
baz=242
J62A Henniker 38.22 43 P **P 13 49 27.3 -0.2**
baz=242
L64A Middleborough 38.27 45 P **P 13 49 28.1 +0.1**
baz=244
E57A Chemin Saint G 38.47 37 P **P 13 49 29.9 +0.3**
baz=235
D56A ZEC Mazanza, M 38.49 36 P **P 13 49 29.1 -0.7**
baz=234
LSQQ Lebel-sur-Quev 38.57 32 P **P 13 49 29.8 -0.6**
baz=229
MATQ Matagami 38.72 30 P **P 13 49 32.2 +0.6**
baz=228
H61A Lyndonville 38.79 41 P **P 13 49 32.6 +0.3**
baz=240
G60A Masonville 38.82 40 P **P 13 49 32.9 +0.3**
baz=239
I62A Tamworth 38.84 42 P **P 13 49 33.3 +0.6**
baz=241
D57A Chemin Vers le 38.96 36 P **P 13 49 34.4 +0.7**
baz=235
MOQ Mont Orford 38.98 40 P **P 13 49 34.0 0.0**
H62A Milan 39.29 41 P **P 13 49 36.8 +0.3**
baz=241
H62A Milan 39.29 41 P **P 13 49 37.1 +0.6**
H62A IAmb IAmb 13 49 46.2
comp=Z,22nm,1.2s
I63A Otisfield 39.40 42 P **P 13 49 36.5 -0.9**
baz=242
G61A St-Isidore-de- 39.41 40 P **P 13 49 37.3 -0.2**
baz=240
F60A Warwick 39.51 39 P **P 13 49 39.0 +0.7**
baz=238
D58A Chemin du LacG 39.57 37 P **P 13 49 39.3 +0.5**
baz=236
I64A Boothbay 39.95 43 P **P 13 49 41.8 -0.2**
baz=243
F61A St Evariste 40.08 39 P **P 13 49 42.1 -1.0**
baz=240
BBSR BB Station 40.11 62 P **P 13 49 44.0 +0.6**
CHGQ Chibougamau 40.42 32 P **P 13 49 45.0 -0.9**
baz=232
G63A Kingsbury 40.51 41 P **P 13 49 47.1 +0.5**
baz=242
H64A Troy 40.54 42 P **P 13 49 47.5 +0.7**
baz=243
D60A Saint Jean D'O 40.60 38 P **P 13 49 47.4 0.0**
baz=239
E61A Lac Etchemin 40.61 39 P **P 13 49 47.4 -0.2**
baz=240
F62A Pittston Farm, 40.66 40 P **P 13 49 47.8 -0.2**
baz=241
PKME Peaks-Kenny Pk 40.78 41 P **P 13 49 48.7 -0.2**
baz=242
FCC Fort Churchill 40.95 10 P **P 13 49 51.1 +1.1**
FCC IAmb IAmb 13 50 03.5
comp=Z,33nm,1.2s
F63A Nahmakanta, Br 41.10 41 P **P 13 49 51.0 -0.6**
baz=242
G64A Maxfield 41.11 42 P **P 13 49 51.7 +0.1**
baz=243
H65A Eastbrook 41.18 43 P **P 13 49 51.5 -0.7**
baz=244
D61A St Aubert, Com 41.19 38 P **P 13 49 51.9 -0.2**
baz=239
E62A Clayton Lake 41.29 39 P **P 13 49 52.5 -0.5**
baz=240
F64A Sherman 41.64 41 P **P 13 49 55.4 -0.5**
baz=243
E63A Oxbow 41.86 40 P **P 13 49 57.1 -0.6**
baz=242
E64A Bridgewater 42.22 40 P **P 13 50 00.6 -0.1**
baz=243
NNA Nana 42.62 134 LR LR 14 04 04.9
comp=Z,286nm,19.0s,baz=314,slow=31
TAOE Nuku Hiva Isla 42.82 233 *e*LR LR 14 01 37.4
comp=Z,2μm,26.6s
TAOE Nuku Hiva Isla 42.82 233 *e*T T 14 35 07.9
comp=Z,121nm,0.2s
CZSB Cruzeiro do Su 42.82 125 *e*P **P 13 50 06.8 +0.9**
DLBC Dease Lake 43.02 342 P **P 13 50 07.5 +0.5**
DLBC IAmb IAmb 13 50 09.7
comp=Z,18nm,1.1s
YKA Yellowknife Ar 43.94 355 P **P 13 50 14.2 -0.1**
comp=Z,2.9nm,0.9s,baz=165,slow=8.1,SNR=3.9
YKA LR LR 14 08 52.3
comp=Z,844nm,20.2s,baz=0.0,slow=36
SKAG Skagway 45.47 340 P **P 13 50 27.0 +0.4**
HYT Haines Junctio 47.22 340 P **P 13 50 40.1 -0.4**
HYT IAmb IAmb 13 50 45.6
comp=Z,9.1nm,1.3s
ISLE Juniper Island 48.71 338 P **P 13 50 52.2 +0.1**
ISLE IAmb IAmb 13 51 03.7
comp=Z,12nm,1.0s
BALM Baldy 49.01 338 P **P 13 50 54.0 -0.3**
BALM IAmb IAmb 13 51 08.9
comp=Z,12nm,1.2s
ETMB Extrema 49.20 122 *e*P **P 13 50 56.6 +0.4**
HMT Hamilton 49.24 337 P **P 13 50 56.3 +0.3**
HMT IAmb IAmb 13 51 20.3
comp=Z,18nm,1.3s
RAGM Ragged Mountai 49.43 336 P **P 13 50 58.0 +0.5**
RAGM IAmb IAmb 13 51 02.5
comp=Z,20nm,1.1s
Q23K Middleton Isla 49.48 335 P **P 13 50 56.6 -1.2**
baz=128
MCARA McCarthy VSAT 49.48 338 P **P 13 50 58.4 +0.6**
MCARA IAmb IAmb 13 51 03.4
comp=Z,14nm,1.0s
VRDI Verde Repeater 49.53 338 P **P 13 50 57.7 -0.7**
VRDI IAmb IAmb 13 51 03.1
comp=Z,12nm,1.1s
GLB Gilahina Butte 49.80 338 P **P 13 50 59.8 -0.5**
GLB IAmb IAmb 13 51 05.8
comp=Z,16nm,1.1s
EYAK Cordova Ski Ar 49.94 336 P **P 13 51 01.1 -0.1**
EYAK IAmb IAmb 13 51 06.2
comp=Z,9.6nm,0.9s
PTGA Pitinga 50.01 108 P **P 13 51 02.4 0.0**
comp=Z,5.4nm,1.0s,baz=292,slow=9.0,SNR=5.7
PTGA Pitinga 50.01 108 P **P 13 51 01.2 -1.3**
PTGA IAmb IAmb 13 51 06.0
comp=Z,11nm,1.2s
HIN Hinchinbrook I 50.14 336 P **P 13 51 02.7 -0.2**
DAWY Dawson 50.24 342 P **P 13 51 02.9 -0.7**
DAWY IAmb IAmb 13 51 07.7
comp=Z,14nm,1.2s
FID Port Fidalgo 50.35 336 P **P 13 51 04.2 -0.2**
MACA Manacapuru-AM 50.44 111 *e*P **P 13 51 06.7 +0.9**
KLU Klutina 50.61 337 P **P 13 51 06.0 -0.5**
KLU IAmb IAmb 13 51 11.1
comp=Z,15nm,1.1s
GLI Glacier Island 50.67 336 P **P 13 51 05.8 -1.0**
MENT Mentasta 50.78 339 P **P 13 51 07.2 -0.5**
K27K Chicken 51.02 341 P **P 13 51 08.7 -0.7**
baz=136
M24K Tolsona, Glenn 51.09 338 P **P 13 51 08.8 -1.2**
baz=130,SNR=8.6
SEW Seward 51.15 334 P **P 13 51 09.5 -0.9**
SEW IAmb IAmb 13 51 14.3
comp=Z,11nm,0.9s
SAML Samuel 51.19 119 *e*P **P 13 51 12.1 +0.8**
KDAK Kodiak Island 51.28 331 P **P 13 51 11.3 -0.1**
comp=Z,10nm,1.0s,baz=98,slow=22,SNR=26
KDAK Kodiak Island 51.28 331 P **P 13 51 11.2 -0.2**
EGAK Eagle 51.28 342 P **P 13 51 10.5 -0.9**
EGAK IAmb IAmb 13 51 15.3
comp=Z,8.9nm,0.9s
EPYK Eagle Plains 51.32 345 P **P 13 51 11.3 -0.4**
baz=143
EPYK Eagle Plains 51.32 345 P **P 13 51 10.9 -0.7**
OHAK Old Harbor 51.34 330 P **P 13 51 11.7 -0.2**
DOT Dot Lake 51.38 340 P **P 13 51 11.7 -0.5**
PAX Paxson 51.40 339 P **P 13 51 11.6 -0.8**
PAX IAmb IAmb 13 51 16.3
comp=Z,9.8nm,0.8s
KNK Knik Glacier 51.52 336 P **P 13 51 12.4 -0.8**
KNK IAmb IAmb 13 51 17.8
comp=Z,17nm,1.1s
BRLK Bradley Lake 51.56 333 P **P 13 51 12.7 -0.9**
CNPM China Poot 51.58 333 P **P 13 51 13.1 -0.7**
CNPM IAmb IAmb 13 51 18.1
comp=Z,22nm,1.3s
SCRK Sand Creek 51.59 340 P **P 13 51 13.5 -0.3**
baz=133
C36M Paulatuk 51.60 352 P **P 13 51 13.3 -0.3**
baz=159
LPAZ La Paz 51.70 130 P **P 13 51 14.9 -1.0**
comp=Z,4.3nm,0.9s,baz=351,slow=12,SNR=11
LPAZ LR LR 14 11 42.3
comp=Z,158nm,19.1s,baz=314,slow=34
LPAZ La Paz 51.70 130 P **P 13 51 13.9 -2.0**
LPAZ La Paz 51.70 130 *e*P **P 13 51 14.1 -1.7**
RIDG Independent Ri 51.70 340 P **P 13 51 13.7 -0.9**
SML Sawmill 51.70 336 P **P 13 51 13.6 -1.1**
SML IAmb IAmb 13 51 25.7
comp=Z,16nm,0.9s
PMR Palmer 51.88 336 P **P 13 51 15.1 -0.8**
GHO Glory Hole Cre 51.91 336 P **P 13 51 15.3 -0.9**
GHO IAmb IAmb 13 51 20.0
comp=Z,16nm,1.0s
PB16 IPOC Station P 52.09 133 P **P 13 51 18.1 -0.6**
PB16 IAmb IAmb 13 51 22.2
comp=Z,17nm,1.3s
DHY Denali Highway 52.14 338 P **P 13 51 17.1 -0.9**
CAPN Captain Cook N 52.22 334 P **P 13 51 17.6 -0.8**
baz=123
PMOR Pomariorio Ree 52.55 233 *e*T T 14 47 23.6
comp=Z,2.8nm,0.2s
SPU Mount Spurr 52.81 334 P **P 13 51 21.8 -1.1**
HDA Harding Lake 52.84 339 P **P 13 51 21.7 -1.3**
baz=130
HDA Harding Lake 52.84 339 P **P 13 51 21.6 -1.4**
RND Reindeer 52.87 338 P **P 13 51 22.4 -0.9**
RND IAmb IAmb 13 51 46.0
comp=Z,12nm,1.0s
SKT Skwentna 53.04 335 P **P 13 51 23.8 -0.7**
SKT IAmb IAmb 13 51 28.2
comp=Z,15nm,1.0s
IL31 53.06 340 P **P 13 51 23.1 -1.4**
IL31 IAmb IAmb 13 51 28.0
comp=Z,12nm,1.0s
ILAR Eielson Array 53.06 340 P **P 13 51 23.5 -1.1**
comp=Z,7.0nm,1.0s,baz=152,slow=5.5,SNR=31
ILAR LR LR 14 12 18.8
comp=Z,174nm,18.9s,baz=133,slow=34
ILAR Eielson Array 53.06 340 P **P 13 51 23.0 -1.6**
GO01 Chusmiza 53.22 134 P **P 13 51 25.6 -1.4**
GO01 IAmb IAmb 13 51 39.4
comp=Z,13nm,1.2s
CCB Clear Creek Bu 53.28 339 P **P 13 51 24.8 -1.4**
TRF Thorofare Moun 53.41 337 P **P 13 51 25.7 -1.7**
TCOL CIGO, UAF Yank 53.44 340 P **P 13 51 25.8 -1.6**
baz=130
POKR Poker Plat Res 53.46 340 P **P 13 51 25.9 -1.6**
baz=130
BWN Browne 53.55 338 P **P 13 51 27.0 -1.2**
PB08 IPOC Station P 53.57 134 P **P 13 51 27.7 -1.7**
PB08 IAmb IAmb 13 51 37.3
comp=Z,20nm,1.3s
MDM Murphy Dome 53.62 340 P **P 13 51 27.3 -1.4**
NEA2 Nenana 53.67 339 P **P 13 51 28.3 -0.8**
baz=128
KTH Kantishna Hill 53.70 337 P **P 13 51 27.9 -1.5**
KTH IAmb IAmb 13 51 33.4
comp=Z,16nm,1.1s
PPLA Purkeypile 53.80 336 P **P 13 51 29.1 -1.1**
BPAW Bear Paw Mtn. 54.05 338 P **P 13 51 30.3 -1.6**
BPAW IAmb IAmb 13 51 43.0
comp=Z,6.8nm,0.8s
A36M Sachs Harbour 54.21 353 P **P 13 51 32.2 -0.7**
baz=158
SVW2 Sparrevohn 54.24 333 P **P 13 51 31.8 -1.6**
TTA Tatalina 55.32 335 P **P 13 51 39.4 -1.8**
ITTB Itaituba 55.39 109 *e*P **P 13 51 43.2 +0.9**
PPT Papeete 55.41 232 LR LR 14 08 44.4
comp=Z,277nm,19.2s,baz=18,slow=29
PPT2 Papeete2 55.42 232 *e*S S 13 59 00.8 -27
comp=Z,528nm,27.0s
PPT2 *e*LR LR 14 07 29.9
comp=Z,2μm,27.8s,baz=60
LVC Limon Verde 55.45 136 P **P 13 51 42.6 -0.4**
comp=Z,11nm,1.1s,baz=274,slow=8.1,SNR=3.4
LVC Limon Verde 55.45 136 IAmb IAmb 13 51 47.5
comp=Z,16nm,1.1s
LVC Limon Verde 55.45 136 *e*P **P 13 51 43.7 +0.7**
COLD Coldfoot 55.67 341 P **P 13 51 42.8 -0.8**
baz=128,SNR=5.4
COLD Coldfoot 55.67 341 P **P 13 51 43.1 -0.4**
COLD IAmb IAmb 13 51 47.6
comp=Z,15nm,1.1s
VILB Vilhena 55.82 121 *e*P **P 13 51 46.6 +1.3**
PB14 IPOC Station P 55.95 139 P **P 13 51 46.6 +0.1**
TOLK Toolik Lake Re 56.37 343 P **P 13 51 47.8 -0.9**
baz=130
TOLK Toolik Lake Re 56.37 343 P **P 13 51 47.7 -0.9**
TOLK IAmb IAmb 13 51 52.3
comp=Z,10nm,0.8s
SIV San Ignacio 56.84 125 P **P 13 51 50.6 -2.0**
comp=Z,6.2nm,1.0s,baz=312,slow=8.7,SNR=16
NPGB Novo Progresso 56.93 112 *e*P **P 13 51 55.3 +1.9**
MCPB Macapa, AP 57.08 103 *e*P **P 13 51 55.0 +0.5**
PTLB Pontes e Lacer 58.06 123 *e*P **P 13 52 02.6 +1.4**
CLDB Colider 58.39 116 *e*P **P 13 52 04.4 +0.8**
H03N2 Juan Fernandez 58.44 153 T T 14 55 23.3
baz=330,slow=77,SNR=492
H03N1 Juan Fernandez 58.45 153 T T 14 55 21.0
baz=330,slow=77,SNR=530
H03N3 Juan Fernandez 58.46 153 T T 14 55 11.3
baz=330,slow=77,SNR=442
TBI Tubuai 59.04 226 *e*S S 13 59 46.1 -29
comp=Z,355nm,31.0s
TBI *e*LR LR 14 09 04.3
comp=Z,1μm,29.0s,baz=45
TBI Tubuai 59.04 226 *e*T T 14 55 30.4
comp=Z,6.9nm,0.2s
A21K Barrow 59.92 343 P **P 13 52 12.4 -0.9**
baz=124
TMAB Tom-Au,PA,Br 61.51 103 *e*P **P 13 52 26.1 +1.0**
AQDB Aquidauana 63.59 125 *e*P **P 13 52 40.3 +1.5**
ARAG Araguaiana, MT 64.16 119 *e*P **P 13 52 43.5 +0.8**
SMTB Santa Maria do 64.62 110 *e*P **P 13 52 46.9 +1.2**
ROSB Rosrio 65.37 102 *e*P **P 13 52 51.6 +0.9**
PEXB Peixe 65.43 113 *e*P **P 13 52 51.8 +0.8**
SUMG Summit 65.73 18 *i*P **P 13 52 52.0 -0.5**
SUMG Summit 65.73 18 P **P 13 52 51.7 -0.9**
CPUP Villa Florida 65.82 132 P **P 13 52 52.5 -0.8**
comp=Z,3.4nm,1.1s,baz=334,slow=8.4,SNR=3.7
CPUP LR LR 14 19 57.1
comp=Z,259nm,20.9s,baz=326,slow=34
CPUP Villa Florida 65.82 132 IAmb IAmb 13 53 05.4
comp=Z,6.9nm,1.1s
CPUP Villa Florida 65.82 132 *e*P **P 13 52 54.2 +0.9**
TRCB Terra Rica 67.24 126 *e*P **P 13 53 05.5 +3.0**
BDFB Brasilia 67.32 117 P **P 13 53 02.7 -0.5**
comp=Z,2.3nm,0.5s,baz=275,slow=11,SNR=2.5
BDFB Brasilia 67.32 117 IAmb IAmb 13 53 07.3
comp=Z,7.0nm,1.1s
PLCA Paso Flores 68.22 151 P **P 13 53 07.5 -0.9**
comp=Z,6.4nm,1.0s,baz=333,slow=9.9,SNR=4.4
PLCA LR LR 14 16 44.0
comp=Z,334nm,18.1s,baz=1.0,slow=30
PLCA Paso Flores 68.22 151 IAmb IAmb 13 53 14.6
comp=Z,19nm,1.4s
PLCA Paso Flores 68.22 151 *e*P **P 13 53 08.3 0.0**
IPMB Ipameri, GO 68.28 119 *e*P **P 13 53 10.5 +1.4**
JANB Januaria 70.22 114 *e*P **P 13 53 22.2 +1.0**
PARB Paraibuna 73.02 123 *e*P **P 13 53 38.4 +0.4**
BSFB Barra de Sao F 74.86 116 *e*P **P 13 53 49.4 +0.6**
PETK Petropavlovsk- 78.33 322 P **P 13 54 07.2 -0.7**
comp=Z,5.0nm,1.0s,baz=67,slow=9.8,SNR=6.5
PETK LR LR 14 22 23.5
comp=Z,75nm,18.1s,baz=77,slow=31
PGAV Gavieira, Arco 83.80 48 *e*LR LR 14 22 19.9
comp=Z,209nm,18.0s
PVIS Viseu 84.49 49 *e*P **P 13 54 42.5 +1.6**
MVO Moncorvo 84.95 48 *e*LR LR 14 22 38.8
comp=Z,174nm,18.0s
PCBR Castelo Branco 85.09 50 *e*P **P 13 54 43.6 -0.2**
PMRV Marv??o 85.29 50 *e*P **P 13 54 44.1 -0.8**
comp=Z,17nm,1.4s
PMRV Marv??o 85.29 50 *e*LR LR 14 23 05.0
comp=Z,176nm,18.0s
ARCES ARCESS Array B 85.64 15 P **P 13 54 47.0 +1.0**
comp=Z,1.9nm,0.9s,baz=337,slow=4.3,SNR=1.9
ARCES LR LR 14 33 24.9
comp=Z,394nm,20.9s,baz=322,slow=36
PVAQ Vaqueiros 85.76 52 *e*LR LR 14 22 35.1
comp=Z,140nm,20.0s
NOA NORSAR Array B 86.37 25 LR LR 14 33 54.9
comp=Z,152nm,18.2s,baz=300,slow=36
ESDC Sonseca Array 87.67 49 P **P 13 54 56.9 +0.2**
comp=Z,0.1nm,0.5s,baz=230,slow=32,SNR=4.0
PMSA Palmer Station 89.57 163 *e*P **P 13 55 02.7 -2.0**
NRIK Noril'sk 91.45 355 P **P 13 55 13.0 -0.7**
comp=Z,1.9nm,0.6s,baz=31,slow=5.9,SNR=2.7
NRIK LR LR 14 37 38.2
comp=Z,229nm,19.9s,baz=20,slow=36
OUZ Omahuta 92.48 234 P **P 13 55 19.0 0.0**
CLL Collm 92.66 33 *e*PS PS 14 07 39.0 +2.6
CLL *e*SS SS 14 12 42.0 +6.4
CLL LmV 14 39 00.0
comp=Z,300nm,19.5s
DZM Mont Dzumac 93.95 248 *e*SS SS 14 12 25.8 -31
comp=Z,241nm,24.9s
DZM Mont Dzumac 93.95 248 *e*LR LR 14 25 18.6
comp=Z,1μm,29.9s
GERES GERESS Array B 94.44 35 LR LR 14 37 04.7
comp=Z,230nm,20.1s,baz=312,slow=35
CIMO Cimolais 95.17 37 P **P 13 55 29.9 -1.5**
STAL STALIGIAL 95.36 37 P **P 13 55 30.3 -1.9**
PRED Cave del Predi 95.74 37 P **P 13 55 33.8 -0.2**
PRED IAmb IAmb 13 55 45.7
comp=Z,5.0nm,1.1s
MJAR Matsushiro Arr 97.52 313 LR LR 14 30 28.1
comp=Z,157nm,21.8s,baz=80,slow=30
DBIC Dimbokro 99.15 80 LR LR 14 37 59.2
comp=Z,50nm,19.4s,baz=268,slow=34
HHC Hu-ho-hao-te 110.70 330 *e*P **PKiKP 14 00 39.8 -1.2**
HHC LR LR
comp=N,150nm,20.1s
HHC LR LR
comp=E,210nm,18.3s
HHC LR LR
comp=Z,230nm,20.5s
MKAR Makanchi Array 114.15 353 PKP PKPdf 14 00 48.1 +0.7
comp=Z,0.4nm,0.8s,baz=327,slow=2.4,SNR=2.6
WMQ Urumqi 116.22 348 *e*P **PKiKP 14 00 50.2 -1.3**
WMQ pmax pmax
comp=Z,46nm,4.5s
KSH Kashi 121.88 357 SS SS 14 19 15.4 +4.2
KSH AMB AMB
comp=Z,140nm,4.3s
WRA Warramunga Arr 122.53 258 PKP **PKPdf 14 01 01.0 -3.1**
comp=Z,0.9nm,0.8s,baz=82,slow=2.2,SNR=4.5
ASAR Alice Springs 123.50 254 PKP **PKPdf 14 01 03.9 -2.0**
comp=Z,0.8nm,0.8s,baz=108,slow=2.6,SNR=5.0
CMAR Chiang Mai Arr 135.08 324 PKP **PKiKP 14 01 28.9 -0.5**
comp=Z,0.7nm,0.3s,baz=342,slow=2.0,SNR=1.4

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*JMA **08** 13:51:49.3±0.2, 33°.43N×137°.57E, h371km, M3.1*
*IDC **08** 13:51:51.1±1.7, 33°.36N×137°.52E, h349km±29km, mb2.8/4, mb1 2.9/7, mb1mx2.8/35, mbtmp3.5/7, Error ellipse:*

s-maj=58.6km s-min=19.2km az=59.0
ISC 08 13:51:51.2±1.0, 33°46N±0°09×137°53E±0°08, h350km, n22, σ1§03/25, mb3.0/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	TONANKAI O.B.S	0.42	344	P	Pn	13 52 36.7	+1.7
TTO2	TONANKAI O.B.S	0.51	303	P	Pn	13 52 36.4	+1.4
TTO1	TONANKAI O.B.S	0.65	285	P	Pn	13 52 36.6	+1.2
JIE	Ise	1.16	324	P	Pn	13 52 38.4	+0.9
JTNC	Tanabenakahech	1.65	283	P	Pn	13 52 40.3	+0.1
JWY	Kouya	1.79	296	P	Pn	13 52 41.5	+0.4
JOD2	Odawara 2	2.21	35	P	Pn	13 52 44.9	+0.9
JYTA	Yamagatataniai	2.23	343	P	Pn	13 52 45.0	+0.9
JWT	Wachi	2.54	316	P	Pn	13 52 46.8	+0.3
JWT				eS	S	13 53 30.7	-0.2
JAI	Aioi	2.59	278	P	Pn	13 52 46.9	-0.1
JRY	Ryogami san	2.79	23	P	Pn	13 52 50.0	+1.4
JMN	Monobe	3.06	276	P	Pn	13 52 51.3	+0.2
BSO1	Boso 1	3.10	66	S	S	13 53 38.0	-0.8
MAT	Matsushiro	3.13	10	P	Pn	13 52 52.1	+0.5
MAT				eS	S	13 53 40.0	-0.3
MJAR	Matsushiro Arr	3.13	10	P	Pn	13 52 52.3	+0.7
	0.2nm,0.3s,baz=192,slow=9.3,SNR=12						
JAG	Ashikaga	3.35	27	P	Pn	13 52 53.7	0.0
JAG				S	S	13 53 41.2	-2.9
KSRS	Korea Array	8.80	300	P	Pn	13 53 55.5	+0.8
	0.3nm,0.3s,baz=112,slow=12,SNR=15						
USRK	Ussuriysk Ar.	11.56	340	P	P	13 54 28.2	+0.4
	baz=150,slow=11,SNR=11						
SONM	Songino Array	27.43	311	P	P	13 57 06.7	+0.7
	0.9nm,0.8s,baz=108,slow=9.3,SNR=3.2						
MKAR	Makanchi Array	43.44	305	P	P	13 59 20.6	0.0
	0.1nm,0.3s,baz=96,slow=7.8,SNR=2.4						
WRA	Warramunga Arr	53.19	184	P	P	14 00 33.8	-0.8
	0.4nm,0.4s,baz=1.3,slow=7.9,SNR=7.2						
ASAR	Alice Springs	56.91	184	P	P	14 01 00.2	-0.7
	0.3nm,0.6s,baz=354,slow=4.1,SNR=12						

*CNRM **08** 14:07:00.3±0.8, 36°65N×7°29W, h30km, Error ellipse: s-maj=11.5km s-min=6.9km az=68.0*
*SFS **08** 14:07:03.0, 36°83N×7°33W, h22km, ML2.3, GOLFO DE CADIZ*
*IGIL **08** 14:07:04.4, 36°82N×7°30W, h28km, ML2.6*
*MDD **08** 14:07:04.3±0.8, 36°83N×7°30W, h32km±22km, mbLg2.6/20, Error ellipse: s-maj=8.8km s-min=4.3km az=21.0, PRXIMO*
*INMG **08** 14:07:04.5±1.9, 36°83N×7°31W, h27km±6km, ML2.2, Error ellipse: s-maj=4.1km s-min=2.6km az=29.0*
ISC 08 14:07:01.9±1.2, 36°80N±0°03×7°28W±0°02, h32km±12km, n47, σ1§62/84, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	0.69	310	⇓iPg	Pn	14 07 16.6	+1.2
PBDV				eSg	Sn	14 07 25.4	+0.4
PBDV				A	A	14 07 25.9	
	36nm,0.3s						
PVAQ	Vaqueiros	0.70	330	P	Pb	14 07 16.1	+0.4
PVAQ				S	Sb	14 07 24.4	-0.6
PVAQ	Vaqueiros	0.70	330	⇓iPg	Pn	14 07 16.8	+1.2
PVAQ				eSg	Sn	14 07 25.6	+0.3
PVAQ				A	A	14 07 26.5	
	82nm,0.2s						
EGRO	El Granado	0.75	347	P	Pn	14 07 17.6	+1.3
	6.8nm,0.1s,SNR=18						
EGRO				S	Sb	14 07 27.0	+0.5
	55nm,0.1s,SNR=7.9						
PCVE	Castro Verde	1.03	324	eP	Pn	14 07 21.4	+1.3
PCVE				eS	Sn	14 07 34.4	+0.9
PCVE				A	A	14 07 36.7	
	15nm,0.4s						
EMIN	Mina Concepcio	1.08	26	P	Pn	14 07 21.8	+1.0
	0.8nm,0.1s,SNR=45						
EMIN				S	Sb	14 07 34.4	-1.4
	27nm,0.1s,SNR=12						
ESPR	Espera	1.14	86	P	Pn	14 07 23.6	+2.0
	15nm,0.2s,SNR=21						
ESPR				S	Sb	14 07 38.1	+0.6
	151nm,0.3s,SNR=14						
MORF	Marmelete	1.21	295	eP	Pn	14 07 23.7	+1.1
MORF				eS	Sb	14 07 37.8	-1.8
MORF				AML	AML	14 07 39.3	
	comp=E,92nm,0.1s						
MORF	Marmelete	1.21	295	P	Pn	14 07 23.7	+1.1
MORF				S	Sb	14 07 37.8	-1.8
	comp=E,92nm,0.1s						
MORF	Marmelete	1.21	295	eP	Pn	14 07 23.7	+1.1
MORF				eS	Sb	14 07 37.8	-1.8
MORF				A	A	14 07 39.7	
	comp=E,56nm,0.1s						
PFVI	Vila Bisbo	1.29	285	P	Pn	14 07 24.6	+1.0
	comp=E,1.0nm,0.1s,SNR=17						
PFVI				S	Sn	14 07 39.4	-0.3
	comp=E,36nm,0.1s,SNR=19						
PFVI	Vila Bisbo	1.29	285	P	Pn	14 07 25.0	+1.4
PFVI				S	Sn	14 07 40.8	+1.1
PFVI	Vila Bisbo	1.29	285	eP	Pn	14 07 24.7	+1.0
PFVI				eS	Sn	14 07 39.6	-0.2
PFVI				A	A	14 07 40.3	
	comp=E,28nm,0.1s						
PBEJ	Beja	1.31	339	eSn	Sn	14 07 40.6	+0.2
PTEO	Sao Teotonio	1.38	303	ePn	Pn	14 07 26.3	+1.5
PTEO				eSn	Sn	14 07 42.1	+0.1
PTEO				A	A	14 07 43.4	
	comp=E,17nm,0.4s						
PNCL	Nicolau / Gran	1.65	323	⇑ePn	Pn	14 07 30.0	+1.4
PNCL				eSn	Sn	14 07 48.0	-0.6
PNCL				A	A	14 07 56.8	
	comp=E,8.7nm,0.3s						
EVO	Evora	1.82	342	P	Pn	14 07 32.1	+1.1
EVO				S	Sn	14 07 51.8	-1.3
EVO	Evora	1.82	342	eP	Pn	14 07 32.1	+1.1
EVO				eS	Sn	14 07 51.8	-1.3
HORN	Hornachuelos	1.92	56	P	Pn	14 07 32.3	0.0
HORN				S	Sn	14 07 56.7	+1.3
ECAB	El Cabril	1.95	49	P	Pn	14 07 33.9	+1.1
	comp=E,1.3nm,0.1s,SNR=7.3						
ECAB				S	Sn	14 07 54.5	-1.7
	comp=E,3.5nm,0.1s,SNR=5.0						
EMIJ	Mijas	2.02	96	P	Pn	14 07 36.2	+2.4
	comp=E,0.4nm,0.2s,SNR=7.9						
EMIJ				S	Sn	14 07 58.5	+0.4
	comp=E,14nm,0.5s,SNR=7.9						
EADA	Adamuz	2.54	57	P	Pn	14 07 42.4	+1.5
	comp=E,2.1nm,0.1s,SNR=7.9						
EADA				S	Sn	14 08 11.1	+0.2
	SNR=7.9						
EGOR	Sierra Gorda,	2.55	82	P	Pn	14 07 43.1	+1.9
	comp=E,0.5nm,0.1s,SNR=7.9						
EGOR				S	Sn	14 08 12.2	+0.9
	comp=E,3.5nm,0.2s,SNR=7.9						
PMRV	Marv??o	2.62	358	ePn	Pn	14 07 43.3	+1.2
PMRV				eSn	Sn	14 08 11.4	-1.4
PMRV				A	A	14 08 13.3	
	comp=E,6.3nm,0.2s						
PMAFR	Mafra	2.67	324	P	Pn	14 07 44.5	+1.7
	comp=E,3.9nm,0.1s,SNR=7.9						
PMAFR				S	Sn	14 08 13.6	-0.4
	comp=E,18nm,0.2s,SNR=7.9						
PMAFR	Mafra	2.67	324	ePn	Pn	14 07 44.6	+1.9
PMAFR				eSn	Sn	14 08 15.1	+1.1
ELGU	Los Guajares,	2.93	88	P	Pn	14 07 48.3	+2.0
	comp=E,0.9nm,0.1s,SNR=7.9						
ELGU				S	Sn	14 08 21.9	+1.5
	comp=E,7.7nm,0.2s,SNR=7.9						
PSBE	So Bento	2.96	337	ePn	Pn	14 07 48.5	+1.8
PSBE				eSn	Sn	14 08 21.8	+0.6
PSBE				A	A	14 08 23.5	
	comp=E,8.6nm,0.6s						
PCBR	Castelo Branco	3.04	357	eSn	Sn	14 08 22.7	-0.3
PCBR				A	A	14 08 23.4	
	comp=E,5.7nm,0.2s						
PCAS	Casmilo, Conde	3.39	344	eSn	Sn	14 08 31.8	+0.2
PCAS				A	A	14 09 00.8	
	comp=E,4.3nm,0.4s						
ZHG	ZHG	3.39	171	P	Pn	14 07 48.8	-3.8
ZHG				S	Sn	14 08 29.6	-2.1
EPLA	Plasencia	3.39	16	P	Pn	14 07 53.7	+1.1
	comp=E,0.0nm,0.1s,SNR=7.9						
EPLA				S	Sn	14 08 30.7	-1.1
	comp=E,3.7nm,0.2s,SNR=7.9						
EQES	Quesada	3.50	72	P	Pn	14 07 55.5	+1.4
	comp=E,1.3nm,0.1s,SNR=18						
EQES				S	Sn	14 08 34.5	0.0
	comp=E,1.2nm,0.3s,SNR=7.9						
EBER	Berja	3.52	87	P	Pn	14 07 56.0	+1.5
	comp=E,0.8nm,0.2s,SNR=4.0						
EBER				S	Sn	14 08 35.9	+0.8
	comp=E,3.1nm,0.4s,SNR=7.9						
PAB	San Pablo	3.58	39	P	Pn	14 07 56.2	+1.0
	comp=E,0.6nm,0.1s,SNR=7.9						
PAB				S	Sn	14 08 33.3	-3.2
	comp=E,1.7nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	3.88	41	P	Pn	14 08 00.6	+1.3
	comp=E,6.3nm,0.1s,baz=225,slow=14,SNR=10						
ESDC				S	Sn	14 08 39.7	-4.0
	comp=E,0.5nm,0.3s,baz=225,slow=23,SNR=18						
SESP	Santiago Espad	3.99	69	P	Pn	14 08 01.9	+1.0
	comp=E,1.1nm,0.2s,SNR=7.9						
SESP				S	Sn	14 08 46.3	-0.4
	comp=E,8.8nm,0.1s,SNR=7.9						
MVO	Moncorvo	4.36	2	S	Sn	14 08 53.2	-2.5
	comp=E,6.2nm,0.2s,SNR=7.9						
MVO	Moncorvo	4.36	2	eSn	Sn	14 08 53.1	-2.6
MVO				A	A	14 08 55.5	
	comp=E,5.8nm,0.4s						
MD31	MD31	4.44	151	P	Pn	14 08 08.1	+1.0
MD31				S	Sn	14 08 53.8	-3.8
MDT	Midelt	4.54	150	P	Pn	14 08 08.6	+0.1
MDT				S	Sn	14 08 55.9	-4.3
GUD	Guadarrama	4.55	32	P	Pn	14 08 11.1	+2.5
	comp=E,0.4nm,0.2s,SNR=9.8						
GUD				S	Sn	14 08 58.9	-1.5
	comp=E,1.2nm,0.3s,SNR=7.9						
ETOB	Tobarra	4.90	66	P	Pn	14 08 14.0	+0.7
	comp=E,0.2nm,0.1s,SNR=23						
ETOB				S	Sn	14 09 07.0	-2.0
	comp=E,9.2nm,0.2s,SNR=7.9						
ELOB	Lobios	5.10	353	S	Sn	14 09 10.9	-3.0
	comp=E,1.4nm,0.3s,SNR=7.9						
ECAL	Calabor	5.15	4	S	Sn	14 09 13.6	-1.6
	comp=E,5.9nm,0.3s,SNR=7.9						
OUK	Oukaimeden	5.60	185	P	Pn	14 08 20.3	-2.9
OUK				S	Sn	14 09 20.3	-6.4
ETOR	Torete	5.72	44	P	Pn	14 08 26.4	+1.7
	comp=E,2.2nm,0.1s,SNR=8.9						
ETOR				S	Sn	14 09 26.2	-3.0
	comp=E,2.1nm,0.3s,SNR=7.9						

IDC 08 14:33:14.1±2.2, 52°67N×35°17W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.2/54, mbtmp3.6/3, Error ellipse: s-maj=66.8km s-min=47.7km az=28.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	24.99	109	P	P	14 38 39.3	0.0
	0.4nm,0.7s,baz=302,slow=7.4,SNR=2.6						
FINES	FINESS Array B	33.24	50	P	P	14 39 52.3	-0.1
	1.4nm,0.8s,baz=270,slow=9.5,SNR=4.0						
MKAR	Makanchi Array	67.46	41	P	P	14 44 11.3	0.0
	0.4nm,0.6s,baz=327,slow=5.8,SNR=4.5						
WRA	Warramunga Arr	146.34	18	PKPbc	PKPbc	14 52 56.6	0.0
	0.7nm,0.8s,baz=350,slow=3.5,SNR=5.2						
CTA	Charters Tower	147.47	358	PKPbc	PKPdf	14 52 58.4	+1.1
	2.1nm,0.7s,baz=354,slow=1.5,SNR=1.5						
ASAR	Alice Springs	149.87	20	PKPbc	PKPbc	14 53 05.3	-0.6
	0.3nm,0.7s,baz=0.5,slow=2.8,SNR=5.3						

IDC 08 14:38:37.7±17.0, 37°43S×77°94E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/50, mbtmp4.0/3, MS3.8/6, Ms1 3.8/6, ms1mx3.3/36, Error ellipse: s-maj=578.6km s-min=45.1km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	29.22	96	T	T	15 14 59.9	
	baz=255,slow=75,SNR=121						
H01W3	Cape Leeuwin H	29.23	96	T	T	15 15 00.4	
	baz=255,slow=75,SNR=141						
H01W1	Cape Leeuwin H	29.24	96	T	T	15 14 58.8	
	baz=255,slow=75,SNR=136						
H08S2	Diego Garcia H	30.06	349	T	T	15 15 46.4	
	baz=171,slow=76,SNR=163						
H08S1	Diego Carcia H	30.06	349	T	T	15 15 48.6	
	baz=171,slow=76,SNR=198						
H08S3	Diego Garcia H	30.07	349	T	T	15 15 48.1	
	baz=171,slow=76,SNR=222						
MAW	Mawson	31.40	191	LR	LR	14 54 47.4	
	comp=Z,196nm,19.1s,baz=289,slow=31						
BOSA	Boshof	44.55	265	LR	LR	15 01 15.7	
	comp=Z,112nm,20.1s,baz=264,slow=30						
FITZ	Fitzroy Crossi	45.86	79	LR	LR	15 02 46.0	
	comp=Z,119nm,21.5s,baz=226,slow=32						
ASAR	Alice Springs	49.45	91	P	P	14 47 29.0	-0.9
	1.8nm,1.0s,baz=240,slow=8.4,SNR=6.1						
ASAR				LR	LR	15 06 11.4	
	comp=Z,134nm,18.2s,baz=198,slow=33						
KAPI	Kappang	49.94	60	LR	LR	15 04 48.4	
	comp=Z,74nm,20.5s,baz=203,slow=32						
WRA	Warramunga Arr	51.71	87	P	P	14 47 47.6	+0.7
	2.2nm,1.0s,baz=237,slow=7.7,SNR=6.3						
STKA	Stephens Creek	51.79	104	LR	LR	15 05 30.4	
	comp=Z,90nm,19.7s,baz=221,slow=31						
MKAR	Makanchi Array	83.93	3	P	P	14 51 09.1	0.0
	1.1nm,0.9s,baz=178,slow=6.1,SNR=8.6						

*RHSSO **08** 14:46:51.6±0.9, 41°80N×19°63E, h7km±4km, ML2.2/4*
*SKO **08** 14:46:52.1, 41°79N×19°62E, h0km*
*TIR **08** 14:46:52.5, 41°89N×19°49E, h19km±1km, Md2.5, Ml2.3*
*PDG **08** 14:46:53.8±0.1, 41°90N×19°48E, h16km, MD2.6/1, ML2.2/12, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **08** 14:46:54.6±0.4, 41°87N×19°53E, h3km±2km, ML1.9/8*
ISC 08 14:46:53.6±1.0, 41°88N±0°03×19°53E±0°02, h11km±7km, n43, σ0§91/78, 12C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.23	291	⇓iPg	Pg	14 46 58.0	-0.4
ULC				i Sg	Sg	14 47 01.7	+0.1
PUK	Puka	0.32	59	P	Pg	14 47 00.0	0.0
	baz=63						
PUK				S	Sg	14 47 05.6	+1.3
	baz=63						
PUK				AMP			
	comp=N,1.1nm,0.1s,baz=63						
DRME	Dracevica, Mon	0.40	320	⇑iPg	Pg	14 47 01.2	-0.3
DRME				i Sg	Sg	14 47 07.2	+0.4
DRME	Dracevica, Mon	0.40	320	ePg	Pg	14 47 01.2	-0.3
DRME				eSg	Sb	14 47 08.0	-0.8
PDG	Podgorica	0.58	340	ePg	Pg	14 47 04.8	-0.2
PDG				eSg	Sb	14 47 13.8	-0.4
PDG	Podgorica	0.58	340	⇑iPg	Pg	14 47 04.4	-0.6
PDG				eSg	Sb	14 47 13.7	-0.4
TTG	Podgorica	0.58	340	⇑iPg	Pg	14 47 04.7	-0.2
TTG				i Sg	Sb	14 47 13.5	-0.6
TIR	Tirane	0.59	155	ePg	Pg	14 47 04.7	-0.4
TIR				eSg	Sb	14 47 14.0	-0.3
BCI	Bajram Curri	0.63	39	P	Pg	14 47 05.5	-0.4
	baz=41						
BCI				S	Sb	14 47 15.3	-0.2
	baz=41						
BCI				AMP			
	comp=N,0.7nm,0.2s,baz=41						
BUM	Brajici-Budva	0.63	312	⇑iPg	Pg	14 47 05.1	-0.8
BUM				i Sg	Sb	14 47 14.9	-0.7
PHP	Peshkopia	0.71	106	P	Pg	14 47 07.3	-0.1
	baz=105						
PHP				S	Sb	14 47 18.4	+0.6
	baz=105						
PHP				AMP			
	comp=N,0.7nm,0.2s,baz=105						
PVY	Plav	0.78	24	⇑iPg	Pg	14 47 08.3	-0.4
PVY				i Sg	Sb	14 47 20.8	+0.8
CEME	Cevo	0.81	326	⇑iPg	Pg	14 47 08.1	-1.0
CEME				i Sg	Sb	14 47 20.5	-0.1
HCY	Herceg Novi	0.95	307	⇓iPg	Pg	14 47 10.7	-1.3
HCY				i Sg	Sn	14 47 25.7	-0.9
HCY	Herceg Novi	0.95	307	ePg	Pg	14 47 10.7	-1.3
HCY				eSg	Sn	14 47 25.5	-1.1
KOME	Kolasin	0.97	359	⇑iPg	Pg	14 47 11.5	-0.8
KOME				i Sg	Sn	14 47 26.4	-0.7
NKME	Niksic	0.98	334	⇑iPg	Pg	14 47 11.1	-1.4
NKME				i Sg	Sn	14 47 26.3	-1.0
NKY	Niksic	1.01	337	⇑iPg	Pg	14 47 11.9	-1.2
NKY				i Sg	Sn	14 47 27.9	-0.2
IVA	Berane	1.03	15	⇑iPg	Pg	14 47 12.8	-0.6
IVA				i Sg	Sn	14 47 29.1	+0.6
TREB	Trebinje	1.21	314	eSn	Pg	14 47 17.8	+1.0
TREB	Trebinje	1.21	314	ePn	Sn	14 47 35.4	+2.6
TREB	Trebinje	1.21	314	ePg	Pn	14 47 14.9	-1.6
TREB				eSg	Sn	14 47 32.7	-0.1
BRY	Bratogost	1.25	325	⇑iPg	Pn	14 47 16.7	-0.5
BRY				i Sg	Sn	14 47 35.8	+1.6
BRY	Bratogost	1.25	325	ePg	Pn	14 47 16.2	-1.0
BRY				eSg	Sn	14 47 35.5	+1.3
DBRK	Dubrovnik	1.29	308	ePg	Pg	14 47 18.9	+0.5
DBRK				Sn	Sg	14 47 37.4	+2.2
UPM	Unac-Piva	1.40	341	⇑iPg	Pn	14 47 18.8	-0.4
UPM				i Sg	Sg	14 47 39.7	+1.1
UPM	Unac-Piva	1.40	341	ePg	Pn	14 47 18.9	-0.3
UPM				eSg	Sg	14 47 39.9	+1.3
SJES	Sjenica	1.42	13	ePn	Pg	14 47 22.1	+1.3
SJES				eSg	Sg	14 47 40.7	+1.5
SKO	Skopje	1.43	86	ePn	Pg	14 47 20.9	-0.1
SKO				eSg	Sg	14 47 39.5	-0.1
RUDO	Rudo	1.74	356	ePn	Pn	14 47 23.1	-0.7
RUDO				eSn	Sb	14 47 47.1	-0.3
SELS	Selova	1.78	41	ePn	Pb	14 47 26.0	-0.3
BARS	Barje	1.94	60	ePn	Pb	14 47 28.7	-0.2
BBLS	Lazići	1.98	357	ePn	Pb	14 47 29.9	+0.1
BBLS				eSn	Sb	14 47 54.7	+0.1
BBLS	Lazići	1.98	357	ePn	Pn	14 47 26.8	-0.4
BBLS				eSn	Sn	14 47 52.2	+0.1
STIP	Stip	2.00	94	i Pn	Pg	14 47 31.6	-0.2
LSTV	Lastovo	2.15	295	ePn	Pn	14 47 29.8	+0.5
LSTV				Sn	Sn	14 47 56.7	+0.8
GRUS	Gruza	2.19	23	ePn	Pb	14 47 31.8	-1.4
DIVS	Divibare	2.24	9	ePn	Pn	14 47 32.1	+1.4
DIVS				eSg	Sg	14 48 05.6	0.0
DIVS	Divibare	2.24	9	ePn	Pn	14 47 29.5	-1.2
DIVS				eSn	Sn	14 47 58.1	-0.3
BOSS	Bosilegrad	2.28	73	ePn	Pb	14 47 33.6	-1.1
BOSS				eSg	Sg	14 48 06.6	-0.2
MAKA	Makarska	2.33	308	ePn	Pn	14 47 32.3	+0.6
MAKA				Sn	Sn	14 48 01.7	+1.4
RICI	Ricice	2.39	313	ePn	Pn	14 47 34.1	+1.4
KIJV	Kijevo	3.12	314	ePn	Pn	14 47 44.2	+1.4

*REY **08** 14:47:57.5, 64°65N×17°55W, h5km*
*MOS **08** 14:47:58.9±1.0, 64°72N×17°57W, h11km, mb4.6/49, Error ellipse: s-maj=10.4km s-min=6.8km az=106.4*
*IDC **08** 14:47:58.4±0.5, 64°60N×17°71W, h0km, mb4.1/18, mb1 4.3/23, mb1mx4.2/41, mbtmp4.2/23, ML3.3/4, MS3.6/27, Ms1 3.6/27, ms1mx3.5/46, Error ellipse: s-maj=18.0km s-min=8.6km az=11.0*
*NEIC **08** 14:47:60.0±1.4, 64°70N±0°08×17°6W±0°1, h8km±4km, mb4.6/110, Error ellipse: s-maj=11.6km s-min=8.4km az=187.0*
*BGR **08** 14:48:02.4±0.0, 64°69N×17°96W, h5km, mb4.1, Ms3.2*
ISC 08 14:47:59.9±0.3, 64°68N±0°03×17°56W±0°02, h10km, n388, σ1§62/384, mb4.5/128, MS3.7/35, 23C-5D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.09	263	P	Pg	14 47 59.6	-2.7
	baz=284						
IDYN	Dyngjuhals	0.14	37	P	Pg	14 48 00.9	-2.2
	baz=29						
IURH	Urdarhals	0.22	52	P	Pg	14 48 02.3	-2.3
	baz=45						
IDJK	Dyngjujokull	0.23	142	P	Pg	14 48 01.6	-3.1
	baz=138						
IGRF	Grimsfjall	0.30	156	P	Pg	14 48 02.8	-3.3
	baz=154						
ISKR	Skrokkalda	0.38	251	P	Pg	14 48 04.7	-2.7
	baz=256						
ISKR				S	Sg	14 48 10.1	-2.2
	baz=256						
IKVE	Kverkfjoll	0.38	90	P	Pg	14 48 04.8	-2.6
	baz=86						
IKVE				S	Sg	14 48 10.0	-2.5
	baz=86						
IHUS	Husbondi	0.39	186	P	Pg	14 48 04.4	-3.3
	baz=188						
IBJK	Bruarjokull	0.41	121	P	Pg	14 48 04.8	-3.2
	baz=118						
IVOT	Vottur	0.45	158	P	Pg	14 48 05.2	-3.4
	baz=157						
IVOT				S	Sg	14 48 11.1	-3.4
	baz=157						
IJOK	Jokulheimar	0.47	218	P	Pg	14 48 05.7	-3.4
	baz=221						
IJOK				S	Sg	14 48 12.2	-3.0
	baz=221						
IKRE	Kreppuhraun	0.51	78	P	Pg	14 48 06.7	-3.2
	baz=75						
IKRE				S	Sg	14 48 14.1	-2.5
	baz=75						
IASK	Askja	0.54	46	P	Pg	14 48 07.4	-2.9
	baz=43						
IMKO	Mokollar	0.60	60	P	Pg	14 48 08.5	-3.0
	baz=57						
IIEY	Innrieyrar	0.64	203	P	Pg	14 48 08.4	-3.9
	baz=204						
ISVA	Svartarkot	0.67	11	P	Pg	14 48 09.8	-3.0
	baz=10						
ISVA				S	Sb	14 48 19.7	-3.3
	baz=10						
IKSK	Karasker	0.70	138	P	Pg	14 48 09.1	-4.4
	baz=136						
IVAT	Vatnsfell	0.77	230	P	Pg	14 48 11.1	-3.7
	baz=232						
IVSH	V-Sauoahnukur	0.80	80	P	Pg	14 48 11.4	-3.8
	baz=78						
IVSH				S	Sg	14 48 22.5	-3.0
	baz=78						
IHVE	Hveravellir	0.88	283	P	Pg	14 48 13.0	-3.8
	baz=285						
IADA	Aoalbol	0.91	67	P	Pg	14 48 13.4	-4.0
	baz=66						
IADA				S	Sg	14 48 26.1	-3.2
	baz=66						
IMEL	Melhnausar	0.97	23	P	Pg	14 48 14.7	-3.8
	baz=22						
IREN	Reynihlio	1.01	16	P	Pg	14 48 15.5	-3.7
	baz=15						
ISNB	Snabyli	1.06	207	P	Pb	14 48 15.5	-4.8
	baz=208						
ISNB				S	Sb	14 48 29.4	-4.8
	baz=208						
IKVO	Krokottuvotn	1.07	15	P	Pg	14 48 16.5	-4.0
	baz=14						
IGRS	Grimsstaoir	1.13	32	P	Pg	14 48 17.5	-4.1
	baz=31						
ISKI	Skildingahlsh	1.21	10	P	Pg	14 48 18.8	-4.3
	baz=9.9						
IGYG	Gygjarholskot	1

ESK Eskdalemuir 11.79 136 Pn **Pn 14 50 46.4 -1.5**
NOA NORSAR Array B 13.56 92 Pn **Pn 14 51 08.7 -3.3**
0.0nm,0.3s,baz=306,slow=12,SNR=3.5
NOA LR LR 14 56 24.7
comp=Z,84nm,20.2s,baz=295,slow=37
HFS Hagfors 15.07 93 Pn **Pn 14 51 29.4 -3.2**
0.2nm,0.3s,baz=311,slow=7.5,SNR=2.0
HFS LR LR 14 57 22.2
comp=Z,78nm,20.5s,baz=288,slow=37
KBS Kingsbay 16.63 19 *ceP* **P 14 51 54.4 -0.7**
KBS pmax pmax
comp=Z,53nm,1.7s
SPA0 Spitsbergen Ar 16.86 23 P 14 51 56.7 -1.0
SPITS Spitsbergen Ar 16.86 23 LR LR 14 56 48.9
comp=Z,340nm,19.8s,baz=215,slow=31
ARCES ARCESS Array B 17.13 55 P **P 14 52 00.9 +0.3**
comp=Z,0.2nm,0.3s,baz=269,slow=9.2,SNR=7.5
ARCES LR LR 14 57 20.6
comp=Z,340nm,20.9s,baz=307,slow=33
ARCES ARCESS Array B 17.13 55 P **P 14 52 00.0 -0.6**
RGN Rugen 18.42 109 *eP* **P 14 52 12.7 -2.2**
baz=327,slow=11
BUG Bochum--Univer 18.49 124 *eP* **Pn 14 52 18.8 +3.0**
comp=Z,8.3nm,0.7s,baz=327,slow=11
BMRD Maredsous 18.59 130 P **P 14 52 18.0 +1.1**
BMRD Maredsous 18.59 130 pP pP 14 52 27.5 +7.4
NRDL Niedersach Rie 18.69 118 *eP* **Pn 14 52 19.6 +1.4**
comp=Z,16nm,0.9s,baz=327,slow=11
MEM Membach 18.74 128 pP pP 14 52 21.8 -0.1
CLZ Clausthal 19.31 118 *eP* **Pn 14 52 26.7 +0.9**
comp=Z,13nm,0.7s,baz=327,slow=11
GTTG Gottingen 19.39 120 *eP* **Pn 14 52 28.0 +1.3**
comp=Z,13nm,0.9s,baz=327,slow=11
FINES FINESS Array B 19.73 79 P **P 14 52 28.6 -0.6**
comp=Z,0.2nm,0.3s,baz=310,slow=8.9,SNR=13
FINES LR LR 14 59 41.3
comp=Z,175nm,21.0s,baz=294,slow=36
FINES FINESS Array B 19.73 79 Pn 14 52 30.5 -0.2
FINES FINESS Array B 19.73 79 Pn 14 52 30.5 -0.2
FIA1 FINESS Array S 19.73 79 P **Pn 14 52 31.0 +0.3**
CLF Chambon-Foret 19.83 138 P **P 14 52 31.2 +0.8**
CLF IAmb IAmb 14 52 37.8
comp=Z,38nm,1.3s
TNS Taunus Mts 19.92 124 *eP* **Pn 14 52 33.6 +0.4**
baz=327,slow=11
UBBA Unterbreizbach 19.99 121 *eP* Pn 14 52 34.4 +0.7
baz=327,slow=11
APA Apatity 20.34 59 ⇓*iP* **P 14 52 35.6 -0.2**
APA *i* S **S 14 56 21.0 -2.4**
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,400nm,19.0s
NEUB Neuenburg 20.34 118 *eP* **P 14 52 37.6 +1.7**
baz=327,slow=11
LVZ Lovozero 20.71 58 *iP* **P 14 52 38.9 -1.0**
LVZ pmax pmax
comp=Z,21nm,1.3s
MOX Moxa 20.73 119 *eP* **P 14 52 41.9 +1.6**
baz=327,slow=11
MOX *eL* L 15 00 42.0
comp=Z,111nm,21.6s
CLL Collm 20.73 116 *iP* **P 14 52 40.0 -0.2**
comp=Z,31nm,1.2s
CLL *eS* Sn 14 56 37.0 +0.7
CLL LmH 15 00 00.0
comp=N,100nm,21.7s
CLL LmH 15 00 00.0
comp=E,100nm,20.6s
CLL LmV 15 01 00.0
comp=Z,100nm,18.1s
CLL Collm 20.73 116 *iP* **P 14 52 40.0 -0.2**
CLL *eS* Sn 14 56 37.0 +0.7
CLL pmax pmax
comp=Z,31nm,1.2s
CLL Collm 20.73 116 *eP* **P 14 52 41.3 +1.0**
baz=327,slow=11
CLL Collm 20.73 116 P **P 14 52 39.8 -0.5**
FBE Freiberg 21.18 116 *eP* **P 14 52 46.0 +1.0**
comp=Z,15nm,1.1s,baz=327,slow=11
ECH Echery 21.18 129 P **P 14 52 45.3 +0.1**
ECH pmax pmax
comp=Z,21nm,0.9s
ECH Echery 21.18 129 P **P 14 52 45.3 +0.1**
ECH IAmb IAmb 14 52 48.4
comp=Z,21nm,0.9s
GUNZ Gunzen 21.23 118 *eP* **P 14 52 47.2 +1.6**
baz=327,slow=11
TANN Tannenbergstha 21.24 118 *eP* **P 14 52 47.2 +1.5**
baz=327,slow=11
KLNR Kaliningrad 21.24 100 *iP* **P 14 52 45.6 0.0**
KLNR pmax pmax
comp=Z,92nm,1.2s
WERN Wernitzgruen 21.31 118 *eP* **P 14 52 48.2 +1.7**
comp=Z,6.5nm,0.7s,baz=327,slow=11
GRA1 Grafenberg Arr 21.36 121 P **P 14 52 47.6 +0.5**
GRF Grafenberg Arr 21.36 121 P **P 14 52 47.6 +0.5**
GRF pmax pmax
comp=Z,21nm,1.0s
GRF Grafenberg Arr 21.36 121 *eP* **P 14 52 49.2 +2.2**
comp=Z,5.9nm,0.8s,baz=327,slow=11
GRF *eL* L 15 01 24.2
comp=Z,91nm,19.4s
NKC Novy Kostel 21.38 118 *eP* **P 14 52 48.4 +1.2**
NKC AMS AMS 15 04 10.0
comp=Z,300nm,9.7s
NKC Novy Kostel 21.38 118 *eP* **P 14 52 48.4 +1.2**
NKC MLR MLR
comp=Z,300nm,9.7s
STU Stuttgart 21.40 125 P **P 14 52 48.0 +0.5**
STU pmax pmax
comp=Z,34nm,0.9s
STU Stuttgart 21.40 125 *eP* **P 14 52 49.3 +1.8**
comp=Z,22nm,0.8s,baz=327,slow=11
STU Stuttgart 21.40 125 P **P 14 52 48.0 +0.5**
STU IAmb IAmb 14 52 50.9
comp=Z,34nm,0.9s
BRG Berggiesshubel 21.44 115 *eP* **P 14 52 47.4 -0.5**
comp=Z,40nm,1.4s
comp=Z,220nm,11.2s
comp=N,180nm,11.8s
comp=E,180nm,11.8s
BRG Berggiesshubel 21.44 115 *eP* **P 14 52 48.5 +0.6**
baz=327,slow=11
MANZ Manzenberg 21.45 119 *eP* **P 14 52 49.7 +1.6**
comp=E,4.3nm,0.9s,baz=327,slow=11
BFO Black Forest 21.48 127 P **P 14 52 48.7 +0.3**
BFO pmax pmax
comp=Z,23nm,1.0s
BFO Black Forest 21.48 127 *eP* **P 14 52 50.4 +2.1**
comp=Z,12nm,0.9s,baz=327,slow=11
BFO Black Forest 21.48 127 P **P 14 52 48.6 +0.3**
BFO IAmb IAmb 14 52 51.5
comp=Z,23nm,1.0s
VSU Vasula 21.59 86 *eP* **P 14 52 48.9 -0.4**
VSU Vasula 21.59 86 *iP* **P 14 52 48.3 -1.1**
VSU pmax pmax
comp=Z,87nm,0.9s
ROTZ Rotzenmuhle 21.67 119 *eP* **P 14 52 52.5 +2.1**
comp=Z,4.0nm,0.9s,baz=327,slow=11
FRB Frobisher Bay 21.72 291 P **P 14 52 52.2 +1.5**
comp=Z,11nm,0.9s,baz=45,slow=10,SNR=3.8
SLVR Solovky 22.08 65 *eP* **P 14 52 51.6 -3.0**
comp=Z,60nm,1.2s
PABE Paberze 22.24 95 *eP* **P 14 52 56.8 +0.5**
PRA Prague 22.27 116 AMS AMS 15 04 10.0
comp=Z,100nm,12.8s
PRU Pruhonice 22.38 116 *eP* **P 14 52 59.4 +1.5**
PRU *eS* **S 14 57 05.4 +1.9**
PRU AMS AMS 15 04 10.0
comp=Z,200nm,13.2s
PRU Pruhonice 22.38 116 *eP* **P 14 52 59.4 +1.5**
PRU *eS* **S 14 57 05.4 +1.9**
PRU MLR MLR
comp=Z,200nm,13.2s
KSP Ksiaz 22.39 112 *eP* **P 14 52 59.8 +1.8**
WET Wettzell 22.43 119 *eP* **P 14 53 00.6 +2.1**
comp=Z,6.6nm,0.9s,baz=327,slow=11
CHVC Chvalec 22.50 113 *eP* **P 14 53 00.8 +1.6**
GOPC GO Pecny, Ondr 22.53 116 *eP* **P 14 53 02.0 +2.4**
GOPC AMS AMS 15 04 20.0
comp=Z,200nm,14.3s
GOPC GO Pecny, Ondr 22.53 116 *eP* **P 14 53 02.0 +2.4**
GOPC MLR MLR
comp=Z,200nm,14.3s
UPC Upice 22.54 113 AMS AMS 15 04 20.0
comp=Z,200nm,12.1s
OSTC Ostas 22.59 113 *eP* **P 14 53 02.0 +1.8**
OSTC AMS AMS 15 06 20.0
comp=Z,100nm,12.8s
UBR Ueberruh 22.65 125 *eP* **P 14 53 02.7 +1.7**
baz=327,slow=11
KHC Kasperske Hory 22.70 118 *eP* **P 14 53 01.6 +0.1**
KHC *eS* **S 14 57 15.3 +5.7**
KHC AMS AMS 15 03 40.0
comp=Z,200nm,14.6s
KHC Kasperske Hory 22.70 118 *eP* **P 14 53 01.6 +0.1**
KHC MLR MLR
comp=Z,200nm,14.6s
KHC Kasperske Hory 22.70 118 P **P 14 53 01.7 +0.3**
DPC Dobruska-Polom 22.79 113 *eP* **P 14 53 03.1 +0.8**
DPC *eS* **S 14 57 13.3 +2.2**
DPC AMS AMS 15 06 30.0
comp=Z,200nm,14.4s
DPC Dobruska-Polom 22.79 113 *eP* **P 14 53 03.1 +0.8**
DPC *eS* **S 14 57 13.3 +2.2**
DPC MLR MLR
comp=Z,200nm,14.4s
SENIN Lac Senin/Sane 22.86 131 P **P 14 53 03.6 +0.4**
DAVA Damuels 22.91 126 *eP* **P 14 53 04.7 +0.9**
comp=Z,20nm,1.4s
GEC2 GERESS Array S 22.99 119 *eP* **P 14 53 05.8 +1.3**
comp=Z,5.0nm,0.9s,baz=327,slow=11
GEC2 GERESS Array S 22.99 119 P **P 14 53 04.6 +0.2**
GEC2 IAmb IAmb 14 53 15.2
comp=Z,20nm,1.2s
GERES GERESS Array B 22.99 119 P **P 14 53 04.2 -0.2**
comp=Z,6.4nm,1.0s,baz=332,slow=7.6,SNR=23
GERES LR LR 15 02 52.2
comp=Z,109nm,18.9s,baz=328,slow=39
GERES GERESS Array B 22.99 119 P **P 14 53 03.8 -0.7**
RETA Reutte 23.05 125 *eP* **P 14 53 06.1 +1.0**
comp=Z,13nm,1.2s
ISAL Salakas 23.12 92 *eP* **P 14 53 06.1 +0.5**
KRLC Kraliky 23.19 113 *eP* **P 14 53 06.5 0.0**
KRLC AMS AMS 15 07 00.0
comp=Z,100nm,13.7s
KRLC Kraliky 23.19 113 *eP* **P 14 53 06.5 0.0**
KRLC MLR MLR
comp=Z,100nm,13.7s
MOTA Moosalm 23.29 124 *eP* **P 14 53 08.9 +1.3**
comp=Z,17nm,1.1s
TREC Trest 23.30 116 AMS AMS 15 04 30.0
comp=Z,200nm,12.2s
IIGN Ignalina 23.31 93 *eP* **P 14 53 08.3 +0.8**
DAVOX Davos/Dischmat 23.35 127 LR LR 15 03 21.2
comp=Z,130nm,19.1s,slow=40
TMCR Tamitsa 23.36 66 *eP* **P 14 53 07.8 -0.2**
PGAV Gavieira, Arco 23.38 162 A A 15 01 24.7
comp=Z,322nm,20.0s
SQTA Sankt Quirin 23.43 124 *ep*P **P 14 53 10.5 +1.5**
comp=Z,21nm,1.0s
TUE Stuetta 23.43 128 P **P 14 53 10.0 +0.9**
TUE IAmb IAmb 14 53 23.4
comp=Z,19nm,1.1s
FETA Feichten 23.44 125 *eP* **P 14 53 09.9 +0.8**
comp=Z,11nm,1.3s
WATA Walderalm 23.47 124 *eP* **P 14 53 10.6 +1.2**
comp=Z,11nm,0.8s
WTTA Wattenberg 23.55 124 *eP* **P 14 53 10.8 +0.6**
comp=Z,17nm,1.1s
IDID Didziasalis 23.55 92 *eP* **P 14 53 09.9 -0.1**
RJOB Jochberg 23.57 121 *eP* **P 14 53 11.4 +1.1**
comp=Z,4.1nm,0.7s,baz=327,slow=11
FUORN Ofenpass-Fuorn 23.62 127 P **P 14 53 12.3 +1.2**
EUNU Eureka 23.64 336 P **P 14 53 11.7 +0.9**
EUNU IAmb IAmb 14 53 14.4
comp=Z,14nm,0.8s
VRAC Vranov 23.72 114 P **P 14 53 10.8 -1.0**
comp=Z,5.0nm,0.5s,baz=335,slow=9.2,SNR=13
VRAC LR LR 15 03 27.2
comp=Z,81nm,18.4s,baz=334,slow=39
VRAC Vranov 23.72 114 *eP* **P 14 53 13.4 +1.6**
MORC Moravsky Berou 23.73 112 *eP* **P 14 53 13.3 +1.5**
MORC Moravsky Berou 23.73 112 P **P 14 53 12.8 +1.0**
MORC pmax pmax
comp=Z,21nm,1.5s
MORC Moravsky Berou 23.73 112 P **P 14 53 12.8 +1.0**
MORC IAmb IAmb 14 53 25.8
comp=Z,21nm,1.5s
BNI Bardonecchia 23.83 134 P **P 14 53 14.2 +1.3**
BNI pmax pmax
comp=Z,14nm,1.4s
BNI Bardonecchia 23.83 134 P **P 14 53 14.2 +1.3**
KRUC Moravsky 23.84 115 *eP* **P 14 53 14.1 +1.2**
MOA Molln 24.02 119 *eP* **P 14 53 15.4 +0.8**
comp=Z,6.7nm,1.2s
OJC Ojcow 24.29 109 *eP* **P 14 53 17.9 +0.8**
OJC Ojcow 24.29 109 P **P 14 53 17.5 +0.5**
OJC pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 24.29 109 P **P 14 53 17.5 +0.5**
ABTA Abfaltersbach 24.30 123 *eP* **P 14 53 17.4 +0.1**
comp=Z,15nm,1.2s
KBA Koelnbreinsper 24.32 122 *eP* **P 14 53 17.3 -0.3**
comp=Z,7.4nm,1.1s
MVO Moncorvo 24.33 160 *eP* **P 14 53 20.4 +2.8**
comp=Z,32nm,1.5s
MVO A A 15 02 12.4
comp=Z,188nm,20.0s
JAVC Velka Javorina 24.51 113 *eP* **P 14 53 19.8 +0.7**
CONA Conrad Observa 24.56 117 *eP* **P 14 53 19.6 0.0**
comp=Z,11nm,0.8s,SNR=8.2
CTI Castel Tesino 24.60 125 P **P 14 53 21.7 +1.7**
CTI pmax pmax
comp=Z,27nm,1.4s
CTI Castel Tesino 24.60 125 P **P 14 53 21.7 +1.7**
CTI IAmb IAmb 14 53 34.7
comp=Z,26nm,1.4s
ZOU Zoufplan 24.63 123 P **P 14 53 21.7 +1.3**
ZOU IAmb IAmb 14 53 34.7
comp=Z,19nm,1.2s
PVIS Viseu 24.65 162 *eP* **P 14 53 23.7 +3.2**
comp=Z,28nm,1.5s
SMOL Smolenice 24.69 114 *eP* **P 14 53 22.0 +1.3**
SMOL pmax pmax
comp=Z,10.0nm,1.0s
SMOL Smolenice 24.69 114 *eP* **P 14 53 22.0 +1.3**
MODS Modra-Piesok 24.75 115 *eP* **P 14 53 21.8 +0.6**
MODS pmax pmax
comp=Z,18nm,1.3s
MODS Modra-Piesok 24.75 115 *eP* **P 14 53 21.8 +0.6**
STAL STALIGIAL 24.79 123 P **P 14 53 22.4 +0.8**
MYKA Terra Mystica 24.81 122 *eP* **P 14 53 22.4 +0.5**
comp=Z,6.4nm,1.0s
PRED Cave del Predi 24.94 122 P **P 14 53 24.0 +0.9**
PRED IAmb IAmb 14 53 27.3
comp=Z,20nm,1.4s
ARSA Arzberg 24.99 118 *eP* **P 14 53 24.1 +0.6**
comp=Z,8.1nm,1.0s
LANS Liptovska Anna 24.99 111 *eP* **P 14 53 25.6 +2.1**
LANS pmax pmax
comp=Z,10.0nm,0.9s
LANS Liptovska Anna 24.99 111 *eP* **P 14 53 25.6 +2.1**
NIE Niedzica 25.12 109 *eP* **P 14 53 25.4 +0.8**
OBKA Obir 25.25 121 *eP* **P 14 53 25.7 -0.2**
comp=Z,8.4nm,1.3s
VYHS Vyhne 25.26 112 *eP* **P 14 53 26.7 +0.8**
VYHS pmax pmax
comp=Z,25nm,1.4s
VYHS Vyhne 25.26 112 *eP* **P 14 53 26.7 +0.8**
SOKA Soboth 25.29 120 *eP* **P 14 53 26.0 -0.1**
comp=Z,8.7nm,1.1s,SNR=7.4
PERS Pernice 25.35 120 *eP* **P 14 53 27.3 +0.6**
MOZS Mozjanca 25.39 121 *eP* **P 14 53 26.6 -0.5**
PCBR Castelo Branco 25.57 162 *eP* **P 14 53 30.5 +1.8**
comp=Z,30nm,1.4s
KLMR Klimovskoe 25.62 72 *eP* **P 14 53 27.9 -1.1**
comp=Z,27nm,1.3s
KLMR Klimovskoe 25.62 72 *eP* **P 14 53 27.9 -1.1**
KLMR *e* 14 56 57.3
KLMR pmax pmax
comp=Z,27nm,1.3s
KLMR Klimovskoe 25.62 72 *eP* **P 14 53 27.9 -1.1**
KLMR AMP 14 53 30.2
comp=Z,27nm,1.3s
KLMR *e*PcP **PcP 14 56 57.4 -1.8**
VLC Villacollemand 25.82 129 P **P 14 53 32.6 +1.7**
VLC IAmb IAmb 14 53 37.9
comp=Z,17nm,1.2s
ZCCA Zocca 25.85 128 P **P 14 53 32.3 +1.0**
KWP Kalwaria Pacla 25.94 106 *eP* **P 14 53 32.4 +0.4**
KWP Kalwaria Pacla 25.94 106 P **P 14 53 32.7 +0.7**
KWP pmax pmax
comp=Z,29nm,1.0s
KWP Kalwaria Pacla 25.94 106 P **P 14 53 32.7 +0.7**
VISS Visnje 25.95 121 *eP* **P 14 53 32.8 +0.6**
PMRV Marv??o 25.99 162 *eP* **P 14 53 37.0 +4.5**
comp=Z,26nm,1.3s
PMRV A A 15 02 52.0
comp=Z,321nm,20.0s
CRVS Cervenica-Dubn 26.00 109 *eP* **P 14 53 34.2 +1.7**
CRVS Cervenica-Dubn 26.00 109 *eP* **P 14 53 34.2 +1.7**
SCHQ Schefferville 26.01 271 P **P 14 53 31.6 -1.1**
comp=Z,14nm,0.7s,baz=58,slow=8.7,SNR=6.2
SCHQ LR LR 15 02 16.4
comp=Z,92nm,20.6s,baz=42,slow=33
SCHQ Schefferville 26.01 271 P **P 14 53 32.1 -0.6**
PSZ Piszkesteto 26.15 112 ⇑*iP* **P 14 53 35.2 +1.2**
PSZ Piszkesteto 26.15 112 P **P 14 53 35.3 +1.3**
PSZ pmax pmax
comp=Z,18nm,1.1s
PSZ Piszkesteto 26.15 112 P **P 14 53 35.3 +1.3**
PSZ IAmb IAmb 14 53 37.3
comp=Z,18nm,1.1s
ESBB Sonseca Array 26.28 156 P **P 14 53 36.3 +1.1**
ESDC Sonseca Array 26.28 156 P **P 14 53 35.4 +0.2**
comp=Z,1.8nm,0.8s,baz=349,slow=8.7,SNR=14
ESDC LR LR 15 03 52.4
comp=Z,220nm,18.6s,baz=340,slow=36
ESDC Sonseca Array 26.28 156 P **P 14 53 36.3 +1.1**
KOLS Kolonicke sedl 26.30 108 *eP* **P 14 53 36.3 +1.0**
KOLS pmax pmax
comp=Z,16nm,1.4s
KOLS Kolonicke sedl 26.30 108 *eP* **P 14 53 36.3 +1.0**
LVV L'vov 26.34 104 *eP* **P 14 53 37.1 +1.5**
RES Resolute Bay 26.44 324 LR LR 15 04 16.4
comp=Z,124nm,20.2s,baz=200,slow=37
UZH Uzhgorod 26.55 108 ⇓*iP* **P 14 53 39.3 +1.8**
UZH *i* 14 53 45.5
OSSC Osservatorio P 26.67 129 P **P 14 53 39.6 +1.0**
MURB Monte Urbino 27.33 127 P **P 14 53 46.1 +1.4**
PRGR Permogore 27.64 67 *eP* **P 14 53 51.2 +4.0**
AKASG Malin Array Be 27.87 98 P **P 14 53 49.7 +0.4**
comp=Z,2.2nm,0.7s,baz=321,slow=9.9,SNR=9.4
AKASG Malin Array Be 27.87 98 *ceP* **P 14 53 50.0 +0.7**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 27.87 98 IAmb IAmb 14 53 55.0
comp=Z,1.4nm,0.9s
AKBB Malin Array Si 27.87 98 P **P 14 53 50.2 +0.9**
AKBB pmax pmax
comp=Z,7.0nm,1.1s
AKBB Malin Array Si 27.87 98 P **P 14 53 50.2 +0.9**
OBN Obninsk 27.91 84 LR LR 15 05 19.7
comp=Z,30nm,18.2s,baz=360,slow=37
OBN Obninsk 27.91 84 ⇓*iP* **P 14 53 49.9 +0.3**
OBN *e**PP **pP 14 53 52.0 -1.0**
OBN *e**SP **sP 14 53 53.4 -1.0**
OBN 14 54 35.0
OBN pmax pmax
comp=Z,39nm,1.3s
OBN MLR MLR
comp=Z,97nm,16.0s
NRCA Norcia 27.92 127 P **P 14 53 51.6 +1.7**
PVAQ Vaqueiros 27.94 163 A A 15 03 36.0
comp=Z,218nm,20.0s
BURAR Bucovina Array 28.55 106 P **P 14 53 57.7 +2.1**
DIVS Divibare 29.34 116 P **P 14 54 03.6 +1.0**
MDVR Moldovita 29.44 113 ⇑*iP* **P 14 54 03.7 +0.3**
SORM Soroca 29.45 102 ⇑*iP* **P 14 54 01.9 -1.5**
BIZ Bicaz 29.46 106 ⇑*iP* **P 14 54 05.4 +1.9**
HERR Herculane 29.64 113 ⇑*iP* **P 14 54 06.4 +1.3**
TESR Tescani 30.02 106 ⇑*iP* P 14 54 03.5 -5.0
ARR Arges 30.13 109 ⇑*iP* **P 14 54 10.2 +0.7**
VOIR 30.24 109 ⇑*iP* **P 14 54 12.3 +1.8**
PDG Podgorica 30.48 119 ⇓*iP* **P 14 54 12.0 -0.6**
PLOR Plostina 30.56 107 ⇑*iP* **P 14 54 14.6 +1.3**
MLR Muntele Rosu 30.56 108 ⇑*iP* **P 14 54 13.5 +0.1**
VRI Vrincioaia 30.58 106 ⇑*iP* **P 14 54 14.5 +1.1**
VRI Vrincioaia 30.58 106 ⇑*iP* **P 14 54 15.1 +1.7**
MATE Matera 31.10 124 ⇑*iP* **P 14 54 19.0 +1.0**
CFR Carcaliu 31.72 106 ⇑*iP* **P 14 54 24.3 +0.9**
TOPG Topolog 32.06 106 ⇑*iP* **P 14 54 27.4 +0.9**
CLTB Caltabellotta 32.67 131 P **P 14 54 34.0 +2.0**
FNA Florina 32.71 118 P **P 14 54 32.8 +0.6**
FNA pmax pmax
comp=Z,10.0nm,1.1s
FNA Florina 32.71 118 P **P 14 54 32.8 +0.6**
FNA IAmb IAmb 14 54 34.2
comp=Z,10nm,1.1s
MDT Midelt 32.88 160 LR LR 15 07 04.9
comp=Z,142nm,20.6s,baz=1.0,slow=35
ALN Alexandroupoli 34.43 112 P **P 14 54 47.7 +0.6**
ALN pmax pmax
comp=Z,17nm,1.3s
ALN Alexandroupoli 34.43 112 P **P 14 54 47.7 +0.6**
ALN IAmb IAmb 14 54 51.8
comp=Z,17nm,1.3s
AGG Agios Georgios 34.60 118 P **P 14 54 49.1 +0.4**
AGG pmax pmax
comp=Z,16nm,1.0s
AGG Agios Georgios 34.60 118 P **P 14 54 49.1 +0.4**
ARU Arti 36.10 66 *diP* **P 14 55 00.7 -0.6**
ARU 14 56 17.5
ARU S **S 15 00 40.8 +0.5**
ARU SS **SnSn 15 02 59.1 -5.7**
ARU pmax pmax
comp=Z,8.0nm,1.5s
ARU MLR MLR
comp=Z,157nm,16.0s
D53A Lac Vacive, Po 36.35 271 P **P 14 55 03.9 +0.3**
D53A IAmb IAmb 14 55 07.5
comp=Z,18nm,1.2s
NRIK Noril'sk 36.46 35 LR LR 15 11 47.5
comp=Z,139nm,18.2s,baz=16,slow=39
J59A Piesco 37.85 264 P **P 14 55 17.0 +0.6**
J59A IAmb IAmb 14 55 20.2
comp=Z,13nm,1.3s
BRTR Keskin Array B 38.51 105 P **P 14 55 23.2 +1.1**
comp=Z,4.8nm,0.8s,baz=330,slow=7.1,SNR=10
BRTR Keskin Array B 38.51 105 P **P 14 55 22.7 +0.5**
BRTR Keskin Array B 38.51 105 P **P 14 55 22.7 +0.5**
IDI Anoyia 38.85 118 LR LR 15 14 29.1
comp=Z,36nm,18.3s,baz=9.5,slow=41
KIV Kislovodsk 38.87 92 *eP* **P 14 55 25.8 +0.7**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,101nm,16.0s
KBZ Khabaz 39.14 92 P **P 14 55 28.9 +1.7**
comp=Z,4.9nm,0.8s,baz=314,slow=9.6,SNR=8.3
YKA Yellowknife Ar 39.18 313 LR LR 15 10 03.0
comp=Z,58nm,19.4s,baz=0.0,slow=34
J55A Hilton 39.43 267 P **P 14 55 29.8 +0.2**
J55A IAmb IAmb 14 55 31.1
comp=Z,11nm,0.8s
KARP Karpathos 39.49 116 P **P 14 55 30.6 +0.3**
J54A Appleton 39.78 268 P **P 14 55 32.6 +0.1**
J54A IAmb IAmb 14 55 38.0
comp=Z,10nm,0.8s
ULM Lac du Bonnet 41.57 289 LR LR 15 12 46.3
comp=Z,66nm,19.6s,baz=59,slow=36
ABKAR Akbulak array 42.01 73 P **P 14 55 50.8 -0.1**
TIXI Tiksi 42.02 15 P **P 14 55 51.7 +1.0**
TIXI pmax pmax
comp=Z,15nm,1.4s
TIXI Tiksi 42.02 15 P **P 14 55 51.7 +1.0**
TIXI IAmb IAmb 14 55 57.7
comp=Z,15nm,1.4s
N54A Moraine State 42.24 267 P **P 14 55 53.5 +0.7**
BRVK Borovoye 43.15 62 P **P 14 56 00.2 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 43.15 62 P **P 14 56 00.2 +0.2**
L48A N Adams 43.35 272 P **P 14 56 02.5 +0.7**
L48A IAmb IAmb 14 56 06.5
comp=Z,9.9nm,0.6s
O53A New Philadelph 43.36 268 P **P 14 56 02.7 +0.8**
MARD Mardin 43.54 100 P **P 14 56 05.6 +2.1**
MARD IAmb IAmb 14 56 07.9
comp=Z,15nm,0.9s
N49A Columbus Grove 44.08 271 P **P 14 56 07.2 -0.5**
O49A Covington 44.75 270 P **P 14 56 13.3 +0.2**
Q51A Peebles 45.29 268 P **P 14 56 18.1 +0.8**

ILAR Eielson Array 45.66 332 P **P 14 56 20.1 +0.1**
comp=Z,1.1nm,1.0s,baz=23,slow=7.9,SNR=6.3
ILAR PcP **PcP 14 57 57.8 0.0**
comp=Z,0.9nm,0.8s,baz=354,slow=3.3,SNR=7.9
ILAR LR LR 15 16 35.1
comp=Z,70nm,19.9s,baz=27,slow=38
ILAR Eielson Array 45.66 332 P **P 14 56 20.3 +0.3**
MDM Murphy Dome 45.76 333 P **P 14 56 21.9 +1.1**
MDM IAmb IAmb 14 56 35.2
comp=Z,12nm,1.3s
COLA College 45.76 333 *i* P **P 14 56 24.1 +3.4**
COLA pmax pmax
comp=Z,3.0nm,1.0s
CCB Clear Creek Bu 45.95 333 P **P 14 56 22.9 +0.6**
WHY Whitehorse 46.48 323 P **P 14 56 27.5 +0.8**
S51A Beattyville 46.55 268 P **P 14 56 29.1 +1.8**
ZAA0 Zalesovo Array 47.64 51 P **P 14 56 34.9 -0.8**
ZAA0 IAmb IAmb 14 56 36.9
comp=Z,7.7nm,1.4s
ZALV Zalesovo Beam 47.64 51 P **P 14 56 36.0 +0.3**
comp=Z,1.7nm,0.7s,baz=327,slow=8.0,SNR=6.3
ZALV PcP **PcP 14 58 04.8 -0.1**
comp=Z,0.4nm,0.3s,baz=27,slow=3.6,SNR=3.5
ZALV LR LR 15 17 58.9
ZALV Zalesovo Beam 47.64 51 P **P 14 56 35.0 -0.6**
KURK Kurchatov 48.12 58 *ce*P **P 14 56 39.3 -0.1**
KURK pmax pmax
comp=Z,11nm,1.7s
KURK Kurchatov 48.12 58 P **P 14 56 38.9 -0.5**
KURK IAmb IAmb 14 56 45.5
comp=Z,5.2nm,0.9s
SCM Sheep Creek Mo 48.38 331 P **P 14 56 42.2 +0.9**
SCM pmax pmax
comp=Z,8.0nm,1.2s
SCM Sheep Creek Mo 48.38 331 P **P 14 56 42.2 +0.9**
SCM IAmb IAmb 14 56 42.9
comp=Z,7.9nm,1.2s
T47A Sharon Grove 48.61 270 P **P 14 56 43.2 -0.1**
EGMT Eagleton 48.84 297 P **P 14 56 46.7 +1.6**
W50A Signal Mountai 49.35 267 P **P 14 56 49.8 +0.7**
GEYT Alibeck 50.45 84 P **P 14 56 59.7 +2.3**
comp=Z,2.8nm,0.7s,baz=312,slow=8.9,SNR=5.1
GEYT Alibeck 50.45 84 P **P 14 56 59.4 +2.0**
S39A Bolivar 50.69 276 P **P 14 56 59.0 -0.2**
S39A IAmb IAmb 14 57 15.5
comp=Z,8.9nm,1.4s
HRY Holter Researc 50.72 298 P **P 14 57 01.0 +1.5**
YAK Yakutsk 51.26 19 *i* P **P 14 57 06.0 +2.9**
YAK pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 51.29 70 P **P 14 57 04.2 +0.5**
KKAR Karatay Array 51.29 70 P **P 14 57 04.2 +0.5**
YNE Yellowstone No 51.44 295 P **P 14 57 05.4 +0.3**
BOZ Bozeman (W) 51.58 297 P **P 14 57 07.1 +1.2**
BOZ pmax pmax
comp=Z,14nm,1.3s
BOZ Bozeman (W) 51.58 297 P **P 14 57 07.1 +1.2**
BOZ IAmb IAmb 14 57 09.6
comp=Z,14nm,1.2s
DGZ Jazzator, Alta 52.09 53 *i* P **P 14 57 10.5 +0.8**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 52.61 58 P **P 14 57 13.3 -0.1**
MAKZ pmax pmax
comp=Z,5.0nm,1.3s
MAKZ Makanchi 52.61 58 P **P 14 57 13.3 -0.1**
MCMT McKenzie Canyo 52.69 297 P **P 14 57 13.7 -0.7**
IMW Indian Meadow 52.74 295 P **P 14 57 15.5 +0.8**
MK31 Makanchi Array 52.74 58 P **P 14 57 13.8 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,1.2s
MK31 Makanchi Array 52.74 58 P **P 14 57 13.8 -0.6**
MKAR Makanchi Array 52.74 58 P **P 14 57 14.6 +0.2**
comp=Z,2.1nm,0.9s,baz=339,slow=6.5,SNR=8.5
MKAR Makanchi Array 52.74 58 *ce*P **P 14 57 14.3 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 52.74 58 P **P 14 57 13.8 -0.5**
PD31 Pinedale Array 53.15 293 P **P 14 57 17.2 -0.5**
PD31 IAmb IAmb 14 57 20.2
comp=Z,6.9nm,0.8s
PDAR Pinedale Array 53.15 293 P **P 14 57 17.4 -0.3**
comp=Z,4.2nm,0.7s,baz=58,slow=6.3,SNR=29
PDAR LR LR 15 18 44.1
comp=Z,54nm,21.2s,baz=20,slow=35
PDAR Pinedale Array 53.15 293 P **P 14 57 17.2 -0.5**
BW06 Boulder Array 53.15 293 P **P 14 57 17.1 -0.6**
BW06 IAmb IAmb 14 57 20.2
comp=Z,8.0nm,0.8s
TOA0 Torodi Ar. Sit 53.17 156 P **P 14 57 16.6 -1.2**
TOA0 IAmb IAmb 14 57 19.3
comp=Z,10.0nm,1.0s
TORD Torodi Ar. Bea 53.17 156 P **P 14 57 16.7 -1.1**
comp=Z,5.9nm,1.0s,baz=341,slow=8.8,SNR=16
TORD Torodi Ar. Bea 53.17 156 P **P 14 57 16.7 -1.1**
N23A Red Feather La 53.27 289 P **P 14 57 19.3 +0.6**
N23A IAmb IAmb 14 57 22.3
comp=Z,9.2nm,1.0s
AAK Ala-Archa 53.28 67 *ce*P **P 14 57 18.9 +0.3**
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 53.28 67 P **P 14 57 19.5 +0.9**
AAK IAmb IAmb 14 57 23.7
comp=Z,6.8nm,1.1s
BTK Batken 53.98 72 P **P 14 57 23.4 -0.2**
BTK pmax pmax
comp=Z,21nm,1.2s
BTK Batken 53.98 72 P **P 14 57 23.4 -0.2**
BMO Blue Mountains 54.35 300 P **P 14 57 26.7 +0.4**
BMO pmax pmax
comp=Z,4.0nm,1.1s
BMO Blue Mountains 54.35 300 P **P 14 57 26.7 +0.4**
CHGR Chuyangaron 54.48 74 P **P 14 57 27.4 +0.1**
MOY Mondy 54.66 42 *e*P **P 14 57 30.4 +1.9**
MOY pmax pmax
comp=Z,24nm,2.1s
GAR Garm 54.67 73 P **P 14 57 29.2 +0.5**
HWUT Hardware Ranch 54.92 294 P **P 14 57 31.2 +0.6**
HWUT IAmb IAmb 14 57 34.5
comp=Z,5.7nm,0.8s
RDMU Red Mountain 55.01 292 P **P 14 57 31.4 +0.1**
TLY Talaya 55.40 40 *i* P **P 14 57 35.7 +2.0**
TLY pmax pmax
comp=Z,3.0nm,1.1s
PV22 Blue Mesa, Par 56.43 290 P **P 14 57 42.4 +0.8**
ZAK Zakamensk 56.46 41 *e*P **P 14 57 42.1 +0.6**
ZAK pmax pmax
comp=Z,19nm,1.3s
ZAK pmax pmax
comp=Z,10.0nm,1.2s
PV21 Cone Mtn., Par 56.49 290 P **P 14 57 42.2 +0.3**
PV21 IAmb IAmb 14 57 44.8
comp=Z,4.3nm,0.8s
KSH Kashi 56.52 68 P **P 14 57 44.4 +2.4**
KSH sP sP 14 57 49.7 +2.6
KSH PcP **PcP 14 58 37.4 -1.2**
KSH ScP **ScP 15 02 38.7 +1.1**
KSH PcS **PcS 15 02 42.4 +3.1**
KSH S **S 15 05 34.2 +1.0**
KSH sS sS 15 05 44.5 +5.3
KSH pmax pmax
comp=Z,91nm,5.7s
KSH LR LR
comp=N,540nm,15.2s
KSH LR LR
comp=E,400nm,14.0s
PV23 Carpenter Ridg 56.59 290 P **P 14 57 43.0 +0.2**
PV04 Paradox Valley 56.60 290 P **P 14 57 43.0 +0.3**
SRU San Rafael Swe 56.64 292 P **P 14 57 43.3 +0.3**
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 56.64 292 P **P 14 57 43.3 +0.3**
PV14 Lion Creek, Pa 56.67 290 P **P 14 57 43.2 -0.1**
PV14 IAmb IAmb 14 57 46.1
comp=Z,7.1nm,0.7s
PV01 Paradox Valley 56.69 289 P **P 14 57 43.9 +0.5**
PV01 IAmb IAmb 14 57 46.6
comp=Z,7.5nm,1.1s
PV02 Paradox Valley 56.69 290 P **P 14 57 43.5 +0.1**
PV02 IAmb IAmb 14 57 46.6
comp=Z,7.2nm,0.8s
PV03 Paradox Valley 56.70 290 P **P 14 57 43.1 -0.3**
PV03 IAmb IAmb 14 57 46.5
comp=Z,5.1nm,1.0s
PV17 East Wray Mesa 56.72 290 P **P 14 57 44.1 +0.5**
PV17 IAmb IAmb 14 57 46.1
comp=Z,8.8nm,1.1s
PV18 Skein Mesa, Pa 56.73 290 P **P 14 57 44.1 +0.5**
PV18 IAmb IAmb 14 57 46.8
comp=Z,5.8nm,0.9s
PV13 Radium Mtn., P 56.77 290 P **P 14 57 44.3 +0.3**
PV05 Paradox Valley 56.95 290 P **P 14 57 44.6 -0.6**
WMQ Urumqi 57.24 56 *e*P **P 14 57 50.7 +3.7**
WMQ pmax pmax
comp=Z,9.0nm,0.6s
WMQ pmax pmax
comp=Z,88nm,3.9s
MSU Marysvale 57.81 292 P **P 14 57 51.8 +0.5**
MSU Marysvale 57.81 292 P **P 14 57 51.8 +0.5**
MVU Marysvale 57.83 293 P **P 14 57 51.8 +0.3**
MTPU Mount Pierson 58.22 292 P **P 14 57 55.5 +1.1**
PSUT Pine Spring 58.46 294 P **P 14 57 56.9 +1.0**
ANMO Albuquerque 58.56 286 *ce*P **P 14 57 58.3 +1.7**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
TIC Toumodi 58.62 165 *e*P **P 14 57 53.7 -3.2**
KIC Kosan Boka 58.93 165 *e*P **P 14 57 58.2 -0.8**
comp=Z,72nm,1.6s
LIC Lamto 59.03 165 *e*P P 14 57 55.3 -4.4
comp=Z,1.8nm,0.3s
CCUT Cedar City 59.11 293 P **P 14 58 01.4 +1.0**
R11A Troy Canyon, C 59.29 295 P **P 14 58 02.4 +0.8**
R11A IAmb IAmb 14 58 07.6
comp=Z,4.2nm,1.1s
BNM Barren Site 59.32 285 P **P 14 58 02.7 +0.8**
KNB Kanab 59.36 292 P **P 14 58 02.7 +0.6**
KNB pmax pmax
comp=Z,6.0nm,1.4s
KNB Kanab 59.36 292 P **P 14 58 02.7 +0.6**
SONM Songino Array 59.64 40 P **P 14 58 05.3 +1.5**
comp=Z,0.5nm,0.6s,baz=330,slow=8.6,SNR=5.7
SONM LR LR 15 26 00.6
comp=Z,134nm,19.1s,baz=308,slow=38
SONM Songino Array 59.64 40 P **P 14 58 04.1 +0.3**
KVN Kaiserville 59.65 297 P **P 14 58 05.0 +0.9**
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 59.65 297 P **P 14 58 05.0 +0.9**
U15A North Rim 59.66 291 P **P 14 58 03.8 -0.4**
U15A IAmb IAmb 14 58 06.9
comp=Z,4.5nm,0.9s
ULN Ulaanbaatar 59.80 40 *ce*P **P 14 58 04.0 -0.9**
ULN pmax pmax
comp=Z,5.0nm,1.7s
PRN Pahroc Range 59.90 294 P **P 14 58 05.6 -0.2**
PRN IAmb IAmb 14 58 12.4
comp=Z,8.3nm,1.4s
WUAZ Wupatki 60.08 290 P **P 14 58 07.4 +0.4**
YERR Yerington 60.14 298 P **P 14 58 08.0 +0.6**
YERR IAmb IAmb 14 58 11.2
comp=Z,4.3nm,1.0s
NVAR Mina Array Bea 60.27 297 P **P 14 58 09.4 +1.0**
comp=Z,0.5nm,0.8s,baz=64,slow=3.4,SNR=4.8
NVAR LR LR 15 24 18.1
comp=Z,77nm,18.7s,baz=19,slow=36
NVAR Mina Array Bea 60.27 297 P **P 14 58 09.2 +0.8**
NIL Nilore 60.47 73 P **P 14 58 09.6 +0.1**
NIL pmax pmax
comp=Z,11nm,1.0s
NIL Nilore 60.47 73 P **P 14 58 09.6 +0.1**
SHPR Sheep Range 60.73 294 P **P 14 58 11.9 +0.5**
SHPR IAmb IAmb 14 58 15.5
comp=Z,5.3nm,1.2s
TXAR Lajitas Array 62.26 280 P **P 14 58 22.3 +0.5**
comp=Z,1.1nm,0.9s,baz=44,slow=5.0,SNR=7.8
TXAR Lajitas Array 62.26 280 P **P 14 58 21.6 -0.2**
GTA Gaotai 65.31 49 ⇑P **P 14 58 42.3 +0.5**
GTA pP sP 14 58 46.7 -0.1
GTA sP pP 14 58 49.4 +4.0
GTA S **S 15 07 26.1 +0.8**
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,120nm,7.6s
GTA LR LR
comp=N,120nm,18.4s
GTA LR LR
comp=E,96nm,17.5s
GTA LR LR
comp=Z,110nm,19.4s
HHC Hu-ho-hao-te 67.51 40 *e*P **P 14 58 58.9 +3.0**
HHC pP **PP 15 01 28.4 +4.4**
KSRS Korea Array 74.64 28 LR LR 15 36 16.7
comp=Z,45nm,18.4s,baz=335,slow=39
MAJO Matsushiro 77.32 20 *i* P **P 14 59 55.8 +1.5**
MAJO pmax pmax
comp=Z,4.0nm,1.0s
SAML Samuel 80.94 226 P **P 15 00 14.1 0.0**
SAML pmax pmax
comp=Z,6.0nm,1.3s
SAML Samuel 80.94 226 P **P 15 00 14.1 0.0**
BDFB Brasilia 83.39 209 LR LR 15 31 37.5
comp=Z,73nm,19.9s,baz=271,slow=32
CHTO Chiang Mai 83.82 59 P **P 15 00 29.4 0.0**
CHTO pmax pmax
comp=Z,11nm,1.4s
CHTO Chiang Mai 83.82 59 P **P 15 00 29.4 0.0**
CMAR Chiang Mai Arr 84.14 59 P **P 15 00 31.0 0.0**
comp=Z,1.9nm,0.9s,baz=317,slow=7.7,SNR=7.2
CPUP Villa Florida 95.84 215 LR LR 15 41 32.3
comp=Z,48nm,18.0s,baz=42,slow=34
BOSA Boshof 98.79 143 LR LR 15 48 29.5
comp=Z,140nm,18.0s,baz=50,slow=37
ASAR Alice Springs 134.97 38 PKP **PKPdf 15 07 18.6 -0.1**
comp=Z,1.2nm,1.0s,baz=8.0,slow=1.7,SNR=5.6
STKA Stephens Creek 144.72 32 PKP **PKPab 15 07 34.3 -0.6**
comp=Z,2.1nm,0.8s,baz=345,slow=11,SNR=3.2

IDC ***08*** *15:21:17.8±0.5, 6°.72S×155°.40E, h40km±3km, mb4.3/16, mb1 4.5/18, mb1mx4.3/34, mbtmp4.5/18, ML4.2/2, MS3.6/15, Ms1 3.6/15, ms1mx3.5/33, Error ellipse: s-maj=16.6km s-min=12.7km az=96.0*
DJA ***08*** *15:21:20.8±0.8, 7°.S±4°.×15°.5E±°, h71km±9km, M5.0/11, mb4.6/11, mB4.9/5, MLv5.5/1, Mw(mB)4.2/5*
NEIC ***08*** *15:21:21.4±1.3, 6°.71S±0°.07×155°.31E±0°.07, h75km±5km, mb4.7/84, Error ellipse: s-maj=11.1km s-min=8.9km az=218.0*
ISC 08 15:21:24.2±0.3, 6°.76S±0°.05×155°.31E±0°.05, h100km, n184, σ1⇑19/179, mb4.6/58, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.04**	**309**		**Pn**	**15 22 21.3**	**-2.8**
KRVT	**Keravat (AS076**	**4.08**	**306**	Pn	**Pn**	**15 22 21.9**	**-2.6**
	8.4nm,0.3s,baz=161,slow=3.1,SNR=36						
KRVT				Sn	**Sn**	**15 23 12.7**	**+1.5**
	42nm,0.3s,baz=54,slow=17,SNR=4.9						
KRVT				LR	LR	15 23 21.4	
	comp=Z,188nm,20.5s,baz=111,slow=30						
HNR	**Honiara**	**5.30**	**120**	Pn	**Pn**	**15 22 38.7**	**-2.4**
	24nm,0.3s,baz=231,slow=15,SNR=5.8						
HNR				Sn	**Sn**	**15 23 43.4**	**+2.4**
	31nm,0.3s,baz=331,slow=18,SNR=4.1						
HNR				LR	LR	15 24 44.0	
	comp=Z,1μm,19.0s,baz=285,slow=39						
PMG	**Port Moresby**	**8.49**	**251**	Pn	**Pn**	**15 23 22.4**	**-2.1**
	14nm,0.3s,baz=74,slow=8.1,SNR=30						
PMG				Sn	**Sn**	**15 24 57.3**	**-1.3**
	3.2nm,0.3s,baz=125,slow=16,SNR=2.4						
PMG				LR	LR	15 26 49.3	
	comp=Z,616nm,18.3s,baz=62,slow=39						
PMG	**Port Moresby**	**8.49**	**251**	Pn	**Pn**	**15 23 22.2**	**-2.3**
PATS	**Pohnpei**	**13.83**	**13**	Pn	**Pn**	**15 24 32.3**	**-3.7**
COEN	**Coen**	**13.91**	**238**	Pn	**Pn**	**15 24 35.8**	**-1.4**
JAY	**Jayapura**	**15.15**	**285**	LR	LR	15 30 58.4	
	comp=Z,209nm,19.5s,baz=154,slow=38						
CTA	**Charters Tower**	**15.90**	**213**	Pn	**Pn**	**15 25 02.0**	**-0.4**
	0.5nm,0.3s,baz=36,slow=12,SNR=7.9						
CTAO	**Charters Tower**	**15.90**	**213**		**Pn**	**15 25 02.6**	**+0.2**
SMPI	**Sarmi**	**17.21**	**285**	P	**P**	**15 25 19.9**	**+1.3**
	1μm20nm,0.8s						
DZM	**Mont Dzumac**	**18.64**	**146**	P	**P**	**15 25 34.0**	**-0.3**
	1.0nm,0.3s,baz=320,slow=16,SNR=5.2						
DZM				LR	LR	15 31 56.1	
	comp=Z,169nm,20.6s,baz=358,slow=34						
DZM	**Mont Dzumac**	**18.64**	**146**		**P**	**15 25 34.6**	**+0.3**
EIDS	**Eidsvold**	**18.95**	**192**	Pn	**Pn**	**15 25 38.9**	**-0.4**
TARA	**Tarawa**	**19.34**	**66**	P	**P**	**15 25 40.3**	**-1.6**
GUMO	**Guam**	**22.72**	**333**	LR	LR	15 32 59.5	
	comp=Z,159nm,21.2s,baz=148,slow=31						
FAKI	**Fak Fak**	**23.29**	**278**	P	**P**	**15 26 23.2**	**-0.3**
	45nm,1.4s						
FAKI	**Fak Fak**	**23.29**	**278**	P	**P**	**15 26 22.7**	**-0.8**
FAKI				IAmb	IAmb	15 26 51.3	
	comp=Z,38nm,1.0s						
ARMA	**Armidale**	**23.79**	**188**	P	**P**	**15 26 28.5**	**+0.5**
WR0	**Warramunga Arr**	**24.05**	**235**	P	**P**	**15 26 30.6**	**+0.2**
WR0				IAmb	IAmb	15 26 43.5	
	comp=Z,26nm,0.9s						
WB0	**Warramunga Arr**	**24.08**	**236**	P	**P**	**15 26 30.8**	**+0.2**
WB0				IAmb	IAmb	15 26 44.5	
	comp=Z,47nm,1.3s						
WRAB	**Tennant Creek**	**24.20**	**235**	P	**P**	**15 26 31.8**	**+0.1**
WRAB				IAmb	IAmb	15 26 44.7	
	comp=Z,37nm,1.2s						
WB2	**Warramunga Arr**	**24.20**	**235**	P	**P**	**15 26 31.9**	**+0.2**
WB2				IAmb	IAmb	15 26 44.9	
	comp=Z,24nm,1.0s						
WRA	**Warramunga Arr**	**24.21**	**235**	P	**P**	**15 26 32.4**	**+0.6**
	comp=Z,11nm,0.7s,baz=60,slow=9.7,SNR=152						
WRA				PcP	**PcP**	**15 30 10.8**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=60,slow=1.7,SNR=5.0						
WRA				pPcP		15 30 23.8	
	comp=Z,2.0nm,0.6s,baz=64,slow=2.4,SNR=9.8						
WRA				LR	LR	15 35 14.8	
	comp=Z,178nm,21.6s,baz=55,slow=34						
WRA	**Warramunga Arr**	**24.21**	**235**	P	**P**	**15 26 30.8**	**-1.0**
MTN	**Manton Dam**	**24.57**	**254**	P	**P**	**15 26 34.8**	**-0.3**
MTN				IAmb	IAmb	15 26 36.9	
	comp=Z,18nm,0.8s						
SIJI	**Sorong**	**24.68**	**283**	P	**P**	**15 26 36.1**	**-0.1**
	comp=Z,28nm,0.7s,baz=58,slow=9.3,SNR=11						
SIJI				pP	pP	15 26 47.5	-9.2
	comp=Z,35nm,0.7s,baz=94,slow=12,SNR=8.3						
AS31	**Alice Springs**	**26.56**	**228**	P	**P**	**15 26 52.2**	**-0.9**
ASAR	**Alice Springs**	**26.57**	**228**	P	**P**	**15 26 52.8**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=60,slow=9.2,SNR=43						
ASAR				PcP	**PcP**	**15 30 16.4**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=72,slow=2.1,SNR=9.3						
ASAR				pPcP		15 30 28.9	
	comp=Z,1.8nm,0.7s,baz=67,slow=2.2,SNR=5.8						
KNRA	**Kununurra**	**27.48**	**249**	P	**P**	**15 27 01.0**	**-0.3**
KNRA				IAmb	IAmb	15 27 17.0	
	comp=Z,22nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**27.49**	**24**	T	T	15 55 22.1	
	baz=203,slow=74,SNR=70						
H11S2	**WAKE ISLAND Hy**	**27.49**	**24**	T	T	15 55 22.1	
	baz=203,slow=74,SNR=67						
H11S1	**WAKE ISLAND Hy**	**27.50**	**24**	T	T	15 55 24.8	
	baz=203,slow=74,SNR=45						
STKA	**Stephens Creek**	**28.08**	**205**	P	**P**	**15 27 07.2**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=46,slow=14,SNR=6.3						
STKA				PcP	**PcP**	**15 30 19.8**	**+1.0**
	comp=Z,3.1nm,1.0s,baz=23,slow=7.7,SNR=1.8						
STKA				LR	LR	15 37 37.2	
	comp=Z,257nm,21.3s,baz=20,slow=35						
STKA	**Stephens Creek**	**28.08**	**205**	P	**P**	**15 27 06.7**	**+0.1**
H11N1	**WAKE ISLAND Hy**	**28.67**	**23**	T	T	15 56 56.4	
	baz=204,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.68**	**23**	T	T	15 56 48.9	
	baz=204,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**28.68**	**23**	T	T	15 56 51.1	
	baz=204,slow=76,SNR=9.6						
FITZ	**Fitzroy Crossi**	**31.04**	**246**	P	**P**	**15 27 32.2**	**-0.6**
FITZ				IAmb	IAmb	15 27 33.8	
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	**31.50**	**212**	P	**P**	**15 27 36.2**	**-0.6**
MMRI	**Maumere**	**32.82**	**265**	P	**P**	**15 27 46.8**	**-1.8**
FORT	**Forrest**	**34.98**	**223**	P	**P**	**15 28 07.6**	**+0.6**
HIZ	**Hauiti**	**36.23**	**154**	P	**P**	**15 28 17.5**	**-0.1**
TAU	**Tasmania Unive**	**36.69**	**190**	P	**P**	**15 28 21.4**	**-0.1**
URZ	**Urewera**	**37.06**	**151**	P	**P**	**15 28 24.8**	**+0.1**
BKZ	**Black Stump Fm**	**37.49**	**153**	P	**P**	**15 28 28.1**	**-0.4**
NNZ	**Nelson**	**37.91**	**158**	P	**P**	**15 28 31.4**	**-0.4**
TUWZ	**Tuamarina**	**38.31**	**157**	P	**P**	**15 28 34.2**	**-0.9**
SNZO	**South Karori**	**38.50**	**156**	P	**P**	**15 28 36.4**	**-0.4**
BSWZ	**Blackbirch Sta**	**38.53**	**158**	P	**P**	**15 28 36.9**	**0.0**
MYLDM	**Lahad Datu**	**38.61**	**287**	P	**P**	**15 28 38.1**	**+0.1**
KKM	**Kota Kinabalu**	**41.03**	**287**	P	**P**	**15 28 57.7**	**-0.6**
JOHN	**Johnston Islan**	**41.88**	**56**	P	**P**	**15 29 04.7**	**-0.3**
YULB	**Yu-li**	**44.75**	**313**	P	**P**	**15 29 27.5**	**-0.5**
YULB				IAmb	IAmb	15 29 43.2	
	comp=Z,7.9nm,0.9s						
TPUB	**Ta-pu**	**45.18**	**312**	P	**P**	**15 29 30.6**	**-0.8**
TPUB				IAmb	IAmb	15 29 58.2	
	comp=Z,6.8nm,0.8s						
SSLB	**Suanglung**	**45.24**	**313**	P	**P**	**15 29 31.1**	**-0.8**
SSLB				IAmb	IAmb	15 29 32.2	
	comp=Z,8.9nm,0.8s						
MAT	**Matsushiro**	**45.96**	**341**	P	**P**	**15 29 36.2**	**-1.2**
KSRS	**Korea Array**	**50.88**	**332**	P	**P**	**15 30 14.6**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=150,slow=8.0,SNR=10						
KSRS				LR	LR	15 49 57.6	
	comp=Z,25nm,20.7s,baz=158,slow=34						
NJ2	**Nanjing**	**51.93**	**320**	*e*P	**P**	**15 30 24.0**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**54.92**	**340**	P	**P**	**15 30 45.0**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=192,slow=7.2,SNR=6.7						
USRK				LR	LR	15 51 45.1	
	comp=Z,41nm,21.1s,baz=96,slow=33						
USRK	**Ussuriysk Ar.**	**54.92**	**340**	P	**P**	**15 30 44.6**	**0.0**
WRMHI	**West Rim**	**55.14**	**61**	P	**P**	**15 30 46.1**	**-0.8**
IPM	**Ipoh**	**55.32**	**280**	P	**P**	**15 30 47.6**	**-0.6**
KULM	**Kulim**	**55.85**	**281**	P	**P**	**15 30 51.5**	**-0.5**
KULM				IAmb	IAmb	15 30 52.6	
	comp=Z,9.1nm,0.9s						
GYA	**Guiyang**	**57.56**	**307**	*e*P	P	15 31 10.6	+6.6
GYA				pmax	pmax		
	comp=Z,5.0nm,1.8s						
SLVN	**Son La**	**57.63**	**300**	P	**P**	**15 31 03.4**	**-1.1**
SLVN				IAmb	IAmb	15 31 06.8	
	comp=Z,4.8nm,1.0s						
GSI	**Gunungsitoli**	**58.17**	**276**	P	**P**	**15 31 06.9**	**-1.4**
PBKT	**Sadao Pong**	**58.53**	**294**	P	**P**	**15 31 08.0**	**-2.7**
PEA0B	**Petropavlovsk-**	**59.67**	**2**	P	**P**	**15 31 18.8**	**+0.9**
PETK	**Petropavlovsk-**	**59.67**	**2**	P	**P**	**15 31 19.3**	**+1.4**
	comp=Z,20nm,0.8s,baz=152,slow=6.7,SNR=29						
PETK				pP	pP	15 31 30.6	-12
	comp=Z,3.1nm,0.7s,baz=154,slow=7.0,SNR=3.0						
PETK				LR	LR	15 53 57.8	
	comp=Z,26nm,20.9s,baz=179,slow=33						
PETK	**Petropavlovsk-**	**59.67**	**2**	P	**P**	**15 31 18.2**	**+0.3**
XAN	**Xi'an**	**59.75**	**316**	P	**P**	**15 31 18.7**	**-0.2**
XAN				pP	pP	15 31 30.7	-13
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,100nm,5.6s						
XAN	**Xi'an**	**59.75**	**316**	P	**P**	**15 31 17.8**	**-1.1**
XAN				IAmb	IAmb	15 31 19.6	
	comp=Z,5.4nm,0.8s						
CM31	**Chiang Mai Arr**	**60.97**	**295**	P	**P**	**15 31 27.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**60.97**	**295**	P	**P**	**15 31 29.0**	**+1.6**
	comp=Z,14nm,0.9s,baz=115,slow=5.2,SNR=56						
CMAR				pP	pP	15 31 39.7	-12
	comp=Z,9.1nm,0.9s,baz=118,slow=5.1,SNR=8.4						
CMAR				LR	LR	15 58 28.7	
	comp=Z,15nm,18.4s,baz=125,slow=37						
CMAR	**Chiang Mai Arr**	**60.97**	**295**	P	**P**	**15 31 27.9**	**+0.5**
CHTO	**Chiang Mai**	**61.08**	**296**	P	**P**	**15 31 28.9**	**+0.7**
HHC	**Hu-ho-hao-te**	**62.09**	**324**	*e*P	**P**	**15 31 36.4**	**+1.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,96nm,5.9s						
HHC				LR	LR		
	comp=N,130nm,17.3s						
HHC				LR	LR		
	comp=E,230nm,17.9s						
HHC				LR	LR		
	comp=Z,100nm,17.8s						
LZH	**Lanzhou**	**64.37**	**315**	*e*P	**P**	**15 31 48.3**	**-1.6**
LZH				pP	pP	15 32 05.3	-10
LZH				sP	PcP	15 32 14.6	-9.1
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
CASY	**Casey**	**66.92**	**198**	P	**P**	**15 32 05.7**	**+0.1**
CASY				IAmb	IAmb	15 32 06.7	
	comp=Z,6.5nm,0.8s						

GTA	**Gaotai**	**68.78 317**	⇑P	**P**	**15 32 18.3**	**+0.4**
GTA			pP	PcP	15 32 37.7	-4.2
GTA			sP	pP	15 32 46.3	+3.1
GTA			pmax	pmax		
	comp=Z,2.0nm,1.0s					
GTA			pmax	pmax		
	comp=Z,98nm,7.3s					
GTA			LR	LR		
	comp=N,72nm,18.1s					
GTA			LR	LR		
	comp=E,68nm,20.3s					
GTA			LR	LR		
	comp=Z,87nm,18.4s					
ULN	**Ulaanbaatar**	**68.97 327**	P	**P**	**15 32 19.6**	**+0.6**
SONM	**Songino Array**	**69.31 327**	P	**P**	**15 32 21.8**	**+0.8**
	comp=Z,5.8nm,0.9s,baz=130,slow=6.0,SNR=21					
SONM			pP	PcP	15 32 34.2	-10
	comp=Z,2.9nm,0.8s,baz=131,slow=6.2,SNR=7.4					
SONM	**Songino Array**	**69.31 327**	P	**P**	**15 32 21.0**	**0.0**
SHL	**Shillong**	**69.44 300**	P	**P**	**15 32 21.9**	**-0.5**
VNDA	**Vanda**	**70.81 178**	P	**P**	**15 32 30.4**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=322,slow=7.4,SNR=11					
VNDA	**Vanda**	**70.81 178**	P	**P**	**15 32 30.0**	**+0.5**
YAK	**Yakutsk**	**71.39 348**	P	**P**	**15 32 32.8**	**-0.4**
YAK			IAmb	IAmb	15 32 34.8	
	comp=Z,11nm,0.9s					
TAPN	**Taplejung**	**73.55 301**	*e*P	**P**	**15 32 48.7**	**+1.5**
TAPN	**Taplejung**	**73.55 301**	*e*P	**P**	**15 32 48.7**	**+1.5**
ODAN	**Odare**	**73.68 300**	*e*P	**P**	**15 32 49.0**	**+1.1**
	comp=Z,45nm,0.8s					
ODAN	**Odare**	**73.68 300**	*e*P	**P**	**15 32 49.0**	**+1.1**
	comp=Z,45nm,0.8s					
PKI	**Pulchoki**	**75.57 301**	*e*P	**P**	**15 32 59.5**	**+0.6**
PKI	**Pulchoki**	**75.57 301**	*e*P	**P**	**15 32 59.5**	**+0.6**
KKN	**Kakani**	**75.74 301**	*e*P	**P**	**15 33 00.3**	**+0.6**
KKN	**Kakani**	**75.74 301**	*e*P	**P**	**15 33 00.3**	**+0.6**
DMN	**Daman**	**75.84 301**	*e*P	**P**	**15 33 01.5**	**+1.1**
	comp=Z,18nm,0.7s					
DMN	**Daman**	**75.84 301**	*e*P	**P**	**15 33 01.5**	**+1.1**
	comp=Z,18nm,0.7s					
GKN	**Gorkha**	**76.35 301**	*e*P	**P**	**15 33 03.8**	**+0.7**
GKN	**Gorkha**	**76.35 301**	*e*P	**P**	**15 33 03.8**	**+0.7**
KOLN	**Koldanda**	**77.17 300**	*e*P	**P**	**15 33 07.5**	**-0.3**
	comp=Z,13nm,0.8s					
KOLN	**Koldanda**	**77.17 300**	*e*P	**P**	**15 33 07.5**	**-0.3**
	comp=Z,13nm,0.8s					
SVW2	**Sparrevohn**	**77.66 22**	P	**P**	**15 33 10.5**	**+0.9**
SVW2			IAmb	IAmb	15 33 12.1	
	comp=Z,11nm,1.3s					
CNPM	**China Poot**	**78.41 25**	P	**P**	**15 33 14.2**	**+0.4**
TTA	**Tatalina**	**78.69 21**	P	**P**	**15 33 16.0**	**+0.7**
BRLK	**Bradley Lake**	**78.69 25**	P	**P**	**15 33 15.3**	**0.0**
WMQ	**Urumqi**	**78.86 317**	*e*P	**P**	**15 33 17.7**	**+1.0**
WMQ			pmax	pmax		
	comp=Z,17nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,78nm,4.9s					
SKT	**Skwentna**	**79.73 23**	P	**P**	**15 33 20.0**	**-0.9**
GHO	**Glory Hole Cre**	**80.63 23**	P	**P**	**15 33 25.8**	**0.0**
GHO			IAmb	IAmb	15 33 27.1	
	comp=Z,12nm,1.1s					
SML	**Sawmill**	**80.88 24**	P	**P**	**15 33 27.2**	**+0.1**
KTH	**Kantishna Hill**	**80.89 21**	P	**P**	**15 33 26.4**	**-0.7**
KTH			IAmb	IAmb	15 33 29.0	
	comp=Z,8.3nm,1.0s					
TRF	**Thorofare Moun**	**81.06 22**	P	**P**	**15 33 27.9**	**-0.2**
TRF			IAmb	IAmb	15 33 30.3	
	comp=Z,8.1nm,1.0s					
SCM	**Sheep Creek Mo**	**81.30 24**	P	**P**	**15 33 29.7**	**+0.3**
SCM			IAmb	IAmb	15 33 31.6	
	comp=Z,11nm,1.0s					
RND	**Reindeer**	**81.57 22**	P	**P**	**15 33 30.2**	**-0.5**
RND			IAmb	IAmb	15 33 32.4	
	comp=Z,8.6nm,1.0s					
KLU	**Klutina**	**81.69 24**	P	**P**	**15 33 31.7**	**+0.3**
KLU			IAmb	IAmb	15 33 34.9	
	comp=Z,13nm,1.1s					
MCK	**McKinley**	**81.72 22**	P	**P**	**15 33 31.1**	**-0.4**
DHY	**Denali Highway**	**81.94 23**	P	**P**	**15 33 32.9**	**+0.1**
DHY			IAmb	IAmb	15 33 42.9	
	comp=Z,6.3nm,1.0s					
GLB	**Gilahina Butte**	**82.54 25**	P	**P**	**15 33 36.1**	**+0.2**
GLB			IAmb	IAmb	15 33 37.6	
	comp=Z,11nm,1.0s					
VRDI	**Verde Repeater**	**82.59 25**	P	**P**	**15 33 36.5**	**+0.2**
VRDI			IAmb	IAmb	15 33 38.4	
	comp=Z,7.2nm,1.0s					
CCB	**Clear Creek Bu**	**82.64 21**	P	**P**	**15 33 35.3**	**-0.9**
MDM	**Murphy Dome**	**82.66 21**	P	**P**	**15 33 35.5**	**-0.8**
HDA	**Harding Lake**	**82.82 22**	P	**P**	**15 33 36.9**	**-0.3**
HDA			IAmb	IAmb	15 33 53.7	
	comp=Z,11nm,1.4s					
MCARA	**McCarthy VSAT**	**82.85 25**	P	**P**	**15 33 37.6**	**+0.2**
MCARA			IAmb	IAmb	15 33 40.8	
	comp=Z,18nm,1.2s					
BALM	**Baldy**	**82.97 26**	P	**P**	**15 33 38.0**	**-0.2**
IL31		**83.04 21**	P	**P**	**15 33 37.1**	**-1.0**
ILAR	**Eielson Array**	**83.04 21**	P	**P**	**15 33 37.4**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=254,slow=4.9,SNR=30					
ILAR			pP	PcP	15 33 50.8	+8.1
	comp=Z,0.9nm,0.8s,baz=336,slow=3.6,SNR=4.1					
ILAR			LR	LR	16 07 54.2	
	comp=Z,78nm,19.7s,baz=270,slow=34					
ILAR	**Eielson Array**	**83.04 21**	P	**P**	**15 33 37.0**	**-1.3**
QSPA	**South Pole Qui**	**83.22 180**	P	**P**	**15 33 39.7**	**+0.3**
RIDG	**Independent Ri**	**83.26 23**	P	**P**	**15 33 39.8**	**+0.3**
RIDG			IAmb	IAmb	15 33 41.1	
	comp=Z,8.6nm,1.1s					
BARN	**Barnard Glacie**	**83.28 26**	P	**P**	**15 33 40.6**	**+0.7**
BARN			IAmb	IAmb	15 33 41.8	
	comp=Z,8.2nm,0.8s					
COLD	**Coldfoot**	**83.28 19**	P	**P**	**15 33 40.1**	**+0.7**
COLD			IAmb	IAmb	15 33 43.9	
	comp=Z,9.8nm,1.4s					
CTGM	**Chitina Glacie**	**83.38 26**	P	**P**	**15 33 40.8**	**+0.5**
CTGM			IAmb	IAmb	15 33 42.7	
	comp=Z,12nm,1.0s					
MK31	**Makanchi Array**	**83.43 319**	P	**P**	**15 33 40.4**	**-0.3**
MKAR	**Makanchi Array**	**83.43 319**	P	**P**	**15 33 40.8**	**0.0**
	comp=Z,4.0nm,0.9s,baz=110,slow=5.4,SNR=24					
MKAR			pP	PcP	15 33 52.9	+8.0
	comp=Z,1.2nm,0.6s,baz=102,slow=5.6,SNR=4.6					
MKAR	**Makanchi Array**	**83.43 319**	P	**P**	**15 33 40.2**	**-0.5**
DOT	**Dot Lake**	**83.52 23**	P	**P**	**15 33 41.0**	**+0.2**
DOT			IAmb	IAmb	15 33 42.3	
	comp=Z,8.1nm,1.0s					
MAKZ	**Makanchi**	**83.64 319**	P	**P**	**15 33 41.5**	**-0.3**
ZAA0	**Zalesovo Array**	**84.16 326**	P	**P**	**15 33 43.0**	**-1.2**
ZALV	**Zalesovo Beam**	**84.16 326**	P	**P**	**15 33 43.0**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=116,slow=10,SNR=7.8					
ZALV			pP	**PcP**	**15 33 55.4**	**+7.6**
	comp=Z,0.8nm,0.5s,baz=114,slow=6.6,SNR=3.1					
ZALV	**Zalesovo Beam**	**84.16 326**	P	**P**	**15 33 42.8**	**-1.4**
TOLK	**Toolik Lake Re**	**84.30 18**	P	**P**	**15 33 45.2**	**+0.5**
TOLK			IAmb	IAmb	15 33 47.1	
	comp=Z,8.6nm,0.8s					
MAW	**Mawson**	**84.74 203**	P	**P**	**15 33 47.8**	**+0.9**
	comp=Z,5.2nm,0.6s,baz=101,slow=10,SNR=11					
MAW	**Mawson**	**84.74 203**	P	**P**	**15 33 47.6**	**+0.7**
HYT	**Haines Junctio**	**85.02 27**	P	**P**	**15 33 49.3**	**+0.7**
HYT			IAmb	IAmb	15 33 51.3	
	comp=Z,7.1nm,0.9s					
EGAK	**Eagle**	**85.18 23**	P	**P**	**15 33 49.6**	**+0.6**
EGAK			IAmb	IAmb	15 33 51.0	
	comp=Z,8.2nm,1.0s					
KSH	**Kashi**	**86.10 310**	P	**P**	**15 33 56.5**	**+2.1**
KSH			PP	**PP**	**15 37 21.5**	**+5.3**
KSH	**Kashi**	**86.10 310**	SKS	**SKSac**	**15 44 13.1**	**+1.4**
KSH	**Kashi**	**86.10 310**	S	**S**	**15 44 23.9**	**+3.0**
KSH	**Kashi**	**86.10 310**	sS	sS	15 45 02.1	-3.7
KSH	**Kashi**	**86.10 310**	SS	SS	15 50 08.4	+6.7
KSH			pmax	pmax		
	comp=Z,190nm,5.3s					
EPYK	**Eagle Plains**	**87.52 22**	P	**P**	**15 34 01.5**	**+0.8**
NRIK	**Noril'sk**	**88.61 341**	LR	LR	16 15 07.5	
	comp=Z,29nm,18.5s,baz=207,slow=36					
NVAR	**Mina Array Bea**	**91.33 52**	P	**P**	**15 34 20.2**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=255,slow=7.2,SNR=9.6					
NVAR			pP	PcP	15 34 33.2	+13
	comp=Z,0.5nm,0.7s,baz=256,slow=5.6,SNR=4.0					
NVAR			LR	LR	16 11 13.3	
	comp=Z,43nm,18.4s,baz=264,slow=33					
NVAR	**Mina Array Bea**	**91.33 52**	P	**P**	**15 34 18.9**	**-0.4**
YKA	**Yellowknife Ar**	**95.98 28**	P	**P**	**15 34 40.0**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=278,slow=4.9,SNR=3.9					

ARCES	**ARCESS Array B**	**109.45 343**	PKiKP	**PKiKP**	**15 39 42.8**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=76,slow=3.2,SNR=6.3					
FINES	**FINESS Array B**	**113.85 336**	PKiKP	**PKiKP**	**15 39 51.0**	**0.0**
	comp=Z,0.4nm,0.4s,baz=117,slow=0.9,SNR=5.4					
AKASG	**Malin Array Be**	**117.53 325**	PKP	**PKPdf**	**15 39 58.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=54,slow=2.6,SNR=4.1					
BRTR	**Keskin Array B**	**118.46 312**	PKP	**PKPdf**	**15 40 00.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=284,slow=5.0,SNR=3.7					
NB2	**NORSAR Subarra**	**119.58 341**	PKPdf	**PKPdf**	**15 40 01.5**	**-0.7**
	comp=Z,9.5nm,1.7s,baz=44,slow=1.9					
NB2	**NORSAR Subarra**	**119.58 341**	PKPdf	**PKPdf**	**15 40 01.5**	**-0.7**
	baz=44,slow=1.9					
NOA	**NORSAR Array B**	**119.58 341**	PKP	**PKPdf**	**15 40 01.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=45,slow=2.0,SNR=4.9					
BOSA	**Boshof**	**120.41 231**	PKP	**PKiKP**	**15 40 05.6**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=141,slow=7.6,SNR=3.7					
VYHS	**Vyhne**	**124.49 326**	*e*PKP	**PKiKP**	**15 40 13.1**	**+0.8**
CLL	**Collm**	**125.75 332**	*i* PKPdf	**PKiKP**	**15 40 15.1**	**+0.5**
	comp=Z,4.0nm,0.8s					
CLL			LmV		16 40 00.0	
	comp=Z,100nm,19.6s					
KHC	**Kasperske Hory**	**126.89 329**	*e*PKP	**PKiKP**	**15 40 17.5**	**+0.4**
GERES	**GERESS Array B**	**127.01 329**	PKP	**PKiKP**	**15 40 17.8**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=90,slow=1.3,SNR=12					
GERES			pPKP	PKPdf	15 40 30.5	+14
	comp=Z,0.5nm,0.6s,baz=58,slow=3.3,SNR=2.9					
GERES	**GERESS Array B**	**127.01 329**	PKPdf	**PKiKP**	**15 40 17.4**	**0.0**
MVO	**Moncorvo**	**142.29 338**	*e*PKP	**PKPdf**	**15 40 44.4**	**-1.1**
ESDC	**Sonseca Array**	**142.30 333**	PKhKP	PKPpre	15 40 42.8	
	comp=Z,0.3nm,0.7s,baz=1.8,slow=4.1,SNR=2.4					
PMRV	**Marv??o**	**143.93 337**	*e*PKP	PKPbc	15 40 46.6	+0.2
EVO	**Evora**	**144.95 337**	*e*PKP	**PKPdf**	**15 40 50.9**	**+0.7**
PBEJ	**Beja**	**145.33 336**	*e*PKP	**PKPab**	**15 40 52.4**	**+1.4**
PNCL	**Nicolau / Gran**	**145.52 337**	*e*PKP	**PKPab**	**15 40 52.4**	**+0.7**
PCVE	**Castro Verde**	**145.74 336**	*e*PKP	**PKPab**	**15 40 53.3**	**+0.7**
PVAQ	**Vaqueiros**	**145.80 336**	*e*PKP	**PKPab**	**15 40 53.5**	**+0.7**
PBDV	**Barranco-do-Ve**	**146.03 336**	*e*PKP	**PKPab**	**15 40 54.3**	**+0.6**
PTEO	**Sao Teotonio**	**146.08 337**	*e*PKP	**PKPab**	**15 40 54.8**	**+1.0**
MORF	**Marmelete**	**146.26 337**	*e*PKP	**PKPab**	**15 40 55.2**	**+0.6**
PFVI	**Vila Bisbo**	**146.48 337**	*e*PKP	**PKPbc**	**15 40 53.8**	**-0.5**
BDFB	**Brasilia**	**147.92 134**	PKPbc	**PKPbc**	**15 40 58.3**	**-0.7**
	comp=Z,9.7nm,0.8s,baz=166,slow=1.4,SNR=8.0					
BDFB			pPKPbc	PKPab	15 41 11.6	+10
	comp=Z,7.1nm,0.8s,baz=207,slow=7.8,SNR=4.4					
TORD	**Torodi Ar. Bea**	**153.26 286**	PKPbc	**PKPbc**	**15 41 11.7**	**0.0**
	comp=Z,2.3nm,0.7s,baz=61,slow=2.3,SNR=10					
TORD			pPKPbc	**PKPab**	**15 41 24.1**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=70,slow=3.4,SNR=14					
TORD	**Torodi Ar. Bea**	**153.26 286**		**PKPbc**	**15 41 11.2**	**-0.5**
DBIC	**Dimbokro**	**160.30 271**	PKPab	**PKPab**	**15 41 54.8**	**+0.6**
	comp=Z,4.5nm,0.7s,baz=120,slow=2.7,SNR=4.6					

*UNK **08** 15:23:30.9, 37°.27N×97°.62W, h6km*
*NEIC **08** 15:23:30.6±0.8, 37°.31N±0°.01×97°.61W±0°.02, h5km±7km, mb_Lg3.2/108, Error ellipse: s-maj=2.7km s-min=1.1km az=51.0*
*ANF **08** 15:23:30.9±1.0, 37°.26N×97°.69W, h3km±7km, ML4.2/13, Error ellipse: s-maj=3.7km s-min=2.2km az=46.0*
ISC 08 15:23:31.4±0.8, 37°.26N±0°.03×97°.64W±0°.03, h10km, n102, σ1§02/77, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.28**	**152**		**Pg**	**15 23 36.6**	**-0.4**
KAN13				Sg	**Sg**	**15 23 40.5**	**-0.2**
KAN12	**Harper NE Stat**	**0.29**	**278**		**Pg**	**15 23 36.6**	**-0.5**
KAN12				Sg	**Sg**	**15 23 40.8**	**-0.2**
KAN10	**Anthony SW Sta**	**0.39**	**250**	Pg	**Pg**	**15 23 38.6**	**-0.4**
CROK	**Carrier**	**0.80**	**200**		**Pg**	**15 23 46.3**	**-0.5**
T35A	**Sooner Cattle**	**0.97**	**110**	Pg	**Pg**	**15 23 49.0**	**-0.9**
QUOK	**Quay**	**1.32**	**145**		**Pn**	**15 23 55.5**	**-0.4**
U32A	**Winter Ranch,**	**1.40**	**232**		**Pn**	**15 23 56.7**	**-0.3**
R32A	**Long Quarter,**	**1.44**	**324**		**Pn**	**15 23 57.2**	**-0.3**
OK029	**Liberty Lake**	**1.47**	**174**		**Pn**	**15 23 58.0**	**+0.1**
OK029				IAmb_Lg		15 24 20.4	
	comp=Z,136nm,0.8s						
BCOK	**Bluff Creek, N**	**1.60**	**179**		**Pb**	**15 24 00.3**	**-0.7**
OK025	**Westminster Rd**	**1.69**	**172**		**Pn**	**15 24 01.5**	**+0.5**
OKCFA	**Oklahoma City**	**1.85**	**175**		**Pb**	**15 24 04.8**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**1.86**	**175**		**Pb**	**15 24 04.4**	**-1.0**
TUL1	**Leonard**	**2.01**	**132**	P	**Pn**	**15 24 05.8**	**+0.4**
	baz=313						
TUL1				S	**Sb**	**15 24 33.7**	**+0.7**
	baz=313						
TUL1	**Leonard**	**2.01**	**132**	Pn	**Pn**	**15 24 05.7**	**+0.4**
FNO	**Franklin**	**2.01**	**174**		**Pb**	**15 24 06.6**	**-1.3**
KSU1	**Kansas State U**	**2.01**	**24**	P	**Pn**	**15 24 06.4**	**+1.0**
	baz=204						
KSU1				S	**Sb**	**15 24 33.3**	**+0.2**
	baz=204						
KSU1	**Kansas State U**	**2.01**	**24**		**Pn**	**15 24 06.2**	**+0.9**
W35A	**Tecumseh**	**2.19**	**163**		**Pn**	**15 24 08.1**	**+0.3**
CBKS	**Cedar Bluff**	**2.27**	**314**	P	**Pn**	**15 24 09.6**	**+0.7**
	baz=132						
CBKS				Sb	**Sb**	**15 24 41.8**	**+1.2**
	baz=132						
CBKS	**Cedar Bluff**	**2.27**	**314**		**Pn**	**15 24 09.3**	**+0.4**
WMOK	**Wichita Mounta**	**2.68**	**200**	P	**Pn**	**15 24 15.1**	**+0.5**
	baz=20						
WMOK				S	**Sn**	**15 24 48.8**	**+1.7**
	baz=20						
WMOK	**Wichita Mounta**	**2.68**	**200**		**Pn**	**15 24 14.5**	**-0.1**
U38A	**Gravette**	**2.74**	**106**	Pn	**Pn**	**15 24 14.9**	**-0.5**
HHAR	**Hobbs**	**3.13**	**107**		**Pn**	**15 24 21.3**	**+0.6**
X37A	**Clayton**	**3.24**	**145**	Pn	**Pn**	**15 24 22.8**	**+0.6**
S39A	**Bolivar**	**3.46**	**82**	Pn	**Pn**	**15 24 25.2**	**-0.1**
N33A	**J Bar K, Exete**	**3.48**	**2**	Pn	**Pn**	**15 24 25.5**	**-0.1**
W39A	**Magazine**	**3.74**	**122**	Pb	**Pb**	**15 24 38.1**	**+0.7**
	baz=305						
W39A				Sb	**Sg**	**15 25 27.4**	**-3.9**
	baz=305						
W39A	**Magazine**	**3.74**	**122**		**Pn**	**15 24 28.9**	**-0.2**
Z35A	**Perchaven, San**	**3.93**	**175**		**Pn**	**15 24 32.4**	**+0.6**
Z35A				IAmb_Lg		15 25 40.0	
	comp=Z,38nm,1.1s						
U40A	**Yellville**	**3.95**	**102**	P	**Pn**	**15 24 32.4**	**+0.4**
	baz=285						
U40A	**Yellville**	**3.95**	**102**		**Pn**	**15 24 32.2**	**+0.3**
U40A				IAmb_Lg		15 25 34.1	
	comp=Z,42nm,0.8s						
P38A	**Dawn**	**4.00**	**53**	Pn	**Pn**	**15 24 33.1**	**+0.4**
AMTX	**Amarillo**	**4.04**	**235**	Pn	**Pn**	**15 24 34.5**	**+1.1**
BGNE	**Belgrade**	**4.16**	**355**	P	**Pn**	**15 24 35.1**	**+0.1**
	baz=174						
BGNE	**Belgrade**	**4.16**	**355**	Pn	**Pn**	**15 24 34.8**	**-0.2**
BGNE				IAmb_Lg		15 25 52.1	
	comp=Z,56nm,0.8s						
MIAR	**Mount Ida**	**4.27**	**128**	P	**Pn**	**15 24 36.8**	**+0.4**
	baz=311						
MIAR	**Mount Ida**	**4.27**	**128**	Pn	**Pn**	**15 24 36.4**	**0.0**
KSCO	**Kaye Shedlock'**	**4.30**	**295**	P	**Pn**	**15 24 37.5**	**+0.4**
	baz=112						
KSCO	**Kaye Shedlock'**	**4.30**	**295**	Pn	**Pn**	**15 24 37.4**	**+0.4**
KSCO				IAmb_Lg		15 25 52.3	
	comp=Z,35nm,0.9s						
R40A	**Maddies Statio**	**4.38**	**75**		**Pn**	**15 24 37.7**	**-0.2**
R40A				IAmb_Lg		15 25 48.7	
	comp=Z,42nm,0.9s						
Z38A	**Mt. Pleasant**	**4.54**	**151**	Pn	**Pn**	**15 24 40.6**	**+0.4**
Z38A				IAmb_Lg		15 25 59.7	
	comp=Z,43nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.65**	**105**		**Pn**	**15 24 40.9**	**-0.7**
FCAR				IAmb_Lg		15 25 55.5	
	comp=Z,52nm,0.8s						
WHAR	**Wooly Hollow**	**4.75**	**113**		**Pn**	**15 24 42.5**	**-0.5**
X40A	**Basin Creek Fa**	**4.78**	**124**	Pn	**Pn**	**15 24 43.8**	**+0.3**
X40A				IAmb_Lg		15 25 60.0	
	comp=Z,59nm,0.8s						
L34A	**Svendsen Farm,**	**4.80**	**11**	IAmb_Lg		15 26 12.2	
	comp=Z,55nm,0.8s						
W41B	**Gary Mavity, V**	**4.83**	**114**	P	**Pn**	**15 24 43.7**	**-0.5**
	baz=297						
W41B				Sb	**Sb**	**15 26 00.2**	**+5.9**
	baz=297						
W41B	**Gary Mavity, V**	**4.83**	**114**		**Pn**	**15 24 43.6**	**-0.5**
ABTX	**Abilene, Hawle**	**4.91**	**200**	Pn	**Pn**	**15 24 45.0**	**-0.2**
N38A	**Joes South For**	**4.92**	**43**	Pn	**Pn**	**15 24 45.6**	**+0.3**
N38A				IAmb_Lg		15 26 02.5	
	comp=Z,32nm,0.8s						
P40A	**Paris**	**4.94**	**61**	IAmb_Lg		15 26 04.8	
	comp=Z,36nm,0.8s						
UALR	**University of**	**4.96**	**118**	IAmb_Lg		15 26 20.4	
	comp=Z,39nm,0.8s						

OGNE	**Ogallala**	**5.02 318**	P	**Pn**	**15 24 48.2**	**+1.3**
	baz=136					
OGNE			S	**Sn**	**15 25 44.9**	**-0.1**
	baz=136					
OGNE	**Ogallala**	**5.02 318**	Pn	**Pn**	**15 24 48.1**	**+1.3**
OGNE			IAmb_Lg		15 26 20.3	
	comp=Z,46nm,0.9s					
WLAR	**White Oak Lake**	**5.13 133**	Pn	**Pn**	**15 24 48.5**	**+0.2**
WLAR			IAmb_Lg		15 26 12.6	
	comp=Z,45nm,0.8s					
CCM	**Cathedral Cave**	**5.14 79**	P	**Pn**	**15 24 48.1**	**-0.2**
	baz=263					
CCM	**Cathedral Cave**	**5.14 79**	Pn	**Pn**	**15 24 47.8**	**-0.6**
T42A	**Van Buren**	**5.24 91**	Pn	**Pn**	**15 24 49.3**	**-0.4**
T42A			IAmb_Lg		15 26 24.2	
	comp=Z,28nm,0.8s					
WHTX	**Lake Whitney,**	**5.26 178**	P	**Pn**	**15 24 49.9**	**-0.1**
	baz=359					
WHTX	**Lake Whitney,**	**5.26 178**		**Pn**	**15 24 49.9**	**-0.1**
LCAR	**Lake Charles**	**5.35 101**	Pn	**Pn**	**15 24 51.3**	**+0.1**
LCAR			IAmb_Lg		15 26 21.4	
	comp=Z,32nm,0.7s					
T25A	**Trinidad**	**5.41 271**	Pn	**Pn**	**15 24 52.4**	**+0.1**
T25A			IAmb_Lg		15 26 33.7	
	comp=Z,26nm,0.9s					
K31A	**O'Neill**	**5.42 351**	Pn	**Pn**	**15 24 52.7**	**+0.4**
237A	**Washetta, Mont**	**5.46 163**	Pn	**Pn**	**15 24 52.7**	**0.0**
Z41A	**Richland Creek**	**5.62 134**	IAmb_Lg		15 26 39.5	
	comp=Z,43nm,0.9s					
SCIA	**State Center**	**5.76 35**	IAmb_Lg		15 26 37.8	
	comp=Z,41nm,0.7s					
FVM	**French Village**	**5.77 81**	Pn	**Pn**	**15 24 56.6**	**-0.5**
FVM			IAmb_Lg		15 26 34.8	
	comp=Z,23nm,0.8s					
HBAR	**Harrisburg**	**5.88 105**	Pn	**Pn**	**15 24 57.1**	**-1.5**
SLM	**Saint Louis**	**6.01 75**	IAmb_Lg		15 26 38.7	
	comp=Z,41nm,0.8s					
NATX	**Nacogdoches**	**6.01 155**	IAmb_Lg		15 26 59.4	
	comp=Z,26nm,0.8s					
Q24A	**Divide**	**6.16 288**		**Pn**	**15 25 02.5**	**-0.2**
Q24A			IAmb_Lg		15 26 50.0	
	comp=Z,24nm,0.8s					
N41A	**Harden Midland**	**6.31 55**	IAmb_Lg		15 26 51.8	
	comp=Z,23nm,0.7s					
435B	**Jarrell**	**6.46 180**	IAmb_Lg		15 27 04.4	
	comp=Z,34nm,1.1s					
ECSD	**EROS Data Cent**	**6.51 7**	Pn	**Pn**	**15 25 06.4**	**-0.8**
K38A	**Parkersburg**	**6.55 33**	IAmb_Lg		15 27 05.8	
	comp=Z,25nm,0.7s					
ISCO	**Idaho Springs**	**6.74 295**	Pn	**Pn**	**15 25 10.5**	**-0.2**
L40A	**Anamosa**	**6.89 44**	Pn	**Pn**	**15 25 11.8**	**-0.6**
L40A			IAmb_Lg		15 27 16.9	
	comp=Z,28nm,0.8s					
JCT	**Junction City**	**7.00 195**	IAmb_Lg		15 27 29.6	
	comp=Z,19nm,0.8s					
OXF	**Oxford**	**7.22 110**	IAmb_Lg		15 27 20.7	
	comp=Z,31nm,0.9s					
SUSD	**Miller**	**7.25 353**	IAmb_Lg		15 27 18.1	
	comp=Z,22nm,0.7s					
HDIL	**Hopedale**	**7.29 61**	IAmb_Lg		15 27 22.0	
	comp=Z,37nm,0.8s					
N23A	**Red Feather La**	**7.41 302**	IAmb_Lg		15 27 30.6	
	comp=Z,24nm,0.7s					
Y45A	**Yeager Farm, C**	**7.42 115**	IAmb_Lg		15 27 31.7	
	comp=Z,37nm,1.0s					
OLIL	**Olney**	**7.68 76**	IAmb_Lg		15 27 52.8	
	comp=Z,26nm,0.8s					
O44A	**Mansfield**	**7.73 65**	IAmb_Lg		15 27 55.6	
	comp=Z,20nm,0.8s					
L42A	**Oliver, Polo**	**7.76 50**	IAmb_Lg		15 27 50.8	
	comp=Z,22nm,0.9s					
JFWS	**Jewell Farm**	**8.00 43**	IAmb_Lg		15 27 43.8	
	comp=Z,18nm,0.7s					
PLAL	**Pickwick Lake**	**8.07 104**	IAmb_Lg		15 27 47.9	
	comp=Z,21nm,1.1s					
RSSD	**Black Hills**	**8.40 327**	IAmb_Lg		15 28 08.4	
	comp=Z,18nm,1.0s					
T47A	**Sharon Grove**	**8.42 89**	IAmb_Lg		15 28 00.4	
	comp=Z,18nm,0.8s					

MARZ	**Manawahe**	**4.45 211**	P	**Pn**	**15 33 08.0**	**+2.5**
MWZ	**Matawai**	**4.45 201**	P	**Pn**	**15 33 05.9**	**+0.5**
TKGZ	**Te Karaka**	**4.46 198**	P	**Pn**	**15 33 05.8**	**+0.3**
URZ	**Urewera**	**4.52 205**	P	**Pn**	**15 33 06.6**	**+0.3**
	2.9nm,0.3s,baz=8.7,slow=19,SNR=30					
URZ			S	**Sn**	**15 33 59.1**	**-1.0**
	26nm,0.3s,baz=174,slow=6.5,SNR=12					
URZ	**Urewera**	**4.52 205**	P	**Pn**	**15 33 06.8**	**+0.6**
URZ			S	**Sn**	**15 34 00.2**	**+0.1**
URZ	**Urewera**	**4.52 205**		**Pn**	**15 33 06.3**	**0.0**
MKAZ	**Moumakai**	**4.62 230**	P	**Pn**	**15 33 10.0**	**+2.5**
WCZ	**Waipu Caves**	**4.62 246**	P	**Pn**	**15 33 09.6**	**+2.0**
RIGZ	**Rimuhau**	**4.74 197**	P	**Pn**	**15 33 09.0**	**-0.1**
RIGZ			S	**Sn**	**15 34 05.4**	**+0.2**
TOZ	**Tahuroa Road**	**4.83 222**	P	Pn	15 33 15.4	+5.2
MUGZ	**Murupara**	**4.84 207**	P	**Pn**	**15 33 10.9**	**+0.6**
MUGZ			S	**Sn**	**15 34 07.1**	**-0.2**
RTZ	**Ruatahuna**	**4.89 204**	P	**Pn**	**15 33 10.3**	**-0.7**
PRGZ	**Paritu Road**	**4.92 195**	P	**Pn**	**15 33 11.3**	**-0.1**
PRGZ			S	**Sn**	**15 34 05.9**	**-3.3**
SNGZ	**Shannon Statio**	**4.92 201**	P	**Pn**	**15 33 11.5**	**+0.1**
SNGZ			S	**Sn**	**15 34 08.7**	**-0.6**
PRRZ	**Plateau Road**	**5.01 210**	P	**Pn**	**15 33 14.8**	**+2.3**
OUZ	**Omahuta**	**5.02 256**	P	**Pn**	**15 33 14.0**	**+1.3**
OUZ	**Omahuta**	**5.02 256**		**Pn**	**15 33 14.4**	**+1.7**
KNZ	**Kokohu**	**5.06 197**	P	**Pn**	**15 33 12.6**	**-0.5**
ALRZ	**Allen Road**	**5.08 210**	P	**Pn**	**15 33 16.2**	**+2.8**
RAHZ	**Arahi**	**5.12 202**	P	**Pn**	**15 33 14.4**	**+0.5**
RAHZ			S	**Sn**	**15 34 14.8**	**+0.9**
MHGZ	**Mahia Peninsul**	**5.13 195**	P	**Pn**	**15 33 14.0**	**0.0**
MTHZ	**Maungataniwha**	**5.15 204**	P	**Pn**	**15 33 14.9**	**+0.6**
MTHZ			S	**Sn**	**15 34 14.6**	**+0.1**
TLZ	**Tolley Road**	**5.26 217**	P	**Pn**	**15 33 19.5**	**+3.8**
MRHZ	**Matea Rd**	**5.28 208**	P	**Pn**	**15 33 16.7**	**+0.7**
GLKZ	**Green Lake**	**5.36 24**	S	Sn	15 34 12.3	-7.1
NMHZ	**Naumai**	**5.38 204**	P	**Pn**	**15 33 17.3**	**+0.1**
NMHZ			S	**Sn**	**15 34 20.0**	**+0.1**
HATZ	**Hinemaiaia**	**5.46 210**	P	**Pn**	**15 33 20.2**	**+1.9**
ARHZ	**Aropaoanui**	**5.47 201**	P	**Pn**	**15 33 21.2**	**+2.8**
BKZ	**Black Stump Fm**	**5.55 206**	P	**Pn**	**15 33 19.1**	**-0.4**
BKZ	**Black Stump Fm**	**5.55 206**	Pn	**Pn**	**15 33 19.1**	**-0.4**
KATZ	**Kakaramea**	**5.70 212**	P	**Pn**	**15 33 23.6**	**+2.1**
MCHZ	**McNeill Hill**	**5.73 203**	P	**Pn**	**15 33 21.1**	**-0.6**
HIZ	**Hauiti**	**5.75 220**	P	**Pn**	**15 33 24.9**	**+2.9**
HIZ	**Hauiti**	**5.75 220**	Pn	**Pn**	**15 33 24.1**	**+2.1**
KWHZ	**Kaweka Forest**	**5.80 205**	P	**Pn**	**15 33 21.7**	**-1.0**
KRVZ	**Karewarewa**	**5.83 210**	P	**Pn**	**15 33 25.5**	**+2.4**
WTVZ	**West Tongariro**	**5.86 212**	P	**Pn**	**15 33 26.3**	**+2.7**
OTVZ	**Oturere**	**5.87 211**	P	**Pn**	**15 33 23.2**	**-0.5**
TWVZ	**Taurewa**	**5.89 213**	P	**Pn**	**15 33 25.0**	**+1.0**
NGZ	**Ngauruhoe**	**5.91 211**	P	**Pn**	**15 33 25.7**	**+1.5**
TUVZ	**Tukino**	**5.96 211**	P	**Pn**	**15 33 26.4**	**+1.5**
BHHZ	**Black Hill Sta**	**5.99 207**	P	**Pn**	**15 33 24.7**	**-0.5**
KAHZ	**Kahuranaki**	**6.00 200**	P	**Pn**	**15 33 24.2**	**-1.0**
FWVZ	**Far West T-bar**	**6.00 211**	P	**Pn**	**15 33 27.2**	**+1.8**
KRHZ	**Kereru**	**6.02 204**	P	**Pn**	**15 33 24.1**	**-1.4**
WNVZ	**Wahianoa**	**6.04 211**	P	**Pn**	**15 33 26.7**	**+0.9**
MOVZ	**Moawhango**	**6.04 209**	P	**Pn**	**15 33 25.1**	**-0.7**
PKVZ	**Pokaka**	**6.12 212**	P	**Pn**	**15 33 27.4**	**+0.6**
PXZ	**Pawanui**	**6.22 200**	P	**Pn**	**15 33 26.8**	**-1.3**
VRZ	**Vera Road**	**6.26 217**	P	**Pn**	**15 33 31.2**	**+2.6**
PNHZ	**Pukenui**	**6.32 204**	P	**Pn**	**15 33 27.6**	**-1.8**
WPHZ	**Waipukurau**	**6.38 202**	P	**Pn**	**15 33 31.0**	**+0.9**
WPHZ			S	**Sn**	**15 34 39.4**	**-3.6**
PRHZ	**Porangahau**	**6.50 200**	P	**Pn**	**15 33 30.9**	**-0.8**
TSZ	**Takapari Road**	**6.53 205**	P	**Pn**	**15 33 30.0**	**-2.0**
WAZ	**Wanganui**	**6.66 212**	P	**Pn**	**15 33 34.2**	**+0.4**
DVHZ	**Dannevirke**	**6.67 203**	P	**Pn**	**15 33 33.3**	**-0.7**
NEZ	**North Egmont**	**6.71 219**	P	**Pn**	**15 33 36.7**	**+2.2**
ANWZ	**Angora Road**	**6.73 201**	P	**Pn**	**15 33 34.8**	**+0.2**
POWZ	**Post Office Ro**	**6.89 205**	P	**Pn**	**15 33 35.7**	**-1.1**
PRWZ	**Pori Road**	**6.97 203**	P	**Pn**	**15 33 37.4**	**-0.3**
BFZ	**Birch Farm**	**7.00 201**	P	**Pn**	**15 33 35.7**	**-2.5**
BFZ	**Birch Farm**	**7.00 201**	Pn	**Pn**	**15 33 37.0**	**-1.1**
TIWZ	**Tintock**	**7.20 203**	P	**Pn**	**15 33 38.8**	**-2.0**
TMWZ	**Te Maipa**	**7.50 202**	P	**Pn**	**15 33 42.5**	**-2.2**
MSWZ	**Moikau Station**	**7.98 204**	Pn	**Pn**	**15 33 49.0**	**-2.0**
SNZO	**South Karori**	**8.08 207**	Pn	**Pn**	**15 33 49.1**	**-3.2**
PLWZ	**Palliser**	**8.12 204**	P	**Pn**	**15 33 51.4**	**-1.3**
PLWZ	**Palliser**	**8.12 204**	Pn	**Pn**	**15 33 51.8**	**-1.0**
TUWZ	**Tuamarina**	**8.49 210**	Pn	**Pn**	**15 33 54.2**	**-3.3**
NNZ	**Nelson**	**8.56 213**	Pn	**Pn**	**15 33 55.4**	**-3.0**
CMWZ	**Cape Campbell**	**8.65 208**	Pn	**Pn**	**15 33 57.2**	**-2.4**
QRZ	**Quartz Range**	**8.67 218**	Pn	**Pn**	**15 33 57.3**	**-2.6**
BSWZ	**Blackbirch Sta**	**8.75 209**	Pn	**Pn**	**15 33 57.8**	**-3.1**
THZ	**Tophouse**	**9.21 213**	Pn	**Pn**	**15 34 03.9**	**-3.1**
KHZ	**Kahutara**	**9.48 208**	Pn	**Pn**	**15 34 07.0**	**-3.4**
LTZ	**Lake Taylor**	**10.31 211**	Pn	**Pn**	**15 34 17.2**	**-3.9**
OXZ	**Oxford**	**10.85 211**	Pn	**Pn**	**15 34 24.1**	**-4.0**
MQZ	**McQueen's Vall**	**10.92 207**	Pn	**Pn**	**15 34 24.8**	**-4.1**
RPZ	**Rata Peaks**	**11.59 212**	P	Pn	15 34 32.5	-5.0
	0.7nm,0.3s,baz=37,slow=19,SNR=6.6					
RPZ			S	Sn	15 36 34.8	-12
	3.1nm,0.3s,baz=305,slow=22,SNR=12					
FOZ	**Fox Glacier**	**12.02 216**	Pn	**Pn**	**15 34 39.6**	**-3.4**
ODZ	**Otahua Downs**	**12.83 210**	Pn	**Pn**	**15 34 49.4**	**-3.8**
WKZ	**Wanaka**	**13.37 214**	Pn	Pn	15 34 55.2	-4.8
CTA	**Charters Tower**	**32.63 287**	P	**P**	**15 38 11.1**	**-0.1**
	6.6nm,0.5s,baz=123,slow=10,SNR=18					
CTAO	**Charters Tower**	**32.63 287**	P	**P**	**15 38 11.1**	**-0.1**
CTAO			IAmb	IAmb	15 38 12.3	
	comp=Z,8.3nm,0.6s					
BBOO	**Buckleboo**	**36.10 260**	P	**P**	**15 38 40.6**	**-0.2**
COEN	**Coen**	**38.56 292**	P	**P**	**15 39 01.1**	**-0.5**
COEN			IAmb	IAmb	15 39 19.9	
	comp=Z,15nm,1.4s					
RABL	**Rabaul**	**39.23 313**	P	**P**	**15 39 07.5**	**+0.3**
RABL			IAmb	IAmb	15 39 13.6	
	comp=Z,16nm,1.1s					
AS31	**Alice Springs**	**41.02 272**	P	**P**	**15 39 20.6**	**-1.2**
ASAR	**Alice Springs**	**41.02 272**	P	**P**	**15 39 20.8**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=112,slow=7.1,SNR=35					
ASAR			PcP	**PcP**	**15 41 16.4**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=126,slow=3.7,SNR=4.0					
WR0	**Warramunga Arr**	**42.19 278**	P	**P**	**15 39 29.9**	**-1.5**
WR0			IAmb	IAmb	15 39 40.0	
	comp=Z,16nm,1.4s					
WB2	**Warramunga Arr**	**42.35 278**	P	**P**	**15 39 31.2**	**-1.5**
WB2			IAmb	IAmb	15 39 35.1	
	comp=Z,8.9nm,1.1s					
WRAB	**Tennant Creek**	**42.35 278**	P	**P**	**15 39 30.9**	**-1.8**
WRA	**Warramunga Arr**	**42.36 278**	P	**P**	**15 39 31.4**	**-1.4**
	comp=Z,3.6nm,0.7s,baz=117,slow=7.8,SNR=41					
WRA	**Warramunga Arr**	**42.36 278**	P	**P**	**15 39 31.2**	**-1.5**
WB0	**Warramunga Arr**	**42.40 278**	P	**P**	**15 39 31.7**	**-1.4**
FORT	**Forrest**	**43.21 260**	P	**P**	**15 39 38.3**	**-1.1**
FORT			IAmb	IAmb	15 39 52.2	
	comp=Z,28nm,0.9s					
VNDA	**Vanda**	**44.14 185**	P	**P**	**15 39 49.6**	**+3.5**
	comp=Z,0.9nm,1.0s,baz=18,slow=8.0,SNR=3.4					
PATS	**Pohnpei**	**45.49 330**	P	**P**	**15 39 57.1**	**-0.4**
MTN	**Manton Dam**	**48.70 284**	P	**P**	**15 40 20.4**	**-2.0**
MTN			IAmb	IAmb	15 40 25.4	
	comp=Z,16nm,1.4s					
KNRA	**Kununurra**	**49.09 279**	P	**P**	**15 40 24.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**50.43 274**	P	**P**	**15 40 33.9**	**-1.5**
FITZ			IAmb	IAmb	15 40 46.5	
	comp=Z,13nm,1.4s					
NWAO	**Narrogin (SRO)**	**51.22 253**	P	**P**	**15 40 37.3**	**-3.9**
MORW	**Morawa**	**53.57 257**	P	**P**	**15 40 57.6**	**-0.9**
MBWA	**Marble Bar**	**53.87 268**	P	**P**	**15 40 59.2**	**-1.6**
QSPA	**South Pole Qui**	**55.93 180**	P	**P**	**15 41 18.4**	**+3.4**
	comp=Z,7.1nm,0.5s,baz=21,slow=1.9,SNR=92					
QSPA	**South Pole Qui**	**55.93 180**	P	**P**	**15 41 18.1**	**+3.0**
QSPA			IAmb	IAmb	15 41 18.9	
	comp=Z,7.7nm,0.6s					
GIRL	**Giralia**	**57.74 263**	P	**P**	**15 41 29.4**	**+1.2**
BELA	**Belgrano 2**	**66.31 173**	P	**P**	**15 42 26.1**	**+1.7**
MAW	**Mawson**	**68.04 202**	P	**P**	**15 42 36.3**	**+0.9**
	comp=Z,4.0nm,0.4s,baz=134,slow=5.4,SNR=15					
MAW	**Mawson**	**68.04 202**	P	**P**	**15 42 36.2**	**+0.9**
SNAA	**Sanae**	**74.42 179**	P	**P**	**15 43 15.0**	**+1.3**
SNAA	**Sanae**	**74.42 179**	P	**P**	**15 43 15.0**	**+1.3**
SNAA			IAmb	IAmb	15 43 16.2	
	comp=Z,6.0nm,1.1s					
VNA3	**Neumayer Olymp**	**74.66 177**	P	**P**	**15 43 16.2**	**+1.2**
VNA2	**Neumayer--Watz**	**75.07 178**	P	**P**	**15 43 19.0**	**+1.7**
VNA1	**Neumayer--Stat**	**75.31 177**	P	**P**	**15 43 20.6**	**+2.0**
YULB	**Yu-li**	**79.64 307**	P	**P**	**15 43 43.4**	**+0.1**
YULB			IAmb	IAmb	15 44 04.3	
	comp=Z,5.2nm,1.0s					
JGF	**Kuroka**	**79.85 326**	P	**P**	**15 43 44.0**	**-0.2**
JGF			IAmb	IAmb	15 44 03.9	
	comp=Z,22nm,1.4s					
NACB	**Ninganchiao**	**79.99 308**	P	**P**	**15 43 44.4**	**-0.8**
NACB			IAmb	IAmb	15 43 52.9	
	comp=Z,12nm,0.8s					
KSRS	**Korea Array**	**85.94 321**	P	**P**	**15 44 14.9**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=126,slow=4.8,SNR=5.5					
PETK	**Petropavlovsk-**	**88.99 347**	P	**P**	**15 44 29.4**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=130,slow=6.4,SNR=5.8					
FINES	**FINESS Array B**	**147.88 336**	PKPbc	**PKPdf**	**15 51 17.1**	**+1.7**
	comp=Z,3.1nm,0.4s,baz=27,slow=5.4,SNR=33					
FINES	**FINESS Array B**	**147.88 336**		**PKPdf**	**15 51 16.9**	**+1.5**
LIC	**Lamto**	**151.85 170**	*e*PKP2	**PKPbc**	**15 51 30.0**	**+0.3**
	comp=Z,21nm,0.7s					
KIC	**Kosan Boka**	**152.03 171**	*e*PKP2	**PKiKP**	**15 51 31.2**	**+0.8**
	comp=Z,11nm,0.6s					
NB2	**NORSAR Subarra**	**152.09 348**	PKP	**PKPbc**	**15 51 27.5**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=14,slow=2.5					
NOA	**NORSAR Array B**	**152.09 348**	PKPbc	**PKPbc**	**15 51 27.6**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=15,slow=4.6,SNR=8.3					
TIC	**Toumodi**	**152.27 170**	*e*PKP2	**PKPbc**	**15 51 31.0**	**+0.4**
DBIC	**Dimbokro**	**152.31 171**	PKPbc	**PKPbc**	**15 51 31.3**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=116,slow=2.1,SNR=9.5					
BRTR	**Keskin Array B**	**152.32 292**	PKPbc	**PKPbc**	**15 51 28.4**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=164,slow=4.0,SNR=5.4					
AKASG	**Malin Array Be**	**152.84 316**	PKPbc	**PKPbc**	**15 51 28.9**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=68,slow=2.3,SNR=4.7					
TORD	**Torodi Ar. Bea**	**158.97 186**	PKP	**PKPdf**	**15 51 32.5**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=255,slow=1.2,SNR=3.5					
TORD			PKPbc	PKPbc	15 51 49.8	
	comp=Z,0.6nm,0.5s,baz=130,slow=3.6,SNR=4.4					
TORD			PKPab	**PKPab**	**15 52 09.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=162,slow=4.4,SNR=4.8					
TORD	**Torodi Ar. Bea**	**158.97 186**		**PKPdf**	**15 51 32.0**	**-0.5**

*IDC **08** 15:43:59.5±13.0, 64°.78N×17°.01W, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML2.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/31, Error ellipse: s-maj=227.7km s-min=55.8km az=150.0*

*REY **08** 15:44:00.3, 64°.80N×16°.97W, h9km*

ISC 08 15:43:59.3±0.8, 64°.81N±0°.02×16°.97W±0°.02, h14km±5km, n40, σ1°.05/64, mb3.4/3, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IURH	**Urdarhals**	**0.07**	**281**	P	**Pg**	**15 44 02.5**	**+0.3**
	baz=289						
IURH				S	**Sg**	**15 44 04.3**	**0.0**
	baz=289						
IDYN	**Dyngjuhals**	**0.17**	**265**	P	**Pb**	**15 44 04.0**	**-0.3**
	baz=269						
IDYN				S	**Sg**	**15 44 06.9**	**+0.7**
	baz=269						
IKVE	**Kverkfjoll**	**0.18**	**135**	P	**Pb**	**15 44 04.3**	**-0.3**
	baz=133						
IKRE	**Kreppuhraun**	**0.25**	**95**	P	**Pb**	**15 44 05.2**	**-0.5**
	baz=92						
IKRE				S	**Sb**	**15 44 09.1**	**-0.9**
	baz=92						
IASK	**Askja**	**0.28**	**29**	P	**Pb**	**15 44 06.0**	**-0.2**
	baz=28						
IASK				S	**Sb**	**15 44 10.4**	**-0.5**
	baz=28						
IMKO	**Mokollar**	**0.32**	**57**	P	**Pb**	**15 44 06.7**	**-0.2**
	baz=56						
IMKO				S	**Sb**	**15 44 11.6**	**-0.4**
	baz=56						
IDJK	**Dyngjujokull**	**0.32**	**200**	P	**Pb**	**15 44 06.4**	**-0.6**
	baz=201						
IDJK				S	**Sb**	**15 44 11.1**	**-1.1**
	baz=201						
IBJK	**Bruarjokull**	**0.35**	**164**	P	**Pb**	**15 44 06.6**	**-0.9**
	baz=164						
IBJK				S	**Sb**	**15 44 11.7**	**-1.2**
	baz=164						
IVON	**Vonarskard**	**0.36**	**249**	P	**Pb**	**15 44 07.0**	**-0.5**
	baz=250						
IVON				S	**Sb**	**15 44 12.3**	**-0.9**
	baz=250						
IGRF	**Grimsfjall**	**0.42**	**198**	P	**Pb**	**15 44 07.8**	**-0.9**
	baz=198						
IVSH	**V-Sauoahnukur**	**0.53**	**89**	S	**Sb**	**15 44 17.2**	**-0.8**
	baz=88						
IVSH				P	**Pb**	**15 44 09.9**	**-0.6**
	baz=88						
ISVA	**Svartarkot**	**0.55**	**348**	P	**Pb**	**15 44 10.5**	**-0.2**
	baz=348						
ISVA				S	**Sb**	**15 44 18.2**	**-0.2**
	baz=348						
IVOT	**Vottur**	**0.55**	**190**	P	**Pb**	**15 44 10.0**	**-0.7**
	baz=190						
IVOT				S	**Sb**	**15 44 17.5**	**-1.0**
	baz=190						
IADA	**Aoalbol**	**0.63**	**70**	P	**Pb**	**15 44 11.6**	**-0.6**
	baz=69						
IADA				S	**Sb**	**15 44 20.2**	**-0.7**
	baz=69						
ISKR	**Skrokkalda**	**0.66**	**248**	P	**Pb**	**15 44 12.0**	**-0.6**
	baz=249						
IKSK	**Karasker**	**0.68**	**161**	P	**Pg**	**15 44 11.7**	**-1.0**
	baz=161						
IKSK				S	**Sg**	**15 44 20.8**	**-0.9**
	baz=161						
IJOK	**Jokulheimar**	**0.73**	**228**	P	**Pb**	**15 44 13.2**	**-0.7**
	baz=229						
IJOK				S	**Sb**	**15 44 23.6**	**-0.1**
	baz=229						
IMEL	**Melhnausar**	**0.78**	**10**	P	**Pn**	**15 44 14.3**	**-1.6**
	baz=9.6						
IMEL				S	**Sn**	**15 44 25.4**	**-2.1**
	baz=9.6						
IREN	**Reynihlio**	**0.84**	**2**	P	**Pb**	**15 44 15.3**	**-0.5**
	baz=1.9						
IREN				S	**Sb**	**15 44 27.1**	**+0.1**
	baz=1.9						
IIEY	**Innrieyrar**	**0.87**	**215**	P	**Pb**	**15 44 15.4**	**-0.8**
	baz=216						
IIEY				S	**Sb**	**15 44 27.5**	**-0.3**
	baz=216						
IGRS	**Grimsstaoir**	**0.91**	**23**	P	**Pn**	**15 44 16.4**	**-1.3**
	baz=22						
IKVO	**Krokottuvotn**	**0.91**	**2**	P	**Pb**	**15 44 16.4**	**-0.6**
	baz=2.4						
IKVO				S	**Sb**	**15 44 28.8**	**-0.2**
	baz=2.4						
IVAT	**Vatnsfell**	**1.05**	**234**	P	**Pn**	**15 44 18.6**	**-1.0**
	baz=235						
IGHA	**Grjothals**	**1.05**	**7**	P	**Pn**	**15 44 18.6**	**-1.1**
	baz=6.9						
ISKI	**Skildingahlsh**	**1.07**	**359**	P	**Pn**	**15 44 19.0**	**-0.9**
	baz=359						
ISKI				S	**Sn**	**15 44 33.4**	**-1.2**
	baz=359						
IHVE	**Hveravellir**	**1.11**	**274**	P	**Pb**	**15 44 19.1**	**-1.2**
	baz=275						
IHVE				S	**Sg**	**15 44 34.2**	**-1.0**
	baz=275						
IGRA	**Granastaoir**	**1.15**	**347**	P	**Pg**	**15 44 20.2**	**-1.1**
	baz=348						
IGRA				S	**Sn**	**15 44 35.5**	**-0.8**
	baz=348						
IDIM	**Dimmadalss**	**1.16**	**1**	P	**Pg**	**15 44 20.3**	**-1.3**
	baz=0.8						
IDIM				S	**Sn**	**15 44 36.1**	**-0.7**
	baz=0.8						
IHLA	**Hella**	**1.29**	**333**	P	**Pg**	**15 44 22.6**	**-1.5**
	baz=334						
IHLA				S	**Sg**	**15 44 39.7**	**-1.0**
	baz=334						
IHED	**Heoinshofoi**	**1.29**	**354**	P	**Pb**	**15 44 22.4**	**-0.9**
	baz=354						
IHED				S	**Sg**	**15 44 39.7**	**-1.1**
	baz=354						
ISNB	**Snabyli**	**1.30**	**215**	P	**Pb**	**15 44 22.6**	**-0.9**
	baz=215						
ISNB				S	**Sg**	**15 44 40.3**	**-0.7**
	baz=215						
IGIL	**Gilhagi**	**1.30**	**11**	P	**Pb**	**15 44 22.6**	**-1.0**
	baz=11						
ISLY	**Slysaalda**	**1.36**	**224**	P	**Pb**	**15 44 23.6**	**-0.9**
	baz=225						
SCO	**Scoresbysund**	**6.01**	**344**	*i* P	**Pn**	**15 45 30.6**	**+3.0**
SCO				*i* S	**Sn**	**15 46 36.8**	**+0.7**
NOA	**NORSAR Array B**	**13.32**	**93**	Pn	**Pn**	**15 47 08.0**	**+0.2**
	0.0nm,0.3s,baz=300,slow=13,SNR=2.9						
GERES	**GERESS Array B**	**22.83**	**120**	P	**P**	**15 49 04.2**	**+2.4**
	1.1nm,0.9s,baz=316,slow=11,SNR=3.7						
VRAC	**Vranov**	**23.55**	**115**	LR	LR	16 00 00.4	
	comp=Z,33nm,18.1s,baz=253,slow=41						
ESDC	**Sonseca Array**	**26.29**	**157**	P	**P**	**15 49 36.0**	**+1.8**
	0.5nm,0.8s,baz=338,slow=10.0,SNR=3.0						
KBZ	**Khabaz**	**38.90**	**93**	LR	LR	16 08 32.7	
	comp=Z,33nm,18.3s,baz=98,slow=38						
TORD	**Torodi Ar. Bea**	**53.18**	**157**	P	**P**	**15 53 19.0**	**+2.2**
	0.4nm,0.7s,baz=336,slow=8.0,SNR=1.8						

WEL 08 15:55:18.9, 43°.5±2°.17°2E±°, h5km±2km, M2.4/7, ML2.5/7, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=113.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.14**	**157**	P	Pg	15 55 23.2	+1.4
LTZ	**Lake Taylor**	**0.47**	**29**	P	Pb	15 55 29.6	-0.1
AMCZ	**Amberley**	**0.51**	**88**	P	Pb	15 55 30.5	+0.3
INZ	**Inchbonnie**	**0.60**	**321**	P	Pb	15 55 32.4	+0.5
MQZ	**McQueen's Vall**	**0.72**	**136**	P	Pb	15 55 33.8	0.0
WACZ	**Wakanui South**	**0.75**	**187**	P	Pn	15 55 35.3	-0.8
GVZ	**Greta Valley S**	**0.82**	**74**	P	Pn	15 55 36.6	-0.4
RPZ	**Rata Peaks**	**0.84**	**232**	P	Pn	15 55 36.9	-0.5
WVZ	**Waitaha Valley**	**0.91**	**277**	P	Pn	15 55 38.0	-0.2
ARCZ	**Arundel**	**0.94**	**217**	P	Pn	15 55 38.7	-0.1
OKCZ	**Okains Bay**	**0.96**	**124**	P	Pn	15 55 38.8	-0.2
GCSZ	**Gaunt Creek Bo**	**1.20**	**264**	P	Pn	15 55 44.0	+1.7
DSZ	**Denniston Nort**	**1.45**	**355**	P	Pg	15 55 48.0	+1.3
THZ	**Tophouse**	**1.59**	**26**	P	Pg	15 55 49.4	+0.1
LBZ	**Lake Benmore**	**1.75**	**227**	P	Pg	15 55 53.3	+0.8
ODZ	**Otahua Downs**	**2.08**	**207**	P	Pg	15 55 59.2	+0.5

*THR **08** 15:57:21.4±0.3, 32°.56N×47°.57E, h15km±3km, ML3.2*

*ISN **08** 15:57:21.1±1.2, 32°.69N×47°.75E, h15km±6km, ML3.1*

*TEH **08** 15:57:22.6, 32°.65N×47°.68E, h10km, ML3.2*

ISC 08 15:57:23.7±1.2, 32°.54N±0°.03×47°.61E±0°.03, h13km±11km, n39, σ1°.22/45, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.31**	**296**	*e*Pg	**Pg**	**15 57 29.7**	**-0.4**
SHGR	**Shooshtar-Gavs**	**1.10**	**113**	*e*Pg	**Pb**	**15 57 42.6**	**-2.0**
SHGR				IAML		15 58 24.7	
	comp=E,576nm,0.6s						
SHGR				IAML		15 58 25.5	
	comp=N,467nm,0.8s						
SHGR	**Shooshtar-Gavs**	**1.10**	**113**	*e*Pg	**Pb**	**15 57 42.6**	**-2.0**
IKMR	**Kamar-syah**	**1.17**	**33**	*e*Pg	**Pn**	**15 57 42.4**	**-3.4**
IKMR				*e*		15 57 48.9	
IDOB	**Doab**	**1.33**	**21**	*e*Pg	**Pn**	**15 57 46.1**	**-2.1**
AHWZ	**Ahwaz**	**1.50**	**144**	*e*Pg	**Pg**	**15 57 52.1**	**-0.3**
AHWZ				*e*Sg	**Sg**	**15 58 15.2**	**+3.3**
BMDN	**Meydan**	**1.52**	**42**	*e*Pg	**Pn**	**15 57 50.0**	**-0.8**
BMDN				*e*		15 58 17.3	
IBDR	**Badra**	**1.52**	**292**	*e*Pg	**Pn**	**15 57 50.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**15 58 11.0**	**-0.1**
IBDR				AML	AML	15 58 21.3	
	comp=E,357nm,0.6s						
IBDR				AML	AML	15 58 22.2	
	comp=N,240nm,0.5s						
IKOM	**Komasi**	**1.63**	**357**	*e*Pg	**Pn**	**15 57 53.0**	**+0.7**
IKOM				*e*		15 58 19.3	
KCHF	**Cheshme Sefid,**	**1.79**	**345**	*e*Pg	**Pn**	**15 57 55.2**	**+0.6**
KCHF				*e*		15 58 25.8	
HSAM	**Samen**	**1.86**	**26**	*e*Pg	**Pn**	**15 57 56.1**	**+0.5**
HSAM				*e*		15 57 57.4	
KER	**Kermanshah**	**1.88**	**348**	*e*Pg	**Pb**	**15 57 57.0**	**-1.0**
IBZA	**Bozab**	**1.93**	**6**	*e*Pg	**Pn**	**15 57 57.5**	**+0.9**
IBZA				*e*		15 58 32.0	
NSR	**Nassriya**	**1.98**	**220**	*e*Pn	**Pb**	**15 57 58.0**	**-1.5**
NSR				*e*Sn	**Sb**	**15 58 24.0**	**-0.1**
IGHG	**Ghale

ASAR	**Alice Springs**	**50.49**	**253**	P	**P**	**16 07 27.3**	**-2.3**
QSPA	**South Pole Qui**	**72.99**	**180**	P	**P**	**16 10 02.0**	**+1.2**
QSPA				IAmb	IAmb	16 10 25.1	
	comp=Z,6.7nm,1.4s						
PETK	**Petropavlovsk-**	**74.49**	**342**	P	**P**	**16 10 10.9**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=125,slow=6.0,SNR=3.2						
PETK				LR	LR	16 40 59.1	
	comp=Z,22nm,19.6s,baz=86,slow=34						
NVAR	**Mina Array Bea**	**74.96**	**41**	P	**P**	**16 10 16.0**	**+3.2**
	comp=Z,0.3nm,0.7s,baz=237,slow=8.2,SNR=3.0						
ILAR	**Eielson Array**	**83.90**	**11**	P	**P**	**16 11 02.5**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=217,slow=4.4,SNR=2.2						
CMAR	**Chiang Mai Arr**	**94.00**	**288**	P	**P**	**16 11 50.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=140,slow=3.5,SNR=3.0						
GERES	**GERESS Array B**	**147.91**	**352**	PKPbc	**PKiKP**	**16 18 18.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=23,slow=4.4,SNR=4.1						
BRTR	**Keskin Array B**	**148.02**	**320**	PKPbc	**PKPbc**	**16 18 18.6**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=86,slow=2.2,SNR=4.1						

*IDC **08** 16:17:57.3±0.7, 10°.02S×90°.91E, h0km, mb4.1/13, mb1 4.1/13, mb1mx3.9/53, mbtmp4.1/13, MS3.5/4, Ms1 3.5/4, ms1mx2.9/40, Error ellipse: s-maj=21.0km s-min=19.0km az=46.0*

*NEIC **08** 16:17:59.9±0.6, 10°.0S±0°.1×91°.0E±0°.1, h16km±2km, mb4.4/23, Error ellipse: s-maj=18.1km s-min=15.7km az=130.0*

ISC 08 16:17:58.8±0.7, 10°.0S±0°.1×91°.0E±0°.1, h10km, n51, σ0°51/44, mb4.3/22, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**13.03**	**31**	Pn	**Pn**	**16 21 03.8**	**-0.3**
LEM	**Lembang**	**16.77**	**80**	LR	LR	16 27 52.0	
	comp=Z,78nm,18.7s,baz=86,slow=35						
H08S2	**Diego Garcia H**	**18.40**	**276**	T	T	16 40 59.7	
	baz=98,slow=74,SNR=23						
H08S3	**Diego Garcia H**	**18.42**	**276**	T	T	16 41 01.8	
	baz=98,slow=74,SNR=15						
H08S1	**Diego Garcia H**	**18.42**	**276**	T	T	16 41 00.7	
	baz=98,slow=74,SNR=16						
PALK	**Pallekele**	**19.98**	**329**	LR	LR	16 28 22.3	
	comp=Z,68nm,20.3s,baz=251,slow=31						
CMAR	**Chiang Mai Arr**	**29.36**	**16**	P	**P**	**16 24 03.4**	**+1.1**
	1.0nm,0.6s,baz=206,slow=9.1,SNR=7.2						
H01W3	**Cape Leeuwin H**	**32.56**	**143**	T	T	16 58 35.1	
	baz=318,slow=74,SNR=5.6						
H01W2	**Cape Leeuwin H**	**32.57**	**143**	T	T	16 58 36.8	
	baz=318,slow=74,SNR=7.3						
H01W1	**Cape Leeuwin H**	**32.58**	**143**	T	T	16 58 38.3	
	baz=318,slow=74						
KNRA	**Kununurra**	**37.24**	**103**	P	**P**	**16 25 10.5**	**-0.5**
KNRA				IAmb	IAmb	16 25 14.1	
	comp=Z,13nm,1.2s						
SOCY	**Socotra**	**42.85**	**300**	P	**P**	**16 25 59.0**	**+1.3**
WRA	**Warramunga Arr**	**42.94**	**108**	P	**P**	**16 25 58.6**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=278,slow=10.0,SNR=10						
WRA				PcP	**PcP**	**16 27 48.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=286,slow=2.5,SNR=2.5						
WRA	**Warramunga Arr**	**42.94**	**108**	P	**P**	**16 25 57.7**	**-0.7**
WRAB	**Tennant Creek**	**42.95**	**108**	P	**P**	**16 25 58.3**	**-0.1**
WRAB				IAmb	IAmb	16 26 25.3	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**42.95**	**108**	P	**P**	**16 25 59.3**	**+0.9**
WB0	**Warramunga Arr**	**42.97**	**108**	P	**P**	**16 25 58.8**	**+0.3**
WB0				IAmb	IAmb	16 26 14.3	
	comp=Z,10nm,1.4s						
ASAR	**Alice Springs**	**43.11**	**114**	P	**P**	**16 26 00.1**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=289,slow=7.9,SNR=16						
ASAR				PcP	**PcP**	**16 27 49.1**	**-0.5**
	comp=Z,0.9nm,1.1s,baz=302,slow=2.8,SNR=2.7						
ASAR				LR	LR	16 45 37.5	
	comp=Z,51nm,18.3s,baz=153,slow=38						
AS31	**Alice Springs**	**43.11**	**114**	P	**P**	**16 26 00.0**	**+0.3**
WR0	**Warramunga Arr**	**43.13**	**108**	P	**P**	**16 26 00.2**	**+0.4**
NIL	**Nilore**	**46.58**	**340**	P	**P**	**16 26 27.1**	**0.0**
NIL				IAmb	IAmb	16 26 28.0	
	comp=Z,4.1nm,0.6s						
XAN	**Xi'an**	**47.01**	**20**	P	**P**	**16 26 30.5**	**0.0**
BTK	**Batken**	**53.20**	**341**	P	**P**	**16 27 18.1**	**+0.6**
BTK				IAmb	IAmb	16 27 20.3	
	comp=Z,3.1nm,0.7s						
KKAR	**Karatay Array**	**56.06**	**342**	P	**P**	**16 27 37.8**	**-0.3**
KKAR	**Karatay Array**	**56.06**	**342**	P	**P**	**16 27 38.0**	**-0.1**
KKAR				IAmb	IAmb	16 27 39.3	
	comp=Z,2.0nm,0.8s						
GEYT	**Alibeck**	**56.73**	**329**	P	**P**	**16 27 42.9**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=165,slow=7.7,SNR=7.1						
GEYT	**Alibeck**	**56.73**	**329**	P	**P**	**16 27 42.5**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**56.73**	**329**	P	**P**	**16 27 43.0**	**0.0**
GYA0B				IAmb	IAmb	16 27 45.1	
	comp=Z,3.7nm,0.7s						
MK31	**Makanchi Array**	**57.08**	**353**	P	**P**	**16 27 45.2**	**-0.1**
MKAR	**Makanchi Array**	**57.08**	**353**	P	**P**	**16 27 44.3**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=168,slow=6.2,SNR=11						
MKAR	**Makanchi Array**	**57.08**	**353**	P	**P**	**16 27 44.4**	**-0.9**
MAKZ	**Makanchi**	**57.13**	**353**	P	**P**	**16 27 45.2**	**-0.4**
KSAR	**Wonju Array Be**	**58.52**	**34**	P	**P**	**16 27 56.2**	**+0.7**
KSRS	**Korea Array**	**58.55**	**34**	P	**P**	**16 27 56.2**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=216,slow=7.5,SNR=4.8						
SONM	**Songino Array**	**59.20**	**12**	P	**P**	**16 28 00.3**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=193,slow=8.8,SNR=8.7						
SONM	**Songino Array**	**59.20**	**12**	P	**P**	**16 27 59.9**	**-0.3**
MATP	**Matopo**	**60.86**	**252**	P	**P**	**16 28 12.1**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=93,slow=6.0,SNR=4.7						
KURK	**Kurchatov**	**61.42**	**351**	P	**P**	**16 28 15.2**	**0.0**
KURK				IAmb	IAmb	16 28 16.2	
	comp=Z,3.7nm,1.0s						
ZAA0	**Zalesovo Array**	**63.93**	**356**	P	**P**	**16 28 31.8**	**-0.1**
ZALV	**Zalesovo Beam**	**63.93**	**356**	P	**P**	**16 28 32.0**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=172,slow=5.1,SNR=22						
ZALV	**Zalesovo Beam**	**63.93**	**356**	P	**P**	**16 28 31.4**	**-0.4**
BOSA	**Boshof**	**63.99**	**243**	P	**P**	**16 28 33.1**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=111,slow=4.3,SNR=6.2						
ABKAR	**Akbulak array**	**65.00**	**338**	P	**P**	**16 28 38.9**	**-0.1**
USA0B	**Ussuriysk Arra**	**65.52**	**31**	P	**P**	**16 28 42.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**65.52**	**31**	P	**P**	**16 28 42.7**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=245,slow=3.4,SNR=13						
USRK	**Ussuriysk Ar.**	**65.52**	**31**	P	**P**	**16 28 42.1**	**-0.4**
ITM	**Ithomi**	**79.78**	**311**	P	**P**	**16 30 06.7**	**-0.9**
QSPA	**South Pole Qui**	**80.01**	**180**	P	**P**	**16 30 08.6**	**+0.2**
QSPA				IAmb	IAmb	16 30 10.3	
	comp=Z,2.5nm,0.9s						
AKASG	**Malin Array Be**	**80.61**	**325**	P	**P**	**16 30 11.1**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=103,slow=4.7,SNR=4.1						
URZ	**Urewera**	**80.87**	**127**	LR	LR	17 04 07.1	
	comp=Z,142nm,20.4s,baz=22,slow=34						
FINES	**FINESS Array B**	**87.17**	**334**	P	**P**	**16 30 44.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=126,slow=5.2,SNR=4.8						

*DNK **08** 16:19:51.0±0.7, 54°.69N×21°.96E, h0km, ML1.8(UPP), Hypocentre not reviewed by the ISC Suspected explosion*

*UPP **08** 16:20:01.3±2.6, 55°.21N×21°.10E, h0km, ML1.8, Suspected explosion*

*LVSN **08** 16:20:03.4±0.4, 55°.48N×20°.78E, h0km±7km, ML2.6*

ISC 08 16:20:04.5±1.6, 55°.4N±0°.1×20°.87E±0°.05, h10km, n14, σ1°03/17, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PABE	**Paberze**	**1.77**	**86**	*e*P	**Pb**	**16 20 36.4**	**-0.6**
PABE				*e*S	**Sg**	16 21 00.8	-0.5
SLIT	**Slitere, Latvi**	**2.36**	**19**	*e*P	**Pn**	**16 20 44.6**	**+1.4**
SLIT				AML	AML	16 20 45.9	
	comp=Z,75nm,0.5s						
SLIT				*e*S	**Sb**	**16 21 15.3**	**-0.8**
SLIT				AML	AML	16 21 19.6	
	comp=N,68nm,0.4s						
SLIT				AML	AML	16 21 24.7	
	comp=E,81nm,0.4s						
GOTU	**Gotland**	**2.61**	**332**	S	**Sb**	**16 21 23.2**	**-0.2**
BYXU	**Byxelkrok**	**2.85**	**313**	P	**Pn**	**16 20 50.7**	**+0.6**
BYXU				S	**Sb**	16 21 29.1	-1.3
ASPU	**Aespoe**	**3.11**	**312**	P	**Pn**	**16 20 54.9**	**+1.4**
OSKU	**Oskarshamn**	**3.20**	**306**	P	**Pn**	**16 20 55.9**	**+1.1**
VSTU	**Vaestervik**	**3.29**	**315**	P	**Pn**	**16 20 57.4**	**+1.3**
VXJU	**Vaexsjoe**	**3.64**	**297**	P	**Pn**	**16 21 01.6**	**+0.7**
MTSE	**Matsula**	**3.68**	**25**	*e*P	**Pn**	**16 21 02.9**	**+1.5**
EKSU	**Eksjoe**	**3.77**	**307**	P	**Pn**	**16 21 03.1**	**+0.5**
VIKU	**Vikbolandet**	**3.85**	**325**	P	**Pn**	**16 21 04.4**	**+0.7**
ASKU	**Askersund**	**4.79**	**319**	P	**Pn**	**16 21 17.7**	**+1.0**
FIBU	**Brunna**	**4.88**	**339**	P	**Pn**	**16 21 18.3**	**+0.4**
BACU	**Backbrunna**	**4.89**	**337**	P	**Pn**	**16 21 18.4**	**+0.4**

*IDC **08** 16:21:33.0±0.5, 36°.89N×97°.66W, h0km, mb4.2/13, mb1 4.2/20, mb1mx4.0/60, mbtmp4.1/20, ML2.7/4, MS3.2/7, Ms1 3.2/7, ms1mx2.9/50, Error ellipse: s-maj=11.1km s-min=9.4km az=149.0*

*NEIC **08** 16:21:34.0±1.2, 36°.82N±0°.02×97°.70W±0°.05, h6km±4km, Error ellipse: s-maj=6.2km s-min=3.4km az=98.0*

*TUL **08** 16:21:34±1.2, 36°.82N±0°.04×97°.72W±0°.06, h5km±4km, ML4.2, mb4.2/8(NEIC), Mwr3.9/69(NEIC), Error ellipse: s-maj=6.5km s-min=5.3km az=65.0*

*UNK **08** 16:21:34.0, 36°.82N×97°.72W, h5km*

*NEIC **08** 16:21:34, 36°.82N×97°.72W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=6.99; $M_{\theta\theta}$=3.47; $M_{\phi\phi}$=3.52; $M_{r\theta}$=2.63; $M_{\theta\phi}$=3.90; $M_{\phi r}$=0.60; Fault plane solution: M_0=7.69000×10^{14} NP1:φ=235.87000°, δ=54.83000°, λ=-76.71000°. NP2:φ=33.58000°, δ=37.29000°, λ=-108.06000°. Principal axes: T 7.7561, Plg9.0000°, Azm316.0000°; N -0.1285, Plg11.0000°, Azm48.0000°; P -7.6277, Plg76.0000°, Azm188.0000°;*

*ANF **08** 16:21:35.5±1.2, 36°.83N×97°.68W, h20km±11km, ML5.2/19 Error ellipse: s-maj=3.2km s-min=2.8km az=164.0*

ISC 08 16:21:33.8±1.0, 36°.82N±0°.02×97°.70W±0°.03, h8km±7km, n221, σ0°94/226, mb4.2/15, MS3.2/4, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.27**	**42**		**Pg**	**16 21 39.8**	**+0.7**
CROK	**Carrier**	**0.39**	**217**		**Pg**	**16 21 41.6**	**+0.3**
CROK				Sg	**Sg**	16 21 46.5	+0.1
KAN10	**Anthony SW Sta**	**0.44**	**314**		**Pg**	**16 21 42.6**	**+0.2**
KAN10				Sg	**Sg**	16 21 48.4	+0.1
KAN12	**Harper NE Stat**	**0.54**	**334**		**Pg**	**16 21 44.4**	**+0.1**
KAN12				Sg	**Sg**	16 21 51.3	0.0
T35A	**Sooner Cattle**	**0.96**	**84**		**Pb**	**16 21 52.5**	**-0.2**
QUOK	**Quay**	**1.02**	**129**		**Pg**	**16 21 53.6**	**+0.2**
OK029	**Liberty Lake**	**1.03**	**169**		**Pg**	**16 21 53.7**	**0.0**
U32A	**Winter Ranch,**	**1.14**	**248**	Pn	**Pg**	**16 21 55.0**	**-0.6**
BCOK	**Bluff Creek, N**	**1.16**	**176**		**Pg**	**16 21 55.8**	**-0.2**
ADOK	**Arcadia Dam**	**1.19**	**167**	Pg	**Pg**	**16 21 56.9**	**+0.3**
OK009	**Oakdale Elemen**	**1.25**	**177**	Pg	**Pn**	**16 21 57.6**	**0.0**
OK025	**Westminster Rd**	**1.27**	**167**		**Pn**	**16 21 57.9**	**+0.1**
OKCFA	**Oklahoma City**	**1.41**	**172**		**Pn**	**16 22 00.3**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**1.42**	**171**		**Pn**	**16 22 00.4**	**+0.5**
OK011	**Prague**	**1.56**	**148**	Pn	**Pn**	**16 22 02.4**	**+0.6**
FNO	**Franklin**	**1.57**	**171**		**Pb**	**16 22 03.4**	**+0.3**
TUL1	**Leonard**	**1.78**	**120**	P	**Pb**	**16 22 06.3**	**-0.4**
	baz=301,SNR=356						
TUL1				S	**Sg**	**16 22 30.7**	**-0.4**
	baz=301						
TUL1	**Leonard**	**1.78**	**120**	Pn	**Pb**	**16 22 06.3**	**-0.4**
W35A	**Tecumseh**	**1.79**	**158**		**Pn**	**16 22 06.1**	**+1.1**
R32A	**Long Quarter,**	**1.79**	**334**		**Pb**	**16 22 06.4**	**-0.5**
WMOK	**Wichita Mounta**	**2.25**	**203**	P	**Pn**	**16 22 12.1**	**+0.7**
	baz=22,SNR=274						
WMOK				S	**Sn**	**16 22 41.2**	**+1.8**
	baz=22						
WMOK	**Wichita Mounta**	**2.25**	**203**		**Pn**	**16 22 12.1**	**+0.7**
KSU1	**Kansas State U**	**2.44**	**20**	P	**Pn**	**16 22 15.2**	**+1.2**
	baz=201,SNR=41						
KSU1				S	**Sn**	**16 22 45.9**	**+2.0**
	baz=201						
KSU1	**Kansas State U**	**2.44**	**20**		**Pn**	**16 22 15.0**	**+1.1**
CBKS	**Cedar Bluff**	**2.57**	**322**	P	**Pn**	**16 22 17.1**	**+1.4**
	baz=141						
CBKS	**Cedar Bluff**	**2.57**	**322**		**Pn**	**16 22 16.7**	**+1.0**
U38A	**Gravette**	**2.69**	**97**		**Pn**	**16 22 18.6**	**+1.2**
X37A	**Clayton**	**2.92**	**139**	Pn	**Pn**	**16 22 21.1**	**+0.6**
HHAR	**Hobbs**	**3.07**	**99**		**Pn**	**16 22 23.2**	**+0.6**
Z35A	**Perchaven, San**	**3.50**	**174**		**Pn**	**16 22 29.5**	**+1.1**
W39A	**Magazine**	**3.56**	**116**	P	**Pn**	**16 22 30.7**	**+1.3**
	baz=298,SNR=19						
W39A				S	**Sn**	**16 23 12.7**	**+1.1**
	baz=298						
W39A	**Magazine**	**3.56**	**116**		**Pn**	**16 22 30.4**	**+1.1**
S39A	**Bolivar**	**3.60**	**75**		**Pn**	**16 22 30.7**	**+0.9**
AMTX	**Amarillo**	**3.77**	**240**	P	**Pn**	**16 22 33.0**	**+0.8**
	baz=58						
AMTX				S	**Sn**	**16 23 17.6**	**+0.8**
	baz=58						
AMTX	**Amarillo**	**3.77**	**240**	Pn	**Pn**	**16 22 33.1**	**+0.9**
N33A	**J Bar K, Exete**	**3.92**	**3**	Pn	**Pn**	**16 22 34.8**	**+0.5**
U40A	**Yellville**	**3.93**	**95**	P	**Pn**	**16 22 35.3**	**+0.9**
	baz=278,SNR=60						
U40A				S	**Sn**	**16 23 21.7**	**+1.1**
	baz=278						
U40A	**Yellville**	**3.93**	**95**		**Pn**	**16 22 35.3**	**+0.9**
MIAR	**Mount Ida**	**4.05**	**123**	P	**Pn**	**16 22 37.5**	**+1.4**
	baz=305,SNR=16						
MIAR				S	**Sn**	**16 23 24.1**	**+0.5**
	baz=305						
MIAR	**Mount Ida**	**4.05**	**123**	Pn	**Pn**	**16 22 37.3**	**+1.3**
Z38A	**Mt. Pleasant**	**4.19**	**147**		**Pn**	**16 22 39.0**	**+1.1**
P38A	**Dawn**	**4.32**	**48**		**Pn**	**16 22 40.3**	**+0.6**
N35A	**Tabor**	**4.35**	**21**		**Pn**	**16 22 41.1**	**+1.0**
KSCO	**Kaye Shedlock'**	**4.47**	**301**	P	**Pn**	**16 22 42.7**	**+0.7**
	baz=118,SNR=22						
KSCO				S	**Sn**	**16 23 33.5**	**-0.8**
	baz=118						
KSCO	**Kaye Shedlock'**	**4.47**	**301**	Pn	**Pn**	**16 22 42.9**	**+0.9**
ABTX	**Abilene, Hawle**	**4.48**	**202**	P	**Pn**	**16 22 42.0**	**+0.1**
	baz=20,SNR=10						
ABTX				S	**Sn**	**16 23 33.9**	**-0.4**
	baz=20						
ABTX	**Abilene, Hawle**	**4.48**	**202**		**Pn**	**16 22 43.0**	**+1.0**
R40A	**Maddies Statio**	**4.56**	**70**		**Pn**	**16 22 43.7**	**+0.7**
X40A	**Basin Creek Fa**	**4.59**	**119**	P	**Pn**	**16 22 44.5**	**+1.0**
	baz=302,SNR=12						
X40A				S	**Sn**	**16 23 37.6**	**+0.6**
	baz=302						
X40A	**Basin Creek Fa**	**4.59**	**119**		**Pn**	**16 22 44.6**	**+1.0**
FCAR	**Ozark Folk Cen**	**4.59**	**100**		**Pn**	**16 22 44.7**	**+1.1**
BGNE	**Belgrade**	**4.60**	**356**	P	**Pn**	**16 22 44.5**	**+0.8**
	baz=176,SNR=8.2						
BGNE				S	**Sn**	**16 23 36.6**	**-0.6**
	baz=176						
BGNE	**Belgrade**	**4.60**	**356**		**Pn**	**16 22 44.5**	**+0.8**
WHAR	**Wooly Hollow**	**4.64**	**108**		**Pn**	**16 22 45.2**	**+1.0**
W41B	**Gary Mavity, V**	**4.71**	**109**	P	**Pn**	**16 22 46.2**	**+1.0**
	baz=292						
W41B				S	**Sn**	**16 23 39.1**	**-0.9**
	baz=292						
W41B	**Gary Mavity, V**	**4.71**	**109**		**Pn**	**16 22 46.0**	**+0.9**
UALR	**University of**	**4.80**	**113**	Pn	**Pn**	**16 22 47.4**	**+1.0**
WHTX	**Lake Whitney,**	**4.82**	**178**	P	**Pn**	**16 22 47.3**	**+0.7**
	baz=358,SNR=7.1						
WHTX				S	**Sn**	**16 23 42.1**	**-0.5**
	baz=358						
WHTX	**Lake Whitney,**	**4.82**	**178**		**Pn**	**16 22 47.2**	**+0.7**
WLAR	**White Oak Lake**	**4.88**	**128**		**Pn**	**16 22 48.5**	**+1.1**
MSTX	**Muleshoe**	**5.02**	**237**	P	**Pn**	**16 22 49.7**	**+0.1**
	baz=54,SNR=14						
MSTX	**Muleshoe**	**5.02**	**237**		**Pn**	**16 22 49.8**	**+0.3**
237A	**Washetta, Mont**	**5.05**	**161**		**Pn**	**16 22 50.1**	**+0.3**
P40A	**Paris**	**5.21**	**57**		**Pn**	**16 22 52.1**	**0.0**
L34A	**Svendsen Farm,**	**5.25**	**11**	Pn	**Pn**	**16 22 52.4**	**-0.1**
CCM	**Cathedral Cave**	**5.28**	**75**	P	**Pn**	**16 22 53.2**	**+0.2**
	baz=258						
CCM	**Cathedral Cave**	**5.28**	**75**		**Pn**	**16 22 53.2**	**+0.2**
N38A	**Joes South For**	**5.29**	**40**		**Pn**	**16 22 53.2**	**+0.2**
T42A	**Van Buren**	**5.30**	**86**		**Pn**	**16 22 53.8**	**+0.6**
LCAR	**Lake Charles**	**5.33**	**96**		**Pn**	**16 22 54.4**	**+0.8**
OGNE	**Ogallala**	**5.33**	**322**	P	**Pn**	**16 22 55.1**	**+1.4**
	baz=140						
OGNE	**Ogallala**	**5.33**	**322**		**Pn**	**16 22 54.7**	**+0.9**
Z41A	**Richland Creek**	**5.36**	**130**	P	**Pn**	**16 22 54.2**	**+0.2**
	baz=313						
Z41A	**Richland Creek**	**5.36**	**130**		**Pn**	**16 22 55.0**	**+1.0**
T25A	**Trinidad**	**5.38**	**275**	P	**Pn**	**16 22 54.8**	**+0.2**
	baz=91,SNR=14						
T25A	**Trinidad**	**5.38**	**275**		**Pn**	**16 22 55.0**	**+0.4**
K31A	**O'Neill**	**5.86**	**352**		**Pn**	**16 23 01.6**	**+0.7**
FVM	**French Village**	**5.91**	**76**		**Pn**	**16 23 01.9**	**+0.3**
435B	**Jarrell**	**6.02**	**179**	P	**Pn**	**16 23 03.4**	**+0.3**
	baz=359						
435B	**Jarrell**	**6.02**	**179**		**Pn**	**16 23 03.4**	**+0.3**
SCIA	**State Center**	**6.16**	**33**	P	**Pn**	**16 23 05.7**	**+0.7**
	baz=216,SNR=11						
SCIA	**State Center**	**6.16**	**33**		**Pn**	**16 23 05.5**	**+0.5**
Q24A	**Divide**	**6.27**	**292**	P	**Pn**	**16 23 06.8**	**-0.1**
	baz=108,SNR=6.2						
Q24A	**Divide**	**6.27**	**292**		**Pn**	**16 23 06.6**	**-0.3**
SDCO	**Great Sand Dun**	**6.29**	**281**	P	**Pn**	**16 23 08.3**	**+1.2**
	baz=96,SNR=29						
PVMO	**Portageville**	**6.45**	**91**	Pn	**Pn**	**16 23 09.0**	**+0.1**
JCT	**Junction City**	**6.56**	**196**		**Pn**	**16 23 10.8**	**+0.2**
N41A	**Harden Midland**	**6.61**	**52**		**Pn**	**16 23 11.2**	**0.0**
S44A	**Carbondale**	**6.79**	**80**		**Pn**	**16 23 14.6**	**+0.8**
GLAT	**Glass**	**6.79**	**92**	Pn	**Pn**	**16 23 14.7**	**+1.0**
CLNB	**Carlsbad**	**6.83**	**230**		**Pn**	**16 23 14.1**	**-0.2**
ISCO	**Idaho Springs**	**6.90**	**298**	P	**Pn**	**16 23 15.9**	**+0.4**
	baz=113,SNR=12						
ISCO	**Idaho Springs**	**6.90**	**298**		**Pn**	**16 23 15.8**	**+0.4**
K38A	**Parkersburg**	**6.95**	**32**		**Pn**	**16 23 16.6**	**+0.7**
ECSD	**EROS Data Cent**	**6.96**	**7**	P	**Pn**	**16 23 15.6**	**-0.4**
	baz=187,SNR=12						
ECSD	**EROS Data Cent**	**6.96**	**7**		**Pn**	**16 23 15.7**	**-0.4**
P43A	**Skaggs, Pawnee**	**7.03**	**64**		**Pn**	**16 23 17.4**	**+0.4**
W45A	**Hickory Valley**	**7.10**	**101**	Pn	**Pn**	**16 23 18.7**	**+0.8**
OXF	**Oxford**	**7.13**	**106**	P	**Pn**	**16 23 17.2**	**-1.2**
	baz=291,SNR=9.3						
OXF	**Oxford**	**7.13**	**106**		**Pn**	**16 23 19.0**	**+0.6**
GDL2	**Guadalupe Moun**	**7.17**	**232**		**Pn**	**16 23 19.1**	**0.0**
Q44A	**Meyer Farm, Va**	**7.18**	**70**		**Pn**	**16 23 19.3**	**+0.3**
L40A	**Anamosa**	**7.25**	**42**		**Pn**	**16 23 20.2**	**+0.2**
ANMO	**Albuquerque**	**7.35**	**258**	Pn	**Pn**	**16 23 24.3**	**+2.7**
	0.0nm,0.3s,baz=41,slow=18,SNR=7.2						
ANMO				Lg	Lg	16 25 20.4	
	0.7nm,0.3s,baz=146,slow=22,SNR=5.9						
PHWY	**Pilot Hill**	**7.52**	**309**	Pn	**Pn**	**16 23 24.4**	**+0.4**
HDIL	**Hopedale**	**7.56**	**58**	P	**Pn**	**16 23 23.7**	**-0.5**
	baz=243,SNR=7.9						
HDIL	**Hopedale**	**7.56**	**58**		**Pn**	**16 23 24.3**	**+0.1**
N23A	**Red Feather La**	**7.61**	**305**	P	**Pn**	**16 23 26.4**	**+1.2**
	baz=120,SNR=8.2						
N23A	**Red Feather La**	**7.61**	**305**		**Pn**	**16 23 26.2**	**+1.0**
SUSD	**Miller**	**7.68**	**353**	P	**Pn**	**16 23 25.2**	**-0.7**
	baz=173						
SUSD				S	**Sn**	**16 24 50.0**	**-3.1**
	baz=173						
BNM	**Barren Site**	**7.75**	**253**		**Pn**	**16 23 27.1**	**-0.1**
OLIL	**Olney**	**7.84**	**73**		**Pn**	**16 23 28.4**	**+0.3**
O44A	**Mansfield**	**7.97**	**62**	Pn	**Pn**	**16 23 29.7**	**-0.2**
WVT	**Waverly**	**7.98**	**92**	P	**Pn**	**16 23 29.5**	**-0.5**
	baz=278						
WVT	**Waverly**	**7.98**	**92**		**Pn**	**16 23 30.2**	**+0.1**
PLAL	**Pickwick Lake**	**8.02**	**100**		**Pn**	**16 23 31.2**	**+0.6**
L42A	**Oliver, Polo**	**8.09**	**48**		**Pn**	**16 23 32.0**	**+0.4**
MNTX	**Cornudas Mount**	**8.15**	**233**	P	**Pn**	**16 23 32.0**	**-0.4**
	baz=49,SNR=21						
MNTX	**Cornudas Mount**	**8.15**	**233**		**Pn**	**16 23 32.5**	**+0.1**
JFWS	**Jewell Farm**	**8.36**	**41**	P	**Pn**	**16 23 35.0**	**-0.3**
	baz=226						
JFWS	**Jewell Farm**	**8.36**	**41**		**Pn**	**16 23 35.4**	**+0.2**
T47A	**Sharon Grove**	**8.49**	**86**		**Pn**	**16 23 37.6**	**+0.6**
833A	**Chaparral WMA,**	**8.59**	**190**	Pn	**Pn**	**16 23 38.5**	**+0.1**
P46A	**Rosedale**	**8.72**	**68**		**Pn**	**16 23 40.3**	**+0.2**
M44A	**Midewin, Midew**	**8.78**	**56**		**Pn**	**16 23 41.0**	**-0.1**
I40A	**Norwalk**	**8.89**	**35**		**Pn**	**16 23 42.7**	**+0.1**
K22A	**Casper**	**8.95**	**313**	P	**Pn**	**16 23 42.5**	**-1.0**
	baz=128						
K22A	**Casper**	**8.95**	**313**		**Pn**	**16 23 43.8**	**+0.3**
TX31	**Lajitas Ar. Si**	**8.98**	**216**		**Pn**	**16 23 43.0**	**-0.9**
TX32	**Lajitas Array**	**8.98**

comp=Z,5.3nm,0.8s
ILAR Eielson Array 40.19 330 P **P 16 29 11.4 +1.2**
comp=Z,4.4nm,0.7s,baz=108,slow=7.1,SNR=32
ILAR Eielson Array 40.19 330 P **P 16 29 11.3 +1.1**
CCB Clear Creek Bu 40.52 329 P **P 16 29 14.0 +1.0**
CCB IAmb IAmb 16 29 14.9
comp=Z,3.1nm,0.8s
SPITS Spitsbergen Ar 58.91 13 LR LR 16 56 41.2
comp=Z,18nm,19.7s,baz=340,slow=36
LPAZ La Paz 59.73 147 P **P 16 31 40.2 +0.3**
comp=Z,0.7nm,0.5s,baz=77,slow=1.1,SNR=4.7
LPAZ La Paz 59.73 147 P **P 16 31 40.2 +0.3**
EKA Eskdalemuir Ar 63.04 40 P **P 16 31 59.7 -1.4**
comp=Z,2.6nm,0.6s,baz=288,slow=7.0,SNR=5.6
EKA Eskdalemuir Ar 63.04 40 P **P 16 31 59.7 -1.4**
HFS Hagfors 68.28 30 P **P 16 32 34.5 -0.4**
comp=Z,1.1nm,0.5s,baz=36,slow=3.9,SNR=1.8
HFS Hagfors 68.28 30 P **P 16 32 34.5 -0.4**
PETK Petropavlovsk- 69.27 321 LR LR 17 06 10.7
comp=Z,25nm,18.0s,baz=87,slow=39
ESDC Sonseca Array 70.18 55 P **P 16 32 47.5 +0.3**
comp=Z,0.9nm,1.0s,baz=298,slow=6.9,SNR=5.3
ESDC Sonseca Array 70.18 55 P **P 16 32 47.5 +0.3**
ESDC Sonseca Array 70.18 55 IAmb IAmb 16 32 56.0
comp=Z,4.1nm,1.1s
FINES FINESS Array B 72.01 25 P **P 16 32 57.3 -0.4**
comp=Z,2.1nm,0.6s,baz=336,slow=4.2,SNR=5.1
FINES FINESS Array B 72.01 25 P **P 16 32 57.3 -0.4**
GERES GERESS Array B 75.26 39 P **P 16 33 16.5 -0.7**
comp=Z,0.6nm,0.5s,baz=336,slow=6.9,SNR=1.7
GERES GERESS Array B 75.26 39 P **P 16 33 16.5 -0.7**
AKASG Malin Array Be 81.15 31 P **P 16 33 49.6 0.0**
comp=Z,1.4nm,0.5s,baz=319,slow=4.4,SNR=5.5
AKASG Malin Array Be 81.15 31 P **P 16 33 49.6 0.0**
BURAR Bucovina Array 81.70 35 P **P 16 33 53.6 +0.8**
ZALV Zalesovo Beam 89.58 359 P **P 16 34 31.1 -0.5**
comp=Z,0.4nm,0.4s,baz=350,slow=7.5,SNR=4.3
ZALV Zalesovo Beam 89.58 359 P **P 16 34 31.1 -0.5**
BRTR Keskin Array B 91.66 35 P **P 16 34 43.1 +1.3**
comp=Z,1.1nm,0.5s,baz=310,slow=6.8,SNR=2.0
BRTR Keskin Array B 91.66 35 P **P 16 34 43.1 +1.3**
SONM Songino Array 93.02 344 P **P 16 34 49.6 +1.7**
comp=Z,0.6nm,0.5s,baz=356,slow=4.3,SNR=2.3
SONM Songino Array 93.02 344 P **P 16 34 49.6 +1.7**
SONM Songino Array 93.02 344 IAmb IAmb 16 34 50.0
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 131.81 276 PKP **PKPdf 16 40 48.8 +0.8**
comp=Z,0.7nm,0.9s,baz=51,slow=2.1,SNR=5.7
WRA Warramunga Arr 131.81 276 **PKPdf 16 40 48.8 +0.8**
ASAR Alice Springs 134.04 272 PKP **PKPdf 16 40 51.6 -0.5**
comp=Z,0.3nm,0.6s,baz=63,slow=2.0,SNR=4.2
ASAR Alice Springs 134.04 272 **PKPdf 16 40 51.6 -0.5**
MAW Mawson 147.26 166 PKPbc **PKPbc 16 41 17.3 +0.7**
comp=Z,3.6nm,0.8s,baz=230,slow=4.6,SNR=12
MAW Mawson 147.26 166 **PKPbc 16 41 17.4 +0.7**

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*IDC **08** 16:26:50.5±1.7,2°.48S×127°.86E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.2/39, mbtmp3.1/4, ML2.8/2, Error ellipse: s-maj=43.5km s-min=28.6km az=75.0*
*DJA **08** 16:27:00.9±0.5,3°.S±3°.3×12°.9E±°, h10km, M2.5/5, MLv2.5/5*
ISC 08 16:26:52.1±1.1,2°.40S±0°.07×128°.62E±0°.07, h10km, n6, σ1§62/8, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.99**	**162**	P	**Pn**	**16 27 13.6**	**+1.5**
MSAI				S	**Sg**	**16 27 22.2**	**-1.9**
NLAI	**Namlea**	**1.74**	**241**	S	**Sg**	**16 27 48.6**	**+0.6**
SIJI	**Sorong**	**3.05**	**60**	Pn	**Pg**	**16 27 51.4**	**+0.8**
	0.7nm,0.3s,baz=255,slow=20,SNR=7.3						
SIJI				Sn	**Sg**	**16 28 29.8**	**-0.2**
	1.4nm,0.3s,baz=199,slow=22,SNR=14						
WRA	**Warramunga Arr**	**18.31**	**163**	P	**Pn**	**16 31 06.1**	**-0.3**
	0.0nm,0.3s,baz=343,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**21.75**	**167**	P	**P**	**16 31 45.0**	**+0.9**
	0.3nm,0.7s,baz=351,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**63.65**	**326**	P	**P**	**16 37 21.4**	**-2.2**
	0.1nm,0.3s,baz=120,slow=8.4,SNR=2.5						

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*IDC **08** 16:27:15.9±0.9, 64°.68N×17°.15W, h0km, mb3.8/7, mb1 4.0/11, mb1mx3.7/49, mbtmp3.8/11, ML2.9/3, MS3.4/18, Ms1 3.4/18, ms1mx3.1/57, Error ellipse: s-maj=25.5km s-min=11.2km az=16.0*
*REY **08** 16:27:15.8, 64°.79N×16°.97W, h7km*
*NEIC **08** 16:27:17.0±2.4, 64°.77N±0°.06×17°.0W±0°.1, h9km±5km, mb4.2/21, Error ellipse: s-maj=10.7km s-min=5.1km az=145.0*
ISC 08 16:27:16.3±0.5, 64°.80N±0°.02×16°.98W±0°.02, h10km, n105, σ1§49/109, mb4.1/23, MS3.4/16, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IURH	**Urdarhals**	**0.08**	**286**	P	**Pg**	**16 27 17.9**	**-0.8**
	baz=293						
IDYN	**Dyngjuhals**	**0.17**	**267**	P	**Pg**	**16 27 19.4**	**-0.7**
	baz=271						
IDYN				S	**Sg**	**16 27 22.5**	**-0.1**
	baz=271						
IKVE	**Kverkfjoll**	**0.18**	**133**	P	**Pg**	**16 27 19.7**	**-0.6**
	baz=131						
IKRE	**Kreppuhraun**	**0.25**	**93**	P	**Pg**	**16 27 20.6**	**-0.9**
	baz=91						
IKRE				S	**Sg**	**16 27 24.5**	**-0.5**
	baz=91						
IASK	**Askja**	**0.29**	**29**	P	**Pg**	**16 27 21.4**	**-0.8**
	baz=27						
IASK				S	**Sg**	**16 27 25.9**	**-0.2**
	baz=27						
IDJK	**Dyngjujokull**	**0.32**	**201**	P	**Pg**	**16 27 21.6**	**-1.1**
	baz=202						
IDJK				S	**Sg**	**16 27 26.4**	**-0.5**
	baz=202						
IMKO	**Mokollar**	**0.33**	**56**	P	**Pg**	**16 27 22.2**	**-0.6**
	baz=54						
IMKO				S	**Sg**	**16 27 26.9**	**-0.3**
	baz=54						
IBJK	**Bruarjokull**	**0.34**	**164**	P	**Pg**	**16 27 21.9**	**-1.3**
	baz=164						
IVON	**Vonarskard**	**0.36**	**250**	P	**Pg**	**16 27 22.5**	**-0.9**
	baz=251						
IVON				S	**Sg**	**16 27 27.7**	**-0.5**
	baz=251						
IGRF	**Grimsfjall**	**0.41**	**198**	P	**Pg**	**16 27 23.2**	**-1.3**
	baz=199						
IGRF				S	**Sg**	**16 27 28.9**	**-1.1**
	baz=199						
IVSH	**V-Sauoahnukur**	**0.53**	**88**	P	**Pg**	**16 27 25.3**	**-1.5**
	baz=87						
IVSH				S	**Sg**	**16 27 32.7**	**-1.1**
	baz=87						
IVOT	**Vottur**	**0.54**	**190**	P	**Pg**	**16 27 25.2**	**-1.5**
	baz=190						
IVOT				S	**Sg**	**16 27 32.6**	**-1.3**
	baz=190						
ISVA	**Svartarkot**	**0.55**	**348**	P	**Pg**	**16 27 25.8**	**-1.3**
	baz=348						
ISVA				S	**Sg**	**16 27 33.7**	**-0.7**
	baz=348						
IHUS	**Husbondi**	**0.58**	**210**	P	**Pg**	**16 27 26.4**	**-1.3**
	baz=211						
IADA	**Aoalbol**	**0.64**	**69**	P	**Pg**	**16 27 27.1**	**-1.5**
	baz=68						
ISKR	**Skrokkalda**	**0.65**	**249**	P	**Pg**	**16 27 27.5**	**-1.4**
	baz=250						
IKSK	**Karasker**	**0.68**	**161**	P	**Pg**	**16 27 27.0**	**-2.4**
	baz=161						
IKSK				S	**Sg**	**16 27 36.3**	**-1.9**
	baz=161						
IJOK	**Jokulheimar**	**0.73**	**229**	P	**Pg**	**16 27 28.6**	**-1.7**
	baz=229						
IMEL	**Melhnausar**	**0.79**	**10**	P	**Pg**	**16 27 29.7**	**-1.8**
	baz=9.4						
IREN	**Reynihlio**	**0.85**	**2**	P	**Pg**	**16 27 30.7**	**-2.0**
	baz=1.8						
IREN				S	**Sg**	**16 27 42.6**	**-1.3**
	baz=1.8						
IIEY	**Innrieyrar**	**0.86**	**216**	P	**Pg**	**16 27 30.7**	**-2.3**
	baz=216						
IGRS	**Grimsstaoir**	**0.92**	**23**	P	**Pg**	**16 27 32.0**	**-1.9**
	baz=22						
IKVO	**Krokottuvotn**	**0.92**	**2**	P	**Pg**	**16 27 32.0**	**-2.1**
	baz=2.3						
IKVO				S	**Sg**	**16 27 44.5**	**-1.5**
	baz=2.3						
IVAT	**Vatnsfell**	**1.04**	**235**	P	**Pg**	**16 27 34.1**	**-2.2**
	baz=235						
IGHA	**Grjothals**	**1.06**	**7**	P	**Pg**	**16 27 34.2**	**-2.5**
	baz=6.8						
ISKI	**Skildingahlsh**	**1.08**	**359**	P	**Pg**	**16 27 34.6**	**-2.4**
	baz=359						
ISKI				S	**Sg**	**16 27 49.0**	**-2.0**
	baz=359						
IHVE	**Hveravellir**	**1.11**	**275**	P	**Pb**	**16 27 34.7**	**-2.9**
	baz=275						
IHVE				S	**Sg**	**16 27 49.9**	**-2.1**
	baz=275						
BORG	**Borgarnes**	**1.86**	**270**	Pg	**Pn**	**16 27 47.3**	**-0.9**
	408nm,0.3s,baz=92,slow=7.3,SNR=944						
BORG				Lg	Lg	16 28 12.3	
	107nm,0.3s,baz=31,slow=19,SNR=43						
BORG	**Borgarnes**	**1.86**	**270**	Pn	**Pn**	**16 27 46.2**	**-2.1**
SCO	**Scoresbysund**	**6.01**	**344**	*i* P	**Pn**	**16 28 46.0**	**+0.8**
SCO				*e*S	**Sn**	**16 29 52.4**	**-1.6**
SCO	**Scoresbysund**	**6.01**	**344**		**Pn**	**16 28 45.8**	**+0.6**
JMIC	**Jan Mayen**	**6.98**	**23**	Pn	**Pn**	**16 28 56.5**	**-2.0**
	baz=246,slow=3.4,SNR=1.8						
SUMG	**Summit**	**10.96**	**325**		**Pn**	**16 29 54.6**	**+1.3**
EKA	**Eskdalemuir Ar**	**11.70**	**138**	Pn	**Pn**	**16 30 03.0**	**-0.2**
	baz=327,slow=13,SNR=47						
ESK	**Eskdalemuir**	**11.70**	**138**		**Pn**	**16 30 03.0**	**-0.2**
DSB	**Dublin**	**12.78**	**150**	Pn	**Pn**	**16 30 18.3**	**+0.4**
NC204	**NORSAR Array S**	**13.01**	**93**		**Pn**	**16 30 19.3**	**-1.8**
NBO00	**NORSAR Array S**	**13.13**	**94**	Pn	**Pn**	**16 30 21.1**	**-1.5**
NAO01	**NORSAR Array S**	**13.27**	**94**	Pn	**Pn**	**16 30 22.7**	**-1.9**
NC303	**NORSAR Array S**	**13.29**	**93**	Pn	**Pn**	**16 30 23.0**	**-1.8**
NOA	**NORSAR Array B**	**13.32**	**93**	Pn	**Pn**	**16 30 22.3**	**-2.9**
	0.0nm,0.3s,baz=299,slow=13,SNR=5.3						
NOA				LR	LR	16 35 31.4	
	comp=Z,76nm,18.3s,baz=305,slow=37						
NB201	**NORSAR Array S**	**13.35**	**93**	Pn	**Pn**	**16 30 23.8**	**-1.8**
KONO	**Kongsberg**	**13.35**	**100**	Pn	**Pn**	**16 30 24.5**	**-1.1**
NC405	**NORSAR Array S**	**13.49**	**93**	Pn	**Pn**	**16 30 25.5**	**-2.1**
NC602	**NORSAR Array S**	**13.60**	**94**	Pn	**Pn**	**16 30 27.1**	**-2.0**
SFJD	**Kangerlussuaq**	**13.82**	**294**	LR	LR	16 35 29.9	
	comp=Z,217nm,18.9s,baz=78,slow=36						
HFS	**Hagfors**	**14.83**	**94**	Pn	**Pn**	**16 30 44.2**	**-1.6**
	0.2nm,0.3s,baz=300,slow=20,SNR=3.1						
HFS				LR	LR	16 36 27.3	
	comp=Z,76nm,18.8s,baz=294,slow=37						
SPA0	**Spitsbergen Ar**	**16.66**	**23**	Pn	**Pn**	**16 31 09.6**	**+0.2**
SPA0				IAmb	IAmb	16 31 19.5	
	comp=Z,25nm,1.3s						
ARCES	**ARCESS Array B**	**16.86**	**55**	Pn	**Pn**	**16 31 11.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=284,slow=11,SNR=2.0						
ARCES				LR	LR	16 36 30.1	
	comp=Z,86nm,19.7s,baz=304,slow=33						
ARCES	**ARCESS Array B**	**16.86**	**55**		**Pn**	**16 31 11.7**	**-0.4**
KEV	**Kevo**	**17.36**	**54**	Pn	**P**	**16 31 18.8**	**-0.9**
FINES	**FINESS Array B**	**19.46**	**80**	P	**Pn**	**16 31 43.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=306,slow=9.6,SNR=3.1						
WLF	**Walferdange**	**19.48**	**130**	P	**P**	**16 31 42.5**	**-0.6**
CLL	**Collm**	**20.56**	**117**	*i* P	Pn	**16 31 56.1**	**-0.9**
	comp=Z,12nm,1.5s						
ECH	**Echery**	**21.07**	**130**	P	**P**	**16 32 00.9**	**+0.6**
ECH				IAmb	IAmb	16 32 03.1	
	comp=Z,11nm,0.9s						
BRG	**Berggiesshubel**	**21.27**	**116**	*e*P	**P**	**16 32 03.4**	**+1.0**
	comp=Z,12nm,1.4s						
STU	**Stuttgart**	**21.27**	**126**	P	**P**	**16 32 03.9**	**+1.4**
BFO	**Black Forest**	**21.35**	**128**	P	**P**	**16 32 03.0**	**-0.4**
BFO				IAmb	IAmb	16 32 06.3	
	comp=Z,15nm,1.0s						
GOPC	**GO Pecny, Ondr**	**22.36**	**117**	*e*P	**P**	**16 32 15.5**	**+1.3**
GOPC				AMS	AMS	16 41 40.0	
	comp=Z,100nm,13.7s						
KHC	**Kasperske Hory**	**22.54**	**119**	*e*P	**P**	**16 32 17.3**	**+1.1**
KHC				AMS	AMS	16 41 40.0	
	comp=Z,100nm,11.3s						
KHC	**Kasperske Hory**	**22.54**	**119**	P	**P**	**16 32 14.8**	**-1.3**
DAVA	**Damuels**	**22.78**	**127**	*e*P	**P**	**16 32 19.9**	**+1.0**
	comp=Z,8.5nm,1.2s						
GEC2	**GERESS Array S**	**22.82**	**120**	P	**P**	**16 32 19.8**	**+0.6**
GEC2				IAmb	IAmb	16 32 27.4	
	comp=Z,9.8nm,1.3s						
GERES	**GERESS Array B**	**22.82**	**120**	P	**P**	**16 32 20.5**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=328,slow=9.5,SNR=7.6						
GERES				LR	LR	16 42 04.4	
	comp=Z,93nm,18.3s,baz=285,slow=39						
GERES	**GERESS Array B**	**22.82**	**120**	P	**P**	**16 32 19.8**	**+0.6**
SSB	**Saint Sauveur**	**22.90**	**138**	P	**P**	**16 32 21.1**	**+1.1**
KRLC	**Kraliky**	**23.00**	**114**	*e*P	**P**	**16 32 22.6**	**+1.6**
MOTA	**Moosalm**	**23.15**	**126**	*e*P	**P**	**16 32 23.3**	**+0.6**
	comp=Z,3.3nm,0.7s						
DAVOX	**Davos/Dischmat**	**23.22**	**128**	LR	LR	16 42 12.5	
	comp=Z,60nm,19.1s,slow=39						
SQTA	**Sankt Quirin**	**23.30**	**126**	*e*P	**P**	**16 32 25.4**	**+1.3**
	comp=Z,7.3nm,1.0s						
FETA	**Feichten**	**23.30**	**126**	*e*pP	**P**	**16 32 25.9**	**+1.7**
	comp=Z,7.7nm,1.4s						
TUE	**Stuetta**	**23.31**	**129**	P	**P**	**16 32 25.4**	**+1.0**
TUE				IAmb	IAmb	16 32 36.5	
	comp=Z,5.5nm,0.9s						
WTTA	**Wattenberg**	**23.41**	**125**	*e*P	**P**	**16 32 25.9**	**+0.6**
	comp=Z,5.6nm,0.9s						
VRAC	**Vranov**	**23.55**	**115**	LR	LR	16 43 06.4	
	comp=Z,112nm,18.1s,baz=326,slow=40						
ABTA	**Abfaltersbach**	**24.16**	**124**	*e*P	**P**	**16 32 33.3**	**+0.9**
	comp=Z,3.1nm,1.0s						
CONA	**Conrad Observa**	**24.39**	**118**	*e*pP	**P**	**16 32 36.5**	**+1.9**
	comp=Z,3.4nm,1.3s						
CTI	**Castel Tesino**	**24.46**	**126**	P	**P**	**16 32 36.0**	**+0.8**
CTI				IAmb	IAmb	16 32 38.8	
	comp=Z,9.3nm,1.0s						
ZOU	**Zoufplan**	**24.49**	**124**	P	**P**	**16 32 34.9**	**-0.6**
ZOU				IAmb	IAmb	16 32 39.5	
	comp=Z,9.2nm,1.2s						
PRED	**Cave del Predi**	**24.80**	**123**	P	**P**	**16 32 38.9**	**+0.7**
PRED				IAmb	IAmb	16 32 59.2	
	comp=Z,7.6nm,1.3s						
SOKA	**Soboth**	**25.13**	**121**	P	**P**	**16 32 42.9**	**+1.7**
	comp=Z,4.9nm,1.4s						
ESBB	**Sonseca Array**	**26.28**	**157**	P	**P**	**16 32 53.0**	**+1.3**
ESBB				IAmb	IAmb	16 32 56.4	
	comp=Z,4.9nm,1.2s						
ESDC	**Sonseca Array**	**26.29**	**157**	P	**P**	**16 32 52.8**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=350,slow=9.4,SNR=11						
ESDC				LR	LR	16 43 16.1	
	comp=Z,68nm,19.3s,baz=340,slow=37						
ARU	**Arti**	**35.82**	**67**	LR	LR	16 47 54.9	
	comp=Z,41nm,19.1s,baz=354,slow=34						
NRIK	**Noril'sk**	**36.22**	**36**	LR	LR	16 51 02.2	
	comp=Z,30nm,18.1s,baz=17,slow=39						
ANTO	**Ankara**	**37.83**	**107**	P	**P**	**16 34 32.5**	**-0.3**
KVAR	**Kislovodsk Arr**	**38.63**	**93**	LR	LR	16 51 10.3	
	comp=Z,80nm,20.3s,baz=253,slow=37						
IDI	**Anoyia**	**38.69**	**119**	LR	LR	16 51 59.4	
	comp=Z,31nm,20.2s,baz=306,slow=38						
KBZ	**Khabaz**	**38.90**	**93**	LR	LR	16 51 16.8	
	comp=Z,40nm,19.1s,baz=337,slow=37						
YKA	**Yellowknife Ar**	**39.28**	**313**	P	**P**	**16 34 45.5**	**+0.8**
	comp=Z,3.6nm,1.0s,baz=40,slow=10.0,SNR=4.2						
YKA				LR	LR	16 50 27.0	
	comp=Z,51nm,18.5s,baz=0.0,slow=35						
ULM	**Lac du Bonnet**	**41.77**	**289**	LR	LR	16 51 34.5	
	comp=Z,110nm,18.1s,baz=334,slow=35						
ILAR	**Eielson Array**	**45.67**	**333**	P	**P**	**16 35 38.5**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=39,slow=7.2,SNR=2.8						
BCAR	**Beaver Creek A**	**46.11**	**329**	P	**P**	**16 35 44.0**	**+3.9**
GEYT	**Alibeck**	**50.19**	**84**	LR	LR	16 59 29.4	
	comp=Z,30nm,18.8s,baz=175,slow=38						
TORD	**Torodi Ar. Bea**	**53.17**	**157**	P	**P**	**16 36 34.1**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=338,slow=7.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**53.17**	**157**	P	**P**	**16 36 34.5**	**+0.2**
PD31	**Pinedale Array**	**53.33**	**293**	P	**P**	**16 36 37.9**	**+2.4**
PD31				IAmb	IAmb	16 36 40.0	
	comp=Z,5.8nm,1.3s						
PDAR	**Pinedale Array**	**53.33**	**293**	P	**P**	**16 36 38.1**	**+2.6**
	comp=Z,2.2nm,0.9s,baz=49,slow=6.7,SNR=6.9						
PDAR				LR	LR	16 59 08.3	
	comp=Z,65nm,20.5s,baz=5.0,slow=36						
PDAR	**Pinedale Array**	**53.33**	**293**	P	**P**	**16 36 37.6**	**+2.1**
PV14	**Lion Creek, Pa**	**56.86**	**290**	P	**P**	**16 37 02.8**	**+1.7**
PV02	**Paradox Valley**	**56.89**	**290**	P	**P**	**16 37 03.1**	**+1.8**
PV18	**Skein Mesa, Pa**	**56.92**	**290**	P	**P**	**16 37 03.1**	**+1.6**
PV13	**Radium Mtn., P**	**56.96**	**290**	P	**P**	**16 37 04.4**	**+2.6**
DBIC	**Dimbokro**	**58.66**	**166**	LR	LR	17 01 45.9	
	comp=Z,39nm,20.4s,baz=222,slow=35						
GSTR	**Great Sitkin T**	**62.32**	**346**	P	**P**	**16 37 39.8**	**+1.6**
TXAR	**Lajitas Array**	**62.48**	**281**	P	**P**	**16 37 40.1**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=1.9,slow=8.1,SNR=2.3						

IDC 08 16:30:24.8±50.0, 19°.28S×175°.04W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.6/27, mbtmp4.1/3, Error ellipse: s-maj=943.0km s-min=176.0km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.83**	**243**	P	P	16 38 07.8	-0.6
	1.5nm,0.8s,baz=108,slow=13,SNR=1.4						
ASAR	**Alice Springs**	**47.52**	**255**	P	P	16 39 02.1	-0.1
	2.8nm,0.8s,baz=93,slow=8.1,SNR=74						
WRA	**Warramunga Arr**	**47.54**	**260**	P	P	16 39 02.5	+0.1
	0.6nm,0.3s,baz=96,slow=7.3,SNR=88						

MAN 08 16:38:16.8, 9°.62N×122°.28E, h32km, mb3.9, ML2.7, MS2.3, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**0.41**	**60**	*e*P	Pn	16 38 27.0	+0.4
CNOP				*e*S	Sb	16 38 32.7	+0.3
GUIM	**Jordan**	**1.05**	**17**	*e*P	Pb	16 38 35.9	-0.5
GUIM				*e*S	Sn	16 38 48.7	-0.2
CUYO	**Cuyo Island**	**1.74**	**315**	*e*P	Pn	16 38 45.0	+0.1
SIPP	**Brgy, Tapao**	**8.44**	**348**	⇓*i*P	Pb	16 40 36.0	-6.2
SIPP				*i* S	Sn	16 41 00.3	-51

WEL 08 16:50:03.4, 41°.S±2°.×17°.3E±°, h99km±6km, M2.8/15, MLv2.8/15, Error ellipse: s-maj=0.0km s-min=0.0km az=80.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.33**	**171**	P	Pn	16 50 18.8	+0.6
NNZ	**Nelson**	**0.47**	**62**	P	Pn	16 50 19.3	+0.4
QRZ	**Quartz Range**	**0.65**	**339**	P	Pn	16 50 20.8	+0.4
DSZ	**Denniston Nort**	**0.83**	**248**	P	Pn	16 50 22.5	+0.4
TUWZ	**Tuamarina**	**0.83**	**90**	P	Pn	16 50 22.7	+0.7
DUWZ	**D'Urville Isla**	**1.04**	**53**	P	Pn	16 50 25.0	+0.8
TCW	**Tory Channel**	**1.11**	**79**	P	Pn	16 50 25.3	+0.3
KHZ	**Kahutara**	**1.11**	**152**	P	Pn	16 50 25.4	+0.4
LTZ	**Lake Taylor**	**1.41**	**197**	P	Pn	16 50 28.8	+0.3
GVZ	**Greta Valley S**	**1.54**	**175**	P	Pn	16 50 30.3	+0.2
INZ	**Inchbonnie**	**1.65**	**218**	P	Pn	16 50 31.7	+0.2
KIW	**Kapiti Island**	**1.67**	**71**	P	Pn	16 50 31.3	-0.5
CAW	**Cannon Point**	**1.71**	**80**	P	Pn	16 50 31.3	-1.0
OGWZ	**Otaki Gorge**	**1.87**	**71**	P	Pn	16 50 33.4	-0.9
OXZ	**Oxford**	**1.98**	**197**	P	Pn	16 50 34.9	-0.8
OKCZ	**Okains Bay**	**2.29**	**176**	P	Pn	16 50 39.0	-0.7
KHEZ	**Kahui Hut**	**2.32**	**23**	P	Pn	16 50 41.2	+0.9
GCSZ	**Gaunt Creek Bo**	**2.64**	**224**	P	Pn	16 50 44.1	-0.2
VRZ	**Vera Road**	**2.74**	**33**	P	Pn	16 50 46.4	+0.8
FOZ	**Fox Glacier**	**3.06**	**226**	P	Pn	16 50 49.1	-0.8
TLZ	**Tolley Road**	**3.73**	**35**	P	Pn	16 50 59.4	+0.4

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*MAN **08** 16:55:02.8, 4°.71N×127°.31E, h88km, mb4.7, ML3.6, MS3.5*
*IDC **08** 16:55:04.2±1.5, 5°.06N×126°.57E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/45, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=86.3km s-min=21.9km az=65.0*
*NEIC **08** 16:55:10.9±0.9, 5°.19N±0°.10×127°.0E±0°.1, h54km±7km, mb4.1/10, Error ellipse: s-maj=19.0km s-min=11.0km az=56.0*
ISC 08 16:55:12.8±0.8, 5°.09N±0°.07×126°.97E±0°.10, h76km, n24, σ1§69/26, mb3.9/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.61**	**309**	*e*P	**Pn**	**16 55 36.3**	**-3.1**
DDMP				*e*S	**Sn**	**16 56 02.2**	**+2.7**
MATI	**Mati**	**1.97**	**339**	*e*P	**Pn**	**16 55 41.8**	**-2.5**
DAV	**Davao City (W)**	**2.40**	**325**	Pn	Pn	16 55 43.1	-7.0
KCP	**Kidapawan**	**2.67**	**316**	⇓*i*P	Pn	16 55 58.1	+4.4
KCP				*i* S	**Sn**	**16 56 25.6**	**+0.5**
SKMP	**Bagumbayan, Su**	**2.80**	**301**	*e*P	**Pn**	**16 55 53.8**	**-1.6**
SKMP				*e*S	**Sn**	**16 56 29.1**	**+0.9**
BUKP	**Musuan**	**3.35**	**326**	*e*P	**Pn**	**16 56 01.1**	**-2.0**
BUKP				*e*S	**Sn**	**16 56 45.9**	**+4.1**
SIJI	**Sorong**	**7.31**	**144**	**Pn**	**Pn**	**16 56 56.3**	**-0.7**
	0.9nm,0.3s,baz=357,slow=17,SNR=8.0						
LUWI	**Luwuk**	**7.40**	**215**	Pn	**Pn**	**16 56 57.7**	**-0.5**
MYLDM	**Lahad Datu**	**8.44**	**271**	Pn	**Pn**	**16 57 09.3**	**-3.1**
SAUI	**Saumlaki**	**13.69**	**162**	Pn	**Pn**	**16 58 23.1**	**-0.5**
TWG	**Pinlang**	**18.52**	**343**		**P**	**16 59 22.7**	**-0.6**
JAGI	**Jajag, Banyuwa**	**18.57**	**224**	**Pn**	**Pn**	**16 59 25.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**23.08**	**183**	P	**P**	**17 00 12.6**	**+0.4**
	2.5nm,1.0s,baz=8.9,slow=14,SNR=2.8						
FITZ	**Fitzroy Crossi**	**23.08**	**183**	IAmb	IAmb	17 00 15.5	
	comp=Z,11nm,1.5s						
COEN	**Coen**	**24.84**	**140**	P	**P**	**17 00 28.8**	**+0.5**
COEN				IAmb	IAmb	17 00 40.6	
	comp=Z,7.9nm,1.1s						
WB0	**Warramunga Arr**	**25.

KTMS	**Ketmen**	**2.09 215**	*e*P	**Pg**	**17 08 04.7**	**-0.5**
KTMS			*e*S	**Sg**	**17 08 31.8**	**-0.4**
	136nm,0.2s					
KTMS	**Ketmen**	**2.09 215**	Pg	**Pg**	**17 08 04.6**	**-0.5**
KTMS			Lg	Lg	17 08 31.8	
	136nm,0.2s					
TDK	**Taldyqorghan**	**2.55 267**	*e*P	**Pg**	**17 08 14.4**	**+0.5**
	18nm,0.2s					
TDK			*e*S	**Sg**	**17 08 48.3**	**+1.4**
	122nm,0.6s					
TDK	**Taldyqorghan**	**2.55 267**	Pg	**Pg**	**17 08 14.4**	**+0.5**
	14nm,0.2s					
TDK			Lg	Lg	17 08 48.3	
	122nm,0.6s					
PDGK	**Podgornoye**	**2.58 225**	Pg	**Pg**	**17 08 14.1**	**-0.3**
	5.9nm,0.4s					
PDGK			Lg	Lg	17 08 47.7	
	29nm,0.5s					
PDGK	**Podgornoye**	**2.58 225**	⇑Pg	**Pg**	**17 08 14.7**	**+0.3**
	7.6nm,0.6s					
PDGK			⇓Lg	Lg	17 08 49.3	
	44nm,0.6s					
SHLS	**Shalkode**	**2.72 223**	*e*P	**Pb**	**17 08 13.2**	**-0.1**
	12nm,0.4s					
SHLS			*e*S	**Sb**	**17 08 46.3**	**0.0**
	75nm,0.2s					
SHLS	**Shalkode**	**2.72 223**	Pg	**Pb**	**17 08 13.2**	**-0.1**
	8.6nm,0.2s					
SHLS			Lg	Lg	17 08 46.3	
	75nm,0.2s					
MNBS	**Baschi**	**2.79 248**	*e*P	**Pg**	**17 08 17.8**	**-0.6**
	6.5nm,0.2s					
MNBS			*e*S	**Sg**	**17 08 54.8**	**+0.2**
	45nm,0.4s					
MNBS	**Baschi**	**2.79 248**	Pg	**Pg**	**17 08 17.8**	**-0.6**
	6.5nm,0.2s					
MNBS			Lg	Lg	17 08 54.8	
	45nm,0.4s					
UZB	**Uzynbulak**	**2.94 228**	*e*P	**Pg**	**17 08 21.1**	**-0.3**
	5.2nm,0.3s					
UZB			*e*S	**Sg**	**17 08 59.8**	**+0.2**
	21nm,0.4s					
UZB	**Uzynbulak**	**2.94 228**	Pg	**Pg**	**17 08 21.1**	**-0.3**
	5.2nm,0.3s					
UZB			Lg	Lg	17 08 59.8	
	21nm,0.4s					
ZSN	**Zaisan**	**3.03 40**	*e*P	**Pg**	**17 08 22.4**	**-0.6**
	5.5nm,0.2s					
ZSN			*e*S	**Sg**	**17 09 02.2**	**0.0**
	41nm,0.3s					
ZSN	**Zaisan**	**3.03 40**	Pg	**Pg**	**17 08 22.4**	**-0.6**
	3.1nm,0.2s					
ZSN			Lg	Lg	17 09 02.2	
	41nm,0.3s					
ARXS	**Arharly**	**3.12 254**	*e*P	**Pg**	**17 08 24.5**	**-0.4**
	5.6nm,0.3s					
ARXS			*e*S	**Sg**	**17 09 05.6**	**+0.3**
	24nm,0.4s					
ARXS	**Arharly**	**3.12 254**	Pg	**Pg**	**17 08 24.5**	**-0.4**
	5.6nm,0.3s					
ARXS			Lg	Lg	17 09 05.6	
	24nm,0.4s					
KURS	**Kuram**	**3.22 240**	*e*P	**Pg**	**17 08 26.2**	**-0.5**
	2.9nm,0.5s					
KURS			*e*S	**Sg**	**17 09 09.1**	**+0.7**
	8.8nm,0.3s					
KURS	**Kuram**	**3.22 240**	Pg	**Pg**	**17 08 26.2**	**-0.5**
	4.5nm,0.6s					
KURS			Lg	Lg	17 09 09.1	
	11nm,0.5s					
SATY	**Saty**	**3.34 232**	⇑*i*P	**Pg**	**17 08 28.1**	**-0.8**
	2.8nm,0.2s					
SATY			⇓*i*S	**Sg**	**17 09 12.6**	**+0.4**
	51nm,0.3s					
SATY	**Saty**	**3.34 232**	Pg	**Pg**	**17 08 28.1**	**-0.8**
	12nm,0.4s					
SATY			Lg	Lg	17 09 12.6	
	48nm,0.3s					
CHKK	**Chushkaly**	**3.81 252**	*e*P	**Pg**	**17 08 36.7**	**-1.3**
	2.5nm,0.3s					
CHKK			*e*S	**Sg**	**17 09 26.9**	**-0.5**
	17nm,0.2s					
CHKK	**Chushkaly**	**3.81 252**	Pg	**Pg**	**17 08 36.7**	**-1.3**
	2.5nm,0.3s					
CHKK			Lg	Lg	17 09 27.0	
	17nm,0.2s					
KOTS	**Kotyrbulak**	**4.01 243**	*e*P	**Pg**	**17 08 40.2**	**-1.6**
	4.2nm,0.3s					
KOTS			*e*S	**Sg**	**17 09 33.1**	**-0.6**
	14nm,0.3s					
KOTS	**Kotyrbulak**	**4.01 243**	Pg	**Pg**	**17 08 40.2**	**-1.6**
	4.2nm,0.3s					
KOTS			Lg	Lg	17 09 33.1	
	14nm,0.3s					
KTBS	**Karatobe**	**4.07 251**	*e*P	**Pg**	**17 08 41.5**	**-1.5**
	2.6nm,0.5s					
KTBS			*e*S	**Sg**	**17 09 35.0**	**-0.8**
	20nm,0.7s					
KTBS	**Karatobe**	**4.07 251**	Pg	**Pg**	**17 08 41.5**	**-1.5**
	2.6nm,0.5s					
KTBS			Lg	Lg	17 09 35.0	
	20nm,0.7s					
MDOK	**Medeo**	**4.08 242**	*e*P	**Pg**	**17 08 41.6**	**-1.7**
	2.6nm,0.6s					
MDOK			*e*S	**Sg**	**17 09 35.4**	**-0.8**
	11nm,0.5s					
MDOK	**Medeo**	**4.08 242**	Pg	**Pg**	**17 08 41.6**	**-1.7**
	2.1nm,0.3s					
MDOK			Lg	Lg	17 09 35.3	
	11nm,0.5s					
KUU	**Kurty**	**4.24 254**	*e*P	**Pg**	**17 08 45.4**	**-0.8**
	1.9nm,0.1s					
KUU			*e*S	**Sg**	**17 09 41.9**	**+0.8**
	14nm,0.4s					
KUU	**Kurty**	**4.24 254**	Pg	**Pg**	**17 08 45.4**	**-0.8**
	2.1nm,0.2s					
KUU			Lg	Lg	17 09 41.9	
	14nm,0.4s					
IZV	**Izvestkoviy**	**4.42 243**	Pg	**Pg**	**17 08 47.9**	**-1.9**
	1.7nm,0.4s					
IZV			Lg	Lg	17 09 46.0	
	6.6nm,0.5s					
MTBS	**Maitube**	**4.49 245**	*e*P	**Pg**	**17 08 48.0**	**-3.1**
	2.8nm,0.1s					
MTBS			⇓*i*S	**Sg**	**17 09 46.8**	**-2.5**
	12nm,0.4s					
MTBS	**Maitube**	**4.49 245**	Pg	**Pg**	**17 08 47.9**	**-3.1**
	2.8nm,0.1s					
MTBS			Lg	Lg	17 09 46.8	
	12nm,0.3s					
KRBS	**Karabastau**	**4.76 254**	*e*P	**Pg**	**17 08 54.1**	**-2.0**
	0.6nm,0.5s					
KRBS			*e*S	**Sg**	**17 09 56.6**	**-1.2**
	7.7nm,0.4s					
KRBS	**Karabastau**	**4.76 254**	Pg	**Pg**	**17 08 54.1**	**-2.0**
	0.6nm,0.5s					
KRBS			Lg	Lg	17 09 56.6	
	7.7nm,0.4s					
KST	**Kastek**	**4.84 246**	⇑*i*P	**Pg**	**17 08 56.4**	**-1.2**
	1.6nm,0.3s					
KST			⇑*i*S	**Sg**	**17 10 00.3**	**+0.1**
	6.5nm,0.6s					
KST	**Kastek**	**4.84 246**	Pg	**Pg**	**17 08 56.4**	**-1.2**
	3.6nm,1.1s					
KST			Lg	Lg	17 10 00.3	
	10.0nm,0.5s					
TKM2	**Tokmak 2**	**5.13 246**	⇑Pg	**Pg**	**17 09 01.2**	**-2.0**
	1.4nm,0.8s					
TKM2			⇓Lg	Lg	17 10 07.2	
	0.8nm,0.2s					
SGDS	**Sogindy**	**5.56 255**	Pg	**Pg**	**17 09 08.8**	**-2.6**
	2.5nm,0.5s					
SGDS			Lg	Lg	17 10 22.1	
	4.0nm,0.3s					
BTLS	**Baital**	**5.63 271**	*e*P	**Pg**	**17 09 10.5**	**-2.2**
	1.2nm,0.3s					
BTLS			*e*S	**Sg**	**17 10 25.2**	**-0.4**
	1.7nm,0.6s					
BTLS	**Baital**	**5.63 271**	Pg	**Pg**	**17 09 10.6**	**-2.2**
	0.9nm,0.4s					
BTLS			Lg	Lg	17 10 25.2	
	1.6nm,0.6s					
KURBB	**Kurchatov Arra**	**5.93 338**	⇓Pn	**Pn**	**17 08 54.4**	**+2.4**
	0.7nm,0.6s					
KURBB			⇑Pg	**Pg**	**17 09 14.3**	**-4.2**
	0.5nm,0.4s					
KURBB			⇓Lg	Lg	17 10 30.8	
	11nm,0.6s					
KURK	**Kurchatov**	**5.99 339**	⇑Pn	**Pn**	**17 08 54.8**	**+2.0**
	0.5nm,0.8s					
KURK			⇓Pg	**Pg**	**17 09 15.4**	**-4.2**
	0.3nm,0.7s					
KURK			⇓Lg	Lg	17 10 31.2	
	4.1nm,0.5s					

WEL 08 17:14:58.8,38°S±4°×17°6E±°, h215km±9km, M2.7/51, MLv2.7/51, Error ellipse: s-maj=0.0km s-min=0.0km az=113.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.16**	**60**	P	Pn	17 15 25.4	-1.4
OMRZ	**Omania**	**0.18**	**183**	P	Pn	17 15 25.8	-1.1
TGRZ	**Tauranga**	**0.22**	**333**	P	Pn	17 15 25.7	-1.3
MARZ	**Manawahe**	**0.24**	**105**	P	Pn	17 15 25.9	-1.0
MUGZ	**Murupara**	**0.63**	**151**	P	Pn	17 15 27.1	-1.1
URZ	**Urewera**	**0.66**	**121**	P	Pn	17 15 27.0	-1.2
TLZ	**Tolley Road**	**0.78**	**238**	P	Pn	17 15 28.5	-0.3
RTZ	**Ruatahuna**	**0.84**	**146**	P	Pn	17 15 28.6	-0.6
MRHZ	**Matea Rd**	**0.91**	**178**	P	Pn	17 15 29.2	-0.4
MWZ	**Matawai**	**0.99**	**115**	P	Pn	17 15 29.5	-0.6
MTHZ	**Maungataniwha**	**0.99**	**159**	P	Pn	17 15 29.9	-0.2
RUGZ	**Raukumara Rang**	**1.02**	**93**	P	Pn	17 15 29.1	-1.3
HAZ	**Te Kaha**	**1.12**	**82**	P	Pn	17 15 30.1	-0.8
RAHZ	**Arahi**	**1.14**	**151**	P	Pn	17 15 31.4	+0.4
SNGZ	**Shannon Statio**	**1.14**	**139**	P	Pn	17 15 31.3	+0.3
KATZ	**Kakaramea**	**1.18**	**207**	P	Pn	17 15 31.6	+0.1
BKZ	**Black Stump Fm**	**1.24**	**176**	P	Pn	17 15 31.6	-0.2
TKGZ	**Te Karaka**	**1.26**	**115**	P	Pn	17 15 32.3	+0.4
MKAZ	**Moumakai**	**1.27**	**310**	P	Pn	17 15 32.5	+0.5
KUZ	**Kuaotunu**	**1.29**	**336**	P	Pn	17 15 32.3	+0.2
TMVZ	**Te Maari**	**1.30**	**204**	P	Pn	17 15 32.7	+0.3
ETVZ	**East Tongariro**	**1.32**	**203**	P	Pn	17 15 32.8	+0.3
RIGZ	**Rimuhau**	**1.34**	**126**	P	Pn	17 15 33.2	+0.7
HIZ	**Hauiti**	**1.34**	**243**	P	Pn	17 15 33.1	+0.6
WTVZ	**West Tongariro**	**1.34**	**207**	P	Pn	17 15 32.9	+0.3
OTVZ	**Oturere**	**1.36**	**204**	P	Pn	17 15 33.4	+0.6
TWVZ	**Taurewa**	**1.37**	**213**	P	Pn	17 15 33.2	+0.4
NGZ	**Ngauruhoe**	**1.39**	**206**	P	Pn	17 15 33.8	+0.7
PUZ	**Puketiti**	**1.49**	**96**	P	Pn	17 15 33.9	+0.2
KWHZ	**Kaweka Forest**	**1.50**	**179**	P	Pn	17 15 34.3	+0.5
WNVZ	**Wahianoa**	**1.53**	**203**	P	Pn	17 15 34.7	+0.4
MCHZ	**McNeill Hill**	**1.54**	**171**	P	Pn	17 15 35.4	+1.3
CNGZ	**Carnagh Statio**	**1.54**	**112**	P	Pn	17 15 34.5	+0.3
MOVZ	**Moawhango**	**1.56**	**198**	P	Pn	17 15 34.4	0.0
MXZ	**Matakaoa Point**	**1.57**	**77**	P	Pn	17 15 35.3	+0.9
BHHZ	**Black Hill Sta**	**1.58**	**189**	P	Pn	17 15 34.7	+0.2
PKVZ	**Pokaka**	**1.59**	**210**	P	Pn	17 15 35.3	+0.6
WMGZ	**Waiomatatini S**	**1.61**	**87**	P	Pn	17 15 35.5	+0.7
MTVZ	**Mangateitei**	**1.62**	**206**	P	Pn	17 15 35.6	+0.6
VRZ	**Vera Road**	**1.75**	**226**	P	Pn	17 15 37.3	+1.3
KAHZ	**Kahuranaki**	**1.91**	**169**	P	Pn	17 15 38.7	+1.1
PNHZ	**Pukenui**	**1.99**	**184**	P	Pn	17 15 38.9	+0.5
WPHZ	**Waipukurau**	**2.14**	**179**	P	Pn	17 15 40.4	+0.6
TSZ	**Takapari Road**	**2.16**	**189**	P	Pn	17 15 40.5	+0.5
NEZ	**North Egmont**	**2.24**	**232**	P	Pn	17 15 43.8	+2.8
PRHZ	**Porangahau**	**2.35**	**175**	P	Pn	17 15 42.8	+0.9
DVHZ	**Dannevirke**	**2.38**	**184**	P	Pn	17 15 42.8	+0.5
POWZ	**Post Office Ro**	**2.51**	**191**	P	Pn	17 15 44.2	+0.5
ANWZ	**Angora Road**	**2.53**	**178**	P	Pn	17 15 45.0	+1.1
PRWZ	**Pori Road**	**2.65**	**187**	P	Pn	17 15 46.1	+0.9
BFZ	**Birch Farm**	**2.76**	**182**	P	Pn	17 15 47.1	+0.7
MRZ	**Mangatainoka R**	**2.80**	**193**	P	Pn	17 15 47.3	+0.4
TIWZ	**Tintock**	**2.88**	**188**	P	Pn	17 15 48.4	+0.6
OGWZ	**Otaki Gorge**	**3.04**	**198**	P	Pn	17 15 50.1	+0.5
HOWZ	**Holdsworth Sta**	**3.05**	**192**	P	Pn	17 15 49.9	+0.2
KIW	**Kapiti Island**	**3.15**	**201**	P	Pn	17 15 51.1	+0.2
TMWZ	**Te Maipa**	**3.20**	**187**	P	Pn	17 15 52.1	+0.5
CAW	**Cannon Point**	**3.34**	**197**	P	Pn	17 15 53.4	+0.2
DUWZ	**D'Urville Isla**	**3.46**	**213**	P	Pn	17 15 54.9	+0.4
WEL	**Wellington**	**3.58**	**200**	P	Pn	17 15 56.3	+0.4
TCW	**Tory Channel**	**3.67**	**206**	P	Pn	17 15 57.3	+0.3
PLWZ	**Palliser**	**3.74**	**193**	P	Pn	17 15 57.9	-0.1
TUWZ	**Tuamarina**	**3.98**	**208**	P	Pn	17 16 01.0	+0.3
QRZ	**Quartz Range**	**4.16**	**225**	P	Pn	17 16 03.0	0.0
KHZ	**Kahutara**	**4.99**	**205**	P	Pn	17 16 13.7	+0.4
GVZ	**Greta Valley S**	**5.65**	**206**	P	Pn	17 16 21.8	+0.1
LTZ	**Lake Taylor**	**5.78**	**212**	P	Pn	17 16 23.3	-0.2

*MEX **08** 17:37:08.5±1.2, 32.°28N×114.°94W, h15km, MD3.6*
*ECX **08** 17:37:09.1±0.7, 32.°17N×115.°24W, h2km±2km, MD2.5, ML2.7*

ISC 08 17:37:07.1±3.1, 32.°16N±0.°03×115.°24W±0.°04, h18km±24km, n18, σ1º02/29, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.25**	**8**	*i*P	**Pb**	**17 37 13.4**	**+0.3**
MBIG				*e*P		17 37 14.0	
MBIG				*e*S	**Sb**	**17 37 17.3**	**+0.3**
MBIG				*e*S		17 37 19.5	
MBIG	**Mexicali**	**0.25**	**8**	*e*P	**Pb**	**17 37 14.1**	**+1.0**
CPBX	**Cerro Prieto**	**0.27**	**349**	*e*P	**Pb**	**17 37 13.4**	**0.0**
CPBX				⇑*e*		17 37 19.6	
CPBX				IAML		17 37 19.6	
	comp=N,3μm,0.1s						
CTLX	**Tlaxcala, TLX**	**0.33**	**15**	⇑*e*P	**Pb**	**17 37 15.1**	**+0.6**
SGL	**Mount Signal**	**0.64**	**320**	⇓*i*P	**Pn**	**17 37 20.7**	**-0.6**
SGL				*i*S	**Sn**	**17 37 29.7**	**-1.3**
ECBX	**El Chinero**	**0.70**	**167**	*e*P	**Pn**	**17 37 22.0**	**-0.1**
ECBX				*e*S	**Sn**	**17 37 31.8**	**-0.6**
SJX	**San Joaquin**	**0.72**	**237**	⇑*e*P	**Pb**	**17 37 19.9**	**-1.3**
SJX				*e*S	**Sb**	**17 37 28.5**	**-2.3**
COK2	**Cook Ranch 2**	**0.81**	**329**	*e*P	**Pn**	**17 37 23.4**	**-0.1**
RMX	**La Rumorosa**	**0.84**	**302**	*e*P	**Pb**	**17 37 23.1**	**-0.1**
RMX				*e*S	**Sb**	**17 37 33.5**	**-0.7**
IKP	**In-Ko-Pah, Jac**	**0.88**	**304**	*e*P	**Pn**	**17 37 24.8**	**0.0**
IKP				*e*S	**Sn**	**17 37 36.8**	**-0.4**
VTX	**Valle De La Tr**	**0.89**	**211**	*e*P	**Pn**	**17 37 25.6**	**+0.8**
VTX				*e*S	**Sn**	**17 37 37.5**	**+0.1**
SWSC	**Sam W. Stewart**	**0.92**	**329**	*e*P	**Pn**	**17 37 25.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.12**	**190**	*e*P	**Pb**	**17 37 28.9**	**+0.6**
SPIG				*e*S	**Sn**	**17 37 45.1**	**+1.7**
SPX	**San Pedro Mart**	**1.13**	**190**	*e*P	**Pb**	**17 37 29.0**	**+0.6**
SPX				*e*S	**Sn**	**17 37 44.0**	**+0.3**
CBX	**Cerro Bola**	**1.22**	**278**	*e*P	**Pb**	**17 37 31.0**	**+1.3**
CBX				*e*S	**Sn**	**17 37 47.2**	**+1.8**
CBX	**Cerro Bola**	**1.22**	**278**	*e*P	**Pb**	**17 37 30.8**	**+1.2**
CBX				*e*S	**Sn**	**17 37 47.1**	**+1.7**
CBX				IAML		17 37 48.2	
	comp=E,257nm,0.2s						
BAR	**Barrett**	**1.32**	**294**	*e*P	**Pb**	**17 37 31.9**	**+0.5**
214A	**Organ Pipe Nat**	**2.07**	**95**	*e*P	**Pn**	**17 37 40.3**	**-0.7**

*BJI **08** 17:53:11.1±0.0, 5.°91S×147.°37E, h228km, mB4.9/50, mb5.2/79*
*UNK **08** 17:53:17.2, 5.°35S×146.°73E, h226km*
*NEIC **08** 17:53:17.6±2.0, 5.°40S±0.°03×146.°76E±0.°06, h230km±3km, mb5.3/279, Error ellipse: s-maj=9.5km s-min=2.3km az=114.0*
*IDC **08** 17:53:18.5±0.4, 5.°37S×146.°84E, h233km±3km, mb4.9/32, mb1 5.0/39, mb1mx4.9/46, mbtmp5.5/39, Error ellipse: s-maj=8.6km s-min=6.5km az=99.0*
*MOS **08** 17:53:18.5±0.8, 5.°36S×146.°73E, h245km, mb5.3/28, Error ellipse: s-maj=6.8km s-min=4.5km az=106.9*
*DJA **08** 17:53:19.9±0.3, 5.°S±2.°×14.°7E±.°, h245km±4km, M5.0/74, mb5.1/74, mB5.4/44, MLv6.1/5, Mw(mB)4.9/44, Mwp5.3/8*
*BGR **08** 17:53:19.6±0.0, 5.°33S×146.°78E, h33km*
*GCMT **08** 17:53:21.6±0.1, 5.°48S±0.°01×146.°80E±0.°01, h246km, MW5.5/149, Moment Tensor Solution. s136,c259; s149,c306; Duration: 1ª4 Moment tensor: Scale 10^{17} Nm; M_{rr}2.03±.02; $M_{\theta\theta}$-1.83±.02; $M_{\phi\phi}$-0.19±.02; $M_{r\theta}$-0.12±.02; $M_{\theta\phi}$0.82±.02; $M_{\phi r}$-0.73±.02; Best double couple: M_o2.23100×10^{17} NP1:ϕ_s275.00000°, δ46.00000°, λ63.00000°. NP2:ϕ_s131.00000°, δ50.00000°, λ115.00000°. Principal axes: T 2.2830, Plg71.0000°, Azm106.0000°; N -0.1000, Plg19.0000°, Azm294.0000°; P -2.1800, Plg2.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 17:53:17.9±0.2, 5.°45S±0.°03×146.°80E±0.°03, h231km±2km, h232km: pP-P, n1336, σ1ª24/1449, mb5.3/270, 59C-10D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.95 175**		P	**Pn**	**17 54 21.6**	**+1.4**
	444nm,0.3s,baz=44,slow=5.4,SNR=863						
PMG				S	**S**	**17 55 07.9**	**-1.7**
	334nm,0.3s,baz=12,slow=5.1,SNR=4.2						
PMG	**Port Moresby**	**3.95 175**		P	**Pn**	**17 54 21.3**	**+1.0**
PMG				S	**S**	**17 55 07.9**	**-1.7**
PMG	**Port Moresby**	**3.95 175**		Pn	**Pn**	**17 54 21.3**	**+1.0**
KRVT	**Keravat (AS076**	**5.33 78**		P	**Pn**	**17 54 38.4**	**+1.1**
	40nm,0.3s,baz=303,slow=3.1,SNR=91						
RABL	**Rabaul**	**5.49 77**			**Pn**	**17 54 39.8**	**+0.5**
JAY	**Jayapura**	**6.74 295**		P	**Pn**	**17 54 56.2**	**+1.0**
	11nm,0.3s,baz=146,slow=3.4,SNR=180						
JAY				S	**S**	**17 56 09.2**	**-3.5**
	55nm,0.3s,baz=198,slow=24,SNR=7.4						
JAY	**Jayapura**	**6.74 295**		P	**Pn**	**17 54 55.9**	**+0.8**
	1.3nm2μm89nm,1.2s						
GENI	**Genyem**	**7.19 293**		P	**Pn**	**17 55 00.9**	**0.0**
	9.5nm6μm7μm384nm,1.1s						
COEN	**Coen**	**9.18 203**		P	**Pn**	**17 55 29.9**	**+3.7**
	baz=9.3						
COEN	**Coen**	**9.18 203**		Pn	**Pn**	**17 55 29.3**	**+3.0**
SRPI	**Serui, Papua**	**11.12 288**		P	**P**	**17 55 53.5**	**-2.4**
	3μm291nm,0.9s						
MTSU	**Mount Surprise**	**12.84 191**		P	**P**	**17 56 16.4**	**+1.4**
	baz=13						
RKPI	**Ransiki, Papua**	**13.19 287**		P	**P**	**17 56 20.4**	**+1.5**
	144nm,0.9s						
HNR	**Honiara**	**13.63 108**		P	**Pn**	**17 56 22.8**	**+0.6**
	66nm,0.3s,baz=233,slow=2.5,SNR=42						
HNR	**Honiara**	**13.63 108**		P	**Pn**	**17 56 22.5**	**+0.3**
CTA	**Charters Tower**	**14.56 182**		P	**P**	**17 56 36.9**	**+2.8**
	5.3nm,0.3s,baz=13,slow=13,SNR=102						
CTA	**Charters Tower**	**14.56 182**		P	**P**	**17 56 37.2**	**+3.1**
	baz=15						
CTAO	**Charters Tower**	**14.56 182**		P	**P**	**17 56 36.8**	**+2.7**
CTAO	**Charters Tower**	**14.56 182**		Pn	**P**	**17 56 36.8**	**+2.7**
FAKI	**Fak Fak**	**14.72 279**		P	**P**	**17 56 38.6**	**+2.7**
	1μm82nm,0.7s						
FAKI	**Fak Fak**	**14.72 279**		P	**Pn**	**17 56 34.6**	**-1.0**
SAUI	**Saumlaki**	**15.59 260**		P	**Pn**	**17 56 49.9**	**+3.8**
	616nm,0.8s						
SIJI	**Sorong**	**16.16 286**		P	**Pn**	**17 56 53.8**	**+0.9**
	7.3nm,0.3s,baz=132,slow=12,SNR=24						
PATS	**Pohnpei**	**16.76 43**			**Pn**	**17 56 59.8**	**-0.2**
MTN	**Manton Dam**	**17.11 243**			**Pn**	**17 57 03.9**	**-0.2**
WB0	**Warramunga Arr**	**18.66 219**		P	**P**	**17 57 20.6**	**+1.6**
WR0	**Warramunga Arr**	**18.71 218**		P	**Pn**	**17 57 21.3**	**-1.5**
WRAB	**Tennant Creek**	**18.81 219**	*d*	*i*P	**Pn**	**17 57 22.5**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,1μm,1.3s						
WRAB	**Tennant Creek**	**18.81 219**		P	**P**	**17 57 22.3**	**+1.7**
WC3	**Warramunga Arr**	**18.82 219**		P	**Pn**	**17 57 22.7**	**-1.4**
	baz=19						
WB2	**Warramunga Arr**	**18.82 219**		P	**Pn**	**17 57 22.5**	**-1.7**
WRA	**Warramunga Arr**	**18.83 219**		P	**Pn**	**17 57 22.7**	**-1.5**
	comp=Z,47nm,0.3s,baz=37,slow=11,SNR=1395						
WRA				S	**S**	**18 00 41.2**	**-1.3**
	comp=Z,6.7nm,0.3s,baz=39,slow=19,SNR=17						
WRA				PcP	**PcP**	**18 01 38.4**	**+1.1**
	baz=20,slow=1.3,SNR=1.2						
WRA	**Warramunga Arr**	**18.83 219**		P	**P**	**17 57 21.3**	**+0.5**
GUMO	**Guam**	**19.01 354**		P	**P**	**17 57 23.7**	**+1.0**
GUMO				pmax	pmax		
	comp=Z,979nm,0.5s						
GUMO	**Guam**	**19.01 354**		P	**P**	**17 57 23.7**	**+1.0**
NLAI	**Namlea**	**19.76 276**		P	**Pn**	**17 57 34.2**	**-1.1**
	comp=Z,1μmcomp=Z,64nm,0.7s						
EIDS	**Eidsvold**	**20.23 169**		P	Pn	17 57 38.3	-2.5
	baz=20						
EIDS	**Eidsvold**	**20.23 169**		P	**P**	**17 57 37.8**	**+2.1**
EIDS				IAmb	IAmb	17 57 39.2	
	comp=Z,121nm,1.0s						
KNRA	**Kununurra**	**20.41 239**		P	**P**	**17 57 37.5**	**-0.2**
RMQ	**Roma**	**21.00 175**		P	**P**	**17 57 46.3**	**+2.4**
	baz=21						
AS31	**Alice Springs**	**21.96 213**		P	**P**	**17 57 55.5**	**+2.2**
ASAR	**Alice Springs**	**21.96 213**		P	**P**	**17 57 56.0**	**+2.7**
	comp=Z,508nm,0.8s,baz=47,slow=7.5,SNR=3991						
ASAR				S	**S**	**18 01 40.5**	**+1.5**
	comp=Z,86nm,0.9s,baz=38,slow=16,SNR=6.9						
ASAR	**Alice Springs**	**21.96 213**		P	**P**	**17 57 55.0**	**+1.7**
ASAR				S	**S**	**18 01 40.5**	**+1.5**
ASAR	**Alice Springs**	**21.96 213**		P	**P**	**17 57 55.0**	**+1.7**
SANVU	**Saraoutou**	**22.37 118**		P	**P**	**17 57 57.1**	**+0.1**
SOEI	**Soe**	**22.73 258**		P	**P**	**17 58 02.3**	**+1.8**
	comp=Z,3μmcomp=Z,227nm,0.8s						
SOEI	**Soe**	**22.73 258**		P	**P**	**17 58 02.4**	**+1.8**
BATI	**Baumata**	**23.39 257**		P	**P**	**17 58 08.9**	**+2.5**
	comp=Z,350nm,0.8s,baz=137,slow=1.1,SNR=82						
BATI	**Baumata**	**23.39 257**		P	**P**	**17 58 09.2**	**+2.8**
	comp=Z,2μmcomp=Z,2μmcomp=Z,248nm,0.8s						
KMSI	**Cibinong**	**23.56 284**		P	**P**	**17 58 08.4**	**+0.5**
	comp=Z,181nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.19 237**		P	**P**	**17 58 15.7**	**+2.1**
	comp=Z,225nm,0.6s,baz=56,slow=9.6,SNR=280						
FITZ				S	**S**	**18 02 15.6**	**+0.8**
	comp=Z,24nm,0.8s,baz=24,slow=20,SNR=1.8						
FITZ	**Fitzroy Crossi**	**24.19 237**		P	**P**	**17 58 14.8**	**+1.2**
**

	baz=219,slow=76,SNR=20					
H11N3	WAKE ISLAND Hy	31.89	38	T	T	18 34 31.3
	baz=219,slow=76,SNR=14					
H11N2	WAKE ISLAND Hy	31.89	38	T	T	18 34 31.5
	baz=219,slow=76,SNR=24					
TOO	Toolangi	32.00	182	P	P	17 59 24.7 +2.0
TOO				pmax	pmax	
	comp=Z,26nm,0.9s					
TOO	Toolangi	32.00	182	P	P	17 59 24.7 +2.0
JAGI	Jajag, Banyuwa	32.53	263	P	P	17 59 26.1 -1.5
	comp=Z,76nm,0.9s					
JAGI	Jajag, Banyuwa	32.53	263	P	P	17 59 25.1 -2.5
JAGI				IAmb	IAmb	17 59 27.7
	comp=Z,60nm,0.9s					
MSVF	Nonsavu	32.89	114*c*	*i*P	P	17 59 32.8 +2.0
MSVF				pmax	pmax	
	comp=Z,419nm,1.0s					
MSVF	Nonsavu	32.89	114	P	P	17 59 32.3 +1.6
MEEK	Meekatharra	34.16	229	P	P	17 59 43.1 +1.6
	baz=34,SNR=55					
KMBL	Kambalda	34.80	219	P	P	17 59 48.5 +1.6
	baz=35,SNR=27					
PWJI	Pagerwojo	34.84	264	P	P	17 59 45.4 -2.0
	comp=Z,49nm,0.8s					
SBUM	Sibu	35.42	282	P	P	17 59 52.4 0.0
WOJI	Wonogiri, Jawa	35.70	264	P	P	17 59 55.0 +0.2
	comp=Z,50nm,0.9s					
GIRL	Giralia	35.78	238	P	P	17 59 58.0 +2.6
	baz=36,SNR=5.1					
MOO	Moorlands	36.84	180	P	P	18 00 07.1 +3.1
	baz=37,SNR=3.0					
MORW	Morawa	37.39	227	P	P	18 00 10.3 +1.4
	baz=38,SNR=19					
MORW	Morawa	37.39	227	P	P	18 00 09.7 +0.9
KLBR	Kellerberrin	37.63	223	P	P	18 00 11.8 +1.0
	baz=38,SNR=38					
YOJ	Yonaguni jima	37.69	323	P	P	18 00 12.3 +0.9
YOJ				pmax	pmax	
	comp=Z,306nm,0.8s					
YOJ	Yonaguni jima	37.69	323	P	P	18 00 12.3 +0.9
TWG	Pinlang	37.71	319	P	P	18 00 10.3 -1.2
TWG				IAmb	IAmb	18 00 24.0
	comp=Z,81nm,0.8s					
BLDU	Ballidu	37.78	225	P	P	18 00 13.3 +1.2
	baz=38,SNR=23					
YULB	Yu-li	37.97	320	P	P	18 00 13.9 +0.2
YULB				IAmb	IAmb	18 00 18.7
	comp=Z,55nm,0.8s					
CMJI	Cimerak	38.15	264	P	P	18 00 15.1 -0.3
	comp=Z,135nm,0.9s					
TPUB	Ta-pu	38.33	319	P	P	18 00 16.2 -0.7
TPUB				IAmb	IAmb	18 00 18.4
	comp=Z,111nm,0.8s					
NACB	Ninganchiao	38.34	321	P	P	18 00 16.1 -0.7
SSLB	Suanglung	38.47	320	P	P	18 00 17.2 -0.8
SSLB				IAmb	IAmb	18 00 21.8
	comp=Z,54nm,0.6s					
OUZ	Omahuta	38.58	144	P	P	18 00 21.4 +2.7
CISI	Cisompet, Garu	38.78	265	P	P	18 00 20.0 -0.7
	comp=Z,2μmcomp=Z,150nm,0.9s					
CISI	Cisompet, Garu	38.78	265	P	P	18 00 20.1 -0.6
NWAO	Narrogin (SRO)	38.80	221	P	P	18 00 22.1 +1.5
	baz=39,SNR=7.5					
NWAO	Narrogin (SRO)	38.80	221	P	P	18 00 21.3 +0.7
NWAO				pmax	pmax	
	comp=Z,105nm,1.4s					
NWAO	Narrogin (SRO)	38.80	221	P	P	18 00 21.3 +0.7
NWAO				IAmb	IAmb	18 00 46.4
	comp=Z,105nm,1.4s					
NWAO	Narrogin (SRO)	38.80	221	P	P	18 00 20.5 -0.1
NWAO				IAmb	IAmb	18 00 37.9
	comp=Z,76nm,1.4s					
MUN	Mundaring	38.92	224	P	P	18 00 23.1 +1.6
	baz=39,SNR=4.4					
TATO	Taipei	38.99	322	P	P	18 00 23.4 +1.1
TPI	Tanjungpandan	39.13	272	P	P	18 00 24.6 +1.1
	comp=Z,610nmcomp=Z,31nm,0.8s					
CNJI	Cibinong	39.46	265	P	P	18 00 26.4 +0.2
	comp=Z,269nm,1.0s					
DBJI	Dramaga	39.84	266	P	P	18 00 29.3 -0.1
	comp=Z,28nm,0.9s					
JSU	Suzuyama	39.92	338	P	P	18 00 30.2 +0.4
SKJI	Sukabumi	40.02	266	P	P	18 00 31.4 +0.5
	comp=Z,145nm,1.0s					
RKGY	Rocky Gully	40.03	220	P	P	18 00 33.1 +2.5
	baz=40,SNR=7.4					
KNMB	Chin-men Tao	40.61	318	P	P	18 00 36.8 +1.2
KNMB				IAmb	IAmb	18 00 37.8
	comp=Z,144nm,0.9s					
QZH	Quanzhou	40.81	319⇑*i*	P	P	18 00 38.2 +1.1
QZH				S	S	18 06 30.3 -0.3
QZH				pmax	pmax	
	comp=Z,100nm,0.8s					
XMIS	Christmas Isla	41.03	260	P	P	18 00 40.1 +1.0
XMIS				IAmb	IAmb	18 00 41.1
	comp=Z,79nm,0.8s					
JNU	Nakatsue	41.23	340	P	P	18 00 40.8 +0.4
JNU				IAmb	IAmb	18 00 42.0
	comp=Z,116nm,0.8s					
KNTN	Kanton	41.46	88	P	P	18 00 42.7 0.0
KNTN				IAmb	IAmb	18 00 44.0
	comp=Z,182nm,1.1s					
HIZ	Hauiti	41.61	146	P	P	18 00 46.6 +3.1
INU	Inuyama	41.61	348	P	P	18 00 43.3 -0.2
AFI	Afiamalu	41.64	105	P	P	18 00 44.2 +0.1
	comp=Z,128nm,1.0s,baz=271,slow=5.3,SNR=8.5					
AFI	Afiamalu	41.64	105	P	P	18 00 44.5 +0.4
AFI				pmax	pmax	
	comp=Z,196nm,1.2s					
AFI	Afiamalu	41.64	105	P	P	18 00 44.5 +0.4
AFI				IAmb	IAmb	18 00 46.7
	comp=Z,196nm,1.1s					
DLV	T Lat	41.83	295	P	P	18 00 44.8 -1.1
QRZ	Quartz Range	42.10	151	P	P	18 00 50.3 +2.9
QRZ				IAmb	IAmb	18 00 51.2
	comp=Z,68nm,0.8s					
JHS	Saijyo	42.24	343	P	P	18 00 48.6 -0.1
MDSI	Maura Dua	42.46	269	P	P	18 00 51.0 +0.3
	comp=Z,612nmcomp=Z,20nm,1.2s					
MJAR	Matsushiro Arr	42.54	350	P	P	18 00 50.8 -0.2
	comp=Z,38nm,1.0s,baz=176,slow=7.0,SNR=52					
MJAR				PcP	PcP	18 02 39.1 +0.1
	comp=Z,24nm,0.9s,baz=186,slow=3.3,SNR=8.8					
MJAR				ScP	ScP	18 06 05.5 -2.2
	comp=Z,5.4nm,1.0s,baz=173,slow=4.9,SNR=6.1					
MJAR	Matsushiro Arr	42.54	350	P	P	18 00 50.1 -0.9
MJAR					PcP	18 02 38.6 -0.4
MJAR					ScP	18 06 05.5 -2.2
MAJO	Matsushiro	42.54	350	P	P	18 00 51.0 0.0
MAJO				pmax	pmax	
	comp=Z,188nm,1.5s					
MAJO	Matsushiro	42.54	350	P	P	18 00 51.0 0.0
MAJO				IAmb	IAmb	18 00 52.0
	comp=Z,188nm,1.5s					
MAT	Matsushiro	42.54	350	P	P	18 00 50.6 -0.4
MAT				S	S	18 06 55.0 -0.7
URZ	Urewera	42.72	144	P	P	18 00 53.6 +1.2
URZ				IAmb	IAmb	18 00 54.7
	comp=Z,125nm,1.1s					
NNZ	Nelson	42.81	150	P	P	18 00 54.8 +1.7
NNZ				IAmb	IAmb	18 01 09.5
	comp=Z,146nm,1.5s					
MXZ	Matakaoa Point	42.97	142	P	P	18 00 55.9 +1.4
MXZ				IAmb	IAmb	18 00 58.9
	comp=Z,125nm,1.2s					
BKZ	Black Stump Fm	42.98	146	P	P	18 00 56.2 +1.7
BKZ				IAmb	IAmb	18 00 57.2
	comp=Z,108nm,0.9s					
THZ	Tophouse	43.00	151	P	P	18 00 56.0 +1.4
THZ				IAmb	IAmb	18 00 59.6
	comp=Z,94nm,1.1s					
FOZ	Fox Glacier	43.02	155	P	P	18 00 56.8 +2.1
TUWZ	Tuamarina	43.25	150	P	P	18 00 57.9 +1.3
BSWZ	Blackbirch Sta	43.44	150	P	P	18 00 59.4 +1.3
LTZ	Lake Taylor	43.49	153	P	P	18 01 00.5 +1.9
LTZ				IAmb	IAmb	18 01 01.9
	comp=Z,96nm,1.0s					
SNZO	South Karori	43.55	149	P	P	18 00 59.9 +0.9
SNZO				IAmb	IAmb	18 01 01.0
	comp=Z,118nm,1.0s					
DCZ	Deep Cove	43.63	159	P	P	18 01 01.1 +1.6
DCZ				IAmb	IAmb	18 01 03.2
	comp=Z,141nm,0.8s					
RPZ	Rata Peaks	43.69	154	P	P	18 01 01.7 +1.6
RPZ				IAmb	IAmb	18 01 03.2
	comp=Z,92nm,0.9s					
WKZ	Wanaka	43.77	157	P	P	18 01 01.8 +1.1
WKZ				IAmb	IAmb	18 01 03.6
	comp=Z,188nm,1.4s					
QIZ	Qiongzhong	43.77	305	P	P	18 01 01.6 +0.5
QIZ				pP	pP	18 01 48.5 -1.4
QIZ				sP	sP	18 02 13.4 -2.6
QIZ				S	S	18 07 15.6 +1.4
QIZ				SS	SS	18 10 40.8 +2.6
QIZ				pmax	pmax	
	comp=Z,22nm,0.7s					
QIZ				LR	LR	
	comp=Z,130nm,13.5s					
QIZ				LR	LR	
	comp=Z,98nm,7.1s					
QIZ				LR	LR	
	comp=Z,150nm,8.8s					
QIZ	Qiongzhong	43.77	305	P	P	18 01 02.0 +0.9
KHZ	Kahutara	43.80	151	P	P	18 01 01.8 +0.8
SSE	Sheshan	43.81	328	P	P	18 01 02.1 +0.9
SSE				S	S	18 07 13.5 -0.8
SSE				pmax	pmax	
	comp=Z,100nm,0.9s					
SSE				LR	LR	
	comp=Z,260nm,19.6s					
SSE				LR	LR	
	comp=Z,340nm,19.8s					
SSE				LR	LR	
	comp=Z,200nm,22.0s					
OXZ	Oxford	43.81	153	P	P	18 01 01.9 +0.8
MLZ	Mavora Lakes	43.89	158	P	P	18 01 03.7 +2.0
MLZ				IAmb	IAmb	18 01 04.7
	comp=Z,149nm,1.1s					
BFZ	Birch Farm	43.90	147	P	P	18 01 03.1 +1.2
MSWZ	Moikau Station	43.91	149	P	P	18 01 02.6 +0.7
PLWZ	Palliser	44.02	149	P	P	18 01 03.5 +0.7
WHZ	Wether Hill Ro	44.28	159	P	P	18 01 06.1 +1.4
WHZ				IAmb	IAmb	18 01 07.1
	comp=Z,96nm,0.8s					
MQZ	McQueen's Vall	44.39	153	P	P	18 01 07.0 +1.4
MQZ				IAmb	IAmb	18 01 07.9
	comp=Z,121nm,1.0s					
ODZ	Otahua Downs	44.60	156	P	P	18 01 08.2 +0.9
TJN	Taejon	45.41	338*c*	*i*P	P	18 01 14.2 +0.5
SDSI	Sungai Dareh	45.50	274	P	P	18 01 15.0 +0.1
	comp=Z,627nmcomp=Z,16nm,0.9s					
NJ2	Nanjing	45.81	326⇑*i*	*i*P	P	18 01 18.5 +1.6
NJ2				pP	pwP	18 02 08.2 +0.1
NJ2				PcP	PcP	18 02 50.5 +0.2
NJ2				ScP	ScP	18 06 19.4 -1.9
NJ2				S	S	18 07 45.5 +2.5
NJ2				sS	sS	18 09 16.4 +7.1
NJ2				SS	SS	18 11 12.4 +1.4
NJ2				pmax	pmax	
	comp=Z,160nm,0.8s					
NJ2				LR	LR	
	comp=Z,140nm,12.6s					
NJ2				LR	LR	
	comp=Z,200nm,12.7s					
NJ2				LR	LR	
	comp=Z,270nm,15.7s					
KSRS	Korea Array	46.17	339	P	P	18 01 20.5 +0.9
	comp=Z,54nm,0.8s,baz=156,slow=8.7,SNR=195					
KSRS				pP	pP	18 02 09.3 +0.9
	comp=Z,8.7nm,0.8s,baz=157,slow=9.6,SNR=3.1					
KSRS				PcP	PcP	18 02 51.0 -0.5
	comp=Z,14nm,0.9s,baz=160,slow=6.0,SNR=6.4					
KSAR	Wonju Array Be	46.17	339	P	P	18 01 20.1 +0.4
KSAR	Wonju Array Be	46.17	339	P	P	18 01 20.1 +0.4
KS19	Wonju Array Si	46.23	339	P	P	18 01 20.5 +0.4
INCN	Inchon	46.66	338	P	P	18 01 24.2 +0.7
INCN				pmax	pmax	
	comp=Z,143nm,1.1s					
INCN	Inchon	46.66	338	P	P	18 01 24.1 +0.7
INCN				IAmb	IAmb	18 01 25.5
	comp=Z,143nm,1.1s					
IPM	Ipoh	46.76	281	P	P	18 01 24.3 -0.4
KULM	Kulim	47.30	282	P	P	18 01 28.1 -0.7
ERM	Erimo	47.35	356*ce*	P	P	18 01 29.9 +1.2
ERM				pmax	pmax	
	comp=Z,49nm,2.5s					
ERM	Erimo	47.35	356	P	P	18 01 28.1 -0.6
WHN	Wuhan	47.38	321	⇑P	P	18 01 30.8 +1.7
WHN				pP	pwP	18 02 20.5 0.0
WHN				S	S	18 08 05.2 -0.1
WHN				pmax	pmax	
	comp=Z,270nm,1.0s					
MNSI	Mandailing Nat	47.56	276	P	P	18 01 30.6 -0.2
	comp=Z,750nmcomp=Z,14nm,0.8s					
MIDW	Midway	48.09	44	P	P	18 01 35.1 +0.5
MIDW				IAmb	IAmb	18 01 36.0
	comp=Z,176nm,1.2s					
RPSI	Rantau Prapat	48.50	278	P	P	18 01 37.2 -0.8
PSI	Prapat	48.51	279	P	P	18 01 37.2 -1.1
PSI				pmax	pmax	
	comp=Z,11nm,0.9s					
YUK	Yuzh-Kuril'sk	49.26	359*d*	*i*P	P	18 01 43.3 +0.1
YUK				*i* *PP	pwP	18 02 37.1 +1.8
YUK				*e*		18 02 58.2
YUK				*e*PPP	PPP	18 04 49.5
YUK				*i* S	S	18 08 29.5 -1.6
YUK				*i* *SS	sS	18 10 02.8 +4.2
YUK				pmax	pmax	
	comp=Z,184nm,0.9s					
JKA	Kamikawa-asahi	49.48	356	P	P	18 01 45.7 +0.9
ASAJ	Asahikawa	49.48	356	P	P	18 01 45.7 +0.8
ASAJ				pmax	pmax	
	comp=Z,39nm,0.8s					
GSI	Gunungsitoli	49.61	276	P	P	18 01 46.1 -0.4
	comp=Z,24nm,0.9s					
GSI	Gunungsitoli	49.61	276	P	P	18 01 45.5 -0.9
SLVN	Son La	49.77	304	P	P	18 01 48.1 +0.6
SLVN					pP	18 02 35.1 -2.5
TIA	Tai'an	49.90	328	P	P	18 01 48.4 +0.2
TIA				S	S	18 08 36.7 -3.7
TIA				pmax	pmax	
	comp=Z,120nm,0.8s					
TIA				LR	LR	
	comp=Z,280nm,18.0s					
TIA				LR	LR	
	comp=Z,580nm,22.7s					
TIA				LR	LR	
	comp=Z,240nm,12.8s					
DL2	Dalian	49.91	334	P	P	18 01 49.0 +0.8
DL2				pP	pwP	18 02 42.1 +1.8
DL2				S	S	18 08 38.3 -2.0
DL2				sS	sS	18 10 13.6 +5.7
DL2				pmax	pmax	
	comp=Z,81nm,0.9s					
GYA	Guiyang	50.17	311	⇑P	P	18 01 51.3 +0.8
GYA				pP	pP	18 02 43.1 +2.5
GYA				PcP	sP	18 03 03.6 -2.6
GYA				S	S	18 08 44.4 -0.2
GYA				pmax	pmax	
	comp=Z,13nm,0.8s					
GYA				pmax	pmax	
	comp=Z,180nm,3.5s					
GYA				LR	LR	
	comp=Z,200nm,17.7s					
PBKT	Sadao Pong	50.32	297	P	P	18 01 52.2 +0.6
ENH	Enshi	50.38	317	P	P	18 01 51.4 -0.5
ENH				IAmb	IAmb	18 01 53.8
	comp=Z,85nm,1.0s					
KUR	Kuril'sk	50.46	1	*e*P	P	18 01 54.1 +1.9
KUR				*e*S	S	18 08 50.6 +2.9
KUR				*e*		18 11 22.0
KUR				pmax	pmax	
	comp=Z,365nm,1.2s					
KUR				pmax	pmax	
	comp=Z,1μm,4.7s					
USA0B	Ussuriysk Arra	51.19	346	P	P	18 01 58.2 +0.6
USA0B				pmax	pmax	
	comp=Z,34nm,0.8s					
USA0B	Ussuriysk Arra	51.19	346	P	P	18 01 58.2 +0.6
USRK	Ussuriysk Ar.	51.19	346	P	P	18 01 58.5 +0.9
	comp=Z,27nm,0.6s,baz=164,slow=7.5,SNR=109					
USRK				pP	pP	18 02 48.5 +0.9
	comp=Z,10nm,0.8s,baz=168,slow=8.9,SNR=3.5					
USRK	Ussuriysk Ar.	51.19	346	P	P	18 01 58.2 +0.6
MDJ	Mudanjiang	52.18	344	P	P	18 02 05.6 +0.6
MDJ				pP	pwP	18 02 56.8 -0.7
MDJ				sP	PcP	18 03 16.8 +3.5
MDJ				PP	PP	18 04 12.4 +6.4
MDJ				PcS	PcS	18 07 10.1 -1.7
MDJ				S	S	18 09 12.5 +1.2
MDJ				ScS	ScS	18 11 32.2 +1.5
MDJ				SS	SS	18 12 51.3 -1.0
MDJ				pmax	pmax	
	comp=Z,42nm,1.0s					
MDJ				LR	LR	
	comp=Z,370nm,16.9s					
MDJ				LR	LR	
	comp=Z,490nm,19.0s					
MDJ				LR	LR	
	comp=Z,470nm,22.0s					
MDJ	Mudanjiang	52.18	344	P	P	18 02 05.3 +0.3
YSS	Yuzh-Sakhalins	52.30	357⇑*e*	P	P	18 02 06.5 +0.8
YSS				*e**SP	sP	18 03 18.9 -2.3
YSS				*e*S	S	18 09 12.7 0.0
YSS				*e*SSS	SSS	18 14 52.0
YSS				pmax	pmax	
	comp=Z,70nm,0.7s					
YSS				smax	smax	
	comp=N,400nm,4.8s					
YSS				MLR	MLR	
	comp=Z,200nm,14.0s					
YSS	Yuzh-Sakhalins	52.30	357	P	P	18 02 06.2 +0.4
YSS				IAmb	IAmb	18 02 07.7
	comp=Z,60nm,0.8s					
KMI	Kunming	52.50	307⇑*e*	P	P	18 02 09.4 +1.4
KMI				pP	pP	18 02 59.7 +1.2
KMI				sP	sP	18 03 22.7 -1.4
KMI				PP	PP	18 04 12.7 +3.2
KMI				S	S	18 09 17.0 +0.2
KMI				pmax	pmax	
	comp=Z,22nm,1.1s					
KMI				pmax	pmax	
	comp=Z,190nm,6.2s					
KMI				LR	LR	
	comp=Z,160nm,18.3s					
KMI				LR	LR	
	comp=Z,97nm,17.9s					
KMI				LR	LR	
	comp=Z,150nm,17.5s					
CM31	Chiang Mai Arr	52.81	298	P	P	18 02 10.9 +0.8
CM31					pP	18 02 58.5 -2.4
CMAR	Chiang Mai Arr	52.81	298	P	P	18 02 11.3 +1.2
	comp=Z,14nm,0.8s,baz=124,slow=5.8,SNR=92					
CMAR				pP	pP	18 02 57.5 -3.4
	comp=Z,14nm,0.6s,baz=119,slow=5.2,SNR=4.6					
CMAR				PKPPKP	P'P'df	18 32 23.4 -12
	comp=Z,1.3nm,1.0s,baz=312,slow=4.3,SNR=4.9					
CMAR	Chiang Mai Arr	52.81	298	P	P	18 02 10.4 +0.3
CMAR				pP	pP	18 02 58.5 -2.4
CHTO	Chiang Mai	52.95	298	P	P	18 02 11.5 +0.4
CHTO				pmax	pmax	
	comp=Z,11nm,0.8s					
CHTO	Chiang Mai	52.95	298	P	P	18 02 11.5 +0.4
CHTO					pP	18 02 59.7 -2.2
XAN	Xi'an	53.13	320	P	P	18 02 12.5 +0.3
XAN				PcP	PcP	18 03 19.0 +1.8
XAN				pmax	pmax	
	comp=Z,190nm,1.1s					
XAN				pmax	pmax	
	comp=Z,430nm,2.9s					
XAN				LR	LR	
	comp=Z,200nm,20.4s					
XAN				LR	LR	
	comp=Z,190nm,16.1s					
XAN				LR	LR	
	comp=Z,350nm,22.1s					
XAN	Xi'an	53.13	320	P	P	18 02 12.4 +0.3
XAN				pmax	pmax	
	comp=Z,137nm,0.9s					
XAN	Xi'an	53.13	320	P	P	18 02 12.4 +0.2
XAN				IAmb	IAmb	18 02 13.7
	comp=Z,137nm,0.9s					
BJI	Beijing	53.33	331	P	P	18 02 14.0 +0.6
BJI				S	S	18 09 26.4 -0.5
BJI				pmax	pmax	
	comp=Z,60nm,0.9s					
BJI				LR	LR	
	comp=Z,310nm,15.2s					
BJI				LR	LR	
	comp=Z,550nm,18.9s					
BJI				LR	LR	
	comp=Z,110nm,18.9s					
CD2	Chengdu	54.75	314⇑*i*	*i*P	P	18 02 24.5 +0.6
CD2				pP	pP	18 03 16.8 +1.8
CD2				PcP	PcP	18 03 25.7 +2.2
CD2				S	S	18 09 47.0 +0.6
CD2				sS	sS	18 11 16.0 +0.5
CD2				SS	SS	18 13 33.0 -0.3
CD2				pmax	pmax	
	comp=Z,60nm,0.6s					
CD2				pmax	pmax	
	comp=Z,220nm,6.3s					
TYV	Tymovskoe	56.20	357	*e*P	P	18 02 35.2 +1.4
TYV				*e*S	S	18 10 07.0 +2.2
TYV				pmax	pmax	
	comp=Z,59nm,0.7s					
TYV				pmax	pmax	
	comp=Z,400nm,3.6s					
TYV				smax	smax	
	comp=N,800nm,7.5s					
HHC	Hu-ho-hao-te	56.26	328	*e*P	P	18 02 35.6 +1.0
HHC				S	S	18 10 05.9 -0.3
HHC				SS	SS	18 14 00.3 +3.4
HHC				pmax	pmax	
	comp=N,110nm,1.1s					
HHC				pmax	pmax	
	comp=N,350nm,6.4s					
GRNR	Gornyy	56.70	352⇑*i*	*i*P	P	18 02 38.5 +1.1
GRNR				*e*		18 03 27.1
GRNR				*e*S	S	18 10 13.8 +2.4
GRNR				pmax	pmax	
	comp=N,10.0nm,1.2s					
GRNR				pmax	pmax	
	comp=Z,10.0nm,1.1s					
GRNR				smax	smax	
	comp=N,4.0nm,0.9s					
BTO	Baotou	56.91	327	*e*P	P	18 02 39.7 +0.6
LZH	Lanzhou	57.66	319	⇑P	P	18 02 46.0 +1.4
LZH				pP	pP	18 03 40.5 +4.6
LZH				S	S	18 10 22.3 -2.5
LZH				sS	sS	18 12 00.4 +5.6
LZH				pmax	pmax	
	comp=N,80nm,1.1s					
LZH				pmax	pmax	
	comp=N,370nm,4.3s					
PEA0B	Petropavlovsk-	59.06	8	P	P	18 02 54.7 +1.0
PEA0B				pmax	pmax	
	comp=Z,195nm,1.4s					
PEA0B	Petropavlovsk-	59.06	8	P	P	18 02 54.7 +1.0
PETK	Petropavlovsk-	59.06	8	P	P	18 02 54.9 +1.2
	comp=Z,34nm,0.6s,baz=156,slow=6.1,SNR=147					
PETK				pP	pwP	18 03 46.7 -0.9
	comp=Z,32nm,0.9s,baz=174,slow=7.0,SNR=7.6					
PETK				PKP2bc		18 32 32.5
	comp=Z,4.5nm,0.9s,baz=62,slow=10,SNR=6.2					
PETK	Petropavlovsk-	59.06	8	P	P	18 02 54.5 +0.8
PET	Petropavlovsk	59.11	8*c*	*i*P	P	18 02 55.2 +1.2
PET				*e**PP	pP	18 03 45.8 +0.5
PET				*e*S	S	18 10 45.6 +3.1
PET				*e*SS	SS	18 14 44.4 +3.4
PET				pmax	pmax	
	comp=Z,139nm,1.1s					
PET				pmax	pmax	
	comp=Z,100nm,15.4s					
PET	Petropavlovsk	59.11	8	P	P	18 02 54.1 +0.1
PET				IAmb	IAmb	18 02 55.9
	comp=Z,71nm,1.1s					
HIA	Hailar	59.37	340	P	P	18 02 56.3 +0.4
HIA				pmax	pmax	
	comp=Z,144nm,0.9s					
HIA	Hailar	59.37	340	P	P	18 02 56.3 +0.4
HON	Honolulu	60.29	62	P	P	18 03 04.4 +1.8
HON				pmax	pmax	
	comp=Z,212nm,1.1s					
HON	Honolulu	60.29	62	P	P	18 03 04.4 +1.8
KIP	Kipapa	60.31	62*ce*	P	P	18 03 04.4 +1.6
KIP				pmax	pmax	
	comp=Z,157nm,1.7s					
KIP	Kipapa	60.31	62	P	P	18 03 02.5 -0.3
OPA	Opana	60.41	61	P	P	18 03 05.3 +1.9
OPA				pmax	pmax	
	comp=Z,124nm,1.1s					
OPA	Opana	60.41	61	P	P	18 03 05.3 +1.9
OPA				IAmb	IAmb	18 03 07.0

comp=Z,124nm,1.1s
ZEA Zeya 61.22 347 *ce*P **P 18 03 09.1 +0.8**
ZEA *e* 18 04 06.6
ZEA *e* 18 11 14.0
ZEA pmax pmax
comp=N,94nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,150nm,1.0s
SHL Shillong 61.55 303 P **P 18 03 10.5 -0.8**
SHL pmax pmax
comp=Z,23nm,0.7s
SHL Shillong 61.55 303 P **P 18 03 10.5 -0.8**
KHLU Kahalu`u 61.61 64 P **P 18 03 13.0 +1.3**
HLK Haleakala 61.65 63 P **P 18 03 14.0 +1.8**
KHU Kahuku 61.76 65 P **P 18 03 14.3 +1.5**
KHU pmax pmax
comp=Z,140nm,1.1s
KHU Kahuku 61.76 65 P **P 18 03 14.3 +1.5**
HPAH Hawaii Prepara 61.92 64 P **P 18 03 14.7 +1.0**
HPAH IAmb IAmb 18 03 16.1
comp=Z,71nm,0.7s
AIN Ainahou 61.93 65 P **P 18 03 15.1 +1.1**
POHA Pohakuloa 61.98 64 P **P 18 03 15.8 +1.4**
GTA Gaotai 62.19 320 ⇑P **P 18 03 16.3 +1.1**
GTA pP pP 18 04 09.0 +1.4
GTA sP sP 18 04 33.0 +0.3
GTA S **S 18 11 20.5 -1.8**
GTA pmax pmax
comp=Z,28nm,1.1s
GTA pmax pmax
comp=Z,330nm,8.4s
GTA LR LR
comp=Z,180nm,20.3s
GTA LR LR
comp=Z,130nm,20.0s
GTA LR LR
comp=Z,170nm,19.7s
SMY Shemya 62.41 18 P **P 18 03 17.9 +1.7**
SMY pmax pmax
comp=Z,251nm,1.0s
SMY Shemya 62.41 18 P **P 18 03 17.9 +1.7**
AMKA Amchitka 63.08 22 P **P 18 03 20.8 +0.1**
PPT2 Papeete2 63.25 107 *eP* **P 18 03 24.2 +1.7**
comp=Z,87nm,1.0s
TIAR Tiarei 63.47 107 *eP* **P 18 03 25.4 +1.5**
comp=Z,37nm,1.0s
ULN Ulaanbaatar 63.53 331 P **P 18 03 24.9 +1.0**
ULN pmax pmax
comp=Z,112nm,0.8s
ULN Ulaanbaatar 63.53 331 P **P 18 03 24.9 +1.0**
TVO Taravao 63.57 107 *eP* **P 18 03 26.0 +1.4**
comp=Z,41nm,1.1s
LSA Lhasa 63.75 307 P **P 18 03 26.9 +0.8**
LSA pmax pmax
comp=Z,19nm,0.8s
LSA Lhasa 63.75 307 P **P 18 03 26.9 +0.8**
SONM Songino Array 63.83 331 P **P 18 03 26.7 +0.9**
comp=Z,57nm,0.8s,baz=147,slow=8.4,SNR=250
SONM pP **pP 18 04 20.5 +2.3**
comp=Z,7.5nm,0.7s,baz=159,slow=7.3,SNR=2.2
SONM PKP2bc 18 32 18.5
comp=Z,2.5nm,1.0s,baz=231,slow=2.2,SNR=4.9
SONM Songino Array 63.83 331 P **P 18 03 25.9 +0.1**
CIT Chita 63.87 338 *eP* **P 18 03 27.4 +1.5**
CIT *e* 18 04 22.9
CIT *e* 18 04 52.0
CIT *e*S **S 18 11 42.4 -0.1**
CIT pmax pmax
comp=Z,320nm,1.3s
MEH Mehetia 64.70 107 *eP* **P 18 03 33.2 +1.3**
comp=Z,50nm,1.1s
PMOR Pomariorio Ree 64.78 104 *eP* **P 18 03 34.0 +1.6**
comp=Z,627nm,1.1s
VAH Vaihoa 65.04 104 *eP* **P 18 03 35.2 +1.1**
comp=Z,249nm,1.2s
TAPN Taplejung 65.68 303 *eP* **P 18 03 38.8 +0.4**
comp=Z,32nm,0.7s
TAPN Taplejung 65.68 303 *eP* **P 18 03 38.8 +0.4**
comp=Z,32nm,0.7s
CASY Casey 65.73 195 P **P 18 03 38.4 +0.8**
CASY IAmb IAmb 18 03 39.5
comp=Z,45nm,0.8s
ODAN Odare 65.78 303 *eP* **P 18 03 39.3 +0.3**
comp=Z,52nm,0.8s
ODAN Odare 65.78 303 *eP* **P 18 03 39.3 +0.3**
comp=Z,52nm,0.8s
RAMN Ramite 66.47 302 *eP* **P 18 03 43.6 +0.2**
comp=Z,12nm,0.6s
RAMN Ramite 66.47 302 *eP* **P 18 03 43.6 +0.2**
comp=Z,12nm,0.6s
JIRN Jiri 67.05 303 *eP* **P 18 03 47.4 +0.2**
comp=Z,69nm,0.6s
JIRN Jiri 67.05 303 *eP* **P 18 03 47.4 +0.2**
comp=Z,69nm,0.6s
ZAK Zakamensk 67.06 331 *eP* **P 18 03 46.8 +0.4**
ZAK *e* 18 04 43.1
ZAK pmax pmax
comp=Z,128nm,1.0s
ZAK pmax pmax
comp=Z,38nm,1.0s
PALK Pallekele 67.15 280 P **P 18 03 47.2 -0.4**
PALK pmax pmax
comp=Z,27nm,1.1s
PALK Pallekele 67.15 280 P **P 18 03 47.2 -0.4**
GUN Gumba 67.40 303 *eP* **P 18 03 48.7 -0.6**
GUN Gumba 67.40 303 *eP* **P 18 03 48.7 -0.6**
PKI Pulchoki 67.68 303 *eP* **P 18 03 50.7 -0.3**
comp=Z,33nm,0.9s
PKI Pulchoki 67.68 303 *eP* **P 18 03 50.7 -0.3**
comp=Z,33nm,0.9s
TLY Talaya 67.77 333 *eP* **P 18 03 51.8 +1.1**
TLY *e* 18 04 48.1
TLY *i* 18 06 19.8
TLY *e*S **S 18 12 32.2 +2.7**
TLY pmax pmax
comp=Z,174nm,1.3s
TLY Talaya 67.77 333 P **P 18 03 50.6 -0.1**
TLY IAmb IAmb 18 03 52.9
comp=Z,49nm,0.9s
KKN Kakani 67.86 303 *eP* **P 18 03 52.1 +0.1**
comp=Z,42nm,0.7s
KKN Kakani 67.86 303 *eP* **P 18 03 52.1 +0.1**
comp=Z,42nm,0.7s
IRK Irkutsk 67.87 333 *eP* **P 18 03 51.0 -0.3**
IRK pmax pmax
comp=Z,107nm,0.9s
DMN Daman 67.94 303 *eP* **P 18 03 52.9 +0.3**
comp=Z,68nm,0.7s
DMN Daman 67.94 303 *eP* **P 18 03 52.9 +0.3**
comp=Z,68nm,0.7s
SEY Seymchan 68.32 3 P **P 18 03 54.7 +0.9**
comp=Z,75nm,1.0s,baz=180,slow=5.0,SNR=69
BOD Bodaibo 68.39 342 *eP* **P 18 03 53.8 -0.6**
BOD pmax pmax
comp=Z,119nm,1.0s
GKN Gorkha 68.47 303 *eP* **P 18 03 55.7 0.0**
comp=Z,63nm,0.6s
GKN Gorkha 68.47 303 *eP* **P 18 03 55.7 0.0**
comp=Z,63nm,0.6s
YAK Yakutsk 68.57 351 P **P 18 03 55.6 +0.3**
comp=Z,43nm,0.8s,baz=116,slow=1.7,SNR=14
YAK Yakutsk 68.57 351 *c iP* **P 18 03 55.9 +0.5**
YAK *e* 18 04 17.5
YAK *e**PP **pP 18 04 49.2 +0.9**
YAK *e* 18 06 27.8
YAK *e*PPP PPP 18 08 12.3
YAK *e*S **S 18 12 39.7 +1.2**
YAK *e* 18 13 31.8
YAK *e*SS **SS 18 17 12.5 +4.7**
YAK pmax pmax
comp=Z,82nm,0.9s
YAK pmax pmax
comp=N,67nm,1.3s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,20nm,1.8s
YAK pmax pmax
comp=N,28nm,1.6s
YAK pmax pmax
comp=E,13nm,1.6s
YAK smax smax
comp=N,21nm,1.9s
YAK smax smax
comp=E,50nm,2.1s
YAK Yakutsk 68.57 351 P **P 18 03 55.7 +0.3**
MOY Mondy 69.00 331 *eP* **P 18 03 59.5 +1.1**
MOY *e* 18 04 53.1
MOY pmax pmax
comp=Z,146nm,1.4s
KOLN Koldanda 69.26 302 *eP* **P 18 04 00.7 0.0**
comp=Z,77nm,0.7s
KOLN Koldanda 69.26 302 *eP* **P 18 04 00.7 0.0**
comp=Z,77nm,0.7s
PYUN Piuthan 69.88 302 *eP* **P 18 04 04.1 -0.3**
comp=Z,99nm,0.7s
PYUN Piuthan 69.88 302 *eP* **P 18 04 04.1 -0.3**
comp=Z,99nm,0.7s
HYB Hyderabad 71.08 290 *i* P **P 18 04 10.0 -1.7**
AKUT Akutan 71.33 27 P **P 18 04 12.2 -0.1**
WMQ Urumqi 72.24 319 P **P 18 04 19.0 +0.9**
WMQ pP pP 18 05 13.2 +1.2
WMQ sP sP 18 05 36.5 -0.1
WMQ S **S 18 13 20.8 -1.1**
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ pmax pmax
comp=Z,160nm,5.1s
VNDA Vanda 72.47 177 P **P 18 04 20.0 +1.2**
comp=Z,62nm,0.8s,baz=330,slow=6.4,SNR=416
VNDA Vanda 72.47 177 P **P 18 04 19.9 +1.1**
VNDA IAmb IAmb 18 04 21.2
comp=Z,69nm,0.8s
SDPT Sand Point 74.52 28 P **P 18 04 30.9 0.0**
CNBA Chernabura Isl 74.64 29 P **P 18 04 30.7 -1.0**
CNBA IAmb IAmb 18 04 32.8
comp=Z,60nm,0.9s
DGZ Jazzator, Alta 75.07 325 *c iP* **P 18 04 34.7 +0.2**
DGZ pmax pmax
comp=Z,24nm,1.1s
ZSN Zaisan 75.60 322 ⇑*iP* **P 18 04 37.8 +0.3**
comp=Z,50nm,2.6s,baz=322
ZSN *i* pP **pP 18 05 32.0 +0.1**
baz=322
ZSN *i* S **S 18 13 59.3 +0.3**
baz=322
ZSN *i* S **S 18 13 59.4 +0.3**
baz=322
ZSN Zaisan 75.60 322 *c iP* **P 18 04 37.7 +0.3**
ZSN *i* *PP **pP 18 05 32.0 +0.1**
ZSN *i* S **S 18 13 59.3 +0.3**
ZSN *i* S **S 18 13 59.4 +0.3**
ZSN pmax pmax
comp=Z,50nm,2.6s
MK31 Makanchi Array 76.94 320 P **P 18 04 44.7 -0.3**
MK31 pmax pmax
comp=Z,43nm,1.5s
MK31 Makanchi Array 76.94 320 P **P 18 04 44.7 -0.3**
MKAR Makanchi Array 76.94 320 P **P 18 04 45.1 +0.1**
comp=Z,11nm,0.6s,baz=95,slow=7.5,SNR=115
MKAR pP **pP 18 05 39.1 -0.5**
comp=Z,8.3nm,0.8s,baz=104,slow=6.7,SNR=6.2
MKAR PKKPbc **PKKPbc 18 23 51.9 -2.1**
comp=Z,0.5nm,0.7s,baz=350,slow=3.7,SNR=4.0
MKAR PKPPKP **P'P'df 18 31 56.7 +1.3**
comp=Z,0.9nm,0.9s,baz=272,slow=3.3,SNR=4.5
MKAR Makanchi Array 76.94 320 P **P 18 04 44.5 -0.5**
MKAR **pP 18 05 38.3 -1.3**
MAKZ Makanchi 77.15 320 P **P 18 04 46.0 -0.1**
MAKZ pmax pmax
comp=Z,86nm,1.5s
MAKZ Makanchi 77.15 320 P **P 18 04 46.0 -0.1**
MAKZ IAmb IAmb 18 04 47.5
comp=Z,86nm,1.5s
SHLS Shalkode 77.50 316 ⇑*iP* **P 18 04 47.0 -1.3**
comp=Z,39nm,1.7s,baz=316
SHLS *e*pP **pP 18 05 41.8 -1.1**
baz=316
SHLS Shalkode 77.50 316 *c iP* **P 18 04 47.0 -1.3**
SHLS *e**PP **pP 18 05 41.7 -1.1**
SHLS pmax pmax
comp=Z,39nm,1.7s
PDGK Podgornoye 77.54 316 P **P 18 04 47.8 -0.7**
UZB Uzynbulak 77.80 316 ⇑*iP* **P 18 04 50.2 +0.2**
comp=Z,40nm,1.7s,baz=316
UZB *i* pP **pP 18 05 44.7 +0.2**
baz=316
UZB Uzynbulak 77.80 316 *c iP* **P 18 04 50.2 +0.2**
UZB *i* *PP **pP 18 05 44.7 +0.2**
UZB pmax pmax
comp=Z,40nm,1.7s
TIXI Tiksi 77.84 354 P **P 18 04 48.5 -0.9**
comp=Z,31nm,0.9s,baz=125,slow=5.2,SNR=10
TIXI Tiksi 77.84 354 *c iP* **P 18 04 48.5 -0.9**
TIXI pmax pmax
comp=Z,44nm,1.3s
TIXI Tiksi 77.84 354 P **P 18 04 48.4 -1.0**
KPKS Kokpek 78.14 316 *eP* **P 18 04 51.8 0.0**
comp=Z,49nm,1.7s,baz=316
KPKS *i* pP **pP 18 05 46.6 +0.3**
baz=316
KPKS Kokpek 78.14 316 *eP* **P 18 04 51.7 0.0**
KPKS *i* *PP **pP 18 05 46.6 +0.3**
KPKS pmax pmax
comp=Z,49nm,1.7s
SII Sitkinak Islan 78.16 29 P **P 18 04 52.0 +0.5**
SATY Saty 78.20 316 ⇑*iP* **P 18 04 52.2 +0.1**
comp=Z,26nm,1.7s,baz=316
SATY *i* pP **pP 18 05 46.8 +0.1**
baz=316
SATY *i* S **S 18 14 27.4 -0.1**
baz=316
SATY Saty 78.20 316 *c iP* **P 18 04 52.2 +0.1**
SATY *i* *PP **pP 18 05 46.8 +0.1**
SATY *i* S **S 18 14 27.4 -0.1**
SATY pmax pmax
comp=Z,25nm,1.7s
ZAA0 Zalesovo Array 78.44 328 P **P 18 04 51.7 -1.3**
ZAA0 IAmb IAmb 18 04 53.3
comp=Z,48nm,1.1s
ZALV Zalesovo Beam 78.44 328 P **P 18 04 52.1 -0.9**
comp=Z,23nm,0.6s,baz=106,slow=5.3,SNR=108
ZALV pP **pP 18 05 47.3 -0.3**
comp=Z,12nm,0.6s,baz=102,slow=4.8,SNR=5.4
ZALV PKKPbc **PKKPbc 18 23 48.2 -2.8**
comp=Z,1.5nm,0.5s,baz=301,slow=4.6,SNR=8.1
ZALV PKPPKP **P'P'df 18 31 53.6 +1.1**
comp=Z,1.8nm,0.6s,baz=300,slow=3.3,SNR=8.0
ZALV Zalesovo Beam 78.44 328 P **P 18 04 51.8 -1.2**
ZALV **pP 18 05 46.7 -0.8**
KDJ Kajisay 78.76 315 P **P 18 04 55.6 +0.3**
KDJ **pP 18 05 48.2 -1.8**
TDK Taldyqorghan 78.83 318 *i* P **P 18 04 55.5 +0.1**
comp=Z,35nm,1.6s,baz=318
TDK Taldyqorghan 78.83 318 *i* P **P 18 04 55.5 +0.1**
TDK pmax pmax
comp=Z,35nm,1.6s
KSH Kashi 78.86 312 P **P 18 04 56.6 +0.8**
KSH pP pP 18 05 53.1 +2.4
KSH PP **PP 18 08 02.0 +4.1**
KSH S **S 18 14 38.9 +4.2**
KSH SKS **SKSac 18 14 46.6 -2.8**
KSH ScS **ScS 18 14 57.2 +0.8**
KSH sS sS 18 16 11.0 +0.3
KSH pmax pmax
comp=Z,370nm,5.0s
OHAK Old Harbor 78.91 29 P **P 18 04 55.4 -0.1**
OHAK IAmb IAmb 18 04 57.4
comp=Z,90nm,1.4s
MDOK Medeo 79.17 316 *i* P **P 18 04 57.6 +0.1**
baz=316
MDOK *i* pP **pP 18 05 52.3 +0.1**
baz=316
MDOK *e*S **S 18 14 37.5 -0.4**
baz=316
MDOK Medeo 79.17 316 *i* P **P 18 04 57.6 +0.1**
MDOK *i* *PP **pP 18 05 52.3 +0.1**
MDOK *e*S **S 18 14 37.5 -0.4**
TNSS Tian-Shan 79.20 316 ⇑*iP* **P 18 04 58.3 +0.3**
baz=315
TNSS Tian-Shan 79.20 316 ⇑*iP* **P 18 04 58.2 +0.3**
AAA Alma-Ata 79.28 316 ⇑*iP* **P 18 04 58.2 +0.3**
comp=Z,12nm,1.0s,baz=316
AAA *e*S **S 18 14 38.9 0.0**
baz=316
AAA Alma-Ata 79.28 316 *c iP* **P 18 04 58.2 +0.3**
AAA *e*S **S 18 14 38.8 0.0**
AAA pmax pmax
comp=Z,12nm,1.0s
CHKK Chushkaly 79.43 316 *eP* **P 18 04 58.1 -0.6**
baz=316
CHKK Chushkaly 79.43 316 *eP* **P 18 04 58.0 -0.6**
NIL Nilore 79.44 306 P **P 18 04 58.2 -0.8**
NIL IAmb IAmb 18 05 00.1
comp=Z,33nm,0.7s
NIL **pP 18 05 49.7 -3.9**
KDAK Kodiak Island 79.51 28 P **P 18 04 59.2 +0.5**
comp=Z,42nm,1.0s,baz=195,slow=2.2,SNR=23
KDAK Kodiak Island 79.51 28 P **P 18 04 59.1 +0.3**
KDAK IAmb IAmb 18 05 00.7
comp=Z,101nm,1.2s
SEM Semipalatinsk 79.57 323 *i* P **P 18 04 58.2 -1.3**
comp=Z,5.4nm,0.9s,baz=323
SEM Semipalatinsk 79.57 323 *i* P **P 18 04 58.2 -1.3**
SEM pmax pmax
comp=Z,5.0nm,0.9s
MTBS Maitube 79.59 315 *i* P **P 18 05 00.4 +0.7**
baz=315
MTBS Maitube 79.59 315 *i* P **P 18 05 00.3 +0.7**
BOOM Boomskoye usch 79.75 315 P **P 18 05 00.8 +0.2**
BOOM pmax pmax
comp=Z,25nm,0.6s
BOOM Boomskoye usch 79.75 315 P **P 18 05 00.8 +0.2**
BOOM IAmb IAmb 18 05 02.5
comp=Z,25nm,0.6s
BOOM pP **pP 18 05 53.4 -2.0**
SVW2 Sparrevohn 79.83 25 P **P 18 05 01.4 +1.0**
SVW2 IAmb IAmb 18 05 03.0
comp=Z,72nm,1.2s
KUU Kurty 79.89 316 ⇑*iP* **P 18 05 01.0 -0.1**
comp=Z,74nm,1.7s,baz=316
KUU *i* S **S 18 14 44.6 -0.5**
baz=316
KUU Kurty 79.89 316 *c iP* **P 18 05 01.0 -0.1**
KUU *i* S **S 18 14 44.6 -0.5**
KUU pmax pmax
comp=Z,74nm,1.7s
TKM2 Tokmak 2 80.11 315 P **P 18 05 02.7 +0.1**
SNR=30
TKM2 Tokmak 2 80.11 315 P **P 18 05 01.7 -0.9**
KZA Kyzart 80.12 314 P **P 18 05 04.0 +1.0**
SNR=24
KBK Karagaybulak 80.50 315 P **P 18 05 05.0 +0.3**
SNR=6.8
TTA Tatalina 80.62 23 P **P 18 05 05.0 +0.3**
TTA pmax pmax
comp=Z,29nm,1.2s
TTA Tatalina 80.62 23 P **P 18 05 05.0 +0.3**
KURK Kurchatov 80.65 323 *c iP* **P 18 05 04.8 -0.2**
KURK pmax pmax
comp=Z,49nm,1.3s
KURK Kurchatov 80.65 323 P **P 18 05 04.5 -0.4**
KURK **pP 18 05 58.4 -1.4**
KURBB Kurchatov Arra 80.67 323 P **P 18 05 04.8 -0.2**
comp=Z,15nm,1.0s,baz=113,slow=4.4,SNR=48
KURBB pP **pP 18 05 59.3 -0.6**
comp=Z,6.1nm,0.6s,baz=114,slow=4.4,SNR=4.7
KURBB Kurchatov Arra 80.67 323 P **P 18 05 04.3 -0.8**
RSO Redoubt South 80.71 26 P **P 18 05 04.8 -0.6**
CHMS Chumysh 80.73 315 P **P 18 05 05.3 -0.4**
SNR=13
FRU1 Bishkek 80.76 315 P **P 18 05 04.7 -1.2**
FRU1 pmax pmax
comp=Z,13nm,1.0s
FRU1 Bishkek 80.76 315 P **P 18 05 04.7 -1.2**
AAK Ala-Archa 80.81 315 P **P 18 05 06.6 +0.3**
SNR=14
AAK Ala-Archa 80.81 315 *c iP* **P 18 05 06.4 +0.1**
AAK pmax pmax
comp=Z,13nm,0.7s
AAK Ala-Archa 80.81 315 P **P 18 05 06.2 -0.1**
AAK **pP 18 05 60.0 -1.3**
HOM Homer 80.83 27 P **P 18 05 05.8 +0.1**
baz=242
SGDS Sogindy 80.94 315 ⇑*iP* **P 18 05 06.6 -0.3**
comp=Z,24nm,1.8s,baz=315
SGDS *e*S **S 18 14 55.1 -1.2**
baz=315
SGDS Sogindy 80.94 315 *c iP* **P 18 05 06.5 -0.3**
SGDS *e*S **S 18 14 55.0 -1.2**
SGDS pmax pmax
comp=Z,24nm,1.8s
CNPM China Poot 80.95 27 P **P 18 05 06.4 0.0**
CNPM **pP 18 05 59.6 -1.5**
USP Ospenovka 80.98 315 P **P 18 05 07.1 +0.1**
SNR=18
BRLK Bradley Lake 81.22 27 P **P 18 05 07.5 -0.3**
AML Almayashu 81.25 314 P **P 18 05 09.0 +0.1**
SNR=21
RDOG Red Dog Mine 81.28 17 P **P 18 05 09.1 +1.2**
EKS2 Erkin-Say 81.33 314 P **P 18 05 09.3 +0.3**
SNR=26
BTLS Baital 81.79 317 ⇑*iP* **P 18 05 11.2 +0.1**
comp=Z,32nm,1.7s,baz=317
BTLS Baital 81.79 317 *c iP* **P 18 05 11.1 0.0**
BTLS pmax pmax
comp=Z,32nm,1.7s
SKT Skwentna 81.95 25 P **P 18 05 10.1 -1.6**
SEW Seward 82.01 27 P **P 18 05 11.6 -0.3**
SEW IAmb IAmb 18 05 13.3
comp=Z,89nm,1.2s
SUA Susitna One 82.05 25 P **P 18 05 10.2 -2.1**
SUA IAmb IAmb 18 05 13.9
comp=Z,34nm,0.6s
O22K Cooper Landing 82.06 27 P **P 18 05 11.9 -0.3**
baz=244
PPLA Purkeypile 82.12 24 P **P 18 05 11.9 -0.7**
PPLA IAmb IAmb 18 05 17.3
comp=Z,68nm,1.3s
RC01 Rabbit Creek A 82.32 26 P **P 18 05 13.3 -0.2**
baz=244
CUT Chulitna 82.68 25 P **P 18 05 14.4 -0.9**
baz=243
MAW Mawson 82.68 203 P **P 18 05 16.0 +0.8**
comp=Z,28nm,0.7s,baz=87,slow=6.4,SNR=92
MAW PKKPbc **PKKPbc 18 23 37.4 -4.1**
comp=Z,4.6nm,0.7s,baz=296,slow=5.3,SNR=13
MAW Mawson 82.68 203 P **P 18 05 16.0 +0.8**
baz=83,SNR=44
MAW Mawson 82.68 203 P **P 18 05 16.0 +0.8**
MAW Mawson 82.68 203 P **P 18 05 15.8 +0.5**
PMR Palmer 82.80 26 P **P 18 05 15.5 -0.4**
PMR pmax pmax
comp=Z,78nm,1.4s
PMR Palmer 82.80 26 P **P 18 05 15.5 -0.4**
PMR IAmb IAmb 18 05 16.9
comp=Z,78nm,1.4s
BTK Batken 82.84 311 P **P 18 05 15.6 -1.2**
BTK pmax pmax
comp=Z,9.0nm,0.8s
BTK Batken 82.84 311 P **P 18 05 15.6 -1.2**
KTH Kantishna Hill 82.93 24 P **P 18 05 15.6 -1.1**
KTH IAmb IAmb 18 05 17.3
comp=Z,74nm,1.2s
GHO Glory Hole Cre 82.97 26 P **P 18 05 16.6 -0.3**
GHO IAmb IAmb 18 05 18.0
comp=Z,93nm,1.4s
GAR Garm 82.98 310 P **P 18 05 16.7 -0.9**
KNK Knik Glacier 83.02 26 P **P 18 05 16.9 -0.2**
KNK IAmb IAmb 18 05 18.5
comp=Z,62nm,1.0s
KBL Kabul 83.04 306 P **P 18 05 16.8 -1.3**
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 83.04 306 P **P 18 05 16.8 -1.3**
IMAR Indian Mountai 83.05 21 P **P 18 05 17.4 +0.2**
DZA Taraz 83.13 314 ⇑*iP* **P 18 05 18.0 -0.2**
comp=Z,13nm,0.9s,baz=314
DZA Taraz 83.13 314 *c iP* **P 18 05 17.9 -0.2**
DZA pmax pmax
comp=Z,13nm,0.9s
TRF Thorofare Moun 83.14 24 P **P 18 05 16.8 -1.1**
BPAW Bear Paw Mtn. 83.16 23 P **P 18 05 17.1 -0.8**
Q23K Middleton Isla 83.17 28 P **P 18 05 18.0 +0.1**
baz=247
SML Sawmill 83.24 26 P **P 18 05 17.9 -0.3**
GLI Glacier Island 83.40 27 P **P 18 05 18.8 -0.2**
HIN Hinchinbrook I 83.47 27 P **P 18 05 18.7 -0.8**
HIN IAmb IAmb 18 05 20.9
comp=Z,100nm,1.2s
FID Port Fidalgo 83.62 27 P **P 18 05 19.7 -0.5**
FID IAmb IAmb 18 05 21.4
comp=Z,82nm,1.1s
SCM Sheep Creek Mo 83.68 26 P **P 18 05 20.3 -0.3**

SCM pmax pmax
comp=Z,110nm,1.2s
SCM Sheep Creek Mo 83.68 26 P **P 18 05 20.3 -0.3**
RND Reindeer 83.70 24 P **P 18 05 19.5 -1.1**
RND pmax pmax
comp=Z,55nm,0.6s
RND Reindeer 83.70 24 P **P 18 05 19.5 -1.1**
RND IAmb IAmb 18 05 22.0
comp=Z,56nm,0.6s
KK31 Karatay Array 83.76 314 P **P 18 05 20.6 -0.7**
KK31 pmax pmax
comp=Z,44nm,1.5s
KK31 Karatay Array 83.76 314 P **P 18 05 20.6 -0.7**
KKAR Karatay Array 83.76 314 P **P 18 05 20.6 -0.7**
KKAR pmax pmax
comp=Z,44nm,1.5s
KKAR Karatay Array 83.76 314 P **P 18 05 20.9 -0.4**
KKAR Karatay Array 83.76 314 P **P 18 05 20.6 -0.7**
CHGR Chuyangaron 83.79 310 P **P 18 05 20.9 -0.7**
CHGR IAmb IAmb 18 05 22.7
comp=Z,35nm,0.7s
CHGR **pP 18 06 13.9 -3.0**
BWN Browne 83.79 23 P **P 18 05 20.9 -0.1**
MCK McKinley 83.81 24 P **P 18 05 20.1 -1.0**
MCK pmax pmax
comp=Z,133nm,1.2s
MCK McKinley 83.81 24 P **P 18 05 20.1 -1.0**
EYAK Cordova Ski Ar 83.88 27 P **P 18 05 21.6 +0.1**
IUG Iuzhnay 83.89 313⇑ *iP* **P 18 05 22.2 0.0**
comp=Z,28nm,1.7s,baz=313
IUG Iuzhnay 83.89 313*c iP* **P 18 05 22.1 0.0**
IUG pmax pmax
comp=Z,28nm,1.7s
BRZS Berezniki 84.04 321⇑ *iP* **P 18 05 22.4 -0.1**
comp=Z,62nm,1.4s,baz=321
BRZS Berezniki 84.04 321*c iP* **P 18 05 22.4 -0.1**
BRZS pmax pmax
comp=Z,62nm,1.4s
NEA2 Nenana 84.13 23 P **P 18 05 22.0 -0.7**
baz=244
KLU Klutina 84.16 26 P **P 18 05 23.1 +0.1**
KLU IAmb IAmb 18 05 24.7
comp=Z,70nm,1.0s
DHY Denali Highway 84.17 25 P **P 18 05 22.7 -0.4**
DHY IAmb IAmb 18 05 24.4
comp=Z,71nm,1.1s
KAIM Kayak Island 84.26 28 P **P 18 05 22.9 -0.5**
KAIM IAmb IAmb 18 05 25.5
comp=Z,51nm,1.0s
M24K Tolsona, Glenn 84.29 26 P **P 18 05 24.1 +0.5**
baz=247
RAGM Ragged Mountai 84.31 28 P **P 18 05 24.1 +0.4**
RAGM IAmb IAmb 18 05 25.6
comp=Z,100nm,1.2s
WRH Wood River Hil 84.46 23 P **P 18 05 23.4 -1.0**
WRH IAmb IAmb 18 05 24.8
comp=Z,100nm,1.2s
HMT Hamilton 84.48 28 P **P 18 05 24.7 +0.2**
HMT IAmb IAmb 18 05 26.3
comp=Z,69nm,1.1s
QSPA South Pole Qui 84.52 180 PKKPbc PKKPbc 18 23 32.5 -5.6
comp=Z,1.7nm,0.6s,baz=149,slow=1.1,SNR=8.3
QSPA South Pole Qui 84.52 180 P **P 18 05 24.6 -0.2**
MDM Murphy Dome 84.61 23 P **P 18 05 24.0 -1.1**
SUCK Suckling Hills 84.62 28 P **P 18 05 25.4 +0.2**
SUCK IAmb IAmb 18 05 26.8
comp=Z,58nm,1.3s
CCB Clear Creek Bu 84.65 23 P **P 18 05 24.0 -1.2**
CCB IAmb IAmb 18 05 25.5
comp=Z,106nm,1.2s
NRIK Noril'sk 84.69 342 P **P 18 05 25.3 -0.1**
comp=Z,123nm,1.1s,baz=122,slow=4.8,SNR=69
TCOL CIGO, UAF Yank 84.72 23 P **P 18 05 24.8 -0.8**
baz=245
COLA College 84.72 23*c iP* **P 18 05 24.7 -0.9**
COLA pmax pmax
comp=Z,64nm,1.0s
COLA College 84.72 23 P **P 18 05 24.4 -1.2**
HDA Harding Lake 84.89 24 P **P 18 05 25.4 -1.0**
baz=246,SNR=33
HDA Harding Lake 84.89 24 P **P 18 05 25.2 -1.2**
HDA IAmb IAmb 18 05 28.9
comp=Z,34nm,0.7s
COLD Coldfoot 84.89 20 P **P 18 05 27.0 +0.6**
baz=243,SNR=30
COLD Coldfoot 84.89 20 P **P 18 05 26.7 +0.3**
COLD IAmb IAmb 18 05 29.9
comp=Z,39nm,0.9s
PAX Paxson 84.93 25 P **P 18 05 26.2 -0.6**
PAX pmax pmax
comp=Z,37nm,1.4s
PAX Paxson 84.93 25 P **P 18 05 26.2 -0.6**
POKR Poker Plat Res 84.99 23 P **P 18 05 25.7 -1.3**
baz=246,SNR=5.7
IL31 85.06 23 P **P 18 05 25.8 -1.4**
IL31 IAmb IAmb 18 05 28.1
comp=Z,57nm,0.7s
ILAR Eielson Array 85.06 23 P **P 18 05 26.1 -1.3**
comp=Z,76nm,0.8s,baz=254,slow=4.8,SNR=238
ILAR **pP 18 06 23.2 +0.7**
comp=Z,12nm,0.8s,baz=251,slow=4.8,SNR=4.3
ILAR PKKPbc **PKKPdf 18 23 32.0 +4.1**
comp=Z,0.7nm,0.8s,baz=268,slow=0.7,SNR=6.1
ILAR Eielson Array 85.06 23 P **P 18 05 25.8 -1.5**
ILAR **pP 18 06 22.9 +0.4**
GLB Gilahina Butte 85.09 27 P **P 18 05 27.6 0.0**
GLB IAmb IAmb 18 05 29.1
comp=Z,61nm,1.2s
CRQM Cirque 85.15 28 P **P 18 05 28.5 +0.4**
CRQM IAmb IAmb 18 05 29.8
comp=Z,78nm,1.0s
VRDI Verde Repeater 85.17 27 P **P 18 05 28.0 -0.2**
VRDI IAmb IAmb 18 05 29.7
comp=Z,49nm,1.2s
TGL Tana Glacier 85.30 28 P **P 18 05 29.1 +0.4**
TGL IAmb IAmb 18 05 30.5
comp=Z,70nm,1.2s
MCARA McCarthy VSAT 85.42 27 P **P 18 05 29.0 -0.2**
MCARA IAmb IAmb 18 05 31.0
comp=Z,44nm,1.1s
ISLE Juniper Island 85.47 28 P **P 18 05 29.6 0.0**
ISLE IAmb IAmb 18 05 31.2
comp=Z,36nm,1.0s
RIDG Independent Ri 85.48 25 P **P 18 05 29.0 -0.5**
RIDG IAmb IAmb 18 05 30.7
comp=Z,68nm,1.0s
MESA MESA 85.51 28 P **P 18 05 30.1 +0.2**
MESA IAmb IAmb 18 05 31.9
comp=Z,43nm,1.0s
BALM Baldy 85.61 27 P **P 18 05 30.5 +0.2**
BALM IAmb IAmb 18 05 32.0
comp=Z,57nm,1.0s
MENT Mentasta 85.66 25 P **P 18 05 30.1 -0.2**
MENT IAmb IAmb 18 05 33.0
comp=Z,26nm,0.6s
YAH Yahtse 85.67 28 P **P 18 05 31.1 +0.4**
YAH IAmb IAmb 18 05 32.0
comp=Z,42nm,1.2s
TOLK Toolik Lake Re 85.74 19 P **P 18 05 31.2 +0.6**
baz=244
TOLK Toolik Lake Re 85.74 19 P **P 18 05 31.5 +0.8**
TOLK IAmb IAmb 18 05 32.8
comp=Z,42nm,1.1s
DOT Dot Lake 85.77 25 P **P 18 05 30.1 -0.8**
DOT IAmb IAmb 18 05 32.2
comp=Z,74nm,1.0s
SCRK Sand Creek 85.92 24 P **P 18 05 31.5 -0.2**
baz=249
BARN Barnard Glacie 85.94 28 P **P 18 05 32.2 +0.2**
CTGM Chitina Glacie 86.06 28 P **P 18 05 32.6 +0.1**
BVAR Borovoye Array 86.21 324 P **P 18 05 32.3 -0.9**
comp=Z,12nm,0.6s,baz=116,slow=6.8,SNR=60
BVAR pP **pP 18 06 28.4 -0.6**
comp=Z,8.2nm,0.6s,baz=122,slow=6.5,SNR=5.4
BRVK Borovoye 86.28 324 P **P 18 05 32.5 -1.0**
BRVK *PP **pP 18 06 27.7 -1.7**
BRVK pmax pmax
comp=Z,18nm,0.9s
BRVK Borovoye 86.28 324 P **P 18 05 32.5 -1.0**
BRVK pP **pP 18 06 27.7 -1.7**
PCA Pinnacle 86.29 29 P **P 18 05 34.1 +0.5**
PCA IAmb IAmb 18 05 35.3
comp=Z,50nm,1.0s
BCAR Beaver Creek A 86.53 26 P **P 18 05 34.8 +0.1**
BCPM Bancas Point 86.55 29 P **P 18 05 34.2 -0.5**
BCPM IAmb IAmb 18 05 36.1
comp=Z,60nm,1.2s
BMAR Burnt Mountain 86.96 21 P **P 18 05 37.1 +0.5**
EGAK Eagle 87.35 24 P **P 18 05 38.6 +0.2**
EGAK IAmb IAmb 18 05 40.0
comp=Z,61nm,1.0s
HYT Haines Junctio 87.81 28 P **P 18 05 41.5 +0.6**
HYT IAmb IAmb 18 05 43.8
comp=Z,53nm,0.9s
SKAG Skagway 88.53 30 P **P 18 05 44.7 +0.7**
SKAG IAmb IAmb 18 05 47.2
comp=Z,72nm,1.3s
HRA Herat 88.56 305 P **P 18 05 43.5 -1.6**
HRA pP **pP 18 06 38.2 -2.8**
BESE Bessie Mountai 88.57 31 P **P 18 05 44.8 +0.4**
JIS Juneau Island 88.74 31 P **P 18 05 45.8 +0.7**
DIB Dawson Inlet, 88.79 36 P **P 18 05 45.2 -0.2**
WHY Whitehorse 89.02 29 P **P 18 05 46.9 +0.4**
RER Riviere de l'E 89.04 249 P **P 18 05 48.3 +0.8**
WRAK Wrangell Islan 89.46 33 P **P 18 05 49.2 +0.8**
EPYK Eagle Plains 89.57 23 P **P 18 05 49.3 +0.4**
baz=256
EPYK Eagle Plains 89.57 23 P **P 18 05 49.0 +0.1**
DLBC Dease Lake 91.03 31 P **P 18 05 56.4 +0.5**
comp=Z,14nm,1.1s,baz=252,slow=2.3,SNR=9.4
DLBC Dease Lake 91.03 31 P **P 18 05 56.4 +0.5**
SYO Syowa Base 91.04 200⇓ *iP* **P 18 05 54.4 -1.2**
SYO Syowa Base 91.04 200⇑ *ePcP* **PcP 18 05 57.0 +0.5**
ABKAR Akbulak array 92.03 319 P **P 18 05 58.5 -2.1**
ABKAR Akbulak array 92.03 319 P **P 18 05 58.4 -2.3**
ABKAR IAmb IAmb 18 06 27.5
comp=Z,45nm,1.4s
GEYT Alibeck 92.27 308 P **P 18 06 00.7 -1.4**
comp=Z,2.5nm,0.6s,baz=164,slow=2.8,SNR=6.4
GEYT Alibeck 92.27 308 P **P 18 06 00.5 -1.6**
SVE Sverdlovsk 92.41 327 *eP* **P 18 06 00.4 -1.8**
SVE pmax pmax
comp=Z,19nm,1.5s
KBO Bosley Butte 92.86 48 P **P 18 06 06.2 +1.5**
JCC Jacoby Creek, 92.90 49 P **P 18 06 06.4 +1.6**
JCC IAmb IAmb 18 06 07.8
comp=Z,45nm,1.1s
KRMB Red Mountain 93.04 49 P **P 18 06 06.9 +1.3**
KRMB IAmb IAmb 18 06 08.7
comp=Z,54nm,1.2s
KMRM Mail Ridge 93.09 50 P **P 18 06 06.3 +0.5**
KHMM Horse Mountain 93.13 49 P **P 18 06 07.6 +1.5**
KCPM Cahto Peak 93.15 51 P **P 18 06 06.7 +0.5**
J01E Myrtle Point 93.16 47 P **P 18 06 05.5 -0.4**
baz=266
I02D Swisshome 93.29 46 P **P 18 06 05.9 -0.6**
baz=266
K02D Willamette Mer 93.31 48 P **P 18 06 06.0 -0.8**
baz=266,SNR=8.3
L02E Cave Junction 93.32 48 P **P 18 06 06.8 +0.1**
baz=266,SNR=11
AKTO Aktyubinsk 93.38 320 P **P 18 06 05.4 -1.4**
comp=Z,4.2nm,0.9s,baz=87,slow=4.2,SNR=9.8
AKTO pP **pP 18 07 04.0 +1.0**
comp=Z,2.1nm,0.6s,baz=69,slow=9.3,SNR=3.3
HOPS Hopland Field 93.49 51 P **P 18 06 08.4 +0.8**
ARU Arti 93.52 326 P **P 18 06 05.1 -2.2**
comp=Z,2.3nm,0.8s,baz=102,slow=3.0,SNR=11
ARU pP **pP 18 07 04.3 +1.0**
comp=Z,1.4nm,0.7s,baz=107,slow=6.1,SNR=1.8
ARU PP **PP 18 09 53.1 -2.1**
comp=Z,1.7nm,0.9s,baz=63,slow=4.1,SNR=4.1
ARU Arti 93.52 326*c iP* **P 18 06 05.1 -2.2**
ARU *PP **pP 18 07 02.2 -1.1**
ARU 18 09 51.9
ARU S **SKSac 18 16 16.4 -2.8**
ARU PS **PS 18 18 35.6 -4.2**
ARU SS **SS 18 23 20.6 +2.5**
ARU pmax pmax
comp=Z,15nm,1.1s
ARU Arti 93.52 326 P **P 18 06 04.9 -2.4**
ARU **pP 18 07 03.5 +0.2**
I03D Drain, OR 93.62 47 P **P 18 06 08.7 +0.6**
baz=266
E03A Lebam 93.67 44 P **P 18 06 07.8 -0.4**
E03A IAmb IAmb 18 06 11.1
comp=Z,35nm,1.0s
GDXM Geysers 93.69 52 P **P 18 06 10.3 +1.7**
GDXM IAmb IAmb 18 06 11.5
comp=Z,39nm,1.1s
G03D McMinnville, O 93.78 45 P **P 18 06 08.9 +0.1**
baz=266
O02D Mt. Diablo Mer 93.79 50 P **P 18 06 09.7 +0.6**
baz=266,SNR=56
M02C Callahan 93.83 49 P **P 18 06 09.6 +0.4**
baz=266,SNR=31
HUMO Hull Mountain 93.83 48 P **P 18 06 10.7 +1.5**
HUMO IAmb IAmb 18 06 12.1
comp=Z,29nm,1.1s
N02D Trinity Center 93.91 49 P **P 18 06 09.7 +0.1**
baz=266,SNR=17
YBH Yreka Blue Hor 93.95 49 P **P 18 06 10.5 +0.7**
comp=Z,27nm,1.0s,baz=298,slow=1.7,SNR=40
YBH Yreka Blue Hor 93.95 49 P **P 18 06 09.9 +0.1**
YBH IAmb IAmb 18 06 12.6
comp=Z,39nm,1.1s
WDC Whiskeytown Da 94.01 50 P **P 18 06 09.7 -0.2**
WDC pmax pmax
comp=Z,63nm,1.4s
WDC Whiskeytown Da 94.01 50 P **P 18 06 09.7 -0.2**
F04D Rainier, OR 94.02 44 P **P 18 06 10.0 +0.2**
baz=266
D03D Eldon 94.06 43 P **P 18 06 10.3 +0.3**
baz=266
H04D Lebanon 94.11 46 P **P 18 06 10.6 +0.3**
baz=267
D04E Lakebay 94.25 43 P **P 18 06 10.9 0.0**
baz=267
L04D Klamath Falls 94.29 48 P **P 18 06 11.0 -0.4**
baz=267,SNR=9.9
I04A Tendick Farm, 94.30 47 P **P 18 06 11.6 +0.3**
baz=267
E04D Cinebar 94.35 44 P **P 18 06 11.6 +0.3**
baz=267
A04D Lummi Island 94.38 42 P **P 18 06 12.1 +0.6**
baz=267
F04A Amboy 94.42 44 P **P 18 06 10.7 -1.0**
F04A IAmb IAmb 18 06 14.8
comp=Z,17nm,1.0s
J04D Umpqua Nationa 94.49 47 P **P 18 06 12.2 -0.2**
baz=267
H04A Detroit Lake 94.51 46 P **P 18 06 12.0 -0.2**
O03E Paynes Creek 94.55 50 P **P 18 06 12.4 -0.2**
baz=267,SNR=30
M04C Macdoel 94.61 49 P **P 18 06 12.9 +0.1**
baz=267,SNR=16
SAO San Andreas Ge 94.63 54 P **P 18 06 12.3 -0.6**
SAO pmax pmax
comp=Z,16nm,1.0s
SAO San Andreas Ge 94.63 54 P **P 18 06 12.3 -0.6**
SAO IAmb IAmb 18 06 15.3
comp=Z,16nm,1.0s
K04D Chiloquin, OR 94.72 48 P **P 18 06 13.1 -0.2**
baz=267
ORV Oroville 94.74 51 P **P 18 06 12.8 -0.5**
ORV pmax pmax
comp=Z,41nm,1.2s
ORV Oroville 94.74 51 P **P 18 06 12.8 -0.5**
C36M Paulatuk 94.75 21 P **P 18 06 11.8 -0.8**
baz=267
C36M Paulatuk 94.75 21 P **P 18 06 11.7 -0.9**
C36M IAmb IAmb 18 06 13.0
comp=Z,25nm,1.1s
B05A Bryant 94.76 42 P **P 18 06 13.1 -0.1**
baz=267
D05A Enumclaw 94.78 43 P **P 18 06 15.4 +2.1**
D05A IAmb IAmb 18 06 15.7
comp=Z,29nm,1.2s
F05D White Salmon 95.09 45 P **P 18 06 15.2 +0.4**
baz=268
I05D Terrebonne, OR 95.10 46 P **P 18 06 14.9 0.0**
baz=268
PMPB Monarch Peak 95.12 54 P **P 18 06 15.9 +0.7**
PMPB IAmb IAmb 18 06 19.1
comp=Z,25nm,1.2s
AFDM Forest Hills D 95.12 51 P **P 18 06 14.7 -0.4**
J05D Fort Rock, OR 95.13 47 P **P 18 06 15.3 +0.1**
baz=268
G05D Wamic, OR 95.16 45 P **P 18 06 15.3 +0.2**
baz=268
K05A Summer Lake 95.36 48 P **P 18 06 16.8 +0.5**
K05A IAmb IAmb 18 06 19.1
comp=Z,29nm,1.3s
PINE Pine Mountain 95.37 47 P **P 18 06 16.3 0.0**
PINE IAmb IAmb 18 06 19.1
comp=Z,16nm,1.1s
CMB Columbia Colle 95.54 52 P **P 18 06 16.7 -0.4**
CMB pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 95.54 52 P **P 18 06 16.7 -0.4**
CMB IAmb IAmb 18 06 18.5
comp=Z,13nm,1.0s
PAGB Antelope Grade 95.54 55 P **P 18 06 17.4 +0.3**
PAGB IAmb IAmb 18 06 19.3
comp=Z,29nm,1.0s
LTY Liberty 95.68 43 P **P 18 06 17.1 -0.5**
SMMC Simmler 95.73 55 P **P 18 06 18.4 +0.4**
baz=268
MOD Modoc Plateau 95.76 49 P **P 18 06 17.7 -0.4**
MOD IAmb IAmb 18 06 20.6
comp=Z,34nm,1.4s
PKM Mcpherson Peak 95.86 56 P **P 18 06 18.7 -0.1**
baz=268
SBC Santa Barbara 95.92 56 P **P 18 06 19.5 +0.7**
baz=268
F07A Phinny Hill Vi 96.16 45 P **P 18 06 19.9 +0.3**
F07A IAmb IAmb 18 06 21.7
comp=Z,9.5nm,0.5s
VCNR Virginia City 96.16 51 P **P 18 06 20.0 -0.1**
VCNR IAmb IAmb 18 06 21.9
comp=Z,11nm,0.7s
PNTR Pine Nut 96.20 51 P **P 18 06 20.0 -0.3**
PNTR IAmb IAmb 18 06 22.2
comp=Z,21nm,1.0s
E07A Sunnyside 96.22 44 P **P 18 06 18.4 -1.5**
E07A IAmb IAmb 18 06 22.6
comp=Z,24nm,1.2s
WAKR Walker 96.30 52 P **P 18 06 20.5 -0.3**
WAKR IAmb IAmb 18 06 22.7
comp=Z,13nm,1.0s
PAHR Pah Rah Range 96.38 51 P **P 18 06 22.3 +1.3**
PAHR IAmb IAmb 18 06 22.7
comp=Z,11nm,0.9s
I07A Izee 96.41 46 P **P 18 06 20.8 -0.2**
PNT Penticton 96.44 41 P **P 18 06 20.0 -0.8**
PNT pmax pmax
comp=Z,21nm,1.0s
HAWA Hanford 96.44 44 P **P 18 06 20.2 -0.7**
HAWA IAmb IAmb 18 06 23.6
comp=Z,23nm,1.1s
YERR Yerington 96.47 51 P **P 18 06 22.0 +0.6**
YERR IAmb IAmb 18 06 23.2
comp=Z,15nm,1.0s
MDPB Devils Postpil 96.56 53 P **P 18 06 22.3 +0.3**
MDPB IAmb IAmb 18 06 24.2
comp=Z,14nm,0.9s
B08A Colville Reser 96.61 42 P **P 18 06 20.9 -0.7**
B08A IAmb IAmb 18 06 24.0
comp=Z,12nm,1.1s
ARVC Arvin 96.68 55 P **P 18 06 22.4 +0.2**
baz=268
OSI Osito Audit: C 96.75 56 P **P 18 06 22.7 +0.1**
baz=268
MLAC Mammoth, Mammo 96.75 53 P **P 18 06 22.7 -0.1**
baz=268
E08A Dider Farm, El 96.77 44 P **P 18 06 22.2 -0.1**
E08A IAmb IAmb 18 06 24.4
comp=Z,10.0nm,0.8s
BELA Belgrano 2 96.79 180 P **P 18 06 21.2 -0.7**
G08A Pilot Rock 96.82 45 P **P 18 06 22.5 -0.3**
G08A IAmb IAmb 18 06 25.3
comp=Z,13nm,1.1s
SCI2 San Clemente I 96.84 58 P **P 18 06 23.2 +0.2**
baz=268
D08A Wollman Farm, 96.87 43 P **P 18 06 21.1 -1.8**
D08A IAmb IAmb 18 06 24.9
comp=Z,12nm,0.9s
CIS Catalina Islan 96.96 57 P **P 18 06 23.7 +0.1**
baz=268
ISA Isabella, Lake 96.98 55 P **P 18 06 24.1 +0.4**
ISA pmax pmax
comp=Z,14nm,1.1s
ISA Isabella, Lake 96.98 55 P **P 18 06 23.6 -0.1**
baz=268
ISA Isabella, Lake 96.98 55 P **P 18 06 24.1 +0.4**
ISA IAmb IAmb 18 06 25.6
comp=Z,14nm,1.1s
WVOR Wild Horse Val 97.01 48 P **P 18 06 23.1 -0.6**
WVOR pmax pmax
comp=Z,12nm,1.0s
WVOR Wild Horse Val 97.01 48 P **P 18 06 23.1 -0.6**
WVOR IAmb IAmb 18 06 26.1
comp=Z,12nm,0.9s
RYN Ryan 97.02 52 P Pdif 18 06 24.7 +0.7
RYN IAmb IAmb 18 06 26.3
comp=Z,13nm,1.0s
J08A Circle Bar Ran 97.15 47 P **P 18 06 23.9 -0.3**
J08A IAmb IAmb 18 06 26.6
comp=Z,14nm,1.0s
PASC Pasadena Art C 97.18 56 P **P 18 06 23.6 -0.9**
NVAR Mina Array Bea 97.19 52 P Pdif 18 06 25.8 +1.0
comp=Z,16nm,0.9s,baz=258,slow=6.3,SNR=83
NVAR PP **PP 18 10 22.4 -1.9**
comp=Z,4.4nm,1.1s,baz=252,slow=8.8,SNR=7.3
NVAR Mina Array Bea 97.19 52 P Pdif 18 06 25.4 +0.6
NVAR PP **PP 18 10 21.5 -2.8**
ABPO Ambohimpanom 97.24 250 P **P 18 06 25.1 -0.2**
ABPO pmax pmax
comp=Z,19nm,1.3s
ABPO Ambohimpanom 97.24 250 P **P 18 06 25.1 -0.2**
ABPO IAmb IAmb 18 06 26.8
comp=Z,19nm,1.2s
MWC Mount Wilson 97.28 56 P **P 18 06 24.4 -0.8**
MWC pmax pmax
comp=Z,55nm,1.1s
MWC Mount Wilson 97.28 56 P **P 18 06 24.4 -0.8**
NV11 Mina Array Sit 97.31 52 P Pdif 18 06 26.5 +1.2
NV11 IAmb IAmb 18 06 27.5
comp=Z,18nm,1.0s
C09A Chrisman Ranch 97.32 43 P **P 18 06 24.7 -0.1**
C09A IAmb IAmb 18 06 26.6
comp=Z,5.8nm,0.6s
CWC Cottonwood Cre 97.32 54 P **P 18 06 25.1 -0.2**
baz=269
EDW2 Edwards Air Fo 97.36 56 P Pdif 18 06 25.6 +0.2
baz=269
KVN Kaiserville 97.36 51 P Pdif 18 06 26.2 +0.7
KVN pmax pmax
comp=Z,13nm,1.0s
KVN Kaiserville 97.36 51 P Pdif 18 06 26.2 +0.7
KVN IAmb IAmb 18 06 27.7
comp=Z,13nm,1.0s
E09A Wood Farm, Sta 97.40 44 P Pdif 18 06 25.8 +0.5
LRMC Laurel Mtn Rad 97.62 55 P Pdif 18 06 27.5 +0.8
baz=269,SNR=18
MPMC Manual Prospec 97.79 54 P Pdif 18 06 27.8 +0.3
baz=269,SNR=19
MURC Murrieta 97.99 57 P Pdif 18 06 28.5 +0.3
baz=269
BMO Blue Mountains 97.99 46 P **P 18 06 27.5 -0.6**
BMO pmax pmax
comp=Z,9.0nm,0.8s
BMO Blue Mountains 97.99 46 P **P 18 06 27.5 -0.6**
BMO IAmb IAmb 18 06 29.6
comp=Z,8.7nm,0.8s
TPH Tonopah 98.04 52 P **P 18 06 28.3 -0.3**
TPH pmax pmax
comp=Z,60nm,1.2s
TPH Tonopah 98.04 52 P **P 18 06 28.3 -0.3**
F10A Beach Ranch, E 98.04 44 P **P 18 06 27.9 -0.3**
F10A IAmb IAmb 18 06 30.4
comp=Z,19nm,0.8s
109C Camp Elliot, M 98.05 58 P Pdif 18 06 29.1 +0.6
baz=269
109C Camp Elliot, M 98.05 58 P Pdif 18 06 28.5 +0.1
NEW Newport 98.08 42 P **P 18 06 28.3 0.0**
comp=Z,8.6nm,0.9s,baz=267,slow=4.2,SNR=9.2
NEW Newport 98.08 42 P Pdif 18 06 28.7 +0.3
baz=271
NEW Newport 98.08 42 P **P 18 06 25.1 -3.2**
NEW IAmb IAmb 18 06 30.9
comp=Z,15nm,1.2s
RRX Edison Barstow 98.17 56 P **P 18 06 28.9 -0.1**
baz=269
FURC Furnace Creek, 98.31 54 P Pdif 18 06 30.0 +0.5
baz=270

GSC	**Goldstone, Bar**	**98.34**	**55**	P	Pdif	18 06 30.3	+0.5
GSC				pmax	pmax		
	comp=Z,15nm,1.4s						
GSC	**Goldstone, Bar**	**98.34**	**55**	P	Pdif	18 06 30.0	+0.2
	baz=269						
GSC	**Goldstone, Bar**	**98.34**	**55**	P	Pdif	18 06 30.3	+0.5
GSC				IAmb	IAmb	18 06 31.6	
	comp=Z,15nm,1.4s						
PFO	**Pinyon Flats O**	**98.60**	**57**	P	**P**	**18 06 32.3**	**+1.2**
PFO				pmax	pmax		
	comp=Z,16nm,1.1s						
PFO	**Pinyon Flats O**	**98.60**	**57**	P	**P**	**18 06 31.5**	**+0.4**
	baz=269						
PFO	**Pinyon Flats O**	**98.60**	**57**	P	**P**	**18 06 32.3**	**+1.2**
PFO				IAmb	IAmb	18 06 33.6	
	comp=Z,16nm,1.1s						
XPFO	**Pion Flat**	**98.60**	**57**	P	**P**	**18 06 31.9**	**+0.8**
XPFO				IAmb	IAmb	18 06 33.6	
	comp=Z,15nm,1.0s						
MONP2	**Monument Peak**	**98.62**	**58**	P	Pdif	18 06 30.9	-0.3
	baz=269						
HEC	**Hector,Ludlow**	**98.72**	**56**	P	Pdif	18 06 31.0	-0.5
	baz=270,SNR=9.1						
SHOC	**Shoshone, Teco**	**98.78**	**55**	P	**P**	**18 06 31.7**	**0.0**
	baz=270						
YKA	**Yellowknife Ar**	**98.78**	**28**	P	Pdif	18 06 30.9	0.0
	comp=Z,6.9nm,0.9s,baz=288,slow=4.8,SNR=9.7						
YKA				pP	pP	18 07 27.9	+0.8
	comp=Z,3.9nm,0.8s,baz=277,slow=4.4,SNR=3.9						
TPNV	**Topopah Spring**	**98.80**	**54**	P	Pdif	18 06 31.6	-0.3
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TPNV	**Topopah Spring**	**98.80**	**54**	P	Pdif	18 06 31.9	-0.1
	baz=270						
TPNV	**Topopah Spring**	**98.80**	**54**	P	Pdif	18 06 31.6	-0.4
TPNV				IAmb	IAmb	18 06 34.3	
	comp=Z,9.9nm,0.9s						
IKP	**In-Ko-Pah, Jac**	**98.88**	**58**	P	Pdif	18 06 32.0	-0.3
	baz=269						
BELC	**Belle Mtn. Jos**	**98.99**	**57**	P	Pdif	18 06 32.6	-0.2
	baz=270						
ESJX	**Sierra Juarez**	**99.01**	**59**	Pdif	**Pdif**	**18 06 32.6**	**-0.3**
TUQ	**Turquoise Moun**	**99.06**	**55**	P	**Pdif**	**18 06 33.4**	**+0.3**
	baz=270						
MFID	**Camas Ranch**	**99.08**	**47**	Pdif	**Pdif**	**18 06 32.9**	**-0.1**
MFID				IAmb	IAmb	18 06 35.5	
	comp=Z,11nm,1.1s						
SWSC	**Sam W. Stewart**	**99.14**	**58**	P	**Pdif**	**18 06 33.5**	**+0.2**
	baz=270						
GMRC	**Granite Mounta**	**99.27**	**56**	P	**Pdif**	**18 06 34.0**	**-0.1**
	baz=270,SNR=8.6						
R11A	**Troy Canyon, C**	**99.33**	**52**	P	**Pdif**	**18 06 34.5**	**+0.2**
	baz=271						
R11A	**Troy Canyon, C**	**99.33**	**52**	Pdif	**Pdif**	**18 06 35.2**	**+1.0**
BC3	**Big Chuckawall**	**99.44**	**57**	P	**Pdif**	**18 06 34.8**	**0.0**
	baz=270,SNR=5.1						
SHPR	**Sheep Range**	**99.68**	**54**	Pdif	**Pdif**	**18 06 36.3**	**+0.4**
IRM	**Iron Mountain**	**99.70**	**56**	P	**Pdif**	**18 06 36.0**	**+0.2**
	baz=270						
PRN	**Pahroc Range**	**99.76**	**53**	Pdif	**Pdif**	**18 06 37.7**	**+1.6**
PRN				IAmb	IAmb	18 06 39.4	
	comp=Z,14nm,1.5s						
GLA	**Glamis**	**99.96**	**58**	P	**Pdif**	**18 06 38.7**	**+1.6**
GLA				pmax	pmax		
	comp=Z,11nm,1.0s						
GLA	**Glamis**	**99.96**	**58**	P	**Pdif**	**18 06 37.3**	**+0.3**
	baz=270						
GLA	**Glamis**	**99.96**	**58**	Pdif	**Pdif**	**18 06 38.7**	**+1.6**
GLA				IAmb	IAmb	18 06 39.7	
	comp=Z,11nm,0.9s						
PRGR	**Permogore**	**100.08**	**332**	*e*P	**Pdif**	**18 06 34.3**	**-2.4**
PRGR				*e*		18 10 42.2	
HLID	**Hailey**	**100.10**	**47**	P	**Pdif**	**18 06 37.8**	**+0.2**
	baz=272						
NEE2	**Needles Airpor**	**100.13**	**56**	P	**Pdif**	**18 06 38.0**	**+0.4**
	baz=270						
SNAA	**Sanae**	**100.50**	**189**	Pdiff	**Pdif**	**18 06 38.2**	**-0.5**
SNAA	**Sanae**	**100.50**	**189**	PP	**PP**	**18 10 46.7**	**-1.1**
	comp=Z,9.2nm,1.0s,baz=148,slow=9.2,SNR=9.9						
SNAA	**Sanae**	**100.50**	**189**	P	**Pdif**	**18 06 37.9**	**-0.8**
SNAA						18 10 47.3	
SNAA	**Sanae**	**100.50**	**189**	Pdif	**Pdif**	**18 06 37.9**	**-0.8**
SNAA				PP	**PP**	**18 10 47.3**	**-0.6**
PDMCI	**Parker Dam,Lak**	**100.53**	**56**	P	**Pdif**	**18 06 39.9**	**+0.5**
	baz=271						
DUG	**Dugway, Tooele**	**101.43**	**50**	P	**Pdif**	**18 06 43.9**	**+0.3**
	baz=273						
214A	**Organ Pipe Nat**	**101.67**	**59**	P	**Pdif**	**18 06 44.9**	**+0.3**
	baz=271						
VNA2	**Neumayer--Watz**	**101.86**	**188**	Pdiff	**Pdif**	**18 06 44.9**	**+0.3**
VNA3	**Neumayer Olymp**	**101.89**	**188**	Pdiff	**Pdif**	**18 06 44.3**	**-0.5**
BOZ	**Bozeman (W)**	**101.97**	**45**	P	**Pdif**	**18 06 45.9**	**+0.1**
	baz=275						
VNA1	**Neumayer--Stat**	**102.24**	**188**	Pdiff	**Pdif**	**18 06 46.3**	**+0.1**
WUAZ	**Wupatki**	**102.77**	**55**	P	**Pdif**	**18 06 49.3**	**-0.3**
	baz=273						
KLMR	**Klimovskoe**	**103.12**	**331**	*e*P	**Pdif**	**18 06 47.3**	**-3.0**
KLMR				pmax	pmax		
	comp=Z,21nm,1.2s						
KLMR	**Klimovskoe**	**103.12**	**331**	*e*Pdif	**Pdif**	**18 06 47.4**	**-2.9**
KLMR				AMP		18 06 49.7	
	comp=Z,21nm,1.2s						
KLMR				*e*PDif	**pPdif**	**18 07 44.9**	**-1.4**
KLMR				*e*PP	**PP**	**18 11 02.4**	**-5.5**
KLMR				*e*PKKPbc	**PKKPbc**	**18 22 44.4**	**-3.9**
BW06	**Boulder Array**	**103.70**	**47**	P	**Pdif**	**18 06 53.6**	**-0.1**
	baz=275						
PDAR	**Pinedale Array**	**103.70**	**47**	Pdiff	**Pdif**	**18 06 54.0**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=251,slow=2.7,SNR=15						
PDAR	**Pinedale Array**	**103.70**	**47**	Pdif	**Pdif**	**18 06 53.1**	**-0.6**
W18A	**Petrified Fore**	**104.13**	**55**	P	**Pdif**	**18 06 55.4**	**-0.3**
	baz=273						
O20A	**White River Ci**	**104.93**	**50**	P	**Pdif**	**18 06 58.8**	**-0.4**
	baz=276						
MVCO	**Mesa Verde**	**104.98**	**53**	P	**Pdif**	**18 06 59.0**	**-0.6**
	baz=275						
ARCES	**ARCESS Array B**	**105.67**	**342**	Pdiff	**Pdif**	**18 07 00.5**	**-1.1**
	comp=Z,15nm,0.9s,baz=60,slow=7.2,SNR=27						
ARCES				PKiKP	**PKiKP**	**18 11 11.4**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=12,slow=6.2,SNR=7.3						
ARCES				PKKPbc	**PKKPbc**	**18 22 36.8**	**-4.1**
	comp=Z,5.2nm,0.8s,baz=255,slow=3.0,SNR=19						
ARCES	**ARCESS Array B**	**105.67**	**342**	P	**Pdif**	**18 07 00.0**	**-1.5**
ARCES	**ARCESS Array B**	**105.67**	**342**	Pdif	**Pdif**	**18 07 00.0**	**-1.5**
ARE0	**ARCESS Array S**	**105.67**	**342**	Pdif	**Pdif**	**18 07 00.5**	**-1.1**
ANMO	**Albuquerque**	**106.82**	**55**	P	**PKiKP**	**18 11 16.6**	**0.0**
	baz=275						
SDCO	**Great Sand Dun**	**107.31**	**52**	P	**PKiKP**	**18 11 17.4**	**-0.2**
	baz=277						
RSSD	**Black Hills**	**107.51**	**46**	P	**PKiKP**	**18 11 17.9**	**+0.2**
	baz=280						
MNTX	**Cornudas Mount**	**108.00**	**59**	P	**PKiKP**	**18 11 18.7**	**0.0**
	baz=275						
FINES	**FINESS Array B**	**109.09**	**334**	Pdiff	**Pdif**	**18 07 15.3**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=57,slow=7.0,SNR=9.0						
FINES				PKiKP	**PKiKP**	**18 11 19.1**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=83,slow=3.6,SNR=12						
FINES				PP	**PP**	**18 11 50.8**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=66,slow=9.2,SNR=5.8						
FINES				PKKPbc	**PKKPbc**	**18 22 26.0**	**-4.0**
	comp=Z,2.7nm,0.9s,baz=251,slow=1.0,SNR=7.4						
TXAR	**Lajitas Array**	**109.67**	**61**	PKiKP	**PKiKP**	**18 11 21.1**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=264,slow=1.1,SNR=3.4						
TXAR				PKKPbc	**PKKPbc**	**18 22 27.4**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=123,slow=4.6,SNR=3.5						
TXAR				PKKP	**PKKPab**	**18 22 39.6**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=115,slow=6.8,SNR=15						
TXAR	**Lajitas Array**	**109.67**	**61**	PKKPdf	PKKPdf	18 22 39.4	-3.3
MSTX	**Muleshoe**	**109.95**	**56**	P	**PKiKP**	**18 11 21.8**	**-0.6**
	baz=277						
AMTX	**Amarillo**	**110.73**	**55**	P	**PKiKP**	**18 11 23.0**	**-0.8**
	baz=278						
BRTR	**Keskin Array B**	**111.22**	**310**	PKKPbc	PKKPbc	18 22 21.8	-0.8
	comp=Z,1.6nm,0.8s,baz=191,slow=5.8,SNR=3.6						
ULM	**Lac du Bonnet**	**111.45**	**38**	PKiKP	**PKiKP**	**18 11 22.9**	**-1.7**
	comp=Z,9.3nm,0.9s,baz=46,slow=5.4,SNR=4.2						
AKASG	**Malin Array Be**	**111.46**	**323**	PKiKP	**PKiKP**	**18 11 23.4**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=61,slow=2.5,SNR=5.7						
AKASG				PP	**PP**	**18 12 05.3**	**-3.6**
	comp=Z,8.6nm,1.0s,baz=58,slow=6.8,SNR=18						
AKASG				PKKPbc	**PKKPbc**	**18 22 18.6**	**-3.4**
	comp=Z,1.0nm,0.5s,baz=260,slow=3.4,SNR=6.5						
AKASG	**Malin Array Be**	**111.46**	**323**		**PKiKP**	**18 11 23.0**	**-1.6**
AKASG					**PP**	**18 12 05.4**	**-3.6**
ABTX	**Abilene, Hawle**	**112.73**	**57**	P	**PKiKP**	**18 11 27.2**	**-0.5**
	baz=278						
SORM	**Soroca**	**112.81**	**320**	⇓P	**PKKPbc**	**18 22 15.4**	**-2.0**
ECSD	**EROS Data Cent**	**112.83**	**45**	P	**PKiKP**	**18 11 26.5**	**-0.9**
	baz=285						
JCT	**Junction City**	**112.89**	**59**	P	**PKiKP**	**18 11 27.6**	**-0.4**
	baz=278						
WMOK	**Wichita Mounta**	**113.11**	**55**	P	**PKiKP**	**18 11 27.8**	**-0.5**
	baz=280						
USHA	**Ushuaia**	**113.18**	**159**	PKKPbc	PKKPbc	18 22 10.1	-6.4
	comp=Z,3.7nm,0.5s,baz=48,slow=0.1,SNR=5.0						
833A	**Chaparral WMA,**	**113.51**	**62**	P	**PKiKP**	**18 11 28.8**	**-0.4**
	baz=277						
KSU1	**Kansas State U**	**113.95**	**50**	P	**PKiKP**	**18 11 29.3**	**-0.5**
	baz=283						
BOSA	**Boshof**	**114.39**	**235**	PKP	PKPdf	18 11 29.9	-1.1
	comp=Z,1.7nm,0.6s,baz=132,slow=2.8,SNR=6.9						
BOSA				PKKPbc	**PKKPbc**	**18 22 09.7**	**-1.9**
	comp=Z,4.9nm,1.0s,baz=290,slow=7.2,SNR=3.4						
BIZ	**Bicaz**	**114.64**	**320**	⇑P	**PKiKP**	**18 11 30.9**	**+0.1**
BIZ	**Bicaz**	**114.64**	**320**	⇓P	**PKKPbc**	**18 22 17.3**	**+6.1**
WHTX	**Lake Whitney,**	**114.66**	**57**	P	PKPdf	18 11 30.9	-0.4
	baz=280						
435B	**Jarrell**	**114.74**	**59**	P	PKPdf	18 11 30.8	-0.7
	baz=279						
EYMN	**Ely**	**114.94**	**39**	P	**PKiKP**	**18 11 30.9**	**-0.4**
	baz=291						
BURAR	**Bucovina Array**	**114.97**	**321**	⇓P	**PKKPbc**	**18 22 09.5**	**-0.7**
SPMN	**Marine on St.**	**115.01**	**42**	P	**PKiKP**	**18 11 30.9**	**-0.7**
	baz=289						
MLR	**Muntele Rosu**	**115.22**	**318**	⇓P	**PKPdf**	**18 11 32.3**	**+0.2**
MLR	**Muntele Rosu**	**115.22**	**318**	*i* PKIKP	**PKiKP**	**18 11 30.4**	**-1.8**
MLR	**Muntele Rosu**	**115.22**	**318**		**PKiKP**	**18 11 30.4**	**-1.8**
TUL1	**Leonard**	**115.29**	**53**	P	**PKiKP**	**18 11 31.9**	**-0.5**
	baz=282						
NB2	**NORSAR Subarra**	**115.37**	**338**	PKPdf	**PKiKP**	**18 11 30.1**	**-1.7**
	comp=Z,2.0nm,1.1s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**115.37**	**338**	PKP	**PKiKP**	**18 11 30.7**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=48,slow=2.0,SNR=5.5						
NOA				PKKPbc	**PKKPbc**	**18 22 06.8**	**-2.4**
	comp=Z,2.2nm,1.0s,baz=52,slow=3.4,SNR=6.9						
SCIA	**State Center**	**115.73**	**46**	P	**PKPdf**	**18 11 32.6**	**-0.4**
	baz=287						
VOIR		**115.83**	**318**	⇓P	**PKiKP**	**18 11 33.9**	**+0.6**
P38A	**Dawn**	**116.14**	**48**		**PKPdf**	**18 11 33.1**	**-0.8**
U38A	**Gravette**	**116.28**	**52**		**PKPdf**	**18 11 33.4**	**-1.0**
KOLS	**Kolonicke sedl**	**116.29**	**323**	*e*PKIKP	**PKPdf**	**18 11 32.3**	**-1.6**
KOLS	**Kolonicke sedl**	**116.29**	**323**	*e*PKP	**PKPdf**	**18 11 32.3**	**-1.6**
KOLS				*e*PP	**PP**	**18 12 37.8**	**-5.2**
FRB	**Frobisher Bay**	**116.46**	**17**	PKP	**PKPdf**	**18 11 32.6**	**-1.2**
	comp=Z,7.4nm,0.5s,baz=9.5,slow=1.0,SNR=6.4						
G40A	**Rib Lake**	**116.72**	**42**		**PKPdf**	**18 11 33.8**	**-1.1**
NATX	**Nacogdoches**	**117.04**	**57**	P	**PKPdf**	**18 11 35.5**	**-0.3**
	baz=281						
W39A	**Magazine**	**117.04**	**53**	P	**PKPdf**	**18 11 35.3**	**-0.5**
	baz=283						
MIAR	**Mount Ida**	**117.35**	**54**	P	**PKPdf**	**18 11 35.8**	**-0.6**
	baz=283						
U40A	**Yellville**	**117.50**	**52**	P	**PKPdf**	**18 11 35.7**	**-1.0**
	baz=285						
JFWS	**Jewell Farm**	**117.51**	**44**	P	**PKPdf**	**18 11 35.4**	**-1.0**
	baz=290						
SIRR	**Siria**	**117.74**	**320**	⇑P	**PKPdf**	**18 11 36.0**	**-0.8**
SIRR	**Siria**	**117.74**	**320**	⇑P	**PKKPbc**	**18 21 59.3**	**-1.1**
MGMO	**Mountain Grove**	**117.75**	**51**		**PKPdf**	**18 11 35.3**	**-1.9**
WLAR	**White Oak Lake**	**117.92**	**55**		**PKPdf**	**18 11 36.1**	**-1.4**
X40A	**Basin Creek Fa**	**117.96**	**54**	P	**PKPdf**	**18 11 36.7**	**-0.9**
	baz=284						
BZS	**Buzias**	**118.02**	**319**	⇓P	**PKPdf**	**18 11 36.4**	**-1.0**
BZS	**Buzias**	**118.02**	**319**	⇑P	**PKKPbc**	**18 21 58.0**	**-1.3**
APE	**Apeiranthos**	**118.03**	**309**	⇓P	PKPpre	18 11 22.9	
W41B	**Gary Mavity, V**	**118.27**	**53**	P	**PKPdf**	**18 11 37.2**	**-0.9**
	baz=284						
W41B	**Gary Mavity, V**	**118.27**	**53**		**PKPdf**	**18 11 37.3**	**-0.8**
Z41A	**Richland Creek**	**118.27**	**55**	P	**PKPdf**	**18 11 37.5**	**-0.6**
	baz=283						
MDVR	**Moldovita**	**118.28**	**319**	⇑P	**PKPdf**	**18 11 36.8**	**-1.1**
MDVR	**Moldovita**	**118.28**	**319**	⇑P	**PKKPbc**	**18 21 56.9**	**-1.5**
CCM	**Cathedral Cave**	**118.29**	**50**	P	**PKPdf**	**18 11 37.1**	**-1.0**
	baz=287						
UALR	**University of**	**118.29**	**53**		**PKPdf**	**18 11 37.7**	**-0.5**
VYHS	**Vyhne**	**118.54**	**323**	*e*PKIKP	**PKPdf**	**18 11 38.0**	**-0.3**
VYHS				*e*		18 12 54.9	
VYHS	**Vyhne**	**118.54**	**323**	*e*PKP	**PKPdf**	**18 11 38.0**	**-0.3**
VYHS				*e*PP	**PP**	**18 12 54.9**	**-3.6**
MORC	**Moravsky Berou**	**118.70**	**325**	⇑P	**PKiKP**	**18 11 38.6**	**0.0**
MORC	**Moravsky Berou**	**118.70**	**325**	⇑P	**PKKPbc**	**18 21 55.5**	**-1.6**
MORC	**Moravsky Berou**	**118.70**	**325**	*e*PKP	**PKPdf**	**18 11 38.0**	**-0.6**
MORC				*e*		18 12 59.1	
MORC	**Moravsky Berou**	**118.70**	**325**	PKIKP	**PKPdf**	**18 11 38.3**	**-0.3**
MORC	**Moravsky Berou**	**118.70**	**325**		**PKPdf**	**18 11 38.3**	**-0.3**
FVM	**French Village**	**118.93**	**49**	PKIKP	**PKPdf**	**18 11 38.8**	**-0.5**
FVM	**French Village**	**118.93**	**49**		**PKPdf**	**18 11 38.8**	**-0.5**
HDIL	**Hopedale**	**118.96**	**46**	P	**PKPdf**	**18 11 38.5**	**-0.9**
	baz=289						
KRLC	**Kraliky**	**118.98**	**326**	*e*PKPDF	**PKPdf**	**18 11 37.8**	**-1.3**
KRLC				*e*pPKP	**pPKPdf**	**18 12 35.6**	**-2.2**
KRLC	**Kraliky**	**118.98**	**326**	*e*PKIKP	**PKPdf**	**18 11 37.8**	**-1.3**
KRLC				*e*		18 12 35.6	
IDI	**Anoyia**	**118.99**	**307**	⇑P	**PKKPbc**	**18 21 58.9**	**+3.4**
JAVC	**Velka Javorina**	**119.06**	**324**	*e*PKP	**PKPdf**	**18 11 39.3**	**0.0**
P43A	**Skaggs, Pawnee**	**119.09**	**47**		**PKPdf**	**18 11 38.8**	**-0.8**
VRAC	**Vranov**	**119.47**	**325**	*e*PKP	**PKPdf**	**18 11 39.6**	**-0.4**
VRAC				*e*		18 13 03.6	
MODS	**Modra-Piesok**	**119.52**	**324**	*e*PKIKP	**PKPdf**	**18 11 39.0**	**-1.2**
MODS	**Modra-Piesok**	**119.52**	**324**	*e*PKP	**PKPdf**	**18 11 39.0**	**-1.2**
DIVS	**Divibare**	**119.68**	**318**		**PKPdf**	**18 11 39.5**	**-1.2**
KRUC	**Moravsky**	**119.70**	**325**	*e*PKP	**PKPdf**	**18 11 39.7**	**-0.8**
FNA	**Florina**	**119.97**	**314**	PKIKP	**PKPdf**	**18 11 40.0**	**-1.3**
FNA	**Florina**	**119.97**	**314**		**PKPdf**	**18 11 40.0**	**-1.3**
BRG	**Berggiesshubel**	**120.13**	**328**	*e*PKP	**PKPdf**	**18 11 40.3**	**-0.9**
	comp=Z,12nm,1.2s						
BRG				*e*		18 22 38.0	
BRG				*e*		18 24 00.0	
BRG	**Berggiesshubel**	**120.13**	**328**	*e*PKPdf	**PKPdf**	**18 11 40.6**	**-0.6**
	baz=58,slow=1.9						
GOPC	**GO Pecny, Ondr**	**120.18**	**326**	*e*PKPDF	**PKiKP**	**18 11 41.7**	**+0.2**
GOPC	**GO Pecny, Ondr**	**120.18**	**326**	*e*PKIKP	**PKiKP**	**18 11 41.7**	**+0.2**
BSEG	**Bad Segeberg**	**120.19**	**332**	*e*PKPdf	**PKPdf**	**18 11 41.1**	**-0.1**
	baz=58,slow=1.9						
PRU	**Pruhonice**	**120.27**	**326**	*e*PKPDF	**PKiKP**	**18 11 42.0**	**+0.4**
PRU	**Pruhonice**	**120.27**	**326**	*e*PKIKP	**PKiKP**	**18 11 42.0**	**+0.4**
VBMS	**Vicksburg**	**120.38**	**56**	P	**PKPdf**	**18 11 41.3**	**-0.9**
	baz=284						
VBMS	**Vicksburg**	**120.38**	**56**		**PKPdf**	**18 11 41.6**	**-0.6**
CLL	**Collm**	**120.39**	**328**	*i* PKPdf	**PKPdf**	**18 11 41.1**	**-0.6**
	comp=Z,9.0nm,0.8s						
CLL				*e*SP	SP	18 22 36.0	-1.3
CLL				*e*SPP	SPP	18 23 57.0	
CLL				*e*SS	**SS**	**18 29 24.0**	**+3.4**
CLL				*es*SS		18 30 48.0	
CLL				L	L	19 00 00.0	
	comp=Z,100nm,20.8s						
CLL	**Collm**	**120.39**	**328**	*i* PKIKP	**PKPdf**	**18 11 41.1**	**-0.6**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLL	**Collm**	**120.39**	**328**	*e*PKPdf	**PKPdf**	**18 11 41.3**	**-0.4**
	baz=58,slow=1.9						
CLL	**Collm**	**120.39**	**328**	PKPdf	**PKPdf**	**18 11 41.0**	**-0.7**
FBE	**Freiberg**	**120.42**	**328**	*e*PKPdf	**PKPdf**	**18 11 41.2**	**-0.6**
	baz=58,slow=1.9						
OLIL	**Olney**	**120.43**	**48**		**PKPdf**	**18 11 41.6**	**-0.6**
CONA	**Conrad Observa**	**120.56**	**324**	*e*PKPdf	**PKPdf**	**18 11 41.2**	**-1.1**
	comp=Z,4.1nm,0.9s						
CONA				*e*PKKPab	**PKKPbc**	**18 21 48.7**	**-1.6**
	comp=Z,3.4nm,1.0s						
SFIN	**Lafayette**	**120.60**	**46**	P	**PKPdf**	**18 11 41.8**	**-0.6**
	baz=291						
E47A	**Iron Bridge**	**120.66**	**38**	P	**PKPdf**	**18 11 41.9**	**-0.5**
	baz=298						
W45A	**Hickory Valley**	**120.69**	**52**		**PKPdf**	**18 11 41.4**	**-1.4**
OXF	**Oxford**	**120.69**	**53**	PKIKP	**PKPdf**	**18 11 41.4**	**-1.4**
OXF	**Oxford**	**120.69**	**53**	P	**PKPdf**	**18 11 41.8**	**-1.0**
	baz=286						
OXF	**Oxford**	**120.69**	**53**		**PKPdf**	**18 11 41.4**	**-1.4**
P46A	**Rosedale**	**120.79**	**47**		**PKPdf**	**18 11 42.2**	**-0.7**
PDG	**Podgorica**	**120.83**	**317**	⇑P	**PKKPbc**	**18 21 48.8**	**-0.1**
USIN	**University of**	**121.01**	**49**		**PKPdf**	**18 11 43.0**	**-0.4**
NEUB	**Neuenburg**	**121.08**	**329**	*e*PKPdf	**PKPdf**	**18 11 42.6**	**-0.5**
	baz=58,slow=1.9						
ARSA	**Arzberg**	**121.09**	**323**	*e*PKiKP	**PKPdf**	**18 11 42.6**	**-0.7**
	comp=Z,2.4nm,0.7s						
ARSA				*e*PKKPab	**PKKPab**	**18 21 46.7**	**-1.3**
	comp=Z,4.4nm,1.1s						
NRDL	**Niedersach Rie**	**121.17**	**331**	*e*PKPdf	**PKPdf**	**18 11 42.9**	**-0.2**
	baz=58,slow=1.9						
TANN	**Tannenbergstha**	**121.17**	**328**	*e*PKPdf	**PKPdf**	**18 11 42.9**	**-0.4**
	baz=58,slow=1.9						
KHC	**Kasperske Hory**	**121.26**	**326**	*e*PKPDF	**PKPdf**	**18 11 42.4**	**-1.1**
KHC				*ep*PKP	**pPKPdf**	**18 12 38.4**	**-3.8**
KHC				AMS	AMS	18 59 40.0	
	comp=Z,100nm,21.4s						
KHC	**Kasperske Hory**	**121.26**	**326**	*e*PKIKP	**PKPdf**	**18 11 42.4**	**-1.1**
KHC				*e*		18 12 38.4	
KHC				MLR	MLR		
	comp=Z,100nm,21.4s						
KHC	**Kasperske Hory**	**121.26**	**326**		**PKPdf**	**18 11 42.7**	**-0.8**
GUNZ	**Gunzen**	**121.27**	**328**	*e*PKPdf	**PKPdf**	**18 11 42.9**	**-0.7**
	baz=58,slow=1.9						
WERN	**Wernitzgruen**	**121.29**	**328**	*e*PKPdf	**PKPdf**	**18 11 43.1**	**-0.5**
	baz=58,slow=1.9						
GEC2	**GERESS Array S**	**121.34**	**326**	*e*PKPdf	**PKPdf**	**18 11 43.1**	**-0.7**
	baz=58,slow=1.9						
GEC2	**GERESS Array S**	**121.34**	**326**		**PKPdf**	**18 11 42.8**	**-1.0**
GERES	**GERESS Array B**	**121.34**	**326**	PKP	**PKPdf**	**18 11 42.9**	**-0.9**
	comp=Z,2.8nm,0.5s,baz=79,slow=1.8,SNR=32						
GERES				PKKPbc	**PKKPab**	**18 21 45.3**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=220,slow=3.5,SNR=15						
GERES	**GERESS Array B**	**121.34**	**326**		**PKPdf**	**18 11 42.7**	**-1.1**
GERES				PKKPbc	**PKKPab**	**18 21 45.4**	**-1.6**
CLZ	**Clausthal**	**121.43**	**330**	*e*PKPdf	**PKPdf**	**18 11 43.7**	**-0.1**
	baz=58,slow=1.9						
BLO	**Bloomington**	**121.44**	**47**	PKIKP	**PKPdf**	**18 11 43.4**	**-0.7**
BLO	**Bloomington**	**121.44**	**47**		**PKPdf**	**18 11 43.4**	**-0.7**
WVT	**Waverly**	**121.46**	**51**	P	**PKPdf**	**18 11 43.0**	**-1.3**
	baz=288						
146A	**Union**	**121.47**	**55**		**PKPdf**	**18 11 43.8**	**-0.6**
GROS	**Grobnik**	**121.49**	**322**	*e*PKPdf	**PKPdf**	**18 11 42.8**	**-1.4**
MOX	**Moxa**	**121.49**	**328**	*e*PKPdf	**PKPdf**	**18 11 43.5**	**-0.4**
	baz=58,slow=1.9						
MOA	**Molln**	**121.53**	**324**	*e*PKPdf	**PKPdf**	**18 11 42.9**	**-1.2**
	comp=Z,1.6nm,0.6s						
MOA				*e*PKKPbc	**PKKPab**	**18 21 44.2**	**-1.8**
	comp=Z,5.7nm,1.0s						
MANZ	**Manzenberg**	**121.60**	**327**	*e*PKPdf	**PKPdf**	**18 11 43.7**	**-0.4**
	baz=58,slow=1.9						
WET	**Wettzell**	**121.64**	**326**	*e*PKPdf	**PKPdf**	**18 11 43.7**	**-0.5**
	baz=58,slow=1.9						
SOKA	**Soboth**	**121.67**	**323**	*e*PKPdf	**PKPdf**	**18 11 43.1**	**-1.4**
	comp=Z,7.8nm,1.2s						
SOKA				*e*PKKPab	**PKKPab**	**18 21 44.8**	**-0.8**
	comp=Z,6.9nm,1.0s						
ROTZ	**Rotzenmuhle**	**121.67**	**327**	*e*PKPdf	**PKPdf**	**18 11 43.8**	**-0.4**
	baz=58,sl

FETA *e*PKKPab **PKKPab 18 21 35.9 +0.2**
comp=Z,12nm,1.1s,SNR=7.3
SADO Sadowa 124.01 38 PKPdf 18 11 47.6 -1.2
ALGO Algonquin Park 124.06 36 P PKPdf 18 11 47.5 -1.5
baz=302
E53A Dumoine, Ponti 124.06 36 P PKPdf 18 11 48.2 -0.7
baz=303
S51A Beattyville 124.14 48 PKPdf 18 11 48.3 -1.0
D54A Lac Fusel, La 124.21 35 P PKPdf 18 11 47.7 -1.5
baz=304
N52A McGinn's Farm, 124.21 43 P PKPdf 18 11 48.0 -1.5
baz=296
V51A Loudon 124.24 50 PKPdf 18 11 48.6 -1.0
E54A Lac Daplat, Po 124.30 36 P PKPdf 18 11 48.2 -1.2
baz=303
G54A Lake Saint Pet 124.33 37 P PKPdf 18 11 48.0 -1.5
baz=302
TSUM Tsumeb 124.33 242 PKiKP 18 11 50.9 +0.1
DAVA Damuels 124.34 326 *e*PKPdf PKPdf 18 11 48.3 -1.3
comp=Z,13nm,1.3s
DAVA *i* PKKPab **PKKPab 18 21 34.5 +0.3**
comp=Z,5.1nm,0.7s
MEM Membach 124.34 331 PKPdf PKPdf 18 11 48.6 -0.7
P52A Corning 124.40 45 P PKPdf 18 11 48.5 -1.3
baz=295
O52A Adamsville 124.41 44 P PKPdf 18 11 48.2 -1.6
baz=295
Z51A Franklin 124.41 53 PKPdf 18 11 49.0 -1.0
H53A Bobcaygeon 124.45 38 P PKPdf 18 11 49.0 -0.8
baz=301
FUORN Ofenpass-Fuorn 124.50 325 PKPdf 18 11 49.4 -0.7
TZTN Tazewell 124.58 49 P PKPdf 18 11 49.1 -1.1
baz=292
BFO Black Forest 124.58 327 *e*PKPdf PKPdf 18 11 49.4 -0.5
baz=58,slow=1.9
Q52A Bidwell 124.58 46 P PKPdf 18 11 48.7 -1.5
baz=294
INTR Introdacqua 124.60 318 PKPdf 18 11 49.5 -0.7
M53A Wf Miller and 124.62 42 P PKPdf 18 11 48.3 -1.9
baz=297
L53A Girard 124.66 42 P PKPdf 18 11 48.6 -1.6
baz=298
ERPA Erie 124.76 41 P PKPdf 18 11 48.7 -1.7
baz=298
O53A New Philadelph 124.78 44 P PKPdf 18 11 49.2 -1.3
baz=296
N53A Lisbon 124.80 43 P PKPdf 18 11 49.2 -1.3
baz=297
V52A Sevierville 124.80 50 PKPdf 18 11 50.1 -0.5
W52A Murphy 124.81 51 PKPdf 18 11 50.2 -0.6
BCLA Clavier 124.81 331 PKPdf PKPdf 18 11 49.3 -0.9
WLF Walferdange 124.88 330 PKPdf PKPdf 18 11 49.7 -0.7
E55A Montcerf-Lytto 124.94 35 P PKPdf 18 11 49.1 -1.5
baz=304
D55A Sainte-Anne-du 124.95 34 P PKPdf 18 11 49.1 -1.5
baz=305
152A Waverly Hall 124.97 54 PKPdf 18 11 50.1 -1.0
P53A Whipple 124.99 45 P PKPdf 18 11 49.6 -1.3
baz=295
P53A Whipple 124.99 45 PKPdf 18 11 50.2 -0.7
R53A Hurricane 125.07 46 P PKPdf 18 11 49.6 -1.5
baz=294
DELO Deloro Mine 125.07 38 PKPdf 18 11 49.8 -1.1
J54A Appleton 125.08 39 P PKPdf 18 11 49.7 -1.2
baz=300
TUE Stuetta 125.10 325 PKPdf PKPdf 18 11 49.9 -1.3
Y52A Lilburn 125.11 52 PKPdf 18 11 50.9 -0.5
F55A Otter Lake 125.12 36 P PKPdf 18 11 49.8 -1.2
baz=304
PLVO Plevna 125.12 37 PKPdf 18 11 50.2 -0.8
BMRD Maredsous 125.14 331 PKPdf PKPdf 18 11 50.2 -0.7
L54A Sinclairville 125.15 41 P PKPdf 18 11 49.7 -1.5
baz=299
Q53A Leroy 125.15 45 P PKPdf 18 11 49.6 -1.7
baz=295
352A Blakely 125.16 55 PKPdf 18 11 50.5 -1.0
T53A Wise 125.17 48 P PKPdf 18 11 50.3 -1.2
baz=293
I55A Frankford 125.19 38 P PKPdf 18 11 49.6 -1.5
baz=302
S53A Williamson 125.20 47 P PKPdf 18 11 50.0 -1.4
baz=294
G55A Calabogie 125.22 37 P PKPdf 18 11 50.1 -1.1
baz=303,SNR=11
M54A Oil Creek Stat 125.26 42 P PKPdf 18 11 50.9 -0.6
baz=298
M54A Oil Creek Stat 125.26 42 PKPdf 18 11 50.4 -1.0
ECH Echery 125.27 328 PKIKP PKPdf 18 11 50.5 -0.7
ECH Echery 125.27 328 PKPdf 18 11 50.5 -0.7
N54A Moraine State 125.30 43 P PKPdf 18 11 50.3 -1.2
baz=298
N54A Moraine State 125.30 43 PKPdf 18 11 50.9 -0.6
ZCCA Zocca 125.30 322 PKPdf 18 11 51.5 +0.1
H55A Tweed 125.32 37 P PKPdf 18 11 50.0 -1.4
baz=302
D56A ZEC Mazanza, M 125.33 34 P PKPdf 18 11 50.7 -0.7
baz=306
DOU Dourbes 125.36 331 PKPdf PKPdf 18 11 50.1 -1.2
K54A Basiliko Farm, 125.37 40 P PKPdf 18 11 50.1 -1.5
baz=300
O54A Avella 125.39 44 P PKPdf 18 11 50.8 -0.9
baz=297
O54A Avella 125.39 44 PKPdf 18 11 51.2 -0.5
E56A St. Veronique 125.47 34 P PKPdf 18 11 50.0 -1.7
baz=306
WVNY West Valley, N 125.53 40 PKPdf 18 11 50.9 -1.0
P54A Burton 125.57 44 P PKPdf 18 11 50.7 -1.4
baz=296
Q54A Coxs Mills 125.59 45 P PKPdf 18 11 51.0 -1.1
baz=296
J55A Hilton 125.60 39 P PKPdf 18 11 50.4 -1.5
baz=301,SNR=5.6
J55A Hilton 125.60 39 PKPdf 18 11 50.6 -1.3
K55A Perry 125.71 40 P PKPdf 18 11 50.6 -1.6
baz=300,SNR=7.1
GOGA Godfrey 125.73 52 P PKPdf 18 11 51.4 -1.2
baz=290
S54A Dingess, Beckl 125.74 47 P PKPdf 18 11 51.0 -1.5
baz=294
L55A Hinsdale 125.75 41 P PKPdf 18 11 50.8 -1.5
baz=300
PECO Prince Edward 125.76 38 PKPdf 18 11 50.9 -1.3
MMNY Mt. Morris Dam 125.81 40 PKPdf 18 11 51.0 -1.4
R54A Victor 125.82 46 P PKPdf 18 11 51.6 -1.0
baz=295
ORIO Orleans, Innes 125.82 36 P PKPdf 18 11 51.1 -1.2
baz=304
ORIO Orleans, Innes 125.82 36 PKPdf 18 11 51.2 -1.2
D57A Chemin Vers le 125.83 33 P PKPdf 18 11 51.1 -1.2
baz=307,SNR=12
T54A Tazewell 125.85 48 P PKPdf 18 11 51.4 -1.4
baz=294
H56A Elgin 125.85 37 P PKPdf 18 11 51.5 -0.9
baz=303,SNR=9.6
M55A Ridgway 125.88 41 P PKPdf 18 11 51.4 -1.2
baz=299,SNR=6.1
M55A Ridgway 125.88 41 PKPdf 18 11 51.7 -0.9
U54A Nelsons Funny 125.88 48 P PKPdf 18 11 51.6 -1.2
baz=293
MCWV Mont Chateau 125.99 44 P PKPdf 18 11 51.2 -1.7
baz=297
MCWV Mont Chateau 125.99 44 PKPdf 18 11 52.2 -0.6
E57A Chemin Saint G 126.04 34 P PKPdf 18 11 51.4 -1.4
baz=306,SNR=14
N55A Marion Center 126.06 42 P PKPdf 18 11 51.4 -1.5
baz=298
P55A Reedsville 126.07 44 P PKPdf 18 11 51.8 -1.3
baz=297
V54A Nebo 126.07 49 P PKPdf 18 11 51.5 -1.6
baz=292
F57A Harrington 126.09 35 P PKPdf 18 11 51.0 -1.8
baz=306
O55A Ligonier 126.11 43 P PKPdf 18 11 51.7 -1.4
baz=298
Q55A Buckhannon 126.11 45 P PKPdf 18 11 51.4 -1.8
baz=296
W54A Cherokee Point 126.14 50 P PKPdf 18 11 51.7 -1.6
baz=292
J56A Wolcott 126.19 39 P PKPdf 18 11 52.0 -1.1
baz=302,SNR=10
J56A Wolcott 126.19 39 PKPdf 18 11 51.5 -1.5
X54A Belton 126.19 51 P PKPdf 18 11 51.8 -1.6
baz=291
K56A Middlesex 126.20 39 P PKPdf 18 11 51.5 -1.7
baz=301
LATQ La Tuque 126.20 32 P PKPdf 18 11 51.9 -1.0
baz=308
M56A Emporium 126.25 41 P PKPdf 18 11 52.0 -1.4
baz=300
M56A Emporium 126.25 41 PKPdf 18 11 52.3 -1.0
TIGA Tifton 126.27 55 P PKPdf 18 11 52.7 -0.9
baz=288
TIGA Tifton 126.27 55 PKPdf 18 11 53.2 -0.4
G57A Newington 126.32 36 P PKPdf 18 11 52.0 -1.2
baz=307,SNR=9.0
D58A Chemin du LacG 126.33 33 P PKPdf 18 11 51.7 -1.5
baz=308
L56A Greenwood 126.33 40 P PKPdf 18 11 52.1 -1.4
baz=300,SNR=12
L56A Greenwood 126.33 40 PKPdf 18 11 52.3 -1.2
R55A Marlinton 126.40 46 P PKPdf 18 11 52.3 -1.5
baz=296
R55A Marlinton 126.40 46 PKPdf PKPdf 18 11 52.5 -1.3
H57A Richville 126.44 37 P PKPdf 18 11 52.1 -1.4
baz=304,SNR=8.8
N56A West Decatur 126.45 42 P PKPdf 18 11 52.2 -1.5
baz=299
U55A TA2, Sparta 126.46 48 P PKPdf 18 11 53.2 -0.8
baz=294
PAULI Pauline 126.52 50 PKPdf 18 11 53.5 -0.5
E58A La Victoria 126.55 34 P PKPdf 18 11 52.6 -1.1
baz=307,SNR=7.5
BO02 Sierra Bellavi 126.57 141 PKiKP 18 11 54.6 -0.1
I57A Carthage 126.57 37 P PKPdf 18 11 52.2 -1.6
baz=303,SNR=13
O56A Blue Knob Stat 126.58 43 P PKPdf 18 11 52.9 -1.1
baz=298
O56A Blue Knob Stat 126.58 43 PKPdf 18 11 52.9 -1.1
V55A Taylorsville 126.59 49 P PKPdf 18 11 53.1 -1.0
baz=293
J57A Williamstown 126.65 38 P PKPdf 18 11 52.5 -1.4
baz=303
J57A Williamstown 126.65 38 PKPdf 18 11 53.2 -0.8
K57A Scipio Center 126.69 39 P PKPdf 18 11 52.8 -1.3
baz=302,SNR=11
Q56A Snyder Ridge, 126.72 44 P PKPdf 18 11 53.2 -1.1
baz=297
Q56A Snyder Ridge, 126.72 44 PKPdf 18 11 53.4 -0.9
P56A Dayton Farm, R 126.75 44 P PKPdf 18 11 52.8 -1.5
baz=298
KMSC Kings Mountain 126.77 50 P PKPdf 18 11 53.2 -1.3
baz=292
KMSC Kings Mountain 126.77 50 PKPdf 18 11 53.9 -0.5
X55A Gracelyn & Ava 126.79 51 P PKPdf 18 11 53.5 -1.0
baz=292
Y55A Saluda 126.81 51 P PKPdf 18 11 53.7 -0.9
baz=291
LONY Lake Ozonia 126.83 36 P PKPdf 18 11 52.9 -1.5
baz=305,SNR=13
LONY Lake Ozonia 126.83 36 PKPdf 18 11 53.2 -1.1
G58A Ormstown 126.84 35 P PKPdf 18 11 52.6 -1.7
baz=306
R56A Bull Pasture M 126.85 45 P PKPdf 18 11 53.1 -1.5
baz=296
L57A Andrews Acres 126.86 40 P PKPdf 18 11 53.2 -1.2
baz=301
SSPA Standing Stone 126.86 42 P PKPdf 18 11 53.4 -1.1
baz=299
SSPA Standing Stone 126.86 42 PKPdf 18 11 53.4 -1.1
T56A Rocky Mt 126.99 47 P PKPdf 18 11 53.5 -1.3
baz=295
M57A Sunshine Farm, 127.02 41 P PKPdf 18 11 54.5 -0.2
baz=300
M57A Sunshine Farm, 127.02 41 PKPdf 18 11 54.3 -0.5
N57A Milroy 127.03 42 P PKPdf 18 11 53.7 -1.1
baz=300
S56A Natural Bridge 127.05 46 P PKPdf 18 11 53.8 -1.2
baz=296
J58A Remsen 127.12 38 P PKPdf 18 11 53.9 -1.0
baz=303
J58A Remsen 127.12 38 PKPdf 18 11 54.0 -1.0
I58A Old Forge 127.12 37 P PKPdf 18 11 53.6 -1.4
baz=304,SNR=8.1
F59A Saint Guilaume 127.14 34 P PKPdf 18 11 53.6 -1.2
baz=308
V56A Mocksville 127.14 49 P PKPdf 18 11 53.7 -1.5
baz=294
H58A Gabriels 127.19 36 P PKPdf 18 11 53.7 -1.3
baz=305,SNR=22
K58A Earlville 127.22 39 P PKPdf 18 11 54.1 -1.1
baz=303,SNR=8.9
K58A Earlville 127.22 39 PKPdf 18 11 54.7 -0.4
O57A Amberson 127.23 42 P PKPdf 18 11 54.1 -1.1
baz=299,SNR=9.6
X56A White Oak 127.25 50 P PKPdf 18 11 54.4 -1.0
baz=292
Q57A Strasburg 127.26 44 P PKPdf 18 11 53.9 -1.4
baz=298,SNR=7.2
FRNY Flat Rock 127.29 35 PKPdf 18 11 54.0 -1.2
BINY Binghamton 127.30 39 P PKPdf 18 11 54.1 -1.2
baz=302,SNR=6.2
BINY Binghamton 127.30 39 PKPdf 18 11 54.9 -0.4
P57A Homestead Farm 127.33 43 P PKPdf 18 11 54.2 -1.2
baz=298,SNR=5.9
P57A Homestead Farm 127.33 43 PKPdf 18 11 54.7 -0.7
MT02 Curacav 127.33 140 PKPdf 18 11 55.9 +0.3
H59A Cadyville 127.34 36 P PKPdf 18 11 54.3 -1.0
baz=306
W56A Indian Trail 127.34 49 P PKPdf 18 11 54.2 -1.3
baz=293
G59A Clarenceville 127.38 35 P PKPdf 18 11 55.1 -0.2
baz=307
NCB Newcomb 127.42 37 PKPdf 18 11 54.8 -0.6
M58A Price's Panora 127.43 41 P PKPdf 18 11 54.5 -1.1
baz=301,SNR=6.2
BNI Bardonecchia 127.45 325 PKIKP PKPdf 18 11 54.6 -1.1
BNI Bardonecchia 127.45 325 PKPdf PKPdf 18 11 54.6 -1.1
S57A Dark Hollow, R 127.45 46 P PKPdf 18 11 54.7 -1.0
baz=296
L58A Harry Jones Me 127.47 39 P PKPdf 18 11 54.7 -0.9
baz=302
D60A Saint Jean D'O 127.48 32 P PKPdf 18 11 54.7 -0.8
baz=310,SNR=8.7
MATN Matagalpa 127.51 78 PKPdf 18 11 56.0 -0.5
R57A Stanardsville 127.52 45 P PKPdf 18 11 54.4 -1.4
baz=297
F60A Warwick 127.53 33 P PKPdf 18 11 54.8 -0.8
baz=308,SNR=7.0
J59A Piesco 127.53 37 P PKPdf 18 11 53.9 -1.8
baz=304,SNR=14
J59A Piesco 127.53 37 PKPdf 18 11 54.8 -0.9
N58A Sunbury 127.53 41 P PKPdf 18 11 54.7 -1.1
baz=300,SNR=9.1
N58A Sunbury 127.53 41 PKPdf 18 11 55.1 -0.7
E60A Ste Agathe de 127.55 33 P PKPdf 18 11 54.6 -0.9
baz=309,SNR=8.7
T57A Hurt 127.57 47 P PKPdf 18 11 54.5 -1.4
baz=296,SNR=6.0
T57A Hurt 127.57 47 PKPdf 18 11 55.2 -0.7
BIRD Birdtown, Kers 127.62 50 PKPpre 18 11 47.2
V57A Coltrane Farms 127.65 48 P PKPdf 18 11 54.5 -1.6
baz=294
D61A St Aubert, Com 127.68 31 P PKPdf 18 11 54.9 -1.0
baz=311
PEL Peldehue 127.70 140 PKIKP PKPdf 18 11 56.4 0.0
PEL Peldehue 127.70 140 PKPdf 18 11 56.4 0.0
K59A Cooperstown 127.70 38 P PKPdf 18 11 54.5 -1.5
baz=304,SNR=6.3
I59A Olmsteadville 127.72 37 P PKPdf 18 11 55.0 -1.0
baz=305,SNR=15
U57A Blanch 127.75 47 P PKPdf 18 11 55.7 -0.6
baz=295
O58A Lewisberry 127.75 42 P PKPdf 18 11 54.8 -1.4
baz=300,SNR=6.1
MOQ Mont Orford 127.76 34 PKPdf 18 11 56.0 -0.1
W57A Gilead 127.78 49 P PKPdf 18 11 55.8 -0.6
baz=294,SNR=5.9
W57A Gilead 127.78 49 PKPdf 18 11 56.1 -0.3
KSPA Keystone Colle 127.78 40 PKPdf 18 11 56.2 0.0
BOAB BOACO BROADBAN 127.78 79 PKPdf 18 11 56.4 -0.6
Q58A Fox Den Farm, 127.81 44 P PKPdf 18 11 55.2 -1.1
baz=298
P58A Pank, Wackersv 127.81 43 P PKPdf 18 11 55.4 -0.9
baz=299
PAGS Pennsylvania G 127.83 42 PKPdf 18 11 55.4 -0.9
G60A Masonville 127.85 34 P PKPdf 18 11 55.4 -0.9
baz=308
R58A Rapidan 127.88 45 P PKPdf 18 11 55.7 -0.8
baz=298
CLF Chambon-Foret 127.89 330 PKPdf 18 11 55.8 -0.4
L59A Walton 127.90 39 P PKPdf 18 11 55.5 -0.9
baz=303,SNR=5.7
L59A Walton 127.90 39 PKPdf 18 11 55.6 -0.9
Z57A Bowman 127.94 52 P PKPdf 18 11 56.0 -0.7
baz=292,SNR=5.6
H60A Morristown 127.96 35 P PKPdf 18 11 55.4 -1.0
baz=307
M59A Waymart 128.00 40 P PKPdf 18 11 55.7 -1.0
baz=302,SNR=12
E61A Lac Etchemin 128.02 32 P PKPdf 18 11 55.2 -1.3
baz=310
VA03 San Esteban 128.03 140 PKPdf 18 11 57.1 0.0
I60A Shoreham 128.04 36 P PKPdf 18 11 55.9 -0.7
baz=306,SNR=18
F61A St Evariste 128.04 33 P PKPdf 18 11 55.9 -0.7
baz=310,SNR=8.2
VT1 Waterbury 128.07 35 PKPdf 18 11 56.1 -0.6
ACCN Adirondack Com 128.08 37 PKPdf 18 11 55.5 -1.3
T58A Grand View Acr 128.11 46 P PKPdf 18 11 56.1 -0.8
baz=296,SNR=7.1
N59A State Game Lan 128.11 41 P PKPdf 18 11 56.5 -0.4
baz=301,SNR=8.1
N59A State Game Lan 128.11 41 PKPdf 18 11 56.1 -0.8
R58B Mineral 128.12 45 P PKPdf 18 11 56.0 -1.0
baz=297
R58B Mineral 128.12 45 PKPdf 18 11 56.2 -0.7
O59A Robesonia 128.15 42 P PKPdf 18 11 55.7 -1.3
baz=301,SNR=5.5
S58A Poland Farm, P 128.16 45 P PKPdf 18 11 56.3 -0.7
baz=297
V58A Windy Hill, Pi 128.17 48 P PKPdf 18 11 56.4 -0.7
baz=295,SNR=5.6
V58A Windy Hill, Pi 128.17 48 PKPdf 18 11 56.2 -0.9
G61A St-Isidore-de- 128.18 34 P PKPdf 18 11 55.9 -1.0
baz=308
MVL Millersville 128.20 42 PKPdf 18 11 56.6 -0.4
J60A Lant Hill Farm 128.31 37 P PKPdf 18 11 56.4 -0.7
baz=305,SNR=7.1
P59A Jarrettsville 128.33 42 P PKPdf 18 11 57.0 -0.3
baz=300
U58A Oxford 128.34 47 P PKPdf 18 11 57.0 -0.4
baz=296,SNR=7.0
D62A Allapoint, All 128.34 31 P PKPdf 18 11 56.1 -1.0
baz=312,SNR=11
D62A Allapoint, All 128.34 31 PKPdf 18 11 56.7 -0.4
W58A Raeford 128.40 49 P PKPdf 18 11 57.3 -0.3
baz=294,SNR=6.4
E62A Clayton Lake 128.41 31 P PKPdf 18 11 56.1 -1.1
baz=311,SNR=7.7
E62A Clayton Lake 128.41 31 PKPdf 18 11 56.4 -0.8
H61A Lyndonville 128.42 35 P PKPdf 18 11 57.1 -0.3
baz=308,SNR=7.9
NHSC New Hope 128.42 52 P PKPdf 18 11 57.6 0.0
baz=292
TRY Troy 128.45 38 PKPdf 18 11 57.1 -0.3
SSB Saint Sauveur 128.50 326 PKIKP PKPdf 18 11 57.5 0.0
SSB Saint Sauveur 128.50 326 PKPdf 18 11 57.5 0.0
X58A Rowland 128.51 50 P PKPdf 18 11 57.2 -0.6
baz=294
X58A Rowland 128.51 50 PKPdf 18 11 56.5 -1.3
Y58A Scranton 128.51 50 P PKPdf 18 11 57.1 -0.7
baz=293
L60A Shokan 128.52 39 P PKPdf 18 11 57.1 -0.5
baz=304
R59A King George, V 128.54 44 P PKPdf 18 11 57.1 -0.7
baz=298
Q59A Harwood 128.55 43 P PKPdf 18 11 56.1 -1.6
baz=299
JTS Las Juntas de 128.56 81 PKIKP PKPdf 18 11 58.4 -0.1
JTS Las Juntas de 128.56 81 PKPdf 18 11 58.4 -0.1
N60A Cedar Hill Far 128.57 40 P PKPdf 18 11 57.1 -0.6
baz=302,SNR=5.2
LBNH Lisbon 128.60 35 PKIKP PKPdf 18 11 58.0 +0.3
LBNH Lisbon 128.60 35 P PKPdf 18 11 56.9 -0.7
baz=307,SNR=5.1
LBNH Lisbon 128.60 35 PKPdf 18 11 58.0 +0.3
Z58A St. Stephen 128.62 51 P PKPdf 18 11 57.0 -1.1
baz=292
I61A Oroboro, Fairl 128.62 36 P PKPdf 18 11 57.1 -0.6
baz=307,SNR=6.6
S59A Mechanicsville 128.62 45 P PKPdf 18 11 57.1 -0.8
baz=298
M60A Port Jervis 128.63 40 P PKPdf 18 11 56.9 -0.9
baz=303
F62A Pittston Farm, 128.64 32 P PKPdf 18 11 57.2 -0.6
baz=310,SNR=5.7
F62A Pittston Farm, 128.64 32 PKPdf 18 11 57.2 -0.6
O60A Telford 128.66 41 P PKPdf 18 11 57.3 -0.6
baz=301,SNR=6.5
HNH Hanover 128.71 36 PKPdf 18 11 57.8 -0.1
CO02 Combarbal 128.72 138 PKPdf 18 11 58.2 -0.3
K61A Williamstown 128.73 37 P PKPdf 18 11 58.0 0.0
baz=305,SNR=11
J61A Chester 128.76 36 P PKPdf 18 11 57.6 -0.5
baz=306,SNR=6.5
P60A Greenville 128.76 42 P PKPdf 18 11 57.3 -0.8
baz=301
P60A Greenville 128.76 42 PKPdf 18 11 57.1 -1.0
G62A West of Eustis 128.77 33 P PKPdf 18 11 57.3 -0.7
baz=310,SNR=6.3
G62A West of Eustis 128.77 33 PKPdf 18 11 57.1 -0.9
ODNJ Ogdensburg 128.77 40 PKPdf 18 11 57.1 -1.0
T59A Double "B" Far 128.80 46 P PKPdf 18 11 57.7 -0.5
baz=297,SNR=8.2
T59A Double "B" Far 128.80 46 PKPdf 18 11 57.8 -0.5
L61A Hillsdale 1, H 128.82 38 P PKPdf 18 11 58.3 +0.1
baz=304
H62A Milan 128.83 34 P PKPdf 18 11 58.0 -0.1
baz=308
H62A Milan 128.83 34 PKPdf 18 11 57.7 -0.4
V59A Middlesex 128.83 48 P PKPdf 18 11 57.8 -0.6
baz=296,SNR=5.3
U59A Littleton 128.90 47 P PKPdf 18 11 57.9 -0.6
baz=296
U59A Littleton 128.90 47 PKPdf 18 11 57.6 -0.9
DWPF Disney Wildern 129.05 58 P PKPdf 18 11 58.9 -0.1
baz=287
DWPF Disney Wildern 129.05 58 PKPdf 18 11 58.9 -0.1
X59A McDuffie Farm, 129.06 49 P PKPdf 18 11 58.4 -0.4
baz=294
Y59A Loris 129.09 50 P PKPdf 18 11 58.9 0.0
baz=294
S60A Water View 129.10 45 P PKPdf 18 11 58.4 -0.4
baz=298
E63A Oxbow 129.10 31 P PKPdf 18 11 58.3 -0.2
baz=312,SNR=6.0
E63A Oxbow 129.10 31 PKPdf 18 11 58.4 -0.2
KSCT Kent School, K 129.13 39 PKPdf 18 11 58.7 0.0
N61A South Mountain 129.15 40 P PKPdf 18 11 58.8 0.0
baz=303
CO03 El Pedregal 129.15 138 PKPdf 18 11 59.2 -0.1
I62A Tamworth 129.16 35 P PKPdf 18 11 58.6 -0.2
baz=308,SNR=5.2
I62A Tamworth 129.16 35 PKiKP 18 11 59.1 -0.3
M61A Granite Spring 129.18 39 P PKPdf 18 11 58.7 -0.2
baz=304
L61B Northampton 129.21 37 P PKPdf 18 11 58.6 -0.3
baz=306
F63A Nahmakanta, Br 129.23 32 P PKPdf 18 11 58.3 -0.6
baz=311,SNR=5.2
F63A Nahmakanta, Br 129.23 32 PKPdf 18 11 59.0 +0.1
PAL Palisades 129.26 40 P PKPdf 18 11 58.8 -0.2
baz=303
J62A Henniker 129.27 36 P PKPdf 18 11 59.1 +0.1
baz=307,SNR=5.5
U60A Pendleton 129.31 46 P PKPdf 18 11 58.8 -0.4
baz=297
G63A Kingsbury 129.34 33 P PKPdf 18 11 58.3 -0.7
baz=310
K62A Royalston 129.35 37 P PKPdf 18 11 58.8 -0.3
baz=306
K62A Royalston 129.35 37 PKPdf 18 11 59.5 +0.4
H63A New Sharon 129.40 34 P PKPdf 18 11 58.7 -0.4
baz=310
E64A Bridgewater 129.41 31 P PKPdf 18 11 58.6 -0.5
baz=313,SNR=5.6
PKME Peaks-Kenny Pk 129.41 33 P PKPdf 18 11 58.9 -0.3
baz=311
I63A Otisfield 129.48 35 P PKPdf 18 11 59.2 -0.1
baz=309
QUA2 Belchertown 129.51 37 PKPdf 18 11 59.7 +0.2
F64A Sherman 129.52 31 P PKPdf 18 11 59.1 -0.3
baz=312,SNR=5.2
F64A Sherman 129.52 31 PKPdf 18 11 59.4 0.0
X60A Albert Glenn T 129.53 49 P PKPdf 18 11 59.4 -0.3
baz=295
V60A Jim Taylor Roa 129.55 47 P PKPdf 18 11 59.1 -0.6
baz=296

Y60A	Bolivia	129.58	50	P		PKPdf	18 11 59.3	-0.5
	baz=294							
J63A	Strafford	129.67	36	P		PKPdf	18 11 59.6	-0.2
	baz=308							
WVL	Waterville	129.67	33			PKPdf	18 11 59.7	+0.1
BATG	Bathurst New B	129.68	29			PKPdf	18 11 59.5	-0.2
G64A	Maxfield	129.71	32	P		PKPdf	18 11 59.3	-0.4
	baz=311							
K63A	Dunstable	129.76	36	P		PKPdf	18 11 59.6	-0.3
	baz=307							
HRV	Adam Dziewonsk	129.85	37	P		PKPdf	18 11 59.5	-0.6
	baz=307							
H64A	Troy	129.86	33	P		PKPdf	18 11 59.8	-0.3
	baz=310,SNR=5.1							
W61A	Ground Anchor	130.00	48	P		PKPdf	18 11 60.0	-0.6
	baz=296							
ZON	Zonda	130.02	140		PKIKP	PKiKP	18 12 01.4	-0.3
ZON	Zonda	130.02	140			PKiKP	18 12 01.4	-0.3
V61A	Roper	130.03	47	P		PKPdf	18 12 00.6	0.0
	baz=297							
CO01	Juntas del Tor	130.09	137			PKPdf	18 12 00.7	-0.7
I64A	Boothbay	130.09	34	P		PKiKP	18 12 01.0	-0.4
	baz=310							
L63A	North Scituate	130.20	37	P		PKPdf	18 12 00.2	-0.6
	baz=306							
M63A	Gales Ferry	130.20	38	P		PKPdf	18 12 00.2	-0.6
	baz=305							
LCO	Las Campanas	130.26	136		PKIKP	PKiKP	18 12 02.5	0.0
LCO	Las Campanas	130.26	136			PKiKP	18 12 02.5	0.0
H65A	Eastbrook	130.35	33	P		PKPdf	18 12 00.4	-0.6
	baz=312							
G65A	Princeton	130.37	32	P		PKPdf	18 12 00.4	-0.6
	baz=313							
G65A	Princeton	130.37	32			PKPdf	18 12 00.6	-0.4
V62A	Hyde County Ai	130.59	47	P		PKPdf	18 12 01.2	-0.5
	baz=297							
L64A	Middleborough	130.62	37	P		PKPdf	18 12 01.4	-0.2
	baz=307							
M64A	Tiverton	130.62	38	P		PKPdf	18 12 01.5	-0.1
	baz=306							
KEST	Kesra	130.66	314	PKP		PKiKP	18 12 03.1	+0.3
	comp=Z,3.7nm,0.7s,baz=30,slow=7.8,SNR=4.2							
KEST	Kesra	130.66	314			PKPdf	18 12 01.3	-0.7
AC05	El Transito	130.67	136			PKiKP	18 12 02.7	-0.4
H66A	Whiting	130.78	32	P		PKPdf	18 12 01.6	-0.1
	baz=313							
GGN	Saint George	130.80	31			PKPdf	18 12 01.2	-0.6
LMN	Caledonia Moun	131.31	29			PKPdf	18 12 02.1	-0.7
PB14	IPOC Station P	133.05	131		PKPdf	PKPdf	18 12 05.1	-2.0
GO02	Mina Guanaco	133.34	132			PKPdf	18 12 06.0	-1.7
OTAV	Otavalo	134.53	95	*e*P		PKPdf	18 12 08.0	-2.3
OTAV	Otavalo	134.53	95		PKIKP	PKPdf	18 12 09.8	-0.6
OTAV	Otavalo	134.53	95			PKPdf	18 12 09.8	-0.6
OTAV	Otavalo	134.53	95	*e*P		PKPdf	18 12 11.0	+0.6
PB06	IPOC Station P	134.75	130			PKPdf	18 12 09.9	-0.2
PB07	IPOC Station P	135.04	128			PKiKP	18 12 12.6	+0.3
LVC	Limon Verde	135.31	130		PKIKP	PKiKP	18 12 12.9	-0.1
LVC	Limon Verde	135.31	130			PKiKP	18 12 12.9	-0.1
PATCX	Punta Patache	135.31	127			PKPdf	18 12 10.6	-0.6
PB01	IPOC Station P	135.72	128			PKiKP	18 12 13.4	-0.1
PB12	IPOC Station P	136.29	124		PKPdf	PKPdf	18 12 12.4	-0.6
PB08	IPOC Station P	136.47	127			PKPdf	18 12 13.1	-0.6
POPC	Popayan, Colom	136.55	92	*e*P		PKPdf	18 12 10.7	-3.1
PBRG	Braganca	136.80	331	*e*PKP		PKiKP	18 12 14.5	-0.6
ESDC	Sonseca Array	136.92	326	PKhKP		PKPpre	18 12 02.9	
	comp=Z,0.3nm,0.7s,baz=26,slow=3.2,SNR=2.8							
ESDC				PP		**PP**	**18 15 00.3**	**+1.5**
	comp=Z,3.7nm,0.9s,baz=28,slow=7.1,SNR=14							
ESDC				SKKPbc	SKKPbc		18 24 19.0	+0.1
	comp=Z,0.6nm,0.8s,baz=213,slow=5.7,SNR=5.6							
ESDC	Sonseca Array	136.92	326			PKPdf	18 12 12.2	-1.3
YOTC	Yotoco, Valle	136.99	90	*e*P		PKPpre	18 12 01.6	
PB16	IPOC Station P	137.10	124			PKPpre	18 12 03.2	
PAB	San Pablo	137.22	327	PKIKP		PKPdf	18 12 14.2	0.0
PAB	San Pablo	137.22	327			PKPdf	18 12 14.2	0.0
DBBC	Dabeiba	137.23	86	*e*P		PKPdf	18 12 14.3	-0.6
PGAV	Gavieira, Arco	137.40	332	*e*PKP		PKPdf	18 12 14.0	-0.4
PGAV	Gavieira, Arco	137.40	332	A		A	19 10 47.1	
	comp=Z,67nm,20.0s							
CBOC	Ciudad Bolivar	137.41	87	*e*P		PKPdf	18 12 15.3	0.0
MVO	Moncorvo	137.43	331	A		A	19 16 52.7	
	comp=Z,96nm,18.0s							
FLOC	Florencia	137.47	94	*e*P		PKPdf	18 12 14.9	-0.3
ANIL	Santa Ana	137.96	89	*e*P		PKiKP	18 12 17.7	-0.8
GUY2C	Guyana, Caldas	138.03	88	*e*P		PKPpre	18 12 07.5	
TOLC	Tolima	138.04	89	*e*P		PKPpre	18 12 06.1	
ORTC	Ortega, Tolima	138.08	90	*e*P		PKPpre	18 12 06.9	
SJCC	San Jacinto, C	138.19	81	*e*P		PKPpre	18 12 08.4	
PRAC	Prado	138.42	91	*e*P		PKPpre	18 12 08.7	
NORC	Norcasia	138.53	88	*e*P		PKPpre	18 12 06.9	
ZARC	Zaragoza, Cauc	138.57	85	*e*P		PKPpre	18 12 05.7	
PCBR	Castelo Branco	138.65	330	*e*PKP		PKPdf	18 12 17.1	+0.4
PMRV	Marv??o	138.92	329	*e*PKP		PKiKP	18 12 18.6	-0.9
PMRV	Marv??o	138.92	329	A		A	19 15 20.3	
	comp=Z,85nm,20.0s							
PCAS	Casmilo, Conde	139.00	331	*e*PKP		PKiKP	18 12 19.5	-0.1
ROSC	El Rosal	139.05	89	PKP		PKPdf	18 12 18.9	+0.3
	comp=Z,50nm,0.6s,baz=78,slow=11,SNR=11							
ROSC	El Rosal	139.05	89	*e*P		PKPpre	18 12 12.0	
ROSC	El Rosal	139.05	89			PKPdf	18 12 18.3	-0.3
LPAZ	La Paz	139.25	123	PKhKP		PKPpre	18 12 10.0	
	comp=Z,2.5nm,0.4s,baz=298,slow=2.1,SNR=13							
LPAZ	La Paz	139.25	123	PKHKP		PKPpre	18 12 09.6	
LPAZ	La Paz	139.25	123			PKPpre	18 12 09.6	
SMLC	San Martn de	139.33	83	*e*P		PKPpre	18 12 10.7	
CHIC	Chingaza	139.63	89	*e*P		PKPpre	18 12 10.7	
EVO	Evora	139.91	329	*e*PKP		PKPpre	18 12 13.9	
BARC	Barichara	140.23	86	*e*P		PKPpre	18 12 12.6	
RUSC	La Rusia	140.32	87	*e*P		PKPpre	18 12 12.2	
SDDR	Presa de Saban	140.53	67			PKPpre	18 12 12.1	
PVAQ	Vaqueiros	140.59	327	A		A	19 12 43.7	
	comp=Z,73nm,18.0s							
PCVE	Castro Verde	140.60	328	*e*PKP		PKiKP	18 12 23.1	+0.2
CPUP	Villa Florida	140.69	145	PKhKP		PKPpre	18 12 12.9	
	comp=Z,7.4nm,0.7s,baz=242,slow=2.3,SNR=21							
CPUP				SKPbc		**SKPbc**	**18 15 32.9**	**-2.5**
	comp=Z,4.4nm,0.8s,baz=346,slow=3.7,SNR=4.1							
MORF	Marmelete	141.16	328	*e*PKP		PKPdf	18 12 16.9	-4.5
ITAB	Concordia	142.71	152	*e*P		PKiKP	18 12 26.1	-1.4
SDV	Santo Domingo	142.72	83	*e*P		PKPdf	18 12 21.1	-3.8
HATO	Hato, Curacao	144.07	77			PKPbc	18 12 25.9	+0.2
AGPR	Aguadilla, PR	144.48	66			PKPab	18 12 25.5	-1.1
CRPR	Cabo Rojo, PR	144.61	66			PKPab	18 12 26.1	-1.1
MLPR	Magueyes Islan	144.68	66			PKPab	18 12 26.2	-1.2
TOA0	Torodi Ar. Sit	144.75	285			PKPbc	18 12 26.6	-1.1
TORD	Torodi Ar. Bea	144.75	285	PKP		PKPbc	18 12 27.4	-0.4
	comp=Z,24nm,0.7s,baz=76,slow=3.5,SNR=91							
TORD	Torodi Ar. Bea	144.75	285			PKPbc	18 12 27.1	-0.6
AOPR	Arecibo Observ	144.84	66			PKPbc	18 12 26.3	-1.6
PTGB	Pitanga	144.84	149	*e*P		PKPdf	18 12 28.4	+0.1
EMPR	Esperanza - Ma	145.00	65			PKPbc	18 12 27.9	-0.5
GCPR	Guaynabo City	145.46	65			PKPdf	18 12 28.7	-0.6
PDPR	Patillas Dam,	145.60	66			PKPdf	18 12 29.2	-0.3
CBYP	Canovanas	145.68	65			PKPdf	18 12 29.1	-0.7
HUMP	Col San Antoni	145.72	66			PKPdf	18 12 29.4	-0.3
H07N1	FLORES T-PHASB	145.86	357	*e*PKP		PKPbc	18 12 30.7	+0.2
MTP	Monte Pirata	146.00	66			PKPdf	18 12 30.2	-0.1
TRCB	Terra Rica	146.10	147	*e*P		PKPbc	18 12 31.9	+0.2
H07S1	FLORES T-PHASB	146.17	357	*e*PKP		PKPbc	18 12 31.7	+0.3
CUPR	Culebra, Puert	146.18	65			PKPdf	18 12 30.8	+0.2
PGRA	Graciosa	146.24	353	*e*PKP		PKPbc	18 12 32.0	+0.4
STVI	Saint Thomas	146.47	65			PKPdf	18 12 30.4	-0.6
ADH	Angra Heroismo	146.50	352	*e*PKP		PKPbc	18 12 32.9	+0.6
ROSA	Rosais	146.57	353			PKPbc	18 12 33.3	+0.7
ROSA	Rosais	146.57	353	*e*PKP		PKPab	18 12 34.0	0.0
PMAN	Manadas	146.64	353	*e*PKP		PKPbc	18 12 33.4	+0.7
CDVI	St. Croix	146.82	66			PKPdf	18 12 31.2	-0.4
PCAN	Candelaria	146.86	353	*e*PKP		PKPbc	18 12 33.6	+0.2
SAML	Samuel	146.87	115	PKIKP		PKPdf	18 12 31.3	-0.6
SAML	Samuel	146.87	115			PKPdf	18 12 31.3	-0.6
BART	Pico Bartolome	147.00	348	*e*PKP		PKPbc	18 12 33.6	-0.3
PSET	Sete Cidades	147.06	349	*e*PKP		PKPbc	18 12 34.0	0.0
CMLA	Cha da Macela	147.08	349	*e*PKP		PKPbc	18 12 34.2	+0.2
PDA	Ponta Delgada	147.12	349	*e*PKP		PKPbc	18 12 35.0	+0.9
FRTB	Fartura	147.22	151	*e*P		PKPdf	18 12 33.5	+1.2
PSMN	Pico do Norte,	147.72	348	*e*PKP		PKPbc	18 12 36.1	+0.3
PSMA	Santa Maria	147.74	348	*e*PKP		PKPbc	18 12 36.1	+0.3
PCMB	Pacaembu	147.81	147	*e*P		PKPdf	18 12 34.7	+1.4
SMRT	St. Maarten	148.25	64			PKPdf	18 12 33.5	-0.5
PMPST	Porto Santo, M	148.33	332	*e*PKP		PKPbc	18 12 38.0	+0.5
PMPS	Porto Santo	148.35	332	*e*PKP		PKPbc	18 12 37.6	+0.1
SKI	Saint Kitts	148.79	65	PKHKP		PKPbc	18 12 37.9	-1.2
SKI	Saint Kitts	148.79	65			PKPbc	18 12 37.9	-1.2
PMAR	Madeira	148.90	333	*e*PKP		PKPbc	18 12 39.4	+0.3
ANWB	Willy Bob	149.54	64			PKPbc	18 12 40.1	-0.7
BB19B	Bebedouro	149.66	151	*e*P		PKPdf	18 12 37.3	+1.0
ITRB	Iturama	149.84	146	*e*P		PKPdf	18 12 38.0	+1.4
FDF	Fort de France	151.01	69	PKIKP		PKPbc	18 12 43.8	-0.7
FDF	Fort de France	151.01	69			PKPbc	18 12 43.8	-0.7
SVB	Belmont	151.28	72			PKPbc	18 12 43.7	-1.4
KIC	Kosan Boka	151.68	273	*e*PKIKP		PKPbc	18 12 45.4	-0.6
	comp=Z,65nm,1.2s							
KIC	Kosan Boka	151.68	273	*e*PKP1		pPKPdf	18 13 35.8	-2.7
	comp=Z,88nm,1.0s							
DBIC	Dimbokro	151.79	274	PKPbc		**PKPbc**	**18 12 45.8**	**-0.4**
	comp=Z,12nm,0.7s,baz=93,slow=2.8,SNR=23							
DBIC				PKPab		**PKPab**	**18 12 56.8**	**+0.7**
	comp=Z,5.4nm,0.6s,baz=50,slow=4.3,SNR=8.2							
TIC	Toumodi	151.95	274	*e*PKIKP		**PKPbc**	**18 12 45.8**	**-0.9**
TIC	Toumodi	151.95	274	*e*PKP1		pPKPdf	18 13 36.4	-2.5
LIC	Lamto	151.96	273	*e*PKIKP		**PKPbc**	**18 12 45.8**	**-0.9**
	comp=Z,89nm,1.1s							
LIC	Lamto	151.96	273	*e*PKP1		pPKPdf	18 13 36.5	-2.4
	comp=Z,148nm,1.1s							
ARAG	Araguaiana, MT	152.05	139	*e*P		**PKPdf**	**18 12 40.8**	**+0.8**
MACI	Morro de la Ar	152.33	327			**PKPbc**	**18 12 46.4**	**-1.0**
TOSP	Speyside	152.36	76			**PKiKP**	**18 12 47.8**	**+0.1**
BDFB	Brasilia	154.42	145	PKP		**PKPdf**	**18 12 43.9**	**+0.3**
	comp=Z,12nm,0.7s,baz=198,slow=2.1,SNR=10							
BDFB				PKPbc		**PKiKP**	**18 12 52.4**	**+0.3**
	comp=Z,40nm,0.8s,baz=178,slow=0.7,SNR=27							
BDFB				PKPab		**PKPab**	**18 13 07.9**	**+0.8**
	comp=Z,28nm,0.9s,baz=182,slow=0.7,SNR=8.4							
BDFB	Brasilia	154.42	145			**PKPdf**	**18 12 43.2**	**-0.4**
BDFB						**PKiKP**	**18 12 52.1**	**0.0**
BDFB						**PKPab**	**18 13 07.2**	**+0.1**
NPGB	Novo Progresso	154.65	119	*e*P		**PKPdf**	**18 12 43.9**	**0.0**
ITTB	Itaituba	155.48	113	*e*P		**PKPdf**	**18 12 44.3**	**-0.7**
MALB	Monte Alegre	157.75	108	*e*P		**PKPab**	**18 13 21.5**	**-0.1**

NEIC ***08*** *18:04:22.6±1.2, 36°.81N±0°.02×97°.71W±0°.06, h5km±7km, Error ellipse: s-maj=7.7km s-min=2.3km az=78.0*
TUL ***08*** *18:04:22.5±1.3, 36°.81N±0°.03×97°.72W±0°.06, h3km±7km, ML3.6, Error ellipse: s-maj=7.5km s-min=3.0km az=71.0*
UNK ***08*** *18:04:22.5, 36°.81N×97°.72W, h3km*
ANF ***08*** *18:04:24.8±1.1, 36°.85N×97°.72W, h19km±7km, ML4.5/11, Error ellipse: s-maj=3.0km s-min=2.3km az=55.0*

ISC 08 18:04:21.9±1.2, 36°.81N±0°.02×97°.71W±0°.03, h1km±10km, n89, σ1§03/99, Oklahoma region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	South Haven SW	0.27	43		Pg	18 04 26.5	-0.6
KAN13				Sg	Sg	18 04 31.3	+0.6
CROK	Carrier	0.38	216		Pg	18 04 30.1	+1.0
CROK				Sg	Sg	18 04 33.5	-0.5
KAN10	Anthony SW Sta	0.44	315		Pg	18 04 31.1	+0.8
KAN12	Harper NE Stat	0.54	335		Pg	18 04 33.0	+0.8
T35A	Sooner Cattle	0.96	83	Pg	Pg	18 04 41.0	+0.6
T35A				Sg	Sg	18 04 53.6	+0.7
QUOK	Quay	1.03	128		Pg	18 04 42.1	+0.5
OK029	Liberty Lake	1.03	168		Pg	18 04 42.2	+0.6
OK029				Sg	Sg	18 04 56.0	+1.0
U32A	Winter Ranch,	1.13	248		Pg	18 04 43.5	+0.1
BCOK	Bluff Creek, N	1.16	176		Pg	18 04 44.3	+0.3
ADOK	Arcadia Dam	1.19	167	Pg	Pg	18 04 45.3	+0.7
OK005	Luther M Schoo	1.23	160	Pg	Pg	18 04 45.8	+0.4
OK025	Westminster Rd	1.26	166		Pg	18 04 46.4	+0.3
OKCFA	Oklahoma City	1.41	171		Pn	18 04 48.8	+0.1
OKCSW	OKLAHOMA CITY	1.42	171		Pn	18 04 49.0	+0.1
FNO	Franklin	1.57	171		Pb	18 04 51.9	+0.2
W35A	Tecumseh	1.79	158		Pn	18 04 54.5	+0.6
TUL1	Leonard	1.79	120	P	Pb	18 04 55.0	-0.5
	baz=301						
TUL1				S	Sb	18 05 19.2	+0.8
	baz=301						
TUL1	Leonard	1.79	120		Pn	18 04 54.9	+0.9
R32A	Long Quarter,	1.79	334		Pn	18 04 55.0	+1.0
WMOK	Wichita Mounta	2.25	203	P	Pn	18 05 00.7	+0.5
	baz=22						
WMOK				S	Sn	18 05 29.8	+1.2
	baz=22						
WMOK	Wichita Mounta	2.25	203		Pn	18 05 00.7	+0.5
KSU1	Kansas State U	2.44	20	P	Pn	18 05 03.9	+1.0
	baz=201						
KSU1				Sb	Sb	18 05 38.3	+1.0
	baz=201						
KSU1	Kansas State U	2.44	20		Pn	18 05 03.2	+0.3
CBKS	Cedar Bluff	2.56	322	P	Pn	18 05 05.7	+1.1
	baz=141						
CBKS				Sb	Sb	18 05 42.2	+1.5
	baz=141						
CBKS	Cedar Bluff	2.56	322		Pn	18 05 05.0	+0.4
U38A	Gravette	2.70	97	Pn	Pn	18 05 07.2	+0.8
X37A	Clayton	2.92	139	Pn	Pn	18 05 11.0	+1.5
HHAR	Hobbs	3.08	99		Pn	18 05 13.0	+1.3
Z35A	Perchaven, San	3.49	174		Pn	18 05 18.8	+1.4
W39A	Magazine	3.57	116		Pn	18 05 19.5	+1.1
S39A	Bolivar	3.61	75	Pn	Pn	18 05 19.7	+0.7
AMTX	Amarillo	3.76	240	Pn	Pn	18 05 21.7	+0.6
U40A	Yellville	3.93	95	P	Pn	18 05 24.4	+1.0
	baz=278						
U40A				S	Sn	18 06 10.4	+0.2
	baz=278						
U40A	Yellville	3.93	95		Pn	18 05 23.8	+0.3
MIAR	Mount Ida	4.05	123	P	Pn	18 05 26.0	+1.0
	baz=305						
MIAR				S	Sn	18 06 13.3	+0.2
	baz=305						
MIAR	Mount Ida	4.05	123	Pn	Pn	18 05 26.1	+1.1
Z38A	Mt. Pleasant	4.19	147		Pn	18 05 27.1	+0.2
P38A	Dawn	4.33	48		Pn	18 05 28.4	-0.4
N35A	Tabor	4.35	21		Pn	18 05 26.0	-3.1
MGMO	Mountain Grove	4.37	84		Pn	18 05 30.9	+1.5
KSCO	Kaye Shedlock'	4.47	301	P	Pn	18 05 31.6	+0.8
	baz=118						
KSCO	Kaye Shedlock'	4.47	301		Pn	18 05 31.7	+0.8
ABTX	Abilene, Hawle	4.47	201		Pn	18 05 31.7	+0.8
R40A	Maddies Statio	4.57	70		Pn	18 05 32.6	+0.5
X40A	Basin Creek Fa	4.60	119	P	Pn	18 05 33.7	+1.2
	baz=302						
X40A	Basin Creek Fa	4.60	119		Pn	18 05 33.5	+1.0
FCAR	Ozark Folk Cen	4.60	100		Pn	18 05 33.3	+0.8
BGNE	Belgrade	4.60	356	P	Pn	18 05 33.2	+0.6
	baz=176						
BGNE	Belgrade	4.60	356		Pn	18 05 33.2	+0.6
WHAR	Wooly Hollow	4.65	107		Pn	18 05 33.5	+0.4
W41B	Gary Mavity, V	4.72	109		Pn	18 05 35.1	+1.0
UALR	University of	4.81	113		Pn	18 05 35.5	+0.1
WHTX	Lake Whitney,	4.81	177	Sb	Sg	18 06 51.8	-4.7
	baz=357						
WHTX	Lake Whitney,	4.81	177		Pn	18 05 35.2	-0.3
WLAR	White Oak Lake	4.88	128		Pn	18 05 35.9	-0.6
P40A	Paris	5.22	57		Pn	18 05 41.5	+0.4
L34A	Svendsen Farm,	5.25	11		Pn	18 05 41.4	-0.1
CCM	Cathedral Cave	5.29	74	P	Pn	18 05 42.3	+0.2
	baz=258						
CCM	Cathedral Cave	5.29	74		Pn	18 05 42.3	+0.2
N38A	Joes South For	5.29	40		Pn	18 05 42.0	0.0
T42A	Van Buren	5.30	86	Pn	Pn	18 05 43.6	+1.4
OGNE	Ogallala	5.33	322		Pn	18 05 43.1	+0.4
LCAR	Lake Charles	5.34	96		Pn	18 05 44.0	+1.3
T25A	Trinidad	5.38	275	Pn	Pn	18 05 43.6	+0.2
PBMO	Poplar Bluff	5.84	88		Pn	18 05 48.3	-1.3
K31A	O'Neill	5.86	352		Pn	18 05 49.5	-0.3
FVM	French Village	5.92	76	Pn	Pn	18 05 50.6	0.0
SCIA	State Center	6.16	33	Pn	Pn	18 05 54.7	+0.6
Q24A	Divide	6.26	292	Pn	Pn	18 05 56.1	+0.4
SDCO	Great Sand Dun	6.28	281		Pn	18 05 57.1	+1.1
JCT	Junction City	6.55	196	Pn	Pn	18 05 59.9	+0.4
N41A	Harden Midland	6.62	52	Pn	Pn	18 06 00.2	-0.1
S44A	Carbondale	6.80	80	Pn	Pn	18 06 03.8	+1.0
ISCO	Idaho Springs	6.89	298	Pn	Pn	18 06 04.9	+0.6
ECSD	EROS Data Cent	6.96	7	Pn	Pn	18 06 04.2	-0.8
P43A	Skaggs, Pawnee	7.04	64	Pn	Pn	18 06 06.8	+0.8
Q44A	Meyer Farm, Va	7.19	70		Pn	18 06 07.6	-0.5
L40A	Anamosa	7.26	42	Pn	Pn	18 06 08.9	-0.1
S22A	4UR Ranch, Cre	7.33	280	Pn	Pn	18 06 09.6	-0.8
PHWY	Pilot Hill	7.51	309		Pn	18 06 08.8	-4.0
HDIL	Hopedale	7.57	58	Pn	Pn	18 06 13.1	-0.2
N23A	Red Feather La	7.61	305	Pn	Pn	18 06 15.0	+0.9
BNM	Barren Site	7.75	253	Pn	Pn	18 06 16.2	+0.2
MNTX	Cornudas Mount	8.14	233	Pn	Pn	18 06 21.4	+0.1
JFWS	Jewell Farm	8.37	41		Pn	18 06 24.6	+0.3
M44A	Midewin, Midew	8.79	56	Pn	Pn	18 06 29.9	-0.2
TX31	Lajitas Ar. Si	8.98	216	Pn	Pn	18 06 32.3	-0.4
TX32	Lajitas Array	8.98	216	Pn	Pn	18 06 32.2	-0.5
TXAR	Lajitas Array	8.98	216	Pn	Pn	18 06 32.1	-0.6

IDC ***08*** *18:11:19.7±4.2, 56°.93S×26°.27W, h100km±37km, mb4.1/10, mb1 4.1/12, mb1mx4.0/25, mbtmp4.4/12, Error ellipse: s-maj=16.9km s-min=13.4km az=65.0*
NEIC ***08*** *18:11:20.1±1.0, 56°.9S±0°.1×26°.3W±0°.2, h103km±5km, mb4.8/36, Error ellipse: s-maj=18.2km s-min=14.0km az=212.0*

ISC 08 18:11:19.9±0.3, 56°.94S±0°.07×26°.39W±0°.08, h100km, n121, σ1§02/121, mb4.7/28, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.31	291	Pn	Pn	18 12 51.1	+0.8
VNA1	Neumayer--Stat	15.80	158	P	P	18 14 59.2	+1.1
VNA3	Neumayer Olymp	16.00	160	P	P	18 15 00.9	+0.5
VNA2	Neumayer--Watz	16.20	157	P	P	18 15 03.9	+1.4
SNAA	Sanae	17.75	156	P	Pn	18 15 25.7	+5.5
SNAA	Sanae	17.75	156	P	P	18 15 19.5	-0.2
	0.5nm,0.3s,baz=308,slow=11,SNR=26						
SNAA				S	Sn	18 18 23.5	-14
	0.3nm,0.3s,baz=327,slow=16,SNR=3.3						
SNAA	Sanae	17.75	156	P	Pn	18 15 20.0	-0.3
EFI	East Falkland	19.11	273	P	P	18 15 35.7	+1.2
PMSA	Palmer Station	19.67	231	P	P	18 15 39.0	-1.5
	0.6nm,0.3s,baz=83,slow=16,SNR=6.4						
PMSA	Palmer Station	19.67	231	P	P	18 15 37.1	-3.5
PMSA	Palmer Station	19.67	231	*e*P	P	18 15 39.1	-1.5
BELA	Belgrano 2	21.23	185	P	P	18 15 56.6	-0.6
GO09	Cerro Castillo	27.11	262	P	P	18 16 52.8	-0.3
GO09				IAmb	IAmb	18 16 53.2	
	comp=Z,19nm,0.7s						
QSPA	South Pole Qui	33.31	180	P	P	18 17 48.4	+0.6
	comp=Z,7.0nm,0.6s,baz=17,slow=4.3,SNR=50						
QSPA				PcP	PcP	18 20 27.1	-0.1
	comp=Z,1.7nm,0.6s,baz=268,slow=1.6,SNR=2.7						
QSPA	South Pole Qui	33.31	180	P	P	18 17 48.6	+0.8
QSPA				IAmb	IAmb	18 17 49.6	
	comp=Z,8.1nm,0.7s						
QSPA					PcP	18 20 27.3	+0.1
PTGB	Pitanga	37.15	319	*e*P	P	18 18 21.4	+0.4
CPUP	Villa Florida	37.73	311	P	P	18 18 25.6	-0.2
	comp=Z,10nm,0.6s,baz=152,slow=7.2,SNR=16						
CPUP				PcP	PcP	18 20 40.4	-0.3
	comp=Z,1.0nm,0.7s,baz=136,slow=3.1,SNR=3.8						
CPUP	Villa Florida	37.73	311	P	P	18 18 26.0	+0.2
CPUP				IAmb	IAmb	18 18 26.3	
	comp=Z,10nm,0.8s						
MAW

CMAR	Chiang Mai Arr	124.34	110		PKPdf	18 30 05.9	-1.0
FINES	FINESS Array B	124.96	28	PKP	PKPdf	18 30 05.3	-1.4
comp=Z,1.8nm,0.6s,baz=277,slow=2.4,SNR=8.8							
FINES	FINESS Array B	124.96	28		PKPdf	18 30 06.0	-0.7
GAR	Garm	125.03	71		PKiKP	18 30 08.0	-0.1
ABKAR	Akbulak array	127.51	56		PKPdf	18 30 11.4	-0.6
G08A	Pilot Rock	127.58	297		PKiKP	18 30 12.8	-0.1
KK31	Karatay Array	128.15	68		PKPdf	18 30 12.8	-0.6
KKAR	Karatay Array	128.15	68		PKPdf	18 30 12.8	-0.6
ARCES	ARCESS Array B	131.60	22	PKP	PKPdf	18 30 18.4	-0.7
comp=Z,1.0nm,0.5s,baz=218,slow=2.3,SNR=9.6							
ARCES	ARCESS Array B	131.60	22		PKPdf	18 30 18.8	-0.3
MKAR	Makanchi Array	136.75	72	PKP	PKPdf	18 30 30.0	+0.4
comp=Z,0.8nm,0.5s,baz=250,slow=2.3,SNR=9.6							
MKAR	Makanchi Array	136.75	72		PKPdf	18 30 30.1	+0.6
CD2	Chengdu	136.99	106	PKP	PKPdf	18 30 30.6	+0.1
YKA	Yellowknife Ar	137.13	317	PKP	PKPdf	18 30 29.5	-0.1
comp=Z,0.9nm,0.3s,baz=148,slow=5.9,SNR=10							
GTA	Gaotai	141.23	93	*e*PKP	PKPdf	18 30 37.4	-0.7
GTA				sPKP		18 31 16.8	
GTA				PP	PP	18 33 46.0	+4.1
ZALV	Zalesovo Beam	142.36	64	PKhKP	PKPpre	18 30 34.7	
comp=Z,1.0nm,0.3s,baz=231,slow=3.8,SNR=6.3							
ZALV	Zalesovo Beam	142.36	64		PKPpre	18 30 34.5	
WHY	Whitehorse	144.44	307	PKPdf	PKPab	18 30 41.8	+0.2
EPYK	Eagle Plains	147.37	315		PKPbc	18 30 49.7	-0.7
CTGM	Chitina Glacie	147.45	305		PKPbc	18 30 51.1	+0.2
VRDI	Verde Repeater	148.50	304		PKPbc	18 30 53.9	+0.1
HMT	Hamilton	148.54	303		PKPbc	18 30 54.0	+0.3
EGAK	Eagle	148.66	312		PKPdf	18 30 51.1	+1.2
GLB	Gilahina Butte	148.74	305		PKPbc	18 30 54.4	+0.2
DOT	Dot Lake	149.55	309		PKPbc	18 30 56.2	+0.2
RIDG	Independent Ri	149.91	309		PKPbc	18 30 57.0	0.0
SONM	Songino Array	150.33	87	PKPbc	PKPbc	18 30 58.0	-0.6
comp=Z,11nm,0.4s,baz=222,slow=3.8,SNR=85							
SONM	Songino Array	150.33	87		PKPbc	18 30 57.8	-0.8
IL31		151.03	310		PKPbc	18 30 59.4	-0.1
ILAR	Eielson Array	151.03	310	PKPbc	PKPbc	18 30 59.1	-0.4
comp=Z,5.3nm,0.6s,baz=131,slow=1.6,SNR=49							
ILAR	Eielson Array	151.03	310		PKPbc	18 30 58.9	-0.7
CCB	Clear Creek Bu	151.39	310		PKPbc	18 30 60.0	-0.4
WRH	Wood River Hil	151.47	309		PKPbc	18 31 00.1	-0.4
CNPM	China Poot	151.55	299		PKPbc	18 31 01.0	+0.1
RND	Reindeer	151.56	307		PKiKP	18 31 01.3	0.0
KDAK	Kodiak Island	151.60	295		PKPbc	18 31 01.0	0.0
MCK	McKinley	151.67	308		PKiKP	18 31 01.4	0.0
OHAK	Old Harbor	151.75	293		PKiKP	18 31 01.6	-0.1
TRF	Thorofare Moun	152.20	307		PKPbc	18 31 02.4	-0.1
KTH	Kantishna Hill	152.50	307		PKPbc	18 31 02.9	-0.1
BPAW	Bear Paw Mtn.	152.64	308		PKPbc	18 31 03.0	-0.2
TOLK	Toolik Lake Re	152.64	318		PKiKP	18 31 03.3	-0.1
PPLA	Purkeypile	152.92	305		PKPbc	18 31 03.8	-0.2

*IDC **08** 18:18:06.5±0.6, 55°.30S×27°.95W, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.4/23, mbtmp4.4/13, ML4.8/1, MS3.9/7, Ms1 3.9/7, ms1mx3.6/26, Error ellipse: s-maj=22.0km s-min=15.6km az=66.0*

*NEIC **08** 18:18:07.9±1.3, 55°.27S±0°.09×28°.0W±0°.2, h10km±1km, mb4.7/22, Error ellipse: s-maj=17.5km s-min=14.6km az=244.0*

ISC 08 18:18:07.9±0.5, 55°.32S±0°.09×28°.00W±0°.09, h10km, n56, σ0§80/52, mb4.6/15, MS4.0/7, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.02	278		Pn	18 19 22.7	-0.4
VNA1	Neumayer--Stat	17.65	158	P	P	18 22 14.9	+0.5
VNA3	Neumayer Olymp	17.84	161	P	P	18 22 16.4	-0.1
VNA2	Neumayer--Watz	18.05	158	P	P	18 22 19.0	+0.2
EFI	East Falkland	18.18	269		P	18 22 19.9	-0.4
SNAA	Sanae	19.60	156	P	P	18 22 35.6	-0.3
SNAA	Sanae	19.60	156	P	P	18 22 35.8	-0.1
3.1nm,0.3s,baz=302,slow=11,SNR=77							
SNAA	Sanae	19.60	156	P	P	18 22 35.5	-0.3
PMSA	Palmer Station	20.05	227	P	Pn	18 22 42.8	+0.4
19nm,0.9s,baz=75,slow=10.0,SNR=19							
PMSA				LR	LR	18 29 01.8	
comp=Z,245nm,19.8s,baz=58,slow=33							
PMSA	Palmer Station	20.05	227	Pn	Pn	18 22 43.0	+0.6
PMSA				IAmb	IAmb	18 22 44.6	
comp=Z,31nm,1.1s							
BELA	Belgrano 2	22.78	184		P	18 23 09.9	-0.2
PLCA	Paso Flores	31.42	280	P	P	18 24 29.0	-0.1
comp=Z,2.9nm,0.9s,baz=337,slow=2.7,SNR=2.9							
PLCA				LR	LR	18 38 19.5	
comp=Z,101nm,18.5s,baz=184,slow=39							
SYO	Syowa Base	32.45	142‖	*e*P	P	18 24 34.9	-2.7
SYO	Syowa Base	32.45	142‖	*ep*P	P	18 24 38.0	+0.4
QSPA	South Pole Qui	34.94	180	P	P	18 24 59.9	+0.3
comp=Z,6.6nm,0.6s,baz=165,slow=1.2,SNR=25							
QSPA	South Pole Qui	34.94	180	P	P	18 24 59.9	+0.3
QSPA				IAmb	IAmb	18 25 01.7	
comp=Z,8.2nm,0.8s							
CPUP	Villa Florida	35.98	312	P	P	18 25 08.7	0.0
comp=Z,6.6nm,1.0s,baz=145,slow=8.0,SNR=7.9							
CPUP	Villa Florida	35.98	312	P	P	18 25 09.5	+0.8
CPUP				IAmb	IAmb	18 25 11.2	
comp=Z,7.8nm,1.0s							
SUR	Sutherland	40.91	77	LR	LR	18 39 25.5	
comp=Z,202nm,18.7s,baz=196,slow=31							
MAW	Mawson	41.01	144	P	P	18 25 50.5	0.0
comp=Z,1.9nm,0.7s,baz=189,slow=2.5,SNR=4.8							
MAW	Mawson	41.01	144	P	P	18 25 51.0	+0.5
BDFB	Brasilia	42.50	331	P	P	18 26 01.7	-1.7
comp=Z,2.1nm,0.5s,baz=145,slow=12,SNR=2.2							
BDFB	Brasilia	42.50	331	IAmb	IAmb	18 26 05.3	
comp=Z,3.9nm,0.8s							
GO02	Mina Guanaco	42.74	298	P	P	18 26 06.7	+1.2
GO02				IAmb	IAmb	18 26 19.7	
comp=Z,18nm,1.1s							
LVC	Limon Verde	44.53	300	P	P	18 26 19.9	-0.2
LVC				IAmb	IAmb	18 26 23.5	
comp=Z,11nm,1.1s							
PB01	IPOC Station P	46.14	301	P	P	18 26 33.5	+1.0
PB01				IAmb	IAmb	18 26 35.3	
comp=Z,9.5nm,0.8s							
BOSA	Boshof	46.25	77	P	P	18 26 34.1	+0.8
comp=Z,3.2nm,0.8s,baz=208,slow=11,SNR=3.3							
BOSA				LR	LR	18 43 20.3	
comp=Z,216nm,18.1s,baz=184,slow=33							
BOSA	Boshof	46.25	77	P	P	18 26 33.7	+0.3
PB08	IPOC Station P	46.74	302	P	P	18 26 38.9	+1.3
PB08				IAmb	IAmb	18 26 44.0	
comp=Z,9.3nm,1.1s							
GO01	Chusmiza	47.16	302	P	P	18 26 41.8	+0.8
VNDA	Vanda	47.28	183	P	P	18 26 41.0	+0.3
comp=Z,3.6nm,0.8s,baz=190,slow=6.0,SNR=23							
VNDA	Vanda	47.28	183	P	P	18 26 41.0	+0.3
VNDA				IAmb	IAmb	18 26 43.7	
comp=Z,4.2nm,0.8s							
PB11	IPOC Station P	47.31	302	P	P	18 26 43.1	+1.3
MNMC	Minye Minye	47.82	302	P	P	18 26 46.8	+1.0
LPAZ	La Paz	49.58	306	P	P	18 27 00.6	+0.9
comp=Z,9.3nm,1.1s,baz=189,slow=5.1,SNR=14							
LPAZ				LR	LR	18 51 36.3	
comp=Z,38nm,18.1s,baz=190,slow=40							
LPAZ	La Paz	49.58	306	P	P	18 27 00.7	+0.9
LPAZ				IAmb	IAmb	18 27 02.5	
comp=Z,8.1nm,0.9s							
SAML	Samuel	53.96	315	P	P	18 27 31.4	-0.3
CASY	Casey	54.75	161	P	P	18 27 37.2	+0.2
TOA0	Torodi Ar. Sit	72.65	30	P	P	18 29 36.0	+0.5
TOA0				IAmb	IAmb	18 29 50.7	
comp=Z,4.0nm,0.7s							
TORD	Torodi Ar. Bea	72.65	30	P	P	18 29 36.1	+0.6
comp=Z,2.2nm,0.5s,baz=201,slow=7.2,SNR=12							
TORD				LR	LR	18 56 44.4	
comp=Z,103nm,18.5s,baz=145,slow=32							
TORD	Torodi Ar. Bea	72.65	30	P	P	18 29 35.7	+0.2
STKA	Stephens Creek	92.70	171	P	P	18 31 19.4	-0.5
comp=Z,2.4nm,0.9s,baz=135,slow=7.1,SNR=2.0							
STKA	Stephens Creek	92.70	171	IAmb	IAmb	18 31 28.1	
comp=Z,2.5nm,1.2s							
KEST	Kesra	96.16	30	LR	LR	19 11 16.3	
comp=Z,104nm,18.9s,baz=260,slow=33							
ASAR	Alice Springs	99.83	163	P	Pdif	18 31 50.8	-1.7
comp=Z,0.7nm,0.7s,baz=168,slow=3.5,SNR=5.9							
ASAR	Alice Springs	99.83	163		Pdif	18 31 50.9	-1.6
WRA	Warramunga Arr	103.55	163	Pdiff	Pdif	18 32 08.1	-1.0
comp=Z,0.5nm,0.9s,baz=192,slow=4.2,SNR=2.0							
FINES	FINESS Array B	123.95	28	PKP	PKPdf	18 37 04.1	-0.6
comp=Z,1.9nm,0.8s,baz=270,slow=1.9,SNR=7.1							
FINES	FINESS Array B	123.95	28		PKPdf	18 37 04.2	-0.5
ARCES	ARCESS Array B	130.43	22	PKP	PKPdf	18 37 16.8	-0.1
comp=Z,0.7nm,0.5s,baz=246,slow=1.2,SNR=6.2							
ARCES	ARCESS Array B	130.43	22		PKPdf	18 37 17.0	+0.1
ZALV	Zalesovo Beam	142.46	63	PKP	PKPdf	18 37 40.4	+0.8
comp=Z,0.5nm,0.4s,baz=251,slow=4.4,SNR=2.2							
ILAR	Eielson Array	149.28	313	PKPbc	PKPbc	18 37 55.4	+0.1
comp=Z,8.1nm,0.9s,baz=117,slow=1.6,SNR=37							
ILAR	Eielson Array	149.28	313		PKPbc	18 37 54.9	-0.3
SONM	Songino Array	151.14	86	PKPbc	PKPbc	18 38 00.4	0.0
comp=Z,1.6nm,0.7s,baz=217,slow=3.5,SNR=9.6							
SONM	Songino Array	151.14	86		PKPbc	18 38 00.2	-0.2

*JMA **08** 18:27:32.7, 24°.90N×122°.07E, h31km±3km, M2.1*

*TAP **08** 18:27:32.4, 24°.87N×122°.08E, h7km, ML2.5, C*

ISC 08 18:27:31.2±1.1, 24°.94N±0°.03×122°.14E±0°.02, h9km±8km, n65, σ0§95/109, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.21	244	*i* P	Pg	18 27 35.9	+0.4
baz=257							
EGS				*i* S	Sg	18 27 38.4	0.0
baz=257							
TIPB	Shuangxi	0.29	277	P	Pb	18 27 38.3	-0.3
baz=293							
TIPB				S	Sb	18 27 41.9	-1.7
baz=293							
NTC	Toucheng	0.29	254	P	Pb	18 27 37.7	-0.9
baz=266							
NTC				S	Sg	18 27 42.0	+1.1
baz=266							
NWF	Wu-fen Shan	0.35	292	*e*P	Pn	18 27 40.2	-2.5
baz=306							
NWF				*e*S	Sb	18 27 46.0	+0.5
baz=306							
WFSB	Wu-fen Shan	0.35	292	*i* P	Pn	18 27 40.0	-2.6
baz=294							
WFSB				*e*S	Sb	18 27 44.9	-0.5
baz=294							
ILA	Ilan	0.40	244	*e*P	Pg	18 27 39.5	+0.6
baz=249							
ILA				*e*S	Sg	18 27 45.4	+1.2
baz=249							
TWC	Suao	0.42	219	*e*P	Pg	18 27 39.2	-0.2
baz=217							
TWC				*e*S	Sg	18 27 43.0	-1.9
baz=217							
TWA	Mucha	0.51	275	P	Pb	18 27 42.5	+0.1
baz=283							
TWA				S	Sb	18 27 48.6	-1.3
baz=283							
YM01	YM01	0.56	292	P	Pn	18 27 44.2	-1.3
baz=299							
YM08	YM08	0.56	297	*i* P	Pn	18 27 44.1	-1.4
baz=304							
YM11	YM11	0.56	294	*e*P	Pn	18 27 44.5	-1.0
baz=301							
YM05	YM05	0.57	294	P	Pn	18 27 44.4	-1.2
baz=301							
YM10	YM10	0.57	293	P	Pn	18 27 44.5	-1.1
baz=300							
ENAH	Nanao	0.57	212	*e*P	Pg	18 27 43.0	+0.7
baz=201							
ENAH				S	Sg	18 27 49.5	-0.2
baz=201							
TAP	Taipei	0.58	280	*e*P	Pn	18 27 45.2	-0.5
baz=288							
TAP				*e*S	Sb	18 27 52.1	+0.1
baz=288							
YM04	YM04	0.59	292	P	Pn	18 27 44.6	-1.2
baz=299							
TWY	Chenhua	0.59	305	P	Pn	18 27 45.3	-0.6
baz=312							
YM03	YM03	0.59	294	*e*P	Pn	18 27 45.7	-0.3
baz=301							
ENTT	Nioudou	0.60	241	P	Pg	18 27 43.1	+0.3
baz=242							
ENTT				S	Sg	18 27 51.7	+1.0
baz=242							
NWLT	Wulai	0.60	255	*e*P	Pb	18 27 43.4	-0.5
baz=260							
NWLT				S	Sg	18 27 50.0	-0.7
baz=260							
ENA	Nanau	0.62	216	P	Pg	18 27 43.7	+0.4
baz=221							
ENA				S	Sg	18 27 50.9	-0.5
baz=221							
NDT	Datong Townshi	0.66	240	P	Pg	18 27 44.2	+0.2
baz=242							
NTST	Danshui	0.67	290	*e*P	Pn	18 27 46.3	-0.6
baz=296							
TWS1	Kuangyinshan	0.68	284	P	Pn	18 27 46.4	-0.6
baz=290							
PCYT	Pengchaiyu	0.69	355	*e*P	Pn	18 27 48.5	+1.3
baz=351							
PCYT				*e*S	Sn	18 27 60.0	+1.8
baz=351							
NSK	Sanguang	0.76	250	*e*P	Pg	18 27 46.0	+0.2
baz=253							
NSK				*e*S	Sg	18 27 56.1	+0.4
baz=253							
NNS	Nan Shan	0.85	235	P	Pg	18 27 48.1	+0.4
baz=235							
NNS				S	Sg	18 27 57.0	-1.9
baz=235							
NNSB	Datong	0.85	234	P	Pb	18 27 48.2	-0.1
baz=234							
NNSH	Datong	0.85	234	*e*P	Pg	18 27 47.8	+0.1
baz=234							
JYNG	Yonagunijimaku	0.88	123	P	Pn	18 27 49.3	-0.5
JYNG				S	Sb	18 28 01.2	+0.7
NACB	Ninganchiao	0.91	213	P	Pg	18 27 48.5	-0.1
baz=201							
NACB				*e*S	Sg	18 28 00.3	-0.2
baz=201							
YOJ	Yonaguni jima	0.92	121	*e*P	Pn	18 27 51.1	+0.7
baz=115							
YOJ				*e*S	Sn	18 28 04.8	+1.0
baz=115							
YOJ	Yonaguni jima	0.92	121	P	Pn	18 27 49.9	-0.5
YOJ				S	Sb	18 28 02.4	+0.6
ETLH	Xiulin Townshi	0.94	220	*e*P	Pg	18 27 49.5	+0.1
baz=229							
ETLH				*e*S	Sg	18 28 01.2	-0.4
baz=229							
TWD	Chiawan	0.99	210	*e*P	Pg	18 27 49.6	-0.6
baz=198							
TWD				S	Sg	18 28 01.4	-1.6
baz=198							
LIOB	Emei	1.06	254	*e*P	Pn	18 27 52.6	+0.2
baz=249							
LIOB				*e*S	Sn	18 28 06.9	-0.4
baz=249							
FUSS	Fushou	1.07	230	*e*P	Pn	18 27 52.6	0.0
baz=230							
FUSS				S	Sg	18 28 05.4	-0.2
baz=230							
NSTT	Nanjuang	1.08	254	*e*P	Pn	18 27 53.2	+0.6
baz=248							
NSTT				*e*S	Sg	18 28 06.1	+0.2
baz=248							
TWT	Tachien	1.11	232	*e*P	Pn	18 27 54.4	+1.2
baz=233							
TWT				*e*S	Sn	18 28 08.6	-0.2
baz=233							
WHF	Hehuan Shan	1.12	225	P	Pb	18 27 53.1	+0.1
baz=223							
WHF				S	Sg	18 28 06.6	-0.8
baz=223							
TDCB	Techi	1.12	233	*e*P	Pn	18 27 53.2	-0.1
baz=233							
TDCB				*e*S	Sb	18 28 06.1	-1.6
baz=233							
CHGB	Renai	1.24	225	P	Pb	18 27 55.2	+0.2
baz=224							
CHGB				*e*S	Sn	18 28 12.3	+0.4
baz=224							
WHP	Taichung City	1.27	239	*e*P	Pg	18 27 55.6	0.0
baz=239							
WHP				*e*S	Sg	18 28 12.9	+0.8
baz=239							
NMLH	Miaoli	1.29	252	*e*P	Pg	18 27 57.4	+1.4
baz=253							
ESL	Shilin	1.29	210	P	Pn	18 27 55.6	+0.1
baz=206							
ESL				S	Sb	18 28 11.7	-0.7
baz=206							
TWQ1	Liyutan	1.38	245	P	Pg	18 28 00.1	+2.5
baz=246							
TWQ1				S	Sg	18 28 17.0	+1.5
baz=246							
EGFH	Guangfu	1.42	207	*e*P	Pb	18 27 58.3	+0.4
baz=210							
EGFH				*e*S	Sn	18 28 16.8	+0.7
baz=210							
VWDT	VWDT	1.49	218	*e*P	Pg	18 27 60.0	+0.2
baz=206							
SMLT	Sun Moon Lake	1.54	227	*e*P	Pg	18 28 01.0	+0.2
baz=226							
SMLT				S	Sb	18 28 20.8	+1.0
baz=226							
TYC	Yuchr	1.56	229	P	Pg	18 28 02.5	+1.4
baz=227							
TYC				*e*S	Sn	18 28 18.5	-1.0
baz=227							
IRIF	Iriomote-Funau	1.57	112	P	Pn	18 27 59.3	0.0
IRIF				*e*S	Sn	18 28 19.3	-0.4
SSLB	Suanglung	1.57	224	*e*P	Pb	18 28 01.2	+0.6
baz=220							
SSLB				*e*S	Sn	18 28 19.4	-0.6
baz=220							
HGSD	Ruisui	1.58	205	*e*P	Pb	18 28 00.3	-0.4
baz=215							
HGSD				*e*S	Sb	18 28 21.9	+1.2
baz=215							
EHY	Hungye	1.61	208	*e*P	Pb	18 28 01.9	+0.8
baz=213							
EHY				*e*S	Sn	18 28 20.4	-0.3
baz=213							
WNT	Mingjian	1.69	232	*e*P	Pg	18 28 05.1	+1.4
baz=220							
YULB	Yu-li	1.72	207	*e*P	Pb	18 28 02.5	-0.5
baz=212							
YULB				*e*S	Sn	18 28 24.7	+1.1
baz=212							
EYUL	Yuli	1.75	206	*e*P	Pb	18 28 03.1	-0.4
baz=214							
HATJ	Hateruma jima	1.75	120	P	Pn	18 28 02.3	+0.5
HATJ				S	Sn	18 28 24.4	+0.1
JKRS	Kuro-shima	1.84	112	P	Pb	18 28 03.8	-1.2
JKRS				S	Sn	18 28 26.3	-0.1
ALS	Alishan	1.87	221	*e*P	Pg	18 28 07.7	+0.5
baz=218							
CHN5	Tsauling	1.89	225	*e*P	Pg	18 28 08.6	+1.2
baz=219							
FULB	Fuli	1.90	204	*e*P	Pb	18 28 05.4	-0.7
baz=212							
JIJ	Ishigaki jima	1.91	107	P	Pb	18 28 05.1	-1.2
JIJ				S	Sn	18 28 28.5	+0.3
JISG	Ishigakijimahi	2.00	100	P	Pb	18 28 06.3	-1.6
ELDTW	Lidau	2.02	211	*e*P	Pb	18 28 07.2	-1.0
baz=201							
ELDTW				*e*S	Sn	18 28 32.8	+1.7
baz=201							

*IDC **08** 18:37:42.5±0.8, 52°.48S×27°.91E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/36, mbtmp4.0/10, MS3.8/2, Ms1 3.8/2, ms1mx3.2/38, Error ellipse: s-maj=36.7km s-min=15.4km az=78.0*

*NEIC **08** 18:37:44.0±0.9, 52°.5S±0°.1×28°.1E±0°.3, h10km±1km, mb4.5/13, Error ellipse: s-maj=35.3km s-min=19.3km az=257.0*

ISC 08 18:37:43.8±0.7, 52°.53S±0°.09×28°.0E±0°.2, h10km, n28, σ1§41/28, mb4.3/12, 1C-1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	Syowa Base	17.41	166‖	*e*P	Pn	18 41 41.2	-5.2
SYO	Syowa Base	17.41	166‖	*e*P	Pn	18 41 44.2	-2.2
SUR	Sutherland	20.81	343	P	P	18 42 25.3	0.0
17nm,0.9s,baz=153,slow=13,SNR=6.6							
SUR				LR	LR	18 48 32.2	
comp=Z,272nm,20.0s,baz=139,slow=31							
SUR	Sutherland	20.81	343	P	P	18 42 25.3	0.0
SUR				IAmb	IAmb	18 42 30.2	
comp=Z,30nm,1.0s							
MAW	Mawson	22.58	145	P	P	18 42 45.8	+2.0
comp=Z,2.5nm,0.6s,baz=278,slow=16,SNR=7.0							
MAW				S	S	18 46 51.4	+0.5
comp=Z,1.4nm,0.4s,baz=103,slow=18,SNR=5.4							
MAW	Mawson	22.58	145	P	P	18 42 46.0	+2.2
SNAA	Sanae	23.51	204	P	P	18 42 54.2	+0.7
comp=Z,2.0nm,0.7s,baz=78,slow=9.9,SNR=12							
SNAA	Sanae	23.51	204	P	P	18 42 54.5	+1.0
BOSA	Boshof	23.98	354	P	P	18 42 57.6	-0.8
comp=Z,9.2nm,0.9s,baz=178,slow=9.5,SNR=12							
BOSA	Boshof	23.98	354	P	P	18 42 58.9	+0.4
BOSA				IAmb	IAmb	18 43 06.5	
comp=Z,18nm,1.2s							
LBTB	Lobatse	27.54	355	P	P	18 43 30.2	-0.5
comp=Z,1.6nm,0.6s,baz=118,slow=16,SNR=1.9							
LBTB	Lobatse	27.54	355	P	P	18 43 30.1	-0.5
LBTB				IAmb	IAmb	18 43 46.7	
comp=Z,21nm,1.5s							
TSUM	Tsumeb	34.25	342	P	P	18 44 30.3	+0.4
TSUM				IAmb	IAmb	18 44 31.0	
comp=Z,6.2nm,0.9s							
ABPO	Ambohimpanom	36.66	31	P	P	18 44 49.6	-1.0
ABPO				IAmb	IAmb	18 45 03.1	
comp=Z,8.1nm,1.2s							
QSPA	South Pole Qui	37.69	180	P	P	18 44 59.0	+0.1
comp=Z,4.6nm,0.8s,baz=354,slow=0.1,SNR=18							
QSPA	South Pole Qui	37.69	180	P	P	18 44 58.9	-0.1
QSPA				IAmb	IAmb	18 45 08.3	
comp=Z,11nm,1.1s							
VNDA	Vanda	47.10	168	P	P	18 46 15.0	-0.2
comp=Z,0.5nm,0.7s,baz=250,slow=5.4,SNR=3.6							
VNDA	Vanda	47.10	168	P	P	18 46 16.3	+1.1
TOA0	Torodi Ar. Sit	69.24	332	P	P	18 48 50.7	0.0
TOA0				IAmb	IAmb	18 48 51.3	
comp=Z,3.4nm,0.9s							
TORD	Torodi Ar. Bea	69.24	332	P	P	18 48 50.4	-0.4
comp=Z,1.6nm,0.8s,baz=177,slow=6.8,SNR=7.9							
TORD	Torodi Ar. Bea	69.24	332	P	P	18 48 50.6	-0.1
ASAR	Alice Springs	80.64	117	P	P	18 49 58.1	+1.3
comp=Z,0.5nm,0.6s,baz=213,slow=4.9,SNR=7.2							
ASAR	Alice Springs	80.64	117	P	P	18 49 57.8	+1.0
WRA	Warramunga Arr	83.86	115	P	P	18 50 13.9	+0.2
comp=Z,0.6nm,0.9s,baz=209,slow=3.6,SNR=2.6							
WB2	Warramunga Arr	83.87	115	P	P	18 50 13.9	+0.2
WR0	Warramunga Arr	83.96	115	P	P	18 50 14.3	+0.1
PMG	Port Moresby	99.50	119	LR	LR	19 29 35.4	
comp=Z,42nm,19.4s

TLIG	**Tlapa**	**2.37**	**84**	*eP*	**Pn**	**18 50 00.7**	**+1.0**
TLIG				*i* S	**Sn**	**18 50 29.8**	**+1.0**
TLIG	**Tlapa**	**2.37**	**84**	Pn	**Pn**	**18 50 00.7**	**+1.0**
MMIG	**Aquila**	**2.40**	**294**	*i* P	**Pn**	**18 49 59.2**	**-0.9**
MMIG				*i* S	**Sn**	**18 50 26.1**	**-3.4**
HMTT	**Tlapaneco**	**2.41**	**78**	*i* P	**Pn**	**18 50 02.0**	**+1.8**
HMTT				*i* S	**Sn**	**18 50 32.0**	**+2.3**
UNM	**Universidad Na**	**2.66**	**41**	Pn	**Pn**	**18 50 01.8**	**-2.1**
ATVM	**ATLACOMULCO**	**2.67**	**25**	*i* S	**Sb**	**18 50 41.4**	**-0.5**
AMVM	**AMECAMECA**	**2.79**	**50**	*eP*	**Pn**	**18 50 07.5**	**+1.8**
AMVM				*i* S	**Sn**	**18 50 42.1**	**+2.5**
ACIG	**Acambay**	**2.86**	**22**	*eP*	**Pn**	**18 50 08.1**	**+1.5**
PNIG	**Pinotepa**	**2.93**	**108**	*eP*	**Pn**	**18 50 08.1**	**+0.7**
PNIG				*i* S	**Sn**	**18 50 42.5**	**-0.2**
HLIG	**Huajuapan de L**	**3.12**	**80**	*eP*	**Pn**	**18 50 11.8**	**+1.6**
HLIG				*eS*	**Sn**	**18 50 48.2**	**+0.6**
TXIG	**Tlaxiaco**	**3.12**	**91**	*eP*	**Pn**	**18 50 12.1**	**+1.9**
TXIG				*i* S	**Sn**	**18 50 48.2**	**+0.5**
YOIG	**Yosondua**	**3.37**	**97**	*eP*	**Pn**	**18 50 15.5**	**+1.9**
YOIG				*i* S	**Sn**	**18 50 54.8**	**+1.0**
PEIG	**Puerto Escondi**	**3.95**	**109**	*eP*	**Pn**	**18 50 23.2**	**+1.7**
PEIG				*i* S	**Sn**	**18 51 08.6**	**+0.8**
VHO	**Vista Hermosa**	**4.12**	**93**	*eP*	**Pn**	**18 50 26.2**	**+2.3**
VHO				*i* S	**Sn**	**18 51 13.7**	**+1.5**
HUIG	**Huatulco**	**4.97**	**107**	*eP*	**Pn**	**18 50 37.2**	**+1.8**
HUIG				*i* S	**Sn**	**18 51 33.2**	**+0.2**
ZAIG	**Zacatecas**	**5.61**	**345**	Pn	**Pn**	**18 50 45.7**	**+1.3**
CCIG	**Comitan**	**8.58**	**96**	Pn	**Pn**	**18 51 24.8**	**-0.5**
APG	**El Apazote**	**10.41**	**101**	Pn	**Pn**	**18 51 53.0**	**+2.6**
	1.8nm,0.3s,baz=156,slow=15,SNR=14						
APG				Sn	**Sn**	**18 53 42.0**	**-5.3**
	0.5nm,0.3s,baz=282,slow=20,SNR=2.8						
APG				LR	LR	18 56 23.0	
	comp=Z,242nm,18.2s,baz=292,slow=40						
LPIG	**La Paz**	**10.99**	**309**	LR	LR	18 55 50.0	
	comp=Z,615nm,19.3s,baz=85,slow=35						
833A	**Chaparral WMA,**	**11.05**	**8**	Pn	**Pn**	**18 52 00.9**	**+2.0**
TXAR	**Lajitas Array**	**12.20**	**349**	Pn	Pn	18 52 21.1	+6.4
	0.0nm,0.3s,baz=167,slow=11,SNR=9.9						
TXAR				Lg	Lg	18 55 53.5	
	0.0nm,0.3s,baz=153,slow=38,SNR=5.1						
TXAR				LR	LR	18 57 32.7	
	comp=Z,1μm,18.1s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**12.20**	**349**	Pn	**Pn**	**18 52 18.1**	**+3.4**
TX31	**Lajitas Ar. Si**	**12.20**	**349**	Pn	**Pn**	**18 52 19.1**	**+4.4**
TX32	**Lajitas Array**	**12.20**	**349**	Pn	**Pn**	**18 52 19.0**	**+4.4**
JCT	**Junction City**	**13.14**	**5**	Pn	Pn	18 52 32.6	+5.0
HKT	**Hockley**	**13.44**	**20**	Pn	**Pn**	**18 52 27.6**	**-3.8**
HSIG		**14.78**	**324**	P	**P**	**18 52 57.4**	**+1.6**
MNTX	**Cornudas Mount**	**14.85**	**345**		**P**	**18 52 57.9**	**+1.3**
WHTX	**Lake Whitney,**	**14.96**	**12**	P	**P**	**18 52 57.7**	**-0.1**
GDL2	**Guadalupe Moun**	**15.12**	**349**	P	**P**	**18 53 00.6**	**+0.8**
441A	**DeRidder**	**15.15**	**27**	P	**P**	**18 53 00.7**	**+0.7**
ABTX	**Abilene, Hawle**	**15.29**	**4**	P	**P**	**18 52 59.7**	**-1.8**
ABTX				IAmb	IAmb	18 53 03.1	
	comp=Z,27nm,1.2s						
237A	**Washetta, Mont**	**15.36**	**17**	P	**Pn**	**18 52 58.6**	**+1.0**
NATX	**Nacogdoches**	**15.49**	**21**		**P**	**18 53 02.0**	**-1.8**
BOAB	**BOACO BROADBAN**	**15.62**	**106**	P	**Pn**	**18 53 02.3**	**+1.2**
319A	**Douglas**	**15.87**	**333**	Pn	**Pn**	**18 53 05.4**	**+1.0**
342A	**Flagon Creek P**	**16.07**	**28**	Pn	**Pn**	**18 53 04.2**	**-2.6**
ACON	**Acoyapa**	**16.24**	**107**	P	**Pn**	**18 53 10.6**	**+1.6**
ACON				IAmb	IAmb	18 53 18.0	
	comp=Z,18nm,0.9s						
121A	**Cookes Peak, D**	**16.33**	**339**	P	**Pn**	**18 53 11.6**	**+1.3**
MSTX	**Muleshoe**	**16.65**	**355**		**Pn**	**18 53 14.4**	**+0.1**
Z38A	**Mt. Pleasant**	**16.78**	**18**	Pn	**Pn**	**18 53 14.1**	**-1.7**
344A	**Westbrook Farm**	**16.89**	**32**	Pn	**Pn**	**18 53 16.1**	**-1.2**
JTS	**Las Juntas de**	**17.10**	**112**	P	**Pn**	**18 53 21.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=61,slow=22,SNR=1.9						
JTS	**Las Juntas de**	**17.10**	**112**	IAmb	IAmb	18 53 35.9	
	comp=Z,21nm,1.2s						
WMOK	**Wichita Mounta**	**17.46**	**6**		**Pn**	**18 53 24.5**	**+0.1**
AMTX	**Amarillo**	**17.50**	**358**	P	**Pn**	**18 53 24.6**	**-0.4**
Z41A	**Richland Creek**	**17.51**	**23**		**Pn**	**18 53 24.2**	**-0.8**
LENM	**Lemitar**	**17.60**	**344**		**Pn**	**18 53 26.2**	**-0.1**
VBMS	**Vicksburg**	**17.62**	**31**		**Pn**	**18 53 24.7**	**-1.6**
WLAR	**White Oak Lake**	**17.78**	**22**	Pn	**Pn**	**18 53 26.0**	**-2.3**
X37A	**Clayton**	**17.92**	**15**	P	**Pn**	**18 53 29.8**	**-0.3**
X37A				IAmb	IAmb	18 53 43.2	
	comp=Z,39nm,1.5s						
ANMO	**Albuquerque**	**18.21**	**346**	P	**P**	**18 53 36.9**	**+2.8**
	comp=Z,0.0nm,0.3s,baz=328,slow=13,SNR=5.0						
ANMO	**Albuquerque**	**18.21**	**346**	P	**Pn**	**18 53 34.2**	**+0.4**
MIAR	**Mount Ida**	**18.40**	**20**		**Pn**	**18 53 35.5**	**-0.4**
W39A	**Magazine**	**18.94**	**19**	P	**P**	**18 53 41.6**	**-0.2**
W39A				IAmb	IAmb	18 53 54.1	
	comp=Z,48nm,1.4s						
UALR	**University of**	**19.04**	**22**	P	**P**	**18 53 40.6**	**-2.3**
UALR				IAmb	IAmb	18 53 55.9	
	comp=Z,24nm,1.2s						
TUL1	**Leonard**	**19.09**	**13**	P	**P**	**18 53 41.6**	**-1.9**
TUL1				IAmb	IAmb	18 53 44.3	
	comp=Z,26nm,1.0s						
QUOK	**Quay**	**19.16**	**11**	P	**P**	**18 53 42.9**	**-1.4**
QUOK				IAmb	IAmb	18 53 55.6	
	comp=Z,8.9nm,0.7s						
CROK	**Carrier**	**19.30**	**7**	P	**P**	**18 53 44.4**	**-1.4**
CROK				IAmb	IAmb	18 53 48.5	
	comp=Z,19nm,0.8s						
W18A	**Petrified Fore**	**19.35**	**338**	P	**P**	**18 53 47.0**	**+0.4**
W18A				IAmb	IAmb	18 53 52.6	
	comp=Z,17nm,1.4s						
W41B	**Gary Mavity, V**	**19.43**	**22**	P	**P**	**18 53 46.3**	**-0.9**
W41B				IAmb	IAmb	18 54 00.3	
	comp=Z,10nm,0.9s						
WHAR	**Wooly Hollow**	**19.52**	**22**	P	**P**	**18 53 47.3**	**-0.9**
WHAR				IAmb	IAmb	18 54 00.5	
	comp=Z,29nm,1.1s						
HHAR	**Hobbs**	**19.90**	**17**	P	**P**	**18 53 50.9**	**-1.6**
HHAR				IAmb	IAmb	18 54 03.5	
	comp=Z,16nm,1.0s						
T35A	**Sooner Cattle**	**19.92**	**11**	P	**P**	**18 53 51.2**	**-1.4**
T35A				IAmb	IAmb	18 54 04.8	
	comp=Z,34nm,1.5s						
U38A	**Gravette**	**19.93**	**16**	P	**P**	**18 53 52.0**	**-0.7**
U38A				IAmb	IAmb	18 54 04.7	
	comp=Z,21nm,1.1s						
T25A	**Trinidad**	**19.96**	**352**	P	**P**	**18 53 53.5**	**+0.2**
FCAR	**Ozark Folk Cen**	**20.11**	**21**	P	**P**	**18 53 53.8**	**-0.9**
LRAL	**Lakeview Retre**	**20.11**	**36**	P	**P**	**18 53 53.5**	**-1.2**
U40A	**Yellville**	**20.30**	**19**	P	**P**	**18 53 55.6**	**-1.1**
U40A				IAmb	IAmb	18 54 08.1	
	comp=Z,27nm,1.1s						
WUAZ	**Wupatki**	**20.32**	**335**	P	Pn	18 53 59.0	-0.2
WUAZ				IAmb	IAmb	18 54 08.3	
	comp=Z,9.8nm,0.8s						
LCAR	**Lake Charles**	**20.63**	**23**	P	**P**	**18 53 59.3**	**-1.0**
SDCO	**Great Sand Dun**	**20.72**	**350**	P	**P**	**18 54 01.9**	**+0.3**
MVCO	**Mesa Verde**	**20.88**	**343**	P	**P**	**18 54 04.1**	**+0.9**
S22A	**4UR Ranch, Cre**	**20.97**	**347**	P	**P**	**18 54 05.1**	**+0.7**
PLAL	**Pickwick Lake**	**21.05**	**31**	P	**P**	**18 54 02.2**	**-2.6**
PLAL				IAmb	IAmb	18 54 18.7	
	comp=Z,21nm,0.8s						
Y49A	**Blount Mountai**	**21.05**	**36**	P	**P**	**18 54 03.9**	**-1.1**
W13A	**Hualapai Mount**	**21.09**	**330**	P	**P**	**18 54 06.8**	**+1.2**
X48A	**Hartselle**	**21.16**	**34**	P	**P**	**18 54 02.5**	**-3.6**
X48A				IAmb	IAmb	18 54 20.0	
	comp=Z,20nm,1.4s						
MGMO	**Mountain Grove**	**21.21**	**20**	P	**P**	**18 54 05.9**	**-0.7**
MGMO				IAmb	IAmb	18 54 17.9	
	comp=Z,32nm,1.4s						
S39A	**Bolivar**	**21.39**	**17**	P	**P**	**18 54 05.7**	**-2.9**
S39A				IAmb	IAmb	18 54 19.4	
	comp=Z,13nm,1.2s						
CBKS	**Cedar Bluff**	**21.44**	**3**	P	**P**	**18 54 08.0**	**-1.1**
CBKS				IAmb	IAmb	18 54 20.0	
	comp=Z,8.5nm,0.6s						
U15A	**North Rim**	**21.48**	**335**	P	**P**	**18 54 10.4**	**+0.6**
T42A	**Van Buren**	**21.50**	**22**	P	**P**	**18 54 09.5**	**-0.2**
T42A				IAmb	IAmb	18 54 27.0	
	comp=Z,22nm,1.2s						
PBMO	**Poplar Bluff**	**21.53**	**24**	P	**P**	**18 54 08.6**	**-1.3**
PV01	**Paradox Valley**	**21.76**	**344**	P	**P**	**18 54 12.6**	**-0.1**
PV15	**Paradox Valley**	**21.93**	**344**	P	**P**	**18 54 17.3**	**+2.7**
PV15				IAmb	IAmb	18 54 27.2	
	comp=Z,11nm,1.1s						
PV03	**Paradox Valley**	**21.95**	**343**	P	**P**	**18 54 12.2**	**-2.5**
PV07	**Paradox Valley**	**22.07**	**344**	P	**P**	**18 54 13.5**	**-2.5**
WVT	**Waverly**	**22.09**	**29**	P	**P**	**18 54 15.5**	**-0.5**
WVT				IAmb	IAmb	18 54 28.0	
	comp=Z,9.1nm,0.8s						
PV04	**Paradox Valley**	**22.09**	**343**	P	**P**	**18 54 16.9**	**+0.6**
PV22	**Blue Mesa, Par**	**22.20**	**344**	P	**P**	**18 54 17.6**	**+0.2**
PV22				IAmb	IAmb	18 54 32.4	
	comp=Z,11nm,1.4s						
KNB	**Kanab**	**22.21**	**334**	P	**P**	**18 54 20.0**	**+2.5**
R40A	**Maddies Statio**	**22.26**	**18**	P	**P**	**18 54 14.9**	**-2.9**
R40A				IAmb	IAmb	18 54 33.6	
	comp=Z,13nm,1.1s						
PV21	**Cone Mtn., Par**	**22.27**	**343**	P	**P**	**18 54 19.9**	**+1.6**
CCM	**Cathedral Cave**	**22.37**	**21**	P	**P**	**18 54 17.6**	**-1.4**
CCM				IAmb	IAmb	18 54 34.1	
	comp=Z,11nm,1.1s						
FVM	**French Village**	**22.59**	**22**	P	**P**	**18 54 19.2**	**-2.2**
ISCO	**Idaho Springs**	**22.75**	**351**	P	**P**	**18 54 23.7**	**+0.4**
S44A	**Carbondale**	**22.78**	**25**	P	**P**	**18 54 22.1**	**-1.3**
CLTN	**Cedars of Leba**	**22.79**	**32**	P	**P**	**18 54 20.8**	**-2.7**
CLTN				IAmb	IAmb	18 54 34.8	
	comp=Z,12nm,1.1s						
MTPU	**Mount Pierson**	**22.84**	**337**	P	**P**	**18 54 26.2**	**+1.7**
T47A	**Sharon Grove**	**23.13**	**29**	P	**P**	**18 54 25.3**	**-1.7**
T47A				IAmb	IAmb	18 54 38.0	
	comp=Z,11nm,0.8s						
MSU	**Marysvale**	**23.25**	**337**	P	**P**	**18 54 30.5**	**+1.9**
W52A	**Murphy**	**23.36**	**37**	P	**P**	**18 54 28.2**	**-1.2**
W52A				IAmb	IAmb	18 54 40.8	
	comp=Z,16nm,1.0s						
P40A	**Paris**	**23.47**	**18**	P	**P**	**18 54 28.2**	**-2.2**
P40A				IAmb	IAmb	18 54 41.9	
	comp=Z,13nm,1.1s						
PRN	**Pahroc Range**	**23.51**	**331**	P	**P**	**18 54 32.2**	**+1.2**
PRN				IAmb	IAmb	18 54 48.5	
	comp=Z,11nm,1.5s						
O20A	**White River Ci**	**23.57**	**346**	P	**P**	**18 54 32.5**	**+0.8**
O20A				IAmb	IAmb	18 54 46.6	
	comp=Z,8.5nm,1.1s						
TPNV	**Topopah Spring**	**23.72**	**328**	P	**P**	**18 54 34.2**	**+1.1**
TKL	**Tuckaleechee C**	**23.85**	**37**	P	**P**	**18 54 38.5**	**+4.3**
	comp=Z,5.2nm,0.7s,baz=191,slow=16,SNR=2.9						
TKL	**Tuckaleechee C**	**23.85**	**37**	P	**P**	**18 54 32.6**	**-1.6**
TKL				IAmb	IAmb	18 54 46.5	
	comp=Z,16nm,1.1s						
BG3	**Lake Jocassee**	**23.88**	**39**	P	**P**	**18 54 31.8**	**-2.7**
BG3				IAmb	IAmb	18 54 46.0	
	comp=Z,8.7nm,0.9s						
ISA	**Isabella, Lake**	**23.96**	**323**	P	**P**	**18 54 34.0**	**-1.3**
OLIL	**Olney**	**24.14**	**25**	P	**P**	**18 54 36.0**	**-0.8**
RDMU	**Red Mountain**	**24.31**	**344**	P	**P**	**18 54 38.8**	**0.0**
N38A	**Joes South For**	**24.34**	**14**	P	**P**	**18 54 36.3**	**-2.4**
P43A	**Skaggs, Pawnee**	**24.39**	**22**	P	**P**	**18 54 37.4**	**-1.7**
V53A	**Saluda**	**24.41**	**38**	P	**P**	**18 54 35.3**	**-4.2**
V53A				IAmb	IAmb	18 54 51.4	
	comp=Z,11nm,1.1s						
PAULI	**Pauline**	**24.45**	**41**	P	**P**	**18 54 37.9**	**-1.9**
PAULI				IAmb	IAmb	18 54 50.1	
	comp=Z,22nm,1.4s						
WCI	**Wyandotte Cave**	**24.51**	**29**	P	**P**	**18 54 37.4**	**-2.9**
WCI				IAmb	IAmb	18 54 51.8	
	comp=Z,10nm,0.8s						
N41A	**Harden Midland**	**24.91**	**19**	P	**P**	**18 54 42.7**	**-1.1**
TPH	**Tonopah**	**25.08**	**329**	P	**P**	**18 54 46.9**	**+1.2**
HDIL	**Hopedale**	**25.28**	**21**	P	**P**	**18 54 45.3**	**-1.9**
K22A	**Casper**	**25.68**	**351**	P	**P**	**18 54 51.1**	**+0.2**
K22A				IAmb	IAmb	18 55 09.2	
	comp=Z,11nm,0.9s						
NV11	**Mina Array Sit**	**25.82**	**328**	P	**P**	**18 54 54.6**	**+2.3**
NV11				IAmb	IAmb	18 55 08.7	
	comp=Z,14nm,1.4s						
NVAR	**Mina Array Bea**	**25.90**	**328**	P	**P**	**18 54 56.0**	**+2.8**
	comp=Z,6.0nm,1.1s,baz=147,slow=11,SNR=5.9						
NVAR	**Mina Array Bea**	**25.90**	**328**	P	**P**	**18 54 53.2**	**0.0**
RYN	**Ryan**	**26.16**	**328**	P	**P**	**18 54 57.9**	**+2.5**
RYN				IAmb	IAmb	18 55 13.5	
	comp=Z,8.9nm,1.3s						
K38A	**Parkersburg**	**26.21**	**14**	P	**P**	**18 54 54.0**	**-1.6**
K38A				IAmb	IAmb	18 55 08.2	
	comp=Z,10nm,0.8s						
KVN	**Kaiserville**	**26.27**	**329**	P	**P**	**18 54 57.0**	**+0.5**
PD31	**Pinedale Array**	**26.38**	**346**	P	**P**	**18 54 57.9**	**+0.4**
PDAR	**Pinedale Array**	**26.38**	**346**	P	**P**	**18 54 58.8**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=139,slow=9.2,SNR=5.0						
PDAR				LR	LR	19 07 28.1	
	comp=Z,171nm,18.1s,baz=188,slow=41						
PDAR	**Pinedale Array**	**26.38**	**346**	P	**P**	**18 54 57.4**	**0.0**
WAKR	**Walker**	**26.54**	**326**	P	**P**	**18 54 59.8**	**+0.9**
WAKR				IAmb	IAmb	18 55 05.3	
	comp=Z,8.7nm,1.5s						
N47A	**Urbana**	**26.95**	**26**	P	**P**	**18 55 00.9**	**-1.4**
J08A	**Circle Bar Ran**	**29.87**	**334**	P	**P**	**18 55 29.3**	**+0.8**
J08A				IAmb	IAmb	18 55 44.0	
	comp=Z,4.9nm,1.3s						
ULM	**Lac du Bonnet**	**33.11**	**6**	LR	LR	19 11 01.1	
	comp=Z,86nm,18.9s,baz=149,slow=39						
SAML	**Samuel**	**45.62**	**122**	P	**P**	**18 57 41.2**	**-0.4**
SAML				IAmb	IAmb	18 57 41.8	
	comp=Z,4.2nm,1.1s						
SCHQ	**Schefferville**	**45.70**	**27**	LR	LR	19 18 38.2	
	comp=Z,161nm,19.8s,baz=272,slow=38						
YKA	**Yellowknife Ar**	**46.11**	**351**	LR	LR	19 18 31.2	
	comp=Z,550nm,18.5s,baz=0.0,slow=38						
DLBC	**Dease Lake**	**46.28**	**339**	P	**P**	**18 57 48.3**	**+2.0**
BCAR	**Beaver Creek A**	**53.63**	**338**	P	**P**	**18 58 43.9**	**+1.8**
EGAK	**Eagle**	**54.52**	**340**	P	**P**	**18 58 49.1**	**+0.6**
H03N2	**Juan Fernandez**	**54.71**	**157**	T	T	19 57 40.2	
	baz=334,slow=77,SNR=36						
H03N1	**Juan Fernandez**	**54.72**	**157**	T	T	19 57 40.7	
	baz=334,slow=77,SNR=56						
H03N3	**Juan Fernandez**	**54.73**	**157**	T	T	19 57 37.7	
	baz=334,slow=77,SNR=52						
ILAR	**Eielson Array**	**56.46**	**338**	P	**P**	**18 59 03.6**	**+1.2**
	comp=Z,2.1nm,1.1s,baz=156,slow=5.0,SNR=11						
ILAR				LR	LR	19 24 48.8	
	comp=Z,125nm,18.8s,baz=120,slow=38						
RES	**Resolute Bay**	**57.47**	**2**	LR	LR	19 24 52.2	
	comp=Z,231nm,18.0s,baz=162,slow=37						
SFJD	**Kangerlussuaq**	**59.24**	**21**	LR	LR	19 27 55.3	
	comp=Z,74nm,19.9s,baz=248,slow=39						
CPUP	**Villa Florida**	**60.72**	**135**	P	**P**	**18 59 31.2**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=319,slow=7.8,SNR=5.2						
CPUP	**Villa Florida**	**60.72**	**135**	P	**P**	**18 59 33.0**	**+0.4**
BDFB	**Brasilia**	**61.69**	**119**	P	**P**	**18 59 39.5**	**0.0**
	comp=Z,2.4nm,0.6s,baz=292,slow=16,SNR=4.0						
BDFB	**Brasilia**	**61.69**	**119**	P	**P**	**18 59 38.1**	**-1.5**
BORG	**Borgarnes**	**70.09**	**27**	LR	LR	19 31 14.1	
	comp=Z,64nm,19.8s,baz=289,slow=36						
JMIC	**Jan Mayen**	**74.58**	**20**	LR	LR	19 36 10.0	
	comp=Z,56nm,18.1s,baz=268,slow=38						
SPITS	**Spitsbergen Ar**	**78.52**	**11**	LR	LR	19 37 41.3	
	comp=Z,108nm,19.1s,baz=205,slow=37						
ESDC	**Sonseca Array**	**84.41**	**50**	P	**P**	**19 01 54.5**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=302,slow=5.5,SNR=6.4						
ESDC	**Sonseca Array**	**84.41**	**50**	P	**P**	**19 01 53.5**	**-0.2**
FINES	**FINESS Array B**	**91.00**	**23**	LR	LR	19 44 18.7	
	comp=Z,50nm,20.0s,baz=264,slow=36						
GERES	**GERESS Array B**	**92.40**	**37**	P	**P**	**19 02 31.6**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=310,slow=10,SNR=4.0						
GERES				LR	LR	19 47 15.8	
	comp=Z,38nm,18.7s,baz=307,slow=38						
GERES	**GERESS Array B**	**92.40**	**37**	P	**P**	**19 02 30.4**	**-1.4**
NRIK	**Norilʼsk**	**93.36**	**357**	LR	LR	19 47 56.7	
	comp=Z,71nm,18.8s,baz=19,slow=38						
TORD	**Torodi Ar. Bea**	**97.94**	**74**	LR	LR	19 44 07.4	
	comp=Z,44nm,20.8s,baz=190,slow=34						
AKASG	**Malin Array Be**	**99.45**	**29**	LR	LR	19 50 05.9	
	comp=Z,30nm,18.4s,baz=325,slow=36						
WRA	**Warramunga Arr**	**127.66**	**258**	PKP	**PKPdf**	**19 08 26.9**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=88,slow=2.2,SNR=12						
ASAR	**Alice Springs**	**128.41**	**253**	PKP	**PKPdf**	**19 08 26.5**	**-2.0**
	comp=Z,0.9nm,0.9s,baz=69,slow=4.2,SNR=5.4						
ASAR	**Alice Springs**	**128.41**	**253**		**PKPdf**	**19 08 29.1**	**+0.6**

WEL 08 18:57:35.2,38°S±4°×17°6E±°, h220km±8km, M2.7/44, MLv2.7/44, Error ellipse: s-maj=0.0km s-min=0.0km az=60.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	**Matea Rd**	**0.61**	**154**	P	Pn	18 58 04.2	-0.9
TOZ	**Tahuroa Road**	**0.71**	**320**	P	Pn	18 58 05.0	-0.5
KATZ	**Kakaramea**	**0.75**	**203**	P	Pn	18 58 05.6	-0.3
RTZ	**Ruatahuna**	**0.79**	**115**	P	Pn	18 58 05.0	-0.9
URZ	**Urewera**	**0.82**	**89**	P	Pn	18 58 04.6	-1.4
MTHZ	**Maungataniwha**	**0.83**	**134**	P	Pn	18 58 05.6	-0.5
TMVZ	**Te Maari**	**0.88**	**199**	P	Pn	18 58 06.4	-0.1
ETVZ	**East Tongariro**	**0.90**	**198**	P	Pn	18 58 06.6	-0.1
WTVZ	**West Tongariro**	**0.92**	**204**	P	Pn	18 58 06.7	0.0
TWVZ	**Taurewa**	**0.93**	**212**	P	Pn	18 58 06.8	0.0
OTVZ	**Oturere**	**0.94**	**200**	P	Pn	18 58 07.0	+0.2
BKZ	**Black Stump Fm**	**0.94**	**160**	P	Pn	18 58 06.4	-0.4
NGZ	**Ngauruhoe**	**0.97**	**202**	P	Pn	18 58 07.2	+0.2
TUVZ	**Tukino**	**1.04**	**198**	P	Pn	18 58 07.6	+0.1
FWVZ	**Far West T-bar**	**1.05**	**203**	P	Pn	18 58 07.9	+0.2
WNVZ	**Wahianoa**	**1.11**	**199**	P	Pn	18 58 08.1	+0.1
MWZ	**Matawai**	**1.15**	**93**	P	Pn	18 58 08.3	+0.3
MOVZ	**Moawhango**	**1.15**	**192**	P	Pn	18 58 07.9	-0.2
PKVZ	**Pokaka**	**1.16**	**209**	P	Pn	18 58 08.3	+0.2
KWHZ	**Kaweka Forest**	**1.17**	**167**	P	Pn	18 58 08.8	+0.5
MTVZ	**Mangateitei**	**1.20**	**203**	P	Pn	18 58 08.8	+0.4
BHHZ	**Black Hill Sta**	**1.21**	**180**	P	Pn	18 58 08.4	-0.1
MCHZ	**McNeill Hill**	**1.26**	**157**	P	Pn	18 58 09.7	+0.9
RUGZ	**Raukumara Rang**	**1.30**	**77**	P	Pn	18 58 08.0	-1.3
VRZ	**Vera Road**	**1.33**	**230**	P	Pn	18 58 10.3	+0.9
MKAZ	**Moumakai**	**1.38**	**328**	P	Pn	18 58 10.0	+0.2
KRHZ	**Kereru**	**1.38**	**170**	P	Pn	18 58 10.2	+0.4
RIGZ	**Rimuhau**	**1.39**	**108**	P	Pn	18 58 10.5	+0.7
HAZ	**Te Kaha**	**1.45**	**69**	P	Pn	18 58 10.4	+0.1
PNHZ	**Pukenui**	**1.63**	**177**	P	Pn	18 58 12.3	+0.4
KAHZ	**Kahuranaki**	**1.64**	**158**	P	Pn	18 58 12.9	+1.0
WIAZ	**Waiheke Island**	**1.66**	**333**	P	Pn	18 58 12.7	+0.5
TSZ	**Takapari Road**	**1.78**	**183**	P	Pn	18 58 13.8	+0.6
NEZ	**North Egmont**	**1.83**	**237**	P	Pn	18 58 15.0	+1.2
PXZ	**Pawanui**	**1.85**	**161**	P	Pn	18 58 14.7	+1.0
PRHZ	**Porangahau**	**2.03**	**168**	P	Pn	18 58 16.4	+0.9
POWZ	**Post Office Ro**	**2.12**	**186**	P	Pn	18 58 17.0	+0.6
ANWZ	**Angora Road**	**2.20**	**172**	P	Pn	18 58 18.2	+1.1
PRWZ	**Pori Road**	**2.27**	**182**	P	Pn	18 58 18.9	+0.9
BFZ	**Birch Farm**	**2.40**	**177**	P	Pn	18 58 20.0	+0.7
MRZ	**Mangatainoka R**	**2.41**	**189**	P	Pn	18 58 19.9	+0.5
TIWZ	**Tintock**	**2.50**	**183**	P	Pn	18 58 21.1	+0.8
OGWZ	**Otaki Gorge**	**2.63**	**195**	P	Pn	18 58 22.5	+0.8
HOWZ	**Holdsworth Sta**	**2.65**	**189**	P	Pn	18 58 22.3	+0.3
KIW	**Kapiti Island**	**2.73**	**199**	P	Pn	18 58 23.2	+0.4
CAW	**Cannon Point**	**2.93**	**195**	P	Pn	18 58 25.6	+0.5
DUWZ	**D'Urville Isla**	**3.02**	**213**	P	Pn	18 58 26.8	+0.7
WEL	**Wellington**	**3.16**	**198**	P	Pn	18 58 28.4	+0.7
MSWZ	**Moikau Station**	**3.19**	**191**	P	Pn	18 58 28.2	+0.1
TCW	**Tory Channel**	**3.24**	**205**	P	Pn	18 58 29.2	+0.6
PLWZ	**Palliser**	**3.34**	**191**	P	Pn	18 58 30.1	+0.2
QRZ	**Quartz Range**	**3.74**	**226**	P	Pn	18 58 34.5	0.0
BSWZ	**Blackbirch Sta**	**3.82**	**206**	P	Pn	18 58 36.2	+0.6
THZ	**Tophouse**	**4.24**	**214**	P	Pn	18 58 40.9	+0.2
KHZ	**Kahutara**	**4.56**	**204**	P	Pn	18 58 45.5	+0.9
GVZ	**

TPTI 3.61 307 P Pn 19 07 56.8 -0.6
PPSI Pulau Pagai 3.82 181 P Pn 19 07 58.2 -1.8
MYKOM **Kota Tinggi** 3.85 79 Pn 19 08 02.5 +2.1
KULM Kulim 4.22 8 Pn Pn 19 08 05.7 +0.7
MASI Maura Aman, Be 4.72 153 P Pn 19 08 11.7 +0.3
DSRI Dabo 4.77 109 P Pn 19 08 14.4 +2.5
MLSI Meulaboh, Aceh 4.84 311 P Pn 19 08 11.9 -0.9
LHMI Lhok Sumawe 5.17 323 P Pn 19 08 16.2 -0.8
4.3nm5µm6µm436nm,0.7s
LHMI Lhok Sumawe 5.17 323 Pn Pn 19 08 16.5 -0.4
KSI Kapahiang 5.33 152 P Pn 19 08 18.7 -0.5
5.0nm7µm435nm,0.8s
LHSI Lahat 5.97 145 P Pn 19 08 28.1 +0.7
3.0nm7µm782nm,0.9s
MNAI Manna 6.13 152 P Pn 19 08 28.8 -0.5
11nm12µm508nm,0.7s
MNAI Manna 6.13 152 Pn 19 08 28.3 -1.0
PMBI Palembang 6.16 130 P Pn 19 08 30.7 +1.0
2.6nm7µm683nm,0.9s
PMBI Palembang 6.16 130 Pn 19 08 30.8 +1.0
PPBI Pangkal Pinang 6.87 118 P Pn 19 08 41.7 +2.7
0.3nm2µm57nm,1.2s
MDSI Maura Dua 6.89 143 P Pn 19 08 38.7 -0.5
0.4nm1µm113nm,0.6s
LWLI Liwa 7.25 147 P Pn 19 08 44.2 +0.1
3.8nm5µm232nm,0.7s
KLSI 7.39 141 P Pn 19 08 46.1 +0.4
0.2nm594nm70nm,1.2s
CGJI Cibinong 9.48 144 P Pn 19 09 08.8 -4.2
65µm2µm41nm,1.2s
KSM Kuching 10.25 88 Pn Pn 19 09 26.4 +3.6
LEM Lembang 10.88 136 P Pn 19 09 31.9 +0.7
4.7nm,0.3s,baz=168,slow=23,SNR=2.4
LEM S S 19 11 31.9 -1.3
5.4nm,0.3s,baz=338,slow=22,SNR=2.2
CNJI Cibinong 10.91 140 P Pn 19 09 27.3 -4.1
121nm,1.3s
CISI Cisompet, Garu 11.55 138 P Pn 19 09 36.2 -3.4
1µm70nm,0.7s
CMJI Cimerak 12.14 137 P Pn 19 09 43.8 -3.3
73nm,1.0s
SBUM Sibu 12.22 83 P 19 09 51.9 -0.6
PBA Port Blair 12.78 326 Pn Pn 19 09 52.5 -2.6
SMRI Semarang 13.13 128 P P 19 10 03.6 +1.0
DLV T Lat 13.65 37 P 19 10 09.2 +0.7
UGM Wanagama 13.73 131 P Pn 19 10 06.9 -0.2
162nm,1.8s
UGM Wanagama 13.73 131 Pn Pn 19 10 05.8 -1.2
PWJI Pagerwojo 14.79 128 P Pn 19 10 19.8 -0.3
56nm,0.6s
MTKI Muara Teweh, K 14.96 98 P P 19 10 25.1 +2.2
1µm92nm,0.8s
PBKT Sadao Pong 15.42 3 Pn 19 10 25.4 -2.3
BBKI Banjar Baru 15.44 107 P P 19 10 29.7 +1.5
2µm118nm,0.7s
KKM Kota Kinabalu 16.85 73 Pn 19 10 45.3 +0.2
JAGI Jajag, Banyuwa 16.95 124 P P 19 10 45.0 +0.2
BKB Balikpapan 16.99 98 P Pn 19 10 50.2 +3.6
CM31 Chiang Mai Arr 17.31 356 P P 19 10 48.6 0.0
CMAR Chiang Mai Arr 17.31 356 P P 19 10 48.6 0.0
0.4nm,0.3s,baz=187,slow=12,SNR=35
CMAR ScP ScP 19 18 36.0 -0.7
0.1nm,0.3s,baz=224,slow=3.1,SNR=16
CMAR Chiang Mai Arr 17.31 356 P P 19 10 48.7 0.0
CMAR ScP 19 18 35.4 -1.3
CHTO Chiang Mai 17.66 356 P P 19 10 52.7 +0.2
MYLDM **Lahad Datu** 18.85 77 P Pn 19 11 08.9 +0.5
TWSI Taliwang, Sumb 19.39 121 P P 19 11 12.3 +1.0
54nm,1.1s
MPSI Mapaga 19.84 92 P Pn 19 11 19.6 -0.8
2µm256nm,0.8s
PLAI Plampang 20.21 119 P P 19 11 20.6 +0.5
62nm,0.7s
QIZ Qiongzhong 20.25 28 P P 19 11 21.4 +0.9
QIZ S S 19 15 00.9 +4.3
QIZ pmax pmax
comp=Z,16nm,1.8s
PALK Pallekele 20.26 288 P P 19 11 22.6 +1.9
108nm,0.7s,baz=213,slow=10,SNR=60
PALK S S 19 15 05.1 +8.2
9.1nm,0.7s,baz=181,slow=13,SNR=2.4
PALK Pallekele 20.26 288 P P 19 11 22.8 +2.1
SLVN Son La 20.48 10 P P 19 11 24.2 +1.2
KAPI Kappang 20.57 107 P P 19 11 25.4 +1.4
60nm,0.8s,baz=279,slow=9.0,SNR=8.7
KAPI Kappang 20.57 107 P P 19 11 26.1 +2.1
BNSI Bone 20.75 105 P P 19 11 28.9 +3.0
2µm121nm,1.1s
BKSI Bulukumba 21.02 108 P P 19 11 31.0 +2.3
1µm138nm,0.9s
LUWI Luwuk 22.80 95 P P 19 11 48.5 +2.4
5µm723nm,1.0s
LUWI Luwuk 22.80 95 P P 19 11 48.2 +2.1
GTOI Gorontalo 22.95 91 P P 19 11 47.7 +0.3
2µm310nm,0.8s
EDFI Ende, Flores 23.66 115 P P 19 11 53.4 -0.5
355nm40nm,1.2s
KMI Kunming 24.04 6 P P 19 11 58.1 +0.6
MMRI Maumere 24.11 114 P P 19 11 58.3 +0.4
TGY Tagaytay City 24.36 57 P P 19 11 59.5 -0.8
102nm,0.3s,baz=166,slow=17,SNR=1.6
SHL Shillong 25.59 343 P P 19 12 11.3 -0.1
BATI Baumata 26.02 116 P P 19 12 14.6 -0.6
38nm,0.5s,baz=100,slow=2.1,SNR=19
BATI pP pP 19 12 56.0 +0.3
52nm,0.8s,baz=114,slow=1.1,SNR=3.2
BATI S S 19 16 23.3 -8.0
28nm,0.8s,baz=40,slow=16,SNR=5.5
BATI Baumata 26.02 116 P P 19 12 14.2 -1.1
38nm,0.8s
SOEI Soe 26.39 115 P P 19 12 17.0 -1.6
1µm95nm,0.9s
SOEI Soe 26.39 115 P P 19 12 17.5 -1.1
HYB Hyderabad 26.67 309 *i* P P 19 12 21.0 0.0
HYB *e*pP pP 19 13 02.0 +0.1
TNTI Ternate 27.30 90 P P 19 12 26.9 +0.3
TNTI IAmb IAmb 19 12 29.8
comp=Z,15nm,0.9s
ODAN Odare 28.38 336 *e*P P 19 12 37.1 +0.8
comp=Z,143nm,0.8s
ODAN Odare 28.38 336 *e*P P 19 12 37.1 +0.8
comp=Z,143nm,0.8s
TAPN Taplejung 28.69 337 *e*P P 19 12 40.4 +1.3
TAPN Taplejung 28.69 337 *e*P P 19 12 40.4 +1.3
RAMN Ramite 28.79 334 *e*P P 19 12 41.2 +1.2
comp=Z,24nm,0.4s
RAMN Ramite 28.79 334 *e*P P 19 12 41.2 +1.2
comp=Z,24nm,0.4s
JIRN Jiri 29.59 334 *e*P P 19 12 48.2 +1.0
JIRN Jiri 29.59 334 *e*P P 19 12 48.2 +1.0
LSA Lhasa 29.70 344 *i* P P 19 12 49.5 +1.2
SNR=31
LSA Lhasa 29.70 344 P P 19 12 48.7 +0.4
LSA IAmb IAmb 19 12 51.6
comp=Z,30nm,1.0s
TPUB Ta-pu 29.77 41 P P 19 12 50.0 +1.6
TPUB IAmb IAmb 19 12 51.0
comp=Z,14nm,0.8s
PKI Pulchoki 29.86 333 *e*P P 19 12 50.0 +0.5
comp=Z,58nm,0.6s
PKI Pulchoki 29.86 333 *e*P P 19 12 50.0 +0.5
comp=Z,58nm,0.6s
DMN Daman 30.03 333 *e*P P 19 12 51.5 +0.6
DMN Daman 30.03 333 *e*P P 19 12 51.5 +0.6
KKN Kakani 30.10 333 *e*P P 19 12 52.3 +0.8
KKN Kakani 30.10 333 *e*P P 19 12 52.3 +0.8
YULB Yu-li 30.27 41 P P 19 12 55.1 +2.3
SSLB Suanglung 30.32 40 P P 19 12 54.9 +1.6
SSLB IAmb IAmb 19 12 56.0
comp=Z,19nm,0.9s
ENH Enshi 30.38 16 P P 19 12 53.0 -0.8
GKN Gorkha 30.58 332 *e*P P 19 12 56.4 +0.8
comp=Z,104nm,0.3s
GKN Gorkha 30.58 332 *e*P P 19 12 56.4 +0.8
comp=Z,104nm,0.3s
KOLN Koldanda 30.88 331 *e*P P 19 12 59.2 +0.9
comp=Z,339nm,0.7s
KOLN Koldanda 30.88 331 *e*P P 19 12 59.2 +0.9
comp=Z,339nm,0.7s
PYUN Piuthan 31.45 330 *e*P P 19 13 04.1 +0.8
PYUN Piuthan 31.45 330 *e*P P 19 13 04.1 +0.8
FITZ Fitzroy Crossi 31.57 128 P P 19 13 03.3 -0.9
comp=Z,8.5nm,0.8s,baz=297,slow=11,SNR=5.9
FITZ ScP ScP 19 19 15.2 -1.0
comp=Z,5.5nm,0.9s,baz=347,slow=5.3,SNR=6.3

FITZ Fitzroy Crossi 31.57 128 P P 19 13 03.4 -0.8
baz=32,SNR=19
MEEK Meekatharra 32.85 148 P P 19 13 16.2 +0.9
baz=33,SNR=7.7
KNRA Kununurra 32.88 122 P P 19 13 15.2 -0.5
baz=33,SNR=7.9
KNRA Kununurra 32.88 122 P P 19 13 16.2 +0.5
MORW Morawa 33.65 154 P P 19 13 23.8 +1.6
baz=34,SNR=8.0
MORW Morawa 33.65 154 P P 19 13 23.6 +1.4
MTN Manton Dam 33.78 115 P P 19 13 23.4 -0.2
baz=34,SNR=22
MTN Manton Dam 33.78 115 P P 19 13 23.2 -0.4
MTN IAmb IAmb 19 13 24.9
comp=Z,23nm,0.6s
XAN Xi'an 33.82 13 P P 19 13 22.9 -0.8
XAN Xi'an 33.82 13 P P 19 13 23.4 -0.3
XAN pP 19 14 06.7 +1.5
KDU Kakadu 34.95 114 P P 19 13 33.5 0.0
baz=35,SNR=18
NDI New Delhi 35.07 324 *e*P P 19 13 34.0 -0.4
BLDU Ballidu 35.28 155 P P 19 13 37.6 +1.5
baz=36,SNR=13
MUN Mundaring 36.26 156 P P 19 13 46.4 +1.9
baz=36,SNR=28
KLBR Kellerberrin 36.57 154 P P 19 13 48.4 +1.3
baz=37,SNR=33
NWAO Narrogin (SRO) 37.51 156 P P 19 13 55.6 +0.6
comp=Z,27nm,0.6s,baz=312,slow=4.6,SNR=13
NWAO Narrogin (SRO) 37.51 156 P P 19 13 56.3 +1.3
baz=38,SNR=8.7
NWAO Narrogin (SRO) 37.51 156 P P 19 13 56.3 +1.3
NWAO Narrogin (SRO) 37.51 156 P P 19 13 56.3 +1.3
NWAO IAmb IAmb 19 14 14.4
comp=Z,130nm,1.5s
WRKA Warakurna 37.70 135 P P 19 13 56.4 -0.4
baz=38,SNR=22
GTA Gaotai 38.15 360 ⇑P P 19 14 00.6 +0.2
GTA pP pP 19 14 43.8 +1.1
GTA sP sP 19 15 05.1 -0.5
GTA ScP S 19 19 37.8 -0.8
GTA S ScP 19 19 39.1 -0.6
GTA SS SS 19 22 28.1 -7.3
GTA ScS ScS 19 23 46.6 -3.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,41nm,6.0s
GTA LR LR
comp=Z,57nm,18.1s
GTA LR LR
comp=Z,71nm,19.7s
GTA LR LR
comp=Z,67nm,17.5s
KMBL Kambalda 38.34 149 P P 19 14 03.0 +1.0
baz=38,SNR=8.5
WB0 Warramunga Arr 39.53 123 P P 19 14 11.9 -0.1
WB0 IAmb IAmb 19 14 15.1
comp=Z,32nm,0.8s
WRA Warramunga Arr 39.56 124 P P 19 14 12.2 -0.1
comp=Z,27nm,0.6s,baz=304,slow=9.0,SNR=232
WRA pP pP 19 14 54.2 -0.7
comp=Z,7.3nm,0.6s,baz=303,slow=9.0,SNR=2.2
WRA PcP PcP 19 16 16.2 +0.6
comp=Z,4.1nm,0.6s,baz=309,slow=2.7,SNR=7.8
WRA ScP ScP 19 19 44.5 -0.9
comp=Z,6.7nm,1.0s,baz=306,slow=3.5,SNR=14
WRA Warramunga Arr 39.56 124 P P 19 14 12.2 -0.1
WRA pP 19 14 53.7 -1.1
WRA PcP 19 16 15.7 +0.1
WRA ScP 19 19 44.9 -0.5
WRAB Tennant Creek 39.57 124 P P 19 14 12.6 +0.2
WRAB IAmb IAmb 19 14 15.7
comp=Z,44nm,0.9s
WB2 Warramunga Arr 39.57 124 P P 19 14 12.0 -0.4
baz=40
WB2 Warramunga Arr 39.57 124 P P 19 14 12.5 +0.1
WB2 IAmb IAmb 19 14 15.2
comp=Z,35nm,0.9s
WR0 Warramunga Arr 39.74 124 P P 19 14 13.7 0.0
WR0 IAmb IAmb 19 14 17.1
comp=Z,59nm,0.9s
WR0 pP pP 19 14 55.2 -1.1
NIL Nilore 41.01 325 P P 19 14 23.9 -0.1
NIL pP pP 19 15 05.8 -1.3
AS31 Alice Springs 41.06 129 P P 19 14 24.3 -0.3
ASAR Alice Springs 41.06 129 P P 19 14 24.1 -0.5
comp=Z,5.3nm,0.5s,baz=300,slow=7.6,SNR=105
ASAR pP pP 19 15 06.0 -1.4
comp=Z,2.6nm,0.6s,baz=305,slow=7.9,SNR=2.7
ASAR PcP PcP 19 16 21.3 +0.8
comp=Z,5.1nm,0.7s,baz=305,slow=3.0,SNR=12
ASAR ScP ScP 19 19 50.3 -0.9
comp=Z,4.4nm,1.0s,baz=304,slow=4.2,SNR=12
ASAR Alice Springs 41.06 129 P P 19 14 24.5 -0.1
ASAR PcP 19 16 20.3 -0.1
ASAR ScP ScP 19 19 49.6 -1.6
FORT Forrest 41.38 142 P P 19 14 27.7 +0.6
baz=42,SNR=28
FORT Forrest 41.38 142 P P 19 14 27.5 +0.4
JNU Nakatsue 43.05 39 P P 19 14 40.8 +0.3
comp=Z,17nm,0.9s,baz=177,slow=3.7,SNR=7.3
JNU ScP ScP 19 19 58.6 -0.3
comp=Z,7.5nm,1.0s,baz=93,slow=3.0,SNR=4.0
JNU Nakatsue 43.05 39 P P 19 14 41.4 +0.9
JNU IAmb IAmb 19 14 42.3
comp=Z,29nm,1.0s
WMQ Urumqi 43.96 347 P P 19 14 47.0 -0.7
WMQ IAmb IAmb 19 14 50.2
comp=Z,40nm,1.1s
KBL Kabul 44.12 322 P P 19 14 49.2 -0.1
QIS Mount Isa 44.27 121 P P 19 14 51.0 +0.5
baz=44,SNR=37
KSAR Wonju Array Be 44.34 32 P P 19 14 51.2 +0.5
KSAR pP pP 19 15 34.3 +0.2
KSRS Korea Array 44.37 32 P P 19 14 51.1 +0.2
comp=Z,11nm,0.7s,baz=222,slow=8.3,SNR=79
KSRS ScP ScP 19 20 03.0 -1.2
comp=Z,3.8nm,0.9s,baz=204,slow=4.3,SNR=12
KS19 Wonju Array Si 44.38 32 P P 19 14 51.0 0.0
COEN Coen 45.24 111 P P 19 14 58.7 +0.6
baz=45,SNR=26
COEN Coen 45.24 111 P P 19 14 58.5 +0.4
COEN IAmb IAmb 19 14 59.6
comp=Z,31nm,0.9s
JHS Saijyo 45.68 39 P P 19 15 02.5 +1.2
KDJ Kajisay 45.76 336 P P 19 15 02.9 +0.9
KDJ IAmb IAmb 19 15 04.3
comp=Z,35nm,0.8s
KDJ pP pP 19 15 46.4 +0.7
SHLS Shalkode 45.77 339 ⇓*i*P P 19 15 02.1 +0.1
comp=Z,14nm,0.7s,baz=339
WSAR Wadi Sarin 45.83 302 P P 19 15 03.4 +0.7
comp=Z,8.7nm,0.6s,baz=148,slow=4.1,SNR=10
UZB Uzynbulak 45.92 339 ⇓*i*P P 19 15 04.2 +1.1
comp=Z,14nm,0.8s,baz=339
UZB *e*S S 19 21 33.3 +1.0
baz=339
GUMO Guam 46.04 72 LR LR 19 33 20.9
comp=Z,21nm,21.0s,baz=172,slow=34
SATY Saty 46.07 338 ⇓*i*P P 19 15 05.5 +1.2
comp=Z,16nm,1.0s,baz=338
SATY *e*S S 19 21 35.5 +1.0
baz=338
KPKS Kokpek 46.32 338 *e*P P 19 15 07.1 +0.9
comp=Z,20nm,1.0s,baz=338
GAR Garm 46.52 328 P P 19 15 07.2 -0.7
GAR IAmb IAmb 19 15 09.7
comp=Z,40nm,0.9s
KZA Kyzart 46.52 334 P P 19 15 09.3 +1.1
SNR=9.1
BOOM Boomskoye usch 46.57 335 P P 19 15 09.2 +0.9
TNSS Tian-Shan 46.61 337 ⇓*i*P P 19 15 10.0 +1.1
baz=337
MDOK Medeo 46.68 337 *i* P P 19 15 10.3 +1.2
baz=337
MDOK *i* pP pP 19 15 53.5 +0.3
baz=337
MDOK *e*PP PP 19 17 02.4 +1.1
baz=337
MDOK *i* S S 19 21 44.5 +1.3
baz=337
SHAO Shalim 46.76 294 P P 19 15 10.4 +0.4
AAA Alma-Ata 46.77 337 *e*P P 19 15 10.8 +1.1
comp=Z,25nm,0.7s,baz=337
AAA *e*S S 19 21 45.4 +1.1

baz=337
SONM Songino Array 46.90 6 P P 19 15 11.3 +0.6
comp=Z,3.7nm,0.6s,baz=184,slow=9.0,SNR=36
SONM PcP PcP 19 16 40.4 +0.4
comp=Z,3.7nm,0.5s,baz=186,slow=4.1,SNR=9.6
SONM ScP ScP 19 20 12.8 -1.9
comp=Z,7.8nm,1.1s,baz=190,slow=4.5,SNR=22
SONM Songino Array 46.90 6 P P 19 15 11.0 +0.3
SONM PcP 19 16 40.1 +0.1
SONM ScP ScP 19 20 12.9 -1.8
MTBS Maitube 46.90 336 ⇓*i*P P 19 15 11.4 +0.6
baz=336
CHGR Chuyangaron 46.90 327 P P 19 15 10.0 -0.8
CHGR IAmb IAmb 19 15 11.1
comp=Z,64nm,1.0s
ULN Ulaanbaatar 46.99 6 P P 19 15 11.3 -0.2
BTK Batken 47.04 329 P P 19 15 12.7 +0.8
TKM2 Tokmak 2 47.06 335 P P 19 15 12.9 +0.8
SNR=34
KBK Karagaybulak 47.12 335 P P 19 15 13.8 +1.2
SNR=25
AML Almayashu 47.25 333 P P 19 15 14.9 +1.1
SNR=21
CHKK Chushkaly 47.29 337 ⇓*i*P P 19 15 13.5 -0.1
baz=337
AAK Ala-Archa 47.30 334 P P 19 15 15.6 +1.6
comp=Z,12nm,0.8s,baz=134,slow=6.2,SNR=30
AAK ScP ScP 19 20 15.4 -1.1
comp=Z,4.9nm,1.1s,baz=149,slow=4.0,SNR=7.9
AAK Ala-Archa 47.30 334 P P 19 15 15.5 +1.6
SNR=12
AAK Ala-Archa 47.30 334 *i* P P 19 15 15.3 +1.4
SNR=13
AAK Ala-Archa 47.30 334 P P 19 15 15.2 +1.2
AAK ScP ScP 19 20 16.0 -0.5
JWT Wachi 47.31 40 P P 19 15 14.1 +0.2
FRU1 Bishkek 47.38 335 P P 19 15 15.2 +0.7
FRU1 IAmb IAmb 19 15 16.6
comp=Z,26nm,0.7s
CHMS Chumysh 47.48 335 P P 19 15 15.9 +0.7
SNR=17
MTSU Mount Surprise 47.53 116 P P 19 15 17.2 +1.3
baz=48,SNR=70
KUU Kurty 47.57 337 ⇓*i*P P 19 15 16.2 +0.4
comp=Z,48nm,1.0s,baz=337
KUU *e*S S 19 21 55.5 0.0
baz=337
EKS2 Erkin-Say 47.63 334 P P 19 15 17.8 +1.4
SNR=25
TDK Taldyqorghan 47.75 339 *e*P P 19 15 17.5 +0.4
baz=339
TDK *i* S S 19 21 57.9 -0.1
baz=339
USP Ospenovka 47.81 335 P P 19 15 18.5 +0.8
SNR=6.7
BBOO Buckleboo 47.84 138 P P 19 15 17.9 -0.2
baz=48,SNR=13
BBOO Buckleboo 47.84 138 P P 19 15 17.9 -0.2
SGDS Sogindy 47.91 335 ⇓*i*P P 19 15 18.1 -0.4
comp=Z,5.5nm,0.8s,baz=335
SOHO SOHO 47.95 302 *i* P P 19 15 19.0 0.0
SNR=9.6
PMG Port Moresby 48.04 104 P P 19 15 20.5 +0.6
ZSN Zaisan 48.04 346 ⇓*i*P P 19 15 20.8 +1.4
comp=Z,12nm,0.8s,baz=346
ZSN *i* S S 19 22 03.5 +1.5
comp=Z,49nm,3.7s,baz=346
MK31 Makanchi Array 48.11 344 P P 19 15 20.2 +0.3
MKAR Makanchi Array 48.11 344 P P 19 15 20.5 +0.6
comp=Z,12nm,0.3s,baz=161,slow=8.2,SNR=238
MKAR pP pP 19 16 04.9 +0.9
comp=Z,6.3nm,0.7s,baz=144,slow=7.6,SNR=3.1
MKAR ScP ScP 19 20 18.3 -1.4
comp=Z,2.1nm,1.0s,baz=133,slow=5.1,SNR=5.0
MKAR LR LR 19 38 17.7
comp=Z,37nm,19.2s,baz=206,slow=39
MKAR Makanchi Array 48.11 344 P P 19 15 20.2 +0.3
MKAR pP 19 16 05.6 +1.6
MKAR ScP ScP 19 20 18.1 -1.5
MAKZ Makanchi 48.21 343 P P 19 15 20.9 +0.3
HRA Herat 48.42 317 P P 19 15 22.1 -0.6
HRA PcP 19 16 47.0 +1.1
UOSS Minazif 48.53 303 P P 19 15 23.0 -0.4
HATD Hatta, Dubai 48.54 303 *i* P P 19 15 24.1 +0.5
SNR=8.6
ASHO Ashiyiah 48.55 303 P P 19 15 24.0 +0.3
ALNE Al Ain 48.58 302 *i* P P 19 15 24.4 +0.5
SNR=9.5
MDH Madha 48.58 303 P P 19 15 22.8 -1.0
MSFE Esma-Masafi 48.72 303 P P 19 15 25.6 +0.6
TAS Tashkent 48.75 329 P P 19 15 25.1 +0.2
TAS IAmb IAmb 19 15 26.5
comp=Z,49nm,0.7s
DZA Taraz 48.93 332 ⇓*i*P P 19 15 26.4 +0.1
comp=Z,12nm,0.7s,baz=332
DZA *e*S S 19 22 14.9 +0.2
baz=332
IUG Iuzhnay 48.99 330 ⇓*i*P P 19 15 27.7 +0.9
comp=Z,32nm,1.0s,baz=330
IUG *i* S S 19 22 15.9 +0.3
comp=Z,35nm,1.7s,baz=330
NAZ Nazwa, Dubai 49.00 303 P P 19 15 27.0 0.0
SHME Shamm 49.01 304 P P 19 15 27.2 0.0
JHJ Hachijo jima 2 49.04 45 LR LR 19 35 19.0
comp=Z,320nm,21.9s,baz=114,slow=35
BTLS Baital 49.44 336 ⇓*i*P P 19 15 30.2 +0.1
comp=Z,9.4nm,1.0s,baz=336
KK31 Karatay Array 49.48 332 P P 19 15 30.6 +0.2
KKAR Karatay Array 49.48 332 P P 19 15 30.4 +0.1
KKAR Karatay Array 49.48 332 P P 19 15 30.6 +0.2
MJAR Matsushiro Arr 49.88 41 P P 19 15 33.1 -0.4
comp=Z,3.5nm,0.8s,baz=237,slow=5.9,SNR=8.7
MJAR pP pP 19 16 18.5 +0.5
comp=Z,2.1nm,0.8s,baz=221,slow=7.9,SNR=2.7
MJAR ScP ScP 19 20 26.8 -0.7
comp=Z,12nm,1.1s,baz=224,slow=5.8,SNR=16
MJAR Matsushiro Arr 49.88 41 P P 19 15 32.0 -1.5
MJAR ScP ScP 19 20 26.8 -0.7
CTAO Charters Tower 49.90 118 P P 19 15 34.8 +0.9
CTAO IAmb IAmb 19 15 37.0
comp=Z,35nm,0.8s
HTT Hallett 50.15 137 P P 19 15 35.9 +0.3
baz=50,SNR=5.1
QLP Quilpie 50.66 126 P P 19 15 40.7 +1.2
baz=51,SNR=14
JSD Sado 50.81 39 P P 19 15 40.0 -0.4
STKA Stephens Creek 51.17 134 P P 19 15 43.3 0.0
comp=Z,20nm,0.7s,baz=309,slow=7.5,SNR=40
STKA pP pP 19 16 26.8 -1.1
comp=Z,8.9nm,0.8s,baz=329,slow=8.0,SNR=3.2
STKA Stephens Creek 51.17 134 P P 19 15 43.4 +0.2
baz=51,SNR=24
STKA Stephens Creek 51.17 134 P P 19 15 43.5 +0.2
STKA pP pP 19 16 26.7 -1.1
USA0B Ussuriysk Arra 51.44 29 P P 19 15 45.6 +0.6
USRK Ussuriysk Ar. 51.44 29 P P 19 15 45.6 +0.6
comp=Z,12nm,0.7s,baz=229,slow=4.7,SNR=40
USRK ScP ScP 19 20 31.7 -2.3
comp=Z,3.8nm,0.9s,baz=242,slow=4.1,SNR=5.7
USRK Ussuriysk Ar. 51.44 29 P P 19 15 45.5 +0.6
USRK ScP ScP 19 20 32.7 -1.3
SEM Semipalatinsk 51.96 344 ⇓*i*P P 19 15 48.9 -0.1
comp=Z,5.8nm,0.9s,baz=344
RABL Rabaul 52.32 96 P P 19 15 52.8 +0.7
RABL IAmb IAmb 19 15 54.2
comp=Z,74nm,1.4s
JMM Marumori 52.33 41 P P 19 15 52.0 +0.3
JMM IAmb IAmb 19 15 57.2
comp=Z,38nm,1.5s
KURBB Kurchatov Arra 52.64 343 P P 19 15 54.1 +0.4
comp=Z,14nm,0.8s,baz=164,slow=7.0,SNR=83
KURBB pP pP 19 16 39.4 +0.8
comp=Z,6.2nm,0.7s,baz=166,slow=7.2,SNR=5.5
KURBB ScP ScP 19 20 36.9 -2.1
comp=Z,1.9nm,0.7s,baz=157,slow=3.4,SNR=10
KURK Kurchatov 52.70 343 P P 19 15 54.4 +0.3
KURK IAmb IAmb 19 15 55.6
comp=Z,24nm,0.9s
GEYT Alibeck 53.17 319 P P 19 15 57.8 -0.1
comp=Z,20nm,0.8s,baz=142,slow=7.5,SNR=44
GEYT pP pP 19 16 42.9 -0.3
comp=Z,8.9nm,0.8s,baz=138,slow=7.4,SNR=5.5
GEYT ScP ScP 19 20 40.9 -0.8
comp=Z,2.0nm,0.7s,baz=101,slow=6.2,SNR=4.0
GEYT Alibeck 53.17 319 P P 19 15 57.7 -0.1
GEYT pP pP 19 16 42.0 -1.1

GEYT ScP 19 20 40.7 -1.1
GYA0B ALIBECK ARRAY 53.17 319 P P 19 15 57.7 -0.2
GYA0B IAmb IAmb 19 15 58.9
comp=Z,31nm,0.9s
GYA0B pP pP 19 16 42.7 -0.5
ARPS Mount Arapiles 54.01 139 P P 19 16 05.5 +1.5
baz=54,SNR=6.3
BRZS Berezniki 54.03 338⇓*i*P P 19 16 04.0 +0.1
comp=Z,19nm,1.1s,baz=339
CMSA Cobar Meteorol 54.03 131 P P 19 16 05.0 +0.8
baz=54,SNR=65
ZAA0 Zalesovo Array 54.18 349 P P 19 16 05.2 +0.3
ZAA0 IAmb IAmb 19 16 06.3
comp=Z,27nm,0.8s
ZAA0 pP pP 19 16 48.7 -1.3
ZALV Zalesovo Beam 54.18 349 P P 19 16 05.1 +0.3
comp=Z,14nm,0.3s,baz=177,slow=6.4,SNR=109
ZALV pP pP 19 16 50.8 +0.9
comp=Z,16nm,0.8s,baz=178,slow=5.6,SNR=5.2
ZALV ScP ScP 19 20 43.7 -2.0
comp=Z,1.8nm,0.8s,baz=145,slow=5.4,SNR=4.5
ZALV Zalesovo Beam 54.18 349 P P 19 16 05.0 +0.1
ZALV pP pP 19 16 49.5 -0.4
ZALV ScP ScP 19 20 44.2 -1.5
RMQ Roma 54.32 124 P P 19 16 08.0 +1.6
baz=54,SNR=15
OPO Ambohidratompo 55.50 247 P P 19 16 16.8 +1.6
comp=Z,22nm,0.9s,baz=54,slow=6.4,SNR=21
EIDS Eidsvold 55.87 122 P P 19 16 18.4 +0.9
baz=56,SNR=11
EIDS Eidsvold 55.87 122 P P 19 16 18.7 +1.2
EIDS IAmb IAmb 19 16 21.6
comp=Z,22nm,0.7s
ASAJ Asahikawa 57.07 35 P P 19 16 26.0 +0.4
comp=Z,5.0nm,0.7s,baz=88,slow=12,SNR=2.3
JKA Kamikawa-asahi 57.07 35 P P 19 16 26.0 +0.4
YNG Young 57.33 133 P P 19 16 28.6 +1.0
baz=57,SNR=5.2
BVAR Borovoye Array 57.34 339 P P 19 16 27.0 -0.3
comp=Z,12nm,0.5s,baz=146,slow=10,SNR=114
BVAR pP pP 19 17 12.8 -0.2
comp=Z,6.2nm,0.6s,baz=142,slow=10,SNR=5.8
BVAR ScP ScP 19 20 58.4 -1.3
comp=Z,1.4nm,0.8s,baz=146,slow=6.4,SNR=4.2
BRVK Borovoye 57.41 339 P P 19 16 27.6 -0.2
BRVK IAmb IAmb 19 16 28.4
comp=Z,19nm,0.7s
BRVK pP pP 19 17 13.2 -0.2
ATD Arta Tunnel 57.71 283 P P 19 16 30.3 -0.4
comp=Z,8.7nm,0.8s,baz=49,slow=8.1,SNR=5.1
ARMA Armidale 58.16 127 P P 19 16 35.9 +2.2
baz=58,SNR=7.8
ARMA Armidale 58.16 127 P P 19 16 35.7 +2.1
ARMA IAmb IAmb 19 16 38.6
comp=Z,19nm,0.9s
CAN Canberra 58.24 134 P P 19 16 35.1 +1.1
baz=58
CAN Canberra 58.24 134 P P 19 16 35.0 +1.0
CAN IAmb IAmb 19 16 35.8
comp=Z,23nm,0.8s
ABKAR Akbulak array 59.00 330 P P 19 16 38.2 -0.7
ABKAR pP pP 19 17 23.6 -1.5
HNR Honiara 60.53 101 P P 19 16 50.1 +0.2
AKTO Aktyubinsk 60.71 331 P P 19 16 49.9 -0.7
comp=Z,5.9nm,0.5s,baz=128,slow=7.0,SNR=21
KMBO Kilima Mbogo 62.85 268 P P 19 17 08.6 +2.8
comp=Z,18nm,0.8s,baz=62,slow=9.4,SNR=46
KMBO Kilima Mbogo 62.85 268 *i* P P 19 17 07.2 +1.4
SNR=18
KMBO Kilima Mbogo 62.85 268 P P 19 17 07.0 +1.2
KMBO IAmb IAmb 19 17 08.2
comp=Z,22nm,0.8s
TBLG Delisi 64.02 317 P P 19 17 12.8 +0.2
TBLG pP pP 19 17 59.0 -0.7
ARU Arti 64.44 336 P P 19 17 14.3 -0.7
comp=Z,1.9nm,0.4s,baz=151,slow=5.2,SNR=23
ARU pP pP 19 18 00.5 -1.4
comp=Z,1.8nm,0.8s,baz=58,slow=8.4,SNR=2.4
ARU Arti 64.44 336 P P 19 17 14.1 -0.9
ARU IAmb IAmb 19 17 15.6
comp=Z,25nm,1.0s
ARU pP pP 19 18 00.5 -1.4
AKH Akhalkalaki 64.75 316⇑P P 19 17 18.3 +0.7
AKH Akhalkalaki 64.75 316 P P 19 17 17.9 +0.3
AKH IAmb IAmb 19 17 19.1
comp=Z,22nm,1.2s
YAK Yakutsk 64.77 15 P P 19 17 15.8 -1.2
comp=Z,1.5nm,0.3s,baz=294,slow=2.9,SNR=5.4
YAK pP pP 19 18 02.8 -1.0
comp=Z,6.6nm,0.8s,baz=207,slow=3.3,SNR=2.8
YAK Yakutsk 64.77 15 P P 19 17 16.5 -0.5
YAK pP 19 18 03.4 -0.4
MARD Mardin 65.27 311 P P 19 17 21.0 0.0
KBZ Khabaz 66.06 318 P P 19 17 25.7 +0.1
comp=Z,28nm,0.8s,baz=127,slow=5.7,SNR=48
KBZ pP pP 19 18 13.1 +0.2
comp=Z,4.9nm,0.9s,baz=160,slow=7.3,SNR=3.0
CHVG Ch'k'valeri 66.22 317⇑P P 19 17 27.9 +1.2
KIV Kislovodsk 66.28 318⇑P P 19 17 27.1 -0.2
KIV Kislovodsk 66.28 318 *i* P P 19 17 27.4 +0.1
SNR=8.0
KIV Kislovodsk 66.28 318 P P 19 17 27.0 -0.3
KIV IAmb IAmb 19 17 28.3
comp=Z,25nm,0.9s
GAZ Gaziantep 67.94 310 P P 19 17 38.1 +0.3
NRIK Noril'sk 68.66 355 P P 19 17 40.8 -0.7
comp=Z,1.5nm,0.3s,baz=160,slow=7.7,SNR=4.1
MBAR Mbarara 69.34 269 P P 19 17 48.3 +1.3
MBAR IAmb IAmb 19 17 49.5
comp=Z,26nm,1.1s
TOKA Tokat 69.39 313 P P 19 17 47.5 +0.9
TOKA IAmb IAmb 19 17 48.7
comp=Z,16nm,0.7s
KIRV Kirov 69.64 334 P P 19 17 47.5 -0.1
comp=Z,34nm,0.8s,baz=126,slow=2.9,SNR=13
PETK Petropavlovsk- 70.27 33 P P 19 17 51.0 -0.7
comp=Z,5.1nm,0.8s,baz=208,slow=2.9,SNR=8.4
PETK Petropavlovsk- 70.27 33 P P 19 17 51.5 -0.2
CSS Mathiatis 70.43 307 P P 19 17 52.8 -0.3
CSS IAmb IAmb 19 17 54.2
comp=Z,46nm,1.1s
PET Petropavlovsk 70.75 33 P P 19 17 54.4 -0.2
PET IAmb IAmb 19 17 55.6
comp=Z,24nm,0.6s
BR131 Keskin Array S 71.32 312 P P 19 17 57.5 -1.0
BR131 IAmb IAmb 19 17 58.7
comp=Z,29nm,0.8s
BRTR Keskin Array B 71.32 312 P P 19 17 57.6 -0.9
comp=Z,22nm,0.7s,baz=129,slow=7.3,SNR=59
BRTR LR LR 19 50 50.1
comp=Z,25nm,21.9s,baz=324,slow=37
BRTR Keskin Array B 71.32 312 P P 19 17 57.5 -1.0
ILGA Ilgaz 71.60 313 P P 19 18 00.0 -0.3
ILGA IAmb IAmb 19 18 01.2
comp=Z,45nm,1.0s
BZK Bozkurt 71.64 314⇑P P 19 18 00.7 +0.6
BR231 Keskin MP Arra 71.99 312 P P 19 18 01.7 -0.8
BR231 IAmb IAmb 19 18 03.0
comp=Z,26nm,0.6s
SEY Seymchan 72.77 22 P P 19 18 05.9 -0.5
comp=Z,3.5nm,0.8s,baz=230,slow=6.4,SNR=8.8
TIXI Tiksi 72.83 9 P P 19 18 06.2 -0.4
comp=Z,2.3nm,0.3s,baz=140,slow=5.9,SNR=2.5
TIXI Tiksi 72.83 9 IAmb IAmb 19 18 06.4
comp=Z,21nm,1.5s
LSZ Lusaka 72.83 254 P P 19 18 08.9 +1.0
LSZ IAmb IAmb 19 18 10.1
comp=Z,19nm,0.8s
BOLV Bolvadin 73.11 310 P P 19 18 09.0 -0.2
BOLV IAmb IAmb 19 18 09.7
comp=Z,32nm,0.9s
MAW Mawson 73.27 194 P P 19 18 10.7 +1.5
comp=Z,0.7nm,0.5s,baz=16,slow=8.2,SNR=5.8
MAW Mawson 73.27 194 P P 19 18 11.5 +2.3
MDUB Mudurnu 73.32 312 P P 19 18 09.7 -0.6
ELL Elmali 73.52 308 P P 19 18 11.2 -0.4
OBN Obninsk 74.24 328 P P 19 18 15.2 +0.1
MANT Manisa 74.90 310 P P 19 18 19.0 -0.7
KLMR Klimovskoe 75.11 334 *eP* P 19 18 18.5 -1.5
KLMR AMP 19 18 21.6
comp=Z,45nm,1.3s
KARP Karpathos 75.49 306 P P 19 18 23.1 +0.2
PURM Purcari 75.67 318⇑P P 19 18 24.2 +0.7
MANR Mangalia 75.95 315⇑P P 19 18 24.7 -0.5
JURR Jurilovca 75.95 316⇑P P 19 18 25.7 +0.6

TLCR 76.08 316⇑P P 19 18 26.2 +0.3
MFTR Murfatlar 76.14 315⇑P P 19 18 25.4 -0.8
TIRR Tirgusor 76.21 316⇓P P 19 18 26.2 -0.3
TIRR Tirgusor 76.21 316 P P 19 18 26.3 -0.3
TOPG Topolog 76.32 316⇑P P 19 18 26.8 -0.5
LBTB Lobatse 76.41 244 P P 19 18 29.6 +1.3
LBTB IAmb IAmb 19 18 30.0
comp=Z,16nm,0.8s
MILM Milestii Mici 76.47 318⇑P P 19 18 27.6 -0.4
TLBR Topalu 76.48 316⇑P P 19 18 28.3 +0.2
CFR Carcaliu 76.55 316⇑P P 19 18 28.1 -0.4
HARR Harsova 76.59 316⇑P P 19 18 29.1 +0.3
PRD Provadia 76.67 314 *i* P P 19 18 29.4 +0.2
NEF NEVSHA 76.77 314 *i* P P 19 18 30.1 +0.3
VARL Varlezi 76.90 317⇓P P 19 18 30.7 +0.3
SANT Santorini 76.98 307 P P 19 18 30.5 -0.7
SANT IAmb IAmb 19 18 32.9
comp=Z,32nm,1.0s
SORM Soroca 77.06 319⇑P P 19 18 30.9 -0.4
RPZ Rata Peaks 77.10 135 P P 19 18 32.3 +0.6
RPZ IAmb IAmb 19 18 35.6
comp=Z,48nm,1.4s
VASR Vaslui 77.10 318⇑P P 19 18 31.8 +0.2
AKASG Malin Array Be 77.11 322 P P 19 18 30.8 -0.8
comp=Z,3.9nm,0.4s,baz=85,slow=4.9,SNR=65
AKASG pP pP 19 19 18.8 -1.3
comp=Z,1.6nm,0.5s,baz=89,slow=4.8,SNR=3.2
AKASG Malin Array Be 77.11 322 P P 19 18 30.6 -1.0
AKASG pP 19 19 18.4 -1.7
AKBB Malin Array Si 77.11 322 P P 19 18 30.8 -0.8
AKBB IAmb IAmb 19 18 31.8
comp=Z,21nm,0.8s
BOSA Boshof 77.21 240 P P 19 18 33.6 +0.9
comp=Z,13nm,0.7s,baz=92,slow=6.3,SNR=22
BOSA Boshof 77.21 240 P P 19 18 33.5 +0.8
BOSA IAmb IAmb 19 18 34.6
comp=Z,13nm,0.8s
GHRR 77.24 317⇑P P 19 18 33.3 +1.0
ALN Alexandroupoli 77.24 312 P P 19 18 32.3 -0.2
ALN IAmb IAmb 19 18 33.2
comp=Z,18nm,1.0s
IDI Anoyia 77.29 306⇓P P 19 18 33.0 0.0
IDI Anoyia 77.29 306 P P 19 18 32.8 -0.2
IDI IAmb IAmb 19 18 34.0
comp=Z,23nm,0.8s
RAZG Razgrad 77.38 314⇑P P 19 18 33.1 -0.1
BISRR Bisoca 77.61 316⇓P P 19 18 35.6 +1.1
ISR Istrita 77.64 316⇑P P 19 18 35.4 +0.7
VRI Vrincioaia 77.66 317⇑P P 19 18 35.3 +0.5
VRI ⇑P P 19 18 35.3 +0.5
PLOR Plostina 77.71 317⇑P P 19 18 36.0 +0.9
TESR Tescani 77.84 317⇑P P 19 18 36.1 +0.4
THZ Tophouse 77.98 133 P P 19 18 37.3 +0.6
MLR Muntele Rosu 78.13 316⇑P P 19 18 38.2 +0.8
MLR Muntele Rosu 78.13 316 P P 19 18 38.1 +0.6
ZIMR 78.21 314⇑P P 19 18 38.3 +0.6
BIZ Bicaz 78.29 318⇑P P 19 18 38.5 +0.3
HUMR Humele 78.63 315⇑P P 19 18 39.5 -0.6
TUWZ Tuamarina 78.67 133 P P 19 18 40.1 -0.2
VOIR 78.74 316⇓P P 19 18 40.1 -0.7
PGB Panagyurishte 78.90 313 *i* P P 19 18 41.3 -0.3
BURAR Bucovina Array 79.01 318⇓P P 19 18 43.4 +1.2
BURAR Bucovina Array 79.01 318 P P 19 18 42.5 +0.3
BURAR pP pP 19 19 29.7 -1.3
ARR Arges 79.02 316⇑P P 19 18 42.0 -0.2
BUR08 Bucovina Ar. S 79.03 318 P P 19 18 43.0 +0.6
BUR08 IAmb IAmb 19 18 44.3
comp=Z,19nm,0.8s
BUR08 pP pP 19 19 29.7 -1.4
MMB Musomiste 79.08 312 *i* P P 19 18 41.7 -0.9
ARCR ARCALIA 79.50 318⇓P P 19 18 45.6 +0.9
KKB Krupnik 79.59 312 *i* P P 19 18 44.6 -0.8
IDID Didziasalis 79.67 326 *eP* P 19 18 46.2 +0.8
AGG Agios Georgios 79.80 309 P P 19 18 45.2 -1.4
LIT Litokhoron 79.81 310 P P 19 18 45.8 -0.7
ITM Ithomi 79.90 307 P P 19 18 46.8 -0.3
VAY Valandovo 79.90 312 *i* P P 19 18 46.3 -0.7
CJR Cluj-Napoca 79.95 317⇑P P 19 18 48.4 +1.2
IIGN Ignalina 79.97 326 *eP* P 19 18 47.5 +0.5
IZAR Zarasai 80.04 327 *eP* P 19 18 48.1 +0.7
ISAL Salakas 80.07 326 *eP* P 19 18 48.1 +0.5
BKZ Black Stump Fm 80.17 130 P P 19 18 48.7 +0.1
STIP Stip 80.23 312 *i* P P 19 18 46.8 -2.0
DEV Deva 80.30 316⇑P P 19 18 49.7 +0.7
VSU Vasula 80.41 329 *eP* P 19 18 49.5 +0.3
HERR Herculane 80.49 315⇓P P 19 18 50.2 +0.1
FNA Florina 80.73 311 P P 19 18 50.5 -1.1
MDVR Moldovita 80.97 315⇑P P 19 18 52.6 -0.1
KWP Kalwaria Pacla 81.00 320 *eP* P 19 18 53.0 +0.3
KWP Kalwaria Pacla 81.00 320 P P 19 18 53.0 +0.3
KWP IAmb IAmb 19 18 54.2
comp=Z,36nm,1.2s
BZS Buzias 81.15 316⇓P P 19 18 53.7 +0.1
KOLS Kolonicke sedl 81.17 319 *eP* P 19 18 53.7 +0.1
OHR Ohrid 81.20 311 *i* P P 19 18 52.3 -1.7
SIRR Siria 81.21 317⇓P P 19 18 54.4 +0.5
PABE Paberze 81.25 326 *eP* P 19 18 54.2 +0.4
SUW Suwalki 81.43 324 *eP* P 19 18 54.7 -0.1
SUW epP pP 19 19 41.7 -2.1
SUW Suwalki 81.43 324 P P 19 18 54.6 -0.2
FIA1 FINESS Array S 81.44 332 P P 19 18 54.7 0.0
FIA1 IAmb IAmb 19 18 56.0
comp=Z,18nm,1.1s
FINES FINESS Array B 81.44 332 P P 19 18 54.9 +0.2
comp=Z,5.2nm,0.5s,baz=112,slow=6.0,SNR=37
FINES FINESS Array B 81.44 332 P P 19 18 54.5 -0.2
FINES pP pP 19 19 42.7 -0.9
CRVS Cervenica-Dubn 81.70 319 *eP* P 19 18 57.2 +0.8
DIVS Divibare 82.12 314⇓*i*P P 19 18 58.7 -0.1
DIVS Divibare 82.12 314 P P 19 18 58.7 -0.1
DIVS IAmb IAmb 19 19 00.1
comp=Z,26nm,1.2s
KECS Kecovo 82.28 319 *eP* P 19 19 00.2 +0.8
FRGS Fruska Gora 82.36 315⇓*i*P P 19 18 59.6 -0.3
PBUR Paburge 82.48 326 *eP* P 19 19 01.0 +0.7
PDG Podgorica 82.48 313⇓P P 19 19 00.1 -0.5
PDG Podgorica 82.48 313⇓*i*P P 19 19 00.0 -0.5
PDG Podgorica 82.48 313 P P 19 19 00.1 -0.5
PDG IAmb IAmb 19 19 01.2
comp=Z,29nm,0.9s
BBLS Lazići 82.52 314⇓*i*P P 19 19 01.1 +0.3
NIE Niedzica 82.52 320 *eP* P 19 19 01.3 +0.7
PSZ Piszkesteto 82.61 318⇑P P 19 19 01.2 0.0
PSZ Piszkesteto 82.61 318 P P 19 19 01.1 -0.2
PSZ IAmb IAmb 19 19 02.6
comp=Z,19nm,0.9s
UPM Unac-Piva 82.81 313 *eP* P 19 19 02.1 -0.4
OJC Ojcow 82.94 320 *eP* P 19 19 03.1 +0.3
OJC Ojcow 82.94 320 P P 19 19 03.3 +0.5
OJC IAmb IAmb 19 19 04.2
comp=Z,15nm,0.9s
LANS Liptovska Anna 83.03 319 *eP* P 19 19 04.2 +0.9
HCY Herceg Novi 83.05 312 *eP* P 19 19 03.5 0.0
BRY Bratogost 83.05 313⇓*i*P P 19 19 03.0 -0.7
TREB Trebinje 83.18 313 *eP* P 19 19 03.4 -0.8
TSUM Tsumeb 83.25 251 P P 19 19 06.6 +1.4
TSUM IAmb IAmb 19 19 07.7
comp=Z,14nm,0.8s
MORH Mrgy, Hungar 83.28 316⇓*i*P P 19 19 04.6 0.0
VYHS Vyhne 83.38 319 *eP* P 19 19 05.5 +0.4
ARCES ARCESS Array B 83.62 340 P P 19 19 06.1 +0.3
comp=Z,2.9nm,0.4s,baz=102,slow=4.3,SNR=46
ARCES ARCESS Array B 83.62 340 P P 19 19 06.6 +0.8
ARE0 ARCESS Array S 83.62 340 P P 19 19 06.6 +0.7
ARE0 ARCESS Array S 83.62 340 *eP* P 19 19 06.3 +0.4
TIP Timpagrande 84.13 309⇑P P 19 19 09.1 -0.1
TIP Timpagrande 84.13 309 P P 19 19 08.6 -0.5
JAVC Velka Javorina 84.18 319 *eP* P 19 19 10.3 +1.1
BLY Banja Luka 84.18 315⇓*i*P P 19 19 09.5 +0.3
MATE Matera 84.26 311⇑P P 19 19 09.7 +0.1
KTK1 Kautokeino 84.29 339 *eP* P 19 19 09.5 +0.2
MORC Moravsky Berou 84.34 320⇑P P 19 19 10.4 +0.4
MORC Moravsky Berou 84.34 320 *eP* P 19 19 10.4 +0.4
MORC Moravsky Berou 84.34 320 P P 19 19 10.5 +0.6
MORC IAmb IAmb 19 19 11.7
comp=Z,33nm,1.4s
MODS Modra-Piesok 84.40 318 *eP* P 19 19 09.5 -0.8
BEHE Becsehely 84.59 316⇓*i*P P 19 19 14.6 +3.4
CEL Celeste 84.75 308 P P 19 19 12.6 +0.3
CEL IAmb IAmb 19 19 14.3
comp=Z,34nm,0.9s
GKP Gorka Klasztor 84.84 323 *eP* P 19 19 12.6 +0.3

KRLC Kraliky 84.86 320 *eP* P 19 19 13.4 +0.9
VRAC Vranov 84.92 319 *eP* P 19 19 13.0 +0.2
KOGS Kog 84.95 316 *i* P P 19 19 13.5 +0.5
KOGS epP pP 19 20 01.0 -1.5
KRUC Moravsky 85.03 319 *eP* P 19 19 13.5 +0.1
SGRT San Giovanni R 85.04 312 P P 19 19 13.5 -0.2
SGRT IAmb IAmb 19 19 14.5
comp=Z,18nm,0.9s
VNDA Vanda 85.15 169 P P 19 19 14.0 +0.6
comp=Z,0.4nm,0.6s,baz=300,slow=6.5,SNR=5.4
DPC Dobruska-Polom 85.17 320 *eP* P 19 19 15.3 +1.2
KSP Ksiaz 85.23 321 *eP* P 19 19 15.2 +0.9
KSP epP pP 19 20 03.0 -0.7
OSTC Ostas 85.25 320 *eP* P 19 19 15.8 +1.3
CONA Conrad Observa 85.31 318 *i* P P 19 19 15.0 +0.1
comp=Z,7.5nm,0.9s,SNR=6.6
GCIS Gornji Cirnik 85.35 316 *eP* pP 19 20 04.0 -0.6
CHVC Chvalec 85.36 321 *eP* P 19 19 15.8 +0.8
CRES Cresnjev 85.47 316 *i* P P 19 19 16.0 +0.3
CRES Cresnjev 85.47 316⇓*i*P P 19 19 15.8 +0.2
ARSA Arzberg 85.50 317 *i* P P 19 19 15.9 +0.1
comp=Z,13nm,0.9s,SNR=9.7
LEGS Legarje 85.57 316 *i* P P 19 19 16.6 +0.4
LEGS epP pP 19 20 05.1 -0.5
PDKS Podkum 85.80 316 *i* P P 19 19 17.9 +0.6
SOKA Soboth 85.80 317 *i* P P 19 19 17.9 +0.5
comp=Z,23nm,0.9s,SNR=24
TRO Tromso 85.90 340 *eP* P 19 19 17.0 -0.1
LJU Ljubljana 86.12 316 *i* P P 19 19 16.9 +0.7
LJU epP pP 19 20 08.0 -0.2
LJU Ljubljana 86.12 316⇓*i*P P 19 19 19.5 +0.7
OBKA Obir 86.13 316 *i* P P 19 19 19.4 +0.4
comp=Z,17nm,1.2s,SNR=8.1
CEY Cerknica 86.18 316⇓*i*P P 19 19 18.9 -0.3
PRU Pruhonice 86.29 320 *eP* P 19 19 20.0 +0.4
PVCC Panska Ves 86.30 320 *eP* P 19 19 20.8 +1.2
MOA Molln 86.38 318 *i* P P 19 19 20.1 0.0
comp=Z,6.4nm,0.7s,SNR=5.4
INTR Introdacqua 86.42 312 P P 19 19 19.8 -0.7
INTR IAmb IAmb 19 19 25.4
comp=Z,12nm,0.9s
JAVS Javornik 86.44 316 *i* P P 19 19 20.3 -0.2
SKDS Skadanscina 86.46 315 *i* P P 19 19 19.9 -0.6
PBCC Pribram 86.63 320 *eP* P 19 19 21.9 +0.7
TRI Trieste 86.64 316 P P 19 19 20.9 -0.4
TRI IAmb IAmb 19 19 22.1
comp=Z,12nm,0.7s
BRG Berggiesshubel 86.72 321 *eP* P 19 19 22.2 +0.6
comp=Z,33nm,1.3s,baz=90,slow=4.6
MYKA Terra Mystica 86.76 316 *i* P P 19 19 22.1 +0.1
comp=Z,6.1nm,0.6s,SNR=5.7
CORL Corleone 86.78 308 P P 19 19 21.8 -0.5
CORL IAmb IAmb 19 19 23.1
comp=Z,45nm,1.4s
GEC2 GERESS Array S 86.79 319 *eP* P 19 19 22.6 +0.4
comp=Z,42nm,1.4s,baz=90,slow=4.6
GEC2 GERESS Array S 86.79 319 P P 19 19 22.5 +0.3
GEC2 IAmb IAmb 19 19 23.9
comp=Z,46nm,1.4s
GEC2 pP 19 20 11.4 -0.3
GERES GERESS Array B 86.79 319 P P 19 19 22.4 +0.3
comp=Z,5.5nm,0.6s,baz=94,slow=5.4,SNR=58
GERES GERESS Array B 86.79 319 P P 19 19 22.4 +0.3
GERES pP pP 19 20 11.4 -0.3
PRED Cave del Predi 86.81 316 P P 19 19 22.3 0.0
PRED pP pP 19 20 10.8 -0.9
AQU L'Aquila 86.81 312⇓*i*P P 19 19 22.7 +0.4
AQU L'Aquila 86.81 312 P P 19 19 22.2 -0.1
AQU IAmb IAmb 19 19 23.9
comp=Z,29nm,0.9s
CLTB Caltabellotta 86.85 307 P P 19 19 21.8 -0.8
CLTB IAmb IAmb 19 19 24.1
comp=Z,22nm,1.2s
RUE Ruedersdorf 86.88 322 *eP* P 19 19 22.9 +0.6
comp=Z,126nm,1.1s,baz=90,slow=4.6
KHC Kasperske Hory 86.89 319 *eP* P 19 19 22.8 +0.3
KHC *ex* x 19 20 18.8
KHC Kasperske Hory 86.89 319 P P 19 19 22.9 +0.3
KBA Koelnbreinsper 86.98 317 *i* P P 19 19 22.9 -0.3
comp=Z,8.8nm,0.9s,SNR=5.2
FAUS Fauske 86.99 337 *eP* P 19 19 23.1 +0.6
NRCA Norcia 87.03 313 P P 19 19 23.3 -0.1
NRCA IAmb IAmb 19 19 24.7
comp=Z,18nm,1.0s
STEI Steigen 87.05 338 *eP* P 19 19 23.2 +0.4
FBE Freiberg 87.09 321 *eP* P 19 19 23.9 +0.6
comp=Z,34nm,1.1s,baz=90,slow=4.6
ZOU Zoufplan 87.22 316 P P 19 19 24.2 -0.2
ZOU IAmb IAmb 19 19 25.6
comp=Z,22nm,1.2s
MOR8 Moi Rana 87.24 336 *eP* P 19 19 23.7 -0.1
CLL Collm 87.32 321⇓*i*P P 19 19 25.1 +0.6
comp=Z,31nm,1.2s
CLL Collm 87.32 321 *eP* P 19 19 25.0 +0.5
comp=Z,31nm,1.2s,baz=90,slow=4.6
CLL Collm 87.32 321 P P 19 19 24.9 +0.5
CLL IAmb IAmb 19 19 26.1
comp=Z,27nm,1.1s
WET Wettzell 87.34 319 *eP* P 19 19 25.1 +0.4
comp=Z,21nm,1.0s,baz=90,slow=4.6
RJOB Jochberg 87.37 318 *eP* P 19 19 23.8 -1.1
comp=Z,12nm,1.1s,baz=90,slow=4.6
STAL STALIGIAL 87.39 316 P P 19 19 25.1 0.0
ABTA Abfaltersbach 87.54 317 *i* P P 19 19 25.5 -0.2
comp=Z,12nm,1.1s
CIMO Cimolais 87.58 316 P P 19 19 25.7 -0.2
TANN Tannenbergstha 87.64 320 *eP* P 19 19 26.6 +0.4
comp=Z,34nm,1.2s,baz=90,slow=4.6
NKC Novy Kostel 87.65 320 *eP* P 19 19 27.4 +1.3
SPA0 Spitsbergen Ar 87.65 348 *eP* P 19 19 24.1 -1.4
WERN Wernitzgruen 87.70 320 *eP* P 19 19 27.0 +0.6
comp=Z,19nm,1.1s,baz=90,slow=4.6
LOF Lofoten 87.70 338 *eP* P 19 19 26.0 +0.1
GUNZ Gunzen 87.73 320 *eP* P 19 19 27.1 +0.6
comp=Z,24nm,1.1s,baz=90,slow=4.6
ROTZ Rotzenmuhle 87.80 320 *eP* P 19 19 27.7 +0.9
comp=Z,22nm,1.0s,baz=90,slow=4.6
PLN Plauen 87.84 320 *eP* P 19 19 27.4 +0.4
comp=Z,22nm,1.1s,baz=90,slow=4.6
MANZ Manzenberg 87.86 320 *eP* P 19 19 28.1 +0.9
comp=Z,44nm,1.1s,baz=90,slow=4.6
LATE Laterza 87.99 312 P P 19 19 27.6 -0.4
LATE IAmb IAmb 19 19 30.4
comp=Z,15nm,1.1s
NEUB Neuenburg 88.09 321 *eP* P 19 19 28.5 +0.4
comp=Z,73nm,0.9s,baz=90,slow=4.6
CTI Castel Tesino 88.13 316 P P 19 19 29.1 +0.5
CTI IAmb IAmb 19 19 30.4
comp=Z,30nm,0.9s
WTTA Wattenberg 88.15 317 *i* P P 19 19 28.5 -0.2
comp=Z,16nm,0.7s,SNR=10.0
MOX Moxa 88.19 320 *eP* P 19 19 29.2 +0.6
comp=Z,35nm,1.4s,baz=90,slow=4.6
WATA Walderalm 88.19 317 *i* P P 19 19 28.4 -0.5
comp=Z,17nm,1.3s,SNR=7.4
NSS Namsos 88.21 334 *eP* P 19 19 28.7 +0.3
NC602 NORSAR Array S 88.34 331 *eP* P 19 19 29.4 +0.3
OSSC Osservatorio P 88.41 313 P P 19 19 29.3 -0.6
GRA1 Grafenberg Arr 88.44 319 P P 19 19 30.6 +0.8
GRF Grafenberg Arr 88.44 319 *eP* P 19 19 30.7 +0.8
comp=Z,38nm,1.0s,baz=90,slow=4.6
SQTA Sankt Quirin 88.44 317 *i* P P 19 19 30.0 0.0
comp=Z,9.2nm,0.6s,SNR=7.3
NB2 NORSAR Subarra 88.50 331 P P 19 19 29.8 -0.1
comp=Z,1.1nm,0.9s,baz=94,slow=4.8
NB2 NORSAR Subarra 88.50 331 P pP 19 20 20.6 +1.0
comp=Z,0.9nm,0.7s,baz=94,slow=4.6
NB2 NORSAR Subarra 88.50 331 P P 19 19 29.8 -0.1
baz=94,slow=4.8
NOA NORSAR Array B 88.50 331 P P 19 19 30.2 +0.3
comp=Z,3.3nm,1.0s,baz=94,slow=4.5,SNR=4.7
MOTA Moosalm 88.51 317 *i* P P 19 19 30.2 -0.2
comp=Z,19nm,0.9s,SNR=14
ZCCA Zocca 88.60 314 P P 19 19 32.5 +1.8
ZCCA IAmb IAmb 19 19 37.8
comp=Z,32nm,1.1s
RETA Reutte 88.74 317 *i* P P 19 19 31.5 +0.1
comp=Z,19nm,0.8s,SNR=11
FETA Feichten 88.77 317 *i* PcP P 19 19 31.8 +0.2
comp=Z,10.0nm,0.8s,SNR=9.2
ASSE Asse, Remlinge 88.78 322 *eP* P 19 19 31.8 +0.6
comp=Z,40nm,1.0s,baz=90,slow=4.6
SALO Salr 88.92 315 P P 19 19 33.1 +0.9
CLZ Clausthal 88.97 322 *eP* P 19 19 33.0 +0.7
comp=Z,41nm,0.9s,baz=90,slow=4.6

BSEG	Bad Segeberg	88.99	324	*e*P	P	19 19 33.0 +0.7
	comp=Z,20nm,0.9s,baz=90,slow=4.6					
PRMA	PARMA	89.07	315	P	P	19 19 34.2 +1.4
FUORN	Ofenpass-Fuorn	89.09	316	P	P	19 19 33.9 +0.7
NRDL	Niedersach Rie	89.13	322	*e*P	P	19 19 34.0 +1.1
	comp=Z,43nm,1.2s,baz=90,slow=4.6					
UBR	Ueberruh	89.18	317	*e*P	P	19 19 33.6 +0.2
	comp=Z,14nm,0.9s,baz=90,slow=4.6					
UBBA	Unterbreizbach	89.21	321	*e*P	P	19 19 34.0 +0.8
	comp=Z,12nm,0.9s,baz=90,slow=4.6					
GTTG	Gottingen	89.23	321	*e*P	P	19 19 34.1 +0.6
	comp=Z,48nm,1.0s,baz=90,slow=4.6					
DAVA	Damuels	89.34	317	*i* PcP	P	19 19 34.7 +0.4
	comp=Z,36nm,0.9s,SNR=16					
TUE	Stuetta	89.72	316	P	P	19 19 35.5 -0.7
TUE				IAmb	IAmb	19 19 40.6
	comp=Z,16nm,0.8s					
VSL	Villasalto	89.85	309	P	P	19 19 37.1 +0.4
VSL				IAmb	IAmb	19 19 38.1
	comp=Z,22nm,1.0s					
VSL					pP	19 20 25.1 -1.3
KEST	Kesra	89.96	306	P	P	19 19 39.0 +1.6
	comp=Z,32nm,0.9s,baz=263,slow=2.1,SNR=28					
KEST	Kesra	89.96	306	P	P	19 19 38.9 +1.6
TNS	Taunus Mts	90.22	320	*e*P	P	19 19 38.8 +0.6
	comp=Z,40nm,0.9s,baz=90,slow=4.6					
BFO	Black Forest	90.36	318	*e*P	P	19 19 39.1 +0.3
	comp=Z,20nm,1.0s,baz=90,slow=4.6					
BFO	Black Forest	90.36	318	P	P	19 19 38.8 0.0
BFO				IAmb	IAmb	19 19 40.3
	comp=Z,16nm,0.9s					
IBBN	Ibbenburen	90.57	322	*e*P	P	19 19 40.2 +0.6
	baz=90,slow=4.6					
BUG	Bochum--Univer	90.91	321	*e*P	P	19 19 41.8 +0.5
	baz=90,slow=4.6					
SENIN	Lac Senin/Sane	91.14	316	P	P	19 19 43.1 +0.3
SENIN				IAmb	IAmb	19 19 45.6
	comp=Z,16nm,0.8s					
ECH	Echery	91.15	318	P	P	19 19 43.1 +0.6
ECH				IAmb	IAmb	19 19 44.6
	comp=Z,14nm,0.9s					
BNI	Bardonecchia	91.64	315	P	P	19 19 44.8 -0.3
BNI				IAmb	IAmb	19 19 49.8
	comp=Z,12nm,1.0s					
SSB	Saint Sauveur	93.14	315	P	P	19 19 52.1 +0.4
SSB				IAmb	IAmb	19 19 53.3
	comp=Z,12nm,1.1s					
TAM	Tamanrasset	93.78	293	P	P	19 19 56.5 +1.1
IMAR	Indian Mountai	95.57	23	P	P	19 20 02.8 +0.5
BPAW	Bear Paw Mtn.	97.22	25	P	Pdif	19 20 10.5 +0.5
BPAW				IAmb	IAmb	19 20 10.9
	comp=Z,5.6nm,0.9s					
CART	Cartagena	98.11	308	P	P	19 20 13.2 -1.3
NVAR	Mina Array Bea	127.16	38	PKP	PKiKP	19 25 42.2 +0.2
	comp=Z,1.1nm,0.8s,baz=240,slow=3.0,SNR=6.9					
PDAR	Pinedale Array	128.86	28	PKP	PKiKP	19 25 45.1 -0.2
	comp=Z,0.4nm,0.6s,baz=79,slow=1.9,SNR=4.3					
PFO	Pinyon Flats O	131.31	41	SKPbc	SKPbc	19 28 54.5 -1.2
	comp=Z,29nm,1.0s,baz=292,slow=3.6,SNR=18					
PFO	Pinyon Flats O	131.31	41	SKPbc	SKPbc	19 28 55.5 -0.2
SADO	Sadowa	134.35	359	SKPbc	SKPbc	19 29 04.2 -1.3
	comp=Z,8.5nm,1.0s,baz=11,slow=18,SNR=5.1					
SADO	Sadowa	134.35	359		SKPbc	19 29 03.7 -1.8
ANMO	Albuquerque	136.41	32	SKPbc	SKPbc	19 29 12.2 -0.2
	comp=Z,0.6nm,0.9s,baz=108,slow=3.4,SNR=19					
ANMO	Albuquerque	136.41	32	SKPbc	SKPbc	19 29 11.6 -0.9
PLCA	Paso Flores	139.62	191	SKPbc	SKPbc	19 29 20.3 -1.0
	comp=Z,5.9nm,0.9s,baz=166,slow=7.0,SNR=6.1					
TXAR	Lajitas Array	142.19	35	PKP	PKPdf	19 26 07.1 -2.5
	comp=Z,1.3nm,0.7s,baz=285,slow=0.3,SNR=14					
TXAR				SKPbc	SKPbc	19 29 27.1 -1.3
	comp=Z,4.5nm,0.9s,baz=289,slow=1.0,SNR=14					
TXAR	Lajitas Array	142.19	35	PKPdf	PKPdf	19 26 07.1 -2.5
TXAR					SKPbc	19 29 26.6 -1.7
TKL	Tuckaleechee C	143.28	5	SKP	SKPdf	19 29 26.5 -0.3
	comp=Z,13nm,1.1s,baz=175,slow=3.2,SNR=6.8					
TKL	Tuckaleechee C	143.28	5	SKPbc	SKPbc	19 29 28.9 -1.8
BDFB	Brasilia	145.35	244	PKPbc	PKPab	19 26 16.5 +0.5
	comp=Z,8.0nm,0.7s,baz=94,slow=3.3,SNR=8.6					
BDFB				pPKPbc	pPKPab	19 27 06.4 -0.7
	comp=Z,3.5nm,0.5s,baz=159,slow=12,SNR=2.4					
BDFB	Brasilia	145.35	244		PKPab	19 26 16.2 +0.2
CPUP	Villa Florida	146.78	219	PKPbc	PKPbc	19 26 19.9 +0.5
	comp=Z,9.5nm,0.8s,baz=106,slow=2.9,SNR=25					
CPUP				pPKPbc	pPKPdf	19 27 10.3 +0.4
	comp=Z,6.4nm,0.8s,baz=130,slow=4.6,SNR=6.0					
CPUP	Villa Florida	146.78	219		PKPbc	19 26 19.8 +0.3
CPUP					pPKPdf	19 27 10.1 +0.2
SIV	San Ignacio	156.22	230	PKPab	PKPab	19 27 01.4 +0.6
	comp=Z,1.4nm,0.7s,baz=141,slow=6.3,SNR=6.2					
PTGA	Pitinga	160.03	271	PKPab	PKPab	19 27 18.3 +0.8
	comp=Z,3.9nm,0.7s,baz=45,slow=5.7,SNR=6.3					
PTGA	Pitinga	160.03	271		PKPab	19 27 16.7 -0.8
LPAZ	La Paz	160.93	217	PKPab	PKPab	19 27 23.3 +1.5
	comp=Z,2.2nm,0.7s,baz=130,slow=4.2,SNR=7.6					

NEIC ***08*** *19:24:02.0*±*1.4,21°.3S*±*0°.1*×*174°.0W*±*0°.1, h33km*±*5km, mb4.5/9, Error ellipse: s-maj=21.6km s-min=13.2km az=140.0*

IDC ***08*** *19:24:14.5*±*7.7,20°.26S*×*175°.25W, h80km*±*60km, mb3.7/5, mb1 3.9/6, mb1mx3.4/43, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=110.8km s-min=21.2km az=146.0*

ISC 08 19:24:03.3±0.7,**21°.32S**±0°.10×**173°.96W**±0°.08,**h35**km,**n21,**
σ1§**64**/24,**mb4.3**/9,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.40	60		Pn	19 25 08.5	+1.0
NIUE				Sn	Sn	19 25 56.9	-0.6
AFI	Afiamalu	7.66	16	P	Pn	19 25 55.9	+3.4
	1.9nm,0.3s,baz=98,slow=7.1,SNR=1.9						
AFI				S	Sn	19 27 16.6	-1.6
	1.1nm,0.3s,baz=294,slow=18,SNR=0.9						
AFI	Afiamalu	7.66	16		Pn	19 25 52.2	-0.2
RAR	Rarotonga	13.23	92	Pn	Pn	19 27 07.9	-0.8
LTZ	Lake Taylor	24.31	205	P	P	19 29 15.5	-2.1
LTZ				IAmb	IAmb	19 29 24.6	
	comp=Z,13nm,1.0s						
RPZ	Rata Peaks	25.58	206	P	P	19 29 31.6	+2.7
FOZ	Fox Glacier	25.95	208	P	P	19 29 32.6	+0.3
CTA	Charters Tower	37.17	265	P	P	19 31 10.1	-1.2
	comp=Z,1.8nm,0.7s,baz=103,slow=12,SNR=1.3						
STKA	Stephens Creek	40.86	246	P	P	19 31 43.4	+1.4
	comp=Z,2.4nm,0.9s,baz=67,slow=7.7,SNR=1.8						
AS31	Alice Springs	48.01	257	P	P	19 32 39.2	-0.1
ASAR	Alice Springs	48.01	257	P	P	19 32 37.9	-1.4
	comp=Z,2.4nm,0.8s,baz=100,slow=7.3,SNR=20						
ASAR				PcP	PcP	19 34 08.3	+1.3
	comp=Z,0.4nm,0.7s,baz=109,slow=4.2,SNR=2.0						
ASAR	Alice Springs	48.01	257	P	P	19 32 37.8	-1.5
WR0	Warramunga Arr	48.04	262	P	P	19 32 37.9	-1.6
WB0	Warramunga Arr	48.21	262	P	P	19 32 39.4	-1.4
WB0				IAmb	IAmb	19 32 39.7	
	comp=Z,5.3nm,1.1s						
WB2	Warramunga Arr	48.22	262	P	P	19 32 39.4	-1.5
WB2				IAmb	IAmb	19 32 40.4	
	comp=Z,7.8nm,1.1s						
WRAB	Tennant Creek	48.22	262	P	P	19 32 39.3	-1.6
WRAB				IAmb	IAmb	19 32 40.4	
	comp=Z,5.3nm,1.0s						
WRA	Warramunga Arr	48.23	262	P	P	19 32 39.4	-1.6
	comp=Z,2.1nm,0.9s,baz=93,slow=8.3,SNR=26						
WRA				PcP	PcP	19 34 09.4	+1.5
	comp=Z,0.8nm,0.9s,baz=99,slow=3.2,SNR=2.8						
WRA	Warramunga Arr	48.23	262	P	P	19 32 38.6	-2.4
NVAR	Mina Array Bea	79.08	41	P	P	19 36 10.7	+6.3
	comp=Z,0.2nm,0.3s,baz=220,slow=9.1,SNR=1.8						
AKASG	Malin Array Be	145.49	334	PKP	PKiKP	19 43 41.4	-0.1
	comp=Z,2.2nm,0.6s,baz=29,slow=3.0,SNR=8.2						
AKASG	Malin Array Be	145.49	334		PKPdf	19 43 37.7	+0.2

IDC ***08*** *19:28:14.3*±*0.7, 10°.43S*×*75°.17W, h0km, mb4.1/8, mb1 4.3/14, mb1mx4.0/46, mbtmp4.1/14, ML3.8/6, MS3.2/5, Ms1 3.2/5, ms1mx2.9/32, Error ellipse: s-maj=19.4km s-min=14.4km az=32.0*

NEIC ***08*** *19:28:17.7*±*2.1, 10°.41S*±*0°.06*×*75°.22W*±*0°.08, h24km*±*1km, mb4.4/17, ML4.5(ARE), Error ellipse: s-maj=11.0km s-min=8.6km az=103.0*

ARE ***08*** *19:28:19*±*2.1, 10°.48S*±*0°.06*×*75°.47W*±*0°.09, h32km*±*4km, Error ellipse: s-maj=11.7km s-min=9.0km az=84.0*

VAO ***08*** *19:28:20.7*±*1.0, 10°.21S*×*75°.04W, h29km*±*7km, mb4.3*

ISC 08 19:28:19.7±0.5,**10°.41S**±0°.05×**75°.18W**±0°.06,**h35**km,**n73,**
σ1§**48**/74,**mb4.3**/15,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.27	226	Pn	Pn	19 28 53.6	-1.1
	67nm,0.3s,baz=35,slow=18,SNR=120						
NNA				Sn	Sn	19 29 22.8	+1.4
	308nm,0.3s,baz=122,slow=23,SNR=21						
NNA				LR	LR	19 29 51.2	
	comp=Z,382nm,18.0s,baz=343,slow=43						
NNA	Nana	2.27	226	Pn	Pn	19 28 53.1	-1.6
CZSB	Cruzeiro do Su	3.61	43	*e*P	Pn	19 29 12.1	-1.1
ATAH	Atahualpa	4.55	315	Pn	Pn	19 29 27.2	+0.8
	6.7nm,0.3s,baz=142,slow=5.5,SNR=29						
ATAH				Sn	Sn	19 30 23.3	+4.9
	3.0nm,0.3s,baz=91,slow=16,SNR=2.1						
ATAH				LR	LR	19 31 30.1	
	comp=Z,191nm,20.0s,baz=63,slow=43						
ETMB	Extrema	8.85	87	*e*P	Pn	19 30 24.2	-0.9
LPAZ	La Paz	9.01	131	Pn	Pn	19 30 25.1	-2.8
	0.3nm,0.3s,baz=298,slow=3.5,SNR=2.2						
LPAZ				Lg	Lg	19 33 00.6	
	0.6nm,0.3s,baz=215,slow=14,SNR=3.5						
LPAZ	La Paz	9.01	131	Pn	Pn	19 30 32.0	+4.1
LPAZ	La Paz	9.01	131	*e*P	Pn	19 30 30.0	+2.1
PB12	IPOC Station P	9.41	151	Pn	Pn	19 30 33.0	0.0
PB16	IPOC Station P	9.60	146	Pn	Pn	19 30 34.8	-1.2
MNMC	Minye Minye	10.21	149	Pn	Pn	19 30 43.8	-0.3
PB11	IPOC Station P	10.71	151	Pn	Pn	19 30 50.0	-0.9
GO01	Chusmiza	10.87	149	Pn	Pn	19 30 52.7	-0.5
OTAV	Otavalo	11.07	343	Pn	Pn	19 30 54.7	-1.3
OTAV	Otavalo	11.07	343	*e*P	Pn	19 30 54.9	-1.1
SAML	Samuel	11.91	84	Pn	Pn	19 31 06.2	-0.9
SAML	Samuel	11.91	84	*e*P	Pn	19 31 06.5	-0.7
LVC	Limon Verde	13.53	154	*e*P	Pn	19 31 33.5	+3.9
SIV	San Ignacio	14.81	113	Pn	Pn	19 31 44.7	-2.0
	0.5nm,0.3s,baz=321,slow=12,SNR=7.8						
SIV				Lg	Lg	19 36 03.2	
	0.9nm,0.3s,baz=324,slow=8.2,SNR=4.7						
SIV				LR	LR	19 37 20.4	
	comp=Z,66nm,21.0s,baz=304,slow=37						
VILB	Vilhena	14.88	101	*e*P	Pn	19 31 48.9	+1.2
GO02	Mina Guanaco	15.60	161	P	Pn	19 31 59.4	+2.1
MACA	Manacapuru-AM	16.08	64	*e*P	Pn	19 32 02.0	-1.3
PTLB	Pontes e Lacer	16.41	109	*e*P	P	19 32 08.8	-1.1
PTGA	Pitinga	17.92	59	P	Pn	19 32 25.6	-0.7
	0.5nm,0.3s,baz=266,slow=10,SNR=4.9						
PTGA				Lg	Lg	19 37 42.4	
	0.3nm,0.3s,baz=92,slow=6.8,SNR=5.6						
PTGA	Pitinga	17.92	59	P	Pn	19 32 25.8	-0.5
LCO	Las Campanas	18.98	168	P	Pn	19 32 39.9	+0.6
LCO				IAmb	IAmb	19 32 39.9	
	comp=Z,32nm,1.4s						
CLDB	Colider	19.05	93	*e*P	P	19 32 38.0	-1.2
SDV	Santo Domingo	19.70	13	P	Pn	19 32 46.9	-1.0
	comp=Z,0.9nm,0.3s,baz=194,slow=12,SNR=1.6						
SDV	Santo Domingo	19.70	13	*e*P	P	19 32 46.5	+0.2
NPGB	Novo Progresso	19.87	82	*e*P	P	19 32 46.9	-1.2
ITTB	Itaituba	20.19	74	*e*P	P	19 32 51.7	+0.2
MALB	Monte Alegre	22.45	69	*e*P	P	19 33 14.9	-1.0
CPUP	Villa Florida	23.14	136	P	P	19 33 23.4	+0.5
	comp=Z,6.6nm,0.7s,baz=308,slow=10,SNR=18						
CPUP	Villa Florida	23.14	136	P	P	19 33 23.9	+1.0
CPUP				IAmb	IAmb	19 33 25.2	
	comp=Z,8.0nm,0.8s						
CPUP	Villa Florida	23.14	136	*e*P	P	19 33 23.4	+0.5
ARAG	Araguaiana, MT	23.35	106	*e*P	P	19 33 27.8	+2.6
TRCB	Terra Rica	24.82	123	*e*P	P	19 33 40.2	+1.4
MCPB	Macapa, AP	25.06	68	*e*P	P	19 33 40.7	-0.4
PRPB	Parauapebas	25.44	82	*e*P	P	19 33 45.5	+0.9
PCMB	Pacaembu	25.50	119	*e*P	P	19 33 46.6	+1.7
ITRB	Iturama	25.65	114	*e*P	P	19 33 47.7	+1.3
PTGB	Pitanga	26.17	126	*e*P	P	19 33 53.3	+2.2
PEXB	Peixe	26.41	96	*e*P	P	19 33 55.1	+1.8
PEXB				*e*S	S	19 38 26.9	+2.2
IPMB	Ipameri, GO	27.18	109	*e*P	P	19 33 59.9	-0.4
MDP	Montagnes des	27.22	57	LR	LR	19 44 43.9	
	comp=Z,48nm,21.1s,baz=167,slow=36						
SMTB	Santa Maria do	27.24	89	*e*P	P	19 34 02.4	+1.6
PLCA	Paso Flores	30.48	173	LR	LR	19 45 58.0	
	comp=Z,109nm,19.3s,baz=356,slow=35						
NBCP	Cabaceiras do	35.32	97	*e*P	P	19 35 11.9	-0.1
NBMO	Morrinhos-CE	35.56	81	*e*P	P	19 35 13.7	-0.3
T57A	Hurt	47.31	356	P	P	19 36 49.2	-0.7
T57A				IAmb	IAmb	19 36 53.0	
	comp=Z,6.7nm,0.9s						
TXAR	Lajitas Array	48.13	326	P	P	19 36 54.9	-1.6
	comp=Z,0.7nm,0.9s,baz=134,slow=7.2,SNR=5.2						
SDCO	Great Sand Dun	55.69	331	P	P	19 37 51.4	-1.5
SDCO				IAmb	IAmb	19 37 55.4	
	comp=Z,3.6nm,1.1s						
WUAZ	Wupatki	57.06	325	P	P	19 38 02.0	-0.6
WUAZ				IAmb	IAmb	19 38 06.2	
	comp=Z,4.1nm,0.9s						
TPNV	Topopah Spring	60.88	323	P	P	19 38 27.7	-1.4
TPNV				IAmb	IAmb	19 38 33.6	
	comp=Z,3.5nm,1.1s						
PDAR	Pinedale Array	61.55	332	P	P	19 38 34.2	+0.6
	comp=Z,0.4nm,0.6s,baz=137,slow=9.4,SNR=3.5						
NVAR	Mina Array Bea	63.08	323	P	P	19 38 44.0	+0.1
	comp=Z,0.7nm,0.7s,baz=148,slow=5.7,SNR=5.6						
QLMT	Earthquake Lak	64.00	332	P	P	19 38 48.3	-1.6
ORV	Oroville	65.71	322	P	P	19 39 01.0	+0.2
ORV				IAmb	IAmb	19 39 04.7	
	comp=Z,6.1nm,1.0s						
DBIC	Dimbokro	72.04	79	P	P	19 39 40.7	-0.1
	comp=Z,1.9nm,0.8s,baz=227,slow=4.4,SNR=2.0						
SNAA	Sanae	74.65	162	P	P	19 39 55.9	+0.6
SNAA				IAmb	IAmb	19 40 11.1	
	comp=Z,4.5nm,1.4s						
NRS	Narsarsuaq	75.10	14	P	P	19 39 58.4	+0.7
QSPA	South Pole Qui	79.72	180	P	P	19 40 23.5	-0.3
TOA0	Torodi Ar. Sit	79.80	75	P	P	19 40 25.7	+0.7
TOA0				IAmb	IAmb	19 40 26.3	
	comp=Z,4.2nm,0.9s						
TORD	Torodi Ar. Bea	79.80	75	P	P	19 40 24.6	-0.4
	comp=Z,3.3nm,0.8s,baz=283,slow=4.7,SNR=15						
TORD	Torodi Ar. Bea	79.80	75	P	P	19 40 25.2	+0.1
ESDC	Sonseca Array	82.51	47	P	P	19 40 39.8	+0.8
	comp=Z,0.6nm,0.9s,baz=258,slow=5.9,SNR=3.3						
BCAR	Beaver Creek A	88.97	335	P	P	19 41 09.7	-0.8
KEST	Kesra	91.60	54	P	P	19 41 25.5	+2.0
	comp=Z,1.3nm,0.5s,baz=69,slow=3.5,SNR=4.2						
ZALV	Zalesovo Beam	133.72	16	PKP	PKPdf	19 47 32.6	-0.1
	comp=Z,0.5nm,0.4s,baz=273,slow=2.7,SNR=2.2						
ASAR	Alice Springs	135.78	220	PKP	PKPdf	19 47 36.2	-1.4
	comp=Z,0.6nm,0.6s,baz=133,slow=1.9,SNR=5.7						
WRA	Warramunga Arr	138.12	224	PKP	PKPdf	19 47 41.2	-0.8
	comp=Z,0.7nm,0.6s,baz=132,slow=1.8,SNR=5.7						
MKAR	Makanchi Array	139.00	24	PKP	PKPdf	19 47 41.7	-1.1
	comp=Z,0.2nm,0.8s,baz=348,slow=3.8,SNR=1.6						
KSRS	Korea Array	145.98	326	PKPbc	PKPdf	19 47 55.0	-0.3
	comp=Z,2.9nm,1.0s,baz=39,slow=3.4,SNR=8.7						

NEIC ***08*** *19:32:45.9*±*1.0, 32°.23S*±*0°.05*×*177°.9W*±*0°.2, h10km*±*2km, mb4.4/8, Error ellipse: s-maj=31.7km s-min=3.9km az=105.0*

IDC ***08*** *19:32:45.3*±*2.8, 32°.26S*×*177°.98W, h0km, mb4.1/2, mb1 4.3/4, mb1mx3.9/25, mbtmp4.1/4, ML4.1/2, Error ellipse: s-maj=68.6km s-min=30.8km az=119.0*

ISC 08 19:32:46.0±1.4,**32°.25S**±0°.09×**178°.0W**±0°.2,**h10**km,**n27,**
σ1§**18**/28,**mb4.4**/7,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.98	1	Pn	Pn	19 33 33.1	-0.3
	47nm,0.3s,baz=98,slow=18,SNR=2.0						
RAO				Sn	Sn	19 34 08.0	-1.3
	38nm,0.3s,baz=225,slow=23,SNR=1.8						
WMGZ	Waiomatatini S	6.29	207	P	Pn	19 34 19.4	+0.6
HAZ	Te Kaha	6.50	211	P	Pn	19 34 18.5	-3.2
PUZ	Puketiti	6.57	207	P	Pn	19 34 24.2	+1.4
RUGZ	Raukumara Rang	6.72	211	P	Pn	19 34 23.9	-0.9
MWZ	Matawai	7.09	210	P	Pn	19 34 30.5	+0.6
URZ	Urewera	7.21	212	Pn	Pn	19 34 30.6	-0.8
	1.4nm,0.3s,baz=269,slow=4.1,SNR=12						
URZ				Sn	Sn	19 35 51.2	-2.2
	3.1nm,0.3s,baz=118,slow=15,SNR=6.6						
URZ	Urewera	7.21	212	P	Pn	19 34 30.0	-1.4
URZ	Urewera	7.21	212		Pn	19 34 29.9	-1.6
MUGZ	Murupara	7.54	213	P	Pn	19 34 35.3	-0.8
SNGZ	Shannon Statio	7.55	209	P	Pn	19 34 36.8	+0.7
RTZ	Ruatahuna	7.56	211	P	Pn	19 34 36.4	0.0
OUZ	Omahuta	7.60	245	Pn	Pn	19 34 42.4	+5.6
MTHZ	Maungataniwha	7.82	211	P	Pn	19 34 40.4	+0.5
BKZ	Black Stump Fm	8.23	211	Pn	Pn	19 34 45.3	-0.3
CTAO	Charters Tower	34.14	282		P	19 39 32.8	+1.5
CTAO				IAmb	IAmb	19 39 38.3	
	comp=Z,17nm,1.4s						
ASAR	Alice Springs	43.04	269	P	P	19 40 47.3	+1.1
	comp=Z,1.2nm,0.7s,baz=106,slow=7.5,SNR=13						
WR0	Warramunga Arr	44.02	274	P	P	19 40 54.4	+0.3
WR0				IAmb	IAmb	19 41 07.2	
	comp=Z,7.5nm,1.2s						
WB2	Warramunga Arr	44.19	274	P	P	19 40 56.3	+0.9
WRAB	Tennant Creek	44.19	274	P	P	19 40 56.0	+0.5
WRAB				IAmb	IAmb	19 40 57.8	
	comp=Z,4.0nm,0.9s						
WRA	Warramunga Arr	44.20	274	P	P	19 40 56.2	+0.7
	comp=Z,1.7nm,0.3s,baz=112,slow=8.0,SNR=49						
WRA	Warramunga Arr	44.20	274	P	P	19 40 55.8	+0.3
WB0	Warramunga Arr	44.23	274	P	P	19 40 57.0	+1.3
WB0				IAmb	IAmb	19 40 59.0	
	comp=Z,6.3nm,1.0s						
FORT	Forrest	45.60	257	P	P	19 41 07.0	+0.4
CASY	Casey	53.52	208	P	P	19 42 06.9	+0.6
CASY				IAmb	IAmb	19 42 09.7	
	comp=Z,3.9nm,0.8s						
Q56A	Snyder Ridge,	115.73	59		PKiKP	19 51 28.1	-0.5
FINES	FINESS Array B	146.87	339	PKPbc	PKPab	19 52 28.4	-0.8
	comp=Z,3.0nm,0.7s,baz=44,slow=3.4,SNR=14						

IDC 08 19:39:22.3±4.6,**2°.47S**×**139°.31E, h0**km,**mb3.3**/2,
mb1 3.6/3,**mb1mx3.3**/24,**mbtmp3.4**/3,**ML3.5**/1,**Error ellipse: s-maj=183.3km s-min=29.8km az=88.0,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.03	195	P	Pn	19 43 34.0	-0.6
	0.2nm,0.3s,baz=16,slow=12,SNR=8.7						
ASAR	Alice Springs	21.71	194	P	P	19 44 15.3	+0.1
	0.6nm,0.6s,baz=17,slow=11,SNR=8.2						
MKAR	Makanchi Array	69.97	322	P	P	19 50 35.8	+0.1
	0.3nm,0.6s,baz=119,slow=8.1,SNR=4.3						

INET ***08*** *19:45:19.9, 15°.67N*×*88°.17W, h15km, ML3.9*

SNET 08 19:45:16.0±2.6,**15°.92N**×**87°.23W, h10**km,**ML4.3,**
Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	Esquipulas	2.45	237	*e*P	Pn	19 45 57.7	+1.5
ESQI				*e*S	Sn	19 46 27.0	+0.8
MRL	Marmol	2.51	251	*e*P	Pn	19 45 55.2	-1.9
IXG	Ixpaco	3.56	241	*e*P	Pn	19 46 12.6	+1.1

LSZ ***08*** *19:55:23.3*±*0.3, 10°.03S*×*34°.25E, h10km, MD2.8*

ISC 08 19:55:23.6±2.8,**10°.09S**×**34°.25E, h10**km±10km,**n5,**
Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARM1	KARONGA	0.37	290	*i* P	Pb	19 55 31.6	-0.8
KARM1				S	Sg	19 55 37.1	+1.1
MAKE	Makete	0.83	350	*i* P	Pn	19 55 41.2	-0.4
MAKE				*i* S	Sn	19 55 51.9	-2.2
MAKE				IAML		19 56 01.4	
	comp=Z,674nm,0.2s						
MZUN	Kiwira	1.17	322	*i* P	Pn	19 55 48.1	+1.8
MZUN				*i* S	Sn	19 56 02.5	0.0
MZUN				IAML		19 56 13.5	
	comp=Z,638nm,0.3s						
KSMZ	Kasama	2.98	268	*i* P	Pn	19 56 11.3	+0.1
KSMZ				*i*		19 56 11.4	
	baz=85,slow=5.6						
KSMZ				AMP		19 56 12.3	
	comp=Z,90nm,0.1s						
KSMZ				*i* S	Sn	19 56 46.6	-0.4
KSMZ	Kasama	2.98	268	*i* P	Pn	19 56 11.1	0.0
KSMZ				*i*		19 56 11.3	
	baz=88,slow=6.2						
KSMZ				*i* S	Sn	19 56 46.0	-1.0
DODT	Dodoma, Tanzan	4.14	21	*i* P	Pb	19 56 28.9	-7.9
DODT				*i* S	S

OXBJ *i* S **Sg** **20 31 32.4 -0.8**
ACP2 Acapulco 1.69 292 *e*P Pn 20 31 04.4 -4.1
ACP2 *i* S **Sn** **20 31 24.7 -5.4**
CAIG El Cayaco 2.09 293 *e*P Pn 20 31 10.3 -3.7
CAIG *i* S **Sn** **20 31 35.6 -4.5**
HUIG Huatulco 2.12 103 *e*P **Pn** **20 31 11.9 -2.5**
HUIG *i* S **Sn** **20 31 38.5 -2.2**
TOIG Toxpalan 2.17 31 *e*P **Pn** **20 31 15.7 +0.5**
TOIG *i* S **Sb** **20 31 42.1 -3.2**
PLIG Platanillo 2.45 331 *e*P **Pn** **20 31 18.3 -0.7**
PLIG *i* S **Sn** **20 31 46.1 -2.9**
YAIG Yautepec 2.72 344 *e*P **Pn** **20 31 21.9 -0.9**
YAIG *i* S **Sn** **20 31 55.4 -0.5**
PPM Popocatepetl 2.83 353 *e*P **Pn** **20 31 23.8 -1.0**
PPM *i* S **Sn** **20 31 59.1 0.0**
AMVM AMECAMECA 2.92 350 *e*P **Pb** **20 31 32.2 +0.9**
AMVM *e*S **Sb** **20 32 06.9 -0.2**
UNM Universidad Na 3.20 344 Pn **Pn** **20 31 30.4 +1.0**
PBVM Pinon 3.28 346 *e*P **Pn** **20 31 31.7 +1.3**
PBVM *e*S **Sb** **20 32 16.2 -1.1**
CMIG Matias Romero 3.34 75 *e*P **Pn** **20 31 29.4 -1.8**
CMIG *i* S **Sn** **20 32 10.1 -0.8**
ZUVM ZUMPANGO 3.65 348 *e*P **Pb** **20 31 40.3 -3.5**
ZUVM *e*S **Sb** **20 32 29.2 +1.0**
ATVM ATLACOMULCO 3.81 337 *e*P **Pb** **20 31 44.7 -1.9**
ATVM *e*S **Sg** **20 32 38.6 -3.0**
LVIG Laguna Verde 3.88 26 *e*P **Pn** **20 31 39.4 +0.8**
LVIG *e*S **Sg** **20 32 40.6 -3.1**
DEIG Demacu 4.11 350 *e*P **Pb** **20 31 52.0 +0.5**
DEIG *e*S **Sb** **20 32 44.5 +3.2**
MOIG Morelia 4.42 321 *e*P **Pn** **20 31 48.5 +2.3**
MOIG *e*S **Sb** **20 32 47.7 -2.5**
MOIG Morelia 4.42 321 Pn **Pn** **20 31 47.3 +1.1**
PCIG 4.87 96 *e*P **Pn** **20 31 50.9 -1.4**
PCIG *e*S **Sb** **20 33 00.9 -2.2**
TGIG 4.95 83 *e*P **Pn** **20 31 56.6 +3.2**
TGIG *e*S **Sg** **20 33 14.3 -3.8**
CCIG Comitan 5.88 89 Pn **Pn** **20 32 05.9 -0.4**
RTAL Retalhuleu 6.55 104 Pn **Pn** **20 32 16.6 +1.2**
HUEH Huehuetenango 6.56 97 Pn **Pn** **20 32 15.8 0.0**
APG El Apazote 7.61 98 Pn **Pn** **20 32 29.6 -0.5**
1.8nm,0.3s,baz=319,slow=11,SNR=16
APG Sn **Sn** **20 33 58.7 +2.3**
3.7nm,0.3s,baz=3.8,slow=11,SNR=3.7
APG LR LR 20 34 16.9
comp=Z,167nm,19.0s,baz=292,slow=29
ZAIG Zacatecas 7.66 329 Pn **Pn** **20 32 32.1 +1.2**
PETF Flores 8.07 84 Pn **Pn** **20 32 34.9 -1.4**
ESQI Esquipulas 8.76 100 Pn **Pn** **20 32 44.6 -1.2**
MTO3 Montecristo 8.77 101 Pn **Pn** **20 32 46.6 +0.5**
TEIG Tepich 10.28 66 Pn **Pn** **20 33 05.1 -1.4**
TGUH Tegucigalpa,Un 10.82 100 Pn **Pn** **20 33 13.5 -0.6**
833A Chaparral WMA, 12.07 355 P **Pn** **20 33 31.2 +0.2**
baz=174
833A Chaparral WMA, 12.07 355 Pn **Pn** **20 33 31.9 +0.9**
H06E1 SOCORRO T-PHAS 12.35 284 T T 20 45 42.7
SNR=62
H06S1 SOCORRO T 12.37 283 T T 20 45 54.8
SNR=9.0
MATN Matagalpa 12.38 104 Pn **Pn** **20 33 36.1 +0.7**
H06N1 SOCORRO T-PHAS 12.42 284 T T 20 45 52.5
SNR=14
BOAB BOACO BROADBAN 12.77 106 Pn **Pn** **20 33 42.1 +1.5**
SLBS Sierra La Lagu 13.25 306 Pn **Pn** **20 33 48.9 +1.7**
ACON Acoyapa 13.38 107 Pn **Pn** **20 33 50.1 +1.2**
LPIG La Paz 13.75 307 LR LR 20 38 45.0
comp=Z,1µm,18.1s,baz=111,slow=36
HKT Hockley 13.83 9 Pn **Pn** **20 33 55.6 +0.7**
TX31 Lajitas Ar. Si 13.95 340 Pn **Pn** **20 33 57.8 +1.0**
TX32 Lajitas Array 13.95 340 Pn **Pn** **20 33 57.7 +0.8**
TXAR Lajitas Array 13.95 340 Pn **Pn** **20 33 57.8 +0.9**
baz=161,slow=13,SNR=9.3
TXAR Lg Lg 20 38 00.7
0.0nm,0.3s,baz=9.6,slow=38,SNR=1.8
TXAR LR LR 20 39 57.9
comp=Z,1µm,20.7s,baz=0.0,slow=40
TXAR Lajitas Array 13.95 340 Pn **Pn** **20 33 58.2 +1.4**
ESPN Las Esperanzas 14.11 105 Pn **Pn** **20 33 59.9 +0.9**
JTS Las Juntas de 14.23 113 Pn **Pn** **20 34 02.8 +2.1**
2.8nm,0.3s,baz=15,slow=6.4,SNR=10
JTS Las Juntas de 14.23 113 Pn **Pn** **20 34 02.2 +1.6**
JCT Junction City 14.24 355 P **Pn** **20 34 00.8 0.0**
baz=174
JCT Junction City 14.24 355 Pn **Pn** **20 34 01.5 +0.7**
435B Jarrell 14.49 2 P **Pn** **20 34 04.5 +0.4**
baz=182
435B Jarrell 14.49 2 Pn **Pn** **20 34 05.3 +1.2**
HDC Heredia 15.10 113 P **P** **20 34 15.6 -2.2**
441A DeRidder 15.17 17 P **P** **20 34 16.1 -2.2**
441A IAmb IAmb 20 34 22.9
comp=Z,35nm,0.8s
WHTX Lake Whitney, 15.70 3 P **Pn** **20 34 21.0 +0.7**
baz=182,SNR=8.7
WHTX Lake Whitney, 15.70 3 P **Pn** **20 34 21.6 +1.4**
WHTX IAmb IAmb 20 34 28.7
comp=Z,50nm,0.9s
NATX Nacogdoches 15.79 11 P **Pn** **20 34 20.6 -0.8**
baz=192
NATX Nacogdoches 15.79 11 P **P** **20 34 23.8 -1.5**
NATX IAmb IAmb 20 34 33.2
comp=Z,30nm,0.8s
237A Washetta, Mont 15.85 8 P **Pn** **20 34 22.4 +0.3**
237A IAmb IAmb 20 34 30.1
comp=Z,80nm,1.1s
ABTX Abilene, Hawle 16.36 356 P **Pn** **20 34 28.1 -0.7**
baz=175,SNR=11
ABTX Abilene, Hawle 16.36 356 **Pn** **20 34 27.8 -0.9**
ABTX IAmb IAmb 20 34 37.2
comp=Z,66nm,1.2s
MNTX Cornudas Mount 16.70 338 P **Pn** **20 34 33.3 +0.2**
baz=155,SNR=14
MNTX Cornudas Mount 16.70 338 **Pn** **20 34 33.0 -0.1**
GDL2 Guadalupe Moun 16.83 342 **Pn** **20 34 35.8 +0.9**
Z35A Perchaven, San 17.04 3 P **P** **20 34 38.6 -0.5**
Z35A IAmb IAmb 20 34 57.3
comp=Z,32nm,0.8s
Z38A Mt. Pleasant 17.20 9 **Pn** **20 34 39.3 0.0**
Z38A IAmb IAmb 20 34 44.6
comp=Z,43nm,0.9s
HSIG 17.27 320 **Pn** **20 34 41.0 +0.7**
Z41A Richland Creek 17.65 15 P **Pn** **20 34 44.5 -0.4**
baz=197
Z41A Richland Creek 17.65 15 P **P** **20 34 45.4 -0.4**
Z41A IAmb IAmb 20 34 56.9
comp=Z,60nm,1.1s
WLAR White Oak Lake 17.98 14 P **Pn** **20 34 49.0 0.0**
WLAR IAmb IAmb 20 35 04.7
comp=Z,30nm,0.7s
319A Douglas 18.11 328 **P** **20 34 51.8 +0.6**
319A IAmb IAmb 20 34 54.6
comp=Z,34nm,0.8s
MSTX Muleshoe 18.12 348 P **Pn** **20 34 50.3 -0.5**
baz=166
MSTX Muleshoe 18.12 348 **Pn** **20 34 49.8 -1.0**
146A Union 18.33 25 **Pn** **20 34 52.5 -0.8**
146A IAmb IAmb 20 34 56.6
comp=Z,41nm,0.6s
121A Cookes Peak, D 18.38 334 P **Pn** **20 34 55.2 +1.1**
baz=149,SNR=16
121A Cookes Peak, D 18.38 334 **Pn** **20 34 55.4 +1.3**
WMOK Wichita Mounta 18.43 359 P **P** **20 34 53.7 -0.8**
baz=178
WMOK Wichita Mounta 18.43 359 P **P** **20 34 53.8 -0.8**
X37A Clayton 18.45 8 P **P** **20 34 54.6 -0.1**
MIAR Mount Ida 18.71 12 P **P** **20 34 56.9 -0.6**
baz=194,SNR=6.6
MIAR Mount Ida 18.71 12 **P** **20 34 57.1 -0.4**
X40A Basin Creek Fa 18.81 14 P **P** **20 34 57.9 -0.7**
baz=196
X40A Basin Creek Fa 18.81 14 P **P** **20 34 56.2 -2.4**
AMTX Amarillo 18.82 351 P **P** **20 34 58.1 -0.7**
baz=170
AMTX Amarillo 18.82 351 P **P** **20 34 56.5 -2.4**
AMTX IAmb IAmb 20 35 10.3
comp=Z,31nm,0.8s
W35A Tecumseh 18.88 3 P **P** **20 34 58.6 -0.7**
FNO Franklin 18.95 2 P **P** **20 35 00.5 +0.3**
OKCFA Oklahoma City 19.11 2 P **P** **20 35 00.9 -1.1**
UALR University of 19.20 15 P **P** **20 35 01.2 -1.8**
OK025 Westminster Rd 19.28 2 P **Pn** **20 35 04.3 -0.5**
OK025 IAmb IAmb 20 35 14.2
comp=Z,34nm,0.9s
W39A Magazine 19.30 11 P **P** **20 35 03.8 -0.2**
baz=193,SNR=6.1
W39A Magazine 19.30 11 **Pn** **20 35 05.0 -0.1**
BCOK Bluff Creek, N 19.35 2 P **Pn** **20 35 05.2 -0.4**
BNM Barren Site 19.36 339 P **Pn** **20 35 06.3 +0.3**
X43A Marvell 19.37 19 P **P** **20 35 04.3 -0.5**
baz=202
OK029 Liberty Lake 19.49 2 P **P** **20 35 06.4 +0.3**
LENM Lemitar 19.50 338 P **P** **20 35 06.9 +0.5**
LRAL Lakeview Retre 19.58 29 P **P** **20 35 06.7 -0.3**
baz=214
W41B Gary Mavity, V 19.61 15 P **Pn** **20 35 08.5 -0.2**
baz=197
W41B Gary Mavity, V 19.61 15 P **P** **20 35 07.8 +0.4**
TUC Tucson 19.63 327 P **Pn** **20 35 09.4 +0.3**
baz=141
TUC Tucson 19.63 327 P **P** **20 35 09.0 +1.3**
WHAR Wooly Hollow 19.71 15 P **P** **20 35 08.5 0.0**
TUL1 Leonard 19.71 6 P **P** **20 35 09.0 +0.5**
baz=187
TUL1 Leonard 19.71 6 P **Pn** **20 35 09.2 -0.8**
TUL1 IAmb IAmb 20 35 13.9
comp=Z,33nm,0.8s
OXF Oxford 19.85 22 P **P** **20 35 09.6 -0.5**
baz=206
QUOK Quay 19.90 4 P **P** **20 35 11.0 +0.5**
QUOK IAmb IAmb 20 35 25.9
comp=Z,53nm,1.3s
ANMO Albuquerque 20.03 340 P **P** **20 35 13.2 +1.0**
comp=Z,1.1nm,0.9s,baz=324,slow=11,SNR=27
ANMO Lg Lg 20 41 15.7
comp=Z,0.0nm,0.5s,baz=242,slow=15,SNR=1.5
ANMO LR LR 20 43 22.5
comp=Z,124nm,18.1s,baz=328,slow=38
ANMO Albuquerque 20.03 340 P **P** **20 35 13.5 +1.3**
baz=156
ANMO Albuquerque 20.03 340 P **P** **20 35 12.9 +0.7**
U32A Winter Ranch, 20.07 358 P **P** **20 35 10.9 -1.6**
U32A IAmb IAmb 20 35 16.5
comp=Z,42nm,0.9s
TIGA Tifton 20.18 39 P **P** **20 35 12.3 -1.4**
baz=225
TIGA Tifton 20.18 39 P **P** **20 35 11.6 -2.1**
CROK Carrier 20.18 1 P **P** **20 35 12.2 -1.5**
FCAR Ozark Folk Cen 20.32 14 P **P** **20 35 15.1 -0.1**
HHAR Hobbs 20.33 10 P **P** **20 35 15.6 +0.4**
U38A Gravette 20.41 9 P **P** **20 35 16.8 +0.7**
152A Waverly Hall 20.44 34 P **P** **20 35 16.4 -0.1**
214A Organ Pipe Nat 20.49 322 P **P** **20 35 17.3 +0.2**
baz=136
214A Organ Pipe Nat 20.49 322 **P** **20 35 18.4 +1.3**
Y49A Blount Mountai 20.53 29 P **P** **20 35 17.5 0.0**
Y49A IAmb IAmb 20 35 19.8
comp=Z,18nm,0.6s
U40A Yellville 20.60 12 P **P** **20 35 17.5 -0.7**
baz=195,SNR=11
U40A Yellville 20.60 12 P **P** **20 35 18.2 0.0**
U40A IAmb IAmb 20 35 28.9
comp=Z,68nm,1.4s
T35A Sooner Cattle 20.65 4 P **P** **20 35 16.6 -2.1**
T35A IAmb IAmb 20 35 34.3
comp=Z,28nm,0.8s
LCAR Lake Charles 20.74 16 P **P** **20 35 19.6 -0.1**
X48A Hartselle 20.74 27 P **P** **20 35 19.8 0.0**
X48A IAmb IAmb 20 35 25.6
comp=Z,21nm,0.8s
PLAL Pickwick Lake 20.77 24 P **P** **20 35 20.3 +0.2**
PLAL IAmb IAmb 20 35 28.2
comp=Z,21nm,0.8s
W18A Petrified Fore 21.43 333 P **P** **20 35 27.2 -0.1**
baz=148
W18A Petrified Fore 21.43 333 P **P** **20 35 27.3 -0.1**
W18A IAmb IAmb 20 35 33.8
comp=Z,34nm,0.9s
FPAL Fort Paine 21.47 30 P **P** **20 35 27.8 +0.2**
MGMO Mountain Grove 21.50 13 P **P** **20 35 27.8 -0.1**
T25A Trinidad 21.52 346 P **P** **20 35 29.9 +1.5**
baz=164,SNR=28
T25A Trinidad 21.52 346 P **P** **20 35 29.6 +1.3**
SPX San Pedro Mart 21.53 316 P **P** **20 35 30.4 +1.8**
SPX IAmb IAmb 20 35 33.2
comp=Z,29nm,0.9s
PBMO Poplar Bluff 21.60 17 P **P** **20 35 29.7 +0.7**
113A Mohawk Valley, 21.64 322 P **P** **20 35 30.4 +1.0**
T42A Van Buren 21.66 16 P **P** **20 35 30.4 +0.8**
T42A IAmb IAmb 20 35 47.6
comp=Z,21nm,0.8s
GOGA Godfrey 21.69 35 P **P** **20 35 29.3 -0.7**
baz=221,SNR=8.7
GOGA Godfrey 21.69 35 P **P** **20 35 29.6 -0.4**
GOGA IAmb IAmb 20 35 34.1
comp=Z,29nm,0.8s
Y52A Lilburn 21.71 33 P **P** **20 35 29.9 -0.3**
S39A Bolivar 21.81 11 P **P** **20 35 31.2 0.0**
S39A IAmb IAmb 20 35 50.4
comp=Z,25nm,1.1s
X51A Calhoun 21.85 31 P **P** **20 35 30.9 -0.8**
WVT Waverly 21.88 23 P **P** **20 35 30.7 -1.2**
baz=208
WVT Waverly 21.88 23 P **P** **20 35 30.9 -1.0**
WVT IAmb IAmb 20 35 38.0
comp=Z,28nm,0.8s
SWET Sewanee 21.88 28 P **P** **20 35 30.8 -1.2**
SWET IAmb IAmb 20 35 36.4
comp=Z,31nm,0.7s
V48A Smith Brothers 21.94 26 P **P** **20 35 32.1 -0.5**
R32A Long Quarter, 22.10 359 P **P** **20 35 34.6 +0.2**
R32A IAmb IAmb 20 35 52.9
comp=Z,26nm,0.9s
W50A Signal Mountai 22.15 29 P **P** **20 35 34.8 -0.2**
GTBY Guantanamo Bay 22.30 77 P **P** **20 35 36.8 +0.2**
SDCO Great Sand Dun 22.36 345 P **P** **20 35 35.8 -1.7**
baz=161
SDCO Great Sand Dun 22.36 345 P **P** **20 35 37.7 +0.3**
CLTN Cedars of Leba 22.44 26 P **P** **20 35 37.4 -0.6**
CLTN IAmb IAmb 20 35 43.9
comp=Z,28nm,1.1s
GLA Glamis 22.46 321 P **P** **20 35 37.8 -0.5**
baz=134
ESJX Sierra Juarez 22.47 317 P **P** **20 35 39.0 +0.5**
WUAZ Wupatki 22.49 331 P **P** **20 35 39.6 +0.9**
baz=145,SNR=24
WUAZ Wupatki 22.49 331 P **P** **20 35 39.9 +1.2**
WUAZ IAmb IAmb 20 35 47.0
comp=Z,33nm,0.9s
CBKS Cedar Bluff 22.53 357 P **P** **20 35 37.8 -1.2**
baz=176
CBKS Cedar Bluff 22.53 357 P **P** **20 35 38.7 -0.2**
CBKS IAmb IAmb 20 35 48.5
comp=Z,58nm,1.4s
R40A Maddies Statio 22.59 12 P **P** **20 35 39.9 +0.3**
R40A IAmb IAmb 20 35 57.8
comp=Z,21nm,0.7s
CCM Cathedral Cave 22.59 15 P **P** **20 35 40.3 +0.7**
baz=198
CCM Cathedral Cave 22.59 15 P **P** **20 35 40.4 +0.8**
157A Early Branch 22.63 41 P **P** **20 35 40.0 0.0**
baz=228
S22A 4UR Ranch, Cre 22.72 342 P **P** **20 35 42.0 +0.7**
baz=158,SNR=22
S22A 4UR Ranch, Cre 22.72 342 P **P** **20 35 41.7 +0.4**
CPCT Cooper Cave 22.73 30 P **P** **20 35 40.8 -0.2**
CPCT IAmb IAmb 20 35 55.9
comp=Z,18nm,0.8s
FVM French Village 22.73 16 P **P** **20 35 41.0 -0.1**
W52A Murphy 22.74 32 P **P** **20 35 40.8 -0.5**
W52A IAmb IAmb 20 35 45.6
comp=Z,34nm,0.9s
MVCO Mesa Verde 22.77 338 P **P** **20 35 42.0 +0.2**
baz=154,SNR=12
MVCO Mesa Verde 22.77 338 P **P** **20 35 41.6 -0.2**
S44A Carbondale 22.80 19 P **P** **20 35 41.1 -0.6**
KSU1 Kansas State U 22.82 3 P **P** **20 35 42.7 +0.6**
KSU1 IAmb IAmb 20 35 48.2
comp=Z,25nm,0.8s
Z56A Williston 22.84 39 P **P** **20 35 43.0 +0.8**
baz=226
T47A Sharon Grove 22.91 23 P **P** **20 35 41.3 -1.6**
T47A IAmb IAmb 20 35 47.8
comp=Z,25nm,0.9s
RMX La Rumorosa 22.94 318 P **P** **20 35 43.5 0.0**
PDMCI Parker Dam,Lak 22.96 324 P **P** **20 35 43.9 +0.4**
baz=137,SNR=5.7
HODGE Hodges 22.97 36 P **P** **20 35 43.0 -0.6**
HODGE IAmb IAmb 20 35 44.0
comp=Z,22nm,0.7s
Y55A Saluda 22.99 37 P **P** **20 35 41.9 -1.9**
baz=224,SNR=9.4
IKP In-Ko-Pah, Jac 22.99 319 P **P** **20 35 43.5 -0.5**
baz=131
SWSC Sam W. Stewart 22.99 320 P **P** **20 35 44.0 +0.2**
baz=132
KSCO Kaye Shedlock' 23.01 351 P **P** **20 35 44.0 -0.2**
baz=169
KSCO Kaye Shedlock' 23.01 351 P **P** **20 35 43.3 -0.8**
KSCO IAmb IAmb 20 35 47.8
comp=Z,43nm,1.1s
U49A Red Boiling Sp 23.03 26 P **P** **20 35 43.8 -0.4**
U49A IAmb IAmb 20 35 50.5
comp=Z,27nm,0.9s
V51A Loudon 23.09 30 P **P** **20 35 44.3 -0.6**
V51A IAmb IAmb 20 35 53.8
comp=Z,20nm,0.8s
X54A Belton 23.14 35 P **P** **20 35 44.9 -0.5**
baz=222
BG3 Lake Jocassee 23.17 33 P **P** **20 35 45.1 -0.6**
Z57A Bowman 23.23 40 P **P** **20 35 45.6 -0.7**
baz=227
MOTC Monteria, Cord 23.25 106 *e*P **P** **20 35 46.5 -0.2**
TKL Tuckaleechee C 23.26 31 P **P** **20 35 47.9 +1.3**
comp=Z,5.9nm,0.6s,baz=203,slow=11,SNR=4.7
TKL LR LR 20 45 34.6
comp=Z,59nm,19.3s,baz=234,slow=38
BC3 Big Chuckawall 23.26 321 P **P** **20 35 48.1 +1.3**
baz=134,SNR=6.8
SJCC San Jacinto, C 23.33 103 *e*P **P** **20 35 49.3 +1.7**
MONP2 Monument Peak 23.35 319 P **P** **20 35 47.6 -0.1**
baz=131,SNR=5.4
W13A Hualapai Mount 23.42 326 P **P** **20 35 50.0 +1.5**
NHSC New Hope 23.43 41 P **P** **20 35 47.7 -0.6**
baz=228
IRM Iron Mountain 23.43 323 P **P** **20 35 48.8 +0.5**
baz=135,SNR=5.9
Q24A Divide 23.43 346 P **P** **20 35 48.3 -0.4**
baz=163
DBBC Dabeiba 23.43 110 *e*P **P** **20 35 48.8 +0.2**
X55A Gracelyn & Ava 23.50 36 P **P** **20 35 48.4 -0.5**
baz=223
NEE2 Needles Airpor 23.57 325 P **P** **20 35 50.3 +0.6**
baz=137
PV01 Paradox Valley 23.63 339 P **P** **20 35 51.2 +0.8**
PV01 IAmb IAmb 20 35 57.4
comp=Z,20nm,1.1s
W54A Cherokee Point 23.64 34 P **P** **20 35 49.8 -0.6**
baz=221,SNR=9.1
PAULI Pauline 23.65 35 P **P** **20 35 50.9 +0.4**
PAULI IAmb IAmb 20 35 56.1
comp=Z,30nm,1.0s
P38A Dawn 23.66 9 P **P** **20 35 50.3 -0.2**
P38A IAmb IAmb 20 35 54.2
comp=Z,24nm,0.7s
U15A North Rim 23.66 331 P **P** **20 35 52.3 +1.4**
U15A IAmb IAmb 20 35 57.8
comp=Z,39nm,1.2s
PV13 Radium Mtn., P 23.73 339 P **P** **20 35 52.2 +0.7**
PV13 IAmb IAmb 20 35 57.5
comp=Z,47nm,1.5s
PV02 Paradox Valley 23.75 339 P **P** **20 35 52.5 +0.8**
PV02 IAmb IAmb 20 35 56.6
comp=Z,34nm,1.4s
V53A Saluda 23.75 33 P **P** **20 35 51.7 +0.2**
V53A IAmb IAmb 20 35 56.4
comp=Z,33nm,1.4s
109C Camp Elliot, M 23.78 318 P **P** **20 35 51.4 -0.3**
baz=130
PV15 Paradox Valley 23.79 340 P **P** **20 35 53.4 +1.4**
PV15 IAmb IAmb 20 35 55.7
comp=Z,20nm,0.8s
BELC Belle Mtn. Jos 23.83 321 P **P** **20 35 51.3 -1.1**
baz=133
P40A Paris 23.83 12 P **P** **20 35 51.5 -0.6**
P40A IAmb IAmb 20 35 55.9
comp=Z,30nm,0.9s
PV03 Paradox Valley 23.83 339 P **P** **20 35 52.9 +0.5**
PV03 IAmb IAmb 20 35 58.2
comp=Z,26nm,1.4s
PV18 Skein Mesa, Pa 23.84 339 P **P** **20 35 53.1 +0.5**
PV18 IAmb IAmb 20 36 00.7
comp=Z,14nm,0.6s
PFO Pinyon Flats O 23.84 320 P **P** **20 35 53.4 +0.9**
comp=Z,6.6nm,0.9s,baz=136,slow=8.8,SNR=9.1
PFO LR LR 20 45 56.8
comp=Z,509nm,19.1s,baz=142,slow=38
PFO Pinyon Flats O 23.84 320 P **P** **20 35 51.7 -0.8**
baz=132
PFO Pinyon Flats O 23.84 320 P **P** **20 35 53.7 +1.2**
PFO IAmb IAmb 20 36 06.7
comp=Z,28nm,1.4s
X56A White Oak 23.86 37 P **P** **20 35 51.9 -0.6**
baz=224
T50A Nancy 23.87 27 P **P** **20 35 52.8 +0.2**
T50A IAmb IAmb 20 36 08.1
comp=Z,16nm,0.9s
PV12 Saucer Basin, 23.87 339 P **P** **20 35 53.6 +0.8**
PV12 IAmb IAmb 20 35 54.9
comp=Z,16nm,0.8s
PV11 David Mesa, Pa 23.88 339 P **P** **20 35 53.2 +0.4**
PV11 IAmb IAmb 20 36 00.3
comp=Z,16nm,0.8s
PV17 East Wray Mesa 23.89 339 P **P** **20 35 53.5 +0.5**
PV16 Nyswonger Mesa 23.91 339 P **P** **20 35 53.8 +0.6**
Y57A Sumter 23.91 39 P **P** **20 35 52.2 -0.8**
baz=226
PV07 Paradox Valley 23.93 340 P **P** **20 35 53.9 +0.5**
PV07 IAmb IAmb 20 35 56.1
comp=Z,17nm,0.9s
PV19 Morning Glory 23.93 339 P **P** **20 35 53.6 +0.2**
PV19 IAmb IAmb 20 36 13.2
comp=Z,20nm,1.2s
PV20 West Nyswonger 23.95 339 P **P** **20 35 54.1 +0.5**
PV04 Paradox Valley 23.98 339 P **P** **20 35 54.2 +0.4**
PV04 IAmb IAmb 20 35 59.4
comp=Z,25nm,1.0s
PV14 Lion Creek, Pa 24.00 339 P **P** **20 35 54.6 +0.5**
PV14 IAmb IAmb 20 35 58.7
comp=Z,20nm,1.0s
PV10 Paradox Valley 24.01 339 P **P** **20 35 53.7 -0.4**
PV10 IAmb IAmb 20 36 02.3
comp=Z,18nm,0.8s
PV22 Blue Mesa, Par 24.06 339 P **P** **20 35 56.1 +1.5**
PV22 IAmb IAmb 20 36 04.8
comp=Z,14nm,0.7s
PV23 Carpenter Ridg 24.06 339 P **P** **20 35 54.9 +0.2**
PV23 IAmb IAmb 20 35 57.8
comp=Z,20nm,0.7s
TZTN Tazewell 24.07 30 P **P** **20 35 54.2 -0.3**
baz=216,SNR=7.9
TZTN Tazewell 24.07 30 P **P** **20 35 55.5 +1.0**
CBOC Ciudad Bolivar 24.11 113 *e*P **P** **20 35 58.0 +2.8**
OLIL Olney 24.12 20 P **P** **20 35 54.5 -0.3**
PV21 Cone Mtn., Par 24.15 339 P **P** **20 35 56.0 +0.6**
KMSC Kings Mountain 24.16 36 P **P** **20 35 55.6 +0.3**
KMSC IAmb IAmb 20 36 02.7
comp=Z,19nm,0.9s
GMRC Granite Mounta 24.18 323 P **P** **20 35 55.8 +0.2**
baz=135,SNR=9.7
MURC Murrieta 24.30 319 P **P** **20 35 56.7 0.0**
baz=131
BIRD Birdtown, Kers 24.30 38 P **P** **20 35 56.0 -0.6**
BIRD IAmb IAmb 20 36 02.2
comp=Z,31nm,1.1s
WCI Wyandotte Cave 24.30 23 P **P** **20 35 54.8 -1.8**
baz=209
WCI Wyandotte Cave 24.30 23 P **P** **20 35 55.9 -0.7**
WCI IAmb IAmb 20 36 05.3
comp=Z,29nm,0.9s
ISCO Idaho Springs 24.34 346 P **P** **20 35 56.7 -0.5**
baz=162,SNR=24
ISCO Idaho Springs 24.34 346 P **P** **20 35 58.1 +0.8**
ISCO IAmb IAmb 20 36 02.9
comp=Z,28nm,1.1s
KNB Kanab 24.39 331 P **P** **20 35 58.5 +0.9**
ZARC Zaragoza, Cauc 24.47 108 *e*P **P** **20 36 02.5 +4.2**
PKCU Pink Cliffs 24.50 332 P **P** **20 35 58.9 0.0**
W56A Indian Trail 24.58 37 P **P** **20 35 57.1 -2.0**
baz=224
LCMT Little Creek M 24.59 330 P **P** **20 36 00.5 +1.1**
HEC Hector,Ludlow 24.60 322 P **P** **20 35 59.8 +0.4**
baz=134,SNR=14
SMLC San Martn de 24.72 104 *e*P **P** **20 36 01.7 +1.1**
YOTC Yotoco, Valle 24.73 117 *e*P **P** **20 36 01.6 +0.8**
V55A Taylorsville 24.74 35 P **P** **20 35 59.2 -1.5**

baz=222
V55A Taylorsville 24.74 35 P P 20 36 01.0 +0.4
V55A IAmb IAmb 20 36 17.0
comp=Z,18nm,0.9s
TUQ Turquoise Moun 24.79 324 P P 20 36 01.3 +0.1
baz=136,SNR=19
R49A Shelbyville 24.80 25 P P 20 36 01.0 -0.1
R49A IAmb IAmb 20 36 09.6
comp=Z,16nm,0.8s
N38A Joes South For 24.85 9 P P 20 36 01.0 -0.5
T53A Wise 24.92 31 P P 20 36 01.6 -0.6
baz=218,SNR=5.2
U54A Nelsons Funny 24.92 33 P P 20 36 00.8 -1.5
baz=220
U54A Nelsons Funny 24.92 33 P P 20 36 02.5 +0.2
W57A Gilead 24.93 38 P P 20 36 00.9 -1.4
baz=225
W57A Gilead 24.93 38 P P 20 36 02.2 -0.1
W57A IAmb IAmb 20 36 11.6
comp=Z,28nm,0.9s
MTPU Mount Pierson 24.95 333 P P 20 36 04.3 +1.5
CIS Catalina Islan 24.96 317 P P 20 36 02.1 -0.5
baz=128
GUY2C Guyana, Caldas 24.98 113 eP P 20 36 05.4 +2.0
BFSC Mount Baldy Ra 25.01 319 P P 20 36 03.4 +0.2
baz=131
RRX Edison Barstow 25.03 321 P P 20 36 03.5 +0.3
baz=133
BBAC Balboa, Cauca 25.05 122 eP P 20 36 05.3 +1.5
CCUT Cedar City 25.07 331 P P 20 36 04.1 +0.2
BGNE Belgrade 25.08 0 P P 20 36 03.5 -0.1
baz=180
V56A Mocksville 25.11 36 P P 20 36 02.8 -1.2
baz=224
R50A Paris 25.14 26 P P 20 36 04.0 -0.2
R50A IAmb IAmb 20 36 17.0
comp=Z,16nm,1.0s
SHPR Sheep Range 25.16 327 P P 20 36 06.0 +1.4
SHPR IAmb IAmb 20 36 14.7
comp=Z,16nm,1.1s
OTAV Otavalo 25.19 127 eP P 20 36 06.8 +1.5
OTAV Otavalo 25.19 127 P P 20 36 07.2 +1.9
OTAV Otavalo 25.19 127 eP P 20 36 08.3 +3.0
SRU San Rafael Swe 25.19 337 P P 20 36 05.5 +0.7
GSC Goldstone, Bar 25.21 322 P P 20 36 04.5 -0.4
baz=134
GSC Goldstone, Bar 25.21 322 P P 20 36 06.4 +1.5
GSC IAmb IAmb 20 36 16.0
comp=Z,22nm,1.3s
PTBC PUERTO BERRIO, 25.21 110 eP P 20 36 06.4 +1.3
POPC Popayan, Colom 25.22 120 eP P 20 36 09.1 +3.7
NORC Norcasia 25.26 112 eP P 20 36 08.2 +2.7
Q16A Castle Valley 25.27 336 P P 20 36 06.6 +1.0
ANIL Santa Ana 25.29 115 eP P 20 36 13.7 +7.6
W58A Raeford 25.29 39 P P 20 36 05.2 -0.3
baz=227
U55A TA2, Sparta 25.32 34 P P 20 36 04.6 -1.2
baz=222
TOLC Tolima 25.32 115 eP P 20 36 08.6 +2.3
MSU Marysvale 25.34 334 P P 20 36 08.4 +2.2
MVU Marysvale 25.34 334 P P 20 36 07.9 +1.6
O20A White River Ci 25.35 342 P P 20 36 06.1 -0.1
baz=157,SNR=12
O20A White River Ci 25.35 342 P P 20 36 07.0 +0.7
O20A IAmb IAmb 20 36 11.7
comp=Z,24nm,0.9s
X59A McDuffie Farm, 25.38 40 P P 20 36 05.2 -1.2
baz=229
GCUF Volcan Galeras 25.44 124 eP P 20 36 11.9 +4.2
DECC Green Verdugo 25.44 319 P P 20 36 07.6 +0.6
baz=130
HDIL Hopedale 25.45 16 P P 20 36 06.5 -0.4
baz=200
N23A Red Feather La 25.45 346 P P 20 36 07.0 -0.3
baz=162,SNR=9.2
N23A Red Feather La 25.45 346 P P 20 36 08.4 +1.1
N23A IAmb IAmb 20 36 10.4
comp=Z,13nm,0.9s
T54A Tazewell 25.46 32 P P 20 36 05.8 -1.4
baz=220
U56A King 25.56 35 P P 20 36 05.5 -2.5
baz=223
U56A King 25.56 35 P P 20 36 08.8 +0.8
U56A IAmb IAmb 20 36 15.2
comp=Z,16nm,0.9s
PCON Cinco Dias 25.57 120 eP P 20 36 12.8 +3.8
V57A Coltrane Farms 25.57 37 P P 20 36 07.2 -0.9
baz=225
P17A Butcher Ranch, 25.59 337 P P 20 36 09.4 +1.0
TMUT Trail Mountain 25.61 336 P P 20 36 09.8 +1.0
EDW2 Edwards Air Fo 25.64 320 P P 20 36 08.7 0.0
baz=131,SNR=9.9
S53A Williamson 25.67 31 P P 20 36 08.4 -0.6
baz=218
L34A Svendsen Farm, 25.69 3 P P 20 36 09.5 +0.3
P48A Milroy 25.71 23 P P 20 36 09.9 +0.6
P48A IAmb IAmb 20 36 12.6
comp=Z,25nm,1.3s
ORTC Ortega, Tolima 25.71 116 eP P 20 36 11.4 +1.8
PHWY Pilot Hill 25.74 347 P P 20 36 10.1 +0.2
PHWY IAmb IAmb 20 36 15.8
comp=Z,16nm,1.1s
PRN Pahroc Range 25.79 328 P P 20 36 11.8 +1.6
PRN IAmb IAmb 20 36 16.2
comp=Z,11nm,0.9s
SDDR Presa de Saban 25.84 80 P P 20 36 11.7 +0.9
V58A Windy Hill, Pi 25.89 38 P P 20 36 11.2 +0.2
baz=226,SNR=8.9
V58A Windy Hill, Pi 25.89 38 P P 20 36 10.8 -0.2
T55A Pulaski 25.91 33 P P 20 36 10.5 -0.8
baz=221
OSI Osito Audit: C 25.92 319 P P 20 36 11.7 +0.3
baz=130
SFIN Lafayette 25.93 20 P P 20 36 10.9 -0.4
baz=205
SFIN Lafayette 25.93 20 P P 20 36 12.6 +1.3
SFIN IAmb IAmb 20 36 15.5
comp=Z,17nm,0.8s
SCIA State Center 25.94 9 P P 20 36 10.9 -0.5
baz=191
SCIA State Center 25.94 9 P P 20 36 11.1 -0.4
P49A Miami Univ. Ec 26.05 24 P P 20 36 11.3 -1.1
baz=211,SNR=7.6
P49A Miami Univ. Ec 26.05 24 P P 20 36 12.1 -0.3
TPNV Topopah Spring 26.07 326 P P 20 36 14.1 +1.3
baz=137,SNR=12
TPNV Topopah Spring 26.07 326 P P 20 36 14.0 +1.1
TPNV IAmb IAmb 20 36 18.7
comp=Z,16nm,0.9s
ROSC El Rosal 26.08 113 P P 20 36 14.2 +0.9
comp=Z,8.6nm,0.4s,baz=319,slow=19,SNR=1.5
ROSC El Rosal 26.08 113 P P 20 36 13.1 -0.2
ROSC IAmb IAmb 20 36 23.5
comp=Z,27nm,1.1s
PSUT Pine Spring 26.10 331 P P 20 36 14.0 +0.8
PRAC Prado 26.12 116 eP P 20 36 15.1 +1.7
MPMC Manual Prospec 26.13 323 P P 20 36 14.7 +1.3
baz=134,SNR=13
RDMU Red Mountain 26.16 340 P P 20 36 14.0 +0.4
S54A Dingess, Beckl 26.16 32 P P 20 36 13.7 +0.2
baz=219
S54A Dingess, Beckl 26.16 32 P P 20 36 13.7 +0.2
S54A IAmb IAmb 20 36 20.2
comp=Z,18nm,0.8s
BLA Blacksburg 26.18 34 P P 20 36 13.6 -0.1
baz=222
U57A Blanch 26.21 36 P P 20 36 14.6 +0.7
baz=225
W60A Pink Hill 26.25 41 P P 20 36 14.4 +0.2
baz=230
T56A Rocky Mt 26.25 34 P P 20 36 14.2 -0.1
baz=223
R53A Hurricane 26.26 30 P P 20 36 14.8 +0.5
baz=217,SNR=7.9
R53A Hurricane 26.26 30 P P 20 36 13.8 -0.6
ARVC Arvin 26.32 319 P P 20 36 15.8 +0.9
baz=130
BARC Barichara 26.35 108 eP P 20 36 16.5 +0.8
SC01 Santiago de lo 26.38 79 P P 20 36 16.4 +0.8
V59A Middlesex 26.39 39 P P 20 36 15.6 +0.1
baz=228,SNR=7.1
L40A Anamosa 26.44 12 P P 20 36 15.7 -0.1
ISA Isabella, Lake 26.45 321 P P 20 36 17.3 +1.2
baz=132
ISA Isabella, Lake 26.45 321 P P 20 36 17.4 +1.2

PAMC Pamplona, Colo 26.50 107 eP P 20 36 20.0 +2.6
S55A Lewisburg 26.56 33 P P 20 36 17.0 -0.1
baz=221
M44A Midewin, Midew 26.57 17 P P 20 36 17.3 +0.2
R54A Victor 26.62 31 P P 20 36 17.8 +0.2
baz=219
U58A Oxford 26.64 37 P P 20 36 18.2 +0.4
baz=226
T57A Hurt 26.66 36 P P 20 36 17.8 -0.2
baz=224,SNR=6.3
T57A Hurt 26.66 36 P P 20 36 19.6 +1.6
P51A Williamsport 26.69 27 P P 20 36 18.4 +0.3
baz=214
P51A Williamsport 26.69 27 P P 20 36 18.3 +0.1
CHIC Chingaza 26.69 113 eP P 20 36 23.9 +4.9
L42A Oliver, Polo 26.72 14 P P 20 36 17.5 -0.9
RUSC La Rusia 26.72 110 eP P 20 36 19.3 +0.1
CWC Cottonwood Cre 26.74 323 P P 20 36 19.8 +0.9
baz=133
Q49A Covington 26.76 24 P P 20 36 18.1 -0.7
R11A Troy Canyon, C 26.78 329 P P 20 36 19.4 +0.2
baz=140
R11A Troy Canyon, C 26.78 329 P P 20 36 19.5 +0.2
N47A Urbana 26.86 21 P P 20 36 18.4 -1.2
Q53A Leroy 26.89 30 P P 20 36 19.9 -0.1
baz=218
V60A Jim Taylor Roa 26.99 40 P P 20 36 20.7 -0.1
baz=229
DUG Dugway, Tooele 27.02 335 P P 20 36 21.8 +0.4
baz=148,SNR=9.6
DUG Dugway, Tooele 27.02 335 P P 20 36 21.5 +0.1
T58A Grand View Acr 27.03 37 P P 20 36 21.2 -0.1
baz=225
U59A Littleton 27.05 38 P P 20 36 21.7 +0.2
baz=227
R55A Marlinton 27.14 32 P P 20 36 22.2 -0.1
baz=221
R55A Marlinton 27.14 32 P P 20 36 22.4 0.0
R55A IAmb IAmb 20 36 34.4
comp=Z,21nm,0.9s
P52A Corning 27.22 28 P P 20 36 21.5 -1.5
baz=216
K22A Casper 27.26 347 P P 20 36 23.7 +0.2
baz=162
K22A Casper 27.26 347 P P 20 36 24.3 +0.9
K22A IAmb IAmb 20 36 29.0
comp=Z,21nm,1.1s
Q54A Coxs Mills 27.32 31 P P 20 36 23.8 -0.1
baz=219
Q54A Coxs Mills 27.32 31 P P 20 36 23.7 -0.1
Q54A IAmb IAmb 20 36 37.4
comp=Z,13nm,0.8s
ACSO Alum Creek Sta 27.35 26 P P 20 36 24.7 +0.6
baz=213
ACSO Alum Creek Sta 27.35 26 P P 20 36 25.1 +1.1
ACSO IAmb IAmb 20 36 43.0
comp=Z,16nm,0.7s
S57A Dark Hollow, R 27.37 35 P P 20 36 25.6 +1.2
baz=224
S57A Dark Hollow, R 27.37 35 P P 20 36 25.7 +1.4
S57A IAmb IAmb 20 36 41.5
comp=Z,12nm,1.0s
V61A Roper 27.43 41 P P 20 36 20.3 -4.6
baz=230
ECSD EROS Data Cent 27.44 3 P P 20 36 25.1 +0.1
JFWS Jewell Farm 27.45 13 P P 20 36 24.4 -0.6
baz=197
U60A Pendleton 27.51 39 P P 20 36 23.6 -2.0
baz=228
T59A Double "B" Far 27.61 38 P P 20 36 26.5 0.0
baz=227
T59A Double "B" Far 27.61 38 P P 20 36 27.2 +0.7
T59A IAmb IAmb 20 36 32.9
comp=Z,33nm,1.4s
BGU Big Grassy Mou 27.73 335 P P 20 36 28.7 +1.0
HWUT Hardware Ranch 27.76 338 P P 20 36 28.6 +0.6
SDV Santo Domingo 27.91 102 P P 20 36 30.8 +1.2
comp=Z,6.7nm,0.4s,baz=298,slow=1.6,SNR=4.8
SDV LR LR 20 48 04.4
comp=Z,180nm,20.5s,baz=298,slow=37
SDV Santo Domingo 27.91 102 P P 20 36 30.5 +0.8
SDV IAmb IAmb 20 36 41.3
comp=Z,12nm,0.8s
SDV Santo Domingo 27.91 102 eP P 20 36 28.8 -0.9
R58B Mineral 28.11 36 P P 20 36 29.6 -1.4
baz=225
PD31 Pinedale Array 28.15 342 P P 20 36 31.5 -0.1
PDAR Pinedale Array 28.15 342 P P 20 36 31.9 +0.3
comp=Z,3.0nm,0.6s,baz=134,slow=11,SNR=9.9
PDAR LR LR 20 48 42.1
comp=Z,1µm,18.3s,baz=166,slow=38
PDAR Pinedale Array 28.15 342 P P 20 36 31.7 +0.1
NVAR Mina Array Bea 28.27 325 P P 20 36 34.3 +1.7
comp=Z,2.6nm,0.2s,baz=127,slow=11,SNR=2.3
NVAR LR LR 20 48 15.7
comp=Z,598nm,18.3s,baz=136,slow=38
NVAR Mina Array Bea 28.27 325 P P 20 36 33.3 +0.7
R58A Rapidan 28.28 35 P P 20 36 32.2 -0.3
baz=224
HVU Hansel Valley 28.36 337 P P 20 36 34.3 +1.0
AHID Auburn Hatcher 28.63 340 P P 20 36 36.2 +0.4
R60A Leonardtown, M 29.06 37 P P 20 36 38.9 -0.5
baz=227
REDW Red Top Meadow 29.09 341 P P 20 36 40.3 +0.4
M52A Chesterland 29.12 27 P P 20 36 41.0 +1.1
baz=215
TPAW Teton Pass 29.23 341 P P 20 36 42.5 +1.2
LOHW Long Hollow 29.24 341 P P 20 36 42.0 +0.8
N54A Moraine State 29.27 29 P P 20 36 40.9 -0.4
baz=218
FXWY Fox Creek 29.39 341 P P 20 36 43.4 +0.8
O56A Blue Knob Stat 29.43 32 P P 20 36 41.4 -1.3
baz=221
IMW Indian Meadow 29.60 341 P P 20 36 45.0 +0.5
F36A Milaca 29.80 7 P P 20 36 46.5 +0.6
F36A IAmb IAmb 20 36 51.4
comp=Z,7.9nm,0.9s
R61A Willards 29.83 38 P P 20 36 46.8 +0.6
baz=229
N56A West Decatur 30.05 31 P P 20 36 48.5 +0.3
baz=221
P59A Jarrettsville 30.07 35 P P 20 36 47.9 -0.5
baz=225
M55A Ridgway 30.24 30 P P 20 36 49.2 -0.7
baz=219
ATAH Atahualpa 30.43 138 P P 20 36 54.4 +2.2
comp=Z,10nm,0.8s,baz=334,slow=6.3,SNR=6.6
HLID Hailey 30.51 337 P P 20 36 52.6 +0.2
baz=148,SNR=5.6
HLID Hailey 30.51 337 P P 20 36 53.2 +0.8
M56A Emporium 30.54 30 P P 20 36 52.7 +0.2
baz=220
L55A Hinsdale 30.95 29 P P 20 36 55.3 -0.9
baz=219
MCMT McKenzie Canyo 31.04 340 P P 20 36 56.1 -1.1
LAO LASA Array 31.08 349 P P 20 36 57.8 +0.5
baz=165
O60A Telford 31.13 35 P P 20 36 56.6 -1.1
baz=226
M58A Price's Panora 31.32 33 P P 20 36 58.9 -0.5
baz=223
BOZ Bozeman (W) 31.34 342 P P 20 36 59.1 -0.6
baz=155
BOZ Bozeman (W) 31.34 342 P P 20 37 00.1 +0.4
BOZ IAmb IAmb 20 37 06.0
comp=Z,12nm,1.4s
WVOR Wild Horse Val 31.41 330 P P 20 37 01.3 +1.0
WVOR IAmb IAmb 20 37 06.3
comp=Z,12nm,1.2s
DLMT Dillon 31.43 340 P P 20 37 01.5 +1.0
DLMT IAmb IAmb 20 37 14.6
comp=Z,12nm,0.9s
O03E Paynes Creek 31.51 324 P P 20 37 01.5 +0.3
baz=133
MDND Maddock 31.54 358 P P 20 37 01.0 -0.2
baz=177
J54A Appleton 31.71 28 P P 20 37 02.1 -0.6
baz=218
LRM Limekiln Ridge 31.80 341 P P 20 37 04.9 +1.1
MOD Modoc Plateau 31.83 328 P P 20 37 05.3 +1.2
MOD IAmb IAmb 20 37 14.8
comp=Z,9.2nm,1.1s
AGMN Agassiz Nation 32.03 3 P P 20 37 05.1 -0.4
baz=184
J08A Circle Bar Ran 32.05 332 P P 20 37 06.6 +0.7
HRY Holter Researc 32.41 342 P P 20 37 10.2 +1.1

PAL Palisades 32.43 36 P P 20 37 09.2 0.0
baz=228
N02D Trinity Center 32.47 324 P P 20 37 10.9 +1.3
baz=132
DGMT Dagmar 32.51 353 P P 20 37 11.7 +1.9
baz=169
E47A Iron Bridge 32.61 19 P P 20 37 11.0 +0.4
baz=207
N62A Caumsett State 32.63 36 P P 20 37 12.0 +1.2
baz=228
M61A Granite Spring 32.72 35 P P 20 37 11.9 +0.3
baz=227
BMO Blue Mountains 32.73 335 P P 20 37 12.0 +0.1
K05A Summer Lake 32.73 328 P P 20 37 12.7 +0.7
K58A Earlville 32.74 32 P P 20 37 12.0 +0.1
baz=223
H53A Bobcaygeon 32.77 26 P P 20 37 11.9 -0.1
baz=216
YBH Yreka Blue Hor 32.99 325 P P 20 37 13.7 -0.5
comp=Z,1.0nm,0.5s,baz=147,slow=5.0,SNR=4.2
YBH Yreka Blue Hor 32.99 325 P P 20 37 13.6 -0.5
I07A Izee 33.08 331 P P 20 37 15.4 +0.5
I07A IAmb IAmb 20 37 17.4
comp=Z,6.4nm,0.9s
L04D Klamath Falls 33.10 326 P P 20 37 16.4 +1.2
baz=134
H55A Tweed 33.36 28 P P 20 37 17.3 +0.1
baz=219
PINE Pine Mountain 33.54 330 P P 20 37 19.6 +0.5
F10A Beach Ranch, E 33.62 336 P P 20 37 20.1 +0.5
F10A IAmb IAmb 20 37 26.8
comp=Z,6.4nm,0.8s
G54A Lake Saint Pet 33.64 26 P P 20 37 20.7 +1.0
baz=217
J04D Umpqua Nationa 33.72 328 P P 20 37 21.3 +0.6
baz=136
M63A Gales Ferry 33.75 37 P P 20 37 21.2 +0.6
baz=230
I58A Old Forge 33.76 31 P P 20 37 21.7 +1.0
baz=223
G08A Pilot Rock 33.78 333 P P 20 37 21.2 +0.2
G08A IAmb IAmb 20 37 24.3
comp=Z,6.6nm,0.7s
H56A Elgin 33.82 29 P P 20 37 21.6 +0.5
baz=220
J59A Piesco 33.83 32 P P 20 37 21.7 +0.3
baz=224
K61A Williamstown 33.91 34 P P 20 37 22.4 +0.3
baz=226
ULM Lac du Bonnet 33.98 3 LR LR 20 50 33.8
comp=Z,104nm,21.6s,baz=181,slow=35
H57A Richville 34.12 30 P P 20 37 24.6 +0.7
baz=222
M64A Tiverton 34.33 37 P P 20 37 25.9 +0.2
baz=231
E09A Wood Farm, Sta 34.43 335 P P 20 37 26.4 -0.1
E09A IAmb IAmb 20 37 29.2
comp=Z,4.8nm,0.7s
K62A Royalston 34.47 35 P P 20 37 28.4 +1.5
baz=228
J01E Myrtle Point 34.62 326 P P 20 37 29.0 +0.9
baz=133
LONY Lake Ozonia 34.63 30 P P 20 37 29.3 +1.0
baz=223
I03D Drain, OR 34.68 327 P P 20 37 29.8 +1.1
baz=134
CZSB Cruzeiro do Su 34.74 131 eP P 20 37 32.1 +2.6
G05D Wamic, OR 34.80 331 P P 20 37 30.7 +0.9
baz=139
H04A Detroit Lake 34.80 330 P P 20 37 29.8 0.0
I02D Swisshome 35.23 327 P P 20 37 34.5 +1.1
baz=134
F05D White Salmon 35.35 332 P P 20 37 35.8 +1.2
baz=139
NEW Newport 35.50 338 P P 20 37 37.4 +1.6
baz=148
H60A Morristown 35.52 32 P P 20 37 35.4 -0.6
baz=225
C09A Chrisman Ranch 35.53 337 P P 20 37 36.6 +0.6
C09A IAmb IAmb 20 37 41.0
comp=Z,11nm,1.1s
I62A Tamworth 35.77 34 P P 20 37 38.8 +0.7
baz=228
H61A Lyndonville 35.90 33 P P 20 37 40.4 +1.1
baz=226
LTY Liberty 36.06 334 P P 20 37 39.6 -1.1
LTY IAmb IAmb 20 37 52.0
comp=Z,6.1nm,0.8s
LON Longmire 36.17 332 P P 20 37 42.5 +0.9
LON IAmb IAmb 20 37 46.6
comp=Z,9.5nm,0.9s
I63A Otisfield 36.29 34 P P 20 37 43.3 +0.8
baz=229
D05A Enumclaw 36.58 333 P P 20 37 46.0 +1.0
D57A Chemin Vers le 36.73 28 P P 20 37 47.6 +1.3
baz=221
G62A West of Eustis 37.10 33 P P 20 37 49.6 +0.2
baz=228
D03D Eldon 37.33 332 P P 20 37 52.0 +0.7
baz=138,SNR=8.7
G63A Kingsbury 37.51 34 P P 20 37 53.5 +0.5
baz=229
F62A Pittston Farm, 37.85 33 P P 20 37 56.2 +0.4
baz=228
H65A Eastbrook 37.99 35 P P 20 37 56.9 -0.1
baz=231
A04D Lummi Island 38.06 334 P P 20 37 58.9 +1.4
baz=140
G64A Maxfield 38.06 34 P P 20 37 57.8 +0.2
baz=230
H66A Whiting 38.57 36 P P 20 38 02.0 +0.1
baz=232
G65A Princeton 38.69 35 P P 20 38 02.4 -0.4
baz=232,SNR=5.3
G65A Princeton 38.69 35 P P 20 38 05.6 +2.8
G65A IAmb IAmb 20 38 07.3
comp=Z,12nm,0.8s
E63A Oxbow 39.00 33 P P 20 38 05.9 +0.4
baz=229
D62A Allapoint, All 39.11 32 P P 20 38 06.6 +0.3
baz=228
E64A Bridgewater 39.31 34 P P 20 38 09.0 +1.0
baz=230
D63A Stockholm 39.56 33 P P 20 38 10.7 +0.5
baz=229
PTGA Pitinga 41.37 110 P P 20 38 25.1 -0.5
comp=Z,3.3nm,0.7s,baz=307,slow=11,SNR=5.8
PTGA Pitinga 41.37 110 P P 20 38 25.9 +0.3
SAML Samuel 42.79 123 P P 20 38 35.7 -1.4
LPAZ La Paz 43.91 136 P P 20 38 46.9 +0.1
comp=Z,2.9nm,0.8s,baz=340,slow=11,SNR=7.7
LPAZ PcP PcP 20 40 32.9 -0.1
comp=Z,2.0nm,0.7s,baz=350,slow=2.9,SNR=3.6
LPAZ LR LR 20 55 54.6
comp=Z,204nm,18.9s,baz=304,slow=35
LPAZ La Paz 43.91 136 P P 20 38 46.7 0.0
LPAZ La Paz 43.91 136 eP P 20 38 46.9 +0.1
PB16 IPOC Station P 44.51 139 P P 20 38 52.3 +0.8
PB16 IAmb IAmb 20 38 56.3
comp=Z,15nm,0.9s
MNMC Minye Minye 45.06 140 P P 20 38 56.5 +1.0
SCHQ Schefferville 45.49 25 P P 20 38 59.1 +0.8
comp=Z,4.6nm,0.7s,baz=250,slow=3.6,SNR=7.1
SCHQ LR LR 21 00 52.4
comp=Z,216nm,19.6s,baz=268,slow=40
SCHQ Schefferville 45.49 25 P P 20 38 58.4 +0.1
SCHQ IAmb IAmb 20 39 04.8
comp=Z,5.0nm,0.7s
TA01 Diego Aracena 45.80 142 P P 20 39 02.7 +1.6
ITTB Itaituba 46.77 112 eP P 20 39 08.5 -0.4
MALB Monte Alegre 47.01 108 eP P 20 39 10.6 -0.1
VILB Vilhena 47.51 125 eP P 20 39 15.1 +0.4
YKA Yellowknife Ar 47.61 350 P P 20 39 14.8 0.0
comp=Z,4.1nm,0.9s,baz=159,slow=7.0,SNR=4.5
YKA LR LR 20 59 42.2
comp=Z,127nm,19.4s,baz=0.0,slow=37
DLBC Dease Lake 48.25 338 P P 20 39 21.8 +2.0
comp=Z,5.8nm,0.9s,baz=177,slow=9.2,SNR=5.3
DLBC Dease Lake 48.25 338 P P 20 39 20.8 +1.0
DLBC IAmb IAmb 20 39 26.9
comp=Z,8.7nm,1.0s
MCPB Macapa, AP 48.46 105 eP P 20 39 21.7 -0.4
PTLB Pontes e Lacer 49.83 127 eP P 20 39 33.6 +1.2
H03N2 Juan Fernandez 52.73 160 T T 21 36 34.1
baz=337,slow=77
H03N1 Juan Fernandez 52.74 160 T T 21 36 35.3
baz=337,slow=77

H03N3	**Juan Fernandez**	52.75 160	T	T	21 36 34.3	
	baz=337,slow=77					
PRPB	**Parauapebas**	52.85 111	*e*P	P	20 39 55.3	+0.1
HMH	**Humu'ula Sheep**	54.35 283	P	P	20 40 08.0	+1.5
BALM	**Baldy**	54.65 335	P	P	20 40 09.2	+1.4
BALM			IAmb	IAmb	20 40 14.3	
	comp=Z,7.0nm,1.0s					
MCARA	**McCarthy VSAT**	55.12 336	P	P	20 40 12.4	+1.4
GLB	**Gilahina Butte**	55.46 335	P	P	20 40 15.2	+1.6
GLB			IAmb	IAmb	20 40 19.4	
	comp=Z,7.9nm,0.9s					
BCAR	**Beaver Creek A**	55.63 338	P	P	20 40 15.4	+0.7
ARAG	**Araguaiana, MT**	55.75 122	*e*P	P	20 40 15.8	-0.5
SMTB	**Santa Maria do**	56.00 113	*e*P	P	20 40 18.6	+0.4
FID	**Port Fidalgo**	56.19 334	P	P	20 40 20.1	+1.3
MENT	**Mentasta**	56.27 337	P	P	20 40 20.0	+0.7
MENT			IAmb	IAmb	20 40 25.2	
	comp=Z,5.6nm,0.8s					
K27K	**Chicken**	56.31 339	P	P	20 40 20.9	+1.3
	baz=127					
KLU	**Klutina**	56.34 335	P	P	20 40 21.1	+1.2
KLU			IAmb	IAmb	20 40 26.2	
	comp=Z,14nm,1.2s					
EGAK	**Eagle**	56.45 340	P	P	20 40 20.7	+0.1
EGAK			IAmb	IAmb	20 40 25.6	
	comp=Z,8.8nm,1.0s					
GLI	**Glacier Island**	56.52 334	P	P	20 40 22.2	+1.1
GLI			IAmb	IAmb	20 40 26.1	
	comp=Z,9.2nm,0.9s					
M24K	**Tolsona, Glenn**	56.77 335	P	P	20 40 24.1	+1.1
	baz=121					
DOT	**Dot Lake**	56.80 338	P	P	20 40 24.1	+1.0
PEXB	**Peixe**	56.87 117	*e*P	P	20 40 24.6	+0.4
SCRK	**Sand Creek**	56.96 338	P	P	20 40 25.1	+0.8
	baz=125					
RIDG	**Independent Ri**	57.14 337	P	P	20 40 26.7	+1.1
GHO	**Glory Hole Cre**	57.73 334	P	P	20 40 30.4	+0.6
DHY	**Denali Highway**	57.75 336	P	P	20 40 30.6	+0.7
RC01	**Rabbit Creek A**	57.75 333	P	P	20 40 30.5	+0.7
	baz=117					
OHAK	**Old Harbor**	57.81 328	P	P	20 40 30.9	+0.6
CPUP	**Villa Florida**	58.08 136	P	P	20 40 31.4	-1.2
	comp=Z,5.3nm,0.9s,baz=325,slow=8.2,SNR=8.9					
CPUP			LR	LR	21 05 33.5	
	comp=Z,116nm,19.4s,baz=338,slow=36					
CPUP	**Villa Florida**	58.08 136	P	P	20 40 31.8	-0.8
CPUP			IAmb	IAmb	20 40 35.0	
	comp=Z,10.0nm,1.1s					
CAPN	**Captain Cook N**	58.23 333	P	P	20 40 34.6	+1.5
	baz=116					
HDA	**Harding Lake**	58.28 337	P	P	20 40 34.2	+0.6
	baz=122					
SUA	**Susitna One**	58.36 333	P	P	20 40 35.1	+0.9
IL31		58.45 338	P	P	20 40 35.3	+0.7
ILAR	**Eielson Array**	58.45 338	P	P	20 40 35.0	+0.3
	comp=Z,4.9nm,1.1s,baz=136,slow=5.1,SNR=20					
ILAR			LR	LR	21 07 49.1	
	comp=Z,420nm,18.1s,baz=129,slow=38					
ILAR	**Eielson Array**	58.45 338	P	P	20 40 34.9	+0.2
RND	**Reindeer**	58.49 336	P	P	20 40 36.0	+0.9
CUT	**Chulitna**	58.58 335	P	P	20 40 35.5	-0.1
	baz=117					
CCB	**Clear Creek Bu**	58.72 337	P	P	20 40 37.3	+0.7
WRH	**Wood River Hil**	58.74 337	P	P	20 40 36.5	-0.2
RSO	**Redoubt South**	58.81 332	P	P	20 40 37.9	+0.4
POKR	**Poker Plat Res**	58.84 338	P	P	20 40 38.8	+1.4
	baz=122					
BDFB	**Brasilia**	58.84 120	P	P	20 40 38.4	+0.1
	comp=Z,9.9nm,0.7s,baz=286,slow=7.3,SNR=14					
BDFB			LR	LR	21 05 16.4	
	comp=Z,127nm,18.1s,baz=122,slow=35					
BDFB	**Brasilia**	58.84 120	P	P	20 40 38.6	+0.3
SKT	**Skwentna**	58.92 334	P	P	20 40 38.5	+0.5
TRF	**Thorofare Moun**	59.08 336	P	P	20 40 39.7	+0.4
BWN	**Browne**	59.11 337	P	P	20 40 39.5	+0.3
NEA2	**Nenana**	59.16 337	P	P	20 40 40.3	+0.6
	baz=120					
BMAR	**Burnt Mountain**	59.17 341	P	P	20 40 40.1	+0.3
KTH	**Kantishna Hill**	59.38 336	P	P	20 40 41.4	+0.2
PCMB	**Pacaembu**	59.47 128	*e*P	P	20 40 45.0	+2.6
BPAW	**Bear Paw Mtn.**	59.66 336	P	P	20 40 42.9	-0.2
SDBA	**SAO DESIDERIO**	59.95 115	*e*P	P	20 40 46.1	+0.3
SVW2	**Sparrevohn**	60.34 332	P	P	20 40 47.3	-0.5
COLD	**Coldfoot**	60.89 339	P	P	20 40 52.4	+1.0
	baz=120					
COLD	**Coldfoot**	60.89 339	P	P	20 40 51.7	+0.3
COLD			IAmb	IAmb	20 40 56.7	
	comp=Z,8.5nm,1.2s					
TTA	**Tatalina**	61.21 334	P	P	20 40 53.3	-0.5
TOLK	**Toolik Lake Re**	61.41 341	P	P	20 40 55.9	+0.9
	baz=121					
TOLK	**Toolik Lake Re**	61.41 341	P	P	20 40 55.5	+0.5
TOLK			IAmb	IAmb	20 40 56.9	
	comp=Z,10nm,1.2s					
ITAB	**Concordia**	62.20 133	*e*P	P	20 41 00.6	-0.3
PLCA	**Paso Flores**	62.25 156	P	P	20 41 01.3	+0.3
	comp=Z,7.1nm,0.9s,baz=310,slow=9.4,SNR=6.6					
PLCA			LR	LR	21 02 39.7	
	comp=Z,111nm,18.1s,baz=358,slow=31					
PLCA	**Paso Flores**	62.25 156	P	P	20 41 01.3	+0.3
PLTB	**Pedras Altas**	64.12 138	*e*P	P	20 41 13.4	-0.1
SUMG	**Summit**	65.76 17	P	P	20 41 24.5	+0.4
ESDC	**Sonseca Array**	83.03 51	P	P	20 43 06.2	+1.4
	comp=Z,1.1nm,0.8s,baz=291,slow=4.9,SNR=8.6					
ESDC			LR	LR	21 19 06.5	
	comp=Z,41nm,18.7s,baz=295,slow=35					
ESDC	**Sonseca Array**	83.03 51	P	P	20 43 05.2	+0.4
SEY	**Seymchan**	84.18 334	P	P	20 43 09.9	-0.3
	comp=Z,1.4nm,0.3s,baz=53,slow=4.0,SNR=4.2					
PMSA	**Palmer Station**	84.88 166	*e*P	P	20 43 13.5	+0.1
NOA	**NORSAR Array B**	85.01 27	LR	LR	21 20 56.3	
	comp=Z,31nm,22.0s,baz=290,slow=36					
PETK	**Petropavlovsk-**	85.34 324	P	P	20 43 16.0	-0.3
	comp=Z,3.5nm,0.8s,baz=106,slow=11,SNR=4.6					
PETK	**Petropavlovsk-**	85.34 324	P	P	20 43 15.6	-0.7
ARCES	**ARCESS Array B**	85.85 17	P	P	20 43 17.4	-1.1
	comp=Z,2.4nm,0.8s,baz=285,slow=2.4,SNR=6.3					
ARCES			LR	LR	21 25 52.7	
	comp=Z,54nm,18.4s,baz=326,slow=39					
CLL	**Collm**	90.13 36	*e*S	S	20 54 31.0	-1.8
FINES	**FINESS Array B**	90.95 23	LR	LR	21 25 40.6	
	comp=Z,98nm,21.6s,baz=300,slow=36					
DBIC	**Dimbokro**	91.40 83	LR	LR	21 23 14.5	
	comp=Z,41nm,19.8s,baz=260,slow=34					
GERES	**GERESS Array B**	91.64 38	LR	LR	21 27 12.5	
	comp=Z,124nm,18.4s,baz=289,slow=37					
NRIK	**Noril'sk**	94.55 358	LR	LR	21 29 02.2	
	comp=Z,93nm,21.9s,baz=20,slow=37					
TORD	**Torodi Ar. Bea**	95.67 75	LR	LR	21 24 02.5	
	comp=Z,63nm,21.5s,baz=175,slow=34					
AKASG	**Malin Array Be**	99.04 31	LR	LR	21 33 18.6	
	comp=Z,37nm,18.5s,baz=70,slow=38					
STKA	**Stephens Creek**	123.82 242	PKP	PKPdf	20 49 35.9	-1.7
	comp=Z,4.4nm,0.8s,baz=88,slow=1.2,SNR=6.3					
BOSA	**Boshof**	126.78 114	PKP	PKPdf	20 49 42.6	-1.0
	comp=Z,5.4nm,0.9s,baz=29,slow=8.5,SNR=4.9					
WRA	**Warramunga Arr**	130.03 257	PKP	PKPdf	20 49 49.5	-0.3
	comp=Z,2.8nm,0.9s,baz=87,slow=2.5,SNR=30					
WRA	**Warramunga Arr**	130.03 257		PKPdf	20 49 49.4	-0.4
ASAR	**Alice Springs**	130.64 253	PKP	PKPdf	20 49 50.4	-0.6
	comp=Z,2.1nm,0.8s,baz=83,slow=1.9,SNR=14					
ASAR	**Alice Springs**	130.64 253		PKPdf	20 49 50.0	-0.9
CMAR	**Chiang Mai Arr**	141.59 333	PKP	PKPdf	20 50 09.6	-1.7
	comp=Z,0.6nm,0.3s,baz=312,slow=1.2,SNR=5.3					

*IDC **08** 20:34:17.1±2.2, 6°.74S×129°.77E, h139km±26km, mb3.2/1, mb1 3.1/6, mb1mx2.9/33, mbtmp3.6/6, Error ellipse: s-maj=29.0km s-min=19.2km az=110.0*

ISC 08 20:34:15.4±0.9, 6°.81S±0°.06×130°.0E±0°.1, h150km, n6, σ3°61/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	6.04	12	P	Pn	20 35 44.2	+1.4
	0.4nm,0.3s,baz=184,slow=15,SNR=14						
SIJI				S	Sn	20 36 45.6	-5.6
	2.4nm,0.3s,baz=201,slow=23,SNR=11						
BATI	**Baumata**	7.09	241	P	Pn	20 35 56.4	-0.3
	1.0nm,0.3s,baz=7.9,slow=17,SNR=1.5						
BATI				S	Sn	20 37 15.6	-0.6
	1.2nm,0.3s,baz=43,slow=22,SNR=1.3						
FITZ	**Fitzroy Crossi**	11.99	200	P	Pn	20 37 02.9	+1.4
	0.1nm,0.3s,baz=27,slow=13,SNR=1.3						
FITZ				S	Sn	20 39 09.1	-5.1
	0.1nm,0.3s,baz=117,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	13.72	162	P	Pn	20 37 26.2	+2.2
	0.1nm,0.3s,baz=338,slow=14,SNR=10						
WRA				S	Sn	20 39 53.1	-2.9
	0.3nm,0.3s,baz=336,slow=22,SNR=11						
ASAR	**Alice Springs**	17.18	168	P	Pn	20 38 11.3	+4.7
	0.2nm,0.3s,baz=344,slow=9.2,SNR=20						
ASAR				S	S	20 41 15.2	-2.1
	0.0nm,0.3s,baz=38,slow=18,SNR=1.8						
MKAR	**Makanchi Array**	68.05	327	P	P	20 45 00.5	+1.7
	0.2nm,0.4s,baz=111,slow=7.1,SNR=5.6						

*TUL **08** 21:02:14.9±1.1, 36°.85N±0°.02×97°.89W±0°.07, h6km±7km, ML3.5, Error ellipse: s-maj=7.3km s-min=3.4km az=87.0*
*UNK **08** 21:02:14.9, 36°.85N×97°.89W, h6km*
*NEIC **08** 21:02:15.3±1.2, 36°.84N±0°.04×97°.85W±0°.07, h4km±6km, Error ellipse: s-maj=7.8km s-min=4.8km az=73.0*
*ANF **08** 21:02:15.1±0.3, 36°.82N×97°.91W, h0km, ML4.6/10, Error ellipse: s-maj=3.6km s-min=3.2km az=114.0*

ISC 08 21:02:14.8±1.2, 36°.86N±0°.02×97°.87W±0°.03, h3km±11km, n93, σ0°86/100, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN10	**Anthony SW Sta**	0.32	325	Pg	Pg	21 02 21.6	+0.6
KAN10				Sg	Sg	21 02 26.2	+1.0
KAN13	**South Haven SW**	0.35	64	Pg	Pg	21 02 22.0	+0.5
CROK	**Carrier**	0.37	195	Pg	Pg	21 02 22.3	+0.5
CROK				Sg	Sg	21 02 27.3	+0.7
KAN12	**Harper NE Stat**	0.45	346		Pg	21 02 23.9	+0.5
U32A	**Winter Ranch,**	1.03	243		Pg	21 02 34.2	-0.4
T35A	**Sooner Cattle**	1.09	87	Pg	Pb	21 02 35.4	-0.8
OK029	**Liberty Lake**	1.11	163		Pb	21 02 35.8	-0.9
QUOK	**Quay**	1.16	126	Pg	Pb	21 02 36.6	-0.8
BCOK	**Bluff Creek, N**	1.22	170		Pn	21 02 37.5	-1.3
OK025	**Westminster Rd**	1.34	161		Pn	21 02 39.9	-0.6
OKCFA	**Oklahoma City**	1.48	167		Pb	21 02 42.2	-0.8
OKCSW	**OKLAHOMA CITY**	1.49	166		Pb	21 02 42.4	-0.8
FNO	**Franklin**	1.64	167	Pn	Pb	21 02 45.2	-0.6
R32A	**Long Quarter,**	1.70	337		Pb	21 02 46.0	-0.8
W35A	**Tecumseh**	1.88	154		Pn	21 02 48.2	+0.3
TUL1	**Leonard**	1.92	119	P	Pb	21 02 49.3	-1.3
	baz=300						
TUL1				S	Sb	21 03 15.3	+0.4
	baz=300						
TUL1	**Leonard**	1.92	119		Pb	21 02 49.2	-1.3
WMOK	**Wichita Mounta**	2.24	200	P	Pn	21 02 52.8	-0.1
	baz=19						
WMOK				S	Sb	21 03 21.8	-2.4
	baz=19						
WMOK	**Wichita Mounta**	2.24	200		Pn	21 02 53.0	+0.1
X34A	**Smith Ranch, M**	2.25	179	Pn	Pn	21 02 53.8	+0.8
KSU1	**Kansas State U**	2.45	24	P	Pn	21 02 56.6	+0.9
	baz=204						
KSU1				S	Sb	21 03 29.4	-0.6
	baz=204						
KSU1	**Kansas State U**	2.45	24	Pn	Pn	21 02 56.3	+0.6
CBKS	**Cedar Bluff**	2.45	323	P	Pb	21 02 57.5	-2.0
	baz=143						
CBKS				S	Sb	21 03 30.1	-0.1
	baz=143						
CBKS	**Cedar Bluff**	2.45	323	Pn	Pn	21 02 56.1	+0.3
U38A	**Gravette**	2.83	97	Pn	Pn	21 03 01.8	+0.8
X37A	**Clayton**	3.04	137		Pn	21 03 04.4	+0.5
HHAR	**Hobbs**	3.21	99		Pn	21 03 06.9	+0.7
Z35A	**Perchaven, San**	3.56	172	Pn	Pn	21 03 11.5	+0.6
AMTX	**Amarillo**	3.67	239	Pb	Pb	21 03 20.6	+0.2
	baz=56						
AMTX	**Amarillo**	3.67	239	Pn	Pn	21 03 13.6	+1.0
W39A	**Magazine**	3.70	115	Sb	Sg	21 04 12.4	-1.3
	baz=298						
W39A	**Magazine**	3.70	115	Pn	Pn	21 03 14.0	+1.1
S39A	**Bolivar**	3.72	76	Pn	Pn	21 03 13.6	+0.5
U40A	**Yellville**	4.06	96	P	Pn	21 03 19.0	+1.1
	baz=278						
U40A				S	Sn	21 04 08.2	+2.2
	baz=278						
U40A	**Yellville**	4.06	96		Pn	21 03 18.5	+0.6
MIAR	**Mount Ida**	4.18	122	Pn	Pn	21 03 20.5	+0.9
Z38A	**Mt. Pleasant**	4.30	146	Pn	Pn	21 03 21.5	+0.4
KSCO	**Kaye Shedlock'**	4.33	301		Pn	21 03 22.1	+0.4
N35A	**Tabor**	4.36	23		Pn	21 03 23.3	+1.4
P38A	**Dawn**	4.39	50	Pn	Pn	21 03 23.7	+1.3
ABTX	**Abilene, Hawle**	4.47	200	Sb	Sb	21 04 30.7	+2.3
	baz=18						
ABTX	**Abilene, Hawle**	4.47	200		Pn	21 03 23.9	+0.4
MGMO	**Mountain Grove**	4.49	85	Pn	Pn	21 03 24.2	+0.4
BGNE	**Belgrade**	4.55	357	P	Pn	21 03 24.6	0.0
	baz=177						
BGNE	**Belgrade**	4.55	357		Pn	21 03 24.6	0.0
R40A	**Maddies Statio**	4.67	71		Pn	21 03 26.3	+0.1
X40A	**Basin Creek Fa**	4.73	119		Pn	21 03 27.4	+0.3
FCAR	**Ozark Folk Cen**	4.73	100		Pn	21 03 27.2	+0.1
WHAR	**Wooly Hollow**	4.78	107	Pn	Pn	21 03 29.4	+1.7
W41B	**Gary Mavity, V**	4.85	109		Pn	21 03 29.2	+0.5
WHTX	**Lake Whitney,**	4.87	176	P	Pn	21 03 29.0	0.0
	baz=356						
WHTX	**Lake Whitney,**	4.87	176	Pn	Pn	21 03 28.8	-0.2
MSTX	**Muleshoe**	4.94	236	Pn	Pn	21 03 29.9	-0.1
237A	**Washetta, Mont**	5.14	160		Pn	21 03 32.4	-0.3
T25A	**Trinidad**	5.25	275		Pn	21 03 34.5	+0.1
P40A	**Paris**	5.30	58		Pn	21 03 35.9	+1.0
N38A	**Joes South For**	5.34	41		Pn	21 03 36.5	+1.1
CCM	**Cathedral Cave**	5.40	75	Pn	Pn	21 03 36.6	+0.3
T42A	**Van Buren**	5.43	86		Pn	21 03 38.1	+1.4
LCAR	**Lake Charles**	5.47	96		Pn	21 03 37.8	+0.7
NATX	**Nacogdoches**	5.74	152		Pn	21 03 41.1	+0.3
K31A	**O'Neill**	5.80	353		Pn	21 03 42.7	+1.0
PBMO	**Poplar Bluff**	5.97	89	Pn	Pn	21 03 45.6	+1.6
SCIA	**State Center**	6.19	34		Pn	21 03 47.8	+0.7
JCT	**Junction City**	6.56	195		Pn	21 03 52.0	-0.3
N41A	**Harden Midland**	6.69	53		Pn	21 03 55.1	+1.1
ISCO	**Idaho Springs**	6.76	298		Pn	21 03 55.8	+0.6
S44A	**Carbondale**	6.92	81		Pn	21 03 57.8	+0.8
ECSD	**EROS Data Cent**	6.93	8	Pn	Pn	21 03 56.4	-1.0
K38A	**Parkersburg**	6.99	33	Pn	Pn	21 03 58.3	+0.3
P43A	**Skaggs, Pawnee**	7.13	65		Pn	21 04 00.8	+0.8
OXF	**Oxford**	7.27	106	Pn	Pn	21 04 02.6	+0.6
Q44A	**Meyer Farm, Va**	7.29	71		Pn	21 04 02.4	+0.2
L40A	**Anamosa**	7.31	43		Pn	21 04 02.5	+0.1
HDIL	**Hopedale**	7.65	59	Pn	Pn	21 04 07.1	0.0
O44A	**Mansfield**	8.07	63	Pn	Pn	21 04 13.3	+0.5
MNTX	**Cornudas Mount**	8.07	233	Pn	Pn	21 04 12.6	-0.4
WVT	**Waverly**	8.12	92	Pn	Pn	21 04 12.4	-1.2
PLAL	**Pickwick Lake**	8.16	100	Pn	Pn	21 04 13.6	-0.5
L42A	**Oliver, Polo**	8.16	48		Pn	21 04 14.4	+0.3
JFWS	**Jewell Farm**	8.41	42	Pn	Pn	21 04 17.5	-0.1
K22A	**Casper**	8.82	314		Pn	21 04 23.1	-0.3
P46A	**Rosedale**	8.83	69	Pn	Pn	21 04 23.1	-0.2
PV03	**Paradox Valley**	8.83	282		Pn	21 04 24.1	+0.5
M44A	**Midewin, Midew**	8.87	56	Pn	Pn	21 04 24.1	+0.3
I40A	**Norwalk**	8.94	36	Pn	Pn	21 04 25.0	+0.2
WCI	**Wyandotte Cave**	9.29	78	Pn	Pn	21 04 30.6	+0.9
LRAL	**Lakeview Retre**	9.70	110	Pn	Pn	21 04 36.5	+1.3
U49A	**Red Boiling Sp**	9.71	88	Pn	Pn	21 04 36.6	+1.2
I42A	**Draeger Farm,**	9.79	41	Pn	Pn	21 04 37.2	+0.7
P48A	**Milroy**	10.13	71	Pn	Pn	21 04 41.2	0.0
R49A	**Shelbyville**	10.18	78	Pn	Pn	21 04 41.9	+0.1
G40A	**Rib Lake**	10.20	32		Pn	21 04 41.5	-0.5

*MOS **08** 21:18:57.4±0.0, 41°.95N×46°.35E, h7km, MPVA3.5*
*TIF **08** 21:18:58.4, 41°.88N×46°.40E, h14km*
*DRS **08** 21:19:00.6±0.0, 42°.00N×46°.29E, h14km*

ISC 08 21:18:59.0±0.9, 41°.93N±0°.03×46°.32E±0°.02, h16km±6km, n31, σ1°06/58, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	0.11	211	*e*Pg	Pb	21 19 02.5	-0.3
LGD				*e*Sg	Sg	21 19 04.7	-0.3
LGD	**Lagodekhi**	0.11	211	P	Pb	21 19 02.5	-0.3
LGD				S	Sg	21 19 04.7	-0.3
DDFL	**Dedoflistskaro**	0.51	197	*e*Pg	Pn	21 19 12.2	+0.6
DDFL	**Dedoflistskaro**	0.51	197	P	Pn	21 19 12.2	+0.6
KMKR	**Kumukh**	0.61	71	*i* Pg	Pn	21 19 12.0	-1.2
KMKR				*i* Sg	Sn	21 19 21.0	-1.9
GNBR	**Gunib**	0.66	46	*i* Pg	Pn	21 19 12.5	-1.3
GNBR				*e*Sg	Sb	21 19 21.1	0.0
XNZR	**Khunzakh**	0.67	25	*e*Pg	Pb	21 19 12.4	0.0
XNZR				*e*Sg	Sb	21 19 21.8	+0.2
BTLR	**Botlikh**	0.73	354	*i* Pg	Pb	21 19 12.9	-0.6
BTLR				*e*Sg	Sb	21 19 22.4	-0.9
UNCR	**Uncukul**	0.86	24	*e*Pg	Pn	21 19 15.8	-0.6
UNCR				*e*Sg	Sn	21 19 27.8	-0.9
KRNR	**Karanay**	0.99	26	*e*Pg	Pn	21 19 18.0	-0.4
KRNR				*e*Sg	Sn	21 19 32.0	-0.2
BUJR	**Buynaksk**	1.07	33	*e*Pg	Pn	21 19 20.0	+0.7
BUJR				*e*Sg	Sn	21 19 33.9	0.0
AKT	**Akhty**	1.15	113	*e*Pg	Pg	21 19 20.8	-0.4
AKT				*e*Sg	Sn	21 19 36.8	+0.9
DBC	**Dubki**	1.15	19	*e*Pg	Pg	21 19 20.7	-0.5
DBC				*e*Sg	Sn	21 19 36.6	+0.7
DLMR	**Dylym**	1.16	11	*e*Pg	Pg	21 19 21.5	+0.1
DLMR				*e*Sg	Sn	21 19 38.0	+1.9
TBLG	**Delisi**	1.20	261	*e*Pg	Pg	21 19 22.2	+0.1
TBLG				*e*Sg	Sg	21 19 40.3	+2.5
TBLG	**Delisi**	1.20	261	P	Pg	21 19 22.2	+0.1
TBLG				S	Sg	21 19 40.3	+2.5
GROC	**Groznyy**	1.33	343	*e*Pg	Pg	21 19 28.9	+4.3
GROC				*e*Sg	Sg	21 19 44.9	+3.0
PNSH	**Pansheti**	1.45	300	P	Pg	21 19 26.7	-0.2
PNSH				S	Sg	21 19 47.5	+1.7
DRN	**Derbent**	1.50	86	*e*Pg	Pg	21 19 28.4	+0.5
DRN				*e*Sg	Sg	21 19 49.4	+2.0
KZRT	**Kazreti**	1.54	250	P	Pb	21 19 27.4	+0.2
KZRT				S	Sg	21 19 48.5	-0.2
DMNI	**Dmanisi**	1.71	250	P	Pb	21 19 30.2	+0.1
DMNI				S	Sg	21 19 53.9	-0.1
TRLG	**Trialeti**	1.71	257	*e*Pg	Pb	21 19 30.6	+0.5
TRLG				*e*Sg	Sg	21 19 54.2	+0.2
TRLG	**Trialeti**	1.71	257	P	Pb	21 19 30.6	+0.5
TRLG				S	Sg	21 19 54.2	+0.2
BKRG	**Bakuriani**	2.10	266	*e*Pg	Pb	21 19 37.0	+0.2
BKRG				*e*Sg	Sg	21 20 05.5	-1.0
BKRG	**Bakuriani**	2.10	266	P	Pb	21 19 37.0	+0.2
BKRG				S	Sg	21 20 05.5	-1.0
AKH	**Akhalkalaki**	2.18	257	*e*Pg	Pb	21 19 38.9	+0.7
AKH				*e*Sg	Sg	21 20 08.2	-1.0
AKH	**Akhalkalaki**	2.18	257	P	Pb	21 19 38.9	+0.7
AKH				S	Sg	21 20 08.2	-1.0
ONI	**Oni**	2.23	288	*e*Pg	Pb	21 19 39.5	+0.6
ONI				*e*Sg	Sg	21 20 10.4	-0.3
ONI	**Oni**	2.23	288	P	Pb	21 19 39.5	+0.6
ONI				S	Sg	21 20 09.0	-1.7
TKB	**Tkibuli**	2.51	281	*e*Pn	Pb	21 19 43.9	+0.2
TKB	**Tkibuli**	2.51	281	P	Pb	21 19 43.9	+0.2
TKB				S	Sg	21 20 17.1	-2.6

*IDC **08** 21:36:55.1±1.3, 20°.23S×177°.54W, h473km±13km, mb4.2/23, mb1 4.3/26, mb1mx4.2/39, mbtmp5.0/26, Error ellipse: s-maj=11.5km s-min=9.5km az=102.0*
*NEIC **08** 21:36:56.2±1.6, 20°.24S±0°.09×177°.6W±0°.1, h490km±5km, mb4.7/120, Error ellipse: s-maj=14.6km s-min=12.8km az=94.0*
*BGR **08** 21:36:57.9±0.0, 20°.11S×177°.53W, h526km*

ISC 08 21:36:56.9±0.3, 20°.31S±0°.04×177°.52W±0°.06, h500km, n489, σ1°13/564, mb4.7/88, 61C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.92	301	P	P	21 38 23.2	-0.1
NIUE	**Niue**	7.25	82	P	P	21 38 44.9	-0.7
AFI	**Afiamalu**	8.41	42	P	P	21 38 54.2	-3.5
	16nm,0.3s,baz=96,slow=1.0,SNR=11						
AFI				S	S	21 40 25.3	-11
	21nm,0.3s,baz=201,slow=23,SNR=15						
AFI	**Afiamalu**	8.41	42	P	P	21 38 54.3	-3.4
RIZ	**Raoul Island**	8.90	182	P	P	21 39 00.0	-2.5
RIZ				S	S	21 40 41.0	-4.8
RAO	**Raoul Island**	8.91	182	P	P	21 39 00.8	-1.8
	70nm,0.3s,baz=135,slow=7.6,SNR=5.5						
RAO				S	S	21 40 40.5	-5.4
	32nm,0.3s,baz=84,slow=23,SNR=1.9						
RAO	**Raoul Island**	8.91	182	P	P	21 39 01.0	-1.6
GLKZ	**Green Lake**	8.92	182	P	P	21 39 00.9	-1.8
GLKZ				S	S	21 40 43.7	-2.4
FUNA	**Funafuti**	12.14	344	P	P	21 39 36.2	-0.8
DZM	**Mont Dzumac**	15.06	260	P	P	21 40 07.8	-0.1
	1.8nm,0.3s,baz=77,slow=17,SNR=17						

PXZ Pawanui 20.23 193 P P 21 40 57.0 -0.4
PNHZ Pukenui 20.27 194 P P 21 40 57.7 -0.1
KHEZ Kahui Hut 20.27 199 P P 21 41 01.3 +3.4
TSZ Takapari Road 20.46 194 P P 21 40 59.7 +0.2
PRHZ Porangahau 20.51 193 P P 21 41 00.1 +0.2
DVHZ Dannevirke 20.64 194 P P 21 41 00.2 -0.9
ANWZ Angora Road 20.73 193 P P 21 41 01.8 -0.1
POWZ Post Office Ro 20.82 195 P P 21 41 03.6 +0.8
PRWZ Pori Road 20.93 194 P P 21 41 03.4 -0.4
BFZ Birch Farm 20.99 193 P P 21 41 03.4 -0.9
MRZ Mangatainoka R 21.12 195 P P 21 41 04.1 -1.4
TIWZ Tintock 21.16 194 P P 21 41 06.7 +0.9
HOWZ Holdsworth Sta 21.36 195 P P 21 41 06.8 -0.9
OGWZ Otaki Gorge 21.37 195 P P 21 41 07.6 -0.1
TMWZ Te Maipa 21.47 194 P P 21 41 07.9 -0.9
SNZO South Karori 21.95 196 P P 21 41 11.7 -1.2
THZ Tophouse 22.87 199 P P 21 41 21.2 -0.1
THZ IAmb IAmb 21 41 38.3
comp=Z,40nm,1.2s
TARA Tarawa 23.49 335 P P 21 41 25.4 -1.7
LHI Lord Howe Isla 23.79 237 P P 21 41 31.5 +1.9
baz=24
RPZ Rata Peaks 25.21 200 P P 21 41 40.8 -1.3
comp=Z,6.0nm,0.5s,baz=177,slow=2.3,SNR=5.7
WKZ Wanaka 26.88 202 P P 21 41 57.0 +0.2
WKZ IAmb IAmb 21 42 05.6
comp=Z,24nm,1.1s
EIDS Eidsvold 29.33 254 P P 21 42 18.6 0.0
baz=30,SNR=7.1
EIDS Eidsvold 29.33 254 P P 21 42 18.6 0.0
EIDS IAmb IAmb 21 42 18.9
comp=Z,12nm,0.8s
ARMA Armidale 29.55 244 P P 21 42 21.5 +1.0
baz=30,SNR=15
ARMA Armidale 29.55 244 P P 21 42 21.2 +0.6
ARMA IAmb IAmb 21 42 22.0
comp=Z,17nm,0.6s
MGCD Mangrove Creek 30.69 239 P P 21 42 32.6 +2.4
baz=31,SNR=4.9
RMQ Roma 31.49 252 P P 21 42 38.3 +1.1
baz=32,SNR=5.5
CNB Canberra Magne 32.70 236 P P 21 42 48.7 +1.3
baz=33,SNR=29
CAN Canberra 32.99 236 P P 21 42 50.4 +0.5
baz=33
CAN Canberra 32.99 236 P P 21 42 50.3 +0.5
CAN IAmb IAmb 21 42 51.7
comp=Z,45nm,1.0s
KRVT Keravat (AS076 33.64 294 P P 21 42 55.0 -0.6
comp=Z,73nm,0.3s,baz=256,slow=5.9,SNR=6.6
CTA Charters Tower 33.96 264 P P 21 42 58.2 0.0
comp=Z,61nm,0.5s,baz=92,slow=11,SNR=94
CTAO Charters Tower 33.96 264 P P 21 42 58.1 -0.1
CMSA Cobar Meteorol 34.77 244 P P 21 43 05.2 +0.2
baz=35,SNR=19
QLP Quilpie 35.55 252 P P 21 43 11.6 +0.1
baz=36,SNR=4.6
PMG Port Moresby 35.74 282 P P 21 43 12.9 -0.3
comp=Z,66nm,0.8s,baz=70,slow=4.9,SNR=13
PMG Port Moresby 35.74 282 P P 21 43 12.9 -0.3
MTSU Mount Surprise 36.05 267 P P 21 43 15.7 -0.1
baz=36,SNR=36
TOO Toolangi 36.37 234 P P 21 43 18.9 +0.7
baz=36,SNR=10.0
TOO Toolangi 36.37 234 P P 21 43 18.9 +0.7
TAU Tasmania Unive 37.07 225 P P 21 43 24.7 +0.9
TAU IAmb IAmb 21 43 25.4
comp=Z,18nm,0.8s
COEN Coen 38.02 273 P P 21 43 32.0 0.0
baz=38,SNR=37
COEN Coen 38.02 273 P P 21 43 31.8 -0.2
COEN IAmb IAmb 21 43 32.9
comp=Z,33nm,0.8s
STKA Stephens Creek 38.28 244 P P 21 43 34.5 +0.6
comp=Z,26nm,0.8s,baz=93,slow=10,SNR=33
STKA ScP **ScP 21 48 38.8 +3.3**
comp=Z,3.7nm,0.9s,baz=82,slow=7.1,SNR=3.4
STKA Stephens Creek 38.28 244 P P 21 43 34.5 +0.6
baz=38,SNR=19
STKA Stephens Creek 38.28 244 P P 21 43 34.4 +0.5
ARPS Mount Arapiles 38.97 236 P P 21 43 39.6 +0.3
baz=39,SNR=12
QIS Mount Isa 40.09 262 P P 21 43 47.9 -0.8
baz=40,SNR=6.8
HTT Hallett 40.71 242 P P 21 43 53.9 +0.4
baz=41,SNR=17
BBOO Buckleboo 43.03 243 P P 21 44 12.0 +0.1
baz=43,SNR=67
BBOO Buckleboo 43.03 243 P P 21 44 12.1 +0.1
JAY Jayapura 44.42 288 P P 21 44 23.1 +0.1
comp=Z,57nm,0.6s,baz=141,slow=4.1,SNR=62
JAY Jayapura 44.42 288 P P 21 44 23.2 +0.3
comp=Z,485nmcomp=Z,61nm,1.0s
GENI Genyem 44.86 288 P P 21 44 25.3 -1.0
comp=Z,115nm,1.0s
WR0 Warramunga Arr 44.88 262 P P 21 44 25.5 -0.9
WR0 IAmb IAmb 21 44 27.4
comp=Z,22nm,0.9s
AS31 Alice Springs 45.00 256 P P 21 44 27.1 -0.3
AS31 IAmb IAmb 21 44 28.1
comp=Z,14nm,0.8s
ASAR Alice Springs 45.00 256 P P 21 44 27.1 -0.3
comp=Z,59nm,0.8s,baz=100,slow=7.6,SNR=502
ASAR PcP **PcP 21 45 58.6 +0.5**
comp=Z,6.1nm,0.7s,baz=104,slow=3.5,SNR=7.7
ASAR ScP **ScP 21 49 06.3 +3.7**
comp=Z,2.3nm,0.9s,baz=109,slow=5.3,SNR=4.8
ASAR S **S 21 50 26.4 -2.8**
comp=Z,6.4nm,0.8s,baz=94,slow=16,SNR=18
ASAR Alice Springs 45.00 256 P P 21 44 26.7 -0.7
WC3 Warramunga Arr 45.04 262 P P 21 44 26.9 -0.8
baz=45
WB0 Warramunga Arr 45.05 262 P P 21 44 27.0 -0.8
WB0 IAmb IAmb 21 44 27.8
comp=Z,33nm,0.7s
WRAB Tennant Creek 45.07 262 P P 21 44 27.0 -0.9
WRAB IAmb IAmb 21 44 28.0
comp=Z,33nm,0.9s
WRA Warramunga Arr 45.08 262 P P 21 44 26.9 -1.0
comp=Z,18nm,0.7s,baz=96,slow=7.7,SNR=252
WRA PcP **PcP 21 45 58.9 +0.5**
comp=Z,4.1nm,0.8s,baz=90,slow=4.0,SNR=4.8
WRA ScP **ScP 21 49 06.0 +3.0**
comp=Z,1.2nm,0.9s,baz=98,slow=4.2,SNR=3.8
WRA S **S 21 50 24.8 -5.5**
comp=Z,1.3nm,0.9s,baz=99,slow=12,SNR=6.3
WRA Warramunga Arr 45.08 262 P P 21 44 27.0 -1.0
KDU Kakadu 48.40 271 P P 21 44 52.5 -0.7
baz=48,SNR=22
MTN Manton Dam 49.61 270 P P 21 45 01.5 -0.6
baz=50,SNR=9.6
MTN Manton Dam 49.61 270 P P 21 45 01.6 -0.6
FORT Forrest 49.78 246 P P 21 45 03.1 -0.1
baz=50,SNR=46
FORT Forrest 49.78 246 P P 21 45 02.8 -0.4
WRKA Warakurna 49.95 254 P P 21 45 04.5 -0.1
baz=50,SNR=172
GUMO Guam 50.03 309 P P 21 45 04.7 -0.5
KNRA Kununurra 51.12 266 P P 21 45 13.0 -0.2
baz=51,SNR=17
KNRA Kununurra 51.12 266 P P 21 45 13.0 -0.2
KNRA IAmb IAmb 21 45 13.8
comp=Z,44nm,0.7s
FAKI Fak Fak 51.90 283 P P 21 45 18.2 -0.7
FAKI IAmb IAmb 21 45 20.0
comp=Z,26nm,0.9s
FITZ Fitzroy Crossi 53.50 262 P P 21 45 30.3 0.0
baz=54,SNR=28
FITZ Fitzroy Crossi 53.50 262 P P 21 45 30.3 0.0
FITZ IAmb IAmb 21 45 32.2
comp=Z,24nm,1.0s
KMBL Kambalda 55.05 245 P P 21 45 40.9 -0.2
baz=55,SNR=9.6
SOEI Soe 56.95 271 P P 21 45 55.2 +0.5
TNTI Ternate 57.85 284 P P 21 46 00.1 -0.5
TNTI IAmb IAmb 21 46 01.6
comp=Z,44nm,0.9s
VNDA Vanda 58.13 185 P P 21 46 04.0 +2.4
comp=Z,0.5nm,0.4s,baz=9.2,slow=7.7,SNR=7.3
VNDA PcP **PcP 21 46 48.1 +1.6**
comp=Z,0.7nm,0.8s,baz=0.0,slow=4.0,SNR=4.2
VNDA ScP **ScP 21 50 01.4 +3.1**
comp=Z,1.2nm,0.9s,baz=339,slow=5.3,SNR=4.5
VNDA Vanda 58.13 185 P P 21 46 03.8 +2.3
MEEK Meekatharra 58.41 251 P P 21 46 03.9 -0.4
baz=58,SNR=12

KLBR Kellerberrin 58.54 245 P P 21 46 05.2 0.0
baz=59,SNR=25
NWAO Narrogin (SRO) 58.86 243 P P 21 46 07.5 +0.4
baz=59,SNR=5.2
NWAO Narrogin (SRO) 58.86 243 P P 21 46 07.6 +0.4
MMRI Maumere 59.20 272 P P 21 46 09.3 -0.5
MMRI IAmb IAmb 21 46 10.1
comp=Z,55nm,1.0s
BLDU Ballidu 59.54 246 P P 21 46 11.6 -0.3
baz=60,SNR=9.7
EDFI Ende, Flores 59.68 272 P P 21 46 12.9 -0.2
comp=Z,43μmcomp=Z,34nm,0.9s
MUN Mundaring 59.81 244 P P 21 46 13.8 +0.2
baz=60,SNR=4.3
MORW Morawa 60.32 247 P P 21 46 17.2 +0.1
baz=60,SNR=12
MORW Morawa 60.32 247 P P 21 46 16.8 -0.2
MORW IAmb IAmb 21 46 17.9
comp=Z,56nm,1.1s
GIRL Giralia 63.04 254 P P 21 46 35.9 +1.0
baz=63,SNR=4.5
CASY Casey 64.32 205 P P 21 46 43.2 +0.9
CASY IAmb IAmb 21 46 43.8
comp=Z,9.1nm,0.8s
JAGI Jajag, Banyuwa 66.84 269 P P 21 46 58.1 -1.0
MYLDM Lahad Datu 67.72 285 P P 21 47 05.8 +1.3
MYLDM IAmb IAmb 21 47 20.3
comp=Z,30nm,1.0s
QSPA South Pole Qui 69.75 180 P P 21 47 17.6 +1.6
comp=Z,2.5nm,0.5s,baz=183,slow=3.1,SNR=25
QSPA South Pole Qui 69.75 180 P P 21 47 17.7 +1.7
KKM Kota Kinabalu 70.15 285 P P 21 47 19.2 -0.1
KKM IAmb IAmb 21 47 20.6
comp=Z,24nm,0.7s
MJAR Matsushiro Arr 70.33 323 P P 21 47 19.3 -0.4
comp=Z,8.3nm,0.6s,baz=157,slow=5.4,SNR=20
MJAR Matsushiro Arr 70.33 323 P P 21 47 19.2 -0.6
MAJO Matsushiro 70.33 323 P P 21 47 19.4 -0.4
MAJO IAmb IAmb 21 47 20.3
comp=Z,11nm,0.8s
UGM Wanagama 70.42 269 P P 21 47 20.9 +0.1
JWT Wachi 71.07 321 P P 21 47 24.0 -0.2
JSD Sado 71.38 324 P P 21 47 25.6 -0.3
JSD IAmb IAmb 21 47 26.6
comp=Z,15nm,1.0s
ADK Adak 71.89 1 P P 21 47 27.8 -0.7
ADK IAmb IAmb 21 47 30.9
comp=Z,45nm,1.1s
JHS Saijyo 72.26 319 P P 21 47 31.1 -0.1
JHS IAmb IAmb 21 47 32.6
comp=Z,19nm,0.9s
SBUM Sibu 72.42 279 P P 21 47 32.8 +0.3
SBUM IAmb IAmb 21 47 34.5
comp=Z,18nm,1.1s
SBUM Sibu 72.42 279 P P 21 47 34.0 +1.5
JNU Nakatsue 72.45 316 P P 21 47 31.4 -1.0
comp=Z,11nm,1.1s,baz=97,slow=4.5,SNR=4.0
YULB Yu-li 73.78 303 P P 21 47 38.9 -1.2
JKA Kamikawa-asahi 73.78 331 P P 21 47 39.9 +0.2
JKA IAmb IAmb 21 47 42.2
comp=Z,36nm,0.9s
ASAJ Asahikawa 73.78 331 P P 21 47 40.5 +0.9
comp=Z,29nm,0.8s,baz=222,slow=8.4,SNR=10
KSM Kuching 73.84 278 P P 21 47 41.2 +0.5
KSM Kuching 73.84 278 P P 21 47 42.0 +1.4
NACB Ninganchiao 73.95 304 P P 21 47 40.0 -1.0
NACB IAmb IAmb 21 47 41.8
comp=Z,33nm,0.9s
SSLB Suanglung 74.25 303 P P 21 47 42.2 -0.6
SSLB IAmb IAmb 21 47 42.4
comp=Z,13nm,0.8s
PEA0B Petropavlovsk- 76.21 345 P P 21 47 52.7 -0.3
PEA0B IAmb IAmb 21 47 54.0
comp=Z,17nm,0.8s
PETK Petropavlovsk- 76.21 345 P P 21 47 52.9 -0.2
comp=Z,19nm,0.9s,baz=120,slow=8.8,SNR=26
KSRS Korea Array 77.05 318 P P 21 47 59.0 +1.0
comp=Z,4.4nm,1.0s,baz=142,slow=6.4,SNR=12
KSAR Wonju Array Be 77.07 318 P P 21 47 58.3 +0.2
KMRM Mail Ridge 78.33 39 P P 21 48 06.3 +1.3
KMRM IAmb IAmb 21 48 08.0
comp=Z,11nm,0.8s
MNAI Manna 78.69 270 P P 21 48 08.0 +0.6
ISA Isabella, Lake 78.88 45 P P 21 48 09.0 +1.0
CMB Columbia Colle 79.02 42 P P 21 48 09.5 +0.8
SII Sitkinak Islan 79.06 13 P P 21 48 08.8 +0.4
SII IAmb IAmb 21 48 10.0
comp=Z,41nm,1.0s
USA0B Ussuriysk Arra 79.07 326 P P 21 48 09.3 +0.6
USA0B IAmb IAmb 21 48 10.9
comp=Z,22nm,0.9s
USRK Ussuriysk Ar. 79.07 326 P P 21 48 10.1 +1.4
comp=Z,16nm,0.8s,baz=136,slow=3.4,SNR=50
USRK Ussuriysk Ar. 79.07 326 P P 21 48 09.5 +0.8
AFDM Forest Hills D 79.20 41 P P 21 48 10.7 +1.1
ORV Oroville 79.24 41 P P 21 48 10.8 +1.0
WDC Whiskeytown Da 79.24 39 P P 21 48 11.0 +1.3
BELA Belgrano 2 79.68 173 P P 21 48 12.7 +1.2
YBH Yreka Blue Hor 79.86 278 P P 21 48 14.9 +1.8
comp=Z,3.7nm,0.8s,baz=210,slow=2.5,SNR=5.3
YBH Yreka Blue Hor 79.86 38 P P 21 48 14.1 +1.0
OHAK Old Harbor 79.87 13 P P 21 48 12.5 -0.1
WAKR Walker 79.90 43 P P 21 48 13.6 +0.1
MYKOM Kota Tinggi 79.97 276 P P 21 48 14.0 -0.2
MYKOM IAmb IAmb 21 48 15.9
comp=Z,43nm,0.8s
NJ2 Nanjing 80.11 309⇑ iP P 21 48 15.6 +1.1
NJ2 pmax pmax
comp=Z,15nm,1.1s
NVAR Mina Array Bea 80.58 43 pP pP 21 50 03.0 -2.0
comp=Z,0.1nm,0.4s,baz=217,slow=48,SNR=1.3
MDJ Mudanjiang 80.63 325 P P 21 48 17.5 +0.6
MDJ IAmb IAmb 21 48 19.1
comp=Z,25nm,0.8s
PAHR Pah Rah Range 80.64 42 P P 21 48 18.0 +0.7
MOD Modoc Plateau 81.39 39 P P 21 48 21.9 +0.8
K05A Summer Lake 81.54 38 P P 21 48 23.4 +1.5
K05A IAmb IAmb 21 48 24.2
comp=Z,10.0nm,0.8s
MAW Mawson 81.89 200 P P 21 48 23.8 +0.7
comp=Z,2.9nm,0.6s,baz=140,slow=5.9,SNR=20
MAW Mawson 81.89 200 P P 21 48 24.1 +1.0
baz=82,SNR=7.8
MAW Mawson 81.89 200 P P 21 48 24.4 +1.3
BKNI Bangkinang 82.09 273 P P 21 48 25.2 0.0
PRN Pahroc Range 82.14 45 P P 21 48 26.0 +0.9
WVOR Wild Horse Val 82.70 40 P P 21 48 29.2 +1.4
WHN Wuhan 82.70 306 ⇑P P 21 48 29.0 +1.1
319A Douglas 83.17 53 P P 21 48 31.7 +1.3
J08A Circle Bar Ran 83.34 39 P P 21 48 32.1 +1.1
U15A North Rim 83.50 47 P P 21 48 34.0 +1.9
U15A IAmb IAmb 21 48 35.1
comp=Z,8.9nm,0.8s
IPM Ipoh 83.56 277 P P 21 48 33.2 +0.6
IPM Ipoh 83.56 277 P P 21 48 34.0 +1.4
KULM Kulim 84.19 278 P P 21 48 36.6 +0.9
KULM Kulim 84.19 278 P P 21 48 37.0 +1.3
G08A Pilot Rock 84.19 37 P P 21 48 36.5 +1.4
SUA Susitna One 84.28 13 P P 21 48 35.0 -0.1
SUA IAmb IAmb 21 48 35.7
comp=Z,13nm,0.7s
GLI Glacier Island 84.56 14 P P 21 48 36.5 +0.1
GLI IAmb IAmb 21 48 37.1
comp=Z,14nm,0.7s
RPSI Rantau Prapat 84.89 275 P P 21 48 39.1 -0.1
RPSI IAmb IAmb 21 48 40.0
comp=Z,24nm,0.8s
GHO Glory Hole Cre 84.94 13 P P 21 48 38.5 +0.1
GHO IAmb IAmb 21 48 39.2
comp=Z,17nm,0.7s
E09A Wood Farm, Sta 85.38 37 P P 21 48 41.9 +1.1
GSI Gunungsitoli 85.67 273 P P 21 48 43.0 0.0
GLB Gilahina Butte 85.84 16 P P 21 48 42.9 +0.2
BJI Beijing 86.08 315 P P 21 48 44.9 +0.7
BJI pmax pmax
comp=Z,12nm,0.8s
TRF Thorofare Moun 86.17 12 P P 21 48 43.6 -0.7
TRF IAmb IAmb 21 48 44.7
comp=Z,13nm,0.8s
MNTX Cornudas Mount 86.28 54 P P 21 48 46.5 +1.1
SEY Seymchan 86.30 347 P P 21 48 44.8 +0.1
comp=Z,19nm,0.9s,baz=151,slow=5.6,SNR=17
ENH Enshi 86.31 304 P P 21 48 46.1 +0.5
RND Reindeer 86.42 12 P P 21 48 45.4 0.0

RND IAmb IAmb 21 48 46.4
comp=Z,23nm,0.9s
TX31 Lajitas Ar. Si 86.57 57 P P 21 48 48.1 +1.0
TX31 IAmb IAmb 21 48 49.6
comp=Z,9.0nm,0.8s
TXAR Lajitas Array 86.58 57 P P 21 48 49.0 +2.0
comp=Z,2.5nm,0.8s,baz=215,slow=6.5,SNR=33
TXAR pP **pP 21 50 35.7 -1.2**
comp=Z,0.3nm,0.8s,baz=215,slow=4.4,SNR=2.5
TXAR Lajitas Array 86.58 57 P P 21 48 48.6 +1.6
MCK McKinley 86.69 12 P P 21 48 46.7 0.0
MCK IAmb IAmb 21 48 47.9
comp=Z,11nm,0.8s
ANMO Albuquerque 86.94 51 P P 21 48 49.7 +1.0
GYA Guiyang 86.95 300 ⇓P P 21 48 49.3 +0.4
GYA PP **PP 21 52 22.7 +1.4**
GYA S **S 21 58 47.3 +1.7**
GYA pmax pmax
comp=Z,8.0nm,0.8s
GYA pmax pmax
comp=Z,100nm,7.2s
SYO Syowa Base 87.00 193⇓ eX P 21 48 44.6 -3.6
SYO Syowa Base 87.00 193⇑ ePcP P 21 48 47.0 -1.2
SLVN Son La 87.22 294 P P 21 48 50.0 -0.2
SLVN IAmb IAmb 21 48 53.8
comp=Z,11nm,1.1s
MCMT McKenzie Canyo 87.52 40 P P 21 48 52.5 +1.2
WRH Wood River Hil 87.53 12 P P 21 48 50.4 -0.1
WRH IAmb IAmb 21 48 51.2
comp=Z,14nm,0.9s
DOT Dot Lake 87.67 14 P P 21 48 51.2 -0.1
HDA Harding Lake 87.70 13 P P 21 48 50.9 -0.5
HDA IAmb IAmb 21 48 51.9
comp=Z,11nm,0.6s
BCAR Beaver Creek A 87.72 15 P P 21 48 51.8 +0.2
CCB Clear Creek Bu 87.74 12 P P 21 48 50.9 -0.6
CCB IAmb IAmb 21 48 51.8
comp=Z,12nm,0.6s
MDM Murphy Dome 87.93 12 P P 21 48 51.8 -0.6
MDM IAmb IAmb 21 48 52.8
comp=Z,13nm,0.9s
IL31 88.03 13 P P 21 48 52.4 -0.4
ILAR Eielson Array 88.03 13 P P 21 48 52.3 -0.6
comp=Z,3.1nm,0.7s,baz=220,slow=5.5,SNR=30
ILAR pP **pP 21 50 40.6 -2.7**
comp=Z,0.6nm,0.9s,baz=230,slow=5.6,SNR=3.0
SNAA Sanae 88.18 178 P P 21 48 54.3 +0.5
SNAA Sanae 88.18 178 P P 21 48 54.3 +0.5
VNA3 Neumayer Olymp 88.30 176 P P 21 48 55.2 +0.9
XAN Xi'an 88.38 307 P P 21 48 56.5 +1.2
XAN pP pP 21 50 42.5 -3.4
XAN pmax pmax
comp=Z,54nm,0.9s
XAN pmax pmax
comp=Z,180nm,8.1s
XAN Xi'an 88.38 307 P P 21 48 56.0 +0.7
PD31 Pinedale Array 88.52 43 P P 21 48 56.3 +0.3
PDAR Pinedale Array 88.52 43 P P 21 48 57.0 +1.0
comp=Z,1.5nm,0.6s,baz=212,slow=3.5,SNR=14
PDAR Pinedale Array 88.52 43 P P 21 48 56.0 0.0
BOZ Bozeman (W) 88.66 40 P P 21 48 57.5 +1.0
BOZ IAmb IAmb 21 48 59.0
comp=Z,6.6nm,0.9s
VNA2 Neumayer--Watz 88.74 177 P P 21 48 57.4 +1.1
VNA1 Neumayer--Stat 88.97 176 P P 21 48 58.5 +1.2
EGAK Eagle 89.31 15 P P 21 48 59.1 +0.2
EGAK IAmb IAmb 21 49 00.2
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 89.55 314 eP P 21 49 01.5 +0.8
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,130nm,6.1s
COLD Coldfoot 89.61 10 P P 21 49 00.9 +0.7
COLD IAmb IAmb 21 49 01.8
comp=Z,9.4nm,1.0s
KMI Kunming 89.67 297⇓ eP P 21 49 03.4 +1.7
KMI pmax pmax
comp=Z,26nm,1.0s
KMI Kunming 89.67 297 P P 21 49 02.8 +1.0
CM31 Chiang Mai Arr 90.48 289 P P 21 49 06.8 +1.5
CMAR Chiang Mai Arr 90.48 289 P P 21 49 07.0 +1.7
comp=Z,18nm,0.9s,baz=122,slow=2.8,SNR=90
CMAR Chiang Mai Arr 90.48 289 P P 21 49 06.5 +1.1
CHTO Chiang Mai 90.61 290 P P 21 49 06.8 +0.9
BMAR Burnt Mountain 90.82 12 P P 21 49 05.8 -0.1
EPYK Eagle Plains 91.69 15 P P 21 49 09.7 -0.2
EPYK IAmb IAmb 21 49 11.0
comp=Z,7.8nm,0.8s
LZH Lanzhou 93.02 307 eP P 21 49 17.7 +0.8
LZH pP pP 21 51 03.1 -4.9
LZH sP sP 21 51 51.4 -7.0
LZH pmax pmax
comp=Z,22nm,1.0s
SONM Songino Array 95.91 319 P P 21 49 29.2 -0.5
comp=Z,0.6nm,0.5s,baz=138,slow=5.1,SNR=6.3
SONM Songino Array 95.91 319 P P 21 49 29.0 -0.6
GTA Gaotai 97.21 309 eP Pdif 21 49 36.2 +0.5
GTA pP pP 21 51 28.8 +1.5
GTA sP sP 21 52 18.8 +1.1
GTA pmax pmax
comp=Z,3.0nm,1.2s
ZALV Zalesovo Beam 110.63 321 PKiKP **PKiKP 21 54 31.2 -0.8**
comp=Z,1.3nm,0.5s,baz=26,slow=0.7,SNR=8.1
MKAR Makanchi Array 111.40 313 Pdiff **Pdif 21 50 39.7 +1.1**
comp=Z,0.3nm,0.6s,baz=81,slow=5.5,SNR=4.2
MKAR PKiKP **PKiKP 21 54 33.0 -0.7**
comp=Z,1.7nm,0.6s,baz=301,slow=0.0,SNR=19
BVAR Borovoye Array 119.23 320 PKP **PKPdf 21 54 48.2 -0.3**
comp=Z,4.1nm,0.6s,baz=163,slow=1.5,SNR=20
KK31 Karatay Array 119.48 309 PKPdf 21 54 48.7 -0.7
KKAR Karatay Array 119.48 309 PKPdf 21 54 49.0 -0.4
KKAR Karatay Array 119.48 309 PKPdf **PKPdf 21 54 48.7 -0.7**
GAR Garm 119.49 304 PKPdf **PKPdf 21 54 49.4 -0.3**
KBL Kabul 120.20 299 PKPdf **PKPdf 21 54 50.9 -0.4**
SPITS Spitsbergen Ar 121.71 357 PKP **PKPdf 21 54 52.4 -0.2**
comp=Z,11nm,0.9s,baz=56,slow=7.4,SNR=2.7
ARU Arti 125.31 326 PKP **PKPdf 21 54 59.9 -0.1**
comp=Z,2.4nm,0.7s,baz=192,slow=2.0,SNR=8.6
ARU Arti 125.31 326 PKPdf **PKPdf 21 54 59.8 -0.3**
ABKAR Akbulak array 126.26 317 PKPdf **PKPdf 21 55 02.0 -0.1**
ARCES ARCESS Array B 128.82 350 PKP **PKPdf 21 55 06.3 -0.2**
comp=Z,2.2nm,0.7s,baz=21,slow=0.7,SNR=12
ARCES ARCESS Array B 128.82 350 PKPdf 21 55 06.4 0.0
GEYT Alibeck 129.06 303 PKP **PKPdf 21 55 07.8 -0.1**
comp=Z,2.2nm,0.7s,baz=169,slow=1.5,SNR=4.9
FINES FINESS Array B 135.72 344 PKhKP PKPpre 21 55 11.2
comp=Z,0.8nm,0.6s,baz=38,slow=3.4,SNR=4.9
FINES PKP **PKPdf 21 55 18.3 -1.3**
comp=Z,1.6nm,0.7s,baz=137,slow=1.3,SNR=9.3
NB2 NORSAR Subarra138.85 354 PKP PKPpre 21 55 15.7
comp=Z,0.6nm,0.6s,baz=14,slow=3.0
NOA NORSAR Array B 138.85 354 PKhKP PKPpre 21 55 18.1
comp=Z,0.8nm,0.6s,baz=20,slow=3.9,SNR=5.5
NOA PKP **PKPdf 21 55 25.6 +0.1**
comp=Z,0.7nm,0.6s,baz=28,slow=2.0,SNR=4.1
KBZ Khabaz 139.09 314 PKP **PKPdf 21 55 26.2 -0.2**
comp=Z,2.3nm,0.9s,baz=226,slow=1.5,SNR=4.2
CHVG Ch'k'valeri 140.02 313 ⇑P PKPpre 21 55 48.5
BCA Borcka 140.79 311 ⇑P PKPpre 21 55 51.6
MARD Mardin 142.71 305 PKPdf **PKPdf 21 55 31.3 -1.9**
SUW Suwalki 142.82 340 ePKP **PKPdf 21 55 30.3 -2.4**
AKASG Malin Array Be 143.07 332 PKPab 21 55 30.1 -0.5
comp=Z,32nm,0.8s,baz=42,slow=4.6,SNR=95
AKASG Malin Array Be 143.07 332 PKPab 21 55 30.5 -0.2
AKBB Malin Array Si 143.07 332 PKPdf PKPab 21 55 30.2 -0.5
EKA Eskdalemuir Ar 144.78 6 PKP **PKPdf 21 55 35.9 -0.2**
comp=Z,4.5nm,0.7s,baz=320,slow=3.1,SNR=24
GKP Gorka Klasztor 145.19 344 ePKP **PKPbc 21 55 37.9 +0.2**
SORM Soroca 145.28 329 ⇑P **PKPdf 21 55 37.6 +0.4**
MBAR Mbarara 145.39 236 PKPab 21 55 40.5 -0.3
BEL Belsk 145.44 340 ePKP **PKPab 21 55 39.1 -0.5**
GAZ Gaziantep 145.47 307 PKPab 21 55 39.8 -0.6
PURM Purcari 145.59 326 ⇑P **PKiKP 21 55 41.3 -0.7**
BZK Bozkurt 145.75 316 ⇑P **PKPbc 21 55 39.5 -0.2**
MILM Milestii Mici 145.88 327 ⇑P **PKPbc 21 55 39.6 -0.3**
BSEG Bad Segeberg 145.91 352 ePKPbc **PKPbc 21 55 40.3 +0.6**
baz=15,slow=2.5
ILGA Ilgaz 146.38 315 PKPbc 21 55 41.8 -0.1
VASR Vaslui 146.59 328 ⇑P **PKPbc 21 55 42.3 +0.4**
KWP Kalwaria Pacla 146.60 336 ePKP **PKPbc 21 55 42.2 +0.4**
KWP Kalwaria Pacla 146.60 336 PKPbc 21 55 41.7 -0.2
RUE Ruedersdorf 146.72 347 ePKPbc **PKPbc 21 55 42.4 +0.4**
baz=15,slow=2.5

PRAR	RASCA	146.84 330	⇑P	PKPbc	21 55 43.0	+0.4
TLCR		147.02 325	⇑P	PKPdf	21 55 40.9	+0.7
BR131	Keskin Array S	147.05 313		PKPbc	21 55 42.9	-0.6
BRTR	Keskin Array B	147.05 313	PKPbc	PKPbc	21 55 43.5	-0.1
	comp=Z,9.0nm,0.7s,baz=132,slow=3.8,SNR=20					
BRTR	Keskin Array B	147.05 313		PKPbc	21 55 43.2	-0.4
VARL	Varlezi	147.06 327	⇑P	PKPbc	21 55 43.8	+0.6
BUR08	Bucovina Ar. S	147.11 331		PKPbc	21 55 43.9	+0.5
BURAR	Bucovina Array	147.12 331	⇑P	PKiKP	21 55 44.5	-0.8
BURAR	Bucovina Array	147.12 331	PKPdf	PKPdf	21 55 41.1	+0.7
BURAR			PKPbc	PKPbc	21 55 44.2	+0.7
OJC	Ojcow	147.15 339	*e*PKP	PKPbc	21 55 43.5	+0.2
OJC	Ojcow	147.15 339		PKPbc	21 55 43.2	-0.1
GHRR		147.18 327	⇑P	PKiKP	21 55 44.6	-0.7
BIZ	Bicaz	147.20 330	⇑P	PKPbc	21 55 44.4	+0.8
TESR	Tescani	147.25 328	⇑P	PKPbc	21 55 43.7	0.0
KOLS	Kolonicke sedl	147.33 336	*e*PKP	PKPbc	21 55 43.6	-0.2
NRDL	Niedersach Rie	147.34 351	*e*PKPbc	PKPbc	21 55 43.8	+0.2
	baz=15,slow=2.5					
CFR	Carcaliu	147.39 325	⇑P	PKPbc	21 55 44.0	0.0
TOPG	Topolog	147.46 325	⇑P	PKPbc	21 55 45.1	+0.8
ODBI	Odobesti	147.56 327	⇑P	PKiKP	21 55 45.4	-0.7
BR231	Keskin MP Arra	147.59 314		PKPbc	21 55 45.2	+0.2
ASSE	Asse, Remlinge	147.61 351	*e*PKPbc	PKPbc	21 55 44.8	+0.5
	baz=15,slow=2.5					
KSP	Ksiaz	147.64 344	*e*PKP	PKPbc	21 55 45.3	+0.7
VRI	Vrincioaia	147.66 328	⇑P	PKPbc	21 55 45.2	+0.4
NIE	Niedzica	147.66 338	*e*PKP	PKiKP	21 55 45.6	-0.7
CRVS	Cervenica-Dubn	147.67 336	*e*PKP	PKPbc	21 55 45.2	+0.5
PLOR	Plostina	147.71 328	⇑P	PKPbc	21 55 44.6	-0.3
TIRR	Tirgusor	147.71 324	⇑P	PKPbc	21 55 45.0	+0.1
IBBN	Ibbenburen	147.81 354	*e*PKPbc	PKPbc	21 55 45.4	+0.5
	baz=15,slow=2.5					
HARR	Harsova	147.82 325	⇑P	PKiKP	21 55 45.9	-0.7
BMR	Baia Mare	147.83 333	⇑P	PKiKP	21 55 46.1	-0.5
TLBR	Topalu	147.85 325	⇑P	PKPbc	21 55 45.4	+0.1
BISRR	Bisoca	147.89 327	⇑P	PKPbc	21 55 45.8	+0.4
ARCR	ARCALIA	147.91 331	⇑P	PKiKP	21 55 46.4	-0.4
OSTC	Ostas	147.93 343	⇑*e*PKP	PKiKP	21 55 46.3	-0.4
CLZ	Clausthal	147.94 351	*e*PKPbc	PKPbc	21 55 45.6	+0.3
	baz=15,slow=2.5					
CHVC	Chvalec	147.94 344	⇑*e*PKP	PKPbc	21 55 46.0	+0.6
OZUR		147.96 329	⇑P	PKiKP	21 55 46.3	-0.7
CLL	Collm	147.98 348	*e*PKPdf	PKPdf	21 55 42.0	+0.4
	comp=Z,6.0nm,1.5s					
CLL			⇓*i*PKPbc	PKPbc	21 55 45.8	+0.4
	comp=Z,35nm,0.6s					
CLL			*i* PKPab	PKPab	21 55 49.8	0.0
	comp=Z,17nm,0.9s					
CLL			*i* pPKPbc	pPKPbc	21 57 42.3	+0.4
	comp=Z,4.0nm,1.0s					
CLL	Collm	147.98 348		PKPbc	21 55 45.4	0.0
MANR	Mangalia	148.02 323	⇑P	PKPbc	21 55 45.7	0.0
UPC	Upice	148.02 344	⇑*e*PKP	PKiKP	21 55 46.4	-0.5
UPC			*e*PKPAB	PKPab	21 55 51.2	+1.1
DPC	Dobruska-Polom	148.08 343	⇑*e*PKP	PKiKP	21 55 46.6	-0.5
LANS	Liptovska Anna	148.18 339	*e*PKP	PKiKP	21 55 47.6	+0.3
BRG	Berggiesshubel	148.19 346	*e*PKP	PKPdf	21 55 42.5	+0.6
	comp=Z,7.9nm,1.3s					
BRG			*i*		21 55 46.3	
	comp=Z,19nm,0.7s					
BRG			*i*		21 55 50.8	
	comp=Z,13nm,0.9s					
BRG	Berggiesshubel	148.19 346	*e*PKPbc	PKPbc	21 55 46.3	+0.4
	baz=15,slow=2.5					
KRLC	Kraliky	148.20 342	*e*PKPDF	PKPdf	21 55 42.6	+0.5
KRLC			⇑*e*PKP	PKPbc	21 55 46.6	+0.5
KRLC			*e*PKPAB	PKPab	21 55 51.3	+0.4
MORC	Moravsky Berou	148.25 341	⇑P	PKPbc	21 55 46.6	+0.4
MORC	Moravsky Berou	148.25 341	*e*PKP	PKPbc	21 55 46.6	+0.4
MORC	Moravsky Berou	148.25 341		PKPbc	21 55 46.5	+0.4
ISR	Istrita	148.27 327	⇑P	PKPbc	21 55 46.8	+0.3
FBE	Freiberg	148.28 347	*e*PKPbc	PKPbc	21 55 46.8	+0.6
	baz=15,slow=2.5					
GTTG	Gottingen	148.28 351	*e*PKPbc	PKPbc	21 55 46.7	+0.6
	baz=15,slow=2.5					
MLR	Muntele Rosu	148.31 328	⇑P	PKPbc	21 55 46.8	+0.2
MLR	Muntele Rosu	148.31 328		PKPbc	21 55 46.7	0.0
NEUB	Neuenburg	148.31 349	*e*PKPbc	PKPbc	21 55 46.7	+0.5
	baz=15,slow=2.5					
MDUB	Mudurnu	148.33 316		PKPbc	21 55 47.0	+0.2
PVCC	Panska Ves	148.37 345	⇑*e*PKP	PKPbc	21 55 47.0	+0.6
CJR	Cluj-Napoca	148.53 332	⇑P	PKPbc	21 55 47.5	+0.5
SECR		148.57 327	⇑P	PKPbc	21 55 47.5	+0.4
BUG	Bochum--Univer	148.71 354	*e*PKPbc	PKiKP	21 55 47.8	-0.4
	baz=15,slow=2.5					
VOIR		148.79 329	⇑P	PKPbc	21 55 48.2	+0.5
PRA	Prague	148.83 345	⇑*e*PKP	PKiKP	21 55 48.5	-0.1
DRGR		148.85 333	⇑P	PKPdf	21 55 43.8	+0.5
PRU	Pruhonice	148.88 345	⇑*e*PKP	PKiKP	21 55 48.3	-0.4
MOX	Moxa	148.88 349	*e*PKPbc	PKPbc	21 55 48.0	+0.4
	baz=15,slow=2.5					
GOPC	GO Pecny, Ondr	148.88 345	⇑*e*PKP	PKiKP	21 55 48.3	-0.4
GOPC			*e*PKPAB	PKPab	21 55 54.1	+0.5
PLN	Plauen	148.93 348	*e*PKPbc	PKPbc	21 55 48.3	+0.4
	baz=15,slow=2.5					
TANN	Tannenbergstha	148.94 348	*e*PKPbc	PKPbc	21 55 48.3	+0.4
	baz=15,slow=2.5					
WERD	Werda	148.94 348	*e*PKPbc	PKPbc	21 55 48.4	+0.5
	baz=15,slow=2.5					
VRAC	Vranov	148.95 342	⇑P	PKiKP	21 55 48.9	0.0
VRAC	Vranov	148.95 342	*e*PKP	PKPbc	21 55 48.3	+0.4
VRAC			*e*		21 55 54.4	
VYHS	Vyhne	148.96 339	*e*PKP	PKPbc	21 55 48.3	+0.4
VYHS			*e*		21 55 54.9	
UBBA	Unterbreizbach	148.99 351	*e*PKPbc	PKPbc	21 55 48.1	+0.4
	baz=15,slow=2.5					
GUNZ	Gunzen	149.01 348	*e*PKPbc	PKiKP	21 55 48.5	-0.5
	baz=15,slow=2.5					
JAVC	Velka Javorina	149.02 340	*e*PKP	PKiKP	21 55 49.7	+0.6
ARR	Arges	149.05 329	⇑P	PKiKP	21 55 49.8	+0.5
PSZ	Piszkesteto	149.07 337	⇑P	PKiKP	21 55 49.0	-0.3
PSZ	Piszkesteto	149.07 337		PKPbc	21 55 48.1	-0.2
WERN	Wernitzgruen	149.08 348	*e*PKPbc	PKPbc	21 55 48.6	+0.4
	baz=15,slow=2.5					
NKC	Novy Kostel	149.12 347	⇑*e*PKP	PKiKP	21 55 48.8	-0.4
CSS	Mathiatis	149.17 305		PKPbc	21 55 48.6	-0.3
KRUC	Moravsky	149.23 342	*e*PKP	PKPbc	21 55 48.8	+0.2
KRUC			*e*		21 55 55.4	
TREC	Trest	149.27 343	⇑*e*PKP	PKPbc	21 55 49.1	+0.4
PBCC	Pribram	149.29 345	⇑*e*PKP	PKiKP	21 55 49.3	-0.3
RAZG	Razgrad	149.33 325	⇑P	PKPdf	21 55 44.8	+0.8
LOT	Lotru	149.40 330	⇑P	PKPbc	21 55 48.3	-1.0
SMOL	Smolenice	149.40 340	*e*PKP	PKiKP	21 55 50.3	+0.5
MANZ	Manzenberg	149.42 348	*e*PKPbc	PKPbc	21 55 49.3	+0.3
	baz=15,slow=2.5					
LEF	Lefka	149.45 305	⇑P	PKPbc	21 55 48.6	-0.9
DEV	Deva	149.47 331	⇑P	PKPbc	21 55 49.2	0.0
HUMR	Humele	149.48 327	⇑P	PKPbc	21 55 48.9	-0.4
UCC	Uccle	149.54 358		PKPbc	21 55 49.6	+0.4
MODS	Modra-Piesok	149.57 340	*e*PKP	PKPbc	21 55 49.7	+0.3
ROTZ	Rotzenmuhle	149.61 347	*e*PKPbc	PKiKP	21 55 49.9	-0.4
	baz=15,slow=2.5					
AHRW	Bad Neuenahr-A	149.62 354	*e*PKPbc	PKiKP	21 55 50.0	-0.1
	baz=15,slow=2.5					
SIRR	Siria	149.72 333	⇑P	PKPbc	21 55 49.9	+0.1
TNS	Taunus Mts	149.78 352	*e*PKPbc	PKPbc	21 55 50.2	+0.3
	baz=15,slow=2.5					
GRA1	Grafenberg Arr	149.87 349		PKPbc	21 55 50.1	0.0
GRF	Grafenberg Arr	149.87 349	*e*PKPbc	PKPbc	21 55 50.3	+0.2
	baz=15,slow=2.5					
GZR	Gura Zlata	149.90 331	⇑P	PKPbc	21 55 50.0	-0.4
KHC	Kasperske Hory	149.91 345	*e*PKPDF	PKPdf	21 55 45.2	+0.4
KHC			⇑*e*PKP	PKiKP	21 55 50.9	0.0
KHC			*e*PKPAB	PKPab	21 55 58.5	+0.6
KHC	Kasperske Hory	149.91 345	PKPbc	PKiKP	21 55 50.9	0.0
KHC			PKPab	PKPab	21 55 58.6	+0.7
WET	Wettzell	150.05 346	*e*PKPbc	PKPbc	21 55 50.9	+0.3
	baz=15,slow=2.5					
GEC2	GERESS Array S	150.14 345	*e*PKPbc	PKiKP	21 55 51.2	-0.3
	baz=15,slow=2.5					
GEC2	GERESS Array S	150.14 345		PKPbc	21 55 50.9	0.0
GEC2			PKPab	PKPab	21 55 59.5	+0.5
GERES	GERESS Array B	150.14 345	PKP	PKPdf	21 55 45.0	-0.3
	comp=Z,0.5nm,0.5s,baz=116,slow=3.1,SNR=6.3					
GERES			PKPbc	PKiKP	21 55 51.1	-0.3
	comp=Z,8.8nm,0.8s,baz=36,slow=2.5,SNR=68					
GERES	GERESS Array B	150.14 345	PKPdf	PKPdf	21 55 45.4	+0.1
GERES				PKPbc	21 55 51.0	0.0
VLAD	Vladila	150.14 327	⇓P	PKPbc	21 55 50.6	-0.3
BZS	Buzias	150.25 332	⇓P	PKPbc	21 55 51.2	+0.1
SRE	Strehaia	150.25 329	⇑P	PKiKP	21 55 51.8	+0.1
CONA	Conrad Observa	150.40 342	*i* PKPdf	PKPdf	21 55 45.9	+0.3
	comp=Z,2.5nm,1.3s					
CONA			*e*PKiKP	PKiKP	21 55 52.0	0.0
	comp=Z,12nm,0.8s,SNR=12					
CONA			*e*PKPab	PKPab	21 56 01.2	+1.1
	comp=Z,6.0nm,0.7s					
HERR	Herculane	150.46 331	⇓P	PKPbc	21 55 51.5	-0.1
WLF	Walferdange	150.57 355	*e*PKPbc	PKiKP	21 55 52.3	+0.2
	baz=15,slow=2.5					
WLF	Walferdange	150.57 355		PKiKP	21 55 52.4	+0.2
MDVR	Moldovita	150.85 331	⇓P	PKPbc	21 55 52.6	0.0
MOA	Molln	150.92 344	*i* PKPbc	PKPbc	21 55 52.7	0.0
	comp=Z,5.6nm,1.0s					
MOA			*i* PKPab	PKPab	21 56 03.0	+0.8
	comp=Z,7.1nm,0.8s					
FUR	Furstenfeldbru	151.32 348	*e*PKPbc	PKPbc	21 55 53.7	+0.2
	baz=15,slow=2.5					
RJOB	Jochberg	151.39 345	*e*PKPbc	PKPbc	21 55 52.5	-1.2
	baz=15,slow=2.5					
BFO	Black Forest	151.66 352	*e*PKPbc	PKPbc	21 55 54.2	0.0
	baz=15,slow=2.5					
BFO	Black Forest	151.66 352		PKPbc	21 55 54.0	-0.2
BFO			PKPab	PKPab	21 56 04.9	-0.3
SOKA	Soboth	151.77 342	*e*PKPbc	PKPbc	21 55 54.3	-0.4
	comp=Z,8.2nm,1.2s,SNR=7.1					
SOKA			*e*PKPab	PKPab	21 56 06.0	+0.1
	comp=Z,10nm,1.0s					
PERS	Pernice	151.78 341	*i* PKPbc	PKPbc	21 55 54.2	-0.5
PERS			*i* PKPab	PKPab	21 56 06.0	+0.1
KBA	Koelnbreinsper	151.87 344	*e*PKPbc	PKPbc	21 55 54.2	-0.8
	comp=Z,6.2nm,0.8s					
KBA			*i* PKPab	PKPab	21 56 07.4	+1.0
	comp=Z,8.9nm,0.8s					
UBR	Ueberruh	152.01 349	*e*PKPbc	PKPbc	21 55 55.2	+0.1
	baz=15,slow=2.5					
WATA	Walderalm	152.05 347	*e*PKPdf	PKPdf	21 55 47.8	-0.4
	comp=Z,2.9nm,1.0s					
WATA			*e*PKPbc	PKPbc	21 55 55.0	-0.3
	comp=Z,5.0nm,0.8s					
WATA			*e*PKPab	PKPab	21 56 07.3	+0.2
	comp=Z,10nm,1.2s					
OBKA	Obir	152.07 342	*e*PKPdf	PKPdf	21 55 46.0	-2.2
	comp=Z,4.0nm,1.3s					
OBKA			*e*PKPbc	PKPbc	21 55 54.1	-1.3
	comp=Z,2.4nm,0.7s					
OBKA			*e*PKPab	PKPab	21 56 06.9	-0.2
	comp=Z,5.9nm,0.8s					
RETA	Reutte	152.07 348	*i* PKPbc	PKPbc	21 55 55.1	-0.2
	comp=Z,4.8nm,1.1s					
RETA			*e*PKPab	PKPab	21 56 07.3	+0.2
	comp=Z,9.4nm,1.2s					
WTTA	Wattenberg	152.10 347	*e*PKPdf	PKPdf	21 55 48.2	-0.2
	comp=Z,3.6nm,0.8s					
WTTA			*i* PKiKP	PKPbc	21 55 55.5	0.0
	comp=Z,12nm,0.9s					
WTTA			*i* PKPab	PKPab	21 56 07.7	+0.3
	comp=Z,7.9nm,0.8s					
MOTA	Moosalm	152.14 347	*e*PKPdf	PKPdf	21 55 47.9	-0.5
	comp=Z,3.0nm,0.9s					
MOTA			*e*PKiKP	PKiKP	21 55 55.7	0.0
	comp=Z,9.1nm,1.3s					
MOTA			*i* PKPab	PKPab	21 56 07.6	+0.1
	comp=Z,10nm,0.9s					
DIVS	Divibare	152.16 332		PKPbc	21 55 55.0	-0.6
DIVS			PKPab	PKPab	21 56 07.3	-0.3
MYKA	Terra Mystica	152.21 343	*i* PKPbc	PKPbc	21 55 55.0	-0.6
	comp=Z,4.6nm,0.8s					
MYKA			*e*PKPab	PKPab	21 56 07.6	-0.1
	comp=Z,5.8nm,0.6s					
SQTA	Sankt Quirin	152.24 347	*i* PKPdf	PKPdf	21 55 48.2	-0.2
	comp=Z,2.2nm,0.7s					
SQTA			*e*PKiKP	PKiKP	21 55 56.1	+0.2
	comp=Z,6.7nm,0.8s,SNR=5.8					
LEGS	Legarje	152.34 340	*i* PKPbc	PKPbc	21 55 55.6	-0.2
LEGS			*i* PKPab	PKPab	21 56 08.1	-0.1
ABTA	Abfaltersbach	152.39 345	*i* PKPdf	PKPdf	21 55 47.9	-0.8
	comp=Z,6.5nm,1.2s					
ABTA			*i* PKPbc	PKPbc	21 55 55.8	-0.2
	comp=Z,8.3nm,0.7s					
ABTA			*e*PKPab	PKPab	21 56 08.2	-0.3
	comp=Z,7.3nm,0.7s					
PRED	Cave del Predi	152.40 343		PKPab	21 56 07.8	-0.7
DAVA	Damuels	152.43 349	*e*PKPbc	PKPbc	21 55 54.7	-1.5
	comp=Z,15nm,1.2s,SNR=5.3					
DAVA			*i* PKPab	PKPab	21 56 08.8	+0.1
	comp=Z,4.1nm,0.6s					
ZOU	Zoufplan	152.45 344		PKPab	21 56 08.0	-0.9
LJU	Ljubljana	152.50 342	*i* PKPbc	PKPbc	21 55 56.1	0.0
LJU			*i* PKPab	PKPab	21 56 08.7	-0.1
FETA	Feichten	152.52 348	*e*PKPdf	PKPdf	21 55 49.0	0.0
	comp=Z,4.8nm,1.0s					
FETA			*e*PKPbc	PKPbc	21 55 56.2	-0.2
	comp=Z,10nm,1.6s					
FETA			*i* PKPab	PKPab	21 56 08.6	-0.5
	comp=Z,4.9nm,0.9s					
VISS	Visnje	152.62 341	*i* PKPbc	PKPbc	21 55 56.4	-0.1
VISS			*i* PKPab	PKPab	21 56 09.3	-0.1
VOJS	Vojsko	152.69 343	*i* PKPbc	PKPbc	21 55 56.0	-0.7
VOJS			*i* PKPab	PKPab	21 56 08.9	-0.8
STAL	STALIGIAL	152.79 344		PKPdf	21 55 48.4	-0.8
STAL			PKPbc	PKPbc	21 55 56.0	-0.9
STAL				PKPab	21 56 09.6	-0.6
CIMO	Cimolais	152.82 345	PKPdf	PKPdf	21 55 49.0	-0.2
CIMO				PKPbc	21 55 56.2	-0.7
CIMO			PKPab	PKPab	21 56 09.5	-0.8
GBRS	Gornja Briga	152.87 341	*i* PKPbc	PKPbc	21 55 57.0	0.0
GBRS			*i* PKPab	PKPab	21 56 10.4	-0.1
DAVOX	Davos/Dischmat	152.92 349	PKP	PKPdf	21 55 49.6	0.0
	comp=Z,2.1nm,0.8s,baz=142,slow=1.8,SNR=4.9					
DAVOX			PKPbc	PKiKP	21 55 57.9	+0.5
	comp=Z,5.8nm,0.6s,baz=272,slow=2.7,SNR=19					
DAVOX			PKPab	PKPab	21 56 10.7	-0.1
	comp=Z,2.8nm,0.5s,baz=50,slow=7.1,SNR=3.9					
FUORN	Ofenpass-Fuorn	153.00 348		PKiKP	21 55 57.6	0.0
FUORN			PKPab	PKPab	21 56 11.3	0.0
CTI	Castel Tesino	153.25 346	PKPbc	PKPbc	21 55 57.2	-0.7
CTI				PKPab	21 56 11.5	-0.7
SENIN	Lac Senin/Sane	153.72 352	PKPab	PKPab	21 56 14.4	+0.1
LIT	Litokhoron	153.88 323	PKPab	PKPab	21 56 14.6	-0.5
FNA	Florina	154.01 326		PKPbc	21 55 59.2	-0.5
FNA			PKPab	PKPab	21 56 16.5	+0.9
ZCCA	Zocca	155.01 345		PKPab	21 56 20.8	+1.2
BNI	Bardonecchia	155.09 353	PKPab	PKPab	21 56 20.7	+0.6
OSSC	Osservatorio P	155.72 344	PKPab	PKPab	21 56 21.8	-0.9
NRCA	Norcia	155.83 341		PKPab	21 56 23.1	-0.2
LATE	Laterza	156.42 343		PKPab	21 56 25.4	-0.5
TIP	Timpagrande	157.54 330	PKPab	PKPab	21 56 31.0	+0.2
ESBB	Sonseca Array	159.92 15		PKPab	21 56 41.2	0.0
ESDC	Sonseca Array	159.93 15	PKP	PKPdf	21 55 58.7	+0.1
	comp=Z,0.3nm,0.9s,baz=338,slow=3.2,SNR=4.6					
ESDC			PKPab	PKPab	21 56 41.1	0.0
	comp=Z,1.4nm,1.1s,baz=344,slow=3.7,SNR=7.0					
ESDC	Sonseca Array	159.93 15	PKPab	PKPab	21 56 40.6	-0.5
KEST	Kesra	163.50 340	PKPab	PKPab	21 56 57.1	+0.1
	comp=Z,4.3nm,0.8s,baz=306,slow=6.6,SNR=5.0					
DBIC	Dimbokro	164.68 151	PKP	PKPdf	21 56 03.0	-0.9
	comp=Z,4.6nm,1.0s,baz=320,slow=7.7,SNR=3.1					
MDT	Midelt	166.03 26	PKP	PKPdf	21 56 05.8	+1.1
	comp=Z,1.7nm,0.9s,baz=349,slow=0.8,SNR=4.7					
TORD	Torodi Ar. Bea	172.83 174	PKP	PKPdf	21 56 08.8	-0.2
	comp=Z,2.7nm,0.9s,baz=317,slow=1.7,SNR=9.8					
TORD			PKPab	PKPab	21 57 39.6	+1.1
	comp=Z,0.8nm,0.7s,baz=174,slow=4.5,SNR=6.3					
TORD	Torodi Ar. Bea	172.83 174		PKPdf	21 56 08.4	-0.6
TORD				PKPab	21 57 39.2	+0.7

IDC ***08*** *21:46:58.6±0.7, 43.°62N×28.°84W, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.7/59, mbtmp3.8/13, ML3.7/1, MS3.6/31, Ms1 3.6/31, ms1mx3.5/44, Error ellipse: s-maj=23.5km s-min=16.2km az=2.0*

NEIC ***08*** *21:46:59.6±1.6, 43.°51N±0.°08×29.°0W±0.°1, h10km±1km, mb4.6/21, Error ellipse: s-maj=17.7km s-min=10.4km az=308.0*

ISC 08 21:46:59.7±0.6, **43.°6N**±0.°1×**28.°92W**±0.°08, **h10**km, **n61**, σ0**89**/39, **mb4.4**/18, **MS3.7**/30, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	Cha da Macela	6.34	155	Pn	Pn	21 48 31.8	-1.4
PFVI	Vila Bisbo	16.59	106	Pn	Pn	21 50 51.0	-1.3
PAB	San Pablo	18.80	94	P	P	21 51 19.6	+0.2
ESDC	Sonseca Array	19.04	93	P	P	21 51 20.7	-1.2
	0.0nm,0.3s,baz=299,slow=11,SNR=8.5						
ESDC				LR	LR	21 56 54.8	
	comp=Z,78nm,21.1s,baz=295,slow=31						
ESDC	Sonseca Array	19.04	93	P	P	21 51 21.5	-0.4
EKA	Eskdalemuir Ar	20.34	46	P	P	21 51 35.8	-0.2
	2.2nm,0.9s,baz=243,slow=8.3,SNR=3.8						
BORG	Borgarnes	21.66	9	LR	LR	21 57 45.8	
	comp=Z,197nm,21.3s,baz=193,slow=30						
MDT	Midelt	21.84	111	P	P	21 51 52.3	-0.1
	1.0nm,0.6s,baz=300,slow=11,SNR=4.7						
MDT				LR	LR	21 58 19.1	
	comp=Z,96nm,21.1s,baz=307,slow=31						
SFJD	Kangerlussuaq	26.25 341		LR	LR	22 00 37.4	
	comp=Z,294nm,18.5s,baz=164,slow=31						
SCHQ	Schefferville	26.89 308		LR	LR	22 01 31.8	
	comp=Z,191nm,19.5s,baz=64,slow=32						
DAVOX	Davos/Dischmat	27.36 70		LR	LR	22 02 22.9	
	comp=Z,54nm,18.4s,baz=270,slow=34						
CLL	Collm	29.07 60	*e*P	P	P	21 53 01.0	+1.0
JMIC	Jan Mayen	29.31 14		LR	LR	22 01 47.9	
	comp=Z,104nm,18.1s,baz=243,slow=30						
NOA	NORSAR Array B	29.50 40		LR	LR	22 03 12.2	
	comp=Z,43nm,19.7s,baz=250,slow=33						
GERES	GERESS Array B	29.67 65		P	P	21 53 06.7	+1.1
	0.3nm,0.5s,baz=285,slow=11,SNR=2.5						
GERES				LR	LR	22 04 14.6	
	comp=Z,41nm,18.0s,baz=278,slow=35						
KEST	Kesra	30.27 92		P	P	21 53 10.2	-0.8
	2.5nm,0.8s,baz=272,slow=7.4,SNR=3.5						
KEST	Kesra	30.27 92		P	P	21 53 11.5	+0.5
KEST				IAmb	IAmb	21 53 13.5	
	comp=Z,22nm,1.8s						
TAM	Tamanrasset	35.14 115		P	P	21 53 55.3	+1.5
TAM				IAmb	IAmb	21 53 57.5	
	comp=Z,6.3nm,1.3s						
SADO	Sadowa	35.58 290		LR	LR	22 07 48.9	
	comp=Z,210nm,18.8s,baz=55,slow=35						
BUR08	Bucovina Ar. S	37.44 64		P	P	21 54 13.5	+0.4
BURAR	Bucovina Array	37.46 64		P	P	21 54 13.7	+0.5
ARCES	ARCESS Array B	37.67 28		LR	LR	22 07 43.6	
	comp=Z,63nm,20.9s,baz=8.0,slow=33						
AKASG	Malin Array Be	39.29 59		LR	LR	22 10 43.8	
	comp=Z,48nm,18.8s,baz=260,slow=36						
TOA0	Torodi Ar. Sit	40.12 130		P	P	21 54 36.1	+0.3
TOA0				IAmb	IAmb	21 54 52.2	
	comp=Z,7.9nm,1.3s						
TORD	Torodi Ar. Bea	40.12 130		P	P	21 54 36.0	+0.2
	comp=Z,1.8nm,0.9s,baz=324,slow=7.4,SNR=7.4						
TORD				LR	LR	22 10 08.2	
	comp=Z,194nm,18.5s,baz=325,slow=35						
TORD	Torodi Ar. Bea	40.12 130		P	P	21 54 36.1	+0.4
TKL	Tuckaleechee C	42.33 279		LR	LR	22 10 47.2	
	comp=Z,48nm,21.4s,baz=70,slow=34						
DBIC	Dimbokro	42.39 143		LR	LR	22 11 07.4	
	comp=Z,121nm,19.4s,baz=318,slow=34						
ULM	Lac du Bonnet	44.83 303		LR	LR	22 12 18.8	
	comp=Z,192nm,20.5s,baz=53,slow=34						
MGMO	Mountain Grove	47.66 285		P	P	21 55 36.6	+0.4
MGMO				IAmb	IAmb	21 55 37.7	
	comp=Z,6.7nm,0.8s						
U40A	Yellville	48.46 284		P	P	21 55 42.1	-0.2
U40A				IAmb	IAmb	21 55 43.6	
	comp=Z,8.4nm,0.9s						
MIAR	Mount Ida	49.87 283		P	P	21 55 53.4	+0.2
MIAR				IAmb	IAmb	21 55 54.5	
	comp=Z,8.6nm,0.8s						
YKA	Yellowknife Ar	50.69 323		LR	LR	22 14 20.4	
	comp=Z,91nm,21.4s,baz=0.0,slow=32						
WMOK	Wichita Mounta	53.44 286		P	P	21 56 19.4	-0.5
WMOK				IAmb	IAmb	21 56 20.9	
	comp=Z,7.2nm,1.3s						
WHTX	Lake Whitney,	53.98 282		P	P	21 56 23.4	-0.4
PDAR	Pinedale Array	56.52 299		LR	LR	22 19 49.0	
	comp=Z,97nm,18.3s,baz=84,slow=35						
MSTX	Muleshoe	56.64 287		P	P

KIAG			S		Sg	21 58 13.4	+0.2
KIAG	**Kiagna River**	**0.93 227**			**Pg**	**21 58 00.7**	**-0.4**
KIAG					**Sg**	**21 58 13.8**	**+0.6**
MCARA	**McCarthy VSAT**	**1.00 260**			**Pg**	**21 58 02.8**	**+0.3**
MCARA					**Sg**	**21 58 16.1**	**+0.6**
YUK4	**Talbot Arm**	**1.14 100**	P		**Pn**	**21 58 06.1**	**-0.4**
YUK4	**Talbot Arm**	**1.14 100**			**Pn**	**21 58 06.2**	**-0.2**
ISLE	**Juniper Island**	**1.18 215**			**Pb**	**21 58 05.3**	**-1.1**
ISLE					**Sb**	**21 58 20.6**	**-1.6**
TGL	**Tana Glacier**	**1.22 229**			**Pb**	**21 58 05.9**	**-1.2**
TGL					**Sb**	**21 58 21.4**	**-1.9**
VRDI	**Verde Repeater**	**1.24 255**			**Pn**	**21 58 06.5**	**-1.4**
YAH	**Yahtse**	**1.27 198**			**Pn**	**21 58 07.2**	**-1.0**
YAH					**Sb**	**21 58 23.9**	**-0.9**
RKAV	**Rock Avalanche**	**1.29 188**	P		**Pn**	**21 58 07.4**	**-1.1**
RKAV			S		**Sg**	**21 58 24.9**	**+0.4**
RKAV	**Rock Avalanche**	**1.29 188**			**Pn**	**21 58 07.3**	**-1.1**
CRQM	**Cirque**	**1.33 233**			**Pn**	**21 58 07.5**	**-1.6**
GLB	**Gilahina Butte**	**1.37 266**			**Pb**	**21 58 09.4**	**-0.2**
GLB					**Sg**	**21 58 28.1**	**+0.9**
BARK	**Barkley Ridge**	**1.39 213**			**Pn**	**21 58 09.1**	**-0.7**
YUK6	**Outpost Mounta**	**1.41 115**	Pn		**Pb**	**21 58 10.2**	**-0.2**
YUK6			Sg		**Sg**	**21 58 29.5**	**+1.1**
YUK6	**Outpost Mounta**	**1.41 115**			**Pb**	**21 58 10.2**	**-0.2**
SAMH	**Samovar Hills**	**1.45 176**	Pn		**Pb**	**21 58 10.9**	**-0.1**
SAMH			Sg		**Sg**	**21 58 30.2**	**+0.6**
SAMH	**Samovar Hills**	**1.45 176**			**Pb**	**21 58 10.7**	**-0.3**
SAMH					**Sb**	**21 58 29.4**	**-0.5**
MESA	**MESA**	**1.48 199**	Pn		**Pg**	**21 58 11.6**	**+0.1**
MESA			Sg		**Sg**	**21 58 31.6**	**+1.0**
MESA	**MESA**	**1.48 199**			**Pg**	**21 58 11.6**	**+0.1**
CHX	**Chaix Hills**	**1.51 183**			**Pg**	**21 58 12.5**	**+0.3**
PCA	**Pinnacle**	**1.52 166**	Pn		**Pb**	**21 58 11.9**	**-0.3**
PCA			Sg		**Sg**	**21 58 32.4**	**+0.5**
PCA	**Pinnacle**	**1.52 166**			**Pb**	**21 58 11.9**	**-0.3**
BC03		**1.55 346**			**Pg**	**21 58 13.2**	**+0.2**
BCAR	**Beaver Creek A**	**1.55 346**			**Pb**	**21 58 12.4**	**-0.3**
YUK5	**Granite Creek**	**1.56 105**	Pn		**Pb**	**21 58 12.6**	**-0.4**
YUK5			Sg		**Sg**	**21 58 33.5**	**+0.2**
YUK5	**Granite Creek**	**1.56 105**			**Pb**	**21 58 12.6**	**-0.4**
KULT	**Kultieth River**	**1.58 214**			**Pb**	**21 58 13.1**	**-0.2**
CYK	**Cape Yakataga**	**1.67 207**			**Pb**	**21 58 14.5**	**-0.1**
SNH	**Sunshine Point**	**1.67 214**			**Pb**	**21 58 14.9**	**+0.2**
YUK7	**Dusty Glacier**	**1.72 126**	Pn		**Pb**	**21 58 15.8**	**+0.1**
YUK7			Sg		**Sg**	**21 58 38.9**	**+0.3**
YUK7	**Dusty Glacier**	**1.72 126**			**Pb**	**21 58 15.9**	**+0.1**
GRIN	**Grindle Hills**	**1.73 223**			**Pb**	**21 58 15.5**	**-0.2**
BCPM	**Bancas Point**	**1.75 157**			**Pb**	**21 58 15.8**	**-0.3**
BERG	**Berg Lake**	**1.78 230**			**Pb**	**21 58 16.3**	**-0.3**
HYT	**Haines Junctio**	**1.83 112**	Pn		**Pb**	**21 58 17.1**	**-0.5**
HYT			Sg		**Sg**	**21 58 42.4**	**+0.3**
HYT	**Haines Junctio**	**1.83 112**			**Pb**	**21 58 17.1**	**-0.5**
BGLC	**Bering Glacier**	**1.84 219**			**Pg**	**21 58 18.4**	**-0.2**
BMRM	**Bremner River**	**1.86 253**			**Pb**	**21 58 16.8**	**-1.2**
MENT	**Mentasta**	**1.88 318**			**Pb**	**21 58 18.1**	**-0.3**
NICHA	**Nichawak Mount**	**1.98 229**			**Pb**	**21 58 20.5**	**+0.4**
PS12	**TAPS Pump St12**	**2.00 269**			**Pb**	**21 58 20.4**	**0.0**
HMT	**Hamilton**	**2.03 234**			**Pb**	**21 58 20.4**	**-0.4**
SUCK	**Suckling Hills**	**2.04 224**			**Pb**	**21 58 21.2**	**+0.2**
PNL	**Peninsula**	**2.06 157**	Pn		**Pb**	**21 58 20.8**	**-0.5**
PNL			Sg		**Sg**	**21 58 49.4**	**+0.1**
PNL	**Peninsula**	**2.06 157**			**Pb**	**21 58 20.3**	**-1.0**
GOAT	**Goat Mountain**	**2.08 243**			**Pb**	**21 58 20.6**	**-1.1**
YKU2	**Yakutat**	**2.16 162**			**Pb**	**21 58 22.1**	**-1.0**
DIV	**Divide**	**2.36 261**	Pg		**Pb**	**21 58 26.2**	**-0.3**
DIV			Sg		**Sg**	**21 58 58.0**	**-0.9**
DIV	**Divide**	**2.36 261**			**Pb**	**21 58 25.0**	**-1.5**
KAIM	**Kayak Island**	**2.36 227**			**Pb**	**21 58 25.6**	**-1.0**
KLU	**Klutina**	**2.38 270**			**Pb**	**21 58 25.9**	**-0.9**
K27K	**Chicken**	**2.52 349**			**Pb**	**21 58 27.0**	**-2.2**
M24K	**Tolsona, Glenn**	**2.53 285**			**Pb**	**21 58 28.8**	**-0.6**
DOT	**Dot Lake**	**2.53 327**	Pn		**Pb**	**21 58 26.9**	**+1.5**
DOT			Sg		**Sg**	**21 59 04.2**	**-0.4**
DOT	**Dot Lake**	**2.53 327**			**Pn**	**21 58 26.7**	**+1.3**
PAX	**Paxson**	**2.53 306**	Pg		**Pb**	**21 58 29.4**	**0.0**
PAX	**Paxson**	**2.53 306**			**Pb**	**21 58 28.6**	**-0.9**
EYAK	**Cordova Ski Ar**	**2.54 248**			**Pb**	**21 58 28.2**	**-1.4**
JPK	**Jack Peak**	**2.77 262**			**Pb**	**21 58 31.8**	**-1.7**
SCRK	**Sand Creek**	**2.79 331**			**Pn**	**21 58 30.4**	**+1.3**
FID	**Port Fidalgo**	**2.79 255**			**Pb**	**21 58 32.9**	**-1.0**
RIDG	**Independent Ri**	**2.82 322**			**Pb**	**21 58 31.5**	**-2.9**
HIN	**Hinchinbrook I**	**2.94 249**			**Pb**	**21 58 33.3**	**-3.1**
SCM	**Sheep Creek Mo**	**3.04 278**			**Pb**	**21 58 35.4**	**-2.8**
GLI	**Glacier Island**	**3.04 260**			**Pb**	**21 58 35.1**	**-3.1**
WHY	**Whitehorse**	**3.09 104**	Pn		**Pn**	**21 58 34.2**	**+1.0**
WHY			Pg		**Pg**	**21 58 40.1**	**+1.1**
WHY			Sg		**Sg**	**21 59 20.5**	**-2.0**
WHY	**Whitehorse**	**3.09 104**			**Pn**	**21 58 34.2**	**+1.0**
PLBC	**Pleasant Camp**	**3.11 131**	Pn		**Pn**	**21 58 35.2**	**+1.9**
PLBC			Pg		**Pb**	**21 58 40.2**	**+1.0**
PLBC			Sg		**Sg**	**21 59 21.0**	**-2.0**
PLBC	**Pleasant Camp**	**3.11 131**			**Pn**	**21 58 35.4**	**+2.1**
EGAK	**Eagle**	**3.22 359**			**Pb**	**21 58 37.6**	**-3.5**
DHY	**Denali Highway**	**3.35 300**			**Pb**	**21 58 40.9**	**-2.5**
KNK	**Knik Glacier**	**3.60 271**			**Pn**	**21 58 41.9**	**+1.9**
PWL	**Port Wells**	**3.63 262**			**Pn**	**21 58 43.5**	**+2.9**
GHO	**Glory Hole Cre**	**3.80 277**			**Pn**	**21 58 45.3**	**+2.5**
HDA	**Harding Lake**	**3.95 319**			**Pn**	**21 58 46.8**	**+2.0**
RND	**Reindeer**	**4.10 300**			**Pn**	**21 58 50.2**	**+3.3**
IL31		**4.19 323**			**Pn**	**21 58 49.4**	**+1.4**
ILAR	**Eielson Array**	**4.19 323**			**Pn**	**21 58 49.2**	**+1.1**
MCK	**McKinley**	**4.27 304**			**Pn**	**21 58 51.0**	**+1.8**
BESE	**Bessie Mountai**	**4.28 132**	Sg		**Sg**	**21 59 59.7**	**-1.0**
BESE	**Bessie Mountai**	**4.28 132**			**Pn**	**21 58 52.4**	**+1.2**
WRH	**Wood River Hil**	**4.36 315**			**Pn**	**21 58 53.1**	**+2.6**
CCB	**Clear Creek Bu**	**4.38 318**			**Pn**	**21 58 52.0**	**+1.3**
SEW	**Seward**	**4.41 254**	Pn		**Pn**	**21 58 53.1**	**+2.0**
JIS	**Juneau Island**	**4.68 132**			**Pn**	**21 58 56.1**	**+1.3**
TRF	**Thorofare Moun**	**4.71 298**			**Pn**	**21 58 58.2**	**+2.7**
MDM	**Murphy Dome**	**4.73 319**			**Pn**	**21 58 56.9**	**+1.4**
KTH	**Kantishna Hill**	**5.02 298**			**Pn**	**21 59 00.2**	**+0.6**
SKT	**Skwentna**	**5.03 279**			**Pn**	**21 59 02.6**	**+2.8**
BPAW	**Bear Paw Mtn.**	**5.25 303**			**Pn**	**21 59 05.4**	**+2.7**
PPLA	**Purkeypile**	**5.42 289**			**Pn**	**21 59 07.9**	**+2.8**
CNPM	**China Poot**	**5.47 253**			**Pn**	**21 59 07.8**	**+2.1**
RSO	**Redoubt South**	**5.84 264**	Pn		**Pn**	**21 59 12.5**	**+1.5**
BM03	**Burnt Mountain**	**6.08 347**			**Pn**	**21 59 16.4**	**+2.3**
BMAR	**Burnt Mountain**	**6.09 347**			**Pn**	**21 59 16.2**	**+2.0**
COLD	**Coldfoot**	**6.94 329**			**Pn**	**21 59 28.3**	**+2.4**
KDAK	**Kodiak Island**	**7.00 242**	Pn		**Pn**	**21 59 28.9**	**+2.2**
SVW2	**Sparrevohn**	**7.05 273**	Pn		**Pn**	**21 59 29.7**	**+2.3**
IM03		**7.18 314**			**Pn**	**21 59 31.1**	**+2.0**
IMAR	**Indian Mountai**	**7.18 314**			**Pn**	**21 59 32.4**	**+3.1**
OHAK	**Old Harbor**	**7.64 241**	Pn		**Pn**	**21 59 37.0**	**+1.4**
TOLK	**Toolik Lake Re**	**7.97 337**	Pn		**Pn**	**21 59 43.4**	**+3.4**

*DRS **08** 21:59:53.7±0.0, 43°.29N×45°.72E, h14km*
*NORS **08** 21:59:54.7±0.0, 43°.13N×46°.00E, h7km, MPVA3.7*
*MOS **08** 21:59:55.7±0.0, 43°.20N×45°.96E, h9km, MPVA3.6*

ISC 08 21:59:56.4±1.1, 43°.29N±0°.04×45°.99E±0°.02, h8km±8km, n34, σ0s98/66, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.16 239**		*i* Pg	**Pg**	**21 59 59.1**	**-0.6**
GROC				*e*Sg	**Sg**	**22 00 02.8**	**+0.8**
DLMR	**Dylym**	**0.52 114**		*e*Pg	**Pb**	**22 00 07.5**	**-0.3**
DLMR				*e*Sg	**Sb**	**22 00 16.5**	**+1.0**
BTLR	**Botlikh**	**0.65 164**		*e*Pg	**Pg**	**22 00 07.8**	**-1.0**
BTLR				*i* Sg	**Sg**	**22 00 17.0**	**-0.3**
DBC	**Dubki**	**0.67 113**		*e*Pg	**Pg**	**22 00 09.5**	**+0.2**
DBC				*e*Sg	**Sb**	**22 00 19.9**	**-0.1**
KRNR	**Karanay**	**0.82 124**		*e*Pg	**Pg**	**22 00 12.0**	**-0.1**
KRNR				*e*Sg	**Sb**	**22 00 25.0**	**+0.8**
UNCR	**Uncukul**	**0.82 134**		*e*Pg	**Pg**	**22 00 12.0**	**-0.2**
UNCR				*e*Sg	**Sn**	**22 00 26.5**	**-0.3**
KMGR	**Komgaron**	**0.85 255**		*e*Pg	**Pb**	**22 00 13.4**	**-0.1**
KMGR				*e*Sg	**Sn**	**22 00 26.7**	**-0.8**
XNZR	**Khunzakh**	**0.91 144**		*e*Pg	**Pg**	**22 00 13.6**	**-0.3**
XNZR				*e*Sg	**Sg**	**22 00 26.2**	**+0.4**
VLKR	**Vladikavkaz**	**0.99 256**		*e*Pg	**Pn**	**22 00 17.1**	**+0.5**
VLKR				*e*Pg	**Pb**	**22 00 17.2**	**+1.4**
VLKR				*e*Sg	**Sn**	**22 00 31.3**	**+0.4**
VLKR				*e*Sg	**Sb**	**22 00 31.4**	**+2.4**
TRKR	**Terskaya**	**1.01 296**		*e*Pg	**Pn**	**22 00 16.7**	**-0.2**
TRKR				*e*Sg	**Sn**	**22 00 32.2**	**+0.8**
BTKR	**Batakoyurt**	**1.06 275**		*e*Pg	**Pn**	**22 00 17.1**	**-0.5**
BTKR				*e*Sg	**Sn**	**22 00 33.8**	**+1.2**
GNBR	**Gunib**	**1.15 141**		*e*Pg	**Pg**	**22 00 18.2**	**-0.2**
GNBR				*e*Sg	**Sn**	**22 00 34.9**	**0.0**
PNSH	**Pansheti**	**1.20 238**		P	**Pg**	**22 00 18.6**	**-0.8**
PNSH				S	**Sb**	**22 00 35.1**	**-0.1**
ARNR	**Ardon**	**1.25 266**		*e*Pg	**Pn**	**22 00 20.2**	**0.0**
ARNR				*e*Sg	**Sn**	**22 00 38.9**	**+1.6**
LACR	**Lac**	**1.32 250**		*e*Pg	**Pn**	**22 00 20.1**	**-1.3**
LACR				*e*Sg	**Sb**	**22 00 38.2**	**-0.4**
STDR	**Stavd-Durt**	**1.41 274**		*e*Pg	**Pg**	**22 00 23.0**	**-0.3**
STDR				*e*Sg	**Sg**	**22 00 44.4**	**+2.8**
KMKR	**Kumukh**	**1.42 144**		*i* Pg	**Pb**	**22 00 23.0**	**-0.2**
KMKR				*i* Sg	**Sg**	**22 00 42.5**	**+0.6**
KORR	**Kora**	**1.42 263**		*e*Pg	**Pg**	**22 00 22.9**	**-0.7**
KORR				*e*Sg	**Sg**	**22 00 43.2**	**+1.3**
LGD	**Lagodekhi**	**1.46 172**		*e*Pg	**Pn**	**22 00 22.3**	**-0.9**
LGD				*e*Sg	**Sg**	**22 00 43.4**	**+0.1**
LGD	**Lagodekhi**	**1.46 172**		P	**Pn**	**22 00 22.7**	**-0.5**
LSNR	**Lesken**	**1.58 270**		*i* Pg	**Pb**	**22 00 25.3**	**-0.6**
LSNR				*e*Sg	**Sg**	**22 00 48.7**	**+1.6**
ZEI	**Tsey**	**1.61 253**		*e*Pg	**Pn**	**22 00 24.7**	**-0.6**
ZEI				*e*Sg	**Sn**	**22 00 46.3**	**-0.1**
URKR	**Urkarakh**	**1.65 132**		*e*Pg	**Pg**	**22 00 27.9**	**-0.2**
URKR				*e*Sg	**Sg**	**22 00 50.8**	**+1.3**
DDFL	**Dedoflistskaro**	**1.84 177**		P	**Pg**	**22 00 32.2**	**+0.5**
DGRG	**David-gareji**	**1.89 194**		*e*Pg	**Pb**	**22 00 31.3**	**+0.1**
DGRG	**David-gareji**	**1.89 194**		P	**Pb**	**22 00 31.2**	**+0.1**
ONI	**Oni**	**1.99 250**		*e*Pg	**Pb**	**22 00 32.2**	**-0.7**
ONI				*e*Sg	**Sb**	**22 00 57.9**	**+0.1**
ONI	**Oni**	**1.99 250**		P	**Pb**	**22 00 31.9**	**-0.9**
ONI				S	**Sb**	**22 00 57.6**	**-0.2**
DRN	**Derbent**	**2.14 125**		*e*Pg	**Pb**	**22 00 36.0**	**+0.6**
DRN				*e*Sg	**Sg**	**22 01 04.2**	**-0.9**
AKT	**Akhty**	**2.22 144**		*e*Pg	**Pb**	**22 00 37.5**	**+0.6**
AKT				*e*Sg	**Sg**	**22 01 07.6**	**-0.1**
KZRT	**Kazreti**	**2.23 212**		P	**Pn**	**22 00 34.4**	**+0.6**
KZRT				S	**Sb**	**22 01 04.9**	**+0.1**
KBZ	**Khabaz**	**2.29 282**		*e*Pn	**Pn**	**22 00 33.0**	**-1.5**
KBZ				*e*Sn	**Sb**	**22 01 04.9**	**-1.5**
BKRG	**Bakuriani**	**2.38 231**		P	**Pn**	**22 00 34.2**	**-1.6**
BKRG				S	**Sb**	**22 01 09.2**	**+0.1**
GOF	**Gofitskoye**	**2.76 311**		*e*Pn	**Pn**	**22 00 41.6**	**+0.6**
GOF				*e*Sn	**Sb**	**22 01 16.7**	**-3.3**

*NEIC **08** 22:33:46.9±1.1, 49°.8S±0°.1×110°.0E±0°.2, h10km±1km, mb4.4/10, Error ellipse: s-maj=23.8km s-min=18.3km az=122.0*
*IDC **08** 22:33:46.1±1.0, 49°.84S×110°.25E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/31, mbtmp4.2/6, MS3.5/11, Ms1 3.5/11, ms1mx3.4/24, Error ellipse: s-maj=44.4km s-min=18.0km az=104.0*

ISC 08 22:33:47.0±0.9, 49°.8S±0°.1×110°.1E±0°.2, h10km, n33, σ0s61/23, mb4.3/7, MS3.5/10, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.20**	**13**	T	T	22 52 58.1	
	baz=189,slow=74,SNR=75						
H01W1	**Cape Leeuwin H**	**15.21**	**13**	T	T	22 52 58.7	
	baz=189,slow=74,SNR=62						
H01W3	**Cape Leeuwin H**	**15.21**	**13**	T	T	22 52 58.6	
	baz=189,slow=74,SNR=76						
CASY	**Casey**	**16.52**	**179**	Pn	**Pn**	**22 37 37.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**17.69**	**20**	LR	LR	22 42 46.8	
	comp=Z,307nm,21.7s,baz=93,slow=31						
STKA	**Stephens Creek**	**29.52**	**65**	LR	LR	22 50 43.8	
	comp=Z,42nm,18.2s,baz=201,slow=35						
ASAR	**Alice Springs**	**32.07**	**44**	P	**P**	**22 40 13.9**	**-0.1**
	3.2nm,0.7s,baz=210,slow=7.6,SNR=26						
ASAR				LR	LR	22 51 07.6	
	comp=Z,100nm,21.5s,baz=196,slow=32						
ASAR	**Alice Springs**	**32.07**	**44**	P	**P**	**22 40 13.2**	**-0.8**
AS31	**Alice Springs**	**32.07**	**44**	P	**P**	**22 40 13.2**	**-0.9**
VNDA	**Vanda**	**33.83**	**162**	P	**P**	**22 40 28.4**	**-0.4**
	1.7nm,0.9s,baz=282,slow=8.4,SNR=9.8						
VNDA				LR	LR	22 53 09.9	
	comp=Z,64nm,19.6s,baz=293,slow=34						
VNDA	**Vanda**	**33.83**	**162**	P	**P**	**22 40 29.2**	**+0.4**
VNDA				IAmb	IAmb	22 40 31.2	
	comp=Z,6.2nm,1.4s						
FITZ	**Fitzroy Crossi**	**34.03**	**27**	LR	LR	22 52 25.3	
	comp=Z,100nm,21.3s,baz=222,slow=33						
WRA	**Warramunga Arr**	**35.52**	**42**	P	**P**	**22 40 44.0**	**0.0**
	comp=Z,2.7nm,0.7s,baz=207,slow=9.0,SNR=25						
WRA				LR	LR	22 53 27.4	
	comp=Z,84nm,20.1s,baz=230,slow=33						
WRA	**Warramunga Arr**	**35.52**	**42**	P	**P**	**22 40 43.4**	**-0.7**
ARMA	**Armidale**	**36.63**	**74**	P	**P**	**22 40 53.8**	**+0.3**
EIDS	**Eidsvold**	**39.93**	**68**		**P**	**22 41 21.4**	**+0.2**
EIDS				IAmb	IAmb	22 41 39.5	
	comp=Z,29nm,1.6s						
QSPA	**South Pole Qui**	**40.32**	**180**	P	**P**	**22 41 24.9**	**+0.6**
	comp=Z,7.0nm,1.0s,baz=305,slow=3.2,SNR=19						
QSPA	**South Pole Qui**	**40.32**	**180**	P	**P**	**22 41 24.2**	**-0.1**
QSPA				IAmb	IAmb	22 41 28.3	
	comp=Z,8.0nm,1.1s						
KAPI	**Kappang**	**45.38**	**14**	LR	LR	22 58 23.9	
	comp=Z,43nm,21.1s,baz=222,slow=33						
BFZ	**Birch Farm**	**46.08**	**105**	P	**P**	**22 42 11.7**	**+0.8**
SNAA	**Sanae**	**49.99**	**202**	P	**P**	**22 42 41.2**	**+0.4**
	comp=Z,4.3nm,1.1s,baz=108,slow=6.6,SNR=7.2						
SNAA	**Sanae**	**49.99**	**202**	P	**P**	**22 42 41.3**	**+0.4**
SNAA				IAmb	IAmb	22 42 47.7	
	comp=Z,4.6nm,1.0s						
PMG	**Port Moresby**	**50.68**	**50**	LR	LR	23 02 46.5	
	comp=Z,99nm,19.3s,baz=268,slow=34						
BELA	**Belgrano 2**	**50.74**	**189**	P	**P**	**22 42 46.1**	**-0.3**
PSI	**Prapat**	**53.28**	**346**	LR	LR	23 05 06.7	
	comp=Z,58nm,18.6s,baz=144,slow=35						
BOSA	**Boshof**	**65.52**	**254**	LR	LR	23 07 50.9	
	comp=Z,41nm,18.6s,baz=152,slow=31						
CMAR	**Chiang Mai Arr**	**68.68**	**349**	P	**P**	**22 44 51.5**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=194,slow=5.7,SNR=9.7						
CMAR				LR	LR	23 09 44.9	
	comp=Z,26nm,21.8s,baz=210,slow=31						
CMAR	**Chiang Mai Arr**	**68.68**	**349**	P	**P**	**22 44 50.4**	**0.0**
NVAR	**Mina Array Bea**	**144.05**	**90**	PKP	**PKPdf**	**22 53 21.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=236,slow=4.0,SNR=2.7						
TXAR	**Lajitas Array**	**147.32**	**116**	PKPbc	**PKPbc**	**22 53 30.9**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=200,slow=6.2,SNR=12						
TXAR	**Lajitas Array**	**147.32**	**116**		**PKPbc**	**22 53 30.8**	**+0.2**
PDAR	**Pinedale Array**	**151.99**	**89**	PKPbc	**PKiKP**	**22 53 42.4**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=190,slow=4.6,SNR=2.9						
PDAR	**Pinedale Array**	**151.99**	**89**		**PKPbc**	**22 53 41.2**	**-0.8**

MAN 08 22:37:21.1, 13°.73N×122°.66E, h19km, mb4.5, ML3.3, MS3.1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.83**	**251**	*e*P	Pb	22 37 36.2	-0.8
BOAC				*e*S	Sb	22 37 48.0	+0.2
POLP	**Polilio Island**	**1.21**	**325**	*e*P	Pn	22 37 40.6	-2.5
POLP				*e*S	Sb	22 37 57.9	-0.9
PVCP	**Virac**	**1.46**	**95**	*e*P	Pn	22 37 46.2	-0.2
PVCP				*e*S	Sb	22 38 06.0	+0.1
OTRP	**Odiongan**	**1.49**	**205**	*e*P	Pn	22 37 46.7	-0.2
OTRP				*e*S	Sn	22 38 06.3	+0.3
PGP	**Puerto Galera**	**1.67**	**262**	*e*P	Pn	22 37 49.8	+0.4
BALP	**Baler**	**2.26**	**333**	*e*P	Pn	22 37 58.1	+0.7
BALP				*e*S	Sb	22 38 29.3	+0.5
LUBP	**Lubang**	**2.34**	**270**	*e*P	Pn	22 37 59.9	+1.3
SMPP	**San Manuel, Pa**	**3.07**	**322**	*e*P	Pn	22 38 09.5	+0.9
SMPP				*e*S	Sn	22 38 47.1	+2.2
CAUP	**Cauayan**	**3.29**	**346**	*e*P	Pn	22 38 11.8	+0.1
CAUP				*e*S	Sn	22 38 50.3	-0.1
CVP	**Callao Caves**	**4.03**	**349**	*e*P	Pn	22 38 23.2	+1.3
APYP	**Conner**	**4.33**	**342**	*e*P	Pn	22 38 19.4	-6.5
APYP				*e*S	Sn	22 39 15.0	-0.9

SNET 08 23:04:15.0±0.8, 14°.09N×89°.70W, h12km±2km, ML3.0, 1C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.20**	**165**	*i* P	Pb	23 04 20.4	-0.3
NUBE	**Las Nubes**	**0.21**	**203**	*i* P	Pg	23 04 20.1	+0.6
NUBE				*e*S	Sg	23 04 23.2	+0.5
NUBE				IAML		23 04 25.4	
	comp=Z,3μm,0.3s						
SNJE	**San Jose**	**0.24**	**158**	*i* P	Pb	23 04 21.1	-0.4
SBLS	**San Blas**	**0.26**	**164**	*i* P	Pb	23 04 21.3	-0.5
CEVE	**Cerro Verde**	**0.27**	**165**	*i* P	Pb	23 04 21.6	-0.4
CEVE				IAML		23 04 33.4	
	comp=Z,1μm,0.4s						
TACO	**Tacachico**	**0.36**	**110**	*i* P	Pb	23 04 23.1	-0.2
TACO				*e*S	Sb	23 04 28.4	-0.5
CEDA	**San Andres**	**0.41**	**134**	*e*S	Sb	23 04 30.1	-0.4
CEDA				IAML		23 04 33.1	
	comp=Z,2μm,0.6s						
MTO3	**Montecristo**	**0.45**	**47**	*e*P	Pb	23 04 24.9	-0.1
MTO3				*e*S	Sb	23 04 31.6	-0.1
MTO3				IAML		23 04 32.1	
	comp=Z,1μm,0.3s						
BOQS	**Boqueron**	**0.54**	**131**	*e*P	Pg	23 04 26.0	+0.3
ESQI	**Esquipulas**	**0.58**	**37**	*e*S	Sb	23 04 35.3	-0.1
IXG	**Ixpaco**	**0.72**	**276**	*e*P	Pb	23 04 29.4	-0.3
PAVA	**Las Pavas**	**0.83**	**117**	*e*S	Sb	23 04 42.8	+0.1

*IGIL **08** 23:48:32.4, 37°.36N×16°.26W, h30km, ML2.6*
*MDD **08** 23:48:33.6±8.9, 37°.37N×16°.07W, h139km±145km, mb2.9/6, Error ellipse: s-maj=102.0km s-min=23.4km az=74.0, PRXIMO*
*INMG **08** 23:48:34.2±1.5, 37°.34N×16°.35W, h10km, ML2.6, Error ellipse: s-maj=10.0km s-min=7.5km az=79.0*
*CNRM **08** 23:48:37.8±4.0, 36°.79N×15°.30W, h0km, Error ellipse: s-maj=31.5km s-min=22.5km az=104.0*

ISC 08 23:48:36.3±3.7, 37°.43N±0°.08×15°.5W±0°.2, h10km, n41, σ1s98/65, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**5.12**	**71**	P	**Pn**	**23 49 55.1**	**+2.1**
	1.4nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**23 50 54.2**	**+2.0**
	8.7nm,0.1s,SNR=8.1						
PMAFR	**Mafra**	**5.12**	**71**	*e*Pn	**Pn**	**23 49 55.2**	**+2.1**
PMAFR				*e*Sn	**Sn**	**23 50 54.3**	**+2.2**
PMAFR				A	A	23 51 01.5	
	12nm,0.5s						
PFVI	**Vila Bisbo**	**5.31**	**91**	P	**Pn**	**23 49 56.4**	**+0.7**
	1.3nm,0.1s,SNR=13						
PFVI				S	**Sn**	**23 50 57.9**	**+0.9**
	1.3nm,0.2s,SNR=7.7						
PFVI	**Vila Bisbo**	**5.31**	**91**	*e*Pn	**Pn**	**23 49 56.4**	**+0.7**
PFVI				*e*Sn	**Sn**	**23 50 57.9**	**+0.9**
PFVI				A	A	23 51 02.8	
	3.7nm,0.2s						
PTEO	**Sao Teotonio**	**5.38**	**87**	*e*Sn	**Sn**	**23 50 59.6**	**+1.1**
MORF	**Marmelete**	**5.44**	**89**	*e*P	**Pn**	**23 49 58.0**	**+0.5**
MORF				*e*S	**Sn**	**23 51 00.8**	**+0.5**
MORF				AML	AML	23 51 04.8	
	comp=N,7.1nm,0.2s						
MORF	**Marmelete**	**5.44**	**89**	P	**Pn**	**23 49 58.0**	**+0.5**
MORF				S

σ1§44/35, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.90**	**2**	Pn	**Pn**	**00 06 14.1**	**+0.5**
KIF				Sn	**Sb**	**00 06 39.5**	**-0.1**
KIF	**Kilpisjarvi**	**1.90**	**2**	*e*P	**Pn**	**00 06 13.9**	**+0.3**
N2ST	**Straumen**	**1.97**	**279**	*e*P	**Pn**	**00 06 15.5**	**+0.8**
N2IH	**Innhavet**	**2.00**	**297**	*e*P	**Pn**	**00 06 16.1**	**+1.2**
I37NO	**I37NO**	**2.11**	**340**	*i*		00 22 00.0	
	baz=158,slow=283,SNR=2.2						
KTK1	**Kautokeino**	**2.14**	**26**	IAML		00 06 47.0	
	comp=Z,25nm,0.5s						
STEI	**Steigen**	**2.23**	**294**	Pn	**Pn**	**00 06 19.5**	**+1.4**
STEI				Sn	**Sg**	**00 06 51.0**	**-0.5**
STEI	**Steigen**	**2.23**	**294**	Pn	**Pn**	**00 06 19.5**	**+1.4**
STEI				Sn	**Sg**	**00 06 51.0**	**-0.5**
ARA0	**ARCESS Array S**	**3.02**	**34**	Pn	**Pn**	**00 06 28.8**	**-0.4**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**00 07 06.2**	**+0.1**
	baz=216,slow=22						
ARA0	**ARCESS Array S**	**3.02**	**34**	Pn	**Pn**	**00 06 28.8**	**-0.4**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**00 07 06.2**	**+0.1**
	baz=216,slow=22						
ARCES	**ARCESS Array B**	**3.02**	**34**	Pn	**Pn**	**00 06 29.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=218,slow=12,SNR=18						
ARCES				Lg	Lg	00 07 09.7	
	comp=Z,2.5nm,0.3s,baz=220,slow=31,SNR=7.2						
APA0	**Apatity Array**	**4.80**	**78**	Sn	**Sn**	**00 07 47.5**	**-2.2**
	baz=262,slow=37						
APA0				Lg	Lg	00 08 05.9	
	baz=264,slow=37						
APA0	**Apatity Array**	**4.80**	**78**	Sn	**Sn**	**00 07 47.5**	**-2.2**
	baz=262,slow=37						
APA0				Sg	**Sb**	**00 08 05.9**	**+2.8**
	baz=264,slow=37						
FIA0	**FINESS Array S**	**6.17**	**155**	Sn	**Sn**	**00 08 23.6**	**+0.2**
	baz=346,slow=28						
FIA0				Lg	Lg	00 08 54.3	
	baz=341,slow=37						
FIA0	**FINESS Array S**	**6.17**	**155**	Sn	**Sn**	**00 08 23.6**	**+0.2**
	baz=346,slow=28						
FIA0				Sg	**Sg**	**00 08 54.3**	**-3.6**
	baz=341,slow=37						
FINES	**FINESS Array B**	**6.17**	**155**	Pn	**Pn**	**00 07 14.0**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=5.2						
FINES				Pg	**Pb**	**00 07 29.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=342,slow=15,SNR=6.2						
FINES				Sn	**Sn**	**00 08 24.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=346,slow=24,SNR=5.2						
FINES				Lg	Lg	00 08 53.9	
	comp=Z,0.5nm,0.3s,baz=345,slow=28,SNR=9.5						
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**00 07 30.4**	**+1.7**
NB2				Sn	**Sn**	**00 08 52.4**	**-0.4**
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**00 07 30.4**	**+1.7**
NB2				Sn	**Sn**	**00 08 52.4**	**-0.4**
NOA	**NORSAR Array B**	**7.36**	**218**	Pn	**Pn**	**00 07 30.6**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=31,slow=11,SNR=3.9						
NOA				Sn	**Sn**	**00 08 53.3**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=26,slow=21,SNR=4.0						
NOA				Lg	Lg	00 09 28.9	
	comp=Z,0.0nm,0.3s,baz=186,slow=4.2,SNR=4.9						
NRA0	**NORESS Array S**	**7.55**	**216**	Pn	**Pn**	**00 07 32.9**	**+1.7**
	baz=9.3,slow=11						
NRA0				Sn	**Sn**	**00 08 55.5**	**-1.8**
	baz=39,slow=28						
NRA0	**NORESS Array S**	**7.55**	**216**	Pn	**Pn**	**00 07 32.9**	**+1.7**
	baz=9.3,slow=11						
NRA0				Sn	**Sn**	**00 08 55.5**	**-1.8**
	baz=39,slow=28						
HFS	**Hagfors**	**7.66**	**207**	Pn	**Pn**	**00 07 32.6**	**-0.1**
	baz=11,slow=10						
HFS	**Hagfors**	**7.66**	**207**	Pn	**Pn**	**00 07 32.6**	**-0.1**
	baz=11,slow=10						

IDC ***09*** *00:26:23.4±0.3, 5.03N×120.80E, h0km, mb4.6/30, mb1 4.7/34, mb1mx4.7/43, mbtmp4.6/34, ML4.9/5, MS3.5/9, Ms1 3.5/9, ms1mx3.3/44, Error ellipse: s-maj=14.3km s-min=9.3km az=68.0*

BJI ***09*** *00:26:23.1±0.0, 5.05N×120.93E, h6km, mB4.9/45, mb4.9/53, Ms4.3/35, Ms7 4.1/33*

MOS ***09*** *00:26:24.3±0.8, 5.03N×120.82E, h19km, mb5.2/56, Error ellipse: s-maj=9.2km s-min=4.4km az=116.9*

UNK ***09*** *00:26:24.4, 5.08N×120.80E, h6km*

DJA ***09*** *00:26:25.2±0.3, 5°N±3'×12°1E±°, h10km, M5.0/35, mb5.0/35, mB5.5/13, MLv5.3/8, Mw(mB)4.9/13*

NEIC ***09*** *00:26:25.3±1.3, 5.02N±0.06×120.78E±0.06, h15km±3km, mb5.1/137, Error ellipse: s-maj=8.7km s-min=8.2km az=51.0*

MAN ***09*** *00:26:26.7, 5.09N×120.88E, h87km, mb5.7, ML4.7, MS5.1*

MAN Intensity III - Bongao Tawi-Tawi; Intensity I - Zamboanga City.

GCMT ***09*** *00:26:29.3±0.3, 5.16N±0.03×120.84E±0.02, h19km±1km, MW4.9/87, Moment Tensor Solution. s21,c22; s87,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.58±.17; Mθθ-0.05±.09; Mφφ-2.52±.12; Mrθ-0.27±.23; Mrφ0.36±.06; Mθφ0.46±.19; Best double couple: M0=2.62800×10^16 NP1:φs176.00000°, δ40.00000°, λ97.00000°. NP2: φs348.00000°, δ51.00000°, λ85.00000°. Principal axes: T 2.6410, Plg83.0000°, Azm223.0000°; N -0.0160, Plg4.0000°, Azm351.0000°; P -2.6160, Plg5.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 00:26:25.1±0.9, 4.99N±0.03×120.83E±0.04, h12km±5km, n485, σ1§10/516, mb5.0/146, MS3.9/20, 27C-6D, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCP	**Zamboanga City**	**2.29**	**33**	⇑*i*P	**Pn**	**00 27 02.4**	**-0.4**
ZCP				*i* S	**Sb**	**00 27 33.9**	**-0.9**
MYLDM	**Lahad Datu**	**2.33**	**275**	Pn	**Pn**	**00 27 03.7**	**+0.5**
KCP	**Kidapawan**	**4.69**	**64**	⇓*i*P	**Pn**	**00 27 35.9**	**0.0**
KCP				*i* S	**Sn**	**00 28 30.4**	**+0.1**
KKM	**Kota Kinabalu**	**4.71**	**283**	Pn	**Pn**	**00 27 36.7**	**+0.5**
MPSI	**Mapaga**	**4.71**	**191**	P	**Pn**	**00 27 34.9**	**-1.2**
DAV	**Davao City (W)**	**5.16**	**66**	Pn	**Pn**	**00 27 43.2**	**+0.9**
	72nm,0.3s,baz=9.4,slow=2.2,SNR=11						
DAV				Sn	**Sn**	**00 28 42.7**	**+1.0**
	51nm,0.3s,baz=349,slow=22,SNR=6.7						
DAV	**Davao City (W)**	**5.16**	**66**	⇑*e*P	**Pn**	**00 27 43.7**	**+1.5**
KMSI	**Cibinong**	**5.40**	**144**	P	**Pb**	**00 27 56.3**	**-3.2**
JAP	**San Jose, Anti**	**5.83**	**11**	⇓*e*P	Pn	00 27 57.4	+6.0
LUWI	**Luwuk**	**6.30**	**162**	P	**Pn**	**00 28 01.0**	**+3.1**
	5.9nm11μm1μm,0.5s						
LUWI	**Luwuk**	**6.30**	**162**	Pn	**Pn**	**00 28 00.8**	**+2.9**
SMKI	**Samarinda**	**6.50**	**214**	P	**Pn**	**00 28 04.0**	**+3.3**
BKB	**Balikpapan**	**7.35**	**212**	P	**Pn**	**00 28 12.1**	**-0.2**
	1.6nm494nm,0.7s						
BKB	**Balikpapan**	**7.35**	**212**	Pn	**Pn**	**00 28 11.4**	**-0.9**
TNTI	**Ternate**	**7.76**	**122**	P	**Pn**	**00 28 17.0**	**-1.0**
	0.4nm2μm121nm,1.0s						
TNTI	**Ternate**	**7.76**	**122**	Pn	**Pn**	**00 28 18.6**	**+0.6**
MTKI	**Muara Teweh, K**	**8.36**	**225**	P	**Pn**	**00 28 27.6**	**+1.4**
	5μm103nm,0.8s						
LBMI	**Labuha**	**8.70**	**130**	P	**Pn**	**00 28 30.4**	**-0.5**
	2μm140nm,0.8s						
SBUM	**Sibu**	**8.95**	**254**	Pn	**Pn**	**00 28 33.4**	**-0.9**
SPSI	**Sidrap Palu**	**8.96**	**187**	P	**Pn**	**00 28 35.5**	**+1.1**
	40nm,0.7s						
TGY	**Tagaytay City**	**9.06**	**1**	Pn	**Pn**	**00 28 36.7**	**+0.8**
	72nm,0.3s,baz=109,slow=16,SNR=1.9						
BNSI	**Bone**	**9.36**	**184**	P	**Pn**	**00 28 42.1**	**+2.2**
	48nm,0.8s						
KBKI	**Kotabaru**	**9.46**	**210**	P	**Pn**	**00 28 43.7**	**+2.4**
	2μm51nm,0.6s						
KAPI	**Kappang**	**9.99**	**186**	Pn	**Pn**	**00 28 49.8**	**+1.1**
	7.2nm,0.3s,baz=306,slow=6.5,SNR=8.4						
KAPI	**Kappang**	**9.99**	**186**	Pn	**Pn**	**00 28 49.0**	**+0.4**
BKSI	**Bulukumba**	**10.27**	**184**	P	**Pn**	**00 28 53.4**	**+1.0**
	24nm,0.6s						
BBKI	**Banjar Baru**	**10.31**	**216**	P	**Pn**	**00 28 53.8**	**+0.8**
	37nm,0.5s						
SIJI	**Sorong**	**11.94**	**119**	Pn	**Pn**	**00 29 17.6**	**+2.2**
	1.9nm,0.3s,baz=231,slow=23,SNR=1.8						
SIJI				LR	LR	00 33 51.5	
	comp=Z,146nm,18.6s,baz=300,slow=37						
FAKI	**Fak Fak**	**13.85**	**124**	Pn	**Pn**	**00 29 41.7**	**+0.2**
TWSI	**Taliwang, Sumb**	**14.19**	**196**	P	**Pn**	**00 29 47.4**	**+1.3**
	44nm,1.2s						
WBSI	**Waikabubak, Su**	**14.60**	**186**	P	**Pn**	**00 29 53.6**	**+1.8**
	1μm150nm,1.2s						
JAGI	**Jajag, Banyuwa**	**14.94**	**206**		**Pn**	**00 29 58.2**	**+1.9**
SOEI	**Soe**	**15.04**	**167**	P	**Pn**	**00 29 59.4**	**+1.6**
	1μm119nm,1.3s						
SOEI	**Soe**	**15.04**	**167**		**Pn**	**00 29 59.5**	**+1.7**
SOEI				IAmb	IAmb	00 30 29.5	
	comp=Z,138nm,1.1s						
BATI	**Baumata**	**15.36**	**169**	Pn	**Pn**	**00 30 02.6**	**+0.7**
	comp=Z,3.6nm,0.3s,baz=97,slow=4.7,SNR=2.5						
BATI	**Baumata**	**15.36**	**169**	P	**Pn**	**00 30 02.4**	**+0.5**
	comp=Z,740nmcomp=Z,86nm,0.9s						
QIZ	**Qiongzhong**	**17.59**	**323**	P	**P**	**00 30 30.6**	**-0.8**
QIZ				S	**Sn**	**00 33 46.4**	**0.0**
QIZ				pmax	pmax		
	comp=Z,220nm,6.5s						
QIZ				LR	LR		
	comp=Z,300nm,13.5s						
QIZ				LR	LR		
	comp=Z,220nm,12.0s						
QIZ				LR	LR		
	comp=Z,360nm,13.3s						
TWG	**Pinlang**	**17.73**	**1**	P	**P**	**00 30 31.6**	**-1.3**
CISI	**Cisompet, Garu**	**18.00**	**226**	P	**P**	**00 30 36.9**	**+1.0**
	comp=Z,3μmcomp=Z,132nm,1.6s						
CISI	**Cisompet, Garu**	**18.00**	**226**	P	**Pn**	**00 30 35.2**	**-0.2**
CISI				IAmb	IAmb	00 30 55.9	
	comp=Z,99nm,0.9s						
TPUB	**Taupu**	**18.21**	**359**	P	**Pn**	**00 30 36.3**	**-1.6**
YULB	**Yu-li**	**18.30**	**1**	P	**Pn**	**00 30 37.3**	**-1.7**
SSLB	**Suanglung**	**18.69**	**0**	P	**Pn**	**00 30 43.9**	**+0.1**
KLSI		**18.73**	**239**	P	**Pn**	**00 30 45.6**	**+1.2**
	comp=Z,6.8nm,0.9s						
CGJI	**Cibinong**	**19.00**	**233**	P	**Pn**	**00 30 49.6**	**+2.0**
	comp=Z,4μmcomp=Z,92nm,1.0s						
MDSI	**Maura Dua**	**19.11**	**241**	P	**Pn**	**00 30 49.0**	**+0.1**
	comp=Z,35nm,1.1s						
QZH	**Quanzhou**	**19.96**	**354**	*e*P	**Pn**	**00 30 58.1**	**-0.8**
QZH				S	**Sn**	**00 34 41.6**	**-1.8**
QZH				LR	LR		
	comp=Z,290nm,13.3s						
BKNI	**Bangkinang**	**20.30**	**257**	P	**P**	**00 31 00.2**	**-0.9**
BKNI				IAmb	IAmb	00 31 09.6	
	comp=Z,55nm,0.5s						
MTN	**Manton Dam**	**20.46**	**150**	P	Pn	00 31 04.3	-0.7
	baz=21,SNR=3.9						
MTN	**Manton Dam**	**20.46**	**150**	P	**P**	**00 31 03.1**	**+0.3**
MTN				IAmb	IAmb	00 31 13.9	
	comp=Z,149nm,1.4s						
KDU	**Kakadu**	**21.03**	**147**	P	**P**	**00 31 09.4**	**+0.4**
	baz=21,SNR=8.5						
JAY	**Jayapura**	**21.21**	**110**	P	**P**	**00 31 12.2**	**+1.1**
	comp=Z,11nm,0.7s,baz=248,slow=4.1,SNR=4.2						
JAY	**Jayapura**	**21.21**	**110**	P	**P**	**00 31 12.5**	**+1.5**
	comp=Z,12nm,1.0s						
MNSI	**Mandailing Nat**	**21.62**	**260**	P	**P**	**00 31 15.9**	**+0.5**
	comp=Z,30nm,0.9s						
PSI	**Prapat**	**21.96**	**265**	P	**P**	**00 31 19.9**	**+0.7**
	comp=Z,6.6nm,0.7s,baz=4.2,slow=0.9,SNR=7.3						
RPSI	**Rantau Prapat**	**21.97**	**265**	P	**P**	**00 31 17.3**	**-1.9**
KNRA	**Kununurra**	**21.98**	**159**	P	**P**	**00 31 18.7**	**-0.5**
	baz=22,SNR=7.7						
KNRA	**Kununurra**	**21.98**	**159**	P	**P**	**00 31 18.4**	**-0.8**
KNRA				IAmb	IAmb	00 31 34.5	
	comp=Z,106nm,1.1s						
SISI	**Saibi**	**22.61**	**254**	P	**P**	**00 31 26.7**	**+0.7**
	comp=Z,65nm,1.1s						
PBKT	**Sadao Pong**	**22.62**	**302**	P	**P**	**00 31 24.3**	**-1.7**
JMZ	**Minamidaito 2**	**22.98**	**25**	P	**P**	**00 31 28.7**	**-1.1**
JMZ				IAmb	IAmb	00 31 35.1	
	comp=Z,107nm,1.1s						
SLVN	**Son La**	**23.10**	**316**	P	**P**	**00 31 29.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.43**	**168**	P	**P**	**00 31 33.5**	**-0.9**
	comp=Z,30nm,0.8s,baz=357,slow=6.7,SNR=48						
FITZ	**Fitzroy Crossi**	**23.43**	**168**	P	**P**	**00 31 33.3**	**-1.0**
	baz=24,SNR=32						
FITZ	**Fitzroy Crossi**	**23.43**	**168**	P	**P**	**00 31 34.2**	**-0.2**
FITZ				IAmb	IAmb	00 31 45.8	
	comp=Z,68nm,1.1s						
GSI	**Gunungsitoli**	**23.50**	**262**	P	**P**	**00 31 35.7**	**+0.5**
	comp=Z,53nm,1.0s						
GSI	**Gunungsitoli**	**23.50**	**262**	P	**P**	**00 31 34.7**	**-0.5**
GSI				IAmb	IAmb	00 31 37.4	
	comp=Z,138nm,1.6s						
CMAR	**Chiang Mai Arr**	**25.22**	**304**	P	**P**	**00 31 51.4**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=137,slow=9.8,SNR=8.1						
CMAR				PcP	**PcP**	**00 35 25.8**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=189,slow=0.9,SNR=15						
CMAR				LR	LR	00 42 50.9	
	comp=Z,146nm,19.1s,baz=194,slow=39						
CMAR	**Chiang Mai Arr**	**25.22**	**304**	*ce*P	**P**	**00 31 52.7**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**25.22**	**304**	P	**P**	**00 31 49.3**	**-1.8**
GYA	**Guiyang**	**25.28**	**329**	⇓P	**P**	**00 31 53.2**	**+1.5**
GYA				SS		00 37 18.8	
GYA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=Z,190nm,12.0s						
GYA				LR	LR		
	comp=Z,230nm,14.3s						
GYA				LR	LR		
	comp=Z,230nm,17.5s						
CHTO	**Chiang Mai**	**25.39**	**305**	P	**P**	**00 31 52.2**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**25.39**	**305**	P	**P**	**00 31 52.2**	**-0.5**
WHN	**Wuhan**	**26.14**	**347**	P	**P**	**00 31 59.5**	**+0.2**
WHN				S	**S**	**00 36 33.7**	**+2.9**
WHN				pmax	pmax		
	comp=Z,450nm,3.9s						
WHN				LR	LR		
	comp=Z,800nm,13.1s						
WHN				LR	LR		
	comp=Z,620nm,12.4s						
WHN				LR	LR		
	comp=Z,950nm,16.4s						
KMI	**Kunming**	**26.50**	**321**	P	**P**	**00 32 05.5**	**+2.6**
KMI				sP	pwP	00 32 11.0	+0.9
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,130nm,4.9s						
KMI				LR	LR		
	comp=Z,200nm,12.4s						
KMI				LR	LR		
	comp=Z,190nm,14.9s						
KMI				LR	LR		
	comp=Z,280nm,15.7s						
KMI	**Kunming**	**26.50**	**321**	P	**P**	**00 32 02.4**	**-0.5**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KMI	**Kunming**	**26.50**	**321**	P	**P**	**00 32 02.4**	**-0.5**
NJ2	**Nanjing**	**26.99**	**356**	*e*P	**P**	**00 32 08.4**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ENH	**Enshi**	**27.33**	**338**	P	**P**	**00 32 09.4**	**-0.6**
ENH				IAmb	IAmb	00 32 11.4	
	comp=Z,36nm,1.0s						
WRAB	**Tennant Creek**	**28.11**	**152**	*ce*P	**P**	**00 32 16.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,27nm,1.0s						
WRA	**Warramunga Arr**	**28.11**	**152**	P	**P**	**00 32 16.6**	**-0.6**
	comp=Z,18nm,0.9s,baz=335,slow=9.7,SNR=87						
WRA				PcP	**PcP**	**00 35 31.3**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=320,slow=2.5,SNR=16						
WRA	**Warramunga Arr**	**28.11**	**152**	P	**P**	**00 32 15.8**	**-1.3**
WB2	**Warramunga Arr**	**28.12**	**152**	P	**P**	**00 32 16.8**	**-0.4**
	baz=28						
WB2	**Warramunga Arr**	**28.12**	**152**	P	**P**	**00 32 16.8**	**-0.4**
WB2				IAmb	IAmb	00 32 27.2	
	comp=Z,30nm,1.0s						
WR0	**Warramunga Arr**	**28.22**	**152**	P	**P**	**00 32 17.7**	**-0.4**
WR0				IAmb	IAmb	00 32 28.2	
	comp=Z,30nm,1.2s						
COEN	**Coen**	**29.09**	**131**	P	**P**	**00 32 25.1**	**-0.7**
CD2	**Chengdu**	**30.38**	**330**	P	**P**	**00 32 37.1**	**-0.1**
CD2				S	**S**	**00 37 39.0**	**+1.3**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,190nm,3.9s						
CD2				LR	LR		
	comp=Z,390nm,16.3s						
CD2				LR	LR		
	comp=Z,290nm,10.0s						
CD2				LR	LR		
	comp=Z,310nm,12.9s						
JTU	**Tsushima**	**30.44**	**14**	P	**P**	**00 32 38.3**	**+0.6**
JTU				IAmb	IAmb	00 33 08.5	
	comp=Z,36nm,1.5s						
WRKA	**Warakurna**	**30.72**	**167**	P	**P**	**00 32 40.9**	**+0.7**
	baz=31,SNR=18						
XAN	**Xi'an**	**30.95**	**341**	P	P	00 32 50.8	+8.6
XAN				pP	pwP	00 33 04.9	+16
XAN				PP	**PP**	**00 33 55.7**	**+3.5**
XAN				PcP	**PcP**	**00 35 42.5**	**+3.9**
XAN				S	**S**	**00 37 51.1**	**+4.5**
XAN				SS	**SnSn**	**00 39 35.6**	**+8.8**
XAN				pmax	pmax		
	comp=Z,41nm,1.0s						
XAN				pmax	pmax		
	comp=Z,150nm,4.3s						
XAN				LR	LR		
	comp=N,330nm,15.7s						
XAN				LR	LR		
	comp=E,190nm,11.8s						
XAN				LR	LR		
	comp=Z,460nm,16.2s						
XAN	**Xi'an**	**30.95**	**341**	P	**P**	**00 32 41.8**	**-0.4**
XAN				pmax	pmax		
	comp=Z,31nm,0.9s						
XAN	**Xi'an**	**30.95**	**341**	P	**P**	**00 32 41.8**	**-0.4**
XAN				IAmb	IAmb	00 32 51.9	
	comp=Z,31nm,0.9s						
AS31	**Alice Springs**	**31.21**	**156**	P	**P**	**00 32 45.5**	**+0.9**
ASAR	**Alice Springs**	**31.21**	**156**	P	**P**	**00 32 44.7**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=331,slow=7.0,SNR=18						
ASAR				PcP	**PcP**	**00 35 39.4**	**-0.1**
	comp=Z,9.6nm,0.7s,baz=346,slow=2.5,SNR=29						
ASAR	**Alice Springs**	**31.21**	**156**	P	**P**	**00 32 44.5**	**-0.1**
ASAR				PcP	**PcP**	**00 35 39.2**	**-0.3**
QIS	**Mount Isa**	**31.38**	**145**	P	**P**	**00 32 46.7**	**+0.5**
	baz=32,SNR=38						
MEEK	**Meekatharra**	**31.51**	**184**	P	**P**	**00 32 47.2**	**0.0**
	baz=32,SNR=6.4						
JHS	**Saijyo**	**31.95**	**19**	P	**P**	**00 32 51.0**	**0.0**
JHS				IAmb	IAmb	00 32 54.5	
	comp=Z,22nm,1.0s						
KRVT	**Keravat (AS076**	**32.50**	**106**	LR	LR	00 43 27.4	
	comp=Z,111nm,21.1s,baz=273,slow=32						
KSRS	**Korea Array**	**32.96**	**10**	P	**P**	**00 32 60.0**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=192,slow=9.6,SNR=8.2						
KSRS				PcP	**PcP**	**00 35 44.1**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=173,slow=3.1,SNR=6.9						
KSRS				LR	LR	00 45 45.7	
	comp=Z,58nm,21.6s,baz=190,slow=35						
JWT	**Wachi**	**33.02**	**22**	P	**P**	**00 33 00.2**	**-0.1**
JWT				IAmb	IAmb	00 33 01.5	
	comp=Z,18nm,1.0s						
TIY	**Taiyuan**	**33.46**	**348**	*e*P	**P**	**00 33 05.3**	**+1.0**
INU	**Inuyama**	**33.71**	**24**	P	**P**	**00 33 06.1**	**-0.3**
INU				IAmb	IAmb	00 33 07.6	
	comp=Z,51nm,1.2s						
JGF	**Kuroka**	**34.06**	**24**	P	**P**	**00 33 08.5**	**-1.0**
JGF				IAmb	IAmb	00 33 10.3	
	comp=Z,26nm,0.9s						
MORW	**Morawa**	**34.17**	**187**	P	**P**	**00 33 11.1**	**+0.6**
	baz=34,SNR=3.3						
MORW	**Morawa**	**34.17**	**187**	P	**P**	**00 33 10.2**	**-0.2**
SHL	**Shillong**	**34.46**	**309**	P	**P**	**00 33 12.5**	**-0.8**
SHL				pmax	pmax		
	comp=Z,18nm,0.8s						
SHL	**Shillong**	**34.46**	**309**	P	**P**	**00 33 12.5**	**-0.8**
SHL				IAmb	IAmb	00 33 13.9	
	comp=Z,18nm,0.8s						
LZH	**Lanzhou**	**34.67**	**335**	*e*P	**P**	**00 33 16.1**	**+1.2**
LZH				pP	pwP	00 33 21.0	-1.1
LZH				sP	sP	00 33 24.8	+6.0
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.9s						
LZH				LR	LR		
	comp=Z,170nm,14.1s						
LZH				LR	LR		
	comp=Z,230nm,11.1s						
LZH				LR	LR		
	comp=Z,290nm,15.5s						
BJI	**Beijing**	**35.15**	**354**	P	**P**	**00 33 18.9**	**+0.2**
BJI				pmax	pmax		
	comp=Z,12nm,1.2s						
MAJO	**Matsushiro**	**35.22**	**25**	P	**P**	**00 33 18.8**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,53nm,1.2s						
MAJO	**Matsushiro**	**35.22**	**25**	P	**P**	**00 33 18.8**	**-0.7**
MAJO				IAmb	IAmb	00 33 20.0	
	comp=Z,53nm,1.2s						
MAT	**Matsushiro**	**35.22**	**25**	P	**P**	**00 33 18.9**	**-0.6**
MAT				*e*S	**S**	**00 38 52.6**	**-0.3**
MJAR	**Matsushiro Arr**	**35.22**	**25**	P	**P**	**00 33 19.1**	**-0.4**
	comp=Z,29nm,1.0s,baz=202,slow=8.3,SNR=41						
MJAR				PcP	**PcP**	**00 35 50.8**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=210,slow=2.2,SNR=5.1						
MJAR				LR	LR	00 47 29.0	
	comp=Z,89nm,19.2s,baz=190,slow=36						
MJAR	**Matsushiro Arr**	**35.22**	**25**	P	**P**	**00 33 18.4**	**-1.1**
CTA	**Charters Tower**	**35.29**	**136**	P	**P**	**00 33 21.7**	**+1.4**
	baz=35						
CTAO	**Charters Tower**	**35.29**	**136**	P	**P**	**00 33 21.0**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,20nm,1.2s						
CTAO	**Charters Tower**	**35.29**	**136**	P	**P**	**00 33 20.9**	**+0.7**
KMBL	**Kambalda**	**36.17**	**178**	P	**P**	**00 33 28.2**	**+0.6**
	baz=36,SNR=6.0						
FORT	**Forrest**	**36.23**	**169**	P	**P**	**00 33 28.9**	**+0.7**
	baz=36						
FORT	**Forrest**	**36.23**	**169**	P	**P**	**00 33 28.5**	**+0.4**
FORT				IAmb	IAmb	00 33 32.3	
	comp=Z,48nm,1.0s						
KLBR	**Kellerberrin**	**36.49**	**184**	P	**P**	**00 33 30.7**	**+0.3**
	baz=37,SNR=13						
JSD	**Sado**	**36.53**	**23**	P	**P**

MDJ	Mudanjiang	40.21	10	P	P	00 34 02.7	+1.2
MDJ				pmax	pmax		
comp=Z,66nm,0.8s							
MDJ				pmax	pmax		
comp=Z,100nm,3.5s							
MDJ	Mudanjiang	40.21	10	P	P	00 34 01.7	+0.2
MDJ				IAmb	IAmb	00 34 03.3	
comp=Z,49nm,0.9s							
USA0B	Ussuriysk Arra	40.27	12	P	P	00 34 01.8	-0.2
USA0B	Ussuriysk Arra	40.27	12	P	P	00 34 01.8	-0.2
USRK	Ussuriysk Ar.	40.27	12	P	P	00 34 02.7	+0.7
comp=Z,14nm,0.7s,baz=196,slow=6.5,SNR=55							
USRK				PcP	PcP	00 36 05.3	-0.4
comp=Z,1.4nm,0.6s,baz=208,slow=7.6,SNR=3.4							
BBOO	Buckleboo	40.28	160	P	P	00 34 03.6	+1.3
baz=40,SNR=5.8							
BBOO	Buckleboo	40.28	160	P	P	00 34 03.1	+0.9
PKI	Pulchoki	40.49	308	eP	P	00 34 04.2	-0.3
PKI	Pulchoki	40.49	308	eP	P	00 34 04.2	-0.3
DMN	Daman	40.75	307	eP	P	00 34 06.5	-0.1
comp=Z,32nm,1.0s							
DMN	Daman	40.75	307	eP	P	00 34 06.5	-0.1
comp=Z,32nm,1.0s							
GKN	Gorkha	41.30	308	eP	P	00 34 10.6	-0.4
GKN	Gorkha	41.30	308	eP	P	00 34 10.6	-0.4
RMQ	Roma	41.36	141	P	P	00 34 12.7	+1.4
baz=42,SNR=5.5							
HNR	Honiara	41.53	110	LR	LR	00 52 54.2	
comp=Z,29nm,18.5s,baz=23,slow=38							
STKA	Stephens Creek	41.66	153	P	P	00 34 14.8	+1.1
comp=Z,44nm,0.8s,baz=326,slow=8.0,SNR=40							
STKA				PcP	PcP	00 36 10.1	-0.3
comp=Z,7.6nm,0.6s,baz=324,slow=2.4,SNR=6.0							
STKA	Stephens Creek	41.66	153	P	P	00 34 14.8	+1.1
baz=42,SNR=26							
STKA	Stephens Creek	41.66	153	P	P	00 34 14.7	+1.1
HTT	Hallett	41.88	157	P	P	00 34 17.0	+1.6
baz=42,SNR=23							
KOLN	Koldanda	42.02	307	eP	P	00 34 17.2	+0.3
comp=Z,70nm,0.9s							
KOLN	Koldanda	42.02	307	eP	P	00 34 17.2	+0.3
comp=Z,70nm,0.9s							
EIDS	Eidsvold	42.12	137	P	P	00 34 18.2	+0.7
baz=42,SNR=5.5							
EIDS	Eidsvold	42.12	137	P	P	00 34 17.8	+0.2
EIDS				IAmb	IAmb	00 34 19.0	
comp=Z,34nm,1.1s							
PYUN	Piuthan	42.65	307	eP	P	00 34 22.4	+0.3
comp=Z,120nm,0.9s							
PYUN	Piuthan	42.65	307	eP	P	00 34 22.4	+0.3
comp=Z,120nm,0.9s							
CMSA	Cobar Meteorol	43.38	148	P	P	00 34 29.7	+2.0
baz=44,SNR=13							
ASAJ	Asahikawa	43.42	23	P	P	00 34 27.8	0.0
ASAJ				pmax	pmax		
comp=Z,103nm,1.7s							
JKA	Kamikawa-asahi	43.42	23	P	P	00 34 27.8	-0.1
JKA				IAmb	IAmb	00 34 40.2	
comp=Z,103nm,1.7s							
HIA	Hailar	44.13	359	P	P	00 34 33.4	-0.1
HIA				pmax	pmax		
comp=Z,11nm,0.9s							
HIA	Hailar	44.13	359	P	P	00 34 33.4	-0.1
ULN	Ulaanbaatar	44.32	347	ceP	P	00 34 35.5	+0.3
ULN				pmax	pmax		
comp=Z,20nm,0.7s							
ULN	Ulaanbaatar	44.32	347	P	P	00 34 35.0	-0.2
ULN				IAmb	IAmb	00 34 36.8	
comp=Z,23nm,0.9s							
SONM	Songino Array	44.45	346	P	P	00 34 36.5	+0.3
comp=Z,16nm,0.8s,baz=161,slow=9.1,SNR=69							
SONM				PcP	PcP	00 36 19.5	-0.2
comp=Z,1.2nm,0.8s,baz=151,slow=3.3,SNR=1.9							
SONM				LR	LR	00 53 30.1	
comp=Z,117nm,19.1s,baz=180,slow=37							
SONM	Songino Array	44.45	346	P	P	00 34 36.4	+0.2
SONM				pmax	pmax		
comp=Z,16nm,0.9s							
SONM	Songino Array	44.45	346	P	P	00 34 36.4	+0.2
ARMA	Armidale	45.92	142	P	P	00 34 50.1	+2.0
ARMA				IAmb	IAmb	00 34 51.9	
comp=Z,43nm,1.1s							
ARPS	Mount Arapiles	45.95	156	P	P	00 34 49.6	+1.6
baz=46,SNR=9.4							
ZAK	Zakamensk	47.59	345	eP	P	00 35 01.0	+0.2
ZAK				pmax	pmax		
comp=Z,8.0nm,1.1s							
CAN	Canberra	48.05	149	P	P	00 35 06.2	+1.5
baz=48							
CAN	Canberra	48.05	149	P	P	00 35 06.0	+1.4
CAN				pmax	pmax		
comp=Z,51nm,0.7s							
CAN	Canberra	48.05	149	P	P	00 35 06.0	+1.4
TOO	Toolangi	48.17	154	P	P	00 35 06.2	+0.7
TOO				pmax	pmax		
comp=Z,99nm,1.7s							
TOO	Toolangi	48.17	154	P	P	00 35 06.2	+0.7
CNB	Canberra Magne	48.24	148	P	P	00 35 08.5	+2.4
baz=48							
WMQ	Urumqi	48.44	328	eP	P	00 35 08.0	+0.5
WMQ	Urumqi	48.44	328	P	P	00 35 06.6	-0.9
WMQ				pmax	pmax		
comp=Z,13nm,1.0s							
WMQ	Urumqi	48.44	328	P	P	00 35 06.6	-0.9
WMQ				IAmb	IAmb	00 35 09.6	
comp=Z,13nm,1.0s							
TLY	Talaya	48.69	346	eP	P	00 35 10.1	+0.9
TLY				pmax	pmax		
comp=Z,43nm,0.8s							
TLY				MLR	MLR		
comp=Z,155nm,13.0s							
TLY	Talaya	48.69	346	P	P	00 35 09.1	-0.1
TLY				IAmb	IAmb	00 35 11.2	
comp=Z,18nm,0.8s							
ZEA	Zeya	48.88	5	eP	P	00 35 10.7	0.0
ZEA				pmax	pmax		
comp=Z,17nm,1.0s							
SANVU	Saraoutou	50.21	115	P	P	00 35 22.7	+1.3
DZM	Mont Dzumac	52.11	123	P	P	00 35 37.0	+1.3
comp=Z,29nm,1.0s,baz=261,slow=13,SNR=8.2							
DZM				PcP	PcP	00 36 48.2	+0.5
comp=Z,8.2nm,0.9s,baz=138,slow=2.9,SNR=3.5							
DZM	Mont Dzumac	52.11	123	P	P	00 35 36.9	+1.1
DZM				IAmb	IAmb	00 35 38.6	
comp=Z,32nm,1.0s							
ZSN	Zaisan	52.36	330	eP	P	00 35 37.2	0.0
comp=Z,4.0nm,1.0s,baz=330							
ZSN	Zaisan	52.36	330	eP	P	00 35 37.1	0.0
ZSN				pmax	pmax		
comp=Z,4.0nm,1.0s							
NIL	Nilore	52.54	309	P	P	00 35 38.4	-0.3
NIL				pmax	pmax		
comp=Z,23nm,0.9s							
NIL	Nilore	52.54	309	P	P	00 35 38.4	-0.3
NIL				IAmb	IAmb	00 35 39.8	
comp=Z,23nm,0.9s							
SHLS	Shalkode	52.70	323	eP	P	00 35 38.9	-0.9
comp=Z,36nm,1.5s,baz=323							
SHLS	Shalkode	52.70	323	eP	P	00 35 38.9	-0.9
SHLS				pmax	pmax		
comp=Z,36nm,1.5s							
UZB	Uzynbulak	52.96	322	eP	P	00 35 42.5	+0.7
comp=Z,14nm,1.3s,baz=322							
UZB	Uzynbulak	52.96	322	eP	P	00 35 42.5	+0.7
UZB				pmax	pmax		
comp=Z,14nm,1.3s							
BOD	Bodaibo	52.96	355	eP	P	00 35 41.7	+0.4
BOD				pmax	pmax		
comp=Z,34nm,1.0s							
KSH	Kashi	53.05	317	P	P	00 35 44.1	+1.6
KSH				PcS	PcS	00 40 51.8	+1.9
KSH				S	S	00 43 16.4	+3.8
KSH				ScS	ScS	00 45 34.5	+2.0
KSH				pmax	pmax		
comp=Z,76nm,5.4s							
KSH				LR	LR		
comp=Z,100nm,5.5s							
KSH				LR	LR		
comp=Z,100nm,5.9s							
KSH				LR	LR		
comp=Z,240nm,11.6s							
MK31	Makanchi Array	53.26	328	P	P	00 35 43.7	-0.1
MK31				pmax	pmax		
comp=Z,12nm,1.1s							
MK31	Makanchi Array	53.26	328	P	P	00 35 43.7	-0.1
MKAR	Makanchi Array	53.26	328	P	P	00 35 44.1	+0.3
comp=Z,7.0nm,0.9s,baz=122,slow=8.7,SNR=9.1							
MKAR				PcP	PcP	00 36 51.2	-0.3
comp=Z,2.1nm,0.7s,baz=116,slow=5.5,SNR=4.2							
MKAR				LR	LR	01 00 06.7	
comp=Z,61nm,18.1s,baz=114,slow=38							
MKAR	Makanchi Array	53.26	328	ceP	P	00 35 44.0	+0.2
MKAR				pmax	pmax		
comp=Z,7.0nm,0.9s							
MKAR	Makanchi Array	53.26	328	P	P	00 35 43.5	-0.3
SATY	Saty	53.29	322	⇑iP	P	00 35 45.3	+1.0
comp=Z,15nm,0.9s,baz=322							
SATY	Saty	53.29	322	c iP	P	00 35 45.2	+1.0
SATY				pmax	pmax		
comp=Z,15nm,0.9s							
KPKS	Kokpek	53.34	322	eP	P	00 35 45.3	+0.7
comp=Z,21nm,1.1s,baz=322							
KPKS	Kokpek	53.34	322	eP	P	00 35 45.2	+0.7
KPKS				pmax	pmax		
comp=Z,21nm,1.1s							
MAKZ	Makanchi	53.44	328	P	P	00 35 44.4	-0.7
MAKZ				pmax	pmax		
comp=Z,22nm,1.3s							
MAKZ	Makanchi	53.44	328	P	P	00 35 44.4	-0.7
MAKZ				IAmb	IAmb	00 35 46.7	
comp=Z,22nm,1.2s							
KDJ	Kajisay	53.56	320	P	P	00 35 46.7	+0.4
KDJ				pmax	pmax		
comp=Z,11nm,0.9s							
KDJ	Kajisay	53.56	320	P	P	00 35 46.6	+0.4
TNSS	Tian-Shan	54.18	321	eP	P	00 35 52.2	+1.1
baz=321							
TNSS	Tian-Shan	54.18	321	eP	P	00 35 52.1	+1.1
MDOK	Medeo	54.18	321	i P	P	00 35 51.8	+1.0
baz=321							
MDOK	Medeo	54.18	321	i P	P	00 35 51.8	+1.0
ULHL	Ulahol	54.22	320	P	P	00 35 52.5	+1.4
SNR=6.0							
AAA	Alma-Ata	54.29	321	eP	P	00 35 52.3	+0.9
baz=321							
AAA	Alma-Ata	54.29	321	eP	P	00 35 52.3	+0.9
TDK	Taldyqorghan	54.36	324	eP	P	00 35 52.4	+0.5
comp=Z,26nm,1.0s,baz=324							
TDK	Taldyqorghan	54.36	324	eP	P	00 35 52.4	+0.5
TDK				pmax	pmax		
comp=Z,26nm,1.0s							
BOOM	Boomskoye usch	54.53	320	P	P	00 35 53.1	-0.3
BOOM				pmax	pmax		
comp=Z,18nm,1.5s							
BOOM	Boomskoye usch	54.53	320	P	P	00 35 53.1	-0.3
CHKK	Chushkaly	54.59	322	⇑iP	P	00 35 53.5	-0.1
baz=322							
CHKK	Chushkaly	54.59	322	⇑iP	P	00 35 53.4	-0.1
TKM2	Tokmak 2	54.97	320	P	P	00 35 57.3	+0.7
SNR=14							
KUU	Kurty	55.01	322	⇑iP	P	00 35 57.3	+0.8
comp=Z,58nm,1.1s,baz=322							
KUU	Kurty	55.01	322	c iP	P	00 35 57.3	+0.8
KUU				pmax	pmax		
comp=Z,58nm,1.1s							
KBK	Karagaybulak	55.25	320	P	P	00 36 00.0	+1.4
SNR=7.3							
AAK	Ala-Archa	55.53	320	P	P	00 36 01.8	+1.1
SNR=7.5							
AAK	Ala-Archa	55.53	320	ceP	P	00 36 01.7	+1.1
AAK				pmax	pmax		
comp=Z,41nm,2.5s							
AAK	Ala-Archa	55.53	320	P	P	00 36 01.2	+0.6
AAK				IAmb	IAmb	00 36 02.9	
comp=Z,17nm,1.1s							
AML	Almayashu	55.81	319	P	P	00 36 04.1	+1.2
SNR=8.7							
USP	Ospenovka	55.84	320	P	P	00 36 03.2	+0.6
SNR=9.8							
SGDS	Sogindy	55.85	321	eP	P	00 36 02.5	-0.2
comp=Z,5.3nm,1.5s,baz=320							
SGDS	Sogindy	55.85	321	eP	P	00 36 02.5	-0.2
SGDS				pmax	pmax		
comp=Z,5.0nm,1.5s							
EKS2	Erkin-Say	56.01	319	P	P	00 36 05.0	+1.0
SNR=9.8							
KBL	Kabul	56.12	309	P	P	00 36 04.0	-1.0
KBL				pmax	pmax		
comp=Z,12nm,1.0s							
KBL	Kabul	56.12	309	P	P	00 36 04.0	-1.0
SEM	Semipalatinsk	56.59	330	eP	P	00 36 07.5	-0.7
comp=Z,3.9nm,0.8s,baz=330							
SEM	Semipalatinsk	56.59	330	eP	P	00 36 07.4	-0.7
SEM				pmax	pmax		
comp=Z,4.0nm,0.8s							
PETK	Petropavlovsk-	56.67	26	P	P	00 36 09.0	+0.7
comp=Z,12nm,0.8s,baz=204,slow=3.3,SNR=7.5							
PETK				LR	LR	00 58 31.3	
comp=Z,39nm,22.0s,baz=225,slow=34							
PETK	Petropavlovsk-	56.67	26	P	P	00 36 09.0	+0.7
PETK	Petropavlovsk-	56.67	26	P	P	00 36 08.4	+0.1
GAR	Garm	56.78	314	P	P	00 36 09.4	-0.1
GAR				IAmb	IAmb	00 36 10.8	
comp=Z,31nm,1.0s							
BTK	Batken	56.85	315	P	P	00 36 09.9	-0.1
BTK				pmax	pmax		
comp=Z,6.0nm,0.9s							
BTK	Batken	56.85	315	P	P	00 36 09.9	-0.1
ZAA0	Zalesovo Array	56.90	335	P	P	00 36 09.0	-1.0
ZAA0				IAmb	IAmb	00 36 10.5	
comp=Z,31nm,1.6s							
ZALV	Zalesovo Beam	56.90	335	P	P	00 36 09.2	-0.7
comp=Z,4.5nm,0.6s,baz=125,slow=6.5,SNR=21							
ZALV	Zalesovo Beam	56.90	335	P	P	00 36 09.0	-0.9
BTLS	Baital	57.00	322	⇑iP	P	00 36 11.0	+0.2
comp=Z,6.9nm,1.1s,baz=322							
BTLS	Baital	57.00	322	c iP	P	00 36 11.0	+0.2
BTLS				pmax	pmax		
comp=Z,7.0nm,1.1s							
PET	Petropavlovsk	57.03	26	P	P	00 36 10.9	+0.1
PET				pmax	pmax		
comp=Z,61nm,1.3s							
PET	Petropavlovsk	57.03	26	P	P	00 36 10.9	+0.1
YAK	Yakutsk	57.30	5	eP	P	00 36 12.1	-0.4
YAK				e*PP	pwP	00 36 22.4	+2.8
YAK				e		00 37 05.7	
YAK				eS	S	00 44 06.3	-2.0
YAK				e*SS	sS	00 44 21.9	+8.9
YAK				e		00 45 57.9	
YAK				eSS	SS	00 48 01.3	+3.6
YAK				pmax	pmax		
comp=Z,16nm,1.0s							
YAK				pmax	pmax		
comp=E,5.0nm,1.4s							
YAK				pmax	pmax		
comp=N,10.0nm,1.1s							
YAK				smax	smax		
YAK				MLR	MLR		
comp=Z,59nm,19.0s							
YAK	Yakutsk	57.30	5	P	P	00 36 12.4	-0.1
CHGR	Chuyangaron	57.49	313	P	P	00 36 14.3	-0.2
CHGR				IAmb	IAmb	00 36 15.5	
comp=Z,26nm,0.9s							
KURK	Kurchatov	57.60	330	ceP	P	00 36 15.0	+0.1
KURK				pmax	pmax		
comp=Z,42nm,0.7s							
KURK	Kurchatov	57.60	330	P	P	00 36 14.8	-0.1
DZA	Taraz	57.72	319	⇑iP	P	00 36 16.2	+0.3
comp=Z,4.4nm,0.6s,baz=318							
DZA	Taraz	57.72	319	c iP	P	00 36 16.2	+0.3
DZA				pmax	pmax		
comp=Z,4.0nm,0.6s							
IUG	Iuzhnay	58.26	317	eP	P	00 36 20.4	+0.4
comp=Z,14nm,1.2s,baz=317							
IUG	Iuzhnay	58.26	317	eP	P	00 36 20.3	+0.4
IUG				pmax	pmax		
comp=Z,14nm,1.2s							
KK31	Karatay Array	58.35	319	P	P	00 36 20.4	0.0
KK31				pmax	pmax		
comp=Z,24nm,1.5s							
KK31	Karatay Array	58.35	319	P	P	00 36 20.4	0.0
KK31				IAmb	IAmb	00 36 21.6	
comp=Z,24nm,1.4s							
KKAR	Karatay Array	58.35	319	P	P	00 36 20.0	-0.4
KKAR	Karatay Array	58.35	319	P	P	00 36 20.0	-0.4
BRZS	Berezniki	60.33	326	⇑iP	P	00 36 34.2	+0.2
comp=Z,21nm,1.1s,baz=326							
BRZS	Berezniki	60.33	326	c iP	P	00 36 34.1	+0.2
BRZS				pmax	pmax		
comp=Z,21nm,1.1s							
MSVF	Nonsavu	60.80	113	P	P	00 36 37.9	+0.2
MSVF	Nonsavu	60.80	113	P	P	00 36 37.9	+0.2
HRA	Herat	61.44	307	P	P	00 36 41.5	-0.5
BRVK	Borovoye	63.19	329	ceP	P	00 36 53.0	-0.2
BRVK				pmax	pmax		
comp=Z,41nm,1.3s							
BRVK	Borovoye	63.19	329	P	P	00 36 52.9	-0.2
DCZ	Deep Cove	64.99	146	P	P	00 37 04.3	-0.7
GEYT	Alibeck	65.54	309	P	P	00 37 09.7	+0.8
comp=Z,1.1nm,0.6s,baz=162,slow=7.3,SNR=5.5							
GEYT	Alibeck	65.54	309	P	P	00 37 08.4	-0.4
GYA0B	ALIBECK ARRAY	65.54	309	P	P	00 37 08.2	-0.7
RPZ	Rata Peaks	66.25	142	P	P	00 37 12.8	-0.5
TIXI	Tiksi	66.77	3	ceP	P	00 37 14.8	-1.2
TIXI				pmax	pmax		
comp=Z,12nm,1.3s							
TIXI	Tiksi	66.77	3	P	P	00 37 14.6	-1.5
TIXI				IAmb	IAmb	00 37 16.0	
comp=Z,15nm,0.9s							
TUWZ	Tuamarina	66.88	139	P	P	00 37 17.3	+0.1
ABKAR	Akbulak array	67.49	322	P	P	00 37 20.3	-0.7
BKZ	Black Stump Fm	67.51	136	P	P	00 37 21.9	+0.5
URZ	Urewera	67.54	135	P	P	00 37 21.7	+0.2
comp=Z,9.9nm,0.8s,baz=118,slow=12,SNR=3.0							
KNTN	Kanton	67.83	95	P	P	00 37 23.9	0.0
NRIK	Noril'sk	67.89	348	P	P	00 37 22.9	-0.3
comp=Z,2.7nm,0.4s,baz=157,slow=5.7,SNR=6.5							
SVE	Sverdlovsk	69.85	329	deP	P	00 37 35.7	0.0
SVE				pmax	pmax		
comp=Z,51nm,1.0s							
ARU	Arti	70.77	329	c iP	P	00 37 40.5	-0.8
ARU				S	S	00 46 56.0	+0.3
ARU				SS	SS	00 51 22.6	-5.3
ARU				pmax	pmax		
comp=Z,29nm,0.9s							
ARU	Arti	70.77	329	P	P	00 37 40.3	-1.0
CASY	Casey	71.48	184	P	P	00 37 45.2	-0.1
CASY				IAmb	IAmb	00 37 46.7	
comp=Z,14nm,1.1s							
AKT	Akhty	74.06	312	eP	P	00 38 01.0	-0.4
AKT				e		00 38 15.4	
AKT				e		00 40 46.5	
AKT				pmax	pmax		
comp=Z,13nm,0.9s							
UNV	Unalaska Valle	75.79	36	P	P	00 38 10.2	-0.8
OPO	Ambohidratompo	76.18	250	P	P	00 38 14.0	-0.1
comp=Z,8.1nm,1.1s,baz=84,slow=9.6,SNR=5.1							
TBLG	Delisi	76.32	312	P	P	00 38 14.0	-0.3
TBLG				pmax	pmax		
comp=Z,10.0nm,0.8s							
TBLG	Delisi	76.32	312	P	P	00 38 14.0	-0.3
TBLG				IAmb	IAmb	00 38 15.4	
comp=Z,10nm,0.8s							
ZEI	Tsey	77.03	313	eP	P	00 38 15.9	-2.7
ZEI				pmax	pmax		
comp=Z,19nm,1.4s							
AKH	Akhalkalaki	77.22	311	P	P	00 38 19.8	+0.2
AKH				pmax	pmax		
comp=Z,17nm,1.0s							
AKH	Akhalkalaki	77.22	311	P	P	00 38 19.8	+0.2
AKH				IAmb	IAmb	00 38 22.0	
comp=Z,16nm,1.0s							
KBZ	Khabaz	77.85	314	P	P	00 38 22.8	0.0
comp=Z,3.8nm,0.9s,baz=98,slow=5.0,SNR=7.1							
KIV	Kislovodsk	78.02	314	eP	P	00 38 23.6	-0.3
KIV				pmax	pmax		
comp=Z,21nm,1.0s							
KIV	Kislovodsk	78.02	314	P	P	00 38 23.3	-0.6
PRGR	Permogore	78.61	332	eP	P	00 38 23.0	-3.6
MARD	Mardin	79.08	307	P	P	00 38 29.2	-0.8
MARD				IAmb	IAmb	00 38 31.1	
comp=Z,11nm,0.7s							
VRH	Novokhopyorsk	79.30	321	eP	P	00 38 29.4	-1.2
VRH				pmax	pmax		
comp=Z,20nm,0.8s							
RDOG	Red Dog Mine	80.27	22	P	P	00 38 35.4	-0.2
RDOG				IAmb	IAmb	00 38 37.5	
comp=Z,30nm,1.3s							
VSR	Storozhevoye	80.91	321	eP	P	00 38 38.4	-0.9
VSR				pmax	pmax		
comp=Z,20nm,1.0s							
LPSR	Galich'ya Gora	81.14	322	eP	P	00 38 40.2	-0.3
LPSR				pmax	pmax		
comp=Z,40nm,1.0s							
KLMR	Klimovskoe	81.43	331	eP	P	00 38 39.7	-2.1
KLMR				pmax	pmax		
comp=Z,40nm,1.0s							
KLMR	Klimovskoe	81.43	331	eP	P	00 38 39.8	-2.1
KLMR				AMP		00 38 42.1	
comp=Z,40nm,1.0s							
ANN	Anapa	81.82	314	eP	P	00 38 42.8	-1.5
ANN				pmax	pmax		
comp=Z,22nm,1.0s							
MOS	Moscow	82.07	325	eP	P	00 38 43.6	-1.8
TMCR	Tamitsa	82.39	334	eP	P	00 38 45.2	-1.7
SVW2	Sparrevohn	82.56	29	P	P	00 38 48.1	+0.3
SVW2				IAmb	IAmb	00 38 49.9	
comp=Z,17nm,1.2s							
OBN	Obninsk	82.65	325	c iP	P	00 38 47.2	-1.2
OBN				e		00 38 53.6	
OBN				e		00 41 54.9	
OBN				ePPP	PPP	00 43 47.0	
OBN				eS	S	00 49 07.2	+1.6
OBN				eSSS	SSS	00 57 57.1	
OBN				pmax	pmax		
comp=Z,34nm,1.3s							
OBN				MLR	MLR		
comp=Z,314nm,16.0s							
OBN	Obninsk	82.65	325	P	P	00 38 47.5	-0.9
MAW	Mawson	82.95	199	P	P	00 38 50.2	+0.6
comp=Z,4.9nm,1.1s,baz=56,slow=8.2,SNR=8.7							
MAW	Mawson	82.95	199	P	P	00 38 50.2	+0.6
baz=83,SNR=5.8							
MAW	Mawson	82.95	199	P	P	00 38 49.7	+0.1
MAW	Mawson	82.95	199	P	P	00 38 49.7	+0.1
OHAK	Old Harbor	83.61	33	P	P	00 38 53.5	+0.2
IMAR	Indian Mountai	83.61	24	P	P	00 38 52.9	-0.3
KMBO	Kilima Mbogo	83.70	268	P	P	00 38 56.7	+1.7
comp=Z,4.6nm,0.8s,baz=46,slow=7.5,SNR=13							
KMBO	Kilima Mbogo	83.70	268	P	P	00 38 54.9	-0.1
KMBO				pmax	pmax		
comp=Z,7.0nm,1.0s							
KMBO	Kilima Mbogo	83.70	268	P	P	00 38 54.9	-0.1
KDAK	Kodiak Island	83.99	33	P	P	00 38 55.2	-0.1
KDAK	Kodiak Island	83.99	33	P	P	00 38 55.2	-0.1
PPLA	Purkeypile	84.21	27	P	P	00 38 56.7	+0.1
APA	Apatity	84.44	337	||iP	P	00 39 04.8	+7.4
APA				pmax	pmax		
comp=Z,6.0nm,1.0s							
APA				MLR	MLR		
comp=Z,1μm,14.0s							
SKT	Skwentna	84.52	28	P	P	00 38 56.8	-1.2
BR131	Keskin Array S	84.68	309	P	P	00 38 58.4	-1.0
BR131				pmax	pmax		
comp=Z,5.0nm,1.0s							
BR131	Keskin Array S	84.68	309	P	P	00 38 58.4	-1.0
BRTR	Keskin Array B	84.68	309	P	P	00 38 59.1	-0.3
comp=Z,2.0nm,0.7s,baz=82,slow=8.9,SNR=6.0							
BRTR	Keskin Array B	84.68	309	P	P	00 38 58.2	-1.2
CNPM	China Poot	84.69	31	P	P	00 38 58.3	-0.5
CNPM				IAmb	IAmb	00 39 00.7	
comp=Z,20nm,1.0s							
BPAW	Bear Paw Mtn.	84.75	26	P	P	00 38 59.2	+0.1
KTH	Kantishna Hill	84.79	27	P	P	00 38 59.4	0.0
KTH				IAmb	IAmb	00 39 01.1	
comp=Z,21nm,1.1s							
SUA	Susitna One	84.90

comp=Z,38nm,0.9s
MCK McKinley 85.67 27 P **P 00 39 03.2 -0.5**
PMR Palmer 85.67 29 P **P 00 39 02.5 -1.1**
PMR pmax pmax
comp=Z,16nm,1.1s
PMR Palmer 85.67 29 P **P 00 39 02.5 -1.1**
PMR IAmb IAmb 00 39 04.8
comp=Z,16nm,1.1s
RND Reindeer 85.72 27 P **P 00 39 03.3 -0.7**
RND pmax pmax
comp=Z,17nm,0.8s
RND Reindeer 85.72 27 P **P 00 39 03.3 -0.7**
RND IAmb IAmb 00 39 04.4
comp=Z,17nm,0.8s
MDM Murphy Dome 85.92 25 P **P 00 39 04.1 -0.8**
MDM IAmb IAmb 00 39 07.2
comp=Z,8.0nm,0.9s
KNK Knik Glacier 86.00 29 P **P 00 39 04.8 -0.5**
KNK IAmb IAmb 00 39 06.4
comp=Z,20nm,1.0s
WRH Wood River Hil 86.00 26 P **P 00 39 04.6 -0.6**
WRH IAmb IAmb 00 39 05.9
comp=Z,27nm,1.3s
SML Sawmill 86.04 28 P **P 00 39 05.2 -0.4**
CCB Clear Creek Bu 86.12 26 P **P 00 39 05.0 -0.8**
CCB IAmb IAmb 00 39 06.2
comp=Z,9.5nm,0.7s
HDA Harding Lake 86.50 26 P **P 00 39 06.4 -1.3**
baz=274
IL31 86.50 25 P **P 00 39 06.7 -1.0**
IL31 IAmb IAmb 00 39 08.4
comp=Z,5.7nm,0.7s
ILAR Eielson Array 86.50 25 P **P 00 39 06.0 -1.7**
comp=Z,3.7nm,0.6s,baz=251,slow=4.4,SNR=48
ILAR Eielson Array 86.50 25 P **P 00 39 06.9 -0.8**
ILAR Eielson Array 86.50 25 P **P 00 39 06.9 -0.8**
GLI Glacier Island 86.69 29 P **P 00 39 08.2 -0.6**
GLI IAmb IAmb 00 39 10.3
comp=Z,8.5nm,1.0s
BOLV Bolvadin 86.82 308 P **P 00 39 08.9 -1.1**
BOLV IAmb IAmb 00 39 10.9
comp=Z,21nm,1.2s
FID Port Fidalgo 87.00 29 P **P 00 39 09.5 -0.8**
FID IAmb IAmb 00 39 10.5
comp=Z,6.1nm,0.8s
M24K Tolsona, Glenn 87.03 28 P **P 00 39 10.9 +0.4**
baz=275
AKASG Malin Array Be 87.19 320 P **P 00 39 10.6 -0.8**
comp=Z,1.3nm,0.6s,baz=68,slow=4.7,SNR=9.3
AKASG Malin Array Be 87.19 320 P **P 00 39 10.2 -1.1**
AKBB Malin Array Si 87.19 320 P **P 00 39 10.3 -1.1**
AKBB pmax pmax
comp=Z,5.0nm,1.0s
AKBB Malin Array Si 87.19 320 P **P 00 39 10.3 -1.1**
BMAR Burnt Mountain 87.20 23 P **P 00 39 11.8 +0.6**
ARCES ARCESS Array B 87.23 339 P **P 00 39 10.5 -0.7**
comp=Z,6.1nm,0.8s,baz=75,slow=5.1,SNR=13
ARCES ARCESS Array B 87.23 339 P **P 00 39 10.6 -0.6**
ARCES ARCESS Array B 87.23 339 P **P 00 39 10.6 -0.6**
ARE0 ARCESS Array S 87.23 339 P **P 00 39 10.9 -0.3**
PAX Paxson 87.28 27 P **P 00 39 11.6 -0.1**
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX Paxson 87.28 27 P **P 00 39 11.6 -0.1**
RIDG Independent Ri 87.48 26 P **P 00 39 12.3 -0.3**
SCRK Sand Creek 87.83 26 P **P 00 39 14.0 -0.3**
baz=277
FINES FINESS Array B 87.93 331 P **P 00 39 13.1 -1.6**
comp=Z,2.1nm,0.8s,baz=122,slow=2.5,SNR=7.8
FINES FINESS Array B 87.93 331 *i* P **P 00 39 13.6 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 87.93 331 P **P 00 39 13.0 -1.7**
KAIM Kayak Island 88.11 30 P **P 00 39 15.2 -0.3**
GLB Gilahina Butte 88.22 29 **P 00 39 15.0 -1.2**
GLB IAmb IAmb 00 39 17.2
comp=Z,6.4nm,1.0s
VRDI Verde Repeater 88.42 29 P **P 00 39 16.1 -1.2**
MCARA McCarthy VSAT 88.60 29 P **P 00 39 17.2 -0.8**
MCARA IAmb IAmb 00 39 19.1
comp=Z,6.7nm,0.8s
CRQM Cirque 88.63 29 P **P 00 39 17.9 -0.4**
CRQM IAmb IAmb 00 39 19.2
comp=Z,8.7nm,0.9s
K27K Chicken 88.66 26 P **P 00 39 19.4 +1.3**
baz=279
BCAR Beaver Creek A 88.94 27 P **P 00 39 19.5 -0.1**
EGAK Eagle 88.94 25 P **P 00 39 18.6 -0.8**
EGAK IAmb IAmb 00 39 20.2
comp=Z,6.3nm,0.8s
BALM Baldy 88.98 29 P **P 00 39 20.0 +0.2**
BALM IAmb IAmb 00 39 20.9
comp=Z,9.0nm,1.0s
YAH Yahtse 89.37 30 P **P 00 39 21.9 0.0**
YAH IAmb IAmb 00 40 37.3
comp=Z,11nm,0.7s
MLR Muntele Rosu 89.90 316 P **P 00 39 24.5 0.0**
MLR Muntele Rosu 89.90 316 **P 00 39 24.5 0.0**
BURAR Bucovina Array 90.13 318 P **P 00 39 24.8 -0.8**
BUR08 Bucovina Ar. S 90.14 318 P **P 00 39 24.8 -0.8**
MBAR Mbarara 90.14 269 *ce*P **P 00 39 27.1 +0.8**
MBAR pmax pmax
comp=Z,19nm,1.7s
MBAR Mbarara 90.14 269 P **P 00 39 25.9 -0.5**
MBAR IAmb IAmb 00 39 27.8
comp=Z,11nm,0.8s
EPYK Eagle Plains 90.43 23 P **P 00 39 26.3 -0.2**
baz=284
SYO Syowa Base 91.48 201⇓ *e*P **P 00 39 30.4 -0.7**
SYO Syowa Base 91.48 201⇑ *es*P sP 00 39 39.0 +4.1
WHY Whitehorse 92.63 29 P **P 00 39 36.7 -0.1**
WHY IAmb IAmb 00 39 38.5
comp=Z,14nm,1.0s
JIS Juneau Island 93.50 31 P **P 00 39 40.2 -0.5**
JIS IAmb IAmb 00 39 42.5
comp=Z,12nm,1.1s
LSZ Lusaka 93.84 255 P **P 00 39 42.2 -1.1**
LSZ pmax pmax
comp=Z,5.0nm,0.9s
LSZ Lusaka 93.84 255 P **P 00 39 42.2 -1.1**
QSPA South Pole Qui 94.89 180 P **P 00 39 46.9 -0.2**
QSPA IAmb IAmb 00 39 48.7
comp=Z,14nm,1.2s
NOA NORSAR Array B 95.01 333 P **P 00 39 46.8 -0.8**
comp=Z,2.2nm,1.1s,baz=73,slow=4.8,SNR=4.5
GERES GERESS Array B 97.41 320 P **P 00 39 58.4 -0.6**
comp=Z,0.1nm,0.3s,baz=81,slow=7.0,SNR=1.7
NVAR Mina Array Bea 110.36 46 PKiKP **PKiKP 00 44 58.7 +0.7**
comp=Z,0.6nm,0.8s,baz=273,slow=1.5,SNR=5.5
NVAR PKKPab **PKKPab 00 56 08.9 -1.2**
comp=Z,1.0nm,0.9s,baz=113,slow=3.9,SNR=5.3
MPMC Manual Prospec 111.92 48 P **PKiKP 00 45 01.7 +0.6**
baz=294
GMRC Granite Mounta 113.81 49 P **PKiKP 00 45 05.6 +1.0**
baz=295
BELC Belle Mtn. Jos 113.88 50 P **PKiKP 00 45 05.6 +0.8**
baz=294
PDAR Pinedale Array 114.16 38 PKP **PKiKP 00 45 05.2 0.0**
comp=Z,0.2nm,0.6s,baz=316,slow=3.8,SNR=1.8
PDAR PKKPab **PKKPab 00 55 51.1 -2.2**
comp=Z,0.5nm,0.5s,baz=131,slow=4.5,SNR=4.1
O20A White River Ci 116.42 40 P **PKiKP 00 45 09.6 +0.1**
baz=303
RSSD Black Hills 116.66 35 P **PKPdf 00 45 09.3 -0.7**
baz=308
TORD Torodi Ar. Bea 116.93 287 PKP **PKPdf 00 45 09.9 -1.0**
comp=Z,2.8nm,0.7s,baz=43,slow=2.2,SNR=12
TORD Torodi Ar. Bea 116.93 287 PKPdf **PKPdf 00 45 09.4 -1.5**
PV13 Radium Mtn., P 117.09 42 **PKPdf 00 45 09.9 -1.1**
SDCO Great Sand Dun 119.52 41 P **PKPdf 00 45 13.9 -1.8**
baz=304
SCHQ Schefferville 120.05 5 PKP **PKiKP 00 45 15.5 -0.4**
comp=Z,3.9nm,0.7s,baz=12,slow=3.4,SNR=4.4
ANMO Albuquerque 120.39 44 P **PKiKP 00 45 17.2 -0.3**
baz=302
MNTX Cornudas Mount 122.85 47 P **PKPdf 00 45 21.0 -0.9**
baz=301
MNTX Cornudas Mount 122.85 47 PKPdf **PKiKP 00 45 21.9 -0.2**
CHGQ Chibougamau 123.75 12 P **PKPdf 00 45 22.1 -1.0**
baz=342
KSU1 Kansas State U 124.14 35 P **PKPdf 00 45 23.6 -0.6**
baz=313
KSU1 Kansas State U 124.14 35 **PKPdf 00 45 23.1 -1.0**
E46A Sault Ste Mari 124.21 21 **PKPdf 00 45 23.2 -0.9**
KIC Kosan Boka 124.50 281 *e*PKIKP **PKPdf 00 45 24.5 -1.0**
comp=Z,29nm,1.0s
DBIC Dimbokro 124.56 282 PKP **PKPdf 00 45 25.1 -0.5**
comp=Z,8.8nm,0.8s,baz=305,slow=1.4,SNR=11
DBIC Dimbokro 124.56 282 PKIKP **PKPdf 00 45 24.5 -1.1**
DBIC Dimbokro 124.56 282 **PKPdf 00 45 24.5 -1.1**
JFWS Jewell Farm 124.63 27 P **PKPdf 00 45 23.9 -1.1**
baz=322
TIC Toumodi 124.73 282 *e*PKIKP **PKPdf 00 45 24.9 -1.1**
LIC Lamto 124.81 281 *e*PKIKP **PKPdf 00 45 24.8 -1.3**
comp=Z,39nm,1.0s
L40A Anamosa 124.83 29 **PKPdf 00 45 24.2 -1.2**
TX31 Lajitas Ar. Si 125.34 49 PKPdf **PKiKP 00 45 26.8 -0.5**
TXAR Lajitas Array 125.34 49 PKP **PKiKP 00 45 26.8 -0.4**
comp=Z,1.3nm,0.8s,baz=205,slow=1.4,SNR=18
TXAR Lajitas Array 125.34 49 PKIKP **PKPdf 00 45 26.4 -0.5**
TXAR Lajitas Array 125.34 49 **PKPdf 00 45 26.4 -0.5**
P38A Dawn 125.47 32 PKPdf **PKPdf 00 45 25.8 -0.9**
WMOK Wichita Mounta 125.67 40 P **PKPdf 00 45 26.5 -0.8**
baz=309
D55A Sainte-Anne-du 126.25 14 P **PKPdf 00 45 27.5 -0.5**
baz=340
E53A Dumoine, Ponti 126.28 16 P **PKPdf 00 45 27.5 -0.6**
baz=337
E54A Lac Daplat, Po 126.36 15 P **PKPdf 00 45 27.4 -0.8**
baz=338
D56A ZEC Mazanza, M 126.38 13 P **PKiKP 00 45 28.2 -0.5**
baz=341
LATQ La Tuque 126.48 11 P **PKPdf 00 45 27.8 -0.6**
baz=343
S39A Bolivar 126.97 34 PKPdf **PKPdf 00 45 28.3 -1.3**
R40A Maddies Statio 127.12 33 **PKPdf 00 45 28.9 -1.0**
U38A Gravette 127.25 36 PKPdf **PKPdf 00 45 29.3 -0.9**
JCT Junction City 127.53 45 PKIKP **PKPdf 00 45 30.7 -0.3**
JCT Junction City 127.53 45 P **PKiKP 00 45 30.9 -0.6**
baz=305
JCT Junction City 127.53 45 PKPdf **PKPdf 00 45 30.7 -0.3**
HHAR Hobbs 127.62 36 **PKPdf 00 45 29.9 -1.0**
E61A Lac Etchemin 127.83 10 P **PKiKP 00 45 30.9 -0.7**
baz=346
U40A Yellville 128.19 35 P **PKPdf 00 45 31.6 -0.4**
baz=316
WVT Waverly 131.07 31 PKIKP **PKPdf 00 45 36.8 -0.7**
WVT Waverly 131.07 31 PKPdf **PKPdf 00 45 36.8 -0.7**
PLCA Paso Flores 142.97 166 PKhKP PKPpre 00 45 56.6
comp=Z,3.7nm,0.9s,baz=234,slow=5.0,SNR=3.5
TGUH Tegucigalpa,Un 146.30 55 **PKPbc 00 46 06.8 -0.2**
BO02 Sierra Bellavi 148.46 162 **PKPbc 00 46 12.1 -0.3**
BOAB BOACO BROADBAND 148.48 56 **PKPbc 00 46 12.0 -0.9**
MT02 Curacav 149.74 160 **PKPbc 00 46 15.6 0.0**
MT05 Renca 149.76 161 **PKPbc 00 46 15.8 +0.1**
PEL Peldehue 150.00 160 PKIKP **PKPbc 00 46 16.0 -0.3**
PEL Peldehue 150.00 160 **PKPbc 00 46 16.0 -0.3**
ROC1 El Roble 150.04 160 **PKPbc 00 46 16.1 -0.6**
VA03 San Esteban 150.39 160 **PKPbc 00 46 17.0 -0.4**
CO02 Combarbal 151.65 158 **PKPbc 00 46 20.2 -0.1**
CO03 El Pedregal 152.09 158 **PKPbc 00 46 20.9 -0.5**
CO01 Juntas del Tor 153.09 159 **PKiKP 00 46 24.0 0.0**
AC05 El Transito 154.05 157 PKPbc **PKiKP 00 46 26.4 +0.6**
AC05 PKPab **PKPab 00 46 40.0 +1.0**
CPUP Villa Florida 158.71 185 PKPab **PKPab 00 47 00.1 +1.3**
comp=Z,9.4nm,0.8s,baz=162,slow=4.0,SNR=22
CPUP Villa Florida 158.71 185 PKP2 **PKPab 00 46 59.0 +0.2**
CPUP Villa Florida 158.71 185 PKPab **PKPab 00 46 59.0 +0.2**
OTAV Otavalo 160.06 75 PKIKP **PKPdf 00 46 25.3 -0.9**
OTAV Otavalo 160.06 75 **PKPdf 00 46 25.3 -0.9**
LPAZ La Paz 165.74 143 PKP **PKPdf 00 46 32.0 +0.3**
comp=Z,4.2nm,0.9s,baz=53,slow=1.8,SNR=12
LPAZ PKPab **pPKPab 00 47 32.5 -0.8**
comp=Z,2.3nm,0.8s,baz=194,slow=2.9,SNR=5.3
LPAZ La Paz 165.74 143 PKIKP **PKPdf 00 46 31.6 -0.2**
LPAZ La Paz 165.74 143 **PKPdf 00 46 31.6 -0.2**
LPAZ PKPab **PKPab 00 47 31.9 +1.2**

*NEIC **09** 01:07:28.7±1.1, 64.°64N±0.°07×17.°35W±0.°09, h3km±3km, Error ellipse: s-maj=9.5km s-min=5.6km az=186.0*
*BJI **09** 01:07:28.1±0.0, 64.°92N×17.°80W, h5km, mB5.6/52, mb4.8/48, Ms5.0/52, Ms7 4.7/48*
*REY **09** 01:07:29.3, 64.°67N×17.°37W, h7km*
*NEIC **09** 01:07:29, 64.°67N×17.°37W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-4.94; $M_{\theta\theta}$3.21; $M_{\phi\phi}$1.74; $M_{r\theta}$-5.38; $M_{\theta\phi}$-3.87; $M_{\phi r}$-1.59; Fault plane solution: $M_0$8.08000×10^{16} NP1:ϕ_s97.69000°, δ68.08000°, λ-121.08000°. NP2:ϕ_s335.91000°, δ37.39000°, λ-37.94000°. Principal axes: T 7.3958, Plg17.0000°, Azm210.0000°; N 1.2283, Plg29.0000°, Azm110.0000°; P -8.6242, Plg56.0000°, Azm327.0000°;*
*BGS **09** 01:07:29.7±2.2, 64.°67N×17.°37W, h5km, MS4.8*
*UNK **09** 01:07:29.0, 64.°67N×17.°37W, h7km*
*IEPN **09** 01:07:29.6, 64.°22N×17.°30W, h10km*
*NAO **09** 01:07:30.7±5.3, 64.°64N×17.°40W, ML5.2*
*IDC **09** 01:07:30.9±0.4, 64.°64N×17.°39W, h0km, mb4.3/30, mb1 4.4/37, mb1mx4.3/50, mbtmp4.3/37, ML3.0/5, MS4.4/44, Ms1 4.4/44, ms1mx4.4/55, Error ellipse: s-maj=12.9km s-min=9.1km az=19.0*
*MOS **09** 01:07:30.1±1.3, 64.°59N×17.°50W, h10km, mb5.2/64, MS4.7/39, Error ellipse: s-maj=7.7km s-min=4.8km az=99.4*
*INMG **09** 01:07:32.0, 64.°62N×17.°52W, h7km, Mb5.3*
*GCMT **09** 01:07:35.0±0.1, 64.°61N±0.°01×17.°16W±0.°01, h12km, MW5.2/147, Moment Tensor Solution. s111,c175; s147,c258; Duration: 1ꝑ0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.94±.01; $M_{\theta\theta}$0.40±.01; $M_{\phi\phi}$0.53±.01; $M_{r\theta}$-0.18±.03; $M_{\theta\phi}$-0.18±.01; $M_{\phi r}$-0.35±.03; Best double couple: $M_0$0.87300×10^{17} NP1:ϕ_s136.00000°, δ39.00000°, λ-112.00000°. NP2:ϕ_s344.00000°, δ54.00000°, λ-73.00000°. Principal axes: T 0.6930, Plg8.0000°, Azm62.0000°; N 0.3600, Plg14.0000°, Azm154.0000°; P -1.0530, Plg74.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 01:07:37, 64.°42N×17.°29W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-8.08; $M_{\theta\theta}$3.41; $M_{\phi\phi}$4.68; $M_{r\theta}$-0.28; $M_{\theta\phi}$-1.56; $M_{\phi r}$1.88; Fault plane solution: $M_0$7.45000×10^{16} NP1:ϕ_s323.00000°, δ38.00000°, λ-96.00000°. NP2:ϕ_s151.00000°, δ52.00000°, λ-84.00000°. Principal axes: T 5.9425, Plg7.0000°, Azm238.0000°; N 2.4112, Plg4.0000°, Azm328.0000°; P -8.3537, Plg82.0000°, Azm88.0000°;*
*DNK **09** 01:07:38.3±4.6, 64.°79N×17.°45W, h67km±55km, Ms4.8, Hypocentre not reviewed by the ISC*
ISC 09 01:07:31.8±0.2, 64.°62N±0.°02×17.°57W±0.°02, h10km, n1267, σ1ꝑ92/1035, mb4.9/265, MS4.6/370, 56C-34D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**303**	P	**Pg**	**01 07 31.4**	**-3.0**
IVON	baz=273			S	**Sg**	**01 07 34.1**	**-2.2**
IDJK	**Dyngjujokull**	**0.19**	**129**	P	**Pg**	**01 07 32.8**	**-3.0**
	baz=160						
IDYN	**Dyngjuhals**	**0.19**	**27**	P	**Pg**	**01 07 31.8**	**-4.1**
IDYN	baz=1.6			S	**Sg**	**01 07 34.4**	**-4.3**
	baz=1.6						
IGRF	**Grimsfjall**	**0.25**	**149**	P	**Pg**	**01 07 34.2**	**-2.7**
IGRF	baz=170			S	**Sg**	**01 07 41.5**	**+1.1**
	baz=170						
IURH	**Urdarhals**	**0.27**	**42**	P	**Pg**	**01 07 33.1**	**-4.2**
IURH	baz=32			S	**Sg**	**01 07 37.9**	**-3.0**
	baz=32						
IHUS	**Husbondi**	**0.33**	**187**	P	**Pg**	**01 07 36.2**	**-2.2**
	baz=198						
ISKR	**Skrokkalda**	**0.36**	**260**	P	**Pn**	**01 07 43.0**	**-0.1**
	baz=257						
IBJK	**Bruarjokull**	**0.38**	**113**	P	**Pg**	**01 07 35.5**	**-3.9**
IBJK	baz=126			S	**Sg**	**01 07 40.5**	**-4.0**
	baz=126						
IKVE	**Kverkfjoll**	**0.39**	**81**	P	**Pg**	**01 07 35.3**	**-4.2**
IKVE	baz=87			S	**Sg**	**01 07 41.3**	**-3.3**
	baz=87						
IVOT	**Vottur**	**0.39**	**154**	P	**Pg**	**01 07 36.8**	**-2.7**
	baz=168						
IJOK	**Jokulheimar**	**0.42**	**223**	P	**Pg**	**01 07 37.5**	**-2.6**
	baz=227						
IKRE	**Kreppuhraun**	**0.54**	**72**	P	Pg	01 07 37.5	-4.7
	baz=74						
IKRE				S	**Sg**	**01 07 45.8**	**-3.4**
	baz=74						
IIEY	**Innrieyrar**	**0.58**	**205**	P	**Pg**	**01 07 40.4**	**-2.7**
	baz=210						
IIEY				S	**Sg**	**01 07 50.2**	**-0.5**
	baz=210						
IASK	**Askja**	**0.58**	**42**	P	Pg	01 07 38.2	-5.0
	baz=38						
IMKO	**Mokollar**	**0.64**	**55**	P	Pg	01 07 39.3	-4.8
	baz=54						
IKSK	**Karasker**	**0.66**	**134**	P	**Pg**	**01 07 40.4**	**-4.2**
	baz=142						
ISVA	**Svartarkot**	**0.73**	**10**	S	**Sg**	**01 07 50.4**	**-5.0**
	baz=4.3						
ISVA				P	Pg	01 07 41.0	-4.9
	baz=4.3						
IVAT	**Vatnsfell**	**0.73**	**234**	P	**Pg**	**01 07 42.9**	**-3.0**
	baz=235						
IVSH	**V-Sauoahnukur**	**0.81**	**76**	S	**Sg**	**01 07 53.4**	**-4.6**
	baz=78						
IVSH				P	Pg	01 07 42.1	-5.3
	baz=78						
IHVE	**Hveravellir**	**0.89**	**287**	P	Pg	01 07 44.6	-4.4
	baz=283						
IHVE				S	**Sg**	**01 07 58.5**	**-2.1**
	baz=283						
IADA	**Aoalbol**	**0.94**	**64**	S	**Sg**	**01 07 56.6**	**-5.5**
	baz=64						
IADA				P	Pg	01 07 44.1	-5.8
	baz=64						
ISNB	**Snabyli**	**1.00**	**208**	P	**Pg**	**01 07 47.3**	**-3.8**
	baz=211						
ISNB				S	**Sg**	**01 08 02.5**	**-1.6**
	baz=211						
IMEL	**Melhnausar**	**1.03**	**22**	P	Pg	01 07 45.7	-5.8
	baz=18						
ISLY	**Slysaalda**	**1.05**	**221**	P	**Pg**	**01 07 48.1**	**-3.8**
	baz=223						
ISLY				S	**Sg**	**01 08 02.7**	**-2.9**
	baz=223						
IREN	**Reynihlio**	**1.07**	**15**	P	Pg	01 07 46.4	-5.9
	baz=11						
IFED	**Fedgar**	**1.10**	**238**	P	**Pb**	**01 07 49.3**	**-3.6**
	baz=238						
IRJU	**Rjupnafell**	**1.12**	**206**	P	**Pb**	**01 07 49.5**	**-3.7**
	baz=209						
IKVO	**Krokottuvotn**	**1.14**	**14**	P	Pb	01 07 47.5	-6.0
	baz=11						
IMJO	**Mjoaskard**	**1.15**	**234**	S	**Sb**	**01 08 04.1**	**-4.6**
	baz=235						
IMJO				P	**Pb**	**01 07 49.9**	**-3.8**
	baz=235						
IGRS	**Grimsstaoir**	**1.19**	**30**	P	Pb	01 07 48.4	-6.0
	baz=28						
IGYG	**Gygjarholskot**	**1.20**	**255**	P	**Pb**	**01 07 50.2**	**-4.3**
	baz=254						
IHAU	**Haukadalur**	**1.23**	**239**	P	**Pn**	**01 07 51.0**	**-4.0**
	baz=239						
IGOD	**Go??abunga**	**1.23**	**219**	P	**Pn**	**01 07 52.0**	**-3.2**
	baz=221						
IHVO	**Lagu-Hvolar**	**1.24**	**208**	P	**Pn**	**01 07 51.6**	**-3.4**
	baz=210						
ISKI	**Skildingahlsh**	**1.27**	**10**	S	**Sb**	**01 08 06.2**	**-6.0**
	baz=6.7						
ISKI				P	Pn	01 07 49.9	-5.8
	baz=6.7						
IGHA	**Grjothals**	**1.28**	**17**	P	Pn	01 07 49.8	-6.0
	baz=14						
IGRA	**Granastaoir**	**1.30**	**360**	P	Pn	01 07 50.2	-5.8
	baz=356						
IGRA				S	**Sb**	**01 08 07.2**	**-5.8**
	baz=356						
IALF	**Alftagrof**	**1.34**	**213**	P	**Pn**	**01 07 53.2**	**-3.3**
	baz=215						
IDIM	**Dimmadalss**	**1.37**	**11**	P	Pn	01 07 51.4	-5.6
	baz=7.9						
IDIM				S	**Sb**	**01 08 09.1**	**-6.0**
	baz=7.9						
IHLA	**Hella**	**1.37**	**346**	P	Pn	01 07 51.8	-5.1
	baz=342						
IESK	**Eystri-Skogar**	**1.38**	**218**	P	**Pn**	**01 07 53.9**	**-3.1**
	baz=220						
ISAU	**Saurbar**	**1.39**	**244**	P	**Pn**	**01 07 53.2**	**-4.0**
	baz=244						
IMID	**Miomork**	**1.40**	**227**	P	**Pn**	**01 07 54.5**	**-2.8**
	baz=228						
IHED	**Heoinshofoi**	**1.47**	**4**	P	Pn	01 07 52.8	-5.5
	baz=1.1						
IHED				S	**Sn**	**01 08 12.3**	**-5.2**
	baz=1.1						
IBRE	**Brettingsstaoi**	**1.52**	**355**	P	Pn	01 07 53.8	-5.1
	baz=352						
IGIL	**Gilhagi**	**1.55**	**19**	P	Pn	01 07 53.9	-5.5
	baz=16						
ISIG	**Siglufjorour**	**1.62**	**340**	S	**Sn**	**01 08 16.7**	**-4.5**
	baz=337						
ISIG				P	Pn	01 07 55.6	-4.7
	baz=337						
IASB	**`sbjarnarst**	**1.62**	**276**	P	**Pn**	**01 07 56.5**	**-3.8**
	baz=275						
BORG	**Borgarnes**	**1.62**	**276**	Pg	**Pn**	**01 07 56.5**	**-3.8**
	58nm,0.3s,baz=97,slow=7.0,SNR=116						
BORG				Lg	Lg	01 08 21.8	
	86nm,0.3s,baz=18,slow=23,SNR=12						
BORG	**Borgarnes**	**1.62**	**276**	P	**Pn**	**01 07 56.8**	**-3.6**
BORG						01 08 23.8	
BORG	**Borgarnes**	**1.62**	**276**		**Pn**	**01 07 56.8**	**-3.6**
BORG				Sg	**Sg**	**01 08 23.8**	**0.0**
ISOL	**Solvholt**	**1.63**	**246**	P	**Pn**	**01 07 57.0**	**-3.4**
	baz=246						
IKRO	**Krokur**	**1.63**	**253**	P	**Pn**	**01 07 57.3**	**-3.2**
	baz=252						
IHEI	**Heioarbar**	**1.65**	**257**	P	**Pn**	**01 07 57.2**	**-3.6**
	baz=256						
IBJA	**Bjarnastaoir**	**1.77**	**249**	P	**Pn**	**01 07 59.3**	**-3.0**
	baz=249						
ISAN	**Sandskeio**	**1.83**	**254**	P	**Pn**	**01 08 00.5**	**-2.7**
	baz=253						
IHRN	**Hraun**	**1.84**	**326**	P	Pn	01 07 59.0	-4.4
	baz=323						
IKUD	**Kuludalsa**	**1.89**	**263**	P	**Pn**	**01 08 00.6**	**-3.4**
	baz=262						
IGRI	**Grimsey**	**1.94**	**355**	P	Pn	01 07 59.8	-4.9
	baz=352						
IKAS	**Kald??rsel**	**1.96**	**254**	P	**Pn**	**01 08 02.4**	**-2.7**
	baz=254						
IVOS	**Vogsosar**	**1.96**	**249**	P	**Pn**	**01 08 03.2**	**-1.9**
	baz=249						
SOFL	**Sornfelli, Far**	**5.42**	**113**	*e*		01 07 34.3	
SCO	**Scoresbysund**	**6.12**	**346**	*i* P	**Pn**	**01 09 01.0**	**-1.1**
SCO	**Scoresbysund**	**6.12**	**346**	*i* P	**Pn**	**01 09 01.0**	**-1.1**
SCO	**Scoresbysund**	**6.12**	**346**	Pn	**Pn**	**01 08 59.3**	**-2.8**
SCO				Sn	**Sn**	**01 10 09.6**	**-2.5**
JMIC	**Jan Mayen**	**7.25**	**24**	Pn	**Pn**	**01 09 15.6**	**-1.9**
JMIC	**Jan Mayen**	**7.25**	**24**	Pn	**Pn**	**01 09 17.0**	**-0.5**
	baz=167,slow=3.4,SNR=3.0						
JMIC				Sn	**Sn**	**01 10 44.6**	**+4.9**
	baz=148,slow=16,SNR=1.4						
JMIC	**Jan Mayen**	**7.25**	**24**	Pn	**Pn**	**01 09 15.6**	**-1.9**
LEWI	**Lewis, Hebride**	**8.27**	**137**	*eP*	**Pn**	**01 09 29.8**	**-1.8**
LRW	**Lerwick**	**8.83**	**113**	*eP*	**Pn**	**01 09 37.2**	**-2.1**
LRW				IAMs_20	IAMs_20	01 13 33.0	
	comp=Z,13μm,10.7s						
LRW	**Lerwick**	**8.83**	**113**	*eP*	**Pn**	**01 09 38.8**	**-0.5**
BIGH	**Upper Bighouse**	**8.94**	**127**	*eP*	**Pn**	**01 09 37.8**	**-3.0**
BIGH				IAMs_20	IAMs_20	01 13 21.6	
	comp=Z,5μm,12.7s						
BIGH	**Upper Bighouse**	**8.94**	**127**	*eP*	**Pn**	**01 09 39.5**	**-1.3**
KAC	**Achnashellach**	**9.28**	**135**	*eP*	**Pn**	**01 09 43.3**	**-2.1**
KPL	**Plockton**	**9.30**	**136**	*eP*	**Pn**	**01 09 43.8**	**-2.0**
KPL	**Plockton**	**9.30**	**136**	*eP*	**Pn**	**01 09 44.3**	**-1.5**
LAWE	**Loch Awe, Argy**	**10.30**	**139**	*eP*	**Pn**	**01 09 57.6**	**-1.7**
INVG	**Invergeldie, C**	**10.55**	**135**	*eP*	**Pn**	**01 10 00.9**	**-2.0**
INVG				IAMs_20	IAMs_20	01 14 31.4	
	comp=Z,6μm,13.8s						
FOO	**Floro**	**10.65**	**96**	*eP*	**Pn**	**01 10 04.3**	**+0.1**
EAB	**Aberfoyle**	**10.67**	**136**	*eP*	**Pn**	**01 10 03.5**	**-1.0**
SUE	**Sulen**	**10.79**	**99**	*eP*	**Pn**	**01 10 05.3**	**-0.7**
PGBU	**Glenifferbraes**	**10.95**	**138**	*eP*	**Pn**	**01 10 06.8**	**-1.4**
SUMG	**Summit**	**10.96**	**326**	*i* P	**Pn**	**01 10 12.0**	**+3.2**
SUMG	**Summit**	**10.96**	**326**	*i* P	**Pn**	**01 10 12.0**	**+3.2**
SUMG	**Summit**	**10.96**	**326**		**Pn**	**01 10 06.7**	**-2.1**

EDI Edinburgh 11.24 134 *eP* **Pn 01 10 12.2 -0.1**
AKN Aaknes 11.25 91 Pn **Pn 01 10 11.1 -1.3**
AKN Aaknes 11.25 91 Pn **Pn 01 10 11.1 -1.3**
ASK Askoy 11.26 101 *eP* **Pn 01 10 13.5 +1.0**
MOL Molde 11.34 89 *eP* **Pn 01 10 14.3 +0.7**
HYA Hoyanger 11.34 97 *eP* **Pn 01 10 11.8 -1.8**
BER Bergen 11.37 101 *eP* **Pn 01 10 13.5 -0.5**
NEWG New Galloway 11.62 139 *eP* **Pn 01 10 16.9 -0.6**
NEWG IAMs_20 IAMs_20 01 15 50.7
comp=Z,10µm,10.8s
EKA Eskdalemuir Ar 11.75 136 Pn **Pn 01 10 19.2 0.0**
EKA Eskdalemuir Ar 11.75 136 Pn **Pn 01 10 17.6 -1.6**
baz=320,slow=13,SNR=68
EKA Sn **Sn 01 12 26.5 -3.7**
baz=334,slow=24,SNR=2.3
EKA Eskdalemuir Ar 11.75 136 Pn **Pn 01 10 19.2 0.0**
ESK Eskdalemuir 11.75 136 *eP* **Pn 01 10 18.3 -0.9**
ESK IAMs_20 IAMs_20 01 15 16.8
comp=Z,6µm,10.9s
ESK Eskdalemuir 11.75 136 P **Pn 01 10 16.8 -2.4**
ESK Eskdalemuir 11.75 136 Pn **Pn 01 10 16.8 -2.4**
KMY Karmoy 11.99 106 *eP* **Pn 01 10 22.7 +0.2**
DOMB Dombas 12.20 90 *eP* **Pn 01 10 25.6 +0.3**
DAG Danmarks Havn 12.22 359⇓*iP* **Pn 01 10 27.6 +2.1**
comp=Z,4µm,10.0s
DAG Danmarks Havn 12.22 359⇓*iP* **Pn 01 10 27.6 +2.1**
DAG MLR MLR
comp=Z,4µm,10.0s
BLS5 Blasjo 12.37 104 *eP* **Pn 01 10 26.7 -1.1**
SKAR Skarslia 12.48 97 *eP* Pn 01 10 23.6 -5.7
KONS Konsvik 12.77 68 *eP* **Pn 01 10 31.8 -1.3**
LOF Lofoten 12.87 60 Pn **Pn 01 10 33.1 -1.3**
LOF Lofoten 12.87 60 *eP* **Pn 01 10 33.2 -1.3**
NRS Narsarsuaq 13.11 267 *iP* **Pn 01 10 41.9 +4.2**
NRS Narsarsuaq 13.11 267 *eP* **Pn 01 10 41.9 +4.2**
NC204 NORSAR Array S 13.26 92 Pn **Pn 01 10 36.3 -3.6**
SNART Snartemo 13.34 107 *eP* **Pn 01 10 41.9 +1.0**
MOR8 Moi Rana 13.34 69 *eP* **Pn 01 10 42.0 +1.1**
NB000 NORSAR Array S 13.38 93 **Pn 01 10 37.7 -3.8**
STEI Steigen 13.51 61 *eP* **Pn 01 10 44.4 +1.3**
NAO01 NORSAR Array S 13.51 93 Pn Pn 01 10 38.5 -4.8
NC303 NORSAR Array S 13.54 91 **Pn 01 10 39.8 -3.9**
FAUS Fauske 13.55 64 *eP* **Pn 01 10 41.9 -1.8**
NB2 NORSAR Subarra 13.56 92 Pn **Pn 01 10 44.8 +0.8**
NB2 NORSAR Subarra 13.56 92 Pn **Pn 01 10 44.8 +0.8**
NOA NORSAR Array B 13.56 92 Pn **Pn 01 10 40.3 -3.6**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=6.2
NOA Sn **Sn 01 13 13.4 -1.1**
baz=303,slow=22,SNR=2.0
NOA LR LR 01 15 42.6
comp=Z,2µm,21.1s,baz=295,slow=36
KONO Kongsberg 13.57 99 *eP* **Pn 01 10 46.0 +1.9**
SFJD Kangerlussuaq 13.66 295 LR LR 01 15 30.2
comp=Z,3µm,19.4s,baz=83,slow=35
SFJD Kangerlussuaq 13.66 295 *iP* **Pn 01 10 48.5 +3.3**
SFJD Kangerlussuaq 13.66 295 *iP* **Pn 01 10 48.5 +3.3**
ILULI Ilulissat 13.80 304 *iP* **Pn 01 10 50.1 +3.1**
ILULI Ilulissat 13.80 304 *iP* **Pn 01 10 50.1 +3.1**
LBWR Ladybower, Pea 13.84 137 *eP* **Pn 01 10 46.4 -1.4**
LBWR IAMs_20 IAMs_20 01 17 05.4
comp=Z,9µm,11.2s
NC602 NORSAR Array S 13.85 93 **Pn 01 10 43.9 -3.9**
OSL Oslo 13.90 97 *eP* **Pn 01 10 50.1 +1.6**
TRO Tromso 14.86 54 P **Pn 01 11 02.0 +0.4**
TRO Tromso 14.86 54 *eP* **Pn 01 11 01.9 +0.3**
HFS Hagfors 15.07 93 P **Pn 01 11 04.7 +0.2**
baz=309,slow=14
HFS Hagfors 15.07 93 Pn **Pn 01 11 02.7 -1.8**
comp=Z,0.1nm,0.3s,baz=194,slow=3.1,SNR=2.4
HFS LR LR 01 16 28.6
comp=Z,2µm,21.4s,baz=295,slow=36
HFS Hagfors 15.07 93 P **Pn 01 11 04.7 +0.2**
baz=309,slow=14
MUD Monsted U'grnd 15.38 110 *iP* **P 01 11 13.0 -0.2**
comp=Z,4µm,11.0s
MUD Monsted U'grnd 15.38 110 *iP* **P 01 11 13.0 -0.2**
MUD MLR MLR
comp=Z,4µm,11.0s
KIF Kilpisjarvi 15.53 57 P **Pn 01 11 09.9 -0.5**
KIF Kilpisjarvi 15.53 57 P **Pn 01 11 09.9 -0.5**
HSPB Hornsund (broa 16.12 26 P **Pn 01 11 19.0 +0.9**
HSPB Hornsund (broa 16.12 26 *eP* **Pn 01 11 19.9 +1.8**
HSPB Hornsund (broa 16.12 26⇓*iP* **Pn 01 11 19.3 +1.3**
HSPB *eS* **Sn 01 14 20.4 +3.9**
HSPB Hornsund (broa 16.12 26 P **Pn 01 11 19.0 +0.9**
KTK1 Kautokeino 16.40 56 *eP* **Pn 01 11 21.4 -0.3**
HAMF Hammerfest 16.51 51 P **Pn 01 11 21.8 -1.2**
HAMF Hammerfest 16.51 51 *eP* **Pn 01 11 21.8 -1.2**
HLG Helgoland 16.51 117 *eP* **P 01 11 25.2 -0.6**
baz=325,slow=11
KULLO Kullorsuaq 16.61 323 *iP* **Pn 01 11 23.3 -1.0**
KULLO Kullorsuaq 16.61 323 *iP* **Pn 01 11 23.3 -1.0**
KBS Kingsbay 16.69 19 P **Pn 01 11 26.5 +1.2**
KBS Kingsbay 16.69 19⇓*iP* **Pn 01 11 26.8 +1.5**
KBS *eS* **Sn 01 14 36.2 +5.8**
KBS Kingsbay 16.69 19 *iP* **P 01 11 27.1 -0.6**
KBS Kingsbay 16.69 19 Pn **Pn 01 11 22.1 -3.3**
KBS Kingsbay 16.69 19 P **Pn 01 11 26.5 +1.2**
SKMB Sankelmark Bun 16.72 114 *eP* **Pn 01 11 26.2 +0.5**
baz=325,slow=11
SPA0 Spitsbergen Ar 16.92 23⇑*iP* **P 01 11 32.6 +2.4**
SPA0 *eS* **S 01 14 47.1 +0.8**
SPITS Spitsbergen Ar 16.92 23 Pn **Pn 01 11 28.8 +0.6**
baz=213,slow=29,SNR=1.0
SPITS LR LR 01 16 12.8
comp=Z,1µm,21.2s,baz=205,slow=31
NOR Nord 17.07 0 P **Pn 01 11 29.6 -0.4**
NOR Nord 17.07 0 *iP* **Pn 01 11 29.8 -0.3**
NOR Nord 17.07 0 *iP* **Pn 01 11 29.8 -0.3**
NOR Nord 17.07 0 P **Pn 01 11 29.6 -0.4**
ARA0 ARCESS Array S 17.17 54 P **Pn 01 11 30.4 -1.0**
baz=267,slow=5.1
ARA0 ARCESS Array S 17.17 54 P **Pn 01 11 30.4 -1.0**
baz=267,slow=5.1
ARCES ARCESS Array B 17.17 54 P **Pn 01 11 30.7 -0.6**
comp=Z,0.1nm,0.3s,baz=274,slow=7.2,SNR=7.4
ARCES LR LR 01 16 42.5
comp=Z,3µm,21.2s,baz=276,slow=32
ARCES ARCESS Array B 17.17 54 Pn **Pn 01 11 27.3 -4.0**
COP Copenhagen 17.24 107 *iP* **Pn 01 11 32.5 +0.2**
COP Copenhagen 17.24 107 *iP* **Pn 01 11 32.5 +0.2**
BSEG Bad Segeberg 17.64 114 *eP* **Pn 01 11 35.9 -1.5**
baz=325,slow=11
HOPEN Hopen 17.89 31 P **Pn 01 11 40.4 +0.1**
HOPEN Hopen 17.89 31 P **Pn 01 11 40.4 +0.1**
IBBN Ibbenburen 17.93 121 *eP* **Pn 01 11 40.7 -0.2**
comp=Z,456nm,2.2s,baz=325,slow=11
UCC Uccle 17.99 130 P **Pn 01 11 40.2 -1.5**
UCC Uccle 17.99 130 P **Pn 01 11 37.2 -4.5**
UCC pmax pmax
comp=Z,36nm,1.4s
UCC Uccle 17.99 130 P **Pn 01 11 37.1 -4.5**
SNF Seneffe 18.22 131 P **Pn 01 11 43.3 -1.1**
RGN Rugen 18.40 109 *eP* **Pn 01 11 46.8 +0.2**
RGN Rugen 18.40 109 *eP* **P 01 11 50.3 +3.7**
baz=325,slow=11
BEBN Eben Emael 18.44 128 P **P 01 11 45.8 -1.2**
BUG Bochum--Univer 18.46 124 *eP* **Pn 01 11 47.7 +0.4**
baz=325,slow=11
BSTI Sart Tilman 18.58 128 P **P 01 11 48.0 -0.7**
BGES Gesves 18.59 129⇑P **P 01 11 47.8 -0.9**
comp=Z,51nm,2.2s
BCLA Clavier 18.63 129⇑P **P 01 11 48.3 -0.9**
NRDL Niedersach Rie 18.66 117 *eP* **P 01 11 48.0 -1.5**
baz=325,slow=11
DOU Dourbes 18.67 131⇑P **P 01 11 48.9 -0.8**
MEM Membach 18.71 127 P **P 01 11 49.1 -1.0**
BHOU Houvegnez 18.93 128 P **P 01 11 52.3 -0.2**
AHRW Bad Neuenahr-A 19.14 126 *eP* **Pn 01 11 56.5 +0.9**
baz=325,slow=11
ASSE Asse, Remlinge 19.17 117 *eP* **P 01 11 55.2 +0.3**
comp=Z,664nm,2.7s,baz=325,slow=11
CLZ Clausthal 19.28 118 *eP* **P 01 11 56.1 -0.3**
baz=325,slow=11
GTTG Gottingen 19.36 119 *eP* **P 01 11 57.6 +0.4**
comp=Z,589nm,2.4s,baz=325,slow=11
WLF Walferdange 19.56 129 P **Pn 01 12 01.2 +0.5**
WLF Walferdange 19.56 129 P **P 01 11 56.2 -3.2**
WLF pmax pmax
comp=Z,62nm,1.5s
WLF Walferdange 19.56 129 *eP* **Pn 01 12 00.3 -0.4**
comp=Z,160nm,2.0s,baz=325,slow=11
WLF Walferdange 19.56 129 **P 01 11 56.2 -3.2**

FIA0 FINESS Array S 19.74 79 P **P 01 12 01.0 -0.3**
baz=306,slow=12
FIA0 FINESS Array S 19.74 79 P **P 01 12 01.0 -0.3**
baz=306,slow=12
FINES FINESS Array B 19.74 79 P **P 01 12 00.4 -0.8**
comp=Z,0.1nm,0.3s,baz=290,slow=35,SNR=7.2
FINES FINESS Array B 19.74 79 P **P 01 11 57.8 -3.5**
FIA1 FINESS Array S 19.74 79 P **P 01 11 58.2 -3.1**
CLF Chambon-Foret 19.78 138 P **P 01 11 59.4 -2.4**
TNS Taunus Mts 19.89 124 *eP* **Pn 01 12 04.3 -0.4**
baz=325,slow=11
UBBA Unterbreizbach 19.96 121 *eP* **Pn 01 12 05.4 +0.1**
comp=Z,266nm,1.9s,baz=325,slow=11
RUE Ruedersdorf 20.11 112 *eP* **P 01 12 05.7 +0.4**
RUE Ruedersdorf 20.11 112 *eP* **P 01 12 05.9 +0.5**
baz=325,slow=11
SLIT Slitere, Latvi 20.18 92 *eP* **P 01 12 04.4 -1.6**
APA0 Apatity Array 20.21 59 P **P 01 12 05.5 -0.9**
baz=304,slow=8.6
APA0 Apatity Array 20.21 59 P **P 01 12 05.5 -0.9**
baz=304,slow=8.6
NEUB Neuenburg 20.32 117 *eP* **P 01 12 08.2 +0.6**
baz=325,slow=11
APA Apatity 20.38 59⇓*iP* **P 01 12 05.8 -2.3**
APA *i* S S 01 15 45.0 -11
APA pmax pmax
comp=Z,14µm,1.0s
APA MLR MLR
comp=Z,2µm,21.0s
MOX Moxa 20.71 119 *eP* **P 01 12 12.6 +0.8**
comp=Z,144nm,1.6s,baz=325,slow=11
MOX *eL* L 01 20 46.3
comp=Z,2µm,19.5s
CLL Collm 20.71 115 *eP* **P 01 12 13.0 +1.1**
comp=Z,151nm,1.6s
CLL *i* PP **PnPn 01 12 25.4 -4.2**
comp=Z,317nm,2.1s
CLL *eS* Sn 01 16 09.0 +1.3
CLL *eS* Sn 01 16 09.0 +1.3
CLL L L 01 20 00.0
comp=Z,1µm,21.2s
CLL Collm 20.71 115 *eP* **P 01 12 13.0 +1.1**
CLL pmax pmax
comp=Z,151nm,1.6s
CLL MLR MLR
comp=Z,1µm,21.2s
CLL Collm 20.71 115 *eP* **P 01 12 12.2 +0.3**
comp=Z,151nm,1.6s,baz=325,slow=11
CLL Collm 20.71 115 P **P 01 12 09.0 -2.9**
LVZ Lovozero 20.74 58*eP* **P 01 12 13.2 +1.0**
LVZ pmax pmax
comp=Z,118nm,2.5s
LVZ Lovozero 20.74 58 P **P 01 12 08.9 -3.2**
GKP Gorka Klasztor 20.93 106 *eP* **P 01 12 15.7 +1.5**
GKP *eS* **S 01 16 09.2 +2.1**
PBUR Paburge 21.02 95 *eP* **P 01 12 15.4 +0.2**
PLN Plauen 21.04 118 *eP* **P 01 12 15.9 +0.4**
baz=325,slow=11
WERD Werda 21.13 118 *eP* **P 01 12 17.1 +0.6**
baz=325,slow=11
ECH Echery 21.15 129 P **P 01 12 14.0 -2.7**
ECH pmax pmax
comp=Z,54nm,1.2s
ECH Echery 21.15 129 P **P 01 12 14.0 -2.7**
ECH IAmb IAmb 01 12 26.0
comp=Z,54nm,1.2s
FBE Freiberg 21.15 116 *eP* **P 01 12 17.3 +0.6**
comp=Z,2µm,3.2s,baz=325,slow=11
GUNZ Gunzen 21.20 118 *eP* **P 01 12 18.2 +0.9**
comp=Z,1µm,2.9s,baz=325,slow=11
TANN Tannenbergstha 21.21 118 *eP* **P 01 12 17.9 +0.5**
comp=Z,3µm,3.1s,baz=325,slow=11
KLNR Kaliningrad 21.23 100*diP* **P 01 12 18.5 +1.0**
KLNR pmax pmax
comp=Z,289nm,1.3s
WERN Wernitzgruen 21.28 118 *eP* **P 01 12 19.1 +1.0**
comp=Z,1µm,2.7s,baz=325,slow=11
GRA1 Grafenberg Arr 21.34 121 P **P 01 12 15.9 -2.7**
GRA1 IAMs_20 IAMs_20 01 21 39.9
comp=Z,2µm,19.0s
GRF Grafenberg Arr 21.34 121 P **P 01 12 15.9 -2.7**
GRF pmax pmax
comp=Z,126nm,1.4s
GRF MLR MLR
comp=Z,2µm,19.0s
GRF Grafenberg Arr 21.34 121 *eP* **P 01 12 18.7 0.0**
baz=325,slow=11
GRF *eL* L 01 21 39.9
comp=Z,2µm,18.7s
NKC Novy Kostel 21.36 118 *eP* **P 01 12 19.0 +0.1**
NKC *epP* **sP 01 12 23.5 -0.2**
NKC *eS* **S 01 16 15.9 +0.2**
NKC AMS AMS 01 24 30.0
comp=Z,3µm,10.1s
NKC Novy Kostel 21.36 118 *eP* **P 01 12 19.0 +0.1**
NKC *e* 01 12 23.5
NKC *eS* **S 01 16 15.9 +0.2**
NKC MLR MLR
comp=Z,3µm,10.1s
STU Stuttgart 21.37 125 P **P 01 12 16.4 -2.6**
STU pmax pmax
comp=Z,74nm,1.1s
STU Stuttgart 21.37 125 *eP* **P 01 12 20.5 +1.5**
baz=325,slow=11
STU Stuttgart 21.37 125 P **P 01 12 16.4 -2.6**
STU IAmb IAmb 01 12 24.0
comp=Z,74nm,1.1s
BRG Berggiesshubel 21.42 115⇑*iP* **P 01 12 20.1 +0.6**
comp=Z,198nm,1.7s
BRG S Sn 01 16 24.0 -0.7
comp=Z,2µm,10.5s
comp=N,2µm,14.3s
comp=E,3µm,14.3s
BRG Berggiesshubel 21.42 115⇑*iP* **P 01 12 20.1 +0.6**
BRG S Sn 01 16 24.0 -0.7
BRG pmax pmax
comp=Z,198nm,1.7s
BRG MLR MLR
comp=Z,2µm,10.5s
BRG MLR MLR
comp=N,2µm,14.3s
BRG MLR MLR
comp=E,3µm,14.3s
BRG Berggiesshubel 21.42 115 *eP* **P 01 12 19.8 +0.3**
comp=E,1µm,3.1s,baz=325,slow=11
MANZ Manzenberg 21.43 119 *eP* **P 01 12 19.8 +0.2**
comp=E,191nm,2.0s,baz=325,slow=11
BFO Black Forest 21.45 127 P **P 01 12 17.1 -2.7**
BFO pmax pmax
comp=Z,51nm,1.2s
BFO Black Forest 21.45 127 *eP* **P 01 12 21.0 +1.1**
baz=325,slow=11
BFO Black Forest 21.45 127 P **P 01 12 17.1 -2.7**
BFO IAmb IAmb 01 12 25.3
comp=Z,51nm,1.2s
VSU Vasula 21.60 86 *eP* **P 01 12 21.0 -0.4**
VSU Vasula 21.60 86*c iP* **P 01 12 20.0 -1.4**
VSU pmax pmax
comp=Z,205nm,1.0s
ROTZ Rotzenmuhle 21.64 119 *eP* **P 01 12 22.6 +0.7**
comp=Z,203nm,2.1s,baz=325,slow=11
FRB Frobisher Bay 21.74 291 P **P 01 12 23.5 +0.7**
comp=Z,5.5nm,0.8s,baz=133,slow=11,SNR=2.6
FRB LR LR 01 20 12.1
comp=Z,2µm,19.8s,baz=55,slow=35
PVCC Panska Ves 21.94 115 *eP* **P 01 12 27.4 +2.3**
PVCC *eS* Sn 01 16 33.9 -3.2
PVCC AMS AMS 01 25 00.0
comp=Z,2µm,11.1s
PVCC Panska Ves 21.94 115 *eP* **P 01 12 27.4 +2.3**
PVCC MLR MLR
comp=Z,2µm,11.1s
SLVR Solovky 22.11 65⇓*iP* **P 01 12 25.5 -1.3**
comp=Z,88nm,1.2s
SLVR *eS* **S 01 16 29.1 -1.1**
PABE Paberze 22.24 95 *eP* **P 01 12 28.4 +0.2**
PRA Prague 22.25 116 *eP* **P 01 12 28.6 +0.2**
PRA *eS* **S 01 16 30.9 -2.0**
PRA AMS AMS 01 25 20.0
comp=Z,1µm,9.6s
PRA Prague 22.25 116 *eP* **P 01 12 28.6 +0.2**
PRA *eS* **S 01 16 30.9 -2.0**
PRA MLR MLR
comp=Z,1µm,9.6s
PRU Pruhonice 22.36 116 *eP* **P 01 12 30.4 +0.8**
PRU *eS* **S 01 16 37.1 +2.1**

PRU AMS AMS 01 25 30.0
comp=Z,3µm,10.7s
PRU Pruhonice 22.36 116 *eP* **P 01 12 30.4 +0.8**
PRU *eS* **S 01 16 37.1 +2.1**
PRU MLR MLR
comp=Z,3µm,10.7s
KSP Ksiaz 22.37 112 *eP* **P 01 12 30.2 +0.4**
KSP *eS* S 01 16 36.2 +0.9
PBCC Pribram 22.39 117 *eS* Sn 01 16 42.9 -5.0
PUL Pulkovo 22.40 80 *eP* **P 01 12 29.9 0.0**
WET Wettzell 22.40 119 *eP* **P 01 12 30.3 +0.2**
baz=325,slow=11
CHVC Chvalec 22.48 113 *eP* **P 01 12 30.1 -0.8**
CHVC *ex* x 01 12 39.4
CHVC *eS* **S 01 16 39.9 +2.6**
CHVC AMS AMS 01 20 50.0
comp=Z,2µm,24.9s
GOPC GO Pecny, Ondr 22.51 115 *eP* **P 01 12 31.7 +0.4**
GOPC *ex* x 01 12 35.8
GOPC *eS* **S 01 16 38.4 +0.5**
GOPC AMS AMS 01 25 40.0
comp=Z,3µm,10.2s
GOPC GO Pecny, Ondr 22.51 115 *eP* **P 01 12 31.7 +0.4**
GOPC *e* 01 12 35.8
GOPC *eS* **S 01 16 38.4 +0.5**
GOPC MLR MLR
comp=Z,3µm,10.2s
UPC Upice 22.52 113 *eP* **P 01 12 32.1 +0.7**
UPC *eS* **S 01 16 39.9 +1.8**
UPC AMS AMS 01 25 50.0
comp=Z,2µm,11.1s
UPC Upice 22.52 113 *eP* **P 01 12 32.1 +0.7**
UPC *eS* **S 01 16 39.9 +1.8**
UPC MLR MLR
comp=Z,2µm,11.1s
OSTC Ostas 22.57 112 *eP* **P 01 12 31.8 0.0**
OSTC *eS* **S 01 16 41.4 +2.5**
OSTC AMS AMS 01 20 30.0
comp=Z,2µm,22.4s
UBR Ueberruh 22.62 125 *eP* **P 01 12 33.0 +0.5**
comp=Z,306nm,1.8s,baz=325,slow=11
FUR Furstenfeldbru 22.63 123 *eP* **P 01 12 33.3 +0.8**
comp=Z,701nm,2.1s,baz=325,slow=11
KHC Kasperske Hory 22.68 118 *eP* **P 01 12 33.1 0.0**
KHC *ex* x 01 12 44.0
KHC *eS* **S 01 16 38.4 -2.6**
KHC AMS AMS 01 24 30.0
comp=Z,4µm,10.3s
KHC Kasperske Hory 22.68 118 *eP* **P 01 12 33.1 0.0**
KHC *eS* **S 01 16 38.4 -2.6**
KHC MLR MLR
comp=Z,4µm,10.3s
KHC Kasperske Hory 22.68 118 P **P 01 12 30.2 -2.8**
DPC Dobruska-Polom 22.77 113 *eP* **P 01 12 33.6 -0.4**
DPC *ex* x 01 12 48.3
DPC *eS* **S 01 16 41.4 -1.3**
DPC AMS AMS 01 26 00.0
comp=Z,2µm,11.3s
DPC Dobruska-Polom 22.77 113 *eP* **P 01 12 33.6 -0.4**
DPC *eS* **S 01 16 41.4 -1.3**
DPC MLR MLR
comp=Z,2µm,11.3s
SENIN Lac Senin/Sane 22.82 131 P **P 01 12 31.8 -2.9**
DAVA Damuels 22.88 126 *epP* **P 01 12 36.4 +1.0**
comp=Z,142nm,2.1s,SNR=13
DAVA S Sn 01 16 52.8 -7.1
comp=Z,2µm,8.0s
SUW Suwalki 22.91 98 *eP* **P 01 12 34.2 -1.1**
SUW *eS* **S 01 16 46.9 +2.0**
GEC2 GERESS Array S 22.96 118 *eP* **P 01 12 36.9 +0.8**
comp=Z,255nm,2.0s,baz=325,slow=11
GEC2 GERESS Array S 22.96 118 IAmb IAmb 01 12 55.9
comp=Z,49nm,1.4s
GERES GERESS Array B 22.96 118 P **P 01 12 35.9 -0.2**
comp=Z,5.2nm,1.0s,baz=334,slow=8.9,SNR=27
GERES LR LR 01 21 52.9
comp=Z,2µm,20.7s,baz=331,slow=38
GERES GERESS Array B 22.96 118 P **P 01 12 33.3 -2.8**
RETA Reutte 23.02 125 *epP* **P 01 12 37.4 +0.7**
comp=Z,784nm,3.6s,SNR=22
RETA *eSn* Sn 01 16 57.0 -6.1
comp=Z,1µm,7.2s
IZAR Zarasai 23.06 92 *eP* **P 01 12 36.8 -0.1**
ISAL Salakas 23.12 92 *eP* **P 01 12 38.0 +0.5**
ZFI2 Zemlya Franca- 23.12 22 S **S 01 16 55.7 +7.5**
KRLC Kraliky 23.17 112 *eP* **P 01 12 38.3 +0.1**
KRLC *eS* **S 01 16 48.9 -0.7**
KRLC AMS AMS 01 21 40.0
comp=Z,2µm,19.5s
KRLC Kraliky 23.17 112 *eP* **P 01 12 38.3 +0.1**
KRLC *eS* **S 01 16 48.9 -0.7**
KRLC MLR MLR
comp=Z,2µm,19.5s
MOTA Moosalm 23.26 124 *epP* **P 01 12 39.6 +0.4**
comp=Z,459nm,2.6s,SNR=37
MOTA Sn Sn 01 17 01.2 -7.8
comp=Z,1µm,7.1s
TREC Trest 23.28 115 *eP* **P 01 12 40.0 +0.7**
TREC *eS* **S 01 16 50.4 -1.0**
TREC AMS AMS 01 22 20.0
comp=Z,2µm,18.4s
TREC Trest 23.28 115 *eP* **P 01 12 40.0 +0.7**
TREC *eS* **S 01 16 50.4 -1.0**
TREC MLR MLR
comp=Z,2µm,18.4s
IIGN Ignalina 23.31 93 *eP* **P 01 12 39.9 +0.4**
DAVOX Davos/Dischmat 23.32 127 P **P 01 12 40.5 +0.7**
comp=Z,6.8nm,0.9s,baz=337,slow=10,SNR=22
DAVOX LR LR 01 22 32.4
comp=Z,846nm,19.1s,baz=330,slow=39
PGAV Gavieira, Arco 23.32 162 *eP* **P 01 12 41.8 +2.0**
comp=Z,84nm,1.8s
PGAV A A 01 22 15.1
comp=Z,1µm,16.0s
TMCR Tamitsa 23.39 66 *eP* **P 01 12 38.7 -1.5**
TMCR *i* S **S 01 16 54.0 +1.1**
TMCR Tamitsa 23.39 66 *eP* **P 01 12 38.7 -1.5**
TMCR *eS* **S 01 16 54.8 +2.0**
TMCR pmax pmax
comp=Z,3.0nm,1.1s
TUE Stuetta 23.40 128 P **P 01 12 37.9 -2.8**
TUE IAmb IAmb 01 12 49.0
comp=Z,49nm,1.4s
SQTA Sankt Quirin 23.40 124 *epP* **P 01 12 41.5 +0.9**
comp=Z,917nm,4.4s,SNR=25
SQTA Sn Sn 01 17 03.6 -8.8
comp=Z,892nm,5.5s
FETA Feichten 23.40 125 *epP* **P 01 12 41.3 +0.6**
comp=Z,447nm,3.3s,SNR=12
FETA Sn Sn 01 17 04.0 -8.5
comp=Z,1µm,6.1s
WATA Walderalm 23.44 124 *epP* **P 01 12 41.8 +0.8**
comp=Z,488nm,2.8s,SNR=25
WATA Sn Sn 01 17 04.7 -8.5
comp=Z,717nm,5.6s
BEL Belsk 23.46 105 *eP* **P 01 12 43.0 +2.0**
BEL *eS* **S 01 16 56.7 +2.6**
WTTA Wattenberg 23.52 124 *epP* **P 01 12 42.8 +0.9**
comp=Z,1µm,4.1s,SNR=30
RJOB Jochberg 23.54 121 *eP* **P 01 12 41.4 -0.5**
comp=Z,281nm,2.3s,baz=325,slow=11
IDID Didziasalis 23.55 92 *eP* **P 01 12 41.9 0.0**
PCAB Cabril 23.60 162 *eP* **P 01 12 43.8 +1.3**
comp=Z,57nm,1.4s
PBRG Braganca 23.69 160 *eP* **P 01 12 44.4 +1.0**
comp=Z,65nm,1.9s
VRAC Vranov 23.70 114 P **P 01 12 43.7 +0.3**
comp=Z,5.4nm,0.9s,baz=325,slow=11,SNR=34
VRAC LR LR 01 23 16.5
comp=Z,1µm,18.2s,baz=333,slow=40
VRAC Vranov 23.70 114⇑P **P 01 12 44.5 +1.1**
VRAC Vranov 23.70 114⇓*iP* **P 01 12 43.5 +0.1**
VRAC *eS* **S 01 17 01.0 +2.8**
MORC Moravsky Berou 23.71 112⇑P **P 01 12 44.7 +1.2**
MORC Moravsky Berou 23.71 112⇓*iP* **P 01 12 43.3 -0.2**
MORC *eS* **S 01 17 00.6 +2.3**
MORC Moravsky Berou 23.71 112 P **P 01 12 40.8 -2.7**
MORC pmax pmax
comp=Z,48nm,1.4s
MORC MLR MLR
comp=Z,2µm,19.0s
MORC Moravsky Berou 23.71 112 P **P 01 12 40.8 -2.7**
MORC IAmb IAmb 01 12 57.0
comp=Z,48nm,1.4s
BNI Bardonecchia 23.79 134 IAMs_20 IAMs_20 01 23 13.3

comp=Z,3μm,19.0s
KRUC Moravsky 23.82 115 ⇓*i*P **P 01 12 44.3 -0.3**
KRUC *e*S **S 01 17 04.0 +4.0**
NACGM Naroch 23.84 93 *e*P **P 01 12 44.0 -0.7**
NACGM *e*PP **PnPn 01 13 04.0 -8.4**
NACGM *e*PPP PPP 01 13 20.0
NACGM *e*S **S 01 16 58.0 -2.3**
NACGM *e*LQ LQ 01 19 51.0
NACGM *e*LR LR 01 20 52.0
NACGM LRM MLR 01 21 15.0
comp=Z,1.9nm,20.0s
MOA Molln 23.99 119 *e*pP **P 01 12 46.6 +0.3**
comp=Z,823nm,4.5s,SNR=14
PVRL Vila Real 24.07 162 *e*P **P 01 12 47.6 +0.6**
comp=Z,66nm,1.9s
ABTA Abfaltersbach 24.27 123 *e*pP **P 01 12 50.1 +1.2**
comp=Z,782nm,4.8s,SNR=15
MVO Moncorvo 24.27 160 *e*P **P 01 12 50.5 +1.5**
comp=Z,70nm,1.9s
MVO A A 01 22 23.1
comp=Z,1μm,18.0s
OJC Ojcow 24.27 108 *e*P **P 01 12 47.4 -1.4**
OJC *e*S **S 01 17 08.9 +1.7**
KBA Koelnbreinsper 24.30 121 *e*pP **P 01 12 50.7 +1.4**
comp=Z,779nm,3.9s,SNR=11
JAVC Velka Javorina 24.49 113 ⇓*i*P **P 01 12 51.5 +0.7**
JAVC *e*S **S 01 17 20.7 +10**
CONA Conrad Observa 24.54 117 *e*pP **P 01 12 52.0 +0.6**
comp=Z,1μm,4.8s,SNR=15
MICGM Minsk 24.59 93 *e*P **P 01 12 50.0 -1.6**
MICGM *e*S **S 01 17 12.0 -0.2**
MICGM *e*LR LR 01 21 52.0
MNK Minsk 24.59 93 *e*P **P 01 12 50.0 -1.6**
MNK *e*S **S 01 17 12.0 -0.2**
PVIS Viseu 24.60 162 *e*P **P 01 12 52.7 +0.8**
comp=Z,66nm,1.8s
ZOU Zoufplan 24.60 123 IAmb IAmb 01 13 07.7
comp=Z,38nm,1.4s
CIMO Cimolais 24.62 124 IAmb IAmb 01 12 56.1
comp=Z,44nm,1.4s
CIMO IAMs_20 IAMs_20 01 24 00.9
comp=Z,2μm,20.0s
SMOL Smolenice 24.67 114 *e*P **P 01 12 53.6 +1.2**
SMOL pmax pmax
comp=Z,188nm,2.6s
SMOL Smolenice 24.67 114 *e*P **P 01 12 53.6 +1.2**
MODS Modra-Piesok 24.72 114 *e*P **P 01 12 54.3 +1.4**
MODS pmax pmax
comp=Z,130nm,1.8s
MODS Modra-Piesok 24.72 114 *e*P **P 01 12 54.3 +1.4**
MODS *e*S **S 01 17 20.4 +5.9**
MYKA Terra Mystica 24.79 122 *e*pP **P 01 12 54.7 +1.2**
comp=Z,1μm,5.3s,SNR=7.8
PRED Cave del Predi 24.91 122 IAmb IAmb 01 13 01.2
comp=Z,44nm,1.5s
PRED IAMs_20 IAMs_20 01 23 53.6
comp=Z,2μm,19.0s
ARSA Arzberg 24.97 118 *e*pP **P 01 12 54.2 -1.0**
comp=Z,525nm,4.6s
LANS Liptovska Anna 24.98 111 *e*P **P 01 12 56.8 +1.6**
LANS pmax pmax
comp=Z,10.0nm,0.9s
LANS Liptovska Anna 24.98 111 *e*P **P 01 12 56.8 +1.6**
COI Coimbra 25.03 163 P **P 01 12 53.6 -2.1**
COI pmax pmax
comp=Z,46nm,1.1s
COI Coimbra 25.03 163 P **P 01 12 53.6 -2.1**
COI IAmb IAmb 01 13 07.7
comp=Z,46nm,1.1s
COI Coimbra 25.03 163 *e*P **P 01 12 56.9 +1.2**
comp=Z,77nm,1.6s
NIE Niedzica 25.10 109 *e*P **P 01 12 56.4 0.0**
NIE *e*S **S 01 17 24.2 +3.6**
CADS Cadrg 25.16 122 *i*P **P 01 12 57.4 +0.5**
PCAS Casmilo, Conde 25.17 163 *e*P **P 01 12 58.8 +1.8**
comp=Z,99nm,1.6s
OBKA Obir 25.22 120 *e*pP **P 01 12 58.0 +0.5**
comp=Z,747nm,6.2s,SNR=8.9
VYHS Vyhne 25.24 112 *e*P **P 01 12 58.1 +0.5**
VYHS pmax pmax
comp=Z,136nm,2.1s
VYHS Vyhne 25.24 112 *e*P **P 01 12 58.1 +0.5**
VYHS *e*S **S 01 17 28.5 +5.6**
SOKA Soboth 25.26 120 *e*pP **P 01 12 58.5 +0.7**
comp=Z,632nm,4.8s,SNR=19
PERS Pernice 25.33 120 *i*P **P 01 12 59.1 +0.7**
PCBR Castelo Branco 25.51 162 *e*P **P 01 13 02.4 +2.3**
comp=Z,47nm,1.5s
LJU Ljubljana 25.61 121 *e*P **P 01 13 01.5 +0.6**
LJU *e*S **S 01 17 33.4 +4.7**
LJU Ljubljana 25.61 121 *e*P **P 01 13 01.1 +0.2**
KLMR Klimovskoe 25.64 72 ⇑*i*P **P 01 12 59.9 -1.2**
comp=Z,52nm,1.4s
KLMR *i*S **S 01 17 29.2 +0.2**
KLMR Klimovskoe 25.64 72 *e*P **P 01 12 59.9 -1.2**
KLMR *e* 01 16 29.9
KLMR *e*S **S 01 17 29.0 0.0**
KLMR pmax pmax
comp=Z,56nm,1.5s
KLMR Klimovskoe 25.64 72 *e*P **P 01 12 59.9 -1.2**
KLMR AMP 01 13 02.9
comp=Z,56nm,1.5s
KLMR *e*PcP **PcP 01 16 30.0 -1.1**
KLMR *e*S **S 01 17 29.1 +0.2**
KLMR *e*S **S 01 17 29.1 +0.2**
KLMR LQ LQ 01 19 57.1
KLMR LQ LQ 01 19 57.1
KLMR LR LR 01 21 11.9
SRO2 Moca 25.66 114 *e*P **P 01 13 01.1 -0.2**
SRO2 Moca 25.66 114 *e*P **P 01 13 01.1 -0.2**
PSBE So Bento 25.67 164 *e*P **P 01 13 01.3 -0.2**
comp=Z,70nm,1.7s
UCM Universidad Co 25.74 154 ⇑*i*P **P 01 13 04.3 +2.2**
UCM *e*S S 01 17 46.3 +15
ZCCA Zocca 25.81 128 IAMs_20 IAMs_20 01 22 34.6
comp=Z,2μm,19.0s
CEY Cerknica 25.83 122 *e*P **P 01 13 03.2 +0.2**
KOGS Kog 25.91 118 *i*P **P 01 13 04.1 +0.5**
KECS Kecovo 25.91 110 *e*P **P 01 13 04.5 +0.8**
KECS Kecovo 25.91 110 *e*P **P 01 13 04.5 +0.8**
KWP Kalwaria Pacla 25.93 106 *e*P **P 01 13 04.2 +0.4**
KWP *e*S **S 01 17 37.1 +3.5**
PMRV Marv??o 25.93 162 *e*P **P 01 13 05.6 +1.7**
comp=Z,64nm,1.7s
PMRV A A 01 22 44.9
comp=Z,1μm,18.0s
CRVS Cervenica-Dubn 25.98 108 *e*P **P 01 13 04.8 +0.5**
CRVS pmax pmax
comp=Z,99nm,1.6s
CRVS Cervenica-Dubn 25.98 108 *e*P **P 01 13 04.8 +0.5**
CRVS *e*S **S 01 17 39.3 +4.8**
SCHQ Schefferville 26.01 271 P **P 01 13 05.7 +1.1**
comp=Z,13nm,0.9s,baz=43,slow=8.1,SNR=7.8
SCHQ LR LR 01 22 05.9
comp=Z,997nm,18.9s,baz=44,slow=34
SCHQ Schefferville 26.01 271 P **P 01 13 03.1 -1.4**
SCHQ IAmb IAmb 01 13 05.9
comp=Z,22nm,1.1s
LSH Leshukonskoye 26.02 60 ⇓*i*P **P 01 13 02.9 -1.4**
comp=Z,64nm,1.1s
LSH *e*S **S 01 17 35.0 +0.3**
BEHE Becsehely 26.09 118 *e*P **P 01 13 07.4 +2.1**
PSZ Piszkesteto 26.13 112 ⇑P **P 01 13 07.0 +1.3**
CRES Cresnjev 26.14 120 *e*P **P 01 13 05.1 -0.6**
PMAFR Mafra 26.16 165 *e*P **P 01 13 08.6 +2.6**
comp=Z,95nm,1.7s
PMTG Montargil 26.18 163 *e*P **P 01 13 06.3 +0.2**
comp=Z,47nm,1.7s
ES16 SONSECA Array 26.21 156 IAMs_20 IAMs_20 01 23 41.3
comp=Z,1μm,18.0s
ESDC Sonseca Array 26.22 156 P **P 01 13 06.7 +0.1**
comp=Z,5.3nm,0.8s,baz=350,slow=7.9,SNR=25
ESDC LR LR 01 22 32.8
comp=Z,520nm,19.9s,baz=345,slow=34
ESDC Sonseca Array 26.22 156 P **P 01 13 04.3 -2.3**
ES14 SONSECA Array 26.24 156 IAMs_20 IAMs_20 01 23 43.3
comp=Z,1μm,18.0s
ES11 SONSECA Array 26.26 156 IAMs_20 IAMs_20 01 23 57.7
comp=Z,2μm,20.0s
PAB San Pablo 26.28 156 P **P 01 13 04.9 -2.2**
PAB pmax pmax
comp=Z,43nm,1.5s
PAB San Pablo 26.28 156 P **P 01 13 04.9 -2.2**
PAB IAmb IAmb 01 13 24.3
comp=Z,43nm,1.4s
KOLS Kolonicke sedl 26.29 107 *e*P **P 01 13 06.9 -0.2**
KOLS pmax pmax
comp=Z,58nm,1.5s
KOLS Kolonicke sedl 26.29 107 *e*P **P 01 13 06.9 -0.2**
KOLS *e*S **S 01 17 45.2 +5.8**
LVV L'vov 26.33 104 *e*P **P 01 13 07.8 +0.4**
LVV *e* 01 13 51.6
LVV *e*S **S 01 17 36.7 -3.3**
LVV *e*SS **SnSn 01 18 39.1 -0.5**
LVV *e*SSS SSS 01 19 08.5
LVV MLR MLR
comp=E,2μm,11.0s
LVV MLR MLR
comp=N,1μm,12.0s
LVV MLR MLR
comp=Z,1μm,11.0s
BOJS Bojanci 26.33 121 *i*P **P 01 13 07.7 +0.2**
BOJS *e*S **S 01 17 45.0 +4.9**
LIS Lisbon 26.41 165 *e*P **P 01 13 09.3 +1.0**
LIS *e*S **S 01 17 44.0 +2.6**
LIS Lisbon 26.41 165 *e*P **P 01 13 09.2 +1.0**
LIS *e*S **S 01 17 44.0 +2.6**
RES Resolute Bay 26.49 324 LR LR 01 22 27.1
comp=Z,508nm,18.4s,baz=56,slow=34
UZH Uzhgorod 26.53 108 *e*P **P 01 13 08.0 -1.2**
UZH *e* 01 13 12.3
UZH *e* 01 13 58.8
UZH *e* 01 16 39.0
UZH *e*S **S 01 17 37.1 -6.1**
OSSC Osservatorio P 26.63 129 IAmb IAmb 01 13 22.1
comp=Z,44nm,1.2s
EVO Evora 26.73 163 *e*P **P 01 13 09.1 -2.0**
EVO *e*S **S 01 17 51.1 +4.7**
EVO Evora 26.73 163 *e*P **P 01 13 12.2 +1.1**
comp=Z,24nm,1.6s
MORH Mrgy, Hungar 27.03 115 *e*P **P 01 13 13.7 0.0**
PNCL Nicolau / Gran 27.08 164 *e*P **P 01 13 12.7 -1.6**
comp=Z,23nm,1.9s
PBEJ Beja 27.25 163 *e*P **P 01 13 14.8 -1.0**
comp=Z,25nm,2.0s
PCVE Castro Verde 27.62 164 *e*P **P 01 13 19.9 +0.8**
comp=Z,25nm,1.8s
PRGR Permogore 27.67 67 *e*P **P 01 13 18.8 -0.5**
comp=Z,177nm,1.8s
PRGR *e*S **S 01 18 02.7 +1.8**
PRGR Permogore 27.67 67 *e*P **P 01 13 18.8 -0.5**
BLY Banja Luka 27.70 119 *e*P **P 01 13 18.0 -1.7**
MAHO Mahon 27.84 142 *e*P **P 01 13 22.6 +1.6**
MAHO *e*S **S 01 18 09.8 +5.9**
MORF Marmelete 27.86 165 *e*P **P 01 13 22.3 +1.0**
MORF AMb AMB 01 13 42.2
comp=Z,30nm,0.7s
MORF *e*S **S 01 18 06.9 +2.5**
MORF Marmelete 27.86 165 *e*P **P 01 13 22.3 +1.0**
MORF *e*S **S 01 18 06.9 +2.5**
MORF pmax pmax
comp=Z,30nm,0.7s
MORF Marmelete 27.86 165 *e*P **P 01 13 22.6 +1.3**
comp=Z,30nm,1.6s
AKASG Malin Array Be 27.87 97 P **P 01 13 20.1 -1.0**
comp=Z,5.1nm,0.9s,baz=323,slow=9.6,SNR=21
AKASG LR LR 01 24 06.0
comp=Z,1μm,21.7s,baz=310,slow=36
AKASG Malin Array Be 27.87 97 *ce*P **P 01 13 20.7 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,1.0s
PVAQ Vaqueiros 27.88 163 P **P 01 13 19.4 -2.0**
PVAQ Vaqueiros 27.88 163 *e*P **P 01 13 23.3 +1.9**
comp=Z,28nm,1.6s
PVAQ A A 01 25 08.3
comp=Z,832nm,16.0s
NRCA Norcia 27.88 127 IAmb IAmb 01 13 38.8
comp=Z,32nm,1.5s
OBN Obninsk 27.92 84 P **P 01 13 21.3 -0.3**
comp=Z,5.1nm,0.8s,baz=318,slow=4.7,SNR=13
OBN LR LR 01 24 44.3
comp=Z,159nm,18.6s,baz=343,slow=37
OBN Obninsk 27.92 84 ⇑P **P 01 13 22.8 +1.2**
OBN Obninsk 27.92 84 *de*P **P 01 13 20.6 -1.0**
OBN *e* 01 14 07.8
OBN *e* 01 16 37.1
OBN *e*S **S 01 18 06.5 +1.7**
OBN *e*SS **SnSn 01 19 20.7 +2.6**
OBN pmax pmax
comp=Z,81nm,1.7s
OBN MLR MLR
comp=Z,1μm,15.0s
OBN Obninsk 27.92 84 P **P 01 13 18.7 -2.9**
MOS Moscow 27.95 82 *e*P **P 01 13 21.2 -0.7**
MOS *e* 01 14 09.8
MOS *e*S **S 01 18 05.2 -0.2**
MOS *e*SS **SnSn 01 19 28.2 +9.2**
MOS *e* 01 24 09.6
MOS pmax pmax
comp=Z,55nm,1.7s
MOS pmax pmax
comp=Z,400nm,3.4s
MOS MLR MLR
comp=N,1μm,12.0s
MOS MLR MLR
comp=Z,1μm,12.0s
PFVI Vila Bisbo 28.02 165 *e*P **P 01 13 21.5 -1.1**
SIRR Siria 28.17 112 ⇑P **P 01 13 25.4 +1.4**
FRGS Fruska Gora 28.36 115 ⇑*i*P **P 01 13 26.5 +0.8**
AQU L'Aquila 28.41 127 IAMs_20 IAMs_20 01 26 44.2
comp=Z,2μm,20.0s
BURAR Bucovina Array 28.54 106 ⇓P **P 01 13 28.7 +1.4**
BURAR Bucovina Array 28.54 106 P **P 01 13 24.5 -2.9**
CJR Cluj-Napoca 28.60 109 ⇓P **P 01 13 28.9 +1.1**
ARCR ARCALÍA 28.61 108 ⇓P **P 01 13 28.9 +1.1**
BZS Buzias 28.69 113 ⇑P **P 01 13 29.8 +1.3**
BANR Banloc 28.69 113 ⇑P **P 01 13 30.1 +1.6**
TEKS Tekeris 28.76 116 *e*P **P 01 13 29.9 +0.7**
CART Cartagena 28.81 152 *e*P **P 01 13 30.5 +0.9**
CART *e*S **S 01 18 26.5 +7.4**
INTR Introdacqua 28.88 126 IAmb IAmb 01 13 39.9
comp=Z,29nm,1.5s
DEV Deva 28.99 111 ⇑P **P 01 13 33.2 +2.0**
SFS San Fernando 29.00 161 *e*P **P 01 13 30.1 -1.4**
SFS *e*S **S 01 18 27.9 +5.6**
BBLS Lazići 29.29 117 *e*P **P 01 13 34.7 +0.7**
DIVS Divibare 29.32 116 *e*P **P 01 13 34.3 0.0**
GZR Gura Zlata 29.34 111 ⇑P **P 01 13 36.0 +1.6**
MDVR Moldovita 29.42 113 ⇓P **P 01 13 37.0 +1.9**
SORM Soroca 29.45 102 ⇓P **P 01 13 36.4 +1.1**
BIZ Bicaz 29.45 106 ⇑P **P 01 13 37.2 +1.9**
HERR Herculane 29.62 112 ⇓P **P 01 13 38.2 +1.4**
VSL Villasalto 29.67 135 IAMs_20 IAMs_20 01 27 02.0
comp=Z,2μm,18.0s
LOT Lotru 29.69 110 ⇓P **P 01 13 38.8 +1.2**
SGRT San Giovanni R 29.76 124 IAMs_20 IAMs_20 01 26 20.8
comp=Z,1μm,18.0s
PAOL Paolisi 29.98 126 IAMs_20 IAMs_20 01 27 25.9
comp=Z,2μm,18.0s
TESR Tescani 30.01 106 ⇑P **P 01 13 41.2 +0.9**
ARR Arges 30.11 109 ⇓P **P 01 13 42.8 +1.6**
SRE Strehaia 30.11 112 ⇑P **P 01 13 42.4 +1.2**
VOIR 30.22 109 ⇑P **P 01 13 43.7 +1.4**
PDG Podgorica 30.46 119 ⇓P **P 01 13 45.1 +0.9**
PDG Podgorica 30.46 119 *e*P **P 01 13 45.7 +1.5**
KIS Kishinev 30.53 103 *e*P **P 01 13 45.0 +0.1**
comp=Z,220nm,4.0s
KIS Kishinev 30.53 103 *e*P **P 01 13 45.0 +0.1**
KIS *e*S **S 01 18 46.0 -0.1**
KIS *e*SS **SnSn 01 20 21.0 -1.0**
KIS pmax pmax
comp=Z,220nm,4.0s
KIS smax smax
comp=N,450nm,7.0s
KIS smax smax
comp=E,400nm,8.6s
KIS MLR MLR
comp=Z,400nm,13.0s
PLOR Plostina 30.54 106 ⇑P **P 01 13 46.2 +1.1**
MLR Muntele Rosu 30.55 108 LR LR 01 27 42.8
comp=Z,1μm,18.2s,baz=312,slow=40
MLR Muntele Rosu 30.55 108 ⇓P **P 01 13 46.2 +1.1**
MLR Muntele Rosu 30.55 108 IAmb IAmb 01 14 01.6
comp=Z,23nm,1.3s
MLR IAMs_20 IAMs_20 01 26 37.0
comp=Z,1μm,20.0s
PVLZ Peæn de 30.56 158 *e*P **P 01 13 47.4 +2.2**
PVLZ *e*S **S 01 18 43.5 -3.1**
VRI Vrincioaia 30.56 106 ⇑P **P 01 13 46.0 +0.8**
VRI Vrincioaia 30.56 106 ⇓P **P 01 13 46.5 +1.3**
MILM Milestii Mici 30.59 103 ⇑P **P 01 13 45.9 +0.6**
DRME Dracevica, Mon 30.64 119 *e*P **P 01 13 47.2 +1.3**
LPSR Galich'ya Gora 30.66 86 *e*P **P 01 13 44.4 -1.6**
LPSR *e*S **S 01 18 53.7 +5.7**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
LPSR smax smax
comp=E,1μm,9.9s
LPSR MLR MLR
comp=Z,1μm,11.0s
MELI Melilla 30.67 156 ⇑*i*P **P 01 13 50.1 +3.9**
MELI *e*S **S 01 18 50.6 +2.2**
NEHR Nehoiu 30.74 107 ⇓P **P 01 13 48.6 +1.8**
BISRR Bisoca 30.81 107 ⇓P **P 01 13 49.1 +1.7**
PETR Petresti 30.89 106 ⇑P **P 01 13 49.3 +1.3**
HUMR Humele 30.94 110 ⇑P **P 01 13 49.4 +0.9**
KIRV Kirov 31.02 69 LR LR 01 25 53.6
comp=Z,2μm,18.8s,baz=310,slow=36
MATE Matera 31.07 124 ⇓P **P 01 13 50.4 +0.7**
ISR Istrita 31.09 107 ⇑P **P 01 13 51.0 +1.1**
BATG Bathurst New B 31.20 260 IAMs_20 IAMs_20 01 24 35.1
comp=Z,1μm,20.0s
SCHL Schela 31.32 106 ⇑P **P 01 13 52.4 +0.7**
SULR 31.33 108 ⇑P **P 01 13 52.9 +0.9**
TIR Tirane 31.62 119 ⇑P **P 01 13 54.8 +0.3**
TIR Tirane 31.62 119 IAMs_20 IAMs_20 01 28 38.0
comp=Z,1μm,18.0s
SKO Skopje 31.68 117 *i*P **P 01 13 56.6 +1.6**
SKO Skopje 31.68 117 *i*P **P 01 13 56.7 +1.6**
CFR Carcaliu 31.70 106 ⇑P **P 01 13 56.2 +1.0**
VSR Storozhevoye 31.76 87 *e*P **P 01 13 54.4 -1.3**
VSR *e*S **S 01 19 04.2 -1.0**
VSR pmax pmax
comp=Z,40nm,1.6s
VSR smax smax
comp=N,1μm,10.1s
VSR MLR MLR
comp=Z,1μm,12.0s
LMN Caledonia Moun 31.80 257 IAMs_20 IAMs_20 01 25 01.9
comp=Z,1μm,20.0s
VTS Vitosha 31.84 114 *i*P **P 01 13 57.8 +1.2**
AVE Averroes 31.97 164 ⇑*i*P **P 01 14 01.5 +3.9**
AVE *i*S **S 01 19 13.7 +5.0**
VORD Divnogorie 32.00 88 *e*P **P 01 13 56.7 -1.0**
VORD pmax pmax
comp=Z,20nm,1.5s
IFR Ifrane 32.06 160 ⇑*i*P **P 01 14 00.7 +2.0**
IFR *i*S **S 01 19 12.9 +2.4**
OHR Ohrid 32.18 118 *i*P **P 01 14 00.4 +0.8**
OHR Ohrid 32.18 118 *i*P **P 01 14 00.3 +0.8**
SCTE Santa Cesarea 32.22 122 IAMs_20 IAMs_20 01 28 03.8
comp=Z,1μm,19.0s
D63A Stockholm 32.26 262 P **P 01 14 00.6 +0.5**
baz=38
PGB Panagyurishte 32.26 113 *i*P **P 01 14 01.6 +1.4**
TIP Timpagrande 32.39 125 ⇓P **P 01 14 01.4 0.0**
TIP Timpagrande 32.39 125 IAMs_20 IAMs_20 01 26 58.6
comp=Z,2μm,21.0s
TIRR Tirgusor 32.40 106 ⇑P **P 01 14 01.8 +0.5**
TIRR Tirgusor 32.40 106 IAMs_20 IAMs_20 01 27 25.1
comp=Z,1μm,20.0s
KKB Krupnik 32.41 115 *i*P **P 01 14 03.7 +2.2**
PQI Presque Isle 32.51 261 IAMs_20 IAMs_20 01 25 26.7
comp=Z,1μm,18.0s
D62A Allapoint, All 32.63 263 P **P 01 14 04.0 +0.8**
baz=39
D62A Allapoint, All 32.63 263 P **P 01 14 01.9 -1.4**
D62A IAmb IAmb 01 14 06.2
comp=Z,27nm,1.4s
D62A IAMs_20 IAMs_20 01 25 22.8
comp=Z,1μm,21.0s
E64A Bridgewater 32.63 261 P **P 01 14 02.8 -0.5**
baz=38
VAY Valandovo 32.68 116 *i*P **P 01 14 04.5 +0.7**
VAY Valandovo 32.68 116 *i*P **P 01 14 04.3 +0.5**
FNA Florina 32.68 118 IAmb IAmb 01 14 13.6
comp=Z,21nm,1.4s
CHGQ Chibougamau 32.76 271 P **P 01 14 04.2 -0.3**
baz=42
VRH Novokhopyorsk 32.87 85 *e*P **P 01 14 04.8 -0.6**
VRH *e*S **S 01 19 26.1 +3.6**
VRH pmax pmax
comp=Z,40nm,1.6s
VRH smax smax
comp=N,2μm,10.5s
VRH MLR MLR
comp=Z,890nm,10.0s
E63A Oxbow 32.88 261 P **P 01 14 06.0 +0.5**
baz=38
E63A Oxbow 32.88 261 IAMs_20 IAMs_20 01 25 38.4
comp=Z,1μm,19.0s
MMB Musomiste 32.90 114 *i*P **P 01 14 07.4 +1.6**
PSN Preselentsi 32.94 107 *i*P **P 01 14 07.2 +1.1**
D61A St Aubert, Com 33.02 264 P **P 01 14 06.8 +0.1**
baz=39
KEST Kesra 33.14 138 P **P 01 14 09.6 +1.5**
comp=Z,9.2nm,1.1s,baz=44,slow=17,SNR=12
KEST LR LR 01 26 18.8
comp=Z,648nm,20.2s,baz=298,slow=34
KEST Kesra 33.14 138 IAmb IAmb 01 14 14.0
comp=Z,35nm,1.4s
E62A Clayton Lake 33.19 263 P **P 01 14 08.4 +0.1**
baz=38
E62A Clayton Lake 33.19 263 IAMs_20 IAMs_20 01 25 40.7
comp=Z,1μm,21.0s
RZN Rozhen 33.21 113 *i*P **P 01 14 09.5 +0.9**
GGN Saint George 33.25 258 IAMs_20 IAMs_20 01 25 56.0
comp=Z,952nm,19.0s
F64A Sherman 33.29 261 P **P 01 14 08.9 -0.2**
baz=37
F64A Sherman 33.29 261 IAMs_20 IAMs_20 01 25 58.3
comp=Z,1μm,18.0s
G65A Princeton 33.48 259 P **P 01 14 11.1 +0.3**
baz=37
G65A Princeton 33.48 259 IAMs_20 IAMs_20 01 26 05.5
comp=Z,1μm,20.0s
KDZ Kurdzhali 33.52 112 *i*P **P 01 14 12.3 +1.1**
D60A Saint Jean D'O 33.56 264 P **P 01 14 11.5 0.0**
baz=39
H66A Whiting 33.71 258 P **P 01 14 12.9 +0.1**
baz=36
F63A Nahmakanta, Br 33.74 261 P **P 01 14 13.4 +0.4**
baz=37
F63A Nahmakanta, Br 33.74 261 IAMs_20 IAMs_20 01 26 05.1
comp=Z,1μm,19.0s
E61A Lac Etchemin 33.75 263 P **P 01 14 13.8 +0.7**
baz=38
EMMW East Machias 33.84 258 IAMs_20 IAMs_20 01 26 14.8
comp=Z,916nm,19.0s
G64A Maxfield 33.95 260 P **P 01 14 15.2 +0.4**
baz=37
F62A Pittston Farm, 33.95 262 P **P 01 14 15.2 +0.4**
baz=38
F62A Pittston Farm, 33.95 262 IAmb IAmb 01 14 16.9
comp=Z,36nm,1.4s
F62A IAMs_20 IAMs_20 01 26 12.8
comp=Z,1μm,21.0s
LATQ La Tuque 33.99 267 P **P 01 14 15.9 +0.7**
baz=39
PKME Peaks-Kenny Pk 34.17 261 P **P 01 14 17.4 +0.7**
baz=37
PKME Peaks-Kenny Pk 34.17 261 IAMs_20 IAMs_20 01 26 26.5
comp=Z,1μm,18.0s
H65A Eastbrook 34.18 259 P **P 01 14 17.5 +0.6**
baz=36
E60A Ste Agathe de 34.21 264 P **P 01 14 17.3 +0.2**
baz=38
D58A Chemin du LacG 34.26 266 P **P 01 14 17.4 -0.2**
baz=39,SNR=5.4
MATQ Matagami 34.28 274 P **P 01 14 17.2 -0.5**
baz=41
F61A St Evariste 34.33 263 P **P 01 14 18.8 +0.7**
baz=38
G63A Kingsbury 34.43 261 P **P 01 14 18.7 -0.3**
baz=37
LSQQ Lebel-sur-Quev 34.52 272 P **P 01 14 19.8 0.0**
baz=41
H64A Troy 34.64 260 P **P 01 14 20.8 +0.1**
baz=36
G62A West of Eustis 34.73 262 P **P 01 14 21.7 +0.1**
baz=37
G62A West of Eustis 34.73 262 IAMs_20 IAMs_20 01 26 45.4
comp=Z,979nm,19.0s
F60A Warwick 34.74 264 P **P 01 14 21.4 -0.4**
baz=38

D57A	Chemin Vers le	34.76 267	P	P	01 14 21.2	-0.6
	baz=39,SNR=10					
WVL	Waterville	34.88 260	IAms_20	IAms_20	01 26 56.5	
	comp=Z,1µm,19.0s					
H63A	New Sharon	34.97 261	P	P	01 14 23.3	-0.3
	baz=36					
E58A	La Victoria	35.00 266	P	P	01 14 23.6	-0.3
	baz=38					
D56A	ZEC Mazanza, M	35.10 268	P	P	01 14 24.7	-0.1
	baz=39					
G61A	St-Isidore-de-	35.11 263	P	P	01 14 24.9	+0.1
	baz=37					
E57A	Chemin Saint G	35.34 267	P	P	01 14 25.6	-1.2
	baz=38,SNR=5.9					
I64A	Boothbay	35.39 260	P	P	01 14 27.6	+0.3
	baz=36					
D55A	Sainte-Anne-du	35.44 269	P	P	01 14 27.2	-0.4
	baz=39					
VLDQ	Val d'Or	35.45 272	IAmb	IAmb	01 14 33.1	
	comp=Z,26nm,1.4s					
H62A	Milan	35.51 262	P	P	01 14 28.5	+0.1
	baz=36					
H62A	Milan	35.51 262	IAms_20	IAms_20	01 27 11.1	
	comp=Z,925nm,21.0s					
G60A	Masonville	35.60 264	P	P	01 14 29.1	0.0
	baz=37					
E56A	St. Veronique	35.62 268	P	P	01 14 28.2	-1.0
	baz=38					
F58A	St-Lin Laurent	35.62 266	P	P	01 14 29.1	-0.1
	baz=38					
I63A	Otisfield	35.69 261	P	P	01 14 29.7	-0.2
	baz=36					
I63A	Otisfield	35.69 261	IAms_20	IAms_20	01 27 22.8	
	comp=Z,1µm,18.0s					
D54A	Lac Fusel, La	35.84 270	P	P	01 14 31.3	+0.1
	baz=39,SNR=6.8					
H61A	Lyndonville	35.88 263	P	P	01 14 31.4	-0.1
	baz=36					
ANN	Anapa	35.94 96	*e*P	P	01 14 26.5	-5.5
ANN			*e*S	S	01 20 06.5	-3.4
ANN			pmax	pmax		
	comp=Z,11nm,1.0s					
ANN			pmax	pmax		
	comp=Z,434nm,4.2s					
ANN			MLR	MLR		
	comp=Z,2µm,17.0s					
G59A	Clarenceville	35.98 264	P	P	01 14 31.9	-0.3
	baz=37					
F57A	Harrington	36.05 267	P	P	01 14 32.4	-0.5
	baz=38					
LBNH	Lisbon	36.11 262	P	P	01 14 33.1	-0.4
	baz=36					
LBNH	Lisbon	36.11 262	IAms_20	IAms_20	01 27 28.9	
	comp=Z,1µm,21.0s					
ARU	Arti	36.13 66	P	P	01 14 33.2	-0.3
	comp=Z,0.7nm,0.4s,baz=339,slow=5.1,SNR=8.1					
ARU			LR	LR	01 28 52.6	
	comp=Z,2µm,18.6s,baz=310,slow=36					
ARU	Arti	36.13 66	*d* *i*P	P	01 14 33.0	-0.5
ARU					01 15 52.2	
ARU					01 16 58.8	
ARU			S	S	01 20 13.4	+0.8
ARU			SS	SnSn	01 22 40.1	+2.7
ARU			pmax	pmax		
	comp=Z,30nm,1.4s					
ARU			MLR	MLR		
	comp=Z,2µm,20.0s					
ARU	Arti	36.13 66	P	P	01 14 30.7	-2.8
ARU			IAmb	IAmb	01 14 37.4	
	comp=Z,31nm,1.3s					
E55A	Montcerf-Lytto	36.13 269	P	P	01 14 33.2	-0.4
	baz=38					
I62A	Tamworth	36.15 261	P	P	01 14 33.7	-0.1
	baz=36					
I62A	Tamworth	36.15 261	IAms_20	IAms_20	01 27 38.1	
	comp=Z,1µm,18.0s					
H60A	Morristown	36.18 263	P	P	01 14 34.1	-0.1
	baz=37					
G58A	Ormstown	36.30 265	P	P	01 14 35.2	+0.2
	baz=37					
FRNY	Flat Rock	36.35 265	IAmb	IAmb	01 14 38.4	
	comp=Z,32nm,1.4s					
D53A	Lac Vacive, Po	36.35 271	P	P	01 14 35.0	-0.5
	baz=39,SNR=6.0					
D53A	Lac Vacive, Po	36.35 271	P	P	01 14 34.1	-1.4
D53A			IAmb	IAmb	01 14 38.1	
	comp=Z,31nm,1.2s					
I61A	Oroboro, Fairl	36.48 262	P	P	01 14 36.3	-0.4
	baz=36					
NRIK	Noril'sk	36.51 35	P	P	01 14 37.5	+0.8
	comp=Z,11nm,1.2s,baz=313,slow=8.0,SNR=12					
NRIK			LR	LR	01 31 32.5	
	comp=Z,388nm,18.1s,baz=357,slow=40					
J63A	Strafford	36.53 261	P	P	01 14 36.6	-0.4
	baz=36					
H59A	Cadyville	36.54 264	P	P	01 14 36.4	-0.7
	baz=37					
FFD	Franklin Falls	36.62 261	IAms_20	IAms_20	01 28 27.3	
	comp=Z,1µm,18.0s					
E54A	Lac Daplat, Po	36.63 270	P	P	01 14 37.3	-0.6
	baz=38					
SVE	Sverdlovsk	36.66 64⇓	*e*P	P	01 14 37.7	-0.3
SVE			*e*S	S	01 20 25.8	+5.1
SVE			pmax	pmax		
	comp=Z,23nm,1.5s					
SVE			MLR	MLR		
	comp=Z,2µm,20.0s					
ORIO	Orleans, Innes	36.68 267	P	P	01 14 38.3	-0.1
	baz=38					
HNH	Hanover	36.70 262	IAms_20	IAms_20	01 27 56.4	
	comp=Z,940nm,18.0s					
G57A	Newington	36.73 266	P	P	01 14 38.9	+0.2
	baz=37					
F55A	Otter Lake	36.74 268	P	P	01 14 38.8	-0.1
	baz=38					
C36M	Paulatuk	36.85 325	P	P	01 14 39.0	-0.5
	baz=43					
MDUB	Mudurnu	36.86 107	IAms_20	IAms_20	01 29 52.0	
	comp=Z,1µm,20.0s					
E53A	Dumoine, Ponti	36.88 270	P	P	01 14 39.7	-0.4
	baz=38,SNR=6.4					
J62A	Henniker	36.88 261	P	P	01 14 40.1	0.0
	baz=36					
H58A	Gabriels	36.93 265	P	P	01 14 39.8	-0.8
	baz=37					
LONY	Lake Ozonia	36.95 265	P	P	01 14 39.5	-1.1
	baz=37					
I60A	Shoreham	37.01 263	P	P	01 14 41.1	0.0
	baz=36					
J61A	Chester	37.10 262	P	P	01 14 41.8	-0.1
	baz=36					
K63A	Dunstable	37.20 260	P	P	01 14 42.4	-0.3
	baz=35					
I59A	Olmsteadville	37.30 264	P	P	01 14 43.7	0.0
	baz=36					
BCX	Boston College	37.34 260	IAms_20	IAms_20	01 28 51.4	
	comp=Z,1µm,18.0s					
G55A	Calabogie	37.36 268	P	P	01 14 44.9	+0.8
	baz=37,SNR=7.1					
HRV	Adam Dziewonsk	37.36 260	P	P	01 14 44.2	+0.1
	baz=35					
HRV	Adam Dziewonsk	37.36 260	IAms_20	IAms_20	01 28 30.0	
	comp=Z,927nm,18.0s					
WES	Weston	37.36 260	IAms_20	IAms_20	01 28 38.0	
	comp=Z,1µm,18.0s					
ALGO	Algonquin Park	37.38 270	P	P	01 14 44.0	-0.2
	baz=38					
H57A	Richville	37.42 266	P	P	01 14 44.5	-0.1
	baz=37					
K62A	Royalston	37.52 261	IAms_20	IAms_20	01 28 28.2	
	comp=Z,1µm,19.0s					
J60A	Lant Hill Farm	37.55 263	P	P	01 14 45.7	0.0
	baz=36					
PLVO	Plevna	37.68 268	IAms_20	IAms_20	01 28 40.5	
	comp=Z,1µm,21.0s					
H56A	Elgin	37.69 267	P	P	01 14 47.4	+0.5
	baz=37					
G54A	Lake Saint Pet	37.84 269	P	P	01 14 47.5	-0.6
	baz=38,SNR=5.2					
J59A	Piesco	37.84 264	P	P	01 14 48.7	+0.5
	baz=36					
J59A	Piesco	37.84 264	IAmb	IAmb	01 14 54.0	
	comp=Z,32nm,1.5s					
J59A			IAms_20	IAms_20	01 28 20.6	
	comp=Z,875nm,20.0s					
QUA2	Belchertown	37.88 261	IAms_20	IAms_20	01 29 13.9	
	comp=Z,1µm,19.0s					
SOC	Sochi	37.89 95	*c* *i*P	P	01 14 50.8	+2.2
SOC			*e*PPP	PPP	01 16 34.8	
SOC			*e*S	S	01 20 43.2	+3.5
SOC			*e*SSS	SSS	01 23 47.7	
SOC			pmax	pmax		
	comp=Z,16nm,1.0s					
SOC			MLR	MLR		
	comp=Z,852nm,17.0s					
I57A	Carthage	37.95 266	P	P	01 14 49.7	+0.6
	baz=36					
TRY	Troy	38.08 263	IAms_20	IAms_20	01 28 39.9	
	comp=Z,895nm,20.0s					
SANT	Santorini	38.09 117	IAms_20	IAms_20	01 33 04.0	
	comp=Z,802nm,19.0s					
H55A	Tweed	38.12 268	P	P	01 14 51.1	+0.6
	baz=37					
GOF	Gofitskoye	38.14 91⇑	*e*P	P	01 14 51.2	+0.5
GOF			pmax	pmax		
	comp=Z,63nm,1.1s					
BOLV	Bolvadin	38.24 109	IAms_20	IAms_20	01 32 37.7	
	comp=Z,1µm,19.0s					
J58A	Remsen	38.26 265	P	P	01 14 52.3	+0.6
	baz=36					
J58A	Remsen	38.26 265	IAms_20	IAms_20	01 28 32.7	
	comp=Z,830nm,20.0s					
DELO	Deloro Mine	38.33 268	IAms_20	IAms_20	01 28 59.6	
	comp=Z,1µm,21.0s					
BRTR	Keskin Array B	38.50 105	P	P	01 14 55.7	+1.8
	comp=Z,4.5nm,0.9s,baz=329,slow=6.5,SNR=7.9					
BRTR			LR	LR	01 32 01.7	
	comp=Z,209nm,20.2s,baz=290,slow=38					
BRTR	Keskin Array B	38.50 105	*c* *e*P	P	01 14 55.2	+1.3
BRTR			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BRTR	Keskin Array B	38.50 105	P	P	01 14 51.0	-3.0
K59A	Cooperstown	38.55 264	P	P	01 14 55.0	+0.8
	baz=35					
H53A	Bobcaygeon	38.70 269	P	P	01 14 56.1	+0.7
	baz=37					
SADO	Sadowa	38.79 270	IAms_20	IAms_20	01 29 25.7	
	comp=Z,1µm,20.0s					
KSCT	Kent School, K	38.82 261	IAms_20	IAms_20	01 29 08.6	
	comp=Z,1µm,18.0s					
ISP	Isparta	38.83 110	IAms_20	IAms_20	01 32 24.8	
	comp=Z,778nm,20.0s					
KIV	Kislovodsk	38.87 92	⇑P	P	01 14 57.9	+1.0
KIV	Kislovodsk	38.87 92	*e*P	P	01 14 57.2	+0.2
KIV			*e*S	S	01 20 55.8	+1.1
KIV			pmax	pmax		
	comp=Z,36nm,1.0s					
KIV			MLR	MLR		
	comp=Z,2µm,16.0s					
KIV	Kislovodsk	38.87 92	P	P	01 14 54.0	-3.0
KVAR	Kislovodsk Arr	38.87 92	LR	LR	01 30 49.1	
	comp=Z,977nm,18.8s,baz=262,slow=36					
K58A	Earlville	38.90 265	IAms_20	IAms_20	01 28 53.6	
	comp=Z,800nm,21.0s					
L59A	Walton	39.10 263	IAms_20	IAms_20	01 29 23.2	
	comp=Z,772nm,19.0s					
KBZ	Khabaz	39.14 92	P	P	01 14 59.2	+0.2
	comp=Z,7.4nm,1.0s,baz=304,slow=6.0,SNR=16					
KBZ			LR	LR	01 31 16.0	
	comp=Z,1µm,20.8s,baz=327,slow=36					
WSPT	Westport, CT	39.21 261	IAms_20	IAms_20	01 30 02.0	
	comp=Z,1µm,18.0s					
YKA	Yellowknife Ar	39.22 313	P	P	01 14 59.9	+0.4
	comp=Z,5.3nm,1.1s,baz=36,slow=8.7,SNR=5.7					
YKA			LR	LR	01 30 47.9	
	comp=Z,487nm,18.7s,baz=0.0,slow=36					
E47A	Iron Bridge	39.24 275	P	P	01 15 00.0	+0.1
	baz=38					
PAL	Palisades	39.59 261	IAms_20	IAms_20	01 30 05.1	
	comp=Z,747nm,18.0s					
K56A	Middlesex	39.67 266	P	P	01 15 04.1	+0.5
	baz=36					
E46A	Sault Ste Mari	39.75 276	IAmb	IAmb	01 15 07.2	
	comp=Z,36nm,1.2s					
E46A			IAms_20	IAms_20	01 30 04.7	
	comp=Z,1µm,20.0s					
J54A	Appleton	39.77 268	IAms_20	IAms_20	01 29 53.7	
	comp=Z,1µm,20.0s					
MEDO	Medina	39.78 268	IAms_20	IAms_20	01 29 33.2	
	comp=Z,962nm,22.0s					
M59A	Waymart	39.80 263	P	P	01 15 05.4	+0.7
	baz=35					
ODNJ	Ogdensburg	39.83 262	IAms_20	IAms_20	01 29 41.3	
	comp=Z,1µm,19.0s					
MMNY	Mt. Morris Dam	39.89 267	IAms_20	IAms_20	01 29 25.0	
	comp=Z,799nm,21.0s					
KSPA	Keystone Colle	39.93 264	IAms_20	IAms_20	01 29 47.1	
	comp=Z,863nm,21.0s					
K55A	Perry	39.97 267	P	P	01 15 06.6	+0.5
	baz=36					
KTUT	Trabzon	40.03 98	⇑P	P	01 15 07.2	+0.7
L57A	Andrews Acres	40.03 265	P	P	01 15 07.1	+0.4
	baz=35					
BRNJ	Basking Ridge	40.14 262	IAms_20	IAms_20	01 29 26.6	
	comp=Z,744nm,21.0s					
N60A	Cedar Hill Far	40.21 262	P	P	01 15 08.6	+0.5
	baz=34					
L56A	Greenwood	40.23 266	P	P	01 15 08.7	+0.4
	baz=35					
L56A	Greenwood	40.23 266	IAmb	IAmb	01 15 11.0	
	comp=Z,36nm,1.4s					
L56A			IAms_20	IAms_20	01 29 45.9	
	comp=Z,780nm,20.0s					
AKTO	Aktyubinsk	40.33 73	P	P	01 15 08.7	-0.3
	comp=Z,8.7nm,0.9s,baz=322,slow=8.7,SNR=18					
AKTO			LR	LR	01 31 52.3	
	comp=Z,2µm,18.1s,baz=334,slow=36					
K54A	Basiliko Farm,	40.33 267	P	P	01 15 09.7	+0.6
	baz=36					
ZEI	Tsey	40.34 92	*e*P	P	01 15 10.5	+1.2
ZEI			pmax	pmax		
	comp=Z,30nm,1.8s					
I51A	Listowel	40.37 270	P	P	01 15 09.7	+0.4
	baz=36					
M58A	Price's Panora	40.38 264	P	P	01 15 09.7	+0.2
	baz=35					
WVNY	West Valley, N	40.46 267	P	P	01 15 08.7	-1.5
WVNY			IAmb	IAmb	01 15 13.4	
	comp=Z,33nm,1.2s					
WVNY			IAms_20	IAms_20	01 29 52.9	
	comp=Z,848nm,22.0s					
N59A	State Game Lan	40.46 263	P	P	01 15 10.4	+0.2
	baz=34					
N59A	State Game Lan	40.46 263	IAms_20	IAms_20	01 30 13.1	
	comp=Z,1µm,19.0s					
LUPA	Lehigh Univers	40.55 262	IAms_20	IAms_20	01 30 03.5	
	comp=Z,1µm,20.0s					
L55A	Hinsdale	40.57 267	P	P	01 15 11.6	+0.5
	baz=35					
FFC	Flin Flon	40.59 297	P	P	01 15 09.5	-1.6
FFC			MLR	MLR		
	comp=Z,2µm,19.0s					
FFC	Flin Flon	40.59 297	P	P	01 15 09.5	-1.6
FFC			IAmb	IAmb	01 15 15.5	
	comp=Z,30nm,1.4s					
M57A	Sunshine Farm,	40.70 265	P	P	01 15 12.9	+0.8
	baz=35					
M57A	Sunshine Farm,	40.70 265	IAmb	IAmb	01 15 25.9	
	comp=Z,27nm,1.2s					
M57A			IAms_20	IAms_20	01 30 00.3	
	comp=Z,787nm,20.0s					
O60A	Telford	40.80 262	P	P	01 15 13.5	+0.6
	baz=34					
GROC	Groznyy	40.82 90	*e*P	P	01 15 12.1	-0.9
GROC			*e*		01 16 47.4	
GROC			*e*		01 17 15.6	
GROC			*e*S	S	01 21 26.0	+2.4
GROC			pmax	pmax		
	comp=Z,47nm,1.3s					
L54A	Sinclairville	40.91 267	P	P	01 15 14.5	+0.8
	baz=35					
N58A	Sunbury	40.93 264	P	P	01 15 15.1	+1.1
	baz=34					
N58A	Sunbury	40.93 264	IAms_20	IAms_20	01 30 18.4	
	comp=Z,877nm,22.0s					
D41A	Chassel	41.02 280	IAms_20	IAms_20	01 31 17.6	
	comp=Z,1µm,18.0s					
M56A	Emporium	41.03 266	P	P	01 15 15.5	+0.7
	baz=35					
M56A	Emporium	41.03 266	IAmb	IAmb	01 15 17.5	
	comp=Z,36nm,1.4s					
P61A	Hammonton	41.08 261	IAms_20	IAms_20	01 30 58.3	
	comp=Z,792nm,19.0s					
GLMI	Grayling	41.10 275	IAms_20	IAms_20	01 30 53.9	
	comp=Z,806nm,20.0s					
PSUB	Penn St. - Bra	41.15 262	IAms_20	IAms_20	01 30 31.1	
	comp=Z,845nm,19.0s					
KOPT	Kop Dagi	41.15 98	P	P	01 15 13.0	-3.1
KOPT			IAmb	IAmb	01 15 25.8	
	comp=Z,36nm,1.4s					
AKH	Akhalkalaki	41.28 94	⇑P	P	01 15 17.5	+0.4
AKH	Akhalkalaki	41.28 94	IAms_20	IAms_20	01 32 18.6	
	comp=Z,1µm,22.0s					
ERPA	Erie	41.29 268	IAms_20	IAms_20	01 30 40.9	
	comp=Z,951nm,20.0s					
M55A	Ridgway	41.29 266	P	P	01 15 17.9	+0.9
	baz=35					
M55A	Ridgway	41.29 266	IAmb	IAmb	01 15 22.7	
	comp=Z,41nm,1.4s					
M55A			IAms_20	IAms_20	01 30 20.0	
	comp=Z,777nm,22.0s					
P60A	Greenville	41.32 262	IAms_20	IAms_20	01 30 36.8	
	comp=Z,883nm,19.0s					
N57A	Milroy	41.36 265	P	P	01 15 18.3	+0.8
	baz=34					
G45A	Suttons Bay	41.38 276	IAms_20	IAms_20	01 31 05.1	
	comp=Z,943nm,19.0s					
PAGS	Pennsylvania G	41.44 263	IAms_20	IAms_20	01 30 43.9	
	comp=Z,1µm,20.0s					
MVL	Millersville	41.47 263	IAms_20	IAms_20	01 30 43.7	
	comp=Z,1µm,19.0s					
L53A	Girard	41.54 268	P	P	01 15 19.9	+0.9
	baz=35					
N56A	West Decatur	41.54 265	P	P	01 15 19.8	+0.8
	baz=34					
TBLG	Delisi	41.56 92	P	P	01 15 16.3	-2.8
TBLG			pmax	pmax		
	comp=Z,48nm,1.4s					
TBLG	Delisi	41.56 92	P	P	01 15 16.3	-2.8
TBLG			IAmb	IAmb	01 15 22.3	
	comp=Z,48nm,1.4s					
EYMN	Ely	41.56 283	P	P	01 15 19.6	+0.4
	baz=38					
EYMN	Ely	41.56 283	IAms_20	IAms_20	01 31 11.9	
	comp=Z,984nm,20.0s					
ULM	Lac du Bonnet	41.59 289	P	P	01 15 21.6	+2.4
	comp=Z,3.4nm,0.6s,baz=48,slow=8.3,SNR=3.4					
ULM			PcP	PcP	01 17 19.8	+3.6
	comp=Z,4.4nm,0.8s,baz=83,slow=2.9,SNR=3.3					
ULM	Lac du Bonnet	41.59 289		PcP	01 17 14.5	-1.6
SSPA	Standing Stone	41.60 265	P	P	01 15 20.7	+1.2
	baz=34					
SSPA	Standing Stone	41.60 265	P	P	01 15 18.0	-1.5
O58A	Lewisberry	41.61 263	P	P	01 15 20.4	+0.8
	baz=34					
M54A	Oil Creek Stat	41.65 267	P	P	01 15 20.6	+0.6
	baz=35					
M54A	Oil Creek Stat	41.65 267	P	P	01 15 18.4	-1.5
M54A			IAmb	IAmb	01 15 22.5	
	comp=Z,41nm,1.4s					
M54A			IAms_20	IAms_20	01 30 40.4	
	comp=Z,758nm,22.0s					
MAK	Makhachkala	41.75 89	*e*P	P	01 15 15.7	-4.9
MAK			*e*PPP	PPP	01 17 22.4	
MAK			*e*S	S	01 21 31.4	-6.0
MAK			*e*SS	SS	01 24 38.2	-4.5
MAK			pmax	pmax		
	comp=Z,130nm,1.8s					
MAK			MLR	MLR		
	comp=Z,1µm,21.0s					
P59A	Jarrettsville	41.83 263	P	P	01 15 22.1	+0.8
	baz=33					
O57A	Amberson	41.84 264	P	P	01 15 22.1	+0.6
	baz=34					
F42A	Maple Grove Fa	41.86 278	IAms_20	IAms_20	01 31 25.9	
	comp=Z,1µm,21.0s					
K50A	Casco	41.89 271	IAmb	IAmb	01 15 24.5	
	comp=Z,24nm,0.9s					
N55A	Marion Center	41.95 266	P	P	01 15 23.4	+1.0
	baz=34					
Q61A	Milford	41.97 261	P	P	01 15 23.2	+0.7
	baz=33					
COWI	Conover	42.02 280	IAms_20	IAms_20	01 31 06.0	
	comp=Z,1µm,22.0s					
ABKAR	Akbulak array	42.03 73	P	P	01 15 20.1	-2.8
Q60A	Greensboro	42.08 261	IAms_20	IAms_20	01 31 42.0	
	comp=Z,808nm,18.0s					
TIXI	Tiksi	42.08 15	P	P	01 15 23.7	+0.7
	comp=Z,11nm,0.9s,baz=341,slow=4.4,SNR=3.5					
TIXI	Tiksi	42.08 15	*c* *e*P	P	01 15 23.5	+0.4
TIXI			pmax	pmax		
	comp=Z,62nm,1.7s					
TIXI	Tiksi	42.08 15	P	P	01 15 20.9	-2.2
LEF	Lefka	42.12 110	⇑P	P	01 15 24.3	+0.5
M53A	WI Miller and	42.14 268	P	P	01 15 24.9	+1.0
	baz=35					
M53A	WI Miller and	42.14 268	IAms_20	IAms_20	01 31 17.4	
	comp=Z,1µm,19.0s					
EPYK	Eagle Plains	42.17 328	P	P	01 15 24.0	+0.1
	baz=34,SNR=5.5					
EPYK	Eagle Plains	42.17 328	IAmb	IAmb	01 15 25.4	
	comp=Z,26nm,1.4s					
SDMD	Soldier's Deli	42.17 263	IAms_20	IAms_20	01 31 14.2	
	comp=Z,599nm,18.0s					
O56A	Blue Knob Stat	42.20 265	P	P	01 15 24.7	+0.3
	baz=34					
O56A	Blue Knob Stat	42.20 265	IAms_20	IAms_20	01 30 46.9	
	comp=Z,705nm,21.0s					
N54A	Moraine State	42.24 267	P	P	01 15 25.2	+0.5
	baz=34,SNR=6.3					
N54A	Moraine State	42.24 267	IAmb	IAmb	01 15 28.1	
	comp=Z,30nm,1.2s					
N54A			IAms_20	IAms_20	01 30 59.0	
	comp=Z,905nm,22.0s					
M52A	Chesterland	42.35 269	P	P	01 15 26.6	+1.0
	baz=35					
M52A	Chesterland	42.35 269	IAms_20	IAms_20	01 31 23.0	
	comp=Z,1µm,19.0s					
I45A	Fountain	42.43 275	IAms_20	IAms_20	01 31 45.9	
	comp=Z,791nm,19.0s					
Q59A	Harwood	42.54 262	P	P	01 15 28.2	+1.0
	baz=33					
O55A	Ligonier	42.56 266	P	P	01 15 27.8	+0.4
	baz=34					
P57A	Homestead Farm	42.61 264	IAms_20	IAms_20	01 31 08.9	
	comp=Z,1000nm,21.0s					
E38A	The Farm, Brul	42.64 282	IAms_20	IAms_20	01 31 55.5	
	comp=Z,686nm,20.0s					
N53A	Lisbon	42.73 268	P	P	01 15 29.2	+0.5
	baz=34					
N53A	Lisbon	42.73 268	IAms_20	IAms_20	01 31 36.0	
	comp=Z,939nm,21.0s					
H43A	Windswept, Lux	42.74 277	IAms_20	IAms_20	01 31 58.1	
	comp=Z,1µm,20.0s					
TOLK	Toolik Lake Re	42.78 336	P	P	01 15 30.1	+1.2
	baz=28,SNR=9.8					
M51A	Elyria	42.88 269	P	P	01 15 30.4	+0.5
	baz=35					
Q58A	Fox Den Farm,	42.92 263	P	P	01 15 31.1	+0.9
	baz=33					
BMAR	Burnt Mountain	42.92 333	P	P	01 15 28.1	-2.0
P56A	Dayton Farm, R	42.95 265	P	P	01 15 31.2	+0.7
	baz=34					
R60A	Leonardtown, M	43.01 262	P	P	01 15 31.4	+0.5
	baz=33					
O54A	Avella	43.05 267	P	P	01 15 32.4	+1.1
	baz=34					
O54A	Avella	43.05 267	IAms_20	IAms_20	01 31 57.4	
	comp=Z,915nm,19.0s					
AKT	Akhty	43.05 90	*e*P	P	01 15 32.8	+1.4
AKT			*e*		01 17 13.8	
AKT			*e*		01 17 25.5	
AKT			pmax	pmax		
	comp=Z,21nm,1.5s					
N52A	McGinn's Farm,	43.09 268	P	P	01 15 32.6	+1.0
	baz=34					
AGMN	Agassiz Nation	43.10 287	P	P	01 15 32.2	+0.5
	baz=38					
AGMN	Agassiz Nation	43.10 287	P	P	01 15 30.1	-1.5
G40A	Rib Lake	43.13 280	IAms_20	IAms_20	01 32 23.5	
	comp=Z,979nm,18.0s					
Q57A	Strasburg	43.15 264	P	P	01 15 32.6	+0.5
	baz=33					
BRVK	Borovoye	43.18 62	*c* *e*P	P	01 15 31.7	-0.5
BRVK			pmax	pmax		
	comp=Z,36nm,1.7s					
BRVK	Borovoye	43.18 62	P	P	01 15 32.9	+0.7
BRVK			IAms_20	IAms_20	01 33 08.9	
	comp=Z,616nm,19.0s					
M50A	Fremont	43.19 270	IAmb	IAmb	01 15 35.0	
	comp=Z,43nm,1.2s					
M50A			IAms_20	IAms_20	01 31 52.1	

	comp=Z,769nm,19.0s					
MCWV	Mont Chateau	43.25	266	P	P	01 15 33.7 +0.8
	baz=34					
N51A	Ashland	43.30	269	P	P	01 15 34.1 +0.7
	baz=34,SNR=5.3					
N51A	Ashland	43.30	269	IAmb	IAmb	01 15 36.4
	comp=Z,42nm,1.2s					
L48A	N Adams	43.35	272	IAmb	IAmb	01 15 36.6
	comp=Z,25nm,1.1s					
O53A	New Philadelph	43.35	268	P	P	01 15 34.4 +0.7
	baz=34					
O53A	New Philadelph	43.35	268	IAMs_20	IAMs_20	01 31 55.4
	comp=Z,874nm,20.0s					
P55A	Reedsville	43.37	266	P	P	01 15 35.0 +1.1
	baz=34					
CBN	Corbin Frederi	43.40	262	IAMs_20	IAMs_20	01 32 23.9
	comp=Z,931nm,18.0s					
P54A	Burton	43.57	266	P	P	01 15 36.3 +0.8
	baz=34					
R58A	Rapidan	43.59	263	P	P	01 15 36.4 +0.6
	baz=33					
O52A	Adamsville	43.73	268	P	P	01 15 37.7 +0.9
	baz=34					
O52A	Adamsville	43.73	268	IAMs_20	IAMs_20	01 32 05.4
	comp=Z,864nm,21.0s					
R57A	Stanardsville	43.82	263	P	P	01 15 38.7 +1.2
	baz=33					
R58B	Mineral	43.82	263	IAMs_20	IAMs_20	01 32 05.0
	comp=Z,830nm,19.0s					
Q55A	Buckhannon	43.90	265	P	P	01 15 38.8 +0.5
	baz=33					
O51A	Pataskala	44.03	269	P	P	01 15 39.5 +0.3
	baz=34,SNR=5.9					
P53A	Whipple	44.06	267	P	P	01 15 39.9 +0.4
	baz=34,SNR=7.6					
P53A	Whipple	44.06	267	IAMs_20	IAMs_20	01 32 28.2
	comp=Z,957nm,21.0s					
F36A	Milaca	44.06	283	IAMs_20	IAMs_20	01 32 38.1
	comp=Z,827nm,19.0s					
N49A	Columbus Grove	44.08	271	IAMs_20	IAMs_20	01 33 05.6
	comp=Z,668nm,18.0s					
L46A	Eue Claire	44.09	274	IAmb	IAmb	01 15 43.0
	comp=Z,26nm,1.0s					
R56A	Bull Pasture M	44.10	264	P	P	01 15 40.1 +0.2
	baz=33					
ACSO	Alum Creek Sta	44.13	269	P	P	01 15 40.5 +0.5
	baz=34					
ACSO	Alum Creek Sta	44.13	269	IAmb	IAmb	01 15 45.5
	comp=Z,36nm,1.3s					
ACSO				IAMs_20	IAMs_20	01 32 29.0
	comp=Z,1μm,19.0s					
COLD	Coldfoot	44.15	336	P	P	01 15 39.7 -0.1
	baz=27					
COLD	Coldfoot	44.15	336	P	P	01 15 38.0 -1.9
COLD				IAmb	IAmb	01 15 44.5
	comp=Z,25nm,1.5s					
S58A	Poland Farm, P	44.19	262	P	P	01 15 42.2 +1.7
	baz=32					
S58A	Poland Farm, P	44.19	262	IAMs_20	IAMs_20	01 32 48.8
	comp=Z,841nm,18.0s					
Q54A	Coxs Mills	44.24	266	P	P	01 15 42.0 +1.2
	baz=33					
Q54A	Coxs Mills	44.24	266	IAmb	IAmb	01 15 44.3
	comp=Z,25nm,1.2s					
Q54A				IAMs_20	IAMs_20	01 32 11.9
	comp=Z,929nm,20.0s					
P52A	Corning	44.26	268	P	P	01 15 42.0 +1.0
	baz=34,SNR=5.6					
P52A	Corning	44.26	268	IAmb	IAmb	01 15 44.1
	comp=Z,31nm,1.2s					
P52A				IAMs_20	IAMs_20	01 32 23.4
	comp=Z,845nm,21.0s					
SPMN	Marine on St.	44.27	282	P	P	01 15 42.0 +0.9
	baz=36					
SPMN	Marine on St.	44.27	282	IAmb	IAmb	01 15 46.7
	comp=Z,25nm,1.3s					
K43A	Burlington	44.40	276	IAMs_20	IAMs_20	01 32 47.2
	comp=Z,930nm,21.0s					
S57A	Dark Hollow, R	44.45	263	P	P	01 15 42.9 +0.3
	baz=32					
TAM	Tamanrasset	44.49	149	P	P	01 15 40.6 -2.6
TAM				pmax	pmax	
	comp=Z,21nm,1.5s					
TAM				MLR	MLR	
	comp=Z,500nm,19.0s					
TAM	Tamanrasset	44.49	149	P	P	01 15 40.6 -2.6
TAM				IAmb	IAmb	01 15 48.3
	comp=Z,21nm,1.5s					
EGAK	Eagle	44.51	329	IAmb	IAmb	01 15 44.4
	comp=Z,25nm,1.5s					
R55A	Marlinton	44.52	265	IAMs_20	IAMs_20	01 32 32.3
	comp=Z,730nm,22.0s					
Q53A	Leroy	44.64	267	P	P	01 15 44.7 +0.6
	baz=33					
L44A	Lake County Fo	44.65	275	P	P	01 15 44.5 +0.3
	baz=35					
L44A	Lake County Fo	44.65	275	IAMs_20	IAMs_20	01 32 29.7
	comp=Z,654nm,19.0s					
O49A	Covington	44.74	270	IAmb	IAmb	01 15 48.4
	comp=Z,17nm,0.8s					
O49A				IAMs_20	IAMs_20	01 32 50.3
	comp=Z,813nm,21.0s					
P51A	Williamsport	44.78	269	P	P	01 15 45.6 +0.4
	baz=34					
P51A	Williamsport	44.78	269	IAmb	IAmb	01 15 50.5
	comp=Z,25nm,1.1s					
P51A				IAMs_20	IAMs_20	01 32 57.3
	comp=Z,882nm,18.0s					
Q52A	Bidwell	44.87	268	P	P	01 15 46.6 +0.7
	baz=33					
T58A	Grand View Acr	44.96	262	P	P	01 15 46.9 +0.2
	baz=32					
R54A	Victor	44.97	266	P	P	01 15 46.8 0.0
	baz=33					
MDND	Maddock	44.99	289	IAMs_20	IAMs_20	01 33 36.5
	comp=Z,795nm,18.0s					
U59A	Littleton	45.15	261	IAMs_20	IAMs_20	01 33 51.0
	comp=Z,613nm,18.0s					
T57A	Hurt	45.22	263	P	P	01 15 49.9 +1.1
	baz=32					
T57A	Hurt	45.22	263	IAmb	IAmb	01 15 54.6
	comp=Z,32nm,1.4s					
T57A				IAMs_20	IAMs_20	01 32 57.1
	comp=Z,950nm,19.0s					
F33A	5 Mile Ranch,	45.24	285	IAmb	IAmb	01 15 52.0
	comp=Z,14nm,1.2s					
R53A	Hurricane	45.26	267	P	P	01 15 49.4 +0.3
	baz=33					
Q51A	Pebles	45.28	269	IAmb	IAmb	01 15 55.3
	comp=Z,22nm,1.0s					
Q51A				IAMs_20	IAMs_20	01 33 04.6
	comp=Z,753nm,19.0s					
K27K	Chicken	45.35	329	P	P	01 15 50.1 +0.6
	baz=30					
S54A	Dingess, Beckl	45.43	266	P	P	01 15 50.8 +0.3
	baz=33					
S54A	Dingess, Beckl	45.43	266	IAMs_20	IAMs_20	01 32 49.6
	comp=Z,617nm,22.0s					
U58A	Oxford	45.43	262	P	P	01 15 51.0 +0.6
	baz=32					
P49A	Miami Univ. Ec	45.45	270	P	P	01 15 51.2 +0.6
	baz=34					
P49A	Miami Univ. Ec	45.45	270	IAmb	IAmb	01 15 56.3
	comp=Z,28nm,1.3s					
P49A				IAMs_20	IAMs_20	01 33 12.0
	comp=Z,980nm,21.0s					
I37A	Lemond, Waseca	45.50	281	IAMs_20	IAMs_20	01 33 48.0
	comp=Z,944nm,20.0s					
T56A	Rocky Mt	45.53	264	P	P	01 15 51.2 0.0
	baz=32					
BLA	Blacksburg	45.54	264	P	P	01 15 52.3 +0.9
	baz=32					
BLA	Blacksburg	45.54	264	IAMs_20	IAMs_20	01 33 11.5
	comp=Z,860nm,20.0s					
L42A	Oliver, Polo	45.55	276	IAMs_20	IAMs_20	01 33 34.4
	comp=Z,851nm,21.0s					
IL31		45.71	332	IAmb	IAmb	01 15 54.9
	comp=Z,23nm,1.4s					
ILAR	Eielson Array	45.71	332	P	P	01 15 53.4 +1.0
	comp=Z,9.5nm,1.2s,baz=23,slow=6.1,SNR=40					
ILAR				PcP	PcP	01 17 30.1 +0.3
	comp=Z,2.0nm,0.9s,baz=357,slow=3.2,SNR=7.5					
ILAR				LR	LR	01 37 17.2
	comp=Z,173nm,18.6s,baz=42,slow=39					
ILAR	Eielson Array	45.71	332	P	P	01 15 50.5 -1.8
ILAR					PcP	01 17 28.3 -1.6
U57A	Blanch	45.74	263	P	P	01 15 53.3 +0.4
	baz=32					
T55A	Pulaski	45.78	265	P	P	01 15 53.3 +0.1
	baz=32					
COLA	College	45.81	333 *d*	P	P	01 15 53.1 +0.1
COLA				pmax	pmax	
	comp=Z,34nm,1.5s					
SCRK	Sand Creek	45.81	330	P	P	01 15 54.2 +0.9
	baz=29,SNR=8.8					
P48A	Milroy	45.82	271	IAMs_20	IAMs_20	01 33 33.7
	comp=Z,666nm,20.0s					
IMAR	Indian Mountai	45.89	337	P	P	01 15 51.8 -1.9
CCB	Clear Creek Bu	46.01	333	IAmb	IAmb	01 15 57.8
	comp=Z,20nm,1.4s					
HDA	Harding Lake	46.05	332	P	P	01 15 54.9 0.0
	baz=27,SNR=9.7					
T54A	Tazewell	46.17	265	P	P	01 15 56.6 +0.3
	baz=32					
WRH	Wood River Hil	46.22	333	IAmb	IAmb	01 16 02.8
	comp=Z,16nm,1.3s					
U56A	King	46.26	264	P	P	01 15 58.1 +1.2
	baz=32					
NEA2	Nenana	46.30	333	P	P	01 15 56.9 0.0
	baz=26,SNR=10					
R50A	Paris	46.33	269	IAmb	IAmb	01 16 03.7
	comp=Z,24nm,1.4s					
R50A				IAMs_20	IAMs_20	01 33 37.2
	comp=Z,823nm,20.0s					
K38A	Parkersburg	46.34	280	IAMs_20	IAMs_20	01 34 13.5
	comp=Z,876nm,20.0s					
V57A	Coltrane Farms	46.38	263	P	P	01 15 57.8 -0.1
	baz=32					
U55A	TA2, Sparta	46.41	264	P	P	01 15 58.4 +0.2
	baz=32,SNR=8.1					
E28A	Huff	46.46	289	IAMs_20	IAMs_20	01 34 46.3
	comp=Z,974nm,19.0s					
BRZS	Berezniki	46.53	63 *e*	P	P	01 15 58.6 -0.4
BRZS				*e*PP	PP	01 17 47.8 -0.1
	comp=Z,142nm,2.8s,baz=63					
BRZS						
	baz=63					
BRZS	Berezniki	46.53	63 *e*	P	P	01 15 58.5 -0.4
BRZS				*e*		01 17 47.8
BRZS				pmax	pmax	
	comp=Z,142nm,2.8s					
WHY	Whitehorse	46.53	323	IAmb	IAmb	01 16 07.3
	comp=Z,12nm,1.4s					
S51A	Beattyville	46.55	268	IAmb	IAmb	01 16 05.4
	comp=Z,22nm,1.2s					
S51A				IAMs_20	IAMs_20	01 33 44.1
	comp=Z,832nm,21.0s					
O44A	Mansfield	46.55	274	IAMs_20	IAMs_20	01 35 00.1
	comp=Z,567nm,18.0s					
HDIL	Hopedale	46.58	275	P	P	01 16 00.2 +0.8
	baz=34					
T53A	Wise	46.64	266	P	P	01 16 00.8 +0.7
	baz=32					
R49A	Shelbyville	46.68	270	IAmb	IAmb	01 16 08.0
	comp=Z,19nm,1.4s					
U54A	Nelsons Funny	46.73	265	P	P	01 16 01.3 +0.6
	baz=32					
U54A	Nelsons Funny	46.73	265	IAMs_20	IAMs_20	01 33 50.8
	comp=Z,979nm,21.0s					
V56A	Mocksville	46.76	263	P	P	01 16 01.8 +0.9
	baz=32,SNR=7.2					
V55A	Taylorsville	47.03	264	P	P	01 16 03.1 +0.1
	baz=32,SNR=6.9					
HYT	Haines Junctio	47.06	325	IAmb	IAmb	01 16 17.5
	comp=Z,14nm,1.5s					
ECSD	EROS Data Cent	47.08	284	P	P	01 16 03.7 +0.4
	baz=35					
ECSD	EROS Data Cent	47.08	284	IAmb	IAmb	01 16 06.5
	comp=Z,11nm,1.2s					
W57A	Gilead	47.10	263	P	P	01 16 04.4 +0.8
	baz=31					
N41A	Harden Midland	47.12	276	IAMs_20	IAMs_20	01 34 42.1
	comp=Z,787nm,20.0s					
WCI	Wyandotte Cave	47.22	271	P	P	01 16 02.8 -1.6
WCI				pmax	pmax	
	comp=Z,37nm,1.4s					
WCI	Wyandotte Cave	47.22	271	P	P	01 16 05.0 +0.5
	baz=33					
WCI	Wyandotte Cave	47.22	271	P	P	01 16 02.8 -1.6
Y60A	Bolivia	47.33	260	IAMs_20	IAMs_20	01 33 54.8
	comp=Z,647nm,19.0s					
W56A	Indian Trail	47.37	263	P	P	01 16 05.5 -0.1
	baz=31,SNR=7.1					
V54A	Nebo	47.41	265	P	P	01 16 06.0 0.0
	baz=32,SNR=7.0					
P43A	Skaggs, Pawnee	47.43	275	IAMs_20	IAMs_20	01 34 49.3
	comp=Z,470nm,18.0s					
TZTN	Tazewell	47.45	267	P	P	01 16 06.9 +0.6
	baz=32					
TZTN	Tazewell	47.45	267	IAMs_20	IAMs_20	01 34 12.0
	comp=Z,707nm,21.0s					
TRF	Thorofare Moun	47.57	333	IAmb	IAmb	01 16 18.0
	comp=Z,11nm,1.2s					
T50A	Nancy	47.60	268	IAMs_20	IAMs_20	01 34 06.0
	comp=Z,779nm,21.0s					
Y59A	Loris	47.62	261	IAMs_20	IAMs_20	01 33 55.6
	comp=Z,536nm,19.0s					
SKAG	Skagway	47.67	322	IAmb	IAmb	01 16 16.9
	comp=Z,20nm,1.4s					
SKAG				IAMs_20	IAMs_20	01 38 48.3
	comp=Z,492nm,18.0s					
ZAA0	Zalesovo Array	47.68	51	IAmb	IAmb	01 16 09.8
	comp=Z,13nm,1.4s					
ZALV	Zalesovo Beam	47.68	51	P	P	01 16 06.8 -1.1
	comp=Z,1.7nm,0.6s,baz=327,slow=7.1,SNR=9.0					
ZALV				LR	LR	01 38 59.4
	comp=Z,361nm,18.4s,baz=322,slow=40					
ZALV	Zalesovo Beam	47.68	51 *i*	P	P	01 16 08.0 +0.1
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.6s					
ZALV	Zalesovo Beam	47.68	51	P	P	01 16 05.2 -2.7
KMSC	Kings Mountain	47.69	264	P	P	01 16 08.7 +0.5
	baz=31					
KMSC	Kings Mountain	47.69	264	IAMs_20	IAMs_20	01 34 51.3
	comp=Z,897nm,18.0s					
Q44A	Meyer Farm, Va	47.83	274	IAMs_20	IAMs_20	01 34 49.8
	comp=Z,519nm,18.0s					
BARN	Barnard Glacie	47.86	327	IAMs_20	IAMs_20	01 38 04.9
	comp=Z,645nm,22.0s					
V53A	Saluda	47.87	266	IAMs_20	IAMs_20	01 34 15.2
	comp=Z,1μm,22.0s					
GLB	Gilahina Butte	48.02	329	IAmb	IAmb	01 16 13.1
	comp=Z,15nm,1.4s					
BALM	Baldy	48.04	327	IAMs_20	IAMs_20	01 38 04.7
	comp=Z,697nm,19.0s					
V52A	Sevierville	48.06	266	IAmb	IAmb	01 16 19.1
	comp=Z,18nm,1.4s					
V52A				IAMs_20	IAMs_20	01 34 54.2
	comp=Z,795nm,18.0s					
W54A	Cherokee Point	48.10	265	P	P	01 16 11.2 -0.1
	baz=31,SNR=9.1					
X56A	White Oak	48.11	263	P	P	01 16 11.3 -0.1
	baz=31,SNR=5.2					
KURK	Kurchatov	48.16	58 *ce*	P	P	01 16 10.9 -0.7
KURK				pmax	pmax	
	comp=Z,29nm,1.7s					
KURK	Kurchatov	48.16	58	P	P	01 16 08.8 -2.8
KURK				IAmb	IAmb	01 16 16.1
	comp=Z,13nm,0.9s					
KURK				IAMs_20	IAMs_20	01 36 30.6
	comp=Z,688nm,20.0s					
PAULI	Pauline	48.16	264	IAMs_20	IAMs_20	01 34 48.0
	comp=Z,694nm,18.0s					
TKL	Tuckaleechee C	48.30	266	IAMs_20	IAMs_20	01 35 01.4
	comp=Z,786nm,20.0s					
BCPM	Bancas Point	48.34	325	IAMs_20	IAMs_20	01 38 56.8
	comp=Z,680nm,18.0s					
PCA	Pinnacle	48.37	326	IAMs_20	IAMs_20	01 36 06.5
	comp=Z,563nm,19.0s					
X55A	Gracelyn & Ava	48.39	264	P	P	01 16 14.3 +0.8
	baz=31,SNR=7.0					
JSC	Jenkinsville	48.39	263	IAmb	IAmb	01 16 16.1
	comp=Z,17nm,1.3s					
TGL	Tana Glacier	48.40	328	IAMs_20	IAMs_20	01 37 43.2
	comp=Z,498nm,19.0s					
V51A	Loudon	48.42	267	IAMs_20	IAMs_20	01 35 02.8
	comp=Z,909nm,21.0s					
L34A	Svendsen Farm,	48.43	282	IAMs_20	IAMs_20	01 35 05.6
	comp=Z,779nm,19.0s					
PPLA	Purkeypile	48.43	334	P	P	01 16 11.6 -2.2
PPLA				IAmb	IAmb	01 16 24.2
	comp=Z,15nm,1.2s					
KLU	Klutina	48.44	330	IAmb	IAmb	01 16 20.8
	comp=Z,16nm,1.5s					
U49A	Red Boiling Sp	48.44	269	IAmb	IAmb	01 16 25.0
	comp=Z,13nm,1.1s					
U49A				IAMs_20	IAMs_20	01 34 43.1
	comp=Z,741nm,20.0s					
JIS	Juneau Island	48.44	321	IAMs_20	IAMs_20	01 35 31.6
	comp=Z,483nm,19.0s					
YAH	Yahtse	48.49	327	IAmb	IAmb	01 16 28.4
	comp=Z,12nm,1.2s					
YAH				IAMs_20	IAMs_20	01 36 14.8
	comp=Z,520nm,18.0s					
BG3	Lake Jocassee	48.50	265	IAmb	IAmb	01 16 22.4
	comp=Z,17nm,1.5s					
BG3				IAMs_20	IAMs_20	01 34 55.8
	comp=Z,675nm,21.0s					
LAO	LASA Array	48.59	293	P	P	01 16 15.5 +0.4
	baz=35					
P40A	Paris	48.61	277	IAmb	IAmb	01 16 19.6
	comp=Z,14nm,1.2s					
P40A				IAMs_20	IAMs_20	01 35 37.4
	comp=Z,810nm,19.0s					
T47A	Sharon Grove	48.61	270	IAMs_20	IAMs_20	01 35 10.6
	comp=Z,808nm,21.0s					
X54A	Belton	48.64	264	P	P	01 16 15.7 +0.2
	baz=31					
SML	Sawmill	48.66	331	IAmb	IAmb	01 16 24.3
	comp=Z,21nm,1.3s					
MESA	MESA	48.70	327	IAMs_20	IAMs_20	01 36 27.3
	comp=Z,480nm,19.0s					
CPCT	Cooper Cave	48.79	267	IAmb	IAmb	01 16 22.5
	comp=Z,20nm,1.3s					
CPCT				IAMs_20	IAMs_20	01 35 05.5
	comp=Z,720nm,22.0s					
W52A	Murphy	48.84	266	IAmb	IAmb	01 16 19.4
	comp=Z,25nm,1.4s					
HODGE	Hodges	48.86	264	IAMs_20	IAMs_20	01 35 00.3
	comp=Z,643nm,21.0s					
EGMT	Eagleton	48.87	297	P	P	01 16 18.0 +0.8
	baz=35,SNR=9.5					
NHSC	New Hope	48.93	261	P	P	01 16 18.4 +0.7
	baz=30					
NHSC	New Hope	48.93	261	IAMs_20	IAMs_20	01 36 06.3
	comp=Z,519nm,18.0s					
Y55A	Saluda	48.94	263	P	P	01 16 18.7 +0.9
	baz=31,SNR=6.9					
S44A	Carbondale	48.94	273	IAMs_20	IAMs_20	01 35 23.3
	comp=Z,521nm,19.0s					
Z57A	Bowman	48.99	262	P	P	01 16 18.8 +0.6
	baz=30					
SEM	Semipalatinsk	49.01	57 *e*	P	P	01 16 17.5 -0.9
	comp=Z,54nm,2.4s,baz=57					
SEM				*e*PP	PP	01 18 11.1 -0.3
	baz=57					
SEM				LR	LR	01 36 26.0
	comp=Z,180nm,15.0s,baz=57					
SEM	Semipalatinsk	49.01	57 *e*	P	P	01 16 17.5 -0.9
SEM				*e*		01 18 11.1
SEM				pmax	pmax	
	comp=Z,54nm,2.4s					
SEM				MLR	MLR	
	comp=Z,180nm,15.0s					
CLTN	Cedars of Leba	49.03	269	IAmb	IAmb	01 16 20.6
	comp=Z,21nm,1.3s					
CLTN				IAMs_20	IAMs_20	01 35 11.8
	comp=Z,728nm,21.0s					
TTA	Tatalina	49.09	336	P	P	01 16 16.7 -2.0
TTA				pmax	pmax	
	comp=Z,6.0nm,1.1s					
TTA	Tatalina	49.09	336	P	P	01 16 16.7 -2.0
SKT	Skwentna	49.15	333	IAmb	IAmb	01 16 22.6
	comp=Z,21nm,1.4s					
FVM	French Village	49.20	274	IAmb	IAmb	01 16 24.7
	comp=Z,25nm,1.3s					
W50A	Signal Mountai	49.34	268	IAMs_20	IAMs_20	01 35 33.1
	comp=Z,782nm,21.0s					
CCM	Cathedral Cave	49.49	275	P	P	01 16 23.1 +1.1
CCM				pmax	pmax	
	comp=Z,11nm,1.3s					
CCM	Cathedral Cave	49.49	275	P	P	01 16 22.2 +0.3
	baz=33					
CCM	Cathedral Cave	49.49	275	P	P	01 16 23.1 +1.1
V48A	Smith Brothers	49.54	269	IAmb	IAmb	01 16 24.5
	comp=Z,26nm,1.4s					
V48A				IAMs_20	IAMs_20	01 35 27.2
	comp=Z,668nm,20.0s					
SWET	Sewanee	49.60	268	IAmb	IAmb	01 16 28.8
	comp=Z,17nm,1.5s					
SWET				IAMs_20	IAMs_20	01 35 39.9
	comp=Z,856nm,20.0s					
BGNE	Belgrade	49.64	283	IAMs_20	IAMs_20	01 35 39.5
	comp=Z,562nm,21.0s					
WVT	Waverly	49.64	270	P	P	01 16 23.3 +0.1
	baz=32					
X51A	Calhoun	49.69	267	IAmb	IAmb	01 16 31.3
	comp=Z,30nm,1.4s					
R40A	Maddies Statio	49.73	276	IAmb	IAmb	01 16 28.0
	comp=Z,18nm,1.3s					
R40A				IAMs_20	IAMs_20	01 36 30.4
	comp=Z,681nm,18.0s					
RSSD	Black Hills	49.82	290	P	P	01 16 24.4 -0.3
RSSD				pmax	pmax	
	comp=Z,13nm,1.4s					
RSSD	Black Hills	49.82	290	P	P	01 16 25.2 +0.5
	baz=34					
RSSD	Black Hills	49.82	290	P	P	01 16 24.4 -0.3
HENM	Henderson Moun	49.86	272	IAMs_20	IAMs_20	01 38 50.6
	comp=Z,528nm,18.0s					
N33A	J Bar K, Exete	49.90	282	IAMs_20	IAMs_20	01 36 04.5
	comp=Z,640nm,22.0s					
HICK	Hickman	49.90	272	IAMs_20	IAMs_20	01 38 16.7
	comp=Z,478nm,18.0s					
Y52A	Lilburn	49.95	265	IAmb	IAmb	01 16 29.9
	comp=Z,21nm,1.4s					
FPAL	Fort Paine	50.03	267	IAMs_20	IAMs_20	01 35 53.4
	comp=Z,632nm,21.0s					
GOGA	Godfrey	50.08	265	P	P	01 16 27.2 +0.7
	baz=31,SNR=5.6					
GOGA	Godfrey	50.08	265	IAMs_20	IAMs_20	01 36 16.6
	comp=Z,766nm,18.0s					
GLAT	Glass	50.15	272	IAMs_20	IAMs_20	01 36 35.5
	comp=Z,499nm,19.0s					
257A	Skidaway Islan	50.27	261	IAMs_20	IAMs_20	01 35 38.7
	comp=Z,666nm,21.0s					
T42A	Van Buren	50.29	274	IAmb	IAmb	01 16 32.5
	comp=Z,13nm,1.1s					
T42A				IAMs_20	IAMs_20	01 36 18.0
	comp=Z,479nm,18.0s					
LNXT	Lenox	50.38	272	IAMs_20	IAMs_20	01 38 30.5
	comp=Z,579nm,18.0s					
GEYT	Alibeck	50.46	83	P	P	01 16 29.0 -0.3
	comp=Z,2.9nm,0.7s,baz=306,slow=5.3,SNR=8.1					
GEYT				LR	LR	01 40 23.8
	comp=Z,564nm,19.6s,baz=345,slow=39					
GEYT	Alibeck	50.46	83	P	P	01 16 30.0 +0.6
GYA0B	ALIBECK ARRAY	50.46	83	P	P	01 16 29.8 +0.4
154A	Montrose	50.61	264	IAMs_20	IAMs_20	01 36 20.6
	comp=Z,497nm,19.0s					
MGMO	Mountain Grove	50.69	275	IAmb	IAmb	01 16 35.7
	comp=Z,24nm,1.5s					
MGMO				IAMs_20	IAMs_20	01 36 41.6
	comp=Z,525nm,19.0s					
S39A	Bolivar	50.69	276	IAmb	IAmb	01 16 35.6
	comp=Z,19nm,1.2s					
S39A				IAMs_20	IAMs_20	01 36 33.6
	comp=Z,513nm,20.0s					
PLAL	Pickwick Lake	50.72	270	IAmb	IAmb	01 16 32.5
	comp=Z,20nm,1.4s					
PLAL				IAMs_20	IAMs_20	01 36 31.5
	comp=Z,811nm,18.0s					
X48A	Hartselle	50.73	269	IAmb	IAmb	01 16 35.9
	comp=Z,22nm,1.2s					
KSU1	Kansas State U	50.91	280	P	P	01 16 33.2 +0.5
	baz=33					
KSU1	Kansas State U	50.91	280	IAmb	IAmb	01 16 34.7
	comp=Z,24nm,1.3s					
255A	Hazlehurst	50.93	263	IAMs_20	IAMs_20	01 36 54.2
	comp=Z,444nm,19.0s					
Y49A	Blount Mountai	50.96	268	IAmb	IAmb	01 16 34.9
	comp=Z,28nm,1.5s					
Y49A				IAMs_20	IAMs_20	01 36 32.9
	comp=Z,764nm,20.0s					
RLMT	Red Lodge	51.08	295	P	P	01 16 34.9 +0.7
	baz=33,SNR=11					
RLMT	Red Lodge	51.08	295	IAmb	IAmb	01 16 37.5
	comp=Z,32nm,1.4s				

comp=Z,72nm,3.2s
LCAR Lake Charles 51.13 273 IAmb IAmb 01 16 39.0
comp=Z,19nm,1.5s
LCAR IAMs_20 IAMs_20 01 36 52.2
comp=Z,494nm,20.0s
LPAR Lepanto 51.15 272 IAMs_20 IAMs_20 01 37 26.9
comp=Z,447nm,19.0s
KK31 Karatay Array 51.32 70 IAmb IAmb 01 16 41.6
comp=Z,17nm,1.3s
KKAR Karatay Array 51.32 70 P **P** **01 16 36.1 +0.4**
KKAR Karatay Array 51.32 70 P **P** **01 16 36.1 +0.4**
KKAR Karatay Array 51.32 70 IAmb IAmb 01 16 41.6
comp=Z,17nm,1.3s
NEW Newport 51.42 303 IAMs_20 IAMs_20 01 38 01.2
comp=Z,600nm,20.0s
MSO Missoula 51.45 299 P **P** **01 16 37.1 +0.3**
baz=33
BOZ Bozeman (W) 51.60 297 P **P** **01 16 38.5 +0.5**
baz=33,SNR=19
BOZ Bozeman (W) 51.60 297 IAmb IAmb 01 16 41.1
comp=Z,34nm,1.4s
U40A Yellville 51.61 275 P **P** **01 16 37.3 -0.8**
baz=32,SNR=8.1
U40A Yellville 51.61 275 IAmb IAmb 01 16 42.7
comp=Z,33nm,1.5s
U40A IAMs_20 IAMs_20 01 37 11.0
comp=Z,533nm,20.0s
OGNE Ogallala 51.64 286 IAMs_20 IAMs_20 01 36 27.5
comp=Z,461nm,19.0s
OXF Oxford 51.70 271 P **P** **01 16 39.0 +0.4**
baz=31
456A Hilliard 51.77 262 IAMs_20 IAMs_20 01 36 34.5
comp=Z,656nm,21.0s
TIGA Tifton 51.83 263 P **P** **01 16 40.1 +0.4**
baz=30
TIGA Tifton 51.83 263 IAMs_20 IAMs_20 01 37 24.9
comp=Z,490nm,20.0s
DZA Taraz 51.83 69 *i* P **P** **01 16 40.2 +0.6**
baz=69
DZA Taraz 51.83 69 *i* P **P** **01 16 40.2 +0.6**
LRAL Lakeview Retre 51.92 268 P **P** **01 16 40.4 +0.1**
baz=31
LRAL Lakeview Retre 51.92 268 IAmb IAmb 01 16 43.8
comp=Z,16nm,1.3s
LRAL IAMs_20 IAMs_20 01 36 42.2
comp=Z,603nm,21.0s
IUG Iuzhnay 51.92 71 *e*P **P** **01 16 40.7 +0.3**
comp=Z,119nm,3.1s,baz=71
IUG Iuzhnay 51.92 71 *e*P **P** **01 16 40.7 +0.3**
IUG pmax pmax
comp=Z,119nm,3.1s
K22A Casper 52.05 291 P **P** **01 16 41.6 +0.1**
baz=33
K22A Casper 52.05 291 IAmb IAmb 01 16 48.2
comp=Z,19nm,1.1s
DGZ Jazzator, Alta 52.13 53 *d i*P **P** **01 16 41.5 -0.4**
DGZ pmax pmax
comp=Z,29nm,1.9s
B08A Colville Reser 52.14 304 IAMs_20 IAMs_20 01 38 34.1
comp=Z,678nm,19.0s
HHAR Hobbs 52.14 276 IAMs_20 IAMs_20 01 38 15.0
comp=Z,510nm,20.0s
H17A Grant Village 52.20 295 P **P** **01 16 43.0 +0.4**
baz=33
U38A Gravette 52.20 276 IAMs_20 IAMs_20 01 36 41.5
comp=Z,542nm,22.0s
C09A Chrisman Ranch 52.23 303 IAMs_20 IAMs_20 01 38 36.6
comp=Z,620nm,20.0s
WHAR Wooly Hollow 52.27 274 IAmb IAmb 01 16 44.7
comp=Z,23nm,1.4s
WHAR IAMs_20 IAMs_20 01 37 27.5
comp=Z,480nm,18.0s
TAS Tashkent 52.31 72 IAMs_20 IAMs_20 01 39 11.6
comp=Z,802nm,22.0s
X43A Marvell 52.32 272 IAMs_20 IAMs_20 01 36 49.9
comp=Z,429nm,19.0s
W41B Gary Mavity, V 52.35 274 P **P** **01 16 43.8 +0.2**
baz=32
W41B Gary Mavity, V 52.35 274 IAMs_20 IAMs_20 01 33 48.7
comp=Z,523nm,21.0s
352A Blakely 52.36 265 IAMs_20 IAMs_20 01 38 25.1
comp=Z,528nm,18.0s
BOD Bodaibo 52.47 30 *e*P **P** **01 16 43.2 -0.8**
CBKS Cedar Bluff 52.47 283 P **P** **01 16 45.0 +0.5**
baz=32
SEY Seymchan 52.53 6 P **P** **01 16 44.8 +0.4**
comp=Z,1.5nm,0.4s,baz=120,slow=23,SNR=2.6
SGDS Sogindy 52.67 66 *i* P **P** **01 16 46.2 +0.3**
comp=Z,88nm,3.2s,baz=66
SGDS Sogindy 52.67 66 *i* P **P** **01 16 46.2 +0.3**
SGDS pmax pmax
comp=Z,88nm,3.2s
T35A Sooner Cattle 52.71 279 IAmb IAmb 01 16 47.5
comp=Z,19nm,1.2s
UALR University of 52.73 274 IAMs_20 IAMs_20 01 39 48.8
comp=Z,617nm,21.0s
PHWY Pilot Hill 52.75 289 IAmb IAmb 01 16 51.8
comp=Z,22nm,1.4s
PHWY IAMs_20 IAMs_20 01 38 42.8
comp=Z,644nm,18.0s
IMW Indian Meadow 52.76 295 IAmb IAmb 01 16 55.0
comp=Z,15nm,1.3s
B06A Marblemount 52.76 306 IAMs_20 IAMs_20 01 38 02.6
comp=Z,451nm,18.0s
MKAR Makanchi Array 52.77 58 P **P** **01 16 46.6 0.0**
comp=Z,3.6nm,0.9s,baz=318,slow=4.9,SNR=10.0
MKAR LR LR 01 39 27.3
comp=Z,311nm,19.2s,baz=314,slow=36
MKAR Makanchi Array 52.77 58 P **P** **01 16 46.4 -0.1**
TDK Taldyqorghan 52.83 62 *e*P **P** **01 16 47.5 +0.5**
baz=62
TDK *e*S **S** **01 24 16.9 +1.6**
baz=62
TDK Taldyqorghan 52.83 62 *e*P **P** **01 16 47.5 +0.5**
TDK *e*S **S** **01 24 16.8 +1.6**
LOHW Long Hollow 52.87 295 IAmb IAmb 01 16 50.0
comp=Z,19nm,1.4s
KUU Kurty 52.97 65 *e*PP PP 01 18 48.0 +0.8
baz=65
KUU *e*S **S** **01 24 18.4 +1.3**
baz=65
KUU LR LR 01 38 16.6
comp=Z,697nm,15.6s,baz=65
W39A Magazine 53.00 275 P **P** **01 16 48.3 0.0**
baz=31
SNOW Snow King Moun 53.05 295 IAMs_20 IAMs_20 01 38 37.6
comp=Z,859nm,21.0s
D08A Wollman Farm, 53.09 303 IAMs_20 IAMs_20 01 39 09.4
comp=Z,619nm,18.0s
TPAW Teton Pass 53.11 295 IAmb IAmb 01 16 54.1
comp=Z,20nm,1.4s
TOA0 Torodi Ar. Sit 53.11 156 P **P** **01 16 49.1 -0.2**
TOA0 IAmb IAmb 01 16 58.0
comp=Z,24nm,1.5s
TORD Torodi Ar. Bea 53.11 156 P **P** **01 16 48.6 -0.7**
comp=Z,6.1nm,1.1s,baz=345,slow=8.7,SNR=13
TORD LR LR 01 39 22.5
comp=Z,151nm,18.6s,baz=330,slow=36
TORD Torodi Ar. Bea 53.11 156 P **P** **01 16 48.9 -0.4**
RWWY Rawlins 53.14 291 IAMs_20 IAMs_20 01 38 10.9
comp=Z,850nm,21.0s
146A Union 53.15 269 IAMs_20 IAMs_20 01 37 50.7
comp=Z,803nm,21.0s
ZSN Zaisan 53.15 56 *e*P **P** **01 16 49.0 -0.3**
comp=Z,102nm,3.4s,baz=56
ZSN Zaisan 53.15 56 *e*P **P** **01 16 49.0 -0.3**
ZSN pmax pmax
comp=Z,102nm,3.4s
BW06 Boulder Array 53.17 293 P **P** **01 16 48.5 -1.2**
baz=32,SNR=24
BW06 Boulder Array 53.17 293 IAmb IAmb 01 16 51.8
comp=Z,20nm,1.1s
PD31 Pinedale Array 53.17 293 IAmb IAmb 01 16 51.8
comp=Z,19nm,1.1s
PDAR Pinedale Array 53.17 293 P **P** **01 16 49.6 -0.1**
comp=Z,6.2nm,0.8s,baz=52,slow=6.0,SNR=29
PDAR LR LR 01 39 09.0
comp=Z,783nm,18.4s,baz=38,slow=36
PDAR Pinedale Array 53.17 293 P **P** **01 16 47.8 -2.0**
656A Willston 53.17 261 IAMs_20 IAMs_20 01 38 14.5
comp=Z,647nm,19.0s
REDW Red Top Meadow 53.17 295 IAmb IAmb 01 17 00.7
comp=Z,20nm,1.4s
REDW IAMs_20 IAMs_20 01 39 02.8
comp=Z,833nm,20.0s
X40A Basin Creek Fa 53.19 274 P **P** **01 16 50.1 +0.3**
baz=31
X40A Basin Creek Fa 53.19 274 IAmb IAmb 01 16 54.3
comp=Z,16nm,1.4s
X40A IAMs_20 IAMs_20 01 38 14.8
comp=Z,429nm,19.0s
CCAR Cane Creek 53.22 273 IAMs_20 IAMs_20 01 38 40.6
comp=Z,516nm,21.0s
TUL1 Leonard 53.25 277 IAMs_20 IAMs_20 01 38 12.3
comp=Z,797nm,21.0s
CHKK Chushkaly 53.26 64 *e*P **P** **01 16 49.8 -0.3**
baz=64
CHKK Chushkaly 53.26 64 *e*P **P** **01 16 49.8 -0.3**
553A Crawfordville 53.27 263 IAMs_20 IAMs_20 01 41 45.0
comp=Z,472nm,20.0s
N23A Red Feather La 53.29 289 P **P** **01 16 50.7 -0.1**
baz=32,SNR=11
N23A Red Feather La 53.29 289 IAmb IAmb 01 16 53.9
comp=Z,27nm,1.2s
N23A IAMs_20 IAMs_20 01 39 01.1
comp=Z,605nm,21.0s
AAK Ala-Archa 53.30 67 *ce*P **P** **01 16 50.9 +0.2**
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 53.30 67 P **P** **01 16 51.3 +0.6**
AAK IAmb IAmb 01 16 56.7
comp=Z,23nm,1.3s
451A Vernon 53.46 265 IAMs_20 IAMs_20 01 36 47.2
comp=Z,495nm,20.0s
MIAR Mount Ida 53.46 275 P **P** **01 16 51.8 +0.1**
baz=31
MIAR Mount Ida 53.46 275 IAMs_20 IAMs_20 01 38 28.0
comp=Z,690nm,19.0s
LTY Liberty 53.55 304 IAMs_20 IAMs_20 01 37 48.5
comp=Z,398nm,18.0s
E08A Dider Farm, El 53.63 303 IAMs_20 IAMs_20 01 39 45.5
comp=Z,455nm,18.0s
AAA Alma-Ata 53.77 65 *e*P **P** **01 16 54.7 +0.6**
baz=65
AAA LR LR 01 38 55.4
comp=Z,575nm,15.3s,baz=65
AAA Alma-Ata 53.77 65 *e*P **P** **01 16 54.6 +0.6**
AAA MLR MLR
comp=Z,575nm,15.0s
E07A Sunnyside 53.85 303 IAMs_20 IAMs_20 01 39 54.6
comp=Z,726nm,18.0s
MDOK Medeo 53.86 65 *i* P **P** **01 16 55.5 +0.7**
baz=65
MDOK *e*S **S** **01 24 31.2 +1.7**
baz=65
MDOK LR LR 01 38 54.2
comp=Z,608nm,15.9s,baz=65
MDOK Medeo 53.86 65 *i* P **P** **01 16 55.4 +0.7**
MDOK *e*S **S** **01 24 31.2 +1.7**
MDOK MLR MLR
comp=Z,608nm,16.0s
TNSS Tian-Shan 53.93 65 *e*P **P** **01 16 55.9 +0.3**
baz=65
TNSS Tian-Shan 53.93 65 *e*P **P** **01 16 55.8 +0.3**
ISCO Idaho Springs 54.08 288 P **P** **01 16 57.0 +0.4**
baz=32
X37A Clayton 54.19 276 IAMs_20 IAMs_20 01 37 54.3
comp=Z,600nm,21.0s
U32A Winter Ranch, 54.22 280 IAmb IAmb 01 17 01.3
comp=Z,15nm,1.1s
KPKS Kokpek 54.24 63 *e*P **P** **01 16 57.9 +0.5**
comp=Z,128nm,2.9s,baz=63
KPKS Kokpek 54.24 63 *e*P **P** **01 16 57.8 +0.4**
KPKS pmax pmax
comp=Z,128nm,2.9s
HLID Hailey 54.38 297 P **P** **01 16 58.1 -0.5**
baz=32,SNR=7.0
LON Longmire 54.39 305 IAMs_20 IAMs_20 01 39 14.6
comp=Z,531nm,19.0s
SATY Saty 54.48 64 *e*P **P** **01 16 59.6 +0.4**
comp=Z,47nm,2.9s,baz=64
SATY *e*S **S** **01 24 39.1 +1.2**
baz=64
SATY Saty 54.48 64 *e*P **P** **01 16 59.6 +0.4**
SATY *e*S **S** **01 24 39.0 +1.2**
SATY pmax pmax
comp=Z,47nm,2.9s
Q24A Divide 54.60 287 IAMs_20 IAMs_20 01 38 27.7
comp=Z,514nm,22.0s
G08A Pilot Rock 54.61 302 IAMs_20 IAMs_20 01 39 55.7
comp=Z,671nm,18.0s
UZB Uzynbulak 54.64 63 *e*P **P** **01 17 00.8 +0.3**
comp=Z,70nm,2.8s,baz=63
UZB *e*S **S** **01 24 41.3 +1.3**
baz=63
UZB Uzynbulak 54.64 63 *e*P **P** **01 17 00.7 +0.3**
UZB *e*S **S** **01 24 41.3 +1.3**
UZB pmax pmax
comp=Z,70nm,2.8s
MOY Mondy 54.71 42 *e*P **P** **01 17 02.1 +1.3**
MOY pmax pmax
comp=Z,126nm,2.2s
SHLS Shalkode 54.80 63 *e*P **P** **01 17 03.7 +2.1**
comp=Z,120nm,3.0s,baz=62
SHLS Shalkode 54.80 63 *e*P **P** **01 17 03.6 +2.1**
SHLS pmax pmax
comp=Z,120nm,3.0s
O20A White River Ci 54.87 290 P **P** **01 17 02.1 -0.1**
baz=32,SNR=8.8
Z38A Mt. Pleasant 55.16 275 IAMs_20 IAMs_20 01 40 28.0
comp=Z,702nm,19.0s
HRA Herat 55.23 82 IAmb IAmb 01 17 10.4
comp=Z,12nm,1.2s
F04A Amboy 55.31 305 IAMs_20 IAMs_20 01 39 43.9
comp=Z,451nm,19.0s
TLY Talaya 55.45 40 LR LR 01 43 34.5
comp=Z,266nm,18.6s,baz=320,slow=39
TLY Talaya 55.45 40 *e*P **P** **01 17 08.0 +2.0**
TLY *e* 01 19 12.1
TLY *e*S **S** **01 24 55.0 +4.6**
TLY pmax pmax
comp=Z,37nm,1.8s
TLY MLR MLR
comp=Z,744nm,15.0s
TLY Talaya 55.45 40 IAMs_20 IAMs_20 01 43 57.3
comp=Z,391nm,18.0s
WMOK Wichita Mounta 55.52 279 P **P** **01 17 06.4 -0.3**
baz=31,SNR=12
WMOK Wichita Mounta 55.52 279 IAmb IAmb 01 17 08.7
comp=Z,20nm,1.4s
WMOK Wichita Mounta 55.52 279 IAMs_20 IAMs_20 01 39 50.4
comp=Z,804nm,22.0s
342A Flagon Creek P 55.64 271 IAMs_20 IAMs_20 01 39 56.7
comp=Z,700nm,19.0s
SDCO Great Sand Dun 55.78 287 P **P** **01 17 09.5 +0.7**
baz=31
SDCO Great Sand Dun 55.78 287 IAMs_20 IAMs_20 01 40 12.0
comp=Z,624nm,18.0s
T25A Trinidad 55.84 285 P **P** **01 17 10.0 +0.8**
baz=31
T25A Trinidad 55.84 285 IAmb IAmb 01 17 11.8
comp=Z,15nm,1.4s
Z35A Perchaven, San 56.08 277 IAMs_20 IAMs_20 01 39 04.1
comp=Z,534nm,22.0s
H04A Detroit Lake 56.30 304 IAMs_20 IAMs_20 01 41 21.3
comp=Z,686nm,21.0s
NATX Nacogdoches 56.31 274 IAMs_20 IAMs_20 01 44 33.5
comp=Z,405nm,18.0s
S22A 4UR Ranch, Cre 56.33 288 P **P** **01 17 13.3 +0.5**
baz=31
PV21 Cone Mtn., Par 56.50 290 IAmb IAmb 01 17 19.6
comp=Z,16nm,1.3s
ZAK Zakamensk 56.51 41 *e*P **P** **01 17 14.3 +0.6**
ZAK pmax pmax
comp=Z,11nm,1.3s
KSH Kashi 56.54 68 ⇑ *i*P **P** **01 17 17.2 +3.1**
KSH PP **PP** **01 19 23.8 +4.3**
KSH S **S** **01 25 08.5 +3.1**
KSH sS sS 01 25 20.9 +9.3
KSH SS **SS** **01 28 56.1 +4.0**
KSH pmax pmax
comp=Z,530nm,6.1s
KSH LR LR
comp=Z,550nm,12.4s
KSH LR LR
comp=Z,460nm,11.2s
KSH LR LR
comp=Z,990nm,17.9s
237A Washetta, Mont 56.60 275 IAMs_20 IAMs_20 01 41 31.0
comp=Z,680nm,20.0s
PV23 Carpenter Ridg 56.61 290 IAmb IAmb 01 17 18.6
comp=Z,22nm,1.3s
PV04 Paradox Valley 56.62 290 IAmb IAmb 01 17 21.5
comp=Z,26nm,1.4s
PV04 IAMs_20 IAMs_20 01 36 45.2
comp=Z,740nm,22.0s
DUG Dugway, Tooele 56.64 294 P **P** **01 17 15.2 +0.4**
baz=31,SNR=6.6
DUG Dugway, Tooele 56.64 294 IAmb IAmb 01 17 26.0
comp=Z,20nm,1.4s
PV12 Saucer Basin, 56.64 290 IAmb IAmb 01 17 28.2
comp=Z,16nm,1.3s
PV14 Lion Creek, Pa 56.68 290 IAmb IAmb 01 17 24.4
comp=Z,14nm,1.0s
PV11 David Mesa, Pa 56.69 290 IAmb IAmb 01 17 22.8
comp=Z,20nm,1.1s
PV20 West Nyswonger 56.69 290 IAmb IAmb 01 17 31.6
comp=Z,16nm,1.2s
PV16 Nyswonger Mesa 56.69 290 IAmb IAmb 01 17 18.0
comp=Z,12nm,1.1s
PV01 Paradox Valley 56.70 289 IAmb IAmb 01 17 18.2
comp=Z,23nm,1.3s
PV02 Paradox Valley 56.71 290 IAmb IAmb 01 17 18.2
comp=Z,19nm,1.2s
PV02 IAMs_20 IAMs_20 01 33 37.5
comp=Z,513nm,20.0s
PV03 Paradox Valley 56.71 290 IAMs_20 IAMs_20 01 40 49.7
comp=Z,709nm,19.0s
PV19 Morning Glory 56.72 290 IAmb IAmb 01 17 20.6
comp=Z,14nm,1.2s
PV19 IAMs_20 IAMs_20 01 43 25.9
comp=Z,770nm,21.0s
COR Corvallis 56.78 305 IAMs_20 IAMs_20 01 41 16.1
comp=Z,576nm,20.0s
I04A Tendick Farm, 57.16 304 P **P** **01 17 18.7 +0.4**
baz=30
J05D Fort Rock, OR 57.17 302 P **P** **01 17 19.3 +0.7**
baz=30
WMQ Urumqi 57.28 56 *e*P **P** **01 17 23.4 +4.2**
WMQ pP sP 01 17 25.9 +1.5
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ pmax pmax
comp=Z,370nm,5.7s
WMQ LR LR
comp=Z,290nm,13.1s
WMQ LR LR
comp=Z,450nm,17.9s
WMQ LR LR
comp=Z,230nm,20.7s
WMQ Urumqi 57.28 56 IAMs_20 IAMs_20 01 42 16.1
comp=Z,659nm,21.0s
WHTX Lake Whitney, 57.31 276 P **P** **01 17 19.9 +0.4**
baz=30
WHTX Lake Whitney, 57.31 276 IAmb IAmb 01 17 24.1
comp=Z,16nm,1.1s
WHTX IAMs_20 IAMs_20 01 40 04.9
comp=Z,650nm,20.0s
MVCO Mesa Verde 57.47 289 P **P** **01 17 20.6 -0.2**
baz=31,SNR=5.8
K05A Summer Lake 57.53 302 IAmb IAmb 01 17 27.0
comp=Z,20nm,1.3s
ABTX Abilene, Hawle 57.70 279 P **P** **01 17 23.0 +0.7**
baz=30
ABTX Abilene, Hawle 57.70 279 IAmb IAmb 01 17 24.7
comp=Z,18nm,1.2s
SDDR Presa de Saban 57.79 244 IAMs_20 IAMs_20 01 37 06.1
comp=Z,700nm,22.0s
MSTX Muleshoe 57.87 282 P **P** **01 17 24.0 +0.5**
baz=30
MSTX Muleshoe 57.87 282 IAMs_20 IAMs_20 01 40 44.5
comp=Z,589nm,21.0s
KBL Kabul 57.97 76 IAMs_20 IAMs_20 01 42 57.7
comp=Z,665nm,20.0s
MOD Modoc Plateau 58.03 301 IAMs_20 IAMs_20 01 41 57.1
comp=Z,749nm,21.0s
HKT Hockley 58.38 274 P **P** **01 17 27.7 +0.8**
HKT pmax pmax
comp=Z,9.0nm,1.3s
HKT Hockley 58.38 274 P **P** **01 17 27.7 +0.8**
435B Jarrell 58.41 276 IAMs_20 IAMs_20 01 41 56.0
comp=Z,636nm,18.0s
DBIC Dimbokro 58.55 165 P **P** **01 17 28.3 0.0**
comp=Z,7.5nm,0.9s,baz=337,slow=8.0,SNR=8.9
DBIC LR LR 01 42 18.3
comp=Z,211nm,18.5s,baz=352,slow=36
DBIC Dimbokro 58.55 165 P **P** **01 17 28.8 +0.5**
DBIC pmax pmax
comp=Z,27nm,1.4s
DBIC Dimbokro 58.55 165 P **P** **01 17 28.8 +0.5**
TIC Toumodi 58.56 165 *e*P **P** **01 17 27.5 -0.9**
ANMO Albuquerque 58.57 286 *ce*P **P** **01 17 29.8 +1.3**
ANMO pmax pmax
comp=Z,13nm,2.0s
ANMO Albuquerque 58.57 286 P **P** **01 17 29.0 +0.4**
baz=30
ANMO Albuquerque 58.57 286 P **P** **01 17 28.7 +0.2**
ANMO Albuquerque 58.57 286 IAMs_20 IAMs_20 01 42 08.0
comp=Z,637nm,19.0s
KIC Kosan Boka 58.87 165 *e*P **P** **01 17 29.6 -0.9**
comp=Z,36nm,1.1s
ZEA Zeya 58.89 24 *e*P **P** **01 17 33.0 +2.8**
ZEA pmax pmax
comp=Z,400nm,10.0s
ZEA MLR MLR
comp=Z,600nm,16.0s
LIC Lamto 58.98 165 *e*P **P** **01 17 30.5 -0.7**
comp=Z,56nm,1.1s
R11A Troy Canyon, C 59.32 295 P **P** **01 17 33.6 -0.1**
baz=30,SNR=10.0
R11A Troy Canyon, C 59.32 295 IAmb IAmb 01 17 41.9
comp=Z,18nm,1.5s
PAHR Pah Rah Range 59.59 299 IAmb IAmb 01 17 37.9
comp=Z,11nm,1.2s
PAHR IAMs_20 IAMs_20 01 42 45.5
comp=Z,587nm,20.0s
JCT Junction City 59.62 277 P **P** **01 17 35.4 -0.2**
baz=30,SNR=5.6
JCT Junction City 59.62 277 IAMs_20 IAMs_20 01 41 15.0
comp=Z,574nm,20.0s
KRMB Red Mountain 59.67 303 IAMs_20 IAMs_20 01 43 47.6
comp=Z,379nm,19.0s
U15A North Rim 59.68 291 IAmb IAmb 01 17 41.6
comp=Z,21nm,1.4s
KVN Kaiserville 59.68 298 IAmb IAmb 01 17 40.3
comp=Z,11nm,1.2s
SONM Songino Array 59.69 40 P **P** **01 17 35.9 -0.2**
comp=Z,2.0nm,0.8s,baz=316,slow=3.8,SNR=13
SONM LR LR 01 46 03.2
comp=Z,310nm,18.9s,baz=318,slow=39
SONM Songino Array 59.69 40 P **P** **01 17 36.0 0.0**
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 59.69 40 P **P** **01 17 36.0 0.0**
ULN Ulaanbaatar 59.85 40 P **P** **01 17 37.4 +0.3**
ULN Ulaanbaatar 59.85 40 P **P** **01 17 37.4 +0.3**
ULN Ulaanbaatar 59.85 40 IAMs_20 IAMs_20 01 45 26.6
comp=Z,486nm,20.0s
PRN Pahroc Range 59.92 294 IAMs_20 IAMs_20 01 42 58.5
comp=Z,615nm,20.0s
O03E Paynes Creek 59.98 301 P **P** **01 17 38.4 +0.3**
baz=29
WDC Whiskeytown Da 60.01 302 IAMs_20 IAMs_20 01 43 26.4
comp=Z,561nm,19.0s
WUAZ Wupatki 60.09 290 P **P** **01 17 38.9 -0.2**
baz=30,SNR=9.9
WUAZ Wupatki 60.09 290 P **P** **01 17 40.0 +1.0**
WUAZ IAMs_20 IAMs_20 01 42 38.2
comp=Z,554nm,20.0s
YERR Yerington 60.17 298 IAmb IAmb 01 17 51.9
comp=Z,10nm,0.8s
KHMM Horse Mountain 60.18 303 IAMs_20 IAMs_20 01 45 27.0
comp=Z,539nm,21.0s
NVAR Mina Array Bea 60.30 297 P **P** **01 17 41.2 +0.8**
comp=Z,1.1nm,0.8s,baz=64,slow=5.1,SNR=7.4
NVAR LR LR 01 43 30.6
comp=Z,1μm,18.2s,baz=30,slow=36
NVAR Mina Array Bea 60.30 297 P **P** **01 17 38.4 -2.0**
JCC Jacoby Creek, 60.34 303 IAMs_20 IAMs_20 01 40 59.1
comp=Z,414nm,18.0s
O02D Mt. Diablo Mer 60.45 302 P **P** **01 17 40.3 -0.9**
baz=28
RUBR Rubicon Trail 60.46 299 IAMs_20 IAMs_20 01 43 23.4
comp=Z,616nm,19.0s
NIL Nilore 60.49 73 P **P** **01 17 41.9 +0.3**
NIL pmax pmax
comp=Z,25nm,1.1s
NIL MLR MLR
comp=Z,500nm,18.0s
NIL Nilore 60.49 73 P **P** **01 17 41.9 +0.3**
NIL Nilore 60.49 73 IAMs_20 IAMs_20 01 47 15.5
comp=Z,480nm,18.0s

WAKR	Walker	60.66	298	IAmb	IAmb	01 17 45.4	
	comp=Z,13nm,1.3s						
SHPR	Sheep Range	60.75	294	IAmb	IAmb	01 17 51.3	
	comp=Z,20nm,1.5s						
SHPR				IAMs_20	IAMs_20	01 42 37.4	
	comp=Z,424nm,19.0s						
TPNV	Topopah Spring	60.79	295	P	P	01 17 44.2	+0.4
TPNV				pmax	pmax		
	comp=Z,14nm,1.4s						
TPNV				MLR	MLR		
	comp=Z,800nm,19.0s						
TPNV	Topopah Spring	60.79	295	P	P	01 17 44.1	+0.3
	baz=29						
TPNV	Topopah Spring	60.79	295	P	P	01 17 44.2	+0.4
TPNV				IAmb	IAmb	01 17 50.1	
	comp=Z,14nm,1.4s						
UOSS	Minazif	60.80	93	P	P	01 17 43.5	-0.3
AFDM	Forest Hills D	60.85	300	IAMs_20	IAMs_20	01 43 45.9	
	comp=Z,642nm,20.0s						
MNTX	Cornudas Mount	60.93	283	P	P	01 17 45.2	+0.6
	baz=29						
MNTX	Cornudas Mount	60.93	283	P	P	01 17 45.5	+0.9
MNTX					PcP	01 18 28.5	+0.5
121A	Cookes Peak, D	61.21	285	P	P	01 17 47.3	+0.6
	baz=29						
121A	Cookes Peak, D	61.21	285	IAmb	IAmb	01 17 49.5	
	comp=Z,16nm,1.4s						
121A				IAMs_20	IAMs_20	01 43 38.9	
	comp=Z,400nm,21.0s						
OMMB	Old Mammoth Mi	61.28	297	IAmb	IAmb	01 17 50.7	
	comp=Z,8.9nm,1.2s						
833A	Chaparral WMA,	61.32	276	IAMs_20	IAMs_20	01 43 29.0	
	comp=Z,516nm,20.0s						
CMB	Columbia Colle	61.43	299	IAMs_20	IAMs_20	01 43 56.3	
	comp=Z,556nm,21.0s						
W13A	Hualapai Mount	61.47	292	IAMs_20	IAMs_20	01 43 49.5	
	comp=Z,583nm,20.0s						
HOPS	Hopland Field	61.59	301	IAMs_20	IAMs_20	01 44 15.4	
	comp=Z,598nm,19.0s						
HIA	Hailar	61.69	30	IAMs_20	IAMs_20	01 43 44.0	
	comp=Z,524nm,22.0s						
CWC	Cottonwood Cre	61.95	296	P	P	01 17 52.0	+0.4
	baz=28						
TUQ	Turquoise Moun	61.98	294	P	P	01 17 52.3	+0.5
	baz=29						
MPMC	Manual Prospec	62.05	295	P	P	01 17 52.7	+0.3
	baz=28						
TXAR	Lajitas Array	62.26	280	P	P	01 17 54.4	+0.7
	comp=Z,2.3nm,1.0s,baz=56,slow=5.0,SNR=13						
PDMCI	Parker Dam,Lak	62.27	292	P	P	01 17 54.4	+0.9
	baz=29						
GSC	Goldstone, Bar	62.45	294	IAMs_20	IAMs_20	01 44 50.3	
	comp=Z,622nm,22.0s						
GMRC	Granite Mounta	62.45	293	P	P	01 17 55.8	+0.9
	baz=29,SNR=7.8						
PETK	Petropavlovsk-	62.55	3	LR	LR	01 43 51.9	
	comp=Z,48nm,20.5s,baz=356,slow=35						
PETK	Petropavlovsk-	62.55	3	P	P	01 17 56.0	+0.9
PETK	Petropavlovsk-	62.55	3	P	P	01 17 56.0	+0.9
TUC	Tucson	62.64	288	P	P	01 17 57.1	+0.9
TUC				pmax	pmax		
	comp=Z,17nm,1.5s						
TUC	Tucson	62.64	288	P	P	01 17 57.5	+1.3
	baz=29						
TUC	Tucson	62.64	288	P	P	01 17 57.1	+0.9
TUC				IAmb	IAmb	01 18 04.6	
	comp=Z,17nm,1.5s						
TUC	Tucson	62.64	288	IAMs_20	IAMs_20	01 41 48.7	
	comp=Z,427nm,22.0s						
PET	Petropavlovsk	62.65	3	eP	P	01 17 56.2	+0.4
PET				eS	S	01 26 24.0	+0.5
PET				pmax	pmax		
	comp=Z,200nm,12.1s						
ISA	Isabella, Lake	62.78	296	P	P	01 17 57.9	+0.8
	baz=28						
ISA	Isabella, Lake	62.78	296	IAmb	IAmb	01 18 05.4	
	comp=Z,16nm,1.4s						
IRM	Iron Mountain	62.79	292	P	P	01 17 58.3	+1.2
	baz=28						
319A	Douglas	62.84	286	IAMs_20	IAMs_20	01 45 12.9	
	comp=Z,480nm,19.0s						
SAO	San Andreas Ge	62.95	299	IAMs_20	IAMs_20	01 45 02.5	
	comp=Z,625nm,20.0s						
BELC	Belle Mtn. Jos	63.27	293	P	P	01 18 01.7	+1.2
	baz=28,SNR=9.0						
EDW2	Edwards Air Fo	63.28	295	P	P	01 18 01.2	+0.9
	baz=28						
BC3	Big Chuckawall	63.36	292	P	P	01 18 01.8	+0.8
	baz=28						
GLA	Glamis	63.63	292	P	P	01 18 04.4	+1.6
	baz=28						
TEIG	Tepich	63.65	262	IAMs_20	IAMs_20	01 42 30.2	
	comp=Z,352nm,22.0s						
214A	Organ Pipe Nat	63.78	289	IAMs_20	IAMs_20	01 44 05.8	
	comp=Z,487nm,22.0s						
PFO	Pinyon Flats O	63.79	293	P	P	01 18 05.1	+1.3
	baz=28						
MONP2	Monument Peak	64.41	293	P	P	01 18 08.8	+0.7
	baz=28						
CIS	Catalina Islan	64.75	295	P	P	01 18 10.6	+0.6
	baz=28						
ESJX	Sierra Juarez	65.00	292	IAMs_20	IAMs_20	01 45 48.0	
	comp=Z,517nm,20.0s						
GTA	Gaotai	65.35	49	⇑P	P	01 18 14.6	+0.6
GTA				pP	sP	01 18 19.4	+0.2
GTA				sP	pP	01 18 22.0	+4.3
GTA				PP	PP	01 20 39.0	+1.8
GTA				S	S	01 27 02.4	+4.7
GTA				sS	sS	01 27 09.6	+5.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,440nm,6.8s						
GTA				LR	LR		
	comp=Z,460nm,17.5s						
GTA				LR	LR		
	comp=Z,420nm,19.0s						
GTA				LR	LR		
	comp=Z,520nm,17.5s						
HSIG		65.59	286	IAmb	IAmb	01 18 22.4	
	comp=Z,17nm,1.4s						
HSIG				IAMs_20	IAMs_20	01 45 20.8	
	comp=Z,401nm,18.0s						
PETF	Flores	67.27	261	IAMs_20	IAMs_20	01 48 10.0	
	comp=Z,280nm,18.0s						
BTO	Baotou	67.36	41	eP	P	01 18 23.6	-3.2
ZAIG	Zacatecas	67.55	276	P	P	01 18 28.6	+0.2
ZAIG				IAmb	IAmb	01 18 31.6	
	comp=Z,18nm,1.5s						
HHC	Hu-ho-hao-te	67.56	40	eP	P	01 18 30.2	+2.1
HHC				pmax	pmax		
	comp=Z,22nm,1.2s						
HHC				pmax	pmax		
	comp=Z,290nm,5.3s						
HHC				LR	LR		
	comp=Z,230nm,15.3s						
HHC				LR	LR		
	comp=Z,340nm,12.2s						
HHC				LR	LR		
	comp=Z,320nm,14.5s						
YSS	Yuzh-Sakhalins	67.70	14	ceP	P	01 18 29.7	+1.0
YSS				pmax	pmax		
	comp=Z,800nm,5.4s						
YSS				MLR	MLR		
	comp=Z,100nm,13.0s						
MDJ	Mudanjiang	68.10	25	P	P	01 18 31.7	+0.5
MDJ				pP	pP	01 18 33.6	-1.4
MDJ				PP	PP	01 21 02.1	+1.4
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,510nm,5.4s						
MDJ				LR	LR		
	comp=Z,320nm,11.3s						
MDJ				LR	LR		
	comp=Z,220nm,13.2s						
MDJ				LR	LR		
	comp=Z,400nm,8.4s						
BJI	Beijing	69.54	36	P	P	01 18 41.0	+0.7
BJI				S	S	01 27 51.4	+3.7
BJI				pmax	pmax		
	comp=Z,11nm,1.8s						
BJI				LR	LR		
	comp=Z,430nm,18.6s						
BJI				LR	LR		
	comp=Z,270nm,17.5s						
LZH	Lanzhou	69.68	47	eP	P	01 18 42.3	+0.9
LZH				pP	pP	01 18 45.4	+0.2
LZH				S	S	01 27 56.7	+6.9
LZH				sS	sS	01 28 02.3	+6.4
LZH				SS	SS	01 32 19.9	+3.0
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,510nm,4.6s						
LZH				LR	LR		
	comp=Z,370nm,12.7s						
LZH				LR	LR		
	comp=Z,300nm,16.0s						
LZH				LR	LR		
	comp=Z,390nm,17.6s						
TIY	Taiyuan	70.73	40	eP	P	01 18 50.7	+3.0
TIY				pmax	pmax		
	comp=Z,290nm,6.1s						
YUK	Yuzh-Kuril'sk	70.90	13	eP	P	01 18 44.0	-4.5
YUK				S	S	01 28 02.7	-0.8
LSA	Lhasa	71.06	61	IAMs_20	IAMs_20	01 50 59.6	
	comp=Z,318nm,22.0s						
ROSC	El Rosal	71.88	241	P	P	01 18 56.8	+1.5
	comp=Z,7.9nm,0.5s,baz=73,slow=8.2,SNR=5.7						
ROSC				LR	LR	01 50 41.5	
	comp=Z,110nm,18.6s,baz=35,slow=36						
ROSC	El Rosal	71.88	241	P	P	01 18 53.0	-2.2
PTGA	Pitinga	72.13	225	P	P	01 18 54.6	-1.7
XAN	Xi'an	73.14	44	P	P	01 19 01.8	-0.4
XAN				sP	sP	01 19 08.5	+1.1
XAN				PcP	PcP	01 19 17.5	-1.3
XAN				PP	PP	01 21 47.2	+2.7
XAN				S	SKiKP	01 28 32.7	-1.1
XAN				ScS	SKSac	01 29 07.3	-0.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.6s						
XAN				pmax	pmax		
	comp=Z,450nm,8.0s						
XAN				LR	LR		
	comp=Z,550nm,25.5s						
XAN				LR	LR		
	comp=Z,260nm,16.7s						
XAN				LR	LR		
	comp=Z,670nm,27.9s						
XAN	Xi'an	73.14	44	IAMs_20	IAMs_20	01 54 01.7	
	comp=Z,358nm,19.0s						
CD2	Chengdu	74.41	50	P	P	01 19 11.0	+1.3
CD2				PP	PP	01 21 59.1	+3.8
CD2				S	S	01 28 43.2	-0.9
CD2				sS	pS	01 28 48.8	-0.1
CD2				pmax	pmax		
	comp=Z,20nm,2.1s						
CD2				pmax	pmax		
	comp=Z,500nm,7.9s						
CD2				LR	LR		
	comp=Z,430nm,17.3s						
CD2				LR	LR		
	comp=Z,530nm,22.2s						
CD2				LR	LR		
	comp=Z,560nm,15.1s						
KSRS	Korea Array	74.70	28	LR	LR	01 55 52.0	
	comp=Z,177nm,18.1s,baz=342,slow=39						
SHL	Shillong	75.07	62	P	P	01 19 10.6	-3.1
SHL				pmax	pmax		
	comp=Z,13nm,0.3s						
SHL				MLR	MLR		
	comp=Z,700nm,19.0s						
SHL	Shillong	75.07	62	P	P	01 19 10.6	-3.1
KMBO	Kilima Mbogo	76.67	123	LR	LR	01 57 21.2	
	comp=Z,124nm,18.5s,baz=308,slow=39						
ENH	Enshi	76.82	45	IAMs_20	IAMs_20	01 55 38.9	
	comp=Z,484nm,22.0s						
OTAV	Otavalo	77.68	243	P	P	01 19 26.6	-2.3
OTAV				pmax	pmax		
	comp=Z,18nm,1.5s						
OTAV	Otavalo	77.68	243	P	P	01 19 26.6	-2.3
OTAV				IAmb	IAmb	01 19 40.7	
	comp=Z,18nm,1.4s						
NJ2	Nanjing	77.79	37	eP	P	01 19 31.8	+3.0
NJ2				S	S	01 29 27.1	+6.0
NJ2				SKS	SKSac	01 29 35.9	-6.4
NJ2				ScS	ScS	01 29 45.8	-1.8
NJ2				SS	SS	01 34 18.4	-1.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,310nm,6.3s						
NJ2				LR	LR		
	comp=Z,360nm,20.4s						
NJ2				LR	LR		
	comp=Z,330nm,21.3s						
NJ2				LR	LR		
	comp=Z,920nm,24.5s						
WHN	Wuhan	78.00	41	P	P	01 19 28.9	-1.1
WHN				S	S	01 29 30.2	+6.9
WHN				pmax	pmax		
	comp=Z,660nm,5.8s						
WHN				LR	LR		
	comp=Z,830nm,19.2s						
WHN				LR	LR		
	comp=Z,990nm,15.1s						
WHN				LR	LR		
	comp=Z,720nm,15.1s						
KMI	Kunming	79.40	53	⇓eP	P	01 19 40.1	+2.0
KMI				sP	PcP	01 19 45.9	-0.3
KMI				PP	PP	01 22 42.0	+4.4
KMI				S	S	01 29 38.8	-0.2
KMI				sS	pS	01 29 42.2	-1.7
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
KMI				pmax	pmax		
	comp=Z,400nm,5.9s						
KMI				LR	LR		
	comp=Z,150nm,15.4s						
KMI				LR	LR		
	comp=Z,280nm,16.9s						
KMI				LR	LR		
	comp=Z,230nm,23.3s						
GYA	Guiyang	79.48	49	⇓P	P	01 19 39.1	+0.7
GYA				PP	PP	01 22 37.7	-0.4
GYA				S	S	01 29 43.3	+3.7
GYA				pmax	pmax		
	comp=Z,9.0nm,1.7s						
GYA				pmax	pmax		
	comp=Z,340nm,8.5s						
GYA				LR	LR		
	comp=Z,260nm,15.6s						
GYA				LR	LR		
	comp=Z,210nm,15.3s						
GYA				LR	LR		
	comp=Z,290nm,16.5s						
SAML	Samuel	80.89	226	P	P	01 19 44.1	-1.7
SAML				pmax	pmax		
	comp=Z,11nm,1.4s						
SAML	Samuel	80.89	226	P	P	01 19 44.1	-1.7
BDFB	Brasilia	83.33	209	LR	LR	01 51 05.6	
	comp=Z,254nm,21.3s,baz=321,slow=31						
CMAR	Chiang Mai Arr	84.18	59	P	P	01 20 03.2	+0.1
	comp=Z,1.0nm,0.3s,baz=318,slow=6.1,SNR=9.5						
CMAR				LR	LR	02 00 24.4	
	comp=Z,218nm,19.4s,baz=347,slow=38						
CMAR	Chiang Mai Arr	84.18	59	ceP	P	01 20 03.2	+0.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	Chiang Mai Arr	84.18	59	P	P	01 20 00.3	-2.8
QZH	Quanzhou	84.47	39	⇑P	P	01 20 06.0	+1.5
QZH				S	S	01 30 36.0	+5.3
QZH				pmax	pmax		
	comp=Z,250nm,6.6s						
SSLB	Suanglung	86.21	37	IAMs_20	IAMs_20	02 02 36.3	
	comp=Z,291nm,18.0s						
YULB	Yu-li	86.67	37	IAMs_20	IAMs_20	02 02 52.7	
	comp=Z,326nm,18.0s						
PALK	Pallekele	87.02	79	LR	LR	02 01 15.6	
	comp=Z,247nm,21.3s,baz=90,slow=37						
QIZ	Qiongzhong	87.43	49	P	P	01 20 20.1	+0.9
QIZ				PP	PP	01 23 44.0	+0.9
QIZ				S	S	01 31 02.6	+2.7
QIZ				SS	SS	01 36 45.6	+1.9
QIZ				pmax	pmax		
	comp=Z,300nm,4.5s						
QIZ				LR	LR		
	comp=Z,220nm,16.5s						
QIZ				LR	LR		
	comp=Z,220nm,18.0s						
QIZ				LR	LR		
	comp=Z,290nm,15.9s						
QIZ	Qiongzhong	87.43	49	IAMs_20	IAMs_20	02 02 46.1	
	comp=Z,323nm,19.0s						
LPAZ	La Paz	89.35	228	LR	LR	01 59 05.5	
	comp=Z,58nm,18.4s,baz=355,slow=35						
CPUP	Villa Florida	95.78	215	LR	LR	02 00 28.2	
	comp=Z,126nm,18.4s,baz=30,slow=33						
IPM	Ipoh	97.79	62	IAMs_20	IAMs_20	01 55 43.1	
	comp=Z,223nm,18.0s						
BOSA	Boshof	98.74	143	LR	LR	02 08 12.0	
	comp=Z,346nm,18.4s,baz=341,slow=37						
MYKOM	Kota Tinggi	101.33	60	IAMs_20	IAMs_20	02 05 41.8	
	comp=Z,234nm,21.0s						
KSM	Kuching	103.97	54	IAMs_20	IAMs_20	02 12 34.6	
	comp=Z,266nm,21.0s						
WRA	Warramunga Arr	131.58	36	PKP	PKPdf	01 26 44.4	+0.1
	comp=Z,3.0nm,1.3s,baz=338,slow=2.3,SNR=5.9						
WRA	Warramunga Arr	131.58	36		PKPdf	01 26 42.2	-2.0
ASAR	Alice Springs	135.02	38	PKP	PKiKP	01 26 52.2	0.0
	comp=Z,1.0nm,0.9s,baz=350,slow=1.6,SNR=4.7						
ASAR	Alice Springs	135.02	38		PKPdf	01 26 48.6	-2.1
MAW	Mawson	143.71	140	PKP	PKiKP	01 27 07.3	-1.1
	comp=Z,1.3nm,0.9s,baz=354,slow=3.0,SNR=2.5						
MAW	Mawson	143.71	140	PKIKP	PKPdf	01 27 04.6	-0.4
MAW	Mawson	143.71	140		PKPdf	01 27 04.6	-0.4
ARMA	Armidale	145.11	16		PKPbc	01 27 06.3	-2.0

*AEIC **09** 01:41:13±1.3, 58°.28N±0°.03×137°.00W±0°.05, h2km±5km,*
Error ellipse: s-maj=4.9km s-min=3.0km az=211.0
*NEIC **09** 01:41:14.4±1.5, 58°.34N±0°.02×136°.92W±0°.04, h4km±6km,*
Error ellipse: s-maj=3.6km s-min=2.0km az=122.0
*OTT **09** 01:41:14.5±1.5, 58°.33N±0°.03×137°.02W±0°.05, h1km±5km,*
ML3.5, ML3.4(AEIC), Error ellipse: s-maj=5.1km
s-min=3.0km az=221.0
*PGC **09** 01:41:14.5±0.0, 58°.33N×137°.02W, h1km, ML3.5/10,*
135km Wsw of Haines, Ak Southeastern Alaska

ISC 09 01:41:12.7±1.3, 58°.32N±0°.03×137°.00W±0°.03, h2km±11km, n103, σ1§58/130, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	Bessie Mountai	1.16	76	P	Pg	01 41 35.8	+1.0
BESE				S	Sb	01 41 51.0	+0.1
BESE	Bessie Mountai	1.16	76		Pg	01 41 35.8	+1.0
BESE					Sb	01 41 50.9	0.0
BESE	Bessie Mountai	1.16	76		Pg	01 41 35.8	+1.0
BESE					Sb	01 41 51.0	+0.1
PLBC	Pleasant Camp	1.19	16	P	Pn	01 41 35.7	-0.6
PLBC				S	Sb	01 41 50.9	-0.8
PLBC	Pleasant Camp	1.19	16		Pn	01 41 35.6	-0.7
PLBC	Pleasant Camp	1.19	16		Pn	01 41 35.7	-0.6
PLBC					Sb	01 41 50.9	-0.8
JIS	Juneau Island	1.38	91		Pb	01 41 39.5	+0.3
JIS					Sn	01 41 57.0	-0.7
SKAG	Skagway	1.44	36		Pb	01 41 40.4	+0.3
SKAG					Sn	01 41 58.5	-0.6
SIT	Sitka	1.55	144		Pb	01 41 41.7	-0.4
SIT					Sg	01 42 02.6	+0.2
YKU2	Yakutat	1.83	312		Pb	01 41 47.3	+0.5
PNL	Peninsula	1.84	319	Pn	Pb	01 41 46.0	-1.0
PNL				Sg	Sb	01 42 10.7	+0.3
PNL	Peninsula	1.84	319	Pn	Pb	01 41 46.0	-1.0
PNL					Sb	01 42 10.7	+0.3
BCPM	Bancas Point	2.13	322		Pn	01 41 49.9	+0.7
BCPM					Sb	01 42 20.2	+1.4
YUK7	Dusty Glacier	2.30	346	Pn	Pb	01 41 53.6	-1.3
YUK7				Sg	Sb	01 42 23.3	-0.4
YUK7	Dusty Glacier	2.30	346		Pb	01 41 53.6	-1.3
YUK7	Dusty Glacier	2.30	346	Pn	Pb	01 41 53.6	-1.3
YUK7					Sb	01 42 23.3	-0.4
PCA	Pinnacle	2.45	318	Pn	Pn	01 41 54.6	+1.0
PCA				Sg	Sg	01 42 30.3	-0.9
PCA	Pinnacle	2.45	318	Pn	Pn	01 41 54.6	+1.0
PCA				Sg	Sg	01 42 30.3	-0.9
HYT	Haines Junctio	2.53	354	Pn	Pn	01 41 56.6	+1.8
HYT				Sg	Sb	01 42 32.7	+2.3
HYT	Haines Junctio	2.53	354		Pn	01 41 56.7	+1.9
HYT	Haines Junctio	2.53	354	Pn	Pn	01 41 56.6	+1.8
HYT				Sg	Sb	01 42 32.7	+2.3
WHY	Whitehorse	2.59	24	Pn	Pn	01 41 56.9	+1.3
WHY				Sg	Sb	01 42 33.9	+1.9
WHY	Whitehorse	2.59	24	Pn	Pn	01 41 56.9	+1.3
WHY				Sg	Sb	01 42 33.9	+1.9
SAMH	Samovar Hills	2.66	315	Pn	Pn	01 41 58.0	+1.5
SAMH	Samovar Hills	2.66	315		Pb	01 41 59.8	-1.3
SAMH	Samovar Hills	2.66	315	Pn	Pn	01 41 58.0	+1.5
YUK6	Outpost Mounta	2.72	346	Pn	Pn	01 41 58.1	+0.5
YUK6	Outpost Mounta	2.72	346		Pn	01 41 59.5	+1.9
YUK6	Outpost Mounta	2.72	346	Pn	Pn	01 41 58.1	+0.5
CHX	Chaix Hills	2.75	311		Pb	01 42 00.3	-2.2
YUK5	Granite Creek	2.86	352	Pn	Pn	01 42 01.0	+1.6
YUK5	Granite Creek	2.86	352		Pn	01 42 01.8	+2.5
YUK5	Granite Creek	2.86	352	Pn	Pn	01 42 01.0	+1.6
RKAV	Rock Avalanche	2.99	314	Pn	Pn	01 42 03.3	+2.2
RKAV	Rock Avalanche	2.99	314		Pb	01 42 04.5	-2.1
RKAV	Rock Avalanche	2.99	314	Pn	Pn	01 42 03.3	+2.2
YUK4	Talbot Arm	3.15	345	Pn	Pn	01 42 06.2	+2.8
YUK4	Talbot Arm	3.15	345	Pn	Pn	01 42 06.2	+2.8
MESA	MESA	3.15	308	Pn	Pn	01 42 04.9	+1.5
MESA	MESA	3.15	308	Pn	Pn	01 42 04.9	+1.5
WRAK	Wrangell Islan	3.16	125		Pn	01 42 05.1	+1.8
YAH	Yahtse	3.18	312		Pn	01 42 05.6	+1.8
LOGN	Logan Glacier	3.24	323	Pn	Pn	01 42 05.9	+1.4
LOGN	Logan Glacier	3.24	323		Pn	01 42 06.5	+2.0
LOGN	Logan Glacier	3.24	323	Pn	Pn	01 42 05.9	+1.4
GRNC	Granite Creek	3.42	317	Pn	Pn	01 42 08.6	+1.4
GRNC	Granite Creek	3.42	317		Pn	01 42 07.8	+0.6
GRNC	Granite Creek	3.42	317	Pn	Pn	01 42 08.6	+1.4
CTGM	Chitina Glacie	3.45	322	Pn	Pn	01 42 08.8	+1.3
CTGM	Chitina Glacie	3.45	322	Pn	Pn	01 42 08.8	+1.3
BARK	Barkley Ridge	3.50	309		Pn	01 42 09.3	+1.2
CRAG	Craig	3.56	142	Pn	Pn	01 42 10.8	+2.0
BARN	Barnard Glacie	3.63	321		Pn	01 42 12.6	+2.7
DLBC	Dease Lake	3.67	85	Pn	Pn	01 42 12.0	+1.5
DLBC				Sg	Sg	01 43 08.2	-2.3
DLBC	Dease Lake	3.67	85	Pn	Pn	01 42 12.0	+1.5
DLBC				Sg	Sg	01 43 08.2	-2.3
KIAG	Kiagna River	3.77	316	Pn	Pn	01 42 13.5	+1.6
KIAG	Kiagna River	3.77	316		Pn	01 42 14.1	+2.1
KIAG	Kiagna River	3.77	316	Pn	Pn	01 42 13.5	+1.6
BALM	Baldy	3.84	317	Pn	Pn	01 42 14.6	+1.7
TGL	Tana Glacier	3.85	312		Pn	01 42 14.4	+1.5
YUK3	Moose Creek	3.88	335	Pn	Pn	01 42 15.0	+1.6
YUK3				Sg	Sg	01 43 15.5	-1.6
YUK3	Moose Creek	3.88	335		Pn	01 42 16.1	+2.7
YUK3	Moose Creek	3.88	335	Pn	Pn	01 42 15.0	+1.6
YUK3				Sg	Sg	01 43 15.5	-1.6
SUCK	Suckling Hills	3.91	300		Pn	01 42 15.8	+2.2
CRQM	Cirque	3.97	311		Pn	01 42 16.1	+1.4
YUK2	White River	3.98	333	Pn	Pn	01 42 16.2	+1.5
YUK2	White River	3.98	333		Pn	01 42 16.9	+2.2
YUK2	White River	3.98	333	Pn	Pn	01 42 16.2	+1.5
PTPK	Patty Peak	3.99	318	Pn	Pn	01 42 17.3	+2.3
PTPK	Patty Peak	3.99	318	Pn	Pn	01 42 17.3	+2.3
BERG	Berg Lake	4.01	304		Pn	01 42 17.6	+2.5
NICHA	Nichawak Mount	4.06	301		Pn	01 42 17.8	+2.0
KAIM	Kayak Island	4.15	296		Pn	01 42 18.9	+2.0
YUK1	Sand Pete Hill	4.23	337	Pn	Pn	01 42 19.7	+1.5
YUK1	Sand Pete Hill	4.23	337	Pn	Pn	01 42 19.7	+1.5
HMT	Hamilton	4.24	302		Pn	01 42 19.5	+1.4
MCARA	McCarthy VSAT	4.32	318	Pn	Pn	01 42 21.2	+1.9
VRDI	Verde Repeater	4.38	315		Pn	01 42 21.7	+1.5
RAGM	Ragged Mountai	4.44	301		Pn	01 42 22.7	+1.7
GOAT	Goat Mountain	4.55	303		Pn	01 42 24.5	+2.0
GLB	Gilahina Butte	4.65

DIB			Sn	Sn	01 43 43.7	-1.1
GLI	Glacier Island	5.73 301		Pn	01 42 37.0	-1.7
BNAB	Bonilla	6.01 141	Pn	Pn	01 42 43.7	+1.2
BNAB	Bonilla	6.01 141	Pn	Pn	01 42 43.7	+1.2
SCM	Sheep Creek Mo	6.25 309		Pn	01 42 47.5	+1.6
DOT	Dot Lake	6.36 330	Pn	Pn	01 42 48.6	+1.4
RIDG	Independent Ri	6.64 328	Pn	Pn	01 42 52.5	+1.4
EGAK	Eagle	6.78 345	Pn	Pn	01 42 54.6	+1.6
GHO	Glory Hole Cre	6.90 305		Pn	01 42 56.0	+1.3
RND	Reindeer	7.71 316	Pn	Pn	01 43 07.3	+1.5
TRF	Thorofare Moun	8.27 314		Pn	01 43 14.8	+1.3

*IDC **09** 01:47:36.3±0.6, 7˚.98N×91˚.96E, h0km, mb4.1/21, mb1 4.2/24, mb1mx4.1/40, mbtmp4.1/24, ML4.3/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/35, Error ellipse: s-maj=17.1km s-min=14.7km az=54.0*

*NEIC **09** 01:47:40.1±1.0, 7˚.93N±0˚.06×91˚.93E±0˚.08, h30km±5km, mb4.5/29, Error ellipse: s-maj=11.0km s-min=8.1km az=74.0*

*DJA **09** 01:48:17.8±2.0, 6˚N±15˚×9˚4E±˚, h26km±21km, M4.3/7, mb4.5/7, MLv4.1/6*

ISC 09 01:47:39.8±0.4, 7˚.95N±0˚.06×91˚.90E±0˚.06, h25km, n120, σ1§65/108, mb4.3/40, MS3.7/3, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	5.70	118	P	Pn	01 49 04.5	+1.6
MLSI	Meulaboh, Aceh	5.79	129	P	Pn	01 49 03.7	-0.4
TPTI		7.02	131	P	Pn	01 49 20.0	-1.2
PSI	Prapat	8.66	126	Pn	Pn	01 49 44.3	+0.5
	8.8nm,0.3s,baz=360,slow=10,SNR=26						
PSI				Sn	Sn	01 51 20.5	-0.3
	0.5nm,0.3s,baz=360,slow=4.3,SNR=1.6						
GSI	Gunungsitoli	8.69	139	P	Pn	01 49 43.7	-0.4
	0.2nm21nm,1.0s						
GSI	Gunungsitoli	8.69	139	Pn	Pn	01 49 43.6	-0.5
GSI					Sn	01 51 20.3	-1.1
RPSI	Rantau Prapat	8.73	126	Pn	Pn	01 49 44.5	-0.1
RPSI	Rantau Prapat	8.73	126		Pn	01 49 44.3	-0.3
RPSI					Sn	01 51 20.5	-1.7
PALK	Pallekele	11.12	267	Pn	Pn	01 50 17.4	0.0
	2.5nm,0.3s,baz=189,slow=14,SNR=11						
PALK				Sn	Sn	01 52 09.2	-12
	6.9nm,0.3s,baz=93,slow=20,SNR=7.8						
PALK	Pallekele	11.12	267		Pn	01 50 17.7	+0.3
PBKT	Sadao Pong	12.32	45	Pn	Pn	01 50 33.3	-0.5
CMAR	Chiang Mai Arr	12.49	33	Pn	Pn	01 50 35.9	-0.2
	0.3nm,0.3s,baz=232,slow=14,SNR=20						
CMAR	Chiang Mai Arr	12.49	33		Pn	01 50 36.7	+0.6
CHTO	Chiang Mai	12.78	32		Pn	01 50 40.6	+0.5
CHLP	Challavanipeta	12.97	325	eP	Pn	01 50 40.1	-2.5
CHLP				e		01 52 51.1	
SKHT	Srikalahasti	13.28	297	eP	Pn	01 50 46.9	0.0
SKHT				e		01 52 59.9	
PVM	Polavaram	13.63	314	eP	Pn	01 50 50.4	-1.2
PVM				e		01 53 09.0	
MYLAV	Mylavaram	14.05	310	eP	Pn	01 50 55.5	-1.9
MYLAV				e		01 53 15.9	
ADKI	Addanki	14.06	305	eP	Pn	01 50 56.0	-1.5
ADKI				e		01 53 19.2	
NJS	Nagarjunasagar	14.98	306	eP	Pn	01 51 11.3	+1.3
NJS				e		01 53 39.6	
CUPL	Choutuppal	15.69	308	eP	Pn	01 51 19.0	-0.5
CUPL				e		01 54 08.8	
URV	Uravakonda	15.94	297	eP	Pn	01 51 22.2	-0.4
URV				e		01 54 09.9	
HYB	Hyderabad	16.05	307	i P	P	01 51 28.0	+0.7
HYBB	Hyderabad (bro	16.05	307	eP	P	01 51 26.6	-0.7
HYBB				e		01 54 20.1	
SRSP	Sriramsagar	17.10	311	eP	Pn	01 51 36.2	-1.1
SRSP				e		01 54 32.6	
MDSI	Maura Dua	17.40	135	P	P	01 51 42.3	+0.1
	20nm,0.9s						
SLVN	Son La	17.64	40		Pn	01 51 44.3	+0.2
KLSI		17.93	134	P	P	01 51 48.1	0.0
KLRI	Killari	17.97	306	eP	P	01 51 48.6	+0.1
KLRI				e		01 54 53.5	
NGP	Nagpur	18.06	318	eP	P	01 51 52.1	+2.7
NGP				eS	Sn	01 54 59.9	-10
ODAN	Odare	19.29	348	eP	Pn	01 52 09.7	+5.4
	19nm,0.4s						
ODAN	Odare	19.29	348	eP	Pn	01 52 09.7	+5.4
	19nm,0.4s						
RAMN	Ramite	19.55	346	eP	Pn	01 52 11.6	+4.1
	21nm,0.5s						
RAMN	Ramite	19.55	346	eP	Pn	01 52 11.6	+4.1
	21nm,0.5s						
KMI	Kunming	19.97	30⇑	i P	Pn	01 52 14.0	+1.6
KMI				pP	pP	01 52 16.3	-0.2
KMI				sP	pwP	01 52 22.7	+1.8
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
KMI				pmax	pmax		
	comp=Z,96nm,4.1s						
PKI	Pulchoki	20.46	343	eP	Pn	01 52 19.7	+1.4
PKI	Pulchoki	20.46	343	eP	Pn	01 52 19.7	+1.4
SBUM	Sibu	20.96	104	P	P	01 52 18.4	-2.7
STKI	Sintang	21.03	111	P	P	01 52 30.1	+8.1
KOLN	Koldanda	21.22	339	eP	P	01 52 25.0	+0.9
	comp=Z,18nm,0.7s						
KOLN	Koldanda	21.22	339	eP	P	01 52 25.0	+0.9
	comp=Z,18nm,0.7s						
PYUN	Piuthan	21.74	338	eP	P	01 52 30.5	+0.8
PYUN	Piuthan	21.74	338	eP	P	01 52 30.5	+0.8
GYA	Guiyang	23.14	36	eP	P	01 52 44.6	+0.1
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
H08S3	Diego Garcia H	24.78	232	T	T	02 19 12.4	
	baz=51,slow=75,SNR=273						
H08S2	Diego Garcia H	24.79	232	T	T	02 19 21.9	
	baz=51,slow=75,SNR=189						
H08S1	Diego Garcia H	24.80	232	T	T	02 19 10.8	
	baz=51,slow=75,SNR=128						
CD2	Chengdu	25.39	24	P	P	01 53 05.9	+0.5
CD2				pmax	pmax		
	comp=Z,20nm,2.1s						
MYLDM	Lahad Datu	26.57	94	P	P	01 53 15.7	-0.5
NIL	Nilore	30.83	329	P	P	01 53 53.7	-0.3
YULB	Yu-li	32.10	58	P	P	01 54 05.0	-0.2
GTA	Gaotai	32.12	12	P	P	01 54 06.6	+1.2
GTA				pP	pP	01 54 11.1	-0.7
GTA				sP	sP	01 54 13.8	-0.7
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BTK	Batken	37.11	333	IAmb	IAmb	01 54 55.6	
	comp=Z,8.0nm,1.0s						
AAK	Ala-Archa	37.80	339	P	P	01 54 55.0	+0.7
	comp=Z,0.8nm,0.3s,baz=272,slow=9.4,SNR=1.6						
AAK	Ala-Archa	37.80	339	P	P	01 54 53.8	-0.5
MKAR	Makanchi Array	39.57	350	P	P	01 55 09.2	+0.2
	comp=Z,0.8nm,0.6s,baz=177,slow=7.5,SNR=7.3						
MKAR	Makanchi Array	39.57	350	P	P	01 55 08.4	-0.6
KK31	Karatay Array	39.73	335	P	P	01 55 10.1	-0.3
KKAR	Karatay Array	39.73	335	P	P	01 55 10.2	-0.1
SONM	Songino Array	41.61	15	P	P	01 55 26.0	0.0
	comp=Z,4.4nm,0.7s,baz=185,slow=10,SNR=15						
SONM	Songino Array	41.61	15	P	P	01 55 26.2	+0.2
GEYT	Alibeck	42.68	320	P	P	01 55 36.2	+1.4
	comp=Z,5.0nm,0.9s,baz=148,slow=8.7,SNR=9.6						
GEYT				LR	LR	02 14 48.1	
	comp=Z,39nm,18.9s,baz=200,slow=38						
GEYT	Alibeck	42.68	320	P	P	01 55 34.9	+0.1
GYA0B	ALIBECK ARRAY	42.68	320	P	P	01 55 34.7	0.0
GYA0B				IAmb	IAmb	01 55 37.6	
	comp=Z,8.6nm,1.0s						
JNU	Nakatsue	43.87	50	P	P	01 55 43.0	-1.5
	comp=Z,4.5nm,0.9s,baz=184,slow=16,SNR=1.6						
JNU	Nakatsue	43.87	50	P	P	01 55 43.4	-1.1
JNU				IAmb	IAmb	01 55 52.2	
	comp=Z,7.4nm,1.0s						
KSRS	Korea Array	43.88	42	P	P	01 55 43.8	-0.6
	comp=Z,0.8nm,0.8s,baz=239,slow=7.5,SNR=2.3						
KURBB	Kurchatov Arra	43.97	348	P	P	01 55 45.9	+1.0
	comp=Z,0.7nm,0.2s,baz=172,slow=6.9,SNR=5.7						
KURK	Kurchatov	44.03	348	P	P	01 55 45.7	+0.3
ZALV	Zalesovo Beam	46.22	354	P	P	01 56 03.5	+0.8
	comp=Z,0.7nm,0.4s,baz=167,slow=7.0,SNR=4.6						
ZALV	Zalesovo Beam	46.22	354	P	P	01 56 03.1	+0.4
H01W3	Cape Leeuwin H	47.51	155	T	T	02 47 15.6	
	baz=331,slow=76,SNR=5.2						
H01W2	Cape Leeuwin H	47.52	155	T	T	02 47 19.1	
	baz=331,slow=76,SNR=3.8						
H01W1	Cape Leeuwin H	47.52	155	T	T	02 47 14.9	
	baz=331,slow=76,SNR=4.7						
ABKAR	Abkulak array	49.12	333	P	P	01 56 25.2	-0.1
WRA	Warramunga Arr	50.13	124	P	P	01 56 33.0	-0.5
	comp=Z,3.5nm,0.8s,baz=306,slow=8.5,SNR=29						
WRA	Warramunga Arr	50.13	124	P	P	01 56 32.8	-0.7
MJAR	Matsushiro Arr	50.77	49	P	P	01 56 38.6	+0.5
	comp=Z,1.3nm,0.5s,baz=264,slow=7.0,SNR=1.7						
MJAR	Matsushiro Arr	50.77	49	P	P	01 56 37.9	-0.2
OPO	Ambohidratompo	51.38	239	P	P	01 56 45.0	+1.9
	comp=Z,1.5nm,0.6s,baz=37,slow=5.5,SNR=1.8						
ASAR	Alice Springs	51.68	129	P	P	01 56 45.6	+0.4
	comp=Z,1.1nm,0.8s,baz=306,slow=6.0,SNR=9.3						
ASAR	Alice Springs	51.68	129	P	P	01 56 43.5	-1.7
KMBO	Kilima Mbogo	55.23	263	P	P	01 57 15.3	+3.7
	comp=Z,4.1nm,0.7s,baz=58,slow=11,SNR=11						
KMBO	Kilima Mbogo	55.23	263	P	P	01 57 10.7	-1.0
BRTR	Keskin Array B	60.70	311	P	P	01 57 48.6	-0.9
	comp=Z,2.0nm,0.7s,baz=120,slow=7.0,SNR=6.4						
ELL	Elmali	62.90	307	P	P	01 58 03.8	-0.6
MLR	Muntele Rosu	67.57	316	P	P	01 58 34.7	+0.2
MLR				IAmb	IAmb	01 58 40.9	
	comp=Z,4.7nm,1.0s						
KOLS	Kolonicke sedl	70.69	319	eP	P	01 58 58.6	+5.0
FINES	FINESS Array B	71.61	332	P	P	01 58 58.1	-0.8
	comp=Z,1.5nm,0.9s,baz=115,slow=8.6,SNR=3.7						
FINES	FINESS Array B	71.61	332	P	P	01 58 58.4	-0.5
BOSA	Boshof	73.75	237	P	P	01 59 13.7	+1.2
	comp=Z,1.8nm,0.7s,baz=146,slow=5.1,SNR=3.7						
BOSA				LR	LR	02 27 30.7	
	comp=Z,60nm,19.8s,baz=344,slow=32						
BOSA	Boshof	73.75	237	P	P	01 59 11.8	-0.6
KRLC	Kraliky	74.39	320	eP	P	01 59 15.7	0.0
KRLC				epP	sP	01 59 25.9	+0.5
DPC	Dobruska-Polom	74.72	320	eP	P	01 59 17.8	+0.2
DPC				epP	pwP	01 59 28.1	-0.4
SOKA	Soboth	75.25	316	eP	P	01 59 20.9	+0.1
	comp=Z,2.8nm,1.2s						
PRED	Cave del Predi	76.25	316	IAmb	IAmb	01 59 37.3	
	comp=Z,4.0nm,0.8s						
GEC2	GERESS Array S	76.29	318	IAmb	IAmb	01 59 27.6	
	comp=Z,3.2nm,0.9s						
GERES	GERESS Array B	76.29	318	P	P	01 59 26.9	+0.2
	comp=Z,1.4nm,0.7s,baz=94,slow=5.9,SNR=17						
GERES	GERESS Array B	76.29	318	P	P	01 59 26.2	-0.6
KHC	Kasperske Hory	76.39	319	eP	P	01 59 27.0	-0.2
KHC				ex	x	01 59 31.9	
CIMO	Cimolais	77.02	316	IAmb	IAmb	01 59 46.5	
	comp=Z,3.1nm,0.7s						
CTI	Castel Tesino	77.56	315	IAmb	IAmb	01 59 34.6	
	comp=Z,3.8nm,0.7s						
WTTA	Wattenberg	77.60	317	eP	P	01 59 33.6	-0.6
	comp=Z,2.9nm,0.7s						
SQTA	Sankt Quirin	77.89	317	i P	P	01 59 35.3	-0.5
	comp=Z,2.5nm,0.6s						
MOTA	Moosalm	77.97	317	eP	P	01 59 35.7	-0.6
	comp=Z,2.8nm,0.9s						
MAW	Mawson	78.17	191	P	P	01 59 37.3	+0.7
	comp=Z,0.7nm,0.7s,baz=279,slow=11,SNR=2.0						
MAW	Mawson	78.17	191	P	P	01 59 36.9	+0.3
RETA	Reutte	78.20	317	eP	P	01 59 37.1	-0.3
	comp=Z,4.8nm,1.1s						
FETA	Feichten	78.21	316	eP	P	01 59 37.4	-0.2
	comp=Z,3.1nm,1.0s						
NOA	NORSAR Array B	78.58	331	P	P	01 59 39.0	-0.2
	comp=Z,0.6nm,0.8s,baz=95,slow=5.0,SNR=2.1						
NOA				LR	LR	02 38 18.2	
	comp=Z,31nm,18.9s,baz=105,slow=39						
DAVA	Damuels	78.80	317	eP	P	01 59 41.0	+0.1
	comp=Z,3.0nm,0.5s						
KEST	Kesra	79.38	305	P	P	01 59 44.3	+0.1
	comp=Z,1.6nm,0.6s,baz=74,slow=4.5,SNR=4.0						
KEST	Kesra	79.38	305	IAmb	IAmb	01 59 51.7	
	comp=Z,3.1nm,0.8s						
SENIN	Lac Senin/Sane	80.58	316	IAmb	IAmb	02 00 01.6	
	comp=Z,4.9nm,0.8s						
BNI	Bardonecchia	81.06	314	IAmb	IAmb	02 00 06.5	
	comp=Z,5.5nm,0.9s						
ESDC	Sonseca Array	89.47	310	P	P	02 00 35.8	+0.6
	comp=Z,0.6nm,0.6s,baz=64,slow=4.3,SNR=11						
ESDC	Sonseca Array	89.47	310	P	P	02 00 34.3	-0.8
ILAR	Eielson Array	95.50	22	P	P	02 01 02.1	-0.3
	comp=Z,0.3nm,0.6s,baz=313,slow=4.9,SNR=4.1						
CPUP	Villa Florida	145.53	234	PKPbc	PKPab	02 07 17.3	+0.3
	comp=Z,1.7nm,0.6s,baz=89,slow=2.8,SNR=4.4						
CPUP	Villa Florida	145.53	234	PKPdf	PKPdf	02 07 15.6	-1.1

*ISN **09** 02:02:32.6±1.6, 33˚.61N×45˚.04E, h0km±6km, ML3.3*

*TEH **09** 02:02:48.7, 33˚.71N×45˚.63E, h20km, ML2.8*

ISC 09 02:02:37.9±0.9, 33˚.35N±0˚.05×45˚.00E±0˚.04, h10km, n17, σ1§77/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHD	Baghdad	0.53	261	ePg	Pg	02 02 47.0	-1.1
BHD				eSg	Sg	02 02 56.0	+0.9
IBDR	Badra	0.81	107	ePg	Pg	02 02 52.0	-1.6
IBDR				eSg	Sb	02 03 06.0	+0.9
IGHG	Ghaleghazi	1.63	53	e		02 03 29.6	
IGHG				ePg	Pn	02 03 07.3	+0.5
IDHR	Dehrash	1.77	40	ePg	Pb	02 03 10.6	+0.1
IDHR				e		02 03 31.6	
KCHF	Cheshme Sefid,	1.93	61	ePg	Pb	02 03 13.1	-0.2
KCHF				e		02 03 34.5	
IVIS	Veis	1.93	52	eSg	Sn	02 03 30.7	-4.6
IVIS				e		02 03 37.5	
KER	Kermanshah	2.05	59	ePg	Pb	02 03 15.1	-0.2
IKOM	Komasi	2.25	68	ePg	Pb	02 03 19.7	+1.1
IKOM				e		02 03 53.3	
ILIN	Lien	2.25	46	ePg	Pb	02 03 19.2	+0.4
ILIN				e		02 03 43.2	
NSR	Nassriya	2.53	157	ePn	Pn	02 03 20.0	+1.1
NSR				eSn	Sb	02 03 53.0	-1.4
NSR				AML	AML	02 03 54.9	
	comp=E,167nm,0.3s						
IBZA	Bozab	2.63	64	ePg	Pb	02 03 25.4	+0.2
IDOB	Doab	2.69	80	ePn	Pn	02 03 24.2	+2.8
IKMR	Kamar-syah	2.83	86	ePg	Pb	02 03 29.9	+1.4
IKMR				e		02 04 09.9	
IALM	Almabolaq	3.03	59	ePn	Pn	02 03 28.3	+2.2
HSAM	Samen	3.12	73	e	Sb	02 04 12.2	+0.5
HSRG	Sareghieh	3.30	54	e	Sb	02 04 17.2	+0.1
QABG	Abgarm-Qazvin	4.45	57	ePn	Pn	02 03 48.2	+2.6

*SKHL **09** 02:04:25.2±0.1, 43˚.70N×148˚.17E, h45km±5km, mb3.8/3*

JMA 09 02:04:28.3±0.5, 44˚.32N×147˚.17E, h148km, M2.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.41	228	P	Pn	02 04 56.7	0.0
NEM2				eS	Sn	02 05 18.7	+0.3
JNSB	Nemuroshibetsu	1.65	252	P	Pn	02 04 59.6	+0.3
JKHN	Kushirohamanak	1.91	230	P	Pn	02 05 02.5	+0.3
JNK	Nakash	1.92	248	P	Pn	02 05 02.5	+0.2
JAK	Akkeshi	2.23	234	P	Pn	02 05 06.2	+0.2
JAK				eS	Sn	02 05 35.8	+0.9
JAR	Ashorobuto	2.67	249	P	Pn	02 05 11.7	+0.4
JOB	Onbets	2.81	241	P	Pn	02 05 13.5	+0.4
JOB				eS	Sn	02 05 48.2	+0.6
JKK2	Kamakawa 2	3.22	264	P	Pn	02 05 18.0	-0.3
JCH	Churui	3.25	240	P	Pn	02 05 18.8	0.0
JCH				eS	Sn	02 05 56.9	-0.9
JNBK	Urakawa-nobuka	3.81	239	P	Pn	02 05 25.1	-0.9

*NIC **09** 02:13:54.9±0.0, 36˚.42N×31˚.02E, h59km±8km, MI2.9/3*

*DDA **09** 02:13:55.2, 36˚.33N×30˚.98E, h47km, ML2.5*

*ISK **09** 02:13:56.8, 36˚.26N×30˚.91E, h31km, ML2.7/30*

ISC 09 02:13:57.2±1.2, 36˚.27N±0˚.03×30˚.92E±0˚.02, h43km±14km, n77, σ1§39/102, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMT	Kemer-ANTALYA	0.44	319	PG	Pn	02 14 07.1	-0.2
KEMT				SG	Sn	02 14 14.8	+0.4
AKUM	Antalya-Kumluc	0.47	276	i P	Pn	02 14 07.5	-0.1
AKUM				i S	Sn	02 14 16.5	+1.5
ANTB	Antalya	0.66	341	PG	Pn	02 14 10.4	+0.2
KEPZ	Antalya-Kepez	0.84	41	i P	Pn	02 14 12.1	-0.5
KEPZ				i S	Sn	02 14 21.8	-2.0
ELL	Elmali	0.94	301	PG	Pn	02 14 14.6	+0.5
ALAN	Alanya-ANTALYA	0.94	72	PG	Pn	02 14 13.5	-0.5
AKAS	Kas	1.06	268	PG	Pn	02 14 15.8	+0.1
AKAS	Kas	1.06	268	i P	Pn	02 14 15.7	0.0
KSL	Kastellorizon	1.09	264	P	Pn	02 14 16.2	+0.3
KSL				S	Sn	02 14 31.4	+1.7
KSL				AML	AML	02 14 32.6	
	0.1nm,0.6s						
KSL				AML	AML	02 14 32.6	
	0.1nm,0.6s						
KSL				AML	AML	02 14 34.0	
	0.2nm,1.3s						
KSL				AML	AML	02 14 34.0	
	0.2nm,1.3s						
GAZI	Gazipasa	1.13	91	PN	Pn	02 14 16.9	+0.3
GAZI	Gazipasa	1.13	91	i P	Pn	02 14 15.3	-1.3
GAZI				i S	Sn	02 14 26.3	-4.6
GAZI				IAML		02 14 31.0	
	comp=N,76nm,0.5s						
BCK	Bucak	1.22	348	PN	Pn	02 14 18.4	+0.6
SEYD	Seydisehir-KON	1.35	33	PN	Pn	02 14 20.2	+0.5
GOLH	Golhisar	1.46	312	i P	Pn	02 14 23.0	+2.0
GOLH				i S	Sn	02 14 40.9	+1.8
GOLH				IAML		02 14 43.0	
	comp=E,168nm,0.4s						
FETY	Fethiye	1.52	284	PN	Pn	02 14 22.5	+0.6
FETY	Fethiye	1.52	284	i P	Pn	02 14 22.6	+0.7
FETY				i S	Sn	02 14 40.0	-0.5
ISP	Isparta	1.58	349	PN	Pn	02 14 23.5	+0.7
ERMK	Ermenek	1.65	76	i P	Pn	02 14 24.2	+0.3
ERMK				i S	Sn	02 14 47.8	+3.9
ERMK				IAML		02 14 51.0	
	comp=E,77nm,0.3s						
ERMK				IAML		02 14 53.0	
	comp=N,92nm,0.3s						
BOZY	Bozyazi-Mersin	1.67	95	PN	Pn	02 14 24.6	+0.7
AKMS	Akamas	1.70	137	P	Pn	02 14 23.7	-0.7
AKMS				S	Sn	02 14 46.1	+1.2
AKMS				AML	AML	02 14 51.5	
	comp=N,0.5nm,0.3s						
AKMS				AML	AML	02 14 51.5	
	comp=N,0.5nm,0.3s						
AKMS				AML	AML	02 14 54.3	
	comp=N,0.4nm,0.6s						
AKMS				AML	AML	02 14 54.3	
	comp=N,0.4nm,0.6s						
BAGO	Egridir - ISPA	1.72	357	i P	Pn	02 14 25.0	+0.3
BAGO				i S	Sn	02 14 40.5	-5.0
ALFC	Alefka	1.76	129	P	Pn	02 14 24.6	-0.6
ALFC				S	Sn	02 14 46.0	-0.5
ALFC				AML	AML	02 14 52.8	
	comp=N,0.3nm,0.4s						
ALFC				AML	AML	02 14 52.8	
	comp=N,0.3nm,0.4s						
ALFC				AML	AML	02 14 53.9	
	comp=N,0.4nm,0.4s						
ALFC				AML	AML	02 14 53.9	
	comp=N,0.4nm,0.4s						
TEKE	Tekeli-Mersin	1.78	93	PN	Pn	02 14 26.1	+0.7
BASM	Basmaki-Afyon	1.79	337	PN	Pn	02 14 26.6	+1.0
KMER	Konya-Meram	1.89	37	i P	Pn	02 14 27.2	+0.1
KMER				i S	Sn	02 14 49.0	-0.8
DALY	Dalyan (Mula)	1.90	287	PN	Pn	02 14 28.2	+1.1
DALY	Dalyan (Mula)	1.90	287	i P	Pn	02 14 27.4	+0.4
DOGA	KONYA_Doganhis	1.93	18	i P	Pn	02 14 28.6	+1.0
DOGA				i S	Sn	02 14 50.8	+0.1
LEF	Lefka	1.98	125	PN	Pn	02 14 28.5	+0.4
LEF	Lefka	1.98	125	i P	Pn	02 14 25.6	-2.5
LEF				IAML		02 14 59.0	
	comp=N,36nm,0.8s						
TAVA	DENIZLI_Tavas	2.00	307	i P	Pn	02 14 29.4	+0.9
TAVA				i S	Sn	02 14 54.0	+1.6
KONT	Konya--Tatoy	2.03	34	PN	Pn	02 14 30.0	+1.1
KONT	Konya--Tatoy	2.03	34	i P	Pn	02 14 29.0	+0.1
KONT				IAML		02 14 55.0	
	comp=N,35nm,0.5s						
KONT				IAML		02 14 57.0	
	comp=E,29nm,0.5s						
TEVE	Tevekalti-Mers	2.04	85	PN	Pn	02 14 30.3	+1.1
KZIL	AFYON_Kizioren	2.08	343	i P	Pn	02 14 29.7	0.0
KZIL				i S	Sn	02 14 54.2	-0.1
KRMN	Karaman	2.09	64	PN	Pn	02 14 30.6	+0.8
GULN	MERSIN_Gulnar	2.12	92	i P	Pn	02 14 30.3	+0.1
GULN				i S	Sn	02 14 56.6	+1.3
AKKU	Akkuyu-Mersin	2.13	92	PN	Pn	02 14 31.4	+1.1
SZAC	Souni	2.20	133	P	Pn	02 14 31.4	+0.1
TURN	Turunc	2.21	284	PN	Pn	02 14 32.3	+1.0
TURN	Turunc	2.21	284	i P	Pn	02 14 31.5	+0.1
IKL	Isikli	2.24	90	PN	Pn	02 14 32.8	+1.1
LADK	Ladik-KONYA	2.25	31	PN	Pn	02 14 33.1	+1.2
ARG	Arkhangelos	2.26	269	PN	Pn	02 14 32.2	+0.2
ARG	Arkhangelos	2.26	269	P	Pn	02 14 31.3	-0.7
KEBE	Keben-Mersin	2.26	85	PN	Pn	02 14 33.2	+1.1
YER	Yerkesik	2.29	293	PN	Pn	02 14 33.6	+1.2
SHUT	Suhut-Afyon	2.30	353	PN	Pn	02 14 33.7	+1.0
CSS	Mathiatis	2.36	123	PN	Pn	02 14 34.3	+0.9
CSS	Mathiatis	2.36	123	P	Pn	02 14 31.8	-1.6
CSS				S	Sn	02 15 00.6	-0.6
KDHN	Kadinhani	2.44	23	i P	Pn	02 14 34.5	-0.1
BOLV	Bolvadin	2.44	1	i P	Pn	02 14 35.8	+1.1
MVOU	Mavrovouni	2.54	119	P	Pn	02 14 33.7	-2.2
MVOU				S	Sn	02 15 03.7	-1.9
AFYO	Afyon

1.3nm,0.5s,baz=6.1,slow=9.8,SNR=10
WRA Warramunga Arr 27.05 163 P P 02 27 45.3 -0.1
0.5nm,0.4s,baz=342,slow=10,SNR=8.6
WRA PcP **PcP 02 31 05.4 -1.3**
0.3nm,0.6s,baz=333,slow=2.2,SNR=1.6
WRA ScP **ScP 02 34 48.8 +1.5**
0.3nm,1.0s,baz=337,slow=3.2,SNR=1.1
ASAR Alice Springs 30.48 166 P P 02 28 16.0 0.0
0.3nm,0.5s,baz=349,slow=7.5,SNR=6.2
ASAR PcP **PcP 02 31 13.8 -1.5**
0.4nm,0.5s,baz=343,slow=2.4,SNR=4.9
H11S3 WAKE ISLAND Hy 41.35 69 T T 03 13 43.1
baz=258,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 41.36 69 T T 03 13 38.7
baz=258,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 41.36 69 T T 03 13 38.7
baz=258,slow=75,SNR=35
H11N1 WAKE ISLAND Hy 41.80 67 T T 03 14 22.7
baz=255,slow=75,SNR=4.7
H11N2 WAKE ISLAND Hy 41.81 67 T T 03 14 20.6
baz=255,slow=75,SNR=4.6
H11N3 WAKE ISLAND Hy 41.82 67 T T 03 14 29.0
baz=255,slow=75,SNR=4.4
MKAR Makanchi Array 55.36 325 P **P 02 31 38.7 +1.8**
0.3nm,0.6s,baz=115,slow=6.3,SNR=2.3
MKAR PcP **PcP 02 32 37.3 0.0**
0.2nm,0.4s,baz=120,slow=5.2,SNR=1.6

IDC 09 02:26:10.3±2.2, 4°.85S×152°.79E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, Error ellipse: s-maj=34.1km s-min=12.2km az=52.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.93**	**305**	Pg	Pg	02 26 28.3	+0.1
	62nm,0.3s,baz=94,slow=1.5,SNR=37						
KRVT				Lg	Lg	02 26 41.6	
	182nm,0.3s,baz=122,slow=22,SNR=21						
WRA	**Warramunga Arr**	**23.41**	**229**	P	P	02 31 20.9	-0.3
	1.7nm,0.6s,baz=53,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**26.11**	**222**	P	P	02 31 46.8	+0.6
	0.4nm,0.7s,baz=52,slow=9.8,SNR=2.4						
FITZ	**Fitzroy Crossi**	**29.63**	**241**	P	P	02 32 15.8	-1.9
	3.1nm,1.0s,baz=56,slow=8.9,SNR=2.7						
VNDA	**Vanda**	**72.78**	**178**	P	P	02 37 41.1	+0.9
	0.4nm,0.6s,baz=9.6,slow=4.9,SNR=1.8						

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*IDC **09** 02:35:46.2±3.5, 9°.95S×113°.32E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/40, mbtmp3.5/4, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=204.5km s-min=26.8km az=46.0*
*DJA **09** 02:35:51.0±0.4, 10°.S±4°.×11°.4E±°, h10km, M4.2/7, mb4.5/2, MLv4.0/7*
ISC 09 02:35:47.3±1.1, 9°.8S±0°.1×113°.54E±0°.09, h10km, n12, σ1§27/11, mb3.8/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.46**	**25**	P	**Pn**	**02 36 12.8**	**-0.9**
GMJI	**Gumukmas**	**1.52**	**356**	P	**Pg**	**02 36 17.4**	**+0.8**
SRBI	**Singaraja**	**2.38**	**44**	P	**Pn**	**02 36 25.4**	**-0.9**
PWJI	**Pagerwojo**	**2.47**	**316**	P	**Pg**	**02 36 34.6**	**0.0**
WOJI	**Wonogiri, Jawa**	**3.24**	**307**	P	**Pb**	**02 36 44.3**	**-0.7**
TWSI	**Taliwang, Sumb**	**3.46**	**72**	P	**Pn**	**02 36 39.7**	**-1.6**
PLAI	**Plampang**	**4.29**	**77**	P	**Pn**	**02 36 52.0**	**-0.7**
KAPI	**Kappang**	**7.78**	**53**	LR	LR	02 41 45.5	
	comp=Z,95nm,18.4s,baz=68,slow=45						
FITZ	**Fitzroy Crossi**	**14.34**	**126**	Pn	**Pn**	**02 39 09.7**	**-0.8**
	0.1nm,0.3s,baz=278,slow=7.1,SNR=8.4						
FITZ				Sn	Sn	02 41 38.9	-11
	0.2nm,0.3s,baz=189,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**22.46**	**119**	P	**P**	**02 40 48.7**	**+1.8**
	0.4nm,0.4s,baz=293,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**23.83**	**128**	P	**P**	**02 41 02.4**	**+1.5**
	1.4nm,0.6s,baz=304,slow=9.0,SNR=27						
MKAR	**Makanchi Array**	**62.87**	**336**	P	**P**	**02 46 14.4**	**+0.8**
	0.6nm,0.8s,baz=145,slow=5.3,SNR=2.2						

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*TEH **09** 02:40:55.4, 33°.70N×45°.61E, h10km, ML2.9*
*ISN **09** 02:40:55.4±0.5, 33°.67N×45°.63E, h17km±2km, ML2.9*
ISC 09 02:40:55.6±1.0, 33°.68N±0°.05×45°.61E±0°.06, h13km, n9, σ0§70/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.63**	**155**	*e*Pg	**Pg**	**02 41 07.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**02 41 16.0**	**-0.2**
IGHG	**Ghaleghazi**	**1.02**	**51**	*e*Pg	**Pg**	**02 41 15.2**	**-0.2**
IGHG				*e*		02 41 16.7	
BHD	**Baghdad**	**1.11**	**249**	*e*Pg	**Pb**	**02 41 16.0**	**-0.6**
BHD				*e*Sg	**Sb**	**02 41 31.0**	**0.0**
BHD				AML	AML	02 41 33.9	
	comp=E,292nm,0.5s						
IDHR	**Dehrash**	**1.20**	**32**	*e*Pg	**Pg**	**02 41 18.3**	**-0.4**
IDHR				*e*		02 41 38.4	
IVIS	**Veis**	**1.33**	**50**	*e*Pg	**Pg**	**02 41 21.1**	**0.0**
IVIS				*e*		02 41 45.8	
IKOM	**Komasi**	**1.65**	**72**	*e*Pg	**Pg**	**02 41 26.9**	**-0.5**
IKOM				*e*		02 41 28.6	
ILIN	**Lien**	**1.66**	**42**	*e*Pg	**Pg**	**02 41 27.1**	**-0.5**
ILIN				*e*		02 45 56.0	
IBZA	**Bozab**	**2.02**	**67**	*e*Pn	**Pb**	**02 41 31.8**	**-0.6**
NSR	**Nassriya**	**2.70**	**170**	*e*Pn	**Pn**	**02 41 40.0**	**+1.3**
NSR				*e*Sn	**Sn**	**02 42 12.0**	**+0.7**

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*JMA **09** 02:43:12.3±0.1, 35°.73N×140°.65E, h48km±2km, M3.8*
Broadband fault plane solution: P waves. NP1: φs201.00000°, δ13.00000°, λ102.00000°. NP2: φs9.00000°, δ77.00000°, λ87.00000°. Principal axes: T Plg58.0000°, Azm275.0000°; N Plg3.0000°, Azm9.0000°; P Plg32.0000°, Azm101.0000°;
JMA Felt II J1.
*MOS **09** 02:43:12.2±1.1, 35°.72N×140°.66E, h62km, mb4.5/17 Error ellipse: s-maj=10.8km s-min=6.8km az=123.5*
*NIED **09** 02:43:12.3, 35°.73N×140°.65E, h48km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr3.39; Mθθ-0.33; Mφφ-3.06; Mrθ0.14; Mφθ-0.43; Mφr3.78; Fault plane solution: M0 4.99000×1015 NP1: φs 4.00000°, δ70.00000°, λ87.00000°. NP2: φs193.00000°, δ21.00000°, λ98.00000°.*
*NEIC **09** 02:43:13.9±1.1, 35°.62N±0°.06×140°.57E±0°.05, h69km±5km, mb4.6/23 Error ellipse: s-maj=8.9km s-min=5.4km az=175.0*
*IDC **09** 02:43:14.8±1.7, 35°.59N×140°.51E, h67km±15km, mb3.8/17, mb1 4.0/22, mb1mx3.9/50, mbtmp4.1/22, MS3.4/16, Ms1 3.4/16, ms1mx3.3/32, Error ellipse: s-maj=18.5km s-min=8.7km az=68.0*
ISC 09 02:43:12.4±0.7, 35°.70N±0°.05×140°.69E±0°.05, h49km±6km, n136, σ1§18/134, mb4.3/38, MS3.5/11, 9C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.14**	**89**	⇑P	**Pn**	**02 43 20.1**	**-0.2**
CHOJ				S	**Sn**	**02 43 26.2**	**+0.3**
JSMT	**Sammumatsuo**	**0.20**	**254**	⇓P	**Pn**	**02 43 20.7**	**+0.1**
JIHU	**Itakohorinouch**	**0.30**	**334**	⇓P	**Pn**	**02 43 21.5**	**+0.1**
JCN	**Nagara**	**0.48**	**235**	⇓P	**Pn**	**02 43 23.9**	**+0.5**
JYT	**Yasato**	**0.66**	**323**	⇓P	**Pn**	**02 43 24.9**	**-0.7**
JYT				S	**Sn**	**02 43 33.9**	**-1.2**
BSO4	**Boso 4**	**0.76**	**202**	⇓P	**Pn**	**02 43 26.4**	**-0.4**
BSO4				X		02 43 37.5	
BSO3	**Boso 3**	**0.91**	**189**	P	**Pn**	**02 43 28.9**	**+0.3**
JHO	**Hitachi**	**0.91**	**354**	⇓P	**Pn**	**02 43 28.6**	**-0.4**
JHO				S	**Sn**	**02 43 40.6**	**-0.5**
BSO1	**Boso 1**	**1.07**	**167**	P	**Pn**	**02 43 30.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.17**	**293**	P	**Pn**	**02 43 46.8**	**+0.6**
	10nm,0.3s,baz=91,slow=13,SNR=188						
MJAR				S	**Sn**	**02 44 12.4**	**+0.6**
	7.2nm,0.3s,baz=117,slow=28,SNR=4.3						
MJAR				LR	LR	02 44 46.1	
	comp=Z,929nm,19.3s,baz=115,slow=44						
MJAR	**Matsushiro Arr**	**2.17**	**293**		**Pn**	**02 43 46.1**	**0.0**
MJAR					**Sn**	**02 44 12.5**	**+0.6**
MAJO	**Matsushiro**	**2.18**	**293**	P	**Pn**	**02 43 47.3**	**+1.1**
MAJO	**Matsushiro**	**2.18**	**293**	Pn	**Pn**	**02 43 47.3**	**+1.1**
JHJ	**Hachijo jima 2**	**2.68**	**196**	P	**Pn**	**02 43 53.9**	**+0.9**
	118nm,0.3s,baz=318,slow=22,SNR=8.1						
JHJ				S	**Sn**	**02 44 23.6**	**-0.6**
	204nm,0.3s,baz=78,slow=23,SNR=2.8						
JHJ				LR	LR	02 45 08.6	
	comp=Z,473nm,19.4s,baz=122,slow=45						
INU	**Inuyama**	**3.01**	**264**	Pn	**Pn**	**02 43 57.9**	**+0.3**
ERM	**Erimo**	**6.59**	**16**	*i* P	**Pn**	**02 44 46.8**	**+0.1**
JNU	**Nakatsue**	**8.50**	**255**	P	**Pn**	**02 45 14.4**	**+1.5**
	0.6nm,0.3s,baz=24,slow=8.6,SNR=3.1						
JNU				LR	LR	02 48 51.6	
	comp=Z,601nm,18.7s,baz=53,slow=40						
JNU	**Nakatsue**	**8.50**	**255**		**Pn**	**02 45 12.4**	**-0.5**
ASAJ	**Asahikawa**	**8.53**	**9**	LR	LR	02 49 18.9	
	comp=Z,89nm,20.9s,baz=128,slow=42						
NMR	**Nemuro--Hokkai**	**8.59**	**25**	*e*P	**Pn**	**02 45 11.1**	**-2.9**
JCJ	**Chichijima**	**8.67**	**171**	P	Pn	02 45 10.0	-5.3
	37nm,0.3s,baz=301,slow=21,SNR=4.8						
JCJ				S	Sn	02 46 42.6	-9.1
	15nm,0.3s,baz=260,slow=22,SNR=1.5						
JCJ	**Chichijima**	**8.67**	**171**		**Pn**	**02 45 14.2**	**-1.1**
RUSJ	**Misakicho**	**9.10**	**21**	P	**Pn**	**02 45 20.5**	**-0.4**
RUSJ				*e*S	**Sn**	**02 46 56.4**	**-5.4**
KSRS	**Korea Array**	**10.41**	**283**	P	**Pn**	**02 45 42.0**	**+3.0**
	0.3nm,0.3s,baz=98,slow=13,SNR=21						
KSRS				LR	LR	02 49 44.0	
	comp=Z,230nm,20.0s,baz=110,slow=38						
USRK	**Ussuriysk Ar.**	**10.79**	**324**	P	**Pn**	**02 45 46.8**	**+2.7**
	baz=152,slow=13,SNR=6.3						
USRK				LR	LR	02 49 37.1	
	comp=Z,185nm,20.0s,baz=139,slow=35						
TJN	**Taejon**	**10.81**	**277**	*i* P	**Pn**	**02 45 46.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**11.35**	**7**	*e*P	**Pn**	**02 45 53.5**	**+1.7**
YSS				MLR	MLR		
	comp=Z,100nm,19.0s						
ZEA	**Zeya**	**20.34**	**337**	*e*P	Pn	02 47 45.0	-1.8
ZEA				pmax	pmax		
	comp=Z,18nm,1.2s						
PETK	**Petropavlovsk-**	**21.14**	**29**	LR	LR	02 56 50.3	
	comp=Z,26nm,21.1s,baz=229,slow=38						
PET	**Petropavlovsk**	**21.46**	**31**	*i* P	**P**	**02 47 59.5**	**+3.1**
PET				pmax	pmax		
	comp=Z,43nm,1.2s						
XAN	**Xi'an**	**26.06**	**276**	P	**P**	**02 48 39.9**	**-1.4**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN	**Xi'an**	**26.06**	**276**	P	**P**	**02 48 39.9**	**-1.4**
ENH	**Enshi**	**26.66**	**267**	P	**P**	**02 48 45.4**	**-1.3**
ULN	**Ulaanbaatar**	**27.65**	**307**	*ce*P	**P**	**02 48 55.4**	**-0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**28.01**	**118**	T	T	03 18 29.7	
	baz=310,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.02**	**118**	T	T	03 18 13.2	
	baz=310,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.03**	**118**	T	T	03 18 58.7	
	baz=310						
SONM	**Songino Array**	**28.07**	**306**	P	**P**	**02 48 58.6**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=97,slow=8.4,SNR=8.4						
SONM				LR	LR	03 00 29.0	
	comp=Z,76nm,19.0s,baz=211,slow=37						
SONM	**Songino Array**	**28.07**	**306**	P	**P**	**02 48 58.5**	**-0.7**
BOD	**Bodaibo**	**28.36**	**330**	*e*P	**P**	**02 49 01.3**	**-0.3**
BOD				*e*		02 49 11.6	
H11S3	**WAKE ISLAND Hy**	**28.67**	**120**	T	T	03 19 03.0	
	baz=312,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.67**	**120**	T	T	03 19 05.2	
	baz=312,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	03 19 04.1	
	baz=312,slow=75,SNR=45						
CMAR	**Chiang Mai Arr**	**40.60**	**256**	P	**P**	**02 50 47.0**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=53,slow=8.4,SNR=1.5						
CMAR				LR	LR	03 08 13.2	
	comp=Z,71nm,18.2s,baz=160,slow=37						
CMAR	**Chiang Mai Arr**	**40.60**	**256**	P	**P**	**02 50 47.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**40.60**	**256**	P	**P**	**02 50 45.8**	**-1.7**
DGZ	**Jazzator, Alta**	**40.71**	**307**	*i* P	**P**	**02 50 48.9**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZAA0	**Zalesovo Array**	**42.39**	**313**	P	**P**	**02 51 01.3**	**-0.5**
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**02 51 02.0**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=79,slow=7.7,SNR=13						
ZALV				LR	LR	03 08 27.8	
	comp=Z,31nm,19.5s,baz=35,slow=36						
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**02 51 01.6**	**-0.1**
NRIK	**Noril'sk**	**44.24**	**336**	P	**P**	**02 51 16.3**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=268,slow=3.0,SNR=4.1						
MK31	**Makanchi Array**	**44.34**	**303**	P	**P**	**02 51 16.7**	**-0.9**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK31	**Makanchi Array**	**44.34**	**303**	P	**P**	**02 51 16.7**	**-0.9**
MKAR	**Makanchi Array**	**44.34**	**303**	P	**P**	**02 51 17.8**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=87,slow=9.0,SNR=23						
MKAR				LR	LR	03 10 01.2	
	comp=Z,50nm,21.9s,baz=82,slow=36						
MKAR	**Makanchi Array**	**44.34**	**303**	P	**P**	**02 51 17.1**	**-0.5**
TAPN	**Taplejung**	**45.46**	**275**	*e*P	**P**	**02 51 27.5**	**+0.4**
TAPN	**Taplejung**	**45.46**	**275**	*e*P	**P**	**02 51 27.5**	**+0.4**
ODAN	**Odare**	**45.92**	**274**	*e*P	**P**	**02 51 30.2**	**-0.4**
	comp=Z,7.9nm,0.3s						
ODAN	**Odare**	**45.92**	**274**	*e*P	**P**	**02 51 30.2**	**-0.4**
	comp=Z,7.9nm,0.3s						
KURK	**Kurchatov**	**46.30**	**309**	*ce*P	**P**	**02 51 32.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,24nm,1.3s						
KURK	**Kurchatov**	**46.30**	**309**	P	**P**	**02 51 32.3**	**-0.7**
KURK				IAmb	IAmb	02 51 34.9	
	comp=Z,18nm,1.0s						
RAMN	**Ramite**	**46.52**	**275**	*e*P	**P**	**02 51 35.0**	**-0.4**
	comp=Z,16nm,0.6s						
RAMN	**Ramite**	**46.52**	**275**	*e*P	**P**	**02 51 35.0**	**-0.4**
	comp=Z,16nm,0.6s						
JIRN	**Jiri**	**46.56**	**276**	*e*P	**P**	**02 51 36.8**	**+1.0**
JIRN	**Jiri**	**46.56**	**276**	*e*P	**P**	**02 51 36.8**	**+1.0**
PKI	**Pulchoki**	**47.23**	**276**	*e*P	**P**	**02 51 41.3**	**+0.3**
	comp=Z,21nm,1.0s						
PKI	**Pulchoki**	**47.23**	**276**	*e*P	**P**	**02 51 41.3**	**+0.3**
	comp=Z,21nm,1.0s						
GKN	**Gorkha**	**47.68**	**277**	*e*P	**P**	**02 51 45.1**	**+0.8**
	comp=Z,24nm,0.6s						
GKN	**Gorkha**	**47.68**	**277**	*e*P	**P**	**02 51 45.1**	**+0.8**
	comp=Z,24nm,0.6s						
KOLN	**Koldanda**	**48.61**	**277**	*e*P	**P**	**02 51 50.7**	**-0.8**
	comp=Z,9.2nm,0.4s						
KOLN	**Koldanda**	**48.61**	**277**	*e*P	**P**	**02 51 50.7**	**-0.8**
	comp=Z,9.2nm,0.4s						
PYUN	**Piuthan**	**48.97**	**278**	*e*P	**P**	**02 51 54.4**	**+0.1**
	comp=Z,57nm,0.7s						
PYUN	**Piuthan**	**48.97**	**278**	*e*P	**P**	**02 51 54.4**	**+0.1**
	comp=Z,57nm,0.7s						
MTN	**Manton Dam**	**49.12**	**192**	P	**P**	**02 51 53.9**	**-1.3**
MDM	**Murphy Dome**	**50.36**	**32**	P	**P**	**02 52 05.8**	**+1.7**
MDM				IAmb	IAmb	02 52 07.2	
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**50.62**	**299**	*i* P	**P**	**02 52 06.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**50.93**	**32**	P	**P**	**02 52 09.7**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=268,slow=6.3,SNR=12						
ILAR				PcP	**PcP**	**02 53 24.5**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=250,slow=3.0,SNR=1.3						
ILAR	**Eielson Array**	**50.93**	**32**	P	**P**	**02 52 09.9**	**+1.5**
ILAR	**Eielson Array**	**50.93**	**32**	P	**P**	**02 52 09.9**	**+1.5**
ILAR					**PcP**	**02 53 24.3**	**+0.2**
BRVK	**Borovoye**	**51.10**	**313**	*ce*P	**P**	**02 52 09.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**51.10**	**313**	P	**P**	**02 52 08.8**	**-1.0**
BRVK				IAmb	IAmb	02 52 11.8	
	comp=Z,4.7nm,0.8s						
KNRA	**Kununurra**	**52.33**	**195**	P	**P**	**02 52 18.1**	**-1.1**
KK31	**Karatay Array**	**53.29**	**301**	P	**P**	**02 52 24.9**	**-1.4**
KK31				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KK31	**Karatay Array**	**53.29**	**301**	P	**P**	**02 52 24.9**	**-1.4**
KK31				IAmb	IAmb	02 52 42.0	
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**53.29**	**301**	P	**P**	**02 52 26.0**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**53.29**	**301**	P	**P**	**02 52 24.9**	**-1.4**
KKAR				IAmb	IAmb	02 52 42.0	
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**53.29**	**301**	P	**P**	**02 52 26.0**	**-0.3**
BCAR	**Beaver Creek A**	**53.33**	**34**	P	**P**	**02 52 27.6**	**+1.4**
OPA	**Opana**	**54.77**	**87**	P	**P**	**02 52 37.3**	**+0.1**
OPA				pmax	pmax		
	comp=Z,53nm,1.0s						
OPA	**Opana**	**54.77**	**87**	P	**P**	**02 52 37.3**	**+0.1**
WB0	**Warramunga Arr**	**55.48**	**187**	P	**P**	**02 52 40.7**	**-1.6**
WB0				IAmb	IAmb	02 52 57.2	
	comp=Z,8.3nm,0.9s						
WR0	**Warramunga Arr**	**55.66**	**187**	P	**P**	**02 52 42.1**	**-1.4**
WR0				IAmb	IAmb	02 52 58.4	
	comp=Z,7.4nm,0.9s						
WB2	**Warramunga Arr**	**55.66**	**187**	P	**P**	**02 52 42.0**	**-1.5**
WB2				IAmb	IAmb	02 52 58.8	
	comp=Z,6.3nm,0.8s						
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**02 52 42.8**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=0.6,slow=7.6,SNR=66						
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**02 52 42.2**	**-1.4**
CHGR	**Chuyangaron**	**55.71**	**296**	IAmb	IAmb	02 53 03.9	
	comp=Z,12nm,0.8s						
ARU	**Arti**	**56.98**	**319**	*d i* P	**P**	**02 52 53.0**	**+0.4**
ARU						02 54 58.2	
ARU				S	**S**	**03 00 40.3**	**-2.7**
ARU				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU	**Arti**	**56.98**	**319**	P	**P**	**02 52 52.8**	**+0.2**
ABKAR	**Akbulak array**	**58.35**	**311**	P	**P**	**02 53 02.0**	**-0.4**
ASAR	**Alice Springs**	**59.39**	**187**	P	**P**	**02 53 09.6**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=17,slow=11,SNR=21						
ASAR	**Alice Springs**	**59.39**	**187**	P	**P**	**02 53 08.8**	**-1.0**
GEYT	**Alibeck**	**63.97**	**299**	LR	LR	03 24 41.5	
	comp=Z,27nm,18.2s,baz=185,slow=39						
OBN	**Obninsk**	**68.81**	**323**	*e*P	**P**	**02 54 10.7**	**-0.5**
OBN				*e*		02 54 34.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**69.72**	**332**	P	**P**	**02 54 17.0**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=49,slow=6.2,SNR=9.9						
FINES				LR	LR	03 26 14.2	
	comp=Z,23nm,18.1s,baz=46,slow=37						
FINES	**FINESS Array B**	**69.72**	**332**	P	**P**	**02 54 17.3**	**+0.6**
FINES	**FINESS Array B**	**69.72**	**332**	P	**P**	**02 54 17.2**	**+0.6**
KBZ	**Khabaz**	**71.33**	**311**	P	**P**	**02 54 27.8**	**+1.0**
	comp=Z,5.2nm,0.9s,baz=64,slow=3.1,SNR=9.5						
KBZ				LR	LR	03 29 22.9	
	comp=Z,33nm,18.4s,baz=160,slow=39						
KIV	**Kislovodsk**	**71.34**	**311**	*e*P	**P**	**02 54 28.6**	**+1.6**
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
KIV				MLR	MLR		
	comp=Z,42nm,18.0s						
AKASG	**Malin Array Be**	**74.99**	**322**	P	**P**	**02 54 48.2**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=48,slow=5.9,SNR=10						
AKASG				LR	LR	03 30 45.1	
	comp=Z,44nm,19.2s,baz=355,slow=38						
AKASG	**Malin Array Be**	**74.99**	**322**	P	**P**	**02 54 48.5**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,1.2s						
AKASG	**Malin Array Be**	**74.99**	**322**	P	**P**	**02 54 48.5**	**+0.2**
NB2	**NORSAR Subarra**	**75.19**	**337**	P	**P**	**02 54 49.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**75.19**	**337**	P	**P**	**02 54 49.9**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=39,slow=5.8,SNR=6.7						
NOA				LR	LR	03 30 24.6	
	comp=Z,20nm,21.0s,baz=235,slow=38						
NVAR	**Mina Array Bea**	**76.26**	**53**	P	**P**	**02 54 58.3**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=295,slow=5.3,SNR=6.6						
NVAR	**Mina Array Bea**	**76.26**	**53**	P	**P**	**02 54 56.2**	**+0.1**
BURAR	**Bucovina Array**	**78.99**	**322**	P	**P**	**02 55 11.0**	**0.0**
PDAR	**Pinedale Array**	**79.02**	**45**	P	**P**	**02 55 13.1**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=305,slow=1.9,SNR=6.0						
PDAR	**Pinedale Array**	**79.02**	**45**	P	**P**	**02 55 12.3**	**+0.8**
BRTR	**Keskin Array B**	**79.29**	**311**	P	**P**	**02 55 13.7**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=31,slow=12,SNR=4.1						
BRTR	**Keskin Array B**	**79.29**	**311**	*ce*P	**P**	**02 55 13.6**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**79.29**	**311**	P	**P**	**02 55 11.6**	**-1.2**
VYHS	**Vyhne**	**81.48**	**325**	*e*P	**P**	**02 55 25.2**	**+0.9**
VYHS	**Vyhne**	**81.48**	**325**	*e*P	**P**	**02 55 25.2**	**+0.9**
CLL	**Collm**	**81.96**	**330**	⇑*i* P	**P**	**02 55 26.7**	**0.0**
	comp=Z,5.0nm,1.0s						
CLL	**Collm**	**81.96**	**330**	⇑*i* P	**P**	**02 55 26.7**	**0.0**
CLL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KHC	**Kasperske Hory**	**83.37**	**328**	*e*P	**P**	**02 55 31.0**	**-3.2**
KHC	**Kasperske Hory**	**83.37**	**328**	*ce*P	**P**	**02 55 34.4**	**+0.2**
KHC				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GERES	**GERESS Array B**	**83.53**	**328**	P	**P**	**02 55 35.2**	**+0.1**
	comp=Z,1.3nm,1.1s,baz=46,slow=5.8,SNR=6.3						
GERES	**GERESS Array B**	**83.53**	**328**	P	**P**	**02 55 34.4**	**-0.7**
ANMO	**Albuquerque**	**85.90**	**49**	*ce*P	**P**	**02 55 50.3**	**+2.9**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.7s						
TXAR	**Lajitas Array**	**91.40**	**52**	P	**P**	**02 56 14.3**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=332,slow=2.8,SNR=5.3

AAK S Sn 03 28 44.6 +0.4
2.5nm,0.6s
AB31 Akbulak array 14.26 329 ⇑P Pn 03 29 30.2 -3.1
0.1nm,0.3s

*IDC **09** 03:44:03.4±2.5, 4°.58S×152°.54E, h57km±14km, mb3.7/11, mb1 3.9/12, mb1mx3.7/29, mbtmp4.0/12, MS3.5/11, Ms1 3.5/11, ms1mx3.4/20, Error ellipse: s-maj=37.5km s-min=17.8km az=107.0*
*NEIC **09** 03:44:06.7±2.0, 4°.2S±0°.1×151°.84E±0°.09, h53km±7km, mb4.3/10, Error ellipse: s-maj=16.6km s-min=10.9km az=141.0*
ISC 09 03:44:07.6±0.8, 4°.20S±0°.10×151°.9E±0°.1, h62km±7km, n38, σ1°66/36, mb4.0/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.16**	**134**	P	**Pn**	**03 44 16.2**	**-0.9**
	1μm,0.3s,baz=301,slow=1.9,SNR=131						
KRVT				S	**Sn**	**03 44 27.6**	**+3.5**
	1μm,0.3s,baz=96,slow=23,SNR=10						
KRVT				LR	LR	03 44 42.3	
	comp=Z,1μm,21.7s,baz=101,slow=66						
RABL	**Rabaul**	**0.25**	**88**		**Pn**	**03 44 16.4**	**-1.3**
RABL				Sn	**Sn**	**03 44 23.7**	**-1.3**
PMG	**Port Moresby**	**7.00**	**222**	P	**Pn**	**03 45 47.4**	**-0.2**
	1.9nm,0.3s,baz=90,slow=6.1,SNR=1.5						
PMG				LR	LR	03 48 48.2	
	comp=Z,361nm,18.2s,baz=348,slow=40						
DZM	**Mont Dzumac**	**22.67**	**143**	*e*P	P	03 49 14.9	+11
	89nm,1.4s						
DZM				*e*LR	LR	03 54 56.7	
	comp=Z,455nm,23.9s						
DZM	**Mont Dzumac**	**22.67**	**143**	P	**P**	**03 49 06.0**	**+1.9**
DZM				IAmb	IAmb	03 49 16.4	
	comp=Z,16nm,0.9s						
WB2	**Warramunga Arr**	**23.19**	**226**	P	**P**	**03 49 07.5**	**-1.8**
WRA	**Warramunga Arr**	**23.20**	**226**	P	**P**	**03 49 07.5**	**-1.9**
	comp=Z,1.7nm,0.6s,baz=47,slow=9.9,SNR=25						
WRA				LR	LR	03 59 02.0	
	comp=Z,121nm,18.0s,baz=65,slow=38						
WRA	**Warramunga Arr**	**23.20**	**226**	P	**P**	**03 49 08.1**	**-1.3**
ASAR	**Alice Springs**	**26.02**	**220**	P	**P**	**03 49 31.9**	**-3.2**
	comp=Z,1.0nm,0.5s,baz=51,slow=8.6,SNR=14						
ASAR				LR	LR	04 00 02.4	
	comp=Z,116nm,18.9s,baz=40,slow=37						
ASAR	**Alice Springs**	**26.02**	**220**	P	**P**	**03 49 33.8**	**-1.2**
FUNA	**Funafuti**	**27.45**	**100**	P	**P**	**03 49 47.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**29.18**	**240**	P	**P**	**03 50 05.0**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=70,slow=6.4,SNR=6.6						
FITZ	**Fitzroy Crossi**	**29.18**	**240**	P	**P**	**03 50 01.9**	**-1.5**
STKA	**Stephens Creek**	**29.19**	**198**	LR	LR	04 00 54.5	
	comp=Z,145nm,21.4s,baz=22,slow=35						
CMWZ	**Cape Campbell**	**42.38**	**155**	P	**P**	**03 51 55.6**	**-0.2**
MJAR	**Matsushiro Arr**	**42.51**	**344**	LR	LR	04 08 01.2	
	comp=Z,49nm,21.5s,baz=135,slow=33						
KSRS	**Korea Array**	**47.07**	**334**	P	**P**	**03 52 34.0**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=139,slow=9.4,SNR=2.9						
KSRS				LR	LR	04 10 25.1	
	comp=Z,34nm,20.9s,baz=148,slow=33						
USRK	**Ussuriysk Ar.**	**51.40**	**342**	P	**P**	**03 53 07.0**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=184,slow=5.8,SNR=2.4						
USRK				LR	LR	04 11 22.9	
	comp=Z,46nm,21.7s,baz=134,slow=32						
CMAR	**Chiang Mai Arr**	**56.82**	**295**	P	**P**	**03 53 47.0**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=126,slow=6.0,SNR=8.5						
PETK	**Petropavlovsk-**	**57.30**	**4**	P	**P**	**03 53 46.6**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=176,slow=9.6,SNR=2.0						
PETK				LR	LR	04 14 19.7	
	comp=Z,52nm,21.0s,baz=179,slow=32						
PETK	**Petropavlovsk-**	**57.30**	**4**	P	**P**	**03 53 52.4**	**+3.5**
SONM	**Songino Array**	**65.35**	**328**	P	**P**	**03 54 42.2**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=116,slow=6.6,SNR=2.3						
SONM				LR	LR	04 23 21.0	
	comp=Z,38nm,20.3s,baz=76,slow=36						
SONM	**Songino Array**	**65.35**	**328**	P	**P**	**03 54 41.8**	**-1.7**
MKAR	**Makanchi Array**	**79.29**	**319**	P	**P**	**03 56 07.3**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=115,slow=5.1,SNR=4.5						
MKAR	**Makanchi Array**	**79.29**	**319**	P	**P**	**03 56 06.6**	**0.0**
ZALV	**Zalesovo Beam**	**80.17**	**326**	P	**P**	**03 56 12.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=91,slow=5.9,SNR=3.9						
ZALV				LR	LR	04 31 39.5	
	comp=Z,28nm,20.4s,baz=72,slow=35						
ZALV	**Zalesovo Beam**	**80.17**	**326**	P	**P**	**03 56 12.6**	**+1.5**
RND	**Reindeer**	**80.52**	**23**	P	**P**	**03 56 12.2**	**-0.7**
RND				IAmb	IAmb	03 56 19.9	
	comp=Z,3.4nm,0.6s						
CCB	**Clear Creek Bu**	**81.53**	**22**	P	**P**	**03 56 18.8**	**+0.7**
CCB				IAmb	IAmb	03 56 25.6	
	comp=Z,2.2nm,0.7s						
VRDI	**Verde Repeater**	**81.78**	**26**	P	**P**	**03 56 19.5**	**-0.3**
IL31		**81.94**	**22**	P	**P**	**03 56 21.0**	**+0.8**
IL31				IAmb	IAmb	03 56 25.6	
	comp=Z,1.9nm,0.8s						
ILAR	**Eielson Array**	**81.94**	**22**	P	**P**	**03 56 17.9**	**-2.4**
	comp=Z,1.1nm,0.6s,baz=244,slow=5.4,SNR=17						
ILAR	**Eielson Array**	**81.94**	**22**	P	**P**	**03 56 21.0**	**+0.7**
BCAR	**Beaver Creek A**	**83.23**	**25**	P	**P**	**03 56 29.4**	**+2.3**
NRIK	**Noril'sk**	**85.11**	**341**	P	**P**	**03 56 36.1**	**-0.4**
	comp=Z,5.0nm,0.7s,baz=105,slow=2.7,SNR=4.8						
MAW	**Mawson**	**85.78**	**203**	LR	LR	04 33 36.3	
	comp=Z,50nm,18.2s,baz=62,slow=35						
TORD	**Torodi Ar. Bea**	**149.28**	**289**	PKPbc	**PKPbc**	**04 03 49.3**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=65,slow=3.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.28**	**289**		**PKPbc**	**04 03 49.9**	**-0.6**

*IDC **09** 03:48:08.2±0.5, 51°.76N×32°.68W, h0km, mb4.1/29, mb1 4.3/31, mb1mx4.2/46, mbtmp4.2/31, ML4.6/2, MS3.4/20, Ms1 3.4/20, ms1mx3.2/42, Error ellipse: s-maj=14.1km s-min=10.1km az=1.0*
*OTT **09** 03:48:09.3±1.1, 51°.42N×32°.54W, h18km, ML5.2/1, 1502km east from Bonavista, NI*
*NEIC **09** 03:48:10.4±0.8, 51°.73N±0°.10×32°.8W±0°.1, h17km±4km, mb4.7/189, Error ellipse: s-maj=14.3km s-min=9.2km az=187.0*
*UNK **09** 03:48:10.4, 51°.73N×32°.78W, h16km*
ISC 09 03:48:09.5±0.3, 51°.71N±0°.07×32°.79W±0°.05, h10km, n394, σ0°92/332, mb4.6/118, MS3.4/19, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**12.07**	**174**	T	T	04 03 46.5	
	SNR=5.1						
H07S1	**FLORES T-PHASE**	**12.38**	**174**	T	T	04 03 54.5	
SJNN	**Saint John's**	**13.52**	**260**	PN	**Pn**	**03 51 19.6**	**-1.5**
SJNN				SN	Sn	03 53 39.4	-12
SJNN				Trac		03 53 44.0	
	comp=Z,171nm,1.6s						
SJNN	**Saint John's**	**13.52**	**260**	Pn	**Pn**	**03 51 19.6**	**-1.5**
BORG	**Borgarnes**	**14.37**	**20**	LR	LR	03 55 18.8	
	comp=Z,230nm,20.7s,baz=197,slow=30						
DRLN	**Deer Lake**	**15.90**	**271**	PN	**Pn**	**03 51 51.0**	**-2.1**
DRLN				SN	**Sn**	**03 54 41.5**	**-7.8**
DRLN				Trac		03 54 45.0	
	comp=Z,334nm,3.5s						
DRLN	**Deer Lake**	**15.90**	**271**	Pn	**Pn**	**03 51 51.0**	**-2.1**
DRLN	**Deer Lake**	**15.90**	**271**	IAmb	IAmb	03 52 02.6	
	comp=Z,122nm,1.9s						
MKVL	**Makkovik**	**16.06**	**293**	PN	**Pn**	**03 51 55.2**	**+0.1**
MKVL	**Makkovik**	**16.06**	**293**	Pn	**Pn**	**03 51 55.2**	**+0.1**
SFJD	**Kangerlussuaq**	**17.71**	**337**	P	**Pn**	**03 52 16.3**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=141,slow=11,SNR=4.8						
SFJD				LR	LR	03 57 42.0	
	comp=Z,189nm,20.7s,baz=154,slow=32						
SFJD	**Kangerlussuaq**	**17.71**	**337**	*i* P	**P**	**03 52 16.8**	**+0.2**
SFJD	**Kangerlussuaq**	**17.71**	**337**	P	**Pn**	**03 52 16.0**	**+0.2**
ESK	**Eskdalemuir**	**17.89**	**67**		**P**	**03 52 18.2**	**-0.7**
EKA	**Eskdalemuir Ar**	**17.92**	**67**	P	**P**	**03 52 19.1**	**0.0**
	baz=264,slow=11,SNR=42						
NATG	**Natashquan Que**	**18.89**	**278**	PN	**Pn**	**03 52 32.1**	**+1.8**
NATG	**Natashquan Que**	**18.89**	**278**	Pn	**Pn**	**03 52 32.1**	**+1.8**
SCO	**Scoresbysund**	**19.50**	**11**	*i* P	**Pn**	**03 52 40.3**	**+2.8**
GBN	**Guysborough**	**19.94**	**263**	PN	**Pn**	**03 52 44.5**	**+1.5**
GBN	**Guysborough**	**19.94**	**263**	Pn	**Pn**	**03 52 44.5**	**+1.5**
PVRL	**Vila Real**	**20.07**	**111**	*e*P	**P**	**03 52 43.0**	**+0.1**
	comp=Z,32nm,1.5s						
PBRG	**Braganca**	**20.31**	**109**	*e*P	Pn	03 52 46.5	-0.9
	comp=Z,45nm,1.4s						
PVIS	**Viseu**	**20.33**	**113**	*e*P	Pn	03 52 46.5	-1.2
	comp=Z,19nm,1.5s						
SCHQ	**Schefferville**	**20.48**	**292**	P	**P**	**03 52 46.2**	**-0.9**
	comp=Z,7.4nm,0.7s,baz=181,slow=19,SNR=11						
SCHQ	**Schefferville**	**20.48**	**292**	PN	**P**	**03 52 47.3**	**+0.2**
SCHQ	**Schefferville**	**20.48**	**292**		**P**	**03 52 47.3**	**+0.2**
SCHQ	**Schefferville**	**20.48**	**292**	IAmb	IAmb	03 52 55.6	
	comp=Z,16nm,0.9s						
MVO	**Moncorvo**	**20.54**	**111**	*e*P	**P**	**03 52 48.1**	**+0.1**
	comp=Z,41nm,1.8s						
SUMG	**Summit**	**21.09**	**355**	*i* P	**P**	**03 52 54.1**	**0.0**
	comp=Z,125nm,1.2s						
SUMG	**Summit**	**21.09**	**355**	P	**P**	**03 52 53.6**	**-0.4**
SUMG				IAmb	IAmb	03 52 59.6	
	comp=Z,27nm,0.8s						
PCBR	**Castelo Branco**	**21.15**	**114**	*e*P	**P**	**03 52 54.2**	**-0.3**
	comp=Z,25nm,1.3s						
PMTG	**Montargil**	**21.26**	**117**	*e*P	**P**	**03 52 55.1**	**-0.6**
	comp=Z,20nm,1.6s						
SMQ	**Clarke City**	**21.30**	**279**	PN	**P**	**03 52 55.8**	**-0.3**
SMQ	**Clarke City**	**21.30**	**279**		**P**	**03 52 55.8**	**-0.3**
PMRV	**Marv??o**	**21.48**	**115**	*e*P	**P**	**03 52 57.4**	**-0.7**
	comp=Z,22nm,1.5s						
HAL	**Halifax**	**21.61**	**263**	PN	**P**	**03 53 01.0**	**+1.7**
HAL	**Halifax**	**21.61**	**263**		**P**	**03 53 01.0**	**+1.7**
SVNB	**Stilesville Qu**	**21.68**	**268**	PN	**P**	**03 53 01.5**	**+1.4**
SVNB	**Stilesville Qu**	**21.68**	**268**		**P**	**03 53 01.5**	**+1.4**
EVO	**Evora**	**21.76**	**118**	*e*P	**P**	**03 53 01.2**	**+0.2**
	comp=Z,18nm,1.6s						
LMN	**Caledonia Moun**	**21.78**	**267**	PN	**P**	**03 53 00.2**	**-1.0**
LMN	**Caledonia Moun**	**21.78**	**267**		**P**	**03 53 00.2**	**-1.0**
LMN	**Caledonia Moun**	**21.78**	**267**	IAmb	IAmb	03 53 15.7	
	comp=Z,22nm,1.1s						
ICQ	**Pointe Anglais**	**21.87**	**278**	PN	**P**	**03 53 01.6**	**-0.5**
ICQ	**Pointe Anglais**	**21.87**	**278**		**P**	**03 53 01.6**	**-0.5**
BATG	**Bathurst New B**	**21.94**	**272**	PN	**P**	**03 53 02.4**	**-0.5**
BATG	**Bathurst New B**	**21.94**	**272**	P	**P**	**03 53 03.1**	**+0.2**
BATG				IAmb	IAmb	03 53 04.1	
	comp=Z,26nm,1.2s						
BATG	**Bathurst New B**	**21.94**	**272**		**P**	**03 53 02.4**	**-0.5**
GSQ	**Grosses Roches**	**21.98**	**276**	PN	**P**	**03 53 04.2**	**+0.9**
GSQ	**Grosses Roches**	**21.98**	**276**		**P**	**03 53 04.2**	**+0.9**
ELNB	**Elgin, New Bru**	**21.99**	**267**	PN	**P**	**03 53 02.8**	**-0.6**
ELNB	**Elgin, New Bru**	**21.99**	**267**		**P**	**03 53 02.8**	**-0.6**
PTEO	**Sao Teotonio**	**22.09**	**120**	*e*P	**P**	**03 53 04.5**	**0.0**
	comp=Z,53nm,1.6s						
FRB	**Frobisher Bay**	**22.22**	**317**	P	**P**	**03 53 06.1**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=95,slow=9.9,SNR=5.4						
FRB				LR	LR	03 59 45.2	
	comp=Z,41nm,20.9s,baz=241,slow=31						
JMIC	**Jan Mayen**	**22.26**	**21**	LR	LR	03 59 22.0	
	comp=Z,63nm,19.5s,baz=226,slow=30						
SRNB	**Snider Mountai**	**22.30**	**268**	PN	**P**	**03 53 06.6**	**-0.2**
SRNB	**Snider Mountai**	**22.30**	**268**		**P**	**03 53 06.6**	**-0.2**
MORF	**Marmelete**	**22.30**	**121**	*e*P	**P**	**03 53 08.1**	**+1.2**
	comp=Z,30nm,1.4s						
WCNB	**Wards Creek**	**22.31**	**267**	PN	**P**	**03 53 06.3**	**-0.6**
WCNB	**Wards Creek**	**22.31**	**267**		**P**	**03 53 06.3**	**-0.6**
PFVI	**Vila Bisbo**	**22.34**	**121**	A	A	03 53 36.2	
	comp=Z,36nm,1.9s						
CNQ	**Baie Comeau**	**22.44**	**278**	PN	**P**	**03 53 08.9**	**+0.7**
CNQ	**Baie Comeau**	**22.44**	**278**		**P**	**03 53 08.9**	**+0.7**
MNQ	**Manicouagan**	**22.48**	**281**	PN	**P**	**03 53 07.8**	**-0.9**
MNQ	**Manicouagan**	**22.48**	**281**		**P**	**03 53 07.8**	**-0.9**
ESDC	**Sonseca Array**	**23.29**	**110**	P	**P**	**03 53 16.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=312,slow=9.1,SNR=12						
ESDC				LR	LR	03 59 25.4	
	comp=Z,29nm,20.1s,baz=330,slow=29						
ESDC	**Sonseca Array**	**23.29**	**110**	P	**P**	**03 53 17.4**	**+0.1**
D63A	**Stockholm**	**23.31**	**272**	P	**P**	**03 53 16.9**	**-0.5**
	baz=65						
GGN	**Saint George**	**23.39**	**267**	PN	**P**	**03 53 17.4**	**-0.6**
GGN	**Saint George**	**23.39**	**267**		**P**	**03 53 18.3**	**+0.2**
GGN				IAmb	IAmb	03 53 24.2	
	comp=Z,22nm,1.1s						
E64A	**Bridgewater**	**23.40**	**271**	P	**P**	**03 53 17.7**	**-0.6**
	baz=64						
PQI	**Presque Isle**	**23.41**	**272**	P	**P**	**03 53 18.8**	**+0.4**
E63A	**Oxbow**	**23.77**	**271**	P	**P**	**03 53 21.5**	**-0.4**
	baz=64,SNR=7.5						
E63A	**Oxbow**	**23.77**	**271**	P	**P**	**03 53 21.9**	**0.0**
E63A				IAmb	IAmb	03 53 29.6	
	comp=Z,22nm,0.8s						
G65A	**Princeton**	**23.80**	**268**	P	**P**	**03 53 22.1**	**0.0**
	baz=62						
G65A	**Princeton**	**23.80**	**268**	P	**P**	**03 53 22.6**	**+0.5**
H66A	**Whiting**	**23.84**	**267**	P	**P**	**03 53 22.0**	**-0.5**
	baz=61						
D62A	**Allapoint, All**	**23.88**	**273**	P	**P**	**03 53 22.4**	**-0.5**
	baz=65						
D62A	**Allapoint, All**	**23.88**	**273**	P	**P**	**03 53 23.2**	**+0.3**
D62A				IAmb	IAmb	03 53 30.9	
	comp=Z,12nm,0.8s						
F64A	**Sherman**	**23.98**	**270**	P	**P**	**03 53 23.3**	**-0.5**
	baz=63						
E62A	**Clayton Lake**	**24.37**	**273**	P	**P**	**03 53 27.3**	**-0.2**
	baz=64						
G64A	**Maxfield**	**24.51**	**269**	P	**P**	**03 53 29.1**	**+0.3**
	baz=62						
F63A	**Nahmakanta, Br**	**24.52**	**270**	P	**P**	**03 53 28.7**	**-0.2**
	baz=62						
D61A	**St Aubert, Com**	**24.54**	**274**	P	**P**	**03 53 29.2**	**+0.3**
	baz=65						
PKME	**Peaks-Kenny Pk**	**24.84**	**269**	P	**P**	**03 53 32.0**	**+0.3**
	baz=62						
F62A	**Pittston Farm,**	**24.97**	**271**	P	**P**	**03 53 33.2**	**+0.3**
	baz=63						
E61A	**Lac Etchemin**	**25.05**	**273**	P	**P**	**03 53 34.1**	**+0.4**
	baz=64						
H64A	**Troy**	**25.10**	**268**	P	**P**	**03 53 34.5**	**+0.5**
	baz=60						
D60A	**Saint Jean D'O**	**25.11**	**274**	P	**P**	**03 53 34.5**	**+0.4**
	baz=65						
G63A	**Kingsbury**	**25.11**	**269**	P	**P**	**03 53 34.2**	**-0.1**
	baz=61						
NBO00	**NORSAR Array S**	**25.41**	**51**	P	**P**	**03 53 36.8**	**0.0**
F61A	**St Evariste**	**25.57**	**272**	P	**P**	**03 53 37.6**	**-0.8**
	baz=63						
H63A	**New Sharon**	**25.59**	**269**	P	**P**	**03 53 38.7**	**+0.2**
	baz=60						
NB2	**NORSAR Subarra**	**25.62**	**51**	P	**P**	**03 53 38.0**	**-0.7**
	comp=Z,8.3nm,0.9s,baz=268,slow=9.3						
NOA	**NORSAR Array B**	**25.62**	**51**	P	**P**	**03 53 38.2**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=268,slow=9.0,SNR=8.9						
NOA				LR	LR	04 02 16.9	
	comp=Z,88nm,20.9s,baz=270,slow=33						
G62A	**West of Eustis**	**25.63**	**270**	P	**P**	**03 53 38.7**	**-0.3**
	baz=62						
D59A	**Saint-Raymond**	**25.64**	**275**	P	**P**	**03 53 39.4**	**+0.4**
	baz=65						
E60A	**Ste Agathe de**	**25.68**	**273**	P	**P**	**03 53 38.8**	**-0.5**
	baz=64						
NC303	**NORSAR Array S**	**25.70**	**51**	P	**P**	**03 53 39.3**	**-0.1**
NC303				IAmb	IAmb	03 53 48.2	
	comp=Z,28nm,1.1s						
ECH	**Echery**	**25.71**	**82**	P	**P**	**03 53 39.5**	**-0.1**
I64A	**Boothbay**	**25.71**	**267**	P	**P**	**03 53 40.1**	**+0.5**
	baz=59						
NC405	**NORSAR Array S**	**25.87**	**51**	P	**P**	**03 53 40.9**	**0.0**
CHGQ	**Chibougamau**	**26.09**	**283**	P	**P**	**03 53 42.5**	**-0.5**
	baz=70						
I63A	**Otisfield**	**26.24**	**268**	P	**P**	**03 53 44.5**	**+0.1**
	baz=60						
D58A	**Chemin du LacG**	**26.25**	**276**	P	**P**	**03 53 44.3**	**-0.3**
	baz=65						
H62A	**Milan**	**26.33**	**270**	P	**P**	**03 53 45.7**	**+0.4**
	baz=60						
E58A	**La Victoria**	**26.81**	**275**	P	**P**	**03 53 49.7**	**+0.2**
	baz=64						
G60A	**Masonville**	**26.81**	**271**	P	**P**	**03 53 50.0**	**+0.4**
	baz=61						
HFS	**Hagfors**	**26.86**	**53**	P	**P**	**03 53 49.5**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=260,slow=8.9,SNR=4.5						
HFS				LR	LR	04 02 55.7	
	comp=Z,91nm,21.4s,baz=282,slow=33						
HRV	**Adam Dziewonsk**	**27.65**	**266**	P	**P**	**03 53 58.2**	**+1.0**
	baz=57						
TUE	**Stuetta**	**27.79**	**84**	P	**P**	**03 53 58.6**	**-0.1**
TUE				IAmb	IAmb	03 54 16.4	
	comp=Z,17nm,1.4s						
E56A	**St. Veronique**	**27.82**	**276**	P	**P**	**03 53 58.6**	**0.0**
	baz=64						
G58A	**Ormstown**	**27.86**	**273**	P	**P**	**03 53 59.6**	**+0.6**
	baz=61						
MDT	**Midelt**	**27.86**	**122**	P	**P**	**03 53 59.1**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=331,slow=10,SNR=3.5						
D55A	**Sainte-Anne-du**	**27.89**	**277**	P	**P**	**03 53 59.0**	**-0.2**
	baz=64						
DAVOX	**Davos/Dischmat**	**27.98**	**83**	P	**P**	**03 54 00.2**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=307,slow=11,SNR=3.5						
DAVOX				LR	LR	04 04 06.2	
	comp=Z,20nm,20.7s,baz=266,slow=34						
CLL	**Collm**	**28.15**	**73**	*e*P	**P**	**03 54 01.0**	**-0.5**
	comp=Z,5.0nm,0.8s						
CLL				L	L	04 04 00.0	
	comp=Z,100nm,19.3s						
FUORN	**Ofenpass-Fuorn**	**28.29**	**83**	P	**P**	**03 54 02.8**	**-0.3**
H58A	**Gabriels**	**28.29**	**272**	P	**P**	**03 54 03.2**	**+0.3**
	baz=60						
G57A	**Newington**	**28.46**	**273**	P	**P**	**03 54 04.7**	**+0.4**
	baz=61						
D54A	**Lac Fusel, La**	**28.56**	**278**	P	**P**	**03 54 05.4**	**+0.2**
	baz=64						
M63A	**Gales Ferry**	**28.57**	**264**	P	**P**	**03 54 06.4**	**+1.1**
	baz=55						
ORIO	**Orleans, Innes**	**28.62**	**274**	P	**P**	**03 54 06.2**	**+0.5**
	baz=62						
K61A	**Williamstown**	**28.63**	**268**	P	**P**	**03 54 07.0**	**+1.1**
	baz=57						
BRG	**Berggiesshubel**	**28.85**	**73**	*e*P	P	03 54 14.1	+6.3
	comp=Z,2.7nm,0.8s						
BRG				*e*		03 54 19.8	
KHC	**Kasperske Hory**	**29.28**	**76**	*e*P	**P**	**03 54 10.9**	**-0.7**
KHC				*e*pP	**pwP**	**03 54 18.9**	**+0.7**
GERES	**GERESS Array B**	**29.46**	**77**	P	**P**	**03 54 12.5**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=293,slow=8.4,SNR=8.3						
GERES				LR	LR	04 05 05.7	
	comp=Z,48nm,19.7s,baz=303,slow=35						
GERES	**GERESS Array B**	**29.46**	**77**	P	**P**	**03 54 12.9**	**-0.5**
ZOU	**Zoufplan**	**29.99**	**82**	P	**P**	**03 54 17.0**	**-1.1**
PRED	**Cave del Predi**	**30.41**	**81**	IAmb	IAmb	03 54 40.1	
	comp=Z,15nm,1.9s						
L57A	**Andrews Acres**	**31.22**	**270**	P	**P**	**03 54 29.1**	**+0.2**
	baz=56						
O60A	**Telford**	**31.28**	**266**	P	**P**	**03 54 30.0**	**+0.7**
	baz=54						
NRCA	**Norcia**	**31.92**	**88**	P	**P**	**03 54 33.4**	**-1.6**
ARCES	**ARCESS Array B**	**32.03**	**34**	P	**P**	**03 54 35.1**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=257,slow=7.7,SNR=16						
ARCES				LR	LR	04 04 30.2	
	comp=Z,102nm,21.4s,baz=324,slow=31						
ARCES	**ARCESS Array B**	**32.03**	**34**	P	**P**	**03 54 35.0**	**-0.7**
SSPA	**Standing Stone**	**32.63**	**268**	P	**P**	**03 54 42.1**	**+0.8**
	baz=55						
FINES	**FINESS Array B**	**32.74**	**50**	P	**P**	**03 54 41.6**	**-0.4**
	comp=Z,5.7nm,0.7s,baz=282,slow=8.2,SNR=30						
FINES				LR	LR	04 06 20.0	
	comp=Z,90nm,21.5s,baz=244,slow=33						
FINES	**FINESS Array B**	**32.74**	**50**	P	**P**	**03 54 41.8**	**-0.1**
E47A	**Iron Bridge**	**32.93**	**281**	P	**P**	**03 54 43.6**	**-0.2**
	baz=62						
P58A	**Pank, Wackersv**	**32.94**	**266**	P	**P**	**03 54 44.8**	**+0.9**
	baz=53						
KEST	**Kesra**	**33.84**	**101**	P	**P**	**03 54 51.6**	**-0.3**
	comp=Z,5.1nm,0.7s,baz=360,slow=3.1,SNR=7.9						
KEST	**Kesra**	**33.84**	**101**	P	**P**	**03 54 51.9**	**-0.1**
KEST				IAmb	IAmb	03 54 59.6	
	comp=Z,13nm,0.9s						
P56A	**Dayton Farm, R**	**33.89**	**267**	P	**P**	**03 54 53.1**	**+0.9**
	baz=53						
R58B	**Mineral**	**34.23**	**264**	P	**P**	**03 54 56.1**	**+0.9**
	baz=51						
P54A	**Burton**	**34.85**	**269**	P	**P**	**03 55 02.0**	**+1.5**
	baz=54						
N52A	**McGinn's Farm,**	**34.90**	**271**	P	**P**	**03 55 02.1**	**+1.1**
	baz=55						
R56A	**Bull Pasture M**	**34.90**	**266**	P	**P**	**03 55 02.3**	**+1.2**
	baz=52						
M51A	**Elyria**	**34.91**	**273**	P	**P**	**03 55 02.2**	**+1.1**
	baz=56						
T58A	**Grand View Acr**	**35.27**	**264**	P	**P**	**03 55 06.0**	**+1.8**
	baz=50						
R55A	**Marlinton**	**35.42**	**267**	P	**P**	**03 55 07.2**	**+1.6**
	baz=52						
S56A	**Natural Bridge**	**35.45**	**265**	P	**P**	**03 55 07.0**	**+1.3**
	baz=51						
P53A	**Whipple**	**35.48**	**269**	P	**P**	**03 55 07.3**	**+1.3**
	baz=53						
U58A	**Oxford**	**35.63**	**263**	P	**P**	**03 55 08.8**	**+1.5**
	baz=50						
O51A	**Pataskala**	**35.85**	**271**	P	**P**	**03 55 10.4**	**+1.3**
	baz=54						
P52A	**Corning**	**35.86**	**270**	P	**P**	**03 55 10.4**	**+1.2**
	baz=54						
Q53A	**Leroy**	**35.95**	**269**	P	**P**	**03 55 11.4**	**+1.4**
	baz=53						
R54A	**Victor**	**36.03**	**267**	P	**P**	**03 55 11.5**	**+0.8**
	baz=52						
U57A	**Blanch**	**36.10**	**

SNR=9.5
FVM French Village 42.01 274 P **P 03 56 00.8 0.0**
FVM IAmb IAmb 03 56 02.6
comp=Z,14nm,1.2s
Y49A Blount Mountai 42.16 266 P **P 03 56 02.2 +0.2**
ECSD EROS Data Cent 42.42 285 P **P 03 56 04.7 +0.7**
baz=56
ECSD EROS Data Cent 42.42 285 P **P 03 56 03.4 -0.6**
CCM Cathedral Cave 42.48 275 P **P 03 56 05.3 +0.8**
baz=52
CCM Cathedral Cave 42.48 275 P **P 03 56 04.8 +0.3**
CCM IAmb IAmb 03 56 06.1
comp=Z,14nm,1.3s
YKA Yellowknife Ar 42.74 317 P **P 03 56 06.4 +0.1**
comp=Z,5.2nm,0.9s,baz=61,slow=8.8,SNR=6.7
LRAL Lakeview Retre 43.08 266 P **P 03 56 10.5 +1.1**
baz=48
LRAL Lakeview Retre 43.08 266 IAmb IAmb 03 56 11.8
comp=Z,35nm,1.8s
250A Grady 43.34 264 IAmb IAmb 03 56 14.6
comp=Z,18nm,0.8s
OXF Oxford 43.59 270 P **P 03 56 13.9 +0.3**
baz=49
U40A Yellville 44.54 274 P **P 03 56 22.0 +0.8**
baz=50
U40A Yellville 44.54 274 P **P 03 56 21.1 -0.1**
U40A IAmb IAmb 03 56 29.0
comp=Z,7.9nm,1.1s
W41B Gary Mavity, V 44.93 273 P **P 03 56 25.5 +1.3**
baz=49
W41B Gary Mavity, V 44.93 273 P **P 03 56 24.3 0.0**
W41B IAmb IAmb 03 56 26.2
comp=Z,24nm,1.6s
KSU1 Kansas State U 45.14 280 P **P 03 56 25.9 0.0**
baz=52
X40A Basin Creek Fa 45.74 272 P **P 03 56 31.0 +0.3**
baz=49
W39A Magazine 45.87 274 P **P 03 56 32.1 +0.4**
baz=49
MIAR Mount Ida 46.16 273 IAmb IAmb 03 56 44.3
comp=Z,11nm,1.3s
BRTR Keskin Array B 46.35 78 P **P 03 56 35.0 -0.7**
comp=Z,2.1nm,0.7s,baz=284,slow=5.0,SNR=5.0
BRTR LR LR 04 19 03.3
comp=Z,16nm,18.6s,baz=291,slow=40
BRTR Keskin Array B 46.35 78 P **P 03 56 35.5 -0.2**
LAO LASA Array 46.37 294 P **P 03 56 36.9 +1.2**
baz=55
TOA0 Torodi Ar. Sit 47.42 131 P **P 03 56 44.1 +0.1**
TOA0 IAmb IAmb 03 56 50.7
comp=Z,8.9nm,0.8s
TORD Torodi Ar. Bea 47.42 131 P **P 03 56 43.7 -0.4**
comp=Z,3.6nm,0.6s,baz=336,slow=7.1,SNR=35
TORD Torodi Ar. Bea 47.42 131 P **P 03 56 43.9 -0.2**
EGMT Eagleton 47.59 298 P **P 03 56 45.8 +0.6**
baz=55
EGMT Eagleton 47.59 298 P **P 03 56 44.8 -0.4**
GCMT Greycliff 48.84 295 P **P 03 56 54.5 -0.5**
K22A Casper 48.92 290 P **P 03 56 55.9 +0.3**
baz=52,SNR=5.4
K22A Casper 48.92 290 IAmb IAmb 03 56 56.7
comp=Z,8.3nm,0.8s
EPYK Eagle Plains 49.00 329 P **P 03 56 56.1 +0.4**
baz=53
RLMT Red Lodge 49.01 294 P **P 03 56 56.6 +0.2**
baz=53
RLMT Red Lodge 49.01 294 P **P 03 56 55.5 -0.9**
WALA Waterton Lakes 49.25 301 P **P 03 56 57.6 -0.3**
WMOK Wichita Mounta 49.26 277 P **P 03 56 58.2 +0.1**
baz=48
KBZ Khabaz 49.41 68 P **P 03 56 58.9 -0.2**
comp=Z,0.9nm,0.4s,baz=294,slow=8.1,SNR=3.8
YNE Yellowstone No 49.50 295 P **P 03 56 60.0 -0.2**
N23A Red Feather La 49.67 288 P **P 03 57 02.8 +1.3**
baz=51,SNR=12
N23A Red Feather La 49.67 288 P **P 03 57 01.2 -0.3**
RWWY Rawlins 49.92 289 P **P 03 57 02.7 -0.7**
RWWY IAmb IAmb 03 57 05.0
comp=Z,7.9nm,0.8s
BOZ Bozeman (W) 50.06 296 P **P 03 57 04.6 +0.3**
baz=53,SNR=10
BOZ Bozeman (W) 50.06 296 P **P 03 57 04.0 -0.3**
BOZ IAmb IAmb 03 57 05.9
comp=Z,5.6nm,0.8s
ISCO Idaho Springs 50.16 287 P **P 03 57 05.8 +0.5**
baz=51
ISCO Idaho Springs 50.16 287 IAmb IAmb 03 57 16.1
comp=Z,11nm,1.9s
JTMT Jette 50.22 300 IAmb IAmb 03 57 06.3
comp=Z,26nm,1.9s
DBIC Dimbokro 50.48 143 P **P 03 57 07.0 -0.4**
comp=Z,1.4nm,0.4s,baz=329,slow=7.4,SNR=9.8
DBIC LR LR 04 15 58.5
comp=Z,85nm,19.7s,baz=344,slow=33
DBIC Dimbokro 50.48 143 P **P 03 57 07.5 +0.1**
MSO Missoula 50.59 299 P **P 03 57 08.2 0.0**
baz=53
BW06 Boulder Array 50.62 292 P **P 03 57 08.1 -0.5**
baz=52,SNR=9.7
BW06 Boulder Array 50.62 292 P **P 03 57 07.9 -0.7**
BW06 IAmb IAmb 03 57 08.8
comp=Z,4.8nm,0.6s
PD31 Pinedale Array 50.62 292 P **P 03 57 08.6 -0.1**
PD31 IAmb IAmb 03 57 08.8
comp=Z,4.2nm,0.7s
PDAR Pinedale Array 50.62 292 P **P 03 57 08.3 -0.3**
comp=Z,3.5nm,0.6s,baz=64,slow=7.7,SNR=46
PDAR Pinedale Array 50.62 292 P **P 03 57 08.5 -0.1**
LOHW Long Hollow 50.69 293 P **P 03 57 09.0 -0.2**
BMAR Burnt Mountain 50.73 332 P **P 03 57 09.3 +0.4**
SNOW Snow King Moun 50.87 293 IAmb IAmb 03 57 12.2
comp=Z,4.6nm,0.8s
FXWY Fox Creek 50.92 294 P **P 03 57 11.0 +0.1**
TPAW Teton Pass 50.97 294 P **P 03 57 10.6 -0.6**
REDW Red Top Meadow 50.99 293 P **P 03 57 10.9 -0.5**
T25A Trinidad 51.14 283 P **P 03 57 13.8 +1.2**
baz=49
T25A Trinidad 51.14 283 IAmb IAmb 03 57 14.9
comp=Z,7.3nm,1.1s
TOLK Toolik Lake Re 51.27 335 P **P 03 57 13.3 +0.4**
baz=45,SNR=5.6
TOLK Toolik Lake Re 51.27 335 P **P 03 57 12.7 -0.2**
TOLK IAmb IAmb 03 57 15.3
comp=Z,10.0nm,1.0s
DLBC Dease Lake 51.35 318 IAmb IAmb 03 57 16.0
comp=Z,8.8nm,1.1s
SDCO Great Sand Dun 51.41 284 P **P 03 57 15.2 +0.5**
baz=49
SDCO Great Sand Dun 51.41 284 P **P 03 57 14.1 -0.5**
NEW Newport 51.43 302 P **P 03 57 14.5 0.0**
baz=52
EGAK Eagle 51.44 329 P **P 03 57 14.1 -0.1**
EGAK IAmb IAmb 03 57 15.5
comp=Z,9.4nm,0.8s
O20A White River Ci 51.50 289 P **P 03 57 16.1 +0.9**
baz=50
O20A White River Ci 51.50 289 IAmb IAmb 03 57 18.3
comp=Z,26nm,1.9s
RDMU Red Mountain 52.01 290 P **P 03 57 18.6 -0.4**
MSTX Muleshoe 52.23 279 P **P 03 57 21.0 +0.4**
baz=48
MSTX Muleshoe 52.23 279 IAmb IAmb 03 57 22.0
comp=Z,8.7nm,1.0s
K27K Chicken 52.24 328 P **P 03 57 21.5 +1.3**
baz=48
C09A Chrisman Ranch 52.32 302 IAmb IAmb 03 57 21.8
comp=Z,4.3nm,0.7s
COLD Coldfoot 52.44 334 P **P 03 57 22.3 +0.7**
baz=44
COLD Coldfoot 52.44 334 P **P 03 57 22.2 +0.5**
COLD IAmb IAmb 03 57 22.8
comp=Z,5.9nm,1.0s
HWUT Hardware Ranch 52.50 292 P **P 03 57 22.0 -0.7**
B08A Colville Reser 52.53 303 IAmb IAmb 03 57 23.6
comp=Z,6.7nm,0.9s
HYT Haines Junctio 52.77 323 IAmb IAmb 03 57 26.7
comp=Z,8.7nm,1.0s
BCAR Beaver Creek A 52.79 327 P **P 03 57 24.6 +0.3**
HLID Hailey 52.88 296 P **P 03 57 26.4 +1.0**
baz=50,SNR=6.4
SCRK Sand Creek 52.89 329 P **P 03 57 26.2 +1.0**
baz=47,SNR=21
PV12 Saucer Basin, 53.01 287 IAmb IAmb 03 57 28.6
comp=Z,8.0nm,0.8s
PV04 Paradox Valley 53.02 287 IAmb IAmb 03 57 28.6
comp=Z,6.8nm,0.8s
PV03 Paradox Valley 53.08 287 IAmb IAmb 03 57 29.0
comp=Z,7.6nm,0.9s
PV20 West Nyswonger 53.09 287 IAmb IAmb 03 57 29.0
comp=Z,9.2nm,0.7s
PV14 Lion Creek, Pa 53.10 287 IAmb IAmb 03 57 29.2
comp=Z,9.8nm,0.8s
PV18 Skein Mesa, Pa 53.12 287 IAmb IAmb 03 57 29.3
comp=Z,10nm,0.8s
PV19 Morning Glory 53.12 287 IAmb IAmb 03 57 29.2
comp=Z,9.0nm,0.8s
PV13 Radium Mtn., P 53.12 287 IAmb IAmb 03 57 29.5
comp=Z,8.6nm,1.2s
DOT Dot Lake 53.15 329 IAmb IAmb 03 57 28.9
comp=Z,5.9nm,0.8s
POKR Poker Plat Res 53.16 331 P **P 03 57 28.0 +0.9**
baz=45
IL31 53.24 331 IAmb IAmb 03 57 29.3
comp=Z,6.4nm,0.8s
ILAR Eielson Array 53.24 331 P **P 03 57 28.2 +0.6**
comp=Z,4.2nm,0.7s,baz=46,slow=5.6,SNR=46
ILAR PcP **PcP 03 58 35.0 -0.2**
comp=Z,1.8nm,0.8s,baz=11,slow=3.5,SNR=6.7
ILAR LR LR 04 19 57.8
comp=Z,30nm,18.1s,baz=150,slow=36
ILAR Eielson Array 53.24 331 P **P 03 57 27.9 +0.4**
TCOL CIGO, UAF Yank 53.47 331 P **P 03 57 30.4 +1.2**
baz=44
MDM Murphy Dome 53.52 331 IAmb IAmb 03 57 31.3
comp=Z,11nm,1.0s
HDA Harding Lake 53.52 330 P **P 03 57 30.3 +0.7**
baz=45,SNR=7.5
MENT Mentasta 53.52 328 IAmb IAmb 03 57 31.8
comp=Z,6.0nm,0.7s
MVCO Mesa Verde 53.56 286 P **P 03 57 31.6 +1.1**
baz=48
CCB Clear Creek Bu 53.61 331 IAmb IAmb 03 57 31.5
comp=Z,4.4nm,0.6s
MFID Camas Ranch 53.77 296 IAmb IAmb 03 57 33.9
comp=Z,16nm,1.8s
WRH Wood River Hil 53.82 331 IAmb IAmb 03 57 33.4
comp=Z,9.9nm,0.8s
ANMO Albuquerque 53.83 282 P **P 03 57 33.7 +1.1**
baz=48
ANMO Albuquerque 53.83 282 P **P 03 57 32.5 -0.1**
LTY Liberty 53.93 303 IAmb IAmb 03 57 33.3
comp=Z,6.0nm,0.9s
NEA2 Nenana 54.03 331 P **P 03 57 34.5 +1.1**
baz=44
CTGM Chitina Glacie 54.07 325 IAmb IAmb 03 57 36.1
comp=Z,12nm,1.0s
PAX Paxson 54.08 329 IAmb IAmb 03 57 35.8
comp=Z,6.6nm,0.8s
BARN Barnard Glacie 54.12 325 IAmb IAmb 03 57 35.9
comp=Z,8.8nm,0.8s
DUG Dugway, Tooele 54.14 291 P **P 03 57 35.7 +1.0**
baz=49,SNR=7.3
DUG Dugway, Tooele 54.14 291 IAmb IAmb 03 57 36.5
comp=Z,4.9nm,0.7s
IMAR Indian Mountai 54.32 334 P **P 03 57 35.9 +0.4**
BALM Baldy 54.38 326 IAmb IAmb 03 57 38.1
comp=Z,10nm,1.0s
DHY Denali Highway 54.61 329 IAmb IAmb 03 57 39.7
comp=Z,13nm,1.0s
MCK McKinley 54.62 331 P **P 03 57 37.9 +0.3**
RND Reindeer 54.83 330 IAmb IAmb 03 57 40.5
comp=Z,9.4nm,1.0s
M24K Tolsona, Glenn 54.92 328 P **P 03 57 40.7 +0.8**
baz=44
BPAW Bear Paw Mtn. 54.96 332 IAmb IAmb 03 57 41.7
comp=Z,8.5nm,0.9s
D03D Eldon 55.01 304 P **P 03 57 40.6 0.0**
baz=49
ABKAR Akbulak array 55.12 53 P **P 03 57 41.5 +0.1**
J08A Circle Bar Ran 55.27 298 IAmb IAmb 03 57 56.1
comp=Z,6.2nm,1.1s
KLU Klutina 55.28 328 IAmb IAmb 03 57 44.1
comp=Z,7.5nm,0.9s
SCM Sheep Creek Mo 55.50 328 IAmb IAmb 03 57 45.4
comp=Z,6.8nm,0.8s
W18A Petrified Fore 55.70 285 P **P 03 57 46.9 +0.8**
baz=47
EYAK Cordova Ski Ar 55.90 327 IAmb IAmb 03 57 48.5
comp=Z,6.2nm,0.8s
WVOR Wild Horse Val 55.97 297 IAmb IAmb 03 57 56.5
comp=Z,7.7nm,0.9s
TX32 Lajitas Array 55.98 275 IAmb IAmb 03 57 49.5
comp=Z,17nm,1.9s
TXAR Lajitas Array 55.98 275 P **P 03 57 48.4 +0.4**
comp=Z,0.8nm,0.6s,baz=61,slow=8.2,SNR=11
TXAR PcP **PcP 03 58 46.8 +0.4**
comp=Z,0.8nm,0.6s,baz=77,slow=4.6,SNR=8.5
TXAR Lajitas Array 55.98 275 P **P 03 57 48.1 +0.1**
TXAR **PcP 03 58 46.3 -0.1**
CUT Chulitna 56.01 330 P **P 03 57 48.1 +0.5**
baz=42
GHO Glory Hole Cre 56.06 329 IAmb IAmb 03 58 01.8
comp=Z,10nm,1.0s
I05D Terrebonne, OR 56.18 300 P **P 03 57 49.8 +0.5**
baz=48
TIXI Tiksi 56.26 7 P **P 03 57 49.1 -0.2**
121A Cookes Peak, D 56.28 281 P **P 03 57 51.4 +1.1**
baz=46
PINE Pine Mountain 56.33 300 IAmb IAmb 03 58 03.9
comp=Z,8.5nm,1.0s
WUAZ Wupatki 56.41 286 P **P 03 57 52.5 +1.4**
baz=47
WUAZ Wupatki 56.41 286 IAmb IAmb 03 57 53.5
comp=Z,16nm,1.7s
J05D Fort Rock, OR 56.83 299 P **P 03 57 55.1 +1.1**
baz=48,SNR=5.1
RC01 Rabbit Creek A 56.83 329 P **P 03 57 54.2 +0.7**
baz=41
R11A Troy Canyon, C 56.97 292 P **P 03 57 54.9 -0.2**
baz=47,SNR=5.1
R11A Troy Canyon, C 56.97 292 IAmb IAmb 03 57 56.5
comp=Z,10nm,1.8s
K05A Summer Lake 57.02 299 P **P 03 57 54.0 -1.3**
K05A IAmb IAmb 03 57 57.4
comp=Z,9.6nm,0.9s
I04A Tendick Farm, 57.12 300 P **P 03 57 55.6 -0.3**
baz=48
MOD Modoc Plateau 57.25 298 IAmb IAmb 03 57 58.6
comp=Z,4.9nm,0.8s
J04D Umpqua Nationa 57.33 300 P **P 03 57 58.0 +0.4**
baz=48
BRVK Borovoye 57.37 44 P **P 03 57 57.1 -0.4**
BRVK IAmb IAmb 03 57 58.7
comp=Z,5.4nm,0.8s
KVN Kaiserville 57.94 294 P **P 03 58 02.0 +0.1**
KVN IAmb IAmb 03 58 03.5
comp=Z,14nm,1.5s
ROSC El Rosal 58.01 231 P **P 03 58 04.7 +1.8**
comp=Z,21nm,0.7s,baz=102,slow=2.5,SNR=10
ROSC LR LR 04 19 50.7
comp=Z,37nm,22.0s,baz=215,slow=33
ROSC El Rosal 58.01 231 P **P 03 58 02.5 -0.3**
TPH Tonopah 58.10 292 P **P 03 58 02.9 -0.2**
M04C Macdoel 58.17 298 P **P 03 58 03.8 +0.4**
baz=47
TUC Tucson 58.26 283 P **P 03 58 05.4 +1.2**
baz=46
TPNV Topopah Spring 58.31 291 P **P 03 58 04.7 +0.2**
baz=46
NV11 Mina Array Sit 58.39 293 P **P 03 58 05.0 -0.1**
NV11 IAmb IAmb 03 58 06.4
comp=Z,3.7nm,0.8s
RYN Ryan 58.47 294 IAmb IAmb 03 58 06.7
comp=Z,4.1nm,0.9s
NVAR Mina Array Bea 58.48 293 P **P 03 58 06.2 +0.5**
comp=Z,0.5nm,0.5s,baz=65,slow=7.5,SNR=6.9
NVAR Mina Array Bea 58.48 293 P **P 03 58 05.6 -0.2**
K02D Willamette Mer 58.54 300 P **P 03 58 06.0 +0.1**
baz=47
LHV Little Huntoon 58.72 293 IAmb IAmb 03 58 08.8
comp=Z,4.4nm,0.9s
PNTR Pine Nut 58.77 295 P **P 03 58 06.6 -1.1**
PDMCI Parker Dam,Lak 58.89 287 P **P 03 58 09.8 +1.4**
baz=46
O03E Paynes Creek 59.17 297 P **P 03 58 10.8 +0.4**
baz=46
GMRC Granite Mounta 59.46 289 P **P 03 58 13.5 +1.0**
baz=46
IRM Iron Mountain 59.59 288 P **P 03 58 14.2 +0.9**
baz=46
MPMC Manual Prospec 59.65 291 P **P 03 58 14.4 +0.6**
baz=46,SNR=5.4
CWC Cottonwood Cre 59.72 291 P **P 03 58 15.1 +0.8**
baz=46
GSC Goldstone, Bar 59.77 290 P **P 03 58 15.8 +1.2**
baz=46
HEC Hector,Ludlow 59.83 289 P **P 03 58 16.4 +1.5**
baz=46
BC3 Big Chuckawall 60.12 287 P **P 03 58 18.3 +1.2**
baz=45
BELC Belle Mtn. Jos 60.21 288 P **P 03 58 19.1 +1.5**
baz=45,SNR=6.1
ISA Isabella, Lake 60.49 291 P **P 03 58 18.7 -0.8**
ISA IAmb IAmb 03 58 28.4
comp=Z,4.4nm,1.0s
PFO Pinyon Flats O 60.75 288 P **P 03 58 22.5 +1.1**
baz=45
EDW2 Edwards Air Fo 60.76 290 P **P 03 58 22.5 +1.2**
baz=45
BFSC Mount Baldy Ra 61.02 289 P **P 03 58 24.6 +1.4**
baz=45
ARVC Arvin 61.08 291 P **P 03 58 24.8 +1.4**
baz=45
IKP In-Ko-Pah, Jac 61.22 287 P **P 03 58 25.9 +1.4**
baz=45
GEYT Alibeck 61.88 64 P **P 03 58 29.1 +0.3**
comp=Z,0.9nm,0.4s,baz=291,slow=12,SNR=4.1
GEYT Alibeck 61.88 64 P **P 03 58 27.7 -1.1**
ZALV Zalesovo Beam 62.55 36 P **P 03 58 33.0 0.0**
comp=Z,2.0nm,0.6s,baz=308,slow=7.8,SNR=7.7
ZALV Zalesovo Beam 62.55 36 P **P 03 58 32.7 -0.3**
KKAR Karatay Array 64.65 52 P **P 03 58 46.5 -0.6**
MKAR Makanchi Array 67.20 42 P **P 03 59 03.3 -0.2**
comp=Z,1.1nm,0.4s,baz=327,slow=5.1,SNR=15
MKAR LR LR 04 27 46.3
comp=Z,48nm,18.1s,baz=330,slow=35
GAR Garm 67.62 55 P **P 03 59 06.0 -0.4**
BDFB Brasilia 68.36 196 P **P 03 59 12.1 +1.1**
comp=Z,2.7nm,0.8s,baz=36,slow=7.7,SNR=2.8
BDFB LR LR 04 23 39.6
comp=Z,44nm,19.7s,baz=114,slow=31
BDFB Brasilia 68.36 196 P **P 03 59 11.3 +0.2**
LPAZ La Paz 74.38 215 P **P 03 59 50.2 +2.2**
comp=Z,1.3nm,0.8s,baz=0.8,slow=9.5,SNR=4.5
LPAZ La Paz 74.38 215 P **P 03 59 47.7 -0.3**
SONM Songino Array 74.86 27 P **P 03 59 50.5 +0.4**
comp=Z,3.3nm,0.9s,baz=326,slow=6.1,SNR=11
SONM Songino Array 74.86 27 P **P 03 59 50.1 +0.1**
KSRS Korea Array 89.62 15 P **P 04 01 06.8 -0.4**
comp=Z,0.7nm,0.8s,baz=328,slow=4.3,SNR=2.7
PLCA Paso Flores 97.76 208 LR LR 04 44 21.1
comp=Z,38nm,18.2s,baz=182,slow=34
CMAR Chiang Mai Arr 98.44 46 LR LR 04 48 00.7
comp=Z,24nm,18.7s,baz=285,slow=36
WRA Warramunga Arr 146.73 22 PKPbc **PKPbc 04 07 51.0 -0.6**
comp=Z,8.4nm,0.7s,baz=339,slow=2.8,SNR=40
WRA Warramunga Arr 146.73 22 **PKPbc 04 07 51.1 -0.4**
ASAR Alice Springs 150.19 25 PKPbc **PKPbc 04 07 59.6 -0.9**
comp=Z,8.7nm,0.6s,baz=345,slow=2.2,SNR=91
ASAR Alice Springs 150.19 25 **PKPbc 04 07 59.9 -0.6**
VNDA Vanda 153.51 187 PKPbc **PKiKP 04 08 06.5 0.0**
comp=Z,2.0nm,0.8s,baz=261,slow=2.2,SNR=16

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*JMA **09** 04:04:46.3±0.2, 28°.62N×128°.24E, h140km±3km, M3.4*
*IDC **09** 04:04:46.4±4.7, 28°.58N×128°.49E, h154km±44km, mb3.2/4, mb1 3.3/6, mb1mx3.1/29, mbtmp3.5/6, Error ellipse: s-maj=44.5km s-min=27.1km az=88.0*

ISC 09 04:04:45.9±0.8, 28°.57N±0°.05×128°.33E±0°.06, h153km±7km, n23, σ0.9 75/39, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.81**	**113**	P	**Pn**	**04 05 09.3**	**-0.1**
JAMN				*e*S	**Sn**	**04 05 27.0**	**-0.4**
JTK	**Tokunoshima**	**0.96**	**145**	P	**Pn**	**04 05 10.8**	**+0.2**
JTK				*e*S	**Sn**	**04 05 29.1**	**-0.3**
JTAJ	**Takarajima**	**0.96**	**53**	P	**Pn**	**04 05 10.6**	**+0.1**
JTAJ				*e*S	**Sn**	**04 05 28.8**	**-0.6**
JAM	**Amami Oshima**	**1.14**	**98**	P	**Pn**	**04 05 12.1**	**+0.1**
JAM				*e*S	**Sn**	**04 05 31.3**	**-0.7**
JOKE	**Okinoerabujima**	**1.22**	**170**	P	**Pn**	**04 05 13.4**	**+0.5**
JOKE				*e*S	**Sn**	**04 05 33.5**	**-0.1**
JZK	**Kikaishima**	**1.47**	**100**	P	**Pn**	**04 05 16.8**	**+1.5**
JZK				*e*S	**Sn**	**04 05 38.9**	**+1.1**
JYRO	**Yoronjima**	**1.54**	**176**	P	**Pn**	**04 05 16.3**	**+0.2**
JYRO				*e*S	**Sn**	**04 05 38.6**	**-0.7**
JIH	**Iheya**	**1.56**	**192**	P	**Pn**	**04 05 16.8**	**+0.5**
JIH				*e*S	**Sn**	**04 05 39.4**	**-0.2**
JOW	**Kunigami**	**1.73**	**182**	P	**Pn**	**04 05 18.5**	**+0.3**
JOW				*e*S	**Sn**	**04 05 42.2**	**-0.8**
JNN	**Nakanoshima**	**1.85**	**47**	P	**Pn**	**04 05 19.4**	**0.0**
JNN				*e*S	**Sn**	**04 05 44.9**	**-0.4**
JNTH	**Nagotoyohara**	**2.06**	**188**	P	**Pn**	**04 05 22.1**	**+0.2**
JNTH				*e*S	**Sn**	**04 05 48.8**	**-0.8**
JAGN	**Aguni-jima**	**2.20**	**206**	P	**Pn**	**04 05 23.8**	**+0.3**
JAGN				*e*S	**Sn**	**04 05 51.9**	**-0.5**
JJT3	**Tamagusuku3**	**2.47**	**191**	*e*S	**Sn**	**04 05 58.6**	**+0.4**
JKE	**Kume jima 2**	**2.62**	**212**	P	**Pn**	**04 05 28.3**	**-0.3**
JKE				*e*S	**Sn**	**04 06 00.7**	**-0.9**
JTN	**Tanegashima 3**	**3.10**	**47**	P	**Pn**	**04 05 34.6**	**0.0**
JTN				*e*S	**Sn**	**04 06 10.5**	**-2.0**
JKDJ	**Kitadaitoujima**	**3.71**	**134**	P	**Pn**	**04 05 43.2**	**+0.7**
JKDJ				*e*S	**Sn**	**04 06 25.3**	**-1.1**
JMZ	**Minamidaito 2**	**3.76**	**136**	P	**Pn**	**04 05 43.6**	**+0.5**
JMZ				*e*S	**Sn**	**04 06 25.6**	**-1.9**
KSRS	**Korea Array**	**8.87**	**358**	P	**Pn**	**04 06 51.0**	**+0.4**
	0.1nm,0.3s,baz=171,slow=13,SNR=3.2						
USRK	**Ussuriysk Ar.**	**15.87**	**10**	P	**Pn**	**04 08 20.7**	**0.0**
	baz=186,slow=12,SNR=2.3						
SONM	**Songino Array**	**25.67**	**324**	P	**P**	**04 10 02.7**	**+1.1**
	1.0nm,0.6s,baz=133,slow=9.8,SNR=6.4						
WRA	**Warramunga Arr**	**48.58**	**172**	P	**P**	**04 13 14.1**	**+0.2**
	0.2nm,0.6s,baz=352,slow=8.5,SNR=1.7						
ILAR	**Eielson Array**	**62.35**	**29**	P	**P**	**04 14 51.6**	**-0.1**
	0.3nm,0.6s,baz=285,slow=9.6,SNR=8.8						
PDAR	**Pinedale Array**	**91.29**	**39**	P	**P**	**04 17 34.0**	**-0.3**
	0.3nm,0.5s,baz=288,slow=0.9,SNR=4.5						

IDC 09 04:49:51.4±3.9, 4°.83S×128°.72E, h151km±51km, mb3.1/1, mb1 3.0/5, mb1mx2.8/44, mbtmp3.5/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/16, Error ellipse: s-maj=76.1km s-min=21.1km az=87.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.68**	**33**	P	Pn	04 51 01.2	+0.5
	5.3nm,0.3s,baz=6.7,slow=2.9,SNR=15						
SIJI				S	Sn	04 51 50.1	-4.7
	8.3nm,0.3s,baz=207,slow=22,SNR=13						
FITZ	**Fitzroy Crossi**	**13.53**	**193**	P	Pn	04 52 59.0	+1.6
	0.1nm,0.3s,baz=15,slow=12,SNR=3.1						
FITZ				S	Sn	04 55 25.5	-1.7
	0.0nm,0.3s,baz=196,slow=15,SNR=1.7						
WRA	**Warramunga Arr**	**15.98**	**160**	P	Pn	04 53 27.2	-0.9
	0.1nm,0.3s,baz=343,slow=13,SNR=6.8						
WRA				S	S	04 56 16.1	-10
	0.2nm,0.3s,baz=332,slow=25,SNR=7.8						
ASAR	**Alice Springs**	**19.38**	**166**	P	P	04 54 06.0	+0.2
	0.1nm,0.3s,baz=350,slow=11,SNR=5.7						
MJAR	**Matsushiro Arr**	**42.10**	**11**	LR	LR	05 12 55.1	
	comp=Z,39nm,21.9s,baz=250,slow=33						
MKAR	**Makanchi Array**	**65.73**	**327**	P	P	05 00 19.4	-0.5
	0.3nm,0.5s,baz=113,slow=8.2,SNR=2.6						

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*IDC **09** 05:02:13.3±0.8, 46°.72N×153°.28E, h0km, mb3.6/9, mb1 3.9/11, mb1mx3.7/43, mbtmp3.7/11, ML2.7/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/51, Error ellipse: s-maj=31.0km s-min=18.5km az=134.0*
*SKHL **09** 05:02:18.8±0.4, 46°.76N×153°.50E, h61km±1km, mb5.4/2, msh4.7/3*
*MOS **09** 05:02:19.2±1.7, 46°.94N×153°.20E, h53km, mb4.4/3, Error ellipse: s-maj=22.0km s-min=9.4km az=52.8*

ISC 09 05:02:18.0±0.7, 46°.75N±0°.09×153°.44E±0°.09, h31km, n37, σ1.8 39/37, mb3.7/11, MS3.1/3, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.17**	**251**	*e*P	**Pn**	**05 03 21.1**	**+1.7**
KUR				AMB	AMB	05 03 26.0	
	120nm,0.4s						
KUR				AMB	AMB	05 03 26.2	
	400nm,2.0s						
KUR				*e*S	**Sn**	**05 04 07.5**	**+0.5**
KUR				A	A	05 04 15.8	
	180nm,0.3s						
KUR				A	A	05 04 15.8	

40nm,0.3s
KUR A A 05 04 23.0
600nm,2.0s
KUR A A 05 04 23.0
600nm,2.0s
KUR Kuril'sk 4.17 251 *e*PN **Pn 05 03 21.1 +1.7**
KUR *e*S **Sn 05 04 07.8 +0.8**
KUR pmax pmax
comp=N,49nm,0.4s
KUR pmax pmax
comp=Z,126nm,0.4s
KUR pmax pmax
comp=E,26nm,0.2s
KUR smax smax
comp=N,181nm,0.3s
KUR smax smax
comp=E,43nm,0.2s
KUR smax smax
comp=E,342nm,1.3s
KUR smax smax
comp=N,441nm,1.5s
SKR Severo-Kuril's 4.32 23 *e*P **Pn 05 03 22.2 +0.8**
SKR AMB AMB 05 03 24.0
comp=N,160nm,0.6s
SKR AMB AMB 05 03 24.4
comp=N,200nm,2.0s
SKR *e*S **Sn 05 04 09.5 -1.1**
SKR A A 05 04 12.0
comp=N,200nm,2.0s
SKR A A 05 04 12.0
comp=N,300nm,2.0s
SKR A A 05 04 30.0
comp=N,370nm,0.7s
SKR A A 05 04 30.0
comp=N,300nm,0.7s
SKR Severo-Kuril's 4.32 23 *e*PN **Pn 05 03 22.2 +0.8**
SKR *e*S **Sn 05 04 09.7 -0.9**
SKR pmax pmax
comp=Z,162nm,0.6s
SKR smax smax
comp=E,300nm,0.8s
SKR smax smax
comp=N,367nm,0.6s
PAU Pauzhetka 5.21 24 *e*P **Pn 05 03 34.4 +0.7**
PAU AMB AMB 05 03 43.0
comp=N,50nm,0.4s
PAU *e*S **Sn 05 04 31.4 -1.3**
PAU A A 05 04 36.4
comp=N,900nm,5.0s
PAU A A 05 04 36.4
comp=N,500nm,5.0s
PAU A A 05 04 56.0
comp=N,130nm,0.6s
PAU A A 05 04 56.0
comp=N,110nm,0.6s
GRPR Tuman 6.06 246 *e*P **Pn 05 03 46.4 +1.0**
GRPR AMB AMB 05 03 52.0
comp=N,90nm,0.4s
GRPR *e*S **Sn 05 04 54.0 +0.3**
GRPR A A 05 05 00.0
comp=N,140nm,0.4s
GRPR A A 05 05 00.0
comp=N,60nm,0.4s
GRPR Tuman 6.06 246 *e*PN **Pn 05 03 46.4 +1.0**
GRPR *e*S **Sn 05 04 54.4 +0.7**
GRPR pmax pmax
comp=Z,90nm,0.4s
GRPR pmax pmax
comp=N,70nm,0.2s
GRPR pmax pmax
comp=E,65nm,0.1s
GRPR smax smax
comp=N,144nm,0.4s
GRPR smax smax
comp=E,64nm,0.4s
RUSJ Misakicho 6.34 248 *e*PN **Pn 05 03 51.3 +2.0**
NMR Nemuro--Hokkai 6.42 241 *e*P **Pn 05 03 48.7 -1.7**
NMR *e*S **Sn 05 04 58.3 -4.2**
NMR Nemuro--Hokkai 6.42 241 *e*PN **Pn 05 03 48.3 -2.1**
PETK Petropavlovsk- 6.93 22 Pn **Pn 05 03 58.3 +1.0**
comp=E,1.0nm,0.3s,baz=180,slow=12,SNR=26
PET Petropavlovsk 7.12 26⇑*e*PN **Pb 05 04 19.7 -1.1**
ASAJ Asahikawa 8.07 255 LR LR 05 07 10.4
comp=E,63nm,21.0s,baz=325,slow=37
TYV Tymovskoe 8.22 304 *e*P **Pn 05 04 17.5 +2.5**
ERM Erimo 8.75 241⇓*e*PN **Pn 05 04 23.0 +0.7**
MJA0 Matsu Arr-Jizo 15.24 233 *e*P **P 05 05 55.4 -0.1**
MJA0 pmax pmax
comp=Z,6.0nm,0.7s
USRK Ussuriysk Ar. 15.26 268 Pn **Pn 05 05 49.9 -1.1**
baz=95,slow=11,SNR=2.6
MJAR Matsushiro Arr 15.26 233 *e*P **P 05 05 55.4 -0.3**
MJAR pmax pmax
comp=Z,6.0nm,0.7s
KSRS Korea Array 21.01 253 P **P 05 06 57.8 -1.1**
comp=Z,1.9nm,0.9s,baz=59,slow=9.9,SNR=5.8
H11N2 WAKE ISLAND Hy 29.12 153 T T 05 39 45.6
baz=340,slow=76,SNR=142
H11N1 WAKE ISLAND Hy 29.13 153 T T 05 39 43.1
baz=340,slow=76,SNR=91
H11N3 WAKE ISLAND Hy 29.14 153 T T 05 39 45.3
baz=340,slow=76,SNR=78
H11S1 WAKE ISLAND Hy 30.21 154 T T 05 41 06.1
baz=342,slow=76
H11S3 WAKE ISLAND Hy 30.22 154 T T 05 40 19.0
baz=342
H11S2 WAKE ISLAND Hy 30.23 154 T T 05 41 09.9
baz=342,slow=76
GUMO Guam 33.83 195 LR LR 05 19 53.0
comp=Z,13nm,20.5s,baz=304,slow=31
COLA College 36.00 38⇑*e*P **P 05 09 18.0 +2.4**
COLA pmax pmax
comp=Z,4.0nm,1.0s
ILAR Eielson Array 36.41 39 P **P 05 09 20.1 +0.8**
comp=Z,0.6nm,0.9s,baz=282,slow=5.4,SNR=5.9
NVAR Mina Array Bea 62.23 63 P **P 05 12 37.9 +0.9**
comp=Z,0.5nm,0.8s,baz=292,slow=7.8,SNR=3.7
FINES FINESS Array B 64.13 335 P **P 05 12 48.1 -0.7**
comp=Z,1.0nm,0.6s,baz=35,slow=7.0,SNR=4.5
PDAR Pinedale Array 64.56 54 P **P 05 12 53.3 +1.0**
comp=Z,0.3nm,0.4s,baz=338,slow=6.8,SNR=5.6
PDAR LR LR 05 43 04.8
comp=Z,10nm,18.0s,baz=318,slow=38
OBN Obninsk 65.43 326 *e*P **P 05 12 57.9 +0.6**
OBN Obninsk 65.43 326 *e*P **P 05 12 57.9 +0.6**
OBN *e* 05 13 25.8
OBN *e* 05 15 21.3
OBN pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 68.30 341 P **P 05 13 15.4 -0.2**
comp=Z,0.6nm,0.6s,baz=29,slow=6.4,SNR=2.6
NOA LR LR 05 47 19.2
comp=Z,14nm,18.7s,baz=10.0,slow=40
WRA Warramunga Arr 68.59 199 P **P 05 13 16.5 -1.2**
comp=Z,0.8nm,1.1s,baz=21,slow=6.7,SNR=2.6
ASAR Alice Springs 72.28 199 P **P 05 13 40.8 +0.5**
comp=Z,0.6nm,0.7s,baz=11,slow=5.1,SNR=7.0
TXAR Lajitas Array 77.30 61 P **P 05 14 09.9 +0.4**
comp=Z,0.3nm,0.4s,baz=296,slow=4.8,SNR=11

*VAO **09** 05:06:12.6±1.0, 23°.39S×67°.15W, h239km±16km, mb4.1*
*NEIC **09** 05:06:12.2±1.8, 23°.57S±0°.09×67°.09W±0°.08, h233km±16km, mb4.2/2, Error ellipse: s-maj=12.6km s-min=10.7km az=174.0*
*GUC **09** 05:06:13.5±0.5, 23°.40S×67°.19W, h242km±6km, ML4.0*
*IDC **09** 05:06:18.3±9.8, 23°.03S×66°.70W, h252km±67km, mb3.3/1, mb1 3.2/3, mb1mx3.0/17, mbtmp3.8/3, Error ellipse: s-maj=112.2km s-min=38.6km az=27.0*
ISC 09 05:06:12.4±0.8, 23°.46S±0°.05×67°.23W±0°.10, h244km±12km, n59, σ1§12/78, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.77**	**298**	*e*P	**Pn**	**05 06 53.1**	**+0.3**
LVC				*i* S	**S**	**05 07 23.4**	**-1.0**
LVC	**Limon Verde**	**1.77**	**298**	Pn	**Pn**	**05 06 53.2**	**+0.5**
LVC	**Limon Verde**	**1.77**	**298**	*e*P	**Pn**	**05 06 53.0**	**+0.3**
LVC				*e*S	**S**	**05 07 23.6**	**-0.8**
PB15	**IPOC Station P**	**2.08**	**276**	⇑*i*P	**Pn**	**05 06 56.3**	**+1.0**
PB15				*i* S	**S**	**05 07 29.5**	**+0.5**
PB15				IAML		05 07 35.3	
	comp=N,864nm,0.3s						
PB15	**IPOC Station P**	**2.08**	**276**		**Pn**	**05 06 56.4**	**+1.0**
PB06	**IPOC Station P**	**2.29**	**289**⇑*i*P		**Pn**	**05 06 58.5**	**+1.2**
PB06				*i* S	**S**	**05 07 32.6**	**0.0**
PB06				IAML		05 07 33.0	
	comp=N,370nm,0.4s						
PB06	**IPOC Station P**	**2.29**	**289**		**Pn**	**05 06 58.5**	**+1.2**
PB09	**IPOC Station P**	**2.49**	**311**⇑*i*P		**Pn**	**05 07 00.7**	**+1.3**
PB09				*i* S	**S**	**05 07 36.4**	**+0.1**
PB09				IAML		05 07 40.7	
	comp=N,137nm,0.2s						
PB09	**IPOC Station P**	**2.49**	**311**		**Pn**	**05 07 00.7**	**+1.3**
GO02	**Mina Guanaco**	**2.75**	**231**	Pn	**Pn**	**05 07 02.6**	**+0.5**
PB04	**IPOC Station P**	**2.92**	**292**⇑*i*P		**Pn**	**05 07 05.4**	**+1.5**
PB04				*i* S	**S**	**05 07 44.5**	**+0.1**
PB04	**IPOC Station P**	**2.92**	**292**	Pn	**Pn**	**05 07 04.4**	**+0.5**
PB07	**IPOC Station P**	**3.00**	**304**	*i* P	**Pn**	**05 07 06.0**	**+1.3**
PB07				*i* S	**S**	**05 07 45.5**	**-0.6**
PB07	**IPOC Station P**	**3.00**	**304**		**Pn**	**05 07 06.1**	**+1.3**
PB10	**IPOC Station P**	**3.06**	**268**⇑*i*P		**Pn**	**05 07 07.0**	**+1.8**
PB10				*i* S	**S**	**05 07 46.7**	**0.0**
PB10	**IPOC Station P**	**3.06**	**268**		**Pn**	**05 07 06.6**	**+1.5**
PB14	**IPOC Station P**	**3.13**	**248**⇑*i*P		**Pn**	**05 07 07.4**	**+1.1**
PB14				*i* S	**S**	**05 07 48.4**	**-0.3**
PB14	**IPOC Station P**	**3.13**	**248**	Pn	**Pn**	**05 07 07.2**	**+1.0**
PB01	**IPOC Station P**	**3.19**	**318**⇓*i*P		**Pn**	**05 07 07.7**	**+0.9**
PB01				*i* S	**S**	**05 07 49.1**	**-0.5**
PB01	**IPOC Station P**	**3.19**	**318**		**Pn**	**05 07 07.5**	**+0.7**
PB08	**IPOC Station P**	**3.75**	**331**	*e*P	**Pn**	**05 07 15.0**	**+1.5**
PB08				*i* S	**S**	**05 08 01.6**	**-0.2**
PB08	**IPOC Station P**	**3.75**	**331**		**Pn**	**05 07 14.6**	**+1.1**
PATCX	**Punta Patache**	**3.77**	**313**	*e*P	**Pn**	**05 07 14.2**	**+0.8**
PATCX				*i* S	**S**	**05 08 00.7**	**-1.0**
PATCX	**Punta Patache**	**3.77**	**313**	Pn	**Pn**	**05 07 13.3**	**-0.1**
AC02	**Maricunga**	**3.78**	**207**	Pn	**Pn**	**05 07 12.6**	**-1.3**
TA01	**Diego Aracena**	**3.97**	**316**	*e*P	**Pn**	**05 07 16.8**	**+1.1**
TA01				*i* S	**S**	**05 08 04.5**	**-1.3**
TA01	**Diego Aracena**	**3.97**	**316**		**Pn**	**05 07 17.0**	**+1.4**
AC01	**Pan de Azucar**	**4.07**	**228**		**S**	**05 08 06.2**	**-1.7**
TA02	**Huaiquique**	**4.16**	**319**	*e*P	**Pn**	**05 07 18.9**	**+1.0**
TA02				*e*S	**S**	**05 08 08.3**	**-1.6**
GO01	**Chusmiza**	**4.19**	**334**	*e*P	**Pn**	**05 07 19.6**	**+0.9**
GO01				*i* S	**S**	**05 08 10.8**	**-0.4**
GO01	**Chusmiza**	**4.19**	**334**		**Pn**	**05 07 20.0**	**+1.2**
PB11	**IPOC Station P**	**4.32**	**328**	*e*P	**Pn**	**05 07 19.7**	**-0.3**
PB11				*i* S	**S**	**05 08 11.8**	**-1.7**
PB11	**IPOC Station P**	**4.32**	**328**	Pn	**Pn**	**05 07 20.4**	**+0.5**
PSGC	**Pisagua**	**4.69**	**324**	*e*P	**Pn**	**05 07 24.3**	**-0.1**
PSGC				*i* S	**S**	**05 08 19.6**	**-2.1**
PSGCX	**Pisagua**	**4.69**	**324**		**Pn**	**05 07 24.1**	**-0.3**
MNMC	**Minye Minye**	**4.84**	**332**	*e*P	**Pn**	**05 07 27.5**	**+1.2**
MNMC				*i* S	**S**	**05 08 24.1**	**-1.0**
PB16	**IPOC Station P**	**5.52**	**337**	*e*P	**Pn**	**05 07 36.3**	**+1.2**
PB16				*i* S	**S**	**05 08 39.5**	**-1.4**
PB12	**IPOC Station P**	**5.62**	**328**	*e*P	**Pn**	**05 07 35.6**	**-0.3**
PB12				*i* S	**S**	**05 08 38.9**	**-3.4**
PB12	**IPOC Station P**	**5.62**	**328**	Pn	**Pn**	**05 07 36.1**	**+0.2**
AC04	**Llanos de Chal**	**5.86**	**215**	Pn	**Pn**	**05 07 37.2**	**-1.5**
AC05	**El Transito**	**6.02**	**206**	Pn	**Pn**	**05 07 40.1**	**-0.6**
LCO	**Las Campanas**	**6.35**	**209**	Pn	**Pn**	**05 07 44.1**	**-0.9**
LPAZ	**La Paz**	**7.18**	**353**	P	**Pn**	**05 07 57.7**	**+1.7**
	comp=N,0.3nm,0.3s,baz=171,slow=7.5,SNR=13						
LPAZ				S	**S**	**05 09 17.8**	**-1.2**
	baz=247,slow=21,SNR=1.5						
GO04	**Tololo Observa**	**7.41**	**205**	Pn	**Pn**	**05 07 57.9**	**-0.5**
CO03	**El Pedregal**	**7.97**	**202**	Pn	**Pn**	**05 08 04.6**	**-0.8**
CO02	**Combarbal**	**8.41**	**203**	Pn	**Pn**	**05 08 09.5**	**-1.5**
PTGB	**Pitanga**	**13.91**	**98**	*e*P	**Pn**	**05 09 19.9**	**+0.1**
ITRB	**Iturama**	**16.12**	**80**	*e*P	**Pn**	**05 09 45.9**	**-0.4**
ARAG	**Araguaiana, MT**	**16.43**	**65**	*e*P	**P**	**05 09 48.4**	**-0.1**
CLDB	**Colider**	**16.59**	**43**	*e*P	**P**	**05 09 49.0**	**-1.3**
IPMB	**Ipameri, GO**	**18.59**	**77**	*e*P	**P**	**05 10 11.3**	**-0.7**
VAO	**Valinhos**	**18.63**	**93**	*e*P	**P**	**05 10 11.2**	**-1.2**
BDFB	**Brasilia**	**19.69**	**70**	P	**P**	**05 10 22.8**	**-0.9**
	comp=N,0.5nm,0.3s,baz=240,slow=12,SNR=6.7						
BDFB	**Brasilia**	**19.69**	**70**	IAmb	IAmb	05 10 24.0	
	comp=Z,6.3nm,0.8s						
ITTB	**Itaituba**	**21.98**	**32**	*e*P	**P**	**05 10 47.0**	**+0.1**
JANB	**Januaria**	**23.16**	**73**	*e*P	**P**	**05 10 56.6**	**-1.1**
SMTB	**Santa Maria do**	**23.75**	**56**	*e*P	**P**	**05 11 03.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.57**	**69**	P	**P**	**05 17 38.2**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=260,slow=5.4,SNR=10						
TORD	**Torodi Ar. Bea**	**76.57**	**69**	IAmb	IAmb	05 17 38.5	
	comp=Z,1.3nm,1.2s						

JMA 09 05:32:20.9, 33°.98N×135°.21E, h6km, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.18**	**137**	P		05 32 24.6	
JWM				S		05 32 27.1	
JTNC	**Tanabenakahech**	**0.37**	**116**	*e*S		05 32 33.4	

IDC 09 05:34:09.5±1.7, 25°.04N×142°.03E, h198km±68km, mb3.4/2, mb1 3.5/5, mb1mx3.1/51, mbtmp3.9/5, Error ellipse: s-maj=197.5km s-min=22.7km az=71.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.05**	**4**	P	Pn	05 34 49.4	+1.1
	116nm,0.3s,baz=297,slow=23,SNR=38						
JCJ				S	Sn	05 35 18.9	+0.1
	61nm,0.3s,baz=137,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**11.92**	**345**	P	Pn	05 36 53.4	0.0
	0.1nm,0.3s,baz=161,slow=12,SNR=2.0						
KSRS	**Korea Array**	**17.25**	**319**	P	Pn	05 37 59.0	+0.3
	0.2nm,0.3s,baz=137,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**45.34**	**190**	P	P	05 42 07.8	-0.2
	1.4nm,0.3s,baz=7.4,slow=8.6,SNR=58						
MKAR	**Makanchi Array**	**51.69**	**311**	P	P	05 42 55.4	-0.9
	0.3nm,0.4s,baz=93,slow=8.5,SNR=2.7						

*MOS **09** 05:47:49.8±1.3, 40°.15N×49°.93E, h25km, mb4.0/1, Error ellipse: s-maj=22.5km s-min=9.2km az=117.7*
*IDC **09** 05:47:53.7±1.4, 40°.69N×49°.52E, h0km, mb3.7/7, mb1 3.8/13, mb1mx3.6/51, mbtmp3.7/13, ML3.3/5, Error ellipse: s-maj=27.6km s-min=15.6km az=178.0*
*AZER **09** 05:47:59.4, 40°.67N×49°.59E, h56km, ML3.3*
*DRS **09** 05:48:11.7±0.0, 40°.95N×49°.25E, h32km*
ISC 09 05:47:59.7±0.7, 40°.75N±0°.03×49°.71E±0°.04, h65km±6km, n54, σ2§05/92, mb3.5/7, 4C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**0.27**	**128**	P	**Pn**	**05 48 10.4**	**+0.3**
	SNR=22						
NDR				S	**Sn**	**05 48 18.6**	**+0.9**
GOBA	**Gobu**	**0.34**	**177**	P	**Pn**	**05 48 11.6**	**+0.9**
	SNR=73						
GOBA				S	**Sn**	**05 48 17.9**	**-0.8**
GALA	**Gala**	**0.48**	**134**	P	**Pn**	**05 48 13.9**	**+2.1**
	SNR=3.8						
GALA				S	**Sn**	**05 48 22.9**	**+2.2**
ATGJ	**Altiaghaj**	**0.59**	**281**	P	**Pn**	**05 48 12.5**	**-0.7**
	SNR=20						
ATGJ				S	**Sn**	**05 48 21.5**	**-1.5**
GBS	**Qobustan**	**0.62**	**250**	P	**Pn**	**05 48 14.5**	**+1.1**
	SNR=117						
GBS				S	**Sn**	**05 48 23.0**	**-0.5**
SIZA	**Siyzn**	**0.69**	**299**	P	**Pn**	**05 48 14.5**	**+0.2**
	SNR=55						
SIZA				S	**Sn**	**05 48 26.3**	**+1.3**
PQL	**Pirkuli**	**0.85**	**273**	P	**Pn**	**05 48 16.8**	**+0.7**
	SNR=52						
PQL				S	**Sn**	**05 48 29.0**	**+0.7**
ALIB	**Äli-Bayra**	**0.95**	**214**	P	**Pn**	**05 48 19.6**	**+2.3**
	SNR=29						
ALIB				S	**Sn**	**05 48 32.4**	**+2.1**
IML	**Ismayilli**	**1.16**	**273**	P	**Pn**	**05 48 20.4**	**+0.4**
	SNR=17						
IML				S	**Sn**	**05 48 35.2**	**0.0**
KDMR	**Kurdemir**	**1.22**	**253**	P	**Pn**	**05 48 19.0**	**-1.7**
KDMR				S	**Sn**	**05 48 37.9**	**+1.5**
XNQ	**Khinaliq**	**1.26**	**290**	P	**Pn**	**05 48 21.5**	**0.0**
	SNR=30						
XNQ				S	**Sn**	**05 48 37.6**	**-0.3**
QSAR	**Qusar**	**1.33**	**306**	P	**Pn**	**05 48 23.0**	**+0.7**
	SNR=48						
QSAR				S	**Sn**	**05 48 41.4**	**+2.1**
QBL	**Gabala**	**1.43**	**279**	P	**Pn**	**05 48 23.6**	**0.0**
	SNR=5.4						
QBL				S	**Sn**	**05 48 41.1**	**-0.5**
KSMR	**Kasumkent**	**1.47**	**306**	*e*Pg	**Pn**	**05 48 25.0**	**+0.9**
KSMR				*e*Sg	**Sn**	**05 48 45.0**	**+2.5**
	1μm,0.0s						
KSMR	**Kasumkent**	**1.47**	**306**	PN	**Pn**	**05 48 25.0**	**+0.9**
ZRD	**Zardab**	**1.61**	**254**	Pn	**Pn**	**05 48 26.2**	**+0.3**
ZRD				Sn	**Sn**	**05 48 47.1**	**+1.4**
DRN	**Derbent**	**1.65**	**322**	*e*Pg	**Pn**	**05 48 27.6**	**+1.1**
	93nm,0.6s						
DRN				*e*Sg	**Sn**	**05 48 51.2**	**+4.5**
	927nm,0.7s						
DRN	**Derbent**	**1.65**	**322**	*e*PN	**Pn**	**05 48 27.5**	**+1.1**
DRN				pmax	pmax		
	comp=Z,93nm,0.6s						
AKT	**Akhty**	**1.66**	**297**	*e*Pg	**Pn**	**05 48 27.2**	**+0.5**
	comp=Z,26nm,0.5s						
AKT				*e*Sg	**Sn**	**05 48 51.2**	**+3.9**
	comp=Z,593nm,0.4s						
AKT	**Akhty**	**1.66**	**297**	*e*PN	**Pn**	**05 48 27.2**	**+0.5**
AKT				pmax	pmax		
	comp=Z,26nm,0.5s						
GLBA	**Clilabad**	**1.81**	**214**	Pn	**Pn**	**05 48 28.4**	**-0.3**
	SNR=6.8						
GLBA				Sn	**Sn**	**05 48 50.8**	**+0.2**
BLQ	**Beylaqan**	**1.94**	**239**	Pn	**Pn**	**05 48 29.4**	**-1.0**
BLQ				S	**Sn**	**05 48 52.8**	**-0.9**
SEKA	**Sheki**	**1.96**	**285**	Pn	**Pn**	**05 48 31.0**	**+0.3**
	SNR=8.4						
SEKA				Sn	**Sn**	**05 48 53.9**	**-0.3**
BRDA	**Brd**	**1.99**	**257**	Pn	**Pn**	**05 48 31.8**	**+0.8**
BRDA				Sn	**Sn**	**05 48 54.7**	**-0.1**
MNGR	**Mingechevir, A**	**1.99**	**272**	Pn	**Pn**	**05 48 31.8**	**+0.7**
MNGR				Sn	**Sn**	**05 48 55.3**	**+0.4**
AGDM	**Agdam**	**2.08**	**253**	Pn	**Pn**	**05 48 32.0**	**-0.3**
	SNR=12						
AGDM				Sn	**Sn**	**05 48 57.4**	**+0.1**
YRD	**Yardimli**	**2.15**	**212**	Pn	**Pn**	**05 48 32.4**	**-1.0**
	SNR=9.1						
YRD				Sn	**Sn**	**05 48 57.6**	**-1.4**
QRD	**Qoradiz**	**2.23**	**236**	Pn	**Pn**	**05 48 33.6**	**-0.8**
QRD				Sn	**Sn**	**05 48 59.3**	**-1.6**
ASTR	**Astara**	**2.29**	**198**	Pn	**Pn**	**05 48 34.3**	**-0.8**
ASTR				Sn	**Sn**	**05 49 01.1**	**-1.2**
LRK	**Lerik**	**2.35**	**207**	Pn	**Pn**	**05 48 35.7**	**-0.4**
LRK				Sn	**Sn**	**05 49 02.5**	**-1.4**
ZKTA	**Zakatala**	**2.49**	**292**	Pn	**Pn**	**05 48 38.2**	**+0.3**
ZKTA				Sn	**Sn**	**05 49 08.5**	**+1.3**
GANJ	**Ganja**	**2.58**	**269**	Pn	**Pn**	**05 48 38.1**	**-1.0**
	SNR=3.9						
GANJ				Sn	**Sn**	**05 49 06.5**	**-2.7**
MAK	**Makhachkala**	**2.76**	**324**	*e*PN	**Pn**	**05 48 41.3**	**-0.1**
MAK				*e*		05 48 48.7	
MAK				*e*		05 49 24.3	
MAK				*e*		05 49 30.0	
MAK				pmax	pmax		
	comp=Z,99nm,0.2s						
MAK				MLR	MLR		
	comp=Z,236nm,2.0s						
GDB	**GEDABAY**	**3.00**	**271**	Pn	**Pn**	**05 48 44.0**	**-1.0**
	SNR=10						
GDB				Sn	**Sn**	**05 49 16.7**	**-3.2**
QZX	**Qazax, Azerbai**	**3.30**	**277**	Pn	**Pn**	**05 48 48.3**	**-0.7**
	SNR=9.0						
QZX				Sn	**Sn**	**05 49 25.6**	**-1.4**
ORD	**Ordubad**	**3.39**	**239**	Pn	**Pn**	**05 48 50.2**	**+0.1**
	SNR=6.7						
ORD				Sn	**Sn**	**05 49 27.7**	**-1.4**
SBZ	**Shahbuz**	**3.46**	**248**	Pn	**Pn**	**05 48 52.8**	**+1.6**
SBZ				Sn	**Sn**	**05 49 29.5**	**-1.5**
NAX	**Nakhchivan**	**3.60**	**245**	Sn	**Sn**	**05 49 36.7**	**+2.4**
GROC	**Groznyy**	**3.81**	**311**	*e*PN	**Pn**	**05 48 54.4**	**-1.4**
KBZ	**Khabaz**	**5.87**	**303**	Pn	**Pn**	**05 49 22.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=140,slow=7.9,SNR=1.4						
KBZ				Sn	**Sn**	**05 50 23.1**	**-6.6**
	comp=Z,0.6nm,0.3s,baz=93,slow=9.3,SNR=3.8						
KVAR	**Kislovodsk Arr**	**6.10**	**304**	Pn	**Pn**	**05 49 28.9**	**+1.6**
	baz=270,slow=16,SNR=1.4						
KVAR				Sn	**Sn**	**05 50 30.9**	**-4.9**
	baz=302,slow=22,SNR=2.4						
GEYT	**Alibeck**	**7.10**	**111**	Pn	**Pn**	**05 49 41.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=324,slow=17,SNR=2.2						
GEYT				Sn	**Sn**	**05 50 54.6**	**-5.5**
	comp=Z,0.6nm,0.3s,baz=160,slow=4.6,SNR=1.7						
AB31	**Akbulak array**	**11.17**	**37**	⇑Pn	**Pn**	**05 50 36.2**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=229,slow=13						
AB31				⇑Sn	**Sn**	**05 52 32.2**	**-7.2**
	comp=Z,1.2nm,0.3s,baz=220,slow=24						
AKTO	**Aktyubinsk**	**11.29**	**28**	Pn	**Pn**	**05 50 37.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=201,slow=12,SNR=2.2						
AKTO				Sn	**Sn**	**05 52 35.4**	**-7.2**
	comp=Z,0.7nm,0.3s,baz=4.8,slow=20,SNR=7.2						
AKTO	**Aktyubinsk**	**11.29**	**28**	⇑Pn	**Pn**	**05 50 35.7**	**-2.4**
	comp=Z,1.4nm,0.5s						
AKTO				⇑Sn	Sn	05 52 33.4	-9.1
	comp=Z,5.8nm,0.7s						
AKASG	**Malin Array Be**	**17.37**	**312**	P	**P**	**05 51 57.3**	**-0.6**
	comp=Z,2.6nm,0.3s,baz=114,slow=12,SNR=8.1						
BVAR	**Borovoye Array**	**18.64**	**42**	P	**Pn**	**05 52 13.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=216,slow=14,SNR=5.1						
MKAR	**Makanchi Array**	**24.18**	**65**	P	**P**	**05 53 12.9**	**+3.2**
	comp=Z,0.6nm,0.5s,baz=274,slow=8.4,SNR=7.9						
FINES	**FINESS Array B**	**25.22**	**333**	P	**P**	**05 53 19.9**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=137,slow=8.2,SNR=11						
GERES	**GERESS Array B**	**26.60**	**300**	P	**P**	**05 53 33.1**	**+1.3**
	comp=Z,0.3nm,0.2s,baz=256,slow=37,SNR=1.7						
HFS	**Hagfors**	**29.48**	**323**	P	**P**	**05 53 58.1**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=122,slow=10,SNR=4.1						
ARCES	**ARCESS Array B**	**31.53**	**344**	P	**P**	**05 54 16.6**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=111,slow=6.8,SNR=1.6						
ESDC	**Sonseca Array**	**40.46**	**287**	P	**P**	**05 55 33.2**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=64,slow=9.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**50.05**	**251**	P	**P**	**05 56 49.0**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=26,slow=9.3,SNR=4.3						

*IDC **09** 05:52:41.6±1.6, 4°.41S×153°.00E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/38, mbtmp4.0/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/38, Error ellipse: s-maj=40.5km s-min=23.2km az=9.0*
ISC 09 05:52:48.7±2.0, 4°.3S±0°.4×152°.9E±0°.2, h55km, n10, σ0§55/7, mb4.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.83**	**269**	Pn	**Pn**	**05 53 04.3**	**-0.1**
	192nm,0.3s,baz=249,slow=3.7,SNR=126						
KRVT				Sn	**Sn**	**05 53 16.1**	**+0.4**
	845nm,0.3s,baz=112,slow=23,SNR=21						
HNR	**Honiara**	**8.69**	**126**	LR	LR	05 58 19.6	
	comp=Z,72nm,21.7s,baz=2.0,slow=40						
JAY	**Jayapura**	**12.26**	**278**	LR	LR	05 59 39.7	
	comp=Z,77nm,21.8s,baz=162,slow=34						
GUMO	**Guam**	**19.46**	**336**	LR	LR	06 03 11.1	
	comp=Z,28nm,20.5s,baz=286,slow=32						
WRA	**Warramunga Arr**	**23.82**	**228**	P	**P**	**05 57 57.4**	**+0.5**
	3.4nm,0.6s,baz=52,slow=9.8,SNR=85						
ASAR	**Alice Springs**	**26.56**	**222**	P	**P**	**05 58 22.1**	**+0.3**
	0.4nm,0.4s,baz=54,slow=8.9,SNR=9.4						

AFI S S 05 56 37.2 -7.8
baz=258,slow=22,SNR=1.6
AFI Afiamalu 7.56 58 P P 05 55 10.5 -0.8
NIUE Niue 8.10 99 P P 05 55 16.9 +0.6
baz=8.0,SNR=7.5
NIUE S S 05 57 02.0 +7.6
baz=8.0
NIUE Niue 8.10 99 P P 05 55 16.5 +0.2
RAO Raoul Island 11.20 178 S S 05 57 45.8 -4.9
36nm,0.3s,baz=134,slow=22,SNR=1.4
SANVU Saraoutou 14.03 278 P P 05 56 17.2 +1.0
DZM Mont Dzumac 14.81 252 *e*P P 05 56 25.2 +1.4
82nm,0.8s
DZM Mont Dzumac 14.81 252 P P 05 56 23.4 -0.4
5.1nm,0.3s,baz=84,slow=17,SNR=61
DZM Mont Dzumac 14.81 252 P P 05 56 23.6 -0.2
KNTN Kanton 16.50 24 P P 05 56 38.3 -1.3
OUZ Omahuta 18.56 201 P P 05 57 01.6 +3.4
OUZ IAmb IAmb 05 57 02.3
comp=Z,43nm,1.3s
URZ Urewera 20.56 190 P P 05 57 13.7 -2.5
comp=Z,13nm,0.5s,baz=321,slow=3.8,SNR=11
URZ Urewera 20.56 190 P P 05 57 14.4 -1.7
URZ IAmb IAmb 05 57 23.1
comp=Z,18nm,0.7s
HIZ Hauiti 21.26 195 P P 05 57 20.3 -2.3
HIZ IAmb IAmb 05 57 38.1
comp=Z,40nm,1.3s
BKZ Black Stump Fm 21.55 191 P P 05 57 23.5 -1.6
BKZ IAmb IAmb 05 57 36.4
comp=Z,11nm,0.6s
BFZ Birch Farm 23.06 190 P P 05 57 38.6 0.0
QRZ Quartz Range 24.04 197 P P 05 57 47.5 +0.2
NNZ Nelson 24.18 195 P P 05 57 47.6 -0.9
NNZ IAmb IAmb 05 57 47.9
comp=Z,37nm,1.5s
TUWZ Tuamarina 24.25 194 P P 05 57 48.6 -0.4
THZ Tophouse 24.82 196 P P 05 57 54.2 0.0
LTZ Lake Taylor 25.94 196 P P 05 58 02.9 -1.1
LTZ IAmb IAmb 05 58 19.0
comp=Z,28nm,1.2s
OXZ Oxford 26.51 196 P P 05 58 08.3 -0.7
RPZ Rata Peaks 27.13 197 P P 05 58 14.3 -0.1
FOZ Fox Glacier 27.33 199 P P 05 58 15.2 -0.9
ODZ Otahua Downs 28.47 196 P P 05 58 25.3 -0.8
ODZ IAmb IAmb 05 58 32.0
comp=Z,22nm,1.3s
WKZ Wanaka 28.74 199 P P 05 58 26.5 -2.0
EIDS Eidsvold 29.25 250 P P 05 58 32.5 -0.5
baz=29,SNR=15
EIDS Eidsvold 29.25 250 P P 05 58 32.6 -0.5
MLZ Mavora Lakes 29.51 200 P P 05 58 34.4 -0.7
MLZ IAmb IAmb 05 58 36.1
comp=Z,32nm,1.3s
ARMA Armidale 29.90 240 P P 05 58 39.5 +0.7
baz=30,SNR=30
ARMA Armidale 29.90 240 P P 05 58 39.7 +0.8
DCZ Deep Cove 29.91 201 P P 05 58 38.2 -0.3
DCZ IAmb IAmb 05 58 52.8
comp=Z,17nm,1.1s
WHZ Wether Hill Ro 30.03 199 P P 05 58 39.3 -0.2
WHZ IAmb IAmb 05 58 57.1
comp=Z,40nm,1.4s
MGCD Mangrove Creek 31.25 235 P P 05 58 51.0 +0.8
baz=31,SNR=22
RMQ Roma 31.48 249 P P 05 58 52.8 +0.6
baz=32,SNR=15
CNB Canberra Magne 33.38 232 P P 05 59 09.0 +0.7
baz=34,SNR=77
CTA Charters Tower 33.44 261 P P 05 59 08.6 -0.3
comp=Z,47nm,0.6s,baz=96,slow=10,SNR=81
CTA ScP ScP 06 04 25.4 +2.3
comp=Z,0.8nm,0.3s,baz=34,slow=3.6,SNR=3.7
CTAO Charters Tower 33.44 261 P P 05 59 08.8 -0.2
CAN Canberra 33.65 233 P P 05 59 10.6 +0.1
baz=34
CAN Canberra 33.65 233 P P 05 59 11.0 +0.5
PMG Port Moresby 34.49 280 P P 05 59 18.4 +0.7
comp=Z,138nm,0.8s,baz=81,slow=6.5,SNR=26
PMG Port Moresby 34.49 280 P P 05 59 18.1 +0.4
CMSA Cobar Meteorol 35.11 241 P P 05 59 22.9 +0.2
baz=35,SNR=83
MTSU Mount Surprise 35.41 264 P P 05 59 25.1 -0.3
baz=36,SNR=19
QLP Quilpie 35.51 249 P P 05 59 25.9 -0.2
baz=36,SNR=13
TOO Toolangi 37.12 231 P P 05 59 39.8 +0.6
baz=37,SNR=25
TOO Toolangi 37.12 231 P P 05 59 40.0 +0.8
COEN Coen 37.12 271 P P 05 59 39.7 +0.3
baz=37,SNR=58
COEN Coen 37.12 271 P P 05 59 39.6 +0.1
STKA Stephens Creek 38.59 241 P P 05 59 51.9 +0.7
comp=Z,61nm,0.7s,baz=90,slow=10,SNR=98
STKA Stephens Creek 38.59 241 P P 05 59 51.9 +0.7
baz=39,SNR=62
STKA Stephens Creek 38.59 241 P P 05 59 51.8 +0.7
STKA IAmb IAmb 05 59 52.7
comp=Z,17nm,1.1s
ARPS Mount Arapiles 39.60 234 P P 05 59 59.5 +0.3
baz=40,SNR=12
QIS Mount Isa 39.65 259 P P 05 59 58.9 -1.0
baz=40,SNR=11
HTT Hallett 41.11 240 P P 06 00 11.6 +0.3
baz=41,SNR=15
JAY Jayapura 42.95 286 P P 06 00 26.2 +0.2
comp=Z,50nm,0.5s,baz=159,slow=3.6,SNR=36
JAY Jayapura 42.95 286 P P 06 00 25.5 -0.5
comp=Z,562nmcomp=Z,57nm,1.0s
BBOO Buckleboo 43.37 241 P P 06 00 29.0 +0.1
baz=44,SNR=44
BBOO Buckleboo 43.37 241 P P 06 00 28.9 -0.1
GENI Genyem 43.41 286 P P 06 00 30.9 +1.4
comp=Z,3µmcomp=Z,173nm,0.9s
SDHHI Sand Hill 43.54 33 P P 06 00 30.3 -0.2
WRMHI West Rim 43.55 33 P P 06 00 30.7 0.0
MLH Mauna Loa 43.58 32 P P 06 00 31.4 +0.5
HMH Humu'ula Sheep 43.62 32 P P 06 00 32.3 +1.0
HPAH Hawaii Prepara 43.88 32 P P 06 00 33.3 +0.2
HLK Haleakala 44.23 30 P P 06 00 34.9 -1.0
WR0 Warramunga Arr 44.44 260 P P 06 00 36.5 -0.9
WB2 Warramunga Arr 44.62 260 P P 06 00 37.9 -0.9
WRAB Tennant Creek 44.62 260 P P 06 00 37.8 -1.0
WRA Warramunga Arr 44.63 260 P P 06 00 37.7 -1.1
comp=Z,33nm,0.5s,baz=93,slow=7.1,SNR=351
WRA S S 06 06 27.4 -6.4
comp=Z,0.6nm,0.7s,baz=96,slow=13,SNR=3.3
WRA Warramunga Arr 44.63 260 P P 06 00 37.2 -1.7
AS31 Alice Springs 44.78 254 P P 06 00 39.8 -0.2
ASAR Alice Springs 44.78 254 P P 06 00 39.7 -0.3
comp=Z,275nm,0.6s,baz=88,slow=8.5,SNR=2222
ASAR ScP ScP 06 05 08.2 +1.1
comp=Z,1.7nm,0.8s,baz=106,slow=3.0,SNR=5.4
ASAR S S 06 06 33.0 -2.9
comp=Z,2.7nm,1.0s,baz=87,slow=16,SNR=7.7
ASAR Alice Springs 44.78 254 P P 06 00 39.1 -0.9
SMPI Sarmi 44.98 286 P P 06 00 41.6 0.0
comp=Z,47nm,0.9s
KDU Kakadu 47.57 269 P P 06 01 00.4 -0.7
baz=48,SNR=67
GUMO Guam 47.95 308 P P 06 01 03.7 -0.2
comp=Z,56nm,0.5s,baz=160,slow=12,SNR=6.5
GUMO Guam 47.95 308 P P 06 01 03.9 0.0
MTN Manton Dam 48.81 269 P P 06 01 09.3 -1.0
baz=49,SNR=39
WRKA Warakurna 49.83 252 P P 06 01 17.5 -0.3
baz=50,SNR=199
FORT Forrest 49.98 245 P P 06 01 18.0 -0.8
baz=50,SNR=27
FORT Forrest 49.98 245 P P 06 01 18.0 -0.8
KNRA Kununurra 50.49 264 P P 06 01 22.0 -0.6
baz=51,SNR=34
KNRA Kununurra 50.49 264 P P 06 01 22.1 -0.6
FAKI Fak Fak 50.61 281 P P 06 01 23.3 -0.3
FAKI IAmb IAmb 06 01 24.6
comp=Z,54nm,1.4s
SIJI Sorong 52.27 283 P P 06 01 35.4 -0.1
comp=Z,94nm,0.6s,baz=94,slow=5.7,SNR=47
FITZ Fitzroy Crossi 53.02 261 P P 06 01 40.5 -0.3
comp=Z,8.1nm,0.4s,baz=113,slow=6.2,SNR=84
FITZ Fitzroy Crossi 53.02 261 P P 06 01 40.6 -0.3
baz=53,SNR=25
FITZ Fitzroy Crossi 53.02 261 IAmb IAmb 06 01 41.0
comp=Z,11nm,0.6s
SOEI Soe 56.09 270 P P 06 02 03.5 +1.1
comp=Z,2µmcomp=Z,162nm,0.8s

BATI Baumata 56.54 270 P P 06 02 05.8 +0.3
comp=Z,57nm,0.8s,baz=150,slow=1.8,SNR=4.2
SANI Sanana 56.77 280 P P 06 02 06.4 -0.6
comp=Z,71nm,0.9s
MEEK Meekatharra 58.41 249 P P 06 02 17.0 -1.0
baz=58,SNR=11
KLBR Kellerberrin 58.80 244 P P 06 02 19.6 -0.9
baz=59,SNR=22
EDFI Ende, Flores 58.80 271 P P 06 02 20.1 -0.8
comp=Z,31nm,0.8s
NWAO Narrogin (SRO) 59.17 242 P P 06 02 22.6 -0.4
baz=59,SNR=6.5
NWAO Narrogin (SRO) 59.17 242 P P 06 02 22.2 -0.8
NWAO IAmb IAmb 06 02 24.0
comp=Z,88nm,1.5s
NWAO Narrogin (SRO) 59.17 242 P P 06 02 22.4 -0.5
NWAO IAmb IAmb 06 02 23.2
comp=Z,33nm,0.8s
BLDU Ballidu 59.75 245 P P 06 02 26.0 -0.8
baz=60,SNR=17
MUN Mundaring 60.09 243 P P 06 02 29.0 0.0
baz=60,SNR=3.2
MORW Morawa 60.45 246 P P 06 02 30.7 -0.8
baz=61,SNR=11
MORW Morawa 60.45 246 P P 06 02 30.4 -1.1
GTOI Gorontalo 60.50 281 P P 06 02 32.5 +0.5
comp=Z,490nmcomp=Z,30nm,1.0s
BNSI Bone 61.56 275 P P 06 02 39.5 +0.5
comp=Z,38nm,1.0s
PLAI Plampang 62.51 269 P P 06 02 44.8 -0.3
comp=Z,83nm,0.7s
GIRL Giralia 62.88 253 P P 06 02 48.0 +0.6
baz=63,SNR=18
MPSI Mapaga 63.30 280 P P 06 02 49.7 -0.5
comp=Z,40nm,0.8s
TWSI Taliwang, Sumb 63.38 269 P P 06 02 50.4 -0.3
comp=Z,1µmcomp=Z,59nm,0.8s
JAGI Jagi, Banyuwa 66.05 269 P P 06 03 05.1 -2.4
MJAR Matsushiro Arr 68.00 323 P P 06 03 16.4 -2.6
comp=Z,1.7nm,0.3s,baz=166,slow=5.1,SNR=6.3
MJAR Matsushiro Arr 68.00 323 IAmb IAmb 06 03 19.0
comp=Z,2.5nm,0.6s
PWJI Pagerwojo 68.41 268 P P 06 03 21.4 -0.5
comp=Z,44nm,0.5s
UGM Wanagama 69.66 268 P P 06 03 28.8 -0.7
JHS Saijyo 69.98 319 P P 06 03 30.7 -0.2
JHS IAmb IAmb 06 03 32.1
comp=Z,12nm,0.7s
ATKA Atka Island 70.01 3 P P 06 03 29.6 -1.0
QSPA South Pole Qui 72.05 180 P P 06 03 43.8 +1.2
UNV Unalaska Valle 72.29 7 P P 06 03 42.8 -1.1
SSLB Suanglung 72.30 303 P P 06 03 43.0 -1.8
TPUB Ta-pu 72.32 302 P P 06 03 43.1 -1.8
PETK Petropavlovsk- 73.78 345 P P 06 03 52.1 -0.4
comp=Z,6.7nm,0.6s,baz=109,slow=7.0,SNR=13
CGJI Cibinong 74.62 268 P P 06 03 56.4 -1.7
comp=Z,9µmcomp=Z,126nm,0.6s
KSRS Korea Array 74.78 318 P P 06 03 59.3 +0.9
comp=Z,1.1nm,0.6s,baz=137,slow=6.6,SNR=8.1
SCI2 San Clemente I 76.39 48 P P 06 04 08.5 +1.0
baz=238
SAO San Andreas Ge 76.49 44 IAmb IAmb 06 04 10.0
comp=Z,22nm,0.8s
PKM Mcpherson Peak 76.54 46 P P 06 04 09.7 +1.2
baz=236
SMMC Simmler 76.65 46 P P 06 04 10.4 +1.5
baz=236
MDSI Maura Dua 76.68 270 P P 06 04 08.0 -1.5
comp=Z,20nm,1.1s
KMRM Mail Ridge 77.08 40 P P 06 04 12.0 +0.8
KMRM IAmb IAmb 06 04 13.6
comp=Z,34nm,0.8s
PASC Pasadena Art C 77.28 48 IAmb IAmb 06 04 13.5
comp=Z,15nm,0.6s
ARVC Arvin 77.34 46 P P 06 04 13.6 +1.0
baz=237
109C Camp Elliot, M 77.38 49 P P 06 04 13.7 +0.8
baz=239
MWC Mount Wilson 77.40 48 P P 06 04 13.6 +0.4
MWC IAmb IAmb 06 04 14.7
comp=Z,18nm,0.7s
VES Vestal, Richgr 77.56 46 P P 06 04 14.4 +0.7
baz=237,SNR=12
O02D Mt. Diablo Mer 77.62 40 P P 06 04 15.6 +1.5
baz=233,SNR=6.2
MURC Murrieta 77.68 48 P P 06 04 15.4 +0.9
baz=238
BFSC Mount Baldy Ra 77.69 48 P P 06 04 15.2 +0.5
baz=238,SNR=9.0
ESJX Sierra Juarez 77.77 50 P P 06 04 14.8 -0.4
EDW2 Edwards Air Fo 77.79 47 P P 06 04 16.0 +0.9
baz=238,SNR=17
OHAK Old Harbor 77.83 14 IAmb IAmb 06 04 15.4
comp=Z,19nm,0.8s
MONP2 Monument Peak 77.87 49 P P 06 04 17.0 +1.2
baz=239,SNR=16
ISA Isabella, Lake 77.88 46 P P 06 04 16.6 +1.0
baz=237,SNR=19
ISA Isabella, Lake 77.88 46 IAmb IAmb 06 04 17.6
comp=Z,19nm,0.9s
IKP In-Ko-Pah, Jac 77.97 50 P P 06 04 17.4 +1.2
baz=239,SNR=9.4
NJ2 Nanjing 78.01 309 *e*P P 06 04 17.5 +1.2
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
ORV Oroville 78.06 41 P P 06 04 16.0 -0.4
N02D Trinity Center 78.14 40 P P 06 04 18.2 +1.3
baz=233,SNR=5.5
PFO Pinyon Flats O 78.21 49 P P 06 04 18.3 +0.8
baz=239
O03E Paynes Creek 78.30 41 P P 06 04 18.3 +0.5
baz=234,SNR=7.2
M02C Callahan 78.30 39 P P 06 04 19.1 +1.4
baz=233,SNR=7.5
SWSC Sam W. Stewart 78.35 50 P P 06 04 19.3 +1.2
baz=240
RRX Edison Barstow 78.48 47 P P 06 04 19.5 +0.7
baz=238
MDPB Devils Postpil 78.54 44 P P 06 04 19.3 0.0
MDPB IAmb IAmb 06 04 21.2
comp=Z,18nm,0.8s
CWC Cottonwood Cre 78.56 46 P P 06 04 20.3 +0.9
baz=237
YBH Yreka Blue Hor 78.59 39 IAmb IAmb 06 04 21.4
comp=Z,14nm,0.8s
SLBS Sierra La Lagu 78.60 60 P P 06 04 20.6 +0.9
SLBS IAmb IAmb 06 04 22.0
comp=Z,13nm,0.8s
K02D Willamette Mer 78.61 38 P P 06 04 20.5 +1.1
baz=232
MLAC Mammoth, Mammo 78.70 44 P P 06 04 21.4 +1.2
baz=237
BELC Belle Mtn. Jos 78.74 49 P P 06 04 21.4 +1.1
baz=239,SNR=9.8
J01E Myrtle Point 78.74 37 P P 06 04 21.0 +1.1
baz=232
MPMC Manual Prospec 78.76 46 P P 06 04 21.5 +1.0
baz=238,SNR=11
WAKR Walker 78.78 43 P P 06 04 21.1 +0.6
WAKR IAmb IAmb 06 04 22.7
comp=Z,19nm,0.9s
GSC Goldstone, Bar 78.84 47 P P 06 04 21.4 +0.7
baz=238
HEC Hector,Ludlow 78.92 48 P P 06 04 22.0 +0.8
baz=239,SNR=8.5
BC3 Big Chuckawall 78.95 49 P P 06 04 22.5 +1.1
baz=240,SNR=5.4
HUMO Hull Mountain 78.97 38 IAmb IAmb 06 04 23.4
comp=Z,20nm,1.1s
PNTR Pine Nut 79.00 43 P P 06 04 21.8 0.0
PNTR IAmb IAmb 06 04 23.8
comp=Z,29nm,0.9s
GLA Glamis 79.11 50 P P 06 04 23.7 +1.5
baz=240,SNR=6.9
GLA Glamis 79.11 50 IAmb IAmb 06 04 24.7
comp=Z,13nm,0.8s
L04D Klamath Falls 79.13 39 P P 06 04 23.1 +0.9
baz=233,SNR=10
M04C Macdoel 79.15 39 P P 06 04 23.2 +0.9
baz=234,SNR=5.9
LHV Little Huntoon 79.26 44 IAmb IAmb 06 04 25.1
comp=Z,19nm,0.9s
GRAC Grapevine Rang 79.34 45 P P 06 04 24.5 +1.2
baz=238,SNR=9.5
I02D Swisshome 79.37 37 P P 06 04 24.4 +1.2
baz=232
GMRC Granite Mounta 79.38 48 P P 06 04 24.4 +0.8
baz=239,SNR=6.9
I03D Drain, OR 79.40 37 P P 06 04 24.2 +0.8
baz=232,SNR=5.4
FURC Furnace Creek, 79.41 46 P P 06 04 24.5 +0.9
baz=238,SNR=8.5
IRM Iron Mountain 79.43 49 P P 06 04 25.0 +1.2
baz=240,SNR=7.6
RYN Ryan 79.45 44 P P 06 04 24.5 +0.5
NVAR Mina Array Bea 79.49 44 P P 06 04 25.4 +1.1
comp=Z,11nm,0.7s,baz=224,slow=8.5,SNR=97
NVAR Mina Array Bea 79.49 44 P P 06 04 23.8 -0.5
PAHR Pah Rah Range 79.49 42 P P 06 04 24.3 +0.2
SHOC Shoshone, Teco 79.52 47 P P 06 04 25.0 +0.8
baz=239,SNR=8.2
TUQ Turquoise Moun 79.53 47 P P 06 04 25.3 +0.9
baz=239,SNR=7.0
NV11 Mina Array Sit 79.59 44 P P 06 04 24.5 -0.2
K04D Chiloquin, OR 79.69 39 P P 06 04 26.0 +0.9
baz=234
J04D Umpqua Nationa 79.85 38 P P 06 04 27.0 +1.0
baz=233,SNR=25
I04A Tendick Farm, 80.00 38 P P 06 04 27.1 +0.5
baz=233,SNR=5.6
214A Organ Pipe Nat 80.06 52 P P 06 04 28.6 +1.4
baz=242
TPNV Topopah Spring 80.08 46 P P 06 04 28.2 +0.9
baz=239,SNR=14
MOD Modoc Plateau 80.15 40 IAmb IAmb 06 04 29.3
comp=Z,21nm,0.7s
PDMCI Parker Dam,Lak 80.22 49 P P 06 04 29.1 +1.2
baz=240
H04D Lebanon 80.25 37 P P 06 04 28.7 +0.9
baz=233
K05A Summer Lake 80.27 39 P P 06 04 28.9 +0.7
K05A IAmb IAmb 06 04 30.4
comp=Z,36nm,1.0s
SDSI Sungai Dareh 80.37 272 P P 06 04 27.9 -1.2
comp=Z,3µmcomp=Z,11nm,1.0s
G03D McMinnville, O 80.37 36 P P 06 04 29.5 +1.1
baz=232
J05D Fort Rock, OR 80.39 38 P P 06 04 30.0 +1.2
baz=234,SNR=43
H04A Detroit Lake 80.67 37 IAmb IAmb 06 04 31.2
comp=Z,17nm,0.6s
PINE Pine Mountain 80.86 38 P P 06 04 31.4 +0.2
PINE IAmb IAmb 06 04 33.4
comp=Z,27nm,0.8s
I05D Terrebonne, OR 80.95 38 P P 06 04 32.3 +0.8
baz=234,SNR=6.4
F04D Rainier, OR 81.05 35 P P 06 04 33.0 +1.1
baz=232
PRN Pahroc Range 81.14 46 IAmb IAmb 06 04 35.1
comp=Z,21nm,0.9s
R11A Troy Canyon, C 81.25 45 P P 06 04 33.9 +0.5
baz=239,SNR=12
F04A Amboy 81.28 36 IAmb IAmb 06 04 34.7
comp=Z,45nm,1.4s
WVOR Wild Horse Val 81.47 40 P P 06 04 33.7 -0.6
WVOR IAmb IAmb 06 04 36.3
comp=Z,22nm,0.9s
G05D Wamic, OR 81.49 37 P P 06 04 35.0 +0.8
baz=234
O22K Cooper Landing 81.58 14 P P 06 04 33.7 -0.5
baz=208
E04D Cinebar 81.58 35 P P 06 04 35.7 +1.1
baz=233
TUC Tucson 81.75 52 P P 06 04 37.6 +1.6
baz=243
TUC Tucson 81.75 52 P P 06 04 37.8 +1.9
TUC IAmb IAmb 06 04 38.8
comp=Z,14nm,1.0s
F05D White Salmon 81.79 36 P P 06 04 36.5 +0.7
baz=234
D04E Lakebay 81.84 35 P P 06 04 37.2 +1.3
baz=232
D03D Eldon 81.89 34 P P 06 04 37.0 +0.9
baz=232,SNR=6.7
BELA Belgrano 2 82.06 173 P P 06 04 36.5 -0.2
J08A Circle Bar Ran 82.09 40 P P 06 04 37.7 +0.3
J08A IAmb IAmb 06 04 39.3
comp=Z,24nm,1.1s
RC01 Rabbit Creek A 82.11 14 P P 06 04 36.4 -0.5
baz=207
SUA Susitna One 82.23 13 IAmb IAmb 06 04 37.8
comp=Z,19nm,0.8s
D05A Enumclaw 82.28 35 IAmb IAmb 06 04 40.3
comp=Z,37nm,1.3s
CCUT Cedar City 82.37 47 P P 06 04 39.8 +0.7
319A Douglas 82.47 54 IAmb IAmb 06 04 42.6
comp=Z,22nm,0.8s
KNB Kanab 82.49 47 P P 06 04 40.7 +1.0
GLI Glacier Island 82.55 15 IAmb IAmb 06 04 39.3
comp=Z,27nm,0.7s
U15A North Rim 82.58 48 IAmb IAmb 06 04 42.7
comp=Z,26nm,0.8s
F07A Phinny Hill Vi 82.67 37 P P 06 04 39.9 -0.2
F07A IAmb IAmb 06 04 41.7
comp=Z,12nm,0.7s
KNK Knik Glacier 82.69 14 IAmb IAmb 06 04 40.3
comp=Z,14nm,0.8s
PMR Palmer 82.70 14 IAmb IAmb 06 04 40.0
comp=Z,30nm,1.4s
RAGM Ragged Mountai 82.74 16 IAmb IAmb 06 04 40.8
comp=Z,32nm,1.3s
WUAZ Wupatki 82.80 49 P P 06 04 42.4 +1.1
baz=242
WUAZ Wupatki 82.80 49 IAmb IAmb 06 04 44.2
comp=Z,14nm,0.9s
A04D Lummi Island 82.82 33 P P 06 04 41.7 +0.9
baz=232
B05A Bryant 82.87 34 P P 06 04 41.7 +0.7
baz=233,SNR=9.2
G08A Pilot Rock 82.88 38 IAmb IAmb 06 04 43.0
comp=Z,11nm,0.7s
GHO Glory Hole Cre 82.90 14 P P 06 04 40.0 -1.0
E07A Sunnyside 83.09 36 IAmb IAmb 06 04 43.6
comp=Z,15nm,0.6s
CUT Chulitna 83.17 13 P P 06 04 41.6 -0.6
baz=207
HAWA Hanford 83.18 37 P P 06 04 43.1 +0.5
HAWA IAmb IAmb 06 04 44.4
comp=Z,17nm,0.9s
CRQM Cirque 83.46 17 IAmb IAmb 06 04 44.7
comp=Z,18nm,1.0s
E08A Dider Farm, El 83.50 37 IAmb IAmb 06 04 45.9
comp=Z,13nm,0.7s
YAH Yahtse 83.52 17 P P 06 04 43.9 -0.4
YAH IAmb IAmb 06 04 45.4
comp=Z,18nm,0.7s
TGL Tana Glacier 83.55 17 IAmb IAmb 06 04 45.1
comp=Z,19nm,1.1s
ISLE Juniper Island 83.55 17 IAmb IAmb 06 04 45.1
comp=Z,13nm,0.8s
WRAK Wrangell Islan 83.59 24 IAmb IAmb 06 04 45.9
comp=Z,9.5nm,0.8s
MFID Camas Ranch 83.74 41 P P 06 04 45.5 -0.2
MFID IAmb IAmb 06 04 47.5
comp=Z,12nm,1.0s
MAW Mawson 83.77 200 P P 06 04 45.6 +0.3
comp=Z,1.9nm,0.4s,baz=153,slow=7.8,SNR=11
MAW Mawson 83.77 200 P P 06 04 44.3 -1.0
baz=84,SNR=7.2
VRDI Verde Repeater 83.77 16 IAmb IAmb 06 04 46.1
comp=Z,21nm,1.3s
W18A Petrified Fore 83.80 50 P P 06 04 47.3 +1.0
baz=243
M24K Tolsona, Glenn 83.83 15 P P 06 04 45.9 +0.3
baz=211
GLB Gilahina Butte 83.86 16 IAmb IAmb 06 04 46.2
comp=Z,14nm,0.6s
RPSI Rantau Prapat 83.87 275 IAmb IAmb 06 04 47.2
comp=Z,14nm,0.7s
SEY Seymchan 83.88 347 P P 06 04 45.5 -0.2
comp=Z,8.4nm,0.6s,baz=138,slow=4.1,SNR=13
D08A Wollman Farm, 83.90 36 P P 06 04 46.2 -0.1
D08A IAmb IAmb 06 04 47.9
comp=Z,18nm,1.0s
BALM Baldy 83.91 17 IAmb IAmb 06 04 46.4
comp=Z,14nm,0.5s
MCARA McCarthy VSAT 84.02 16 IAmb IAmb 06 04 47.3
comp=Z,11nm,1.0s
E09A Wood Farm, Sta 84.04 37 IAmb IAmb 06 04 48.3
comp=Z,17nm,1.4s
DUG Dugway, Tooele 84.04 45 P P 06 04 47.9 +0.6
baz=240
KTH Kantishna Hill 84.07 12 IAmb IAmb 06 04 46.6
comp=Z,12nm,0.8s

BARN	Barnard Glacie	84.12	17	IAmb	IAmb	06 04 48.1	
	comp=Z,15nm,0.8s						
121A	Cookes Peak, D	84.12	53	P	P	06 04 49.4	+1.5
	baz=244,SNR=6.5						
CTGM	Chitina Glacie	84.13	17	IAmb	IAmb	06 04 48.0	
	comp=Z,12nm,0.8s						
F10A	Beach Ranch, E	84.27	38	P	P	06 04 47.7	-0.5
F10A				IAmb	IAmb	06 04 50.0	
	comp=Z,22nm,0.9s						
BESE	Bessie Mountai	84.28	21	IAmb	IAmb	06 04 49.4	
	comp=Z,13nm,1.1s						
DHY	Denali Highway	84.39	14	IAmb	IAmb	06 04 48.2	
	comp=Z,7.2nm,0.5s						
B08A	Colville Reser	84.41	35	IAmb	IAmb	06 04 49.6	
	comp=Z,12nm,0.8s						
MCK	McKinley	84.64	13	IAmb	IAmb	06 04 49.6	
	comp=Z,15nm,1.0s						
C09A	Chrisman Ranch	84.68	36	IAmb	IAmb	06 04 51.3	
	comp=Z,13nm,0.9s						
HLID	Hailey	84.70	41	P	P	06 04 51.3	+0.8
	baz=239						
HLID	Hailey	84.70	41	IAmb	IAmb	06 04 52.5	
	comp=Z,9.3nm,0.8s						
GSI	Gunungsitoli	84.72	273	P	P	06 04 51.4	+0.3
GYA	Guiyang	85.10	300	*e*P	P	06 04 53.8	+1.1
GYA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HYT	Haines Junctio	85.15	19	P	P	06 04 51.5	-0.7
JLU	Jordanelle	85.15	45	P	P	06 04 52.7	-0.1
WRH	Wood River Hil	85.47	13	IAmb	IAmb	06 04 54.2	
	comp=Z,15nm,1.0s						
RIDG	Independent Ri	85.55	14	IAmb	IAmb	06 04 54.4	
	comp=Z,7.1nm,0.7s						
NEW	Newport	85.58	36	P	P	06 04 54.5	0.0
	baz=237,SNR=7.1						
MNTX	Cornudas Mount	85.62	55	P	P	06 04 56.3	+1.3
	baz=246,SNR=12						
MNTX	Cornudas Mount	85.62	55	P	P	06 04 55.7	+0.7
MVCO	Mesa Verde	85.64	49	P	P	06 04 55.5	+0.3
	baz=244						
HDA	Harding Lake	85.65	13	P	P	06 04 53.5	-0.8
	baz=210						
HDA	Harding Lake	85.65	13	IAmb	IAmb	06 04 54.4	
	comp=Z,14nm,1.1s						
CCB	Clear Creek Bu	85.68	13	IAmb	IAmb	06 04 53.8	
	comp=Z,9.2nm,0.6s						
BCAR	Beaver Creek A	85.74	16	P	P	06 04 51.1	-3.7
IMAR	Indian Mountai	85.78	10	P	P	06 04 54.4	-0.5
MDM	Murphy Dome	85.86	12	IAmb	IAmb	06 04 55.1	
	comp=Z,9.4nm,1.0s						
TCOL	CIGO, UAF Yank	85.87	13	P	P	06 04 54.3	-1.0
	baz=209						
COLA	College	85.87	13	P	P	06 04 53.9	-1.4
COLA				IAmb	IAmb	06 04 55.1	
	comp=Z,37nm,1.5s						
SCRK	Sand Creek	85.95	14	P	P	06 04 55.4	-0.5
	baz=213						
IL31		85.98	13	IAmb	IAmb	06 04 55.8	
	comp=Z,7.0nm,0.6s						
ILAR	Eielson Array	85.98	13	P	P	06 04 54.8	-1.1
	comp=Z,4.3nm,0.4s,baz=221,slow=5.1,SNR=98						
ILAR				PP	PP	06 08 28.1	+0.9
	comp=Z,1.1nm,1.0s,baz=229,slow=6.4,SNR=4.9						
ILAR	Eielson Array	85.98	13	P	P	06 04 54.0	-1.9
TX32	Lajitas Array	86.04	58	P	P	06 04 57.8	+0.7
TX32				IAmb	IAmb	06 05 00.1	
	comp=Z,19nm,0.9s						
TXAR	Lajitas Array	86.04	58	P	P	06 04 59.0	+1.9
	comp=Z,12nm,0.8s,baz=219,slow=6.1,SNR=166						
TXAR	Lajitas Array	86.04	58	P	P	06 04 58.1	+0.9
ANMO	Albuquerque	86.15	52	P	P	06 04 58.2	+0.6
	baz=245						
ANMO	Albuquerque	86.15	52	P	P	06 04 58.4	+0.8
POKR	Poker Plat Res	86.17	13	P	P	06 04 55.6	-1.2
	baz=209						
XAN	Xi'an	86.33	307	P	P	06 04 59.1	+0.8
XAN				pP	pP	06 07 06.8	+3.6
XAN				PP	PP	06 08 37.0	+6.3
XAN				SKS	S	06 14 30.6	-16
XAN				S	SKKSac	06 14 44.8	+4.6
XAN	Xi'an	86.33	307	SS	SS	06 20 56.2	+12
XAN				pmax	pmax		
	comp=Z,14nm,1.0s						
XAN				pmax	pmax		
	comp=Z,40nm,3.4s						
XAN	Xi'an	86.33	307	IAmb	IAmb	06 05 00.0	
	comp=Z,9.6nm,0.9s						
AHID	Auburn Hatcher	86.41	43	P	P	06 04 58.8	+0.1
AHID				IAmb	IAmb	06 05 00.6	
	comp=Z,13nm,1.4s						
K27K	Chicken	86.46	15	P	P	06 04 58.8	+0.6
	baz=214						
MSO	Missoula	86.65	38	P	P	06 04 59.5	-0.2
	baz=239,SNR=8.3						
MSO	Missoula	86.65	38	IAmb	IAmb	06 05 01.3	
	comp=Z,5.0nm,0.6s						
DLMT	Dillon	86.73	40	IAmb	IAmb	06 05 01.5	
	comp=Z,8.7nm,0.7s						
TPAW	Teton Pass	86.85	42	IAmb	IAmb	06 05 01.8	
	comp=Z,12nm,1.0s						
REDW	Red Top Meadow	86.85	42	IAmb	IAmb	06 05 02.7	
	comp=Z,16nm,1.0s						
JTMT	Jette	86.92	37	P	P	06 04 60.0	-1.0
SNOW	Snow King Moun	86.96	42	IAmb	IAmb	06 05 03.4	
	comp=Z,24nm,1.1s						
IMW	Indian Meadow	87.05	42	IAmb	IAmb	06 05 03.8	
	comp=Z,16nm,0.8s						
S22A	4UR Ranch, Cre	87.06	49	P	P	06 05 02.9	+0.8
	baz=245						
O20A	White River Ci	87.11	46	P	P	06 05 02.5	+0.5
	baz=244,SNR=6.2						
O20A	White River Ci	87.11	46	P	P	06 05 02.2	+0.2
O20A				IAmb	IAmb	06 05 03.8	
	comp=Z,9.3nm,1.1s						
LOHW	Long Hollow	87.13	42	IAmb	IAmb	06 05 03.4	
	comp=Z,6.5nm,0.7s						
FLWY	Flagg Ranch	87.29	42	IAmb	IAmb	06 05 05.1	
	comp=Z,15nm,0.9s						
HHC	Hu-ho-hao-te	87.35	314	*e*P	P	06 05 02.2	-0.8
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,58nm,5.7s						
BW06	Boulder Array	87.42	43	P	P	06 05 03.7	+0.2
	baz=243,SNR=17						
BW06	Boulder Array	87.42	43	IAmb	IAmb	06 05 04.6	
	comp=Z,8.2nm,0.7s						
PD31	Pinedale Array	87.42	43	IAmb	IAmb	06 05 04.7	
	comp=Z,7.4nm,0.7s						
PDAR	Pinedale Array	87.42	43	P	P	06 05 03.6	+0.2
	comp=Z,6.9nm,0.6s,baz=220,slow=3.1,SNR=88						
PDAR				PP	PP	06 08 37.0	-2.4
	comp=Z,0.5nm,0.8s,baz=259,slow=7.1,SNR=4.8						
PDAR	Pinedale Array	87.42	43	P	P	06 05 03.5	+0.1
BOZ	Bozeman (W)	87.43	40	P	P	06 05 04.2	+0.8
	baz=241,SNR=6.7						
BOZ	Bozeman (W)	87.43	40	IAmb	IAmb	06 05 05.9	
	comp=Z,14nm,1.5s						
COLD	Coldfoot	87.51	11	P	P	06 05 03.1	+0.1
	baz=207						
COLD	Coldfoot	87.51	11	P	P	06 05 02.0	-1.0
COLD				IAmb	IAmb	06 05 04.1	
	comp=Z,10nm,1.1s						
H17A	Grant Village	87.52	42	P	P	06 05 06.0	+2.1
	baz=242						
H17A	Grant Village	87.52	42	P	P	06 05 03.9	-0.1
H17A				IAmb	IAmb	06 05 07.0	
	comp=Z,11nm,0.8s						
WALA	Waterton Lakes	87.81	36	IAmb	IAmb	06 05 06.3	
	comp=Z,6.2nm,0.7s						
SDCO	Great Sand Dun	88.02	49	P	P	06 05 07.0	+0.5
	baz=245						
RWWY	Rawlins	88.50	45	IAmb	IAmb	06 05 10.0	
	comp=Z,7.7nm,0.8s						
MSTX	Muleshoe	88.54	54	P	P	06 05 09.3	+0.5
	baz=247						
T25A	Trinidad	88.56	50	P	P	06 05 09.9	+1.0
	baz=246						
BMAR	Burnt Mountain	88.75	12	P	P	06 05 09.2	+0.3
ISCO	Idaho Springs	88.79	47	P	P	06 05 10.9	+0.8
	baz=245						
CMAR	Chiang Mai Arr	88.93	290	P	P	06 05 12.1	+1.3
	comp=Z,4.1nm,0.9s,baz=101,slow=2.8,SNR=12						
CMAR				PP	PP	06 08 56.5	+5.1
	comp=Z,1.6nm,0.5s,baz=131,slow=4.0,SNR=6.2						
CMAR	Chiang Mai Arr	88.93	290	P	P	06 05 11.7	+0.9
N23A	Red Feather La	89.02	46	P	P	06 05 11.9	+0.8
	baz=245,SNR=7.6						
N23A	Red Feather La	89.02	46	P	P	06 05 11.0	0.0
N23A				IAmb	IAmb	06 05 13.0	
	comp=Z,12nm,1.1s						
K22A	Casper	89.37	45	P	P	06 05 13.0	+0.5
	baz=245						
K22A	Casper	89.37	45	IAmb	IAmb	06 05 14.5	
	comp=Z,8.8nm,1.1s						
PHWY	Pilot Hill	89.52	46	P	P	06 05 13.2	-0.2
PHWY				IAmb	IAmb	06 05 14.7	
	comp=Z,5.6nm,0.9s						
JCT	Junction City	89.58	58	P	P	06 05 13.9	+0.4
	baz=249						
JCT	Junction City	89.58	58	IAmb	IAmb	06 05 15.0	
	comp=Z,6.1nm,0.7s						
EPYK	Eagle Plains	89.70	16	P	P	06 05 12.9	-0.3
	baz=219						
EPYK	Eagle Plains	89.70	16	IAmb	IAmb	06 05 13.8	
	comp=Z,7.5nm,0.8s						
EGMT	Eagleton	89.72	39	P	P	06 05 14.3	+0.4
	baz=242						
AMTX	Amarillo	89.72	53	P	P	06 05 14.5	+0.3
	baz=248						
AMTX	Amarillo	89.72	53	IAmb	IAmb	06 05 15.5	
	comp=Z,12nm,1.0s						
ABTX	Abilene, Hawle	90.47	56	P	P	06 05 18.2	+0.6
	baz=249						
SNAA	Sanae	90.50	179	P	P	06 05 17.1	0.0
VNA3	Neumayer Olymp	90.64	176	P	P	06 05 17.9	+0.2
LZH	Lanzhou	90.96	308	*e*P	P	06 05 21.1	+1.1
LZH				pP	pP	06 07 32.3	+6.2
LZH				sP	sP	06 08 29.4	+5.6
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
VNA2	Neumayer--Watz	91.08	177	P	P	06 05 19.9	+0.2
LAO	LASA Array	91.28	41	P	P	06 05 22.5	+1.4
	baz=245						
VNA1	Neumayer--Stat	91.31	177	P	P	06 05 21.4	+0.7
RSSD	Black Hills	91.63	44	P	P	06 05 23.1	+0.2
	baz=246						
RSSD	Black Hills	91.63	44	P	P	06 05 23.1	+0.2
RSSD				IAmb	IAmb	06 05 24.0	
	comp=Z,7.5nm,0.9s						
DGMT	Dagmar	93.26	40	P	P	06 05 30.8	+0.8
	baz=246						
SONM	Songino Array	93.64	319	P	P	06 05 32.8	+0.9
	comp=Z,0.4nm,0.5s,baz=108,slow=28,SNR=2.0						
YKA	Yellowknife Ar	94.42	25	P	P	06 05 34.1	-0.8
	comp=Z,1.0nm,0.5s,baz=203,slow=7.5,SNR=6.0						
KSU1	Kansas State U	95.00	51	P	P	06 05 39.2	+1.0
	baz=251						
KSU1	Kansas State U	95.00	51	P	P	06 05 38.5	+0.3
ECSD	EROS Data Cent	96.49	46	P	P	06 05 44.6	-0.1
	baz=251						
ARCES	ARCESS Array B	126.42	350	PKP	PKPdf	06 11 12.1	-1.7
	comp=Z,1.1nm,0.7s,baz=0.0,slow=2.7,SNR=1.6						
BRTR	Keskin Array B	144.86	315	PKP	PKPdf	06 11 49.0	+0.2
	comp=Z,1.4nm,0.4s,baz=159,slow=3.8,SNR=5.4						
BRTR	Keskin Array B	144.86	315	PKPdf	PKPdf	06 11 48.9	+0.1
KSP	Ksiaz	145.21	344	*e*PKP	PKPdf	06 11 50.4	+1.5
NIE	Niedzica	145.22	338	*e*PKP	PKPbc	06 11 50.7	+0.6
CLL	Collm	145.56	347	*i* PKPbc	PKPbc	06 11 50.7	-0.2
	comp=Z,9.0nm,0.8s						
CLL	Collm	145.56	347		PKPbc	06 11 50.4	-0.5
BRG	Berggiesshubel	145.77	346	*e*PKP	PKPbc	06 11 51.7	+0.1
	comp=Z,4.5nm,0.7s						
VYHS	Vyhne	146.52	339	*e*PKP	PKPbc	06 11 54.5	+0.8
MODS	Modra-Piesok	147.13	341	*e*PKP	PKPbc	06 11 55.7	+0.3
GERES	GERESS Array B	147.71	345	PKPbc	PKPbc	06 11 57.0	0.0
	comp=Z,2.8nm,0.6s,baz=26,slow=3.4,SNR=19						
GERES	GERESS Array B	147.71	345		PKPbc	06 11 56.8	-0.1
CIMO	Cimolais	150.38	345		PKPbc	06 12 02.0	-1.4
FUORN	Ofenpass-Fuorn	150.58	348		PKiKP	06 12 04.7	+0.1
PBRG	Braganca	155.23	15	*e*PKPab	PKPab	06 12 32.5	-0.7
MVO	Moncorvo	155.76	16	*e*PKPab	PKPab	06 12 36.0	+0.5
PCAS	Casmilo, Conde	156.36	20	*e*PKPab	PKPab	06 12 38.2	+0.1
PMRV	Marv??o	157.27	18	*e*PKPab	PKPab	06 12 41.6	-0.4
PMTG	Montargil	157.34	20	*e*PKPab	PKPab	06 12 39.9	-2.4
ESDC	Sonseca Array	157.88	11	PKPab	PKPab	06 12 44.4	-0.3
	comp=Z,1.8nm,0.9s,baz=335,slow=4.4,SNR=8.3						
PMPST	Porto Santo, M	157.98	44	*e*PKPab	PKPab	06 12 43.4	-2.0
PNCL	Nicolau / Gran	158.09	22	*e*PKPab	PKPab	06 12 45.1	-0.5
PCVE	Castro Verde	158.70	21	*e*PKPab	PKPab	06 12 46.8	-1.5
PFVI	Vila Bisbo	158.85	24	*e*PKPab	PKPab	06 12 47.6	-1.4
PVAQ	Vaqueiros	159.01	21	*e*PKPab	PKPab	06 12 49.0	-0.7

BUC 09 06:09:48.4±0.3, 45°.46N×26°.31E, h128km±2km, ml3.6/34, 90C-42D, Error ellipse: s-maj=2.1km s-min=1.8km az=149.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEHR	Nehoiu	0.03	200	⇑P	Pn	06 10 06.6	+0.8
NEHR				⇓S	Sn	06 10 20.1	+1.2
NEHR	Nehoiu	0.03	200	⇑P	Pn	06 10 06.6	+0.8
NEHR	Nehoiu	0.03	200	⇓S	Sn	06 10 20.1	+1.2
MLR	Muntele Rosu	0.26	278	⇑P	Pn	06 10 06.9	+0.5
MLR				⇓S	Sn	06 10 20.8	+0.9
MLR	Muntele Rosu	0.26	278	⇑P	Pn	06 10 06.9	+0.5
MLR	Muntele Rosu	0.26	278	⇓S	Sn	06 10 20.8	+0.9
BISRR	Bisoca	0.29	72	⇓P	Pn	06 10 07.4	+1.0
BISRR				⇓S	Sn	06 10 20.8	+0.8
BISRR	Bisoca	0.29	72	⇓P	Pn	06 10 07.4	+1.0
BISRR	Bisoca	0.29	72	⇓S	Sn	06 10 20.8	+0.8
ISR	Istrita	0.38	154	⇑P	Pn	06 10 07.5	+0.8
ISR				⇑S	Sn	06 10 21.1	+0.6
ISR	Istrita	0.38	154	⇑P	Pn	06 10 07.5	+0.8
ISR	Istrita	0.38	154	⇑S	Sn	06 10 21.1	+0.6
SECR		0.46	202	⇑P	Pn	06 10 07.0	-0.1
SECR				⇑S	Sn	06 10 21.5	+0.4
SECR		0.46	202	⇑P	Pn	06 10 07.0	-0.1
SECR		0.46	202	⇑S	Sn	06 10 21.5	+0.4
PLOR	Plostina	0.46	31	⇑P	Pn	06 10 07.4	+0.3
PLOR				⇑S	Sn	06 10 20.8	-0.5
PLOR	Plostina	0.46	31	⇑P	Pn	06 10 07.4	+0.3
PLOR	Plostina	0.46	31	⇑S	Sn	06 10 20.8	-0.5
GRER		0.47	99	⇑S	Sn	06 10 22.1	+0.9
GRER		0.47	99	⇑S	Sn	06 10 22.1	+0.9
VRI	Vrincioaia	0.50	35	⇑P	Pn	06 10 07.8	+0.5
VRI				⇑S	Sn	06 10 22.2	+0.6
VRI	Vrincioaia	0.50	35	⇑P	Pn	06 10 07.8	+0.5
VRI	Vrincioaia	0.50	35	⇑S	Sn	06 10 22.2	+0.6
PLAR	PLOIESTI	0.58	200	⇑S	Sn	06 10 23.0	+0.7
PLAR	PLOIESTI	0.58	200	⇑S	Sn	06 10 23.0	+0.7
PETR	Petresti	0.70	67	⇑P	Pn	06 10 09.5	+1.0
PETR				⇑S	Sn	06 10 23.9	+0.1
PETR	Petresti	0.70	67	⇑P	Pn	06 10 09.5	+1.0
PETR	Petresti	0.70	67	⇑S	Sn	06 10 23.9	+0.1
OZUR		0.74	330	⇑P	Pn	06 10 08.7	-0.1
OZUR				⇓S	Sn	06 10 23.9	-0.6
OZUR		0.74	330	⇑P	Pn	06 10 08.7	-0.1
OZUR		0.74	330	⇓S	Sn	06 10 23.9	-0.6
SULR		0.78	183	⇑P	Pn	06 10 09.9	+0.7
SULR				⇑S	Sn	06 10 26.3	+1.5
SULR		0.78	183	⇑P	Pn	06 10 09.9	+0.7
SULR		0.78	183	⇑S	Sn	06 10 26.3	+1.5
VOIR		0.89	269	⇑S	Sn	06 10 26.0	-0.7
VOIR		0.89	269	⇑S	Sn	06 10 26.0	-0.7
MTUR	Matau	0.91	256	⇑P	Pn	06 10 10.4	0.0
MTUR	Matau	0.91	256	⇑P	Pn	06 10 10.4	0.0
TUDR		0.96	81	⇓P	Pn	06 10 10.8	+0.1
TUDR				⇑S	Sn	06 10 28.0	+0.3
TUDR		0.96	81	⇓P	Pn	06 10 10.8	+0.1
TUDR		0.96	81	⇑S	Sn	06 10 28.0	+0.3
GHRR		0.98	51	⇓P	Pn	06 10 11.7	+0.8
GHRR				⇓S	Sn	06 10 29.0	+1.1
GHRR		0.98	51	⇓P	Pn	06 10 11.7	+0.8
GHRR		0.98	51	⇓S	Sn	06 10 29.0	+1.1
LEHL	Lehliu	1.05	160	⇓P	Pn	06 10 11.0	-0.5
LEHL	Lehliu	1.05	160	⇓P	Pn	06 10 11.0	-0.5
TESR	Tescani	1.08	12	⇑P	Pn	06 10 11.8	-0.1
TESR				⇑S	Sn	06 10 29.2	-0.6
TESR	Tescani	1.08	12	⇑P	Pn	06 10 11.8	-0.1
TESR	Tescani	1.08	12	⇑S	Sn	06 10 29.2	-0.6
AMRR	Amara	1.12	139	⇓P	Pn	06 10 12.5	+0.3
AMRR				⇓S	Sn	06 10 31.0	+0.8
AMRR	Amara	1.12	139	⇓P	Pn	06 10 12.5	+0.3
AMRR	Amara	1.12	139	⇓S	Sn	06 10 31.0	+0.8
STFAR	Stefanesti-Arg	1.12	239	⇑P	Pn	06 10 13.0	+0.6
STFAR				⇑S	Sn	06 10 30.6	+0.1
STFAR	Stefanesti-Arg	1.12	239	⇑P	Pn	06 10 13.0	+0.6
STFAR	Stefanesti-Arg	1.12	239	⇑S	Sn	06 10 30.6	+0.1
BUC1	Bucharest	1.13	190	⇑S	Sn	06 10 31.7	+1.2
BUC1	Bucharest	1.13	190	⇑S	Sn	06 10 31.7	+1.2
VARL	Varlezi	1.17	67	⇓P	Pn	06 10 13.2	+0.5
VARL				⇑S	Sn	06 10 31.5	+0.4
VARL	Varlezi	1.17	67	⇓P	Pn	06 10 13.2	+0.5
VARL	Varlezi	1.17	67	⇑S	Sn	06 10 31.5	+0.4
ARR	Arges	1.19	266	⇓P	Pn	06 10 13.6	+0.6
ARR				⇑S	Sn	06 10 31.2	-0.4
ARR	Arges	1.19	266	⇓P	Pn	06 10 13.6	+0.6
ARR	Arges	1.19	266	⇑S	Sn	06 10 31.2	-0.4
BIR	Birlad	1.23	48	⇑P	Pn	06 10 13.7	+0.4
BIR				⇑S	Sn	06 10 32.4	+0.1
BIR	Birlad	1.23	48	⇑P	Pn	06 10 13.7	+0.4
BIR	Birlad	1.23	48	⇑S	Sn	06 10 32.4	+0.1
SGRR	Singureni	1.26	191	⇓S	Sn	06 10 33.2	+0.3
SGRR	Singureni	1.26	191	⇓S	Sn	06 10 33.2	+0.3
CFR	Carcaliu	1.32	102	⇑P	Pn	06 10 14.3	+0.1
CFR				⇑S	Sn	06 10 33.5	-0.5
CFR	Carcaliu	1.32	102	⇑P	Pn	06 10 14.3	+0.1
CFR	Carcaliu	1.32	102	⇑S	Sn	06 10 33.5	-0.5
HUMR	Humele	1.32	226	⇓S	Sn	06 10 34.2	0.0
HUMR	Humele	1.32	226	⇓S	Sn	06 10 34.2	0.0
GIUM	Giurgiulesti	1.33	88	⇑S	Sn	06 10 35.2	+0.9
GIUM	Giurgiulesti	1.33	88	⇑S	Sn	06 10 35.2	+0.9
HARR	Harsova	1.38	123	⇑P	Pn	06 10 15.2	+0.2
HARR	Harsova	1.38	123	⇑P	Pn	06 10 15.2	+0.2
BIZ	Bicaz	1.49	355	⇑P	Pn	06 10 16.5	+0.3
BIZ				⇓S	Sn	06 10 37.9	+0.4
BIZ	Bicaz	1.49	355	⇑P	Pn	06 10 16.5	+0.3
BIZ	Bicaz	1.49	355	⇓S	Sn	06 10 37.9	+0.4
TLBR	Topalu	1.53	126	⇓S	Sn	06 10 37.6	-0.6
TLBR	Topalu	1.53	126	⇓S	Sn	06 10 37.6	-0.6
COPA	Copaceanca	1.54	211	⇑P	Pn	06 10 16.2	-0.5
COPA				⇑S	Sn	06 10 38.1	-0.1
COPA	Copaceanca	1.54	211	⇑P	Pn	06 10 16.2	-0.5
COPA	Copaceanca	1.54	211	⇑S	Sn	06 10 38.1	-0.1
VASR	Vaslui	1.57	41	⇑P	Pn	06 10 17.1	0.0
VASR				⇑S	Sn	06 10 38.2	-0.8
VASR	Vaslui	1.57	41	⇑P	Pn	06 10 17.1	0.0
VASR	Vaslui	1.57	41	⇑S	Sn	06 10 38.2	-0.8
TOPG	Topolog	1.57	111	⇑P	Pn	06 10 17.1	0.0
TOPG	Topolog	1.57	111	⇑P	Pn	06 10 17.1	0.0
CVDA	Cernavoda	1.66	132	⇑S	Sn	06 10 40.3	-0.6
CVDA	Cernavoda	1.66	132	⇑S	Sn	06 10 40.3	-0.6
ICOR	Ion Corvin	1.71	141	⇑P	Pn	06 10 18.6	-0.1
ICOR				⇑S	Sn	06 10 41.8	-0.1
ICOR	Ion Corvin	1.71	141	⇑P	Pn	06 10 18.6	-0.1
ICOR	Ion Corvin	1.71	141	⇑S	Sn	06 10 41.8	-0.1
TLCR		1.79	98	⇑P	Pn	06 10 20.4	+0.8
TLCR				⇑S	Sn	06 10 43.9	+0.4
TLCR		1.79	98	⇑P	Pn	06 10 20.4	+0.8
TLCR		1.79	98	⇑S	Sn	06 10 43.9	+0.4
TIRR	Tirgusor	1.80	123	⇓P	Pn	06 10 19.9	+0.1
TIRR				⇑S	Sn	06 10 42.7	-1.0
TIRR	Tirgusor	1.80	123	⇓P	Pn	06 10 19.9	+0.1
TIRR	Tirgusor	1.80	123	⇑S	Sn	06 10 42.7	-1.0
MILM	Milestii Mici	2.27	49	⇓P	Pn	06 10 25.3	-0.3
MILM	Milestii Mici	2.27	49	⇓P	Pn	06 10 25.3	-0.3
GZR	Gura Zlata	2.49	270	⇓P	Pn	06 10 28.7	+0.3
GZR	Gura Zlata	2.49	270	⇓P	Pn	06 10 28.7	+0.3
MDVR	Moldovita	3.32	260	⇑P	Pn	06 10 38.5	-0.7
MDVR	Moldovita	3.32	260	⇑P	Pn	06 10 38.5	-0.7

*IDC **09** 06:20:50.6±5.8, 37°.52N×72°.18E, h156km±50km, mb3.3/2, mb1 3.2/5, mb1mx3.0/55, mbtmp3.7/5, Error ellipse: s-maj=73.8km s-min=42.5km az=128.0*
*SOME **09** 06:20:52.6, 38°.72N×72°.68E, h15km*
*NNC **09** 06:20:57.6±13.0, 38°.01N×72°.38E, h187km±271km, mb2.5, mpv3.5, Error ellipse: s-maj=164.2km s-min=69.0km az=3.0*

ISC 09 06:20:50.2±1.7, 37°.5N±0°.1×72°.3E±0°.1, h150km, n14, σ1§63/21, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	5.01	340	*e*P	Pn	06 22 06.2	+2.4
IUG	37nm,0.2s			*e*S	Sn	06 23 00.9	-0.3
MRKS	224nm,0.3s Merke	5.33	7	*e*P	Pn	06 22 09.7	+1.7
MRKS	8.1nm,0.4s			*e*S	Sn	06 23 06.9	-1.9
AAK	59nm,0.4s Ala-Archa	5.44	17	P	Pn	06 22 11.1	+1.6
AAK	1.6nm,0.3s,baz=150,slow=5.5,SNR=9.5			S	Sn	06 23 11.1	-0.4
AAK	2.3nm,0.3s,baz=343,slow=24,S

NIKH	Nikolski High	1.68	56		Pn	06 28 49.4	-2.0
NIKH	Nikolski High	1.68	56		Sn	06 29 10.1	-1.6
KOFP	Korovin Flat P	1.83	278		Pn	06 28 52.7	-0.7
ATKA	Atka Island	1.88	276		Pn	06 28 52.8	-1.3
KOKL	Mount Kliuchef	1.90	280		Pn	06 28 53.8	-0.6
OKSP	Okmok Steeple	2.12	54		Pn	06 28 56.9	-0.5
OKSP					Sn	06 29 22.2	-0.4
OKWE	Okmok W'ng Wal	2.27	50		Pn	06 29 00.3	+0.8
OKCE	Okmok Cone E	2.28	52		Pn	06 29 00.2	+0.5
OKNC	Okmok New Cone	2.32	51		Pn	06 29 00.3	+0.2
OKFG	Magazine Ridge	2.40	54		Pn	06 29 01.3	+0.1
GSMY	Great Sitkin M	3.03	272		Pn	06 29 10.3	+0.5
GSTR	Great Sitkin T	3.03	273		Pn	06 29 09.8	-0.1
GSTD	Great Sitkin T	3.08	272		Pn	06 29 10.8	+0.2
GSTD					Sn	06 29 46.7	+0.4
MAPS	Pakushin South	3.10	54		Pn	06 29 10.8	0.0
MGOD	Makushin Gods	3.13	54		Pn	06 29 11.2	-0.1
MREP	Makushin Rep't	3.20	55		Pn	06 29 12.6	+0.3
MSW	Makushin Switc	3.24	53		Pn	06 29 12.9	+0.2
MNAT	Makushin Natee	3.27	54		Pn	06 29 13.6	+0.4
MNAT					Sn	06 29 49.7	-1.1
UNV	Unalaska Valle	3.34	56		Pn	06 29 14.6	+0.5
UNV					Sn	06 29 54.3	+1.8
ADAG	Mount Adagdak	3.37	271		Pn	06 29 14.7	+0.2
ADK	Adak	3.42	269		Pn	06 29 14.5	-0.7
AKRB	Akutan Reef Bi	3.71	54		Pn	06 29 20.5	+1.3
KIKV	Kanaga Island	3.73	270		Pn	06 29 20.0	+0.6
AKBBA	Akutan Broad B	3.76	55		Pn	06 29 20.2	+0.3
KIMD	Kanaga Island	3.78	268		Pn	06 29 20.4	+0.3
AKUT	Akutan	3.86	55	Pn	Pn	06 29 22.5	+1.3
SPIA	Saint Paul Isl	5.17	5	Pn	Pn	06 29 39.6	+0.5
AMKA	Amchitka	5.97	267	Pn	Pn	06 29 50.6	+0.4
SDPT	Sand Point	7.15	58	Pn	Pn	06 30 07.4	+1.1
CNBA	Chernabura Isl	7.45	64	Pn	Pn	06 30 10.4	0.0
SII	Sitkinak Islan	10.89	59	Pn	Pn	06 30 57.5	0.0
OHAK	Old Harbor	11.56	56	Pn	Pn	06 31 03.8	-2.9
KDAK	Kodiak Island	12.11	54	Pn	Pn	06 31 13.0	-1.2
	0.3nm,0.3s,baz=243,slow=10,SNR=9.7						
HIN	Hinchinbrook I	15.97	49	Pn	Pn	06 32 04.0	-1.9
FID	Port Fidalgo	16.11	48	Pn	Pn	06 32 05.2	-2.4
SCM	Sheep Creek Mo	16.18	43		Pn	06 32 08.3	-0.3
KLU	Klutina	16.64	46	Pn	Pn	06 32 12.7	-1.8
ILAR	Eielson Array	17.84	35	P	Pn	06 32 29.1	-0.1
	0.1nm,0.3s,baz=229,slow=11,SNR=3.5						
HYT	Haines Junctio	20.36	51	P	P	06 32 58.5	+1.3
SKAG	Skagway	21.26	56	P	P	06 33 08.3	+1.6
DLBC	Dease Lake	23.99	58	P	P	06 33 37.2	+2.3
	1.3nm,0.5s,baz=210,slow=6.1,SNR=5.5						
DLBC				LR	LR	06 43 20.2	
	comp=Z,63nm,18.2s,baz=248,slow=37						
YKA	Yellowknife Ar	31.28	48	P	P	06 34 40.3	+0.4
	1.0nm,0.7s,baz=265,slow=8.5,SNR=1.8						
YKA				LR	LR	06 48 33.3	
	comp=Z,36nm,20.6s,baz=0.0,slow=39						
ASAJ	Asahikawa	31.44	274	LR	LR	06 46 42.5	
	comp=Z,16nm,19.9s,baz=128,slow=35						
NEW	Newport	34.15	74	P	P	06 35 05.6	+0.3
H11N2	WAKE ISLAND Hy	36.53	216	T	T	07 14 06.5	
	baz=21,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	36.54	216	T	T	07 14 04.7	
	baz=21,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	36.55	216	T	T	07 13 56.2	
	baz=21,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	37.72	216	T	T	07 16 18.8	
	baz=22,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	37.74	216	T	T	07 16 19.9	
	baz=22,slow=76,SNR=16						
H11S3	WAKE ISLAND Hy	37.74	216	T	T	07 16 16.0	
	baz=22,slow=76,SNR=13						
NVAR	Mina Array Bea	38.76	89	P	P	06 35 46.6	+1.7
	0.6nm,0.7s,baz=295,slow=8.8,SNR=6.6						
PDAR	Pinedale Array	41.54	78	P	P	06 36 08.8	+0.9
	0.8nm,0.7s,baz=293,slow=4.4,SNR=6.5						
KSRS	Korea Array	44.35	276	LR	LR	06 57 17.2	
	comp=Z,6.5nm,18.5s,baz=240,slow=39						
SONM	Songino Array	50.52	300	LR	LR	06 59 21.6	
	comp=Z,26nm,19.7s,baz=85,slow=37						
TXAR	Lajitas Array	53.85	87	P	P	06 37 43.5	+0.2
	0.5nm,0.6s,baz=298,slow=5.0,SNR=10						
CMAR	Chiang Mai Arr	75.61	281	P	P	06 40 04.9	-0.1
	0.9nm,0.3s,baz=30,slow=7.3,SNR=4.3						
CMAR				LR	LR	07 15 11.6	
	comp=Z,7.5nm,18.0s,baz=205,slow=37						
WRA	Warramunga Arr	85.95	230	P	P	06 40 58.1	-1.9
	0.5nm,0.9s,baz=35,slow=6.1,SNR=2.2						
ASAR	Alice Springs	89.35	229	P	P	06 41 16.1	-0.1
	0.7nm,0.6s,baz=26,slow=5.1,SNR=12						
VNDA	Vanda	130.39	187	PKP	PKPdf	06 47 28.9	+0.5
	0.2nm,0.5s,baz=112,slow=20,SNR=6.0						

*NEIC **09** 06:33:06.2±1.0, 11°.1S±0°.1×166°.4E±0°.2, h142km±9km, mb4.4/9, Error ellipse: s-maj=23.7km s-min=14.7km az=101.0*
*IDC **09** 06:33:13.2±10.0, 11°.47S×166°.51E, h220km±116km, mb3.4/5, mb1 3.6/6, mb1mx3.2/37, mbtmp4.0/6, MS2.8/1, Ms1 2.8/1, ms1mx2.5/18, Error ellipse: s-maj=83.7km s-min=27.5km az=161.0*

ISC 09 06:33:07.1±1.2, 11°.1S±0°.1×166°.4E±0°.2, h150km, n17, σ0 57/16, mb4.1/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	4.35	170		Pn	06 34 11.4	-0.5
HNR	Honiara	6.61	284	LR	LR	06 37 00.8	
	comp=Z,80nm,19.2s,baz=353,slow=34						
DZM	Mont Dzumac	10.87	180	P	Pn	06 35 39.3	+0.5
	1.8nm,0.3s,baz=349,slow=15,SNR=20						
DZM				S	Sn	06 37 38.3	-0.8
	0.2nm,0.3s,baz=193,slow=20,SNR=1.3						
CTA	Charters Tower	21.36	243	P	P	06 37 42.9	+0.1
	2.0nm,0.7s,baz=80,slow=15,SNR=4.5						
CTAO	Charters Tower	21.36	243	P	P	06 37 42.8	+0.1
COEN	Coen	22.88	261	P	P	06 37 58.5	+0.6
COEN				IAmb	IAmb	06 38 14.8	
	comp=Z,21nm,1.1s						
BKZ	Black Stump Fm	29.32	164	P	P	06 38 56.4	+0.9
WR0	Warramunga Arr	31.91	250	P	P	06 39 18.5	-0.1
WR0				IAmb	IAmb	06 39 24.7	
	comp=Z,6.0nm,1.2s						
WB0	Warramunga Arr	32.01	251	P	P	06 39 19.1	-0.4
WB2	Warramunga Arr	32.08	250	P	P	06 39 19.7	-0.4
WB2				IAmb	IAmb	06 39 26.7	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	32.09	250	P	P	06 39 19.5	-0.7
	comp=Z,1.9nm,0.6s,baz=83,slow=8.8,SNR=38						
WRA	Warramunga Arr	32.09	250	IAmb	IAmb	06 39 20.0	
	comp=Z,0.2nm,0.7s						
ASAR	Alice Springs	33.36	244	P	P	06 39 30.4	-0.9
	comp=Z,1.1nm,0.7s,baz=66,slow=10,SNR=9.2						
BBOO	Buckleboo	35.27	228	P	P	06 39 47.9	+0.3
FITZ	Fitzroy Crossi	40.02	255	P	P	06 40 27.7	+0.1
ILAR	Eielson Array	83.38	18	P	P	06 45 16.6	-0.4
	comp=Z,0.3nm,0.6s,baz=240,slow=4.9,SNR=7.4						
MKAR	Makanchi Array	94.06	317	P	P	06 46 08.3	-0.1
	comp=Z,0.7nm,0.6s,baz=85,slow=5.8,SNR=5.6						

*UCR **09** 07:00:16.4±1.3, 13°.78N×90°.98W, h34km±24km, ML3.4*
*SNET **09** 07:00:16.3±1.2, 13°.79N×90°.98W, h34km±8km, ML3.5*

ISC 09 07:00:17.5±2.8, 13°.8N±0°.1×90°.9W±0°.1, h31km±13km, n32, σ0 66/44, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.58	55	eP	Pb	07 00 29.6	+0.1
IXG	Ixpaco	0.58	55	eP	Pb	07 00 29.6	+0.1
IXG				e		07 00 29.6	
NUBE	Las Nubes	1.12	87	eP	Pn	07 00 36.5	-0.7
NUBE				eS	Sn	07 00 52.3	+0.6
NUBE	Las Nubes	1.12	87	eP	Pn	07 00 36.5	-0.7
NUBE				eS	Sn	07 00 52.3	+0.6
RTR	El Retiro	1.25	87	eP	Pn	07 00 39.2	+0.1
RTR				eS	Sb	07 00 57.0	+0.5
RTR	El Retiro	1.25	87	eP	Pn	07 00 39.2	+0.1
RTR				eS	Sb	07 00 57.0	+0.5
CEVE	Cerro Verde	1.27	90	eP	Pn	07 00 38.9	-0.5
CEVE				eS	Sb	07 00 56.8	-0.3
CEVE				IAML		07 00 59.9	
	comp=Z,1μm,0.2s						
CEVE	Cerro Verde	1.27	90	eP	Pn	07 00 38.9	-0.5
CEVE				eS	Sb	07 00 56.8	-0.3
CEVE				IAML		07 00 59.9	
	comp=Z,1μm,0.2s						
SBLS	San Blas	1.27	90	eP	Pn	07 00 39.1	-0.3
SBLS	San Blas	1.27	90	eP	Pn	07 00 39.1	-0.3
SNJE	San Jose	1.29	89	eP	Pn	07 00 39.2	-0.4
SNJE	San Jose	1.29	89	eP	Pn	07 00 39.2	-0.4
CEDA	San Andres	1.49	91	eP	Pn	07 00 41.8	-0.4
CEDA				eS	Sn	07 01 01.8	+1.0
CEDA				IAML		07 01 11.1	
	comp=Z,435nm,0.4s						
CEDA	San Andres	1.49	91	eP	Pn	07 00 41.8	-0.4
CEDA				eS	Sn	07 01 01.8	+1.0
CEDA				IAML		07 01 11.1	
	comp=Z,435nm,0.4s						
TACO	Tacachico	1.54	85	eP	Pn	07 00 41.9	-1.0
TACO				eS	Sn	07 01 01.8	-0.1
TACO	Tacachico	1.54	85	eP	Pn	07 00 41.9	-1.0
TACO				eS	Sn	07 01 01.8	-0.1
HUEH	Huehuetenango	1.57	340	eP	Pn	07 00 43.3	-0.2
BOQS	Boqueron	1.61	93	eP	Pn	07 00 43.3	-0.7
BOQS	Boqueron	1.61	93	eP	Pn	07 00 43.3	-0.7
UEES	Universidad Ev	1.65	94	IAML		07 01 12.1	
	comp=Z,448nm,0.2s						
UEES	Universidad Ev	1.65	94	IAML		07 01 12.1	
	comp=Z,448nm,0.2s						
SNET	Serv Nac Est T	1.66	95	eP	Pn	07 00 43.7	-0.9
SNET				eS	Sn	07 01 05.0	+0.1
SNET	Serv Nac Est T	1.66	95	eP	Pn	07 00 43.7	-0.9
SNET				eS	Sn	07 01 05.0	+0.1
OPAM	Oficina de Pla	1.69	94	eP	Pn	07 00 45.1	+0.1
OPAM				eS	Sn	07 01 06.7	+1.0
OPAM				IAML		07 01 09.5	
	comp=Z,386nm,0.2s						
OPAM	Oficina de Pla	1.69	94	eP	Pn	07 00 45.1	+0.1
OPAM				eS	Sn	07 01 06.7	+1.0
OPAM				IAML		07 01 09.5	
	comp=Z,386nm,0.2s						
ESQI	Esquipulas	1.70	65	eP	Pn	07 00 44.4	-0.9
MRL	Marmol	1.73	44	eP	Pn	07 00 45.1	-0.6
MRL	Marmol	1.73	44	eP	Pn	07 00 45.1	-0.6
LFRS	El Faro	1.83	96	eP	Pn	07 00 46.6	-0.4
LFRS	El Faro	1.83	96	eP	Pn	07 00 46.6	-0.4
LBRS	Las Brisas	1.84	93	eP	Pn	07 00 45.8	-1.2
LBRS	Las Brisas	1.84	93	eP	Pn	07 00 45.8	-1.2

*VAO **09** 07:12:29.2±0.5, 4°.52S×80°.47W, h10km, mb4.9*
*ARE **09** 07:12:38±2.6, 4°.26S±0°.06×80°.35W±0°.10, h68km±4km, Error ellipse: s-maj=13.8km s-min=8.9km az=82.0*
*IDC **09** 07:12:38.1±0.5, 4°.13S×80°.29W, h82km±4km, mb4.1/15, mb1 4.3/20, mb1mx4.2/32, mbtmp4.4/20, MS3.2/11, Ms1 3.2/11, ms1mx3.1/23, Error ellipse: s-maj=20.7km s-min=8.0km az=58.0*
*IGQ **09** 07:12:38.1±0.6, 4°.5±4°×8°0W±°, h50km, M5.2*
*NEIC **09** 07:12:39.3±2.1, 4°.15S±0°.06×80°.27W±0°.09, h94km±3km, mb4.8/253, Md5.2(IGQ), ML5.1(ARE), Error ellipse: s-maj=12.6km s-min=8.8km az=93.0*
*UNK **09** 07:12:39.3, 4°.15S×80°.27W, h94km*
*BJI **09** 07:12:40.0±0.0, 4°.10S×80°.20W, h80km, mB5.1/2, Ms5.0/1, Ms7 5.2/1*

ISC 09 07:12:37.6±0.5, 4°.19S±0°.04×80°.32W±0°.05, h80km±4km, n542, σ1§21/476, mb4.8/127, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	Macar, Loja	0.40	116	P	Pn	07 12 50.6	0.0
MCRA				S	Sn	07 12 59.9	-0.3
ARNL	Arenillas	0.69	21	P	Pn	07 12 52.9	-0.2
ARNL				S	Sn	07 13 03.9	-0.8
GONZ	Gonzanam	0.92	93	P	Pn	07 12 56.4	+0.3
GONZ				S	Sn	07 13 09.9	0.0
ACH2	Ecuador-Machal	1.05	29	P	Pn	07 12 58.0	+0.7
ACH2				S	Sn	07 13 12.6	+0.5
ISPG	Isla Puna-Puer	1.23	7	P	Pn	07 13 01.3	+1.8
ISPG				S	Sn	07 13 18.6	+2.7
MORR	Playas El Morr	1.54	359	P	Pn	07 13 04.1	+0.6
MORR				S	Sn	07 13 22.4	-0.6
GYE3	Ecuador-Guayaq	2.07	12	P	Pn	07 13 10.2	-0.3
GYE3				S	Sn	07 13 33.1	-2.3
BOSC	San Juan Bosco	2.09	60	P	Pn	07 13 11.7	+0.7
AGUAY	Guayaquil	2.16	10	P	Pn	07 13 11.1	-0.5
AMIL	Milagro (Trans	2.17	19	P	Pn	07 13 11.3	-0.4
PPLP	Puerto Lpez	2.67	350	P	Pn	07 13 18.4	-0.2
PPLP				S	Sn	07 13 47.4	-2.6
SANGA	Volcan Sangay	2.88	42	P	Pn	07 13 22.4	+0.6
IGUA	Igualata	3.17	32	P	Pn	07 13 26.2	+0.4
BMAS	Trigal station	3.24	35	P	Pn	07 13 27.4	+0.8
ARRY	Arrayan	3.25	35	P	Pn	07 13 27.3	+0.6
BPAT	Tungurahua Vol	3.27	35	P	Pn	07 13 24.8	-2.2
BPAT				S	Sn	07 14 02.6	-2.5
BBIL	Ulba Tungurahu	3.28	34	P	Pn	07 13 27.9	+0.8
RETU	Refugio	3.30	35	P	Pn	07 13 28.4	+0.8
JUI6	Juive	3.31	34	P	Pn	07 13 28.3	+0.8
BULB	Ulba Tungurahu	3.34	35	P	Pn	07 13 28.6	+0.7
BRUN	Tungurahua Vol	3.35	35	P	Pn	07 13 28.6	+0.6
ATAH	Atahualpa	3.49	147	P	Pn	07 13 32.7	+2.7
	21nm,0.3s,baz=357,slow=7.8,SNR=115						
ATAH				S	Sn	07 14 13.2	+2.7
	103nm,0.3s,baz=229,slow=14,SNR=8.5						
ATAH				LR	LR	07 15 13.1	
	comp=Z,431nm,18.8s,baz=330,slow=44						
PUYO	Puyo, Santa Ro	3.53	41	P	Pn	07 13 30.5	+0.3
PIS1	Pisayambo	3.66	32	P	Pn	07 13 33.3	+0.8
PKYU	Pakayacu	3.71	47	P	Pn	07 13 32.8	+0.1
CAB1	Cabo Pasado-Ma	3.78	358	P	Pn	07 13 34.6	+1.0
CABP	Cabo Pasado	3.78	358	P	Pn	07 13 34.5	+0.9
ILLI	Illinizas Sur	3.80	25	P	Pn	07 13 35.6	+1.3
FLFR	Flavio Alfaro	3.84	7	P	Pn	07 13 34.5	+0.1
VCES	Cotopaxi	3.88	30	P	Pn	07 13 36.0	+0.6
BMOR	Cotopaxi Volca	3.91	28	P	Pn	07 13 36.3	+0.5
BNAS	Cotopaxi Volca	3.95	28	P	Pn	07 13 37.1	+0.7
BREF	Cotopaxi Volca	3.97	28	P	Pn	07 13 37.7	+0.9
TAMB	Tambo	3.98	29	P	Pn	07 13 37.5	+0.7
BTAM	Cotopaxi Volca	3.99	29	P	Pn	07 13 37.5	+0.6
VC1	Cotopaxi 1	4.01	29	P	Pn	07 13 38.4	+1.2
ARDO	Archidona, Ten	4.05	38	P	Pn	07 13 37.0	-0.4
ANTG	Antisana-Guama	4.21	29	P	Pn	07 13 40.3	+0.5
ANTS	Antisana-Sarah	4.25	30	P	Pn	07 13 41.2	+0.7
GGPC	Guagua Pichinc	4.34	23	P	Pn	07 13 42.7	+0.9
PINO	Pino	4.36	23	P	Pn	07 13 42.9	+0.9
YANA	Yana	4.41	23	P	Pn	07 13 43.5	+0.9
BV15	Puerto Quito-O	4.46	14	P	Pn	07 13 41.4	-1.5
PULU	Pululahua	4.56	23	P	Pn	07 13 45.0	+0.4
PAC1	Pacto, Paraso	4.69	19	eP	Pn	07 13 45.2	-0.8
PAC1	Pacto, Paraso	4.69	19	P	Pn	07 13 45.0	-1.0
OTAV	Otavalo	4.78	23	eP	Pn	07 13 48.0	+0.4
OTAV	Otavalo	4.78	23	Pn	Pn	07 13 48.1	+0.4
OTAV				Sn	Sn	07 14 43.3	+1.3
OTAV	Otavalo	4.78	23	eP	Pn	07 13 46.9	-0.8
OTAV				eS	Sn	07 14 46.8	+4.8
CUSE	Cuicocha Este	4.86	23	eP	Pn	07 13 49.8	+1.1
CUSE	Cuicocha Este	4.86	23	P	Pn	07 13 49.3	+0.6
CUSW	Cuicocha Oeste	4.86	24	P	Pn	07 13 49.2	+0.5
REVS	Reventador Sur	4.87	34	P	Pn	07 13 49.8	+1.1
CUIC	Cuicocha-Domo	4.88	24	P	Pn	07 13 49.5	+0.6
IMBA	Imbabura, San	4.92	26	P	Pn	07 13 50.8	+1.3
URCU	Urcuqui	5.04	24	P	Pn	07 13 52.1	+0.9
CHL1	Volcn Chiles	5.49	26	P	Pn	07 13 57.7	+0.3
TULM	Tulcn-Chalpat	5.49	27	P	Pn	07 13 58.3	+0.9
ECEN	Cerro Negro	5.51	25	P	Pn	07 13 58.0	+0.3
ATUL	Tulcn	5.57	28	P	Pn	07 13 59.0	+0.7
CMBC	Cumbal	5.68	26	eP	Pn	07 14 01.2	+1.4
PUAC	Puerto Asis, P	6.02	39	eP	Pn	07 14 02.1	-2.1
GCUF	Volcan Galeras	6.15	29	eP	Pn	07 14 07.0	+0.6
BBAC	Balboa, Cauca	6.89	26	eP	Pn	07 14 15.0	-1.3
PTLC	Puerto Leguiza	7.02	52	eP	Pn	07 14 11.3	-6.5
FLOC	Florencia	7.39	39	eP	Pn	07 14 20.4	-2.6
GR1C	Gorgona, Isla	7.46	17	eP	Pn	07 14 20.1	-3.8
PCON	Cinco Dias	7.57	31	eP	Pn	07 14 24.6	-1.2
POPC	Popayan, Colom	7.62	29	eP	Pn	07 14 16.7	-9.5
GARC	Garzon, Huila	7.96	37	eP	Pn	07 14 29.4	-1.6
CZSB	Cruzeiro do Su	8.35	115	eP	Pn	07 14 30.9	-5.0
CZSB				eS	Sn	07 16 06.0	-2.7
NNA	Nana	8.47	156	P	Pn	07 14 37.5	-0.2
	6.6nm,0.3s,baz=335,slow=12,SNR=16						
NNA				S	Sn	07 16 08.5	-3.3
	12nm,0.3s,baz=200,slow=18,SNR=4.4						
NNA				LR	LR	07 17 55.1	
	comp=Z,60nm,18.4s,baz=344,slow=37						
NNA	Nana	8.47	156	Pn	Pn	07 14 38.2	+0.5
MACC	Macarena, Meta	9.03	46	eP	Pn	07 14 41.8	-3.4
YOTC	Yotoco, Valle	9.04	26	eP	Pn	07 14 41.0	-4.5
PRAC	Prado	9.55	35	eP	Pn	07 14 49.1	-3.2
PLMC	San Jos del P	9.90	24	eP	Pn	07 14 53.8	-3.4
TOLC	Tolima	10.05	30	eP	Pn	07 14 54.8	-4.6
GUVC	San Jose del G	10.19	49	eP	Pn	07 14 58.4	-2.8
PAYG	Puerto Ayora	10.55	289	Pn	Pn	07 15 06.6	+0.5
VILC	Villavicencio,	10.58	39	eP	Pn	07 15 05.9	-0.6
GUY2C	Guyana, Caldas	10.58	28	eP	Pn	07 15 01.4	-5.5
ROSC	El Rosal	10.79	34	P	Pn	07 15 06.5	-3.1
	1.7nm,0.3s,baz=119,slow=9.7,SNR=7.3						
ROSC	El Rosal	10.79	34	eP	Pn	07 15 07.0	-2.6
ROSC	El Rosal	10.79	34	Pn	Pn	07 15 08.4	-1.2
HELC	Santa Helena	11.37	25	eP	Pn	07 15 14.8	-2.7
SPBC	San Pablo de B	11.60	33	eP	Pn	07 15 15.3	-5.1
PTBC	PUERTO BERRIO,	12.16	29	eP	Pn	07 15 23.4	-4.5
RUSC	La Rusia	12.35	36	eP	Pn	07 15 30.1	-0.9
ZARC	Zaragoza, Cauc	12.82	25	eP	Pn	07 15 35.3	-1.6
BCIP	Isla Barro Col	13.28	2	Pn	Pn	07 15 44.3	+1.3
OCAC	Ocana	14.19	29	eP	Pn	07 15 51.9	-3.0
SMLC	San Martn de	14.33	26	eP	Pn	07 15 53.1	-3.6
SJCC	San Jacinto, C	14.90	20	eP	Pn	07 16 03.3	-0.9
JTS	Las Juntas de	15.11	342	P	Pn	07 16 08.2	+1.4
	0.4nm,0.3s,baz=310,slow=3.3,SNR=6.5						
JTS	Las Juntas de	15.11	342		P	07 16 10.5	+0.3
SDV	Santo Domingo	16.19	37	P	Pn	07 16 19.5	-1.0
	4.6nm,0.3s,baz=237,slow=15,SNR=24						
SDV	Santo Domingo	16.19	37	eP	P	07 16 21.8	-0.6
SDV	Santo Domingo	16.19	37	P	P	07 16 23.1	+0.8
SDV				IAmb	IAmb	07 16 24.3	
	comp=Z,81nm,1.1s						
SDV	Santo Domingo	16.19	37	eP	P	07 16 23.1	+0.8
LPAZ	La Paz	16.96	136	P	Pn	07 16 30.9	+0.4
	comp=Z,0.2nm,0.3s,baz=202,slow=7.3,SNR=17						
LPAZ	La Paz	16.96	136	P	Pn	07 16 31.0	+0.4
LPAZ	La Paz	16.96	136	eP	Pn	07 16 26.8	-3.8
PB12	IPOC Station P	17.34	147	P	P	07 16 36.3	+1.4
PB16	IPOC Station P	17.59	144	P	Pn	07 16 39.8	+1.6
SAML	Samuel	17.66	106	P	P	07 16 37.4	-1.0
SAML				IAmb	IAmb	07 16 39.5	
	comp=Z,43nm,0.9s						
MNMC	Minye Minye	18.17	146	P	P	07 16 44.9	+0.7
PSGCX	Pisagua	18.26	148	P	P	07 16 45.7	+0.7
PB11	IPOC Station P	18.64	147	P	P	07 16 49.5	+0.2
GO01	Chusmiza	18.82	146	P	P	07 16 52.7	+1.1
TA01	Diego Aracena	19.03	150	P	P	07 16 53.5	+0.2
TGUH	Tegucigalpa,Un	19.40	339	P	Pn	07 16 58.8	-0.7
MACA	Manacapuru-AM	19.62	88	eP	P	07 16 59.2	-0.7
MACA				eS	Sn	07 20 44.2	+2.0
PCRV	Puerto La Cruz	21.16	47	P	P	07 17 17.9	+1.3
	comp=Z,33nm,0.5s,baz=209,slow=2.1,SNR=36						
PLCV	Puerto La Cruz	21.18	48	P	P	07 17 17.9	+1.1
LVC	Limon Verde	21.38	150	P	P	07 17 21.1	+2.0
	comp=Z,3.1nm,0.6s,baz=140,slow=4.8,SNR=12						
LVC				LR	LR	07 26 04.5	
	comp=Z,56nm,21.9s,baz=342,slow=38						
LVC	Limon Verde	21.38	150	P	P	07 17 22.2	+3.0
APG	El Apazote	21.56	332	P	P	07 17 22.1	+1.1
	comp=Z,6.5nm,0.6s,baz=167,slow=16,SNR=8.3						
VILB	Vilhena	21.70	115	eP	P	07 17 20.8	-1.4
SIV	San Ignacio	22.25	123	P	P	07 17 29.4	+1.2
	comp=Z,2.2nm,0.6s,baz=302,slow=8.4,SNR=21						
SIV				LR	LR	07 26 41.7	
	comp=Z,60nm,19.3s,baz=284,slow=38						
GO02	Mina Guanaco	23.26	155	P	P	07 17 39.2	+0.5
PTLB	Pontes e Lacer	23.65	120	eP	P	07 17 42.0	+0.1
ITTB	Itaituba	24.52	91	eP	P	07 17 49.7	-0.2
GRGR	Grenville	24.64	49	P	P	07 17 52.6	+1.7
AC02	Maricunga	24.93	156	P	P	07 17 56.0	+2.0
TOSP	Speyside	24.99	52	P	P	07 17 56.0	+1.9
NPGB	Novo Progresso	25.00	98	eP	P	07 17 54.4	+0.1
CLDB	Colider	25.18

V55A	Taylorsville	39.84	359	P	P	07 20 02.9	-0.4
	baz=178						
V60A	Jim Taylor Roa	39.85	4	P	P	07 20 03.1	-0.3
	baz=185						
V52A	Sevierville	39.94	356	P	P	07 20 02.2	-2.0
V52A				IAmb	IAmb	07 20 04.4	
	comp=Z,14nm,0.8s						
V51A	Loudon	39.97	355	IAmb	IAmb	07 20 04.7	
	comp=Z,11nm,0.8s						
TXAR	Lajitas Array	40.17	328	P	P	07 20 06.1	-0.2
	comp=Z,1.0nm,0.8s,baz=147,slow=10.0,SNR=14						
TXAR				PcP	PcP	07 22 09.2	0.0
	comp=Z,2.8nm,0.8s,baz=153,slow=6.4,SNR=18						
TXAR				pPcP		07 22 32.3	
	comp=Z,4.1nm,0.9s,baz=153,slow=5.9,SNR=14						
TXAR	Lajitas Array	40.17	328	P	P	07 20 06.6	+0.3
TXAR				PcP	PcP	07 22 09.9	+0.7
V48A	Smith Brothers	40.19	352	IAmb	IAmb	07 20 06.4	
	comp=Z,16nm,1.2s						
X40A	Basin Creek Fa	40.24	344	P	P	07 20 06.7	0.0
	baz=160						
U56A	King	40.33	360	P	P	07 20 07.1	-0.3
	baz=180						
U59A	Littleton	40.40	3	P	P	07 20 07.4	-0.6
	baz=184						
U58A	Oxford	40.41	2	P	P	07 20 07.5	-0.5
	baz=183						
U57A	Blanch	40.42	1	P	P	07 20 07.4	-0.8
	baz=181						
U55A	TA2, Sparta	40.49	359	P	P	07 20 08.2	-0.6
	baz=179,SNR=6.4						
MIAR	Mount Ida	40.51	343	P	P	07 20 09.1	+0.3
	baz=159						
U54A	Nelsons Funny	40.53	358	P	P	07 20 08.3	-0.7
	baz=178						
TZTN	Tazewell	40.64	356	P	P	07 20 09.2	-0.7
	baz=175						
TZTN	Tazewell	40.64	356	IAmb	IAmb	07 20 09.7	
	comp=Z,12nm,0.7s						
WVT	Waverly	40.73	351	P	P	07 20 09.0	-1.6
	baz=168						
WVT	Waverly	40.73	351	P	P	07 20 08.8	-1.8
W41B	Gary Mavity, V	40.73	345	P	P	07 20 10.6	-0.1
	baz=162						
ABTX	Abilene, Hawle	40.95	335	P	P	07 20 13.6	+1.0
	baz=150,SNR=6.7						
ABTX	Abilene, Hawle	40.95	335	IAmb	IAmb	07 20 14.8	
	comp=Z,20nm,1.1s						
T57A	Hurt	40.99	1	P	P	07 20 12.2	-0.6
	baz=182						
T56A	Rocky Mt	41.01	0	P	P	07 20 12.5	-0.5
	baz=180						
T53A	Wise	41.02	357	P	P	07 20 12.3	-0.8
	baz=177						
T59A	Double "B" Far	41.03	3	P	P	07 20 12.6	-0.5
	baz=184						
T54A	Tazewell	41.06	358	P	P	07 20 12.6	-0.8
	baz=178						
T55A	Pulaski	41.10	359	P	P	07 20 13.3	-0.5
	baz=179						
X37A	Clayton	41.10	341	IAmb	IAmb	07 20 16.1	
	comp=Z,26nm,1.2s						
W39A	Magazine	41.17	343	P	P	07 20 15.4	+1.0
	baz=159,SNR=7.6						
W39A	Magazine	41.17	343	IAmb	IAmb	07 20 16.5	
	comp=Z,23nm,1.1s						
LCAR	Lake Charles	41.32	347	P	P	07 20 15.2	-0.3
LCAR				IAmb	IAmb	07 20 16.1	
	comp=Z,15nm,1.1s						
S58A	Poland Farm, P	41.65	3	P	P	07 20 17.4	-0.7
	baz=183						
S56A	Natural Bridge	41.66	1	P	P	07 20 17.6	-0.7
	baz=181						
S51A	Beattyville	41.73	356	IAmb	IAmb	07 20 18.4	
	comp=Z,12nm,0.8s						
RIB01	Linhares ES	41.73	114	eP	P	07 20 18.3	-0.9
S55A	Lewisburg	41.75	360	P	P	07 20 18.5	-0.6
	baz=180						
S54A	Dingess, Beckl	41.79	359	P	P	07 20 18.6	-0.8
	baz=178						
R58B	Mineral	42.00	3	P	P	07 20 20.8	-0.2
	baz=184						
U40A	Yellville	42.01	345	P	P	07 20 21.5	+0.3
	baz=161,SNR=10.0						
R54A	Victor	42.16	359	P	P	07 20 21.7	-0.7
	baz=179						
HHAR	Hobbs	42.23	344	IAmb	IAmb	07 20 24.5	
	comp=Z,12nm,1.0s						
R55A	Marlinton	42.26	0	P	P	07 20 22.8	-0.4
	baz=180						
R50A	Paris	42.42	355	IAmb	IAmb	07 20 23.9	
	comp=Z,7.8nm,0.7s						
TUL1	Leonard	42.45	341	P	P	07 20 25.2	+0.5
	baz=157,SNR=5.7						
TUL1	Leonard	42.45	341	P	P	07 20 24.8	+0.1
WMOK	Wichita Mounta	42.45	337	P	P	07 20 25.1	+0.3
	baz=152,SNR=6.0						
S44A	Carbondale	42.49	349	IAmb	IAmb	07 20 24.7	
	comp=Z,8.8nm,0.8s						
U38A	Gravette	42.51	343	IAmb	IAmb	07 20 26.8	
	comp=Z,18nm,1.0s						
R49A	Shelbyville	42.51	354	IAmb	IAmb	07 20 24.8	
	comp=Z,11nm,0.9s						
WCI	Wyandotte Cave	42.57	353	P	P	07 20 24.4	-1.3
	baz=171						
WCI	Wyandotte Cave	42.57	353	P	P	07 20 24.2	-1.5
WCI				IAmb	IAmb	07 20 25.1	
	comp=Z,12nm,0.9s						
MGMO	Mountain Grove	42.62	346	IAmb	IAmb	07 20 27.1	
	comp=Z,14nm,1.0s						
OK025	Westminster Rd	42.67	339	IAmb	IAmb	07 20 27.7	
	comp=Z,23nm,1.2s						
BCOK	Bluff Creek, N	42.83	339	P	P	07 20 28.1	+0.2
Q53A	Leroy	42.85	359	P	P	07 20 27.1	-0.8
	baz=178,SNR=5.4						
MNTX	Cornudas Mount	42.94	328	P	P	07 20 29.4	+0.6
	baz=142,SNR=12						
Q54A	Coxs Mills	42.96	359	P	P	07 20 27.9	-0.9
	baz=179						
Q55A	Buckhannon	42.97	0	P	P	07 20 28.8	-0.2
	baz=180,SNR=5.3						
Q52A	Bidwell	42.98	358	P	P	07 20 28.0	-1.0
	baz=177						
Q58A	Fox Den Farm,	42.99	3	P	P	07 20 28.7	-0.3
	baz=184						
FVM	French Village	43.00	348	IAmb	IAmb	07 20 29.5	
	comp=Z,11nm,0.7s						
Q56A	Snyder Ridge,	43.03	1	P	P	07 20 29.1	-0.3
	baz=182						
Q56A	Snyder Ridge,	43.03	1	P	P	07 20 28.6	-0.8
Q56A				IAmb	IAmb	07 20 29.7	
	comp=Z,21nm,1.3s						
S39A	Bolivar	43.39	345	IAmb	IAmb	07 20 33.3	
	comp=Z,15nm,1.0s						
MSTX	Muleshoe	43.48	333	P	P	07 20 34.0	+0.7
	baz=146,SNR=8.5						
P56A	Dayton Farm, R	43.50	2	P	P	07 20 33.2	+0.1
	baz=182						
P57A	Homestead Farm	43.51	3	P	P	07 20 33.4	+0.2
	baz=183						
P51A	Williamsport	43.53	357	P	P	07 20 32.1	-1.3
	baz=176						
P58A	Pank, Wackersv	43.55	3	P	P	07 20 33.1	-0.4
	baz=184						
P54A	Burton	43.58	360	P	P	07 20 33.1	-0.7
	baz=180						
T35A	Sooner Cattle	43.60	341	IAmb	IAmb	07 20 35.9	
	comp=Z,26nm,1.4s						
P52A	Corning	43.64	358	P	P	07 20 32.9	-1.4
	baz=177						
AMTX	Amarillo	43.76	334	P	P	07 20 35.4	0.0
AMTX				IAmb	IAmb	07 20 37.1	
	comp=Z,21nm,1.1s						
O52A	Adamsville	44.11	358	P	P	07 20 36.9	-1.2
	baz=178						
O51A	Pataskala	44.17	357	P	P	07 20 37.5	-1.1
	baz=177						
O55A	Ligonier	44.19	1	P	P	07 20 38.2	-0.6
	baz=181						
O58A	Lewisberry	44.21	4	P	P	07 20 38.9	0.0
	baz=185						
O57A	Amberson	44.26	3	P	P	07 20 39.0	-0.2
	baz=184						
O56A	Blue Knob Stat	44.27	2	P	P	07 20 38.8	-0.6
	baz=182						
ACSO	Alum Creek Sta	44.27	357	P	P	07 20 38.1	-1.2
	baz=176						
O60A	Telford	44.52	5	P	P	07 20 41.6	+0.3
	baz=187						
SSPA	Standing Stone	44.67	3	P	P	07 20 42.0	-0.5
	baz=183						
N55A	Marion Center	44.77	1	P	P	07 20 42.8	-0.6
	baz=182						
N53A	Lisbon	44.78	359	P	P	07 20 41.9	-1.5
	baz=179						
N57A	Milroy	44.80	3	P	P	07 20 42.9	-0.7
	baz=184						
N52A	McGinn's Farm,	44.80	359	P	P	07 20 42.1	-1.5
	baz=178						
319A	Douglas	44.87	324	IAmb	IAmb	07 20 47.3	
	comp=Z,20nm,1.1s						
121A	Cookes Peak, D	44.88	326	P	P	07 20 46.4	+1.9
	baz=139,SNR=5.9						
121A	Cookes Peak, D	44.88	326	IAmb	IAmb	07 20 47.7	
	comp=Z,20nm,1.4s						
N51A	Ashland	44.93	358	P	P	07 20 43.3	-1.3
	baz=177						
N54A	Moraine State	44.94	0	P	P	07 20 43.8	-0.9
	baz=180						
N59A	State Game Lan	45.09	5	P	P	07 20 46.0	+0.2
	baz=186						
N60A	Cedar Hill Far	45.10	6	P	P	07 20 45.2	-0.7
	baz=187						
HDIL	Hopedale	45.29	350	P	P	07 20 46.1	-1.3
	baz=167						
PAL	Palisades	45.36	7	P	P	07 20 47.9	-0.1
	baz=189						
M57A	Sunshine Farm,	45.41	3	P	P	07 20 48.1	-0.2
	baz=184						
M55A	Ridgway	45.47	2	P	P	07 20 48.0	-0.8
	baz=182						
M58A	Price's Panora	45.48	4	P	P	07 20 48.5	-0.5
	baz=185						
M54A	Oil Creek Stat	45.49	1	P	P	07 20 48.0	-1.0
	baz=181						
M56A	Emporium	45.50	2	P	P	07 20 48.3	-0.8
	baz=183						
M59A	Waymart	45.73	5	P	P	07 20 50.8	-0.1
	baz=187						
ANMO	Albuquerque	46.04	330	P	P	07 20 55.1	+1.4
	baz=142						
ANMO	Albuquerque	46.04	330	P	P	07 20 54.7	+1.0
L57A	Andrews Acres	46.08	4	P	P	07 20 53.3	-0.3
	baz=185						
L56A	Greenwood	46.18	3	P	P	07 20 53.6	-0.8
	baz=184						
L55A	Hinsdale	46.19	2	P	P	07 20 53.7	-0.8
	baz=182						
L58A	Harry Jones Me	46.20	5	P	P	07 20 54.4	-0.2
	baz=186						
BINY	Binghamton	46.34	4	P	P	07 20 55.6	-0.1
	baz=186						
BINY	Binghamton	46.34	4	P	P	07 20 55.2	-0.5
BINY				IAmb	IAmb	07 20 56.4	
	comp=Z,20nm,1.1s						
L59A	Walton	46.41	5	P	P	07 20 56.1	-0.1
	baz=187						
TUC	Tucson	46.43	324	P	P	07 20 57.9	+1.3
	baz=136						
TUC	Tucson	46.43	324	P	P	07 20 57.1	+0.5
L61A	Hillsdale 1, H	46.58	7	P	P	07 20 57.5	0.0
	baz=189						
K54A	Basiliko Farm,	46.61	2	P	P	07 20 57.1	-0.7
	baz=182						
L44A	Lake County Fo	46.67	352	P	P	07 20 56.2	-2.0
	baz=170						
K56A	Middlesex	46.75	3	P	P	07 20 57.8	-1.1
	baz=184						
K57A	Scipio Center	46.83	4	P	P	07 20 58.6	-0.9
	baz=185						
T25A	Trinidad	46.85	333	P	P	07 21 01.3	+1.3
	baz=146						
K58A	Earlville	46.93	5	P	P	07 20 59.7	-0.6
	baz=186						
214A	Organ Pipe Nat	47.41	322	P	P	07 21 05.7	+1.5
	baz=133						
KSCO	Kaye Shedlock'	47.68	336	IAmb	IAmb	07 21 08.3	
	comp=Z,9.8nm,0.8s						
J59A	Piesco	47.73	6	P	P	07 21 06.3	-0.1
	baz=188						
JFWS	Jewell Farm	47.74	350	P	P	07 21 05.4	-1.2
	baz=166,SNR=5.9						
JFWS	Jewell Farm	47.74	350	IAmb	IAmb	07 21 06.2	
	comp=Z,11nm,0.7s						
I51A	Listowel	47.78	359	P	P	07 21 05.4	-1.5
	baz=179						
J62A	Henniker	47.82	8	P	P	07 21 07.6	+0.4
	baz=191						
SDCO	Great Sand Dun	47.84	333	P	P	07 21 08.9	+1.2
	baz=145,SNR=22						
SDCO	Great Sand Dun	47.84	333	IAmb	IAmb	07 21 10.0	
	comp=Z,10.0nm,0.8s						
W18A	Petrified Fore	47.89	327	P	P	07 21 09.8	+1.7
	baz=139,SNR=16						
W18A	Petrified Fore	47.89	327	P	P	07 21 08.9	+0.8
W18A				IAmb	IAmb	07 21 10.9	
	comp=Z,18nm,1.0s						
I57A	Carthage	48.09	5	P	P	07 21 08.9	-0.3
	baz=186						
I59A	Olneadville	48.12	6	P	P	07 21 09.4	-0.1
	baz=189						
I60A	Shoreham	48.23	7	P	P	07 21 10.3	0.0
	baz=189						
S22A	4UR Ranch, Cre	48.45	332	P	P	07 21 13.7	+1.2
	baz=144,SNR=8.4						
H53A	Bobcaygeon	48.57	2	P	P	07 21 11.3	-1.6
	baz=182						
H55A	Tweed	48.60	3	P	P	07 21 11.9	-1.3
	baz=184						
H57A	Richville	48.64	5	P	P	07 21 12.4	-1.0
	baz=186						
H56A	Elgin	48.70	4	P	P	07 21 13.0	-0.8
	baz=185						
I40A	Norwalk	48.76	350	IAmb	IAmb	07 21 14.8	
	comp=Z,10nm,1.1s						
MVCO	Mesa Verde	48.84	330	P	P	07 21 16.5	+1.1
	baz=141,SNR=7.7						
MVCO	Mesa Verde	48.84	330	IAmb	IAmb	07 21 17.4	
	comp=Z,6.3nm,0.8s						
WUAZ	Wupatki	49.08	326	P	P	07 21 19.0	+1.8
	baz=137,SNR=21						
G57A	Newington	49.31	5	P	P	07 21 17.4	-1.1
	baz=187						
G55A	Calabogie	49.33	3	P	P	07 21 17.5	-1.2
	baz=185						
G54A	Lake Saint Pet	49.41	2	P	P	07 21 18.1	-1.2
	baz=183						
G58A	Ormstown	49.44	6	P	P	07 21 19.2	-0.3
	baz=188						
G59A	Clarenceville	49.47	7	P	P	07 21 20.9	+1.2
	baz=189						
ISCO	Idaho Springs	49.58	334	P	P	07 21 21.9	+0.8
	baz=146,SNR=5.4						
PV01	Paradox Valley	49.60	331	IAmb	IAmb	07 21 23.1	
	comp=Z,7.5nm,0.9s						
PV15	Paradox Valley	49.72	331	P	P	07 21 23.0	+0.9
PV07	Paradox Valley	49.88	331	IAmb	IAmb	07 21 25.5	
	comp=Z,12nm,0.9s						
G61A	St-Isidore-de-	49.88	8	P	P	07 21 23.1	+0.2
	baz=191						
PV17	East Wray Mesa	49.90	330	P	P	07 21 23.8	+0.3
PV17				IAmb	IAmb	07 21 25.4	
	comp=Z,12nm,0.9s						
PV16	Nyswonger Mesa	49.91	331	IAmb	IAmb	07 21 25.6	
	comp=Z,11nm,1.1s						
ECSD	EROS Data Cent	49.92	345	P	P	07 21 22.6	-0.6
	baz=158,SNR=5.0						
PV20	West Nyswonger	49.96	330	IAmb	IAmb	07 21 25.9	
	comp=Z,16nm,1.4s						
PV04	Paradox Valley	49.97	331	IAmb	IAmb	07 21 25.5	
	comp=Z,6.0nm,0.7s						
ALGO	Algonquin Park	49.97	2	P	P	07 21 21.8	-1.7
	baz=183						
PV14	Lion Creek, Pa	50.01	330	IAmb	IAmb	07 21 25.6	
	comp=Z,7.3nm,0.9s						
PV22	Blue Mesa, Par	50.02	331	IAmb	IAmb	07 21 27.5	
	comp=Z,14nm,1.3s						
PV23	Carpenter Ridg	50.06	331	IAmb	IAmb	07 21 26.6	
	comp=Z,7.0nm,0.9s						
BC3	Big Chuckawall	50.19	321	P	P	07 21 27.0	+1.4
	baz=132						
W13A	Hualapai Mount	50.22	324	IAmb	IAmb	07 21 28.6	
	comp=Z,6.4nm,0.8s						
U15A	North Rim	50.25	326	IAmb	IAmb	07 21 29.1	
	comp=Z,7.6nm,1.1s						
MONP2	Monument Peak	50.30	320	P	P	07 21 27.5	+0.9
	baz=130						
IRM	Iron Mountain	50.33	322	P	P	07 21 28.0	+1.4
	baz=132,SNR=7.1						
E53A	Dumoine, Ponti	50.41	2	P	P	07 21 25.1	-1.8
	baz=183						
SPMN	Marine on St.	50.45	349	P	P	07 21 26.0	-1.2
	baz=164						
E54A	Lac Daplat, Po	50.48	3	P	P	07 21 26.0	-1.4
	baz=184						
E47A	Iron Bridge	50.50	357	P	P	07 21 25.7	-1.8
	baz=176						
N23A	Red Feather La	50.63	335	P	P	07 21 29.4	+0.4
	baz=146						
E57A	Chemin Saint G	50.68	6	P	P	07 21 27.9	-1.1
	baz=188						
E58A	La Victoria	50.73	6	P	P	07 21 28.1	-1.2
	baz=189						
E56A	St. Veronique	50.73	5	P	P	07 21 28.1	-1.2
	baz=187						
BELC	Belle Mtn. Jos	50.76	321	P	P	07 21 31.4	+1.5
	baz=131						
PFO	Pinyon Flats O	50.79	321	P	P	07 21 31.3	+1.2
	baz=131						
KNB	Kanab	50.97	326	P	P	07 21 32.7	+1.1
O20A	White River Ci	51.03	332	P	P	07 21 32.8	+0.9
	baz=143						
O20A	White River Ci	51.03	332	IAmb	IAmb	07 21 34.0	
	comp=Z,7.2nm,1.1s						
GMRC	Granite Mounta	51.07	322	P	P	07 21 33.6	+1.4
	baz=132						
D53A	Lac Vacive, Po	51.10	2	P	P	07 21 30.7	-1.4
	baz=183						
D55A	Sainte-Anne-du	51.17	4	P	P	07 21 31.2	-1.4
	baz=186						
F36A	Milaca	51.20	348	IAmb	IAmb	07 21 33.1	
	comp=Z,10.0nm,1.0s						
D54A	Lac Fusel, La	51.23	3	P	P	07 21 31.7	-1.3
	baz=185						
D57A	Chemin Vers le	51.31	6	P	P	07 21 32.6	-1.0
	baz=188						
D58A	Chemin du LacG	51.49	6	P	P	07 21 34.5	-0.5
	baz=189						
HEC	Hector,Ludlow	51.51	322	P	P	07 21 37.2	+1.7
	baz=132						
TUQ	Turquoise Moun	51.67	323	P	P	07 21 38.2	+1.5
	baz=132						
RWWY	Rawlins	51.82	334	IAmb	IAmb	07 21 39.8	
	comp=Z,12nm,1.1s						
SHPR	Sheep Range	51.94	324	IAmb	IAmb	07 21 41.5	
	comp=Z,10nm,1.2s						
BFSC	Mount Baldy Ra	51.96	320	P	P	07 21 40.1	+1.2
	baz=130						
RDMU	Red Mountain	51.99	332	P	P	07 21 39.5	+0.4
D62A	Allapoint, All	52.02	10	P	P	07 21 39.2	+0.3
	baz=194						
GSC	Goldstone, Bar	52.11	322	P	P	07 21 41.8	+1.8
	baz=131,SNR=6.5						
GSC	Goldstone, Bar	52.11	322	IAmb	IAmb	07 21 42.2	
	comp=Z,8.0nm,1.1s						
EDW2	Edwards Air Fo	52.58	321	P	P	07 21 44.6	+1.2
	baz=130						
RSSD	Black Hills	52.61	339	P	P	07 21 44.5	+0.9
	baz=150						
EYMN	Ely	52.84	351	P	P	07 21 44.9	0.0
	baz=166						
TPNV	Topopah Spring	52.88	324	P	P	07 21 47.5	+1.8
	baz=133,SNR=11						
TPNV	Topopah Spring	52.88	324	IAmb	IAmb	07 21 48.6	
	comp=Z,7.8nm,0.9s						
FURC	Furnace Creek,	52.92	323	P	P	07 21 47.5	+1.8
	baz=132,SNR=13						
MPMC	Manual Prospec	53.03	322	P	P	07 21 48.2	+1.3
	baz=131,SNR=6.8						
LSQQ	Lebel-sur-Quev	53.11	3	P	P	07 21 45.3	-1.6
	baz=184						
DUG	Dugway, Tooele	53.30	329	P	P	07 21 50.1	+1.4
	baz=138,SNR=5.4						
DUG	Dugway, Tooele	53.30	329	IAmb	IAmb	07 21 51.2	
	comp=Z,7.5nm,0.9s						
ISA	Isabella, Lake	53.38	321	P	P	07 21 50.7	+1.4
	baz=130						
R11A	Troy Canyon, C	53.46	326	P	P	07 21 51.6	+1.6
	baz=134,SNR=9.3						
CWC	Cottonwood Cre	53.64	322	P	P	07 21 52.5	+1.2
	baz=131						
BW06	Boulder Array	53.72	333	P	P	07 21 52.0	+0.1
	baz=143,SNR=6.4						
PDAR	Pinedale Array	53.72	333	P	P	07 21 52.0	+0.2
	comp=Z,2.2nm,0.6s,baz=122,slow=8.6,SNR=14						
PDAR				PcP	PcP	07 22 56.5	-0.5
	comp=Z,1.0nm,0.6s,baz=138,slow=6.8,SNR=2.1						
PDAR				pPcP		07 23 18.9	
	comp=Z,1.8nm,0.8s,baz=142,slow=7.4,SNR=5.2						
PDAR				LR	LR	07 45 21.3	
	comp=Z,22nm,18.1s,baz=283,slow=37						
PDAR	Pinedale Array	53.72	333	P	P	07 21 51.8	-0.1
PKM	Mcpherson Peak	53.75	320	P	P	07 21 53.5	+1.3
	baz=128						
VES	Vestal, Richgr	53.88	321	P	P	07 21 54.1	+1.3
	baz=129						
AGMN	Agassiz Nation	54.02	347	P	P	07 21 53.8	+0.2
	baz=161,SNR=19						
SMMC	Simmler	54.13	320	P	P	07 21 56.2	+1.5
	baz=128						
MDND	Maddock	54.52	344	P	P	07 21 57.7	+0.5
	baz=156						
REDW	Red Top Meadow	54.77	333	IAmb	IAmb	07 22 02.9	
	comp=Z,12nm,1.5s						
SNOW	Snow King Moun	54.81	333	P	P	07 22 00.1	+0.4
TPAW	Teton Pass	54.92	333	IAmb	IAmb	07 22 02.8	
	comp=Z,11nm,1.4s						
OMMB	Old Mammoth Mi	54.96	323	IAmb	IAmb	07 22 03.4	
	comp=Z,9.9nm,1.0s						
NV11	Mina Array Sit	54.99	324	IAmb	IAmb	07 22 03.6	
	comp=Z,8.8nm,0.8s						
LHV	Little Huntoon	55.08	324	IAmb	IAmb	07 22 04.4	
	comp=Z,12nm,0.9s						
NVAR	Mina Array Bea	55.08	324	P	P	07 22 03.1	+1.3
	comp=Z,7.6nm,0.6s,baz=134,slow=7.2,SNR=48						
NVAR				pP	pP	07 22 23.2	+1.3
	comp=Z,1.3nm,0.7s,baz=139,slow=7.0,SNR=2.3						
NVAR				PcP	PcP	07 23 02.7	+0.4
	comp=Z,1.1nm,0.7s,baz=126,slow=4.6,SNR=2.2						
NVAR				pPcP		07 23 24.6	
	comp=Z,2.6nm,0.7s,baz=132,slow=4.3,SNR=7.2						
NVAR	Mina Array Bea	55.08	324	P	P	07 22 03.4	+1.6
KVN	Kaiserville	55.38	325	IAmb	IAmb	07 22 05.9	
	comp=Z,11nm,1.2s						
WAKR	Walker	55.80	323	P	P	07 22 08.5	+1.6
WAKR				IAmb	IAmb	07 22 09.6	
	comp=Z,6.9nm,0.9s						
ULM	Lac du Bonnet	55.87	348	P	P	07 22 05.8	-1.1
	comp=Z,25nm,0.8s,baz=162,slow=7.3,SNR=15						
YERR	Yerington	56.00	324	IAmb	IAmb	07 22 10.2	
	comp=Z,6.9nm,0.7s						
PNTR	Pine Nut	56.28	324	IAmb	IAmb	07 22 12.9	
	comp=Z,9.8nm,0.8s						
VCNR	Virginia City	56.44	324	P	P	07 22 12.6	+1.1
VCNR				IAmb	IAmb	07 22 13.9	
	comp=Z,8.4nm,0.8s						
DGMT	Dagmar	56.45	341	P	P	07 22 12.2	+1.1
	baz=151						
HLID	Hailey	56.60	331	P	P	07 22 13.5	+1.1
	baz=138,SNR=11						
HLID	Hailey	56.60	331	IAmb	IAmb	07 22 14.6	
	comp=Z,8.3nm,0.9s						
BOZ	Bozeman (W)	56.87	334	P	P	07 22 15.1	+0.8
	baz=142,SNR=13						
BOZ	Bozeman (W)	56.87	334	IAmb	IAmb	07 22 16.1	
	comp=Z,11nm,0.9s						
DLMT	Dillon	57.11	333	IAmb	IAmb	07 22 17.9	
	comp=Z,6.7nm,1.1s						
MFID	Camas Ranch	57.19	330	P	P	07 22 17.9	+1.3
EGMT	Eagleton	58.05	337	P	P	07 22 22.8	+0.4
	baz=145						
O03E	Paynes Creek	58.35	323	P	P	07 22 25.0	+0.3
	baz=129,SNR=5.3						
J08A	Circle Bar Ran	58.51	328	IAmb	IAmb	07 22 27.4	
	comp=Z,6.5

	baz=130,SNR=9.3					
I07A	Izee	59.55	328	IAmb	IAmb	07 22 36.0
	comp=Z,10.0nm,1.1s					
M02C	Callahan	59.66	324	P	P	07 22 34.0 +0.2
	baz=129					
L04D	Klamath Falls	59.86	325	P	P	07 22 35.8 +0.6
	baz=130,SNR=7.2					
J05D	Fort Rock, OR	59.95	326	P	P	07 22 37.0 +1.1
	baz=131,SNR=10					
PINE	Pine Mountain	60.12	327	P	P	07 22 37.8 +0.8
J04D	Umpqua Nationa	60.41	326	P	P	07 22 40.0 +1.0
	baz=130,SNR=8.1					
L02E	Cave Junction	60.58	324	P	P	07 22 40.9 +1.0
	baz=128					
I05D	Terrebonne, OR	60.70	327	P	P	07 22 42.3 +1.5
	baz=131,SNR=9.5					
I04A	Tendick Farm,	60.93	326	P	P	07 22 42.6 +0.3
	baz=130					
K02D	Willamette Mer	60.95	325	P	P	07 22 43.8 +1.3
	baz=128,SNR=6.4					
HAWA	Hanford	61.16	330	IAmb	IAmb	07 22 45.3
	comp=Z,4.5nm,0.6s					
G05D	Wamic, OR	61.29	328	P	P	07 22 46.3 +1.6
	baz=132,SNR=6.3					
NEW	Newport	61.34	333	P	P	07 22 45.5 +0.5
	baz=137,SNR=6.4					
NEW	Newport	61.34	333	IAmb	IAmb	07 22 46.5
	comp=Z,8.4nm,1.1s					
H04A	Detroit Lake	61.39	327	IAmb	IAmb	07 22 46.9
	comp=Z,9.8nm,1.0s					
J01E	Myrtle Point	61.39	325	P	P	07 22 46.9 +1.6
	baz=128					
I03D	Drain, OR	61.39	326	P	P	07 22 46.2 +0.8
	baz=129					
E07A	Sunnyside	61.43	330	P	P	07 22 46.4 +0.8
H04D	Lebanon	61.58	327	P	P	07 22 47.3 +0.7
	baz=130					
F05D	White Salmon	61.79	329	P	P	07 22 49.5 +1.4
	baz=132					
I02D	Swisshome	61.93	326	P	P	07 22 50.6 +1.6
	baz=129					
LTY	Liberty	62.32	330	IAmb	IAmb	07 22 53.5
	comp=Z,6.2nm,0.8s					
LON	Longmire	62.55	329	IAmb	IAmb	07 22 54.7
	comp=Z,7.8nm,0.8s					
F04D	Rainier, OR	62.74	328	P	P	07 22 55.9 +1.5
	baz=130					
E04D	Cinebar	62.81	329	P	P	07 22 55.5 +0.7
	baz=131					
E03A	Lebam	63.33	328	P	P	07 22 59.0 +0.8
B05A	Bryant	63.71	330	P	P	07 23 01.0 +0.2
	baz=132,SNR=5.2					
D03D	Eldon	63.73	329	P	P	07 23 01.8 +1.0
	baz=131					
NLWA	Neilton Lookou	64.03	329	IAmb	IAmb	07 23 05.0
	comp=Z,13nm,0.8s					
A04D	Lummi Island	64.32	330	P	P	07 23 05.7 +1.0
	baz=132					
PPT	Papeete	68.98	253	LR	LR	07 48 10.2
	comp=Z,52nm,19.6s,baz=124,slow=31					
YKA	Yellowknife Ar	71.44	344	P	P	07 23 48.3 -0.8
	comp=Z,3.3nm,0.7s,baz=139,slow=6.2,SNR=7.8					
YKA				LR	LR	07 59 21.3
	comp=Z,9.5nm,18.1s,baz=0.0,slow=39					
DLBC	Dease Lake	73.89	335	P	P	07 24 05.3 +1.4
LIC	Lamto	75.88	83	eP	P	07 24 15.8 -0.4
	comp=Z,18nm,0.9s					
TIC	Toumodi	75.93	82	eP	P	07 24 16.2 -0.3
BESE	Bessie Mountai	76.04	334	IAmb	IAmb	07 24 18.6
	comp=Z,18nm,1.0s					
DBIC	Dimbokro	76.09	82	P	P	07 24 17.4 0.0
	comp=Z,7.1nm,0.7s,baz=236,slow=4.8,SNR=13					
DBIC				LR	LR	07 55 06.8
	comp=Z,17nm,21.2s,baz=219,slow=34					
DBIC	Dimbokro	76.09	82	P	P	07 24 17.6 +0.2
DBIC				IAmb	IAmb	07 24 18.4
	comp=Z,7.6nm,0.7s					
KIC	Kosan Boka	76.18	82	eP	P	07 24 17.9 0.0
	comp=Z,60nm,1.3s					
VNA3	Neumayer Olymp	79.88	162	P	P	07 24 37.6 +0.3
CTGM	Chitina Glacie	80.08	334	IAmb	IAmb	07 24 40.7
	comp=Z,12nm,0.9s					
VNA1	Neumayer--Stat	80.16	161	P	P	07 24 39.3 +0.6
ISLE	Juniper Island	80.35	334	IAmb	IAmb	07 24 41.8
	comp=Z,16nm,1.0s					
VNA2	Neumayer--Watz	80.51	161	P	P	07 24 40.9 +0.2
BALM	Baldy	80.55	334	IAmb	IAmb	07 24 42.9
	comp=Z,11nm,0.8s					
TGL	Tana Glacier	80.63	334	IAmb	IAmb	07 24 43.3
	comp=Z,15nm,1.0s					
CRQM	Cirque	80.77	334	IAmb	IAmb	07 24 44.0
	comp=Z,12nm,0.9s					
EPYK	Eagle Plains	81.03	340	P	P	07 24 44.0 +0.5
	baz=123,SNR=12					
EPYK	Eagle Plains	81.03	340	IAmb	IAmb	07 24 44.9
	comp=Z,16nm,0.9s					
SUMG	Summit	81.11	12	iP	P	07 24 44.0 -0.2
	comp=Z,34nm,0.9s					
SUMG	Summit	81.11	12	P	P	07 24 43.3 -1.0
SUMG				IAmb	IAmb	07 24 44.8
	comp=Z,14nm,0.9s					
VRDI	Verde Repeater	81.11	334	IAmb	IAmb	07 24 45.9
	comp=Z,18nm,0.9s					
BCAR	Beaver Creek A	81.24	336	P	P	07 24 45.6 +1.0
GLB	Gilahina Butte	81.36	334	IAmb	IAmb	07 24 47.0
	comp=Z,19nm,0.9s					
K27K	Chicken	81.80	337	P	P	07 24 48.9 +1.3
	baz=117					
MENT	Mentasta	81.97	336	IAmb	IAmb	07 24 49.3
	comp=Z,6.4nm,0.6s					
SNAA	Sanae	82.11	162	P	P	07 24 49.2 0.0
SNAA	Sanae	82.11	162	P	P	07 24 48.9 -0.2
SNAA				IAmb	IAmb	07 24 50.0
	comp=Z,9.1nm,0.8s					
ESDC	Sonseca Array	82.22	49	P	P	07 24 50.4 +0.1
	comp=Z,1.3nm,0.7s,baz=266,slow=5.5,SNR=10					
ESDC	Sonseca Array	82.22	49	P	P	07 24 50.5 +0.1
KLU	Klutina	82.31	334	IAmb	IAmb	07 24 51.6
	comp=Z,12nm,0.8s					
DOT	Dot Lake	82.42	336	IAmb	IAmb	07 24 52.1
	comp=Z,11nm,0.8s					
SCRK	Sand Creek	82.53	337	P	P	07 24 51.8 +0.3
	baz=116,SNR=15					
GLI	Glacier Island	82.59	333	IAmb	IAmb	07 24 52.3
	comp=Z,8.7nm,0.8s					
M24K	Tolsona, Glenn	82.66	334	P	P	07 24 52.8 +0.6
	baz=113,SNR=5.9					
PAX	Paxson	82.71	335	IAmb	IAmb	07 24 53.4
	comp=Z,14nm,0.9s					
TOA0	Torodi Ar. Sit	83.19	76	P	P	07 24 55.1 -0.7
TORD	Torodi Ar. Bea	83.19	76	P	P	07 24 55.1 -0.7
	comp=Z,3.1nm,0.7s,baz=279,slow=6.2,SNR=23					
TORD				pP	pP	07 25 17.2 -0.5
	comp=Z,0.9nm,0.5s,baz=269,slow=5.3,SNR=2.2					
TORD	Torodi Ar. Bea	83.19	76	P	P	07 24 55.1 -0.7
GHO	Glory Hole Cre	83.74	334	IAmb	IAmb	07 24 58.7
	comp=Z,13nm,0.9s					
RC01	Rabbit Creek A	83.86	333	P	P	07 24 58.4 +0.1
	baz=110					
HDA	Harding Lake	83.89	336	P	P	07 24 58.3 -0.1
	baz=113,SNR=10					
HDA	Harding Lake	83.89	336	IAmb	IAmb	07 24 59.2
	comp=Z,16nm,1.2s					
IL31		84.01	337	P	P	07 24 58.2 -0.7
IL31				IAmb	IAmb	07 24 59.8
	comp=Z,9.4nm,1.1s					
ILAR	Eielson Array	84.01	337	P	P	07 24 58.6 -0.3
	comp=Z,5.8nm,0.9s,baz=135,slow=3.7,SNR=45					
ILAR				pP	pP	07 25 21.0 +0.5
	comp=Z,1.0nm,0.9s,baz=138,slow=14,SNR=4.4					
ILAR	Eielson Array	84.01	337	P	P	07 24 58.2 -0.8
KDAK	Kodiak Island	84.18	329	P	P	07 25 00.1 +0.1
KDAK				IAmb	IAmb	07 25 00.6
	comp=Z,7.6nm,0.9s					
BMAR	Burnt Mountain	84.25	340	P	P	07 25 00.7 +0.5
RND	Reindeer	84.30	335	IAmb	IAmb	07 25 02.7
	comp=Z,9.5nm,0.9s					
POKR	Poker Plat Res	84.36	337	P	P	07 25 00.9 +0.2
	baz=112					
COLA	College	84.43	337	P	P	07 25 00.9 -0.1
TCOL	CIGO, UAF Yank	84.44	337	P	P	07 25 02.0 +0.9
	baz=112					
MDM	Murphy Dome	84.61	337	IAmb	IAmb	07 25 03.2
	comp=Z,14nm,1.0s					
NEA2	Nenana	84.81	336	P	P	07 25 03.0 -0.1
	baz=111,SNR=6.8					
KTH	Kantishna Hill	85.22	335	IAmb	IAmb	07 25 05.9
	comp=Z,10nm,1.0s					
BPAW	Bear Paw Mtn.	85.43	335	IAmb	IAmb	07 25 07.0
	comp=Z,15nm,1.1s					
QSPA	South Pole Qui	85.89	180	P	P	07 25 08.5 -0.1
QSPA				IAmb	IAmb	07 25 10.3
	comp=Z,12nm,0.8s					
COLD	Coldfoot	86.18	339	P	P	07 25 10.9 +1.2
	baz=110,SNR=7.1					
COLD	Coldfoot	86.18	339	IAmb	IAmb	07 25 11.9
	comp=Z,8.7nm,1.0s					
TOLK	Toolik Lake Re	86.45	340	P	P	07 25 11.4 +0.2
	baz=111					
SVW2	Sparrevohn	86.57	332	IAmb	IAmb	07 25 12.1
	comp=Z,10nm,1.0s					
IMAR	Indian Mountai	87.13	337	P	P	07 25 14.2 -0.2
TSUM	Tsumeb	96.08	110	P	P	07 25 57.2 0.0
ABKAR	Akbulak array	123.87	30	PKPdf	PKPdf	07 31 26.8 +0.2
STKA	Stephens Creek	126.39	225	PKP	PKPdf	07 31 31.8 -0.2
	comp=Z,5.5nm,0.8s,baz=57,slow=1.2,SNR=8.2					
STKA	Stephens Creek	126.39	225		PKPdf	07 31 32.0 +0.1
ZAA0	Zalesovo Array	128.93	11	PKPdf	PKPdf	07 31 35.3 -0.8
ZALV	Zalesovo Beam	128.93	11	PKP	PKPdf	07 31 35.5 -0.6
	comp=Z,5.7nm,0.8s,baz=288,slow=2.3,SNR=16					
ZALV				pPKP	pPKPdf	07 31 58.2 -0.6
	comp=Z,3.6nm,0.8s,baz=236,slow=1.6,SNR=4.1					
ZALV	Zalesovo Beam	128.93	11	PKPdf	PKPdf	07 31 35.2 -0.9
GEYT	Alibeck	129.39	43	PKP	PKPdf	07 31 37.0 -0.6
	comp=Z,2.3nm,0.7s,baz=277,slow=2.3,SNR=3.9					
GEYT				pPKP	pPKPdf	07 32 00.3 +0.1
	comp=Z,1.9nm,0.7s,baz=261,slow=5.7,SNR=2.1					
GEYT	Alibeck	129.39	43	PKPdf	PKPdf	07 31 37.6 +0.1
KURK	Kurchatov	130.37	17	PKPdf	PKPdf	07 31 38.5 -0.4
MKAR	Makanchi Array	134.97	17	PKP	PKPdf	07 31 47.1 -0.7
	comp=Z,1.7nm,0.7s,baz=1.5,slow=2.6,SNR=14					
MKAR				pPKP	pPKPdf	07 32 09.8 -0.7
	comp=Z,1.4nm,0.7s,baz=5.7,slow=2.4,SNR=5.5					
MKAR	Makanchi Array	134.97	17	PKPdf	PKPdf	07 31 46.3 -1.5
AAK	Ala-Archa	135.64	27	PKPdf	PKPdf	07 31 49.4 0.0
SONM	Songino Array	136.14	353	PKP	PKPdf	07 31 48.4 -1.7
	comp=Z,0.3nm,0.4s,baz=99,slow=1.9,SNR=3.5					
ASAR	Alice Springs	136.65	229	PKhKP	PKPpre	07 31 41.8
	comp=Z,0.4nm,0.5s,baz=121,slow=3.8,SNR=6.2					
ASAR				PKP	PKPdf	07 31 51.0 -0.6
	comp=Z,4.3nm,0.7s,baz=115,slow=2.1,SNR=33					
ASAR				pPKP	pPKPdf	07 32 13.8 -0.4
	comp=Z,0.9nm,0.7s,baz=116,slow=2.5,SNR=2.4					
KSRS	Korea Array	138.01	326	PKP	PKPdf	07 31 53.1 -0.5
	comp=Z,1.4nm,0.7s,baz=355,slow=1.6,SNR=7.8					
KSRS				pPKP	pPKPdf	07 32 16.4 0.0
	comp=Z,1.0nm,0.7s,baz=10.0,slow=0.7,SNR=3.1					
KSAR	Wonju Array Be	138.04	326	PKPdf	PKPdf	07 31 52.5 -1.1
WRA	Warramunga Arr	138.35	234	PKhKP	PKPpre	07 31 44.2
	comp=Z,0.3nm,0.4s,baz=115,slow=2.9,SNR=4.7					
WRA				PKP	PKPdf	07 31 54.2 -0.6
	comp=Z,4.7nm,0.5s,baz=115,slow=2.1,SNR=31					
WRA				pPKP	pPKPdf	07 32 17.2 -0.3
	comp=Z,1.0nm,0.6s,baz=117,slow=1.9,SNR=2.6					
WRA	Warramunga Arr	138.35	234	PKPdf	PKPdf	07 31 54.0 -0.8
WMQ	Urumqi	139.14	13	ePKP	PKPdf	07 31 55.5 -0.1
HHC	Hu-ho-hao-te	141.97	345	ePKP	PKPdf	07 31 59.9 -1.0
MTN	Manton Dam	144.47	241	PKPdf	PKPab	07 32 04.0 -0.2
GTA	Gaotai	144.94	360	ePKP	PKPab	07 32 04.4 -1.1
GTA				pPKP	pPKPdf	07 32 26.9 -2.0
GTA				sPKP		07 32 38.5
KNRA	Kununurra	145.10	235		PKPbc	07 32 06.2 -0.3
NJ2	Nanjing	146.96	329	ePKPbc	PKPdf	07 32 09.2 -0.4
LZH	Lanzhou	148.03	354	PKPbc	PKPbc	07 32 15.4 +0.7
LZH				pPKP	pPKPbc	07 32 38.1 +0.9
XAN	Xi'an	149.08	345	PKPbc	PKPbc	07 32 16.5 -0.8
XAN				pPKP	pPKPbc	07 32 38.7 -1.2
XAN				PP	PP	07 35 52.0 +4.4
XAN				AMB	AMB	
	comp=Z,110nm,4.9s					
XAN				LR	LR	
	comp=Z,58nm,7.1s					
XAN				LR	LR	
	comp=Z,110nm,5.9s					
XAN	Xi'an	149.08	345	PKPbc	PKPbc	07 32 16.6 -0.7
WHN	Wuhan	150.36	334	PKPbc	PKPbc	07 32 20.0 -0.5
ENH	Enshi	152.46	341	PKPbc	PKPbc	07 32 23.1 -2.3
CMAR	Chiang Mai Arr	165.81	3	PKP	PKPdf	07 32 33.3 -0.9
	comp=Z,1.5nm,0.6s,baz=293,slow=1.6,SNR=6.5					
CMAR				PKPab	PKPab	07 33 32.9 -0.7
	comp=Z,1.4nm,0.4s,baz=342,slow=4.6,SNR=5.4					
CMAR	Chiang Mai Arr	165.81	3	PKPdf	PKPdf	07 32 33.9 -0.3
CMAR				PKPab	PKPab	07 33 32.7 -0.9

*TAP **09** 07:18:28.2, 24°.84N×122°.03E, h6km, ML2.6, C*
*JMA **09** 07:18:29.2, 24°.86N×122°.08E, h39km, M1.7*
ISC 09 07:18:28.3±0.9, 24°.85N±0°.02×122°.09E±0°.02, h11km±7km, n46, σ0s43/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.18	331	eP	Pg	07 18 32.1	-0.2
	baz=349						
TWB1				eS	Sg	07 18 34.7	-0.4
	baz=349						
NTC	Toucheng	0.23	271	eP	Pg	07 18 33.4	+0.2
	baz=276						
NTC				eS	Sg	07 18 37.0	+0.5
	baz=276						
TIPB	Shuangxi	0.27	297	iP	Pg	07 18 34.0	+0.1
	baz=306						
TIPB				S	Sg	07 18 38.0	+0.5
	baz=306						
TWC	Suao	0.32	222	P	Pg	07 18 34.8	0.0
	baz=214						
TWC				eS	Sg	07 18 38.9	-0.2
	baz=214						
NWF	Wu-fen Shan	0.35	309	eP	Pg	07 18 35.9	+0.4
	baz=316						
NWF				S	Sb	07 18 41.7	-0.6
	baz=316						
WFSB	Wu-fen Shan	0.35	309	eP	Pg	07 18 35.6	+0.2
	baz=315						
WFSB				S	Sb	07 18 41.5	-0.8
	baz=315						
ENAH	Nanao	0.47	212	eP	Pg	07 18 37.9	+0.3
	baz=207						
ENAH				eS	Sb	07 18 44.9	-0.7
	baz=207						
TWA	Mucha	0.47	286	P	Pg	07 18 38.0	+0.3
	baz=289						
TWA				eS	Sg	07 18 44.6	+0.7
	baz=289						
ENTT	Nioudou	0.52	246	eP	Pg	07 18 38.6	+0.2
	baz=244						
ENTT				eS	Sg	07 18 45.7	+0.4
	baz=244						
ENA	Nanau	0.53	217	eP	Pg	07 18 38.9	+0.3
	baz=212						
ENA				eS	Sg	07 18 46.4	+0.9
	baz=212						
NWLT	Wulai	0.54	262	eP	Pg	07 18 38.6	-0.2
	baz=263						
YM01	YM01	0.55	302	eP	Pg	07 18 39.3	+0.2
	baz=306						
TATO	Taipei	0.56	283	eP	Pg	07 18 39.2	0.0
	baz=285						
TATO				eS	Sg	07 18 47.1	+0.6
	baz=285						
TAP	Taipei	0.56	290	eP	Pg	07 18 39.0	-0.3
	baz=293						
TAP				eS	Sb	07 18 47.5	-0.7
	baz=293						
YM11	YM11	0.56	304	eP	Pg	07 18 39.7	+0.4
	baz=308						
YM08	YM08	0.56	307	eP	Pg	07 18 39.7	+0.4
	baz=311						
YM10	YM10	0.56	303	eP	Pg	07 18 39.7	+0.3
	baz=306						
YM05	YM05	0.57	304	eP	Pg	07 18 39.8	+0.4
	baz=307						
NDT	Datong Townshi	0.58	245	eP	Pg	07 18 39.8	+0.2
	baz=243						
NDT				eS	Sg	07 18 46.8	-0.4
	baz=243						
YM04	YM04	0.58	301	eP	Pg	07 18 40.3	+0.6
	baz=305						
YM03	YM03	0.59	304	eP	Pg	07 18 40.3	+0.3
	baz=307						
TWY	Chenhua	0.61	314	eP	Pb	07 18 41.1	0.0
	baz=318						
ANP	Anpu	0.61	303	eP	Pg	07 18 40.9	+0.6
	baz=307						
TWS1	Kuangyinshan	0.66	292	eP	Pg	07 18 41.3	+0.3
	baz=295						
NTST	Danshui	0.66	299	eP	Pb	07 18 41.9	+0.1
	baz=301						
NNSB	Datong	0.77	237	P	Pg	07 18 43.5	+0.3
	baz=235						
NNSH	Datong	0.77	237	eP	Pg	07 18 43.4	+0.2
	baz=235						
NNS	Nan Shan	0.77	238	eP	Pg	07 18 43.0	-0.2
	baz=236						
PCYT	Pengchaiyu	0.78	359	eP	Pb	07 18 44.3	+0.4
	baz=3.0						
PCYT				eS	Sn	07 18 57.0	+0.1
	baz=3.0						
NACB	Ninganchiao	0.81	214	P	Pg	07 18 44.4	+0.4
	baz=211						
NACB				eS	Sg	07 18 55.0	+0.4
	baz=211						
ETLH	Xiulin Townshi	0.84	221	eP	Pb	07 18 45.3	+0.2
	baz=218						
ETLH				eS	Sb	07 18 56.8	+0.3
	baz=218						
JYNG	Yonaguni jima	0.88	117	P	Pg	07 18 45.5	+0.2
JYNG				eS	Sg	07 18 57.0	+0.3
YOJ	Yonaguni jima	0.93	115	eP	Pg	07 18 47.1	+0.9
	baz=112						
YOJ				eS	Sn	07 19 01.3	+0.8
	baz=112						
YOJ	Yonaguni jima	0.93	115	P	Pb	07 18 45.9	-0.5
YOJ				S	Sg	07 18 58.6	+0.3
FUSS	Fushou	0.97	232	eP	Pg	07 18 47.1	0.0
	baz=230						
LIOB	Emei	0.99	258	eP	Pn	07 18 48.2	-0.1
	baz=258						
NSTT	Nanjuang	1.01	258	eP	Pn	07 18 48.7	+0.2
	baz=257						
WHF	Hehuan Shan	1.03	227	eP	Pn	07 18 48.9	-0.2
	baz=225						
TDCB	Techi	1.03	235	eP	Pb	07 18 48.0	-0.4
	baz=233						
CHGB	Renai	1.14	227	eP	Pg	07 18 50.7	+0.3
	baz=225						
CHGB				eS	Sg	07 19 05.5	+0.2
	baz=225						
WHP	Taichung City	1.18	241	eP	Pb	07 18 50.9	0.0
	baz=240						
VWDT	VWDT	1.39	218	eP	Pg	07 18 55.6	+0.5
	baz=217						
SMLT	Sun Moon Lake	1.45	229	eP	Pn	07 18 54.1	-0.5
	baz=227						
TYC	Yuchr	1.46	230	eP	Pb	07 18 55.4	-0.2
	baz=228						
HGSD	Ruisui	1.48	204	eP	Pg	07 18 56.8	0.0
	baz=202						
JKRS	Kuro-shima	1.85	109	P	Pn	07 18 59.1	-1.0

*IDC **09** 07:39:51.3±0.8, 34°.26N×80°.78E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/53, mbtmp3.7/9, ML2.9/1, Error ellipse: s-maj=34.6km s-min=21.4km az=52.0*
*NEIC **09** 07:39:54.2±2.5, 34°.1N±0°.1×81°.1E±0°.1, h10km±1km, mb4.5/5, Error ellipse: s-maj=21.5km s-min=15.9km az=133.0*
ISC 09 07:39:57.1±0.7, 34°.2N±0°.1×81°.0E±0°.1, h35km, n24, σ1s84/24, mb3.6/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	Nilore	6.49	267	Pn	Pn	07 41 31.4	+1.3
KDJ	Kajisay	8.44	340	Pn	Pn	07 42 00.8	+3.7
BOOM	Boomskoye usch	9.16	336	Pn	Pn	07 42 10.0	+3.2
CHGR	Chuyangaron	10.53	298		Pn	07 42 27.6	+2.1
KKAR	Karatay Array	12.07	320	Pn	Pn	07 42 46.6	0.0
MKAR	Makanchi Array	12.58	4	Pn	Pn	07 42 49.6	-3.9
	0.1nm,0.3s,baz=190,slow=15,SNR=2.0						
ABKAR	Akbulak array	21.64	320		P	07 44 46.3	+2.2
CMAR	Chiang Mai Arr	22.41	130	P	P	07 44 53.1	+0.5
	0.8nm,0.3s,baz=309,slow=10,SNR=1.8						
ULN	Ulaanbaatar	23.75	47	P	P	07 45 07.4	+1.2
FINES	FINESS Array B	43.97	325	P	P	07 48 00.5	0.0
	1.0nm,0.6s,baz=115,slow=6.3,SNR=4.7						
FINES	FINESS Array B	43.97	325	P	P	07 48 01.8	+1.3
FURI	Furi	46.28	247	P	P	07 48 19.6	-0.2
NOA	NORSAR Array B	51.07	324	P	P	07 48 53.4	-2.3
	0.5nm,0.7s,baz=87,slow=7.5,SNR=1.5						
TORD	Torodi Ar. Bea	73.98	275	P	P	07 51 28.1	-1.2
	0.5nm,0.8s,baz=56,slow=4.8,SNR=4.3						
TORD	Torodi Ar. Bea	73.98	275	P	P	07 51 28.5	-0.9
WRA	Warramunga Arr	73.99	128	P	P	07 51 30.1	+0.9
	0.8nm,1.1s,baz=318,slow=6.9,SNR=2.7						
WRAB	Tennant Creek	73.99	128	P	P	07 51 29.6	+0.4
WRAB				IAmb	IAmb	07 51 36.7	
	comp=Z,3.9nm,1.2s						
ILAR	Eielson Array	74.46	19	P	P	07 51 31.6	+0.2
	comp=Z,0.3nm,0.8s,baz=313,slow=6.7,SNR=5.7						
ASAR	Alice Springs	76.41	131	P	P	07 51 44.5	+1.4
	comp=Z,0.2nm,0.4s,baz=312,slow=6.0,SNR=1.5						
ASAR	Alice Springs	76.41	131	P	P	07 51 45.1	+1.9
BOSA	Boshof	81.78	227	P	P	07 52 11.3	-1.1
	comp=Z,3.0nm,1.0s,baz=7.1,slow=4.0,SNR=2.7						
BOSA	Boshof	81.78	227	P	P	07 52 13.0	+0.5
BOSA				IAmb	IAmb	07 52 29.2	
	comp=Z,8.1nm,1.2s						
LPAZ	La Paz	147.06	295	PKPbc	PKPdf	07 59 34.7	-0.7
	baz=27,slow=2.3						
LPAZ	La Paz	147.06	295		PKPbc	07 59 36.4	-1.0

*KRNET **09** 07:43:44.4±0.1, 41°.02N×71°.67E, h17km, mb2.5*
*SOME **09** 07:43:46.8, 41°.08N×71°.72E, h15km*
*NNC **09** 07:43:51.9±3.3, 41°.35N×71°.69E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=31.9km s-min=9.9km az=176.0*
ISC 09 07:43:44.5±1.1, 41°.05N±0°.03×71°.72E±0°.03, h14km±13km, n19, σ1s43/34, 11C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.77	13	⇓iP	Pb	07 43 59.8	0.0
	baz=17						
ARK				⇓iS	Sb	07 44 10.6	+0.4
	baz=17						
OHH	Osh	0.96	123	⇑iP	Pg	07 44 03.4	+0.3
	baz=20						
OHH				⇑iS	Sn	07 44 17.1	0.0
	baz=20						
BTK	Batken	1.20	215	⇑iP	Pg	07 44 06.6	-1.1
	baz=14						
BTK				⇑iS	Sg	07 44 23.2	-0.2
	baz=14						
IUG	Iuzhnay	1.68	311	eP	Pg	07 44 17.4	+0.6
	34nm,0.2s						
IUG				eS	Sg	07 44 40.7	+2.1
	245nm,0.3s						
IUG	Iuzhnay	1.68	311	P	Pg	07 44 17.5	+0.7
	34nm,0.2s						
IUG				S	Sg	07 44 39.8	+1.2
	245nm,0.3s						
AML	Almayashu

0.7nm,0.3s
AAK ⇓Sn **Sg** **07 45 08.4 -0.1**
6.6nm,0.8s
SGDS Sogindy 3.23 41 Pg **Pb** **07 44 44.3 +2.6**
1.2nm,0.4s
SGDS Lg Lg 07 45 25.4
7.5nm,0.5s
KST Kastek 3.73 56 *eP* **Pg** **07 44 54.6 -1.4**
0.5nm,0.4s
KST *eS* **Sg** **07 45 42.9 -1.5**
2.1nm,0.8s
KST Kastek 3.73 56 Pg **Pg** **07 44 55.6 -0.5**
2.0nm,0.5s
KST Lg Lg 07 45 44.7
4.4nm,0.6s
KRBS Karabastau 3.95 47 *eP* **Pg** **07 44 58.7 -1.4**
0.8nm,0.3s
KRBS *eS* **Sg** **07 45 49.2 -2.0**
1.9nm,0.4s
BTLS Baital 4.34 22 *eP* **Pg** **07 45 05.1 -2.5**
0.8nm,0.2s
BTLS *eS* **Sg** **07 46 00.8 -3.1**
0.8nm,0.6s
BTLS Baital 4.34 22 Pg **Pg** **07 45 05.1 -2.5**
1.6nm,0.7s
BTLS Lg Lg 07 46 00.9
6.6nm,0.6s

IDC 09 08:02:00.7±7.2, 28°.71S×68°.75W, h86km±55km, mb3.2/3, mb1 3.5/4, mb1mx3.3/18, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=77.1km s-min=38.5km az=26.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**10.41**	**80**	P	Pn	08 04 26.7	-0.4
	0.1nm,0.3s,baz=234,slow=9.1,SNR=1.7						
CPUP				S	Sn	08 06 35.9	+14
	0.1nm,0.3s,baz=231,slow=15,SNR=1.2						
TXAR	**Lajitas Array**	**66.67**	**327**	P	P	08 12 42.9	+0.5
	0.1nm,0.6s,baz=149,slow=7.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**79.73**	**69**	P	P	08 14 00.4	+0.9
	0.7nm,0.6s,baz=221,slow=3.1,SNR=6.1						
PDAR	**Pinedale Array**	**80.43**	**331**	P	P	08 14 03.0	+0.1
	0.2nm,0.5s,baz=128,slow=6.9,SNR=3.6						
WRA	**Warramunga Arr**	**126.73**	**207**	PKP	PKPdf	08 20 54.9	0.0
	0.4nm,0.8s,baz=157,slow=1.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**148.26**	**30**	PKPbc	PKPdf	08 21 34.3	+1.4
	1.3nm,0.5s,baz=331,slow=2.3,SNR=5.0						
MKAR	**Makanchi Array**	**151.08**	**43**	PKPbc	PKPbc	08 21 43.1	-0.5
	0.9nm,0.5s,baz=283,slow=3.3,SNR=7.9						

*IDC **09** 08:41:20.0±0.8, 1°.10N×146°.32E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.0/50, mbtmp4.1/14, ML3.1/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/36, Error ellipse: s-maj=27.3km s-min=15.7km az=97.0*

*NEIC **09** 08:41:23.6±1.7, 1°.0N±0°.1×146°.2E±0°.1, h16km±4km, mb4.5/31, Error ellipse: s-maj=18.5km s-min=11.8km az=138.0*

ISC 09 08:41:26.7±0.5, 0°.97N±0°.09×146°.03E±0°.10, h35km, n65, σ1§39/59, mb4.4/26, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.35**	**237**	Pn	**Pn**	**08 42 59.8**	**+1.8**
	0.4nm,0.3s,baz=331,slow=7.7,SNR=2.2						
JAY				Sn	**Sn**	**08 44 04.1**	**-5.2**
	0.8nm,0.3s,baz=168,slow=14,SNR=1.7						
JAY				LR	LR	08 45 05.6	
	comp=Z,278nm,20.5s,baz=16,slow=34						
GUMO	**Guam**	**12.59**	**355**	LR	LR	08 49 02.4	
	comp=Z,42nm,19.1s,baz=198,slow=37						
PATS	**Pohnpei**	**13.56**	**64**	Pn	**Pn**	**08 44 38.9**	**+2.1**
MTN	**Manton Dam**	**20.17**	**227**	P	**P**	**08 45 59.5**	**+1.1**
CTA	**Charters Tower**	**20.93**	**179**	P	**P**	**08 46 06.3**	**-0.2**
	3.7nm,0.8s,baz=350,slow=11,SNR=5.0						
LUWI	**Luwuk**	**23.35**	**265**	P	**P**	**08 46 35.0**	**+2.8**
WB0	**Warramunga Arr**	**23.56**	**208**	P	**P**	**08 46 34.0**	**-0.2**
WR0	**Warramunga Arr**	**23.66**	**208**	P	**P**	**08 46 34.8**	**-0.3**
WRAB	**Tennant Creek**	**23.72**	**208**	P	**P**	**08 46 35.5**	**-0.2**
WRAB				IAmb	IAmb	08 46 37.8	
	comp=Z,8.0nm,0.5s						
WB2	**Warramunga Arr**	**23.73**	**208**	P	**P**	**08 46 35.8**	**0.0**
WB2				IAmb	IAmb	08 46 38.0	
	comp=Z,8.3nm,0.5s						
WRA	**Warramunga Arr**	**23.74**	**208**	P	**P**	**08 46 35.6**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=31,slow=11,SNR=80						
WRA				LR	LR	08 56 02.6	
	comp=Z,95nm,21.0s,baz=340,slow=37						
WRA	**Warramunga Arr**	**23.74**	**208**	P	**P**	**08 46 35.3**	**-0.6**
KNRA	**Kununurra**	**23.77**	**225**	P	**P**	**08 46 37.0**	**+0.9**
KNRA				IAmb	IAmb	08 46 44.7	
	comp=Z,19nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**26.73**	**48**	T	T	09 15 10.9	
	baz=229						
H11S2	**WAKE ISLAND Hy**	**26.74**	**48**	T	T	09 14 55.9	
	baz=229						
H11S1	**WAKE ISLAND Hy**	**26.74**	**48**	T	T	09 14 56.4	
	baz=229						
ASAR	**Alice Springs**	**27.18**	**205**	P	**P**	**08 47 07.9**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=38,slow=8.9,SNR=14						
ASAR				LR	LR	08 57 47.2	
	comp=Z,66nm,19.7s,baz=30,slow=36						
FITZ	**Fitzroy Crossi**	**27.60**	**226**	P	**P**	**08 47 11.2**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=54,slow=7.5,SNR=7.7						
FITZ	**Fitzroy Crossi**	**27.60**	**226**	P	**P**	**08 47 11.6**	**+0.6**
FITZ				IAmb	IAmb	08 47 13.5	
	comp=Z,15nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**27.64**	**46**	T	T	09 16 02.7	
	baz=229						
H11N2	**WAKE ISLAND Hy**	**27.66**	**46**	T	T	09 15 59.7	
	baz=229						
H11N3	**WAKE ISLAND Hy**	**27.66**	**46**	T	T	09 15 56.4	
	baz=229						
MAJO	**Matsushiro**	**36.13**	**349**	P	**P**	**08 48 25.1**	**-0.5**
MAJO				IAmb	IAmb	08 48 28.9	
	comp=Z,13nm,1.4s						
MORW	**Morawa**	**41.41**	**221**	P	**P**	**08 49 12.4**	**+2.4**
CMAR	**Chiang Mai Arr**	**49.35**	**294**	P	**P**	**08 50 14.2**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=105,slow=7.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**49.35**	**294**	P	**P**	**08 50 14.8**	**+1.8**
PEA0B	**Petropavlovsk-**	**52.86**	**9**	P	**P**	**08 50 39.4**	**+0.6**
SONM	**Songino Array**	**57.91**	**330**	P	**P**	**08 51 14.3**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=146,slow=8.4,SNR=8.9						
SONM	**Songino Array**	**57.91**	**330**	P	**P**	**08 51 16.0**	**+0.5**
MKAR	**Makanchi Array**	**71.57**	**319**	P	**P**	**08 52 44.2**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=96,slow=8.7,SNR=6.4						
MKAR	**Makanchi Array**	**71.57**	**319**	P	**P**	**08 52 44.7**	**+0.2**
ZALV	**Zalesovo Beam**	**72.65**	**327**	P	**P**	**08 52 49.4**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=76,slow=6.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**72.65**	**327**	P	**P**	**08 52 50.1**	**-0.6**
KURK	**Kurchatov**	**75.10**	**323**	P	**P**	**08 53 03.5**	**-1.6**
KURK				IAmb	IAmb	08 53 05.6	
	comp=Z,4.6nm,1.0s						
KURBB	**Kurchatov Arra**	**75.13**	**322**	P	**P**	**08 53 04.3**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=108,slow=5.1,SNR=6.6						
CNPM	**China Poot**	**75.64**	**28**	P	**P**	**08 53 07.3**	**-0.8**
PPLA	**Purkeypile**	**76.61**	**25**	P	**P**	**08 53 12.9**	**-0.8**
IMAR	**Indian Mountai**	**77.37**	**21**	P	**P**	**08 53 17.4**	**-0.3**
KTH	**Kantishna Hill**	**77.41**	**24**	P	**P**	**08 53 17.1**	**-1.0**
KTH				IAmb	IAmb	08 53 17.5	
	comp=Z,4.4nm,0.9s						
SML	**Sawmill**	**77.84**	**26**	P	**P**	**08 53 19.7**	**-0.8**
FID	**Port Fidalgo**	**78.31**	**28**	P	**P**	**08 53 22.3**	**-0.7**
FID				IAmb	IAmb	08 53 23.0	
	comp=Z,3.7nm,0.8s						
DHY	**Denali Highway**	**78.71**	**25**	P	**P**	**08 53 24.8**	**-0.7**
DHY				IAmb	IAmb	08 53 25.5	
	comp=Z,4.5nm,0.9s						
VNDA	**Vanda**	**78.88**	**177**	P	**P**	**08 53 25.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=315,slow=8.3,SNR=4.2						
VNDA	**Vanda**	**78.88**	**177**	P	**P**	**08 53 26.2**	**+0.3**
CCB	**Clear Creek Bu**	**79.10**	**24**	P	**P**	**08 53 25.8**	**-1.4**
COLD	**Coldfoot**	**79.19**	**21**	P	**P**	**08 53 27.8**	**+0.1**
IL31		**79.51**	**24**	P	**P**	**08 53 27.7**	**-1.8**
ILAR	**Eielson Array**	**79.51**	**24**	P	**P**	**08 53 26.7**	**-2.8**
	comp=Z,2.1nm,0.7s,baz=253,slow=5.6,SNR=26						
ILAR	**Eielson Array**	**79.51**	**24**	P	**P**	**08 53 27.5**	**-2.1**
CRQM	**Cirque**	**79.87**	**28**	P	**P**	**08 53 31.3**	**-0.6**
CRQM				IAmb	IAmb	08 53 32.3	
	comp=Z,6.4nm,0.8s						
RIDG	**Independent Ri**	**80.00**	**25**	P	**P**	**08 53 31.3**	**-1.1**
RIDG				IAmb	IAmb	08 53 32.2	
	comp=Z,5.3nm,1.0s						
DOT	**Dot Lake**	**80.31**	**25**	P	**P**	**08 53 33.2**	**-0.8**
DOT				IAmb	IAmb	08 53 34.0	
	comp=Z,6.1nm,1.1s						
BALM	**Baldy**	**80.32**	**28**	P	**P**	**08 53 34.0**	**-0.2**
BALM				IAmb	IAmb	08 53 34.9	
	comp=Z,4.6nm,0.7s						
BVAR	**Borovoye Array**	**80.61**	**324**	P	**P**	**08 53 34.2**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=116,slow=6.8,SNR=6.2						
BARN	**Barnard Glacie**	**80.65**	**28**	P	**P**	**08 53 35.4**	**-0.6**
BARN				IAmb	IAmb	08 53 36.7	
	comp=Z,5.4nm,0.7s						
CTGM	**Chitina Glacie**	**80.78**	**28**	P	**P**	**08 53 36.6**	**0.0**
BCAR	**Beaver Creek A**	**81.12**	**26**	P	**P**	**08 53 38.0**	**-0.4**
BMAR	**Burnt Mountain**	**81.29**	**21**	P	**P**	**08 53 39.5**	**+0.3**
HYT	**Haines Junctio**	**82.57**	**29**	P	**P**	**08 53 46.1**	**0.0**
HYT				IAmb	IAmb	08 53 47.0	
	comp=Z,5.1nm,1.0s						
NVAR	**Mina Array Bea**	**93.85**	**52**	P	**P**	**08 54 39.3**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=267,slow=6.2,SNR=5.3						
LVC	**Limon Verde**	**139.80**	**125**	PKP	**PKPdf**	**09 00 50.5**	**-2.0**
	comp=Z,3.6nm,0.6s,baz=90,slow=5.1,SNR=2.5						
LVC	**Limon Verde**	**139.80**	**125**	PKPdf	**PKPdf**	**09 00 50.9**	**-1.5**
SIV	**San Ignacio**	**149.39**	**121**	PKPbc	**PKPbc**	**09 01 10.9**	**-2.3**
	comp=Z,1.1nm,0.7s,baz=183,slow=4.9,SNR=3.7						
DBIC	**Dimbokro**	**149.97**	**285**	PKPbc	**PKPbc**	**09 01 14.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=127,slow=5.1,SNR=2.2						
DBIC	**Dimbokro**	**149.97**	**285**	PKPbc	**PKiKP**	**09 01 14.8**	**-0.7**

*TEH **09** 08:41:46.9, 34°.31N×48°.16E, h7km, ML3.7*

*THR **09** 08:41:46.9±0.6, 34°.33N×48°.09E, h14km±8km, ML3.9*

ISC 09 08:41:47.8±0.9, 34°.31N±0°.03×48°.11E±0°.03, h10km, n50, σ1§52/49, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBZA	**Bozab**	**0.26**	**308**	*e*Pg	**Pg**	**08 41 53.9**	**+0.8**
HSAM	**Samen**	**0.42**	**104**	*e*Pg	**Pg**	**08 41 55.1**	**-1.1**
IKOM	**Komasi**	**0.51**	**254**	*e*Pg	**Pb**	**08 41 57.7**	**-1.3**
IKOM				*e*		08 42 11.5	
IDOB	**Doab**	**0.53**	**173**	*e*Pg	**Pg**	**08 41 57.5**	**-0.6**
IALM	**Almabolaq**	**0.55**	**5**	*e*Pg	**Pg**	**08 41 58.6**	**+0.1**
KER	**Kermanshah**	**0.81**	**275**	*e*Sg	**Sn**	**08 42 16.5**	**-1.0**
KER				*e*Pg	**Pb**	**08 42 03.2**	**-0.8**
IKMR	**Kamar-syah**	**0.83**	**164**	*e*Pg	**Pg**	**08 42 02.5**	**-1.2**
BMDN	**Meydan**	**0.88**	**137**	*e*		08 42 19.6	
BMDN				*e*Pg	**Pg**	**08 42 02.8**	**-1.9**
KCHF	**Cheshme Sefid,**	**0.88**	**268**	*e*		08 42 21.1	
KCHF				*e*Pg	**Pb**	**08 42 04.7**	**-0.6**
HSRG	**Sareghieh**	**0.94**	**9**	*e*Pg	**Pg**	**08 42 05.2**	**-0.7**
HAGD	**Aghdareh**	**0.99**	**59**	*e*		08 42 20.2	
HAGD				*e*Pg	**Pg**	**08 42 05.7**	**-1.2**
SNGE	**Sanandaj**	**1.00**	**321**	*e*Pg	**Pg**	**08 42 05.5**	**-1.5**
SNGE				*e*Sg	**Sb**	**08 42 18.7**	**-1.8**
SNGE	**Sanandaj**	**1.00**	**321**	*e*Pg	**Pg**	**08 42 05.5**	**-1.5**
IVIS	**Veis**	**1.06**	**282**	*e*Pg	**Pb**	**08 42 07.6**	**-0.7**
ILIN	**Lien**	**1.12**	**303**	*e*Pg	**Pn**	**08 42 09.7**	**-0.1**
IGHG	**Ghaleghazi**	**1.27**	**271**	*e*Pg	**Pg**	**08 42 12.8**	**+0.6**
IGHG				*e*		08 42 38.3	
IDHR	**Dehrash**	**1.47**	**286**	*e*Pg	**Pg**	**08 42 16.0**	**0.0**
IDHR				*e*		08 42 42.9	
ASAO	**Ashtian**	**1.60**	**81**	*e*Pg	**Pn**	**08 42 16.6**	**+0.2**
ASAO	**Ashtian**	**1.60**	**81**	*e*Pg	**Pn**	**08 42 16.6**	**+0.2**
KHMZ	**Khomeyn**	**1.64**	**110**	*e*Pg	**Pn**	**08 42 17.3**	**+0.4**
KHMZ	**Khomeyn**	**1.64**	**110**	*e*Pg	**Pn**	**08 42 17.3**	**+0.4**
DHL1	**Dehloran**	**1.77**	**203**	*e*Pg	**Pg**	**08 42 22.0**	**+0.3**
QABG	**Abgarm-Qazvin**	**1.84**	**41**	*e*Pn	**Pn**	**08 42 20.3**	**+0.6**
IRAZ	**Razeghan**	**1.85**	**54**	*e*Pg	**Pn**	**08 42 21.6**	**+1.8**
SHGR	**Shooshtar-Gavs**	**2.28**	**165**	*e*Sg	**Sb**	**08 42 58.8**	**+1.7**
SHGR				IAML		08 43 04.3	
	comp=E,770nm,0.6s						
SHGR				IAML		08 43 08.4	
	comp=N,453nm,0.4s						
QSDN	**Sirdan**	**2.35**	**21**	*e*Pn	**Pn**	**08 42 28.6**	**+1.9**
QSDN				*e*		08 43 10.9	
IQOM	**Qom**	**2.50**	**77**	*e*Pn	**Pn**	**08 42 29.8**	**+1.0**
IQOM				*e*		08 43 19.5	
IMHD	**Mahdasht**	**2.51**	**56**	*e*	Sn	08 43 09.8	+10
IGZV	**Ghazvin**	**2.69**	**39**	*e*Pn	**Pn**	**08 42 33.9**	**+2.5**
IGZV				*e*		08 43 24.8	
QAM	**Ghamsar**	**2.82**	**100**	*e*Pn	**Pn**	**08 42 35.5**	**+2.3**
IHSB	**Hasanabad**	**2.84**	**66**	*e*	Sn	08 43 28.6	+21
IPIR	**Pirpir**	**2.84**	**124**	*e*Pn	**Pn**	**08 42 34.9**	**+1.4**
IPIR				*e*		08 43 22.6	
QALM	**Alamut, Qazvin**	**2.96**	**44**	*e*Pn	**Pn**	**08 42 36.9**	**+1.8**
QALM				*e*		08 43 26.1	
JHBN	**Jahan bin**	**2.99**	**133**	*e*Pn	**Pn**	**08 42 37.0**	**+1.5**
JHBN				*e*		08 43 29.8	
IKLH	**Kolahrood**	**3.06**	**108**	*e*Pn	**Pn**	**08 42 37.9**	**+1.5**
IKLH				*e*		08 42 47.1	
IVRN	**Varamin**	**3.06**	**76**	*e*Pn	**Pn**	**08 42 38.3**	**+2.0**
IVRN				*e*		08 42 52.0	
ROKH	**ROKH**	**3.14**	**128**	*e*Pn	**Pn**	**08 42 38.2**	**+0.7**
ROKH				*e*		08 43 34.3	
KRSH	**Karshahi**	**3.36**	**95**	*e*Pn	**Pn**	**08 42 42.8**	**+2.3**
DAMV	**Damavand**	**3.44**	**66**	*e*Pn	**Pn**	**08 42 42.9**	**+1.3**
DAMV	**Damavand**	**3.44**	**66**	*e*Pn	**Pn**	**08 42 42.9**	**+1.3**
IDMV	**Damavand**	**3.46**	**68**	*e*Pn	**Pn**	**08 42 43.0**	**+1.0**
IZEF	**Zefreh**	**3.80**	**111**	*e*Pn	**Pn**	**08 42 48.5**	**+1.9**
IGAR	**Garneh**	**3.81**	**119**	*e*Pn	**Pn**	**08 42 49.1**	**+2.4**
IGAR				*e*		08 44 08.6	
IFIR	**Firoozkooh**	**4.04**	**70**	*e*Pn	**Pn**	**08 42 52.7**	**+2.8**
IHSH	**Hashtrud**	**4.04**	**351**	*e*Pn	Pn	08 42 39.2	-11
IRAM	**Ramesheh**	**4.37**	**124**	*e*Pn	**Pn**	**08 42 55.3**	**+0.8**
KLNJ	**Kolanjah**	**4.42**	**137**	*e*Pn	**Pn**	**08 42 56.5**	**+1.3**
KLNJ				*e*		08 43 54.5	
ANAR	**Anarak**	**4.82**	**102**	*e*Pn	**Pn**	**08 43 02.6**	**+2.1**
IANJ	**Anjilo**	**4.91**	**75**	*e*Pn	**Pn**	**08 43 04.6**	**+2.7**
IGLO	**Ghaloghah**	**5.16**	**63**	*e*Pn	**Pn**	**08 43 07.8**	**+2.5**

WEL 09 08:50:03.5, 39°S±2°×17°5E±°, h189km±4km, M2.8/78, MLv2.8/78, Error ellipse: s-maj=0.0km s-min=0.0km az=89.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.20**	**149**	P	Pn	08 50 28.2	-0.4
WTVZ	**West Tongariro**	**0.31**	**134**	P	Pn	08 50 28.6	-0.3
KATZ	**Kakaramea**	**0.31**	**104**	P	Pn	08 50 28.4	-0.5
KRVZ	**Karewarewa**	**0.33**	**127**	P	Pn	08 50 28.7	-0.2
NGZ	**Ngauruhoe**	**0.36**	**140**	P	Pn	08 50 28.8	-0.2
RATZ	**Rangitukua**	**0.36**	**85**	P	Pn	08 50 28.3	-0.6
TMVZ	**Te Maari**	**0.38**	**125**	P	Pn	08 50 28.9	-0.2
OTVZ	**Oturere**	**0.38**	**133**	P	Pn	08 50 28.9	-0.2
WATZ	**Wairara**	**0.38**	**60**	P	Pn	08 50 29.0	-0.1
PKVZ	**Pokaka**	**0.39**	**175**	P	Pn	08 50 28.8	-0.2
ETVZ	**East Tongariro**	**0.39**	**127**	P	Pn	08 50 29.0	-0.2
FWVZ	**Far West T-bar**	**0.40**	**152**	P	Pn	08 50 29.1	-0.2
RITZ	**Rihia Road**	**0.44**	**100**	P	Pn	08 50 29.2	+0.1
TRVZ	**Turoa**	**0.44**	**155**	P	Pn	08 50 29.3	-0.1
TUVZ	**Tukino**	**0.46**	**144**	P	Pn	08 50 29.3	-0.1
VRZ	**Vera Road**	**0.48**	**242**	P	Pn	08 50 29.2	-0.1
WNVZ	**Wahianoa**	**0.48**	**152**	P	Pn	08 50 29.3	-0.2
MTVZ	**Mangateitei**	**0.50**	**165**	P	Pn	08 50 29.4	-0.1
HIZ	**Hauiti**	**0.52**	**317**	P	Pn	08 50 29.3	-0.1
KUTZ	**Kaahu Road**	**0.57**	**45**	P	Pn	08 50 29.7	0.0
TLZ	**Tolley Road**	**0.60**	**18**	P	Pn	08 50 29.5	-0.4
MOVZ	**Moawhango**	**0.61**	**146**	P	Pn	08 50 29.6	-0.3
BHHZ	**Black Hill Sta**	**0.83**	**135**	P	Pn	08 50 30.9	-0.2
GRRZ	**Galatos Road**	**0.83**	**49**	P	Pn	08 50 31.1	0.0
MRHZ	**Matea Rd**	**0.87**	**86**	P	Pn	08 50 30.8	-0.5
ALRZ	**Allen Road**	**0.88**	**68**	P	Pn	08 50 31.1	-0.3
WAZ	**Wanganui**	**0.89**	**196**	P	Pn	08 50 31.9	+0.6
LREZ	**Lake Rotokare**	**0.90**	**231**	P	Pn	08 50 32.2	+0.8
DREZ	**Durham Road**	**0.91**	**251**	P	Pn	08 50 32.0	+0.5
HRRZ	**Handcock Road**	**0.92**	**57**	P	Pn	08 50 31.6	0.0
PRRZ	**Plateau Road**	**0.94**	**65**	P	Pn	08 50 24.3	-7.4
HSRZ	**Hossack Road**	**0.94**	**52**	P	Pn	08 50 31.8	0.0
BKZ	**Black Stump Fm**	**0.96**	**106**	P	Pn	08 50 31.8	-0.1
PREZ	**Palmer Road**	**1.00**	**243**	P	Pn	08 50 32.8	+0.7
NEZ	**North Egmont**	**1.01**	**248**	P	Pn	08 50 33.0	+0.7
KWHZ	**Kaweka Forest**	**1.01**	**121**	P	Pn	08 50 32.9	+0.6
PKE	**Pukeiti**	**1.07**	**254**	P	Pn	08 50 33.2	+0.5
KHEZ	**Kahui Hut**	**1.08**	**248**	P	Pn	08 50 33.5	+0.7
RRRZ	**Republican Roa**	**1.10**	**60**	P	Pn	08 50 32.8	-0.1
KRHZ	**Kereru**	**1.11**	**132**	P	Pn	08 50 33.4	+0.4
TARZ	**Mount Tarawera**	**1.15**	**55**	P	Pn	08 50 33.6	+0.2
OMRZ	**Omania**	**1.15**	**47**	P	Pn	08 50 33.5	+0.1
KMRZ	**Kaimai**	**1.16**	**26**	P	Pn	08 50 33.8	+0.3
TOZ	**Tahuroa Road**	**1.18**	**8**	P	Pn	08 50 33.9	+0.5
NBEZ	**Newall Road No**	**1.18**	**251**	P	Pn	08 50 34.2	+0.8
NMHZ	**Naumai**	**1.19**	**100**	P	Pn	08 50 34.7	+1.1
MTHZ	**Maungataniwha**	**1.20**	**88**	P	Pn	08 50 33.7	0.0
MCHZ	**McNeill Hill**	**1.21**	**117**	P	Pn	08 50 34.9	+1.2
MUGZ	**Murupara**	**1.22**	**70**	P	Pn	08 50 33.4	-0.5
PNHZ	**Pukenui**	**1.23**	**146**	P	Pn	08 50 34.4	+0.5
TSZ	**Takapari Road**	**1.26**	**157**	P	Pn	08 50 34.7	+0.5
OHWZ	**Ohakea**	**1.30**	**180**	P	Pn	08 50 35.6	+1.1
RTZ	**Ruatahuna**	**1.34**	**78**	P	Pn	08 50 34.9	0.0
RAHZ	**Arahi**	**1.39**	**91**	P	Pn	08 50 36.1	+0.8
TGRZ	**Tauranga**	**1.39**	**33**	P	Pn	08 50 35.7	+0.4
OPRZ	**Ohinepanea**	**1.44**	**43**	P	Pn	08 50 33.8	-1.9
WPHZ	**Waipukurau**	**1.46**	**143**	P	Pn	08 50 36.5	+0.7
KAHZ	**Kahuranaki**	**1.51**	**127**	P	Pn	08 50 37.4	+1.0
POWZ	**Post Office Ro**	**1.53**	**167**	P	Pn	08 50 37.0	+0.5
DVHZ	**Dannevirke**	**1.55**	**155**	P	Pn	08 50 37.0	+0.3
URZ	**Urewera**	**1.55**	**66**	P	Pn	08 50 36.4	-0.4
SNGZ	**Shannon Statio**	**1.59**	**86**	P	Pn	08 50 36.9	-0.3
PXZ	**Pawanui**	**1.65**	**134**	P	Pn	08 50 38.4	+0.8
PRHZ	**Porangahau**	**1.71**	**143**	P	Pn	08 50 39.0	+0.8
PRWZ	**Pori Road**	**1.73**	**163**	P	Pn	08 50 39.1	+0.7
MRZ	**Mangatainoka R**	**1.77**	**173**	P	Pn	08 50 39.1	+0.3
ANWZ	**Angora Road**	**1.80**	**150**	P	Pn	08 50 40.0	+0.9
MWZ	**Matawai**	**1.83**	**73**	P	Pn	08 50 39.7	+0.2
KNZ	**Kokohu**	**1.85**	**95**	P	Pn	08 50 40.3	+0.7
OGWZ	**Otaki Gorge**	**1.92**	**183**	P	Pn	08 50 40.9	+0.6
BFZ	**Birch Farm**	**1.92**	**158**	P	Pn	08 50 40.8	+0.4
TIWZ	**Tintock**	**1.93**	**167**	P	Pn	08 50 40.8	+0.4
RIGZ	**Rimuhau**	**1.93**	**85**	P	Pn	08 50 41.1	+0.6
ETAZ	**East Tamaki Re**	**1.97**	**351**	P	Pn	08 50 42.2	+1.3
KIW	**Kapiti Island**	**1.98**	**189**	P	Pn	08 50 41.3	+0.3
HOWZ	**Holdsworth Sta**	**2.00**	**175**	P	Pn	08 50 41.5	+0.3
PRGZ	**Paritu Road**	**2.01**	**91**	P	Pn	08 50 42.2	+0.9
MHGZ	**Mahia Peninsul**	**2.04**	**98**	P	Pn	08 50 42.8	+1.2
TKGZ	**Te Karaka**	**2.04**	**78**	P	Pn	08 50 42.5	+0.9
RUGZ	**Raukumara Rang**	**2.08**	**64**	P	Pn	08 50 41.6	-0.6
CPWZ	**Castlepoint**	**2.12**	**161**	P	Pn	08 50 43.4	+1.0
KUZ	**Kuaotunu**	**2.17**	**9**	P	Pn	08 50 44.4	+1.2
DUWZ	**D'Urville Isla**	**2.18**	**209**	P	Pn	08 50 43.4	+0.3
CAW	**Cannon Point**	**2.21**	**185**	P	Pn	08 50 43.9	+0.4
TMWZ	**Te Maipa**	**2.25**	**169**	P	Pn	08 50 44.2	+0.3
HAZ	**Te Kaha**	**2.26**	**60**	P	Pn	08 50 43.8	-0.2
MTW	**Mount Morrison**	**2.26**	**176**	P	Pn	08 50 44.1	+0.1
CNGZ	**Carnagh Statio**	**2.31**	**81**	P	Pn	08 50 45.5	+1.0
WEL	**Wellington**	**2.42**	**190**	P	Pn	08 50 46.1	+0.4
TCW	**Tory Channel**	**2.44**	**199**	P	Pn	08 50 46.4	+0.4
PUZ	**Puketiti**	**2.46**	**71**	P	Pn	08 50 46.5	+0.2
PAWZ	**Paruwai Farm**	**2.48**	**178**	P	Pn	08 50 46.6	+0.1
TRWZ	**Traveller**	**2.51**	**173**	P	Pn	08 50 47.1	+0.3
MSWZ	**Moikau Station**	**2.51**	**181**	P	Pn	08 50 47.0	+0.2
PLWZ	**Palliser**	**2.67**	**181**	P	Pn	08 50 48.6	0.0
WMGZ	**Waiomatatini S**	**2.67**	**67**	P	Pn	08 50 49.0	+0.3
MXZ	**Matakaoa Point**	**2.71**	**61**	P	Pn	08 50 49.8	+0.7
TUWZ

comp=Z,3.9nm,1.4s
R40A Maddies Statio 74.65 341 P **P** **09 06 46.4 +0.1**
R40A IAmb IAmb 09 06 46.5
comp=Z,3.0nm,0.6s
AMTX Amarillo 74.69 332 P **P** **09 06 45.8 -0.9**
319A Douglas 75.03 325 P **P** **09 06 49.3 +0.4**
319A IAmb IAmb 09 06 53.6
comp=Z,5.9nm,1.2s
ANMO Albuquerque 76.71 329 P **P** **09 06 58.3 -0.1**
comp=Z,0.0nm,0.5s,baz=336,slow=15,SNR=3.8
TORD Torodi Ar. Bea 81.25 68 P **P** **09 07 23.3 -0.2**
comp=Z,1.4nm,0.6s,baz=285,slow=7.7,SNR=10
TORD Torodi Ar. Bea 81.25 68 P **P** **09 07 23.8 +0.2**
NVAR Mina Array Bea 85.11 323 P **P** **09 07 43.7 +0.5**
comp=Z,0.2nm,0.7s,baz=157,slow=4.9,SNR=2.2
NVAR Mina Array Bea 85.11 323 P **P** **09 07 43.4 +0.2**
WRA Warramunga Arr 122.66 206 PKhKP PKPpre 09 14 01.4
comp=Z,0.2nm,0.5s,baz=166,slow=1.7,SNR=1.7
WRA PKP **PKiKP** **09 14 06.6 +3.2**
comp=Z,0.2nm,0.5s,baz=167,slow=1.8,SNR=1.4
ZALV Zalesovo Beam 152.10 35 PKPbc **PKPbc** **09 15 01.2 -0.5**
comp=Z,0.8nm,0.3s,baz=318,slow=4.1,SNR=3.9
ZALV Zalesovo Beam 152.10 35 **PKiKP** **09 15 02.1 +0.1**

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*DJA **09** 09:01:02.8±0.3,9°S±5°×11°8E±°, h132km±5km, M4.3/13, mB4.9/2, mb4.6/5, MLv4.1/13, Mw(mB)4.2/2*
*IDC **09** 09:01:03.1±4.2, 8°46S×118°43E, h137km±33km, mb3.2/2, mb1 3.4/3, mb1mx3.1/35, mbtmp3.7/3, Error ellipse: s-maj=138.4km s-min=25.3km az=50.0*
*NEIC **09** 09:01:04.0±2.9, 8°59S±0°10×118°31E±0°06, h160km±3km, mb4.1/9, Error ellipse: s-maj=14.2km s-min=8.9km az=189.0*
ISC 09 09:01:03.3±0.6,**8°65S**±0°07×**118°29E**±0°04,**h152**km,**n38,** σ1§**91**/43,**mb3.9**/3,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.54**	**251**	P	**Pn**	**09 01 23.6**	**-1.5**
PLAI				S	**Sn**	**09 01 38.3**	**-3.3**
TWSI	**Taliwang, Sumb**	**1.39**	**266**	P	**Pn**	**09 01 30.9**	**-1.0**
TWSI				S	**Sn**	**09 01 52.8**	**-1.0**
WBSI	**Waikabubak, Su**	**1.47**	**132**	P	**Pn**	**09 01 30.7**	**-2.1**
BASI	**Baing, Sumba**	**2.75**	**125**	P	**Pn**	**09 01 45.6**	**-2.0**
EDFI	**Ende, Flores**	**3.36**	**92**	P	**Pn**	**09 01 54.3**	**-1.2**
BKSI	**Bulukumba**	**3.77**	**29**	P	**Pn**	**09 02 00.2**	**-0.5**
KAPI	**Kappang**	**3.89**	**22**	Pn	**Pn**	**09 02 02.3**	**+0.1**
MMRI	**Maumere**	**3.90**	**90**	P	**Pn**	**09 02 01.6**	**-0.8**
MMRI	**Maumere**	**3.90**	**90**	Pn	**Pn**	**09 02 02.6**	**+0.2**
MMRI				Sn	**Sn**	**09 02 49.4**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.10**	**272**	P	**Pn**	**09 02 04.5**	**-0.4**
JAGI	**Jajag, Banyuwa**	**4.10**	**272**	Pn	**Pn**	**09 02 05.0**	**+0.1**
JAGI				Sn	**Sn**	**09 02 53.2**	**+0.4**
GMJI	**Gumukmas**	**4.81**	**274**	P	**Pn**	**09 02 14.3**	**+0.1**
BATI	**Baumata**	**5.52**	**107**	P	**Pn**	**09 02 21.9**	**-1.9**
0.5nm1μm98nm,0.6s							
SOEI	**Soe**	**6.00**	**101**	P	**Pn**	**09 02 29.2**	**-1.0**
0.3nm1μm75nm,0.7s							
SOEI	**Soe**	**6.00**	**101**	Pn	**Pn**	**09 02 28.8**	**-1.4**
SOEI				Sn	**Sn**	**09 03 36.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**11.80**	**143**	Pn	**Pn**	**09 03 46.7**	**-0.3**
KNRA	**Kununurra**	**12.39**	**125**	Pn	**Pn**	**09 03 53.4**	**-1.3**
MTN	**Manton Dam**	**13.29**	**109**	Pn	**Pn**	**09 04 0.0**	**-2.2**
FAKI	**Fak Fak**	**15.00**	**69**	Pn	**Pn**	**09 04 25.5**	**-2.3**
WB0	**Warramunga Arr**	**19.11**	**127**	P	**P**	**09 05 15.7**	**+1.1**
WRA	**Warramunga Arr**	**19.16**	**128**	P	**P**	**09 05 16.0**	**+0.8**
0.7nm,0.3s,baz=303,slow=12,SNR=48							
WRA				S	**S**	**09 08 42.5**	**-1.9**
0.2nm,0.3s,baz=302,slow=26,SNR=2.0							
WRA	**Warramunga Arr**	**19.16**	**128**	P	**P**	**09 05 16.0**	**+0.8**
WRAB	**Tennant Creek**	**19.16**	**128**	P	**P**	**09 05 15.8**	**+0.5**
WRAB				IAmb	IAmb	09 05 23.1	
comp=Z,10nm,1.1s							
WB2	**Warramunga Arr**	**19.17**	**128**	P	**P**	**09 05 16.2**	**+0.9**
WB2				IAmb	IAmb	09 05 23.0	
comp=Z,7.0nm,0.8s							
WR0	**Warramunga Arr**	**19.33**	**127**	P	**P**	**09 05 18.2**	**+1.2**
WR0				IAmb	IAmb	09 05 21.0	
comp=Z,7.2nm,0.8s							
AS31	**Alice Springs**	**21.13**	**137**	P	**P**	**09 05 37.8**	**+1.4**
ASAR	**Alice Springs**	**21.13**	**137**	P	**P**	**09 05 38.0**	**+1.6**
comp=Z,2.1nm,0.5s,baz=311,slow=9.2,SNR=68							
ASAR				S	**S**	**09 09 31.1**	**+8.3**
comp=Z,1.9nm,1.1s,baz=176,slow=23,SNR=4.3							
ASAR				ScP	**ScP**	**09 13 01.8**	**+2.6**
comp=Z,0.5nm,0.6s,baz=326,slow=2.0,SNR=5.0							
ASAR	**Alice Springs**	**21.13**	**137**	P	**P**	**09 05 37.9**	**+1.6**
COEN	**Coen**	**24.96**	**104**	P	**P**	**09 06 12.9**	**0.0**
COEN				IAmb	IAmb	09 06 18.6	
comp=Z,11nm,1.4s							
H08S2	**Diego Garcia H**	**45.33**	**268**	T	T	09 56 41.2	
baz=96							
H08S3	**Diego Garcia H**	**45.34**	**268**	T	T	09 56 45.2	
baz=96							
H08S1	**Diego Carcia H**	**45.34**	**268**	T	T	09 56 40.0	
baz=96							
LTZ	**Lake Taylor**	**58.05**	**135**	P	**P**	**09 10 41.2**	**+0.6**
MKAR	**Makanchi Array**	**63.83**	**333**	P	**P**	**09 11 20.0**	**+0.6**
comp=Z,0.1nm,0.3s,baz=143,slow=6.0,SNR=2.1							
MKAR	**Makanchi Array**	**63.83**	**333**	P	**P**	**09 11 19.3**	**-0.1**
PET	**Petropavlovsk**	**70.36**	**25**	P	**P**	**09 11 58.9**	**-1.5**
ABKAR	**Akbulak array**	**76.87**	**325**	P	**P**	**09 12 39.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**117.71**	**280**	PKP	**PKiKP**	**09 19 34.2**	**+1.7**
comp=Z,0.4nm,0.6s,baz=97,slow=2.1,SNR=4.4							

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*NEIC **09** 09:06:46.6±1.6, 36°20N±0°01×97°43W±0°05, h6km±7km, Error ellipse: s-maj=6.5km s-min=1.7km az=85.0*
*TUL **09** 09:06:46.5±1.7, 36°20N±0°01×97°41W±0°05, h5km±2km, ML3.3, Mwr3.4/19(SLM), Error ellipse: s-maj=7.3km s-min=3.0km az=85.0*
*UNK **09** 09:06:46.7, 36°20N×97°42W, h2km*
*NEIC **09** 09:06:46.5, 36°20N×97°42W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.02; $M_{\theta\theta}$=1.32; $M_{\phi\phi}$-1.34; $M_{r\theta}$-0.17; $M_{\theta\phi}$0.49; $M_{\phi r}$-0.03; Fault plane solution: M_0=1.43000×10^{14} NP1:ϕ_s=305.00000°, δ85.00000°, λ5.00000°. NP2:ϕ_s=215.00000°, δ85.00000°, λ175.00000°. Principal axes: T 1.4301, Plg7.0000°, Azm170.0000°; N -0.0003, Plg83.0000°, Azm350.0000°; P -1.4298, Plg0.0000°, Azm80.0000°;*
*ANF **09** 09:06:47.6±0.2, 36°23N×97°41W, h15km, ML4.3/18 Error ellipse: s-maj=3.3km s-min=2.1km az=26.0*
ISC 09 09:06:46.6±1.0,**36°21N**±0°02×**97°44W**±0°03,**h12**km±8km, **n113,** σ1§**19**/139,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.41**	**182**		**Pg**	**09 06 54.5**	**-0.3**
OK029				Sg	**Sg**	**09 07 00.4**	**+0.1**
CROK	**Carrier**	**0.53**	**304**		**Pg**	**09 06 57.4**	**+0.4**
CROK				Sg	**Sb**	**09 07 05.3**	**-0.1**
BCOK	**Bluff Creek, N**	**0.57**	**194**	Pg	**Pg**	**09 06 57.6**	**-0.1**
QUOK	**Quay**	**0.59**	**93**	Pg	**Pg**	**09 06 57.7**	**-0.4**
QUOK				Sg	**Sg**	**09 07 05.7**	**-0.3**
OK025	**Westminster Rd**	**0.63**	**173**		**Pg**	**09 06 58.5**	**-0.4**
OK025				Sg	**Sg**	**09 07 07.3**	**+0.1**
OKCFA	**Oklahoma City**	**0.79**	**181**		**Pg**	**09 07 01.4**	**-0.5**
OKCFA				Sg	**Sg**	**09 07 12.4**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.80**	**180**		**Pg**	**09 07 01.7**	**-0.4**
OKCSW					**Sg**	**09 07 12.7**	**+0.1**
KAN13	**South Haven SW**	**0.80**	**358**		**Pg**	**09 07 02.1**	**0.0**
FNO	**Franklin**	**0.95**	**178**	Pg	**Pg**	**09 07 04.7**	**-0.2**
T35A	**Sooner Cattle**	**1.03**	**46**		**Pg**	**09 07 05.8**	**-0.6**
KAN10	**Anthony SW Sta**	**1.05**	**330**		**Pb**	**09 07 06.8**	**+0.1**
KAN12	**Harper NE Stat**	**1.18**	**338**		**Pb**	**09 07 09.0**	**+0.2**
U32A	**Winter Ranch,**	**1.27**	**278**		**Pn**	**09 07 10.4**	**+0.2**
TUL1	**Leonard**	**1.37**	**102**	P	**Pn**	**09 07 10.9**	**-0.6**
baz=283							
TUL1				S	**Sb**	**09 07 29.2**	**-0.3**
baz=283							
TUL1	**Leonard**	**1.37**	**102**		**Pn**	**09 07 10.8**	**-0.6**
X34A	**Smith Ranch, M**	**1.64**	**191**		**Pb**	**09 07 16.7**	**+0.1**
WMOK	**Wichita Mounta**	**1.83**	**217**	P	**Pb**	**09 07 19.2**	**-0.8**
baz=37,SNR=97							
WMOK				S	**Sb**	**09 07 43.6**	**+0.7**
baz=37							
WMOK	**Wichita Mounta**	**1.83**	**217**		**Pb**	**09 07 19.4**	**-0.6**
X37A	**Clayton**	**2.34**	**133**		**Pn**	**09 07 26.2**	**+1.4**
R32A	**Long Quarter,**	**2.43**	**336**		**Pn**	**09 07 27.8**	**+1.7**
U38A	**Gravette**	**2.48**	**84**		**Pn**	**09 07 27.7**	**+1.0**
HHAR	**Hobbs**	**2.83**	**88**		**Pn**	**09 07 32.1**	**+0.6**
Z35A	**Perchaven, San**	**2.88**	**177**	Pn	**Pn**	**09 07 33.9**	**+1.8**
KSU1	**Kansas State U**	**2.96**	**13**	P	**Pn**	**09 07 34.8**	**+1.5**
baz=193							
KSU1				Sb	**Sb**	**09 08 17.8**	**+2.5**
baz=193							
KSU1	**Kansas State U**	**2.96**	**13**	Pn	**Pn**	**09 07 34.4**	**+1.1**
W39A	**Magazine**	**3.14**	**108**	P	**Pn**	**09 07 36.6**	**+0.8**
baz=290,SNR=6.2							
W39A				S	**Sn**	**09 08 13.4**	**+0.2**
baz=290							
W39A	**Magazine**	**3.14**	**108**		**Pn**	**09 07 37.0**	**+1.2**
CBKS	**Cedar Bluff**	**3.18**	**326**	P	**Pn**	**09 07 38.1**	**+1.7**
baz=144							
CBKS	**Cedar Bluff**	**3.18**	**326**	Pn	**Pn**	**09 07 38.3**	**+1.9**
MIAR	**Mount Ida**	**3.56**	**117**	P	**Pn**	**09 07 42.9**	**+1.2**
baz=299,SNR=7.2							
MIAR				S	**Sn**	**09 08 24.2**	**+0.6**
baz=299							
MIAR	**Mount Ida**	**3.56**	**117**		**Pn**	**09 07 43.0**	**+1.4**
Z38A	**Mt. Pleasant**	**3.57**	**145**		**Pn**	**09 07 43.0**	**+1.4**
S39A	**Bolivar**	**3.61**	**65**		**Pn**	**09 07 44.0**	**+1.7**
AMTX	**Amarillo**	**3.70**	**250**	P	**Pn**	**09 07 45.5**	**+1.9**
baz=68							
AMTX				Sb	**Sg**	**09 08 42.3**	**-3.3**
baz=68							
AMTX	**Amarillo**	**3.70**	**250**	Pn	**Pn**	**09 07 45.2**	**+1.6**
U40A	**Yellville**	**3.71**	**86**	P	**Pn**	**09 07 43.9**	**+0.3**
baz=269							
U40A	**Yellville**	**3.71**	**86**		**Pn**	**09 07 44.3**	**+0.7**
ABTX	**Abilene, Hawle**	**4.01**	**208**	P	**Pn**	**09 07 49.7**	**+1.8**
baz=26							
ABTX	**Abilene, Hawle**	**4.01**	**208**	Pn	**Pn**	**09 07 48.3**	**+0.4**
X40A	**Basin Creek Fa**	**4.14**	**113**	P	**Pn**	**09 07 50.9**	**+1.4**
baz=296							
X40A				S	**Sn**	**09 08 39.0**	**+1.3**
baz=296							
X40A	**Basin Creek Fa**	**4.14**	**113**		**Pn**	**09 07 50.1**	**+0.6**
WHTX	**Lake Whitney,**	**4.21**	**180**	P	**Pn**	**09 07 52.0**	**+1.5**
baz=0.4							
WHTX				S	**Sn**	**09 08 41.6**	**+2.1**
baz=0.4							
WHTX	**Lake Whitney,**	**4.21**	**180**	Pn	**Pn**	**09 07 49.0**	**-1.5**
MGMO	**Mountain Grove**	**4.26**	**76**		**Pn**	**09 07 51.4**	**+0.2**
WHAR	**Wooly Hollow**	**4.29**	**101**		**Pn**	**09 07 49.7**	**-1.9**
FCAR	**Ozark Folk Cen**	**4.32**	**93**	Pn	**Pn**	**09 07 52.1**	**+0.1**
W41B	**Gary Mavity, V**	**4.35**	**102**	P	**Pn**	**09 07 53.0**	**+0.6**
baz=285							
W41B				S	**Sn**	**09 08 42.8**	**-0.2**
baz=285							
W41B	**Gary Mavity, V**	**4.35**	**102**		**Pn**	**09 07 53.5**	**+1.1**
WLAR	**White Oak Lake**	**4.35**	**124**	Pn	**Pn**	**09 07 52.6**	**+0.1**
237A	**Washetta, Mont**	**4.41**	**162**		**Pn**	**09 07 52.6**	**-0.6**
N33A	**J Bar K, Exete**	**4.52**	**360**	Pn	**Pn**	**09 07 55.2**	**+0.4**
P38A	**Dawn**	**4.60**	**41**		**Pn**	**09 07 57.1**	**+1.2**
R40A	**Maddies Statio**	**4.62**	**62**		**Pn**	**09 07 56.7**	**+0.6**
Z41A	**Richland Creek**	**4.82**	**126**	P	**Pn**	**09 07 59.9**	**+1.0**
baz=309							
Z41A				S	**Sn**	**09 08 54.1**	**-0.5**
baz=309							
Z41A	**Richland Creek**	**4.82**	**126**	Pn	**Pn**	**09 07 57.2**	**-1.6**
N35A	**Tabor**	**4.85**	**16**	Pn	**Pn**	**09 08 00.9**	**+1.6**
MSTX	**Muleshoe**	**4.91**	**244**	P	**Pn**	**09 08 01.4**	**+1.1**
baz=62,SNR=6.5							
MSTX				S	**Sn**	**09 08 58.7**	**+1.7**
baz=62							
MSTX	**Muleshoe**	**4.91**	**244**	Pn	**Pn**	**09 07 59.7**	**-0.6**
KSCO	**Kaye Shedlock'**	**4.98**	**306**	P	**Pn**	**09 08 02.8**	**+1.6**
baz=123							
KSCO				S	**Sn**	**09 08 59.4**	**+0.6**
baz=123							
KSCO	**Kaye Shedlock'**	**4.98**	**306**	Pn	**Pn**	**09 08 02.7**	**+1.4**
NATX	**Nacogdoches**	**5.00**	**152**	S	**Sn**	**09 08 59.3**	**+0.2**
baz=334							
CCAR	**Cane Creek**	**5.18**	**115**	Pn	**Pn**	**09 08 05.3**	**+1.5**
BGNE	**Belgrade**	**5.22**	**354**	P	**Pn**	**09 08 05.3**	**+0.9**
baz=174,SNR=10							
BGNE				S	**Sn**	**09 09 04.3**	**-0.3**
baz=174							
BGNE	**Belgrade**	**5.22**	**354**	Pn	**Pn**	**09 08 05.3**	**+0.9**
CCM	**Cathedral Cave**	**5.28**	**68**	P	**Pn**	**09 08 05.7**	**+0.5**
baz=251							
CCM				S	**Sn**	**09 09 06.1**	**+0.1**
baz=251							
CCM	**Cathedral Cave**	**5.28**	**68**	Pn	**Pn**	**09 08 05.9**	**+0.7**
435B	**Jarrell**	**5.41**	**181**	P	**Pn**	**09 08 08.2**	**+1.2**
baz=1.4							
435B				S	**Sn**	**09 09 10.0**	**+0.8**
baz=1.4							
X43A	**Marvell**	**5.62**	**106**	S	**Sn**	**09 09 15.5**	**+1.2**
baz=289							
N38A	**Joes South For**	**5.64**	**34**	Pn	**Pn**	**09 08 10.4**	**+0.3**
T25A	**Trinidad**	**5.68**	**281**	P	**Pn**	**09 08 12.4**	**+1.5**
baz=97							
T25A				S	**Sn**	**09 09 15.5**	**-0.7**
baz=97							
T25A	**Trinidad**	**5.68**	**281**		**Pn**	**09 08 12.0**	**+1.1**
FVM	**French Village**	**5.88**	**70**	Pn	**Pn**	**09 08 16.0**	**+2.6**
OGNE	**Ogallala**	**5.94**	**324**	P	**Pn**	**09 08 15.9**	**+1.5**
baz=141							
OGNE				S	**Sn**	**09 09 22.3**	**-0.1**
baz=141							
OGNE	**Ogallala**	**5.94**	**324**	Pn	**Pn**	**09 08 14.9**	**+0.5**
JCT	**Junction City**	**6.05**	**200**	Pn	**Pn**	**09 08 16.3**	**+0.5**
SCIA	**State Center**	**6.57**	**29**	S	**Sn**	**09 09 37.3**	**-0.4**
baz=211							
SDCO	**Great Sand Dun**	**6.63**	**286**	P	**Pn**	**09 08 26.4**	**+2.3**
baz=101							
SDCO	**Great Sand Dun**	**6.63**	**286**	Pn	**Pn**	**09 08 25.7**	**+1.6**
Q24A	**Divide**	**6.71**	**296**	S	**Sn**	**09 09 42.0**	**+0.3**
baz=112							
OXF	**Oxford**	**6.77**	**102**	Pn	**Pn**	**09 08 25.6**	**-0.2**
W45A	**Hickory Valley**	**6.80**	**96**	Pn	**Pn**	**09 08 25.1**	**-1.0**
N41A	**Harden Midland**	**6.84**	**47**	Pn	**Pn**	**09 08 28.4**	**+1.8**
P43A	**Skaggs, Pawnee**	**7.13**	**59**	Pn	**Pn**	**09 08 31.3**	**+0.7**
Q44A	**Meyer Farm, Va**	**7.21**	**66**	Pn	**Pn**	**09 08 33.4**	**+1.7**
K38A	**Parkersburg**	**7.37**	**28**	Pn	**Pn**	**09 08 34.9**	**+1.0**
ISCO	**Idaho Springs**	**7.38**	**301**	P	**Pn**	**09 08 36.0**	**+1.7**
baz=116							
ISCO	**Idaho Springs**	**7.38**	**301**		**Pn**	**09 08 34.5**	**+0.1**
ECSD	**EROS Data Cent**	**7.54**	**5**	P	**Pn**	**09 08 36.1**	**-0.2**
baz=185							
ECSD	**EROS Data Cent**	**7.54**	**5**	Pn	**Pn**	**09 08 36.4**	**+0.1**
L40A	**Anamosa**	**7.58**	**38**	Pn	**Pn**	**09 08 36.1**	**-0.7**
S22A	**4UR Ranch, Cre**	**7.67**	**284**	Pn	**Pn**	**09 08 39.1**	**+0.8**
PLAL	**Pickwick Lake**	**7.72**	**96**	Pn	**Pn**	**09 08 39.3**	**+0.5**
HDIL	**Hopedale**	**7.73**	**53**	P	**Pn**	**09 08 38.2**	**-0.6**
baz=238							
HDIL				S	**Sn**	**09 10 03.5**	**-2.7**
baz=238							
HDIL	**Hopedale**	**7.73**	**53**	Pn	**Pn**	**09 08 37.5**	**-1.3**
MNTX	**Cornudas Mount**	**7.99**	**238**	P	**Pn**	**09 08 44.5**	**+2.1**
baz=54							
MNTX				S	**Sn**	**09 10 11.0**	**-1.6**
baz=54							
MNTX	**Cornudas Mount**	**7.99**	**238**	Pn	**Pn**	**09 08 44.5**	**+2.1**
N23A	**Red Feather La**	**8.14**	**308**	P	**Pn**	**09 08 45.9**	**+1.2**
baz=122							
N23A	**Red Feather La**	**8.14**	**308**	Pn	**Pn**	**09 08 45.8**	**+1.1**
SUSD	**Miller**	**8.31**	**352**	P	**Pn**	**09 08 47.4**	**+0.6**
baz=171							
SUSD				S	**Sn**	**09 10 18.5**	**-2.0**
baz=171							
TX31	**Lajitas Ar. Si**	**8.63**	**219**	Pn	**Pn**	**09 08 51.6**	**+0.2**
TX32	**Lajitas Array**	**8.63**	**219**	Pn	**Pn**	**09 08 52.2**	**+0.9**
TXAR	**Lajitas Array**	**8.63**	**219**	Pn	**Pn**	**09 08 52.4**	**+1.1**
JFWS	**Jewell Farm**	**8.70**	**37**	S	**Sn**	**09 10 26.4**	**-3.5**
baz=222							
BLO	**Bloomington**	**9.14**	**68**	Pn	**Pn**	**09 08 59.2**	**+0.9**
PV02	**Paradox Valley**	**9.23**	**286**	Pn	**Pn**	**09 08 58.7**	**-1.0**
RSSD	**Black Hills**	**9.38**	**329**	P	**Pn**	**09 09 02.3**	**+0.7**
baz=145							
RSSD	**Black Hills**	**9.38**	**329**	Pn	**Pn**	**09 09 02.5**	**+0.9**
K22A	**Casper**	**9.52**	**315**	P	**Pn**	**09 09 04.0**	**+0.4**
baz=130							
K22A	**Casper**	**9.52**	**315**	Pn	**Pn**	**09 09 04.5**	**+0.9**
F33A	**5 Mile Ranch,**	**9.66**	**5**	Pn	**Pn**	**09 09 03.9**	**-1.4**
SPMN	**Marine on St.**	**9.67**	**20**	Pn	**Pn**	**09 09 04.7**	**-0.7**
F36A	**Milaca**	**10.08**	**16**	Pn	**Pn**	**09 09 09.5**	**-1.6**
L48A	**N Adams**	**11.61**	**57**	Pn	**Pn**	**09 09 30.8**	**-1.2**

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*IDC **09** 09:14:31.1±1.9, 9°15S×125°81E, h0km, mb4.0/1, mb1 4.2/3, mb1mx3.6/30, mbtmp4.0/3, ML3.9/2, Error ellipse: s-maj=176.5km s-min=31.9km az=58.0*
*NEIC **09** 09:14:36.1±2.6, 9°53S±0°07×125°38E±0°07, h35km±2km, mb4.2/3, Error ellipse: s-maj=15.2km s-min=7.7km az=221.0*
ISC 09 09:14:36.4±1.0,**9°54S**±0°10×**125°53E**±0°10,**h35**km,**n18,** σ2§**22**/21,**mb4.2**/3,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.27**	**260**		**Pn**	**09 14 57.1**	**-0.6**
MTN	**Manton Dam**	**6.40**	**121**		Pn	09 16 13.8	+5.5
MTN				Sn	**Sn**	**09 17 22.2**	**+2.0**
KNRA	**Kununurra**	**6.87**	**153**		**Pn**	**09 16 19.2**	**+4.6**
FITZ	**Fitzroy Crossi**	**8.51**	**179**		**Pn**	**09 16 40.4**	**+3.2**
FITZ					**Sn**	**09 18 12.5**	**+0.4**
WB0	**Warramunga Arr**	**13.29**	**141**	Pn	**Pn**	**09 17 44.0**	**+1.3**
WRA	**Warramunga Arr**	**13.39**	**142**	Pn	**Pn**	**09 17 44.3**	**+0.2**
0.6nm,0.3s,baz=320,slow=13,SNR=40							
WRA				Sn	**Sn**	**09 20 06.9**	**-4.9**
0.7nm,0.3s,baz=310,slow=24,SNR=9.5							
WRA	**Warramunga Arr**	**13.39**	**142**		**Pn**	**09 17 44.1**	**+0.1**
WRAB	**Tennant Creek**	**13.39**	**141**	Pn	**Pn**	**09 17 45.2**	**+1.2**
WB2	**Warramunga Arr**	**13.40**	**142**	Pn	**Pn**	**09 17 45.2**	**+1.0**
WR0	**Warramunga Arr**	**13.53**	**141**	Pn	**Pn**	**09 17 46.5**	**+0.6**
AS31	**Alice Springs**	**16.17**	**151**	P	**P**	**09 18 24.1**	**+0.2**
AS31				IAmb	IAmb	09 18 24.3	
comp=Z,2.7nm,0.3s							
ASAR	**Alice Springs**	**16.17**	**151**	Pn	**Pn**	**09 18 22.9**	**+1.8**
comp=Z,0.7nm,0.3s,baz=321,slow=11,SNR=53							
ASAR				Sn	**Sn**	**09 21 15.9**	**-3.5**
comp=Z,0.2nm,0.3s,baz=314,slow=20,SNR=4.5							
ASAR	**Alice Springs**	**16.17**	**151**	P	**Pn**	**09 18 22.2**	**+1.1**
MK31	**Makanchi Array**	**68.03**	**329**	P	**P**	**09 25 31.2**	**-1.1**
MK31				IAmb	IAmb	09 25 35.8	
comp=Z,2.3nm,1.1s							
MKAR	**Makanchi Array**	**68.03**	**329**	P	**P**	**09 25 31.3**	**-1.0**
comp=Z,0.8nm,0.5s,baz=128,slow=6.1,SNR=7.1							
MKAR	**Makanchi Array**	**68.03**	**329**	P	**P**	**09 25 31.1**	**-1.1**
KK31	**Karatay Array**	**72.42**	**321**	P	**P**	**09 26 00.3**	**+1.2**
KK31				IAmb	IAmb	09 26 03.7	
comp=Z,4.2nm,0.8s							
KKAR	**Karatay Array**	**72.42**	**321**	P	**P**	**09 25 57.4**	**-1.7**

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*BGR **09** 09:28:02.3±0.0, 18°01N×94°57E, h10km, mb5.4, Ms5.2*
*IDC **09** 09:28:20.5±0.4, 22°17N×93°41E, h0km, mb4.9/40, mb1 4.9/41, mb1mx4.9/49, mbtmp4.9/41, ML4.3/1, MS5.0/34, Ms1 5.0/34, ms1mx5.0/36, Error ellipse: s-maj=11.5km s-min=9.9km az=48.0*
*BJI **09** 09:28:20.5±0.0, 22°24N×93°16E, h7km, mB5.1/57, mb5.0/67, Ms5.6/87, Ms7 5.5/80*
*NDI **09** 09:28:21.3±4.5, 22°02N×93°17E, h7km±17km, mb4.9, mb5.4(NEIC)*
*NEIC **09** 09:28:22.2±1.8, 22°20N±0°06×93°24E±0°08, h10km±1km, mb5.4/212, Ms_20 5.4/686, Mwb5.4/12, Mwc5.5(GCMT), Error ellipse: s-maj=12.4km s-min=9.6km az=240.0*
*MOS **09** 09:28:22.5±1.2, 22°11N×93°31E, h23km, mb5.6/97, MS5.1/58, Error ellipse: s-maj=6.4km s-min=3.2km az=117.9*
*GCMT **09** 09:28:23.2±0.1, 21°98N±0°01×93°14E±0°01, h16km, MW5.4/159, Moment Tensor Solution. s122,c202; s159,c289; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$1.51±.02; $M_{\phi\phi}$-1.37±.02; $M_{r\theta}$0.36±.05; $M_{\theta\phi}$1.02±.02; $M_{\phi r}$0.16±.05; Best double couple: $M_0$1.80200×10^{17} NP1:ϕ_s118.00000°, δ81.00000°, λ6.00000°. NP2:ϕ_s27.00000°, δ84.00000°, λ171.00000°. Principal axes: T 1.9080, Plg11.0000°, Azm342.0000°; N -0.2080, Plg79.0000°, Azm171.0000°; P -1.6960, Plg2.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UNK **09** 09:28:23.3, 22°16N×93°14E, h10km*
*NEIC **09** 09:28:23.3, 22°16N×93°16E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10; $M_{\theta\theta}$1.22; $M_{\phi\phi}$-1.13; $M_{r\theta}$0.24; $M_{\theta\phi}$0.88; $M_{\phi r}$-0.05; Fault plane solution: $M_0$1.49000×10^{17} NP1:ϕ_s26.42000°, δ80.81000°, λ178.67000°. NP2:ϕ_s116.63000°, δ88.69000°, λ9.19000°. Principal axes: T 1.5464, Plg7.0000°, Azm342.0000°; N -0.1106, Plg81.0000°, Azm125.0000°; P -1.4358, Plg6.0000°, Azm251.0000°;*
*NEIC **09** 09:28:25, 21°99N×93°18E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20; $M_{\theta\theta}$1.64; $M_{\phi\phi}$-1.44; $M_{

LSA	**Lhasa**	**7.79 347**	P	**Pn**	**09 30 17.4**	**+1.0**
LSA	**Lhasa**	**7.79 347**	Pn	**Pn**	**09 30 17.4**	**+1.0**
UTTA	**Uttaradit**	**8.16 121**	P	**Pn**	**09 30 23.0**	**+1.9**
PHIT	**Phitsanulok**	**8.37 124**	P	**Pn**	**09 30 26.0**	**+2.1**
JIRN	**Jiri**	**8.43 312**	*e*Pn	**Pn**	**09 30 25.7**	**+0.6**
JIRN	**Jiri**	**8.43 312**	*e*Pn	**Pn**	**09 30 25.7**	**+0.6**
GUN	**Gumba**	**8.81 313**	*e*Pn	**Pn**	**09 30 30.0**	**-0.2**
GUN	**Gumba**	**8.81 313**	*e*Pn	**Pn**	**09 30 30.0**	**-0.2**
PKI	**Pulchoki**	**8.93 309**	*e*Pn	**Pn**	**09 30 31.3**	**-0.6**
PKI	**Pulchoki**	**8.93 309**	*e*Pn	**Pn**	**09 30 31.3**	**-0.6**
KKN	**Kakani**	**9.15 310**	*e*Pn	**Pn**	**09 30 35.3**	**+0.5**
KKN	**Kakani**	**9.15 310**	*e*Pn	**Pn**	**09 30 35.3**	**+0.5**
DMN	**Daman**	**9.17 308**	*e*Pn	**Pn**	**09 30 35.8**	**+0.7**
DMN	**Daman**	**9.17 308**	*e*Pn	**Pn**	**09 30 35.8**	**+0.7**
KMI	**Kunming**	**9.25 69**	⇑*i*P	**Pn**	**09 30 38.1**	**+1.9**
KMI			pP		09 30 41.2	
KMI			sP		09 30 43.5	
KMI			PP		09 30 45.9	
KMI			S	**Sn**	**09 32 24.6**	**+4.2**
KMI			SS		09 32 38.6	
KMI			pmax	pmax		
	comp=Z,18nm,0.5s					
KMI			pmax	pmax		
	comp=Z,2μm,3.5s					
KMI			LR	LR		
	comp=Z,21μm,8.8s					
KMI			LR	LR		
	comp=Z,12μm,7.8s					
KMI			LR	LR		
	comp=Z,13μm,11.7s					
CHLP	**Challavanipeta**	**9.30 249**	*e*P	**Pn**	**09 30 35.7**	**-1.0**
CHLP			*e*		09 32 14.5	
SRDT	**SRDT**	**9.54 143**	P	**Pn**	**09 30 39.4**	**-0.6**
GKN	**Gorkha**	**9.74 309**	*e*Pn	**Pn**	**09 30 42.1**	**-0.7**
GKN	**Gorkha**	**9.74 309**	*e*Pn	**Pn**	**09 30 42.1**	**-0.7**
SLVN	**Son La**	**9.98 92**	Pn	**Pn**	**09 30 48.4**	**+2.4**
NONG	**Nongkai**	**10.17 112**	P	**Pn**	**09 30 48.6**	**-0.1**
KOLN	**Koldanda**	**10.38 305**	*e*Pn	**Pn**	**09 30 50.6**	**-1.1**
KOLN			*e*Sn	**Sn**	**09 32 44.5**	**-3.6**
	comp=Z,1μm,0.7s					
KOLN	**Koldanda**	**10.38 305**	*e*Pn	**Pn**	**09 30 50.6**	**-1.1**
KOLN			*e*Sn	**Sn**	**09 32 44.5**	**-3.6**
	comp=Z,1μm,0.7s					
PBA	**Port Blair**	**10.40 182**	Pn	Pn	09 30 51.5	-0.2
KHON	**Khomkaen**	**10.74 121**	P	**Pn**	**09 30 59.2**	**+2.7**
PYUN	**Piuthan**	**11.01 305**	*e*Pn	**Pn**	**09 31 00.1**	**-0.2**
PYUN	**Piuthan**	**11.01 305**	*e*Pn	**Pn**	**09 31 00.1**	**-0.2**
PATY	**Pattaya**	**11.69 140**	P	**Pn**	**09 31 10.2**	**+0.8**
PVM	**Polavaram**	**11.93 248**	*e*P	**Pn**	**09 31 12.9**	**+0.2**
PVM			*e*		09 33 21.9	
PVM			IVMs_BB	IVMs_BB	09 39 14.0	
	comp=Z,4μm,6.3s					
CD2	**Chengdu**	**12.89 45**	P	Pn	09 31 30.9	+5.1
CD2			PP	**PnPn**	**09 31 39.5**	**+5.7**
CD2			S	**Sn**	**09 33 53.1**	**+3.8**
CD2			SS		09 34 09.8	
CD2			pmax	pmax		
	comp=Z,30nm,0.6s					
CD2			pmax	pmax		
	comp=Z,280nm,8.4s					
CD2			LR	LR		
	comp=Z,45μm,18.0s					
CD2			LR	LR		
	comp=Z,22μm,18.6s					
CD2			LR	LR		
	comp=Z,26μm,14.7s					
MYLAV	**Mylavaram**	**12.99 248**	*e*P	**Pn**	**09 31 27.6**	**+0.3**
MYLAV			IVmB_BB		09 31 32.1	
	comp=Z,420nm,0.7s					
MYLAV			*e*		09 33 47.8	
MYLAV			IVMs_BB	IVMs_BB	09 39 48.1	
	comp=Z,4μm,6.8s					
GYA	**Guiyang**	**13.02 68**	⇓P	**Pn**	**09 31 31.9**	**+4.2**
GYA			S	**Sn**	**09 33 56.6**	**+3.9**
GYA			pmax	pmax		
	comp=Z,25nm,1.0s					
GYA			pmax	pmax		
	comp=Z,300nm,7.4s					
GYA			LR	LR		
	comp=Z,15μm,11.3s					
GYA			LR	LR		
	comp=Z,17μm,9.2s					
GYA			LR	LR		
	comp=Z,23μm,9.8s					
NGP	**Nagpur**	**13.20 269**	*e*P	**Pn**	**09 31 28.8**	**-1.3**
NGP			*ex*	x	09 33 46.6	
ADKI	**Addanki**	**13.97 246**	*e*P	**Pn**	**09 31 39.5**	**-1.2**
ADKI			IVmB_BB		09 31 43.7	
	comp=Z,855nm,1.4s					
ADKI			*e*		09 34 03.9	
ADKI			IVMs_BB	IVMs_BB	09 40 23.9	
	comp=Z,2μm,6.8s					
NJS	**Nagarjunasagar**	**14.23 250**	*e*P	**Pn**	**09 31 43.2**	**-0.9**
NJS			IVmB_BB		09 31 55.9	
	comp=Z,407nm,2.1s					
NJS			*e*		09 34 16.3	
NJS			IVMs_BB	IVMs_BB	09 40 13.4	
	comp=Z,4μm,7.1s					
CUPL	**Choutuppal**	**14.27 253**	*e*P	**Pn**	**09 31 43.2**	**-1.6**
SRSP	**Sriramsagar**	**14.28 260**	*e*P	**Pn**	**09 31 42.1**	**-2.7**
SRSP			IVmB_BB		09 31 45.2	
	comp=Z,1μm,2.2s					
SRSP			*e*		09 34 12.3	
SRSP			IVMs_BB	IVMs_BB	09 37 00.4	
	comp=Z,3μm,7.3s					
HYB	**Hyderabad**	**14.55 254**	*i*P	**Pn**	**09 31 45.0**	**-3.7**
	comp=Z,160nm,1.0s					
HYB			*e*		09 34 20.0	
HYB			*e*S	**Sn**	**09 34 32.0**	**+1.9**
HYBB	**Hyderabad (bro**	**14.55 254**	*e*P	**Pn**	**09 31 47.1**	**-1.6**
HYBB			IVmB_BB		09 31 49.2	
	comp=Z,834nm,1.9s					
HYBB			*e*		09 34 20.9	
HYBB			IVMs_BB	IVMs_BB	09 41 11.3	
	comp=Z,6μm,6.5s					
SRLM	**Srisailam**	**14.78 249**	*e*P	**Pn**	**09 31 51.9**	**+0.1**
SRLM			IVmB_BB		09 32 03.3	
	comp=Z,646nm,0.5s					
SRLM			IVMs_BB	IVMs_BB	09 40 56.5	
	comp=Z,4μm,7.4s					
SKHT	**Srikalahasti**	**15.29 239**	*e*P	**Pn**	**09 31 57.2**	**-1.3**
SKHT			IVmB_BB		09 31 59.0	
	comp=Z,524nm,3.2s					
SKHT			*e*		09 34 32.4	
SKHT			IVMs_BB	IVMs_BB	09 41 49.5	
	comp=Z,1μm,10.0s					
TRTT	**Trang**	**15.50 155**	P	**P**	**09 32 04.2**	**-1.5**
NDI	**New Delhi**	**15.86 298**	*e*P	**Pn**	**09 32 03.0**	**-2.9**
NDI			*e*S	Sn	09 34 52.0	-10
QIZ	**Qiongzhong**	**15.88 98**	P	**P**	**09 32 08.9**	**-1.0**
QIZ			S	**Sn**	**09 35 06.3**	**+4.0**
QIZ			pmax	pmax		
	comp=Z,33nm,2.2s					
QIZ			pmax	pmax		
	comp=Z,390nm,12.7s					
QIZ			LR	LR		
	comp=Z,7μm,23.0s					
QIZ			LR	LR		
	comp=Z,5μm,17.7s					
QIZ			LR	LR		
	comp=Z,7μm,11.3s					
QIZ	**Qiongzhong**	**15.88 98**	P	**P**	**09 32 09.6**	**-0.4**
KLRI	**Killari**	**16.11 259**	*e*P	**Pn**	**09 32 06.6**	**-2.5**
KLRI			IVmBBB		09 32 09.8	
	comp=Z,649nm,1.1s					
KLRI			*e*		09 34 53.7	
KLRI			IVMs_BB	IVMs_BB	09 41 36.5	
	comp=Z,5μm,7.8s					
URV	**Uravakonda**	**16.70 248**	*e*P	**Pn**	**09 32 16.7**	**0.0**
URV			IVmB_BB		09 32 23.2	
	comp=Z,852nm,2.6s					
URV			*e*		09 35 12.2	
URV			IVMs_BB	IVMs_BB	09 41 45.0	
	comp=Z,3μm,6.2s					
ENH	**Enshi**	**16.71 58**	P	**Pn**	**09 32 16.6**	**-0.3**
LZH	**Lanzhou**	**16.73 31**	*e*P	**Pn**	**09 32 15.6**	**-1.6**
LZH			pP	P	09 32 18.7	-0.8
LZH			sP	pP	09 32 21.5	-1.4
LZH			S	**Sn**	**09 35 27.5**	**+4.3**
LZH			sS	S	09 35 32.9	-1.4
LZH			SS	**SnSn**	**09 35 40.5**	**+3.9**
LZH			pmax	pmax		
	comp=Z,15nm,1.2s					
LZH			pmax	pmax		
	comp=Z,280nm,5.7s					
LZH			LR	LR		
	comp=Z,19μm,12.7s					
LZH			LR	LR		
	comp=Z,11μm,13.0s					
LZH			LR	LR		
	comp=Z,18μm,14.6s					
LHMI	**Lhok Sumawe**	**17.16 167**	P	**P**	**09 32 25.3**	**+1.2**
	comp=Z,5μmcomp=Z,5μmcomp=Z,332nm,1.2s					
LHMI	**Lhok Sumawe**	**17.16 167**	P	**P**	**09 32 23.9**	**-0.3**
LHMI			IAmb	IAmb	09 32 36.5	
	comp=Z,297nm,1.0s					
AJM	**Ajmer**	**17.47 288**	⇓*i*P	**Pn**	**09 32 22.0**	**-4.4**
BHK	**Bhakra**	**17.61 305**	*e*P	**P**	**09 32 33.8**	**+4.7**
BHK			*e*S	**Sn**	**09 35 46.6**	**+2.3**
DLV	**T Lat**	**17.75 122**	P	**P**	**09 32 34.6**	**+3.8**
MLSI	**Meulaboh, Aceh**	**18.00 170**	P	**P**	**09 32 34.1**	**+0.7**
	comp=Z,5μmcomp=Z,397nm,1.2s					
GTA	**Gaotai**	**18.15 17**	⇑P	**Pn**	**09 32 34.3**	**-0.5**
GTA			pP	sP	09 32 39.0	-1.1
GTA			sP	pP	09 32 41.4	+2.9
GTA			S	**Sn**	**09 35 54.3**	**-3.2**
GTA			sS	S	09 36 02.2	-0.9
GTA			SS	**SnSn**	**09 36 18.8**	**+7.4**
GTA			pmax	pmax		
	comp=Z,20nm,1.9s					
GTA			pmax	pmax		
	comp=Z,430nm,8.9s					
GTA			LR	LR		
	comp=Z,8μm,16.5s					
GTA			LR	LR		
	comp=Z,12μm,15.9s					
GTA			LR	LR		
	comp=Z,9μm,17.1s					
XAN	**Xi'an**	**18.24 46**	P	**Pn**	**09 32 32.5**	**-3.4**
XAN			PP	**PnPn**	**09 32 49.5**	**+2.3**
XAN			S	**Sn**	**09 35 58.7**	**-0.9**
XAN			pmax	pmax		
	comp=Z,12nm,0.7s					
XAN			pmax	pmax		
	comp=Z,280nm,5.0s					
XAN			LR	LR		
	comp=Z,14μm,17.5s					
XAN			LR	LR		
	comp=Z,12μm,17.5s					
XAN			LR	LR		
	comp=Z,17μm,15.2s					
XAN	**Xi'an**	**18.24 46**	P	**Pn**	**09 32 31.7**	**-4.2**
XAN			pmax	pmax		
	comp=Z,71nm,0.9s					
XAN	**Xi'an**	**18.24 46**		**Pn**	**09 32 31.7**	**-4.2**
XAN			P	**P**	**09 32 32.7**	**-3.4**
POO	**Poona**	**18.50 262**	⇓*i*P	**P**	**09 32 37.0**	**-1.9**
	comp=Z,110nm,1.2s					
POO		*i*	PP	sP	09 32 51.9	+8.1
POO		*i*	x	x	09 33 00.8	
POO		*i*	S	Sn	09 35 54.9	-11
POO		*ex*	x	x	09 35 55.7	
POO		*ex*	x	x	09 36 30.7	
POO		*ex*	x	x	09 38 16.9	
KAD	**Karad**	**18.53 258**	⇓*i*P	**Pn**	**09 32 42.0**	**+2.5**
KAD		*i*	x	x	09 35 44.2	
THN	**Thein Dam**	**18.62 307**	*e*P	**Pn**	**09 32 43.0**	**+2.6**
THN			*e*S	Sn	09 35 57.0	-12
PALK	**Pallekele**	**19.05 221**	P	**Pn**	**09 32 46.2**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=136,slow=12,SNR=10					
PALK			LR	LR	09 42 13.2	
	comp=Z,6μm,18.3s,baz=148,slow=43					
PALK	**Pallekele**	**19.05 221**	P	**Pn**	**09 32 45.9**	**+0.2**
PALK			pmax	pmax		
	comp=Z,45nm,0.9s					
PALK	**Pallekele**	**19.05 221**		**Pn**	**09 32 45.9**	**+0.2**
TPTI		**19.12 168**	P	**P**	**09 32 44.3**	**-1.5**
	comp=Z,1μmcomp=Z,80nm,1.1s					
PSI	**Prapat**	**19.97 163**	P	**Pn**	**09 32 55.8**	**-1.1**
	comp=Z,91nm,1.0s,baz=360,slow=13,SNR=24					
PSI			S	**S**	**09 36 36.2**	**-3.8**
	comp=Z,2.1nm,0.3s,baz=0.0,slow=17,SNR=1.1					
PSI			LR	LR	09 41 34.7	
	comp=Z,6μm,20.9s,baz=271,slow=40					
PSI	**Prapat**	**19.97 163**	P	**Pn**	**09 32 55.8**	**-1.1**
PSI			pmax	pmax		
	comp=Z,291nm,1.1s					
PSI			MLR	MLR		
	comp=Z,6μm,20.0s					
RPSI	**Rantau Prapat**	**20.08 163**		**Pn**	**09 32 56.0**	**-2.0**
RPSI			IAmb	IAmb	09 33 04.2	
	comp=Z,292nm,1.1s					
RPSI	**Rantau Prapat**	**20.08 163**	P	**Pn**	**09 32 55.8**	**-2.2**
WHN	**Wuhan**	**20.71 62**	P	**P**	**09 32 59.7**	**-3.3**
WHN			S	**S**	**09 36 51.9**	**-2.4**
WHN			LR	LR		
	comp=Z,11μm,8.9s					
WHN			LR	LR		
	comp=Z,12μm,8.8s					
WHN			LR	LR		
	comp=Z,11μm,13.8s					
NIL	**Nilore**	**21.02 307**	P	**P**	**09 33 06.0**	**-0.4**
NIL			pmax	pmax		
	comp=Z,289nm,1.0s					
NIL	**Nilore**	**21.02 307**	P	**P**	**09 33 06.0**	**-0.4**
GSI	**Gunungsitoli**	**21.11 168**	P	**P**	**09 33 05.3**	**-2.1**
	comp=Z,4μmcomp=Z,283nm,0.9s					
GSI	**Gunungsitoli**	**21.11 168**	P	**P**	**09 33 05.8**	**-1.6**
THW	**Thamme Wali**	**21.78 304**	P	**P**	**09 33 14.9**	**+0.3**
MNSI	**Mandailing Nat**	**22.07 163**	P	**P**	**09 33 21.8**	**+4.1**
CEP	**Cherat**	**22.09 306**	P	**P**	**09 33 17.1**	**-0.9**
WMQ	**Urumqi**	**22.14 349**	P	**P**	**09 33 19.0**	**+0.7**
WMQ			pP	sP	09 33 24.9	+1.6
WMQ			sP	pP	09 33 28.4	+6.6
WMQ			S	**S**	**09 37 18.7**	**-3.5**
WMQ			pmax	pmax		
	comp=Z,130nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,750nm,3.9s					
WMQ			LR	LR		
	comp=Z,7μm,14.7s					
WMQ			LR	LR		
	comp=Z,8μm,16.1s					
WMQ			LR	LR		
	comp=Z,5μm,21.7s					
WMQ	**Urumqi**	**22.14 349**	P	**P**	**09 33 18.2**	**-0.2**
WMQ			pmax	pmax		
	comp=Z,257nm,1.1s					
WMQ	**Urumqi**	**22.14 349**	P	**P**	**09 33 18.1**	**-0.2**
WMQ			IAmb	IAmb	09 33 26.1	
	comp=Z,257nm,1.1s					
PBSI	**Pulau Batu**	**22.57 167**	P	**P**	**09 33 23.4**	**+0.3**
	comp=Z,4μmcomp=Z,302nm,1.1s					
TIY	**Taiyuan**	**22.73 43**	*e*P	**P**	**09 33 24.3**	**-0.5**
TIY			S	**S**	**09 37 27.9**	**-5.5**
TIY			pmax	pmax		
	comp=Z,130nm,5.0s					
TIY			LR	LR		
	comp=Z,11μm,16.8s					
TIY			LR	LR		
	comp=Z,2μm,9.6s					
TIY			LR	LR		
	comp=Z,5μm,15.5s					
KSH	**Kashi**	**22.74 324**	P	**P**	**09 33 24.3**	**-0.6**
KSH			PP	sP	09 33 51.8	+22
KSH			S	**S**	**09 37 27.8**	**-5.8**
KSH			sS	pS	09 37 32.3	-5.3
KSH			PcS	**PcS**	**09 40 55.3**	**-0.5**
KSH			pmax	pmax		
	comp=Z,150nm,1.2s					
KSH			LR	LR		
	comp=Z,6μm,15.3s					
KSH			LR	LR		
	comp=Z,10μm,15.1s					
KSH			LR	LR		
	comp=Z,2μm,11.2s					
BKNI	**Bangkinang**	**22.95 160**	P	**P**	**09 33 29.2**	**+2.1**
	comp=Z,3μmcomp=Z,3μmcomp=Z,180nm,1.1s					
BKNI	**Bangkinang**	**22.95 160**	P	**P**	**09 33 26.5**	**-0.6**
BKNI			IAmb	IAmb	09 34 00.1	
	comp=Z,214nm,1.1s					
BTO	**Baotou**	**23.30 34**	*e*P	**P**	**09 33 26.8**	**-3.9**
BTO			S	S	09 37 33.3	-10
QZH	**Quanzhou**	**23.44 78**	*e*P	**P**	**09 33 34.8**	**+2.8**
QZH			S	**S**	**09 37 43.4**	**-2.1**
QZH			LR	LR		
	comp=Z,10μm,9.1s					
QZH			LR	LR		
	comp=Z,4μm,8.5s					
QZH			LR	LR		
	comp=Z,9μm,9.7s					
SHLS	**Shalkode**	**23.91 335**	*e*P	**P**	**09 33 35.7**	**-0.9**
	comp=Z,809nm,2.6s,baz=335					
SHLS			*e*S	**S**	**09 37 51.8**	**-1.2**
	baz=335					
SHLS			LR	LR	09 43 38.9	
	comp=Z,937nm,11.3s,baz=335					
SHLS	**Shalkode**	**23.91 335**	*e*P	**P**	**09 33 35.7**	**-0.9**
SHLS			*e*S	**S**	**09 37 51.7**	**-1.2**
SHLS			pmax	pmax		
	comp=Z,809nm,2.6s					
SHLS			MLR	MLR		
	comp=Z,937nm,11.0s					
PDSI	**Padang**	**23.95 162**	P	**P**	**09 33 36.4**	**-0.6**
	comp=Z,94nm,1.1s					
SISI	**Saibi**	**23.98 165**	P	**P**	**09 33 37.5**	**+0.2**
	comp=Z,2μmcomp=Z,109nm,1.1s					
PDGK	**Podgornoye**	**24.05 335**	P	**P**	**09 33 37.1**	**-0.8**
KDJ	**Kajisay**	**24.07 330**	P	**P**	**09 33 39.5**	**+1.3**
KDJ			pmax	pmax		
	comp=Z,493nm,1.3s					
KDJ	**Kajisay**	**24.07 330**	P	**P**	**09 33 39.5**	**+1.3**
UZB	**Uzynbulak**	**24.08 334**	⇑*i*P	**P**	**09 33 38.7**	**+0.4**
	comp=Z,280nm,2.1s,baz=334					
UZB			*e*S	**S**	**09 37 57.1**	**+1.4**
	baz=334					
UZB	**Uzynbulak**	**24.08 334**	*c i*P	**P**	**09 33 38.6**	**+0.4**
UZB			*e*S	**S**	**09 37 57.1**	**+1.4**
UZB			pmax	pmax		
	comp=Z,280nm,2.1s					
SDSI	**Sungai Dareh**	**24.26 160**	P	**P**	**09 33 37.6**	**-2.3**
	comp=Z,5μmcomp=Z,25nm,0.7s					
SATY	**Saty**	**24.26 333**	⇑*i*P	**P**	**09 33 41.0**	**+1.1**
	comp=Z,564nm,2.5s,baz=333					
SATY			*e*S	**S**	**09 38 00.5**	**+1.9**
	comp=Z,79nm,2.5s,baz=333					
SATY			LR	LR	09 43 32.4	
	comp=Z,741nm,12.3s,baz=333					
SATY	**Saty**	**24.26 333**	*c i*P	**P**	**09 33 41.0**	**+1.1**
SATY			*e*S	**S**	**09 38 00.5**	**+1.9**
SATY			pmax	pmax		
	comp=Z,564nm,2.5s					
SATY			MLR	MLR		
	comp=Z,741nm,12.0s					
HHC	**Hu-ho-hao-te**	**24.29 36**	*e*P	**P**	**09 33 40.8**	**+0.6**
HHC			pP	sP	09 33 45.0	-0.4
HHC			sP	pP	09 33 47.4	+3.5
HHC			S	**S**	**09 37 56.5**	**-2.6**
HHC			sS	sS	09 38 03.0	-2.2
HHC			pmax	pmax		
	comp=Z,33nm,1.2s					
HHC			pmax	pmax		
	comp=Z,370nm,5.8s					
HHC			LR	LR		
	comp=Z,21μm,13.2s					
HHC			LR	LR		
	comp=Z,8μm,13.0s					
HHC			LR	LR		
	comp=Z,22μm,13.2s					
KPKS	**Kokpek**	**24.48 334**	⇑*i*P	**P**	**09 33 42.6**	**+0.7**
	comp=Z,636nm,2.0s,baz=334					
KPKS	**Kokpek**	**24.48 334**	*c i*P	**P**	**09 33 42.6**	**+0.7**
KPKS			pmax	pmax		
	comp=Z,635nm,2.0s					
KBL	**Kabul**	**24.55 306**	P	**P**	**09 33 42.4**	**-0.3**
KBL			pmax	pmax		
	comp=Z,238nm,1.2s					
KBL			MLR	MLR		
	comp=Z,3μm,20.0s					
KBL	**Kabul**	**24.55 306**	P	**P**	**09 33 42.4**	**-0.3**
ULHL	**Ulahol**	**24.60 329**	P	**P**	**09 33 43.7**	**+0.6**
SNR=33						
NJ2	**Nanjing**	**24.84 61**	*e*P	**P**	**09 33 44.9**	**-0.2**
NJ2			sP	**sP**	**09 33 51.6**	**+1.4**
NJ2			S	**S**	**09 38 01.1**	**-6.8**
NJ2			sS	**sS**	**09 38 14.5**	**+0.7**
NJ2			SS	**SnSn**	**09 39 00.8**	**+5.7**
NJ2			pmax	pmax		
	comp=Z,13nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,290nm,3.5s					
NJ2			LR	LR		
	comp=Z,9μm,15.2s					
NJ2			LR	LR		
	comp=Z,4μm,15.2s					
NJ2			LR	LR		
	comp=Z,6μm,12.1s					
TNSS	**Tian-Shan**	**24.88 331**	*e*P	**P**	**09 33 46.6**	**+0.7**
	baz=331					
TNSS	**Tian-Shan**	**24.88 331**	*e*P	**P**	**09 33 46.6**	**+0.7**
BOOM	**Boomskoye usch**	**24.93 329**	P	**P**	**09 33 47.6**	**+1.5**
BOOM			pmax	pmax		
	comp=Z,270nm,1.2s					
BOOM	**Boomskoye usch**	**24.93 329**	P	**P**	**09 33 47.6**	**+1.5**
MDOK	**Medeo**	**24.94 331**	*i* P	**P**	**09 33 47.4**	**+1.4**
	baz=331					
MDOK			*e*S	**S**	**09 38 11.7**	**+2.1**
	baz=331					
MDOK			LR	LR	09 45 06.9	
	comp=Z,2μm,10.8s,baz=331					
MDOK	**Medeo**	**24.94 331**	*i* P	**P**	**09 33 47.4**	**+1.4**
MDOK			*e*S	**S**	**09 38 11.6**	**+2.1**
KZA	**Kyzart**	**24.97 327**	P	**P**	**09 33 48.0**	**+1.4**
SNR=42						
AAA	**Alma-Ata**	**25.03 331**	*e*P	**P**	**09 33 48.3**	**+1.4**
	comp=Z,83nm,0.8s,baz=331					
AAA			*e*S	**S**	**09 38 13.2**	**+2.3**
	baz=331					
AAA			LR	LR	09 45 42.0	
	comp=Z,2μm,11.5s,baz=331					
AAA	**Alma-Ata**	**25.03 331**	*e*P	**P**	**09 33 48.2**	**+1.4**
AAA			*e*S	**S**	**09 38 13.2**	**+2.3**
AAA			pmax	pmax		
	comp=Z,83nm,0.8s					
DSRI	**Dabo**	**25.04 152**	P	**P**	**09 33 48.0**	**+1.0**
	comp=Z,4μmcomp=Z,52nm,1.3s					
TIA	**Tai'an**	**25.09 51**	P	**P**	**09 33 45.9**	**-1.5**
TIA			pmax	pmax		
	comp=Z,13nm,0.7s					
TIA			pmax	pmax		
	comp=Z,210nm,4.4s					
TIA			LR	LR		
	comp=Z,9μm,16.9s					
TIA			LR	LR		
	comp=Z,8μm,13.3s					
TIA			LR	LR		
	comp=Z,5μm,15.3s					
TPUB	**Ta-pu**	**25.32 82**	P	**P**	**09 33 49.8**	**+0.2**
TKM2	**Tokmak 2**	**25.42 329**	P	**P**	**09 33 52.0**	**+1.5**
SNR=36						
TKM2	**Tokmak 2**	**25.42 329**	P	**P**	**09 33 52.3**	**+1.8**
UCH	**Uchtor**	**25.45 326**	P	**P**	**09 33 57.6**	**+6.5**
SNR=8.4						
CHKK	**Chushkaly**	**25.51 332**	*e*P	**P**	**09 33 51.6**	**+0.4**
baz=332						
CHKK	**Chushkaly**	**25.51 332**	*e*P	**P**	**09 33 51.5**	**+0.4**
KBK	**Karagaybulak**	**25.54 328**	P	**P**	**09 33 53.2**	**+1.6**
SNR=22						
PPSI	**Pulau Pagai**	**25.59 164**	P	**P**	**09 33 52.2**	**+0.2**
	comp=Z,8μmcomp=Z,765nm,1.4s					
SSLB	**Suanglung**	**25.60 81**	P	**P**	**09 33 52.1**	**0.0**
TWG	**Pinlang**	**25.75 83**	P	**P**	**09 33 52.6**	**-0.9**
TWG			IAMs_20	IAMs_20	09 44 43.1	
	comp=Z,7μm,20.0s					
AAK	**Ala-Archa**	**25.76 327**	P	**P**	**09 33 54.6**	**+1.1**
	comp=Z,110nm,1.0s,baz=146,slow=6.4,SNR=60					
AAK			S	**S**	**09 38 22.8**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=184,slow=21,SNR=1.0					
AAK			LR	LR	09 46 49.4	
	comp=Z,2μm,18.9s,baz=120,slow=43					
AAK	**Ala-Archa**	**25.76 327**	P	**P**	**09 33 55.1**	**+1.5**
SNR=58						
AAK	**Ala-Archa**	**25.76 327**	*c i*P	**P**	**09 33 54.8**	**+1.3**
AAK			pmax	pmax		
	comp=Z,342nm,1.7s					
AAK	**Ala-Archa**	**25.76 327**	P	**P**	**09 33 55.0**	**+1.5**
AML	**Almayashu**	**25.81 325**	P	**P**	**09 33 55.6**	**+1.4**
SNR=14						
GAR	**Garm**	**25.81 316**	P	**P**	**09 33 53.3**	**-0.7**
KUU	**Kurty**	**25.83 331**	*e*P	**P**	**09 33 54.0**	**0.0**
	comp=Z,88nm,1.4s,baz=331					
KUU			*e*S	**S**	**09 38 24.3**	**+0.8**
	baz=331					
KUU			LR	LR	09 46 18.6	
	comp=Z,1μm,10.0s,baz=331					

KUU Kurty 25.83 331 *e*P **P 09 33 54.0 0.0**
KUU *e*S **S 09 38 24.2 +0.8**
KUU pmax pmax
comp=Z,88nm,1.4s
TDK Taldyqorghan 25.87 335 *e*P **P 09 33 54.7 +0.4**
comp=Z,126nm,1.6s,baz=335
TDK *e*S **S 09 38 25.2 +1.1**
baz=335
TDK LR LR 09 45 32.2
comp=Z,6μm,16.3s,baz=335
TDK Taldyqorghan 25.87 335 *e*P **P 09 33 54.7 +0.4**
TDK *e*S **S 09 38 25.2 +1.1**
TDK pmax pmax
comp=Z,126nm,1.6s
TDK MLR MLR
comp=Z,6μm,16.0s
CHMS Chumysh 25.89 328 P **P 09 33 55.6 +1.0**
SNR=24
YULB Yu-li 25.93 82 P **P 09 33 55.3 +0.2**
BTK Batken 26.11 318 P **P 09 33 56.8 +0.2**
BTK pmax pmax
comp=Z,792nm,1.7s
BTK MLR MLR
comp=Z,4μm,18.0s
BTK Batken 26.11 318 P **P 09 33 56.8 +0.2**
EKS2 Erkin-Say 26.14 326 P **P 09 33 58.2 +1.2**
SNR=56
ZSN Zaisan 26.17 347 *e*P **P 09 33 58.1 +1.0**
comp=Z,154nm,1.9s,baz=347
ZSN *e*S **S 09 38 30.6 +1.8**
baz=347
ZSN LR LR 09 45 52.5
comp=Z,2μm,12.0s,baz=347
ZSN Zaisan 26.17 347 *e*P **P 09 33 58.0 +1.0**
ZSN *e*S **S 09 38 30.5 +1.8**
ZSN pmax pmax
comp=Z,155nm,1.9s
ZSN MLR MLR
comp=Z,2μm,12.0s
MK31 Makanchi Array 26.17 343 P **P 09 33 56.7 -0.3**
MK31 pmax pmax
comp=Z,399nm,1.9s
MK31 Makanchi Array 26.17 343 P **P 09 33 56.7 -0.3**
MKAR Makanchi Array 26.17 343 P **P 09 33 57.4 +0.3**
comp=Z,61nm,0.7s,baz=154,slow=9.3,SNR=105
MKAR LR LR 09 45 52.0
comp=Z,4μm,19.8s,baz=154,slow=40
USP Ospenovka 26.22 328 P **P 09 33 58.8 +1.3**
SNR=27
MAKZ Makanchi 26.27 342 P **P 09 33 57.3 -0.7**
MAKZ Makanchi 26.27 342 P **P 09 33 58.3 +0.4**
SGDS Sogindy 26.29 328 *e*P **P 09 33 58.7 +0.5**
comp=Z,146nm,1.7s,baz=328
SGDS *e*S **S 09 38 32.0 +1.2**
baz=328
SGDS Sogindy 26.29 328 *e*P **P 09 33 58.7 +0.5**
SGDS *e*S **S 09 38 32.0 +1.2**
SGDS pmax pmax
comp=Z,146nm,1.7s
CHGR Chuyangaron 26.39 314 P **P 09 33 58.6 -0.6**
BJI Beijing 26.46 42 P **P 09 34 02.8 +3.1**
BJI S **S 09 38 33.6 +0.2**
BJI pmax pmax
comp=Z,12nm,0.9s
BJI LR LR
comp=Z,5μm,17.5s
BJI LR LR
comp=Z,6μm,18.0s
BJI LR LR
comp=Z,2μm,20.0s
SSE Sheshan 26.52 64 P **P 09 33 58.0 -2.3**
SSE S **S 09 38 28.9 -5.6**
SSE pmax pmax
comp=Z,29nm,0.7s
SSE pmax pmax
comp=Z,110nm,9.3s
SSE LR LR
comp=Z,4μm,16.1s
SSE LR LR
comp=Z,2μm,16.5s
KSI Kapahiang 27.19 159 P **P 09 34 04.8 -1.7**
comp=Z,7μmcomp=Z,66nm,0.9s
KKM Kota Kinabalu 27.37 122 P **P 09 34 07.7 -0.5**
KKM IAmb IAmb 09 34 22.4
comp=Z,55nm,1.1s
KKM IAMs_20 IAMs_20 09 45 04.1
comp=Z,11μm,21.0s
TGY Tagaytay City 27.50 102 LR LR 09 45 49.4
comp=Z,4μm,19.9s,baz=294,slow=38
DZA Taraz 27.60 324 *e*P **P 09 34 10.2 +0.1**
baz=324
DZA Taraz 27.60 324 *e*P **P 09 34 10.1 +0.1**
BTLS Baital 27.76 330 *e*P **P 09 34 11.8 +0.4**
comp=Z,117nm,2.1s,baz=330
BTLS *e*S **S 09 38 54.1 +0.3**
baz=330
BTLS Baital 27.76 330 *e*P **P 09 34 11.7 +0.4**
BTLS *e*S **S 09 38 54.9 +1.1**
BTLS pmax pmax
comp=Z,117nm,2.1s
SONM Songino Array 27.78 19 P **P 09 34 10.6 -1.0**
comp=Z,9.6nm,0.5s,baz=197,slow=9.4,SNR=38
SONM ScP **ScP 09 41 09.5 +0.8**
comp=Z,5.5nm,1.1s,baz=204,slow=3.3,SNR=8.6
SONM LR LR 09 46 17.8
comp=Z,4μm,18.9s,baz=202,slow=39
SONM Songino Array 27.78 19 P **P 09 34 11.4 -0.2**
SONM pmax pmax
comp=Z,108nm,1.6s
SONM Songino Array 27.78 19 P **P 09 34 11.3 -0.2**
IUG Iuzhnay 27.86 321 *e*P **P 09 34 13.1 +0.8**
comp=Z,86nm,1.3s,baz=321
IUG *e*S **S 09 38 57.4 +1.7**
baz=321
IUG Iuzhnay 27.86 321 *e*P **P 09 34 13.1 +0.8**
IUG *e*S **S 09 38 57.3 +1.7**
IUG pmax pmax
comp=Z,86nm,1.3s
DGZ Jazzator, Alta 27.92 352 *d i*P **P 09 34 14.5 +1.6**
DGZ pmax pmax
comp=Z,123nm,1.5s
ULN Ulaanbaatar 28.01 20 *c i*P **P 09 34 14.0 +0.3**
ULN pmax pmax
comp=Z,112nm,1.7s
ULN Ulaanbaatar 28.01 20 P **P 09 34 12.9 -0.8**
ULN IAmb IAmb 09 34 18.7
comp=Z,129nm,1.5s
ULN Ulaanbaatar 28.01 20 IAMs_20 IAMs_20 09 46 24.6
comp=Z,7μm,20.0s
KK31 Karatay Array 28.19 323 P **P 09 34 15.0 -0.3**
KK31 pmax pmax
comp=Z,40nm,1.2s
KK31 Karatay Array 28.19 323 P **P 09 34 15.0 -0.3**
KKAR Karatay Array 28.19 323 P **P 09 34 15.1 -0.1**
KKAR pmax pmax
comp=Z,40nm,1.2s
KKAR Karatay Array 28.19 323 P **P 09 34 15.2 0.0**
KKAR Karatay Array 28.19 323 P **P 09 34 15.1 -0.1**
MDSI Maura Dua 28.52 157 P **P 09 34 14.9 -3.5**
comp=Z,1μmcomp=Z,27nm,1.1s
KLSI 28.92 156 P **P 09 34 21.7 -0.2**
comp=Z,9.6nm,1.0s
ZAK Zakamensk 29.32 13 *e*P **P 09 34 25.0 -0.2**
ZAK pmax pmax
comp=Z,12nm,1.8s
MYLDM Lahad Datu 29.70 121 P **P 09 34 27.7 -1.2**
MYLDM IAmb IAmb 09 35 08.9
comp=Z,38nm,1.0s
MYLDM IAMs_20 IAMs_20 09 46 36.7
comp=Z,10μm,21.0s
HRA Herat 29.77 301 P **P 09 34 28.5 -1.2**
SEM Semipalatinsk 30.03 343 *e*P **P 09 34 30.4 -1.4**
comp=Z,11nm,1.0s,baz=343
SEM LR LR 09 47 25.4
comp=Z,1μm,11.1s,baz=343
SEM Semipalatinsk 30.03 343 *e*P **P 09 34 30.3 -1.4**
SEM pmax pmax
comp=Z,11nm,1.0s
SEM MLR MLR
comp=Z,1μm,11.0s
MOY Mondy 30.13 10 *e*P **P 09 34 35.1 +2.7**
MOY pmax pmax
comp=Z,78nm,2.3s
TLY Talaya 30.62 13 P **P 09 34 36.5 -0.1**
comp=Z,4.1nm,0.6s,baz=235,slow=8.6,SNR=1.3
TLY LR LR 09 48 43.9
comp=Z,6μm,21.8s,baz=186,slow=40
TLY Talaya 30.62 13 *e*P **P 09 34 40.3 +3.6**
TLY *e* 09 35 41.2
TLY *e*PPP PPP 09 35 50.2
TLY *e*S **S 09 39 46.2 +7.5**
TLY *e*SS ScP 09 41 35.1 +18
TLY pmax pmax
comp=Z,88nm,1.8s
TLY MLR MLR
comp=Z,11μm,15.0s
TLY Talaya 30.62 13 P **P 09 34 36.0 -0.7**
TLY IAMs_20 IAMs_20 09 48 19.7
comp=Z,6μm,22.0s
KURBB Kurchatov Arra 30.70 342 PcP **PcP 09 37 34.4 -0.7**
comp=Z,2.3nm,0.6s,baz=163,slow=2.3,SNR=2.2
KURBB ScP **ScP 09 41 18.5 +0.7**
comp=Z,1.4nm,0.9s,baz=164,slow=1.9,SNR=3.2
KURBB Kurchatov Arra 30.70 342 P **P 09 34 36.5 -0.9**
KURK Kurchatov 30.76 342 *ce*P **P 09 34 37.9 +0.1**
KURK pmax pmax
comp=Z,173nm,2.5s
KURK Kurchatov 30.76 342 P **P 09 34 37.3 -0.6**
KURK IAmb IAmb 09 34 42.3
comp=Z,70nm,1.1s
IRK Irkutsk 31.28 13 *e*P **P 09 34 45.2 +2.7**
IRK pmax pmax
comp=Z,151nm,2.1s
SNY Shenyang 32.16 45 ⇓P **P 09 34 47.9 -2.5**
SNY S **S 09 39 59.1 -3.9**
SNY pmax pmax
comp=Z,7.0nm,0.5s
SNY pmax pmax
comp=Z,93nm,3.3s
SNY LR LR
comp=Z,7μm,15.4s
SNY LR LR
comp=Z,3μm,14.1s
SNY LR LR
comp=Z,6μm,14.5s
BRZS Berezniki 32.18 335 *e*P **P 09 34 51.2 +0.7**
comp=Z,154nm,1.8s,baz=335
BRZS LR LR 09 48 21.7
comp=Z,2μm,13.3s,baz=335
BRZS Berezniki 32.18 335 *e*P **P 09 34 51.1 +0.7**
BRZS pmax pmax
comp=Z,155nm,1.8s
BRZS MLR MLR
comp=Z,2μm,13.0s
ZAA0 Zalesovo Array 32.43 351 P **P 09 34 52.2 -0.3**
ZAA0 IAmb IAmb 09 35 00.3
comp=Z,50nm,0.8s
ZAA0 IAMs_20 IAMs_20 09 49 34.9
comp=Z,7μm,22.0s
ZALV Zalesovo Beam 32.43 351 P **P 09 34 52.5 0.0**
comp=Z,17nm,0.6s,baz=173,slow=8.2,SNR=58
ZALV S **S 09 40 12.1 +5.3**
comp=Z,0.8nm,0.3s,baz=155,slow=10,SNR=1.7
ZALV LR LR 09 50 07.2
comp=Z,5μm,21.4s,baz=168,slow=40
ZALV Zalesovo Beam 32.43 351 *i* P **P 09 34 52.9 +0.4**
ZALV pmax pmax
comp=Z,17nm,0.6s
ZALV Zalesovo Beam 32.43 351 P **P 09 34 52.4 -0.1**
INCN Inchon 32.61 54 IAMs_20 IAMs_20 09 49 51.9
comp=Z,6μm,22.0s
BKB Balikpapan 32.77 132 IAMs_20 IAMs_20 09 49 36.9
comp=Z,5μm,20.0s
CISI Cisompet, Garu 32.77 152 P **P 09 34 56.4 +0.4**
CISI IAmb IAmb 09 36 08.6
comp=Z,49nm,0.9s
CISI IAMs_20 IAMs_20 09 50 20.7
comp=Z,6μm,19.0s
BBKI Banjar Baru 33.06 138 P P 09 35 03.4 +4.9
SMRI Semarang 33.54 148 IAMs_20 IAMs_20 09 49 28.8
comp=Z,5μm,18.0s
KSAR Wonju Array Be 33.54 55 P **P 09 35 02.0 -0.5**
KSAR Wonju Array Be 33.54 55 P **P 09 35 02.0 -0.5**
KSRS Korea Array 33.58 55 P **P 09 34 59.2 -3.6**
comp=Z,0.8nm,0.5s,baz=264,slow=9.9,SNR=6.2
KSRS ScP **ScP 09 41 27.6 -0.2**
comp=Z,0.6nm,0.8s,baz=232,slow=3.1,SNR=2.4
KSRS LR LR 09 50 35.3
comp=Z,6μm,18.3s,baz=262,slow=40
KBKI Kotabaru 33.79 136 P P 09 35 17.4 +13
MPSI Mapaga 33.83 126 P P 09 35 10.6 +5.4
comp=Z,22nm,1.0s
GEYT Alibeck 34.00 306 P **P 09 35 07.3 +0.8**
comp=Z,15nm,0.8s,baz=150,slow=10,SNR=20
GEYT LR LR 09 52 19.3
comp=Z,2μm,20.6s,baz=125,slow=42
GEYT Alibeck 34.00 306 P **P 09 35 07.1 +0.6**
GYA0B ALIBECK ARRAY 34.00 306 P **P 09 35 07.3 +0.8**
GYA0B IAmb IAmb 09 35 15.8
comp=Z,47nm,1.1s
HIA Hailar 34.30 31 P **P 09 35 08.6 -0.3**
HIA pmax pmax
comp=Z,17nm,0.9s
HIA MLR MLR
comp=Z,4μm,22.0s
HIA Hailar 34.30 31 P **P 09 35 08.6 -0.3**
JNU Nakatsue 34.97 63 P **P 09 35 11.4 -3.6**
comp=Z,3.3nm,0.5s,baz=356,slow=2.5,SNR=4.1
JNU Nakatsue 34.97 63 P **P 09 35 12.2 -2.8**
PWJI Pagerwojo 35.05 147 P **P 09 35 15.9 +0.2**
comp=Z,63nm,1.1s
BVAR Borovoye Array 35.46 336 PcP **PcP 09 37 47.4 -0.9**
comp=Z,5.3nm,0.8s,baz=145,slow=5.3,SNR=1.4
BRVK Borovoye 35.53 336 *d i*P **P 09 35 19.8 +0.3**
BRVK pmax pmax
comp=Z,102nm,2.5s
BRVK Borovoye 35.53 336 P **P 09 35 18.1 -1.3**
BRVK IAmb IAmb 09 35 23.8
comp=Z,91nm,1.6s
BLJI Banyuglugur 35.77 144 P P 09 35 29.8 +7.9
GTOI Gorontalo 36.02 122 P **P 09 35 22.8 -1.3**
comp=Z,602nmcomp=Z,54nm,0.8s
SPSI Sidrap Palu 36.70 132 P P 09 35 39.3 +9.5
LUWI Luwuk 36.90 125 P **P 09 35 31.8 +0.2**
comp=Z,6μmcomp=Z,153nm,0.8s
LUWI Luwuk 36.90 125 P **P 09 35 32.6 +1.1**
BNSI Bone 37.24 132 P P 09 35 47.9 +13
MDJ Mudanjiang 37.34 44 P **P 09 35 35.4 +0.3**
MDJ sP sP 09 35 40.3 0.0
MDJ PP **PP 09 36 58.9 -1.3**
MDJ S **S 09 41 20.8 -1.9**
MDJ SS **SnSn 09 43 50.6 -8.3**
MDJ pmax pmax
comp=Z,3.0nm,0.6s
MDJ pmax pmax
comp=Z,120nm,5.1s
MDJ LR LR
comp=Z,4μm,17.3s
MDJ LR LR
comp=Z,2μm,19.5s
MDJ LR LR
comp=Z,4μm,16.2s
MDJ Mudanjiang 37.34 44 P **P 09 35 33.6 -1.5**
KAPI Kappang 37.44 133 P **P 09 35 38.1 +1.9**
KAPI pmax pmax
comp=Z,105nm,1.6s
KAPI MLR MLR
comp=Z,3μm,22.0s
KAPI Kappang 37.44 133 P **P 09 35 38.1 +1.9**
KAPI IAmb IAmb 09 35 44.9
comp=Z,105nm,1.6s
AB31 Akbulak array 37.75 324 *i* P **P 09 35 38.4 0.0**
ABKAR Akbulak array 37.75 324 P **P 09 35 38.3 -0.1**
BKSI Bulukumba 37.91 133 P **P 09 35 40.4 +0.2**
comp=Z,36nm,1.1s
VLA Vladivostok 38.29 48 *ce*P **P 09 35 45.8 +2.7**
VLA pmax pmax
comp=Z,32nm,0.8s
SOCY Socotra 38.65 262 IAMs_20 IAMs_20 09 51 58.8
comp=Z,5μm,20.0s
BOD Bodaibo 38.74 18 *e*P **P 09 35 46.3 -0.4**
BOD *e* 09 35 52.3
USA0B Ussuriysk Arra 38.75 46 P **P 09 35 46.2 -0.8**
USA0B pmax pmax
comp=Z,24nm,1.1s
USA0B MLR MLR
comp=Z,2μm,19.0s
USA0B Ussuriysk Arra 38.75 46 P **P 09 35 46.2 -0.8**
USRK Ussuriysk Ar. 38.75 46 P **P 09 35 45.1 -1.9**
comp=Z,4.8nm,0.6s,baz=257,slow=10,SNR=16
USRK LR LR 09 53 55.8
comp=Z,2μm,21.6s,baz=239,slow=40
JWT Wachi 38.99 61 IAMs_20 IAMs_20 09 53 20.4
comp=Z,4μm,18.0s
AKTO Aktyubinsk 39.44 325 P **P 09 35 51.4 -1.2**
comp=Z,23nm,0.7s,baz=130,slow=9.6,SNR=38
INU Inuyama 40.31 61 P **P 09 35 58.8 -1.3**
INU IAMs_20 IAMs_20 09 55 22.7
comp=Z,3μm,18.0s
ZEA Zeya 40.76 31 *e*P **P 09 36 02.8 -0.8**
ZEA *e*S **S 09 42 14.0 0.0**
ZEA *e*SSS SSS 09 46 08.5
ZEA pmax pmax
comp=Z,61nm,1.6s
ZEA smax smax
comp=N,200nm,12.0s
ZEA MLR MLR
comp=Z,5μm,14.0s
ZEA MLR MLR
comp=E,3μm,15.0s
ZEA MLR MLR
comp=N,4μm,12.0s
JSG Sagara 41.19 62 IAMs_20 IAMs_20 09 52 46.7
comp=Z,3μm,19.0s
MAJO Matsushiro 41.42 59 ⇑*e*P **P 09 36 10.7 +1.4**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 41.42 59 P **P 09 36 07.4 -1.9**
MAT Matsushiro 41.42 59 P **P 09 36 08.8 -0.5**
MAT S **S 09 42 27.2 +2.8**
MJAR Matsushiro Arr 41.42 59 P **P 09 36 07.4 -1.9**
comp=Z,4.4nm,0.9s,baz=273,slow=9.9,SNR=8.1
MJAR ScP **ScP 09 41 57.5 +0.1**
comp=Z,3.1nm,0.8s,baz=251,slow=4.8,SNR=4.2
MJAR LR LR 09 54 35.0
comp=Z,2μm,19.6s,baz=165,slow=38
MJAR Matsushiro Arr 41.42 59 P **P 09 36 07.9 -1.4**
MJAR pmax pmax
comp=Z,6.0nm,1.1s
MJAR Matsushiro Arr 41.42 59 P **P 09 36 07.8 -1.4**
EDFI Ende, Flores 41.48 135 P **P 09 36 10.0 0.0**
comp=Z,11nm,0.7s
JSD Sado 41.68 57 IAMs_20 IAMs_20 09 55 09.4
comp=Z,4μm,19.0s
SVE Sverdlovsk 42.09 334 *de*P **P 09 36 14.9 +0.5**
SVE *e*S **S 09 42 34.8 +1.3**
SVE *e* 09 45 27.9
SVE pmax pmax
comp=Z,210nm,1.4s
SVE MLR MLR
comp=Z,3μm,19.0s
AKT Akhty 42.65 308 *e*P **P 09 36 20.1 +0.7**
AKT *e* 09 38 00.4
AKT pmax pmax
comp=Z,46nm,0.6s
ARU Arti 42.70 332 P **P 09 36 19.5 +0.1**
comp=Z,14nm,0.6s,baz=140,slow=7.8,SNR=19
ARU Arti 42.70 332 *c i*P **P 09 36 19.4 +0.1**
ARU 09 38 00.4
ARU 09 38 12.8
ARU S **S 09 42 44.7 +2.1**
ARU pmax pmax
comp=Z,156nm,1.6s
ARU MLR MLR
comp=Z,3μm,18.0s
ARU Arti 42.70 332 P **P 09 36 19.4 +0.1**
MAK Makhachkala 43.15 310 *e*P **P 09 36 20.8 -2.5**
MAK *e* 09 38 00.8
MAK *e*PPP PPP 09 38 35.4
MAK *e*S **S 09 42 46.4 -3.2**
MAK *e*SS **SS 09 46 02.8 +0.5**
MAK pmax pmax
comp=Z,91nm,0.9s
MAK MLR MLR
comp=Z,1μm,13.0s
JMM Marumori 43.64 58 IAMs_20 IAMs_20 09 56 13.3
comp=Z,4μm,20.0s
SOEI Soe 43.94 133 P **P 09 36 30.0 -0.1**
comp=Z,2μmcomp=Z,179nm,0.8s
SOEI Soe 43.94 133 P **P 09 36 29.9 -0.1**
GRNR Gornyy 44.10 39 ⇓*i*P **P 09 36 29.5 -1.3**
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR MLR MLR
comp=E,2μm,16.0s
GRNR MLR MLR
comp=N,1μm,15.0s
GRNR MLR MLR
comp=Z,2μm,13.0s
GROC Groznyy 44.43 310 *e*P **P 09 36 34.4 +0.9**
GROC *e* 09 38 17.5
GROC *e*S **S 09 43 08.2 -0.1**
GROC pmax pmax
comp=Z,69nm,0.7s
JEW Eniwo 44.95 51 IAMs_20 IAMs_20 09 56 34.6
comp=Z,3μm,18.0s
FAKI Fak Fak 45.54 118 P **P 09 36 41.9 -0.8**
FAKI IAmb IAmb 09 36 56.7
comp=Z,33nm,0.9s
ZEI Tsey 45.70 309 *e*P **P 09 36 44.0 0.0**
ZEI pmax pmax
comp=Z,55nm,0.7s
AKH Akhalkalaki 45.77 307 ⇑P **P 09 36 48.9 +4.5**
AKH Akhalkalaki 45.77 307 P **P 09 36 43.2 -1.2**
AKH pmax pmax
comp=Z,28nm,0.9s
AKH MLR MLR
comp=Z,2μm,21.0s
AKH Akhalkalaki 45.77 307 P **P 09 36 43.2 -1.2**
AKH IAmb IAmb 09 36 50.2
comp=Z,28nm,0.9s
ASAJ Asahikawa 46.03 49 P **P 09 36 43.0 -3.2**
comp=Z,10nm,0.9s,baz=314,slow=14,SNR=2.1
ASAJ Asahikawa 46.03 49 P **P 09 36 46.4 +0.1**
ASAJ pmax pmax
comp=Z,201nm,2.0s
ASAJ MLR MLR
comp=Z,2μm,18.0s
JKA Kamikawa-asahi 46.03 49 P **P 09 36 46.4 +0.1**
ERM Erimo 46.04 52 ⇓*e*P **P 09 36 43.9 -2.5**
ERM pmax pmax
comp=Z,45nm,1.6s
ERM Erimo 46.04 52 P **P 09 36 45.1 -1.3**
ERM IAmb IAmb 09 37 20.3
comp=Z,54nm,1.1s
JEM Erimo 46.04 52 P **P 09 36 45.1 -1.3**
JEM IAmb IAmb 09 37 20.3
comp=Z,50nm,1.1s
JEM IAMs_20 IAMs_20 09 59 39.1
comp=Z,3μm,18.0s
KBZ Khabaz 46.60 310 P **P 09 36 51.3 +0.6**
comp=Z,11nm,0.9s,baz=132,slow=8.1,SNR=12
KBZ LR LR 10 02 14.4
comp=Z,1μm,18.9s,baz=114,slow=44
GOF Gofitskoye 46.77 312 *e*P **P 09 36 56.5 +4.5**
YSS Yuzh-Sakhalins 46.79 46 IAMs_20 IAMs_20 09 58 21.2
comp=Z,4μm,20.0s
KIV Kislovodsk 46.79 310 *e*P **P 09 36 55.5 +3.1**
KIV *e*S **S 09 43 46.6 +4.0**
KIV pmax pmax
comp=Z,128nm,3.0s
KIV pmax pmax
comp=Z,93nm,1.0s
KIV MLR MLR
comp=Z,2μm,16.0s
KIV Kislovodsk 46.79 310 P **P 09 36 51.3 -1.1**
KIV IAmb IAmb 09 37 00.7
comp=Z,28nm,0.9s
CHVG Ch'k'valeri 47.01 308 ⇓P **P 09 36 58.0 +4.0**
YAK Yakutsk 47.04 23 P **P 09 36 52.7 -1.2**
comp=Z,11nm,0.4s,baz=1,9,slow=2.0,SNR=1.9
YAK Yakutsk 47.04 23 *e*P **P 09 36 53.1 -0.8**
YAK *e*PP sP 09 37 03.1 +4.0
YAK *e* 09 38 24.8
YAK *e* 09 38 39.5
YAK *e*S **S 09 43 42.7 -2.6**
YAK *e*SS sS 09 43 58.2 +6.7
YAK *e* 09 46 41.0
YAK pmax pmax
comp=Z,21nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=Z,121nm,3.5s
YAK pmax pmax

comp=N,60nm,2.3s
YAK pmax pmax
comp=E,64nm,2.3s
YAK smax smax
comp=E,245nm,3.5s
YAK smax smax
comp=N,167nm,3.1s
YAK MLR MLR
comp=Z,3μm,12.0s
YAK MLR MLR
comp=E,2μm,13.0s
YAK MLR MLR
comp=N,2μm,15.0s
YAK Yakutsk 47.04 23 P **P 09 36 52.4 -1.5**
YAK IAmb IAmb 09 37 09.7
comp=Z,38nm,0.7s
BATM Batumi 47.13 307 ⇓P **P 09 36 57.5 +2.6**
BCA Borcka 47.16 307 ⇓P **P 09 36 57.9 +2.7**
NRIK Noril'sk 47.37 357 P **P 09 36 56.2 -0.1**
comp=Z,3.5nm,0.4s,baz=153,slow=7.3,SNR=15
NRIK LR LR 09 59 02.2
comp=Z,5μm,20.6s,baz=182,slow=39
MARD Mardin 47.41 301 P **P 09 36 56.3 -1.1**
MARD IAmb IAmb 09 37 02.0
comp=Z,24nm,1.1s
TYV Tymovskoe 47.82 41 *e*P **P 09 36 58.0 -2.1**
TYV *e*S **S 09 43 53.4 -3.4**
TYV pmax pmax
comp=Z,11nm,1.5s
TYV pmax pmax
comp=Z,100nm,4.0s
TYV smax smax
comp=N,400nm,7.7s
TYV MLR MLR
comp=E,4μm,16.0s
TYV MLR MLR
comp=Z,6μm,16.0s
KIRV Kirov 47.98 331 P **P 09 37 01.3 0.0**
comp=Z,42nm,0.7s,baz=114,slow=3.4,SNR=27
SOC Sochi 48.85 309 *e*P **P 09 37 09.8 +1.6**
SOC *e* 09 38 58.8
SOC *e*PPP PPP 09 39 52.9
SOC *e*S **S 09 44 12.7 +1.1**
SOC *e*SS **SS 09 47 41.1 -1.0**
SOC *e*SSS SSS 09 49 00.0
SOC pmax pmax
comp=Z,35nm,0.8s
SOC MLR MLR
comp=Z,1μm,21.0s
VRH Novokhopyorsk 49.15 319 *e*P **P 09 37 12.2 +1.9**
VRH pmax pmax
comp=Z,90nm,1.4s
VRH MLR MLR
comp=Z,2μm,15.0s
GUMO Guam 49.71 91 P **P 09 37 13.7 -1.4**
comp=Z,41nm,0.8s,baz=358,slow=14,SNR=1.6
GUMO Guam 49.71 91 P **P 09 37 13.7 -1.4**
GUMO pmax pmax
comp=Z,547nm,1.8s
GAZ Gaziantep 50.25 301 P **P 09 37 20.2 +1.1**
SMPI Sarmi 50.46 112 P **P 09 37 21.0 +0.2**
comp=Z,19nm,1.5s
VORD Divnogorie 50.56 319 *e*P **P 09 37 23.1 +2.0**
VORD pmax pmax
comp=Z,30nm,1.0s
ANN Anapa 50.65 310 *e*P **P 09 37 22.4 +0.6**
ANN pmax pmax
comp=Z,43nm,0.9s
VSR Storozhevoye 50.70 319 *e*P **P 09 37 23.2 +1.1**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR MLR MLR
comp=Z,3μm,15.0s
MTN Manton Dam 50.89 129 P **P 09 37 25.6 +1.6**
FITZ Fitzroy Crossi 51.03 139 P **P 09 37 25.7 +0.7**
PRGR Permogore 51.14 333 *e*P **P 09 37 27.6 +2.3**
LPSR Galich'ya Gora 51.19 321 *e*P **P 09 37 27.3 +1.5**
LPSR pmax pmax
comp=Z,60nm,1.0s
LPSR MLR MLR
comp=Z,2μm,16.0s
KNRA Kununurra 51.22 134 P **P 09 37 26.1 -0.3**
KNRA IAmb IAmb 09 37 34.9
comp=Z,54nm,0.8s
GENI Genyem 52.02 112 P **P 09 37 32.7 +0.2**
comp=Z,156nm,1.0s
JAY Jayapura 52.44 112 P **P 09 37 35.8 +0.1**
comp=Z,14nm,0.8s
MOS Moscow 52.77 324 *e*P **P 09 37 36.6 -0.9**
MOS pmax pmax
comp=Z,400nm,2.0s
MOS pmax pmax
comp=Z,162nm,1.5s
MOS MLR MLR
comp=Z,2μm,16.0s
BZK Bozkurt 52.89 307 ⇑P **P 09 37 41.6 +3.0**
ILGA Ilgaz 53.07 305 P **P 09 37 40.7 +0.4**
ILGA IAmb IAmb 09 38 13.6
comp=Z,41nm,1.1s
BR131 Keskin Array S 53.10 304 P **P 09 37 39.2 -1.2**
BR131 pmax pmax
comp=Z,11nm,0.8s
BR131 Keskin Array S 53.10 304 P **P 09 37 39.2 -1.2**
BRTR Keskin Array B 53.10 304 P **P 09 37 40.2 -0.3**
comp=Z,5.7nm,0.7s,baz=129,slow=9.7,SNR=19
BRTR LR LR 10 05 03.0
comp=Z,1μm,21.5s,baz=89,slow=41
BRTR Keskin Array B 53.10 304 P **P 09 37 39.5 -0.9**
BRTR Keskin Array B 53.10 304 P **P 09 37 39.5 -0.9**
OBN Obninsk 53.19 323 P **P 09 37 40.8 +0.2**
comp=Z,8.4nm,0.4s,baz=70,slow=1.9,SNR=14
OBN Obninsk 53.19 323*c i*P **P 09 37 42.7 +2.1**
OBN *e* 09 38 51.0
OBN *e* 09 39 42.8
OBN *e*PPP PPP 09 40 51.0
OBN *e*S **S 09 45 07.4 -3.8**
OBN pmax pmax
comp=Z,167nm,1.7s
OBN MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 53.19 323 P **P 09 37 40.7 +0.2**
OBN IAMs_20 IAMs_20 10 03 51.3
comp=Z,2μm,18.0s
CSS Mathiatis 53.44 298 P **P 09 37 42.8 -0.1**
CSS IAmb IAmb 09 37 51.7
comp=Z,20nm,0.7s
CSS IAMs_20 IAMs_20 10 04 18.9
comp=Z,2μm,20.0s
KLMR Klimovskoe 53.48 331 *e*P **P 09 37 42.3 -0.4**
KLMR *e*SS **SKiKP 09 48 58.5 -0.1**
KLMR pmax pmax
comp=Z,95nm,1.3s
KLMR MLR MLR
comp=Z,734nm,12.0s
KLMR Klimovskoe 53.48 331 *e*P **P 09 37 42.3 -0.4**
KLMR AMP 09 37 46.6
comp=Z,95nm,1.3s
KLMR *e*SS **SKiKP 09 48 58.6 -0.1**
KLMR *e*SS **SKiKP 09 48 58.6 -0.1**
KLMR LQ LQ 09 56 12.7
KLMR LQ LQ 09 56 12.7
KLMR LR LR 09 59 51.4
KLMR AMP 10 05 09.8
comp=Z,734nm,12.0s
TIXI Tiksi 53.60 13 P **P 09 37 42.4 -1.0**
comp=Z,28nm,0.5s,baz=195,slow=4.3,SNR=27
TIXI Tiksi 53.60 13*c i*P **P 09 37 42.3 -1.0**
TIXI pmax pmax
comp=Z,27nm,0.6s
LEF Lefka 53.79 298 ⇓P **P 09 37 44.2 -1.1**
MDUB Mudurnu 54.97 305 P **P 09 37 54.4 +0.3**
MDUB IAMs_20 IAMs_20 10 02 04.1
comp=Z,3μm,22.0s
BOLV Bolvadin 55.20 303 P **P 09 37 56.3 +0.6**
BOLV IAmb IAmb 09 38 10.7
comp=Z,25nm,0.9s
TMCR Tamitsa 55.36 334 *e*P **P 09 37 57.7 +1.4**
MORW Morawa 55.43 156 P **P 09 37 57.0 -0.2**
MORW IAmb IAmb 09 38 04.3
comp=Z,31nm,0.9s
ELL Elmali 56.11 300 P **P 09 38 00.0 -2.3**
ELL pmax pmax
comp=Z,178nm,0.9s
ELL MLR MLR
comp=Z,4μm,21.0s
ELL Elmali 56.11 300 P **P 09 38 00.0 -2.3**
SKR Severo-Kuril's 56.13 43 *e*P **P 09 38 01.1 -1.0**
SKR *e*S S 09 46 04.0 +13
SKR pmax pmax
comp=Z,200nm,5.7s
SKR MLR MLR
comp=Z,900nm,16.0s
SKR MLR MLR
comp=Z,1μm,17.0s
AKAS Kas 56.39 300 P **P 09 38 05.2 +0.8**
SEY Seymchan 56.63 28 P **P 09 38 03.1 -2.3**
comp=Z,3.1nm,0.4s,baz=211,slow=6.8,SNR=13
SEY Seymchan 56.63 28⇑*e*P **P 09 38 06.3 +0.9**
TLCR 56.77 310 ⇓P **P 09 38 07.2 +0.5**
TLCR 56.77 310 ⇓P **P 09 38 07.2 +0.5**
AKASG Malin Array Be 56.81 317 P **P 09 38 05.8 -1.1**
comp=Z,12nm,0.6s,baz=75,slow=7.0,SNR=35
AKASG LR LR 10 05 58.3
comp=Z,2μm,20.5s,baz=85,slow=40
AKASG Malin Array Be 56.81 317 P **P 09 38 05.9 -1.0**
AKASG pmax pmax
comp=Z,28nm,1.8s
AKASG Malin Array Be 56.81 317 P **P 09 38 05.9 -1.0**
AKBB Malin Array Si 56.81 317 P **P 09 38 05.9 -1.0**
AKBB pmax pmax
comp=Z,74nm,1.7s
AKBB MLR MLR
comp=Z,2μm,20.0s
AKBB Malin Array Si 56.81 317 P **P 09 38 05.9 -1.0**
AKBB IAmb IAmb 09 38 11.5
comp=Z,74nm,1.7s
AKBB IAMs_20 IAMs_20 10 05 36.6
comp=Z,2μm,20.0s
KIS Kishinev 56.83 312⇑*i*P **P 09 38 09.3 +2.2**
comp=Z,140nm,2.3s
KIS Kishinev 56.83 312*c i*P **P 09 38 09.0 +1.9**
KIS *e*S S 09 45 50.0 -10
KIS pmax pmax
comp=Z,140nm,2.3s
KIS MLR MLR
comp=Z,300nm,17.0s
MILM Milestii Mici 56.83 312 ⇑P **P 09 38 08.8 +1.7**
TIRR Tirgusor 57.05 309 ⇓P **P 09 38 10.5 +1.8**
TIRR Tirgusor 57.05 309 ⇓P **P 09 38 10.5 +1.8**
TIRR Tirgusor 57.05 309 IAMs_20 IAMs_20 10 05 43.4
comp=Z,2μm,20.0s
TOPG Topolog 57.08 310 ⇓P **P 09 38 11.3 +2.4**
SORM Soroca 57.20 314 ⇓P **P 09 38 12.0 +2.3**
SORM Soroca 57.20 314 ⇓P **P 09 38 12.0 +2.3**
CFR Carcaliu 57.25 310 ⇓P **P 09 38 10.3 +0.2**
CFR Carcaliu 57.25 310 ⇓P **P 09 38 10.3 +0.2**
PEA0B Petropavlovsk- 57.37 40 P **P 09 38 09.1 -1.8**
PEA0B pmax pmax
comp=Z,82nm,1.3s
PEA0B MLR MLR
comp=Z,2μm,19.0s
PEA0B Petropavlovsk- 57.37 40 P **P 09 38 09.1 -1.8**
PEA0B IAMs_20 IAMs_20 10 06 32.7
comp=Z,2μm,19.0s
PETK Petropavlovsk- 57.37 40 P **P 09 38 08.7 -2.1**
comp=Z,14nm,1.0s,baz=205,slow=3.1,SNR=7.0
PETK LR LR 10 06 44.0
comp=Z,2μm,18.5s,baz=267,slow=40
PETK Petropavlovsk- 57.37 40 P **P 09 38 08.5 -2.4**
PETK Petropavlovsk- 57.37 40 P **P 09 38 08.5 -2.4**
HARR Harsova 57.39 310 ⇓P **P 09 38 11.2 +0.1**
HARR Harsova 57.39 310 ⇓P **P 09 38 11.2 +0.1**
PUL Pulkovo 57.55 328 *e*P **P 09 38 12.4 +0.5**
WB0 Warramunga Arr 57.89 133 P **P 09 38 15.1 +0.1**
WB0 IAmb IAmb 09 38 24.4
comp=Z,26nm,0.9s
PET Petropavlovsk 57.94 40 *e*P **P 09 38 13.2 -1.6**
PET *e*S **S 09 46 08.1 -6.6**
PET pmax pmax
comp=Z,83nm,0.9s
PET MLR MLR
comp=Z,1μm,22.0s
PET Petropavlovsk 57.94 40 P **P 09 38 13.7 -1.1**
PET IAmb IAmb 09 38 23.8
comp=Z,43nm,1.0s
PET IAMs_20 IAMs_20 10 06 10.6
comp=Z,2μm,20.0s
WRA Warramunga Arr 57.98 133 P **P 09 38 14.5 -1.0**
comp=Z,9.8nm,0.8s,baz=320,slow=7.4,SNR=47
WRA PcP **PcP 09 39 09.7 +2.1**
comp=Z,14nm,0.7s,baz=325,slow=3.7,SNR=15
WRA LR LR 10 06 15.2
comp=Z,893nm,20.4s,baz=300,slow=39
WRA PKP2bc 10 08 09.8
comp=Z,3.2nm,1.1s,baz=140,slow=1.8,SNR=7.0
WRA Warramunga Arr 57.98 133 P **P 09 38 14.7 -0.8**
WRA Warramunga Arr 57.98 133 P **P 09 38 14.7 -0.8**
WRAB Tennant Creek 57.98 133⇑*e*P **P 09 38 14.6 -0.9**
WRAB pmax pmax
comp=Z,19nm,0.7s
WRAB Tennant Creek 57.98 133 P **P 09 38 15.9 +0.3**
WRAB IAmb IAmb 09 38 25.7
comp=Z,44nm,1.0s
WB2 Warramunga Arr 57.98 133 P **P 09 38 15.6 0.0**
WB2 IAmb IAmb 09 38 25.7
comp=Z,42nm,1.0s
MICGM Minsk 58.01 321 *e*P **P 09 38 18.0 +2.7**
MICGM *e*S **S 09 46 15.0 -0.7**
MICGM *e*LR LR 10 03 20.0
MICGM LRM MLR 10 08 36.0
comp=Z,3.6nm,20.0s
MNK Minsk 58.01 321 *e*P **P 09 38 18.0 +2.7**
MNK *e*S **S 09 46 15.0 -0.7**
MNK MLR MLR
comp=Z,4μm,20.0s
LVZ Lovozero 58.04 338⇑*e*P **P 09 38 15.6 +0.3**
LVZ pmax pmax
comp=Z,77nm,1.3s
LVZ Lovozero 58.04 338 P **P 09 38 16.1 +0.7**
LVZ IAmb IAmb 09 38 54.0
comp=Z,51nm,1.0s
WR0 Warramunga Arr 58.12 133 P **P 09 38 16.6 0.0**
WR0 IAmb IAmb 09 38 26.5
comp=Z,42nm,1.1s
BISRR Bisoca 58.26 311 ⇓P **P 09 38 19.7 +2.4**
PLOR Plostina 58.30 311 ⇓P **P 09 38 18.6 +1.0**
PLOR Plostina 58.30 311 ⇓P **P 09 38 18.6 +1.0**
TESR Tescani 58.31 312 ⇓P **P 09 38 18.9 +1.3**
APA Apatity 58.37 337 ⇓*i*P **P 09 38 16.7 -0.9**
APA *i* 09 39 16.0
APA *i*S **S 09 46 16.0 -3.9**
APA *i*SS **SS 09 50 08.0 -3.6**
APA pmax pmax
comp=Z,19nm,0.8s
APA MLR MLR
comp=Z,4μm,18.0s
ISR Istrita 58.38 310 ⇓P **P 09 38 22.0 +3.9**
ISR Istrita 58.38 310 ⇓P **P 09 38 22.0 +3.9**
KARP Karpathos 58.42 299 P **P 09 38 20.9 +2.3**
BIZ Bicaz 58.69 312 ⇓P **P 09 38 24.1 +4.0**
NACGM Naroch 58.69 322 *e* **P 09 38 20.0 -0.1**
NACGM *e*LQ LQ 09 59 10.0
NACGM *e*LR LR 10 04 14.0
NACGM LRM MLR 10 07 44.0
comp=Z,3.2nm,18.0s
IDID Didziasalis 58.76 322 *e*P **P 09 38 20.9 +0.4**
MLR Muntele Rosu 58.80 311 ⇓P **P 09 38 22.2 +1.0**
MLR Muntele Rosu 58.80 311 ⇓P **P 09 38 22.2 +1.0**
MLR Muntele Rosu 58.80 311 P **P 09 38 21.3 +0.2**
SZH Strazhica 58.85 308 *i* P **P 09 38 23.8 +2.4**
ALN Alexandroupoli 58.88 305 P **P 09 38 21.6 0.0**
ALN pmax pmax
comp=Z,28nm,0.8s
ALN Alexandroupoli 58.88 305 P **P 09 38 21.6 0.0**
ALN IAmb IAmb 09 38 26.3
comp=Z,28nm,0.8s
IIGN Ignalina 59.06 322 *e*P **P 09 38 23.3 +0.7**
IZAR Zarasai 59.08 323 *e*P **P 09 38 23.6 +0.8**
ISAL Salakas 59.13 322 *e*P **P 09 38 23.9 +0.8**
VSU Vasula 59.15 326 *e*P **P 09 38 23.3 +0.2**
VSU Vasula 59.15 326*de*P **P 09 38 24.8 +1.7**
VSU pmax pmax
comp=Z,235nm,1.9s
KMBO Kilima Mbogo 59.21 255 P **P 09 38 26.4 +1.7**
comp=Z,6.0nm,1.0s,baz=45,slow=9.8,SNR=7.9
KMBO LR LR 10 03 51.3
comp=Z,1μm,21.0s,baz=80,slow=36
KMBO Kilima Mbogo 59.21 255 P **P 09 38 24.7 +0.1**
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KMBO MLR MLR
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 59.21 255 P **P 09 38 24.7 +0.1**
BURAR Bucovina Array 59.29 313 ⇓P **P 09 38 24.4 -0.1**
BURAR Bucovina Array 59.29 313 ⇓P **P 09 38 24.4 -0.1**
BURAR Bucovina Array 59.29 313 P **P 09 38 24.2 -0.4**
BUR08 Bucovina Ar. S 59.30 313 P **P 09 38 24.1 -0.5**
KDZ Kurdzhali 59.31 306 *i* P **P 09 38 27.9 +3.3**
VOIR 59.43 311 ⇓P **P 09 38 26.0 +0.6**
VOIR 59.43 311 ⇓P **P 09 38 26.0 +0.6**
SANT Santorini 59.71 300 P **P 09 38 27.1 -0.4**
ARR Arges 59.72 311 ⇓P **P 09 38 29.4 +1.9**
PLD Plovdiv 59.81 307 *i* P **P 09 38 30.1 +2.0**
FIA1 FINESS Array S 59.91 329 P **P 09 38 27.9 -0.5**
FINES FINESS Array B 59.91 329 P **P 09 38 28.0 -0.4**
comp=Z,16nm,0.6s,baz=101,slow=9.9,SNR=23
FINES LR LR 10 08 44.5
comp=Z,1μm,19.6s,baz=105,slow=40
FINES FINESS Array B 59.91 329 P **P 09 38 27.6 -0.8**
FINES FINESS Array B 59.91 329 P **P 09 38 27.6 -0.8**
LVV L'vov 60.09 316 *e*P **P 09 38 30.5 +0.6**
LVV *e* 09 40 40.3
LVV *e*S **S 09 46 39.6 -3.2**
LVV *e*PS **PnS 09 46 59.7 +4.2**
LVV MLR MLR
comp=N,500nm,17.0s
LVV MLR MLR
comp=E,400nm,17.0s
LVV MLR MLR
comp=Z,600nm,18.0s
PGB Panagyurishte 60.18 307 *i* P **P 09 38 33.9 +3.2**
IDI Anoyia 60.30 299 ⇓P **P 09 38 32.0 +0.4**
IDI Anoyia 60.30 299 P **P 09 38 34.6 +3.0**
IDI IAmb IAmb 09 38 35.9
comp=Z,18nm,0.7s
AS31 Alice Springs 60.31 137 P **P 09 38 30.8 -0.9**
ASAR Alice Springs 60.31 137 P **P 09 38 31.2 -0.5**
comp=Z,13nm,0.8s,baz=318,slow=6.8,SNR=50
ASAR PKP2bc 10 08 03.9
comp=Z,1.1nm,1.0s,baz=125,slow=3.2,SNR=3.6
ASAR Alice Springs 60.31 137 P **P 09 38 29.8 -1.9**
ASAR Alice Springs 60.31 137 P **P 09 38 29.8 -1.9**
PABE Paberze 60.35 322 *e*P **P 09 38 31.5 +0.1**
CJR Cluj-Napoca 60.41 312 ⇓P **P 09 38 33.9 +1.7**
CJR Cluj-Napoca 60.41 312 ⇓P **P 09 38 33.9 +1.7**
MPEP Malo Peshtene 60.45 308 *i* P **P 09 38 34.6 +2.2**
COEN Coen 60.70 122 P **P 09 38 36.5 +2.1**
COEN IAmb IAmb 09 38 43.0
comp=Z,17nm,0.9s
SUW Suwalki 60.73 321 *e*P **P 09 38 34.9 +0.8**
SUW *e*pP **sP 09 38 37.1 -2.3**
SUW *e*L L 10 07 09.9
comp=Z,2μm,22.3s
SUW Suwalki 60.73 321 P **P 09 38 32.8 -1.3**
SUW pmax pmax
comp=Z,63nm,0.8s
SUW MLR MLR
comp=Z,2μm,22.0s
SUW Suwalki 60.73 321 P **P 09 38 32.8 -1.3**
SUW IAMs_20 IAMs_20 10 07 16.8
comp=Z,2μm,22.0s
ABPO Ambohimpanom 60.75 231 P **P 09 38 34.8 -0.1**
ABPO pmax pmax
comp=Z,36nm,1.2s
ABPO Ambohimpanom 60.75 231 P **P 09 38 34.8 -0.1**
ABPO IAmb IAmb 09 38 42.1
comp=Z,36nm,1.1s
ABPO IAMs_20 IAMs_20 10 01 54.9
comp=Z,2μm,19.0s
VTS Vitosha 60.87 307 *i* P **P 09 38 37.8 +2.3**
DEV Deva 60.92 311 ⇓P **P 09 38 37.8 +2.2**
DEV Deva 60.92 311 ⇓P **P 09 38 37.8 +2.2**
KKB Krupnik 61.03 307 *i* P **P 09 38 38.2 +1.7**
UZH Uzhgorod 61.24 314 *e*P **P 09 38 40.2 +2.5**
UZH *e* 09 38 47.9
UZH *e* 09 39 20.0
UZH *e* 09 41 00.8
UZH *e* 09 42 20.0
UZH *e*S **S 09 46 58.3 +0.8**
UZH *e* 09 47 14.2
UZH *e* 09 48 29.1
UZH *e* 09 51 00.9
UZH MLR MLR
comp=N,320nm,16.0s
UZH MLR MLR
comp=E,290nm,16.0s
UZH MLR MLR
comp=Z,140nm,16.0s
KOLS Kolonicke sedl 61.25 315 *e*P **P 09 38 39.8 +2.0**
KOLS pmax pmax
comp=Z,90nm,2.8s
KOLS Kolonicke sedl 61.25 315 *e*P **P 09 38 39.8 +2.0**
KOLS *e*S S 09 46 49.5 -8.2
KOLS *e*L L 10 05 45.0
KEV Kevo 61.25 339 P **P 09 38 37.0 -0.4**
KEV pmax pmax
comp=Z,96nm,1.5s
KEV MLR MLR
comp=Z,4μm,20.0s
KEV Kevo 61.25 339 P **P 09 38 37.0 -0.4**
PMG Port Moresby 61.46 115 P **P 09 38 38.2 -1.5**
PMG pmax pmax
comp=Z,53nm,1.0s
PMG Port Moresby 61.46 115 P **P 09 38 38.2 -1.5**
VAY Valandovo 61.46 306 *i* P **P 09 38 40.0 +0.7**
PBUR Paburge 61.53 323 *e*P **P 09 38 39.9 +0.4**
LIT Litokhoron 61.64 305 P **P 09 38 39.9 -0.7**
LIT pmax pmax
comp=Z,27nm,0.8s
LIT Litokhoron 61.64 305 P **P 09 38 39.9 -0.7**
LIT IAmb IAmb 09 38 46.0
comp=Z,27nm,0.8s
ARCES ARCESS Array B 61.71 338 P **P 09 38 40.6 +0.1**
comp=Z,11nm,0.7s,baz=79,slow=6.3,SNR=16
ARCES LR LR 10 08 50.9
comp=Z,4μm,20.9s,baz=104,slow=39
ARE0 ARCESS Array S 61.71 338 P **P 09 38 40.2 -0.3**
ARE0 ARCESS Array S 61.71 338 *e*P **P 09 38 40.4 -0.1**
STIP Stip 61.72 306 *i* P **P 09 38 40.2 -0.8**
SIRR Siria 61.76 312 ⇓P **P 09 38 42.1 +0.8**
CRVS Cervenica-Dubn 61.78 315 *e*P **P 09 38 44.1 +2.7**
CRVS pmax pmax
comp=Z,54nm,1.4s
CRVS Cervenica-Dubn 61.78 315 *e*P **P 09 38 44.1 +2.7**
CRVS *e*L L 10 07 52.8
MDVR Moldovita 61.82 310 ⇓P **P 09 38 42.0 +0.3**
BZS Buzias 61.83 311 ⇓P **P 09 38 42.6 +0.8**
BZS Buzias 61.83 311 ⇓P **P 09 38 42.6 +0.8**
AGG Agios Georgios 61.88 303 P **P 09 38 41.3 -1.0**
AGG pmax pmax
comp=Z,23nm,1.0s
AGG Agios Georgios 61.88 303 P **P 09 38 41.3 -1.0**
AGG IAmb IAmb 09 39 03.4
comp=Z,23nm,1.0s
KTK1 Kautokeino 62.39 338 *e*P **P 09 38 44.4 -0.8**
FNA Florina 62.42 306 P **P 09 38 44.3 -1.6**
FNA pmax pmax
comp=Z,37nm,0.7s
FNA Florina 62.42 306 P **P 09 38 44.3 -1.6**
ITM Ithomi 62.43 301 P **P 09 38 47.3 +1.4**
ITM IAmb IAmb 09 38 49.0
comp=Z,30nm,0.7s
NIE Niedzica 62.53 315 *e*P **P 09 38 47.1 +0.7**
NIE *e*pP **sP 09 38 50.5 -1.2**
NIE *e*S **S 09 47 11.0 -2.9**
NIE *e*L L 10 07 57.4
comp=Z,1μm,22.0s
HAMF Hammerfest 62.56 339 *e*P **P 09 38 45.2 -1.0**
OJC Ojcow 62.82 316 *e*P **P 09 38 49.2 +0.9**
OJC *e*pP **sP 09 38 51.8 -1.8**
OJC *e*S **S 09 47 16.6 -0.9**
OJC *e*L L 10 07 34.8
comp=Z,1μm,23.2s
OJC Ojcow 62.82 316 P **P 09 38 47.7 -0.6**
OJC pmax pmax
comp=Z,73nm,1.9s
OJC Ojcow 62.82 316 P **P 09 38 47.6 -0.6**
OJC IAmb IAmb 09 38 53.5
comp=Z,73nm,1.9s
PSZ Piszkesteto 62.87 314 P **P 09 38 49.2 +0.4**
PSZ pmax pmax
comp=Z,18nm,1.1s

PSZ Piszkesteto 62.87 314 P **P** **09 38 49.1 +0.4**
PSZ IAmb IAmb 09 38 55.2
comp=Z,18nm,1.1s
DIVS Divibare 63.10 309 *e*P **P** **09 38 51.9 +1.5**
DIVS Divibare 63.10 309 P **P** **09 38 50.2 -0.2**
DIVS IAmb IAmb 09 39 00.7
comp=Z,24nm,1.2s
FRGS Fruska Gora 63.13 311 *e*P **P** **09 38 51.8 +1.3**
RABL Rabaul 63.27 107 P **P** **09 38 51.0 -0.8**
BILL Bilibino 63.37 24 IAMs_20 IAMs_20 10 10 18.8
comp=Z,2µm,18.0s
VYHS Vyhne 63.54 314 *e*P **P** **09 38 54.7 +1.6**
VYHS pmax pmax
comp=Z,75nm,2.5s
VYHS Vyhne 63.54 314 *e*P **P** **09 38 54.7 +1.6**
VYHS *e*S **S** **09 47 29.8 +3.2**
BBLS Lazići 63.55 309 *e*P **P** **09 38 54.7 +1.4**
PDG Podgorica 63.81 308 ||P **P** **09 38 54.1 -0.9**
PDG Podgorica 63.81 308 *e*P **P** **09 38 57.6 +2.6**
PDG Podgorica 63.81 308 P **P** **09 38 54.3 -0.6**
PDG IAmb IAmb 09 38 59.1
comp=Z,21nm,0.7s
MORH Mrgy, Hungar 63.85 312 *e*P **P** **09 38 56.6 +1.4**
DRME Dracevica, Mon 63.89 307 *e*P **P** **09 38 58.0 +2.5**
UPM Unac-Piva 63.98 308 *e*P **P** **09 38 55.9 -0.4**
TRO Tromso 64.00 338 *e*P **P** **09 38 55.0 -0.7**
BRY Bratogost 64.28 308 *e*P **P** **09 38 57.5 -0.8**
JAVC Velka Javorina 64.28 315 *e*P **P** **09 39 00.7 +2.6**
MORC Moravsky Berou 64.30 316 *e*P **P** **09 38 59.9 +1.8**
MORC Moravsky Berou 64.30 316 P **P** **09 38 57.9 -0.2**
MORC pmax pmax
comp=Z,82nm,2.0s
MORC MLR MLR
comp=Z,800nm,20.0s
MORC Moravsky Berou 64.30 316 P **P** **09 38 57.9 -0.2**
MORC IAmb IAmb 09 39 03.8
comp=Z,82nm,2.0s
HCY Herceg Novi 64.37 308 *e*P **P** **09 38 58.2 -0.5**
MODS Modra-Piesok 64.58 314 *e*P **P** **09 39 01.0 +1.0**
MODS pmax pmax
comp=Z,109nm,2.7s
MODS Modra-Piesok 64.58 314 *e*P **P** **09 39 01.0 +1.0**
MODS *e*S **S** **09 47 39.0 -0.6**
MODS *e*L L 10 07 31.0
SCTE Santa Cesarea 64.71 305 P **P** **09 39 01.2 +0.3**
KRLC Kraliky 64.76 316 *e*P **P** **09 39 02.7 +1.5**
KRLC AMS AMS 10 10 50.0
comp=Z,1µm,15.7s
KRLC Kraliky 64.76 316 *e*P **P** **09 39 02.7 +1.5**
KRLC MLR MLR
comp=Z,1µm,15.7s
MBAR Mbarara 64.86 258 *ce*P **P** **09 39 05.2 +2.7**
MBAR pmax pmax
comp=Z,21nm,1.7s
MBAR Mbarara 64.86 258 P **P** **09 39 02.1 -0.4**
MBAR Mbarara 64.86 258 IAMs_20 IAMs_20 10 06 40.8
comp=Z,3µm,21.0s
N2IH Innhavet 64.94 336 *e*P **P** **09 39 02.6 +0.7**
VRAC Vranov 64.95 315 ||P **P** **09 39 02.0 -0.4**
VRAC Vranov 64.95 315 *e*P **P** **09 39 04.1 +1.7**
VRAC Vranov 64.95 315 ||P **P** **09 39 02.0 -0.4**
KSP Ksiaz 65.01 317 *e*P **P** **09 39 03.9 +1.2**
KSP *ep*P **sP** **09 39 06.3 -1.7**
KSP *e*S **S** **09 47 44.5 -0.2**
KSP *e*L L 10 06 39.8
comp=Z,2µm,26.8s
BLY Banja Luka 65.03 310 *e*P **P** **09 39 05.3 +2.4**
DPC Dobruska-Polom 65.03 317 *e*P **P** **09 39 04.5 +1.6**
DPC *ex* x 09 39 12.2
DPC *e*S S 09 47 35.6 -9.5
DPC AMS AMS 10 08 30.0
comp=Z,1µm,21.8s
DPC Dobruska-Polom 65.03 317 *e*P **P** **09 39 04.5 +1.6**
DPC *e* 09 39 12.2
DPC *e*S S 09 47 35.6 -9.5
DPC MLR MLR
comp=Z,1µm,21.8s
OSTC Ostas 65.08 317 *e*P **P** **09 39 06.6 +3.4**
OSTC *ex* x 09 39 10.5
OSTC *e*S **S** **09 47 41.6 -4.0**
OSTC AMS AMS 10 06 10.0
comp=Z,2µm,29.5s
KRUC Moravsky 65.10 315 *e*P **P** **09 39 04.9 +1.6**
BEHE Becsehely 65.12 312 *e*P **P** **09 39 07.9 +4.4**
FAUS Fauske 65.16 335 *e*P **P** **09 39 03.7 +0.4**
UPC Upice 65.22 317 *e*S **S** **09 47 47.0 -0.2**
UPC AMS AMS 10 06 20.0
comp=Z,2µm,27.5s
N2TV T¥rnvik 65.23 336 *e*P **P** **09 39 03.4 -0.4**
MOR8 Moi Rana 65.47 334 *e*P **P** **09 39 03.6 -1.8**
KOGS Kog 65.48 312 *i*P **P** **09 39 08.3 +2.5**
KOGS *i*S **S** **09 47 49.8 -0.7**
KOGS *e* 09 55 27.7
CONA Conrad Observa 65.57 314 *ep*P **P** **09 39 07.0 +0.5**
comp=Z,25nm,1.1s,SNR=13
TREC Trest 65.67 315 AMS AMS 10 11 20.0
comp=Z,1µm,15.1s
LOF Lofoten 65.85 336 *e*P **P** **09 39 07.4 -0.4**
ARSA Arzberg 65.88 313 *ep*P **P** **09 39 09.3 +0.9**
comp=Z,9.7nm,0.8s,SNR=5.9
GOPC GO Pecny, Ondr 66.06 316 *e*P **P** **09 39 13.0 +3.5**
GOPC *e*S S 09 47 44.1 -13
GOPC AMS AMS 10 10 40.0
comp=Z,2µm,24.5s
GOPC GO Pecny, Ondr 66.06 316 *e*P **P** **09 39 13.0 +3.5**
GOPC MLR MLR
comp=Z,2µm,24.5s
CRES Cresnjev 66.11 312 *e*P **P** **09 39 11.9 +2.0**
PVCC Panska Ves 66.13 317 AMS AMS 10 11 40.0
comp=Z,2µm,15.8s
TIP Timpagrande 66.15 304 ||P **P** **09 39 08.7 -1.6**
TIP Timpagrande 66.15 304 P **P** **09 39 08.8 -1.6**
TIP IAmb IAmb 09 39 15.7
comp=Z,14nm,0.7s
PRU Pruhonice 66.21 316 *e*P **P** **09 39 14.1 +3.6**
PRU *e*S S 09 47 51.5 -7.8
PRU AMS AMS 10 10 40.0
comp=Z,2µm,24.4s
PRU Pruhonice 66.21 316 *e*P **P** **09 39 14.1 +3.6**
PRU *e*S S 09 47 51.5 -7.8
PRU MLR MLR
comp=Z,2µm,24.4s
PERS Pernice 66.23 313 *i*P **P** **09 39 13.2 +2.5**
PRA Prague 66.27 316 AMS AMS 10 12 00.0
comp=Z,800nm,16.5s
SOKA Soboth 66.28 313 *ep*P **P** **09 39 11.5 +0.3**
comp=Z,11nm,1.1s,SNR=9.3
BOJS Bojanci 66.29 311 *i*P **P** **09 39 13.8 +2.7**
BOJS *i*S **S** **09 47 58.9 -1.6**
RUE Ruedersdorf 66.42 319 *e*P **P** **09 39 11.7 0.0**
RGN Rugen 66.49 321 IAMs_20 IAMs_20 10 10 56.1
comp=Z,2µm,19.0s
BRG Berggiesshubel 66.49 317 *e*P **P** **09 39 12.3 +0.1**
comp=Z,6.1nm,0.6s
BRG *e* 09 39 15.8
comp=Z,16nm,0.7s
BRG *e* 09 39 41.7
comp=Z,18nm,1.1s
BRG S **S** **09 48 02.0 -0.7**
BRG SS SS 09 52 07.0 -12
comp=Z,2µm,20.8s
comp=N,1µm,19.0s
comp=E,2µm,19.0s
BRG Berggiesshubel 66.49 317 *e*P **P** **09 39 12.3 +0.1**
BRG *e* 09 39 15.8
BRG *e* 09 39 41.7
BRG S **S** **09 48 02.0 -0.7**
BRG pmax pmax
comp=Z,6.0nm,0.6s
BRG MLR MLR
comp=Z,2µm,20.8s
BRG MLR MLR
comp=N,1µm,19.0s
BRG MLR MLR
comp=E,2µm,19.0s
BRG Berggiesshubel 66.49 317 *e*P **P** **09 39 14.5 +2.2**
baz=83,slow=6.0
SGRT San Giovanni R 66.49 307 P **P** **09 39 11.4 -1.2**
SGRT IAmb IAmb 09 39 18.3
comp=Z,21nm,0.9s
PBCC Pribram 66.59 316 *e*P **P** **09 39 16.5 +3.5**
OBKA Obir 66.64 312 *e*P **P** **09 39 12.8 -0.6**
comp=Z,12nm,1.0s,SNR=5.7
MOA Molln 66.65 314 *e*P **P** **09 39 12.9 -0.4**
comp=Z,9.4nm,0.7s,SNR=6.9
CTAO Charters Tower 66.66 125 P **P** **09 39 13.5 -0.2**
CTAO pmax pmax
comp=Z,29nm,1.1s
CTAO Charters Tower 66.66 125 P **P** **09 39 13.5 -0.2**
CTAO IAmb IAmb 09 39 22.3
comp=Z,29nm,1.1s
LJU Ljubljana 66.72 312 *i*P **P** **09 39 16.6 +2.8**
LJU *e*S **S** **09 48 05.4 -0.2**
LJU Ljubljana 66.72 312 *e*P **P** **09 39 13.8 0.0**
KBS Kingsbay 66.78 348 IAMs_20 IAMs_20 10 13 46.9
comp=Z,3µm,21.0s
NC405 NORSAR Array S 66.82 329 P **P** **09 39 13.6 -0.6**
CEY Cerknica 66.83 312 *e*P **P** **09 39 14.3 -0.3**
FBE Freiberg 66.85 317 *e*P **P** **09 39 17.8 +3.2**
comp=Z,48nm,1.2s,baz=83,slow=6.0
GEC2 GERESS Array S 66.89 315 *e*P **P** **09 39 16.3 +1.4**
baz=83,slow=6.0
GEC2 GERESS Array S 66.89 315 P **P** **09 39 14.2 -0.8**
GEC2 IAmb IAmb 09 39 24.4
comp=Z,20nm,0.8s
GERES GERESS Array B 66.89 315 P **P** **09 39 15.1 +0.1**
comp=Z,9.4nm,0.6s,baz=76,slow=7.0,SNR=23
GERES LR LR 10 12 32.2
comp=Z,1µm,19.3s,baz=70,slow=40
GERES GERESS Array B 66.89 315 P **P** **09 39 14.5 -0.5**
GERES GERESS Array B 66.89 315 P **P** **09 39 14.5 -0.5**
NC602 NORSAR Array S 66.93 328 P **P** **09 39 13.6 -1.2**
NC602 NORSAR Array S 66.93 328 *e*P **P** **09 39 14.0 -0.8**
KHC Kasperske Hory 66.94 315 *e*P **P** **09 39 16.9 +1.7**
KHC *ex* x 09 39 23.8
KHC *e*S S 09 47 57.1 -11
KHC AMS AMS 10 12 00.0
comp=Z,1µm,15.2s
KHC Kasperske Hory 66.94 315 *e*P **P** **09 39 16.9 +1.7**
KHC *e* 09 39 23.8
KHC *e*S S 09 47 57.1 -11
KHC MLR MLR
comp=Z,1µm,15.2s
KHC Kasperske Hory 66.94 315 P **P** **09 39 13.4 -1.8**
NC303 NORSAR Array S 66.98 329 P **P** **09 39 13.9 -1.2**
CEL Celeste 66.98 303 P **P** **09 39 15.8 +0.1**
NB201 NORSAR Array S 67.03 328 P **P** **09 39 14.8 -0.7**
CLL Collm 67.03 318 ||*i*P **P** **09 39 18.8 +3.2**
comp=Z,140nm,2.5s
CLL *e*PP **PP** **09 41 45.0 +1.9**
CLL *e*PPP PPP 09 43 21.0
CLL *e*S **S** **09 48 07.0 -2.2**
CLL *e*SSS SSS 09 55 42.0
CLL L L 10 11 00.0
comp=Z,2µm,20.2s
CLL Collm 67.03 318 ||*i*P **P** **09 39 18.8 +3.2**
CLL *e*S **S** **09 48 07.0 -2.2**
CLL pmax pmax
comp=Z,140nm,2.5s
CLL MLR MLR
comp=Z,2µm,20.2s
CLL Collm 67.03 318 *e*P **P** **09 39 18.0 +2.3**
baz=83,slow=6.0
CLL Collm 67.03 318 P **P** **09 39 15.9 +0.2**
CLL IAmb IAmb 09 39 20.9
comp=Z,16nm,1.1s
CLL IAMs_20 IAMs_20 10 11 37.8
comp=Z,2µm,20.0s
NB2 NORSAR Subarra 67.06 328 P **P** **09 39 14.6 -1.2**
comp=Z,28nm,0.8s,baz=85,slow=6.5
NB2 NORSAR Subarra 67.06 328 P **P** **09 39 14.6 -1.2**
baz=85,slow=6.5
NOA NORSAR Array B 67.06 328 P **P** **09 39 14.9 -0.8**
comp=Z,11nm,0.6s,baz=86,slow=6.3,SNR=40
NOA LR LR 10 10 01.9
comp=Z,726nm,19.0s,baz=85,slow=37
CADS Cadrg 67.23 312 *i*P **P** **09 39 18.9 +1.8**
CADS *i*S **S** **09 48 10.7 -1.3**
NAO01 NORSAR Array S 67.24 328 P **P** **09 39 15.6 -1.2**
NC204 NORSAR Array S 67.26 329 P **P** **09 39 16.7 -0.3**
NC204 NORSAR Array S 67.26 329 *e*P **P** **09 39 16.4 -0.7**
NBO00 NORSAR Array S 67.28 328 P **P** **09 39 19.0 +1.9**
TRI Trieste 67.30 312 P **P** **09 39 16.8 -0.6**
TRI pmax pmax
comp=Z,22nm,0.8s
TRI MLR MLR
comp=Z,2µm,22.0s
TRI Trieste 67.30 312 P **P** **09 39 16.8 -0.6**
TRI IAmb IAmb 09 39 23.7
comp=Z,22nm,0.8s
TRI IAMs_20 IAMs_20 10 11 19.4
comp=Z,2µm,22.0s
PRED Cave del Predi 67.32 313 P **P** **09 39 17.0 -0.7**
PRED IAmb IAmb 09 39 22.5
comp=Z,16nm,0.8s
KBA Koelnbreinsper 67.38 313 *e*P **P** **09 39 17.8 -0.4**
comp=Z,18nm,1.0s
WET Wettzell 67.39 315 *e*P **P** **09 39 20.7 +2.7**
baz=83,slow=6.0
OSL Oslo 67.40 327 *e*P **P** **09 39 15.6 -2.2**
TANN Tannenbergstha 67.48 317 *e*P **P** **09 39 21.3 +2.6**
baz=83,slow=6.0
NKC Novy Kostel 67.52 317 *e*P **P** **09 39 22.8 +4.0**
NKC *ex* x 09 39 27.5
NKC AMS AMS 10 12 30.0
comp=Z,2µm,16.0s
NKC Novy Kostel 67.52 317 *e*P **P** **09 39 22.8 +4.0**
NKC *e* 09 39 27.5
NKC MLR MLR
comp=Z,2µm,16.0s
GUNZ Gunzen 67.57 317 *e*P **P** **09 39 22.1 +2.9**
comp=Z,22nm,1.1s,baz=83,slow=6.0
RJOB Jochberg 67.65 314 *e*P **P** **09 39 20.9 +1.2**
comp=Z,27nm,1.4s,baz=83,slow=6.0
PLN Plauen 67.67 317 *e*P **P** **09 39 22.3 +2.5**
comp=Z,22nm,1.3s,baz=83,slow=6.0
ZOU Zoufplan 67.71 313 P **P** **09 39 19.3 -1.0**
ZOU IAmb IAmb 09 39 28.3
comp=Z,25nm,1.3s
ROTZ Rotzenmuhle 67.73 316 *e*P **P** **09 39 22.7 +2.5**
comp=Z,26nm,0.9s,baz=83,slow=6.0
MANZ Manzenberg 67.77 316 *e*P **P** **09 39 23.1 +2.7**
comp=Z,192nm,2.7s,baz=83,slow=6.0
INTR Introdacqua 67.80 308 P **P** **09 39 21.2 +0.3**
INTR IAmb IAmb 09 39 35.6
comp=Z,16nm,1.0s
NEUB Neuenburg 67.81 318 *e*P **P** **09 39 23.7 +3.1**
baz=83,slow=6.0
STAL STALIGIAL 67.93 312 P **P** **09 39 21.0 -0.5**
MOX Moxa 67.98 317 *e*P **P** **09 39 23.7 +1.9**
comp=Z,65nm,2.0s,baz=83,slow=6.0
MOX *e*L L 10 12 08.7
comp=Z,1µm,20.8s
ABTA Abfaltersbach 67.99 313 *ep*P **P** **09 39 22.7 +0.7**
comp=Z,12nm,1.0s
KONO Kongsberg 67.99 327 *d i*P **P** **09 39 24.5 +2.9**
KONO pmax pmax
comp=Z,54nm,1.9s
KONO Kongsberg 67.99 327 P **P** **09 39 21.9 +0.3**
KONO Kongsberg 67.99 327 IAMs_20 IAMs_20 10 10 59.4
comp=Z,2µm,22.0s
DOMB Dombas 68.00 330 *e*P **P** **09 39 21.4 -0.3**
CIMO Cimolais 68.11 312 P **P** **09 39 21.5 -1.1**
CIMO IAmb IAmb 09 39 31.2
comp=Z,25nm,0.9s
NRCA Norcia 68.23 309 P **P** **09 39 23.1 -0.5**
NRCA IAmb IAmb 09 39 55.3
comp=Z,22nm,0.9s
BBOO Buckleboo 68.24 142 P **P** **09 39 25.2 +1.8**
BBOO IAMs_20 IAMs_20 10 10 42.9
comp=Z,3µm,20.0s
BSEG Bad Segeberg 68.31 321 *e*P **P** **09 39 26.4 +2.8**
comp=Z,32nm,0.9s,baz=83,slow=6.0
RAFF Raffo Rosso 68.37 303 P **P** **09 39 23.6 -0.8**
RAFF IAmb IAmb 09 39 32.0
comp=Z,37nm,1.0s
GRA1 Grafenberg Arr 68.38 316 IAMs_20 IAMs_20 10 12 34.6
comp=Z,2µm,21.0s
GRF Grafenberg Arr 68.38 316 *e*P **P** **09 39 27.1 +2.9**
baz=83,slow=6.0
GRF *e*L L 10 12 35.7
comp=Z,2µm,20.9s
WTTA Wattenberg 68.50 314 *e*P **P** **09 39 24.7 -0.6**
comp=Z,13nm,0.5s
SKAR Skarslia 68.52 328 *e*P **P** **09 39 24.5 -0.5**
WATA Walderalm 68.53 314 *ep*P **P** **09 39 26.3 +0.9**
comp=Z,8.6nm,0.6s
CLZ Clausthal 68.58 319 *e*P **P** **09 39 28.0 +2.5**
baz=83,slow=6.0
MURB Monte Urbino 68.58 309 P **P** **09 39 24.5 -1.2**
NRDL Niedersach Rie 68.64 319 *e*P **P** **09 39 28.1 +2.4**
comp=Z,85nm,1.5s,baz=83,slow=6.0
CTI Castel Tesino 68.70 312 P **P** **09 39 25.1 -1.3**
CTI pmax pmax
comp=Z,12nm,0.8s
CTI Castel Tesino 68.70 312 P **P** **09 39 25.1 -1.3**
SQTA Sankt Quirin 68.79 314 *e*P **P** **09 39 26.3 -0.7**
comp=Z,16nm,0.5s,SNR=6.9
MOTA Moosalm 68.84 314 *e*P **P** **09 39 26.8 -0.6**
comp=Z,15nm,0.7s,SNR=8.5
GTTG Gottingen 68.88 318 *e*P **P** **09 39 29.9 +2.6**
baz=83,slow=6.0
UBBA Unterbreizbach 68.97 318 *e*P **P** **09 39 29.7 +2.0**
baz=83,slow=6.0
RETA Reutte 69.05 314 *e*P **P** **09 39 27.5 -1.0**
comp=Z,15nm,0.6s
FETA Feichten 69.15 313 P **P** **09 39 28.8 -0.5**
comp=Z,16nm,0.8s,SNR=6.7
LATE Laterza 69.22 309 P **P** **09 39 29.9 +0.2**
OSSC Osservatorio P 69.45 310 P **P** **09 39 30.7 -0.3**
OSSC IAmb IAmb 09 39 49.0
comp=Z,23nm,0.9s
UBR Ueberruh 69.45 314 *e*P **P** **09 39 32.9 +1.9**
comp=Z,14nm,0.9s,baz=83,slow=6.0
ZCCA Zocca 69.48 311 P **P** **09 39 31.2 0.0**
ZCCA IAmb IAmb 09 40 02.5
comp=Z,37nm,1.0s
FUORN Ofenpass-Fuorn 69.54 313 P **P** **09 39 31.0 -0.8**
SALO Salr 69.55 312 P **P** **09 39 32.0 +0.4**
PRMA PARMA 69.86 311 IAMs_20 IAMs_20 10 12 37.4
comp=Z,2µm,22.0s
VLC Villacollemand 69.93 311 P **P** **09 39 33.7 -0.3**
VLC IAmb IAmb 09 40 03.2
comp=Z,27nm,1.0s
TNS Taunus Mts 70.05 317 *e*P **P** **09 39 37.7 +3.0**
baz=83,slow=6.0
TUE Stuetta 70.19 313 P **P** **09 39 35.3 -0.5**
TUE IAmb IAmb 09 39 41.5
comp=Z,16nm,0.7s
TUE IAMs_20 IAMs_20 10 14 57.8
comp=Z,2µm,18.0s
BFO Black Forest 70.49 315 P **P** **09 39 36.3 -1.1**
BFO pmax pmax
comp=Z,13nm,1.2s
BFO MLR MLR
comp=Z,1µm,21.0s
BFO Black Forest 70.49 315 *e*P **P** **09 39 38.7 +1.3**
baz=83,slow=6.0
BFO Black Forest 70.49 315 P **P** **09 39 36.3 -1.1**
BFO IAMs_20 IAMs_20 10 14 05.7
comp=Z,1µm,21.0s
STKA Stephens Creek 70.89 138 P **P** **09 39 38.6 -1.2**
comp=Z,15nm,0.7s,baz=313,slow=7.2,SNR=20
STKA LR LR 10 13 45.2
comp=Z,1µm,20.5s,baz=293,slow=38
STKA Stephens Creek 70.89 138 P **P** **09 39 39.7 -0.2**
STKA pmax pmax
comp=Z,8.0nm,1.0s
STKA Stephens Creek 70.89 138 P **P** **09 39 39.7 -0.2**
MEM Membach 71.50 318 P **P** **09 39 47.0 +3.6**
SENIN Lac Senin/Sane 71.59 313 P **P** **09 39 44.0 -0.4**
SENIN IAmb IAmb 09 39 50.5
comp=Z,19nm,0.7s
SENIN IAMs_20 IAMs_20 10 14 15.0
comp=Z,1µm,20.0s
WLF Walferdange 71.62 317 P **P** **09 39 45.4 +1.3**
WLF Walferdange 71.62 317 P **P** **09 39 44.7 +0.6**
WLF pmax pmax
comp=Z,47nm,1.1s
WLF Walferdange 71.62 317 *e*P **P** **09 39 46.0 +1.9**
comp=Z,59nm,1.2s,baz=83,slow=6.0
WLF Walferdange 71.62 317 P **P** **09 39 44.7 +0.6**
WLF IAmb IAmb 09 39 49.0
comp=Z,47nm,1.1s
WLF IAMs_20 IAMs_20 10 15 31.3
comp=Z,2µm,19.0s
VSL Villasalto 71.69 306 P **P** **09 39 44.8 0.0**
VSL IAmb IAmb 09 39 48.8
comp=Z,32nm,1.4s
BCLA Clavier 71.98 318 P **P** **09 39 48.8 +2.5**
BNI Bardonecchia 72.32 312 P **P** **09 39 48.7 +0.1**
BNI pmax pmax
comp=Z,13nm,0.9s
BNI MLR MLR
comp=Z,1µm,20.0s
BNI Bardonecchia 72.32 312 P **P** **09 39 48.7 +0.1**
BMRD Maredsous 72.35 318 P **P** **09 39 51.5 +3.1**
UCC Uccle 72.48 318 IAMs_20 IAMs_20 10 15 57.0
comp=Z,2µm,20.0s
GAMB Gambell 72.63 28 IAMs_20 IAMs_20 10 14 56.4
comp=Z,2µm,19.0s
KEST Kesra 72.65 302 P **P** **09 39 51.3 +0.6**
comp=Z,16nm,0.8s,baz=254,slow=2.2,SNR=20
KEST LR LR 10 17 17.4
comp=Z,304nm,20.2s,baz=356,slow=40
KEST Kesra 72.65 302 P **P** **09 39 49.7 -1.0**
KEST IAmb IAmb 09 40 01.0
comp=Z,19nm,0.9s
EIDS Eidsvold 73.34 127 P **P** **09 39 54.7 0.0**
EIDS IAmb IAmb 09 40 06.7
comp=Z,23nm,0.9s
SSB Saint Sauveur 73.73 313 P **P** **09 39 56.4 -0.4**
SSB pmax pmax
comp=Z,10.0nm,0.8s
SSB MLR MLR
comp=Z,700nm,21.0s
SSB Saint Sauveur 73.73 313 P **P** **09 39 56.4 -0.4**
LSZ Lusaka 73.73 246 P **P** **09 39 57.5 +0.1**
LSZ pmax pmax
comp=Z,25nm,0.7s
LSZ MLR MLR
comp=Z,2µm,20.0s
LSZ Lusaka 73.73 246 P **P** **09 39 57.5 +0.1**
LSZ IAmb IAmb 09 40 01.9
comp=Z,25nm,0.7s
LSZ Lusaka 73.73 246 IAMs_20 IAMs_20 10 13 19.5
comp=Z,2µm,20.0s
CLF Chambon-Foret 74.51 316 P **P** **09 40 00.4 -0.9**
CLF IAmb IAmb 09 40 08.1
comp=Z,34nm,1.0s
RDOG Red Dog Mine 74.75 22 IAMs_20 IAMs_20 10 17 31.4
comp=Z,1µm,21.0s
ALE Alert 74.93 357 IAMs_20 IAMs_20 10 15 21.9
comp=Z,1µm,21.0s
ANM Nome 75.04 26 IAMs_20 IAMs_20 10 18 04.2
comp=Z,2µm,19.0s
ESK Eskdalemuir 75.65 324 P **P** **09 40 08.1 +0.4**
ESK pmax pmax
comp=Z,18nm,0.8s
ESK MLR MLR
comp=Z,2µm,21.0s
ESK Eskdalemuir 75.65 324 P **P** **09 40 08.1 +0.4**
ESK IAmb IAmb 09 40 14.0
comp=Z,18nm,0.8s
ESK Eskdalemuir 75.65 324 IAMs_20 IAMs_20 10 15 48.3
comp=Z,2µm,21.0s
ARMA Armidale 76.64 131 P **P** **09 40 13.6 -0.2**
ARMA IAmb IAmb 09 40 22.6
comp=Z,22nm,0.9s
TOO Toolangi 77.08 140 P **P** **09 40 16.5 +0.5**
TOO pmax pmax
comp=Z,26nm,0.8s
TOO MLR MLR
comp=Z,3µm,21.0s
TOO Toolangi 77.08 140 P **P** **09 40 16.5 +0.5**
TOO IAmb IAmb 09 40 21.6
comp=Z,26nm,0.8s
IMAR Indian Mountai 78.89 23 P **P** **09 40 24.8 -0.9**
TOLK Toolik Lake Re 78.89 19 P **P** **09 40 25.6 -0.2**
baz=303
TOLK Toolik Lake Re 78.89 19 P **P** **09 40 25.1 -0.6**
TOLK IAmb IAmb 09 40 37.7
comp=Z,34nm,0.9s
TOLK IAMs_20 IAMs_20 10 18 41.6
comp=Z,1µm,21.0s
COLD Coldfoot 79.46 21 P **P** **09 40 28.8 0.0**
baz=303
COLD Coldfoot 79.46 21 P **P** **09 40 27.9 -0.9**
COLD IAmb IAmb 09 40 39.4
comp=Z,52nm,1.8s
COLD IAMs_20 IAMs_20 10 20 52.6
comp=Z,1µm,18.0s
TTA Tatalina 79.51 26 P **P** **09 40 29.4 +0.2**
TTA pmax pmax
comp=Z,18nm,1.2s

TTA Tatalina 79.51 26 P **P** **09 40 29.4 +0.2**
TTA IAMs_20 IAMs_20 10 20 38.2
comp=Z,1µm,18.0s
TAM Tamanrasset 79.70 290 IAMs_20 IAMs_20 10 17 58.2
comp=Z,1µm,22.0s
CART Cartagena 80.03 306 P **P** **09 40 30.2 -2.2**
CART IAmb IAmb 09 40 38.7
comp=Z,34nm,0.8s
SUMG Summit 80.15 347 *i* P **P** **09 40 34.9 +1.9**
comp=Z,57nm,1.1s
SUMG Summit 80.15 347 P **P** **09 40 32.8 -0.2**
SUMG pmax pmax
comp=Z,47nm,1.5s
SUMG MLR MLR
comp=Z,3µm,22.0s
SUMG Summit 80.15 347 P **P** **09 40 32.8 -0.2**
SUMG IAmb IAmb 09 40 36.8
comp=Z,47nm,1.5s
SVW2 Sparrevohn 80.56 27 P **P** **09 40 35.0 +0.1**
LBTB Lobatse 80.61 238 P **P** **09 40 35.8 0.0**
LBTB pmax pmax
comp=Z,63nm,1.5s
LBTB Lobatse 80.61 238 P **P** **09 40 35.8 0.0**
LBTB IAmb IAmb 09 40 41.8
comp=Z,63nm,1.4s
BPAW Bear Paw Mtn. 80.87 24 P **P** **09 40 36.0 -0.5**
BPAW IAmb IAmb 09 40 46.3
comp=Z,30nm,0.7s
BPAW IAMs_20 IAMs_20 10 17 56.0
comp=Z,2µm,22.0s
TULEG Thule 80.97 356 IAMs_20 IAMs_20 10 20 00.4
comp=Z,1µm,22.0s
PPLA Purkeypile 81.05 25 P **P** **09 40 37.0 -0.6**
PPLA IAmb IAmb 09 40 49.1
comp=Z,33nm,1.0s
PPLA IAMs_20 IAMs_20 10 20 19.8
comp=Z,2µm,20.0s
KTH Kantishna Hill 81.18 24 P **P** **09 40 38.6 +0.3**
KTH IAMs_20 IAMs_20 10 19 28.4
comp=Z,2µm,22.0s
NEA2 Nenana 81.30 23 P **P** **09 40 38.1 -0.6**
baz=304
MDM Murphy Dome 81.39 22 P **P** **09 40 38.5 -0.7**
MDM IAMs_20 IAMs_20 10 21 27.6
comp=Z,926nm,18.0s
BWN Browne 81.39 23 IAMs_20 IAMs_20 10 21 32.3
comp=Z,1µm,18.0s
ESBB Sonseca Array 81.45 309 P **P** **09 40 39.3 -0.8**
ESDC Sonseca Array 81.45 309 P **P** **09 40 40.4 +0.2**
comp=Z,3.4nm,0.8s,baz=57,slow=5.3,SNR=19
ESDC LR LR 10 23 30.0
comp=Z,719nm,18.5s,baz=50,slow=41
ESDC Sonseca Array 81.45 309 P **P** **09 40 39.1 -1.1**
TRF Thorofare Moun 81.48 24 P **P** **09 40 40.5 +0.6**
TRF IAMs_20 IAMs_20 10 21 29.2
comp=Z,2µm,18.0s
TCOL CIGO, UAF Yank 81.56 22 P **P** **09 40 39.8 -0.3**
baz=305
COLA College 81.57 22⇑ *e*P **P** **09 40 40.3 +0.2**
COLA pmax pmax
comp=Z,18nm,1.1s
COLA College 81.57 22 P **P** **09 40 39.5 -0.6**
COLA IAmb IAmb 09 41 05.5
comp=Z,21nm,1.0s
POKR Poker Plat Res 81.57 22 P **P** **09 40 40.0 -0.2**
baz=305
CNBA Chernabura Isl 81.59 34 IAMs_20 IAMs_20 10 20 38.6
comp=Z,1µm,20.0s
CCB Clear Creek Bu 81.71 22 P **P** **09 40 39.5 -1.4**
CCB IAMs_20 IAMs_20 10 23 59.4
comp=Z,1µm,18.0s
WRH Wood River Hil 81.71 23 P **P** **09 40 40.6 -0.3**
WRH IAMs_20 IAMs_20 10 21 53.3
comp=Z,1µm,18.0s
SKT Skwentna 81.79 26 P **P** **09 40 39.9 -1.5**
SKT IAmb IAmb 09 40 50.2
comp=Z,31nm,0.8s
SKT IAMs_20 IAMs_20 10 20 54.5
comp=Z,1µm,19.0s
IL31 81.96 22 P **P** **09 40 41.9 -0.3**
ILAR Eielson Array 81.96 22 P **P** **09 40 40.6 -1.6**
comp=Z,7.2nm,0.7s,baz=298,slow=5.4,SNR=23
ILAR PP **PP** **09 43 48.0 -1.3**
comp=Z,1.3nm,0.9s,baz=304,slow=5.9,SNR=3.2
ILAR PKKPbc **PKKPbc** **09 59 12.6 -1.1**
comp=Z,0.4nm,0.7s,baz=169,slow=2.3,SNR=5.0
ILAR LR LR 10 22 06.7
comp=Z,881nm,18.0s,baz=320,slow=39
ILAR Eielson Array 81.96 22 P **P** **09 40 41.2 -1.0**
ILAR Eielson Array 81.96 22 P **P** **09 40 41.2 -1.0**
SPU Mount Spurr 82.00 26 P **P** **09 40 41.0 -1.6**
RND Reindeer 82.04 24 P **P** **09 40 41.2 -1.6**
RND pmax pmax
comp=Z,18nm,0.8s
RND MLR MLR
comp=Z,2µm,22.0s
RND Reindeer 82.04 24 P **P** **09 40 41.2 -1.6**
RND IAmb IAmb 09 40 51.5
comp=Z,18nm,0.8s
RND IAMs_20 IAMs_20 10 18 32.0
comp=Z,2µm,22.0s
HDA Harding Lake 82.16 22 P **P** **09 40 41.5 -1.8**
baz=306
HDA Harding Lake 82.16 22 P **P** **09 40 41.3 -2.0**
HDA IAMs_20 IAMs_20 10 23 22.0
comp=Z,1µm,18.0s
SUA Susitna One 82.38 26 P **P** **09 40 43.5 -1.1**
SUA IAmb IAmb 09 41 00.3
comp=Z,34nm,0.9s
SUA IAMs_20 IAMs_20 10 22 35.2
comp=Z,1µm,18.0s
PBRG Braganca 82.61 312 *e*P **P** **09 40 47.0 +0.9**
comp=Z,19nm,1.2s
BOSA Boshof 82.65 235 P **P** **09 40 46.6 +0.1**
comp=Z,17nm,0.6s,baz=64,slow=2.5,SNR=21
BOSA LR LR 10 18 49.6
comp=Z,947nm,18.0s,baz=67,slow=37
BOSA Boshof 82.65 235 P **P** **09 40 46.9 +0.3**
BOSA pmax pmax
comp=Z,28nm,1.0s
BOSA Boshof 82.65 235 P **P** **09 40 46.9 +0.3**
BOSA IAmb IAmb 09 40 59.1
comp=Z,28nm,1.0s
DHY Denali Highway 82.78 24 P **P** **09 40 45.6 -1.1**
GHO Glory Hole Cre 82.94 25 P **P** **09 40 49.0 +1.5**
GHO IAmb IAmb 09 41 01.3
comp=Z,23nm,0.8s
GHO IAMs_20 IAMs_20 10 22 24.8
comp=Z,2µm,18.0s
PMR Palmer 82.96 25 P **P** **09 40 46.5 -0.9**
PMR pmax pmax
comp=Z,22nm,1.0s
PMR Palmer 82.96 25 P **P** **09 40 46.5 -0.9**
PMR IAmb IAmb 09 40 58.1
comp=Z,22nm,1.0s
RC01 Rabbit Creek A 83.00 26 P **P** **09 40 47.0 -0.7**
baz=304
MVO Moncorvo 83.06 312 *e*P **P** **09 40 47.8 -0.7**
comp=Z,22nm,0.9s
MVO Moncorvo 83.06 312 *e*LQ LQ 10 02 40.8
MVO *e*LR LR 10 07 14.0
comp=Z,579nm,20.0s
SML Sawmill 83.15 25 P **P** **09 40 47.4 -1.1**
SML IAMs_20 IAMs_20 10 22 31.4
comp=Z,2µm,20.0s
CNPM China Poot 83.23 28 IAMs_20 IAMs_20 10 23 59.7
comp=Z,980nm,20.0s
BRLK Bradley Lake 83.25 27 P **P** **09 40 48.0 -1.0**
BRLK IAmb IAmb 09 41 05.5
comp=Z,23nm,0.7s
BRLK IAMs_20 IAMs_20 10 24 13.1
comp=Z,1µm,18.0s
RIDG Independent Ri 83.30 22 P **P** **09 40 47.8 -1.5**
RIDG IAmb IAmb 09 41 01.4
comp=Z,41nm,1.0s
KNK Knik Glacier 83.33 25 P **P** **09 40 47.9 -1.5**
KNK IAMs_20 IAMs_20 10 23 04.1
comp=Z,1µm,19.0s
SII Sitkinak Islan 83.45 31 IAMs_20 IAMs_20 10 22 30.7
comp=Z,2µm,18.0s
SCRK Sand Creek 83.45 22 P **P** **09 40 49.7 -0.5**
baz=308
SCM Sheep Creek Mo 83.52 25 P **P** **09 40 50.0 -0.5**
SCM pmax pmax
comp=Z,36nm,0.9s
SCM Sheep Creek Mo 83.52 25 P **P** **09 40 50.0 -0.5**
SCM IAmb IAmb 09 41 02.5
comp=Z,36nm,0.9s
PCAB Cabril 83.53 312 *e*P **P** **09 40 53.3 +2.4**
comp=Z,22nm,1.5s
OHAK Old Harbor 83.53 30 P **P** **09 40 49.2 -1.2**
OHAK IAmb IAmb 09 40 56.0
comp=Z,21nm,0.9s
PAX Paxson 83.54 23 P **P** **09 40 50.0 -0.6**
PAX pmax pmax
comp=Z,14nm,0.9s
PAX MLR MLR
comp=Z,1µm,22.0s
PAX Paxson 83.54 23 P **P** **09 40 50.0 -0.6**
PAX IAmb IAmb 09 41 01.2
comp=Z,14nm,0.9s
PAX IAMs_20 IAMs_20 10 20 43.7
comp=Z,1µm,22.0s
KDAK Kodiak Island 83.56 29 P **P** **09 40 49.4 -1.2**
KDAK pmax pmax
comp=Z,24nm,0.7s
KDAK Kodiak Island 83.56 29 P **P** **09 40 49.4 -1.2**
KDAK IAmb IAmb 09 41 00.7
comp=Z,24nm,0.7s
KDAK Kodiak Island 83.56 29 IAMs_20 IAMs_20 10 23 01.6
comp=Z,2µm,19.0s
PGAV Gavieira, Arco 83.59 313 *e*P **P** **09 40 51.1 -0.2**
comp=Z,26nm,1.4s
PGAV Gavieira, Arco 83.59 313 *e*LQ LQ 10 02 51.5
PGAV *e*LR LR 10 03 21.1
comp=Z,606nm,22.0s
DOT Dot Lake 83.63 22 P **P** **09 40 50.1 -0.8**
DOT IAMs_20 IAMs_20 10 19 51.9
comp=Z,1µm,22.0s
DZM Mont Dzumac 83.78 117 *e*P **P** **09 40 55.6 +3.1**
comp=Z,49nm,1.1s
DZM Mont Dzumac 83.78 117 *e*LQ LQ 10 03 42.0
comp=Z,2µm,35.7s
DZM *e*LR LR 10 07 32.3
comp=Z,972nm,24.8s
M24K Tolsona, Glenn 83.80 24 P **P** **09 40 52.3 +0.4**
baz=307
PVIS Viseu 83.83 311 *e*P **P** **09 40 53.3 +0.8**
comp=Z,20nm,1.1s
EGAK Eagle 83.89 21 P **P** **09 40 52.0 -0.2**
EGAK IAmb IAmb 09 41 39.5
comp=Z,54nm,1.9s
EGAK IAMs_20 IAMs_20 10 23 15.7
comp=Z,2µm,19.0s
PCBR Castelo Branco 83.89 310 *e*P **P** **09 40 53.8 +1.1**
comp=Z,27nm,1.2s
PMRV Marv??o 84.00 310 *e*P **P** **09 40 52.5 -0.8**
comp=Z,14nm,0.9s
PMRV Marv??o 84.00 310 *e*LQ LQ 09 55 16.9
PMRV *e*LR LR 10 03 36.8
comp=Z,486nm,20.0s
K27K Chicken 84.07 21 P **P** **09 40 53.4 +0.2**
baz=310
EPYK Eagle Plains 84.17 18 P **P** **09 40 52.4 -1.3**
EPYK IAmb IAmb 09 41 19.7
comp=Z,19nm,1.1s
EPYK IAMs_20 IAMs_20 10 25 17.9
comp=Z,1µm,18.0s
GLI Glacier Island 84.17 25 P **P** **09 40 52.9 -0.8**
GLI IAmb IAmb 09 41 03.2
comp=Z,16nm,0.8s
GLI IAMs_20 IAMs_20 10 23 13.5
comp=Z,1µm,19.0s
MENT Mentasta 84.19 23 P **P** **09 40 53.7 -0.1**
MENT IAMs_20 IAMs_20 10 23 39.9
comp=Z,1µm,19.0s
KLU Klutina 84.27 24 P **P** **09 40 54.0 -0.4**
KLU IAMs_20 IAMs_20 10 23 16.9
comp=Z,2µm,20.0s
FID Port Fidalgo 84.49 25 P **P** **09 40 54.9 -0.4**
FID IAmb IAmb 09 41 06.7
comp=Z,40nm,1.1s
TSUM Tsumeb 84.53 247 IAMs_20 IAMs_20 10 22 14.4
comp=Z,1µm,18.0s
HIN Hinchinbrook I 84.70 26 P **P** **09 40 56.4 0.0**
HIN IAMs_20 IAMs_20 10 22 39.3
comp=Z,2µm,20.0s
PMTG Montargil 84.73 310 *e*P **P** **09 40 57.8 +0.8**
comp=Z,21nm,1.3s
BCAR Beaver Creek A 84.79 22 P **P** **09 40 56.6 -0.3**
PBEJ Beja 84.90 309 *e*P **P** **09 40 59.0 +1.1**
comp=Z,15nm,1.4s
EYAK Cordova Ski Ar 84.90 25 P **P** **09 40 56.9 -0.5**
EYAK IAmb IAmb 09 41 07.0
comp=Z,16nm,0.8s
C36M Paulatuk 84.95 12 P **P** **09 40 56.5 -1.0**
baz=326
C36M Paulatuk 84.95 12 P **P** **09 40 56.2 -1.3**
C36M IAmb IAmb 09 41 00.9
comp=Z,31nm,0.8s
PVAQ Vaqueiros 85.05 308 *e*P **P** **09 40 59.3 +0.7**
comp=Z,26nm,1.1s
PVAQ Vaqueiros 85.05 308 *e*LQ LQ 10 01 16.2
PVAQ *e*LR LR 10 04 08.2
comp=Z,412nm,20.0s
GLB Gilahina Butte 85.10 24 P **P** **09 40 59.1 +0.6**
GLB IAmb IAmb 09 41 31.2
comp=Z,21nm,1.0s
GLB IAMs_20 IAMs_20 10 22 29.9
comp=Z,1µm,21.0s
PBDV Barranco-do-Ve 85.27 308 *e*P **P** **09 40 59.4 -0.4**
comp=Z,33nm,1.3s
PNCL Nicolau / Gran 85.34 309 *e*P **P** **09 41 00.2 +0.1**
comp=Z,16nm,1.1s
VRDI Verde Repeater 85.37 24 P **P** **09 40 59.5 -0.5**
VRDI IAmb IAmb 09 41 16.8
comp=Z,16nm,1.0s
VRDI IAMs_20 IAMs_20 10 22 29.0
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 85.43 24 P **P** **09 41 00.2 +0.2**
MCARA IAMs_20 IAMs_20 10 22 41.6
comp=Z,1µm,22.0s
HMT Hamilton 85.62 25 P **P** **09 41 00.6 -0.4**
HMT IAmb IAmb 09 41 05.5
comp=Z,24nm,0.9s
RTC Rabat Centre 85.78 305 IAMs_20 IAMs_20 10 26 02.5
comp=Z,1µm,19.0s
CRQM Cirque 85.78 24 IAMs_20 IAMs_20 10 24 44.6
comp=Z,1µm,18.0s
KAIM Kayak Island 85.81 25 IAMs_20 IAMs_20 10 23 45.8
comp=Z,2µm,22.0s
TGL Tana Glacier 85.90 24 P **P** **09 41 02.0 -0.5**
TGL IAmb IAmb 09 41 15.3
comp=Z,35nm,0.9s
TGL IAMs_20 IAMs_20 10 23 17.2
comp=Z,1µm,20.0s
BALM Baldy 85.91 24 P **P** **09 41 02.2 -0.4**
BALM IAmb IAmb 09 41 30.3
comp=Z,22nm,1.0s
BALM IAMs_20 IAMs_20 10 23 19.2
comp=Z,1µm,21.0s
PFVI Vila Bisbo 85.96 308 *e*P **P** **09 41 04.6 +1.4**
comp=Z,30nm,1.2s
BARN Barnard Glacie 86.14 23 P **P** **09 41 03.4 -0.5**
BARN IAmb IAmb 09 41 37.5
comp=Z,22nm,1.2s
BARN IAMs_20 IAMs_20 10 23 05.5
comp=Z,1µm,21.0s
ISLE Juniper Island 86.19 24 IAMs_20 IAMs_20 10 24 58.6
comp=Z,1µm,18.0s
CTGM Chitina Glacie 86.33 23 P **P** **09 41 02.8 -2.0**
CTGM IAmb IAmb 09 41 30.1
comp=Z,52nm,1.4s
CTGM IAMs_20 IAMs_20 10 23 10.3
comp=Z,2µm,21.0s
TOC1 Torodi Ar. Sit 86.50 283 IAMs_20 IAMs_20 10 24 27.3
comp=Z,932nm,20.0s
TOA2 Torodi Ar. Sit 86.51 283 IAMs_20 IAMs_20 10 26 17.5
comp=Z,900nm,20.0s
TOA0 Torodi Ar. Sit 86.52 283 P **P** **09 41 05.8 -0.5**
TORD Torodi Ar. Bea 86.52 283 P **P** **09 41 06.4 +0.1**
comp=Z,6.8nm,0.8s,baz=81,slow=3.7,SNR=14
TORD PP **PP** **09 44 28.0 +0.1**
comp=Z,4.4nm,1.1s,baz=54,slow=5.0,SNR=5.0
TORD LR LR 10 24 48.0
comp=Z,709nm,18.1s,baz=85,slow=39
TORD Torodi Ar. Bea 86.52 283 P **P** **09 41 06.0 -0.3**
TOC5 Torodi Ar. Sit 86.54 283 IAMs_20 IAMs_20 10 26 18.3
comp=Z,1000nm,21.0s
YAH Yahtse 86.57 24 IAMs_20 IAMs_20 10 23 16.7
comp=Z,1µm,22.0s
MESA MESA 86.61 24 IAMs_20 IAMs_20 10 23 18.8
comp=Z,1µm,20.0s
BCPM Bancas Point 87.63 24 IAMs_20 IAMs_20 10 28 13.8
comp=Z,1µm,19.0s
HYT Haines Junctio 87.80 22 P **P** **09 41 10.5 -1.4**
WHY Whitehorse 88.83 22 IAMs_20 IAMs_20 10 27 20.4
comp=Z,970nm,18.0s
CASY Casey 89.08 173 P **P** **09 41 18.8 +1.5**
SKAG Skagway 89.54 22 IAMs_20 IAMs_20 10 26 25.2
comp=Z,1µm,19.0s
BESE Bessie Mountai 90.35 23 IAMs_20 IAMs_20 10 26 50.6
comp=Z,1µm,18.0s
JIS Juneau Island 90.74 23 IAMs_20 IAMs_20 10 27 10.0
comp=Z,2µm,19.0s
DLBC Dease Lake 92.14 21 IAMs_20 IAMs_20 10 28 42.8
comp=Z,1µm,19.0s
MAW Mawson 92.22 191 P **P** **09 41 32.1 +0.2**
comp=Z,5.7nm,1.0s,baz=11,slow=7.9,SNR=11
MAW LR LR 10 19 00.2
comp=Z,407nm,18.8s,baz=25,slow=33
MAW Mawson 92.22 191 P **P** **09 41 33.6 +1.7**
MAW pmax pmax
comp=Z,3.0nm,1.2s
MAW Mawson 92.22 191 P **P** **09 41 33.6 +1.7**
YKA Yellowknife Ar 92.84 13 P **P** **09 41 33.7 -1.4**
comp=Z,6.1nm,0.8s,baz=328,slow=4.8,SNR=9.2
YKA LR LR 10 30 22.3
comp=Z,459nm,18.1s,baz=0.0,slow=40
DBIC Dimbokro 94.93 279 P **P** **09 41 46.5 +0.8**
comp=Z,5.5nm,0.8s,baz=77,slow=6.9,SNR=8.6
DBIC LR LR 10 31 15.8
comp=Z,724nm,19.0s,baz=52,slow=40
OXZ Oxford 97.16 134 IAMs_20 IAMs_20 10 25 39.4
comp=Z,1µm,20.0s
BBB Bella Bella 97.70 24 LR LR 10 31 12.5
comp=Z,585nm,19.6s,baz=334,slow=39
BBB Bella Bella 97.70 24 IAMs_20 IAMs_20 10 31 10.3
comp=Z,848nm,19.0s
SYO Syowa Base 98.67 197⇓ *e*P Pdif 09 42 04.0 +2.7
SCHQ Schefferville 101.49 348 IAMs_20 IAMs_20 10 32 33.2
comp=Z,1µm,21.0s
FFC Flin Flon 102.39 9 IAMs_20 IAMs_20 10 35 26.4
comp=Z,814nm,18.0s
B08A Colville Reser 104.05 22 IAMs_20 IAMs_20 10 35 49.9
comp=Z,726nm,20.0s
D05A Enumclaw 104.08 24 IAMs_20 IAMs_20 10 36 22.0
comp=Z,752nm,20.0s
LON Longmire 104.52 24 IAMs_20 IAMs_20 10 36 26.4
comp=Z,868nm,20.0s
NEW Newport 104.87 20 IAMs_20 IAMs_20 10 37 38.4
comp=Z,789nm,20.0s
C09A Chrisman Ranch 104.89 21 IAMs_20 IAMs_20 10 36 52.1
comp=Z,820nm,18.0s
WALA Waterton Lakes 105.14 18 IAMs_20 IAMs_20 10 37 42.6
comp=Z,849nm,19.0s
E08A Dider Farm, El 105.75 23 IAMs_20 IAMs_20 10 40 25.8
comp=Z,714nm,20.0s
JTMT Jette 106.21 19 IAMs_20 IAMs_20 10 37 45.9
comp=Z,1µm,20.0s
ULM Lac du Bonnet 107.52 6 IAMs_20 IAMs_20 10 33 59.2
comp=Z,890nm,21.0s
BMO Blue Mountains 107.78 22 IAMs_20 IAMs_20 10 40 30.7
comp=Z,634nm,19.0s
DGMT Dagmar 108.04 12 IAMs_20 IAMs_20 10 39 29.1
comp=Z,681nm,18.0s
K05A Summer Lake 108.24 26 IAMs_20 IAMs_20 10 36 09.1
comp=Z,637nm,20.0s
BATG Bathurst New B 108.46 345 IAMs_20 IAMs_20 10 37 08.7
comp=Z,1µm,20.0s
DLMT Dillon 108.86 19 IAMs_20 IAMs_20 10 41 14.2
comp=Z,724nm,20.0s
BOZ Bozeman (W) 108.94 18 IAMs_20 IAMs_20 10 39 38.0
comp=Z,1µm,19.0s
KMRM Mail Ridge 109.09 29 IAMs_20 IAMs_20 10 36 10.4
comp=Z,653nm,18.0s
D62A Allapoint, All 109.30 347 IAMs_20 IAMs_20 10 38 12.9
comp=Z,909nm,21.0s
LAO LASA Array 109.31 14 IAMs_20 IAMs_20 10 36 26.8
comp=Z,782nm,20.0s
MDND Maddock 109.43 9 IAMs_20 IAMs_20 10 35 47.7
comp=Z,1µm,21.0s
LMN Caledonia Moun 109.48 344 IAMs_20 IAMs_20 10 35 48.9
comp=Z,1µm,22.0s
VLDQ Val d'Or 109.61 353 IAMs_20 IAMs_20 10 35 48.5
comp=Z,929nm,21.0s
E62A Clayton Lake 109.84 347 IAMs_20 IAMs_20 10 38 29.1
comp=Z,1µm,21.0s
HLID Hailey 109.91 21 IAMs_20 IAMs_20 10 42 44.8
comp=Z,683nm,20.0s
RLMT Red Lodge 110.03 17 IAMs_20 IAMs_20 10 40 54.9
comp=Z,976nm,19.0s
HAL Halifax 110.28 343 IAMs_20 IAMs_20 10 33 59.1
comp=Z,667nm,19.0s
E28A Huff 110.50 10 IAMs_20 IAMs_20 10 36 29.0
comp=Z,1µm,22.0s
FLWY Flagg Ranch 110.59 18 IAMs_20 IAMs_20 10 41 05.7
comp=Z,661nm,20.0s
F62A Pittston Farm, 110.62 348 IAMs_20 IAMs_20 10 38 51.8
comp=Z,1µm,21.0s
IMW Indian Meadow 110.69 18 IAMs_20 IAMs_20 10 40 06.4
comp=Z,601nm,18.0s
G65A Princeton 110.76 346 IAMs_20 IAMs_20 10 39 10.8
comp=Z,1µm,21.0s
LOHW Long Hollow 111.05 18 IAMs_20 IAMs_20 10 40 26.9
comp=Z,601nm,20.0s
TPAW Teton Pass 111.06 19 IAMs_20 IAMs_20 10 39 16.2
comp=Z,742nm,19.0s
PKME Peaks-Kenny Pk 111.09 347 IAMs_20 IAMs_20 10 38 20.2
comp=Z,1µm,21.0s
SNOW Snow King Moun 111.14 18 IAMs_20 IAMs_20 10 40 29.4
comp=Z,708nm,20.0s
EMMW East Machias 111.20 345 IAMs_20 IAMs_20 10 37 31.4
comp=Z,1µm,22.0s
REDW Red Top Meadow 111.20 19 IAMs_20 IAMs_20 10 40 22.0
comp=Z,767nm,18.0s
PAHR Pah Rah Range 111.39 27 IAMs_20 IAMs_20 10 41 23.5
comp=Z,695nm,22.0s
E38A The Farm, Brul 111.48 4 IAMs_20 IAMs_20 10 37 12.0
comp=Z,1µm,20.0s
AHID Auburn Hatcher 111.67 19 IAMs_20 IAMs_20 10 42 08.5
comp=Z,710nm,19.0s
E46A Sault Ste Mari 111.82 358 IAMs_20 IAMs_20 10 37 34.0
comp=Z,1µm,21.0s
F33A 5 Mile Ranch, 111.83 7 IAMs_20 IAMs_20 10 37 06.3
comp=Z,1µm,22.0s
QSPA South Pole Qui 111.92 180 IAMs_20 IAMs_20 10 34 26.5
comp=Z,720nm,18.0s
F36A Milaca 112.09 5 IAMs_20 IAMs_20 10 43 38.0
comp=Z,970nm,20.0s
COWI Conover 112.09 2 IAMs_20 IAMs_20 10 42 29.1
comp=Z,1µm,20.0s
PDAR Pinedale Array 112.13 18 PKiKP **PKiKP** **09 46 58.0 -0.7**
comp=Z,1.3nm,0.9s,baz=25,slow=2.4,SNR=9.8
PDAR PKKPbc **PKKPbc** **09 57 50.0 -0.8**
comp=Z,0.3nm,0.6s,baz=141,slow=5.0,SNR=4.3
RSSD Black Hills 112.23 13 IAMs_20 IAMs_20 10 43 48.0
comp=Z,1µm,19.0s
FRNY Flat Rock 112.30 350 IAMs_20 IAMs_20 10 39 43.2
comp=Z,920nm,19.0s
WAKR Walker 112.38 27 IAMs_20 IAMs_20 10 42 14.8
comp=Z,677nm,21.0s
KVN Kaiserville 112.47 26 IAMs_20 IAMs_20 10 37 54.2
comp=Z,674nm,20.0s
I63A Otisfield 112.51 347 IAMs_20 IAMs_20 10 38 41.9
comp=Z,1µm,21.0s
HWUT Hardware Ranch 112.58 20 IAMs_20 IAMs_20 10 41 40.6
comp=Z,627nm,20.0s
LBNH Lisbon 112.59 348 IAMs_20 IAMs_20 10 36 39.9
comp=Z,969nm,22.0s
PLVO Plevna 112.60 353 IAMs_20 IAMs_20 10 40 28.8
comp=Z,929nm,19.0s
VT1 Waterbury 112.65 349 IAMs_20 IAMs_20 10 40 16.7
comp=Z,1µm,20.0s
RYN Ryan 112.66 27 IAMs_20 IAMs_20 10 42 31.2
comp=Z,575nm,19.0s
LONY Lake Ozonia 112.67 351 IAMs_20 IAMs_20 10 41 00.8
comp=Z,1µm,20.0s
SNAA Sanae 112.69 200 IAMs_20 IAMs_20 10 41 09.5
comp=Z,650nm,18.0s
SPMN Marine on St. 112.78 5 IAMs_20 IAMs_20 10 37 43.2
comp=Z,1µm,20.0s
SUSD Miller 112.85 9 IAMs_20 IAMs_20 10 39 12.3
comp=Z,1µm,22.0s
NVAR Mina Array Bea 112.92 26 PKiKP **PKiKP** **09 47 00.4 0.0**
comp=Z,1.0nm,0.9s,baz=328,slow=3.2,SNR=3.8
NVAR PP **PP** **09 47 47.5 -0.1**
comp=Z,1.4nm,0.8s,baz=340,slow=2.5,SNR=3.6
NVAR PKKPbc **PKKPbc** **09 57 47.3 -0.7**
comp=Z,0.3nm,0.6s,baz=170,slow=3.3,SNR=3.7
LHV Little Huntoon 112.99 27 IAMs_20 IAMs_20 10 38 09.8

comp=Z,808nm,21.0s
K22A Casper 113.05 16 IAMs_20 IAMs_20 10 39 12.7
comp=Z,884nm,22.0s
HNH Hanover 113.17 349 IAMs_20 IAMs_20 10 39 28.3
comp=Z,688nm,20.0s
DELO Deloro Mine 113.18 353 IAMs_20 IAMs_20 10 37 50.1
comp=Z,1µm,22.0s
G45A Suttons Bay 113.18 359 IAMs_20 IAMs_20 10 38 49.9
comp=Z,1µm,21.0s
NCB Newcomb 113.25 350 IAMs_20 IAMs_20 10 38 36.1
comp=Z,743nm,21.0s
MDPB Devils Postpil 113.27 27 IAMs_20 IAMs_20 10 38 27.3
comp=Z,642nm,21.0s
FFD Franklin Falls 113.28 348 IAMs_20 IAMs_20 10 38 57.2
comp=Z,1µm,22.0s
OMMB Old Mammoth Mi 113.32 27 IAMs_20 IAMs_20 10 38 28.6
comp=Z,772nm,22.0s
PECO Prince Edward 113.68 352 IAMs_20 IAMs_20 10 43 10.4
comp=Z,715nm,18.0s
ACCN Adirondack Com 113.73 350 IAMs_20 IAMs_20 10 39 23.9
comp=Z,1µm,22.0s
H43A Windswept, Lux 113.75 1 IAMs_20 IAMs_20 10 44 16.0
comp=Z,1µm,20.0s
J59A Piesco 113.79 350 IAMs_20 IAMs_20 10 38 51.4
comp=Z,1µm,22.0s
ECSD EROS Data Cent 113.87 8 IAMs_20 IAMs_20 10 38 47.2
comp=Z,914nm,20.0s
I37A Lemond, Waseca 113.93 5 IAMs_20 IAMs_20 10 43 41.8
comp=Z,843nm,20.0s
J57A Williamstown 114.06 351 IAMs_20 IAMs_20 10 41 35.6
comp=Z,901nm,20.0s
K62A Royalston 114.17 348 IAMs_20 IAMs_20 10 39 00.7
comp=Z,1µm,22.0s
HRV Adam Dziewonsk 114.19 348 IAMs_20 IAMs_20 10 39 39.3
comp=Z,969nm,21.0s
I40A Norwalk 114.24 3 IAMs_20 IAMs_20 10 37 36.9
comp=Z,960nm,21.0s
J56A Wolcott 114.31 352 IAMs_20 IAMs_20 10 40 08.1
comp=Z,883nm,22.0s
TRY Troy 114.36 349 IAMs_20 IAMs_20 10 39 35.7
comp=Z,992nm,22.0s
J55A Hilton 114.44 353 IAMs_20 IAMs_20 10 41 32.4
comp=Z,1µm,20.0s
QUA2 Belchertown 114.57 348 IAMs_20 IAMs_20 10 39 11.2
comp=Z,1µm,22.0s
PHWY Pilot Hill 114.58 15 IAMs_20 IAMs_20 10 44 11.3
comp=Z,616nm,19.0s
K58A Earlville 114.64 351 IAMs_20 IAMs_20 10 42 10.1
comp=Z,1µm,20.0s
K31A O'Neill 114.66 10 IAMs_20 IAMs_20 10 43 20.1
comp=Z,1µm,19.0s
BRYW Bryant College 114.76 348 IAMs_20 IAMs_20 10 39 55.3
comp=Z,1µm,22.0s
N23A Red Feather La 114.85 16 IAMs_20 IAMs_20 10 38 38.3
comp=Z,1µm,22.0s
O20A White River Ci 114.94 18 IAMs_20 IAMs_20 10 44 07.7
comp=Z,702nm,19.0s
J47A Sunmer 114.96 358 IAMs_20 IAMs_20 10 45 46.1
comp=Z,794nm,19.0s
MMNY Mt. Morris Dam 114.97 353 IAMs_20 IAMs_20 10 38 54.6
comp=Z,1µm,22.0s
TPNV Topopah Spring 115.03 26 IAMs_20 IAMs_20 10 39 42.7
comp=Z,595nm,21.0s
L59A Walton 115.11 350 IAMs_20 IAMs_20 10 42 24.6
comp=Z,1µm,19.0s
BINY Binghamton 115.25 351 IAMs_20 IAMs_20 10 42 30.0
comp=Z,1µm,19.0s
K50A Casco 115.33 357 IAMs_20 IAMs_20 10 38 12.0
comp=Z,991nm,22.0s
K43A Burlington 115.50 1 IAMs_20 IAMs_20 10 46 18.4
comp=Z,959nm,19.0s
L56A Greenwood 115.52 352 IAMs_20 IAMs_20 10 39 24.1
comp=Z,1µm,22.0s
L34A Svendsen Farm, 115.64 8 IAMs_20 IAMs_20 10 47 13.1
comp=Z,1µm,19.0s
OGNE Ogallala 115.70 13 IAMs_20 IAMs_20 10 43 13.6
comp=Z,1µm,20.0s
ERPA Erie 115.80 354 IAMs_20 IAMs_20 10 39 31.4
comp=Z,987nm,20.0s
WSPT Westport, CT 115.82 349 IAMs_20 IAMs_20 10 39 58.3
comp=Z,931nm,22.0s
SHPR Sheep Range 115.84 25 IAMs_20 IAMs_20 10 40 49.4
comp=Z,580nm,19.0s
KSPA Keystone Colle 115.84 351 IAMs_20 IAMs_20 10 42 48.8
comp=Z,1µm,19.0s
AAM Ann Arbor 115.86 357 IAMs_20 IAMs_20 10 45 53.8
comp=Z,792nm,18.0s
ISCO Idaho Springs 115.96 16 IAMs_20 IAMs_20 10 42 02.8
comp=Z,754nm,21.0s
L44A Lake County Fo 116.04 1 IAMs_20 IAMs_20 10 45 50.5
comp=Z,980nm,18.0s
SCIA State Center 116.04 5 IAMs_20 IAMs_20 10 45 04.6
comp=Z,1µm,19.0s
ODNJ Ogdensburg 116.13 350 IAMs_20 IAMs_20 10 42 43.4
comp=Z,910nm,20.0s
L48A N Adams 116.24 358 IAMs_20 IAMs_20 10 38 03.0
comp=Z,1µm,22.0s
M57A Sunshine Farm, 116.25 352 IAMs_20 IAMs_20 10 44 31.5
comp=Z,885nm,19.0s
M55A Ridgway 116.32 353 IAMs_20 IAMs_20 10 39 44.2
comp=Z,1µm,20.0s
M54A Oil Creek Stat 116.37 354 IAMs_20 IAMs_20 10 44 07.6
comp=Z,1µm,20.0s
PV11 David Mesa, Pa 116.44 19 IAMs_20 IAMs_20 10 48 01.7
comp=Z,1µm,22.0s
N59A State Game Lan 116.47 351 IAMs_20 IAMs_20 10 43 16.4
comp=Z,1µm,20.0s
PV18 Skein Mesa, Pa 116.48 19 IAMs_20 IAMs_20 10 45 34.7
comp=Z,905nm,21.0s
M52A Chesterland 116.48 355 IAMs_20 IAMs_20 10 40 39.5
comp=Z,1µm,21.0s
BRNJ Basking Ridge 116.51 350 IAMs_20 IAMs_20 10 42 54.5
comp=Z,1µm,20.0s
N33A J Bar K, Exete 116.70 9 IAMs_20 IAMs_20 10 44 35.2
comp=Z,1µm,20.0s
LUPA Lehigh Univers 116.72 350 IAMs_20 IAMs_20 10 39 32.1
comp=Z,1µm,22.0s
M50A Fremont 116.72 357 IAMs_20 IAMs_20 10 42 09.8
comp=Z,874nm,20.0s
N35A Tabor 116.82 8 IAMs_20 IAMs_20 10 40 09.3
comp=Z,1µm,20.0s
M44A Midewin, Midew 116.82 1 IAMs_20 IAMs_20 10 40 16.4
comp=Z,835nm,21.0s
Q24A Divide 116.87 16 IAMs_20 IAMs_20 10 43 45.8
comp=Z,685nm,19.0s
N54A Moraine State 116.94 354 IAMs_20 IAMs_20 10 40 28.7
comp=Z,833nm,20.0s
SSPA Standing Ston 117.04 352 IAMs_20 IAMs_20 10 40 19.3
comp=Z,1µm,21.0s
N38A Joes South For 117.14 5 IAMs_20 IAMs_20 10 45 31.8
comp=Z,889nm,20.0s
N51A Ashland 117.17 356 IAMs_20 IAMs_20 10 41 44.6
comp=Z,1µm,21.0s
N49A Columbus Grove 117.25 358 IAMs_20 IAMs_20 10 43 52.8
comp=Z,937nm,19.0s
PAGS Pennsylvania G 117.29 351 IAMs_20 IAMs_20 10 43 34.9
comp=Z,1µm,20.0s
N41A Harden Midland 117.40 3 IAMs_20 IAMs_20 10 41 33.6
comp=Z,1µm,22.0s
MVL Millersville 117.46 351 IAMs_20 IAMs_20 10 42 16.5
comp=Z,1µm,21.0s
P61A Hammonton 117.53 350 IAMs_20 IAMs_20 10 43 42.6
comp=Z,1000nm,19.0s
S22A 4UR Ranch, Cre 117.56 18 IAMs_20 IAMs_20 10 41 40.1
comp=Z,747nm,21.0s
MVCO Mesa Verde 117.56 19 IAMs_20 IAMs_20 10 46 20.3
comp=Z,576nm,21.0s
O53A New Philadelph 117.75 355 IAMs_20 IAMs_20 10 41 10.1
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 117.89 357 IAMs_20 IAMs_20 10 37 18.6
comp=Z,866nm,22.0s
SDCO Great Sand Dun 117.92 17 IAMs_20 IAMs_20 10 41 18.8
comp=Z,701nm,21.0s
O52A Adamsville 117.93 356 IAMs_20 IAMs_20 10 41 22.9
comp=Z,1µm,20.0s
O49A Covington 117.99 358 IAMs_20 IAMs_20 10 44 14.3
comp=Z,1µm,20.0s
O44A Mansfield 118.05 1 IAMs_20 IAMs_20 10 39 53.8
comp=Z,1µm,22.0s
P57A Homestead Farm 118.19 352 IAMs_20 IAMs_20 10 45 31.8
comp=Z,1µm,19.0s
MCWV Mont Chateau 118.22 354 IAMs_20 IAMs_20 10 41 39.5
comp=Z,632nm,20.0s
KSU1 Kansas State U 118.43 9 IAMs_20 IAMs_20 10 46 04.9
comp=Z,1µm,20.0s
P52A Corning 118.43 356 IAMs_20 IAMs_20 10 47 59.1
comp=Z,958nm,19.0s
P43A Skaggs, Pawnee 118.53 2 IAMs_20 IAMs_20 10 46 39.4
comp=Z,1µm,20.0s

P51A Williamsport 118.64 357 IAMs_20 IAMs_20 10 41 14.5
comp=Z,776nm,21.0s
R32A Long Quarter, 118.77 11 IAMs_20 IAMs_20 10 40 39.8
comp=Z,849nm,21.0s
T25A Trinidad 118.78 16 IAMs_20 IAMs_20 10 43 44.4
comp=Z,825nm,20.0s
Q54A Coxs Mills 118.98 355 IAMs_20 IAMs_20 10 41 29.6
comp=Z,1µm,20.0s
BELA Belgrano 2 119.07 191 PKiKP 09 47 10.9 +0.2
W18A Petrified Fore 119.07 21 PKPdf 09 47 09.1 -3.1
Q44A Meyer Farm, Va 119.28 2 IAMs_20 IAMs_20 10 45 43.4
comp=Z,1µm,20.0s
OLIL Olney 119.47 1 IAMs_20 IAMs_20 10 41 13.5
comp=Z,1µm,22.0s
R58B Mineral 119.67 352 IAMs_20 IAMs_20 10 49 44.0
comp=Z,846nm,20.0s
R53A Hurricane 119.72 356 IAMs_20 IAMs_20 10 41 59.1
comp=Z,1µm,21.0s
R50A Paris 119.89 358 IAMs_20 IAMs_20 10 45 32.7
comp=Z,960nm,20.0s
S57A Dark Hollow, R 120.00 353 IAMs_20 IAMs_20 10 42 08.7
comp=Z,1µm,20.0s
CCM Cathedral Cave 120.02 4 IAMs_20 IAMs_20 10 48 19.8
comp=Z,861nm,18.0s
S58A Poland Farm, P 120.04 352 IAMs_20 IAMs_20 10 49 52.7
comp=Z,861nm,20.0s
S54A Dingess, Beckl 120.19 355 IAMs_20 IAMs_20 10 42 54.8
comp=Z,1µm,20.0s
ANMO Albuquerque 120.27 19 IAMs_20 IAMs_20 10 43 32.1
comp=Z,868nm,20.0s
T60A Surry 120.32 351 IAMs_20 IAMs_20 10 42 15.2
comp=Z,1µm,22.0s
S51A Beattyville 120.50 357 IAMs_20 IAMs_20 10 42 22.8
comp=Z,947nm,22.0s
T35A Sooner Cattle 120.59 9 IAMs_20 IAMs_20 10 45 46.0
comp=Z,755nm,20.0s
214A Organ Pipe Nat 120.76 26 IAMs_20 IAMs_20 10 44 39.5
comp=Z,532nm,19.0s
Y22D IRIS PASSCAL I 120.94 19 IAMs_20 IAMs_20 10 42 54.8
comp=Z,769nm,22.0s
T42A Van Buren 121.05 4 PKPdf 09 47 14.4 -1.3
T50A Nancy 121.17 358 IAMs_20 IAMs_20 10 46 13.4
comp=Z,944nm,20.0s
T47A Sharon Grove 121.23 0 IAMs_20 IAMs_20 10 41 02.9
comp=Z,855nm,22.0s
PARMO Parma 121.49 3 IAMs_20 IAMs_20 10 43 01.7
comp=Z,958nm,22.0s
U54A Nelsons Funny 121.51 355 IAMs_20 IAMs_20 10 43 52.4
comp=Z,765nm,18.0s
HHAR Hobbs 121.54 7 PKPdf 09 47 14.6 -2.2
AMTX Amarillo 121.59 14 IAMs_20 IAMs_20 10 43 22.8
comp=Z,887nm,21.0s
TZTN Tazewell 121.59 357 IAMs_20 IAMs_20 10 46 30.7
comp=Z,908nm,20.0s
HICK Hickman 121.63 2 IAMs_20 IAMs_20 10 42 04.5
comp=Z,937nm,22.0s
U49A Red Boiling Sp 121.69 359 IAMs_20 IAMs_20 10 43 59.3
comp=Z,909nm,21.0s
V60A Jim Taylor Roa 121.75 351 IAMs_20 IAMs_20 10 42 23.0
comp=Z,1µm,22.0s
BBSR BB Station 121.86 338 IAMs_20 IAMs_20 10 43 23.1
comp=Z,653nm,21.0s
OKCFA Oklahoma City 121.91 10 IAMs_20 IAMs_20 10 46 36.1
comp=Z,1µm,22.0s
LCAR Lake Charles 122.00 4 PKPdf 09 47 16.7 -0.9
PEBM Pemiscott Bayo 122.03 3 IAMs_20 IAMs_20 10 43 17.1
comp=Z,916nm,22.0s
WVT Waverly 122.08 1 PKIKP PKiKP 09 47 18.6 +0.7
WVT Waverly 122.08 1 PKPdf PKiKP 09 47 18.6 +0.7
WVT IAMs_20 IAMs_20 10 48 05.4
comp=Z,858nm,19.0s
CLTN Cedars of Leba 122.12 360 PKPdf 09 47 15.8 -2.0
MSTX Muleshoe 122.20 16 IAMs_20 IAMs_20 10 45 20.0
comp=Z,821nm,21.0s
HALT Halls 122.25 2 IAMs_20 IAMs_20 10 46 24.1
comp=Z,957nm,20.0s
V52A Sevierville 122.29 357 IAMs_20 IAMs_20 10 51 24.2
comp=Z,736nm,21.0s
WMOK Wichita Mounta 122.34 12 IAMs_20 IAMs_20 10 48 30.4
comp=Z,858nm,18.0s
TKL Tuckaleechee C 122.48 357 IAMs_20 IAMs_20 10 44 28.3
comp=Z,731nm,18.0s
319A Douglas 122.62 23 IAMs_20 IAMs_20 10 50 27.6
comp=Z,644nm,22.0s
WHAR Wooly Hollow 122.69 5 IAMs_20 IAMs_20 10 43 09.5
comp=Z,1µm,22.0s
CPCT Cooper Cave 122.72 358 IAMs_20 IAMs_20 10 49 11.6
comp=Z,974nm,20.0s
W41B Gary Mavity, V 122.81 5 IAMs_20 IAMs_20 10 43 23.7
comp=Z,994nm,22.0s
W50A Signal Mountai 123.00 359 IAMs_20 IAMs_20 10 47 18.8
comp=Z,885nm,20.0s
W45A Hickory Valley 123.01 2 IAMs_20 IAMs_20 10 46 54.1
comp=Z,1000nm,19.0s
MET Memphis--Engin 123.01 3 IAMs_20 IAMs_20 10 50 16.1
comp=Z,1µm,20.0s
W52A Murphy 123.05 357 IAMs_20 IAMs_20 10 44 55.4
comp=Z,1µm,21.0s
BG3 Lake Jocassee 123.10 356 IAMs_20 IAMs_20 10 45 17.6
comp=Z,662nm,21.0s
UALR University of 123.19 5 IAMs_20 IAMs_20 10 49 55.9
comp=Z,1µm,19.0s
PAULI Pauline 123.19 355 IAMs_20 IAMs_20 10 44 29.1
comp=Z,940nm,20.0s
EPT El Paso 123.20 20 IAMs_20 IAMs_20 10 46 04.7
comp=Z,854nm,22.0s
PLAL Pickwick Lake 123.22 1 IAMs_20 IAMs_20 10 46 29.6
comp=Z,1µm,20.0s
MIAR Mount Ida 123.30 7 PKIKP PKPdf 09 47 20.3 +0.1
MIAR Mount Ida 123.30 7 P PKPdf 09 47 20.1 0.0
baz=353
MIAR Mount Ida 123.30 7 PKPdf PKPdf 09 47 20.2 +0.1
X40A Basin Creek Fa 123.43 6 IAMs_20 IAMs_20 10 43 44.3
comp=Z,1µm,22.0s
X51A Calhoun 123.62 358 IAMs_20 IAMs_20 10 50 34.2
comp=Z,583nm,20.0s
MNTX Cornudas Mount 123.62 19 P PKPdf 09 47 20.8 -0.1
baz=339
MNTX Cornudas Mount 123.62 19 PKPdf PKPdf 09 47 20.0 -0.8
MNTX IAMs_20 IAMs_20 10 48 26.7
comp=Z,572nm,19.0s
OXF Oxford 123.64 3 IAMs_20 IAMs_20 10 51 59.9
comp=Z,870nm,19.0s
Y59A Loris 123.71 352 IAMs_20 IAMs_20 10 47 00.0
comp=Z,829nm,21.0s
HODGE Hodges 123.81 355 IAMs_20 IAMs_20 10 45 54.5
comp=Z,971nm,20.0s
CCAR Cane Creek 124.09 5 IAMs_20 IAMs_20 10 44 14.7
comp=Z,1µm,22.0s
Z41A Richland Creek 124.65 6 IAMs_20 IAMs_20 10 44 32.6
comp=Z,919nm,22.0s
Z51A Franklin 124.87 358 IAMs_20 IAMs_20 10 49 05.4
comp=Z,1µm,21.0s
146A Union 125.53 2 IAMs_20 IAMs_20 10 45 59.7
comp=Z,997nm,22.0s
VBMS Vicksburg 125.87 4 IAMs_20 IAMs_20 10 50 30.8
comp=Z,858nm,19.0s
257A Skidaway Islan 125.95 354 IAMs_20 IAMs_20 10 47 36.1
comp=Z,961nm,19.0s
JCT Junction City 126.25 14 PKIKP PKPdf 09 47 24.7 -1.3
JCT Junction City 126.25 14 P PKPdf 09 47 25.2 -0.8
baz=345
JCT Junction City 126.25 14 PKPdf PKPdf 09 47 24.7 -1.3
TX31 Lajitas Ar. Si 126.34 18 PKPdf PKPdf 09 47 25.4 -0.9
TX32 Lajitas Array 126.34 18 PKPdf 09 47 25.0 -1.3
TXAR Lajitas Array 126.34 18 PKP PKPdf 09 47 25.8 -0.5
comp=Z,4.7nm,1.0s,baz=13,slow=0.5,SNR=17
TXAR Lajitas Array 126.34 18 PKIKP PKPdf 09 47 25.0 -1.2
TXAR Lajitas Array 126.34 18 PKPdf PKPdf 09 47 25.0 -1.2
342A Flagon Creek P 126.56 6 IAMs_20 IAMs_20 10 50 21.2
comp=Z,894nm,20.0s
344A Westbrook Farm 126.62 4 IAMs_20 IAMs_20 10 47 19.6
comp=Z,949nm,20.0s
TIGA Tifton 126.68 357 IAMs_20 IAMs_20 10 45 17.3
comp=Z,894nm,22.0s
TAOE Nuku Hiva Isla 127.18 84 eLR LR 10 27 28.1
comp=Z,571nm,30.4s
553A Crawfordville 127.96 357 IAMs_20 IAMs_20 10 52 58.3
comp=Z,834nm,19.0s
833A Chaparral WMA, 128.41 14 IAMs_20 IAMs_20 10 47 08.4
comp=Z,983nm,22.0s
656A Willston 128.66 355 IAMs_20 IAMs_20 10 51 60.0
comp=Z,838nm,20.0s
060A Indiantown 130.76 352 IAMs_20 IAMs_20 10 48 07.5
comp=Z,850nm,20.0s
ANWB Willy Bob 133.51 326 IAMs_20 IAMs_20 10 51 15.2
comp=Z,474nm,21.0s

SMRT St. Maarten 133.83 328 IAMs_20 IAMs_20 10 51 23.7
comp=Z,636nm,20.0s
GRTK Grand Turk 134.04 340 IAMs_20 IAMs_20 10 47 24.5
comp=Z,858nm,22.0s
SABA Saba 134.28 328 IAMs_20 IAMs_20 10 51 37.6
comp=Z,708nm,21.0s
FDF Fort de France 135.59 323 IAMs_20 IAMs_20 10 47 53.8
comp=Z,619nm,21.0s
SC01 Santiago de lo 135.84 338 IAMs_20 IAMs_20 10 50 12.4
comp=Z,922nm,21.0s
NAN01 Guarapari, ES 136.06 267 eP PKiKP 09 47 48.8 +2.5
SDDR Presa de Saban 136.44 338 IAMs_20 IAMs_20 10 53 13.4
comp=Z,892nm,21.0s
GTBY Guantanamo Bay 136.70 344 IAMs_20 IAMs_20 10 59 14.5
comp=Z,666nm,21.0s
TEIG Tepich 137.91 2 IAMs_20 IAMs_20 10 52 47.6
comp=Z,833nm,22.0s
GRGR Grenville 137.98 322 IAMs_20 IAMs_20 10 49 28.5
comp=Z,511nm,21.0s
MAN01 Angra dos Reis 140.52 260 eP PKiKP 09 47 56.9 +1.5
PRPB Parauapebas 140.94 288 eP PKiKP 09 47 58.6 +2.2
BSCB Bom Sucesso 140.99 264 eP PKiKP 09 47 58.2 +1.8
PETF Flores 141.11 5 IAMs_20 IAMs_20 11 01 05.4
comp=Z,718nm,20.0s
CCIG Comitan 141.50 8 IAMs_20 IAMs_20 11 04 21.8
comp=Z,678nm,20.0s
HUEH Huehuetenango 142.53 7 IAMs_20 IAMs_20 11 01 22.1
comp=Z,670nm,20.0s
BDFB Brasilia 142.82 273 IAMs_20 IAMs_20 11 01 33.8
comp=Z,643nm,19.0s
TGUH Tegucigalpa,Un 144.06 1 PKPdf PKPdf 09 48 00.6 +1.2
TGUH IAMs_20 IAMs_20 11 01 01.8
comp=Z,616nm,20.0s
MATN Matagalpa 145.18 359 PKPbc 09 47 59.5 -1.3
TIJ01 Guaruva-PR 145.32 257 eP PKiKP 09 48 05.0 -0.3
SDV Santo Domingo 145.36 331 eP PKPbc 09 48 01.2 -0.4
SDV Santo Domingo 145.36 331 IAMs_20 IAMs_20 10 56 20.8
comp=Z,715nm,22.0s
BOAB BOACO BROADBAN 145.65 358 PKPdf 09 48 01.5 -0.6
FRTB Fartura 145.69 261 eP PKiKP 09 48 05.9 -0.1
ITRB Iturama 145.93 267 eP PKiKP 09 48 07.2 +0.7
ACON Acoyapa 146.10 357 PKPdf 09 48 01.9 -0.9
ACON IAMs_20 IAMs_20 10 48 31.0
comp=Z,430nm,21.0s
NPGB Novo Progresso 146.19 291 eP PKiKP 09 48 06.5 -0.8
ARAG Araguaiana, MT 146.35 275 eP PKPab 09 48 06.5 +1.3
SMLC San Martn de 146.85 337 eP PKPdf 09 48 03.4 -0.7
CNLB Canela 146.92 250 eP PKiKP 09 48 08.1 -0.3
PCMB Pacaembu 147.06 264 eP PKPab 09 48 08.4 +0.5
OCAC Ocana 147.08 335 eP PKPbc 09 48 07.5 +0.8
MOTC Monteria, Cord 147.43 339 eP PKPdf 09 48 05.7 +0.6
HDC Heredia 147.99 355 IAMs_20 IAMs_20 10 58 24.9
comp=Z,709nm,21.0s
ITAB Concordia 148.15 254 eP PKiKP 09 48 10.4 -0.4
BCIP Isla Barro Col 148.19 347 PKP2 PKPbc 09 48 08.9 -0.6
BCIP MLR MLR
comp=Z,700nm,22.0s
BCIP Isla Barro Col 148.19 347 PKPbc 09 48 08.9 -0.6
BCIP IAMs_20 IAMs_20 10 57 14.7
comp=Z,660nm,22.0s
BRRC Barranca, Sant 148.26 335 eP PKPdf 09 48 08.1 +1.7
CLDB Colider 148.32 286 eP PKPbc 09 48 09.6 -0.3
UREC San Jos de Ur 148.34 338 eP PKPdf 09 48 06.2 -0.4
ZARC Zaragoza, Cauc 148.35 337 eP PKPbc 09 48 10.7 +0.7
MACA Manacapuru-AM 148.43 303 eP PKPbc 09 48 09.4 -0.8
TRCB Terra Rica 148.46 262 eP PKPbc 09 48 09.8 -0.3
BARC Barichara 148.52 333 eP PKPbc 09 48 09.9 -0.9
PTBC PUERTO BERRIO 149.07 336 eP PKPbc 09 48 10.5 -1.4
RUSC La Rusia 149.10 333 eP PKPdf 09 48 08.9 +0.4
DBBC Dabeiba 149.26 339 eP PKPbc 09 48 12.3 -0.1
SPBC San Pablo de B 149.73 334 eP PKPbc 09 48 11.7 -1.9
HELC Santa Helena 149.79 337 eP PKPbc 09 48 13.5 -0.6
NORC Norcasia 150.13 336 eP PKPbc 09 48 13.5 -1.0
CBOC Ciudad Bolivar 150.27 338 eP PKiKP 09 48 16.1 +0.2
SOLC Bahia Solano 150.38 341 eP PKPdf 09 48 10.0 +0.1
CHIC Chingaza 150.51 333 eP PKPbc 09 48 14.7 -1.2
ROSC El Rosal 150.57 334 PKPbc PKPbc 09 48 15.3 -0.7
comp=Z,31nm,0.9s,baz=106,slow=5.9,SNR=4.6
ROSC El Rosal 150.57 334 eP PKPbc 09 48 13.8 -2.2
ROSC El Rosal 150.57 334 IAMs_20 IAMs_20 11 06 29.2
comp=Z,631nm,21.0s
GUY2C Guyana, Caldas 150.63 336 eP PKPdf 09 48 13.5 +2.7
VILC Villavicencio, 150.96 332 eP PKPbc 09 48 15.7 -0.9
TOLC Tolima 151.20 336 eP PKPdf 09 48 14.2 +2.7
PLMC San Jos del P 151.25 338 eP PKPdf 09 48 13.5 +2.2
ORTC Ortega, Tolima 151.79 335 eP PKPbc 09 48 16.8 -1.7
PRAC Prado 151.82 334 eP PKPdf 09 48 14.4 +2.2
YOTC Yotoco, Valle 152.13 337 eP PKPdf 09 48 14.2 +1.5
MACC Macarena, Meta 152.78 331 eP PKPdf 09 48 15.8 +2.3
CPUP Villa Florida 152.83 255 PKPbc PKPbc 09 48 19.0 -1.4
comp=Z,8.5nm,0.8s,baz=91,slow=2.8,SNR=12
CPUP Villa Florida 152.83 255 PKIKP PKPbc 09 48 19.3 -1.0
CPUP Villa Florida 152.83 255 PKPbc 09 48 19.3 -1.0
CPUP Villa Florida 152.83 255 eP PKPbc 09 48 18.4 -1.9
PTLB Pontes e Lacer 153.02 279 eP PKPdf 09 48 17.4 +3.7
FLOC Florencia 154.07 334 eP PKPbc 09 48 21.6 -1.9
OTAV Otavalo 156.35 339 IAMs_20 IAMs_20 11 09 17.0
comp=Z,635nm,22.0s
OTAV Otavalo 156.35 339 eP PKPdf 09 48 22.4 +3.3
ETMB Extrema 156.78 298 eP PKPdf 09 48 21.4 +2.4
PLCA Paso Flores 156.89 213 PKPab PKPab 09 48 48.9 +0.7
comp=Z,6.3nm,0.9s,baz=93,slow=6.3,SNR=6.3
PLCA Paso Flores 156.89 213 PKP2 PKPab 09 48 50.3 +2.0
PLCA Paso Flores 156.89 213 PKPab 09 48 50.2 +2.0
PLCA Paso Flores 156.89 213 eP PKPdf 09 48 23.0 +4.5
LPAZ La Paz 161.45 285 PKP PKPdf 09 48 24.6 -0.5
comp=Z,1.5nm,0.9s,baz=28,slow=5.6,SNR=8.2
LPAZ La Paz 161.45 285 PKIKP PKPdf 09 48 24.0 -1.1
LPAZ La Paz 161.45 285 PKPdf PKPdf 09 48 24.0 -1.1
LPAZ La Paz 161.45 285 eP PKPdf 09 48 28.3 +3.2
LVC Limon Verde 163.44 265 eP PKPdf 09 48 30.8 +4.2

JMA ***09*** *09:29:47.6±0.1, 24°.70N×122°.03E, h87km±2km, M1.5*
TAP ***09*** *09:29:47.7, 24.81N×122.02E, h83km, ML2.6, B*
ISC 09 09:29:47.5±1.7, 24.84N±0.05×122.04E±0.03, h84km±10km, n36, σ0.55/65, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.10**	**273**	*eP*	**Pn**	**09 29 59.9**	**+0.4**
EGS	baz=298			*eS*	**Sn**	**09 30 07.9**	**-0.3**
TWB1	**Santiao Chiao**	**0.17**	**344**	*eP*	**Pn**	**09 29 59.9**	**+0.2**
TWB1	baz=354			*eS*	**Sn**	**09 30 08.1**	**-0.5**
TIPB	**Shuangxi**	**0.24**	**304**	P	**Pn**	**09 30 00.1**	**+0.2**
TIPB	baz=313			*eS*	**Sn**	**09 30 08.3**	**-0.8**
TWC	**Suao**	**0.29**	**218**	P	**Pn**	**09 30 00.1**	**0.0**
TWC	baz=216			*eS*	**Sn**	**09 30 09.0**	**-0.5**
NWF	**Wu-fen Shan**	**0.33**	**314**	*eP*	**Pn**	**09 30 00.6**	**0.0**
WFSB	**Wu-fen Shan**	**0.33**	**314**	P	**Pn**	**09 30 00.5**	**+0.1**
ENAH	**Nanao**	**0.44**	**209**	*eP*	**Pn**	**09 30 01.7**	**+0.5**
ENAH	baz=209			*eS*	**Sn**	**09 30 11.1**	**-0.2**
ENTT	**Nioudou**	**0.48**	**245**	P	**Pn**	**09 30 02.0**	**+0.5**
ENTT	baz=248			*eS*	**Sn**	**09 30 12.8**	**+1.1**
ENA	**Nanau**	**0.49**	**214**	P	**Pn**	**09 30 02.0**	**+0.4**
ENA	baz=213			S	**Sn**	**09 30 12.4**	**+0.4**
NWLT	**Wulai**	**0.49**	**263**	P	**Pn**	**09 30 01.7**	**+0.1**
NWLT	baz=272			*eS*	**Sn**	**09 30 11.4**	**-0.7**
TATO	**Taipei**	**0.52**	**285**	*eP*	**Pn**	**09 30 01.5**	**-0.3**
TATO	baz=294			*eS*	**Sn**	**09 30 13.6**	**+1.2**
YM01	**YM01**	**0.53**	**305**	P	**Pn**	**09 30 01.9**	**0.0**
YM01	baz=309			*eS*	**Sn**	**09 30 11.9**	**-0.6**
NDT	**Datong Townshi**	**0.54**	**244**	P	**Pn**	**09 30 02.5**	**+0.5**

	baz=252						
NDT			S		Sn	09 30 13.3	+0.7
	baz=252						
YM10	**YM10**	**0.54 306**	*e*S		**Sn**	**09 30 12.0**	**-0.7**
	baz=305						
YM05	**YM05**	**0.54 307**	*e*P		**Pn**	**09 30 02.1**	**+0.1**
	baz=306						
YM05			*e*S		**Sn**	**09 30 12.0**	**-0.8**
	baz=306						
YM04	**YM04**	**0.56 304**	*e*P		**Pn**	**09 30 02.3**	**+0.2**
	baz=308						
YM04			S		**Sn**	**09 30 12.4**	**-0.6**
	baz=308						
TWS1	**Kuangyinshan**	**0.62 295**	*e*S		**Sn**	**09 30 14.6**	**+0.6**
	baz=304						
NNSB	**Datong**	**0.73 236**	*e*P		**Pn**	**09 30 04.3**	**+0.4**
	baz=243						
NNSB			*e*S		**Sn**	**09 30 16.1**	**0.0**
	baz=243						
NNSH	**Datong**	**0.73 236**	P		**Pn**	**09 30 04.4**	**+0.5**
	baz=243						
NNSH			*e*S		**Sn**	**09 30 15.7**	**-0.4**
	baz=243						
NNS	**Nan Shan**	**0.73 237**	P		**Pn**	**09 30 04.3**	**+0.4**
	baz=244						
NNS			S		**Sn**	**09 30 16.4**	**+0.3**
	baz=244						
NACB	**Ninganchiao**	**0.78 212**	*e*P		**Pn**	**09 30 04.0**	**-0.3**
	baz=204						
NACB			*e*S		**Sn**	**09 30 16.6**	**-0.2**
	baz=204						
ETLH	**Xiulin Townshi**	**0.81 219**	*e*P		**Pn**	**09 30 04.3**	**-0.4**
	baz=229						
ETLH			S		**Sn**	**09 30 17.0**	**-0.6**
	baz=229						
JYNG	**Yonagunijimaku**	**0.91 115**	P		**Pn**	**09 30 05.8**	**+0.1**
JYNG			*e*S		**Sn**	**09 30 19.3**	**0.0**
FUSS	**Fushou**	**0.94 231**	P		**Pn**	**09 30 06.8**	**+0.4**
	baz=224						
FUSS			*e*S		**Sn**	**09 30 20.2**	**-0.1**
	baz=224						
LIOB	**Emei**	**0.95 258**	P		**Pn**	**09 30 06.5**	**+0.2**
	baz=260						
LIOB			*e*S		**Sn**	**09 30 20.3**	**0.0**
	baz=260						
YOJ	**Yonaguni jima**	**0.96 113**	*e*P		**Pn**	**09 30 06.6**	**+0.3**
	baz=106						
YOJ	**Yonaguni jima**	**0.96 113**	P		**Pn**	**09 30 06.4**	**+0.1**
YOJ			*e*S		**Sn**	**09 30 20.2**	**-0.1**
NSTT	**Nanjuang**	**0.97 258**	*e*P		**Pn**	**09 30 05.8**	**-0.7**
	baz=259						
NSTT			*e*S		**Sn**	**09 30 20.2**	**-0.4**
	baz=259						
WHF	**Hehuan Shan**	**0.99 226**	P		**Pn**	**09 30 07.6**	**+0.4**
	baz=220						
WHF			S		**Sn**	**09 30 21.5**	**-0.2**
	baz=220						
TDCB	**Techi**	**0.99 234**	P		**Pn**	**09 30 08.1**	**+1.2**
	baz=227						
TDCB			S		**Sn**	**09 30 21.9**	**+0.5**
	baz=227						
CHGB	**Renai**	**1.11 226**	*e*P		**Pn**	**09 30 08.6**	**+0.3**
	baz=226						
CHGB			S		**Sn**	**09 30 23.4**	**-0.5**
	baz=226						
WHP	**Taichung City**	**1.15 241**	P		**Pn**	**09 30 09.3**	**+0.7**
	baz=242						
WHP			*e*S		**Sn**	**09 30 24.7**	**+0.2**
	baz=242						
ESL	**Shilin**	**1.16 209**	*e*P		**Pn**	**09 30 07.8**	**-1.0**
	baz=214						
ESL			*e*S		**Sn**	**09 30 23.0**	**-1.7**
	baz=214						
IRIF	**Iriomote-Funau**	**1.62 108**	P		**Pn**	**09 30 14.7**	**+0.2**
JKRS	**Kuro-shima**	**1.89 108**	P		**Pn**	**09 30 18.6**	**+0.6**
JKRS			S		**Sn**	**09 30 41.3**	**0.0**
JIJ	**Ishigaki jima**	**1.97 104**	S		**Sn**	**09 30 42.8**	**-0.4**

*IDC **09** 09:58:07.0±6.7,5°.71N×94°.99E,h0km,mb3.7/4,mb1 3.8/4, mb1mx3.5/36,mbtmp3.7/4,Error ellipse: s-maj=333.8km s-min=24.6km az=58.0*
*NEIC **09** 09:58:09.8±2.8,5°.5N±0°.2×94°.55E±0°.05,h41km±13km, mb4.5/13,Error ellipse: s-maj=23.0km s-min=7.0km az=180.0*

ISC 09 09:58:10.3±1.5,5°.5N±0°.2×94°.6E±0°.2,h46km,n24, σ1°35/21,mb4.4/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.37**	**96**	Pn	**Pn**	**09 58 46.5**	**-0.2**
H08S3	**Diego Garcia H**	**25.62**	**240**	T	T	10 30 51.3
	baz=62,slow=74					
H08S2	**Diego Garcia H**	**25.62**	**240**	T	T	10 30 07.1
	baz=62					
H08S1	**Diego Garcia H**	**25.64**	**240**	T	T	10 30 03.5
	baz=62,slow=74					
MMRI	**Maumere**	**30.94**	**117**	P	**P**	**10 04 22.1**	**-1.1**
KNRA	**Kununurra**	**39.85**	**122**	P	**P**	**10 05 38.2**	**-1.5**
KNRA				IAmb	IAmb	10 06 05.8
	comp=Z,12nm,1.2s					
BTK	**Batken**	**40.51**	**332**	P	**P**	**10 05 45.6**	**+0.5**
MKAR	**Makanchi Array**	**42.48**	**347**	P	**P**	**10 06 02.4**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=170,slow=8.7,SNR=5.4					
MKAR	**Makanchi Array**	**42.48**	**347**	P	**P**	**10 06 00.4**	**-0.7**
KK31	**Karatay Array**	**43.07**	**334**	P	**P**	**10 06 04.1**	**-1.8**
INCN	**Inchon**	**43.20**	**38**	P	**P**	**10 06 07.0**	**0.0**
INCN				IAmb	IAmb	10 06 08.9
	comp=Z,11nm,1.1s					
JNU	**Nakatsue**	**43.52**	**46**	P	**P**	**10 06 09.8**	**+0.2**
JNU				IAmb	IAmb	10 06 22.4
	comp=Z,8.9nm,1.1s					
WB0	**Warramunga Arr**	**46.51**	**124**	P	**P**	**10 06 34.9**	**+1.3**
WRA	**Warramunga Arr**	**46.55**	**124**	P	**P**	**10 06 35.3**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=304,slow=9.7,SNR=8.8					
WRA	**Warramunga Arr**	**46.55**	**124**	P	**P**	**10 06 35.5**	**+1.6**
WRAB	**Tennant Creek**	**46.56**	**124**	P	**P**	**10 06 35.7**	**+1.7**
WB2	**Warramunga Arr**	**46.56**	**124**	P	**P**	**10 06 34.1**	**+0.1**
WB2				IAmb	IAmb	10 06 55.1
	comp=Z,8.9nm,1.4s					
WR0	**Warramunga Arr**	**46.73**	**124**	P	**P**	**10 06 36.7**	**+1.5**
WR0				IAmb	IAmb	10 06 56.0
	comp=Z,6.4nm,1.3s					
KURK	**Kurchatov**	**47.00**	**346**	P	**P**	**10 06 36.6**	**-0.3**
KURK				IAmb	IAmb	10 06 51.5
	comp=Z,3.5nm,0.6s					
JWT	**Wachi**	**47.84**	**46**	P	**P**	**10 06 44.2**	**+0.4**
ASAR	**Alice Springs**	**48.08**	**129**	P	**P**	**10 06 47.1**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=301,slow=7.8,SNR=4.6					
ASAR	**Alice Springs**	**48.08**	**129**	P	**P**	**10 06 43.9**	**-1.8**
ZALV	**Zalesovo Beam**	**48.95**	**352**	P	**P**	**10 06 54.4**	**+2.5**
	comp=Z,0.7nm,0.2s,baz=183,slow=8.2,SNR=3.5					
ZALV	**Zalesovo Beam**	**48.95**	**352**	P	**P**	**10 06 51.4**	**-0.5**

NEIC 09 10:01:20.6±2.2,33°.62N±0°.03×111°.09W±0°.03,h3km±6km, ML2.9/80,Error ellipse: s-maj=5.1km s-min=2.0km az=222.0,Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	**Tucson**	**1.33**	**169**		Pb	10 01 46.8	+0.5
TUC				Sn	Sn	10 02 05.1	+0.6
TUC				IAML		10 02 06.8
	138nm,0.4s					
W18A	**Petrified Fore**	**1.87**	**36**	Pn	Pb	10 01 54.9	-0.6
W18A				Sn	Sn	10 02 18.2	+0.4
W18A				IAML		10 02 20.4
	comp=E,138nm,0.3s					
W18A				IAML		10 02 20.6
	comp=N,118nm,0.6s					
WUAZ	**Wupatki**	**1.91**	**353**	Pn	Pb	10 01 55.7	-0.5
WUAZ				Sn	Sb	10 02 19.8	-0.7
WUAZ				IAML		10 02 24.9
	comp=N,79nm,0.8s					
WUAZ				IAML		10 02 25.8
	comp=N,98nm,0.4s					
214A	**Organ Pipe Nat**	**2.21**	**222**		Pn	10 01 58.8	+0.6
214A				Sn	Sn	10 02 27.0	+1.0
214A				IAML		10 02 34.2
	comp=N,56nm,0.5s					
214A				IAML		10 02 34.4
	comp=E,47nm,0.6s					
113A	**Mohawk Valley,**	**2.40**	**250**	Pn	Pn	10 02 00.7	-0.1
113A				Sn	Sn	10 02 29.9	-0.8
319A	**Douglas**	**2.71**	**145**		Pn	10 02 04.4	-0.8
319A				Sn	Sn	10 02 38.5	-0.1
319A				IAML		10 02 51.0
	comp=E,63nm,0.5s					
319A				IAML		10 02 51.6
	comp=N,75nm,0.7s					
W13A	**Hualapai Mount**	**2.74**	**303**	Pn	Pn	10 02 03.4	-2.4
PIX	**Pinacate**	**2.87**	**225**	Pn	Pn	10 02 07.5	+0.3
PIX				Sn	Sn	10 02 43.0	+0.7
U15A	**North Rim**	**2.97**	**341**	Pn	Pn	10 02 09.9	+1.0
121A	**Cookes Peak, D**	**2.98**	**110**	Pn	Pn	10 02 09.0	+0.1
121A				IAML		10 02 57.0
	comp=N,24nm,0.7s					
121A				IAML		10 03 02.8
	comp=E,28nm,0.5s					
GLA	**Glamis**	**3.18**	**261**	Pn	Pn	10 02 11.4	-0.2
GLA				IAML		10 03 11.3
	comp=N,20nm,0.5s					
GLA				IAML		10 03 14.0
	comp=E,21nm,0.7s					
LENM	**Lemitar**	**3.46**	**80**	Pn	Pn	10 02 14.5	-1.1
Y22D	**IRIS PASSCAL I**	**3.50**	**81**	Pn	Pn	10 02 15.2	-0.9
Y22D				IAML		10 03 22.8
	comp=E,22nm,0.6s					
Y22D				IAML		10 03 25.5
	comp=N,37nm,3.1s					
BNM	**Barren Site**	**3.75**	**81**		Pn	10 02 20.2	+0.7
PKCU	**Pink Cliffs**	**3.94**	**346**	Pn	Pn	10 02 21.0	-1.3
MVCO	**Mesa Verde**	**4.16**	**30**	Pn	Pn	10 02 24.7	-0.5
MVCO				IAML		10 03 34.7
	comp=N,25nm,0.6s					
MVCO				IAML		10 03 35.1
	comp=N,24nm,0.7s					
CCUT	**Cedar City**	**4.34**	**335**		Pn	10 02 28.2	+0.5
ESJX	**Sierra Juarez**	**4.40**	**250**	Pn	Pn	10 02 26.7	-1.8
ESJX				IAML		10 03 11.0
	comp=E,7.0nm,3.1s					
ESJX				IAML		10 04 34.3
	comp=N,8.8nm,3.3s					
SHPR	**Sheep Range**	**4.41**	**312**	Pn	Pn	10 02 29.3	+0.7
XPFO	**Pion Flat**	**4.48**	**271**	Pn	Pn	10 02 29.2	-0.3
XPFO				IAML		10 04 57.6
	comp=N,7.4nm,4.2s					
PFO	**Pinyon Flats O**	**4.48**	**271**	Pn	Pn	10 02 29.3	-0.3
PFO				IAML		10 04 57.6
	comp=N,7.4nm,4.2s					
MTPU	**Mount Pierson**	**4.50**	**349**		Pn	10 02 27.6	-2.4
SPX	**San Pedro Mart**	**4.51**	**236**	Pn	Pn	10 02 30.5	+0.3
SPX				IAML		10 03 21.3
	comp=E,12nm,3.5s					
SPX				IAML		10 03 21.7
	comp=N,9.1nm,2.7s					
PV05	**Paradox Valley**	**4.73**	**19**		Pn	10 02 35.5	+2.4
PV13	**Radium Mtn., P**	**4.89**	**21**		Pn	10 02 35.2	0.0
PV18	**Skein Mesa, Pa**	**4.94**	**20**		Pn	10 02 33.6	-2.4
PV18				IAML		10 04 07.8
	comp=N,14nm,0.9s					
MVU	**Marysvale**	**4.96**	**350**	Pn	Pn	10 02 35.0	-1.2
PV02	**Paradox Valley**	**4.96**	**22**	Pn	Pn	10 02 35.8	-0.4
CCX	**Cicese**	**5.01**	**251**	Pn	Pn	10 02 36.9	+0.2
PV10	**Paradox Valley**	**5.03**	**19**		Pn	10 02 34.1	-3.0
PV04	**Paradox Valley**	**5.08**	**20**	Pn	Pn	10 02 40.4	+2.6
TCRU	**Three Creeks R**	**5.10**	**348**	Pn	Pn	10 02 37.2	-0.9
MNTX	**Cornudas Mount**	**5.18**	**110**	Pn	Pn	10 02 38.9	-0.2
TPNV	**Topopah Spring**	**5.37**	**310**	Pn	Pn	10 02 42.2	+0.5
TPNV				IAML		10 04 50.5
	comp=N,4.4nm,4.7s					
TPNV				IAML		10 05 40.3
	comp=N,6.4nm,4.7s					
S22A	**4UR Ranch, Cre**	**5.38**	**39**	Pn	Pn	10 02 41.2	-0.8
S22A				IAML		10 04 17.1
	comp=E,4.4nm,2.0s					
S22A				IAML		10 04 17.3
	comp=N,5.1nm,3.0s					
PSUT	**Pine Spring**	**5.39**	**336**	Pn	Pn	10 02 42.7	+0.6
SRU	**San Rafael Swe**	**5.50**	**5**		Pn	10 02 41.8	-1.8
TMUT	**Trail Mountain**	**5.67**	**359**		Pn	10 02 46.8	+0.8
P17A	**Butcher Ranch,**	**5.85**	**3**	Pn	Pn	10 02 48.0	-0.4
O20A	**White River Ci**	**6.89**	**19**	Pn	Pn	10 03 02.9	+0.2

IDC 09 10:12:05.0±2.9,7°.02S×154°.83E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.5/28,mbtmp3.6/4,ML3.3/1,Error ellipse: s-maj=71.0km s-min=35.6km az=103.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.88**	**314**	Pn	Pn	10 13 07.6	+1.6
	2.1nm,0.3s,baz=7.6,slow=20,SNR=2.3						
KRVT				Sn	Sn	10 13 50.4	-1.9
	11nm,0.3s,baz=184,slow=20,SNR=7.0						
WRA	**Warramunga Arr**	**23.67**	**235**	P	P	10 17 17.8	-0.8
	1.7nm,0.7s,baz=56,slow=9.5,SNR=5.7						
ASAR	**Alice Springs**	**26.04**	**228**	P	P	10 17 40.6	+0.3
	0.5nm,0.8s,baz=59,slow=9.0,SNR=6.3						
MKAR	**Makanchi Array**	**83.31**	**319**	P	P	10 24 33.2	-0.8
	0.2nm,0.4s,baz=119,slow=5.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**152.88**	**285**	PKPbc	PKiKP	10 32 05.8	+0.3
	0.5nm,0.7s,baz=63,slow=1.8,SNR=3.5						

*NEIC **09** 10:19:10.6±1.6,6°.2S±0°.1×147°.9E±0°.1,h48km±11km, mb4.1/14,Error ellipse: s-maj=24.5km s-min=8.2km az=130.0*
*IDC **09** 10:19:12.5±8.5,6°.28S×147°.96E,h60km±58km,mb3.8/3, mb1 3.9/5,mb1mx3.4/31,mbtmp3.9/5,ML3.8/1,Error ellipse: s-maj=70.4km s-min=51.9km az=69.0*

ISC 09 10:19:11.5±0.7,6°.19S±0°.08×147°.9E±0°.1,h60km,n24, σ0°75/27,mb4.0/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28**	**193**	P	**Pn**	**10 20 00.3**	**-0.2**
	4.9nm,0.3s,baz=32,slow=6.4,SNR=6.4						
PMG				S	**Sn**	**10 20 38.3**	**+0.1**
	3.5nm,0.3s,baz=34,slow=12,SNR=2.3						
PMG	**Port Moresby**	**3.28**	**193**		**Pn**	**10 19 59.8**	**-0.7**
PMG					**Sn**	**10 20 38.1**	**-0.2**
RABL	**Rabaul**	**4.70**	**65**	Pn	**Pn**	**10 20 18.8**	**-1.2**
RABL				Sn	**Sn**	**10 21 13.7**	**+0.4**
PATS	**Pohnpei**	**16.60**	**39**	P	**Pn**	**10 23 00.6**	**+0.1**
PATS				IAmb	IAmb	10 23 09.0
	comp=Z,72nm,1.2s					
MTN	**Manton Dam**	**17.79**	**247**		**Pn**	**10 23 14.2**	**-1.0**
MTN				IAmb	IAmb	10 23 33.8
	comp=Z,11nm,1.2s					
WB0	**Warramunga Arr**	**18.82**	**223**	P	**P**	**10 23 26.5**	**-0.1**
WB0				IAmb	IAmb	10 23 43.8
	comp=Z,9.3nm,1.5s					
WR0	**Warramunga Arr**	**18.86**	**222**	P	**P**	**10 23 26.5**	**-0.4**
WRAB	**Tennant Creek**	**18.96**	**223**	P	**P**	**10 23 27.4**	**-0.7**
WRAB				IAmb	IAmb	10 23 30.3
	comp=Z,14nm,1.4s					
WB2	**Warramunga Arr**	**18.97**	**223**	P	**P**	**10 23 27.9**	**-0.3**
WB2				IAmb	IAmb	10 23 43.6
	comp=Z,9.1nm,1.4s					
WRA	**Warramunga Arr**	**18.98**	**223**	P	**P**	**10 23 28.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=50,slow=10,SNR=27						
WRA	**Warramunga Arr**	**18.98**	**223**	P	**P**	**10 23 26.9**	**-1.4**
KNRA	**Kununurra**	**20.99**	**242**	P	**P**	**10 23 49.3**	**-0.8**
KNRA				IAmb	IAmb	10 23 50.7
	comp=Z,21nm,1.4s					
AS31	**Alice Springs**	**21.97**	**216**	P	**P**	**10 24 01.2**	**+0.6**
ASAR	**Alice Springs**	**21.98**	**216**	P	**P**	**10 24 01.1**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=51,slow=9.0,SNR=70						
ASAR	**Alice Springs**	**21.98**	**216**	P	**P**	**10 24 01.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.72**	**239**	P	**P**	**10 24 28.6**	**+1.1**
	comp=Z,4.6nm,0.6s,baz=56,slow=8.6,SNR=6.5						
FITZ	**Fitzroy Crossi**	**24.72**	**239**	P	**P**	**10 24 27.8**	**+0.4**
FITZ				IAmb	IAmb	10 24 29.7
	comp=Z,4.9nm,0.7s					
STKA	**Stephens Creek**	**26.23**	**192**	P	**P**	**10 24 41.8**	**+0.8**
	comp=Z,3.9nm,0.9s,baz=23,slow=6.2,SNR=3.2						
STKA	**Stephens Creek**	**26.23**	**192**	P	**P**	**10 24 41.6**	**+0.6**
JAGI	**Jajag, Banyuwa**	**33.53**	**264**	P	**P**	**10 25 44.8**	**-1.0**
KSAR	**Wonju Array Be**	**47.25**	**338**	P	**P**	**10 27 38.5**	**-0.3**
USA0B	**Ussuriysk Arra**	**52.16**	**346**	P	**P**	**10 28 17.0**	**+1.0**
PEA0B	**Petropavlovsk-**	**59.65**	**7**	P	**P**	**10 29 10.7**	**+1.3**
PETK	**Petropavlovsk-**	**59.65**	**7**	P	**P**	**10 29 08.9**	**-0.5**

*NEIC **09** 10:41:54.9±1.2,23°.26N±0°.05×142°.5E±0°.2,h83km±8km, mb4.3/11,Error ellipse: s-maj=26.6km s-min=7.1km az=95.0*
*IDC **09** 10:41:58.4±3.2,23°.28N×142°.23E,h109km±28km,mb3.4/7, mb1 3.6/10,mb1mx3.4/35,mbtmp3.8/10,Error ellipse: s-maj=36.5km s-min=17.7km az=91.0*

ISC 09 10:41:57.1±0.8,23°.34N±0°.08×142°.4E±0°.2,h102km,n31, σ1°31/33,mb4.0/13,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.74**	**357**	P	**Pn**	**10 42 55.2**	**+2.3**
	16nm,0.3s,baz=278,slow=22,SNR=1.6						
JCJ				S	**Sn**	**10 43 35.0**	**-1.0**
	58nm,0.3s,baz=320,slow=23,SNR=13						
JCJ	**Chichijima**	**3.74**	**357**		**Pn**	**10 42 51.8**	**-1.1**
JCJ					**Sn**	**10 43 36.4**	**+0.3**
JGF	**Kuroka**	**12.98**	**341**	Pn	**Pn**	**10 44 56.1**	**-1.6**
MJAR	**Matsushiro Arr**	**13.65**	**346**	P	**Pn**	**10 45 05.9**	**-0.5**
	0.1nm,0.3s,baz=168,slow=8.6,SNR=1.9						
MJAR	**Matsushiro Arr**	**13.65**	**346**		**Pn**	**10 45 06.4**	**+0.1**
JMM	**Marumori**	**14.54**	**355**	Pn	**Pn**	**10 45 15.1**	**-2.8**
JSD	**Sado**	**15.07**	**347**	Pn	**Pn**	**10 45 21.1**	**-3.5**
KSRS	**Korea Array**	**18.78**	**322**	P	**Pn**	**10 46 09.9**	**0.0**
	0.3nm,0.3s,baz=136,slow=11,SNR=16						
MTN	**Manton Dam**	**37.62**	**198**	P	**P**	**10 49 00.9**	**-1.3**
WB0	**Warramunga Arr**	**43.55**	**191**	P	**P**	**10 49 50.3**	**-0.7**
WB0				IAmb	IAmb	10 50 00.7
	comp=Z,14nm,1.5s					
WR0	**Warramunga Arr**	**43.72**	**191**	P	**P**	**10 49 51.0**	**-1.3**
WR0				IAmb	IAmb	10 50 06.6
	comp=Z,6.7nm,1.4s					
WRAB	**Tennant Creek**	**43.73**	**191**	P	**P**	**10 49 52.4**	**0.0**
WRAB				IAmb	IAmb	10 49 59.7
	comp=Z,9.4nm,1.4s					
WB2	**Warramunga Arr**	**43.73**	**191**	P	**P**	**10 49 52.1**	**-0.3**
WB2				IAmb	IAmb	10 50 04.5
	comp=Z,4.7nm,1.2s					
WRA	**Warramunga Arr**	**43.74**	**191**	P	**P**	**10 49 52.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=8.4,slow=8.2,SNR=16						
WRA	**Warramunga Arr**	**43.74**	**191**	P	**P**	**10 49 51.9**	**-0.6**
AS31	**Alice Springs**	**47.45**	**191**	P	**P**	**10 50 19.7**	**-2.0**
ASAR	**Alice Springs**	**47.45**	**191**	P	**P**	**10 50 21.3**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=11,slow=5.9,SNR=1.8						
ASAR	**Alice Springs**	**47.45**	**191**	P	**P**	**10 50 20.0**	**-1.8**
TTA	**Tatalina**	**56.60**	**29**	P	**P**	**10 51 29.3**	**+0.1**
TTA				IAmb	IAmb	10 51 37.1
	comp=Z,2.6nm,1.2s					
ILAR	**Eielson Array**	**60.91**	**28**	P	**P**	**10 51 60.0**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=258,slow=6.3,SNR=4.5						
KK31	**Karatay Array**	**61.48**	**308**	P	**P**	**10 52 04.2**	**+1.0**
KK31				IAmb	IAmb	10 52 04.8
	comp=Z,1.3nm,0.9s					
KKAR	**Karatay Array**	**61.48**	**308**	P	**P**	**10 52 03.9**	**+0.7**
ABKAR	**Akbulak array**	**67.87**	**315**	P	**P**	**10 52 44.9**	**+0.3**
ARCES	**ARCESS Array B**	**77.14**	**341**	P	**P**	**10 53 38.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=76,slow=8.5,SNR=5.1						
ARCES	**ARCESS Array B**	**77.14**	**341**	P	**P**	**10 53 39.4**	**+0.2**
KBZ	**Khabaz**	**80.72**	**314**	P	**P**	**10 53 59.8**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=191,slow=3.1,SNR=5.7						
FIA1	**FINESS Array S**	**81.39**	**334**	P	**P**	**10 54 03.1**	**+0.7**
FINES	**FINESS Array B**	**81.39**	**334**	P	**P**	**10 54 02.5**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=70,slow=4.3,SNR=8.4						
FINES	**FINESS Array B**	**81.39**	**334**	P	**P**	**10 54 02.8**	**+0.4**
NVAR	**Mina Array Bea**	**82.69**	**51**	P	**P**	**10 54 12.2**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=288,slow=6.0,SNR=4.3						
NVAR	**Mina Array Bea**	**82.69**	**51**	P	**P**	**10 54 09.1**	**-0.9**

HEL 09 11:09:15.5±0.3,62°.63N×27°.00E,h0km,ML1.1, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.40**	**284**	*e*P	Pg	11 09 22.2	-1.0
SUF				*e*S	Sg	11 09 28.0	-0.4
KAF	**Kangasniemi**	**0.61**	**212**	*e*P	Pg	11 09 25.9	-1.2
KAF				*e*S	Sg	11 09 33.9	-1.1
KEF	**Keuruu**	**1.09**	**246**	*e*P	Pg	11 09 35.0	-1.5
KEF				*e*S	Sg	11 09 49.7	-0.8
FIA1	**FINESS Array S**	**1.26**	**201**	*e*P	Pg	11 09 38.2	-1.5
FIA1				*e*S	Sg	11 09 54.8	-1.2
FIA0	**FINESS Array S**	**1.26**	**201**	*e*P	Pg	11 09 38.2	-1.5
FIA0				*e*S	Sg	11 09 54.8	-1.3
OUF	**Merijarvi**	**2.02**	**331**	*e*P	Pn	11 09 50.6	-0.2
OUF				*e*S	Sn	11 10 17.3	+0.6
OUF				MSG		11 10 19.7
	comp=Z,1.1nm,0.1s					
VAF	**Ylistaro**	**2.03**	**284**	*e*P	Pn	11 09 51.5	+0.6
VAF				*e*S	Sn	11 10 16.0	-0.9
VAF				MSG		11 10 22.7
	comp=Z,0.4nm,0.1s					

BER 09 11:10:06.4±0.8,66°.40N×14°.72E,h0km,ML0.8,1C, Explosion,Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOR8	**Moi Rana**	**0.26**	**206**	↑*e*P	Pg	11 10 08.4	-2.9
MOR8				*e*S	Sg	11 10 10.4	-4.2
MOR8				IAML		11 10 11.9
	comp=Z,46nm,0.3s					
KONS	**Konsvik**	**0.65**	**279**	*e*P	Pg	11 10 17.6	-1.2
KONS				*e*S	Sg	11 10 26.9	-0.3
KONS				IAML		11 10 32.7
	comp=Z,3.6nm,0.5s					
STOK	**Stokkvaagen**	**0.69**	**265**	*e*P	Pg	11 10 18.8	-0.7
STOK				*e*S	Sg	11 10 28.0	-0.5
NBB40	**Tonnes**	**0.69**	**280**	*e*P	Pg	11 10 18.4	-1.3
NBB40				*e*S	Sg	11 10 28.1	-0.6
FAUS	**Fauske**	**1.01**	**13**	*e*P	Pg	11 10 24.1	-1.6
FAUS				*e*S	Sg	11 10 38.5	-0.3
FAUS				IAML		11 10 42.4
	comp=Z,2.2nm,0.4s					
N2TV	**Tyrnvik**	**1.18**	**8**	*e*P	Pg	11 10 26.9	-2.2
N2TV				*e*S	Sg	11 10 43.7	-0.6
N2TV				IAML		11 10 46.5
	comp=Z,3.8nm,0.5s					
STEI	**Steigen**	**1.55**	**7**	*e*Pg	Pn	11 10 33.6	-1.5
STEI				IAML		11 10 51.8
	comp

FSK S Sg 11 25 10.6 +0.1
FSK AML AML 11 25 15.3
comp=E,35908µm,0.6s
FSK AML AML 11 25 17.1
comp=N,27460µm,0.3s
VSK1 VASILIKIADES 0.57 201 P Pg 11 25 03.4 -0.9
VSK1 S Sg 11 25 12.6 +0.6
PVO Paravola 0.64 120 P Pb 11 25 06.2 +0.5
PVO S Sn 11 25 17.9 +0.9
PVO Paravola 0.64 120 P Pb 11 25 06.6 +0.9
PVO S Sn 11 25 16.4 -0.6
IGT Igoumenitsa 0.70 327 P Pb 11 25 06.7 0.0
IGT S Sb 11 25 16.5 +0.5
comp=N,3µm,0.5s
IGT Igoumenitsa 0.70 327 *e*Pg Pg 11 25 06.6 -0.1
IGT *e*Sg Sn 11 25 18.3 -0.1
IGT Igoumenitsa 0.70 327 P Pb 11 25 06.7 0.0
IGT S Sn 11 25 17.3 -1.1
JAN Janina 0.71 2 P Pb 11 25 07.2 +0.3
JAN S Sn 11 25 18.7 -0.1
comp=N,10µm,0.5s
JAN Janina 0.71 2 P Pn 11 25 07.8 -0.5
JAN S Sn 11 25 18.9 +0.1
JAN AML AML 11 25 21.6
comp=E,23356µm,0.6s
JAN AML AML 11 25 21.6
comp=N,17481µm,0.4s
KEF5 Kardakata, Kep 0.72 203 P Pb 11 25 07.1 +0.1
KEF5 S Sg 11 25 16.8 +0.1
KEF4 Livadi, Kephal 0.75 204 P Pb 11 25 07.5 0.0
KEF4 S Sb 11 25 17.6 +0.1
EVR Evrytania 0.77 92 P Pn 11 25 08.9 -0.2
EVR S Sn 11 25 21.8 +1.4
comp=N,2µm,0.7s
EVR Evrytania 0.77 92 P Pn 11 25 09.0 -0.1
EVR S Sn 11 25 20.2 -0.2
EVR AML AML 11 25 24.0
comp=E,4376µm,0.7s
EVR AML AML 11 25 26.7
comp=N,5531µm,0.7s
VLS Valsamata 0.79 193 P Pb 11 25 08.0 -0.2
VLS S Sg 11 25 19.7 +0.9
comp=N,8µm,0.4s
VLS Valsamata 0.79 193 P Pb 11 25 07.9 -0.2
VLS S Sb 11 25 18.9 +0.4
VLS AML AML 11 25 26.0
comp=N,12980µm,0.3s
VLS AML AML 11 25 27.0
comp=E,19454µm,0.5s
ARG2 Argostoli 0.81 199 P Pb 11 25 08.6 +0.1
KEF3 Kipouria, Keph 0.83 207 P Pb 11 25 08.6 -0.2
KEF3 S Sb 11 25 19.6 -0.1
MEV Metsovon 0.90 21 P Pn 11 25 10.6 -0.3
MEV Metsovon 0.90 21 P Pn 11 25 10.9 0.0
ANX Ano Chora 0.93 112 P Pn 11 25 11.7 +0.4
ANX S Sn 11 25 25.1 +0.8
ANX Ano Chora 0.93 112 P Pn 11 25 11.4 +0.1
ANX S Sn 11 25 23.9 -0.3
ANX AML AML 11 25 30.7
comp=N,8910µm,0.5s
ANX AML AML 11 25 35.8
comp=E,10957µm,0.5s
EFP Efpalio 0.99 121 P Pg 11 25 12.8 +0.5
RLS Riolos of Patr 1.02 150 P Pn 11 25 12.7 +0.3
RLS S Sg 11 25 26.7 +0.5
comp=E,3µm,0.5s
RLS Riolos of Patr 1.02 150 P Pb 11 25 12.5 +0.4
RLS S Sn 11 25 26.9 +0.6
RLS AML AML 11 25 36.4
comp=N,8502µm,0.4s
RLS AML AML 11 25 37.1
comp=E,4542µm,0.6s
VTN Vitineika 1.07 164 P Pg 11 25 14.3 +0.7
VTN S Sb 11 25 27.3 +0.8
VLMS Volimes, Zakyn 1.07 187 P Pb 11 25 13.1 0.0
VLMS S Sn 11 25 28.2 +0.5
VLMS AML AML 11 25 40.9
comp=E,10867µm,0.4s
VLMS AML AML 11 25 41.6
comp=N,16750µm,0.7s
KPRO Kipouro 1.09 22 P Pg 11 25 14.4 +0.2
KPRO S Sn 11 25 30.1 +1.8
KPRO AML AML 11 25 37.0
comp=N,6889µm,0.9s
KPRO AML AML 11 25 37.8
comp=E,5998µm,0.5s
THL Klokotos Trika 1.12 56 P Pg 11 25 15.4 +0.8
THL AML AML 11 25 38.5
comp=E,3481µm,0.8s
THL AML AML 11 25 39.0
comp=N,2481µm,0.4s
AGG Agios Georgios 1.18 86 P Pg 11 25 16.0 +0.2
AGG Agios Georgios 1.18 86 Pn Pn 11 25 13.9 -0.8
DRO Drossia 1.21 144 P Pb 11 25 15.6 +0.5
DRO Drossia 1.21 144 P Pb 11 25 15.8 +0.4
PENT Pentalofos 1.27 11 P Pg 11 25 18.4 +0.8
KLV Kalavryta, Ach 1.38 130 P Pb 11 25 18.7 +0.4
NEST Nestorio 1.48 7 P Pg 11 25 21.8 +0.3
NEST S Sg 11 25 40.1 -0.7
NEST AML AML 11 25 51.2
comp=E,2517µm,0.6s
NEST AML AML 11 25 56.9
comp=N,3756µm,0.8s
KZN Kozani 1.55 28 P Pb 11 25 21.4 +0.2
LIT Litokhoron 1.73 48 Pn Pn 11 25 22.6 +0.3
FNA Florina 1.89 13 *e*Pn Pg 11 25 28.7 -0.5
FNA Florina 1.89 13 P Pb 11 25 26.6 -0.4
FNA Florina 1.89 13 Pn Pn 11 25 25.1 +0.6
ITM Ithomi 1.97 153 Pn Pn 11 25 23.7 -1.8
VLX Vlachokerasia 2.00 141 P Pb 11 25 28.2 -0.7
SCTE Santa Cesarea 2.14 303 Pn Pn 11 25 28.8 +1.0
OHR Ohrid 2.16 360 *i* Pn Pb 11 25 32.6 +0.9
TIR Tirane 2.51 343 *e*Pn Pb 11 25 36.6 -0.9
TIR Tirane 2.51 343 ⇓P Pb 11 25 36.2 -1.3
TIR Tirane 2.51 343 Pn Pn 11 25 31.6 -1.3
VAY Valandovo 2.73 29 *e*Pn Pb 11 25 41.3 +0.1
SRS Serrai 3.04 44 *e*Pn Pb 11 25 44.8 -1.8
TAR1 Taranto 3.15 301 ⇓*i*Pn Pn 11 25 43.8 +2.1
TIP Timpagrande 3.17 276 ⇑S Sn 11 26 21.9 +2.4
TIP Timpagrande 3.17 276 Pn Pn 11 25 41.3 -0.8
ULC Ulcinj 3.25 339 ⇓*i*Pn Pn 11 25 44.9 +1.8
ULC *i* Sn Sn 11 26 24.7 +3.4
DRME Dracevica, Mon 3.47 339 ⇓*i*Pn Pn 11 25 48.7 +2.6
DRME *i* Sn Sn 11 26 30.0 +3.2
DRME Dracevica, Mon 3.47 339 *e*Pn Pn 11 25 48.2 +2.1
MATE Matera 3.60 300 ⇑P Pn 11 25 50.0 +2.2
MATE Matera 3.60 300 ⇓S Sn 11 26 31.4 +1.5
BUM Brajici-Budva 3.66 337 ⇓*i*Pn Pn 11 25 50.3 +1.5
BUM *i* Sn Sn 11 26 34.3 +2.8
PDG Podgorica 3.68 342 *e*Pn Pn 11 25 51.0 +2.0
PDG Podgorica 3.68 342 ⇑P Pn 11 25 51.3 +2.3
PDG Podgorica 3.68 342 *e*Pn Pn 11 25 50.9 +2.0
PDG Podgorica 3.68 342 Pn Pn 11 25 48.8 -0.2
TTG Podgorica 3.68 342 ⇑*i*Pn Pn 11 25 51.0 +2.0
TTG *i* Sn Sn 11 26 35.2 +3.3
PVY Plav 3.70 350 ⇑*i*Pn Pn 11 25 51.6 +2.1
PVY *i* Sn Sn 11 26 36.0 +3.2
BAI Bari 3.72 307 ⇓*i*Pn Pn 11 25 52.0 +2.5
BOSS Bosilegrad 3.77 19 *e*Pn Pn 11 25 54.1 +3.9
CEME Cevo 3.88 339 ⇓*i*Pn Pn 11 25 53.4 +1.6
CEME *i* Sn Sn 11 26 39.5 +2.6
CEL Celeste 3.92 261 Pn Pn 11 25 51.9 -0.5
HCY Herceg Novi 3.92 334 ⇓*i*Pn Pn 11 25 53.4 +1.1
HCY *i* Sn Sn 11 26 40.3 +2.4
HCY Herceg Novi 3.92 334 *e*Pn Pn 11 25 53.6 +1.3
BARS Barje 3.94 11 *e*Pn Pn 11 25 56.3 +3.7
IVA Berane 3.99 350 ⇑*i*Pn Pn 11 25 55.8 +2.5
IVA *i* Sn Sn 11 26 42.8 +3.2
KOME Kolasin 4.03 346 ⇑*i*Pn Pn 11 25 56.0 +2.1
KOME *i* Sn Sn 11 26 43.6 +3.0
NKME Niksic 4.07 340 ⇑*i*Pn Pn 11 25 56.2 +1.7
NKME *i* Sn Sn 11 26 43.5 +1.8
NKY Niksic 4.11 341 ⇑*i*Pn Pn 11 25 56.9 +1.9
NKY *i* Sn Sn 11 26 45.4 +2.8
TREB Trebinje 4.21 334 *e*Pn Pn 11 25 57.1 +0.8
TREB Trebinje 4.21 334 *e*Pn Pn 11 25 57.2 +0.9
SELS Selova 4.28 3 *e*Pn Pn 11 25 59.8 +2.5
BRY Bratogost 4.31 337 ⇑*i*Pn Pn 11 25 59.0 +1.1
BRY *i* Sn Sn 11 26 49.9 +2.1
BRY Bratogost 4.31 337 *e*Pn Pn 11 25 58.9 +1.1
ALN Alexandroupoli 4.47 62 Pn Pn 11 25 57.5 -2.3
UPM Unac-Piva 4.49 342 *e*Pn Pn 11 26 02.7 +2.3

PLE Pljevlja 4.51 347 ⇑*i*Pn Pn 11 26 02.6 +2.0
PLE *i* Sn Sn 11 26 55.0 +2.3
ZAPS Zavoj 4.54 17 *e*Pn Pn 11 26 05.4 +4.6
BOVS Bovan 4.73 8 *e*Pn Pn 11 26 05.9 +2.4
SGRT San Giovanni R 4.79 308 Pn Pn 11 26 04.1 -0.2
RUDO Rudo 4.79 347 *e*Pn Pn 11 26 05.9 +1.5
IDI Anoyia 4.89 137 Pn Pn 11 26 08.0 +2.3
comp=N,2.4nm,0.3s,baz=67,slow=6.7,SNR=13
IDI Sn Sn 11 27 04.5 +2.6
comp=N,2.3nm,0.3s,baz=273,slow=22,SNR=1.9
IDI Anoyia 4.89 137 ⇑P Pn 11 26 08.6 +2.9
IDI Anoyia 4.89 137 ⇓S Sn 11 27 06.6 +4.7
IDI Anoyia 4.89 137 Pn Pn 11 26 06.6 +0.9
GRUS Gruza 4.94 359 *e*Pn Pn 11 26 08.7 +2.4
ZAGS Zajecar 4.98 12 *e*Pn Pn 11 26 09.2 +2.4
BBLS Lazići 5.03 348 *e*Pn Pn 11 26 09.2 +1.6
BBLS Lazići 5.03 348 *e*Pn Pn 11 26 09.1 +1.5
DIVS Divibare 5.19 353 *e*Pn Pn 11 26 11.7 +1.9
DIVS Divibare 5.19 353 *e*Pn Pn 11 26 11.4 +1.6
DIVS Divibare 5.19 353 Pn Pn 11 26 10.4 +0.6
PAOL Paolisi 5.23 295 Pn Pn 11 26 10.2 -0.2
VAE Valguarnera 5.25 256 Sn Sn 11 27 12.8 +2.0
comp=N,3.2nm,0.3s,baz=108,slow=17,SNR=1.3
TRUS Trudelj 5.28 357 *e*Pn Pn 11 26 13.2 +2.1
RAFF Raffo Rosso 5.38 253 Pn Pn 11 26 11.1 -1.3
TEKS Tekeris 5.68 351 *e*Pn Pn 11 26 18.1 +1.5
TEKS Tekeris 5.68 351 *e*Pn Pn 11 26 17.8 +1.2
MDVR Moldovita 5.87 6 ⇑P Pn 11 26 21.1 +1.9
INTR Introdacqua 6.10 302 Pn Pn 11 26 21.8 -0.5
CLTB Caltabellotta 6.14 260 Pn Pn 11 26 20.8 -2.1
FRGS Fruska Gora 6.25 353 *e*Pn Pn 11 26 26.0 +1.6
FRGS Fruska Gora 6.25 353 *e*Pn Pn 11 26 25.4 +1.0
BLY Banja Luka 6.40 336 *e*Pn Pn 11 26 27.4 +1.0
BLY Banja Luka 6.40 336 *e*Pn Pn 11 26 25.8 -0.6
BZS Buzias 6.69 5 *e*Pn Pn 11 26 32.1 +1.6
BZS Buzias 6.69 5 ⇑P Pn 11 26 32.0 +1.6
NRCA Norcia 7.01 306 Pn Pn 11 26 35.9 +1.0
VOIR 7.21 24 ⇑P Pn 11 26 40.1 +2.5
MORH Mrgy, Hungar 7.44 348 *e*Pn Pn 11 26 42.0 +1.4
ISR Istrita 7.50 33 ⇑P Pn 11 26 43.3 +1.9
MLR Muntele Rosu 7.57 29 Pn Pn 11 26 46.0 +3.5
comp=N,0.3nm,0.3s,baz=182,slow=20,SNR=2.4
MLR Muntele Rosu 7.57 29 ⇑P Pn 11 26 44.7 +2.3
MLR Muntele Rosu 7.57 29 Pn Pn 11 26 43.8 +1.3
MURB Monte Urbino 7.60 307 Pn Pn 11 26 39.5 -3.4
BISRR Bisoca 7.91 32 ⇑P Pn 11 26 50.1 +2.9
CRES Cresnjev 7.94 332 *e*Pn Pn 11 26 48.1 +0.6
PLOR Plostina 8.14 30 ⇓P Pn 11 26 52.7 +2.5
CEY Cerknica 8.27 327 *e*Pn Pn 11 26 53.3 +1.2
CASP Castiglione de 8.46 300 Pn Pn 11 26 52.5 -2.2
LJU Ljubljana 8.48 329 *e*Pn Pn 11 26 54.7 -0.2
OSSC Osservatorio P 8.54 305 Pn Pn 11 26 52.1 -3.7
TRI Trieste 8.54 325 Pn Pn 11 26 52.3 -3.4
SOKA Soboth 8.82 333 *e*Pn Pn 11 27 00.9 +1.2
comp=N,3.0nm,0.2s
SOKA *i* Sn Sn 11 28 42.1 +3.5
comp=N,8.0nm,0.4s
OBKA Obir 8.85 331 *e*Pn Pn 11 27 01.6 +1.5
comp=N,9.4nm,0.5s
OBKA *e*Sn Sn 11 28 45.0 +5.5
comp=N,5.5nm,0.4s
VSL Villasalto 8.90 277 Pn Pn 11 27 00.2 -0.5
PSZ Piszkesteto 9.00 356 Pn Pn 11 27 01.9 -0.2
ZCCA Zocca 9.13 309 Pn Pn 11 27 03.0 -0.9
ARSA Arzberg 9.16 337 *e*Pn Pn 11 27 05.7 +1.4
comp=N,2.0nm,0.2s
PRED Cave del Predi 9.20 327 Pn Pn 11 27 04.9 0.0
BURAR Bucovina Array 9.24 19 Pn Pn 11 27 05.4 0.0
MYKA Terra Mystica 9.31 328 *e*Pn Pn 11 27 07.7 +1.3
comp=N,2.3nm,0.4s
STAL STALIGIAL 9.44 323 Pn Pn 11 27 07.7 -0.4
ZOU Zoufplan 9.54 325 Pn Pn 11 27 09.1 -0.6
CIMO Cimolais 9.60 323 Pn Pn 11 27 08.2 -2.1
VYHS Vyhne 9.65 352 *e*PN Pn 11 27 12.2 +1.2
CONA Conrad Observa 9.67 340 Pn Pn 11 27 12.3 +0.9
comp=N,0.6nm,0.3s
KEST Kesra 9.68 254 Pn Pn 11 27 16.6 +5.0
comp=N,0.2nm,0.3s,baz=8.8,slow=9.7,SNR=5.0
KEST Kesra 9.68 254 Pn 11 27 09.6 -1.9
KBA Koelnbreinsper 9.80 328 *e*Pn Pn 11 27 14.5 +1.4
comp=N,0.6nm,0.2s
CTI Castel Tesino 9.80 319 Pn Pn 11 27 12.0 -1.2
BRTR Keskin Array B 9.96 81 Pn Pn 11 27 21.1 +5.7
comp=N,0.3nm,0.3s,baz=268,slow=9.5,SNR=1.9
MOA Molln 10.09 334 *e*Pn Pn 11 27 19.0 +2.0
comp=N,1.4nm,0.1s
SALO Salr 10.13 314 Pn Pn 11 27 15.3 -2.2
WATA Walderalm 10.76 324 *e*Pn Pn 11 27 28.5 +2.2
comp=N,7.7nm,0.5s
VRAC Vranov 10.79 345 LR LR 11 33 00.0
comp=N,83nm,20.4s,baz=285,slow=45
SQTA Sankt Quirin 10.85 323 *e*Pn Pn 11 27 29.7 +2.3
comp=N,4.3nm,0.4s
FUORN Ofenpass-Fuorn 10.90 318 Pn Pn 11 27 26.9 -1.4
FETA Feichten 10.94 321 *e*Pn Pn 11 27 31.1 +2.4
comp=N,1.9nm,0.4s
MOTA Moosalm 10.98 323 *e*Pn Pn 11 27 31.6 +2.3
comp=N,3.3nm,0.5s
MOTA *e*Sn Sn 11 29 35.2 +3.4
comp=N,2.3nm,0.3s
GEC2 GERESS Array S 11.14 335 Pn Pn 11 27 30.1 -1.4
GERES GERESS Array B 11.14 335 Pn Pn 11 27 32.2 +0.7
comp=N,0.4nm,0.3s,baz=142,slow=12,SNR=8.4
GERES LR LR 11 33 07.7
comp=N,69nm,18.8s,baz=216,slow=44
GERES GERESS Array B 11.14 335 Pn 11 27 29.2 -2.3
DAVOX Davos/Dischmat 11.21 318 Pn Pn 11 27 34.5 +2.1
comp=N,0.3nm,0.3s,baz=138,slow=18,SNR=1.6
TUE Stuetta 11.30 315 Pn 11 27 30.1 -3.6
KHC Kasperske Hory 11.43 335 *e*P Pn 11 27 35.5 +0.1
SENIN Lac Senin/Sane 12.40 311 Pn 11 27 45.0 -3.8
AKASG Malin Array Be 13.17 24 Pn Pn 11 28 01.0 +1.9
comp=N,0.3nm,0.3s,baz=210,slow=12,SNR=1.9
SSB Saint Sauveur 13.63 303 Pn Pn 11 28 01.2 -4.2
ESDC Sonseca Array 19.18 280 P Pn 11 29 18.7 +2.0
comp=N,0.2nm,0.3s,baz=75,slow=11,SNR=11
ESDC Sonseca Array 19.18 280 P P 11 29 12.6 -3.1
HFS Hagfors 21.68 350 P P 11 29 43.2 +0.6
comp=N,2.7nm,0.5s,baz=165,slow=12,SNR=5.9
NC602 NORSAR Array S 22.57 348 P P 11 29 50.0 -2.1
NC602 LAmb LAmb 11 29 54.4
comp=Z,11nm,1.0s
FINES FINESS Array B 22.76 7 P P 11 29 54.7 +0.6
comp=Z,5.1nm,0.7s,baz=170,slow=9.0,SNR=14
FINES FINESS Array B 22.76 7 P P 11 29 51.3 -2.7
FIA1 FINESS Array S 22.76 7 P P 11 29 53.4 -0.6
FIA1 LAmb LAmb 11 29 59.0
comp=Z,10.0nm,0.9s
NC405 NORSAR Array S 22.91 349 P P 11 29 56.5 +0.9
NB201 NORSAR Array S 22.91 348 P P 11 29 52.6 -3.1
NB201 LAmb LAmb 11 30 02.9
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 22.92 348 P P 11 29 56.6 +0.8
comp=Z,2.4nm,0.8s,baz=159,slow=10
NOA NORSAR Array B 22.92 348 P P 11 29 57.0 +1.2
comp=Z,1.0nm,0.6s,baz=159,slow=9.5,SNR=8.3
EKA Eskdalemuir Ar 22.95 323 P P 11 29 57.1 +1.1
comp=Z,6.1nm,0.6s,baz=124,slow=11,SNR=28
ABKAR Akbulak array 29.62 57 P P 11 30 56.5 -0.6
ARCES ARCESS Array B 30.75 3 P P 11 31 07.5 +0.6
comp=Z,0.5nm,0.4s,baz=191,slow=9.9,SNR=8.6
ARCES ARCESS Array B 30.75 3 P P 11 31 06.8 -0.1
TOA0 Torodi Ar. Sit 30.77 219 P P 11 31 08.3 +0.8
TOA0 LAmb LAmb 11 31 15.1
comp=Z,3.9nm,1.1s
TORD Torodi Ar. Bea 30.77 219 P P 11 31 09.7 +2.1
comp=Z,1.2nm,0.4s,baz=32,slow=9.1,SNR=14
TORD Torodi Ar. Bea 30.77 219 P P 11 31 06.3 -1.3
KK31 Karatay Array 37.28 67 P P 11 32 02.5 -1.4
KKAR Karatay Array 37.28 67 P P 11 32 04.1 +0.3
KKAR Karatay Array 37.28 67 P P 11 32 03.8 0.0
BTK Batken 38.19 72 P P 11 32 08.0 -3.6
KBL Kabul 38.54 81 P P 11 32 15.2 +0.4
MKAR Makanchi Array 44.70 59 P P 11 33 06.3 +1.4
comp=Z,1.2nm,0.6s,baz=279,slow=8.2,SNR=7.7
MKAR Makanchi Array 44.70 59 P P 11 33 06.2 +1.3
ZAA0 Zalesovo Array 45.01 49 P P 11 33 07.5 +0.4
ZAA0 LAmb LAmb 11 33 20.4
comp=Z,3.3nm,0.7s
ZALV Zalesovo Beam 45.01 49 P P 11 33 08.3 +1.1
comp=Z,2.2nm,0.4s,baz=278,slow=9.0,SNR=9.5
ZALV Zalesovo Beam 45.01 49 P P 11 33 07.0 -0.2
SCHQ Schefferville 58.06 317 P P 11 34 44.2 -0.6
comp=Z,2.7nm,0.8s,baz=49,slow=9.3,SNR=3.8

SCHQ Schefferville 58.06 317 P P 11 34 42.8 -2.0
SCHQ LAmb LAmb 11 34 44.3
comp=Z,5.8nm,1.1s
HDIL Hopedale 78.40 313 P P 11 36 50.9 -1.6
WRA Warramunga Arr 120.33 92 PKP PKiKP 11 43 44.9 +1.3
comp=Z,0.3nm,0.8s,baz=333,slow=1.6,SNR=2.2
WRA Warramunga Arr 120.33 92 PKPdf 11 43 42.9 -0.6

IDC ***09*** *11:47:13.0±0.9, 9°.53N×85°.12W, h0km, mb3.9/9, mb1 4.2/10, mb1mx3.9/34, mbtmp3.9/10, ML3.2/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/32, Error ellipse: s-maj=23.5km s-min=10.9km az=106.0*
UCR ***09*** *11:47:17.7±1.2, 9°.66N×85°.09W, h19km±2km, mb4.4(NEIC)*
NEIC ***09*** *11:47:19.2±2.1, 9°.76N±0°.06×84°.94W±0°.05, h35km±1km, mb4.4/55, Md4.4(UCR), Error ellipse: s-maj=10.5km s-min=8.9km az=192.0*
INET ***09*** *11:47:21.9, 10°.14N×84°.55W, h10km, ML3.7*
ISC 09 11:47:16.8±0.5, **9°.68N**±0°.04×**85°.03W**±0°.04, **h21**km±1km, **n138**, σ1.**00**/151, **mb4.3**/30, **MS3.5**/6, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAFE	**Finca La Fe, P**	**0.17**	**44**	*e*P	**Pb**	**11 47 22.6**	**-0.1**
LAFE				*e*S	**Sb**	**11 47 26.7**	**-0.2**
JACO	**JACO, Garabito**	**0.37**	**93**	*e*P	**Pn**	**11 47 26.6**	**-0.3**
JACO				*e*S	**Sn**	**11 47 33.8**	**+0.3**
DUNO	**Dulce Nombre,**	**0.60**	**311**	*e*P	**Pb**	**11 47 28.5**	**-0.3**
DUNO				*e*S	**Sb**	**11 47 37.7**	**+0.8**
JTS	**Las Juntas de**	**0.61**	**7**	Pg	**Pn**	**11 47 29.7**	**-0.6**
	1µm,0.3s,baz=127,slow=5.6,SNR=7014						
JTS				Lg	Lg	11 47 38.6	
	1µm,0.3s,baz=50,slow=23,SNR=12						
JTS	**Las Juntas de**	**0.61**	**7**	*e*P	**Pn**	**11 47 29.1**	**-1.2**
JTS				*e*S	**Sn**	**11 47 38.7**	**-0.8**
JTS	**Las Juntas de**	**0.61**	**7**		**Pn**	**11 47 29.5**	**-0.8**
JTS				Sn	**Sn**	**11 47 39.1**	**-0.4**
GRZA	**Playa Garza**	**0.64**	**291**	*e*P	**Pb**	**11 47 28.9**	**-0.5**
GRZA				*e*S	**Sb**	**11 47 37.7**	**-0.3**
SRA1	**San Ramn**	**0.67**	**54**	*e*P	**Pn**	**11 47 31.4**	**+0.1**
PLVR	**Palo Verde**	**0.73**	**335**	*e*P	**Pb**	**11 47 31.1**	**+0.1**
GUAI	**GUAI**	**0.75**	**321**	*i* P	**Pb**	**11 47 31.2**	**0.0**
GUAI				*i* S	**Sb**	**11 47 42.0**	**+1.0**
ORTG	**Ortega, Santa**	**0.80**	**328**	*e*P	**Pb**	**11 47 32.1**	**0.0**
CASO	**Castillo**	**0.80**	**21**	*i* P	**Pn**	**11 47 33.4**	**+0.4**
CASO				*i* S	**Sn**	**11 47 45.0**	**+0.6**
ARE1	**Arenal 1**	**0.83**	**22**	*e*P	**Pn**	**11 47 34.3**	**+0.9**
FORC	**Fortuna**	**0.86**	**25**	*i* P	**Pn**	**11 47 34.3**	**+0.6**
CEDE	**Laguna Cedeo**	**0.86**	**22**	*i* P	**Pn**	**11 47 34.7**	**+0.8**
CEDE				*i* S	**Sn**	**11 47 47.4**	**+1.6**
ACAL	**Aguas Claras**	**0.94**	**360**	*i* P	**Pn**	**11 47 35.3**	**+0.3**
HDC	**Heredia**	**0.96**	**71**	*e*P	**Pn**	**11 47 36.7**	**+1.5**
HDC	**Heredia**	**0.96**	**71**		**Pn**	**11 47 36.6**	**+1.4**
COLC	**Colonia**	**0.99**	**350**	*i* P	**Pn**	**11 47 35.7**	**+0.1**
SJS	**Escuela Geolog**	**1.00**	**75**	*e*P	**Pn**	**11 47 37.0**	**+1.3**
LCR2	**La Lucha 2**	**1.02**	**87**	*e*P	**Pn**	**11 47 37.1**	**+1.0**
PTEN	**Parque Tenorio**	**1.03**	**2**	*i* P	**Pn**	**11 47 36.8**	**+0.7**
LIM1	**Limonal**	**1.03**	**348**	*i* P	**Pn**	**11 47 36.4**	**+0.2**
LIM1				*i* S	**Sn**	**11 47 50.6**	**+0.6**
GUAB	**Guayabo de Bag**	**1.04**	**349**	*i* P	**Pn**	**11 47 36.4**	**+0.2**
GPS2	**Hotel Rincn d**	**1.11**	**343**	*i* P	**Pn**	**11 47 37.5**	**+0.3**
GPS2				*i* S	**Sn**	**11 47 53.2**	**+1.3**
GPS3	**Bodega del ICE**	**1.11**	**343**	*i* P	**Pn**	**11 47 37.5**	**+0.2**
GPS3				*i* S	**Sn**	**11 47 53.7**	**+1.6**
GPS1	**Guardaparques**	**1.13**	**344**	*i* P	**Pn**	**11 47 37.8**	**+0.3**
GPS1				*i* S	**Sn**	**11 47 53.8**	**+1.3**
LAPC	**Finca la Perla**	**1.15**	**340**	*i* P	**Pb**	**11 47 37.9**	**-0.1**
LAPC				*i* S	**Sn**	**11 47 53.6**	**+0.7**
RIMA	**Rio Macho**	**1.15**	**86**	*e*P	**Pn**	**11 47 39.1**	**+1.2**
HZTE	**Horizontes, Gu**	**1.17**	**332**	*e*P	**Pn**	**11 47 38.3**	**+0.4**
BUEV	**Buena Vista**	**1.17**	**342**	*i* P	**Pb**	**11 47 38.4**	**0.0**
GBS3	**Finca Las Img**	**1.17**	**339**	*i* P	**Pb**	**11 47 38.2**	**-0.1**
GBS3				*i* S	**Sn**	**11 47 54.5**	**+1.1**
GB1A	**Borinquen Arri**	**1.18**	**342**	*i* P	**Pb**	**11 47 38.8**	**+0.1**
COVE	**Coope Vega, Sa**	**1.20**	**31**	*e*P	**Pn**	**11 47 39.9**	**+1.5**
BUAI	**Buenos Aires**	**1.22**	**346**	*i* P	**Pb**	**11 47 39.3**	**+0.1**
EDDO	**Dominical**	**1.23**	**110**	*e*P	**Pb**	**11 47 39.3**	**0.0**
CDM	**Cerro de Muert**	**1.26**	**96**	*e*P	**Pb**	**11 47 40.8**	**+0.7**
CVTR	**Volcan Turrial**	**1.30**	**75**	*e*P	**Pb**	**11 47 42.5**	**+1.7**
PEZE	**Perez Zeledon,**	**1.37**	**102**	*e*P	**Pb**	**11 47 42.0**	**+0.2**
EDLM	**Las Mercedes**	**1.48**	**106**	*e*P	**Pb**	**11 47 43.5**	**-0.1**
EDPN	**Palmar Norte**	**1.71**	**115**	*e*P	**Pn**	**11 47 46.5**	**+1.1**
RIOS	**Rincon, Osa**	**1.79**	**123**	*e*P	**Pn**	**11 47 47.1**	**+0.6**
EDBA	**Buenos Aires**	**1.81**	**106**	*e*P	**Pn**	**11 47 47.9**	**+1.1**
DRK0	**Durika**	**1.81**	**103**	*e*P	**Pb**	**11 47 48.5**	**-0.9**
PIRO	**Carate, Puerto**	**2.10**	**127**	*e*P	**Pb**	**11 47 54.0**	**-0.3**
ACON	**Acoyapa**	**2.27**	**356**		**Pn**	**11 47 54.3**	**+1.1**
ESPN	**Las Esperanzas**	**2.60**	**16**	Pn	**Pn**	**11 47 55.1**	**-2.5**
BOAB	**BOACO BROADBAN**	**2.82**	**347**		**Pn**	**11 48 01.5**	**+0.8**
MATN	**Matagalpa**	**3.34**	**345**	Pn	**Pn**	**11 48 09.0**	**+1.0**
CRIN	**San Cristobal**	**3.59**	**327**	Pn	**Pn**	**11 48 15.6**	**+4.1**
TGUH	**Tegucigalpa,Un**	**4.87**	**333**	Pn	**Pn**	**11 48 30.7**	**+1.6**
BCIP	**Isla Barro Col**	**5.15**	**95**	Pn	**Pn**	**11 48 34.4**	**+1.7**
APG	**El Apazote**	**7.49**	**315**	Pn	**Pn**	**11 49 06.1**	**+0.9**
	0.4nm,0.3s,baz=247,slow=22,SNR=2.2						
SDV	**Santo Domingo**	**14.23**	**92**	LR	LR	11 57 23.8	
	comp=Z,123nm,20.9s,baz=267,slow=43						
ATAH	**Atahualpa**	**17.97**	**158**	LR	LR	11 57 33.9	
	comp=Z,228nm,18.7s,baz=320,slow=35						
NNA	**Nana**	**23.02**	**159**	LR	LR	12 00 34.6	
	comp=Z,55nm,18.8s,baz=326,slow=35						
LRAL	**Lakeview Retre**	**23.31**	**356**	P	**P**	**11 52 24.4**	**+0.9**
LRAL				IAmb	IAmb	11 52 35.8	
	comp=Z,13nm,0.7s						
GOGA	**Godfrey**	**23.66**	**3**	P	**P**	**11 52 27.1**	**+0.2**
GOGA				IAmb	IAmb	11 52 28.2	
	comp=Z,9.6nm,0.8s						
435B	**Jarrell**	**24.03**	**333**	P	**P**	**11 52 29.5**	**-1.0**
435B				IAmb	IAmb	11 52 44.5	
	comp=Z,14nm,0.8s						
Y52A	**Lilburn**	**24.08**	**2**	P	**P**	**11 52 27.6**	**-3.4**
Y49A	**Blount Mountai**	**24.09**	**357**	P	**P**	**11 52 30.5**	**-0.5**
Y49A				IAmb	IAmb	11 52 33.6	
	comp=Z,7.7nm,0.8s						
HODGE	**Hodges**	**24.57**	**6**	P	**P**	**11 52 35.5**	**+0.2**
HODGE				IAmb	IAmb	11 52 36.3	
	comp=Z,9.6nm,0.6s						
JSC	**Jenkinsville**	**24.73**	**7**	P	**P**	**11 52 37.0**	**+0.2**
WHTX	**Lake Whitney,**	**25.01**	**334**	P	**P**	**11 52 38.4**	**-1.0**
WHTX				IAmb	IAmb	11 52 40.6	
	comp=Z,9.0nm,0.8s						
BG3	**Lake Jocassee**	**25.27**	**4**	P	**P**	**11 52 41.7**	**0.0**
BG3				IAmb	IAmb	11 52 54.3	
	comp=Z,5.1nm,0.7s						
CPCT	**Cooper Cave**	**25.65**	**1**	P	**P**	**11 52 44.6**	**-0.6**
CPCT				IAmb	IAmb	11 52 49.5	
	comp=Z,8.2nm,0.9s						
TKL	**Tuckaleechee C**	**25.88**	**2**	P	**P**	**11 52 46.2**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=92,slow=10,SNR=2.2						
TKL				LR	LR	12 03 04.6	
	comp=Z,75nm,19.7s,baz=190,slow=36						
TKL	**Tuckaleechee C**	**25.88**	**2**	P	**P**	**11 52 46.4**	**-0.9**

SDCO IAmb IAmb 11 53 55.6
comp=Z,2.1nm,0.8s
PV03 Paradox Valley 35.59 327 P **P** **11 54 13.2 0.0**
PV03 IAmb IAmb 11 54 14.0
comp=Z,3.9nm,0.7s
PV05 Paradox Valley 35.60 326 P **P** **11 54 13.2 -0.2**
PV05 IAmb IAmb 11 54 13.8
comp=Z,3.5nm,0.7s
PV12 Saucer Basin, 35.62 327 P **P** **11 54 13.7 +0.2**
PV18 Skein Mesa, Pa 35.62 327 P **P** **11 54 13.7 +0.2**
PV11 David Mesa, Pa 35.64 327 P **P** **11 54 14.1 +0.5**
PV17 East Wray Mesa 35.67 327 P **P** **11 54 14.3 +0.4**
PKCU Pink Cliffs 37.00 323 P **P** **11 54 26.5 +1.1**
SRU San Rafael Swe 37.12 326 P **P** **11 54 26.1 -0.1**
PFO Pinyon Flats O 37.42 314 P **P** **11 54 28.8 0.0**
comp=Z,1.4nm,0.6s,baz=148,slow=8.2,SNR=2.4
PFO Pinyon Flats O 37.42 314 P **P** **11 54 28.8 0.0**
PFO IAmb IAmb 11 54 31.9
comp=Z,8.8nm,1.4s
MSU Marysvale 37.64 324 P **P** **11 54 31.3 +0.6**
CCUT Cedar City 37.70 322 P **P** **11 54 32.4 +1.1**
PSUT Pine Spring 38.64 323 P **P** **11 54 40.0 +0.9**
TPNV Topopah Spring 39.15 319 P **P** **11 54 44.8 +1.4**
PDAR Pinedale Array 39.32 331 P **P** **11 54 43.4 -1.5**
comp=Z,0.4nm,0.5s,baz=132,slow=9.2,SNR=6.0
PDAR PcP **PcP** **11 56 53.7 +0.5**
comp=Z,0.5nm,0.7s,baz=101,slow=3.0,SNR=4.2
PDAR Pinedale Array 39.32 331 P **P** **11 54 43.9 -0.9**
PDAR **PcP** **11 56 53.8 +0.5**
HWUT Hardware Ranch 39.46 328 P **P** **11 54 45.8 -0.2**
HWUT IAmb IAmb 11 54 46.2
comp=Z,4.3nm,0.8s
BGU Big Grassy Mou 39.76 326 P **P** **11 54 48.2 -0.2**
LMN Caledonia Moun 39.99 22 P **P** **11 54 49.8 -0.3**
REDW Red Top Meadow 40.39 331 P **P** **11 54 53.1 -0.6**
REDW IAmb IAmb 11 54 53.9
comp=Z,4.2nm,0.9s
TPAW Teton Pass 40.54 331 P **P** **11 54 53.7 -1.2**
ELK Elko 40.88 324 P **P** **11 54 58.8 +0.9**
NV11 Mina Array Sit 41.24 319 P **P** **11 55 02.7 +2.0**
NV11 IAmb IAmb 11 55 03.2
comp=Z,3.8nm,0.8s
NVAR Mina Array Bea 41.34 319 P **P** **11 55 01.6 +0.1**
comp=Z,3.0nm,0.7s,baz=132,slow=7.1,SNR=30
NVAR PcP **PcP** **11 57 01.4 +1.6**
comp=Z,1.0nm,0.8s,baz=135,slow=4.1,SNR=5.3
NVAR Mina Array Bea 41.34 319 P **P** **11 55 03.0 +1.4**
LHV Little Huntoon 41.36 319 P **P** **11 55 03.5 +2.1**
LHV IAmb IAmb 11 55 12.5
comp=Z,4.9nm,0.9s
KVN Kaiserville 41.56 320 P **P** **11 55 04.4 +1.0**
WAKR Walker 42.11 319 P **P** **11 55 09.8 +1.9**
YERR Yerington 42.25 319 P **P** **11 55 08.2 -0.8**
HLID Hailey 42.33 328 P **P** **11 55 09.0 -0.6**
MCMT McKenzie Canyo 42.45 331 P **P** **11 55 10.4 -0.1**
H03N2 Juan Fernandez 43.27 173 T T 12 41 19.7
baz=351,slow=76,SNR=26
H03N1 Juan Fernandez 43.28 173 T T 12 41 20.7
baz=351,slow=76,SNR=31
H03N3 Juan Fernandez 43.29 173 T T 12 41 19.4
baz=351,slow=76,SNR=30
YBH Yreka Blue Hor 45.98 320 P **P** **11 55 37.3 -1.5**
comp=Z,0.9nm,0.6s,baz=126,slow=17,SNR=2.5
YBH Yreka Blue Hor 45.98 320 P **P** **11 55 38.0 -0.8**
YBH IAmb IAmb 11 55 51.5
comp=Z,8.5nm,1.4s
PINE Pine Mountain 46.09 324 P **P** **11 55 39.3 -0.4**
PINE IAmb IAmb 11 55 40.5
comp=Z,3.3nm,0.8s
KBO Bosley Butte 47.19 320 P **P** **11 55 49.4 +1.2**
SCHQ Schefferville 47.30 14 P **P** **11 55 46.5 -2.2**
comp=Z,5.1nm,0.4s,baz=201,slow=5.2,SNR=11
SCHQ LR LR 12 16 35.3
comp=Z,63nm,18.1s,baz=248,slow=37
SCHQ Schefferville 47.30 14 P **P** **11 55 46.9 -1.8**
H04A Detroit Lake 47.34 324 P **P** **11 55 48.2 -1.1**
ILAR Eielson Array 69.49 336 P **P** **11 58 22.4 -1.1**
comp=Z,0.3nm,0.5s,baz=114,slow=4.3,SNR=7.1
ILAR Eielson Array 69.49 336 P **P** **11 58 22.2 -1.4**
ESDC Sonseca Array 77.03 51 P **P** **11 59 08.0 -0.7**
comp=Z,1.1nm,0.7s,baz=267,slow=6.3,SNR=6.4
ESDC LR LR 12 29 14.0
comp=Z,23nm,19.1s,baz=240,slow=33
ESDC Sonseca Array 77.03 51 P **P** **11 59 07.8 -0.9**
TORD Torodi Ar. Bea 84.69 78 P **P** **11 59 49.8 -0.1**
comp=Z,1.2nm,0.6s,baz=281,slow=4.9,SNR=7.0
TORD Torodi Ar. Bea 84.69 78 P **P** **11 59 49.7 -0.2**
DAVOX Davos/Dischmat 86.37 43 LR LR 12 34 47.5
comp=Z,23nm,20.0s,baz=267,slow=33
GERES GERESS Array B 88.48 41 LR LR 12 35 18.4
comp=Z,32nm,16.5s,baz=282,slow=32
SONM Songino Array 121.84 351 PKP **PKPdf** **12 06 09.6 -0.2**
comp=Z,0.4nm,0.5s,baz=90,slow=1.4,SNR=1.5
KSRS Korea Array 123.86 329 PKP **PKiKP** **12 06 14.8 +0.8**
comp=Z,1.2nm,0.8s,baz=5.3,slow=1.5,SNR=5.7
ASAR Alice Springs 140.34 245 PKP **PKPdf** **12 06 45.7 +0.5**
comp=Z,0.4nm,0.6s,baz=102,slow=1.9,SNR=2.4
ASAR Alice Springs 140.34 245 **PKPdf** **12 06 45.2 0.0**
WRA Warramunga Arr 140.69 250 PKP **PKPdf** **12 06 46.2 +0.3**
comp=Z,0.5nm,0.7s,baz=97,slow=2.7,SNR=6.3
WRA Warramunga Arr 140.69 250 **PKPdf** **12 06 44.9 -1.1**
CMAR Chiang Mai Arr 151.76 352 PKPbc **PKPbc** **12 07 11.6 +0.6**
comp=Z,1.7nm,0.9s,baz=341,slow=3.2,SNR=9.0
CMAR Chiang Mai Arr 151.76 352 PKPdf **PKPdf** **12 07 05.6 +1.0**
CMAR **PKiKP** **12 07 12.0 +0.6**
CMAR PKPab **sPKPbc** **12 07 21.0 +0.4**

*NNC **09** 12:00:15.4±0.6,47°.00N×79°.87E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=6.6km s-min=4.0km az=115.0,
Suspected Mining explosion.
*SOME **09** 12:00:16.6,46°.93N×79°.68E*
ISC 09 12:00:16.2±1.2,47°.01N±0°.05×80°.07E±0°.09,h0km,n12,
σ0s72/13,3C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.54**	**97**	⇓Pg	**Pn**	**12 00 45.4**	**+0.5**
	1.9nm,0.2s,baz=273,slow=17,SNR=159						
MK31				⇓Lg	Lg	12 01 08.1	
	5.4nm,0.3s,baz=267,slow=26,SNR=5.4						
KAPS	**Kapalarasan**	**1.79**	**196**	P	**Pn**	**12 00 48.0**	**-0.4**
	25nm,0.2s						
KAPS				S	**Sn**	**12 01 10.8**	**-1.1**
	77nm,0.3s						
TDK	**Taldyqorghan**	**2.31**	**211**	Pg	**Pn**	**12 00 56.4**	**+0.8**
	53nm,0.3s						
TDK				Lg	Lg	12 01 25.3	
	90nm,0.5s						
MNBS	**Baschi**	**3.15**	**202**	Pg	**Pb**	**12 01 13.2**	**+0.1**
	8.7nm,0.4s						
MNBS				Lg	Lg	12 01 53.5	
	13nm,0.3s						
KURBB	**Kurchatov Arra**	**3.76**	**345**	⇑Pg	**Pb**	**12 01 23.9**	**+0.5**
	1.1nm,0.3s						
KURBB				⇑Lg	Lg	12 02 13.5	
	19nm,0.6s						
CHKK	**Chushkaly**	**3.82**	**216**	Pg	**Pb**	**12 01 24.6**	**0.0**
	6.4nm,0.5s						
CHKK				Lg	Lg	12 02 13.3	
	14nm,0.3s						
KURK	**Kurchatov**	**3.83**	**346**	⇓Pg	**Pb**	**12 01 24.0**	**-0.7**
	2.0nm,0.4s						
KURK				⇑Lg	Lg	12 02 15.2	
	8.3nm,0.5s						
UZB	**Uzynbulak**	**3.93**	**191**	Pg	**Pb**	**12 01 26.0**	**-0.4**
	7.0nm,0.7s						
UZB				Lg	Lg	12 02 15.5	
	5.3nm,0.6s						
KTBS	**Karatobe**	**4.07**	**217**	Pg	**Pb**	**12 01 28.7**	**0.0**
	2.6nm,0.5s						
KTBS				Lg	Lg	12 02 20.4	
	30nm,0.5s						
KOTS	**Kotyrbulak**	**4.31**	**210**	Pg	**Pb**	**12 01 33.9**	**+0.9**
	5.7nm,0.4s						
KOTS				Lg	Lg	12 02 30.2	
	26nm,0.7s						
KRBS	**Karabastau**	**4.53**	**225**	Pg	**Pb**	**12 01 36.2**	**-0.4**
	2.7nm,0.7s						
KRBS				Lg	Lg	12 02 33.2	
	6.7nm,0.3s						
KST	**Kastek**	**4.91**	**218**	Pg	**Pb**	**12 01 44.2**	**+1.0**
	5.9nm,0.5s						
KST				Lg	Lg	12 02 46.9	
	6.8nm,0.5s						

WEL 09 12:03:57.4,43°S±2°,×17°2E±°,h5km±3km,M2.5/12,
ML2.6/11,MLv2.5/12,Error ellipse: s-maj=0.0km
s-min=0.0km az=115.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.17**	**169**	P	Pg	12 04 02.4	+1.6
LTZ	**Lake Taylor**	**0.42**	**29**	P	Pb	12 04 07.3	-0.1
AMCZ	**Amberley**	**0.48**	**93**	P	Pb	12 04 08.5	+0.2
MHCZ	**Mount Hutt**	**0.49**	**219**	P	Pb	12 04 08.8	+0.4
INZ	**Inchbonnie**	**0.59**	**317**	P	Pb	12 04 10.6	+0.5
MQZ	**McQueen's Vall**	**0.73**	**139**	P	Pg	12 04 08.4	-3.0
GVZ	**Greta Valley S**	**0.79**	**77**	P	Pn	12 04 14.4	-0.8
WACZ	**Wakanui South**	**0.80**	**188**	P	Pb	12 04 14.3	+0.7
RPZ	**Rata Peaks**	**0.88**	**230**	P	Pn	12 04 15.9	-0.6
WVZ	**Waitaha Valley**	**0.92**	**275**	P	Pn	12 04 16.8	-0.2
OKCZ	**Okains Bay**	**0.96**	**127**	P	Pg	12 04 11.1	-4.8
AKCZ	**Akaroa Harbour**	**0.98**	**137**	P	Pg	12 04 15.9	-0.3
ARCZ	**Arundel**	**0.99**	**217**	P	Pb	12 04 17.1	+0.1
GCSZ	**Gaunt Creek Bo**	**1.23**	**262**	P	Pn	12 04 22.6	+1.4
KHZ	**Kahutara**	**1.36**	**58**	P	Pg	12 04 23.6	+0.2
DSZ	**Denniston Nort**	**1.42**	**354**	P	Pg	12 04 25.2	+0.8
THZ	**Tophouse**	**1.55**	**26**	P	Pb	12 04 26.5	0.0
FOZ	**Fox Glacier**	**1.63**	**256**	P	Pg	12 04 28.5	-0.1
LBZ	**Lake Benmore**	**1.80**	**226**	P	Pg	12 04 32.3	+0.6
ODZ	**Otahua Downs**	**2.12**	**207**	P	Pn	12 04 32.7	-0.8

*IDC **09** 12:04:55.2±1.2,42°.15N×85°.03E,h0km,mb3.8/5,*
mb1 3.7/11,mb1mx3.5/51,mbtmp3.7/11,ML3.3/6,MS3.3/2,
Ms1 3.3/2,ms1mx2.4/55,Error ellipse: s-maj=27.3km
s-min=17.5km az=42.0
*NEIC **09** 12:04:57.2±2.4,42°.32N±0°.05×85°.20E±0°.08,h10km±1km,*
mb4.4/8,Error ellipse: s-maj=12.2km s-min=4.8km
az=232.0
*BJI **09** 12:04:59.1±0.0,42°.27N×84°.94E,h7km,ML3.8/10*
*SOME **09** 12:05:00.8,42°.62N×84°.78E,h5km*
*NNC **09** 12:05:04.1±1.9,42°.63N×84°.65E,h0km,mb4.3,mpv3.9,*
Error ellipse: s-maj=16.0km s-min=8.0km az=148.0
ISC 09 12:04:58.0±0.7,42°.41N±0°.05×85°.12E±0°.04,h10km,n64,
σ2s64/70,mb3.9/9,8C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.36**	**52**	*e*Pn	**Pg**	**12 05 42.3**	**-0.9**
WMQ				Sg	**Sg**	**12 06 16.5**	**+2.8**
WMQ				smax	smax		
	comp=N,460nm,0.7s						
WMQ				smax	smax		
	comp=E,460nm,0.7s						
WMQ	**Urumqi**	**2.36**	**52**	Pn	**Pn**	**12 05 35.3**	**-1.5**
KTMS	**Ketmen**	**3.65**	**288**	*e*P	**Pb**	**12 06 02.5**	**-0.3**
	6.6nm,0.1s						
KTMS				*e*S	**Sb**	**12 06 47.2**	**+0.1**
	236nm,0.4s						
KTMS	**Ketmen**	**3.65**	**288**	Pg	**Pb**	**12 06 02.5**	**-0.3**
	6.6nm,0.1s						
KTMS				Lg	Lg	12 06 47.2	
	236nm,0.4s						
SHLS	**Shalkode**	**4.23**	**282**	*e*P	**Pb**	**12 06 09.6**	**-3.0**
	44nm,0.3s						
SHLS				*e*S	**Sn**	**12 06 59.6**	**+7.4**
	250nm,0.4s						
SHLS	**Shalkode**	**4.23**	**282**	Pg	**Pb**	**12 06 09.6**	**-3.0**
	44nm,0.3s						
SHLS				Lg	Lg	12 06 59.6	
	250nm,0.4s						
PDGK	**Podgornoye**	**4.24**	**284**	Pg	**Pb**	**12 06 13.6**	**+0.8**
	5.5nm,0.2s						
PDGK				Lg	Lg	12 07 07.0	
	65nm,0.5s						
PDGK	**Podgornoye**	**4.24**	**284**	⇑Pg	**Pb**	**12 06 16.4**	**+3.7**
	22nm,0.9s						
PDGK				⇑Lg	Lg	12 07 05.8	
	87nm,0.5s						
DJR	**Jarkent**	**4.34**	**298**	*e*P	**Pb**	**12 06 17.6**	**+3.3**
	24nm,0.4s						
DJR				*e*S	**Sb**	**12 07 13.0**	**+6.2**
	66nm,0.4s						
MK31	**Makanchi Array**	**4.83**	**336**	Pn	**Pn**	**12 06 13.1**	**+2.3**
	0.9nm,0.3s,baz=239,slow=10,SNR=65						
MK31				Pg	**Pb**	**12 06 26.2**	**+3.5**
	8.0nm,0.5s,baz=151,slow=16,SNR=27						
MK31				⇓Lg	Lg	12 07 29.3	
	46nm,0.5s,baz=160,slow=31,SNR=12						
MK31	**Makanchi Array**	**4.83**	**336**		**Pn**	**12 06 12.8**	**+2.1**
MKAR	**Makanchi Array**	**4.83**	**336**	Pn	**Pn**	**12 06 13.2**	**+2.4**
	1.1nm,0.3s,baz=153,slow=14,SNR=19						
MKAR				Pg	**Pb**	**12 06 26.4**	**+3.7**
	4.7nm,0.3s,baz=154,slow=16,SNR=16						
MKAR				Sn	**Sn**	**12 07 03.5**	**-3.3**
	6.3nm,0.3s,baz=145,slow=17,SNR=5.1						
MKAR				Lg	Lg	12 07 29.1	
	26nm,0.3s,baz=149,slow=31,SNR=18						
MKAR	**Makanchi Array**	**4.83**	**336**		**Pn**	**12 06 12.2**	**+1.4**
KPKS	**Kokpek**	**4.84**	**285**	*e*P	**Pb**	**12 06 25.4**	**+2.4**
	24nm,0.2s						
KPKS				*e*S	**Sb**	**12 07 27.2**	**+5.9**
	229nm,0.6s						
MAKZ	**Makanchi**	**4.94**	**334**	Pn	**Pn**	**12 06 13.0**	**+0.7**
ZSN	**Zaisan**	**5.05**	**358**	*e*P	**Pg**	**12 06 31.3**	**-3.3**
	14nm,0.4s						
ZSN				*e*S	**Sg**	**12 07 37.3**	**-2.7**
	98nm,0.7s						
ZSN	**Zaisan**	**5.05**	**358**	Pg	**Pg**	**12 06 31.8**	**-2.8**
	14nm,0.4s						
ZSN				Lg	Lg	12 07 37.7	
	135nm,0.8s						
KAPS	**Kapalarasan**	**5.07**	**307**	*e*P	**Pb**	**12 06 27.8**	**+1.1**
	3.9nm,0.1s						
KAPS				*e*S	**Sb**	**12 07 31.2**	**+3.5**
	35nm,0.4s						
ARXS	**Arharly**	**5.62**	**291**	*e*P	**Pb**	**12 06 37.6**	**+1.4**
	21nm,0.4s						
ARXS				*e*S	**Sb**	**12 07 48.0**	**+4.4**
	87nm,0.7s						
ARXS	**Arharly**	**5.62**	**291**	Pg	**Pb**	**12 06 37.6**	**+1.4**
	21nm,0.4s						
ARXS				Lg	Lg	12 07 48.0	
	87nm,0.7s						
KDJ	**Kajisay**	**5.90**	**270**		**Pn**	**12 06 26.0**	**+0.4**
CHKK	**Chushkaly**	**6.12**	**286**	*e*P	**Pb**	**12 06 49.3**	**+4.5**
	2.8nm,0.4s						
CHKK				*e*S	**Sg**	**12 08 08.8**	**-5.7**
	30nm,0.3s						
CHKK	**Chushkaly**	**6.12**	**286**	Pg	**Pb**	**12 06 49.3**	**+4.5**
	2.8nm,0.4s						
CHKK				Lg	Lg	12 08 08.8	
	30nm,0.3s						
KUU	**Kurty**	**6.59**	**286**	*e*P	**Pb**	**12 06 56.9**	**+4.1**
	3.0nm,0.6s						
KUU				*e*S	Sb	12 08 21.8	+10
	20nm,0.6s						
KUU	**Kurty**	**6.59**	**286**	Pg	**Pb**	**12 06 56.9**	**+4.1**
	3.0nm,0.6s						
KUU				Lg	Lg	12 08 21.8	
	20nm,0.6s						
BOOM	**Boomskoye usch**	**6.79**	**274**	Pn	**Pn**	**12 06 37.4**	**-0.5**
TKM2	**Tokmak 2**	**7.04**	**277**	⇑Pn	**Pn**	**12 06 44.9**	**+3.6**
	3.9nm,0.6s						
TKM2				⇓Sn	**Sn**	**12 08 00.4**	**-1.1**
	6.9nm,0.5s						
TKM2				⇑Lg	Lg	12 08 34.9	
	17nm,0.6s						
AAK	**Ala-Archa**	**7.86**	**275**	Pn	**Pn**	**12 06 53.0**	**+0.6**
	0.4nm,0.3s,baz=76,slow=4.2,SNR=1.7						
AAK				Lg	Lg	12 09 00.5	
	0.5nm,0.3s,baz=9.9,slow=20,SNR=1.7						
AAK	**Ala-Archa**	**7.86**	**275**	⇑Lg	Lg	12 08 58.8	
	9.7nm,0.7s						
AAK	**Ala-Archa**	**7.86**	**275**		**Pn**	**12 06 52.9**	**+0.5**
KURBB	**Kurchatov Arra**	**9.39**	**333**	Pn	**Pn**	**12 07 13.5**	**+0.3**
	0.1nm,0.3s,baz=141,slow=13,SNR=2.7						
KURBB				Lg	Lg	12 09 53.9	
	0.4nm,0.3s,baz=146,slow=31,SNR=8.8						
KURBB	**Kurchatov Arra**	**9.39**	**333**	⇑Lg	Lg	12 09 51.4	
	69nm,0.9s						
KURK	**Kurchatov**	**9.44**	**334**	⇑Lg	Lg	12 09 52.9	
	49nm,1.0s						
KURK	**Kurchatov**	**9.44**	**334**		**Pn**	**12 07 13.7**	**-0.2**
KK31	**Karatay Array**	**10.77**	**279**	⇑Lg	Lg	12 10 33.3	
	2.3nm,0.6s,baz=86,slow=26,SNR=3.8						
GTA	**Gaotai**	**11.52**	**100**	*e*P	**Pn**	**12 07 44.0**	**+1.5**
GTA				pP		12 07 48.4	
GTA				sP		12 07 51.2	
ZAA0	**Zalesovo Array**	**11.55**	**359**	Pn	**Pn**	**12 07 43.2**	**+0.4**
ZALV	**Zalesovo Beam**	**11.55**	**359**	Pn	**Pn**	**12 07 43.1**	**+0.3**
	0.9nm,0.3s,baz=177,slow=13,SNR=8.7						
ZALV				Sn	**Sn**	**12 09 48.1**	**-3.7**
	1.2nm,0.3s,baz=166,slow=28,SNR=6.0						
ZALV				Lg	Lg	12 11 05.4	
	0.1nm,0.3s,baz=194,slow=24,SNR=2.4						
ZALV	**Zalesovo Beam**	**11.55**	**359**		**Pn**	**12 07 42.4**	**-0.4**
BVAR	**Borovoye Array**	**14.50**	**322**	Pn	**Pn**	**12 08 23.3**	**+0.1**
	0.3nm,0.3s,baz=126,slow=13,SNR=5.3						
BRVK	**Borovoye**	**14.57**	**322**	Pn	**Pn**	**12 08 24.2**	**+0.1**
SONM	**Songino Array**	**15.95**	**63**	Pn	**P**	**12 08 45.3**	**-0.8**
	0.2nm,0.3s,baz=257,slow=12,SNR=3.7						
ABKAR	**Akbulak array**	**18.78**	**300**	P	**P**	**12 09 16.3**	**-0.9**
ARU	**Arti**	**22.07**	**319**	P	**P**	**12 09 54.1**	**+1.2**
	2.7nm,0.2s,baz=88,slow=6.7,SNR=5.2						
ARU	**Arti**	**22.07**	**319**	P	**P**	**12 09 53.5**	**+0.6**
ARU				IAmb	IAmb	12 09 54.8	
	comp=Z,5.8nm,0.6s						
KSRS	**Korea Array**	**32.93**	**84**	P	**P**	**12 11 32.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=290,slow=9.3,SNR=2.6						
TIXI	**Tiksi**	**36.22**	**22**	P	**P**	**12 11 59.3**	**-1.2**
TIXI				IAmb	IAmb	12 12 03.9	
	comp=Z,4.4nm,1.1s						
ARCES	**ARCESS Array B**	**40.47**	**332**	P	**P**	**12 12 36.0**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=91,slow=7.4,SNR=9.6						
ARCES	**ARCESS Array B**	**40.47**	**332**	P	**P**	**12 12 34.4**	**-1.9**
ARE0	**ARCESS Array S**	**40.47**	**332**	P	**P**	**12 12 36.4**	**+0.1**
VRAC	**Vranov**	**46.73**	**303**	LR	LR	12 33 30.1	
	comp=Z,30nm,20.1s,baz=188,slow=37						
GUMO	**Guam**	**58.69**	**101**	LR	LR	12 42 37.0	
	comp=Z,25nm,18.6s,baz=168,slow=38						
TOLK	**Toolik Lake Re**	**62.07**	**20**	P	**P**	**12 15 19.1**	**+0.8**
TOLK				IAmb	IAmb	12 15 26.6	
	comp=Z,8.1nm,1.4s						
IMAR	**Indian Mountai**	**62.85**	**23**	P	**P**	**12 15 24.1**	**+0.6**
PPLA	**Purkeypile**	**65.54**	**25**	P	**P**	**12 15 42.1**	**+0.7**
ILAR	**Eielson Array**	**65.69**	**22**	P	**P**	**12 15 42.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=323,slow=5.3,SNR=3.2						
ILAR	**Eielson Array**	**65.69**	**22**	P	**P**	**12 15 40.7**	**-1.5**
EGAK	**Eagle**	**67.18**	**20**	P	**P**	**12 15 52.4**	**+0.6**
BCAR	**Beaver Creek A**	**68.42**	**21**	P	**P**	**12 15 59.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.44**	**275**	P	**P**	**12 16 46.5**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=56,slow=4.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.44**	**275**	IAmb	IAmb	12 16 54.0	
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**76.86**	**133**	P	**P**	**12 16 48.2**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=330,slow=4.8,SNR=1.1						
WRA	**Warramunga Arr**	**76.86**	**133**	IAmb	IAmb	12 16 53.5	
	comp=Z,0.1nm,0.9s						
WB2	**Warramunga Arr**	**76.87**	**133**	P	**P**	**12 16 48.8**	**-1.5**
WB2				IAmb	IAmb	12 16 58.7	
	comp=Z,6.4nm,1.4s						

WEL 09 12:09:34.3,43°S±2°,×17°2E±°,h9km±1km,M2.1/6,ML2.1/6,
MLv2.1/6,Error ellipse: s-maj=0.0km s-min=0.0km
az=116.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.13**	**166**	P	Pg	12 09 38.6	+1.3
LTZ	**Lake Taylor**	**0.47**	**26**	P	Pb	12 09 45.0	+0.3
INZ	**Inchbonnie**	**0.62**	**319**	P	Pb	12 09 47.8	+0.4
MQZ	**McQueen's Vall**	**0.70**	**137**	P	Pb	12 09 49.3	+0.7
WACZ	**Wakanui South**	**0.75**	**189**	P	Pn	12 09 50.8	-0.3
GVZ	**Greta Valley S**	**0.80**	**73**	P	Pn	12 09 52.0	+0.3
RPZ	**Rata Peaks**	**0.86**	**233**	P	Pn	12 09 52.3	-0.2
ARCZ	**Arundel**	**0.95**	**218**	P	Pn	12 09 54.1	+0.2
KHZ	**Kahutara**	**1.38**	**56**	P	Pg	12 10 01.9	+1.1
LBZ	**Lake Benmore**	**1.77**	**227**	P	Pg	12 10 09.4	+1.2
ODZ	**Otahua Downs**	**2.08**	**207**	P	Pg	12 10 14.9	+0.6
BHW	**Baring Head**	**2.79**	**51**	P	Pb	12 10 22.4	-1.8
LREZ	**Lake Rotokare**	**4.15**	**27**	P	Pb	12 10 44.8	-2.7

*KRNET **09** 12:15:30.9±0.1,41°.19N×71°.80E,h18km,mb2.7*
*SOME **09** 12:15:31.1,41°.18N×71°.92E,h10km*
*NNC **09** 12:15:33.3±2.3,41°.25N×71°.97E,h0km,mb3.6,mpv3.1,*
Error ellipse: s-maj=21.0km s-min=7.1km az=172.0
ISC 09 12:15:29.6±1.6,41°.12N±0°.05×71°.98E±0°.03,h1km±14km,
n27,σ1s27/42,15C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.85**	**134**	⇑*i*P	**Pn**	**12 15 49.9**	**+1.2**
	baz=31						
OHH				⇑*i*S	**Sn**	**12 16 02.9**	**+1.0**
	baz=31						
BTK	**Batken**	**1.38**	**220**	⇑*i*P	**Pn**	**12 15 55.6**	**-0.4**
	baz=14						
BTK				⇑*i*S	**Sb**	**12 16 14.3**	**0.0**
	baz=14						
AML	**Almayashu**	**1.64**	**51**	⇑*i*P	**Pb**	**12 16 01.8**	**+1.0**
	baz=56						
AML				⇑*i*S	**Sg**	**12 16 24.7**	**+2.5**
	baz=56						
IUG	**Iuzhnay**	**1.79**	**306**	*e*P	**Pg**	**12 16 04.1**	**+0.3**
	29nm,0.2s						
IUG				*e*S	**Sg**	**12 16 27.0**	**-0.1**
	135nm,0.2s						
IUG	**Iuzhnay**	**1.79**	**306**	P	**Pg**	**12 16 04.1**	**+0.3**
	36nm,0.3s						
IUG				S	**Sg**	**12 16 27.0**	**-0.1**
	135nm,0.2s						
MRKS	**Merke**	**1.87**	**29**	*e*P	**Pg**	**12 16 06.4**	**+0.9**
	15nm,0.3s						
MRKS				*e*S	**Sg**	**12 16 31.0**	**+1.2**
	32nm,0.2s						
MRKS	**Merke**	**1.87**	**29**	P	**Pg**	**12 16 06.4**	**+0.9**
	17nm,0.4s						
MRKS				S	**Sg**	**12 16 31.2**	**+1.4**
	40nm,0.3s						
ARLS	**Aral**	**1.91**	**66**	⇓*i*P	**Pb**	**12 16 06.8**	**+1.5**
	baz=69						
ARLS				⇓*i*S	**Sg**	**12 16 33.1**	**+2.2**
	baz=69						
EKS2	**Erkin-Say**	**2.04**	**40**	⇑*i*P	**Pb**	**12 16 08.2**	**+0.6**
	baz=44						
EKS2				⇑*i*S	**Sb**	**12 16 34.5**	**+0.9**
	baz=44						
UCH	**Uchtor**	**2.20**	**59**	⇓*i*P	**Pb**	**12 16 09.9**	**-0.5**
	baz=62						
UCH				⇓*i*S	**Sb**	**12 16 39.0**	**+0.7**
	baz=62			

BTLS	**Baital**	**4.20**	**20**	*e*P	**Pg**	**12 16 49.7**	**-0.4**
	3.5nm,0.5s						
BTLS				*e*S	**Sg**	**12 17 46.6**	**+2.0**
	2.6nm,0.6s						
BTLS	**Baital**	**4.20**	**20**	Pg	**Pg**	**12 16 49.9**	**-0.3**
	3.5nm,0.5s						
BTLS				Lg	Lg	12 17 46.2	
KTBS	**Karatobe**	**4.34**	**52**	*e*P	**Pg**	**12 16 51.1**	**-1.7**
	0.8nm,0.6s						
KTBS				*e*S	**Sg**	**12 17 47.7**	**-1.2**
	3.9nm,0.4s						
KTBS	**Karatobe**	**4.34**	**52**	Pg	**Pg**	**12 16 51.1**	**-1.7**
	0.8nm,0.6s						
KTBS				Lg	Lg	12 17 47.7	
	3.9nm,0.4s						
ARXS	**Arharly**	**5.30**	**52**	Pg	Pb	12 17 08.1	+4.9
	3.2nm,0.4s						
ARXS				Lg	Lg	12 18 16.6	
	3.6nm,0.7s						
MAKZ	**Makanchi**	**9.18**	**48**	⇓Pn	**Pn**	**12 17 39.9**	**-3.2**
	0.3nm,0.3s						
MK31	**Makanchi Array**	**9.35**	**49**	Pn	Pn	12 17 35.4	-10
	0.6nm,0.4s,baz=106,slow=17,SNR=12						

*NEIC **09** 12:44:17.4±2.7, 1°.51N±0°.10×126°.58E±0°.08, h10km±1km, mb4.1/10, Error ellipse: s-maj=18.3km s-min=10.1km az=211.0*
*IDC **09** 12:44:19.0±1.8, 1°.42N×126°.37E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/43, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=114.4km s-min=24.8km az=67.0*
ISC 09 12:44:18.4±0.9, 1°.5N±0°.1×126°.5E±0°.1, h10km, n27, σ1§27/23, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**128**		**Pb**	**12 44 38.1**	**-1.4**
LUWI	**Luwuk**	**4.47**	**236**	Pn	**Pn**	**12 45 26.5**	**+0.3**
FAKI	**Fak Fak**	**7.20**	**127**	Pn	Pn	12 46 00.7	-3.2
MYLDM	**Lahad Datu**	**8.80**	**295**	Pn	Pn	12 46 23.7	-2.0
MMRI	**Maumere**	**10.88**	**203**	Pn	Pn	12 46 52.1	-2.1
KKM	**Kota Kinabalu**	**11.23**	**294**	Pn	**Pn**	**12 46 58.2**	**-1.0**
SOEI	**Soe**	**11.35**	**191**	Pn	**Pn**	**12 47 01.4**	**+0.6**
MTN	**Manton Dam**	**14.93**	**162**	Pn	**Pn**	**12 47 48.7**	**-0.9**
JAGI	**Jajag, Banyuwa**	**15.76**	**231**	Pn	**Pn**	**12 47 59.7**	**-0.9**
KNRA	**Kununurra**	**17.16**	**173**	Pn	**Pn**	**12 48 17.4**	**-1.1**
KNRA	comp=Z,14nm,1.4s			IAmb	IAmb	12 48 22.2	
FITZ	**Fitzroy Crossi**	**19.44**	**182**	P	**P**	**12 48 45.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=20,slow=11,SNR=1.7						
FITZ	**Fitzroy Crossi**	**19.44**	**182**	P	**P**	**12 48 45.2**	**0.0**
WB0	**Warramunga Arr**	**22.46**	**160**	P	**P**	**12 49 18.5**	**+0.6**
WB0	comp=Z,3.9nm,0.8s			IAmb	IAmb	12 49 22.7	
WRAB	**Tennant Creek**	**22.60**	**160**	P	**P**	**12 49 20.5**	**+1.1**
WRAB	comp=Z,19nm,1.5s			IAmb	IAmb	12 49 24.1	
WRA	**Warramunga Arr**	**22.61**	**160**	P	**P**	**12 49 21.8**	**+2.3**
	comp=Z,2.2nm,0.6s,baz=340,slow=12,SNR=42						
WRA	**Warramunga Arr**	**22.61**	**160**	P	**P**	**12 49 18.6**	**-0.8**
WB2	**Warramunga Arr**	**22.61**	**160**	P	**P**	**12 49 20.8**	**+1.3**
WB2	comp=Z,16nm,1.5s			IAmb	IAmb	12 49 24.2	
WR0	**Warramunga Arr**	**22.69**	**160**	P	**P**	**12 49 20.8**	**+0.4**
WR0	comp=Z,6.2nm,1.1s			IAmb	IAmb	12 49 27.6	
AS31	**Alice Springs**	**25.98**	**164**	P	**P**	**12 49 51.1**	**-0.5**
ASAR	**Alice Springs**	**25.98**	**164**	P	**P**	**12 49 54.5**	**+3.0**
	comp=Z,0.7nm,0.6s,baz=346,slow=8.2,SNR=20						
ASAR	**Alice Springs**	**25.98**	**164**	P	**P**	**12 49 52.0**	**+0.5**
STKA	**Stephens Creek**	**36.10**	**158**	P	**P**	**12 51 22.2**	**+1.6**
	comp=Z,3.0nm,0.8s,baz=323,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**36.10**	**158**	P	**P**	**12 51 21.7**	**+1.0**
MJB9	**Matsu-Tunnel**	**36.57**	**16**	P	P	12 51 22.0	-2.6
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**12 54 22.2**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=114,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**12 54 20.1**	**-0.4**
ABKAR	**Akbulak array**	**73.76**	**321**	P	**P**	**12 55 52.9**	**0.0**

*NEIC **09** 12:44:37.1±1.3, 1°.49N±0°.08×126°.19E±0°.05, h10km±1km, mb4.5/15, Error ellipse: s-maj=14.3km s-min=8.5km az=188.0*
*IDC **09** 12:44:38.3±1.9, 1°.46N×126°.31E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/43, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=112.1km s-min=26.5km az=67.0*
ISC 09 12:44:42.0±0.6, 1°.43N±0°.08×126°.17E±0°.09, h54km, n31, σ1§83/31, mb4.3/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**119**		**Pn**	**12 45 02.4**	**-2.4**
LUWI	**Luwuk**	**4.19**	**234**	Pn	**Pn**	**12 45 41.6**	**-1.9**
FAKI	**Fak Fak**	**7.46**	**125**	Pn	**Pn**	**12 46 26.2**	**-2.1**
MYLDM	**Lahad Datu**	**8.51**	**296**	Pn	**Pn**	**12 46 42.1**	**-0.6**
MMRI	**Maumere**	**10.74**	**201**	Pn	**Pn**	**12 47 11.5**	**-1.8**
KKM	**Kota Kinabalu**	**10.94**	**295**	Pn	**Pn**	**12 47 13.2**	**-2.8**
SOEI	**Soe**	**11.27**	**190**	Pn	**Pn**	**12 47 19.3**	**-1.3**
MTN	**Manton Dam**	**15.01**	**161**	Pn	**Pn**	**12 48 08.3**	**-2.7**
MTN	comp=Z,18nm,1.3s			IAmb	IAmb	12 48 44.5	
JAGI	**Jajag, Banyuwa**	**15.50**	**230**		**P**	**12 48 19.7**	**-1.0**
JAGI	comp=Z,119nm,1.6s			IAmb	IAmb	12 48 47.7	
FITZ	**Fitzroy Crossi**	**19.41**	**182**	P	**Pn**	**12 49 06.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=0.3,slow=12,SNR=1.8						
FITZ	**Fitzroy Crossi**	**19.41**	**182**	P	**P**	**12 49 04.5**	**+0.6**
CISI	**Cisompet, Garu**	**20.37**	**244**	P	**P**	**12 49 15.3**	**+0.9**
WB0	**Warramunga Arr**	**22.56**	**159**	P	**P**	**12 49 39.9**	**+2.1**
WB0	comp=Z,26nm,1.8s			IAmb	IAmb	12 50 11.2	
WRAB	**Tennant Creek**	**22.70**	**160**	P	**P**	**12 49 40.0**	**+0.7**
WRAB	comp=Z,18nm,1.6s			IAmb	IAmb	12 50 30.3	
WRA	**Warramunga Arr**	**22.70**	**160**	P	**P**	**12 49 41.6**	**+2.3**
	comp=Z,2.0nm,0.6s,baz=339,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**22.70**	**160**	P	**P**	**12 49 38.1**	**-1.2**
WB2	**Warramunga Arr**	**22.71**	**160**	P	**P**	**12 49 39.6**	**+0.2**
WB2	comp=Z,21nm,1.7s			IAmb	IAmb	12 50 30.1	
WR0	**Warramunga Arr**	**22.79**	**159**	P	**P**	**12 49 41.9**	**+1.6**
WR0	comp=Z,23nm,1.9s			IAmb	IAmb	12 49 45.8	
YOJ	**Yonaguni jima**	**23.10**	**353**	P	**P**	**12 49 41.4**	**-1.9**
YOJ	comp=Z,32nm,0.9s			IAmb	IAmb	12 49 59.8	
AS31	**Alice Springs**	**26.06**	**164**	P	**P**	**12 50 11.0**	**+0.4**
ASAR	**Alice Springs**	**26.06**	**164**	P	**P**	**12 50 13.8**	**+3.2**
	comp=Z,0.7nm,0.5s,baz=347,slow=8.1,SNR=9.6						
ASAR	**Alice Springs**	**26.06**	**164**	P	**P**	**12 50 11.7**	**+1.2**
RPSI	**Rantau Prapat**	**27.26**	**273**	P	**P**	**12 50 21.7**	**+0.3**
RPSI	comp=Z,36nm,1.8s			IAmb	IAmb	12 50 47.2	
KSAR	**Wonju Array Be**	**35.87**	**2**	P	**P**	**12 51 36.4**	**-0.4**
KS19	**Wonju Array Si**	**35.93**	**2**	P	**P**	**12 51 37.8**	**+0.5**
EIDS	**Eidsvold**	**35.94**	**140**	P	**P**	**12 51 39.3**	**+1.8**
STKA	**Stephens Creek**	**36.21**	**157**	P	**P**	**12 51 42.5**	**+2.7**
	comp=Z,2.5nm,0.9s,baz=355,slow=11,SNR=1.5						
STKA	**Stephens Creek**	**36.21**	**157**	P	**P**	**12 51 40.6**	**+0.9**
MKAR	**Makanchi Array**	**59.13**	**326**	P	**P**	**12 54 41.1**	**+4.0**
	comp=Z,0.3nm,0.5s,baz=114,slow=4.1,SNR=1.9						
MKAR	**Makanchi Array**	**59.13**	**326**	P	**P**	**12 54 38.0**	**+0.9**
RSO	**Redoubt South**	**84.35**	**29**	P	**P**	**12 57 08.4**	**-0.1**

*IDC **09** 12:46:16.4±2.1, 3°.00N×125°.05E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/42, mbtmp3.6/4, MS2.9/1, Ms1 2.8/1, ms1mx2.2/24, Error ellipse: s-maj=138.1km s-min=27.4km az=68.0*
*NEIC **09** 12:46:19.7±1.6, 2°.95N±0°.01×125°.14E±0°.08, h39km±11km, mb4.3/18, Error ellipse: s-maj=11.5km s-min=1.3km az=97.0*
ISC 09 12:46:19.5±0.6, 2°.96N±0°.05×125°.13E±0°.08, h35km, n30, σ0§99/30, mb4.1/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.12**	**134**	Pn	**Pn**	**12 47 05.2**	**-1.0**
TNTI				Sn	**Sn**	**12 47 41.7**	**-0.6**
DAV	**Davao City (W)**	**4.11**	**6**	Pn	**Pn**	**12 47 20.0**	**+0.2**
DAV				Sn	**Sn**	**12 48 07.0**	**+0.4**
LUWI	**Luwuk**	**4.62**	**211**	Pn	**Pn**	**12 47 27.6**	**+0.7**
LUWI				Sn	**Sn**	**12 48 19.5**	**+0.2**
FAKI	**Fak Fak**	**9.21**	**129**	Pn	**Pn**	**12 48 30.8**	**+0.9**
MMRI	**Maumere**	**11.88**	**194**	Pn	**Pn**	**12 49 07.8**	**+1.4**
SMRI	**Semarang**	**17.71**	**236**		**Pn**	**12 50 23.0**	**-0.5**
KNRA	**Kununurra**	**18.86**	**169**	P	**P**	**12 50 36.1**	**-0.7**
CISI	**Cisompet, Garu**	**20.19**	**239**	P	**P**	**12 50 50.8**	**-0.5**
TPUB	**Ta-pu**	**20.68**	**348**	P	**P**	**12 50 56.3**	**-0.3**
TPUB	comp=Z,23nm,1.5s			IAmb	IAmb	12 51 18.5	
FITZ	**Fitzroy Crossi**	**20.93**	**179**	P	Pn	12 51 02.1	+0.2
	comp=Z,0.8nm,0.3s,baz=1.7,slow=10,SNR=20						
FITZ	**Fitzroy Crossi**	**20.93**	**179**	P	**P**	**12 50 58.4**	**-0.9**
QIZ	**Qiongzhong**	**21.88**	**318**	P	**P**	**12 51 09.2**	**-0.3**
QIZ	comp=Z,18nm,1.2s			IAmb	IAmb	12 51 27.2	
WB0	**Warramunga Arr**	**24.35**	**158**	P	**P**	**12 51 35.2**	**+0.9**
WRAB	**Tennant Creek**	**24.49**	**159**	P	**P**	**12 51 35.4**	**-0.2**
WRAB	comp=Z,7.0nm,1.4s			IAmb	IAmb	12 51 51.4	
WRA	**Warramunga Arr**	**24.49**	**159**	P	**P**	**12 51 38.2**	**+2.5**
	comp=Z,0.8nm,0.3s,baz=335,slow=9.8,SNR=6.7						
WRA	**Warramunga Arr**	**24.49**	**159**	P	**P**	**12 51 35.8**	**+0.2**
WB2	**Warramunga Arr**	**24.50**	**159**	P	**P**	**12 51 36.0**	**+0.3**
WR0	**Warramunga Arr**	**24.58**	**158**	P	**P**	**12 51 37.1**	**+0.7**
WR0	comp=Z,9.9nm,1.5s			IAmb	IAmb	12 51 59.6	
ASAR	**Alice Springs**	**27.81**	**163**	P	**P**	**12 52 07.5**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=334,slow=7.1,SNR=4.7						
ASAR	**Alice Springs**	**27.81**	**163**	P	**P**	**12 52 06.2**	**+0.6**
MJAR	**Matsushiro Arr**	**35.53**	**18**	P	**P**	**12 53 11.2**	**-2.0**
JSD	**Sado**	**36.92**	**17**	P	**P**	**12 53 24.8**	**-0.3**
JSD	comp=Z,11nm,1.3s			IAmb	IAmb	12 53 47.2	
STKA	**Stephens Creek**	**38.02**	**157**	LR	LR	13 08 30.6	
	comp=Z,20nm,21.9s,baz=174,slow=35						
JEM	**Erimo**	**42.11**	**20**	P	P	12 54 22.5	+14
MK31	**Makanchi Array**	**57.28**	**326**	P	**P**	**12 56 03.1**	**-0.6**
MK31	comp=Z,2.0nm,1.4s			IAmb	IAmb	12 56 05.4	
MKAR	**Makanchi Array**	**57.28**	**326**	P	**P**	**12 56 05.4**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=128,slow=8.0,SNR=2.4						
MKAR	**Makanchi Array**	**57.28**	**326**	P	**P**	**12 56 03.7**	**-0.1**
MAKZ	**Makanchi**	**57.47**	**326**	P	**P**	**12 56 05.5**	**+0.5**
MAKZ	comp=Z,1.5nm,0.6s			IAmb	IAmb	12 56 12.8	
BTK	**Batken**	**61.31**	**315**	P	**P**	**12 56 31.7**	**-0.1**
BTK	comp=Z,3.5nm,0.4s			IAmb	IAmb	12 56 34.0	
QSPA	**South Pole Qui**	**92.87**	**180**	P	**P**	**12 59 28.0**	**-0.5**

*NEIC **09** 12:52:05.5±2.7, 5°.21S±0°.07×145°.55E±0°.07, h93km±8km, mb4.3/23, Error ellipse: s-maj=10.9km s-min=8.4km az=51.0*
*IDC **09** 12:52:05.7±2.1, 5°.25S×145°.52E, h72km±21km, mb3.6/5, mb1 3.9/9, mb1mx3.6/34, mbtmp4.1/9, MS2.6/2, Ms1 2.6/2, ms1mx2.4/28, Error ellipse: s-maj=24.4km s-min=11.7km az=56.0*
ISC 09 12:52:05.9±0.5, 5°.22S±0°.06×145°.52E±0°.06, h100km, n38, σ1§59/39, mb4.1/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**159**	P	**Pn**	**12 53 12.3**	**+1.0**
	7.4nm,0.3s,baz=34,slow=5.4,SNR=15						
PMG				S	**Sn**	**12 54 01.0**	**-1.2**
	24nm,0.3s,baz=93,slow=23,SNR=20						
PMG				LR	LR	12 54 58.9	
	comp=Z,48nm,19.3s,baz=115,slow=39						
PMG	**Port Moresby**	**4.46**	**159**		**Pn**	**12 53 12.1**	**+0.8**
PMG					**Sn**	**12 54 01.8**	**-0.5**
JAY	**Jayapura**	**5.51**	**299**	P	**Pn**	**12 53 25.7**	**+0.1**
	3.8nm,0.3s,baz=181,slow=5.4,SNR=21						
JAY				S	**Sn**	**12 54 28.0**	**+0.3**
	1.6nm,0.3s,baz=292,slow=5.3,SNR=1.6						
RABL	**Rabaul**	**6.70**	**81**	Pn	**Pn**	**12 53 40.0**	**-1.7**
RABL				Sn	**Sn**	**12 54 56.9**	**+0.3**
COEN	**Coen**	**8.98**	**195**		**Pn**	**12 54 13.1**	**+0.3**
COEN				Sn	**Sn**	**12 55 49.5**	**-2.8**
FAKI	**Fak Fak**	**13.44**	**279**	Pn	**Pn**	**12 55 11.9**	**-0.7**
SIJI	**Sorong**	**14.88**	**286**	P	**P**	**12 55 31.9**	**-2.4**
	0.6nm,0.3s,baz=118,slow=18,SNR=1.9						
MTN	**Manton Dam**	**16.10**	**241**	Pn	**Pn**	**12 55 43.3**	**-3.2**
MTN	comp=Z,11nm,1.0s			IAmb	IAmb	12 56 11.7	
WB0	**Warramunga Arr**	**18.07**	**216**	P	**Pn**	**12 56 10.3**	**-0.2**
WB0	comp=Z,17nm,1.5s			IAmb	IAmb	12 56 34.7	
WR0	**Warramunga Arr**	**18.14**	**215**	P	**Pn**	**12 56 09.5**	**-1.8**
WR0	comp=Z,17nm,1.5s			IAmb	IAmb	12 56 26.6	
WRAB	**Tennant Creek**	**18.22**	**216**	P	**Pn**	**12 56 11.0**	**-1.4**
WB2	**Warramunga Arr**	**18.23**	**216**	P	**Pn**	**12 56 10.9**	**-1.6**
WRA	**Warramunga Arr**	**18.24**	**216**	P	**Pn**	**12 56 13.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=38,slow=12,SNR=23						
WRA	**Warramunga Arr**	**18.24**	**216**	P	**Pn**	**12 56 11.9**	**-0.7**
KNRA	**Kununurra**	**19.46**	**236**	P	**Pn**	**12 56 26.3**	**-0.8**
KNRA	comp=Z,22nm,1.2s			IAmb	IAmb	12 56 29.8	
EIDS	**Eidsvold**	**20.73**	**166**	P	**P**	**12 56 35.5**	**-3.0**
EIDS	comp=Z,16nm,1.4s			IAmb	IAmb	12 56 38.4	
AS31	**Alice Springs**	**21.49**	**210**	P	**P**	**12 56 47.1**	**+0.4**
ASAR	**Alice Springs**	**21.49**	**210**	P	**P**	**12 56 47.5**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=40,slow=7.8,SNR=28						
ASAR	**Alice Springs**	**21.49**	**210**	P	**P**	**12 56 48.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.27**	**235**	P	**P**	**12 57 07.1**	**+2.3**
	comp=Z,4.9nm,0.8s,baz=50,slow=11,SNR=17						
FITZ	**Fitzroy Crossi**	**23.27**	**235**	P	**P**	**12 57 06.8**	**+1.9**
FITZ	comp=Z,4.8nm,0.8s			IAmb	IAmb	12 57 10.0	
MMRI	**Maumere**	**23.36**	**260**	P	**P**	**12 57 06.1**	**+0.3**
MMRI	comp=Z,62nm,1.4s			IAmb	IAmb	12 57 35.3	
STKA	**Stephens Creek**	**26.77**	**187**	P	**P**	**12 57 40.4**	**+4.0**
	comp=Z,2.5nm,0.8s,baz=27,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**26.77**	**187**	P	**P**	**12 57 38.3**	**+1.8**
TARA	**Tarawa**	**28.14**	**77**	P	**P**	**12 57 49.7**	**+0.9**
CAN	**Canberra**	**30.12**	**174**	P	**P**	**12 58 06.1**	**-0.2**
CAN	comp=Z,10nm,1.1s			IAmb	IAmb	12 58 22.7	
FORT	**Forrest**	**30.27**	**211**	P	**P**	**12 58 09.2**	**+1.6**
FUNA	**Funafuti**	**33.58**	**98**	P	**P**	**12 58 34.7**	**-2.1**
KSRS	**Korea Array**	**45.52**	**340**	LR	LR	13 18 04.6	
	comp=Z,11nm,18.7s,baz=140,slow=34						
ENH	**Enshi**	**49.35**	**318**	P	**P**	**13 00 45.6**	**+0.2**
ENH	comp=Z,5.2nm,0.5s			IAmb	IAmb	13 01 09.8	
USRK	**Ussuriysk Ar.**	**50.68**	**347**	P	P	13 00 58.1	+3.1
	comp=Z,2.2nm,1.0s,baz=159,slow=8.6,SNR=4.1						
USA0B	**Ussuriysk Arra**	**50.68**	**347**	P	**P**	**13 00 54.9**	**-0.2**
USA0B	comp=Z,10nm,1.4s			IAmb	IAmb	13 01 07.2	
SMY	**Shemya**	**62.60**	**19**	P	**P**	**13 02 19.7**	**+0.4**
CASY	**Casey**	**65.62**	**195**	P	**P**	**13 02 39.8**	**+0.9**
CASY	comp=Z,2.5nm,1.1s			IAmb	IAmb	13 02 50.6	
VNDA	**Vanda**	**72.78**	**176**	P	**P**	**13 03 24.4**	**+1.5**
QSPA	**South Pole Qui**	**84.74**	**180**	P	**P**	**13 04 29.4**	**+0.6**
QSPA	comp=Z,3.5nm,1.2s			IAmb	IAmb	13 04 47.1	
ILAR	**Eielson Array**	**85.35**	**23**	P	P	13 04 34.2	+2.6
	comp=Z,0.9nm,0.7s,baz=254,slow=5.5,SNR=10						
TORD	**Torodi Ar. Bea**	**143.47**	**285**	PKhKP	PKPpre	13 11 29.9	
	comp=Z,0.7nm,0.7s,baz=78,slow=3.8,SNR=4.4						

*IDC **09** 13:37:57.0±0.8, 2°.84N×90°.34E, h0km, mb4.2/21, mb1 4.3/24, mb1mx4.1/57, mbtmp4.2/24, ML4.1/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/30, Error ellipse: s-maj=26.8km s-min=15.2km az=37.0*
*NEIC **09** 13:37:59.3±1.3, 2°.87N±0°.10×90°.39E±0°.07, h15km±2km, mb4.4/30, Error ellipse: s-maj=14.4km s-min=10.1km az=188.0*
ISC 09 13:38:01.8±0.7, 2°.8N±0°.1×90°.39E±0°.06, h35km, n85, σ0§93/77, mb4.4/34, 2C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**6.96**	**70**	Pn	**Pn**	**13 39 40.8**	**-0.6**
GSI	**Gunungsitoli**	**7.34**	**102**	Pn	**Pn**	**13 39 45.2**	**-1.4**
PSI	**Prapat**	**8.53**	**90**	Pn	**Pn**	**13 40 02.6**	**-0.4**
	1.8nm,0.3s,baz=182,slow=0.4,SNR=5.0						
PSI				Sn	**Sn**	**13 41 38.1**	**+0.1**
	2.2nm,0.3s,baz=180,slow=1.0,SNR=2.5						
RPSI	**Rantau Prapat**	**8.53**	**91**	Pn	**Pn**	**13 40 02.1**	**-0.7**
RPSI	**Rantau Prapat**	**8.53**	**91**		**Pn**	**13 40 02.6**	**-0.3**
RPSI					**Sn**	**13 41 38.1**	**+0.2**
PBA	**Port Blair**	**9.07**	**15**	Pn	Pn	13 40 09.5	-0.8
PALK	**Pallekele**	**10.61**	**295**	Pn	**Pn**	**13 40 29.2**	**-2.3**
	1.8nm,0.3s,baz=215,slow=14,SNR=11						
PALK				Sn	Sn	13 42 16.4	-13
	4.4nm,0.3s,baz=315,slow=23,SNR=3.9						
PALK				LR	LR	13 44 26.7	
	comp=Z,64nm,19.2s,baz=226,slow=37						
PALK	**Pallekele**	**10.61**	**295**	Pn	**Pn**	**13 40 29.4**	**-2.0**
PMBI	**Palembang**	**15.47**	**112**	Pn	**Pn**	**13 41 34.6**	**-3.0**
PBKT	**Sadao Pong**	**17.17**	**37**	P	**P**	**13 42 00.9**	**+0.5**
CM31	**Chiang Mai Arr**	**17.65**	**28**	Pn	**Pn**	**13 42 02.9**	**-2.2**
CMAR	**Chiang Mai Arr**	**17.65**	**28**	P	**Pn**	**13 42 04.6**	**-0.4**
	0.2nm,0.3s,baz=220,slow=12,SNR=9.6						
CMAR				LR	LR	13 47 45.3	
	comp=Z,62nm,21.0s,baz=192,slow=33						
CMAR	**Chiang Mai Arr**	**17.65**	**28**	Pn	**Pn**	**13 42 02.8**	**-2.2**
CHTO	**Chiang Mai**	**17.96**	**27**	P	**Pn**	**13 42 07.5**	**-1.3**
LEM	**Lembang**	**19.69**	**119**	LR	LR	13 48 41.2	
	comp=Z,34nm,21.7s,baz=96,slow=33						
H08S2	**Diego Garcia H**	**20.66**	**240**	T	T	14 03 48.2	
	baz=60,slow=75,SNR=44						
H08S3	**Diego Garcia H**	**20.66**	**240**	T	T	14 03 48.2	
	baz=60,slow=75,SNR=54						
H08S1	**Diego Carcia H**	**20.68**	**240**	T	T	14 03 47.9	
	baz=60,slow=75,SNR=54						
SLVN	**Son La**	**22.61**	**35**	P	**P**	**13 42 59.4**	**-0.4**
SHL	**Shillong**	**22.65**	**4**	P	**P**	**13 42 59.2**	**-1.0**
SHL	comp=Z,21nm,1.3s			IAmb	IAmb	13 43 22.6	
KMI	**Kunming**	**25.16**	**27**⇑	*e*P	P	13 43 38.4	+14
KMI				pP	sP	13 43 49.0	+12
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				pmax	pmax		
	comp=Z,82nm,4.7s						
LSA	**Lhasa**	**26.73**	**1**	P	**P**	**13 43 39.8**	**+1.2**
GTA	**Gaotai**	**37.41**	**12**	⇑P	**P**	**13 45 12.6**	**+1.0**
GTA				pP	pP	13 45 17.1	-4.1
GTA				sP	pwP	13 45 20.0	-4.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WMQ	**Urumqi**	**40.89**	**357**	*e*P	**P**	**13 45 42.4**	**+1.8**
BOOM	**Boomskoye usch**	**41.55**	**344**	P	**P**	**13 45 46.6**	**+0.4**
HHC	**Hu-ho-hao-te**	**42.40**	**24**	*e*P	**P**	**13 45 53.6**	**+0.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,92nm,6.1s						
H01W3	**Cape Leeuwin H**	**43.64**	**151**	T	T	14 32 36.9	
	baz=322						
H01W2	**Cape Leeuwin H**	**43.65**	**151**	T	T	14 32 38.4	
	baz=322						
H01W1	**Cape Leeuwin H**	**43.66**	**151**	T	T	14 32 37.7	
	baz=322						
KK31	**Karatay Array**	**43.83**	**339**	P	**P**	**13 46 05.0**	**+0.4**
KK31	comp=Z,4.7nm,0.8s			IAmb	IAmb	13 46 06.1	
KKAR	**Karatay Array**	**43.83**	**339**	P	**P**	**13 46 04.7**	**+0.2**
KKAR	comp=Z,4.7nm,0.8s			IAmb	IAmb	13 46 06.1	
KKAR	**Karatay Array**	**43.83**	**339**	P	**P**	**13 46 05.0**	**+0.4**
MK31	**Makanchi Array**	**44.35**	**352**	P	**P**	**13 46 08.5**	**-0.1**
MKAR	**Makanchi Array**	**44.35**	**352**	P	**P**	**13 46 08.9**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=175,slow=9.2,SNR=21						
MKAR	**Makanchi Array**	**44.35**	**352**	P	**P**	**13 46 08.2**	**-0.5**
MAKZ	**Makanchi**	**44.41**	**352**	P	**P**	**13 46 08.7**	**-0.4**
MAKZ	comp=Z,6.3nm,1.3s			IAmb	IAmb	13 46 10.1	
GEYT	**Alibeck**	**45.75**	**324**	P	**P**	**13 46 21.0**	**+1.1**
	comp=Z,4.7nm,0.6s,baz=152,slow=11,SNR=9.1						
GEYT	**Alibeck**	**45.75**	**324**	P	**P**	**13 46 20.7**	**+0.8**
GYA0B	**ALIBECK ARRAY**	**45.75**	**324**	P	**P**	**13 46 20.4**	**+0.6**
SONM	**Songino Array**	**46.91**	**15**	P	**P**	**13 46 30.0**	**+1.0**
	comp=Z,7.2nm,0.6s,baz=193,slow=9.4,SNR=36						
SONM	**Songino Array**	**46.91**	**15**	P	**P**	**13 46 29.8**	**+0.8**
WB0	**Warramunga Arr**	**48.69**	**119**	P	**P**	**13 46 43.5**	**+0.4**
WB0	comp=Z,3.4nm,0.9s			IAmb	IAmb	13 46 58.3	
KSRS	**Korea Array**	**48.70**	**40**	P	**P**	**13 46 43.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=229,slow=6.8,SNR=2.9						
KSRS				LR	LR	14 10 39.0	
	comp=Z,17nm,19.4s,baz=194,slow=40						
WRA	**Warramunga Arr**	**48.71**	**120**	P	**P**	**13 46 44.0**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=300,slow=8.8,SNR=24						
WRA	**Warramunga Arr**	**48.71**	**120**	P	**P**	**13 46 43

*IDC **09** 13:48:29.8±11.0, 12°.65N×89°.86W, h0km, mb3.6/2, mb1 4.2/2, mb1mx3.6/23, mbtmp3.7/2, Error ellipse: s-maj=866.5km s-min=72.1km az=64.0*
*INET **09** 13:48:30.8, 12°.70N×89°.42W, h11km, MD3.4*
*SNET **09** 13:48:31.4±1.2, 12°.65N×89°.45W, h36km±999km, ML4.1*
*UCR **09** 13:48:32.2±1.7, 12°.70N×89°.44W, h37km±7km, ML4.0, mb4.2(NEIC)*
*NEIC **09** 13:48:33.7±1.9, 12°.78N±0°.08×89°.25W±0°.08, h64km±7km, mb4.2/16, Md4.1(SNET), Error ellipse: s-maj=13.8km s-min=8.6km az=221.0*
ISC 09 13:48:32.6±1.4, 12°.70N±0°.07×89°.39W±0°.05, h54km±13km, n99, σ0.98/113, mb4.2/10, 8C-10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.97	19	eP	Pn	13 48 49.7	-0.5
LFRS	El Faro	0.97	19	eP	Pn	13 48 49.7	-0.5
SNET	Serv Nac Est T	0.99	9	Pn	Pn	13 48 49.7	-0.8
BOQS	Boqueron	1.04	6	eP	Pn	13 48 50.7	-0.4
BOQS	Boqueron	1.04	6	eP	Pn	13 48 50.7	-0.4
COEG	Centro de Oper	1.04	29	⇓iP	Pn	13 48 50.5	-0.6
COEG				eS	Sn	13 49 05.7	+1.0
COEG				IAML		13 49 12.9	
	comp=Z,5μm,0.2s						
COEG	Centro de Oper	1.04	29	⇓iP	Pn	13 48 50.5	-0.6
COEG				eS	Sn	13 49 05.7	+1.0
COEG				IAML		13 49 12.9	
	comp=Z,5μm,0.2s						
LFU	La Fuente	1.08	15	eP	Pn	13 48 51.6	0.0
LFU	La Fuente	1.08	15	eP	Pn	13 48 51.6	0.0
LBRS	Las Brisas	1.09	18	eP	Pn	13 48 51.8	0.0
LBRS	Las Brisas	1.09	18	eP	Pn	13 48 51.8	0.0
CEDA	San Andres	1.10	360	eP	Pn	13 48 51.2	-0.6
CEDA				IAML		13 49 12.8	
	comp=Z,4μm,0.3s						
CEDA	San Andres	1.10	360	eP	Pn	13 48 51.2	-0.6
CEDA				IAML		13 49 12.8	
	comp=Z,4μm,0.3s						
PAVA	Las Pavas	1.10	24	eP	Pn	13 48 51.7	-0.3
PAVA				eS	Sn	13 49 07.2	+0.9
PAVA	Las Pavas	1.10	24	eP	Pn	13 48 51.7	-0.3
PAVA				eS	Sn	13 49 07.2	+0.9
CEVE	Cerro Verde	1.15	349	⇑iP	Pn	13 48 51.9	-0.8
CEVE				eS	Sn	13 49 07.7	+0.2
CEVE				IAML		13 49 09.0	
	comp=Z,13μm,0.2s						
CEVE	Cerro Verde	1.15	349	⇑iP	Pn	13 48 51.9	-0.8
CEVE				eS	Sn	13 49 07.7	+0.2
CEVE				IAML		13 49 09.0	
	comp=Z,13μm,0.2s						
SBLS	San Blas	1.16	349	eP	Pn	13 48 52.0	-0.7
SBLS	San Blas	1.16	349	eP	Pn	13 48 52.0	-0.7
COEB	Comit de Eme	1.16	46	eP	Pn	13 48 52.2	-0.5
COEB				eS	Sn	13 49 08.7	+1.2
COEB	Comit de Eme	1.16	46	eP	Pn	13 48 52.2	-0.5
COEB				eS	Sn	13 49 08.7	+1.2
TECA	Tecapa	1.17	48	eP	Pn	13 48 52.6	-0.3
TECA	Tecapa	1.17	48	eP	Pn	13 48 52.6	-0.3
SNJE	San Jose	1.18	350	⇑eP	Pn	13 48 52.4	-0.7
SNJE	San Jose	1.18	350	⇑eP	Pn	13 48 52.4	-0.7
RTR	El Retiro	1.22	348	eP	Pn	13 48 52.9	-0.6
RTR	El Retiro	1.22	348	eP	Pn	13 48 52.9	-0.6
JUCU	Jucuarn	1.24	64	eP	Pn	13 48 52.9	-0.9
JUCU	Jucuarn	1.24	64	eP	Pn	13 48 52.9	-0.9
NUBE	Las Nubes	1.25	343	eP	Pn	13 48 52.9	-1.1
NUBE				eS	Sn	13 49 09.4	-0.6
NUBE				IAML		13 49 09.7	
	comp=Z,2μm,0.3s						
NUBE	Las Nubes	1.25	343	eP	Pn	13 48 52.9	-1.1
NUBE				eS	Sn	13 49 09.4	-0.6
NUBE				IAML		13 49 09.7	
	comp=Z,2μm,0.3s						
TACO	Tacachico	1.27	2	⇑iP	Pn	13 48 53.7	-0.4
TACO				eS	Sn	13 49 10.9	+0.8
TACO				IAML		13 49 13.4	
	comp=Z,1μm,0.5s						
TACO	Tacachico	1.27	2	⇑iP	Pn	13 48 53.7	-0.4
TACO				eS	Sn	13 49 10.9	+0.8
TACO				IAML		13 49 13.4	
	comp=Z,1μm,0.5s						
LCY	Lacayo	1.29	56	eP	Pn	13 48 54.4	-0.1
LCY	Lacayo	1.29	56	eP	Pn	13 48 54.4	-0.1
PACA	Pacayal	1.29	54	eP	Pn	13 48 54.4	-0.1
PACA				IAML		13 49 14.1	
	comp=Z,2μm,0.3s						
PACA	Pacayal	1.29	54	eP	Pn	13 48 54.4	-0.1
PACA				IAML		13 49 14.1	
	comp=Z,2μm,0.3s						
BLLM	Bellamira	1.35	57	eP	Pn	13 48 54.9	-0.3
BLLM	Bellamira	1.35	57	eP	Pn	13 48 54.9	-0.3
LCND	La Caada	1.58	67	⇓eP	Pn	13 48 57.9	-0.4
LCND				eS	Sn	13 49 18.3	+0.6
LCND				IAML		13 49 21.9	
	comp=Z,3μm,0.2s						
LCND	La Caada	1.58	67	⇓eP	Pn	13 48 57.9	-0.4
LCND				eS	Sn	13 49 18.3	+0.6
LCND				IAML		13 49 21.9	
	comp=Z,3μm,0.2s						
FAGO	Alcalda de S	1.60	52	eP	Pn	13 48 58.7	+0.2
FAGO				eS	Sn	13 49 20.1	+2.0
FAGO	Alcalda de S	1.60	52	eP	Pn	13 48 58.7	+0.2
FAGO				eS	Sn	13 49 20.1	+2.0
CNCH	Conchagua	1.62	69	⇓eP	Pn	13 48 58.3	-0.7
CNCH				eP		13 48 58.9	
CNCH				IAML		13 49 24.2	
	comp=Z,3μm,0.4s						
CNCH	Conchagua	1.62	69	⇓eP	Pn	13 48 58.3	-0.7
CNCH				eP		13 48 58.9	
CNCH				IAML		13 49 24.2	
	comp=Z,3μm,0.4s						
MTO3	Montecristo	1.69	1	⇑iP	Pn	13 49 00.1	0.0
MTO3	Montecristo	1.69	1	⇑iP	Pn	13 49 00.1	0.0
MTO3	Montecristo	1.69	1	Pn	Pn	13 49 00.0	0.0
IXG	Ixpaco	1.79	325	⇓iP	Pn	13 48 59.8	-1.5
IXG	Ixpaco	1.79	325	⇓iP	Pn	13 48 59.8	-1.5
ESQI	Esquipulas	1.85	2	eP	Pn	13 49 02.6	+0.5
ESQI	Esquipulas	1.85	2	Pn	Pn	13 49 02.4	+0.3
CRIN	San Cristobal	2.29	90	Pn	Pn	13 49 07.9	-0.1
MRL	Marmol	2.39	353	⇓iP	Pn	13 49 09.9	+0.4
MRL	Marmol	2.39	353	⇓iP	Pn	13 49 09.9	+0.4
TGUH	Tegucigalpa,Un	2.47	57		Pn	13 49 10.3	-0.3
RTAL	Retalhuleu	2.88	309	Pn	Pn	13 49 17.5	+1.4
HUEH	Huehuetenango	3.31	322	Pn	Pn	13 49 23.4	+1.2
MATN	Matagalpa	3.39	86		Pn	13 49 22.3	-0.8
BOAB	BOACO BROADBAN	3.65	93		Pn	13 49 25.3	-1.3
ACON	Acoyapa	4.19	100	Pn	Pn	13 49 33.4	-0.6
GBS3	Finca Las Img	4.30	116	iP	Pn	13 49 36.8	+1.2
LAPC	Finca la Perla	4.33	116	iP	Pn	13 49 36.8	+0.9
BUEV	Buena Vista	4.34	115	iP	Pn	13 49 37.1	+1.0
GPS1	Guardaparques	4.40	115	iP	Pn	13 49 38.5	+1.5
CCIG	Comitan	4.45	324	Pn	Pn	13 49 38.7	+1.0
GUAI	GUAI	4.51	122	iP	Pn	13 49 39.1	+0.7
LIM1	Limonal	4.52	116	iP	Pn	13 49 40.3	+1.7
GUAB	Guayabo de Bag	4.53	115	iP	Pn	13 49 40.1	+1.3
COLC	Colonia	4.57	116	iP	Pn	13 49 40.9	+1.5
COLC				iS	Sn	13 50 29.5	-1.8
PTEN	Parque Tenorio	4.74	114	iP	Pn	13 49 42.2	+0.5
JTS	Las Juntas de	4.97	118		Pn	13 49 45.6	+0.9
CASO	Castillo	5.09	116	iP	Pn	13 49 46.6	+0.1
TEIG	Tepich	7.56	8	Pn	Pn	13 50 22.1	+1.9
WHTX	Lake Whitney,	20.58	340	P	P	13 53 06.0	-1.2
TXAR	Lajitas Array	21.21	323	P	P	13 53 15.4	+1.3
	comp=Z,2.4nm,0.5s,baz=142,slow=10,SNR=34						
TXAR	Lajitas Array	21.21	323	P	P	13 53 15.2	+1.1
TX31	Lajitas Ar. Si	21.21	323	P	P	13 53 15.1	+1.0
TX31				IAmb	IAmb	13 53 15.9	
	comp=Z,8.0nm,0.6s						
TX32	Lajitas Array	21.21	323	P	P	13 53 15.0	+0.9
MIAR	Mount Ida	22.08	351	P	P	13 53 24.1	+0.9
MIAR				IAmb	IAmb	13 53 25.4	
	comp=Z,7.8nm,0.8s						
WHAR	Wooly Hollow	22.64	354	P	P	13 53 29.6	+0.4
WHAR				IAmb	IAmb	13 53 37.9	
	comp=Z,30nm,1.9s						
LCAR	Lake Charles	23.32	356	P	P	13 53 35.2	-0.8
WMOK	Wichita Mounta	23.54	340	P	P	13 53 36.3	-1.9
U40A	Yellville	23.76	353	P	P	13 53 39.9	-0.3
U40A				IAmb	IAmb	13 53 40.5	
	comp=Z,4.9nm,0.7s						
PBMO	Poplar Bluff	24.00	358	P	P	13 53 41.4	-1.0
T47A	Sharon Grove	24.27	4	P	P	13 53 43.7	-1.1
T47A				IAmb	IAmb	13 53 45.0	
	comp=Z,6.5nm,0.8s						
T42A	Van Buren	24.28	357	P	P	13 53 44.4	-0.4
T42A				IAmb	IAmb	13 53 45.4	
	comp=Z,7.2nm,0.6s						
MGMO	Mountain Grove	24.49	354	P	P	13 53 47.2	+0.4
S39A	Bolivar	25.14	353	P	P	13 53 50.9	-1.8
S39A				IAmb	IAmb	13 53 51.9	
	comp=Z,5.6nm,0.5s						
CCM	Cathedral Cave	25.31	357	P	P	13 53 52.5	-1.7
CCM				IAmb	IAmb	13 53 55.4	
	comp=Z,8.2nm,0.9s						
121A	Cookes Peak, D	25.96	322	P	P	13 54 02.3	+1.9
COWI	Conover	33.29	0	P	P	13 55 03.2	-1.9
MOQ	Mont Orford	35.63	21	P	P	13 55 22.9	-2.5
NVAR	Mina Array Bea	36.28	320	P	P	13 55 32.7	+1.5
	comp=Z,0.5nm,0.7s,baz=134,slow=9.6,SNR=4.6						
MCMT	McKenzie Canyo	37.77	332	P	P	13 55 43.6	-0.3
H03N2	Juan Fernandez	46.95	168	T	T	14 47 18.2	
	baz=344						
H03N1	Juan Fernandez	46.96	168	T	T	14 47 21.3	
	baz=344						
H03N3	Juan Fernandez	46.97	168	T	T	14 47 20.7	
	baz=344						
WRA	Warramunga Arr	137.51	254	PKP	PKiKP	14 07 55.6	+2.2
	comp=Z,0.5nm,1.0s,baz=88,slow=2.2,SNR=2.4						

*NEIC **09** 14:16:51.7±1.4, 5°.9S±0°.2×154°.7E±0°.2, h155km±11km, mb4.4/12, Error ellipse: s-maj=29.2km s-min=17.4km az=220.0*
*IDC **09** 14:16:53.5±4.6, 5°.88S×154°.59E, h166km±29km, mb3.6/7, mb1 3.6/9, mb1mx3.3/36, mbtmp4.0/9, Error ellipse: s-maj=51.1km s-min=19.6km az=97.0*
ISC 09 14:16:50.6±1.0, 5°.80S±0°.09×154°.8E±0°.1, h150km, n25, σ1.26/29, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.11	301		Pn	14 17 40.0	+0.6
KRVT	Keravat (AS076	3.17	298	P	Pn	14 17 40.9	+0.7
	29nm,0.3s,baz=94,slow=5.8,SNR=64						
KRVT				S	Sn	14 18 19.1	+0.7
	28nm,0.3s,baz=41,slow=22,SNR=2.9						
PMG	Port Moresby	8.41	244	P	Pn	14 18 52.2	+2.6
	2.8nm,0.3s,baz=63,slow=8.5,SNR=7.0						
PMG				S	Sn	14 20 21.0	-2.2
	0.6nm,0.3s,baz=162,slow=22,SNR=1.7						
COEN	Coen	14.06	234	P	P	14 20 07.8	+1.4
CTA	Charters Tower	16.48	210	P	P	14 20 33.7	+0.5
	0.3nm,0.3s,baz=27,slow=10,SNR=7.9						
CTAO	Charters Tower	16.48	210	P	Pn	14 20 32.9	-0.3
DZM	Mont Dzumac	19.69	146	P	P	14 21 07.2	-1.2
EIDS	Eidsvold	19.79	190	P	P	14 21 07.9	-1.5
EIDS				IAmb	IAmb	14 21 45.5	
	comp=Z,27nm,1.9s						
FAKI	Fak Fak	22.70	276	P	P	14 21 38.6	-1.2
SIJI	Sorong	24.03	281	P	P	14 21 52.0	+0.1
	comp=Z,2.2nm,0.3s,baz=328,slow=21,SNR=4.5						
WR0	Warramunga Arr	24.24	233	P	P	14 21 53.7	-0.1
WR0				IAmb	IAmb	14 22 46.9	
	comp=Z,31nm,1.9s						
WB0	Warramunga Arr	24.25	233	P	P	14 21 53.8	-0.2
WRAB	Tennant Creek	24.38	233	P	P	14 21 55.0	-0.1
WRAB				IAmb	IAmb	14 22 03.6	
	comp=Z,16nm,1.6s						
WB2	Warramunga Arr	24.38	233	P	P	14 21 54.9	-0.2
WB2				IAmb	IAmb	14 22 18.7	
	comp=Z,17nm,1.6s						
WRA	Warramunga Arr	24.39	233	P	P	14 21 54.8	-0.4
	comp=Z,2.3nm,0.6s,baz=57,slow=10,SNR=53						
WRA				PcP	PcP	14 25 29.6	-1.0
	comp=Z,0.3nm,0.9s,baz=81,slow=4.3,SNR=2.1						
ARMA	Armidale	24.68	187	P	P	14 21 57.8	0.0
ARMA				IAmb	IAmb	14 22 26.6	
	comp=Z,20nm,1.4s						
LHI	Lord Howe Isla	25.89	172	P	P	14 22 11.6	+3.0
AS31	Alice Springs	26.86	226	P	P	14 22 16.4	-1.1
ASAR	Alice Springs	26.86	226	P	P	14 22 16.5	-1.0
	comp=Z,0.5nm,0.5s,baz=58,slow=9.1,SNR=23						
ASAR				PcP	PcP	14 25 36.4	+0.1
	comp=Z,0.5nm,1.0s,baz=104,slow=2.4,SNR=1.7						
ASAR	Alice Springs	26.86	226	P	P	14 22 16.6	-0.9
FITZ	Fitzroy Crossi	31.01	244	P	P	14 22 53.0	-1.3
	comp=Z,1.3nm,0.9s,baz=41,slow=10,SNR=1.6						
KULM	Kulim	55.21	280	P	P	14 26 06.6	-1.8
MKAR	Makanchi Array	82.41	319	P	P	14 28 57.3	+1.2
	comp=Z,1.0nm,0.6s,baz=95,slow=6.0,SNR=11						
ZALV	Zalesovo Beam	83.11	326	P	P	14 29 00.1	+0.6
	comp=Z,0.4nm,0.3s,baz=93,slow=5.8,SNR=2.5						
BVAR	Borovoye Array	91.25	323	P	P	14 29 38.9	0.0
	comp=Z,0.4nm,0.6s,baz=103,slow=9.3,SNR=2.6						

*ISK **09** 14:24:26.5, 35°.75N×30°.18E, h13km, ML3.5/31*
*DDA **09** 14:24:27.2, 35°.83N×30°.30E, h30km±2km, ML3.3*
*THE **09** 14:24:28.9, 35°.78N×30°.09E, h1km±2km, ML3.2/2, Error ellipse: s-maj=6.5km s-min=1.2km az=90.0*
*GII **09** 14:24:29.4±0.0, 35°.77N×30°.50E, h10km, MD3.0/1*
*NIC **09** 14:24:29.4±0.0, 35°.84N×30°.11E, h43km±4km, Ml3.5/4*
*IDC **09** 14:24:30.2±2.2, 35°.91N×30°.27E, h38km±23km, mb3.6/11, mb1 3.6/17, mb1mx3.5/50, mbtmp3.7/17, ML3.8/7, MS2.5/5, Ms1 2.5/5, ms1mx2.3/37, Error ellipse: s-maj=18.5km s-min=13.9km az=170.0*
ISC 09 14:24:26.7±1.1, 35°.88N±0°.03×30°.26E±0°.02, h16km±8km, n112, σ1.55/142, mb3.6/11, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	Antalya-Kumluc	0.45	8	iP	Pn	14 24 37.5	-0.9
AKUM				iS	Sn	14 24 45.7	-0.3
DEMR	Demre-Antalya	0.46	321	PG	Pn	14 24 37.2	-1.3
KSL	Kastellorizon	0.61	296	P	Pb	14 24 39.4	+0.4
KSL				S	Sn	14 24 50.2	0.0
	5μm,0.5s						
KSL	Kastellorizon	0.61	296	P	Pn	14 24 40.9	+0.3
KSL				S	Sn	14 24 49.2	-1.0
KSL				AML	AML	14 24 54.2	
	7.0nm,0.6s						
KSL				AML	AML	14 24 54.2	
	7.0nm,0.6s						
KSL				AML	AML	14 24 55.8	
	13nm,0.5s						
KSL				AML	AML	14 24 55.8	
	13nm,0.5s						
AKAS	Kas	0.64	304	PG	Pn	14 24 40.4	-0.7
AKAS	Kas	0.64	304	iP	Pn	14 24 41.4	+0.2
AKAS				iS	Sn	14 24 51.4	+0.4
AKAS				IAML		14 25 05.0	
	comp=N,2μm,0.6s						
AKAS				IAML		14 25 08.0	
	comp=E,939nm,0.6s						
KEMT	Kemer-ANTALYA	0.76	18	PG	Pn	14 24 44.5	+1.8
ELL	Elmali	0.91	342	PG	Pn	14 24 46.3	+1.4
ANTB	Antalya	1.06	17	PN	Pg	14 24 50.0	+2.7
FETY	Fethiye	1.21	309	P	Pg	14 24 50.2	+0.1
FETY	Fethiye	1.21	309	PN	Pg	14 24 50.1	0.0
FETY	Fethiye	1.21	309	iP	Pg	14 24 50.2	+0.1
FETY				iS	Sb	14 25 03.9	-0.8
GOLH	Golhisar	1.47	338	iP	Pg	14 24 55.8	+0.8
GOLH				iS	Sg	14 25 14.6	+0.6
GOLH				IAML		14 25 34.0	
	comp=N,488nm,0.8s						
KEPZ	Antalya-Kepez	1.49	46	iP	Pg	14 24 56.0	+0.7
KEPZ				iS	Sg	14 25 19.3	+4.7
KEPZ				IAML		14 25 24.0	
	comp=N,247nm,0.9s						
ALAN	Alanya-ANTALYA	1.58	64	PN	Pg	14 24 56.6	-0.5
BCK	Bucak	1.60	9	PN	Pg	14 24 57.4	0.0
DALY	Dalyan (Mula)	1.60	306	PN	Pb	14 24 55.7	-0.1
DALY	Dalyan (Mula)	1.60	306	iP	Pg	14 24 56.4	-1.1
DALY				iS	Sg	14 25 18.4	+0.2
GAZI	Gazipasa	1.70	77	PN	Pg	14 24 57.8	-1.6
GAZI				SN	Sg	14 25 20.7	-0.8
GAZI	Gazipasa	1.70	77	iP	Pg	14 24 58.1	-1.3
GAZI				iS	Sg	14 25 20.7	-0.8
GAZI				IAML		14 25 21.0	
	comp=E,452nm,0.5s						
GAZI				IAML		14 25 24.0	
	comp=N,386nm,0.7s						
ARG	Arkhangelos	1.76	282	P	Pn	14 24 57.1	+0.6
ARG				S	Sn	14 25 18.7	+0.1
	comp=N,452nm,0.5s						
ARG	Arkhangelos	1.76	282	PN	Pn	14 24 57.1	+0.6
ARG	Arkhangelos	1.76	282	P	Pn	14 24 56.4	-0.1
ARG				S	Sn	14 25 17.0	-1.6
TURN	Turunc	1.86	299	PN	Pb	14 24 59.0	-1.2
TURN	Turunc	1.86	299	iP	Pb	14 24 59.2	-1.0
TURN				iS	Sg	14 25 25.9	-0.6
AKMS	Akamas	1.90	116	P	Pb	14 25 01.0	+0.1
AKMS				AML	AML	14 25 27.3	
	comp=N,0.9nm,1.0s						
AKMS				AML	AML	14 25 42.4	
	comp=N,0.9nm,0.5s						
TAVA	DENIZLI_Tavas	1.92	326	iP	Pb	14 25 01.3	0.0
TAVA				iS	Sg	14 25 30.4	+1.9
TAVA				IAML		14 25 34.0	
	comp=N,183nm,0.7s						
ISP	Isparta	1.95	6	PN	Pg	14 25 02.2	-1.9
ISP	Isparta	1.95	6	Pn	Pg	14 25 03.4	-0.7
SEYD	Seydisehir-KON	1.98	39	PN	Pg	14 25 03.1	-1.6
YER	Yerkesik	2.03	309	P	Pb	14 25 03.0	-0.1
YER				S	Sb	14 25 28.4	+0.3
YER	Yerkesik	2.03	309	PN	Pb	14 25 02.3	-0.8
ALFC	Alefka	2.04	110	P	Pb	14 25 03.0	-0.3
ALFC				AML	AML	14 25 28.2	
	comp=N,1.0nm,0.9s						
ALFC				AML	AML	14 25 28.2	
	comp=N,1.0nm,0.9s						
ALFC				AML	AML	14 25 28.7	
	comp=N,0.8nm,0.5s						
ALFC				AML	AML	14 25 28.7	
	comp=N,0.8nm,0.5s						
ALFC				S	Sb	14 25 29.2	+0.7
BASM	Basmaki-Afyon	2.04	355	PN	Pb	14 25 03.7	+0.3
BAGO	Egridir - ISPA	2.15	11	iP	Pg	14 25 06.2	-1.7
BAGO				iS	Sn	14 25 18.4	-10
NATA	Nata	2.18	120	P	Pb	14 25 05.2	-0.6
ERMK	Ermenek	2.27	70	iP	Pb	14 25 07.2	-0.2
ERMK				iS	Sg	14 25 39.6	-0.2
ERMK				IAML		14 25 43.0	
	comp=N,218nm,0.5s						
ERMK				IAML		14 25 55.0	
	comp=E,161nm,0.6s						
LEF	Lefka	2.27	109	PN	Pn	14 25 04.3	+0.8
AKDN	Akdeniz- Kıbrı	2.28	104	PN	Pb	14 25 05.5	-1.9
DAT	Datca	2.33	292	P	Pn	14 25 05.3	+0.9
DAT	Datca	2.33	292	PN	Pn	14 25 05.5	+1.1
DAT	Datca	2.33	292	iP	Pn	14 25 05.8	+1.4
TEKE	Tekeli-Mersin	2.33	83	PN	Pb	14 25 06.4	-1.8
KZIL	AFYON_Kizioren	2.37	358	iP	Pb	14 25 08.2	-0.9
SZAC	Souni	2.42	117	P	Pb	14 25 08.2	-1.6
SZAC				AML	AML	14 26 02.6	
	comp=E,0.8nm,0.9s						
SZAC				AML	AML	14 26 08.2	
	comp=E,0.9nm,0.6s						
BERE	Bereket-Mersin	2.44	78	PN	Pb	14 25 09.0	-1.3
DOGA	KONYA_Doganhis	2.49	26	iP	Pb	14 25 11.5	+0.4
DOGA				iS	Sn	14 25 34.2	-2.5
OSC1	CSNet OBS 1	2.52	160	S	Sn	14 25 38.9	+1.7
KMER	Konya-Meram	2.53	41	iP	Pb	14 25 12.1	+0.3
KMER				iS	Sb	14 25 44.1	+1.4
KARP	Karpathos	2.54	263	P	Pn	14 25 08.6	+1.3
KARP	Karpathos	2.54	263	PN	Pn	14 25 08.0	+0.7
KARP	Karpathos	2.54	263	P	Pn	14 25 07.5	+0.2
KARP				S	Sn	14 25 35.9	-2.1
YORU	Yoruktepe-Mers	2.56	83	PN	Pb	14 25 10.4	-1.8
TEVE	Tevekalti-Mers	2.63	77	PN	Pb	14 25 10.7	-2.8
BODT	Bodrum	2.66	297	P	Pn	14 25 09.8	+1.0
BODT	Bodrum	2.66	297	PN	Pn	14 25 09.5	+0.7
KONT	Konya--Tatoy	2.66	39	PN	Pb	14 25 13.0	-0.9
KONT	Konya--Tatoy	2.66	39	iP	Pb	14 25 13.5	-0.4
KONT				iS	Sb	14 25 45.3	-1.0
CSS	Mathiatis	2.67	109	PN	Pn	14 25 10.9	+1.9
CSS	Mathiatis	2.67	109	Pn	Pn	14 25 10.1	+1.1
CSS	Mathiatis	2.67	109	P	Pb	14 25 11.4	-2.6
ASGA	Asgata	2.67	113	P	Pb	14 25 11.6	-2.5
AKK2	Akkuyu-Mersin	2.68	84	PN	Pb	14 25 11.6	-2.6
GULN	MERSIN_Gulnar	2.68	83	iP	Pb	14 25 12.3	-1.8
GULN				iS	Sb	14 25 45.9	-0.8
SHUT	Suhut-Afyon	2.68	5	PN	Pb	14 25 12.8	-1.5
AKKU	Akkuyu-Mersin	2.68	83	PN	Pb	14 25 11.4	-2.8
KRMN	Karaman	2.74	61	PN	Pb	14 25 13.4	-1.9
TISA	Tisan-Mersin	2.78	83	PN	Pb	14 25 13.3	-2.7
IKL	Isikli	2.80	82	PN	Pb	14 25 13.7	-2.5
KEBE	Keben-Mersin	2.85	78	PN	Pb	14 25 14.9	-2.3
LADK	Ladik-KONYA	2.86	35	PN	Pb	14 25 15.4	-2.0
KULA	Kula-Manisa	2.92	335	PN	Pn	14 25 13.9	+1.4
KDHN	Kadinhani	3.02	29	iP	Pb	14 25 17.4	-2.7
KDHN				iS	Sn	14 25 51.1	+1.3
OSC2	CSNet OBS 4	3.25	149	S	Sn	14 25 57.7	+2.4
KIZT	Kizilcal	3.26	23	PN	Pb	14 25 20.4	-3.8
ANAF	Anafi Island	3.67	279	P	Pn	14 25 23.4	+0.7
IDI	Anoyia	4.42	264	Pn	Pn	14 25 34.1	+1.0
	comp=E,40nm,0.3s,baz=63,slow=12,SNR=142						
IDI				Sn	Sn	14 26 20.7	-3.5
	baz=319,slow=19,SNR=1.2						
IDI	Anoyia	4.42	264	P	Pn	14 25 33.8	+0.7
SIVA	Sivas	4.53	261	P	Pn	14 25 35.3	+0.7
BRTR	Keskin Array B	4.68	34	Pn	Pn	14 25 39.9	+3.2
	comp=E,1.8nm,0.3s,baz=188,slow=16,SNR=24						
BRTR				Sn	Sn	14 26 31.5	+

MKAR	Makanchi Array	39.89	58	P	P	14 32 00.1	+0.5
	comp=E,0.5nm,0.5s,baz=267,slow=9.6,SNR=8.1						
ZALV	Zalesovo Beam	41.49	47	P	P	14 32 12.6	-0.1
	comp=E,0.7nm,0.5s,baz=270,slow=7.2,SNR=3.2						
KSRS	Korea Array	74.50	55	P	P	14 36 04.0	-0.3
	comp=E,0.3nm,0.5s,baz=310,slow=4.5,SNR=2.1						

*SOME **09** 14:29:15.1, 37°.63N×73°.20E, h20km*
*IDC **09** 14:29:17.1±2.9, 36°.34N×70°.99E, h184km±25km, mb3.4/12, mb1 3.5/18, mb1mx3.2/55, mbtmp3.9/18, Error ellipse: s-maj=20.9km s-min=14.7km az=26.0*
*NEIC **09** 14:29:20±2.4, 36°.60N±0°.04×71°.0E±0°.1, h208km±5km, mb4.0/10, Error ellipse: s-maj=13.4km s-min=5.8km az=81.0*
*BJI **09** 14:29:21.5±0.0, 36°.96N×70°.84E, h230km, mB4.6/11, mb4.4/14*
*NNC **09** 14:29:26.1±3.8, 37°.16N×71°.01E, h231km±54km, mb2.9, mpv4.1, Error ellipse: s-maj=39.6km s-min=25.4km az=11.0*

ISC 09 14:29:18.9±0.5, 36°.55N±0°.05×70°.99E±0°.05, h200km, n84, σ1§91/89, mb3.8/14, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.50	348	Pn	Pn	14 30 03.7	+0.8
CHGR	Chuyangaron	2.56	326	Pn	Pn	14 30 04.0	+0.5
KBL	Kabul	2.56	219	Pn	Pn	14 30 05.5	+1.8
NIL	Nilore	3.44	147	Pn	Pn	14 30 15.9	+2.1
BTK	Batken	3.50	358	Pn	Pn	14 30 16.2	+1.6
KSH	Kashi	4.92	52	P	Pn	14 30 29.2	-3.1
KSH				S	Sn	14 31 18.7	-12
KSH				smax	smax		
	comp=N,88nm,0.3s						
KSH				smax	smax		
	comp=E,76nm,0.4s						
IUG	Iuzhnay	5.64	353	eP	Pn	14 30 50.7	+9.2
	16nm,0.2s						
IUG				eS	Sn	14 31 59.1	+12
	93nm,0.7s						
THN	Thein Dam	5.66	135	eP	Pn	14 30 51.0	+9.2
THN				eS	Sn	14 31 46.5	-0.8
AML	Almayashu	5.95	20	P	Pn	14 30 46.3	+0.5
	SNR=146						
UCH	Uchtor	6.29	25	P	Pn	14 30 50.9	+0.6
	SNR=6.0						
MRKS	Merke	6.42	15	eP	Pn	14 30 51.7	+0.1
	50nm,0.4s						
MRKS				eS	Sn	14 32 00.9	-4.2
	50nm,0.8s						
EKS2	Erkin-Say	6.47	19	P	Pn	14 30 53.0	+0.7
	SNR=19						
KK31	Karatay Array	6.55	357	⇓P	Pn	14 30 54.2	+0.9
	2.7nm,0.4s,baz=172,slow=12,SNR=35						
KK31				⇓S	Sn	14 32 02.2	-5.9
	5.4nm,0.4s,baz=182,slow=21,SNR=13						
KK31	Karatay Array	6.55	357	Pn	Pn	14 30 53.4	+0.1
KKAR	Karatay Array	6.55	357		Pn	14 30 53.3	+0.1
AAK	Ala-Archa	6.65	23	P	Pn	14 30 55.5	+0.8
	6.1nm,0.3s,baz=154,slow=4.5,SNR=27						
AAK				S	Sn	14 32 07.6	-3.0
	2.2nm,0.3s,baz=15,slow=23,SNR=14						
AAK	Ala-Archa	6.65	23	P	Pn	14 30 55.4	+0.7
	SNR=16						
AAK	Ala-Archa	6.65	23	⇓P	Pn	14 30 54.9	+0.3
	7.9nm,0.5s						
AAK				⇑S	Sn	14 32 07.6	-3.0
	14nm,0.5s						
AAK	Ala-Archa	6.65	23	Pn	Pn	14 30 55.0	+0.4
KBK	Karagaybulak	6.82	25	P	Pn	14 30 57.9	+1.1
	SNR=14						
ULHL	Ulahol	6.99	34	P	Pn	14 30 59.6	+0.5
	SNR=7.4						
BOOM	Boomskoye usch	7.05	31	Pn	Pn	14 30 60.0	+0.1
CHMS	Chumysh	7.06	23	P	Pn	14 31 00.5	+0.7
	SNR=9.8						
USP	Ospenovka	7.23	21	P	Pn	14 31 02.5	+0.5
	SNR=9.5						
TKM2	Tokmak 2	7.28	28	P	Pn	14 31 03.5	+0.6
	SNR=41						
TKM2	Tokmak 2	7.28	28	⇓P	Pn	14 31 02.5	-0.4
	34nm,0.7s						
TKM2				⇓S	Sn	14 32 21.2	-4.3
	8.0nm,0.7s						
KST	Kastek	7.53	29	eP	Pn	14 31 06.4	+0.4
	26nm,0.4s						
KST				eS	Sn	14 32 26.0	-5.2
	10.0nm,0.7s						
DGS	Degeres	7.62	27	eP	Pn	14 31 07.1	-0.2
	7.7nm,0.4s						
DGS				eS	Sn	14 32 27.2	-6.3
	4.8nm,0.9s						
KUDL	Kundal	9.58	149	eS	Sn	14 33 12.8	-7.1
GEYT	Alibeck	10.36	281	P	Pn	14 31 42.6	-0.2
	1.0nm,0.3s,baz=117,slow=14,SNR=8.3						
GEYT				S	Sn	14 33 34.2	-4.2
	0.3nm,0.3s,baz=69,slow=26,SNR=1.2						
GYA0B	ALIBECK ARRAY	10.36	281	Pn	Pn	14 31 42.1	-0.7
MAKZ	Makanchi	13.12	35	Pn	Pn	14 32 17.4	-0.3
PYUN	Piuthan	13.18	126	eP	Pn	14 32 19.5	+0.7
	11nm,0.3s						
PYUN	Piuthan	13.18	126	eP	Pn	14 32 19.5	+0.7
	11nm,0.3s						
MK31	Makanchi Array	13.25	36	Pn	Pn	14 32 18.9	-0.5
MKAR	Makanchi Array	13.25	36	P	Pn	14 32 18.8	-0.6
	0.2nm,0.3s,baz=217,slow=12,SNR=5.5						
MKAR	Makanchi Array	13.25	36	Pn	Pn	14 32 19.0	-0.4
KOLN	Koldanda	13.80	126	eP	Pn	14 32 26.7	+0.1
KOLN	Koldanda	13.80	126	eP	Pn	14 32 26.7	+0.1
GKN	Gorkha	14.34	123	eP	Pn	14 32 34.4	+1.3
	20nm,0.2s						
GKN	Gorkha	14.34	123	eP	Pn	14 32 34.4	+1.3
	20nm,0.2s						
WMQ	Urumqi	14.67	55	eP	P	14 32 39.4	+1.3
WMQ				pmax	pmax		
	comp=Z,15nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,62nm,4.5s						
KKN	Kakani	14.91	122	eP	Pn	14 32 41.3	+1.1
	18nm,0.4s						
KKN	Kakani	14.91	122	eP	Pn	14 32 41.3	+1.1
	18nm,0.4s						
AB31	Akbulak array	15.04	331	⇑P	Pn	14 32 40.5	-0.9
	1.1nm,0.7s						
ABKAR	Akbulak array	15.04	331	Pn	Pn	14 32 40.0	-1.3
KURBB	Kurchatov Arra	15.07	19	P	Pn	14 32 42.2	+0.4
	0.1nm,0.3s,baz=200,slow=11,SNR=4.7						
PKI	Pulchoki	15.14	122	eP	Pn	14 32 43.9	+0.8
PKI	Pulchoki	15.14	122	eP	Pn	14 32 43.9	+0.8
KURK	Kurchatov	15.18	19	P	Pn	14 32 42.2	-0.9
KURK	Kurchatov	15.18	19	IAmb	IAmb	14 32 49.3	
	comp=Z,4.0nm,1.4s						
JIRN	Jiri	15.62	120	eP	Pn	14 32 48.7	-0.3
JIRN	Jiri	15.62	120	eP	Pn	14 32 48.7	-0.3
RAMN	Ramite	16.35	121	eP	P	14 32 56.5	-0.4
RAMN	Ramite	16.35	121	eP	P	14 32 56.5	-0.4
BVAR	Borovoye Array	16.48	359	P	Pn	14 32 59.1	+0.4
	comp=Z,0.5nm,0.3s,baz=154,slow=15,SNR=8.3						
AKTO	Aktyubinsk	16.73	330	P	Pn	14 33 02.4	+0.6
	comp=Z,1.0nm,0.3s,baz=138,slow=12,SNR=14						
AKTO	Aktyubinsk	16.73	330	⇑P	P	14 33 01.0	+0.3
	comp=Z,2.8nm,0.5s						
ZAA0	Zalesovo Array	19.87	25	P	P	14 33 35.2	+0.7
ZAA0				IAmb	IAmb	14 33 36.4	
	comp=Z,1.4nm,0.6s						
ZALV	Zalesovo Beam	19.87	25	P	P	14 33 35.8	+1.2
	comp=Z,1.5nm,0.5s,baz=220,slow=11,SNR=6.3						
ZALV	Zalesovo Beam	19.87	25	P	P	14 33 35.3	+0.7
ARU	Arti	21.58	341	P	P	14 33 53.5	+0.8
	comp=Z,0.7nm,0.3s,baz=154,slow=7.6,SNR=4.4						
ARU	Arti	21.58	341	IAmb	IAmb	14 33 55.8	
	comp=Z,5.8nm,1.1s						
HHC	Hu-ho-hao-te	31.75	70	eP	P	14 35 27.6	+3.4
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				pmax	pmax		
	comp=Z,93nm,5.9s						
AKASG	Malin Array Be	32.91	309	P	P	14 35 35.6	+1.6
	comp=Z,0.5nm,0.4s,baz=96,slow=9.5,SNR=1.8						
NRIK	Noril'sk	34.08	10	P	P	14 35 45.9	+2.0
	comp=Z,1.2nm,0.5s,baz=190,slow=6.1,SNR=3.5						
FIA1	FINESS Array S	37.44	326	P	P	14 36 13.7	+1.2
FIA1				IAmb	IAmb	14 36 14.6	
	comp=Z,7.2nm,1.0s						
FINES	FINESS Array B	37.44	326	P	P	14 36 14.0	+1.5
	comp=Z,1.6nm,0.4s,baz=126,slow=8.7,SNR=12						
FINES	FINESS Array B	37.44	326	P	P	14 36 13.8	+1.3
ARCES	ARCESS Array B	41.09	338	P	P	14 36 44.1	+1.5
	comp=Z,2.3nm,0.6s,baz=110,slow=8.2,SNR=15						
ARCES	ARCESS Array B	41.09	338	P	P	14 36 44.3	+1.6
ARE0	ARCESS Array S	41.09	338	P	P	14 36 44.4	+1.8
HFS	Hagfors	43.02	322	P	P	14 36 59.7	+1.4
	comp=Z,2.9nm,0.5s,baz=93,slow=8.9,SNR=7.8						
NC303	NORSAR Array S	44.28	323	P	P	14 37 09.7	+1.4
NC303				IAmb	IAmb	14 37 16.0	
	comp=Z,16nm,1.1s						
NB201	NORSAR Array S	44.30	323	P	P	14 37 09.3	+0.7
NB2	NORSAR Subarra	44.34	323	P	P	14 37 09.5	+0.7
	comp=Z,1.0nm,0.5s,baz=98,slow=7.9						
NOA	NORSAR Array B	44.34	323	P	P	14 37 09.7	+0.9
	comp=Z,1.0nm,0.5s,baz=97,slow=7.7,SNR=7.4						
NC204	NORSAR Array S	44.58	323	P	P	14 37 11.6	+0.9
TORD	Torodi Ar. Bea	65.71	269	P	P	14 39 40.5	-1.9
	comp=Z,0.4nm,0.4s,baz=50,slow=5.8,SNR=4.7						
ILAR	Eielson Array	74.73	16	P	P	14 40 36.9	+0.6
	comp=Z,0.6nm,0.9s,baz=299,slow=4.6,SNR=5.0						
ILAR	Eielson Array	74.73	16	P	P	14 40 36.4	+0.1
KNRA	Kununurra	75.26	123	P	P	14 40 41.0	+1.1
WRA	Warramunga Arr	82.02	122	P	P	14 41 16.7	-0.1
	comp=Z,0.7nm,0.7s,baz=322,slow=4.9,SNR=18						
ASAR	Alice Springs	84.29	125	P	P	14 41 28.1	-0.2
	comp=Z,0.7nm,0.7s,baz=306,slow=4.9,SNR=15						

*IDC **09** 14:36:02.3±1.2, 39°.02N×144°.56E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.5/32, mbtmp3.6/6, ML3.1/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/39, Error ellipse: s-maj=34.9km s-min=21.6km az=97.0*
*JMA **09** 14:36:08.0±0.1, 39°.12N×144°.19E, h49km, M3.8*
*NIED **09** 14:36:08.1, 39°.12N×144°.19E, h49km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=0.80; $M_{\theta\theta}$=1.68; $M_{\phi\phi}$=2.48; $M_{r\theta}$=0.83; $M_{\theta\phi}$=-0.31; $M_{\phi r}$=1.26; Fault plane solution: M_0=2.64000×10^14^ NP1: ϕ_s=214.00000°, δ=79.00000°, λ=-40.00000°. NP2: ϕ_s=313.00000°, δ=50.00000°, λ=-166.00000°.*

ISC 09 14:36:04.7±1.1, 39°.07N±0°.05×144°.38E±0°.08, h19km, n25, σ1§86/40, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	2.05	285	P	Pn	14 36 38.8	+0.6
MIYJ				eS	Sn	14 37 02.3	-0.9
OFUJ	Ofunato	2.11	271	P	Pn	14 36 39.7	+0.7
OFUJ				eS	Sn	14 37 02.7	-2.0
JTH	Tanohata	2.13	295	P	Pn	14 36 39.8	+0.5
JTH				eS	Sn	14 37 03.9	-1.3
JOM	Ohasama	2.43	281	P	Pn	14 36 44.6	+1.2
JOM				eS	Sn	14 37 11.5	-1.1
JMK	Ichinoseki	2.46	268	P	Pn	14 36 44.9	+1.0
JMK				S	Sn	14 37 11.9	-1.5
JANG	Nango	2.56	301	P	Pn	14 36 45.6	+0.3
JANG				eS	Sn	14 37 13.7	-2.2
JYK	Kaneyama	3.14	269	P	Pn	14 36 54.6	+1.5
JYK				eS	Sn	14 37 29.1	-0.9
JNBK	Urakawa-nobuka	3.44	339	P	Pn	14 36 58.6	+1.3
JNBK				eS	Sn	14 37 36.3	-1.2
JOT	Ohata	3.44	313	P	Pn	14 36 58.3	+1.0
JOT				eS	Sn	14 37 35.4	-2.1
JFT	Otama	3.54	245	P	Pn	14 36 59.9	+1.3
JCH	Churui	3.63	348	P	Pn	14 37 00.5	+0.7
JKB	Kayabe	3.80	319	P	Pn	14 37 03.5	+1.3
NEM2	Nemuro 2	4.42	13	P	Pn	14 37 09.8	-0.9
NEM2				eS	Sn	14 37 56.4	-5.1
JTKR	Abashiri--Toko	4.91	356	P	Pn	14 37 17.8	+0.3
JTKR				eS	Sn	14 38 10.2	-3.6
JHR	Hokuryu	5.08	338	eS	Sn	14 38 17.8	-0.1
BSO1	Boso 1	5.18	213	P	Pn	14 37 20.0	-0.7
ASAJ	Asahikawa	5.22	346	Pn	Pn	14 37 22.6	+0.9
	1.2nm,0.3s,baz=193,slow=16,SNR=17						
ASAJ				Sn	Sn	14 38 24.5	+3.2
	1.4nm,0.3s,baz=19,slow=32,SNR=6.1						
ASAJ				LR	LR	14 39 44.9	
	comp=Z,43nm,19.3s,baz=152,slow=42						
JRY	Ryogami san	5.31	237	P	Pn	14 37 23.5	+0.4
JRY				S	Sn	14 38 20.7	-3.0
MJAR	Matsushiro Arr	5.50	245	Pn	Pn	14 37 27.4	+1.8
	0.5nm,0.3s,baz=57,slow=11,SNR=19						
MJAR				LR	LR	14 39 50.5	
	comp=Z,74nm,18.8s,baz=230,slow=41						
MAT	Matsushiro	5.50	245	P	Pn	14 37 27.3	+1.7
MAT				S	Sn	14 38 29.3	+1.0
JOD2	Odawara 2	5.68	230	P	Pn	14 37 28.5	+0.4
JOD2				eS	Sn	14 38 28.2	-4.6
USRK	Ussuriysk Ar.	10.59	303	Pn	Pn	14 38 37.5	+2.0
	baz=96,slow=15,SNR=4.9						
ILAR	Eielson Array	46.52	33	P	P	14 44 30.9	+0.5
	0.6nm,0.7s,baz=260,slow=7.4,SNR=7.7						
WRA	Warramunga Arr	59.45	191	P	P	14 46 06.2	-0.1
	1.4nm,1.1s,baz=7.4,slow=7.4,SNR=6.3						
ASAR	Alice Springs	63.17	191	P	P	14 46 32.2	+0.8
	0.4nm,0.8s,baz=14,slow=7.4,SNR=2.9						

IDC 09 15:00:43.4±1.3, 0°.65N×127°.16E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/30, mbtmp3.4/4, Error ellipse: s-maj=85.8km s-min=24.5km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.64	161	P	P	15 05 35.5	-0.1
	0.5nm,0.4s,baz=337,slow=11,SNR=19						
ASAR	Alice Springs	25.04	165	P	P	15 06 09.8	+0.3
	0.6nm,0.7s,baz=342,slow=8.9,SNR=25						
MKAR	Makanchi Array	60.33	326	P	P	15 10 55.0	+0.8
	0.2nm,0.4s,baz=132,slow=8.0,SNR=4.3						
ILAR	Eielson Array	87.68	25	P	P	15 13 32.3	-1.4
	0.4nm,1.0s,baz=266,slow=6.1,SNR=3.2						

*ISK **09** 15:14:12.8, 35°.77N×30°.20E, h17km, ML3.2/29*
*DDA **09** 15:14:14.0, 35°.82N×30°.27E, h7km±18km, ML3.0*
*NIC **09** 15:14:15.7±0.0, 35°.89N×30°.16E, h43km±5km, Ml3.2/3*

ISC 09 15:14:13.6±1.3, 35°.82N±0°.04×30°.19E±0°.03, h13km±10km, n47, σ0§68/56, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMR	Demre-Antalya	0.47	331	PG	Pg	15 14 23.6	+0.6
DEMR				SG	Sb	15 14 31.4	+0.6
AKUM	Antalya-Kumluc	0.52	14	*i* P	Pg	15 14 23.5	-0.3
AKUM				*i* S	Sg	15 14 29.8	-0.9
KSL	Kastellorizon	0.59	304	P	Pb	15 14 26.7	+0.8
KSL				S	Sn	15 14 36.2	-1.1
KSL				AML	AML	15 14 40.0	
	3.6nm,0.7s						
KSL				AML	AML	15 14 40.0	
	3.6nm,0.7s						
KSL				AML	AML	15 14 41.6	
	5.5nm,0.5s						
KSL				AML	AML	15 14 41.6	
	5.5nm,0.5s						
AKAS	Kas	0.63	311	PG	Pg	15 14 26.3	+0.4
AKAS				SG	Sb	15 14 36.1	+0.8
AKAS	Kas	0.63	311	*i* P	Pg	15 14 25.9	0.0
AKAS				*i* S	Sn	15 14 37.4	-1.0
AKAS				IAML		15 14 48.0	
	comp=E,563nm,0.7s						
AKAS				IAML		15 14 50.0	
	comp=N,1μm,0.7s						
ELL	Elmali	0.95	346	PG	Pg	15 14 32.4	+0.3
ELL				SG	Sn	15 14 46.8	+0.4
ANTB	Antalya	1.14	19	PN	Pb	15 14 35.2	0.0
FETY	Fethiye	1.21	313	PN	Pn	15 14 36.0	-0.3
FETY	Fethiye	1.21	313	*i* P	Pn	15 14 36.3	0.0
GOLH	Golhisar	1.50	340	*i* P	Pb	15 14 41.5	+0.1
KEPZ	Antalya-Kepez	1.57	46	*i* P	Pn	15 14 41.6	+0.4
DALY	Dalyan (Mula)	1.59	309	PN	Pn	15 14 41.5	+0.1
DALY	Dalyan (Mula)	1.59	309	*i* P	Pn	15 14 41.6	+0.2
ALAN	Alanya-ANTALYA	1.66	63	PN	Pn	15 14 42.2	-0.2
BCK	Bucak	1.67	11	PN	Pn	15 14 43.0	+0.4
ARG	Arkhangelos	1.72	284	PN	Pn	15 14 43.1	-0.1
ARG	Arkhangelos	1.72	284	P	Pn	15 14 42.9	-0.3
ARG				S	Sn	15 15 04.1	-1.0
GAZI	Gazipasa	1.77	76	PN	Pn	15 14 43.8	-0.2
TURN	Turunc	1.84	302	PN	Pn	15 14 44.9	+0.1
AKMS	Akamas	1.93	114	P	Pn	15 14 47.0	+0.9
AKMS				S	Sn	15 15 09.7	-0.4
AKMS				AML	AML	15 15 10.4	
	comp=N,0.5nm,0.8s						
AKMS				AML	AML	15 15 10.4	
	comp=N,0.5nm,0.8s						
AKMS				AML	AML	15 15 21.8	
	comp=N,0.5nm,0.9s						
AKMS				AML	AML	15 15 21.8	
	comp=N,0.5nm,0.9s						
ISP	Isparta	2.02	7	PN	Pn	15 14 47.7	+0.3
YER	Yerkesik	2.02	311	PN	Pn	15 14 47.8	+0.4
SEYD	Seydisehir-KON	2.06	39	PN	Pn	15 14 48.3	+0.2
ALFC	Alefka	2.07	108	P	Pn	15 14 48.9	+0.7
BASM	Basmaki-Afyon	2.10	357	PN	Pn	15 14 48.5	0.0
DAT	Datca	2.30	294	PN	Pn	15 14 51.4	+0.1
LEF	Lefka	2.31	107	PN	Pn	15 14 50.6	-0.8
TEKE	Tekeli-Mersin	2.39	81	PN	Pn	15 14 52.3	-0.2
SZAC	Souni	2.44	115	P	Pn	15 14 54.1	+0.9
SZAC				AML	AML	15 15 48.8	
	comp=N,0.4nm,0.6s						
SZAC				AML	AML	15 15 54.0	
	comp=N,0.5nm,0.6s						
KARP	Karpathos	2.48	265	PN	Pn	15 14 53.7	0.0
KARP	Karpathos	2.48	265	P	Pn	15 14 54.2	+0.5
KARP				S	Sn	15 15 23.4	-0.5
OSC1	CSNet OBS 1	2.48	159	S	Sb	15 15 26.2	-2.3
BERE	Bereket-Mersin	2.51	77	PN	Pn	15 14 54.6	+0.3
BODT	Bodrum	2.63	299	PN	Pn	15 14 55.6	-0.2
TEVE	Tevekalti-Mers	2.70	76	PN	Pn	15 14 57.0	+0.1
ASGA	Asgata	2.71	112	P	Pn	15 14 58.6	+1.8
CSS	Mathiatis	2.71	108	PN	Pn	15 14 56.3	-0.5
CSS	Mathiatis	2.71	108	P	Pn	15 14 57.9	+1.1
KONT	Konya--Tatoy	2.74	39	PN	Pn	15 14 57.9	+0.5
AKKU	Akkuyu-Mersin	2.75	82	PN	Pn	15 14 57.3	0.0
KRMN	Karaman	2.82	60	PN	Pn	15 14 58.4	-0.1
IKL	Isikli	2.86	81	PN	Pn	15 14 59.2	+0.2
KEBE	Keben-Mersin	2.92	77	PN	Pn	15 14 59.7	-0.1
LADK	Ladik-KONYA	2.94	36	PN	Pn	15 15 00.6	+0.4
KULA	Kula-Manisa	2.95	336	PN	Pn	15 15 00.9	+0.6
OSC2	CSNet OBS 4	3.23	147	S	Sn	15 15 43.9	+1.5
KIZT	Kizilcal	3.34	23	PN	Pn	15 15 05.4	-0.2

*IDC **09** 15:35:05.7±1.6, 31°.12N×139°.79E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/41, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=46.3km s-min=29.6km az=110.0*
*NEIC **09** 15:35:08.0±1.8, 31°.2N±0°.1×139°.8E±0°.1, h10km±2km, mb4.4/2, Error ellipse: s-maj=25.2km s-min=11.8km az=129.0*

ISC 09 15:35:10.9±1.2, 31°.2N±0°.1×139°.8E±0°.2, h35km, n19, σ1§50/12, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	Kuroka	4.80	336	Pn	Pn	15 36 19.1	-1.7
MJAR	Matsushiro Arr	5.46	347	Pn	Pn	15 36 28.1	-1.6
	0.1nm,0.3s,baz=161,slow=12,SNR=8.5						
MJAR	Matsushiro Arr	5.46	347		Pn	15 36 29.0	-0.7
MJB9	Matsu-Tunnel	5.46	347	Pn	Pn	15 36 30.6	+0.8
JSU	Suzuyama	7.96	274	Pn	Pn	15 37 04.7	+0.5
JTM	Tenmabayashi	9.60	6	Pn	Pn	15 37 24.6	-1.9
PETK	Petropavlovsk-	25.46	26	P	P	15 40 36.6	+1.2
H11N2	WAKE ISLAND Hy	26.97	109	T	T	16 08 41.3	
	baz=302,slow=75,SNR=24						
H11N1	WAKE ISLAND Hy	26.97	109	T	T	16 08 42.4	
	baz=302,slow=75,SNR=28						
H11N3	WAKE ISLAND Hy	26.98	109	T	T	16 08 43.0	
	baz=302,slow=75,SNR=28						
H11S3	WAKE ISLAND Hy	27.44	111	T	T	16 09 17.4	
	baz=304,slow=76,SNR=427						
H11S1	WAKE ISLAND Hy	27.45	111	T	T	16 09 17.3	
	baz=304,slow=76,SNR=458						
H11S2	WAKE ISLAND Hy	27.46	111	T	T	16 09 19.7	
	baz=304,slow=76,SNR=143						
CMAR	Chiang Mai Arr	38.94	261	P	P	15 42 34.2	+0.5
	0.5nm,0.6s,baz=44,slow=7.5,SNR=5.9						
WRA	Warramunga Arr	51.14	187	P	P	15 44 08.8	-1.6
	0.4nm,0.9s,baz=1.2,slow=7.5,SNR=2.0						
WRA	Warramunga Arr	51.14	187	IAmb	IAmb	15 44 10.5	
	comp=Z,0.3nm,1.5s						
IL31		55.16	30	P	P	15 44 41.3	+1.8
IL31				IAmb	IAmb	15 44 42.2	
	comp=Z,5.6nm,1.4s						
ILAR	Eielson Array	55.16	30	P	P	15 44 40.8	+1.2
	comp=Z,0.3nm,0.7s,baz=276,slow=8.1,SNR=1.9						
BMAR	Burnt Mountain	56.10	27	P	P	15 44 47.2	+0.8

IDC 09 15:35:27.2±2.3, 4°.50N×127°.35E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/41, mbtmp3.2/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/15, Error ellipse: s-maj=160.8km s-min=29.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.51	184	LR	LR	15 51 04.8	
	comp=Z,17nm,18.1s,baz=194,slow=42						
WRA	Warramunga Arr	25.24	164	P	P	15 40 53.8	-1.3
	0.6nm,0.5s,baz=344,slow=11,SNR=12						
ASAR	Alice Springs	28.71	167	P	P	15 41 28.3	+1.9
	0.1nm,0.7s,baz=347,slow=13,SNR=1.8						
MKAR	Makanchi Array	57.29	325	P	P	15 45 16.8	0.0
	0.2nm,0.6s,baz=118,slow=8.3,SNR=1.9						

WEL 09 15:39:15.3, 41°.5±1°.×17°.4E±°, h51km±2km, M3.5/23, ML3.8/23, MLv3.5/23, Error ellipse: s-maj=0.0km s-min=0.0km az=121.0, Cook Strait

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

PRHZ	Porangahau	1.89	66	P	Pn	15 39 45.5 +0.4
PKVZ	Pokaka	1.91	23	P	Pn	15 39 47.1 +1.6
VRZ	Vera Road	1.95	9	P	Pn	15 39 47.3 +1.4
MOVZ	Moawhango	1.95	33	P	Pn	15 39 47.0 +0.9
WNVZ	Wahianoa	1.96	29	P	Pn	15 39 47.6 +1.4
TRVZ	Turoa	1.97	27	P	Pn	15 39 49.2 +2.7
MHEZ	Mangahewa	1.98	359	P	Pn	15 39 48.3 +2.0
DRZ	Dome Shelter	2.00	27	P	Pn	15 39 50.2 +3.3
FWVZ	Far West T-bar	2.01	27	P	Pn	15 39 48.5 +1.5
BHHZ	Black Hill Sta	2.02	40	P	Pn	15 39 47.5 +0.4
TUVZ	Tukino	2.03	29	P	Pn	15 39 48.4 +1.1
DSZ	Denniston Nort	2.06	250	P	Pn	15 39 48.3 +0.8
KRHZ	Kereru	2.07	48	P	Pn	15 39 47.6 -0.1
NGZ	Ngauruhoe	2.10	27	P	Pn	15 39 49.5 +1.4
OTVZ	Oturere	2.13	28	P	Pn	15 39 49.8 +1.2
TWVZ	Taurewa	2.14	23	P	Pn	15 39 49.8 +1.1
WTVZ	West Tongariro	2.15	26	P	Pn	15 39 50.5 +1.7
PXZ	Pawanui	2.15	62	P	Pn	15 39 49.0 +0.3
GVZ	Greta Valley S	2.16	207	P	Pn	15 39 49.1 +0.2
ETVZ	East Tongariro	2.17	28	P	Pn	15 39 50.2 +1.1
KRVZ	Karewarewa	2.18	27	P	Pn	15 39 51.3 +2.0
TMVZ	Te Maari	2.19	28	P	Pn	15 39 50.6 +1.3
KWHZ	Kaweka Forest	2.26	44	P	Pn	15 39 54.5 +4.2
KAHZ	Kahuranaki	2.28	57	P	Pn	15 39 50.5 -0.1
KATZ	Kakaramea	2.31	26	P	Pn	15 39 54.3 +3.3
LTZ	Lake Taylor	2.34	222	P	Pn	15 39 51.6 +0.3
RITZ	Rihia Road	2.37	29	P	Pn	15 39 55.7 +4.0
MCHZ	McNeill Hill	2.39	49	P	Pn	15 39 55.8 +3.7
RATZ	Rangitukua	2.43	27	P	Pn	15 39 56.0 +3.3
AMCZ	Amberley	2.48	211	P	Pn	15 39 53.0 -0.3
BKZ	Black Stump Fm	2.49	41	P	Pn	15 39 52.6 -0.7
HATZ	Hinemaiaia	2.53	32	P	Pn	15 39 58.0 +4.0
HIZ	Hauiti	2.56	8	P	Pn	15 39 55.6 +1.2
WATZ	Wairara	2.56	24	P	Pn	15 39 58.5 +4.0
NMHZ	Naumai	2.70	44	P	Pn	15 39 58.0 +1.7
MRHZ	Matea Rd	2.71	36	P	Pn	15 39 58.0 +1.4
INZ	Inchbonnie	2.75	232	P	Pn	15 39 57.3 +0.3
KUTZ	Kaahu Road	2.79	24	P	Pn	15 40 02.7 +5.2
OKCZ	Okains Bay	2.84	200	P	Pn	15 39 57.5 -0.7
OXZ	Oxford	2.86	217	P	Pn	15 39 57.5 -1.0
TLZ	Tolley Road	2.86	19	P	Pn	15 39 59.5 +1.0
MTHZ	Maungataniwha	2.90	41	P	Pn	15 39 58.3 -0.8
MQZ	McQueen's Vall	2.94	205	P	Pn	15 39 58.0 -1.5
RAHZ	Arahi	2.98	45	P	Pn	15 40 03.6 +3.5
RTZ	Ruatahuna	3.15	40	P	Pn	15 40 04.7 +2.2
MUGZ	Murupara	3.17	36	P	Pn	15 40 03.2 +0.6
SNGZ	Shannon Statio	3.21	46	P	Pn	15 40 05.2 +1.8
WVZ	Waitaha Valley	3.38	232	P	Pn	15 40 05.4 -0.2
TOZ	Tahuroa Road	3.43	15	P	Pn	15 40 07.8 +1.6
WACZ	Wakanui South	3.44	212	P	Pn	15 40 05.0 -1.4
RIGZ	Rimuhau	3.50	49	P	Pn	15 40 07.8 +0.5
RPZ	Rata Peaks	3.62	222	P	Pn	15 40 08.0 -0.9
MWZ	Matawai	3.64	43	P	Pn	15 40 08.0 -1.2
ARCZ	Arundel	3.74	218	P	Pn	15 40 09.9 -0.6
TKGZ	Te Karaka	3.74	47	P	Pn	15 40 12.8 +2.4
GCSZ	Gaunt Creek Bo	3.77	232	P	Pn	15 40 10.9 +0.1
AWAZ	Awhitu Peninsu	3.99	3	P	Pn	15 40 15.1 +1.2
RUGZ	Raukumara Rang	4.00	41	P	Pn	15 40 13.6 -0.6
ETAZ	East Tamaki Re	4.12	6	P	Pn	15 40 17.0 +1.3
WTAZ	Waiatarua	4.12	2	P	Pn	15 40 17.2 +1.5
FOZ	Fox Glacier	4.19	232	P	Pn	15 40 16.0 -0.7
HAZ	Te Kaha	4.22	40	P	Pn	15 40 17.2 +0.1
PUZ	Puketiti	4.22	46	P	Pn	15 40 19.2 +2.0
RVAZ	Riverhead Bore	4.28	2	P	Pn	15 40 19.2 +1.3
WIAZ	Waiheke Island	4.29	8	P	Pn	15 40 19.4 +1.3
MBAZ	Motutapu North	4.30	6	P	Pn	15 40 19.7 +1.5
KUZ	Kuaotunu	4.43	14	P	Pn	15 40 21.1 +1.1
LBZ	Lake Benmore	4.54	221	P	Pn	15 40 20.1 -1.4
ODZ	Otahua Downs	4.84	213	P	Pn	15 40 23.7 -1.8
WCZ	Waipu Caves	5.11	360	P	Pn	15 40 30.8 +1.5
JCZ	Jackson Bay	5.12	232	P	Pn	15 40 28.2 -1.2
OUZ	Omahuta	5.86	354	P	Pn	15 40 40.4 +0.9

IDC 09 15:40:31.5±1.1, 31°.45N×140°.35E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.6/34, mbtmp3.4/7, ML2.4/1, Error ellipse: s-maj=33.5km s-min=24.1km az=99.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	5.38	341	Pn	Pn	15 41 54.4	+1.3
	0.1nm,0.3s,baz=157,slow=12,SNR=7.6						
H11N2	WAKE ISLAND Hy	26.56	110	T	T	16 14 13.3	
	baz=302,slow=75,SNR=52						
H11N1	WAKE ISLAND Hy	26.57	110	T	T	16 14 10.9	
	baz=302,slow=75,SNR=65						
H11N3	WAKE ISLAND Hy	26.58	110	T	T	16 14 14.6	
	baz=302,slow=75,SNR=44						
H11S3	WAKE ISLAND Hy	27.06	112	T	T	16 14 46.3	
	baz=304,slow=75,SNR=1212						
H11S1	WAKE ISLAND Hy	27.06	112	T	T	16 14 47.2	
	baz=304,slow=75,SNR=1051						
H11S2	WAKE ISLAND Hy	27.07	112	T	T	16 14 47.5	
	baz=304,slow=75,SNR=730						
CMAR	Chiang Mai Arr	39.48	261	P	P	15 48 03.8	-0.1
	0.3nm,0.3s,baz=52,slow=7.8,SNR=4.1						
MKAR	Makanchi Array	46.53	307	P	P	15 48 59.7	-1.1
	0.5nm,1.0s,baz=137,slow=3.0,SNR=2.7						
WRA	Warramunga Arr	51.42	187	P	P	15 49 38.8	+0.3
	0.9nm,1.1s,baz=2.2,slow=7.8,SNR=5.7						
ILAR	Eielson Array	54.72	30	P	P	15 50 03.1	+0.8
	0.3nm,0.7s,baz=218,slow=5.7,SNR=2.6						
ASAR	Alice Springs	55.15	187	P	P	15 50 05.9	0.0
	0.4nm,1.0s,baz=3.1,slow=5.8,SNR=2.2						
NVAR	Mina Array Bea	79.09	52	P	P	15 52 37.1	-1.1
	0.1nm,0.5s,baz=270,slow=0.9,SNR=1.5						
H03N2	Juan Fernandez	146.92	104	T	T	18 44 38.9	
	baz=281,slow=75,SNR=23						
H03N3	Juan Fernandez	146.93	104	T	T	18 44 40.5	
	baz=281,slow=75,SNR=36						
H03N1	Juan Fernandez	146.94	104	T	T	18 44 40.9	
	baz=281,slow=75,SNR=38						

JMA 09 15:42:10.3, 33°.51N×133°.99E, h15km±1km, M0.1, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRT2	Murotomisaki 2	0.18	134	P	Pg	15 42 14.3	-0.3
MRT2				S	Sg	15 42 17.4	-0.1
JKHR	Kochiharuno	0.41	270	eS	Sg	15 42 24.0	-0.2

MEX 09 15:55:50.1±0.4, 14°.17N×92°.92W, h10km, MD3.7, Near coast of Chiapas

INET ***09*** *16:07:32.4, 8°.27N×83°.51W, h16km, ML4.8*
UPA ***09*** *16:07:46.8±0.9, 10°.29N×85°.92W, h37km±98km, MW5.2*
UCR ***09*** *16:07:56.8±1.5, 9°.63N×85°.13W, h17km±2km, mb4.6(NEIC)*
IDC ***09*** *16:07:59.8±0.9, 9°.99N×84°.74W, h41km±6km, mb4.2/16, mb1 4.4/19, mb1mx4.1/40, mbtmp4.4/19, ML3.9/3, MS4.0/22, Ms1 4.0/22, ms1mx3.9/34, Error ellipse: s-maj=21.9km s-min=12.2km az=54.0*
NEIC ***09*** *16:08:01.3±1.8, 9°.99N±0°.08×84°.86W±0°.08, h52km±4km, mb4.6/127, Md4.9(UCR), Error ellipse: s-maj=14.4km s-min=7.9km az=47.0*
GCMT ***09*** *16:08:02.3±0.4, 9°.74N±0°.03×85°.28W±0°.03, h28km, MW4.9/67, Moment Tensor Solution. s41,c53; s67,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.24±.14; $M_{\theta\theta}$-1.72±.10; $M_{\phi\phi}$-0.52±.12; $M_{r\theta}$1.16±.13; $M_{\theta\phi}$0.79±.06; $M_{\phi r}$-0.12±.17; Best double couple: $M_0$2.46700×10^{16} NP1:ϕ_s304.00000°, δ32.00000°, λ104.00000°. NP2: ϕ_s108.00000°, δ59.00000°, λ81.00000°. Principal axes: T 2.5570, Plg74.0000°, Azm354.0000°; N -0.1880, Plg8.0000°, Azm112.0000°; P -2.3760, Plg14.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 16:07:59.0±0.4, 9.74N±0°.04×85°.08W±0°.04, h39km±2km, n286, σ1$32/291, mb4.6/71, MS4.0/21, 1C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAFE	Finca La Fe, P	0.18	69	eP	Pn	16 08 02.0	-5.6
JACO	JACO, Garabito	0.42	101	eP	Pn	16 08 06.0	-2.7
JACO				eS	Sn	16 08 13.4	-2.0
DUNO	Dulce Nombre,	0.53	310	eP	Pn	16 08 07.6	-2.6
DUNO				eS	Sn	16 08 16.9	-1.1
JTS	Las Juntas de	0.56	13	P	Pn	16 08 08.7	-1.9
	2μm,0.3s,baz=151,slow=11,SNR=4057						
JTS				S	Sn	16 08 18.0	-0.9
	3μm,0.3s,baz=90,slow=24,SNR=16						
JTS	Las Juntas de	0.56	13	‖iP	Pn	16 08 08.9	-1.8
JTS				iS	Sn	16 08 16.3	-2.5
JTS	Las Juntas de	0.56	13	eP	Pn	16 08 08.8	-1.9
JTS	Las Juntas de	0.56	13	Pn	Pn	16 08 08.8	-1.8
JTS				Sn	Sn	16 08 17.5	-1.3
GRZA	Playa Garza	0.57	288	eP	Pn	16 08 08.2	-2.6
GRZA				eS	Sn	16 08 16.7	-2.3
PLVR	Palo Verde	0.66	336	eP	Pn	16 08 10.4	-1.7
PLVR				eS	Sn	16 08 21.5	+0.1
GUAI	GUAI	0.67	321	iP	Pn	16 08 10.3	-1.8
GUAI				iS	Sn	16 08 21.8	+0.3
SRA1	San Ramn	0.69	60	eP	Pn	16 08 10.9	-1.6
SRA1				eS	Sn	16 08 23.6	+1.7
ORTG	Ortega, Santa	0.72	329	eP	Pn	16 08 11.3	-1.6
ORTG				eS	Sn	16 08 23.6	+0.9
CASO	Castillo	0.77	26	iP	Pn	16 08 12.7	-0.8
CASO				iS	Sn	16 08 25.0	+1.1
ARE1	Arenal 1	0.80	27	eP	Pn	16 08 13.5	-0.4
ARE1				eS	Sn	16 08 27.1	+2.4
FORC	Fortuna	0.83	29	iP	Pn	16 08 13.7	-0.6
CEDE	Laguna Cedeo	0.83	27	eP	Pn	16 08 14.1	-0.2
CEDE				eS	Sn	16 08 27.6	+2.2
ACAL	Aguas Claras	0.89	3	iP	Pn	16 08 14.5	-0.6
ACAL				iS	Sn	16 08 28.5	+1.6
COLC	Colonia	0.93	353	iP	Pn	16 08 15.0	-0.6
LIM1	Limonal	0.97	350	iP	Pn	16 08 15.6	-0.6
LIM1				iS	Sn	16 08 30.7	+2.0
GUAB	Guayabo de Bag	0.97	351	iP	Pn	16 08 15.6	-0.6
PTEN	Parque Tenorio	0.97	6	iP	Pn	16 08 16.0	-0.2
HDC	Heredia	0.99	75	‖iP	Pn	16 08 16.0	-0.5
HDC	Heredia	0.99	75	eP	Pn	16 08 16.3	-0.3
HDC	Heredia	0.99	75	Pn	Pn	16 08 15.6	-0.9
SJS	Escuela Geolog	1.03	79	eP	Pn	16 08 16.5	-0.7
GPS2	Hotel Rincn d	1.04	345	iP	Pn	16 08 16.8	-0.4
GPS2				iS	Sn	16 08 32.8	+2.2
GPS3	Bodega del ICE	1.04	345	iP	Pn	16 08 16.8	-0.4
GPS3				iS	Sn	16 08 32.9	+2.2
GPS1	Guardaparques	1.06	346	iP	Pn	16 08 17.0	-0.5
GPS1				iS	Sn	16 08 33.1	+2.0
LCR2	La Lucha 2	1.06	90	eP	Pn	16 08 16.4	-1.3
LAPC	Finca la Perla	1.08	341	iP	Pn	16 08 17.1	-0.6
LAPC				iS	Sn	16 08 33.1	+1.7
HZTE	Horizontes, Gu	1.09	332	eP	Pn	16 08 17.7	-0.2
GBS3	Finca Las Img	1.10	340	iP	Pn	16 08 17.4	-0.5
GBS3				iS	Sn	16 08 34.1	+2.2
BUEV	Buena Vista	1.10	343	iP	Pn	16 08 17.7	-0.3
GB1A	Borinquen Arri	1.11	344	eP	Pn	16 08 18.1	-0.2
BUAI	Buenos Aires	1.16	348	iP	Pn	16 08 18.6	-0.2
COVE	Coope Vega, Sa	1.18	34	eP	Pn	16 08 19.5	+0.4
RIMA	Rio Macho	1.20	89	eP	Pn	16 08 18.6	-1.0
EDDO	Dominical	1.30	112	eP	Pn	16 08 18.7	-2.0
CVTR	Volcan Turrial	1.33	78	eP	Pn	16 08 22.0	+0.5
PEZE	Perez Zeledon,	1.43	104	eP	Pn	16 08 21.6	-1.0
EDLM	Las Mercedes	1.54	107	‖eP	Pn	16 08 23.0	-1.1
EDPN	Palmar Norte	1.78	116	eP	Pn	16 08 25.9	-1.4
RIOS	Rincon, Osa	1.86	124	eP	Pn	16 08 26.9	-1.5
DRK0	Durika	1.87	105	eP	Pn	16 08 27.6	-1.1
EDBA	Buenos Aires	1.87	108	eP	Pn	16 08 27.5	-1.1
PTJ1	Puerto Jimnez	2.13	124	eP	Pn	16 08 30.1	-2.0
PIRO	Carate, Puerto	2.18	127	eP	Pn	16 08 32.2	-0.6
ACON	Acoyapa	2.21	358		Pn	16 08 33.5	+0.2
MLIR3	Monte Lirio, C	2.42	113	eP	Pn	16 08 37.6	+1.4
BRU2	Volcan	2.54	112	iP	Pn	16 08 39.2	+1.3
ESPN	Las Esperanzas	2.56	17	Pn	Pn	16 08 38.6	+0.6
BC3P	Paso Ancho	2.61	110	eP	Pn	16 08 38.6	-0.2
LESP3	La Esperanza,	2.62	120	eP	Pn	16 08 40.3	+1.4
BCO2	Palmira	2.72	112	iP	Pn	16 08 41.6	+1.2
BOAB	BOACO BROADBAN	2.75	348		Pn	16 08 40.4	-0.3
PTAR3	Potrerillos Ar	2.76	112	iP	Pn	16 08 43.3	+2.4
BAGA3	Bagala, Chiriq	2.82	116	eP	Pn	16 08 43.0	+1.3
DVD	David	2.90	116	eP	Pn	16 08 44.7	+1.9
PSOM3	Paja de Sombre	2.92	111	eP	Pn	16 08 44.3	+1.2
LOCO3	Loma Colorada,	2.94	116	eP	Pn	16 08 43.9	+0.6
GUAL3	Gualaca, Chiri	3.00	113	eP	Pn	16 08 45.6	+1.5
CHGR2	Aguacate	3.01	105	eP	Pn	16 08 44.6	+0.4
CHIR3	Chiriqui UPA,	3.03	116	eP	Pn	16 08 45.8	+1.3
MATN	Matagalpa	3.27	345	Pn	Pn	16 08 48.2	+0.2
CRIN	San Cristobal	3.52	327	Pn	Pn	16 08 55.8	+4.5
PVID3	Puerto Vidal,	3.82	116	eP	Pn	16 08 56.4	+1.0
CNAZ3	Canazas, Verag	4.07	110	eP	Pn	16 09 02.2	+3.4
SAFE3	Santa Fe, Vera	4.14	107	eP	Pn	16 09 00.9	+1.2
MESA3	La Mesa, Verag	4.16	112	eP	Pn	16 09 01.7	+1.6
RSUS3	Rio de Jesus,	4.25	114	eP	Pn	16 09 02.3	+1.0
GMAL	Guarumal, Vera	4.28	117	iP	Pn	16 09 03.5	+1.8
SFRA3	San Francisco,	4.32	110	eP	Pn	16 09 03.3	+1.0
STIA3	Santiago, Vera	4.38	112	eP	Pn	16 09 02.8	-0.2
CALO3	Calobre, Verag	4.42	108	eP	Pn	16 09 04.5	+0.9
PONU3	Ponuga, Veragu	4.46	114	eP	Pn	16 09 06.6	+2.4
PESE3	Pese, Herrera	4.78	112	eP	Pn	16 09 08.1	-0.5
CACAO	El Cacao, Vera	4.81	119	‖eP	Pn	16 09 09.9	+1.0
VTON	El Valle, Cocl	5.03	102	eP	Pn	16 09 12.8	+0.7
AZU	Azuero	5.13	112	eP	Pn	16 09 15.2	+1.8
TOSI3	Tonosi	5.14	116	eP	Pn	16 09 15.0	+1.5
BCIP	Isla Barro Col	5.21	96	eP	Pn	16 09 14.3	-0.1
BCIP	Isla Barro Col	5.21	96	Pn	Pn	16 09 15.2	+0.8
ZANG	Zanguenga, Cho	5.21	98	eP	Pn	16 09 14.2	-0.3
FRIJ	El Hiral	5.31	95	eP	Pn	16 09 15.9	+0.1
CHOR3	La Chorrera	5.31	99	eP	Pn	16 09 15.9	0.0
ACHO3	Achotines, Los	5.38	115	eP	Pn	16 09 15.7	-1.0
ARRA3	Arraijan, Pana	5.41	98	eP	Pn	16 09 17.3	+0.1
UPA	Univ. de Panam	5.53	97	eP	Pn	16 09 18.7	-0.1
MTO3	Montecristo	6.24	318	Pn	Pn	16 09 33.5	+4.7
APG	El Apazote	7.42	315	P	Pn	16 09 44.9	-0.1
	1.0nm,0.3s,baz=121,slow=19,SNR=1.7						
CCIG	Comitan	9.46	314	Pn	Pn	16 10 16.5	+3.5
ROSC	El Rosal	11.73	114	LR	LR	16 14 44.1	
	comp=Z,786nm,20.1s,baz=254,slow=35						
SDV	Santo Domingo	14.29	92	LR	LR	16 17 53.0	
	comp=Z,853nm,20.6s,baz=266,slow=42						
TLIG	Tlapa	15.23	302	P	P	16 11 39.8	+3.7
ATAH	Atahualpa	18.04	158	P	P	16 12 08.9	+1.5
	0.3nm,0.3s,baz=12,slow=12,SNR=3.8						
PCRV	Puerto La Cruz	20.14	87	P	P	16 12 26.7	-3.5
	1.0nm,0.3s,baz=348,slow=5.8,SNR=2.8						
PCRV				LR	LR	16 22 20.9	
	comp=Z,609nm,19.8s,slow=43						
PLCV	Puerto La Cruz	20.19	87	P	P	16 12 26.7	-3.9
ZAIG	Zacatecas	21.17	310	P	P	16 12 44.1	+2.6
CZSB	Cruzeiro do Su	21.29	144	eP	P	16 12 48.0	+5.6
344A	Westbrook Farm	22.23	347	P	P	16 12 51.7	-0.7
NNA	Nana	23.09	159	LR	LR	16 21 15.3	
	comp=Z,289nm,19.8s,baz=323,slow=34						
Z51A	Franklin	23.46	360	P	P	16 13 04.8	-0.3
Z51A				IAmb	IAmb	16 13 18.7	
	comp=Z,24nm,1.2s						
GOGA	Godfrey	23.60	3	P	P	16 13 06.3	-0.1
GOGA				IAmb	IAmb	16 13 07.8	
	comp=Z,43nm,1.3s						
Y52A	Lilburn	24.03	2	P	P	16 13 09.5	-0.9
Y49A	Blount Mountai	24.03	357	P	P	16 13 09.8	-0.7
Y49A				IAmb	IAmb	16 13 13.2	
	comp=Z,28nm,1.1s						
HODGE	Hodges	24.51	6	P	P	16 13 14.3	-0.5
HODGE				IAmb	IAmb	16 13 16.1	
	comp=Z,36nm,1.3s						
X48A	Hartselle	24.66	356	P	P	16 13 16.1	-0.1
JSC	Jenkinsville	24.68	8	P	P	16 13 16.2	-0.2
FPAL	Fort Paine	24.69	359	P	P	16 13 16.4	-0.1
FPAL				IAmb	IAmb	16 13 25.0	
	comp=Z,21nm,1.3s						
OXF	Oxford	24.97	352	P	P	16 13 18.2	-0.8
SWET	Sewanee	25.37	358	P	P	16 13 21.9	-0.8
SWET				IAmb	IAmb	16 13 35.2	
	comp=Z,16nm,1.1s						
CPCT	Cooper Cave	25.60	1	P	P	16 13 24.4	-0.3
CPCT				IAmb	IAmb	16 13 38.8	
	comp=Z,23nm,1.0s						
UALR	University of	25.79	346	P	P	16 13 25.5	-0.9
TKL	Tuckaleechee C	25.83	2	P	P	16 13 25.7	-1.1
	comp=Z,8.5nm,0.5s,baz=58,slow=6.2,SNR=5.3						
TKL				LR	LR	16 23 54.9	
	comp=Z,396nm,19.4s,baz=217,slow=37						
MIAR	Mount Ida	25.89	344	P	P	16 13 26.4	-0.9
MIAR				IAmb	IAmb	16 13 29.2	
	comp=Z,19nm,1.1s						
V48A	Smith Brothers	25.93	357	P	P	16 13 26.8	-0.9
V48A				IAmb	IAmb	16 13 36.2	
	comp=Z,27nm,1.4s						
TXAR	Lajitas Array	26.13	321	P	P	16 13 29.9	+0.2
	comp=Z,1.6nm,0.9s,baz=140,slow=10,SNR=11						
TXAR				PcP	PcP	16 16 56.3	-0.3
	comp=Z,1.2nm,0.9s,baz=131,slow=3.8,SNR=4.3						
TXAR	Lajitas Array	26.13	321	P	P	16 13 29.3	-0.4
TX31	Lajitas Ar. Si	26.13	321	P	P	16 13 29.4	-0.4
TX31				IAmb	IAmb	16 13 43.7	
	comp=Z,15nm,0.8s						
TX32	Lajitas Array	26.13	321	P	P	16 13 29.4	-0.4
ABTX	Abilene, Hawle	26.45	332	P	P	16 13 31.6	-0.9
ABTX				IAmb	IAmb	16 13 35.3	
	comp=Z,13nm,1.0s						
X37A	Clayton	26.47	341	P	P	16 13 31.7	-0.9
X37A				IAmb	IAmb	16 13 45.6	
	comp=Z,13nm,1.1s						
W39A	Magazine	26.55	344	P	P	16 13 32.3	-1.1
W39A				IAmb	IAmb	16 13 44.3	
	comp=Z,11nm,0.9s						
LCAR	Lake Charles	26.79	349	P	P	16 13 34.5	-0.9
LCAR				IAmb	IAmb	16 13 36.1	
	comp=Z,18nm,1.3s						
MACA	Manacapuru-AM	27.48	117	eP	P	16 13 40.6	-1.3
T42A	Van Buren	27.71	350	P	P	16 13 42.1	-1.5
T42A				IAmb	IAmb	16 13 43.6	
	comp=Z,12nm,1.2s						
LPIG	La Paz	27.97	304	LR	LR	16 25 38.5	
	comp=Z,295nm,18.0s,baz=101,slow=38						
MGMO	Mountain Grove	28.05	348	P	P	16 13 46.0	-0.9
MGMO				IAmb	IAmb	16 13 57.5	
	comp=Z,14nm,1.2s						
Q51A	Peebles	29.20	3	P	P	16 13 56.4	-0.6
KAN10	Anthony SW Sta	29.69	339	P	P	16 14 02.9	+1.5
P52A	Corning	29.88	5	P	P	16 14 02.4	-0.6
319A	Douglas	31.11	317	P	P	16 14 16.4	+2.2
319A				IAmb	IAmb	16 14 37.2	
	comp=Z,12nm,1.1s						
BNM	Barren Site	31.32	324	P	P	16 14 16.5	+0.5
SSPA	Standing Stone	31.42	11	P	P	16 14 15.2	-1.4
SSPA				IAmb	IAmb	16 14 38.3	
	comp=Z,8.7nm,0.8s						
ANMO	Albuquerque	31.79	325	P	P	16 14 20.2	+0.1
	comp=Z,0.2nm,0.8s,baz=315,slow=6.8,SNR=6.9						
ANMO	Albuquerque	31.79	325	P	P	16 14 20.5	+0.3
L42A	Oliver, Polo	32.39	354	P	P	16 14 23.3	-1.7
L42A				IAmb	IAmb	16 14 31.8	
	comp=Z,13nm,1.1s						
ITTB	Itaituba	32.43	114	eP	P	16 14 25.9	+0.2
SDCO	Great Sand Dun	33.40	330	P	P	16 14 34.1	-0.2
MMNY	Mt. Morris Dam	33.46	10	P	P	16 14 32.7	-1.7
W18A	Petrified Fore	33.83	322	P	P	16 14 39.9	+1.9
NPGB	Novo Progresso	33.98	118	eP	P	16 14 39.4	+0.1
S22A	4UR Ranch, Cre	34.08	328	P	P	16 14 40.5	+0.3
S22A				IAmb	IAmb	16 14 41.9	
	comp=Z,9.7nm,1.5s						
J58A	Remsen	34.56	13	P	P	16 14 42.9	-1.1
MVCO	Mesa Verde	34.57	326	P	P	16 14 44.8	+0.3
MVCO				IAmb	IAmb	16 14 45.7	
	comp=Z,16nm,1.4s						
SIV	San Ignacio	34.91	137	LR	LR	16 30 08.3	
	comp=Z,389nm,18.1s,baz=286,slow=38						
113A	Mohawk Valley,	35.00	315	P	P	16 14 50.1	+2.2
113A				IAmb	IAmb	16 14 51.7	
	comp=Z,7.4nm,1.1s						
WUAZ	Wupatki	35.09	321	P	P	16 14 49.8	+0.9
WUAZ				IAmb	IAmb	16 14 52.0	
	comp=Z,13nm,1.1s						
SADO	Sadowa	35.28	7	P	P	16 14 47.8	-2.3
	comp=Z,6.4nm,0.3s,baz=101,slow=2.2,SNR=3.2						
SADO	Sadowa	35.28	7	P	P	16 14 48.2	-1.8
PV02	Paradox Valley	35.43	327	P	P	16 14 52.1	+0.4
PV02				IAmb	IAmb	16 14 53.8	
	comp=Z,13nm,1.3s						
PV13	Radium Mtn., P	35.44	327	P	P	16 14 51.5	-0.3
PV13				IAmb	IAmb	16 14 53.0	
	comp=Z,10nm,1.3s						
PV

comp=Z,12nm,1.1s
TPH Tonopah 40.36 320 P **P 16 15 34.3 +0.9**
TPAW Teton Pass 40.46 331 P **P 16 15 33.8 -0.4**
FLWY Flagg Ranch 40.79 332 P **P 16 15 36.2 -0.7**
ELK Elko 40.81 324 P **P 16 15 37.2 +0.1**
NV11 Mina Array Sit 41.17 319 P **P 16 15 41.2 +1.3**
NV11 IAmb IAmb 16 15 43.2
comp=Z,13nm,1.1s
OMMB Old Mammoth Mi 41.26 318 P **P 16 15 42.1 +1.2**
NVAR Mina Array Bea 41.26 319 P **P 16 15 42.4 +1.5**
comp=Z,6.6nm,0.9s,baz=134,slow=7.1,SNR=33
NVAR PcP **PcP 16 17 40.2 +1.0**
comp=Z,1.5nm,0.9s,baz=119,slow=2.6,SNR=4.9
NVAR Mina Array Bea 41.26 319 P **P 16 15 41.7 +0.9**
NVAR **PcP 16 17 40.6 +1.4**
LHV Little Huntoon 41.29 319 P **P 16 15 42.6 +1.8**
LHV IAmb IAmb 16 15 52.1
comp=Z,9.1nm,1.1s
MDPB Devils Postpil 41.32 318 P **P 16 15 42.9 +1.6**
MDPB IAmb IAmb 16 15 45.0
comp=Z,10.0nm,1.2s
ULM Lac du Bonnet 41.36 350 P **P 16 15 40.4 -0.8**
comp=Z,4.3nm,0.6s,baz=153,slow=4.5,SNR=2.5
ULM LR LR 16 34 46.7
comp=Z,174nm,19.0s,baz=186,slow=39
ULM Lac du Bonnet 41.36 350 IAmb IAmb 16 15 40.8
comp=Z,9.0nm,0.9s
YHH Holmes Hill 41.40 332 P **P 16 15 41.6 -0.4**
KVN Kaiserville 41.49 320 P **P 16 15 43.5 +0.8**
RYN Ryan 41.51 319 P **P 16 15 44.3 +1.5**
SMTB Santa Maria do 41.65 115 *eP* **P 16 15 43.7 -0.4**
WAKR Walker 42.04 319 P **P 16 15 49.1 +1.9**
HLID Hailey 42.26 328 P **P 16 15 48.3 -0.5**
BOZ Bozeman (W) 42.37 332 P **P 16 15 48.9 -0.8**
MCMT McKenzie Canyo 42.37 331 P **P 16 15 49.6 -0.2**
CMB Columbia Colle 42.41 317 P **P 16 15 51.6 +1.6**
PNTR Pine Nut 42.47 319 P **P 16 15 52.2 +1.4**
PNTR IAmb IAmb 16 16 08.2
comp=Z,8.2nm,0.8s
SAO San Andreas Ge 42.47 315 P **P 16 15 52.3 +1.8**
SAO IAmb IAmb 16 15 53.1
comp=Z,15nm,1.4s
DLMT Dillon 42.64 331 P **P 16 15 52.0 0.0**
LRM Limekiln Ridge 42.92 332 P **P 16 15 54.0 -0.3**
H03N2 Juan Fernandez 43.34 172 T T 17 01 59.3
baz=351,slow=76,SNR=88
H03N1 Juan Fernandez 43.34 172 T T 17 02 00.3
baz=351,slow=76,SNR=137
H03N3 Juan Fernandez 43.35 172 T T 17 01 59.1
baz=351,slow=76,SNR=82
WVOR Wild Horse Val 43.85 324 P **P 16 16 01.3 -0.4**
WVOR IAmb IAmb 16 16 03.3
comp=Z,11nm,0.8s
ORV Oroville 43.95 319 P **P 16 16 03.9 +1.4**
J08A Circle Bar Ran 44.33 325 P **P 16 16 05.8 +0.2**
MOD Modoc Plateau 44.52 322 P **P 16 16 07.0 -0.2**
MOD IAmb IAmb 16 16 08.2
comp=Z,12nm,1.5s
BDFB Brasilia 44.54 124 P **P 16 16 08.1 +0.6**
comp=Z,4.0nm,0.7s,baz=315,slow=3.9,SNR=4.4
BDFB Brasilia 44.54 124 P **P 16 16 07.6 +0.1**
BDFB IAmb IAmb 16 16 10.5
comp=Z,9.2nm,1.1s
ROC1 El Roble 44.55 163 P P 16 16 12.9 +5.4
BMO Blue Mountains 44.66 327 P **P 16 16 06.8 -1.3**
CPUP Villa Florida 44.87 144 LR LR 16 37 04.0
comp=Z,69nm,18.7s,baz=22,slow=39
I07A Izee 45.37 325 P **P 16 16 13.5 -0.3**
IPMB Ipameri, GO 45.66 127 *eP* **P 16 16 16.6 +0.3**
PINE Pine Mountain 46.01 324 P **P 16 16 19.0 0.0**
PINE IAmb IAmb 16 16 20.0
comp=Z,9.0nm,1.1s
SCHQ Schefferville 47.25 14 P **P 16 16 25.9 -2.3**
comp=Z,5.2nm,0.3s,baz=207,slow=6.4,SNR=12
SCHQ LR LR 16 37 05.9
comp=Z,443nm,18.2s,baz=242,slow=37
SCHQ Schefferville 47.25 14 P **P 16 16 25.8 -2.5**
H04A Detroit Lake 47.26 324 P **P 16 16 28.9 +0.3**
H04A IAmb IAmb 16 16 29.5
comp=Z,5.5nm,0.6s
KEBM Edson Butte 47.54 321 P **P 16 16 32.1 +1.4**
VAO Valinhos 49.51 132 *eP* **P 16 16 46.7 +0.5**
VAS01 Vassouras-RJ 51.76 128 *eP* **P 16 17 04.3 +1.2**
PLCA Paso Flores 51.98 166 P **P 16 17 06.7 +2.1**
comp=Z,11nm,1.0s,baz=350,slow=8.9,SNR=7.7
PLCA LR LR 16 34 10.3
comp=Z,70nm,19.6s,baz=177,slow=30
PLCA Paso Flores 51.98 166 P P 16 17 11.1 +6.5
RIB01 Linhares ES 52.66 123 *eP* **P 16 17 11.1 +1.2**
DLBC Dease Lake 59.34 334 P **P 16 17 56.4 -0.7**
comp=Z,1.2nm,0.3s,baz=128,slow=12,SNR=2.6
DLBC Dease Lake 59.34 334 IAmb IAmb 16 17 58.9
comp=Z,5.1nm,1.2s
RES Resolute Bay 65.15 357 LR LR 16 50 46.2
comp=Z,111nm,18.8s,baz=146,slow=40
USHA Ushuaia 65.84 170 P **P 16 18 42.2 +1.9**
comp=Z,9.8nm,0.5s,baz=67,slow=1.4,SNR=1.3
ILAR Eielson Array 69.42 336 P **P 16 19 02.0 -0.8**
comp=Z,0.6nm,0.7s,baz=105,slow=3.7,SNR=7.5
ILAR PKKP **PKKPdf 16 38 55.3 -0.8**
comp=Z,0.3nm,0.5s,baz=266,slow=27,SNR=2.8
ILAR LR LR 16 53 03.3
comp=Z,104nm,19.4s,baz=125,slow=39
ILAR Eielson Array 69.42 336 P **P 16 19 01.3 -1.6**
RND Reindeer 69.75 335 P **P 16 19 06.5 +1.5**
RND IAmb IAmb 16 19 07.8
comp=Z,11nm,1.2s
ESDC Sonseca Array 77.04 51 P **P 16 19 46.1 -2.3**
comp=Z,1.7nm,0.7s,baz=280,slow=5.6,SNR=10
ESDC LR LR 16 48 22.8
comp=Z,162nm,21.3s,baz=270,slow=32
ESDC Sonseca Array 77.04 51 P **P 16 19 46.8 -1.6**
TIC Toumodi 79.14 85 *eP* **P 16 20 00.4 -0.1**
LIC Lamto 79.20 85 *eP* **P 16 20 01.0 +0.2**
comp=Z,21nm,0.6s
DBIC Dimbokro 79.30 85 P **P 16 19 59.7 -1.6**
comp=Z,13nm,1.1s,baz=274,slow=3.9,SNR=6.4
DBIC LR LR 16 53 40.3
comp=Z,54nm,21.0s,baz=250,slow=35
DBIC Dimbokro 79.30 85 P **P 16 20 01.1 -0.2**
KIC Kosan Boka 79.46 85 *eP* **P 16 20 02.4 +0.2**
comp=Z,38nm,1.5s
NOA NORSAR Array B 84.59 29 LR LR 16 58 13.0
comp=Z,52nm,18.1s,baz=280,slow=36
TOA0 Torodi Ar. Sit 84.72 78 P **P 16 20 28.9 -0.9**
TOA0 IAmb IAmb 16 20 30.3
comp=Z,9.5nm,1.2s
TORD Torodi Ar. Bea 84.72 78 P **P 16 20 28.9 -0.9**
comp=Z,3.7nm,1.0s,baz=297,slow=5.3,SNR=14
TORD Torodi Ar. Bea 84.72 78 P **P 16 20 28.2 -1.6**
KEST Kesra 87.95 54 LR LR 17 00 30.0
comp=Z,36nm,18.2s,baz=238,slow=36
GERES GERESS Array B 88.47 41 LR LR 16 56 48.7
comp=Z,142nm,19.4s,baz=272,slow=33
FINES FINESS Array B 91.35 27 LR LR 17 02 48.3
comp=Z,53nm,18.2s,baz=273,slow=36
AKASG Malin Array Be 97.37 36 LR LR 17 05 35.6
comp=Z,87nm,18.3s,baz=325,slow=36
PETK Petropavlovsk- 97.92 327 LR LR 17 09 54.8
comp=Z,21nm,18.0s,baz=74,slow=38
ZALV Zalesovo Beam 115.98 7 PKP **PKiKP 16 26 37.7 -0.1**
comp=Z,0.3nm,0.3s,baz=12,slow=7.4,SNR=2.0
USRK Ussuriysk Ar. 116.67 331 PKP **PKPdf 16 26 39.5 +0.1**
comp=Z,1.4nm,0.7s,baz=134,slow=2.3,SNR=2.9
SONM Songino Array 121.78 351 PKP **PKPdf 16 26 49.4 +0.1**
comp=Z,0.4nm,0.3s,baz=11,slow=1.5,SNR=2.7
MKAR Makanchi Array 122.60 10 PKP **PKPdf 16 26 49.0 -1.8**
comp=Z,0.5nm,0.8s,baz=59,slow=0.7,SNR=3.8
KSRS Korea Array 123.79 329 PKP **PKiKP 16 26 54.1 +0.6**
comp=Z,2.0nm,0.9s,baz=39,slow=1.7,SNR=9.2
KSH Kashi 127.93 19 PKP **PKPdf 16 26 59.9 -1.4**
KSH PKS **PKSdf 16 30 39.9 +1.9**
GTA Gaotai 130.89 355 ⇑PKP **PKPdf 16 27 07.0 0.0**
GTA sPKP 16 27 33.2
GTA LR LR
comp=N,95nm,18.4s
GTA LR LR
comp=E,71nm,18.7s
GTA LR LR
comp=Z,120nm,20.9s
ASAR Alice Springs 140.32 245 PKhKP PKPpre 16 27 20.9
comp=Z,0.2nm,0.6s,baz=108,slow=2.9,SNR=3.7
ASAR PKP **PKPdf 16 27 24.9 +0.2**
comp=Z,0.8nm,0.9s,baz=117,slow=2.1,SNR=5.5
WRA Warramunga Arr 140.66 250 PKP **PKPdf 16 27 25.1 -0.3**
comp=Z,1.5nm,0.9s,baz=80,slow=0.8,SNR=8.3
WRA Warramunga Arr 140.66 250 **PKPdf 16 27 25.4 -0.1**
FITZ Fitzroy Crossi 149.08 251 PKPbc **PKPbc 16 27 44.1 0.0**
comp=Z,6.2nm,1.2s,baz=108,slow=3.2,SNR=3.4
CMAR Chiang Mai Arr 151.70 352 PKP **PKPdf 16 27 45.1 +1.1**
comp=Z,0.8nm,0.4s,baz=300,slow=2.4,SNR=8.4
CMAR PKPbc **PKiKP 16 27 51.7 +0.9**
comp=Z,3.0nm,0.7s,baz=339,slow=2.6,SNR=16
CMAR Chiang Mai Arr 151.70 352 **PKPdf 16 27 43.3 -0.8**
CMAR **PKPbc 16 27 50.4 0.0**

*ANF **09** 16:08:29.7±0.1, 33°.75N×116°.12W, h15km, ML3.4/34,*
Error ellipse: s-maj=1.0km s-min=0.9km az=128.0
*PAS **09** 16:08:31.0±1.3, 33°.780N±0°.009×116°.12W±0°.01,*
h6km±3km, ML3.3/203, Error ellipse: s-maj=1.4km
s-min=1.3km az=210.0
*SCEDC **09** 16:08:31.0, 33°.78N×116°.12W, h6km*
ISC 09 16:08:30.7±0.8, 33°.76N±0°.01×116°.12W±0°.01, h16km±5km,
n155, σ0°85/220, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCC	**Cactus City**	**0.15**	**135**		**Pg**	**16 08 34.5**	**-0.3**
CTCC					**Sg**	**16 08 37.2**	**-0.3**
CTW	**Cottonwood Mou**	**0.22**	**112**		**Pg**	**16 08 35.8**	**-0.1**
CTW					**Sg**	**16 08 39.2**	**-0.1**
PMD	**Palm Desert**	**0.24**	**243**		**Pg**	**16 08 35.8**	**-0.4**
PMD					**Sg**	**16 08 39.4**	**-0.5**
BELC	**Belle Mtn. Jos**	**0.26**	**22**	P	**Pg**	**16 08 35.7**	**-0.9**
	baz=204,SNR=1000						
BELC				S	**Sg**	**16 08 39.2**	**-1.3**
	baz=204						
EW2	**E Wide Canyon**	**0.30**	**307**		**Pg**	**16 08 36.6**	**-0.5**
EW2					**Sg**	**16 08 41.1**	**-0.5**
XPFO	**Pion Flat**	**0.32**	**242**		**Pg**	**16 08 37.2**	**-0.3**
XPFO					**Sg**	**16 08 41.6**	**-0.6**
PFO	**Pinyon Flats O**	**0.32**	**243**	P	**Pg**	**16 08 37.1**	**-0.4**
	baz=59,SNR=272						
PFO				S	**Sg**	**16 08 41.6**	**-0.6**
	baz=59						
PFO	**Pinyon Flats O**	**0.32**	**243**		**Pg**	**16 08 37.0**	**-0.6**
TPC	**Twentynine Pal**	**0.35**	**9**		**Pg**	**16 08 37.2**	**-0.8**
HAY	**Hayfield**	**0.36**	**98**		**Pg**	**16 08 38.8**	**+0.5**
HAY					**Sb**	**16 08 44.4**	**+0.1**
BLAC	**Blackrock camp**	**0.38**	**324**		**Pg**	**16 08 38.1**	**-0.6**
BLAC					**Sg**	**16 08 43.4**	**-0.7**
DEVC	**Devers**	**0.42**	**295**		**Pg**	**16 08 39.0**	**-0.3**
DEVC					**Sg**	**16 08 44.9**	**-0.2**
SNDA	**J Saunders Pla**	**0.46**	**243**		**Pg**	**16 08 39.9**	**-0.2**
SNDA					**Sg**	**16 08 46.2**	**-0.1**
DNR	**Dunn Ranch,Anz**	**0.47**	**246**		**Pg**	**16 08 40.0**	**-0.2**
DNR					**Sg**	**16 08 46.9**	**+0.3**
GVDA	**Garner Valley**	**0.47**	**259**		**Pg**	**16 08 39.8**	**-0.4**
GVDA					**Sg**	**16 08 46.1**	**-0.5**
FRD	**Ford Ranch, An**	**0.48**	**237**		**Pg**	**16 08 40.3**	**-0.2**
FRD					**Sg**	**16 08 47.0**	**0.0**
FRD	**Ford Ranch, An**	**0.48**	**237**		**Pg**	**16 08 40.2**	**-0.2**
FRD					**Sg**	**16 08 46.9**	**-0.1**
SALN	**Salton City**	**0.49**	**167**		**Pg**	**16 08 41.0**	**+0.5**
BZNA	**Buzz No.'s Pla**	**0.53**	**240**		**Pg**	**16 08 41.2**	**-0.1**
BZNA					**Sg**	**16 08 48.6**	**+0.1**
FRK	**Frink**	**0.54**	**132**		**Pg**	**16 08 41.3**	**0.0**
BORC	**Borrego Spring**	**0.55**	**207**		**Pg**	**16 08 41.7**	**0.0**
CRY	**Cary Ranch**	**0.55**	**250**		**Pg**	**16 08 41.5**	**-0.2**
CRY					**Sg**	**16 08 49.1**	**-0.1**
BC3	**Big Chuckawall**	**0.56**	**101**	P	**Pg**	**16 08 41.9**	**0.0**
	baz=283,SNR=554						
BC3				S	**Sg**	**16 08 49.3**	**-0.2**
	baz=283						
BC3	**Big Chuckawall**	**0.56**	**101**		**Pg**	**16 08 42.0**	**0.0**
GTM	**Goat Mountain**	**0.57**	**340**		**Pg**	**16 08 41.4**	**-0.6**
GTM					**Sg**	**16 08 48.7**	**-0.9**
SLH	**Sleepy Hollow**	**0.58**	**191**		**Pg**	**16 08 42.3**	**+0.2**
POB	**Polly Butte**	**0.68**	**264**		**Pg**	**16 08 43.6**	**-0.4**
POB					**Sg**	**16 08 52.7**	**-0.3**
ERRC	**Elmore Ranch**	**0.69**	**159**		**Pg**	**16 08 44.9**	**+0.8**
MATG	**Mataguay Scout**	**0.71**	**218**		**Pg**	**16 08 44.6**	**-0.1**
MATG					**Sg**	**16 08 54.2**	**+0.1**
HMTC	**Hemet**	**0.74**	**266**		**Pg**	**16 08 44.7**	**-0.5**
HMTC					**Sg**	**16 08 54.2**	**-0.8**
PLM	**Palomar**	**0.74**	**237**		**Pg**	**16 08 45.1**	**-0.2**
PLM					**Sg**	**16 08 55.2**	**+0.1**
BACC	**Bachelor Mtn.**	**0.78**	**259**		**Pg**	**16 08 45.4**	**-0.6**
BACC					**Sg**	**16 08 55.8**	**-0.6**
SIL	**Silver Peak**	**0.83**	**315**		**Pg**	**16 08 46.1**	**-0.9**
BBRC	**Big Bear Solar**	**0.83**	**307**	P	**Pg**	**16 08 46.1**	**-0.9**
	baz=126,SNR=16						
BBRC				S	**Sg**	**16 08 57.7**	**-0.4**
	baz=126						
BBRC	**Big Bear Solar**	**0.83**	**307**		**Pg**	**16 08 46.1**	**-0.9**
SUP	**Superstition M**	**0.84**	**163**		**Pg**	**16 08 46.5**	**-0.6**
SUP					**Sg**	**16 08 58.1**	**0.0**
WEMD	**Westmorland, C**	**0.85**	**148**		**Pg**	**16 08 47.4**	**+0.2**
WEMD					**Sg**	**16 08 57.4**	**-1.0**
SWSC	**Sam W. Stewart**	**0.85**	**162**	P	**Pg**	**16 08 46.6**	**-0.7**
	baz=342,SNR=44						
SWSC				S	**Sg**	**16 08 58.3**	**-0.3**
	baz=342						
SWSC	**Sam W. Stewart**	**0.85**	**162**		**Pg**	**16 08 46.6**	**-0.7**
SWSC					**Sg**	**16 08 58.4**	**-0.3**
CBKC	**Canebrake**	**0.87**	**188**		**Pg**	**16 08 47.2**	**-0.3**
CFT	**Crafton Hills**	**0.87**	**289**		**Pg**	**16 08 47.0**	**-0.6**
CFT					**Sg**	**16 08 59.0**	**-0.1**
PEC	**Perris**	**0.88**	**279**		**Pg**	**16 08 47.0**	**-0.8**
PEC					**Sg**	**16 08 58.1**	**-1.3**
CRR	**Carrizo Plain**	**0.88**	**172**		**Pg**	**16 08 47.3**	**-0.5**
CRR					**Sg**	**16 08 59.6**	**+0.2**
SVD	**Seven Oaks Dam**	**0.89**	**293**		**Pg**	**16 08 46.9**	**-1.0**
SVD					**Sg**	**16 08 59.1**	**-0.5**
BTL	**Butler Peak**	**0.89**	**304**		**Pg**	**16 08 47.3**	**-0.7**
IRM	**Iron Mountain**	**0.90**	**64**	P	**Pg**	**16 08 47.5**	**-0.7**
	baz=245,SNR=280						
IRM				S	**Sg**	**16 08 59.3**	**-0.8**
	baz=245						
IRM	**Iron Mountain**	**0.90**	**64**		**Pg**	**16 08 47.5**	**-0.7**
IRM					**Sg**	**16 08 59.2**	**-0.8**
MONP2	**Monument Peak**	**0.90**	**197**	P	**Pg**	**16 08 48.2**	**-0.1**
	baz=16,SNR=172						
MONP2	**Monument Peak**	**0.90**	**197**		**Pg**	**16 08 48.2**	**-0.1**
MURC	**Murrieta**	**0.91**	**260**	P	**Pg**	**16 08 47.7**	**-0.7**
	baz=78,SNR=58						
MURC				S	**Sg**	**16 08 59.6**	**-0.9**
	baz=78						
MURC	**Murrieta**	**0.91**	**260**		**Pg**	**16 08 47.7**	**-0.7**
MURC					**Sg**	**16 08 59.5**	**-0.9**
COK2	**Cook Ranch 2**	**0.96**	**160**		**Pg**	**16 08 48.5**	**-0.9**
COK2					**Sg**	**16 09 02.2**	**+0.2**
HWB	**Hans Werner Br**	**1.02**	**224**		**Pg**	**16 08 49.8**	**-0.6**
HWB					**Sg**	**16 09 03.3**	**-0.4**
DPP	**Dos Picos Cty**	**1.03**	**222**		**Pg**	**16 08 49.9**	**-0.7**
DPP					**Sg**	**16 09 03.5**	**-0.6**
CFSC	**Central Fire S**	**1.03**	**290**		**Sb**	**16 09 04.2**	**+0.9**
RSBC	**Riverside Bore**	**1.03**	**282**		**Pg**	**16 08 49.6**	**-1.0**
RSBC					**Sg**	**16 09 02.7**	**-1.4**
SME	**Santa Rosa Min**	**1.03**	**274**		**Pg**	**16 08 49.5**	**-1.2**
SME					**Sg**	**16 09 02.6**	**-1.6**
DANC	**Danby, Needles**	**1.07**	**35**		**Pg**	**16 08 50.6**	**-0.8**
DANC					**Sg**	**16 09 04.8**	**-0.6**
RVR	**Riverside**	**1.07**	**283**		**Pg**	**16 08 50.2**	**-1.2**
RVR					**Sg**	**16 09 04.2**	**-1.3**
HEC	**Hector,Ludlow**	**1.08**	**350**	P	**Pg**	**16 08 50.7**	**-1.0**
	baz=170,SNR=70						
HEC				S	**Sg**	**16 09 05.0**	**-0.9**
	baz=170						
HEC	**Hector,Ludlow**	**1.08**	**350**		**Pg**	**16 08 50.5**	**-1.1**
HEC					**Sg**	**16 09 05.0**	**-0.9**
GMRC	**Granite Mounta**	**1.09**	**20**	P	**Pg**	**16 08 50.7**	**-1.2**
	baz=201,SNR=417						
GMRC				S	**Sg**	**16 09 05.3**	**-0.8**
	baz=201						
GMRC	**Granite Mounta**	**1.09**	**20**		**Pg**	**16 08 50.7**	**-1.2**
ELS	**Elsinore Mount**	**1.10**	**264**		**Pg**	**16 08 50.8**	**-1.1**
ELS					**Sg**	**16 09 05.0**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**1.11**	**180**	P	**Pb**	**16 08 50.7**	**-0.8**
	baz=360,SNR=19						
IKP				S	**Sg**	**16 09 04.9**	**-1.7**
	baz=360						
IKP	**In-Ko-Pah, Jac**	**1.11**	**180**		**Pb**	**16 08 50.7**	**-0.8**
IKP					**Sg**	**16 09 05.0**	**-1.7**
GORC	**Green Oak Ranc**	**1.11**	**237**		**Pb**	**16 08 51.0**	**-0.5**
GORC					**Sg**	**16 09 05.5**	**-1.2**
YUH	**Yuha Desert**	**1.12**	**172**		**Pb**	**16 08 50.5**	**-1.2**
RMX	**La Rumorosa**	**1.16**	**178**		**Pb**	**16 08 52.2**	**-0.1**
CSP	**Cedar Springs**	**1.16**	**298**		**Pb**	**16 08 51.9**	**-0.5**
BAR	**Barrett**	**1.17**	**203**		**Sb**	**16 09 08.0**	**+0.5**
BAR	**Barrett**	**1.17**	**203**	Pg	**Pb**	**16 08 51.8**	**-0.8**
BAR					**Pn**	**16 08 52.0**	**-0.5**
109C	**Camp Elliot, M**	**1.20**	**224**	Pg	**Pn**	**16 08 52.8**	**+0.1**
	baz=42,SNR=16						
109C				S	**Sb**	**16 09 08.3**	**+0.1**
	baz=42						
109C	**Camp Elliot, M**	**1.20**	**224**	Pg	**Pn**	**16 08 52.7**	**0.0**
CPE	**Camp Elliot**	**1.20**	**224**		**Pn**	**16 08 52.6**	**-0.1**
CPE					**Sb**	**16 09 08.3**	**+0.1**
COA	**Coachella**	**1.22**	**137**		**Pn**	**16 08 52.0**	**-1.1**
SS2	**San Sevaine**	**1.23**	**292**		**Pn**	**16 08 53.3**	**+0.1**
SDRC	**San Diego Road**	**1.23**	**214**		**Pn**	**16 08 53.0**	**-0.2**
SDRC					**Sb**	**16 09 09.6**	**+0.3**
RUN	**Ruthven**	**1.24**	**129**		**Pn**	**16 08 54.6**	**+1.3**
TKX	**Tecate**	**1.26**	**199**		**Pn**	**16 08 52.9**	**-0.8**
UABX	**UABC, Campus M**	**1.26**	**153**	Pn	**Pn**	**16 08 54.9**	**+1.3**
VTV	**Victorville**	**1.28**	**309**		**Sb**	**16 09 11.0**	**+0.2**
GLA	**Glamis**	**1.29**	**123**	P	**Pn**	**16 08 53.1**	**-0.9**
	baz=304,SNR=121						
GLA	**Glamis**	**1.29**	**123**		**Pn**	**16 08 53.5**	**-0.6**
GLA	**Glamis**	**1.29**	**123**	Pn	**Pn**	**16 08 53.2**	**-0.9**
RRX	**Edison Barstow**	**1.33**	**327**	Pb	**Pn**	**16 08 54.6**	**0.0**
	baz=146,SNR=13						
RRX				Sb	**Sn**	**16 09 12.9**	**+1.0**
	baz=146						
RRX	**Edison Barstow**	**1.33**	**327**		**Pn**	**16 08 55.4**	**+0.8**
OLP	**Otay Lakes Par**	**1.34**	**211**		**Pn**	**16 08 54.8**	**+0.2**
OLP					**Sb**	**16 09 12.9**	**+0.7**
ALV	**Alvord Mountai**	**1.36**	**342**		**Pb**	**16 08 56.4**	**+0.5**
BFSC	**Mount Baldy Ra**	**1.37**	**291**	Pb	**Pn**	**16 08 55.4**	**+0.2**
	baz=109,SNR=137						
BFSC				Sb	**Sb**	**16 09 13.3**	**0.0**
	baz=109						
BFSC	**Mount Baldy Ra**	**1.37**	**291**		**Pn**	**16 08 55.4**	**+0.2**
SSK	**Sunset Peak**	**1.38**	**289**		**Pn**	**16 08 56.0**	**+0.5**
PSRC	**Puddingstone R**	**1.44**	**284**		**Pn**	**16 08 56.8**	**+0.6**
CPBX	**Cerro Prieto**	**1.50**	**153**	Pn	**Pn**	**16 08 58.3**	**+1.4**
PEM	**Pine Mountain**	**1.51**	**286**		**Pn**	**16 08 58.1**	**+1.1**
XTL	**Crystal Lake,**	**1.54**	**291**		**Pn**	**16 08 58.6**	**+0.9**
HOLC	**Holcomb Ridge**	**1.59**	**296**		**Pn**	**16 08 59.6**	**+1.3**
HYS	**Haystack Butte**	**1.63**	**313**		**Pn**	**16 09 00.1**	**+1.3**
GSC	**Goldstone, Bar**	**1.64**	**340**	P	**Pn**	**16 08 58.7**	**-0.2**
	baz=159,SNR=50						
GSC				Sb	**Sb**	**16 09 22.1**	**+1.1**
	baz=159						
GSC	**Goldstone, Bar**	**1.64**	**340**	Pn	**Pn**	**16 08 58.5**	**-0.5**
JNH	**Juniper Hills**	**1.67**	**295**		**Pn**	**16 09 00.9**	**+1.5**
MWC	**Mount Wilson**	**1.68**	**287**		**Pn**	**16 09 00.4**	**+0.9**
TUQ	**Turquoise Moun**	**1.68**	**5**	P	**Pn**	**16 08 59.4**	**-0.1**
	baz=186,SNR=27						
TUQ				Sb	**Sb**	**16 09 23.4**	**+1.2**
	baz=186						
TUQ	**Turquoise Moun**	**1.68**	**5**		**Pb**	**16 09 01.9**	**+0.6**
CHFC	**Chilao Flat St**	**1.68**	**290**		**Pn**	**16 09 00.9**	**+1.3**
PDMCI	**Parker Dam,Lak**	**1.73**	**71**	Sb	**Sb**	**16 09 24.4**	**+0.9**
	baz=253						
ESJX	**Sierra Juarez**	**1.76**	**175**		**Pn**	**16 08 59.5**	**-1.1**
LRRC	**Littlerock Res**	**1.76**	**296**		**Pb**	**16 09 03.1**	**+0.6**
PASC	**Pasadena Art C**	**1.77**	**284**		**Pn**	**16 09 01.8**	**+1.2**
MTPC	**Mountain Pass**	**1.78**	**15**		**Pn**	**16 08 59.4**	**-1.5**
FMP	**Fort Macarthur**	**1.81**	**269**	Sb	**Sb**	**16 09 26.5**	**+0.6**
	baz=87						
DECC	**Green Verdugo**	**1.91**	**286**	Pb	**Pb**	**16 09 04.8**	**-0.2**
	baz=104						
DECC				Sb	**Sb**	**16 09 29.3**	**+0.6**
	baz=104						
DECC	**Green Verdugo**	**1.91**	**286**		**Pb**	**16 09 05.0**	**0.0**
EDW2	**Edwards Air Fo**	**1.91**	**306**	P	**Pn**	**16 09 01.9**	**-0.8**
	baz=125						
EDW2				Sb	**Sb**	**16 09 29.8**	**+0.9**
	baz=125						
EDW2	**Edwards Air Fo**	**1.91**	**306**		**Pb**	**16 09 05.5**	**+0.2**
CCX	**Cicese**	**1.94**	**194**	Pn	**Pn**	**16 09 02.0**	**-1.0**
CIS	**Catalina Islan**	**1.95**	**260**	Pb	**Pb**	**16 09 05.7**	**-0.1**
	baz=78						
CIS				Sb	**Sb**	**16 09 30.3**	**+0.4**
	baz=78						
SHOC	**Shoshone, Teco**	**2.14**	**357**	P	**Pn**	**16 09 05.4**	**-0.3**
	baz=176						
SHOC				Sb	**Sb**	**16 09 37.4**	**+2.1**
	baz=176						
LRMC	**Laurel Mtn Rad**	**2.15**	**323**	P	**Pn**	**16 09 05.6**	**-0.4**
	baz=142,SNR=24						
BLCC	**Black Canyon**	**2.18**	**284**		**Pb**	**16 09 09.9**	**+0.2**
SCI2	**San Clemente I**	**2.18**	**250**	Sb	**Sb**	**16 09 37.7**	**+1.3**
	baz=68						
113A	**Mohawk Valley,**	**2.20**	**116**	Pn	**Pn**	**16 09 05.7**	**-0.9**
W13A	**Hualapai Mount**	**2.28**	**53**	Pn	**Pn**	**16 09 07.4**	**-0.4**
QSM	**Queen of Sheba**	**2.28**	**345**		**Pn**	**16 09 07.7**	**0.0**
OSI	**Osito Audit: C**	**2.32**	**292**	Sb	**Sb**	**16 09 42.6**	**+2.0**
	baz=110						
MPMC	**Manual Prospec**	**2.55**	**334**	P	**Pn**	**16 09 11.5**	**-0.1**
	baz=153,SNR=16						
MPMC				Sb	**Sb**	**16 09 49.9**	**+2.4**
	baz=153						
ARVC	**Arvin**	**2.62**	**302**	Sb	**Sb**	**16 09 51.6**	**+2.3**
	baz=120						
ISA	**Isabella, Lake**	**2.71**	**315**	Pg	**Pg**	**16 09 21.1**	**-1.6**
	baz=134,SNR=41						
ISA	**Isabella, Lake**	**2.71**	**315**		**Pn**	**16 09 15.1**	**+1.4**
SPX	**San Pedro Mart**	**2.77**	**168**	Pn	**Pn**	**16 09 14.2**	**-0.5**
SHPR	**Sheep Range**	**2.85**	**16**		**Pn**	**16 09 15.7**	**+0.1**
TPNV	**Topopah Spring**	**3.18**	**358**	P	**Pn**	**16 09 20.9**	**+0.7**
	baz=178						
TPNV	**Topopah Spring**	**3.18**	**358**	Pn	**Pn**	**16 09 20.4**	**+0.2**
PKM	**Mcpherson Peak**	**3.26**	**291**	Pb	**Pb**	**16 09 29.0**	**+0.8**
	baz=109						
214A	**Organ Pipe Nat**	**3.31**	**122**	P	**Pn**	**16 09 21.8**	**-0.1**
	baz=304						
214A	**Organ Pipe Nat**	**3.31**	**122**	Pn	**Pn**

comp=N,109nm,0.3s
LMGC **Las Mercedes** 1.11 277 *e*P Pn 16 32 13.9 -2.7
LMGC *e*S Sb 16 32 27.6 -3.2
LMGC IAML 16 32 29.5
comp=N,98nm,0.1s
LMGC IAML 16 32 30.9
comp=E,56nm,0.1s

ISK ***09*** *16:37:13.3, 33°.70N×34°.44E, h72km, ML3.2/22*
NIC ***09*** *16:37:15.1±0.0, 33°.72N×34°.49E, h43km±34km, Ml3.1/5*
GRAL ***09*** *16:37:15.8±0.7, 33°.74N×34°.51E, h21km±5km, MD3.4*
GII ***09*** *16:37:16.8±0.2, 33°.70N×34°.40E, h31km, MD2.7/9, Mm2.6/7*
JSO ***09*** *16:37:16.9±0.7, 33°N±4'×3'5E±', h9km±5km, M3.0/18, Mjma3.0/18, ML2.6/7, MLv3.3/18*

ISC 09 16:37:12.5±1.2, 33°.71N±0°.02×34°.46E±0°.03, h14km±10km, n91, σ0s84/120, 3C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.87**	**136**	P	**Pg**	**16 37 29.0**	**-0.3**
HNTI	**Hanita**	**0.87**	**136**	Pg	**Pn**	**16 37 30.8**	**+0.5**
HNTI				Sg	**Sb**	**16 37 41.7**	**+0.9**
BEYL	**Beirut**	**0.88**	**79**	*e*P	**Pb**	**16 37 30.0**	**+0.5**
DQRL	**Deir Qamar**	**0.93**	**90**	*e*P	**Pn**	**16 37 31.4**	**+0.2**
DQRL				*e*S	**Sg**	**16 37 42.3**	**-0.3**
BHL	**Bhannes**	**1.01**	**79**	*e*P	**Pn**	**16 37 32.5**	**+0.1**
BHL				*e*S	**Sg**	**16 37 44.7**	**-0.7**
QRWL	**Qaraoun**	**1.03**	**99**	*e*P	**Pn**	**16 37 33.4**	**+0.7**
QRWL				*e*S	**Sb**	**16 37 46.0**	**+0.3**
MMA0B	**Mount Meron ar**	**1.05**	**131**	Pg	**Pn**	**16 37 33.5**	**+0.6**
MMA0B				Sg	**Sg**	**16 37 46.5**	**-0.1**
GEM	**Giv'at Ha'Em**	**1.12**	**116**	P	**Pg**	**16 37 34.6**	**+0.4**
GEM	**Giv'at Ha'Em**	**1.12**	**116**	Pg	**Pg**	**16 37 34.3**	**+0.1**
GEM				Sg	**Sb**	**16 37 48.5**	**+0.3**
SHBL	**Chebaa**	**1.13**	**108**	*e*P	**Pg**	**16 37 34.4**	**0.0**
BLGI	**Bet Lehem HaGe**	**1.15**	**148**	P	**Pb**	**16 37 33.8**	**-0.4**
BLGI	**Bet Lehem HaGe**	**1.15**	**148**	Pg	**Pg**	**16 37 34.7**	**0.0**
BLGI				Sg	**Sb**	**16 37 48.2**	**-0.8**
NATI	**Neve Ativ**	**1.16**	**112**	P	**Pg**	**16 37 34.9**	**+0.1**
RCY	**Rachaya**	**1.17**	**100**	*e*P	**Pg**	**16 37 35.4**	**+0.4**
RCY				*e*S	**Sb**	**16 37 50.1**	**+0.5**
OFRI	**`Ofer**	**1.17**	**158**	P	**Pb**	**16 37 34.3**	**-0.3**
OFRI	**`Ofer**	**1.17**	**158**	Pg	**Pb**	**16 37 34.4**	**-0.2**
OFRI				Sg	**Sb**	**16 37 48.3**	**-1.3**
PARAL	**Paralimni**	**1.32**	**345**	P	**Pn**	**16 37 37.0**	**+0.4**
PARAL				AML	AML	16 37 52.8	
	0.5nm,0.6s						
PARAL				AML	AML	16 37 52.8	
	0.5nm,0.6s						
PARAL				AML	AML	16 37 53.7	
	0.6nm,0.3s						
PARAL				AML	AML	16 37 53.7	
	0.6nm,0.3s						
PARAL				S	**Sb**	**16 37 54.2**	**+0.2**
HWQ	**Hawqa**	**1.36**	**65**	*e*P	**Pb**	**16 37 38.1**	**+0.3**
HWQ				*e*S	**Sb**	**16 37 54.4**	**-0.7**
ASGA	**Asgata**	**1.47**	**317**	P	**Pn**	**16 37 39.0**	**+0.5**
ASGA				S	**Sn**	**16 37 57.0**	**-0.5**
ASGA				AML	AML	16 37 57.2	
	0.9nm,0.3s						
ASGA				AML	AML	16 37 57.2	
	0.9nm,0.3s						
ASGA				AML	AML	16 37 58.1	
	1.5nm,0.3s						
ASGA				AML	AML	16 37 58.1	
	1.5nm,0.3s						
MVOU	**Mavrovouni**	**1.47**	**333**	⇑P	**Pn**	**16 37 38.3**	**-0.3**
MVOU				AML	AML	16 37 55.8	
	0.9nm,0.3s						
MVOU				AML	AML	16 37 55.8	
	0.9nm,0.3s						
MVOU				AML	AML	16 37 55.9	
	0.6nm,0.2s						
MVOU				AML	AML	16 37 55.9	
	0.6nm,0.2s						
MVOU				S	**Sn**	**16 37 56.4**	**-1.2**
SHMJ	**Saham**	**1.47**	**131**	P	**Pb**	**16 37 39.7**	**+0.1**
SHMJ	**Saham**	**1.47**	**131**	Pn	**Pb**	**16 37 40.0**	**+0.4**
MMLI	**Mount Malkishu**	**1.51**	**147**	PN	**Pn**	**16 37 39.6**	**+0.5**
MMLI				SN	**Sn**	**16 37 58.1**	**-0.4**
MMLI	**Mount Malkishu**	**1.51**	**147**	P	**Pn**	**16 37 39.7**	**+0.6**
MMLI	**Mount Malkishu**	**1.51**	**147**	Pn	**Pn**	**16 37 39.6**	**+0.6**
MMLI				Sn	**Sn**	**16 37 57.5**	**-1.0**
MMLI	**Mount Malkishu**	**1.51**	**147**	⇑P	**Pn**	**16 37 39.7**	**+0.6**
MMLI				AML	AML	16 37 57.5	
	0.5nm,0.2s						
MMLI				AML	AML	16 37 59.2	
	0.5nm,0.2s						
AKIN	**Akıncılar- Kıb**	**1.54**	**328**	PN	**Pn**	**16 37 40.1**	**+0.6**
SLTI	**Sal'it**	**1.55**	**161**	P	**Pb**	**16 37 40.6**	**-0.3**
SLTI	**Sal'it**	**1.55**	**161**	Pn	**Pn**	**16 37 39.5**	**-0.1**
CSS	**Mathiatis**	**1.56**	**324**	PN	**Pn**	**16 37 40.3**	**+0.5**
CSS				SN	**Sn**	**16 37 58.7**	**-1.1**
CSS	**Mathiatis**	**1.56**	**324**	P	Pg	16 37 48.7	+6.3
CSS	**Mathiatis**	**1.56**	**324**	Pn	**Pn**	**16 37 40.5**	**+0.7**
CSS				Sn	**Sn**	**16 37 57.2**	**-2.6**
CSS	**Mathiatis**	**1.56**	**324**	P	**Pn**	**16 37 39.8**	**0.0**
CSS				S	**Sn**	**16 37 58.6**	**-1.2**
SZAC	**Souni**	**1.67**	**309**	⇓P	**Pn**	**16 37 42.0**	**+0.7**
SZAC				S	**Sn**	**16 38 02.5**	**-0.1**
SZAC				AML	AML	16 38 04.8	
	1.9nm,0.3s						
SZAC				AML	AML	16 38 04.8	
	1.9nm,0.3s						
SZAC				AML	AML	16 38 04.9	
	3.5nm,0.3s						
SZAC				AML	AML	16 38 04.9	
	3.5nm,0.3s						
ATHAL	**Athalassa**	**1.67**	**329**	P	**Pb**	**16 37 42.6**	**-0.5**
ATHAL				S	**Sn**	**16 38 02.5**	**-0.2**
HMDT	**Nahal Hemdat**	**1.71**	**148**	P	**Pb**	**16 37 43.0**	**-0.7**
HMDT	**Nahal Hemdat**	**1.71**	**148**	Pn	**Pb**	**16 37 43.0**	**-0.7**
HMDT				Sn	**Sn**	**16 38 03.5**	**0.0**
EREN	**Erenkoy**	**1.83**	**353**	PN	**Pn**	**16 37 44.1**	**+0.6**
NATA	**Nata**	**1.89**	**305**	P	**Pb**	**16 37 46.0**	**-0.8**
LEF	**Lefka**	**1.91**	**318**	PN	**Pn**	**16 37 45.2**	**+0.6**
OSC2	**CSNet OBS 4**	**1.94**	**252**	P	**Pn**	**16 37 46.2**	**+1.2**
UJAP	**Al Uja**	**1.95**	**154**	P	**Pn**	**16 37 45.9**	**+0.8**
UJAP	**Al Uja**	**1.95**	**154**	Pn	**Pn**	**16 37 45.7**	**+0.6**
AKDN	**Akdeniz- Kıbrı**	**2.00**	**323**	PN	**Pn**	**16 37 46.4**	**+0.5**
ALFC	**Alefka**	**2.11**	**314**	P	**Pn**	**16 37 48.2**	**+0.9**
AKMS	**Akamas**	**2.19**	**307**	P	**Pn**	**16 37 49.9**	**+1.4**
AKMS				S	**Sn**	**16 38 16.3**	**+1.0**
AMAZ	**Amatzia**	**2.21**	**170**	Pn	**Pn**	**16 37 49.4**	**+0.7**
AMAZ				Sn	**Sn**	**16 38 14.8**	**-1.0**
AMAZ	**Amatzia**	**2.21**	**170**	⇑P	**Pn**	**16 37 49.5**	**+0.7**
AMAZ				S	**Sn**	**16 38 15.6**	**-0.2**
DSI	**Dead Sea**	**2.27**	**160**	Pn	**Pn**	**16 37 50.7**	**+1.1**
DSI				Sn	**Sn**	**16 38 16.8**	**-0.6**
YTIR	**Yattir**	**2.41**	**166**	Pn	**Pn**	**16 37 52.5**	**+1.0**
YTIR				Sn	**Sn**	**16 38 19.8**	**-1.0**
WALJ	**Wala**	**2.43**	**152**	P	**Pn**	**16 37 52.9**	**+1.2**
AKKU	**Akkuyu-Mersin**	**2.55**	**343**	PN	**Pn**	**16 37 53.9**	**+0.5**
ASF	**Jabal al Asfar**	**2.56**	**126**	P	**Pn**	**16 37 54.6**	**+0.9**
GHAJ	**Ghor Haditha**	**2.58**	**158**	P	**Pn**	**16 37 55.4**	**+1.6**
GHAJ	**Ghor Haditha**	**2.58**	**158**	Pn	**Pn**	**16 37 55.1**	**+1.3**
GHAJ				Sn	**Sn**	**16 38 24.1**	**-0.8**
IKL	**Isikli**	**2.60**	**346**	PN	**Pn**	**16 37 54.6**	**+0.5**
LISJ	**El Lisan**	**2.61**	**160**	P	**Pn**	**16 37 55.6**	**+1.4**
OSC1	**CSNet OBS 1**	**2.66**	**266**	P	**Pn**	**16 37 57.2**	**+2.3**
OSC1				S	**Sn**	**16 38 28.0**	**+1.1**
TEKE	**Tekeli-Mersin**	**2.67**	**336**	PN	**Pn**	**16 37 55.7**	**+0.7**
DAMI2	**DAM2**	**2.67**	**161**	Sn	**Sn**	**16 38 26.7**	**-0.3**
SILI	**Silifke-Mersin**	**2.69**	**351**	PN	**Pn**	**16 37 55.7**	**+0.4**
YAYL	**Yayladag**	**2.69**	**30**	PN	**Pn**	**16 37 56.4**	**+1.0**
KIZK	**Mersin**	**2.77**	**355**	PN	**Pn**	**16 37 57.0**	**+0.5**
KEBE	**Keben-Mersin**	**2.80**	**348**	PN	**Pn**	**16 37 57.6**	**+0.7**
KZIT	**Kziot**	**2.80**	**181**	PN	**Pn**	**16 37 57.4**	**+0.6**
KZIT	**Kziot**	**2.80**	**181**	P	**Pn**	**16 37 57.8**	**+0.9**
KZIT	**Kziot**	**2.80**	**181**	Pn	**Pn**	**16 37 57.6**	**+0.8**
KZIT				Sn	**Sn**	**16 38 28.7**	**-1.6**
KZIT	**Kziot**	**2.80**	**181**	P	**Pn**	**16 37 57.7**	**+0.9**
KZIT				S	**Sn**	**16 38 29.7**	**-0.6**
TEVE	**Tevekalti-Mers**	**2.84**	**343**	PN	**Pn**	**16 37 58.4**	**+0.9**
KRTS	**Karatas**	**2.95**	**14**	PN	**Pn**	**16 37 59.7**	**+0.8**
GAZI	**Gazipasa**	**3.07**	**326**	PN	**Pn**	**16 38 01.3**	**+0.7**
JDRJ	**Daraweish**	**3.15**	**161**	P	**Pn**	**16 38 03.1**	**+1.4**
ZFRI	**Zfri**	**3.21**	**169**	Pn	**Pn**	**16 38 03.0**	**+0.6**
YURE	**YUREGIR**	**3.25**	**17**	PN	**Pn**	**16 38 04.2**	**+1.1**
PRNI	**Paran**	**3.38**	**172**	P	**Pn**	**16 38 05.7**	**+0.8**
PRNI	**Paran**	**3.38**	**172**	Pn	**Pn**	**16 38 05.6**	**+0.7**
KRMI	**Paran Flat**	**3.59**	**176**	P	**Pn**	**16 38 08.6**	**+0.8**
KRMI	**Paran Flat**	**3.59**	**176**	Pn	**Pn**	**16 38 08.5**	**+0.8**
KRMN	**Karaman**	**3.59**	**345**	PN	**Pn**	**16 38 08.8**	**+1.0**
HRFI	**Mount Harif**	**3.70**	**172**	Pn	**Pn**	**16 38 10.1**	**+0.9**
KOZT	**Kozan**	**3.92**	**16**	PN	**Pn**	**16 38 13.7**	**+1.4**
MBRI	**Mt Berech**	**3.92**	**174**	Pn	**Pn**	**16 38 13.3**	**+0.9**
CMRD	**Camardi-Nigde**	**3.97**	**6**	PN	**Pn**	**16 38 14.2**	**+1.2**
AQBJ	**Aqaba**	**4.00**	**173**	Pn	**Pn**	**16 38 14.5**	**+1.1**
EIL	**Elat**	**4.05**	**174**	Pn	**Pn**	**16 38 14.7**	**+0.6**
GAZ	**Gaziantep**	**4.12**	**32**	PN	**Pn**	**16 38 16.0**	**+0.9**
SEYD	**Seydisehir-KON**	**4.26**	**331**	PN	**Pn**	**16 38 18.0**	**+1.0**
KMRS	**Kahramanmaras**	**4.28**	**27**	PN	**Pn**	**16 38 18.3**	**+1.1**
KONT	**Konya--Tatoy**	**4.55**	**339**	PN	**Pn**	**16 38 22.1**	**+1.1**
SARI	**SarD1z-Kayseri**	**4.95**	**18**	PN	**Pn**	**16 38 26.9**	**+0.4**
FETY	**Fethiye**	**5.28**	**305**	PN	**Pn**	**16 38 31.3**	**+0.3**

ANF 09 16:51:35.0±0.3, 35°.67N×79°.18W, h12km±4km, ML2.1/10, ML2.1/6, Error ellipse: s-maj=3.7km s-min=2.0km az=143.0, North Carolina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
V58A	**Windy Hill, Pi**	**0.13**	**23**	P	Pg	16 51 38.6	+0.3
	baz=203						
V58A				S	Sg	16 51 40.6	-0.1
	baz=203						
V57A	**Coltrane Farms**	**0.53**	**294**	P	Pg	16 51 45.9	+0.4
	baz=114						
U57A	**Blanch**	**0.77**	**350**	P	Pg	16 51 49.9	-0.1
	baz=170						
V59A	**Middlesex**	**0.77**	**83**	P	Pb	16 51 50.2	-0.2
	baz=263						
W57A	**Gilead**	**0.84**	**232**	P	Pg	16 51 51.3	0.0
W57A				S	Sb	16 52 02.7	-0.2
	baz=52						
U58A	**Oxford**	**0.88**	**35**	P	Pg	16 51 51.8	-0.4
	baz=215						

ANF 09 16:51:44.0±0.2, 35°.38N×80°.71W, h0km, Error ellipse: s-maj=1.5km s-min=1.1km az=53.0, North Carolina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W56A	**Indian Trail**	**0.26**	**157**	P	Pg	16 51 49.4	+0.3
	baz=337						
W56A				S	Sg	16 51 52.7	+0.3
	baz=337						
V56A	**Mocksville**	**0.47**	**22**	P	Pg	16 51 53.1	+0.1
	baz=202						
KMSC	**Kings Mountain**	**0.56**	**245**	S	Sg	16 52 02.3	+0.2
	baz=65						
V55A	**Taylorsville**	**0.63**	**319**	P	Pg	16 51 56.5	+0.4
	baz=139						
V55A				S	Sg	16 52 05.0	+0.8
	baz=139						
W57A	**Gilead**	**0.63**	**111**	S	Sg	16 52 04.4	+0.2
	baz=291						
V54A	**Nebo**	**1.08**	**292**	S	Sb	16 52 20.2	-0.3
	baz=111						
U55A	**TA2, Sparta**	**1.16**	**346**	P	Pg	16 52 06.2	0.0
	baz=166						
W54A	**Cherokee Point**	**1.24**	**257**	P	Pg	16 52 07.6	-0.3
	baz=76						
U54A	**Nelsons Funny**	**1.45**	**322**	P	Pn	16 52 11.7	0.0
	baz=142						
U54A				S	Sn	16 52 31.6	+0.2
	baz=142						
Y55A	**Saluda**	**1.72**	**214**	P	Pn	16 52 15.8	+0.6
	baz=33						
Y55A				S	Sb	16 52 38.9	+0.2
	baz=33						

JMA ***09*** *16:54:10.2, 36°.82N×140°.58E, h7km±1km, M3.9*
Broadband fault plane solution: P waves. NP1: φs=217.00000°, δ39.00000°, λ-86.00000°. NP2: φs=33.00000°, δ51.00000°, λ-93.00000°. Principal axes: T Plg6.0000°, Azm125.0000°; N Plg2.0000°, Azm35.0000°; P Plg84.0000°, Azm283.0000°;
JMA Felt II J1.
NEIC ***09*** *16:54:10.6±1.8, 36°.80N±0°.05×140°.57E±0°.09, h15km±4km, mb4.3/20 Error ellipse: s-maj=12.5km s-min=4.5km az=123.0*
NIED ***09*** *16:54:10.2, 36°.82N×140°.58E, h7km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=6.01; $M_{\theta\theta}$0.98; $M_{\phi\phi}$5.02; $M_{r\theta}$0.77; $M_{\theta\phi}$2.67; $M_{\phi r}$-0.93; Fault plane solution: $M_0$6.30000×10^{14} NP1:φs16.00000°, δ48.00000°, λ-104.00000°. NP2:φs217.00000°, δ44.00000°, λ-75.00000°.*
IDC ***09*** *16:54:11.8±3.6, 36°.77N×140°.42E, h24km±23km, mb3.8/14, mb1 4.1/15, mb1mx3.9/41, mbtmp4.0/15, ML3.8/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/45 Error ellipse: s-maj=21.2km s-min=16.6km az=101.0*

ISC 09 16:54:10.1±0.9, 36°.82N±0°.02×140°.60E±0°.04, h11km±6km, n75, σ1s03/81, mb4.0/23, 8C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**186**	⇑P	**Pg**	**16 54 14.4**	**-0.1**
JHO				*e*S	**Sg**	**16 54 17.7**	**+0.3**
JFFD	**Fukushimafurud**	**0.27**	**354**	⇑P	**Pg**	**16 54 15.5**	**-0.2**
JFFD				S	**Sg**	**16 54 19.3**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.33**	**30**	⇑P	**Pg**	**16 54 16.6**	**-0.1**
ONAJ				*e*S	**Sg**	**16 54 21.4**	**+0.3**
JSB	**Shiboa**	**0.56**	**286**	⇑P	**Pg**	**16 54 21.5**	**+0.5**
JSB				*e*S	**Sb**	**16 54 29.3**	**-0.7**
JFK	**Kawauchi**	**0.59**	**22**	⇑P	**Pg**	**16 54 21.3**	**-0.3**
JFK				*e*S	**Sg**	**16 54 29.2**	**-0.2**
JYT	**Yasato**	**0.67**	**209**	P	**Pg**	**16 54 22.9**	**-0.1**
JYT				*e*S	**Sb**	**16 54 32.1**	**-1.0**
JYT	**Yasato**	**0.67**	**209**		**Pg**	**16 54 23.0**	**-0.1**
JYT					**Sg**	**16 54 31.4**	**-0.5**
JFT	**Otama**	**0.73**	**344**	⇑P	**Pg**	**16 54 24.0**	**-0.2**
JFT				S	**Sg**	**16 54 33.7**	**-0.1**
JFY	**Yanaizu**	**0.92**	**310**	⇑P	**Pb**	**16 54 27.3**	**-0.8**
JFY				S	**Sb**	**16 54 39.7**	**-0.7**
JAG	**Ashikaga**	**1.00**	**247**	⇑P	**Pb**	**16 54 28.3**	**-1.1**
JAG				*e*S	**Sb**	**16 54 41.8**	**-0.8**
JMM	**Marumori**	**1.06**	**9**		**Pg**	**16 54 29.6**	**-0.9**
JMM				Sn	**Sb**	**16 54 42.8**	**-1.5**
MJAR	**Matsushiro Arr**	**1.94**	**263**	Pg	**Pn**	**16 54 43.6**	**+0.6**
	7.7nm,0.3s,baz=89,slow=15,SNR=325						
MJAR				Lg	Lg	16 55 09.0	
	12nm,0.3s,baz=77,slow=30,SNR=22						
MJAR	**Matsushiro Arr**	**1.94**	**263**		**Pn**	**16 54 43.3**	**+0.3**
MAJO	**Matsushiro**	**1.94**	**263**		**Pn**	**16 54 43.8**	**+0.7**
MAT	**Matsushiro**	**1.94**	**263**	P	**Pb**	**16 54 44.2**	**-1.3**
MAT				S	**Sb**	**16 55 09.8**	**+0.1**
JSD	**Sado**	**2.22**	**304**		**Pn**	**16 54 47.1**	**+0.3**
JGF	**Kuroka**	**2.89**	**246**		**Pn**	**16 54 57.8**	**+1.7**
INU	**Inuyama**	**3.25**	**244**	Pn	**Pn**	**16 55 02.9**	**+1.9**
JTM	**Tenmabayashi**	**3.98**	**5**		**Pn**	**16 55 12.4**	**+1.3**
JWT	**Wachi**	**4.48**	**252**		**Pn**	**16 55 20.0**	**+2.1**
ERM	**Erimo**	**5.56**	**20**	Pn	**Pn**	**16 55 33.5**	**+0.8**
JHS	**Saijyo**	**6.33**	**256**		**Pn**	**16 55 46.2**	**+2.8**
ASAJ	**Asahikawa**	**7.45**	**11**	Pn	**Pn**	**16 55 59.0**	**+0.4**
	1.6nm,0.3s,baz=234,slow=10,SNR=12						
JKA	**Kamikawa-asahi**	**7.45**	**11**		**Pn**	**16 55 59.0**	**+0.4**
JCJ	**Chichijima**	**9.79**	**172**	LR	LR	17 00 15.9	
	comp=Z,61nm,20.2s,baz=330,slow=37						
USRK	**Ussuriysk Ar.**	**9.86**	**321**	Pn	**Pn**	**16 56 33.6**	**+1.9**
	baz=129,slow=13,SNR=3.9						
KSRS	**Korea Array**	**10.14**	**277**	Pn	**Pn**	**16 56 38.9**	**+3.3**
	0.1nm,0.3s,baz=89,slow=15,SNR=7.2						
KSRS				LR	LR	16 59 49.4	
	comp=Z,60nm,19.8s,baz=88,slow=34						
HHC	**Hu-ho-hao-te**	**22.92**	**289**	*e*P	**P**	**16 59 14.4**	**+0.2**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,45nm,5.5s						
SEY	**Seymchan**	**27.13**	**12**	P	**P**	**16 59 55.0**	**+2.1**
	comp=Z,5.5nm,1.0s,baz=257,slow=5.7,SNR=5.9						
SONM	**Songino Array**	**27.36**	**305**	P	**P**	**16 59 53.9**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=100,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**27.36**	**305**	P	**P**	**16 59 54.4**	**-1.0**
H11N2	**WAKE ISLAND Hy 28.61**	**119**		T	T	17 29 53.4	
	baz=313,slow=75,SNR=847						
H11N1	**WAKE ISLAND Hy 28.61**	**119**		T	T	17 29 53.9	
	baz=313,slow=75,SNR=774						
H11N3	**WAKE ISLAND Hy 28.62**	**119**		T	T	17 29 54.6	
	baz=313,slow=75,SNR=612						
H11S1	**WAKE ISLAND Hy 29.30**	**121**		T	T	17 30 45.0	
	baz=314,slow=76,SNR=1536						
H11S3	**WAKE ISLAND Hy 29.30**	**121**		T	T	17 30 45.1	
	baz=314,slow=76,SNR=1426						
H11S2	**WAKE ISLAND Hy 29.32**	**121**		T	T	17 30 46.3	
	baz=314,slow=76,SNR=933						
WMQ	**Urumqi**	**40.35**	**297**	*e*P	**P**	**17 01 47.2**	**-0.6**
WMQ				pP	pP	17 01 53.2	+1.8
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,45nm,4.1s						
ZAA0	**Zalesovo Array**	**41.58**	**313**	P	**P**	**17 01 57.5**	**-0.2**
ZALV	**Zalesovo Beam**	**41.58**	**313**	P	**P**	**17 01 55.8**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=90,slow=7.4,SNR=4.8						
ZALV				PcP	**PcP**	**17 03 53.4**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=93,slow=3.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**41.58**	**313**	P	**P**	**17 01 57.1**	**-0.6**
MK31	**Makanchi Array**	**43.68**	**302**	P	**P**	**17 02 14.2**	**-0.7**
MKAR	**Makanchi Array**	**43.68**	**302**	P	**P**	**17 02 14.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=89,slow=10.0,SNR=7.3						
MKAR	**Makanchi Array**	**43.68**	**302**	P	**P**	**17 02 14.1**	**-0.8**
MAKZ	**Makanchi**	**43.89**	**302**	P	**P**	**17 02 15.8**	**-0.8**
KURK	**Kurchatov**	**45.55**	**308**	P	**P**	**17 02 28.6**	**-1.1**
KURK				IAmb	IAmb	17 02 33.2	
	comp=Z,3.6nm,0.8s						
ILAR	**Eielson Array**	**50.03**	**32**	P	**P**	**17 03 04.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=270,slow=7.0,SNR=8.3						
ILAR	**Eielson Array**	**50.03**	**32**	P	**P**	**17 03 05.1**	**+0.9**
BRVK	**Borovoye**	**50.29**	**312**	P	**P**	**17 03 05.9**	**-0.5**
BRVK				IAmb	IAmb	17 03 09.7	
	comp=Z,2.0nm,0.9s						
WB0	**Warramunga Arr**	**56.58**	**187**	P	**P**	**17 03 52.2**	**-0.7**
WRAB	**Tennant Creek**	**56.75**	**187**	P	**P**	**17 03 53.1**	**-1.0**
WR0	**Warramunga Arr**	**56.76**	**187**	P	**P**	**17 03 53.4**	**-0.7**
WR0				IAmb	IAmb	17 03 57.3	
	comp=Z,5.1nm,1.1s						
WB2	**Warramunga Arr**	**56.76**	**187**	P	**P**	**17 03 53.8**	**-0.3**
WRA	**Warramunga Arr**	**56.76**	**187**	P	**P**	**17 03 52.9**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=3.4,slow=7.4,SNR=37						
WRA	**Warramunga Arr**	**56.76**	**187**	P	**P**	**17 03 54.2**	**0.0**
ABKAR	**Akbulak array**	**57.58**	**310**	P	**P**	**17 03 58.6**	**-1.1**
AS31	**Alice Springs**	**60.49**	**187**	P	**P**	**17 04 20.0**	**-0.1**
AS31				IAmb	IAmb	17 04 26.2	
	comp=Z,1.7nm,1.4s						
ASAR	**Alice Springs**	**60.49**	**187**	P	**P**	**17 04 19.9**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=357,slow=4.5,SNR=13						
ASAR	**Alice Springs**	**60.49**	**187**	P	**P**	**17 04 20.1**	**0.0**
FINES	**FINESS Array B**	**68.70**	**332**	P	**P**	**17 05 13.1**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=104,slow=6.1,SNR=4.0						
FINES	**FINESS Array B**	**68.70**	**332**	P	**P**	**17 05 12.9**	**-0.4**
AKASG	**Malin Array Be**	**74.06**	**322**	P	**P**	**17 05 44.8**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=49,slow=5.3,SNR=1.5						
NOA	**NORSAR Array B**	**74.13**	**337**	P	**P**	**17 05 45.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=195,slow=8.3,SNR=2.5						
TOO	**Toolangi**	**74.16**	**176**	P	**P**	**17 05 46.2**	**-0.2**
NBO00	**NORSAR Array S**	**74.27**	**337**	P	**P**	**17 05 46.9**	**-0.1**
NVAR	**Mina Array Bea**	**75.64**	**53**	P	**P**	**17 05 54.8**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=353,slow=7.8,SNR=5.0						
NVAR	**Mina Array Bea**	**75.64**	**53**	P	**P**	**17 05 56.8**	**+1.2**
R11A	**Troy Canyon, C**	**77.41**	**51**	P	**P**	**17 06 06.5**	**+0.9**
R11A				IAmb	IAmb	17 06 10.5	
	comp=Z,1.4nm,0.9s						
TPNV	**Topopah Spring**	**77.83**	**53**	P	**P**	**17 06 08.3**	**+0.4**
TPNV				IAmb	IAmb	17 06 12.5	
	comp=Z,3.0nm,0.9s						
PDAR	**Pinedale Array**	**78.28**	**45**	P	**P**	**17 06 10.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=291,slow=4.6,SNR=5.2						
CLL	**Collm**	**80.95**	**330**	*i* P	**P**	**17 06 26.2**	**+1.8**
PV05	**Paradox Valley**	**81.56**	**48**	P	**P**	**17 06 29.7**	**+1.4**
PV05				IAmb	IAmb	17 06 32.9	
	comp=Z,4.5nm,0.9s						
GERES	**GERESS Array B**	**82.55**	**328**	P	**P**	**17 06 32.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=61,slow=8.0,SNR=2.6						
TXAR	**Lajitas Array**	**90.77**	**52**	P	**P**	**17 07 14.8**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=314,slow=2.9,SNR

DSZ	**Denniston Nort**	**1.34 353**	P	Pg	17 04 57.3	+0.9
THZ	**Tophouse**	**1.46 26**	P	Pn	17 04 58.0	+0.3
LBZ	**Lake Benmore**	**1.87 225**	P	Pg	17 05 08.2	+1.7
TRWZ	**Traveller**	**3.19 60**	P	Pn	17 05 23.3	+2.0

*TEH **09** 17:31:10.9, 32°.73N×47°.57E, h10km, ML3.0*
*ISN **09** 17:31:10.4±0.8, 32°.67N×47°.59E, h14km±5km, ML2.9*
ISC 09 17:31:12.4±1.1, 32°.71N±0°.04×47°.56E±0°.04, h23km, n22, σ1§50/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.24**	**263**	*e*Pg	**Pb**	**17 31 15.4**	**-3.0**
DHL1				*e*Sg	**Sb**	**17 31 20.9**	**-1.5**
IKMR	**Kamar-syah**	**1.06**	**40**	*e*Pg	**Pn**	**17 31 30.5**	**-1.3**
IKMR				*e*		17 31 50.2	
IDOB	**Doab**	**1.19**	**26**	*e*Pg	**Pn**	**17 31 33.5**	**-0.4**
IBDR	**Badra**	**1.43**	**287**	*e*Pg	**Pn**	**17 31 37.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**17 31 57.0**	**+0.9**
IBDR				AML	AML	17 32 01.7	
	comp=N,229nm,0.3s						
IBDR				AML	AML	17 32 03.3	
	comp=E,143nm,0.6s						
BMDN	**Meydan**	**1.43**	**48**	*e*Pg	**Pn**	**17 31 37.0**	**-0.1**
BMDN				*e*		17 32 04.0	
IKOM	**Komasi**	**1.46**	**358**	*e*Pg	**Pb**	**17 31 38.6**	**-0.4**
IKOM				*e*		17 31 39.9	
KCHF	**Cheshme Sefid,**	**1.62**	**345**	*e*Pg	**Pb**	**17 31 41.9**	**+0.2**
KCHF				*e*		17 32 06.1	
AHWZ	**Ahwaz**	**1.66**	**146**	*e*Pg	**Pb**	**17 31 42.9**	**+0.7**
KER	**Kermanshah**	**1.71**	**348**	*e*Pg	**Pb**	**17 31 42.7**	**-0.5**
KER				*e*		17 32 14.8	
HSAM	**Samen**	**1.73**	**30**	*e*Pg	**Pb**	**17 31 42.4**	**-1.3**
HSAM				*e*		17 32 14.6	
IBZA	**Bozab**	**1.77**	**8**	*e*Pg	**Pb**	**17 31 43.7**	**-0.7**
IGHG	**Ghaleghazi**	**1.81**	**333**	*e*Pn	**Pb**	**17 31 44.6**	**-0.5**
IGHG				*e*		17 32 18.7	
IVIS	**Veis**	**1.91**	**342**	*e*Pn	**Pb**	**17 31 46.6**	**0.0**
IVIS				*e*		17 32 14.6	
NSR	**Nassriya**	**2.08**	**216**	*e*Pn	**Pn**	**17 31 46.0**	**+0.1**
NSR				*e*Sn	**Sn**	**17 32 11.0**	**-0.1**
IALM	**Almabolaq**	**2.20**	**13**	*e*Pn	**Pb**	**17 31 49.8**	**-1.9**
IDHR	**Dehrash**	**2.21**	**334**	*e*Pn	**Pb**	**17 31 49.5**	**-2.3**
IDHR				*e*		17 32 29.4	
ILIN	**Lien**	**2.26**	**347**	*e*Pn	**Pn**	**17 31 50.0**	**+1.4**
ILIN				*e*		17 31 54.6	
HAGD	**Aghdareh**	**2.48**	**32**	*e*Pn	**Pn**	**17 31 53.1**	**+1.4**
HAGD				*e*		17 32 34.1	
HSRG	**Sareghieh**	**2.59**	**13**	*e*Pn	**Pb**	**17 31 55.5**	**-2.9**
HSRG				*e*		17 32 42.1	
BHD	**Baghdad**	**2.73**	**283**	*e*Pn	**Pn**	**17 31 56.0**	**+1.2**
BHD				*e*Sn	**Sn**	**17 32 30.0**	**+2.9**
IRAZ	**Razeghan**	**3.33**	**36**	*e*Pn	**Pn**	**17 32 04.7**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**17 32 05.5**	**+0.9**

DJA 09 17:34:05.2±0.3, 11°S±2°×12°4E±°, h10km, M3.6/9, mb3.8/4, MLv3.5/9, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.81**	**344**	P	Pg	17 34 19.9	-1.0
BATI				S	Sg	17 34 31.6	+0.2
SOEI	**Soe**	**1.28**	**17**	P	Pn	17 34 29.3	0.0
SOEI				S	Sg	17 34 46.5	0.0
MMRI	**Maumere**	**2.85**	**325**	P	Pn	17 34 50.3	-0.5
EDFI	**Ende, Flores**	**3.11**	**316**	P	Pn	17 34 53.9	-0.5
EDFI				S	Sn	17 35 32.1	+0.4
BASI	**Baing, Sumba**	**3.34**	**283**	P	Pn	17 34 58.7	+1.1
WBSI	**Waikabubak, Su**	**4.62**	**286**	P	Pn	17 35 15.4	+0.1
TWSI	**Taliwang, Sumb**	**7.26**	**287**	P	Pn	17 35 51.4	0.0
	0.1nm14nm,1.3s						

*IGIL **09** 17:55:08.6, 35°.82N×4°.66W, h20km, ML2.9*
*MDD **09** 17:55:09.4±0.7, 35°.79N×4°.65W, h84km±7km, mb3.1/18, Error ellipse: s-maj=5.6km s-min=4.4km az=1.0, PRXIMO*
*INMG **09** 17:55:09.4±2.1, 35°.83N×4°.68W, h83km±4km, ML2.6, Error ellipse: s-maj=3.2km s-min=3.1km az=180.0*
*SFS **09** 17:55:10.0, 35°.84N×4°.64W, h82km, ML2.9, ALBORAN W.*
*CNRM **09** 17:55:10.4±1.0, 35°.63N×4°.68W, h82km±9km, Error ellipse: s-maj=7.0km s-min=3.9km az=3.0*
ISC 09 17:55:07.3±1.2, 35°.81N±0°.03×4°.67W±0°.02, h98km±7km, n72, σ1§65/129, 5C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.58**	**279**	P	**Pn**	**17 55 23.9**	**+0.5**
CEU				S	**Sn**	**17 55 34.6**	**-0.9**
CEU	**Ceuta**	**0.58**	**279**	*e*P	**Pn**	**17 55 23.9**	**+0.5**
CEU				*e*S	**Sn**	**17 55 34.6**	**-0.9**
ECEU	**Ceuta**	**0.58**	**279**	P	**Pn**	**17 55 24.6**	**+1.1**
	18nm,0.1s,SNR=25						
ECEU				S	**Sn**	**17 55 35.2**	**-0.5**
	16nm,0.3s,SNR=7.1						
SMIR	**Smir Dam**	**0.59**	**258**	P	**Pn**	**17 55 25.6**	**+2.0**
SMIR				S	**Sn**	**17 55 36.0**	**+0.2**
PVLZ	**Peæn de**	**0.70**	**155**	P	**Pn**	**17 55 24.6**	**0.0**
PVLZ				S	**Sn**	**17 55 35.0**	**-2.5**
PVLZ	**Peæn de**	**0.70**	**155**	*e*P	**Pn**	**17 55 24.6**	**0.0**
PVLZ				*e*S	**Sn**	**17 55 35.0**	**-2.5**
EMIJ	**Mijas**	**0.76**	**354**	⇑P	**Pn**	**17 55 25.5**	**+0.4**
	11nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**17 55 37.5**	**-0.9**
	33nm,0.3s,SNR=18						
PALE	**Palemas**	**0.84**	**135**	P	**Pn**	**17 55 26.8**	**+0.9**
PALE				S	**Sn**	**17 55 39.3**	**-0.6**
CHEFC	**Chefchaouen**	**0.89**	**218**	P	**Pn**	**17 55 28.5**	**+1.9**
EMAL	**Malaga-Limoner**	**0.97**	**11**	P	**Pn**	**17 55 27.8**	**+0.6**
EMAL				S	**Sn**	**17 55 41.6**	**-0.6**
EMAL	**Malaga-Limoner**	**0.97**	**11**	Ep		17 55 27.8	
EMAL				*e*S	**Sn**	**17 55 41.6**	**-0.6**
RSA	**Sarsar**	**1.32**	**226**	P	**Pn**	**17 55 33.2**	**+1.9**
RSA				S	**Sn**	**17 55 49.7**	**+0.2**
EALB	**Alboran**	**1.33**	**84**	P	**Pn**	**17 55 32.0**	**+0.7**
	2.5nm,0.1s,SNR=5.6						
EALB				S	**Sn**	**17 55 49.0**	**-0.6**
	21nm,0.8s						
ELGU	**Los Guajares,**	**1.35**	**38**	P	**Pn**	**17 55 32.2**	**+0.5**
	14nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**17 55 49.2**	**-1.0**
	28nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.37**	**19**	P	**Pn**	**17 55 34.0**	**+2.0**
	1.1nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**17 55 50.4**	**-0.3**
	18nm,0.6s,SNR=7.9						
ESPR	**Espera**	**1.43**	**318**	P	**Pn**	**17 55 34.5**	**+2.1**
	4.0nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**17 55 52.0**	**+0.4**
	7.0nm,0.3s						
AKLM	**AKL**	**1.46**	**153**	P	**Pn**	**17 55 34.2**	**+1.3**
AKLM				S	**Sn**	**17 55 51.1**	**-1.3**
GOG	**Mont Gurugu**	**1.49**	**113**	P	**Pn**	**17 55 34.8**	**+1.5**
GOG				S	**Sn**	**17 55 53.7**	**+0.6**
EQUE	**Quentar**	**1.71**	**35**	S	**Sn**	**17 55 56.9**	**-1.1**
	0.5nm,0.7s,SNR=5.7						
EBER	**Berja**	**1.80**	**52**	P	**Pn**	**17 55 38.3**	**+0.9**
	1.4nm,0.2s,SNR=9.0						
EBER				S	**Sn**	**17 55 59.7**	**-0.5**
	33nm,0.5s						
TAF	**Taforalt**	**2.10**	**118**	P	**Pn**	**17 55 42.2**	**+1.1**
TAF				S	**Sn**	**17 56 06.8**	**-0.1**
LCRM	**LCR**	**2.13**	**184**	P	**Pn**	**17 55 44.8**	**+3.2**
LCRM				S	**Sn**	**17 56 08.7**	**+0.9**
JBK	**JBK**	**2.27**	**130**	P	**Pn**	**17 55 43.7**	**+0.2**
JBK				S	**Sn**	**17 56 10.0**	**-1.1**
ENIJ	**Nijar**	**2.30**	**59**	P	**Pn**	**17 55 43.9**	**+0.2**
	0.9nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**17 56 11.4**	**-0.2**
	3.5nm,0.4s,SNR=7.9						
IFR	**Ifrane**	**2.32**	**189**	*e*P	**Pn**	**17 55 44.4**	**+0.3**
IFR				*e*S	**Sn**	**17 56 07.3**	**-5.0**
ECAB	**El Cabril**	**2.34**	**345**	⇑P	**Pn**	**17 55 45.5**	**+1.2**
	2.2nm,0.1s,SNR=18						
ECAB				S	**Sn**	**17 56 11.7**	**-0.8**
	12nm,0.4s,SNR=35						
EADA	**Adamuz**	**2.35**	**2**	⇑P	**Pn**	**17 55 46.2**	**+1.8**
	2.3nm,0.0s,SNR=18						
EADA				S	**Sn**	**17 56 12.6**	**-0.3**
	16nm,0.3s,SNR=40						
EQES	**Quesada**	**2.37**	**32**	P	**Pn**	**17 55 46.7**	**+2.1**
	1.7nm,0.1s,SNR=11						
EQES				S	**Sn**	**17 56 14.2**	**+0.9**
	7.1nm,0.3s						
EMIN	**Mina Concepcio**	**2.53**	**321**	⇑P	**Pn**	**17 55 48.0**	**+1.4**
	10nm,0.1s,SNR=18						
EMIN				S	**Sn**	**17 56 15.9**	**-1.0**
	6.8nm,0.3s,SNR=30						
CZD	**Col de Zad**	**2.79**	**186**	P	**Pn**	**17 55 51.1**	**+0.6**
CZD				S	**Sn**	**17 56 21.8**	**-1.8**
EGRO	**El Granado**	**2.84**	**308**	⇑P	**Pn**	**17 55 52.0**	**+1.2**
	16nm,0.1s,SNR=18						
EGRO				S	**Sn**	**17 56 23.2**	**-1.1**
	14nm,0.5s,SNR=16						
SESP	**Santiago Espad**	**2.86**	**36**	P	**Pn**	**17 55 53.0**	**+1.8**
	1.5nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**17 56 24.6**	**-0.5**
	9.1nm,0.3s,SNR=7.9						
ZHG	**ZHG**	**2.87**	**215**	P	**Pn**	**17 55 51.7**	**+0.4**
PVAQ	**Vaqueiros**	**2.92**	**304**	P	**Pn**	**17 55 52.8**	**+0.9**
PVAQ	**Vaqueiros**	**2.92**	**304**	*e*P	**Pn**	**17 55 53.0**	**+1.1**
PVAQ				*e*S	**Sn**	**17 56 25.1**	**-1.2**
PVAQ				A	A	17 56 25.6	
	19nm,0.2s						
MD31	**MD31**	**2.94**	**181**	P	**Pn**	**17 55 53.0**	**+0.8**
MD31				S	**Sn**	**17 56 25.1**	**-1.7**
MDT	**Midelt**	**2.99**	**179**	P	**Pn**	**17 55 53.5**	**+0.5**
MDT				S	**Sn**	**17 56 25.6**	**-2.5**
PBDV	**Barranco-do-Ve**	**2.99**	**300**	*e*S	**Sn**	**17 56 27.1**	**-0.9**
TLOR	**Lorca, Murcia**	**3.02**	**52**	P	**Pn**	**17 55 55.0**	**+1.8**
	48nm,0.1s,SNR=4.0						
TLOR				S	**Sn**	**17 56 28.2**	**-0.5**
	328nm,1.2s,SNR=4.0						
PBAR	**Barrancos**	**3.03**	**322**	*e*P	**Pn**	**17 55 55.1**	**+1.8**
PBAR				*e*S	**Sn**	**17 56 28.4**	**-0.4**
PCVE	**Castro Verde**	**3.26**	**305**	*e*P	**Pn**	**17 55 57.5**	**+1.1**
PCVE				*e*S	**Sn**	**17 56 32.5**	**-1.9**
PCVE				A	A	17 56 34.2	
	9.7nm,0.2s						
PBEJ	**Beja**	**3.38**	**312**	*e*P	**Pn**	**17 55 59.6**	**+1.5**
PBEJ				*e*S	**Sn**	**17 56 36.4**	**-1.0**
MORF	**Marmelete**	**3.54**	**296**	*e*P	**Pn**	**17 56 01.0**	**+0.8**
MORF				*e*S	**Sn**	**17 56 39.5**	**-1.6**
MORF				AML	AML	17 56 41.9	
	comp=N,29nm,0.1s						
MORF	**Marmelete**	**3.54**	**296**	P	**Pn**	**17 56 01.0**	**+0.8**
MORF				S	**Sn**	**17 56 39.5**	**-1.6**
	comp=N,29nm,0.1s						
MORF	**Marmelete**	**3.54**	**296**	*e*P	**Pn**	**17 56 01.3**	**+1.1**
MORF				*e*S	**Sn**	**17 56 40.5**	**-0.6**
MORF				A	A	17 56 42.8	
	comp=N,11nm,0.2s						
PFVI	**Vila Bisbo**	**3.60**	**293**	P	**Pn**	**17 56 02.1**	**+1.1**
	comp=N,4.3nm,0.1s,SNR=16						
PFVI				S	**Sn**	**17 56 40.7**	**-1.9**
	comp=N,3.5nm,0.3s,SNR=10.0						
PFVI	**Vila Bisbo**	**3.60**	**293**	P	**Pn**	**17 56 01.5**	**+0.5**
PFVI	**Vila Bisbo**	**3.60**	**293**	*e*P	**Pn**	**17 56 02.1**	**+1.1**
PFVI				*e*S	**Sn**	**17 56 41.5**	**-1.1**
PFVI				A	A	17 56 43.0	
	comp=N,7.9nm,0.1s						
PTEO	**Sao Teotonio**	**3.69**	**299**	*e*P	**Pn**	**17 56 03.7**	**+1.5**
PTEO				*e*S	**Sn**	**17 56 44.0**	**-0.7**
PAB	**San Pablo**	**3.74**	**4**	P	**Pn**	**17 56 04.1**	**+1.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**17 56 43.9**	**-2.1**
	comp=N,7.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.77**	**40**	P	**Pn**	**17 56 05.2**	**+1.9**
	comp=N,2.0nm,0.2s,SNR=12						
ETOB				S	**Sn**	**17 56 45.7**	**-1.0**
	comp=N,8.6nm,1.1s						
EVO	**Evora**	**3.81**	**316**	*e*P	**Pn**	**17 56 05.5**	**+1.7**
EVO				*e*S	**Sn**	**17 56 46.7**	**-0.9**
EVO				A	A	17 56 48.6	
	comp=N,13nm,0.2s						
PNCL	**Nicolau / Gran**	**3.85**	**308**	*e*P	**Pn**	**17 56 05.6**	**+1.2**
PNCL				*e*S	**Sn**	**17 56 46.9**	**-1.7**
ESDC	**Sonseca Array**	**3.90**	**8**	P	**Pn**	**17 56 06.4**	**+1.3**
	comp=N,0.2nm,0.3s,baz=191,slow=12,SNR=4.6						
ESDC				S	**Sn**	**17 56 48.0**	**-1.8**
	comp=N,0.8nm,0.4s,baz=184,slow=17,SNR=52						
PMRV	**Marv??o**	**4.21**	**330**	*e*P	**Pn**	**17 56 10.9**	**+1.7**
PMRV				*e*S	**Sn**	**17 56 55.5**	**-1.8**
PMRV				A	A	17 57 09.9	
	comp=N,5.2nm,0.6s						
PMTG	**Montargil**	**4.31**	**320**	*e*P	**Pn**	**17 56 12.3**	**+1.7**
PMTG				*e*S	**Sn**	**17 56 58.6**	**-1.1**
EPLA	**Plasencia**	**4.39**	**346**	P	**Pn**	**17 56 13.4**	**+1.7**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**17 56 59.5**	**-2.2**
	comp=N,4.6nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.60**	**332**	*e*P	**Pn**	**17 56 16.2**	**+1.8**
PCBR				*e*S	**Sn**	**17 57 04.5**	**-2.1**
PMAFR	**Mafra**	**4.83**	**312**	S	**Sn**	**17 57 10.8**	**-1.6**
	comp=N,82nm,1.7s,SNR=4.0						
GUD	**Guadarrama**	**4.84**	**5**	S	**Sn**	**17 57 11.2**	**-1.7**
	comp=N,3.2nm,0.5s,SNR=7.5						
PSBE	**So Bento**	**4.94**	**320**	*e*P	**Pn**	**17 56 21.2**	**+2.1**
PSBE				*e*S	**Sn**	**17 57 13.7**	**-1.3**
PSBE				A	A	17 57 25.1	
	comp=N,12nm,0.6s						
PCAS	**Casmilo, Conde**	**5.21**	**326**	*e*P	**Pn**	**17 56 25.4**	**+2.7**
PCAS				*e*S	**Sn**	**17 57 19.3**	**-2.1**
ETOR	**Torete**	**5.41**	**22**	P	**Pn**	**17 56 26.9**	**+1.4**
	comp=N,21nm,0.1s,SNR=26						
ETOR				S	**Sn**	**17 57 23.0**	**-3.4**
	comp=N,13nm,1.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.62**	**35**	S	**Sn**	**17 57 29.6**	**-2.2**
	comp=N,1.3nm,0.5s,SNR=7.9						
MVO	**Moncorvo**	**5.66**	**342**	P	**Pn**	**17 56 30.6**	**+1.8**
	comp=N,0.5nm,0.0s,SNR=7.9						
MVO				S	**Sn**	**17 57 30.4**	**-2.1**
	comp=N,3.6nm,1.2s,SNR=7.9						
MVO	**Moncorvo**	**5.66**	**342**	*e*P	**Pn**	**17 56 31.5**	**+2.6**
ECAL	**Calabor**	**6.33**	**346**	S	**Sn**	**17 57 46.4**	**-2.5**
	comp=N,13nm,0.7s,SNR=7.9						
ELOB	**Lobios**	**6.60**	**337**	P	**Pn**	**17 56 43.5**	**+1.8**
	comp=N,0.4nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**17 57 53.0**	**-2.5**
	comp=N,1.5nm,0.4s,SNR=5.0						
ELAN	**Lanestosa**	**7.47**	**7**	S	**Sn**	**17 58 13.3**	**-3.3**
	comp=N,3.9nm,0.8s,SNR=4.0						
EARI	**Arriondas**	**7.49**	**357**	S	**Sn**	**17 58 13.8**	**-3.4**
	comp=N,2.8nm,0.8s,SNR=4.0						
EORO	**Oroz-Betelu**	**7.54**	**19**	P	**Pn**	**17 56 57.9**	**+3.5**
	comp=N,0.8nm,0.3s,SNR=7.9						
EORO				S	**Sn**	**17 58 14.8**	**-3.4**
	comp=N,3.1nm,0.7s,SNR=7.9						
EPON	**Pontenova**	**7.75**	**346**	S	**Sn**	**17 58 19.6**	**-3.7**
	comp=N,1.4nm,0.4s,SNR=4.0						

*IDC **09** 18:00:44.7±1.6, 51°.45S×137°.13E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/27, mbtmp4.0/3, Error ellipse: s-maj=187.3km s-min=25.5km az=88.0*
*NEIC **09** 18:00:46.4±1.8, 51°.5S±0°.1×137°.6E±0°.2, h15km±4km, mb4.4/12, Error ellipse: s-maj=21.4km s-min=13.6km az=66.0*
ISC 09 18:00:46.0±0.7, 51°.5S±0°.1×137°.3E±0°.2, h10km, n32, σ1§51/20, mb4.5/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**13.38**	**111**	Pn	Pn	18 03 50.0	-5.7
CASY	**Casey**	**20.00**	**212**	P	**Pn**	**18 05 21.5**	**+1.4**
CASY				IAmb	IAmb	18 05 43.3	
	comp=Z,13nm,1.5s						
FORT	**Forrest**	**21.81**	**338**	P	**P**	**18 05 41.3**	**+3.2**
FORT				IAmb	IAmb	18 05 55.8	
	comp=Z,28nm,1.0s						
H01W1	**Cape Leeuwin H**	**23.51**	**306**	T	T	18 31 26.4	
	baz=139,slow=75,SNR=71						
H01W2	**Cape Leeuwin H**	**23.52**	**306**	T	T	18 31 27.2	
	baz=139,slow=75,SNR=88						
H01W3	**Cape Leeuwin H**	**23.53**	**306**	T	T	18 31 27.2	
	baz=139,slow=75,SNR=81						
OXZ	**Oxford**	**24.70**	**84**	P	**P**	**18 06 08.9**	**+1.8**
VNDA	**Vanda**	**27.68**	**169**	P	**P**	**18 06 32.9**	**-0.7**
ASAR	**Alice Springs**	**27.91**	**353**	P	**P**	**18 06 35.9**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=171,slow=9.3,SNR=25						
ASAR	**Alice Springs**	**27.91**	**353**	P	**P**	**18 06 35.1**	**-1.1**
AS31	**Alice Springs**	**27.92**	**353**	P	**P**	**18 06 35.5**	**-0.7**
WR0	**Warramunga Arr**	**31.55**	**355**	P	**P**	**18 07 07.9**	**-0.6**
WR0				IAmb	IAmb	18 07 31.5	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**31.58**	**355**	P	**P**	**18 07 08.2**	**-0.5**
WB2				IAmb	IAmb	18 07 08.3	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**31.58**	**355**	P	**P**	**18 07 08.2**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=177,slow=8.0,SNR=39						
WRA	**Warramunga Arr**	**31.58**	**355**	P	**P**	**18 07 07.7**	**-1.1**
WB0	**Warramunga Arr**	**31.75**	**355**	P	**P**	**18 07 09.2**	**-1.0**
WB0				IAmb	IAmb	18 07 18.9	
	comp=Z,19nm,1.8s						
FITZ	**Fitzroy Crossi**	**34.59**	**340**	P	**P**	**18 07 36.2**	**+1.3**
QSPA	**South Pole Qui**	**38.61**	**180**	P	**P**	**18 08 09.5**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=323,slow=5.6,SNR=4.1						
QSPA	**South Pole Qui**	**38.61**	**180**	IAmb	IAmb	18 08 22.9	
	comp=Z,4.4nm,1.2s						
RAO	**Raoul Island**	**39.91**	**74**	P	**P**	**18 08 20.8**	**+0.8**
CISI	**Cisompet, Garu**	**50.10**	**321**	P	**P**	**18 09 39.8**	**-1.5**
H08S2	**Diego Garcia H**	**68.47**	**285**	T	T	19 27 48.4	
	baz=142,slow=76,SNR=5.2						
H08S1	**Diego Carcia H**	**68.48**	**285**	T	T	19 27 46.8	
	baz=142,slow=76,SNR=4.2						
H08S3	**Diego Garcia H**	**68.49**	**285**	T	T	19 27 47.3	
	baz=142,slow=76,SNR=6.1						
H03S1	**Juan Fernandez**	**89.26**	**151**	T	T	19 52 46.7	
	baz=200,slow=74,SNR=9.0						
H03S2	**Juan Fernandez**	**89.26**	**151**	T	T	19 52 45.0	
	baz=200,slow=74,SNR=7.1						
H03S3	**Juan Fernandez**	**89.27**	**151**	T	T	19 52 37.9	
	baz=200,slow=74,SNR=7.8						
BRLK	**Bradley Lake**	**125.07**	**36**		**PKPdf**	**18 19 42.9**	**-2.4**
U15A	**North Rim**	**129.60**	**79**		PKPpre	18 19 47.0	
PV16	**Nyswonger Mesa**	**132.87**	**79**		**PKPdf**	**18 19 58.3**	**-2.7**
ARCES	**ARCESS Array B**	**144.32**	**326**	PKP	**PKPdf**	**18 20 20.9**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=96,slow=4.6,SNR=3.7						
GERES	**GERESS Array B**	**144.53**	**288**	PKP	**PKPdf**	**18 20 21.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=152,slow=4.3,SNR=4.1						

*IDC **09** 18:14:58.2±0.6, 51°.36S×139°.35E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/28, mbtmp4.4/12, ML4.2/1, MS4.3/18, Ms1 4.3/18, ms1mx4.2/34, Error ellipse: s-maj=24.3km s-min=14.1km az=85.0*
*BJI **09** 18:14:59.0±0.0, 51°.40S×138°.90E, h10km, mB5.3/10, mb5.1/13, Ms5.1/2, Ms7 4.7/1*
*NEIC **09** 18:15:00.0±1.8, 51°.39S±0°.09×138°.9E±0°.2, h15km±3km, mb5.0/48, Error ellipse: s-maj=16.4km s-min=13.5km az=101.0*
*GCMT **09** 18:15:02.0±0.2, 51°.42S±0°.01×139°.33E±0°.02, h14km±1km, MW5.0/110, Moment Tensor Solution. s37,c48; s110,c165; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.31±.14; $M_{\theta\theta}$1.98±.12; $M_{\phi\phi}$-0.67±.12; $M_{r\theta}$-0.38±.26; $M_{\theta\phi}$-4.04±.10; $M_{r\phi}$0.36±.25; Best double couple: $M_0$4.27400×10^{16} NP1:ϕ_s261.00000°, δ85.00000°, λ178.00000°. NP2:ϕ_s351.00000°, δ88.00000°, λ5.00000°. Principal axes: T 4.9500, Plg5.0000°, Azm216.0000°; N -1.3510, Plg85.0000°, Azm16.0000°; P -3.5990, Plg2.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 18:14:59.6±0.4, 51°.41S±0°.07×138°.99E±0°.09, h10km, n127, σ1§16/106, mb4.9/33, MS4.3/17, 3C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**14.58**	**21**	Pn	**Pn**	**18 18 27.1**	**+1.3**
CAN	**Canberra**	**17.62**	**28**	Pn	**Pn**	**18 19 03.0**	**-2.1**
BBOO	**Buckleboo**	**18.71**	**352**		**P**	**18 19 15.9**	**-2.1**
BBOO				IAmb	IAmb	18 19 45.7	
	comp=Z,123nm,1.9s						
DCZ	**Deep Cove**	**19.54**	**83**	P	**P**	**18 19 26.9**	**-0.1**
DCZ				IAmb	IAmb	18 20 15.4	
	comp=Z,161nm,1.8s						
STKA	**Stephens Creek**	**19.61**	**7**	P	**P**	**18 19 28.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=160,slow=17,SNR=4.8						
STKA				LR	LR	18 25 51.2	
	comp=Z,1μm,20.2s,baz=182,slow=33						
STKA	**Stephens Creek**	**19.61**	**7**	P	**P**	**18 19 27.4**	**-0.5**
WHZ	**Wether Hill Ro**	**19.84**	**85**	P	**P**	**18 19 29.9**	**-0.4**
WHZ				IAmb	IAmb	18 19 34.3	
	comp=Z,62nm,1.2s						
MLZ	**Mavora Lakes**	**20.19**	**84**	P	**P**	**18 19 33.9**	**-0.2**
CASY	**Casey**	**20.66**	**213**	P	Pn	18 19 40.4	-1.0
CASY				IAmb	IAmb	18 19 49.2	
	comp=Z,44nm,1.1s						
WKZ	**Wanaka**	**21.00**	**84**	P	**P**	**18 19 41.5**	**-1.5**
WKZ				IAmb	IAmb	18 20 14.8	
	comp=Z,69nm,1.3s						
ODZ	**Otahua Downs**	**21.91**	**86**	P	**P**	**18 19 53.9**	**+1.1**
ODZ				IAmb	IAmb	18 20 35.2	
	comp=Z,88n

comp=Z,307nm,19.2s,baz=168,slow=35
FITZ Fitzroy Crossi 34.88 337 P P 18 21 51.4 +0.4
KNRA Kununurra 36.57 343 P P 18 22 04.6 -0.9
KNRA IAmb IAmb 18 22 50.7
comp=Z,20nm,1.3s
COEN Coen 37.50 7 P P 18 22 14.8 +1.3
QSPA South Pole Qui 38.71 180 P P 18 22 23.7 +0.3
comp=Z,10nm,1.1s,baz=342,slow=1.4,SNR=19
QSPA LR LR 18 37 08.7
comp=Z,804nm,22.0s,baz=13,slow=34
QSPA South Pole Qui 38.71 180 P P 18 22 23.2 -0.2
QSPA IAmb IAmb 18 22 28.7
comp=Z,28nm,1.4s
RAO Raoul Island 38.86 72 LR LR 18 36 12.8
comp=Z,431nm,19.2s,baz=188,slow=33
MAW Mawson 38.95 216 P P 18 22 26.9 +1.7
comp=Z,4.1nm,0.9s,baz=128,slow=21,SNR=3.9
MAW LR LR 18 36 08.4
comp=Z,1μm,21.9s,baz=76,slow=32
MTN Manton Dam 38.98 348 P P 18 22 25.9 0.0
MTN IAmb IAmb 18 22 28.9
comp=Z,72nm,1.9s
BATI Baumata 42.95 338 P P 18 23 00.4 +1.7
comp=Z,11nm,0.6s,baz=36,slow=19,SNR=2.4
BATI LR LR 18 41 09.2
comp=Z,375nm,19.0s,baz=194,slow=36
SOEI Soe 43.25 339 P P 18 23 01.7 +0.5
SOEI IAmb IAmb 18 23 09.2
comp=Z,24nm,1.1s
SAUI Saumlaki 43.75 349 P P 18 23 06.7 +1.6
MMRI Maumere 44.82 336 P P 18 23 14.6 +1.0
HNR Honiara 45.25 30 LR LR 18 41 03.9
comp=Z,237nm,18.6s,baz=207,slow=35
SYO Syowa Base 46.34 209⇑ *eP* **P 18 23 25.0 -0.1**
SYO Syowa Base 46.34 209⇑ *ep*P pP 18 23 27.6 +0.3
CISI Cisompet, Garu 50.72 318 P P 18 23 55.9 -3.5
BELA Belgrano 2 50.92 182 P P 18 23 59.6 -0.7
NIUE Niue 51.29 71 P P 18 24 04.1 +0.4
COCO West Island 51.86 303 P P 18 24 06.5 -1.5
LUWI Luwuk 52.02 339 P P 18 24 07.6 -1.5
LUWI IAmb IAmb 18 25 22.9
comp=Z,27nm,0.9s
SNAA Sanae 54.29 194 P P 18 24 25.8 +0.5
comp=Z,7.9nm,1.2s,baz=193,slow=15,SNR=6.3
VNA3 Neumayer Olymp 55.63 192 P P 18 24 35.4 +0.5
VNA1 Neumayer--Stat 55.99 193 P P 18 24 37.6 +0.1
LHMI Lhok Sumawe 66.88 314 P P 18 25 51.6 -0.1
H08S2 Diego Garcia H 69.47 284 T T 19 42 06.1
baz=142,slow=76,SNR=37
H08S1 Diego Carcia H 69.48 284 T T 19 42 05.6
baz=142,slow=76,SNR=25
H08S3 Diego Garcia H 69.49 284 T T 19 42 07.6
baz=142,slow=76,SNR=42
XMAS Kiritimati 75.46 68 P P 18 26 44.1 +0.3
TPUB Ta-pu 76.12 343 P P 18 26 46.6 -0.7
TPUB IAmb IAmb 18 27 00.8
comp=Z,27nm,1.5s
SSLB Suanglung 76.53 343 P P 18 26 48.9 -0.7
SSLB IAmb IAmb 18 27 02.8
comp=Z,32nm,2.0s
HKPS Hong Kong Po S 76.55 336 P P 18 26 48.2 -1.5
KNMB Chin-men Tao 77.69 341 P P 18 26 54.2 -1.9
CM31 Chiang Mai Arr 77.89 321 P P 18 26 55.5 -1.8
CMAR Chiang Mai Arr 77.89 321 P P 18 26 59.7 +2.3
comp=Z,0.4nm,0.4s,baz=184,slow=5.4,SNR=5.7
CMAR LR LR 19 00 54.5
comp=Z,126nm,19.9s,baz=201,slow=35
CMAR Chiang Mai Arr 77.89 321 P P 18 26 56.2 -1.1
CHTO Chiang Mai 78.21 321 P P 18 26 59.6 +0.5
BOSA Boshof 81.39 234 LR LR 18 55 53.4
comp=Z,294nm,21.4s,baz=166,slow=30
KMI Kunming 82.60 327⇑ *eP* **P 18 27 26.5 +3.6**
KMI pP pwP 18 27 30.0 +0.6
KMI sP PcP 18 27 31.2 +3.3
KMI pmax pmax
comp=Z,12nm,0.5s
KMI pmax pmax
comp=Z,130nm,5.3s
NJ2 Nanjing 84.97 343 *eP* **P 18 27 37.8 +3.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
SHL Shillong 87.11 319 P P 18 27 45.7 +0.1
SHL IAmb IAmb 18 28 03.1
comp=Z,16nm,1.4s
CD2 Chengdu 87.63 330 P P 18 27 49.0 +1.2
H03S2 Juan Fernandez 88.81 149 T T 20 06 53.1
baz=200,slow=74,SNR=37
H03S1 Juan Fernandez 88.81 149 T T 20 06 54.5
baz=200,slow=74,SNR=46
H03S3 Juan Fernandez 88.83 149 T T 20 06 56.1
baz=200,slow=74,SNR=44
KSRS Korea Array 89.02 351 LR LR 19 07 20.3
comp=Z,54nm,21.1s,baz=126,slow=35
JSD Sado 89.07 359 P P 18 27 55.2 +0.9
JSD IAmb IAmb 18 27 58.5
comp=Z,12nm,1.2s
H03N3 Juan Fernandez 89.16 149 T T 20 07 23.8
baz=209
H03N2 Juan Fernandez 89.17 149 T T 20 07 18.4
baz=209
H03N1 Juan Fernandez 89.18 149 T T 20 07 21.8
baz=209
HHC Hu-ho-hao-te 94.94 339 *eP* **P 18 28 23.0 +1.4**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,94nm,6.0s
KMBO Kilima Mbogo 96.44 260 LR LR 19 04 36.0
comp=Z,149nm,20.0s,baz=94,slow=31
NVAR Mina Array Bea 126.21 72 PKP PKiKP 18 34 02.5 +0.1
comp=Z,0.4nm,0.5s,baz=208,slow=3.6,SNR=4.1
KVN Kaiserville 126.74 71 PKiKP 18 34 03.2 -0.2
ILAR Eielson Array 129.12 32 PKP PKPdf 18 34 05.7 -0.7
comp=Z,0.5nm,0.5s,baz=267,slow=3.6,SNR=6.2
TXAR Lajitas Array 129.14 91 PKP PKPdf 18 34 06.8 -0.9
comp=Z,0.5nm,0.9s,baz=188,slow=3.6,SNR=4.1
EGAK Eagle 131.08 34 PKPdf 18 34 09.4 -0.7
FINES FINESS Array B 143.21 312 PKP PKPdf 18 34 31.1 -1.4
comp=Z,3.1nm,0.9s,baz=188,slow=1.3,SNR=3.5
CONA Conrad Observa 143.81 287 *e*PKPdf **PKPdf 18 34 34.7 +0.6**
comp=Z,2.8nm,1.5s
KRLC Kraliky 144.22 291 *e*PKP PKPbc 18 34 32.9 -0.1
KRLC *ex* x 18 34 43.4
PRED Cave del Predi 144.50 284 PKPdf 18 34 35.0 -0.4
MYKA Terra Mystica 144.54 284 *e*PKPdf **PKPdf 18 34 35.0 -0.5**
comp=Z,2.3nm,0.5s
DPC Dobruska-Polom 144.60 291 *e*PKP **PKPdf 18 34 35.2 -0.2**
DPC *ex* x 18 34 48.6
MOA Molln 144.73 286 *e*PKPab PKPbc 18 34 35.0 +0.3
comp=Z,7.4nm,1.5s
OSTC Ostas 144.75 292 *e*PKP **PKiKP 18 34 37.7 -1.6**
ARCES ARCESS Array B 144.84 326 PKP PKPbc 18 34 34.6 +0.3
comp=Z,6.0nm,1.0s,baz=79,slow=4.7,SNR=12
ARCES ARCESS Array B 144.84 326 PKPab 18 34 34.2 -0.1
ABTA Abfaltersbach 145.29 284 *e*PKPab **PKPdf 18 34 37.2 +0.5**
comp=Z,15nm,1.2s
F36A Milaca 145.49 78 PKPdf 18 34 36.3 -0.7
PRU Pruhonice 145.49 290 *e*PKP **PKPab 18 34 39.0 +1.8**
GERES GERESS Array B 145.51 288 PKPbc **PKPab 18 34 37.4 -0.1**
comp=Z,5.9nm,1.0s,baz=134,slow=5.8,SNR=23
GERES GERESS Array B 145.51 288 PKPdf 18 34 36.6 -0.4
KHC Kasperske Hory 145.71 288 *e*PKP **PKPab 18 34 38.5 +0.4**
KHC *ex* x 18 34 49.1
JFWS Jewell Farm 146.03 85 PKPdf 18 34 37.2 -0.8
WTTA Wattenberg 146.06 284 *e*PKPab **PKiKP 18 34 41.1 -1.3**
comp=Z,10nm,1.2s
WATA Walderalm 146.12 284 *e*PKPab **PKiKP 18 34 41.2 -1.3**
comp=Z,2.8nm,0.7s
BRG Berggiesshubel 146.20 291 *eP* **PKPab 18 34 39.7 -0.2**
comp=Z,5.5nm,1.1s
SQTA Sankt Quirin 146.30 284 *e*PKPab **PKPab 18 34 40.3 -0.2**
comp=Z,4.3nm,0.6s
I40A Norwalk 146.31 83 PKPdf 18 34 38.2 -0.3
SPITS Spitsbergen Ar 146.35 342 PKPbc **PKPbc 18 34 39.2 +0.3**
comp=Z,3.6nm,0.7s,baz=124,slow=13,SNR=2.0
MOTA Moosalm 146.42 284 *e*PKPab **PKPab 18 34 41.2 +0.2**
comp=Z,10nm,1.1s
FETA Feichten 146.50 283 *e*PKPab **PKPab 18 34 40.9 -0.5**
comp=Z,12nm,1.2s
RETA Reutte 146.69 284 *e*PKPbc **PKPbc 18 34 41.2 +0.4**
comp=Z,2.3nm,0.6s
CLL Collm 146.91 292 *e*PKPbc **PKPab 18 34 42.0 -0.6**
DAVA Damuels 147.13 283 *e*PKPbc **PKPbc 18 34 42.7 +0.6**
comp=Z,12nm,1.4s
GRF Grafenberg Arr 147.34 288 *e*PKPbc **PKiKP 18 34 44.9 +0.2**
baz=126,slow=3.3

MDT Midelt 147.66 249 PKPbc **PKPbc 18 34 43.4 -0.6**
comp=Z,2.2nm,0.9s,baz=329,slow=4.3,SNR=4.4
NOA NORSAR Array B 150.19 309 PKPbc **PKPbc 18 34 49.0 -0.4**
comp=Z,1.7nm,0.8s,baz=248,slow=3.1,SNR=4.7
ESDC Sonseca Array 151.82 260 PKPbc **PKiKP 18 34 54.4 +0.1**
comp=Z,4.0nm,1.2s,baz=66,slow=0.5,SNR=8.4

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*ANF **09** 18:17:56.9±0.7, 36°.63N×121°.34W, h0km, ML3.8/26, Error ellipse: s-maj=8.3km s-min=6.1km az=76.0*
*NEIC **09** 18:17:57.8±1.3, 36°.64N±0°.01×121°.38W±0°.05, h13km±3km, Error ellipse: s-maj=5.9km s-min=1.5km az=74.0*
*NCEDC **09** 18:17:58.0±1.5, 36°.68N±0°.04×121°.31W±0°.07, h6km±6km, Mwr3.6/4, Error ellipse: s-maj=9.1km s-min=3.5km az=61.0*
*NEIC **09** 18:17:58, 36°.68N×121°.31W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.51; $M_{\theta\theta}$-3.19; $M_{\phi\phi}$2.68; $M_{r\theta}$-0.13; $M_{\theta\phi}$-0.06; $M_{\phi r}$-0.00; Fault plane solution: $M_0$2.97000×10^{14} NP1:ϕ_s44.38000°, δ88.58000°, λ-1.42000°. NP2:ϕ_s134.41000°, δ88.58000°, λ-178.58000°. Principal axes: T 2.6795, Plg0.0000°, Azm89.0000°; N 0.5179, Plg88.0000°, Azm179.0000°; P -3.1974, Plg2.0000°, Azm359.0000°;*

ISC 09 18:17:58.0±0.8, 36°.65N±0°.02×121°.37W±0°.02, h14km±4km, n261, σ0.98/274, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	0.05	110		Pg	18 18 01.0	+0.5
SCZ	**Santa Cruz**	0.05	208		Pg	18 18 01.9	+1.3
BCGM	**Cienega Road**	0.07	20		Pg	18 17 59.4	-1.3
BLRM	**Lions Park**	0.08	76		Pg	18 17 59.5	-1.4
BJCM	**Johnson Can.**	0.10	189		Pg	18 18 01.0	0.0
BVYM	**Vineyard**	0.11	342		Pg	18 18 00.5	-0.8
BHRM	**Hodges Ranch**	0.12	46		Pg	18 18 00.3	-1.0
BSRM	**Salinas Radio**	0.12	280		Pg	18 18 01.4	0.0
BSLM	**Silva Ranch**	0.13	8		Pg	18 18 01.2	-0.3
SAO	**San Andreas Ge**	0.13	333		Pg	18 18 00.9	-0.6
SAO					Sg	18 18 03.2	-0.8
FRP	**Fremont Peak**	0.14	319		Pg	18 18 01.2	-0.5
BEHM	**Elkhorn Ranch**	0.16	83		Pg	18 18 01.3	-0.6
BVL	**Bear Valley**	0.16	116		Pg	18 18 01.2	-0.7
HJSM	**John Smith Roa**	0.18	19		Pg	18 18 01.7	-0.5
BPCNC	**Pine Canyon**	0.22	251		Pg	18 18 03.7	+0.9
BEMM	**Emmet**	0.22	86		Pg	18 18 02.3	-0.6
HJGM	**San Juan Grade**	0.22	313		Pg	18 18 02.8	-0.1
BPIM	**Pinnacles**	0.23	133		Pg	18 18 02.4	-0.5
BSGM	**Shirttail Gulc**	0.25	158		Pg	18 18 03.2	-0.1
HBTM	**San Juan Bauti**	0.25	325		Pg	18 18 03.4	+0.1
BSMM	**Soledad Missio**	0.27	190		Pb	18 18 04.3	-0.4
BAVM	**Antelope Valle**	0.28	90		Pg	18 18 03.4	-0.4
BBGB	**Big Mountain B**	0.28	104		Pg	18 18 04.0	+0.1
BBGB					Sg	18 18 08.9	+1.2
HTUM	**Tustin Road**	0.28	310		Pg	18 18 04.0	0.0
HAST	**Hastings Reser**	0.29	210		Pb	18 18 04.8	-0.3
HAST					Sb	18 18 09.7	-0.2
HERM	**Elkhorn Road**	0.31	299		Pg	18 18 04.9	+0.5
HFEM	**San Felipe**	0.34	356		Pg	18 18 05.0	+0.1
LRV	**Little Rabbit**	0.36	128		Pg	18 18 05.3	0.0
HCOM	**Corn Cob Canyo**	0.36	312		Pg	18 18 05.6	+0.3
CBC	**Chamberlain**	0.37	321		Pg	18 18 05.3	-0.2
PACP	**Pacheco Peak**	0.37	11		Pg	18 18 05.4	-0.1
BCWM	**Chews Ridge**	0.37	205		Pb	18 18 06.4	-0.1
CDC	**Canada Road**	0.39	347		Pg	18 18 06.0	+0.2
HPCM	**Pacheco Lake**	0.42	11		Pg	18 18 06.3	-0.1
SFJWR	**San Luis Fatjo**	0.43	22		Pg	18 18 06.2	-0.4
HMOM	**Monterey**	0.44	264		Pg	18 18 07.5	+0.8
HMOM					Sb	18 18 15.0	+0.9
SLD	**San Luis Dam**	0.45	16		Pg	18 18 06.5	-0.4
HLPM	**Lions Peak**	0.45	332		Pg	18 18 07.1	+0.3
GHS	**Gilroy Hot Spr**	0.45	352		Pg	18 18 07.1	+0.1
JELB	**Ellicott, Sant**	0.46	308		Pg	18 18 07.5	+0.3
BMSM	**Mercy Hot Spri**	0.47	88		Pg	18 18 07.1	-0.1
LRC	**Lone Oak Road**	0.48	146		Pg	18 18 07.2	-0.2
BRMM	**Rolling Bench**	0.48	67		Pb	18 18 07.8	-0.4
HSPM	**Sheep**	0.48	346		Pg	18 18 07.8	+0.3
PBWM	**Bitterwater Cr**	0.49	133		Pg	18 18 07.3	-0.3
BAPM	**Anderson Peak**	0.52	205		Pb	18 18 08.9	0.0
PHRM	**Hernandez Vall**	0.52	121		Pg	18 18 08.1	-0.2
BPOM	**Post Ranch**	0.52	118		Pb	18 18 09.0	0.0
CADM	**Anderson Res.**	0.56	339		Pg	18 18 09.1	+0.2
PCCM	**Crazy Canyon**	0.58	163		Pb	18 18 09.8	-0.1
JLAB	**Laurel Hill**	0.58	330		Pg	18 18 09.7	+0.2
SCKWR	**San Luis Creek**	0.59	24		Pg	18 18 09.6	+0.1
JHLM	**Holstrom Ranch**	0.59	321		Pg	18 18 09.7	+0.1
JRGM	**Rodeo Gulch Ro**	0.62	310		Pg	18 18 09.8	-0.3
PMPB	**Monarch Peak**	0.63	133	Pg	Pg	18 18 09.9	-0.4
AMC	**Almaden**	0.64	323		Pg	18 18 10.4	-0.1
MOBB	**Monterey Bay O**	0.64	274		Pb	18 18 11.6	+0.7
JSTM	**Santa Teresa H**	0.66	329		Pg	18 18 11.0	+0.2
CCOB	**Coe Ranch Numb**	0.66	339		Pb	18 18 11.5	+0.2
JUMM	**Mount Umunhum**	0.67	321		Pg	18 18 10.6	-0.4
CMPM	**Mikes Peak**	0.71	3		Pg	18 18 12.0	+0.1
ARN	**Arnold Ranch**	0.71	350		Pg	18 18 12.0	+0.1
MHC	**Mount Hamilton**	0.73	343		Pg	18 18 12.3	+0.1
PAPM	**Alder Peak**	0.73	179		Pb	18 18 12.7	+0.1
PSAM	**San Ardo**	0.73	148		Pg	18 18 12.0	-0.2
SCCS	**Santa Clara Co**	0.77	329		Pg	18 18 13.1	+0.5
PJUM	**Juniper Ridge**	0.75	123		Pb	18 18 12.8	-0.1
JBNB	**Ben Lomond Mou**	0.79	307		Pg	18 18 12.7	-0.6
CMMM	**Mount Mocho**	0.81	353		Pg	18 18 13.8	0.0
PSMM	**Smith Mountain**	0.85	132		Pb	18 18 14.2	-0.4
CMLM	**Mount Lewis**	0.86	345		Pg	18 18 14.8	+0.1
PHPM	**Hope Ranch**	0.91	137		Pg	18 18 14.8	-0.7
PARM	**Anticline Ridg**	0.92	115		Pb	18 18 15.9	+0.2
PANM	**San Antonio Re**	0.94	156		Pg	18 18 15.9	-0.3
JPSM		0.96	306		Pg	18 18 15.9	-0.6
PWMM	**Westland Maint**	0.96	102		Pb	18 18 16.0	-0.4
JJRM	**Joaquin Road**	0.96	317		Pg	18 18 16.3	-0.3
JFP	**Foothills Park**	0.97	318		Pg	18 18 16.3	-0.4
PKD	**Bear Valley Ra**	0.97	136		Pg	18 18 15.8	-0.8
PHCM	**Hearst Castle**	0.98	170		Pb	18 18 16.8	+0.1
PPO	**Portuguese Can**	0.99	142		Pb	18 18 16.8	-0.2
PVCM	**Vineyard Canyo**	0.99	137		Pg	18 18 16.4	-0.7
JSFB	**Stanford Teles**	0.99	320		Pg	18 18 16.5	-0.6
PSTM	**Stockdale Moun**	1.00	135		Pg	18 18 16.4	-0.9
WENL	**Wente Vineyard**	1.02	343		Pg	18 18 17.4	-0.4
JRSC	**Jasper Ridge**	1.03	318		Pg	18 18 17.1	-0.7
BGH	**Bear Gulch**	1.04	312		Pg	18 18 17.3	-0.8
CVLM	**Vallecito**	1.05	339		Pg	18 18 17.6	-0.6
MYLM	**Yosemite Lake**	1.06	46		Pg	18 18 17.1	-1.4
CNIC	**Niles Canyon**	1.07	334		Pg	18 18 17.7	-0.9
RAMR	**Ramage Ranch**	1.09	158		Pg	18 18 18.2	-0.7
CTM	**Castle Mountai**	1.10	130		Pb	18 18 19.1	+0.3
CGPM	**Gavin Park**	1.12	333		Pb	18 18 19.8	+0.6
PHAM	**Harlan Ranch**	1.13	135		Pg	18 18 18.6	-1.2
PCMM	**Cholame Hills**	1.14	137		Pg	18 18 19.0	-1.0
PCBM	**Cambria**	1.15	167		Pg	18 18 19.0	-1.2
GHC	**Gold Hill**	1.16	134		Pg	18 18 18.9	-1.3
BLDC	**Black Mountain**	1.17	161		Pg	18 18 19.8	-0.8
BLDC	**Black Mountain**	1.17	161		Pg	18 18 19.7	-0.8
PKEM	**Kettleman Hill**	1.17	119		Pb	18 18 20.2	+0.1
PSRM	**Scobie Ranch**	1.18	131		Pg	18 18 20.1	-0.7
CBSNC	**Byron Hot Spri**	1.19	350		Pg	18 18 19.9	-1.0
PKLM	**Kerr Lake**	1.21	136		Pg	18 18 19.7	-1.5
JCPM	**Coyote Point**	1.21	321		Pg	18 18 19.4	-1.9
CMOB	**Morgan Territo**	1.21	344		Pn	18 18 22.4	+1.8
PSNM	**Stone Corral**	1.22	134		Pg	18 18 19.9	-1.6
ARDC	**Alexander Ranc**	1.22	165		Pg	18 18 20.0	-1.5
CLCB	**Lake Chabot**	1.22	333		Pg	18 18 20.3	-1.2
PMCM	**McMillan Canyo**	1.23	138		Pg	18 18 20.0	-1.6
CSLM	**San Leandro Hi**	1.23	331		Pg	18 18 20.0	-1.6
PMRM	**Maxey Ranch**	1.26	133		Pg	18 18 20.6	-1.6
MHDM	**Hidden Dam**	1.27	68		Pb	18 18 20.2	-1.6
PAGB	**Antelope Grade**	1.29	135		Pn	18 18 20.8	-0.8
BGC	**Bolinger Road**	1.29	335		Pn	18 18 20.9	-0.8
JMGM	**Milagra Ridge**	1.32	319		Pn	18 18 21.1	-1.0
PTAM	**Tassajara Cree**	1.36	157		Pn	18 18 21.9	-0.7
PTRM	**Twissleman Ran**	1.36	136		Pn	18 18 22.1	-0.6
BKS	**Berkeley--Byer**	1.41	331		Pn	18 18 22.8	-0.4
CVPM	**Vollmer Peak**	1.41	332		Pn	18 18 22.4	-0.9
LSDC	**Los Osos Digit**	1.41	162		Pn	18 18 24.0	+0.7
BL67	**Building 67, L**	1.42	330		Pn	18 18 22.7	-0.7
VAK	**Adit at Lawren**	1.42	331		Pn	18 18 22.7	-0.6
BRK	**Berkeley--Havi**	1.42	330		Pn	18 18 22.8	-0.5
EFD	**Emergency Oper**	1.42	158		Pn	18 18 22.9	-0.5
MCUB	**Copperopolis B**	1.46	24		Pn	18 18 22.9	-1.1
VPDC	**Valencia Peak**	1.46	164		Pn	18 18 23.5	-0.5
DPD	**Davis Peak**	1.49	161		Pn	18 18 24.1	-0.3
DCD	**Diablo Creek**	1.49	163		Pn	18 18 24.2	-0.3
PBPM	**Bitterwater Pu**	1.49	135		Pn	18 18 24.3	-0.2
CPIM	**Pinole Ridge**	1.50	334		Pn	18 18 23.9	-0.6
CSPM	**San Pablo Ridg**	1.51	331		Pn	18 18 24.0	-0.6
MMIM	**Miami Mountain**	1.52	59		Pn	18 18 24.4	-0.5
MNHB	**New Hogan Dam**	1.56	16		Pn	18 18 24.3	-1.1
CMB	**Columbia Colle**	1.59	29		Pn	18 18 25.1	-0.7
NLHM	**Lake Herman**	1.60	337		Pn	18 18 25.6	-0.3
VOG	**Valley Oaks Go**	1.64	101	S	Sn	18 18 47.7	+0.4
	baz=284						
SMMC	**Simmler**	1.73	140	P	Pn	18 18 27.0	-0.8
	baz=322,SNR=66						
SMMC	**Simmler**	1.73	140		Pn	18 18 28.1	+0.3
SNT	**Sears Point**	1.76	331		Pn	18 18 27.1	-0.9
BCH	**Branch Mountai**	1.79	144		Pn	18 18 27.8	-0.9
AASM	**Arroyo Seco**	1.79	7		Pn	18 18 26.8	-1.7
CARC	**Carrizo Plain**	1.82	137		Pn	18 18 28.6	-0.4
PMLM	**Mount Lospe**	1.85	160		Pn	18 18 28.9	-0.5
MRHM	**Rocky Hill**	1.88	100		Pn	18 18 30.0	+0.3
CVS	**Carmenet Viney**	1.90	333		Pn	18 18 29.4	-0.7
MCCM	**Marconi Confer**	1.92	322	Pn	Pn	18 18 30.9	+0.6
CRGC	**Crocker Grade**	1.94	136		Pn	18 18 31.3	+0.7
VES	**Vestal, Richgr**	2.02	113	P	Pn	18 18 30.0	-1.6
	baz=296,SNR=22						
VES				S	Sn	18 18 56.6	0.0
	baz=296						
NTYM	**Taylor**	2.02	330		Pn	18 18 31.0	-0.7
MRDM	**Red Cones**	2.08	62		Pn	18 18 33.9	+1.1
MDPB	**Devils Postpil**	2.08	61		Pn	18 18 33.1	+0.4
MINS	**Minaret Summit**	2.10	61		Pn	18 18 34.1	+1.0
MMPM	**Mammoth Pass**	2.11	62		Pn	18 18 34.0	+0.8
MMSM	**Mammoth Summit**	2.11	62		Pb	18 18 35.6	-0.7
NSHM	**Saint Helena R**	2.11	333		Pn	18 18 31.9	-1.1
NBPM	**Berryessa Peak**	2.12	342		Pn	18 18 33.1	0.0
MLIM	**Lincoln Peak**	2.12	62		Pn	18 18 35.1	+1.6
OMMB	**Old Mammoth Mi**	2.13	62		Pn	18 18 33.7	+0.2
MDYM	**Dry Creek**	2.14	61		Pn	18 18 34.8	+1.2
MDCM	**Deadman Creek**	2.14	60		Pn	18 18 34.5	+0.9
SPG2	**Springville 2**	2.15	101		Pn	18 18 32.7	-0.8
PKM	**Mcpherson Peak**	2.16	144	P	Pn	18 18 33.0	-0.8
	baz=326,SNR=68						
PKM				S	Sn	18 19 01.0	+0.5
	baz=326						
PKM	**Mcpherson Peak**	2.16	144		Pn	18 18 33.4	-0.4
MLCM	**Laurel Creek C**	2.19	63		Pn	18 18 35.3	+1.1
MEMM	**East Mammoth H**	2.19	62		Pn	18 18 35.6	+1.3
MGPM	**Gravel Pit**	2.20	63		Pn	18 18 35.9	+1.5
GATR	**Gnd/Air Tx Cnt**	2.21	161		Pn	18 18 33.7	-0.6
MCSM	**Casa Diablo Ho**	2.21	62		Pn	18 18 35.9	+1.3
MCBM	**Casa Benchmark**	2.21	63		Pn	18 18 36.2	+1.6
MCMM	**Convict Lake**	2.22	64		Pn	18 18 35.8	+1.2
FIGC	**Figueroa Mtn.**	2.22	149		Pn	18 18 34.2	-0.3
LUL	**Lundy Lake**	2.24	51		Pn	18 18 36.9	+1.9
MLAC	**Mammoth, Mammo**	2.25	63	S	Sn	18 19 02.6	-0.3
	baz=245						
MDRNC	**Doe Ridge**	2.26	63		Pn	18 18 36.7	+1.6
SCHCA	**Scheelite**	2.26	71		Pn	18 18 36.6	+1.4
MLHM	**Little Hot Cre**	2.29	62		Pb	18 18 38.8	-0.4
NMCNC	**Mill Creek, So**	2.29	328		Pn	18 18 34.2	-1.3
NMTM	**Middletown**	2.32	339		Pn	18 18 35.2	-0.6
NJQ	**Nojoqui County**	2.32	155		Pn	18 18 36.0	+0.2
BCW	**Bitter Crk WRg**	2.33	136		Pn	18 18 37.2	+1.1
FTR	**Fort Ross**	2.35	323		Pn	18 18 35.6	-0.7
MTUM	**Tungsten Hills**	2.36	72		Pn	18 18 37.8	+1.3
ORC	**Owens River**	2.38	65		Pn	18 18 38.7	+1.8
SYP	**Santa Ynez Pea**	2.40	151		Pn	18 18 36.5	-0.5
BHPR	**Bishop**	2.40	73		Pn	18 18 38.4	+1.3
WAKR	**Walker**	2.41	39		Pn	18 18 38.4	+1.1
WOFM	**Oak Flat**	2.42	116		Pn	18 18 37.4	+0.1
MGNR	**McGee Canyon**	2.43	61		Pn	18 18 39.8	+2.1
GDXM	**Geysers**	2.44	333		Pn	18 18 37.5	+0.1
GSGM	**Seigler Mounta**	2.46	335		Pn	18 18 37.1	-0.6
BENR	**Benton**	2.48	64		Pn	18 18 39.9	+1.7
ABL	**Mount Abel**	2.50	135		Pn	18 18 38.6	+0.1
MRCM	**Red Rock Canyo**	2.51	65		Pn	18 18 40.6	+2.0
MCDM	**Chidago Canyon**	2.51	68		Pn	18 18 40.8	+2.2
ISA	**Isabella, Lake**	2.54	112	P	Pn	18 18 39.3	+0.4
	baz=295,SNR=196						
ISA				S	Sn	18 19 10.5	+0.8
	baz=295						
ISA	**Isabella, Lake**	2.54	112	Pn	Pn	18 18

baz=309,SNR=5.2
BELC Belle Mtn. Jos 5.12 119 P Pn 18 19 14.2 -0.3
baz=303
MOD Modoc Plateau 5.32 9 Pn 18 19 17.0 -0.1
MONP2 Monument Peak 5.53 131 P Pn 18 19 20.6 +0.4
baz=315
TKX Tecate 5.65 135 Pn 18 19 20.9 -0.8
IRM Iron Mountain 5.66 114 P Pn 18 19 20.9 -0.8
baz=298
BC3 Big Chuckawall 5.69 120 P Pn 18 19 21.5 -0.8
baz=304
K05A Summer Lake 6.08 3 Pn 18 19 27.9 +0.2
PSUT Pine Spring 6.26 70 Pn 18 19 31.4 +1.3
ELK Elko 6.30 48 Pn 18 19 29.9 -0.8
PDMCI Parker Dam,Lak 6.34 109 P Pn 18 19 30.5 -0.6
baz=294
ESJX Sierra Juarez 6.45 134 Pn 18 19 32.3 -0.4
CCUT Cedar City 6.46 80 Pn 18 19 32.4 -0.6
GLA Glamis 6.46 122 P Pn 18 19 33.1 +0.3
baz=306
MSU Marysvale 7.54 73 Pn Pn 18 19 46.3 -1.3

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*NEIC **09** 18:24:51.2±2.9, 27°.88S±0°.07×66°.68W±0°.10, h157km±7km, mb4.2/6, Md3.8(SJA), Error ellipse: s-maj=12.5km s-min=9.9km az=105.0*
*IDC **09** 18:24:52.7±2.2, 27°.78S×66°.64W, h163km±20km, mb3.5/5, mb1 3.7/9, mb1mx3.5/29, mbtmp4.0/9, MS2.3/1, Ms1 2.3/1, ms1mx2.2/20, Error ellipse: s-maj=25.2km s-min=17.3km az=62.0*
ISC 09 18:24:51.7±0.6, 27°.83S±0°.05×66°.75W±0°.07, h164km, n59, σ1°35/66, mb3.8/6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**3.10**	**273**	Pn	**Pn**	**18 25 42.0**	**+1.2**
GO03				Sn	**Sn**	**18 26 18.3**	**-0.7**
AC05	**El Transito**	**3.26**	**251**	Pn	**Pn**	**18 25 44.4**	**+1.4**
AC05				Sn	**Sn**	**18 26 23.3**	**+0.4**
CO01	**Juntas del Tor**	**3.63**	**233**		**Pn**	**18 25 49.5**	**+1.7**
CO01				Sn	**Sn**	**18 26 33.6**	**+2.1**
LCO	**Las Campanas**	**3.67**	**250**	Pn	**Pn**	**18 25 48.9**	**+0.5**
LCO				Sn	**Sn**	**18 26 32.1**	**-0.3**
GO02	**Mina Guanaco**	**3.68**	**316**		**Pn**	**18 25 51.1**	**+2.6**
AC01	**Pan de Azucar**	**3.82**	**295**	Pn	**Pn**	**18 25 51.2**	**+1.2**
AC01					**Sn**	**18 26 33.5**	**-1.9**
AC04	**Llanos de Chal**	**3.84**	**263**	Pn	**Pn**	**18 25 50.3**	**0.0**
ZON	**Zonda**	**4.07**	**204**	Pn	**Pn**	**18 25 53.4**	**+0.2**
GO04	**Tololo Observa**	**4.25**	**236**	Pn	**Pn**	**18 25 55.7**	**0.0**
CO03	**El Pedregal**	**4.56**	**228**		**Pn**	**18 25 59.7**	**0.0**
PB14	**IPOC Station P**	**4.57**	**313**	Pn	**Pn**	**18 26 01.5**	**+1.4**
CO02	**Combarbal**	**5.00**	**227**		**Pn**	**18 26 04.6**	**-0.8**
PB15	**IPOC Station P**	**5.21**	**331**	Pn	**Pn**	**18 26 10.4**	**+2.0**
PB15					**Sn**	**18 27 08.3**	**-0.1**
PB10	**IPOC Station P**	**5.50**	**321**	Pn	**Pn**	**18 26 13.6**	**+1.7**
LVC	**Limon Verde**	**5.55**	**339**	P	**Pn**	**18 26 14.9**	**+1.9**
3.1nm,0.3s,baz=148,slow=10,SNR=26
LVC S **Sn 18 27 16.7 +0.1**
7.1nm,0.3s,baz=254,slow=23,SNR=29
LVC LR LR 18 27 53.8
comp=Z,28nm,20.5s,baz=242,slow=33
LVC Limon Verde 5.55 339 Pn Pn 18 26 14.7 +1.7
LVC **Sn 18 27 16.8 +0.3**
PB06 IPOC Station P 5.70 333 Pn Pn 18 26 16.4 +1.6
VA03 San Esteban 5.92 213 Pn Pn 18 26 17.4 0.0
PEL Peldehue 6.29 212 Pn Pn 18 26 21.5 -0.9
ROC1 El Roble 6.32 215 Pn 18 26 21.0 -1.9
PB09 IPOC Station P 6.42 339 Pn 18 26 25.4 +1.2
PB09 **Sn 18 27 35.3 -1.6**
MT05 Renca 6.52 211 Pn Pn 18 26 24.8 -0.6
MT02 Curacav 6.60 214 Pn 18 26 24.8 -1.7
PB07 IPOC Station P 6.71 334 Pn 18 26 28.3 +0.1
PB01 IPOC Station P 7.20 339 Pn 18 26 34.6 +0.1
PATCX Punta Patache 7.63 335 Pn Pn 18 26 39.5 -0.8
BO02 Sierra Bellavi 7.75 205 Pn Pn 18 26 40.1 -1.6
TA01 Diego Aracena 7.88 336 Pn Pn 18 26 41.5 -1.9
PB08 IPOC Station P 7.96 343 Pn 18 26 44.4 -0.5
GO05 Huala 8.41 210 Pn Pn 18 26 47.3 -3.3
GO01 Chusmiza 8.42 344 Pn 18 26 50.7 -0.5
GO01 **Sn 18 28 23.2 -2.2**
PB11 IPOC Station P 8.46 341 Pn Pn 18 26 49.0 -2.3
CPUP Villa Florida 8.53 82 P Pn 18 26 51.6 -0.4
0.2nm,0.3s,baz=248,slow=12,SNR=5.3
PSGCX Pisagua 8.75 339 Pn Pn 18 26 53.0 -2.2
MNMC Minye Minye 9.04 343 Pn 18 26 57.3 -1.9
BI02 San Fabin de 9.61 202 Pn Pn 18 27 03.8 -2.5
PB12 IPOC Station P 9.74 340 Pn Pn 18 27 06.2 -2.0
PB16 IPOC Station P 9.78 344 Pn 18 27 08.7 -0.6
BI03 Tigo 10.44 209 Pn Pn 18 27 12.0 -5.1
LPAZ La Paz 11.55 353 P Pn 18 27 32.9 +0.4
0.9nm,0.3s,baz=164,slow=9.0,SNR=17
LPAZ La Paz 11.55 353 Pn 18 27 32.3 -0.2
SIV San Ignacio 12.90 25 P Pn 18 27 49.2 -0.1
0.3nm,0.3s,baz=216,slow=14,SNR=16
SAML Samuel 19.08 11 P P 18 29 02.5 +0.7
BDFB Brasilia 21.18 59 P P 18 29 24.1 -0.3
BDFB IAmb IAmb 18 29 29.7
comp=Z,12nm,1.4s
EFI East Falkland 24.70 167 P P 18 29 56.1 -1.2
RCBR Riachuelo 36.55 59 P P 18 31 41.0 -0.9
QSPA South Pole Qui 62.39 180 P P 18 34 58.3 +1.5
comp=Z,2.2nm,0.7s,baz=140,slow=1.7,SNR=14
QSPA South Pole Qui 62.39 180 IAmb IAmb 18 35 00.8
comp=Z,3.3nm,0.9s
TXAR Lajitas Array 66.92 325 P P 18 35 28.4 +1.8
comp=Z,0.3nm,0.6s,baz=153,slow=9.1,SNR=2.4
MAW Mawson 77.73 162 P P 18 36 31.3 +1.4
comp=Z,1.2nm,0.5s,baz=313,slow=12,SNR=2.8
TORD Torodi Ar. Bea 77.76 68 P P 18 36 31.4 +0.5
comp=Z,1.0nm,0.6s,baz=267,slow=6.1,SNR=7.5
TORD Torodi Ar. Bea 77.76 68 IAmb IAmb 18 36 33.9
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 80.54 330 P P 18 36 47.2 +1.4
comp=Z,0.5nm,0.4s,baz=143,slow=6.6,SNR=4.6
ASAR Alice Springs 125.06 203 PKP **PKiKP 18 43 33.5 0.0**
comp=Z,0.8nm,0.6s,baz=136,slow=1.5,SNR=11
WRA Warramunga Arr 128.31 206 PKP **PKiKP 18 43 40.1 +0.1**
comp=Z,0.4nm,0.3s,baz=163,slow=1.7,SNR=7.1
ZALV Zalesovo Beam 146.61 31 PKPbc **PKPbc 18 44 12.8 -0.6**
comp=Z,2.2nm,0.5s,baz=318,slow=3.9,SNR=10
ZALV Zalesovo Beam 146.61 31 PKPbc 18 44 13.2 -0.2
MKAR Makanchi Array 149.23 44 PKPbc **PKiKP 18 44 21.9 0.0**
comp=Z,2.0nm,0.8s,baz=300,slow=3.1,SNR=15
MKAR Makanchi Array 149.23 44 PKPbc 18 44 21.0 +0.3

IDC 09 18:26:31.9±1.9, 51°.33S×138°.83E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/30, mbtmp3.8/3, Error ellipse: s-maj=156.6km s-min=25.1km az=86.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**24.20**	**303**	T	T	18 57 16.1	
baz=139,slow=74,SNR=32
H01W2 Cape Leeuwin H 24.21 303 T T 18 57 15.0
baz=139,slow=74,SNR=25
H01W3 Cape Leeuwin H 24.22 303 T T 18 57 16.5
baz=139,slow=74,SNR=33
ASAR Alice Springs 27.87 350 P P 18 32 23.2 0.0
0.7nm,0.9s,baz=167,slow=10,SNR=5.8
WRA Warramunga Arr 31.52 352 P P 18 32 55.3 -0.2
1.7nm,0.8s,baz=176,slow=7.7,SNR=14
QSPA South Pole Qui 38.79 180 P P 18 33 57.7 -0.2
1.4nm,0.9s,baz=310,slow=6.0,SNR=5.8
H08S2 Diego Garcia H 69.36 284 T T 19 53 37.2
baz=142,slow=75,SNR=4.4
H08S1 Diego Carcia H 69.37 284 T T 19 53 35.8
baz=142
H08S3 Diego Garcia H 69.38 284 T T 19 53 40.3
baz=142,slow=75
GERES GERESS Array B 145.39 288 PKPbc PKPbc 18 46 10.4 -0.4
0.3nm,0.6s,baz=131,slow=4.0,SNR=4.1

IDC 09 18:32:08.4±1.6, 2°.60S×138°.36E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/29, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=31.3km s-min=26.6km az=156.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.34**	**88**	Pn	Pn	18 32 48.0	-0.2
3.0nm,0.3s,baz=253,slow=10,SNR=11
JAY Sn Sb 18 33 20.1 -0.9
2.3nm,0.3s,baz=75,slow=23,SNR=4.5
WRA Warramunga Arr 17.68 193 P Pn 18 36 15.3 -1.0
0.2nm,0.3s,baz=16,slow=12,SNR=15
ASAR Alice Springs 21.38 191 P P 18 36 57.9 +0.1
1.6nm,0.8s,baz=21,slow=10,SNR=19
MKAR Makanchi Array 69.49 323 P P 18 43 19.1 +0.2
0.2nm,0.5s,baz=111,slow=7.0,SNR=3.4

DJA 09 18:33:06.4±0.6, 3°.S±8°.×12°.9E±°, h10km, M1.9/3, MLv1.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.13**	**106**	P	Pg	18 33 10.5	+1.0
MSAI S Sg 18 33 13.3 +1.6

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*IDC **09** 18:34:59.8±5.5, 22°.79N×12°.08W, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/39, mbtmp3.5/5, ML3.1/1, MS4.1/4, Ms1 4.1/4, ms1mx2.9/48, Error ellipse: s-maj=107.4km s-min=41.2km az=59.0*
*NEIC **09** 18:35:00.0±0.6, 22°.9N±0°.2×12°.2W±0°.1, h0km±2km, mb4.0/6, Error ellipse: s-maj=31.1km s-min=6.2km az=208.0*
ISC 09 18:35:01.3±1.2, 22°.97N±0°.06×11°.9W±0°.1, h0km, n25, σ2°73/26, mb3.7/5, MS4.0/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANT	**Tantan**	**5.45**	**6**	P	**Pg**	**18 36 42.7**	**-3.2**
TANT S **Sg 18 37 57.3 +0.7**
MACI Morro de la Ar 6.70 323 Pn **Pn 18 36 38.7 -2.4**
TTIG Tnine Tigouga, 8.16 22 P Pn 18 37 11.9 +11
TTIG S **Sn 18 38 39.4 +5.1**
OUK Oukaimeden 8.97 23 P Pn 18 37 18.4 +6.0
OUK S **Sn 18 38 59.2 +4.9**
ZGR Zagora 9.08 37 P **Pn 18 37 15.6 +1.7**
ZGR S **Sn 18 38 51.2 -5.7**
OUZM OUZ 9.15 29 P **Pn 18 37 19.2 +4.4**
OUZM S **Sn 18 38 60.0 +1.4**
MD31 MD31 11.71 31 P **Pn 18 37 50.7 +0.9**
MD31 S **Sn 18 39 57.7 -3.7**
MDT Midelt 11.74 32 P **Pn 18 37 50.4 +0.1**
MDT S **Sn 18 39 58.9 -3.3**
TOA0 Torodi Ar. Sit 16.20 125 Pn **Pn 18 38 50.8 +0.3**
TORD Torodi Ar. Bea 16.20 125 Pn **Pn 18 38 47.7 -2.8**
0.1nm,0.3s,baz=313,slow=12,SNR=2.9
TORD **Sn 18 41 52.8 +1.8**
0.0nm,0.3s,baz=302,slow=20,SNR=2.1
TORD Torodi Ar. Bea 16.20 125 P **P 18 38 53.4 -0.3**
DBIC Dimbokro 17.57 156 Pn 18 39 07.4 -0.4
DBIC IAmb IAmb 18 39 14.3
comp=Z,11nm,1.4s
KEST Kesra 22.42 51 P **P 18 40 03.0 +1.2**
comp=Z,1.5nm,0.6s,baz=248,slow=16,SNR=1.7
KEST Kesra 22.42 51 P **P 18 40 02.8 +1.0**
KEST IAmb IAmb 18 40 16.1
comp=Z,4.9nm,1.2s
VSL Villasalto 24.46 43 P **P 18 40 24.6 +2.6**
GERES GERESS Array B 32.83 32 P **P 18 41 36.3 -0.4**
comp=Z,0.3nm,0.4s,baz=222,slow=8.0,SNR=4.1
ISP Isparta 39.15 58 P **P 18 42 31.1 +0.2**
ISP IAmb IAmb 18 42 36.3
comp=Z,12nm,0.9s
ASF Jabal al Asfar 43.92 67 LR LR 19 02 51.4
comp=Z,370nm,22.0s,baz=130,slow=38
FINES FINESS Array B 46.43 24 P **P 18 43 29.4 -0.1**
comp=Z,2.2nm,1.0s,baz=201,slow=7.3,SNR=4.1
OBN Obninsk 48.05 35 LR LR 19 04 08.7
comp=Z,11nm,20.2s,baz=198,slow=36
LVC Limon Verde 71.60 235 LR LR 19 13 57.1
comp=Z,78nm,21.8s,baz=210,slow=33
MKAR Makanchi Array 76.38 45 P **P 18 46 53.3 +0.6**
comp=Z,0.2nm,0.4s,baz=286,slow=3.6,SNR=2.3
MKAR Makanchi Array 76.38 45 P **P 18 46 52.6 0.0**
DLBC Dease Lake 84.17 332 LR LR 19 22 16.0
comp=Z,116nm,18.9s,baz=256,slow=34
ILAR Eielson Array 85.91 342 LR LR 19 22 23.9
comp=Z,65nm,21.1s,baz=207,slow=33

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*IDC **09** 18:45:10.9±0.5, 17°.72S×172°.95W, h0km, mb4.4/15, mb1 4.6/15, mb1mx4.5/33, mbtmp4.4/15, MS4.3/25, Ms1 4.3/25, ms1mx4.1/46, Error ellipse: s-maj=22.6km s-min=16.1km az=131.0*
*NEIC **09** 18:45:11.2±1.5, 17°.46S±0°.07×172°.5W±0°.1, h38km±6km, mb4.9/50, Error ellipse: s-maj=15.8km s-min=9.5km az=67.0*
*BJI **09** 18:45:13.0±0.0, 17°.50S×172°.60W, h40km, mB5.5/15, mb4.8/20, Ms5.1/5, Ms7 4.7/6*
*BGR **09** 18:45:17.8±0.0, 17°.54S×172°.17W, h33km*
*GCMT **09** 18:45:18.2±0.2, 17°.81S±0°.02×172°.52W±0°.01, h20km, MW5.0/97, Moment Tensor Solution. s41,c55; s97,c148; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.37±.16; Mθθ0.10±.10; Mφφ-3.47±.10; Mrθ0.00±.21; Mφθ0.32±.06; Mφr1.59±.17; Best double couple: M0 3.78500×10^16 NP1:φs173.00000°, δ33.00000°, λ86.00000°. NP2: φs357.00000°, δ57.00000°, λ92.00000°. Principal axes: T 3.7230, Plg77.0000°, Azm275.0000°; N 0.1280, Plg2.0000°, Azm176.0000°; P -3.8470, Plg12.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 18:45:11.6±0.4, 17°.57S±0°.08×173°.00W±0°.09, h10km, n243, σ1°61/208, mb4.9/43, MS4.3/30, 14C-6D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.28**	**118**	P	Pn	18 45 55.7	-7.4
baz=2.8,SNR=44
NIUE Niue 3.28 118 Pn 18 45 55.6 -7.6
NIUE Sn Sn 18 46 27.0 -15
AFI Afiamalu 3.82 18 Pn **Pn 18 46 08.0 -2.7**
15nm,0.3s,baz=212,slow=8.3,SNR=8.8
AFI Sn Sn 18 46 47.1 -8.6
56nm,0.3s,baz=206,slow=22,SNR=14
AFI Afiamalu 3.82 18 Pn Pn 18 46 05.3 -5.3
AFI Sn Sn 18 46 44.8 -11
MSVF Nonsavu 8.54 268 Pn Pn 18 47 23.6 +8.2
RAR Rarotonga 13.00 108 Pn Pn 18 48 08.6 -7.8
5.4nm,0.3s,baz=305,slow=9.2,SNR=8.4
RAR LR LR 18 51 57.8
comp=Z,678nm,21.2s,baz=292,slow=32
RAR Rarotonga 13.00 108 Pn Pn 18 48 07.8 -8.7
DZM Mont Dzumac 19.85 254 *e*S **Sn 18 53 28.9 +1.1**
452nm,22.9s
DZM *e*LQ LQ 18 53 42.3
3μm,24.4s
DZM *e*LR LR 18 54 32.6
comp=Z,2μm,24.2s
DZM Mont Dzumac 19.85 254 P **Pn 18 49 43.9 -0.6**
OUZ Omahuta 21.25 212 P **P 18 49 59.1 +1.2**
MXZ Matakaoa Point 21.34 199 P **P 18 49 58.8 0.0**
MXZ IAmb IAmb 18 50 13.5
comp=Z,41nm,0.9s
KUZ Kuaotunu 21.55 205 P **P 18 50 02.1 +1.0**
HAZ Te Kaha 21.68 200 P **P 18 50 03.7 +1.1**
WIAZ Waiheke Island 21.83 206 P **P 18 50 05.0 +0.9**
RUGZ Raukumara Rang 21.91 200 P **P 18 50 06.8 +1.6**
RUGZ S **S 18 54 00.2 -7.0**
MKAZ Moumakai 22.08 206 P **P 18 50 06.1 -0.8**
CNGZ Carnagh Statio 22.21 199 P **P 18 50 09.9 +1.6**
MWZ Matawai 22.29 200 P **P 18 50 09.9 +0.7**
PPT2 Papeete2 22.33 94 *e*LQ LQ 18 54 15.0
comp=Z,1μm,27.2s
PPT2 *e*LR LR 18 55 25.4
comp=Z,1μm,25.5s
PPT Papeete 22.33 94 LR LR 18 57 15.0
comp=Z,729nm,18.2s,baz=276,slow=32
URZ Urewera 22.36 201 P **P 18 50 09.5 -0.4**
comp=Z,52nm,0.8s,baz=26,slow=5.3,SNR=18
URZ Urewera 22.36 201 P **P 18 50 09.5 -0.4**
URZ Urewera 22.36 201 P **P 18 50 08.9 -0.9**
URZ IAmb IAmb 18 50 20.4
comp=Z,53nm,0.6s
RAGZ Rawiri 22.47 200 P **P 18 50 09.0 -2.1**
TOZ Tahuroa Road 22.48 204 P **P 18 50 12.3 +1.2**
RTZ Ruatahuna 22.73 201 P **P 18 50 14.7 +0.9**
SNGZ Shannon Statio 22.76 200 P **P 18 50 11.9 -2.3**
TBI Tubuai 22.78 109 *e*LQ LQ 18 54 32.2
comp=Z,2μm,26.2s
TBI *e*LR LR 18 55 37.1
comp=Z,1μm,27.2s
RAHZ Arahi 22.96 200 P **P 18 50 17.6 +1.3**
MTHZ Maungataniwha 22.99 201 P **P 18 50 19.2 +2.7**
TLZ Tolley Road 22.99 204 P **P 18 50 20.1 +3.6**
BKZ Black Stump Fm 23.39 201 P **P 18 50 15.2 -5.4**
BKZ Black Stump Fm 23.39 201 P **P 18 50 19.3 -1.3**
HIZ Hauiti 23.41 205 P **P 18 50 22.1 +1.3**
HIZ Hauiti 23.41 205 P **P 18 50 21.1 +0.3**
BFZ Birch Farm 24.83 200 P **P 18 50 32.9 -1.2**
BFZ IAmb IAmb 18 50 48.8
comp=Z,61nm,1.2s
PLWZ Palliser 25.96 200 P **P 18 50 44.3 -0.1**
TUWZ Tuamarina 26.29 203 P **P 18 50 47.1 -0.2**
NNZ Nelson 26.32 204 P **P 18 50 49.9 +2.4**
NNZ IAmb IAmb 18 51 21.1
comp=Z,32nm,1.1s
QRZ Quartz Range 26.32 205 P **P 18 50 49.1 +1.5**
BSWZ Blackbirch Sta 26.57 202 P **P 18 50 53.3 +3.5**
KHZ Kahutara 27.30 202 P **P 18 50 56.9 +0.6**
HNR Honiara 27.49 284 LR LR 19 00 12.0
comp=Z,1μm,19.0s,baz=112,slow=33
LTZ Lake Taylor 28.09 203 P **P 18 51 05.8 +2.3**
OXZ Oxford 28.64 203 P **P 18 51 11.0 +2.7**
OXZ IAmb IAmb 18 51 19.1
comp=Z,25nm,0.7s
RPZ Rata Peaks 29.35 204 P **P 18 51 18.9 +4.3**
comp=Z,13nm,0.5s,baz=1.0,slow=1.7,SNR=13
RPZ Rata Peaks 29.35 204 P **P 18 51 16.3 +1.6**
RPZ IAmb IAmb 18 51 23.7
comp=Z,22nm,0.8s
FOZ Fox Glacier 29.69 206 P **P 18 51 17.1 -0.6**
TAOE Nuku Hiva Isla 33.09 79 *e*LR LR 19 00 27.1
comp=Z,541nm,23.2s
ARMA Armidale 34.61 242 P **P 18 52 00.9 -0.3**
RKT Rikitea 36.01 105 *e*LR LR 19 01 38.8
comp=Z,988nm,42.8s
RMQ Roma 36.43 249 P **P 18 52 18.4 +1.6**
baz=37,SNR=5.2
KRVT Keravat (AS076 36.69 287 LR LR 19 05 51.6
comp=Z,719nm,18.8s,baz=121,slow=34
CTAO Charters Tower 38.58 260 P **P 18 52 35.2 +0.1**
PMG Port Moresby 39.52 277 LR LR 19 06 23.6
comp=Z,562nm,20.1s,baz=126,slow=32
CMSA Cobar Meteorol 39.83 242 P **P 18 52 45.6 +0.3**
baz=40,SNR=7.9
MTSU Mount Surprise 40.57 262 P **P 18 52 52.6 +1.0**
baz=41,SNR=3.8
COEN Coen 42.26 268 P **P 18 53 05.8 +0.2**
baz=43,SNR=8.3
COEN Coen 42.26 268 P **P 18 53 05.8 +0.2**
COEN IAmb IAmb 18 54 17.3
comp=Z,43nm,1.8s
STKA Stephens Creek 43.33 242 P **P 18 53 13.2 -0.8**
comp=Z,5.4nm,0.8s,baz=37,slow=11,SNR=6.0
STKA LR LR 19 09 25.9
comp=Z,466nm,18.3s,baz=50,slow=34
STKA Stephens Creek 43.33 242 P **P 18 53 15.2 +1.2**
baz=44,SNR=3.9
STKA Stephens Creek 43.33 242 P **P 18 53 14.3 +0.3**
JAY Jayapura 47.81 283 LR LR 19 12 39.1
comp=Z,301nm,18.2s,baz=82,slow=34
BBOO Buckleboo 48.09 241 P **P 18 53 51.7 0.0**
baz=49,SNR=6.0
BBOO Buckleboo 48.09 241 P **P 18 53 51.3 -0.4**
WR0 Warramunga Arr 49.57 258 P **P 18 54 02.6 -0.7**
WR0 IAmb IAmb 18 54 41.1
comp=Z,36nm,1.9s
WB0 Warramunga Arr 49.73 259 P **P 18 54 03.0 -1.4**
WB0 IAmb IAmb 18 54 07.8
comp=Z,8.0nm,0.8s
WB2 Warramunga Arr 49.75 258 P **P 18 54 03.2 -1.4**
WRAB Tennant Creek 49.75 259 P **P 18 54 03.5 -1.2**
WRAB IAmb IAmb 18 54 09.7
comp=Z,39nm,1.9s
WRA Warramunga Arr 49.76 258 P **P 18 54 04.0 -0.7**
comp=Z,4.3nm,0.7s,baz=95,slow=7.7,SNR=92
WRA LR LR 19 15 12.4
comp=Z,769nm,18.0s,baz=95,slow=36
WRA Warramunga Arr 49.76 258 P **P 18 54 03.6 -1.1**
AS31 Alice Springs 49.84 254 P **P 18 54 04.3 -1.0**
AS31 IAmb IAmb 18 54 07.6
comp=Z,8.3nm,0.8s
ASAR Alice Springs 49.84 254 P **P 18 54 05.1 -0.2**
comp=Z,33nm,0.8s,baz=90,slow=8.0,SNR=125
ASAR LR LR 19 14 37.0
comp=Z,383nm,18.4s,baz=80,slow=35
ASAR Alice Springs 49.84 254 P **P 18 54 04.2 -1.1**
GUMO Guam 51.84 304 LR LR 19 14 00.6
comp=Z,215nm,20.1s,baz=151,slow=33
KDU Kakadu 52.72 267 P **P 18 54 27.2 +0.2**
baz=53,SNR=4.7
MTN Manton Dam 53.96 267 P **P 18 54 35.7 -0.4**
baz=55,SNR=4.9
FORT Forrest 54.81 244 P **P 18 54 41.5 -0.6**
WRKA Warakurna 54.85 251 P **P 18 54 42.6 +0.1**
baz=56,SNR=22
FAKI Fak Fak 55.60 279 P **P 18 54 46.8 -1.2**
KNRA Kununurra 55.65 263 P **P 18 54 48.2 -0.1**
baz=56,SNR=5.0
KNRA Kununurra 55.65 263 P **P 18 54 47.2 -1.1**
SIJI Sorong 57.21 281 P **P 18 55 01.1 +1.6**
comp=Z,13nm,0.7s,baz=80,slow=6.6,SNR=9.0
FITZ Fitzroy Crossi 58.16 259 P **P 18 55 06.0 -0.2**
FITZ IAmb IAmb 18 56 01.2
comp=Z,21nm,1.6s
RPN Rapa Nui 59.12 111 LR LR 19 16 37.2
comp=Z,348nm,18.1s,baz=269,slow=32
SOEI Soe 61.23 268 P **P 18 55 27.4 -0.2**
VNDA Vanda 61.27 186 P **P 18 55 27.2 +0.6**
comp=Z,2.8nm,0.9s,baz=8.1,slow=6.0,SNR=13
VNDA LR LR 19 20 44.4
comp=Z,139nm,18.0s,baz=309,slow=35
VNDA Vanda 61.27 186 P **P 18 55 28.1 +1.5**
MUN Mundaring 64.86 242 P **P 18 55 52.6 +1.3**
baz=66,SNR=4.3
CASY Casey 68.61 205 P **P 18 56 15.2 +0.6**
CASY IAmb IAmb 18 58 20.0
comp=Z,6.5nm,0.6s
MJAR Matsushiro Arr 70.83 320 P **P 18 56 30.1 +1.4**
comp=Z,1.3nm,0.8s,baz=120,slow=7.4,SNR=2.0
QSPA South Pole Qui 72.49 180 P **P 18 56 38.4 0.0**
PETK Petropavlovsk- 74.80 342 P **P 18 56 52.6 +0.7**
comp=Z,2.5nm,0.7s,baz=75,slow=12,SNR=2.2
NVAR Mina Array Bea 75.68 41 P **P 18 56 58.4 +0.8**
comp=Z,3.2nm,1.0s,baz=224,slow=8.9,SNR=10
NVAR Mina Array Bea 75.68 41 P **P 18 56 57.9 +0.3**
TPUB Ta-pu 76.49 300 P **P 18 57 01.2 -1.1**
TPUB IAmb IAmb 18 57 04.9
comp=Z,12nm,0.9s
KDAK Kodiak Island 76.96 11 LR LR 19 29 06.9
comp=Z,136nm,18.3s,baz=191,slow=34
KSRS Korea Array 77.97 316 P **P 18 57 13.3 +3.1**
comp=Z,3.6nm,1.0s,baz=139,slow=5.6,SNR=9.6
KSRS LR LR 19 29 14.3
comp=Z,85nm,18.4s,baz=122,slow=34
KSAR Wonju Array Be 77.99 316 P **P 18 57 08.7 -1.6**
USRK Ussuriysk Ar. 79.34 323 LR LR 19 26 18.6
comp=Z,81nm,21.7s,baz=124,slow=31
TXAR Lajitas Array 81.50 56 P **P 18 57 30.6 +0.9**
comp=Z,1.3nm,0.9s,baz=214,slow=8.2,SNR=8.8
TXAR LR LR 19 26 04.7
comp=Z,112nm,21.6s,baz=0.0,slow=30
TXAR Lajitas Array 81.50 56 P P 18 57 21.6 -8.1
NJ2 Nanjing 81.77 307 *e*P **P 18 57 27.4 -3.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PMSA Palmer Station 82.05 156 LR LR 19 26 48.7
comp=Z,129nm,19.4s,baz=260,slow=30
BARN Barnard Glacie 82.29 15 P P 18 57 28.0 -5.3
BARN IAmb IAmb 18 57 39.9
comp=Z,10nm,1.0s
TRF Thorofare Moun 82.68 10 P **P 18 57 33.1 -2.1**
TRF IAmb IAmb 18 57 45.1
comp=Z,11nm,1.0s
MCMT McKenzie Canyo 82.70 38 P 18 57 37.6 +1.8
RND Reindeer 82.88 11 P P 18 57 30.6 -5.6
RND IAmb IAmb 18 57 46.8
comp=Z,7.8nm,0.8s
S22A 4UR Ranch, Cre 82.95 47 P P 18 57 29.6 -7.8
HYT Haines Junctio 83.16 17 P P 18 57 32.7 -5.0
MCK McKinley 83.17 11 P **P 18 57 38.2 +0.6**

MCK IAmb IAmb 18 57 48.5
comp=Z,14nm,0.9s
IMW Indian Meadow 83.35 40 P P 18 57 32.2 -7.0
IMW IAmb IAmb 18 57 48.0
comp=Z,17nm,1.8s
PD31 Pinedale Array 83.62 42 P **P 18 57 41.1 +0.5**
PDAR Pinedale Array 83.62 42 P **P 18 57 41.1 +0.5**
comp=Z,0.8nm,0.7s,baz=224,slow=4.1,SNR=7.3
PDAR LR LR 19 33 32.5
comp=Z,91nm,18.1s,baz=272,slow=35
PDAR Pinedale Array 83.62 42 P P 18 57 34.0 -6.6
YHL Hebgen Lake 83.71 39 P P 18 57 34.7 -6.4
BOZ Bozeman (W) 83.84 38 P P 18 57 33.9 -7.7
BOZ IAmb IAmb 18 57 58.8
comp=Z,14nm,1.6s
YHH Holmes Hill 83.87 39 P **P 18 57 43.1 +1.1**
WRH Wood River Hil 84.00 11 P **P 18 57 39.6 -2.2**
WRH IAmb IAmb 18 57 51.4
comp=Z,11nm,1.0s
HDA Harding Lake 84.15 11 P P 18 57 36.8 -5.7
HDA IAmb IAmb 18 57 48.3
comp=Z,8.6nm,0.9s
CCB Clear Creek Bu 84.21 11 P P 18 57 37.3 -5.5
CCB IAmb IAmb 18 57 52.3
comp=Z,8.3nm,1.0s
MDM Murphy Dome 84.42 10 P **P 18 57 41.0 -2.9**
MDM IAmb IAmb 18 58 00.3
comp=Z,9.2nm,1.0s
IL31 84.49 11 P P 18 57 39.1 -5.1
IL31 IAmb IAmb 18 57 52.9
comp=Z,30nm,1.8s
ILAR Eielson Array 84.49 11 P **P 18 57 44.9 +0.7**
comp=Z,1.4nm,0.6s,baz=224,slow=5.9,SNR=16
ILAR Eielson Array 84.49 11 P P 18 57 39.4 -4.9
WHN Wuhan 84.62 304 P **P 18 57 48.1 +2.4**
WHN LR LR
comp=Z,370nm,20.0s
MAW Mawson 85.87 199 P **P 18 57 51.1 -0.2**
comp=Z,1.5nm,1.0s,baz=239,slow=20,SNR=3.0
MAW LR LR 19 35 46.8
comp=Z,530nm,18.5s,baz=68,slow=35
PLCA Paso Flores 87.78 132 LR LR 19 30 44.6
comp=Z,156nm,18.3s,baz=177,slow=31
GYA Guiyang 89.39 298 ⇓P **P 18 58 13.8 +4.6**
GYA pP pwP 18 58 23.6 +8.7
GYA S **S 19 08 54.1 -5.7**
GYA pmax pmax
comp=Z,7.0nm,1.0s
GYA pmax pmax
comp=Z,170nm,5.5s
GYA LR LR
comp=Z,74nm,5.7s
GYA LR LR
comp=Z,86nm,4.5s
GYA LR LR
comp=Z,110nm,7.0s
VNA3 Neumayer Olymp 90.67 175 P **P 18 58 14.6 +0.4**
HHC Hu-ho-hao-te 90.77 313 *e*P **P 18 58 13.6 -1.7**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,77nm,5.8s
VNA2 Neumayer--Watz 91.17 175 P **P 18 58 17.3 +0.7**
VNA1 Neumayer--Stat 91.37 175 P **P 18 58 17.9 +0.5**
ATAH Atahualpa 92.23 98 LR LR 19 33 15.4
comp=Z,230nm,18.1s,baz=256,slow=31
KMI Kunming 92.30 295 ⇑*e*P P 18 58 30.3 +7.4
KMI pP pwP 18 58 31.9 +3.3
KMI sP sP 18 58 36.2 +10
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI pmax pmax
comp=Z,76nm,5.0s
CMAR Chiang Mai Arr 93.65 288 P **P 18 58 32.1 +3.1**
comp=Z,2.7nm,1.0s,baz=96,slow=3.2,SNR=9.4
CMAR LR LR 19 38 45.1
comp=Z,69nm,19.4s,baz=166,slow=34
CMAR Chiang Mai Arr 93.65 288 P **P 18 58 30.1 +1.2**
SONM Songino Array 96.70 318 LR LR 19 36 03.7
comp=Z,74nm,21.8s,baz=112,slow=32
LPAZ La Paz 98.71 110 LR LR 19 36 23.0
comp=Z,95nm,18.1s,baz=227,slow=31
TLY Talaya 99.56 321 LR LR 19 38 04.0
comp=Z,59nm,19.9s,baz=120,slow=32
ARCES ARCESS Array B 126.80 352 PKP **PKiKP 19 04 15.9 +0.5**
comp=Z,1.9nm,0.7s,baz=29,slow=2.8,SNR=4.6
FINES FINESS Array B 134.13 347 PKP **PKPdf 19 04 27.8 -1.2**
comp=Z,1.8nm,0.8s,baz=70,slow=6.1,SNR=4.9
AKASG Malin Array Be 142.47 337 PKhKP PKPpre 19 04 41.7
comp=Z,0.2nm,0.3s,baz=36,slow=4.2,SNR=2.2
MARD Mardin 144.41 310 PKPdf **PKPdf 19 04 48.7 0.0**
SORM Soroca 144.87 335 ⇑P **PKPdf 19 04 49.0 +0.1**
KMBO Kilima Mbogo 144.89 241 PKP **PKiKP 19 04 52.9 -1.2**
comp=Z,7.7nm,1.0s,baz=135,slow=3.0,SNR=7.0
KMBO Kilima Mbogo 144.89 241 **PKPab 19 04 46.0 -3.4**
NRDL Niedersach Rie 145.06 357 *e*PKPbc **PKPdf 19 04 50.2 +1.1**
baz=3.5,slow=2.8
IBBN Ibbenburen 145.33 359 *e*PKPbc **PKPdf 19 04 51.1 +1.5**
baz=3.5,slow=2.8
ASSE Asse, Remlinge 145.39 356 *e*PKPbc **PKPab 19 04 51.5 +1.9**
baz=3.5,slow=2.8
CLZ Clausthal 145.70 356 *e*PKPbc **PKPab 19 04 52.4 +1.4**
baz=3.5,slow=2.8
OJC Ojcow 145.84 345 *e*PKP **PKiKP 19 04 53.6 -1.1**
OJC Ojcow 145.84 345 **PKPab 19 04 52.0 +0.6**
KSP Ksiaz 145.98 349 *e*PKP **PKPab 19 04 53.7 +1.7**
CLL Collm 146.00 353 *i* PKPbc **PKPab 19 04 53.3 +1.3**
comp=Z,35nm,1.0s
CLL *i* 19 04 56.8
comp=Z,33nm,0.9s
CLL L L 20 16 00.0
comp=Z,100nm,18.1s
CLL Collm 146.00 353 *e*PKPbc **PKiKP 19 04 53.8 -1.1**
baz=3.5,slow=2.8
CLL Collm 146.00 353 **PKPbc 19 04 51.9 +0.4**
GTTG Gottingen 146.02 357 *e*PKPbc **PKPab 19 04 53.3 +1.2**
baz=3.5,slow=2.8
BUG Bochum--Univer 146.20 360 *e*PKPbc **PKPab 19 04 54.0 +1.2**
baz=3.5,slow=2.8
NEUB Neuenburg 146.22 355 *e*PKPbc **PKiKP 19 04 54.5 -0.9**
baz=3.5,slow=2.8
OSTC Ostas 146.27 349 *e*PKP **PKiKP 19 04 55.3 -0.3**
OSTC *ex* x 19 04 58.2
BRG Berggiesshubel 146.31 352 *i* PKP **PKPab 19 04 54.4 +1.1**
comp=Z,20nm,1.1s
BRG Berggiesshubel 146.31 352 *e*PKPbc **PKiKP 19 04 55.0 -0.6**
baz=3.5,slow=2.8
FBE Freiberg 146.34 353 *e*PKPbc **PKiKP 19 04 54.8 -0.8**
baz=3.5,slow=2.8
KOLS Kolonicke sedl 146.34 342 *e*PKP **PKiKP 19 04 55.3 -0.5**
UPC Upice 146.35 350 *e*PKP **PKiKP 19 04 55.3 -0.4**
DPC Dobruska-Polom 146.45 349 *e*PKP **PKPab 19 04 55.1 +1.2**
DPC *ep*PKP sPKPab 19 04 58.7 +1.4
NIE Niedzica 146.46 344 *e*PKP **PKiKP 19 04 55.6 -0.4**
BUR08 Bucovina Ar. S 146.49 338 **PKPdf 19 04 49.2 -2.7**
BURAR Bucovina Array 146.51 337 ⇓P **PKiKP 19 04 58.0 +1.8**
PVCC Panska Ves 146.56 351 *e*PKP **PKiKP 19 04 55.8 -0.3**
PVCC *ep*PKP sPKPab 19 05 03.8 +6.1
CRVS Cervenica-Dubn 146.61 343 *e*PKP **PKiKP 19 04 56.3 0.0**
KRLC Kraliky 146.63 349 *e*PKP **PKPab 19 04 55.1 +0.5**
BIZ Bicaz 146.74 336 ⇓P **PKiKP 19 04 56.7 0.0**
MORC Moravsky Berou 146.76 348 ⇓P **PKiKP 19 04 56.5 -0.2**
MORC Moravsky Berou 146.76 348 *e*PKP **PKPab 19 04 55.8 +0.7**
MORC Moravsky Berou 146.76 348 **PKPdf 19 04 49.2 -3.0**
MOX Moxa 146.79 355 *e*PKPbc **PKPab 19 04 56.1 +1.0**
baz=3.5,slow=2.8
TESR Tescani 146.87 335 ⇑P **PKiKP 19 04 58.7 +1.7**
LANS Liptovska Anna 146.91 345 *e*PKP **PKiKP 19 04 58.1 +1.1**
TANN Tannenbergstha 146.94 354 *e*PKPbc **PKiKP 19 04 56.9 -0.1**
baz=3.5,slow=2.8
GUNZ Gunzen 147.00 354 *e*PKPbc **PKiKP 19 04 57.1 -0.1**
baz=3.5,slow=2.8
MEM Membach 147.03 1 pPKP **PKiKP 19 04 57.4 +0.3**
BSTI Sart Tilman 147.04 2 pPKP **PKPab 19 04 56.6 +0.5**
WERN Wernitzgruen 147.07 354 *e*PKPbc **PKiKP 19 04 57.4 +0.1**
baz=3.5,slow=2.8
PRU Pruhonice 147.09 351 *e*PKP **PKPab 19 04 56.9 +0.6**
AHRW Bad Neuenahr-A 147.10 360 *e*PKPbc **PKiKP 19 04 57.3 +0.1**
baz=3.5,slow=2.8
GOPC GO Pecny, Ondr 147.13 351 *e*PKP **PKiKP 19 04 57.3 -0.1**
BCLA Clavier 147.20 2 pPKP **PKiKP 19 04 57.5 +0.1**
CFR Carcaliu 147.29 332 ⇑P **PKiKP 19 05 00.1 +2.4**
BMRD Maredsous 147.29 3 pPKP **PKiKP 19 04 58.1 +0.5**
VRI Vrincioaia 147.36 334 ⇑P **PKPab 19 04 56.9 -0.6**
VRAC Vranov 147.40 348 *e*PKP **PKPab 19 04 57.3 -0.3**
MANZ Manzenberg 147.40 354 *e*PKPbc **PKPab 19 04 58.0 +0.4**
baz=3.5,slow=2.8
PLOR Plostina 147.40 334 ⇑P **PKiKP 19 04 58.3 +0.2**
TOPG Topolog 147.41 331 ⇑P **PKiKP 19 05 00.9 +2.9**
DOU Dourbes 147.49 3 pPKP **PKiKP 19 04 58.7 +0.6**
OZUR 147.55 335 ⇑P **PKiKP 19 04 59.4 +1.0**
JAVC Velka Javorina 147.60 347 *e*PKP **PKPab 19 04 58.5 +0.1**
ROTZ Rotzenmuhle 147.61 354 *e*PKPbc **PKiKP 19 04 58.6 +0.3**
baz=3.5,slow=2.8
KRUC Moravsky 147.67 348 *e*PKP **PKPbc 19 04 57.1 +0.7**
VYHS Vyhne 147.68 345 *e*PKP **PKPab 19 04 59.2 +0.5**
HARR Harsova 147.76 331 ⇑P **PKPab 19 04 59.9 +0.8**
GRF Grafenberg Arr 147.77 355 *e*PKPbc **PKiKP 19 04 58.9 +0.2**
baz=3.5,slow=2.8
WLF Walferdange 147.97 1 pPKP **PKPab 19 04 60.0 +0.2**
WLF Walferdange 147.97 1 *e*PKPbc **PKiKP 19 04 59.7 +0.6**
baz=3.5,slow=2.8
MLR Muntele Rosu 147.98 334 ⇑P **PKiKP 19 04 59.5 +0.1**
MLR Muntele Rosu 147.98 334 **PKPdf 19 04 50.2 -4.3**
BRTR Keskin Array B 148.06 319 PKPbc **PKiKP 19 05 00.1 +0.4**
comp=Z,5.6nm,1.0s,baz=194,slow=2.5,SNR=9.2
KHC Kasperske Hory 148.07 352 *e*PKP **PKiKP 19 04 59.3 -0.1**
KHC *ep*PKP **sPKPab 19 05 05.7 +2.0**
KHC Kasperske Hory 148.07 352 **PKPdf 19 04 50.6 -3.8**
WET Wettzell 148.14 353 *e*PKPbc **PKiKP 19 05 00.2 +0.7**
baz=3.5,slow=2.8
MODS Modra-Piesok 148.15 347 *e*PKP **PKiKP 19 04 59.9 +0.4**
GEC2 GERESS Array S 148.33 352 *e*PKPbc **PKiKP 19 05 00.4 +0.5**
baz=3.5,slow=2.8
GERES GERESS Array B 148.33 352 PKPbc **PKiKP 19 05 00.1 +0.1**
comp=Z,4.6nm,0.9s,baz=29,slow=3.0,SNR=22
VOIR 148.39 335 ⇑P **PKPab 19 05 01.5 -0.2**
ARR Arges 148.61 336 ⇓P **PKiKP 19 05 00.7 0.0**
CONA Conrad Observa 148.86 348 *ep*PKPdf **PKiKP 19 05 01.9 +0.8**
comp=Z,7.6nm,1.3s
SIRR Siria 148.90 340 ⇑P **PKiKP 19 05 01.0 -0.1**
BFO Black Forest 149.30 358 *e*PKPbc **PKiKP 19 05 02.5 +0.6**
baz=3.5,slow=2.8
BFO Black Forest 149.30 358 **PKPdf 19 04 51.5 -4.9**
BZS Buzias 149.49 340 ⇓P **PKiKP 19 05 02.7 +0.4**
RJOB Jochberg 149.54 352 *e*PKPbc **PKiKP 19 05 02.7 +0.3**
baz=3.5,slow=2.8
HERR Herculane 149.86 338 ⇑P **PKPbc 19 05 02.3 +0.2**
UBR Ueberruh 149.86 356 *e*PKPbc **PKiKP 19 05 04.8 +1.7**
baz=3.5,slow=2.8
RETA Reutte 150.00 355 *ep*PKPdf **PKiKP 19 05 04.4 +0.9**
comp=Z,8.0nm,1.1s
WATA Walderalm 150.07 354 *ep*PKPdf **PKiKP 19 05 05.1 +1.4**
comp=Z,4.9nm,0.8s
KBA Koelnbreinsper 150.11 351 *ep*PKPdf **PKiKP 19 05 03.9 +0.1**
comp=Z,2.6nm,0.6s
MOTA Moosalm 150.11 354 *ep*PKPdf **PKiKP 19 05 04.4 +0.6**
comp=Z,12nm,1.0s,SNR=6.4
WTTA Wattenberg 150.14 354 *ep*PKPdf **PKiKP 19 05 04.8 +0.9**
comp=Z,11nm,0.7s,SNR=5.7
MDVR Moldovita 150.19 339 ⇑P **PKPbc 19 05 03.7 +0.6**
MMAI Mount Meron Ar 150.19 306 PKPbc **PKiKP 19 05 05.5 +1.2**
comp=Z,8.4nm,1.0s,baz=29,slow=3.3,SNR=7.7
SOKA Soboth 150.22 349 *ep*PKPdf **PKiKP 19 05 04.3 +0.4**
comp=Z,7.1nm,0.9s,SNR=5.4
SQTA Sankt Quirin 150.22 354 *ep*PKPdf **PKiKP 19 05 04.8 +0.8**
comp=Z,11nm,1.2s
DAVA Damuels 150.27 356 *ep*PKPdf **PKiKP 19 05 05.5 +1.3**
comp=Z,11nm,0.8s,SNR=5.8
FETA Feichten 150.47 355 *ep*PKPdf **PKiKP 19 05 05.3 +0.8**
comp=Z,12nm,1.0s,SNR=9.5
OBKA Obir 150.47 349 *e*PKPab **PKPbc 19 05 04.2 +0.5**
comp=Z,0.9nm,0.7s
MYKA Terra Mystica 150.50 351 *e*PKPab **PKiKP 19 05 04.4 -0.1**
comp=Z,3.1nm,0.5s
ABTA Abfaltersbach 150.55 352 *ep*PKPdf **PKiKP 19 05 05.1 +0.5**
comp=Z,16nm,0.8s,SNR=12
DAVOX Davos/Dischmat 150.77 356 PKPbc **PKiKP 19 05 06.7 +1.5**
comp=Z,7.4nm,0.8s,baz=22,slow=3.3,SNR=12
FUORN Ofenpass-Fuorn 150.90 355 PKPdf **PKPdf 19 04 54.7 -4.6**
FUORN PKPab **pPKPbc 19 05 07.0 -0.6**
EIL Elat 151.78 300 PKPbc **PKiKP 19 05 08.9 +1.4**
comp=Z,5.1nm,0.8s,baz=33,slow=7.9,SNR=3.7
TORD Torodi Ar. Bea 173.25 130 PKP **PKPdf 19 05 22.3 +0.1**
comp=Z,0.7nm,0.8s,baz=218,slow=1.7,SNR=3.8
TORD PKPab **PKPab 19 06 49.6 -0.4**
comp=Z,1.6nm,0.9s,baz=271,slow=4.0,SNR=5.9

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*SOME **09** 18:49:22.7, 42°.10N×79°.28E, h10km*
*KRNET **09** 18:49:23.6±0.1, 42°.13N×79°.27E, h18km, mb3.2*
*NNC **09** 18:49:23.1±0.9, 42°.12N×79°.28E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=6.1km s-min=3.2km az=156.0
ISC 09 18:49:23.4±1.4, 42°.11N±0°.06×79°.36E±0°.04, h10km, n63,
σ1§35/105, 26C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.80**	**298**	⇑*i*P	**Pg**	**18 49 37.8**	**-1.1**
PRZ	baz=0.0			⇑*i*S	**Sg**	**18 49 48.1**	**-1.2**
SHLS	**Shalkode**	**1.04**	**4**	*e*P	**Pn**	**18 49 44.9**	**+0.6**
SHLS	baz=24			*e*S	**Sn**	**18 50 00.8**	**+1.7**
SHLS	**Shalkode**	**1.04**	**4**	*e*P	**Pn**	**18 49 44.9**	**+0.6**
SHLS	52nm,0.2s			*e*S	**Sn**	**18 50 00.8**	**+1.7**
SHLS	**Shalkode**	**1.04**	**4**	P	**Pn**	**18 49 44.8**	**+0.6**
SHLS	52nm,0.2s			S	**Sn**	**18 50 00.7**	**+1.7**
UZB	**Uzynbulak**	**1.06**	**347**	*e*P	**Pg**	**18 49 42.9**	**-1.0**
UZB	baz=50			*e*S	**Sb**	**18 49 57.2**	**-0.8**
UZB	**Uzynbulak**	**1.06**	**347**	*e*P	**Pg**	**18 49 42.9**	**-1.0**
UZB	12nm,0.2s			*e*S	**Sb**	**18 49 57.2**	**-0.8**
UZB	**Uzynbulak**	**1.06**	**347**	P	**Pg**	**18 49 42.9**	**-1.0**
UZB	12nm,0.2s			S	**Sb**	**18 49 57.2**	**-0.8**
SATY	**Saty**	**1.18**	**324**	*e*P	**Pb**	**18 49 44.6**	**-1.3**
SATY	2.6nm,0.2s			*e*S	**Sb**	**18 50 00.3**	**-1.0**
SATY	**Saty**	**1.18**	**324**	P	**Pb**	**18 49 44.7**	**-1.3**
SATY	4.1nm,0.3s			S	**Sb**	**18 50 00.3**	**-1.0**
PDGK	**Podgornoye**	**1.22**	**5**	P	**Pb**	**18 49 45.9**	**-0.7**
PDGK	**Podgornoye**	**1.22**	**5**	P	**Pb**	**18 49 45.5**	**-1.2**
PDGK				S	**Sg**	**18 50 02.2**	**-0.5**
ANVS	**Anan'yevo**	**1.42**	**299**	⇑*i*P	**Pb**	**18 49 49.2**	**-0.9**
ANVS	baz=0.0			⇑*i*S	**Sg**	**18 50 08.2**	**-0.9**
KPKS	**Kokpek**	**1.44**	**340**	*e*P	**Pb**	**18 49 49.6**	**-0.8**
KPKS	baz=42			*e*S	**Sg**	**18 50 08.8**	**-0.9**
KPKS	**Kokpek**	**1.44**	**340**	*e*P	**Pb**	**18 49 49.6**	**-0.8**
KPKS	28nm,0.1s			*e*S	**Sg**	**18 50 08.8**	**-0.9**
KTMS	**Ketmen**	**1.52**	**29**	*e*P	**Pb**	**18 49 51.6**	**-0.3**
KTMS	0.3nm,0.1s			*e*S	**Sg**	**18 50 11.9**	**-0.4**
KTMS	**Ketmen**	**1.52**	**29**	P	**Pb**	**18 49 51.6**	**-0.3**
KTMS	3.5nm,0.2s			S	**Sg**	**18 50 12.0**	**-0.4**
KDJ	**Kajisay**	**1.62**	**271**	⇓*i*P	**Pn**	**18 49 51.6**	**-0.6**
KDJ	baz=71			⇓*i*S	**Sn**	**18 50 12.8**	**-0.4**
KOTS	**Kotyrbulak**	**2.00**	**305**	*e*P	**Pb**	**18 49 59.5**	**-0.5**
KOTS	baz=6.0			*e*S	**Sb**	**18 50 25.5**	**+0.5**
KOTS	**Kotyrbulak**	**2.00**	**305**	*e*P	**Pb**	**18 49 59.5**	**-0.5**
KOTS	25nm,0.2s			*e*S	**Sb**	**18 50 25.5**	**+0.5**
KOTS	**Kotyrbulak**	**2.00**	**305**	Pg	**Pb**	**18 49 59.5**	**-0.5**
KOTS	109nm,0.5s			Lg	Lg	18 50 25.5	
MDOK	**Medeo**	**2.00**	**302**	*e*P	**Pb**	**18 49 59.4**	**-0.6**
MDOK	baz=3.0			*e*S	**Sb**	**18 50 25.2**	**+0.2**
MDOK	**Medeo**	**2.00**	**302**	*e*P	**Pb**	**18 49 59.4**	**-0.6**
MDOK	8.6nm,0.2s			*e*S	**Sb**	**18 50 25.2**	**+0.2**
MDOK	**Medeo**	**2.00**	**302**	Pg	**Pb**	**18 49 59.4**	**-0.6**
MDOK	67nm,0.5s			Lg	Lg	18 50 25.2	
KNDC	**Almaty**	**2.08**	**303**	⇑Pg	**Pb**	**18 50 00.6**	**-0.7**
KNDC	5.7nm,0.3s			⇑Lg	Lg	18 50 28.2	
MNBS	**Baschi**	**2.08**	**341**	*e*P	**Pb**	**18 50 01.6**	**+0.2**
MNBS	44nm,0.4s			*e*S	**Sg**	**18 50 29.1**	**-1.4**
MNBS	**Baschi**	**2.08**	**341**	Pg	**Pb**	**18 50 01.6**	**+0.2**
MNBS	44nm,0.4s			Lg	Lg	18 50 29.1	
AAA	**Alma-Ata**	**2.11**	**302**	Pg	**Pb**	**18 50 01.7**	**-0.1**
AAA	16nm,0.2s			Lg	Lg	18 50 29.4	
IZV	**Izvestkoviy**	**2.23**	**295**	*e*P	**Pb**	**18 50 02.9**	**-1.0**
IZV	baz=96			*e*S	**Sb**	**18 50 31.3**	**-0.2**
IZV	**Izvestkoviy**	**2.23**	**295**	*e*P	**Pb**	**18 50 02.9**	**-1.0**
IZV	24nm,0.3s			*e*S	**Sb**	**18 50 31.3**	**-0.2**
IZV	**Izvestkoviy**	**2.23**	**295**	Pg	**Pb**	**18 50 02.9**	**-1.0**
IZV	24nm,0.3s			Lg	Lg	18 50 31.3	
DJR	**Jarkent**	**2.24**	**8**	*e*P	**Pb**	**18 50 04.3**	**+0.2**
DJR	25nm,0.2s			*e*S	**Sg**	**18 50 33.9**	**-1.5**
ULHL	**Ulahol**	**2.32**	**274**	⇑*i*P	**Pb**	**18 50 03.7**	**-1.8**
ULHL	baz=74			⇑*i*S	**Sb**	**18 50 32.8**	**-1.4**
ARXS	**Arharly**	**2.38**	**332**	*e*P	**Pb**	**18 50 06.7**	**+0.3**
ARXS	17nm,0.4s			*e*S	**Sg**	**18 50 37.6**	**-2.2**
ARXS	**Arharly**	**2.38**	**332**	Pg	**Pb**	**18 50 06.7**	**+0.3**
ARXS	17nm,0.4s			Lg	Lg	18 50 37.6	
CHKK	**Chushkaly**	**2.46**	**316**	*e*P	**Pb**	**18 50 07.1**	**-0.6**
CHKK	6.9nm,0.3s			*e*S	**Sb**	**18 50 38.2**	**+0.1**
CHKK	**Chushkaly**	**2.46**	**316**	Pg	**Pb**	**18 50 07.1**	**-0.6**
CHKK	6.9nm,0.3s			Lg	Lg	18 50 38.2	
KTBS	**Karatobe**	**2.53**	**310**	*e*P	**Pb**	**18 50 08.6**	**-0.4**
KTBS	3.5nm,0.3s			*e*S	**Sb**	**18 50 41.4**	**+1.2**
KTBS	**Karatobe**	**2.53**	**310**	Pg	**Pb**	**18 50 09.2**	**+0.2**
KTBS	6.3nm,0.3s			Lg	Lg	18 50 42.1	
BOOM	**Boomskoye usch**	**2.56**	**280**	⇓*e*P	**Pb**	**18 50 07.5**	**-2.1**
BOOM	baz=80			⇓*i*S	**Sb**	**18 50 39.4**	**-1.8**
KST	**Kastek**	**2.67**	**291**	*e*P	**Pb**	**18 50 10.4**	**-1.1**
KST	28nm,0.4s			*e*S	**Sb**	**18 50 44.8**	**+0.4**
KST	**Kastek**	**2.67**	**291**	Pg	**Pb**	**18 50 10.4**	**-1.1**
KST	28nm,0.4s			Lg	Lg	18 50 45.2	
KUU	**Kurty**	**2.84**	**310**	*e*P	**Pb**	**18 50 14.2**	**0.0**
KUU	1.6nm,0.2s			*e*S	**Sb**	**18 50 50.8**	**+1.8**
KUU	**Kurty**	**2.84**	**310**	Pg	**Pb**	**18 50 14.4**	**+0.1**
KUU	1.8nm,0.3s			Lg	Lg	18 50 51.3	
DGS	**Degeres**	**2.87**	**294**	*e*P	**Pb**	**18 50 14.5**	**-0.3**
DGS	5.6nm,0.5s			*e*S	**Sb**	**18 50 50.8**	**+0.7**
DGS	**Degeres**	**2.87**	**294**	Pg	**Pb**	**18 50 14.6**	**-0.3**
DGS	7.7nm,0.5s			Lg	Lg	18 50 51.4	
TKM2	**Tokmak 2**	**2.89**	**287**	⇓*i*P	**Pb**	**18 50 12.2**	**-3.1**
TKM2	baz=88			⇓*i*S	**Sb**	**18 50 47.1**	**-3.7**
TKM2	**Tokmak 2**	**2.89**	**287**	⇑Pg	**Pb**	**18 50 13.1**	**-2.1**
TKM2	1.7nm,0.3s			⇑Lg	Lg	18 50 51.0	
KZA	**Kyzart**	**3.06**	**271**	⇑*i*P	**Pn**	**18 50 14.4**	**+2.2**
KZA	baz=70			⇑*i*S	**Sn**	**18 50 50.9**	**+1.9**
KRBS	**Karabastau**	**3.13**	**302**	*e*P	**Pb**	**18 50 18.4**	**-0.9**
KRBS				*e*S	**Sb**	**18 50 57.9**	**+0.3**
KRBS	**Karabastau**	**3.13**	**302**	Pg	**Pb**	**18 50 18.4**	**-0.9**
KRBS				Lg	Lg	18 50 57.9	
KAPS	**Kapalarasan**	**3.17**	**0**	*e*P	**Pb**	**18 50 20.2**	**+0.3**
KAPS	2.6nm,0.3s			*e*S	**Sg**	**18 51 01.2**	**-4.0**
KAPS	**Kapalarasan**	**3.17**	**0**	Pg	**Pb**	**18 50 20.0**	**+0.1**
KAPS	2.3nm,0.3s			Lg	Lg	18 51 01.5	
KBK	**Karagaybulak**	**3.31**	**281**	⇑*i*P	**Pn**	**18 50 18.3**	**+2.8**
KBK	baz=81			⇑*i*S	**Sn**	**18 50 57.2**	**+2.3**
CHMS	**Chumysh**	**3.51**	**286**	⇑*i*P	**Pn**	**18 50 21.0**	**+2.9**
CHMS	baz=86			⇑*i*S	**Sn**	**18 51 02.5**	**+2.7**
AAK	**Ala-Archa**	**3.64**	**280**	⇑*i*P	**Pn**	**18 50 21.9**	**+1.9**
AAK	baz=80			⇑*i*S	**Sn**	**18 51 04.2**	**+1.1**
AAK	**Ala-Archa**	**3.64**	**280**	⇑Pg	**Pb**	**18 50 27.7**	**-0.2**
AAK	1.2nm,0.3s			⇓Lg	Lg	18 51 14.6	
ARLS	**Aral**	**3.76**	**268**	⇑*i*P	**Pn**	**18 50 23.4**	**+1.8**
ARLS	baz=68			⇑*i*S	**Sn**	**18 51 07.1**	**+1.1**
USP	**Ospenovka**	**3.76**	**289**	⇑*e*P	**Pn**	**18 50 24.0**	**+2.5**
USP	baz=90			⇑*i*S	**Sn**	**18 51 08.6**	**+2.7**
EKS2	**Erkin-Say**	**4.17**	**279**	⇓*i*P	**Pn**	**18 50 29.2**	**+2.0**
EKS2	baz=79			⇓*i*S	**Sn**	**18 51 16.7**	**+0.7**
AML	**Almayashu**	**4.21**	**272**	⇑*i*P	**Pn**	**18 50 30.4**	**+2.3**
AML	baz=72			⇑*i*S	**Sn**	**18 51 18.9**	**+1.4**
MRKS	**Merke**	**4.58**	**280**	Pg	**Pb**	**18 50 45.1**	**+1.2**
MRKS	3.9nm,0.4s			Lg	Lg	18 51 43.6	
MK31	**Makanchi Array**	**5.13**	**23**	⇑Pg	**Pb**	**18 50 51.9**	**-1.3**
MK31	0.1nm,0.2s,baz=0.0,slow=0.1,SNR=5.7			⇓Lg	Lg	18 52 03.6	
KK31	**Karatay Array**	**6.60**	**282**	Pg	Pg	18 51 24.2	-5.6
	1.1nm,0.5s,baz=0.0,slow=0.1,SNR=4.0						
	0.6nm,0.7s,baz=100,slow=16,SNR=5.1						

KK31 ⇊Lg Lg 18 52 49.3
0.9nm,0.5s,baz=94,slow=27,SNR=5.5

*IDC **09** 18:53:15.0±1.2,39°.11N×22°.01E,h0km,mb3.5/8, mb1 3.6/9,mb1mx3.4/41,mbtmp3.5/9,ML3.0/1,MS3.9/3, Ms1 3.9/3,ms1mx2.6/56,Error ellipse: s-maj=25.0km s-min=21.5km az=96.0*
*THE **09** 18:53:16.5,39°.05N×21°.99E,h0km±1km,ML3.5/20,Error ellipse: s-maj=1.3km s-min=0.3km az=1.0*
*ATH **09** 18:53:16.1,39°.05N×21°.96E,h21km±1km,ML3.4/23,Error ellipse: s-maj=1.0km s-min=0.5km az=252.0*
*BEO **09** 18:53:18.7±2.2,39°.22N×22°.16E,h0km,ML3.0/1*
ISC 09 18:53:16.8±0.8,39°.04N±0°.01×21°.98E±0°.02,h14km±6km, n140,σ0°97/181,mb3.7/8,11C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.18**	**227**	P	**Pg**	**18 53 20.8**	**-0.2**
EVR				S	**Sg**	**18 53 24.1**	**+0.2**
33μm,0.3s							
EVR	**Evrytania**	**0.18**	**227**	P	**Pg**	**18 53 20.8**	**-0.2**
EVR				S	**Sg**	**18 53 23.9**	**0.0**
EVR				AML	AML	18 53 24.2	
comp=N,70450μm,0.4s							
EVR				AML	AML	18 53 24.6	
comp=E,57924μm,0.3s							
ANX	**Ano Chora**	**0.45**	**186**	P	**Pg**	**18 53 25.4**	**-0.3**
ANX				S	**Sb**	**18 53 32.9**	**-0.2**
comp=E,26μm,0.4s							
ANX	**Ano Chora**	**0.45**	**186**	P	**Pg**	**18 53 25.6**	**-0.1**
ANX				S	**Sg**	**18 53 32.2**	**+0.6**
ANX				AML	AML	18 53 33.4	
comp=E,43052μm,0.4s							
ANX				AML	AML	18 53 33.9	
comp=N,60851μm,0.5s							
THL	**Klokotos Trika**	**0.53**	**3**	P	**Pg**	**18 53 26.8**	**-0.4**
THL				S	**Sg**	**18 53 34.6**	**+0.4**
comp=N,1μm,0.6s							
THL	**Klokotos Trika**	**0.53**	**3**	P	**Pg**	**18 53 26.7**	**-0.4**
THL				S	**Sg**	**18 53 34.4**	**+0.2**
THL				AML	AML	18 53 35.6	
comp=N,2099μm,0.6s							
THL				AML	AML	18 53 36.0	
comp=E,2287μm,0.7s							
PVO	**Paravola**	**0.55**	**220**	P	**Pg**	**18 53 27.0**	**-0.5**
PVO				S	**Sg**	**18 53 35.3**	**+0.5**
comp=E,7μm,0.5s							
PVO	**Paravola**	**0.55**	**220**	P	**Pg**	**18 53 26.9**	**-0.6**
PVO				S	**Sg**	**18 53 35.0**	**+0.2**
PVO				AML	AML	18 53 37.5	
comp=E,11344μm,0.3s							
PVO				AML	AML	18 53 37.8	
comp=N,15047μm,0.5s							
EFP	**Efpalio**	**0.61**	**185**	P	**Pg**	**18 53 28.2**	**-0.5**
EFP				S	**Sb**	**18 53 38.1**	**+0.3**
comp=N,17μm,0.3s							
EFP	**Efpalio**	**0.61**	**185**	P	**Pg**	**18 53 28.4**	**-0.4**
EFP				S	**Sb**	**18 53 37.7**	**0.0**
EFP				AML	AML	18 53 39.0	
comp=E,37549μm,0.3s							
EFP				AML	AML	18 53 39.7	
comp=N,29821μm,0.4s							
SERG	**Sergoula**	**0.63**	**174**	P	**Pg**	**18 53 28.5**	**-0.5**
SERG				S	**Sb**	**18 53 38.3**	**+0.1**
comp=N,12μm,0.3s							
SERG	**Sergoula**	**0.63**	**174**	P	**Pg**	**18 53 28.6**	**-0.5**
SERG				S	**Sb**	**18 53 37.7**	**-0.6**
SERG				AML	AML	18 53 39.5	
comp=N,25677μm,0.4s							
SERG				AML	AML	18 53 40.4	
comp=E,24186μm,0.3s							
TRIZ	**Trizonia**	**0.68**	**174**	P	**Pg**	**18 53 29.3**	**-0.7**
TRIZ				S	**Sb**	**18 53 40.1**	**+0.5**
comp=E,17μm,0.4s							
TRIZ	**Trizonia**	**0.68**	**174**	P	**Pg**	**18 53 29.2**	**-0.7**
TRIZ				S	**Sb**	**18 53 39.9**	**+0.3**
DLFA	**Delphi**	**0.69**	**144**	P	**Pg**	**18 53 29.5**	**-0.7**
DLFA				S	**Sg**	**18 53 39.5**	**+0.2**
DLFA				AML	AML	18 53 41.7	
comp=E,8777μm,0.3s							
DLFA				AML	AML	18 53 42.2	
comp=N,6551μm,0.2s							
LRSO	**Larissa Observ**	**0.71**	**27**	P	**Pg**	**18 53 30.2**	**-0.4**
LRSO	**Larissa Observ**	**0.71**	**27**	P	**Pg**	**18 53 30.1**	**-0.4**
LRSO				S	**Sg**	**18 53 40.2**	**+0.2**
LRSO				AML	AML	18 53 46.2	
comp=N,10286μm,0.5s							
LRSO				AML	AML	18 53 46.2	
comp=E,5508μm,0.3s							
DSF	**Desfina**	**0.76**	**145**	P	**Pg**	**18 53 30.4**	**-1.1**
DSF				S	**Sb**	**18 53 42.4**	**+0.3**
comp=E,5μm,0.2s							
DSF	**Desfina**	**0.76**	**145**	P	**Pg**	**18 53 30.5**	**-1.0**
DSF				S	**Sb**	**18 53 42.1**	**0.0**
DSF				AML	AML	18 53 43.9	
comp=E,9397μm,0.2s							
DSF				AML	AML	18 53 44.3	
comp=N,9551μm,0.2s							
ALIK	**Aliki, Aigiali**	**0.78**	**172**	P	**Pg**	**18 53 31.4**	**-0.6**
LAKA	**Lakka**	**0.80**	**180**	P	**Pg**	**18 53 31.6**	**-0.6**
LAKA				S	**Sb**	**18 53 44.2**	**+1.1**
VOL2	**Volos**	**0.82**	**66**	P	**Pg**	**18 53 32.6**	**-0.1**
AST1	**Astakos**	**0.85**	**235**	P	**Pb**	**18 53 33.4**	**0.0**
AST1				S	**Sn**	**18 53 46.3**	**-0.4**
comp=N,6μm,0.4s							
LKR	**Lokris**	**0.89**	**116**	P	**Pg**	**18 53 33.6**	**-0.3**
LKR	**Lokris**	**0.89**	**116**	P	**Pb**	**18 53 33.9**	**0.0**
LKR				S	**Sb**	**18 53 46.5**	**+0.8**
LKR				AML	AML	18 53 49.5	
comp=N,2173μm,0.3s							
LKR				AML	AML	18 53 51.2	
comp=E,2002μm,0.2s							
MEV	**Metsovon**	**0.94**	**322**	P	**Pg**	**18 53 33.9**	**-1.1**
XOR	**Xorichti**	**1.00**	**70**	P	**Pb**	**18 53 35.2**	**-0.7**
XOR	**Xorichti**	**1.00**	**70**	P	**Pb**	**18 53 35.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.00**	**172**	P	**Pb**	**18 53 35.6**	**-0.3**
KLV				S	**Sn**	**18 53 49.9**	**-0.6**
comp=E,1μm,0.5s							
KLV	**Kalavryta, Ach**	**1.00**	**172**	P	**Pb**	**18 53 35.7**	**-0.3**
KLV				S	**Sg**	**18 53 49.3**	**+0.1**
KLV				AML	AML	18 53 51.8	
comp=E,3158μm,0.5s							
KLV				AML	AML	18 53 54.2	
comp=N,2764μm,0.4s							
NEO	**Neokhori**	**1.00**	**74**	P	**Pb**	**18 53 35.7**	**-0.3**
NEO				S	**Sn**	**18 53 50.6**	**+0.1**
comp=N,1μm,0.3s							
NEO	**Neokhori**	**1.00**	**74**	P	**Pb**	**18 53 35.8**	**-0.2**
NEO				S	**Sg**	**18 53 49.7**	**+0.4**
NEO				AML	AML	18 53 51.9	
comp=N,3486μm,0.4s							
NEO				AML	AML	18 53 54.6	
comp=E,1540μm,0.3s							
KPRO	**Kipourio**	**1.03**	**333**	P	**Pb**	**18 53 35.5**	**-1.0**
KPRO				S	**Sb**	**18 53 50.2**	**+0.2**
comp=E,1μm,0.8s							
KPRO	**Kipourio**	**1.03**	**333**	P	**Pb**	**18 53 35.5**	**-1.0**
KPRO				S	**Sb**	**18 53 50.0**	**+0.1**
KPRO				AML	AML	18 53 53.2	
comp=N,2302μm,0.6s							
KPRO				AML	AML	18 53 53.8	
comp=E,2028μm,0.5s							
TSLK	**Tsoukalades, L**	**1.05**	**259**	P	**Pb**	**18 53 36.7**	**-0.1**
TSLK	**Tsoukalades, L**	**1.05**	**259**	P	**Pb**	**18 53 36.1**	**-0.7**
RLS	**Riolos of Patr**	**1.06**	**202**	P	**Pb**	**18 53 36.8**	**0.0**
RLS				S	**Sn**	**18 53 52.8**	**+1.1**
comp=E,3μm,0.6s							
RLS	**Riolos of Patr**	**1.06**	**202**	P	**Pb**	**18 53 36.9**	**0.0**
RLS				S	**Sg**	**18 53 51.2**	**+0.3**
RLS				AML	AML	18 53 54.6	
comp=N,7512μm,0.4s							
RLS				AML	AML	18 53 54.6	
comp=E,3706μm,0.7s							
LKD2	**Lefkada island**	**1.06**	**257**	P	**Pb**	**18 53 36.5**	**-0.4**
LKD2	**Lefkada island**	**1.06**	**257**	P	**Pb**	**18 53 36.2**	**-0.8**
LKD2				S	**Sg**	**18 53 51.2**	**+0.2**
LKD2				AML	AML	18 54 00.7	
comp=E,3090μm,0.8s							
LKD2				AML	AML	18 54 03.5	
comp=N,2783μm,0.8s							
JAN	**Janina**	**1.07**	**306**	P	**Pb**	**18 53 36.4**	**-0.7**
JAN	**Janina**	**1.07**	**306**	P	**Pb**	**18 53 36.6**	**-0.5**
JAN				S	**Sb**	**18 53 50.4**	**-0.6**
JAN				AML	AML	18 54 02.9	
comp=E,1451μm,0.6s							
JAN				AML	AML	18 54 02.9	
comp=N,1143μm,0.5s							
DRO	**Drossia**	**1.10**	**191**	P	**Pb**	**18 53 36.9**	**-0.8**
DRO	**Drossia**	**1.10**	**191**	P	**Pb**	**18 53 37.5**	**-0.2**
DRO				S	**Sg**	**18 53 52.6**	**+0.2**
DRO				AML	AML	18 53 58.2	
comp=N,5700μm,0.6s							
DRO				AML	AML	18 53 58.3	
comp=E,4110μm,0.3s							
EVGI	**Lefkada island**	**1.11**	**248**	P	**Pb**	**18 53 37.3**	**-0.5**
EVGI	**Lefkada island**	**1.11**	**248**	P	**Pb**	**18 53 37.4**	**-0.4**
LIT	**Litokhoron**	**1.13**	**20**	P	**Pb**	**18 53 37.4**	**-0.8**
LIT				S	**Sn**	**18 53 53.7**	**0.0**
comp=E,1μm,0.6s							
LIT	**Litokhoron**	**1.13**	**20**	P	**Pb**	**18 53 37.4**	**-0.8**
GUR	**Goura**	**1.14**	**165**	P	**Pb**	**18 53 37.5**	**-0.8**
GUR				S	**Sn**	**18 53 54.3**	**+0.4**
comp=E,3μm,0.3s							
GUR	**Goura**	**1.14**	**165**	P	**Pb**	**18 53 37.7**	**-0.6**
GUR				S	**Sg**	**18 53 53.5**	**-0.1**
GUR				AML	AML	18 53 56.5	
comp=E,5778μm,0.4s							
GUR				AML	AML	18 53 57.6	
comp=N,7103μm,0.3s							
FSK	**Fiskardo**	**1.25**	**243**	P	**Pn**	**18 53 39.5**	**-0.3**
FSK				S	**Sg**	**18 53 58.9**	**+1.9**
comp=N,1μm,0.5s							
FSK	**Fiskardo**	**1.25**	**243**	P	**Pn**	**18 53 39.6**	**-0.2**
FSK				S	**Sb**	**18 53 56.3**	**+0.2**
FSK				AML	AML	18 54 03.7	
comp=N,1468μm,0.6s							
FSK				AML	AML	18 54 03.7	
comp=E,3136μm,0.4s							
KZN	**Kozani**	**1.28**	**353**	P	**Pn**	**18 53 40.1**	**-0.2**
KZN				S	**Sg**	**18 53 58.1**	**+0.1**
comp=E,882nm,0.7s							
KZN	**Kozani**	**1.28**	**353**	P	**Pn**	**18 53 40.1**	**-0.2**
KZN				S	**Sb**	**18 53 57.1**	**0.0**
KZN				AML	AML	18 54 00.7	
comp=E,2102μm,0.7s							
KZN				AML	AML	18 54 01.1	
comp=N,1364μm,0.7s							
LTK	**Loutraki**	**1.28**	**142**	P	**Pb**	**18 53 40.5**	**-0.1**
LTK				S	**Sg**	**18 53 58.8**	**+0.9**
comp=N,2μm,0.5s							
LTK	**Loutraki**	**1.28**	**142**	P	**Pg**	**18 53 40.9**	**-0.4**
LTK				S	**Sg**	**18 53 58.6**	**+0.6**
LTK				AML	AML	18 54 03.2	
comp=E,2313μm,0.6s							
LTK				AML	AML	18 54 03.5	
comp=N,4245μm,0.5s							
VTN	**Vitineika**	**1.28**	**209**	P	**Pg**	**18 53 41.2**	**-0.2**
VIL2	**Platees**	**1.30**	**129**	P	**Pg**	**18 53 42.5**	**+0.6**
VIL2				S	**Sg**	**18 54 01.6**	**+2.8**
VIL2				AML	AML	18 54 04.7	
comp=N,2149μm,0.7s							
VIL2				AML	AML	18 54 08.3	
comp=E,2970μm,0.6s							
PENT	**Pentalofos**	**1.32**	**331**	P	**Pn**	**18 53 40.6**	**-0.4**
VILL	**Villia**	**1.36**	**129**	P	**Pb**	**18 53 42.3**	**+0.2**
VILL				S	**Sg**	**18 54 02.1**	**+1.4**
comp=E,1μm,0.5s							
IGT	**Igoumenitsa**	**1.37**	**292**	P	**Pn**	**18 53 41.6**	**+0.1**
IGT				S	**Sg**	**18 54 01.9**	**+1.0**
comp=E,470nm,0.6s							
IGT	**Igoumenitsa**	**1.37**	**292**	*e*Pg	**Pg**	**18 53 44.8**	**+1.7**
IGT				*e*Sg	**Sg**	**18 54 04.2**	**+3.3**
IGT	**Igoumenitsa**	**1.37**	**292**	P	**Pn**	**18 53 41.8**	**+0.3**
VLS	**Valsamata**	**1.39**	**232**	P	**Pn**	**18 53 41.4**	**-0.4**
KEF5	**Kardakata, Kep**	**1.41**	**238**	P	**Pn**	**18 53 42.1**	**+0.1**
KEF3	**Kipouria, Keph**	**1.52**	**237**	P	**Pb**	**18 53 44.9**	**0.0**
TRIP	**Tripoli**	**1.53**	**171**	P	**Pb**	**18 53 44.7**	**-0.2**
TRIP				S	**Sg**	**18 54 05.1**	**-0.8**
TRIP				AML	AML	18 54 10.9	
comp=N,1671μm,0.5s							
TRIP				AML	AML	18 54 12.9	
comp=E,2132μm,0.6s							
NEST	**Nestorio**	**1.55**	**333**	P	**Pb**	**18 53 45.1**	**-0.3**
VLMS	**Volimes, Zakyn**	**1.55**	**222**	P	**Pb**	**18 53 44.8**	**-0.6**
KRI1	**kERI**	**1.65**	**214**	P	**Pb**	**18 53 46.3**	**-0.7**
VLX	**Vlachokerasia**	**1.69**	**169**	P	**Pb**	**18 53 47.2**	**-0.6**
VLX	**Vlachokerasia**	**1.69**	**169**	P	**Pb**	**18 53 47.3**	**-0.6**
KYMI	**Kymi, Euboea I**	**1.71**	**103**	P	**Pn**	**18 53 46.8**	**+0.6**
ATH	**Athens Observa**	**1.73**	**127**	P	**Pb**	**18 53 47.7**	**-0.6**
KASA	**Kassiopi**	**1.73**	**295**	P	**Pb**	**18 53 47.6**	**-0.8**
PLG	**Polygyros**	**1.75**	**40**	P	**Pn**	**18 53 46.5**	**-0.3**
PLG	**Polygyros**	**1.75**	**40**	P	**Pn**	**18 53 46.5**	**-0.3**
ATHU	**Athens Univers**	**1.78**	**126**	P	**Pn**	**18 53 48.0**	**+0.8**
PTL	**Penteli**	**1.78**	**123**	P	**Pn**	**18 53 48.1**	**+0.9**
HORT	**Hortiatis**	**1.78**	**29**	P	**Pn**	**18 53 46.5**	**-0.7**
DION	**Dionisos Attik**	**1.81**	**121**	P	**Pn**	**18 53 48.3**	**+0.7**
DION	**Dionisos Attik**	**1.81**	**121**	P	**Pn**	**18 53 48.3**	**+0.7**
DID	**Didima**	**1.82**	**147**	P	**Pn**	**18 53 48.1**	**+0.3**
DID	**Didima**	**1.82**	**147**	P	**Pn**	**18 53 48.7**	**+0.9**
VLY	**Voula,Athens**	**1.85**	**129**	P	**Pn**	**18 53 49.1**	**+1.0**
VLY	**Voula,Athens**	**1.85**	**129**	P	**Pn**	**18 53 49.2**	**+1.0**
ITM	**Ithomi**	**1.86**	**181**	P	**Pb**	**18 53 50.3**	**-0.2**
KRND	**KRANIDI**	**1.89**	**150**	P	**Pn**	**18 53 49.3**	**+0.6**
KRND	**KRANIDI**	**1.89**	**150**	P	**Pn**	**18 53 49.4**	**+0.6**
SKY	**Skiros Island**	**2.01**	**94**	P	**Pn**	**18 53 51.1**	**+0.7**
SOH	**Sokhos**	**2.07**	**30**	P	**Pn**	**18 53 51.7**	**+0.5**
KARY	**Karystos**	**2.17**	**117**	P	**Pn**	**18 53 53.1**	**+0.5**
KNT	**Kendrikon**	**2.24**	**18**	P	**Pn**	**18 53 53.9**	**+0.5**
KNT	**Kendrikon**	**2.24**	**18**	P	**Pn**	**18 53 54.2**	**+0.7**
VAY	**Valandovo**	**2.33**	**11**	*e*Pn	**Pn**	**18 53 54.7**	**0.0**
SRS	**Serrai**	**2.42**	**30**	*e*Pn	**Pn**	**18 53 55.0**	**-1.0**
VLI	**Veliai**	**2.44**	**162**	P	**Pn**	**18 53 57.2**	**+1.0**
STIP	**Stip**	**2.66**	**3**	*i* Pn	**Pn**	**18 54 01.0**	**+1.7**
SERI	**Serifos**	**2.73**	**133**	P	**Pn**	**18 54 00.5**	**+0.4**
TIR	**Tirane**	**2.82**	**326**	*e*Pn	**Pb**	**18 54 05.5**	**-1.4**
KTHA	**Kythira Island**	**2.91**	**162**	P	**Pn**	**18 54 04.4**	**+1.7**
SKO	**Skopje**	**2.96**	**352**	*e*Pn	**Pn**	**18 54 02.8**	**-0.6**
APE	**Apeiranthos**	**3.42**	**124**	⇑P	**Pn**	**18 54 10.4**	**+0.6**
BOSS	**Bosilegrad**	**3.48**	**6**	*e*Pn	**Pn**	**18 54 11.6**	**+1.1**
BARS	**Barje**	**3.78**	**358**	*e*Pn	**Pn**	**18 54 15.8**	**+1.2**
PDG	**Podgorica**	**3.97**	**329**	⇑P	**Pn**	**18 54 20.2**	**+2.9**
SELS	**Selova**	**4.23**	**351**	*e*Pn	**Pn**	**18 54 21.1**	**+0.3**
ZAPS	**Zavoj**	**4.26**	**6**	*e*Pn	**Pn**	**18 54 23.6**	**+2.3**
MATE	**Matera**	**4.37**	**293**	⇑P	**Pn**	**18 54 23.2**	**+0.6**
IDI	**Anoyia**	**4.41**	**147**	Pn	**Pn**	**18 54 24.6**	**+1.3**
comp=E,0.7nm,0.3s,baz=351,slow=16,SNR=7.3							
IDI				Sn	**Sn**	**18 55 12.0**	**-2.6**
comp=E,3.9nm,0.3s,baz=109,slow=23,SNR=7.5							
IDI	**Anoyia**	**4.41**	**147**	⇑P	**Pn**	**18 54 23.0**	**-0.3**
IDI	**Anoyia**	**4.41**	**147**	⇑S	**Sn**	**18 55 13.2**	**-1.3**
SJES	**Sjenica**	**4.48**	**341**	*e*Pn	**Pn**	**18 54 26.2**	**+1.8**
BOVS	**Bovan**	**4.60**	**358**	*e*Pn	**Pn**	**18 54 26.0**	**+0.1**
ZAGS	**Zajecar**	**4.77**	**2**	*e*Pn	**Pn**	**18 54 29.8**	**+1.5**
GRUS	**Gruza**	**4.94**	**349**	*e*Pn	**Pn**	**18 54 31.1**	**+0.5**
DIVS	**Divibare**	**5.27**	**344**	*e*Pn	**Pn**	**18 54 35.4**	**+0.2**
TRUS	**Trudelj**	**5.31**	**348**	*e*Pn	**Pn**	**18 54 36.4**	**+0.7**
MDVR	**Moldovita**	**5.74**	**358**	⇑P	**Pn**	**18 54 44.6**	**+2.9**
GZR	**Gura Zlata**	**6.38**	**5**	⇑P	**Pn**	**18 54 53.9**	**+3.4**
VOIR		**6.79**	**19**	⇑P	**Pn**	**18 54 57.2**	**+1.2**
MLR	**Muntele Rosu**	**7.09**	**23**	⇑P	**Pn**	**18 55 03.2**	**+3.0**
PLOR	**Plostina**	**7.63**	**25**	⇑P	**Pn**	**18 55 10.3**	**+2.7**
VRI	**Vrincioaia**	**7.67**	**26**	⇓P	**Pn**	**18 55 11.5**	**+3.4**
PSZ	**Piszkesteto**	**9.01**	**351**	⇑P	**Pn**	**18 55 27.6**	**+1.2**
VYHS	**Vyhne**	**9.72**	**348**	*e*PN	**Pn**	**18 55 38.4**	**+2.2**
VRAC	**Vranov**	**10.97**	**341**	LR	LR	19 00 08.3	
comp=E,18nm,19.9s,baz=180,slow=38							
ESDC	**Sonseca Array**	**20.05**	**280**	P	Pn	18 57 50.8	-0.6
comp=E,0.5nm,0.7s,baz=83,slow=11,SNR=5.2							
HFS	**Hagfors**	**21.75**	**349**	P	**P**	**18 58 08.0**	**+0.3**
comp=E,1.4nm,0.7s,baz=171,slow=28,SNR=1.4							
FINES	**FINESS Array B**	**22.57**	**5**	P	**P**	**18 58 16.1**	**-0.3**
comp=E,2.1nm,0.8s,baz=185,slow=14,SNR=4.7							
NOA	**NORSAR Array B**	**23.02**	**347**	P	**P**	**18 58 21.0**	**-0.2**
comp=E,0.5nm,0.8s,baz=154,slow=9.4,SNR=1.9							
EKA	**Eskdalemuir Ar**	**23.41**	**322**	P	**P**	**18 58 24.4**	**-0.8**
comp=E,0.7nm,0.7s,baz=123,slow=9.1,SNR=4.8							
KIRV	**Kirov**	**26.31**	**33**	LR	LR	19 09 41.4	
comp=E,19nm,18.9s,baz=273,slow=38							
ARCES	**ARCESS Array B**	**30.62**	**2**	P	**P**	**18 59 29.1**	**-1.0**
comp=E,1.5nm,0.8s,baz=179,slow=8.1,SNR=4.7							
TORD	**Torodi Ar. Bea**	**31.42**	**220**	P	**P**	**18 59 38.2**	**+0.5**
comp=E,0.6nm,0.6s,baz=24,slow=9.9,SNR=4.3							
DBIC	**Dimbokro**	**40.30**	**224**	LR	LR	19 17 59.4	
comp=E,99nm,21.3s,baz=129,slow=37							
MKAR	**Makanchi Array**	**43.88**	**59**	P	**P**	**19 01 22.4**	**-0.3**
comp=E,13nm,0.4s,baz=283,slow=6.8,SNR=3.5							
ZALV	**Zalesovo Beam**	**44.27**	**49**	P	**P**	**19 01 25.4**	**-0.3**
comp=E,0.8nm,0.6s,baz=294,slow=8.6,SNR=4.0							
BDFB	**Brasilia**	**84.91**	**245**	LR	LR	19 46 02.6	
comp=E,107nm,19.3s,baz=134,slow=37							
DAV	**Davao City (W)**	**96.03**	**76**	LR	LR	19 53 44.3	
comp=E,57nm,18.5s,baz=156,slow=38							

IDC 09 18:57:10.5±334.0,3°.34N×136°.78E,h0km,Error ellipse: s-maj=151.4km s-min=105.7km az=127.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**4.72**	**332**	*i*		19 25 20.0	
baz=152,slow=319,SNR=2.9							
I07AU	**WARRAMUNGA INF**	**3.25**	**186**	*i*		21 19 20.0	
baz=6.0,slow=315,SNR=2.0							
I45RU	**USSURIYSK INFR**	**40.91**	**355**	*i*		23 09 30.0	
baz=172,slow=328,SNR=6.0							

*IDC **09** 18:58:45.0±2.1,6°.70S×149°.28E,h84km±26km,mb3.4/3, mb1 3.6/6,mb1mx3.3/40,mbtmp3.7/6,Error ellipse: s-maj=94.2km s-min=14.7km az=132.0*
ISC 09 18:58:43.5±1.0,6°.3S±0°.2×148°.8E±0°.3,h60km,n7,σ0°37/8, mb3.6/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.52**	**207**	P	**Pn**	**18 59 35.8**	**+0.2**
8.8nm,0.3s,baz=49,slow=6.4,SNR=29							
PMG				S	**Sn**	**19 00 16.1**	**+0.1**
16nm,0.3s,baz=319,slow=20,SNR=9.4							
KRVT	**Keravat (AS076**	**3.76**	**59**	P	**Pn**	**18 59 39.2**	**+0.2**
9.0nm,0.3s,baz=100,slow=6.1,SNR=22							
WRA	**Warramunga Arr**	**19.55**	**225**	P	**P**	**19 03 06.2**	**-0.2**
0.1nm,0.3s,baz=52,slow=11,SNR=11							
ASAR	**Alice Springs**	**22.46**	**218**	P	**P**	**19 03 37.5**	**-0.3**
0.9nm,0.8s,baz=58,slow=9.5,SNR=20							
FITZ	**Fitzroy Crossi**	**25.47**	**240**	P	**P**	**19 04 06.7**	**+0.6**
3.6nm,1.0s,baz=50,slow=9.9,SNR=3.2							
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**19 11 11.9**	**-0.4**
0.4nm,0.8s,baz=262,slow=5.4,SNR=4.4							
TORD	**Torodi Ar. Bea**	**146.89**	**284**	PKPbc	**PKPbc**	**19 18 20.4**	**+0.2**
0.4nm,0.5s,baz=61,slow=3.6,SNR=2.9							

*SJA **09** 19:06:51.6±0.6,33°.65S×72°.59W,h14km,ML4.0,MW4.0*
*IDC **09** 19:06:52.6±1.0,33°.70S×72°.28W,h0km,mb3.8/5, mb1 4.0/8,mb1mx3.7/39,mbtmp3.8/8,ML3.8/3,Error ellipse: s-maj=41.2km s-min=17.8km az=92.0*
*NEIC **09** 19:06:54.3±1.7,33°.72S±0°.05×72°.31W±0°.09,h14km±4km, mb4.3/5,ML3.9(GUC),Error ellipse: s-maj=11.4km s-min=5.5km az=118.0*
*GUC **09** 19:06:55.2±0.8,33°.75S×72°.27W,h38km±2km,ML3.9*
ISC 09 19:06:53.4±1.9,33°.72S±0°.03×72°.33W±0°.05,h8km±12km, n94,σ1°42/104,mb4.1/5,4C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.89**	**40**	*i* P	**Pn**	**19 07 11.8**	**-0.5**
VA01				*i* S	**Sb**	**19 07 23.2**	**-0.1**
VA01				IAML		19 07 28.1	
comp=E,3μm,0.1s							
VA01	**Torpederas**	**0.89**	**40**		**Pn**	**19 07 12.0**	**-0.3**
VA01					**Sn**	**19 07 24.4**	**-1.0**
MT02	**Curacav**	**1.09**	**66**	⇓*i* P	**Pb**	**19 07 14.3**	**-0.3**
MT02				*i* S	**Sg**	**19 07 28.6**	**+0.1**
MT02	**Curacav**	**1.09**	**66**		**Pb**	**19 07 14.2**	**-0.3**
MT02				Sg	**Sg**	**19 07 28.4**	**-0.2**
ROC1	**El Roble**	**1.32**	**56**		**Pb**	**19 07 18.3**	**-0.4**
ROC1	**El Roble**	**1.32**	**56**	*e*P	**Pb**	**19 07 18.4**	**-0.2**
ROC1				*e*S	**Sg**	**19 07 37.2**	**+1.3**
ROCH	**El Roble**	**1.33**	**56**	⇑*i* P	**Pb**	**19 07 18.3**	**-0.4**
ROCH				*i* S	**Sn**	**19 07 35.4**	**-1.1**
ROCH				IAML		19 07 38.5	
comp=N,2μm,0.3s							
GO05	**Huala**	**1.33**	**166**	⇑*i* P	**Pn**	**19 07 18.2**	**-0.2**
GO05				*i* S	**Sn**	**19 07 34.6**	**-1.8**
GO05				IAML		19 07 39.5	
comp=E,2μm,0.4s							
GO05	**Huala**	**1.33**	**166**		**Pn**	**19 07 18.2**	**-0.2**
GO05	**Huala**	**1.33**	**166**	*e*P	**Pn**	**19 07 18.4**	**0.0**
GO05				*e*S	**Sg**	**19 07 37.0**	**+0.7**
MT05	**Renca**	**1.36**	**77**	*e*P	**Pn**	**19 07 18.3**	**-0.6**
MT05				IAML		19 07 40.9	
comp=N,4μm,0.3s							
MT05	**Renca**	**1.36**	**77**		**Pn**	**19 07 18.4**	**-0.4**
PEL	**Peldehue**	**1.49**	**68**	⇓*i* P	**Pb**	**19 07 20.9**	**-0.4**
PEL				*i* S	**Sg**	**19 07 40.3**	**-0.9**
PEL				IAML		19 07

ZON				IAML		19 09 01.8	
	comp=Z,124nm,1.4s						
RTLL	**Cerro Villicun**	**4.03**	**55**	*eP*	**Pn**	**19 07 58.0**	**+2.5**
RTLL				IAML		19 09 01.1	
	comp=Z,174nm,0.5s						
ACCO	**Cerro Coronel**	**4.17**	**42**	*eP*	**Pn**	**19 08 00.6**	**+2.9**
ACCO				IAML		19 09 06.3	
	comp=Z,90nm,0.6s						
CO01	**Juntas del Tor**	**4.18**	**28**	*eP*	**Pn**	**19 07 58.9**	**+1.1**
CO01	**Juntas del Tor**	**4.18**	**28**		**Pn**	**19 07 59.0**	**+1.1**
AROD	**Rodeo**	**4.29**	**35**	*eP*	**Pn**	**19 08 02.1**	**+2.8**
LCO	**Las Campanas**	**4.89**	**17**	Pn	**Pn**	**19 08 07.4**	**-0.2**
AC05	**El Transito**	**5.17**	**20**	*eP*	**Pn**	**19 08 11.7**	**+0.4**
AC05	**El Transito**	**5.17**	**20**	Pn	**Pn**	**19 08 11.8**	**+0.5**
LC01	**Cunco**	**5.18**	**176**	Pn	**Pn**	**19 08 11.5**	**+0.1**
AGUA	**GUANDACOL**	**5.33**	**39**	*eP*	**Pn**	**19 08 15.9**	**+2.4**
AGUA				IAML		19 09 59.9	
	comp=Z,83nm,0.7s						
H03S1	**Juan Fernandez**	**5.48**	**267**	T	T	19 14 09.4	
	baz=89,slow=75,SNR=814						
H03S3	**Juan Fernandez**	**5.48**	**267**	T	T	19 14 11.2	
	baz=89,slow=75,SNR=698						
H03S2	**Juan Fernandez**	**5.50**	**267**	T	T	19 14 10.0	
	baz=89,slow=75,SNR=772						
H03N1	**Juan Fernandez**	**5.50**	**271**	T	T	19 14 16.5	
	baz=98,slow=74,SNR=39						
H03N3	**Juan Fernandez**	**5.51**	**271**	T	T	19 14 16.3	
	baz=98,slow=74,SNR=55						
H03N2	**Juan Fernandez**	**5.52**	**271**	T	T	19 14 17.6	
	baz=98,slow=74,SNR=46						
AC04	**Llanos de Chal**	**5.60**	**11**	Pn	**Pn**	**19 08 16.4**	**-0.7**
MRA	**San Martin**	**5.70**	**79**	*eP*	**Pn**	**19 08 20.9**	**+2.4**
MRA				IAML		19 09 57.2	
	comp=Z,43nm,0.6s						
VCA	**Vinchina**	**6.09**	**37**	*eP*	**Pn**	**19 08 25.4**	**+1.5**
VCA				IAML		19 10 12.9	
	comp=Z,110nm,0.8s						
ACLC	**CERRO LA CRUZ**	**6.27**	**48**	*eP*	**Pn**	**19 08 26.6**	**+0.2**
ACLC				IAML		19 09 54.2	
	comp=Z,61nm,1.3s						
GO03	**Copiap**	**6.36**	**17**	Pn	**Pn**	**19 08 27.1**	**-0.5**
TCA	**Tanti**	**6.95**	**72**	*eP*	**Pn**	**19 08 35.5**	**-0.1**
TCA				IAML		19 10 06.8	
	comp=Z,35nm,1.1s						
PLCA	**Paso Flores**	**7.15**	**169**	Pn	**Pn**	**19 08 39.8**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=323,slow=13,SNR=7.1						
PLCA				Lg	Lg	19 10 38.5	
	baz=267,slow=23,SNR=2.2						
CYA	**Choya**	**7.67**	**49**	*eP*	**Pn**	**19 08 44.9**	**-0.7**
CYA				*eS*	Sb	19 10 24.8	-14
CYA				IAML		19 10 26.2	
	comp=Z,22nm,0.9s						
AC01	**Pan de Azucar**	**7.69**	**12**	Pn	**Pn**	**19 08 42.9**	**-2.9**
GO02	**Mina Guanaco**	**8.85**	**16**	Pn	**Pn**	**19 08 59.3**	**-2.6**
PB14	**IPOC Station P**	**9.21**	**11**	Pn	**Pn**	**19 09 04.1**	**-2.8**
PB10	**IPOC Station P**	**10.28**	**9**	Pn	**Pn**	**19 09 20.0**	**-1.3**
CPUP	**Villa Florida**	**14.92**	**64**	Pn	**Pn**	**19 10 25.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=158,slow=18,SNR=1.8						
CPUP	**Villa Florida**	**14.92**	**64**	P	**P**	**19 10 29.7**	**-0.7**
LPAZ	**La Paz**	**17.76**	**13**	P	**P**	**19 11 03.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=173,slow=7.0,SNR=10.0						
LPAZ	**La Paz**	**17.76**	**13**	P	**P**	**19 11 03.5**	**+0.9**
SIV	**San Ignacio**	**20.36**	**33**	P	**P**	**19 11 29.9**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=220,slow=9.5,SNR=11						
BCIP	**Isla Barro Col**	**43.24**	**349**	P	**P**	**19 14 57.4**	**+2.0**
SNAA	**Sanae**	**51.94**	**158**	P	**P**	**19 16 03.1**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=274,slow=7.2,SNR=8.4						
QSPA	**South Pole Qui**	**56.52**	**180**	P	**P**	**19 16 37.2**	**+1.2**
	comp=Z,2.0nm,1.0s,baz=171,slow=3.3,SNR=4.9						
QSPA	**South Pole Qui**	**56.52**	**180**	IAmb	IAmb	19 16 39.4	
	comp=Z,5.3nm,1.2s						
TXAR	**Lajitas Array**	**69.37**	**331**	P	**P**	**19 18 02.9**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=157,slow=9.6,SNR=2.8						
TOA0	**Torodi Ar. Sit**	**84.34**	**70**	P	**P**	**19 19 26.3**	**-0.2**
TOA0				IAmb	IAmb	19 19 34.9	
	comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**19 19 26.1**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=232,slow=5.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**19 19 25.8**	**-0.7**
WRA	**Warramunga Arr**	**120.89**	**209**	PKP	**PKPdf**	**19 25 46.1**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=156,slow=1.6,SNR=9.1						
H11S2	**WAKE ISLAND Hyl**	**25.53**	**270**	T	T	21 44 51.8	
	baz=112						
H11S1	**WAKE ISLAND Hyl**	**25.55**	**270**	T	T	21 44 54.7	
	baz=112						
H11S3	**WAKE ISLAND Hyl**	**25.55**	**270**	T	T	21 44 50.3	
	baz=112						
ZALV	**Zalesovo Beam**	**154.11**	**32**	PKPbc	**PKiKP**	**19 26 53.5**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=0.7,slow=1.2,SNR=2.0						
MKAR	**Makanchi Array**	**156.76**	**48**	PKPab	**PKPab**	**19 27 18.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=291,slow=2.6,SNR=3.0						

*SOME **09** 19:09:36.9, 42°.05N×80°.50E, h30km*
*KRNET **09** 19:09:37.8±0.1, 42°.47N×80°.47E, mb3.3*
*NNC **09** 19:09:39.7±1.5, 42°.26N×80°.28E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=9.5km s-min=6.7km az=145.0*

ISC 09 19:09:41.7±1.4, 42°.35N±0°.06×80°.31E±0°.05, h10km, n58, σ1°.63/100, 33C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.02**	**323**	*eP*	**Pg**	**19 09 59.0**	**-2.4**
	99nm,0.1s						
SHLS				*eS*	**Sg**	**19 10 14.3**	**-0.4**
	288nm,0.2s						
SHLS	**Shalkode**	**1.02**	**323**	P	**Pg**	**19 09 59.0**	**-2.4**
	99nm,0.1s						
SHLS				S	**Sg**	**19 10 14.3**	**-0.4**
	288nm,0.2s						
KTMS	**Ketmen**	**1.10**	**2**	*eP*	**Pg**	**19 10 02.2**	**-0.6**
	48nm,0.4s						
KTMS				*eS*	**Sn**	**19 10 20.0**	**+1.4**
	298nm,0.1s						
KTMS	**Ketmen**	**1.10**	**2**	P	**Pg**	**19 10 02.2**	**-0.6**
	48nm,0.4s						
KTMS				S	**Sn**	**19 10 20.0**	**+1.4**
	298nm,0.1s						
PDGK	**Podgornoye**	**1.15**	**329**	⇓P	**Pb**	**19 10 03.1**	**-0.7**
	28nm,0.6s						
PDGK				⇓S	**Sb**	**19 10 17.9**	**-1.0**
	38nm,0.6s						
UZB	**Uzynbulak**	**1.24**	**311**	*eP*	**Pn**	**19 10 04.3**	**-1.0**
	62nm,0.3s						
UZB				*eS*	**Sn**	**19 10 23.1**	**+0.9**
	138nm,0.3s						
UZB	**Uzynbulak**	**1.24**	**311**	P	**Pn**	**19 10 04.3**	**-1.0**
	62nm,0.3s						
UZB				S	**Sn**	**19 10 23.0**	**+0.9**
	138nm,0.3s						
PRZ	**Przheval'sk**	**1.42**	**276**	⇑*iP*	**Pn**	**19 10 06.2**	**-1.6**
	baz=71						
PRZ				⇑*iS*	**Sg**	**19 10 27.3**	**-0.1**
	baz=71						
SATY	**Saty**	**1.57**	**298**	*eP*	**Pn**	**19 10 09.3**	**-0.5**
	39nm,0.1s						
SATY				*eS*	**Sg**	**19 10 31.9**	**-0.4**
	237nm,0.1s						
SATY	**Saty**	**1.57**	**298**	P	**Pn**	**19 10 09.3**	**-0.5**
	39nm,0.1s						
SATY				S	**Sg**	**19 10 31.9**	**-0.4**
	237nm,0.1s						
KPKS	**Kokpek**	**1.64**	**314**	*eP*	**Pn**	**19 10 11.1**	**+0.4**
	146nm,0.4s						
KPKS				*eS*	**Sg**	**19 10 35.0**	**+0.7**
	410nm,0.2s						
ANVS	**Anan'yevo**	**2.00**	**283**	⇑*iP*	**Pn**	**19 10 16.2**	**+0.5**
	baz=80						
ANVS				⇑*iS*	**Sb**	**19 10 43.9**	**+0.6**
	baz=80						
DJR	**Jarkent**	**2.02**	**349**	*eP*	**Pb**	**19 10 18.5**	**0.0**
	6.7nm,0.1s						
DJR				*eS*	**Sg**	**19 10 47.8**	**+1.2**
	60nm,0.2s						
MNBS	**Baschi**	**2.22**	**322**	*eP*	**Pb**	**19 10 21.1**	**-0.9**
MNBS				*eS*	**Sg**	**19 10 53.1**	**-0.1**
MNBS	**Baschi**	**2.22**	**322**	Pg	**Pb**	**19 10 21.1**	**-0.9**
MNBS				Lg	Lg	19 10 53.1	
KDJ	**Kajisay**	**2.33**	**266**	⇓*iP*	**Pn**	**19 10 21.0**	**+0.7**
	baz=63						
KDJ				⇓*iS*	**Sb**	**19 10 53.1**	**+0.2**
	baz=63						
KOTS	**Kotyrbulak**	**2.52**	**292**	*eP*	**Pb**	**19 10 25.4**	**-1.7**
	21nm,0.2s						
KOTS				*eS*	**Sb**	**19 10 59.1**	**+1.0**
	222nm,0.4s						
KOTS	**Kotyrbulak**	**2.52**	**292**	Pg	**Pb**	**19 10 25.4**	**-1.7**
	21nm,0.2s						
KOTS				Lg	Lg	19 10 59.1	
	222nm,0.4s						
MDOK	**Medeo**	**2.54**	**290**	*eP*	**Pn**	**19 10 25.2**	**+2.2**
	17nm,0.3s						
MDOK				*eS*	**Sb**	**19 10 59.0**	**+0.3**
	63nm,0.5s						
MDOK	**Medeo**	**2.54**	**290**	Pg	**Pn**	**19 10 25.2**	**+2.2**
	17nm,0.3s						
MDOK				Lg	Lg	19 10 59.1	
	63nm,0.5s						
ARXS	**Arharly**	**2.60**	**317**	*eP*	**Pb**	**19 10 27.6**	**-0.8**
	22nm,0.5s						
ARXS				*eS*	**Sb**	**19 11 03.2**	**+2.7**
	42nm,0.4s						
ARXS	**Arharly**	**2.60**	**317**	Pg	**Pb**	**19 10 27.6**	**-0.8**
	22nm,0.5s						
ARXS				Lg	Lg	19 11 03.2	
	42nm,0.4s						
KNDC	**Almaty**	**2.61**	**291**	⇑Pg	**Pn**	**19 10 26.3**	**+2.3**
	12nm,0.3s						
KNDC				⇑Lg	Lg	19 11 02.4	
	54nm,0.6s						
AAA	**Alma-Ata**	**2.64**	**290**	*eP*	**Pb**	**19 10 27.8**	**-1.3**
	24nm,0.3s						
AAA				*eS*	**Sb**	**19 11 03.5**	**+1.8**
	57nm,0.5s						
AAA	**Alma-Ata**	**2.64**	**290**	Pg	**Pb**	**19 10 27.8**	**-1.3**
	24nm,0.3s						
AAA				Lg	Lg	19 11 03.5	
	57nm,0.5s						
IZV	**Izvestkoviy**	**2.81**	**285**	*eP*	**Pb**	**19 10 30.7**	**-1.4**
	11nm,0.2s						
IZV				*eS*	**Sb**	**19 11 07.6**	**+1.0**
	131nm,0.6s						
IZV	**Izvestkoviy**	**2.81**	**285**	Pg	**Pb**	**19 10 30.7**	**-1.4**
	11nm,0.2s						
IZV				Lg	Lg	19 11 07.6	
	131nm,0.6s						
KTBS	**Karatobe**	**2.99**	**298**	*eP*	**Pb**	**19 10 33.9**	**-1.1**
	3.7nm,0.3s						
KTBS				*eS*	**Sb**	**19 11 13.6**	**+2.0**
	62nm,0.3s						
KTBS	**Karatobe**	**2.99**	**298**	Pg	**Pb**	**19 10 35.1**	**+0.1**
	6.5nm,0.3s						
KTBS				Lg	Lg	19 11 15.8	
	64nm,0.3s						
KAPS	**Kapalarasan**	**3.02**	**347**	*eP*	**Pb**	**19 10 35.0**	**-0.5**
	3.7nm,0.2s						
KAPS				*eS*	**Sb**	**19 11 16.0**	**+3.5**
	31nm,0.4s						
KAPS	**Kapalarasan**	**3.02**	**347**	Pg	**Pb**	**19 10 33.6**	**-2.0**
	4.1nm,0.1s						
KAPS				Lg	Lg	19 11 12.9	
	29nm,0.4s						
ULHL	**Ulahol**	**3.02**	**269**	⇑*iP*	**Pn**	**19 10 30.6**	**+0.8**
	baz=67						
ULHL				⇑*iS*	**Sn**	**19 11 09.2**	**+3.1**
	baz=67						
BOOM	**Boomskoye usch**	**3.24**	**274**	⇑*iP*	**Pn**	**19 10 33.7**	**+1.0**
	baz=72						
BOOM				⇑*iS*	**Sn**	**19 11 14.2**	**+2.8**
	baz=72						
KST	**Kastek**	**3.28**	**284**	*eP*	**Pb**	**19 10 38.0**	**-2.1**
	11nm,0.3s						
KST				*eS*	**Sb**	**19 11 20.7**	**+0.6**
	53nm,0.6s						
KST	**Kastek**	**3.28**	**284**	Pg	**Pb**	**19 10 38.0**	**-2.1**
	11nm,0.3s						
KST				Lg	Lg	19 11 20.7	
	53nm,0.6s						
KUU	**Kurty**	**3.29**	**299**	*eP*	**Pb**	**19 10 38.7**	**-1.5**
	3.1nm,0.2s						
KUU				*eS*	**Sb**	**19 11 21.6**	**+1.3**
	26nm,0.3s						
KUU	**Kurty**	**3.29**	**299**	Pg	**Pb**	**19 10 40.8**	**+0.6**
	2.6nm,0.4s						
KUU				Lg	Lg	19 11 25.8	
	29nm,0.6s						
DGS	**Degeres**	**3.46**	**287**	*eP*	**Pb**	**19 10 42.2**	**-0.9**
	6.1nm,0.4s						
DGS				*eS*	**Sb**	**19 11 28.2**	**+3.0**
	42nm,0.4s						
DGS	**Degeres**	**3.46**	**287**	Pg	**Pb**	**19 10 42.2**	**-0.9**
	6.1nm,0.4s						
DGS				Lg	Lg	19 11 28.2	
	42nm,0.4s						
TKM2	**Tokmak 2**	**3.52**	**281**	⇑*eP*	**Pn**	**19 10 37.3**	**+0.6**
	baz=79						
TKM2				⇑*iS*	**Sn**	**19 11 20.6**	**+2.1**
	baz=79						
TKM2	**Tokmak 2**	**3.52**	**281**	⇑Pn	**Pn**	**19 10 37.5**	**+0.8**
	3.6nm,0.4s						
TKM2				⇑Lg	Lg	19 11 27.8	
	15nm,0.5s						
KRBS	**Karabastau**	**3.66**	**293**	*eP*	**Pb**	**19 10 45.1**	**-1.4**
	2.2nm,0.4s						
KRBS				*eS*	**Sb**	**19 11 32.9**	**+2.0**
	22nm,0.4s						
KRBS	**Karabastau**	**3.66**	**293**	Pg	**Pb**	**19 10 45.1**	**-1.4**
	2.2nm,0.4s						
KRBS				Lg	Lg	19 11 32.9	
	22nm,0.4s						
KZA	**Kyzart**	**3.77**	**268**	⇑*iP*	**Pn**	**19 10 41.0**	**+0.8**
	baz=66						
KZA				⇑*iS*	**Sn**	**19 11 27.3**	**+2.5**
	baz=66						
KBK	**Karagaybulak**	**3.98**	**276**	⇑*eP*	**Pn**	**19 10 44.1**	**+1.2**
	baz=74						
KBK				⇑*iS*	**Sn**	**19 11 32.1**	**+2.5**
	baz=74						
CHMS	**Chumysh**	**4.15**	**281**	⇑*iP*	**Pn**	**19 10 45.6**	**+0.5**
	baz=79						
CHMS				⇑*iS*	**Sn**	**19 11 35.9**	**+2.2**
	baz=79						
AAK	**Ala-Archa**	**4.31**	**276**	⇑*iP*	**Pn**	**19 10 48.3**	**+0.9**
	baz=74						
AAK				⇑*iS*	**Sn**	**19 11 39.9**	**+2.0**
	baz=74						
AAK	**Ala-Archa**	**4.31**	**276**	⇑Pg	**Pb**	**19 10 58.8**	**+1.2**
	1.4nm,0.3s						
AAK				⇓Lg	Lg	19 11 51.8	
	15nm,1.0s						
USP	**Ospenovka**	**4.37**	**284**	⇑*iP*	**Pn**	**19 10 49.0**	**+0.8**
	baz=82						
USP				⇑*iS*	**Sn**	**19 11 40.9**	**+1.7**
	baz=82						
ARLS	**Aral**	**4.48**	**266**	⇑*iP*	**Pn**	**19 10 51.0**	**+1.2**
	baz=65						
ARLS				⇑*iS*	**Sn**	**19 11 43.8**	**+1.7**
	baz=65						
MAKZ	**Makanchi**	**4.62**	**14**	⇓Pn	**Pn**	**19 10 52.3**	**+0.7**
	1.2nm,0.4s						
MAKZ				⇓Pg	**Pb**	**19 11 00.8**	**-1.9**
	2.0nm,0.5s						
MAKZ				⇓Sn	**Sn**	**19 11 45.8**	**+0.6**
	2.4nm,0.5s						
MAKZ				⇓Lg	Lg	19 12 03.9	
	2.0nm,0.5s						
MK31	**Makanchi Array**	**4.67**	**17**	Pn	**Pn**	**19 10 53.0**	**+0.9**
	0.6nm,0.2s,baz=199,slow=13,SNR=128						
MK31				⇑Pg	**Pb**	**19 11 01.9**	**-1.7**
	0.4nm,0.2s,baz=198,slow=13,SNR=9.5						
MK31				⇑Sn	**Sn**	**19 11 48.9**	**+2.5**
	2.4nm,0.4s,baz=204,slow=26,SNR=7.8						
MK31				⇓Lg	Lg	19 12 09.2	
	2.0nm,0.3s,baz=206,slow=28,SNR=4.5						
EKS2	**Erkin-Say**	**4.84**	**276**	⇑*eP*	**Pn**	**19 10 55.6**	**+0.9**
	baz=74						
EKS2				⇑*iS*	**Sn**	**19 11 52.8**	**+1.9**
	baz=74						
AML	**Almayashu**	**4.92**	**270**	⇑*eP*	**Pn**	**19 10 57.2**	**+1.2**
	baz=68						
AML				⇑*iS*	**Sn**	**19 11 55.0**	**+1.9**
	baz=68						
MRKS	**Merke**	**5.25**	**277**	*eP*	**Pg**	**19 11 18.0**	**-4.2**
	5.0nm,0.4s						
MRKS				*eS*	**Sg**	**19 12 28.2**	**-2.0**
	7.8nm,0.3s						
MRKS	**Merke**	**5.25**	**277**	Pg	**Pb**	**19 11 13.6**	**0.0**
	3.2nm,0.3s						
MRKS				Lg	Lg	19 12 21.6	
	7.8nm,0.3s						
ZSN	**Zaisan**	**6.04**	**31**	Pg	**Pg**	**19 11 33.9**	**-3.4**
	2.9nm,0.3s						
ZSN				Lg	Lg	19 12 57.3	
	5.5nm,0.6s						
KK31	**Karatay Array**	**7.26**	**279**	Pg	**Pg**	**19 11 56.4**	**-4.2**
	0.2nm,0.4s,baz=100,slow=16,SNR=5.2						
KK31				⇓Lg	Lg	19 13 25.0	
	1.5nm,0.6s,baz=95,slow=27,SNR=4.1						

*NEIC **09** 19:14:25.8±2.4, 16°.97N±0°.06×85°.64W±0°.05, h26km±4km, mb4.0/23, Error ellipse: s-maj=9.4km s-min=6.2km az=159.0*
*IDC **09** 19:14:26.6±1.2, 17°.59N×85°.27W, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.6/46, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=33.5km s-min=24.3km az=59.0*

ISC 09 19:14:26.1±0.6, 16°.97N±0°.05×85°.66W±0°.05, h28km, n47, σ1°.33/46, mb3.7/4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.28**	**208**	Pn	**Pn**	**19 15 16.8**	**+0.9**
MATN	**Matagalpa**	**4.02**	**184**	Pn	**Pn**	**19 15 25.6**	**-0.4**
PETF	**Flores**	**4.03**	**270**		**Pn**	**19 15 26.9**	**+1.0**
TEIG	**Tepich**	**4.08**	**323**		**Pn**	**19 15 27.9**	**+1.2**
TEIG				Sn	**Sn**	**19 16 10.8**	**-2.8**
ESQI	**Esquipulas**	**4.27**	**236**	Pn	**Pn**	**19 15 30.1**	**+0.6**
BOAB	**BOACO BROADBAN**	**4.49**	**180**	Pn	**Pn**	**19 15 32.4**	**0.0**
ESPN	**Las Esperanzas**	**4.92**	**164**	Pn	**Pn**	**19 15 38.7**	**+0.4**
ACON	**Acoyapa**	**4.99**	**175**	Pn	**Pn**	**19 15 40.3**	**+1.1**
APG	**El Apazote**	**5.01**	**248**	Pn	**Pb**	**19 15 51.5**	**-1.8**
	1.0nm,0.3s,baz=57,slow=14,SNR=8.3						
APG				Sn	**Sb**	**19 16 53.4**	**+0.1**
	0.8nm,0.3s,baz=161,slow=20,SNR=3.9						
LCCY	**Blossom Villag**	**5.94**	**62**	Pn	**Pn**	**19 15 50.5**	**-1.8**
CCIG	**Comitan**	**6.25**	**265**		**Pn**	**19 15 57.3**	**+0.7**
JTS	**Las Juntas de**	**6.67**	**174**	Pn	Pn	19 16 14.9	+13
	0.4nm,0.3s,baz=52,slow=20,SNR=1.2						
JTS				Sn	**Sb**	**19 17 42.3**	**+1.5**
	0.4nm,0.3s,baz=318,slow=16,SNR=2.3						
MTDJ	**Mount Denham**	**7.85**	**80**	Pn	**Pn**	**19 16 18.2**	**-0.4**
061Z	**Ochoppi**	**9.90**	**26**	Pn	**Pn**	**19 16 46.5**	**-0.1**
GTBY	**Guantanamo Bay**	**10.44**	**72**	Pn	**Pn**	**19 16 53.5**	**-0.5**
656A	**Willston**	**12.68**	**13**	Pn	**Pn**	**19 17 22.9**	**-1.6**
553A	**Crawfordville**	**13.21**	**5**	Pn	**Pn**	**19 17 31.9**	**+0.1**
HKT	**Hockley**	**15.93**	**326**		**P**	**19 18 11.1**	**-0.6**
HKT				IAmb	IAmb	19 18 13.3	
	comp=Z,10.0nm,1.1s						
Z51A	**Franklin**	**16.29**	**1**		**Pn**	**19 18 14.0**	**+1.1**
GOGA	**Godfrey**	**16.50**	**6**	Pn	**Pn**	**19 18 14.2**	**-1.3**
GOGA				IAmb	IAmb	19 18 17.4	
	comp=Z,10nm,1.1s						
833A	**Chaparral WMA,**	**16.97**	**314**		**Pn**	**19 18 21.2**	**-0.4**
FPAL	**Fort Paine**	**17.50**	**0**	P	**Pn**	**19 18 27.6**	**-0.6**
Y57A	**Sumter**	**17.63**	**15**	P	**Pn**	**19 18 28.1**	**-1.6**
JSC	**Jenkinsville**	**17.69**	**12**	P	**P**	**19 18 30.9**	**-0.3**
PLAL	**Pickwick Lake**	**18.07**	**354**	P	**P**	**19 18 35.5**	**+0.1**
PAULI	**Pauline**	**18.11**	**10**	P	**Pn**	**19 18 35.0**	**-0.7**
PAULI				IAmb	IAmb	19 18 40.1	
	comp=Z,6.8nm,0.8s						
BG3	**Lake Jocassee**	**18.12**	**7**	P	**Pn**	**19 18 35.0**	**-0.7**
W52A	**Murphy**	**18.12**	**5**		**P**	**19 18 38.2**	**+2.2**
W52A				IAmb	IAmb	19 18 40.1	
	comp=Z,9.1nm,0.8s						
WHTX	**Lake Whitney,**	**18.39**	**327**		**P**	**19 18 36.5**	**-2.4**
CPCT	**Cooper Cave**	**18.44**	**3**	P	**Pn**	**19 18 40.9**	**+1.2**
KMSC	**Kings Mountain**	**18.51**	**11**	P	**P**	**19 18 38.2**	**-2.0**
KMSC				IAmb	IAmb	19 18 40.7	
	comp=Z,20nm,1.4s						
PDPR	**Patillas Dam,**	**18.76**	**84**	P	**P**	**19 18 41.5**	**-1.6**
PDPR				IAmb	IAmb	19 19 01.6	
	comp=Z,19nm,1.2s						
V51A	**Loudon**	**18.80**	**3**	P	**Pn**	**19 18 45.4**	**+1.3**
V51A				IAmb	IAmb	19 18 49.3	
	comp=Z,16nm,1.3s						
V53A	**Saluda**	**18.80**	**7**	P	**Pn**	**19 18 44.8**	**+0.7**
V53A				IAmb	IAmb	19 18 49.4	
	comp=Z,12nm,1.2s						
W57A	**Gilead**	**18.81**	**15**	P	**P**	**19 18 43.1**	**-0.4**
W57A				IAmb	IAmb	19 18 45.0	
	comp=Z,14nm,1.2s						
T50A	**Nancy**	**19.99**	**2**		**Pn**	**19 19 01.7**	**+3.4**
T50A				IAmb	IAmb	19 19 04.8	
	comp=Z,12nm,0.8s						
TXAR	**Lajitas Array**	**20.60**	**310**	P	Pn	19 19 06.6	+1.1
	comp=Z,2.0nm,0.8s,baz=128,slow=11,SNR=18						
TXAR	**Lajitas Array**	**20.60**	**310**	P	**P**	**19 19 03.0**	**-0.2**
TX31	**Lajitas Ar. Si**	**20.60**	**310**		**P**	**19 19 03.9**	**+0.6**
TX32	**Lajitas Array**	**20.60**	**310**	P	**P**	**19 19 03.7**	**+0.5**
TX32				IAmb	IAmb	19 19 07.4	
	comp=Z,5.4nm,1.1s						
MNTX	**Cornudas Mount**	**23.14**	**313**		**P**	**19 19 31.7**	**+1.4**
MNTX				IAmb	IAmb	19 19 32.7	
	comp=Z,3.5nm,0.8s						
SIV	**San Ignacio**	**40.75**	**142**	P	P	19 22 11.1	+6.2
	comp=Z,0.3nm,0.3s,baz=326,slow=12,SNR=1.8						
ILAR	**Eielson Array**	**62.65**	**335**	P	**P**	**19 24 49.8**	**+1.9**
	comp=Z,1.5nm,0.8s,baz=118,slow=5.4,SNR=15						
ILAR	**Eielson Array**	**62.65**	**335**	P	**P**	**19 24 48.9**	**+1.1**
BMAR	**Burnt Mountain**	**62.73**	**338**	P	**P**	**19 24 49.2**	**+0.8**
ESDC	**Sonseca Array**	**73.08**	**53**	P	**P**	**19 25 55.4**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=297,slow=5.6,SNR=2.6						
ESDC	**Sonseca Array**	**73.08**	**53**	IAmb	IAmb	19 25 56.4	
	comp=Z,3.7nm,1.2s						

JMA 09 19:32:52.5±0.1, 36°.47N×140°.80E, h76km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.21**	**

CEP	Cherat	4.32	236	P	Pn	19 37 32.6	+1.8
BHK	Bhakra	4.92	178	eP	Pg	19 37 57.8	-1.3
BHK				eS	Sg	19 39 01.6	-1.2
THW	Thamme Wali	5.10	227	P	Pn	19 37 43.1	+1.7
GAR	Garm	5.36	301	Pn	Pn	19 37 44.7	-0.3
BTK	Batken	5.63	313	Pn	Pn	19 37 48.5	-0.2
KZA	Kyzart	5.77	353	P	Pg	19 38 12.5	-2.8
	SNR=5.6						
KDJ	Kajisay	5.83	7		Pn	19 37 53.2	+1.8
ULHL	Ulahol	5.89	0	P	Pg	19 38 13.7	-4.0
	SNR=7.3						
CHGR	Chuyangaron	6.05	295	Pn	Pn	19 37 52.5	-1.9
AML	Almayashu	6.09	342	P	Pn	19 37 57.5	+2.2
	SNR=17						
KBL	Kabul	6.11	255	Pn	Pn	19 37 57.0	+1.6
BOOM	Boomskoye usch	6.14	358		Pn	19 37 56.6	+0.9
KBK	Karagaybulak	6.38	352	P	Pn	19 38 05.7	+6.7
	SNR=29						
AAK	Ala-Archa	6.42	349	Pn	Pn	19 38 03.5	+3.9
	comp=Z,1.5nm,0.3s,baz=156,slow=14,SNR=14						
AAK				Sn	Sn	19 39 17.2	+4.3
	baz=338,slow=17,SNR=1.8						
AAK				Lg	Lg	19 39 38.0	
	baz=46,slow=23,SNR=1.7						
AAK	Ala-Archa	6.42	349	P	Pn	19 38 03.6	+4.1
	SNR=11						
AAK	Ala-Archa	6.42	349	Pn	Pn	19 38 02.9	+3.3
	comp=Z,19nm,0.9s						
AAK				⇑Sn	Sn	19 39 17.4	+4.4
	comp=Z,45nm,0.9s						
AAK	Ala-Archa	6.42	349	Pn	Pn	19 37 58.8	-0.8
FRU1	Bishkek	6.57	350		Pn	19 38 04.8	+3.2
EKS2	Erkin-Say	6.58	344	P	Pn	19 38 06.3	+4.6
	SNR=12						
TKM2	Tokmak 2	6.58	356	P	Pn	19 38 04.5	+2.7
	SNR=16						
TKM2	Tokmak 2	6.58	356	⇑Pn	Pn	19 38 04.6	+2.7
	comp=Z,8.2nm,0.5s						
TKM2				⇓Lg	Lg	19 39 46.9	
	comp=Z,45nm,0.7s						
IZV	Izvestkoviy	6.69	3	Pg	Pg	19 38 29.4	-3.5
	comp=Z,27nm,0.6s						
IZV				Lg	Lg	19 39 48.7	
	comp=Z,62nm,0.8s						
KST	Kastek	6.69	359	Pg	Pg	19 38 30.2	-2.7
	comp=Z,38nm,0.7s						
KST				Lg	Lg	19 39 50.7	
	comp=Z,64nm,0.9s						
CHMS	Chumysh	6.74	351	P	Pn	19 38 09.8	+6.0
	SNR=8.6						
MRKS	Merke	6.79	341	Pg	Pb	19 38 26.0	+3.0
	comp=Z,34nm,0.6s						
MRKS				Lg	Lg	19 39 43.7	
	comp=Z,18nm,0.8s						
AAA	Alma-Ata	6.88	4	Pg	Pb	19 38 29.6	+5.2
	comp=Z,25nm,0.4s						
AAA				Lg	Lg	19 39 49.6	
	comp=Z,47nm,1.1s						
KOTS	Kotyrbulak	6.92	6	Pg	Pg	19 38 32.0	-5.2
	comp=Z,50nm,0.5s						
KOTS				Lg	Lg	19 39 53.7	
	comp=Z,256nm,1.1s						
TAS	Tashkent	7.33	315	Pn	Pn	19 38 12.7	+0.8
KTBS	Karatobe	7.37	3	Pg	Pg	19 38 41.7	-4.1
	comp=Z,20nm,0.7s						
KTBS				Lg	Lg	19 40 11.0	
	comp=Z,58nm,1.0s						
PDGK	Podgornoye	7.42	19	⇑Pn	Pn	19 38 15.4	+2.2
	comp=Z,11nm,0.6s						
PDGK				⇑Lg	Lg	19 40 17.5	
	comp=Z,74nm,0.8s						
IUG	Iuzhnay	7.51	322	Pg	Pb	19 38 39.9	+4.6
	comp=Z,57nm,1.1s						
IUG				Lg	Lg	19 40 07.9	
	comp=Z,52nm,0.9s						
CHKK	Chushkaly	7.52	4	Pg	Pg	19 38 44.8	-4.1
	comp=Z,12nm,0.6s						
CHKK				Lg	Lg	19 40 15.8	
	comp=Z,32nm,0.8s						
KK31	Karatay Array	8.04	329	Pn	Pn	19 38 22.0	+0.3
	comp=Z,2.8nm,0.3s,baz=141,slow=12,SNR=86						
KK31				⇑Sn	Sn	19 39 54.0	+1.2
	comp=Z,19nm,0.7s,baz=148,slow=25,SNR=6.7						
KK31	Karatay Array	8.04	329	Pn	Pn	19 38 21.6	-0.2
KKAR	Karatay Array	8.04	329		Pn	19 38 21.6	-0.1
KKAR	Karatay Array	8.04	329		Pn	19 38 21.2	-0.5
SONA	Sohna	8.11	174	eP	Pn	19 38 25.6	+3.0
SONA				eS	Sn	19 39 50.2	-4.1
SONA				IAML		19 39 59.7	
	comp=E,45nm,0.6s						
SONA				IAML		19 40 05.7	
	comp=N,26nm,0.4s						
SONA				IAML		19 40 06.4	
	comp=N,32nm,0.5s						
KUDL	Kundal	8.18	178	eP	Pn	19 38 25.9	+2.2
KUDL				eS	Sn	19 39 53.2	-2.9
PYUN	Piuthan	10.03	143	eP	Pn	19 38 50.5	+1.3
	comp=N,141nm,0.4s						
PYUN	Piuthan	10.03	143	eP	Pn	19 38 50.5	+1.3
	comp=N,141nm,0.4s						
KOLN	Koldanda	10.60	142	eP	Pn	19 38 57.5	+0.5
KOLN	Koldanda	10.60	142	eP	Pn	19 38 57.5	+0.5
GKN	Gorkha	10.96	137	eP	Pn	19 39 02.0	+0.1
	comp=N,48nm,0.3s						
GKN	Gorkha	10.96	137	eP	Pn	19 39 02.0	+0.1
	comp=N,48nm,0.3s						
MAKZ	Makanchi	11.31	21	Pn	Pn	19 39 07.4	+1.0
MK31	Makanchi Array	11.39	22	Pn	Pn	19 39 07.0	-0.5
	comp=N,2.0nm,0.6s,baz=196,slow=13,SNR=34						
MK31				⇑Sn	Sn	19 41 13.9	-0.9
	comp=N,4.2nm,0.7s,baz=186,slow=22,SNR=5.3						
MK31	Makanchi Array	11.39	22		Pn	19 39 07.7	+0.1
MKAR	Makanchi Array	11.39	22	Pn	Pn	19 39 07.4	-0.2
	comp=N,0.7nm,0.3s,baz=190,slow=13,SNR=18						
MKAR				Sn	Sn	19 41 09.9	-4.9
	comp=N,0.1nm,0.3s,baz=188,slow=18,SNR=1.8						
MKAR	Makanchi Array	11.39	22	Pn	Pn	19 39 07.8	+0.3
MKAR					Sn	19 41 10.6	-4.2
KKN	Kakani	11.49	135	eP	Pn	19 39 08.5	-0.7
	comp=N,49nm,0.6s						
KKN	Kakani	11.49	135	eP	Pn	19 39 08.5	-0.7
	comp=N,49nm,0.6s						
DMN	Daman	11.53	137	eP	Pn	19 39 09.2	-0.6
	comp=N,19nm,0.3s						
DMN	Daman	11.53	137	eP	Pn	19 39 09.2	-0.6
	comp=N,19nm,0.3s						
WMQ	Urumqi	11.54	46	eP	Pn	19 39 13.3	+3.7
WMQ				LR	LR		
	comp=N,170nm,14.7s						
WMQ				LR	LR		
	comp=N,210nm,12.9s						
HRA	Herat	11.56	264	Pn	Pn	19 39 09.9	-0.2
PKI	Pulchoki	11.73	136	eP	Pn	19 39 11.7	-0.8
	comp=N,31nm,0.5s						
PKI	Pulchoki	11.73	136	eP	Pn	19 39 11.7	-0.8
	comp=N,31nm,0.5s						
JIRN	Jiri	12.11	133	eP	Pn	19 39 17.2	-0.6
	comp=N,85nm,0.4s						
JIRN	Jiri	12.11	133	eP	Pn	19 39 17.2	-0.6
	comp=N,85nm,0.4s						
RAMN	Ramite	12.88	134	eP	Pn	19 39 26.2	-2.1
	comp=N,20nm,0.5s						
RAMN	Ramite	12.88	134	eP	Pn	19 39 26.2	-2.1
	comp=N,20nm,0.5s						
TAPN	Taplejung	13.26	129	eP	Pn	19 39 31.2	-2.3
TAPN	Taplejung	13.26	129	eP	Pn	19 39 31.2	-2.3
ODAN	Odare	13.42	132	eP	Pn	19 39 33.1	-2.5
	comp=N,33nm,0.6s						
ODAN	Odare	13.42	132	eP	Pn	19 39 33.1	-2.5
	comp=N,33nm,0.6s						
KURBB	Kurchatov Arra	14.37	6	Pn	Pn	19 39 46.4	-1.8
	comp=N,0.1nm,0.3s,baz=191,slow=13,SNR=7.8						
KURBB				Lg	Lg	19 43 52.4	
	comp=N,0.1nm,0.3s,baz=55,slow=20,SNR=1.2						
KURK	Kurchatov	14.47	6		Pn	19 39 48.5	-1.1
GEYT	Alibeck	14.51	282	Pn	Pn	19 39 49.9	-0.4
	comp=N,0.2nm,0.3s,baz=88,slow=13,SNR=2.7						
GEYT				Sn	Sn	19 42 20.4	-11
	comp=N,0.2nm,0.3s,baz=77,slow=20,SNR=3.8						
GEYT	Alibeck	14.51	282	Pn	Pn	19 39 48.9	-1.3
GYA0B	ALIBECK ARRAY	14.51	282	Pn	Pn	19 39 48.0	-2.3
BVAR	Borovoye Array	17.17	348	P	Pn	19 40 24.7	0.0
	comp=N,0.7nm,0.3s,baz=155,slow=11,SNR=16						
BVA3	Borovoye Array	17.17	348	⇓P	P	19 40 27.3	+1.0
	comp=N,10.0nm,0.8s						
SHL	Shillong	17.19	124	Pn	P	19 40 26.4	-0.6
BRVK	Borovoye	17.22	348	⇑P	P	19 40 26.6	-0.2
	comp=N,13nm,1.0s						
BRVK	Borovoye	17.22	348	P	Pn	19 40 25.8	+0.5
BRVK				IAmb	IAmb	19 40 43.3	
	comp=Z,14nm,0.9s						
AB08	Akbulak array	17.52	322	⇓P	Pn	19 40 24.8	-4.2
	comp=Z,2.3nm,0.6s						
ABKAR	Akbulak array	17.52	322		Pn	19 40 24.8	-4.3
ZAA0	Zalesovo Array	18.60	16		P	19 40 40.6	-1.5
ZALV	Zalesovo Beam	18.60	16	P	Pn	19 40 41.8	-0.5
	comp=Z,0.2nm,0.3s,baz=220,slow=46,SNR=5.6						
ZALV	Zalesovo Beam	18.60	16		P	19 40 40.4	-1.6
GTA	Gaotai	18.88	74	eP	Pn	19 40 48.7	+2.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,47nm,7.0s						
GTA				LR	LR		
	comp=Z,89nm,13.0s						
GTA				LR	LR		
	comp=Z,83nm,13.6s						
GTA				LR	LR		
	comp=Z,100nm,13.6s						
AKTO	Aktyubinsk	19.24	323	P	P	19 40 48.1	-1.0
	comp=Z,0.5nm,0.3s,baz=120,slow=14,SNR=7.9						
AKTO				LR	LR	19 48 36.1	
	comp=Z,109nm,18.6s,baz=89,slow=38						
AKTO	Aktyubinsk	19.24	323	⇑P	P	19 40 47.5	-1.6
	comp=Z,6.0nm,0.7s						
ARU	Arti	23.35	335	P	P	19 41 32.1	-1.0
	comp=Z,0.9nm,0.6s,baz=160,slow=22,SNR=4.1						
ARU				LR	LR	19 51 10.4	
	comp=Z,38nm,21.7s,baz=72,slow=38						
ARU	Arti	23.35	335	P	P	19 41 31.1	-2.1
ARU				IAmb	IAmb	19 41 41.7	
	comp=Z,8.8nm,0.7s						
TLY	Talaya	24.79	43	LR	LR	19 52 45.4	
	comp=Z,95nm,20.7s,baz=235,slow=40						
SONM	Songino Array	25.02	53	P	P	19 41 50.1	+1.1
	comp=Z,1.9nm,0.8s,baz=252,slow=10,SNR=8.9						
SONM	Songino Array	25.02	53	P	P	19 41 49.4	+0.4
KMI	Kunming	25.33	109	⇑eP	P	19 41 57.7	+5.6
KMI				pP	sP	19 42 02.5	+4.1
KMI				sP	pP	19 42 09.6	+13
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,89nm,5.0s						
KMI				LR	LR		
	comp=Z,130nm,7.5s						
KMI				LR	LR		
	comp=Z,120nm,8.5s						
KMI				LR	LR		
	comp=Z,59nm,5.6s						
ULN	Ulaanbaatar	25.45	53	P	P	19 41 49.4	-3.6
ULN				IAmb	IAmb	19 42 01.7	
	comp=Z,4.7nm,0.8s						
KBZ	Khabaz	26.41	297	P	P	19 42 01.6	+0.2
	comp=Z,1.4nm,0.8s,baz=302,slow=20,SNR=2.9						
KBZ				LR	LR	19 54 02.9	
	comp=Z,59nm,19.4s,baz=74,slow=40						
CHTO	Chiang Mai	26.57	125	P	P	19 42 06.5	+3.4
CHTO				IAmb	IAmb	19 42 19.6	
	comp=Z,5.4nm,0.9s						
CM31	Chiang Mai Arr	26.82	126	P	P	19 42 08.0	+2.6
CM31				IAmb	IAmb	19 42 13.4	
	comp=Z,12nm,1.1s						
CMAR	Chiang Mai Arr	26.82	126	P	P	19 42 08.2	+2.8
	comp=Z,2.8nm,0.7s,baz=309,slow=10,SNR=18						
CMAR				LR	LR	19 54 23.9	
	comp=Z,60nm,19.9s,baz=274,slow=40						
CMAR	Chiang Mai Arr	26.82	126	P	P	19 42 07.0	+1.6
HHC	Hu-ho-hao-te	27.88	70	eP	P	19 42 18.3	+3.4
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
MLR	Muntele Rosu	38.51	300	P	P	19 43 47.4	0.0
MLR				IAmb	IAmb	19 43 55.6	
	comp=Z,3.8nm,0.8s						
BURAR	Bucovina Array	38.88	303	P	P	19 43 48.7	-1.7
RPSI	Rantau Prapat	39.52	143	P	P	19 43 58.7	+2.8
RPSI				IAmb	IAmb	19 44 25.6	
	comp=Z,6.5nm,1.1s						
FIA1	FINESS Array S	39.98	325	P	P	19 43 56.7	-2.6
FIA1				IAmb	IAmb	19 44 21.9	
	comp=Z,18nm,1.4s						
FINES	FINESS Array B	39.98	325	P	P	19 43 57.0	-2.2
	comp=Z,1.8nm,0.6s,baz=114,slow=6.8,SNR=9.3						
FINES	FINESS Array B	39.98	325	P	P	19 43 56.3	-3.0
KSAR	Wonju Array Be	40.92	72	P	P	19 44 08.1	+0.8
KSRS	Korea Array	40.95	72	P	P	19 44 08.1	+0.6
	comp=Z,0.6nm,0.8s,baz=284,slow=7.6,SNR=3.1						
KSRS				LR	LR	20 02 58.5	
	comp=Z,18nm,18.3s,baz=210,slow=39						
USA0B	Ussuriysk Arra	42.57	62	P	P	19 44 24.1	+3.3
USA0B				IAmb	IAmb	19 44 26.8	
	comp=Z,13nm,1.3s						
USRK	Ussuriysk Ar.	42.57	62	P	P	19 44 23.8	+3.0
DIVS	Divibare	42.88	298	P	P	19 44 23.9	+0.5
ARCES	ARCESS Array B	42.92	336	P	P	19 44 23.1	-0.2
	comp=Z,1.1nm,0.6s,baz=104,slow=7.5,SNR=9.7						
ARE0	ARCESS Array S	42.92	336	P	P	19 44 22.0	-1.3
JNU	Nakatsue	44.55	77	P	P	19 44 35.7	-1.2
JNU				IAmb	IAmb	19 44 42.5	
	comp=Z,25nm,1.4s						
NC602	NORSAR Array S	46.86	323	P	P	19 44 53.5	-1.3
TRI	Trieste	46.94	302	P	P	19 44 54.8	-0.8
TRI				IAmb	IAmb	19 45 27.4	
	comp=Z,6.7nm,1.0s						
NC303	NORSAR Array S	46.96	323	P	P	19 44 54.8	-0.7
NB2	NORSAR Subarra	47.03	323	P	P	19 44 54.1	-2.0
	comp=Z,1.0nm,0.6s,baz=92,slow=7.9						
NOA	NORSAR Array B	47.03	323	P	P	19 44 54.5	-1.6
	comp=Z,1.0nm,0.9s,baz=93,slow=7.7,SNR=3.7						
NOA				LR	LR	20 05 24.5	
	comp=Z,42nm,19.2s,baz=0.0,slow=37						
NC204	NORSAR Array S	47.25	323	P	P	19 44 57.5	-0.4
JMZ	Minamidaito 2	47.72	87	P	P	19 45 02.5	+0.5
ESDC	Sonseca Array	61.20	300	P	P	19 46 41.5	+1.6
	comp=Z,0.8nm,0.8s,baz=55,slow=6.2,SNR=4.5						
ESDC	Sonseca Array	61.20	300	P	P	19 46 38.6	-1.3
TORD	Torodi Ar. Bea	69.91	272	P	P	19 47 37.0	+0.5
	comp=Z,1.4nm,0.5s,baz=43,slow=5.9,SNR=12						
ILAR	Eielson Array	73.72	18	P	P	19 48 00.7	+2.1
	comp=Z,0.8nm,0.8s,baz=320,slow=4.2,SNR=8.1						
ILAR	Eielson Array	73.72	18	P	P	19 48 00.2	+1.6
WRA	Warramunga Arr	78.42	125	P	P	19 48 25.5	-0.5
	comp=Z,0.7nm,0.7s,baz=306,slow=8.5,SNR=10						
ASAR	Alice Springs	80.80	128	P	P	19 48 38.8	0.0
	comp=Z,0.4nm,0.7s,baz=308,slow=5.6,SNR=7.7						
YKA	Yellowknife Ar	81.12	5	P	P	19 48 41.5	+1.5
	comp=Z,0.7nm,0.5s,baz=349,slow=5.8,SNR=2.6						

TAP ***09*** *19:38:28.1, 24°.05N×122°.77E, h66km, ML3.0, D*
JMA ***09*** *19:38:29.0±0.2, 23°.99N×122°.62E, h25km±3km, M2.4*
ISC 09 19:38:28.6±1.3, 23°.95N±0°.03×122°.64E±0°.02, h19km±3km, n80, σ0=64/104, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.57	29	P		Pb	19 38 39.8	-0.2
JYNG				S		Sb	19 38 47.2	-0.5
YOJ	Yonaguni jima	0.61	33	i P		Pb	19 38 40.7	0.0
	baz=27							
YOJ				eS		Sn	19 38 50.4	-1.3
	baz=27							
YOJ	Yonaguni jima	0.61	33	P		Pb	19 38 40.5	-0.2
YOJ				S		Sb	19 38 48.4	-0.5
ENAH	Nanao	0.91	304	P		Pb	19 38 45.9	+0.1
	baz=293							
ENA	Nanau	0.95	300	eP		Pb	19 38 46.5	0.0
	baz=291							
ENA				i S		Sn	19 39 00.4	+0.4
	baz=291							
TWD	Chiawan	0.96	278	eP		Pg	19 38 47.9	+0.4
	baz=270							
TWC	Suao	0.98	313	i P		Pb	19 38 46.5	-0.4
	baz=295							
TWC				eS		Sb	19 38 59.6	+0.1
	baz=295							
NACB	Ninganchiao	0.98	283	P		Pb	19 38 46.6	-0.4
	baz=267							
IRIF	Iriomote-Funau	1.07	69	P		Pb	19 38 48.4	-0.1
IRIF				S		Sn	19 39 02.8	-0.1
HATJ	Hateruma jima	1.07	84	P		Pn	19 38 48.7	+0.1
HATJ				S		Sg	19 39 03.5	0.0
ETLH	Xiulin Townshi	1.09	284	⇑P		Pb	19 38 48.3	-0.6
	baz=276							
EGFH	Guangfu	1.15	256	P		Pn	19 38 49.7	0.0
	baz=244							
EGFH				eS		Sb	19 39 04.5	+0.1
	baz=244							
ILA	Ilan	1.15	315	eP		Pn	19 38 49.0	-0.8
	baz=306							
NTC	Toucheng	1.17	321	eP		Pn	19 38 49.5	-0.5
	baz=312							
ENTT	Nioudou	1.20	305	eP		Pb	19 38 50.7	0.0
	baz=297							
ENTT				eS		Sn	19 39 06.9	+0.7
	baz=297							
HGSD	Ruisui	1.20	248	eP		Pn	19 38 50.0	-0.4
	baz=244							
NDT	Datong Townshi	1.22	303	eP		Pb	19 38 51.0	0.0
	baz=286							
NDT				eS		Sg	19 39 07.6	-0.6
	baz=286							
NNSH	Datong	1.24	293	P		Pn	19 38 51.0	-0.1
	baz=285							
NNSB	Datong	1.25	293	P		Pn	19 38 51.0	-0.1
	baz=285							
NNS	Nan Shan	1.26	293	i P		Pn	19 38 51.2	-0.1
	baz=285							
TIPB	Shuangxi	1.26	324	eP		Pn	19 38 51.0	-0.3
	baz=307							
WHF	Hehuan Shan	1.27	279	P		Pn	19 38 51.3	-0.5
	baz=272							
WHF				eS		Sb	19 39 07.8	-0.6
	baz=272							
JKRS	Kuro-shima	1.28	77	P		Pn	19 38 51.8	+0.3
JKRS				eS		Sb	19 39 09.1	+0.8
EHY	Hungye	1.29	250	eP		Pn	19 38 51.3	-0.3
	baz=246							
FUSS	Fushou	1.31	283	P		Pn	19 38 52.2	+0.1
	baz=269							
NWLT	Wulai	1.33	309	eP		Pb	19 38 53.2	+0.3
	baz=309							
CHGB	Renai	1.35	275	⇑i P		Pn	19 38 52.5	-0.2
	baz=269							
CHGB				eS		Sn	19 39 09.7	-0.4
	baz=269							
YULB	Yu-li	1.35	246	eP		Pn	19 38 52.3	-0.1
	baz=237							
EYUL	Yuli	1.35	244	eP		Pb	19 38 53.3	0.0
	baz=234							
YHNB	Yeheng	1.36	302	eP		Pn	19 38 52.6	-0.1
	baz=294							
YHNB				eS		Sb	19 39 10.7	+0.2
	baz=294							
NWF	Wu-fen Shan	1.36	325	eP		Pn	19 38 52.8	0.0
	baz=308							
WFSB	Wu-fen Shan	1.36	325	eP		Pn	19 38 52.9	+0.2
	baz=308							
TWF1	Yuli	1.37	245	eP		Pn	19 38 52.6	-0.1
	baz=235							
NSK	Sanguang	1.38	302	eP		Pn	19 38 52.9	0.0
	baz=286							
VWDT	VWDT	1.39	262	P		Pn	19 38 53.3	+0.3
	baz=257							
VWDT				eS		Sn	19 39 10.7	0.0
	baz=257							
TDCB	Techi	1.39	283	eP		Pn	19 38 53.3	+0.1
	baz=271							
TWA	Mucha	1.41	317	eP		Pn	19 38 52.0	-1.3
	baz=309							
JIJ	Ishigaki jima	1.43	73	P		Pn	19 38 53.5	-0.1
JIJ				eS		Sn	19 39 11.5	-0.4
FULB	Fuli	1.44	239	eP		Pb	19 38 54.7	-0.2
	baz=230							
TATO	Taipei	1.47	314	eP		Pn	19 38 54.6	+0.6
	baz=306							
YM01	YM01	1.54	321	eP		Pn	19 38 55.5	+0.4
	baz=314							
SSLB	Suanglung	1.55	264	eP		Pn	19 38 55.9	+0.6
	baz=259							
YM10	YM10	1.55	321	eP		Pn	19 38 55.6	+0.3
	baz=314							
YM11	YM11	1.55	322	eP		Pb	19 38 56.2	-0.7
	baz=314							
YM05	YM05	1.56	321	eP		Pn	19 38 55.8	+0.4
	baz=314							
YM08	YM08	1.56	322	eP		Pn	19 38 55.6	+0.2
	baz=305							
EDH	Donghe	1.56	232	eP		Pn	19 38 54.6	-0.8
	baz=225							
YM04	YM04	1.57	320	eP		Pn	19 38 55.9	+0.4
	baz=312							
WHP	Taichung City	1.58	282	eP		Pb	19 38 57.2	-0.1
	baz=269							
WHP				eS		Sb	19 39 17.3	+0.3
	baz=269							
SMLT	Sun Moon Lake	1.59	268	eP		Pn	19 38 56.4	+0.4
	baz=263							
TYC	Yuchr	1.63	269	eP		Pn	19 38 56.8	+0.5
	baz=263							
LIOB	Emei	1.64	295	eP		Pb	19 38 57.5	-0.7
	baz=288							
NSTT	Nanjuang	1.64	295	eP		Pb	19 38 57.5	-0.8
	baz=287							
JISG	Ishigakijimahi	1.65	67	P		Pn	19 38 56.2	-0.4
JISG				eS		Sn	19 39 16.5	-0.8
LDUT	Ludao	1.66	221	eP		Pn	19 38 57.1	+0.3
	baz=214							
ELDTW	Lidau	1.67	243	eP		Pn	19 38 56.5	-0.5
	baz=241							
LONT	Longtian	1.73	234	eP		Pn	19 38 58.0	+0.3
	baz=227							
ALS	Alishan	1.74	256	eP		Pn	19 38 59.0	+1.0
	baz=258							
PCYT	Pengchaiyu	1.75	343	eP		Pn	19 38 57.2	-0.8
	baz=329							
WJS	Zhushan	1.75	266	eP		Pb	19 39 00.4	+0.2
	baz=261							
WNT	Mingjian	1.79	268	eP		Pb	19 39 00.5	-0.4
	baz=263							
CHN5	Tsauling	1.83	259	eP		Pb	19 39 01.4	-0.2
	baz=255							
STYT	Tauyuan	1.90	246	eP		Pn	19 39 01.3	+1.3
	baz=237							
WDLH	Douliu	1.94	263	eP		Pn	19 39 01.7	+1.1
	baz=258							
TPUB	Ta-pu	1.95	251	eP		Pb	19 39 02.8	-0.9
	baz=248							
TPUB				eS		Sb	19 39 27.3	-0.4
	baz=248							
WTP	Ta-pu	1.99	250	eP		Pb	19 39 03.7	-0.5
	baz=246							
WTP				eS		Sb	19 39 28.2	-0.4
	baz=246							
JTJ	Tarama	2.00	69	P		Pn	19 39 01.5	+0.1
JTJ				e

*NEIC **09** 19:45:16.9±2.6, 0°.27S±0°.05×122°.78E±0°.07, h87km±9km, mb4.2/17, Error ellipse: s-maj=9.6km s-min=6.7km az=84.0*
*IDC **09** 19:45:17.4±1.9, 0°.28S×122°.76E, h94km±18km, mb3.5/6, mb1 3.7/9, mb1mx3.4/46, mbtmp4.0/9, Error ellipse: s-maj=16.5km s-min=14.5km az=46.0*
*DJA **09** 19:45:17.3±0.2, 0°.S±2°.×12°.3E±°., h44km±20km, M4.6/12, mB4.8/3, mb4.7/6, MLv4.6/12, Mw(mB)4.0/3*

ISC 09 19:45:17.6±0.5, 0°.21S±0°.05×122°.81E±0°.05, h100km, n52, σ1°.54/60, mb4.0/14, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.82**	**183**	P	**Pn**	**19 45 33.2**	**-3.1**
LUWI	**Luwuk**	**0.82**	**183**		**Pn**	**19 45 33.5**	**-2.7**
GTOI	**Gorontalo**	**0.87**	**13**	P	**Pn**	**19 45 34.5**	**-2.2**
GTOI				S	**Sn**	**19 45 48.3**	**-2.6**
KMSI	**Cibinong**	**1.41**	**56**	P	**Pn**	**19 45 40.8**	**-1.9**
KMSI				S	**Sn**	**19 45 59.6**	**-2.1**
MPSI	**Mapaga**	**2.97**	**281**	P	**Pn**	**19 46 01.7**	**-1.2**
MPSI				S	**Sn**	**19 46 37.7**	**-0.2**
SANI	**Sanana**	**3.66**	**120**	P	**Pn**	**19 46 08.3**	**-4.0**
TNTI	**Ternate**	**4.66**	**78**	P	**Pn**	**19 46 25.6**	**-0.1**
TNTI	**Ternate**	**4.66**	**78**	Pn	**Pn**	**19 46 25.9**	**+0.2**
SPSI	**Sidrap Palu**	**4.81**	**219**	P	**Pn**	**19 46 27.0**	**-0.8**
SPSI				S	**Sn**	**19 47 19.7**	**-2.7**
BNSI	**Bone**	**4.96**	**213**	P	**Pn**	**19 46 29.5**	**-0.4**
NLAI	**Namlea**	**5.23**	**125**	P	**Pn**	**19 46 32.2**	**-1.3**
	0.5nm67nm,0.8s						
KAPI	**Kappang**	**5.67**	**213**	P	**Pn**	**19 46 38.7**	**-0.7**
	17nm,0.3s,baz=23,slow=8.5,SNR=32						
KAPI				S	**Sn**	**19 47 40.1**	**-3.1**
	8.1nm,0.3s,baz=229,slow=20,SNR=8.5						
BKSI	**Bulukumba**	**5.74**	**208**	P	**Pn**	**19 46 39.7**	**-0.8**
	0.3nm765nm66nm,0.8s						
BKB	**Balikpapan**	**6.01**	**260**	Pn	**Pn**	**19 46 43.4**	**-0.7**
MYLDM	**Lahad Datu**	**6.88**	**321**		**Pn**	**19 46 57.2**	**+1.3**
SKMP	**Bagumbayan, Su**	**6.91**	**14**	*e*P	**Pn**	**19 46 52.6**	**-3.8**
DDMP	**Don Marcelino,**	**6.91**	**25**	*e*P	**Pn**	**19 46 55.9**	**-0.5**
KCP	**Kidapawan**	**7.53**	**18**	*i*P	**Pn**	**19 47 04.8**	**0.0**
MATI	**Mati**	**7.90**	**26**	*e*P	**Pn**	**19 47 10.0**	**+0.2**
PAGZ	**Pagadian**	**8.03**	**4**	*e*P	**Pn**	**19 47 10.0**	**-1.6**
BUKP	**Musuan**	**8.35**	**16**	*e*P	**Pn**	**19 47 14.1**	**-1.8**
MMRI	**Maumere**	**8.39**	**184**	P	**Pn**	**19 47 16.9**	**+0.5**
	54nm,0.7s						
MMRI	**Maumere**	**8.39**	**184**	Pn	**Pn**	**19 47 17.0**	**+0.6**
SIJI	**Sorong**	**8.48**	**94**	P	**Pn**	**19 47 18.1**	**+0.4**
	1.4nm,0.3s,baz=216,slow=21,SNR=9.3						
SIJI				S	**Sn**	**19 48 54.3**	**+2.6**
	baz=193,slow=22,SNR=2.0						
EDFI	**Ende, Flores**	**8.55**	**187**	P	**Pn**	**19 47 18.9**	**+0.1**
FAKI	**Fak Fak**	**9.81**	**106**	Pn	**Pn**	**19 47 32.8**	**-3.0**
CNOP	**Candoni, Negro**	**9.98**	**359**	*e*P	**Pn**	**19 47 37.2**	**-0.9**
SBUM	**Sibu**	**10.92**	**284**		**Pn**	**19 47 51.2**	**+0.3**
MTN	**Manton Dam**	**15.02**	**147**	Pn	**Pn**	**19 48 45.6**	**+0.9**
KNRA	**Kununurra**	**16.45**	**159**		**P**	**19 49 03.7**	**+0.1**
KNRA				IAmb	IAmb	19 49 47.6	
	comp=Z,33nm,1.5s						
CISI	**Cisompet, Garu**	**16.64**	**244**	Pn	**Pn**	**19 49 02.6**	**-2.3**
FITZ	**Fitzroy Crossi**	**17.99**	**171**	P	**Pn**	**19 49 20.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=10,slow=6.6,SNR=14						
WB0	**Warramunga Arr**	**22.50**	**150**	P	**P**	**19 50 08.3**	**-0.8**
WB0				IAmb	IAmb	19 50 54.3	
	comp=Z,7.2nm,1.1s						
WRAB	**Tennant Creek**	**22.62**	**151**	P	**P**	**19 50 09.8**	**-0.5**
WRA	**Warramunga Arr**	**22.62**	**151**	P	**P**	**19 50 09.8**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=330,slow=11,SNR=37						
WRA				ScP	**ScP**	**19 57 29.2**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=328,slow=2.5,SNR=5.4						
WRA	**Warramunga Arr**	**22.62**	**151**	P	**P**	**19 50 09.0**	**-1.4**
WB2	**Warramunga Arr**	**22.63**	**151**	P	**P**	**19 50 10.0**	**-0.4**
WB2				IAmb	IAmb	19 50 44.7	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**22.74**	**150**	P	**P**	**19 50 10.8**	**-0.7**
WR0				IAmb	IAmb	19 50 39.7	
	comp=Z,6.3nm,1.0s						
SSLB	**Suanglung**	**23.93**	**356**	P	**P**	**19 50 22.2**	**-0.3**
SSLB				IAmb	IAmb	19 50 24.5	
	comp=Z,7.0nm,0.9s						
RPSI	**Rantau Prapat**	**24.06**	**277**	P	**P**	**19 50 24.2**	**+0.4**
PSI	**Prapat**	**24.07**	**277**	P	**P**	**19 50 24.2**	**+0.2**
	comp=Z,4.3nm,0.5s,baz=182,slow=1.4,SNR=4.6						
COEN	**Coen**	**24.35**	**125**	P	**P**	**19 50 26.6**	**+0.2**
COEN				IAmb	IAmb	19 51 07.6	
	comp=Z,24nm,1.4s						
YHNB	**Yeheng**	**24.77**	**357**	P	**P**	**19 50 31.4**	**+1.2**
YHNB				IAmb	IAmb	19 50 44.5	
	comp=Z,25nm,1.4s						
GSI	**Gunungsitoli**	**25.28**	**273**	P	**P**	**19 50 36.0**	**+1.0**
GSI				IAmb	IAmb	19 51 21.0	
	comp=Z,17nm,0.9s						
AS31	**Alice Springs**	**25.68**	**156**	P	**P**	**19 50 38.9**	**+0.4**
ASAR	**Alice Springs**	**25.68**	**156**	P	**P**	**19 50 38.8**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=342,slow=13,SNR=23						
ASAR				PcP	**PcP**	**19 54 06.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=348,slow=1.8,SNR=8.3						
CMAR	**Chiang Mai Arr**	**29.91**	**310**	P	**P**	**19 51 17.7**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=122,slow=7.0,SNR=5.2						
ENH	**Enshi**	**32.87**	**338**	P	**P**	**19 51 42.8**	**+0.7**
CAN	**Canberra**	**42.61**	**148**	P	**P**	**19 53 06.2**	**+2.1**
SONM	**Songino Array**	**49.94**	**346**	P	**P**	**19 54 01.3**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=164,slow=9.2,SNR=3.9						
MK31	**Makanchi Array**	**58.70**	**329**	P	**P**	**19 55 04.3**	**-0.5**
MK31				IAmb	IAmb	19 56 55.7	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**58.70**	**329**	P	**P**	**19 55 04.7**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=123,slow=8.6,SNR=11						

*IDC **09** 19:53:52.9±1.4, 6°.76S×149°.87E, h0km, mb3.9/3, mb1 4.2/6, mb1mx3.8/37, mbtmp4.1/6, ML4.3/2, Error ellipse: s-maj=57.3km s-min=19.3km az=131.0*
*NEIC **09** 19:53:58±0.5, 6°.73S±0°.10×149°.89E±0°.10, h45km±10km, mb4.1/11, Error ellipse: s-maj=16.7km s-min=10.6km az=134.0*

ISC 09 19:53:58.3±0.8, 6°.7S±0°.2×149°.8E±0°.2, h43km, n22, σ0°.88/24, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.21**	**44**	Pn	**Pn**	**19 54 46.2**	**-0.1**
	15nm,0.3s,baz=131,slow=1.5,SNR=8.3						
KRVT				Sn	**Sn**	**19 55 25.3**	**+2.0**
	11nm,0.3s,baz=33,slow=22,SNR=4.0						
RABL	**Rabaul**	**3.39**	**44**		**Pn**	**19 54 48.4**	**-0.3**
PMG	**Port Moresby**	**3.79**	**224**	Pn	**Pn**	**19 54 54.4**	**+0.1**
	16nm,0.3s,baz=48,slow=11,SNR=30						
PMG				Sn	**Sn**	**19 55 38.3**	**+0.6**
	71nm,0.3s,baz=92,slow=12,SNR=17						
PMG	**Port Moresby**	**3.79**	**224**		**Pn**	**19 54 54.8**	**+0.5**
COEN	**Coen**	**9.76**	**221**	Pn	**Pn**	**19 56 15.1**	**-1.1**
SAUI	**Saumlaki**	**18.40**	**265**	P	**Pn**	**19 58 10.7**	**+0.3**
WB0	**Warramunga Arr**	**19.85**	**227**	P	**P**	**19 58 25.5**	**-0.3**
WB0				IAmb	IAmb	19 58 26.2	
	comp=Z,7.8nm,0.8s						
WR0	**Warramunga Arr**	**19.86**	**227**	P	**P**	**19 58 25.5**	**-0.5**
WR0				IAmb	IAmb	19 58 26.5	
	comp=Z,8.9nm,1.1s						
WRAB	**Tennant Creek**	**19.99**	**227**	P	**P**	**19 58 26.9**	**-0.5**
WRAB				IAmb	IAmb	19 58 36.6	
	comp=Z,13nm,1.0s						
WB2	**Warramunga Arr**	**19.99**	**227**	P	**P**	**19 58 27.2**	**-0.2**
WB2				IAmb	IAmb	19 58 28.9	
	comp=Z,9.3nm,0.8s						
WRA	**Warramunga Arr**	**20.00**	**227**	P	**P**	**19 58 27.2**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=52,slow=11,SNR=68						
WRA	**Warramunga Arr**	**20.00**	**227**	P	**P**	**19 58 27.0**	**-0.5**
KNRA	**Kununurra**	**22.49**	**245**	P	**P**	**19 58 53.5**	**-0.8**
AS31	**Alice Springs**	**22.80**	**220**	P	**P**	**19 58 57.0**	**-0.5**
ASAR	**Alice Springs**	**22.80**	**220**	P	**P**	**19 58 56.5**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=54,slow=9.6,SNR=26						
ASAR	**Alice Springs**	**22.80**	**220**	P	**P**	**19 58 56.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**26.16**	**242**	P	**P**	**19 59 29.6**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=82,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**26.16**	**242**	P	**P**	**19 59 28.8**	**-0.1**
FITZ				IAmb	IAmb	19 59 57.1	
	comp=Z,8.7nm,1.2s						
STKA	**Stephens Creek**	**26.24**	**196**	P	**P**	**19 59 28.2**	**-1.3**
	comp=Z,3.3nm,0.9s,baz=0.0,slow=8.1,SNR=5.4						
VNDA	**Vanda**	**71.12**	**177**	P	**P**	**20 05 13.6**	**+1.7**
VNDA				IAmb	IAmb	20 05 16.3	
	comp=Z,3.3nm,1.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**147.95**	**284**	PKPbc	**PKPbc**	**20 13 40.6**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=79,slow=3.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**147.95**	**284**		**PKPbc**	**20 13 39.9**	**-0.2**

*IDC **09** 20:21:44.7±22.0, 18°.34S×177°.67W, h477km±199km, mb3.0/3, mb1 3.3/3, mb1mx2.9/23, mbtmp3.9/3, Error ellipse: s-maj=253.9km s-min=49.2km az=131.0*
*NEIC **09** 20:21:56.8±1.0, 17°.2S±0°.3×178°.9W±0°.3, h567km±24km, mb4.2/9, Error ellipse: s-maj=54.8km s-min=26.6km az=137.0*

ISC 09 20:21:53.0±2.1, 17°.5S±0°.4×178°.4W±0°.3, h547km, n16, σ0°.83/17, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.40**	**265**	P	P	20 23 15.4	+5.0
COEN	**Coen**	**37.11**	**270**	P	**P**	**20 28 19.2**	**+1.5**
COEN				IAmb	IAmb	20 28 31.5	
	comp=Z,27nm,1.6s						
WR0	**Warramunga Arr**	**44.53**	**259**	P	**P**	**20 29 15.8**	**-0.8**
WR0				IAmb	IAmb	20 29 35.4	
	comp=Z,8.4nm,1.4s						
WB0	**Warramunga Arr**	**44.69**	**259**	P	**P**	**20 29 17.2**	**-0.6**
WB0				IAmb	IAmb	20 29 38.8	
	comp=Z,5.1nm,1.3s						
WB2	**Warramunga Arr**	**44.71**	**259**	P	**P**	**20 29 17.9**	**-0.1**
WB2				IAmb	IAmb	20 29 41.0	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**44.71**	**259**	P	**P**	**20 29 16.5**	**-1.5**
WRAB				IAmb	IAmb	20 29 41.0	
	comp=Z,11nm,1.6s						
WRA	**Warramunga Arr**	**44.72**	**259**	P	**P**	**20 29 18.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=97,slow=6.8,SNR=18						
WRA				PcP	**PcP**	**20 30 48.4**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=92,slow=3.5,SNR=1.5						
WRA	**Warramunga Arr**	**44.72**	**259**	P	**P**	**20 29 17.7**	**-0.3**
AS31	**Alice Springs**	**44.92**	**254**	P	**P**	**20 29 19.6**	**0.0**
ASAR	**Alice Springs**	**44.92**	**254**	P	**P**	**20 29 19.9**	**+0.3**
	comp=Z,3.4nm,0.5s,baz=88,slow=8.6,SNR=69						
ASAR				PcP	**PcP**	**20 30 48.8**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=95,slow=4.9,SNR=1.7						
ASAR	**Alice Springs**	**44.92**	**254**	P	**P**	**20 29 18.9**	**-0.6**
MJAR	**Matsushiro Arr**	**67.57**	**323**	P	**P**	**20 31 54.7**	**-0.6**
JNU	**Nakatsue**	**69.83**	**316**	P	**P**	**20 32 08.0**	**-1.1**
ILAR	**Eielson Array**	**85.47**	**13**	P	**P**	**20 33 33.6**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=218,slow=5.8,SNR=2.7						
CLL	**Collm**	**145.04**	**347**	*e*PKPdf	**PKPab**	**20 40 30.0**	**+0.2**
GERES	**GERESS Array B**	**147.20**	**345**	PKPbc	**PKiKP**	**20 40 36.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=46,slow=3.9,SNR=8.1						

INET 09 20:37:15.0, 10°.32N×89°.45W, h15km, ML4.3, Off coast of central America

IDC 09 21:07:54.0±2.2, 1°.60N×127°.19E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/31, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=124.0km s-min=27.4km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.63**	**184**	P	P	21 12 23.9	-0.5
	0.0nm,0.3s,baz=11,slow=10,SNR=1.6						
WRA	**Warramunga Arr**	**22.53**	**162**	P	P	21 12 54.5	-1.1
	0.4nm,0.4s,baz=341,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.95**	**166**	P	P	21 13 29.8	+1.4
	0.2nm,0.6s,baz=343,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**59.56**	**326**	P	P	21 17 59.5	0.0
	0.2nm,0.5s,baz=116,slow=7.7,SNR=2.0						

*IDC **09** 21:11:29.0±2.4, 62°.36S×59°.43W, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.8/19, mbtmp3.9/4, MS3.8/5, Ms1 3.8/5, ms1mx3.4/26, Error ellipse: s-maj=75.0km s-min=52.6km az=146.0*
*NEIC **09** 21:11:33.3±2.0, 62°.6S±0°.1×60°.6W±0°.5, h38km±7km, mb4.2/5, Error ellipse: s-maj=30.4km s-min=19.2km az=97.0*

ISC 09 21:11:29.3±0.8, 62°.5S±0°.1×60°.3W±0°.2, h10km, n27, σ1°.01/19, mb4.1/6, MS3.5/5, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**2.82**	**214**	Pn	**Pn**	**21 12 13.4**	**-0.9**
VNA3	**Neumayer Olymp**	**21.04**	**136**	P	**P**	**21 16 12.4**	**-0.4**
VNA1	**Neumayer--Stat**	**21.53**	**134**	P	**P**	**21 16 18.6**	**+0.6**
VNA2	**Neumayer--Watz**	**21.80**	**135**	P	**P**	**21 16 21.0**	**+0.1**
PLCA	**Paso Flores**	**22.65**	**339**	LR	LR	21 23 55.7	
	comp=Z,128nm,21.0s,baz=177,slow=33						
CPUP	**Villa Florida**	**36.22**	**5**	LR	LR	21 34 04.8	
	comp=Z,56nm,18.9s,baz=216,slow=38						
MAW	**Mawson**	**43.88**	**152**	P	**P**	**21 19 35.2**	**+0.1**
	0.6nm,0.5s,baz=225,slow=8.6,SNR=2.3						
MAW				LR	LR	21 37 47.1	
	comp=Z,243nm,18.8s,baz=20,slow=36						
MAW	**Mawson**	**43.88**	**152**	IAmb	IAmb	21 20 29.9	
	comp=Z,2.2nm,1.7s						
LPAZ	**La Paz**	**46.49**	**350**	LR	LR	21 41 03.8	
	comp=Z,50nm,18.9s,baz=159,slow=38						
LPAZ	**La Paz**	**46.49**	**350**	P	**P**	**21 19 56.9**	**-0.2**
LPAZ				IAmb	IAmb	21 20 57.1	
	comp=Z,5.3nm,1.4s						
BOSA	**Boshof**	**63.03**	**100**	P	**P**	**21 21 55.4**	**-1.0**
	comp=Z,2.6nm,1.0s,baz=194,slow=8.3,SNR=3.7						
H10N3	**ASCENSION HYDR**	**63.86**	**52**	T	T	22 30 44.4	
	baz=201,slow=74,SNR=8.7						
H10N1	**ASCENSION HYDR**	**63.87**	**52**	T	T	22 30 44.8	
	baz=201,slow=74,SNR=8.4						
H10N2	**ASCENSION HYDR**	**63.88**	**52**	T	T	22 30 45.8	
	baz=201,slow=74,SNR=8.3						
RAR	**Rarotonga**	**75.67**	**252**	LR	LR	21 46 37.7	
	comp=Z,270nm,21.7s,baz=332,slow=28						
ASAR	**Alice Springs**	**93.38**	**193**	P	**P**	**21 24 47.2**	**+2.7**
	comp=Z,0.5nm,0.9s,baz=168,slow=4.7,SNR=2.3						
ASAR	**Alice Springs**	**93.38**	**193**	P	**P**	**21 24 44.8**	**+0.3**
AS31	**Alice Springs**	**93.38**	**193**	P	**P**	**21 24 44.9**	**+0.4**
AS31				IAmb	IAmb	21 26 35.4	
	comp=Z,1.7nm,1.2s						
WB2	**Warramunga Arr**	**97.01**	**194**	P	**P**	**21 25 01.0**	**-0.1**
WRA	**Warramunga Arr**	**97.01**	**194**	P	**P**	**21 25 03.6**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=173,slow=4.2,SNR=1.0						
ARCES	**ARCESS Array B**	**144.82**	**38**	PKP	**PKPab**	**21 31 03.5**	**0.0**
	comp=Z,1.0nm,0.8s,baz=256,slow=2.7,SNR=2.5						
ARCES	**ARCESS Array B**	**144.82**	**38**		**PKPdf**	**21 31 04.4**	**0.0**
KK31	**Karatay Array**	**145.62**	**101**		**PKPab**	**21 31 07.6**	**+0.2**
KKAR	**Karatay Array**	**145.62**	**101**		**PKPdf**	**21 31 06.5**	**-0.2**
ENH	**Enshi**	**147.08**	**164**	PKPbc	**PKiKP**	**21 31 14.4**	**+0.2**
MKAR	**Makanchi Array**	**153.76**	**109**	PKPab	**PKPab**	**21 31 40.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=240,slow=5.4,SNR=8.6						
MKAR	**Makanchi Array**	**153.76**	**109**		**PKPab**	**21 31 40.5**	**+0.1**

IDC 09 21:15:06.4±7.5, 7°.38S×156°.85E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=215.4km s-min=44.5km az=113.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.15**	**238**	P	P	21 20 33.5	0.0
	0.4nm,0.6s,baz=64,slow=9.2,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**27.48**	**21**	T	T	21 49 09.4	
	baz=202,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**27.48**	**21**	T	T	21 49 07.5	
	baz=202,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**27.49**	**21**	T	T	21 49 09.7	
	baz=202,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.68**	**20**	T	T	21 50 37.9	
	baz=194						
H11N3	**WAKE ISLAND Hy**	**28.69**	**20**	T	T	21 50 40.1	
	baz=194						
H11N2	**WAKE ISLAND Hy**	**28.69**	**20**	T	T	21 50 45.4	
	baz=194						
SONM	**Songino Array**	**70.66**	**327**	P	P	21 26 24.3	+0.2
	0.5nm,0.7s,baz=138,slow=6.2,SNR=3.9						
MKAR	**Makanchi Array**	**84.91**	**318**	P	P	21 27 43.2	-0.2
	0.3nm,0.7s,baz=116,slow=5.0,SNR=2.3						

IDC 09 21:15:07.2±2.2, 2°.01N×127°.47E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, Error ellipse: s-maj=175.2km s-min=27.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.83**	**163**	P	P	21 20 12.1	-0.1
	0.6nm,0.6s,baz=342,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.28**	**167**	P	P	21 20 44.8	+0.3
	0.2nm,0.5s,baz=347,slow=7.7,SNR=1.6						
H11S3	**WAKE ISLAND Hy**	**41.78**	**64**	T	T	22 05 57.4	
	baz=251,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**41.79**	**64**	T	T	22 06 02.3	
	baz=251,slow=74,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**41.79**	**64**	T	T	22 05 58.8	
	baz=251,slow=74,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**42.35**	**63**	T	T	22 06 46.1	
	baz=251,slow=75						
H11N2	**WAKE ISLAND Hy**	**42.37**	**63**	T	T	22 06 48.6	
	baz=251						
H11N3	**WAKE ISLAND Hy**	**42.37**	**63**	T	T	22 06 45.4	
	baz=251,slow=75						
MKAR	**Makanchi Array**	**59.38**	**326**	P	P	21 25 12.3	+0.8
	0.2nm,0.6s,baz=120,slow=7.2,SNR=1.7						
TORD	**Torodi Ar. Bea**	**124.14**	**287**	PKP	PKPdf	21 34 07.5	-1.4
	0.3nm,0.9s,baz=88,slow=1.0,SNR=1.9						

*LDG **09** 21:38:06.4±0.1, 44°.15N×10°.69E, h10km, Ml2.3/21, Error ellipse: s-maj=1.4km s-min=1.1km az=39.0*
*GEN **09** 21:38:06.6, 44°.15N×10°.70E, h9km±3km, Ml2.2*

ROM 09 21:38:05.9±0.1, 44°.134N±0°.004×10°.675E±0°.005, h14km±1km, ML2.5/12, Error ellipse: s-maj=0.5km s-min=0.2km az=9.0, hypocenter, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDI	**Bagni Di Lucca**	**0.09**	**219**	*i*P	Pg	21 38 09.4	+0.4
BDI				S	Sg	21 38 11.8	+0.7
BDI				AML	AML		
	comp=E,8055μm,1.4s						
BDI				AML	AML		
	comp=N,9100μm,0.4s						
BDI				AML	AML		
	comp=E,10000μm,1.4s						
BDI				AML	AML		
	comp=N,10085μm,0.4s						
POPM	**Popiglio**	**0.11**	**146**	P	Pb	21 38 09.5	-0.2
POPM				S	Sb	21 38 12.0	-0.3
POPM	**Popiglio**	**0.11**	**146**	P	Pb	21 38 09.5	-0.2
POPM				S	Sb	21 38 11.9	-0.3
POPM				AML	AML		
	comp=E,7495μm,0.8s						
POPM				AML	AML		
	comp=N,9535μm,0.1s						
CARD	**Cardoso**	**0.18**	**232**	P	Pg	21 38 10.4	+0.3
CARD				S	Sb	21 38 13.9	-0.3
CARD	**Cardoso**	**0.18**	**232**	*e*P	Pg	21 38 10.4	+0.3
CARD				S	Sb	21 38 13.9	-0.3
CARD				AML	AML		
	comp=E,3030μm,0.7s						
CARD				AML	AML		
	comp=N,4120μm,0.4s						
SARO	**Sassorosso**	**0.20**	**284**	P	Pg	21 38 10.9	+0.3
SARO				S	Sg	21 38 14.4	+0.6
SARO	**Sassorosso**	**0.20**	**284**	*i*P	Pg	21 38 10.8	+0.2
SARO				S	Sg	21 38 14.4	+0.6
VLC	**Villacollemand**	**0.21**	**277**	*i*P	Pg	21 38 11.0	+0.4
VLC				S	Sg	21 38 14.5	+0.6
VLC				AML	AML		
	comp=E,1880μm,0.4s						
VLC				AML	AML		
	comp=N,2660μm,0.3s						
VLC				AML	AML		
	comp=E,1950μm,0.4s						
VLC				AML	AML		
	comp=N,2700μm,0.3s						
VLC				AML	AML		
	comp=N,2665μm,0.3s						
MAIM	**Mastiano**	**0.26**	**211**	P	Pg	21 38 11.7	+0.4
MAIM				S	Sb	21 38 16.0	-0.5
MAIM	**Mastiano**	**0.26**	**211**	*e*P	Pg	21 38 11.7	+0.4
MAIM				S	Sb	21 38 16.3	-0.2
MAIM				AML	AML		
	comp=N,591μm,1.6s						
MAIM				AML	AML		
	comp=E,630μm,0.8s						
MTCR	**Monte La Croce**	**0.26**	**114**	P	Pg	21 38 11.5	+0.1
MTCR				S	Sg	21 38 15.5	+0.3
ZCCA	**Zocca**	**0.31**	**45**	P	Pb	21 38 13.1	0.0
ZCCA				AML	AML		
	comp=N,681μm,0.5s						
ZCCA				AML	AML		
	comp=E,632μm,0.4s						
ZCCA				AML	AML		
	comp=E,692μm,0.4s						
ZCCA				AML	AML		
	comp=N,714μm,0.6s						
FNVD	**Fontana Vidola**	**0.32**	**84**	*e*P	Pg	21 38 12.5	-0.1
FNVD				S	Sg	21 38 17.4	+0.2
FNVD				AML	AML		
	comp=N,1810μm,1.2s						
FNVD				AML	AML		
	comp=E,1605μm,1.6s						
PTF	**Prato**	**0.33**	**121**	P	Pg	21 38 12.9	+0.2
ERBM	**Eremo**	**0.34**	**327**	*e*P	Pg	21 38 13.3	+0.4
ERBM				S	Sb	21 38 18.6	-0.5
ERBM				AML	AML		
	comp=E

PGF	**Pioggiola**	**2.00**	**218**	*e*Pn	Pn	21 38 39.2	-0.1
PGF				*e*Sn	Sn	21 39 02.4	-1.8
	comp=E,18nm,0.6s						
SBF	**Sospel**	**2.35**	**265**	*e*Pn	Pn	21 38 45.3	+1.2
MBDF	**Montbardon**	**2.86**	**283**	*e*P	Pn	21 38 53.5	+2.4
MBDF	**Montbardon**	**2.86**	**283**	*e*Pg	Pg	21 39 00.5	-0.2
MBDF				*e*Sn	Sn	21 39 23.1	-2.3
MBDF				*e*Sg	Sg	21 39 36.4	-1.3
	comp=E,4.2nm,0.4s						
FETA	**Feichten**	**2.89**	**1**	*e*Pn	Pb	21 38 58.6	+1.4
	comp=E,0.2nm,0.2s						
FETA				Sn	Sb	21 39 30.2	-2.3
	comp=E,0.6nm,0.3s						
ABTA	**Abfaltersbach**	**2.92**	**26**	*e*Pn	Pn	21 38 52.0	+0.2
	comp=E,0.3nm,0.2s						
FRF	**La Foret Royal**	**2.97**	**260**	*e*Pn	Pn	21 38 52.6	+0.1
FRF				*e*Sn	Sn	21 39 26.3	-1.6
	comp=E,5.3nm,0.4s						
LPG	**La Plagne**	**3.11**	**297**	*e*P	Pn	21 38 57.1	+2.4
LPG				*e*Sn	Sn	21 39 28.4	-3.3
	comp=E,1.4nm,0.4s						
SQTA	**Sankt Quirin**	**3.11**	**7**	*e*Pn	Pb	21 38 58.3	-2.7
	comp=E,0.6nm,0.2s						
SQTA				*e*Sn	Sb	21 39 35.5	-3.3
	comp=E,9.7nm,0.7s						
LMR	**La Mourre**	**3.12**	**257**	*e*Pn	Pn	21 38 54.4	-0.2
LMR				*e*Sn	Sn	21 39 28.5	-3.2
	comp=E,2.5nm,0.3s						
LPL	**La Plagne**	**3.13**	**298**	*e*Sn	Sn	21 39 29.6	-2.5
	comp=E,2.5nm,0.4s						
DAVA	**Damuels**	**3.20**	**350**	*e*Pn	Pn	21 38 59.1	+3.3
	comp=E,0.5nm,0.3s						
DAVA				*e*Sn	Sn	21 39 36.2	+2.3
	comp=E,5.2nm,0.8s						
WTTA	**Wattenberg**	**3.20**	**12**	*e*Pn	Pn	21 38 58.9	+3.0
	comp=E,1.1nm,0.3s						
MOTA	**Moosalm**	**3.23**	**5**	*e*Pn	Pb	21 38 59.6	-3.4
	comp=E,0.4nm,0.2s						
MOTA				*e*Sn	Sb	21 39 39.0	-3.2
	comp=E,1.5nm,0.3s						
WATA	**Walderalm**	**3.26**	**11**	*i* Pn	Pb	21 39 01.3	-2.4
WATA				*e*Sn	Sb	21 39 40.4	-2.8
	comp=E,1.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.52**	**285**	*e*Pn	Pn	21 38 59.3	-0.9
ORIF	**Oris-en-Rattie**	**3.52**	**285**	*e*P	Pn	21 39 02.8	+2.6
ORIF				*e*Sn	Sn	21 39 38.5	-3.1
	comp=E,3.2nm,0.6s						
SMRF	**Simiane la Rot**	**3.68**	**269**	*e*P	Pn	21 39 04.3	+2.0
SMRF				*e*Sn	Sn	21 39 42.7	-2.8
SMRF				*e*Sg	Sg	21 40 02.5	-1.5
	comp=E,0.9nm,0.4s						
VIVF	**Saint-Julien-l**	**4.36**	**282**	*e*Pn	Pn	21 39 10.7	-0.9
VIVF				*e*Sn	Sn	21 39 58.7	-3.4
	comp=E,0.6nm,0.5s						
MOA	**Molln**	**4.48**	**33**	*e*Pn	Pn	21 39 14.8	+1.5
	comp=E,0.3nm,0.1s						
HINF	**Hinteralfeld**	**4.55**	**325**	*e*P	Pn	21 39 16.5	+2.3
HINF				*e*Sn	Sn	21 40 02.9	-3.9
	comp=E,0.9nm,0.3s						
CDF	**Champ du Feu**	**4.88**	**332**	*e*Pn	Pn	21 39 18.1	-0.8
CDF	**Champ du Feu**	**4.88**	**332**	*e*P	Pn	21 39 21.8	+2.9
CDF				*e*Sn	Sn	21 40 10.8	-4.5
	comp=E,1.2nm,0.4s						
HAU	**Haudompre**	**4.91**	**324**	*e*P	Pn	21 39 21.8	+2.7
HAU				*e*Sn	Sn	21 40 11.5	-4.2
	comp=E,1.9nm,0.2s						
LASF	**Ste Croix**	**4.91**	**272**	*e*Pn	Pn	21 39 18.6	-0.6
LASF				*e*Sn	Sn	21 40 12.1	-3.7
	comp=E,0.3nm,0.3s						
SMF	**Signal de Mont**	**5.43**	**300**	*e*P	Pn	21 39 28.8	+2.5
SMF				*e*Sn	Sn	21 40 24.9	-3.7
	comp=E,1.2nm,0.4s						
PAGF	**Fort de Pagny**	**5.59**	**324**	*e*Pn	Pn	21 39 26.8	-1.8
PAGF	**Fort de Pagny**	**5.59**	**324**	*e*P	Pn	21 39 32.1	+3.5
PAGF				*e*Sg	Sg	21 41 00.8	-4.5
	comp=E,0.5nm,0.2s						
LOR	**Lormes**	**5.71**	**306**	*e*P	Pn	21 39 33.2	+3.0
	baz=127						
LOR				*e*Sn	Sn	21 40 30.9	-4.6
	comp=E,1.3nm,0.4s						
SSF	**Saint Saulge**	**5.82**	**303**	*e*P	Pn	21 39 34.5	+2.8
SSF				*e*Sn	Sn	21 40 33.6	-4.6
	comp=E,0.2nm,0.2s						
MTLF	**Montolieu**	**6.18**	**266**	*e*Pn	Pn	21 39 36.0	-0.6
MTLF				*e*Sg	Sg	21 41 20.2	-3.9
	comp=E,0.5nm,0.4s						

LDG ***09*** *21:38:48.4±0.3,50°.30N×19°.03E,h1km,Ml3.6/6,Error ellipse: s-maj=9.9km s-min=3.5km az=11.0,Suspected Mining induced.*
IDC ***09*** *21:38:49.3±2.7,49°.94N×19°.18E,h0km,mb1 3.4/5, mb1mx3.1/53,mbtmp3.3/5,ML2.8/5,Error ellipse: s-maj=47.3km s-min=11.2km az=132.0*
BGR ***09*** *21:38:50.6±0.3,50°.17N×18°.87E,h1km,ML3.4/7,Error ellipse: s-maj=12.2km s-min=4.4km az=179.0*
PRU ***09*** *21:38:50.6±0.0,50°.17N×18°.83E,h0km*
VIE ***09*** *21:38:50.2±0.3,50°.21N×18°.87E,h0km,mb2.4/3,ml2.9/4, Error ellipse: s-maj=3.8km s-min=2.2km az=176.0 9 km WSW of Katowice Suspected Mining induced.*
IPEC ***09*** *21:38:50.2±0.1,50°.23N×18°.88E,h3km±1km,ML2.7/3, Error ellipse: s-maj=2.4km s-min=0.7km az=167.0*
ISC 09 21:38:48.1±0.7,50°.26N±0°.03×18°.86E±0°.02,h0km,n76, σ1§61/106,6C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**93**	*e*Pg	**Pb**	**21 39 01.6**	**+0.1**
OJC				*e*Sg	**Sg**	**21 39 10.0**	**+2.4**
OJC	**Ojcow**	**0.61**	**93**	*e*Pg	**Pb**	**21 39 01.6**	**+0.1**
OJC				*e*Sg	**Sg**	**21 39 10.0**	**+2.4**
MORC	**Moravsky Berou**	**0.97**	**241**	*e*Pg	**Pn**	**21 39 09.0**	**-0.2**
MORC				*e*Sg	**Sb**	**21 39 22.4**	**+1.1**
MORC	**Moravsky Berou**	**0.97**	**241**	⇑P	**Pn**	**21 39 08.9**	**-0.2**
MORC	**Moravsky Berou**	**0.97**	**241**	⇓S	**Sb**	**21 39 22.4**	**+1.1**
MORC	**Moravsky Berou**	**0.97**	**241**	*e*PG	**Pb**	**21 39 08.6**	**+0.6**
MORC				*e*SG	**Sb**	**21 39 20.5**	**-0.8**
MORC	**Moravsky Berou**	**0.97**	**241**	*e*Pg	**Pb**	**21 39 08.5**	**+0.6**
	baz=62						
MORC				*e*Sg	**Sb**	**21 39 20.5**	**-0.8**
	117nm,0.3s,baz=62						
LANS	**Liptovska Anna**	**1.18**	**160**	*e*PG	**Pn**	**21 39 12.6**	**+0.7**
LANS				*e*SG	**Sn**	**21 39 28.3**	**-0.3**
LANS				*e*LG	Lg	21 39 30.6	
NIE	**Niedzica**	**1.26**	**131**	*e*Pg	**Pn**	**21 39 13.5**	**+0.5**
NIE				*e*Sg	**Sn**	**21 39 31.6**	**+1.0**
JAVC	**Velka Javorina**	**1.60**	**209**	*e*PN	**Pg**	**21 39 19.5**	**+0.7**
JAVC	**Velka Javorina**	**1.60**	**209**	*e*Pn	**Pg**	**21 39 19.4**	**+0.7**
	baz=29						
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*Pn	**Pg**	**21 39 19.9**	**+0.6**
DPC				*e*Sg	**Sg**	**21 39 43.0**	**+2.6**
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG	**Pb**	**21 39 19.5**	**+0.5**
DPC				*e*SG	**Sg**	**21 39 42.4**	**+2.0**
	comp=Z,160nm,0.5s						
OSTC	**Ostas**	**1.72**	**281**	*e*PG	**Pb**	**21 39 20.6**	**+0.1**
OSTC				*e*SG	**Sg**	**21 39 45.1**	**+1.9**
	comp=Z,173nm,1.3s						
KSP	**Ksiaz**	**1.74**	**291**	*e*Pn	**Pg**	**21 39 22.8**	**+1.4**
KSP	**Ksiaz**	**1.74**	**291**	*e*Pb	**Pb**	**21 39 21.5**	**+0.6**
KSP				*i* Pg	**Pg**	**21 39 23.6**	**+2.3**
KSP				*e*Sg	**Sg**	**21 39 46.8**	**+2.9**
VRAC	**Vranov**	**1.75**	**238**	Pn	**Pb**	**21 39 21.4**	**+0.3**
	3.9nm,0.3s,baz=71,slow=13,SNR=27						
VRAC				Lg	Lg	21 39 44.1	
	16nm,0.3s,baz=147,slow=21,SNR=16						
VRAC	**Vranov**	**1.75**	**238**	⇑P	**Pb**	**21 39 21.5**	**+0.4**
VRAC	**Vranov**	**1.75**	**238**	⇑S	**Sg**	**21 39 45.0**	**+0.7**
VRAC	**Vranov**	**1.75**	**238**	*e*PN	**Pb**	**21 39 21.4**	**+0.3**
VRAC				*e*SG	**Sg**	**21 39 44.6**	**+0.3**
VRAC	**Vranov**	**1.75**	**238**	*e*Pn	**Pb**	**21 39 21.3**	**+0.3**
	baz=57						
VRAC				*e*Sg	**Sg**	**21 39 44.5**	**+0.3**
	56nm,0.3s,baz=57						
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*PN	**Pg**	**21 39 22.4**	**+0.6**
STHS				*e*		21 39 47.0	
VYHS	**Vyhne**	**1.77**	**180**	*e*PN	**Pn**	**21 39 20.7**	**+0.8**
VYHS				*e*SN	**Sb**	**21 39 44.1**	**0.0**
UPC	**Upice**	**1.84**	**279**	*e*PG	**Pg**	**21 39 23.6**	**+0.3**
UPC				*e*SG	**Sg**	**21 39 49.3**	**+2.2**
	comp=Z,180nm,1.3s						
SMOL	**Smolenice**	**1.98**	**209**	*e*PN	**Pb**	**21 39 25.0**	**0.0**
SMOL				*e*SN	**Sn**	**21 39 48.4**	**0.0**
KRUC	**Moravsky**	**2.00**	**234**	*e*PN	**Pb**	**21 39 24.7**	**-0.6**
KRUC				*e*SG	**Sg**	**21 39 52.2**	**-0.1**
KRUC	**Moravsky**	**2.00**	**234**	*e*Pn	**Pb**	**21 39 24.7**	**-0.6**
	baz=53						
KRUC				*e*Sg	**Sg**	**21 39 52.1**	**-0.2**
	58nm,0.5s,baz=53						
KECS	**Kecovo**	**2.07**	**148**	*e*PN	**Pn**	**21 39 25.0**	**+0.9**
KECS				*e*SN	**Sn**	**21 39 49.9**	**-0.7**
KECS				*e*LG	Lg	21 39 56.1	
MODS	**Modra-Piesok**	**2.15**	**209**	*e*PN	**Pn**	**21 39 26.0**	**+0.8**
MODS				*e*SN	**Sn**	**21 39 51.7**	**-0.9**
MODS				*e*LG	Lg	21 40 04.8	
CRVS	**Cervenica-Dubn**	**2.17**	**128**	*e*PN	**Pn**	**21 39 27.3**	**+1.8**
CRVS				*e*SG	**Sg**	**21 40 00.5**	**+2.7**
CRVS				*e*LG	Lg	21 40 03.6	
TREC	**Trest**	**2.39**	**247**	*e*PG	**Pb**	**21 39 33.1**	**+1.1**
TREC				*e*SG	**Sg**	**21 40 04.1**	**-0.7**
	comp=Z,61nm,0.6s						
PSZ	**Piszkesteto**	**2.44**	**163**	⇓P	**Pn**	**21 39 30.6**	**+1.3**
SRO	**Srobarova**	**2.47**	**189**	*e*	**Pg**	**21 39 37.3**	**+1.8**
SRO				*e*LG	Lg	21 40 17.4	
KOLS	**Kolonicke sedl**	**2.59**	**120**	*e*PN	**Pn**	**21 39 31.7**	**+0.5**
KOLS				*e*SN	**Sn**	**21 40 04.6**	**+1.2**
KOLS				*e*LG	Lg	21 40 17.8	
GOPC	**GO Pecny, Ondr**	**2.64**	**264**	*e*PG	**Pb**	**21 39 37.1**	**+0.8**
GOPC				*e*SG	**Sg**	**21 40 12.5**	**-0.5**
	comp=Z,51nm,0.5s						
PVCC	**Panska Ves**	**2.76**	**277**	*e*PG	**Pg**	**21 39 40.3**	**-0.6**
PVCC				*e*SG	**Sg**	**21 40 18.1**	**+1.4**
	comp=Z,108nm,0.6s						
PRU	**Pruhonice**	**2.79**	**266**	*e*PN	**Pn**	**21 39 35.2**	**+1.2**
PRU				*e*PG	**Pb**	**21 39 40.1**	**+1.3**
PRU				*e*SG	**Sg**	**21 40 17.8**	**+0.1**
	comp=Z,57nm,0.9s						
PRA	**Prague**	**2.85**	**268**	*e*PG	**Pb**	**21 39 41.1**	**+1.3**
PRA				*e*SG	**Sg**	**21 40 20.5**	**+0.8**
	comp=Z,36nm,0.7s						
CONA	**Conrad Observa**	**3.05**	**221**	*e*Pn	**Pn**	**21 39 38.8**	**+1.1**
	0.4nm,0.2s						
PBCC	**Pribram**	**3.19**	**262**	*e*PG	**Pb**	**21 39 47.8**	**+2.2**
PBCC				*e*SG	**Sg**	**21 40 29.9**	**-0.7**
BRG	**Berggiesshubel**	**3.19**	**283**	PG	**Pg**	**21 39 50.7**	**+1.4**
BRG				SG	**Sg**	**21 40 32.9**	**+2.3**
	29nm,0.6s						
BRG	**Berggiesshubel**	**3.19**	**283**	*e*Pg	**Pg**	**21 39 49.9**	**+0.6**
BRG				*e*Sg	**Sg**	**21 40 32.4**	**+1.8**
FBE	**Freiberg**	**3.57**	**283**	*e*Sg	**Sg**	**21 40 44.3**	**+1.6**
KHC	**Kasperske Hory**	**3.61**	**254**	*e*PN	**Pn**	**21 39 46.3**	**+1.0**
KHC				*e*PG	**Pg**	**21 39 57.5**	**+0.3**
KHC				*e*SG	**Sg**	**21 40 43.9**	**-0.1**
	comp=Z,63nm,0.5s						
GEC2	**GERESS Array S**	**3.64**	**249**	*e*Pg	**Pg**	**21 39 57.6**	**-0.3**
GERES	**GERESS Array B**	**3.64**	**249**	Pn	**Pn**	**21 39 47.5**	**+1.7**
	0.7nm,0.3s,baz=68,slow=16,SNR=6.1						
GERES				Pg	**Pg**	**21 39 56.6**	**-1.2**
	1.5nm,0.3s,baz=67,slow=19,SNR=13						
GERES				Lg	Lg	21 40 40.9	
	3.5nm,0.3s,baz=68,slow=30,SNR=5.4						
ARSA	**Arzberg**	**3.73**	**217**	*e*Pn	**Pn**	**21 39 48.5**	**+1.5**
	0.3nm,0.2s						
CLL	**Collm**	**3.86**	**288**	*e*Sg	**Sg**	**21 40 54.0**	**+1.9**
CLL	**Collm**	**3.86**	**288**	*i* Sg	**Sg**	**21 40 53.9**	**+1.8**
	comp=Z,40nm,0.6s						
CLL	**Collm**	**3.86**	**288**	*e*Pn	**Pb**	**21 39 54.0**	**-3.0**
CLL	**Collm**	**3.86**	**288**	*e*Pg	**Pg**	**21 40 06.0**	**+3.9**
BMR	**Baia Mare**	**4.00**	**128**	⇓P	**Pn**	**21 39 51.9**	**+1.3**
WET	**Wettzell**	**4.04**	**256**	*e*Pg	**Pg**	**21 40 03.9**	**-1.6**
WET				*e*Sg	**Sg**	**21 40 57.2**	**-0.6**
TANN	**Tannenbergstha**	**4.10**	**275**	*e*Pn	**Pn**	**21 39 53.6**	**+1.5**
NKC	**Novy Kostel**	**4.11**	**272**	*e*PN	**Pn**	**21 39 54.8**	**+2.6**
NKC				*e*SG	**Sg**	**21 40 59.9**	**-0.3**
	comp=Z,30nm,0.7s						
SIRR	**Siria**	**4.41**	**154**	⇓P	**Pn**	**21 39 57.7**	**+1.4**
BURAR	**Bucovina Array**	**4.96**	**120**	⇑P	**Pn**	**21 40 05.6**	**+1.7**
BZS	**Buzias**	**5.00**	**157**	⇑P	**Pn**	**21 40 05.7**	**+1.3**
GZR	**Gura Zlata**	**5.54**	**150**	⇑P	**Pn**	**21 40 14.1**	**+2.3**
AKASG	**Malin Array Be**	**6.63**	**82**	Sn	**Sn**	**21 41 37.0**	**-6.0**
	comp=Z,1.0nm,0.3s,baz=264,slow=24,SNR=2.3						
AKASG				Lg	Lg	21 42 08.2	
	comp=Z,0.9nm,0.3s,baz=268,slow=26,SNR=1.3						
DAVOX	**Davos/Dischmat**	**6.90**	**243**	Pn	**Pn**	**21 40 33.5**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=24,slow=18,SNR=1.1						
DAVOX				Sn	**Sn**	**21 41 49.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=234,slow=17,SNR=2.0						
DAVOX				Lg	Lg	21 42 29.3	
	comp=Z,0.6nm,0.3s,baz=27,slow=2.5,SNR=3.3						
SLIT	**Slitere, Latvi**	**7.66**	**14**	*e*S	Sn	21 42 00.5	-7.7
CDF	**Champ du Feu**	**7.79**	**261**	*e*Sg	**Sg**	**21 42 56.5**	**-1.6**
	comp=Z,10nm,0.6s						
HINF	**Hinteralfeld**	**8.26**	**257**	*e*Sg	**Sg**	**21 43 11.5**	**-1.6**
	comp=Z,7.4nm,0.7s						
HAU	**Haudompre**	**8.51**	**259**	*e*Sg	**Sg**	**21 43 18.8**	**-2.3**
	comp=Z,12nm,0.7s						
MTSE	**Matsula**	**8.95**	**17**	*e*S	Sn	21 42 32.3	-7.5
MEZF	**Maizieres J'vi**	**9.18**	**264**	*e*Sg	Sn	21 43 39.9	+54
	comp=Z,2.9nm,0.4s						
CABF	**La Chapelle**	**9.24**	**252**	*e*Sg	Sn	21 43 42.3	+55
	comp=Z,10nm,0.8s						
SFTF	**Sexfontaines**	**9.27**	**263**	*e*Sg	Sn	21 43 43.1	+55
	comp=Z,1.9nm,0.3s,baz=84						
LPL	**La Plagne**	**9.42**	**244**	*e*P	Pn	21 41 10.5	+5.2
HFS	**Hagfors**	**10.32**	**345**	Pn	**Pn**	**21 41 17.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=172,slow=13,SNR=0.9						
MEF	**Metsahovi**	**10.46**	**15**	*e*S	Sn	21 43 09.1	-7.9
MEF				AML	AML	21 43 16.5	
	comp=N,1.5nm,0.7s						
MEF				AML	AML	21 43 18.7	
	comp=Z,1.6nm,0.6s						
MEF				AML	AML	21 43 34.7	
	comp=E,1.7nm,0.6s						
RAF	**Rauma**	**10.91**	**7**	*e*S	**Sn**	**21 43 21.8**	**-6.2**
VIVF	**Saint-Julien-l**	**11.00**	**246**	*e*P	Pn	21 41 31.8	+5.2
FINESS	**FINESS Array B**	**11.91**	**17**	Pn	**Pn**	**21 41 38.0**	**-1.0**
	comp=E,0.2nm,0.3s,baz=195,slow=11,SNR=9.8						
FINES				Sn	Sn	21 43 42.9	-10
	comp=E,0.1nm,0.3s,baz=195,slow=21,SNR=2.0						
ARCES	**ARCESS Array B**	**19.60**	**7**	Pn	**P**	**21 43 17.1**	**-0.5**
	comp=E,0.1nm,0.3s,baz=187,slow=12,SNR=1.7						

INET ***09*** *21:40:56.9,14°.29N×91°.25W,h15km,ML4.8*
UCR ***09*** *21:41:03.9±0.9,13°.74N×90°.82W,h30km±3km,ML4.3, mb4.4(NEIC)*
SNET ***09*** *21:41:03.6±0.8,13°.74N×90°.83W,h30km±3km,ML4.5*
NEIC ***09*** *21:41:04.9±1.6,13°.78N±0°.07×90°.76W±0°.07,h76km±5km, mb4.4/74,Md4.5(SNET),Error ellipse: s-maj=12.1km s-min=7.1km az=222.0*
IDC ***09*** *21:41:06.2±1.6,13°.85N×90°.59W,h86km±10km,mb3.7/12, mb1 3.9/14,mb1mx3.6/51,mbtmp4.0/14,MS3.4/2, Ms1 3.5/2,ms1mx2.9/31,Error ellipse: s-maj=24.9km s-min=14.7km az=62.0*
ISC 09 21:41:04.2±1.1,13°.77N±0°.07×90°.81W±0°.07,h63km±9km, n124,σ0§89/105,mb4.4/38,3C-4D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.53**	**41**	⇑*i*P	**Pn**	**21 41 15.7**	**-1.3**
IXG	**Ixpaco**	**0.53**	**41**	⇑*i*P	**Pn**	**21 41 15.7**	**-1.3**
NUBE	**Las Nubes**	**1.00**	**82**	⇓*i*P	**Pn**	**21 41 22.0**	**-0.5**
NUBE				*e*S	**Sn**	**21 41 36.2**	**0.0**
NUBE	**Las Nubes**	**1.00**	**82**	⇓*i*P	**Pn**	**21 41 22.0**	**-0.5**
NUBE				*e*S	**Sn**	**21 41 36.2**	**0.0**
RTR	**El Retiro**	**1.13**	**83**	*e*P	**Pn**	**21 41 24.5**	**+0.2**
RTR	**El Retiro**	**1.13**	**83**	*e*P	**Pn**	**21 41 24.5**	**+0.2**
CEVE	**Cerro Verde**	**1.15**	**87**	⇓*i*P	**Pn**	**21 41 24.3**	**-0.2**
CEVE				*e*S	**Sn**	**21 41 41.0**	**+1.3**
CEVE				IAML		21 41 43.4	
	comp=Z,18μm,0.7s						
CEVE	**Cerro Verde**	**1.15**	**87**	⇓*i*P	**Pn**	**21 41 24.3**	**-0.2**
CEVE				*e*S	**Sn**	**21 41 41.0**	**+1.3**
CEVE				IAML		21 41 43.4	
	comp=Z,18μm,0.7s						
SBLS	**San Blas**	**1.15**	**86**	*e*P	**Pn**	**21 41 24.3**	**-0.2**
SBLS	**San Blas**	**1.15**	**86**	*e*P	**Pn**	**21 41 24.3**	**-0.2**
APG	**El Apazote**	**1.27**	**15**	P	**Pn**	**21 41 26.3**	**+0.2**
	comp=Z,241nm,0.3s,baz=184,slow=9.5,SNR=463						
APG				S	**Sn**	**21 41 44.0**	**+1.5**
	comp=Z,782nm,0.3s,baz=250,slow=17,SNR=100						
CEDA	**San Andres**	**1.37**	**88**	*e*S	**Sn**	**21 41 45.6**	**+1.1**
CEDA	**San Andres**	**1.37**	**88**	*e*S	**Sn**	**21 41 45.6**	**+1.1**
BOQS	**Boqueron**	**1.48**	**91**	*e*P	**Pn**	**21 41 29.1**	**+0.2**
BOQS	**Boqueron**	**1.48**	**91**	*e*P	**Pn**	**21 41 29.1**	**+0.2**
SNET	**Serv Nac Est T**	**1.53**	**93**	*e*P	**Pn**	**21 41 29.5**	**0.0**
SNET				*e*S	**Sn**	**21 41 49.3**	**+0.8**
SNET				IAML		21 41 55.1	
	comp=Z,4μm,0.5s						
SNET	**Serv Nac Est T**	**1.53**	**93**	*e*P	**Pn**	**21 41 29.5**	**0.0**
SNET				*e*S	**Sn**	**21 41 49.3**	**+0.8**
SNET				IAML		21 41 55.1	
	comp=Z,4μm,0.5s						
SNET	**Serv Nac Est T**	**1.53**	**93**		**Pn**	**21 41 29.2**	**-0.2**
MTO3	**Montecristo**	**1.54**	**66**		**Pn**	**21 41 29.6**	**0.0**
OPAM	**Oficina de Pla**	**1.56**	**92**	*e*S	**Sn**	**21 41 50.8**	**+1.6**
OPAM	**Oficina de Pla**	**1.56**	**92**	*e*S	**Sn**	**21 41 50.8**	**+1.6**
ESQI	**Esquipulas**	**1.62**	**61**	⇑*i*P	**Pn**	**21 41 31.0**	**+0.3**
ESQI	**Esquipulas**	**1.62**	**61**		**Pn**	**21 41 30.6**	**-0.1**
LFU	**La Fuente**	**1.64**	**91**	*e*P	**Pn**	**21 41 31.1**	**+0.1**
LFU	**La Fuente**	**1.64**	**91**	*e*P	**Pn**	**21 41 31.1**	**+0.1**
HUEH	**Huehuetenango**	**1.68**	**336**	*e*P	**Pn**	**21 41 32.6**	**+1.0**
HUEH	**Huehuetenango**	**1.68**	**336**		**Pn**	**21 41 32.4**	**+0.8**
MRL	**Marmol**	**1.70**	**40**	*i* P	**Pn**	**21 41 32.3**	**+0.5**
MRL	**Marmol**	**1.70**	**40**	*i* P	**Pn**	**21 41 32.3**	**+0.5**
LFRS	**El Faro**	**1.70**	**95**	*e*P	**Pn**	**21 41 31.7**	**-0.1**
LFRS	**El Faro**	**1.70**	**95**	*e*P	**Pn**	**21 41 31.7**	**-0.1**
LBRS	**Las Brisas**	**1.71**	**91**	*e*P	**Pn**	**21 41 32.0**	**+0.1**
LBRS	**Las Brisas**	**1.71**	**91**	*e*P	**Pn**	**21 41 32.0**	**+0.1**
PAVA	**Las Pavas**	**1.82**	**92**	*e*P	**Pn**	**21 41 33.3**	**0.0**
PAVA	**Las Pavas**	**1.82**	**92**	*e*P	**Pn**	**21 41 33.3**	**0.0**
COEG	**Centro de Oper**	**1.88**	**94**	*e*P	**Pn**	**21 41 34.5**	**+0.4**
COEG				*e*S	**Sn**	**21 41 58.2**	**+1.4**
COEG				IAML		21 42 08.9	
	comp=Z,3μm,0.7s						
COEG	**Centro de Oper**	**1.88**	**94**	*e*P	**Pn**	**21 41 34.5**	**+0.4**
COEG				*e*S	**Sn**	**21 41 58.2**	**+1.4**
COEG				IAML		21 42 08.9	
	comp=Z,3μm,0.7s						
LCY	**Lacayo**	**2.47**	**98**	*e*P	**Pn**	**21 41 43.2**	**+1.1**
LCY	**Lacayo**	**2.47**	**98**	*e*P	**Pn**	**21 41 43.2**	**+1.1**
CCIG	**Comitan**	**2.81**	**333**	Pn	**Pn**	**21 41 48.0**	**+1.1**
LCND	**La Caada**	**2.87**	**99**	*e*P	**Pn**	**21 41 48.0**	**+0.4**
LCND				*e*S	**Sn**	**21 42 22.9**	**+1.9**
LCND				IAML		21 42 33.9	
	comp=Z,1μm,0.7s						
LCND	**La Caada**	**2.87**	**99**	*e*P	**Pn**	**21 41 48.0**	**+0.4**
LCND				*e*S	**Sn**	**21 42 22.9**	**+1.9**
LCND				IAML		21 42 33.9	
	comp=Z,1μm,0.7s						
CNCH	**Conchagua**	**2.93**	**99**	*e*P	**Pn**	**21 41 49.1**	**+0.6**
CNCH	**Conchagua**	**2.93**	**99**	*e*P	**Pn**	**21 41 49.1**	**+0.6**
PETF	**Flores**	**3.26**	**16**	*e*P	**Pn**	**21 41 53.1**	**+0.3**
PETF	**Flores**	**3.26**	**16**		**Pn**	**21 41 52.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**3.44**	**85**	Pn	**Pn**	**21 41 55.8**	**+0.3**
CRIN	**San Cristobal**	**3.81**	**106**		**Pn**	**21 42 01.8**	**+1.3**
MATN	**Matagalpa**	**4.82**	**99**	Pn	**Pn**	**21 42 15.0**	**+0.7**
BOAB	**BOACO BROADBAN**	**5.18**	**104**		**Pn**	**21 42 19.2**	**+0.1**
ACON	**Acoyapa**	**5.78**	**107**		**Pn**	**21 42 27.2**	**-0.2**
ESPN	**Las Esperanzas**	**6.53**	**103**		**Pn**	**21 42 39.2**	**+1.6**
JTS	**Las Juntas de**	**6.69**	**120**	P	**Pn**	**21 42 41.0**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=12,slow=20,SNR=5.0						
JTS				S	**Sn**	**21 43 53.4**	**-1.3**
	baz=38,slow=19,SNR=0.9						
JTS	**Las Juntas de**	**6.69**	**120**	Pn	**Pn**	**21 42 40.8**	**+0.9**
TEIG	**Tepich**	**6.86**	**20**

comp=Z,1.3nm,0.6s,baz=53,slow=9.6,SNR=4.4
YBH Yreka Blue Hor 39.27 321 IAmb IAmb 21 48 34.6
comp=Z,6.2nm,1.4s
F07A Phinny Hill Vi 40.35 328 PcP 21 50 37.2 -0.7
H04A Detroit Lake 40.76 325 P **P 21 48 37.8 -1.2**
C09A Chrisman Ranch 40.90 332 P **P 21 48 39.7 -0.5**
SCHQ Schefferville 45.04 19 P P 21 49 11.8 -1.8
comp=Z,6.9nm,0.4s,baz=239,slow=14,SNR=17
SCHQ LR LR 22 08 60.0
comp=Z,80nm,18.9s,baz=298,slow=37
YKA Yellowknife Ar 51.52 346 P **P 21 50 02.1 -1.1**
comp=Z,0.2nm,0.3s,baz=150,slow=8.0,SNR=1.7
SFJD Kangerlussuaq 59.39 17 P **P 21 50 59.7 0.0**
comp=Z,11nm,0.8s,baz=207,slow=6.8,SNR=2.6
ILAR Eielson Array 63.51 337 P P 21 51 25.7 -1.8
comp=Z,0.6nm,0.8s,baz=118,slow=5.0,SNR=4.9
EKA Eskdalemuir Ar 77.47 36 P P 21 52 50.3 -2.5
comp=Z,0.2nm,0.5s,baz=268,slow=5.7,SNR=1.3
TORD Torodi Ar. Bea 89.30 77 P P 21 53 51.9 -2.3
comp=Z,0.5nm,0.9s,baz=299,slow=5.5,SNR=1.7
MKAR Makanchi Array 119.40 5 PKP **PKPdf 21 59 45.5 -1.1**
comp=Z,0.1nm,0.3s,baz=4.4,slow=3.2,SNR=1.7
WRA Warramunga Arr 136.46 255 PKP **PKPdf 22 00 19.1 -0.7**
comp=Z,1.1nm,0.8s,baz=90,slow=2.7,SNR=13
ASAR Alice Springs 136.68 250 PKP **PKPdf 22 00 19.8 -0.3**
comp=Z,0.5nm,0.8s,baz=95,slow=2.2,SNR=5.2
FITZ Fitzroy Crossi 144.73 259 PKP **PKPab 22 00 33.2 -0.4**
comp=Z,4.0nm,0.8s,baz=156,slow=5.7,SNR=5.5
CMAR Chiang Mai Arr 146.56 343 PKPbc **PKPdf 22 00 38.0 +0.1**
comp=Z,3.2nm,0.6s,baz=345,slow=2.9,SNR=12
NWAO Narrogin (SRO) 148.12 228 PKPbc **PKPdf 22 00 42.7 +2.7**
comp=Z,15nm,1.1s,baz=202,slow=5.4,SNR=1.9

*IDC **09** 21:43:12.0±1.5, 64°.53N×17°.86W, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.3/55, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=45.1km s-min=17.9km az=24.0*
*REY **09** 21:43:11.5, 64°.64N×17°.54W, h8km*
ISC 09 21:43:11.2±0.8, **64°.68N**±0°.03×**17°.60W**±0°.03, **h10**km±6km, **n40**, σ1s**87**/48, **mb3.4**/3, **Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.07**	**267**	P	**Pg**	**21 43 13.9**	**+0.3**
	baz=288						
IVON				S	**Sg**	**21 43 16.0**	**+0.7**
	baz=288						
IDYN	**Dyngjuhals**	**0.15**	**41**	P	**Pg**	**21 43 15.1**	**+0.3**
	baz=27						
IGRF	**Grimsfjall**	**0.31**	**152**	P	**Pb**	**21 43 16.7**	**-2.2**
	baz=153						
ISKR	**Skrokkalda**	**0.36**	**251**	P	**Pb**	**21 43 18.7**	**-1.0**
	baz=257						
ISKR				S	**Sb**	**21 43 23.8**	**-1.6**
	baz=257						
IHUS	**Husbondi**	**0.38**	**184**	P	**Pb**	**21 43 18.3**	**-1.9**
	baz=188						
IKVE	**Kverkfjoll**	**0.40**	**90**	P	**Pb**	**21 43 19.2**	**-1.2**
	baz=84						
IBJK	**Bruarjokull**	**0.42**	**119**	P	**Pb**	**21 43 18.8**	**-2.0**
	baz=117						
IVOT	**Vottur**	**0.45**	**156**	P	**Pb**	**21 43 19.1**	**-2.1**
	baz=157						
IJOK	**Jokulheimar**	**0.45**	**217**	P	**Pb**	**21 43 19.6**	**-1.7**
	baz=222						
IJOK				S	**Sb**	**21 43 26.0**	**-2.1**
	baz=222						
IKRE	**Kreppuhraun**	**0.53**	**78**	P	**Pb**	**21 43 21.0**	**-1.6**
	baz=74						
IKRE				S	**Sb**	**21 43 28.4**	**-2.0**
	baz=74						
IASK	**Askja**	**0.55**	**47**	P	**Pb**	**21 43 21.6**	**-1.4**
	baz=43						
IMKO	**Mokollar**	**0.62**	**60**	P	**Pb**	**21 43 22.6**	**-1.5**
	baz=56						
IIEY	**Innrieyrar**	**0.63**	**202**	P	**Pb**	**21 43 22.3**	**-1.9**
	baz=205						
ISVA	**Svartarkot**	**0.68**	**12**	P	**Pb**	**21 43 24.1**	**-1.0**
	baz=9.8						
ISVA				S	**Sb**	**21 43 33.9**	**-0.7**
	baz=9.8						
IVAT	**Vatnsfell**	**0.76**	**230**	P	**Pb**	**21 43 25.1**	**-1.4**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.81**	**80**	P	**Pb**	**21 43 25.6**	**-1.8**
	baz=77						
IHVE	**Hveravellir**	**0.87**	**284**	P	**Pg**	**21 43 27.1**	**-0.8**
	baz=286						
IADA	**Aoalbol**	**0.93**	**67**	P	**Pg**	**21 43 27.6**	**-1.5**
	baz=65						
IMEL	**Melhnausar**	**0.98**	**23**	P	**Pg**	**21 43 28.9**	**-1.2**
	baz=22						
IREN	**Reynihlio**	**1.02**	**16**	P	**Pg**	**21 43 29.6**	**-1.2**
	baz=15						
ISNB	**Snabyli**	**1.05**	**206**	P	**Pb**	**21 43 29.4**	**-2.0**
	baz=208						
IKVO	**Krokottuvotn**	**1.08**	**16**	P	**Pg**	**21 43 30.9**	**-1.2**
	baz=14						
IFED	**Fedgar**	**1.12**	**235**	P	**Pb**	**21 43 31.2**	**-1.5**
	baz=237						
IGRS	**Grimsstaoir**	**1.15**	**32**	P	**Pg**	**21 43 31.8**	**-1.5**
	baz=30						
IRJU	**Rjupnafell**	**1.16**	**204**	P	**Pb**	**21 43 31.5**	**-1.8**
	baz=206						
IMJO	**Mjoaskard**	**1.17**	**231**	P	**Pb**	**21 43 32.1**	**-1.4**
	baz=233						
IGYG	**Gygjarholskot**	**1.20**	**252**	P	**Pg**	**21 43 32.5**	**-1.8**
	baz=254						
ISKI	**Skildingahlsh**	**1.22**	**11**	P	**Pg**	**21 43 33.1**	**-1.6**
	baz=9.8						
IGHA	**Grjothals**	**1.23**	**18**	P	**Pg**	**21 43 33.1**	**-1.8**
	baz=17						
IGRA	**Granastaoir**	**1.25**	**0**	P	**Pg**	**21 43 33.4**	**-1.8**
	baz=359						
IHAU	**Haukadalur**	**1.25**	**236**	P	**Pg**	**21 43 33.3**	**-2.0**
	baz=238						
IHLA	**Hella**	**1.31**	**346**	P	**Pn**	**21 43 34.8**	**-0.8**
	baz=345						
IHLA				S	**Sg**	**21 43 53.1**	**-0.4**
	baz=345						
IDIM	**Dimmadalss**	**1.32**	**12**	P	**Pn**	**21 43 34.6**	**-1.1**
	baz=11						
BORG	**Borgarnes**	**1.60**	**274**	Pn	**Pn**	**21 43 38.7**	**-0.8**
	22nm,0.3s,baz=96,slow=7.1,SNR=72						
BORG				Sn	**Sg**	**21 44 01.8**	**-0.9**
	12nm,0.3s,baz=256,slow=22,SNR=2.5						
SCO	**Scoresbysund**	**6.06**	**346**	*i* P	**Pn**	**21 44 43.3**	**+2.6**
SCO				*e*S	**Sg**	**21 46 19.7**	**-5.9**
EKA	**Eskdalemuir Ar**	**11.80**	**136**	Pn	**Pn**	**21 46 00.5**	**+1.3**
	baz=325,slow=13,SNR=11						
FINES	**FINESS Array B**	**19.74**	**79**	P	**Pn**	**21 47 43.6**	**+1.5**
	0.1nm,0.3s,baz=305,slow=9.2,SNR=2.2						
ESDC	**Sonseca Array**	**26.28**	**156**	P	**P**	**21 48 48.3**	**+1.8**
	0.2nm,0.7s,baz=353,slow=9.1,SNR=1.9						
PDAR	**Pinedale Array**	**53.13**	**293**	P	**P**	**21 52 32.2**	**+3.3**
	0.5nm,0.7s,baz=71,slow=6.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P	**P**	**21 52 30.8**	**+1.7**
	0.4nm,0.8s,baz=343,slow=8.5,SNR=2.9						

*IDC **09** 21:44:45.8±1.3, 64°.54N×17°.85W, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.4/55, mbtmp3.5/7, ML3.5/2, MS3.0/11, Ms1 3.1/11, ms1mx2.9/41, Error ellipse: s-maj=43.7km s-min=16.1km az=17.0*
*REY **09** 21:44:45.6, 64°.64N×17°.55W, h7km*
ISC 09 21:44:45.8±0.6, **64°.67N**±0°.02×**17°.62W**±0°.03, **h10**km, **n49**, σ1s**71**/51, **mb3.4**/5, **MS2.8**/5, **Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.06**	**273**	P	**Pg**	**21 44 47.9**	**-0.1**
	baz=292						
IDYN	**Dyngjuhals**	**0.16**	**42**	P	**Pg**	**21 44 49.2**	**-0.2**
	baz=28						
IGRF	**Grimsfjall**	**0.30**	**150**	P	**Pg**	**21 44 50.9**	**-1.1**
	baz=152						
ISKR	**Skrokkalda**	**0.35**	**252**	P	**Pb**	**21 44 52.7**	**-1.4**
	baz=258						
IHUS	**Husbondi**	**0.38**	**183**	P	**Pg**	**21 44 52.2**	**-1.1**
	baz=187						
IHUS				S	**Sg**	**21 44 57.7**	**-0.5**
	baz=187						
IKVE	**Kverkfjoll**	**0.40**	**88**	P	**Pg**	**21 44 52.6**	**-1.2**
	baz=84						
IBJK	**Bruarjokull**	**0.42**	**118**	P	**Pg**	**21 44 53.0**	**-1.2**
	baz=116						
IJOK	**Jokulheimar**	**0.44**	**217**	P	**Pg**	**21 44 53.5**	**-0.9**
	baz=222						
IJOK				S	**Sg**	**21 44 60.0**	**-0.3**
	baz=222						
IVOT	**Vottur**	**0.44**	**155**	P	**Pg**	**21 44 53.0**	**-1.5**
	baz=156						
IKRE	**Kreppuhraun**	**0.54**	**77**	P	**Pg**	**21 44 55.3**	**-1.0**
	baz=73						
IASK	**Askja**	**0.56**	**47**	P	**Pg**	**21 44 56.0**	**-0.7**
	baz=43						
IASK				S	**Sg**	**21 45 04.0**	**-0.2**
	baz=43						
IIEY	**Innrieyrar**	**0.62**	**201**	P	**Pg**	**21 44 56.3**	**-1.5**
	baz=205						
IIEY				S	**Sg**	**21 45 05.0**	**-0.8**
	baz=205						
IMKO	**Mokollar**	**0.63**	**60**	P	**Pg**	**21 44 56.7**	**-1.2**
	baz=56						
ISVA	**Svartarkot**	**0.69**	**13**	P	**Pg**	**21 44 58.2**	**-0.8**
	baz=10						
ISVA				S	**Sb**	**21 45 08.5**	**-1.0**
	baz=10						
IKSK	**Karasker**	**0.71**	**135**	P	**Pg**	**21 44 57.3**	**-2.3**
	baz=135						
IVAT	**Vatnsfell**	**0.74**	**230**	P	**Pg**	**21 44 59.1**	**-1.0**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.82**	**79**	P	**Pg**	**21 44 59.9**	**-1.8**
	baz=77						
IHVE	**Hveravellir**	**0.86**	**284**	P	**Pg**	**21 45 01.2**	**-1.1**
	baz=286						
IADA	**Aoalbol**	**0.94**	**67**	P	**Pg**	**21 45 01.9**	**-1.9**
	baz=65						
IADA				S	**Sg**	**21 45 14.7**	**-1.4**
	baz=65						
IMEL	**Melhnausar**	**0.99**	**24**	P	**Pg**	**21 45 03.2**	**-1.7**
	baz=22						
IREN	**Reynihlio**	**1.03**	**17**	P	**Pg**	**21 45 03.8**	**-1.7**
	baz=15						
ISNB	**Snabyli**	**1.04**	**206**	P	**Pg**	**21 45 03.5**	**-2.2**
	baz=208						
ISNB				S	**Sg**	**21 45 17.5**	**-1.7**
	baz=208						
IKVO	**Krokottuvotn**	**1.09**	**16**	P	**Pb**	**21 45 05.2**	**-1.7**
	baz=14						
IRJU	**Rjupnafell**	**1.15**	**204**	P	**Pb**	**21 45 05.6**	**-2.2**
	baz=206						
IGRS	**Grimsstaoir**	**1.16**	**32**	P	**Pb**	**21 45 05.9**	**-2.0**
	baz=30						
IGYG	**Gygjarholskot**	**1.19**	**252**	P	**Pb**	**21 45 06.6**	**-1.8**
	baz=254						
ISKI	**Skildingahlsh**	**1.23**	**11**	P	**Pn**	**21 45 07.2**	**-1.9**
	baz=9.9						
ISKI				S	**Sb**	**21 45 24.0**	**-1.0**
	baz=9.9						
IHAU	**Haukadalur**	**1.24**	**237**	P	**Pn**	**21 45 07.5**	**-1.6**
	baz=238						
IGHA	**Grjothals**	**1.25**	**18**	P	**Pn**	**21 45 07.5**	**-1.7**
	baz=17						
IGRA	**Granastaoir**	**1.25**	**1**	P	**Pn**	**21 45 07.5**	**-1.8**
	baz=360						
IGRA				S	**Sb**	**21 45 24.9**	**-0.7**
	baz=360						
IDIM	**Dimmadalss**	**1.33**	**12**	P	**Pn**	**21 45 08.8**	**-1.6**
	baz=11						
BORG	**Borgarnes**	**1.59**	**274**	Pn	**Pn**	**21 45 13.0**	**-1.0**
	59nm,0.3s,baz=89,slow=7.0,SNR=19						
BORG				Sn	**Sg**	**21 45 35.5**	**-1.5**
	23nm,0.3s,baz=76,slow=18,SNR=2.2						
JMIC	**Jan Mayen**	**7.21**	**24**	LR	LR	21 48 49.0	
	comp=Z,119nm,18.1s,baz=210,slow=33						
EKA	**Eskdalemuir Ar**	**11.80**	**136**	Pn	**Pn**	**21 47 34.4**	**+0.5**
	baz=323,slow=13,SNR=16						
NOA	**NORSAR Array B**	**13.59**	**92**	LR	LR	21 53 26.3	
	comp=Z,34nm,18.4s,baz=290,slow=38						
SFJD	**Kangerlussuaq**	**13.62**	**295**	LR	LR	21 52 35.9	
	comp=Z,62nm,19.3s,baz=92,slow=35						
HFS	**Hagfors**	**15.10**	**93**	LR	LR	21 54 04.0	
	comp=Z,38nm,18.5s,baz=302,slow=37						
ARCES	**ARCESS Array B**	**17.16**	**55**	LR	LR	21 54 06.5	
	comp=Z,84nm,19.4s,baz=262,slow=32						
FINES	**FINESS Array B**	**19.75**	**79**	P	**Pn**	**21 49 17.6**	**+0.7**
	0.1nm,0.3s,baz=306,slow=3.5,SNR=2.4						
FINES				LR	LR	21 56 16.4	
	comp=Z,46nm,21.3s,baz=281,slow=35						
FRB	**Frobisher Bay**	**21.70**	**291**	LR	LR	21 58 10.9	
	comp=Z,67nm,18.5s,baz=190,slow=37						
KHC	**Kasperske Hory**	**22.72**	**118**	*e*P	**P**	**21 49 52.6**	**+5.1**
DPC	**Dobruska-Polom**	**22.81**	**113**	*e*P	**P**	**21 49 52.5**	**+4.0**
GERES	**GERESS Array B**	**23.00**	**119**	P	**P**	**21 49 52.0**	**+1.5**
	0.6nm,0.8s,baz=318,slow=7.2,SNR=3.4						
GERES				LR	LR	21 58 17.2	
	comp=Z,26nm,21.3s,baz=76,slow=35						
DAVOX	**Davos/Dischmat**	**23.36**	**127**	LR	LR	21 59 57.1	
	comp=Z,29nm,19.4s,baz=272,slow=39						
VRAC	**Vranov**	**23.74**	**114**	LR	LR	21 58 42.0	
	comp=Z,32nm,18.6s,baz=11,slow=35						
ESDC	**Sonseca Array**	**26.28**	**156**	P	**P**	**21 50 22.1**	**+1.0**
	0.7nm,1.0s,baz=350,slow=9.0,SNR=3.4						
ESDC				LR	LR	22 00 50.3	
	comp=Z,112nm,18.1s,baz=140,slow=37						
AKASG	**Malin Array Be**	**27.89**	**97**	P	**P**	**21 50 38.0**	**+2.5**
	0.2nm,0.3s,baz=322,slow=10,SNR=1.5						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**21 54 04.5**	**+0.8**
	0.6nm,0.8s,baz=348,slow=7.9,SNR=3.9						
TXAR	**Lajitas Array**	**62.23**	**280**	P	**P**	**21 55 09.7**	**+2.1**
	0.1nm,0.3s,baz=359,slow=4.5,SNR=2.0						

*JMA **09** 21:47:33.6±0.2, 24°.00N×122°.57E, h17km±3km, M2.9*
*TAP **09** 21:47:33.6, 24°.05N×122°.56E, h21km, ML3.1, D*
ISC 09 21:47:32.8±1.1, **23°.99N**±0°.02×**122°.56E**±0°.02, **h15**km±9km, **n96**, σ0s**83**/168, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.58**	**37**	P	**Pg**	**21 47 44.6**	**+0.4**
JYNG				S	**Sb**	**21 47 51.9**	**-0.8**
YOJ	**Yonaguni jima**	**0.62**	**41**	*i* P	**Pb**	**21 47 45.4**	**0.0**
	baz=54						
YOJ				*e*S	**Sb**	**21 47 53.2**	**-0.8**
	baz=54						
YOJ	**Yonaguni jima**	**0.62**	**41**	P	**Pg**	**21 47 45.5**	**+0.4**
YOJ				S	**Sb**	**21 47 53.3**	**-0.7**
ENAH	**Nanao**	**0.83**	**304**	P	**Pb**	**21 47 48.6**	**-0.2**
	baz=299						
ENAH				*e*S	**Sb**	**21 47 58.9**	**-0.9**
	baz=299						
ENA	**Nanau**	**0.87**	**300**	*e*P	**Pb**	**21 47 49.4**	**-0.2**
	baz=305						
ENA				*e*S	**Sb**	**21 48 00.6**	**-0.4**
	baz=305						
TWD	**Chiawan**	**0.89**	**276**	*e*P	**Pb**	**21 47 48.8**	**-1.1**
	baz=271						
TWD				*e*S	**Sb**	**21 48 01.1**	**-0.5**
	baz=271						
TWC	**Suao**	**0.90**	**314**	*e*P	**Pb**	**21 47 49.8**	**-0.2**
	baz=310						
TWC				*e*S	**Sb**	**21 48 00.4**	**-1.4**
	baz=310						
NACB	**Ninganchiao**	**0.90**	**282**	*e*P	**Pb**	**21 47 50.1**	**0.0**
	baz=260						
ETLH	**Xiulin Townshi**	**1.01**	**283**	*e*P	**Pb**	**21 47 51.8**	**-0.3**
	baz=264						
ETLH				*e*S	**Sg**	**21 48 06.0**	**+0.4**
	baz=264						
EGS		**1.03**	**326**	*e*P	**Pb**	**21 47 52.1**	**-0.2**
	baz=324						
EGS				*e*S	**Sn**	**21 48 05.8**	**-1.1**
	baz=324						
ILA	**Ilan**	**1.07**	**316**	*e*S	**Sn**	**21 48 07.0**	**-0.9**
	baz=313						
EGFH	**Guangfu**	**1.09**	**253**	*e*P	**Pn**	**21 47 52.5**	**-1.0**
	baz=249						
EGFH				*e*S	**Sb**	**21 48 07.2**	**-0.1**
	baz=249						
NTC	**Toucheng**	**1.09**	**322**	*e*P	**Pn**	**21 47 53.8**	**+0.3**
	baz=320						
NTC				*e*S	**Sn**	**21 48 07.3**	**-1.1**
	baz=320						
ENTT	**Nioudou**	**1.12**	**306**	*e*P	**Pb**	**21 47 54.1**	**+0.3**
	baz=302						
ENTT				*e*S	**Sb**	**21 48 07.9**	**-0.3**
	baz=302						
IRIF	**Iriomote-Funau**	**1.12**	**72**	P	**Pn**	**21 47 53.9**	**0.0**
IRIF				S	**Sb**	**21 48 08.2**	**-0.1**
NDT	**Datong Townshi**	**1.14**	**303**	*e*P	**Pb**	**21 47 54.8**	**+0.6**
	baz=299						
NDT				*e*S	**Sb**	**21 48 08.4**	**-0.3**
	baz=299						
HATJ	**Hateruma jima**	**1.14**	**86**	P	**Pn**	**21 47 54.4**	**+0.2**
HATJ				*e*S	**Sn**	**21 48 09.7**	**+0.2**
TWB1	**Santiao Chiao**	**1.14**	**333**	*e*P	**Pb**	**21 47 54.6**	**+0.4**
	baz=342						
TWB1				*e*S	**Sn**	**21 48 09.0**	**-0.7**
	baz=342						
HGSD	**Ruisui**	**1.15**	**245**	*e*P	**Pn**	**21 47 53.1**	**-1.3**
	baz=241						
HGSD				*e*S	**Sb**	**21 48 08.1**	**-1.2**
	baz=241						
NNSH	**Datong**	**1.16**	**292**	*e*P	**Pn**	**21 47 54.6**	**0.0**
	baz=288						
NNSH				*e*S	**Sb**	**21 48 09.7**	**+0.1**
	baz=288						
NNSB	**Datong**	**1.16**	**292**	*e*P	**Pb**	**21 47 54.9**	**+0.2**
	baz=288						
NNSB				*e*S	**Sn**	**21 48 10.0**	**-0.3**
	baz=288						
NNS	**Nan Shan**	**1.18**	**293**	*e*P	**Pn**	**21 47 55.0**	**+0.2**
	baz=289						
NNS				*e*S	**Sn**	**21 48 10.4**	**-0.3**
	baz=289						
TIPB	**Shuangxi**	**1.19**	**326**	*e*P	**Pg**	**21 47 55.6**	**-0.1**
	baz=323						
TIPB				*e*S	**Sn**	**21 48 09.9**	**-0.9**
	baz=323						
WHF	**Hehuan Shan**	**1.20**	**278**	*e*P	**Pn**	**21 47 54.9**	**-0.5**
	baz=259						
WHF				*e*S	**Sn**	**21 48 11.3**	**-0.3**
	baz=259						
FUSS	**Fushou**	**1.23**	**282**	*e*P	**Pn**	**21 47 55.8**	**+0.1**
	baz=278						
FUSS				*e*S	**Sg**	**21 48 12.8**	**+0.1**
	baz=278						
NWLT	**Wulai**	**1.25**	**309**	*e*P	**Pb**	**21 47 56.5**	**+0.5**
	baz=306						
NWLT				*e*S	**Sn**	**21 48 12.2**	**0.0**
	baz=306						
CHGB	**Renai**	**1.27**	**274**	*e*P	**Pn**	**21 47 56.1**	**-0.2**
	baz=256						
CHGB				*e*S	**Sn**	**21 48 13.5**	**+0.3**
	baz=256						
YHNB	**Yeheng**	**1.28**	**302**	*e*P	**Pb**	**21 47 57.0**	**+0.4**
	baz=284						
YHNB				*e*S	**Sn**	**21 48 13.0**	**-0.1**
	baz=284						
NWF	**Wu-fen Shan**	**1.29**	**327**	*e*P	**Pb**	**21 47 57.1**	**+0.2**
	baz=341						
NWF				*e*S	**Sg**	**21 48 14.9**	**+0.3**
	baz=341						
WFSB	**Wu-fen Shan**	**1.29**	**327**	*e*P	**Pb**	**21 47 57.1**	**+0.3**
	baz=341						
WFSB				*e*S	**Sg**	**21 48 13.7**	**-0.8**
	baz=341						
NSK	**Sanguang**	**1.29**	**302**	*e*P	**Pb**	**21 47 57.0**	**+0.1**
	baz=284						
NSK				*e*S	**Sb**	**21 48 13.5**	**+0.1**
	baz=284						
YULB	**Yu-li**	**1.30**	**243**	*e*P	**Pn**	**21 47 55.8**	**-0.7**
	baz=239						
YULB				*e*S	**Sn**	**21 48 13.0**	**-0.7**
	baz=239						
EYUL	**Yuli**	**1.31**	**241**	*e*P	**Pn**	**21 47 55.7**	**-0.8**
	baz=237						
EYUL				*e*S	**Sn**	**21 48 13.1**	**-0.6**
	baz=237						
TDCB	**Techi**	**1.31**	**282**	*e*P	**Pn**	**21 47 57.0**	**+0.3**
	baz=263						
TDCB				*e*S	**Sb**	**21 48 14.0**	**+0.1**
	baz=263						
TWF1	**Yuli**	**1.32**	**242**	*e*P	**Pn**	**21 47 56.4**	**-0.4**
	baz=237						
TWF1				*e*S	**Sn**	**21 48 12.9**	**-1.2**
	baz=237						
VWDT	**VWDT**	**1.32**	**260**	*e*P	**Pn**	**21 47 56.6**	**-0.1**
	baz=256						
VWDT				*e*S	**Sn**	**21 48 14.0**	**0.0**
	baz=256						
TWA	**Mucha**	**1.33**	**318**	*e*P	**Pb**	**21 47 57.7**	**+0.3**
	baz=335						
TWA				*e*S	**Sb**	**21 48 14.5**	**+0.2**
	baz=335						
JKRS	**Kuro-shima**	**1.35**	**79**	P	**Pb**	**21 47 58.2**	**+0.5**
JKRS				S	**Sb**	**21 48 15.6**	**+0.9**
FULB	**Fuli**	**1.40**	**236**	*e*P	**Pn**	**21 47 55.5**	**-2.3**
	baz=219						
FULB				*e*S	**Sn**	**21 48 15.3**	**-0.8**
	baz=219						
CHKT	**Chengkung**	**1.41**	**231**	*e*S	**Sn**	**21 48 13.7**	**-2.5**
	baz=227						
TAP	**Taipei**	**1.42**	**318**	*e*S	**Sb**	**21 48 16.6**	**-0.4**
	baz=333						
YM01	**YM01**	**1.47**	**322**	*e*P	**Pb**	**21 47 59.7**	**-0.1**
	baz=335						
YM01				*e*S	**Sb**	**21 48 18.2**	**0.0**
	baz=335						
YM10	**YM10**	**1.48**	**322**	*e*P	**Pb**	**21 48 00.1**	**+0.1**
	baz=334						
YM10				*e*S	**Sg**	**21 48 19.4**	**-1.0**
	baz=334						
YM11	**YM11**	**1.48**	**323**	*e*P	**Pg**	**21 48 01.6**	**+0.4**
	baz=335						
YM11				*e*S	**Sg**	**21 48 20.3**	**-0.2**
	baz=335						
YM05	**YM05**	**1.48**	**322**	*e*P	**Pb**	**21 47 59.8**	**-0.3**
	baz=334						
YM05				*e*S	**Sg**	**21 48 19.5**	**-1.1**
	baz=334						
SSLB	**Suanglung**	**1.48**	**263**	*e*P	**Pn**	**21 47 59.3**	**+0.3**
	baz=259						
YM08	**YM08**	**1.49**	**324**	*e*P	**Pb**	**21 48 00.5**	**+0.3**
	baz=322						
YM08				*e*S	**Sg**	**21 48 19.9**	**-0.8**
	baz=322						
YM04	**YM04**	**1.49**	**321**	*e*P	**Pb**	**21 47 59.7**	**-0.5**
	baz=334						
YM04				*e*S	**Sb**	**21 48 18.4**	**-0.6**
	baz=334						
JIJ	**Ishigaki jima**	**1.49**	**75**	P	**Pn**	**21 47 59.6**	**+0.6**
JIJ				S	**Sb**	**21 48 18.7**	**-0.3**
WHP	**Taichung City**	**1.50**	**281**	*e*P	**Pb**	**21 48 01.4**	**+0.9**
	baz=264						
WHP				*e*S	**Sb**	**21 48 20.3**	**+0.9**
	baz=264						
YM03	**YM03**	**1.51**	**322**	*e*P	**Pb**	**21 48 01.1**	**+0.6**
	baz=321						
TWS1	**Kuangyinshan**	**1.52**	**317**	*e*S	**Sg**	**21 48 20.8**	**-1.0**
	baz=333						
SMLT	**Sun Moon Lake**	**1.52**	**266**	*e*P	**Pn**	**21 47 59.9**	**+0.3**
	baz=263						
ANP	**Anpu**	**1.52**	**322**	*e*P	**Pb**	**21 48 01.5**	**+0.7**
	baz=334						
ANP				*e*S	**Sb**	**21 48 19.8**	**-0.2**
	baz=334						
EDH	**Donghe**	**1.54**	**229**	*e*P	**Pn**	**21 47 59.0**	**-0.6**
	baz=226						
NTST	**Danshui**	**1.55**	**319**	*e*S	**Sb**	**21 48 20.8**	**+0.2**
	baz=334						
LIOB	**Emei**	**1.56**	**295**	*e*P	**Pb**	**21 48 01.6**	**+0.3**
	baz=292						
LIOB				*e*S	**Sb**	**21 48 22.0**	**+1.2**
	baz=292						
NSTT	**Nanjuang**	**1.56**	**295**	*e*P	**Pb**	**21 48 01.5**	**+0.1**
	baz=291						
NSTT				*e

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JISG				S	Sn	21 48 23.3	-0.2
WNT	**Mingjian** baz=262	**1.72**	**267**	*eP*	**Pb**	**21 48 04.1**	**-0.1**
WNT	baz=262			*eS*	**Sb**	**21 48 26.8**	**+1.2**
CHN5	**Tsauling** baz=242	**1.77**	**258**	*eP*	**Pn**	**21 48 04.4**	**+1.5**
CHN5	baz=242			*eS*	**Sb**	**21 48 27.7**	**+0.7**
TWGBT	**Beinan** baz=215	**1.79**	**230**	*eP*	**Pn**	**21 48 02.6**	**-0.5**
TWGBT	baz=215			*eS*	**Sn**	**21 48 23.5**	**-2.2**
STYT	**Tauyuan** baz=229	**1.85**	**244**	*eP*	**Pn**	**21 48 04.7**	**+0.7**
STYT	baz=229			*eS*	**Sn**	**21 48 27.9**	**+0.8**
WDLH	**Douliu** baz=257	**1.88**	**261**	*eS*	**Sb**	**21 48 31.4**	**+1.4**
TPUB	**Ta-pu** baz=246	**1.90**	**249**	*eP*	**Pn**	**21 48 06.0**	**+1.3**
TPUB	baz=246			*eS*	**Sb**	**21 48 30.9**	**+0.2**
WTP	**Ta-pu** baz=233	**1.93**	**248**	*eP*	**Pn**	**21 48 06.4**	**+1.2**
WTP	baz=233			*eS*	**Sb**	**21 48 32.2**	**+0.5**
WTK	**Tuku** baz=257	**2.01**	**262**	*eP*	**Pb**	**21 48 08.4**	**-0.6**
WTK	baz=257			*eS*	**Sb**	**21 48 34.2**	**+0.3**
SLGT	**Liugui** baz=229	**2.02**	**241**	*eP*	**Pn**	**21 48 07.3**	**+1.0**
SLGT	baz=229			*eS*	**Sb**	**21 48 33.8**	**-0.3**
CHY	**Chiayi** baz=252	**2.02**	**256**	*eS*	**Sb**	**21 48 35.1**	**+1.0**
SGST	**Jiashian** baz=229	**2.03**	**244**	*eP*	**Pn**	**21 48 07.3**	**+0.8**
SGST	baz=229			*eS*	**Sb**	**21 48 33.7**	**-0.7**
CHN1	**Nanshi** baz=243	**2.03**	**247**	*eP*	**Pn**	**21 48 08.4**	**+2.0**
CHN1	baz=243			*eS*	**Sb**	**21 48 35.4**	**+0.9**
TWK	**Hsinying** baz=245	**2.03**	**250**	*eP*	**Pn**	**21 48 08.2**	**+1.6**
TWK	baz=245			*eS*	**Sb**	**21 48 35.4**	**+0.8**
SNST	**Tainan City** baz=244	**2.04**	**248**	*eP*	**Pn**	**21 48 08.1**	**+1.4**
SNST	baz=244			*eS*	**Sb**	**21 48 34.4**	**-0.4**
JTJ	**Tarama**	**2.06**	**71**	P	**Pn**	**21 48 07.9**	**+1.1**
SSD	**Sandimen** baz=226	**2.16**	**236**	*eP*	**Pn**	**21 48 09.3**	**+1.1**
SSD	baz=226			*eS*	**Sn**	**21 48 36.3**	**+1.5**
WSF	**Szhu** baz=257	**2.17**	**261**	*eS*	**Sb**	**21 48 38.1**	**-0.4**
TSMG	**Majia** baz=223	**2.18**	**234**	*eP*	**Pn**	**21 48 09.7**	**+1.3**
ICHU	**Yijhu** baz=249	**2.18**	**254**	*eP*	**Pn**	**21 48 10.1**	**+1.6**
ICHU	baz=249			*eS*	**Sb**	**21 48 38.0**	**-0.9**
SCST	**Cishan** baz=236	**2.19**	**240**	*eP*	**Pb**	**21 48 11.4**	**-0.8**
SCST	baz=236			*eS*	**Sb**	**21 48 40.2**	**+1.0**
MASBT	**Mashibuluo** baz=222	**2.24**	**233**	*eP*	**Pn**	**21 48 10.8**	**+1.4**
MASBT	baz=222			*eS*	**Sn**	**21 48 36.2**	**-0.6**
EAST	**Anshuo** baz=222	**2.25**	**225**	*eP*	**Pn**	**21 48 09.3**	**-0.1**
SCZT	**Fangliau** baz=218	**2.40**	**228**	*eP*	**Pb**	**21 48 14.5**	**-1.3**
HEN	**Hengchun** baz=217	**2.59**	**221**	*eS*	**Sn**	**21 48 46.2**	**+0.8**
TWK1	**Hengchun** baz=215	**2.60**	**219**	*eS*	**Sn**	**21 48 46.0**	**+0.4**
WDGT	**Dungji** baz=250	**2.76**	**255**	*eP*	**Pn**	**21 48 18.0**	**+1.5**
WDGT	baz=250			*eS*	**Sn**	**21 48 50.2**	**+0.7**
PHUB	**P'eng-hu** baz=256	**2.78**	**261**	*eP*	**Pn**	**21 48 17.5**	**+0.7**
PHUB	baz=256			*eS*	**Sn**	**21 48 51.3**	**+1.2**
PNG	**Penghu** baz=257	**2.79**	**262**	*eP*	**Pn**	**21 48 17.6**	**+0.8**
PNG	baz=257			*eS*	**Sn**	**21 48 52.6**	**+2.4**
PTMZ	**Houxiangcun** baz=286	**3.31**	**289**	*eP*	**Pn**	**21 48 24.1**	**+0.1**
XPSS	**Dashiqiu** baz=327	**3.63**	**324**	*eS*	**Sn**	**21 49 10.6**	**-0.4**

IDC 09 21:56:46.5±2.0, 32°.18S×178°.80W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/47, mbtmp3.7/4, ML3.4/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/31, Error ellipse: s-maj=49.9km s-min=34.7km az=65.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera** 0.7nm,0.3s,baz=352,slow=9.5,SNR=12	**6.93**	**208**	Pn	Pn	21 58 27.7	-1.6
URZ	0.8nm,0.3s,baz=28,slow=22,SNR=1.8			Sn	Sn	21 59 41.9	-6.9
URZ	comp=Z,105nm,21.9s,baz=225,slow=32			LR	LR	22 00 26.9	
ASAR	**Alice Springs** 0.3nm,0.5s,baz=109,slow=8.3,SNR=2.3	**42.37**	**269**	P	P	22 04 43.2	+0.4
ASAR	comp=Z,66nm,18.6s,baz=196,slow=34			LR	LR	22 20 51.2	
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=114,slow=8.0,SNR=11	**43.52**	**274**	P	P	22 04 52.0	-0.1
QSPA	**South Pole Qui** 1.3nm,0.9s,baz=28,slow=13,SNR=5.4	**57.93**	**180**	P	P	22 06 40.5	+0.1
H03S2	**Juan Fernandez** baz=236,slow=74,SNR=6.5	**80.05**	**124**	T	T	23 37 24.2	
H03S1	**Juan Fernandez** baz=236,slow=74,SNR=6.9	**80.06**	**124**	T	T	23 37 24.5	
H03S3	**Juan Fernandez** baz=236,slow=74,SNR=8.5	**80.07**	**124**	T	T	23 37 23.4	
H03N3	**Juan Fernandez** baz=240,slow=72,SNR=11	**80.25**	**123**	T	T	23 37 31.9	
H03N2	**Juan Fernandez** baz=240,slow=72,SNR=6.9	**80.26**	**123**	T	T	23 37 31.0	
H03N1	**Juan Fernandez** baz=240,slow=72,SNR=20	**80.27**	**123**	T	T	23 37 30.8	
PDAR	**Pinedale Array** comp=Z,35nm,18.5s,baz=167,slow=33	**97.89**	**44**	LR	LR	22 50 22.7	
FINES	**FINESS Array B** 0.6nm,0.6s,baz=54,slow=3.6,SNR=5.7	**146.56**	**338**	PKPbc	PKPdf	22 16 28.1	+0.5

*IDC **09** 21:57:30.0±1.2, 19°.33N×108°.80W, h0km, mb4.0/7, mb1 4.3/11, mb1mx4.1/40, mbtmp4.0/11, ML3.7/4, MS4.0/26, Ms1 4.0/26, ms1mx3.9/37, Error ellipse: s-maj=43.9km s-min=15.7km az=61.0*

*MEX **09** 21:57:29.1±1.1, 18°.73N×108°.39W, h10km, MD4.4*

*GCMT **09** 21:57:31.0±0.4, 19°.45N±0°.02×108°.70W±0°.02, h17km±1km, MW4.9/111, Moment Tensor Solution. s21,c23; s111,c152; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.23±.09; $M_{r\theta}$-2.19±.08; $M_{r\phi}$2.42±.09; $M_{\theta\theta}$-0.68±.22; $M_{\theta\phi}$-0.97±.07; $M_{\phi\phi}$0.34±.20; Best double couple: $M_0$2.61900×10^16^ NP1:ϕ_s33.00000°, δ73.00000°, λ-4.00000°. NP2:ϕ_s124.00000°, δ86.00000°, λ-163.00000°. Principal axes: T 2.6930, Plg9.0000°, Azm257.0000°; N -0.1510, Plg72.0000°, Azm136.0000°; P -2.5450, Plg15.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 21:57:32.0±2.4, 19°.37N±0°.05×108°.81W±0°.06, h10km±1km, mb4.6/140 Error ellipse: s-maj=10.7km s-min=6.8km az=122.0*

*UNK **09** 21:57:32.0, 19°.37N×108°.81W, h10km*

ISC 09 21:57:33.6±0.5, 19°.33N±0°.06×108°.74W±0°.05, h22km, n251, σ1°18/186, mb4.6/43, MS4.0/26, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H06E		**2.14**	**255**	*eP*	**Pn**	**21 58 05.7**	**-2.2**
H06E				*eS*	**Sn**	**21 58 33.3**	**-0.5**
H06E1	**SOCORRO T-PHAS**	**2.14**	**255**	Pn	**Pn**	**21 58 06.0**	**-2.0**
H06E1				Sn	**Sn**	**21 58 33.5**	**-0.4**
H06E1	SNR=873			T	T	22 00 25.5	
H06N1	**SOCORRO T-PHAS**	**2.18**	**258**	Pn	Pn	21 58 05.9	-2.6
H06N1				Sn	**Sn**	**21 58 28.6**	**-6.2**
H06N	**Isla Socorro**	**2.18**	**258**	*eP*	**Pn**	**21 58 06.8**	**-1.7**
H06N				*eS*	**Sn**	**21 58 34.4**	**-0.5**
H06S1	**SOCORRO T**	**2.18**	**255**	Pn	**Pn**	**21 58 07.2**	**-1.3**
H06S1				Sn	**Sn**	**21 58 35.3**	**+0.4**
CJM	**Chamela**	**3.49**	**87**	*eP*	Pn	21 58 18.6	-8.0
CJM				*i* S	Sn	21 58 56.0	-11
ANIG	**Ahuacatlan**	**4.31**	**66**	*eP*	Pn	21 58 34.8	-3.2
ANIG				*i* S	**Sn**	**21 59 22.0**	**-5.7**
SLBS	**Sierra La Lagu**	**4.47**	**346**	Pn	**Pn**	**21 58 38.2**	**-1.9**
COIG	**Colima**	**4.77**	**91**	*eP*	Pn	21 58 34.7	-10
COIG				*i* S	Sn	21 59 23.4	-16
LPIG	**La Paz** 4.4nm,0.3s,baz=161,slow=9.2,SNR=5.3	**4.96**	**343**	Pn	**Pn**	**21 58 45.2**	**-1.6**
LPIG	6.1nm,0.3s,baz=137,slow=14,SNR=0.9			Sn	**Sn**	**21 59 44.7**	**+1.2**
LPIG	comp=Z,4μm,19.2s,baz=160,slow=34			LR	LR	22 00 20.3	
ZAIG	**Zacatecas**	**6.70**	**58**	Pn	**Pn**	**21 59 09.9**	**-1.0**
MOIG	**Morelia**	**7.13**	**86**	Pn	**Pn**	**21 59 18.9**	**+2.1**
SRIG	**Santa Rosalia**	**8.57**	**339**	Pn	**Pn**	**21 59 37.9**	**+1.5**
TLIG	**Tlapa**	**9.81**	**99**	Pn	**Pn**	**21 59 54.5**	**+0.9**
HSIG		**9.85**	**349**	Pn	**Pn**	**21 59 53.8**	**-0.1**
TX31	**Lajitas Ar. Si**	**10.97**	**24**	Pn	**Pn**	**22 00 09.3**	**0.0**
TX32	**Lajitas Array**	**10.97**	**24**		**Pn**	**22 00 08.8**	**-0.6**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=199,slow=15,SNR=28	**10.97**	**24**	Pn	**Pn**	**22 00 08.5**	**-0.9**
TXAR	comp=Z,680nm,21.1s,baz=0.0,slow=35			LR	LR	22 03 53.6	
TXAR	**Lajitas Array**	**10.97**	**24**	Pn	**Pn**	**22 00 09.2**	**-0.2**
319A	**Douglas**	**12.00**	**358**		**Pn**	**22 00 24.0**	**+0.6**
833A	**Chaparral WMA,** baz=226	**12.37**	**42**	P	**Pn**	**22 00 29.8**	**+1.4**
833A	**Chaparral WMA,**	**12.37**	**42**	Pn	**Pn**	**22 00 29.5**	**+1.1**
MNTX	**Cornudas Mount** baz=195,SNR=13	**12.68**	**13**	P	**Pn**	**22 00 33.4**	**+0.8**
MNTX	**Cornudas Mount**	**12.68**	**13**	Pn	**Pn**	**22 00 33.0**	**+0.4**
SFX	**San Felipe**	**12.90**	**336**	Pn	**Pn**	**22 00 34.9**	**-0.7**
TUC	**Tucson** baz=172	**13.05**	**352**	P	**Pn**	**22 00 39.3**	**+1.6**
TUC	**Tucson**	**13.05**	**352**	Pn	**Pn**	**22 00 39.9**	**+2.1**
214A	**Organ Pipe Nat** baz=163	**13.09**	**345**	P	**Pn**	**22 00 39.8**	**+1.5**
214A	**Organ Pipe Nat**	**13.09**	**345**		**Pn**	**22 00 40.5**	**+2.2**
SPX	**San Pedro Mart**	**13.14**	**334**	Pn	**Pn**	**22 00 39.2**	**0.0**
121A	**Cookes Peak, D** baz=184	**13.17**	**4**	P	**Pn**	**22 00 41.5**	**+2.0**
121A	**Cookes Peak, D**	**13.17**	**4**	Pn	**Pn**	**22 00 42.7**	**+3.2**
JCT	**Junction City** baz=218	**13.73**	**34**	P	**Pn**	**22 00 49.2**	**+2.1**
JCT	**Junction City**	**13.73**	**34**	Pn	**Pn**	**22 00 49.1**	**+2.1**
113A	**Mohawk Valley,**	**14.12**	**342**	Pn	**Pn**	**22 00 54.4**	**+2.1**
ESJX	**Sierra Juarez**	**14.19**	**334**		**Pn**	**22 00 52.7**	**-0.7**
GLA	**Glamis** baz=157,SNR=5.9	**14.71**	**339**	P	**Pn**	**22 01 01.4**	**+1.0**
GLA	**Glamis**	**14.71**	**339**		**Pn**	**22 00 59.2**	**-1.2**
RMX	**La Rumorosa**	**14.76**	**335**	Pn	Pn	22 00 56.6	-4.6
Y22D	**IRIS PASSCAL I** baz=187	**14.77**	**6**	P	**Pn**	**22 01 02.1**	**+0.8**
IKP	**In-Ko-Pah, Jac** baz=152	**14.82**	**335**	P	**Pn**	**22 01 02.7**	**+0.8**
BNM	**Barren Site**	**14.88**	**7**	Pn	**Pn**	**22 01 03.3**	**+0.5**
SWSC	**Sam W. Stewart** baz=154	**14.96**	**336**	P	**Pn**	**22 01 03.8**	**+0.2**
MONP2	**Monument Peak** baz=151	**15.15**	**335**	P	**Pn**	**22 01 07.2**	**+0.7**
435B	**Jarrell** baz=224	**15.22**	**39**	P	**Pn**	**22 01 06.9**	**-0.3**
109C	**Camp Elliot, M** baz=149	**15.44**	**333**	P	**Pn**	**22 01 10.7**	**+0.7**
BC3	**Big Chuckawall** baz=156,SNR=7.2	**15.47**	**339**	P	**Pn**	**22 01 10.9**	**+0.3**
MSTX	**Muleshoe** baz=202,SNR=8.4	**15.52**	**19**	P	**Pn**	**22 01 12.2**	**+1.1**
MSTX	**Muleshoe** comp=Z,27nm,1.1s	**15.52**	**19**	IAmb	IAmb	22 01 18.2	
ABTX	**Abilene, Hawle** baz=214	**15.54**	**30**	P	**Pn**	**22 01 11.7**	**+0.3**
ABTX	**Abilene, Hawle** comp=Z,36nm,1.3s	**15.54**	**30**	IAmb	IAmb	22 01 19.3	
PDMCI	**Parker Dam,Lak** baz=161,SNR=10	**15.66**	**343**	P	**Pn**	**22 01 14.1**	**+1.2**
ANMO	**Albuquerque** comp=Z,0.0nm,0.3s,baz=198,slow=20,SNR=5.9	**15.68**	**7**	Pn	**Pn**	**22 01 14.3**	**+1.0**
ANMO	comp=Z,74nm,18.1s,baz=0.5,slow=36			LR	LR	22 06 56.9	
ANMO	**Albuquerque** baz=188	**15.68**	**7**	P	**Pn**	**22 01 14.1**	**+0.7**
ANMO	**Albuquerque**	**15.68**	**7**		**Pn**	**22 01 14.9**	**+1.5**
W18A	**Petrified Fore** baz=177,SNR=5.1	**15.75**	**357**	P	**Pn**	**22 01 15.3**	**+1.1**
W18A	**Petrified Fore** comp=Z,73nm,1.2s	**15.75**	**357**	IAmb	IAmb	22 01 20.6	
HKT	**Hockley**	**15.78**	**45**	Pn	**Pn**	**22 01 12.0**	**-2.4**
PFO	**Pinyon Flats O** comp=Z,0.1nm,0.3s,baz=178,slow=9.4,SNR=3.8	**15.80**	**336**	Pn	**Pn**	**22 01 14.5**	**-0.3**
PFO	comp=Z,2μm,21.6s,baz=155,slow=34			LR	LR	22 06 25.7	
PFO	**Pinyon Flats O** baz=152	**15.80**	**336**	P	**Pn**	**22 01 14.9**	**0.0**
IRM	**Iron Mountain** baz=158,SNR=20	**15.83**	**340**	P	**Pn**	**22 01 15.8**	**+0.7**
BELC	**Belle Mtn. Jos** baz=155,SNR=15	**15.97**	**338**	P	**Pn**	**22 01 18.1**	**+1.0**
MURC	**Murrieta** baz=150	**16.09**	**334**	P	**Pn**	**22 01 20.1**	**+1.7**
SCI2	**San Clemente I** baz=145	**16.18**	**329**	P	**Pn**	**22 01 20.4**	**+0.8**
WHTX	**Lake Whitney,** baz=222	**16.18**	**37**	P	**Pn**	**22 01 19.3**	**-0.3**
WUAZ	**Wupatki** baz=171	**16.29**	**352**	P	**Pn**	**22 01 22.6**	**+1.5**
WUAZ	**Wupatki** comp=Z,48nm,1.3s	**16.29**	**352**	IAmb	IAmb	22 01 40.1	
W13A	**Hualapai Mount** comp=Z,63nm,1.7s	**16.35**	**345**	IAmb	IAmb	22 01 25.1	
BBRC	**Big Bear Solar** baz=152	**16.55**	**336**	P	**Pn**	**22 01 25.7**	**+1.1**
GMRC	**Granite Mounta** baz=157,SNR=19	**16.57**	**340**	P	**Pn**	**22 01 26.0**	**+1.3**
FMP	**Fort Macarthur** baz=147	**16.66**	**331**	P	**Pn**	**22 01 28.0**	**+2.3**
HEC	**Hector,Ludlow** baz=155,SNR=6.7	**16.84**	**338**	P	**Pn**	**22 01 29.4**	**+1.4**
RRX	**Edison Barstow** baz=153	**17.12**	**336**	P	**Pn**	**22 01 33.0**	**+1.5**
DECC	**Green Verdugo** baz=148	**17.14**	**332**	P	**Pn**	**22 01 32.0**	**+0.3**
TUQ	**Turquoise Moun** baz=157,SNR=23	**17.25**	**340**	P	**Pn**	**22 01 35.0**	**+1.8**
GSC	**Goldstone, Bar** baz=154,SNR=11	**17.43**	**337**	P	**Pn**	**22 01 36.2**	**+0.8**
EDW2	**Edwards Air Fo** baz=150	**17.52**	**334**	P	**Pn**	**22 01 36.9**	**+0.3**
OSI	**Osito Audit: C** baz=148	**17.61**	**332**	P	**Pn**	**22 01 38.2**	**+0.6**
WMOK	**Wichita Mounta** baz=213	**17.70**	**28**	P	**Pn**	**22 01 38.3**	**-0.4**
NATX	**Nacogdoches** baz=229	**17.71**	**43**	P	**Pn**	**22 01 39.1**	**+0.3**
SHOC	**Shoshone, Teco** baz=156	**17.79**	**340**	P	**Pn**	**22 01 40.5**	**+0.7**
MVCO	**Mesa Verde** baz=181,SNR=12	**17.81**	**1**	P	**Pn**	**22 01 41.0**	**+0.7**
MVCO	**Mesa Verde** comp=Z,61nm,1.5s	**17.81**	**1**	IAmb	IAmb	22 02 08.2	
LRMC	**Laurel Mtn Rad** baz=152,SNR=12	**17.92**	**336**	P	**Pn**	**22 01 42.2**	**+0.7**
SBC	**Santa Barbara** baz=144	**17.93**	**329**	P	**Pn**	**22 01 42.3**	**+0.8**
APG	**El Apazote** comp=Z,0.2nm,0.3s,baz=245,slow=12,SNR=5.0	**17.98**	**101**	P	**Pn**	**22 01 43.0**	**+0.5**
ARVC	**Arvin** baz=148	**18.09**	**332**	P	**Pn**	**22 01 44.1**	**+0.6**
T25A	**Trinidad** baz=193,SNR=8.4	**18.14**	**11**	P	**Pn**	**22 01 44.8**	**+0.5**
PKM	**Mcpherson Peak**	**18.34**	**330**	P	**P**	**22 01 47.9**	**+1.1**
MPMC	**Manual Prospec** baz=153,SNR=21	**18.36**	**337**	P	**P**	**22 01 48.0**	**+1.1**
ISA	**Isabella, Lake** baz=150	**18.40**	**334**	P	**P**	**22 01 47.8**	**+0.6**
ISA	**Isabella, Lake** comp=Z,65nm,2.0s	**18.40**	**334**	IAmb	IAmb	22 01 49.9	
S22A	**4UR Ranch, Cre** baz=186	**18.42**	**5**	P	**P**	**22 01 47.7**	**0.0**
FURC	**Furnace Creek,** baz=155,SNR=6.8	**18.50**	**339**	P	**P**	**22 01 49.2**	**+1.0**
SDCO	**Great Sand Dun** baz=190,SNR=15	**18.56**	**8**	P	**P**	**22 01 50.1**	**+0.9**
SDCO	**Great Sand Dun**	**18.56**	**8**	P	**P**	**22 01 49.4**	**+0.2**
SDCO	comp=Z,50nm,1.8s			IAmb	IAmb	22 01 53.5	
TPNV	**Topopah Spring** baz=158,SNR=14	**18.74**	**341**	P	**P**	**22 01 52.8**	**+1.6**
TPNV	**Topopah Spring** comp=Z,101nm,2.0s	**18.74**	**341**	IAmb	IAmb	22 01 55.2	
SMMC	**Simmler** baz=145	**18.77**	**330**	P	**P**	**22 01 52.5**	**+1.2**
VES	**Vestal, Richgr** baz=148,SNR=5.5	**18.81**	**333**	P	**P**	**22 01 53.1**	**+1.5**
PRN	**Pahroc Range**	**18.83**	**344**	P	**P**	**22 01 52.6**	**+0.5**
CWC	**Cottonwood Cre** baz=152	**18.92**	**336**	P	**P**	**22 01 53.7**	**+0.6**
PV07	**Paradox Valley** comp=Z,41nm,1.5s	**19.04**	**0**	IAmb	IAmb	22 01 58.1	
GRAC	**Grapevine Rang** baz=155	**19.15**	**339**	P	**P**	**22 01 56.6**	**+1.1**
VOG	**Valley Oaks Go** baz=148	**19.34**	**333**	P	**P**	**22 01 57.8**	**+0.4**
TIN	**Tinemaha, Big** baz=152	**19.52**	**337**	P	**P**	**22 02 00.5**	**+1.0**
Q24A	**Divide** baz=190	**19.81**	**8**	P	**P**	**22 02 02.5**	**-0.5**
Q24A	**Divide**	**19.81**	**8**	P	**P**	**22 02 02.4**	**-0.5**
R11A	**Troy Canyon, C** baz=161,SNR=18	**19.86**	**344**	P	**P**	**22 02 04.0**	**+0.6**
Z41A	**Richland Creek** baz=230	**19.87**	**43**	P	**P**	**22 02 04.0**	**+0.7**
Z41A	**Richland Creek**	**19.87**	**43**	P	**P**	**22 02 02.2**	**-1.1**
Z41A	comp=Z,47nm,1.4s			IAmb	IAmb	22 02 07.0	
MLAC	**Mammoth, Mammo** baz=152	**20.25**	**336**	P	**P**	**22 02 08.4**	**+0.8**
MIAR	**Mount Ida** baz=226	**20.26**	**39**	P	**P**	**22 02 07.4**	**-0.2**
MIAR	**Mount Ida**	**20.26**	**39**	P	**P**	**22 02 06.9**	**-0.7**
OMMB	**Old Mammoth Mi** comp=Z,29nm,1.2s	**20.30**	**336**	IAmb	IAmb	22 02 14.2	
KSCO	**Kaye Shedlock'** baz=197	**20.31**	**14**	P	**P**	**22 02 08.0**	**-0.2**
MDPB	**Devils Postpil** comp=Z,37nm,1.1s	**20.34**	**336**	IAmb	IAmb	22 02 14.5	
T35A	**Sooner Cattle** comp=Z,29nm,1.1s	**20.53**	**29**	IAmb	IAmb	22 02 21.8	
ISCO	**Idaho Springs** baz=189,SNR=8.3	**20.57**	**7**	P	**P**	**22 02 11.1**	**-0.1**
W39A	**Magazine** baz=224	**20.61**	**37**	P	**P**	**22 02 10.9**	**-0.4**
W39A	**Magazine** comp=Z,44nm,1.6s	**20.61**	**37**	IAmb	IAmb	22 02 17.5	
X40A	**Basin Creek Fa** baz=227	**20.67**	**40**	P	**P**	**22 02 11.4**	**-0.6**
X40A	**Basin Creek Fa** comp=Z,47nm,1.7s	**20.67**	**40**	IAmb	IAmb	22 02 17.8	
NV11	**Mina Array Sit** comp=Z,73nm,1.8s	**20.72**	**339**	IAmb	IAmb	22 02 19.5	
O20A	**White River Ci** baz=182,SNR=8.6	**20.73**	**1**	P	**P**	**22 02 13.3**	**+0.4**
O20A	**White River Ci** comp=Z,33nm,1.2s	**20.73**	**1**	IAmb	IAmb	22 02 14.8	
NVAR	**Mina Array Bea** comp=Z,2.9nm,0.7s,baz=168,slow=12,SNR=26	**20.77**	**338**	P	**P**	**22 02 14.2**	**+1.0**
NVAR	comp=Z,636nm,21.4s,baz=141,slow=34			LR	LR	22 09 23.9	
VBMS	**Vicksburg** baz=236	**20.79**	**48**	P	**P**	**22 02 12.6**	**-0.7**
CBKS	**Cedar Bluff** baz=205	**20.92**	**20**	P	**P**	**22 02 12.9**	**-1.9**
RYN	**Ryan** comp=Z,53nm,1.9s	**21.02**	**338**	IAmb	IAmb	22 02 24.2	
DUG	**Dugway, Tooele** baz=170,SNR=28	**21.08**	**351**	P	**P**	**22 02 17.3**	**+0.8**
UALR	**University of** comp=Z,30nm,1.4s	**21.16**	**40**	P	**P**	**22 02 18.4**	**+1.1**
UALR				IAmb	IAmb	22 02 31.5	
WAKR	**Walker** comp=Z,32nm,1.1s	**21.24**	**336**	IAmb	IAmb	22 02 23.5	
W41B	**Gary Mavity, V** baz=227	**21.49**	**39**	P	**P**	**22 02 20.5**	**-0.2**
W41B	**Gary Mavity, V** comp=Z,30nm,1.3s	**21.49**	**39**	IAmb	IAmb	22 02 28.8	
WHAR	**Wooly Hollow** comp=Z,42nm,1.3s	**21.54**	**39**	IAmb	IAmb	22 02 29.4	
N23A	**Red Feather La** baz=187,SNR=8.0	**21.62**	**6**	P	**P**	**22 02 22.3**	**-0.2**
PNTR	**Pine Nut** comp=Z,29nm,1.0s	**21.82**	**337**	IAmb	IAmb	22 02 28.8	
TCUT	**Toone Canyon**	**21.83**	**355**	P	**P**	**22 02 24.3**	**-0.4**
X43A	**Marvell** baz=231	**21.91**	**43**	P	**P**	**22 02 23.9**	**-1.3**
U40A	**Yellville** baz=224	**21.96**	**36**	P	**P**	**22 02 25.1**	**-0.9**
VCNR	**Virginia City** comp=Z,32nm,1.1s	**22.02**	**337**	IAmb	IAmb	22 02 30.7	
ELK	**Elko** comp=Z,50nm,1.6s	**22.05**	**347**	IAmb	IAmb	22 02 29.9	
PHWY	**Pilot Hill** comp=Z,35nm,1.6s	**22.07**	**7**	IAmb	IAmb	22 02 29.4	
PAHR	**Pah Rah Range** comp=Z,28nm,1.2s	**22.28**	**338**	IAmb	IAmb	22 02 33.1	
OGNE	**Ogallala** baz=197	**22.29**	**13**	P	**P**	**22 02 28.7**	**-0.8**
KSU1	**Kansas State U** baz=212	**22.32**	**25**	P	**P**	**22 02 28.9**	**-0.8**
RWWY	**Rawlins** comp=Z,43nm,1.6s	**22.32**	**3**	IAmb	IAmb	22 02 33.3	
HWUT	**Hardware Ranch** comp=Z,26nm,1.2s	**22.33**	**354**	IAmb	IAmb	22 02 32.5	
BRAL	**Brewton** baz=244	**22.83**	**55**	P	**P**	**22 02 33.8**	**-1.5**
BOAB	**BOACO BROADBA**	**23.20**	**104**	P	**P**	**22 02 40.3**	**+1.2**
K22A	**Casper** baz=186,SNR=11	**23.32**	**4**	P	**P**	**22 02 39.7**	**-0.6**
PDAR	**Pinedale Array** comp=Z,1.7nm,0.8s,baz=162,slow=10,SNR=12	**23.37**	**358**	P	**P**	**22 02 40.6**	**-0.3**
PDAR	comp=Z,510nm,18.3s,baz=185,slow=36			LR	LR	22 11 36.6	
W45A	**Hickory Valley**	**23.39**	**44**	P	**P**	**22 02 40.7**	**-0.2**
T42A	**Van Buren** comp=Z,51nm,2.0s	**23.44**	**38**	IAmb	IAmb	22 02 58.0	
AHID	**Auburn Hatcher**	**23.45**	**356**	P	**P**	**22 02 40.6**	**-1.0**
AHID	comp=Z,45nm,1.9s			IAmb	IAmb	22 03 05.6	
R40A	**Maddies Statio** comp=Z,19nm,1.4s	**23.70**	**34**	IAmb	IAmb	22 02 50.5	
O03E	**Paynes Creek** baz=148,SNR=6.2	**23.71**	**335**	P	**P**	**22 02 44.4**	**+0.4**
LRAL	**Lakeview Retre** baz=240	**23.74**	**51**	P	**P**	**22 02 44.6**	**+0.3**
LRAL	**Lakeview Retre**	**23.74**	**51**	P	**P**	**22 02 44.7**	**+0.3**
LRAL	comp=Z,14nm,1.2s			IAmb	IAmb	22 03 00.6	
BGNE	**Belgrade** baz=206	**23.78**	**20**	P	**P**	**22 02 43.5**	**-1.1**
BGNE	**Belgrade**	**23.78**	**20**	P	**P**	**22 02 43.9**	**-0.7**
250A	**Grady**	**23.79**	**54**	P	**P**	**22 02 44.1**	**-0.7**
ACON	**Acoyapa**	**23.82**	**104**	P	**P**	**22 02 46.9**	**+1.6**
PLAL	**Pickwick Lake** comp=Z,14nm,1.1s	**24.03**	**45**	IAmb	IAmb	22 03 23.4	
CCM	**Cathedral Cave** baz=224	**24.08**	**36**	P	**P**	**22 02 46.7**	**-0.7**
CCM	**Cathedral Cave**	**24.08**	**36**	P	**P**	**22 02 47.1**	**-0.3**
CCM	comp=Z,28nm,1.5s			IAmb	IAmb	22 02 54.0	
P38A	**Dawn** comp=Z,16nm,1.1s	**24.10**	**30**	IAmb	IAmb	22 02 48.6	
KMRM	**Mail Ridge**	**24.47**	**331**	P	**P**	**22 02 51.4**	**+0.3**
FVM	**French Village** comp=Z,25nm,1.4s	**24.48**	**37**	IAmb	IAmb	22 02 56.1	
WVOR	**

baz=167,SNR=9.5
HLID Hailey 24.62 350 IAmb IAmb 22 02 54.0
comp=Z,12nm,1.1s
N02D Trinity Center 24.66 334 P **P** **22 02 52.6 -0.1**
baz=147
JTS Las Juntas de 24.66 108 LR LR 22 11 12.6
comp=Z,107nm,19.8s,baz=346,slow=33
FLWY Flagg Ranch 24.73 357 IAmb IAmb 22 03 48.5
comp=Z,26nm,1.6s
MFID Camas Ranch 24.74 348 IAmb IAmb 22 02 54.8
comp=Z,17nm,1.5s
WVT Waverly 24.86 43 P **P** **22 02 54.1 -0.4**
baz=233
WVT Waverly 24.86 43 P **P** **22 02 55.0 +0.4**
WVT IAmb IAmb 22 03 02.0
comp=Z,11nm,1.3s
M04C Macdoel 25.00 336 P **P** **22 02 55.8 -0.1**
baz=150
KHMM Horse Mountain 25.01 332 IAmb IAmb 22 02 59.5
comp=Z,20nm,1.1s
RSSD Black Hills 25.03 8 P **P** **22 02 55.7 -0.5**
baz=191
RSSD Black Hills 25.03 8 P **P** **22 02 57.4 +1.1**
RSSD IAmb IAmb 22 02 58.6
comp=Z,14nm,1.3s
H17A Grant Village 25.04 357 IAmb IAmb 22 03 09.7
comp=Z,27nm,1.4s
YBH Yreka Blue Hor 25.30 335 LR LR 22 12 47.5
comp=Z,271nm,18.1s,baz=158,slow=36
FPAL Fort Paine 25.50 49 IAmb IAmb 22 03 08.9
comp=Z,19nm,1.1s
L04D Klamath Falls 25.55 336 P **P** **22 03 00.5 -0.4**
baz=149,SNR=5.5
L02E Cave Junction 26.01 334 P **P** **22 03 05.2 +0.2**
baz=147
J05D Fort Rock, OR 26.09 339 P **P** **22 03 06.0 +0.1**
baz=152,SNR=6.9
BOZ Bozeman (W) 26.30 355 P **P** **22 03 08.0 +0.3**
baz=174
BOZ Bozeman (W) 26.30 355 P **P** **22 03 07.7 0.0**
BOZ IAmb IAmb 22 03 13.1
comp=Z,30nm,1.8s
J04D Umpqua Nationa 26.36 338 P **P** **22 03 08.2 -0.2**
baz=151
ECSD EROS Data Cent 26.37 20 P **P** **22 03 08.2 +0.1**
baz=207
PINE Pine Mountain 26.45 340 IAmb IAmb 22 03 10.8
comp=Z,18nm,1.1s
K02D Willamette Mer 26.49 335 P **P** **22 03 09.5 +0.1**
baz=147,SNR=7.5
GOGA Godfrey 26.54 53 P **P** **22 03 08.0 -1.8**
baz=244
I04A Tendick Farm, 26.95 338 P **P** **22 03 14.1 +0.6**
baz=151
J01E Myrtle Point 26.99 335 P **P** **22 03 14.4 +0.7**
baz=147
WCI Wyandotte Cave 27.11 41 P **P** **22 03 14.6 -0.3**
baz=232
I03D Drain, OR 27.21 336 P **P** **22 03 15.3 -0.4**
baz=149
TKL Tuckaleechee C 27.36 48 LR LR 22 15 22.3
comp=Z,275nm,18.2s,baz=240,slow=39
LAO LASA Array 27.36 4 P **P** **22 03 16.3 -0.8**
baz=185
I02D Swisshome 27.75 336 P **P** **22 03 21.1 +0.6**
baz=148
MSO Missoula 27.75 352 P **P** **22 03 20.1 -0.6**
baz=170,SNR=7.0
G05D Wamic, OR 27.87 341 P **P** **22 03 22.0 +0.3**
baz=154
TZTN Tazewell 27.96 47 IAmb IAmb 22 03 31.4
comp=Z,21nm,1.2s
E04D Cinebar 29.43 340 P **P** **22 03 36.0 +0.5**
baz=153
T54A Tazewell 29.59 48 P **P** **22 03 36.9 -0.3**
baz=241
W57A Gilead 29.88 52 P **P** **22 03 39.8 +0.2**
baz=246
B08A Colville Reser 30.20 346 P **P** **22 03 42.2 -0.1**
ULM Lac du Bonnet 32.51 15 LR LR 22 17 22.3
comp=Z,382nm,19.6s,baz=175,slow=37
OTAV Otavalo 35.24 119 P **P** **22 04 28.9 +1.7**
OTAV IAmb IAmb 22 04 31.7
comp=Z,15nm,1.4s
BBB Bella Bella 36.12 340 LR LR 22 19 10.1
comp=Z,231nm,20.8s,baz=166,slow=36
TAOE Nuku Hiva Isla 41.75 231 *e*LR LR 22 16 42.2
comp=Z,389nm,25.8s
TAOE Nuku Hiva Isla 41.75 231 *e*T T 22 49 42.7
comp=Z,38nm,0.2s
YKA Yellowknife Ar 43.31 356 P **P** **22 05 32.3 -1.2**
comp=Z,1.3nm,0.8s,baz=170,slow=7.5,SNR=3.2
YKA LR LR 22 24 14.6
comp=Z,377nm,18.3s,baz=0.0,slow=37
BCAR Beaver Creek A 49.20 341 P **P** **22 06 20.1 +0.2**
EGAK Eagle 50.29 343 P **P** **22 06 28.6 +0.5**
EGAK IAmb IAmb 22 06 38.3
comp=Z,5.3nm,0.9s
IL31 52.00 340 P **P** **22 06 40.1 -0.8**
IL31 IAmb IAmb 22 06 41.8
comp=Z,14nm,1.4s
ILAR Eielson Array 52.00 340 P **P** **22 06 40.9 -0.1**
comp=Z,2.4nm,0.8s,baz=151,slow=6.5,SNR=24
ILAR LR LR 22 26 43.1
comp=Z,101nm,20.4s,baz=155,slow=34
ILAR Eielson Array 52.00 340 P **P** **22 06 40.2 -0.7**
WRH Wood River Hil 52.19 340 P **P** **22 06 42.8 +0.5**
WRH IAmb IAmb 22 06 44.5
comp=Z,6.4nm,1.0s
POKR Poker Flat Res 52.41 340 P **P** **22 06 43.3 -0.7**
baz=132
NEA2 Nenana 52.59 339 P **P** **22 06 45.2 -0.2**
baz=130
LPAZ La Paz 53.36 129 P **P** **22 06 52.4 0.0**
comp=Z,1.4nm,0.7s,baz=333,slow=6.7,SNR=7.9
LPAZ LR LR 22 26 58.0
comp=Z,78nm,19.9s,baz=308,slow=33
LPAZ La Paz 53.36 129 P **P** **22 06 53.2 +0.8**
PPT Papeete 54.35 230 LR LR 22 24 46.7
comp=Z,138nm,19.9s,baz=18,slow=30
PPT2 Papeete2 54.37 230 *e*LR LR 22 22 35.0
comp=Z,344nm,25.2s
COLD Coldfoot 54.65 342 P **P** **22 07 00.7 +0.4**
baz=130
IMAR Indian Mountai 55.01 339 P **P** **22 07 01.8 -1.2**
TOLK Toolik Lake Re 55.39 343 P **P** **22 07 05.4 -0.4**
baz=132
TBI Tubuai 58.13 225 *e*LR LR 22 24 10.0
comp=Z,296nm,27.0s
H03N2 Juan Fernandez 59.69 151 T T 23 12 32.8
baz=329,slow=77,SNR=30
H03N1 Juan Fernandez 59.70 151 T T 23 12 26.0
baz=329,slow=77,SNR=71
H03N3 Juan Fernandez 59.71 151 T T 23 12 24.2
baz=329,slow=77,SNR=62
RAR Rarotonga 64.17 234 LR LR 22 28 09.9
comp=Z,283nm,21.9s,baz=101,slow=29
CPUP Villa Florida 67.45 131 P **P** **22 08 27.9 0.0**
comp=Z,2.1nm,0.9s,baz=276,slow=9.2,SNR=2.7
BDFB Brasilia 69.10 116 P **P** **22 08 39.6 +1.1**
comp=Z,0.9nm,0.4s,baz=236,slow=7.3,SNR=3.3
PLCA Paso Flores 69.51 150 LR LR 22 32 34.7
comp=Z,233nm,19.8s,baz=358,slow=30
BORG Borgarnes 71.60 27 LR LR 22 38 58.1
comp=Z,72nm,19.0s,baz=287,slow=35
PETK Petropavlovsk- 76.87 322 LR LR 22 36 09.3
comp=Z,52nm,21.7s,baz=110,slow=30
SPITS Spitsbergen Ar 77.88 10 LR LR 22 44 44.5
comp=Z,383nm,18.3s,baz=315,slow=36
ARCES ARCESS Array B 85.62 15 LR LR 22 48 39.0
comp=Z,72nm,21.4s,baz=235,slow=36
NOA NORSAR Array B 86.67 25 LR LR 22 48 25.9
comp=Z,46nm,20.1s,baz=295,slow=35
ESDC Sonseca Array 88.66 48 LR LR 22 51 52.2
comp=Z,51nm,18.3s,baz=160,slow=37
NRIK Noril'sk 90.80 354 LR LR 22 52 19.5
comp=Z,88nm,21.0s,baz=20,slow=36
DZM Mont Dzumac 92.51 248 *e*LR LR 22 40 15.5
comp=Z,474nm,29.2s
GERES GERESS Array B 95.02 34 LR LR 22 52 12.1
comp=Z,64nm,19.8s,baz=291,slow=34
KEST Kesra 99.81 47 LR LR 22 55 05.6
comp=Z,50nm,20.9s,baz=287,slow=35
WRA Warramunga Arr 120.92 258 PKP **PKPdf** **22 16 24.0 -1.0**
comp=Z,0.6nm,1.0s,baz=76,slow=2.0,SNR=2.2

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*IDC **09** 21:58:25.1±3.1, 5°.56S×151°.58E, h58km±32km, mb3.9/3, mb1 4.2/3, mb1mx3.4/43, mbtmp4.2/3, Error ellipse: s-maj=94.8km s-min=22.0km az=118.0*
*NEIC **09** 21:58:25.7±0.9, 5°.5S±0°.3×151°.5E±0°.6, h67km±14km, mb4.2/5, Error ellipse: s-maj=97.4km s-min=18.8km az=118.0*
ISC 09 21:58:24.4±2.3, 5°.6S±0°.3×151°.7E±0°.4, h57km, n12, σ1§38/13, mb4.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.33**	**15**	P		**Pn**		**21 58 46.3**	**-0.5**
	126nm,0.3s,baz=154,slow=1.9,SNR=58								
KRVT				S		**Sn**		**21 59 04.0**	**+0.5**
	159nm,0.3s,baz=131,slow=18,SNR=18								
RABL	**Rabaul**	**1.48**	**19**			**Pn**		**21 58 49.4**	**+0.5**
PMG	**Port Moresby**	**5.87**	**230**	S		**Sn**		**22 00 55.6**	**+0.8**
	2.5nm,0.3s,baz=131,slow=18,SNR=2.8								
WB0	**Warramunga Arr**	**21.94**	**229**	P		**P**		**22 03 14.8**	**+1.4**
WB0					IAmb	IAmb		22 03 47.1	
	comp=Z,9.0nm,1.4s								
WR0	**Warramunga Arr**	**21.95**	**228**	P		**P**		**22 03 14.6**	**+1.1**
WR0					IAmb	IAmb		22 03 54.5	
	comp=Z,19nm,1.8s								
WRAB	**Tennant Creek**	**22.07**	**228**	P		**P**		**22 03 11.9**	**-3.0**
WB2	**Warramunga Arr**	**22.08**	**228**	P		**P**		**22 03 12.8**	**-2.1**
WB2					IAmb	IAmb		22 03 18.1	
	comp=Z,6.0nm,0.6s								
WRA	**Warramunga Arr**	**22.09**	**228**	P		**P**		**22 03 15.1**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=52,slow=9.9,SNR=55								
AS31	**Alice Springs**	**24.82**	**222**	P		**P**		**22 03 41.6**	**+0.2**
ASAR	**Alice Springs**	**24.82**	**222**	P		**P**		**22 03 42.2**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=58,slow=8.9,SNR=31								
FITZ	**Fitzroy Crossi**	**28.31**	**242**	P		**P**		**22 04 12.5**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=75,slow=10,SNR=10.0								
TORD	**Torodi Ar. Bea**	**149.49**	**286**	PKPbc		**PKPbc**		**22 18 07.9**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=75,slow=2.2,SNR=8.5								

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*IDC **09** 21:59:44.1±2.0, 18°.82S×177°.75W, h540km±25km, mb3.2/9, mb1 3.4/11, mb1mx3.1/48, mbtmp4.2/11, Error ellipse: s-maj=30.0km s-min=14.4km az=158.0*
*NEIC **09** 21:59:44.6±2.2, 18°.7S±0°.3×177°.8W±0°.1, h547km±11km, mb4.0/5, Error ellipse: s-maj=51.3km s-min=10.7km az=160.0*
ISC 09 21:59:44.2±0.7, 18°.7S±0°.2×177°.8W±0°.1, h550km, n17, σ1§42/18, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.44**	**51**	P		**P**		**22 01 36.3**	**-0.3**
	8.1nm,0.3s,baz=214,slow=18,SNR=8.0								
AFI				S		**S**		**22 03 05.4**	**-3.3**
	6.9nm,0.3s,baz=330,slow=20,SNR=4.6								
DZM	**Mont Dzumac**	**15.20**	**254**	P		**P**		**22 02 56.6**	**+0.7**
	0.5nm,0.3s,baz=85,slow=16,SNR=4.0								
CTA	**Charters Tower**	**33.94**	**262**	P		**P**		**22 05 42.9**	**+0.5**
	3.0nm,0.4s,baz=96,slow=11,SNR=8.7								
CTAO	**Charters Tower**	**33.94**	**262**	P		**P**		**22 05 40.5**	**-1.9**
CTAO					IAmb	IAmb		22 05 43.8	
	comp=Z,5.3nm,0.7s								
STKA	**Stephens Creek**	**38.82**	**242**	P		**P**		**22 06 22.9**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=84,slow=11,SNR=7.3								
STKA	**Stephens Creek**	**38.82**	**242**	IAmb		IAmb		22 06 42.0	
	comp=Z,6.9nm,1.7s								
JAY	**Jayapura**	**43.72**	**287**	P		**P**		**22 07 02.5**	**+1.1**
	comp=Z,4.3nm,0.5s,baz=93,slow=5.5,SNR=4.8								
WB2	**Warramunga Arr**	**45.10**	**260**	P		**P**		**22 07 10.9**	**-1.1**
WRA	**Warramunga Arr**	**45.11**	**260**	P		**P**		**22 07 11.5**	**-0.6**
	comp=Z,2.3nm,0.4s,baz=97,slow=7.6,SNR=56								
AS31	**Alice Springs**	**45.19**	**255**	P		**P**		**22 07 12.5**	**-0.2**
AS31					IAmb	IAmb		22 07 13.9	
	comp=Z,1.6nm,0.5s								
ASAR	**Alice Springs**	**45.19**	**255**	P		**P**		**22 07 12.8**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=88,slow=8.3,SNR=46								
ASAR				S		**S**		**22 13 10.4**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=87,slow=16,SNR=4.1								
FITZ	**Fitzroy Crossi**	**53.52**	**261**	P		**P**		**22 08 14.2**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=114,slow=10.0,SNR=2.4								
VNDA	**Vanda**	**59.74**	**185**	P		**P**		**22 08 55.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=32,slow=3.2,SNR=3.2								
NVAR	**Mina Array Bea**	**79.55**	**43**	P		**P**		**22 10 56.3**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=216,slow=7.6,SNR=1.9								
TXAR	**Lajitas Array**	**85.88**	**57**	P		**P**		**22 11 28.3**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=216,slow=6.7,SNR=12								
ARCES	**ARCESS Array B**	**127.18**	**350**	PKP		**PKPdf**		**22 17 45.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=357,slow=1.8,SNR=5.5								
TORD	**Torodi Ar. Bea**	**174.48**	**174**	PKPab		**PKPab**		**22 20 28.2**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=193,slow=4.4,SNR=1.8								

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*NEIC **09** 22:01:29.8±0.8, 30°.9S±0°.2×179°.8W±0°.3, h334km±9km, mb4.0/4, Error ellipse: s-maj=31.0km s-min=23.6km az=88.0*
*IDC **09** 22:01:31.6±4.8, 31°.20S×179°.94W, h342km±44km, mb2.9/2, mb1 3.3/3, mb1mx3.0/38, mbtmp3.8/3, Error ellipse: s-maj=50.7km s-min=30.7km az=29.0*
*WEL **09** 22:01:37.9±0.6, 32°.9×17°.9W×2°.3, h288km±10km, M4.1/25, mB4.6/17, ML5.0/1, MLv4.8/25, Mw(mB)3.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1*
ISC 09 22:01:32.0±0.8, 31°.41S±0°.08×179°.8W±0°.2, h350km, n55, σ2§24/84, mb3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.67**	**37**	P		**Pn**		**22 02 28.6**	**+0.1**
GLKZ				S		**S**		**22 03 10.2**	**-3.8**
MXZ	**Matakaoa Point**	**6.34**	**194**	P		**Pn**		**22 03 07.6**	**+1.0**
MXZ				S		**S**		**22 04 22.3**	**-1.0**
MXZ	**Matakaoa Point**	**6.34**	**194**	Pn		**Pn**		**22 03 09.2**	**+2.7**
WMGZ	**Waiomatatini S**	**6.57**	**193**	P		**Pn**		**22 03 12.0**	**+2.8**
WMGZ				S		**S**		**22 04 26.7**	**-1.4**
HAZ	**Te Kaha**	**6.65**	**197**	P		**Pn**		**22 03 11.2**	**+1.2**
HAZ				S		**S**		**22 04 29.4**	**-0.4**
PUZ	**Puketiti**	**6.84**	**193**	P		**Pn**		**22 03 16.1**	**+3.8**
PUZ				S		**S**		**22 04 31.8**	**-2.3**
RUGZ	**Raukumara Rang**	**6.87**	**197**	P		**Pn**		**22 03 15.3**	**+2.5**
RUGZ				S		**S**		**22 04 31.1**	**-3.7**
CNGZ	**Carnagh Statio**	**7.25**	**193**	P		Pn		22 03 22.7	+5.5
CNGZ				S		**S**		**22 04 39.8**	**-3.0**
TKGZ	**Te Karaka**	**7.28**	**195**	P		**Pn**		**22 03 19.1**	**+1.7**
TKGZ				S		**S**		**22 04 41.6**	**-1.8**
URZ	**Urewera**	**7.30**	**200**	P		**Pn**		**22 03 18.9**	**+1.2**
	2.6nm,0.3s,baz=74,slow=20,SNR=46								
URZ				S		**S**		**22 04 42.7**	**-1.0**
	3.4nm,0.3s,baz=107,slow=19,SNR=11								
URZ	**Urewera**	**7.30**	**200**	P		**Pn**		**22 03 18.1**	**+0.4**
URZ				S		**S**		**22 04 42.0**	**-1.7**
URZ	**Urewera**	**7.30**	**200**			**Pn**		**22 03 21.5**	**+3.8**
URZ						**S**		**22 04 45.5**	**+1.8**
MUGZ	**Murupara**	**7.60**	**201**	P		**Pn**		**22 03 24.4**	**+3.1**
MUGZ				S		**S**		**22 04 50.9**	**+0.6**
RTZ	**Ruatahuna**	**7.67**	**199**	P		**Pn**		**22 03 24.9**	**+2.8**
RTZ				S		**S**		**22 04 49.7**	**-2.1**
SNGZ	**Shannon Statio**	**7.73**	**197**	P		**Pn**		**22 03 26.4**	**+3.6**
SNGZ				S		**S**		**22 04 51.4**	**-1.7**
KNZ	**Kokohu**	**7.88**	**195**	P		**Pn**		**22 03 26.9**	**+2.4**
KNZ				S		**S**		**22 04 54.1**	**-2.2**
TLZ	**Tolley Road**	**7.91**	**208**	P		Pn		22 03 30.9	+6.0
RAHZ	**Arahi**	**7.92**	**198**	P		**Pn**		**22 03 28.6**	**+3.5**
RAHZ				S		**S**		**22 04 55.8**	**-1.5**
MTHZ	**Maungataniwha**	**7.93**	**200**	P		**Pn**		**22 03 28.2**	**+3.1**
MTHZ				S		**S**		**22 04 56.1**	**-1.4**
MRHZ	**Matea Rd**	**8.04**	**202**	P		**Pn**		**22 03 29.4**	**+2.9**
MRHZ				S		**S**		**22 04 59.4**	**-0.5**
NMHZ	**Naumai**	**8.16**	**199**	P		**P**		**22 03 31.6**	**+0.6**
NMHZ				S		**S**		**22 05 01.7**	**-0.9**
ARHZ	**Aropaoanui**	**8.27**	**198**	P		**P**		**22 03 32.1**	**+0.1**
ARHZ				S		**S**		**22 05 01.8**	**-3.0**
BKZ	**Black Stump Fm**	**8.32**	**200**	P		**P**		**22 03 32.6**	**0.0**
BKZ				S		**S**		**22 05 04.1**	**-1.9**
HIZ	**Hauiti**	**8.35**	**210**	P		**P**		**22 03 36.7**	**+3.9**
MCHZ	**McNeill Hill**	**8.52**	**199**	P		**P**		**22 03 35.5**	**+0.7**
MCHZ				S		**S**		**22 05 08.4**	**-1.8**
WTVZ	**West Tongariro**	**8.57**	**205**	P		**P**		**22 03 35.7**	**+0.1**
KWHZ	**Kaweka Forest**	**8.58**	**200**	P		**P**		**22 03 35.7**	**+0.2**
KWHZ				S		**S**		**22 05 10.6**	**-1.1**
OTVZ	**Oturere**	**8.59**	**204**	P		**P**		**22 03 35.1**	**-0.6**
BHHZ	**Black Hill Sta**	**8.75**	**202**	P		**Pn**		**22 03 36.0**	**+1.0**
WNVZ	**Wahianoa**	**8.76**	**204**	P		**P**		**22 03 37.4**	**-0.2**
MOVZ	**Moawhango**	**8.78**	**203**	P		**P**		**22 03 37.4**	**-0.3**
KRHZ	**Kereru**	**8.80**	**200**	P		**P**		**22 03 37.5**	**-0.4**
KAHZ	**Kahuranaki**	**8.80**	**197**	P		**P**		**22 03 38.2**	**+0.2**
PKVZ	**Pokaka**	**8.81**	**206**	P		**P**		**22 03 38.6**	**+0.4**
PKVZ				S		**S**		**22 05 15.6**	**-1.2**
PXZ	**Pawanui**	**9.03**	**197**	P		**P**		**22 03 40.3**	**-0.1**
PXZ				S		**S**		**22 05 16.5**	**-4.9**
PNHZ	**Pukenui**	**9.10**	**200**	P		**P**		**22 03 40.3**	**-1.0**
PNHZ				S		**S**		**22 05 18.8**	**-4.2**
TSZ	**Takapari Road**	**9.30**	**201**	P		**P**		**22 03 42.6**	**-0.9**
TSZ				S		**S**		**22 05 22.0**	**-5.4**
PRHZ	**Porangahau**	**9.31**	**197**	P		**P**		**22 03 43.6**	**0.0**
PRHZ				S		**S**		**22 05 26.0**	**-1.6**
DVHZ	**Dannevirke**	**9.46**	**199**	P		**Pn**		**22 03 44.3**	**+1.0**
DVHZ				S		**S**		**22 05 26.9**	**-4.1**
ANWZ	**Angora Road**	**9.53**	**198**	P		**P**		**22 03 46.2**	**+0.2**
ANWZ				S		**S**		**22 05 29.7**	**-2.7**
BFZ	**Birch Farm**	**9.80**	**198**	P		**P**		**22 03 49.1**	**+0.1**
BFZ				S		**S**		**22 05 32.7**	**-5.6**
TIWZ	**Tintock**	**9.98**	**199**	P		**Pn**		**22 03 50.2**	**+0.6**
TIWZ				S		**S**		**22 05 37.5**	**-5.0**
ASAR	**Alice Springs**	**41.55**	**269**	P		**P**		**22 08 45.9**	**-0.8**
	0.3nm,0.5s,baz=104,slow=7.7,SNR=1.7								
ASAR				PcP		**PcP**		**22 10 36.2**	**-0.4**
	0.2nm,0.3s,baz=128,slow=3.9,SNR=1.9								
WB2	**Warramunga Arr**	**42.62**	**274**	P		**P**		**22 08 54.0**	**-1.3**
WB2					IAmb	IAmb		22 09 37.9	
	comp=Z,14nm,1.6s								
WRA	**Warramunga Arr**	**42.63**	**274**	P		**P**		**22 08 54.2**	**-1.1**
	comp=Z,0.4nm,0.2s,baz=113,slow=8.0,SNR=13								
WB0	**Warramunga Arr**	**42.66**	**274**	P		**P**		**22 08 54.5**	**-1.1**
QSPA	**South Pole Qui**	**58.70**	**180**	P		**P**		**22 10 56.4**	**+2.8**
QSPA					IAmb	IAmb		22 10 57.6	
	comp=Z,4.4nm,0.7s								
TMUT	**Trail Mountain**	**94.86**	**46**	P		P		22 14 09.6	-5.5
WRAK	**Wrangell Islan**	**96.30**	**24**			pP		22 15 36.4	-5.9
ARCES	**ARCESS Array B**	**139.23**	**347**	PKP		**PKPdf**		**22 20 18.1**	**+1.4**
	comp=Z,2.5nm,1.0s,baz=48,slow=4.2,SNR=1.8								
FINES	**FINESS Array B**	**145.54**	**338**	PKPbc		**PKPdf**		**22 20 28.1**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=42,slow=4.3,SNR=37								
NB2	**NORSAR Subarra**	**149.49**	**349**	PKP		**PKPbc**		**22 20 39.0**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=15,slow=2.6								
NOA	**NORSAR Array B**	**149.49**	**349**	PKPbc		**PKPbc**		**22 20 38.7**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=16,slow=4.2,SNR=3.8								
AKASG	**Malin Array Be**	**151.14**	**320**	PKPbc		**PKPbc**		**22 20 42.7**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=46,slow=2.5,SNR=2.9								
TORD	**Torodi Ar. Bea**	**161.78**	**185**	PKPab		**PKPab**		**22 21 40.4**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=168,slow=4.2,SNR=10								

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*IDC **09** 22:29:02.0±0.7, 7°.70N×127°.12E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/47, mbtmp4.0/14, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/35, Error ellipse: s-maj=27.3km s-min=14.9km az=82.0*
*MAN **09** 22:29:04.7, 7°.64N×127°.24E, h25km, MS4.2*
*NEIC **09** 22:29:07.9±2.1, 7°.61N±0°.06×127°.12E±0°.10, h52km±8km, mb4.3/17, Error ellipse: s-maj=15.1km s-min=7.2km az=110.0*
ISC 09 22:29:05.4±1.9, 7°.65N±0°.04×127°.11E±0°.08, h27km±13km, n47, σ1§33/54, mb4.2/18, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BIP	**Bislig**	**1.02**	**304**	‖	*e*P		**Pn**	**22 29 22.7**	**-1.3**
BIP					*e*S		**Sb**	**22 29 36.6**	**-1.0**
MATI	**Mati**	**1.09**	**230**	*e*P			**Pn**	**22 29 24.3**	**-0.7**
MATI					*e*S		**Sb**	**22 29 41.8**	**+2.1**
DAV	**Davao City (W)**	**1.62**	**249**	Pn			**Pb**	**22 29 34.5**	**-0.2**
	50nm,0.3s,baz=67,slow=5.9,SNR=12								
DAV				Sn			**Sb**	**22 29 55.2**	**+0.5**
	90nm,0.3s,baz=131,slow=20,SNR=6.3								
DAV				LR		LR		22 30 29.4	
	comp=Z,981nm,20.4s,baz=65,slow=53								
DAV	**Davao City (W)**	**1.62**	**249**				**Pb**	**22 29 35.1**	**+0.5**
BUKP	**Musuan**	**2.04**	**277**	*e*P			**Pb**	**22 29 41.0**	**-0.8**
DDMP	**Don Marcelino,**	**2.07**	**222**	*e*P			**Pn**	**22 29 38.9**	**+0.5**
DDMP					*e*S		**Sn**	**22 30 01.8**	**-1.5**
KCP	**Kidapawan**	**2.10**	**252**	↑*i*P			**Pb**	**22 29 42.1**	**-0.8**
KCP					*i* S		**Sn**	**22 30 00.2**	**-4.0**
GLSP	**General Luna,**	**2.33**	**336**	*e*P			**Pn**	**22 29 41.3**	**-0.7**
GLSP					*e*S		**Sn**	**22 30 10.8**	**+1.1**
PAGZ	**Pagadian**	**3.70**	**273**	*e*P			**Pn**	**22 30 04.2**	**+3.4**
PAGZ					*e*S		**Sn**	**22 30 44.5**	**+1.0**
SBUM	**Sibu**	**15.70**	**252**	Pn			**Pn**	**22 32 44.6**	**-0.3**
SBUM					IAmb	IAmb		22 32 53.2	
	comp=Z,12nm,0.8s								
JAY	**Jayapura**	**16.91**	**126**	Pn			**P**	**22 33 01.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=0.0,slow=4.0,SNR=3.8								
YOJ	**Yonaguni jima**	**17.17**	**347**	Pn			**P**	**22 33 04.1**	**-0.8**
KNRA	**Kununurra**	**23.23**	**176**	P			**P**	**22 34 10.1**	**-0.5**
JNU	**Nakatsue**	**25.59**	**7**	P			**P**	**22 34 33.6**	**+1.2**
FITZ	**Fitzroy Crossi**	**25.62**	**183**	P			**P**	**22 34 33.9**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=3.1,slow=4.8,SNR=7.4								
FITZ	**Fitzroy Crossi**	**25.62**	**183**	P			**P**	**22 34 32.4**	**-0.4**
ENH	**Enshi**	**27.92**	**326**	P			**P**	**22 34 52.6**	**-0.9**
WRA	**Warramunga Arr**	**28.33**	**166**	P			**P**	**22 34 57.2**	**0.0**
	comp=Z,0.7nm,0.8s,baz=343,slow=11,SNR=4.7								
WB2	**Warramunga Arr**	**28.33**	**166**	P			**P**	**22 34 56.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**29.42**	**294**	LR			LR	22 47 21.0	
	comp=Z,26nm,19.3s,baz=60,slow=37								
KSRS	**Korea Array**	**29.68**	**1**	P			**P**	**22 35 10.8**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=177,slow=9.4,SNR=2.5								
AS31	**Alice Springs**	**31.82**	**168**	P			**P**	**22 35 28.3**	**+0.2**
ASAR	**Alice Springs**	**31.82**	**168**	P			**P**	**22 35 30.8**	**+2.7**
	comp=Z,0.4nm,0.8s,baz=348,slow=7.0,SNR=4.2								
ASAR				PcP			**PcP**	**22 38 19.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=351,slow=2.4,SNR=1.6								
ASAR	**Alice Springs**	**31.82**	**168**	P			**P**	**22 35 24.0**	**-4.1**
USRK	**Ussuriysk Ar.**	**36.66**	**6**	P			**P**	**22 36 11.8**	**+2.1**
	comp=Z,2.7nm,0.8s,baz=201,slow=8.7,SNR=7.0								
USA0B	**Ussuriysk Arra**	**36.66**	**6**	P			**P**	**22 36 08.3**	**-1.4**
STKA	**

PRYS				*e*S	**Sg**	**22 35 27.3**	**-1.1**
PRYS				AML	AML	22 35 40.2	
	comp=Z,113nm,0.3s						
ERPM	**east rand prop**	**0.73**	**83**	*e*P	**Pg**	**22 35 25.4**	**-0.8**
ERPM				*e*S	**Sb**	**22 35 36.9**	**-0.2**
ERPM				AML	AML	22 35 43.8	
	comp=Z,92nm,0.5s						
KSR	**Koster**	**0.75**	**320**	*e*P	**Pg**	**22 35 27.1**	**+0.4**
KSR				*e*S	**Sb**	**22 35 38.6**	**+0.8**
KSR				AML	AML	22 35 43.0	
	comp=Z,735nm,0.1s						
SLR	**Silverton**	**1.03**	**48**	*e*P	**Pb**	**22 35 32.3**	**+0.2**
SLR				*e*S	**Sb**	**22 35 45.9**	**+0.2**
SLR				AML	AML	22 35 50.7	
	comp=Z,112nm,0.3s						
SWZ	**Schweizer**	**2.02**	**248**	*e*P	**Pn**	**22 35 48.5**	**+2.2**
SWZ				AML	AML	22 36 22.7	
	comp=Z,49nm,0.2s						
LBTB	**Lobatse**	**2.18**	**310**	*i* P	**Pb**	**22 35 51.4**	**-0.2**
LBTB				*i* S	**Sb**	**22 36 19.4**	**+0.7**
LBTB	**Lobatse**	**2.18**	**310**	*e*P	**Pn**	**22 35 50.3**	**+1.8**
LBTB				*e*S	**Sn**	**22 36 17.9**	**+2.3**
LBTB				AML	AML	22 36 21.6	
	comp=Z,163nm,0.3s						
LBTB	**Lobatse**	**2.18**	**310**	*i* P	**Pb**	**22 35 51.4**	**-0.2**
LBTB				*i* S	**Sb**	**22 36 19.4**	**+0.7**
BOSA	**Boshof**	**2.91**	**221**	*i* P	**Pn**	**22 36 00.8**	**+2.3**
BOSA				*i* S	**Sb**	**22 36 39.1**	**-0.7**
BOSA	**Boshof**	**2.91**	**221**	*e*P	**Pn**	**22 36 00.5**	**+1.9**
BOSA				*e*S	**Sn**	**22 36 34.7**	**+1.1**
BOSA				AML	AML	22 36 47.4	
	comp=Z,18nm,0.3s						
BOSA	**Boshof**	**2.91**	**221**	*i* P	**Pn**	**22 36 00.8**	**+2.3**
BOSA				*i* S	**Sb**	**22 36 39.1**	**-0.7**
POGA	**Pongola**	**3.92**	**104**	*e*P	**Pn**	**22 36 13.3**	**+0.9**
POGA				*e*S	**Sn**	**22 36 57.9**	**-0.5**
POGA				AML	AML	22 37 15.3	
	comp=Z,47nm,0.4s						
MOPA	**Mopani**	**4.62**	**52**	*e*P	**Pn**	**22 36 23.9**	**+1.9**
MOPA				*e*S	**Sn**	**22 37 15.0**	**-0.7**
MOPA				AML	AML	22 37 44.9	
	comp=Z,8.7nm,0.3s						
MSNA	**Messina**	**4.70**	**31**	*e*P	**Pn**	**22 36 22.9**	**-0.2**
MSNA				*e*S	**Sn**	**22 37 16.1**	**-1.7**
MSNA				AML	AML	22 37 48.6	
	comp=Z,13nm,0.3s						
UPI	**Upington**	**5.82**	**249**	*e*P	**Pn**	**22 36 40.6**	**+2.0**
UPI				*e*S	**Sn**	**22 37 43.9**	**-1.5**
UPI				AML	AML	22 37 54.5	
	comp=Z,2.1nm,0.7s						
BLWY	**Bulawayo**	**6.36**	**10**	*i* P	**Pn**	**22 36 45.5**	**-0.5**
BLWY				*i* S	**Sn**	**22 37 55.2**	**-3.5**
BLWY	**Bulawayo**	**6.36**	**10**	*i* P	**Pn**	**22 36 45.5**	**-0.5**
BLWY				*i* S	**Sn**	**22 37 55.2**	**-3.5**
SOE	**Somerset East**	**6.47**	**194**	*e*P	**Pn**	**22 36 49.4**	**+2.0**
SOE				*e*S	**Sn**	**22 37 58.5**	**-2.8**
SOE				AML	AML	22 38 03.4	
	comp=Z,4.7nm,0.6s						
GRAN	**Grantham**	**7.43**	**217**	*e*P	**Pn**	**22 37 01.7**	**+1.0**
GRAN				*e*S	**Sn**	**22 38 22.6**	**-2.5**
GRAN				AML	AML	22 38 28.6	
	comp=Z,2.9nm,0.7s						
SUR	**Sutherland**	**8.27**	**223**	*i* P	**Pn**	**22 37 15.4**	**+3.1**
SUR				*i* S	**Sn**	**22 38 47.3**	**+1.4**
SUR	**Sutherland**	**8.27**	**223**	*i* P	**Pn**	**22 37 15.4**	**+3.1**
SUR				*i* S	**Sn**	**22 38 47.3**	**+1.4**
CVNA	**Calvinia**	**8.39**	**231**	*e*P	**Pn**	**22 37 14.6**	**+0.8**
CVNA				*e*S	**Sn**	**22 38 46.0**	**-2.8**
CVNA				AML	AML	22 39 14.7	
	comp=Z,3.5nm,0.3s						
KOMG	**Komaggas**	**9.40**	**247**	*e*P	**Pn**	**22 37 28.8**	**+1.2**
KOMG				*e*S	**Sn**	**22 39 09.4**	**-4.0**
KOMG				AML	AML	22 39 46.4	
	comp=Z,2.7nm,0.6s						

*MAN **09** 22:47:48.0, 5°.78N×126°.16E, h147km, MS3.5*
*NEIC **09** 22:47:52.3±1.0, 5°.97N±0°.09×126°.0E±0°.2, h148km±4km, mb4.1/7, Error ellipse: s-maj=34.3km s-min=9.5km az=75.0*
*IDC **09** 22:47:53.2±0.7, 6°.00N×125°.97E, h152km±8km, mb3.7/5, mb1 3.9/5, mb1mx3.3/36, mbtmp4.1/5, Error ellipse: s-maj=61.3km s-min=14.9km az=76.0*

ISC 09 22:47:51.9±0.8, 5°.97N±0°.05×126°.06E±0°.09, h144km±6km, n24, σ0s99/31, mb3.9/8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.37**	**291**	*e*P	**Pn**	**22 48 10.7**	**-1.2**
DDMP				*e*S	**Sn**	**22 48 27.2**	**+0.2**
MATI	**Mati**	**0.99**	**12**	*e*P	**Pn**	**22 48 14.4**	**-1.6**
MATI				*e*S	**Sn**	**22 48 34.8**	**+0.5**
DAV	**Davao City (W)**	**1.19**	**336**	P	**Pn**	**22 48 18.3**	**+0.5**
	158nm,0.3s,baz=119,slow=0.5,SNR=9.6						
DAV				S	**Sn**	**22 48 39.6**	**+2.0**
	264nm,0.3s,baz=86,slow=22,SNR=15						
DAV	**Davao City (W)**	**1.19**	**336**		**Sn**	**22 48 38.6**	**+1.0**
KCP	**Kidapawan**	**1.41**	**317**	*i*P	**Pn**	**22 48 20.8**	**+0.7**
KCP				*i* S	**Sn**	**22 48 41.9**	**+0.3**
SKMP	**Bagumbayan, Su**	**1.60**	**290**	*e*P	**Pn**	**22 48 20.7**	**-1.3**
SKMP				*e*S	**Sn**	**22 48 45.8**	**+0.6**
BUKP	**Musuan**	**2.13**	**332**	*e*P	**Pn**	**22 48 28.8**	**+0.5**
BUKP				*e*S	**Sn**	**22 48 56.1**	**-0.2**
PAGZ	**Pagadian**	**3.24**	**305**	*e*P	**Pn**	**22 48 42.1**	**-0.1**
TNTI	**Ternate**	**5.33**	**166**	Pn	**Pn**	**22 49 10.0**	**+0.3**
TNTI					**Sn**	**22 50 09.1**	**-1.3**
LUWI	**Luwuk**	**7.70**	**205**	Pn	**Pn**	**22 49 41.2**	**-0.2**
KNRA	**Kununurra**	**21.68**	**173**	P	**P**	**22 52 31.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.92**	**181**	P	**P**	**22 52 54.3**	**+1.5**
	1.2nm,0.4s,baz=3.2,slow=6.6,SNR=13						
WB0	**Warramunga Arr**	**26.86**	**162**	P	**P**	**22 53 19.8**	**+0.5**
WRA	**Warramunga Arr**	**27.01**	**163**	P	**P**	**22 53 20.8**	**+0.1**
	1.1nm,0.5s,baz=330,slow=10,SNR=24						
AS31	**Alice Springs**	**30.44**	**166**	P	**P**	**22 53 50.7**	**-0.3**
ASAR	**Alice Springs**	**30.44**	**166**	P	**P**	**22 53 52.1**	**+1.1**
	2.2nm,0.4s,baz=342,slow=6.9,SNR=33						
ASAR				PcP	**PcP**	**22 56 47.1**	**-0.1**
	0.4nm,0.6s,baz=337,slow=1.9,SNR=4.4						
KSAR	**Wonju Array Be**	**31.37**	**3**	P	**P**	**22 53 57.6**	**-1.4**
XAN	**Xi'an**	**32.13**	**333**	P	**P**	**22 54 05.8**	**0.0**
XAN				IAmb	IAmb	22 54 11.3	
	comp=Z,3.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**38.43**	**7**	P	**P**	**22 55 00.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=186,slow=8.4,SNR=4.3						
STKA	**Stephens Creek**	**40.45**	**159**	P	**P**	**22 55 17.9**	**+1.5**
	comp=Z,4.3nm,0.5s,baz=340,slow=8.6,SNR=7.5						
STKA	**Stephens Creek**	**40.45**	**159**	IAmb	IAmb	22 55 40.9	
	comp=Z,8.8nm,1.9s						
LSA	**Lhasa**	**40.48**	**310**	P	**P**	**22 55 15.4**	**-1.9**
LSA				IAmb	IAmb	22 55 17.3	
	comp=Z,4.2nm,1.1s						
MKAR	**Makanchi Array**	**55.34**	**325**	P	**P**	**22 57 10.5**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=127,slow=5.7,SNR=1.4						
TORD	**Torodi Ar. Bea**	**121.57**	**289**	PKP	**PKPdf**	**23 06 29.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=54,slow=1.9,SNR=5.0						

*HEL **09** 23:07:55.6±0.4, 67°.67N×33°.72E, h0km, ML2.0, Explosion*
*NAO **09** 23:07:55.5±1.4, 67°.71N×33°.66E, ML2.8*

ISC 09 23:07:53.3±1.3, 67°.56N±0°.05×33°.94E±0°.06, h0km, n23, σ1s81/45, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.20**	**272**	Pg	**Pg**	**23 07 58.6**	**+1.4**
APZ9				Lg	Lg	23 08 00.8	
APZ9				Rg	Rg	23 08 01.8	
APZ9	**Apatity**	**0.20**	**272**	Pg	**Pg**	**23 07 58.6**	**+1.4**
APZ9				Sg	**Sg**	**23 08 00.8**	**+1.0**
APA0	**Apatity Array**	**0.36**	**277**	Pg	**Pg**	**23 08 00.9**	**+0.7**
	baz=81,slow=16						
APA0				Lg	Lg	23 08 04.9	
APA0				Rg	Rg	23 08 06.2	
	baz=73,slow=37						
APA0	**Apatity Array**	**0.36**	**277**	Pg	**Pg**	**23 08 00.9**	**+0.7**
	baz=81,slow=16						
APA0				Sg	**Sg**	**23 08 04.9**	**-0.1**
VRF	**Varrio**	**1.67**	**278**	PG	**Pn**	**23 08 23.8**	**+0.1**
VRF				MSG		23 08 42.5	
	comp=Z,16nm,0.2s						
VRF				SN	**Sn**	**23 08 44.3**	**-1.5**
KU6	**Riekki**	**2.23**	**228**	PB	**Pb**	**23 08 34.3**	**0.0**
KU6				MSG		23 09 01.9	
	comp=Z,7.3nm,0.2s						
KU6				SG	**Sg**	**23 09 04.8**	**+0.2**
MSF	**Maaselka**	**2.56**	**232**	PB	**Pb**	**23 08 39.7**	**-0.2**
MSF				SG	**Sg**	**23 09 14.4**	**-0.8**
SGF	**Sodankyl**	**2.85**	**271**	PN	**Pn**	**23 08 40.7**	**+0.7**
SGF				SG	**Sb**	**23 09 19.6**	**-0.8**
RNF	**Rovaniemi**	**3.25**	**257**	PN	**Pn**	**23 08 46.8**	**+1.5**
RNF				SN	**Sn**	**23 09 26.4**	**+1.8**
ARA0	**ARCESS Array S**	**3.68**	**306**	Pn	**Pn**	**23 08 51.7**	**+0.4**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**23 09 32.8**	**-2.6**
	baz=118,slow=28						
ARA0				Lg	Lg	23 09 43.8	
	baz=111,slow=37						
ARA0	**ARCESS Array S**	**3.68**	**306**	Pn	**Pn**	**23 08 51.7**	**+0.4**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**23 09 32.8**	**-2.6**
	baz=118,slow=28						
ARA0				Sg	**Sb**	**23 09 43.8**	**-0.4**
	baz=111,slow=37						
ARE0	**ARCESS Array S**	**3.68**	**306**	PN	**Pn**	**23 08 51.7**	**+0.4**
	baz=119						
ARE0				SN	**Sn**	**23 09 32.8**	**-2.5**
TOF	**Tornio**	**4.08**	**253**	PG	**Pb**	**23 09 07.5**	**+1.6**
TOF				SN	**Sn**	**23 09 45.2**	**0.0**
OUL	**Oulu**	**4.09**	**236**	PB	**Pb**	**23 09 05.0**	**-1.0**
	baz=48						
LANU	**Lannavaara**	**4.56**	**282**	PN	**Pn**	**23 09 01.6**	**-1.8**
ERTU	**Ertsjaerv**	**4.71**	**263**	PN	**Pn**	**23 09 05.9**	**+0.5**
ERTU				SN	**Sn**	**23 09 59.3**	**-1.4**
HAMF	**Hammerfest**	**4.80**	**315**	Pn	**Pn**	**23 09 06.6**	**-0.1**
HAMF				Sn	**Sn**	**23 09 59.9**	**-2.9**
HAMF				Lg	Lg	23 10 18.6	
HAMF	**Hammerfest**	**4.80**	**315**	Pn	**Pn**	**23 09 06.6**	**-0.1**
HAMF				Sn	**Sn**	**23 09 59.9**	**-2.9**
HAMF				Sg	**Sb**	**23 10 18.6**	**+2.3**
KIF	**Kilpisjarvi**	**5.09**	**293**	Pn	**Pn**	**23 09 10.9**	**+0.3**
KIF				Sn	**Sn**	**23 10 06.1**	**-3.9**
KIF				Lg	Lg	23 10 28.0	
KIF	**Kilpisjarvi**	**5.09**	**293**	Pn	**Pn**	**23 09 10.9**	**+0.3**
KIF				Sn	**Sn**	**23 10 06.1**	**-3.9**
KIF				Sg	**Sb**	**23 10 28.0**	**+3.4**
FIA0	**FINESS Array S**	**7.01**	**213**	Sn	**Sn**	**23 10 58.5**	**+1.1**
	baz=41,slow=28						
FIA0				Lg	Lg	23 11 33.2	
	baz=13,slow=37						
FIA0	**FINESS Array S**	**7.01**	**213**	Sn	**Sn**	**23 10 58.5**	**+1.1**
	baz=41,slow=28						
FIA0				Sg	**Sg**	**23 11 33.2**	**-5.0**
	baz=13,slow=37						
KLMR	**Klimovskoe**	**7.16**	**158**	*e*Pn	**Pn**	**23 09 39.8**	**+0.7**
KLMR				AMP		23 09 58.1	
	comp=Z,7.0nm,1.3s						
KLMR				*e*Sn	**Sn**	**23 11 01.8**	**+0.8**
KLMR				*e*Sn	**Sn**	**23 11 01.8**	**+0.8**

*IDC **09** 23:11:46.6±0.9, 10°.56N×91°.71E, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.7/40, mbtmp3.9/10, ML3.8/2, Error ellipse: s-maj=33.7km s-min=17.3km az=63.0*
*NEIC **09** 23:11:50.7±1.1, 10°.60N±0°.10×91°.75E±0°.09, h27km±6km, mb4.0/9, Error ellipse: s-maj=17.9km s-min=5.8km az=139.0*

ISC 09 23:11:48.8±0.7, 10°.6N±0°.1×91°.7E±0°.1, h17km, n24, σ1s00/21, mb3.9/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.48**	**42**		Pn	23 12 14.2	-0.4
CM31	**Chiang Mai Arr**	**10.51**	**41**	Pn	**Pn**	**23 14 16.9**	**-1.8**
CMAR	**Chiang Mai Arr**	**10.51**	**41**	Pn	**Pn**	**23 14 19.4**	**+0.7**
	0.3nm,0.3s,baz=235,slow=14,SNR=5.2						
PALK	**Pallekele**	**11.38**	**254**	Pn	**Pn**	**23 14 30.6**	**-0.1**
	0.4nm,0.3s,baz=161,slow=16,SNR=7.9						
PALK				Sn	Sn	23 16 24.8	-13
	4.3nm,0.3s,baz=84,slow=19,SNR=12						
SLVN	**Son La**	**15.86**	**46**	P	**P**	**23 15 35.4**	**+0.3**
COCO	**West Island**	**23.15**	**167**	P	**P**	**23 16 51.8**	**-2.6**
ENH	**Enshi**	**25.65**	**38**	P	**P**	**23 17 16.8**	**-1.1**
H08S3	**Diego Garcia H**	**26.33**	**227**	T	T	23 44 48.4	
	baz=47,slow=75,SNR=502						
H08S2	**Diego Garcia H**	**26.34**	**227**	T	T	23 44 45.3	
	baz=47,slow=75,SNR=377						
H08S1	**Diego Carcia H**	**26.35**	**227**	T	T	23 44 54.8	
	baz=47,slow=75,SNR=437						
MKAR	**Makanchi Array**	**37.00**	**349**	P	**P**	**23 18 57.6**	**+0.1**
	1.2nm,0.7s,baz=164,slow=9.5,SNR=7.5						
SONM	**Songino Array**	**39.16**	**16**	P	**P**	**23 19 15.7**	**-0.1**
	1.2nm,0.8s,baz=202,slow=6.4,SNR=4.6						
ULN	**Ulaanbaatar**	**39.37**	**16**	P	**P**	**23 19 17.2**	**-0.4**
ULN				IAmb	IAmb	23 19 18.3	
	comp=Z,3.1nm,1.1s						
KURBB	**Kurchatov Arra**	**41.41**	**347**	P	**P**	**23 19 35.0**	**+0.9**
	comp=Z,0.9nm,0.2s,baz=165,slow=7.5,SNR=1.3						
KURK	**Kurchatov**	**41.48**	**347**	P	**P**	**23 19 35.0**	**+0.3**
KURK	**Kurchatov**	**41.48**	**347**	IAmb	IAmb	23 20 03.1	
	comp=Z,2.4nm,1.0s						
ZAA0	**Zalesovo Array**	**43.64**	**354**	P	**P**	**23 19 52.5**	**+0.3**
ZAA0				IAmb	IAmb	23 20 30.8	
	comp=Z,13nm,2.0s						
ZALV	**Zalesovo Beam**	**43.64**	**354**	P	**P**	**23 19 52.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=170,slow=10,SNR=2.3						
WB0	**Warramunga Arr**	**51.69**	**126**	P	**P**	**23 20 55.6**	**+0.3**
WRA	**Warramunga Arr**	**51.74**	**126**	P	**P**	**23 20 56.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=301,slow=9,SNR=17						
WRA				PcP	**PcP**	**23 22 09.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=316,slow=3.5,SNR=1.5						
AS31	**Alice Springs**	**53.44**	**130**	P	**P**	**23 21 09.6**	**+1.3**
AS31				IAmb	IAmb	23 21 48.3	
	comp=Z,1.4nm,1.1s						
ASAR	**Alice Springs**	**53.44**	**130**	P	**P**	**23 21 08.8**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=306,slow=6.9,SNR=17						
ASAR				PcP	**PcP**	**23 22 16.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=309,slow=4.4,SNR=1.9						
STKA	**Stephens Creek**	**63.66**	**133**	P	**P**	**23 22 20.5**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=321,slow=13,SNR=2.2						
FINES	**FINESS Array B**	**69.25**	**332**	P	**P**	**23 22 54.6**	**0.0**
	comp=Z,1.0nm,0.7s,baz=137,slow=7.7,SNR=1.8						

*MDD **09** 23:26:55.4±2.0, 35°.68N×0°.28E, h20km, mb4.0/11, Error ellipse: s-maj=19.0km s-min=11.0km az=143.0, PRXIMO*
*CNRM **09** 23:26:56.6±1.5, 35°.74N×0°.07W, h0km, Error ellipse: s-maj=13.6km s-min=7.2km az=98.0*

ISC 09 23:26:57.7±1.5, 35°.90N±0°.04×0°.01W±0°.07, h13km, n26, σ1s26/49, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**2.06**	**302**	P	**Pn**	**23 27 31.1**	**-1.0**
	2.1nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**23 27 56.8**	**-0.9**
	3.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.17**	**333**	P	**Pn**	**23 27 32.5**	**-1.1**
	1.2nm,0.1s,SNR=9.2						
EMUR				S	**Sn**	**23 27 59.4**	**-1.0**
	2.5nm,0.3s,SNR=6.9						
TLOR	**Lorca, Murcia**	**2.21**	**323**	P	**Pn**	**23 27 33.5**	**-0.5**
	46nm,0.2s,SNR=7.9						
TLOR				S	**Sn**	**23 28 00.7**	**-0.6**
	17nm,0.4s,SNR=7.9						
TAF	**Taforalt**	**2.24**	**242**	P	**Pn**	**23 27 33.6**	**-0.9**
TAF				S	**Sn**	**23 28 02.7**	**+0.6**
EALB	**Alboran**	**2.45**	**272**	S	**Sn**	**23 28 09.1**	**+1.9**
	2.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.52**	**294**	P	**Pn**	**23 27 38.3**	**-0.2**
	6.8nm,0.1s,SNR=62						
EBER				S	**Sn**	**23 28 10.9**	**+1.7**
	2.6nm,0.2s,SNR=11						
GOG	**Mont Gurugu**	**2.52**	**255**	P	**Pn**	**23 27 35.8**	**-2.6**
GOG				S	**Sn**	**23 28 09.6**	**+0.5**
JBK	**JBK**	**2.61**	**234**	P	**Pn**	**23 27 38.1**	**-1.7**
JBK				S	**Sn**	**23 28 11.1**	**-0.4**
EBEN2	**Beniarda presa**	**2.77**	**357**	P	**Pn**	**23 27 41.7**	**-0.1**
	1.5nm,0.2s,SNR=7.9						
EBEN2				S	**Sn**	**23 28 14.0**	**-1.2**
	1.1nm,0.3s,SNR=7.9						
AFON	**Font Roja**	**2.79**	**351**	P	**Pn**	**23 27 42.2**	**0.0**
	1.0nm,0.2s,SNR=7.9						
AFON				S	**Sn**	**23 28 16.0**	**+0.3**
	3.3nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**2.90**	**304**	P	**Pn**	**23 27 45.2**	**+1.6**
	2.9nm,0.1s,SNR=7.9						
GORA				S	**Sn**	**23 28 20.8**	**+2.4**
	0.2nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**3.00**	**336**	P	**Pn**	**23 27 45.3**	**+0.3**
	2.6nm,0.2s,SNR=28						
ETOB				S	**Sn**	**23 28 21.1**	**+0.2**
	2.5nm,0.2s						
SESP	**Santiago Espad**	**3.00**	**318**	P	**Pn**	**23 27 46.2**	**+1.1**
	6.0nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**23 28 22.8**	**+1.8**
	12nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.00**	**318**	P	**Pn**	**23 27 47.1**	**+2.0**
SESP				S	**Sb**	**23 28 26.7**	**-1.0**
EQUE	**Quentar**	**3.05**	**296**	P	**Pn**	**23 27 46.7**	**+1.0**
	1.3nm,0.2s,SNR=4.6						
ELGU	**Los Guajares,**	**3.07**	**289**	P	**Pn**	**23 27 45.0**	**-1.0**
	2.8nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**23 28 23.0**	**+0.4**
	1.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.10**	**309**	P	**Pn**	**23 27 48.2**	**+1.7**
	3.8nm,0.1s,SNR=67						
EQES				S	**Sn**	**23 28 25.3**	**+1.9**
	2.7nm,0.4s						
TDRA	**Tendrara**	**3.30**	**211**	P	**Pn**	**23 27 49.8**	**+0.5**
TDRA				S	**Sn**	**23 28 31.1**	**+2.5**
AKLM	**AKL**	**3.44**	**247**	P	**Pn**	**23 27 50.7**	**-0.4**
AKLM				S	**Sn**	**23 28 32.5**	**+0.7**
EGOR	**Sierra Gorda,**	**3.51**	**291**	P	**Pn**	**23 27 53.9**	**+1.8**
	0.6nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.76**	**349**	P	**Pn**	**23 27 54.8**	**-0.6**
	0.2nm,0.1s,SNR=7.9						
ECHE				S	**Sn**	**23 28 38.4**	**-1.2**
	5.7nm,0.6s,SNR=7.9						
EMIJ	**Mijas**	**3.90**	**281**	P	**Pn**	**23 27 55.7**	**-1.7**
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**23 28 41.5**	**-1.6**
	1.9nm,0.6s,SNR=7.9						
EMOS	**Mosqueruela**	**4.47**	**356**	P	**Pn**	**23 28 06.0**	**+0.7**
	0.3nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**23 28 58.3**	**+1.0**
	0.2nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**4.84**	**298**	P	**Pn**	**23 28 10.2**	**-0.1**
	0.3nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**23 29 05.4**	**-0.8**
	0.0nm,0.3s,SNR=7.9						
MD31	**MD31**	**4.96**	**234**	P	**Pn**	**23 28 11.8**	**-0.1**
MD31				S	**Sn**	**23 29 09.7**	**+0.6**
PAB	**San Pablo**	**5.00**	**318**	P	**Pn**	**23 28 13.9**	**+1.4**
	0.6nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**23 29 10.4**	**+0.1**
	0.5nm,0.7s,SNR=7.9						

MAN 09 23:33:27.7, 6°.87N×125°.06E, h8km, mb4.7, ML3.5, MS3.4, Mindanao

IDC 10 00:00:19.3±12.0, 26°.42S×179°.06W, h290km±96km, mb2.9/3, mb1 3.3/4, mb1mx3.0/28, mbtmp3.8/4, Error ellipse: s-maj=108.1km s-min=25.4km az=46.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.24**	**194**	P	Pn	00 03 05.3	+0.5
	2.3nm,0.3s,baz=56,slow=15,SNR=11						
URZ				S	S	00 05 18.1	-2.7
	1.0nm,0.3s,baz=140,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**42.52**	**263**	P	P	00 07 47.3	+0.2
	0.4nm,0.4s,baz=103,slow=8.4,SNR=8.4						
WRA	**Warramunga Arr**	**43.14**	**268**	P	P	00 07 51.6	-0.4
	0.3nm,0.4s,baz=103,slow=7.5,SNR=8.0						
VNDA	**Vanda**	**51.95**	**185**	P	P	00 08 58.7	+0.1
	0.4nm,0.5s,baz=355,slow=8.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**166.78**	**183**	PKPab	PKPab	00 20 54.7	-0.7
	0.5nm,1.0s,baz=163,slow=3.1,SNR=2.1						

JMA 10 00:04:56.6±0.2, 24°.89N×123°.97E, h0km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.43**	**134**	P	Pg	00 05 05.6	+0.7
JISG				*e*S	Sg	00 05 12.2	+1.7
JIJ	**Ishigaki jima**	**0.55**	**163**	P	Pg	00 05 07.5	+0.4
JIJ				S	Sg	00 05 15.2	+1.0
IRIF	**Iriomote-Funau**	**0.59**	**202**	P	Pg	00 05 08.6	+0.6
IRIF				S	Sg	00 05 16.9	+1.2
JKRS	**Kuro-shima**	**0.65**	**177**	P	Pg	00 05 09.9	+0.8
JTJ	**Tarama**	**0.71**	**110**	P	Pg	00 05 10.9	+0.7
JTJ				*e*S	Sg	00 05 20.5	+1.1
HATJ	**Hateruma jima**	**0.84**	**190**	P	Pb	00 05 13.6	-0.5
HATJ				*e*S	Sb	00 05 24.9	-1.1

TAP 10 00:05:48.6, 24°.81N×122°.01E, h11km, ML2.3, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.17**	**286**	*e*P	Pg	00 05 53.0	+0.5
	baz=286						
TWB1	**Santiao Chiao**	**0.20**	**353**	P	Pg	00 05 53.3	+0.3
	baz=347						
TWB1				*e*S	Sg	00 05 56.1	+0.2
	baz=347						
TIPB	**Shuangxi**	**0.24**	**314**	*e*P	Pg	00 05 54.0	+0.4

	baz=202						
TWD				*e*S	Sb	00 06 15.8	-0.1
	baz=202						
FUSS	**Fushou**	**0.90**	**232**	*e*P	Pn	00 06 07.0	-0.4
FUSS	baz=224			*e*S	Sn	00 06 19.8	-0.8
	baz=224						
LIOB	**Emei**	**0.92**	**260**	*e*P	Pn	00 06 07.7	+0.1
LIOB	baz=247			*e*S	Sn	00 06 20.4	-0.4
	baz=247						
NSTT	**Nanjuang**	**0.94**	**260**	*e*P	Pn	00 06 08.0	+0.3
NSTT	baz=260			*e*S	Sn	00 06 20.6	-0.6
	baz=260						
TWT	**Tachien**	**0.94**	**234**	*e*P	Pb	00 06 07.4	+0.3
TWT	baz=229			*e*S	Sn	00 06 21.3	-0.3
	baz=229						
WHF	**Hehuan Shan**	**0.95**	**226**	*e*P	Pn	00 06 08.2	-0.1
WHF	baz=228			*e*S	Sb	00 06 20.0	-0.1
	baz=228						
TDCB	**Techi**	**0.95**	**235**	*e*P	Pb	00 06 07.6	+0.3
TDCB	baz=229			*e*S	Sb	00 06 19.9	-0.1
	baz=229						
WHP	**Taichung City**	**1.11**	**242**	*e*P	Pn	00 06 11.7	+1.6
VWDT	baz=243 **VWDT**	**1.32**	**217**	*e*P	Pn	00 06 13.2	+0.2
VWDT	baz=229			*e*S	Sg	00 06 31.5	+0.5
	baz=229						
SSLB	**Suanglung**	**1.40**	**224**	*e*P	Pn	00 06 14.4	+0.3
SSLB	baz=227			*e*S	Sg	00 06 33.9	+0.2
	baz=227						
HGSD	**Ruisui**	**1.42**	**203**	*e*P	Pg	00 06 15.7	0.0
HGSD	baz=196			*e*S	Sg	00 06 37.2	+3.0
	baz=196						
EHY	**Hungye**	**1.44**	**206**	*e*P	Pg	00 06 16.1	-0.1
EHY	baz=220			*e*S	Sg	00 06 35.5	+0.5
	baz=220						
YULB	**Yu-li**	**1.55**	**205**	*e*P	Pb	00 06 17.7	+0.3
YULB	baz=220			*e*S	Sg	00 06 38.7	+0.1
	baz=220						

*IDC **10** 00:11:08.1±0.9,21.′18S×67.′25W,h169km±14km,mb3.2/1, mb1 3.3/5,mb1mx3.0/28,mbtmp3.7/5,Error ellipse: s-maj=23.1km s-min=11.4km az=111.0*

ISC 10 00:11:08.3±1.0,**21.′20S**±0.′07×**67.′27W**±0.′09,**h183**km,**n6,** σ1§94/8,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.07**	**227**	P	**Pn**	**00 11 46.9**	**+0.2**
	5.0nm,0.3s,baz=36,slow=11,SNR=86						
LVC				S	**Sn**	**00 12 14.7**	**-2.0**
	3.0nm,0.3s,baz=75,slow=8.4,SNR=4.3						
LPAZ	**La Paz**	**4.96**	**350**	P	**Pn**	**00 12 23.5**	**+1.0**
	1.4nm,0.3s,baz=159,slow=6.3,SNR=47						
LPAZ				S	**Sn**	**00 13 19.2**	**-1.4**
	0.5nm,0.3s,baz=37,slow=21,SNR=7.8						
SIV	**San Ignacio**	**7.83**	**50**	P	**Pn**	**00 12 59.6**	**0.0**
	2.3nm,0.3s,baz=248,slow=10,SNR=45						
SIV				S	**Sn**	**00 14 24.6**	**-3.0**
	0.3nm,0.3s,baz=312,slow=21,SNR=8.1						
CPUP	**Villa Florida**	**10.43**	**121**	P	**Pn**	**00 13 34.7**	**+1.2**
	0.1nm,0.3s,baz=275,slow=14,SNR=2.1						
TORD	**Torodi Ar. Bea**	**75.81**	**70**	P	**P**	**00 22 35.9**	**+1.1**
	0.2nm,0.3s,baz=260,slow=5.1,SNR=12						
MKAR	**Makanchi Array**	**144.49**	**37**	PKP	PKPbc	00 30 23.3	+1.4
	0.3nm,0.6s,baz=323,slow=2.6,SNR=1.4						

*ANF **10** 00:11:42.9±1.6,36.′94N×97.′84W,h0km±11km,ML4.3/10, Error ellipse: s-maj=4.3km s-min=3.2km az=73.0*
*UNK **10** 00:11:42.7,36.′97N×97.′79W,h8km*
*TUL **10** 00:11:42.7±1.6,36.′97N±0.′04×97.′79W±0.′05,h8km±6km, ML3.3,Error ellipse: s-maj=6.9km s-min=4.0km az=54.0*
*NEIC **10** 00:11:42.8±1.3,36.′92N±0.′04×97.′78W±0.′05,h5km±6km, Error ellipse: s-maj=6.5km s-min=4.6km az=51.0*

ISC 10 00:11:42.4±1.2,**36.′94N**±0.′03×**97.′80W**±0.′03,**h1**km±11km, **n89,** σ0§81/97,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.27**	**74**	Pg	**Pg**	**00 11 47.7**	**+0.2**
KAN13				Sg	**Sg**	**00 11 51.7**	**+0.7**
KAN10	**Anthony SW Sta**	**0.30**	**308**	Pg	**Pg**	**00 11 48.5**	**+0.3**
KAN10				Sg	**Sg**	**00 11 53.2**	**+1.1**
KAN12	**Harper NE Stat**	**0.39**	**336**	Pg	**Pg**	**00 11 50.2**	**+0.3**
CROK	**Carrier**	**0.46**	**199**		**Pg**	**00 11 51.7**	**+0.5**
T35A	**Sooner Cattle**	**1.03**	**91**		**Pg**	**00 12 01.6**	**-0.6**
T35A				Sg	**Sg**	**00 12 15.1**	**-0.4**
U32A	**Winter Ranch,**	**1.12**	**240**		**Pg**	**00 12 03.4**	**-0.5**
QUOK	**Quay**	**1.16**	**131**		**Pg**	**00 12 04.6**	**-0.1**
QUOK				Sg	**Sg**	**00 12 20.0**	**+0.2**
OK029	**Liberty Lake**	**1.17**	**166**	Pn	**Pg**	**00 12 04.5**	**-0.4**
BCOK	**Bluff Creek, N**	**1.29**	**173**		**Pn**	**00 12 05.9**	**-1.7**
ADOK	**Arcadia Dam**	**1.33**	**165**	Pn	**Pg**	**00 12 10.6**	**+2.7**
OK025	**Westminster Rd**	**1.41**	**165**	Pn	**Pn**	**00 12 08.9**	**-0.3**
OKCFA	**Oklahoma City**	**1.55**	**169**	Pn	**Pn**	**00 12 10.8**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**1.56**	**169**	Pn	**Pn**	**00 12 11.0**	**-0.4**
R32A	**Long Quarter,**	**1.65**	**334**	Pn	**Pn**	**00 12 13.1**	**+0.5**
FNO	**Franklin**	**1.71**	**169**	Pn	**Pn**	**00 12 13.8**	**+0.4**
TUL1	**Leonard**	**1.92**	**122**	P	**Pn**	**00 12 17.0**	**+0.8**
	baz=304						
TUL1				S	**Sb**	**00 12 42.7**	**+0.1**
	baz=304						
TUL1	**Leonard**	**1.92**	**122**	Pn	**Pn**	**00 12 16.9**	**+0.7**
W35A	**Tecumseh**	**1.93**	**157**	Pn	**Pn**	**00 12 15.9**	**-0.5**
X34A	**Smith Ranch, M**	**2.33**	**181**	Pn	**Pb**	**00 12 25.1**	**-0.2**
WMOK	**Wichita Mounta**	**2.34**	**200**	P	**Pn**	**00 12 22.3**	**+0.2**
	baz=20						
WMOK				S	**Sn**	**00 12 52.4**	**+1.0**
	baz=20						
WMOK	**Wichita Mounta**	**2.34**	**200**	Pn	**Pn**	**00 12 22.3**	**+0.2**
KSU1	**Kansas State U**	**2.35**	**23**	P	**Pn**	**00 12 22.5**	**+0.2**
	baz=204						
KSU1				S	**Sb**	**00 12 54.8**	**-0.4**
	baz=204						
KSU1	**Kansas State U**	**2.35**	**23**		**Pn**	**00 12 23.6**	**+1.4**
CBKS	**Cedar Bluff**	**2.42**	**321**	P	**Pn**	**00 12 23.7**	**+0.5**
	baz=140						
CBKS				Sb	**Sb**	**00 12 58.5**	**+1.3**
	baz=140						
CBKS	**Cedar Bluff**	**2.42**	**321**	Pn	**Pn**	**00 12 23.8**	**+0.5**
U38A	**Gravette**	**2.79**	**99**	Pn	**Pn**	**00 12 28.3**	**+0.1**
HHAR	**Hobbs**	**3.17**	**101**		**Pn**	**00 12 34.4**	**+0.9**
Z35A	**Perchaven, San**	**3.63**	**173**		**Pn**	**00 12 39.8**	**0.0**
S39A	**Bolivar**	**3.65**	**77**	Pn	**Pn**	**00 12 40.3**	**+0.3**
AMTX	**Amarillo**	**3.76**	**238**	Sb	**Sg**	**00 13 40.8**	**-2.5**
	baz=55						
AMTX	**Amarillo**	**3.76**	**238**	Pn	**Pn**	**00 12 42.3**	**+0.6**
N33A	**J Bar K, Exete**	**3.80**	**4**	Pn	**Pn**	**00 12 41.7**	**-0.5**
U40A	**Yellville**	**4.02**	**97**	Pn	**Pn**	**00 12 45.0**	**-0.1**
MIAR	**Mount Ida**	**4.18**	**124**	P	**Pn**	**00 12 49.3**	**+2.0**
	baz=307						
MIAR	**Mount Ida**	**4.18**	**124**	Pn	**Pn**	**00 12 45.5**	**-1.9**
N35A	**Tabor**	**4.26**	**23**		**Pn**	**00 12 48.6**	**+0.2**
P38A	**Dawn**	**4.29**	**50**		**Pn**	**00 12 48.8**	**-0.2**
Z38A	**Mt. Pleasant**	**4.33**	**147**	Pn	**Pn**	**00 12 49.4**	**-0.1**
KSCO	**Kaye Shedlock'**	**4.34**	**300**	Pn	**Pn**	**00 12 49.3**	**-0.4**
MGMO	**Mountain Grove**	**4.43**	**86**		**Pn**	**00 12 51.0**	**+0.2**
BGNE	**Belgrade**	**4.47**	**357**	P	**Pn**	**00 12 51.6**	**+0.2**
	baz=176						
BGNE	**Belgrade**	**4.47**	**357**	Pn	**Pn**	**00 12 51.2**	**-0.2**
ABTX	**Abilene, Hawle**	**4.57**	**200**	Pn	**Pn**	**00 12 52.1**	**-0.6**
R40A	**Maddies Statio**	**4.59**	**71**		**Pn**	**00 12 52.8**	**-0.2**
FCAR	**Ozark Folk Cen**	**4.69**	**101**		**Pn**	**00 12 53.8**	**-0.6**
X40A	**Basin Creek Fa**	**4.72**	**120**		**Pn**	**00 12 55.8**	**+1.0**
WHAR	**Wooly Hollow**	**4.75**	**109**		**Pn**	**00 12 54.3**	**-0.9**
W41B	**Gary Mavity, V**	**4.83**	**110**		**Pn**	**00 12 56.6**	**+0.4**
UALR	**University of**	**4.93**	**114**	Pn	**Pn**	**00 12 57.0**	**-0.6**
WHTX	**Lake Whitney,**	**4.94**	**177**	P	**Pn**	**00 12 57.8**	**-0.1**
	baz=357						
WHTX	**Lake Whitney,**	**4.94**	**177**	Pn	**Pn**	**00 12 57.4**	**-0.5**
WLAR	**White Oak Lake**	**5.02**	**129**	Pn	**Pn**	**00 12 59.0**	**+0.1**
WLAR					**Sb**	**00 14 10.8**	**-1.1**

MSTX	**Muleshoe**	**5.03**	**235**	Pn	**Pn**	**00 12 59.2**	**+0.1**
L34A	**Svendsen Farm,**	**5.14**	**12**	Pn	**Pn**	**00 13 01.0**	**+0.5**
OGNE	**Ogallala**	**5.19**	**322**	P	**Pn**	**00 13 02.5**	**+1.2**
	baz=139						
OGNE	**Ogallala**	**5.19**	**322**		**Pn**	**00 13 01.4**	**+0.1**
237A	**Washetta, Mont**	**5.19**	**161**	Pn	**Pn**	**00 12 59.9**	**-1.3**
P40A	**Paris**	**5.21**	**59**	Pn	**Pn**	**00 13 01.4**	**-0.1**
N38A	**Joes South For**	**5.24**	**41**		Lg	00 14 31.4	
T25A	**Trinidad**	**5.29**	**274**	P	**Pn**	**00 13 02.7**	**-0.2**
	baz=90						
T25A	**Trinidad**	**5.29**	**274**		**Pn**	**00 13 02.9**	**0.0**
CCM	**Cathedral Cave**	**5.33**	**76**	Pn	**Pn**	**00 13 03.7**	**+0.5**
T42A	**Van Buren**	**5.37**	**87**	Pn	**Pn**	**00 13 03.4**	**-0.3**
LCAR	**Lake Charles**	**5.42**	**97**	Pn	**Pn**	**00 13 04.3**	**-0.1**
K31A	**O'Neill**	**5.72**	**353**	Pn	**Pn**	**00 13 08.2**	**-0.4**
FVM	**French Village**	**5.96**	**78**	Pn	**Pn**	**00 13 12.0**	**+0.2**
Q24A	**Divide**	**6.15**	**291**	Pn	**Pn**	**00 13 13.9**	**-0.8**
SDCO	**Great Sand Dun**	**6.19**	**280**	Pn	**Pn**	**00 13 14.9**	**-0.3**
ISCO	**Idaho Springs**	**6.77**	**297**	Pn	**Pn**	**00 13 22.9**	**-0.3**
ECSD	**EROS Data Cent**	**6.85**	**7**		**Pn**	**00 13 22.5**	**-1.5**
S44A	**Carbondale**	**6.85**	**81**	Pn	**Pn**	**00 13 23.8**	**-0.2**
L40A	**Anamosa**	**7.21**	**43**	Pn	**Pn**	**00 13 27.4**	**-1.6**
ANMO	**Albuquerque**	**7.30**	**257**	Pn	**Pn**	**00 13 30.6**	**+0.1**
PHWY	**Pilot Hill**	**7.38**	**309**		**Pn**	**00 13 30.2**	**-1.3**
N23A	**Red Feather La**	**7.48**	**304**	Pn	**Pn**	**00 13 33.5**	**+0.6**
HDIL	**Hopedale**	**7.56**	**59**	Pn	**Pn**	**00 13 32.9**	**-0.9**
BNM	**Barren Site**	**7.72**	**251**	Pn	**Pn**	**00 13 36.2**	**+0.1**
WVT	**Waverly**	**8.06**	**93**	Pn	**Pn**	**00 13 40.1**	**-0.6**
L42A	**Oliver, Polo**	**8.07**	**49**	Pn	**Pn**	**00 13 39.4**	**-1.3**
MNTX	**Cornudas Mount**	**8.16**	**232**	Pn	**Pn**	**00 13 41.8**	**-0.4**
JFWS	**Jewell Farm**	**8.32**	**42**	Pn	**Pn**	**00 13 42.4**	**-1.8**
T47A	**Sharon Grove**	**8.56**	**86**	Pn	**Pn**	**00 13 48.2**	**+0.7**
RSSD	**Black Hills**	**8.60**	**328**	Pn	**Pn**	**00 13 48.0**	**-0.2**
RWWY	**Rawlins**	**8.70**	**306**	Pn	**Pn**	**00 13 49.1**	**-0.5**
PV07	**Paradox Valley**	**8.73**	**283**	Pn	**Pn**	**00 13 50.3**	**+0.2**
M44A	**Midewin, Midew**	**8.78**	**57**	Pn	**Pn**	**00 13 50.4**	**-0.1**
TX31	**Lajitas Ar. Si**	**9.04**	**215**	Pn	**Pn**	**00 13 54.1**	**-0.1**
TX32	**Lajitas Array**	**9.04**	**215**	Pn	**Pn**	**00 13 53.9**	**-0.3**
TXAR	**Lajitas Array**	**9.04**	**215**	Pn	**Pn**	**00 13 54.1**	**-0.1**

*IDC **10** 00:13:38.4±1.4,13.′49N×120.′59E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.5/39,mbtmp3.8/4,Error ellipse: s-maj=62.9km s-min=22.7km az=59.0*
*MAN **10** 00:13:39.2,13.′34N×120.′04E,h7km,MS3.1*

ISC 10 00:13:39.0±1.6,**13.′28N**±0.′05×**120.′10E**±0.′06,**h1**km±11km, **n12,** σ1§11/18,**mb3.7**/3,**2C-1D,Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.47**	**17**	*e*P	**Pg**	**00 13 48.2**	**+0.1**
LUBP				*e*S	**Sg**	**00 13 53.4**	**-0.9**
PGP	**Puerto Galera**	**0.86**	**75⇑**	*e*P	**Pg**	**00 13 55.3**	**-0.2**
PGP				*i* S	**Sg**	**00 14 05.5**	**-1.1**
TGY	**Tagaytay City**	**1.15**	**45⇑**	*i*P	**Pg**	**00 14 03.5**	**+2.4**
TGY				*i* S	**Sn**	**00 14 20.6**	**+1.8**
BUSP	**Coron**	**1.27**	**176**	*e*P	**Pn**	**00 14 04.3**	**+0.4**
BUSP				*e*S	**Sn**	**00 14 22.5**	**+0.8**
LQP	**Lukban**	**1.62**	**59⇓**	*i*P	**Pn**	**00 14 08.9**	**0.0**
LQP				*i* S	**Sn**	**00 14 31.4**	**+0.8**
BOAC	**Boac**	**1.71**	**84**	*e*P	**Pn**	**00 14 09.4**	**-0.5**
BOAC				*e*S	**Sn**	**00 14 33.7**	**+1.3**
ENPP	**El Nido**	**2.17**	**198**	*e*P	**Pn**	**00 14 17.2**	**+0.9**
ENPP				*e*S	**Sn**	**00 14 43.9**	**+0.1**
CUYO	**Cuyo Island**	**2.58**	**160**	*e*P	**Pn**	**00 14 22.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**20.99**	**287**	P	Pn	00 18 27.9	+1.3
	0.9nm,0.3s,baz=88,slow=9.5,SNR=5.3						
WRA	**Warramunga Arr**	**35.87**	**157**	P	**P**	**00 20 39.8**	**-0.9**
	3.0nm,1.0s,baz=334,slow=9.8,SNR=11						
SONM	**Songino Array**	**36.30**	**344**	P	**P**	**00 20 43.2**	**-1.1**
	0.7nm,0.5s,baz=164,slow=10.0,SNR=4.0						
ASAR	**Alice Springs**	**39.12**	**160**	P	**P**	**00 21 08.2**	**-0.1**
	1.3nm,0.6s,baz=340,slow=6.9,SNR=16						

*ECX **10** 00:46:53.7±0.8,28.′09N×112.′18W,h0km±10km,MD3.1*
*MEX **10** 00:46:55.0±0.6,28.′09N×112.′28W,h10km,MD3.9*

ISC 10 00:46:50.9±2.2,**28.′10N**±0.′07×**112.′3W**±0.′1,**h15**km±13km, **n7,** σ0§29/11,**1D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.77**	**179**	*e*P	**Pn**	**00 47 07.5**	**+0.3**
SRIG				*e*S	**Sn**	**00 47 18.3**	**-0.4**
SRIG	**Santa Rosalia**	**0.77**	**179⇓**	*i*P	**Pn**	**00 47 07.6**	**+0.4**
SRIG				*i* S	**Sn**	**00 47 18.3**	**-0.4**
GUYB	**Guaymas**	**1.24**	**99**	*e*P	**Pg**	**00 47 14.8**	**0.0**
GUYB				*e*S	**Sn**	**00 47 30.4**	**+0.1**
GUYB	**Guaymas**	**1.24**	**99**	*e*P	**Pg**	**00 47 14.8**	**0.0**
HSIG		**1.48**	**51**	*i* P	**Pg**	**00 47 19.3**	**0.0**
HSIG				*i* S	**Sn**	**00 47 35.8**	**-0.3**
HSIG		**1.48**	**51**	*e*P	**Pb**	**00 47 18.1**	**0.0**
HSIG				*e*S	**Sg**	**00 47 38.4**	**-0.1**
BAHB	**Baha de los**	**2.16**	**329**	*e*P	Pn	00 47 19.4	-7.0
BAHB				*e*S	Sn	00 47 40.4	-13

*JMA **10** 00:48:17.7±0.1,23.′99N×121.′69E,h41km±1km,M2.2*
*TAP **10** 00:48:18.5,24.′02N×121.′71E,h39km,ML2.9,C*

ISC 10 00:48:19.3±1.2,**24.′01N**±0.′02×**121.′73E**±0.′02,**h35**km,**n75,** σ1§08/141,**9C-2D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.12**	**253**	*i* P	**Pn**	**00 48 25.4**	**-0.2**
	baz=243						
HWA				S	**Sn**	**00 48 30.2**	**+0.4**
	baz=243						
TWD	**Chiawan**	**0.14**	**299⇑**	*i*P	**Pn**	**00 48 25.1**	**-0.6**
	baz=304						
TWD				*i* S	**Sn**	**00 48 30.0**	**0.0**
	baz=304						
NACB	**Ninganchiao**	**0.20**	**323**	⇑P	**Pn**	**00 48 25.4**	**-0.8**
	baz=316						
NACB				S	**Sn**	**00 48 31.0**	**+0.1**
	baz=316						
ETLH	**Xiulin Townshi**	**0.30**	**311**	⇑P	**Pn**	**00 48 26.4**	**-1.0**
	baz=304						
ETLH				S	**Sn**	**00 48 31.7**	**-1.2**
	baz=304						
ESL	**Shilin**	**0.34**	**234**	*i* P	**Pn**	**00 48 26.7**	**-1.0**
	baz=240						
ESL				*i* S	**Sn**	**00 48 32.7**	**-0.8**
	baz=240						
ENA	**Nanau**	**0.41**	**1**	*i* P	**Pn**	**00 48 27.9**	**-0.9**
	baz=12						
ENA				S	**Sn**	**00 48 35.0**	**-0.3**
	baz=12						
EGFH	**Guangfu**	**0.44**	**219**	P	**Pn**	**00 48 28.8**	**-0.4**
	baz=227						
EGFH				S	**Sn**	**00 48 35.4**	**-0.5**
	baz=227						
ENAH	**Nanao**	**0.44**	**10**	*i* P	**Pn**	**00 48 28.4**	**-0.8**
	baz=12						
ENAH				*i* S	**Sn**	**00 48 36.0**	**0.0**
	baz=12						
WHF	**Hehuan Shan**	**0.45**	**287⇑**	*i*P	**Pn**	**00 48 28.3**	**-1.3**
	baz=281						
WHF				*i* S	**Sn**	**00 48 35.5**	**-1.2**
	baz=281						
FUSS	**Fushou**	**0.50**	**298**	P	**Pn**	**00 48 29.3**	**-1.0**
	baz=298						
FUSS				S	**Sn**	**00 48 36.6**	**-1.3**
	baz=298						
CHGB	**Renai**	**0.51**	**276**	⇑P	**Pn**	**00 48 29.3**	**-1.1**
	baz=269						
CHGB				S	**Sn**	**00 48 37.3**	**-0.7**
	baz=269						
OWD	**Renai**	**0.51**	**264**	P	**Pn**	**00 48 28.9**	**-1.4**
	baz=268						
OWD				*i* S	**Sn**	**00 48 36.6**	**-1.3**
	baz=268						
NNSB	**Datong**	**0.52**	**323**	⇑P	**Pn**	**00 48 29.4**	**-1.1**
	baz=324						
NNSB				S	**Sn**	**00 48 36.9**	**-1.3**
	baz=324						
NNSH	**Datong**	**0.52**	**323**	*i* P	**Pn**	**00 48 29.4**	**-1.1**
	baz=323						
NNSH				S	**Sn**	**00 48 36.9**	**-1.3**
	baz=323						
NNS	**Nan Shan**	**0.54**	**323**	*i* P	**Pn**	**00 48 29.5**	**-1.1**
	baz=324						
NNS				*i* S	**Sn**	**00 48 37.3**	**-1.2**
	baz=324						

TDCB	**Techi**	**0.57**	**295**	⇑P	**Pn**	**00 48 30.4**	**-0.8**
	baz=292						
TDCB				S	**Sn**	**00 48 38.2**	**-1.3**
	baz=292						
HGSD	**Ruisui**	**0.59**	**208**	P	**Pn**	**00 48 30.7**	**-0.5**
	baz=219						
HGSD				S	**Sn**	**00 48 40.3**	**+0.7**
	baz=219						
VWDT	**VWDT**	**0.60**	**245**	⇓P	**Pn**	**00 48 30.6**	**-0.8**
	baz=236						
VWDT				S	**Sn**	**00 48 39.2**	**-0.6**
	baz=236						
TWC	**Suao**	**0.60**	**10**	*i* P	**Pn**	**00 48 30.8**	**-0.6**
	baz=18						
TWC				*i* S	**Sn**	**00 48 40.0**	**0.0**
	baz=18						
NDT	**Datong Townshi**	**0.62**	**341**	*i* P	**Pn**	**00 48 30.8**	**-0.9**
	baz=343						
NDT				S	**Sn**	**00 48 39.9**	**-0.6**
	baz=343						
EHY	**Hungye**	**0.63**	**217**	*i* P	**Pn**	**00 48 29.9**	**-1.9**
	baz=214						
EHY				*i* S	**Sn**	**00 48 38.6**	**-1.9**
	baz=214						
ENTT	**Nioudou**	**0.64**	**347**	*i* P	**Pn**	**00 48 31.0**	**-1.0**
	baz=349						
ENTT				*i* S	**Sn**	**00 48 40.0**	**-1.1**
	baz=349						
YHNB	**Yeheng**	**0.73**	**334⇑**	*e*P	**Pn**	**00 48 32.5**	**-0.8**
	baz=335						
YHNB				*e*S	**Sn**	**00 48 41.8**	**-1.4**
	baz=335						
YULB	**Yu-li**	**0.73**	**213**	P	**Pn**	**00 48 31.4**	**-1.9**
	baz=221						
YULB				S	**Sn**	**00 48 41.5**	**-1.7**
	baz=221						
NSK	**Sanguang**	**0.74**	**333**	P	**Pn**	**00 48 32.5**	**-0.9**
	baz=335						
NSK				S	**Sn**	**00 48 42.7**	**-0.8**
	baz=335						
SSLB	**Suanglung**	**0.74**	**253**	⇓P	**Pn**	**00 48 32.4**	**-1.0**
	baz=256						
SSLB				S	**Sn**	**00 48 43.2**	**-0.3**
	baz=256						
WHP	**Taichung City**	**0.76**	**290**	*i* P	**Pn**	**00 48 33.7**	**0.0**
	baz=287						
WHP				*i* S	**Sn**	**00 48 43.8**	**-0.3**
	baz=287						
TWF1	**Yuli**	**0.77**	**211**	P	**Pn**	**00 48 31.9**	**-1.8**
	baz=220						
TWF1				S	**Sn**	**00 48 42.4**	**-1.6**
	baz=220						
SMLT	**Sun Moon Lake**	**0.77**	**261**	*i* P	**Pn**	**00 48 33.1**	**-0.7**
	baz=258						
SMLT				*i* S	**Sn**	**00 48 43.6**	**-0.6**
	baz=258						
NWLT	**Wulai**	**0.79**	**345**	*e*P	**Pn**	**00 48 33.3**	**-0.7**
	baz=346						
NWLT				*e*S	**Sn**	**00 48 43.3**	**-1.4**
	baz=346						
TYC	**Yuchr**	**0.81**	**263**	P	**Pn**	**00 48 33.6**	**-0.6**
	baz=256						
TYC				S	**Sn**	**00 48 43.9**	**-1.0**
	baz=256						
NTC	**Toucheng**	**0.84**	**6**	*e*P	**Pn**	**00 48 34.9**	**+0.1**
	baz=16						
NTC				*e*S	**Sn**	**00 48 46.8**	**+0.8**
	baz=16						
WHYT	**Xinyi Township**	**0.86**	**249**	P	**Pn**	**00 48 35.4**	**+0.3**
	baz=248						
WHYT				S	**Sn**	**00 48 46.2**	**-0.2**
	baz=248						
YUS	**Yu-Shan**	**0.88**	**234**	P	**Pn**	**00 48 35.0**	**-0.7**
	baz=225						
YUS				*e*S	**Sn**	**00 48 46.6**	**-1.0**
	baz=225						
FULB	**Fuli**	**0.90**	**206**	*e*P	**Pn**	**00 48 35.4**	**-0.2**
	baz=216						
FULB				*e*S	**Sn**	**00 48 48.7**	**+1.3**
	baz=216						
LIOB	**Emei**	**0.91**	**314**	P	**Pn**	**00 48 36.0**	**+0.4**
	baz=315						
LIOB				S	**Sn**	**00 48 47.9**	**+0.4**
	baz=315						
NSTT	**Nanjuang**	**0.91**	**313**	*i* P	**Pn**	**00 48 35.5**	**-0.1**
	baz=314						
NSTT				*i* S	**Sn**	**00 48 47.4**	**-0.1**
	baz=314						
TWQ1	**Liyutan**	**0.94**	**291**	*e*P	**Pn**	**00 48 36.7**	**+0.6**
	baz=292						
TWQ1				S	**Sn**	**00 48 49.5**	**+1.3**
	baz=292						
WJS	**Zhushan**	**0.94**	**259**	*e*P	**Pn**	**00 48 36.2**	**+0.2**
	baz=258						
WJS				*e*S	**Sn**	**00 48 50.8**	**+2.6**
	baz=258						
TIPB	**Shuangxi**	**0.96**	**5⇑**	*i*P	**Pn**	**00 48 36.9**	**+0.6**
	baz=357						
TIPB				S	**Sn**	**00 48 50.2**	**+1.3**
	baz=357						
WNT	**Mingjian**	**0.97**	**262**	*i* P	**Pn**	**00 48 37.0**	**+0.6**
	baz=262						
WNT				*i* S	**Sn**	**00 48 50.2**	**+1.2**
	baz=262						
NSY	**Sanyi**	**0.97**	**295**	P	**Pn**	**00 48 36.7**	**+0.1**
	baz=295						
NSY				S	**Sn**	**00 48 50.5**	**+1.4**
	baz=295						
ALS	**Alishan**	**0.98**	**240**	*i* P	**Pn**	**00 48 36.8**	**-0.2**
	baz=232						
ALS				*i* S	**Sn**	**00 48 49.5**	**-0.3**
	baz=232						
TATO	**Taipei**	**0.98**	**347**	*e*S	**Sn**	**00 48 48.7**	**-0.7**
	baz=348						
TWB1	**Santiao Chiao**	**1.02**	**13**	*e*P	**Pn**	**00 48 37.6**	**+0.5**
	baz=15						
TWB1				*e*S	**Sn**	**00 48 51.6**	**+1.4**
	baz=15						
**CHN

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
	baz=227						
TWK				eS	Sn	00 48 59.6	+0.9
	baz=227						
SLGT	**Liugui**	**1.42**	**225**	*e*P	**Pn**	**00 48 43.6**	**+1.0**
	baz=225						
SLGT				eS	Sn	00 49 01.4	+1.2
	baz=225						
WSF	**Szhu**	**1.43**	**255**	*e*S	**Sn**	**00 49 02.8**	**+2.5**
	baz=255						
ICHU	**Yijhu**	**1.48**	**244**	*e*P	**Pn**	**00 48 44.1**	**+0.7**
	baz=243						
TSMG	**Majia**	**1.64**	**218**	*e*P	**Pn**	**00 48 46.5**	**+0.8**
	baz=219						
TSMG				eS	Sn	00 49 07.5	+2.0
	baz=219						
MASBT	**Mashibuluo**	**1.72**	**216**	*e*P	**Pn**	**00 48 47.9**	**+1.1**
	baz=218						
MASBT				eS	Sn	00 49 10.0	+2.4
	baz=218						
IRIF	**Iriomote-Funau**	**1.85**	**80**	P	**Pn**	**00 48 48.5**	**-0.1**
IRIF				S	Sn	00 49 11.2	+0.3
HATJ	**Hateruma jima**	**1.90**	**88**	P	**Pn**	**00 48 49.2**	**0.0**
HATJ				eS	Sn	00 49 12.0	+0.1
LAY	**Lan-yu**	**1.97**	**185**	*e*P	**Pn**	**00 48 49.7**	**-0.6**
	baz=175						
LAY				eS	Sn	00 49 11.0	-2.8
	baz=175						
WDGT	**Dungji**	**2.04**	**249**	*e*P	**Pn**	**00 48 51.1**	**-0.1**
	baz=249						
WDGT				eS	Sn	00 49 16.7	+1.2
	baz=249						
PNG	**Penghu**	**2.04**	**258**	*e*P	**Pn**	**00 48 50.5**	**-0.7**
	baz=258						
PNG				eS	Sn	00 49 14.6	-0.9
	baz=258						
JKRS	**Kuro-shima**	**2.10**	**83**	P	**Pn**	**00 48 52.5**	**+0.6**
JKRS				eS	Sn	00 49 17.8	+1.0
JIJ	**Ishigaki jima**	**2.23**	**80**	P	**Pn**	**00 48 53.3**	**-0.5**
JIJ				S	Sn	00 49 18.6	-1.6
JISG	**Ishigakijimahi**	**2.42**	**76**	P	**Pn**	**00 48 56.2**	**-0.3**
JISG				eS	Sn	00 49 23.8	-1.1

IDC ***10*** *00:54:41.8±9.2, 36°.36N×70°.82E, h136km±70km, mb3.1/2, mb1 3.1/4, mb1mx2.9/43, mbtmp3.6/4, Error ellipse: s-maj=107.4km s-min=22.8km az=154.0*
NNC ***10*** *00:54:49.2±4.3, 36°.95N×71°.03E, h206km±48km, mb3.3, mpv4.2, Error ellipse: s-maj=38.2km s-min=29.4km az=34.0*

ISC 10 00:54:45.5±1.5**, 36°.7N**±0°.1×**70°.68E**±0°.08**, h150**km**, n15,** σ1°**89**/20**, 7C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.87**	**23**	P		**Pn**		**00 56 10.3**	**-0.4**
	SNR=106								
KK31	**Karatay Array**	**6.36**	**359**	⇑P		**Pn**		**00 56 17.9**	**+1.0**
	11nm,0.3s,baz=182,slow=13,SNR=240								
KK31				⇑S		**Sn**		**00 57 31.0**	**+2.5**
	4.3nm,0.5s,baz=185,slow=22,SNR=6.3								
EKS2	**Erkin-Say**	**6.38**	**21**	P		**Pn**		**00 56 17.4**	**+0.2**
	SNR=17								
AAK	**Ala-Archa**	**6.58**	**25**	P		Pn		00 56 16.3	-3.7
	SNR=12								
AAK	**Ala-Archa**	**6.58**	**25**	⇑P		**Pn**		**00 56 19.3**	**-0.7**
	7.0nm,0.5s								
AAK				⇓S		**Sn**		**00 57 33.6**	**-0.5**
	25nm,1.1s								
KBK	**Karagaybulak**	**6.76**	**28**	P		**Pn**		**00 56 25.9**	**+3.5**
	SNR=5.3								
CHMS	**Chumysh**	**6.99**	**25**	P		**Pn**		**00 56 25.9**	**+0.5**
	SNR=8.3								
TKM2	**Tokmak 2**	**7.24**	**30**	P		**Pn**		**00 56 32.0**	**+3.2**
	SNR=19								
TKM2	**Tokmak 2**	**7.24**	**30**	⇑P		**Pn**		**00 56 29.8**	**+0.9**
	10.0nm,0.6s								
TKM2				⇓S		**Sn**		**00 57 46.6**	**-3.3**
	5.8nm,0.8s								
GEYT	**Alibeck**	**10.07**	**281**	P		**Pn**		**00 57 06.8**	**+0.3**
	0.3nm,0.3s,baz=98,slow=9.3,SNR=5.6								
GEYT				S		**Sn**		**00 58 57.7**	**-0.2**
	0.6nm,0.3s,baz=93,slow=30,SNR=5.7								
MKAR	**Makanchi Array**	**13.25**	**37**	P		**Pn**		**00 57 46.4**	**-1.4**
	0.1nm,0.3s,baz=208,slow=12,SNR=1.9								
AB31	**Akbulak array**	**14.75**	**331**	⇑P		**Pn**		**00 58 07.0**	**+0.4**
	12nm,0.3s,baz=168,slow=11,SNR=45								
AB31				⇑S		**Sn**		**01 00 47.4**	**-2.7**
	2.5nm,0.3s,baz=148,slow=24,SNR=4.2								
AKTO	**Aktyubinsk**	**16.44**	**330**	⇓P		**P**		**00 58 29.4**	**+2.0**
	3.1nm,1.0s								
AKTO				⇑S		**S**		**01 01 29.1**	**-0.7**
	1.5nm,0.7s								
ZALV	**Zalesovo Beam**	**19.80**	**25**	P		**P**		**00 59 05.0**	**+1.0**
	1.2nm,0.3s,baz=214,slow=9.9,SNR=8.8								
TORD	**Torodi Ar. Bea**	**65.46**	**268**	P		**P**		**01 05 11.0**	**-1.7**
	0.3nm,0.8s,baz=47,slow=6.7,SNR=1.6								

LSZ ***10*** *01:04:55.1±0.3, 8°.90S×32°.96E, h10km, MD3.5*

ISC 10 01:04:52.0±9.0**, 7°.98S**×**30°.71E, h10**km±111km**, n29, 2D, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSMZ	**Kasama**	**2.23**	**167**	⇓*i*P		**Pb**		**01 05 31.0**	**-1.6**
KSMZ				*i*				01 05 31.1	
	baz=24,slow=3.7								
KSMZ				AMP				01 05 32.2	
	comp=Z,964nm,0.1s								
KSMZ				*i* S		**Sn**		**01 05 57.5**	**+0.4**
KSMZ	**Kasama**	**2.23**	**167**	⇓*i*P		**Pb**		**01 05 31.0**	**-1.6**
KSMZ				*i*				01 05 31.1	
	baz=54,slow=1.1								
KSMZ				*i* S		**Sn**		**01 05 57.2**	**+0.2**
MZUN	**Kiwira**	**3.01**	**113**	*i* P		**Pg**		**01 05 51.7**	**+2.0**
MZUN				*i* S		**Sg**		**01 06 29.8**	**+1.0**
MZUN				IAML				01 06 33.3	
	comp=Z,852nm,0.3s								
KARM1	**KARONGA**	**3.71**	**122**	*i* P		**Pn**		**01 05 50.3**	**+0.9**
KARM1				S		**Sg**		**01 06 50.4**	**-0.7**
DODT	**Dodoma, Tanzan**	**5.31**	**71**	*i* P		**Pn**		**01 06 11.7**	**+0.2**
DODT				*i* S		**Sn**		**01 07 06.8**	**-5.9**
KOND	**Kondoa**	**5.90**	**59**	*i* S		**Sg**		**01 08 01.2**	**-0.3**
KOND				*i* P		**Sn**		**01 07 22.4**	**-5.0**
PR61	**Kiloki Boma**	**6.73**	**42**	*i* P		**Pn**		**01 06 31.7**	**+0.7**
PR61				IAML				01 08 27.9	
	comp=Z,81nm,0.3s								
NG56	**Ngoile bomas**	**6.74**	**44**	*i* P		**Pn**		**01 06 31.9**	**+0.7**
NG56				IAML				01 08 41.3	
	comp=Z,167nm,0.6s								
MW44	**Karatu Welwel**	**6.74**	**47**	*i* P		**Pn**		**01 06 32.1**	**+0.8**
MW44				*i* S		**Sn**		**01 07 56.6**	**+8.3**
MW44				IAML				01 08 39.5	
	comp=Z,151nm,0.6s								
PR62	**Oldupai Boma**	**6.79**	**43**	IAML				01 08 38.3	
	comp=Z,164nm,0.5s								
PR63	**Meshili Boma**	**6.88**	**44**	*i* P		**Pn**		**01 06 33.6**	**+0.4**
PR63				IAML				01 08 33.8	
	comp=Z,55nm,0.5s								
NG55	**Lemala Gate**	**6.90**	**46**	*i* P		**Pn**		**01 06 34.5**	**+1.0**
NG55				IAML				01 08 53.7	
	comp=Z,79nm,0.7s								
NG54	**Nasera Bomas**	**6.97**	**42**	*i* P		**Pn**		**01 06 34.8**	**+0.4**
NG54				IAML				01 08 41.8	
	comp=Z,36nm,1.5s								
LL66	**Piyaya bomas**	**7.14**	**42**	*i* P		**Pn**		**01 06 37.0**	**+0.2**
LL66				IAML				01 08 48.5	
	comp=Z,40nm,0.4s								
LL22	**Malambo SS**	**7.29**	**42**	*i* P		**Pn**		**01 06 38.9**	**+0.2**
LL22				IAML				01 08 53.1	
	comp=Z,170nm,1.0s								
PR31	**Engaruka Boma**	**7.31**	**47**	*i* P		**Pn**		**01 06 40.2**	**+1.2**
PR31				IAML				01 08 57.7	
	comp=Z,112nm,0.6s								
MBAR	**Mbarara**	**7.33**	**0**	*e*P		**Pn**		**01 06 40.2**	**+0.9**
MBAR				*e*S		**Sn**		**01 07 58.9**	**-3.8**
LN34	**Lwondulwo boma**	**7.43**	**46**	*i* P		**Pn**		**01 06 41.6**	**+1.0**
LN34				IAML				01 09 03.1	
	comp=Z,41nm,0.6s								
PR33	**Engutoto Boma**	**7.43**	**47**	*i* P		**Pn**		**01 06 41.9**	**+1.1**
PR33				IAML				01 08 54.5	
	comp=Z,52nm,0.6s								
PR32	**Iloiriento PS**	**7.44**	**47**	*i* P		**Pn**		**01 06 41.7**	**+0.8**
PR32				IAML				01 08 59.3	
	comp=Z,93nm,0.5s								
LN35	**Magadini PS**	**7.48**	**45**	*i* P		**Pn**		**01 06 42.9**	**+1.5**
LN35				IAML				01 09 00.4	
	comp=Z,39nm,0.5s								
LL23	**Sali PS**	**7.51**	**42**	*i* P		**Pn**		**01 06 41.6**	**-0.2**
LL23				IAML				01 09 01.4	
	comp=Z,44nm,0.4s								
PR11	**Kitumbeine SS**	**7.56**	**48**	*i* P		**Pn**		**01 06 43.2**	**+0.7**
PR11				IAML				01 08 55.5	
	comp=Z,65nm,0.5s								
LL21	**Loliondo SS**	**7.60**	**40**	IAML				01 08 59.0	
	comp=Z,56nm,0.6s								
LL24	**Masusu PS**	**7.61**	**42**	*i* P		**Pn**		**01 06 43.1**	**-0.1**
LL24				IAML				01 09 05.9	
	comp=Z,66nm,0.6s								
LN15	**Lekule Girls S**	**7.61**	**46**	*i* P		**Pn**		**01 06 44.5**	**+1.3**
LN15				IAML				01 09 03.1	
	comp=Z,34nm,1.5s								
LSZ	**Lusaka**	**7.66**	**199**	*i* P		**Pn**		**01 06 44.8**	**+0.9**
LSZ				IAML				01 09 04.6	
	comp=Z,35nm,1.2s								
LN46	**New Vision PS**	**7.72**	**51**	*i* P		**Pn**		**01 06 45.6**	**+0.9**
LN46				IAML				01 09 01.9	
	comp=Z,27nm,0.5s								
LN16	**Kitarini PS**	**7.82**	**47**	*i* P		**Pn**		**01 06 46.5**	**+0.5**
LN16				IAML				01 09 09.3	
	comp=Z,42nm,0.7s								
LN14	**Matela PS**	**7.91**	**46**	*i* P		**Pn**		**01 06 47.8**	**+0.5**
LN14				IAML				01 09 06.4	
	comp=Z,23nm,0.4s								
KEN3	**Shompole Clini**	**7.95**	**43**	*i* P		**Pn**		**01 06 47.8**	**0.0**
KEN3				IAML				01 09 17.2	
	comp=Z,78nm,0.9s								
KEN4	**Ngurumani**	**8.13**	**41**	*i* P		**Pn**		**01 06 50.8**	**+0.5**
KEN4				IAML				01 09 26.1	
	comp=Z,50nm,0.8s								
ZOMB	**Zomba**	**8.64**	**149**	*i* P		**Pn**		**01 06 57.2**	**-0.1**
ZOMB				IAML				01 09 30.7	
	comp=Z,3.9nm,0.9s								

BJI ***10*** *01:09:32.3±0.0, 40°.07N×142°.12E, h72km, mB5.0/55, mb5.1/75, Ms4.2/62, Ms7 4.0/59*
MOS ***10*** *01:09:35.3±0.9, 40°.21N×141°.82E, h68km, mb5.3/74, MS4.3/10, Error ellipse: s-maj=5.3km s-min=3.9km az=99.7*
NEIC ***10*** *01:09:36.6, 40°.14N×141°.86E, h62km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}1.79; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-1.87; $M_{r\theta}$0.48; $M_{\theta\phi}$-0.13; $M_{\phi r}$-0.16; Fault plane solution: $M_0$1.91000×10^16^ NP1:ϕ_s169.40000°, δ48.92000°, λ70.05000°. NP2:ϕ_s18.32000°, δ44.88000°, λ111.38000°. Principal axes: T 1.9295, Plg75.0000°, Azm11.0000°; N -0.0419, Plg15.0000°, Azm183.0000°; P -1.8876, Plg2.0000°, Azm273.0000°;*
UNK ***10*** *01:09:36.7, 40°.13N×141°.86E, h72km*
NEIC ***10*** *01:09:36.4±1.1, 40°.14N±0°.05×141°.83E±0°.02, h69km±4km, mb5.1/394, Mwr4.8/20, Error ellipse: s-maj=7.5km s-min=1.8km az=181.0*
BGR ***10*** *01:09:36.2±0.0, 40°.24N×143°.22E, h63km, mb4.6*
NIED ***10*** *01:09:36.5, 40°.14N×141°.93E, h67km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}1.11; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-0.86; $M_{r\theta}$0.11; $M_{\theta\phi}$-0.46; $M_{\phi r}$-1.90; Fault plane solution: $M_0$2.19000×10^16^ NP1: ϕ_s182.00000°, δ76.00000°, λ78.00000°. NP2:ϕ_s44.00000°, δ19.00000°, λ130.00000°.*
JMA ***10*** *01:09:36.4, 40°.13N×141°.93E, h67km±1km, M4.9 Broadband fault plane solution: P waves. NP1: ϕ_s214.00000°, δ35.00000°, λ49.00000°. NP2:ϕ_s81.00000°, δ65.00000°, λ115.00000°. Principal axes: T Plg62.0000°, Azm30.0000°; N Plg22.0000°, Azm250.0000°; P Plg16.0000°, Azm153.0000°;*
JMA Felt IV J1.
IDC ***10*** *01:09:37.2±1.3, 40°.13N×141°.80E, h73km±11km, mb4.6/34, mb1 4.7/42, mb1mx4.6/46, mbtmp4.9/42, MS3.8/34, Ms1 3.8/34, ms1mx3.7/41 Error ellipse: s-maj=10.6km s-min=10.0km az=105.0*
GCMT ***10*** *01:09:38.4±0.2, 40°.23N±0°.02×141°.75E±0°.02, h80km±3km, MW4.9/115, Moment Tensor Solution. s46,c54; s115,c178; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.19±.11; $M_{\theta\theta}$0.21±.09; $M_{\phi\phi}$-1.40±.10; $M_{r\theta}$-0.10±.05; $M_{\theta\phi}$-0.62±.09; $M_{\phi r}$-2.41±.05; Best double couple: $M_0$2.80000×10^16^ NP1:ϕ_s40.00000°, δ18.00000°, λ125.00000°. NP2:ϕ_s184.00000°, δ76.00000°, λ80.00000°. Principal axes: T 2.6520, Plg58.0000°, Azm80.0000°; N 0.2990, Plg10.0000°, Azm186.0000°; P -2.9490, Plg30.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 01:09:36.1±0.3**, 40°.12N**±0°.03×**141°.92E**±0°.03**, h68**km±2km**, h68**km**: pP-P, n1022,** σ1°**32**/991**, mb5.1**/323**, 20C-56D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.18**	**298**	⇑P		**Pn**		**01 09 46.6**	**+0.2**
JKEN				S		**Sn**		**01 09 54.0**	**+0.1**
JTH	**Tanohata**	**0.19**	**194**	⇑P		**Pn**		**01 09 46.7**	**+0.3**
JTH				S		**Sn**		**01 09 54.3**	**+0.4**
JANG	**Nango**	**0.40**	**309**	⇑P		**Pn**		**01 09 47.9**	**+0.1**
JANG				S		**Sn**		**01 09 56.5**	**+0.1**
JKZ	**Kuzumaki**	**0.47**	**253**	⇑P		**Pn**		**01 09 48.8**	**+0.2**
JKZ				S		**Sn**		**01 09 57.6**	**0.0**
JOM	**Ohasama**	**0.81**	**217**	⇑P		**Pn**		**01 09 52.4**	**+0.2**
JOM				S		**Sn**		**01 10 04.2**	**+0.2**
JTM	**Tenmabayashi**	**0.93**	**316**	⇓P		**Pn**		**01 09 53.7**	**+0.1**
JTM				S		**Sn**		**01 10 06.8**	**+0.2**
JTM	**Tenmabayashi**	**0.93**	**316**	Pn		**Pn**		**01 09 55.9**	**+2.2**
JTM				Sn		**Sn**		**01 10 06.4**	**-0.2**
JAH	**Hinai**	**0.99**	**274**	⇓P		**Pn**		**01 09 54.6**	**+0.3**
JAH				S		**Sn**		**01 10 08.8**	**+0.9**
JRG	**Rokugo**	**1.23**	**234**	⇑P		**Pn**		**01 09 57.8**	**+0.4**
JRG				S		**Sn**		**01 10 15.0**	**+1.6**
JMK	**Ichinoseki**	**1.29**	**205**	⇑P		**Pn**		**01 09 58.6**	**+0.4**
JMK				*e*S		**Sn**		**01 10 15.4**	**+0.7**
JOT	**Ohata**	**1.42**	**333**	⇓P		**Pn**		**01 10 00.1**	**+0.1**
JOT				*e*S		**Sn**		**01 10 18.2**	**+0.3**
JIW	**Iwasaki**	**1.54**	**288**	⇓P		**Pn**		**01 10 02.0**	**+0.5**
ERM	**Erimo**	**2.11**	**26**	*de*P		**Pn**		**01 10 10.3**	**+1.1**
ERM	**Erimo**	**2.11**	**26**			**Pn**		**01 10 10.1**	**+1.0**
ERM				Sn		**Sn**		**01 10 36.2**	**+1.8**
JMM	**Marumori**	**2.42**	**202**			**Pn**		**01 10 13.6**	**+0.2**
JEW	**Eniwo**	**2.74**	**353**			**Pn**		**01 10 19.5**	**+1.7**
JEW				Sn		**Sn**		**01 10 51.0**	**+1.2**
JSD	**Sado**	**3.53**	**235**			**Pn**		**01 10 28.6**	**+0.1**
ASAJ	**Asahikawa**	**4.02**	**7**	P		**Pn**		**01 10 36.0**	**+0.7**
	34nm,0.3s,baz=217,slow=11,SNR=41								
ASAJ				S		**Sn**		**01 11 22.5**	**+1.4**
	22nm,0.3s,baz=187,slow=28,SNR=3.5								
ASAJ				LR		LR		01 12 15.0	
	comp=Z,416nm,21.4s,baz=199,slow=39								
JKA	**Kamikawa-asahi**	**4.02**	**7**	Pn		**Pn**		**01 10 36.1**	**+0.8**
JKA						**Sn**		**01 11 20.9**	**-0.2**
JYT	**Yasato**	**4.12**	**200**			**Pn**		**01 10 36.5**	**-0.1**
NMR	**Nemuro--Hokkai**	**4.32**	**40**	*e*P		**Pn**		**01 10 38.1**	**-1.1**
NMR				*i* S		**Sn**		**01 11 24.7**	**-3.6**
GLVR	**Golovnino**	**4.50**	**35**	*e*P		**Pn**		**01 10 41.9**	**+0.1**
GLVR				*i* S		**Sn**		**01 11 30.5**	**-2.3**
GLVR				pmax		pmax			
	comp=Z,1μm,0.3s								
GLVR				pmax		pmax			
	comp=N,272nm,0.1s								
GLVR				pmax		pmax			
	comp=E,174nm,0.2s								
GLVR				smax		smax			
	comp=N,3μm,0.3s								
GLVR				smax		smax			
	comp=E,6μm,0.4s								
MAJO	**Matsushiro**	**4.61**	**220**	*d*iP		**Pn**		**01 10 45.4**	**+2.0**
MAJO	**Matsushiro**	**4.61**	**220**			**Pn**		**01 10 45.7**	**+2.3**
MAT	**Matsushiro**	**4.61**	**220**	P		**Pn**		**01 10 45.4**	**+2.0**
MAT				*e*S		**Sn**		**01 11 38.6**	**+2.9**
MJAR	**Matsushiro Arr**	**4.61**	**220**	P		**Pn**		**01 10 45.5**	**+2.2**
	comp=E,5.6nm,0.3s,baz=22,slow=14,SNR=172								
MJAR				LR		LR		01 12 15.8	
	comp=E,632nm,21.0s,baz=35,slow=35								
MJAR	**Matsushiro Arr**	**4.61**	**220**	P		**Pn**		**01 10 45.2**	**+1.8**
MJAR	**Matsushiro Arr**	**4.61**	**220**	Pn		**Pn**		**01 10 45.2**	**+1.8**
RUSJ	**Misakicho**	**4.69**	**31**	*e*P		**Pn**		**01 10 45.5**	**+1.2**
RUSJ				*i* S		**Sn**		**01 11 37.5**	**+0.2**
GRPR	**Tuman**	**4.81**	**35**	*e*P		**Pn**		**01 10 45.8**	**-0.2**
GRPR				*i* S		**Sn**		**01 11 37.6**	**-2.9**
GRPR				pmax		pmax			
	comp=E,340nm,0.3s								
GRPR				pmax		pmax			
	comp=Z,1μm,0.3s								
GRPR				pmax		pmax			
	comp=N,330nm,0.2s								
GRPR				smax		smax			
	comp=E,6μm,0.3s								
GRPR				smax		smax			
	comp=N,7μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**4.89**	**36**	*e*P		**Pn**		**01 10 47.3**	**+0.3**
YUK				*i* S		**Sn**		**01 11 39.8**	**-2.4**
YUK				pmax		pmax			
	comp=N,1μm,0.4s								
YUK				pmax		pmax			
	comp=Z,2μm,0.4s								
YUK				pmax		pmax			
	comp=E,449nm,0.3s								
YUK				smax		smax			
	comp=N,8μm,0.4s								
YUK				smax		smax			
	comp=E,3μm,0.3s								
JGF	**Kuroka**	**5.78**	**220**			**Pn**		**01 11 01.2**	**+1.9**
INU	**Inuyama**	**6.15**	**221**	Pn		**Pn**		**01 11 06.8**	**+2.5**
JSG	**Sagara**	**6.20**	**210**			**Pn**		**01 11 05.5**	**+0.5**
KUR	**Kuril'sk**	**6.73**	**39**	*d*iP		**Pn**		**01 11 12.7**	**+0.5**
KUR				*e*S		**Sn**		**01 12 25.6**	**-1.7**
KUR				pmax		pmax			
	comp=Z,352nm,0.7s								
KUR				pmax		pmax			
	comp=E,130nm,0.4s								
KUR				pmax		pmax			
	comp=N,60nm,0.3s								
KUR				pmax		pmax			
	comp=Z,974nm,3.1s								
KUR				smax		smax			
	comp=E,631nm,0.5s								
KUR				smax		smax			
	comp=N,320nm,0.3s								
KUR				smax		smax			
	comp=E,2μm,2.8s								
KUR				smax		smax			
	comp=N,1μm,1.5s								
KUR				MLR		MLR			
	comp=Z,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**6.86**	**5**	⇑*e*P		**Pn**		**01 11 15.9**	**+2.0**
YSS				*e*S		**Sn**		**01 12 32.9**	**+2.4**
YSS				pmax		pmax			
	comp=Z,200nm,2.8s								
YSS				smax		smax			
	comp=E,70nm,1.1s								
YSS				MLR		MLR			
	comp=Z,700nm,15.0s								
YSS				MLR		MLR			
	comp=N,400nm,14.0s								
YSS				MLR		MLR			
	comp=E,500nm,16.0s								
YSS	**Yuzh-Sakhalins**	**6.86**	**5**	Pn		**Pn**		**01 11 14.9**	**+1.0**
JWT	**Wachi**	**7.07**	**229**			**Pn**		**01 11 17.6**	**+0.6**
JHJ	**Hachijo jima 2**	**7.20**	**194**	P		**Pn**		**01 11 18.0**	**-0.6**
	comp=E,57nm,0.3s,baz=90,slow=22,SNR=8.9								
JHJ				S		**Sn**		**01 12 33.6**	**-5.3**
	comp=E,52nm,0.3s,baz=207,slow=22,SNR=3.9								
JHJ				LR		LR		01 14 21.9	
	comp=E,264nm,19.2s,baz=72,slow=40								
VLA	**Vladivostok**	**8.09**	**295**	*ce*P		**Pn**		**01 11 32.6**	**+1.8**
USRK	**Ussuriysk Ar.**	**8.43**	**302**	P		**Pn**		**01 11 36.6**	**+1.2**
	baz=105,slow=12,SNR=247								
USRK				LR		LR		01 14 41.8	
	comp=E,1μm,20.6s,baz=98,slow=36								
JHS	**Saijyo**	**8.66**	**237**			**Pn**		**01 11 38.5**	**-0.2**
UGL	**Uglegorsk**	**8.96**	**1**	*e*P		Pn		01 11 54.9	+12
UGL				pmax		pmax			
	comp=Z,88nm,0.8s								
UGL				MLR		MLR			
	comp=Z,1μm,19.0s								
JMN	**Monobe**	**9.06**	**228**			**Pn**		**01 11 44.2**	**0.0**
MDJ	**Mudanjiang**	**10.17**	**300**	P		**Pn**		**01 12 03.0**	**+3.8**
MDJ				sP				01 12 23.4	
MDJ				S		**Sn**		**01 14 00.0**	**+8.5**
MDJ				pmax		pmax			
	comp=Z,260nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,480nm,4.5s								
MDJ				LR		LR			
	comp=Z,550nm,18.1s								
MDJ				LR		LR			
	comp=Z,1μm,17.2s								
MDJ				LR		LR			
	comp=Z,2μm,17.8s								
MDJ	**Mudanjiang**	**10.17**	**300**	Pn		**Pn**		**01 11 59.3**	**+0.1**
TYV	**Tymovskoe**	**10.76**	**2**	*e*P		Pn		01 12 13.0	+5.8
TYV				pmax		pmax			
	comp=Z,12nm,0.6s								
TYV				pmax		pmax			
	comp=Z,100nm,3.1s								
KSRS	**Korea Array**	**11.25**	**261**	P		**Pn**		**01 12 15.9**	**+2.0**
	comp=Z,2.7nm,0.3s,baz=74,slow=14,SNR=37								
KSRS				S		**Sn**		**01 14 18.9**	**+1.0**
	baz=90,slow=40,SNR=1.3								
KSRS				LR		LR		01 16 16.9	
	comp=Z,841nm,19.6s,baz=70,slow=36								
KS19	**Wonju Array Si**	**11.27**	**261**			**Pn**		**01 12 14.2**	**-0.1**
KSAR	**Wonju Array Be**	**11.28**	**261**	P		**Pn**		**01 12 14.1**	**-0.3**
KSAR	**Wonju Array Be**	**11.28**	**261**	Pn		**Pn**		**01 12 14.1**	**-0.3**
JNU	**Nakatsue**	**11.29**	**235**	P		**Pn**		**01 12 15.3**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=52,slow=9.1,SNR=15								
JNU				LR		LR		01 16 39.1	
	comp=Z,459nm,18.5s,baz=48,slow=38								
JNU	**Nakatsue**	**11.29**	**235**	Pn		**Pn**		**01 12 14.2**	**-0.3**
GRNR	**Gornyy**	**11.32**	**342**	*e*P		**Pn**		**01 12 15.5**	**+0.6**
GRNR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
GRNR				MLR

comp=Z,107nm,1.7s
HIA Hailar 18.17 308 P **P** **01 13 40.7 -2.5**
HIA pmax pmax
comp=Z,38nm,1.1s
HIA Hailar 18.17 308 P **P** **01 13 40.7 -2.5**
BJI Beijing 19.68 278 P **P** **01 13 57.9 -1.8**
BJI S **S** **01 17 31.0 -7.0**
BJI pmax pmax
comp=Z,50nm,0.7s
BJI LR LR
comp=Z,210nm,10.1s
BJI LR LR
comp=Z,300nm,15.4s
TIA Tai'an 19.86 267 P **P** **01 14 00.5 -1.2**
TIA pmax pmax
comp=Z,110nm,1.1s
TIA pmax pmax
comp=Z,210nm,3.5s
TIA LR LR
comp=Z,250nm,13.3s
TIA LR LR
comp=Z,400nm,20.4s
TIA LR LR
comp=Z,540nm,19.6s
NJ2 Nanjing 20.27 254 ⇓P **P** **01 14 05.6 -0.5**
NJ2 pP **pP** **01 14 19.3 -1.1**
NJ2 sP **sP** **01 14 27.6 -1.3**
NJ2 S **S** **01 17 46.8 -2.8**
NJ2 pmax pmax
comp=Z,210nm,1.0s
NJ2 pmax pmax
comp=Z,490nm,3.5s
NJ2 LR LR
comp=Z,170nm,11.8s
NJ2 LR LR
comp=Z,400nm,14.2s
NJ2 LR LR
comp=Z,580nm,15.2s
TATO Taipei 22.83 235 P **P** **01 14 32.2 -1.3**
TATO IAmb IAmb 01 14 46.1
comp=Z,43nm,0.8s
CIT Chita 22.84 311 *e*P **P** **01 14 34.2 +0.7**
CIT *e* 01 14 50.5
CIT pmax pmax
comp=Z,278nm,1.0s
TIY Taiyuan 23.02 274 *e*P **P** **01 14 36.2 +0.7**
HHC Hu-ho-hao-te 23.05 282 *e*P **P** **01 14 33.2 -2.6**
HHC S **S** **01 18 33.4 -8.0**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,190nm,5.8s
HHC LR LR
comp=Z,140nm,8.1s
HHC LR LR
comp=Z,500nm,8.9s
HHC LR LR
comp=Z,690nm,9.6s
YHNB Yeheng 23.12 234 P **P** **01 14 33.5 -3.1**
YHNB IAmb IAmb 01 14 40.4
comp=Z,74nm,1.1s
YAK Yakutsk 23.17 345 P **P** **01 14 34.2 -2.3**
comp=Z,21nm,0.4s,baz=346,slow=4.3,SNR=11
YAK S **S** **01 18 38.7 -3.9**
comp=Z,14nm,0.4s,baz=96,slow=22,SNR=9.2
YAK LR LR 01 23 40.4
comp=Z,161nm,18.9s,baz=185,slow=36
YAK Yakutsk 23.17 345 *e*P **P** **01 14 34.3 -2.3**
YAK *e**PP **pP** **01 14 49.9 -1.3**
YAK *e*S **S** **01 18 38.9 -3.7**
YAK *e**SS Sn 01 19 04.0 -1.1
YAK *e*SS **SnSn** **01 19 23.7 +1.4**
YAK pmax pmax
comp=Z,92nm,0.9s
YAK pmax pmax
comp=N,39nm,0.9s
YAK pmax pmax
comp=E,11nm,1.0s
YAK smax smax
comp=N,525nm,2.0s
YAK smax smax
comp=E,187nm,1.8s
YAK MLR MLR
comp=Z,187nm,17.0s
YAK MLR MLR
comp=N,168nm,15.0s
YAK Yakutsk 23.17 345 P **P** **01 14 34.5 -2.0**
YAK IAmb IAmb 01 14 38.5
comp=Z,79nm,0.8s
YAK **S** **01 18 41.6 -1.0**
SEY Seymchan 23.69 12 P **P** **01 14 40.9 -0.5**
comp=Z,59nm,1.1s,baz=198,slow=7.9,SNR=33
SEY LR LR 01 23 38.7
comp=Z,84nm,21.0s,baz=239,slow=36
SEY Seymchan 23.69 12 *de*P **P** **01 14 42.1 +0.7**
SSLB Suanglung 24.02 234 P **P** **01 14 44.6 -0.2**
YULB Yu-li 24.11 232 P **P** **01 14 43.4 -2.1**
BTO Baotou 24.25 282 *e*P **P** **01 14 43.6 -3.2**
WHN Wuhan 24.36 256 ⇑*i*P **P** **01 14 47.2 -0.5**
WHN pP **pP** **01 15 04.5 +0.6**
WHN S **S** **01 18 59.8 -2.6**
WHN pmax pmax
comp=Z,64nm,0.7s
WHN LR LR
comp=Z,1μm,17.2s
TPUB Ta-pu 24.59 233 P **P** **01 14 49.3 -0.5**
TPUB IAmb IAmb 01 15 08.7
comp=Z,57nm,1.0s
TWG Pinlang 24.67 232 P **P** **01 14 49.9 -0.7**
QZH Quanzhou 24.71 239 ⇑*i*P **P** **01 14 50.9 -0.1**
QZH S **S** **01 19 09.1 +0.9**
QZH pmax pmax
comp=Z,44nm,1.2s
BOD Bodaibo 25.20 324 *e*P **P** **01 14 53.6 -1.5**
BOD pmax pmax
comp=Z,74nm,1.1s
ULN Ulaanbaatar 26.08 299 *d i*P **P** **01 15 02.0 -1.4**
ULN pmax pmax
comp=Z,26nm,1.3s
ULN Ulaanbaatar 26.08 299 P **P** **01 15 02.9 -0.5**
SONM Songino Array 26.52 299 P **P** **01 15 05.2 -2.1**
comp=Z,7.8nm,0.5s,baz=92,slow=9.0,SNR=28
SONM ScP **ScP** **01 22 04.4 +0.1**
comp=Z,1.8nm,1.0s,baz=100,slow=4.4,SNR=5.6
SONM LR LR 01 26 05.7
comp=Z,575nm,18.2s,baz=91,slow=37
SONM Songino Array 26.52 299 P **P** **01 15 06.6 -0.7**
SONM **ScP** **01 22 04.1 -0.2**
XAN Xi'an 26.92 267 P **P** **01 15 08.8 -2.2**
XAN pP pP 01 15 30.6 +3.4
XAN PP **PnPn** **01 15 57.3 +1.0**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,130nm,2.9s
XAN LR LR
comp=Z,130nm,20.6s
XAN LR LR
comp=Z,290nm,18.4s
XAN LR LR
comp=Z,600nm,36.3s
XAN Xi'an 26.92 267 P **P** **01 15 09.4 -1.6**
XAN pmax pmax
comp=Z,18nm,0.8s
XAN Xi'an 26.92 267 P **P** **01 15 09.4 -1.6**
ENH Enshi 28.13 260 P **P** **01 15 21.2 -0.6**
ENH IAmb IAmb 01 15 27.6
comp=Z,41nm,0.9s
TLY Talaya 28.71 307 P **P** **01 15 25.8 -0.9**
comp=Z,16nm,0.8s,baz=99,slow=10,SNR=9.9
TLY Talaya 28.71 307 *e*P **P** **01 15 27.3 +0.6**
TLY *e* 01 16 22.2
TLY *e*S **S** **01 20 17.9 +7.0**
TLY *e*SS **ScP** **01 22 01.1 -10**
TLY pmax pmax
comp=Z,80nm,1.0s
TLY MLR MLR
comp=Z,556nm,14.0s
TLY Talaya 28.71 307 P **P** **01 15 26.9 +0.2**
ZAK Zakamensk 28.77 304 *e*P **P** **01 15 26.9 -0.5**
ZAK pmax pmax
comp=Z,35nm,1.1s
H11N2 WAKE ISLAND Hy 29.52 126 T T 01 46 33.9
baz=319,slow=75,SNR=4355
H11N1 WAKE ISLAND Hy 29.53 126 T T 01 46 36.5
baz=319,slow=75,SNR=3539
H11N3 WAKE ISLAND Hy 29.54 126 T T 01 46 37.2
baz=319,slow=75,SNR=3548
LZH Lanzhou 30.08 275 *e*P **P** **01 15 38.3 -0.9**
LZH pP pP 01 15 55.4 -0.2
LZH sP sP 01 16 03.3 -0.3
LZH sS sS 01 20 59.6 -1.1
LZH SS **SnSn** **01 22 10.0 -1.4**
LZH pmax pmax
comp=Z,58nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,220nm,15.5s
LZH LR LR
comp=Z,280nm,16.3s
LZH LR LR
comp=Z,330nm,18.7s
H11S1 WAKE ISLAND Hy 30.32 128 T T 01 47 35.9
baz=320,slow=76,SNR=841
H11S3 WAKE ISLAND Hy 30.33 128 T T 01 47 19.7
baz=320,slow=76,SNR=807
H11S2 WAKE ISLAND Hy 30.34 128 T T 01 47 21.0
baz=320,slow=76,SNR=922
MOY Mondy 30.34 306 *e*P **P** **01 15 40.9 -0.4**
MOY pmax pmax
comp=Z,57nm,2.1s
GTA Gaotai 32.16 283 ⇑P **P** **01 15 57.0 -0.4**
GTA pP pP 01 16 14.1 +0.3
GTA sP sP 01 16 23.5 +1.7
GTA PcP **PcP** **01 18 46.3 +1.4**
GTA S **S** **01 21 03.6 -1.7**
GTA sS sS 01 21 32.4 -0.8
GTA ScP **ScP** **01 22 22.8 +0.3**
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA pmax pmax
comp=Z,72nm,8.4s
GTA LR LR
comp=Z,270nm,19.0s
GTA LR LR
comp=Z,500nm,17.5s
GTA LR LR
comp=Z,650nm,17.1s
CD2 Chengdu 32.19 265 P **P** **01 15 56.8 -0.9**
CD2 pP pP 01 16 15.5 +1.4
CD2 S **S** **01 21 04.6 -1.2**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,180nm,5.3s
CD2 LR LR
comp=Z,290nm,12.3s
CD2 LR LR
comp=Z,370nm,32.4s
CD2 LR LR
comp=Z,460nm,31.4s
ATKA Atka Island 32.22 53 P **P** **01 15 58.5 +0.9**
GYA Guiyang 32.25 256 ⇑P **P** **01 15 57.4 -0.9**
GYA pP pP 01 16 14.0 -0.8
GYA S **S** **01 21 08.3 +1.4**
GYA pmax pmax
comp=Z,59nm,0.7s
GYA pmax pmax
comp=Z,43nm,3.5s
GYA LR LR
comp=Z,210nm,12.5s
GYA LR LR
comp=Z,240nm,13.4s
GYA LR LR
comp=Z,380nm,19.9s
TIXI Tiksi 32.28 352 P **P** **01 15 56.6 -1.3**
comp=Z,7.0nm,0.6s,baz=164,slow=18,SNR=2.4
TIXI Tiksi 32.28 352 P **P** **01 15 57.4 -0.6**
QIZ Qiongzhong 34.64 242 P **P** **01 16 19.9 +0.8**
QIZ pP **pP** **01 16 35.4 -0.3**
QIZ S **S** **01 21 44.2 +0.3**
QIZ sS **sS** **01 22 12.7 +0.8**
QIZ pmax pmax
comp=Z,13nm,1.4s
QIZ pmax pmax
comp=Z,92nm,4.6s
QIZ LR LR
comp=Z,160nm,13.3s
QIZ LR LR
comp=Z,150nm,8.8s
QIZ LR LR
comp=Z,190nm,11.4s
KMI Kunming 35.92 257 ⇑*i*P **P** **01 16 30.0 -0.3**
KMI pP pP 01 16 42.5 -4.4
KMI sP sP 01 16 53.5 -1.4
KMI PP **PnPn** **01 17 52.4 -0.2**
KMI S **S** **01 22 00.8 -3.0**
KMI pmax pmax
comp=Z,28nm,0.9s
KMI pmax pmax
comp=Z,160nm,3.9s
KMI LR LR
comp=Z,260nm,16.3s
KMI LR LR
comp=Z,280nm,17.1s
KMI LR LR
comp=Z,400nm,19.4s
SLVN Son La 37.31 251 P **P** **01 16 41.4 -0.5**
SLVN IAmb IAmb 01 16 59.3
comp=Z,25nm,0.9s
WMQ Urumqi 39.88 294 P **P** **01 17 04.3 +1.0**
WMQ pP pP 01 17 21.7 +1.7
WMQ pmax pmax
comp=Z,62nm,0.9s
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=Z,130nm,21.5s
WMQ LR LR
comp=Z,130nm,29.3s
ZAA0 Zalesovo Array 40.19 310 P **P** **01 17 05.4 -0.2**
ZALV Zalesovo Beam 40.19 310 P **P** **01 17 04.9 -0.6**
comp=Z,39nm,0.5s,baz=91,slow=8.0,SNR=153
ZALV PcP **PcP** **01 19 08.8 +0.3**
comp=Z,3.8nm,0.3s,baz=106,slow=3.5,SNR=5.3
ZALV ScP **ScP** **01 22 50.8 -0.7**
comp=Z,2.2nm,0.6s,baz=88,slow=4.2,SNR=4.8
ZALV LR LR 01 34 30.6
comp=Z,287nm,19.5s,baz=76,slow=37
ZALV Zalesovo Beam 40.19 310 P **P** **01 17 05.4 -0.2**
ZALV 01 19 08.2
ZALV Zalesovo Beam 40.19 310 P **P** **01 17 05.4 -0.2**
ZALV **PcP** **01 19 08.2 -0.2**
ZALV **ScP** **01 22 50.3 -1.2**
NRIK Noril'sk 40.66 334 P **P** **01 17 08.7 -0.5**
comp=Z,2.4nm,0.3s,baz=122,slow=4.1,SNR=6.2
NRIK LR LR 01 34 49.6
comp=Z,274nm,20.6s,baz=51,slow=37
DLV T Lat 40.69 236 P **P** **01 17 10.3 -0.1**
DLV IAmb IAmb 01 17 12.2
comp=Z,28nm,0.9s
CNBA Chernabura Isl 40.94 49 P **P** **01 17 11.6 -0.1**
CNBA IAmb IAmb 01 17 12.9
comp=Z,31nm,0.8s
ZSN Zaisan 41.02 300 *i* P **P** **01 17 13.2 +0.6**
comp=Z,91nm,1.8s,baz=300
ZSN Zaisan 41.02 300 *i* P **P** **01 17 13.2 +0.6**
ZSN pmax pmax
comp=Z,91nm,1.8s
SPMM Sapulut 42.06 220 P **P** **01 17 22.0 +0.6**
LSA Lhasa 42.41 272 *i* P **P** **01 17 25.5 +0.9**
SNR=6.2
LSA Lhasa 42.41 272 P **P** **01 17 24.2 -0.4**
LSA pmax pmax
comp=Z,24nm,0.9s
LSA Lhasa 42.41 272 P **P** **01 17 24.2 -0.4**
LSA IAmb IAmb 01 17 26.6
comp=Z,24nm,0.9s
CHTO Chiang Mai 42.51 253 P **P** **01 17 24.9 -0.1**
CHTO pmax pmax
comp=Z,32nm,0.8s
CHTO Chiang Mai 42.51 253 P **P** **01 17 24.9 -0.1**
CHTO IAmb IAmb 01 17 30.9
comp=Z,32nm,0.8s
TTA Tatalina 42.69 37 P **P** **01 17 26.9 +0.9**
TTA pmax pmax
comp=Z,15nm,1.1s
TTA Tatalina 42.69 37 P **P** **01 17 26.9 +0.9**
CMAR Chiang Mai Arr 42.73 252 P **P** **01 17 27.2 +0.4**
comp=Z,4.5nm,0.6s,baz=43,slow=7.5,SNR=20
CMAR Chiang Mai Arr 42.73 252 P **P** **01 17 26.4 -0.5**
SVW2 Sparrevohn 42.86 39 P **P** **01 17 27.6 +0.4**
SVW2 IAmb IAmb 01 17 31.0
comp=Z,28nm,0.8s
MK31 Makanchi Array 42.88 299 P **P** **01 17 27.7 -0.1**
MK31 pmax pmax
comp=Z,45nm,0.9s
MK31 Makanchi Array 42.88 299 P **P** **01 17 27.7 -0.1**
MK31 IAmb IAmb 01 17 31.0
comp=Z,45nm,0.9s
MKAR Makanchi Array 42.88 299 P **P** **01 17 27.8 +0.1**
comp=Z,43nm,0.8s,baz=84,slow=9.1,SNR=178
MKAR ScP **ScP** **01 23 01.8 -0.7**
comp=Z,2.1nm,0.8s,baz=76,slow=5.1,SNR=4.3
MKAR LR LR 01 36 04.0
comp=Z,285nm,20.0s,baz=74,slow=37
GTOI Gorontalo 42.91 208 P **P** **01 17 28.8 +0.7**
comp=Z,354nmcomp=Z,23nm,0.9s
MAKZ Makanchi 43.09 300 P **P** **01 17 29.6 +0.2**
MAKZ pmax pmax
comp=Z,57nm,1.0s
MAKZ Makanchi 43.09 300 P **P** **01 17 29.6 +0.2**
SEM Semipalatinsk 43.44 305 *e*P **P** **01 17 31.8 -0.7**
comp=Z,38nm,1.3s,baz=305
SEM Semipalatinsk 43.44 305 *e*P **P** **01 17 31.7 -0.7**
SEM pmax pmax
comp=Z,38nm,1.3s
A21K Barrow 43.48 24 P **P** **01 17 33.4 +1.3**
baz=258
IMAR Indian Mountai 43.81 32 P **P** **01 17 36.0 +1.1**
OHAK Old Harbor 44.25 45 P **P** **01 17 39.5 +0.9**
OHAK IAmb IAmb 01 17 40.6
comp=Z,28nm,0.8s
RSO Redoubt South 44.26 40 P **P** **01 17 39.7 +0.8**
KURK Kurchatov 44.40 306 *d i*P **P** **01 17 39.3 -0.5**
KURK pmax pmax
comp=Z,138nm,0.8s
KURK Kurchatov 44.40 306 P **P** **01 17 39.9 +0.1**
PPLA Purkeypile 44.43 37 P **P** **01 17 39.7 -0.4**
PPLA IAmb IAmb 01 17 44.8
comp=Z,34nm,1.0s
KURBB Kurchatov Arra 44.47 306 P **P** **01 17 40.2 -0.1**
comp=Z,92nm,0.6s,baz=81,slow=8.3,SNR=373
KURBB Kurchatov Arra 44.47 306 P **P** **01 17 39.7 -0.7**
KDAK Kodiak Island 44.57 44 P **P** **01 17 42.0 +1.0**
KDAK pmax pmax
comp=Z,71nm,1.0s
KDAK Kodiak Island 44.57 44 P **P** **01 17 42.0 +1.0**
KTH Kantishna Hill 44.99 36 P **P** **01 17 45.5 +1.0**
KRVT Keravat (AS076 45.18 166 LR LR 01 39 56.5
comp=Z,15nm,18.1s,baz=345,slow=40
COLD Coldfoot 45.28 30 P **P** **01 17 48.4 +1.8**
baz=269,SNR=16
COLD Coldfoot 45.28 30 IAmb IAmb 01 17 49.6
comp=Z,32nm,1.2s
CUT Chulitna 45.34 37 P **P** **01 17 48.3 +1.3**
baz=274
TOLK Toolik Lake Re 45.56 29 P **P** **01 17 50.6 +1.7**
baz=268,SNR=8.7
TOLK Toolik Lake Re 45.56 29 IAmb IAmb 01 17 52.8
comp=Z,18nm,0.9s
PDGK Podgornoye 45.74 295 P **P** **01 17 49.5 -1.3**
O22K Cooper Landing 45.76 40 P **P** **01 17 51.1 +0.7**
baz=276
NEA2 Nenana 45.77 34 P **P** **01 17 52.3 +1.8**
baz=272,SNR=13
SHLS Shalkode 45.82 295 *e*P **P** **01 17 48.8 -2.6**
comp=Z,28nm,0.9s,baz=295
SHLS Shalkode 45.82 295 *e*P **P** **01 17 48.7 -2.6**
SHLS pmax pmax
comp=Z,28nm,0.9s
MCK McKinley 45.87 35 P **P** **01 17 51.7 +0.4**
MCK pmax pmax
comp=Z,21nm,0.8s
MCK McKinley 45.87 35 P **P** **01 17 51.7 +0.4**
MCK IAmb IAmb 01 17 53.9
comp=Z,21nm,0.8s
RND Reindeer 45.92 36 P **P** **01 17 51.7 -0.1**
RND pmax pmax
comp=Z,36nm,1.0s
RND Reindeer 45.92 36 P **P** **01 17 51.7 -0.1**
RND IAmb IAmb 01 17 54.1
comp=Z,36nm,1.0s
PMR Palmer 45.94 38 P **P** **01 17 52.6 +0.8**
PMR pmax pmax
comp=Z,24nm,0.8s
PMR Palmer 45.94 38 P **P** **01 17 52.6 +0.8**
PMR IAmb IAmb 01 17 54.0
comp=Z,24nm,0.8s
TDK Taldyqorghan 45.98 298 *e*P **P** **01 17 52.9 +0.5**
comp=Z,76nm,1.0s,baz=298
TDK LR LR 01 36 29.0
comp=Z,217nm,18.1s,baz=298
TDK Taldyqorghan 45.98 298 *e*P **P** **01 17 52.9 +0.5**
TDK pmax pmax
comp=Z,77nm,1.0s
TDK MLR MLR
comp=Z,217nm,18.0s
MDM Murphy Dome 46.11 34 P **P** **01 17 54.2 +1.0**
MDM IAmb IAmb 01 17 56.4
comp=Z,29nm,1.0s
UZB Uzynbulak 46.13 295 *e*P **P** **01 17 53.6 -0.3**
comp=Z,40nm,1.6s,baz=295
UZB *e*S **S** **01 24 34.7 -0.1**
baz=295
UZB Uzynbulak 46.13 295 *e*P **P** **01 17 53.5 -0.3**
UZB *e*S **S** **01 24 34.6 -0.1**
UZB pmax pmax
comp=Z,40nm,1.6s
SBUM Sibu 46.15 223 P **P** **01 17 55.0 +1.0**
TAPN Taplejung 46.20 271 *e*P **P** **01 17 54.9 +0.2**
comp=Z,48nm,0.5s
TAPN Taplejung 46.20 271 *e*P **P** **01 17 54.9 +0.2**
comp=Z,48nm,0.5s
KPKS Kokpek 46.26 296 *e*P **P** **01 17 54.7 -0.1**
comp=Z,33nm,0.8s,baz=296
KPKS Kokpek 46.26 296 *e*P **P** **01 17 54.7 -0.1**
KPKS pmax pmax
comp=Z,33nm,0.8s
KNK Knik Glacier 46.28 39 IAmb IAmb 01 17 57.2
comp=Z,34nm,1.1s
COLA College 46.28 34 *c i*P **P** **01 17 56.3 +1.9**
COLA pmax pmax
comp=Z,28nm,1.2s
COLA College 46.28 34 P **P** **01 17 55.9 +1.4**
COLA IAmb IAmb 01 17 57.5
comp=Z,24nm,1.0s
SML Sawmill 46.30 38 IAmb IAmb 01 17 58.2
comp=Z,22nm,0.7s
POKR Poker Plat Res 46.44 33 P **P** **01 17 57.8 +2.1**
baz=273,SNR=14
SATY Saty 46.58 295 *e*P **P** **01 17 57.4 +0.1**
comp=Z,11nm,0.8s,baz=295
SATY Saty 46.58 295 *e*P **P** **01 17 57.4 +0.1**
SATY pmax pmax
comp=Z,11nm,0.8s
DHY Denali Highway 46.62 36 P **P** **01 17 57.9 +0.5**
DHY IAmb IAmb 01 17 59.8
comp=Z,23nm,0.8s
ODAN Odare 46.69 271 *e*P **P** **01 17 58.4 -0.1**
comp=Z,48nm,0.5s
ODAN Odare 46.69 271 *e*P **P** **01 17 58.4 -0.1**
comp=Z,48nm,0.5s
HDA Harding Lake 46.70 34 P **P** **01 17 58.5 +0.8**
baz=274,SNR=18
HDA Harding Lake 46.70 34 P **P** **01 17 58.8 +1.0**
HDA IAmb IAmb 01 17 59.9
comp=Z,23nm,0.9s
IL31 46.70 34 P **P** **01 17 59.0 +1.3**
IL31 IAmb IAmb 01 18 00.1
comp=Z,23nm,0.8s
ILAR Eielson Array 46.70 34 P **P** **01 17 58.9 +1.1**
comp=Z,14nm,0.8s,baz=267,slow=5.9,SNR=127
ILAR LR LR 01 41 05.6
comp=Z,49nm,18.0s,baz=294,slow=40
ILAR Eielson Array 46.70 34 P **P** **01 17 58.7 +0.9**
SCM Sheep Creek Mo 46.77 38 IAmb IAmb 01 18 01.2
comp=Z,32nm,0.9s
JIRN Jiri 47.20 273 *e*P **P** **01 18 02.7 0.0**
JIRN Jiri 47.20 273 *e*P **P** **01 18 02.7 0.0**
RAMN Ramite 47.25 272 *e*P **P** **01 18 02.7 -0.2**
comp=Z,57nm,0.4s
RAMN Ramite 47.25 272 *e*P **P** **01 18 02.7 -0.2**
comp=Z,57nm,0.4s
M24K Tolsona, Glenn 47.28 37 P **P** **01 18 04.2 +1.9**
baz=277,SNR=6.1
CHKK Chushkaly 47.30 297 *e*P **P** **01 18 02.6 -0.1**

baz=297
CHKK Chushkaly 47.30 297 *e*P **P** **01 18 02.6 -0.1**
BMAR Burnt Mountain 47.45 30 P **P** **01 18 04.6 +0.9**
MDOK Medeo 47.49 296 *i* P **P** **01 18 04.9 +0.4**
baz=296
MDOK *e*S **S** **01 24 54.7 +0.5**
baz=296
MDOK LR LR 01 37 16.5
comp=Z,117nm,15.5s,baz=296
MDOK Medeo 47.49 296 *i* P **P** **01 18 04.8 +0.4**
MDOK *e*S **S** **01 24 54.6 +0.5**
MDOK MLR MLR
comp=Z,117nm,15.0s
AAA Alma-Ata 47.56 296 *e*P **P** **01 18 05.4 +0.4**
comp=Z,23nm,1.0s,baz=296
AAA Alma-Ata 47.56 296 *e*P **P** **01 18 05.3 +0.4**
AAA pmax pmax
comp=Z,23nm,1.0s
Q23K Middleton Isla 47.58 41 P **P** **01 18 06.7 +2.1**
baz=280
TNSS Tian-Shan 47.60 296 *e*P **P** **01 18 06.2 +0.6**
baz=296
TNSS Tian-Shan 47.60 296 *e*P **P** **01 18 06.2 +0.6**
RIDG Independent Ri 47.68 35 IAmb IAmb 01 18 07.4
comp=Z,17nm,1.0s
KUU Kurty 47.73 297 *i* P **P** **01 18 05.7 -0.4**
comp=Z,44nm,0.9s,baz=297
KUU Kurty 47.73 297 *i* P **P** **01 18 05.7 -0.4**
KUU pmax pmax
comp=Z,44nm,0.9s
KDJ Kajisay 47.75 295 IAmb IAmb 01 18 07.9
comp=Z,36nm,1.1s
KKN Kakani 47.84 273 *e*P **P** **01 18 07.5 +0.1**
comp=Z,217nm,0.8s
KKN Kakani 47.84 273 *e*P **P** **01 18 07.5 +0.1**
comp=Z,217nm,0.8s
PKI Pulchoki 47.85 273 *e*P **P** **01 18 07.4 -0.2**
PKI Pulchoki 47.85 273 *e*P **P** **01 18 07.4 -0.2**
MTBS Maitube 47.92 296 *i* P **P** **01 18 08.0 +0.3**
baz=296
MTBS Maitube 47.92 296 *i* P **P** **01 18 08.0 +0.3**
KSM Kuching 47.99 225 P **P** **01 18 10.0 +1.6**
SCRK Sand Creek 48.03 35 P **P** **01 18 09.4 +1.2**
baz=277,SNR=49
DOT Dot Lake 48.04 35 IAmb IAmb 01 18 09.7
comp=Z,18nm,1.2s
DMN Daman 48.06 273 *e*P **P** **01 18 09.3 +0.1**
DMN Daman 48.06 273 *e*P **P** **01 18 09.3 +0.1**
GKN Gorkha 48.22 274 *e*P **P** **01 18 10.4 +0.1**
comp=Z,47nm,0.3s
GKN Gorkha 48.22 274 *e*P **P** **01 18 10.4 +0.1**
comp=Z,47nm,0.3s
BRZS Berezniki 48.27 306 *e*P **P** **01 18 10.0 -0.2**
comp=Z,14nm,0.6s,baz=306
BRZS Berezniki 48.27 306 *e*P **P** **01 18 09.9 -0.2**
BRZS pmax pmax
comp=Z,14nm,0.6s
MENT Mentasta 48.29 36 P **P** **01 18 10.6 +0.5**
BOOM Boomskoye usch 48.48 296 P **P** **01 18 11.7 -0.4**
BOOM pmax pmax
comp=Z,44nm,0.9s
BOOM Boomskoye usch 48.48 296 P **P** **01 18 11.7 -0.4**
TKM2 Tokmak 2 48.57 296 P **P** **01 18 13.4 +0.6**
SNR=103
TKM2 Tokmak 2 48.57 296 *i* P **P** **01 18 12.5 -0.3**
TKM2 pmax pmax
comp=Z,66nm,0.7s
VRDI Verde Repeater 48.69 38 P **P** **01 18 13.5 +0.1**
VRDI IAmb IAmb 01 18 16.6
comp=Z,25nm,0.9s
BVAR Borovoye Array 48.83 310 P **P** **01 18 14.7 +0.3**
comp=Z,12nm,0.4s,baz=94,slow=9.7,SNR=85
BVAR PcP **PcP** **01 19 37.8 -0.3**
comp=Z,3.2nm,0.6s,baz=92,slow=7.2,SNR=1.5
K27K Chicken 48.85 35 P **P** **01 18 16.4 +2.0**
baz=279
MCARA McCarthy VSAT 48.87 38 P **P** **01 18 15.2 +0.6**
BRVK Borovoye 48.89 311 *d* *i*P **P** **01 18 14.6 -0.2**
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK Borovoye 48.89 311 P **P** **01 18 14.7 -0.1**
BRVK IAmb IAmb 01 18 21.7
comp=Z,28nm,0.9s
BTLS Baital 48.90 299 *e*P **P** **01 18 14.7 -0.3**
comp=Z,6.8nm,0.7s,baz=299
BTLS Baital 48.90 299 *e*P **P** **01 18 14.7 -0.3**
BTLS pmax pmax
comp=Z,7.0nm,0.7s
CRQM Cirque 48.93 39 P **P** **01 18 16.1 +0.8**
SGDS Sogindy 49.05 297 *e*P **P** **01 18 16.1 -0.2**
comp=Z,25nm,1.4s,baz=297
SGDS Sogindy 49.05 297 *e*P **P** **01 18 16.1 -0.2**
SGDS pmax pmax
comp=Z,25nm,1.4s
KBK Karagaybulak 49.11 296 P **P** **01 18 17.7 +0.7**
SNR=70
KZA Kyzart 49.11 295 P **P** **01 18 18.6 +1.4**
SNR=5.9
CHMS Chumysh 49.12 297 P **P** **01 18 16.7 -0.1**
SNR=12
KOLN Koldanda 49.13 274 *e*P **P** **01 18 17.4 +0.1**
comp=Z,72nm,0.7s
KOLN Koldanda 49.13 274 *e*P **P** **01 18 17.4 +0.1**
comp=Z,72nm,0.7s
BCAR Beaver Creek A 49.14 36 P **P** **01 18 17.5 +0.8**
USP Ospenovka 49.20 297 P **P** **01 18 17.8 +0.4**
SNR=22
BALM Baldy 49.26 39 IAmb IAmb 01 18 20.6
comp=Z,21nm,0.8s
FRU1 Bishkek 49.27 296 P **P** **01 18 18.1 0.0**
FRU1 pmax pmax
comp=Z,48nm,0.5s
FRU1 Bishkek 49.27 296 P **P** **01 18 18.1 0.0**
AAK Ala-Archa 49.43 296 P **P** **01 18 19.3 0.0**
comp=Z,8.3nm,0.3s,baz=113,slow=4.7,SNR=29
AAK Ala-Archa 49.43 296 P **P** **01 18 19.4 0.0**
SNR=16
AAK Ala-Archa 49.43 296 *i* P **P** **01 18 19.6 +0.2**
SNR=17
AAK Ala-Archa 49.43 296 *d* *i*P **P** **01 18 19.1 -0.2**
AAK pmax pmax
comp=Z,39nm,1.3s
AAK Ala-Archa 49.43 296 P **P** **01 18 18.8 -0.5**
AAK IAmb IAmb 01 18 22.2
comp=Z,22nm,0.8s
PYUN Piuthan 49.43 275 *e*P **P** **01 18 19.8 +0.2**
comp=Z,107nm,0.4s
PYUN Piuthan 49.43 275 *e*P **P** **01 18 19.8 +0.2**
comp=Z,107nm,0.4s
PMG Port Moresby 49.51 173 LR LR 01 37 05.1
comp=Z,36nm,21.0s,baz=100,slow=33
KSH Kashi 49.57 292 P **P** **01 18 24.3 +3.9**
KSH Kashi 49.57 292⇑ *i*P **P** **01 18 24.7 +4.3**
KSH sP sP 01 18 51.5 +6.0
KSH PP **PP** **01 20 21.4 +6.4**
KSH S **S** **01 25 26.7 +3.2**
KSH sS sS 01 26 00.9 +8.3
KSH ScS **ScS** **01 28 05.2 -0.6**
KSH pmax pmax
comp=Z,31nm,0.9s
KSH pmax pmax
comp=Z,90nm,4.8s
KSH LR LR
comp=N,75nm,6.2s
KSH LR LR
comp=E,95nm,4.9s
KSH Kashi 49.57 292⇑ *i*P **P** **01 18 24.7 +4.3**
KSH sP sP 01 18 51.5 +6.0
KSH PP **PP** **01 20 21.4 +6.4**
KSH S **S** **01 25 26.7 +3.2**
KSH sS sS 01 26 00.9 +8.3
KSH ScS **ScS** **01 28 05.2 -0.6**
KSH pmax pmax
comp=E,31nm,0.9s
KSH pmax pmax
comp=E,90nm,4.8s
KSH LR LR
comp=E,75nm,6.2s
KSH LR LR
comp=E,95nm,4.9s
BARN Barnard Glacie 49.58 38 IAmb IAmb 01 18 23.4
comp=Z,18nm,0.7s
YAH Yahtse 49.68 39 IAmb IAmb 01 18 24.2
comp=Z,25nm,0.8s
EKS2 Erkin-Say 49.91 297 P **P** **01 18 23.5 +0.6**
SNR=24

AML Almayashu 50.17 296 P **P** **01 18 26.1 +0.8**
SNR=25
EPYK Eagle Plains 50.66 31 P **P** **01 18 30.3 +2.1**
baz=282,SNR=27
EPYK Eagle Plains 50.66 31 P **P** **01 18 29.1 +0.9**
KULM Kulim 50.75 238 P **P** **01 18 28.9 -0.5**
KULM IAmb IAmb 01 18 47.8
comp=Z,20nm,0.9s
KULM Kulim 50.75 238 P **P** **01 18 30.0 +0.6**
DZA Taraz 51.50 298 *e*P **P** **01 18 35.0 +0.2**
comp=Z,16nm,0.8s,baz=298
DZA Taraz 51.50 298 *e*P **P** **01 18 35.0 +0.2**
DZA pmax pmax
comp=Z,16nm,0.8s
KK31 Karatay Array 51.97 298 P **P** **01 18 38.3 0.0**
KK31 pmax pmax
comp=Z,31nm,1.0s
KK31 Karatay Array 51.97 298 P **P** **01 18 38.3 0.0**
KKAR Karatay Array 51.97 298 P **P** **01 18 38.3 0.0**
KKAR Karatay Array 51.97 298 P **P** **01 18 38.3 0.0**
KKAR Karatay Array 51.97 298 P **P** **01 18 38.0 -0.3**
KKAR IAmb IAmb 01 18 43.1
comp=Z,31nm,1.0s
SOEI Soe 52.25 202 P **P** **01 18 40.5 -0.1**
IUG Iuzhnay 52.67 297 *e*P **P** **01 18 43.9 +0.2**
comp=Z,27nm,1.5s,baz=297
IUG Iuzhnay 52.67 297 *e*P **P** **01 18 43.8 +0.2**
IUG pmax pmax
comp=Z,27nm,1.5s
WHY Whitehorse 52.89 38 P **P** **01 18 45.6 +0.7**
WHY IAmb IAmb 01 18 48.6
comp=Z,21nm,0.8s
SKAG Skagway 53.04 39 IAmb IAmb 01 18 49.7
comp=Z,32nm,1.2s
SVE Sverdlovsk 53.13 317⇑ *e*P **P** **01 18 46.9 +0.3**
SVE pmax pmax
comp=Z,36nm,0.9s
SVE MLR MLR
comp=Z,409nm,18.0s
BESE Bessie Mountai 53.55 40 IAmb IAmb 01 18 53.4
comp=Z,34nm,1.2s
MTN Manton Dam 53.64 193 P **P** **01 18 50.9 +0.2**
MTN IAmb IAmb 01 19 10.2
comp=Z,16nm,0.8s
PSI Prapat 53.75 238 P **P** **01 18 52.0 +0.2**
PSI pmax pmax
comp=Z,20nm,0.8s
RPSI Rantau Prapat 53.83 238 P **P** **01 18 52.0 -0.2**
RPSI IAmb IAmb 01 19 09.8
comp=Z,20nm,0.8s
JIS Juneau Island 53.88 41 P **P** **01 18 53.2 +1.2**
JIS IAmb IAmb 01 18 55.9
comp=Z,31nm,1.0s
NIL Nilore 54.08 286 P **P** **01 18 53.9 0.0**
NIL pmax pmax
comp=Z,117nm,0.8s
NIL Nilore 54.08 286 P **P** **01 18 53.9 0.0**
ARU Arti 54.34 317 P **P** **01 18 55.4 -0.1**
comp=Z,5.8nm,0.6s,baz=68,slow=3.8,SNR=33
ARU Arti 54.34 317 *d* *i*P **P** **01 18 55.6 +0.2**
ARU pmax pmax
comp=Z,61nm,1.7s
ARU Arti 54.34 317 P **P** **01 18 55.3 -0.1**
C36M Paulatuk 54.47 26 P **P** **01 18 57.6 +1.5**
baz=290
SDSI Sungai Dareh 55.06 232 P **P** **01 19 00.8 -0.3**
comp=Z,1µmcomp=Z,52nm,1.1s
CRAG Craig 55.53 43 IAmb IAmb 01 19 07.7
comp=Z,13nm,0.8s
KLSI 56.17 226 P **P** **01 19 09.7 +0.6**
comp=Z,13nm,1.4s
ABKAR Akbulak array 56.29 309 P **P** **01 19 09.6 +0.1**
MDSI Maura Dua 56.31 227 P **P** **01 19 08.8 -1.3**
comp=Z,14nm,1.0s
KBL Kabul 56.73 289 P **P** **01 19 12.7 -0.5**
KBL pmax pmax
comp=Z,58nm,1.0s
KBL Kabul 56.73 289 P **P** **01 19 12.7 -0.5**
DIB Dawson Inlet, 56.76 46 IAmb IAmb 01 19 17.4
comp=Z,26nm,1.0s
KNRA Kununurra 56.85 195 P **P** **01 19 13.9 +0.1**
KNRA IAmb IAmb 01 19 32.6
comp=Z,20nm,0.8s
AKTO Aktyubinsk 56.94 311 P **P** **01 19 13.9 -0.2**
comp=Z,5.5nm,0.7s,baz=109,slow=7.3,SNR=9.5
SPITS Spitsbergen Ar 57.58 349 P **P** **01 19 18.7 +0.4**
comp=Z,4.2nm,0.7s,baz=109,slow=12,SNR=5.3
KIRV Kirov 58.05 322 P **P** **01 19 22.1 +0.4**
comp=Z,18nm,0.6s,baz=235,slow=4.2,SNR=9.9
PRGR Permogore 58.41 326 *e*P **P** **01 19 24.1 -0.2**
PRGR *e*S **S** **01 27 16.8 -5.0**
HYB Hyderabad 58.73 267 *i* P **P** **01 19 26.0 -1.2**
FITZ Fitzroy Crossi 59.87 198 P **P** **01 19 34.7 -0.1**
FITZ IAmb IAmb 01 19 53.3
comp=Z,17nm,1.1s
WB0 Warramunga Arr 59.99 188 P **P** **01 19 35.0 -0.6**
CTAO Charters Tower 60.03 175 P **P** **01 19 35.7 -0.2**
CTAO pmax pmax
comp=Z,6.0nm,0.8s
CTAO Charters Tower 60.03 175 P **P** **01 19 35.7 -0.2**
APA Apatity 60.05 335⇓ *i*P **P** **01 19 36.8 +1.3**
APA pmax pmax
comp=Z,6.0nm,0.8s
APA MLR MLR
comp=Z,300nm,17.0s
SANVU Saraoutou 60.08 152 P **P** **01 19 36.8 +0.5**
WRAB Tennant Creek 60.16 188 *ce*P **P** **01 19 35.7 -1.1**
WRAB pmax pmax
comp=Z,18nm,0.9s
WR0 Warramunga Arr 60.16 188 P **P** **01 19 36.3 -0.5**
WR0 IAmb IAmb 01 19 37.2
comp=Z,13nm,0.7s
WB2 Warramunga Arr 60.17 188 P **P** **01 19 36.0 -0.8**
WB2 IAmb IAmb 01 19 37.2
comp=Z,15nm,0.7s
WRA Warramunga Arr 60.17 188 P **P** **01 19 36.2 -0.6**
comp=Z,12nm,0.7s,baz=5.3,slow=6.8,SNR=97
WRA Warramunga Arr 60.17 188 P **P** **01 19 35.9 -0.9**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 60.17 188 P **P** **01 19 35.9 -0.9**
TMCR Tamitsa 60.24 331 *e*P **P** **01 19 36.4 -0.4**
TMCR pmax pmax
comp=Z,9.0nm,0.6s
YKA Yellowknife Ar 60.95 31 P **P** **01 19 42.7 +1.0**
comp=Z,14nm,0.9s,baz=302,slow=7.1,SNR=22
YKA LR LR 01 48 15.3
comp=Z,56nm,18.4s,baz=0.0,slow=38
ARCES ARCESS Array B 61.26 339 P **P** **01 19 44.0 +0.3**
comp=Z,3.1nm,0.7s,baz=61,slow=8.4,SNR=16
ARCES LR LR 01 52 09.4
comp=Z,96nm,18.3s,baz=13,slow=42
ARCES ARCESS Array B 61.26 339 P **P** **01 19 44.2 +0.5**
ARCES ARCESS Array B 61.26 339 P **P** **01 19 44.2 +0.5**
KLMR Klimovskoe 61.38 327 *e*P **P** **01 19 44.3 -0.3**
KLMR *e* 01 22 00.9
KLMR pmax pmax
comp=Z,31nm,1.2s
KLMR Klimovskoe 61.38 327 *e*P **P** **01 19 44.3 -0.3**
KLMR AMP 01 19 46.4
comp=Z,31nm,1.2s
KLMR *e*PP **PP** **01 22 00.9 +1.0**
HRA Herat 61.67 292 P **P** **01 19 46.8 -0.6**
GEYT Alibeck 62.72 298 P **P** **01 19 54.2 +0.1**
comp=Z,7.3nm,0.6s,baz=24,slow=4.0,SNR=16
GEYT LR LR 01 50 24.5
comp=Z,45nm,18.7s,baz=30,slow=39
GEYT Alibeck 62.72 298 P **P** **01 19 53.9 -0.1**
GYA0B ALIBECK ARRAY 62.72 298 P **P** **01 19 53.9 -0.2**
GYA0B IAmb IAmb 01 20 11.7
comp=Z,19nm,0.9s
AS31 Alice Springs 63.90 188 P **P** **01 20 01.9 +0.1**
ASAR Alice Springs 63.90 188 P **P** **01 20 01.8 0.0**
comp=Z,6.5nm,0.4s,baz=359,slow=5.7,SNR=76
ASAR Alice Springs 63.90 188 P **P** **01 20 02.0 +0.2**
ASAR Alice Springs 63.90 188 P **P** **01 20 02.0 +0.2**
A04D Lummi Island 64.32 47 P **P** **01 20 06.1 +1.8**
baz=302
NLWA Neilton Lookou 64.36 49 P **P** **01 20 04.8 +0.1**
NLWA IAmb IAmb 01 20 08.4
comp=Z,29nm,1.1s
D03D Eldon 64.73 48 P **P** **01 20 09.4 +2.4**
baz=302,SNR=7.2
B05A Bryant 64.90 47 P **P** **01 20 09.9 +1.8**
baz=303,SNR=5.5

E03A Lebam 64.99 49 IAmb IAmb 01 20 12.3
comp=Z,35nm,1.0s
MOS Moscow 65.02 323 *e*P **P** **01 20 07.5 -1.3**
MOS *e* 01 20 24.3
MOS *e*S **S** **01 28 40.0 -5.4**
MOS pmax pmax
comp=Z,29nm,1.4s
D04E Lakebay 65.11 48 P **P** **01 20 11.6 +2.1**
baz=303
D05A Enumclaw 65.55 48 IAmb IAmb 01 20 17.1
comp=Z,21nm,1.0s
E04D Cinebar 65.56 49 P **P** **01 20 15.0 +2.5**
baz=303,SNR=9.1
F04D Rainier, OR 65.56 50 P **P** **01 20 14.2 +1.7**
baz=303
VRH Novokhopyorsk 65.58 317 *e*P **P** **01 20 11.9 -0.5**
VRH *e**PP **pP** **01 20 28.1 -2.3**
VRH pmax pmax
comp=Z,20nm,0.7s
PUL Pulkovo 65.74 329⇓ *e*P **P** **01 20 11.8 -1.6**
PUL pmax pmax
comp=Z,34nm,0.6s
C06D Leavenworth 65.77 47 P **P** **01 20 15.5 +1.7**
baz=304
OBN Obninsk 65.88 323⇓ *e*P **P** **01 20 14.4 +0.1**
OBN *e* 01 20 45.6
OBN *e* 01 22 43.8
OBN *e*S **S** **01 28 52.2 -3.6**
OBN pmax pmax
comp=Z,14nm,0.4s
OBN MLR MLR
comp=Z,176nm,16.0s
G03D McMinnville, O 65.89 51 P **P** **01 20 16.6 +2.0**
baz=303
LON Longmire 65.89 48 P **P** **01 20 14.3 -0.4**
LON pmax pmax
comp=Z,7.0nm,1.2s
LON Longmire 65.89 48 P **P** **01 20 14.3 -0.4**
DZM Mont Dzumac 65.96 155 *e*LR LR 01 40 02.4
comp=Z,207nm,23.4s
F04A Amboy 65.99 49 IAmb IAmb 01 20 18.4
comp=Z,32nm,1.1s
I02D Swisshome 66.14 52 P **P** **01 20 18.3 +2.1**
baz=303
LPSR Galich'ya Gora 66.20 319 *e*P **P** **01 20 16.0 -0.5**
LPSR *e**PP **pP** **01 20 33.0 -1.4**
LPSR pmax pmax
comp=Z,30nm,0.9s
COR Corvallis 66.21 51 P **P** **01 20 16.7 +0.1**
COR pmax pmax
comp=Z,23nm,0.8s
COR Corvallis 66.21 51 P **P** **01 20 16.7 +0.1**
COR IAmb IAmb 01 20 21.2
comp=Z,23nm,0.8s
FIA1 FINESS Array S 66.28 332 P **P** **01 20 16.4 -0.3**
FIA1 IAmb IAmb 01 20 34.2
comp=Z,24nm,0.8s
FINES FINESS Array B 66.28 332 P **P** **01 20 16.9 +0.2**
comp=Z,11nm,0.7s,baz=36,slow=9.6,SNR=44
FINES LR LR 01 51 37.6
comp=Z,107nm,18.6s,baz=49,slow=38
FINES FINESS Array B 66.28 332 P **P** **01 20 17.0 +0.2**
B08A Colville Reser 66.39 46 P **P** **01 20 18.0 +0.2**
F05D White Salmon 66.57 49 P **P** **01 20 20.9 +1.9**
baz=304
H04D Lebanon 66.58 51 P **P** **01 20 21.3 +2.2**
baz=304
J01E Myrtle Point 66.61 53 P **P** **01 20 21.7 +2.4**
baz=304
I03D Drain, OR 66.67 52 P **P** **01 20 22.1 +2.5**
baz=304,SNR=9.4
H04A Detroit Lake 66.82 51 P **P** **01 20 20.1 -0.5**
H04A IAmb IAmb 01 20 24.3
comp=Z,20nm,0.9s
VSR Storozhevoye 66.89 318 *e*P **P** **01 20 20.6 -0.2**
VSR *e**PP **pP** **01 20 37.2 -1.7**
VSR pmax pmax
comp=Z,30nm,1.0s
VORD Divnogorie 66.97 318 *e*P **P** **01 20 21.0 -0.3**
VORD *e**PP **pP** **01 20 38.1 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
G05D Wamic, OR 67.02 50 P **P** **01 20 24.0 +2.2**
baz=304
K02D Willamette Mer 67.03 53 P **P** **01 20 24.0 +1.9**
baz=304
E07A Sunnyside 67.12 48 P **P** **01 20 23.1 +0.6**
I04A Tendick Farm, 67.18 51 P **P** **01 20 24.6 +1.7**
baz=304,SNR=12
C09A Chrisman Ranch 67.29 46 IAmb IAmb 01 20 26.3
comp=Z,22nm,0.9s
L02E Cave Junction 67.37 53 P **P** **01 20 26.3 +2.1**
baz=304
HAWA Hanford 67.39 48 IAmb IAmb 01 20 27.3
comp=Z,19nm,1.1s
F07A Phinny Hill Vi 67.45 48 IAmb IAmb 01 20 27.8
comp=Z,26nm,1.0s
I05D Terrebonne, OR 67.51 50 P **P** **01 20 26.7 +1.7**
baz=305
AKT Akhty 67.58 306 *e*P **P** **01 20 25.1 -0.5**
AKT *e**PP **pP** **01 20 42.4 -1.2**
AKT *e**SP **sP** **01 20 49.8 -1.4**
AKT *e* 01 20 52.0
AKT *e* 01 22 57.9
AKT pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 67.60 0 *i* P **P** **01 20 26.6 +1.1**
comp=Z,26nm,0.7s
SUMG Summit 67.60 0 *i* P **P** **01 20 26.6 +1.1**
SUMG pmax pmax
comp=Z,26nm,0.7s
SUMG Summit 67.60 0 P **P** **01 20 26.1 +0.6**
E08A Dider Farm, El 67.61 48 P **P** **01 20 25.9 +0.4**
NEW Newport 67.66 45 P **P** **01 20 27.2 +1.3**
baz=306,SNR=10
NEW Newport 67.66 45 IAmb IAmb 01 20 28.6
comp=Z,18nm,1.0s
J04D Umpqua Nationa 67.67 52 P **P** **01 20 28.4 +2.2**
baz=305
VSU Vasula 68.00 329 *e*P **P** **01 20 25.7 -2.0**
VSU Vasula 68.00 329⇓ *e*P **P** **01 20 28.2 +0.5**
VSU pmax pmax
comp=Z,36nm,1.0s
E09A Wood Farm, Sta 68.11 47 IAmb IAmb 01 20 31.7
comp=Z,31nm,1.1s
L04D Klamath Falls 68.14 53 P **P** **01 20 31.1 +2.0**
baz=305,SNR=11
YBH Yreka Blue Hor 68.16 53 P **P** **01 20 29.2 0.0**
YBH pmax pmax
comp=Z,10.0nm,1.1s
YBH Yreka Blue Hor 68.16 53 P **P** **01 20 29.1 0.0**
J05D Fort Rock, OR 68.17 51 P **P** **01 20 31.5 +2.1**
baz=305,SNR=13
K04D Chiloquin, OR 68.24 52 P **P** **01 20 31.6 +1.8**
baz=305
M02C Callahan 68.27 54 P **P** **01 20 32.6 +2.7**
baz=305
N02D Trinity Center 68.60 54 P **P** **01 20 34.3 +2.4**
baz=305
M04C Macdoel 68.67 53 P **P** **01 20 34.2 +1.8**
baz=305,SNR=7.1
K05A Summer Lake 68.70 52 P **P** **01 20 33.5 +0.9**
I07A Izee 68.74 50 P **P** **01 20 33.1 +0.3**
WALA Waterton Lakes 68.90 43 IAmb IAmb 01 20 36.4
comp=Z,17nm,0.9s
O02D Mt. Diablo Mer 69.00 55 P **P** **01 20 36.6 +2.2**
baz=305,SNR=5.2
ZEI Tsey 69.17 309 *e*P **P** **01 20 31.5 -4.1**
ZEI pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 69.20 310⇓ P **P** **01 20 36.6 +1.0**
KIV Kislovodsk 69.20 310 *i* P **P** **01 20 36.4 +0.8**
SNR=13
KIV Kislovodsk 69.20 310 *e*P **P** **01 20 36.2 +0.6**
KIV pmax pmax
comp=Z,123nm,1.0s
KIV MLR MLR
comp=Z,208nm,17.0s
KIV Kislovodsk 69.20 310 P **P** **01 20 35.8 +0.1**
KBZ Khabaz 69.21 310 P **P** **01 20 35.8 +0.3**
comp=Z,12nm,0.7s,baz=70,slow=0.9,SNR=22
KBZ LR LR 01 53 22.0
comp=Z,97nm,20.4s,baz=78,slow=38
TBLG Delisi 69.28 307 IAmb IAmb 01 20 37.6
comp=Z,17nm,1.1s
MOD Modoc Plateau 69.53 52 P **P** **01 20 38.6 +0.8**

MOD				pP		pP	01 20 55.7 -0.1
O03E	Paynes Creek	69.55	54	P		P	01 20 39.3 +1.4
	baz=306,SNR=9.5						
J08A	Circle Bar Ran	69.77	50	IAmb		IAmb	01 20 42.6
	comp=Z,27nm,1.2s						
J08A						pP	01 20 55.8 -1.3
IDID	Didziasalis	70.11	327	*e*P		P	01 20 41.8 +0.9
ISAL	Salakas	70.20	327	*e*P		P	01 20 41.9 +0.6
AKH	Akhalkalaki	70.22	308	⇓P		P	01 20 43.4 +1.4
MSO	Missoula	70.24	45	P		P	01 20 43.3 +1.3
	baz=308,SNR=14						
MSO	Missoula	70.24	45	IAmb		IAmb	01 20 44.5
	comp=Z,21nm,1.1s						
CHVG	Ch'k'valeri	70.29	310	⇓P		P	01 20 43.5 +1.2
IIGN	Ignalina	70.31	327	*e*P		P	01 20 42.6 +0.5
BANOM	Banah	70.62	288	*i* P		P	01 20 44.7 +0.1
	SNR=8.0						
BANOM	Banah	70.62	288	P		P	01 20 45.1 +0.5
	SNR=7.9						
BANOM				S		pP	01 21 03.3 +0.6
SHME	Shamm	70.66	288	*i* P		P	01 20 44.9 +0.1
	SNR=9.8						
FFC	Flin Flon	70.91	33	P		P	01 20 47.0 +1.3
FFC				pmax		pmax	
	comp=Z,20nm,0.8s						
FFC	Flin Flon	70.91	33	P		P	01 20 47.0 +1.3
FFC				IAmb		IAmb	01 20 47.7
	comp=Z,20nm,0.8s						
MDH	Madha	70.99	287	P		P	01 20 46.1 -0.6
MSFE	Esma-Masafi	71.05	287	*i* P		P	01 20 47.2 0.0
	SNR=5.3						
PABE	Paberze	71.13	328	*e*P		P	01 20 47.6 +0.6
SOC	Sochi	71.15	311	*i* P		P	01 20 46.9 -0.5
SOC				*e**PP		pP	01 21 03.3 -2.2
SOC				*e**SP		sP	01 21 14.2 +1.1
SOC				*e*PPP		PPP	01 25 05.6
SOC				*e*S		S	01 29 59.1 +0.3
SOC				*e**SS		sS	01 30 31.6 +2.0
SOC				*e*SS		SS	01 34 34.9 +2.2
SOC				pmax		pmax	
	comp=Z,31nm,0.9s						
SOC				MLR		MLR	
	comp=Z,86nm,12.0s						
UOSS	Minazif	71.26	287	*i* P		P	01 20 48.3 -0.1
	SNR=7.4						
UOSS	Minazif	71.26	287	P		P	01 20 48.5 +0.1
UOSS				S		pP	01 21 06.3 -0.3
UOSS	Minazif	71.26	287	P		P	01 20 48.1 -0.3
MFID	Camas Ranch	71.28	49	IAmb		IAmb	01 20 51.5
	comp=Z,18nm,1.1s						
NC405	NORSAR Array S	71.29	337	IAmb		IAmb	01 20 59.2
	comp=Z,31nm,1.1s						
BCA	Borcka	71.33	309	⇓P		P	01 20 49.2 +0.6
HATD	Hatta, Dubai	71.39	287	*i* P		P	01 20 49.4 +0.2
	SNR=10.0						
HATD	Hatta, Dubai	71.39	287	P		P	01 20 49.8 +0.6
	SNR=10.0						
HATD				S		pP	01 21 07.4 0.0
PAHR	Pah Rah Range	71.40	54	IAmb		IAmb	01 20 52.1
	comp=Z,17nm,1.1s						
NC204	NORSAR Array S	71.44	337	IAmb		IAmb	01 20 53.1
	comp=Z,35nm,1.1s						
NB201	NORSAR Array S	71.47	337	IAmb		IAmb	01 20 49.7
	comp=Z,36nm,1.1s						
NB2	NORSAR Subarra	71.50	337	P		P	01 20 49.1 -0.2
	comp=Z,5.8nm,0.8s,baz=39,slow=6.2						
NOA	NORSAR Array B	71.50	337	P		P	01 20 49.5 +0.3
	comp=Z,4.0nm,0.7s,baz=38,slow=6.0,SNR=21						
NOA				LR		LR	01 55 14.1
	comp=Z,95nm,22.0s,baz=30,slow=38						
SOHO	SOHO	71.50	286	P		P	01 20 49.7 -0.1
SOHO	SOHO	71.50	286	P		P	01 20 50.1 +0.3
SOHO				S		pP	01 21 12.9 +4.8
ASHO	Ashiyiah	71.53	287	*i* P		P	01 20 50.1 +0.1
	SNR=10						
ASHO	Ashiyiah	71.53	287	P		P	01 20 50.4 +0.4
	SNR=10						
PBUR	Paburge	71.58	329	*e*P		P	01 20 50.3 +0.6
NBO00	NORSAR Array S	71.64	337	IAmb		IAmb	01 20 53.7
	comp=Z,29nm,1.1s						
STKA	Stephens Creek	71.64	180	P		P	01 20 50.9 +0.6
	comp=Z,4.6nm,0.8s,baz=1.0,slow=7.6,SNR=6.2						
ANN	Anapa	71.69	313	*e*P		P	01 20 47.8 -2.8
ANN				*i* *PP		pP	01 21 06.1 -2.7
ANN				pmax		pmax	
	comp=Z,33nm,0.9s						
EGMT	Eagleton	71.70	42	P		P	01 20 52.1 +1.3
	baz=310,SNR=14						
EGMT	Eagleton	71.70	42	IAmb		IAmb	01 20 53.4
	comp=Z,35nm,0.9s						
DLMT	Dillon	71.89	46	IAmb		IAmb	01 20 55.5
	comp=Z,31nm,0.9s						
YERR	Yerington	71.92	54	IAmb		IAmb	01 20 55.5
	comp=Z,20nm,0.9s						
HLID	Hailey	72.00	48	P		P	01 20 54.6 +1.8
	baz=309,SNR=16						
MCMT	McKenzie Canyo	72.08	46	P		P	01 20 53.1 -0.2
WAKR	Walker	72.09	55	P		P	01 20 53.4 -0.1
AKASG	Malin Array Be	72.11	322	P		P	01 20 53.1 +0.1
	comp=Z,7.6nm,0.5s,baz=45,slow=6.1,SNR=48						
AKASG				LR		LR	01 55 46.5
	comp=Z,81nm,19.1s,baz=55,slow=38						
AKASG	Malin Array Be	72.11	322	P		P	01 20 53.3 +0.3
AKASG				pmax		pmax	
	comp=Z,3.0nm,0.7s						
AKASG	Malin Array Be	72.11	322	P		P	01 20 53.3 +0.3
AKBB	Malin Array Si	72.11	322	IAmb		IAmb	01 21 10.6
	comp=Z,16nm,0.8s						
BOZ	Bozeman (W)	72.27	45	P		P	01 20 54.4 +0.1
BOZ				pmax		pmax	
	comp=Z,34nm,1.1s						
BOZ	Bozeman (W)	72.27	45	P		P	01 20 55.8 +1.5
	baz=310,SNR=30						
BOZ	Bozeman (W)	72.27	45	P		P	01 20 54.4 +0.1
BOZ				IAmb		IAmb	01 20 57.2
	comp=Z,34nm,1.1s						
SUW	Suwalki	72.51	327	*e*P		P	01 20 55.5 +0.1
SUW				*e*pP		pP	01 21 13.4 -0.2
KVN	Kaiserville	72.59	53	IAmb		IAmb	01 20 59.5
	comp=Z,21nm,1.1s						
LHV	Little Huntoon	72.82	54	IAmb		IAmb	01 21 01.3
	comp=Z,26nm,1.0s						
NVAR	Mina Array Bea	72.84	54	P		P	01 20 59.7 +1.8
	comp=Z,5.6nm,0.8s,baz=289,slow=6.0,SNR=51						
NVAR				LR		LR	01 52 22.4
	comp=Z,18nm,18.5s,baz=274,slow=35						
NVAR	Mina Array Bea	72.84	54	P		P	01 20 58.1 +0.2
QLMT	Earthquake Lak	72.86	46	P		P	01 20 57.6 -0.3
OMMB	Old Mammoth Mi	72.90	55	P		P	01 20 58.1 -0.3
YHL	Hebgen Lake	72.98	45	P		P	01 20 59.1 +0.4
MLAC	Mammoth, Mammo	72.99	55	P		P	01 21 01.3 +2.4
	baz=308						
PAGB	Antelope Grade	73.25	57	IAmb		IAmb	01 21 03.3
	comp=Z,27nm,1.0s						
VOG	Valley Oaks Go	73.45	56	P		P	01 21 04.4 +3.1
	baz=308						
H17A	Grant Village	73.61	45	P		P	01 21 05.9 +3.5
	baz=310						
TIN	Tinemaha, Big	73.73	55	P		P	01 21 04.8 +1.7
	baz=308						
IMW	Indian Meadow	73.73	46	IAmb		IAmb	01 21 06.8
	comp=Z,21nm,1.0s						
RLMT	Red Lodge	73.84	44	P		P	01 21 05.4 +1.7
	baz=311,SNR=12						
RLMT	Red Lodge	73.84	44	IAmb		IAmb	01 21 06.8
	comp=Z,19nm,1.1s						
FXWY	Fox Creek	73.85	46	IAmb		IAmb	01 21 07.4
	comp=Z,20nm,1.1s						
VES	Vestal, Richgr	73.93	57	P		P	01 21 05.0 +0.9
	baz=308,SNR=6.9						
TPAW	Teton Pass	73.99	46	IAmb		IAmb	01 21 07.3
	comp=Z,22nm,1.1s						
PKM	Mcpherson Peak	74.05	58	P		P	01 21 06.8 +1.7
	baz=308						
SNOW	Snow King Moun	74.11	46	IAmb		IAmb	01 21 08.9
	comp=Z,20nm,1.1s						
DGMT	Dagmar	74.19	39	P		P	01 21 06.4 +1.0
	baz=313,SNR=5.0						
DGMT	Dagmar	74.19	39	P		P	01 21 05.3 -0.1
DGMT				IAmb		IAmb	01 21 07.7
	comp=Z,24nm,0.8s						
CWC	Cottonwood Cre	74.20	56	P		P	01 21 07.5 +1.6
	baz=308						
SORM	Soroca	74.27	320	⇓P		P	01 21 05.9 +0.1
GRAC	Grapevine Rang	74.31	55	P		P	01 21 08.4 +2.0
	baz=309,SNR=30						
AHID	Auburn Hatcher	74.37	47	P		P	01 21 06.1 -0.7
MARD	Mardin	74.38	306	P		P	01 21 06.0 -0.8
MARD				IAmb		IAmb	01 21 25.5
	comp=Z,25nm,0.7s						
SBC	Santa Barbara	74.39	58	P		P	01 21 08.0 +1.3
	baz=308						
LAO	LASA Array	74.39	42	P		P	01 21 08.2 +1.5
	baz=312,SNR=6.0						
LAO	LASA Array	74.39	42	P		P	01 21 06.8 +0.2
LAO				IAmb		IAmb	01 21 09.6
	comp=Z,34nm,1.1s						
ISA	Isabella, Lake	74.43	56	P		P	01 21 07.8 +0.7
	baz=308,SNR=5.1						
ARVC	Arvin	74.53	57	P		P	01 21 08.7 +1.0
	baz=308						
R11A	Troy Canyon, C	74.56	53	P		P	01 21 09.7 +1.7
	baz=309,SNR=30						
R11A	Troy Canyon, C	74.56	53	P		P	01 21 08.4 +0.5
MPMC	Manual Prospec	74.81	56	P		P	01 21 11.0 +1.5
	baz=309,SNR=14						
OSI	Osito Audit: C	74.92	57	P		P	01 21 11.3 +1.4
	baz=309						
FURC	Furnace Creek,	74.95	55	P		P	01 21 11.8 +1.8
	baz=309,SNR=24						
TPNV	Topopah Spring	75.03	54	P		P	01 21 12.4 +1.7
	baz=309,SNR=28						
TPNV	Topopah Spring	75.03	54	IAmb		IAmb	01 21 13.7
	comp=Z,21nm,0.9s						
DUG	Dugway, Tooele	75.05	50	P		P	01 21 12.5 +1.8
	baz=310,SNR=17						
DUG	Dugway, Tooele	75.05	50	IAmb		IAmb	01 21 13.9
	comp=Z,22nm,1.1s						
LRMC	Laurel Mtn Rad	75.05	56	P		P	01 21 12.1 +1.4
	baz=309,SNR=6.9						
BEL	Belsk	75.09	327	*e*P		P	01 21 11.7 +1.3
BEL				*e*pP		pP	01 21 28.5 -0.3
LVV	L'vov	75.13	324	*e*P		P	01 21 11.9 +1.1
LVV				MLR		MLR	
	comp=E,100nm,15.0s						
LVV				MLR		MLR	
	comp=N,100nm,14.0s						
LVV				MLR		MLR	
	comp=Z,200nm,15.0s						
EDW2	Edwards Air Fo	75.22	57	P		P	01 21 13.2 +1.5
	baz=309,SNR=12						
PDAR	Pinedale Array	75.23	46	P		P	01 21 12.9 +1.1
	comp=Z,8.1nm,0.8s,baz=277,slow=2.7,SNR=60						
PDAR	Pinedale Array	75.23	46	P		P	01 21 12.2 +0.3
CTU	Camp Tracy	75.35	49	P		P	01 21 12.6 +0.2
DECC	Green Verdugo	75.40	58	P		P	01 21 13.9 +1.2
	baz=309						
GKP	Gorka Klasztor	75.46	329	*e*P		P	01 21 13.3 +0.7
PRN	Pahroc Range	75.49	53	P		P	01 21 13.2 -0.1
PSUT	Pine Spring	75.50	52	P		P	01 21 13.4 +0.1
MWC	Mount Wilson	75.59	57	IAmb		IAmb	01 21 16.6
	comp=Z,18nm,1.0s						
SHOC	Shoshone, Teco	75.68	55	P		P	01 21 15.5 +1.3
	baz=309						
GSC	Goldstone, Bar	75.72	56	P		P	01 21 15.7 +1.2
	baz=309,SNR=8.4						
BFSC	Mount Baldy Ra	75.84	57	P		P	01 21 16.2 +0.9
	baz=309,SNR=9.0						
RRX	Edison Barstow	75.87	56	P		P	01 21 15.9 +0.6
	baz=309						
CIS	Catalina Islan	75.88	58	P		P	01 21 16.5 +1.2
	baz=309						
SHPR	Sheep Range	75.99	54	IAmb		IAmb	01 21 19.5
	comp=Z,18nm,1.0s						
VARL	Varlezi	76.05	319	⇓P		P	01 21 16.9 +0.8
BURAR	Bucovina Array	76.14	321	⇓P		P	01 21 17.6 +0.9
BURAR	Bucovina Array	76.14	321	P		P	01 21 16.8 0.0
ILGA	Ilgaz	76.19	312	IAmb		IAmb	01 21 36.6
	comp=Z,26nm,0.9s						
BIZ	Bicaz	76.19	321	⇓P		P	01 21 18.0 +1.1
TUQ	Turquoise Moun	76.19	55	P		P	01 21 18.9 +1.6
	baz=310,SNR=20						
TESR	Tescani	76.22	320	⇓P		P	01 21 17.7 +0.6
JURR	Jurilovca	76.31	318	⇓P		P	01 21 18.8 +1.3
HEC	Hector,Ludlow	76.32	56	P		P	01 21 19.4 +1.5
	baz=310,SNR=13						
CFR	Carcaliu	76.41	318	⇓P		P	01 21 18.6 +0.5
TOPG	Topolog	76.49	318	⇓P		P	01 21 19.5 +0.9
MVU	Marysvale	76.50	51	P		P	01 21 19.0 -0.1
MURC	Murrieta	76.54	57	P		P	01 21 20.3 +1.1
	baz=309						
KOLS	Kolonicke sedl	76.56	324	*e*P		P	01 21 19.0 0.0
KOLS				pmax		pmax	
	comp=Z,5.0nm,1.3s						
KOLS	Kolonicke sedl	76.56	324	*e*P		P	01 21 19.0 0.0
VRI	Vrincioaia	76.64	319	⇓P		P	01 21 20.1 +0.6
GAZ	Gaziantep	76.67	307	IAmb		IAmb	01 21 40.4
	comp=Z,18nm,0.9s						
PLOR	Plostina	76.69	319	⇓P		P	01 21 20.8 +1.0
OJC	Ojcow	76.70	326	*e*P		P	01 21 20.7 +0.9
OJC				*e*pP		pP	01 21 37.1 -1.0
OJC	Ojcow	76.70	326	IAmb		IAmb	01 21 38.4
	comp=Z,17nm,0.7s						
ULM	Lac du Bonnet	76.72	34	P		P	01 21 20.0 +0.2
	comp=Z,8.8nm,0.7s,baz=322,slow=6.0,SNR=5.4						
ULM				LR		LR	01 57 36.1
	comp=Z,43nm,18.8s,baz=349,slow=38						
ULM	Lac du Bonnet	76.72	34	IAmb		IAmb	01 21 21.2
	comp=Z,15nm,0.9s						
GMRC	Granite Mounta	76.77	56	P		P	01 21 22.2 +1.6
	baz=310,SNR=13						
UZH	Uzhgorod	76.77	324	*e*P		P	01 21 17.4 -2.7
UZH				*i*			01 21 37.8
MDND	Maddock	76.81	37	P		P	01 21 21.1 +0.7
	baz=316						
HARR	Harsova	76.85	318	⇓P		P	01 21 21.1 +0.5
BISRR	Bisoca	76.87	319	⇓P		P	01 21 22.6 +1.8
TLBR	Topalu	76.89	318	⇓P		P	01 21 21.6 +0.7
OZUR		76.94	320	⇓P		P	01 21 22.8 +1.6
CRVS	Cervenica-Dubn	76.95	324	*e*P		P	01 21 22.2 +1.0
CRVS				pmax		pmax	
	comp=Z,7.0nm,0.8s						
CRVS	Cervenica-Dubn	76.95	324	*e*P		P	01 21 22.2 +1.0
MFTR	Murfatlar	76.95	317	⇓P		P	01 21 22.0 +0.8
K22A	Casper	76.97	45	P		P	01 21 22.5 +0.9
	baz=313,SNR=13						
K22A	Casper	76.97	45	IAmb		IAmb	01 21 24.0
	comp=Z,28nm,1.1s						
PFO	Pinyon Flats O	77.01	57	P		P	01 21 22.0 +0.1
PFO	Pinyon Flats O	77.01	57	P		P	01 21 22.9 +1.0
	baz=310,SNR=7.0						
PFO	Pinyon Flats O	77.01	57	P		P	01 21 22.0 +0.1
TPFO	Pinon Flats	77.02	57	P		P	01 21 22.9 +1.0
	baz=310,SNR=7.0						
109C	Camp Elliot, M	77.05	58	P		P	01 21 23.3 +1.3
	baz=310						
BELC	Belle Mtn. Jos	77.06	56	P		P	01 21 23.4 +1.2
	baz=310,SNR=8.1						
NIE	Niedzica	77.08	325	*e*P		P	01 21 23.2 +1.3
NIE				*e*pP		pP	01 21 39.9 -0.5
SRU	San Rafael Swe	77.09	50	P		P	01 21 22.6 +0.2
SRU				pmax		pmax	
	comp=Z,28nm,1.0s						
SRU	San Rafael Swe	77.09	50	P		P	01 21 22.6 +0.2
KNB	Kanab	77.10	52	P		P	01 21 21.4 -1.0
KNB				pmax		pmax	
	comp=Z,17nm,1.1s						
KNB	Kanab	77.10	52	P		P	01 21 21.4 -1.0
BRTR	Keskin Array B	77.11	311	P		P	01 21 22.6 +0.2
	comp=Z,3.5nm,0.7s,baz=91,slow=3.0,SNR=7.4						
BRTR				LR		LR	02 00 50.4
	comp=Z,50nm,18.1s,baz=14,slow=40						
BRTR	Keskin Array B	77.11	311	P		P	01 21 22.2 -0.2
NEHR	Nehoiu	77.16	319	⇓P		P	01 21 23.4 +0.9
RWWY	Rawlins	77.25	46	P		P	01 21 23.6 +0.3
RWWY				IAmb		IAmb	01 21 25.7
	comp=Z,33nm,0.9s						
ISR	Istrita	77.26	319	⇓P		P	01 21 24.5 +1.5
RSSD	Black Hills	77.27	42	P		P	01 21 23.5 +0.2
RSSD				pmax		pmax	
	comp=Z,26nm,1.2s						
RSSD	Black Hills	77.27	42	P		P	01 21 24.2 +0.9
	baz=314						
RSSD	Black Hills	77.27	42	P		P	01 21 23.5 +0.2
RSSD				IAmb		IAmb	01 21 25.4
	comp=Z,26nm,1.1s						
MLR	Muntele Rosu	77.29	320	⇓P		P	01 21 24.1 +0.9
NEE2	Needles Airpor	77.44	55	P		P	01 21 25.3 +1.2
	baz=310						
BSEG	Bad Segeberg	77.49	333	*e*P		P	01 21 25.3 +1.3
	comp=Z,7.2nm,0.9s,baz=36,slow=5.3						
MONP2	Monument Peak	77.49	58	P		P	01 21 26.2 +1.4
	baz=310						
IRM	Iron Mountain	77.50	56	P		P	01 21 26.2 +1.7
	baz=310,SNR=13						
BC3	Big Chuckawall	77.63	56	P		P	01 21 26.9 +1.6
	baz=310,SNR=8.0						
LANS	Liptovska Anna	77.65	325	*e*P		P	01 21 26.8 +1.7
LANS	Liptovska Anna	77.65	325	*e*P		P	01 21 26.8 +1.7
KSP	Ksiaz	77.69	328	*e*P		P	01 21 26.4 +1.1
KSP				*e*pP		pP	01 21 43.0 -0.6
O20A	White River Ci	77.72	48	P		P	01 21 26.9 +1.0
	baz=313,SNR=13						
O20A	White River Ci	77.72	48	IAmb		IAmb	01 21 28.4
	comp=Z,20nm,0.9s						
VOIR		77.77	320	⇓P		P	01 21 26.9 +1.0
U15A	North Rim	77.81	53	IAmb		IAmb	01 21 30.0
	comp=Z,33nm,1.1s						
IKP	In-Ko-Pah, Jac	77.85	58	P		P	01 21 27.9 +1.3
	baz=310						
SWSC	Sam W. Stewart	77.86	57	P		P	01 21 27.6 +1.1
	baz=310						
OSTC	Ostas	77.94	328	*e*P		P	01 21 28.9 +2.2
OSTC				*e*x		x	01 21 34.9
MORC	Moravsky Berou	77.99	327	⇓P		P	01 21 28.3 +1.2
MORC	Moravsky Berou	77.99	327	*e*P		P	01 21 27.7 +0.7
MORC				*e*			01 21 44.3
ARR	Arges	78.03	320	⇓P		P	01 21 29.0 +1.7
PDMCI	Parker Dam,Lak	78.04	55	P		P	01 21 29.0 +1.5
	baz=311,SNR=9.9						
DPC	Dobruska-Polom	78.06	328	*e*P		P	01 21 28.3 +0.9
DPC				*e*pP		pP	01 21 45.5 -0.2
DPC	Dobruska-Polom	78.06	328	*e*P		P	01 21 28.3 +0.9
DPC				*e*			01 21 45.5
KRLC	Kraliky	78.08	327	*e*P		P	01 21 28.1 +0.6
KRLC				*e*pP		pP	01 21 45.3 -0.6
KRLC	Kraliky	78.08	327	*e*P		P	01 21 28.1 +0.6
KRLC				*e*			01 21 45.3
AGMN	Agassiz Nation	78.18	35	P		P	01 21 28.5 +0.5
	baz=319						
PV21	Cone Mtn., Par	78.36	49	P		P	01 21 29.3 -0.2
PV21				IAmb		IAmb	01 21 32.4
	comp=Z,28nm,0.9s						
ESJX	Sierra Juarez	78.37	58	IAmb		IAmb	01 21 31.5
	comp=Z,16nm,1.1s						
PSZ	Piszkesteto	78.38	324	⇓P		P	01 21 30.6 +1.4
PSZ	Piszkesteto	78.38	324	P		P	01 21 29.1 -0.1
PSZ				pmax		pmax	
	comp=Z,9.0nm,0.9s						
PSZ	Piszkesteto	78.38	324	P		P	01 21 29.1 -0.1
LOT	Lotru	78.39	321	⇓P		P	01 21 30.1 +0.7
PV23	Carpenter Ridg	78.42	49	P		P	01 21 29.7 -0.2
PV23				IAmb		IAmb	01 21 32.7
	comp=Z,35nm,0.9s						
VYHS	Vyhne	78.42	325	*e*P		P	01 21 30.6 +1.3
VYHS				pmax		pmax	
	comp=Z,15nm,1.6s						
VYHS	Vyhne	78.42	325	*e*P		P	01 21 30.6 +1.3
GLA	Glamis	78.42	57	P		P	01 21 31.3 +1.6
	baz=310,SNR=11						
GLA	Glamis	78.42	57	IAmb		IAmb	01 21 32.5
	comp=Z,18nm,0.8s						
HUMR	Humele	78.46	319	⇓P		P	01 21 30.0 +0.4
PHWY	Pilot Hill	78.47	45	IAmb		IAmb	01 21 32.6
	comp=Z,17nm,1.1s						
N23A	Red Feather La	78.49	46	P		P	01 21 31.9 +1.7
	baz=314,SNR=17						
N23A	Red Feather La	78.49	46	IAmb		IAmb	01 21 33.3
	comp=Z,34nm,1.1s						
PV22	Blue Mesa, Par	78.49	49	IAmb		IAmb	01 21 34.2
	comp=Z,28nm,1.0s						
DEV	Deva	78.49	321	⇓P		P	01 21 30.6 +0.8
PV04	Paradox Valley	78.52	49	IAmb		IAmb	01 21 33.3
	comp=Z,31nm,1.1s						
PV16	Nyswonger Mesa	78.56	49	IAmb		IAmb	01 21 33.5
	comp=Z,24nm,0.9s						
PV11	David Mesa, Pa	78.60	49	IAmb		IAmb	01 21 33.8
	comp=Z,24nm,0.8s						
BRG	Berggiesshubel	78.60	329	*i* P		P	01 21 31.4 +1.1
	comp=Z,11nm,1.1s						
BRG				*i* pP		pP	01 21 48.1 -0.6
	comp=Z,22nm,1.7s						
BRG	Berggiesshubel	78.60	329	*i* P		P	01 21 31.4 +1.1
BRG				*i* *PP		pP	01 21 48.1 -0.6
BRG				pmax		pmax	
	comp=Z,11nm,1.1s						
BRG				pmax		pmax	
	comp=Z,22nm,1.7s						
BRG	Berggiesshubel	78.60	329	*e*P		P	01 21 31.3 +1.1
	baz=36,slow=5.3						
PV18	Skein Mesa, Pa	78.61	49	IAmb		IAmb	01 21 33.8
	comp=Z,22nm,0.9s						
CLL	Collm	78.62	330	*i* P		P	01 21 30.8 +0.4
	comp=Z,13nm,0.9s						
CLL				*i* pP		pP	01 21 47.9 -0.9
	comp=Z,27nm,1.5s						
CLL				*i* sP		sP	01 21 56.3 +0.1
	comp=Z,12nm,1.0s						
CLL				*e*S		S	01 31 21.0 -0.7
CLL				*e*sS		ScS	01 31 49.0 +3.5
CLL				*e*SS		SS	01 36 24.0 -1.4
CLL				L		L	01 57 00.0
	comp=Z,100nm,21.5s						
CLL	Collm	78.62	330	*i* P		P	01 21 30.8 +0.4
CLL				*i* *PP		pP	01 21 47.9 -0.9
CLL				*i* *SP		sP	01 21 56.3 +0.1
CLL				*e*S		S	01 31 21.0 -0.7
CLL				pmax		pmax	
	comp=Z,13nm,0.9s						
CLL	Collm	78.62	330	*e*P		P	01 21 30.9 +0.6
	comp=Z,8.2nm,0.9s,baz=36,slow=5.3						
PV12	Saucer Basin,	78.63	49	IAmb		IAmb	01 21 34.7
	comp=Z,20nm,1.0s						
PVCC	Panska Ves	78.63	329	*e*P		P	01 21 30.8 +0.4
PVCC				*e*x		x	01 21 33.8
PVCC	Panska Ves	78.63	329	*e*P		P	01 21 30.8 +0.4
PVCC				*e*			01 21 33.8
PV07	Paradox Valley	78.64	49	IAmb		IAmb	01 21 33.8
	comp=Z,21nm,1.2s						
PV03	Paradox Valley	78.64	49	IAmb		IAmb	01 21 34.0
	comp=Z,18nm,0.9s						
NRDL	Niedersach Rie	78.74	332	*e*P		P	01 21 31.4 +0.6
	comp=Z,2.4nm,0.8s,baz=36,slow=5.3						
PV02	Paradox Valley	78.74	49	IAmb		IA

MODS pmax pmax
comp=Z,13nm,1.3s
MODS Modra-Piesok 79.18 326 *eP* **P 01 21 34.3 +0.8**
TREC Trest 79.22 328 *eP* **P 01 21 34.4 +0.7**
TREC *epP* **pP 01 21 51.8 -0.3**
TREC Trest 79.22 328 *eP* **P 01 21 34.4 +0.7**
TREC *e* 01 21 51.8
113A Mohawk Valley, 79.28 56 IAmb IAmb 01 21 37.0
comp=Z,16nm,1.0s
BZS Buzias 79.30 322 ⇓P **P 01 21 33.4 -0.8**
ISCO Idaho Springs 79.43 46 P **P 01 21 37.1 +1.7**
baz=314,SNR=15
PBCC Pribram 79.52 329 *eP* **P 01 21 36.4 +1.1**
TANN Tannenbergstha 79.54 330 *eP* **P 01 21 36.4 +0.9**
comp=Z,3.4nm,0.8s,baz=36,slow=5.3
MVCO Mesa Verde 79.55 50 P **P 01 21 37.6 +1.6**
baz=313,SNR=15
MVCO Mesa Verde 79.55 50 IAmb IAmb 01 21 38.9
comp=Z,13nm,0.8s
GTTG Gottingen 79.56 332 *eP* **P 01 21 36.4 +1.0**
baz=36,slow=5.3
SUSD Miller 79.60 40 P **P 01 21 36.7 +0.9**
baz=317
GUNZ Gunzen 79.63 330 *eP* **P 01 21 37.1 +1.1**
comp=Z,3.5nm,0.9s,baz=36,slow=5.3
WERN Wernitzgruen 79.67 330 *eP* **P 01 21 37.0 +0.8**
comp=Z,3.9nm,0.8s,baz=36,slow=5.3
WERN *epP* **pP 01 21 54.5 -0.1**
MOX Moxa 79.68 330 *eP* **P 01 21 37.0 +0.8**
comp=Z,3.4nm,0.9s,baz=36,slow=5.3
NKC Novy Kostel 79.69 330 *eP* **P 01 21 37.4 +1.1**
NKC Novy Kostel 79.69 330 *eP* **P 01 21 37.4 +1.1**
IBBN Ibbenburen 79.71 333 *eP* **P 01 21 36.6 +0.3**
baz=36,slow=5.3
F33A 5 Mile Ranch, 79.83 37 IAmb IAmb 01 21 38.8
comp=Z,22nm,1.0s
MDVR Moldovita 79.87 321 ⇓P **P 01 21 37.8 +0.4**
MANZ Manzenberg 80.02 330 *eP* **P 01 21 39.2 +1.1**
baz=36,slow=5.3
KHC Kasperske Hory 80.12 328 *eP* **P 01 21 39.3 +0.7**
KHC *epP* **pP 01 21 56.6 -0.5**
KHC Kasperske Hory 80.12 328 *d iP* **P 01 21 39.6 +1.0**
KHC pmax pmax
comp=Z,24nm,1.0s
CONA Conrad Observa 80.13 327 *i* P **P 01 21 39.9 +1.1**
comp=Z,7.5nm,1.1s,SNR=6.6
UBBA Unterbreizbach 80.14 331 *eP* **P 01 21 39.5 +1.0**
comp=Z,1.9nm,0.9s,baz=36,slow=5.3
UBBA *epP* **pP 01 21 57.0 0.0**
S22A 4UR Ranch, Cre 80.16 49 P **P 01 21 41.3 +2.0**
baz=314,SNR=20
S22A 4UR Ranch, Cre 80.16 49 IAmb IAmb 01 21 42.7
comp=Z,16nm,1.1s
ROTZ Rotzenmuhle 80.16 330 *eP* **P 01 21 39.9 +1.1**
comp=Z,4.4nm,1.0s,baz=36,slow=5.3
W18A Petrified Fore 80.23 52 P **P 01 21 41.4 +1.8**
baz=313
Q24A Divide 80.27 47 P **P 01 21 41.2 +1.2**
baz=314,SNR=7.4
GEC2 GERESS Array S 80.30 328 *eP* **P 01 21 40.6 +0.9**
comp=Z,3.7nm,0.9s,baz=36,slow=5.3
GEC2 *epP* **pP 01 21 57.8 -0.3**
GERES GERESS Array B 80.30 328 P **P 01 21 40.0 +0.3**
comp=Z,2.7nm,0.7s,baz=37,slow=5.3,SNR=22
GERES LR LR 02 00 29.8
comp=Z,103nm,18.0s,baz=50,slow=38
GERES GERESS Array B 80.30 328 P **P 01 21 40.0 +0.3**
GERES GERESS Array B 80.30 328 P **P 01 21 39.8 +0.1**
EYMN Ely 80.33 33 P **P 01 21 40.0 +0.2**
baz=322
WET Wettzell 80.39 329 *eP* **P 01 21 41.3 +1.2**
comp=Z,6.5nm,0.9s,baz=36,slow=5.3
214A Organ Pipe Nat 80.42 56 P **P 01 21 41.9 +1.3**
baz=312,SNR=6.5
CSS Mathiatis 80.48 308 IAmb IAmb 01 21 44.4
comp=Z,14nm,0.6s
FRGS Fruska Gora 80.49 323 *eP* **P 01 21 41.2 +0.5**
OGNE Ogallala 80.56 44 P **P 01 21 41.9 +0.6**
baz=316,SNR=6.3
OGNE Ogallala 80.56 44 P **P 01 21 41.2 0.0**
GRA1 Grafenberg Arr 80.60 330 IAmb IAmb 01 21 43.5
comp=Z,27nm,1.1s
GRF Grafenberg Arr 80.60 330 *eP* **P 01 21 42.5 +1.4**
comp=Z,16nm,1.0s,baz=36,slow=5.3
BUG Bochum--Univer 80.60 333 *eP* **P 01 21 42.1 +1.0**
baz=36,slow=5.3
ARSA Arzberg 80.80 326 *i* P **P 01 21 41.0 -1.3**
comp=Z,6.0nm,1.2s
MOA Molln 80.86 327 *i* P **P 01 21 43.5 +0.9**
comp=Z,4.4nm,0.9s
SDCO Great Sand Dun 80.92 48 P **P 01 21 44.9 +1.5**
baz=314,SNR=18
SDCO Great Sand Dun 80.92 48 P **P 01 21 43.5 +0.1**
TNS Taunus Mts 81.20 332 *eP* **P 01 21 44.9 +0.5**
baz=36,slow=5.3
DIVS Divibare 81.20 322 *eP* **P 01 21 44.9 +0.3**
ECSD EROS Data Cent 81.25 39 P **P 01 21 45.2 +0.5**
baz=319,SNR=9.2
ECSD EROS Data Cent 81.25 39 IAmb IAmb 01 21 46.4
comp=Z,15nm,0.9s
AHRW Bad Neuenahr-A 81.42 333 *eP* **P 01 21 46.0 +0.5**
comp=Z,4.1nm,0.8s,baz=36,slow=5.3
GROS Grobnik 81.42 326 *eP* **P 01 21 46.0 +0.3**
GROS *i* 01 22 03.5
BISS Bistriski jare 81.44 326 *i* P **P 01 21 46.4 +0.7**
PERS Pernice 81.45 326 *i* P **P 01 21 46.4 +0.6**
PERS *i* 01 22 04.0
SOKA Soboth 81.46 326 *i* P **P 01 21 46.3 +0.4**
comp=Z,15nm,1.2s,SNR=7.5
TUC Tucson 81.47 55 P **P 01 21 46.2 0.0**
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC Tucson 81.47 55 P **P 01 21 48.1 +1.9**
baz=312
TUC Tucson 81.47 55 P **P 01 21 46.2 0.0**
RJOB Jochberg 81.55 328 *eP* **P 01 21 46.7 +0.4**
comp=Z,8.7nm,0.8s,baz=36,slow=5.3
KSCO Kaye Shedlock' 81.62 45 P **P 01 21 47.9 +1.0**
baz=316
KSCO Kaye Shedlock' 81.62 45 IAmb IAmb 01 21 49.2
comp=Z,33nm,1.1s
BBLS Lazići 81.66 322 *eP* **P 01 21 46.7 -0.2**
MEM Membach 81.73 333 P **P 01 21 47.4 +0.2**
MEM pP **pP 01 22 04.7 -0.9**
OBKA Obir 81.80 326 *i* P **P 01 21 48.0 +0.3**
comp=Z,5.4nm,0.7s
FUR Furstenfeldbru 81.81 329 *eP* **P 01 21 48.5 +0.9**
baz=36,slow=5.3
KBA Koelnbreinsper 81.85 327 *i* P **P 01 21 48.7 +0.7**
comp=Z,12nm,1.0s
SPMN Marine on St. 81.89 36 P **P 01 21 49.4 +1.3**
baz=321
T25A Trinidad 81.96 48 P **P 01 21 50.3 +1.4**
baz=315,SNR=20
T25A Trinidad 81.96 48 P **P 01 21 48.8 0.0**
T25A IAmb IAmb 01 21 51.5
comp=Z,25nm,0.8s
BLY Banja Luka 82.01 324 *eP* **P 01 21 48.9 +0.2**
MYKA Terra Mystica 82.08 327 *i* P **P 01 21 49.2 +0.1**
comp=Z,9.8nm,1.0s
STU Stuttgart 82.12 331 *eP* **P 01 21 49.3 +0.1**
comp=Z,11nm,0.9s,baz=36,slow=5.3
STU Stuttgart 82.12 331 IAmb IAmb 01 21 54.5
comp=Z,23nm,0.8s
LJU Ljubljana 82.17 326 *eP* **P 01 21 49.5 -0.1**
BGNE Belgrade 82.23 41 P **P 01 21 50.8 +0.8**
baz=318
SCHQ Schefferville 82.27 16 P **P 01 21 50.5 +0.6**
comp=Z,16nm,1.0s,baz=332,slow=3.5,SNR=7.2
SCHQ LR LR 02 00 29.8
comp=Z,70nm,21.9s,baz=253,slow=37
SCHQ Schefferville 82.27 16 IAmb IAmb 01 21 52.1
comp=Z,22nm,1.1s
ANMO Albuquerque 82.31 50 *c iP* **P 01 21 52.4 +1.7**
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO Albuquerque 82.31 50 P **P 01 21 52.6 +2.0**
baz=314
ANMO Albuquerque 82.31 50 P **P 01 21 50.9 +0.2**
ANMO IAmb IAmb 01 21 54.0
comp=Z,19nm,1.1s
MGRS Mrkonjic Grad 82.31 324 *eP* P 01 21 57.4 +7.1
WATA Walderalm 82.36 328 *i* P **P 01 21 51.1 +0.4**
comp=Z,12nm,1.7s
UPM Unac-Piva 82.40 322 *eP* **P 01 21 50.8 -0.2**
WTTA Wattenberg 82.40 328 *i* P **P 01 21 50.8 -0.1**
comp=Z,11nm,1.1s
BMRD Maredsous 82.42 334 P **P 01 21 50.6 -0.1**
BMRD PcP **PcP 01 21 54.5 -1.2**
ABTA Abfaltersbach 82.46 328 *i* P **P 01 21 51.4 +0.3**
comp=Z,7.0nm,1.0s
JAVS Javornik 82.49 326 *i* P **P 01 21 51.0 -0.3**
MOTA Moosalm 82.55 329 *i* PcP **P 01 21 52.5 +0.9**
comp=Z,13nm,0.9s,SNR=8.8
RETA Reutte 82.56 329 *i* P **P 01 21 52.3 +0.7**
comp=Z,11nm,0.9s,SNR=6.8
SQTA Sankt Quirin 82.60 329 *i* P **P 01 21 52.5 +0.6**
comp=Z,10nm,1.3s
Y22D IRIS PASSCAL I 82.63 51 P **P 01 21 54.4 +2.1**
baz=314
L34A Svendsen Farm, 82.70 40 P **P 01 21 52.9 +0.5**
L34A IAmb IAmb 01 21 53.9
comp=Z,24nm,0.9s
BNM Barren Site 82.75 51 P **P 01 21 53.0 -0.1**
BRY Bratogost 82.80 322 *eP* **P 01 21 52.7 -0.3**
BFO Black Forest 82.81 331 P **P 01 21 53.0 +0.2**
BFO pmax pmax
comp=Z,11nm,0.8s
BFO Black Forest 82.81 331 *eP* **P 01 21 53.8 +0.9**
comp=Z,5.3nm,0.9s,baz=36,slow=5.3
BFO Black Forest 82.81 331 P **P 01 21 53.0 +0.2**
PDG Podgorica 82.82 321 ⇓P **P 01 21 53.7 +0.8**
PDG Podgorica 82.82 321 *eP* **P 01 21 53.3 +0.4**
PDG Podgorica 82.82 321 IAmb IAmb 01 21 54.5
comp=Z,26nm,1.0s
LIT Litokhoron 82.95 318 IAmb IAmb 01 21 56.2
comp=Z,16nm,1.0s
FETA Feichten 82.96 329 *i* PcP **P 01 21 54.4 +0.6**
comp=Z,8.2nm,1.0s,SNR=7.5
DRME Dracevica, Mon 83.03 321 *eP* **P 01 21 54.6 +0.5**
319A Douglas 83.04 55 P **P 01 21 54.6 +0.2**
319A IAmb IAmb 01 21 57.4
comp=Z,30nm,1.0s
DAVA Damuels 83.08 329 *i* P **P 01 21 54.6 +0.2**
comp=Z,11nm,1.0s,SNR=5.3
HCY Herceg Novi 83.17 322 *eP* **P 01 21 52.4 -2.4**
121A Cookes Peak, D 83.17 53 P **P 01 21 56.9 +1.8**
baz=314,SNR=12
121A Cookes Peak, D 83.17 53 P **P 01 21 55.2 0.0**
121A IAmb IAmb 01 21 58.5
comp=Z,20nm,0.9s
CBKS Cedar Bluff 83.32 44 P **P 01 21 56.2 +0.5**
baz=317
CBKS Cedar Bluff 83.32 44 IAmb IAmb 01 21 57.0
comp=Z,21nm,0.8s
CTI Castel Tesino 83.38 328 IAmb IAmb 01 22 13.4
comp=Z,15nm,1.1s
FUORN Ofenpass-Fuorn 83.47 329 IAmb IAmb 01 21 58.7
comp=Z,25nm,1.1s
I40A Norwalk 83.90 35 IAmb IAmb 01 21 59.9
comp=Z,16nm,0.9s
MATQ Matagami 83.96 25 P **P 01 21 59.4 +0.7**
baz=331
SALO Salr 84.18 328 IAmb IAmb 01 22 18.6
comp=Z,27nm,1.0s
E46A Sault Ste Mari 84.51 30 IAmb IAmb 01 22 02.8
comp=Z,24nm,1.1s
I42A Draeger Farm, 84.65 34 IAmb IAmb 01 22 03.9
comp=Z,18nm,0.8s
KSU1 Kansas State U 84.74 42 P **P 01 22 03.3 +0.5**
baz=319
KSU1 Kansas State U 84.74 42 IAmb IAmb 01 22 05.1
comp=Z,20nm,0.9s
LSQQ Lebel-sur-Quev 84.78 25 P **P 01 22 03.3 +0.5**
baz=331
CHGQ Chibougamau 84.83 23 P **P 01 22 03.5 +0.4**
baz=333
JFWS Jewell Farm 84.84 36 P **P 01 22 03.8 +0.5**
baz=323
PMOR Pomariorio Ree 85.06 114 *eT* T 02 55 46.5
comp=Z,44nm,0.2s
L40A Anamosa 85.07 37 IAmb IAmb 01 22 05.8
comp=Z,20nm,0.9s
AMTX Amarillo 85.11 48 P **P 01 22 06.0 +1.1**
baz=317
AMTX Amarillo 85.11 48 IAmb IAmb 01 22 07.5
comp=Z,14nm,0.9s
MSTX Muleshoe 85.15 49 P **P 01 22 06.1 +1.0**
baz=316
MSTX Muleshoe 85.15 49 IAmb IAmb 01 22 07.3
comp=Z,16nm,1.1s
MNTX Cornudas Mount 85.21 52 P **P 01 22 06.9 +1.5**
baz=315,SNR=12
MURB Monte Urbino 85.25 325 IAmb IAmb 01 22 25.5
comp=Z,31nm,1.1s
NRCA Norcia 85.34 325 IAmb IAmb 01 22 25.3
comp=Z,22nm,0.8s
VLDQ Val d'Or 85.46 25 IAmb IAmb 01 22 06.7
comp=Z,22nm,0.8s
AQU L'Aquila 85.59 324 IAmb IAmb 01 22 26.6
comp=Z,14nm,0.9s
INTR Introdacqua 85.64 324 IAmb IAmb 01 22 26.2
comp=Z,13nm,0.9s
PPT Papeete 85.67 117 LR LR 01 53 19.4
comp=Z,91nm,21.6s,baz=312,slow=31
PPT2 Papeete2 85.69 117 *e* LR LR 01 48 56.0
comp=Z,287nm,27.5s,baz=308
PPT2 Papeete2 85.69 117 *eT* T 02 56 31.7
comp=Z,19nm,0.3s
PAE Paea 85.73 117 *eT* T 02 56 34.8
comp=Z,2.8nm,0.3s
TIAR Tiarei 85.82 117 *eT* T 02 56 41.4
comp=Z,5.4nm,0.3s
P38A Dawn 85.88 40 IAmb IAmb 01 22 10.4
comp=Z,21nm,1.0s
D53A Lac Vacive, Po 86.28 26 P **P 01 22 10.8 +0.4**
baz=331
D53A Lac Vacive, Po 86.28 26 IAmb IAmb 01 22 11.5
comp=Z,11nm,0.8s
N41A Harden Midland 86.31 37 IAmb IAmb 01 22 12.2
comp=Z,19nm,1.0s
T35A Sooner Cattle 86.44 43 IAmb IAmb 01 22 13.5
comp=Z,22nm,1.0s
TAOE Nuku Hiva Isla 86.54 104 *e* LR LR 01 49 15.5
comp=Z,232nm,31.1s
TAOE Nuku Hiva Isla 86.54 104 *eT* T 02 57 46.4
comp=Z,35nm,0.2s
D54A Lac Fusel, La 86.56 25 P **P 01 22 11.9 +0.2**
baz=332
P40A Paris 86.67 39 IAmb IAmb 01 22 15.1
comp=Z,26nm,1.1s
SSB Saint Sauveur 86.78 331 IAmb IAmb 01 22 32.2
comp=Z,9.7nm,1.0s
WMOK Wichita Mounta 86.84 46 P **P 01 22 14.3 +0.9**
baz=318,SNR=8.3
QUOK Quay 86.89 44 IAmb IAmb 01 22 16.3
comp=Z,15nm,0.9s
E53A Dumoine, Ponti 86.90 26 P **P 01 22 13.5 +0.1**
baz=331
MEH Mehetia 86.92 116 *eT* T 02 58 03.9
comp=Z,133nm,0.3s
E54A Lac Daplat, Po 87.02 26 P **P 01 22 14.0 +0.1**
baz=331
D55A Sainte-Anne-du 87.06 25 P **P 01 22 14.4 +0.3**
baz=332
ALGO Algonquin Park 87.14 27 P **P 01 22 14.7 +0.2**
baz=331
HDIL Hopedale 87.15 36 P **P 01 22 15.6 +0.9**
baz=323
D56A ZEC Mazanza, M 87.26 24 P **P 01 22 15.4 +0.3**
baz=333,SNR=8.6
E55A Montcerf-Lytto 87.37 25 P **P 01 22 16.0 +0.4**
baz=332
S39A Bolivar 87.48 41 IAmb IAmb 01 22 17.5
comp=Z,18nm,0.9s
R40A Maddies Statio 87.53 40 IAmb IAmb 01 22 18.2
comp=Z,15nm,0.8s
D57A Chemin Vers le 87.56 24 P **P 01 22 17.0 +0.5**
baz=333,SNR=11
LATQ La Tuque 87.56 23 P **P 01 22 17.5 +0.9**
baz=334
TUL1 Leonard 87.58 43 P **P 01 22 17.8 +0.9**
baz=320
G54A Lake Saint Pet 87.61 27 P **P 01 22 16.8 0.0**
baz=331
E56A St. Veronique 87.62 25 P **P 01 22 17.3 +0.4**
baz=333
SADO Sadowa 87.78 28 LR LR 02 04 49.3
comp=Z,79nm,20.4s,baz=8.5,slow=38
D58A Chemin du LacG 87.79 23 P **P 01 22 18.1 +0.5**
baz=334
F55A Otter Lake 87.82 26 P **P 01 22 17.7 -0.1**
baz=332
U38A Gravette 87.90 42 IAmb IAmb 01 22 20.1
comp=Z,13nm,0.9s
I51A Listowel 87.92 30 P **P 01 22 17.7 -0.6**
baz=329
ABTX Abilene, Hawle 87.92 48 P **P 01 22 19.5 +0.9**
baz=318
ABTX Abilene, Hawle 87.92 48 IAmb IAmb 01 22 21.0
comp=Z,11nm,1.1s
TX31 Lajitas Ar. Si 87.93 53 IAmb IAmb 01 22 23.1
comp=Z,11nm,0.8s
TXAR Lajitas Array 87.93 53 P **P 01 22 20.0 +1.2**
comp=Z,2.9nm,0.7s,baz=292,slow=3.2,SNR=49
TXAR LR LR 02 05 44.8
comp=Z,12nm,18.0s,baz=0.0,slow=38
TXAR Lajitas Array 87.93 53 P **P 01 22 20.0 +1.2**
TXAR Lajitas Array 87.93 53 P **P 01 22 18.4 -0.4**
E57A Chemin Saint G 88.02 24 P **P 01 22 19.2 +0.4**
baz=333,SNR=9.5
H53A Bobcaygeon 88.15 28 P **P 01 22 19.8 +0.4**
baz=330
G55A Calabogie 88.21 26 P **P 01 22 19.8 +0.1**
baz=332
CCM Cathedral Cave 88.22 39 P **P 01 22 20.2 +0.4**
CCM pmax pmax
comp=Z,23nm,0.9s
CCM Cathedral Cave 88.22 39 P **P 01 22 20.4 +0.6**
baz=322
CCM Cathedral Cave 88.22 39 P **P 01 22 20.2 +0.4**
HHAR Hobbs 88.25 42 IAmb IAmb 01 22 21.6
comp=Z,9.8nm,0.9s
SFIN Lafayette 88.28 35 P **P 01 22 20.5 +0.4**
baz=325
E58A La Victoria 88.32 24 P **P 01 22 20.4 +0.3**
baz=334
MGMO Mountain Grove 88.42 40 P **P 01 22 21.2 +0.4**
MGMO IAmb IAmb 01 22 22.3
comp=Z,18nm,1.1s
ORIO Orleans, Innes 88.44 25 P **P 01 22 20.8 +0.1**
baz=332
D60A Saint Jean D'O 88.53 22 P **P 01 22 21.2 +0.1**
baz=336
Q44A Meyer Farm, Va 88.60 37 P **P 01 22 21.8 +0.2**
H55A Tweed 88.66 27 P **P 01 22 22.2 +0.4**
baz=331
FVM French Village 88.67 39 IAmb IAmb 01 22 23.9
comp=Z,14nm,0.9s
U40A Yellville 88.75 41 P **P 01 22 22.8 +0.4**
baz=321,SNR=21
I55A Frankford 88.78 27 P **P 01 22 22.7 +0.3**
baz=331
E60A Ste Agathe de 88.87 22 P **P 01 22 23.2 +0.4**
baz=335
D62A Allapoint, All 88.90 21 P **P 01 22 23.2 +0.4**
baz=337
G57A Newington 88.92 25 P **P 01 22 23.3 +0.4**
baz=333
F59A Saint Guilaume 88.94 23 P **P 01 22 23.6 +0.5**
baz=334
H56A Elgin 88.94 26 P **P 01 22 23.6 +0.5**
baz=332
T42A Van Buren 89.10 40 IAmb IAmb 01 22 26.5
comp=Z,12nm,1.0s
W39A Magazine 89.17 43 P **P 01 22 25.1 +0.7**
baz=321
W39A Magazine 89.17 43 IAmb IAmb 01 22 26.4
comp=Z,11nm,1.1s
G58A Ormstown 89.17 25 P **P 01 22 24.5 +0.4**
baz=333
D63A Stockholm 89.19 20 P **P 01 22 24.7 +0.5**
baz=338
E62A Clayton Lake 89.19 21 P **P 01 22 25.1 +0.8**
baz=336
H57A Richville 89.35 26 P **P 01 22 25.3 +0.3**
baz=332
F61A St Evariste 89.36 22 P **P 01 22 25.8 +0.7**
baz=336
JCT Junction City 89.41 49 P **P 01 22 26.1 +0.5**
baz=318
JCT Junction City 89.41 49 IAmb IAmb 01 22 27.5
comp=Z,8.6nm,0.8s
LONY Lake Ozonia 89.48 25 P **P 01 22 26.0 +0.4**
baz=333
FCAR Ozark Folk Cen 89.48 41 IAmb IAmb 01 22 27.4
comp=Z,17nm,1.0s
BATG Bathurst New B 89.48 19 IAmb IAmb 01 22 27.7
comp=Z,13nm,0.8s
G59A Clarenceville 89.51 24 P **P 01 22 26.5 +0.7**
baz=334
J55A Hilton 89.56 28 P **P 01 22 26.2 +0.2**
baz=331
M51A Elyria 89.56 32 P **P 01 22 26.5 +0.4**
baz=328
WHTX Lake Whitney, 89.63 47 P **P 01 22 27.5 +1.0**
baz=319
E63A Oxbow 89.67 20 P **P 01 22 26.6 +0.1**
baz=337
M52A Chesterland 89.72 31 P **P 01 22 27.5 +0.7**
baz=328
I57A Carthage 89.72 26 P **P 01 22 27.1 +0.3**
baz=332
F62A Pittston Farm, 89.73 22 P **P 01 22 27.0 +0.2**
baz=336
H59A Cadyville 89.74 25 P **P 01 22 27.1 +0.2**
baz=334
ERPA Erie 89.75 30 P **P 01 22 27.8 +0.8**
baz=329
TBI Tubuai 89.77 121 *eT* T 03 01 34.0
comp=Z,38nm,0.2s
MIAR Mount Ida 89.78 43 P **P 01 22 28.1 +0.9**
baz=321,SNR=12
H58A Gabriels 89.79 25 P **P 01 22 27.6 +0.5**
baz=333
L53A Girard 89.79 30 P **P 01 22 27.9 +0.8**
baz=329,SNR=5.5
K54A Basiliko Farm, 89.81 29 P **P 01 22 27.8 +0.5**
baz=330
LCAR Lake Charles 89.83 40 IAmb IAmb 01 22 30.0
comp=Z,8.1nm,1.0s
E64A Bridgewater 89.83 20 P **P 01 22 27.9 +0.7**
baz=338
G61A St-Isidore-de- 89.83 23 P **P 01 22 28.0 +0.7**
baz=335
N51A Ashland 89.83 32 P **P 01 22 27.8 +0.4**
baz=328
J56A Wolcott 89.89 27 P **P 01 22 27.9 +0.3**
baz=331
L54A Sinclairville 89.91 29 P **P 01 22 28.5 +0.8**
baz=330
K55A Perry 89.94 28 P **P 01 22 28.6 +0.7**
baz=331
W41B Gary Mavity, V 89.98 42 P **P 01 22 28.7 +0.6**
baz=322,SNR=5.3
W41B Gary Mavity, V 89.98 42 IAmb IAmb 01 22 30.0
comp=Z,15nm,1.1s
P49A Miami Univ. Ec 90.01 34 P **P 01 22 28.8 +0.6**
baz=326,SNR=6.6
M53A WI Miller and 90.07 31 P **P 01 22 29.2 +0.8**
baz=329
J57A Williamstown 90.08 27 P **P 01 22 29.0 +0.6**
baz=332
ACSO Alum Creek Sta 90.16 33 P **P 01 22 29.9 +0.9**
baz=327
G62A West of Eustis 90.19 22 P **P 01 22 29.6 +0.6**
baz=336
F64A Sherman 90.21 21 P **P 01 22 29.6 +0.6**
baz=337
X40A Basin Creek Fa 90.21 42 P **P 01 22 30.1 +0.8**
baz=321
K56A Middlesex 90.23 28 P **P 01 22 29.8 +0.6**
baz=331
L55A Hinsdale 90.28 29 P **P 01 22 30.3 +0.9**
baz=330
VT1 Waterbury 90.32 24 IAmb IAmb 01 22 31.7
comp=Z,11nm,0.8s
J58A Remsen 90.36 26 P **P 01 22 30.5 +0.7**
baz=332
J58A Remsen 90.36 26 IAmb IAmb 01 22 31.4
comp=Z,9.4nm,0.8s
O51A Pataskala 90.39 33 P **P 01 22 30.7 +0.7**
baz=328
H61A Lyndonville 90.39 23 P **P 01 22 30.5 +0.6**
baz=335
WCI Wyandotte Cave 90.39 36 P **P 01 22 29.7 -0.3**
WCI pmax pmax
comp=Z,8.0nm,0.8s
WCI Wyandotte Cave 90.39 36 P **P 01 22 30.9 +0.9**
baz=325
WCI Wyandotte Cave 90.39 36 P **P 01 22 29.7 -0.3**
WCI IAmb IAmb 01 22 32.0

	comp=Z,8.3nm,0.8s						
M54A	Oil Creek Stat	90.40	30	P	P	01 22 31.0	+1.0
	baz=330,SNR=5.9						
M54A	Oil Creek Stat	90.40	30	P	P	01 22 30.6	+0.6
I59A	Olmsteadville	90.44	25	P	P	01 22 30.9	+0.7
	baz=334						
K57A	Scipio Center	90.49	27	P	P	01 22 30.8	+0.4
	baz=332						
PKME	Peaks-Kenny Pk	90.50	21	P	P	01 22 31.0	+0.6
	baz=337						
J59A	Piesco	90.53	26	P	P	01 22 30.9	+0.3
	baz=333						
G63A	Kingsbury	90.54	22	P	P	01 22 31.5	+0.9
	baz=336						
N53A	Lisbon	90.55	31	P	P	01 22 31.4	+0.7
	baz=329						
I60A	Shoreham	90.59	25	P	P	01 22 31.3	+0.5
	baz=334						
H62A	Milan	90.59	23	P	P	01 22 32.0	+1.1
	baz=335						
H62A	Milan	90.59	23	P	P	01 22 31.2	+0.3
L56A	Greenwood	90.64	28	P	P	01 22 31.9	+0.7
	baz=331,SNR=5.1						
G64A	Maxfield	90.66	21	P	P	01 22 32.1	+0.9
	baz=337						
O52A	Adamsville	90.73	32	P	P	01 22 32.8	+1.2
	baz=328						
N54A	Moraine State	90.75	30	P	P	01 22 32.3	+0.6
	baz=329						
N54A	Moraine State	90.75	30	IAmb	IAmb	01 22 34.9	
	comp=Z,8.6nm,0.8s						
K58A	Earlville	90.77	27	P	P	01 22 32.7	+1.0
	baz=332						
M55A	Ridgway	90.78	29	P	P	01 22 32.5	+0.7
	baz=330						
M55A	Ridgway	90.78	29	P	P	01 22 31.9	+0.1
H63A	New Sharon	90.84	22	P	P	01 22 33.0	+1.1
	baz=336						
I61A	Oroboro, Fairl	90.85	24	P	P	01 22 33.0	+1.0
	baz=335						
O53A	New Philadelph	90.87	32	P	P	01 22 32.5	+0.3
	baz=328						
O53A	New Philadelph	90.87	32	IAmb	IAmb	01 22 35.4	
	comp=Z,8.1nm,0.9s						
M56A	Emporium	90.98	29	P	P	01 22 33.6	+0.8
	baz=330						
L57A	Andrews Acres	91.02	28	P	P	01 22 33.7	+0.8
	baz=331						
K59A	Cooperstown	91.03	26	P	P	01 22 33.3	+0.4
	baz=333						
G65A	Princeton	91.03	20	P	P	01 22 33.7	+0.9
	baz=338						
J60A	Lant Hill Farm	91.08	25	P	P	01 22 33.9	+0.7
	baz=334						
H64A	Troy	91.09	22	P	P	01 22 33.4	+0.3
	baz=337						
BINY	Binghamton	91.15	27	P	P	01 22 34.4	+0.9
	baz=332						
Z41A	Richland Creek	91.19	43	P	P	01 22 35.1	+1.3
	baz=321						
833A	Chaparral WMA,	91.23	51	P	P	01 22 35.5	+1.4
	baz=318						
I63A	Otisfield	91.24	23	P	P	01 22 35.1	+1.3
	baz=336						
O54A	Avella	91.26	31	P	P	01 22 35.2	+1.2
	baz=329						
J61A	Chester	91.27	24	P	P	01 22 35.0	+1.0
	baz=334						
N55A	Marion Center	91.29	30	P	P	01 22 35.1	+0.9
	baz=330						
H65A	Eastbrook	91.31	21	P	P	01 22 34.9	+0.7
	baz=337						
L58A	Harry Jones Me	91.33	27	P	P	01 22 35.2	+0.8
	baz=332						
WVT	Waverly	91.39	38	P	P	01 22 34.9	+0.2
WVT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WVT	Waverly	91.39	38	P	P	01 22 35.6	+0.9
	baz=324						
WVT	Waverly	91.39	38	P	P	01 22 34.9	+0.2
WVT				IAmb	IAmb	01 22 36.6	
	comp=Z,5.9nm,0.9s						
N56A	West Decatur	91.43	29	P	P	01 22 35.8	+1.0
	baz=330						
P53A	Whipple	91.45	32	P	P	01 22 35.8	+0.9
	baz=328						
L59A	Walton	91.48	27	P	P	01 22 35.7	+0.7
	baz=333						
L59A	Walton	91.48	27	P	P	01 22 35.6	+0.5
H66A	Whiting	91.48	20	P	P	01 22 35.4	+0.5
	baz=338						
M57A	Sunshine Farm,	91.50	28	P	P	01 22 36.0	+0.9
	baz=331,SNR=6.0						
M57A	Sunshine Farm,	91.50	28	P	P	01 22 35.3	+0.2
K61A	Williamstown	91.65	25	P	P	01 22 36.6	+0.8
	baz=334						
M58A	Price's Panora	91.71	28	P	P	01 22 36.6	+0.5
	baz=332						
P54A	Burton	91.72	31	P	P	01 22 36.9	+0.8
	baz=329						
SSPA	Standing Stone	91.83	29	P	P	01 22 37.4	+0.8
	baz=331						
N57A	Milroy	91.85	29	P	P	01 22 37.6	+0.9
	baz=331						
O56A	Blue Knob Stat	91.89	30	P	P	01 22 37.9	+0.9
	baz=330						
Q53A	Leroy	91.92	32	P	P	01 22 38.3	+1.1
	baz=328						
OXF	Oxford	91.93	40	P	P	01 22 37.6	+0.4
	baz=323						
L61A	Hillsdale 1, H	91.98	26	P	P	01 22 38.4	+1.1
	baz=334						
U49A	Red Boiling Sp	92.03	37	IAmb	IAmb	01 22 39.6	
	comp=Z,6.7nm,0.8s						
T50A	Nancy	92.04	36	IAmb	IAmb	01 22 39.5	
	comp=Z,13nm,1.1s						
P55A	Reedsville	92.06	31	P	P	01 22 38.7	+0.9
	baz=329						
N58A	Sunbury	92.08	28	P	P	01 22 39.0	+1.2
	baz=332						
Q54A	Coxs Mills	92.10	32	P	P	01 22 38.8	+0.9
	baz=329						
V48A	Smith Brothers	92.18	38	IAmb	IAmb	01 22 40.1	
	comp=Z,9.9nm,1.1s						
K63A	Dunstable	92.19	24	P	P	01 22 38.7	+0.5
	baz=335						
N59A	State Game Lan	92.35	28	P	P	01 22 39.6	+0.5
	baz=332						
Q55A	Buckhannon	92.39	31	P	P	01 22 40.5	+1.2
	baz=329						
P56A	Dayton Farm, R	92.45	30	P	P	01 22 40.3	+0.8
	baz=330						
R54A	Victor	92.72	32	P	P	01 22 41.6	+0.7
	baz=329						
KEST	Kesra	92.80	323	LR	LR	02 08 29.1	
	comp=Z,101nm,19.2s,baz=266,slow=38						
R56A	Bull Pasture M	93.17	31	P	P	01 22 44.0	+1.0
	baz=330						
TKL	Tuckaleechee C	93.65	36	LR	LR	02 08 46.1	
	comp=Z,34nm,18.4s,baz=342,slow=38						
T55A	Pulaski	93.71	33	P	P	01 22 46.5	+1.0
	baz=329						
S57A	Dark Hollow, R	93.91	31	P	P	01 22 46.1	-0.1
	baz=330						
ESDC	Sonseca Array	94.69	334	P	P	01 22 49.9	0.0
	comp=Z,1.5nm,0.8s,baz=25,slow=3.8,SNR=11						
ESDC				LR	LR	02 13 03.8	
	comp=Z,60nm,18.2s,baz=85,slow=40						
ESDC	Sonseca Array	94.69	334	P	P	01 22 49.9	0.0
V57A	Coltrane Farms	95.18	33	P	P	01 22 52.3	+0.1
	baz=329						
GOGA	Godfrey	95.66	37	P	P	01 22 54.5	+0.2
	baz=327						
TORD	Torodi Ar. Bea	115.41	316	PKP	PKiKP	01 28 09.6	-1.0
	comp=Z,0.3nm,0.4s,baz=31,slow=2.7,SNR=10						
TORD	Torodi Ar. Bea	115.41	316		PKiKP	01 28 10.0	-0.6
DBIC	Dimbokro	124.27	319	PKP	PKPdf	01 28 27.4	-0.3
	comp=Z,2.6nm,0.8s,baz=309,slow=6.2,SNR=4.1						
SNAA	Sanae	143.81	198	PKPdf	PKPbc	01 29 00.6	+0.4
SNAA	Sanae	143.81	198	PKP	PKPbc	01 29 00.3	+0.1
	comp=Z,9.1nm,0.7s,baz=213,slow=5.7,SNR=70						
LPAZ	La Paz	144.72	56	PKP	PKPbc	01 29 05.5	+0.2
	comp=Z,2.3nm,0.5s,baz=18,slow=3.6,SNR=15						
LPAZ	La Paz	144.72	56		PKPab	01 29 05.0	-0.2
PB12	IPOC Station P	144.95	62	PKPbc	PKPab	01 29 05.5	+0.2
PB16	IPOC Station P	145.31	60		PKPbc	01 29 06.9	-0.1
VNA2	Neumayer--Watz	145.38	197	PKPdf	PKPbc	01 29 05.1	0.0
VNA3	Neumayer Olymp	145.64	196	PKPdf	PKPdf	01 29 05.5	0.0
VNA1	Neumayer--Stat	145.78	197	PKPdf	PKPab	01 29 06.6	-0.2
ZON	Zonda	153.86	81	PKP2	PKPab	01 29 41.2	+0.1
ZON	Zonda	153.86	81	PKPab	PKPab	01 29 41.1	+0.1
BDFB	Brasilia	154.12	22	PKPbc	PKiKP	01 29 29.1	+0.4
	comp=Z,6.5nm,1.0s,baz=65,slow=5.0,SNR=4.8						
BDFB				PKPab	PKPab	01 29 43.2	+0.8
	comp=Z,5.3nm,0.6s,baz=346,slow=4.5,SNR=6.4						
BDFB	Brasilia	154.12	22	PKP2	PKPab	01 29 42.4	0.0
BDFB	Brasilia	154.12	22		PKPbc	01 29 28.7	0.0
BDFB					PKPab	01 29 42.4	0.0
PLCA	Paso Flores	155.34	102	PKPab	PKPab	01 29 48.0	+0.8
	comp=Z,5.1nm,1.1s,baz=274,slow=5.2,SNR=3.9						
PLCA	Paso Flores	155.34	102	PKP2	PKPab	01 29 48.0	+0.8
CPUP	Villa Florida	158.88	55	PKPab	PKPab	01 30 03.2	+0.6
	comp=Z,2.1nm,0.6s,baz=208,slow=4.0,SNR=3.8						
CPUP	Villa Florida	158.88	55	PKP2	PKPab	01 30 03.0	+0.4
CPUP	Villa Florida	158.88	55		PKPab	01 30 03.0	+0.4

IDC ***10*** *02:40:53.3±30.0, 20°.38S×174°.41W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/49, mbtmp3.8/4, ML4.6/1, Error ellipse: s-maj=571.3km s-min=59.0km az=67.0*

NEIC ***10*** *02:41:35.0±1.2, 21°.6S±0°.2×175°.49W±0°.10, h322km±10km, mb4.2/7, Error ellipse: s-maj=24.6km s-min=12.3km az=168.0*

ISC 10 02:41:33.4±0.7, 21°.6S±0°.2×175°.6W±0°.1, h300km, n18, σ1§32/19, mb3.3/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.85	66	Pn	Pn	02 43 02.5	+1.5
NIUE					S	02 44 10.5	-1.1
OUZ	Omahuta	16.57	213	P	P	02 45 06.2	-1.4
URZ	Urewera	17.77	199	P	P	02 45 19.1	-1.3
	1.7nm,0.3s,baz=261,slow=4.2,SNR=6.7						
URZ	Urewera	17.77	199	P	P	02 45 18.8	-1.6
URZ				IAmb	IAmb	02 45 21.0	
	comp=Z,6.6nm,0.6s						
STKA	Stephens Creek	39.39	246	P	P	02 48 36.5	+1.8
	comp=Z,0.6nm,0.4s,baz=106,slow=7.4,SNR=1.2						
STKA	Stephens Creek	39.39	246	P	P	02 48 35.6	+0.8
AS31	Alice Springs	46.49	257	P	P	02 49 31.6	+0.1
ASAR	Alice Springs	46.49	257	P	P	02 49 32.9	+1.4
	comp=Z,1.1nm,0.8s,baz=92,slow=8.3,SNR=7.3						
ASAR	Alice Springs	46.49	257	P	P	02 49 31.2	-0.3
WB0	Warramunga Arr	46.69	263	P	P	02 49 34.9	+1.8
WB2	Warramunga Arr	46.69	263	P	P	02 49 33.6	+0.5
WB2				IAmb	IAmb	02 49 37.0	
	comp=Z,4.5nm,1.1s						
WRA	Warramunga Arr	46.70	263	P	P	02 49 34.5	+1.3
	comp=Z,0.2nm,0.2s,baz=95,slow=7.5,SNR=7.2						
WRA	Warramunga Arr	46.70	263	P	P	02 49 33.6	+0.4
MBWA	Marble Bar	59.83	257	P	P	02 51 06.4	-1.8
NWAO	Narrogin (SRO)	59.92	244	P	P	02 51 08.6	0.0
NWAO				IAmb	IAmb	02 51 14.7	
	comp=Z,16nm,1.1s						
QSPA	South Pole Qui	68.49	180	P	P	02 52 04.9	+1.4
PETK	Petropavlovsk-	77.92	344	P	P	02 52 57.8	-0.4
F07A	Phinny Hill Vi	83.97	35	P	P	02 53 28.9	-1.2

BJI ***10*** *02:46:05.6±0.0, 0°.15S×125°.15E, h30km, mB6.0/79, mb5.8/83, Ms6.1/97, Ms7 5.9/90*

MOS ***10*** *02:46:05.8±1.0, 0°.24S×124°.93E, h32km, mb6.3/74, MS5.8/78, Error ellipse: s-maj=6.8km s-min=3.8km az=116.4*

UNK ***10*** *02:46:06.4, 0°.24S×125°.10E, h35km*

NEIC ***10*** *02:46:06.4±1.1, 0°.24S±0°.05×125°.10E±0°.05, h35km±1km, mb6.1/230, Ms_20 5.9/848, Mwb6.2/53, Mwc6.2/67, Mww6.2, Mwc6.3(GCMT), Error ellipse: s-maj=9.2km s-min=8.0km az=149.0*

INMG ***10*** *02:46:06.4, 0°.19S×125°.17E, h30km, Mb5.4*

NEIC ***10*** *02:46:06.4, 0°.19S×125°.17E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.66; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-1.08; $M_{r\theta}$1.21; $M_{r\phi}$-0.57; $M_{\theta\phi}$1.81; Fault plane solution: $M_0$2.68000×10^{18} NP1:ϕ_s213.13000°, δ17.81000°, λ89.54000°. NP2:ϕ_s33.62000°, δ72.19000°, λ90.15000°. Principal axes: T 2.7787, Plg63.0000°, Azm304.0000°; N -0.2057, Plg0.0000°, Azm214.0000°; P -2.5730, Plg27.0000°, Azm124.0000°;*

IDC ***10*** *02:46:07.9±1.6, 0°.22S×124°.92E, h29km±10km, mb5.7/53, mb1 5.7/56, mb1mx5.6/58, mbtmp5.9/56, ML5.0/3, MS5.7/39, Ms1 5.7/39, ms1mx5.7/49 Error ellipse: s-maj=10.3km s-min=6.2km az=65.0*

GCMT ***10*** *02:46:11.4±0.0, 0°.36S×125°.06E, h29km, MW6.3/174, Moment Tensor Solution. s174,c432; s162,c602; Duration: 3s3 Moment tensor: Scale 10^{18}Nm; M_{rr}2.41±.01; $M_{\theta\theta}$-1.57±.01; $M_{\phi\phi}$-0.84±.01; $M_{r\theta}$0.63±.02; $M_{\theta\phi}$-1.28±.01; $M_{r\phi}$1.98±.03; Best double couple: $M_0$3.22600×10^{18} NP1:ϕ_s251.00000°, δ30.00000°, λ124.00000°. NP2:ϕ_s32.00000°, δ65.00000°, λ72.00000°. Principal axes: T 3.3460, Plg65.0000°, Azm271.0000°; N -0.2420, Plg17.0000°, Azm40.0000°; P -3.1060, Plg18.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *02:46:11, 0°.44S×124°.89E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.86; $M_{\theta\theta}$-1.86; $M_{\phi\phi}$-0.00; $M_{r\theta}$0.73; $M_{\theta\phi}$-1.13; $M_{r\phi}$1.12; Fault plane solution: $M_0$2.55000×10^{18} NP1:ϕ_s266.00000°, δ35.00000°, λ124.00000°. NP2:ϕ_s46.00000°, δ62.00000°, λ69.00000°. Principal axes: T 2.3945, Plg66.0000°, Azm277.0000°; N 0.2912, Plg19.0000°, Azm56.0000°; P -2.6857, Plg14.0000°, Azm152.0000°;*

DJA ***10*** *02:46:11.3±0.1, 0°.5±1°×12°.5E±°, h56km±2km, M6.2/135, mB6.5/120, mb6.1/135, MLv6.2/22, Mw(mB)6.2/120, Mwp6.1/115*

KLM ***10*** *02:46:13.0, 0°.19S×125°.11E, h77km, mb6.1*

NEIC ***10*** *02:46:13, 0°.35S×125°.22E, h31km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.25; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$-0.88; $M_{r\theta}$0.99; $M_{\theta\phi}$-1.41; $M_{r\phi}$1.84; Fault plane solution: $M_0$3.20000×10^{18} NP1:ϕ_s246.00000°, δ27.00000°, λ118.00000°. NP2:ϕ_s35.00000°, δ66.00000°, λ76.00000°. Principal axes: T 3.1268, Plg66.0000°, Azm281.0000°; N 0.1347, Plg12.0000°, Azm41.0000°; P -3.2615, Plg20.0000°, Azm136.0000°;*

NEIC ***10*** *02:46:27.4, 0°.22S×125°.13E, h33km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.67; $M_{\theta\theta}$-1.60; $M_{\phi\phi}$-1.07; $M_{r\theta}$0.83; $M_{\theta\phi}$-1.42; $M_{r\phi}$0.49; Fault plane solution: $M_0$2.89000×10^{18} NP1:ϕ_s226.99000°, δ35.45000°, λ84.70000°. NP2:ϕ_s53.49000°, δ54.73000°, λ93.76000°. Principal axes: T 2.8367, Plg80.0000°, Azm339.0000°; N 0.0998, Plg3.0000°, Azm231.0000°; P -2.9365, Plg10.0000°, Azm141.0000°;*

ISC 10 02:46:08.2±0.2, 0°.23S±0°.03×125°.03E±0°.03, h40km±2km, h40km:pP-P, n2089, σ1§63/1939, mb6.0/247, MS5.9/562, 135C-30D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.31	307	P	Pn	02 46 32.3	+2.2
SANI	Sanana	2.05	152	P	Pn	02 46 39.4	-0.8
GTOI	Gorontalo	2.19	293	P	Pn	02 46 47.6	+5.5
LUWI	Luwuk	2.40	250	P	Pn	02 46 48.5	+3.5
LUWI	Luwuk	2.40	250	Pn	Pn	02 46 44.9	-0.1
LBMI	Labuha	2.51	99	P	Pn	02 46 46.7	+0.2
TNTI	Ternate	2.54	67	P	Pn	02 46 48.9	+2.0
TNTI	Ternate	2.54	67	Pn	Pn	02 46 44.9	-2.0
TNTI				Sn	Sn	02 47 13.1	-3.6
NLAI	Namlea	3.64	145	P	Pn	02 47 02.0	-0.1
MSAI	Masohi	4.98	129	P	Pn	02 47 22.5	+2.0
MPSI	Mapaga	5.16	276	P	Pn	02 47 25.0	+2.1
	38nm328μm104μm7μm,0.6s						
SIJI	Sorong	6.27	96	Pn	Pn	02 47 39.5	+1.2
	20nm,0.3s,baz=288,slow=12,SNR=78						
SIJI				Sn	Sn	02 48 52.3	+3.6
	baz=130,slow=18,SNR=1.1						
DDMP	Don Marcelino,	6.32	6	eP	Pn	02 47 43.0	+4.0
BNSI	Bone	6.43	230	P	Pn	02 47 43.7	+3.3
	22nm208μm52μm6μm,1.0s						
SPSI	Sidrap Palu	6.43	235	P	Pn	02 47 44.4	+3.9
	25nm163μm62μm7μm,0.8s						
BNDI	Bandanaira	6.48	131	P	Pn	02 47 40.9	-0.2
	24nm295μm68μm5μm,0.7s						
SKMP	Bagumbayan, Su	6.72	356	eP	Pn	02 47 46.4	+2.0
BKSI	Bulukumba	7.04	224	P	Pn	02 47 52.4	+3.5
	8.7nm123μm28μm2μm,0.8s						
KAPI	Kappang	7.10	228	Pn	Pn	02 47 53.2	+3.6
	155nm,0.3s,baz=26,slow=4.0,SNR=145						
KAPI				Sn	Sn	02 49 10.6	+1.5
	125nm,0.3s,baz=18,slow=19,SNR=2.0						
KAPI				LR	LR	02 51 26.2	
	comp=Z,311μm,20.0s,baz=70,slow=45						
KAPI	Kappang	7.10	228	P	Pn	02 47 49.7	+0.1
KAPI						02 49 07.7	
KAPI	Kappang	7.10	228	Pn	Pn	02 47 49.7	+0.1
KAPI					Sn	02 49 07.7	-1.4
MATI	Mati	7.23	10	eP	Pn	02 47 57.1	+5.7
DAV	Davao City (W)	7.27	4	Pn	Pn	02 47 56.5	+4.6
	36nm,0.3s,baz=136,slow=2.3,SNR=30						
DAV				LR	LR	02 51 00.7	
	comp=Z,232μm,21.8s,baz=208,slow=40						
DAV	Davao City (W)	7.27	4		Pn	02 47 52.6	+0.6
DAV	Davao City (W)	7.27	4	eP	Pn	02 47 58.5	+6.5
SGKI	Sangatta, Kali	7.43	268	P	Pn	02 47 59.4	+5.2
	12nm220μm46μm2μm,0.9s						
ZCP	Zamboanga City	7.70	338	iP	Pn	02 48 02.7	+4.9
ZCP				i S		02 48 23.1	
FAKI	Fak Fak	7.70	110	P	Pn	02 47 55.8	-2.1
	3.7nm149μm19μm814nm,0.8s						
FAKI	Fak Fak	7.70	110	Pn	Pn	02 47 53.7	-4.1
SMKI	Samarinda	7.82	268	P	Pn	02 48 09.6	+10
	12nm172μm39μm3μm,0.8s						
BUKP	Musuan	8.05	0	eP	Pn	02 48 08.1	+5.4
PAGZ	Pagadian	8.19	348	eP	Pn	02 48 08.1	+3.6
BKB	Balikpapan	8.19	263	P	Pn	02 48 09.5	+4.9
	182μm46μm3μm,0.8s						
BKB	Balikpapan	8.19	263	Pn	Pn	02 48 04.9	+0.2
MYLDM	Lahad Datu	8.44	310	Pn	Pn	02 48 08.8	+0.7
MMRI	Maumere	8.80	198	P	Pn	02 48 15.4	+2.4
	99μm23μm854nm,1.7s						
MMRI	Maumere	8.80	198		Pn	02 48 13.2	+0.2
EDFI	Ende, Flores	9.10	201	P	Pn	02 48 19.3	+2.2
	62μm9μm508nm,1.0s						
RKPI	Ransiki, Papua	9.24	98	P	Pn	02 48 19.5	+0.5
	165μm14μm924nm,0.8s						
KBKI	Kotabaru	9.37	251	P	Pn	02 48 26.0	+5.3
	10μm1μm,1.2s						
SOEI	Soe	9.50	185	P	Pn	02 48 26.7	+4.1
	173μm55μm2μm,1.8s						
SOEI	Soe	9.50	185	Pn	Pn	02 48 22.1	-0.5
SPMM	Sapulut	9.86	300	P	Pn	02 48 33.0	+5.5
SAUI	Saumlaki	9.92	141	P	Pn	02 48 29.4	+1.0
	164μm53μm3μm,1.2s						
SAUI	Saumlaki	9.92	141		Pn	02 48 27.6	-0.8
GLSP	General Luna,	10.00	6	eP	Pn	02 48 32.5	+3.0
BATI	Baumata	10.01	188	Pn	Pn	02 48 35.9	+6.4
	20nm,0.3s,baz=25,slow=0.8,SNR=69						
BATI				LR	LR	02 53 38.2	
	comp=Z,98μm,19.5s,baz=0.0,slow=45						
BATI	Baumata	10.01	188	P	Pn	02 48 34.6	+5.0
	71μm19μm793nm,0.8s						
MTKI	Muara Teweh, K	10.15	266	P	Pn	02 48 40.4	+8.8
	65μm30μm510nm,1.0s						
BBKI	Banjar Baru	10.68	252	P	Pn	02 48 44.3	+5.6
	38μm16μm514nm,0.7s						
KKM	Kota Kinabalu	10.78	305	Pn	Pn	02 48 40.0	-0.2
BASI	Baing, Sumba	10.87	204	P	Pn	02 48 47.4	+6.1
	55μm21μm1μm,1.6s						
WBSI	Waikabubak, Su	10.91	211	P	Pn	02 48 47.5	+5.6
	52μm11μm463nm,0.9s						
PLAI	Plampang	11.19	220	P	Pn	02 48 49.6	+3.9
	49μm8μm343nm,0.7s						
TWSI	Taliwang, Sumb	11.72	224	P	Pn	02 48 58.4	+5.4
	24μm4μm245nm,0.8s						
SRBI	Singaraja	12.52	231	P	P	02 49 13.6	-1.2
KMMI	Kalianget	12.95	238	P	P	02 49 17.5	-2.1
	15μm748nm,1.0s						
SBUM	Sibu	13.08	282		Pn	02 49 11.7	+0.2
SBUM	Sibu	13.08	282	P	P	02 49 17.0	-4.0
STKI	Sintang	13.55	271	P	P	02 49 24.2	-2.1
	30μm453nm,0.9s						
PBKI	Pangkalan Bun	13.58	259	P	P	02 49 25.3	-1.3
	19μm1μm,1.1s						
JAGI	Jajag, Banyuwa	13.58	233	P	P	02 49 24.5	-2.2
	40μm13μm797nm,1.1s						
JAGI	Jajag, Banyuwa	13.58	233	Pn	Pn	02 49 19.3	+0.8
SMPI	Sarmi	13.79	97	P	P	02 49 25.6	-3.4
	15μm311nm,1.3s						
MTN	Manton Dam	13.92	154	P	Pn	02 49 24.6	+1.5
	baz=14,SNR=6.7						
MTN	Manton Dam	13.92	154	Pn	Pn	02 49 16.4	-6.6
GMJI	Gumukmas	14.04	235	P	P	02 49 30.9	-0.8
	13μm652nm,0.9s						
GRJI	Gresik	14.17	242	P	P	02 49 33.3	+0.1
	1μm8μm538nm,0.8s						
KDU	Kakadu	14.42	149	P	Pn	02 49 28.9	-0.9
	baz=14,SNR=67						
TBJI	Tambak Boyo	14.69	243	P	P	02 49 43.9	+5.0
TGY	Tagaytay City	14.80	344	Pn	P	02 49 39.8	-0.5
	16nm,0.3s,baz=193,slow=2.1,SNR=11						
TGY				LR	LR	02 56 11.8	
	comp=Z,35μm,20.1s,baz=150,slow=41						
KSM	Kuching	14.81	277	P	Pn	02 49 35.5	+0.4
KSM					S	02 52 35.0	-0.2
KSM	Kuching	14.81	277	P	P	02 49 40.0	-0.4
NGJI	Ngawi	15.28	242	P	P	02 49 48.5	+3.0
	112μm51μm3μm,1.0s						
PWJI	Pagerwojo	15.29	239	P	P	02 49 46.8	+1.2
	33μm1μm,1.2s						
GENI	Genyem	15.32	99	P	Pn	02 49 43.2	+1.5
	78μm22μm859nm,1.1s						
KNRA	Kununurra	15.79	167	P	Pn	02 49 48.1	+0.2
	baz=16,SNR=196						
KNRA	Kununurra	15.79	167	P	Pn	02 49 47.9	0.0
KNRA				IAmb	IAmb	02 49 50.9	
	comp=Z,896nm,0.8s						
JAY	Jayapura	15.84	98	Pn	P	02 49 50.3	-1.5
	comp=Z,5.8nm,0.3s,baz=278,slow=16,SNR=15						
JAY	Jayapura	15.84	98	P	P	02 49 51.5	-0.3
	comp=Z,32μmcomp=Z,4μmcomp=Z,127nm,1.0s						
WOJI	Wonogiri, Jawa	15.96	241	P	P	02 49 55.5	+2.4
	comp=Z,38μmcomp=Z,13μmcomp=Z,461nm,1.8s						
SMRI	Semarang	16.05	245	P	P	02 49 58.7	+4.6
	comp=Z,91μmcomp=Z,79μmcomp=Z,2μm,1.1s						
S

comp=Z,75μm,22.0s
BLSI Bandar Lampung 20.40 255 P Pn 02 50 46.8 +2.5
comp=Z,59μmcomp=Z,15μmcomp=Z,595nm,1.1s
PMBI Palembang 20.42 262 P Pn 02 50 46.0 +1.5
comp=Z,62μmcomp=Z,3μm,1.1s
PMBI Palembang 20.42 262 P **P** **02 50 42.4 +0.1**
PMBI IAMs_20 IAMs_20 02 59 16.5
comp=Z,70μm,22.0s
DSRI Dabo 20.45 269 P Pn 02 50 44.3 -0.6
comp=Z,33μmcomp=Z,10μmcomp=Z,752nm,0.6s
TPRI Tanjung Pinang 20.53 273 P Pn 02 50 46.2 +0.4
comp=Z,49μmcomp=Z,952nm,0.8s
KLI Kotabumi 20.66 257 P Pn 02 50 47.8 +0.4
comp=Z,66μmcomp=Z,15μmcomp=Z,805nm,0.7s
KLSI 20.75 257 P Pn 02 50 47.3 -1.1
comp=Z,19μmcomp=Z,5μmcomp=Z,194nm,0.7s
MDSI Maura Dua 21.25 258 P **P** **02 50 51.8 +0.6**
comp=Z,54μmcomp=Z,10μmcomp=Z,562nm,0.9s
MYKOM Kota Tinggi 21.27 275 P **P** **02 50 50.8 -0.6**
MYKOM IAmb IAmb 02 50 58.5
comp=Z,615nm,0.8s
MYKOM Kota Tinggi 21.27 275 P **P** **02 50 54.0 +2.6**
LWLI Liwa 21.47 257 P **P** **02 50 56.8 +3.1**
comp=Z,704nm,0.9s
WB0 Warramunga Arr 21.48 155 P **P** **02 50 52.0 -1.6**
WB0 IAmb IAmb 02 51 15.1
comp=Z,859nm,0.9s
WB0 S **S** **02 54 39.7 -10**
WRAB Tennant Creek 21.61 156*d iP* **P** **02 50 53.7 -1.3**
WRAB pmax pmax
comp=Z,704nm,1.0s
WRAB MLR MLR
comp=Z,32μm,22.0s
WRAB Tennant Creek 21.61 156 P **P** **02 50 53.6 -1.3**
WRAB IAmb IAmb 02 51 32.5
comp=Z,996nm,1.1s
WRAB PcP **PcP** **02 54 53.5 -2.5**
WRA Warramunga Arr 21.61 156 P **P** **02 50 54.6 -0.4**
comp=Z,58nm,0.5s,baz=334,slow=11,SNR=255
WRA S **S** **02 54 53.7 +1.2**
comp=Z,104nm,1.2s,baz=333,slow=16,SNR=9.2
WRA ScP **ScP** **02 58 31.4 +1.3**
comp=Z,6.3nm,1.0s,baz=332,slow=3.1,SNR=4.7
WRA LR LR 03 00 33.9
comp=Z,10μm,18.2s,baz=335,slow=40
WRA P3KPbc 03 24 47.4
comp=Z,3.5nm,0.9s,baz=151,slow=3.8,SNR=14
WRA Warramunga Arr 21.61 156 P **P** **02 50 53.4 -1.6**
WRA **ScP** **02 58 28.8 -1.3**
WB2 Warramunga Arr 21.62 156 P **P** **02 50 53.5 -1.6**
WC3 Warramunga Arr 21.64 156 P **P** **02 50 54.4 -1.0**
baz=22
WR0 Warramunga Arr 21.71 155 P **P** **02 50 54.4 -1.7**
WR0 IAmb IAmb 02 51 33.0
comp=Z,1μm,1.5s
LHSI Lahat 21.78 260 P **P** **02 50 59.9 +3.0**
comp=Z,73μmcomp=Z,21μmcomp=Z,479nm,1.0s
XMIS Christmas Isla 21.79 242 P **P** **02 50 56.3 -0.7**
MNAI Manna 22.43 259 P **P** **02 51 06.5 +2.7**
comp=Z,53μmcomp=Z,23μmcomp=Z,1μm,0.6s
MNAI Manna 22.43 259 P **P** **02 51 03.2 -0.6**
MNAI IAMs_20 IAMs_20 03 00 28.8
comp=Z,54μm,21.0s
COEN Coen 22.56 128 P **P** **02 51 05.0 -0.2**
baz=23,SNR=275
COEN Coen 22.56 128 P **P** **02 51 03.6 -1.6**
KSI Kapahiang 22.67 261 P **P** **02 51 07.6 +1.1**
comp=Z,53μmcomp=Z,778nm,0.7s
MASI Maura Aman, Be 22.96 263 P **P** **02 51 10.7 +1.2**
comp=Z,32μmcomp=Z,4μm,1.0s
TWG Pinlang 23.23 351 P **P** **02 51 09.1 -2.9**
TWG IAmb IAmb 02 51 18.5
comp=Z,626nm,0.6s
SDSI Sungai Dareh 23.61 268 P **P** **02 51 16.0 +0.2**
comp=Z,43μmcomp=Z,11μmcomp=Z,608nm,0.9s
KRJI Kerinci 23.63 265 P **P** **02 51 18.1 +2.0**
comp=Z,48μmcomp=Z,88μmcomp=Z,9μm,1.0s
YULB Yu-li 23.75 351 P **P** **02 51 14.7 -2.3**
TPUB Ta-pu 23.77 350 P **P** **02 51 15.9 -1.3**
TPUB IAmb IAmb 02 51 23.3
comp=Z,593nm,0.7s
TPUB IAMs_20 IAMs_20 03 00 26.8
comp=Z,42μm,21.0s
PMG Port Moresby 23.84 113 P **P** **02 51 19.6 +1.6**
comp=Z,171nm,0.9s,baz=320,slow=5.9,SNR=40
PMG Port Moresby 23.84 113*d iP* **P** **02 51 17.0 -1.0**
PMG pmax pmax
comp=Z,597nm,1.3s
PMG MLR MLR
comp=Z,35μm,22.0s
PMG Port Moresby 23.84 113 P **P** **02 51 16.6 -1.4**
PMG IAmb IAmb 02 51 43.0
comp=Z,970nm,1.1s
GUMO Guam 23.98 54 P **P** **02 51 20.2 +1.0**
comp=Z,298nm,0.6s,baz=181,slow=8.5,SNR=20
GUMO Guam 23.98 54 P **P** **02 51 16.9 -2.2**
GUMO IAmb IAmb 02 51 34.1
comp=Z,393nm,0.8s
BKNI Bangkinang 23.99 271 P **P** **02 51 20.8 +1.4**
comp=Z,48μmcomp=Z,16μmcomp=Z,989nm,1.1s
BKNI Bangkinang 23.99 271 P **P** **02 51 19.2 -0.2**
SSLB Suanglung 24.20 351 P **P** **02 51 19.8 -1.4**
QIZ Qiongzhong 24.25 323 P **P** **02 51 22.6 +0.9**
QIZ sP **sP** **02 51 34.4 -1.5**
QIZ S **S** **02 55 40.1 +2.1**
QIZ pmax pmax
comp=Z,46nm,1.0s
QIZ pmax pmax
comp=Z,7μm,8.8s
QIZ LR LR
comp=Z,17μm,17.3s
QIZ LR LR
comp=Z,13μm,18.8s
QIZ LR LR
comp=Z,23μm,18.7s
QIZ Qiongzhong 24.25 323 P **P** **02 51 21.8 +0.1**
IPM Ipoh 24.43 281 P **P** **02 51 22.6 -0.8**
IPM IAmb IAmb 02 51 28.7
comp=Z,366nm,0.9s
IPM IAMs_20 IAMs_20 03 02 28.1
comp=Z,46μm,22.0s
IPM Ipoh 24.43 281 P **P** **02 51 25.0 +1.6**
NACB Ninganchiao 24.48 352 P **P** **02 51 22.7 -1.0**
PDSI Padang 24.57 268 P **P** **02 51 24.5 -0.2**
comp=Z,21μmcomp=Z,6μmcomp=Z,691nm,1.0s
YOJ Yonaguni jima 24.62 356 P **P** **02 51 23.8 -1.1**
YOJ pmax pmax
comp=Z,266nm,0.6s
YOJ MLR MLR
comp=Z,36μm,21.0s
YOJ Yonaguni jima 24.62 356 P **P** **02 51 23.8 -1.1**
YOJ IAmb IAmb 02 51 32.4
comp=Z,266nm,0.6s
YOJ IAMs_20 IAMs_20 03 00 24.2
comp=Z,36μm,21.0s
GIRL Giralia 24.64 205 P **P** **02 51 27.6 +2.5**
baz=25,SNR=23
GIRL Giralia 24.64 205 P **P** **02 51 24.0 -1.1**
QIS Mount Isa 24.73 146 P **P** **02 51 27.0 +0.9**
baz=25,SNR=598
HKPS Hong Kong Po S 24.75 335 P **P** **02 51 25.2 -1.0**
HKPS IAMs_20 IAMs_20 03 00 43.1
comp=Z,44μm,18.0s
AS31 Alice Springs 24.84 160 P **P** **02 51 25.7 -1.4**
ASAR Alice Springs 24.84 160 P **P** **02 51 27.4 +0.3**
comp=Z,132nm,0.9s,baz=330,slow=6.9,SNR=270
ASAR PcP **PcP** **02 55 04.2 +1.5**
comp=Z,29nm,0.5s,baz=349,slow=1.9,SNR=18
ASAR S **S** **02 55 49.0 +1.6**
comp=Z,29nm,1.0s,baz=351,slow=22,SNR=4.6
ASAR ScP **ScP** **02 58 39.6 +0.9**
comp=Z,12nm,0.9s,baz=0.2,slow=2.6,SNR=7.3
ASAR ScS **ScS** **03 02 25.3 -1.8**
comp=Z,4.1nm,0.9s,baz=345,slow=4.0,SNR=5.7
ASAR LR LR 03 02 59.5
comp=Z,21μm,21.6s,baz=329,slow=41
ASAR P3KPbc 03 24 32.9
comp=Z,2.5nm,0.8s,baz=149,slow=5.2,SNR=15
ASAR Alice Springs 24.84 160 P **P** **02 51 25.6 -1.5**
ASAR **PcP** **02 54 57.5 -5.2**
WRKA Warakurna 24.87 173 P **P** **02 51 28.2 +0.9**
baz=25,SNR=260
KULM Kulim 24.95 283 P **P** **02 51 27.8 -0.3**
KULM IAmb IAmb 02 51 31.4
comp=Z,522nm,1.4s
KULM Kulim 24.95 283 P **P** **02 51 29.0 +0.8**

YHNB Yeheng 25.00 352 P **P** **02 51 27.4 -1.1**
PPSI Pulau Pagai 25.13 264 P **P** **02 51 30.9 +1.1**
comp=Z,20μmcomp=Z,2μm,0.9s
TATO Taipei 25.29 352 P **P** **02 51 30.2 -0.8**
TATO Taipei 25.29 352 IAMs_20 IAMs_20 03 01 10.8
comp=Z,49μm,22.0s
KNMB Chin-men Tao 25.37 346 P **P** **02 51 31.1 -0.7**
QZH Quanzhou 25.78 346⇑*iP* **P** **02 51 35.8 +0.3**
QZH S **S** **02 56 00.9 -1.3**
QZH sS **sS** **02 56 19.3 +0.4**
QZH pmax pmax
comp=Z,150nm,0.7s
QZH pmax pmax
comp=Z,5μm,9.9s
QZH LR LR
comp=Z,8μm,21.8s
QZH LR LR
comp=Z,12μm,18.9s
QZH LR LR
comp=Z,22μm,26.5s
GZH Guangzhou 25.81 335⇑*iP* **P** **02 51 40.2 +4.4**
GZH S **S** **02 56 07.5 +4.9**
GZH pmax pmax
comp=Z,7μm,9.7s
GZH LR LR
comp=Z,30μm,18.2s
GZH LR LR
comp=Z,22μm,19.8s
SISI Saibi 25.96 267 P **P** **02 51 38.1 +0.8**
comp=Z,6μmcomp=Z,326nm,0.7s
MTSU Mount Surprise 26.00 134 P **P** **02 51 38.7 +1.0**
baz=26,SNR=125
RPSI Rantau Prapat 26.25 277 P **P** **02 51 39.9 -0.1**
RPSI IAmb IAmb 02 51 43.4
comp=Z,611nm,1.2s
PSI Prapat 26.27 277 P **P** **02 51 40.1 -0.1**
comp=Z,259nm,0.9s,baz=179,slow=2.1,SNR=77
PSI LR LR 03 03 24.0
comp=Z,25μm,20.9s,baz=90,slow=40
JMZ Minamidaito 2 26.57 13 P **P** **02 51 41.6 -1.0**
JMZ IAmb IAmb 02 51 51.7
comp=Z,369nm,0.8s
PBSI Pulau Batu 26.75 270 P **P** **02 51 49.7 +5.3**
comp=Z,26μmcomp=Z,11μmcomp=Z,232nm,1.3s
MEEK Meekatharra 26.98 193 P **P** **02 51 46.4 +0.1**
baz=27,SNR=55
KRVT Keravat (AS076 27.28 99 P **P** **02 51 51.2 +2.0**
comp=Z,533nm,0.8s,baz=353,slow=1.0,SNR=38
KRVT LR LR 03 05 29.2
comp=Z,9μm,18.5s,baz=273,slow=42
RABL Rabaul 27.40 99 P **P** **02 51 48.5 -1.8**
RABL IAmb IAmb 02 52 19.8
comp=Z,783nm,1.1s
GSI Gunungsitoli 27.49 273 P **P** **02 51 50.4 -0.8**
comp=Z,26μmcomp=Z,5μmcomp=Z,450nm,1.0s
GSI Gunungsitoli 27.49 273 P **P** **02 51 50.3 -0.8**
GSI IAmb IAmb 02 51 53.5
comp=Z,358nm,0.9s
TPTI 28.05 277 P **P** **02 51 56.9 +0.8**
comp=Z,15μmcomp=Z,2μmcomp=Z,90nm,1.3s
LHMI Lhok Sumawe 28.56 281 P **P** **02 52 04.8 +4.2**
comp=Z,28μmcomp=Z,9μmcomp=Z,355nm,0.7s
LHMI Lhok Sumawe 28.56 281 P **P** **02 51 59.9 -0.7**
LHMI IAmb IAmb 02 52 05.1
comp=Z,289nm,0.8s
CTA Charters Tower 28.66 135 P **P** **02 52 03.1 +1.6**
comp=Z,78nm,0.9s,baz=315,slow=11,SNR=65
CTA LR LR 03 05 47.1
comp=Z,12μm,21.5s,baz=304,slow=41
CTAO Charters Tower 28.66 135 P **P** **02 52 00.0 -1.5**
CTAO pmax pmax
comp=Z,536nm,1.5s
CTAO Charters Tower 28.66 135 P **P** **02 51 60.0 -1.5**
CTAO IAmb IAmb 02 52 26.4
comp=Z,536nm,1.4s
MLSI Meulaboh, Aceh 28.94 279 P **P** **02 52 04.0 -0.1**
comp=Z,31μmcomp=Z,9μmcomp=Z,708nm,1.0s
PBKT Sadao Pong 29.00 306 P **P** **02 52 03.7 -0.8**
SLVN Son La 29.74 317 P **P** **02 52 10.2 -0.9**
MORW Morawa 29.94 196 P **P** **02 52 13.1 +0.4**
baz=30,SNR=23
MORW Morawa 29.94 196 P **P** **02 52 11.6 -1.1**
COCO West Island 30.39 246 P **P** **02 52 16.0 -0.9**
COCO pmax pmax
comp=Z,3μm,1.8s
COCO MLR MLR
comp=Z,40μm,21.0s
COCO West Island 30.39 246 P **P** **02 52 16.0 -0.9**
FORT Forrest 30.52 175 P **P** **02 52 18.5 +0.7**
baz=31,SNR=67
FORT Forrest 30.52 175 P **P** **02 52 16.6 -1.2**
FORT IAmb IAmb 02 52 23.5
comp=Z,355nm,0.8s
KMBL Kambalda 31.12 185 P **P** **02 52 24.1 +1.1**
baz=31,SNR=11
BLDU Ballidu 31.24 194 P **P** **02 52 24.4 +0.3**
baz=31,SNR=49
SSE Sheshan 31.36 354 P **P** **02 52 25.3 +0.1**
SSE pP **pP** **02 52 34.1 -1.3**
SSE S **S** **02 57 32.4 +2.6**
SSE pmax pmax
comp=Z,1μm,8.0s
SSE LR LR
comp=Z,8μm,23.8s
CM31 Chiang Mai Arr 31.65 307 P **P** **02 52 29.5 +1.6**
SNR=59
CM31 P **P** **02 52 29.5 +1.6**
SNR=59
CM31 P **P** **02 52 29.5 +1.6**
SNR=59
CM31 Chiang Mai Arr 31.65 307 P **P** **02 52 27.0 -0.9**
CMAR Chiang Mai Arr 31.65 307 P **P** **02 52 28.0 +0.1**
comp=Z,35nm,0.7s,baz=136,slow=6.8,SNR=87
CMAR PcP **PcP** **02 55 22.1 +2.6**
comp=Z,44nm,0.8s,baz=174,slow=1.7,SNR=15
CMAR ScP **ScP** **02 59 01.6 +1.7**
comp=Z,4.8nm,0.8s,baz=166,slow=2.8,SNR=3.6
CMAR LR LR 03 05 31.0
comp=Z,18μm,21.4s,baz=188,slow=37
CMAR Chiang Mai Arr 31.65 307 P **P** **02 52 27.1 -0.8**
CMAR **PcP** **02 55 18.1 -1.4**
CMAR **ScP** **02 58 57.2 -2.7**
JCJ Chichijima 31.79 30 P **P** **02 52 29.6 +0.6**
comp=Z,495nm,0.7s,baz=274,slow=8.7,SNR=17
JCJ Chichijima 31.79 30 P **P** **02 52 27.6 -1.4**
JCJ ScP **ScP** **02 58 58.6 -1.5**
CHTO Chiang Mai 31.84 308 P **P** **02 52 29.2 -0.4**
CHTO pmax pmax
comp=Z,187nm,1.0s
CHTO MLR MLR
comp=Z,26μm,22.0s
CHTO Chiang Mai 31.84 308 P **P** **02 52 29.2 -0.4**
CHTO IAmb IAmb 02 52 33.6
comp=Z,187nm,1.0s
CHTO Chiang Mai 31.84 308 IAMs_20 IAMs_20 03 05 02.9
comp=Z,26μm,22.0s
GYA Guiyang 31.89 328⇑P **P** **02 52 31.5 +1.4**
GYA pP pP 02 52 41.7 +1.8
GYA PcP **PcP** **02 55 23.8 +3.6**
GYA S **S** **02 57 40.6 +2.1**
GYA pmax pmax
comp=Z,2μm,5.7s
GYA LR LR
comp=Z,10μm,23.9s
GYA LR LR
comp=Z,10μm,22.1s
GYA LR LR
comp=Z,17μm,24.0s
KLBR Kellerberrin 31.95 192 P **P** **02 52 30.6 +0.2**
baz=32,SNR=37
JSU Suzuyama 31.98 9 P **P** **02 52 29.5 -1.1**
JSU IAmb IAmb 02 52 36.0
comp=Z,174nm,0.8s
QLP Quilpie 32.07 146 P **P** **02 52 32.5 +1.0**
baz=32,SNR=20
WHN Wuhan 32.24 343⇓P **P** **02 52 35.5 +2.6**
WHN pP **pwP** **02 52 46.1 -1.0**
WHN pmax pmax
comp=Z,88nm,0.8s
WHN LR LR
comp=Z,26μm,16.7s
WHN LR LR
comp=Z,26μm,19.1s
WHN LR LR
comp=Z,57μm,20.2s
NJ2 Nanjing 32.63 350 *e*P **P** **02 52 37.4 +1.1**

NJ2 pP **pP** **02 52 45.9 -0.4**
NJ2 S **S** **02 57 51.9 +2.3**
NJ2 sS **sS** **02 58 04.8 -1.7**
NJ2 pmax pmax
comp=Z,98nm,0.9s
NJ2 pmax pmax
comp=Z,2μm,6.3s
NJ2 LR LR
comp=Z,16μm,23.9s
NJ2 LR LR
comp=Z,9μm,23.9s
NJ2 LR LR
comp=Z,29μm,22.0s
MUN Mundaring 32.66 194 P **P** **02 52 37.4 +0.8**
baz=33,SNR=12
KMI Kunming 33.16 321⇑*iP* **P** **02 52 43.3 +1.9**
KMI pP pP 02 52 48.5 -2.8
KMI sP sP 02 52 54.6 -1.1
KMI S **S** **02 58 01.5 +2.9**
KMI sS sS 02 58 18.6 +3.3
KMI SS SS 02 59 59.5 -23
KMI pmax pmax
comp=Z,64nm,0.6s
KMI pmax pmax
comp=Z,2μm,4.1s
KMI LR LR
comp=Z,15μm,16.6s
KMI LR LR
comp=Z,7μm,18.8s
KMI LR LR
comp=Z,18μm,17.7s
KMI Kunming 33.16 321 P **P** **02 52 40.4 -1.0**
KMI pmax pmax
comp=Z,364nm,1.9s
KMI MLR MLR
comp=Z,19μm,18.0s
KMI Kunming 33.16 321 P **P** **02 52 40.4 -1.0**
KMI IAmb IAmb 02 52 44.2
comp=Z,364nm,1.9s
KMI Kunming 33.16 321 IAMs_20 IAMs_20 03 06 35.4
comp=Z,19μm,18.0s
NWAO Narrogin (SRO) 33.35 192 P **P** **02 52 42.5 -0.1**
comp=Z,31nm,0.6s,baz=12,slow=9.1,SNR=17
NWAO PcP **PcP** **02 55 26.2 +2.3**
comp=Z,42nm,0.8s,baz=47,slow=4.7,SNR=3.7
NWAO LR LR 03 09 40.3
comp=Z,7μm,18.6s,baz=20,slow=42
NWAO Narrogin (SRO) 33.35 192 P **P** **02 52 42.8 +0.2**
baz=34,SNR=12
NWAO Narrogin (SRO) 33.35 192 P **P** **02 52 41.6 -0.9**
JNU Nakatsue 33.62 9 P **P** **02 52 46.0 +0.9**
comp=Z,168nm,0.8s,baz=170,slow=3.1,SNR=68
JNU LR LR 03 07 00.2
comp=Z,6μm,20.8s,baz=194,slow=37
JNU Nakatsue 33.62 9 P **P** **02 52 44.0 -1.1**
JNU IAmb IAmb 02 52 56.4
comp=Z,250nm,1.0s
ENH Enshi 33.74 335 P **P** **02 52 45.5 -0.6**
ENH IAmb IAmb 02 52 52.8
comp=Z,158nm,0.8s
PATS Pohnpei 33.94 77 P **P** **02 52 50.0 +2.0**
baz=34,SNR=4.1
BBOO Buckleboo 34.04 163 P **P** **02 52 49.8 +1.2**
baz=34,SNR=23
BBOO Buckleboo 34.04 163 P **P** **02 52 47.4 -1.2**
BBOO IAmb IAmb 02 53 10.3
comp=Z,288nm,1.1s
RMQ Roma 34.70 141 P **P** **02 52 56.0 +1.5**
baz=35,SNR=10
JMN Monobe 34.78 13 P **P** **02 52 53.9 -1.2**
JMN IAmb IAmb 02 53 09.9
comp=Z,346nm,1.0s
JTU Tsushima 34.81 6 P **P** **02 52 54.3 -1.0**
JTU IAmb IAmb 02 53 22.8
comp=Z,369nm,1.3s
RKGY Rocky Gully 35.03 192 P **P** **02 52 59.6 +2.4**
baz=35,SNR=8.6
STKA Stephens Creek 35.17 155 P **P** **02 52 59.4 +1.0**
comp=Z,140nm,0.6s,baz=326,slow=9.0,SNR=101
STKA PcP **PcP** **02 55 30.2 +1.1**
comp=Z,17nm,0.5s,baz=243,slow=16,SNR=1.5
STKA LR LR 03 10 40.7
comp=Z,8μm,18.8s,baz=346,slow=42
STKA Stephens Creek 35.17 155 P **P** **02 52 59.7 +1.3**
baz=35,SNR=128
STKA Stephens Creek 35.17 155 P **P** **02 52 57.0 -1.4**
STKA **PcP** **02 55 26.1 -3.1**
EIDS Eidsvold 35.47 137 P **P** **02 53 02.0 +0.9**
baz=36,SNR=8.6
EIDS Eidsvold 35.47 137 P **P** **02 52 59.4 -1.7**
HTT Hallett 35.52 160 P **P** **02 53 03.1 +1.7**
baz=36,SNR=14
JHS Saijyo 35.85 11 P **P** **02 53 03.0 -1.2**
JHS IAmb IAmb 02 53 11.0
comp=Z,155nm,0.8s
HNR Honiara 35.94 106 P **P** **02 53 05.9 +0.6**
comp=Z,182nm,0.8s,baz=292,slow=5.0,SNR=1.9
HNR Honiara 35.94 106 P **P** **02 53 03.5 -1.8**
JHJ Hachijo jima 2 35.96 21 P **P** **02 53 05.6 +0.4**
comp=Z,105nm,0.6s,baz=210,slow=20,SNR=2.1
TJN Taejon 36.48 3*c iP* **P** **02 53 10.3 +0.7**
JWT Wachi 36.63 14 P **P** **02 53 10.0 -0.9**
JWT IAmb IAmb 02 53 26.2
comp=Z,238nm,1.0s
CMSA Cobar Meteorol 36.78 150 P **P** **02 53 13.7 +1.5**
baz=37,SNR=234
CD2 Chengdu 36.97 329 P **P** **02 53 13.9 0.0**
CD2 pP pP 02 53 22.6 -1.6
CD2 PP **PP** **02 54 36.7 -2.0**
CD2 S **S** **02 58 54.2 -2.5**
CD2 sS sS 02 59 14.3 +0.7
CD2 pmax pmax
comp=Z,160nm,0.7s
CD2 pmax pmax
comp=Z,5μm,9.6s
CD2 LR LR
comp=Z,39μm,22.4s
CD2 LR LR
comp=Z,26μm,20.2s
CD2 LR LR
comp=Z,27μm,20.8s
TIA Tai'an 36.99 349 P **P** **02 53 13.8 -0.1**
TIA S **S** **02 58 52.8 -3.9**
TIA pmax pmax
comp=Z,110nm,0.7s
TIA pmax pmax
comp=Z,2μm,12.0s
TIA LR LR
comp=Z,12μm,24.5s
TIA LR LR
comp=Z,7μm,23.7s
TIA LR LR
comp=Z,26μm,26.5s
INU Inuyama 37.12 16 P **P** **02 53 14.2 -0.8**
INU IAmb IAmb 02 53 28.7
comp=Z,272nm,1.0s
XAN Xi'an 37.29 338 P **P** **02 53 16.3 -0.2**
XAN PP **PP** **02 54 40.9 -1.2**
XAN S S 02 58 51.6 -10
XAN ScS **ScS** **03 03 28.9 +1.2**
XAN pmax pmax
comp=Z,110nm,1.0s
XAN pmax pmax
comp=Z,3μm,10.6s
XAN LR LR
comp=Z,26μm,19.1s
XAN LR LR
comp=Z,7μm,15.7s
XAN LR LR
comp=Z,36μm,18.1s
XAN Xi'an 37.29 338 P **P** **02 53 15.9 -0.6**
XAN pmax pmax
comp=Z,159nm,1.0s
XAN MLR MLR
comp=Z,27μm,20.0s
XAN Xi'an 37.29 338 P **P** **02 53 15.9 -0.6**
JGF Kuroka 37.45 17 P **P** **02 53 16.8 -1.1**
INCN Inchon 37.55 2 P **P** **02 53 17.8 -0.9**
INCN pmax pmax
comp=Z,106nm,1.1s
INCN MLR MLR
comp=Z,14μm,21.0s
INCN Inchon 37.55 2 P **P** **02 53 17.8 -0.9**
KSAR Wonju Array Be 37.57 4 P **P** **02 53 18.2 -0.6**
KSAR Wonju Array Be 37.57 4 P **P** **02 53 18.2 -0.6**
KSRS Korea Array 37.59 4 P **P** **02 53 20.8 +1.9**

comp=Z,104nm,0.8s,baz=180,slow=9.9,SNR=150
KSRS PcP **PcP** **02 55 38.1 +1.9**
comp=Z,30nm,0.8s,baz=177,slow=2.8,SNR=9.1
KSRS ScP **ScP** **02 59 21.9 +1.3**
comp=Z,3.9nm,0.7s,baz=183,slow=3.5,SNR=4.6
KSRS LR LR 03 07 57.1
comp=Z,12μm,20.7s,baz=188,slow=35
KS19 Wonju Array Si 37.63 4 P **P** **02 53 18.6 -0.8**
KS19 IAmb IAmb 02 53 39.2
comp=Z,550nm,1.6s
SAIH SAIHA 38.51 308⇑*i*P **P** **02 53 27.2 +0.1**
SAIH IAmb IAmb 02 53 30.1
comp=Z,153nm,0.7s
MAJO Matsushiro 38.58 17*c i*P **P** **02 53 27.6 +0.3**
MAJO pmax pmax
comp=Z,126nm,0.8s
MAJO MLR MLR
comp=Z,11μm,19.0s
MAJO Matsushiro 38.58 17 P **P** **02 53 26.2 -1.1**
MAJO IAmb IAmb 02 53 53.5
comp=Z,337nm,1.3s
MAT Matsushiro 38.58 17 P **P** **02 53 27.6 +0.3**
MAT S **S** **02 59 18.2 -2.6**
MJAR Matsushiro Arr 38.58 17 P **P** **02 53 27.6 +0.3**
comp=Z,69nm,0.6s,baz=196,slow=8.6,SNR=155
MJAR PcP **PcP** **02 55 41.0 +1.7**
comp=Z,45nm,0.9s,baz=197,slow=2.9,SNR=7.1
MJAR ScP **ScP** **02 59 25.5 +1.1**
comp=Z,9.8nm,0.8s,baz=183,slow=6.2,SNR=5.2
MJAR Matsushiro Arr 38.58 17 P **P** **02 53 26.3 -1.0**
MJAR **PcP** **02 55 37.2 -2.1**
MJAR **ScP** **02 59 23.5 -1.0**
JYT Yasato 38.91 20 P **P** **02 53 29.1 -1.1**
DL2 Dalian 39.07 356 P **P** **02 53 31.1 -0.3**
DL2 PP **PP** **02 55 00.1 -1.4**
DL2 PcP **PcP** **02 55 42.6 +1.8**
DL2 S **S** **02 59 25.9 -2.1**
DL2 pmax pmax
comp=Z,120nm,0.7s
DL2 pmax pmax
comp=Z,3μm,10.6s
DL2 LR LR
comp=Z,14μm,23.2s
DL2 LR LR
comp=Z,9μm,23.2s
DL2 LR LR
comp=Z,24μm,24.1s
PYAG Pyongyang 39.09 1 P **P** **02 53 34.0 +2.4**
PYAG S **S** **02 59 33.8 +5.4**
LKP Lekhapani 39.20 317⇑*i*P **P** **02 53 32.7 0.0**
ARMA Armidale 39.26 142 P **P** **02 53 34.9 +1.6**
baz=39,SNR=24
ARMA Armidale 39.26 142 P **P** **02 53 31.7 -1.5**
PYS Pyongsong 39.29 1 P **P** **02 53 36.5 +3.3**
TIY Taiyuan 39.50 344 *e*P **P** **02 53 35.4 +0.3**
TIY S **S** **02 59 35.0 +0.2**
TIY pmax pmax
comp=Z,220nm,0.5s
TIY pmax pmax
comp=Z,1μm,5.9s
TIY LR LR
comp=Z,4μm,11.6s
TIY LR LR
comp=Z,2μm,11.4s
TIY LR LR
comp=Z,14μm,26.4s
ARPS Mount Arapiles 39.56 159 P **P** **02 53 37.5 +2.0**
baz=40,SNR=40
SILR SILCHAR 39.88 311 *e*P **P** **02 53 39.5 +1.1**
DIBR DIBRUGARH 39.93 316⇑*i*P **P** **02 53 39.0 +0.2**
JORH JORHAT 39.95 315⇑*i*P **P** **02 53 39.0 0.0**
JSD Sado 39.98 16 P **P** **02 53 38.1 -0.9**
JSD IAmb IAmb 02 53 53.7
comp=Z,268nm,1.0s
HHU Hamhung 40.03 3 P **P** **02 53 42.1 +2.8**
HHU pP **pP** **02 53 49.0 -0.8**
HHU S S 02 59 29.4 -13
BELO BELONIA 40.12 308⇑*i*P **P** **02 53 42.1 +1.7**
SUJ Sinuiju 40.14 359 P **P** **02 53 41.7 +1.4**
SUJ pP **pP** **02 53 48.9 -1.8**
SUJ S **S** **02 59 35.7 -8.4**
YNG Young 40.35 150 P **P** **02 53 44.5 +2.3**
baz=40,SNR=62
AGT Agartala 40.60 309 *e*P **P** **02 53 45.6 +1.2**
AGT *i* x x 03 07 06.2
JMM Marumori 40.60 19 P **P** **02 53 43.2 -0.9**
JMM IAmb IAmb 02 53 58.8
comp=Z,463nm,0.9s
ZIRO ZIRO 40.71 315 *e*P **P** **02 53 46.0 +0.6**
BJI Beijing 40.88 350 P **P** **02 53 46.0 -0.4**
BJI PcP **PcP** **02 55 46.8 +0.2**
BJI S **S** **02 59 48.3 -6.9**
BJI ScS **ScS** **03 03 49.8 +1.6**
BJI pmax pmax
comp=Z,110nm,1.0s
BJI LR LR
comp=Z,9μm,25.0s
BJI LR LR
comp=Z,7μm,24.0s
BJI LR LR
comp=Z,20μm,27.5s
TEZP TEZPUR 40.93 313 *e*P **P** **02 53 46.9 -0.1**
MGCD Mangrove Creek 40.97 146 P **P** **02 53 50.2 +3.0**
baz=41,SNR=12
SHL Shillong 41.01 311 P **P** **02 53 48.2 +0.2**
SNR=59
SHL Shillong 41.01 311 P **P** **02 53 47.6 -0.4**
SHL pmax pmax
comp=Z,160nm,0.6s
SHL MLR MLR
comp=Z,11μm,21.0s
SHL Shillong 41.01 311 P **P** **02 53 47.6 -0.4**
SHL IAmb IAmb 02 53 51.5
comp=Z,160nm,0.6s
LZH Lanzhou 41.15 334⇑P **P** **02 53 49.9 +1.0**
LZH pP pP 02 53 57.5 -1.8
LZH sP pwP 02 54 00.4 -2.7
LZH S **S** **03 00 05.7 +6.0**
LZH pmax pmax
comp=Z,200nm,1.2s
LZH pmax pmax
comp=Z,3μm,5.7s
LZH LR LR
comp=Z,18μm,15.7s
LZH LR LR
comp=Z,21μm,17.6s
LZH LR LR
comp=Z,27μm,19.2s
CAN Canberra 41.46 150 P **P** **02 53 50.1 -1.2**
CAN pmax pmax
comp=Z,351nm,1.1s
CAN Canberra 41.46 150 P **P** **02 53 50.1 -1.2**
CAN IAmb IAmb 02 53 57.3
comp=Z,352nm,1.1s
GUWA GUWAHATI 41.50 312⇑*i*P **P** **02 53 51.4 -0.4**
CNB Canberra Magne 41.64 150 P **P** **02 53 55.3 +2.5**
baz=42,SNR=17
TOO Toolangi 41.69 155 P **P** **02 53 55.8 +2.7**
baz=42,SNR=44
TOO Toolangi 41.69 155 P **P** **02 53 52.1 -1.1**
TOO pmax pmax
comp=Z,348nm,1.2s
TOO Toolangi 41.69 155 P **P** **02 53 52.1 -1.1**
TOO IAmb IAmb 02 54 18.3
comp=Z,348nm,1.1s
SNY Shenyang 41.88 358⇑P **P** **02 53 55.4 +0.8**
SNY S **S** **03 00 12.6 +2.7**
SNY pmax pmax
comp=Z,69nm,1.2s
SNY pmax pmax
comp=Z,4μm,9.0s
SNY LR LR
comp=Z,11μm,25.6s
SNY LR LR
comp=Z,7μm,17.8s
SNY LR LR
comp=Z,21μm,26.3s
HHC Hu-ho-hao-te 42.67 345 *e*P **P** **02 54 01.9 +0.7**
HHC PP **PP** **02 55 41.1 +0.3**
HHC S **S** **03 00 21.4 -0.6**
HHC sS sS 03 00 38.4 -0.7
HHC SS **SS** **03 03 27.7 -5.8**
HHC ScS **ScS** **03 03 57.4 -2.1**
HHC pmax pmax
comp=Z,60nm,1.1s
HHC pmax pmax
comp=Z,3μm,9.9s
HHC LR LR
comp=Z,13μm,20.4s
HHC LR LR
comp=Z,10μm,18.7s
HHC LR LR
comp=Z,18μm,17.9s
BTO Baotou 42.87 343 *e*P **P** **02 54 03.3 +0.5**
JTM Tenmabayashi 43.35 18 P **P** **02 54 04.6 -1.9**
JTM IAmb IAmb 02 54 21.4
comp=Z,538nm,1.2s
KWAJ Kwajalein Atol 43.36 77 IAMs_20 IAMs_20 03 10 26.9
comp=Z,14μm,21.0s
VLA Vladivostok 43.59 7*c i*P **P** **02 54 10.2 +1.8**
VLA pmax pmax
comp=Z,312nm,0.7s
LSA Lhasa 43.91 316 P **P** **02 54 13.4 +1.6**
LSA pmax pmax
comp=Z,97nm,0.4s
LSA LR LR
comp=Z,6μm,8.5s
LSA LR LR
comp=Z,6μm,6.1s
LSA LR LR
comp=Z,13μm,7.5s
LSA Lhasa 43.91 316 P **P** **02 54 13.1 +1.3**
LSA Lhasa 43.91 316 P **P** **02 54 10.5 -1.3**
LSA pmax pmax
comp=Z,152nm,0.6s
LSA MLR MLR
comp=Z,6μm,22.0s
LSA Lhasa 43.91 316 P **P** **02 54 10.5 -1.3**
LSA IAmb IAmb 02 54 16.4
comp=Z,152nm,0.6s
SANVU Saraoutou 44.30 112 P **P** **02 54 12.7 -1.9**
SANVU IAmb IAmb 02 54 23.4
comp=Z,263nm,0.9s
CHLP Challavanipeta 44.34 297 *e*P **P** **02 54 15.2 +0.4**
CHLP IVmB_BB 02 54 16.5
comp=Z,2μm,3.9s
CHLP IVMs_BB IVMs_BB 03 14 13.2
comp=Z,3μm,21.1s
GTK Tadong 44.43 311⇑*i*P **P** **02 54 16.7 +1.0**
USRK Ussuriysk Ar. 44.66 7 P **P** **02 54 18.5 +1.5**
comp=Z,77nm,0.5s,baz=190,slow=6.3,SNR=116
USRK LR LR 03 13 14.2
comp=Z,7μm,21.1s,baz=166,slow=36
PALK Pallekele 44.83 281 P **P** **02 54 18.2 -0.7**
comp=Z,32nm,0.7s,baz=192,slow=8.7,SNR=14
PALK PcP **PP** **02 56 02.3 -1.8**
comp=Z,33nm,0.8s,baz=204,slow=1.7,SNR=4.5
PALK LR LR 03 14 47.5
comp=Z,17μm,20.6s,baz=214,slow=38
PALK Pallekele 44.83 281 P **P** **02 54 17.9 -1.0**
PALK **PcP** **02 55 59.0 -1.5**
MDJ Mudanjiang 44.83 5 P **P** **02 54 20.0 +1.6**
MDJ pP pP 02 54 28.8 -0.1
MDJ sP sP 02 54 33.0 -0.3
MDJ S **S** **03 00 52.4 -0.7**
MDJ pmax pmax
comp=Z,150nm,1.2s
MDJ pmax pmax
comp=Z,4μm,10.5s
MDJ LR LR
comp=Z,11μm,18.6s
MDJ LR LR
comp=Z,5μm,18.2s
MDJ LR LR
comp=Z,16μm,21.1s
MDJ Mudanjiang 44.83 5 P **P** **02 54 17.8 -0.6**
MDJ IAmb IAmb 02 54 23.2
comp=Z,257nm,0.7s
ODAN Odare 45.12 310 *e*P **P** **02 54 21.5 +0.3**
comp=Z,374nm,0.6s
ODAN Odare 45.12 310 *e*P **P** **02 54 21.5 +0.3**
comp=Z,374nm,0.6s
TAPN Taplejung 45.12 310 *e*P **P** **02 54 21.3 0.0**
comp=Z,199nm,0.4s
TAPN Taplejung 45.12 310 *e*P **P** **02 54 21.3 0.0**
comp=Z,199nm,0.4s
ERM Erimo 45.12 19*c i*P **P** **02 54 22.6 +1.9**
ERM pmax pmax
comp=Z,110nm,1.3s
ERM MLR MLR
comp=Z,8μm,20.0s
ERM Erimo 45.12 19 P **P** **02 54 19.8 -0.9**
GTA Gaotai 45.70 333⇑P **P** **02 54 26.0 +0.5**
GTA pP pP 02 54 36.3 +0.3
GTA sP sP 02 54 40.8 +0.5
GTA PP **PP** **02 56 14.9 +1.8**
GTA ScP **ScP** **02 59 55.1 +2.0**
GTA PcS **PcS** **02 59 56.4 -0.9**
GTA S **S** **03 01 06.7 +0.6**
GTA sS sS 03 01 22.8 -0.5
GTA ScS **ScS** **03 04 18.8 +0.1**
GTA SS **SS** **03 04 25.0 -5.9**
GTA pmax pmax
comp=Z,2μm,8.7s
GTA LR LR
comp=Z,14μm,19.7s
GTA LR LR
comp=Z,12μm,18.1s
GTA LR LR
comp=Z,23μm,19.7s
RAMN Ramite 45.77 309 *e*P **P** **02 54 27.1 +0.7**
comp=Z,526nm,0.6s
RAMN Ramite 45.77 309 *e*P **P** **02 54 27.1 +0.7**
comp=Z,526nm,0.6s
DZM Mont Dzumac 45.81 121 P **P** **02 54 27.8 +1.2**
comp=Z,35nm,0.8s,baz=278,slow=7.1,SNR=22
DZM Mont Dzumac 45.81 121 *e*P **P** **02 54 28.0 +1.4**
comp=Z,278nm,1.4s
DZM *e*S **S** **03 01 08.3 +0.2**
comp=Z,10μm,40.0s
DZM *e*LR LR 03 07 13.6
comp=Z,23μm,24.4s
DZM Mont Dzumac 45.81 121 P **P** **02 54 24.1 -2.5**
PVM Polavaram 46.12 294 *e*P **P** **02 54 28.9 -0.1**
PVM IVmB_BB 02 54 30.4
comp=Z,2μm,3.8s
PVM IVMs_BB IVMs_BB 03 16 55.4
comp=Z,2μm,21.3s
JIRN Jiri 46.44 310 *e*P **P** **02 54 32.2 +0.4**
comp=Z,779nm,0.7s
JIRN Jiri 46.44 310 *e*P **P** **02 54 32.2 +0.4**
comp=Z,779nm,0.7s
MOO Moorlands 46.52 157 P **P** **02 54 34.1 +2.4**
baz=47,SNR=5.3
GUN Gumba 46.80 310 *e*P **P** **02 54 35.0 +0.3**
GUN Gumba 46.80 310 *e*P **P** **02 54 35.0 +0.3**
ASAJ Asahikawa 46.85 17 P **P** **02 54 35.6 +1.4**
comp=Z,37nm,0.3s,baz=231,slow=9.4,SNR=32
JKA Kamikawa-asahi 46.85 17 P **P** **02 54 32.7 -1.6**
JKA IAmb IAmb 02 54 55.2
comp=Z,133nm,0.9s
MYLAV Mylavaram 46.88 293 *e*P **P** **02 54 34.6 -0.4**
MYLAV IVmB_BB 02 54 36.4
comp=Z,2μm,3.6s
MYLAV IVMs_BB IVMs_BB 03 14 47.6
comp=Z,2μm,23.8s
TAU Tasmania Unive 46.97 158 P **P** **02 54 34.2 -1.0**
TAU pmax pmax
comp=Z,256nm,1.6s
TAU Tasmania Unive 46.97 158 P **P** **02 54 34.2 -1.0**
TAU IAmb IAmb 02 54 46.8
comp=Z,256nm,1.6s
SKHT Srikalahasti 46.97 289 *e*P **P** **02 54 35.3 -0.4**
SKHT IVmB_BB 02 54 36.9
comp=Z,1μm,3.3s
SKHT IVMs_BB IVMs_BB 03 14 16.2
comp=Z,5μm,22.2s
PKI Pulchoki 47.00 309 *e*P **P** **02 54 36.0 -0.2**
comp=Z,349nm,0.9s
PKI Pulchoki 47.00 309 *e*P **P** **02 54 36.0 -0.2**
comp=Z,349nm,0.9s
KKN Kakani 47.20 309 *e*P **P** **02 54 37.7 +0.1**
comp=Z,410nm,0.7s
KKN Kakani 47.20 309 *e*P **P** **02 54 37.7 +0.1**
comp=Z,410nm,0.7s
ADKI Addanki 47.25 292 *e*P **P** **02 54 37.1 -0.7**
ADKI IVmB_BB 02 54 39.1
comp=Z,1μm,3.6s
ADKI IVMs_BB IVMs_BB 03 17 32.2
comp=Z,2μm,19.4s
DMN Daman 47.25 309 *e*P **P** **02 54 38.2 +0.1**
comp=Z,363nm,0.8s
DMN Daman 47.25 309 *e*P **P** **02 54 38.2 +0.1**
comp=Z,363nm,0.8s
GKN Gorkha 47.80 309 *e*P **P** **02 54 42.2 0.0**
GKN Gorkha 47.80 309 *e*P **P** **02 54 42.2 0.0**
TARA Tarawa 47.92 88 IAMs_20 IAMs_20 03 13 01.7
comp=Z,13μm,22.0s
NJS Nagarjunasagar 48.05 293 *e*P **P** **02 54 43.2 -0.9**
NJS IVmB_BB 02 54 46.5
comp=Z,1μm,3.4s
NJS IVMs_BB IVMs_BB 03 20 23.7
comp=Z,2μm,17.1s
SRLM Srisailam 48.31 292 *e*P **P** **02 54 46.1 -0.1**
SRLM IVmB_BB 02 54 48.6
comp=Z,2μm,0.9s
SRLM IVMs_BB IVMs_BB 03 18 13.1
comp=Z,2μm,19.8s
KOLN Koldanda 48.50 308 *e*P **P** **02 54 48.1 +0.4**
comp=Z,1μm,0.8s
KOLN Koldanda 48.50 308 *e*P **P** **02 54 48.1 +0.4**
comp=Z,1μm,0.8s
CUPL Choutuppal 48.61 293 *e*P **P** **02 54 47.8 -0.6**
HYB Hyderabad 48.98 293 *i*P **P** **02 54 51.0 -0.3**
comp=Z,400nm,1.0s
HYB *e*pP **pP** **02 55 01.5 -0.1**
HYB *e*PP **PP** **02 56 48.0 +2.9**
HYB *e*S S 03 02 08.0 +15
HYBB Hyderabad (bro 48.98 293 *e*P **P** **02 54 50.4 -0.9**
HYBB IVmBBB 02 54 54.3
comp=Z,2μm,1.1s
HYBB IVMs_BB IVMs_BB 03 14 17.5
comp=Z,2μm,21.7s
PYUN Piuthan 49.13 309 *e*P **P** **02 54 52.9 +0.4**
comp=Z,1μm,0.8s
PYUN Piuthan 49.13 309 *e*P **P** **02 54 52.9 +0.4**
comp=Z,1μm,0.8s
YSS Yuzh-Sakhalins 49.48 16α *i*P **P** **02 54 55.8 +1.2**
YSS *e* 02 56 17.0
YSS *e*S **S** **03 01 59.3 0.0**
YSS *e* 03 04 45.0
YSS pmax pmax
comp=Z,2μm,6.3s
YSS pmax pmax
comp=N,800nm,5.9s
YSS pmax pmax
comp=E,500nm,5.0s
YSS pmax pmax
comp=Z,90nm,1.3s
YSS smax smax
comp=N,2μm,11.7s
YSS smax smax
comp=E,1μm,12.4s
YSS MLR MLR
comp=Z,6μm,19.0s
YSS MLR MLR
comp=N,3μm,18.0s
YSS MLR MLR
comp=E,4μm,18.0s
YSS Yuzh-Sakhalins 49.48 16 P **P** **02 54 53.7 -0.9**
HIA Hailar 49.51 355 P **P** **02 54 54.4 -0.4**
HIA pmax pmax
comp=Z,119nm,0.7s
HIA MLR MLR
comp=Z,14μm,20.0s
HIA Hailar 49.51 355 P **P** **02 54 54.4 -0.4**
HIA IAmb IAmb 02 55 01.9
comp=Z,119nm,0.7s
HIA Hailar 49.51 355 IAMs_20 IAMs_20 03 17 42.2
comp=Z,14μm,20.0s
URV Uravakonda 49.56 290 *e*P **P** **02 54 54.4 -1.3**
URV IVmB_BB 02 54 56.9
comp=Z,636nm,1.5s
URV IVMs_BB IVMs_BB 03 15 43.8
comp=Z,4μm,24.3s
KUR Kuril'sk 49.58 21*c i*P **P** **02 54 56.5 +1.2**
KUR *e* 02 56 16.6
KUR *e* 02 56 48.5
KUR *e*S **S** **03 02 00.9 +0.3**
KUR *e* 03 04 46.5
KUR *e*SS **SS** **03 05 32.2 -1.1**
KUR *e*SSS SSS 03 06 58.8
KUR pmax pmax
comp=Z,3μm,12.9s
KUR pmax pmax
comp=Z,279nm,1.7s
KUR pmax pmax
comp=N,165nm,1.4s
KUR pmax pmax
comp=E,155nm,1.7s
KUR MLR MLR
comp=Z,5μm,18.0s
KUR MLR MLR
comp=N,2μm,21.0s
KUR MLR MLR
comp=E,3μm,17.0s
SRSP Sriramsagar 49.60 295 *e*P **P** **02 54 55.1 -0.8**
SRSP IVmBBB 02 54 58.3
comp=Z,816nm,1.3s
SRSP IVMs_BB IVMs_BB 03 18 10.1
comp=Z,2μm,19.8s
NGP Nagpur 49.66 298 *e*P **P** **02 54 56.0 -0.4**
NGP *e*P **P** **02 54 56.1 -0.3**
NGP *e*S **S** **03 01 59.6 -3.1**
NGP *e*S S 03 02 02.3 -0.3
ULN Ulaanbaatar 50.39 344 P **P** **02 55 00.8 -0.8**
ULN Ulaanbaatar 50.39 344 IAMs_20 IAMs_20 03 17 06.4
comp=Z,13μm,21.0s
SONM Songino Array 50.54 344 P **P** **02 55 03.0 +0.2**
comp=Z,83nm,0.7s,baz=156,slow=9.0,SNR=68
SONM ScP **ScP** **03 00 13.7 +0.3**
comp=Z,6.2nm,0.9s,baz=171,slow=7.0,SNR=4.7
SONM LR LR 03 17 43.2
comp=Z,13μm,20.6s,baz=155,slow=38
SONM Songino Array 50.54 344 P **P** **02 55 01.9 -0.9**
SONM **ScP** **03 00 11.6 -1.7**
KLRI Killari 50.95 294 *e*P **P** **02 55 05.1 -1.2**
KLRI IVmB_BB 02 55 06.5
comp=Z,2μm,3.7s
KLRI IVMs_BB IVMs_BB 03 19 39.3
comp=Z,3μm,19.7s
GRNR Gornyy 51.72 9⇑*i*P **P** **02 55 13.3 +1.9**
GRNR *e* 02 56 22.1
GRNR *e*S **S** **03 02 34.7 +4.4**
GRNR pmax pmax
comp=N,50nm,0.9s
GRNR pmax pmax
comp=Z,90nm,0.9s
GRNR smax smax
comp=N,10.0nm,1.1s
GRNR MLR MLR
comp=E,1μm,20.0s
GRNR MLR MLR
comp=N,2μm,17.0s
GRNR MLR MLR
comp=Z,2μm,20.0s
DGAR Diego Garcia 52.90 261 P **P** **02 55 20.1 -0.7**
DGAR pmax pmax
comp=Z,499nm,1.2s
DGAR Diego Garcia 52.90 261 P **P** **02 55 20.1 -0.7**
CIT Chita 52.95 351 *e*P **P** **02 55 21.7 +1.1**
CIT *e* 02 55 33.7
CIT *e* 02 56 28.9
CIT pmax pmax
comp=Z,328nm,2.7s
KAD Karad 52.98 292⇑*i*P **P** **02 55 20.9 -0.5**
TYV Tymovskoe 53.06 14 *e*P **P** **02 55 23.5 +2.2**
TYV *e*S **S** **03 02 52.7 +4.1**
TYV pmax pmax
comp=Z,42nm,0.8s
TYV pmax pmax
comp=Z,2μm,3.5s
TYV smax smax
comp=E,2μm,5.7s
POO Poona 53.59 293 *e*P **P** **02 55 25.0 -0.9**
ZAK Zakamensk 53.73 343 *e*P **P** **02 55 26.6 +0.2**
ZAK *e* 02 56 35.6
ZAK pmax pmax
comp=Z,54nm,1.4s
ZAK pmax pmax
comp=Z,64nm,1.3s
ZEA Zeya 53.81 2*c e*P **P** **02 55 27.7 +0.9**
ZEA *e* 02 57 28.0
ZEA *e*S **S** **03 02 56.0 -2.6**
ZEA *e*PS PKiKP 03 03 16.0 +8.0
ZEA pmax pmax
comp=N,83nm,1.0s

ZEA				pmax	pmax	
	comp=Z,220nm,1.2s					
ZEA				pmax	pmax	
	comp=Z,3μm,10.0s					
ZEA				pmax	pmax	
	comp=N,2μm,5.0s					
ZEA				pmax	pmax	
	comp=Z,1μm,8.0s					
ZEA				smax	smax	
	comp=E,1μm,6.0s					
ZEA				smax	smax	
	comp=N,2μm,8.0s					
ZEA				MLR	MLR	
	comp=Z,12μm,23.0s					
ZEA				MLR	MLR	
	comp=E,3μm,24.0s					
ZEA				MLR	MLR	
	comp=N,11μm,22.0s					
NDI	**New Delhi**	**53.97 306**	*e*P	**P**	**02 55 26.5 -1.9**	
FUNA	**Funafuti**	**54.58 100**	P	**P**	**02 55 31.3 -1.8**	
NKL	**Nikolayevsk**	**54.77 11**	*e*P	**P**	**02 55 33.5 -0.2**	
NKL			*e*S	**S**	**03 03 15.3 +3.8**	
NKL			pmax	pmax		
	comp=N,2.0nm,0.7s					
NKL			pmax	pmax		
	comp=Z,240nm,1.0s					
NKL			pmax	pmax		
	comp=Z,463nm,4.1s					
NKL			MLR	MLR		
	comp=N,53nm,25.0s					
NKL			MLR	MLR		
	comp=Z,5μm,23.0s					
TLY	**Talaya**	**54.78 344**	P	**P**	**02 55 35.2 +1.3**	
	comp=Z,74nm,0.6s,baz=202,slow=5.2,SNR=34					
TLY	**Talaya**	**54.78 344***c*	*i*P	**P**	**02 55 33.5 -0.4**	
TLY			*e*		02 57 37.4	
TLY			*e*PPP	PPP	02 58 55.2	
TLY			*e*S	**S**	**03 03 17.0 +5.1**	
TLY			*e*SS	**SS**	**03 06 58.4 +2.8**	
TLY			pmax	pmax		
	comp=Z,191nm,0.7s					
TLY			MLR	MLR		
	comp=Z,20μm,19.0s					
TLY	**Talaya**	**54.78 344**	P	**P**	**02 55 33.6 -0.4**	
TLY			IAMs_20	IAMs_20	03 20 49.6	
	comp=Z,11μm,22.0s					
MSVF	**Nonsavu**	**54.94 112**	P	**P**	**02 55 34.0 -1.7**	
MSVF			pmax	pmax		
	comp=Z,137nm,1.2s					
MSVF			MLR	MLR		
	comp=Z,8μm,21.0s					
MSVF	**Nonsavu**	**54.94 112**	P	**P**	**02 55 34.0 -1.7**	
WMQ	**Urumqi**	**55.05 328**	P	**P**	**02 55 37.6 +1.5**	
WMQ			pP	pP	02 55 47.2 +0.4	
WMQ			sP	pwP	02 55 51.2 +0.6	
WMQ			PcS	**PcS**	**03 00 38.3 +1.1**	
WMQ			S	**S**	**03 03 16.6 +0.7**	
WMQ			SS	**SS**	**03 07 00.4 +0.2**	
WMQ			pmax	pmax		
	comp=Z,95nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,1μm,4.7s					
WMQ			LR	LR		
	comp=Z,6μm,22.1s					
WMQ			LR	LR		
	comp=Z,5μm,17.9s					
WMQ			LR	LR		
	comp=Z,7μm,24.5s					
WMQ	**Urumqi**	**55.05 328**	P	**P**	**02 55 35.1 -1.0**	
WMQ			pmax	pmax		
	comp=Z,142nm,1.0s					
WMQ			MLR	MLR		
	comp=Z,15μm,21.0s					
WMQ	**Urumqi**	**55.05 328**	P	**P**	**02 55 35.1 -1.0**	
WMQ			IAmb	IAmb	02 55 49.6	
	comp=Z,142nm,1.0s					
IRK	**Irkutsk**	**55.12 345**	*e*P	**P**	**02 55 38.0 +1.7**	
IRK			pmax	pmax		
	comp=Z,196nm,2.4s					
MOY	**Mondy**	**55.55 342**	*e*P	**P**	**02 55 39.9 +0.3**	
MOY			pmax	pmax		
	comp=Z,235nm,3.8s					
BHK	**Bhakra**	**55.72 309**	*e*P	**P**	**02 55 42.2 +1.1**	
BHK			*e*x	x	02 56 41.6	
THN	**Thein Dam**	**56.69 310**	*e*P	**P**	**02 55 47.0 -0.9**	
THN			*e*S	**S**	**03 03 35.5 -2.3**	
SKR	**Severo-Kuril's**	**57.20 23**	*e*P	**P**	**02 55 49.2 -1.9**	
SKR			*e*S	**S**	**03 03 44.9 +1.0**	
SKR			*e*SS	**ScS**	**03 05 41.4 +4.2**	
SKR			pmax	pmax		
	comp=Z,1μm,13.1s					
SKR			pmax	pmax		
	comp=Z,83nm,0.7s					
SKR			pmax	pmax		
	comp=Z,1μm,5.4s					
SKR			MLR	MLR		
	comp=Z,2μm,18.0s					
SKR			MLR	MLR		
	comp=Z,2μm,15.0s					
BOD	**Bodaibo**	**58.53 353**	*e*P	**P**	**02 56 01.3 +0.9**	
BOD			pmax	pmax		
	comp=Z,341nm,1.8s					
FOZ	**Fox Glacier**	**58.75 143**	P	**P**	**02 56 01.2 -1.0**	
FOZ			IAMs_20	IAMs_20	03 21 14.1	
	comp=Z,10μm,22.0s					
MLZ	**Mavora Lakes**	**58.83 146**	P	**P**	**02 56 01.7 -1.1**	
ZSN	**Zaisan**	**58.95 329**	*i* P	**P**	**02 56 03.5 -0.1**	
	comp=Z,25nm,0.7s,baz=329					
ZSN			*e*S	**S**	**03 04 06.7 -0.4**	
	baz=329					
ZSN			LR	LR	03 20 43.6	
	comp=Z,4μm,19.2s,baz=329					
ZSN	**Zaisan**	**58.95 329**	*i* P	**P**	**02 56 03.4 -0.1**	
ZSN			*e*S	**S**	**03 04 06.6 -0.4**	
ZSN			pmax	pmax		
	comp=Z,25nm,0.7s					
ZSN			MLR	MLR		
	comp=Z,4μm,19.0s					
QRZ	**Quartz Range**	**58.99 139**	P	**P**	**02 56 07.6 +3.6**	
DSZ	**Denniston Nort**	**59.00 140**	P	**P**	**02 56 03.1 -0.9**	
WHZ	**Wether Hill Ro**	**59.05 146**	P	**P**	**02 56 03.2 -1.1**	
WHZ			IAmb	IAmb	02 56 28.1	
	comp=Z,166nm,1.0s					
NIL	**Nilore**	**59.07 310**	P	**P**	**02 56 03.7 -1.0**	
NIL			pmax	pmax		
	comp=Z,168nm,0.8s					
NIL			MLR	MLR		
	comp=Z,14μm,22.0s					
NIL	**Nilore**	**59.07 310**	P	**P**	**02 56 03.7 -1.0**	
NIL			IAmb	IAmb	02 56 17.4	
	comp=Z,168nm,0.8s					
INZ	**Inchbonnie**	**59.29 142**	P	**P**	**02 56 08.5 +2.5**	
SHLS	**Shalkode**	**59.36 323**	*i* P	**P**	**02 56 05.3 -1.3**	
	comp=Z,70nm,0.8s,baz=323					
SHLS			*i* S	**S**	**03 04 09.3 -3.4**	
	baz=323					
SHLS	**Shalkode**	**59.36 323**	*i* P	**P**	**02 56 05.3 -1.3**	
SHLS			*i* S	**S**	**03 04 09.3 -3.4**	
SHLS			pmax	pmax		
	comp=Z,70nm,0.8s					
RPZ	**Rata Peaks**	**59.59 143**	LR	LR	03 22 36.7	
	comp=Z,12μm,22.0s,baz=300,slow=37					
RPZ	**Rata Peaks**	**59.59 143**	P	**P**	**02 56 06.8 -1.3**	
UZB	**Uzynbulak**	**59.62 322**	*i* P	**P**	**02 56 08.7 +0.2**	
	comp=Z,31nm,0.6s,baz=322					
UZB			*e*S	**S**	**03 04 15.8 -0.4**	
	baz=322					
UZB	**Uzynbulak**	**59.62 322**	*i* P	**P**	**02 56 08.6 +0.2**	
UZB			*e*S	**S**	**03 04 15.8 -0.4**	
UZB			pmax	pmax		
	comp=Z,31nm,0.6s					
PRZ	**Przheval'sk**	**59.64 321**	P	**P**	**02 56 07.7 -1.0**	
PRZ			pmax	pmax		
	comp=Z,255nm,0.6s					
PRZ			MLR	MLR		
	comp=Z,12μm,22.0s					
PRZ	**Przheval'sk**	**59.64 321**	P	**P**	**02 56 07.7 -1.0**	
PRZ			IAMs_20	IAMs_20	03 24 19.3	
	comp=Z,12μm,22.0s					
KSH	**Kashi**	**59.70 317**	P	**P**	**02 56 12.0 +2.9**	
KSH			sP	pwP	02 56 26.0 +2.2	
KSH			PcP	**PcP**	**02 56 57.6 +1.8**	
KSH			S	**S**	**03 04 21.9 +4.6**	
KSH			sS	sS	03 04 40.9 +6.2	
KSH			ScS	**ScS**	**03 05 56.1 -0.5**	
KSH			pmax	pmax		
	comp=Z,1μm,5.0s					
KSH			LR	LR		
	comp=Z,7μm,17.1s					
KSH			LR	LR		
	comp=Z,12μm,18.2s					
KSH			LR	LR		
	comp=Z,7μm,15.2s					
PEA0B	**Petropavlovsk-**	**59.71 22**	P	**P**	**02 56 07.9 -0.8**	
PEA0B			pmax	pmax		
	comp=Z,250nm,1.0s					
PEA0B			MLR	MLR		
	comp=Z,6μm,21.0s					
PEA0B	**Petropavlovsk-**	**59.71 22**	P	**P**	**02 56 07.9 -0.8**	
PETK	**Petropavlovsk-**	**59.71 22**	P	**P**	**02 56 11.1 +2.4**	
	comp=Z,131nm,0.9s,baz=193,slow=5.2,SNR=58					
PETK			LR	LR	03 22 53.8	
	comp=Z,4μm,20.6s,baz=222,slow=37					
PETK			P3KP		03 24 22.8	
	comp=Z,2.7nm,0.8s,baz=83,slow=15,SNR=5.5					
PETK	**Petropavlovsk-**	**59.71 22**	P	**P**	**02 56 07.9 -0.8**	
THZ	**Tophouse**	**59.71 140**	P	**P**	**02 56 10.6 +1.6**	
THZ	**Tophouse**	**59.71 140**	IAMs_20	IAMs_20	03 23 11.6	
	comp=Z,13μm,22.0s					
NNZ	**Nelson**	**59.74 139**	P	P	02 56 15.6 +6.4	
LTZ	**Lake Taylor**	**59.84 141**	P	**P**	**02 56 09.9 +0.1**	
LTZ	**Lake Taylor**	**59.84 141**	IAMs_20	IAMs_20	03 25 56.0	
	comp=Z,10μm,20.0s					
MK31	**Makanchi Array**	**59.88 327**	P	**P**	**02 56 09.3 -0.7**	
MK31			pmax	pmax		
	comp=Z,128nm,0.6s					
MK31	**Makanchi Array**	**59.88 327**	P	**P**	**02 56 09.3 -0.7**	
MK31			IAmb	IAmb	02 56 12.9	
	comp=Z,128nm,0.6s					
MKAR	**Makanchi Array**	**59.88 327**	P	**P**	**02 56 10.0 0.0**	
	comp=Z,201nm,0.5s,baz=121,slow=8.4,SNR=222					
MKAR			PcP	**PcP**	**02 56 57.2 +1.1**	
	comp=Z,68nm,0.7s,baz=123,slow=4.5,SNR=5.2					
MKAR			ScP	**ScP**	**03 00 56.9 +2.6**	
	comp=Z,8.6nm,0.8s,baz=117,slow=5.7,SNR=4.2					
MKAR			LR	LR	03 23 44.8	
	comp=Z,18μm,19.7s,baz=121,slow=38					
MKAR			PKPPKP	**P'P'df**	**03 25 35.8 -0.8**	
	comp=Z,0.7nm,0.7s,baz=302,slow=2.3,SNR=3.8					
MKAR	**Makanchi Array**	**59.88 327**	P	**P**	**02 56 09.0 -1.0**	
MKAR				**PcP**	**02 56 54.9 -1.3**	
SATY	**Saty**	**59.95 322**⇑	*i* P	**P**	**02 56 11.2 +0.5**	
	comp=Z,94nm,0.6s,baz=322					
SATY			*e*S	**S**	**03 04 20.4 0.0**	
	baz=322					
SATY			LR	LR	03 20 39.0	
	comp=Z,1μm,17.2s,baz=322					
SATY	**Saty**	**59.95 322***c*	*i* P	**P**	**02 56 11.2 +0.5**	
SATY			*e*S	**S**	**03 04 20.4 0.0**	
SATY			pmax	pmax		
	comp=Z,94nm,0.6s					
SATY			MLR	MLR		
	comp=Z,1μm,17.0s					
OXZ	**Oxford**	**59.98 142**	IAMs_20	IAMs_20	03 25 14.8	
	comp=Z,11μm,22.0s					
KPKS	**Kokpek**	**60.00 323**	*i* P	**P**	**02 56 11.2 +0.1**	
	comp=Z,130nm,0.6s,baz=322					
KPKS	**Kokpek**	**60.00 323**	*i* P	**P**	**02 56 11.1 +0.1**	
KPKS			pmax	pmax		
	comp=Z,130nm,0.6s					
PET	**Petropavlovsk**	**60.01 23***α*	*i*P	**P**	**02 56 13.4 +2.7**	
PET			*e*		02 58 27.5	
PET			*i* S	**S**	**03 04 25.1 +4.7**	
PET			*e*		03 06 02.1	
PET			*e*SS	**SS**	**03 08 18.8 +1.1**	
PET			pmax	pmax		
	comp=Z,523nm,0.8s					
PET			pmax	pmax		
	comp=Z,3μm,14.5s					
PET			pmax	pmax		
	comp=Z,3μm,13.6s					
PET			MLR	MLR		
	comp=Z,3μm,20.0s					
PET			MLR	MLR		
	comp=Z,3μm,21.0s					
PET	**Petropavlovsk**	**60.01 23**	P	**P**	**02 56 10.2 -0.5**	
PET			IAmb	IAmb	02 56 22.2	
	comp=Z,287nm,1.2s					
MAKZ	**Makanchi**	**60.06 327**	P	**P**	**02 56 10.9 -0.3**	
MAKZ	**Makanchi**	**60.06 327**	P	**P**	**02 56 10.1 -1.1**	
TUWZ	**Tuamarina**	**60.22 139**	P	**P**	**02 56 11.2 -1.1**	
KDJ	**Kajisay**	**60.22 321**	P	**P**	**02 56 11.2 -1.5**	
KDJ			pmax	pmax		
	comp=Z,194nm,0.6s					
KDJ			MLR	MLR		
	comp=Z,12μm,22.0s					
KDJ	**Kajisay**	**60.22 321**	P	**P**	**02 56 11.2 -1.5**	
KDJ			IAMs_20	IAMs_20	03 23 02.8	
	comp=Z,12μm,22.0s					
KHZ	**Kahutara**	**60.45 140**	P	**P**	**02 56 15.2 +1.3**	
SNZO	**South Karori**	**60.66 139**	P	**P**	**02 56 14.0 -1.4**	
SNZO			IAmb	IAmb	02 56 18.5	
	comp=Z,138nm,1.0s					
BHW	**Baring Head**	**60.81 139**	P	**P**	**02 56 15.4 -1.0**	
TNSS	**Tian-Shan**	**60.84 321**	*i* P	**P**	**02 56 17.9 +0.7**	
	baz=321					
TNSS	**Tian-Shan**	**60.84 321**	*i* P	**P**	**02 56 17.8 +0.7**	
MCQ	**Macquarie Isla**	**60.85 158**	IAMs_20	IAMs_20	03 22 48.8	
	comp=Z,8μm,20.0s					
MDOK	**Medeo**	**60.85 322**	*i* P	**P**	**02 56 17.4 +0.5**	
	baz=321					
MDOK			*e*S	**S**	**03 04 31.9 0.0**	
	baz=321					
MDOK			LR	LR	03 20 58.4	
	comp=Z,3μm,20.5s,baz=321					
MDOK	**Medeo**	**60.85 322**	*i* P	**P**	**02 56 17.3 +0.5**	
MDOK			*e*S	**S**	**03 04 31.9 0.0**	
MDOK			MLR	MLR		
	comp=Z,3μm,21.0s					
BKZ	**Black Stump Fm**	**60.87 136**	P	**P**	**02 56 15.7 -1.3**	
BKZ			IAmb	IAmb	02 56 47.9	
	comp=Z,234nm,1.5s					
ULHL	**Ulahol**	**60.88 320**	P	**P**	**02 56 20.5 +3.3**	
	SNR=7.7					
URZ	**Urewera**	**60.91 135**	P	**P**	**02 56 17.7 +0.6**	
	comp=Z,15nm,0.5s,baz=4.0,slow=2.2,SNR=14					
URZ			LR	LR	03 26 28.3	
	comp=Z,4μm,18.2s,baz=321,slow=40					
URZ	**Urewera**	**60.91 135**	P	**P**	**02 56 15.9 -1.2**	
AAA	**Alma-Ata**	**60.95 321**	*e*P	**P**	**02 56 18.1 +0.6**	
	comp=Z,60nm,0.5s,baz=321					
AAA			*e*S	**S**	**03 04 33.1 -0.1**	
	baz=321					
AAA			LR	LR	03 21 20.1	
	comp=Z,3μm,18.9s,baz=321					
AAA	**Alma-Ata**	**60.95 321**	*e*P	**P**	**02 56 18.0 +0.6**	
AAA			*e*S	**S**	**03 04 33.0 -0.1**	
AAA			pmax	pmax		
	comp=Z,60nm,0.5s					
AAA			MLR	MLR		
	comp=Z,3μm,19.0s					
TDK	**Taldyqorghan**	**61.02 324**	*e*P	**P**	**02 56 17.1 -0.7**	
	comp=Z,196nm,0.7s,baz=324					
TDK			*e*S	**S**	**03 04 33.5 -0.3**	
	baz=324					
TDK			LR	LR	03 21 48.6	
	comp=Z,4μm,20.3s,baz=324					
TDK	**Taldyqorghan**	**61.02 324**	*e*P	**P**	**02 56 17.9 +0.1**	
TDK			*e*S	**S**	**03 04 33.4 -0.3**	
TDK			pmax	pmax		
	comp=Z,196nm,0.7s					
MSWZ	**Moikau Station**	**61.07 139**	P	**P**	**02 56 17.1 -1.1**	
BOOM	**Boomskoye usch**	**61.20 320**	P	**P**	**02 56 18.3 -1.0**	
BOOM			pmax	pmax		
	comp=Z,447nm,1.8s					
BOOM			MLR	MLR		
	comp=Z,13μm,22.0s					
BOOM	**Boomskoye usch**	**61.20 320**	P	**P**	**02 56 18.3 -1.0**	
BOOM			IAmb	IAmb	02 56 27.5	
	comp=Z,447nm,1.8s					
BOOM			IAMs_20	IAMs_20	03 23 35.7	
	comp=Z,13μm,22.0s					
MTBS	**Maitube**	**61.22 321**	*e*P	**P**	**02 56 19.6 +0.2**	
	baz=321					
MTBS	**Maitube**	**61.22 321**	*e*P	**P**	**02 56 19.5 +0.2**	
CHKK	**Chushkaly**	**61.25 322**	*i* P	**P**	**02 56 19.2 -0.2**	
	baz=322					
CHKK	**Chushkaly**	**61.25 322**	*i* P	**P**	**02 56 19.1 -0.3**	
BFZ	**Birch Farm**	**61.39 138**	IAMs_20	IAMs_20	03 26 31.0	
	comp=Z,11μm,21.0s					
KZA	**Kyzart**	**61.44 320**	P	**P**	**02 56 24.7 +3.5**	
	SNR=15					
RAO	**Raoul Island**	**61.50 123**	LR	LR	03 22 29.8	
	comp=Z,5μm,21.7s,baz=310,slow=35					
TKM2	**Tokmak 2**	**61.63 321**	P	**P**	**02 56 25.5 +3.2**	
	SNR=30					
KUU	**Kurty**	**61.67 322**⇑	*i*P	**P**	**02 56 22.7 +0.5**	
	comp=Z,320nm,0.6s,baz=322					
KUU	**Kurty**	**61.67 322***c*	*i*P	**P**	**02 56 22.7 +0.5**	
KUU			pmax	pmax		
	comp=Z,320nm,0.6s					
KBK	**Karagaybulak**	**61.92 320**	P	**P**	**02 56 27.3 +3.1**	
	SNR=71					
UCH	**Uchtor**	**61.99 320**	P	**P**	**02 56 28.3 +3.4**	
	SNR=30					
FRU1	**Bishkek**	**62.20 320**	P	**P**	**02 56 25.6 -0.3**	
FRU1			pmax	pmax		
	comp=Z,99nm,0.7s					
FRU1			MLR	MLR		
	comp=Z,12μm,22.0s					
FRU1	**Bishkek**	**62.20 320**	P	**P**	**02 56 25.6 -0.3**	
FRU1			IAmb	IAmb	02 56 40.8	
	comp=Z,99nm,0.7s					
YAK	**Yakutsk**	**62.20 2**	P	**P**	**02 56 26.7 +1.3**	
	comp=Z,559nm,0.7s,baz=217,slow=0.6,SNR=64					
YAK	**Yakutsk**	**62.20 2***c*	*i*P	**P**	**02 56 26.6 +1.3**	
YAK			*e*		02 57 01.0	
YAK			*e*		02 58 42.6	
YAK			*e*S	**S**	**03 04 46.0 -1.9**	
YAK			*e*		03 06 08.4	
YAK			pmax	pmax		
	comp=Z,546nm,0.6s					
YAK			pmax	pmax		
	comp=N,138nm,0.8s					
YAK			pmax	pmax		
	comp=E,42nm,0.8s					
YAK			pmax	pmax		
	comp=Z,397nm,3.4s					
YAK			pmax	pmax		
	comp=N,389nm,3.1s					
YAK			smax	smax		
	comp=N,3μm,4.2s					
YAK			smax	smax		
	comp=E,2μm,3.9s					
YAK			MLR	MLR		
	comp=Z,6μm,22.0s					
YAK			MLR	MLR		
	comp=N,4μm,20.0s					
YAK			MLR	MLR		
	comp=E,3μm,20.0s					
YAK	**Yakutsk**	**62.20 2**	P	**P**	**02 56 24.6 -0.7**	
AAK	**Ala-Archa**	**62.20 320**	P	**P**	**02 56 29.0 +3.0**	
	SNR=8.2					
AAK	**Ala-Archa**	**62.20 320**	*i* P	**P**	**02 56 26.3 +0.3**	
	SNR=40					
AAK	**Ala-Archa**	**62.20 320***c*	*i*P	**P**	**02 56 26.3 +0.3**	
AAK			pmax	pmax		
	comp=Z,129nm,0.9s					
AAK	**Ala-Archa**	**62.20 320**	P	**P**	**02 56 24.9 -1.1**	
AAK			IAmb	IAmb	02 56 36.1	
	comp=Z,138nm,0.8s					
CHMS	**Chumysh**	**62.21 320**	P	**P**	**02 56 28.3 +2.4**	
	SNR=48					
AML	**Almayashu**	**62.47 319**	P	**P**	**02 56 30.9 +2.7**	
	SNR=20					
USP	**Ospenovka**	**62.50 321**	P	**P**	**02 56 29.9 +2.0**	
	SNR=7.2					
SGDS	**Sogindy**	**62.51 321**	*i* P	**P**	**02 56 27.8 -0.2**	
	comp=Z,41nm,0.7s,baz=321					
SGDS			*e*S	**S**	**03 04 52.2 -0.6**	
	baz=321					
SGDS			LR	LR	03 22 56.6	
	comp=Z,1μm,16.2s,baz=321					
SGDS	**Sogindy**	**62.51 321**	*i* P	**P**	**02 56 27.7 -0.2**	
SGDS			*e*S	**S**	**03 04 52.2 -0.6**	
SGDS			pmax	pmax		
	comp=Z,41nm,0.7s					
SGDS			MLR	MLR		
	comp=Z,1μm,16.0s					
KBL	**Kabul**	**62.64 310**	P	**P**	**02 56 28.9 -0.3**	
	SNR=80					
KBL			P	**P**	**02 56 28.9 -0.3**	
	SNR=80					
KBL	**Kabul**	**62.64 310**	P	**P**	**02 56 28.1 -1.1**	
KBL			pmax	pmax		
	comp=Z,188nm,0.9s					
KBL			MLR	MLR		
	comp=Z,5μm,22.0s					
KBL	**Kabul**	**62.64 310**	P	**P**	**02 56 28.1 -1.1**	
KBL			IAmb	IAmb	02 56 33.1	
	comp=Z,188nm,0.8s					
EKS2	**Erkin-Say**	**62.67 320**	P	**P**	**02 56 32.4 +3.3**	
	SNR=17					
SEM	**Semipalatinsk**	**63.18 330**	*e*P	**P**	**02 56 31.5 -1.0**	
	comp=Z,12nm,0.7s,baz=330					
SEM			LR	LR	03 22 52.4	
	comp=Z,762nm,17.8s,baz=330					
SEM	**Semipalatinsk**	**63.18 330**	*e*P	**P**	**02 56 31.5 -1.0**	
SEM			pmax	pmax		
	comp=Z,12nm,0.7s					
SEM			MLR	MLR		
	comp=Z,762nm,18.0s					
KNTN	**Kanton**	**63.28 93**	IAMs_20	IAMs_20	03 21 19.8	
	comp=Z,9μm,22.0s					
ZAA0	**Zalesovo Array**	**63.37 335**	P	**P**	**02 56 32.6 -0.7**	
ZAA0			IAmb	IAmb	02 56 36.7	
	comp=Z,119nm,0.8s					
ZAA0			IAMs_20	IAMs_20	03 24 30.2	
	comp=Z,9μm,19.0s					
ZALV	**Zalesovo Beam**	**63.37 335**	P	**P**	**02 56 32.5 -0.8**	
	comp=Z,110nm,0.6s,baz=121,slow=5.8,SNR=129					
ZALV			LR	LR	03 24 51.3	
	comp=Z,8μm,18.6s,baz=134,slow=37					
ZALV			PKPPKP	**P'P'df**	**03 25 32.2 +1.7**	
	comp=Z,1.7nm,0.7s,baz=222,slow=2.0,SNR=6.1					
GAR	**Garm**	**63.40 315**	P	**P**	**02 56 33.0 -1.0**	
BTLS	**Baital**	**63.67 322**	*e*P	**P**	**02 56 35.1 -0.5**	
	comp=Z,25nm,0.6s,baz=322					
BTLS			*e*S	**S**	**03 05 06.0 -1.1**	
	baz=322					
BTLS			LR	LR	03 24 45.3	
	comp=Z,563nm,15.3s,baz=322					
BTLS	**Baital**	**63.67 322**	*e*P	**P**	**02 56 35.0 -0.5**	
BTLS			*e*S	**S**	**03 05 05.9 -1.1**	
BTLS			pmax	pmax		
	comp=Z,25nm,0.6s					
BTLS			MLR	MLR		
	comp=Z,563nm,15.0s					
AFI	**Afiamalu**	**63.97 105**	LR	LR	03 25 26.1	
	comp=Z,3μm,19.3s,baz=280,slow=37					
CHGR	**Chuyangaron**	**64.09 314**	P	**P**	**02 56 37.6 -1.0**	
KURBB	**Kurchatov Arra**	**64.18 329**	P	**P**	**02 56 37.7 -1.1**	
	comp=Z,161nm,0.7s,baz=130,slow=6.6,SNR=43					
KURBB	**Kurchatov Arra**	**64.18 329**	P	**P**	**02 56 37.9 -0.9**	
KURK	**Kurchatov**	**64.19 329**	P	**P**	**02 56 38.9 +0.1**	
KURK			P	**P**	**02 56 38.9 +0.1**	
KURK			P	**P**	**02 56 38.9 +0.1**	
KURK	**Kurchatov**	**64.19 329**	*i* P	**P**	**02 56 38.6 -0.2**	
KURK			pmax	pmax		
	comp=Z,323nm,0.6s					
KURK			MLR	MLR		
	comp=Z,4μm,19.0s					
KURK	**Kurchatov**	**64.19 329**	P	**P**	**02 56 38.1 -0.7**	
DZA	**Taraz**	**64.38 319**	*i* P	**P**	**02 56 40.0 -0.3**	
	comp=Z,73nm,0.8s,baz=319					
DZA			*e*S	**S**	**03 05 15.2 -0.9**	
	baz=319					
DZA			LR	LR	03 24 19.1	
	comp=Z,2μm,21.2s,baz=319					
DZA	**Taraz**	**64.38 319**	*i* P	**P**	**02 56 39.9 -0.3**	
DZA			*e*S	**S**	**03 05 15.1 -0.9**	
DZA			pmax	pmax		
	comp=Z,73nm,0.8s					
DZA			MLR	MLR		
	comp=Z,2μm,21.0s					
IUG	**Iuzhnay**	**64.91 318**	*i* P	**P**	**02 56 44.0 +0.1**	
	comp=Z,125nm,0.9s,baz=318					
IUG			*e*S	**S**	**03 05 22.5 -0.4**	
	baz=318					
IUG			LR	LR	03 25 46.9	
	comp=Z,2μm,18.8s,baz=318					
IUG	**Iuzhnay**	**64.91 318**	*i* P	**P**	**02 56 44.0 +0.1**	
IUG			*e*S	**S**	**03 05 22.4 -0.4**	
IUG			pmax	pmax		
	comp=Z,125nm,0.9s					
IUG			MLR	MLR		
	comp=Z,2μm,19.0s					
KK31	**Karatay Array**	**65.01 319**	*i* P	**P**	**02 56 44.0 -0.4**	

KK31	Karatay Array	65.01 319	P	P	02 56 43.6	-0.8
KK31			IAmb	IAmb	02 56 49.1	
	comp=Z,115nm,0.9s					
KKAR	Karatay Array	65.01 319	P	P	02 56 43.7	-0.7
KKAR	Karatay Array	65.01 319	P	P	02 56 43.7	-0.7
TAS	Tashkent	65.07 317	P	P	02 56 44.0	-0.8
TAS			pmax	pmax		
	comp=Z,426nm,1.1s					
TAS			MLR	MLR		
	comp=Z,8μm,22.0s					
TAS	Tashkent	65.07 317	P	P	02 56 44.0	-0.8
TAS			IAMs_20	IAMs_20	03 28 46.4	
	comp=Z,8μm,22.0s					
SEY	Seymchan	66.24 13	P	P	02 56 53.7	+1.8
	comp=Z,68nm,0.8s,baz=223,slow=4.7,SNR=64					
SEY	Seymchan	66.24 13	*c iP*	P	02 56 54.3	+2.4
JOHN	Johnston Islan	66.60 72	IAMs_20	IAMs_20	03 26 48.0	
	comp=Z,10μm,22.0s					
CASY	Casey	66.72 186	P	P	02 56 54.6	-0.2
CASY	Casey	66.72 186	IAMs_20	IAMs_20	03 23 09.0	
	comp=Z,10μm,21.0s					
BRZS	Berezniki	66.96 326⇑	*iP*	P	02 56 56.6	-0.2
	comp=Z,70nm,0.6s,baz=326					
BRZS			*e*S	S	03 05 46.2	-1.1
	baz=326					
BRZS			LR	LR	03 25 29.8	
	comp=Z,3μm,17.2s,baz=326					
BRZS	Berezniki	66.96 326 *c*	*iP*	P	02 56 56.6	-0.2
BRZS			*e*S	S	03 05 46.1	-1.1
BRZS			pmax	pmax		
	comp=Z,70nm,0.6s					
BRZS			MLR	MLR		
	comp=Z,3μm,17.0s					
HRA	Herat	67.91 307	P	P	02 57 02.2	-1.2
HRA			IAMs_20	IAMs_20	03 31 00.2	
	comp=Z,7μm,22.0s					
MHTO	MHTO	68.72 293	P	P	02 57 07.4	-1.0
	SNR=11					
MHTO			P	P	02 57 07.4	-1.0
	SNR=11					
MHTO			P	P	02 57 07.4	-1.0
	SNR=11					
DQM	DQM	68.97 291	P	P	02 57 08.9	-1.0
	SNR=8.1					
DQM			P	P	02 57 08.9	-1.0
	SNR=8.1					
BIDO	Bidbid	68.99 295	P	P	02 57 13.0	+3.0
	SNR=9.2					
BIDO			P	P	02 57 13.0	+3.0
	SNR=9.2					
BIDO			P	P	02 57 13.0	+3.0
	SNR=9.2					
BSY	Bisya	69.70 294	P	P	02 57 14.0	-0.5
	SNR=5.6					
BSY			P	P	02 57 14.0	-0.5
	SNR=5.6					
BVAR	Borovoye Array	69.73 328	P	P	02 57 13.9	-0.1
	comp=Z,100nm,0.7s,baz=128,slow=9.6,SNR=115					
HOQ	Hoqain	69.74 295	P	P	02 57 13.8	-0.8
	SNR=8.0					
HOQ			P	P	02 57 13.8	-0.8
	SNR=8.0					
BRVK	Borovoye	69.80 328 *c*	*iP*	P	02 57 14.3	-0.1
BRVK			pmax	pmax		
	comp=Z,161nm,0.8s					
BRVK			MLR	MLR		
	comp=Z,6μm,23.0s					
BRVK	Borovoye	69.80 328	P	P	02 57 13.8	-0.6
BRVK			IAmb	IAmb	02 57 19.0	
	comp=Z,154nm,0.8s					
ARQ	Araqi	70.41 295	P	P	02 57 18.0	-0.9
	SNR=7.8					
SHAO	Shalim	70.51 289	*i* P	P	02 57 18.7	-0.8
	SNR=15					
SOHO	SOHO	70.53 296	*i* P	P	02 57 17.9	-1.6
	SNR=12					
RER	Riviere de l'E	70.63 248	P	P	02 57 22.9	+2.6
	SNR=7.1					
RER	Riviere de l'E	70.63 248	P	P	02 57 19.1	-1.2
MDH	Madha	70.93 297	P	P	02 57 20.2	-1.8
UOSS	Minazif	70.95 296	*i* P	P	02 57 20.6	-1.5
	SNR=19					
UOSS	Minazif	70.95 296	P	P	02 57 20.9	-1.2
HATD	Hatta, Dubai	71.00 296	*i* P	P	02 57 21.2	-1.2
	SNR=21					
HATD	Hatta, Dubai	71.00 296	P	P	02 57 22.2	-0.2
	SNR=7.4					
BANOM	Banah	71.03 297	*i* P	P	02 57 21.6	-0.9
	SNR=7.8					
ASHO	Ashiyiah	71.04 296	*i* P	P	02 57 21.6	-1.1
	SNR=51					
ASHO	Ashiyiah	71.04 296	P	P	02 57 22.5	-0.2
	SNR=10					
MSFE	Esma-Masafi	71.06 297	*i* P	P	02 57 21.6	-1.2
	SNR=7.4					
ADK	Adak	71.17 34	P	P	02 57 22.0	-0.8
ADK			pmax	pmax		
	comp=Z,228nm,1.0s					
ADK			MLR	MLR		
	comp=Z,2μm,21.0s					
ADK	Adak	71.17 34	P	P	02 57 22.0	-0.8
ADK			IAmb	IAmb	02 57 27.7	
	comp=Z,228nm,0.9s					
SHME	Shamm	71.19 298	*i* P	P	02 57 22.4	-1.2
	SNR=6.5					
ALNE	Al Ain	71.22 295	*i* P	P	02 57 22.8	-0.9
	SNR=20					
FAQ	Al Faqa, Dubai	71.47 296	P	P	02 57 24.3	-0.9
SOCY	Socotra	71.53 283	P	P	02 57 24.2	-1.6
SOCY			IAmb	IAmb	02 57 29.2	
	comp=Z,134nm,0.8s					
TIXI	Tiksi	71.80 1	P	P	02 57 26.5	+0.2
	comp=Z,89nm,0.5s,baz=160,slow=6.6,SNR=35					
TIXI	Tiksi	71.80 1	*c iP*	P	02 57 26.4	+0.2
TIXI			pmax	pmax		
	comp=Z,143nm,1.0s					
TIXI			MLR	MLR		
	comp=Z,7μm,19.0s					
TIXI	Tiksi	71.80 1	P	P	02 57 25.7	-0.5
TIXI			IAmb	IAmb	02 57 38.8	
	comp=Z,130nm,0.9s					
AJN	Ajban	71.99 296	*i* P	P	02 57 27.5	-0.8
	SNR=16					
AJN	Ajban	71.99 296	P	P	02 57 27.5	-0.8
	SNR=18					
AJN			P	P	02 57 27.5	-0.8
	SNR=18					
GEYT	Alibeck	72.08 310	P	P	02 57 28.7	0.0
	comp=Z,36nm,0.7s,baz=158,slow=4.8,SNR=34					
GEYT			LR	LR	03 32 47.3	
	comp=Z,6μm,20.8s,baz=65,slow=39					
GEYT	Alibeck	72.08 310	P	P	02 57 27.6	-1.0
GYA0	ALIBECK ARRAY	72.08 310	P	P	02 57 28.0	-0.7
GYA0B	ALIBECK ARRAY	72.08 310	P	P	02 57 27.3	-1.3
GYA0B			IAmb	IAmb	02 57 51.7	
	comp=Z,197nm,1.2s					
GYA0B			IAMs_20	IAMs_20	03 32 36.3	
	comp=Z,8μm,22.0s					
ATKA	Atka Island	72.70 34	P	P	02 57 30.4	-1.5
NRIK	Noril'sk	73.86 347	P	P	02 57 39.6	+1.2
	comp=Z,314nm,0.6s,baz=126,slow=5.6,SNR=344					
NRIK			LR	LR	03 31 42.5	
	comp=Z,6μm,21.9s,baz=153,slow=37					
AB31	Akbulak array	74.15 322	P	P	02 57 40.3	-0.3
ABKAR	Akbulak array	74.15 322	P	P	02 57 40.0	-0.6
SBV	Sambava	75.47 256	P	P	02 57 51.0	+2.1
	SNR=7.0					
AKTO	Aktyubinsk	75.71 323	P	P	02 57 50.1	+0.5
	comp=Z,352nm,0.6s,baz=107,slow=7.8,SNR=403					
AKTO			LR	LR	03 33 30.9	
	comp=Z,11μm,20.8s,baz=121,slow=38					
SVE	Sverdlovsk	76.44 329 *d*	*iP*	P	02 57 53.8	+0.2
SVE			*e*		03 02 28.6	
SVE			*e*S	S	03 07 29.8	-6.4
SVE			pmax	pmax		
	comp=Z,444nm,0.9s					
ARU	Arti	77.37 329	P	P	02 57 58.3	-0.5
	comp=Z,85nm,0.7s,baz=108,slow=1.7,SNR=130					
ARU	Arti	77.37 329 *c*	*iP*	P	02 57 58.5	-0.4
ARU			pmax	pmax		
	comp=Z,328nm,0.8s					
ARU			MLR	MLR		
	comp=Z,7μm,21.0s					
ARU	Arti	77.37 329	P	P	02 57 57.9	-1.0
ARU			IAMs_20	IAMs_20	03 34 15.0	
	comp=Z,8μm,22.0s					
XMAS	Kiritimati	77.54 88	IAMs_20	IAMs_20	03 27 31.9	
	comp=Z,6μm,21.0s					
UNV	Unalaska Valle	77.62 34	P	P	02 57 58.8	-1.4
UNV			IAmb	IAmb	02 58 10.0	
	comp=Z,266nm,1.0s					
HON	Honolulu	77.95 68	IAMs_20	IAMs_20	03 29 57.7	
	comp=Z,7μm,20.0s					
ABPO	Ambohimpanom	78.39 251	P	P	02 58 04.0	-1.5
ABPO			pmax	pmax		
	comp=Z,525nm,1.8s					
ABPO	Ambohimpanom	78.39 251	P	P	02 58 04.0	-1.5
ABPO			IAmb	IAmb	02 58 09.6	
	comp=Z,525nm,1.8s					
VOI	Vohitsoka	79.00 248	P	P	02 58 10.6	+1.8
	SNR=14					
FOMA	Nahampoana Res	79.07 245	P	P	02 58 07.3	-1.6
MAW	Mawson	79.48 200	P	P	02 58 11.4	+1.2
	comp=Z,45nm,1.1s,baz=64,slow=6.6,SNR=39					
MAW			PKKPbc	PKKPbc	03 17 00.6	-1.7
	comp=Z,4.2nm,0.8s,baz=159,slow=3.4,SNR=9.5					
MAW			PKPPKP	PKPPKPdf	03 25 04.3	
	comp=Z,3.2nm,0.9s,baz=99,slow=2.6,SNR=4.6					
MAW			LR	LR	03 30 06.5	
	comp=Z,4μm,21.8s,baz=56,slow=33					
MAW	Mawson	79.48 200	P	P	02 58 12.3	+2.0
	baz=80,SNR=32					
MAW	Mawson	79.48 200	P	P	02 58 09.9	-0.4
HLK	Haleakala	79.54 69	IAMs_20	IAMs_20	03 29 26.7	
	comp=Z,5μm,20.0s					
VNDA	Vanda	79.75 172	P	P	02 58 12.4	+0.8
	comp=Z,6.7nm,0.7s,baz=284,slow=20,SNR=8.4					
VNDA			PKKPbc	PKKPbc	03 17 00.7	-1.2
	comp=Z,1.9nm,0.8s,baz=270,slow=2.9,SNR=6.7					
VNDA			PKPPKP	PKPPKPdf	03 25 03.5	
	comp=Z,2.0nm,1.0s,baz=295,slow=3.6,SNR=5.1					
VNDA			LR	LR	03 36 05.0	
	comp=Z,5μm,18.1s,baz=332,slow=38					
VNDA	Vanda	79.75 172	P	P	02 58 10.4	-1.2
HPAH	Hawaii Prepara	80.00 70	IAMs_20	IAMs_20	03 30 55.0	
	comp=Z,5μm,21.0s					
KHU	Kahuku	80.03 71	IAMs_20	IAMs_20	03 33 27.7	
	comp=Z,6μm,20.0s					
POHA	Pohakuloa	80.14 70	P	P	02 58 12.8	-2.3
POHA			IAmb	IAmb	02 58 20.4	
	comp=Z,170nm,1.0s					
POHA	Pohakuloa	80.14 70	IAMs_20	IAMs_20	03 30 59.6	
	comp=Z,6μm,20.0s					
HMH	Humu'ula Sheep	80.17 70	P	P	02 58 13.1	-2.3
HMH			IAmb	IAmb	02 58 35.6	
	comp=Z,259nm,1.2s					
MLH	Mauna Loa	80.26 70	P	P	02 58 13.6	-2.2
MLH			IAmb	IAmb	02 58 21.3	
	comp=Z,320nm,1.0s					
UWB	Uwekahuna B	80.36 70	P	P	02 58 14.2	-1.9
UWB			IAmb	IAmb	02 58 53.7	
	comp=Z,172nm,1.1s					
AKT	Akhty	80.64 312	*e*P	P	02 58 17.8	+0.6
AKT			*e*		02 58 23.0	
MAK	Makhachkala	81.03 313	*e*P	P	02 58 18.9	-0.2
MAK			*e*		03 01 20.7	
MAK			*e*PPP	PPP	03 03 13.6	
MAK			*e*S	S	03 08 27.1	+1.5
MAK			*e*SS	SS	03 13 42.1	+1.3
MAK			*e*SSS	SSS	03 17 10.6	
MAK			pmax	pmax		
	comp=Z,564nm,1.9s					
SDPT	Sand Point	81.40 34	P	P	02 58 19.8	-1.0
CNBA	Chernabura Isl	81.79 34	P	P	02 58 21.6	-1.2
CNBA			IAmb	IAmb	02 58 28.3	
	comp=Z,131nm,0.7s					
GROC	Groznyy	82.30 314	*e*P	P	02 58 25.0	-0.8
GROC			*e*		03 01 35.0	
GROC			*e*S	S	03 08 40.1	+1.3
GROC			pmax	pmax		
	comp=Z,386nm,1.2s					
KIRV	Kirov	82.71 329	P	P	02 58 27.9	+0.4
	comp=Z,488nm,0.8s,baz=96,slow=2.1,SNR=60					
TBLG	Delisi	82.90 312	P	P	02 58 27.6	-1.4
TBLG			pmax	pmax		
	comp=Z,206nm,0.8s					
TBLG	Delisi	82.90 312	P	P	02 58 27.6	-1.4
TBLG			IAmb	IAmb	02 58 32.9	
	comp=Z,206nm,0.8s					
TASB	TASBURUN-IGDIR	83.08 310	*e*P	P	02 58 31.3	+1.2
CLDR	Caldiran	83.24 309	*e*P	P	02 58 32.2	+1.1
CUKT	Cukurca	83.30 307	*e*P	P	02 58 31.6	+0.3
VANB	Van	83.60 309	*e*P	P	02 58 33.6	+0.8
ZEI	Tsey	83.63 313	*e*P	P	02 58 33.1	+0.1
ZEI			pmax	pmax		
	comp=Z,392nm,1.3s					
AKH	Akhalkalaki	83.79 312	⇑P	P	02 58 35.7	+1.8
AGRB	Hanur-Agry	83.99 310	*e*P	P	02 58 36.6	+1.7
KARS	Kars	84.03 311	*e*P	P	02 58 36.7	+1.7
SIRT	Sirnak	84.25 308	*e*P	P	02 58 37.0	+0.9
MLAZ	Malazgirt-MUS	84.30 309	*e*P	P	02 58 38.1	+1.6
KBZ	Khabaz	84.46 314	P	P	02 58 37.5	+0.7
	comp=Z,115nm,0.9s,baz=107,slow=3.7,SNR=115					
KBZ			LR	LR	03 39 34.1	
	comp=Z,1μm,21.6s,baz=74,slow=38					
GOF	Gofitskoye	84.49 315⇑	*e*P	P	02 58 39.0	+2.0
GOF			*e*S	S	03 09 04.1	+3.2
GOF			smax	smax		
	comp=N,64nm,1.7s					
SENK	Senkaya-Erzuru	84.57 311	*e*P	P	02 58 39.5	+1.6
KVAR	Kislovodsk Arr	84.62 314	P	P	02 58 39.9	+1.9
	comp=N,54nm,0.8s,baz=270,slow=20,SNR=22					
KVAR			LR	LR	03 40 48.6	
	comp=N,2μm,20.9s,baz=212,slow=39					
KIV	Kislovodsk	84.63 314	⇑P	P	02 58 38.4	+0.4
KIV	Kislovodsk	84.63 314	*i* P	P	02 58 38.2	+0.3
	SNR=35					
KIV	Kislovodsk	84.63 314	*e*P	P	02 58 38.2	+0.3
KIV			*e*		03 01 54.2	
KIV			*e*		03 08 57.0	
KIV			*e*SS	SS	03 14 34.7	+0.3
KIV			pmax	pmax		
	comp=Z,462nm,1.0s					
KIV			MLR	MLR		
	comp=Z,11μm,20.0s					
KIV	Kislovodsk	84.63 314	P	P	02 58 37.0	-1.0
KIV			IAmb	IAmb	02 58 42.7	
	comp=Z,121nm,0.8s					
GURO	Guroymak-BITLI	84.65 309	*e*P	P	02 58 39.6	+1.4
KOPR	Koprukoy-ERZUR	84.90 310	*e*P	P	02 58 40.7	+1.2
CHVG	Ch'k'valeri	84.96 313	⇑P	P	02 58 41.6	+2.1
SII	Sitkinak Islan	85.10 33	IAMs_20	IAMs_20	03 42 16.0	
	comp=Z,5μm,21.0s					
VRTB	Varto-Mus	85.15 309	*e*P	P	02 58 42.9	+2.2
PRGR	Permogore	85.16 332	⇑*i*P	P	02 58 40.3	+0.3
TTA	Tatalina	85.17 27	P	P	02 58 38.8	-1.4
TTA			pmax	pmax		
	comp=Z,108nm,0.8s					
TTA	Tatalina	85.17 27	P	P	02 58 38.8	-1.4
TTA			IAmb	IAmb	02 58 45.4	
	comp=Z,108nm,0.8s					
BCA	Borcka	85.19 311	⇑P	P	02 58 41.5	+0.7
SVAN	Silvan-Diyarba	85.28 308	*e*P	P	02 58 42.5	+1.3
ANKE	Ethiopia-Afar	85.39 280	*i* P	P	02 58 46.1	+3.4
ANKE			*i* S	S	03 09 25.1	+13
DESE	Dese	85.52 281	*i* P	P	02 58 45.9	+2.7
DESE			*e*S	S	03 09 07.6	-5.3
PPT	Papeete	85.54 107	LR	LR	03 36 24.5	
	comp=Z,1μm,19.2s,baz=268,slow=35					
PPT2	Papeete2	85.54 108	*e*S	S	03 09 11.3	-1.2
	comp=Z,7μm,27.5s					
PPT2	Papeete2	85.54 108	*e*LQ	LQ	03 22 10.0	
	comp=Z,5μm,29.5s					
PPT2			*e*LR	LR	03 25 48.3	
	comp=Z,11μm,27.2s					
MARD	Mardin	85.55 307	P	P	02 58 41.3	-1.4
MARD			IAmb	IAmb	02 58 46.8	
	comp=Z,130nm,0.8s					
OHAK	Old Harbor	85.68 33	P	P	02 58 41.4	-1.3
BNGB	Bingl	85.74 309	*e*P	P	02 58 45.3	+1.7
TBI	Tubuai	85.79 113	*e*PP	PP	03 02 01.8	-2.0
	comp=Z,915nm,29.2s					
TBI			*e*S	S	03 09 13.9	-0.6
	comp=Z,13μm,28.8s					
TBI	Tubuai	85.79 113	*e*LR	LR	03 25 55.5	
	comp=Z,7μm,28.5s					
MAZI	Mazidag	85.83 307	*e*P	P	02 58 45.0	+0.9
YEDI	Yedisu-Bingol	85.87 309	*e*P	P	02 58 45.6	+1.3
KOPT	Kop Dagi	85.94 310	P	P	02 58 43.1	-1.7
KOPT			IAMs_20	IAMs_20	03 44 26.4	
	comp=Z,5μm,22.0s					
VRH	Novokhopyorsk	85.97 321	*e*P	P	02 58 44.5	+0.2
VRH			*e*S	S	03 09 12.1	-3.1
VRH			pmax	pmax		
	comp=Z,520nm,0.6s					
VRH			pmax	pmax		
	comp=Z,520nm,0.6s					
VRH			smax	smax		
	comp=N,640nm,7.4s					
VRH			MLR	MLR		
	comp=Z,8μm,24.0s					
DYBB	Diyarbakir	86.10 308	*e*P	P	02 58 46.9	+1.5
KDAK	Kodiak Island	86.12 32	P	P	02 58 46.9	+2.0
	comp=Z,142nm,0.9s,baz=246,slow=2.9,SNR=35					
KDAK	Kodiak Island	86.12 32	P	P	02 58 44.1	-0.8
KDAK			IAmb	IAmb	02 58 49.8	
	comp=Z,131nm,0.8s					
KDAK	Kodiak Island	86.12 32	IAMs_20	IAMs_20	03 33 14.9	
	comp=Z,5μm,22.0s					
BAYT	Aydintepe-Bayb	86.24 310	*e*P	P	02 58 48.0	+1.9
RSO	Redoubt South	86.35 29	P	P	02 58 44.8	-1.5
A21K	Barrow	86.48 18	P	P	02 58 48.3	+1.9
	baz=259					
KTUT	Trabzon	86.56 311	⇓P	P	02 58 48.4	+1.0
KTUT	Trabzon	86.56 311	*e*P	P	02 58 48.3	+0.8
IMAR	Indian Mountai	86.62 24	P	P	02 58 46.6	-0.7
PTK	Pertek	86.73 309	*e*P	P	02 58 50.3	+1.7
SOC	Sochi	86.75 313 *c*	*iP*	P	02 58 48.1	-0.2
SOC			*e**PP	pP	02 59 01.2	+1.7
SOC			*e*PPP	PPP	03 04 04.6	
SOC			*e*S	S	03 09 10.1	-13
SOC			*e*SS	SS	03 15 08.0	+2.7
SOC			*e*SSS	SSS	03 18 32.9	
SOC			pmax	pmax		
	comp=Z,76nm,0.5s					
SOC			MLR	MLR		
	comp=Z,3μm,22.0s					
SVRC	Sivrice-ELAZID	86.78 308	*e*P	P	02 58 50.3	+1.5
HOM	Homer	86.81 30	P	P	02 58 49.6	+1.4
	baz=264					
PPLA	Purkeypile	86.90 27	P	P	02 58 47.4	-1.4
PPLA			IAmb	IAmb	02 58 53.1	
	comp=Z,120nm,1.5s					
KIBK	Kibwezi	86.97 268	P	P	02 58 52.8	+2.6
	SNR=28					
CNPM	China Poot	87.00 30	P	P	02 58 47.8	-1.4
CNPM			IAmb	IAmb	02 58 53.9	
	comp=Z,105nm,0.8s					
SKT	Skwentna	87.11 28	P	P	02 58 48.4	-1.3
SKT			IAmb	IAmb	02 58 52.8	
	comp=Z,81nm,0.9s					
URFA	Urfa	87.12 307	*e*P	P	02 58 51.8	+1.4
BRLK	Bradley Lake	87.20 30	P	P	02 58 48.7	-1.5
BRLK			IAmb	IAmb	02 58 54.8	
	comp=Z,154nm,0.9s					
ESPY	Espiye-Giresun	87.34 311	*e*P	P	02 58 51.7	+0.4
SUA	Susitna One	87.43 29	P	P	02 58 49.9	-1.5
MALT	Malatya	87.46 308	*e*P	P	02 58 53.6	+1.5
VORD	Divnogorie	87.48 321	*e*P	P	02 58 51.7	0.0
VORD			*e*S	S	03 09 27.8	-2.0
VORD			pmax	pmax		
	comp=Z,200nm,0.5s					
VORD			pmax	pmax		
	comp=Z,240nm,0.6s					
VORD			smax	smax		
	comp=N,420nm,6.4s					
VORD			MLR	MLR		
	comp=Z,1μm,12.0s					
KTH	Kantishna Hill	87.54 26	P	P	02 58 50.3	-1.6
BPAW	Bear Paw Mtn.	87.56 26	P	P	02 58 50.6	-1.2
VSR	Storozhevoye	87.57 321	*e*P	P	02 58 52.2	+0.1
VSR			*e*S	SKSac	03 09 22.1	+5.2
VSR			pmax	pmax		
	comp=Z,300nm,0.6s					
VSR			pmax	pmax		
	comp=Z,770nm,1.2s					
VSR			smax	smax		
	comp=N,470nm,4.9s					
VSR			MLR	MLR		
	comp=Z,8μm,24.0s					
VORR	Voronezh	87.57 322⇑	*iP*	P	02 58 51.0	-1.1
VORR			pmax	pmax		
	comp=Z,1μm,0.8s					
CUT	Chulitna	87.73 28	P	P	02 58 53.3	+0.6
	baz=265					
KMBO	Kilima Mbogo	87.77 269	P	P	02 58 57.7	+3.5
	comp=Z,178nm,0.9s,baz=66,slow=6.3,SNR=167					
KMBO			LR	LR	03 36 54.2	
	comp=Z,9μm,20.2s,baz=90,slow=35					
KMBO	Kilima Mbogo	87.77 269	*i* P	P	02 58 56.5	+2.3
	SNR=172					
KMBO	Kilima Mbogo	87.77 269	P	P	02 58 52.1	-2.1
KMBO			pmax	pmax		
	comp=Z,275nm,1.0s					
KMBO	Kilima Mbogo	87.77 269	P	P	02 58 52.1	-2.1
LPSR	Galich'ya Gora	87.80 322	*e*P	P	02 58 53.7	+0.5
LPSR			*e*S	SKSac	03 09 21.6	+3.4
LPSR			pmax	pmax		
	comp=Z,500nm,0.8s					
LPSR			pmax	pmax		
	comp=Z,460nm,0.8s					
LPSR			smax	smax		
	comp=N,730nm,6.5s					
LPSR			MLR	MLR		
	comp=Z,9μm,22.0s					
TRF	Thorofare Moun	87.81 27	P	P	02 58 51.8	-1.5
O22K	Cooper Landing	87.84 30	P	P	02 58 53.9	+0.7
	baz=266					
SEW	Seward	87.95 30	P	P	02 58 52.5	-1.3
KLMR	Klimovskoe	88.00 331 *c*	*iP*	P	02 58 53.6	-0.3
KLMR			*e*		03 02 21.4	
KLMR			*e*S	SKSac	03 09 17.3	-1.8
KLMR			pmax	pmax		
	comp=Z,330nm,1.0s					
KLMR			MLR	MLR		
	comp=Z,3μm,19.0s					
KLMR	Klimovskoe	88.00 331⇑	*iP*	P	02 58 53.6	-0.3
KLMR			*i* P	P	02 58 53.6	-0.3
KLMR			*i* P	P	02 58 53.6	-0.3
KLMR			AMP		02 58 57.0	
	comp=Z,330nm,1.0s					
KLMR			*e*PP	PP	03 02 21.4	+0.8
KLMR			*e*S	SKSac	03 09 17.3	-1.8
KLMR			*e*S	SKSac	03 09 17.3	-1.8
KLMR			LQ	LQ	03 33 02.7	
KLMR			LQ	LQ	03 33 02.7	
KLMR			LR	LR	03 37 50.5	
KLMR			AMP		03 41 02.8	
	comp=Z,3μm,18.9s					
SYO	Syowa Base	88.15 201 ⇓	*iP*	P	02 58 54.6	+0.1
SYO	Syowa Base	88.15 201 ⇑	*i*PcP	PcP	02 58 56.4	+0.2
SYO	Syowa Base	88.15 201 ⇑	*i*pP	pP	02 59 02.7	-2.8
COLD	Coldfoot	88.17 23	P	P	02 58 56.9	+2.2
	baz=265					
COLD			S	S	03 09 37.0	+1.1
	baz=265					
COLD	Coldfoot	88.17 23	P	P	02 58 53.5	-1.2
PMR	Palmer	88.21 29	P	P	02 58 53.6	-1.3
PMR			pmax	pmax		
	comp=Z,72nm,1.0s					
PMR			MLR	MLR		
	comp=Z,2μm,21.0s					
PMR	Palmer	88.21 29	P	P	02 58 53.6	-1.3
PMR			IAmb	IAmb	02 58 58.5	
	comp=Z,72nm,1.0s					
DARE	Darende-Malaty	88.21 308	*e*P	P	02 58 56.8	+1.2
BWN	Browne	88.23 26	P	P	02 58 54.2	-0.8
RSDY	Resadiye-TOKAT	88.39 310	*e*P	P	02 58 57.7	+1.4
GAZ	Gaziantep	88.39 307	*e*P	P	02 58 57.9	+1.4
GAZ	Gaziantep	88.39 307	P	P	02 58 54.9	-1.6
GAZ			IAmb	IAmb	02 59 01.1	
	comp=Z,141nm,0.8s					
NEA2	Nenana	88.44 25	P	P	02 58 56.3	+0.4
	baz=266,SNR=48					
NEA2			S	S	03 09 41.2	+2.7
	baz=266					
MCK	McKinley	88.44 26	P	P	02 58 54.8	-1.3
MCK			pmax	pmax		
	comp=Z,122nm,0.9s					
MCK	McKinley	88.44 26	P	P	02 58 54.8	-1.3
MCK			IAmb	IAmb	02 58 59.5	
	comp=Z,122nm,0.9s					
ANN	Anapa	88.44 315 *c*	*iP*	P	02 58 56.3	-0.1
ANN			*e**PP	pP	02 59 09.6	+2.0
ANN			*i*		03 02 28.5	
ANN			*e*		03 09 32.0	
ANN			pmax	pmax		

comp=N,108nm,0.6s
ANN pmax pmax
comp=Z,496nm,0.6s
ANN pmax pmax
comp=Z,163nm,2.6s
ANN pmax pmax
comp=N,796nm,4.7s
RND Reindeer 88.45 27 P **P 02 58 54.9 -1.3**
RND pmax pmax
comp=Z,105nm,0.7s
RND MLR MLR
comp=Z,3μm,21.0s
RND Reindeer 88.45 27 P **P 02 58 54.9 -1.3**
RND IAmb IAmb 02 58 59.4
comp=Z,106nm,0.7s
KNK Knik Glacier 88.52 29 P **P 02 58 55.1 -1.3**
TOLK Toolik Lake Re 88.53 21 P **P 02 58 58.1 +1.8**
baz=266
TOLK S **S 03 09 41.6 +2.3**
baz=266
TOLK Toolik Lake Re 88.53 21 P **P 02 58 55.2 -1.2**
TOLK IAmb IAmb 02 59 01.3
comp=Z,93nm,1.1s
ASF Jabal al Asfar 88.53 302 P **P 02 58 58.7 +1.4**
comp=Z,78nm,0.9s,baz=17,slow=1.2
SML Sawmill 88.60 28 P **P 02 58 55.5 -1.4**
SVSK Karacayir 88.63 310 *e*P **P 02 58 59.1 +1.7**
KMRS Kahramanmaras 88.65 307 *e*P **P 02 58 58.9 +1.3**
MOS Moscow 88.72 326 *e*P **P 02 58 56.5 -0.9**
MOS *e* 03 02 24.0
MOS *e* 03 09 23.6
MOS *i* S **S 03 09 36.3 -5.1**
MOS *e*PS PS 03 10 45.7 -4.5
MOS *e*SS **SS 03 15 35.5 +2.2**
MOS pmax pmax
comp=Z,285nm,0.8s
MDM Murphy Dome 88.82 25 P **P 02 58 56.6 -1.2**
WRH Wood River Hil 88.85 26 P **P 02 58 56.8 -1.1**
WRH IAmb IAmb 02 59 01.3
comp=Z,96nm,0.8s
TMCR Tamitsa 88.88 334 *e*P **P 02 58 56.7 -1.3**
TMCR pmax pmax
comp=Z,76nm,0.4s
TCOL CIGO, UAF Yank 88.97 25 P **P 02 58 58.6 +0.2**
baz=267
COLA College 88.97 25*c i*P **P 02 58 58.5 +0.1**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA MLR MLR
comp=Z,2μm,23.0s
COLA College 88.97 25 P **P 02 58 57.7 -0.7**
CCB Clear Creek Bu 88.98 25 P **P 02 58 57.3 -1.2**
CCB IAmb IAmb 02 59 02.1
comp=Z,93nm,0.9s
TOKT Tokat 88.98 310 *e*P **P 02 59 00.2 +1.0**
TOKA Tokat 89.03 310 P **P 02 58 57.9 -1.5**
TOKA IAmb IAmb 02 59 04.0
comp=Z,76nm,0.7s
SARI SarD1z-Kayseri 89.05 308 *e*P **P 02 59 00.9 +1.2**
SCM Sheep Creek Mo 89.08 28 P **P 02 58 57.6 -1.6**
SCM pmax pmax
comp=Z,113nm,1.0s
SCM Sheep Creek Mo 89.08 28 P **P 02 58 57.5 -1.6**
SCM IAmb IAmb 02 59 03.9
comp=Z,113nm,1.0s
DHY Denali Highway 89.11 27 P **P 02 58 57.8 -1.6**
DHY IAmb IAmb 02 59 03.2
comp=Z,68nm,0.8s
GLI Glacier Island 89.16 29 P **P 02 58 58.1 -1.3**
GLI IAMs_20 IAMs_20 03 42 38.9
comp=Z,5μm,22.0s
POKR Poker Plat Res 89.16 25 P **P 02 58 59.1 -0.3**
POKR S **S 03 09 47.3 +2.0**
baz=268
YAYL Yayladag 89.25 306 *e*P **P 02 59 01.9 +1.3**
OBN Obninsk 89.30 325 P **P 02 59 00.6 +0.4**
comp=Z,82nm,0.7s,baz=43,slow=1.2,SNR=85
OBN LR LR 03 40 23.2
comp=Z,1μm,21.8s,baz=84,slow=36
OBN Obninsk 89.30 325 ⇓P **P 02 59 01.0 +0.8**
OBN Obninsk 89.30 325*c i*P **P 02 59 00.4 +0.2**
OBN *e* 03 02 36.4
OBN *i* S **S 03 09 38.8 -8.0**
OBN pmax pmax
comp=Z,280nm,0.6s
OBN Obninsk 89.30 325 P **P 02 58 59.6 -0.6**
HDA Harding Lake 89.34 26 P **P 02 59 00.3 0.0**
baz=268,SNR=97
HDA S **S 03 09 46.6 -0.4**
baz=268
HDA S **S 03 09 46.6 -0.4**
baz=268
HDA Harding Lake 89.34 26 P **P 02 58 59.1 -1.2**
HDA IAmb IAmb 02 59 03.4
comp=Z,102nm,0.8s
HWQ Hawqa 89.36 304 *e*P **P 02 59 01.9 +0.8**
KVT Kavak 89.38 311 *e*P **P 02 59 02.1 +1.1**
IL31 89.38 25 P **P 02 58 59.1 -1.2**
ILAR Eielson Array 89.38 25 P **P 02 58 60.0 -0.4**
comp=Z,20nm,0.7s,baz=247,slow=4.7,SNR=191
ILAR PP **PP 03 02 29.6 -2.0**
comp=Z,4.2nm,0.9s,baz=261,slow=6.9,SNR=4.3
ILAR PKKP **PKKPdf 03 16 32.8 -1.0**
comp=Z,1.0nm,0.7s,baz=30,slow=1.2,SNR=4.7
ILAR PKKPbc **PKKPbc 03 16 37.5 -1.2**
comp=Z,3.0nm,0.9s,baz=73,slow=1.1,SNR=12
ILAR PKPPKP **P'P'df 03 24 44.8 +0.2**
comp=Z,1.0nm,0.9s,baz=104,slow=1.1,SNR=6.8
ILAR Eielson Array 89.38 25 P **P 02 59 00.0 -0.4**
ILAR Eielson Array 89.38 25 P **P 02 58 59.3 -1.1**
HIN Hinchinbrook I 89.44 30 IAMs_20 IAMs_20 03 41 52.9
comp=Z,5μm,22.0s
RCY Rachaya 89.45 303 *e*P **P 02 59 03.0 +1.4**
FID Port Fidalgo 89.45 29 P **P 02 58 59.2 -1.6**
FID IAmb IAmb 02 59 04.9
comp=Z,87nm,0.8s
KOZT Kozan 89.50 307 *e*P **P 02 59 02.6 +1.0**
BNN Bunyan 89.50 309 *e*P **P 02 59 02.1 +0.4**
SHBL Chebaa 89.52 303 *e*P **P 02 59 03.3 +1.3**
BHL Bhannes 89.60 304 *e*P **P 02 59 03.5 +1.3**
M24K Tolsona, Glenn 89.63 28 P **P 02 59 03.3 +1.6**
baz=269
LODK Lodwar 89.68 273 P **P 02 59 05.5 +2.6**
SNR=19
QSPA South Pole Qui 89.71 180 P **P 02 59 03.3 +1.3**
comp=Z,24nm,0.7s,baz=267,slow=0.2,SNR=95
QSPA PKKP **PKKPdf 03 16 35.3 +1.5**
comp=Z,4.4nm,0.8s,baz=7.5,slow=0.7,SNR=11
QSPA South Pole Qui 89.71 180 P **P 02 59 01.3 -0.8**
QSPA IAmb IAmb 02 59 32.1
comp=Z,78nm,0.9s
KLU Klutina 89.74 29 IAmb IAmb 02 59 06.5
comp=Z,67nm,0.8s
MMAI Mount Meron Ar 89.81 303 P **P 02 59 04.5 +1.3**
comp=Z,26nm,0.5s,baz=86,slow=7.4,SNR=6.3
EYAK Cordova Ski Ar 89.81 30 IAMs_20 IAMs_20 03 38 07.2
comp=Z,5μm,22.0s
PAX Paxson 89.97 27 IAmb IAmb 02 59 07.1
comp=Z,82nm,1.0s
DIKM Dikmen 89.97 311 *e*P **P 02 59 04.0 +0.3**
SNOP Sinop 90.02 312 *e*P **P 02 59 04.5 +0.6**
RIDG Independent Ri 90.26 26 P **P 02 59 03.4 -1.2**
RAGM Ragged Mountai 90.34 30 IAMs_20 IAMs_20 03 42 21.2
comp=Z,4μm,21.0s
LVZ Lovozero 90.35 338⇑*e*P **P 02 59 03.6 -1.3**
LVZ pmax pmax
comp=Z,96nm,1.1s
LVZ MLR MLR
comp=Z,8μm,18.0s
LVZ Lovozero 90.35 338 P **P 02 59 04.5 -0.5**
LVZ IAmb IAmb 02 59 08.0
comp=Z,99nm,1.1s
BMAR Burnt Mountain 90.36 23 P **P 02 59 04.3 -0.7**
CORM Corum 90.45 310 *e*P **P 02 59 07.2 +1.1**
KAIM Kayak Island 90.47 30 IAMs_20 IAMs_20 03 39 19.7
comp=Z,4μm,21.0s
HMT Hamilton 90.55 30 IAMs_20 IAMs_20 03 42 27.7
comp=Z,5μm,22.0s
DOT Dot Lake 90.61 27 P **P 02 59 04.8 -1.4**
DOT IAmb IAmb 02 59 10.1
comp=Z,78nm,0.9s
SCRK Sand Creek 90.64 26 P **P 02 59 07.5 +1.0**
baz=271,SNR=38
SCRK S **S 03 10 01.9 +2.6**
baz=271
GLB Gilahina Butte 90.75 29 P **P 02 59 05.5 -1.5**
GLB IAmb IAmb 02 59 10.9
comp=Z,65nm,0.9s
MENT Mentasta 90.77 27 P **P 02 59 05.5 -1.4**
MENT IAmb IAmb 02 59 11.3
comp=Z,96nm,0.7s
SUCK Suckling Hills 90.79 30 IAMs_20 IAMs_20 03 39 39.8
comp=Z,4μm,20.0s
SIM Simferopol' 90.80 315*c i*P **P 02 59 06.7 -0.8**
SIM pmax pmax
comp=Z,279nm,0.8s
APA Apatity 90.83 337⇑*i*P **P 02 59 05.6 -1.5**
APA *i* PPP PPP 03 04 47.0
APA *i* S **S 03 09 58.0 -2.6**
APA pmax pmax
comp=Z,42nm,1.1s
EREN Erenkoy 90.83 305 *e*P **P 02 59 08.9 +1.1**
KIZK Mersin 90.84 306 *e*P **P 02 59 07.9 0.0**
BZK Bozkurt 90.91 312 ⇑P **P 02 59 08.5 +0.5**
VRDI Verde Repeater 90.93 29 P **P 02 59 06.4 -1.5**
CRQM Cirque 91.09 29 IAmb IAmb 02 59 13.2
comp=Z,88nm,0.8s
ILGA Ilgaz 91.14 311 IAmb IAmb 02 59 12.6
comp=Z,112nm,1.6s
ILGA IAMs_20 IAMs_20 03 45 19.8
comp=Z,4μm,22.0s
KEBE Keben-Mersin 91.19 306 *e*P **P 02 59 10.3 +0.7**
BR131 Keskin Array S 91.21 310 P **P 02 59 09.8 +0.1**
SNR=17
BR131 P **P 02 59 09.8 +0.1**
SNR=17
BR131 Keskin Array S 91.21 310 IAmb IAmb 02 59 13.2
comp=Z,39nm,0.7s
BRTR Keskin Array B 91.21 310 P **P 02 59 09.4 -0.3**
comp=Z,34nm,0.7s,baz=124,slow=4.9,SNR=46
BRTR LR LR 03 47 38.9
comp=Z,2μm,20.4s,baz=75,slow=40
BRTR Keskin Array B 91.21 310 P **P 02 59 08.6 -1.1**
CANT Cankiri 91.22 310 *e*P **P 02 59 09.7 +0.1**
IKL Isikli 91.22 306 *e*P **P 02 59 09.9 +0.3**
TGL Tana Glacier 91.25 29 IAmb IAmb 02 59 13.9
comp=Z,71nm,0.7s
AKKU Akkuyu-Mersin 91.33 306 *e*P **P 02 59 10.7 +0.6**
SULT Sultanhani-AKS 91.33 308 *e*P **P 02 59 10.6 +0.4**
LFK Lefkose 91.35 305 *e*P **P 02 59 10.7 +0.4**
TEVE Tevekalti-Mers 91.41 306 *e*P **P 02 59 10.9 +0.3**
BALM Baldy 91.47 29 IAmb IAmb 02 59 15.0
comp=Z,71nm,0.7s
K27K Chicken 91.48 26 P **P 02 59 12.5 +2.3**
baz=272
K27K S **S 03 10 11.8 +5.2**
baz=272
CSS Mathiatis 91.52 305 IAMs_20 IAMs_20 03 45 31.5
comp=Z,5μm,22.0s
BCAR Beaver Creek A 91.65 27 P **P 02 59 10.2 -0.9**
AFSR Afar-Bala (An 91.66 309 *e*P **P 02 59 12.3 +0.6**
TEKE Tekeli-Mersin 91.68 306 *e*P **P 02 59 12.1 +0.4**
MESA MESA 91.70 30 IAMs_20 IAMs_20 03 40 41.9
comp=Z,5μm,22.0s
LEF Lefka 91.88 305⇑P **P 02 59 13.2 +0.5**
LEF Lefka 91.88 305 *e*P **P 02 59 12.9 +0.2**
LOD Lodumlu 91.88 310 *e*P **P 02 59 12.6 -0.1**
LADK Ladik-KONYA 92.23 308 *e*P **P 02 59 13.9 -0.5**
KONT Konya--Tatoy 92.24 308 *e*P **P 02 59 13.8 -0.6**
GAZI Gazipasa 92.32 306 *e*P **P 02 59 14.4 -0.4**
HOPEN Hopen 92.56 347 *e*P **P 02 59 12.2 -2.8**
HOPEN *e*PP **PP 03 02 54.8 -1.6**
HOPEN *e*SKSac **SKSac 03 09 49.1 +4.1**
PUL Pulkovo 92.57 330 *e*P **P 02 59 16.4 +1.1**
PUL Pulkovo 92.57 330⇓*e*P **P 02 59 17.0 +1.7**
PUL pmax pmax
comp=Z,93nm,1.0s
KIZT Kizilcal 92.59 309 *e*P **P 02 59 15.8 -0.3**
SVRH Sivrihisar-ESK 92.85 309 *e*P **P 02 59 17.4 +0.2**
KEV Kevo 92.99 340 P **P 02 59 16.7 -0.3**
KEV pmax pmax
comp=Z,28nm,0.9s
KEV MLR MLR
comp=Z,5μm,22.0s
KEV Kevo 92.99 340 P **P 02 59 16.7 -0.3**
KEV IAMs_20 IAMs_20 03 44 53.0
comp=Z,5μm,22.0s
MDUB Mudurnu 93.06 310 *e*P **P 02 59 18.2 0.0**
BOLV Bolvadin 93.33 309 IAmb IAmb 02 59 23.5
comp=Z,89nm,0.8s
SRCK Saricakaya, Es 93.52 310 *e*P **P 02 59 19.9 -0.3**
EPYK Eagle Plains 93.52 24 P **P 02 59 20.6 +1.0**
baz=277
ARCES ARCESS Array B 93.54 340 P **P 02 59 19.2 -0.4**
comp=Z,36nm,0.7s,baz=84,slow=5.5,SNR=45
ARCES PKKP **PKKPdf 03 16 26.0 -0.5**
comp=Z,2.1nm,0.9s,baz=250,slow=2.5,SNR=6.8
GULT Gulveren 93.59 310 *e*P **P 02 59 20.2 -0.4**
SHUT Suhut-Afyon 93.65 308 *e*P **P 02 59 21.1 +0.2**
ISP Isparta 93.70 308 IAMs_20 IAMs_20 03 46 46.2
comp=Z,5μm,22.0s
PURM Purcari 93.72 316⇑P **P 02 59 22.9 +2.0**
HYT Haines Junctio 93.85 29 IAmb IAmb 02 59 26.3
comp=Z,85nm,0.8s
HYT IAMs_20 IAMs_20 03 46 43.6
comp=Z,4μm,20.0s
AKASG Malin Array Be 93.86 321 P **P 02 59 21.2 -0.3**
comp=Z,30nm,0.6s,baz=68,slow=4.8,SNR=89
AKASG LR LR 03 45 47.2
comp=Z,3μm,21.1s,baz=80,slow=38
AKASG Malin Array Be 93.86 321 P **P 02 59 20.7 -0.7**
AKBB Malin Array Si 93.86 321 IAmb IAmb 02 59 27.1
comp=Z,54nm,0.8s
HAMF Hammerfest 93.97 341 *e*P **P 02 59 21.3 -0.3**
HAMF IVmB_BB 02 59 22.6
comp=Z,965nm,1.3s
HAMF *e*PP **PP 03 03 07.2 -0.4**
HAMF *e*SKSac **SKSac 03 09 50.9 -2.1**
HAMF IVMs_BB IVMs_BB 03 51 46.9
comp=Z,2μm,15.7s
SPA0 Spitsbergen Ar 94.00 349 IAmb IAmb 02 59 33.4
comp=Z,134nm,1.2s
SPA0 Spitsbergen Ar 94.00 349 *e*P **P 02 59 22.1 +0.5**
SPA0 *e*PP **PP 03 03 06.0 -1.7**
SPA0 *e*SKSac **SKSac 03 09 53.0 0.0**
SPITS Spitsbergen Ar 94.00 349 P **P 02 59 21.6 0.0**
comp=Z,44nm,0.7s,baz=120,slow=11,SNR=51
CAVI Cavuskoy 94.11 310 *e*P **P 02 59 23.0 +0.1**
ADVT Abdulvahap 94.18 310 *e*P **P 02 59 23.1 -0.1**
HRT Hereke 94.21 311 *e*P **P 02 59 22.9 -0.5**
ELL Elmali 94.24 307 *e*P **P 02 59 23.5 -0.2**
MBAR Mbarara 94.29 269 P **P 02 59 22.7 -1.7**
MBAR pmax pmax
comp=Z,27nm,0.8s
MBAR MLR MLR
comp=Z,6μm,20.0s
MBAR Mbarara 94.29 269 P **P 02 59 22.7 -1.7**
MICGM Minsk 94.34 325⇑*i*P **P 02 59 24.0 +0.4**
MICGM PM 02 59 25.0
comp=Z,0.8nm,1.0s
MICGM *e*pP **pP 02 59 34.0 -0.8**
MICGM *e*PP **PP 03 03 06.0 -4.9**
MICGM *e*PPP PPP 03 05 17.0
MICGM *e*SKS **SKSac 03 09 56.0 +0.4**
MICGM *e*S **S 03 10 28.0 -4.4**
MICGM *e*sS sS 03 11 10.0 +19
MICGM *e*SS SS 03 16 34.0 -20
MICGM *e*SSS SSS 03 20 26.0
MICGM *e*LR LR 03 36 42.0
MICGM LRM MLR 03 43 28.0
comp=Z,11nm,22.0s
MNK Minsk 94.34 325⇑*i*P **P 02 59 24.0 +0.4**
MNK *e* 02 59 34.0
MNK *e* 03 03 06.0
MNK *e* 03 05 17.0
MNK *e* 03 09 56.0
MNK *e*S **S 03 10 28.0 -4.4**
MNK pmax pmax
comp=Z,750nm,1.0s
MNK MLR MLR
comp=Z,11μm,22.0s
KIS Kishinev 94.41 317⇑*i*P **P 02 59 23.4 -0.7**
comp=Z,110nm,3.6s
KIS Kishinev 94.41 317 LRM MLR 03 45 40.0
comp=Z,500nm,19.0s
KIS Kishinev 94.41 317*c i*P **P 02 59 23.4 -0.7**
KIS *i* 03 09 55.0
KIS *e*S S 03 10 24.0 -9.3
KIS *e*PS PS 03 11 57.0 +3.4
KIS pmax pmax
comp=Z,350nm,10.0s
KIS MLR MLR
comp=Z,500nm,19.0s
KIS Kishinev 94.41 317 *e*PS PS 03 11 57.0 +3.4
KIS Kishinev 94.41 317 *e*LQ LQ 03 41 45.0
comp=Z,400nm,23.0s
MILM Milestii Mici 94.42 317⇑P **P 02 59 23.7 -0.4**
KTK1 Kautokeino 94.43 339 *e*P **P 02 59 23.1 -0.6**
KTK1 *e*SKSac **SKSac 03 09 54.7 -0.8**
TVSB Tavsanli 94.45 309 *e*P **P 02 59 24.1 -0.5**
FIA1 FINESS Array S 94.48 332 IAmb IAmb 02 59 26.1
comp=Z,48nm,0.8s
FINES FINESS Array B 94.48 332 P **P 02 59 23.5 -0.5**
comp=Z,41nm,0.8s,baz=71,slow=5.4,SNR=96
FINES PKiKP **PKiKP 03 04 08.6 +1.6**
comp=Z,6.7nm,0.9s,baz=101,slow=7.2,SNR=1.7
FINES PKKP **PKKPbc 03 16 25.0 -0.5**
comp=Z,2.4nm,0.9s,baz=147,slow=4.5,SNR=4.1
JURR Jurilovca 94.53 315⇑P **P 02 59 25.6 +0.9**
VSU Vasula 94.54 329 *e*P **P 02 59 25.4 +1.1**
VSU Vasula 94.54 329*d i*P **P 02 59 23.3 -1.1**
VSU pmax pmax
comp=Z,131nm,0.7s
VSU MLR MLR
comp=Z,26μm,21.0s
TLCR 94.55 315⇓P **P 02 59 25.5 +0.8**
HSPB Hornsund (broa 94.55 348 *e*P **P 02 59 24.4 +0.3**
HSPB *e*PP **PP 03 03 15.7 +3.7**
HSPB *e*L L 03 39 19.2
comp=Z,13μm,28.5s
HSPB Hornsund (broa 94.55 348 *e*P **P 02 59 24.4 +0.3**
HSPB IVmB_BB 02 59 26.1
comp=Z,759nm,1.2s
HSPB *e*PP **PP 03 03 09.2 -2.8**
HSPB *e*SKSac **SKSac 03 09 53.6 -2.2**
HSPB IVMs_BB IVMs_BB 03 46 22.9
comp=Z,3μm,23.7s
KBS Kingsbay 94.57 350 P **P 02 59 23.9 -0.3**
KBS pmax pmax
comp=Z,30nm,0.8s
KBS Kingsbay 94.57 350 P **P 02 59 23.9 -0.3**
KBS Kingsbay 94.57 350 *e*P **P 02 59 23.6 -0.5**
KBS IVmBBB 02 59 25.8
comp=Z,441nm,1.6s
KBS *e*PP **PP 03 03 09.9 -2.2**
KBS *e*SKSac **SKSac 03 09 53.3 -2.7**
KBS IVMs_BB IVMs_BB 03 42 39.7
comp=Z,2μm,24.2s
SORM Soroca 94.63 318⇑P **P 02 59 24.7 -0.3**
ISK Istanbul-Kandi 94.66 311 *e*P **P 02 59 24.9 -0.4**
KAVV Kandilli-Istan 94.66 311 *e*P **P 02 59 24.6 -0.7**
EFOR EFORIE 94.76 314⇑P **P 02 59 26.1 +0.4**
TSMN Mangalia Port- 94.81 314⇑P **P 02 59 26.7 +0.8**
MANR Mangalia 94.81 314⇓P **P 02 59 26.1 +0.1**
ARMT Armutlu 94.84 311 *e*P **P 02 59 25.9 -0.3**
TOPG Topolog 94.88 315⇓P **P 02 59 26.4 +0.1**
TIRR Tirgusor 94.89 314⇑P **P 02 59 26.1 -0.2**
MFTR Murfatlar 94.90 314⇓P **P 02 59 27.1 +0.7**
IDID Didziasalis 94.91 325 *e*P **P 02 59 26.4 +0.2**
NACGM Naroch 94.93 325 *e*P **P 02 59 26.0 -0.3**
NACGM PM 02 59 28.0
comp=Z,0.8nm,1.0s
NACGM *e*PP PP 03 03 28.0 +12
NACGM *e*PPP PPP 03 05 12.0
NACGM *e*SKS **SKSac 03 09 58.0 -0.7**
NACGM *e*S **S 03 10 31.0 -6.5**
NACGM *e*SS SS 03 17 15.0 +12
NACGM *e*SSS SSS 03 20 40.0
NACGM *e*LR LR 03 38 46.0
NACGM LRM MLR 03 43 44.0
comp=Z,11nm,20.0s
CFR Carcaliu 95.03 315⇑P **P 02 59 27.0 +0.1**
CTKS Kestanelik-??a 95.06 311 *e*P **P 02 59 26.5 -0.7**
SKAG Skagway 95.10 30 IAmb IAmb 02 59 32.5
comp=Z,120nm,1.0s
PSN Preselentsi 95.11 314 *i* P **P 02 59 26.9 -0.5**
IZAR Zarasai 95.14 326 *e*P **P 02 59 27.3 +0.1**
VASR Vaslui 95.14 317⇑P **P 02 59 28.2 +0.8**
TLBR Topalu 95.14 315⇑P **P 02 59 28.0 +0.5**
CVDA Cernavoda 95.17 314⇑P **P 02 59 28.7 +1.1**
VARL Varlezi 95.17 316⇓P **P 02 59 28.9 +1.3**
IIGN Ignalina 95.20 325 *e*P **P 02 59 27.7 +0.2**
CTYL Yalikoy Yolu 95.21 311 *e*P **P 02 59 27.6 -0.2**
HARR Harsova 95.21 315⇑P **P 02 59 28.1 +0.3**
ISAL Salakas 95.23 326 *e*P **P 02 59 27.9 +0.3**
IAS Iasi 95.25 317⇑P **P 02 59 27.9 0.0**
BIR Birlad 95.29 316⇑P **P 02 59 29.0 +0.8**
ICOR Ion Corvin 95.35 314⇑P **P 02 59 29.9 +1.4**
GHRR 95.46 316⇑P **P 02 59 29.8 +0.9**
BESE Bessie Mountai 95.47 31 IAmb IAmb 02 59 33.9
comp=Z,64nm,1.1s
TURN Turunc 95.58 307 *e*P **P 02 59 30.2 +0.6**
PETR Petresti 95.61 316⇑P **P 02 59 30.9 +1.3**
ODBI Odobesti 95.73 316⇑P **P 02 59 31.9 +1.7**
TRO Tromso 95.78 340 *e*P **P 02 59 29.1 -0.7**
TRO IVmB_BB 02 59 31.2
comp=Z,552nm,1.0s
TRO *e*PP **PP 03 03 21.8 +0.2**
TRO *e*SKSac **SKSac 03 09 59.0 -3.7**
TRO *e*SS **SS 03 17 14.5 +0.5**
TRO IVMs_BB IVMs_BB 03 50 34.5
comp=Z,2μm,20.2s
GRER 95.83 315⇑P **P 02 59 32.5 +1.9**
PGOR Pogoanele 95.86 315⇓P **P 02 59 31.7 +1.0**
TESR Tescani 95.94 317⇓P **P 02 59 31.4 +0.3**
VRI Vrincioaia 95.95 316⇑P **P 02 59 32.3 +1.1**
BISRR Bisoca 95.99 316⇑P **P 02 59 32.7 +1.3**
PLOR Plostina 96.00 316⇑P **P 02 59 32.0 +0.5**
PRAR RASCA 96.13 317⇑P **P 02 59 32.1 +0.2**
ISR Istrita 96.15 315⇑P **P 02 59 33.1 +1.0**
A36M Sachs Harbour 96.24 17 P **P 02 59 32.8 +0.9**
baz=289
BIZ Bicaz 96.26 317⇑P **P 02 59 33.1 +0.6**
NEHR Nehoiu 96.30 316⇑P **P 02 59 33.6 +0.8**
EDRB Edirne 96.33 312 *e*P **P 02 59 32.6 -0.4**
RAZG Razgrad 96.33 314⇑P **P 02 59 33.2 +0.2**
SULR 96.40 315⇑P **P 02 59 33.9 +0.7**
PABE Paberze 96.45 326 *e*P **P 02 59 33.1 -0.1**
DKL Dikili 96.45 309 *e*P **P 02 59 32.9 -0.7**
SECR 96.50 315⇑P **P 02 59 34.6 +0.9**
MLR Muntele Rosu 96.53 316 P **P 02 59 34.3 +0.3**
comp=Z,68nm,0.7s,baz=21,slow=1.7,SNR=138
MLR Muntele Rosu 96.53 316⇑P **P 02 59 34.5 +0.5**
MLR Muntele Rosu 96.53 316 IAmb IAmb 02 59 39.7
comp=Z,85nm,0.9s
LSZ Lusaka 96.54 255 P **P 02 59 33.1 -1.5**
LSZ pmax pmax
comp=Z,88nm,0.9s
LSZ Lusaka 96.54 255 P **P 02 59 33.0 -1.5**
LSZ IAmb IAmb 02 59 38.0
comp=Z,88nm,0.8s
OZUR 96.58 316⇓P **P 02 59 34.8 +0.7**
SGRR Singureni 96.65 314⇓P **P 02 59 35.3 +0.9**
SZH Strazhica 96.78 313 *i* P **P 02 59 35.2 +0.2**
BURAR Bucovina Array 96.78 318⇑P **P 02 59 35.9 +0.8**
BURAR Bucovina Array 96.78 318 P **P 02 59 34.1 -1.0**
NOR Nord 96.85 355 *i* P **P 02 59 35.6 +1.1**
comp=Z,36nm,1.1s
comp=Z,4μm,22.0s
NOR Nord 96.85 355 *i* P **P 02 59 35.6 +1.1**
NOR pmax pmax
comp=Z,36nm,1.1s
NOR MLR MLR
comp=Z,4μm,22.0s
SUW Suwalki 97.14 324 *e*P Pdif 02 59 36.5 +0.1
SUW *e*pP pP 02 59 45.2 -2.4
SUW *e*PP **PP 03 03 38.0 +5.4**
SUW *e*SKSac **SKSac 03 10 09.3 -1.1**
SUW *e*L L 03 44 07.5
comp=Z,8μm,24.8s
SUW Suwalki 97.14 324 IAMs_20 IAMs_20 03 45 17.1
comp=Z,5μm,20.0s
VOIR 97.17 316⇓P Pdif 02 59 36.9 0.0
COPA Copaceanca 97.20 314⇑P Pdif 02 59 37.0 0.0
LVV L'vov 97.27 320 *e*P Pdif 02 59 37.4 +0.3
LVV *e* 03 03 37.8
LVV *e*PPP PPP 03 05 48.4
LVV *e* 03 10 11.3
LVV *e*S **S 03 10 57.1 -0.9**
LVV MLR MLR
comp=E,2μm,20.0s

LVV				MLR	MLR	
	comp=N,2μm,23.0s					
LVV				MLR	MLR	
	comp=Z,3μm,24.0s					
NVL	**N'lazarevskaya**	**97.29 198**	*e*P		Pdif	02 59 37.9 +1.2
NVL			*e*S		**SKSac**	**03 10 12.4 +1.9**
NVL			*e*SS		**SS**	**03 17 36.1 +0.9**
NVL			*e*SSS		SSS	03 21 16.4
NVL			pmax		pmax	
	comp=Z,10.0nm,0.8s					
NVL			MLR		MLR	
	comp=Z,4μm,19.0s					
HUMR	**Humele**	**97.33 315**	⇑P		**P**	**02 59 37.4 -0.1**
KDZ	**Kurdzhali**	**97.34 312**	*i* P		Pdif	02 59 37.6 0.0
ARCR	**ARCALIA**	**97.44 317**	⇓P		Pdif	02 59 38.9 +1.0
ARR	**Arges**	**97.47 316**	⇓P		Pdif	02 59 38.4 +0.2
C36M	**Paulatuk**	**97.48 20**	P		Pdif	02 59 38.5 +0.9
	baz=290,SNR=22					
PBUR	**Paburge**	**97.50 327**	*e*P		**P**	**02 59 37.5 -0.4**
MDB	**Medias**	**97.54 316**	⇑P		Pdif	02 59 40.1 +1.6
STEI	**Steigen**	**97.56 339**	*e*P		**P**	**02 59 37.2 -0.6**
STEI			IVmB_BB			02 59 38.9
	comp=Z,929nm,1.2s					
STEI			*e*PP		**PP**	**03 03 29.1 -6.3**
STEI			*e*SKSac		**SKSac**	**03 10 07.9 -4.1**
STEI			*e*SS		**SS**	**03 17 35.2 -3.9**
STEI			IVMs_BB	IVMs_BB		03 46 40.2
	comp=Z,2μm,16.3s					
FAUS	**Fauske**	**97.71 338**	*e*P		**P**	**02 59 38.1 -0.5**
FAUS			IVmB_BB			02 59 39.8
	comp=Z,497nm,0.9s					
FAUS			*e*PP		**PP**	**03 03 35.2 -1.3**
FAUS			*e*SKSac		**SKSac**	**03 10 09.7 -3.1**
FAUS			*e*SS		**SS**	**03 17 41.6 +0.3**
FAUS			IVMs_BB	IVMs_BB		03 47 26.9
	comp=Z,3μm,19.3s					
VLAD	**Vladila**	**97.80 314**	⇑P		Pdif	02 59 40.1 +0.5
RZN	**Rozhen**	**97.85 312**	*i* P		**P**	**02 59 39.8 -0.3**
BMR	**Baia Mare**	**97.93 318**	⇑P		Pdif	02 59 41.1 +1.0
CJR	**Cluj-Napoca**	**98.00 317**	⇑P		Pdif	02 59 41.7 +1.2
LOT	**Lotru**	**98.06 316**	⇑P		Pdif	02 59 41.3 +0.4
LOF	**Lofoten**	**98.10 339**	*e*P		**P**	**02 59 39.0 -1.3**
LOF			IVmBBB			02 59 40.1
	comp=Z,688nm,2.5s					
LOF			*e*PP		**PP**	**03 03 37.3 -2.2**
LOF			*e*SKSac		**SKSac**	**03 10 12.8 -1.9**
LOF			*e*SS		**SS**	**03 17 49.5 +2.9**
LOF			IVMs_BB	IVMs_BB		03 44 25.6
	comp=Z,2μm,23.1s					
PGB	**Panagyurishte**	**98.16 313**	*i* P		**P**	**02 59 40.6 -0.7**
MPEP	**Malo Peshtene**	**98.36 314**	*i* P		Pdif	02 59 42.4 +0.3
IDI	**Anoyia**	**98.41 306**	P		Pdif	02 59 42.8 +0.2
	comp=Z,33nm,0.6s,baz=118,slow=5.5,SNR=9.2					
IDI			PKKP		**PKKPdf**	**03 16 16.7 -0.4**
	comp=Z,5.2nm,0.7s,baz=349,slow=6.0,SNR=5.9					
IDI	**Anoyia**	**98.41 306**	⇑P		**P**	**02 59 42.1 -0.5**
IDI	**Anoyia**	**98.41 306**	P		**P**	**02 59 41.4 -1.2**
IDI			IAmb		IAmb	02 59 46.8
	comp=Z,36nm,0.7s					
MOR8	**Moi Rana**	**98.42 337**	*e*P		**P**	**02 59 40.4 -1.4**
MOR8			IVmB_BB			02 59 41.9
	comp=Z,360nm,0.9s					
MOR8			*e*PP		**PP**	**03 03 41.5 -0.5**
MOR8			*e*SKSac		**SKSac**	**03 10 15.7 -0.8**
MOR8			*e*SS		**SS**	**03 17 47.8 -3.5**
MOR8			IVMs_BB	IVMs_BB		03 49 32.9
	comp=Z,3μm,19.2s					
LBTB	**Lobatse**	**98.45 245**	PKiKP		**PKiKP**	**03 04 16.5 +1.3**
	comp=Z,3.2nm,0.8s,baz=192,slow=3.7,SNR=1.8					
LBTB	**Lobatse**	**98.45 245**	P		**P**	**02 59 40.9 -2.2**
LBTB			IAmb		IAmb	03 03 13.2
	comp=Z,82nm,1.9s					
BOSA	**Boshof**	**98.47 241**	P		Pdif	02 59 43.9 +0.8
	comp=Z,11nm,0.9s,baz=91,slow=4.2,SNR=14					
BOSA			PKiKP		**PKiKP**	**03 04 15.8 +0.7**
	comp=Z,4.5nm,0.9s,baz=106,slow=5.2,SNR=1.7					
BOSA			LR		LR	03 38 42.4
	comp=Z,15μm,21.8s,baz=86,slow=32					
BOSA	**Boshof**	**98.47 241**	P		**P**	**02 59 40.8 -2.3**
KOLS	**Kolonicke sedl**	**98.54 319**	⇑*e*P		Pdif	02 59 42.8 0.0
KOLS			*e*			03 03 48.0
KOLS			*e*			03 10 15.0
KOLS	**Kolonicke sedl**	**98.54 319**	*e*PDIFF		Pdif	02 59 42.8 0.0
KOLS			*e*PP		**PP**	**03 03 48.0 +4.5**
SRE	**Strehaia**	**98.56 315**	⇓P		Pdif	02 59 44.0 +1.0
UZH	**Uzhgorod**	**98.58 319**	⇓*i*P		Pdif	02 59 43.6 +0.7
UZH			*i*			02 59 52.9
UZH			*i*			03 03 38.1
UZH			*e*			03 05 46.5
UZH			*i*			03 10 21.8
UZH			*i* S		**S**	**03 11 06.7 -2.4**
UZH			*e*			03 21 39.2
UZH			MLR		MLR	
	comp=N,1μm,20.0s					
UZH			MLR		MLR	
	comp=E,700nm,20.0s					
UZH			MLR		MLR	
	comp=Z,400nm,20.0s					
DEV	**Deva**	**98.60 316**	⇓P		Pdif	02 59 44.0 +0.8
KLNR	**Kaliningrad**	**98.74 325c**	*i* P		Pdif	02 59 43.9 +0.4
KLNR			pmax		pmax	
	comp=Z,157nm,0.7s					
KLNR			MLR		MLR	
	comp=Z,7μm,22.0s					
PUNG	**Punghina**	**98.81 315**	⇓P		Pdif	02 59 44.8 +0.7
VTS	**Vitosha**	**98.83 313**	*i* P		**P**	**02 59 44.1 -0.3**
BEL	**Belsk**	**98.95 322**	*e*P		Pdif	02 59 45.6 +1.1
BEL			*e*SKSac		**SKSac**	**03 10 20.8 +1.1**
BEL			*e*L		L	03 46 27.5
	comp=Z,8μm,23.2s					
KKB	**Krupnik**	**99.04 312**	*i* P		**Pdif**	**02 59 44.5 -0.7**
CRVS	**Cervenica-Dubn**	**99.07 319**	⇑*e*P		**Pdif**	**02 59 46.5 +1.3**
CRVS			*e*			03 03 52.8
CRVS			*e*			03 10 19.5
CRVS			MLR		MLR	
	comp=Z,6μm,25.4s					
CRVS	**Cervenica-Dubn**	**99.07 319**	*e*PDIFF		**Pdif**	**02 59 46.5 +1.3**
CRVS			*e*PP		**PP**	**03 03 52.8 +5.2**
HERR	**Herculane**	**99.09 315**	⇑P		**Pdif**	**02 59 46.0 +0.7**
RKT	**Rikitea**	**99.11 113**	*e*SKSac		**SKSac**	**03 10 20.1 -1.5**
	comp=Z,5μm,28.8s					
RKT	**Rikitea**	**99.11 113**	*e*LR		LR	03 32 06.0
	comp=Z,5μm,24.2s					
SIRR	**Siria**	**99.39 317**	⇑P		**Pdif**	**02 59 47.3 +0.6**
VAY	**Valandovo**	**99.50 312**	*i* P		**Pdif**	**02 59 46.4 -0.8**
BZS	**Buzias**	**99.53 316**	⇑P		**Pdif**	**02 59 47.4 +0.1**
MDVR	**Moldovita**	**99.60 315**	⇑P		**Pdif**	**02 59 48.3 +0.6**
NIE	**Niedzica**	**99.73 320**	*e*P		**Pdif**	**02 59 49.4 +1.3**
NIE			*e*PP		**PP**	**03 03 57.2 +4.7**
NIE			*e*SKSac		**SKSac**	**03 10 24.7 +0.9**
NIE			*e*L		L	03 46 21.9
	comp=Z,3μm,26.4s					
STIP	**Stip**	**99.73 312**	*i* P		**Pdif**	**02 59 46.1 -2.1**
KECS	**Kecovo**	**99.78 319**	*e*P		**Pdif**	**02 59 49.4 +1.0**
KECS	**Kecovo**	**99.78 319**	*e*PDIFF		**Pdif**	**02 59 49.4 +1.0**
OJC	**Ojcow**	**99.89 321**	*e*P		**Pdif**	**02 59 49.5 +0.7**
OJC			*e*PP		**PP**	**03 03 56.4 +2.6**
OJC			*e*SKSac		**SKSac**	**03 10 25.6 +1.2**
OJC			*e*L		L	03 48 06.0
	comp=Z,6μm,22.1s					
NSS	**Namsos**	**99.95 336**	*e*Pdif		**Pdif**	**02 59 42.4 -6.3**
NSS			*e*PP		**PP**	**03 03 56.2 +2.5**
NSS			*e*SKSac		**SKSac**	**03 10 23.9 -0.2**
NSS			IVMs_BB	IVMs_BB		03 48 20.2
	comp=Z,3μm,22.4s					
SKO	**Skopje**	**100.24 313**	*i* P		**Pdif**	**02 59 50.1 -0.5**
PSZ	**Piszkesteto**	**100.28 319**	⇓P		**Pdif**	**02 59 51.3 +0.6**
PSZ	**Piszkesteto**	**100.28 319**	IAMs_20	IAMs_20		03 50 29.9
	comp=Z,5μm,20.0s					
LANS	**Liptovska Anna**	**100.31 320**	*e*P		**Pdif**	**02 59 52.5 +1.7**
LANS	**Liptovska Anna**	**100.31 320**	*e*PDIFF		**Pdif**	**02 59 52.5 +1.7**
HFS	**Hagfors**	**100.69 332**	P		**Pdif**	**02 59 51.2 -0.9**
	comp=Z,19nm,0.7s,baz=90,slow=3.6,SNR=36					
GKP	**Gorka Klasztor**	**100.76 324**	*e*P		**Pdif**	**02 59 52.5 0.0**
GKP			*e*L		L	03 45 57.5
	comp=Z,7μm,25.3s					
VYHS	**Vyhne**	**100.86 319**	*e*P		**Pdif**	**02 59 53.6 +0.4**
VYHS			*e*			03 04 01.7
VYHS			MLR		MLR	
	comp=Z,6μm,26.8s					
VYHS	**Vyhne**	**100.86 319**	*e*PDIFF		**Pdif**	**02 59 53.6 +0.4**
VYHS			*e*PP		**PP**	**03 04 01.7 +0.6**
VYHS			*e*			03 13 16.1
VYHS			*e*SS		SS	03 19 06.4 +40
VYHS			*e*L		L	03 47 19.3
FRGS	**Fruska Gora**	**100.86 316**	⇑*i*P		**Pdif**	**02 59 53.4 +0.1**
DAG	**Danmarks Havn**	**100.92 352**	*i* P		**Pdif**	**02 59 52.9 +0.1**
	comp=Z,24nm,0.8s					
	comp=Z,4μm,22.0s					
DAG	**Danmarks Havn**	**100.92 352**	*i* P		**Pdif**	**02 59 52.9 +0.1**
DAG			pmax		pmax	
	comp=Z,24nm,0.8s					
DAG			MLR		MLR	
	comp=Z,4μm,22.0s					
DIVS	**Divibare**	**100.93 315**	⇑*i*P		**Pdif**	**02 59 53.8 +0.1**
SNAA	**Sanae**	**100.98 195**	P		**Pdif**	**02 59 54.8 +1.5**
SNAA	**Sanae**	**100.98 195**	P		**Pdif**	**02 59 54.3 +1.0**
	comp=Z,5.0nm,1.1s,baz=200,slow=6.0,SNR=19					
TBLU	**Trondheim**	**101.13 335**	*e*P		**Pdif**	**02 59 53.6 -0.4**
TBLU			*e*PP		**PP**	**03 04 01.5 -1.1**
TBLU			*e*SKSac		**SKSac**	**03 10 27.6 -2.4**
TBLU			IVMs_BB	IVMs_BB		03 49 51.4
	comp=Z,3μm,20.3s					
TEKS	**Tekeris**	**101.17 315**	*e*P		**Pdif**	**02 59 55.1 +0.4**
SRO2	**Moca**	**101.30 319**	*e*P		**Pdif**	**02 59 55.6 +0.5**
SRO2	**Moca**	**101.30 319**	*e*PDIFF		**Pdif**	**02 59 55.6 +0.5**
SRO	**Srobarova**	**101.34 319**	*e*P		**Pdif**	**02 59 56.7 +1.4**
SRO	**Srobarova**	**101.34 319**	*e*PDIFF		**Pdif**	**02 59 56.7 +1.4**
BBLS	**Lazići**	**101.39 315**	⇑*i*P		**Pdif**	**02 59 56.2 +0.5**
MORC	**Moravsky Berou**	**101.41 321**	⇑P		**Pdif**	**02 59 56.5 +0.9**
MORC	**Moravsky Berou**	**101.41 321**	⇑*i*PDIFF		**Pdif**	**02 59 56.6 +1.0**
MORC			*e*PP		**PP**	**03 04 07.1 +1.8**
MORC			*e*SKS		**SKSac**	**03 10 31.9 0.0**
MORC	**Moravsky Berou**	**101.41 321**	IAMs_20	IAMs_20		03 48 58.3
	comp=Z,5μm,22.0s					
MORH	**Mrgy, Hungar**	**101.46 317**	⇑*i*P		**Pdif**	**02 59 55.7 -0.1**
RUDO	**Rudo**	**101.46 314**	*e*P		**Pdif**	**02 59 55.1 -0.8**
NC602	**NORSAR Array S**	**101.49 333**	*e*Pdif		**Pdif**	**02 59 54.3 -1.4**
NC602			IVmB_BB			03 00 05.3
	comp=Z,356nm,3.9s					
NC602			*e*PP		**PP**	**03 04 02.2 -3.2**
NC602			*e*SKSac		**SKSac**	**03 10 30.0 -1.7**
NC602			*e*SP		SP	03 13 06.9 +2.8
NC602			IVMs_BB	IVMs_BB		03 46 21.6
	comp=Z,3μm,23.2s					
TIR	**Tirane**	**101.51 312**	⇓P		**Pdif**	**02 59 56.3 +0.1**
NB2	**NORSAR Subarra**	**101.53 333**	P		**Pdif**	**02 59 55.0 -0.9**
	comp=Z,41nm,1.1s,baz=70,slow=4.4					
NB2	**NORSAR Subarra**	**101.53 333**	P		**Pdif**	**02 59 55.0 -0.9**
	baz=70,slow=4.4					
NOA	**NORSAR Array B**	**101.53 333**	P		**Pdif**	**02 59 55.0 -0.9**
	comp=Z,15nm,0.9s,baz=77,slow=4.3,SNR=36					
NC204	**NORSAR Array S**	**101.65 333**	Pdif		**Pdif**	**02 59 55.8 -0.7**
PDG	**Podgorica**	**101.76 313**	⇓P		**Pdif**	**02 59 57.4 +0.1**
PDG	**Podgorica**	**101.76 313**	⇑*i*P		**Pdif**	**02 59 56.9 -0.4**
KRLC	**Kraliky**	**101.81 321**	*e*PDIFF		**Pdif**	**02 59 58.4 +1.0**
KRLC			*e*PP		**PP**	**03 04 12.7 +4.4**
KRLC			*e*x		x	03 19 23.8
KRLC			AMS		AMS	03 47 50.0
	comp=Z,6μm,22.8s					
KRLC	**Kraliky**	**101.81 321**	*e*P		**Pdif**	**02 59 58.4 +1.0**
KRLC			*e*			03 04 12.7
KRLC			MLR		MLR	
	comp=Z,6μm,22.8s					
DRME	**Dracevica, Mon**	**101.86 313**	⇑*i*P		**Pdif**	**02 59 57.4 -0.3**
SUR	**Sutherland**	**101.87 237**	P		**Pdif**	**02 59 59.3 +1.0**
	comp=Z,7.1nm,0.7s,baz=108,slow=6.9,SNR=7.6					
MODS	**Modra-Piesok**	**101.90 320**	⇑*e*P		**Pdif**	**02 59 57.7 -0.1**
MODS			*e*			03 04 08.3
MODS			*e*			03 10 33.0
MODS			MLR		MLR	
	comp=Z,7μm,25.9s					
MODS	**Modra-Piesok**	**101.90 320**	*e*PDIFF		**Pdif**	**02 59 57.7 -0.1**
MODS			*e*PP		**PP**	**03 04 08.3 -0.7**
MODS	**Modra-Piesok**	**101.90 320**	*e*L		L	03 47 51.0
MODS	**Modra-Piesok**	**101.90 320**	⇑*e*SKSp		**SKSac**	**03 10 33.0 -1.3**
MODS	**Modra-Piesok**	**101.90 320**	*e*			03 13 30.1
MODS	**Modra-Piesok**	**101.90 320**	*e*SS		SS	03 19 17.1 +36
KSP	**Ksiaz**	**101.92 322**	*e*P		**Pdif**	**02 59 59.0 +1.2**
KSP			*e*PP		**PP**	**03 04 10.7 +1.6**
KSP			*e*SKSac		**SKSac**	**03 10 33.3 -0.9**
KSP			*e*SP		SP	03 13 09.6 +0.4
KSP			*e*L		L	03 48 11.3
	comp=Z,7μm,22.4s					
DPC	**Dobruska-Polom**	**102.03 322**	*e*PDIFF		**Pdif**	**02 59 59.1 +0.7**
DPC			*e*PP		**PP**	**03 04 09.1 -0.8**
DPC			*e*x		x	03 19 20.9
DPC			AMS		AMS	03 48 10.0
	comp=Z,8μm,22.7s					
DPC	**Dobruska-Polom**	**102.03 322**	*e*P		**Pdif**	**02 59 59.1 +0.7**
DPC			*e*			03 04 09.1
DPC			MLR		MLR	
	comp=Z,8μm,22.7s					
OSTC	**Ostas**	**102.05 322**	*e*PDIFF		**Pdif**	**02 59 59.5 +1.1**
OSTC			*e*PP		**PP**	**03 04 05.6 -4.4**
OSTC			*e*SS		SS	03 19 21.0 +38
OSTC			AMS		AMS	03 48 00.0
	comp=Z,9μm,23.1s					
DOMB	**Dombas**	**102.11 334**	*e*P		**Pdif**	**02 59 58.4 0.0**
DOMB			*e*PP		**PP**	**03 04 08.1 -2.0**
DOMB			*e*SKSac		**SKSac**	**03 10 33.1 -1.6**
DOMB			*e*SS		**SS**	**03 18 45.8 +2.8**
DOMB			IVMs_BB	IVMs_BB		03 49 23.9
	comp=Z,4μm,21.7s					
VRAC	**Vranov**	**102.12 321**	P		**Pdif**	**02 59 59.6 +0.9**
	comp=Z,17nm,0.8s,baz=72,slow=4.3,SNR=19					
VRAC	**Vranov**	**102.12 321**	⇑P		**Pdif**	**02 59 60.0 +1.2**
VRAC	**Vranov**	**102.12 321**	⇑*i*PDIFF		**Pdif**	**02 59 59.9 +1.2**
VRAC			*e*PP		**PP**	**03 04 10.4 -0.2**
VRAC			*e*SKS			03 10 37.2
OSL	**Oslo**	**102.16 332**	*e*Pdif		**Pdif**	**02 59 58.9 +0.3**
OSL			IVMs_BB	IVMs_BB		03 50 55.0
	comp=Z,2μm,19.2s					
UPC	**Upice**	**102.18 322**	*e*PDIFF		**Pdif**	**03 00 00.0 +1.0**
UPC			*e*PP		**PP**	**03 04 09.1 -1.9**
UPC			*e*SS		SS	03 19 24.8 +40
UPC			AMS		AMS	03 48 00.0
	comp=Z,9μm,22.9s					
UPC	**Upice**	**102.18 322**	*e*P		**Pdif**	**03 00 00.0 +1.0**
UPC			*e*			03 04 09.1
UPC			MLR		MLR	
	comp=Z,9μm,22.9s					
BRY	**Bratogost**	**102.19 314**	⇑*i*P		**Pdif**	**02 59 58.6 -0.8**
KRUC	**Moravsky**	**102.30 320**	⇑*i*PDIFF		**Pdif**	**03 00 00.5 +1.0**
KRUC			*e*PP		**PP**	**03 04 12.2 +0.2**
KRUC			*e*SKS			03 10 38.1
TREB	**Trebinje**	**102.36 314**	*e*P		**Pdif**	**02 59 59.4 -0.6**
MOL	**Molde**	**102.54 335**	*e*P		**Pdif**	**03 00 00.8 +0.6**
MOL			*e*SKSac		**SKSac**	**03 10 35.6 -1.0**
MOL			IVMs_BB	IVMs_BB		03 54 45.0
	comp=Z,3μm,18.1s					
VNA2	**Neumayer--Watz**	**102.60 194**	P		**Pdif**	**02 59 58.2 -2.2**
BEHE	**Becsehely**	**102.67 318**	⇑*i*P		**Pdif**	**03 00 04.9 +3.7**
BLY	**Banja Luka**	**102.77 316**	⇑*i*P		**Pdif**	**03 00 02.2 +0.5**
KONO	**Kongsberg**	**102.79 332**	*e*Pdif		**Pdif**	**02 59 59.9 -1.5**
KONO			IVmB_BB			03 00 05.5
	comp=Z,406nm,1.9s					
KONO			*e*PP		**PP**	**03 04 15.6 +0.4**
KONO			*e*SKSac		**SKSac**	**03 10 38.2 +0.2**
KONO			*e*SS		**SS**	**03 18 52.3 0.0**
KONO			IVMs_BB	IVMs_BB		03 51 23.8
	comp=Z,3μm,21.9s					
TREC	**Trest**	**102.82 321**	*e*PDIFF		**Pdif**	**03 00 02.7 +0.8**
TREC			*e*PP		**PP**	**03 04 16.2 +0.3**
TREC			*e*x		x	03 19 17.4
TREC			AMS		AMS	03 48 20.0
	comp=Z,6μm,23.0s					
TREC	**Trest**	**102.82 321**	*e*P		**Pdif**	**03 00 02.7 +0.8**
TREC			*e*			03 04 16.2
TREC			MLR		MLR	
	comp=Z,6μm,23.0s					
CONA	**Conrad Observa**	**102.92 319**	*i* Pdiff		**Pdif**	**03 00 03.1 +0.6**
	comp=Z,13nm,1.2s,SNR=8.8					
CONA			*i* PKiKP		**PKiKP**	**03 04 21.6 -0.9**
	comp=Z,26nm,1.2s					
CONA			*i* PKKPdf		**PKKPbc**	**03 16 02.8 +1.2**
	comp=Z,6.1nm,1.0s					
VNA3	**Neumayer Olymp**	**102.94 194**	P		**Pdif**	**02 59 59.9 -2.0**
RUE	**Ruedersdorf**	**102.99 324**	*e*P		**Pdif**	**02 59 59.9 -2.5**
SKAR	**Skarslia**	**102.99 333**	*e*Pdif		**Pdif**	**03 00 02.0 -0.4**
SKAR			IVmB_BB			03 00 15.4
	comp=Z,445nm,2.7s					
SKAR			*e*PP		**PP**	**03 04 14.5 -2.2**
SKAR			*e*SKSac		**SKSac**	**03 10 32.8 -6.2**
SKAR			*e*PS		PS	03 13 27.1 +1.3
SKAR			IVMs_BB	IVMs_BB		03 49 44.5
	comp=Z,4μm,18.3s					
KOGS	**Kog**	**103.03 318**	*e*Pdiff		**Pdif**	**03 00 03.4 +0.6**
KOGS			*ep*Pdiff		**pPdif**	**03 00 13.2 -0.8**
KOGS			*e*SKSac		**SKSac**	**03 10 38.1 -1.5**
PVCC	**Panska Ves**	**103.07 322**	*e*PDIFF		**Pdif**	**03 00 03.9 +1.0**
PVCC			*e*PP		**PP**	**03 04 12.7 -4.9**
PVCC			*e*x		x	03 19 18.9
PVCC			AMS		AMS	03 48 40.0
	comp=Z,6μm,21.4s					
PVCC	**Panska Ves**	**103.07 322**	*e*P		**Pdif**	**03 00 03.9 +1.0**
PVCC			*e*			03 04 12.7
PVCC			MLR		MLR	
	comp=Z,6μm,21.4s					
GOPC	**GO Pecny, Ondr**	**103.10 321**	*e*PDIFF		**Pdif**	**03 00 04.1 +1.0**
GOPC			*e*PP		**PP**	**03 04 16.2 -1.7**
GOPC			*e*x		x	03 19 21.4
GOPC			AMS		AMS	03 48 50.0
	comp=Z,8μm,23.3s					
GOPC	**GO Pecny, Ondr**	**103.10 321**	*e*P		**Pdif**	**03 00 04.1 +1.0**
GOPC			*e*			03 04 16.2
GOPC			MLR		MLR	
	comp=Z,8μm,23.3s					
PRU	**Pruhonice**	**103.23 322**	*e*PDIFF		**Pdif**	**03 00 04.6 +1.0**
PRU			*e*PP		**PP**	**03 04 18.0 -0.9**
PRU			*e*x		x	03 19 17.6
PRU			AMS		AMS	03 48 50.0
	comp=Z,8μm,22.6s					
PRU	**Pruhonice**	**103.23 322**	*e*P		**Pdif**	**03 00 04.6 +1.0**
PRU			*e*			03 04 18.0
PRU			*e*SS		SS	03 19 17.6 +19
PRU			MLR		MLR	
	comp=Z,8μm,22.6s					
JMIC	**Jan Mayen**	**103.26 346**	*e*Pdif		**Pdif**	**02 59 59.7 -3.6**
JMIC			*e*PP		**PP**	**03 04 18.9 +0.5**
JMIC			*e*SKSac		**SKSac**	**03 10 42.2 +2.5**
JMIC			*e*SP		**SP**	**03 13 24.6 +2.3**
JMIC			IVMs_BB	IVMs_BB		03 43 11.8
	comp=Z,2μm,24.2s					
PRA	**Prague**	**103.28 322**	*e*PDIFF		**Pdif**	**03 00 06.9 +3.1**
PRA			*e*PP		**PP**	**03 04 19.8 +0.6**
PRA			*e*x		x	03 19 21.7
PRA			AMS		AMS	03 48 40.0
	comp=Z,3μm,21.9s					
PRA	**Prague**	**103.28 322**	*e*P		**Pdif**	**03 00 06.9 +3.1**
PRA			*e*			03 04 19.8
PRA			MLR		MLR	
	comp=Z,3μm,21.9s					
ARSA	**Arzberg**	**103.31 319**	*i* Pdiff		**Pdif**	**03 00 05.1 +1.0**
	comp=Z,15nm,1.0s,SNR=8.5					
BRG	**Berggiesshubel**	**103.35 323**	⇑*i*P		**Pdif**	**03 00 05.1 +0.9**
	comp=Z,51nm,1.2s					
BRG			*e*			03 00 10.5
	comp=Z,32nm,0.9s					
BRG			*e*			03 00 16.4
	comp=Z,33nm,1.4s					
BRG			*e*			03 00 27.4
	comp=Z,26nm,1.3s					
BRG			PP		PKiKP	03 04 33.4 +10
	comp=Z,22nm,1.3s					
BRG			SKS		**SKSac**	**03 10 46.0 +5.0**
BRG			SP		SP	03 13 34.0 +10
BRG			SS		**SKKPbc**	**03 19 43.0 +3.7**
BRG			SKKS		**SKKSdf**	**03 23 21.0 +3.9**
	comp=Z,5μm,22.3s					
	comp=N,3μm,20.0s					
	comp=E,3μm,20.0s					
BRG	**Berggiesshubel**	**103.35 323**	⇑*i*P		**Pdif**	**03 00 05.1 +0.9**
BRG						03 10 46.0
BRG			SP		SP	03 13 34.0 +10
BRG			pmax		pmax	
	comp=Z,51nm,1.2s					
BRG			pmax		pmax	
	comp=Z,32nm,0.9s					
BRG			pmax		pmax	
	comp=Z,33nm,1.4s					
BRG			pmax		pmax	
	comp=Z,26nm,1.3s					
BRG			pmax		pmax	
	comp=Z,23nm,1.3s					
BRG			MLR		MLR	
	comp=Z,5μm,22.3s					
BRG			MLR		MLR	
	comp=N,3μm,20.0s					
BRG			MLR		MLR	
	comp=E,3μm,20.0s					
BRG	**Berggiesshubel**	**103.35 323**	*e*P		**Pdif**	**03 00 05.5 +1.4**
	baz=71,slow=4.3					
TULEG	**Thule**	**103.37 3**	IAMs_20	IAMs_20		03 46 44.4
	comp=Z,4μm,22.0s					
GCIS	**Gornji Cirnik**	**103.58 317**	*e*Pdiff		**Pdif**	**03 00 06.3 +1.0**
GCIS			*e*			03 04 27.8
CRES	**Cresnjev**	**103.71 317**	⇑*i*P		**Pdif**	**03 00 06.6 +0.7**
HYA	**Hoyanger**	**103.72 334**	*e*Pdif		**Pdif**	**03 00 05.7 +0.1**
YKA	**Yellowknife Ar**	**103.78 24**	Pdiff		**Pdif**	**03 00 07.3 +1.5**
	comp=Z,9.4nm,1.1s,baz=303,slow=4.9,SNR=10					
YKA			PKiKP		**PKiKP**	**03 04 25.1 +1.6**
	comp=Z,2.5nm,0.8s,baz=356,slow=15,SNR=13					
YKA			PKKPbc		**PKKPbc**	**03 15 57.8 -1.5**
	comp=Z,3.8nm,0.8s,baz=98,slow=2.2,SNR=9.5					
SOKA	**Soboth**	**103.78 318**	*i* Pdiff		**Pdif**	**03 00 07.0 +0.7**
	comp=Z,14nm,0.9s,SNR=6.7					
SOKA			*i* PKiKP		**PKiKP**	**03 04 24.7 +0.5**
	comp=Z,19nm,1.2s					
SOKA			*i* PKKPdf		**PKKPdf**	**03 16 08.5 +0.9**
	comp=Z,5.4nm,1.4s					
CLL	**Collm**	**103.79 323**	*i* Pdif		**Pdif**	**03 00 06.4 +0.3**
	comp=Z,30nm,1.1s					
CLL

OBKA *i* PP **PP** **03 04 26.1 +0.1**
comp=Z,14nm,1.2s
OBKA *i* PKKPbc **PKKPbc** **03 15 55.8 -2.1**
comp=Z,7.7nm,1.6s
GBRS Gornja Briga 104.22 317 *i* Pdiff **Pdif** **03 00 09.0 +0.8**
GBRS *i* pPdiff **pPdif** **03 00 18.4 -1.0**
TIP Timpagrande 104.25 310 ⇓P **Pdif** **03 00 09.3 +0.8**
TIP Timpagrande 104.25 310 IAMs_20 IAMs_20 03 54 04.8
comp=Z,4μm,22.0s
LJU Ljubljana 104.28 318 *i* Pdiff **Pdif** **03 00 09.2 +0.8**
LJU *i* pPdiff **pPdif** **03 00 19.0 -0.7**
LJU *e* 03 04 33.2
LJU *e*SKSac **SKSac** **03 10 44.6 -0.9**
LJU *e*PS PS 03 13 41.7 +1.8
LJU Ljubljana 104.28 318 ⇑*i*P **Pdif** **03 00 08.9 +0.5**
BLS5 Blasjo 104.35 332 *e*Pdif **Pdif** **03 00 07.6 -0.8**
BLS5 *e*PP **PP** **03 04 26.7 -0.2**
BLS5 *e*SKSac **SKSac** **03 10 41.6 -3.6**
BLS5 *e*SS **SS** **03 19 16.6 +2.8**
BLS5 IVMs_BB IVMs_BB 03 49 56.5
comp=Z,3μm,24.5s
CEY Cerknica 104.43 317 ⇑*i*P **Pdif** **03 00 09.7 +0.6**
BER Bergen 104.44 334 *e*Pdif **Pdif** **03 00 08.2 -0.5**
BER *e*PP **PP** **03 04 26.7 -0.7**
BER *e*SKSac **SKSac** **03 10 48.2 +2.7**
BER *e*SP **SP** **03 13 31.8 -3.3**
BER *e*SS **SS** **03 19 18.3 +3.4**
BER IVMs_BB IVMs_BB 03 50 38.4
comp=Z,5μm,20.2s
NKC Novy Kostel 104.45 322 *e*PDIFF **Pdif** **03 00 09.3 +0.2**
NKC *e*PP **PKiKP** **03 04 19.8 -5.4**
NKC *ex* x 03 19 39.7
NKC AMS AMS 03 56 30.0
comp=Z,6μm,20.4s
NKC Novy Kostel 104.45 322 *e*P **Pdif** **03 00 09.3 +0.2**
NKC MLR MLR
comp=Z,6μm,20.4s
A04D Lummi Island 104.71 39 P **Pdif** **03 00 10.2 0.0**
baz=287
MYKA Terra Mystica 104.72 318 *i* Pdiff **Pdif** **03 00 10.4 -0.1**
comp=Z,6.6nm,0.7s
MYKA *i* PP **PP** **03 04 29.5 -0.6**
comp=Z,7.9nm,0.9s
KBA Koelnbreinsper 104.79 319 *i* Pdiff **Pdif** **03 00 11.0 +0.1**
comp=Z,8.9nm,1.1s
D03D Eldon 104.80 41 P **Pdif** **03 00 10.3 -0.3**
baz=286
PRED Cave del Predi 104.82 318 IAMs_20 IAMs_20 03 55 14.0
comp=Z,4μm,21.0s
ROBS Robic 104.91 318 *e*Pdiff **Pdif** **03 00 10.9 -0.3**
ROBS *e*SKSac **SKSac** **03 10 46.4 -1.9**
D04E Lakebay 105.11 41 P **Pdif** **03 00 11.8 -0.2**
baz=286
ZOU Zoufplan 105.18 318 IAMs_20 IAMs_20 03 57 17.6
comp=Z,4μm,22.0s
F04D Rainier, OR 105.25 42 P **PKiKP** **03 04 27.5 +0.8**
baz=286
GRA1 Grafenberg Arr 105.37 322 IAMs_20 IAMs_20 03 57 44.1
comp=Z,4μm,19.0s
J01E Myrtle Point 105.39 45 P **PKiKP** **03 04 27.9 +0.9**
baz=284
E04D Cinebar 105.42 41 P **PKiKP** **03 04 27.8 +0.8**
baz=286
ABTA Abfaltersbach 105.44 319 *i* Pdiff **Pdif** **03 00 13.7 +0.1**
comp=Z,6.9nm,0.7s
ABTA *i* PKiKP **PKiKP** **03 04 27.3 +0.1**
comp=Z,6.7nm,1.0s
ABTA *i* PKKPab **PKKPab** **03 16 10.8 +0.5**
comp=Z,6.4nm,1.4s
COR Corvallis 105.46 44 IAMs_20 IAMs_20 03 42 22.9
comp=Z,4μm,21.0s
PAOL Paolisi 105.48 313 IAMs_20 IAMs_20 03 55 04.3
comp=Z,5μm,22.0s
B06A Marblemount 105.54 39 IAMs_20 IAMs_20 03 47 06.8
comp=Z,4μm,20.0s
CIMO Cimolais 105.61 318 IAMs_20 IAMs_20 03 55 26.7
comp=Z,4μm,21.0s
I03D Drain, OR 105.66 44 P **PKiKP** **03 04 27.7 +0.2**
baz=285
K02D Willamette Mer 105.70 46 P **PKiKP** **03 04 28.5 +0.7**
baz=285
INTR Introdacqua 105.73 314 IAMs_20 IAMs_20 03 56 07.7
comp=Z,3μm,22.0s
KRMB Red Mountain 105.81 47 IAMs_20 IAMs_20 03 46 16.3
comp=Z,3μm,21.0s
WTTA Wattenberg 105.86 319 *i* Pdiff **Pdif** **03 00 16.1 +0.5**
comp=Z,28nm,1.0s,SNR=9.4
WTTA *i* PKiKP **PKiKP** **03 04 28.6 +0.5**
comp=Z,14nm,0.8s
WTTA *i* PKKPab **PKKPab** **03 16 11.2 +2.7**
comp=Z,12nm,1.4s
H04D Lebanon 105.87 43 P **PKiKP** **03 04 28.5 +0.6**
baz=286
WATA Walderalm 105.87 320 *i* Pdiff **Pdif** **03 00 16.0 +0.4**
comp=Z,36nm,1.7s,SNR=9.2
WATA *i* PKiKP **PKiKP** **03 04 26.6 -1.5**
comp=Z,22nm,1.3s
L02E Cave Junction 105.88 46 P **PKiKP** **03 04 27.7 -0.4**
baz=284
AQU L'Aquila 106.01 314 ⇑*i*P **Pdif** **03 00 16.6 +0.3**
AQU L'Aquila 106.01 314 IAMs_20 IAMs_20 03 53 47.9
comp=Z,3μm,22.0s
NRCA Norcia 106.09 315 IAMs_20 IAMs_20 03 55 43.1
comp=Z,4μm,20.0s
KHMM Horse Mountain 106.10 47 IAMs_20 IAMs_20 03 46 44.1
comp=Z,3μm,20.0s
SQTA Sankt Quirin 106.15 320 *i* Pdiff **Pdif** **03 00 16.9 +0.1**
comp=Z,23nm,1.0s,SNR=8.8
SQTA *i* PP **PP** **03 04 41.9 +1.2**
comp=Z,38nm,2.1s
SQTA *i* PKKPab **PKKPab** **03 16 10.2 +3.1**
comp=Z,14nm,1.4s
MOTA Moosalm 106.18 320 *i* Pdiff **Pdif** **03 00 17.2 +0.1**
comp=Z,23nm,0.9s,SNR=12
MOTA *i* PKiKP **PKiKP** **03 04 23.3 -5.4**
comp=Z,27nm,1.7s
MOTA *i* PKKPab **PKKPab** **03 16 10.0 +2.9**
comp=Z,9.5nm,1.4s
H04A Detroit Lake 106.20 43 IAMs_20 IAMs_20 03 42 44.6
comp=Z,3μm,21.0s
HUMO Hull Mountain 106.22 45 IAMs_20 IAMs_20 03 41 25.3
comp=Z,3μm,22.0s
I04A Tendick Farm, 106.29 44 P **PKiKP** **03 04 29.3 +0.5**
baz=286
F05D White Salmon 106.35 42 P **PKiKP** **03 04 28.6 -0.3**
baz=287
RETA Reutte 106.35 320 *i* Pdiff **Pdif** **03 00 18.1 +0.4**
comp=Z,8.9nm,1.1s
RETA *i* PP **PP** **03 04 46.0 +3.8**
comp=Z,14nm,1.0s
RETA *i* PKKPab **PKKPab** **03 16 09.1 +2.9**
comp=Z,4.1nm,1.1s
FETA Feichten 106.52 319 *i* Pdiff **Pdif** **03 00 18.6 +0.1**
comp=Z,19nm,1.0s,SNR=5.2
FETA *i* pPKiKP **pPKiKP** **03 04 37.7 -3.4**
comp=Z,8.4nm,1.0s
FETA *i* PKKPdf **PKKPbc** **03 15 55.6 +4.9**
comp=Z,7.6nm,1.4s
SCO Scoresbysund 106.59 349 IAMs_20 IAMs_20 03 51 37.7
comp=Z,5μm,22.0s
M02C Callahan 106.61 47 P **PKiKP** **03 04 30.1 +0.5**
baz=285
YBH Yreka Blue Hor 106.63 46 IAMs_20 IAMs_20 03 44 49.0
comp=Z,4μm,22.0s
G05D Wamic, OR 106.63 42 P **PKiKP** **03 04 29.8 +0.4**
baz=287
J04D Umpqua Nationa 106.66 45 P **PKiKP** **03 04 29.6 -0.2**
baz=286
L04D Klamath Falls 106.79 46 P **PKiKP** **03 04 30.5 +0.6**
baz=285
N02D Trinity Center 106.83 47 P **PKiKP** **03 04 30.7 +0.8**
baz=285
B08A Colville Reser 106.95 39 IAMs_20 IAMs_20 03 47 52.0
comp=Z,4μm,21.0s
FUORN Ofenpass-Fuorn 106.95 319 IAMs_20 IAMs_20 03 57 15.2
comp=Z,4μm,21.0s
O02D Mt. Diablo Mer 106.97 48 P **PKiKP** **03 04 30.7 +0.5**
baz=284
DAVA Damuels 106.99 320 *i* Pdiff **Pdif** **03 00 21.9 +1.3**
comp=Z,7.3nm,0.8s
DAVA *i* PKiKP **PKiKP** **03 04 31.7 +1.5**
comp=Z,16nm,0.8s
DAVA *i* PKKPab **PKKPab** **03 16 03.0 -0.4**
comp=Z,5.6nm,1.0s
HOPS Hopland Field 107.05 49 IAMs_20 IAMs_20 03 54 21.4
comp=Z,3μm,20.0s
WDC Whiskeytown Da 107.05 47 IAMs_20 IAMs_20 03 43 50.3
comp=Z,4μm,22.0s
DAVOX Davos/Dischmat 107.15 319 Pdiff **Pdif** **03 00 22.5 +1.1**
comp=Z,13nm,0.6s,baz=95,slow=6.4,SNR=29
DAVOX PKiKP **PKiKP** **03 04 32.0 +1.5**
comp=Z,5.1nm,0.7s,baz=246,slow=6.2,SNR=2.7
ZCCA Zocca 107.16 317 IAMs_20 IAMs_20 03 54 05.4
comp=Z,4μm,22.0s
E07A Sunnyside 107.20 41 IAMs_20 IAMs_20 03 48 07.9
comp=Z,3μm,21.0s
M04C Macdoel 107.24 46 P **PKiKP** **03 04 31.9 +1.2**
baz=286
J05D Fort Rock, OR 107.26 44 P **PKiKP** **03 04 31.0 +0.2**
baz=286
GDXM Geysers 107.30 49 IAMs_20 IAMs_20 03 54 28.1
comp=Z,4μm,19.0s
MCCM Marconi Confer 107.39 50 IAMs_20 IAMs_20 03 50 39.7
comp=Z,4μm,20.0s
HAWA Hanford 107.47 41 IAMs_20 IAMs_20 03 48 15.8
comp=Z,4μm,20.0s
PRMA PARMA 107.49 317 IAMs_20 IAMs_20 03 56 46.8
comp=Z,4μm,22.0s
BFO Black Forest 107.62 321 IAMs_20 IAMs_20 03 53 04.7
comp=Z,4μm,21.0s
VLC Villacollemand 107.62 317 IAMs_20 IAMs_20 03 54 30.4
comp=Z,4μm,22.0s
D08A Wollman Farm, 107.64 40 IAMs_20 IAMs_20 03 48 10.5
comp=Z,4μm,20.0s
O03E Paynes Creek 107.67 48 P **PKiKP** **03 04 31.3 -0.2**
baz=285
E08A Dider Farm, El 107.74 41 IAMs_20 IAMs_20 03 48 25.2
comp=Z,4μm,20.0s
C09A Chrisman Ranch 107.81 39 IAMs_20 IAMs_20 03 48 26.7
comp=Z,4μm,22.0s
MEM Membach 108.19 324 PP **PP** **03 04 58.0 +2.7**
BHOU Houvegnez 108.29 324 PP **PP** **03 04 59.2 +3.1**
E09A Wood Farm, Sta 108.33 40 IAMs_20 IAMs_20 03 48 52.7
comp=Z,4μm,21.0s
NEW Newport 108.36 38 P **PKiKP** **03 04 33.0 +0.4**
baz=291
NEW Newport 108.36 38 IAMs_20 IAMs_20 03 48 47.5
comp=Z,3μm,21.0s
WLF Walferdange 108.47 323 PP PP 03 05 05.3 +7.9
SAO San Andreas Ge 108.84 51 IAMs_20 IAMs_20 03 49 15.9
comp=Z,3μm,20.0s
SENIN Lac Senin/Sane 108.97 320 IAMs_20 IAMs_20 03 56 55.5
comp=Z,4μm,21.0s
BMRD Maredsous 109.03 324 PP **PP** **03 05 06.7 +5.2**
F10A Beach Ranch, E 109.11 41 IAMs_20 IAMs_20 03 49 16.5
comp=Z,4μm,20.0s
DOU Dourbes 109.22 324 PP **PP** **03 05 10.0 +7.1**
RUBR Rubicon Trail 109.22 48 IAMs_20 IAMs_20 03 47 59.0
comp=Z,4μm,22.0s
CMB Columbia Colle 109.33 50 IAMs_20 IAMs_20 03 51 59.8
comp=Z,4μm,21.0s
PAHR Pah Rah Range 109.61 48 IAMs_20 IAMs_20 03 45 09.2
comp=Z,4μm,22.0s
PNTR Pine Nut 109.63 48 IAMs_20 IAMs_20 03 46 14.7
comp=Z,4μm,22.0s
WAKR Walker 109.92 49 IAMs_20 IAMs_20 03 52 25.3
comp=Z,4μm,22.0s
WALA Waterton Lakes 110.02 37 IAMs_20 IAMs_20 03 46 25.1
comp=Z,3μm,22.0s
PAGB Antelope Grade 110.03 52 IAMs_20 IAMs_20 03 48 57.6
comp=Z,3μm,20.0s
GDLE Glaisdale, N Y 110.20 330 *e*P **PKiKP** **03 04 33.0 -2.8**
GDLE IAMs_20 IAMs_20 03 49 52.4
comp=Z,5μm,26.7s
OMMB Old Mammoth Mi 110.50 50 IAMs_20 IAMs_20 03 52 45.8
comp=Z,4μm,21.0s
EDMD Edmundbyers 110.57 330 *e*P **PKiKP** **03 04 33.1 -3.3**
EDMD IAMs_20 IAMs_20 03 53 08.2
comp=Z,7μm,26.0s
RYN Ryan 110.57 49 IAMs_20 IAMs_20 03 52 59.6
comp=Z,3μm,21.0s
EDI Edinburgh 110.57 332 *e*P **PKiKP** **03 04 33.4 -3.0**
EDI IAMs_20 IAMs_20 03 53 30.8
comp=Z,6μm,25.4s
LHV Little Huntoon 110.69 49 IAMs_20 IAMs_20 03 53 00.8
comp=Z,4μm,22.0s
ELSH Elham, Standar 110.75 326 *e*P **PKiKP** **03 04 34.6 -2.2**
ELSH IAMs_20 IAMs_20 03 54 38.3
comp=Z,6μm,21.2s
KVN Kaiserville 110.76 48 IAMs_20 IAMs_20 03 46 51.6
comp=Z,4μm,22.0s
KEST Kesra 110.78 308 Pdiff **Pdif** **03 00 37.9 +0.2**
comp=Z,2.8nm,0.9s,baz=205,slow=23,SNR=2.8
KEST PKiKP **PKiKP** **03 04 39.4 +1.9**
comp=Z,7.0nm,1.0s,baz=341,slow=3.9,SNR=4.3
KEST PKKPbc **PKKPbc** **03 15 38.2 +1.5**
comp=Z,2.3nm,0.6s,baz=242,slow=4.0,SNR=5.0
KEST Kesra 110.78 308 IAMs_20 IAMs_20 03 54 57.4
comp=Z,5μm,22.0s
NVAR Mina Array Bea 110.79 49 Pdiff **Pdif** **03 00 40.6 +2.7**
comp=Z,1.1nm,0.7s,baz=265,slow=6.0,SNR=9.5
NVAR PKiKP **PKiKP** **03 04 39.2 +1.6**
comp=Z,4.1nm,0.8s,baz=240,slow=2.4,SNR=11
NVAR PKKPbc **PKKPbc** **03 15 36.3 -0.6**
comp=Z,1.7nm,0.7s,baz=128,slow=4.5,SNR=7.2
NVAR PKKPab **PKKPab** **03 15 47.7 +1.0**
comp=Z,1.5nm,0.7s,baz=138,slow=4.5,SNR=5.4
NVAR Mina Array Bea 110.79 49 Pdif **Pdif** **03 00 36.2 -1.7**
HPK Haverah Park 110.85 330 *e*P **PKiKP** **03 04 36.2 -0.7**
HPK IAMs_20 IAMs_20 03 57 52.2
comp=Z,5μm,23.2s
EKA Eskdalemuir Ar 110.88 331 Pdiff **Pdif** **03 00 38.9 +1.4**
comp=Z,1.4nm,0.7s,baz=44,slow=2.9,SNR=7.6
EKA PKiKP **PKiKP** **03 04 36.9 -0.1**
comp=Z,3.7nm,0.8s,baz=72,slow=9.4,SNR=3.9
EKA PKKPbc **PKKPbc** **03 15 36.7 -0.2**
comp=Z,1.9nm,0.6s,baz=238,slow=3.1,SNR=18
NV11 Mina Array Sit 110.90 49 IAMs_20 IAMs_20 03 53 07.4
comp=Z,4μm,22.0s
MSO Missoula 110.90 39 P **PKiKP** **03 04 37.8 +0.4**
baz=294,SNR=9.3
MSO Missoula 110.90 39 IAMs_20 IAMs_20 03 49 41.7
comp=Z,4μm,21.0s
ESK Eskdalemuir 110.91 331 *e*P **PKiKP** **03 04 37.1 +0.1**
ESK IAMs_20 IAMs_20 03 51 04.4
comp=Z,9μm,26.9s
MFID Camas Ranch 110.95 43 IAMs_20 IAMs_20 03 45 49.2
comp=Z,3μm,22.0s
BORG Borgarnes 111.14 345 IAMs_20 IAMs_20 03 56 20.0
comp=Z,4μm,21.0s
CWF Charnwood Fore 111.31 328 *e*P **PKiKP** **03 04 35.0 -2.9**
CWF IAMs_20 IAMs_20 03 55 48.2
comp=Z,7μm,20.0s
ARVC Arvin 111.31 52 P **PKiKP** **03 04 38.5 0.0**
baz=286
HMNX Herstmonceux 111.33 326 *e*P **PKiKP** **03 04 36.8 -1.1**
HMNX IAMs_20 IAMs_20 03 56 06.3
comp=Z,6μm,20.3s
ISA Isabella, Lake 111.44 52 P **PKiKP** **03 04 38.7 -0.1**
baz=286
ISA Isabella, Lake 111.44 52 IAMs_20 IAMs_20 03 49 53.0
comp=Z,3μm,20.0s
OSI Osito Audit: C 111.53 53 IAMs_20 IAMs_20 03 50 58.3
comp=Z,4μm,20.0s
CWC Cottonwood Cre 111.53 51 P **PKiKP** **03 04 39.3 +0.2**
baz=286
HLID Hailey 111.86 42 P **PKiKP** **03 04 40.3 +0.8**
baz=292
HLID Hailey 111.86 42 IAMs_20 IAMs_20 03 53 47.1
comp=Z,4μm,21.0s
GAL1 Galloway 111.88 331 *e*P **PKiKP** **03 04 39.1 +0.2**
GAL1 IAMs_20 IAMs_20 03 55 06.8
comp=Z,8μm,21.6s
GRAC Grapevine Rang 111.92 50 P **PKiKP** **03 04 40.6 +1.0**
baz=287
EDW2 Edwards Air Fo 112.04 52 P **PKiKP** **03 04 39.8 -0.1**
baz=286,SNR=8.9
PASC Pasadena Art C 112.08 53 IAMs_20 IAMs_20 03 51 00.8
comp=Z,3μm,21.0s
CIS Catalina Islan 112.09 54 P **PKiKP** **03 04 40.9 +0.9**
baz=285
MPMC Manual Prospec 112.10 51 P **PKiKP** **03 04 40.3 +0.1**
baz=287,SNR=7.4
LRMC Laurel Mtn Rad 112.11 52 P **PKiKP** **03 04 40.1 0.0**
baz=286
MWC Mount Wilson 112.16 53 IAMs_20 IAMs_20 03 51 14.1
comp=Z,4μm,21.0s
DLMT Dillon 112.35 40 IAMs_20 IAMs_20 03 44 15.1
comp=Z,3μm,22.0s
CLGH Cloghs, Cushen 112.42 332 *e*P **PKiKP** **03 04 39.4 -0.5**
CLGH IAMs_20 IAMs_20 03 51 58.5
comp=Z,6μm,26.3s
FURC Furnace Creek, 112.47 50 P **PKiKP** **03 04 40.9 +0.4**
baz=287
BFSC Mount Baldy Ra 112.48 53 P **PKiKP** **03 04 40.8 -0.1**
baz=286
BATH Bath 112.51 327 *e*P **PKiKP** **03 04 38.5 -1.7**
BATH IAMs_20 IAMs_20 03 57 57.5
comp=Z,6μm,20.7s
TPNV Topopah Spring 112.79 50 P **PKiKP** **03 04 41.1 -0.3**
baz=288,SNR=5.1
R11A Troy Canyon, C 112.84 48 P **PKiKP** **03 04 41.6 +0.1**
baz=289,SNR=11
GSC Goldstone, Bar 112.85 51 P **PKiKP** **03 04 42.1 +0.6**
baz=287
GSC Goldstone, Bar 112.85 51 IAMs_20 IAMs_20 03 45 50.3
comp=Z,3μm,20.0s
BOZ Bozeman (W) 112.87 40 P **PKiKP** **03 04 42.1 +0.8**
baz=295
EGMT Eagleton 112.96 37 P **PKiKP** **03 04 42.0 +0.7**
baz=298,SNR=12
MURC Murrieta 113.02 53 P **PKiKP** **03 04 42.1 +0.3**
baz=286
SHOC Shoshone, Teco 113.09 51 P **PKiKP** **03 04 42.8 +1.0**
baz=288,SNR=5.7
109C Camp Elliot, M 113.29 54 P **PKiKP** **03 04 43.1 +0.8**
baz=286
109C Camp Elliot, M 113.29 54 IAMs_20 IAMs_20 03 48 19.1
comp=Z,4μm,20.0s
SFJD Kangerlussuaq 113.30 358 IAMs_20 IAMs_20 03 54 55.7
comp=Z,3μm,21.0s
MAHO Mahon 113.33 314 *i* Pdif **Pdif** **03 00 49.1 +0.4**
MAHO Mahon 113.33 314 *e*PKP **PP** **03 05 29.6 -3.1**
HEC Hector,Ludlow 113.36 52 P **PKiKP** **03 04 42.9 +0.5**
baz=287
TJX Tijuana 113.44 54 IAMs_20 IAMs_20 03 50 01.9
comp=Z,4μm,21.0s
TUQ Turquoise Moun 113.50 51 P **PKiKP** **03 04 44.5 +1.7**
baz=288,SNR=5.2
PRN Pahroc Range 113.55 49 IAMs_20 IAMs_20 03 54 39.3
comp=Z,3μm,20.0s
PFO Pinyon Flats O 113.61 53 P **PKiKP** **03 04 44.6 +1.6**
baz=286,SNR=9.5
PFO Pinyon Flats O 113.61 53 IAMs_20 IAMs_20 03 54 06.6
comp=Z,4μm,20.0s
DSB Dublin 113.61 331 IAMs_20 IAMs_20 04 01 10.0
comp=Z,4μm,21.0s
XPFO Pion Flat 113.61 53 IAMs_20 IAMs_20 03 54 06.6
comp=Z,3μm,20.0s
BAR Barrett 113.70 54 IAMs_20 IAMs_20 03 48 20.9
comp=Z,4μm,21.0s
SHPR Sheep Range 113.76 50 IAMs_20 IAMs_20 03 52 17.2
comp=Z,3μm,20.0s
MONP2 Monument Peak 113.84 54 P **PKiKP** **03 04 45.4 +1.8**
baz=286,SNR=7.0
BELC Belle Mtn. Jos 113.87 53 P **PKiKP** **03 04 45.2 +1.7**
baz=287,SNR=10
DYA Yadsworthy 113.89 327 *e*P **PKiKP** **03 04 42.9 +0.1**
DYA IAMs_20 IAMs_20 03 57 20.1
comp=Z,7μm,19.4s
GMRC Granite Mounta 113.90 52 P **PKiKP** **03 04 45.0 +1.5**
baz=288,SNR=13
IMW Indian Meadow 114.03 41 IAMs_20 IAMs_20 03 52 04.7
comp=Z,4μm,22.0s
H17A Grant Village 114.06 40 P **PKiKP** **03 04 45.3 +1.5**
baz=295
IKP In-Ko-Pah, Jac 114.16 54 P **PKiKP** **03 04 45.6 +1.5**
baz=286
TPAW Teton Pass 114.20 41 IAMs_20 IAMs_20 03 47 50.0
comp=Z,3μm,22.0s
DUG Dugway, Tooele 114.22 45 P **PKiKP** **03 04 45.3 +1.2**
baz=292,SNR=15
REDW Red Top Meadow 114.32 41 IAMs_20 IAMs_20 03 47 43.2
comp=Z,3μm,22.0s
SWSC Sam W. Stewart 114.33 54 P **PKiKP** **03 04 46.6 +2.4**
baz=287,SNR=5.5
SNOW Snow King Moun 114.34 41 IAMs_20 IAMs_20 03 55 42.7
comp=Z,3μm,21.0s
LOHW Long Hollow 114.38 41 IAMs_20 IAMs_20 03 52 14.7
comp=Z,4μm,22.0s
BC3 Big Chuckawall 114.40 53 P **PKiKP** **03 04 46.3 +1.8**
baz=287,SNR=14
ESJX Sierra Juarez 114.47 55 IAMs_20 IAMs_20 03 50 17.8
comp=Z,4μm,22.0s
IRM Iron Mountain 114.50 52 P **PKiKP** **03 04 46.6 +2.0**
baz=288,SNR=11
RLMT Red Lodge 114.58 39 P PKPdf 03 04 44.9 +0.2
baz=297
GLA Glamis 115.08 53 P **PKPdf** **03 04 47.0 +1.3**
baz=287
GLA Glamis 115.08 53 IAMs_20 IAMs_20 03 52 25.4
comp=Z,4μm,20.0s
GUVIX Guadalupe Vict 115.10 54 IAMs_20 IAMs_20 03 45 52.9
comp=Z,3μm,21.0s
SPX San Pedro Mart 115.14 56 IAMs_20 IAMs_20 03 48 32.0
comp=Z,4μm,22.0s
PDMCI Parker Dam,Lak 115.24 52 P **PKPdf** **03 04 47.8 +1.9**
baz=288,SNR=5.2
PD31 Pinedale Array 115.43 42 PKPdf **PKiKP** **03 04 44.8 -1.6**
PDAR Pinedale Array 115.43 42 PKP **PKPdf** **03 04 47.4 +1.0**
comp=Z,2.5nm,0.6s,baz=176,slow=4.5,SNR=20
PDAR PKKPbc **PKKPbc** **03 15 20.6 -1.0**
comp=Z,2.4nm,0.8s,baz=118,slow=4.2,SNR=11
PDAR PKKPab **PKKPab** **03 15 26.6 +0.5**
comp=Z,6.4nm,0.8s,baz=114,slow=5.4,SNR=22
PDAR SKKP 03 19 18.4
comp=Z,0.9nm,0.8s,baz=121,slow=8.5,SNR=3.2
PDAR Pinedale Array 115.43 42 PKKPbc PKKPbc 03 15 17.6 -3.9
LAO LASA Array 115.70 37 P **PKPdf** **03 04 49.0 +2.4**
baz=300,SNR=16
LAO LASA Array 115.70 37 IAMs_20 IAMs_20 03 53 36.5
comp=Z,3μm,20.0s
DGMT Dagmar 115.95 34 P **PKPdf** **03 04 48.3 +1.4**
baz=303
U15A North Rim 115.96 49 IAMs_20 IAMs_20 03 53 41.4
comp=Z,4μm,20.0s
113A Mohawk Valley, 116.02 53 IAMs_20 IAMs_20 03 52 52.2
comp=Z,3μm,20.0s
WUAZ Wupatki 116.98 50 P **PKiKP** **03 04 50.9 +1.4**
baz=291
WUAZ Wupatki 116.98 50 IAMs_20 IAMs_20 03 54 44.4
comp=Z,3μm,20.0s
214A Organ Pipe Nat 117.03 54 P **PKiKP** **03 04 51.1 +1.5**
baz=288
214A Organ Pipe Nat 117.03 54 IAMs_20 IAMs_20 03 51 57.2
comp=Z,4μm,21.0s
TAM Tamanrasset 117.13 296 IAMs_20 IAMs_20 03 54 15.6
comp=Z,4μm,22.0s
X16A Lo Mia Camp, P 117.31 51 IAMs_20 IAMs_20 03 52 06.3
comp=Z,3μm,20.0s
O20A White River Ci 117.45 44 P **PKiKP** **03 04 51.8 +1.4**
baz=295,SNR=47
O20A White River Ci 117.45 44 IAMs_20 IAMs_20 03 57 40.3
comp=Z,3μm,22.0s
K22A Casper 117.48 41 P **PKiKP** **03 04 51.3 +1.0**
baz=298
K22A Casper 117.48 41 IAMs_20 IAMs_20 03 54 15.7
comp=Z,4μm,22.0s
PV14 Lion Creek, Pa 117.64 46 IAMs_20 IAMs_20 03 54 15.4
comp=Z,4μm,22.0s
PV19 Morning Glory 117.69 46 IAMs_20 IAMs_20 03 54 16.8
comp=Z,3μm,21.0s
PV16 Nyswonger Mesa 117.74 46 IAMs_20 IAMs_20 03 54 28.1
comp=Z,3μm,21.0s
PV22 Blue Mesa, Par 117.74 46 IAMs_20 IAMs_20 03 51 20.1
comp=Z,4μm,22.0s
PV18 Skein Mesa, Pa 117.77 46 IAMs_20 IAMs_20 03 54 27.9
comp=Z,3μm,21.0s
PV11 David Mesa, Pa 117.78 46 IAMs_20 IAMs_20 03 54 41.0
comp=Z,4μm,21.0s
PV03 Paradox Valley 117.81 46 IAMs_20 IAMs_20 03 51 15.0
comp=Z,4μm,22.0s
PV13 Radium Mtn., P 117.87 46 IAMs_20 IAMs_20 03 48 53.6
comp=Z,4μm,22.0s
PV07 Paradox Valley 117.88 46 IAMs_20 IAMs_20 03 54 43.8
comp=Z,3μm,21.0s
PV02 Paradox Valley 117.91 46 IAMs_20 IAMs_20 03 46 31.6
comp=Z,3μm,20.0s
CART Cartagena 118.01 313 *e*Pdif **Pdif** **03 01 10.8 +1.2**
CART Cartagena 118.01 313 *i* PKP **PP** **03 06 07.6 +2.0**
PV15 Paradox Valley 118.04 46 IAMs_20 IAMs_20 03 51 13.0
comp=Z,4μm,22.0s
RSSD Black Hills 118.33 38 PKIKP **PKPdf** **03 04 50.5 -1.4**
RSSD Black Hills 118.33 38 P **PKiKP** **03 04 52.3 +0.4**
baz=301
RSSD Black Hills 118.33 38 PKPdf **PKPdf** **03 04 50.5 -1.4**
W18A Petrified Fore 118.37 50 P **PKiKP** **03 04 53.9 +1.6**
baz=292
UCM Universidad Co 118.44 317 *e*Pdif **Pdif** **03 01 13.2 +1.6**
UCM Universidad Co 118.44 317 *i* PKP **PP** **03 06 07.6 -0.9**
MVCO Mesa Verde 118.49 47 P **PKiKP** **03 04 54.2 +1.7**
baz=294,SNR=24
TUC Tucson 118.55 53 P **PKiKP** **03 04 53.7 +1.1**

	baz=290							
TUC	**Tucson**	**118.55**	**53**	IAMs_20	IAMs_20	03 53 20.9		
	comp=Z,4μm,20.0s							
N23A	**Red Feather La**	**118.68**	**42**	P	**PKiKP**	**03 04 54.5**	**+1.6**	
	baz=298,SNR=7.6							
PHWY	**Pilot Hill**	**118.81**	**42**	IAMs_20	IAMs_20	03 50 50.2		
	comp=Z,3μm,22.0s							
MDND	**Maddock**	**118.83**	**33**	P	**PKiKP**	**03 04 53.5**	**+1.0**	
	baz=307							
IVI	**Ivigtut**	**118.96**	**356**	IAMs_20	IAMs_20	04 03 28.4		
	comp=Z,3μm,20.0s							
ES19	**SONSECA Array**	**119.16**	**317**	IAMs_20	IAMs_20	04 03 28.6		
	comp=Z,3μm,21.0s							
ES09	**SONSECA Array**	**119.17**	**317**	IAMs_20	IAMs_20	04 03 28.8		
	comp=Z,3μm,21.0s							
ES08	**SONSECA Array**	**119.18**	**317**	IAMs_20	IAMs_20	04 02 24.1		
	comp=Z,3μm,22.0s							
ES10	**SONSECA Array**	**119.18**	**317**	IAMs_20	IAMs_20	04 03 30.1		
	comp=Z,3μm,22.0s							
ES02	**SONSECA Array**	**119.19**	**317**	IAMs_20	IAMs_20	04 03 28.5		
	comp=Z,3μm,22.0s							
ES11	**SONSECA Array**	**119.20**	**317**	IAMs_20	IAMs_20	04 03 28.6		
	comp=Z,4μm,22.0s							
ES03	**SONSECA Array**	**119.20**	**317**	IAMs_20	IAMs_20	04 03 28.6		
	comp=Z,3μm,21.0s							
ES07	**SONSECA Array**	**119.20**	**317**	IAMs_20	IAMs_20	04 03 28.7		
	comp=Z,3μm,22.0s							
ES01	**SONSECA Array**	**119.20**	**317**	IAMs_20	IAMs_20	04 03 29.8		
	comp=Z,3μm,21.0s							
ES06	**SONSECA Array**	**119.20**	**317**	IAMs_20	IAMs_20	04 03 29.8		
	comp=Z,3μm,21.0s							
ES04	**SONSECA Array**	**119.21**	**317**	IAMs_20	IAMs_20	04 03 29.9		
	comp=Z,3μm,21.0s							
ES17	**SONSECA Array**	**119.21**	**317**	IAMs_20	IAMs_20	04 03 29.9		
	comp=Z,3μm,21.0s							
ESBB	**Sonseca Array**	**119.21**	**317**	IAMs_20	IAMs_20	04 03 31.1		
	comp=Z,3μm,22.0s							
ESDC	**Sonseca Array**	**119.21**	**317**	PKP	**PKiKP**	**03 04 54.6**	**+1.0**	
	comp=Z,3.7nm,0.9s,baz=18,slow=2.2,SNR=14							
ESDC				PP	**PP**	**03 06 11.3**	**-2.7**	
	comp=Z,2.7nm,0.9s,baz=47,slow=7.2,SNR=5.2							
ESDC				PKKPbc	**PKKPab**	**03 15 08.6**	**-0.7**	
	comp=Z,1.6nm,0.9s,baz=258,slow=4.2,SNR=6.3							
ESDC				SKKPbc	SKKPbc	03 18 54.5	+2.0	
	comp=Z,0.3nm,0.4s,baz=261,slow=3.4,SNR=5.3							
ESDC	**Sonseca Array**	**119.21**	**317**	PKPdf	**PKPdf**	**03 04 52.2**	**-1.3**	
ES05	**SONSECA Array**	**119.22**	**317**	IAMs_20	IAMs_20	04 03 31.1		
	comp=Z,4μm,22.0s							
ES12	**SONSECA Array**	**119.22**	**317**	IAMs_20	IAMs_20	04 03 31.1		
	comp=Z,3μm,22.0s							
ULM	**Lac du Bonnet**	**119.22**	**29**	PKP	**PKiKP**	**03 04 53.5**	**+0.3**	
	comp=Z,19nm,0.6s,baz=160,slow=0.5,SNR=12							
ULM				PKKPbc	**PKKPbc**	**03 15 07.8**	**-0.2**	
	comp=Z,5.4nm,0.6s,baz=214,slow=2.2,SNR=3.9							
ULM	**Lac du Bonnet**	**119.22**	**29**	IAMs_20	IAMs_20	03 57 02.6		
	comp=Z,3μm,21.0s							
ES13	**SONSECA Array**	**119.23**	**317**	IAMs_20	IAMs_20	04 03 30.5		
	comp=Z,3μm,22.0s							
ES16	**SONSECA Array**	**119.23**	**317**	IAMs_20	IAMs_20	04 04 40.5		
	comp=Z,3μm,21.0s							
ES14	**SONSECA Array**	**119.24**	**317**	IAMs_20	IAMs_20	04 03 31.9		
	comp=Z,3μm,22.0s							
ES15	**SONSECA Array**	**119.24**	**317**	IAMs_20	IAMs_20	04 03 31.9		
	comp=Z,3μm,22.0s							
ISCO	**Idaho Springs**	**119.41**	**43**	P	**PKiKP**	**03 04 55.3**	**+0.9**	
	baz=297							
HSIG		**119.47**	**56**	IAMs_20	IAMs_20	03 54 38.8		
	comp=Z,3μm,20.0s							
S22A	**4UR Ranch, Cre**	**119.47**	**46**	P	**PKiKP**	**03 04 56.8**	**+2.3**	
	baz=295,SNR=22							
PBRG	**Braganca**	**120.04**	**320**	*e*PKP	**PKiKP**	**03 04 56.5**	**+1.4**	
PBRG	**Braganca**	**120.04**	**320**	*e*PP	PP	03 06 23.7	+4.2	
319A	**Douglas**	**120.07**	**53**	IAMs_20	IAMs_20	03 53 31.5		
	comp=Z,4μm,22.0s							
Q24A	**Divide**	**120.11**	**44**	P	**PKiKP**	**03 04 55.8**	**0.0**	
	baz=297							
Q24A	**Divide**	**120.11**	**44**	IAMs_20	IAMs_20	03 56 00.8		
	comp=Z,3μm,22.0s							
MELI	**Melilla**	**120.36**	**312**	*e*Pdif	**Pdif**	**03 01 18.8**	**-1.3**	
MELI	**Melilla**	**120.36**	**312**	*i* PKP	**PP**	**03 06 24.1**	**+2.2**	
SDCO	**Great Sand Dun**	**120.42**	**45**	P	**PKiKP**	**03 04 58.1**	**+1.8**	
	baz=296,SNR=14							
SDCO	**Great Sand Dun**	**120.42**	**45**	IAMs_20	IAMs_20	03 52 01.0		
	comp=Z,4μm,22.0s							
AGMN	**Agassiz Nation**	**120.51**	**30**	IAMs_20	IAMs_20	03 57 51.1		
	comp=Z,3μm,21.0s							
MVO	**Moncorvo**	**120.55**	**319**	*e*Pdif	**Pdif**	**03 01 27.3**	**+6.3**	
MVO	**Moncorvo**	**120.55**	**319**	*e*PKP	**PKiKP**	**03 04 58.1**	**+1.9**	
MVO	**Moncorvo**	**120.55**	**319**	*e*PP	PP	03 06 25.9	+2.9	
MVO				*i* LQ	LQ	03 16 25.8		
MVO				*e*SS	SS	03 23 14.6	+25	
MVO	**Moncorvo**	**120.55**	**319**	*e*LR	LR	03 45 50.8		
	comp=Z,4μm,22.0s							
EMAL	**Malaga-Limoner**	**120.84**	**314**	*e*Pdif	**Pdif**	**03 01 21.1**	**-1.1**	
EMAL	**Malaga-Limoner**	**120.84**	**314**	*i* PKP	**PP**	**03 06 26.8**	**+1.7**	
121A	**Cookes Peak, D**	**120.84**	**52**	P	**PKiKP**	**03 04 59.0**	**+1.8**	
	baz=292,SNR=20							
121A	**Cookes Peak, D**	**120.84**	**52**	IAMs_20	IAMs_20	03 55 48.8		
	comp=Z,3μm,22.0s							
PCAB	**Cabril**	**120.91**	**320**	*e*PKP	**PKiKP**	**03 04 59.0**	**+2.2**	
ANMO	**Albuquerque**	**120.92**	**49**	P	**PKiKP**	**03 04 59.3**	**+2.0**	
	baz=294							
Y22D	**IRIS PASSCAL I**	**120.92**	**50**	IAMs_20	IAMs_20	03 56 47.7		
	comp=Z,3μm,21.0s							
PGAV	**Gavieira, Arco**	**120.93**	**321**	*e*Pdif	**Pdif**	**03 01 29.2**	**+6.5**	
PGAV	**Gavieira, Arco**	**120.93**	**321**	*e*PKP	**PKiKP**	**03 04 58.8**	**+1.8**	
PGAV	**Gavieira, Arco**	**120.93**	**321**	*e*PP	PP	03 06 26.8	+1.2	
PGAV	**Gavieira, Arco**	**120.93**	**321**	*i* LQ	LQ	03 16 34.0		
PGAV				*e*SS	SS	03 23 07.8	+13	
PGAV	**Gavieira, Arco**	**120.93**	**321**	*e*LR	LR	03 44 48.2		
	comp=Z,5μm,20.0s							
PVRL	**Vila Real**	**120.94**	**320**	*e*PKP	**PKiKP**	**03 04 58.8**	**+1.9**	
SUSD	**Miller**	**121.21**	**36**	P	**PKiKP**	**03 04 58.1**	**+0.8**	
	baz=306							
OGNE	**Ogallala**	**121.24**	**40**	P	**PKiKP**	**03 04 58.2**	**+0.6**	
	baz=301							
PVIS	**Viseu**	**121.34**	**319**	*e*PKP	**PKiKP**	**03 04 59.7**	**+2.0**	
PVLZ	**Peæn de**	**121.43**	**312**	*e*Pdif	**Pdif**	**03 01 25.1**	**+0.2**	
PVLZ	**Peæn de**	**121.43**	**312**	*i* PKP	**PP**	**03 06 28.6**	**-0.6**	
T25A	**Trinidad**	**121.47**	**45**	P	**PKiKP**	**03 04 59.8**	**+1.5**	
	baz=297,SNR=17							
T25A	**Trinidad**	**121.47**	**45**	IAMs_20	IAMs_20	03 59 02.7		
	comp=Z,3μm,20.0s							
PCBR	**Castelo Branco**	**121.51**	**318**	*e*PKP	**PKiKP**	**03 04 59.8**	**+1.8**	
PTO	**Porto**	**121.58**	**320**	*e*PKP	**PKiKP**	**03 05 00.1**	**+2.0**	
PMRV	**Marv??o**	**121.66**	**318**	*e*Pdif	**Pdif**	**03 01 27.7**	**+1.8**	
PMRV	**Marv??o**	**121.66**	**318**	*e*PKP	**PKiKP**	**03 05 00.0**	**+1.6**	
PMRV	**Marv??o**	**121.66**	**318**	*e*PP	PP	03 06 33.7	+3.1	
PMRV				*i* LQ	LQ	03 16 10.2		
PMRV				*e*SS	SS	03 23 21.5	+18	
PMRV	**Marv??o**	**121.66**	**318**	*e*LR	LR	03 45 59.7		
	comp=Z,3μm,20.0s							
KSCO	**Kaye Shedlock'**	**121.82**	**43**	P	**PKiKP**	**03 04 59.9**	**+1.0**	
	baz=300,SNR=8.0							
CEU	**Ceuta**	**121.90**	**313**	*e*Pdif	**Pdif**	**03 01 28.2**	**+1.2**	
CEU	**Ceuta**	**121.90**	**313**	*i* PKP	**PP**	**03 06 30.1**	**-2.2**	
COI	**Coimbra**	**121.94**	**319**	*e*PKP	**PKiKP**	**03 05 01.3**	**+2.5**	
COI	**Coimbra**	**121.94**	**319**	*e*PP	PP	03 06 33.5	+1.1	
PCAS	**Casmilo, Conde**	**122.08**	**319**	*e*PKP	**PKiKP**	**03 05 01.1**	**+2.0**	
PCAS	**Casmilo, Conde**	**122.08**	**319**	*e*PP	PP	03 06 36.8	+3.4	
EPT	**El Paso**	**122.13**	**52**	IAMs_20	IAMs_20	03 55 05.0		
	comp=Z,4μm,22.0s							
SFS	**San Fernando**	**122.25**	**314**	*e*Pdif	**Pdif**	**03 01 29.2**	**+0.7**	
SFS	**San Fernando**	**122.25**	**314**	*i* PKP	**PP**	**03 06 30.6**	**-4.1**	
SFS	**San Fernando**	**122.25**	**314**	IAMs_20	IAMs_20	04 03 44.9		
	comp=Z,3μm,22.0s							
TOC3	**Torodi Ar. Sit**	**122.40**	**285**	IAMs_20	IAMs_20	03 59 09.3		
	comp=Z,4μm,22.0s							
PMTG	**Montargil**	**122.40**	**318**	*e*PKP	**PKiKP**	**03 05 01.4**	**+1.6**	
PMTG	**Montargil**	**122.40**	**318**	*e*PP	PP	03 06 37.6	+2.0	
TOB3	**Torodi Ar. Sit**	**122.41**	**285**	IAMs_20	IAMs_20	03 58 58.7		
	comp=Z,4μm,22.0s							
TOA2	**Torodi Ar. Sit**	**122.42**	**285**	IAMs_20	IAMs_20	04 03 34.7		
	comp=Z,3μm,20.0s							
TOB1	**Torodi Ar. Sit**	**122.42**	**285**	IAMs_20	IAMs_20	04 03 45.9		
	comp=Z,3μm,20.0s							
TOC4	**Torodi Ar. Sit**	**122.42**	**285**	IAMs_20	IAMs_20	04 03 35.9		
	comp=Z,3μm,20.0s							
TOA0	**Torodi Ar. Sit**	**122.42**	**285**	PKPdf	**PKPdf**	**03 04 58.4**	**-1.9**	
TOA0				IAMs_20	IAMs_20	03 59 10.9		
	comp=Z,4μm,22.0s							
TORD	**Torodi Ar. Bea**	**122.42**	**285**	PKP	**PKiKP**	**03 05 01.4**	**+0.9**	
	comp=Z,40nm,0.7s,baz=60,slow=1.6,SNR=134							
TORD				PKKPbc	**PKKPab**	**03 14 57.1**	**+1.6**	
	comp=Z,10.0nm,1.0s,baz=275,slow=3.4,SNR=18							
TORD	**Torodi Ar. Bea**	**122.42**	**285**	PKPdf	**PKPdf**	**03 04 58.4**	**-1.9**	
TOA3	**Torodi Ar. Sit**	**122.42**	**285**	IAMs_20	IAMs_20	04 03 45.9		
	comp=Z,3μm,20.0s							
TOB4	**Torodi Ar. Sit**	**122.43**	**285**	IAMs_20	IAMs_20	03 59 10.2		
	comp=Z,4μm,22.0s							
EVO	**Evora**	**122.53**	**317**	*e*Pdif	**Pdif**	**03 01 32.7**	**+3.0**	
EVO	**Evora**	**122.53**	**317**	*i* PKP	**PP**	**03 06 41.0**	**+4.5**	
EVO	**Evora**	**122.53**	**317**	*e*PKP	**PKiKP**	**03 05 01.8**	**+1.7**	
EVO	**Evora**	**122.53**	**317**	*e*PP	PP	03 06 35.9	-0.6	
PSBE	**So Bento**	**122.55**	**319**	*e*PKP	**PKiKP**	**03 05 01.5**	**+1.4**	
PSBE	**So Bento**	**122.55**	**319**	*e*PP	PP	03 06 39.8	+3.2	
PBEJ	**Beja**	**122.68**	**317**	*e*PKP	**PKiKP**	**03 05 02.4**	**+2.0**	
IFR	**Ifrane**	**122.74**	**311**	*i* PKP	**PP**	**03 06 34.6**	**-3.9**	
PVAQ	**Vaqueiros**	**122.88**	**316**	*e*Pdif	**Pdif**	**03 01 32.5**	**+1.2**	
PVAQ	**Vaqueiros**	**122.88**	**316**	*e*PKP	**PKiKP**	**03 05 02.9**	**+2.1**	
PVAQ	**Vaqueiros**	**122.88**	**316**	*e*PP	PP	03 06 40.7	+1.8	
PVAQ	**Vaqueiros**	**122.88**	**316**	*i* LQ	LQ	03 16 41.6		
PVAQ				*e*SS	SS	03 23 45.2	+26	
PVAQ	**Vaqueiros**	**122.88**	**316**	*e*LR	LR	03 45 59.1		
	comp=Z,3μm,22.0s							
EYMN	**Ely**	**122.90**	**28**	P	**PKiKP**	**03 05 01.0**	**+0.5**	
	baz=315							
EYMN	**Ely**	**122.90**	**28**	IAMs_20	IAMs_20	04 04 18.9		
	comp=Z,3μm,22.0s							
ECSD	**EROS Data Cent**	**122.98**	**35**	P	**PKPdf**	**03 05 00.6**	**0.0**	
	baz=308							
ECSD	**EROS Data Cent**	**122.98**	**35**	IAMs_20	IAMs_20	04 05 04.0		
	comp=Z,3μm,21.0s							
PCVE	**Castro Verde**	**122.99**	**316**	*e*PKP	**PKiKP**	**03 05 03.0**	**+2.0**	
PCVE	**Castro Verde**	**122.99**	**316**	*e*PP	PP	03 06 41.1	+1.5	
MNTX	**Cornudas Mount**	**123.04**	**52**	P	**PKiKP**	**03 05 03.1**	**+1.7**	
	baz=293,SNR=56							
MNTX	**Cornudas Mount**	**123.04**	**52**	IAMs_20	IAMs_20	03 52 31.1		
	comp=Z,3μm,22.0s							
PNCL	**Nicolau / Gran**	**123.09**	**317**	*e*PKP	**PKiKP**	**03 05 03.3**	**+2.1**	
PNCL	**Nicolau / Gran**	**123.09**	**317**	*e*PP	PP	03 06 43.3	+3.0	
PBDV	**Barranco-do-Ve**	**123.10**	**316**	*e*PKP	**PKiKP**	**03 05 03.2**	**+1.9**	
PBDV	**Barranco-do-Ve**	**123.10**	**316**	*e*PP	PP	03 06 42.9	+2.4	
LIS	**Lisbon**	**123.20**	**318**	*e*PP	PP	03 06 41.0	0.0	
LIS				AMS	AMS	04 09 00.4		
	comp=Z,4μm,16.8s							
F36A	**Milaca**	**123.32**	**31**	IAMs_20	IAMs_20	03 58 48.4		
	comp=Z,3μm,21.0s							
BGNE	**Belgrade**	**123.44**	**38**	P	**PKiKP**	**03 05 02.3**	**+0.4**	
	baz=305,SNR=31							
PTEO	**Sao Teotonio**	**123.50**	**316**	*e*PKP	**PKiKP**	**03 05 05.9**	**+3.9**	
MORF	**Marmelete**	**123.57**	**316**	*e*PKPdf	**PKPdf**	**03 05 01.4**	**-0.7**	
MORF				*e*PP	**PP**	**03 06 43.5**	**-0.2**	
MORF				AMS	AMS	04 04 34.9		
	comp=Z,4μm,19.7s							
MORF	**Marmelete**	**123.57**	**316**	*e*PKIKP	**PKPdf**	**03 05 01.3**	**-0.7**	
MORF				*e*		03 06 43.4		
MORF	**Marmelete**	**123.57**	**316**	*e*PKP	**PKiKP**	**03 05 04.2**	**+2.0**	
MORF	**Marmelete**	**123.57**	**316**	*e*PP	PP	03 06 44.6	+1.0	
PFVI	**Vila Bisbo**	**123.78**	**316**	IAMs_20	IAMs_20	04 04 16.1		
	comp=Z,4μm,21.0s							
PFVI	**Vila Bisbo**	**123.78**	**316**	*e*PKP	**PKiKP**	**03 05 04.6**	**+2.0**	
PFVI	**Vila Bisbo**	**123.78**	**316**	*e*PP	PP	03 06 48.6	+3.6	
E38A	**The Farm, Brul**	**123.81**	**30**	IAMs_20	IAMs_20	03 59 14.0		
	comp=Z,3μm,22.0s							
CBKS	**Cedar Bluff**	**123.86**	**41**	P	**PKPdf**	**03 05 02.3**	**-0.1**	
	baz=302							
CBKS	**Cedar Bluff**	**123.86**	**41**	IAMs_20	IAMs_20	03 54 32.7		
	comp=Z,3μm,21.0s							
USHA	**Ushuaia**	**124.02**	**171**	PKP	**PKiKP**	**03 05 03.8**	**+1.3**	
	comp=Z,39nm,0.7s,baz=353,slow=0.5,SNR=4.9							
MSTX	**Muleshoe**	**124.08**	**48**	P	**PKiKP**	**03 05 04.2**	**+0.8**	
	baz=297,SNR=31							
MSTX	**Muleshoe**	**124.08**	**48**	IAMs_20	IAMs_20	03 58 56.4		
	comp=Z,3μm,20.0s							
SPMN	**Marine on St.**	**124.12**	**32**	P	**PKPdf**	**03 05 02.8**	**+0.1**	
	baz=312							
L34A	**Svendsen Farm,**	**124.19**	**37**	IAMs_20	IAMs_20	04 04 34.1		
	comp=Z,2μm,20.0s							
N33A	**J Bar K, Exete**	**124.26**	**38**	IAMs_20	IAMs_20	04 04 13.1		
	comp=Z,3μm,21.0s							
AMTX	**Amarillo**	**124.47**	**47**	P	**PKiKP**	**03 05 05.2**	**+1.1**	
	baz=298							
AMTX	**Amarillo**	**124.47**	**47**	IAMs_20	IAMs_20	03 58 52.3		
	comp=Z,3μm,21.0s							
AVE	**Averroes**	**124.56**	**311**	*e*Pdif	**Pdif**	**03 01 43.0**	**+4.1**	
I37A	**Lemond, Waseca**	**124.61**	**33**	IAMs_20	IAMs_20	04 00 39.8		
	comp=Z,2μm,20.0s							
SCHQ	**Schefferville**	**124.71**	**8**	PKP	**PKiKP**	**03 05 05.2**	**+1.2**	
	comp=Z,40nm,0.6s,baz=5.0,slow=2.2,SNR=45							
SCHQ	**Schefferville**	**124.71**	**8**	IAMs_20	IAMs_20	04 06 44.4		
	comp=Z,3μm,21.0s							
TXAR	**Lajitas Array**	**125.33**	**54**	PKP	**PKiKP**	**03 05 06.6**	**+0.6**	
	comp=Z,15nm,0.9s,baz=218,slow=1.3,SNR=54							
TXAR				PKKPab	**PKKPbc**	**03 14 45.7**	**+1.6**	
	comp=Z,0.7nm,0.8s,baz=126,slow=5.2,SNR=5.3							
TXAR				SKKPbc	SKKPbc	03 18 34.5	+2.4	
	comp=Z,1.7nm,1.0s,baz=110,slow=4.9,SNR=2.9							
TXAR	**Lajitas Array**	**125.33**	**54**	PKPdf	**PKPdf**	**03 05 03.8**	**-1.9**	
COWI	**Conover**	**125.35**	**29**	IAMs_20	IAMs_20	04 04 21.6		
	comp=Z,4μm,22.0s							
G40A	**Rib Lake**	**125.42**	**30**	IAMs_20	IAMs_20	04 00 02.0		
	comp=Z,3μm,22.0s							
U32A	**Winter Ranch,**	**125.63**	**44**	IAMs_20	IAMs_20	04 02 55.8		
	comp=Z,3μm,20.0s							
KSU1	**Kansas State U**	**125.73**	**40**	P	**PKiKP**	**03 05 07.2**	**+0.8**	
	baz=305,SNR=30							
KSU1	**Kansas State U**	**125.73**	**40**	IAMs_20	IAMs_20	04 00 36.1		
	comp=Z,3μm,20.0s							
K38A	**Parkersburg**	**125.85**	**34**	IAMs_20	IAMs_20	03 56 03.7		
	comp=Z,3μm,22.0s							
F42A	**Maple Grove Fa**	**126.08**	**28**	IAMs_20	IAMs_20	04 00 42.9		
	comp=Z,3μm,22.0s							
SCIA	**State Center**	**126.08**	**35**	P	**PKiKP**	**03 05 07.1**	**+0.1**	
	baz=310							
SCIA	**State Center**	**126.08**	**35**	IAMs_20	IAMs_20	03 56 08.8		
	comp=Z,3μm,22.0s							
WMOK	**Wichita Mounta**	**126.62**	**45**	P	**PKiKP**	**03 05 09.0**	**+0.7**	
	baz=300,SNR=14							
WMOK	**Wichita Mounta**	**126.62**	**45**	IAMs_20	IAMs_20	03 59 29.2		
	comp=Z,3μm,22.0s							
N38A	**Joes South For**	**126.78**	**36**	IAMs_20	IAMs_20	04 01 03.4		
	comp=Z,3μm,20.0s							
MATQ	**Matagami**	**126.97**	**18**	P	**PKiKP**	**03 05 10.1**	**+1.6**	
	baz=331							
OK029	**Liberty Lake**	**127.00**	**43**	IAMs_20	IAMs_20	03 55 39.0		
	comp=Z,3μm,21.0s							
ABTX	**Abilene, Hawle**	**127.03**	**48**	P	**PKiKP**	**03 05 10.1**	**+0.9**	
	baz=298							
ABTX	**Abilene, Hawle**	**127.03**	**48**	IAMs_20	IAMs_20	04 00 46.3		
	comp=Z,3μm,22.0s							
JFWS	**Jewell Farm**	**127.04**	**32**	P	**PKiKP**	**03 05 09.0**	**+0.1**	
	baz=314,SNR=19							
JFWS	**Jewell Farm**	**127.04**	**32**	IAMs_20	IAMs_20	04 02 26.2		
	comp=Z,3μm,22.0s							
L40A	**Anamosa**	**127.09**	**34**	IAMs_20	IAMs_20	04 03 08.7		
	comp=Z,3μm,22.0s							
OK025	**Westminster Rd**	**127.19**	**44**	IAMs_20	IAMs_20	04 01 59.2		
	comp=Z,3μm,21.0s							
E46A	**Sault Ste Mari**	**127.34**	**25**	IAMs_20	IAMs_20	04 02 08.3		
	comp=Z,3μm,20.0s							
X34A	**Smith Ranch, M**	**127.36**	**45**	IAMs_20	IAMs_20	04 00 40.8		
	comp=Z,3μm,20.0s							
G45A	**Suttons Bay**	**127.77**	**27**	IAMs_20	IAMs_20	04 02 30.6		
	comp=Z,3μm,22.0s							
CHGQ	**Chibougamau**	**127.79**	**16**	P	**PKPdf**	**03 05 09.1**	**-0.5**	
	baz=335							
JCT	**Junction City**	**127.90**	**50**	P	**PKiKP**	**03 05 12.0**	**+1.0**	
	baz=297,SNR=33							
L42A	**Oliver, Polo**	**127.98**	**33**	IAMs_20	IAMs_20	04 05 15.1		
	comp=Z,3μm,21.0s							
TUL1	**Leonard**	**128.07**	**42**	P	**PKiKP**	**03 05 12.0**	**+0.8**	
	baz=304,SNR=9.9							
TUL1	**Leonard**	**128.07**	**42**	IAMs_20	IAMs_20	03 57 07.3		
	comp=Z,3μm,22.0s							
K43A	**Burlington**	**128.19**	**31**	IAMs_20	IAMs_20	04 03 38.4		
	comp=Z,3μm,22.0s							
I45A	**Fountain**	**128.26**	**28**	IAMs_20	IAMs_20	04 01 33.7		
	comp=Z,3μm,22.0s							
Z35A	**Perchaven, San**	**128.43**	**46**	IAMs_20	IAMs_20	04 02 53.1		
	comp=Z,3μm,20.0s							
S39A	**Bolivar**	**128.65**	**39**	IAMs_20	IAMs_20	04 00 59.2		
	comp=Z,3μm,22.0s							
L44A	**Lake County Fo**	**128.79**	**31**	P	**PKiKP**	**03 05 12.2**	**-0.2**	
	baz=316							
L44A	**Lake County Fo**	**128.79**	**31**	IAMs_20	IAMs_20	04 03 44.1		
	comp=Z,3μm,22.0s							
R40A	**Maddies Statio**	**128.93**	**38**	IAMs_20	IAMs_20	04 08 29.7		
	comp=Z,2μm,20.0s							
WHTX	**Lake Whitney,**	**128.96**	**48**	P	**PKiKP**	**03 05 14.0**	**+0.9**	
	baz=300							
WHTX	**Lake Whitney,**	**128.96**	**48**	IAMs_20	IAMs_20	03 55 11.3		
	comp=Z,2μm,22.0s							
HQIL	**Hanson Quary C**	**129.09**	**32**	IAMs_20	IAMs_20	04 03 52.3		
	comp=Z,3μm,22.0s							
HHAR	**Hobbs**	**129.09**	**41**	IAMs_20	IAMs_20	04 02 54.1		
	comp=Z,4μm,22.0s							
833A	**Chaparral WMA,**	**129.16**	**53**	P	**PKiKP**	**03 05 14.4**	**+0.9**	
	baz=296							
HDIL	**Hopedale**	**129.18**	**34**	P	**PKiKP**	**03 05 13.5**	**+0.2**	
	baz=313,SNR=13							
HDIL	**Hopedale**	**129.18**	**34**	IAMs_20	IAMs_20	04 05 04.0		
	comp=Z,3μm,21.0s							
D53A	**Lac Vacive, Po**	**129.29**	**20**	P	**PKiKP**	**03 05 13.5**	**+0.2**	
	baz=330,SNR=11							
435B	**Jarrell**	**129.45**	**49**	P	**PKiKP**	**03 05 14.4**	**+0.3**	
	baz=299							
KIC	**Kosan Boka**	**129.51**	**278**	*e*PKIKP	**PKiKP**	**03 05 15.6**	**+1.0**	
	comp=Z,244nm,1.4s							
KIC	**Kosan Boka**	**129.51**	**278**	*e*P	SKPbc	03 08 33.9	+1.0	
	comp=Z,15nm,0.9s							
J47A	**Sumner**	**129.53**	**28**	IAMs_20	IAMs_20	04 06 19.4		
	comp=Z,3μm,20.0s							
D54A	**Lac Fusel, La**	**129.57**	**19**	P	**PKPdf**	**03 05 13.3**	**+0.2**	
	baz=331							
DBIC	**Dimbokro**	**129.60**	**278**	PKP	**PKiKP**	**03 05 14.8**	**0.0**	
	comp=Z,22nm,0.7s,baz=290,slow=6.4,SNR=3.7							
DBIC	**Dimbokro**	**129.60**	**278**	PKPdf	**PKPdf**	**03 05 12.2**	**-1.8**	
MGMO	**Mountain Grove**	**129.64**	**39**	IAMs_20	IAMs_20	04 08 30.5		
	comp=Z,3μm,20.0s							
CCM	**Cathedral Cave**	**129.71**	**37**	PKIKP	**PKPdf**	**03 05 12.3**	**-1.3**	
CCM				MLR	MLR			
	comp=Z,3μm,22.0s							
CCM	**Cathedral Cave**	**129.71**	**37**	P	**PKiKP**	**03 05 14.5**	**+0.1**	
	baz=310							
CCM	**Cathedral Cave**	**129.71**	**37**	PKPdf	**PKPdf**	**03 05 12.3**	**-1.3**	
CCM	**Cathedral Cave**	**129.71**	**37**	IAMs_20	IAMs_20	04 00 16.1		
	comp=Z,3μm,22.0s							
L46A	**E

	baz=333,SNR=7.6							
F59A	Saint Guilaume baz=336	131.93	17	P	PKiKP	03 05 18.6	0.0	
H56A	Elgin baz=331	131.95	20	P	PKPdf	03 05 18.1	+0.4	
D63A	Stockholm baz=342	131.98	12	P	PKiKP	03 05 19.0	+0.3	
E61A	Lac Etchemin baz=339,SNR=8.6	132.01	14	P	PKiKP	03 05 18.6	-0.2	
LNXT	Lenox comp=Z,3μm,22.0s	132.03	38	IAMs_20	IAMs_20	04 06 18.8		
P48A	Milroy comp=Z,3μm,22.0s	132.05	32	IAMs_20	IAMs_20	04 06 05.8		
F60A	Warwick baz=337,SNR=7.8	132.06	16	P	PKiKP	03 05 18.7	-0.2	
E62A	Clayton Lake baz=340	132.07	13	P	PKiKP	03 05 18.6	-0.3	
E62A	Clayton Lake comp=Z,3μm,22.0s	132.07	13	IAMs_20	IAMs_20	04 12 06.2		
O49A	Covington comp=Z,3μm,21.0s	132.08	30	IAMs_20	IAMs_20	04 08 05.2		
X43A	Marvell baz=308	132.14	41	P	PKiKP	03 05 19.4	0.0	
BATG	Bathurst New B comp=Z,4μm,22.0s	132.15	10	IAMs_20	IAMs_20	04 10 16.3		
G58A	Ormstown baz=334	132.18	18	P	PKiKP	03 05 19.1	0.0	
J54A	Appleton baz=327	132.19	23	P	PKiKP	03 05 18.9	-0.3	
J54A	Appleton comp=Z,3μm,20.0s	132.19	23	IAMs_20	IAMs_20	04 11 45.6		
M51A	Elyria baz=322	132.25	28	P	PKiKP	03 05 19.2	-0.2	
HALT	Halls comp=Z,3μm,22.0s	132.25	38	IAMs_20	IAMs_20	04 04 04.5		
F61A	St Evariste baz=338	132.31	15	P	PKiKP	03 05 19.3	-0.1	
MEDO	Medina comp=Z,3μm,21.0s	132.36	23	IAMs_20	IAMs_20	04 13 07.9		
H57A	Richville baz=332	132.36	20	P	PKiKP	03 05 19.1	-0.4	
P49A	Miami Univ. Ec baz=318,SNR=8.1	132.37	31	P	PKiKP	03 05 19.2	-0.5	
P49A	Miami Univ. Ec comp=Z,3μm,21.0s	132.37	31	IAMs_20	IAMs_20	04 08 56.4		
MET	Memphis--Engin comp=Z,3μm,20.0s	132.38	39	IAMs_20	IAMs_20	04 02 59.1		
M52A	Chesterland baz=323	132.46	27	P	PKiKP	03 05 19.3	-0.5	
WCI	Wyandotte Cave baz=315	132.47	34	P	PKiKP	03 05 19.8	-0.2	
WCI	Wyandotte Cave comp=Z,3μm,20.0s	132.47	34	IAMs_20	IAMs_20	04 10 05.9		
N51A	Ashland baz=321,SNR=8.3	132.48	28	P	PKiKP	03 05 19.5	-0.4	
N51A	Ashland comp=Z,2μm,20.0s	132.48	28	IAMs_20	IAMs_20	04 12 25.4		
LONY	Lake Ozonia baz=333	132.49	19	P	PKiKP	03 05 19.4	-0.5	
LONY	Lake Ozonia comp=Z,2μm,20.0s	132.49	19	IAMs_20	IAMs_20	04 07 27.6		
E63A	Oxbow baz=342	132.50	13	P	PKiKP	03 05 19.8	0.0	
G59A	Clarenceville baz=335	132.51	17	P	PKiKP	03 05 19.3	-0.5	
J55A	Hilton baz=328,SNR=8.2	132.52	23	P	PKPdf	03 05 19.2	+0.5	
J55A	Hilton comp=Z,2μm,22.0s	132.52	23	IAMs_20	IAMs_20	04 14 32.2		
ERPA	Erie baz=325	132.59	25	P	PKPdf	03 05 19.4	+0.5	
ERPA	Erie comp=Z,2μm,22.0s	132.59	25	IAMs_20	IAMs_20	04 05 36.3		
FRNY	Flat Rock comp=Z,3μm,21.0s	132.61	18	IAMs_20	IAMs_20	04 10 57.8		
L53A	Girard baz=324	132.61	26	P	PKiKP	03 05 19.6	-0.5	
E64A	Bridgewater baz=342	132.63	12	P	PKiKP	03 05 19.5	-0.5	
F62A	Pittston Farm, baz=339	132.64	14	P	PKiKP	03 05 19.8	-0.3	
F62A	Pittston Farm, comp=Z,3μm,21.0s	132.64	14	IAMs_20	IAMs_20	04 07 39.4		
UNM	Universidad Na comp=Z,3μm,21.0s	132.71	64	IAMs_20	IAMs_20	03 57 31.5		
441A	DeRidder comp=Z,3μm,21.0s	132.72	46	IAMs_20	IAMs_20	04 04 46.7		
ACSO	Alum Creek Sta baz=320,SNR=12	132.72	29	P	PKiKP	03 05 20.2	-0.2	
ACSO	Alum Creek Sta comp=Z,3μm,21.0s	132.72	29	IAMs_20	IAMs_20	04 06 02.7		
K54A	Basiliko Farm, baz=327	132.73	24	P	PKiKP	03 05 20.0	-0.4	
I57A	Carthage baz=331,SNR=8.5	132.73	20	P	PKiKP	03 05 19.7	-0.6	
G60A	Masonville baz=336	132.75	17	P	PKPdf	03 05 19.4	+0.3	
H59A	Cadyville baz=334,SNR=5.4	132.75	18	P	PKiKP	03 05 19.9	-0.4	
L54A	Sinclairville baz=326,SNR=5.7	132.78	25	P	PKPdf	03 05 19.4	+0.1	
H58A	Gabriels baz=333	132.80	19	P	PKiKP	03 05 19.9	-0.5	
G61A	St-Isidore-de- baz=337	132.80	16	P	PKPdf	03 05 19.5	+0.3	
M53A	Wl Miller and baz=324	132.85	26	P	PKiKP	03 05 20.1	-0.6	
M53A	Wl Miller and comp=Z,3μm,21.0s	132.85	26	IAMs_20	IAMs_20	04 09 17.0		
J56A	Wolcott baz=329	132.87	22	P	PKPdf	03 05 19.7	+0.3	
J56A	Wolcott comp=Z,3μm,21.0s	132.87	22	IAMs_20	IAMs_20	04 13 35.6		
K55A	Perry baz=328,SNR=5.8	132.88	23	P	PKPdf	03 05 19.6	+0.1	
143A	Socs Landing, comp=Z,3μm,22.0s	132.88	43	IAMs_20	IAMs_20	03 59 58.7		
N52A	McGinn's Farm, baz=322	132.88	28	P	PKiKP	03 05 20.3	-0.5	
WVNY	West Valley, N comp=Z,3μm,20.0s	132.93	24	IAMs_20	IAMs_20	04 08 11.2		
MMNY	Mt. Morris Dam comp=Z,3μm,20.0s	132.94	23	IAMs_20	IAMs_20	04 13 32.3		
O51A	Pataskala baz=321,SNR=16	132.97	29	P	PKPdf	03 05 20.0	+0.2	
WVT	Waverly	133.03	37	PKHKP	PKPpre	03 05 07.8		
WVT	comp=Z,3μm,20.0s			MLR	MLR			
WVT	Waverly baz=312	133.03	37	P	PKiKP	03 05 20.7	-0.4	
WVT	Waverly	133.03	37		PKPpre	03 05 07.8		
WVT	comp=Z,3μm,20.0s			IAMs_20	IAMs_20	04 04 43.3		
F63A	Nahmakanta, Br baz=340	133.03	14	P	PKiKP	03 05 20.9	0.0	
F63A	Nahmakanta, Br comp=Z,2μm,21.0s	133.03	14	IAMs_20	IAMs_20	04 14 37.6		
R49A	Shelbyville comp=Z,3μm,22.0s	133.04	33	IAMs_20	IAMs_20	04 05 51.0		
F64A	Sherman baz=342	133.05	13	P	PKiKP	03 05 20.4	-0.5	
J57A	Williamstown baz=331,SNR=9.7	133.07	21	P	PKiKP	03 05 20.7	-0.3	
J57A	Williamstown comp=Z,3μm,21.0s	133.07	21	IAMs_20	IAMs_20	04 05 33.8		
OXF	Oxford baz=309	133.10	40	P	PKiKP	03 05 20.9	-0.4	
G62A	West of Eustis baz=338	133.13	15	P	PKiKP	03 05 21.1	0.0	
G62A	West of Eustis comp=Z,3μm,22.0s	133.13	15	IAMs_20	IAMs_20	04 06 58.4		
H60A	Morristown baz=335	133.13	17	P	PKiKP	03 05 21.2	+0.1	
I58A	Old Forge baz=332,SNR=5.1	133.18	20	P	PKiKP	03 05 21.1	-0.1	
L55A	Hinsdale baz=327,SNR=7.2	133.19	24	P	PKiKP	03 05 20.9	-0.4	
K56A	Middlesex baz=329	133.19	23	P	PKiKP	03 05 20.9	-0.4	
M54A	Oil Creek Stat baz=325,SNR=11	133.23	26	P	PKiKP	03 05 21.0	-0.4	
P51A	Williamsport baz=320,SNR=7.7	133.25	30	P	PKiKP	03 05 20.9	-0.6	
N53A	Lisbon baz=323,SNR=5.4	133.28	27	P	PKiKP	03 05 21.1	-0.4	
N53A	Lisbon comp=Z,3μm,22.0s	133.28	27	IAMs_20	IAMs_20	04 11 02.5		
VT1	Waterbury	133.32	18	IAMs_20	IAMs_20	04 16 02.9		
	comp=Z,3μm,22.0s							
O52A	Adamsville baz=322	133.36	28	P	PKiKP	03 05 21.3	-0.4	
O52A	Adamsville comp=Z,3μm,21.0s	133.36	28	IAMs_20	IAMs_20	04 06 20.7		
J58A	Remsen baz=332,SNR=12	133.37	20	P	PKiKP	03 05 21.2	-0.5	
J58A	Remsen comp=Z,3μm,21.0s	133.37	20	IAMs_20	IAMs_20	04 06 40.6		
H61A	Lyndonville baz=336,SNR=6.7	133.38	17	P	PKiKP	03 05 21.4	-0.2	
PKME	Peaks-Kenny Pk baz=340	133.40	14	P	PKiKP	03 05 21.3	-0.3	
PKME	Peaks-Kenny Pk comp=Z,3μm,22.0s	133.40	14	IAMs_20	IAMs_20	04 07 38.4		
Y45A	Yeager Farm, C comp=Z,3μm,22.0s	133.42	41	IAMs_20	IAMs_20	04 04 42.7		
I59A	Olmsteadville baz=334,SNR=5.1	133.45	19	P	PKiKP	03 05 22.0	+0.2	
G63A	Kingsbury baz=340	133.46	14	P	PKPdf	03 05 20.9	+0.4	
K57A	Scipio Center baz=330,SNR=7.9	133.47	22	P	PKiKP	03 05 21.7	-0.2	
R50A	Paris comp=Z,3μm,22.0s	133.50	32	IAMs_20	IAMs_20	04 06 35.1		
G64A	Maxfield baz=341	133.53	13	P	PKiKP	03 05 22.0	+0.1	
N54A	Moraine State baz=324	133.54	26	P	PKiKP	03 05 22.1	+0.1	
J59A	Piesco baz=332,SNR=17	133.54	20	P	PKiKP	03 05 21.7	-0.3	
J59A	Piesco comp=Z,3μm,21.0s	133.54	20	IAMs_20	IAMs_20	04 06 34.2		
O53A	New Philadelph baz=322	133.55	28	P	PKiKP	03 05 22.0	-0.1	
O53A	New Philadelph comp=Z,3μm,21.0s	133.55	28	IAMs_20	IAMs_20	04 09 23.7		
H62A	Milan baz=337	133.56	16	P	PKiKP	03 05 22.1	+0.2	
H62A	Milan comp=Z,3μm,22.0s	133.56	16	IAMs_20	IAMs_20	04 04 13.8		
L56A	Greenwood baz=328,SNR=9.2	133.58	23	P	PKiKP	03 05 21.7	-0.5	
L56A	Greenwood comp=Z,3μm,22.0s	133.58	23	IAMs_20	IAMs_20	04 09 10.2		
I60A	Shorehamm baz=334,SNR=8.7	133.60	18	P	PKiKP	03 05 22.0	0.0	
P52A	Corning baz=321,SNR=11	133.60	29	P	PKPdf	03 05 21.5	+0.6	
P52A	Corning comp=Z,3μm,22.0s	133.60	29	IAMs_20	IAMs_20	04 07 56.9		
M55A	Ridgway baz=326,SNR=7.5	133.65	25	P	PKiKP	03 05 21.8	-0.5	
LBNH	Lisbon baz=336,SNR=6.0	133.65	17	P	PKPdf	03 05 21.4	+0.5	
LBNH	Lisbon comp=Z,2μm,22.0s	133.65	17	IAMs_20	IAMs_20	04 07 42.2		
K58A	Earlville baz=331,SNR=8.1	133.76	21	P	PKiKP	03 05 22.0	-0.5	
K58A	Earlville comp=Z,3μm,22.0s	133.76	21	IAMs_20	IAMs_20	04 05 13.0		
VBMS	Vicksburg baz=306	133.77	43	P	PKiKP	03 05 22.8	+0.1	
VBMS	Vicksburg comp=Z,3μm,20.0s	133.77	43	IAMs_20	IAMs_20	04 00 24.2		
H63A	New Sharon baz=339	133.78	15	P	PKPdf	03 05 21.6	+0.5	
CMLA	Cha da Macela comp=Z,3μm,21.0s	133.83	327	IAMs_20	IAMs_20	04 08 29.4		
I61A	Oroboro, Fairl baz=336	133.85	17	P	PKiKP	03 05 22.9	+0.4	
G65A	Princeton baz=342,SNR=7.4	133.85	12	P	PKiKP	03 05 22.5	0.0	
G65A	Princeton comp=Z,3μm,22.0s	133.85	12	IAMs_20	IAMs_20	04 07 50.3		
M56A	Emporium baz=327	133.88	24	P	PKiKP	03 05 22.4	-0.4	
ACCN	Adirondack Com comp=Z,2μm,21.0s	133.89	19	IAMs_20	IAMs_20	04 05 27.7		
V48A	Smith Brothers comp=Z,3μm,20.0s	133.89	37	IAMs_20	IAMs_20	04 05 22.9		
CLTN	Cedars of Leba comp=Z,3μm,21.0s	133.94	36	IAMs_20	IAMs_20	04 10 03.1		
WVL	Waterville comp=Z,3μm,22.0s	133.96	15	IAMs_20	IAMs_20	04 05 58.4		
L57A	Andrews Acres baz=329,SNR=9.6	133.97	23	P	PKiKP	03 05 22.8	-0.1	
O54A	Avella baz=323,SNR=6.9	133.99	27	P	PKiKP	03 05 23.1	+0.1	
O54A	Avella comp=Z,3μm,20.0s	133.99	27	IAMs_20	IAMs_20	04 17 22.3		
H64A	Troy baz=340	134.00	14	P	PKiKP	03 05 23.0	+0.1	
HNH	Hanover comp=Z,3μm,20.0s	134.03	17	IAMs_20	IAMs_20	04 16 29.4		
K59A	Cooperstown baz=332	134.03	20	P	PKPdf	03 05 22.0	+0.3	
Q52A	Bidwell baz=320,SNR=8.5	134.05	30	P	PKiKP	03 05 23.1	0.0	
P53A	Whipple baz=322,SNR=16	134.07	29	P	PKiKP	03 05 23.3	+0.1	
P53A	Whipple comp=Z,2μm,22.0s	134.07	29	IAMs_20	IAMs_20	04 08 43.4		
344A	Westbrook Farm comp=Z,3μm,19.0s	134.07	44	IAMs_20	IAMs_20	04 10 17.3		
GGN	Saint George comp=Z,2μm,20.0s	134.08	12	IAMs_20	IAMs_20	04 15 12.5		
J60A	Lant Hill Farm baz=334	134.09	19	P	PKiKP	03 05 23.0	-0.1	
N55A	Marion Center baz=326	134.12	25	P	PKiKP	03 05 23.5	+0.2	
BINY	Binghamton baz=330,SNR=12	134.13	22	P	PKiKP	03 05 23.5	+0.3	
BINY	Binghamton comp=Z,3μm,21.0s	134.13	22	IAMs_20	IAMs_20	04 12 27.7		
T50A	Nancy comp=Z,3μm,21.0s	134.14	34	IAMs_20	IAMs_20	04 04 45.2		
I62A	Tamworth baz=337	134.15	16	P	PKiKP	03 05 23.1	-0.1	
I62A	Tamworth comp=Z,3μm,22.0s	134.15	16	IAMs_20	IAMs_20	04 07 24.6		
H65A	Eastbrook baz=341,SNR=5.2	134.18	13	P	PKiKP	03 05 23.0	-0.2	
I63A	Otisfield baz=338	134.20	16	P	PKiKP	03 05 22.9	-0.3	
I63A	Otisfield comp=Z,3μm,21.0s	134.20	16	IAMs_20	IAMs_20	04 06 14.8		
J61A	Chester baz=335	134.28	18	P	PKiKP	03 05 23.6	+0.2	
H66A	Whiting baz=343,SNR=7.9	134.30	12	P	PKiKP	03 05 22.9	-0.5	
N56A	West Decatur baz=326,SNR=6.2	134.30	25	P	PKiKP	03 05 23.5	-0.2	
L58A	Harry Jones Me baz=330,SNR=5.0	134.31	22	P	PKiKP	03 05 23.8	+0.2	
EMMW	East Machias comp=Z,3μm,22.0s	134.34	12	IAMs_20	IAMs_20	04 12 39.4		
P54A	Burton baz=323	134.41	28	P	PKiKP	03 05 23.5	-0.4	
M57A	Sunshine Farm, baz=328,SNR=6.1	134.43	23	P	PKiKP	03 05 23.2	-0.6	
M57A	Sunshine Farm, comp=Z,3μm,22.0s	134.43	23	IAMs_20	IAMs_20	04 06 51.7		
FFD	Franklin Falls comp=Z,3μm,21.0s	134.43	17	IAMs_20	IAMs_20	04 13 60.0		
O55A	Ligonier baz=325	134.45	26	P	PKPdf	03 05 22.9	+0.4	
TRY	Troy comp=Z,2μm,21.0s	134.47	19	IAMs_20	IAMs_20	04 08 15.9		
L59A	Walton baz=331	134.48	21	P	PKPdf	03 05 23.2	+0.6	
L59A	Walton comp=Z,2μm,20.0s	134.48	21	IAMs_20	IAMs_20	04 12 30.0		
Q53A	Leroy baz=321,SNR=6.1	134.49	29	P	PKiKP	03 05 24.3	+0.3	
146A	Union comp=Z,3μm,22.0s	134.50	42	IAMs_20	IAMs_20	04 07 59.4		
K60A	Five Rivers En baz=333	134.50	20	P	PKPdf	03 05 22.4	-0.1	
I64A	Boothbay baz=339	134.57	15	P	PKiKP	03 05 23.4	-0.6	
J62A	Henniker baz=336	134.61	17	P	PKPdf	03 05 23.2	+0.5	
MCWV	Mont Chateau baz=324	134.66	27	P	PKiKP	03 05 24.1	-0.3	
K61A	Williamstown baz=334,SNR=5.9	134.66	19	P	PKiKP	03 05 23.5	-0.7	
M58A	Price's Panora baz=329	134.66	23	P	PKiKP	03 05 23.7	-0.7	
R53A	Hurricane baz=320,SNR=7.0	134.69	30	P	PKiKP	03 05 24.0	-0.5	
R53A	Hurricane comp=Z,2μm,22.0s	134.69	30	IAMs_20	IAMs_20	04 10 21.3		
SSPA	Standing Stone baz=327	134.71	25	P	PKiKP	03 05 23.9	-0.5	
SSPA	Standing Stone comp=Z,2μm,20.0s	134.71	25	IAMs_20	IAMs_20	04 07 04.2		
O56A	Blue Knob Stat baz=326	134.72	26	P	PKiKP	03 05 23.9	-0.6	
O56A	Blue Knob Stat comp=Z,3μm,22.0s	134.72	26	IAMs_20	IAMs_20	04 06 14.7		
Q54A	Coxs Mills baz=322	134.73	29	P	PKiKP	03 05 24.6	+0.1	
N57A	Milroy baz=327	134.75	24	P	PKiKP	03 05 24.1	-0.4	
KSPA	Keystone Colle comp=Z,2μm,20.0s	134.76	22	IAMs_20	IAMs_20	04 13 26.6		
J63A	Strafford baz=337	134.77	17	P	PKPdf	03 05 23.3	+0.3	
SWET	Sewanee comp=Z,3μm,21.0s	134.78	36	IAMs_20	IAMs_20	04 10 43.4		
P55A	Reedsville baz=324,SNR=5.8	134.78	27	P	PKiKP	03 05 24.2	-0.5	
M59A	Waymart baz=330,SNR=5.0	134.90	22	P	PKPdf	03 05 23.9	+0.6	
L60A	Shokan baz=332	134.94	20	P	PKiKP	03 05 24.3	-0.5	
346A	Big Creek Wild comp=Z,2μm,20.0s	134.98	43	IAMs_20	IAMs_20	04 11 01.4		
K62A	Royalston baz=335	134.99	18	P	PKiKP	03 05 24.8	-0.1	
K62A	Royalston comp=Z,3μm,22.0s	134.99	18	IAMs_20	IAMs_20	04 15 23.8		
L61A	Hillsdale 1, H baz=333	134.99	20	P	PKiKP	03 05 24.4	-0.5	
N58A	Sunbury baz=328	135.01	23	P	PKiKP	03 05 24.5	-0.5	
N58A	Sunbury comp=Z,3μm,21.0s	135.01	23	IAMs_20	IAMs_20	04 07 20.2		
L61B	Northampton baz=334	135.05	19	P	PKiKP	03 05 24.6	-0.4	
Q55A	Buckhannon baz=323,SNR=9.5	135.08	28	P	PKiKP	03 05 24.6	-0.7	
S53A	Williamson baz=320	135.10	31	P	PKiKP	03 05 24.7	-0.7	
HAL	Halifax comp=Z,3μm,21.0s	135.12	9	IAMs_20	IAMs_20	04 13 06.8		
W50A	Signal Mountai comp=Z,3μm,21.0s	135.16	36	IAMs_20	IAMs_20	04 12 02.3		
O57A	Amberson baz=327	135.17	25	P	PKPdf	03 05 24.1	+0.2	
K63A	Dunstable baz=336	135.18	17	P	PKiKP	03 05 25.0	-0.2	
TZTN	Tazewell baz=317	135.20	33	P	PKiKP	03 05 25.4	-0.2	
P56A	Dayton Farm, R baz=325,SNR=6.1	135.23	26	P	PKiKP	03 05 25.1	-0.4	
R54A	Victor baz=321	135.28	29	P	PKPdf	03 05 24.6	+0.4	
QUA2	Belchertown comp=Z,3μm,22.0s	135.30	18	IAMs_20	IAMs_20	04 05 50.1		
N59A	State Game Lan baz=330	135.32	22	P	PKiKP	03 05 25.2	-0.5	
N59A	State Game Lan comp=Z,3μm,21.0s	135.32	22	IAMs_20	IAMs_20	04 06 43.3		
HRV	Adam Dziewonsk baz=336	135.34	17	P	PKPdf	03 05 24.8	+0.7	
HRV	Adam Dziewonsk comp=Z,2μm,21.0s	135.34	17	IAMs_20	IAMs_20	04 16 57.1		
M60A	Port Jervis baz=331	135.38	21	P	PKiKP	03 05 25.4	-0.4	
T53A	Wise baz=319	135.41	32	P	PKPdf	03 05 25.1	+0.6	
S54A	Dingess, Beckl baz=321	135.42	30	P	PKiKP	03 05 25.6	-0.4	
S54A	Dingess, Beckl comp=Z,2μm,22.0s	135.42	30	IAMs_20	IAMs_20	04 06 20.3		
L62A	Suffield baz=334	135.43	19	P	PKPdf	03 05 24.4	+0.2	
CPCT	Cooper Cave comp=Z,3μm,22.0s	135.44	35	IAMs_20	IAMs_20	04 06 03.7		
Q56A	Snyder Ridge, baz=324	135.45	27	P	PKiKP	03 05 25.4	-0.6	
Q56A	Snyder Ridge, comp=Z,3μm,22.0s	135.45	27	IAMs_20	IAMs_20	04 10 33.0		
WES	Weston comp=Z,2μm,21.0s	135.52	17	IAMs_20	IAMs_20	04 08 18.9		
O58A	Lewisberry baz=328	135.54	24	P	PKiKP	03 05 26.0	-0.1	
LRAL	Lakeview Retre baz=311,SNR=6.9	135.59	40	P	PKiKP	03 05 26.3	-0.1	
ODNJ	Ogdensburg comp=Z,2μm,22.0s	135.61	21	IAMs_20	IAMs_20	04 05 54.9		
N60A	Cedar Hill Far baz=330	135.61	22	P	PKiKP	03 05 25.7	-0.5	
P57A	Homestead Farm baz=326	135.61	26	P	PKiKP	03 05 26.0	-0.3	
P57A	Homestead Farm comp=Z,3μm,20.0s	135.61	26	IAMs_20	IAMs_20	04 14 01.2		
R55A	Marlinton baz=323	135.63	29	P	PKiKP	03 05 25.8	-0.7	
R55A	Marlinton comp=Z,3μm,22.0s	135.63	29	IAMs_20	IAMs_20	04 17 16.7		
O59A	Robesonia baz=329	135.67	23	P	PKiKP	03 05 25.8	-0.6	
M61A	Granite Spring baz=332	135.70	20	P	PKiKP	03 05 25.9	-0.5	
TKL	Tuckaleechee C comp=Z,3μm,22.0s	135.72	34	IAMs_20	IAMs_20	04 01 24.9		
LUPA	Lehigh Univers comp=Z,3μm,21.0s	135.74	22	IAMs_20	IAMs_20	04 18 44.5		
Q57A	Strasburg baz=325	135.81	26	P	PKiKP	03 05 26.2	-0.5	
S55A	Lewisburg baz=322	135.84	29	P	PKiKP	03 05 26.2	-0.7	
T54A	Tazewell baz=320	135.85	31	P	PKPdf	03 05 25.9	+0.6	
R56A	Bull Pasture M baz=324	135.87	28	P	PKiKP	03 05 26.5	-0.5	
X51A	Calhoun comp=Z,2μm,20.0s	135.87	36	IAMs_20	IAMs_20	04 11 35.1		
M62A	Hamden baz=334	135.88	19	P	PKPdf	03 05 25.8	+0.7	
BRYW	Bryant College comp=Z,3μm,22.0s	135.88	18	IAMs_20	IAMs_20	04 04 34.5		
L63A	North Scituate baz=336	135.91	18	P	PKiKP	03 05 26.0	-0.8	
P58A	Pank, Wackersv baz=327	135.91	25	P	PKiKP	03 05 26.4	-0.5	
PAL	Palisades baz=332	135.92	21	P	PKiKP	03 05 26.9	+0.1	
PAL	Palisades comp=Z,3μm,22.0s	135.92	21	IAMs_20	IAMs_20	04 07 57.3		
BRNJ	Basking Ridge comp=Z,2μm,20.0s	135.97	22	IAMs_20	IAMs_20	04 07 15.5		
O60A	Telford baz=330	135.97	23	P	PKiKP	03 05 26.2	-0.7	
YLE	Yale comp=Z,3μm,22.0s	135.98	20	IAMs_20	IAMs_20	04 05 41.8		
N61A	South Mountain baz=332	136.01	21	P	PKPdf	03 05 25.5	+0.1	
W52A	Murphy comp=Z,3μm,22.0s	136.03	35	IAMs_20	IAMs_20	04 01 19.4		
L64A	Middleborough baz=337	136.08	17	P	PKiKP	03 05 26.6	-0.6	
U54A	Nelsons Funny baz=319	136.14	32	P	PKPdf	03 05 26.5	+0.6	
P59A	Jarrettsville baz=328	136.17	24	P	PKiKP	03 05 26.6	-0.8	
M63A	Gales Ferry baz=335	136.19	19	P	PKiKP	03 05 26.9	-0.5	
Q58A	Fox Den Farm, baz=326	136.21	26	P	PKPdf	03 05 26.4	+0.6	
T55A	Pulaski baz=321	136.22	30	P	PKPdf	03 05 26.7	+0.7	
V53A	Saluda comp=Z,3μm,22.0s	136.24	33	IAMs_20	IAMs_20	04 09 06.8		
P60A	Greenville baz=329	136.32	23	P	PKiKP	03 05 26.9	-0.8	
P60A	Greenville comp=Z,3μm,22.0s	136.32	23	IAMs_20	IAMs_20	04 07 51.8		
M64A	Tiverton baz=336	136.32	18	P	PKiKP	03 05 27.1	-0.5	
BLA	Blacksburg baz=322	136.32	30	P	PKiKP	03 05 27.2	-0.7	
BLA	Blacksburg comp=Z,3μm,21.0s	136.32	30	IAMs_20	IAMs_20	04 07 08.2		

R57A	Stanardsville	136.36	27	P	PKiKP	03 05 27.4	-0.5
	baz=325						
S56A	Natural Bridge	136.37	29	P	PKPdf	03 05 26.7	+0.5
	baz=323						
M65A	Busby, Falmout	136.48	17	P	PKiKP	03 05 27.3	-0.6
	baz=337						
M65A	Busby, Falmout	136.48	17	IAms_20	IAms_20	04 09 35.1	
	comp=Z,2μm,21.0s						
O61A	Allentown	136.49	22	P	PKiKP	03 05 27.3	-0.7
	baz=331						
U55A	TA2, Sparta	136.56	31	P	PKiKP	03 05 27.6	-0.8
	baz=320						
R58A	Rapidan	136.59	27	P	PKPdf	03 05 27.0	+0.5
	baz=325,SNR=8.7						
S57A	Dark Hollow, R	136.60	28	P	PKPdf	03 05 27.1	+0.6
	baz=324						
S57A	Dark Hollow, R	136.60	28	IAms_20	IAms_20	04 18 54.6	
	comp=Z,3μm,21.0s						
V54A	Nebo	136.63	32	P	PKiKP	03 05 27.9	-0.6
	baz=319						
T56A	Rocky Mt	136.66	30	P	PKiKP	03 05 27.9	-0.6
	baz=322						
BG3	Lake Jocassee	136.67	34	IAms_20	IAms_20	04 10 41.2	
	comp=Z,3μm,22.0s						
Q59A	Harwood	136.71	25	P	PKiKP	03 05 28.5	0.0
	baz=327						
BRAL	Brewton	136.75	42	P	PKiKP	03 05 28.9	+0.1
	baz=309,SNR=5.2						
P61A	Hammonton	136.77	22	P	PKiKP	03 05 28.0	-0.6
	baz=330						
Y52A	Lilburn	136.83	36	IAms_20	IAms_20	04 07 52.5	
	comp=Z,3μm,22.0s						
PLCA	Paso Flores	136.84	163	PKP	PKiKP	03 05 28.9	0.0
	comp=Z,31nm,0.9s,baz=202,slow=2.7,SNR=13						
PLCA	Paso Flores	136.84	163	PKPdf	PKPdf	03 05 25.6	-1.4
PLCA	Paso Flores	136.84	163	eP	PKiKP	03 05 29.4	+0.5
M66A	Nantucket	136.91	17	P	PKiKP	03 05 28.2	-0.6
	baz=337						
R58B	Mineral	136.93	27	P	PKiKP	03 05 28.2	-0.8
	baz=325,SNR=7.7						
R58B	Mineral	136.93	27	IAms_20	IAms_20	04 11 39.0	
	comp=Z,3μm,21.0s						
Q60A	Greensboro	136.93	24	P	PKiKP	03 05 29.1	+0.1
	baz=329						
CBN	Corbin Frederi	136.95	26	P	PKiKP	03 05 28.4	-0.6
	baz=326						
V55A	Taylorsville	136.97	32	P	PKiKP	03 05 28.5	-0.7
	baz=320						
U56A	King	137.01	31	P	PKiKP	03 05 28.3	-0.9
	baz=321						
U56A	King	137.01	31	IAms_20	IAms_20	04 00 27.9	
	comp=Z,3μm,22.0s						
W54A	Cherokee Point	137.02	33	P	PKiKP	03 05 28.7	-0.5
	baz=318						
T57A	Hurt	137.06	29	P	PKiKP	03 05 28.9	-0.4
	baz=323,SNR=7.0						
R59A	King George, V	137.07	26	P	PKiKP	03 05 28.8	-0.5
	baz=326						
S58A	Poland Farm, P	137.13	27	P	PKiKP	03 05 29.3	-0.1
	baz=325						
R60A	Leonardtown, M	137.24	25	P	PKiKP	03 05 29.6	0.0
	baz=327						
Q61A	Milford	137.24	24	P	PKiKP	03 05 29.9	+0.3
	baz=329						
X54A	Belton	137.31	34	P	PKiKP	03 05 29.6	-0.3
	baz=317,SNR=13						
S59A	Mechanicsville	137.35	26	P	PKiKP	03 05 29.1	-0.7
	baz=326,SNR=7.2						
V56A	Mocksville	137.37	31	P	PKiKP	03 05 29.1	-0.9
	baz=320						
PAULI	Pauline	137.42	33	IAms_20	IAms_20	04 11 31.9	
	comp=Z,3μm,22.0s						
KMSC	Kings Mountain	137.44	33	P	PKiKP	03 05 29.3	-0.8
	baz=319,SNR=7.1						
T58A	Grand View Acr	137.45	28	P	PKiKP	03 05 29.8	-0.3
	baz=324						
U57A	Blanch	137.47	29	P	PKiKP	03 05 29.9	-0.2
	baz=322						
GOGA	Godfrey	137.50	36	P	PKiKP	03 05 29.9	-0.4
	baz=315,SNR=6.4						
GOGA	Godfrey	137.50	36	IAms_20	IAms_20	04 08 34.3	
	comp=Z,3μm,22.0s						
V57A	Coltrane Farms	137.68	30	P	PKiKP	03 05 30.2	-0.4
	baz=322						
S60A	Water View	137.68	26	P	PKiKP	03 05 30.3	-0.2
	baz=327						
X55A	Gracelyn & Ava	137.78	33	P	PKiKP	03 05 30.3	-0.6
	baz=318						
W56A	Indian Trail	137.84	32	P	PKiKP	03 05 30.2	-0.7
	baz=320						
T59A	Double "B" Far	137.88	27	P	PKiKP	03 05 30.4	-0.5
	baz=325,SNR=5.1						
T59A	Double "B" Far	137.88	27	IAms_20	IAms_20	04 13 28.4	
	comp=Z,3μm,22.0s						
U58A	Oxford	137.88	29	P	PKiKP	03 05 30.4	-0.6
	baz=323						
352A	Blakely	137.93	40	IAms_20	IAms_20	04 14 29.0	
	comp=Z,3μm,20.0s						
Y55A	Saluda	138.05	34	P	PKiKP	03 05 31.0	-0.4
	baz=318,SNR=7.1						
V58A	Windy Hill, Pi	138.09	30	P	PKiKP	03 05 30.5	-0.9
	baz=322						
V58A	Windy Hill, Pi	138.09	30	IAms_20	IAms_20	04 11 20.1	
	comp=Z,3μm,22.0s						
X56A	White Oak	138.09	33	P	PKiKP	03 05 30.4	-1.0
	baz=319						
T60A	Surry	138.12	26	P	PKiKP	03 05 30.4	-1.0
	baz=326						
T60A	Surry	138.12	26	IAms_20	IAms_20	04 13 34.5	
	comp=Z,3μm,21.0s						
W57A	Gilead	138.14	31	P	PKPdf	03 05 30.4	+0.9
	baz=321						
W57A	Gilead	138.14	31	IAms_20	IAms_20	04 18 28.7	
	comp=Z,2μm,22.0s						
U59A	Littleton	138.28	28	P	PKiKP	03 05 31.0	-0.8
	baz=324						
U59A	Littleton	138.28	28	IAms_20	IAms_20	04 06 52.1	
	comp=Z,3μm,21.0s						
Y56A	Pelion	138.46	34	P	PKiKP	03 05 31.5	-0.7
	baz=318						
U60A	Pendleton	138.48	27	P	PKPdf	03 05 30.8	+0.8
	baz=325						
V59A	Middlesex	138.54	29	P	PKiKP	03 05 31.8	-0.6
	baz=323						
X57A	Johnson Farm,	138.62	32	P	PKPdf	03 05 31.4	+1.0
	baz=320						
W58A	Raeford	138.63	31	P	PKiKP	03 05 32.0	-0.5
	baz=322,SNR=9.9						
Z56A	Williston	138.77	34	P	PKiKP	03 05 32.3	-0.5
	baz=318						
TIGA	Tifton	138.79	38	P	PKiKP	03 05 32.3	-0.7
	baz=313						
Y57A	Sumter	138.80	33	P	PKiKP	03 05 32.2	-0.7
	baz=319						
W59A	Clinton	138.91	30	P	PKiKP	03 05 32.7	-0.4
	baz=323						
X58A	Rowland	138.94	31	P	PKPdf	03 05 31.7	+0.7
	baz=321,SNR=5.9						
V60A	Jim Taylor Roa	139.00	28	P	PKPdf	03 05 31.8	+0.8
	baz=325						
553A	Crawfordville	139.10	41	IAms_20	IAms_20	04 15 16.1	
	comp=Z,2μm,21.0s						
CNNC	Cliffs of the	139.13	29	P	PKiKP	03 05 32.6	-1.0
	baz=324						
CNNC	Cliffs of the	139.13	29	IAms_20	IAms_20	04 12 21.7	
	comp=Z,3μm,22.0s						
255A	Hazlehurst	139.14	37	IAms_20	IAms_20	04 10 13.8	
	comp=Z,3μm,22.0s						
Z57A	Bowman	139.17	34	P	PKiKP	03 05 32.7	-1.0
	baz=318,SNR=11						
V61A	Roper	139.30	27	P	PKiKP	03 05 33.3	-0.6
	baz=326						
V61A	Roper	139.30	27	IAms_20	IAms_20	04 12 50.9	
	comp=Z,3μm,22.0s						
X59A	McDuffie Farm,	139.31	30	P	PKiKP	03 05 32.8	-1.1
	baz=322,SNR=6.4						
W60A	Pink Hill	139.37	29	P	PKPdf	03 05 32.7	+1.0
	baz=324						
157A	Early Branch	139.46	35	P	PKiKP	03 05 34.0	-0.3
	baz=318,SNR=6.3						
BI03	Tigo	139.50	157	IAms_20	IAms_20	04 08 11.6	
	comp=Z,3μm,22.0s						
NHSC	New Hope	139.60	33	P	PKiKP	03 05 33.8	-0.7
	baz=319						
W61A	Ground Anchor	139.61	28	P	PKiKP	03 05 34.0	-0.6
	baz=325						
X60A	Albert Glenn T	139.62	30	P	PKPdf	03 05 33.3	+1.1
	baz=323						
Y59A	Loris	139.62	31	P	PKPdf	03 05 33.3	+1.1
	baz=321						
Z58A	St. Stephen	139.63	33	P	PKiKP	03 05 33.8	-0.8
	baz=320,SNR=7.0						
158A	Hollywood	139.87	34	P	PKiKP	03 05 33.9	-1.2
	baz=319						
Y60A	Bolivia	139.95	31	P	PKPdf	03 05 33.4	+0.6
	baz=322						
Z59A	Georgetown, SC	139.99	32	P	PKPdf	03 05 34.0	+1.1
	baz=320						
BI02	San Fabin de	140.30	159	IAms_20	IAms_20	04 01 00.9	
	comp=Z,3μm,22.0s						
656A	Willston	140.87	40	IAms_20	IAms_20	04 10 11.0	
	comp=Z,3μm,22.0s						
TEIG	Tepich	141.83	57	PKPdf	PKPdf	03 05 34.8	-1.8
PETF	Flores	141.84	62	IAms_20	IAms_20	03 58 46.0	
	comp=Z,2μm,22.0s						
APG	El Apazote	141.98	66	PKhKP	PKPpre	03 05 33.0	
	comp=Z,26nm,1.1s,baz=307,slow=4.6,SNR=3.5						
DWPF	Disney Wildern	142.43	40	P	PKPdf	03 05 38.0	+0.5
	baz=313						
DWPF	Disney Wildern	142.43	40	IAms_20	IAms_20	04 17 31.4	
	comp=Z,2μm,20.0s						
RFA	San Rafael	142.97	161	*i* P	PKiKP	03 05 40.4	-1.1
MTO3	Montecristo	143.19	66	IAms_20	IAms_20	04 01 31.0	
	comp=Z,2μm,21.0s						
MT02	Curacav	143.38	157	IAms_20	IAms_20	04 13 09.5	
	comp=Z,3μm,21.0s						
ROC1	El Roble	143.68	157	*e*P	PKPdf	03 05 38.9	-1.0
061Z	Ochoppi	144.28	42	IAms_20	IAms_20	04 16 42.7	
	comp=Z,2μm,20.0s						
AAGR	Agrelo	144.39	160	*i* P	PKPdf	03 05 41.7	+0.8
ARCO	CERRO ARCO	144.57	159	*e*P	PKPdf	03 05 41.9	+0.6
ASAL	Salagasta	144.84	159	*e*P	PKPdf	03 05 43.0	+1.2
LPA	La Plata	144.94	176	*c i* PKP	PKPab	03 05 35.0	-5.8
LPA				PKIKS		03 09 14.0	
LPA				PPP	PPP	03 12 08.7	
LPA				SKIKS		03 12 43.1	
LPA				SDIFF		03 17 37.0	
LPA				PPP(2)		03 20 11.7	
AUSP	Uspallata	144.97	158	*e*P	PKPdf	03 05 44.1	+1.9
TGUH	Tegucigalpa,Un	145.21	65	IAms_20	IAms_20	04 02 34.4	
	comp=Z,3μm,21.0s						
CO02	Combarbal	145.24	155	IAms_20	IAms_20	04 14 17.7	
	comp=Z,3μm,22.0s						
RTLS	Leoncito	145.38	158	*e*P	PKiKP	03 05 45.3	-1.6
RTCV	Cerro Valdivia	145.60	159	*e*P	PKPab	03 05 44.9	+1.4
CO03	El Pedregal	145.69	156	IAms_20	IAms_20	04 19 03.6	
	comp=Z,2μm,20.0s						
ZON	Zonda	145.84	159	*i* P	PKPab	03 05 45.8	+1.4
MRA	San Martin	145.98	164	*i* P	PKPab	03 05 45.8	+0.9
RTLL	Cerro Villicun	146.11	159	*i* P	PKPab	03 05 46.3	+0.9
ACCO	Cerro Coronel	146.56	158	*i* P	PKPab	03 05 47.3	-0.2
BBSR	BB Station	146.73	15		PKPbc	03 05 46.2	-0.2
BBSR	BB Station	146.73	15	IAms_20	IAms_20	04 26 28.5	
	comp=Z,3μm,22.0s						
AROD	Rodeo	146.77	157	*i* P	PKPab	03 05 47.8	-0.5
AVFE	Valle Fertil	147.07	160	*i* P	PKPab	03 05 48.5	-0.6
BOAB	BOACO BROADBAND	147.22	67	IAms_20	IAms_20	04 01 39.0	
	comp=Z,3μm,21.0s						
LCO	Las Campanas	147.27	154	PKP2	PKPbc	03 05 48.6	+0.1
LCO				MLR	MLR		
	comp=Z,3μm,22.0s						
LCO	Las Campanas	147.27	154	PKPdf	PKPdf	03 05 44.1	-2.1
LCO				PKPab	PKPbc	03 05 48.6	+0.1
LCO	Las Campanas	147.27	154	IAms_20	IAms_20	04 09 56.5	
	comp=Z,3μm,22.0s						
TCA	Tanti	147.31	165	*e*P	PKPbc	03 05 48.0	-0.3
TCA				*i* P	PKPab	03 05 48.3	-1.8
APLL	PUNTA DE LOS L	147.62	161	*i* P	PKPbc	03 05 48.2	-1.0
AGUA	GUANDACOL	147.76	158	*i* P	PKPbc	03 05 49.3	-0.3
PLTB	Pedras Altas	148.16	182	*e*P	PKPbc	03 05 49.4	-1.1
ACLC	CERRO LA CRUZ	148.38	160	*i* P	PKPbc	03 05 49.9	-1.4
VCA	Vinchina	148.54	157	*i* P	PKPbc	03 05 50.7	-1.0
JTS	Las Juntas de	148.56	70	PKPbc	PKiKP	03 05 53.6	+0.1
	comp=Z,34nm,0.6s,baz=12,slow=3.2,SNR=19						
JTS	Las Juntas de	148.56	70	PKIKP	PKPdf	03 05 49.9	+1.6
JTS				MLR	MLR		
	comp=Z,2μm,22.0s						
JTS	Las Juntas de	148.56	70		PKPdf	03 05 49.9	+1.6
JTS	Las Juntas de	148.56	70	IAms_20	IAms_20	04 10 09.5	
	comp=Z,2μm,22.0s						
GO03	Copiap	148.70	153	IAms_20	IAms_20	04 16 31.3	
	comp=Z,3μm,21.0s						
CNLB	Canela	150.36	187	*e*P	PKPdf	03 05 52.9	+2.0
PRVC	Isla de Provid	150.77	62	*e*P	PKPdf	03 05 52.0	+2.2
PB14	IPOC Station P	151.12	150	IAms_20	IAms_20	04 18 00.9	
	comp=Z,3μm,21.0s						
AHML	Horco Molle	151.35	160	*i* P	PKPdf	03 05 54.9	+2.4
GTBY	Guantanamo Bay	152.21	44	IAms_20	IAms_20	04 22 23.8	
	comp=Z,2μm,21.0s						
ITAB	Concordia	152.56	185	*e*P	PKPdf	03 05 56.6	+2.4
PB06	IPOC Station P	153.14	149	IAms_20	IAms_20	04 18 45.2	
	comp=Z,2μm,21.0s						
CPUP	Villa Florida	153.50	175	PKP	PKPdf	03 05 57.7	+2.1
	comp=Z,19nm,1.0s,baz=122,slow=1.4,SNR=17						
CPUP				PKPbc	PKiKP	03 06 05.0	+1.7
	comp=Z,42nm,0.8s,baz=186,slow=1.8,SNR=21						
CPUP	Villa Florida	153.50	175	PKPdf	PKPdf	03 05 53.9	-1.7
CPUP	Villa Florida	153.50	175	*e*P	PKPdf	03 05 57.5	+1.9
LVC	Limon Verde	153.55	150	PKP	PKPdf	03 05 58.2	+2.0
	comp=Z,9.0nm,0.9s,baz=56,slow=1.4,SNR=4.9						
LVC				PKPbc	pPKPdf	03 06 06.3	-1.6
	comp=Z,33nm,0.6s,baz=260,slow=1.8,SNR=39						
LVC	Limon Verde	153.55	150	PKPdf	PKPdf	03 05 53.9	-2.3
LVC	Limon Verde	153.55	150	*e*P	PKPdf	03 05 57.6	+1.4
GRTK	Grand Turk	153.61	36	IAms_20	IAms_20	04 26 23.1	
	comp=Z,3μm,22.0s						
BCIP	Isla Barro Col	153.70	70	IAms_20	IAms_20	04 05 01.8	
	comp=Z,2μm,21.0s						
TIJ01	Guaruva-PR	153.95	192	*e*P	PKPdf	03 05 58.2	+1.8
PET01	Itanhaem-SP	154.51	197	*e*P	PKPdf	03 05 59.2	+2.2
PB01	IPOC Station P	154.54	147	IAms_20	IAms_20	04 23 08.5	
	comp=Z,2μm,20.0s						
MAN01	Angra dos Reis	154.67	204	*e*P	PKPdf	03 05 59.0	+1.5
PARB	Paraibuna	154.88	201	*e*P	PKPdf	03 05 59.1	+1.4
PTGB	Pitanga	155.05	186	*e*P	PKPdf	03 05 59.4	+1.5
NNA	Nana	155.13	120	PKP	PKPdf	03 06 00.6	+2.4
	comp=Z,51nm,1.1s,baz=309,slow=4.7,SNR=7.9						
PSGCX	Pisagua	155.33	144	IAms_20	IAms_20	04 16 22.5	
	comp=Z,2μm,22.0s						
PB11	IPOC Station P	155.47	145	IAms_20	IAms_20	04 06 27.3	
	comp=Z,2μm,22.0s						
ATAH	Atahualpa	155.52	108	PKP	PKPdf	03 06 01.1	+1.8
	comp=Z,29nm,1.0s,baz=180,slow=3.5,SNR=11						
VAO	Valinhos	155.63	198	*e*P	PKPdf	03 06 00.4	+1.7
RIB01	Linhares ES	155.88	216	*e*P	PKPdf	03 06 00.9	+1.8
PB12	IPOC Station P	155.96	142	IAms_20	IAms_20	04 20 14.3	
	comp=Z,2μm,22.0s						
FRTB	Fartura	155.99	192	*e*P	PKPdf	03 06 00.7	+1.5
AP01	Chacalluta	156.13	142	IAms_20	IAms_20	04 10 22.0	
	comp=Z,2μm,21.0s						
PAC1	Pacto, Paraso	156.18	90	*e*P	PKPdf	03 06 00.1	+0.3
OTAV	Otavalo	156.52	90	*e*P	PKPdf	03 06 01.7	+1.1
OTAV	Otavalo	156.52	90	IAms_20	IAms_20	04 12 59.2	
	comp=Z,2μm,20.0s						
OTAV	Otavalo	156.52	90	*e*P	PKPdf	03 06 01.9	+1.2
BSFB	Barra de Sao F	156.52	215	*e*P	PKPdf	03 06 02.0	+2.1
BSCB	Bom Sucesso	156.67	205	*e*P	PKPdf	03 06 02.3	+2.2
SJMB	Sao Joao De Ma	156.82	215	*e*P	PKPdf	03 06 02.0	+1.7
NAN01	Guarapari, ES	156.85	218	*e*P	PKPdf	03 06 02.0	+1.7
GCUF	Volcan Galeras	157.61	87	*e*P	PKPdf	03 06 03.9	+1.8
BBAC	Balboa, Cauca	157.66	85	*e*P	PKPdf	03 06 02.1	+0.3
MOTC	Monteria, Cord	157.71	67	*e*P	PKPdf	03 06 03.0	+1.5
SJCC	San Jacinto, C	157.72	64	*e*P	PKPdf	03 06 03.0	+1.4
BB19B	Bebedouro	157.92	196	*e*P	PKPdf	03 06 02.8	+1.1
PCMB	Pacaembu	158.00	189	*e*P	PKPdf	03 06 03.5	+1.8
POPC	Popayan, Colom	158.18	84	*e*P	PKPdf	03 06 02.2	-0.3
UREC	San Jos de Ur	158.18	69	*e*P	PKPdf	03 06 02.6	+0.5
PLMC	San Jos del P	158.22	77	*e*P	PKPdf	03 06 02.8	+0.5
CBOC	Ciudad Bolivar	158.26	75	*e*P	PKPdf	03 06 03.4	+0.9
YOTC	Yotoco, Valle	158.32	80	*e*P	PKPdf	03 06 03.3	+0.8
PUAC	Puerto Asis, P	158.40	89	*e*P	PKPdf	03 06 02.2	-0.3
PCON	Cinco Dias	158.48	84	*e*P	PKPdf	03 06 03.9	+0.7
ARGC	Ariguani, Magd	158.57	63	*e*P	PKPdf	03 06 04.3	+1.7
HELC	Santa Helena	158.65	73	*e*P	PKPdf	03 06 03.7	+0.6
ZARC	Zaragoza, Cauc	158.90	70	*e*P	PKPdf	03 06 03.8	+0.8
OBIP	Obispado Ponce	158.92	32	IAms_20	IAms_20	04 14 44.4	
	comp=Z,2μm,22.0s						
GUY2C	Guyana, Caldas	159.04	76	*e*P	PKPdf	03 06 04.3	+0.5
LPAZ	La Paz	159.08	142	PKP	PKPdf	03 06 05.8	+1.9
	comp=Z,18nm,0.9s,baz=246,slow=1.5,SNR=38						
LPAZ				PKPab	PKPab	03 06 43.6	+3.1
	comp=Z,30nm,1.0s,baz=246,slow=4.0,SNR=7.4						
LPAZ	La Paz	159.08	142	*e*P	PKPdf	03 06 05.1	+1.2
ANIL	Santa Ana	159.16	78	*e*P	PKPdf	03 06 05.1	+1.4
SMLC	San Martn de	159.16	65	*e*P	PKPdf	03 06 03.6	+0.4
TOLC	Tolima	159.22	78	*e*P	PKPdf	03 06 05.2	+1.3
FLOC	Florencia	159.28	86	*e*P	PKPdf	03 06 04.6	+1.1
GARC	Garzon, Huila	159.39	84	*e*P	PKPdf	03 06 05.2	+1.3
GDU01	Guandu, BA	159.39	227	*e*P	PKPdf	03 06 04.7	+1.2
BETC	Betania	159.40	83	*e*P	PKPdf	03 06 05.3	+1.7
ORTC	Ortega, Tolima	159.42	80	*e*P	PKPdf	03 06 03.7	+0.1
NORC	Norcasia	159.44	75	*e*P	PKPdf	03 06 03.2	-0.5
STVI	Saint Thomas	159.49	28		PKPdf	03 06 01.3	-2.2
STVI				PKPab	PKPab	03 06 42.4	+1.1
PTBC	PUERTO BERRIO	159.57	72	*e*P	PKPdf	03 06 02.2	-1.6
URIC	Uribia, Colomb	159.61	55	*e*P	PKPdf	03 06 04.0	+0.2
ITRB	Iturama	159.68	193	*e*P	PKPdf	03 06 05.4	+1.6
PRAC	Prado	159.80	80	*e*P	PKPdf	03 06 03.2	-0.9
MC01	Montes Claros	159.97	212	*e*P	PKPdf	03 06 05.9	+1.7
RCBR	Riachuelo	160.03	252	PKP	PKPdf	03 06 06.0	+1.6
	comp=Z,51nm,0.9s,baz=106,slow=2.1,SNR=11						
RCBR				PKPab	PKPab	03 06 45.9	+1.7
	comp=Z,23nm,1.0s,baz=55,slow=6.6,SNR=2.3						
RCBR	Riachuelo	160.03	252	PKIKP	PKPdf	03 06 06.0	+1.6
RCBR	Riachuelo	160.03	252	PKPdf	PKPdf	03 06 01.7	-2.7
RCBR					PKPab	03 06 41.4	-2.8
RCBR	Riachuelo	160.03	252	*e*P	PKPdf	03 06 06.2	+1.8
CDVI	St. Croix	160.10	28	*e*P	PKPdf	03 06 02.3	-1.9
BRRC	Barranca, Sant	160.10	69	*e*P	PKPdf	03 06 05.7	+1.3
ROSC	El Rosal	160.14	76	PKP	PKPdf	03 06 06.7	+1.7
	comp=Z,45nm,0.9s,baz=117,slow=4.6,SNR=16						
ROSC				PKPab	PKPab	03 06 47.5	+2.4
	comp=Z,52nm,0.9s,baz=216,slow=18,SNR=6.9						
ROSC	El Rosal	160.14	76	*e*P	PKPdf	03 06 06.2	+1.2
PTLC	Puerto Leguiza	160.18	90	*e*P	PKPdf	03 06 04.9	+0.4
SPBC	San Pablo de B	160.19	74	*e*P	PKPdf	03 06 05.2	+0.6
NBLI	Livramento-PB	160.51	247	*e*P	PKPdf	03 06 06.6	+1.7
CZSB	Cruzeiro do Su	160.63	114	*e*P	PKPdf	03 06 07.4	+2.4
IPMB	Ipameri, GO	160.72	200	*e*P	PKPdf	03 06 06.9	+1.9
CHIC	Chingaza	160.76	77	*e*P	PKPdf	03 06 06.1	+0.5
BARC	Barichara	160.76	70	*e*P	PKPdf	03 06 06.5	+1.1
SABA	Saba	160.89	25	*e*P	PKPdf	03 06 01.7	-3.5
VILC	Villavicencio,	160.90	78	*e*P	PKPdf	03 06 03.1	-2.3
PAMC	Pamplona, Colo	160.96	68	*e*P	PKPdf	03 06 06.8	+0.9
MACC	Macarena, Meta	161.03	84	*e*P	PKPdf	03 06 05.2	-0.3
RUSC	La Rusia	161.07	72	*e*P	PKPdf	03 06 06.6	+0.6
SEUS	St. Eustatius	161.12	24	*e*P	PKPdf	03 06 03.1	-2.3
SKI	Saint Kitts	161.36	24	*e*P	PKPdf	03 06 04.5	-1.2
ANWB	Willy Bob	161.41	21	*e*P	PKPdf	03 06 02.7	-2.9
JANB	Januaria	161.51	214	*e*P	PKPdf	03 06 07.1	+1.1
MLYT	Lee's Yard	162.13	23	*e*P	PKPdf	03 05 53.8	-13
SDV	Santo Domingo	162.19	61	PKP	PKPdf	03 06 08.5	+1.6
	comp=Z,34nm,0.9s,baz=213,slow=1.0,SNR=16						
SDV				PKPab	PKPab	03 06 56.1	+2.4
	comp=Z,25nm,0.9s,baz=286,slow=6.0,SNR=4.1						
SDV	Santo Domingo	162.19	61	*e*P	PKPdf	03 06 07.5	+0.6
SDV	Santo Domingo	162.19	61	PKPdf	PKPdf	03 06 04.6	-2.2
SDV	Santo Domingo	162.19	61	*e*P	PKPdf	03 06 08.4	+1.6
SIV	San Ignacio	162.80	160	PKP	PKPdf	03 06 09.1	+1.9
	comp=Z,22nm,0.9s,baz=196,slow=1.4,SNR=54						
SIV				PKPab	PKPab	03 06 58.9	+3.1
	comp=Z,13nm,1.1s,baz=275,slow=2.2,SNR=3.8						
BDFB	Brasilia	162.80	203	PKP	PKPdf	03 06 08.8	+1.6
	comp=Z,20nm,1.0s,baz=12,slow=0.6,SNR=13						
BDFB				PKPab	PKPab	03 06 58.6	+2.6
	comp=Z,13nm,0.7s,baz=168,slow=4.0,SNR=8.2						
BDFB	Brasilia	162.80	203		PKPdf	03 06 05.3	-2.0
CBE	Ff, Capester	162.95	22	*e*P	PKPdf	03 06 05.0	-2.3
TDBA	Terre de Bas,	163.14	23	*e*P	PKPdf	03 06 07.4	-0.1
MAGL	Barre de l'ile	163.18	21	*e*P	PKPdf	03 06 05.8	-1.7
DSLB	Salisbury	163.60	23	*e*P	PKPdf	03 06 06.7	-1.2
MDN	Morne-Daniel	163.72	23	*e*P	PKPdf	03 06 08.5

BOLV				IAML		03 09 30.0	
	comp=N,278nm,0.2s						
BOLV				IAML		03 09 31.0	
	comp=E,410nm,0.2s						
BAGO	**Egridir - ISPA**	**0.48**	**156**	*i* P	Pg	03 09 25.3	+0.7
BAGO				IAML		03 09 36.0	
	comp=N,48nm,0.4s						
BAGO				IAML		03 09 38.0	
	comp=E,52nm,0.6s						
ISP	**Isparta**	**0.60**	**181**	PG	Pg	03 09 26.6	-0.3
ISP				SG	Sb	03 09 36.4	-0.6
BASM	**Basmaki-Afyon**	**0.64**	**218**	PG	Pg	03 09 28.0	+0.4
BCK	**Bucak**	**0.96**	**178**	PG	Pg	03 09 33.8	0.0
CIFT	**Cifteler, Eski**	**1.02**	**23**	PG	Pg	03 09 33.7	-1.1
GDZ	**Gediz**	**1.06**	**309**	*i* P	Pg	03 09 35.4	-0.2
GDZ				*i* S	Sg	03 09 49.5	+0.1
GDZ				IAML		03 09 55.0	
	comp=N,11nm,0.4s						
GDZ				IAML		03 09 56.0	
	comp=E,13nm,0.6s						
GEDZ	**Gediz**	**1.08**	**305**	PG	Pg	03 09 35.8	-0.2
KIZT	**Kizilcal**	**1.14**	**66**	PN	Pg	03 09 36.7	-0.5
USAK	**Uak-Merkez**	**1.23**	**284**	*i* P	Pg	03 09 38.6	-0.2
USAK				*i* S	Sn	03 09 55.6	-0.3
USAK				IAML		03 09 56.0	
	comp=N,362nm,0.4s						
USAK				IAML		03 09 56.0	
	comp=E,161nm,1.5s						
KDHN	**Kadinhani**	**1.24**	**85**	*i* P	Pg	03 09 38.6	-0.5
SVRH	**Sivrihisar-ESK**	**1.27**	**37**	PN	Pn	03 09 39.2	-0.4
AUSIV	**SIVRIHISAR**	**1.28**	**37**	PN	Pn	03 09 39.5	-0.2
TVSB	**Tavsanli**	**1.32**	**321**	PN	Pb	03 09 40.6	+0.1
SIMA	**Simav-Kutahya**	**1.38**	**299**	PN	Pn	03 09 40.9	-0.2
SEYD	**Seydisehir-KON**	**1.45**	**134**	PN	Pn	03 09 42.3	+0.3
LADK	**Ladik-KONYA**	**1.45**	**98**	PN	Pn	03 09 42.3	+0.2
BORA	**Eskisehir**	**1.45**	**357**	PN	Pn	03 09 42.3	+0.2
BORA	**Eskisehir**	**1.45**	**357**	*i* P	Pb	03 09 42.8	+0.1
BORA				*i* S	Sg	03 10 02.6	+0.6
BORA				IAML		03 10 06.0	
	comp=E,22nm,0.2s						
BORA				IAML		03 10 06.0	
	comp=N,12nm,0.4s						
KULA	**Kula-Manisa**	**1.48**	**274**	PN	Pn	03 09 42.5	+0.1
KONT	**Konya--Tatoy**	**1.51**	**108**	PN	Pb	03 09 43.4	-0.3
KONT	**Konya--Tatoy**	**1.51**	**108**	*i* P	Pg	03 09 44.2	-0.1
KONT				IAML		03 10 09.0	
	comp=E,21nm,0.6s						
KONT				IAML		03 10 10.0	
	comp=N,51nm,0.7s						
AUBOZ	**BOZOYUK**	**1.53**	**345**	PN	Pn	03 09 43.4	+0.2
KMER	**Konya-Meram**	**1.58**	**114**	*i* P	Pb	03 09 45.2	+0.3
KMER				*i* S	Sg	03 10 08.9	+2.7
KMER				IAML		03 10 09.0	
	comp=N,22nm,0.7s						
KMER				IAML		03 10 12.0	
	comp=E,30nm,0.8s						
AUMIH	**MIHALICIK**	**1.61**	**27**	PN	Pn	03 09 44.5	+0.1
AUMIH	**MIHALICIK**	**1.61**	**27**	*i* P	Pg	03 09 46.5	+0.2
AUMIH				IAML		03 10 11.0	
	comp=E,53nm,0.6s						
AUMIH				IAML		03 10 11.0	
	comp=N,44nm,0.6s						
SRCK	**Saricakaya, Es**	**1.61**	**2**	PN	Pn	03 09 44.6	+0.4
ELL	**Elmali**	**1.75**	**197**	PN	Pb	03 09 47.0	-0.8
CHBY	**Cihanbeyli**	**1.85**	**84**	PN	Pn	03 09 48.2	+0.7
GULT	**Gulveren**	**2.00**	**359**	PN	Pn	03 09 50.4	+0.8
GEYV	**SAKARYA_Geyve**	**2.06**	**355**	*i* P	Pg	03 09 54.8	-0.1

*ATH **10** 03:11:09.2, 39°.59N×26°.04E, h32km±2km, ML2.2/4, Error ellipse: s-maj=3.4km s-min=1.0km az=222.0*
*DDA **10** 03:11:09.6, 39°.61N×26°.10E, h13km, ML2.3*
*ISK **10** 03:11:09.2, 39°.61N×26°.05E, h12km, ML2.6/26*
*THE **10** 03:11:10.0, 39°.63N×26°.07E, h6km±5km, ML2.1/5, Error ellipse: s-maj=5.4km s-min=0.5km az=100.0*

ISC 10 03:11:09.8±0.8, **39°.61N**±0°.02×**26°.07E**±0°.02, **h15**km±7km, **n60**, σ0**°52**/82, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.23**	**357**	PG	**Pg**	**03 11 14.9**	**0.0**
BOZC				SG	**Sg**	**03 11 18.5**	**+0.2**
BOZC	**Bozcaada**	**0.23**	**357**	*i* P	**Pg**	**03 11 14.8**	**0.0**
BOZC				IAML		03 11 18.0	
	comp=N,373nm,0.3s						
BOZC				IAML		03 11 18.0	
	comp=E,510nm,0.2s						
BOZC				*i* S	**Sg**	**03 11 18.5**	**+0.2**
EZN	**Ezine**	**0.29**	**43**	P	**Pg**	**03 11 15.7**	**-0.2**
EZN				S	**Sg**	**03 11 19.5**	**-0.5**
EZN	**Ezine**	**0.29**	**43**	PG	**Pg**	**03 11 15.7**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.39**	**71**	*i* P	**Pg**	**03 11 17.3**	**-0.3**
BAYC				IAML		03 11 22.0	
	comp=N,729nm,0.1s						
BAYC				IAML		03 11 22.0	
	comp=E,518nm,0.1s						
BAYC				*i* S	**Sg**	**03 11 22.6**	**-0.5**
PRK	**Paraskevi**	**0.40**	**157**	P	**Pb**	**03 11 18.6**	**+0.1**
PRK				S	**Sb**	**03 11 24.5**	**0.0**
	comp=E,470nm,0.3s						
PRK	**Paraskevi**	**0.40**	**157**	P	**Pb**	**03 11 18.7**	**+0.1**
PRK				S	**Sb**	**03 11 24.5**	**0.0**
PRK				AML	AML	03 11 24.6	
	comp=N,1010µm,0.3s						
PRK				AML	AML	03 11 26.2	
	comp=E,847µm,0.4s						
SIGR	**SIGRI**	**0.43**	**202**	P	**Pg**	**03 11 18.3**	**-0.1**
SIGR				S	**Sg**	**03 11 24.7**	**+0.4**
	comp=E,500nm,0.3s						
SIGR	**SIGRI**	**0.43**	**202**	P	**Pg**	**03 11 18.3**	**-0.1**
SIGR				S	**Sg**	**03 11 24.6**	**+0.2**
SIGR				AML	AML	03 11 25.0	
	comp=E,931µm,0.2s						
SIGR				AML	AML	03 11 25.4	
	comp=N,1088µm,0.3s						
SIGR	**SIGRI**	**0.43**	**202**	PG	**Pg**	**03 11 18.3**	**-0.1**
SIGR				SG	**Sg**	**03 11 24.5**	**+0.2**
AYVA	**Ayvalik**	**0.57**	**122**	*i* P	**Pg**	**03 11 20.5**	**-0.4**
AYVA				IAML		03 11 32.0	
	comp=N,285nm,0.8s						
AYVA				IAML		03 11 32.0	
	comp=E,113nm,0.5s						
GOKA	**anakkale-Gk**	**0.59**	**348**	*i* P	**Pg**	**03 11 21.3**	**-0.1**
GOKA				*i* S	**Sb**	**03 11 30.0**	**0.0**
GOKA				IAML		03 11 30.0	
	comp=E,250nm,0.5s						
GOKA				IAML		03 11 30.0	
	comp=N,84nm,0.2s						
GADA	**Gvkgeada**	**0.59**	**347**	P	**Pg**	**03 11 21.2**	**-0.2**
GADA				S	**Sg**	**03 11 29.4**	**+0.1**
GADA	**Gvkgeada**	**0.59**	**347**	PG	**Pg**	**03 11 21.1**	**-0.3**
LIA	**Limnos Island**	**0.74**	**293**	P	**Pb**	**03 11 24.4**	**0.0**
LIA				S	**Sb**	**03 11 35.2**	**+0.9**
	comp=N,138nm,0.2s						
LIA	**Limnos Island**	**0.74**	**293**	P	**Pb**	**03 11 24.4**	**0.0**
LIA				S	**Sb**	**03 11 35.0**	**+0.7**
LIA				AML	AML	03 11 36.2	
	comp=E,278µm,0.2s						
LIA				AML	AML	03 11 36.5	
	comp=N,268µm,0.2s						
EFSA	**Agios Efstrati**	**0.84**	**265**	P	**Pb**	**03 11 26.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.84**	**22**	PG	**Pg**	**03 11 25.7**	**-0.4**
DKL	**Dikili**	**0.84**	**130**	PG	**Pb**	**03 11 26.4**	**+0.2**
LPK	**Lapseki**	**0.93**	**35**	PG	**Pg**	**03 11 27.4**	**-0.3**
SMTH	**Samothraki Isl**	**0.95**	**334**	P	**Pb**	**03 11 27.7**	**-0.3**
SMTH				S	**Sb**	**03 11 40.5**	**+0.1**
	comp=N,92nm,0.2s						
SMTH	**Samothraki Isl**	**0.95**	**334**	P	**Pb**	**03 11 27.7**	**-0.3**
SMTH				S	**Sb**	**03 11 40.6**	**+0.1**
SMTH				AML	AML	03 11 42.8	
	comp=N,222µm,0.1s						
SMTH				AML	AML	03 11 43.5	
	comp=E,204µm,0.2s						
ZEDA	**zmir-Bergama**	**1.01**	**129**	*i* P	**Pb**	**03 11 28.7**	**-0.4**
ZEDA				IAML		03 11 43.0	
	comp=E,66nm,0.2s						
ZEDA				*i* S	**Sn**	**03 11 43.2**	**-0.3**
ZEDA				IAML		03 11 44.0	
	comp=N,160nm,0.4s						
BALY	**Balya**	**1.20**	**83**	*i* P	**Pn**	**03 11 32.1**	**-0.1**
BALY				*i* S	**Sb**	**03 11 47.6**	**-0.1**
BALY				IAML		03 11 50.0	
	comp=E,28nm,0.4s						
BALY				IAML		03 11 50.0	
	comp=N,45nm,0.2s						
CHOS	**Chios island**	**1.23**	**180**	P	**Pn**	**03 11 31.7**	**-0.8**
CHOS				S	**Sg**	**03 11 50.7**	**+1.4**
CHOS	**Chios island**	**1.23**	**180**	P	**Pn**	**03 11 31.6**	**-0.9**
CHOS	**Chios island**	**1.23**	**180**	PN	**Pn**	**03 11 31.7**	**-0.8**
ALN	**Alexandroupoli**	**1.28**	**359**	P	**Pn**	**03 11 33.1**	**-0.1**
ALN				S	**Sg**	**03 11 50.7**	**-0.5**
	comp=N,48nm,0.4s						
ALN	**Alexandroupoli**	**1.28**	**359**	P	**Pn**	**03 11 33.1**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**359**	PN	**Pn**	**03 11 33.1**	**-0.1**
KESN	**Edirne-Kesan**	**1.30**	**21**	*i* P	**Pn**	**03 11 33.7**	**-0.1**
KESN				*i* S	**Sg**	**03 11 51.5**	**-0.3**
KESN				IAML		03 11 52.0	
	comp=E,59nm,0.4s						
KESN				IAML		03 11 54.0	
	comp=N,51nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.30**	**100**	*i* P	**Pb**	**03 11 33.9**	**-0.1**
STEP				IAML		03 11 53.0	
	comp=N,36nm,0.7s						
STEP				IAML		03 11 55.0	
	comp=E,35nm,0.3s						
KNL	**Balıkesir**	**1.30**	**59**	*i* P	**Pn**	**03 11 33.7**	**+0.2**
KNL				*i* S	**Sg**	**03 11 52.0**	**+0.3**
KNL				IAML		03 11 53.0	
	comp=E,81nm,0.7s						
KNL				IAML		03 11 54.0	
	comp=N,50nm,0.3s						
URLA	**Izmir**	**1.32**	**162**	**Pn**	**Pn**	**03 11 33.1**	**-0.6**
URLA	**Izmir**	**1.32**	**162**	*i* P	**Pn**	**03 11 32.6**	**-1.1**
GONE	**Gonen-Balikesi**	**1.32**	**70**	**Pn**	**Pb**	**03 11 34.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.37**	**38**	**Pn**	**Pn**	**03 11 34.3**	**-0.2**
SART	**Tekirdag**	**1.37**	**38**	*i* P	**Pn**	**03 11 34.9**	**+0.4**
SART				*i* S	**Sg**	**03 11 53.4**	**-0.6**
SART				IAML		03 11 54.0	
	comp=E,66nm,0.6s						
BALB	**Balikesir**	**1.40**	**88**	PN	**Pn**	**03 11 34.9**	**+0.1**
MAR6	**Marsite Statio**	**1.42**	**40**	PN	**Pn**	**03 11 35.5**	**+0.3**
THAS	**Thassos island**	**1.43**	**314**	P	**Pn**	**03 11 34.7**	**-0.5**
BLCB	**Balcova**	**1.44**	**148**	PN	**Pn**	**03 11 35.7**	**+0.3**
MAR2	**Marsite Statio**	**1.46**	**40**	PN	**Pn**	**03 11 36.0**	**+0.4**
MAR3	**Marsite Statio**	**1.47**	**39**	PN	**Pn**	**03 11 36.2**	**+0.4**
MAR4	**Marsite Statio**	**1.51**	**38**	PN	**Pn**	**03 11 36.9**	**+0.5**
EDC	**Edincik**	**1.56**	**61**	PN	**Pn**	**03 11 37.6**	**+0.5**
UKOP	**Uzunkopru-Edir**	**1.57**	**16**	PN	**Pn**	**03 11 37.3**	**+0.1**
RDO	**Rodhopi**	**1.58**	**345**	P	**Pn**	**03 11 37.4**	**+0.1**
RDO	**Rodhopi**	**1.58**	**345**	PN	**Pn**	**03 11 37.5**	**+0.1**
MAR9	**Marsite Statio**	**1.61**	**51**	PN	**Pb**	**03 11 38.5**	**-0.7**
OUR	**Ouranopolis**	**1.76**	**295**	PN	**Pn**	**03 11 39.8**	**+0.1**
CRLT	**Corlu**	**1.98**	**40**	PN	**Pn**	**03 11 43.3**	**+0.5**
EDRB	**Edirne**	**2.29**	**13**	PN	**Pn**	**03 11 47.9**	**+0.8**
SIMA	**Simav-Kutahya**	**2.32**	**102**	PN	**Pn**	**03 11 48.4**	**+0.8**
ARMT	**Armutlu**	**2.34**	**65**	PN	**Pn**	**03 11 48.6**	**+0.8**
CTKS	**Kestanelik-??a**	**2.47**	**48**	PN	**Pn**	**03 11 50.6**	**+1.1**
TSVK	**Tesvikiye-Yalo**	**2.53**	**65**	PN	**Pn**	**03 11 51.5**	**+1.2**
TRML	**Termal-Yalova**	**2.58**	**66**	PN	**Pn**	**03 11 52.4**	**+1.3**
TVSB	**Tavsanli**	**2.63**	**92**	PN	**Pn**	**03 11 52.7**	**+0.9**
ISK	**Istanbul-Kandi**	**2.71**	**57**	PN	**Pn**	**03 11 54.1**	**+1.3**

*IDC **10** 03:52:29.5±2.0, 0°.37S×125°.05E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/31, mbtmp3.2/3, MS4.1/1, Ms1 4.1/1, ms1mx3.3/18, Error ellipse: s-maj=204.2km s-min=28.9km az=63.0*
*DJA **10** 03:52:33.0±1.2, 0°.S±4°.×12°.5E±°, h13km±9km, M3.5/6, MLv3.5/6*

ISC 10 03:52:35.9±1.0, **0°.38S**±0°.08×**125°.13E**±0°.05, **h52**km, **n9**, σ3°34/12, **mb2.8/3**, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.49**	**309**	P	**Pn**	**03 52 58.5**	**-1.8**
KMSI				S	**Sn**	**03 53 12.3**	**-6.3**
SANI	**Sanana**	**1.87**	**153**	P	**Pn**	**03 53 04.2**	**-1.3**
GTOI	**Gorontalo**	**2.35**	**295**	P	**Pn**	**03 53 14.3**	**+2.3**
GTOI				S	**Sn**	**03 53 45.4**	**+5.7**
LBMI	**Labuha**	**2.38**	**96**	P	**Pn**	**03 53 12.3**	**-0.3**
LBMI				S	**Sn**	**03 53 41.8**	**+1.1**
LUWI	**Luwuk**	**2.45**	**254**	P	**Pn**	**03 53 10.6**	**-2.9**
LUWI				S	**Sn**	**03 53 44.5**	**+2.3**
BATI	**Baumata**	**9.87**	**188**	LR	LR	03 58 59.0	
	comp=Z,1µm,21.9s,baz=148,slow=40						
WRA	**Warramunga Arr**	**21.43**	**156**	P	**P**	**03 57 19.0**	**-0.9**
	0.2nm,0.5s,baz=334,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**24.67**	**160**	P	**P**	**03 57 53.3**	**+1.2**
	0.1nm,0.3s,baz=336,slow=11,SNR=1.9						
MKAR	**Makanchi Array**	**60.06**	**327**	P	**P**	**04 02 38.0**	**+0.3**
	0.4nm,0.4s,baz=133,slow=8.6,SNR=4.0						

*IDC **10** 03:57:27.7±1.9, 1°.13S×123°.80E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/31, mbtmp3.2/3, Error ellipse: s-maj=207.9km s-min=29.4km az=62.0*
*DJA **10** 03:57:32.7±1.8, 0°.S±5°.×12°.5E±°, h34km±35km, M3.5/6, MLv3.5/6*

ISC 10 03:57:34.0±1.0, **0°.18S**±0°.08×**125°.33E**±0°.06, **h49**km, **n8**, σ3°16/12, **mb3.1/3**, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.54**	**299**	P	**Pn**	**03 57 56.8**	**-2.3**
KMSI				S	**Sn**	**03 58 17.2**	**-0.8**
SANI	**Sanana**	**1.97**	**161**	P	**Pn**	**03 58 02.4**	**-2.5**
SANI				S	**Sn**	**03 58 31.9**	**+3.5**
LBMI	**Labuha**	**2.22**	**102**	P	**Pn**	**03 58 07.2**	**-1.1**
LBMI				S	**Sn**	**03 58 40.2**	**+5.7**
GTOI	**Gorontalo**	**2.46**	**289**	P	**Pn**	**03 58 13.1**	**+1.5**
GTOI				S	**Sn**	**03 58 43.8**	**+3.3**
LUWI	**Luwuk**	**2.70**	**252**	P	**Pn**	**03 58 16.3**	**+1.4**
WRA	**Warramunga Arr**	**21.53**	**156**	P	**P**	**04 02 17.2**	**-2.0**
	0.3nm,0.5s,baz=330,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**24.79**	**161**	P	**P**	**04 02 47.9**	**-3.5**
	0.3nm,0.5s,baz=339,slow=8.7,SNR=1.9						
MKAR	**Makanchi Array**	**60.01**	**327**	P	**P**	**04 07 36.1**	**+0.4**
	0.2nm,0.4s,baz=124,slow=7.4,SNR=1.9						

*ECX **10** 04:19:06.9±0.7, 27°.71N×111°.68W, h10km±296km, MD2.3*
*MEX **10** 04:19:08.4±0.5, 27°.62N×111°.68W, h10km, MD3.6*

ISC 10 04:19:05.5±1.8, **27°.8N**±0°.1×**111°.70W**±0°.06, **h1**km±24km, **n6**, σ0°34/11, **Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.67**	**226**	*eP*	**Pg**	**04 19 18.4**	**+0.1**
SRIG				*eS*	**Sg**	**04 19 26.9**	**0.0**
SRIG	**Santa Rosalia**	**0.67**	**226**	*eP*	**Pg**	**04 19 18.4**	**+0.1**
SRIG				*eS*	**Sg**	**04 19 26.6**	**-0.3**
GUYB	**Guaymas**	**0.74**	**81**	*eP*	**Pb**	**04 19 21.2**	**+0.1**
GUYB				*eS*	**Sb**	**04 19 32.1**	**+0.2**
GUYB	**Guaymas**	**0.74**	**81**	*eP*	**Pg**	**04 19 19.7**	**0.0**
HSIG		**1.40**	**28**	*eP*	**Pn**	**04 19 31.5**	**-0.6**
HSIG				*eS*	**Sb**	**04 19 51.2**	**+0.4**
HSIG		**1.40**	**28**	*eP*	**Pn**	**04 19 32.3**	**+0.1**
HSIG				*eS*	**Sb**	**04 19 50.9**	**+0.1**

*BJI **10** 04:29:02.0±0.0, 41°.30S×85°.60E, h10km, mB5.2/12, mb4.8/17, Ms4.9/7, Ms7 4.8/8*
*IDC **10** 04:29:02.3±0.5, 41°.18S×85°.55E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/31, mbtmp4.4/17, MS4.6/8, Ms1 4.6/8, ms1mx4.2/30, Error ellipse: s-maj=18.9km s-min=14.5km az=142.0*
*NEIC **10** 04:29:03.9±0.7, 41°.2S±0°.1×85°.5E±0°.1, h10km±1km, mb5.0/31, Error ellipse: s-maj=20.3km s-min=17.1km az=135.0*
*GCMT **10** 04:29:04.9±0.4, 41°.13S±0°.02×85°.77E±0°.03, h15km, MW5.3/85, Moment Tensor Solution. s21,c22; s85,c111; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.26±.05; $M_{\theta\theta}$1.08±.04; $M_{\phi\phi}$-0.82±.04; $M_{r\theta}$0.65±.15; $M_{r\phi}$0.14±.04; $M_{\theta\phi}$0.11±.14; Best double couple: $M_0$1.10300×10^{17} NP1:φs134.00000°, δ67.00000°, λ9.00000°. NP2:φs40.00000°, δ81.00000°, λ157.00000°. Principal axes: T 1.3610, Plg22.0000°, Azm355.0000°; N -0.5160, Plg66.0000°, Azm201.0000°; P -0.8450, Plg10.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 04:29:03.8±0.4, **41°.19S**±0°.08×**85°.50E**±0°.09, **h10**km, **n80**, σ0°93/79, **mb4.8**/32, **MS4.6**/11, **2C-1D**, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.34**	**84**	T	T	04 58 14.8	
	baz=245,slow=74,SNR=1583						
H01W3	**Cape Leeuwin H**	**23.35**	**84**	T	T	04 58 12.6	
	baz=245,slow=74,SNR=1483						
H01W1	**Cape Leeuwin H**	**23.36**	**84**	T	T	04 58 16.1	
	baz=245,slow=74,SNR=1829						
CRZF	**Crozet Islands**	**24.71**	**246**	P	**P**	**04 34 24.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**26.52**	**82**	LR	LR	04 42 37.5	
	comp=Z,1µm,20.7s,baz=253,slow=31						
MAW	**Mawson**	**29.20**	**198**	P	**P**	**04 35 04.4**	**-0.6**
	8.6nm,1.1s,baz=21,slow=13,SNR=8.4						
MAW				LR	LR	04 44 00.8	
	comp=Z,936nm,21.4s,baz=36,slow=31						
MAW	**Mawson**	**29.20**	**198**	P	**P**	**04 35 05.3**	**+0.2**
SYO	**Syowa Base**	**36.76**	**206**	*ieP*	**P**	**04 36 08.4**	**-2.5**
SYO	**Syowa Base**	**36.76**	**206**	*i*pP	pP	04 36 14.0	+1.1
SYO	**Syowa Base**	**36.76**	**206**	*ieS*	sP	04 36 17.0	+3.3
FITZ	**Fitzroy Crossi**	**41.29**	**68**	P	**P**	**04 36 49.8**	**+0.3**
	5.6nm,1.1s,baz=182,slow=4.7,SNR=3.8						
ASAR	**Alice Springs**	**43.84**	**82**	P	**P**	**04 37 10.0**	**-0.2**
	2.0nm,0.9s,baz=230,slow=7.2,SNR=13						
ASAR				PcP	**PcP**	**04 38 56.8**	**+0.2**
	1.4nm,0.7s,baz=224,slow=2.1,SNR=4.3						
ASAR				LR	LR	04 53 34.5	
	comp=Z,2µm,19.4s,baz=241,slow=34						
ASAR	**Alice Springs**	**43.84**	**82**	P	**P**	**04 37 10.1**	**-0.2**
ASAR				PcP	**PcP**	**04 38 56.1**	**-0.5**
AS31	**Alice Springs**	**43.84**	**82**	P	**P**	**04 37 10.4**	**+0.2**
KNRA	**Kununurra**	**45.12**	**69**	P	**P**	**04 37 20.3**	**-0.1**
KNRA				IAmb	IAmb	04 37 23.5	
	comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**45.33**	**97**	P	**P**	**04 37 21.4**	**-0.7**
	comp=Z,7.9nm,0.9s,baz=268,slow=7.5,SNR=8.6						
STKA				LR	LR	04 52 40.6	
	comp=Z,455nm,21.5s,baz=237,slow=31						
STKA	**Stephens Creek**	**45.33**	**97**	P	**P**	**04 37 22.3**	**+0.3**
RPSI	**Rantau Prapat**	**45.36**	**19**	P	**P**	**04 37 22.8**	**+0.5**
RPSI				IAmb	IAmb	04 37 27.8	
	comp=Z,17nm,1.1s						
RPSI	**Rantau Prapat**	**45.36**	**19**	P	**P**	**04 37 23.2**	**+0.9**
PSI	**Prapat**	**45.46**	**19**	P	**P**	**04 37 23.2**	**0.0**
	comp=Z,9.5nm,0.9s,baz=180,slow=8.7,SNR=6.6						
WRA	**Warramunga Arr**	**46.39**	**78**	P	**P**	**04 37 30.2**	**-0.3**
	comp=Z,6.0nm,1.3s,baz=230,slow=7.5,SNR=10						
WRA				PcP	**PcP**	**04 39 04.9**	**-0.5**
	comp=Z,1.7nm,1.1s,baz=235,slow=3.0,SNR=1.8						
WRA				LR	LR	04 55 00.6	
	comp=Z,243nm,19.0s,baz=225,slow=34						
WRA	**Warramunga Arr**	**46.39**	**78**	P	**P**	**04 37 30.7**	**+0.3**
WRA					**PcP**	**04 39 05.1**	**-0.3**
WB2	**Warramunga Arr**	**46.40**	**78**	P	**P**	**04 37 30.7**	**+0.2**
WB2				IAmb	IAmb	04 37 41.7	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**46.54**	**78**	P	**P**	**04 37 31.8**	**+0.2**
WB0				IAmb	IAmb	04 37 38.7	
	comp=Z,16nm,1.2s						
VNDA	**Vanda**	**47.23**	**163**	P	**P**	**04 37 36.2**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=271,slow=5.2,SNR=10						
VNDA				LR	LR	04 55 13.9	
	comp=Z,771nm,21.0s,baz=228,slow=33						
VNDA	**Vanda**	**47.23**	**163**	P	**P**	**04 37 36.3**	**0.0**
VNDA				IAmb	IAmb	04 37 39.7	
	comp=Z,12nm,1.4s						
MTN	**Manton Dam**	**48.73**	**68**	P	**P**	**04 37 48.8**	**+0.2**
QSPA	**South Pole Qui**	**48.96**	**180**	P	**P**	**04 37 49.8**	**-0.2**
	comp=Z,40nm,1.0s,baz=302,slow=4.4,SNR=44						
QSPA	**South Pole Qui**	**48.96**	**180**	P	**P**	**04 37 50.2**	**+0.1**
SBUM	**Sibu**	**49.78**	**36**	P	**P**	**04 37 57.1**	**+0.4**
SBUM				IAmb	IAmb	04 38 01.0	
	comp=Z,15nm,1.0s						
BOSA	**Boshof**	**50.07**	**265**	P	**P**	**04 37 59.4**	**+0.4**
	comp=Z,6.8nm,1.0s,baz=124,slow=2.5,SNR=5.8						
BOSA				LR	LR	04 55 51.5	
	comp=Z,1µm,19.5s,baz=227,slow=32						
BOSA	**Boshof**	**50.07**	**265**	P	**P**	**04 37 59.1**	**+0.1**
BOSA				IAmb	IAmb	04 38 02.4	
	comp=Z,22nm,1.3s						
SNAA	**Sanae**	**51.00**	**204**	P	**P**	**04 38 08.4**	**+3.0**
SNAA	**Sanae**	**51.00**	**204**	P	**P**	**04 38 05.7**	**+0.4**
	comp=Z,8.3nm,1.1s,baz=140,slow=11,SNR=15						
SNAA	**Sanae**	**51.00**	**204**	P	**P**	**04 38 06.1**	**+0.7**
SUR	**Sutherland**	**51.49**	**258**	P	**P**	**04 38 10.8**	**+1.1**
	comp=Z,22nm,1.0s,baz=109,slow=10.0,SNR=7.2						
SUR	**Sutherland**	**51.49**	**258**	P	**P**	**04 38 09.9**	**+0.1**
LBTB	**Lobatse**	**51.74**	**269**	P	**P**	**04 38 11.8**	**+0.2**
LBTB				IAmb	IAmb	04 38 12.9	
	comp=Z,26nm,1.2s						
VNA2	**Neumayer--Watz**	**52.62**	**204**	P	**P**	**04 38 18.4**	**+1.0**
VNA1	**Neumayer--Stat**	**52.98**	**205**	P	**P**	**04 38 20.9**	**+0.9**
VNA3	**Neumayer Olymp**	**53.22**	**204**	P	**P**	**04 38 22.6**	**+0.8**
LSZ	**Lusaka**	**55.59**	**280**	P	**P**	**04 38 39.7**	**-0.2**
LSZ				IAmb	IAmb	04 38 41.9	
	comp=Z,34nm,1

comp=Z,3.0nm,0.9s,baz=200,slow=5.4,SNR=5.7
MJAR Matsushiro Arr 91.18 40 P **P 04 42 08.7 -0.1**
TORD Torodi Ar. Bea 93.96 284 P **P 04 42 21.9 -0.2**
comp=Z,1.9nm,0.9s,baz=118,slow=4.0,SNR=8.9
TORD Torodi Ar. Bea 93.96 284 P **P 04 42 22.1 +0.1**
DBIC Dimbokro 94.61 275 LR LR 05 21 14.4
comp=Z,513nm,19.0s,baz=174,slow=33
IMAR Indian Mountai 139.16 33 PKiKP 04 48 31.1 -0.9
ILAR Eielson Array 142.20 34 PKP **PKPdf 04 48 32.5 -2.7**
comp=Z,0.6nm,0.9s,baz=269,slow=1.8,SNR=4.5
BCAR Beaver Creek A 144.81 35 PKPdf 04 48 40.0 0.0
BALM Baldy 145.05 39 PKPdf 04 48 41.7 +1.2
EPYK Eagle Plains 145.66 29 PKPdf **PKPab 04 48 42.3 +0.3**
NVAR Mina Array Bea 161.51 91 PKPab **PKPab 04 49 49.2 -0.4**
comp=Z,2.6nm,1.2s,baz=250,slow=4.5,SNR=3.5
NVAR Mina Array Bea 161.51 91 PKPab 04 49 49.6 0.0
TXAR Lajitas Array 166.01 145 PKP **PKPdf 04 49 10.9 +1.8**
comp=Z,0.4nm,1.0s,baz=174,slow=4.1,SNR=3.0
TXAR PKPab **PKPab 04 50 09.6 +0.4**
comp=Z,0.3nm,0.8s,baz=214,slow=6.4,SNR=1.8
TXAR Lajitas Array 166.01 145 PKPab 04 50 09.2 0.0
PDAR Pinedale Array 168.68 77 PKP **PKPdf 04 49 12.8 +2.0**
comp=Z,0.6nm,0.8s,baz=154,slow=4.4,SNR=4.3
PDAR PKPab **PKPab 04 50 20.9 -0.1**
comp=Z,0.6nm,0.6s,baz=252,slow=3.0,SNR=4.8
PDAR Pinedale Array 168.68 77 PKPdf 04 49 11.2 +0.4
PDAR PKPab **PKPab 04 50 21.0 -0.1**
ULM Lac du Bonnet 170.89 6 PKPab **PKPab 04 50 26.6 -3.5**
comp=Z,5.3nm,0.8s,baz=194,slow=3.7,SNR=3.1
P40A Paris 177.50 229 PKPdf 04 49 14.6 +0.5

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*TIF **10** 04:30:13.8, 43.°29N×45.°99E, h5km±2km*
*DRS **10** 04:30:13.4±0.0, 43.°00N×45.°89E, h7km*
*MOS **10** 04:30:14.5±0.0, 43.°22N×45.°98E, h8km, MPVA3.7*
*NORS **10** 04:30:14.4±0.0, 43.°08N×45.°94E, h10km, MPVA3.5*
ISC 10 04:30:16.0±1.1, 43.°26N±0.°05×46.°03E±0.°02, h10km±6km, n32, σ1°23/62, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.18**	**251**	*i* Pg	**Pg**	**04 30 18.7**	**-1.3**
GROC				*e*Sg	**Sg**	**04 30 22.3**	**-0.3**
DLMR	**Dylym**	**0.48**	**113**	*e*Pg	**Pb**	**04 30 26.0**	**-0.5**
DLMR				*e*Sg	**Sn**	**04 30 34.5**	**+2.8**
BTLR	**Botlikh**	**0.61**	**167**	*i* Pg	**Pg**	**04 30 27.4**	**-0.6**
BTLR				*e*Sg	**Sb**	**04 30 36.4**	**-1.2**
DBC	**Dubki**	**0.63**	**112**	*e*Pg	**Pb**	**04 30 29.4**	**+0.3**
DBC				*e*Sg	**Sn**	**04 30 39.6**	**-1.7**
KRNR	**Karanay**	**0.77**	**124**	*e*Pg	**Pb**	**04 30 31.0**	**-0.6**
KRNR				*e*Sg	**Sn**	**04 30 43.5**	**-1.3**
UNCR	**Uncukul**	**0.78**	**134**	*e*Pg	**Pg**	**04 30 30.0**	**-1.1**
UNCR				*e*Sg	**Sg**	**04 30 40.0**	**-1.3**
BUJR	**Buynaksk**	**0.90**	**119**	*e*Pg	**Pn**	**04 30 35.3**	**+0.5**
BUJR				*e*Sg	**Sn**	**04 30 50.2**	**+2.4**
ARKR	**Arakani**	**0.97**	**133**	*e*Pg	**Pb**	**04 30 34.0**	**-0.9**
ARKR				*e*Sg	**Sn**	**04 30 47.5**	**-2.0**
GNBR	**Gunib**	**1.11**	**142**	*e*Pg	**Pg**	**04 30 36.7**	**-0.7**
GNBR				*e*Sg	**Sn**	**04 30 53.8**	**+0.8**
MAK	**Makhachkala**	**1.12**	**105**	*e*Pg	**Pg**	**04 30 37.4**	**-0.1**
MAK				*e*Sg	**Sn**	**04 30 55.7**	**+2.6**
KMKR	**Kumukh**	**1.38**	**145**	*i* Pg	**Pg**	**04 30 42.5**	**0.0**
KMKR				*e*Sg	**Sg**	**04 31 01.5**	**+1.2**
LGD	**Lagodekhi**	**1.44**	**174**	*e*Pg	**Pb**	**04 30 42.2**	**-0.6**
LGD				*e*Sg	**Sg**	**04 31 02.8**	**+0.7**
LGD	**Lagodekhi**	**1.44**	**174**	P	**Pb**	**04 30 42.2**	**-0.6**
LGD				S	**Sg**	**04 31 02.8**	**+0.7**
STDR	**Stavd-Durt**	**1.44**	**275**	*e*Pg	**Pn**	**04 30 42.6**	**+0.5**
STDR				*e*Sg	**Sb**	**04 31 03.3**	**+2.0**
KORR	**Kora**	**1.45**	**264**	*e*Pg	**Pn**	**04 30 40.9**	**-1.4**
KORR				*e*Sg	**Sn**	**04 31 02.5**	**+1.2**
LSNR	**Lesken**	**1.61**	**271**	*e*Pg	**Pn**	**04 30 44.8**	**+0.3**
LSNR				*e*Sg	**Sb**	**04 31 07.8**	**+1.5**
ZEI	**Tsey**	**1.63**	**254**	*e*Pg	**Pn**	**04 30 44.1**	**-0.9**
ZEI				*e*Sg	**Sn**	**04 31 05.3**	**-0.8**
TBLG	**Delisi**	**1.81**	**212**	*e*Pg	**Pn**	**04 30 47.6**	**+0.4**
TBLG				*e*Sg	**Sg**	**04 31 13.6**	**-0.5**
TBLG	**Delisi**	**1.81**	**212**	P	**Pn**	**04 30 47.6**	**+0.4**
TBLG				S	**Sg**	**04 31 13.6**	**-0.5**
DDFL	**Dedoflistskaro**	**1.82**	**178**	*e*Pg	**Pg**	**04 30 51.8**	**+0.9**
DDFL	**Dedoflistskaro**	**1.82**	**178**	P	**Pg**	**04 30 51.8**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.83**	**259**	*e*Pg	**Pn**	**04 30 47.0**	**-0.8**
DIGR				*e*Sg	**Sn**	**04 31 10.5**	**-0.5**
ONI	**Oni**	**2.01**	**251**	*e*Pg	**Pn**	**04 30 51.3**	**+1.3**
ONI				*e*Sg	**Sn**	**04 31 17.2**	**+1.9**
ONI	**Oni**	**2.01**	**251**	P	**Pn**	**04 30 51.3**	**+1.3**
ONI				S	**Sn**	**04 31 17.2**	**+1.9**
DRN	**Derbent**	**2.10**	**125**	*e*Pg	**Pb**	**04 30 52.7**	**-1.4**
DRN				*e*Sg	**Sg**	**04 31 21.6**	**-1.7**
AKT	**Akhty**	**2.18**	**144**	*e*Pg	**Pb**	**04 30 55.8**	**+0.1**
AKT				*e*Sg	**Sb**	**04 31 22.4**	**-0.3**
KZRT	**Kazreti**	**2.23**	**213**	*e*Pg	**Pb**	**04 30 55.1**	**-1.3**
KZRT				*e*Sg	**Sb**	**04 31 24.6**	**+0.5**
KZRT	**Kazreti**	**2.23**	**213**	P	**Pb**	**04 30 55.1**	**-1.3**
KZRT				S	**Sb**	**04 31 24.6**	**+0.5**
TRLG	**Trialeti**	**2.24**	**220**	*e*Pg	**Pn**	**04 30 54.2**	**+0.9**
TRLG				*e*Sg	**Sb**	**04 31 23.9**	**-0.5**
TRLG	**Trialeti**	**2.24**	**220**	P	**Pn**	**04 30 54.2**	**+0.9**
TRLG				S	**Sb**	**04 31 23.9**	**-0.5**
DMNI	**Dmanisi**	**2.37**	**216**	P	**Pn**	**04 30 57.0**	**+2.0**
DMNI				S	**Sb**	**04 31 27.1**	**-1.0**
BKRG	**Bakuriani**	**2.39**	**232**	P	**Pn**	**04 30 57.4**	**+2.1**
BKRG				S	**Sb**	**04 31 28.2**	**-0.6**

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*GEN **10** 04:57:09.8, 46.°15N×7.°51E, h3km±18km, MI0.8*
*ROM **10** 04:57:10.2±0.0, 46.°063N±0.°002×7.°506E±0.°001, h7km, Md0.6/1, ML0.9/4, Error ellipse: s-maj=0.2km s-min=0.1km az=11.0, hypocenter*
ZUR 10 04:57:09.8, 46.°17N×7.°49E, h2km±2km, MLh0.8/8, 3C, Error ellipse: s-maj=4.5km s-min=1.0km az=129.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANNI	**Vissoie, Val d**	**0.08**	**60**	⇑Pg	Pg	04 57 11.8	+0.3
VANNI				Sg	Sg	04 57 13.2	+0.6
DIX	**Grande Dixence**	**0.11**	**214**	⇑Pg	Pg	04 57 12.3	+0.4
DIX				Sg	Sg	04 57 13.8	+0.5
DIX	**Grande Dixence**	**0.11**	**214**	P	Pg	04 57 12.3	+0.4
DIX				S	Sg	04 57 13.8	+0.5
DIX				AML	AML		
	comp=E,174μm,0.2s						
DIX				AML	AML		
	comp=N,118μm,0.2s						
DIX				END			
SENIN	**Lac Senin/Sane**	**0.24**	**326**	Pg	Pg	04 57 14.5	+0.2
LKBD	**Leukerbad**	**0.24**	**23**	Pg	Pg	04 57 14.5	+0.2
GRYON	**Gryon**	**0.28**	**287**	Sg	Sg	04 57 19.3	+0.6
LAUCH	**Lauchernalp**	**0.32**	**38**	Pg	Pg	04 57 16.0	+0.2
SATI	**Passo dei Sala**	**0.39**	**138**	⇑Pg	Pg	04 57 17.4	0.0
SATI	**Passo dei Sala**	**0.39**	**138**	P	Pg	04 57 17.4	0.0
SATI	**Passo dei Sala**	**0.39**	**138**	P	Pg	04 57 17.4	0.0
SATI				S	Sg	04 57 22.5	+0.1
SATI				AML	AML		
	comp=E,25μm,0.5s						
SATI				AML	AML		
	comp=N,25μm,1.1s						
REMY	**Saint-Rhmy-en**	**0.41**	**215**	P	Pg	04 57 17.7	+0.1
REMY	**Saint-Rhmy-en**	**0.41**	**215**	P	Pg	04 57 17.6	+0.1
REMY				S	Sg	04 57 23.2	+0.4
REMY				AML	AML		
	comp=N,35μm,1.0s						
REMY				AML	AML		
	comp=E,31μm,0.8s						
MRGE	**Morge**	**0.50**	**217**	P	Pg	04 57 19.5	+0.2
MRGE				S	Sg	04 57 26.4	+0.6
MRGE				AML	AML		
	comp=N,27μm,0.8s						
MRGE				AML	AML		
	comp=E,17μm,1.1s						

PRU 10 04:57:13.6±0.0, 50.°20N×19.°12E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.44**	**87**	*e*Pg	Pg	04 57 21.7	-0.2
OJC				*e*Sg	Sg	04 57 28.1	+0.5
LANS	**Liptovska Anna**	**1.07**	**168**	*e*PG	Pg	04 57 32.9	-1.3
LANS				*e*SG	Sg	04 57 46.9	-1.2
LANS				*e*LG	Lg	04 57 48.9	
NIE	**Niedzica**	**1.09**	**135**	*e*Pg	Pg	04 57 34.1	-0.4
NIE				*e*Sg	Sg	04 57 49.3	+0.6
MORC	**Moravsky Berou**	**1.10**	**248**	*e*PG	Pg	04 57 34.4	-0.3
MORC				*e*SG	Sg	04 57 49.7	+0.7
KRLC	**Kraliky**	**1.51**	**266**	*e*PG	Pn	04 57 41.1	-0.8
KRLC				*e*SG	Sg	04 58 01.3	-0.8
	comp=Z,2.1nm,0.4s						
VYHS	**Vyhne**	**1.72**	**186**	*e*PN	Pn	04 57 42.6	-2.2
VYHS				*e*SN	Sn	04 58 06.6	-0.8
DPC	**Dobruska-Polom**	**1.80**	**276**	*e*PG	Pn	04 57 46.3	+0.3
DPC				*e*SG	Sg	04 58 11.3	-0.1
	comp=Z,2.8nm,0.8s						

ZUR 10 04:57:17.9, 46.°16N×7.°51E, h3km±3km, MLh1.1/8, 1C, Error ellipse: s-maj=5.6km s-min=1.2km az=139.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANNI	**Vissoie, Val d**	**0.08**	**50**	Pg	Pg	04 57 20.0	+0.3
VANNI				Sg	Sg	04 57 21.3	+0.4
DIX	**Grande Dixence**	**0.10**	**222**	⇑Pg	Pg	04 57 20.4	+0.4
DIX				Sg	Sg	04 57 21.9	+0.5
SIOO	**Sion-Ophtalmol**	**0.11**	**312**	Sg	Sg	04 57 22.3	+0.5
GRYON	**Gryon**	**0.29**	**289**	Sg	Sg	04 57 27.5	+0.1

IDC 10 05:01:48.6±1.9, 0.79S×124.°18E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, Error ellipse: s-maj=191.7km s-min=28.7km az=62.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.48**	**153**	P	P	05 06 37.2	-1.7
	0.4nm,0.5s,baz=330,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**24.62**	**158**	P	P	05 07 12.2	+1.3
	0.4nm,0.6s,baz=341,slow=9.5,SNR=6.6						
MKAR	**Makanchi Array**	**59.90**	**328**	P	P	05 11 56.2	-0.2
	0.7nm,0.9s,baz=142,slow=8.6,SNR=2.8						

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*IDC **10** 05:07:45.1±1.3, 55.°66S×146.°94E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/34, mbtmp4.0/7, Error ellipse: s-maj=70.2km s-min=16.9km az=83.0*
*NEIC **10** 05:07:49.4±0.3, 55.°6S±0.°1×147.°2E±0.°3, h33km±6km, mb4.4/8, Error ellipse: s-maj=25.3km s-min=18.0km az=63.0*
ISC 10 05:07:46.7±0.7, 55.°7S±0.°1×147.°1E±0.°1, h12km, n33, σ0°57/28, mb4.1/7, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.94**	**85**	Pn	**Pn**	**05 09 27.8**	**-0.2**
VNDA	**Vanda**	**22.58**	**172**	P	**P**	**05 12 46.0**	**-0.4**
	2.1nm,0.8s,baz=340,slow=11,SNR=9.8						
VNDA	**Vanda**	**22.58**	**172**	P	**P**	**05 12 46.6**	**+0.1**
VNDA				IAmb	IAmb	05 12 52.7	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**24.07**	**349**	P	**P**	**05 13 02.5**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=167,slow=10,SNR=5.7						
H01W1	**Cape Leeuwin H**	**30.64**	**299**	T	T	05 46 14.6	
	baz=142,slow=75,SNR=29						
H01W2	**Cape Leeuwin H**	**30.65**	**299**	T	T	05 46 23.7	
	baz=142,slow=75,SNR=27						
H01W3	**Cape Leeuwin H**	**30.66**	**299**	T	T	05 46 21.5	
	baz=142,slow=75,SNR=27						
ASAR	**Alice Springs**	**33.39**	**338**	P	**P**	**05 14 24.6**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=168,slow=9.0,SNR=9.9						
ASAR				PcP	**PcP**	**05 17 07.4**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=132,slow=2.6,SNR=4.8						
ASAR	**Alice Springs**	**33.39**	**338**	P	**P**	**05 14 23.6**	**-1.3**
QSPA	**South Pole Qui**	**34.46**	**180**	P	**P**	**05 14 34.5**	**+0.5**
	comp=Z,2.2nm,1.1s,baz=338,slow=5.7,SNR=4.2						
QSPA	**South Pole Qui**	**34.46**	**180**	P	**P**	**05 14 34.0**	**+0.1**
QSPA				IAmb	IAmb	05 14 48.8	
	comp=Z,6.9nm,1.4s						
WR0	**Warramunga Arr**	**36.86**	**340**	P	**P**	**05 14 54.4**	**-0.4**
WB2	**Warramunga Arr**	**36.91**	**340**	P	**P**	**05 14 54.7**	**-0.5**
WRA	**Warramunga Arr**	**36.92**	**340**	P	**P**	**05 14 54.9**	**-0.4**
	comp=Z,7.6nm,1.0s,baz=166,slow=7.3,SNR=27						
WRA	**Warramunga Arr**	**36.92**	**340**	P	**P**	**05 14 54.8**	**-0.4**
WB0	**Warramunga Arr**	**37.08**	**340**	P	**P**	**05 14 56.3**	**-0.4**
MAW	**Mawson**	**38.47**	**218**	P	**P**	**05 15 07.2**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=131,slow=11,SNR=2.5						
FITZ	**Fitzroy Crossi**	**40.86**	**328**	P	**P**	**05 15 28.7**	**+0.4**
	comp=Z,5.1nm,1.1s,baz=182,slow=9.9,SNR=3.9						
FITZ	**Fitzroy Crossi**	**40.86**	**328**	P	**P**	**05 15 28.7**	**+0.4**
FITZ				IAmb	IAmb	05 15 31.6	
	comp=Z,18nm,1.5s						
SNAA	**Sanae**	**51.22**	**192**	P	**P**	**05 16 49.8**	**+0.5**
SNAA	**Sanae**	**51.22**	**192**	P	**P**	**05 16 49.5**	**+0.1**
VNA3	**Neumayer Olymp**	**52.33**	**189**	P	**P**	**05 16 57.7**	**0.0**
VNA2	**Neumayer--Watz**	**52.42**	**190**	P	**P**	**05 16 58.6**	**+0.3**
VNA1	**Neumayer--Stat**	**52.77**	**190**	P	**P**	**05 17 01.3**	**+0.5**
H03S2	**Juan Fernandez**	**82.60**	**143**	T	T	06 51 56.5	
	baz=202,slow=74,SNR=6.7						
H03S1	**Juan Fernandez**	**82.61**	**143**	T	T	06 51 57.7	
	baz=202,slow=74,SNR=7.0						
H03S3	**Juan Fernandez**	**82.62**	**143**	T	T	06 51 58.3	
	baz=202,slow=74,SNR=7.6						
KEST	**Kesra**	**145.10**	**253**	PKPbc	**PKPdf**	**05 27 23.6**	**+0.2**
	comp=Z,15nm,1.0s,baz=343,slow=0.3,SNR=6.6						
FINES	**FINESS Array B**	**149.62**	**305**	PKPbc	**PKPbc**	**05 27 34.5**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=106,slow=4.2,SNR=5.8						
FINES	**FINESS Array B**	**149.62**	**305**		**PKPbc**	**05 27 34.3**	**-0.3**
ARCES	**ARCESS Array B**	**151.10**	**322**	PKPbc	**PKPbc**	**05 27 37.8**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=141,slow=4.1,SNR=3.9						
GERES	**GERESS Array B**	**151.11**	**276**	PKPbc	**PKPbc**	**05 27 37.6**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=170,slow=1.7,SNR=6.1						
ESDC	**Sonseca Array**	**155.03**	**242**	PKPab	**PKPab**	**05 28 03.8**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=152,slow=5.7,SNR=2.7						

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*BJI **10** 05:12:29.1±0.0, 24.°34N×122.°07E, h14km, mB4.5/5, mb4.3/12, ML4.1/6, Ms4.1/5, Ms7 4.1/4*
*TAP **10** 05:12:29.9, 24.°34N×122.°06E, h20km, ML4.7, C*
*JMA **10** 05:12:29.8, 24.°26N×122.°07E, h27km±2km, M4.4*
*NEIC **10** 05:12:30.4±1.7, 24.°28N±0.°05×122.°14E±0.°02, h31km±7km, mb4.2/2, ML4.4(TAP), Error ellipse: s-maj=6.7km s-min=1.9km az=186.0*
*IDC **10** 05:12:48.5±4.0, 25.°17N×122.°17E, h159km±39km, mb3.7/14, mb1 3.8/16, mb1mx3.6/52, mbtmp4.1/16, Error ellipse: s-maj=28.2km s-min=12.2km az=64.0*
ISC 10 05:12:29.5±1.0, 24.°31N±0.°02×122.°11E±0.°02, h17km±6km, n188, σ1°39/294, mb4.1/17, 13C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.31**	**298**	⇓*i*P	**Pb**	**05 12 36.1**	**-0.5**
	baz=296						
ENAH				S	**Sb**	**05 12 40.5**	**-0.8**
	baz=296						
ENA	**Nanau**	**0.36**	**290**	*i* P	**Pb**	**05 12 36.8**	**-0.6**
	baz=292						
ENA				S	**Sb**	**05 12 41.5**	**-1.3**
	baz=292						
TWC	**Suao**	**0.38**	**322**	⇓*i*P	**Pb**	**05 12 37.2**	**-0.6**
	baz=325						
TWC				S	**Sb**	**05 12 42.1**	**-1.4**
	baz=325						
NACB	**Ninganchiao**	**0.49**	**255**	⇓*i*P	**Pb**	**05 12 39.1**	**-0.5**
	baz=252						
NACB				S	**Sb**	**05 12 46.6**	**+0.1**
	baz=252						
NACB	**Ninganchiao**	**0.49**	**255**		**Pb**	**05 12 39.2**	**-0.5**
TWD	**Chiawan**	**0.52**	**245**	*i* P	**Pb**	**05 12 40.4**	**+0.3**
	baz=244						
TWD				S	**Sb**	**05 12 48.0**	**+0.6**
	baz=244						
HWA	**Hwalien**	**0.56**	**235**	*i* P	**Pb**	**05 12 42.3**	**+1.4**
	baz=228						
HWA				*e*S	**Sn**	**05 12 51.9**	**+0.2**
	baz=228						
ILA	**Ilan**	**0.56**	**325**	P	**Pb**	**05 12 40.8**	**-0.1**
	baz=322						
ILA				*e*S	**Sb**	**05 12 49.1**	**+0.4**
	baz=322						
ETLH	**Xiulin Townshi**	**0.58**	**260**	*e*P	**Pb**	**05 12 41.0**	**-0.3**
	baz=262						
ENTT	**Nioudou**	**0.60**	**304**	⇑*i*P	**Pb**	**05 12 41.1**	**-0.4**
	baz=305						
ENTT				*e*S	**Sb**	**05 12 48.9**	**-0.7**
	baz=305						
NTC	**Toucheng**	**0.60**	**335**	*e*P	**Pb**	**05 12 41.7**	**0.0**
	baz=337						
NTC				*e*S	**Sb**	**05 12 50.0**	**+0.2**
	baz=337						
NDT	**Datong Townshi**	**0.62**	**299**	⇑P	**Pb**	**05 12 41.7**	**-0.2**
	baz=298						
NDT				*e*S	**Sb**	**05 12 48.7**	**-1.5**
	baz=298						
NNSB	**Datong**	**0.67**	**281**	⇑*i*P	**Pb**	**05 12 42.6**	**-0.3**
	baz=286						
NNSB				S	**Sb**	**05 12 50.8**	**-1.2**
	baz=286						
NNSH	**Datong**	**0.67**	**281**	⇑*i*P	**Pb**	**05 12 42.7**	**-0.2**
	baz=284						
NNSH				*e*S	**Sb**	**05 12 51.1**	**-0.8**
	baz=284						
NNS	**Nan Shan**	**0.68**	**282**	⇑*i*P	**Pb**	**05 12 42.7**	**-0.3**
	baz=286						
NNS				*e*S	**Sb**	**05 12 51.4**	**-0.8**
	baz=286						
TWB1	**Santiao Chiao**	**0.71**	**351**	P	**Pb**	**05 12 43.5**	**+0.1**
	baz=346						
TWB1				*e*S	**Sb**	**05 12 52.2**	**-0.7**
	baz=346						
TIPB	**Shuangxi**	**0.71**	**339**	P	**Pb**	**05 12 43.5**	**0.0**
	baz=341						
TIPB				*e*S	**Sb**	**05 12 52.3**	**-0.7**
	baz=341						
NWLT	**Wulai**	**0.72**	**311**	⇑P	**Pb**	**05 12 43.6**	**-0.1**
	baz=306						
NWLT				*e*S	**Sb**	**05 12 52.1**	**-1.2**
	baz=306						
YHNB	**Yeheng**	**0.76**	**299**	⇑*i*P	**Pb**	**05 12 44.1**	**-0.2**
	baz=303						
YHNB				*e*S	**Sb**	**05 12 53.2**	**-1.2**
	baz=303						
YHNB	**Yeheng**	**0.76**	**299**		**Pb**	**05 12 44.1**	**-0.2**
NSK	**Sanguang**	**0.78**	**299**	⇑*i*P	**Pb**	**05 12 44.3**	**-0.3**
	baz=302						
NSK				*e*S	**Sb**	**05 12 54.1**	**-0.8**
	baz=302						
JYNG	**Yonagunijimaku**	**0.78**	**79**	P	**Pg**	**05 12 44.9**	**+0.1**
JYNG				S	**Sg**	**05 12 55.7**	**+0.6**
WHF	**Hehuan Shan**	**0.79**	**258**	*i* P	**Pb**	**05 12 45.3**	**+0.3**
	baz=263						
WHF				*e*S	**Sn**	**05 12 57.7**	**0.0**
	baz=263						
ESL	**Shilin**	**0.79**	**232**	*i* P	**Pb**	**05 12 44.9**	**+0.1**
	baz=227						
ESL				*e*S	**Sb**	**05 12 56.9**	**+1.8**
	baz=227						
FUSS	**Fushou**	**0.79**	**266**	P	**Pb**	**05 12 45.4**	**+0.4**
	baz=269						
FUSS				*e*S	**Sn**	**05 12 57.0**	**-0.6**
	baz=269						
NWF	**Wu-fen Shan**	**0.82**	**339**	*i* P	**Pn**	**05 12 45.9**	**-0.5**
	baz=357						
NWF				*e*S	**Sn**	**05 12 57.2**	**-0.9**
	baz=357						
WFSB	**Wu-fen Shan**	**0.82**	**339**	P	**Pn**	**05 12 45.7**	**-0.6**
	baz=331						
WFSB				S	**Sb**	**05 12 56.2**	**+0.2**
	baz=331						
TWA	**Mucha**	**0.82**	**325**	P	**Pb**	**05 12 45.5**	**+0.1**
	baz=334						
TWA				*e*S	**Sb**	**05 12 56.4**	**+0.1**
	baz=334						
YOJ	**Yonaguni jima**	**0.84**	**79**	⇑*i*P	**Pg**	**05 12 45.9**	**0.0**
	baz=73						
YOJ				S	**Sg**	**05 12 57.1**	**+0.1**
	baz=73						
YOJ	**Yonaguni jima**	**0.84**	**79**	P	**Pg**	**05 12 45.9**	**0.0**
YOJ				*e*S	**Sb**	**05 12 57.9**	**+1.3**
YOJ	**Yonaguni jima**	**0.84**	**79**	Pn	**Pg**	**05 12 45.9**	**0.0**
TDCB	**Techi**	**0.87**	**267**	⇑*i*P	**Pn**	**05 12 46.9**	**-0.2**
	baz=270						
TDCB				*e*S	**Sn**	**05 12 59.5**	**+0.1**
	baz=270						
TATO	**Taipei**	**0.87**	**320**	⇑*i*P	**Pb**	**05 12 46.4**	**+0.2**
	baz=312						
TATO				*e*S	**Sb**	**05 12 57.2**	**-0.4**
	baz=312						
TATO	**Taipei**	**0.87**	**320**		**Pb**	**05 12 46.4**	**+0.2**
CHGB	**Renai**	**0.89**	**254**	⇑*i*P	**Pb**	**05 12 47.1**	**+0.5**
	baz=238						
CHGB				*e*S	**Sn**	**05 13 00.7**	**+0.7**
	baz=238						
EGFH	**Guangfu**	**0.89**	**225**	P	**Pg**	**05 12 46.3**	**-0.5**
	baz=204						
EGFH				*e*S	**Sb**	**05 12 59.9**	**+1.9**
	baz=204						
TAP	**Taipei**	**0.91**	**323**	P	**Pn**	**05 12 48.0**	**+0.4**
	baz=316						
TAP				*e*S	**Sn**	**05 12 59.7**	**-0.6**
	baz=316						
OWD	**Renai**	**0.92**	**248**	*e*P	**Pb**	**05 12 47.5**	**+0.4**
	baz=245						
OWD				*e*S	**Sn**	**05 13 01.4**	**+0.7**
	baz=245						
YM01	**YM01**	**0.97**	**330**	P	**Pn**	**05 12 48.6**	**+0.2**
	baz=330						
YM01				*e*S	**Sb**	**05 13 00.9**	**+0.4**
	baz=330						
NWRT	**Kuosheng**	**0.98**	**336**	*e*P	**Pn**	**05 12 48.8**	**+0.3**
	baz=337						
YM10	**YM10**	**0.98**	**330**	P	**Pn**	**05 12 48.3**	**-0.3**
	baz=330						
YM10				*e*S	**Sn**	**05 13 02.1**	**0.0**
	baz=330						
YM11	**YM11**	**0.98**	**331**	*e*P	**Pn**	**05 12 48.9**	**+0.2**
	baz=331						
YM11				*e*S	**Sn**	**05 13 02.1**	**-0.1**
	baz=331						
YM05	**YM05**	**0.99**	**330**	P	**Pn**	**05 12 48.4**	**-0.3**
	baz=331						
YM05				*e*S	**Sb**	**05 13 01.2**	**+0.2**
	baz=331						
YM04	**YM04**	**0.99**	**329**	P	**Pn**	**05 12 48.7**	**0.0**
	baz=329						

NSM			*e*S		**Sn**	**05 13 04.7 +0.1**
	baz=335					
SBCB	**Hsinchu**	**1.13 296**	P		**Pn**	**05 12 51.6 +1.0**
	baz=295					
SBCB			*e*S		**Sn**	**05 13 08.0 +2.3**
	baz=295					
HSN	**Hsinchu**	**1.15 296**	P		**Pn**	**05 12 51.7 +0.9**
	baz=298					
HSN			*e*S		**Sn**	**05 13 08.9 +2.8**
	baz=298					
YULB	**Yu-li**	**1.17 219**	P		**Pg**	**05 12 50.1 -2.2**
	baz=215					
YULB			*e*S		**Sb**	**05 13 07.4 +1.2**
	baz=215					
YULB	**Yu-li**	**1.17 219**			**Pg**	**05 12 50.0 -2.2**
SSLB	**Suanglung**	**1.17 244**	P		**Pg**	**05 12 51.1 -1.1**
	baz=242					
SSLB			*e*S		**Sn**	**05 13 08.2 +1.4**
	baz=242					
SSLB	**Suanglung**	**1.17 244**	Pn		**Pg**	**05 12 51.3 -1.0**
SMLT	**Sun Moon Lake**	**1.18 249**	*i* P		**Pn**	**05 12 51.9 +0.6**
	baz=246					
EYUL	**Yuli**	**1.20 217**	P		**Pg**	**05 12 50.7 -1.9**
	baz=230					
EYUL			*e*S		**Sn**	**05 13 08.8 +1.6**
	baz=230					
TWF1	**Yuli**	**1.20 218**	P		**Pg**	**05 12 50.6 -2.3**
	baz=231					
TYC	**Yuchr**	**1.21 251**	P		**Pn**	**05 12 52.2 +0.5**
	baz=239					
TYC			*e*S		**Sn**	**05 13 09.0 +1.4**
	baz=239					
TWQ1	**Liyutan**	**1.22 272**	P		**Pn**	**05 12 53.3 +1.5**
	baz=271					
TWQ1			*e*S		**Sn**	**05 13 11.6 +3.8**
	baz=271					
NMLH	**Miaoli**	**1.22 281**	P		**Pn**	**05 12 53.6 +1.8**
	baz=280					
NMLH			S		**Sn**	**05 13 11.4 +3.5**
	baz=280					
NSY	**Sanyi**	**1.23 275**	P		**Pn**	**05 12 53.8 +1.8**
	baz=274					
NSY			*e*S		**Sn**	**05 13 11.7 +3.5**
	baz=274					
PTSB	**Yuanli**	**1.29 277**	*e*P		**Pn**	**05 12 54.0 +1.2**
	baz=276					
PTSB			*e*S		**Sn**	**05 13 12.8 +3.2**
	baz=276					
WHYT	**Xinyi Township**	**1.30 242**	P		**Pg**	**05 12 53.9 -0.7**
	baz=246					
WHYT			*e*S		**Sn**	**05 13 12.3 +2.4**
	baz=246					
TCU	**Taichung**	**1.32 263**	*e*P		**Pg**	**05 12 55.0 +0.1**
	baz=262					
TCU			*e*S		**Sn**	**05 13 14.9 +4.7**
	baz=262					
PCYT	**Pengchaiyu**	**1.32 359**	P		**Pn**	**05 12 52.4 -0.7**
	baz=347					
PCYT			*e*S		**Sn**	**05 13 11.2 +0.8**
	baz=347					
FULB	**Fuli**	**1.33 214**	*e*P		**Pn**	**05 12 52.3 -1.0**
	baz=197					
YUS	**Yu-Shan**	**1.33 233**	*e*P		**Pg**	**05 12 53.9 -1.5**
	baz=228					
WDJ	**Dajia District**	**1.34 272**	*e*P		**Pg**	**05 12 54.8 -0.6**
	baz=271					
WJS	**Zhushan**	**1.35 249**	*e*P		**Pg**	**05 12 55.2 -0.4**
	baz=231					
WJS			*e*S		**Sn**	**05 13 15.0 +3.9**
	baz=231					
WNT	**Mingjian**	**1.37 252**	P		**Pg**	**05 12 55.8 -0.2**
	baz=233					
WNT			*e*S		**Sn**	**05 13 13.9 +2.4**
	baz=233					
CHKT	**Chengkung**	**1.38 210**	*e*P		**Pn**	**05 12 52.2 -1.8**
	baz=191					
CHKT			*e*S		**Sb**	**05 13 09.2 -3.0**
	baz=191					
ALS	**Alishan**	**1.43 237**	*i* P		**Pn**	**05 12 55.8 +0.9**
	baz=219					
ALS			*e*S		**Sn**	**05 13 16.4 +2.9**
	baz=219					
WCHH	**Zhanghua**	**1.43 261**	*e*P		**Pg**	**05 12 56.4 -0.8**
	baz=259					
IRIF	**Iriomote-Funau**	**1.48 89**	P		**Pn**	**05 12 55.3 -0.1**
IRIF			*e*S		**Sn**	**05 13 14.1 -0.2**
CHN5	**Tsauling**	**1.48 242**	*i* P		**Pb**	**05 12 56.9 +0.2**
	baz=223					
CHN5			*e*S		**Sg**	**05 13 18.5 +1.0**
	baz=223					
ELDTW	**Lidau**	**1.49 222**	P		**Pn**	**05 12 54.7 -1.0**
	baz=205					
ELDTW			*e*S		**Sn**	**05 13 13.9 -0.9**
	baz=205					
EDH	**Donghe**	**1.52 209**	P		**Pn**	**05 12 54.3 -1.5**
	baz=192					
EDH			*e*S		**Sn**	**05 13 13.9 -1.3**
	baz=192					
WGK	**Gukeng**	**1.54 247**	P		**Pg**	**05 12 58.1 -1.1**
	baz=244					
WGK			*e*S		**Sg**	**05 13 19.8 +0.5**
	baz=244					
WDLH	**Douliu**	**1.56 247**	P		**Pg**	**05 12 58.5 -1.1**
	baz=230					
WDLH			*e*S		**Sg**	**05 13 18.8 -1.1**
	baz=230					
HATJ	**Hateruma jima**	**1.57 99**	P		**Pn**	**05 12 57.4 +0.8**
RLNB	**Erlin**	**1.65 256**	*e*P		**Pb**	**05 12 59.5 0.0**
	baz=254					
RLNB			*e*S		**Sg**	**05 13 23.0 +0.3**
	baz=254					
LONT	**Longtian**	**1.66 213**	*e*P		**Pn**	**05 12 56.8 -1.0**
	baz=208					
CHN2	**Minshiung**	**1.68 243**	*e*P		**Pg**	**05 13 01.1 -0.8**
	baz=241					
CHN2			*e*S		**Sg**	**05 13 23.9 +0.2**
	baz=241					
CHN4	**Tsaushan**	**1.68 236**	P		**Pb**	**05 12 59.7 -0.3**
	baz=233					
CHN4			*e*S		**Sg**	**05 13 22.4 -1.4**
	baz=233					
STYT	**Tauyuan**	**1.68 228**	*e*P		**Pn**	**05 12 59.4 +1.2**
	baz=210					
STYT			*e*S		**Sb**	**05 13 21.8 +0.9**
	baz=210					
TPUB	**Ta-pu**	**1.68 234**	P		**Pn**	**05 12 59.5 +1.3**
	baz=219					
TPUB			*e*S		**Sg**	**05 13 22.5 -1.3**
	baz=219					
TPUB	**Ta-pu**	**1.68 234**	Pn		**Pn**	**05 12 59.3 +1.1**
WTK	**Tuku**	**1.69 249**	*e*P		**Pb**	**05 13 00.1 0.0**
	baz=233					
WTK			*e*S		**Sg**	**05 13 22.5 -1.4**
	baz=233					
LDUT	**Ludao**	**1.73 200**	P		**Pn**	**05 12 57.1 -1.7**
	baz=197					
LDUT			*e*S		**Sn**	**05 13 18.2 -2.2**
	baz=197					
WTCT	**Ta-ch'eng**	**1.73 256**	*e*P		**Pn**	**05 12 59.3 +0.5**
	baz=254					
WTCT			*e*S		**Sb**	**05 13 22.5 +0.3**
	baz=254					
WTP	**Ta-pu**	**1.73 233**	P		**Pn**	**05 13 00.1 +1.3**
	baz=230					
WTP			*e*S		**Sg**	**05 13 23.9 -1.4**
	baz=230					
CHY	**Chiayi**	**1.74 243**	*e*P		**Pb**	**05 13 01.2 +0.2**
	baz=240					
CHY			*e*S		**Sb**	**05 13 22.9 +0.4**
	baz=240					
JKRS	**Kuro-shima**	**1.74 92**	P		**Pn**	**05 12 59.5 +0.6**
JKRS			*e*S		**Sn**	**05 13 21.5 +0.9**
TWGBT	**Beinan**	**1.75 213**	*e*P		**Pn**	**05 12 57.8 -1.4**
	baz=208					
TWG	**Pinlang**	**1.76 213**	*e*P		**Pn**	**05 12 57.8 -1.4**
	baz=208					
TWG	**Pinlang**	**1.76 213**			**Pn**	**05 12 57.9 -1.3**
TTN	**Taitung**	**1.78 210**	*e*P		**Pn**	**05 12 59.1 -0.4**
	baz=193					
TTN			*e*S		**Sn**	**05 13 21.9 +0.2**
	baz=193					
WMLT	**Mailiao**	**1.79 254**	*e*P		**Pg**	**05 13 02.5 -1.5**
	baz=252					
WMLT			*e*S		**Sg**	**05 13 25.7 -1.7**
	baz=252					
TWK	**Hsinying**	**1.81 235**	P		**Pn**	**05 13 01.3 +1.3**
	baz=232					
TWK			*e*S		**Sb**	**05 13 25.6 +1.0**
	baz=232					
CHN1	**Nanshi**	**1.83 233**	P		**Pn**	**05 13 01.6 +1.5**
	baz=230					
CHN1			*e*S		**Sb**	**05 13 26.6 +1.5**
	baz=230					
SNST	**Tainan City**	**1.83 234**	*e*P		**Pb**	**05 13 01.9 -0.6**
	baz=231					
SNST			*e*S		**Sb**	**05 13 26.3 +1.2**
	baz=231					
WSF	**Szhu**	**1.85 249**	*e*P		**Pb**	**05 13 03.0 +0.2**
	baz=247					
WSF			*e*S		**Sg**	**05 13 27.3 -1.8**
	baz=247					
SGST	**Jiashian**	**1.85 229**	*e*P		**Pn**	**05 13 01.1 +0.6**
	baz=226					
SGST			*e*S		**Sb**	**05 13 26.2 +0.3**
	baz=226					
JIJ	**Ishigaki jima**	**1.86 88**	P		**Pn**	**05 13 00.6 0.0**
JIJ			*e*S		**Sn**	**05 13 23.8 +0.2**
SLGT	**Liugui**	**1.87 226**	P		**Pn**	**05 13 02.0 +1.3**
	baz=222					
SLGT			*e*S		**Sb**	**05 13 26.7 +0.3**
	baz=222					
ICHU	**Yijhu**	**1.92 241**	P		**Pn**	**05 13 03.1 +1.7**
	baz=219					
ICHU			*e*S		**Sg**	**05 13 30.2 -1.2**
	baz=219					
CHN8	**Yiju**	**1.98 242**	*e*P		**Pb**	**05 13 04.2 -0.9**
	baz=222					
CHN8			*e*S		**Sb**	**05 13 29.3 -0.2**
	baz=222					
ECL	**Taimali**	**2.00 212**	P		**Pn**	**05 13 01.3 -1.3**
	baz=207					
CHN3	**Shinhua**	**2.01 233**	*e*P		**Pb**	**05 13 06.0 +0.4**
	baz=228					
CHN3			*e*S		**Sg**	**05 13 32.3 -2.0**
	baz=228					
JISG	**Ishigakijimahi**	**2.03 82**	P		**Pn**	**05 13 02.6 -0.3**
JISG			*e*S		**Sn**	**05 13 28.7 +0.9**
SCST	**Cishan**	**2.05 227**	P		**Pb**	**05 13 05.9 -0.3**
	baz=222					
SCST			*e*S		**Sb**	**05 13 33.1 +1.7**
	baz=222					
SSD	**Sandimen**	**2.06 221**	P		**Pn**	**05 13 04.1 +0.8**
	baz=201					
SSD			*e*S		**Sn**	**05 13 30.0 +1.4**
	baz=201					
TSMG	**Majia**	**2.08 220**	*e*P		**Pn**	**05 13 04.3 +0.7**
	baz=201					
TSMG			*e*S		**Sn**	**05 13 31.1 +2.0**
	baz=201					
SCLT	**Jiali**	**2.08 238**	*e*P		**Pn**	**05 13 05.6 +2.0**
	baz=234					
SCLT			*e*S		**Sb**	**05 13 32.8 +0.4**
	baz=234					
TWM1	**Shoushan**	**2.14 227**	*e*P		**Pb**	**05 13 07.2 -0.6**
	baz=221					
MASBT	**Mashibuluo**	**2.16 219**	*e*P		**Pn**	**05 13 04.9 +0.2**
	baz=204					
TAW	**Tawu**	**2.23 210**	*e*P		**Pn**	**05 13 05.3 -0.4**
	baz=204					
EAST	**Anshuo**	**2.24 211**	P		**Pn**	**05 13 04.8 -1.0**
	baz=206					
SNJT	**Kaohsiung City**	**2.24 227**	*e*P		**Pb**	**05 13 08.7 -0.9**
	baz=221					
SSPT	**Xinbi**	**2.30 218**	*e*P		**Pn**	**05 13 07.7 +1.0**
	baz=212					
LAY	**Lan-yu**	**2.31 193**	P		**Pn**	**05 13 05.0 -1.9**
	baz=189					
LAY			*e*S		**Sn**	**05 13 33.2 -1.7**
	baz=189					
SCZT	**Fangliau**	**2.36 216**	*e*P		**Pn**	**05 13 09.0 +1.6**
	baz=195					
SCZT			*e*S		**Sn**	**05 13 39.3 +3.3**
	baz=195					
JTJ	**Tarama**	**2.39 81**	P		**Pn**	**05 13 08.7 +0.9**
JTJ			*e*S		**Sn**	**05 13 37.6 +0.9**
SLIU	**Shizi**	**2.40 210**	*e*P		**Pn**	**05 13 09.0 +1.0**
	baz=206					
SLIU			*e*S		**Sn**	**05 13 39.8 +2.7**
	baz=206					
PTTC	**Pingtan**	**2.43 300**	*e*P		**Pn**	**05 13 08.1 -0.4**
	baz=302					
PNG	**Penghu**	**2.45 253**	P		**Pn**	**05 13 09.1 +0.5**
	baz=251					
PNG			*e*S		**Sn**	**05 13 38.9 +0.7**
	baz=251					
PHUB	**P'eng-hu**	**2.45 252**	P		**Pn**	**05 13 09.1 +0.4**
	baz=250					
PHUB			*e*S		**Sn**	**05 13 40.0 +1.8**
	baz=250					
WDGT	**Dungji**	**2.47 246**	P		**Pn**	**05 13 09.8 +0.8**
	baz=242					
WLCH	**Liuqiu**	**2.51 220**	*e*P		**Pn**	**05 13 11.7 +2.2**
	baz=212					
VWUC	**VWUC**	**2.51 286**	*e*P		**Pn**	**05 13 09.3 -0.2**
	baz=287					
TWP	**Hsiaoliuchiu**	**2.52 220**	*e*P		**Pb**	**05 13 14.2 -0.1**
	baz=213					
HEN	**Hengchun**	**2.61 209**	*e*P		**Pn**	**05 13 13.2 +2.2**
	baz=194					
TWK1	**Hengchun**	**2.64 207**	*e*P		**Pn**	**05 13 10.9 -0.4**
	baz=192					
TWKBT	**Hengchun**	**2.64 207**	*e*P		**Pn**	**05 13 11.2 -0.1**
	baz=192					
MATB	**Ma-tsu**	**2.69 314**	*e*P		**Pn**	**05 13 11.8 -0.2**
	baz=315					
PTMZ	**Houxiangcun**	**2.81 286**	*e*P		**Pn**	**05 13 13.4 -0.3**
	baz=287					
JIRB	**Irabujima**	**2.84 79**	P		**Pn**	**05 13 15.1 +1.0**
JIRB			S		**Sn**	**05 13 49.4 +1.5**
JIKM	**Ikemajima**	**2.92 77**	P		**Pn**	**05 13 16.7 +1.5**
JMJ	**Miyako jima 2**	**2.94 79**	*e*P		**Pn**	**05 13 15.6 0.0**
	baz=81					
JMJ2	**Miyako jima3**	**2.96 81**	P		**Pn**	**05 13 17.0 +1.2**
LYJJ	**Jianjiangzhen**	**3.08 317**	*e*P		**Pn**	**05 13 17.7 +0.3**
	baz=319					
XPSS	**Dashiqiu**	**3.13 327**	*e*P		**Pn**	**05 13 17.6 -0.5**
	baz=328					
QZH	**Quanzhou**	**3.26 282**	Pn		**Pn**	**05 13 19.6 -0.3**
QZH			Sn		**Sn**	**05 13 56.4 -1.9**
QZH			smax	smax		
	comp=N,350nm,0.9s					
QZH			smax	smax		
	comp=E,220nm,0.7s					
MHZQ	**Yeshan**	**3.31 303**	*e*P		**Pn**	**05 13 20.1 -0.5**
	baz=306					
KNM	**Kinmen**	**3.35 273**	*e*P		**Pn**	**05 13 22.8 +1.7**
	baz=273					
KNMB	**Chin-men Tao**	**3.39 273**	*e*P		**Pn**	**05 13 21.6 0.0**
	baz=274					
KNMB	**Chin-men Tao**	**3.39 273**			**Pn**	**05 13 21.7 0.0**
AXDP	**Jialang**	**3.81 280**	*e*P		**Pn**	**05 13 27.5 0.0**
	baz=280					
ZPLA	**Ao Xicun**	**4.00 266**	*e*P		**Pn**	**05 13 30.0 0.0**
	baz=266					
ZZJH	**Jiuhuzhen**	**4.08 273**	*e*P		**Pn**	**05 13 31.5 +0.3**
	baz=273					
VDOS	**Pratas Island**	**6.13 235**	*e*P		**Pn**	**05 14 02.4 +3.1**
	baz=225					
GZH	**Guangzhou**	**8.12 263**	Pn		**Pn**	**05 14 22.4 -4.3**
GZH			Sn		Sn	05 15 46.8 -11
GZH			smax	smax		
	comp=N,150nm,1.0s					
GZH			smax	smax		
	comp=E,140nm,0.9s					
WHN	**Wuhan**	**9.28 314**	*e*P		Pn	05 14 49.3 +6.8
WHN			S		Sn	05 16 36.1 +10
JNU	**Nakatsue**	**11.67 39**	P		**Pn**	**05 15 19.9 +4.5**
	0.2nm,0.3s,baz=154,slow=5.2,SNR=5.6					
KSRS	**Korea Array**	**14.02 19**	P		**Pn**	**05 15 48.4 +1.1**
	0.2nm,0.3s,baz=206,slow=13,SNR=4.4					
XAN	**Xi'an**	**15.04 313**	P		**P**	**05 16 09.8 +3.1**
XAN			sP		Pn	05 16 17.1 +16
XAN			pmax	pmax		
	comp=Z,6.0nm,1.1s					
XAN			LR	LR		
	comp=N,430nm,7.8s					
XAN			LR	LR		
	comp=E,380nm,8.8s					
XAN			LR	LR		
	comp=Z,430nm,16.7s					
KMI	**Kunming**	**17.62 277**	*e*P		**P**	**05 16 37.4 +2.0**
KMI			pP		pwP	05 16 39.1 -4.3
KMI			sP		sP	05 16 40.6 -0.7
KMI			PP		**PnPn**	**05 16 53.1 +8.1**
KMI			S		**Sn**	**05 19 50.5 0.0**
KMI			sS		S	05 19 54.2 -3.8
KMI			SS		**SnSn**	**05 20 06.5 +2.5**
KMI			pmax	pmax		
	comp=Z,7.0nm,0.5s					
KMI			pmax	pmax		
	comp=Z,120nm,5.9s					
KMI			LR	LR		
	comp=Z,560nm,7.0s					
KMI			LR	LR		
	comp=Z,840nm,8.1s					
USRK	**Ussuriysk Ar.**	**21.43 20**	P		**P**	**05 17 16.2 -0.4**
	comp=Z,1.1nm,0.5s,baz=204,slow=10.0,SNR=3.3					
GTA	**Gaotai**	**24.10 314**	*e*P		**P**	**05 17 44.6 +0.2**
GTA			pP		pwP	05 17 51.6 -0.7
GTA			sP		sP	05 17 54.9 +4.1
GTA			pmax	pmax		
	comp=Z,5.0nm,1.5s					
ULN	**Ulaanbaatar**	**26.38 337**	P		**P**	**05 18 04.6 -0.4**
ULN			IAmb	IAmb		05 18 05.2
	comp=Z,5.8nm,0.8s					
SONM	**Songino Array**	**26.59 336**	P		**P**	**05 18 06.5 -0.4**
	comp=Z,8.9nm,1.0s,baz=152,slow=9.6,SNR=22					
WMQ	**Urumqi**	**34.18 313**	*e*P		**P**	**05 19 17.2 +3.2**
MKAR	**Makanchi Array**	**38.84 315**	P		**P**	**05 19 53.3 -0.4**
	comp=Z,1.1nm,0.5s,baz=101,slow=9.5,SNR=10					
MAKZ	**Makanchi**	**39.05 315**	P		**P**	**05 19 54.9 -0.5**
MAKZ			IAmb	IAmb		05 20 02.3
	comp=Z,5.2nm,1.1s					
ZALV	**Zalesovo Beam**	**40.60 327**	P		**P**	**05 20 06.7 -1.5**
	comp=Z,4.1nm,0.5s,baz=112,slow=8.4,SNR=14					
ZALV	**Zalesovo Beam**	**40.60 327**	P		**P**	**05 20 06.2 -1.9**
KURBB	**Kurchatov Arra**	**42.56 320**	P		**P**	**05 20 22.4 -1.9**
	comp=Z,1.1nm,0.7s,baz=116,slow=9.7,SNR=7.8					
WRA	**Warramunga Arr**	**45.56 164**	P		P	05 20 58.2 +10
	comp=Z,7.4nm,0.7s,baz=346,slow=8.8,SNR=30					
KKAR	**Karatay Array**	**46.07 307**	P		**P**	**05 20 52.2 -0.4**
ASAR	**Alice Springs**	**49.04 166**	P		P	05 21 25.8 +10
	comp=Z,3.3nm,0.7s,baz=346,slow=7.7,SNR=4.6					
ABKAR	**Akbulak array**	**53.96 314**	P		**P**	**05 21 51.5 -0.8**
STKA	**Stephens Creek**	**58.89 161**	P		P	05 22 37.4 +10
	comp=Z,4.6nm,0.7s,baz=352,slow=9.6,SNR=5.3					
ARCES	**ARCESS Array B**	**69.74 338**	P		**P**	**05 23 36.4 -1.8**
	comp=Z,2.9nm,0.9s,baz=52,slow=7.9,SNR=3.8					
FINES	**FINESS Array B**	**71.77 330**	P		**P**	**05 23 48.9 -1.7**
	comp=Z,0.8nm,0.5s,baz=56,slow=7.1,SNR=4.5					
AKASG	**Malin Array Be**	**73.34 318**	P		**P**	**05 23 58.2 -2.0**
	comp=Z,0.3nm,0.4s,baz=52,slow=5.1,SNR=2.2					
BRTR	**Keskin Array B**	**73.78 307**	P		**P**	**05 24 02.4 -0.8**
	comp=Z,1.6nm,0.8s,baz=157,slow=3.5,SNR=3.7					
YKA	**Yellowknife Ar**	**82.53 23**	P		**P**	**05 24 48.4 -2.7**
	comp=Z,0.7nm,0.6s,baz=316,slow=7.8,SNR=4.6					
NVAR	**Mina Array Bea**	**95.77 43**	P		**P**	**05 25 53.4 -1.9**
	comp=Z,0.4nm,0.7s,baz=306,slow=5.0,SNR=4.6					

BJI ***10*** *05:16:47.6±0.0, 0°.66S×125°.33E, h33km, mB5.5/72, mb5.4/79, Ms5.5/87, Ms7 5.3/82*

MOS ***10*** *05:16:51.6±1.0, 0°.17S×124°.99E, h31km, mb5.9/49, MS5.1/30, Error ellipse: s-maj=7.3km s-min=4.4km az=112.8*

NEIC ***10*** *05:16:53.4, 0°.18S×125°.11E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.47; $M_{\theta\theta}$-1.65; $M_{\varphi\varphi}$0.18; $M_{r\theta}$2.16; $M_{\theta\varphi}$-2.10; $M_{\varphi r}$2.25; Fault plane solution: $M_0$4.07000×10^{17} NP1:φ_s268.47000°, δ23.49000°, λ136.31000°. NP2:φ_s39.69000°, δ74.02000°, λ72.55000°. Principal axes: T 3.2330, Plg57.0000°, Azm286.0000°; N 1.3393, Plg17.0000°, Azm45.0000°; P -4.5723, Plg27.0000°, Azm143.0000°;*

IDC ***10*** *05:16:53.2±2.3, 0°.25S×125°.04E, h29km±15km, mb5.2/41, mb1 5.2/45, mb1mx5.1/49, mbtmp5.4/45, ML4.6/4, MS5.2/24, Ms1 5.2/24, ms1mx4.9/42 Error ellipse: s-maj=11.4km s-min=7.2km az=68.0*

NEIC ***10*** *05:16:53.2±2.3, 0°.18S±0°.05×125°.13E±0°.03, h30km±1km, mb5.8/196, Ms_20 5.4/524, Mwb5.7/66, Mwc5.9/31, Mww5.9, Mwc5.9(GCMT), Error ellipse: s-maj=9.3km s-min=5.6km az=170.0*

UNK ***10*** *05:16:53.2, 0°.20S×125°.11E, h30km*

NEIC ***10*** *05:16:56, 0°.10S×125°.41E, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.54; $M_{\theta\theta}$-3.53; $M_{\varphi\varphi}$-2.01; $M_{r\theta}$3.26; $M_{\theta\varphi}$-2.52; $M_{\varphi r}$6.51; Fault plane solution: $M_0$9.11000×10^{17} NP1:φ_s248.00000°, δ21.00000°, λ123.00000°. NP2:φ_s33.00000°, δ72.00000°, λ78.00000°. Principal axes: T 9.4945, Plg61.0000°, Azm285.0000°; N -0.8325, Plg11.0000°, Azm37.0000°; P -8.6620, Plg26.0000°, Azm132.0000°;*

DJA ***10*** *05:16:56.0±0.2, 0°S±2°×12°5E±°, h61km±2km, M5.6/72, mB6.0/61, mb5.6/72, MLv5.9/18, Mw(mB)5.6/61, Mwp5.8/37*

GCMT ***10*** *05:16:56.2±0.1, 0°.33S±0°.01×125°.12E±0°.01, h26km, MW5.9/154, Moment Tensor Solution. s154,c344; s149,c431; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}0.62±.01; $M_{\theta\theta}$-0.43±.01; $M_{\varphi\varphi}$-0.19±.01; $M_{r\theta}$0.08±.01; $M_{\theta\varphi}$-0.34±.00; $M_{\varphi r}$0.57±.01; Best double couple: $M_0$0.86300×10^{18} NP1:φ_s255.00000°, δ33.00000°, λ132.00000°. NP2:φ_s28.00000°, δ66.00000°, λ66.00000°. Principal axes: T 0.9250, Plg61.0000°, Azm262.0000°; N -0.1230, Plg22.0000°, Azm38.0000°; P -0.8010, Plg18.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *05:16:58, 0°.33S×125°.29E, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.69; $M_{\theta\theta}$-3.84; $M_{\varphi\varphi}$-1.85; $M_{r\theta}$2.34; $M_{\theta\varphi}$-3.92; $M_{\varphi r}$5.74; Fault plane solution: $M_0$8.89000×10^{17} NP1:φ_s254.00000°, δ28.00000°, λ129.00000°. NP2:φ_s31.00000°, δ68.00000°, λ71.00000°. Principal axes: T 8.7909, Plg62.0000°, Azm272.0000°; N 0.1983, Plg17.0000°, Azm38.0000°; P -8.9891, Plg21.0000°, Azm135.0000°;*

KLM ***10*** *05:16:58.0, 0°.22S×125°.33E, h88km, mb5.8*

NEIC ***10*** *05:17:17.1, 0°.60N×125°.73E, h22km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}6.28; $M_{\theta\theta}$-3.42; $M_{\varphi\varphi}$-2.86; $M_{r\theta}$-2.07; $M_{\theta\varphi}$-3.53; $M_{\varphi r}$7.63; Fault plane solution: $M_0$9.83000×10^{17} NP1:φ_s245.07000°, δ31.96000°, λ141.55000°. NP2:φ_s9.03000°, δ70.78000°, λ63.96000°. Principal axes: T 11.4635, Plg56.0000°, Azm245.0000°; N -3.2597, Plg24.0000°, Azm18.0000°; P -8.2038, Plg22.0000°, Azm119.0000°;*

ISC 10 05:16:54.4±0.4, 0°.20S±0°.03×125°.10E±0°.03, h40km±3km, h41km; pP-P, n1428, σ1945/1239, mb5.7/203, MS5.4/337, 41C-31D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.36**	**304**	P	**Pn**	**05 17 17.2**	**+0.3**
SANI	**Sanana**	**2.04**	**154**	P	**Pn**	**05 17 23.8**	**-2.6**
GTOI	**Gorontalo**	**2.25**	**292**	P	**Pn**	**05 17 32.9**	**+3.7**
LBMI	**Labuha**	**2.44**	**100**	P	**Pn**	**05 17 31.0**	**-0.8**
TNTI	**Ternate**	**2.46**	**67**	P	**Pn**	**05 17 33.2**	**+1.1**
TNTI	**Ternate**	**2.46**	**67**	Pn	**Pn**	**05 17 32.3**	**+0.2**
LUWI	**Luwuk**	**2.48**	**250**	P	**Pn**	**05 17 33.5**	**+1.2**
LUWI	**Luwuk**	**2.48**	**250**	Pn	**Pn**	**05 17 34.1**	**+1.8**
NLAI	**Namlea**	**3.62**	**147**	P	**Pn**	**05 17 46.7**	**-1.4**
MSAI	**Masohi**	**4.94**	**129**	P	**Pn**	**05 18 06.5**	**+0.3**
MPSI	**Mapaga**	**5.23**	**276**	P	**Pn**	**05 18 13.1**	**+2.9**
	9.6nm76μm32μm1μm,1.3s						
SIJI	**Sorong**	**6.20**	**96**	Pn	**Pn**	**05 18 24.6**	**+1.1**
	7.7nm,0.3s,baz=296,slow=9.7,SNR=50						
SIJI				Sn	**Sn**	**05 19 35.5**	**+2.3**
	12nm,0.3s,baz=243,slow=24,SNR=1.2						
DDMP	**Don Marcelino,**	**6.29**	**6**	*e*P	**Pn**	**05 18 27.1**	**+2.4**
BNDI	**Bandanaira**	**6.44**	**132**	P	**Pn**	**05 18 24.8**	**-2.0**
	14nm80μm41μm3μm,1.0s						
BNSI	**Bone**	**6.51**	**230**	P	**Pn**	**05 18 29.0**	**+1.3**
	7.5n

KAPI	Kappang	7.17 228	P	Pn	05 18 38.3	+1.5
KAPI			P	Pn	05 18 38.3	+1.5
KAPI	Kappang	7.17 228	Pn	Pn	05 18 38.2	+1.3
MATI	Mati	7.19 9	eP	Pn	05 18 42.5	+5.5
DAV	Davao City (W)	7.23 4	Pn	Pn	05 18 43.0	+5.3
	58nm,0.3s,baz=129,slow=2.8,SNR=25					
DAV			LR	LR	05 21 53.6	
	comp=Z,49μm,18.2s,baz=202,slow=41					
DAV	Davao City (W)	7.23 4	Pn	Pn	05 18 38.0	+0.3
DAV	Davao City (W)	7.23 4	eP	Pn	05 18 43.2	+5.5
FAKI	Fak Fak	7.64 111	P	Pn	05 18 41.0	-2.3
	3.2nm43μm6μm543nm,1.0s					
FAKI	Fak Fak	7.64 111	Pn	Pn	05 18 40.8	-2.5
BUKP	Musuan	8.02 360	eP	Pn	05 18 52.4	+3.8
PAGZ	Pagadian	8.17 348	eP	Pn	05 18 52.2	+1.6
BKB	Balikpapan	8.27 263	P	Pn	05 18 56.6	+4.6
	52μm11μm849nm,0.7s					
BKB	Balikpapan	8.27 263	Pn	Pn	05 18 51.4	-0.5
MYLDM	Lahad Datu	8.48 309	Pn	Pn	05 18 58.6	+3.7
MMRI	Maumere	8.86 199	Pn	Pn	05 19 03.4	+3.4
EDFI	Ende, Flores	9.15 202	P	Pn	05 19 05.2	+1.1
	13μm2μm175nm,0.9s					
KMPI	Kaimana, Papua	9.26 112	P	Pn	05 19 03.9	-1.6
	8μm861nm,0.9s					
SOEI	Soe	9.53 185	P	Pn	05 19 12.6	+3.2
	35μm13μm832nm,1.0s					
SAUI	Saumlaki	9.90 142	Pn	Pn	05 19 13.5	-0.8
SPMM	Sapulut	9.91 300	P	Pn	05 19 21.0	+6.6
GLSP	General Luna,	9.97 6	eP	Pn	05 19 18.4	+3.3
BATI	Baumata	10.05 188	Pn	Pn	05 19 19.3	+2.9
	11nm,0.3s,baz=198,slow=5.9,SNR=15					
BATI	Baumata	10.05 188	P	Pn	05 19 19.0	+2.7
	14μm5μm220nm,1.0s					
BBKI	Banjar Baru	10.76 252	P	Pn	05 19 28.8	+2.8
	11μm6μm256nm,1.5s					
KKM	Kota Kinabalu	10.82 305	Pn	Pn	05 19 31.6	+4.6
BASI	Baing, Sumba	10.93 204	P	Pn	05 19 33.0	+4.7
	14μm6μm295nm,1.1s					
SBUM	Sibu	13.14 282	Pn	Pn	05 20 01.5	+2.8
SBUM	Sibu	13.14 282	P	Pn	05 20 02.0	+3.3
JAGI	Jajag, Banyuwa	13.66 233	Pn	P	05 20 10.1	-3.6
MTN	Manton Dam	13.92 155	P	Pn	05 20 07.6	-1.6
	baz=14,SNR=62					
MTN	Manton Dam	13.92 155	Pn	Pn	05 20 07.7	-1.6
GMJI	Gumukmas	14.12 235	P	P	05 20 18.6	-0.2
	3μm157nm,0.9s					
KDU	Kakadu	14.40 150	P	Pn	05 20 13.0	-2.8
	baz=14,SNR=274					
TBJI	Tambak Boyo	14.77 243	P	Pn	05 20 23.1	+2.4
	9μm11μm1μm,0.9s					
TGY	Tagaytay City	14.79 344	Pn	P	05 20 25.6	-0.7
	51nm,0.3s,baz=210,slow=5.7,SNR=4.6					
TGY			LR	LR	05 26 55.9	
	comp=Z,7μm,18.2s,baz=150,slow=41					
KSM	Kuching	14.88 276		P	05 20 25.9	-1.4
KSM	Kuching	14.88 276	P	P	05 20 27.0	-0.3
GENI	Genyem	15.25 99	P	Pn	05 20 24.6	-2.4
	23μm8μm441nm,1.1s					
NGJI	Ngawi	15.36 242	P	P	05 20 33.2	+0.6
	11μm856nm,1.1s					
PWJI	Pagerwojo	15.37 239	P	P	05 20 32.2	-0.5
	18μm6μm571nm,0.8s					
JAY	Jayapura	15.77 99	Pn	Pn	05 20 32.3	-1.5
	0.6nm,0.3s,baz=290,slow=4.7,SNR=14					
JAY			LR	LR	05 27 59.6	
	comp=Z,14μm,21.0s,baz=283,slow=42					
JAY	Jayapura	15.77 99	P	Pn	05 20 30.3	-3.5
	9μm1μm93nm,1.0s					
KNRA	Kununurra	15.80 167	P	Pn	05 20 32.3	-1.9
	baz=16,SNR=123					
KNRA	Kununurra	15.80 167	Pn	Pn	05 20 32.2	-1.9
KNRA			IAmb	IAmb	05 20 33.8	
	comp=Z,931nm,1.1s					
WOJI	Wonogiri, Jawa	16.04 241	P	P	05 20 40.4	+0.2
	comp=Z,7μmcomp=Z,354nm,1.6s					
SMRI	Semarang	16.13 245	P	P	05 20 43.2	+2.0
	comp=Z,24μmcomp=Z,18μmcomp=Z,1μm,1.8s					
SMRI	Semarang	16.13 245		P	05 20 43.0	+1.8
SMRI			IAmb	IAmb	05 20 47.1	
	comp=Z,787nm,0.8s					
UGM	Wanagama	16.43 242	P	P	05 20 47.0	+2.5
	comp=Z,17μmcomp=Z,12μmcomp=Z,667nm,1.5s					
UGM	Wanagama	16.43 242		P	05 20 46.4	+1.9
UGM			IAmb	IAmb	05 21 01.9	
	comp=Z,914nm,1.2s					
FITZ	Fitzroy Crossi	17.80 178	P	Pn	05 20 57.5	-1.7
	comp=Z,1.3nm,0.3s,baz=0.6,slow=11,SNR=31					
FITZ			LR	LR	05 27 56.7	
	comp=Z,6μm,21.9s,baz=273,slow=37					
FITZ	Fitzroy Crossi	17.80 178	P	Pn	05 20 57.5	-1.7
	baz=18,SNR=38					
FITZ	Fitzroy Crossi	17.80 178	Pn	Pn	05 20 57.4	-1.7
FITZ				P	05 20 57.6	-2.0
JCJI	Jatiwangi	17.92 249	P	P	05 21 04.3	+3.3
	comp=Z,25μmcomp=Z,2μm,1.6s					
LEM	Lembang	18.64 249	P	Pn	05 21 09.5	-0.3
	comp=Z,12nm,0.3s,baz=45,slow=9.7,SNR=45					
LEM			LR	LR	05 29 16.7	
	comp=Z,28μm,20.8s,baz=60,slow=40					
LEM	Lembang	18.64 249	P	Pn	05 21 11.4	+1.6
	comp=Z,9μmcomp=Z,6μmcomp=Z,517nm,1.1s					
CISI	Cisompet, Garu	18.72 247	P	P	05 21 10.2	+0.3
	comp=Z,22μmcomp=Z,16μmcomp=Z,2μm,0.7s					
CISI	Cisompet, Garu	18.72 247		Pn	05 21 10.6	0.0
PPBI	Pangkal Pinang	19.06 264	P	P	05 21 13.8	+0.2
	comp=Z,176nm,1.7s					
CBJI	Citeko	19.23 251	P	Pn	05 21 16.9	+0.2
	comp=Z,18μmcomp=Z,19μmcomp=Z,2μm,1.0s					
CNJI	Cibinong	19.27 248	P	Pn	05 21 16.8	-0.3
	comp=Z,8μmcomp=Z,647nm,1.2s					
DBJI	Dramaga	19.37 251	P	P	05 21 17.6	+0.6
	comp=Z,37μmcomp=Z,456nm,0.9s					
SKJI	Sukabumi	19.70 250	P	Pn	05 21 23.9	+1.7
	comp=Z,10μmcomp=Z,726nm,1.8s					
SBJI	Serang	19.83 252	P	Pn	05 21 25.4	+1.6
	comp=Z,15μmcomp=Z,12μmcomp=Z,912nm,1.4s					
CGJI	Cibinong	20.39 251	P	Pn	05 21 31.0	+0.7
	comp=Z,9μmcomp=Z,911nm,1.2s					
DLV	T Lat	20.43 307	Pn	Pn	05 21 30.7	-0.3
DSRI	Dabo	20.53 269	P	P	05 21 30.0	+0.5
	comp=Z,8μmcomp=Z,2μmcomp=Z,256nm,1.1s					
TPRI	Tanjung Pinang	20.61 273	P	Pn	05 21 32.0	-0.9
KLSI		20.83 257	P	P	05 21 34.2	+1.3
	comp=Z,5μmcomp=Z,920nmcomp=Z,55nm,1.1s					
MDSI	Maura Dua	21.33 258	P	P	05 21 37.5	-0.7
	comp=Z,3μmcomp=Z,132nm,1.0s					
MYKOM	Kota Tinggi	21.34 275	P	P	05 21 40.0	+1.7
WB0	Warramunga Arr	21.48 155	IAmb	IAmb	05 22 19.4	
	comp=Z,431nm,1.1s					
MBWA	Marble Bar	21.49 194	P	P	05 21 38.5	-1.3
MBWA			P	P	05 21 38.5	-1.3
LWLI	Liwa	21.55 257	P	P	05 21 43.9	+3.2
	comp=Z,9μmcomp=Z,306nm,0.8s					
WRAB	Tennant Creek	21.61 156	d iP	P	05 21 38.6	-2.5
WRAB			pmax	pmax		
	comp=Z,270nm,1.3s					
WRAB	Tennant Creek	21.61 156	P	P	05 21 39.2	-1.9
WRAB			IAmb	IAmb	05 21 53.2	
	comp=Z,304nm,0.9s					
WRA	Warramunga Arr	21.61 156	P	P	05 21 39.0	-2.2
	comp=Z,148nm,1.1s,baz=334,slow=11,SNR=92					
WRA			S	S	05 25 38.1	-0.5
	comp=Z,61nm,1.1s,baz=338,slow=16,SNR=6.1					
WRA			LR	LR	05 31 18.1	
	comp=Z,4μm,19.1s,baz=335,slow=40					
WRA	Warramunga Arr	21.61 156	P	P	05 21 37.5	-3.7
WB2	Warramunga Arr	21.62 156	IAmb	IAmb	05 21 52.8	
	comp=Z,318nm,0.8s					
WC3	Warramunga Arr	21.64 156	P	P	05 21 38.6	-2.8
	baz=22					
WR0	Warramunga Arr	21.71 155	IAmb	IAmb	05 21 49.5	
	comp=Z,307nm,0.9s					
XMIS	Christmas Isla	21.87 242	P	P	05 21 43.6	-0.4
XMIS			IAMs_20	IAMs_20	05 31 18.5	
	comp=Z,15μm,22.0s					
MNAI	Manna	22.51 259	P	P	05 21 51.3	+0.4
COEN	Coen	22.52 128	P	P	05 21 48.7	-2.2
	baz=22,SNR=116					
COEN	Coen	22.52 128	P	P	05 21 49.2	-1.7
COEN			IAmb	IAmb	05 21 56.7	
	comp=Z,374nm,0.9s					
TWG	Pinlang	23.21 351	IAmb	IAmb	05 22 26.4	
	comp=Z,309nm,0.8s					
SDSI	Sungai Dareh	23.68 268	P	P	05 22 02.0	-0.7
	comp=Z,3μmcomp=Z,233nm,1.5s					
KRJI	Kerinci	23.71 265	P	P	05 22 03.6	+0.6
	comp=Z,45μmcomp=Z,1μm,0.7s					
TPUB	Ta-pu	23.76 350	P	P	05 22 02.1	-1.2
TPUB			IAmb	IAmb	05 22 28.5	
	comp=Z,276nm,0.9s					
TPUB			IAMs_20	IAMs_20	05 31 00.5	
	comp=Z,17μm,22.0s					
PMG	Port Moresby	23.79 113	P	P	05 22 03.0	-0.6
	comp=Z,86nm,1.0s,baz=328,slow=7.7,SNR=20					
PMG	Port Moresby	23.79 113	P	P	05 22 03.0	-0.6
PMG	Port Moresby	23.79 113	P	P	05 22 02.6	-1.0
PMG			IAmb	IAmb	05 22 26.6	
	comp=Z,392nm,1.1s					
GUMO	Guam	23.90 54	P	P	05 22 05.3	+0.7
	comp=Z,161nm,0.7s,baz=155,slow=15,SNR=8.2					
GUMO	Guam	23.90 54	P	P	05 22 04.1	-0.5
GUMO			IAmb	IAmb	05 22 53.6	
	comp=Z,418nm,1.1s					
BKNI	Bangkinang	24.07 271	P	P	05 22 06.4	+0.1
	comp=Z,11μmcomp=Z,4μmcomp=Z,178nm,1.0s					
BKNI	Bangkinang	24.07 271	P	P	05 22 06.7	+0.4
BKNI			IAmb	IAmb	05 22 41.1	
	comp=Z,330nm,1.2s					
SSLB	Suanglung	24.18 351	P	P	05 22 07.9	+0.8
QIZ	Qiongzhong	24.28 323	P	P	05 22 08.6	+0.5
QIZ			pP	pP	05 22 16.6	-1.6
QIZ			S	S	05 26 27.3	+2.9
QIZ			sS	sS	05 26 39.2	-2.3
QIZ			pmax	pmax		
	comp=Z,54nm,2.3s					
QIZ			pmax	pmax		
	comp=Z,1μm,4.5s					
QIZ			LR	LR		
	comp=Z,4μm,17.2s					
QIZ			LR	LR		
	comp=Z,5μm,18.1s					
QIZ			LR	LR		
	comp=Z,6μm,22.9s					
NACB	Ninganchiao	24.46 352	P	P	05 22 09.8	+0.1
IPM	Ipoh	24.50 281	IAmb	IAmb	05 22 13.8	
	comp=Z,580nm,1.9s					
IPM	Ipoh	24.50 281	P	P	05 22 11.0	+0.8
YOJ	Yonaguni jima	24.59 355	P	P	05 22 12.0	+1.1
YOJ			pmax	pmax		
	comp=Z,105nm,0.8s					
YOJ			MLR	MLR		
	comp=Z,8μm,21.0s					
YOJ	Yonaguni jima	24.59 355	P	P	05 22 12.0	+1.1
PDSI	Padang	24.65 268	P	P	05 22 12.1	+0.5
	comp=Z,6μmcomp=Z,162nm,1.3s					
GIRL	Giralia	24.69 205	P	P	05 22 13.9	+2.1
	baz=25,SNR=9.3					
GIRL	Giralia	24.69 205	P	P	05 22 14.0	+2.1
GIRL			IAmb	IAmb	05 22 27.6	
	comp=Z,337nm,1.0s					
QIS	Mount Isa	24.71 146	P	P	05 22 11.7	-0.4
	baz=25,SNR=153					
HKPS	Hong Kong Po S	24.76 335	IAMs_20	IAMs_20	05 31 19.5	
	comp=Z,10μm,19.0s					
HKC	Hong Kong Obse	24.77 335	⇑P	P	05 22 13.0	+0.5
AS31	Alice Springs	24.85 160	P	P	05 22 12.5	-0.8
ASAR	Alice Springs	24.85 160	P	P	05 22 13.2	0.0
	comp=Z,182nm,1.1s,baz=342,slow=10,SNR=196					
ASAR			PcP	PcP	05 25 49.4	+0.5
	comp=Z,14nm,0.9s,baz=346,slow=2.0,SNR=4.1					
ASAR			S	S	05 26 33.9	+0.2
	comp=Z,28nm,1.1s,baz=338,slow=19,SNR=3.3					
ASAR			ScP	ScP	05 29 26.1	+1.3
	comp=Z,8.1nm,1.0s,baz=348,slow=3.3,SNR=4.9					
ASAR			LR	LR	05 33 20.1	
	comp=Z,4μm,21.8s,baz=328,slow=40					
ASAR	Alice Springs	24.85 160	P	P	05 22 12.0	-1.3
ASAR	Alice Springs	24.85 160		ScP	05 29 25.6	+0.8
WRKA	Warakurna	24.89 173	P	P	05 22 13.0	-0.7
	baz=25,SNR=68					
YHNB	Yeheng	24.98 352	IAMs_20	IAMs_20	05 31 58.9	
	comp=Z,16μm,22.0s					
KULM	Kulim	25.02 283	IAmb	IAmb	05 22 18.6	
	comp=Z,293nm,1.6s					
KULM			IAMs_20	IAMs_20	05 33 45.7	
	comp=Z,16μm,22.0s					
KULM	Kulim	25.02 283	P	P	05 22 15.0	+0.1
TATO	Taipei	25.27 352	P	P	05 22 15.4	-1.5
TATO			P	P	05 22 15.4	-1.5
TATO	Taipei	25.27 352	P	P	05 22 16.7	-0.3
TATO			IAmb	IAmb	05 22 19.2	
	comp=Z,210nm,1.4s					
KNMB	Chin-men Tao	25.36 346	P	P	05 22 18.5	+0.6
MNSI	Mandailing Nat	25.54 272	P	P	05 22 19.8	+0.1
	comp=Z,4μmcomp=Z,77nm,0.8s					
QZH	Quanzhou	25.77 346	⇓iP	P	05 22 23.1	+1.5
QZH			S	S	05 26 55.2	+7.1
QZH			LR	LR		
	comp=Z,2μm,19.5s					
QZH			LR	LR		
	comp=Z,3μm,20.4s					
QZH			LR	LR		
	comp=Z,3μm,20.0s					
MTSU	Mount Surprise	25.97 134	P	P	05 22 23.4	-0.1
	baz=26,SNR=7.8					
RPSI	Rantau Prapat	26.33 276	P	P	05 22 25.1	-1.7
PSI	Prapat	26.34 277	P	P	05 22 26.0	-1.0
	comp=Z,81nm,1.2s,baz=178,slow=1.7,SNR=34					
PSI			LR	LR	05 34 00.8	
	comp=Z,6μm,21.6s,baz=90,slow=39					
JMZ	Minamidaito 2	26.53 12	P	P	05 22 28.4	-0.1
JMZ			IAmb	IAmb	05 23 12.4	
	comp=Z,311nm,1.2s					
MEEK	Meekatharra	27.02 193	P	P	05 22 31.7	-1.3
	baz=27,SNR=16					
KRVT	Keravat (AS076	27.21 99	P	P	05 22 35.0	+0.2
	comp=Z,441nm,1.0s,baz=204,slow=1.6,SNR=20					
KRVT			LR	LR	05 35 47.5	
	comp=Z,2μm,19.9s,baz=271,slow=42					
GSI	Gunungsitoli	27.57 273	P	P	05 22 35.4	-2.5
	comp=Z,95nm,1.1s					
GSI	Gunungsitoli	27.57 273	IAmb	IAmb	05 23 33.9	
	comp=Z,438nm,1.8s					
TPTI		28.12 277	P	P	05 22 41.9	-1.0
	comp=Z,22nm,1.1s					
CTA	Charters Tower	28.63 135	P	P	05 22 47.5	+0.2
	comp=Z,44nm,0.9s,baz=315,slow=11,SNR=26					
CTAO	Charters Tower	28.63 135	P	P	05 22 46.9	-0.5
CTAO			pmax	pmax		
	comp=Z,171nm,1.2s					
CTAO	Charters Tower	28.63 135	P	P	05 22 46.9	-0.5
CTAO			IAmb	IAmb	05 23 08.9	
	comp=Z,171nm,1.2s					
MLSI	Meulaboh, Aceh	29.01 279	P	P	05 22 50.4	-0.5
	comp=Z,105nm,1.1s					
SLVN	Son La	29.77 317	P	P	05 22 57.6	+0.1
MORW	Morawa	29.99 196	P	P	05 22 58.4	-0.9
	baz=30,SNR=8.3					
FORT	Forrest	30.55 175	P	P	05 23 03.5	-0.6
	baz=31,SNR=34					
FORT	Forrest	30.55 175	IAmb	IAmb	05 23 08.3	
	comp=Z,141nm,0.7s					
KMBL	Kambalda	31.15 185	P	P	05 23 10.6	+1.0
	baz=31,SNR=8.8					
BLDU	Ballidu	31.29 194	P	P	05 23 10.4	-0.3
	baz=31,SNR=14					
SSE	Sheshan	31.34 354	P	P	05 23 11.8	+0.6
SSE			S	S	05 28 18.5	+2.9
SSE			pmax	pmax		
	comp=Z,29nm,0.7s					
SSE			pmax	pmax		
	comp=Z,300nm,8.0s					
SSE			LR	LR		
	comp=Z,2μm,22.8s					
SSE			LR	LR		
	comp=Z,1μm,19.4s					
JCJ	Chichijima	31.72 30	P	P	05 23 14.2	-0.4
	comp=Z,112nm,0.6s,baz=273,slow=14,SNR=7.1					
JCJ	Chichijima	31.72 30	P	P	05 23 14.5	-0.1
CHTO	Chiang Mai	31.88 308	P	P	05 23 16.5	+0.3
CHTO	Chiang Mai	31.88 308	P	P	05 23 16.3	+0.1
CHTO			pmax	pmax		
	comp=Z,214nm,1.3s					
CHTO			MLR	MLR		
	comp=Z,4μm,22.0s					
CHTO	Chiang Mai	31.88 308	P	P	05 23 16.3	+0.1
CHTO			IAmb	IAmb	05 23 19.3	
	comp=Z,214nm,1.3s					
GYA	Guiyang	31.91 328	⇑P	P	05 23 12.7	-3.7
GYA			PP	PP	05 24 26.6	-2.4
GYA			pmax	pmax		
	comp=Z,43nm,0.9s					
GYA			pmax	pmax		
	comp=Z,570nm,4.7s					
GYA			LR	LR		
	comp=Z,3μm,22.4s					
GYA			LR	LR		
	comp=Z,3μm,19.0s					
GYA			LR	LR		
	comp=Z,4μm,25.8s					
KLBR	Kellerberrin	31.99 192	P	P	05 23 17.2	+0.3
	baz=32,SNR=12					
QLP	Quilpie	32.06 146	P	P	05 23 17.0	-0.5
	baz=32,SNR=4.4					
WHN	Wuhan	32.23 342	⇓P	P	05 23 20.1	+1.1
WHN			S	S	05 28 29.0	-0.6
WHN			pmax	pmax		
	comp=Z,950nm,6.2s					
WHN			LR	LR		
	comp=Z,8μm,18.0s					
WHN			LR	LR		
	comp=Z,3μm,14.3s					
WHN			LR	LR		
	comp=Z,14μm,21.7s					
NJ2	Nanjing	32.61 350	eP	P	05 23 23.2	+0.9
NJ2			sP	pwP	05 23 35.4	-0.9
NJ2			S	S	05 28 38.7	+3.2
NJ2			sS	sS	05 28 51.5	-1.3
NJ2			SS	SS	05 30 35.5	-22
NJ2			pmax	pmax		
	comp=Z,39nm,1.4s					
NJ2			pmax	pmax		
	comp=Z,510nm,5.8s					
NJ2			LR	LR		
	comp=Z,4μm,23.7s					
NJ2			LR	LR		
	comp=Z,3μm,19.4s					
NJ2			LR	LR		
	comp=Z,6μm,22.7s					
MUN	Mundaring	32.71 194	P	P	05 23 24.8	+1.5
	baz=33,SNR=3.5					
KMI	Kunming	33.19 321	⇓iP	P	05 23 29.6	+1.8
KMI			SS	SS	05 30 58.6	-11
KMI			pmax	pmax		
	comp=Z,34nm,1.5s					
KMI			pmax	pmax		
	comp=Z,480nm,3.5s					
KMI			LR	LR		
	comp=Z,3μm,20.1s					
KMI			LR	LR		
	comp=Z,3μm,24.4s					
KMI			LR	LR		
	comp=Z,5μm,24.3s					
KMI	Kunming	33.19 321	IAmb	IAmb	05 23 33.9	
	comp=Z,189nm,1.7s					
NWAO	Narrogin (SRO)	33.39 192	P	P	05 23 27.7	-1.4
	comp=Z,14nm,0.7s,baz=0.1,slow=8.2,SNR=5.7					
JNU	Nakatsue	33.58 9	P	P	05 23 30.7	-0.2
	comp=Z,107nm,1.1s,baz=177,slow=4.5,SNR=19					
JNU	Nakatsue	33.58 9	IAmb	IAmb	05 23 39.7	
	comp=Z,97nm,0.9s					
ENH	Enshi	33.75 335	IAmb	IAmb	05 23 42.8	
	comp=Z,101nm,1.0s					
PATS	Pohnpei	33.86 77	P	P	05 23 33.7	+0.2
PATS				pP	05 23 42.5	-1.6
PATS			IAMs_20	IAMs_20	05 38 14.2	
	comp=Z,7μm,19.0s					
BBOO	Buckleboo	34.05 163	P	P	05 23 34.1	-0.7
	baz=34,SNR=6.9					
BBOO	Buckleboo	34.05 163	P	P	05 23 35.6	+0.8
BBOO			IAmb	IAmb	05 23 53.3	
	comp=Z,80nm,1.0s					
RMQ	Roma	34.67 141	P	P	05 23 40.0	-0.4
	baz=35,SNR=17					
JTU	Tsushima	34.77 6	P	P	05 23 42.0	+0.9
JTU			IAmb	IAmb	05 23 56.0	
	comp=Z,213nm,1.4s					
RKGY	Rocky Gully	35.07 192	P	P	05 23 46.3	+2.6
	baz=35,SNR=4.7					
STKA	Stephens Creek	35.16 155	P	P	05 23 44.0	-0.4
	comp=Z,114nm,1.1s,baz=326,slow=8.9,SNR=46					
STKA			LR	LR	05 40 32.5	
	comp=Z,2μm,21.3s,baz=336,slow=40					
STKA	Stephens Creek	35.16 155	P	P	05 23 44.1	-0.4
	baz=35,SNR=34					
STKA	Stephens Creek	35.16 155	P	P	05 23 44.1	-0.4
STKA			pmax	pmax		
	comp=Z,37nm,1.2s					
STKA			MLR	MLR		
	comp=Z,600nm,22.0s					
STKA	Stephens Creek	35.16 155	P	P	05 23 44.1	-0.4
EIDS	Eidsvold	35.44 137	P	P	05 23 46.6	-0.4
	baz=35,SNR=6.3					
HTT	Hallett	35.52 160	P	P	05 23 47.5	-0.1
	baz=36,SNR=5.5					
JHS	Saijyo	35.80 11	IAmb	IAmb	05 24 05.4	
	comp=Z,110nm,1.1s					
TJN	Taejon	36.45 3	c iP	P	05 23 55.7	+0.3
JWT	Wachi	36.58 14	IAmb	IAmb	05 24 10.2	
	comp=Z,165nm,1.2s					
CMSA	Cobar Meteorol	36.77 150	P	P	05 23 58.3	+0.1
	baz=37,SNR=48					
JSG	Sagara	36.79 18	P	P	05 23 58.5	+0.1
TIA	Tai'an	36.97 349	P	P	05 23 59.7	-0.3
TIA			PP	PnPn	05 25 30.8	+5.5
TIA			pmax	pmax		
	comp=Z,30nm,1.6s					
TIA			pmax	pmax		
	comp=Z,590nm,11.6s					
TIA			LR	LR		
	comp=Z,3μm,27.9s					
TIA			LR	LR		
	comp=Z,2μm,23.5s					
TIA			LR	LR		
	comp=Z,5μm,24.0s					
CD2	Chengdu	36.98 329	⇑iP	P	05 24 01.1	+0.9
CD2			PP	PnPn	05 25 27.1	+1.6
CD2			S	S	05 29 46.1	+3.1
CD2			sS	sS	05 30 01.8	+1.3
CD2			ScS	ScS	05 34 12.9	+0.7
CD2			pmax	pmax		
	comp=Z,120nm,1.6s					
CD2			pmax	pmax		
	comp=Z,910nm,8.6s					
CD2			LR	LR		
	comp=Z,10μm,22.4s					
CD2			LR	LR		
	comp=Z,7μm,21.0s					
CD2			LR	LR		
	comp=Z,7μm,23.5s					
INU	Inuyama	37.07 16	IAmb	IAmb	05 24 09.9	
	comp=Z,78nm,0.8s					
XAN	Xi'an	37.29 338	P	P	05 24 02.9	+0.2
XAN			PP	PnPn	05 25 32.3	+3.1
XAN			PcP	PcP	05 26 21.5	-0.2
XAN			pmax	pmax		
	comp=Z,83nm,1.6s					
XAN			pmax	pmax		
	comp=Z,580nm,8.5s					
XAN			LR	LR		
	comp=Z,6μm,19.1s					
XAN			LR	LR		
	comp=Z,2μm,18.6s					
XAN			LR	LR		
	comp=Z,8μm,18.2s					
XAN	Xi'an	37.29 338	IAmb	IAmb	05 24 11.0	
	comp=Z,92nm,1.1s					
XAN	Xi'an	37.29 338	IAMs_20	IAMs_20	05 39 47.8	
	comp=Z,6μm,20.0s					
INCN	Inchon	37.52 2	P	P	05 24 05.4	+0.8
INCN			pmax	pmax		
	comp=Z,86nm,1.2s					
INCN			MLR	MLR		
	comp=Z,4μm,21.0s					
INCN	Inchon	37.52 2	P	P	05 24 05.4	+0.8
KSAR	Wonju Array Be	37.54 4	P	P	05 24 05.2	+0.5
KSAR	Wonju Array Be	37.54 4	P	P	05 24 05.2	+0.5
KSRS	Korea Array	37.55 4	P	P	05 24 05.8	+0.9
	comp=Z,49nm,1.2s,baz=182,slow=9.6,SNR=78					
KSRS			PcP	PcP	05 26 24.0	+1.7
	comp=Z,8.3nm,0.8s,baz=190,slow=2.6,SNR=4.9					
KSRS			LR	LR	05 38 42.0	
	comp=Z,3μm,20.5s,baz=186,slow=35					
KS19	Wonju Array Si	37.60 4	P	P	05 24 05.9	+0.7
MAJO	Matsushiro	38.52 17	P	P	05 24 13.0	-0.1
MAJO	

MAT	**Matsushiro**	**38.52**	**17**	P	**P**	**05 24 12.1**	**-1.0**
MAT				S	**S**	**05 30 04.8**	**-1.4**
MJAR	**Matsushiro Arr**	**38.52**	**17**	P	**P**	**05 24 12.9**	**-0.2**
	comp=Z,23nm,0.6s,baz=192,slow=8.5,SNR=57						
MJAR				ScP	**ScP**	**05 30 10.3**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=190,slow=6.1,SNR=4.1						
MJAR	**Matsushiro Arr**	**38.52**	**17**	P	**P**	**05 24 12.4**	**-0.7**
DL2	**Dalian**	**39.04**	**356**	P	**P**	**05 24 18.7**	**+1.4**
DL2				PP	**PnPn**	**05 25 53.0**	**+2.9**
DL2				S	**S**	**05 30 14.3**	**+0.5**
DL2				pmax	pmax		
	comp=Z,110nm,1.3s						
DL2				pmax	pmax		
	comp=Z,710nm,6.7s						
DL2				LR	LR		
	comp=Z,3μm,23.7s						
DL2				LR	LR		
	comp=Z,2μm,22.7s						
DL2				LR	LR		
	comp=Z,5μm,24.5s						
PYAG	**Pyongyang**	**39.06**	**1**	P	**P**	**05 24 21.4**	**+3.9**
PYAG				pP	**pP**	**05 24 27.7**	**-0.3**
PYAG				S	**S**	**05 30 19.5**	**+5.4**
ARMA	**Armidale**	**39.23**	**142**	P	**P**	**05 24 19.8**	**+0.6**
	baz=39,SNR=39						
PYS	**Pyongsong**	**39.26**	**1**	P	**P**	**05 24 21.6**	**+2.4**
ARPS	**Mount Arapiles**	**39.56**	**159**	P	**P**	**05 24 22.0**	**+0.3**
	baz=40,SNR=18						
HHU	**Hamhung**	**39.99**	**3**	P	**P**	**05 24 26.7**	**+1.5**
HHU				pP	**pP**	**05 24 33.6**	**-2.2**
HHU				S	**S**	**05 30 22.9**	**-5.1**
SUJ	**Sinuiju**	**40.11**	**359**	P	**P**	**05 24 26.6**	**+0.4**
SUJ				S	**S**	**05 30 22.1**	**-7.7**
YNG	**Young**	**40.33**	**150**	P	**P**	**05 24 28.8**	**+0.6**
	baz=40,SNR=40						
JMM	**Marumori**	**40.55**	**19**	P	**P**	**05 24 30.3**	**+0.4**
JMM				IAmb	IAmb	05 24 39.2	
	comp=Z,246nm,0.9s						
BJI	**Beijing**	**40.87**	**350**	P	**P**	**05 24 32.1**	**-0.3**
BJI				PcP	**PcP**	**05 26 33.3**	**+0.6**
BJI				PcS	**PcS**	**05 30 25.4**	**+1.9**
BJI				S	**S**	**05 30 42.9**	**+1.9**
BJI				pmax	pmax		
	comp=Z,42nm,1.6s						
BJI				LR	LR		
	comp=Z,2μm,25.0s						
BJI				LR	LR		
	comp=Z,2μm,22.6s						
BJI				LR	LR		
	comp=Z,4μm,26.3s						
MGCD	**Mangrove Creek**	**40.95**	**146**	P	**P**	**05 24 33.3**	**+0.1**
	baz=41,SNR=6.9						
SHL	**Shillong**	**41.05**	**311**	*e*P	**P**	**05 24 32.8**	**-1.7**
SHL				IAmb	IAmb	05 24 35.6	
	comp=Z,31nm,0.9s						
SHL	**Shillong**	**41.05**	**311**	P	**P**	**05 24 33.3**	**-1.1**
	SNR=21						
SHL	**Shillong**	**41.05**	**311**	P	**P**	**05 24 33.9**	**-0.6**
SHL				pmax	pmax		
	comp=Z,50nm,1.0s						
SHL	**Shillong**	**41.05**	**311**	P	**P**	**05 24 33.9**	**-0.6**
LZH	**Lanzhou**	**41.16**	**333**	⇓P	**P**	**05 24 36.5**	**+1.3**
LZH				pP	pwP	05 24 48.5	-0.6
LZH				sP	sP	05 24 53.2	+2.9
LZH				PP	**PP**	**05 26 12.3**	**+1.6**
LZH				ScP	**ScP**	**05 30 22.4**	**+1.6**
LZH				S	**S**	**05 30 43.4**	**-2.5**
LZH				sS	sS	05 31 09.0	+5.5
LZH				SS	**SS**	**05 33 48.8**	**-1.1**
LZH				pmax	pmax		
	comp=Z,110nm,1.3s						
LZH				pmax	pmax		
	comp=Z,810nm,5.2s						
LZH				LR	LR		
	comp=Z,4μm,14.9s						
LZH				LR	LR		
	comp=Z,6μm,16.8s						
LZH				LR	LR		
	comp=Z,7μm,17.6s						
CAN	**Canberra**	**41.45**	**150**	P	**P**	**05 24 38.0**	**+0.7**
	baz=41						
CAN	**Canberra**	**41.45**	**150**	P	**P**	**05 24 38.1**	**+0.7**
CAN				pmax	pmax		
	comp=Z,112nm,0.9s						
CAN				MLR	MLR		
	comp=Z,5μm,21.0s						
CAN	**Canberra**	**41.45**	**150**	P	**P**	**05 24 38.1**	**+0.7**
CAN				IAmb	IAmb	05 24 54.8	
	comp=Z,112nm,0.9s						
CNB	**Canberra Magne**	**41.62**	**150**	P	**P**	**05 24 40.6**	**+1.8**
	baz=42,SNR=7.7						
TOO	**Toolangi**	**41.68**	**155**	P	**P**	**05 24 40.5**	**+1.2**
	baz=42,SNR=16						
TOO	**Toolangi**	**41.68**	**155**	P	**P**	**05 24 39.9**	**+0.6**
TOO				pmax	pmax		
	comp=Z,164nm,1.3s						
TOO	**Toolangi**	**41.68**	**155**	P	**P**	**05 24 39.9**	**+0.6**
TOO				IAmb	IAmb	05 24 41.8	
	comp=Z,164nm,1.2s						
SNY	**Shenyang**	**41.85**	**358**	⇓P	**P**	**05 24 41.3**	**+0.8**
SNY				S	**S**	**05 30 57.5**	**+1.9**
SNY				pmax	pmax		
	comp=Z,42nm,1.1s						
SNY				pmax	pmax		
	comp=Z,730nm,8.3s						
SNY				LR	LR		
	comp=Z,3μm,21.4s						
SNY				LR	LR		
	comp=Z,2μm,21.4s						
SNY				LR	LR		
	comp=Z,4μm,24.9s						
HHC	**Hu-ho-hao-te**	**42.67**	**345**	*e*P	**P**	**05 24 48.8**	**+1.5**
HHC				PP	**PP**	**05 26 25.4**	**-1.5**
HHC				S	**S**	**05 31 09.5**	**+1.5**
HHC				sS	sS	05 31 28.2	+2.6
HHC				SS	**SS**	**05 34 15.7**	**-3.8**
HHC				ScS	**ScS**	**05 34 44.6**	**-0.9**
HHC				pmax	pmax		
	comp=Z,52nm,1.4s						
HHC				pmax	pmax		
	comp=Z,470nm,7.0s						
HHC				LR	LR		
	comp=Z,3μm,18.7s						
HHC				LR	LR		
	comp=Z,3μm,20.4s						
HHC				LR	LR		
	comp=Z,4μm,17.9s						
BTO	**Baotou**	**42.87**	**343**	*e*P	**P**	**05 24 44.9**	**-4.1**
BTO				PP	**PP**	**05 26 27.5**	**-1.5**
JTM	**Tenmabayashi**	**43.30**	**18**	P	**P**	**05 24 52.3**	**0.0**
JTM				IAmb	IAmb	05 25 16.5	
	comp=Z,208nm,1.0s						
VLA	**Vladivostok**	**43.55**	**7**	*ce*P	**P**	**05 24 55.0**	**+0.7**
VLA				pmax	pmax		
	comp=Z,113nm,1.4s						
LSA	**Lhasa**	**43.94**	**316**	IAmb	IAmb	05 25 03.4	
	comp=Z,295nm,1.7s						
SANVU	**Saraoutou**	**44.24**	**112**	P	**P**	**05 25 01.2**	**+0.9**
SANVU				IAmb	IAmb	05 25 12.3	
	comp=Z,214nm,1.0s						
CHLP	**Challavanipeta**	**44.39**	**297**	*e*P	**P**	**05 25 01.9**	**+0.5**
CHLP				IVmB_BB		05 25 10.1	
	comp=Z,280nm,3.5s						
CHLP				IVMs_BB	IVMs_BB	05 43 53.4	
	comp=Z,653nm,26.4s						
USA0B	**Ussuriysk Arra**	**44.63**	**7**	IAmb	IAmb	05 25 19.2	
	comp=Z,138nm,1.3s						
USRK	**Ussuriysk Ar.**	**44.63**	**7**	P	**P**	**05 25 03.4**	**+0.5**
	comp=Z,16nm,0.5s,baz=186,slow=6.3,SNR=36						
USRK				LR	LR	05 43 46.9	
	comp=Z,2μm,21.7s,baz=179,slow=36						
MDJ	**Mudanjiang**	**44.80**	**5**	P	**P**	**05 25 04.6**	**+0.3**
MDJ				pP	pP	05 25 13.4	-1.6
MDJ				sP	pwP	05 25 17.2	-0.8
MDJ				S	**S**	**05 31 41.5**	**+2.8**
MDJ				sS	sS	05 31 56.5	0.0
MDJ				pmax	pmax		
	comp=Z,39nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,1μm,10.9s						
MDJ				LR	LR		
	comp=Z,3μm,17.9s						
MDJ				LR	LR		
	comp=Z,2μm,18.1s						
MDJ				LR	LR		
	comp=Z,3μm,21.0s						
MDJ	**Mudanjiang**	**44.80**	**5**	IAmb	IAmb	05 25 19.6	
	comp=Z,75nm,0.8s						
PALK	**Pallekele**	**44.90**	**280**	P	**P**	**05 25 04.4**	**-1.2**
	comp=Z,6.8nm,0.7s,baz=148,slow=7.8,SNR=1.8						
PALK	**Pallekele**	**44.90**	**280**	P	**P**	**05 25 04.4**	**-1.2**
PALK				pmax	pmax		
	comp=Z,34nm,1.2s						
PALK				MLR	MLR		
	comp=Z,7μm,22.0s						
BOK	**Bokaro**	**44.90**	**305**	*e*P	**P**	**05 25 04.1**	**-1.4**
BOK				IAMs_20	IAMs_20	05 42 42.9	
	comp=Z,6μm,26.4s						
ERM	**Erimo**	**45.07**	**19**	*d i*P	**P**	**05 25 08.5**	**+2.1**
ERM				pmax	pmax		
	comp=Z,30nm,0.8s						
ERM	**Erimo**	**45.07**	**19**	P	**P**	**05 25 07.8**	**+1.3**
ODAN	**Odare**	**45.16**	**310**	*e*P	**P**	**05 25 06.7**	**-1.0**
ODAN	**Odare**	**45.16**	**310**	*e*P	**P**	**05 25 06.7**	**-1.0**
TAPN	**Taplejung**	**45.16**	**310**	*e*P	**P**	**05 25 07.2**	**-0.6**
TAPN	**Taplejung**	**45.16**	**310**	*e*P	**P**	**05 25 07.2**	**-0.6**
GTA	**Gaotai**	**45.71**	**332**	⇑P	**P**	**05 25 12.2**	**+0.4**
GTA				pP	pP	05 25 21.9	-0.6
GTA				sP	pwP	05 25 25.8	0.0
GTA				PcP	**PcP**	**05 26 51.0**	**+1.8**
GTA				ScP	**ScP**	**05 30 37.8**	**-1.4**
GTA				PcS	**PcS**	**05 30 42.7**	**-0.8**
GTA				S	**S**	**05 31 51.8**	**-0.5**
GTA				sS	sS	05 32 11.1	+1.0
GTA				ScS	**ScS**	**05 35 05.8**	**+0.9**
GTA				SS	**SS**	**05 35 10.0**	**-7.2**
GTA				pmax	pmax		
	comp=Z,19nm,1.4s						
GTA				pmax	pmax		
	comp=Z,630nm,8.1s						
GTA				LR	LR		
	comp=Z,4μm,19.7s						
GTA				LR	LR		
	comp=Z,4μm,18.1s						
GTA				LR	LR		
	comp=Z,6μm,19.7s						
DZM	**Mont Dzumac**	**45.76**	**121**	P	**P**	**05 25 12.5**	**+0.1**
	comp=Z,48nm,1.0s,baz=316,slow=9.4,SNR=12						
DZM	**Mont Dzumac**	**45.76**	**121**	*e*P	**P**	**05 25 12.4**	**0.0**
	comp=Z,166nm,1.2s						
DZM				*e*S	**S**	**05 31 53.5**	**0.0**
	comp=Z,2μm,30.6s						
DZM				*e*LR	LR	05 37 56.8	
	comp=Z,7μm,23.9s						
RAMN	**Ramite**	**45.81**	**309**	*e*P	**P**	**05 25 12.2**	**-0.7**
	comp=Z,102nm,0.5s						
RAMN	**Ramite**	**45.81**	**309**	*e*P	**P**	**05 25 12.2**	**-0.7**
	comp=Z,102nm,0.5s						
PVM	**Polavaram**	**46.18**	**294**	*e*P	**P**	**05 25 15.3**	**-0.3**
PVM				IVmBBB		05 25 15.5	
	comp=Z,230nm,1.9s						
PVM				IVMs_BB	IVMs_BB	05 43 12.0	
	comp=Z,439nm,28.2s						
JIRN	**Jiri**	**46.48**	**310**	*e*P	**P**	**05 25 17.8**	**-0.5**
JIRN	**Jiri**	**46.48**	**310**	*e*P	**P**	**05 25 17.8**	**-0.5**
MOO	**Moorlands**	**46.52**	**157**	P	**P**	**05 25 19.0**	**+1.1**
	baz=46,SNR=3.6						
ASAJ	**Asahikawa**	**46.80**	**17**	P	**P**	**05 25 20.4**	**+0.4**
	comp=Z,19nm,0.4s,baz=201,slow=6.1,SNR=10.0						
JKA	**Kamikawa-asahi**	**46.80**	**17**	IAmb	IAmb	05 25 55.8	
	comp=Z,95nm,1.1s						
GUN	**Gumba**	**46.84**	**310**	*e*P	**P**	**05 25 20.9**	**-0.2**
	comp=Z,456nm,1.1s						
GUN	**Gumba**	**46.84**	**310**	*e*P	**P**	**05 25 20.9**	**-0.2**
	comp=Z,456nm,1.1s						
MYLAV	**Mylavaram**	**46.94**	**293**	*e*P	**P**	**05 25 21.3**	**-0.3**
MYLAV				IVMs_BB	IVMs_BB	05 45 58.3	
	comp=Z,449nm,24.8s						
SKHT	**Srikalahasti**	**47.03**	**289**	*e*P	**P**	**05 25 21.9**	**-0.4**
SKHT				IVmBBB		05 25 29.9	
	comp=Z,218nm,1.3s						
SKHT				IVMs_BB	IVMs_BB	05 45 27.8	
	comp=Z,1μm,22.2s						
PKI	**Pulchoki**	**47.04**	**309**	*e*P	**P**	**05 25 22.2**	**-0.4**
PKI	**Pulchoki**	**47.04**	**309**	*e*P	**P**	**05 25 22.2**	**-0.4**
KKN	**Kakani**	**47.24**	**309**	*e*P	**P**	**05 25 23.8**	**-0.3**
KKN	**Kakani**	**47.24**	**309**	*e*P	**P**	**05 25 23.8**	**-0.3**
DMN	**Daman**	**47.29**	**309**	*e*P	**P**	**05 25 24.3**	**-0.2**
DMN	**Daman**	**47.29**	**309**	*e*P	**P**	**05 25 24.3**	**-0.2**
ADKI	**Addanki**	**47.31**	**292**	IVmB_BB		05 25 24.1	
	comp=Z,278nm,2.3s						
ADKI				*e*P	**P**	**05 25 24.8**	**+0.3**
ADKI				IVMs_BB	IVMs_BB	05 48 55.9	
	comp=Z,676nm,20.6s						
GKN	**Gorkha**	**47.84**	**309**	*e*P	**P**	**05 25 28.6**	**-0.1**
	comp=Z,84nm,0.3s						
GKN	**Gorkha**	**47.84**	**309**	*e*P	**P**	**05 25 28.6**	**-0.1**
	comp=Z,84nm,0.3s						
NJS	**Nagarjunasagar**	**48.11**	**293**	*e*P	**P**	**05 25 30.1**	**-0.6**
NJS				IVmB_BB		05 25 31.9	
	comp=Z,157nm,0.8s						
NJS				IVMs_BB	IVMs_BB	05 51 10.1	
	comp=Z,407nm,19.9s						
KOLN	**Koldanda**	**48.54**	**308**	*e*P	**P**	**05 25 34.1**	**-0.1**
KOLN	**Koldanda**	**48.54**	**308**	*e*P	**P**	**05 25 34.1**	**-0.1**
CUPL	**Choutuppal**	**48.66**	**293**	*e*P	**P**	**05 25 34.4**	**-0.6**
HYB	**Hyderabad**	**49.04**	**293**	*i* P	**P**	**05 25 36.0**	**-1.9**
	comp=Z,90nm,1.0s						
HYB	**Hyderabad**	**49.04**	**293**	*ex*	**P**	**05 25 36.2**	**-1.7**
HYB				IAmb	IAmb	05 25 46.1	
	comp=Z,69nm,1.1s						
HYBB	**Hyderabad (bro**	**49.04**	**293**	*e*P	**P**	**05 25 36.8**	**-1.1**
HYBB				IVmBBB		05 25 39.1	
	comp=Z,308nm,0.9s						
HYBB				IVMsBB		05 45 04.2	
	comp=Z,478nm,20.8s						
PYUN	**Piuthan**	**49.17**	**308**	*e*P	**P**	**05 25 39.2**	**+0.2**
	comp=Z,310nm,0.4s						
PYUN	**Piuthan**	**49.17**	**308**	*e*P	**P**	**05 25 39.2**	**+0.2**
	comp=Z,310nm,0.4s						
YSS	**Yuzh-Sakhalins**	**49.44**	**16**	*c i*P	**P**	**05 25 40.5**	**+0.1**
YSS				*e*		05 26 58.0	
YSS				*e*		05 27 34.2	
YSS				*e*S	**S**	**05 32 43.7**	**-1.0**
YSS				*e*		05 35 22.7	
YSS				*e*SS	**SS**	**05 36 13.0**	**-4.1**
YSS				*e*SSS	SSS	05 37 45.0	
YSS				pmax	pmax		
	comp=Z,70nm,1.4s						
YSS				pmax	pmax		
	comp=Z,700nm,6.4s						
YSS				smax	smax		
	comp=N,600nm,11.9s						
YSS				smax	smax		
	comp=E,300nm,13.3s						
YSS				MLR	MLR		
	comp=Z,1μm,18.0s						
YSS				MLR	MLR		
	comp=N,900nm,20.0s						
YSS				MLR	MLR		
	comp=E,800nm,19.0s						
YSS	**Yuzh-Sakhalins**	**49.44**	**16**	P	**P**	**05 25 40.7**	**+0.3**
YSS				IAmb	IAmb	05 25 43.0	
	comp=Z,150nm,1.4s						
HIA	**Hailar**	**49.49**	**355**	IAmb	IAmb	05 25 49.8	
	comp=Z,69nm,1.0s						
KUR	**Kuril'sk**	**49.52**	**21**	*e*P	**P**	**05 25 37.1**	**-3.9**
KUR				*e*		05 26 59.5	
KUR				*e*		05 27 33.0	
KUR				*i* S	**S**	**05 32 45.1**	**-0.9**
KUR				*e*		05 35 31.4	
KUR				*i* SS	**SS**	**05 36 21.0**	**+2.5**
KUR				*e*SSS	SSS	05 37 43.0	
KUR				pmax	pmax		
	comp=N,103nm,1.2s						
KUR				pmax	pmax		
	comp=Z,190nm,1.2s						
KUR				pmax	pmax		
	comp=E,60nm,1.1s						
KUR				pmax	pmax		
	comp=Z,933nm,6.3s						
KUR				MLR	MLR		
	comp=N,1μm,18.0s						
KUR				MLR	MLR		
	comp=N,454nm,16.0s						
URV	**Uravakonda**	**49.62**	**290**	*e*P	**P**	**05 25 41.1**	**-1.3**
URV				IVmB_BB		05 25 48.4	
	comp=Z,215nm,1.3s						
URV				IVMs_BB	IVMs_BB	05 46 29.5	
	comp=Z,814nm,27.7s						
SRSP	**Sriramsagar**	**49.66**	**295**	*e*P	**P**	**05 25 41.9**	**-0.7**
SRSP				IVmB_BB		05 25 43.4	
	comp=Z,187nm,1.5s						
SRSP				IVMs_BB	IVMs_BB	05 48 57.4	
	comp=Z,620nm,18.8s						
NGP	**Nagpur**	**49.71**	**298**	*e*P	**P**	**05 25 39.1**	**-3.8**
NGP				IAmb	IAmb	05 25 46.4	
	comp=Z,21nm,0.7s						
NGP				*ex*	x	05 28 13.4	
ULN	**Ulaanbaatar**	**50.38**	**344**	P	**P**	**05 25 47.5**	**-0.3**
ULN				P	**P**	**05 25 47.5**	**-0.3**
ULN	**Ulaanbaatar**	**50.38**	**344**	*ce*P	**P**	**05 25 47.1**	**-0.6**
ULN				pmax	pmax		
	comp=Z,53nm,1.7s						
ULN	**Ulaanbaatar**	**50.38**	**344**	P	**P**	**05 25 48.2**	**+0.5**
ULN				IAmb	IAmb	05 25 59.1	
	comp=Z,52nm,0.9s						
ULN	**Ulaanbaatar**	**50.38**	**344**	IAMs_20	IAMs_20	05 48 01.3	
	comp=Z,4μm,21.0s						
SONM	**Songino Array**	**50.53**	**344**	P	**P**	**05 25 49.4**	**+0.5**
	comp=Z,9.7nm,0.5s,baz=156,slow=6.8,SNR=41						
SONM				LR	LR	05 48 18.6	
	comp=Z,4μm,20.5s,baz=153,slow=37						
SONM	**Songino Array**	**50.53**	**344**	P	**P**	**05 25 48.9**	**0.0**
KLRI	**Killari**	**51.01**	**294**	*e*P	**P**	**05 25 53.3**	**+0.4**
KLRI				IVmBBB		05 25 56.1	
	comp=Z,474nm,4.4s						
KLRI				IVMs_BB	IVMs_BB	05 50 26.5	
	comp=Z,605nm,16.7s						
GRNR	**Gornyy**	**51.68**	**9**	⇑*i*P	**P**	**05 25 58.2**	**+0.9**
GRNR				*e*S	**S**	**05 33 20.4**	**+4.5**
GRNR				pmax	pmax		
	comp=Z,30nm,1.1s						
GRNR				smax	smax		
	comp=E,10.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,270nm,16.0s						
GRNR				MLR	MLR		
	comp=N,500nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,420nm,20.0s						
BHPL	**Bhopal**	**51.83**	**300**	*e*P	**P**	**05 25 57.2**	**-1.7**
BHPL				IAmb	IAmb	05 26 02.0	
	comp=Z,36nm,0.8s						
TYV	**Tymovskoe**	**53.02**	**14**	*e*P	**P**	**05 26 08.4**	**+1.3**
TYV				*e*		05 33 38.2	
TYV				pmax	pmax		
	comp=Z,31nm,1.5s						
TYV				pmax	pmax		
	comp=Z,600nm,7.7s						
TYV				MLR	MLR		
	comp=E,2μm,19.0s						
TYV				MLR	MLR		
	comp=Z,1μm,19.0s						
ZAK	**Zakamensk**	**53.72**	**343**	*e*P	**P**	**05 26 13.5**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,25nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s						
ZEA	**Zeya**	**53.78**	**2**	*e*P	**P**	**05 26 12.4**	**-0.3**
ZEA				*e*		05 28 16.0	
ZEA				*e*S	**S**	**05 33 42.0**	**-2.3**
ZEA				*e*		05 36 00.5	
ZEA				pmax	pmax		
	comp=N,500nm,7.0s						
ZEA				pmax	pmax		
	comp=Z,900nm,7.0s						
ZEA				pmax	pmax		
	comp=N,72nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,140nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,400nm,10.0s						
ZEA				smax	smax		
	comp=E,500nm,12.0s						
ZEA				smax	smax		
	comp=N,500nm,10.0s						
NDI	**New Delhi**	**54.01**	**306**	*e*P	**P**	**05 26 13.5**	**-1.4**
DDI	**Dehra Dun**	**54.02**	**309**	*e*P	**P**	**05 26 15.4**	**+0.3**
NKL	**Nikolayevsk**	**54.73**	**11**	*e*P	**P**	**05 26 20.4**	**+0.8**
NKL				*e*S	**S**	**05 33 58.6**	**+1.5**
NKL				pmax	pmax		
	comp=N,2.0nm,1.0s						
NKL				pmax	pmax		
	comp=Z,122nm,1.3s						
NKL				pmax	pmax		
	comp=Z,158nm,2.8s						
NKL				smax	smax		
	comp=N,4.0nm,3.9s						
NKL				MLR	MLR		
	comp=N,124nm,12.0s						
NKL				MLR	MLR		
	comp=Z,1μm,18.0s						
TLY	**Talaya**	**54.77**	**344**	P	**P**	**05 26 21.8**	**+1.7**
	comp=Z,19nm,0.7s,baz=162,slow=5.6,SNR=17						
TLY	**Talaya**	**54.77**	**344**	P	**P**	**05 26 20.3**	**+0.2**
TLY				P	**P**	**05 26 20.3**	**+0.2**
TLY	**Talaya**	**54.77**	**344**	*e*P	**P**	**05 26 19.5**	**-0.6**
TLY				*e*		05 28 25.1	
TLY				*e*PPP	PPP	05 29 43.0	
TLY				pmax	pmax		
	comp=Z,232nm,1.4s						
TLY				MLR	MLR		
	comp=Z,6μm,21.0s						
TLY	**Talaya**	**54.77**	**344**	P	**P**	**05 26 21.1**	**+1.1**
TLY				IAmb	IAmb	05 26 24.9	
	comp=Z,67nm,1.1s						
MSVF	**Nonsavu**	**54.88**	**112**	P	**P**	**05 26 24.7**	**+3.2**
MSVF				pmax	pmax		
	comp=Z,61nm,1.1s						
MSVF				MLR	MLR		
	comp=Z,3μm,22.0s						
MSVF	**Nonsavu**	**54.88**	**112**	P	**P**	**05 26 24.7**	**+3.2**
MSVF				IAmb	IAmb	05 26 41.5	
	comp=Z,61nm,1.1s						
SMLA	**Simla**	**55.05**	**309**	*e*P	**P**	**05 26 21.2**	**-1.2**
SMLA				IAmb	IAmb	05 26 25.6	
	comp=Z,282nm,0.9s						
WMQ	**Urumqi**	**55.07**	**328**	P	**P**	**05 26 24.1**	**+1.7**
WMQ				pP	pP	05 26 31.4	-1.9
WMQ				sP	sP	05 26 39.7	+2.0
WMQ				S	**S**	**05 34 03.6**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,47nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,310nm,5.9s						
WMQ				LR	LR		
	comp=Z,2μm,20.1s						
WMQ				LR	LR		
	comp=Z,1μm,24.5s						
WMQ				LR	LR		
	comp=Z,2μm,23.7s						
WMQ	**Urumqi**	**55.07**	**328**	IAMs_20	IAMs_20	05 49 32.5	
	comp=Z,4μm,21.0s						
IRK	**Irkutsk**	**55.11**	**345**	*e*P	**P**	**05 26 23.5**	**+1.1**
IRK				pmax	pmax		
	comp=Z,111nm,1.6s						
MOY	**Mondy**	**55.54**	**342**	*e*P	**P**	**05 26 28.0**	**+2.3**
MOY				pmax	pmax		
	comp=Z,129nm,1.7s						
BHK	**Bhakra**	**55.76**	**309**	*ex*	**P**	**05 26 28.1**	**+0.6**
DHRM	**DHARAMSHALA**	**56.20**	**310**	*e*P	**P**	**05 26 30.3**	**-0.6**
DHRM				IAmb	IAmb	05 26 33.4	
	comp=Z,140nm,0.7s						
SKR	**Severo-Kuril's**	**57.14**	**23**	*e*P	**P**	**05 26 35.3**	**-1.6**
SKR				*e*		05 27 29.6	
SKR				*e*S	**S**	**05 34 31.1**	**+1.8**
SKR				pmax	pmax		
	comp=Z,67nm,1.4s						
SKR				pmax	pmax		
	comp=Z,600nm,6.3s						
SKR				MLR	MLR		
	comp=Z,600nm,17.0s						
SKR				MLR	MLR		
	comp=Z,700nm,19.0s						
BOD	**Bodaibo**	**58.51**	**353**	*e*P	**P**	**05 26 47.0**	**+0.6**
BOD				pmax	pmax		
	comp=Z,218nm,1.3s						
ZSN	**Zaisan**	**58.96**	**329**	*e*P	**P**	**05 26 49.4**	**-0.5**
	comp=Z,12nm,1.0s,baz=330						
ZSN				*e*S	**S**	**05 34 53.5**	**+0.2**
	baz=330						
ZSN				LR	LR	05 51 52.2	
	comp=Z,671nm,16.2s,baz=330						
ZSN	**Zaisan**	**58.96**	**329**	*e*P	**P**	**05 26 49.3**	**-0.5**
ZSN				*e*S	**S**	**05 34 53.5**	**+0.2**

ZSN				pmax	pmax		
	comp=Z,11nm,1.0s						
ZSN				MLR	MLR		
	comp=Z,671nm,16.0s						
WHZ	**Wether Hill Ro**	**59.04**	**146**	IAmb	IAmb	05 27 15.4	
	comp=Z,68nm,1.0s						
NIL	**Nilore**	**59.11**	**310**	P	**P**	**05 26 50.5**	**-0.7**
NIL				pmax	pmax		
	comp=Z,157nm,1.4s						
NIL				MLR	MLR		
	comp=Z,3μm,22.0s						
NIL	**Nilore**	**59.11**	**310**	P	**P**	**05 26 50.5**	**-0.7**
NIL				IAmb	IAmb	05 26 53.6	
	comp=Z,157nm,1.4s						
NIL	**Nilore**	**59.11**	**310**	IAMs_20	IAMs_20	05 54 48.1	
	comp=Z,3μm,22.0s						
DGZ	**Jazzator, Alta**	**59.24**	**332⇑**	*e*P	**P**	**05 26 50.6**	**-1.3**
SHLS	**Shalkode**	**59.38**	**323**	*e*P	**P**	**05 26 50.5**	**-2.5**
	comp=Z,46nm,1.0s,baz=323						
SHLS				*e*S	**S**	**05 34 55.5**	**-3.7**
	baz=323						
SHLS				LR	LR	05 51 16.7	
	comp=Z,324nm,16.2s,baz=323						
SHLS	**Shalkode**	**59.38**	**323**	*e*P	**P**	**05 26 50.4**	**-2.5**
SHLS				*e*S	**S**	**05 34 55.4**	**-3.7**
SHLS				pmax	pmax		
	comp=Z,46nm,1.0s						
SHLS				MLR	MLR		
	comp=Z,324nm,16.0s						
HIZ	**Hauiti**	**59.41**	**136**	IAMs_20	IAMs_20	05 54 39.9	
	comp=Z,3μm,22.0s						
LBZ	**Lake Benmore**	**59.43**	**144**	IAMs_20	IAMs_20	05 54 07.2	
	comp=Z,4μm,21.0s						
RPZ	**Rata Peaks**	**59.57**	**143**	P	**P**	**05 26 53.2**	**-0.9**
UZB	**Uzynbulak**	**59.64**	**322**	*e*P	**P**	**05 26 53.8**	**-1.1**
	comp=Z,34nm,1.5s,baz=323						
UZB				*e*S	**S**	**05 35 01.8**	**-0.9**
	baz=323						
UZB				LR	LR	05 51 56.4	
	comp=Z,572nm,17.9s,baz=323						
UZB	**Uzynbulak**	**59.64**	**322**	*e*P	**P**	**05 26 53.7**	**-1.1**
UZB				*e*S	**S**	**05 35 01.7**	**-0.9**
UZB				pmax	pmax		
	comp=Z,34nm,1.5s						
UZB				MLR	MLR		
	comp=Z,572nm,18.0s						
PEA0B	**Petropavlovsk-**	**59.65**	**22**	IAmb	IAmb	05 27 04.7	
	comp=Z,88nm,0.8s						
PETK	**Petropavlovsk-**	**59.65**	**22**	P	**P**	**05 26 56.2**	**+1.7**
	comp=Z,68nm,0.9s,baz=182,slow=2.5,SNR=34						
PETK	**Petropavlovsk-**	**59.65**	**22**	P	**P**	**05 26 55.8**	**+1.3**
PRZ	**Przheval'sk**	**59.67**	**321**	IAMs_20	IAMs_20	05 55 04.6	
	comp=Z,3μm,22.0s						
THZ	**Tophouse**	**59.69**	**140**	P	**P**	**05 26 54.5**	**-0.5**
THZ				IAmb	IAmb	05 27 12.6	
	comp=Z,44nm,0.9s						
THZ				IAMs_20	IAMs_20	05 54 17.5	
	comp=Z,4μm,21.0s						
NNZ	**Nelson**	**59.72**	**139**	IAMs_20	IAMs_20	05 55 03.0	
	comp=Z,3μm,20.0s						
KSH	**Kashi**	**59.73**	**317**	P	**P**	**05 26 57.5**	**+2.0**
KSH				sP	sP	05 27 12.4	+1.8
KSH				PcP	**PcP**	**05 27 42.8**	**+0.8**
KSH				S	**S**	**05 35 04.7**	**+0.9**
KSH				ScS	**ScS**	**05 36 43.4**	**+0.5**
KSH				pmax	pmax		
	comp=Z,730nm,4.0s						
KSH				LR	LR		
	comp=Z,2μm,13.9s						
KSH				LR	LR		
	comp=Z,1μm,13.4s						
KSH				LR	LR		
	comp=Z,3μm,21.8s						
LTZ	**Lake Taylor**	**59.81**	**141**	IAmb	IAmb	05 27 18.6	
	comp=Z,136nm,1.4s						
LTZ				IAMs_20	IAMs_20	05 55 52.6	
	comp=Z,3μm,20.0s						
MK31	**Makanchi Array**	**59.90**	**327**	P	**P**	**05 26 55.7**	**-0.6**
MK31	**Makanchi Array**	**59.90**	**327**	P	**P**	**05 26 55.4**	**-0.9**
MK31				IAmb	IAmb	05 27 00.4	
	comp=Z,87nm,1.4s						
MKAR	**Makanchi Array**	**59.90**	**327**	P	**P**	**05 26 55.8**	**-0.5**
	comp=Z,31nm,0.5s,baz=122,slow=8.3,SNR=75						
MKAR				LR	LR	05 54 20.4	
	comp=Z,4μm,19.6s,baz=118,slow=38						
MKAR	**Makanchi Array**	**59.90**	**327**	P	**P**	**05 26 54.2**	**-2.1**
MKAR					pP	05 26 56.1	-11
PET	**Petropavlovsk**	**59.95**	**23**	*e*P	**P**	**05 26 58.1**	**+1.6**
PET				*e*S	**S**	**05 35 09.5**	**+3.7**
PET				*e*		05 36 48.8	
PET				*e*SS	**SS**	**05 39 06.2**	**+3.3**
PET				pmax	pmax		
	comp=Z,305nm,1.3s						
PET				pmax	pmax		
	comp=Z,600nm,11.4s						
PET				pmax	pmax		
	comp=Z,900nm,9.6s						
PET				MLR	MLR		
	comp=Z,900nm,19.0s						
PET	**Petropavlovsk**	**59.95**	**23**	P	**P**	**05 26 58.0**	**+1.5**
SATY	**Saty**	**59.97**	**322**	*e*P	**P**	**05 26 56.3**	**-0.7**
	comp=Z,38nm,0.8s,baz=322						
SATY				*e*S	**S**	**05 35 06.3**	**-0.6**
	baz=322						
SATY				LR	LR	05 51 58.1	
	comp=Z,567nm,19.8s,baz=322						
SATY	**Saty**	**59.97**	**322**	*e*P	**P**	**05 26 56.3**	**-0.7**
SATY				*e*S	**S**	**05 35 06.2**	**-0.6**
SATY				pmax	pmax		
	comp=Z,38nm,0.8s						
SATY				MLR	MLR		
	comp=Z,567nm,20.0s						
KPKS	**Kokpek**	**60.02**	**322**	*e*P	**P**	**05 26 56.3**	**-1.1**
	comp=Z,55nm,1.2s,baz=323						
KPKS	**Kokpek**	**60.02**	**322**	*e*P	**P**	**05 26 56.2**	**-1.1**
KPKS				pmax	pmax		
	comp=Z,55nm,1.2s						
ODZ	**Otahua Downs**	**60.07**	**144**	IAMs_20	IAMs_20	05 52 02.2	
	comp=Z,4μm,21.0s						
MAKZ	**Makanchi**	**60.08**	**327**	P	**P**	**05 26 57.6**	**+0.1**
MAKZ	**Makanchi**	**60.08**	**327**	P	**P**	**05 26 57.0**	**-0.5**
MAKZ					pP	05 26 57.5	-11
MAKZ				IAmb	IAmb	05 27 01.6	
	comp=Z,150nm,1.4s						
TUWZ	**Tuamarina**	**60.19**	**139**	P	**P**	**05 26 57.9**	**-0.5**
NGZ	**Ngauruhoe**	**60.23**	**136**	P	**P**	**05 27 02.0**	**+3.1**
KDJ	**Kajisay**	**60.25**	**321**	P	**P**	**05 26 59.6**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,111nm,1.1s						
KDJ				MLR	MLR		
	comp=Z,3μm,21.0s						
KDJ	**Kajisay**	**60.25**	**321**	P	**P**	**05 26 59.6**	**+0.6**
KDJ				IAmb	IAmb	05 27 08.4	
	comp=Z,111nm,1.1s						
KDJ				IAMs_20	IAMs_20	05 53 49.0	
	comp=Z,3μm,21.0s						
OTVZ	**Oturere**	**60.27**	**136**	P	**P**	**05 27 01.6**	**+2.4**
WNVZ	**Wahianoa**	**60.30**	**136**	P	**P**	**05 27 00.4**	**+1.0**
KHZ	**Kahutara**	**60.42**	**140**	P	**P**	**05 27 00.0**	**+0.1**
KHZ				IAmb	IAmb	05 27 20.0	
	comp=Z,56nm,1.0s						
MOVZ	**Moawhango**	**60.44**	**136**	P	**P**	**05 27 00.5**	**+0.3**
MQZ	**McQueen's Vall**	**60.54**	**142**	IAMs_20	IAMs_20	05 53 46.9	
	comp=Z,3μm,20.0s						
BHHZ	**Black Hill Sta**	**60.69**	**136**	P	**P**	**05 27 01.9**	**0.0**
BKZ	**Black Stump Fm**	**60.84**	**136**	P	**P**	**05 27 03.1**	**+0.1**
BKZ	**Black Stump Fm**	**60.84**	**136**	P	**P**	**05 27 03.2**	**+0.3**
BKZ				IAmb	IAmb	05 27 21.8	
	comp=Z,63nm,0.8s						
TNSS	**Tian-Shan**	**60.87**	**321**	*e*P	**P**	**05 27 02.7**	**-0.8**
	baz=322						
TNSS	**Tian-Shan**	**60.87**	**321**	*e*P	**P**	**05 27 02.7**	**-0.8**
MDOK	**Medeo**	**60.87**	**321**	*e*P	**P**	**05 27 02.4**	**-0.8**
	baz=322						
MDOK				*e*S	**S**	**05 35 17.8**	**-0.6**
	baz=322						
MDOK	**Medeo**	**60.87**	**321**	*e*P	**P**	**05 27 02.4**	**-0.8**
MDOK				*e*S	**S**	**05 35 17.7**	**-0.6**
URZ	**Urewera**	**60.88**	**135**	P	**P**	**05 27 03.0**	**-0.1**
URZ	**Urewera**	**60.88**	**135**	P	**P**	**05 27 02.8**	**-0.3**
URZ				IAmb	IAmb	05 27 36.0	
	comp=Z,77nm,1.1s						
ULHL	**Ulahol**	**60.91**	**320**	P	**P**	**05 27 04.8**	**+1.2**
	SNR=13						
KWHZ	**Kaweka Forest**	**60.91**	**136**	P	**P**	**05 27 04.1**	**+0.7**
RTZ	**Ruatahuna**	**60.94**	**135**	P	**P**	**05 27 01.2**	**-2.5**
AAA	**Alma-Ata**	**60.98**	**321**	*e*P	**P**	**05 27 02.9**	**-1.0**
	baz=322						
AAA				*e*S	**S**	**05 35 18.9**	**-0.6**
	baz=322						
AAA				LR	LR	05 52 02.6	
	comp=Z,493nm,16.7s,baz=322						
AAA	**Alma-Ata**	**60.98**	**321**	*e*P	**P**	**05 27 02.8**	**-1.0**
AAA				*e*S	**S**	**05 35 18.9**	**-0.6**
AAA				MLR	MLR		
	comp=Z,493nm,17.0s						
MSWZ	**Moikau Station**	**61.04**	**139**	P	**P**	**05 27 03.7**	**-0.5**
TDK	**Taldyqorghan**	**61.04**	**324**	*e*P	**P**	**05 27 03.4**	**-0.7**
	comp=Z,65nm,1.1s,baz=324						
TDK				*e*S	**S**	**05 35 19.9**	**-0.2**
	baz=324						
TDK	**Taldyqorghan**	**61.04**	**324**	*e*P	**P**	**05 27 03.4**	**-0.7**
TDK				*e*S	**S**	**05 35 19.8**	**-0.3**
TDK				pmax	pmax		
	comp=Z,65nm,1.1s						
PLWZ	**Palliser**	**61.12**	**139**	P	**P**	**05 27 03.9**	**-0.9**
RUGZ	**Raukumara Rang**	**61.16**	**134**	P	**P**	**05 27 05.4**	**+0.2**
RAGZ	**Rawiri**	**61.20**	**135**	P	**P**	**05 27 01.7**	**-3.7**
MWZ	**Matawai**	**61.21**	**135**	P	**P**	**05 27 05.6**	**+0.2**
BOOM	**Boomskoye usch**	**61.22**	**320**	IAMs_20	IAMs_20	05 54 60.0	
	comp=Z,3μm,21.0s						
ARHZ	**Aropaoanui**	**61.23**	**136**	P	**P**	**05 27 05.1**	**-0.4**
SNGZ	**Shannon Statio**	**61.27**	**135**	P	**P**	**05 27 07.3**	**+1.5**
KAHZ	**Kahuranaki**	**61.39**	**136**	P	**P**	**05 27 08.1**	**+1.5**
MXZ	**Matakaoa Point**	**61.44**	**134**	P	**P**	**05 27 08.7**	**+1.8**
RAO	**Raoul Island**	**61.45**	**123**	LR	LR	05 53 34.7	
	comp=Z,1μm,21.1s,baz=322,slow=36						
KZA	**Kyzart**	**61.46**	**320**	P	**P**	**05 27 09.5**	**+1.9**
	SNR=5.0						
TKGZ	**Te Karaka**	**61.48**	**135**	P	**P**	**05 27 07.8**	**+0.6**
RIGZ	**Rimuhau**	**61.53**	**135**	P	**P**	**05 27 09.0**	**+1.4**
TKM2	**Tokmak 2**	**61.66**	**321**	P	**P**	**05 27 09.9**	**+1.3**
	SNR=58						
CNGZ	**Carnagh Statio**	**61.75**	**135**	P	**P**	**05 27 10.7**	**+1.7**
KBK	**Karagaybulak**	**61.94**	**320**	P	**P**	**05 27 12.8**	**+2.3**
	SNR=22						
UCH	**Uchtor**	**62.01**	**319**	P	**P**	**05 27 13.7**	**+2.4**
	SNR=7.3						
YAK	**Yakutsk**	**62.16**	**2**	P	**P**	**05 27 11.1**	**-0.2**
	comp=Z,40nm,0.6s,baz=184,slow=1.8,SNR=21						
YAK	**Yakutsk**	**62.16**	**2**	*c i*P	**P**	**05 27 11.5**	**+0.2**
YAK				*e*S	**S**	**05 35 30.5**	**-3.1**
YAK				*e**SS	sS	05 36 10.2	+18
YAK				*e*		05 36 51.2	
YAK				pmax	pmax		
	comp=Z,190nm,1.2s						
YAK				pmax	pmax		
	comp=N,130nm,1.1s						
YAK				pmax	pmax		
	comp=E,25nm,1.2s						
YAK				pmax	pmax		
	comp=Z,66nm,2.8s						
YAK				pmax	pmax		
	comp=N,92nm,2.3s						
YAK				pmax	pmax		
	comp=E,74nm,2.2s						
YAK				smax	smax		
	comp=E,324nm,2.3s						
YAK				smax	smax		
	comp=N,254nm,2.0s						
YAK				MLR	MLR		
	comp=Z,1μm,19.0s						
YAK				MLR	MLR		
	comp=N,990nm,19.0s						
YAK				MLR	MLR		
	comp=E,253nm,15.0s						
YAK	**Yakutsk**	**62.16**	**2**	P	**P**	**05 27 11.9**	**+0.6**
FRU1	**Bishkek**	**62.22**	**320**	IAMs_20	IAMs_20	05 55 03.4	
	comp=Z,3μm,22.0s						
AAK	**Ala-Archa**	**62.22**	**320**	P	**P**	**05 27 14.1**	**+1.8**
	SNR=40						
CHMS	**Chumysh**	**62.24**	**320**	P	**P**	**05 27 15.6**	**+3.4**
	SNR=9.8						
AML	**Almayashu**	**62.50**	**319**	P	**P**	**05 27 16.7**	**+2.2**
	SNR=56						
USP	**Ospenovka**	**62.53**	**320**	P	**P**	**05 27 17.9**	**+3.6**
	SNR=50						
KBL	**Kabul**	**62.68**	**310**	P	**P**	**05 27 15.5**	**-0.1**
	SNR=38						
KBL				P	**P**	**05 27 15.5**	**-0.1**
	SNR=38						
KBL	**Kabul**	**62.68**	**310**	P	**P**	**05 27 14.3**	**-1.3**
KBL				pmax	pmax		
	comp=Z,79nm,1.0s						
KBL				MLR	MLR		
	comp=Z,1μm,22.0s						
KBL	**Kabul**	**62.68**	**310**	P	**P**	**05 27 14.3**	**-1.3**
KBL				IAmb	IAmb	05 27 23.8	
	comp=Z,79nm,0.9s						
EKS2	**Erkin-Say**	**62.70**	**320**	P	**P**	**05 27 17.8**	**+2.3**
	SNR=59						
MA2	**Magadan**	**62.88**	**14**	P	**P**	**05 27 17.5**	**+1.3**
MA2				pmax	pmax		
	comp=Z,114nm,0.9s						
MA2	**Magadan**	**62.88**	**14**	P	**P**	**05 27 17.5**	**+1.3**
KNTN	**Kanton**	**63.20**	**93**	IAMs_20	IAMs_20	05 52 00.9	
	comp=Z,3μm,22.0s						
ZAA0	**Zalesovo Array**	**63.37**	**335**	IAmb	IAmb	05 27 22.6	
	comp=Z,89nm,1.2s						
ZAA0				IAMs_20	IAMs_20	05 55 15.3	
	comp=Z,3μm,20.0s						
ZALV	**Zalesovo Beam**	**63.37**	**335**	P	**P**	**05 27 19.2**	**-0.3**
	comp=Z,12nm,0.4s,baz=113,slow=5.0,SNR=35						
ZALV				LR	LR	05 55 36.6	
	comp=Z,2μm,19.4s,baz=132,slow=37						
GAR	**Garm**	**63.44**	**315**	P	**P**	**05 27 20.6**	**+0.1**
CHGR	**Chuyangaron**	**64.13**	**314**	P	**P**	**05 27 23.7**	**-1.3**
KURBB	**Kurchatov Arra**	**64.20**	**329**	P	**P**	**05 27 24.2**	**-0.8**
KURK	**Kurchatov**	**64.21**	**329**	P	**P**	**05 27 24.4**	**-0.7**
KURK				P	**P**	**05 27 24.4**	**-0.7**
KURK	**Kurchatov**	**64.21**	**329**	*c e*P	**P**	**05 27 23.6**	**-1.5**
KURK				pmax	pmax		
	comp=Z,144nm,1.3s						
KURK	**Kurchatov**	**64.21**	**329**	P	**P**	**05 27 24.5**	**-0.6**
KURK				IAmb	IAmb	05 27 34.3	
	comp=Z,112nm,0.9s						
IUG	**Iuzhnay**	**64.94**	**318**	*e*P	**P**	**05 27 28.7**	**-1.6**
	comp=Z,15nm,1.1s,baz=318						
IUG				*e*S	**S**	**05 36 07.9**	**-1.4**
	baz=318						
IUG	**Iuzhnay**	**64.94**	**318**	*e*P	**P**	**05 27 28.6**	**-1.6**
IUG				*e*S	**S**	**05 36 07.8**	**-1.5**
IUG				pmax	pmax		
	comp=Z,15nm,1.1s						
KK31	**Karatay Array**	**65.03**	**319**	P	**P**	**05 27 29.7**	**-1.0**
KK31				pmax	pmax		
	comp=Z,100nm,1.2s						
KK31	**Karatay Array**	**65.03**	**319**	P	**P**	**05 27 29.7**	**-1.0**
KK31				IAmb	IAmb	05 27 34.8	
	comp=Z,100nm,1.1s						
KKAR	**Karatay Array**	**65.03**	**319**	P	**P**	**05 27 29.0**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,100nm,1.2s						
KKAR	**Karatay Array**	**65.03**	**319**	P	**P**	**05 27 29.0**	**-1.7**
KKAR	**Karatay Array**	**65.03**	**319**		**P**	**05 27 30.2**	**-0.5**
KKAR				IAmb	IAmb	05 27 34.8	
	comp=Z,100nm,1.1s						
SEY	**Seymchan**	**66.20**	**13**	P	**P**	**05 27 39.4**	**+1.6**
	comp=Z,36nm,1.1s,baz=214,slow=5.5,SNR=34						
CASY	**Casey**	**66.76**	**186**	P	**P**	**05 27 41.5**	**+0.3**
CASY	**Casey**	**66.76**	**186**	IAMs_20	IAMs_20	05 53 30.0	
	comp=Z,3μm,22.0s						
HRA	**Herat**	**67.95**	**307**	IAmb	IAmb	05 28 18.4	
	comp=Z,90nm,1.6s						
MHTO	**MHTO**	**68.78**	**293**	P	**P**	**05 27 56.1**	**+1.1**
	SNR=5.3						
MHTO				P	**P**	**05 27 56.1**	**+1.1**
	SNR=5.3						
MSEY	**Mahe Island**	**69.68**	**265**	IAMs_20	IAMs_20	05 56 18.4	
	comp=Z,3μm,22.0s						
BRVK	**Borovoye**	**69.81**	**328**	*c i*P	**P**	**05 27 59.3**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,117nm,1.3s						
BRVK	**Borovoye**	**69.81**	**328**	P	**P**	**05 28 00.2**	**-0.5**
BRVK					pP	05 28 01.6	-10
BRVK				IAmb	IAmb	05 28 07.0	
	comp=Z,153nm,1.3s						
ARQ	**Araqi**	**70.47**	**295**	P	**P**	**05 28 07.2**	**+1.9**
	SNR=5.3						
ARQ				P	**P**	**05 28 07.2**	**+1.9**
	SNR=5.3						
SOHO	**SOHO**	**70.58**	**296**	P	**P**	**05 28 06.5**	**+0.5**
RER	**Riviere de l'E**	**70.71**	**248**		**PcP**	**05 28 24.7**	**-3.0**
UOSS	**Minazif**	**71.01**	**296**	P	**P**	**05 28 09.8**	**+1.3**
HATD	**Hatta, Dubai**	**71.06**	**296**	P	**P**	**05 28 08.2**	**-0.6**
HATD	**Hatta, Dubai**	**71.06**	**296**	P	**P**	**05 28 10.8**	**+1.9**
	SNR=5.1						
HATD				P	**P**	**05 28 10.8**	**+1.9**
	SNR=5.1						
ASHO	**Ashiyiah**	**71.10**	**296**	*i* P	**P**	**05 28 08.7**	**-0.5**
	SNR=6.5						
ASHO	**Ashiyiah**	**71.10**	**296**	P	**P**	**05 28 10.9**	**+1.7**
	SNR=5.3						
ASHO				P	**P**	**05 28 10.9**	**+1.7**
	SNR=5.3						
ADK	**Adak**	**71.11**	**34**	P	**P**	**05 28 10.1**	**+1.5**
ADK				pmax	pmax		
	comp=Z,55nm,1.0s						
ADK	**Adak**	**71.11**	**34**	P	**P**	**05 28 10.1**	**+1.5**
ADK				IAmb	IAmb	05 28 37.3	
	comp=Z,56nm,0.9s						
ALNE	**Al Ain**	**71.28**	**295**	*i* P	**P**	**05 28 10.1**	**-0.2**
	SNR=5.7						
SOCY	**Socotra**	**71.59**	**283**	IAMs_20	IAMs_20	06 00 10.7	
	comp=Z,3μm,20.0s						
TIXI	**Tiksi**	**71.77**	**1**	P	**P**	**05 28 12.1**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,111nm,1.2s						
TIXI				MLR	MLR		
	comp=Z,2μm,21.0s						
TIXI	**Tiksi**	**71.77**	**1**	P	**P**	**05 28 12.1**	**-0.1**
TIXI				IAmb	IAmb	05 28 30.0	
	comp=Z,110nm,1.2s						
TIXI				IAMs_20	IAMs_20	06 00 08.2	
	comp=Z,2μm,21.0s						
AJN	**Ajban**	**72.04**	**296**	*i* P	**P**	**05 28 15.1**	**+0.3**
	SNR=6.2						
AJN	**Ajban**	**72.04**	**296**	P	**P**	**05 28 15.9**	**+1.1**
	SNR=8.1						
GEYT	**Alibeck**	**72.12**	**310**	P	**P**	**05 28 15.9**	**+0.8**
	comp=Z,19nm,0.9s,baz=126,slow=3.8,SNR=13						
GEYT				LR	LR	06 03 32.8	
	comp=Z,1μm,20.8s,baz=70,slow=39						
GEYT	**Alibeck**	**72.12**	**310**	P	**P**	**05 28 14.4**	**-0.7**
GYA0	**ALIBECK ARRAY**	**72.12**	**310**	P	**P**	**05 28 14.4**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**72.12**	**310**	IAMs_20	IAMs_20	06 03 22.7	
	comp=Z,2μm,20.0s						
NRIK	**Noril'sk**	**73.85**	**347**	P	**P**	**05 28 24.7**	**+0.2**
	comp=Z,52nm,0.6s,baz=134,slow=5.6,SNR=62						
NRIK				LR	LR	06 04 19.3	
	comp=Z,997nm,18.4s,baz=154,slow=38						
AB31	**Akbulak array**	**74.17**	**322**	P	**P**	**05 28 26.4**	**-0.5**
ABKAR	**Akbulak array**	**74.17**	**322**	P	**P**	**05 28 25.5**	**-1.4**
ABKAR					pP	05 28 27.1	-11
AKTO	**Aktyubinsk**	**75.74**	**323**	LR	LR	06 04 15.7	
	comp=Z,2μm,19.8s,baz=133,slow=38						
RAR	**Rarotonga**	**76.07**	**112**	LR	LR	06 02 38.2	
	comp=Z,358nm,21.2s,baz=277,slow=36						
SVE	**Sverdlovsk**	**76.46**	**329**	*de*P	**P**	**05 28 39.2**	**-0.7**
SVE				pmax	pmax		
	comp=Z,219nm,1.5s						
ARU	**Arti**	**77.39**	**329**	*c i*P	**P**	**05 28 43.7**	**-1.4**
ARU						05 31 35.5	
ARU				S	**S**	**05 38 32.0**	**-0.5**
ARU				SS	**SS**	**05 43 39.3**	**+7.6**
ARU				pmax	pmax		
	comp=Z,186nm,1.5s						
ARU	**Arti**	**77.39**	**329**	P	**P**	**05 28 44.8**	**-0.3**
ARU				IAmb	IAmb	05 29 04.0	
	comp=Z,112nm,1.1s						
UNV	**Unalaska Valle**	**77.56**	**34**	IAmb	IAmb	05 28 48.5	
	comp=Z,150nm,1.4s						
AKUT	**Akutan**	**78.06**	**34**	P	**P**	**05 28 49.5**	**+0.6**
AKUT					PcP	05 28 50.2	-8.1
ABPO	**Ambohimpanom**	**78.47**	**251**	P	**P**	**05 28 51.9**	**-0.2**
ABPO				pmax	pmax		
	comp=Z,280nm,1.9s						
ABPO	**Ambohimpanom**	**78.47**	**251**	P	**P**	**05 28 51.9**	**-0.2**
ABPO					**P**	**05 28 52.5**	**+0.4**
VOI	**Vohitsoka**	**79.08**	**248**	P	**P**	**05 28 55.6**	**+0.2**
	SNR=7.3						
MAW	**Mawson**	**79.53**	**200**	P	**P**	**05 28 56.9**	**+0.2**
	comp=Z,32nm,1.2s,baz=70,slow=6.9,SNR=22						
MAW				LR	LR	06 00 42.5	
	comp=Z,1μm,22.0s,baz=55,slow=33						
MAW	**Mawson**	**79.53**	**200**	P	**P**	**05 28 57.3**	**+0.6**
	baz=80,SNR=17						
MAW	**Mawson**	**79.53**	**200**	P	**P**	**05 28 57.1**	**+0.4**
MAW				pmax	pmax		
	comp=Z,17nm,1.4s						
MAW	**Mawson**	**79.53**	**200**	P	**P**	**05 28 57.1**	**+0.4**
VNDA	**Vanda**	**79.77**	**172**	P	**P**	**05 28 58.3**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=316,slow=6.9,SNR=16						
AKT	**Akhty**	**80.67**	**312**	*e*P	**P**	**05 29 04.1**	**+0.5**
AKT				*e*		05 29 10.1	
AKT				pmax	pmax		
	comp=Z,207nm,1.2s						
MAK	**Makhachkala**	**81.06**	**313**	*e*P	**P**	**05 29 03.0**	**-2.4**
MAK				*e*PPP	PPP	05 34 03.0	
MAK				*e*S	**S**	**05 39 10.5**	**-1.6**
MAK				*e*SS	**SS**	**05 44 25.4**	**-2.0**
MAK				*e*SSS	SSS	05 47 52.5	
MAK				pmax	pmax		
	comp=Z,403nm,1.6s						
GROC	**Groznyy**	**82.33**	**314**	*e*P	**P**	**05 29 12.9**	**+0.7**
GROC				*e*		05 29 17.8	
GROC				*e**PP	**pP**	**05 29 25.0**	**+1.4**
GROC				*e*S	**S**	**05 39 28.4**	**+3.1**
GROC				pmax	pmax		
	comp=Z,280nm,1.2s						
ZEI	**Tsey**	**83.67**	**313**	*e*P	**P**	**05 29 18.6**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,161nm,1.4s						
AKH	**Akhalkalaki**	**83.83**	**312**	⇓P	**P**	**05 29 21.0**	**+0.8**
GEVA	**Gevas**	**83.87**	**308**	P	**P**	**05 29 21.4**	**+0.9**
KBZ	**Khabaz**	**84.49**	**314**	P	**P**	**05 29 23.4**	**+0.2**
	comp=Z,38nm,0.9s,baz=89,slow=5.3,SNR=40						
GOF	**Gofitskoye**	**84.52**	**315⇑**	*e*P	**P**	**05 29 23.9**	**+0.5**
GOF				pmax	pmax		
	comp=Z,426nm,1.5s						
KIV	**Kislovodsk**	**84.67**	**314**	*i* P	**P**	**05 29 24.3**	**0.0**
	SNR=19						
KIV	**Kislovodsk**	**84.67**	**314**	*e*P	**P**	**05 29 24.0**	**-0.3**
KIV				*e*		05 32 39.2	
KIV				*e*		05 39 44.2	
KIV				*e*SS	SS	05 45 20.8	-0.3
KIV				pmax	pmax		
	comp=Z,163nm,1.0s						
KIV				pmax	pmax		
	comp=Z,619nm,4.4s						
KIV				MLR	MLR		
	comp=Z,3μm,20.0s					

KDAK IAmb IAmb 05 29 33.9
comp=Z,112nm,1.3s
A21K Barrow 86.43 18 P P 05 29 33.3 +1.0
baz=259
FURI Furi 86.50 279 IAMs_20 IAMs_20 06 07 54.2
comp=Z,2μm,21.0s
IMAR Indian Mountai 86.57 24 P **P 05 29 31.8 -1.3**
HOM Homer 86.75 30 P **P 05 29 35.0 +0.9**
baz=264
SOC Sochi 86.78 313 *e*P **P 05 29 32.0 -2.6**
SOC *e* 05 32 55.6
SOC *e*PPP PPP 05 34 48.1
SOC *e*S S 05 39 55.7 -14
SOC *e*SS **SS 05 45 49.8 -2.1**
SOC *e*SSS SSS 05 49 19.6
SOC pmax pmax
comp=Z,118nm,1.1s
SOC MLR MLR
comp=Z,898nm,22.0s
KIBK Kibwezi 87.05 268 P **P 05 29 38.0 +1.3**
SNR=17
KTH Kantishna Hill 87.48 26 IAmb IAmb 05 29 40.3
comp=Z,50nm,1.4s
VORD Divnogorie 87.50 321 *e*P **P 05 29 36.6 -1.3**
VORD *e*S **S 05 40 12.5 -3.7**
VORD pmax pmax
comp=Z,300nm,1.5s
VORD pmax pmax
comp=Z,380nm,1.6s
VORD smax smax
comp=E,40nm,5.5s
BPAW Bear Paw Mtn. 87.50 26 IAmb IAmb 05 29 53.9
comp=Z,65nm,1.9s
VORR Voronezh 87.60 322 *e*P **P 05 29 37.0 -1.4**
VORR pmax pmax
comp=Z,500nm,1.4s
VSR Storozhevoye 87.60 321 *e*P **P 05 29 36.8 -1.6**
VSR *e*S **S 05 40 09.7 -7.4**
VSR pmax pmax
comp=Z,240nm,1.4s
VSR pmax pmax
comp=Z,310nm,1.3s
VSR smax smax
comp=N,220nm,5.5s
CUT Chulitna 87.67 28 P **P 05 29 39.4 +0.9**
baz=265
TRF Thorofare Moun 87.75 27 IAmb IAmb 05 29 41.5
comp=Z,86nm,1.8s
O22K Cooper Landing 87.78 30 P **P 05 29 40.1 +1.0**
baz=266
LPSR Galich'ya Gora 87.82 322 *e*P **P 05 29 38.5 -0.9**
LPSR *e*S **S 05 40 12.5 -6.6**
LPSR pmax pmax
comp=Z,220nm,1.1s
LPSR pmax pmax
comp=Z,250nm,1.1s
LPSR smax smax
comp=E,680nm,5.1s
KMBO Kilima Mbogo 87.85 269 P **P 05 29 42.2 +1.5**
comp=E,103nm,1.3s,baz=67,slow=5.6,SNR=54
KMBO Kilima Mbogo 87.85 269 *i* P **P 05 29 41.4 +0.7**
SNR=48
KMBO Kilima Mbogo 87.85 269 P **P 05 29 41.5 +0.7**
KMBO pmax pmax
comp=Z,382nm,1.8s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 87.85 269 P **P 05 29 41.5 +0.7**
KMBO Kilima Mbogo 87.85 269 IAMs_20 IAMs_20 06 08 37.0
comp=Z,2μm,20.0s
KLMR Klimovskoe 88.01 331 *e*P **P 05 29 37.9 -2.2**
KLMR pmax pmax
comp=Z,273nm,1.4s
KLMR Klimovskoe 88.01 331 *e*P **P 05 29 37.9 -2.2**
KLMR AMP 05 29 43.1
comp=Z,273nm,1.4s
KLMR LQ LQ 06 02 26.8
KLMR LQ LQ 06 02 26.8
KLMR LR LR 06 07 14.5
COLD Coldfoot 88.12 23 P **P 05 29 41.6 +1.1**
baz=265
COLD Coldfoot 88.12 23 P **P 05 29 41.4 +0.8**
COLD IAmb IAmb 05 29 44.2
comp=Z,55nm,1.1s
PMR Palmer 88.15 28 IAmb IAmb 05 29 42.4
comp=Z,43nm,1.3s
SYO Syowa Base 88.20 201⇑*i*P **P 05 29 39.9 -1.0**
SYO Syowa Base 88.20 201⇓*i*PcP **PcP 05 29 42.0 -0.6**
SYO Syowa Base 88.20 201⇓*i*pP pP 05 29 50.0 -2.2
NEA2 Nenana 88.38 25 P **P 05 29 43.2 +1.4**
baz=266
MCK McKinley 88.38 26 IAmb IAmb 05 29 43.5
comp=Z,79nm,1.3s
RND Reindeer 88.39 27 IAmb IAmb 05 29 43.3
comp=Z,62nm,1.2s
TOLK Toolik Lake Re 88.47 21 P **P 05 29 43.4 +1.1**
baz=266
TOLK Toolik Lake Re 88.47 21 IAmb IAmb 05 29 45.3
comp=Z,64nm,1.3s
MOS Moscow 88.73 326 *e*P **P 05 29 41.4 -2.3**
MOS *e* 05 29 58.2
MOS *e* 05 33 09.5
MOS *e*PPP PPP 05 35 06.3
MOS *e*S **S 05 40 20.8 -6.9**
MOS pmax pmax
comp=Z,152nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.3s
WRH Wood River Hil 88.79 26 IAmb IAmb 05 29 45.2
comp=Z,62nm,1.3s
TMCR Tamitsa 88.89 334 *e*P **P 05 29 42.5 -1.7**
TMCR pmax pmax
comp=Z,74nm,0.4s
TCOL CIGO, UAF Yank 88.91 25 P **P 05 29 45.1 +0.7**
baz=267
COLA College 88.92 25*ce*P **P 05 29 44.8 +0.5**
COLA pmax pmax
comp=Z,12nm,1.3s
CCB Clear Creek Bu 88.92 25 P **P 05 29 43.6 -0.8**
CCB IAmb IAmb 05 29 46.2
comp=Z,52nm,1.2s
SCM Sheep Creek Mo 89.02 28 IAmb IAmb 05 30 08.2
comp=Z,58nm,1.1s
POKR Poker Plat Res 89.10 25 P **P 05 29 45.8 +0.6**
baz=268
HDA Harding Lake 89.28 26 P **P 05 29 46.0 -0.2**
baz=268
HDA Harding Lake 89.28 26 IAmb IAmb 05 32 15.7
comp=Z,22nm,0.8s
HDA IAMs_20 IAMs_20 06 11 41.9
comp=Z,860nm,22.0s
OBN Obninsk 89.32 325 P **P 05 29 45.3 -1.1**
comp=Z,15nm,0.5s,baz=75,slow=4.6,SNR=38
OBN LR LR 06 11 19.3
comp=Z,333nm,21.4s,baz=90,slow=37
OBN Obninsk 89.32 325⇓P **P 05 29 46.2 -0.2**
OBN Obninsk 89.32 325*c i*P **P 05 29 45.3 -1.1**
OBN *e* 05 33 19.9
OBN *e*S **S 05 40 32.0 -1.1**
OBN *e*SS **SS 05 46 31.6 +3.4**
OBN pmax pmax
comp=Z,410nm,1.7s
OBN Obninsk 89.32 325 P **P 05 29 46.0 -0.4**
OBN Obninsk 89.32 325 IAMs_20 IAMs_20 06 12 10.4
comp=Z,2μm,22.0s
ILAR Eielson Array 89.32 25 P **P 05 29 45.1 -1.1**
comp=Z,8.5nm,1.0s,baz=266,slow=3.9,SNR=37
ILAR PKKP **PKKPbc 05 47 22.7 -2.4**
comp=Z,0.6nm,0.8s,baz=94,slow=1.7,SNR=6.5
SHBL Chebaa 89.57 303 *e*P **P 05 29 48.3 -0.1**
M24K Tolsona, Glenn 89.57 28 P **P 05 29 48.1 +0.5**
baz=269
BHL Bhannes 89.65 304 *e*P **P 05 29 48.0 -0.6**
QSPA South Pole Qui 89.74 180 P **P 05 29 48.4 +0.1**
QSPA IAmb IAmb 05 30 16.0
comp=Z,53nm,1.0s
LODK Lodwar 89.75 273 P **P 05 29 50.6 +1.1**
SNR=15
PAX Paxson 89.91 27 P **P 05 29 49.9 +0.7**
PAX pmax pmax
comp=Z,48nm,1.2s
PAX Paxson 89.91 27 P **P 05 29 49.9 +0.7**
PAX IAmb IAmb 05 29 51.6
comp=Z,48nm,1.2s
BMAR Burnt Mountain 90.30 23 P **P 05 29 51.4 +0.5**
LVZ Lovozero 90.35 338⇑*e*P **P 05 29 50.1 -1.0**
LVZ pmax pmax
comp=Z,69nm,1.4s
LVZ Lovozero 90.35 338 P **P 05 29 50.1 -1.0**
LVZ IAmb IAmb 05 33 16.8
comp=Z,84nm,1.3s
SCRK Sand Creek 90.58 26 P **P 05 29 52.5 +0.2**
baz=271
GLB Gilahina Butte 90.69 29 IAmb IAmb 05 30 14.6
comp=Z,39nm,1.1s
MENT Mentasta 90.71 27 IAmb IAmb 05 30 02.4
comp=Z,24nm,0.8s
APA Apatity 90.83 337⇑*i*P P 05 29 48.1 -5.1
APA *i* PS **PS 05 41 48.0 -11**
APA pmax pmax
comp=Z,18nm,1.1s
APA MLR MLR
comp=Z,1μm,17.0s
SIM Simferopol' 90.84 315 *e*P **P 05 29 53.7 -0.1**
SIM pmax pmax
comp=Z,107nm,0.9s
VRDI Verde Repeater 90.87 29 pP 05 29 59.7 -5.8
ILGA Ilgaz 91.17 311 IAmb IAmb 05 29 58.1
comp=Z,42nm,1.2s
TGL Tana Glacier 91.18 29 IAmb IAmb 05 29 57.9
comp=Z,50nm,1.3s
BR131 Keskin Array S 91.25 310 P **P 05 29 56.3 +0.3**
SNR=7.3
BRTR Keskin Array B 91.25 310 P **P 05 29 54.6 -1.4**
comp=Z,17nm,1.0s,baz=141,slow=4.5,SNR=17
BRTR Keskin Array B 91.25 310 P **P 05 29 54.0 -2.1**
K27K Chicken 91.42 26 P **P 05 29 57.4 +1.4**
baz=272
ISLE Juniper Island 91.43 30 IAmb IAmb 05 29 59.2
comp=Z,74nm,1.5s
ISLE IAMs_20 IAMs_20 06 10 07.9
comp=Z,1μm,22.0s
BCAR Beaver Creek A 91.59 27 P **P 05 29 56.0 -0.9**
BARN Barnard Glacie 91.74 29 IAmb IAmb 05 30 01.1
comp=Z,71nm,1.2s
LEF Lefka 91.92 305⇑P **P 05 29 59.0 -0.1**
PCA Pinnacle 92.49 30 P **P 05 30 02.5 +1.2**
PCA IAmb IAmb 05 31 55.3
comp=Z,32nm,0.8s
KEV Kevo 92.99 340 IAMs_20 IAMs_20 06 17 43.0
comp=Z,2μm,22.0s
EPYK Eagle Plains 93.47 24 P **P 05 30 05.9 +0.4**
baz=277
ARCES ARCESS Array B 93.54 340 P **P 05 30 05.3 -0.5**
comp=Z,5.4nm,0.7s,baz=79,slow=5.7,SNR=13
ARCES ARCESS Array B 93.54 340 P **P 05 30 05.0 -0.8**
ARE0 ARCESS Array S 93.54 340 *e*P **P 05 30 05.3 -0.5**
HYT Haines Junctio 93.78 29 IAmb IAmb 05 30 10.3
comp=Z,36nm,1.2s
AKASG Malin Array Be 93.88 321 P **P 05 30 06.3 -1.4**
comp=Z,12nm,0.7s,baz=73,slow=4.2,SNR=52
AKASG LR LR 06 13 55.2
comp=Z,824nm,21.2s,baz=65,slow=36
AKASG Malin Array Be 93.88 321 P **P 05 30 06.3 -1.4**
AKASG pmax pmax
comp=Z,27nm,1.2s
AKASG Malin Array Be 93.88 321 P **P 05 30 06.2 -1.4**
AKBB Malin Array Si 93.88 321 IAmb IAmb 05 30 09.2
comp=Z,42nm,1.1s
AKBB IAMs_20 IAMs_20 06 14 07.0
comp=Z,2μm,22.0s
HAMF Hammerfest 93.97 341 *e*P **P 05 30 09.0 +1.4**
SPA0 Spitsbergen Ar 93.99 349 P **P 05 30 07.6 -0.1**
SPA0 Spitsbergen Ar 93.99 349 *e*P **P 05 30 07.6 -0.1**
SPITS Spitsbergen Ar 93.99 349 P **P 05 30 07.2 -0.5**
comp=Z,30nm,0.9s,baz=127,slow=9.5,SNR=26
MICGM Minsk 94.36 325⇓*e*P **P 05 30 09.0 -0.8**
MICGM PM 05 30 11.0
comp=Z,0.5nm,1.5s
MICGM PM 05 30 12.0
comp=E,0.5nm,1.5s
MICGM *e*SKS **SKSac 05 40 40.0 -1.8**
MICGM *e*S **SKKSac 05 41 10.0 +6.9**
MNK Minsk 94.36 325⇓*e*P **P 05 30 09.0 -0.8**
MNK *e* 05 40 40.0
MNK *e*S **S 05 41 10.0 -8.7**
MNK pmax pmax
comp=Z,520nm,1.5s
MNK pmax pmax
comp=E,450nm,1.5s
MBAR Mbarara 94.36 269 IAMs_20 IAMs_20 06 13 34.7
comp=Z,2μm,20.0s
KTK1 Kautokeino 94.43 339 *e*P **P 05 30 12.8 +2.9**
KIS Kishinev 94.44 317 *e*P **P 05 30 09.0 -1.4**
comp=Z,130nm,9.3s
KIS *e*LR LR 06 13 42.0
comp=Z,350nm,24.0s
KIS Kishinev 94.44 317 *e*P **P 05 30 09.0 -1.4**
KIS pmax pmax
comp=Z,180nm,9.3s
KIS MLR MLR
comp=Z,350nm,24.0s
FINES FINESS Array B 94.49 332 P **P 05 30 09.2 -1.1**
comp=Z,7.0nm,0.8s,baz=106,slow=6.2,SNR=12
FINES FINESS Array B 94.49 332 P **P 05 30 09.3 -1.0**
FINES FINESS Array B 94.49 332 P **P 05 30 09.3 -1.0**
HSPB Hornsund (broa 94.54 348 *e*P **P 05 30 10.3 +0.1**
VSU Vasula 94.55 329 *e*P **P 05 30 10.1 -0.5**
VSU Vasula 94.55 329*de*P **P 05 30 09.8 -0.8**
VSU pmax pmax
comp=Z,161nm,1.6s
JURR Jurilovca 94.57 315⇑P **P 05 30 11.5 +0.5**
SORM Soroca 94.66 318⇓P **P 05 30 11.1 -0.2**
TAOE Nuku Hiva Isla 94.66 99 *e*LR LR 06 00 47.9
comp=Z,2μm,26.6s
TOPG Topolog 94.91 315⇓P **P 05 30 12.0 -0.6**
TIRR Tirgusor 94.92 314⇑P **P 05 30 11.8 -0.9**
IDID Didziasalis 94.93 325 *e*P **P 05 30 12.4 0.0**
NACGM Naroch 94.95 325 *e* **P 05 30 11.0 -1.5**
NACGM *e*LR LR 06 09 40.0
CFR Carcaliu 95.06 315⇓P **P 05 30 13.2 0.0**
WHY Whitehorse 95.08 29 IAmb IAmb 05 30 16.4
comp=Z,61nm,1.2s
IZAR Zarasai 95.15 326 *e*P **P 05 30 15.5 +2.1**
IIGN Igralina 95.22 325 *e*P **P 05 30 14.0 +0.2**
ISAL Salakas 95.24 326 *e*P **P 05 30 15.8 +1.9**
HARR Harsova 95.25 315⇑P **P 05 30 14.6 +0.5**
BESE Bessie Mountai 95.41 31 IAmb IAmb 05 30 17.9
comp=Z,53nm,1.3s
TRO Tromso 95.78 340 *e*P **P 05 30 16.9 +1.0**
TESR Tescani 95.97 317⇑P **P 05 30 16.6 -0.8**
VRI Vrincioaia 95.98 316⇓P **P 05 30 17.2 -0.2**
VRI ⇑P **PcP 05 30 17.6 -0.1**
BISRR Bisoca 96.03 316⇑P **P 05 30 18.4 +0.6**
PLOR Plostina 96.04 316⇑P **P 05 30 17.9 +0.1**
BIZ Bicaz 96.29 317⇑P **P 05 30 18.5 -0.4**
NEHR Nehoiu 96.33 316⇓P **P 05 30 19.0 -0.1**
PABE Paberze 96.47 326 *e*P **P 05 30 16.9 -2.5**
MLR Muntele Rosu 96.57 316 P **P 05 30 19.4 -0.9**
comp=Z,33nm,0.9s,baz=23,slow=2.9,SNR=5.3
MLR Muntele Rosu 96.57 316⇑P **P 05 30 19.5 -0.8**
MLR ⇓P **PcP 05 30 19.8 -0.7**
MLR Muntele Rosu 96.57 316 P **P 05 30 18.8 -1.5**
MLR IAMs_20 IAMs_20 06 19 56.4
comp=Z,1μm,21.0s
KARP Karpathos 96.58 306 P **P 05 30 18.9 -1.6**
LSZ Lusaka 96.62 255 P **P 05 30 20.7 -0.5**
LSZ pmax pmax
comp=Z,35nm,0.8s
LSZ Lusaka 96.62 255 P **P 05 30 20.7 -0.5**
LSZ IAmb IAmb 05 32 50.9
comp=Z,35nm,0.8s
BURAR Bucovina Array 96.81 318⇑P **P 05 30 21.2 -0.2**
BURAR Bucovina Array 96.81 318 P **P 05 30 20.1 -1.2**
WRAK Wrangell Islan 97.10 33 IAmb IAmb 05 30 40.0
comp=Z,27nm,1.3s
SUW Suwalki 97.16 324 *e*P **P 05 30 21.9 -0.7**
SUW Suwalki 97.16 324 IAMs_20 IAMs_20 06 15 25.3
comp=Z,1μm,22.0s
VOIR 97.20 316⇑P Pdif 05 30 23.8 +0.6
LVV L'vov 97.29 320 *e*P **P 05 30 22.3 -1.0**
NVL N'lazarevskaya 97.34 198 *e*P Pdif 05 30 23.6 +0.5
NVL *e*S **SKSac 05 40 58.0 +1.2**
NVL pmax pmax
comp=Z,5.0nm,0.7s
C36M Paulatuk 97.43 20 P Pdif 05 30 23.7 +0.2
baz=290
C36M Paulatuk 97.43 20 IAmb IAmb 05 32 53.6
comp=Z,30nm,0.8s
ARR Arges 97.50 316⇓P **P 05 30 23.6 -0.8**
PBUR Paburge 97.51 327 *e*P **P 05 30 21.4 -2.7**
STEI Steigen 97.56 339 *e*P **P 05 30 22.2 -1.9**
FAUS Fauske 97.71 338 *e*P **P 05 30 22.5 -2.3**
VLAD Vladila 97.83 314⇑P **P 05 30 25.6 -0.2**
DLBC Dease Lake 97.92 31 P Pdif 05 30 27.0 +0.9
comp=Z,3.7nm,1.0s,baz=279,slow=8.8,SNR=5.2
LOT Lotru 98.09 316⇓P Pdif 05 30 27.2 0.0
LOF Lofoten 98.09 339 *e*P **P 05 30 26.1 -0.4**
MOR8 Moi Rana 98.42 337 *e*Pdif **P 05 30 26.1 -1.9**
IDI Anoyia 98.45 306⇓P **P 05 30 28.7 -0.3**
IDI Anoyia 98.45 306 P **P 05 30 28.6 -0.4**
IDI IAmb IAmb 05 30 31.1
comp=Z,51nm,1.2s
BOSA Boshof 98.55 241 P **P 05 30 29.0 -0.6**
comp=Z,8.0nm,1.1s,baz=57,slow=5.0,SNR=4.7
KOLS Kolonicke sedl 98.57 319 *e*P **P 05 30 28.9 -0.2**
KOLS Kolonicke sedl 98.57 319 *e*PDIFF **P 05 30 28.9 -0.2**
UZH Uzhgorod 98.60 319⇓*e*P **P 05 30 28.5 -0.7**
UZH *e* 05 30 35.8
UZH *e* 05 30 42.8
EUNU Eureka 98.72 5 pP 05 30 37.5 -3.4
EUNU IAMs_20 IAMs_20 06 16 53.5
comp=Z,1μm,22.0s
CRVS Cervenica-Dubn 99.10 320 *e*P **Pdif 05 30 31.5 0.0**
CRVS Cervenica-Dubn 99.10 320 *e*PDIFF **Pdif 05 30 31.5 0.0**
HERR Herculane 99.12 315⇓P **Pdif 05 30 31.4 -0.3**
SIRR Siria 99.42 317⇓P **Pdif 05 30 32.6 -0.4**
VAY Valandovo 99.54 312 *i* P **Pdif 05 30 31.6 -2.0**
BZS Buzias 99.56 316⇑P **Pdif 05 30 32.9 -0.7**
MDVR Moldovita 99.63 315⇓P **Pdif 05 30 33.6 -0.3**
NIE Niedzica 99.75 320 *e*P **Pdif 05 30 34.5 +0.1**
STIP Stip 99.77 312 *i* P **Pdif 05 30 32.3 -2.3**
KECS Kecovo 99.81 319 *e*P **Pdif 05 30 35.5 +0.9**
KECS Kecovo 99.81 319 *e*PDIFF **Pdif 05 30 35.5 +0.9**
OJC Ojcow 99.91 321 *e*P **Pdif 05 30 34.8 -0.3**
PSZ Piszkesteto 100.31 319⇑P **Pdif 05 30 36.5 -0.5**
PSZ Piszkesteto 100.31 319 IAMs_20 IAMs_20 06 21 26.1
comp=Z,1μm,21.0s
HFS Hagfors 100.70 332 P **Pdif 05 30 36.9 -1.4**
comp=Z,7.5nm,1.1s,baz=85,slow=3.6,SNR=4.3
VYHS Vyhne 100.89 319 *e*P **Pdif 05 30 38.6 -0.8**
VYHS Vyhne 100.89 319 *e*PDIFF **Pdif 05 30 38.6 -0.8**
SNAA Sanae 101.03 195 P **Pdif 05 30 40.6 +1.0**
NC405 NORSAR Array S 101.28 333 Pdif **Pdif 05 30 40.3 -0.6**
MORC Moravsky Berou 101.43 321⇑P **Pdif 05 30 41.8 -0.1**
MORC Moravsky Berou 101.43 321 *e*PDIFF **Pdif 05 30 41.5 -0.4**
MORC Moravsky Berou 101.43 321 IAMs_20 IAMs_20 06 19 44.6
comp=Z,1μm,22.0s
NB2 NORSAR Subarra101.54 333 P **Pdif 05 30 39.9 -2.2**
comp=Z,16nm,1.4s,baz=73,slow=4.6
NB2 NORSAR Subarra101.54 333 P **Pdif 05 30 39.9 -2.2**
baz=73,slow=4.6
NOA NORSAR Array B 101.54 333 P **Pdif 05 30 40.5 -1.6**
comp=Z,10nm,1.3s,baz=69,slow=4.6,SNR=5.8
TIR Tirane 101.54 312 IAMs_20 IAMs_20 06 25 19.5
comp=Z,1μm,22.0s
JAVC Velka Javorina 101.56 320 *e*PDIFF **Pdif 05 30 43.0 +0.5**
PDG Podgorica 101.80 313⇓P **Pdif 05 30 42.4 -1.1**
KRLC Kraliky 101.84 321 *e*PDIFF **Pdif 05 30 44.4 +0.7**
KRLC AMS AMS 06 18 40.0
comp=Z,1μm,24.1s
KRLC Kraliky 101.84 321 *e*P **Pdif 05 30 44.4 +0.7**
KRLC MLR MLR
comp=Z,1μm,24.1s
MODS Modra-Piesok 101.92 320 *e*P **Pdif 05 30 43.7 -0.4**
MODS Modra-Piesok 101.92 320 *e*PDIFF **Pdif 05 30 43.7 -0.4**
KSP Ksiaz 101.95 322 *e*P **Pdif 05 30 44.2 +0.2**
DPC Dobruska-Polom 102.05 322 *e*PDIFF **Pdif 05 30 45.1 +0.5**
DPC AMS AMS 06 18 40.0
comp=Z,2μm,21.7s
DPC Dobruska-Polom 102.05 322 *e*P **Pdif 05 30 45.1 +0.5**
DPC MLR MLR
comp=Z,2μm,21.7s
OSTC Ostas 102.07 322 AMS AMS 06 18 40.0
comp=Z,2μm,23.0s
VRAC Vranov 102.14 321 P **Pdif 05 30 44.8 -0.1**
comp=Z,4.0nm,0.5s,baz=75,slow=4.2,SNR=18
VRAC Vranov 102.14 321⇓P **Pdif 05 30 45.2 +0.2**
VRAC Vranov 102.14 321 *e*PDIFF **Pdif 05 30 44.9 -0.1**
UPC Upice 102.21 322 AMS AMS 06 18 50.0
comp=Z,2μm,22.8s
KRUC Moravsky 102.33 320 *e*PDIFF **Pdif 05 30 45.2 -0.6**
VNA2 Neumayer--Watz 102.64 194 P **Pdif 05 30 47.6 +0.8**
TREC Trest 102.85 321 AMS AMS 06 19 10.0
comp=Z,2μm,24.6s
AKN Aaknes 102.94 335 *e*Pdif **Pdif 05 30 48.6 +0.3**
CONA Conrad Observa 102.95 319 *i* Pdiff **Pdif 05 30 48.5 -0.2**
comp=Z,11nm,1.3s
PVCC Panska Ves 103.09 322 AMS AMS 06 19 20.0
comp=Z,1μm,20.4s
GOPC GO Pecny, Ondr 103.12 322 AMS AMS 06 19 30.0
comp=Z,2μm,23.6s
PRU Pruhonice 103.25 322 AMS AMS 06 19 40.0
comp=Z,1μm,20.3s
PRA Prague 103.30 322 AMS AMS 06 19 40.0
comp=Z,600nm,18.5s
ARSA Arzberg 103.34 319 *i* Pdiff **Pdif 05 30 50.5 +0.1**
comp=Z,14nm,1.5s
BRG Berggiesshubel 103.38 323 *i* P **Pdif 05 30 50.3 -0.1**
comp=Z,44nm,1.6s
comp=Z,1μm,20.7s
comp=N,710nm,21.0s
comp=E,1μm,21.0s
BRG Berggiesshubel 103.38 323 *i* P **Pdif 05 30 50.3 -0.1**
BRG pmax pmax
comp=Z,44nm,1.6s
BRG MLR MLR
comp=Z,1μm,20.7s
BRG MLR MLR
comp=N,710nm,21.0s
BRG MLR MLR
comp=E,1μm,21.0s
GROS Grobnik 103.55 318 *e*Pdiff **Pdif 05 30 50.6 -0.8**
YKA Yellowknife Ar 103.72 24 Pdiff **Pdif 05 30 52.7 +1.0**
comp=E,1.8nm,0.8s,baz=301,slow=5.4,SNR=4.9
HYA Hoyanger 103.73 334 *e*Pdif **Pdif 05 30 50.7 -1.0**
SOKA Soboth 103.81 318 *i* Pdiff **Pdif 05 30 52.0 -0.6**
comp=E,10nm,1.3s
CLL Collm 103.81 323 *i* Pdif **Pdif 05 30 53.4 +1.1**
comp=Z,29nm,1.6s
CLL *e*PP **PKiKP 05 35 10.0 -0.1**
CLL *e*PS PS 05 45 06.0 +45
CLL *e*SS SS 05 50 12.0 +19
CLL *e*SSS SSS 05 53 54.0
CLL *e*SSSS 05 57 30.0
CLL LmV 06 20 00.0
comp=Z,1μm,20.3s
CLL Collm 103.81 323 *i* P **Pdif 05 30 53.4 +1.1**
CLL pmax pmax
comp=Z,29nm,1.6s
CLL Collm 103.81 323 IAMs_20 IAMs_20 06 20 52.4
comp=Z,1μm,20.0s
MOA Molln 104.01 320 *i* Pdiff **Pdif 05 30 53.7 +0.4**
comp=Z,20nm,1.4s,SNR=8.2
KHC Kasperske Hory 104.09 321 *e*PDIFF **Pdif 05 30 54.5 +0.8**
KHC AMS AMS 06 20 00.0
comp=Z,2μm,23.5s
KHC Kasperske Hory 104.09 321 *e*P **Pdif 05 30 54.5 +0.8**
KHC MLR MLR
comp=Z,2μm,23.5s
GERES GERESS Array B 104.10 321 Pdiff **Pdif 05 30 53.2 -0.6**
comp=Z,1.4nm,0.7s,baz=95,slow=1.5,SNR=13
GERES GERESS Array B 104.10 321 P **Pdif 05 30 53.4 -0.4**
GERES GERESS Array B 104.10 321 **Pdif 05 30 53.4 -0.4**
OBKA Obir 104.18 318 *i* Pdiff **Pdif 05 30 53.2 -1.1**
comp=Z,14nm,1.2s
MOZS Mozjanca 104.30 318 *e*Pdiff **Pdif 05 30 54.1 -0.6**
BLS5 Blasjo 104.36 332 *e*Pdif **Pdif 05 30 53.8 -0.8**
GBAS Gorenja Brezov 104.40 318 *e*Pdiff **Pdif 05 30 54.5 -0.7**
SUE Sulen 104.40 334 *e*Pdif **Pdif 05 30 55.6 +1.0**
BER Bergen 104.45 334 *e*Pdif **Pdif 05 30 54.8 -0.2**
ASK Askoy 104.47 334 *e*Pdif **Pdif 05 30 54.6 -0.4**
NKC Novy Kostel 104.47 322 AMS AMS 06 26 50.0
comp=Z,1μm,18.7s
D03D Eldon 104.73 41 P **Pdif 05 30 56.5 0.0**
baz=286
MYKA Terra Mystica 104.75 318 *i* Pdiff **Pdif 05 30 51.8 -5.0**
comp=Z,1.6nm,0.5s
KBA Koelnbreinsper 104.82 319 *i* Pdiff **Pdif 05 30 58.1 +0.9**
comp=Z,3.7nm,1.1s
ABTA Abfaltersbach 105.46 319 *i* Pdiff **Pdif 05 30 58.6 -1.4**
comp=Z,5.0nm,0.8s
KRMB Red Mountain 105.74 47 IAMs_20 IAMs_20 06 16 17.0
comp=Z,1μm,21.0s
JCC Jacoby Creek, 105.82 47 IAMs_20 IAMs_20 06 07 09.8
comp=Z,1μm,22.0s

WTTA	Wattenberg	105.88	319	*i* Pdiff	Pdif	05 31 02.1	+0.2	
	comp=Z,23nm,1.2s							
WATA	Walderalm	105.90	320	*i* Pdiff	Pdif	05 31 01.4	-0.5	
	comp=Z,26nm,1.8s							
KHMM	Horse Mountain	106.02	47	IAMs_20	IAMs_20	06 17 47.0		
	comp=Z,1µm,19.0s							
SQTA	Sankt Quirin	106.17	320	*i* Pdiff	Pdif	05 31 02.5	-0.7	
	comp=Z,23nm,1.5s							
MOTA	Moosalm	106.20	320	*i* Pdiff	Pdif	05 31 02.1	-1.2	
	comp=Z,23nm,1.7s							
RETA	Reutte	106.38	320	*i* Pdiff	Pdif	05 31 05.1	+1.2	
	comp=Z,2.1nm,0.5s							
M02C	Callahan	106.54	47	P	PKiKP	05 35 15.4	-0.2	
	baz=285							
FETA	Feichten	106.55	319	*i* Pdiff	Pdif	05 31 03.8	-1.1	
	comp=Z,11nm,1.1s							
YBH	Yreka Blue Hor	106.55	46	IAMs_20	IAMs_20	06 16 59.2		
	comp=Z,1µm,21.0s							
G05D	Wamic, OR	106.56	42	P	PKiKP	05 35 16.0	+0.6	
	baz=287							
SCO	Scoresbysund	106.57	349	IAMs_20	IAMs_20	06 22 35.1		
	comp=Z,1µm,22.0s							
J04D	Umpqua Nationa	106.58	45	P	PKiKP	05 35 15.8	0.0	
	baz=286							
L04D	Klamath Falls	106.72	46	P	PKiKP	05 35 15.2	-0.8	
	baz=286							
I05D	Terrebonne, OR	106.81	43	P	PKiKP	05 35 15.6	-0.3	
	baz=287							
O02D	Mt. Diablo Mer	106.89	48	P	PKiKP	05 35 15.7	-0.6	
	baz=284							
WDC	Whiskeytown Da	106.97	47	IAMs_20	IAMs_20	06 16 56.8		
	comp=Z,1µm,20.0s							
FUORN	Ofenpass-Fuorn	106.98	319	IAMs_20	IAMs_20	06 28 00.5		
	comp=Z,1µm,21.0s							
DAVA	Damuels	107.01	320	*i* Pdiff	Pdif	05 31 07.4	+0.5	
	comp=Z,10nm,1.2s							
MCCM	Marconi Confer	107.32	50	IAMs_20	IAMs_20	06 15 22.2		
	comp=Z,991nm,19.0s							
TUE	Stuetta	107.62	319	IAMs_20	IAMs_20	06 24 32.6		
	comp=Z,1µm,21.0s							
BFO	Black Forest	107.64	321	IAMs_20	IAMs_20	06 23 50.0		
	comp=Z,1µm,21.0s							
VLC	Villacollemand	107.66	317	IAMs_20	IAMs_20	06 23 35.8		
	comp=Z,1µm,22.0s							
ORV	Oroville	108.01	48	IAMs_20	IAMs_20	06 13 09.3		
	comp=Z,1µm,22.0s							
ECH	Echery	108.42	321	IAMs_20	IAMs_20	06 22 40.4		
	comp=Z,1µm,22.0s							
WLF	Walferdange	108.49	323	IAMs_20	IAMs_20	06 26 02.0		
	comp=Z,1µm,21.0s							
CMB	Columbia Colle	109.25	50	IAMs_20	IAMs_20	06 22 42.3		
	comp=Z,920nm,20.0s							
VCNR	Virginia City	109.46	48	IAMs_20	IAMs_20	06 16 55.7		
	comp=Z,1µm,22.0s							
PNTR	Pine Nut	109.55	48	IAMs_20	IAMs_20	06 17 08.2		
	comp=Z,1µm,20.0s							
JTMT	Jette	110.25	38	IAMs_20	IAMs_20	06 16 21.7		
	comp=Z,1µm,22.0s							
PKM	Mcpherson Peak	110.51	53	P	PKiKP	05 35 24.4	+1.1	
	baz=285							
NVAR	Mina Array Bea	110.71	49	PKiKP	PKiKP	05 35 24.0	+0.3	
	comp=Z,0.6nm,0.7s,baz=285,slow=1.4,SNR=5.0							
NVAR				PKKPbc	PKKPbc	05 46 22.2	-1.1	
	comp=Z,0.5nm,0.7s,baz=128,slow=2.4,SNR=3.8							
MSO	Missoula	110.83	39	P	PKiKP	05 35 24.5	+1.0	
	baz=294							
CWC	Cottonwood Cre	111.46	51	P	PKiKP	05 35 25.9	+0.8	
	baz=286							
HLID	Hailey	111.78	42	P	PKiKP	05 35 26.4	+1.0	
	baz=292							
EDW2	Edwards Air Fo	111.96	52	P	PKiKP	05 35 27.2	+1.2	
	baz=286							
MPMC	Manual Prospec	112.02	51	P	PKiKP	05 35 27.0	+0.8	
	baz=287							
LRMC	Laurel Mtn Rad	112.04	52	P	PKiKP	05 35 27.3	+1.2	
	baz=286							
DLMT	Dillon	112.28	40	IAMs_20	IAMs_20	06 18 09.1		
	comp=Z,955nm,22.0s							
FURC	Furnace Creek,	112.39	50	P	PKiKP	05 35 28.0	+1.4	
	baz=287							
TPNV	Topopah Spring	112.71	50	P	PKiKP	05 35 29.0	+1.6	
	baz=288							
R11A	Troy Canyon, C	112.77	48	P	PKiKP	05 35 28.8	+1.3	
	baz=289							
GSC	Goldstone, Bar	112.78	51	P	PKiKP	05 35 28.9	+1.4	
	baz=287							
BOZ	Bozeman (W)	112.80	40	P	PKiKP	05 35 28.7	+1.4	
	baz=295							
EGMT	Eagleton	112.89	37	P	PKiKP	05 35 28.9	+1.5	
	baz=298							
109C	Camp Elliot, M	113.21	54	P	PKiKP	05 35 29.0	+0.7	
	baz=286							
109C	Camp Elliot, M	113.21	54	IAMs_20	IAMs_20	06 19 09.7		
	comp=Z,1µm,20.0s							
SFJD	Kangerlussuaq	113.27	358	PKiKP	PKiKP	05 35 23.5	-3.8	
	comp=Z,15nm,1.0s,baz=230,slow=3.1,SNR=2.8							
HEC	Hector,Ludlow	113.28	52	P	PKiKP	05 35 28.4	0.0	
	baz=287							
TJX	Tijuana	113.36	54	IAMs_20	IAMs_20	06 19 52.1		
	comp=Z,1µm,20.0s							
TUQ	Turquoise Moun	113.42	51	P	PKiKP	05 35 29.8	+1.0	
	baz=288							
PFO	Pinyon Flats O	113.53	53	PKiKP	PKiKP	05 35 30.0	+0.9	
	comp=Z,5.4nm,1.0s,baz=342,slow=4.8,SNR=5.7							
PFO	Pinyon Flats O	113.53	53	*i* PKIKP	PKiKP	05 35 30.0	+0.9	
PFO	Pinyon Flats O	113.53	53	P	PKiKP	05 35 30.5	+1.4	
	baz=286							
TPFO	Pinon Flats	113.54	53	P	PKiKP	05 35 30.8	+1.7	
	baz=286							
BAR	Barrett	113.62	54	IAMs_20	IAMs_20	06 19 54.5		
	comp=Z,1µm,20.0s							
MONP2	Monument Peak	113.76	54	P	PKiKP	05 35 30.9	+1.3	
	baz=286							
BELC	Belle Mtn. Jos	113.79	53	P	PKiKP	05 35 30.8	+1.2	
	baz=287							
GMRC	Granite Mounta	113.83	52	P	PKiKP	05 35 31.3	+1.7	
	baz=288							
CCX	Cicese	113.85	55	IAMs_20	IAMs_20	06 18 48.1		
	comp=Z,860nm,20.0s							
IMW	Indian Meadow	113.96	41	IAMs_20	IAMs_20	06 18 51.8		
	comp=Z,940nm,21.0s							
IKP	In-Ko-Pah, Jac	114.08	54	P	PKiKP	05 35 31.3	+1.3	
	baz=286							
DUG	Dugway, Tooele	114.14	45	P	PKiKP	05 35 30.4	+0.3	
	baz=292							
BC3	Big Chuckawall	114.32	53	P	PKiKP	05 35 31.1	+0.6	
	baz=287							
ESJX	Sierra Juarez	114.39	55	IAMs_20	IAMs_20	06 22 38.6		
	comp=Z,1µm,21.0s							
IRM	Iron Mountain	114.42	52	P	PKiKP	05 35 31.2	+0.6	
	baz=288							
RLMT	Red Lodge	114.51	39	P	PKPdf	05 35 32.3	+1.6	
	baz=297							
GUVIX	Guadalupe Vict	115.02	54	IAMs_20	IAMs_20	06 16 36.6		
	comp=Z,948nm,22.0s							
PDMCI	Parker Dam,Lak	115.17	52	P	PKPdf	05 35 33.6	+1.6	
	baz=288							
PD31	Pinedale Array	115.36	42		PKPdf	05 35 32.6	+0.2	
PDAR	Pinedale Array	115.36	42	PKP	PKPdf	05 35 33.5	+1.0	
	comp=Z,7.1nm,1.2s,baz=256,slow=0.6,SNR=14							
PDAR				PKKPbc	PKKPbc	05 46 06.0	-2.0	
	comp=Z,0.6nm,0.7s,baz=96,slow=4.6,SNR=5.1							
PDAR	Pinedale Array	115.36	42	PKiKP	PKiKP	05 35 31.5	-0.9	
LAO	LASA Array	115.64	37	P	PKPdf	05 35 33.7	+1.0	
	baz=300							
LAO	LASA Array	115.64	37	IAMs_20	IAMs_20	06 24 38.9		
	comp=Z,1µm,21.0s							
DGMT	Dagmar	115.88	34	P	PKPdf	05 35 33.8	+0.8	
	baz=303							
WUAZ	Wupatki	116.90	50	P	PKiKP	05 35 36.7	+1.2	
	baz=291							
214A	Organ Pipe Nat	116.96	54	P	PKiKP	05 35 36.5	+0.9	
	baz=288							
TAM	Tamanrasset	117.18	296	IAMs_20	IAMs_20	06 25 25.1		
	comp=Z,1µm,22.0s							
X16A	Lo Mia Camp, P	117.24	51		PKiKP	05 35 36.4	+0.1	
O20A	White River Ci	117.38	44	P	PKiKP	05 35 37.2	+0.9	
	baz=296							
O20A	White River Ci	117.38	44	IAMs_20	IAMs_20	06 28 33.5		
	comp=Z,861nm,20.0s							
K22A	Casper	117.41	41	P	PKiKP	05 35 36.9	+0.6	
	baz=298							
PV23	Carpenter Ridg	117.54	46	IAMs_20	IAMs_20	06 16 28.3		
	comp=Z,1µm,20.0s							
PV10	Paradox Valley	117.55	46	IAMs_20	IAMs_20	06 34 06.1		
	comp=Z,1µm,21.0s							
PV14	Lion Creek, Pa	117.56	46	IAMs_20	IAMs_20	06 29 35.5		
	comp=Z,1µm,21.0s							
PV19	Morning Glory	117.62	46	IAMs_20	IAMs_20	06 24 45.4		
	comp=Z,1µm,21.0s							
PV04	Paradox Valley	117.64	46		PKiKP	05 35 38.3	+1.4	
PV17	East Wray Mesa	117.64	46		PKiKP	05 35 37.9	+0.9	
PV18	Skein Mesa, Pa	117.69	46	IAMs_20	IAMs_20	06 17 52.1		
	comp=Z,1µm,22.0s							
PV11	David Mesa, Pa	117.70	46	IAMs_20	IAMs_20	06 18 19.2		
	comp=Z,1µm,21.0s							
PV07	Paradox Valley	117.81	46	PKPdf	PKiKP	05 35 38.7	+1.4	
PV02	Paradox Valley	117.83	46		PKiKP	05 35 38.4	+1.0	
PV15	Paradox Valley	117.96	46	IAMs_20	IAMs_20	06 22 06.2		
	comp=Z,1µm,21.0s							
RSSD	Black Hills	118.26	38	PKIKP	PKiKP	05 35 38.1	+0.1	
RSSD	Black Hills	118.26	38	P	PKiKP	05 35 38.5	+0.5	
	baz=301							
RSSD	Black Hills	118.26	38	PKPdf	PKiKP	05 35 38.1	+0.1	
W18A	Petrified Fore	118.30	50	P	PKiKP	05 35 39.4	+1.1	
	baz=292							
MVCO	Mesa Verde	118.41	47	P	PKiKP	05 35 39.3	+0.8	
	baz=294							
TUC	Tucson	118.47	53	PKIKP	PKiKP	05 35 40.1	+1.5	
TUC	Tucson	118.47	53	P	PKiKP	05 35 39.4	+0.9	
	baz=290							
TUC	Tucson	118.47	53	PKPdf	PKiKP	05 35 40.1	+1.5	
N23A	Red Feather La	118.61	42	P	PKiKP	05 35 40.4	+1.6	
	baz=298							
MDND	Maddock	118.77	33	P	PKiKP	05 35 39.5	+0.9	
	baz=307							
ULM	Lac du Bonnet	119.16	29	PKP	PKiKP	05 35 39.6	+0.4	
	comp=Z,3.1nm,0.4s,baz=276,slow=3.8,SNR=4.6							
ESDC	Sonseca Array	119.24	317	PKP	PKiKP	05 35 40.6	+0.8	
	comp=Z,1.8nm,1.0s,baz=6.2,slow=1.0,SNR=5.0							
ISCO	Idaho Springs	119.34	43	PKIKP	PKiKP	05 35 41.1	+0.8	
ISCO	Idaho Springs	119.34	43	P	PKiKP	05 35 41.1	+0.8	
	baz=298							
ISCO	Idaho Springs	119.34	43	PKPdf	PKiKP	05 35 41.1	+0.8	
S22A	4UR Ranch, Cre	119.40	46	P	PKiKP	05 35 41.6	+1.1	
	baz=295							
S22A	4UR Ranch, Cre	119.40	46	IAMs_20	IAMs_20	06 22 09.1		
	comp=Z,1µm,21.0s							
Q24A	Divide	120.04	44	P	PKiKP	05 35 42.6	+0.8	
	baz=297							
Q24A	Divide	120.04	44	IAMs_20	IAMs_20	06 22 35.9		
	comp=Z,1µm,22.0s							
SDCO	Great Sand Dun	120.34	45	P	PKiKP	05 35 43.1	+0.8	
	baz=296							
SDCO	Great Sand Dun	120.34	45	IAMs_20	IAMs_20	06 22 45.1		
	comp=Z,888nm,22.0s							
AGMN	Agassiz Nation	120.45	31	P	PKiKP	05 35 42.2	+0.4	
	baz=311							
AGMN	Agassiz Nation	120.45	31	IAMs_20	IAMs_20	06 32 35.3		
	comp=Z,1µm,20.0s							
121A	Cookes Peak, D	120.76	52	P	PKiKP	05 35 44.6	+1.4	
	baz=292							
121A	Cookes Peak, D	120.76	52	IAMs_20	IAMs_20	06 26 20.9		
	comp=Z,1µm,20.0s							
ANMO	Albuquerque	120.84	49	PKIKP	PKiKP	05 35 44.7	+1.4	
ANMO	Albuquerque	120.84	49	P	PKiKP	05 35 43.9	+0.6	
	baz=294							
ANMO	Albuquerque	120.84	49	PKPdf	PKiKP	05 35 44.7	+1.4	
SUSD	Miller	121.14	36	P	PKiKP	05 35 43.8	+0.5	
	baz=306							
SUSD	Miller	121.14	36	IAMs_20	IAMs_20	06 27 42.1		
	comp=Z,891nm,20.0s							
T25A	Trinidad	121.39	45	P	PKiKP	05 35 45.1	+0.8	
	baz=297							
KSCO	Kaye Shedlock'	121.75	43	P	PKiKP	05 35 45.6	+0.8	
	baz=300							
KSCO	Kaye Shedlock'	121.75	43	IAMs_20	IAMs_20	06 24 12.9		
	comp=Z,1µm,21.0s							
SLBS	Sierra La Lagu	121.77	62	PKPdf	PKiKP	05 35 47.1	+1.8	
EPT	El Paso	122.05	52	IAMs_20	IAMs_20	06 27 29.1		
	comp=Z,1µm,20.0s							
K31A	O'Neill	122.31	37	IAMs_20	IAMs_20	06 23 56.2		
	comp=Z,1µm,22.0s							
TOC2	Torodi Ar. Sit	122.46	285	IAMs_20	IAMs_20	06 33 32.9		
	comp=Z,874nm,20.0s							
TOC3	Torodi Ar. Sit	122.46	285	IAMs_20	IAMs_20	06 33 23.0		
	comp=Z,1µm,22.0s							
TOC1	Torodi Ar. Sit	122.48	285	IAMs_20	IAMs_20	06 33 10.3		
	comp=Z,1µm,21.0s							
TOB3	Torodi Ar. Sit	122.48	285	IAMs_20	IAMs_20	06 33 22.4		
	comp=Z,1µm,21.0s							
TOA2	Torodi Ar. Sit	122.48	285	IAMs_20	IAMs_20	06 33 22.4		
	comp=Z,1µm,21.0s							
TOB1	Torodi Ar. Sit	122.49	285	IAMs_20	IAMs_20	06 33 22.6		
	comp=Z,980nm,21.0s							
TOC4	Torodi Ar. Sit	122.49	285	IAMs_20	IAMs_20	06 33 22.6		
	comp=Z,1µm,21.0s							
TOA0	Torodi Ar. Sit	122.49	285	IAMs_20	IAMs_20	06 33 22.6		
	comp=Z,1µm,22.0s							
TORD	Torodi Ar. Bea	122.49	285	PKP	PKPdf	05 35 46.3	-0.3	
	comp=Z,13nm,0.7s,baz=22,slow=2.4,SNR=44							
TORD				PKKPbc	PKKPab	05 45 43.8	+2.3	
	comp=Z,3.6nm,1.0s,baz=284,slow=4.0,SNR=9.7							
TORD	Torodi Ar. Bea	122.49	285	PKPdf	PKPdf	05 35 45.9	-0.7	
TOA3	Torodi Ar. Sit	122.49	285	IAMs_20	IAMs_20	06 33 22.6		
	comp=Z,1µm,22.0s							
TOB4	Torodi Ar. Sit	122.50	285	IAMs_20	IAMs_20	06 33 22.9		
	comp=Z,1µm,22.0s							
TOB5	Torodi Ar. Sit	122.50	285	IAMs_20	IAMs_20	06 33 22.9		
	comp=Z,1µm,21.0s							
TOC7	Torodi Ar. Sit	122.50	285	IAMs_20	IAMs_20	06 33 22.9		
	comp=Z,983nm,22.0s							
TOC5	Torodi Ar. Sit	122.51	285	IAMs_20	IAMs_20	06 33 23.2		
	comp=Z,1µm,22.0s							
MDT	Midelt	122.67	310	PKP	PKiKP	05 35 47.5	+0.7	
	comp=Z,2.5nm,0.5s,baz=223,slow=2.6,SNR=14							
EYMN	Ely	122.84	28	P	PKPdf	05 35 46.3	0.0	
	baz=315							
PVAQ	Vaqueiros	122.91	316	IAMs_20	IAMs_20	06 33 55.5		
	comp=Z,1µm,21.0s							
ECSD	EROS Data Cent	122.92	35	P	PKiKP	05 35 47.2	+0.4	
	baz=308							
ECSD	EROS Data Cent	122.92	35	PKPdf	PKPdf	05 35 46.3	-0.3	
ECSD	EROS Data Cent	122.92	35	IAMs_20	IAMs_20	06 24 31.1		
	comp=Z,1µm,21.0s							
MNTX	Cornudas Mount	122.97	52	P	PKiKP	05 35 48.2	+0.9	
	baz=293							
MNTX	Cornudas Mount	122.97	52	IAMs_20	IAMs_20	06 28 11.2		
	comp=Z,924nm,21.0s							
F36A	Milaca	123.25	31	IAMs_20	IAMs_20	06 29 42.6		
	comp=Z,1µm,22.0s							
BGNE	Belgrade	123.37	38	P	PKiKP	05 35 48.3	+0.5	
	baz=305,SNR=5.7							
E38A	The Farm, Brul	123.75	30	IAMs_20	IAMs_20	06 30 27.5		
	comp=Z,1µm,22.0s							
CBKS	Cedar Bluff	123.78	42	P	PKiKP	05 35 49.4	+0.6	
	baz=302							
CBKS	Cedar Bluff	123.78	42	IAMs_20	IAMs_20	06 25 05.8		
	comp=Z,1µm,22.0s							
MSTX	Muleshoe	124.01	48	P	PKiKP	05 35 49.5	+0.1	
	baz=297,SNR=14							
SPMN	Marine on St.	124.06	32	P	PKiKP	05 35 49.4	+0.3	
	baz=312							
AMTX	Amarillo	124.39	47	P	PKiKP	05 35 50.4	+0.3	
	baz=298							
I37A	Lemond, Waseca	124.54	33	IAMs_20	IAMs_20	06 22 52.8		
	comp=Z,986nm,22.0s							
SCHQ	Schefferville	124.67	8	PKP	PKiKP	05 35 50.3	+0.3	
	comp=Z,9.9nm,0.7s,baz=358,slow=2.2,SNR=16							
SCHQ	Schefferville	124.67	8	IAMs_20	IAMs_20	06 32 04.5		
	comp=Z,854nm,20.0s							
R32A	Long Quarter,	124.67	41	PKPdf	PKiKP	05 35 50.4	-0.1	
TXAR	Lajitas Array	125.25	54	PKP	PKiKP	05 35 52.5	+0.5	
	comp=Z,4.4nm,1.0s,baz=243,slow=1.4,SNR=28							
G40A	Rib Lake	125.36	30	IAMs_20	IAMs_20	06 31 35.2		
	comp=Z,962nm,21.0s							
KSU1	Kansas State U	125.66	40	P	PKiKP	05 35 52.9	+0.5	
	baz=305							
KSU1	Kansas State U	125.66	40	PKPdf	PKiKP	05 35 52.5	+0.1	
SCIA	State Center	126.01	35	P	PKiKP	05 35 53.7	+0.7	
	baz=310							
F42A	Maple Grove Fa	126.01	28	IAMs_20	IAMs_20	06 35 46.3		
	comp=Z,1µm,20.0s							
I40A	Norwalk	126.11	31	IAMs_20	IAMs_20	06 35 41.1		
	comp=Z,764nm,20.0s							
WMOK	Wichita Mounta	126.55	45	P	PKPdf	05 35 54.0	+0.1	
	baz=300							
WMOK	Wichita Mounta	126.55	45	IAMs_20	IAMs_20	06 24 47.4		
	comp=Z,910nm,22.0s							
N38A	Joes South For	126.71	36	IAMs_20	IAMs_20	06 31 25.5		
	comp=Z,1µm,21.0s							
MATQ	Matagami	126.92	18	P	PKiKP	05 35 54.9	+0.3	
	baz=331							
OK029	Liberty Lake	126.93	43	IAMs_20	IAMs_20	06 33 33.2		
	comp=Z,857nm,19.0s							
ABTX	Abilene, Hawle	126.95	48	P	PKPdf	05 35 54.8	+0.1	
	baz=298							
T35A	Sooner Cattle	126.96	42	IAMs_20	IAMs_20	06 26 44.8		
	comp=Z,989nm,20.0s							
JFWS	Jewell Farm	126.98	32	P	PKiKP	05 35 55.2	+0.3	
	baz=314							
JFWS	Jewell Farm	126.98	32	IAMs_20	IAMs_20	06 32 59.2		
	comp=Z,835nm,22.0s							
I42A	Draeger Farm,	126.98	30	PKPdf	PKPdf	05 35 54.2	-0.2	
L40A	Anamosa	127.03	34	IAMs_20	IAMs_20	06 27 59.7		
	comp=Z,1µm,21.0s							
QUOK	Quay	127.23	43	PKPdf	PKPdf	05 35 55.3	+0.2	
G45A	Suttons Bay	127.71	27	IAMs_20	IAMs_20	06 33 21.1		
	comp=Z,840nm,20.0s							
CHGQ	Chibougamau	127.74	16	P	PKiKP	05 35 56.8	+0.6	
	baz=335							
LSQQ	Lebel-sur-Quev	127.74	18	P	PKiKP	05 35 56.5	+0.2	
	baz=332							
JCT	Junction City	127.82	50	PKIKP	PKiKP	05 35 57.1	+0.1	
JCT				MLR	MLR			
	comp=Z,1µm,21.0s							
JCT	Junction City	127.82	50	P	PKiKP	05 35 56.7	-0.3	
	baz=297							
JCT	Junction City	127.82	50	PKPdf	PKiKP	05 35 57.1	+0.1	
L42A	Oliver, Polo	127.92	33		PKPdf	05 35 55.9	-0.3	
L42A				IAMs_20	IAMs_20	06 36 00.1		
	comp=Z,926nm,20.0s							
TUL1	Leonard	128.00	42	P	PKPdf	05 35 56.4	-0.2	
	baz=304							
K43A	Burlington	128.13	31	IAMs_20	IAMs_20	06 37 37.6		
	comp=Z,694nm,20.0s							
U38A	Gravette	128.63	41	PKPdf	PKPdf	05 35 56.7	-1.1	
L44A	Lake County Fo	128.72	31	P	PKiKP	05 35 58.2	-0.2	
	baz=316							
R40A	Maddies Statio	128.86	38	IAMs_20	IAMs_20	06 35 13.7		
	comp=Z,766nm,22.0s							
WHTX	Lake Whitney,	128.88	48	P	PKiKP	05 35 58.8	-0.2	
	baz=300							
WHTX	Lake Whitney,	128.88	48	IAMs_20	IAMs_20	06 32 23.3		
	comp=Z,852nm,22.0s							
HQIL	Hanson Quary C	129.02	32	IAMs_20	IAMs_20	06 29 18.3		
	comp=Z,884nm,22.0s							
833A	Chaparral WMA,	129.08	53	P	PKiKP	05 35 59.8	+0.2	
	baz=296							
HDIL	Hopedale	129.12	34	P	PKiKP	05 35 59.3	0.0	
	baz=313							
HDIL	Hopedale	129.12	34	IAMs_20	IAMs_20	06 35 48.0		
	comp=Z,853nm,21.0s							
D53A	Lac Vacive, Po	129.23	20	P	PKPdf	05 35 58.6	0.0	
	baz=330							
D53A	Lac Vacive, Po	129.23	20	IAMs_20	IAMs_20	06 34 39.8		
	comp=Z,1µm,22.0s							
435B	Jarrell	129.37	49	PKPdf	PKiKP	05 36 00.5	+0.4	
J47A	Sunmer	129.47	28		PKiKP	05 35 59.5	-0.4	
J47A				IAMs_20	IAMs_20	06 33 45.8		
	comp=Z,797nm,21.0s							
D54A	Lac Fusel, La	129.52	19	P	PKPdf	05 35 59.2	+0.1	
	baz=331							
MGMO	Mountain Grove	129.57	39	IAMs_20	IAMs_20	06 29 51.5		
	comp=Z,1µm,21.0s							
KIC	Kosan Boka	129.58	278	*e*PKiKP	PKiKP	05 36 00.6	-0.3	
	comp=Z,8.1nm,0.6s							
CCM	Cathedral Cave	129.64	37	PKIKP	PKPdf	05 35 59.3	-0.3	
CCM	Cathedral Cave	129.64	37	P	PKPdf	05 35 59.6	0.0	
	baz=310							
CCM	Cathedral Cave	129.64	37	PKPdf	PKPdf	05 35 59.3	-0.3	
DBIC	Dimbokro	129.67	278	PKP	PKiKP	05 36 00.9	-0.2	
	comp=Z,6.0nm,0.5s,baz=60,slow=2.2,SNR=26							
DBIC	Dimbokro	129.67	278	PKPdf	PKiKP	05 36 01.4	+0.3	
U40A	Yellville	129.68	40	P	PKPdf	05 35 59.6	-0.2	
	baz=307							
U40A	Yellville	129.68	40	IAMs_20	IAMs_20	06 32 04.6		
	comp=Z,877nm,21.0s							
W39A	Magazine	129.75	42	P	PKPdf	05 35 60.0	0.0	
	baz=305							
TIC	Toumodi	129.83	278	*e*PKIKP	PKPdf	05 36 00.7	0.0	
E53A	Dumoine, Ponti	129.85	20	P	PKPdf	05 35 59.9	+0.1	
	baz=330							
LIC	Lamto	129.88	278	*e*PKIKP	PKPdf	05 36 00.8	+0.1	
	comp=Z,18nm,0.5s							
E54A	Lac Daplat, Po	129.97	20	P	PKPdf	05 35 59.8	-0.2	
	baz=330							
D55A	Sainte

HBAR	Harrisburg	131.58	40	IAMs_20	IAMs_20	06 34 20.2		
	comp=Z,993nm,22.0s							
H55A	Tweed	131.60	21	P	PKPdf	05 36 03.6	+0.4	
	baz=330							
BLO	Bloomington	131.61	33	IAMs_20	IAMs_20	06 29 55.9		
	comp=Z,787nm,21.0s							
PENMO	Penman	131.65	38	IAMs_20	IAMs_20	06 30 44.7		
	comp=Z,837nm,22.0s							
D62A	Allapoint, All	131.69	13	P	PKiKP	05 36 04.3	+0.1	
	baz=341							
D62A	Allapoint, All	131.69	13	IAMs_20	IAMs_20	06 41 11.5		
	comp=Z,920nm,21.0s							
I55A	Frankford	131.71	22	P	PKiKP	05 36 04.0	-0.4	
	baz=329							
PEBM	Pemiscott Bayo	131.73	38	IAMs_20	IAMs_20	06 34 01.6		
	comp=Z,772nm,22.0s							
LPAR	Lepanto	131.78	39	IAMs_20	IAMs_20	06 34 36.0		
	comp=Z,1μm,21.0s							
HICK	Hickman	131.84	38	IAMs_20	IAMs_20	06 31 15.5		
	comp=Z,774nm,22.0s							
CCAR	Cane Creek	131.84	42	IAMs_20	IAMs_20	06 35 16.2		
	comp=Z,936nm,20.0s							
G57A	Newington	131.88	19	P	PKiKP	05 36 05.0	+0.4	
	baz=333							
T45A	Paducah	131.88	37	IAMs_20	IAMs_20	06 40 30.5		
	comp=Z,899nm,20.0s							
F59A	Saint Guilaume	131.88	17	P	PKPdf	05 36 04.0	+0.3	
	baz=336							
H56A	Elgin	131.89	20	P	PKiKP	05 36 04.9	+0.2	
	baz=331							
D63A	Stockholm	131.94	12	P	PKiKP	05 36 04.5	-0.2	
	baz=342							
E61A	Lac Etchemin	131.96	14	P	PKiKP	05 36 04.6	-0.3	
	baz=339							
P48A	Milroy	131.99	32		PKiKP	05 36 04.6	-0.5	
F60A	Warwick	132.01	16	P	PKiKP	05 36 05.0	+0.1	
	baz=337							
O49A	Covington	132.01	30	IAMs_20	IAMs_20	06 39 11.4		
	comp=Z,830nm,19.0s							
E62A	Clayton Lake	132.02	14	P	PKiKP	05 36 05.2	+0.3	
	baz=340							
E62A	Clayton Lake	132.02	14	IAMs_20	IAMs_20	06 43 37.1		
	comp=Z,768nm,21.0s							
G58A	Ormstown	132.13	18	P	PKiKP	05 36 05.1	-0.1	
	baz=334							
J54A	Appleton	132.14	23	P	PKPdf	05 36 04.3	+0.2	
	baz=327							
J54A	Appleton	132.14	23	IAMs_20	IAMs_20	06 34 05.9		
	comp=Z,994nm,22.0s							
M51A	Elyria	132.18	28	P	PKiKP	05 36 04.9	-0.5	
	baz=322							
PECO	Prince Edward	132.20	22	IAMs_20	IAMs_20	06 36 09.5		
	comp=Z,769nm,21.0s							
F61A	St Evariste	132.26	15	P	PKiKP	05 36 05.1	-0.3	
	baz=338							
MEDO	Medina	132.30	23	IAMs_20	IAMs_20	06 42 35.2		
	comp=Z,739nm,20.0s							
P49A	Miami Univ. Ec	132.31	31	P	PKiKP	05 36 05.7	0.0	
	baz=318							
P49A	Miami Univ. Ec	132.31	31	IAMs_20	IAMs_20	06 39 40.2		
	comp=Z,914nm,22.0s							
H57A	Richville	132.31	20	P	PKiKP	05 36 05.8	+0.3	
	baz=332							
PQI	Presque Isle	132.31	12	IAMs_20	IAMs_20	06 43 09.7		
	comp=Z,975nm,21.0s							
WCI	Wyandotte Cave	132.40	34	P	PKiKP	05 36 05.8	-0.2	
	baz=315							
N51A	Ashland	132.42	28	P	PKiKP	05 36 06.0	+0.1	
	baz=321							
N51A	Ashland	132.42	28	IAMs_20	IAMs_20	06 42 58.8		
	comp=Z,736nm,21.0s							
LONY	Lake Ozonia	132.44	19	P	PKiKP	05 36 06.1	+0.2	
	baz=333							
LONY	Lake Ozonia	132.44	19	IAMs_20	IAMs_20	06 37 22.5		
	comp=Z,868nm,22.0s							
E63A	Oxbow	132.46	13	P	PKiKP	05 36 06.2	+0.3	
	baz=342							
J55A	Hilton	132.46	23	P	PKiKP	05 36 06.1	+0.2	
	baz=328							
J55A	Hilton	132.46	23	IAMs_20	IAMs_20	06 45 02.5		
	comp=Z,785nm,22.0s							
ERPA	Erie	132.54	25	P	PKiKP	05 36 06.3	+0.2	
	baz=325							
ERPA	Erie	132.54	25	IAMs_20	IAMs_20	06 36 18.7		
	comp=Z,907nm,22.0s							
L53A	Girard	132.55	26	P	PKiKP	05 36 06.3	+0.1	
	baz=324							
E64A	Bridgewater	132.59	12	P	PKiKP	05 36 06.5	+0.4	
	baz=342							
F62A	Pittston Farm,	132.59	14	P	PKiKP	05 36 06.2	+0.1	
	baz=339							
F62A	Pittston Farm,	132.59	14	IAMs_20	IAMs_20	06 38 22.3		
	comp=Z,735nm,20.0s							
ACSO	Alum Creek Sta	132.66	29	P	PKiKP	05 36 06.4	-0.1	
	baz=320							
ACSO	Alum Creek Sta	132.66	29	IAMs_20	IAMs_20	06 36 47.2		
	comp=Z,720nm,21.0s							
K54A	Basiliko Farm,	132.67	24	P	PKiKP	05 36 06.2	-0.2	
	baz=327							
I57A	Carthage	132.68	20	P	PKiKP	05 36 05.9	-0.4	
	baz=331							
G60A	Masonville	132.70	17	P	PKiKP	05 36 06.4	0.0	
	baz=336							
H59A	Cadyville	132.70	18	P	PKiKP	05 36 06.5	+0.1	
	baz=334							
L54A	Sinclairville	132.72	25	P	PKiKP	05 36 06.8	+0.3	
	baz=326							
H58A	Gabriels	132.75	19	P	PKiKP	05 36 06.8	+0.3	
	baz=333							
G61A	St-Isidore-de-	132.75	16	P	PKiKP	05 36 06.4	-0.1	
	baz=337							
M53A	WI Miller and	132.79	26	IAMs_20	IAMs_20	06 40 01.6		
	comp=Z,893nm,22.0s							
J56A	Wolcott	132.82	22	IAMs_20	IAMs_20	06 36 15.8		
	comp=Z,900nm,22.0s							
K55A	Perry	132.82	23	P	PKiKP	05 36 06.9	+0.2	
	baz=328							
N52A	McGinn's Farm,	132.82	28	P	PKiKP	05 36 07.1	+0.4	
	baz=322							
MMNY	Mt. Morris Dam	132.88	23	IAMs_20	IAMs_20	06 45 03.6		
	comp=Z,803nm,20.0s							
O51A	Pataskala	132.91	29	P	PKiKP	05 36 07.3	+0.3	
	baz=321,SNR=8.2							
342A	Flagon Creek P	132.92	45	IAMs_20	IAMs_20	06 35 14.1		
	comp=Z,861nm,20.0s							
WVT	Waverly	132.96	37	PKIKP	PKiKP	05 36 08.1	+1.0	
WVT				MLR	MLR			
	comp=Z,1μm,20.0s							
WVT	Waverly	132.96	37	P	PKiKP	05 36 07.4	+0.3	
	baz=312							
WVT	Waverly	132.96	37	PKPdf	PKiKP	05 36 08.1	+1.0	
R49A	Shelbyville	132.97	33	IAMs_20	IAMs_20	06 36 45.0		
	comp=Z,994nm,22.0s							
F63A	Nahmakanta, Br	132.98	14	P	PKiKP	05 36 07.1	+0.1	
	baz=340							
F63A	Nahmakanta, Br	132.98	14	IAMs_20	IAMs_20	06 41 06.6		
	comp=Z,811nm,22.0s							
F64A	Sherman	133.00	13	P	PKiKP	05 36 07.2	+0.3	
	baz=342							
F64A	Sherman	133.00	13	IAMs_20	IAMs_20	06 41 30.1		
	comp=Z,866nm,22.0s							
J57A	Williamstown	133.02	21	P	PKiKP	05 36 07.6	+0.6	
	baz=331							
J57A	Williamstown	133.02	21	IAMs_20	IAMs_20	06 36 16.0		
	comp=Z,772nm,20.0s							
OXF	Oxford	133.03	40	P	PKiKP	05 36 08.2	+0.9	
	baz=309							
H60A	Morristown	133.08	17	P	PKiKP	05 36 07.6	+0.4	
	baz=335							
G62A	West of Eustis	133.08	15	P	PKiKP	05 36 07.7	+0.6	
	baz=338							
G62A	West of Eustis	133.08	15	IAMs_20	IAMs_20	06 40 01.3		
	comp=Z,939nm,21.0s							
I58A	Old Forge	133.13	20	P	PKiKP	05 36 07.7	+0.3	
	baz=332							
L55A	Hinsdale	133.13	24	P	PKiKP	05 36 07.9	+0.5	
	baz=327							
NCB	Newcomb	133.13	19		PKiKP	05 36 07.6	+0.3	
K56A	Middlesex	133.14	23	P	PKiKP	05 36 07.6	+0.2	
	baz=329							
M54A	Oil Creek Stat	133.17	26	P	PKiKP	05 36 07.8	+0.3	
	baz=325							
P51A	Williamsport	133.19	30	P	PKiKP	05 36 07.7	+0.2	
	baz=320							
N53A	Lisbon	133.22	27	P	PKiKP	05 36 07.7	+0.2	
	baz=323							
N53A	Lisbon	133.22	27	IAMs_20	IAMs_20	06 39 55.0		
	comp=Z,1μm,22.0s							
O52A	Adamsville	133.30	29	P	PKiKP	05 36 08.0	+0.3	
	baz=322							
O52A	Adamsville	133.30	29		PKPdf	05 36 07.1	+0.5	
O52A				IAMs_20	IAMs_20	06 40 35.4		
	comp=Z,837nm,21.0s							
J58A	Remsen	133.31	20	P	PKiKP	05 36 08.2	+0.6	
	baz=332							
H61A	Lyndonville	133.33	17	P	PKiKP	05 36 07.7	0.0	
	baz=336							
Y45A	Yeager Farm, C	133.35	41	IAMs_20	IAMs_20	06 35 25.8		
	comp=Z,997nm,22.0s							
PKME	Peaks-Kenny Pk	133.35	14	P	PKiKP	05 36 07.7	+0.1	
	baz=340							
PKME	Peaks-Kenny Pk	133.35	14	IAMs_20	IAMs_20	06 38 45.4		
	comp=Z,733nm,21.0s							
I59A	Olmsteadville	133.40	19	P	PKiKP	05 36 08.2	+0.3	
	baz=334							
G63A	Kingsbury	133.41	14	P	PKiKP	05 36 07.9	+0.1	
	baz=340							
K57A	Scipio Center	133.41	22	P	PKiKP	05 36 08.5	+0.6	
	baz=330							
R50A	Paris	133.43	32	IAMs_20	IAMs_20	06 31 52.1		
	comp=Z,916nm,22.0s							
N54A	Moraine State	133.48	26	P	PKiKP	05 36 08.5	+0.4	
	baz=324							
G64A	Maxfield	133.49	13	P	PKiKP	05 36 08.9	+1.0	
	baz=341							
J59A	Piesco	133.49	20	P	PKiKP	05 36 08.8	+0.7	
	baz=332							
O53A	New Philadelph	133.49	28	P	PKiKP	05 36 08.5	+0.4	
	baz=322							
O53A	New Philadelph	133.49	28	IAMs_20	IAMs_20	06 35 18.2		
	comp=Z,950nm,22.0s							
H62A	Milan	133.51	16	P	PKiKP	05 36 08.8	+0.8	
	baz=337							
L56A	Greenwood	133.52	23	P	PKiKP	05 36 08.6	+0.4	
	baz=329							
L56A	Greenwood	133.52	23	IAMs_20	IAMs_20	06 41 24.6		
	comp=Z,815nm,20.0s							
P52A	Corning	133.53	29	P	PKiKP	05 36 08.3	+0.1	
	baz=321,SNR=5.5							
P52A	Corning	133.53	29	IAMs_20	IAMs_20	06 38 30.4		
	comp=Z,799nm,22.0s							
I60A	Shoreham	133.54	18	P	PKiKP	05 36 08.6	+0.5	
	baz=334							
PLAL	Pickwick Lake	133.57	38	IAMs_20	IAMs_20	06 34 36.3		
	comp=Z,1μm,22.0s							
M55A	Ridgway	133.59	25	P	PKiKP	05 36 08.7	+0.4	
	baz=326							
LBNH	Lisbon	133.60	17	P	PKiKP	05 36 08.8	+0.6	
	baz=336							
LBNH	Lisbon	133.60	17	IAMs_20	IAMs_20	06 39 41.2		
	comp=Z,762nm,21.0s							
LMN	Caledonia Moun	133.70	10	IAMs_20	IAMs_20	06 42 03.5		
	comp=Z,728nm,20.0s							
K58A	Earlville	133.71	21	P	PKiKP	05 36 08.7	+0.2	
	baz=331							
K58A	Earlville	133.71	21	IAMs_20	IAMs_20	06 34 35.3		
	comp=Z,734nm,21.0s							
H63A	New Sharon	133.73	15	P	PKiKP	05 36 09.1	+0.6	
	baz=339							
G65A	Princeton	133.80	12	P	PKiKP	05 36 09.2	+0.6	
	baz=342							
G65A	Princeton	133.80	12	IAMs_20	IAMs_20	06 43 14.3		
	comp=Z,824nm,20.0s							
M56A	Emporium	133.82	24	P	PKiKP	05 36 09.6	+0.8	
	baz=327							
M56A	Emporium	133.82	24	IAMs_20	IAMs_20	06 39 21.5		
	comp=Z,971nm,21.0s							
V48A	Smith Brothers	133.82	37	IAMs_20	IAMs_20	06 35 54.0		
	comp=Z,897nm,22.0s							
CLTN	Cedars of Leba	133.87	36	IAMs_20	IAMs_20	06 35 59.2		
	comp=Z,795nm,22.0s							
L57A	Andrews Acres	133.91	23	P	PKiKP	05 36 09.6	+0.6	
	baz=329							
WVL	Waterville	133.91	15	IAMs_20	IAMs_20	06 48 29.7		
	comp=Z,740nm,18.0s							
O54A	Avella	133.93	27	P	PKiKP	05 36 09.6	+0.6	
	baz=323							
HNH	Hanover	133.98	18	IAMs_20	IAMs_20	06 38 18.2		
	comp=Z,955nm,21.0s							
Q52A	Bidwell	133.99	30	P	PKiKP	05 36 09.4	+0.3	
	baz=320,SNR=6.0							
344A	Westbrook Farm	134.00	44	IAMs_20	IAMs_20	06 28 14.4		
	comp=Z,816nm,22.0s							
P53A	Whipple	134.01	29	P	PKiKP	05 36 09.6	+0.4	
	baz=322,SNR=5.3							
GGN	Saint George	134.03	12	IAMs_20	IAMs_20	06 44 28.5		
	comp=Z,843nm,21.0s							
J60A	Lant Hill Farm	134.04	19	P	PKiKP	05 36 09.1	0.0	
	baz=334							
BINY	Binghamton	134.07	22	P	PKiKP	05 36 08.7	-0.5	
	baz=330							
BINY	Binghamton	134.07	22	IAMs_20	IAMs_20	06 33 56.0		
	comp=Z,1μm,22.0s							
I62A	Tamworth	134.10	17	P	PKiKP	05 36 09.6	+0.4	
	baz=337							
I62A	Tamworth	134.10	17	IAMs_20	IAMs_20	06 44 21.5		
	comp=Z,893nm,22.0s							
H65A	Eastbrook	134.13	13	P	PKiKP	05 36 09.4	+0.1	
	baz=341							
I63A	Otisfield	134.15	16	P	PKiKP	05 36 09.3	0.0	
	baz=338							
I63A	Otisfield	134.15	16	IAMs_20	IAMs_20	06 35 15.7		
	comp=Z,941nm,22.0s							
N56A	West Decatur	134.24	25	P	PKiKP	05 36 09.3	-0.4	
	baz=326							
H66A	Whiting	134.25	12	P	PKiKP	05 36 09.4	-0.1	
	baz=343							
L58A	Harry Jones Me	134.25	22	P	PKiKP	05 36 09.9	+0.3	
	baz=330							
EMMW	East Machias	134.29	13	IAMs_20	IAMs_20	06 43 37.3		
	comp=Z,726nm,20.0s							
P54A	Burton	134.35	28	P	PKiKP	05 36 10.0	+0.1	
	baz=323							
M57A	Sunshine Farm,	134.37	23	P	PKiKP	05 36 10.0	+0.1	
	baz=328							
O55A	Ligonier	134.39	26	P	PKiKP	05 36 10.2	+0.2	
	baz=325							
TRY	Troy	134.42	19	IAMs_20	IAMs_20	06 35 52.0		
	comp=Z,819nm,21.0s							
L59A	Walton	134.42	21	IAMs_20	IAMs_20	06 37 07.2		
	comp=Z,930nm,22.0s							
146A	Union	134.43	42	IAMs_20	IAMs_20	06 31 15.5		
	comp=Z,827nm,22.0s							
I64A	Boothbay	134.52	15	P	PKiKP	05 36 10.5	+0.5	
	baz=339							
J62A	Henniker	134.56	17	P	PKiKP	05 36 11.1	+0.9	
	baz=336							
M58A	Price's Panora	134.60	23	P	PKiKP	05 36 10.0	-0.4	
	baz=329							
K61A	Williamstown	134.61	19	P	PKiKP	05 36 10.4	+0.1	
	baz=334							
R53A	Hurricane	134.63	30	P	PKiKP	05 36 10.3	-0.1	
	baz=320							
R53A	Hurricane	134.63	30	IAMs_20	IAMs_20	06 32 29.5		
	comp=Z,869nm,22.0s							
SSPA	Standing Stone	134.65	25	P	PKiKP	05 36 10.1	-0.4	
	baz=327							
SSPA	Standing Stone	134.65	25	IAMs_20	IAMs_20	06 37 45.5		
	comp=Z,983nm,21.0s							
O56A	Blue Knob Stat	134.67	26	P	PKiKP	05 36 10.8	+0.3	
	baz=326							
Q54A	Coxs Mills	134.67	29	P	PKiKP	05 36 10.7	+0.1	
	baz=322							
N57A	Milroy	134.69	24	P	PKiKP	05 36 10.7	+0.2	
	baz=327							
SWET	Sewanee	134.71	36	IAMs_20	IAMs_20	06 41 17.4		
	comp=Z,943nm,21.0s							
J63A	Strafford	134.72	17	P	PKiKP	05 36 10.2	-0.3	
	baz=337							
M59A	Waymart	134.85	22	P	PKPdf	05 36 09.8	+0.4	
	baz=330							
L61A	Hillsdale 1, H	134.94	20	P	PKiKP	05 36 11.2	+0.2	
	baz=333							
N58A	Sunbury	134.96	23	P	PKiKP	05 36 11.3	+0.3	
	baz=328							
N58A	Sunbury	134.96	23	IAMs_20	IAMs_20	06 38 04.5		
	comp=Z,909nm,21.0s							
Q55A	Buckhannon	135.02	28	P	PKiKP	05 36 11.0	-0.3	
	baz=323							
S53A	Williamson	135.03	31	P	PKPdf	05 36 10.1	+0.2	
	baz=320							
HAL	Halifax	135.08	9	IAMs_20	IAMs_20	06 43 49.9		
	comp=Z,860nm,20.0s							
W50A	Signal Mountai	135.09	36	IAMs_20	IAMs_20	06 37 33.4		
	comp=Z,774nm,20.0s							
O57A	Amberson	135.11	25	P	PKiKP	05 36 10.8	-0.6	
	baz=327							
TZTN	Tazewell	135.13	33	P	PKiKP	05 36 11.0	-0.6	
	baz=317							
TZTN	Tazewell	135.13	33	IAMs_20	IAMs_20	06 31 45.1		
	comp=Z,1μm,22.0s							
P56A	Dayton Farm, R	135.17	26	P	PKiKP	05 36 11.4	-0.2	
	baz=325							
V51A	Loudon	135.22	35	PKPdf	PKPdf	05 36 10.2	0.0	
R54A	Victor	135.22	29	P	PKiKP	05 36 11.0	-0.7	
	baz=322							
QUA2	Belchertown	135.25	18	IAMs_20	IAMs_20	06 38 27.0		
	comp=Z,927nm,22.0s							
N59A	State Game Lan	135.26	23	P	PKiKP	05 36 11.6	-0.1	
	baz=330							
N59A	State Game Lan	135.26	23	IAMs_20	IAMs_20	06 37 59.5		
	comp=Z,941nm,21.0s							
HRV	Adam Dziewonsk	135.29	18	P	PKiKP	05 36 11.7	0.0	
	baz=336							
HRV	Adam Dziewonsk	135.29	18	IAMs_20	IAMs_20	06 47 30.0		
	comp=Z,685nm,21.0s							
M60A	Port Jervis	135.33	21	P	PKPdf	05 36 10.8	+0.6	
	baz=331							
T53A	Wise	135.35	32	P	PKiKP	05 36 11.6	-0.5	
	baz=319							
S54A	Dingess, Beckl	135.36	30	P	PKPdf	05 36 10.8	+0.3	
	baz=321							
S54A	Dingess, Beckl	135.36	30	IAMs_20	IAMs_20	06 49 32.8		
	comp=Z,729nm,20.0s							
CPCT	Cooper Cave	135.37	35	IAMs_20	IAMs_20	06 31 34.8		
	comp=Z,825nm,22.0s							
Q56A	Snyder Ridge,	135.39	27	P	PKPdf	05 36 10.5	0.0	
	baz=324							
Q56A	Snyder Ridge,	135.39	27	IAMs_20	IAMs_20	06 38 02.5		
	comp=Z,816nm,22.0s							
WES	Weston	135.47	17	IAMs_20	IAMs_20	06 39 19.8		
	comp=Z,789nm,21.0s							
O58A	Lewiberry	135.48	24	P	PKPdf	05 36 10.7	+0.1	
	baz=328							
LRAL	Lakeview Retre	135.51	40	P	PKPdf	05 36 11.3	+0.4	
	baz=311							
ODNJ	Ogdensburg	135.55	21	IAMs_20	IAMs_20	06 42 57.1		
	comp=Z,752nm,21.0s							
N60A	Cedar Hill Far	135.55	22	P	PKPdf	05 36 11.4	+0.7	
	baz=330							
P57A	Homestead Farm	135.55	26	P	PKiKP	05 36 11.7	-0.6	
	baz=326							
P57A	Homestead Farm	135.55	26	IAMs_20	IAMs_20	06 37 33.6		
	comp=Z,749nm,22.0s							
R55A	Marlinton	135.56	29	P	PKiKP	05 36 11.8	-0.7	
	baz=323							
O59A	Robesonia	135.62	23	P	PKiKP	05 36 11.7	-0.7	
	baz=329							
M61A	Granite Spring	135.65	20	P	PKiKP	05 36 11.9	-0.6	
	baz=332							
TKL	Tuckaleechee C	135.65	34	PKIKP	PKPdf	05 36 11.2	+0.1	
TKL	Tuckaleechee C	135.65	34		PKPdf	05 36 11.2	+0.1	
LUPA	Lehigh Univers	135.69	22	IAMs_20	IAMs_20	06 38 43.8		
	comp=Z,755nm,22.0s							
Q57A	Strasburg	135.75	26	P	PKPdf	05 36 11.9	+0.7	
	baz=325							
S55A	Lewisburg	135.78	29	P	PKPdf	05 36 11.9	+0.6	
	baz=322							
T54A	Tazewell	135.79	31	P	PKPdf	05 36 12.0	+0.7	
	baz=320							
X51A	Calhoun	135.80	36	IAMs_20	IAMs_20	06 41 58.2		
	comp=Z,666nm,20.0s							
R56A	Bull Pasture M	135.80	28	P	PKPdf	05 36 11.8	+0.4	
	baz=324							
M62A	Hamden	135.83	19	P	PKPdf	05 36 11.9	+0.7	
	baz=334							
BRYW	Bryant College	135.83	18	IAMs_20	IAMs_20	06 37 02.4		
	comp=Z,913nm,22.0s							
P58A	Pank, Wackersv	135.85	25	P	PKPdf	05 36 11.7	+0.4	
	baz=327							
L63A	North Scituate	135.86	18	P	PKiKP	05 36 12.0	-0.8	
	baz=336							
PAL	Palisades	135.87	21	P	PKPdf	05 36 12.0	+0.7	
	baz=332							
BRNJ	Basking Ridge	135.91	22	IAMs_20	IAMs_20	06 45 00.8		
	comp=Z,914nm,21.0s							
O60A	Telford	135.92	23	P	PKiKP	05 36 12.6	-0.4	
	baz=330							
YLE	Yale	135.93	20	IAMs_20	IAMs_20	06 38 28.4		
	comp=Z,871nm,21.0s							
N61A	South Mountain	135.95	21	P	PKiKP	05 36 12.7	-0.4	
	baz=332							
W52A	Murphy	135.97	35	IAMs_20	IAMs_20	06 37 15.5		
	comp=Z,941nm,22.0s							
L64A	Middleborough	136.03	17	P	PKiKP	05 36 12.7	-0.4	
	baz=337							
SDMD	Soldier's Deli	136.11	25	IAMs_20	IAMs_20	06 42 17.3		
	comp=Z,785nm,21.0s							
Q58A	Fox Den Farm,	136.15	26	P	PKiKP	05 36 13.0	-0.5	
	baz=326							
T55A	Pulaski	136.15	30	P	PKPdf	05 36 12.5	+0.5	
	baz=321							
V53A	Saluda	136.18	33		PKPdf	05 36 11.2	-0.9	
V53A				IAMs_20	IAMs_20	06 37 53.8		
	comp=Z,979nm,21.0s							
PSUB	Penn St. - Bra	136.24	23	IAMs_20	IAMs_20	06 38 22.4		
	comp=Z,770nm,20.0s							
BLA	Blacksburg	136.26	30	P	PKiKP	05 36 14.0	+0.1	
	baz=322							
P60A	Greenville	136.26	23	P	PKiKP	05 36 13.9	+0.2	
	baz=329							
P60A	Greenville	136.26	23	IAMs_20	IAMs_20	06 35 05.1		
	comp=Z,953nm,22.0s							
M64A	Tiverton	136.27	18	P	PKiKP	05 36 14.1	+0.4	
	baz=336							
R57A	Stanardsville	136.30	27	P	PKiKP	05 36 13.6	-0.3	
	baz=325							
S56A	Natural Bridge	136.31	29	P	PKiKP	05 36 13.4	-0.6	
	baz=323							
O61A	Allentown	136.44	22	P	PKiKP	05 36 13.6	-0.4	
	baz=331							
Z51A	Franklin	136.47	38	IAMs_20	IAMs_20	06 38 36.0		
	comp=Z,904nm,20.0s							
U55A	TA2, Sparta	136.49	31	P	PKiKP	05 36 13.6	-0.8	
	baz=320							
R58A	Rapidan	136.53	27	P	PKiKP	05 36 13.5	-0.8	
	baz=325							
S57A	Dark Hollow, R	136.53	28	P	PKiKP	05 36 13.5	-0.8	
	baz=324							
S57A	Dark Hollow, R	136.53	28	IAMs_20	IAMs_20	06 44 19.8		
	comp=Z,827nm,22.0s							
V54A	Nebo	136.57	33	P

baz=319
KMSC Kings Mountain 137.37 33 IAMs_20 IAMs_20 06 43 24.5
comp=Z,953nm,22.0s
T58A Grand View Acr 137.39 28 P PKiKP 05 36 15.2 -0.9
baz=324
U57A Blanch 137.41 30 P PKiKP 05 36 15.9 -0.3
baz=322
GOGA Godfrey 137.43 36 P PKiKP 05 36 16.0 -0.3
baz=315
V57A Coltrane Farms 137.62 30 P PKiKP 05 36 16.2 -0.5
baz=322
S60A Water View 137.62 26 P PKiKP 05 36 16.4 -0.1
baz=327
X55A Gracelyn & Ava 137.71 34 P PKiKP 05 36 16.6 -0.2
baz=318
W56A Indian Trail 137.78 32 P PKiKP 05 36 16.6 -0.4
baz=320
U58A Oxford 137.82 29 P PKiKP 05 36 16.7 -0.3
baz=323
T59A Double "B" Far 137.82 27 P PKiKP 05 36 16.7 -0.3
baz=325
T59A Double "B" Far 137.82 27 IAMs_20 IAMs_20 06 42 04.8
comp=Z,798nm,20.0s
352A Blakely 137.85 40 IAMs_20 IAMs_20 06 37 17.0
comp=Z,997nm,22.0s
451A Vernon 137.89 41 IAMs_20 IAMs_20 06 45 26.1
comp=Z,939nm,21.0s
Y55A Saluda 137.98 34 P PKiKP 05 36 16.8 -0.6
baz=318
V58A Windy Hill, Pi 138.02 30 P PKiKP 05 36 16.9 -0.6
baz=322
X56A White Oak 138.03 33 P PKiKP 05 36 17.4 -0.1
baz=319
T60A Surry 138.06 26 P PKiKP 05 36 17.4 -0.1
baz=326
T60A Surry 138.06 26 IAMs_20 IAMs_20 06 44 18.9
comp=Z,901nm,21.0s
W57A Gilead 138.07 31 P PKiKP 05 36 17.4 -0.1
baz=321
W57A Gilead 138.07 31 IAMs_20 IAMs_20 06 34 01.9
comp=Z,704nm,20.0s
BIRD Birdtown, Kers 138.22 32 IAMs_20 IAMs_20 06 33 53.2
comp=Z,867nm,21.0s
U59A Littleton 138.22 28 P PKiKP 05 36 17.0 -0.8
baz=324
Y56A Pelion 138.40 34 P PKiKP 05 36 18.0 -0.2
baz=318
U60A Pendleton 138.41 27 P PKiKP 05 36 17.8 -0.4
baz=325
V59A Middlesex 138.48 29 P PKiKP 05 36 17.8 -0.6
baz=323
W58A Raeford 138.57 31 P PKiKP 05 36 18.3 -0.2
baz=322
Z56A Williston 138.71 34 P PKiKP 05 36 19.0 +0.1
baz=318
Z56A Williston 138.71 34 IAMs_20 IAMs_20 06 38 37.9
comp=Z,805nm,21.0s
TIGA Tifton 138.72 38 P PKiKP 05 36 19.1 +0.1
baz=313
Y57A Sumter 138.73 33 P PKiKP 05 36 18.6 -0.3
baz=319
W59A Clinton 138.85 30 P PKiKP 05 36 19.2 0.0
baz=323
U61A Possum Corner 138.85 27 P PKiKP 05 36 19.3 +0.2
baz=326
X58A Rowland 138.88 31 IAMs_20 IAMs_20 06 39 35.1
comp=Z,886nm,22.0s
553A Crawfordville 139.03 41 IAMs_20 IAMs_20 06 36 45.2
comp=Z,920nm,21.0s
255A Hazlehurst 139.07 37 IAMs_20 IAMs_20 06 40 46.8
comp=Z,880nm,22.0s
CNNC Cliffs of the 139.07 29 IAMs_20 IAMs_20 06 44 34.9
comp=Z,773nm,21.0s
Z57A Bowman 139.10 34 P PKiKP 05 36 19.6 -0.1
baz=318
V61A Roper 139.24 27 P PKiKP 05 36 20.0 +0.1
baz=326
X59A McDuffie Farm, 139.24 31 P PKiKP 05 36 19.6 -0.3
baz=322
W60A Pink Hill 139.30 29 P PKiKP 05 36 19.7 -0.3
baz=324
157A Early Branch 139.39 35 P PKiKP 05 36 19.9 -0.5
baz=318
NHSC New Hope 139.53 34 P PKiKP 05 36 20.4 -0.2
baz=319
Y59A Loris 139.56 31 P PKiKP 05 36 19.9 -0.7
baz=321
Y59A Loris 139.56 31 IAMs_20 IAMs_20 06 34 58.2
comp=Z,933nm,21.0s
Z58A St. Stephen 139.56 33 P PKiKP 05 36 20.1 -0.5
baz=320
158A Hollywood 139.80 34 P PKPdf 05 36 19.8 +1.0
baz=319
Y60A Bolivia 139.88 31 IAMs_20 IAMs_20 06 46 34.7
comp=Z,843nm,20.0s
656A Willston 140.80 40 IAMs_20 IAMs_20 06 33 33.0
comp=Z,819nm,22.0s
DWPF Disney Wildern 142.36 40 P PKPdf 05 36 24.9 +1.4
baz=313
DWPF Disney Wildern 142.36 40 IAMs_20 IAMs_20 06 48 16.5
comp=Z,602nm,20.0s
MT05 Renca 143.42 157 PKPbc 05 36 23.9 +1.4
ROC1 El Roble 143.68 157 PKPdf 05 36 25.1 -0.9
ROC1 El Roble 143.68 157 eP PKiKP 05 36 32.7 +3.3
060A Indiantown 143.79 40 IAMs_20 IAMs_20 06 35 22.3
comp=Z,935nm,22.0s
AVIZ Vizcacheras 144.14 160 eP PKPdf 05 36 27.0 +0.3
061Z Ochoppi 144.21 42 IAMs_20 IAMs_20 06 37 35.8
comp=Z,883nm,22.0s
AAGR Agrelo 144.39 160 eP PKPdf 05 36 26.4 -0.7
ARCO CERRO ARCO 144.57 159 eP PKPbc 05 36 26.6 +0.4
ASAL Salagasta 144.84 159 eP PKPdf 05 36 27.7 -0.1
AUSP Uspallata 144.97 158 eP PKPdf 05 36 28.8 +0.4
TGUH Tegucigalpa,Un 145.12 65 PKPab 05 36 28.5 +0.1
TGUH IAMs_20 IAMs_20 06 33 04.8
comp=Z,828nm,22.0s
RTCV Cerro Valdivia 145.60 159 eP PKPab 05 36 29.7 +0.1
CO03 El Pedregal 145.68 155 PKPdf 05 36 29.0 -0.4
SACV Santiago Islan 145.77 297 PKPab 05 36 30.9 +0.2
SJA San Juan 145.90 159 eP PKPdf 05 36 29.6 -0.1
MRA San Martin 145.99 164 eP PKPab 05 36 30.9 -0.2
GO04 Tololo Observa 146.22 155 PKPab PKPab 05 36 32.3 +0.1
ACCO Cerro Coronel 146.55 157 eP PKPab 05 36 33.3 -0.3
BBSR BB Station 146.69 15 PKPbc 05 36 32.6 +0.1
MATN Matagalpa 146.74 66 PKPdf PKPdf 05 36 31.7 +0.2
AROD Rodeo 146.77 157 eP PKPbc 05 36 33.2 0.0
ACDV Cuesta del Vie 146.90 157 eP PKPab 05 36 34.1 -0.7
BOAB BOACO BROADBAN 147.14 67 PKPdf 05 36 31.9 -0.2
PIL Pilar 147.19 166 eP PKiKP 05 36 36.1 -0.3
LCO Las Campanas 147.26 154 PKP2 PKPab 05 36 35.5 -0.8
LCO Las Campanas 147.26 154 PKPab 05 36 35.5 -0.8
TCA Tanti 147.32 165 eP PKPbc 05 36 34.1 -0.4
APLL PUNTA DE LOS L 147.63 161 eP PKPbc 05 36 34.1 -1.2
AGUA GUANDACOL 147.76 157 eP PKPbc 05 36 35.6 -0.1
PLTB Pedras Altas 148.19 182 eP PKPdf 05 36 34.6 +1.1
JTS Las Juntas de 148.47 70 PKIKP PKPdf 05 36 34.8 +0.4
JTS Las Juntas de 148.47 70 PKPdf PKPdf 05 36 34.8 +0.4
ESPN Las Esperanzas 148.48 67 IAMs_20 IAMs_20 06 34 04.4
comp=Z,549nm,19.0s
VCA Vinchina 148.54 157 eP PKiKP 05 36 39.2 -0.3
HDC Heredia 149.35 71 IAMs_20 IAMs_20 06 35 28.2
comp=Z,604nm,20.0s
CYA Choya 149.67 161 eP PKPdf 05 36 37.1 +1.2
AC02 Maricunga 149.84 154 PKPbc 05 36 41.7 +0.1
CNLB Canela 150.40 187 eP PKPdf 05 36 38.4 +1.3
GO02 Mina Guanaco 151.06 152 PKPdf PKPdf 05 36 35.4 -3.1
PB14 IPOC Station P 151.11 150 PKiKP 05 36 44.8 -0.3
AHML Horco Molle 151.35 160 eP PKPdf 05 36 40.4 +1.7
PB06 IPOC Station P 153.12 149 PKPdf PKPdf 05 36 40.2 -1.3
PB06 PKiKP 05 36 49.2 +0.1
CPUP Villa Florida 153.52 175 PKP PKPdf 05 36 42.2 +0.4
comp=Z,19nm,1.2s,baz=81,slow=1.5,SNR=6.7
CPUP Villa Florida 153.52 175 PKPdf PKPdf 05 36 43.6 +1.9
CPUP Villa Florida 153.52 175 eP PKPdf 05 36 44.5 +2.7
LVC Limon Verde 153.54 150 PKPbc PKiKP 05 36 51.4 +1.2
comp=Z,9.5nm,0.6s,baz=271,slow=3.3,SNR=10
LVC Limon Verde 153.54 150 PKiKP 05 36 51.8 +1.6
GRTK Grand Turk 153.54 36 IAMs_20 IAMs_20 06 51 47.1
comp=Z,747nm,21.0s
AZAP Zapla 153.80 159 eP PKiKP 05 36 51.0 +0.5
PET01 Itanhaem-SP 154.56 196 eP PKPdf 05 36 43.9 +0.6
MAN01 Angra dos Reis 154.73 204 eP PKPdf 05 36 45.9 +2.2
PTGB Pitanga 155.08 186 eP PKPdf 05 36 46.4 +2.3
SPB Sao Paulo 155.27 197 eP PKPdf 05 36 44.8 +0.5
PB11 IPOC Station P 155.45 145 PKPdf PKPdf 05 36 41.8 -3.1
PB12 IPOC Station P 155.93 142 PKPdf PKPdf 05 36 46.1 +0.7

FRTB Fartura 156.03 192 eP PKPdf 05 36 46.4 +1.0
OTAV Otavalo 156.45 90 eP PKPdf 05 36 46.7 0.0
OTAV Otavalo 156.45 90 PKIKP PKPdf 05 36 48.0 +1.3
OTAV Otavalo 156.45 90 PKPdf PKPdf 05 36 48.0 +1.3
OTAV Otavalo 156.45 90 IAMs_20 IAMs_20 06 40 46.3
comp=Z,570nm,21.0s
OTAV Otavalo 156.45 90 eP PKPdf 05 36 47.5 +0.8
DR12 Loma Pena Alta 156.69 37 PKPdf PKPdf 05 36 43.1 -3.3
TRCB Terra Rica 157.04 185 eP PKPdf 05 36 47.8 +1.1
BBAC Balboa, Cauca 157.58 85 eP PKPdf 05 36 46.2 -1.6
MOTC Monteria, Cord 157.63 67 eP PKPdf 05 36 46.7 -0.9
SJCC San Jacinto, C 157.64 64 eP PKPdf 05 36 47.0 -0.7
SMRC Santa Marta, M 157.92 60 eP PKPdf 05 36 49.1 +1.2
POPC Popayan, Colom 158.11 84 eP PKPdf 05 36 46.5 -2.0
CBOC Ciudad Bolivar 158.19 75 eP PKPdf 05 36 49.0 +0.5
YOTC Yotoco, Valle 158.24 80 eP PKPdf 05 36 47.6 -0.9
ARGC Ariguani, Magd 158.49 63 eP PKPdf 05 36 50.6 +1.9
HELC Santa Helena 158.57 73 eP PKPdf 05 36 47.7 -1.5
OBIP Obispado Ponce 158.86 32 PKPdf PKPdf 05 36 46.7 -2.2
GCPR Guaynabo City 158.91 31 PKPdf PKPdf 05 36 46.8 -2.2
GUY2C Guyana, Caldas 158.96 76 eP PKPdf 05 36 48.7 -1.1
LPAZ La Paz 159.06 142 PKP PKPdf 05 36 50.9 +0.9
comp=Z,30nm,1.3s,baz=28,slow=2.3,SNR=26
LPAZ PKPab PKPab 05 37 27.9 +1.4
comp=Z,9.1nm,0.8s,baz=216,slow=8.0,SNR=6.0
LPAZ La Paz 159.06 142 eP PKPdf 05 36 50.8 +0.8
SMLC San Martn de 159.08 65 eP PKPdf 05 36 48.9 -0.4
TOLC Tolima 159.14 78 eP PKPdf 05 36 52.0 +2.1
HUMP Col San Antoni 159.17 31 PKPdf 05 36 48.5 -0.8
FLOC Florencia 159.20 86 eP PKPdf 05 36 49.0 -0.6
GARC Garzon, Huila 159.32 84 eP PKPdf 05 36 49.4 -0.6
BETC Betania 159.32 83 eP PKPdf 05 36 48.6 -1.1
ORTC Ortega, Tolima 159.34 79 eP PKPdf 05 36 49.0 -0.7
NORC Norcasia 159.36 75 eP PKPdf 05 36 49.0 -0.8
STVI Saint Thomas 159.43 28 PKPdf PKPdf 05 36 49.2 -0.4
STVI PKPab PKPab 05 37 28.6 +1.3
PTBC PUERTO BERRIO 159.49 72 eP PKPdf 05 36 48.9 -1.0
PRAC Prado 159.72 80 eP PKPdf 05 36 48.4 -1.8
BRRC Barranca, Sant 160.02 69 eP PKPdf 05 36 49.4 -1.1
MC01 Montes Claros 160.03 212 eP PKPdf 05 36 52.4 +2.0
ROSC El Rosal 160.06 76 PKP PKPdf 05 36 51.5 +0.5
comp=Z,23nm,1.1s,baz=46,slow=4.1,SNR=11
ROSC PKPab PKPab 05 37 33.0 +2.0
comp=Z,23nm,0.9s,baz=101,slow=14,SNR=5.8
ROSC El Rosal 160.06 76 eP PKPdf 05 36 50.8 -0.2
PTLC Puerto Leguiza 160.10 90 eP PKPdf 05 36 49.6 -1.0
SPBC San Pablo de B 160.10 74 eP PKPdf 05 36 50.7 0.0
CZSB Cruzeiro do Su 160.58 114 eP PKPdf 05 36 51.6 +0.5
CHIC Chingaza 160.68 77 eP PKPdf 05 36 50.2 -1.5
BARC Barichara 160.68 70 eP PKPdf 05 36 50.2 -1.3
PAMC Pamplona, Colo 160.88 68 eP PKPdf 05 36 51.3 -0.7
MACC Macarena, Meta 160.96 84 eP PKPdf 05 36 51.0 -0.5
RUSC La Rusia 160.99 72 eP PKPdf 05 36 51.7 -0.4
SDV Santo Domingo 162.11 61 eP PKPdf 05 36 52.4 -0.5
SDV Santo Domingo 162.11 61 PKPdf PKPdf 05 36 53.5 +0.6
SDV Santo Domingo 162.11 61 eP PKPdf 05 36 53.3 +0.4
SIV San Ignacio 162.80 160 PKP PKPdf 05 36 54.0 +0.7
comp=Z,10nm,1.1s,baz=278,slow=1.8,SNR=15
SIV PKPab PKPab 05 37 41.2 -0.8
comp=Z,9.0nm,1.1s,baz=196,slow=3.9,SNR=4.4
BDFB Brasilia 162.86 203 PKP PKPdf 05 36 54.2 +0.8
comp=Z,11nm,1.2s,baz=22,slow=3.9,SNR=6.2
BDFB Brasilia 162.86 203 PKPab 05 37 43.5 +1.1
PTLB Pontes e Lacer 163.90 165 eP PKPdf 05 36 55.2 +0.9
ARAG Araguaiana, MT 163.91 191 eP PKPdf 05 36 55.5 +1.1
SDBA SAO DESIDERIO 164.03 218 eP PKPdf 05 36 55.7 +1.2
ETMB Extrema 164.97 132 eP PKPdf 05 36 56.6 +1.2
VILB Vilhena 165.92 158 eP PKPdf 05 36 58.5 +2.4
PEXB Peixe 166.13 208 eP PKPdf 05 36 57.9 +1.6
SAML Samuel 167.73 138 PKIKP PKPdf 05 36 58.1 +0.6
SAML Samuel 167.73 138 PKPdf 05 36 58.1 +0.6
SAML Samuel 167.73 138 eP PKPdf 05 36 58.5 +1.0
SMTB Santa Maria do 168.43 219 eP PKPdf 05 36 59.6 +1.6
ROSB Rosrio 168.80 254 eP PKPdf 05 36 59.0 +0.8
TMAB Tom-Au,PA,Br 172.74 249 eP PKPdf 05 37 01.0 +0.6
NPGB Novo Progresso 172.79 176 eP PKPdf 05 37 00.7 +0.3
MACA Manacapuru-AM 173.32 120 eP PKPdf 05 37 00.7 +0.1
MCPB Macapa, AP 177.11 259 eP PKPdf 05 37 02.1 +0.4

MOS ***10*** *05:19:22.0±0.9, 0°.18S×124°.96E, h38km, mb5.6/54, MS4.9/17, Error ellipse: s-maj=9.7km s-min=5.4km az=115.0*
IDC ***10*** *05:19:22.5±2.4, 0°.17S×124°.97E, h29km±16km, mb5.2/34, mb1 5.1/37, mb1mx5.0/48, mbtmp5.3/37, ML5.0/4, MS5.0/9, Ms1 5.0/9, ms1mx4.7/42, Error ellipse: s-maj=14.5km s-min=9.1km az=78.0*
BJI ***10*** *05:19:24.0±0.0, 0°.20S×125°.10E, h54km, mB5.5/31, mb5.3/49, Ms5.4/31, Ms7 5.3/31*
NEIC ***10*** *05:19:24.1±2.1, 0°.20S±0°.06×125°.09E±0°.05, h41km±4km, mb5.6/132, Error ellipse: s-maj=9.3km s-min=7.6km az=159.0*
DJA ***10*** *05:19:25.3±0.2, 0°S±2°×12°5E±°, h48km±3km, M5.8/40, mB6.2/25, mb5.8/40, MLv5.6/14, Mw(mB)5.8/25, Mwp6.4/3*
UNK ***10*** *05:19:25.2, 0°.16S×125°.12E, h48km*
KLM ***10*** *05:19:26.0, 0°.12S×125°.12E, h60km, mb5.5*
ISC 10 05:19:24.5±0.4, 0°.24S±0°.03×125°.12E±0°.04, h45km±3km, n623, σ1$40/631, mb5.5/163, MS5.1/31, 26C-35D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.40**	**305**	P	**Pn**	**05 19 45.3**	**-2.3**
KMSI				S	**Sn**	**05 20 06.4**	**+1.6**
SANI	**Sanana**	**2.00**	**154**	P	**Pn**	**05 19 53.9**	**-1.9**
GTOI	**Gorontalo**	**2.28**	**292**	P	**Pn**	**05 20 03.2**	**+3.5**
LBMI	**Labuha**	**2.41**	**100**	P	**Pn**	**05 20 01.9**	**+0.5**
LBMI				S	**Sn**	**05 20 29.7**	**-0.1**
TNTI	**Ternate**	**2.46**	**66**	P	**Pn**	**05 20 03.2**	**+1.1**
TNTI	**Ternate**	**2.46**	**66**	Pn	**Pn**	**05 20 02.2**	**+0.1**
LUWI	**Luwuk**	**2.48**	**251**	P	**Pn**	**05 20 01.0**	**-1.5**
LUWI	**Luwuk**	**2.48**	**251**	Pn	**Pn**	**05 20 03.0**	**+0.5**
NLAI	**Namlea**	**3.58**	**147**	P	**Pn**	**05 20 16.3**	**-1.2**
MSAI	**Masohi**	**4.90**	**129**	P	**Pn**	**05 20 36.5**	**+0.9**
MPSI	**Mapaga**	**5.26**	**276**	P	**Pn**	**05 20 43.9**	**+3.3**
15nm1μm,0.5s							
SIJI	**Sorong**	**6.17**	**96**	Pn	**Pn**	**05 20 54.0**	**+0.8**
11nm,0.3s,baz=79,slow=20,SNR=0.9							
BNSI	**Bone**	**6.50**	**230**	P	**Pn**	**05 20 59.8**	**+2.2**
7.5nm36μm2μm,0.7s							
SPSI	**Sidrap Palu**	**6.51**	**235**	P	**Pn**	**05 20 58.0**	**+0.3**
6.3nm43μm2μm,0.6s							
BKSI	**Bulukumba**	**7.10**	**225**	P	**Pn**	**05 21 07.4**	**+1.5**
4.2nm23μm499nm,0.8s							
KAPI	**Kappang**	**7.16**	**228**	Pn	**Pn**	**05 21 07.7**	**+1.0**
82nm,0.3s,baz=20,slow=6.1,SNR=21							
KAPI				Sn	**Sn**	**05 22 24.9**	**-2.0**
58nm,0.3s,baz=116,slow=22,SNR=7.9							
KAPI	**Kappang**	**7.16**	**228**	Pn	**Pn**	**05 21 07.9**	**+1.2**
FAKI	**Fak Fak**	**7.60**	**111**	P	Sn	05 22 27.5	-10
BKB	**Balikpapan**	**8.29**	**263**	P	**Pn**	**05 21 22.6**	**+0.4**
283μm703nm,0.7s							
BKB	**Balikpapan**	**8.29**	**263**	Pn	**Pn**	**05 21 22.3**	**+0.1**
MYLDM	**Lahad Datu**	**8.53**	**309**	Pn	**Pn**	**05 21 25.5**	**+0.1**
SOEI	**Soe**	**9.49**	**185**	Pn	**Pn**	**05 21 39.8**	**+1.0**
BATI	**Baumata**	**10.01**	**188**	Pn	**Pn**	**05 21 45.7**	**-0.1**
6.6nm,0.3s,baz=45,slow=11,SNR=3.8							
BBKI	**Banjar Baru**	**10.76**	**253**	P	Pn	05 22 07.8	+12
KKM	**Kota Kinabalu**	**10.86**	**305**	Pn	**Pn**	**05 21 57.4**	**-0.2**
SBUM	**Sibu**	**13.17**	**282**	Pn	**Pn**	**05 22 29.4**	**+0.3**
SBUM	**Sibu**	**13.17**	**282**	P	**Pn**	**05 22 30.0**	**+0.9**
STKI	**Sintang**	**13.65**	**271**	P	**P**	**05 22 44.2**	**+0.9**
JAGI	**Jajag, Banyuwa**	**13.65**	**233**	Pn	**Pn**	**05 22 32.9**	**-2.7**
PBKI	**Pangkalan Bun**	**13.67**	**260**	P	**P**	**05 22 46.3**	**+2.8**
MTN	**Manton Dam**	**13.87**	**155**	P	**Pn**	**05 22 38.5**	**-0.1**
baz=14							
GMJI	**Gumukmas**	**14.11**	**235**	P	P	05 22 57.1	+8.7
GRJI	**Gresik**	**14.25**	**242**	P	**P**	**05 22 51.2**	**+1.2**
3μm376nm,0.9s							
KDU	**Kakadu**	**14.36**	**150**	P	**Pn**	**05 22 43.5**	**-1.6**
baz=14							
TBJI	**Tambak Boyo**	**14.77**	**243**	P	**P**	**05 22 58.7**	**+3.0**
14μm2μm,0.9s							
KSM	**Kuching**	**14.91**	**277**		**P**	**05 22 55.1**	**-2.2**
KSM	**Kuching**	**14.91**	**277**	P	**Pn**	**05 22 54.0**	**+1.5**
NGJI	**Ngawi**	**15.36**	**242**	P	**P**	**05 23 06.7**	**+4.5**
PWJI	**Pagerwojo**	**15.36**	**239**	P	**P**	**05 23 04.5**	**+2.2**
6μm510nm,0.7s							
JAY	**Jayapura**	**15.74**	**98**	Pn	**Pn**	**05 23 01.1**	**-2.1**
1.5nm,0.3s,baz=322,slow=8.2,SNR=1.4							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**15.76**	**167**	P	**Pn**	**05 23 02.9**	**-0.5**
baz=16,SNR=11							
KNRA	**Kununurra**	**15.76**	**167**	Pn	**Pn**	**05 23 01.6**	**-1.8**
KNRA				IAmb	IAmb	05 23 03.7	
comp=Z,369nm,0.8s							
WOJI	**Wonogiri, Jawa**	**16.04**	**242**	P	**P**	**05 23 13.1**	**+3.2**
SMRI	**Semarang**	**16.13**	**245**	P	**P**	**05 23 14.0**	**+3.1**
SMRI	**Semarang**	**16.13**	**245**	P	**Pn**	**05 23 07.9**	**-0.3**
UGM	**Wanagama**	**16.43**	**242**	P	**P**	**05 23 19.2**	**+5.0**
comp=Z,543nm,1.2s							
UGM	**Wanagama**	**16.43**	**242**		**Pn**	**05 23 12.8**	**+0.7**
UGM				IAmb	IAmb	05 23 29.3	
comp=Z,484nm,1.0s							
YOGI	**Yogyakarta**	**16.59**	**243**	P	**P**	**05 23 20.1**	**+4.1**
TPI	**Tanjungpandan**	**17.64**	**262**	P	**P**	**05 23 28.5**	**+0.9**
comp=Z,178nm,0.8s							
FITZ	**Fitzroy Crossi**	**17.76**	**178**	P	**Pn**	**05 23 28.3**	**-0.2**
comp=Z,2.7nm,0.3s,baz=360,slow=16,SNR=2.0							
FITZ	**Fitzroy Crossi**	**17.76**	**178**	P	**P**	**05 23 29.0**	**+0.1**
JCJI	**Jatiwangi**	**17.93**	**249**	P	**P**	**05 23 35.1**	**+4.3**
comp=Z,1μm,0.9s							
CMJI	**Cimerak**	**18.23**	**245**	P	**Pn**	**05 23 35.1**	**+0.7**
comp=Z,6μmcomp=Z,698nm,0.8s							
LEM	**Lembang**	**18.65**	**249**	P	**P**	**05 23 38.8**	**-0.1**
comp=Z,31nm,0.3s,baz=12,slow=14,SNR=13							
CISI	**Cisompet, Garu**	**18.73**	**247**	P	**Pn**	**05 23 40.5**	**+0.1**
comp=Z,15μmcomp=Z,2μm,0.8s							
CISI	**Cisompet, Garu**	**18.73**	**247**	P	**Pn**	**05 23 40.2**	**-0.2**
PPBI	**Pangkal Pinang**	**19.08**	**264**	P	**P**	**05 23 43.7**	**+0.3**
comp=Z,27μmcomp=Z,244nm,0.9s							
CBJI	**Citeko**	**19.24**	**251**	P	**Pn**	**05 23 46.9**	**+0.4**
comp=Z,20μmcomp=Z,2μm,0.8s							
CNJI	**Cibinong**	**19.27**	**248**	P	**P**	**05 23 45.3**	**-0.2**
comp=Z,7μmcomp=Z,818nm,0.8s							
SKJI	**Sukabumi**	**19.70**	**250**	P	**Pn**	**05 23 57.6**	**+5.6**
SBJI	**Serang**	**19.84**	**252**	P	**Pn**	**05 23 58.1**	**+4.5**
CGJI	**Cibinong**	**20.39**	**252**	P	**P**	**05 23 58.1**	**+0.3**
comp=Z,11μmcomp=Z,1μm,1.1s							
DLV	**T Lat**	**20.48**	**307**	P	**P**	**05 23 59.3**	**+0.4**
DLV				IAmb	IAmb	05 24 12.1	
comp=Z,212nm,1.0s							
BLSI	**Bandar Lampung**	**20.49**	**255**	P	Pn	05 24 04.9	+3.5
PMBI	**Palembang**	**20.52**	**262**	P	Pn	05 24 01.5	-0.1
PMBI	**Palembang**	**20.52**	**262**	P	**P**	**05 23 59.9**	**+0.8**
DSRI	**Dabo**	**20.55**	**269**	P	**P**	**05 23 59.3**	**-0.1**
comp=Z,4μmcomp=Z,478nm,0.7s							
TPRI	**Tanjung Pinang**	**20.63**	**273**	P	**P**	**05 24 00.8**	**+0.5**
comp=Z,50μmcomp=Z,432nm,0.9s							
KLSI		**20.84**	**257**	P	Pn	05 24 07.0	+1.4
MDSI	**Maura Dua**	**21.34**	**258**	P	**P**	**05 24 07.3**	**-0.7**
comp=Z,201nm,0.9s							
MYKOM	**Kota Tinggi**	**21.37**	**275**	P	**P**	**05 24 08.3**	**0.0**
MYKOM				IAmb	IAmb	05 24 10.5	
comp=Z,141nm,0.7s							
MYKOM	**Kota Tinggi**	**21.37**	**275**	P	**P**	**05 24 09.0**	**+0.8**
WB0	**Warramunga Arr**	**21.43**	**155**	P	**P**	**05 24 06.5**	**-2.4**
WRAB	**Tennant Creek**	**21.56**	**156**	‖*eP*	**P**	**05 24 15.6**	**+5.3**
WRAB				pmax	pmax		
comp=Z,64nm,0.9s							
WRA	**Warramunga Arr**	**21.56**	**156**	P	**P**	**05 24 09.7**	**-0.6**
comp=Z,23nm,0.5s,baz=331,slow=11,SNR=5.5							
WRA				ScP	**ScP**	**05 31 46.0**	**+0.9**
comp=Z,5.8nm,0.8s,baz=338,slow=3.1,SNR=7.4							
WRA	**Warramunga Arr**	**21.56**	**156**	P	**P**	**05 24 10.7**	**+0.4**
WB2	**Warramunga Arr**	**21.57**	**156**	P	**P**	**05 24 11.7**	**+1.4**
XMIS	**Christmas Isla**	**21.87**	**242**	P	**P**	**05 24 13.5**	**-0.1**
COEN	**Coen**	**22.48**	**128**	P	**P**	**05 24 20.9**	**+0.8**
baz=22,SNR=8.5							
COEN	**Coen**	**22.48**	**128**	P	**P**	**05 24 20.7**	**+0.5**
MNAI	**Manna**	**22.52**	**259**	P	**P**	**05 24 19.5**	**-1.2**
MASI	**Maura Aman, Be**	**23.05**	**263**	P	**P**	**05 24 27.9**	**+1.6**
comp=Z,864nm,1.1s							
TWG	**Pinlang**	**23.25**	**350**	P	**P**	**05 24 26.3**	**-1.7**
TWG				IAmb	IAmb	05 24 36.0	
comp=Z,181nm,0.6s							
SDSI	**Sungai Dareh**	**23.70**	**268**	P	**P**	**05 24 32.5**	**0.0**
comp=Z,12μmcomp=Z,247nm,1.0s							
KRJI	**Kerinci**	**23.73**	**265**	P	**P**	**05 24 33.3**	**+0.5**
comp=Z,2μm,0.9s							
PMG	**Port Moresby**	**23.75**	**113**	P	**P**	**05 24 34.2**	**+1.3**
comp=Z,42nm,0.8s,baz=289,slow=9.4,SNR=1.6							
PMG	**Port Moresby**	**23.75**	**113**	‖*eP*	**P**	**05 24 35.3**	**+2.4**
PMG				pmax	pmax		
comp=Z,88nm,1.1s							
YULB	**Yu-li**	**23.78**	**351**	P	**P**	**05 24 32.9**	**-0.2**
TPUB	**Ta-pu**	**23.80**	**350**	P	**P**	**05 24 32.6**	**-0.7**
TPUB				IAmb	IAmb	05 24 38.3	
comp=Z,121nm,0.9s							
GUMO	**Guam**	**23.90**	**54**	LR	LR	05 32 39.7	
comp=Z,3μm,20.8s,baz=234,slow=33							
QIZ	**Qiongzhong**	**24.32**	**323**	P	**P**	**05 24 38.4**	**+0.3**
QIZ				S	**S**	**05 28 56.7**	**+2.3**
QIZ				pmax	pmax		
comp=Z,42nm,1.7s							
QIZ	**Qiongzhong**	**24.32**	**323**	P	**P**	**05 24 37.7**	**-0.4**
IPM	**Ipoh**	**24.53**	**281**	P	**P**	**05 24 39.0**	**-1.1**
IPM				IAmb	IAmb	05 24 42.5	
comp=Z,227nm,1.5s							
IPM	**Ipoh**	**24.53**	**281**	P	**P**	**05 24 39.0**	**-1.1**
GIRL	**Giralia**	**24.66**	**205**	P	**P**	**05 24 41.9**	**+0.7**
baz=25,SNR=5.0							
GIRL	**Giralia**	**24.66**	**205**	P	**P**	**05 24 40.4**	**-0.7**
GIRL				IAmb	IAmb	05 24 43.5	
comp=Z,223nm,1.0s							
QIS	**Mount Isa**	**24.67**	**146**	P	**P**	**05 24 42.0**	**+0.7**
baz=25,SNR=29							
AS31	**Alice Springs**	**24.80**	**161**	P	**P**	**05 24 41.8**	**-0.6**
ASAR	**Alice Springs**	**24.80**	**161**	P	**P**	**05 24 42.5**	**0.0**
comp=Z,52nm,1.1s,baz=343,slow=10,SNR=3.5							
ASAR				PcP	**PcP**	**05 28 18.4**	**+0.2**
comp=Z,17nm,0.5s,baz=349,slow=2.0,SNR=18							
ASAR				S	**S**	**05 29 07.3**	**+5.2**
comp=Z,8.8nm,1.0s,baz=334,slow=18,SNR=3.8							
ASAR				ScP	**ScP**	**05 31 54.0**	**+0.4**
comp=Z,6.0nm,1.0s,baz=300,slow=2.0,SNR=5.7							
ASAR	**Alice Springs**	**24.80**	**161**	P	**P**	**05 24 42.0**	**-0.5**
WRKA	**Warakurna**	**24.84**	**173**	P	**P**	**05 24 42.5**	**-0.3**
baz=25							
YHNB	**Yeheng**	**25.02**	**352**	P	**P**	**05 24 44.0**	**-0.4**
KULM	**Kulim**	**25.05**	**283**	P	**P**	**05 24 43.1**	**-1.7**
KULM	**Kulim**	**25.05**	**283**	P	**P**	**05 24 43.0**	**-1.8**
PPSI	**Pulau Pagai**	**25.23**	**264**	P	P	05 24 54.5	+8.1
SISI	**Saibi**	**26.05**	**267**	P	**P**	**05 24 54.5**	**+0.6**
comp=Z,2μmcomp=Z,67nm,0.8s					

comp=Z,2μm,25.0s
GYA LR LR
comp=Z,2μm,18.5s
GYA LR LR
comp=Z,4μm,19.1s
KLBR Kellerberrin 31.96 192 P **P 05 25 45.2 -0.9**
baz=32
JSU Suzuyama 31.97 9 P **P 05 25 46.0 -0.3**
WHN Wuhan 32.28 342 ⇓P **P 05 25 50.7 +1.7**
WHN S **S 05 31 06.9 +7.4**
WHN LR LR
comp=Z,6μm,17.1s
WHN LR LR
comp=Z,2μm,12.8s
WHN LR LR
comp=Z,13μm,22.8s
NJ2 Nanjing 32.66 350 ⇑P **P 05 25 53.4 +1.1**
NJ2 sP **sP 05 26 09.8 +1.2**
NJ2 PP **PnPn 05 27 02.6 +1.2**
NJ2 pmax pmax
comp=Z,35nm,1.0s
NJ2 LR LR
comp=Z,1μm,23.2s
NJ2 LR LR
comp=Z,2μm,20.3s
NJ2 LR LR
comp=Z,2μm,22.2s
KMI Kunming 33.23 321⇑*e*P **P 05 25 59.1 +1.4**
KMI pP pP 05 26 06.4 -2.5
KMI sP sP 05 26 18.5 +4.6
KMI PP **PP 05 27 12.7 -0.8**
KMI S **S 05 31 09.3 -5.7**
KMI pmax pmax
comp=Z,25nm,0.8s
KMI pmax pmax
comp=Z,250nm,4.3s
KMI LR LR
comp=Z,2μm,20.0s
KMI LR LR
comp=Z,4μm,19.1s
KMI LR LR
comp=Z,4μm,19.3s
NWAO Narrogin (SRO) 33.36 192 P **P 05 25 57.3 -1.1**
comp=Z,9.6nm,0.6s,baz=39,slow=6.5,SNR=1.5
JNU Nakatsue 33.62 9 P **P 05 26 00.2 -0.6**
comp=Z,43nm,0.9s,baz=193,slow=3.6,SNR=5.3
JNU Nakatsue 33.62 9 P **P 05 26 00.4 -0.3**
JNU IAmb IAmb 05 26 11.3
comp=Z,49nm,0.8s
JMN Monobe 34.77 13 P **P 05 26 10.4 -0.4**
JMN IAmb IAmb 05 26 29.7
comp=Z,54nm,0.8s
JTU Tsushima 34.81 6 P **P 05 26 10.8 -0.2**
JTU IAmb IAmb 05 26 24.8
comp=Z,53nm,1.0s
RKGY Rocky Gully 35.03 192 P **P 05 26 12.8 -0.2**
baz=35
STKA Stephens Creek 35.12 155 P **P 05 26 13.8 +0.1**
comp=Z,27nm,0.6s,baz=332,slow=8.9,SNR=9.0
STKA PcP **PcP 05 28 44.8 +0.2**
comp=Z,14nm,0.8s,baz=269,slow=16,SNR=2.2
STKA Stephens Creek 35.12 155 P **P 05 26 14.5 +0.8**
baz=35,SNR=14
STKA Stephens Creek 35.12 155 P **P 05 26 14.2 +0.5**
STKA 05 28 44.8
STKA pmax pmax
comp=Z,25nm,1.4s
STKA Stephens Creek 35.12 155 P **P 05 26 14.2 +0.5**
JHS Saijyo 35.84 11 P **P 05 26 20.0 +0.1**
JHS IAmb IAmb 05 26 35.9
comp=Z,38nm,0.8s
TJN Taejon 36.49 3⇑*e*P **P 05 26 21.6 -3.7**
JWT Wachi 36.62 14 P **P 05 26 23.2 -3.2**
CMSA Cobar Meteorol 36.72 150 P **P 05 26 28.4 +1.0**
baz=37,SNR=11
CD2 Chengdu 37.03 329 P **P 05 26 30.5 +0.4**
CD2 S **S 05 32 14.4 +1.5**
CD2 pmax pmax
comp=Z,90nm,1.1s
CD2 pmax pmax
comp=Z,690nm,6.6s
INU Inuyama 37.10 16 P **P 05 26 30.3 -0.3**
INU IAmb IAmb 05 26 31.6
comp=Z,55nm,1.0s
JGF Kuroka 37.43 17 P **P 05 26 33.4 -0.1**
KSRS Korea Array 37.59 4 P **P 05 26 35.4 +0.7**
comp=Z,21nm,0.9s,baz=177,slow=9.6,SNR=11
KSRS PcP **PcP 05 28 52.5 +0.6**
comp=Z,11nm,0.8s,baz=179,slow=2.6,SNR=8.8
KS19 Wonju Array Si 37.64 4 P **P 05 26 34.9 -0.2**
MJAR Matsushiro Arr 38.56 17 P **P 05 26 42.0 -0.9**
comp=Z,22nm,0.8s,baz=191,slow=8.0,SNR=4.5
MJAR PcP **PcP 05 28 55.8 +0.9**
comp=Z,13nm,0.8s,baz=185,slow=2.8,SNR=6.3
MJAR LR LR 05 45 05.1
comp=Z,2μm,19.2s,baz=170,slow=40
MJAR Matsushiro Arr 38.56 17 P **P 05 26 42.0 -0.9**
MJAR pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 38.56 17⇓*e*P **P 05 26 42.0 -0.9**
MAJO pmax pmax
comp=Z,37nm,0.9s
MAT Matsushiro 38.56 17 P **P 05 26 41.6 -1.3**
MAT *e*S **S 05 32 35.4 -0.4**
DL2 Dalian 39.09 356 P **P 05 26 49.4 +2.2**
DL2 *e*S **S 05 32 44.0 +0.4**
DL2 pmax pmax
comp=Z,49nm,1.2s
DL2 LR LR
comp=Z,2μm,19.4s
DL2 LR LR
comp=Z,1μm,22.7s
DL2 LR LR
comp=Z,4μm,19.9s
ARMA Armidale 39.19 142 P **P 05 26 49.4 +1.0**
baz=39,SNR=4.7
ARMA Armidale 39.19 142 P **P 05 26 49.5 +1.2**
ARMA IAmb IAmb 05 27 07.2
comp=Z,116nm,1.6s
ARPS Mount Arapiles 39.51 159 P **P 05 26 51.7 +0.9**
baz=40,SNR=9.5
JSD Sado 39.97 16 P **P 05 26 54.5 -0.1**
JSD IAmb IAmb 05 27 16.2
comp=Z,165nm,1.7s
YNG Young 40.29 150 P **P 05 26 58.6 +1.2**
baz=40,SNR=5.2
JMM Marumori 40.58 19 P **P 05 26 59.7 0.0**
JMM IAmb IAmb 05 27 02.0
comp=Z,110nm,1.0s
BJI Beijing 40.91 349 P **P 05 27 03.4 +1.0**
BJI pmax pmax
comp=Z,32nm,1.0s
LZH Lanzhou 41.20 333 *e*P **P 05 27 04.9 -0.2**
LZH pP pwP 05 27 19.9 -0.1
LZH sP sP 05 27 23.6 +1.9
LZH PcP **PcP 05 29 04.3 +0.7**
LZH pmax pmax
comp=Z,93nm,1.3s
CAN Canberra 41.40 150 P **P 05 27 07.6 +1.0**
baz=41
CAN Canberra 41.40 150 P **P 05 27 07.6 +1.0**
CAN pmax pmax
comp=Z,41nm,0.9s
CAN Canberra 41.40 150 P **P 05 27 07.5 +1.0**
TOO Toolangi 41.64 155 P **P 05 27 09.7 +1.3**
baz=42,SNR=5.6
TOO Toolangi 41.64 155 P **P 05 27 09.9 +1.5**
TOO pmax pmax
comp=Z,37nm,0.9s
TOO Toolangi 41.64 155 P **P 05 27 09.9 +1.5**
HHC Hu-ho-hao-te 42.71 345 *e*P **P 05 27 16.6 -0.6**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.3s
JTM Tenmabayashi 43.33 18 P **P 05 27 21.2 -0.9**
JTM IAmb IAmb 05 27 28.8
comp=Z,177nm,1.3s
VLA Vladivostok 43.59 7⇓*e*P **P 05 27 24.0 -0.1**
VLA pmax pmax
comp=Z,61nm,0.7s
LSA Lhasa 43.99 316 P **P 05 27 28.0 -0.2**
LSA pmax pmax
comp=Z,53nm,0.7s
LSA Lhasa 43.99 316 P **P 05 27 28.0 -0.2**
LSA IAmb IAmb 05 27 30.7
comp=Z,52nm,0.7s
CHLP Challavanipeta 44.43 297 *e*P **P 05 27 29.9 -1.3**
CHLP IVmB_BB 05 27 30.4
comp=Z,348nm,3.1s
USA0B Ussuriysk Arra 44.66 7 P **P 05 27 33.0 +0.3**
USA0B pmax pmax
comp=Z,35nm,0.9s
USA0B Ussuriysk Arra 44.66 7 P **P 05 27 33.0 +0.3**
USRK Ussuriysk Ar. 44.66 7 P **P 05 27 32.8 +0.1**
comp=Z,22nm,0.5s,baz=190,slow=7.5,SNR=19
USRK Ussuriysk Ar. 44.66 7 P **P 05 27 32.5 -0.2**
MDJ Mudanjiang 44.84 5 P **P 05 27 34.5 +0.4**
MDJ pmax pmax
comp=Z,44nm,1.0s
MDJ pmax pmax
comp=Z,240nm,5.5s
MDJ Mudanjiang 44.84 5 IAmb IAmb 05 27 48.4
comp=Z,59nm,0.7s
PALK Pallekele 44.93 280 P **P 05 27 34.7 -0.7**
comp=Z,18nm,0.7s,baz=207,slow=9.2,SNR=5.4
PALK PcP **PcP 05 29 16.7 +0.3**
comp=Z,11nm,0.8s,baz=95,slow=5.1,SNR=3.6
PALK Pallekele 44.93 280 P **P 05 27 34.7 -0.7**
PALK 05 29 16.7
PALK pmax pmax
comp=Z,21nm,0.8s
PALK Pallekele 44.93 280 IAmb IAmb 05 27 36.7
comp=Z,21nm,0.8s
ODAN Odare 45.20 310 *e*P **P 05 27 36.1 -1.5**
comp=Z,134nm,0.8s
ODAN Odare 45.20 310 *e*P **P 05 27 36.1 -1.5**
comp=Z,134nm,0.8s
TAPN Taplejung 45.20 310 *e*P **P 05 27 36.3 -1.4**
comp=Z,102nm,0.6s
TAPN Taplejung 45.20 310 *e*P **P 05 27 36.3 -1.4**
comp=Z,102nm,0.6s
DZM Mont Dzumac 45.72 121 LR LR 05 49 02.5
comp=Z,2μm,19.3s,baz=305,slow=39
GTA Gaotai 45.75 332 *e*P **P 05 27 41.7 0.0**
GTA PcP **PcP 05 29 19.2 +0.3**
GTA ScP **ScP 05 33 07.4 -0.9**
GTA pmax pmax
comp=Z,57nm,1.0s
GTA pmax pmax
comp=Z,390nm,7.6s
GTA LR LR
comp=Z,4μm,19.4s
GTA LR LR
comp=Z,4μm,18.7s
GTA LR LR
comp=Z,6μm,18.7s
RAMN Ramite 45.85 309 *e*P **P 05 27 41.7 -1.1**
comp=Z,109nm,0.6s
RAMN Ramite 45.85 309 *e*P **P 05 27 41.7 -1.1**
comp=Z,109nm,0.6s
PVM Polavaram 46.22 294 *e*P **P 05 27 44.3 -1.1**
PVM IVmBBB 05 27 46.1
comp=Z,163nm,1.0s
PVM IVMs_BB IVMs_BB 05 47 13.1
comp=Z,460nm,20.2s
JIRN Jiri 46.52 310 *e*P **P 05 27 46.7 -1.5**
comp=Z,120nm,0.6s
JIRN Jiri 46.52 310 *e*P **P 05 27 46.7 -1.5**
comp=Z,120nm,0.6s
ASAJ Asahikawa 46.83 17 P **P 05 27 50.5 +0.6**
comp=Z,14nm,0.5s,baz=224,slow=12,SNR=4.5
JKA Kamikawa-asahi 46.83 17 IAmb IAmb 05 27 51.5
comp=Z,168nm,1.7s
GUN Gumba 46.89 310 *e*P **P 05 27 49.7 -1.3**
comp=Z,179nm,0.6s
GUN Gumba 46.89 310 *e*P **P 05 27 49.7 -1.3**
comp=Z,179nm,0.6s
MYLAV Mylavaram 46.98 293 *e*P **P 05 27 50.3 -1.1**
MYLAV IVmB_BB 05 27 51.4
comp=Z,281nm,3.1s
SKHT Srikalahasti 47.06 289 *e*P **P 05 27 51.5 -0.7**
SKHT IVmBBB 05 27 57.9
comp=Z,224nm,3.5s
PKI Pulchoki 47.08 309 *e*P **P 05 27 50.6 -1.9**
PKI Pulchoki 47.08 309 *e*P **P 05 27 50.6 -1.9**
PKIN Phulchoki 47.09 309 *e*P **P 05 27 50.9 -1.6**
comp=Z,64nm,0.6s
PKIN Phulchoki 47.09 309 *e*P **P 05 27 50.9 -1.6**
comp=Z,64nm,0.6s
KKN Kakani 47.29 309 *e*P **P 05 27 52.5 -1.5**
comp=Z,103nm,0.8s
KKN Kakani 47.29 309 *e*P **P 05 27 52.5 -1.5**
comp=Z,103nm,0.8s
DMN Daman 47.34 309 *e*P **P 05 27 53.9 -0.5**
comp=Z,90nm,0.6s
DMN Daman 47.34 309 *e*P **P 05 27 53.9 -0.5**
comp=Z,90nm,0.6s
ADKI Addanki 47.34 292 *e*P **P 05 27 52.8 -1.4**
ADKI IVmBBB 05 27 54.1
comp=Z,303nm,1.4s
GKN Gorkha 47.89 309 *e*P **P 05 27 57.5 -1.1**
comp=Z,65nm,0.4s
GKN Gorkha 47.89 309 *e*P **P 05 27 57.5 -1.1**
comp=Z,65nm,0.4s
NJS Nagarjunasagar 48.15 293 *e*P **P 05 27 58.9 -1.7**
NJS IVmB_BB 05 28 03.4
comp=Z,396nm,5.2s
KOLN Koldanda 48.59 308 *e*P **P 05 28 02.6 -1.4**
comp=Z,159nm,0.6s
KOLN Koldanda 48.59 308 *e*P **P 05 28 02.6 -1.4**
comp=Z,159nm,0.6s
CUPL Choutuppal 48.70 293 *e*P **P 05 28 03.2 -1.6**
HYB Hyderabad 49.07 293 *i* P **P 05 28 05.0 -2.7**
comp=Z,150nm,1.0s
HYBB Hyderabad (bro 49.07 293 *e*P **P 05 28 06.5 -1.2**
HYBB IVmB_BB 05 28 06.8
comp=Z,514nm,1.0s
HYBB IVMs_BB IVMs_BB 05 44 53.1
comp=Z,489nm,20.6s
PYUN Piuthan 49.22 308 *e*P **P 05 28 08.3 -0.6**
comp=Z,298nm,0.5s
PYUN Piuthan 49.22 308 *e*P **P 05 28 08.3 -0.6**
comp=Z,298nm,0.5s
YSS Yuzh-Sakhalins 49.47 16 *e*P **P 05 28 10.9 +0.8**
YSS pmax pmax
comp=Z,30nm,1.0s
HIA Hailar 49.53 355 IAmb IAmb 05 28 14.1
comp=Z,77nm,1.3s
URV Uravakonda 49.65 290 *e*P **P 05 28 11.4 -0.8**
URV IVmBBB 05 28 15.4
comp=Z,234nm,2.4s
URV IVMs_BB IVMs_BB 05 46 19.6
comp=Z,811nm,19.0s
SRSP Sriramsagar 49.69 295 *e*P **P 05 28 11.6 -0.8**
SRSP IVmB_BB 05 28 14.4
comp=Z,242nm,2.7s
ULN Ulaanbaatar 50.42 344 *d i* P **P 05 28 18.5 +0.9**
ULN pmax pmax
comp=Z,34nm,1.0s
ULN Ulaanbaatar 50.42 344 P **P 05 28 16.8 -0.9**
SONM Songino Array 50.58 344 P **P 05 28 17.6 -1.2**
comp=Z,36nm,1.0s,baz=161,slow=8.8,SNR=10
SONM Songino Array 50.58 344 P **P 05 28 17.6 -1.2**
SONM pmax pmax
comp=Z,28nm,1.0s
SONM Songino Array 50.58 344 P **P 05 28 17.6 -1.2**
KLRI Killari 51.04 294 *e*P **P 05 28 21.0 -1.6**
KLRI IVmB_BB 05 28 39.2
comp=Z,328nm,4.2s
GRNR Gornyy 51.72 9⇑*i*P **P 05 28 27.4 +0.3**
GRNR *e*S **S 05 35 47.4 +1.9**
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR smax smax
comp=N,3.0nm,1.1s
GRNR MLR MLR
comp=E,390nm,20.0s
GRNR MLR MLR
comp=N,270nm,18.0s
GRNR MLR MLR
comp=Z,490nm,18.0s
DGAR Diego Garcia 52.99 261⇑*e*P **P 05 28 37.7 +0.5**
DGAR pmax pmax
comp=Z,420nm,1.7s
ZEA Zeya 53.82 2 *e*P **P 05 28 43.1 +0.6**
ZEA pmax pmax
comp=Z,46nm,1.0s
TLY Talaya 54.82 344 P **P 05 28 48.1 -1.8**
comp=Z,19nm,0.7s,baz=185,slow=8.4,SNR=5.3
TLY Talaya 54.82 344 *c i* P **P 05 28 51.3 +1.4**
TLY pmax pmax
comp=Z,33nm,0.8s
TLY MLR MLR
comp=Z,2μm,19.0s
TLY Talaya 54.82 344 P **P 05 28 48.5 -1.4**
WMQ Urumqi 55.11 328 P **P 05 28 53.2 +1.0**
WMQ pP pwP 05 29 08.0 +0.4
WMQ sP sP 05 29 11.8 +2.7
WMQ pmax pmax
comp=Z,37nm,1.1s
WMQ pmax pmax
comp=Z,290nm,6.1s
WMQ LR LR
comp=Z,1μm,17.1s
WMQ LR LR
comp=Z,900nm,21.5s
WMQ LR LR
comp=Z,1μm,27.3s
BOD Bodaibo 58.56 353 *e*P **P 05 29 16.1 -0.2**
BOD pmax pmax
comp=Z,85nm,1.4s
FOZ Fox Glacier 58.68 143 P **P 05 29 17.7 +0.3**
FOZ IAmb IAmb 05 31 26.2
comp=Z,42nm,1.2s
ZSN Zaisan 59.01 329 *e*P **P 05 29 19.1 -0.5**
comp=Z,23nm,1.2s,baz=329
ZSN *e*S **S 05 37 21.3 -1.7**
baz=329
ZSN Zaisan 59.01 329 *e*P **P 05 29 19.1 -0.5**
ZSN *e*S **S 05 37 21.3 -1.7**
ZSN pmax pmax
comp=Z,23nm,1.2s
NIL Nilore 59.15 310 P **P 05 29 19.5 -1.5**
NIL pmax pmax
comp=Z,37nm,0.6s
NIL Nilore 59.15 310 P **P 05 29 19.5 -1.5**
NIL IAmb IAmb 05 29 21.7
comp=Z,37nm,0.6s
DGZ Jazzator, Alta 59.29 332 *de*P **P 05 29 22.7 +1.0**
DGZ pmax pmax
comp=Z,25nm,0.9s
SHLS Shalkode 59.43 323 *e*P **P 05 29 20.3 -2.5**
comp=Z,30nm,1.1s,baz=323
SHLS Shalkode 59.43 323 *e*P **P 05 29 20.3 -2.5**
SHLS pmax pmax
comp=Z,30nm,1.1s
THZ Tophouse 59.64 140 P **P 05 29 24.6 +0.4**
PEA0B Petropavlovsk- 59.68 22 P **P 05 29 24.9 +0.7**
PEA0B pmax pmax
comp=Z,49nm,0.9s
PEA0B Petropavlovsk- 59.68 22 P **P 05 29 24.9 +0.7**
PEA0B IAmb IAmb 05 29 26.3
comp=Z,49nm,0.9s
PETK Petropavlovsk- 59.68 22 P **P 05 29 25.1 +1.0**
comp=Z,34nm,0.8s,baz=199,slow=6.3,SNR=6.7
PETK LR LR 05 54 28.0
comp=Z,1μm,21.0s,baz=209,slow=35
PETK Petropavlovsk- 59.68 22 P **P 05 29 25.0 +0.9**
UZB Uzynbulak 59.69 322 *e*P **P 05 29 24.5 -0.2**
comp=Z,35nm,1.5s,baz=322
UZB Uzynbulak 59.69 322 *e*P **P 05 29 24.4 -0.2**
UZB pmax pmax
comp=Z,35nm,1.5s
KSH Kashi 59.78 317 P **P 05 29 29.3 +4.0**
KSH PcP **PcP 05 30 15.6 +3.9**
KSH S **S 05 37 40.7 +7.2**
KSH sS sS 05 37 59.4 +6.1
KSH pmax pmax
comp=Z,620nm,3.7s
KSH LR LR
comp=Z,1μm,11.9s
KSH LR LR
comp=Z,1μm,11.0s
KSH LR LR
comp=Z,1μm,20.9s
MK31 Makanchi Array 59.94 327 P **P 05 29 24.2 -1.9**
MK31 pmax pmax
comp=Z,94nm,1.4s
MK31 Makanchi Array 59.94 327 P **P 05 29 24.2 -1.9**
MK31 IAmb IAmb 05 29 27.6
comp=Z,94nm,1.4s
MKAR Makanchi Array 59.94 327 P **P 05 29 24.6 -1.5**
comp=Z,45nm,0.4s,baz=123,slow=7.4,SNR=35
MKAR PKP2bc 05 59 02.9
comp=Z,1.1nm,0.8s,baz=282,slow=2.8,SNR=4.2
MKAR Makanchi Array 59.94 327 P **P 05 29 25.3 -0.8**
MKAR Makanchi Array 59.94 327 P **P 05 29 25.3 -0.8**
PET Petropavlovsk 59.98 23 *i* P **P 05 29 26.8 +0.6**
PET pmax pmax
comp=Z,328nm,1.4s
SATY Saty 60.02 322 *e*P **P 05 29 26.4 -0.5**
comp=Z,39nm,0.7s,baz=322
SATY Saty 60.02 322 *e*P **P 05 29 26.3 -0.5**
SATY pmax pmax
comp=Z,39nm,0.7s
KPKS Kokpek 60.07 322 *e*P **P 05 29 26.3 -0.9**
comp=Z,26nm,0.5s,baz=322
KPKS Kokpek 60.07 322 *e*P **P 05 29 26.3 -0.9**
KPKS pmax pmax
comp=Z,26nm,0.5s
TUWZ Tuamarina 60.14 139 P **P 05 29 27.2 -0.4**
OTVZ Oturere 60.22 136 P **P 05 29 29.8 +1.4**
KHZ Kahutara 60.38 140 P **P 05 29 28.8 -0.4**
BHHZ Black Hill Sta 60.65 136 P **P 05 29 31.2 +0.1**
BKZ Black Stump Fm 60.80 136 P **P 05 29 32.4 +0.3**
BKZ Black Stump Fm 60.80 136 P **P 05 29 32.3 +0.2**
BKZ IAmb IAmb 05 29 58.0
comp=Z,43nm,1.2s
URZ Urewera 60.83 135 P **P 05 29 31.7 -0.6**
URZ Urewera 60.83 135 P **P 05 29 31.5 -0.9**
RTZ Ruatahuna 60.90 135 P **P 05 29 32.6 -0.3**
MTHZ Maungataniwha 60.90 135 P **P 05 29 33.3 +0.4**
TNSS Tian-Shan 60.91 321 *e*P **P 05 29 32.0 -1.4**
baz=321
TNSS Tian-Shan 60.91 321 *e*P **P 05 29 31.9 -1.4**
MDOK Medeo 60.92 321 *e*P **P 05 29 32.3 -0.7**
baz=321
MDOK *e*S **S 05 37 46.1 -1.9**
baz=321
MDOK LR LR 05 55 37.7
comp=Z,582nm,16.5s,baz=321
MDOK Medeo 60.92 321 *e*P **P 05 29 32.3 -0.7**
MDOK *e*S **S 05 37 46.1 -1.9**
MDOK MLR MLR
comp=Z,582nm,16.0s
ULHL Ulahol 60.95 320 P **P 05 29 34.7 +1.3**
SNR=5.5
AAA Alma-Ata 61.02 321 *e*P **P 05 29 33.4 -0.2**
comp=Z,34nm,0.9s,baz=321
AAA LR LR 05 55 39.9
comp=Z,574nm,19.3s,baz=321
AAA Alma-Ata 61.02 321 *e*P **P 05 29 33.4 -0.2**
AAA pmax pmax
comp=Z,34nm,0.9s
AAA MLR MLR
comp=Z,574nm,19.0s
PLWZ Palliser 61.07 139 P **P 05 29 33.3 -0.7**
TDK Taldyqorghan 61.09 324 *e*P **P 05 29 33.1 -0.9**
comp=Z,46nm,0.9s,baz=324
TDK LR LR 05 56 45.1
comp=Z,648nm,17.0s,baz=324
TDK Taldyqorghan 61.09 324 *e*P **P 05 29 33.0 -0.9**
TDK pmax pmax
comp=Z,46nm,0.9s
TDK MLR MLR
comp=Z,648nm,17.0s
RUGZ Raukumara Rang 61.11 134 P **P 05 29 33.6 -0.8**
RAGZ Rawiri 61.15 135 P **P 05 29 30.8 -3.8**
BOOM Boomskoye usch 61.27 320 P **P 05 29 36.3 +0.9**
BOOM pmax pmax
comp=Z,66nm,1.3s
BOOM Boomskoye usch 61.27 320 P **P 05 29 36.3 +0.9**
BOOM IAmb IAmb 05 29 44.8
comp=Z,66nm,1.3s
CHKK Chushkaly 61.32 322 *e*P **P 05 29 34.4 -1.1**
baz=322
CHKK Chushkaly 61.32 322 *e*P **P 05 29 34.4 -1.1**
MXZ Matakaoa Point 61.40 134 P **P 05 29 35.8 -0.3**
TKGZ Te Karaka 61.44 135 P **P 05 29 36.8 +0.4**
PXZ Pawanui 61.44 137 P **P 05 29 37.6 +1.2**
KZA Kyzart 61.51 320 P **P 05 29 39.2 +1.8**
SNR=10
TKM2 Tokmak 2 61.70 321 P **P 05 29 39.8 +1.3**
SNR=15
CNGZ Carnagh Statio 61.71 135 P **P 05 29 38.9 +0.7**
KBK Karagaybulak 61.99 320 P **P 05 29 41.9 +1.6**
SNR=5.7

YAK Yakutsk 62.20 2 P **P 05 29 40.7 -0.4**
comp=Z,46nm,0.5s,baz=245,slow=2.0,SNR=6.6
YAK Yakutsk 62.20 2 *e*P **P 05 29 40.6 -0.5**
YAK *e**PP **sP 05 30 01.1 +2.9**
YAK *e*S **S 05 38 00.9 -2.3**
YAK *e**SS **sS 05 38 21.6 -1.8**
YAK *e* 05 39 24.1
YAK *e*SSS SSS 05 44 53.2
YAK pmax pmax
comp=Z,96nm,0.8s
YAK pmax pmax
comp=N,35nm,0.9s
YAK pmax pmax
comp=E,13nm,0.9s
YAK smax smax
comp=E,97nm,1.8s
YAK smax smax
comp=N,110nm,1.5s
YAK Yakutsk 62.20 2 P **P 05 29 41.1 0.0**
AAK Ala-Archa 62.27 320 P **P 05 29 43.0 +0.8**
SNR=7.5
AML Almayashu 62.55 319 P **P 05 29 42.8 -1.5**
SNR=14
USP Ospenovka 62.57 320 P **P 05 29 44.0 -0.1**
SNR=9.9
SGDS Sogindy 62.58 321 *e*P **P 05 29 42.7 -1.5**
comp=N,21nm,1.0s,baz=321
SGDS Sogindy 62.58 321 *e*P **P 05 29 42.6 -1.5**
SGDS pmax pmax
comp=Z,21nm,1.0s
KBL Kabul 62.72 310 P **P 05 29 43.7 -1.7**
KBL pmax pmax
comp=Z,51nm,0.8s
KBL Kabul 62.72 310 P **P 05 29 43.7 -1.7**
KBL IAmb IAmb 05 29 55.2
comp=Z,51nm,0.8s
EKS2 Erkin-Say 62.74 320 P **P 05 29 45.7 +0.4**
SNR=13
MA2 Magadan 62.92 14 P **P 05 29 46.9 +1.0**
MA2 pmax pmax
comp=Z,62nm,0.7s
MA2 Magadan 62.92 14 P **P 05 29 46.9 +1.0**
ZAA0 Zalesovo Array 63.42 335 IAmb IAmb 05 29 49.9
comp=Z,51nm,1.1s
ZALV Zalesovo Beam 63.42 335 P **P 05 29 48.7 -0.6**
comp=Z,13nm,0.5s,baz=129,slow=6.1,SNR=8.7
ZALV PKP2bc 05 58 52.9
comp=Z,1.7nm,0.8s,baz=296,slow=4.8,SNR=4.4
BTLS Baital 63.73 322 *e*P **P 05 29 50.5 -1.2**
comp=Z,8.2nm,0.5s,baz=322
BTLS LR LR 05 57 25.8
comp=Z,388nm,18.0s,baz=322
BTLS Baital 63.73 322 *e*P **P 05 29 50.4 -1.2**
BTLS pmax pmax
comp=Z,8.0nm,0.5s
BTLS MLR MLR
comp=Z,389nm,18.0s
AFI Afiamalu 63.88 105 LR LR 05 56 44.3
comp=Z,1μm,18.6s,baz=274,slow=35
CHGR Chuyangaron 64.17 314 P **P 05 29 54.0 -0.7**
KURK Kurchatov 64.25 329*d i*P **P 05 29 53.4 -1.5**
KURK pmax pmax
comp=Z,113nm,0.8s
KURK Kurchatov 64.25 329 P **P 05 29 53.8 -1.1**
DZA Taraz 64.45 319 *e*P **P 05 29 55.3 -1.2**
comp=Z,22nm,1.0s,baz=319
DZA LR LR 05 57 38.6
comp=Z,342nm,16.6s,baz=319
DZA Taraz 64.45 319 *e*P **P 05 29 55.2 -1.2**
DZA pmax pmax
comp=Z,22nm,1.0s
DZA MLR MLR
comp=Z,341nm,17.0s
IUG Iuzhnay 64.99 318 *e*P **P 05 29 59.3 -0.8**
comp=Z,63nm,1.0s,baz=318
IUG Iuzhnay 64.99 318 *e*P **P 05 29 59.2 -0.8**
IUG pmax pmax
comp=Z,63nm,1.0s
KK31 Karatay Array 65.08 319 P **P 05 30 00.1 -0.4**
KK31 pmax pmax
comp=Z,45nm,0.9s
KK31 Karatay Array 65.08 319 P **P 05 30 00.1 -0.4**
KK31 IAmb IAmb 05 30 02.0
comp=Z,45nm,0.9s
KKAR Karatay Array 65.08 319 P **P 05 29 59.1 -1.4**
KKAR pmax pmax
comp=Z,45nm,0.9s
KKAR Karatay Array 65.08 319 P **P 05 29 59.1 -1.4**
KKAR IAmb IAmb 05 30 02.0
comp=Z,45nm,0.9s
KKAR Karatay Array 65.08 319 P **P 05 29 60.0 -0.5**
SEY Seymchan 66.23 13⇓*e*P **P 05 30 08.8 +1.3**
CASY Casey 66.72 186 P **P 05 30 11.0 +0.5**
BRZS Berezniki 67.02 326 *e*P **P 05 30 11.7 -1.1**
comp=Z,45nm,1.3s,baz=326
BRZS Berezniki 67.02 326 *e*P **P 05 30 11.7 -1.1**
BRZS pmax pmax
comp=Z,45nm,1.3s
AMKA Amchitka 68.68 33 P **P 05 30 23.9 +0.7**
BRVK Borovoye 69.86 328*ce*P **P 05 30 29.6 -0.9**
BRVK pmax pmax
comp=Z,76nm,1.3s
BRVK Borovoye 69.86 328 P **P 05 30 29.9 -0.5**
BRVK IAmb IAmb 05 30 31.3
comp=Z,66nm,1.1s
ADK Adak 71.13 34 P **P 05 30 40.0 +1.8**
ADK pmax pmax
comp=Z,37nm,1.0s
ADK Adak 71.13 34 P **P 05 30 40.0 +1.8**
GSTR Great Sitkin T 71.57 34 P **P 05 30 42.3 +1.4**
SOCY Socotra 71.62 283 IAmb IAmb 05 30 40.8
comp=Z,52nm,0.7s
TIXI Tiksi 71.81 1*ce*P **P 05 30 41.0 -0.9**
TIXI pmax pmax
comp=Z,29nm,0.8s
TIXI MLR MLR
comp=Z,2μm,19.0s
TIXI Tiksi 71.81 1 P **P 05 30 41.1 -0.9**
GEYT Alibeck 72.16 310 P **P 05 30 44.3 -0.5**
comp=Z,14nm,0.7s,baz=134,slow=6.4,SNR=6.9
GEYT Alibeck 72.16 310 P **P 05 30 45.0 +0.2**
ATKA Atka Island 72.65 34 P **P 05 30 48.2 +0.9**
ATKA IAmb IAmb 05 31 04.3
comp=Z,73nm,0.8s
NRIK Noril'sk 73.89 347 P **P 05 30 54.0 -0.3**
comp=Z,72nm,0.6s,baz=129,slow=6.5,SNR=19
ABKAR Akbulak array 74.22 322 P **P 05 30 55.2 -1.4**
SVE Sverdlovsk 76.50 329*ce*P **P 05 31 09.3 -0.3**
SVE pmax pmax
comp=Z,77nm,0.9s
ARU Arti 77.43 329*d i*P **P 05 31 13.8 -1.0**
ARU pmax pmax
comp=Z,53nm,0.9s
ARU MLR MLR
comp=Z,2μm,21.0s
ARU Arti 77.43 329 P **P 05 31 13.2 -1.6**
ARU IAmb IAmb 05 31 14.6
comp=Z,46nm,0.9s
UNV Unalaska Valle 77.58 34 P **P 05 31 16.4 +0.7**
AKUT Akutan 78.08 34 P **P 05 31 19.6 +1.1**
ABPO Ambohimpanom 78.48 251 P **P 05 31 21.6 -0.1**
ABPO pmax pmax
comp=Z,31nm,0.8s
ABPO Ambohimpanom 78.48 251 P **P 05 31 21.6 -0.1**
ABPO IAmb IAmb 05 31 22.5
comp=Z,31nm,0.8s
MAW Mawson 79.50 200 P **P 05 31 25.9 -0.1**
comp=Z,9.9nm,0.9s,baz=55,slow=7.9,SNR=3.6
MAW PKKPbc **PKKPbc 05 50 13.8 -4.0**
comp=Z,1.2nm,0.8s,baz=308,slow=6.8,SNR=3.9
MAW Mawson 79.50 200 P **P 05 31 26.6 +0.6**
baz=79,SNR=6.4
MAW Mawson 79.50 200 P **P 05 31 26.9 +0.9**
MAW pmax pmax
comp=Z,9.0nm,1.4s
MAW Mawson 79.50 200 P **P 05 31 26.9 +0.9**
VNDA Vanda 79.73 172 PKKPbc PKKPbc 05 50 13.5 -4.1
comp=Z,1.3nm,1.0s,baz=240,slow=6.3,SNR=3.9
AKT Akhty 80.72 312 *e*P **P 05 31 32.4 -0.9**
AKT pmax pmax
comp=Z,91nm,0.6s
MAK Makhachkala 81.11 313 *e*P **P 05 31 33.5 -1.6**
MAK *e*S **S 05 41 37.2 -4.4**
MAK pmax pmax
comp=Z,383nm,1.9s
GROC Groznyy 82.38 314 *e*P **P 05 31 41.6 -0.3**
GROC *e**PP **pwP 05 31 56.7 -1.2**
GROC *e*S **S 05 41 54.2 -0.6**
GROC pmax pmax
comp=Z,61nm,0.6s
KIRV Kirov 82.77 329 P **P 05 31 43.1 -0.5**
comp=Z,76nm,0.6s,baz=267,slow=2.6,SNR=15
KIRV LR LR 06 11 01.1
comp=Z,2μm,21.4s,baz=88,slow=38
RDOG Red Dog Mine 83.54 21 IAmb IAmb 05 31 50.0
comp=Z,68nm,0.9s
ZEI Tsey 83.71 313 *e*P **P 05 31 48.4 -0.7**
ZEI pmax pmax
comp=Z,81nm,0.9s
AKH Akhalkalaki 83.87 312 ⇓P **P 05 31 50.7 +0.9**
AKH Akhalkalaki 83.87 312 P **P 05 31 50.3 +0.4**
AKH pmax pmax
comp=Z,108nm,0.8s
AKH Akhalkalaki 83.87 312 P **P 05 31 50.3 +0.4**
AKH IAmb IAmb 05 31 51.6
comp=Z,108nm,0.8s
KBZ Khabaz 84.53 314 P **P 05 31 52.7 -0.2**
comp=Z,35nm,0.8s,baz=133,slow=3.7,SNR=8.4
KIV Kislovodsk 84.71 314 *e*P **P 05 31 53.4 -0.6**
KIV pmax pmax
comp=Z,134nm,0.9s
KIV Kislovodsk 84.71 314 P **P 05 31 55.4 +1.4**
KIV IAmb IAmb 05 31 58.6
comp=Z,37nm,0.7s
CHVG Ch'k'valeri 85.04 313 ⇑P **P 05 31 55.6 +0.1**
PRGR Permogore 85.21 332 *e*P **P 05 31 53.8 -2.1**
PRGR pmax pmax
comp=Z,468nm,1.1s
BATM Batumi 85.23 312 ⇑P **P 05 31 56.3 -0.2**
BCA Borcka 85.28 311 ⇓P **P 05 31 56.6 -0.2**
OHAK Old Harbor 85.63 33 IAmb IAmb 05 31 59.9
comp=Z,58nm,0.8s
VRH Novokhopyorsk 86.04 321 *e*P **P 05 31 59.4 -0.9**
VRH pmax pmax
comp=Z,250nm,0.8s
KDAK Kodiak Island 86.08 32 P **P 05 32 01.4 +1.1**
comp=Z,18nm,0.7s,baz=247,slow=2.5,SNR=5.1
KDAK Kodiak Island 86.08 32 P **P 05 32 00.9 +0.6**
SOC Sochi 86.83 313*c i*P **P 05 32 02.5 -1.8**
SOC *e*S S 05 42 25.3 -14
SOC pmax pmax
comp=Z,43nm,0.7s
VORD Divnogorie 87.55 321 *e*P **P 05 32 06.0 -1.6**
VORD pmax pmax
comp=Z,250nm,1.6s
VORR Voronezh 87.64 322 *e*P **P 05 32 07.0 -1.1**
VORR pmax pmax
comp=Z,300nm,1.0s
VSR Storozhevoye 87.64 321 *e*P **P 05 32 06.4 -1.7**
VSR pmax pmax
comp=Z,160nm,1.3s
KMBO Kilima Mbogo 87.87 269 P **P 05 32 11.2 +0.9**
comp=Z,57nm,0.9s,baz=64,slow=6.9,SNR=21
KMBO Kilima Mbogo 87.87 269 P **P 05 32 11.2 +0.9**
KMBO pmax pmax
comp=Z,86nm,1.0s
KMBO Kilima Mbogo 87.87 269 P **P 05 32 11.2 +0.9**
LPSR Galich'ya Gora 87.87 322 *e*P **P 05 32 08.0 -1.1**
LPSR pmax pmax
comp=Z,150nm,0.8s
SEW Seward 87.91 30 IAmb IAmb 05 32 11.8
comp=Z,31nm,0.9s
KLMR Klimovskoe 88.06 331 *e*P **P 05 32 07.4 -2.4**
KLMR pmax pmax
comp=Z,95nm,1.3s
KLMR Klimovskoe 88.06 331 *e*P **P 05 32 07.5 -2.4**
KLMR AMP 05 32 11.2
comp=Z,95nm,1.3s
COLD Coldfoot 88.15 23 P **P 05 32 10.8 +0.6**
baz=265
COLD Coldfoot 88.15 23 P **P 05 32 11.0 +0.8**
COLD IAmb IAmb 05 32 11.9
comp=Z,34nm,0.8s
SYO Syowa Base 88.17 201⇑*i*P **P 05 32 09.0 -1.2**
SYO Syowa Base 88.17 201⇓*es*P sP 05 32 27.4 0.0
NEA2 Nenana 88.40 25 P **P 05 32 11.4 -0.1**
baz=266
MCK McKinley 88.41 26 IAmb IAmb 05 32 11.8
comp=Z,28nm,0.9s
RND Reindeer 88.42 27 IAmb IAmb 05 32 11.7
comp=Z,27nm,0.8s
TOLK Toolik Lake Re 88.50 21 P **P 05 32 12.4 +0.5**
baz=266
SML Sawmill 88.57 28 IAmb IAmb 05 32 13.6
comp=Z,36nm,0.9s
MOS Moscow 88.78 326 *e*P **P 05 32 09.5 -3.9**
MOS pmax pmax
comp=Z,167nm,0.8s
MOS pmax pmax
comp=Z,200nm,0.9s
WRH Wood River Hil 88.82 26 IAmb IAmb 05 32 13.6
comp=Z,23nm,0.9s
TMCR Tamitsa 88.94 334 *e*P **P 05 32 11.6 -2.3**
COLA College 88.94 25*de*P **P 05 32 13.9 0.0**
COLA pmax pmax
comp=Z,19nm,2.0s
CCB Clear Creek Bu 88.95 25 IAmb IAmb 05 32 14.5
comp=Z,21nm,0.9s
SCM Sheep Creek Mo 89.04 28 P **P 05 32 14.3 -0.3**
SCM pmax pmax
comp=Z,36nm,1.1s
SCM Sheep Creek Mo 89.04 28 P **P 05 32 14.3 -0.3**
SCM IAmb IAmb 05 32 27.4
comp=Z,36nm,1.1s
POKR Poker Plat Res 89.13 25 P **P 05 32 16.0 +1.1**
baz=268
HDA Harding Lake 89.31 26 P **P 05 32 14.3 -1.5**
baz=268
ILAR Eielson Array 89.35 25 P **P 05 32 14.2 -1.6**
comp=Z,5.1nm,0.7s,baz=240,slow=5.1,SNR=11
ILAR PKKPbc **PKKPdf 05 49 51.3 +1.9**
comp=Z,1.4nm,0.9s,baz=108,slow=2.6,SNR=7.2
ILAR LR LR 06 12 56.8
comp=Z,191nm,20.0s,baz=263,slow=36
ILAR Eielson Array 89.35 25 P **P 05 32 14.0 -1.9**
OBN Obninsk 89.36 325 P **P 05 32 14.3 -1.8**
comp=Z,26nm,0.7s,baz=105,slow=2.2,SNR=11
OBN Obninsk 89.36 325*d i*P **P 05 32 14.0 -2.1**
OBN *e* 05 35 48.7
OBN *e*S **S 05 43 08.5 +5.9**
OBN *e*SS **SS 05 49 02.0 +4.0**
OBN pmax pmax
comp=Z,136nm,0.7s
OBN MLR MLR
comp=Z,2μm,22.0s
M24K Tolsona, Glenn 89.60 28 P **P 05 32 17.6 +0.4**
baz=269
PAX Paxson 89.94 27 IAmb IAmb 05 32 19.8
comp=Z,24nm,1.0s
LVZ Lovozero 90.40 338 *i* P **P 05 32 19.3 -1.5**
LVZ pmax pmax
comp=Z,18nm,0.9s
LVZ MLR MLR
comp=Z,2μm,17.0s
DOT Dot Lake 90.57 27 IAmb IAmb 05 32 22.5
comp=Z,20nm,0.8s
SCRK Sand Creek 90.60 26 P **P 05 32 22.0 +0.1**
baz=271
GLB Gilahina Butte 90.72 29 IAmb IAmb 05 32 23.7
comp=Z,20nm,1.0s
APA Apatity 90.88 337⇓*i*P P 05 32 36.2 +13
APA pmax pmax
comp=Z,12nm,0.9s
APA MLR MLR
comp=Z,1μm,17.0s
SIM Simferopol' 90.88 315*d i*P **P 05 32 21.6 -1.9**
SIM pmax pmax
comp=Z,121nm,0.7s
BR131 Keskin Array S 91.30 310 IAmb IAmb 05 32 25.0
comp=Z,16nm,0.9s
BRTR Keskin Array B 91.30 310 P **P 05 32 24.3 -1.4**
comp=Z,15nm,0.9s,baz=120,slow=4.0,SNR=12
BRTR Keskin Array B 91.30 310 P **P 05 32 23.8 -1.9**
K27K Chicken 91.44 26 P **P 05 32 26.7 +1.1**
baz=272
CSS Mathiatis 91.61 305 P **P 05 32 26.5 -0.6**
CSS IAmb IAmb 05 32 27.6
comp=Z,86nm,0.8s
BCAR Beaver Creek A 91.62 27 P **P 05 32 27.0 +0.4**
BARN Barnard Glacie 91.77 29 IAmb IAmb 05 32 29.4
comp=Z,29nm,0.8s
LEF Lefka 91.97 305⇓P **P 05 32 27.4 -1.3**
EPYK Eagle Plains 93.49 24 P **P 05 32 35.0 -0.2**
baz=277
ARCES ARCESS Array B 93.59 340 P **P 05 32 33.9 -1.6**
comp=Z,6.6nm,0.6s,baz=92,slow=4.2,SNR=9.7
ARCES LR LR 06 18 22.2
comp=Z,991nm,20.1s,baz=104,slow=38
ARCES ARCESS Array B 93.59 340 P **P 05 32 33.8 -1.6**
HYT Haines Junctio 93.81 29 IAmb IAmb 05 32 38.6
comp=Z,17nm,0.8s
AKASG Malin Array Be 93.93 321 P **P 05 32 35.4 -2.0**
comp=Z,15nm,0.7s,baz=68,slow=4.7,SNR=22
AKASG Malin Array Be 93.93 321 P **P 05 32 35.6 -1.8**
AKASG Malin Array Be 93.93 321 P **P 05 32 35.6 -1.8**
AKBB Malin Array Si 93.93 321 IAmb IAmb 05 32 36.5
comp=Z,23nm,0.9s
SPITS Spitsbergen Ar 94.03 349 P **P 05 32 36.5 -0.9**
comp=Z,9.1nm,0.6s,baz=112,slow=11,SNR=9.7
MICGM Minsk 94.41 325⇓*e*P **P 05 32 37.0 -2.5**
MICGM PM 05 32 38.0
comp=Z,0.4nm,1.0s
MICGM *e*LR LR 06 11 40.0
MICGM LRM MLR 06 14 30.0
comp=Z,3.4nm,20.0s
MNK Minsk 94.41 325⇓*e*P **P 05 32 37.0 -2.5**
MNK pmax pmax
comp=Z,370nm,1.0s
MNK MLR MLR
comp=Z,3μm,20.0s
KIS Kishinev 94.48 317 *i* P **P 05 32 41.6 +1.6**
KIS Kishinev 94.48 317 *i* P **P 05 32 41.6 +1.6**
FINES FINESS Array B 94.54 332 P **P 05 32 38.0 -2.0**
comp=Z,5.7nm,0.7s,baz=95,slow=4.8,SNR=6.6
FINES LR LR 06 18 42.8
comp=Z,1μm,20.4s,baz=80,slow=38
FINES FINESS Array B 94.54 332 P **P 05 32 38.0 -2.0**
VSU Vasula 94.60 329 *i* P **P 05 32 39.7 -0.6**
VSU pmax pmax
comp=Z,34nm,1.0s
JURR Jurílovca 94.61 315⇓P **P 05 32 40.4 -0.2**
TLCR 94.62 315⇓P **P 05 32 39.4 -1.3**
SORM Soroca 94.71 318⇓P **P 05 32 39.6 -1.4**
TIRR Tirgusor 94.97 314⇑P **P 05 32 40.7 -1.6**
TIRR Tirgusor 94.97 314 P **P 05 32 41.0 -1.3**
TIRR pmax pmax
comp=Z,75nm,0.8s
TIRR Tirgusor 94.97 314 P **P 05 32 41.0 -1.3**
TIRR IAmb IAmb 05 32 41.7
comp=Z,75nm,0.8s
NACGM Naroch 95.00 325 *e* **P 05 32 40.0 -2.2**
SKAG Skagway 95.06 30 IAmb IAmb 05 32 44.4
comp=Z,21nm,1.0s
CFR Carcaliu 95.10 315⇑P **P 05 32 41.4 -1.5**
WHY Whitehorse 95.11 29 IAmb IAmb 05 32 44.6
comp=Z,27nm,0.8s
HARR Harsova 95.29 315⇓P **P 05 32 42.9 -0.8**
BESE Bessie Mountai 95.43 31 IAmb IAmb 05 32 46.1
comp=Z,19nm,1.2s
TESR Tescani 96.01 317⇑P **P 05 32 45.8 -1.2**
VRI Vrincioaia 96.03 316⇑P **P 05 32 46.3 -0.9**
VRI Vrincioaia 96.03 316⇓P **P 05 32 46.5 -0.6**
BISRR Bisoca 96.07 316⇑P **P 05 32 46.4 -1.1**
PLOR Plostina 96.08 316⇓P **P 05 32 46.7 -0.7**
BIZ Bicaz 96.34 317⇑P **P 05 32 47.5 -1.1**
NEHR Nehoiu 96.37 316⇑P **P 05 32 48.2 -0.5**
MLR Muntele Rosu 96.61 316 P **P 05 32 48.7 -1.3**
comp=Z,26nm,0.7s,baz=348,slow=2.8,SNR=13
MLR Muntele Rosu 96.61 316⇓P **P 05 32 48.8 -1.2**
MLR Muntele Rosu 96.61 316 P **P 05 32 49.0 -0.9**
MLR pmax pmax
comp=Z,35nm,0.8s
MLR Muntele Rosu 96.61 316 P **P 05 32 49.0 -0.9**
LSZ Lusaka 96.63 255 P **P 05 32 50.3 -0.3**
LSZ pmax pmax
comp=Z,35nm,0.8s
LSZ Lusaka 96.63 255 P **P 05 32 50.3 -0.3**
BURAR Bucovina Array 96.86 318⇓P **P 05 32 50.2 -0.8**
BURAR Bucovina Array 96.86 318 P **P 05 32 50.1 -0.8**
SUW Suwalki 97.21 324 *e*P **P 05 32 51.1 -1.1**
VOIR 97.24 316⇓P **P 05 32 51.4 -1.4**
NVL N'lazarevskaya 97.31 198 *e*P **P 05 32 52.0 -0.3**
NVL *e*S **SKSac 05 43 24.8 -0.8**
NVL pmax pmax
comp=Z,2.0nm,0.4s
LVV L'vov 97.34 320 *e*P **P 05 32 51.6 -1.4**
HUMR Humele 97.40 315⇓P **P 05 32 52.2 -1.2**
C36M Paulatuk 97.46 20 P Pdif 05 32 53.1 0.0
baz=290
ARR Arges 97.54 316⇓P **P 05 32 52.9 -1.2**
IDI Anoyia 98.49 306⇑P **P 05 32 57.6 -1.0**
IDI Anoyia 98.49 306 IAmb IAmb 05 32 58.4
comp=Z,19nm,0.7s
BOSA Boshof 98.55 241 P **P 05 32 57.5 -1.6**
comp=Z,5.4nm,0.7s,baz=66,slow=6.1,SNR=4.7
KOLS Kolonicke sedl 98.61 319 *e*P **P 05 32 57.1 -1.6**
KOLS Kolonicke sedl 98.61 319 *e*PDIFF **P 05 32 57.1 -1.6**
UZH Uzhgorod 98.65 319⇑*i*P **P 05 32 58.6 -0.3**
CRVS Cervenica-Dubn 99.14 320 *e*P **Pdif 05 33 00.6 -0.5**
CRVS Cervenica-Dubn 99.14 320 *e*PDIFF **Pdif 05 33 00.6 -0.5**
HERR Herculane 99.17 315⇓P **Pdif 05 33 00.5 -0.8**
SIRR Siria 99.47 317⇑P **Pdif 05 33 01.7 -0.9**
BZS Buzias 99.61 316⇓P **Pdif 05 33 02.1 -1.1**
MDVR Moldovita 99.67 315⇑P **Pdif 05 33 02.4 -1.2**
NIE Niedzica 99.80 320 *e*P **Pdif 05 33 03.7 -0.3**
OJC Ojcow 99.96 321 *e*P **Pdif 05 33 03.7 -1.0**
PSZ Piszkesteto 100.35 319⇑P **Pdif 05 33 05.5 -1.1**
HFS Hagfors 100.74 332 P **Pdif 05 33 05.7 -2.3**
comp=Z,3.6nm,0.8s,baz=81,slow=8.9,SNR=1.5
VYHS Vyhne 100.93 319 *e*P **Pdif 05 33 08.2 -0.9**
VYHS Vyhne 100.93 319 *e*PDIFF **Pdif 05 33 08.2 -0.9**
SNAA Sanae 101.00 195 P **Pdif 05 33 08.1 -0.9**
MORC Moravsky Berou 101.47 321 *e*PDIFF **Pdif 05 33 10.2 -1.3**
NB2 NORSAR Subarra 101.59 333 P **Pdif 05 33 09.2 -2.5**
comp=Z,9.7nm,1.1s,baz=69,slow=4.8
NB2 NORSAR Subarra 101.59 333 P **Pdif 05 33 09.2 -2.5**
baz=69,slow=4.8
NOA NORSAR Array B 101.59 333 P **Pdif 05 33 09.7 -2.1**
comp=Z,2.9nm,0.9s,baz=70,slow=4.6,SNR=3.9
JAVC Velka Javorina 101.60 320 *e*PDIFF **Pdif 05 33 12.0 -0.1**
PDG Podgorica 101.84 313⇓P **Pdif 05 33 12.1 -1.1**
KRLC Kraliky 101.88 321 *e*PDIFF **Pdif 05 33 12.6 -0.7**
KRLC Kraliky 101.88 321 *e*P **Pdif 05 33 12.6 -0.7**
MODS Modra-Piesok 101.97 320 *e*P **Pdif 05 33 12.7 -1.0**
MODS Modra-Piesok 101.97 320 *e*PDIFF **Pdif 05 33 12.7 -1.0**
KSP Ksiaz 101.99 322 *e*P **Pdif 05 33 13.4 -0.3**
DPC Dobruska-Polom 102.10 322 *e*PDIFF **Pdif 05 33 14.0 -0.3**
DPC Dobruska-Polom 102.10 322 *e*P **Pdif 05 33 14.0 -0.3**
VRAC Vranov 102.19 321 P **Pdif 05 33 14.3 -0.4**
comp=Z,2.5nm,0.4s,baz=73,slow=5.3,SNR=5.0
VRAC Vranov 102.19 321 *e*PDIFF **Pdif 05 33 14.3 -0.4**
KRUC Moravsky 102.37 320 *e*PDIFF **Pdif 05 33 14.6 -0.9**
PRU Pruhonice 103.30 322 *e*PDIFF **Pdif 05 33 19.4 -0.2**
PRU Pruhonice 103.30 322 *e*P **Pdif 05 33 19.4 -0.2**
YKA Yellowknife Ar 103.75 24 Pdiff **Pdif 05 33 22.3 +1.0**
comp=Z,1.2nm,0.8s,baz=84,slow=33,SNR=4.3
CLL Collm 103.86 323 pmax pmax
comp=Z,18nm,1.0s
KHC Kasperske Hory 104.14 321 *e*PDIFF **Pdif 05 33 22.9 -0.5**
KHC Kasperske Hory 104.14 321 *e*P **Pdif 05 33 22.9 -0.5**
GERES GERESS Array B 104.14 321 Pdiff **Pdif 05 33 23.1 -0.4**
comp=Z,1.7nm,0.7s,baz=87,slow=5.6,SNR=8.7
GERES PKiKP **PKiKP 05 37 40.3 -0.1**
comp=Z,0.6nm,0.4s,baz=64,slow=6.1,SNR=2.7
NVAR Mina Array Bea 110.72 49 PKiKP **PKiKP 05 37 54.3 +1.2**
comp=Z,0.6nm,0.7s,baz=252,slow=1.8,SNR=2.4
NVAR PKKPbc **PKKPbc 05 48 52.5 -0.3**
comp=Z,0.4nm,0.6s,baz=136,slow=3.9,SNR=6.2
EKA Eskdalemuir Ar 110.94 331 PKiKP **PKiKP 05 37 51.5 -1.2**
comp=Z,1.0nm,0.8s,baz=62,slow=3.3,SNR=1.9
HLID Hailey 111.80 42 P **PKiKP 05 37 56.4 +1.4**
baz=292
PFO Pinyon Flats O 113.54 53 PKiKP **PKiKP 05 37 59.2 +0.7**
comp=Z,4.4nm,0.9s,baz=294,slow=3.0,SNR=4.2
BELC Belle Mtn. Jos 113.80 53 P **PKiKP 05 38 00.6 +1.6**
baz=287
GMRC Granite Mounta 113.83 52 P **PKiKP 05 38 00.9 +1.9**
baz=288
BC3 Big Chuckawall 114.33 53 P **PKiKP 05 38 01.7 +1.7**
baz=287
PDAR Pinedale Array 115.37 42 PKKPbc PKKPbc 05 48 35.7 -1.7
comp=Z,0.7nm,0.5s,baz=122,slow=6.1,SNR=6.3
LAO LASA Array 115.66 37 P **PKPdf 05 38 03.1 +1.0**
baz=300
LAO LASA Array 115.66 37 PKPdf 05 38 02.9 +0.8
X16A Lo Mia Camp, P 117.25 51 PKiKP 05 38 06.8 +1.1

O20A	**White River Ci**	117.39	44	P	PKiKP	05 38 06.8	+0.9
	baz=296						
RSSD	**Black Hills**	118.28	38	PKIKP	PKiKP	05 38 07.8	+0.3
RSSD	**Black Hills**	118.28	38	P	PKPdf	05 38 07.1	-0.3
	baz=301						
RSSD	**Black Hills**	118.28	38	PKPdf	PKiKP	05 38 07.8	+0.3
MVCO	**Mesa Verde**	118.42	47	P	PKiKP	05 38 09.0	+1.1
	baz=294						
TUC	**Tucson**	118.48	53	P	PKiKP	05 38 09.1	+1.1
	baz=290						
ESDC	**Sonseca Array**	119.29	317	PKP	PKPdf	05 38 08.9	-0.4
	comp=Z,1.6nm,1.0s,baz=24,slow=3.5,SNR=2.0						
HSIG		119.39	57		PKPdf	05 38 09.7	0.0
S22A	**4UR Ranch, Cre**	119.41	46	P	PKiKP	05 38 11.4	+1.4
	baz=296						
SDCO	**Great Sand Dun**	120.36	45	P	PKiKP	05 38 12.6	+0.8
	baz=296						
121A	**Cookes Peak, D**	120.77	52	P	PKiKP	05 38 13.6	+1.0
	baz=292						
ANMO	**Albuquerque**	120.85	49*c*	*i*PKIKP	PKiKP	05 38 13.4	+0.7
ANMO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ANMO	**Albuquerque**	120.85	49	P	PKiKP	05 38 13.8	+1.1
	baz=294						
ANMO	**Albuquerque**	120.85	49	PKPdf	PKiKP	05 38 13.7	+1.0
T25A	**Trinidad**	121.41	45	P	PKiKP	05 38 14.8	+1.0
	baz=297						
TOA0	**Torodi Ar. Sit**	122.52	285		PKPdf	05 38 15.9	-0.1
TORD	**Torodi Ar. Bea**	122.52	285	PKP	PKPdf	05 38 15.6	-0.4
	comp=Z,18nm,0.7s,baz=56,slow=1.7,SNR=19						
TORD				PKKPbc	PKKPab	05 48 11.8	+1.0
	comp=Z,2.1nm,0.8s,baz=291,slow=5.6,SNR=5.3						
MDT	**Midelt**	122.72	310	PKP	PKPdf	05 38 16.1	0.0
	comp=Z,4.7nm,0.9s,baz=120,slow=1.9,SNR=5.2						
ECSD	**EROS Data Cent**	122.94	35	P	PKPdf	05 38 15.9	-0.2
	baz=308						
ECSD	**EROS Data Cent**	122.94	35		PKPdf	05 38 15.1	-1.0
MNTX	**Cornudas Mount**	122.97	52	P	PKiKP	05 38 17.4	+0.7
	baz=293						
BGNE	**Belgrade**	123.39	38	P	PKPdf	05 38 16.5	-0.5
	baz=305						
MSTX	**Muleshoe**	124.02	48	P	PKiKP	05 38 18.9	0.0
	baz=297						
MSTX	**Muleshoe**	124.02	48	PKPdf	PKiKP	05 38 19.3	+0.4
AMTX	**Amarillo**	124.41	47	P	PKiKP	05 38 20.4	+0.8
	baz=298						
SCHQ	**Schefferville**	124.70	8	PKP	PKPdf	05 38 19.2	0.0
	comp=Z,15nm,0.7s,baz=16,slow=3.6,SNR=8.8						
TXAR	**Lajitas Array**	125.26	54	PKP	PKiKP	05 38 21.9	+0.4
	comp=Z,3.7nm,0.8s,baz=264,slow=0.8,SNR=7.5						
KSU1	**Kansas State U**	125.68	40	P	PKiKP	05 38 21.7	-0.2
	baz=305						
MATQ	**Matagami**	126.95	18	P	PKPdf	05 38 23.2	-0.3
	baz=331						
JFWS	**Jewell Farm**	127.00	32	P	PKPdf	05 38 23.5	-0.4
	baz=314						
LSQQ	**Lebel-sur-Quev**	127.77	18	P	PKPdf	05 38 25.4	+0.2
	baz=332						
CHGQ	**Chibougamau**	127.78	16	P	PKPdf	05 38 25.2	0.0
	baz=335						
JCT	**Junction City**	127.83	51	P	PKiKP	05 38 26.6	+0.1
	baz=297						
833A	**Chaparral WMA,**	129.09	53	P	PKiKP	05 38 29.5	+0.5
	baz=296						
CCM	**Cathedral Cave**	129.66	37	P	PKiKP	05 38 29.8	-0.1
	baz=310						
DBIC	**Dimbokro**	129.69	278	PKP	PKiKP	05 38 30.3	-0.3
	comp=Z,18nm,0.8s,baz=24,slow=2.3,SNR=13						
DBIC	**Dimbokro**	129.69	278	PKIKP	PKPdf	05 38 29.7	-0.1
DBIC	**Dimbokro**	129.69	278	P	PKiKP	05 38 30.3	-0.3
DBIC	**Dimbokro**	129.69	278	PKPdf	PKPdf	05 38 29.7	-0.1
U40A	**Yellville**	129.70	40	P	PKiKP	05 38 29.7	-0.4
	baz=307						
U40A	**Yellville**	129.70	40		PKiKP	05 38 29.6	-0.4
E53A	**Dumoine, Ponti**	129.88	20	P	PKPdf	05 38 29.3	0.0
	baz=330						
ALGO	**Algonquin Park**	130.11	21	P	PKPdf	05 38 30.0	+0.3
	baz=329						
D56A	**ZEC Mazanza, M**	130.25	18	P	PKPdf	05 38 30.3	+0.3
	baz=334						
MIAR	**Mount Ida**	130.28	43	P	PKiKP	05 38 32.0	+0.8
	baz=305						
SFIN	**Lafayette**	130.46	32	P	PKiKP	05 38 31.4	0.0
	baz=316						
LATQ	**La Tuque**	130.51	16	P	PKPdf	05 38 30.0	-0.4
	baz=336						
E56A	**St. Veronique**	130.61	18	P	PKPdf	05 38 30.8	+0.2
	baz=333						
E57A	**Chemin Saint G**	131.00	18	P	PKPdf	05 38 31.7	+0.3
	baz=334						
ORIO	**Orleans, Innes**	131.43	19	P	PKPdf	05 38 32.3	+0.1
	baz=332						
G57A	**Newington**	131.91	19	P	PKPdf	05 38 33.6	+0.4
	baz=333						
E61A	**Lac Etchemin**	132.00	15	P	PKiKP	05 38 33.9	-0.5
	baz=339						
F60A	**Warwick**	132.04	16	P	PKPdf	05 38 33.7	+0.4
	baz=337						
WCI	**Wyandotte Cave**	132.42	34	PKIKP	PKiKP	05 38 35.4	0.0
WCI	**Wyandotte Cave**	132.42	34	P	PKiKP	05 38 34.9	-0.5
	baz=315						
WCI	**Wyandotte Cave**	132.42	34	PKPdf	PKiKP	05 38 35.4	0.0
L54A	**Sinclairville**	132.75	25	P	PKPdf	05 38 35.1	+0.2
	baz=326						
H58A	**Gabriels**	132.78	19	P	PKPdf	05 38 34.9	0.0
	baz=333						
N52A	**McGinn's Farm,**	132.85	28	P	PKiKP	05 38 35.7	-0.5
	baz=322						
O51A	**Pataskala**	132.93	29	P	PKPdf	05 38 34.9	-0.3
	baz=321						
WVT	**Waverly**	132.98	37	P	PKPdf	05 38 35.9	+0.5
	baz=312						
J57A	**Williamstown**	133.05	21	P	PKPdf	05 38 35.2	-0.1
	baz=331						
L55A	**Hinsdale**	133.16	24	P	PKPdf	05 38 35.5	-0.2
	baz=327						
J58A	**Remsen**	133.34	20	P	PKPdf	05 38 36.0	+0.1
	baz=332						
K57A	**Scipio Center**	133.44	22	P	PKPdf	05 38 36.1	0.0
	baz=330						
J59A	**Piesco**	133.52	20	P	PKPdf	05 38 36.6	+0.3
	baz=332						
L56A	**Greenwood**	133.55	23	P	PKPdf	05 38 36.8	+0.3
	baz=328						
P52A	**Corning**	133.56	29	P	PKPdf	05 38 36.5	+0.1
	baz=321						
G65A	**Princeton**	133.84	12	P	PKiKP	05 38 37.7	-0.3
	baz=342						
L57A	**Andrews Acres**	133.94	23	P	PKPdf	05 38 36.9	-0.3
	baz=329						
BINY	**Binghamton**	134.10	22	P	PKPdf	05 38 37.5	+0.1
	baz=330						
H66A	**Whiting**	134.29	12	P	PKPdf	05 38 37.9	+0.2
	baz=343						
P55A	**Reedsville**	134.75	27	P	PKiKP	05 38 39.7	-0.5
	baz=324						
LRAL	**Lakeview Retre**	135.53	40	P	PKPdf	05 38 40.2	-0.2
	baz=311						
M61A	**Granite Spring**	135.68	20	P	PKPdf	05 38 40.6	+0.3
	baz=332						
PLCA	**Paso Flores**	136.80	163	PKP	PKiKP	05 38 44.0	-0.3
	comp=Z,7.6nm,0.7s,baz=238,slow=2.1,SNR=10						
V55A	**Taylorsville**	136.92	32	P	PKiKP	05 38 44.5	-0.2
	baz=320						
T58A	**Grand View Acr**	137.41	28	P	PKiKP	05 38 45.6	0.0
	baz=324						
X55A	**Gracelyn & Ava**	137.73	34	P	PKPdf	05 38 45.4	+1.0
	baz=318						
T59A	**Double "B" Far**	137.85	27	P	PKiKP	05 38 46.5	0.0
	baz=325						
LC01	**Cunco**	138.04	160		PKiKP	05 38 47.6	+0.8
Z57A	**Bowman**	139.12	34	P	PKiKP	05 38 49.5	+0.3
	baz=318						
SACV	**Santiago Islan**	145.81	297		PKPab	05 39 00.4	+0.1
BBSR	**BB Station**	146.72	15		PKPbc	05 39 02.5	+0.5
MATN	**Matagalpa**	146.74	66		PKPbc	05 39 03.2	+0.5
BOAB	**BOACO BROADBAN**	147.14	67		PKPab	05 39 04.7	-0.7
LCO	**Las Campanas**	147.22	154	PKP2	PKPab	05 39 04.9	-0.7
LCO	**Las Campanas**	147.22	154		PKPab	05 39 04.9	-0.7
AC04	**Llanos de Chal**	147.74	153		PKiKP	05 39 06.1	-1.0
JTS	**Las Juntas de**	148.47	71	PKP2	PKiKP	05 39 08.2	-0.7
JTS	**Las Juntas de**	148.47	71		PKiKP	05 39 08.2	-0.7
AC01	**Pan de Azucar**	149.70	151		PKiKP	05 39 10.8	-0.4
AC02	**Maricunga**	149.79	154		PKPbc	05 39 11.3	+0.4
CPUP	**Villa Florida**	153.48	175	PKPbc	PKiKP	05 39 19.5	+0.6
	comp=Z,14nm,0.7s,baz=146,slow=2.9,SNR=8.3						
LVC	**Limon Verde**	153.50	150	PKPbc	PKiKP	05 39 20.4	+0.9
	comp=Z,14nm,0.6s,baz=239,slow=1.1,SNR=3.6						
LPAZ	**La Paz**	159.01	142	PKP	PKPdf	05 39 19.6	+0.2
	comp=Z,5.6nm,1.0s,baz=124,slow=4.7,SNR=2.3						
LPAZ				PKPab	PKPab	05 39 56.3	+0.6
	comp=Z,7.2nm,0.8s,baz=184,slow=6.3,SNR=4.6						
SIV	**San Ignacio**	162.75	160	PKP	PKPdf	05 39 23.8	+1.1
	comp=Z,5.8nm,0.9s,baz=223,slow=1.3,SNR=3.8						
SIV				PKPab	PKPab	05 40 11.3	0.0
	comp=Z,4.7nm,0.8s,baz=221,slow=6.0,SNR=4.2						
BDFB	**Brasilia**	162.83	203	PKPab	PKPab	05 40 10.9	-0.8
	comp=Z,6.1nm,0.8s,baz=85,slow=6.4,SNR=4.5						

BGS ***10*** *05:28:29.5±3.4, 64°.68N×17°.61W, h5km, MS4.8*
REY ***10*** *05:28:29.6, 64°.67N×17°.47W, h3km*
IDC ***10*** *05:28:30.6±0.5, 64°.67N×17°.69W, h0km, mb4.3/21, mb1 4.4/25, mb1mx4.3/59, mbtmp4.3/25, ML4.1/3, MS4.2/14, Ms1 4.2/14, ms1mx3.9/59, Error ellipse: s-maj=15.2km s-min=8.8km az=7.0*
BJI ***10*** *05:28:30.0±0.0, 64°.70N×17°.10W, h5km, mB5.6/16, mb4.8/36, Ms5.2/6, Ms7 4.9/6*
IEPN ***10*** *05:28:30.0, 64°.39N×17°.60W, h10km*
NAO ***10*** *05:28:31.5±4.8, 64°.66N×17°.17W, ML4.5*
NEIC ***10*** *05:28:32.8±2.5, 64°.68N±0°.09×17°.6W±0°.2, h10km±1km, mb4.9/108, Error ellipse: s-maj=14.7km s-min=11.1km az=182.0*
MOS ***10*** *05:28:32.0±1.2, 64°.66N×17°.60W, h18km, mb5.0/39, MS4.6/17, Error ellipse: s-maj=10.8km s-min=6.1km az=109.1*
BGR ***10*** *05:28:32.2±0.0, 64°.75N×16°.87W, h5km, mb4.1*
GCMT ***10*** *05:28:33.8±0.3, 64°.71N±0°.03×17°.07W±0°.05, h13km±1km, MW5.2/114, Moment Tensor Solution. s29,c34; s114,c156; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-6.35±.44; $M_{\theta\theta}$2.95±.30; $M_{\phi\phi}$3.40±.27; $M_{r\theta}$2.60±.92; $M_{\theta\phi}$-1.57±.16; $M_{\phi r}$-4.08±.75; Best double couple: $M_0$7.36100×10^16^ NP1ϕ_s137.00000°, δ25.00000°, λ-96.00000°. NP2ϕ_s324.00000°, δ66.00000°, λ-87.00000°. Principal axes: T 6.5510, Plg20.0000°, Azm52.0000°; N 1.6220, Plg3.0000°, Azm143.0000°; P -8.1720, Plg69.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
INMG ***10*** *05:28:34.6, 64°.69N×17°.06W, h10km, Mb5.4*
DNK ***10*** *05:28:37.6±4.0, 64°.80N×17°.29W, h35km±145km, Hypocentre not reviewed by the ISC*

ISC 10 05:28:31.6±0.7, 64°.68N±0°.02×17°.51W±0°.02, h4km±4km, n458, σ2^{s}23/475, mb4.8/133, MS4.6/30, 9C-6D, Iceland

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	0.10	267	P	Pg	05 28 32.3	-1.4
	baz=271						
IDYN	**Dyngjuhals**	0.13	29	P	Pg	05 28 32.6	-1.6
	baz=20						
IDJK	**Dyngjujokull**	0.21	146	P	Pg	05 28 33.8	-1.9
	baz=149						
IURH	**Urdarhals**	0.21	48	P	Pg	05 28 33.9	-1.8
	baz=43						
IGRF	**Grimsfjall**	0.29	159	P	Pg	05 28 35.0	-2.2
	baz=162						
IKVE	**Kverkfjoll**	0.36	90	P	Pg	05 28 36.3	-2.2
	baz=89						
IBJK	**Bruarjokull**	0.39	122	P	Pg	05 28 36.5	-2.6
	baz=123						
ISKR	**Skrokkalda**	0.40	253	P	Pg	05 28 37.2	-1.9
	baz=255						
IVOT	**Vottur**	0.43	161	P	Pg	05 28 37.5	-2.3
	baz=163						
IJOK	**Jokulheimar**	0.48	221	P	Pg	05 28 38.4	-2.3
	baz=223						
IJOK				S	Sg	05 28 45.4	-1.5
	baz=223						
IKRE	**Kreppuhraun**	0.50	77	P	Pg	05 28 38.4	-2.7
	baz=76						
IKRE				S	Sg	05 28 45.2	-2.3
	baz=76						
IASK	**Askja**	0.53	44	P	Pg	05 28 39.1	-2.6
	baz=42						
IASK				S	Sg	05 28 47.2	-1.3
	baz=42						
IMKO	**Mokollar**	0.58	59	S	Sg	05 28 48.7	-1.7
	baz=57						
IMKO				P	Pg	05 28 40.1	-2.7
	baz=57						
IIEY	**Innrieyrar**	0.64	205	P	Pg	05 28 41.1	-2.8
	baz=206						
ISVA	**Svartarkot**	0.67	9	P	Pg	05 28 41.8	-2.6
	baz=7.7						
ISVA				S	Sg	05 28 51.7	-1.4
	baz=7.7						
IKSK	**Karasker**	0.69	139	P	Pg	05 28 41.2	-3.5
	baz=139						
IKAL	**Kalfafell**	0.74	186	P	Pg	05 28 44.8	-0.9
	baz=188						
IVSH	**V-Sauoahnukur**	0.78	80	P	Pg	05 28 43.0	-3.4
	baz=79						
IVSH				S	Sg	05 28 53.8	-2.7
	baz=79						
IVAT	**Vatnsfell**	0.79	232	P	Pg	05 28 43.8	-2.8
	baz=233						
IADA	**Aoalbol**	0.90	67	P	Pg	05 28 45.0	-3.7
	baz=66						
IHVE	**Hveravellir**	0.90	283	P	Pg	05 28 45.5	-3.3
	baz=283						
IHVE				S	Sg	05 28 58.6	-1.9
	baz=283						
IMEL	**Melhnausar**	0.96	22	P	Pg	05 28 46.5	-3.5
	baz=20						
IREN	**Reynihlio**	1.00	14	P	Pg	05 28 47.2	-3.6
	baz=13						
ISNB	**Snabyli**	1.07	208	P	Pg	05 28 48.3	-3.6
	baz=209						
ISNB				S	Sg	05 29 02.6	-3.1
	baz=209						
IKVO	**Krokottuvotn**	1.07	14	P	Pg	05 28 48.3	-3.8
	baz=13						
IKVO				S	Sg	05 29 03.0	-3.0
	baz=13						
ISLY	**Slysaalda**	1.11	220	P	Pg	05 28 49.2	-3.6
	baz=221						
IGRS	**Grimsstaoir**	1.13	31	P	Pb	05 28 49.3	-4.4
	baz=30						
IFED	**Fedgar**	1.15	236	P	Pb	05 28 50.0	-4.0
	baz=237						
IRJU	**Rjupnafell**	1.18	206	P	Pb	05 28 50.3	-4.2
	baz=207						
IRJU				S	Sb	05 29 05.1	-5.0
	baz=207						
IMJO	**Mjoaskard**	1.20	232	P	Pb	05 28 50.9	-4.0
	baz=233						
ISKI	**Skildingahlsh**	1.21	9	P	Pn	05 28 50.7	-4.6
	baz=8.6						
IGHA	**Grjothals**	1.22	17	P	Pn	05 28 50.7	-4.8
	baz=16						
IGHA				S	Sb	05 29 06.2	-5.2
	baz=16						
IGYG	**Gygjarholskot**	1.24	252	P	Pb	05 28 51.1	-4.3
	baz=253						
IGRA	**Granastaoir**	1.25	359	P	Pn	05 28 51.1	-4.6
	baz=358						
IGRA				S	Sb	05 29 08.4	-3.6
	baz=358						
IHAU	**Haukadalur**	1.28	237	P	Pn	05 28 52.1	-4.2
	baz=238						
IGOD	**Go??abunga**	1.29	219	P	Pn	05 28 53.3	-3.2
	baz=220						
IHVO	**Lagu-Hvolar**	1.30	207	P	Pn	05 28 52.5	-4.0
	baz=208						
IDIM	**Dimmadalss**	1.31	10	P	Pn	05 28 52.2	-4.5
	baz=9.6						
IHLA	**Hella**	1.32	344	P	Pn	05 28 52.7	-4.1
	baz=344						
IALF	**Alftagrof**	1.40	212	P	Pn	05 28 54.3	-3.6
	baz=213						
IHED	**Heoinshofoi**	1.41	3	P	Pn	05 28 53.6	-4.4
	baz=2.6						
IHED				S	Sn	05 29 13.0	-4.0
	baz=2.6						
IESK	**Eystri-Skogar**	1.44	217	P	Pn	05 28 54.8	-3.6
	baz=218						
ISAU	**Saurbar**	1.44	243	P	Pn	05 28 54.2	-4.2
	baz=243						
IBRE	**Brettingsstaoi**	1.46	354	P	Pn	05 28 54.6	-4.1
	baz=353						
IBRE				S	Sn	05 29 14.8	-3.4
	baz=353						
IMID	**Miomork**	1.46	226	P	Pn	05 28 55.2	-3.5
	baz=227						
IGIL	**Gilhagi**	1.49	19	P	Pn	05 28 54.7	-4.4
	baz=18						
ISIG	**Siglufjorour**	1.57	339	P	Pn	05 28 56.5	-3.8
	baz=339						
IASB	**`sbjarnarst**	1.64	274	P	Pn	05 28 57.5	-3.7
	baz=274						
BORG	**Borgarnes**	1.64	274	Pg	Pn	05 28 57.4	-3.7
	39nm,0.3s,baz=96,slow=12,SNR=122						
BORG				Lg	Lg	05 29 20.8	
	40nm,0.3s,baz=8.9,slow=21,SNR=13						
BORG	**Borgarnes**	1.64	274	P	Pn	05 28 58.3	-2.8
BORG	**Borgarnes**	1.64	274	Pn	Pn	05 28 58.3	-2.8
IKRO	**Krokur**	1.67	251	P	Pn	05 28 57.7	-3.9
	baz=252						
ISOL	**Solvholt**	1.67	245	P	Pn	05 28 57.9	-3.7
	baz=245						
IHEI	**Heioarbar**	1.69	255	P	Pn	05 28 57.9	-3.9
	baz=256						
IHRN	**Hraun**	1.81	324	P	Pn	05 28 59.9	-3.6
	baz=324						
IBJA	**Bjarnastaoir**	1.81	248	P	Pn	05 29 00.4	-3.0
	baz=248						
ISAN	**Sandskeio**	1.87	252	P	Pn	05 29 01.0	-3.3
	baz=253						
IGRI	**Grimsey**	1.88	354	P	Pn	05 29 00.6	-3.9
	baz=353						
IKUD	**Kuludalsa**	1.92	261	P	Pn	05 29 01.8	-3.2
	baz=262						
IKAS	**Kald??rsel**	2.00	253	P	Pn	05 29 03.2	-2.9
	baz=253						
IVOS	**Vogsosar**	2.01	248	P	Pn	05 29 03.4	-2.8
	baz=248						
INYL	**Nylenda**	2.38	255	P	Pn	05 29 09.6	-1.7
	baz=255						
SOFL	**Sornfelli, Far**	5.42	114	*e*P	Pn	05 29 43.0	-10
SCO	**Scoresbysund**	6.07	346	*i* P	Pn	05 30 01.0	-1.0
SCO	**Scoresbysund**	6.07	346	*i* P	Pn	05 30 01.0	-1.0
SCO	**Scoresbysund**	6.07	346	Pn	Pn	05 30 00.5	-1.5
JMIC	**Jan Mayen**	7.18	24	Pn	Pn	05 30 15.7	-1.6
	baz=162,slow=13,SNR=2.5						
JMIC				LR	LR	05 32 39.0	
	comp=Z,2μm,21.3s,baz=232,slow=34						
LEWI	**Lewis, Hebride**	8.30	137	*e*P	Pn	05 30 28.4	-4.2
LEWI				IAMs_20	IAMs_20	05 35 15.5	
	comp=Z,12μm,10.0s						
LRW	**Lerwick**	8.83	114	*e*P	Pn	05 30 40.5	+0.6
LRW				IAMs_20	IAMs_20	05 34 44.9	
	comp=Z,8μm,13.0s						
BIGH	**Upper Bighouse**	8.96	128	*e*P	Pn	05 30 39.6	-2.0
BIGH				IAMs_20	IAMs_20	05 36 18.3	
	comp=Z,3μm,11.9s						
KAC	**Achnashellach**	9.30	135	*e*P	Pn	05 30 44.3	-2.1
KPL	**Plockton**	9.33	137	*e*P	Pn	05 30 44.4	-2.2
KPL	**Plockton**	9.33	137	*e*P	Pn	05 30 44.8	-1.8
MCD	**Coleburn Disti**	9.89	129	*e*P	Pn	05 30 55.5	+1.2
LAWE	**Loch Awe, Argy**	10.32	139	*e*P	Pn	05 30 58.5	-1.8
INVG	**Invergeldie, C**	10.58	135	*e*P	Pn	05 31 01.8	-2.0
INVG				IAMs_20	IAMs_20	05 35 35.1	
	comp=Z,7μm,10.3s						
EAB	**Aberfoyle**	10.69	137	*e*P	Pn	05 31 02.6	-2.7
SUMG	**Summit**	10.93	325	*i* P	Pn	05 31 10.3	+1.4
SUMG	**Summit**	10.93	325	P	Pn	05 31 11.0	+2.1
SUMG	**Summit**	10.93	325	*i* P	Pn	05 31 10.3	+1.4
SUMG	**Summit**	10.93	325	Pn	Pn	05 31 11.0	+2.1
PGBU	**Glenifferbraes**	10.97	138	*e*P	Pn	05 31 07.7	-1.5
CLGH	**Cloghs, Cushen**	11.18	144	*e*P	Pn	05 31 09.9	-2.1
CLGH				IAMs_20	IAMs_20	05 37 05.7	
	comp=Z,12μm,10.6s						
AKN	**Aaknes**	11.23	92	Pn	Pn	05 31 09.5	-3.2
AKN	**Aaknes**	11.23	92	Pn	Pn	05 31 09.5	-3.2
EDI	**Edinburgh**	11.26	135	*e*P	Pn	05 31 12.4	-0.8
MOL	**Molde**	11.31	89	*e*P	Pn	05 31 11.4	-2.4
ESY	**Stoneypath**	11.45	133	*e*P	Pn	05 31 14.1	-1.6
NEWG	**New Galloway**	11.65	139	*e*P	Pn	05 31 16.7	-1.7
NEWG				IAMs_20	IAMs_20	05 36 50.5	
	comp=Z,7μm,11.1s						
GAL1	**Galloway**	11.74	141	*e*P	Pn	05 31 18.2	-1.3
GAL1				IAMs_20	IAMs_20	05 36 44.3	
	comp=Z,8μm,12.0s						
EKA	**Eskdalemuir Ar**	11.77	136	Pn	Pn	05 31 19.3	-0.8
EKA	**Eskdalemuir Ar**	11.77	136	Pn	Pn	05 31 19.6	-0.5
	baz=322,slow=13,SNR=36						
EKA	**Eskdalemuir Ar**	11.77	136	Pn	Pn	05 31 19.3	-0.8
ESK	**Eskdalemuir**	11.77	136	*e*P	Pn	05 31 19.3	-0.8
ESK				IAMs_20	IAMs_20	05 36 47.8	
	comp=Z,5μm,11.7s						
ESK	**Eskdalemuir**	11.77	136	P	Pn	05 31 19.3	-0.8
ESK	**Eskdalemuir**	11.77	136	Pn	Pn	05 31 19.3	-0.8
ESK	**Eskdalemuir**	11.77	136	*e*P	Pn	05 31 19.4	-0.8
DAG	**Danmarks Havn**	12.16	359	*i* P	Pn	05 31 26.9	+1.6
DAG	**Danmarks Havn**	12.16	359	*i* P	Pn	05 31 26.9	+1.6
KESW	**Keswick, Cumbr**	12.43	138	*e*P	Pn	05 31 25.0	-4.1
KESW				IAMs_20	IAMs_20	05 37 10.9	
	comp=Z,8μm,10.2s						
SKAR	**Skarslia**	12.47	97	*e*P	Pn	05 31 27.0	-2.6
DSB	**Dublin**	12.80	148	Pn	Pn	05 31 34.6	+0.5
LOF	**Lofoten**	12.82	61	*e*P	Pn	05 31 35.0	+0.7
NRS	**Narsarsuaq**	13.13	267	*i* P	Pn	05 31 43.3	+4.7
NRS	**Narsarsuaq**	13.13	267	*e*P	Pn	05 31 43.3	+4.7
WLF1	**Llynfaes**	13.23	143	*e*P	Pn	05 31 40.5	+0.5
WLF1				IAMs_20	IAMs_20	05 37 57.4	
	comp=Z,10μm,10.9s						
MOR8	**Moi Rana**	13.30	69	*e*P	Pn	05 31 41.6	+0.7
NB2	**NORSAR Subarra**	13.54	92	Pn	Pn	05 31 44.0	-0.3
NB2	**NORSAR Subarra**	13.54	92	Pn	Pn	05 31 44.0	-0.3
NOA	**NORSAR Array B**	13.54	92	Pn	Pn	05 31 40.7	-3.5
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.2						
NOA				LR	LR	05 36 42.7	
	comp=Z,637nm,21.5s,baz=300,slow=36		

COP Copenhagen 17.23 107 *i* P **Pn 05 32 32.7 -0.1**
COP Copenhagen 17.23 107 *e*P **Pn 05 32 32.7 -0.1**
HOPEN Hopen 17.83 31 *e*P **Pn 05 32 36.9 -3.2**
HOPEN *e*S **Sn 05 35 55.8 -3.0**
RGN Rugen 18.40 109 *e*P **P 05 32 47.0 -0.2**
RGN *e*S **S 05 36 25.7 +8.0**
BMRD Maredsous 18.57 130 Pn **P 05 32 48.5 -0.7**
BMRD Maredsous 18.57 130 P Pn 05 32 57.5 +8.1
BGES Gesves 18.61 130 P **Pn 05 32 50.5 +0.7**
NRDL Niedersach Rie 18.67 118 *e*P **P 05 32 48.7 -1.5**
comp=Z,21nm,1.2s,baz=326,slow=11
DOU Dourbes 18.69 131 P **Pn 05 32 52.5 +1.6**
MEM Membach 18.73 128 P **Pn 05 32 56.3 +5.0**
BHOU Houvegnez 18.94 128 P **Pn 05 32 58.5 +4.6**
AHRW Bad Neuenahr-A 19.15 126 *e*P **P 05 32 55.8 +0.3**
comp=Z,13nm,0.9s,baz=326,slow=11
CLZ Clausthal 19.29 119 *e*P **P 05 32 57.6 +0.5**
comp=Z,9.7nm,0.9s,baz=326,slow=11
GTTG Gottingen 19.37 120 *e*P **P 05 32 58.6 +0.6**
comp=Z,19nm,1.1s,baz=326,slow=11
FIA0 FINESS Array S 19.71 79 P **P 05 33 01.8 +0.2**
baz=313,slow=12
FIA0 FINESS Array S 19.71 79 P **P 05 33 01.8 +0.2**
baz=313,slow=12
FINES FINESS Array B 19.71 79 P **Pn 05 33 03.8 +0.8**
comp=Z,0.4nm,0.3s,baz=299,slow=7.9,SNR=6.8
FINES LR LR 05 40 23.2
comp=Z,688nm,19.6s,baz=298,slow=36
TNS Taunus Mts 19.90 124 *e*P **P 05 33 04.2 +0.3**
comp=Z,2.2nm,0.7s,baz=326,slow=11
UBBA Unterbreizbach 19.97 121 *e*P **P 05 33 04.8 +0.4**
comp=Z,6.9nm,0.9s,baz=326,slow=11
RUE Ruedersdorf 20.11 113 *e*P **P 05 33 06.2 +0.2**
SLIT Slitere, Latvi 20.15 92 *e*P **P 05 33 06.2 -0.2**
SLIT *e*S **S 05 36 54.3 +1.4**
APA0 Apatity Array 20.16 59 P **P 05 33 04.4 -2.1**
APA0 Apatity Array 20.16 59 P **P 05 33 04.4 -2.1**
APA Apatity 20.33 59⇓ *i*P **P 05 33 07.8 -0.5**
APA *i* S **S 05 36 50.0 -6.2**
APA pmax pmax
comp=Z,13nm,1.1s
APA MLR MLR
comp=Z,1μm,20.0s
LVZ Lovozero 20.69 58*c i*P **P 05 33 13.3 +1.0**
LVZ pmax pmax
comp=Z,86nm,1.4s
LVZ Lovozero 20.69 58 P **P 05 33 13.1 +0.8**
MOX Moxa 20.71 119 *e*P **P 05 33 12.8 +0.2**
comp=Z,18nm,1.0s,baz=326,slow=11
CLL Collm 20.72 116⇑ *i*P **P 05 33 12.4 -0.2**
comp=Z,98nm,1.7s
CLL *e*SS 05 27 29.0
CLL *e*S Sn 05 37 09.0 +0.3
CLL *e*S Sn 05 37 09.0 +0.3
CLL *e*S Sn 05 37 09.0 +0.3
CLL L L 05 41 00.0
comp=Z,600nm,21.7s
CLL Collm 20.72 116⇑ *i*P **P 05 33 12.4 -0.2**
CLL *e*S Sn 05 37 09.0 +0.3
CLL pmax pmax
comp=Z,98nm,1.7s
CLL MLR MLR
comp=Z,600nm,21.7s
CLL Collm 20.72 116 *e*P **P 05 33 12.9 +0.2**
comp=Z,11nm,1.1s,baz=326,slow=11
CLL Collm 20.72 116 **P 05 33 13.0 +0.4**
CLL Collm 20.72 116 P **P 05 33 13.0 +0.4**
PBUR Paburge 21.00 96 *e*P **P 05 33 13.2 -2.5**
PBUR *e*S Sn 05 37 14.9 -0.8
ECH Echery 21.17 129 P **P 05 33 18.1 +0.6**
ECH pmax pmax
comp=Z,19nm,0.8s
ECH Echery 21.17 129 P **P 05 33 18.1 +0.6**
GUNZ Gunzen 21.21 118 *e*P **P 05 33 18.2 +0.2**
comp=Z,7.2nm,0.8s,baz=326,slow=11
TANN Tannenbergstha 21.22 118 *e*P **P 05 33 18.0 -0.2**
comp=Z,15nm,0.9s,baz=326,slow=11
KLNR Kaliningrad 21.22 100 *i*P **P 05 33 19.5 +1.5**
KLNR pmax pmax
comp=Z,269nm,1.3s
WERN Wernitzgruen 21.29 118 *e*P **P 05 33 18.2 -0.7**
comp=Z,8.5nm,0.8s,baz=326,slow=11
GRA1 Grafenberg Arr 21.34 121 P **P 05 33 18.2 -1.2**
GRF Grafenberg Arr 21.34 121 P **P 05 33 18.3 -1.2**
GRF pmax pmax
comp=Z,30nm,1.1s
GRF Grafenberg Arr 21.34 121 *e*P **P 05 33 22.8 +3.4**
comp=Z,14nm,1.0s,baz=325,slow=9.3
NKC Novy Kostel 21.36 118 *e*P **P 05 33 21.9 +2.3**
NKC *e*pP **sP 05 33 25.5 +3.9**
NKC *e*S Sn 05 37 23.3 -1.0
NKC AMS AMS 05 45 30.0
comp=Z,2μm,10.0s
NKC Novy Kostel 21.36 118 *e*P **P 05 33 21.9 +2.3**
NKC *e* 05 33 25.5
NKC *e*S Sn 05 37 23.3 -1.0
NKC MLR MLR
comp=Z,2μm,10.0s
STU Stuttgart 21.39 125 P **P 05 33 19.6 -0.3**
STU pmax pmax
comp=Z,84nm,1.2s
STU Stuttgart 21.39 125 P **P 05 33 19.6 -0.3**
STU IAmb IAmb 05 33 38.0
comp=Z,84nm,1.2s
BRG Berggiesshubel 21.42 115 *e*P **P 05 33 20.1 -0.1**
comp=Z,9.2nm,0.9s,baz=326,slow=11
BRG Berggiesshubel 21.42 115 *i*P **P 05 33 19.9 -0.4**
comp=Z,122nm,1.9s
BRG Berggiesshubel 21.42 115 *e* P 05 33 30.3 +10
comp=Z,372nm,2.4s
BRG Berggiesshubel 21.42 115 S S 05 37 30.0 +12
BRG Berggiesshubel 21.42 115 *i*P **P 05 33 19.9 -0.4**
BRG Berggiesshubel 21.42 115 S S 05 37 30.0 +12
MANZ Manzenberg 21.43 119 *e*P **P 05 33 19.9 -0.5**
comp=Z,5.3nm,1.1s,baz=326,slow=11
BFO Black Forest 21.46 127 P **P 05 33 20.6 -0.1**
BFO pmax pmax
comp=Z,50nm,1.3s
BFO Black Forest 21.46 127 *e*P **P 05 33 20.7 0.0**
comp=Z,14nm,0.9s,baz=326,slow=11
BFO Black Forest 21.46 127 P **P 05 33 20.6 -0.1**
BFO IAmb IAmb 05 33 29.8
comp=Z,50nm,1.3s
VSU Vasula 21.57 86 *e*P **P 05 33 21.3 -0.5**
VSU Vasula 21.57 86 *i*P **P 05 33 20.8 -1.0**
VSU pmax pmax
comp=Z,61nm,0.9s
ROTZ Rotzenmuhle 21.65 119 *e*P **P 05 33 22.7 0.0**
comp=Z,14nm,1.4s,baz=326,slow=11
FRB Frobisher Bay 21.74 291 LR LR 05 41 10.6
comp=Z,882nm,18.6s,baz=72,slow=35
PVCC Panska Ves 21.94 115 *e*P **P 05 33 26.4 +0.6**
PVCC *e*S **S 05 37 30.4 +2.1**
PVCC AMS AMS 05 46 00.0
comp=Z,2μm,10.7s
PVCC Panska Ves 21.94 115 *e*P **P 05 33 26.4 +0.6**
PVCC *e*S **S 05 37 30.4 +2.1**
PVCC MLR MLR
comp=Z,2μm,10.7s
SLVR Solovky 22.07 65 *e*P **P 05 33 24.8 -2.2**
comp=Z,159nm,2.2s
SLVR *e*S **S 05 37 29.3 -1.2**
PABE Paberze 22.22 95 *e*P **P 05 33 28.1 -0.6**
PABE *e*S **S 05 37 38.1 +4.6**
PRA Prague 22.25 116 *e*P **P 05 33 26.4 -2.7**
PRA *e*S **S 05 37 39.1 +4.8**
PRA AMS AMS 05 45 20.0
comp=Z,800nm,11.7s
PRA Prague 22.25 116 *e*P **P 05 33 26.4 -2.7**
PRA MLR MLR
comp=Z,800nm,11.7s
PRU Pruhonice 22.36 116 *e*P **P 05 33 30.7 +0.4**
PRU *e*S **S 05 37 40.0 +3.6**
PRU AMS AMS 05 45 30.0
comp=Z,2μm,10.1s
PRU Pruhonice 22.36 116 *e*P **P 05 33 30.7 +0.4**
PRU *e*S **S 05 37 40.0 +3.6**
PRU MLR MLR
comp=Z,2μm,10.1s
PUL Pulkovo 22.36 80 *e*P **P 05 33 28.1 -2.2**
KSP Ksiaz 22.37 112 *e*P **P 05 33 30.2 -0.3**
KSP *e*S **S 05 37 37.0 +0.4**
WET Wettzell 22.41 119 *e*P **P 05 33 31.5 +0.6**
comp=Z,4.8nm,0.9s,baz=326,slow=11

GOPC GO Pecny, Ondr 22.52 116 *e*P **P 05 33 32.7 +0.7**
GOPC *e*S **S 05 37 39.3 0.0**
GOPC AMS AMS 05 46 40.0
comp=Z,2μm,10.3s
GOPC GO Pecny, Ondr 22.52 116 *e*P **P 05 33 32.7 +0.7**
GOPC *e*S **S 05 37 39.3 0.0**
GOPC MLR MLR
comp=Z,2μm,10.3s
UPC Upice 22.52 113 *e*P **P 05 33 32.5 +0.4**
UPC *e*S **S 05 37 44.7 +5.3**
UPC AMS AMS 05 46 50.0
comp=Z,2μm,11.2s
UPC Upice 22.52 113 *e*P **P 05 33 32.5 +0.4**
UPC MLR MLR
comp=Z,2μm,11.2s
OSTC Ostas 22.57 113 *e*P **P 05 33 33.1 +0.6**
OSTC *e*x x 05 33 37.8
OSTC *e*S **S 05 37 42.5 +2.2**
OSTC AMS AMS 05 45 40.0
comp=Z,1μm,10.5s
UBR Ueberruh 22.64 126 *e*P **P 05 33 33.6 +0.2**
comp=Z,6.4nm,0.8s,baz=326,slow=11
KHC Kasperske Hory 22.69 118 *e*P **P 05 33 34.7 +0.9**
KHC *e*x x 05 33 42.8
KHC *e*S **S 05 37 45.5 +3.0**
KHC AMS AMS 05 45 40.0
comp=Z,2μm,10.1s
KHC Kasperske Hory 22.69 118 *e*P **P 05 33 34.7 +0.9**
KHC *e* 05 33 42.8
KHC *e*S **S 05 37 45.5 +3.0**
KHC MLR MLR
comp=Z,2μm,10.1s
KHC Kasperske Hory 22.69 118 P **P 05 33 33.1 -0.7**
DPC Dobruska-Polom 22.77 113 *e*P **P 05 33 34.7 0.0**
DPC *e*S **S 05 37 46.2 +2.2**
DPC AMS AMS 05 47 00.0
comp=Z,2μm,11.1s
DPC Dobruska-Polom 22.77 113 *e*P **P 05 33 34.7 0.0**
DPC *e*S **S 05 37 46.2 +2.2**
DPC MLR MLR
comp=Z,2μm,11.1s
SENIN Lac Senin/Sane 22.84 132 P **P 05 33 36.9 +1.2**
SUW Suwalki 22.89 98 *e*P **P 05 33 35.7 -0.2**
SUW *e*S **S 05 37 44.6 -1.4**
DAVA Damuels 22.89 126 *i*P **P 05 33 36.4 +0.3**
comp=Z,28nm,1.2s
SSB Saint Sauveur 22.96 137 P **P 05 33 36.5 -0.3**
SSB pmax pmax
comp=Z,10.0nm,1.1s
SSB Saint Sauveur 22.96 137 P **P 05 33 36.5 -0.3**
GEC2 GERESS Array S 22.97 119 *e*P **P 05 33 37.1 +0.2**
comp=Z,8.9nm,0.9s,baz=326,slow=11
GEC2 GERESS Array S 22.97 119 P **P 05 33 37.5 +0.7**
GEC2 IAmb IAmb 05 33 44.9
comp=Z,43nm,1.4s
GERES GERESS Array B 22.97 119 P **P 05 33 37.6 +0.7**
comp=Z,5.6nm,0.9s,baz=336,slow=6.5,SNR=3.5
GERES LR LR 05 42 52.7
comp=Z,939nm,20.5s,baz=334,slow=37
RETA Reutte 23.03 125 *i*P **P 05 33 37.5 0.0**
comp=Z,23nm,1.3s
IZAR Zarasai 23.04 92 *e*P **P 05 33 34.5 -2.9**
ISAL Salakas 23.10 93 *e*P **P 05 33 36.8 -1.3**
KRLC Kraliky 23.17 113 *e*P **P 05 33 40.8 +1.9**
KRLC *e*x x 05 33 48.0
KRLC *e*S **S 05 37 54.8 +3.9**
KRLC AMS AMS 05 45 50.0
comp=Z,1μm,13.4s
KRLC Kraliky 23.17 113 *e*P **P 05 33 40.8 +1.9**
KRLC *e* 05 33 48.0
KRLC *e*S **S 05 37 54.8 +3.9**
KRLC MLR MLR
comp=Z,1μm,13.4s
MOTA Moosalm 23.27 124 *i*P **P 05 33 41.0 +0.9**
comp=Z,16nm,1.1s
TREC Trest 23.28 116 *e*P **P 05 33 40.7 +0.7**
TREC *e*S **S 05 37 54.4 +1.6**
TREC AMS AMS 05 46 00.0
comp=Z,2μm,13.2s
TREC Trest 23.28 116 *e*P **P 05 33 40.7 +0.7**
TREC *e*S **S 05 37 54.4 +1.6**
TREC MLR MLR
comp=Z,2μm,13.2s
IIGN Ignalina 23.29 93 *e*P **P 05 33 38.4 -1.6**
TMCR Tamitsa 23.35 66 *e*P **P 05 33 39.8 -0.6**
TMCR Tamitsa 23.35 66 *e*P **P 05 33 39.8 -0.6**
TMCR pmax pmax
comp=Z,7.0nm,0.9s
PGAV Gavieira, Arco 23.36 162 *e*P **P 05 33 40.8 -0.2**
comp=Z,59nm,1.8s
PGAV *e*LQ LQ 05 37 57.0
PGAV A A 05 42 10.7
comp=Z,778nm,20.0s
SQTA Sankt Quirin 23.42 124 *i*P **P 05 33 42.5 +1.0**
comp=Z,0.6nm,0.0s
TUE Stuetta 23.42 128 P **P 05 33 41.7 +0.1**
FETA Feichten 23.42 125 *i*pP **P 05 33 43.3 +1.8**
comp=Z,22nm,1.6s
WATA Walderalm 23.45 124 *i*P **P 05 33 42.6 +0.7**
comp=Z,25nm,1.5s
BEL Belsk 23.45 105 *e*P **P 05 33 42.4 +0.7**
BEL *e*S **S 05 37 53.9 -1.5**
WTTA Wattenberg 23.53 124 *i*P **P 05 33 43.8 +1.1**
IDID Didziasalis 23.53 92 *e*P **P 05 33 40.3 -2.1**
FUORN Ofenpass-Fuorn 23.60 127 P **P 05 33 44.5 +1.0**
PCAB Cabril 23.65 162 A A 05 34 09.4
comp=Z,42nm,1.8s
EUNU Eureka 23.66 336 P **P 05 33 45.4 +1.9**
VRAC Vranov 23.70 114 P **P 05 33 44.5 +0.3**
comp=Z,11nm,0.9s,baz=330,slow=12,SNR=9.9
VRAC LR LR 05 42 58.7
comp=Z,642nm,19.8s,baz=334,slow=36
VRAC Vranov 23.70 114 *e*P **P 05 33 45.3 +1.1**
VRAC *e*S **S 05 38 06.1 +6.5**
MORC Moravsky Berou 23.71 112 *e*P **P 05 33 45.3 +1.0**
MORC *e*S **S 05 38 05.8 +6.1**
MORC Moravsky Berou 23.71 112 P **P 05 33 45.4 +1.2**
MORC pmax pmax
comp=Z,39nm,1.5s
MORC Moravsky Berou 23.71 112 P **P 05 33 45.4 +1.2**
MORC IAmb IAmb 05 33 49.5
comp=Z,39nm,1.5s
PBRG Braganca 23.74 160 *e*P **P 05 33 46.9 +2.3**
comp=Z,33nm,2.6s
PBRG *e*LQ LQ 05 38 10.9
BNI Bardonecchia 23.81 134 P **P 05 33 46.6 +1.2**
BNI pmax pmax
comp=Z,15nm,1.2s
BNI Bardonecchia 23.81 134 P **P 05 33 46.6 +1.2**
KRUC Moravsky 23.82 115 *e*P **P 05 33 46.1 +0.8**
KRUC *e*S **S 05 38 07.5 +6.1**
NACGM Naroch 23.82 93 *e*P **P 05 33 50.0 +4.7**
NACGM *e*S **S 05 38 06.0 +4.7**
NACGM *e*LR LR 05 43 40.0
MOA Molln 24.00 119 *i*P **P 05 33 48.4 +1.3**
comp=Z,16nm,1.2s
PVRL Vila Real 24.12 162 *e*P **P 05 33 49.0 +0.8**
comp=Z,61nm,1.8s
OJC Ojcow 24.27 109 *e*P **P 05 33 49.7 +0.2**
OJC *e*S **S 05 38 08.2 -0.3**
OJC Ojcow 24.27 109 P **P 05 33 50.4 +0.9**
OJC pmax pmax
comp=Z,33nm,1.3s
OJC Ojcow 24.27 109 P **P 05 33 50.4 +0.9**
OJC IAmb IAmb 05 33 52.4
comp=Z,32nm,1.3s
ABTA Abfaltersbach 24.29 123 *i*P **P 05 33 48.9 -0.9**
comp=Z,13nm,1.3s
KBA Koelnbreinsper 24.31 122 *i*P **P 05 33 51.2 +1.2**
comp=Z,13nm,1.6s
MVO Moncorvo 24.32 161 *e*P **P 05 33 50.1 0.0**
comp=Z,48nm,1.9s
MVO *e*LQ LQ 05 38 19.9
MVO A A 05 43 02.7
comp=Z,634nm,18.0s
JAVC Velka Javorina 24.49 113 *e*P **P 05 33 53.7 +2.1**
JAVC *e*S **S 05 38 17.2 +5.0**
CONA Conrad Observa 24.54 117 *i*P **P 05 33 52.0 -0.1**
comp=Z,19nm,0.9s,SNR=7.0
MICGM Minsk 24.57 93 *e*P **P 05 33 52.0 -0.2**
MICGM *e*P **P 05 33 52.0 -0.2**
MICGM *e*S **S 05 38 12.0 -1.2**
MICGM SM 05 38 30.0
comp=N,5.4nm,6.0s

MICGM SM 05 38 32.0
comp=E,3.0nm,6.0s
MICGM *e*LQ LQ 05 42 48.0
MICGM *e*LR LR 05 44 08.0
MICGM LRM MLR 05 45 44.0
comp=Z,1.7nm,10.0s
MNK Minsk 24.57 93 *e*P **P 05 33 52.0 -0.2**
MNK MLR MLR
comp=Z,2μm,10.0s
CTI Castel Tesino 24.58 125 P **P 05 33 50.9 -1.6**
CTI pmax pmax
comp=Z,19nm,0.8s
CTI Castel Tesino 24.58 125 P **P 05 33 50.9 -1.6**
CTI IAmb IAmb 05 33 56.3
comp=Z,19nm,0.8s
ZOU Zoufplan 24.61 123 P **P 05 33 51.8 -1.1**
CIMO Cimolais 24.63 124 P **P 05 33 53.0 +0.1**
PVIS Viseu 24.64 162 *e*P **P 05 33 53.3 +0.3**
comp=Z,42nm,1.9s
SMOL Smolenice 24.67 114 *e*P **P 05 33 53.4 +0.2**
SMOL pmax pmax
comp=Z,20nm,1.1s
SMOL Smolenice 24.67 114 *e*P **P 05 33 53.4 +0.2**
MODS Modra-Piesok 24.73 115 *e*P **P 05 33 54.5 +0.8**
MODS pmax pmax
comp=Z,69nm,1.8s
MODS Modra-Piesok 24.73 115 *e*P **P 05 33 54.5 +0.8**
MYKA Terra Mystica 24.80 122 *i*pP pP 05 33 57.3 +1.4
comp=Z,8.6nm,1.0s
ARSA Arzberg 24.97 118 *i*P **P 05 33 55.8 -0.1**
comp=Z,9.3nm,1.2s
COI Coimbra 25.08 163 *e*P **P 05 33 59.0 +2.1**
comp=Z,53nm,1.4s
COI *e*LQ LQ 05 38 34.4
NIE Niedzica 25.10 109 *e*P **P 05 33 58.1 +1.0**
NIE *e*S **S 05 38 22.4 +0.4**
PCAS Casmilo, Conde 25.22 164 *e*P **P 05 34 00.4 +2.2**
comp=Z,48nm,1.5s
PCAS *e*LQ LQ 05 38 31.4
OBKA Obir 25.23 121 *i*P **P 05 33 58.8 +0.5**
VYHS Vyhne 25.24 112 *e*P **P 05 33 59.0 +0.7**
VYHS pmax pmax
comp=Z,21nm,1.3s
VYHS Vyhne 25.24 112 *e*P **P 05 33 59.0 +0.7**
SOKA Soboth 25.27 120 *i*P **P 05 34 00.6 +2.0**
comp=Z,13nm,1.1s,SNR=5.4
PCBR Castelo Branco 25.56 162 A A 05 34 11.8
comp=Z,32nm,1.4s
KLMR Klimovskoe 25.61 72⇑ *i*P **P 05 33 59.4 -2.1**
comp=Z,55nm,1.4s
KLMR *e*S **S 05 38 27.8 -1.9**
KLMR Klimovskoe 25.61 72 *e*P **P 05 33 58.6 -2.9**
KLMR *e*S **S 05 38 24.9 -4.8**
KLMR pmax pmax
comp=Z,32nm,1.2s
KLMR Klimovskoe 25.61 72 *e*P **P 05 33 58.6 -2.9**
KLMR AMP 05 34 00.8
comp=Z,32nm,1.2s
KLMR *e*S **S 05 38 24.9 -4.8**
KLMR *e*S **S 05 38 24.9 -4.8**
KLMR LQ LQ 05 41 03.3
KLMR LQ LQ 05 41 03.3
KLMR LR LR 05 42 41.2
PSBE So Bento 25.72 164 *e*LQ LQ 05 38 36.8
VLC Villacollemand 25.80 129 P **P 05 34 04.2 +0.8**
VLC IAmb IAmb 05 34 19.4
comp=Z,27nm,1.1s
ZCCA Zocca 25.83 128 P **P 05 34 04.2 +0.5**
KECS Kecovo 25.91 110 *e*P **P 05 34 05.1 +0.7**
KECS Kecovo 25.91 110 *e*P **P 05 34 05.1 +0.7**
LSH Leshukonskoye 25.97 61 *e*P **P 05 34 03.6 -1.1**
comp=Z,48nm,1.1s
LSH *e*S **S 05 38 35.4 +0.1**
CRVS Cervenica-Dubn 25.98 109 *e*P **P 05 34 06.5 +1.5**
CRVS Cervenica-Dubn 25.98 109 *e*P **P 05 34 06.4 +1.5**
CRVS *e*PDIFF 06 13 27.2
PMRV Marv??o 25.98 162 A A 05 34 23.9
comp=Z,49nm,1.9s
PMRV *e*LQ LQ 05 38 52.4
PMRV A A 05 44 23.3
comp=Z,649nm,16.0s
SCHQ Schefferville 26.03 271 P **P 05 34 04.7 -0.8**
comp=Z,17nm,0.9s,baz=45,slow=8.6,SNR=8.7
SCHQ LR LR 05 43 04.8
comp=Z,467nm,19.8s,baz=94,slow=34
PSZ Piszkesteto 26.13 112 P **P 05 34 07.0 +0.6**
PSZ pmax pmax
comp=Z,48nm,1.2s
PSZ Piszkesteto 26.13 112 P **P 05 34 07.0 +0.6**
PMTG Montargil 26.22 163 A A 05 34 23.7
comp=Z,45nm,2.0s
PMTG *e*LQ LQ 05 38 56.7
ESBB Sonseca Array 26.27 156 P **P 05 34 09.2 +1.5**
ESDC Sonseca Array 26.27 156 P **P 05 34 07.7 -0.1**
comp=Z,3.6nm,0.8s,baz=349,slow=9.2,SNR=22
ESDC Sonseca Array 26.27 156 P **P 05 34 08.3 +0.6**
KOLS Kolonicke sedl 26.28 108 *e*P **P 05 34 07.9 +0.1**
KOLS pmax pmax
comp=Z,67nm,1.8s
KOLS Kolonicke sedl 26.28 108 *e*P **P 05 34 07.9 +0.1**
LVV L'vov 26.32 104 *e*P **P 05 34 07.7 -0.4**
LVV *e*PPP PPP 05 34 53.5
LVV *e*S **S 05 38 36.6 -4.7**
LVV *e*SS SnSn 05 40 12.6 +32
LVV pmax pmax
comp=Z,200nm,2.0s
LVV smax smax
comp=N,2μm,7.3s
LVV smax smax
comp=E,2μm,7.3s
LVV MLR MLR
comp=N,1μm,13.0s
LVV MLR MLR
comp=E,1μm,13.0s
LVV MLR MLR
comp=Z,800nm,12.0s
PAB San Pablo 26.32 157 P **P 05 34 08.9 +0.6**
PAB pmax pmax
comp=Z,17nm,1.4s
PAB San Pablo 26.32 157 P **P 05 34 08.9 +0.6**
UZH Uzhgorod 26.53 108 *e*P **P 05 34 10.3 +0.4**
UZH *i* 05 34 13.3
UZH *e* 05 34 20.8
UZH *e* 05 34 52.9
UZH *e*S **S 05 38 38.5 -6.0**
UZH MLR MLR
comp=N,300nm,15.0s
UZH MLR MLR
comp=E,350nm,15.0s
UZH MLR MLR
comp=Z,130nm,15.0s
OSSC Osservatorio P 26.65 129 P **P 05 34 12.3 +1.2**
OSSC IAmb IAmb 05 34 24.9
comp=Z,30nm,1.1s
PNCL Nicolau / Gran 27.13 164 *e*LQ LQ 05 39 14.1
MURB Monte Urbino 27.32 127 P **P 05 34 16.6 -0.5**
LATE Laterza 27.65 129 P **P 05 34 20.8 +0.6**
PCVE Castro Verde 27.66 164 *e*P **P 05 34 21.1 +0.9**
AKASG Malin Array Be 27.85 98 P **P 05 34 21.4 -0.4**
comp=Z,0.5nm,0.3s,baz=324,slow=10,SNR=6.8
AKASG LR LR 05 45 36.6
comp=Z,274nm,18.5s,baz=310,slow=37
AKASG Malin Array Be 27.85 98 *e*P **P 05 34 22.8 +1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 27.85 98 IAmb IAmb 05 34 27.2
comp=Z,4.5nm,1.4s
OBN Obninsk 27.89 84 LR LR 05 45 19.7
comp=Z,83nm,21.0s,baz=344,slow=36
OBN Obninsk 27.89 84⇑ *e*P **P 05 34 22.3 +0.2**
OBN *e* 05 35 06.3
OBN *i* S **S 05 39 12.1 +6.4**
OBN pmax pmax
comp=Z,60nm,1.3s
OBN MLR MLR
comp=Z,580nm,15.0s
MORF Marmelete 27.91 165 *e*P **P 05 34 22.9 +0.4**
PVAQ Vaqueiros 27.93 163 *e*P **P 05 34 25.7 +3.1**
PVAQ *e*LQ LQ 05 39 16.3
PVAQ A A 05 46 09.6
comp=Z,522nm,18.0s
PBDV Barranco-do-Ve 28.06 164 *e*P **P 05 34 26.2 +2.4**
PFVI Vila Bisbo 28.07 165 *e*P **P 05 34 25.7 +1.9**
KIRV Kirov 30.98 69 P **P 05 34 50.4 +1.0**

	comp=Z,15nm,0.6s,baz=62,slow=3.2,SNR=11						
KIRV					LR	LR	05 46 44.3
	comp=Z,678nm,18.4s,baz=333,slow=35						
PMOZ	**Porto Moniz, M**	**31.88**	**179**		A	A	05 46 39.7
	comp=Z,372nm,18.0s						
CLTB	**Caltabellotta**	**32.65**	**131**		P	**P**	**05 35 03.7 -0.8**
CLTB					IAmb	IAmb	05 35 07.5
	comp=Z,19nm,0.9s						
MDT	**Midelt**	**32.87**	**160**		P	**P**	**05 35 06.9 +0.5**
	comp=Z,6.3nm,0.8s,baz=28,slow=9.4,SNR=12						
KEST	**Kesra**	**33.17**	**138**		IAmb	IAmb	05 35 14.0
	comp=Z,29nm,1.4s						
ARU	**Arti**	**36.08**	**66**	*c i*	P	**P**	**05 35 35.1 +1.2**
ARU					pmax	pmax	
	comp=Z,58nm,2.1s						
FRNY	**Flat Rock**	**36.38**	**265**		P	**P**	**05 35 40.4 +3.9**
FRNY					IAmb	IAmb	05 35 42.1
	comp=Z,28nm,1.4s						
NRIK	**Noril'sk**	**36.45**	**35**		P	**P**	**05 35 37.1 +0.2**
	comp=Z,1.5nm,0.3s,baz=318,slow=12,SNR=4.5						
NRIK	**Noril'sk**	**36.45**	**35**		*e*P	**P**	**05 35 40.0 +3.1**
NRIK					pmax	pmax	
	comp=Z,2.0nm,0.3s						
SOC	**Sochi**	**37.88**	**96**		*e*P	**P**	**05 35 49.4 +0.2**
SOC					*e*		05 37 14.7
SOC					*e*PPP	PPP	05 37 37.6
SOC					*e*S	**S**	**05 41 42.6 +1.8**
SOC					*e*SS	**SnSn**	**05 44 22.0 +1.0**
SOC					*e*SSS	SSS	05 44 53.4
SOC					pmax	pmax	
	comp=Z,32nm,1.1s						
SOC					MLR	MLR	
	comp=Z,435nm,13.0s						
GOF	**Gofitskoye**	**38.12**	**91⇑**		*e*P	**P**	**05 35 52.1 +0.8**
GOF					pmax	pmax	
	comp=Z,23nm,0.6s						
BRTR	**Keskin Array B**	**38.49**	**105**		P	**P**	**05 35 55.4 +0.8**
	comp=Z,4.2nm,0.8s,baz=335,slow=6.9,SNR=6.9						
BRTR	**Keskin Array B**	**38.49**	**105**		P	**P**	**05 35 54.4 -0.2**
KIV	**Kislovodsk**	**38.85**	**92**		*e*P	**P**	**05 35 58.5 +0.9**
KIV					pmax	pmax	
	comp=Z,27nm,0.9s						
KIV					MLR	MLR	
	comp=Z,1μm,16.0s						
KBZ	**Khabaz**	**39.12**	**92**		LR	LR	05 52 23.1
	comp=Z,590nm,20.1s,baz=37,slow=36						
MAK	**Makhachkala**	**41.72**	**89**		*e*P	P	05 36 16.9 -4.3
MAK					*e*S	**S**	**05 42 31.0 -7.5**
MAK					*e*SS	**SS**	**05 45 37.0 -6.4**
MAK					pmax	pmax	
	comp=Z,131nm,1.1s						
TIXI	**Tiksi**	**42.02**	**15**	*d i*	P	**P**	**05 36 23.2 -0.1**
TIXI					pmax	pmax	
	comp=Z,45nm,1.9s						
TOLK	**Toolik Lake Re**	**42.73**	**336**		IAmb	IAmb	05 36 37.3
	comp=Z,46nm,1.4s						
BRVK	**Borovoye**	**43.13**	**62**	*de*	P	**P**	**05 36 31.5 -1.1**
BRVK					pmax	pmax	
	comp=Z,26nm,2.5s						
BVAR	**Borovoye Array**	**43.20**	**62**		P	**P**	**05 36 33.2 +0.1**
	comp=Z,4.2nm,0.8s,baz=300,slow=6.0,SNR=7.0						
BVAR					PcP	**PcP**	**05 38 20.2 -2.1**
	comp=Z,2.8nm,1.0s,baz=262,slow=3.9,SNR=3.5						
MARD	**Mardin**	**43.52**	**100**		IAmb	IAmb	05 36 41.7
	comp=Z,29nm,1.1s						
COLD	**Coldfoot**	**44.10**	**336**		P	**P**	**05 36 42.5 +2.2**
EGAK	**Eagle**	**44.47**	**329**		IAmb	IAmb	05 36 48.3
	comp=Z,22nm,1.5s						
IL31		**45.67**	**332**		IAmb	IAmb	05 36 59.6
	comp=Z,18nm,1.4s						
ILAR	**Eielson Array**	**45.67**	**332**		P	**P**	**05 36 53.5 +0.7**
	comp=Z,8.2nm,1.1s,baz=21,slow=5.7,SNR=14						
ILAR					PcP	**PcP**	**05 38 29.9 -0.8**
	comp=Z,3.4nm,1.1s,baz=350,slow=2.5,SNR=6.2						
ILAR	**Eielson Array**	**45.67**	**332**		P	**P**	**05 36 54.2 +1.4**
CCB	**Clear Creek Bu**	**45.96**	**333**		P	**P**	**05 36 57.8 +2.7**
CCB					IAmb	IAmb	05 37 01.7
	comp=Z,19nm,1.4s						
HDA	**Harding Lake**	**46.01**	**332**		P	**P**	**05 36 55.7 +0.3**
HDA					IAmb	IAmb	05 37 02.1
	comp=Z,27nm,1.4s						
DLBC	**Dease Lake**	**47.06**	**318**		P	**P**	**05 37 04.8 +0.9**
	comp=Z,1.8nm,0.8s,baz=351,slow=12,SNR=3.3						
BPAW	**Bear Paw Mtn.**	**47.07**	**334**		P	**P**	**05 37 05.5 +1.8**
BPAW					IAmb	IAmb	05 37 10.3
	comp=Z,17nm,1.2s						
ZALV	**Zalesovo Beam**	**47.63**	**51**		P	**P**	**05 37 08.4 +0.2**
	comp=Z,1.9nm,0.7s,baz=331,slow=8.5,SNR=4.6						
KURK	**Kurchatov**	**48.11**	**58**	*d i*	P	**P**	**05 37 10.8 -1.2**
KURK					pmax	pmax	
	comp=Z,18nm,1.3s						
KURBB	**Kurchatov Arra**	**48.15**	**58**		P	**P**	**05 37 11.9 -0.4**
	comp=Z,4.9nm,0.9s,baz=323,slow=7.4,SNR=14						
GEYT	**Alibeck**	**50.43**	**84**		P	**P**	**05 37 30.5 +0.6**
	comp=Z,1.8nm,0.6s,baz=320,slow=8.3,SNR=2.1						
GEYT	**Alibeck**	**50.43**	**84**		IAmb	IAmb	05 37 35.0
	comp=Z,3.5nm,1.1s						
YAK	**Yakutsk**	**51.26**	**19**	*i*	P	**P**	**05 37 37.8 +2.0**
YAK					pmax	pmax	
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**51.28**	**70**		P	**P**	**05 37 36.0 -0.3**
KKAR	**Karatay Array**	**51.28**	**70**		P	**P**	**05 37 36.0 -0.3**
MSO	**Missoula**	**51.44**	**299**		P	**P**	**05 37 40.8 +3.3**
MSO					IAmb	IAmb	05 37 42.1
	comp=Z,15nm,1.4s						
YNE	**Yellowstone No**	**51.46**	**295**		P	**P**	**05 37 38.8 +0.9**
YMP	**Mirror Lake Pl**	**51.74**	**295**		P	**P**	**05 37 44.5 +4.4**
DGZ	**Jazzator, Alta**	**52.08**	**53**	*i*	P	**P**	**05 37 42.0 -0.3**
DGZ					pmax	pmax	
	comp=Z,24nm,1.6s						
H17A	**Grant Village**	**52.20**	**295**		P	P	05 37 49.1 +5.7
SEY	**Seymchan**	**52.47**	**6**	*i*	P	**P**	**05 37 47.6 +2.8**
MKAR	**Makanchi Array**	**52.72**	**58**		P	**P**	**05 37 45.4 -1.6**
	comp=Z,4.1nm,1.1s,baz=347,slow=5.0,SNR=6.1						
MKAR	**Makanchi Array**	**52.72**	**58**		*e*P	**P**	**05 37 45.4 -1.6**
MKAR					pmax	pmax	
	comp=Z,9.0nm,1.2s						
MKAR	**Makanchi Array**	**52.72**	**58**		P	**P**	**05 37 44.9 -2.1**
PHWY	**Pilot Hill**	**52.75**	**289**		P	**P**	**05 37 48.3 +0.7**
PHWY					IAmb	IAmb	05 37 52.3
	comp=Z,13nm,1.1s						
UALR	**University of**	**52.76**	**274**		P	**P**	**05 37 48.1 +0.8**
UALR					IAmb	IAmb	05 37 52.7
	comp=Z,29nm,1.5s						
IMW	**Indian Meadow**	**52.76**	**295**		P	P	05 37 52.3 +4.7
LOHW	**Long Hollow**	**52.87**	**295**		P	**P**	**05 37 52.1 +3.8**
LOHW					IAmb	IAmb	05 37 54.5
	comp=Z,20nm,1.4s						
FXWY	**Fox Creek**	**53.01**	**295**		P	**P**	**05 37 51.9 +2.5**
FXWY					IAmb	IAmb	05 37 55.0
	comp=Z,14nm,1.4s						
TPAW	**Teton Pass**	**53.10**	**295**		P	**P**	**05 37 53.8 +3.6**
TPAW					IAmb	IAmb	05 37 54.8
	comp=Z,16nm,1.4s						
RWWY	**Rawlins**	**53.14**	**291**		P	**P**	**05 37 52.5 +2.1**
RWWY					IAmb	IAmb	05 38 07.4
	comp=Z,21nm,1.1s						
TOA0	**Torodi Ar. Sit**	**53.16**	**156**		P	**P**	**05 37 49.2 -1.2**
TOA0					IAmb	IAmb	05 37 53.5
	comp=Z,11nm,1.1s						
TORD	**Torodi Ar. Bea**	**53.16**	**156**		P	**P**	**05 37 49.4 -1.1**
	comp=Z,4.3nm,0.8s,baz=341,slow=8.0,SNR=4.7						
PD31	**Pinedale Array**	**53.17**	**293**		IAmb	IAmb	05 37 56.4
	comp=Z,21nm,1.2s						
PDAR	**Pinedale Array**	**53.17**	**293**		P	**P**	**05 37 48.3 -2.2**
	comp=Z,6.2nm,0.9s,baz=62,slow=5.8,SNR=11						
PDAR	**Pinedale Array**	**53.17**	**293**		P	**P**	**05 37 49.9 -0.6**
N23A	**Red Feather La**	**53.30**	**289**		P	**P**	**05 37 53.0 +1.4**
CROK	**Carrier**	**53.69**	**280**		P	**P**	**05 37 55.9 +1.7**
AHID	**Auburn Hatcher**	**53.77**	**294**		P	**P**	**05 37 57.4 +2.4**
AHID					IAmb	IAmb	05 38 02.3
	comp=Z,15nm,1.2s						
BMO	**Blue Mountains**	**54.37**	**300**		IAmb	IAmb	05 38 03.3
	comp=Z,10nm,1.3s						
HLID	**Hailey**	**54.38**	**297**		IAmb	IAmb	05 38 04.6
	comp=Z,18nm,1.5s						
RDMU	**Red Mountain**	**55.03**	**292**		P	**P**	**05 38 06.3 +2.1**
TCUT	**Toone Canyon**	**55.30**	**294**		P	**P**	**05 38 08.5 +2.4**
TLY	**Talaya**	**55.39**	**40**	*c i*	P	**P**	**05 38 08.2 +1.8**
TLY					pmax	pmax	
	comp=Z,19nm,1.7s						
JLU	**Jordanelle**	**55.75**	**293**		P	**P**	**05 38 11.2 +1.8**
CTU	**Camp Tracy**	**55.79**	**294**		P	**P**	**05 38 10.5 +0.9**
Z35A	**Perchaven, San**	**56.09**	**277**		P	**P**	**05 38 14.3 +2.8**
BGU	**Big Grassy Mou**	**56.09**	**295**		P	**P**	**05 38 15.8 +4.0**
ZAK	**Zakamensk**	**56.45**	**41**	*e*	P	**P**	**05 38 14.0 -0.1**
ZAK					pmax	pmax	
	comp=Z,9.0nm,1.7s						
KSH	**Kashi**	**56.50**	**68**		P	**P**	**05 38 17.2 +2.6**
KSH					PP	**PP**	**05 40 23.0 +3.1**
KSH					S	**S**	**05 46 04.7 -1.6**
KSH					sS	sS	05 46 11.7 +2.8
KSH					ScS	**ScS**	**05 48 01.0 -3.4**
KSH					pmax	pmax	
	comp=Z,1μm,6.3s						
KSH					LR	LR	
	comp=Z,1μm,9.4s						
KSH					LR	LR	
	comp=Z,610nm,9.3s						
KSH					LR	LR	
	comp=Z,760nm,17.8s						
PV21	**Cone Mtn., Par**	**56.51**	**290**		IAmb	IAmb	05 38 19.5
	comp=Z,11nm,1.0s						
DUG	**Dugway, Tooele**	**56.64**	**294**		P	**P**	**05 38 18.9 +3.3**
DUG					pmax	pmax	
	comp=Z,16nm,1.3s						
DUG	**Dugway, Tooele**	**56.64**	**294**		P	**P**	**05 38 18.9 +3.3**
DUG					IAmb	IAmb	05 38 22.1
	comp=Z,16nm,1.2s						
PV16	**Nyswonger Mesa**	**56.70**	**290**		P	**P**	**05 38 19.6 +3.5**
PV16					IAmb	IAmb	05 38 29.9
	comp=Z,13nm,1.0s						
PV17	**East Wray Mesa**	**56.74**	**290**		P	**P**	**05 38 19.7 +3.2**
PV17					IAmb	IAmb	05 38 21.3
	comp=Z,19nm,1.1s						
ELK	**Elko**	**57.11**	**296**		P	**P**	**05 38 19.0 0.0**
ELK					pmax	pmax	
	comp=Z,11nm,1.3s						
ELK	**Elko**	**57.11**	**296**		P	**P**	**05 38 19.0 0.0**
ELK					IAmb	IAmb	05 38 25.8
	comp=Z,11nm,1.3s						
WMQ	**Urumqi**	**57.23**	**56**	*e*	P	**P**	**05 38 24.0 +4.3**
WMQ					pP	sP	05 38 28.6 +6.8
WMQ					sP	pP	05 38 31.7 +10
WMQ					pmax	pmax	
	comp=Z,18nm,0.7s						
WMQ					pmax	pmax	
	comp=Z,220nm,6.7s						
WMQ					LR	LR	
	comp=Z,680nm,14.9s						
WMQ					LR	LR	
	comp=Z,520nm,21.1s						
MOD	**Modoc Plateau**	**58.02**	**301**		P	**P**	**05 38 27.4 +2.1**
MOD					IAmb	IAmb	05 38 31.1
	comp=Z,11nm,1.2s						
ANMO	**Albuquerque**	**58.58**	**286**	*i*	P	**P**	**05 38 34.0 +4.6**
ANMO					pmax	pmax	
	comp=Z,4.0nm,1.0s						
TIC	**Toumodi**	**58.61**	**165**	*e*	PKIKP	**P**	**05 38 29.8 +0.3**
ZEA	**Zeya**	**58.83**	**24**	*e*	P	P	05 38 24.2 -6.4
ZEA					pmax	pmax	
	comp=Z,130nm,2.5s						
KIC	**Kosan Boka**	**58.92**	**165**	*e*	PKIKP	**P**	**05 38 29.8 -1.9**
	comp=Z,33nm,0.8s						
LIC	**Lamto**	**59.02**	**165**	*e*	PKIKP	**P**	**05 38 29.8 -2.6**
	comp=Z,64nm,0.9s						
CCUT	**Cedar City**	**59.13**	**293**		P	**P**	**05 38 34.5 +1.2**
R11A	**Troy Canyon, C**	**59.31**	**295**		IAmb	IAmb	05 38 39.9
	comp=Z,16nm,1.3s						
KNB	**Kanab**	**59.38**	**292**		P	**P**	**05 38 37.8 +2.9**
KNB					pmax	pmax	
	comp=Z,16nm,1.3s						
KNB	**Kanab**	**59.38**	**292**		P	**P**	**05 38 37.8 +2.9**
SONM	**Songino Array**	**59.63**	**40**		P	**P**	**05 38 36.1 -0.4**
	comp=Z,0.9nm,0.9s,baz=330,slow=5.1,SNR=6.1						
SONM	**Songino Array**	**59.63**	**40**	*e*	P	**P**	**05 38 39.5 +3.0**
SONM					pmax	pmax	
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**59.79**	**40**		P	**P**	**05 38 37.7 +0.1**
ULN					pmax	pmax	
	comp=Z,16nm,1.4s						
ULN	**Ulaanbaatar**	**59.79**	**40**		P	**P**	**05 38 37.7 +0.1**
ULN					IAmb	IAmb	05 38 40.5
	comp=Z,16nm,1.4s						
NVAR	**Mina Array Bea**	**60.29**	**297**		P	**P**	**05 38 41.0 -0.2**
	comp=Z,2.4nm,0.9s,baz=346,slow=1.9,SNR=3.8						
SHPR	**Sheep Range**	**60.75**	**294**			**P**	**05 38 46.6 +2.4**
SHPR					IAmb	IAmb	05 38 51.7
	comp=Z,16nm,1.4s						
TPNV	**Topopah Spring**	**60.79**	**295**		P	**P**	**05 38 47.3 +2.8**
TPNV					pmax	pmax	
	comp=Z,13nm,1.4s						
TPNV	**Topopah Spring**	**60.79**	**295**		P	**P**	**05 38 47.3 +2.8**
TPNV					IAmb	IAmb	05 38 50.7
	comp=Z,13nm,1.4s						
OMMB	**Old Mammoth Mi**	**61.27**	**297**		P	**P**	**05 38 49.3 +1.3**
OMMB					IAmb	IAmb	05 38 53.9
	comp=Z,15nm,1.5s						
MDPB	**Devils Postpil**	**61.28**	**298**		P	**P**	**05 38 48.7 +0.7**
MDPB					IAmb	IAmb	05 38 53.8
	comp=Z,10nm,1.2s						
HIA	**Hailar**	**61.62**	**30**	*i*	P	**P**	**05 38 52.0 +2.1**
HIA					pmax	pmax	
	comp=Z,4.0nm,0.8s						
PET	**Petropavlovsk**	**62.59**	**3**	*i*	P	**P**	**05 38 57.7 +1.5**
PET					pmax	pmax	
	comp=Z,108nm,0.9s						
ISA	**Isabella, Lake**	**62.78**	**296**		P	**P**	**05 39 00.3 +2.4**
ISA					pmax	pmax	
	comp=Z,12nm,1.2s						
ISA	**Isabella, Lake**	**62.78**	**296**		P	**P**	**05 39 00.3 +2.4**
ISA					IAmb	IAmb	05 39 03.5
	comp=Z,12nm,1.2s						
319A	**Douglas**	**62.84**	**286**		P	**P**	**05 39 00.0 +1.6**
GTA	**Gaotai**	**65.30**	**49**	*e*	P	**P**	**05 39 16.6 +2.2**
GTA					pP	sP	05 39 21.0 +4.4
GTA					sP	pP	05 39 23.8 +7.8
GTA					pmax	pmax	
	comp=Z,9.0nm,1.3s						
HSIG		**65.60**	**286**			pP	05 39 20.5 +2.6
HHC	**Hu-ho-hao-te**	**67.51**	**40**	*e*	P	**P**	**05 39 31.0 +2.5**
HHC					pmax	pmax	
	comp=Z,29nm,0.7s						
HHC					pmax	pmax	
	comp=Z,540nm,7.1s						
BJI	**Beijing**	**69.48**	**36**		P	**P**	**05 39 40.1 -0.6**
LZH	**Lanzhou**	**69.62**	**48**	*e*	P	**P**	**05 39 44.8 +2.9**
LZH					pP	sP	05 39 48.9 +4.9
LZH					sP	pP	05 39 52.1 +8.6
LZH					pmax	pmax	
	comp=Z,18nm,1.2s						
ROSC	**El Rosal**	**71.92**	**241**		P	**P**	**05 39 56.5 +0.1**
	comp=Z,8.5nm,0.6s,baz=124,slow=18,SNR=2.6						
ROSC	**El Rosal**	**71.92**	**241**		IAmb	IAmb	05 40 03.9
	comp=Z,20nm,1.0s						
XAN	**Xi'an**	**73.08**	**44**		P	**P**	**05 40 02.1 -0.6**
XAN					pmax	pmax	
	comp=Z,10.0nm,1.4s						
XAN	**Xi'an**	**73.08**	**44**		P	**P**	**05 40 02.1 -0.6**
NJ2	**Nanjing**	**77.73**	**37**	*e*	P	**P**	**05 40 29.4 +0.1**
NJ2					pmax	pmax	
	comp=Z,8.0nm,0.6s						
KMI	**Kunming**	**79.35**	**53⇑**	*e*	P	**P**	**05 40 39.9 +1.2**
KMI					pP	pP	05 40 40.9 +0.6
KMI					sP	sP	05 40 42.8 +2.0
KMI					pmax	pmax	
	comp=Z,14nm,0.5s						
KMI					LR	LR	
	comp=Z,300nm,18.5s						
KMI					LR	LR	
	comp=Z,290nm,14.5s						
KMI					LR	LR	
	comp=Z,240nm,19.7s						
GYA	**Guiyang**	**79.42**	**49**	*e*	P	**P**	**05 40 40.8 +1.9**
GYA					pmax	pmax	
	comp=Z,11nm,1.6s						
WRA	**Warramunga Arr**	**131.52**	**36**		PKP	**PKPdf**	**05 47 43.7 -1.3**
	comp=Z,0.9nm,0.9s,baz=350,slow=2.7,SNR=5.2						
ASAR	**Alice Springs**	**134.96**	**38**		PKP	**PKPdf**	**05 47 50.6 -0.8**
	comp=Z,1.5nm,1.0s,baz=353,slow=3.9,SNR=7.2						
STKA	**Stephens Creek**	**144.71**	**32**		PKP	**PKPab**	**05 48 06.5 -1.1**
	comp=Z,3.3nm,0.8s,baz=13,slow=3.1,SNR=3.5						

TEH ***10*** *05:52:40.4,38.̇35N×46.̇98E,h9km,ML3.6*
THR ***10*** *05:52:40.1±0.4,38.̇36N×46.̇96E,h14km±7km,ML3.5*
NSSP ***10*** *05:52:41.0,38.̇33N×46.̇90E,h10km,Ms3.5*
ISC 10 05:52:40.2±1.0,38.̇36N±0.̇03×46.̇99E±0.̇03,h12km±8km, n23,σ1§96/28,2C,Iran-Armenia-Azerbaijan border

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	region						
IHRS	**Heris**	**0.06**	**131**	*e*Pg	**Pg**	**05 52 42.8**	**-0.1**
IHSH	**Hashtrud**	**0.22**	**103**	*e*Pg	Pb	05 53 00.2	+14
ITBZ	**Tabriz**	**0.67**	**260**	*e*Pg	**Pg**	**05 52 52.9**	**-0.4**
ISRB	**Sarab**	**0.75**	**134**	*e*Pg	**Pg**	**05 52 54.9**	**0.0**
GRMI	**Germi**	**0.84**	**57**	*e*Pg	**Pg**	**05 52 56.6**	**+0.1**
GRMI				*e*Sg	**Sb**	**05 53 08.2**	**0.0**
GRMI	**Germi**	**0.84**	**57**	*e*Pg	**Pg**	**05 52 56.6**	**+0.1**
IAZR	**Azarshahr**	**1.04**	**230**	*e*Pg	**Pg**	**05 53 00.2**	**-0.2**
IMRD	**Marand**	**1.07**	**290**	*e*Pg	**Pn**	**05 53 00.6**	**-0.6**
MAHB	**Mahabad**	**1.89**	**213**	*e*Pg	**Pg**	**05 53 15.4**	**-1.0**
MAHB				*e*		05 53 42.8	
MAKU	**Maku**	**2.06**	**300**	*e*Pn	**Pb**	**05 53 16.0**	**-1.6**
MAKU	**Maku**	**2.06**	**300**	*e*Pn	**Pb**	**05 53 16.0**	**-1.6**
ZNJK	**Zanjan**	**2.16**	**141**	*e*Pn	**Pb**	**05 53 18.2**	**-1.2**
ZNJK				*e*Sg	**Sg**	**05 53 48.5**	**-1.1**
ZNJK				IAML		05 53 52.4	
	comp=E,243nm,0.5s						
ZNJK	**Zanjan**	**2.16**	**141**	*e*Pn	**Pb**	**05 53 18.2**	**-1.2**
QSDN	**Sirdan**	**2.54**	**136**	*e*Pn	**Pb**	**05 53 23.8**	**-2.1**
QSDN				*e*		05 54 05.3	
KAPZ	**Kaputan**	**2.65**	**319⇑**	*i*P	**Pg**	**05 53 29.8**	**-1.2**
KAPZ			⇑	*i*S	**Sg**	**05 54 05.1**	**-0.2**
METS	**Metsamor**	**2.88**	**309**	*i* P	**Pg**	**05 53 34.4**	**-1.1**
METS				*i* S	**Sg**	**05 54 11.3**	**-1.5**
ARUZ	**Aruch**	**2.96**	**311**	*i* P	**Pg**	**05 53 36.3**	**-0.6**
ARUZ				*i* S	**Sg**	**05 54 18.9**	**+3.7**
VNNZ	**Vanand**	**3.01**	**306**	*i* P	**Pg**	**05 53 39.2**	**+1.2**
VNNZ				*i* S	**Sg**	**05 54 21.4**	**+4.4**
HSRG	**Sareghieh**	**3.28**	**161**	*e*Pn	**Pn**	**05 53 34.4**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.36**	**141**	*e*Pn	**Pn**	**05 53 34.5**	**+1.7**
QABG				*e*		05 53 44.6	
QALM	**Alamut, Qazvin**	**3.49**	**122**	*e*Pn	**Pb**	**05 53 38.7**	**-3.4**
QALM				*e*		05 54 36.9	
IALM	**Almabolaq**	**3.62**	**164**	*e*Pn	**Pn**	**05 53 40.0**	**+3.7**
IDHR	**Dehrash**	**3.68**	**188**	*e*Pn	**Pn**	**05 53 38.5**	**+1.3**

IDC ***10*** *05:59:47.8±2.3,0.̇20S×125.̇11E,h29km±16km,mb4.6/40, mb1 4.6/45,mb1mx4.5/61,mbtmp4.8/45,ML4.6/5,MS4.1/6, Ms1 4.1/6,ms1mx3.6/42,Error ellipse: s-maj=14.4km s-min=8.7km az=67.0*
BJI ***10*** *05:59:47.0±0.0,0.̇20S×125.̇30E,h30km,mB5.3/29, mb4.9/50,Ms4.7/7,Ms7 4.3/3*
NEIC ***10*** *05:59:48.0±2.3,0.̇21S±0.̇06×125.̇26E±0.̇05,h30km±1km, mb4.9/80,Error ellipse: s-maj=10.3km s-min=8.0km az=160.0*
DJA ***10*** *05:59:51.0±0.2,0.̇S±2.̇×12.̇5E±.̇°,h52km±3km,M4.9/48, mb5.0/48,mB5.4/12,MLv4.9/18,Mw(mB)4.9/12,Mwp6.9/1*
KLM ***10*** *05:59:51.0,0.̇21S×125.̇31E,h70km,mb4.9*
ISC 10 05:59:50.6±0.3,0.̇25S±0.̇04×125.̇24E±0.̇04,h53km,n280, σ1§41/270,mb4.8/89,MS4.1/4,9C-7D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.50**	**303**	P	**Pn**	**06 00 12.7**	**-2.5**
SANI	**Sanana**	**1.94**	**157**	P	**Pn**	**06 00 18.8**	**-2.3**
LBMI	**Labuha**	**2.29**	**100**	P	**Pn**	**06 00 25.4**	**-0.6**
TNTI	**Ternate**	**2.35**	**64**	P	**Pn**	**06 00 27.6**	**+0.8**
TNTI	**Ternate**	**2.35**	**64**	Pn	**Pn**	**06 00 25.0**	**-1.8**
GTOI	**Gorontalo**	**2.40**	**292**	P	**Pn**	**06 00 29.4**	**+2.0**
LUWI	**Luwuk**	**2.59**	**252**	P	**Pn**	**06 00 34.6**	**+4.5**
LUWI	**Luwuk**	**2.59**	**252**	Pn	**Pn**	**06 00 30.3**	**+0.3**
NLAI	**Namlea**	**3.50**	**148**	P	**Pn**	**06 00 41.4**	**-1.1**
MSAI	**Masohi**	**4.80**	**130**	P	**Pn**	**06 01 01.5**	**+1.1**
MPSI	**Mapaga**	**5.38**	**276**	P	**Pn**	**06 01 10.0**	**+1.7**
	1.9nm4μm352nm,0.8s						
SIJI	**Sorong**	**6.05**	**96**	Pn	**Pn**	**06 01 18.5**	**+0.9**
	5.8nm,0.3s,baz=84,slow=23,SNR=12						
SIJI				Sn	**Sn**	**06 02 24.6**	**-1.0**
	2.5nm,0.3s,baz=138,slow=24,SNR=1.1						
BNSI	**Bone**	**6.58**	**231**	P	**Pn**	**06 01 25.0**	**+0.2**
	0.6nm2μm152nm,0.6s						
SPSI	**Sidrap Palu**	**6.60**	**236**	P	**Pn**	**06 01 25.2**	**+0.2**
	1.3nm5μm257nm,0.6s						
BKSI	**Bulukumba**	**7.18**	**225**	P	**Pn**	**06 01 34.0**	**+1.0**
	0.5nm924nm67nm,0.8s						
KCP	**Kidapawan**	**7.21**	**359⇑**	*i*P	**Pn**	**06 01 36.6**	**+3.0**
KAPI	**Kappang**	**7.24**	**229**	Pn	**Pn**	**06 01 34.0**	**+0.2**
	17nm,0.3s,baz=19,slow=11,SNR=7.9						
KAPI				Sn	**Sn**	**06 02 51.8**	**-3.0**
	5.4nm,0.3s,baz=217,slow=22,SNR=1.8						
KAPI				LR	LR	06 05 08.0	
	comp=Z,989nm,19.2s,baz=26,slow=45						
KAPI	**Kappang**	**7.24**	**229**	Pn	**Pn**	**06 01 34.2**	**+0.4**
DAV	**Davao City (W)**	**7.28**	**3**	Pn	**Pn**	**06 01 31.1**	**-3.3**
	56nm,0.3s,baz=35,slow=13,SNR=1.5						
DAV				LR	LR	06 04 35.8	
	comp=Z,1μm,19.8s,baz=202,slow=40						
FAKI	**Fak Fak**	**7.49**	**111**	P	**Pn**	**06 01 35.0**	**-2.3**
	0.2nm43nm,0.6s						
FAKI	**Fak Fak**	**7.49**	**111**		**Pn**	**06 01 34.5**	**-2.7**
MYLDM	**Lahad Datu**	**8.63**	**309**	Pn	**Pn**	**06 01 51.0**	**-1.9**
EDFI	**Ende, Flores**	**9.15**	**203**	P	**Pn**	**06 02 02.7**	**+2.5**
	19nm,1.1s						
SOEI	**Soe**	**

WRAB **Tennant Creek** 21.50 156 P P 06 04 33.9 -1.3
WRA **Warramunga Arr** 21.50 156 P P 06 04 33.7 -1.4
12nm,0.6s,baz=336,slow=12,SNR=128
WRA PcP PcP 06 08 37.3 +0.8
0.9nm,0.6s,baz=334,slow=1.9,SNR=3.4
WRA ScP ScP 06 12 10.9 +1.5
1.9nm,0.9s,baz=338,slow=3.0,SNR=7.4
WRA **Warramunga Arr** 21.50 156 P P 06 04 33.0 -2.2
WB2 **Warramunga Arr** 21.51 156 P P 06 04 33.5 -1.7
baz=22
WB2 **Warramunga Arr** 21.51 156 P P 06 04 33.7 -1.5
WR0 **Warramunga Arr** 21.60 156 P P 06 04 34.8 -1.4
WR0 IAmb IAmb 06 04 46.0
comp=Z,43nm,0.9s
XMIS **Christmas Isla** 21.97 242 P P 06 04 39.8 -0.4
COEN **Coen** 22.37 128 P P 06 04 45.1 +0.5
baz=22,SNR=14
COEN **Coen** 22.37 128 P P 06 04 44.4 -0.2
COEN IAmb IAmb 06 04 47.8
comp=Z,36nm,0.8s
PMG **Port Moresby** 23.64 113 P P 06 04 56.9 -0.3
comp=Z,7.9nm,0.3s,baz=0.9,slow=5.1,SNR=3.4
PMG **Port Moresby** 23.64 113 IAmb IAmb 06 05 00.7
comp=Z,60nm,1.4s
YULB **Yu-li** 23.81 351 P P 06 04 57.0 -1.8
SDSI **Sungai Dareh** 23.82 268 P P 06 04 58.2 -0.8
comp=Z,34nm,1.2s
TPUB **Ta-pu** 23.84 349 P P 06 04 58.0 -1.0
SSLB **Suanglung** 24.25 350 P P 06 05 02.5 -0.3
QIZ **Qiongzhong** 24.41 323 P P 06 05 03.6 -0.6
QIZ S S 06 09 27.0 +6.4
QIZ pmax pmax
comp=Z,10.0nm,1.4s
QIS **Mount Isa** 24.59 146 P P 06 05 06.5 +0.6
baz=25,SNR=86
IPM **Ipoh** 24.65 281 P P 06 05 04.9 -1.7
AS31 **Alice Springs** 24.75 161 P P 06 05 07.4 0.0
ASAR **Alice Springs** 24.75 161 P P 06 05 07.2 -0.1
comp=Z,7.9nm,0.6s,baz=346,slow=12,SNR=73
ASAR PcP PcP 06 08 44.0 +0.8
comp=Z,2.7nm,0.5s,baz=353,slow=1.9,SNR=11
ASAR ScP ScP 06 12 19.8 +1.9
comp=Z,1.1nm,0.8s,baz=336,slow=2.9,SNR=4.4
ASAR **Alice Springs** 24.75 161 P P 06 05 07.4 0.0
WRKA **Warakurna** 24.82 173 P P 06 05 08.0 0.0
baz=25,SNR=99
YHNB **Yeheng** 25.05 352 P P 06 05 11.1 +0.9
MTSU **Mount Surprise** 25.83 135 P P 06 05 18.1 +0.8
baz=26,SNR=5.7
RPSI **Rantau Prapat** 26.47 277 P P 06 05 21.1 -1.9
RPSI **Rantau Prapat** 26.47 277 P P 06 05 21.2 -1.9
PSI **Prapat** 26.48 277 P P 06 05 21.2 -2.1
comp=Z,6.8nm,0.8s,baz=0.6,slow=1.5,SNR=5.3
PSI LR LR 06 16 39.4
comp=Z,430nm,19.9s,baz=87,slow=38
JMZ **Minamidaito 2** 26.55 12 P P 06 05 23.2 -0.4
JMZ IAmb IAmb 06 05 30.2
comp=Z,74nm,1.4s
MEEK **Meekatharra** 27.00 193 P P 06 05 29.1 +1.4
baz=27,SNR=5.5
KRVT **Keravat (AS076** 27.06 99 P P 06 05 29.1 +0.7
comp=Z,37nm,0.5s,baz=283,slow=3.9,SNR=3.5
CTA **Charters Tower** 28.49 135 P P 06 05 41.8 +0.6
comp=Z,2.2nm,0.4s,baz=331,slow=11,SNR=7.4
CTA ScP ScP 06 12 32.1 +3.1
comp=Z,2.6nm,0.2s,baz=66,slow=18,SNR=3.6
CTAO **Charters Tower** 28.49 135 P P 06 05 41.4 +0.3
FORT **Forrest** 30.48 175 P P 06 05 58.6 +0.1
baz=30,SNR=11
FORT **Forrest** 30.48 175 P P 06 05 58.8 +0.2
KMBL **Kambalda** 31.11 186 P P 06 06 04.6 +0.5
baz=31,SNR=5.2
CHTO **Chiang Mai** 32.03 308 P P 06 06 11.7 -0.6
CHTO IAmb IAmb 06 06 12.4
comp=Z,13nm,0.9s
NJ2 **Nanjing** 32.69 350 *e*P P 06 06 18.9 +0.9
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KMI **Kunming** 33.32 321⇑*e*P P 06 06 28.2 +4.4
KMI pP pwP 06 06 39.0 -1.1
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,240nm,6.3s
KMI LR LR
comp=Z,250nm,16.6s
KMI LR LR
comp=Z,210nm,12.7s
JNU **Nakatsue** 33.62 9 P P 06 06 25.5 -0.6
comp=Z,9.7nm,0.7s,baz=129,slow=3.5,SNR=6.1
JNU **Nakatsue** 33.62 9 P P 06 06 25.6 -0.6
JNU IAmb IAmb 06 06 41.8
comp=Z,16nm,0.9s
BBOO **Buckleboo** 33.95 164 P P 06 06 29.0 0.0
BBOO IAmb IAmb 06 06 31.4
comp=Z,17nm,1.1s
JMN **Monobe** 34.76 13 IAmb IAmb 06 06 40.9
comp=Z,20nm,0.8s
STKA **Stephens Creek** 35.05 155 P P 06 06 38.8 +0.3
comp=Z,13nm,0.6s,baz=332,slow=8.7,SNR=24
STKA **Stephens Creek** 35.05 155 P P 06 06 39.3 +0.7
baz=35,SNR=15
STKA **Stephens Creek** 35.05 155 P P 06 06 39.2 +0.7
HTT **Hallett** 35.42 160 P P 06 06 43.6 +1.9
baz=36,SNR=4.4
JHS **Saijyo** 35.83 11 P P 06 06 45.5 +0.3
JHS IAmb IAmb 06 06 50.5
comp=Z,19nm,1.2s
JWT **Wachi** 36.60 14 P P 06 06 51.9 +0.2
JWT IAmb IAmb 06 07 08.7
comp=Z,10nm,0.7s
CMSA **Cobar Meteorol** 36.65 150 P P 06 06 53.6 +1.4
baz=37,SNR=25
XAN **Xi'an** 37.39 337 P P 06 06 57.9 -0.6
XAN pP pP 06 07 05.3 -6.2
XAN pmax pmax
comp=Z,13nm,0.8s
KSAR **Wonju Array Be** 37.59 3 P P 06 07 00.7 +0.7
KSRS **Korea Array** 37.60 3 P P 06 07 00.6 +0.5
comp=Z,9.9nm,1.1s,baz=181,slow=11,SNR=23
KSRS PcP PcP 06 09 17.8 +0.8
comp=Z,1.0nm,0.8s,baz=180,slow=2.8,SNR=4.6
KS19 **Wonju Array Si** 37.64 3 IAmb IAmb 06 07 17.7
comp=Z,13nm,0.9s
MJAR **Matsushiro Arr** 38.54 17 P P 06 07 07.6 -0.5
comp=Z,4.8nm,0.6s,baz=197,slow=8.5,SNR=13
MJAR PcP PcP 06 09 20.7 +0.7
comp=Z,1.4nm,0.4s,baz=209,slow=2.6,SNR=3.5
MAJO **Matsushiro** 38.54 17 P P 06 07 07.7 -0.4
MAJO IAmb IAmb 06 07 23.3
comp=Z,16nm,0.9s
MAT **Matsushiro** 38.54 17 P P 06 07 07.1 -1.0
ARMA **Armidale** 39.10 143 P P 06 07 14.6 +1.5
baz=39,SNR=5.4
ARMA **Armidale** 39.10 143 P P 06 07 13.9 +0.8
ARMA IAmb IAmb 06 07 23.8
comp=Z,27nm,1.2s
ARPS **Mount Arapiles** 39.46 159 P P 06 07 17.0 +1.2
baz=40,SNR=6.7
YNG **Young** 40.22 150 P P 06 07 24.3 +2.1
baz=40,SNR=7.6
BJI **Beijing** 40.95 349 P P 06 07 29.1 +1.1
BJI pmax pmax
comp=Z,6.0nm,0.5s
LZH **Lanzhou** 41.27 333 *e*P P 06 07 32.0 +1.0
LZH pP pP 06 07 40.7 -3.4
LZH sP pwP 06 07 45.5 -1.9
LZH pmax pmax
comp=Z,16nm,1.1s
CAN **Canberra** 41.33 150 P P 06 07 32.2 +0.8
baz=41
CAN **Canberra** 41.33 150 P P 06 07 32.4 +1.0
CAN IAmb IAmb 06 07 51.1
comp=Z,22nm,0.9s
TOO **Toolangi** 41.58 156 P P 06 07 34.1 +0.8
baz=42,SNR=6.2
HHC **Hu-ho-hao-te** 42.76 345 *e*P P 06 07 43.0 0.0
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,470nm,6.8s
LSA **Lhasa** 44.08 315 P P 06 07 55.4 +1.2
LSA IAmb IAmb 06 07 57.8
comp=Z,16nm,0.7s
USA0B **Ussuriysk Arra** 44.66 7 P P 06 07 58.5 +0.4
USA0B IAmb IAmb 06 08 01.3
comp=Z,14nm,0.9s
USRK **Ussuriysk Ar.** 44.66 7 P P 06 07 58.5 +0.4
comp=Z,4.9nm,0.5s,baz=186,slow=5.7,SNR=17
USRK **Ussuriysk Ar.** 44.66 7 P P 06 07 58.3 +0.2
MDJ **Mudanjiang** 44.84 4 P P 06 07 58.5 -1.0
MDJ pmax pmax
comp=Z,7.0nm,0.5s
TAPN **Taplejung** 45.30 310 *e*P P 06 08 02.9 -0.9
comp=Z,25nm,0.7s
TAPN **Taplejung** 45.30 310 *e*P P 06 08 02.9 -0.9
comp=Z,25nm,0.7s
DZM **Mont Dzumac** 45.61 121 P P 06 08 07.2 +1.1
comp=Z,3.6nm,0.8s,baz=135,slow=22,SNR=2.6
GTA **Gaotai** 45.82 332 ⇓P P 06 08 08.6 +1.1
GTA pP pP 06 08 17.7 -3.2
GTA sP pwP 06 08 21.6 -2.3
GTA pmax pmax
comp=Z,20nm,0.6s
RAMN **Ramite** 45.95 309 *e*P P 06 08 07.5 -1.4
comp=Z,27nm,0.6s
RAMN **Ramite** 45.95 309 *e*P P 06 08 07.5 -1.4
comp=Z,27nm,0.6s
JIRN **Jiri** 46.62 310 *e*P P 06 08 13.0 -1.3
comp=Z,25nm,0.5s
JIRN **Jiri** 46.62 310 *e*P P 06 08 13.0 -1.3
comp=Z,25nm,0.5s
GUN **Gumba** 46.99 310 *e*P P 06 08 16.9 -0.2
comp=Z,58nm,0.7s
GUN **Gumba** 46.99 310 *e*P P 06 08 16.9 -0.2
comp=Z,58nm,0.7s
PKI **Pulchoki** 47.18 309 *e*P P 06 08 18.0 -0.6
PKI **Pulchoki** 47.18 309 *e*P P 06 08 18.0 -0.6
KKN **Kakani** 47.39 309 *e*P P 06 08 19.4 -0.7
comp=Z,26nm,0.7s
KKN **Kakani** 47.39 309 *e*P P 06 08 19.4 -0.7
comp=Z,26nm,0.7s
DMN **Daman** 47.44 309 *e*P P 06 08 19.1 -1.4
DMN **Daman** 47.44 309 *e*P P 06 08 19.1 -1.4
GKN **Gorkha** 47.99 309 *e*P P 06 08 24.2 -0.5
comp=Z,24nm,0.3s
GKN **Gorkha** 47.99 309 *e*P P 06 08 24.2 -0.5
comp=Z,24nm,0.3s
KOLN **Koldanda** 48.69 308 *e*P P 06 08 28.4 -1.7
comp=Z,65nm,0.6s
KOLN **Koldanda** 48.69 308 *e*P P 06 08 28.4 -1.7
comp=Z,65nm,0.6s
HYB **Hyderabad** 49.19 293 *i*P P 06 08 30.0 -3.9
PYUN **Piuthan** 49.32 308 *e*P P 06 08 33.3 -1.7
comp=Z,96nm,0.6s
PYUN **Piuthan** 49.32 308 *e*P P 06 08 33.3 -1.7
comp=Z,96nm,0.6s
ULN **Ulaanbaatar** 50.47 344 P P 06 08 44.8 +1.5
SONM **Songino Array** 50.62 344 P P 06 08 43.5 -1.0
comp=Z,5.1nm,0.7s,baz=162,slow=9.0,SNR=16
SONM **Songino Array** 50.62 344 P P 06 08 43.4 -1.0
TLY **Talaya** 54.87 344 P P 06 09 13.6 -2.0
comp=Z,6.9nm,0.8s,baz=197,slow=11,SNR=4.2
TLY **Talaya** 54.87 344 IAmb IAmb 06 09 18.3
comp=Z,7.2nm,0.7s
WMQ **Urumqi** 55.19 328 *e*P P 06 09 19.1 +1.0
WMQ pP pP 06 09 29.5 -2.2
WMQ sP pwP 06 09 32.2 -2.6
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,250nm,4.5s
WMQ LR LR
comp=Z,84nm,20.1s
ZSN **Zaisan** 59.08 329 *e*P P 06 09 45.5 0.0
baz=329
NIL **Nilore** 59.25 310 P P 06 09 46.6 -0.3
NIL IAmb IAmb 06 09 54.1
comp=Z,9.8nm,0.6s
RPZ **Rata Peaks** 59.44 143 LR LR 06 35 31.1
comp=Z,217nm,21.7s,baz=256,slow=36
SHLS **Shalkode** 59.51 323 *e*P P 06 09 47.1 -1.5
comp=Z,5.5nm,0.5s,baz=323
PETK **Petropavlovsk-** 59.65 22 P P 06 09 50.4 +1.2
comp=Z,11nm,0.7s,baz=196,slow=6.4,SNR=12
PETK **Petropavlovsk-** 59.65 22 P P 06 09 51.0 +1.8
UZB **Uzynbulak** 59.77 322 *e*P P 06 09 50.2 -0.3
baz=322
KSH **Kashi** 59.87 317 P P 06 09 52.7 +1.5
KSH PP PP 06 12 08.2 +4.4
KSH S S 06 18 01.2 +1.9
KSH pmax pmax
comp=Z,460nm,5.8s
KSH LR LR
comp=Z,440nm,9.0s
KSH LR LR
comp=Z,480nm,8.5s
MK31 **Makanchi Array** 60.02 327 IAmb IAmb 06 09 53.3
comp=Z,8.0nm,0.7s
MKAR **Makanchi Array** 60.02 327 P P 06 09 51.4 -0.6
comp=Z,10nm,0.6s,baz=124,slow=7.4,SNR=69
MKAR **Makanchi Array** 60.02 327 P P 06 09 49.8 -2.1
SATY **Saty** 60.10 322 *e*P P 06 09 52.7 0.0
comp=Z,7.3nm,0.7s,baz=322
KPKS **Kokpek** 60.16 322 *e*P P 06 09 52.3 -0.7
comp=Z,14nm,0.7s,baz=322
MAKZ **Makanchi** 60.20 327 P P 06 09 52.7 -0.5
MAKZ IAmb IAmb 06 09 55.2
comp=Z,9.7nm,0.6s
KDJ **Kajisay** 60.38 320 P P 06 09 54.9 +0.2
BKZ **Black Stump Fm** 60.70 136 P P 06 09 56.1 -0.7
BKZ IAmb IAmb 06 10 15.2
comp=Z,10nm,0.9s
MDOK **Medeo** 61.00 321 *e*P P 06 09 58.2 -0.7
baz=322
TDK **Taldyqorghan** 61.17 324 *e*P P 06 09 59.3 -0.5
baz=324
CHKK **Chushkaly** 61.40 322 *e*P P 06 10 00.9 -0.5
baz=322
KZA **Kyzart** 61.59 320 P P 06 10 05.0 +1.8
SNR=7.2
TKM2 **Tokmak 2** 61.79 321 P P 06 10 04.6 +0.3
SNR=23
YAK **Yakutsk** 62.21 2 P P 06 10 05.8 -0.7
comp=Z,22nm,0.4s,baz=194,slow=0.6,SNR=4.2
YAK **Yakutsk** 62.21 2 IAmb IAmb 06 10 10.0
comp=Z,38nm,0.6s
AAK **Ala-Archa** 62.36 320 P P 06 10 09.2 +1.1
SNR=5.4
AML **Almayashu** 62.63 319 P P 06 10 08.8 -1.4
SNR=5.8
USP **Ospenovka** 62.66 320 P P 06 10 09.9 0.0
SNR=7.2
SGDS **Sogindy** 62.67 321 *e*P P 06 10 09.3 -0.7
comp=Z,3.2nm,0.6s,baz=321
KBL **Kabul** 62.82 310 P P 06 10 09.7 -1.6
KBL IAmb IAmb 06 10 12.0
comp=Z,13nm,0.7s
EKS2 **Erkin-Say** 62.83 320 P P 06 10 11.5 +0.4
SNR=12
SEM **Semipalatinsk** 63.31 330 *e*P P 06 10 14.1 -0.2
baz=330
ZAA0 **Zalesovo Array** 63.48 335 IAmb IAmb 06 10 17.0
comp=Z,5.4nm,0.7s
ZALV **Zalesovo Beam** 63.48 335 P P 06 10 13.2 -1.8
comp=Z,4.2nm,0.5s,baz=118,slow=5.0,SNR=11
ZALV **Zalesovo Beam** 63.48 335 P P 06 10 12.8 -2.2
GAR **Garm** 63.57 315 P P 06 10 14.6 -1.6
BTLS **Baital** 63.82 322 *e*P P 06 10 16.7 -0.7
baz=322
KURBB **Kurchatov Arra** 64.32 329 P P 06 10 19.2 -1.4
comp=Z,6.8nm,0.6s,baz=131,slow=6.3,SNR=56
KURK **Kurchatov** 64.33 329 P P 06 10 18.9 -1.7
DZA **Taraz** 64.54 319 *e*P P 06 10 21.6 -0.7
baz=319
IUG **Iuzhnay** 65.08 318 *e*P P 06 10 25.4 -0.5
comp=Z,10nm,0.7s,baz=318
KK31 **Karatay Array** 65.17 319 P P 06 10 26.5 +0.2
KK31 IAmb IAmb 06 10 27.8
comp=Z,9.3nm,0.8s
KKAR **Karatay Array** 65.17 319 P P 06 10 24.7 -1.7
KKAR **Karatay Array** 65.17 319 IAmb IAmb 06 10 27.8
comp=Z,9.3nm,0.8s
SEY **Seymchan** 66.22 13 P P 06 10 32.8 +0.1
comp=Z,0.9nm,0.3s,baz=215,slow=1.8,SNR=6.1
BRZS **Berezniki** 67.10 326 *e*P P 06 10 38.8 +0.2
comp=Z,3.3nm,0.6s,baz=326
BVAR **Borovoye Array** 69.86 328 P P 06 10 55.3 -0.5
comp=Z,7.4nm,0.9s,baz=134,slow=8.5,SNR=25
BRVK **Borovoye** 69.94 328 P P 06 10 55.2 -1.0
BRVK IAmb IAmb 06 10 57.5
comp=Z,9.5nm,0.8s
TIXI **Tiksi** 71.82 1 P P 06 11 07.2 -0.1
comp=Z,8.8nm,0.7s,baz=210,slow=0.7,SNR=2.4
TIXI **Tiksi** 71.82 1 IAmb IAmb 06 11 13.6
comp=Z,17nm,1.1s
GEYT **Alibeck** 72.26 310 P P 06 11 10.6 0.0
comp=Z,2.7nm,0.5s,baz=103,slow=6.7,SNR=4.9
GEYT **Alibeck** 72.26 310 P P 06 11 10.3 -0.3
NRIK **Noril'sk** 73.93 347 P P 06 11 19.7 -0.1
comp=Z,22nm,0.7s,baz=125,slow=6.3,SNR=28
ABKAR **Akbulak array** 74.31 322 P P 06 11 20.5 -1.9
AKTO **Aktyubinsk** 75.86 323 P P 06 11 30.7 -0.7
comp=Z,16nm,0.6s,baz=109,slow=7.7,SNR=49
ARU **Arti** 77.51 328 P P 06 11 39.4 -1.1
comp=Z,1.3nm,0.3s,baz=36,slow=5.3,SNR=8.5
ARU **Arti** 77.51 328 P P 06 11 39.0 -1.5
ARU IAmb IAmb 06 11 42.3
comp=Z,8.5nm,0.8s
MAW **Mawson** 79.53 200 P P 06 11 51.4 +0.1
comp=Z,3.8nm,1.0s,baz=4.2,slow=9.7,SNR=4.8
MAW **Mawson** 79.53 200 IAmb IAmb 06 11 52.8
comp=Z,1.2nm,1.1s
VNDA **Vanda** 79.70 172 P P 06 11 52.8 +0.6
comp=Z,0.9nm,0.8s,baz=284,slow=7.2,SNR=6.1
VNDA **Vanda** 79.70 172 P P 06 11 51.5 -0.7
SDPT **Sand Point** 81.31 34 P P 06 12 00.9 -0.2
KIRV **Kirov** 82.84 329 P P 06 12 09.3 +0.2
comp=Z,17nm,0.6s,baz=128,slow=4.1,SNR=8.6
TBLG **Delisi** 83.07 312 P P 06 12 10.2 -0.6
RDOG **Red Dog Mine** 83.51 21 IAmb IAmb 06 12 15.0
comp=Z,16nm,1.0s
AKH **Akhalkalaki** 83.97 312 ⇑P P 06 12 16.7 +1.1
AKH **Akhalkalaki** 83.97 312 P P 06 12 16.0 +0.4
KBZ **Khabaz** 84.63 314 P P 06 12 18.4 -0.2
comp=Z,5.6nm,0.8s,baz=109,slow=4.9,SNR=11
TTA **Tatalina** 85.10 27 P P 06 12 21.5 +0.8
TTA IAmb IAmb 06 12 23.2
comp=Z,4.9nm,0.7s
KMBO **Kilima Mbogo** 87.99 269 P P 06 12 37.2 +1.2
comp=Z,10nm,1.0s,baz=49,slow=6.5,SNR=15
COLD **Coldfoot** 88.11 23 P P 06 12 36.1 +0.8
COLD IAmb IAmb 06 12 37.4
comp=Z,9.5nm,0.9s
KLMR **Klimovskoe** 88.12 331 *e*P P 06 12 32.7 -2.7
KLMR AMP 06 12 36.8
comp=Z,17nm,1.0s
SYO **Syowa Base** 88.20 201⇑*e*P P 06 12 34.9 -0.7
RND **Reindeer** 88.38 27 IAmb IAmb 06 12 49.4
comp=Z,9.4nm,1.1s
ASF **Jabal al Asfar** 88.73 302 P P 06 12 39.4 +0.3
comp=Z,13nm,0.9s,baz=39,slow=2.3,SNR=18
HDA **Harding Lake** 89.27 26 IAmb IAmb 06 12 41.6
comp=Z,4.8nm,0.8s
ILAR **Eielson Array** 89.31 25 P P 06 12 40.1 -0.8
comp=Z,0.9nm,0.7s,baz=239,slow=5.0,SNR=12
QSPA **South Pole Qui** 89.68 180 P P 06 12 43.4 +0.6
comp=Z,3.8nm,0.8s,baz=239,slow=0.2,SNR=14
QSPA **South Pole Qui** 89.68 180 P P 06 12 43.9 +1.1
MMAI **Mount Meron Ar** 90.00 303 P P 06 12 44.9 0.0
comp=Z,2.6nm,0.4s,baz=69,slow=7.9,SNR=7.1
BMAR **Burnt Mountain** 90.30 23 P P 06 12 46.5 +0.9
BR131 **Keskin Array S** 91.39 310 IAmb IAmb 06 12 50.8
comp=Z,3.5nm,0.8s
BRTR **Keskin Array B** 91.39 310 P P 06 12 50.1 -1.3
comp=Z,2.7nm,0.8s,baz=121,slow=4.6,SNR=7.8
BCAR **Beaver Creek A** 91.58 27 P P 06 12 52.4 +0.8
EPYK **Eagle Plains** 93.46 24 P P 06 13 00.8 +0.6
ARCES **ARCESS Array B** 93.64 340 P P 06 13 01.1 +0.2
comp=Z,2.1nm,0.8s,baz=64,slow=5.5,SNR=5.9
HYT **Haines Junctio** 93.76 29 P P 06 13 03.2 +1.4
HYT IAmb IAmb 06 13 20.8
comp=Z,4.6nm,0.9s
AKASG **Malin Array Be** 94.02 321 P P 06 13 01.3 -1.7
comp=Z,2.3nm,0.7s,baz=67,slow=4.9,SNR=7.6
AKASG **Malin Array Be** 94.02 321 P P 06 13 01.6 -1.4
SPITS **Spitsbergen Ar** 94.07 349 P P 06 13 00.9 -1.8
comp=Z,1.7nm,0.4s,baz=66,slow=5.4,SNR=14
FINES **FINESS Array B** 94.61 332 P P 06 13 04.1 -1.3
comp=Z,2.2nm,0.7s,baz=67,slow=6.8,SNR=4.5
FINES **FINESS Array B** 94.61 332 P P 06 13 04.0 -1.5
TOPG **Topolog** 95.05 315 ⇑P P 06 13 07.3 -0.6
TIRR **Tirgusor** 95.06 314 ⇑P P 06 13 07.3 -0.7
WHY **Whitehorse** 95.06 29 IAmb IAmb 06 13 26.2
comp=Z,8.0nm,1.1s
TESR **Tescani** 96.10 317 ⇓P P 06 13 11.9 -0.8
VRI **Vrincioaia** 96.12 316 ⇑P P 06 13 12.7 -0.1
BIZ **Bicaz** 96.43 317 ⇓P P 06 13 13.5 -0.7
MLR **Muntele Rosu** 96.70 316 ⇓P P 06 13 14.8 -0.8
LSZ **Lusaka** 96.74 255 P P 06 13 16.2 -0.2
LSZ IAmb IAmb 06 13 16.7
comp=Z,6.6nm,0.8s
BURAR **Bucovina Array** 96.95 318 ⇓P P 06 13 16.6 -0.1
BURAR **Bucovina Array** 96.95 318 P P 06 13 16.0 -0.6
ARR **Arges** 97.64 316 ⇓P P 06 13 18.8 -0.9
HERR **Herculane** 99.26 315 ⇓P **Pdif** 06 13 26.4 -0.5
MDVR **Moldovita** 99.77 315 ⇑P **Pdif** 06 13 29.0 -0.3
PDG **Podgorica** 101.94 313 ⇑P **Pdif** 06 13 38.0 -0.9
TOA0 **Torodi Ar. Sit** 122.64 285 PKPdf **PKiKP** 06 18 41.6 -0.1
TORD **Torodi Ar. Bea** 122.64 285 PKP **PKPdf** 06 18 41.5 +0.1
comp=Z,3.4nm,0.7s,baz=70,slow=1.9,SNR=23
TORD **Torodi Ar. Bea** 122.64 285 PKPdf **PKPdf** 06 18 40.9 -0.5
SCHQ **Schefferville** 124.70 8 PKP **PKiKP** 06 18 44.9 +0.3
comp=Z,4.4nm,0.7s,baz=20,slow=3.1,SNR=5.2
TX32 **Lajitas Array** 125.17 54 PKPpre 06 18 38.0
KSU1 **Kansas State U** 125.61 40 PKPdf **PKiKP** 06 18 47.6 +0.7
KIC **Kosan Boka** 129.73 278 *e*PKIKP **PKiKP** 06 18 56.0 +0.2
comp=Z,21nm,1.2s
DBIC **Dimbokro** 129.81 278 PKP **PKiKP** 06 18 56.1 +0.1
comp=Z,1.6nm,0.4s,baz=156,slow=3.2,SNR=6.7
TIC **Toumodi** 129.98 278 *e*PKIKP **PKiKP** 06 18 56.4 0.0
LIC **Lamto** 130.02 278 *e*PKIKP **PKiKP** 06 18 56.5 +0.1
comp=Z,11nm,0.6s
U49A **Red Boiling Sp** 133.87 35 PKPpre 06 18 50.0
CPUP **Villa Florida** 153.46 175 PKPbc **PKiKP** 06 19 45.0 +1.0
comp=Z,6.1nm,1.0s,baz=201,slow=17,SNR=6.5
LPAZ **La Paz** 158.93 142 PKPab **PKPab** 06 20 22.5 +1.9
comp=Z,2.3nm,0.8s,baz=182,slow=4.4,SNR=7.2

IDC 10 06:10:06.3±1.8, 0.67S×124.71E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/34, mbtmp3.2/3, Error ellipse: s-maj=184.1km s-min=27.0km az=63.0, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	21.35	154	P	P	06 14 55.2	-0.1
	0.2nm,0.4s,baz=333,slow=11,SNR=1.9						
ASAR	**Alice Springs**	24.54	159	P	P	06 15 28.0	+0.1
	0.1nm,0.3s,baz=339,slow=9.9,SNR=2.1						
MKAR	**Makanchi Array**	60.08	328	P	P	06 20 15.3	-0.1
	0.5nm,0.4s,baz=122,slow=8.5,SNR=7.9						

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*IDC **10** 06:25:46.8±2.6, 3.69N×124.87E, h312km±26km, mb3.1/8, mb1 3.3/8, mb1mx3.1/40, mbtmp3.8/8, Error ellipse: s-maj=30.6km s-min=12.0km az=73.0*
*DJA **10** 06:25:47.6±0.5, 4.4N±6.6×12.5E±.1, h271km±6km, M4.5/8, mB5.1/5, mb4.4/6, MLv4.5/8, Mw(mB)4.5/5*

ISC 10 06:25:45.6±0.6, 3.63N±0.08×124.80E±0.09, h300km, n18, σ1907/23, mb3.5/8, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	3.14	195	P	**Pn**	06 26 44.2	+1.4
KCP	**Kidapawan**	3.37	5⇓	*e*P	**Pn**	06 26 46.4	+1.1
TNTI	**Ternate**	3.82	138	P	**Pn**	06 26 51.2	+1.3
TNTI				S	**S**	06 27 41.0	-0.4
LBMI	**Labuha**	5.02	147	P	**Pn**	06 27 04.7	+1.3
	3.3nm5μm229nm,0.8s						
LBMI				S	**S**	06 28 05.0	-1.0
	3.3nm5μm229nm,0.8s						
SANI	**Sanana**	5.76	168	P	**Pn**	06 27 11.3	-0.8
	0.8nm4μm69nm,0.7s						
MPSI	**Mapaga**	5.89	236	P	**Pn**	06 27 14.9	+1.3
	0.1nm721nm41nm,0.9s						
GENI	**Genyem**	16.55	112	P	**Pn**	06 29 24.3	+2.0
PPBI	**Pangkal Pinang**	19.52	253	P	P	06 30 00.7	+9.0
FITZ	**Fitzroy Crossi**	21.60	178	P	**P**	06 30 12.7	+0.5
	1.3nm,0.4s,baz=2.9,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	25.23	159	P	**P**	06 30 45.5	+0.6
	0.2nm,0.4s,baz=334,slow=11,SNR=12						
WRA				PcP	**PcP**	06 34 10.2	+0.4
	0.7nm,1.1s,baz=338,slow=2.4,SNR=2.2						
WRA				ScP	**ScP**	06 37 18.2	-1.9
	0.4nm,1.0s,baz=329,slow=2.9,SNR=1.9						
ASAR	**Alice Springs**	28.54	162	P	**P**	06 31 14.7	+0.3

0.3nm,0.8s,baz=344,slow=6.3,SNR=2.2
ASAR PcP **PcP 06 34 17.5 -0.2**
0.2nm,0.5s,baz=354,slow=1.9,SNR=1.6
CMAR Chiang Mai Arr 29.28 302 P **P 06 31 22.0 +1.0**
0.7nm,0.4s,baz=115,slow=6.7,SNR=4.3
MJAR Matsushiro Arr 35.01 19 P **P 06 32 10.0 -0.3**
2.1nm,0.7s,baz=196,slow=9.3,SNR=5.7
SONM Songino Array 46.81 343 P **P 06 33 45.3 -0.6**
1.2nm,0.6s,baz=147,slow=6.5,SNR=5.0
MKAR Makanchi Array 56.56 326 P **P 06 34 57.2 -0.3**
2.2nm,0.5s,baz=119,slow=8.2,SNR=40
MKAR PcP **PcP 06 35 49.2 -1.0**
0.6nm,0.7s,baz=148,slow=2.6,SNR=2.7
ILAR Eielson Array 86.02 25 P **P 06 37 51.4 -1.0**
0.3nm,0.8s,baz=253,slow=4.0,SNR=2.5
TORD Torodi Ar. Bea 121.12 288 PKP **PKPdf 06 44 03.1 -0.7**
0.3nm,0.6s,baz=69,slow=0.6,SNR=2.3
TXAR Lajitas Array 123.17 51 PKP **PKPdf 06 44 07.2 -0.4**
0.2nm,0.7s,baz=93,slow=0.7,SNR=3.4

IDC 10 06:26:59.7±2.1,0°.95N×126°.08E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/38,mbtmp3.4/3,Error ellipse: s-maj=180.2km s-min=27.0km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**159**	P	P	06 31 59.6	+0.8
0.4nm,0.5s,baz=340,slow=11,SNR=1.9							
ASAR	**Alice Springs**	**25.63**	**163**	P	P	06 32 30.6	-0.6
0.4nm,0.5s,baz=334,slow=11,SNR=6.5							
MKAR	**Makanchi Array**	**59.47**	**326**	P	P	06 37 04.6	0.0
0.4nm,0.4s,baz=118,slow=8.4,SNR=5.0							

IDC 10 06:28:30.4±10.0,22°.57S×172°.83E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/29,mbtmp4.0/4,ML4.2/1,MS3.9/1, Ms1 3.9/1,ms1mx3.0/33,Error ellipse: s-maj=185.9km s-min=97.8km az=46.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.93**	**274**	Pn	Pn	06 29 59.3	-0.3
6.1nm,0.3s,baz=121,slow=11,SNR=184							
DZM				Sn	Sn	06 30 54.1	-14
12nm,0.3s,baz=65,slow=20,SNR=15							
STKA	**Stephens Creek**	**29.20**	**245**	P	P	06 34 33.0	-0.8
1.5nm,0.6s,baz=57,slow=10.0,SNR=3.8							
ASAR	**Alice Springs**	**35.74**	**260**	P	P	06 35 31.4	+0.3
0.5nm,0.6s,baz=107,slow=7.7,SNR=5.5							
WRA	**Warramunga Arr**	**35.90**	**267**	P	P	06 35 32.7	+0.2
0.4nm,0.4s,baz=97,slow=8.5,SNR=13							
KAPI	**Kappang**	**54.10**	**281**	LR	LR	07 02 38.7	
comp=Z,108nm,19.1s,baz=32,slow=38							

DJA 10 06:47:17.5±0.5,0°.S±3°×12°.3E±°,h83km±9km,M4.2/6, mb4.7/1,MLv4.0/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.84**	**341**	P	Pn	06 47 36.6	+1.6
GTOI				S	Sn	06 47 51.3	+3.3
LUWI	**Luwuk**	**1.00**	**210**	P	Pn	06 47 36.9	+0.1
LUWI				S	Sn	06 47 52.0	+0.8
KMSI	**Cibinong**	**1.02**	**43**	P	Pn	06 47 37.2	+0.2
SANI	**Sanana**	**3.29**	**125**	P	Pn	06 48 04.3	-2.5
BNSI	**Bone**	**5.26**	**217**	P	Pn	06 48 34.2	+0.5

IDC 10 06:58:23.8±1.7,0°.65S×124°.21E,h0km,mb3.1/3, mb1 3.4/3,mb1mx3.2/29,mbtmp3.2/3,Error ellipse: s-maj=198.5km s-min=28.3km az=63.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.59**	**153**	P	P	07 03 13.8	-1.6
0.4nm,0.6s,baz=329,slow=11,SNR=7.7							
ASAR	**Alice Springs**	**24.74**	**158**	P	P	07 03 48.0	+0.8
0.3nm,0.5s,baz=342,slow=9.6,SNR=8.1							
ASAR				PcP	PcP	07 07 25.0	+0.6
0.2nm,0.7s,baz=343,slow=1.9,SNR=1.5							
MKAR	**Makanchi Array**	**59.80**	**328**	P	P	07 08 30.5	-0.5
0.2nm,0.4s,baz=120,slow=8.7,SNR=1.8							

*SOME **10** 07:01:03.2,40°.82N×71°.18E,h15km*
*NNC **10** 07:01:07.4±2.2,41°.06N×71°.26E,h2km±13km,mb3.4, mpv3.2,Error ellipse: s-maj=17.0km s-min=7.2km az=15.0*
*KRNET **10** 07:01:07.3±0.1,40°.89N×71°.07E,h35km,mb2.5*
ISC 10 07:01:06.7±1.3,40°.91N±0°.05×71°.15E±0°.04,h11km±14km, n13,σ0°68/21,4C-8D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.88**	**197**	⇑*iP*	**Pg**	**07 01 23.7**	**-0.1**
BTK	baz=93			⇑*iS*	**Sg**	**07 01 35.9**	**+0.6**
ARK	**Arkit**	**1.08**	**34**	⇓*iP*	**Pn**	**07 01 28.2**	**+0.3**
ARK	baz=37			⇓*iS*	**Sn**	**07 01 43.2**	**+0.2**
OHH	**Osh**	**1.30**	**107**	⇓*iP*	**Pn**	**07 01 31.0**	**+0.1**
OHH	baz=5.0			⇓*iS*	**Sg**	**07 01 48.8**	**+0.1**
IUG	**Iuzhnay**	**1.50**	**326**	*eP*	**Pn**	**07 01 34.0**	**+0.4**
IUG	67nm,0.3s			*eS*	**Sg**	**07 01 55.9**	**+1.0**
IUG	**Iuzhnay**	**1.50**	**326**	P	**Pn**	**07 01 33.2**	**-0.4**
IUG	67nm,0.3s			S	**Sn**	**07 01 53.2**	**0.0**
KK31	**Karatay Array**	**2.25**	**348**	⇓Pn	**Pn**	**07 01 44.2**	**+0.4**
KK31	2.0nm,0.5s,baz=157,slow=13,SNR=21			⇓Lg	Lg	07 02 15.4	
BRLS	**Borolday**	**2.34**	**336**	*eP*	**Pn**	**07 01 44.7**	**-0.4**
BRLS	17nm,0.3s			*eS*	**Sn**	**07 02 14.1**	**+0.2**
BRLS	**Borolday**	**2.34**	**336**	Pg	**Pn**	**07 01 45.5**	**+0.4**
BRLS	17nm,0.3s			Lg	Lg	07 02 14.1	
MRKS	**Merke**	**2.41**	**40**	*eP*	**Pb**	**07 01 48.6**	**-1.5**
MRKS	1.7nm,0.4s			*eS*	**Sb**	**07 02 20.5**	**+0.7**
MRKS	**Merke**	**2.41**	**40**	Pg	**Pb**	**07 01 48.9**	**-1.2**
MRKS	6.0nm,0.4s			Lg	Lg	07 02 19.8	
ARLS	**Aral**	**2.57**	**67**	⇓*iP*	**Pn**	**07 01 49.1**	**+0.6**
ARLS	baz=67			⇓*iS*	**Sn**	**07 02 20.1**	**+0.3**
AAK	**Ala-Archa**	**3.04**	**54**	⇑Pg	**Pb**	**07 02 00.7**	**-0.3**
AAK	1.0nm,0.6s			⇑Lg	Lg	07 02 35.1	
SGDS	**Sogindy**	**3.63**	**44**	Pg	**Pb**	**07 02 09.9**	**-1.0**
SGDS	1.8nm,0.8s			Lg	Lg	07 02 56.6	

WEL 10 07:02:20.1±0.9,32°S±13°×18°0E±3°2,h483km±20km, M4.1/19,mB4.5/6,MLv4.6/19,MLv4.5/19,Mw(mB)3.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=108.2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.70**	**190**	P	P	07 03 51.7	-0.8
MXZ				S	S	07 05 09.1	+0.9
KUZ	**Kuaotunu**	**5.74**	**212**	P	P	07 03 55.4	+2.4
WMGZ	**Waiomatatini S**	**5.93**	**189**	P	P	07 03 55.0	+0.2
WMGZ				S	S	07 05 13.3	+0.9
HAZ	**Te Kaha**	**5.98**	**194**	P	P	07 03 53.6	-1.6
HAZ				S	S	07 05 12.6	-0.6
RUGZ	**Raukumara Rang**	**6.20**	**194**	P	P	07 03 57.4	-0.2
RUGZ				S	S	07 05 16.8	-0.7
PUZ	**Puketiti**	**6.20**	**189**	P	P	07 03 57.2	-0.4
PUZ				S	S	07 05 17.2	-0.2
MWZ	**Matawai**	**6.59**	**194**	P	P	07 04 01.3	-0.1
MWZ				S	S	07 05 24.3	-0.1
URZ	**Urewera**	**6.61**	**197**	P	P	07 04 00.9	-0.6
URZ				S	S	07 05 23.1	-1.6
CNGZ	**Carnagh Statio**	**6.62**	**189**	P	P	07 04 02.3	+0.7
TKGZ	**Te Karaka**	**6.63**	**192**	P	P	07 04 01.8	+0.1
RAGZ	**Rawiri**	**6.76**	**194**	P	P	07 03 59.4	-3.8
MUGZ	**Murupara**	**6.90**	**198**	P	P	07 04 04.6	+0.1
RIGZ	**Rimuhau**	**6.90**	**192**	P	P	07 04 04.8	+0.3
RIGZ				S	S	07 05 32.0	+1.8
RTZ	**Ruatahuna**	**6.98**	**197**	P	P	07 04 05.7	+0.3
SNGZ	**Shannon Statio**	**7.06**	**194**	P	P	07 04 06.2	+0.1
SNGZ				S	S	07 05 34.9	+1.7
PRGZ	**Paritu Road**	**7.09**	**191**	P	P	07 04 08.9	+2.4
MTHZ	**Maungataniwha**	**7.24**	**197**	P	P	07 04 08.6	+0.6
MTHZ				S	S	07 05 36.2	-0.4
RAHZ	**Arahi**	**7.24**	**195**	P	P	07 04 09.4	+1.4
RAHZ				S	S	07 05 37.7	+1.1
MRHZ	**Matea Rd**	**7.33**	**200**	P	P	07 04 08.5	-0.5
NMHZ	**Naumai**	**7.48**	**197**	P	P	07 04 10.8	+0.3
NMHZ				S	S	07 05 46.4	+5.2
BKZ	**Black Stump Fm**	**7.62**	**198**	P	P	07 04 12.2	+0.2
OTVZ	**Oturere**	**7.87**	**203**	P	P	07 04 14.5	-0.2
KWHZ	**Kaweka Forest**	**7.88**	**198**	P	P	07 04 13.7	-1.0
KWHZ				S	S	07 05 48.5	-0.5
BHHZ	**Black Hill Sta**	**8.04**	**200**	P	P	07 04 15.9	-0.5
BHHZ				S	S	07 05 51.7	-0.2
KRHZ	**Kereru**	**8.10**	**198**	P	P	07 04 15.5	-1.5
KRHZ				S	S	07 05 52.6	-0.4
KAHZ	**Kahuranaki**	**8.13**	**195**	P	P	07 04 17.4	+0.1
KAHZ				S	S	07 05 55.0	+1.4
PXZ	**Pawanui**	**8.36**	**194**	P	P	07 04 18.0	-1.6
PXZ				S	S	07 05 57.4	-0.5

*HEL **10** 07:26:13.6±0.1,59°.64N×22°.55E,h0km,ML2.1, ML2.3(UPP),Explosion*
*DNK **10** 07:26:13.1±0.5,59°.69N×22°.59E,h0km,ML2.3(UPP), Hypocentre not reviewed by the ISC Suspected explosion*
*IDC **10** 07:26:14.6±2.4,59°.77N×22°.67E,h0km,mb1 3.1/3, mb1mx2.9/36,mbtmp2.9/3,ML2.6/3,Error ellipse: s-maj=32.2km s-min=8.5km az=158.0*
*UPP **10** 07:26:14.2±1.3,59°.71N×22°.42E,h0km,ML2.3,Suspected explosion*
*LVSN **10** 07:26:15.1±5.0,59°.65N×22°.57E,h0km±42km,ML2.1*
ISC 10 07:26:11.6±0.8,59°.64N±0°.03×22°.64E±0°.03,h0km,n32, σ0°91/49,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.06**	**56**	*eP*	**Pb**	**07 26 33.0**	**+0.2**
MEF				*eS*	**Sb**	**07 26 47.2**	**+0.1**
MEF	comp=Z,12nm,0.2s			AML	AML	07 26 47.7	
MEF	comp=N,12nm,0.2s			AML	AML	07 26 55.4	
MEF	comp=E,15nm,0.2s			AML	AML	07 26 56.6	
MEF	**Metsahovi**	**1.06**	**56**	*eP*	**Pb**	**07 26 33.0**	**+0.2**
MEF				*eS*	**Sb**	**07 26 47.2**	**+0.1**
MTSE	**Matsula**	**1.11**	**146**	*eP*	**Pb**	**07 26 33.8**	**+0.2**
MTSE				*eS*	**Sb**	**07 26 48.2**	**-0.3**
MTSE	**Matsula**	**1.11**	**146**	*eP*	**Pb**	**07 26 33.8**	**+0.2**
MTSE				*eS*	**Sb**	**07 26 48.6**	**+0.1**
AAL	**Aland**	**1.44**	**293**	P	**Pn**	**07 26 38.4**	**-0.5**
AAL				S	**Sg**	**07 26 56.8**	**-1.1**
AAL	**Aland**	**1.44**	**293**	*eP*	**Pn**	**07 26 38.5**	**-0.4**
AAL				*eS*	**Sg**	**07 26 57.0**	**-0.8**
RAF	**Rauma**	**1.46**	**343**	*eP*	**Pn**	**07 26 39.6**	**+0.5**
RAF				*eS*	**Sg**	**07 26 58.9**	**+0.6**
RAF	comp=E,17nm,0.2s			AML	AML	07 27 03.7	
RAF	comp=Z,22nm,0.2s			AML	AML	07 27 03.8	
RAF	comp=N,14nm,0.2s			AML	AML	07 27 04.0	
RAF	**Rauma**	**1.46**	**343**	*eP*	**Pn**	**07 26 39.8**	**+0.6**
RAF				*eS*	**Sg**	**07 26 58.9**	**+0.6**
RAF	comp=Z,22nm,0.2s			MSG		07 27 03.6	
ARBE	**Arbavere**	**1.71**	**95**	*eP*	**Pg**	**07 26 44.8**	**+0.3**
ARBE				*eS*	**Sg**	**07 27 07.0**	**+0.4**
PVF	**Pernaja**	**1.85**	**59**	*eP*	**Pg**	**07 26 46.9**	**-0.1**
PVF				*eS*	**Sg**	**07 27 11.0**	**0.0**
PVF	comp=Z,18nm,0.2s			MSG		07 27 15.7	
SLIT	**Slitere, Latvi**	**2.02**	**185**	*eP*	**Pb**	**07 26 49.0**	**-0.2**
SLIT				*eS*	**Sg**	**07 27 16.3**	**-0.3**
SLIT	comp=N,130nm,0.3s			AML	AML	07 27 17.4	
SLIT	comp=E,278nm,0.2s			AML	AML	07 27 18.2	
SLIT	comp=Z,100nm,0.2s			AML	AML	07 27 20.3	
NRTU	**Norrtaelje**	**2.04**	**273**	P	**Pn**	**07 26 48.1**	**+1.0**
NRTU	**Norrtaelje**	**2.04**	**273**	*eP*	**Pn**	**07 26 48.1**	**+1.0**
GRAU	**Graesoe**	**2.18**	**290**	P	**Pn**	**07 26 49.7**	**+0.6**
GRAU				S	**Sn**	**07 27 17.4**	**+0.7**
GRAU	**Graesoe**	**2.18**	**290**	*eP*	**Pn**	**07 26 49.7**	**+0.6**
GRAU				*eS*	**Sn**	**07 27 17.4**	**+0.7**
FORU	**Forsmark**	**2.36**	**290**	P	**Pn**	**07 26 52.6**	**+1.0**
FORU	**Forsmark**	**2.36**	**290**	*eP*	**Pn**	**07 26 52.6**	**+1.0**
VSU	**Vasula**	**2.42**	**117**	*eP*	**Pb**	**07 26 55.6**	**-0.4**
VSU				*eS*	**Sg**	**07 27 28.7**	**-0.7**
VSU	comp=Z,39nm,0.2s			AML	AML	07 27 31.3	
VSU	comp=E,64nm,0.3s			AML	AML	07 27 31.3	
VSU	comp=N,71nm,0.2s			AML	AML	07 27 32.5	
VSU	**Vasula**	**2.42**	**117**	*eP*	**Pb**	**07 26 55.3**	**-0.7**
VSU				*eSB*	**Sg**	**07 27 28.1**	**-1.2**
FLYU	**Flymyra**	**2.45**	**284**	P	**Pn**	**07 26 54.0**	**+1.2**
FLYU	**Flymyra**	**2.45**	**284**	*eP*	**Pn**	**07 26 54.0**	**+1.2**
FIA0	**FINESS Array S**	**2.48**	**42**	*eP*	**Pb**	**07 26 56.1**	**-1.0**
FIA0				*eSB*	**Sb**	**07 27 28.4**	**+0.3**
FIA0	comp=Z,6.4nm,0.2s			MSG		07 27 30.6	
FINES	**FINESS Array B**	**2.48**	**42**	Pn	**Pb**	**07 26 56.0**	**-1.0**
FINES	comp=Z,1.9nm,0.3s,baz=230,slow=14,SNR=67			Lg	Lg	07 27 28.1	
FIBU	**Brunna**	**2.69**	**278**	P	**Pn**	**07 26 57.5**	**+1.5**
BACU	**Backbrunna**	**2.81**	**277**	P	**Pn**	**07 26 59.1**	**+1.3**
BACU	**Backbrunna**	**2.81**	**277**	*eP*	**Pn**	**07 26 59.1**	**+1.3**
OSTU	**Oestervaala**	**2.83**	**284**	P	**Pn**	**07 26 59.4**	**+1.3**
OSTU	**Oestervaala**	**2.83**	**284**	*eP*	**Pn**	**07 26 59.4**	**+1.3**
IGGU	**Iggoen**	**2.93**	**297**	P	**Pn**	**07 27 00.6**	**+1.3**
IGGU	**Iggoen**	**2.93**	**297**	*eP*	**Pn**	**07 27 00.6**	**+1.3**
NOA	**NORSAR Array B**	**5.85**	**289**	Pn	**Pn**	**07 27 39.5**	**0.0**
NOA	comp=Z,0.1nm,0.3s,baz=98,slow=11,SNR=21			Sn	**Sn**	**07 28 44.3**	**-2.8**
NOA	comp=Z,0.0nm,0.3s,baz=121,slow=21,SNR=1.8			Lg	Lg	07 29 09.0	
NOA	comp=Z,0.1nm,0.3s,baz=302,slow=20,SNR=2.2						
ARCES	**ARCESS Array B**	**10.01**	**6**	Pn	**Pn**	**07 28 36.0**	**-0.5**
ARCES	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=14						

*BJI **10** 07:30:44.4±0.0,0°.99S×125°.63E,h55km,mB5.0/35, mb4.9/50,Ms4.3/19,Ms7 4.1/18*
*IDC **10** 07:30:49.2±2.4,0°.19S×125°.05E,h27km±16km,mb4.4/23, mb1 4.5/27,mb1mx4.5/35,mbtmp4.6/27,ML4.6/4,MS3.8/18, Ms1 3.8/18,ms1mx3.6/34,Error ellipse: s-maj=16.3km s-min=10.4km az=73.0*
*NEIC **10** 07:30:50.1±2.4,0°.23S±0°.06×125°.18E±0°.05,h35km±1km, mb4.9/61,Error ellipse: s-maj=10.9km s-min=8.1km az=163.0*
*DJA **10** 07:30:52.9±0.2,0°.S±2°×12°.5E±°,h53km±3km,M5.1/48, mb5.0/48,mB5.7/16,MLv5.0/14,Mw(mB)5.2/16*
*GCMT **10** 07:30:52.1±0.3,0°.31S±0°.02×125°.08E±0°.03,h34km, MW5.1/68,Moment Tensor Solution. s44,c46; s68,c74; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.79±.34; $M_{\theta\theta}$-3.48±.20; $M_{\phi\phi}$-2.31±.20; $M_{r\theta}$-1.51±.25; $M_{\phi\phi}$-1.71±.10; $M_{\theta\phi}$3.00±.23; Best double couple: $M_0$5.94400×10^{16} NP1:ϕ_s252.00000°,δ45.00000°,λ121.00000°. NP2: ϕ_s32.00000°,δ53.00000°,λ62.00000°. Principal axes: T 7.1500, Plg68.0000°, Azm241.0000°; N -2.4120, Plg22.0000°, Azm49.0000°; P -4.7380, Plg4.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **10** 07:30:53.0,0°.20S×125°.25E,h71km,mb5.0*
ISC 10 07:30:52.4±0.7,0°.27S±0°.04×125°.16E±0°.04,h55km±6km, n247,σ1°28/242,mb4.8/69,MS3.8/18,10C-6D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.45**	**305**	P	**Pn**	**07 31 14.4**	**-1.9**
SANI	**Sanana**	**1.95**	**155**	P	**Pn**	**07 31 20.9**	**-2.3**
GTOI	**Gorontalo**	**2.33**	**293**	P	**Pn**	**07 31 30.6**	**+2.3**
LBMI	**Labuha**	**2.37**	**99**	P	**Pn**	**07 31 27.7**	**-1.1**
TNTI	**Ternate**	**2.43**	**65**	P	**Pn**	**07 31 30.2**	**+0.5**
TNTI	**Ternate**	**2.43**	**65**	Pn	**Pn**	**07 31 28.9**	**-0.8**
LUWI	**Luwuk**	**2.51**	**252**	P	**Pn**	**07 31 33.6**	**+2.8**
LUWI	**Luwuk**	**2.51**	**252**	Pn	**Pn**	**07 31 30.9**	**+0.1**
NLAI	**Namlea**	**3.53**	**147**	P	**Pn**	**07 31 43.9**	**-0.8**
MSAI	**Masohi**	**4.85**	**129**	P	**Pn**	**07 32 03.7**	**+0.9**
MPSI	**Mapaga**	**5.30**	**276**	P	**Pn**	**07 32 09.2**	**+0.2**
3.4nm5μm424nm,0.8s							
SIJI	**Sorong**	**6.13**	**96**	Pn	**Pn**	**07 32 20.2**	**-0.3**
8.6nm,0.3s,baz=229,slow=22,SNR=8.6							
SIJI				Sn	**Sn**	**07 33 31.4**	**+2.1**
3.7nm,0.3s,baz=221,slow=19,SNR=1.4							
BNSI	**Bone**	**6.51**	**231**	P	**Pn**	**07 32 26.2**	**+0.6**
1.2nm3μm279nm,0.7s							
SPSI	**Sidrap Palu**	**6.52**	**236**	P	**Pn**	**07 32 26.9**	**+1.1**
1.8nm7μm346nm,0.6s							
BKSI	**Bulukumba**	**7.11**	**225**	P	**Pn**	**07 32 35.3**	**+1.4**
0.5nm1μm121nm,0.6s							
KAPI	**Kappang**	**7.17**	**229**	Pn	**Pn**	**07 32 33.8**	**-0.9**
22nm,0.3s,baz=42,slow=4.6,SNR=33							
KAPI				Sn	**Sn**	**07 33 53.4**	**-1.4**
10nm,0.3s,baz=90,slow=20,SNR=1.7							
KAPI				LR	LR	07 36 08.8	
comp=Z,2μm,19.6s,baz=54,slow=45							
KAPI	**Kappang**	**7.17**	**229**	Pn	**Pn**	**07 32 35.2**	**+0.5**
KCP	**Kidapawan**	**7.23**	**359**	⇑*iP*	**Pn**	**07 32 38.9**	**+3.4**
DAV	**Davao City (W)**	**7.30**	**3**	LR	LR	07 35 38.7	
comp=Z,1μm,20.4s,baz=188,slow=40							
FAKI	**Fak Fak**	**7.56**	**110**	Pn	**Pn**	**07 32 37.9**	**-2.1**
MYLDM	**Lahad Datu**	**8.58**	**309**	Pn	**Pn**	**07 32 55.0**	**+1.1**
EDFI	**Ende, Flores**	**9.11**	**202**	P	Pn	07 33 06.8	+5.4
27nm,1.2s							
SOEI	**Soe**	**9.47**	**185**	P	Pn	07 33 12.5	+6.2
94nm,1.0s							
SOEI	**Soe**	**9.47**	**185**	Pn	**Pn**	**07 33 07.4**	**+1.1**
KBKI	**Kotabaru**	**9.48**	**251**	P	Pn	07 33 12.1	+5.7
65nm,1.2s							
BATI	**Baumata**	**9.99**	**189**	LR	LR	07 38 56.6	
comp=Z,659nm,18.9s,baz=348,slow=48							
SPMM	**Sapulut**	**10.00**	**300**	P	**Pn**	**07 33 15.0**	**+1.6**
MTKI	**Muara Teweh, K**	**10.29**	**266**	P	Pn	07 33 27.7	+10
BBKI	**Banjar Baru**	**10.79**	**253**	P	Pn	07 33 32.9	+8.6
KKM	**Kota Kinabalu**	**10.91**	**305**	Pn	**Pn**	**07 33 26.2**	**+0.1**
SBUM	**Sibu**	**13.22**	**282**	Pn	**Pn**	**07 33 57.9**	**+0.5**
SBUM	**Sibu**	**13.22**	**282**	P	**Pn**	**07 34 00.0**	**+2.6**
MTN	**Manton Dam**	**13.83**	**155**	P	**Pn**	**07 34 05.6**	**-0.1**
baz=14,SNR=10							
MTN	**Manton Dam**	**13.83**	**155**	Pn	**Pn**	**07 34 05.5**	**-0.1**
KDU	**Kakadu**	**14.31**	**150**	P	**Pn**	**07 34 10.1**	**-2.0**
baz=14,SNR=30							
TBJI	**Tambak Boyo**	**14.79**	**244**	P	**P**	**07 34 26.7**	**+3.5**
TGY	**Tagaytay City**	**14.88**	**344**	LR	LR	07 40 42.0	
comp=Z,226nm,18.5s,baz=62,slow=40							
KSM	**Kuching**	**14.95**	**277**		**Pn**	**07 34 22.4**	**+1.8**
KSM	**Kuching**	**14.95**	**277**	P	**P**	**07 34 24.0**	**-1.0**
NGJI	**Ngawi**	**15.38**	**242**	P	**P**	**07 34 33.3**	**+3.6**
343nm,1.1s							
PWJI	**Pagerwojo**	**15.38**	**240**	P	**P**	**07 34 28.9**	**-0.8**
152nm,0.8s							
KNRA	**Kununurra**	**15.72**	**167**	P	**Pn**	**07 34 29.8**	**-0.5**
baz=16,SNR=21							
KNRA	**Kununurra**	**15.72**	**167**	P	**Pn**	**07 34 29.9**	**-0.5**
KNRA				IAmb	IAmb	07 34 30.6	
comp=Z,128nm,1.1s							
WOJI	**Wonogiri, Jawa**	**16.06**	**242**	P	**P**	**07 34 41.0**	**+3.7**
comp=Z,87nm,1.0s							
SMRI	**Semarang**	**16.16**	**245**	P	**P**	**07 34 40.1**	**+1.7**
comp=Z,341nm,0.9s							
SMRI	**Semarang**	**16.16**	**245**	P	**P**	**07 34 38.3**	**-0.1**
UGM	**Wanagama**	**16.45**	**242**	P	**P**	**07 34 41.2**	**-0.4**
UGM				IAmb	IAmb	07 34 46.1	
comp=Z,194nm,1.2s							
FITZ	**Fitzroy Crossi**	**17.73**	**179**	P	**Pn**	**07 34 54.9**	**-0.5**
comp=Z,0.5nm,0.3s,baz=1.5,slow=9.0,SNR=12							
FITZ				LR	LR	07 42 16.2	
comp=Z,193nm,21.4s,baz=274,slow=39							
FITZ	**Fitzroy Crossi**	**17.73**	**179**	P	**Pn**	**07 34 55.0**	**-0.5**
baz=18,SNR=6.4							
FITZ	**Fitzroy Crossi**	**17.73**	**179**	P	**Pn**	**07 34 55.1**	**-0.3**
LEM	**Lembang**	**18.68**	**249**	P	**P**	**07 35 04.1**	**-2.3**
comp=Z,4.8nm,0.3s,baz=41,slow=11,SNR=14							
LEM				LR	LR	07 42 50.0	
comp=Z,1μm,21.4s,baz=30,slow=39							
LEM	**Lembang**	**18.68**	**249**	P	**Pn**	**07 35 07.3**	**+0.1**
comp=Z,135nm,0.9s							
CISI	**Cisompet, Garu**	**18.75**	**247**	P	**P**	**07 35 06.5**	**-0.6**
comp=Z,487nm,0.8s							
CISI	**Cisompet, Garu**	**18.75**	**247**	P	**P**	**07 35 05.7**	**-1.3**
CBJI	**Citeko**	**19.27**	**251**	P	**Pn**	**07 35 14.1**	**0.0**
comp=Z,374nm,1.4s							
CGJI	**Cibinong**	**20.42**	**252**	P	Pn	07 35 27.7	-0.1
comp=Z,11μmcomp=Z,216nm,1.1s							
DLV	**T Lat**	**20.53**	**307**	P	**P**	**07 35 27.3**	**+0.7**
DLV				IAmb	IAmb	07 35 43.7	
comp=Z,41nm,0.9s							
DSRI	**Dabo**	**20.59**	**269**	P	**P**	**07 35 26.9**	**-0.1**
comp=Z,3μmcomp=Z,99nm,0.8s							
KLSI		**20.88**	**258**	P	Pn	07 35 32.1	-1.1
comp=Z,13nm,0.7s							
MDSI	**Maura Dua**	**21.38**	**258**	P	**P**	**07 35 34.5**	**-1.0**
comp=Z,58nm,1.0s							
MYKOM	**Kota Tinggi**	**21.41**	**276**	P	**P**	**07 35 36.1**	**+0.2**
MYKOM				IAmb	IAmb	07 35 38.6	
comp=Z,32nm,0.8s							
MYKOM	**Kota Tinggi**	**21.41**	**276**	P	**P**	**07 35 37.0**	**+1.1**
WRAB	**Tennant Creek**	**21.52**	**156**	P	**P**	**07 35 35.3**	**-1.7**
WRA	**Warramunga Arr**	**21.52**	**156**	P	**P**	**07 35 35.6**	**-1.4**
comp=Z,5.1nm,0.5s,baz=333,slow=11,SNR=110							
WRA				PcP	**PcP**	**07 39 37.8**	**-0.4**
comp=Z,5.4nm,1.2s,baz=341,slow=1.7,SNR=5.3							
WRA				ScP	**ScP**	**07 43 12.8**	**+2.1**
comp=

AS31	Alice Springs	24.76	161	P	P	07 36 09.0	-0.1
ASAR	Alice Springs	24.76	161	P	P	07 36 09.2	+0.2
	comp=Z,11nm,0.9s,baz=343,slow=11,SNR=58						
ASAR				PcP	PcP	07 39 45.8	+1.0
	comp=Z,3.0nm,0.6s,baz=341,slow=2.1,SNR=9.4						
ASAR				ScP	ScP	07 43 21.8	+2.4
	comp=Z,1.0nm,0.9s,baz=344,slow=1.8,SNR=5.3						
ASAR				LR	LR	07 47 27.2	
	comp=Z,145nm,20.2s,baz=313,slow=40						
ASAR	Alice Springs	24.76	161	P	P	07 36 08.9	-0.2
WRKA	Warakurna	24.81	173	P	P	07 36 10.2	+0.6
	baz=25,SNR=40						
KULM	Kulim	25.09	283	P	P	07 36 12.0	-0.2
MTSU	Mount Surprise	25.88	134	P	P	07 36 20.1	+0.8
	baz=26,SNR=6.9						
PSI	Prapat	26.41	277	LR	LR	07 47 06.2	
	comp=Z,380nm,21.9s,baz=90,slow=37						
MEEK	Meekatharra	26.97	193	P	P	07 36 28.6	-0.4
	baz=27,SNR=6.3						
CTA	Charters Tower	28.54	135	P	P	07 36 44.8	+1.7
	comp=Z,2.2nm,0.7s,baz=341,slow=13,SNR=3.6						
CTA				ScP	ScP	07 43 34.5	+3.9
	comp=Z,3.5nm,1.0s,baz=226,slow=9.9,SNR=3.8						
FORT	Forrest	30.47	175	P	P	07 37 00.6	+0.5
	baz=30						
FORT	Forrest	30.47	175	P	P	07 36 58.8	-1.3
FORT				IAmb	IAmb	07 37 18.3	
	comp=Z,21nm,0.8s						
BLDU	Ballidu	31.23	194	P	P	07 37 06.7	-0.1
	baz=31						
CMAR	Chiang Mai Arr	31.78	307	P	P	07 37 09.8	-2.0
	comp=Z,6.6nm,1.1s,baz=135,slow=7.1,SNR=17						
CMAR				PcP	PcP	07 40 03.9	+1.7
	comp=Z,2.8nm,0.7s,baz=172,slow=1.9,SNR=9.9						
CMAR				LR	LR	07 50 11.1	
	comp=Z,109nm,21.6s,baz=188,slow=37						
CMAR	Chiang Mai Arr	31.78	307		PcP	07 40 01.9	-0.3
WHN	Wuhan	32.32	342	P	P	07 37 18.9	+2.6
NJ2	Nanjing	32.69	350	eP	P	07 37 21.6	+2.0
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KMI	Kunming	33.28	321⇑	eP	P	07 37 30.9	+5.8
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,76nm,4.4s						
JNU	Nakatsue	33.64	9	P	P	07 37 27.6	-0.4
JNU				IAmb	IAmb	07 37 39.4	
	comp=Z,29nm,1.3s						
JMN	Monobe	34.79	13	P	P	07 37 38.7	+0.8
JMN				IAmb	IAmb	07 37 40.0	
	comp=Z,23nm,1.1s						
STKA	Stephens Creek	35.07	155	P	P	07 37 40.7	+0.4
	comp=Z,12nm,0.8s,baz=343,slow=8.0,SNR=14						
STKA	Stephens Creek	35.07	155	P	P	07 37 41.4	+1.1
	baz=35,SNR=8.9						
STKA	Stephens Creek	35.07	155	P	P	07 37 39.4	-0.9
JHS	Saijyo	35.86	11	P	P	07 37 46.1	-0.9
JHS				IAmb	IAmb	07 37 58.0	
	comp=Z,11nm,0.8s						
JWT	Wachi	36.63	14	P	P	07 37 53.7	+0.1
CMSA	Cobar Meteorol	36.67	150	P	P	07 37 55.5	+1.5
	baz=37,SNR=22						
CD2	Chengdu	37.08	329	P	P	07 37 58.1	+0.6
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
XAN	Xi'an	37.38	338	P	P	07 37 59.6	-0.4
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN	Xi'an	37.38	338	P	P	07 37 58.8	-1.2
KSAR	Wonju Array Be	37.60	4	P	P	07 38 01.5	-0.3
KSRS	Korea Array	37.62	4	P	P	07 38 02.1	+0.2
	comp=Z,5.5nm,0.9s,baz=180,slow=9.7,SNR=23						
KSRS				PcP	PcP	07 40 19.8	+1.1
	comp=Z,1.9nm,0.8s,baz=171,slow=2.9,SNR=5.8						
KSRS				LR	LR	07 55 50.9	
	comp=Z,59nm,19.1s,baz=105,slow=40						
KS19	Wonju Array Si	37.66	4	P	P	07 38 01.6	-0.7
KS19				IAmb	IAmb	07 38 03.6	
	comp=Z,12nm,1.0s						
MAT	Matsushiro	38.57	17	P	P	07 38 08.7	-1.3
MJAR	Matsushiro Arr	38.57	17	P	P	07 38 09.2	-0.8
	comp=Z,4.3nm,0.7s,baz=192,slow=8.2,SNR=8.3						
MJAR				PcP	PcP	07 40 23.1	+1.3
	comp=Z,1.7nm,0.5s,baz=180,slow=3.0,SNR=2.5						
DL2	Dalian	39.12	356	P	P	07 38 14.1	-0.4
DL2				pmax	pmax		
	comp=Z,19nm,0.5s						
ARPS	Mount Arapiles	39.47	159	P	P	07 38 19.1	+1.6
	baz=40,SNR=7.6						
YNG	Young	40.24	150	P	P	07 38 24.5	+0.5
	baz=40						
SHL	Shillong	41.14	311	P	P	07 38 30.6	-1.1
SHL				IAmb	IAmb	07 38 32.9	
	comp=Z,16nm,0.8s						
LZH	Lanzhou	41.25	333	eP	P	07 38 33.6	+1.2
LZH				pP	pwP	07 38 49.0	-0.4
LZH				sP	sP	07 38 55.8	+3.9
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				LR	LR		
	comp=Z,220nm,11.1s						
LZH				LR	LR		
	comp=Z,420nm,12.5s						
LZH				LR	LR		
	comp=Z,290nm,14.9s						
HHC	Hu-ho-hao-te	42.75	345	eP	P	07 38 44.8	+0.3
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,6.3s						
HHC				LR	LR		
	comp=Z,200nm,17.0s						
HHC				LR	LR		
	comp=Z,160nm,16.2s						
HHC				LR	LR		
	comp=Z,200nm,17.0s						
LSA	Lhasa	44.03	316	P	P	07 38 54.2	-1.3
USA0B	Ussuriysk Arra	44.69	7	P	P	07 38 58.9	-1.0
USA0B				IAmb	IAmb	07 39 15.2	
	comp=Z,9.6nm,0.8s						
USRK	Ussuriysk Ar.	44.69	7	P	P	07 38 59.3	-0.6
ODAN	Odare	45.25	310	eP	P	07 39 03.9	-1.0
	comp=Z,31nm,0.9s						
ODAN	Odare	45.25	310	eP	P	07 39 03.9	-1.0
	comp=Z,31nm,0.9s						
TAPN	Taplejung	45.25	310	eP	P	07 39 03.9	-1.1
	comp=Z,13nm,0.5s						
TAPN	Taplejung	45.25	310	eP	P	07 39 03.9	-1.1
	comp=Z,13nm,0.5s						
GTA	Gaotai	45.80	332	⇑P	P	07 39 10.3	+1.4
GTA				pP	pP	07 39 19.8	-2.8
GTA				pmax	pmax		
	comp=Z,16nm,0.8s						
GTA				pmax	pmax		
	comp=Z,64nm,7.0s						
GTA				LR	LR		
	comp=Z,130nm,18.4s						
GTA				LR	LR		
	comp=Z,160nm,16.8s						
GTA				LR	LR		
	comp=Z,200nm,17.8s						
RAMN	Ramite	45.90	309	eP	P	07 39 09.3	-0.8
	comp=Z,28nm,0.8s						
RAMN	Ramite	45.90	309	eP	P	07 39 09.3	-0.8
	comp=Z,28nm,0.8s						
JIRN	Jiri	46.57	310	eP	P	07 39 15.3	-0.2
JIRN	Jiri	46.57	310	eP	P	07 39 15.3	-0.2
GUN	Gumba	46.94	310	eP	P	07 39 17.6	-0.7
	comp=Z,56nm,0.8s						
GUN	Gumba	46.94	310	eP	P	07 39 17.6	-0.7
	comp=Z,56nm,0.8s						
PKI	Pulchoki	47.13	309	eP	P	07 39 18.4	-1.4
PKI	Pulchoki	47.13	309	eP	P	07 39 18.4	-1.4
PKIN	Phulchoki	47.14	309	eP	P	07 39 19.1	-0.8
PKIN	Phulchoki	47.14	309	eP	P	07 39 19.1	-0.8
KKN	Kakani	47.34	309	eP	P	07 39 20.2	-1.1
KKN	Kakani	47.34	309	eP	P	07 39 20.2	-1.1
DMN	Daman	47.38	309	eP	P	07 39 21.1	-0.6
DMN	Daman	47.38	309	eP	P	07 39 21.1	-0.6
GKN	Gorkha	47.94	309	eP	P	07 39 25.7	-0.2
GKN	Gorkha	47.94	309	eP	P	07 39 25.7	-0.2
KOLN	Koldanda	48.63	308	eP	P	07 39 30.1	-1.2
	comp=Z,31nm,0.5s						
KOLN	Koldanda	48.63	308	eP	P	07 39 30.1	-1.2
	comp=Z,31nm,0.5s						
HYB	Hyderabad	49.12	293	i P	P	07 39 32.0	-3.0
PYUN	Piuthan	49.27	308	eP	P	07 39 35.5	-0.7
	comp=Z,85nm,0.7s						
PYUN	Piuthan	49.27	308	eP	P	07 39 35.5	-0.7
	comp=Z,85nm,0.7s						
ULN	Ulaanbaatar	50.46	344	P	P	07 39 44.6	-0.2
ULN				IAmb	IAmb	07 39 48.7	
	comp=Z,12nm,1.1s						
SONM	Songino Array	50.62	344	P	P	07 39 44.9	-1.0
	comp=Z,6.6nm,1.0s,baz=157,slow=7.6,SNR=16						
SONM				LR	LR	08 02 22.9	
	comp=Z,167nm,21.7s,baz=1.5,slow=38						
SONM	Songino Array	50.62	344	P	P	07 39 44.6	-1.3
WMQ	Urumqi	55.16	328	eP	P	07 40 20.8	+1.3
WMQ				pP	pwP	07 40 36.5	-0.4
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,71nm,4.3s						
WMQ				LR	LR		
	comp=Z,100nm,14.9s						
WMQ				LR	LR		
	comp=Z,95nm,21.1s						
ZSN	Zaisan	59.05	329	eP	P	07 40 46.9	0.0
	baz=329						
SHLS	Shalkode	59.48	323	eP	P	07 40 47.1	-2.9
	baz=323						
PETK	Petropavlovsk-	59.70	22	P	P	07 40 50.1	-1.0
	comp=Z,7.7nm,0.7s,baz=186,slow=6.0,SNR=8.7						
PETK	Petropavlovsk-	59.70	22	P	P	07 40 50.3	-0.8
UZB	Uzynbulak	59.74	322	eP	P	07 40 51.5	-0.4
	comp=Z,4.5nm,1.0s,baz=322						
KSH	Kashi	59.83	317	P	P	07 40 54.1	+1.6
KSH				S	S	07 49 03.1	+2.9
KSH				pmax	pmax		
	comp=Z,110nm,3.1s						
KSH				LR	LR		
	comp=Z,190nm,11.2s						
KSH				LR	LR		
	comp=Z,150nm,9.2s						
MK31	Makanchi Array	59.99	327	P	P	07 40 50.9	-2.4
MK31				IAmb	IAmb	07 40 55.0	
	comp=Z,19nm,1.4s						
MKAR	Makanchi Array	59.99	327	P	P	07 40 52.0	-1.4
	comp=Z,8.0nm,0.5s,baz=120,slow=7.5,SNR=51						
MKAR	Makanchi Array	59.99	327	P	P	07 40 51.5	-1.8
SATY	Saty	60.07	322	eP	P	07 40 53.8	-0.3
	comp=Z,9.8nm,0.8s,baz=322						
KPKS	Kokpek	60.12	322	eP	P	07 40 54.1	-0.2
	comp=Z,25nm,1.6s,baz=322						
MAKZ	Makanchi	60.17	327	P	P	07 40 54.4	-0.2
MAKZ				IAmb	IAmb	07 40 56.8	
	comp=Z,8.9nm,0.6s						
KDJ	Kajisay	60.34	321	P	P	07 40 54.4	-1.6
BKZ	Black Stump Fm	60.75	136	P	P	07 40 58.1	-0.6
BKZ				IAmb	IAmb	07 41 05.6	
	comp=Z,22nm,1.5s						
TNSS	Tian-Shan	60.96	321	eP	P	07 41 00.4	-0.1
	baz=321						
MDOK	Medeo	60.97	321	eP	P	07 41 00.2	-0.1
	baz=322						
MTBS	Maitube	61.33	321	eP	P	07 41 02.2	-0.4
	baz=321						
CHKK	Chushkaly	61.37	322	eP	P	07 41 01.9	-0.8
	baz=322						
SGDS	Sogindy	62.63	321	eP	P	07 41 10.3	-1.0
	comp=Z,13nm,1.7s,baz=321						
KBL	Kabul	62.77	310	P	P	07 41 11.1	-1.4
KBL				IAmb	IAmb	07 41 18.2	
	comp=Z,11nm,0.8s						
MA2	Magadan	62.94	14	P	P	07 41 13.8	+0.9
MA2				IAmb	IAmb	07 41 28.6	
	comp=Z,12nm,0.7s						
ZAA0	Zalesovo Array	63.46	335	P	P	07 41 15.5	-1.0
ZAA0				IAmb	IAmb	07 41 20.5	
	comp=Z,7.4nm,0.9s						
ZALV	Zalesovo Beam	63.46	335	P	P	07 41 16.1	-0.4
	comp=Z,3.4nm,0.5s,baz=122,slow=5.4,SNR=11						
ZALV	Zalesovo Beam	63.46	335	P	P	07 41 15.3	-1.1
GAR	Garm	63.53	315	P	P	07 41 17.1	-0.3
BTLS	Baital	63.78	322	eP	P	07 41 18.1	-0.7
	baz=322						
CHGR	Chuyangaron	64.22	314	P	P	07 41 20.9	-1.1
KURK	Kurchatov	64.30	329	P	P	07 41 20.5	-1.5
DZA	Taraz	64.50	319	eP	P	07 41 23.1	-0.5
	baz=319						
IUG	Iuzhnay	65.04	318	eP	P	07 41 26.9	-0.3
	comp=Z,11nm,0.8s,baz=318						
KK31	Karatay Array	65.13	319	P	P	07 41 27.1	-0.5
KK31				IAmb	IAmb	07 41 29.5	
	comp=Z,11nm,0.9s						
KKAR	Karatay Array	65.13	319	P	P	07 41 27.5	-0.2
KKAR				IAmb	IAmb	07 41 29.5	
	comp=Z,11nm,0.9s						
KKAR	Karatay Array	65.13	319	P	P	07 41 26.8	-0.9
CASY	Casey	66.69	186	P	P	07 41 37.6	+0.4
BRVK	Borovoye	69.91	328	P	P	07 41 57.3	-0.3
BRVK				IAmb	IAmb	07 41 59.2	
	comp=Z,12nm,0.9s						
TIXI	Tiksi	71.84	1	P	P	07 42 07.2	-1.8
TIXI				IAmb	IAmb	07 42 08.6	
	comp=Z,24nm,1.4s						
GEYT	Alibeck	72.21	310	P	P	07 42 10.3	-1.7
	comp=Z,2.6nm,0.8s,baz=171,slow=3.8,SNR=3.6						
GEYT				LR	LR	08 17 34.8	
	comp=Z,48nm,19.5s,baz=190,slow=39						
NRIK	Noril'sk	73.93	347	P	P	07 42 21.2	-0.2
	comp=Z,15nm,0.6s,baz=125,slow=5.8,SNR=17						
NRIK				LR	LR	08 16 19.7	
	comp=Z,48nm,21.4s,baz=23,slow=37						
ABKAR	Akbulak array	74.27	322	P	P	07 42 22.2	-1.6
MAW	Mawson	79.49	200	P	P	07 42 53.4	+0.7
	comp=Z,3.0nm,0.8s,baz=68,slow=4.7,SNR=8.5						
MAW	Mawson	79.49	200	P	P	07 42 54.1	+1.4
	baz=80,SNR=5.4						
MAW	Mawson	79.49	200	P	P	07 42 53.5	+0.8
VNDA	Vanda	79.69	172	P	P	07 42 54.2	+0.5
	comp=Z,1.6nm,0.9s,baz=253,slow=4.8,SNR=5.0						
VNDA	Vanda	79.69	172	P	P	07 42 54.4	+0.7
SDPT	Sand Point	81.36	34	P	P	07 43 03.2	+0.2
AKH	Akhalkalaki	83.92	312	⇓P	P	07 43 18.6	+1.6
KBZ	Khabaz	84.58	314	P	P	07 43 19.0	-1.0
	comp=Z,6.5nm,0.8s,baz=88,slow=3.1,SNR=13						
KBZ				LR	LR	08 27 07.9	
	comp=Z,30nm,18.4s,baz=64,slow=40						
IMAR	Indian Mountai	86.61	24	P	P	07 43 30.8	+1.3
KMBO	Kilima Mbogo	87.91	269	P	P	07 43 38.7	+1.4
	comp=Z,12nm,0.9s,baz=58,slow=7.4,SNR=20						
KLMR	Klimovskoe	88.10	331	eP	P	07 43 34.3	-2.5
KLMR				AMP		07 43 37.2	
	comp=Z,22nm,1.1s						
COLD	Coldfoot	88.16	23	P	P	07 43 38.7	+1.7
COLD				IAmb	IAmb	07 43 39.3	
	comp=Z,9.1nm,1.0s						
SYO	Syowa Base	88.16	201⇑	eX	P	07 43 34.4	-2.5
SYO	Syowa Base	88.16	201⇑	eX	P	07 43 36.6	-0.3
SYO	Syowa Base	88.16	201⇑	ePKiKP	PKiKP	07 48 37.0	-1.4
SYO	Syowa Base	88.16	201⇑	epPKiKP	PKiKP	07 48 50.8	+12
CCB	Clear Creek Bu	88.96	25	IAmb	IAmb	07 43 41.8	
	comp=Z,11nm,1.2s						
HDA	Harding Lake	89.32	26	IAmb	IAmb	07 43 43.0	
	comp=Z,4.5nm,0.9s						
ILAR	Eielson Array	89.36	25	P	P	07 43 42.0	-0.7
	comp=Z,1.0nm,0.8s,baz=232,slow=5.0,SNR=10						
QSPA	South Pole Qui	89.67	180	P	P	07 43 45.5	+1.2
BMAR	Burnt Mountain	90.34	23	P	P	07 43 48.8	+1.5
DOT	Dot Lake	90.58	27	IAmb	IAmb	07 43 49.7	
	comp=Z,4.1nm,0.8s						
BRTR	Keskin Array B	91.34	310	P	P	07 43 51.5	-1.3
	comp=Z,4.0nm,1.0s,baz=129,slow=4.9,SNR=5.9						
BCAR	Beaver Creek A	91.62	27	P	P	07 43 54.1	+0.7
ARCES	ARCESS Array B	93.63	340	P	P	07 44 01.2	-1.2
	comp=Z,2.0nm,0.8s,baz=93,slow=5.7,SNR=2.0						
AKASG	Malin Array Be	93.98	321	P	P	07 44 02.9	-1.5
	comp=Z,4.2nm,0.7s,baz=66,slow=4.7,SNR=11						
AKASG				LR	LR	08 31 06.6	
	comp=Z,25nm,19.8s,baz=85,slow=38						
AKASG	Malin Array Be	93.98	321	P	P	07 44 02.3	-2.1
FINES	FINESS Array B	94.58	332	P	P	07 44 04.6	-2.3
	comp=Z,1.3nm,0.8s,baz=89,slow=7.2,SNR=2.3						
FINES				LR	LR	08 28 44.1	
	comp=Z,47nm,20.7s,baz=88,slow=37						
TIRR	Tirgusor	95.01	314	⇓P	P	07 44 08.5	-0.8
TESR	Tescani	96.06	317	⇓P	P	07 44 13.8	-0.3
VRI	Vrincioaia	96.07	316	⇑P	P	07 44 14.4	+0.2
MLR	Muntele Rosu	96.66	316	⇑P	P	07 44 16.8	-0.1
LSZ	Lusaka	96.66	255	P	P	07 44 17.9	+0.3
LSZ				IAmb	IAmb	07 44 18.4	
	comp=Z,5.7nm,0.8s						
BURAR	Bucovina Array	96.91	318	⇓P	P	07 44 18.2	+0.2
BURAR	Bucovina Array	96.91	318	P	P	07 44 17.6	-0.4
VOIR		97.29	316	⇓P	P	07 44 18.9	-0.9
BOSA	Boshof	98.57	241	P	P	07 44 25.1	-0.9
	comp=Z,3.0nm,0.9s,baz=48,slow=6.5,SNR=2.9						
BOSA				LR	LR	08 25 18.7	
	comp=Z,68nm,19.0s,baz=166,slow=33						
KOLS	Kolonicke sedl	98.66	319	ePDIFF	Pdif	07 44 26.3	+0.5
CRVS	Cervenica-Dubn	99.19	320	ePDIFF	Pdif	07 44 28.5	+0.4
MDVR	Moldovita	99.72	315	⇑P	Pdif	07 44 30.6	0.0
TOA0	Torodi Ar. Sit	122.56	285	PKPdf	PKiKP	07 49 43.2	+0.2
TORD	Torodi Ar. Bea	122.56	285	PKP	PKiKP	07 49 43.0	-0.1
	comp=Z,3.8nm,0.7s,baz=54,slow=2.1,SNR=22						
TORD	Torodi Ar. Bea	122.56	285	PKPdf	PKiKP	07 49 43.1	+0.1
TXAR	Lajitas Array	125.24	54	PKP	PKiKP	07 49 49.0	+0.8
	comp=Z,0.5nm,0.8s,baz=208,slow=2.4,SNR=7.4						
HDIL	Hopedale	129.14	34		PKPpre	07 49 43.7	
ASAL	Salagasta	144.75	159	eP	PKPdf	07 50 24.6	+0.8
AUSP	Uspallata	144.88	158⇓	eP	PKPdf	07 50 25.7	+1.3
RTLS	Leoncito	145.29	158	eP	PKPdf	07 50 27.0	+1.8
RTCV	Cerro Valdivia	145.51	159	eP	PKPab	07 50 27.0	+1.5
ACCO	Cerro Coronel	146.46	157	eP	PKPab	07 50 30.3	+0.9
AROD	Rodeo	146.68	157	eP	PKPab	07 50 31.0	+0.7
TCA	Tanti	147.23	164	eP	PKPdf	07 50 28.0	-0.1
APLL	PUNTA DE LOS L	147.54	161	eP	PKPab	07 50 32.5	-0.9
AGUA	GUANDACOL	147.67	157	eP	PKiKP	07 50 33.3	-0.4
ACLC	CERRO LA CRUZ	148.29	160	eP	PKiKP	07 50 34.8	-0.3
CPUP	Villa Florida	153.45	175	PKPbc	PKiKP	07 50 46.8	+1.2
	comp=Z,3.1nm,0.8s,baz=141,slow=5.1,SNR=5.4						
LPAZ	La Paz	158.96	142	PKPab	PKPab	07 51 22.6	+0.3
	comp=Z,1.8nm,0.8s,baz=196,slow=7.2,SNR=6.1						

*IDC **10** 07:55:43.1±0.7,0°.13S×125°.30E,h0km,mb3.9/9,*
mb1 4.0/11,mb1mx3.9/31,mbtmp4.0/11,ML3.8/2,MS3.4/3,
Ms1 3.4/3,ms1mx2.8/49,Error ellipse: s-maj=39.3km
s-min=15.2km az=77.0
*NEIC **10** 07:55:47.6±1.6,0°.2S±0°.1×125°.38E±0°.06,h30km±1km,*
mb4.0/7,Error ellipse: s-maj=18.9km s-min=10.2km
az=349.0
*DJA **10** 07:55:49.0±1.3,0°.5S±6°×12°5E±°,h16km±10km,M4.5/6,*
mB4.8/1,mb4.7/1,MLv4.4/6,Mw(mB)4.1/1
ISC 10 07:55:49.8±0.6,0°.21S±0°.08×125°.33E±0°.07,h49km,n32,
σ1§67/29,mb4.0/13,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.56	300	P	Pn	07 56 13.1	-2.0
KMSI				S	Sn	07 56 37.9	+3.7
SANI	Sanana	1.94	160	P	Pn	07 56 18.4	-1.9
LBMI	Labuha	2.21	101	S	Sn	07 56 55.1	+4.9
LUWI	Luwuk	2.69	252	P	Pn	07 56 33.1	+2.5
LUWI				S	Sn	07 57 11.1	+9.1
LUWI	Luwuk	2.69	252		Pn	07 56 32.5	+1.8
MPSI	Mapaga	5.46	276	P	Pn	07 57 09.4	+0.7
KAPI	Kappang	7.34	229	Pn	Pn	07 57 33.4	-1.0
	5.4nm,0.3s,baz=23,slow=8.6,SNR=5.7						
KAPI				LR	LR	08 01 05.9	
	comp=Z,282nm,19.4s,baz=51,slow=44						
KAPI	Kappang	7.34	229		Pn	07 57 34.9	+0.5
FAKI	Fak Fak	7.42	111	Pn	Pn	07 57 35.2	-0.3
BATI	Baumata	10.07	189	LR	LR	08 03 07.5	
	comp=Z,192nm,18.7s,baz=203,slow=44						
FITZ	Fitzroy Crossi	17.78	179	P	Pn	07 59 53.5	-0.3
	0.1nm,0.3s,baz=359,slow=11,SNR=3.4						
FITZ	Fitzroy Crossi	17.78	179	IAmb	IAmb	07 59 57.3	
	comp=Z,6.0nm,1.1s						
WB0	Warramunga Arr	21.36	156	P	P	08 00 32.3	-1.0
WB0				IAmb	IAmb	08 00 49.1	
	comp=Z,14nm,1.5s						
WRA	Warramunga Arr	21.50	156	P	P	08 00 33.9	-0.8
	comp=Z,0.6nm,0.5s,baz=332,slow=11,SNR=16						
WB2	Warramunga Arr	21.51	156	P	P	08 00 33.5	-1.2
WB2				IAmb	IAmb	08 00 50.1	
	comp=Z,4.3nm,0.8s						
WR0	Warramunga Arr	21.60	156	P	P	08 00 34.8	-1.0
WR0				IAmb	IAmb	08 00 43.1	
	comp=Z,4.5nm,0.9s						
COEN	Coen	22.33	128	P	P	08 00 45.2	+1.6
COEN				IAmb	IAmb	08 00 51.6	
	comp=Z,17nm,1.4s						
ASAR	Alice Springs	24.75	161	P	P	08 01 07.9	+0.8
	comp=Z,0.6nm,0.6s,baz=346,slow=13,SNR=11						
ASAR				PcP	PcP	08 04 44.1	+1.1
	comp=Z,0.8nm,0.7s,baz=356,slow=1.9,SNR=9.6						
STKA	Stephens Creek	35.05	155	P	P	08 02 37.9	-0.2
	comp=Z,3.1nm,0.9s,baz=322,slow=12,SNR=2.4						
KSRS	Korea Array	37.56	3	P	P	08 02 59.6	+0.3
	comp=Z,0.6nm,0.6s,baz=171,slow=8.7,SNR=4.5						
MJAR	Matsushiro Arr	38.47	17	P	P	08 03 06.3	-0.9
	comp=Z,1.3nm,0.6s,baz=194,slow=9.7,SNR=1.7						
ASAJ	Asahikawa	46.74	17	LR	LR	08 23 27.8	
	comp=Z,54nm,20.5s,baz=358,slow=36						
SONM	Songino Array	50.61	344	P	P	08 04 42.7	-1.3
	comp=Z,0.6nm,0.5s,baz=148,slow=8.5,SNR=3.3						
MKAR	Makanchi Array	60.04	327	P	P	08 05 50.7	-1.0
	comp=Z,1.9nm,0.4s,baz=122,slow=7.7,SNR=32						
MKAR	Makanchi Array	60.04	327	P	P	08 05 51.2	-0.5
ZALV	Zalesovo Beam	63.49	335	P	P	08 06 13.2	-1.6
	comp=Z,0.7nm,0.3s,baz=124,slow=7.2,SNR=1.9						
KURK	Kurchatov	64.34	329	P	P	08 06 20.4	+0.1
NRIK	Noril'sk	73.92	347	P	P	08 07 19.8	+0.5
	comp=Z,3.0nm,0.5s,baz=142,slow=9.4,SNR=4.4						
ABKAR

EVGI	Lefkada island	0.56	195	P	Pg	08 36 45.4	+0.6
EVGI				S	Sb	08 36 55.3	+0.9
comp=N,3μm,0.4s							
EVGI	Lefkada island	0.56	195	P	Pg	08 36 45.2	+0.4
EVGI				S	Sb	08 36 54.3	-0.1
MEV	Metsovon	0.68	25	P	Pg	08 36 47.6	+0.5
MEV	Metsovon	0.68	25	P	Pg	08 36 47.5	+0.5
FSK	Fiskardo	0.74	198	P	Pg	08 36 47.9	-0.2
FSK				S	Sb	08 37 00.0	+0.6
comp=N,2μm,0.3s							
FSK	Fiskardo	0.74	198	P	Pg	08 36 47.8	-0.2
FSK				AML	AML	08 37 08.1	
comp=N,4384μm,0.4s							
FSK				AML	AML	08 37 08.3	
comp=E,4732μm,0.3s							
PVO	Paravola	0.76	136	P	Pn	08 36 50.2	-0.9
PVO				S	Sn	08 37 03.1	+0.3
comp=E,3μm,0.4s							
PVO	Paravola	0.76	136	P	Pn	08 36 50.2	-0.9
PVO				AML	AML	08 37 07.7	
comp=N,5374μm,0.3s							
PVO				AML	AML	08 37 09.6	
comp=E,4549μm,0.5s							
EVR	Evrytania	0.79	108	P	Pn	08 36 50.7	-0.9
EVR				S	Sn	08 37 03.1	-0.5
comp=E,1μm,0.4s							
EVR	Evrytania	0.79	108	P	Pn	08 36 50.6	-0.9
EVR				AML	AML	08 37 07.7	
comp=N,2519μm,0.5s							
EVR				AML	AML	08 37 07.8	
comp=E,2583μm,0.3s							
KPRO	Kipourio	0.88	27	P	Pg	08 36 51.0	+0.1
KPRO				S	Sb	08 37 03.2	-0.4
KPRO	Kipourio	0.88	27	P	Pg	08 36 50.9	+0.1
KPRO				AML	AML	08 37 16.6	
comp=E,3251μm,0.6s							
KPRO				AML	AML	08 37 17.7	
comp=N,3368μm,0.9s							
KEF5	Kardakata, Kep	0.94	199	P	Pg	08 36 51.7	-0.2
KEF4	Livadi, Kephal	0.97	200	P	Pg	08 36 52.5	+0.1
THL	Klokotos Trika	0.99	66	P	Pn	08 36 53.6	-0.6
THL				S	Sn	08 37 08.6	+0.2
THL	Klokotos Trika	0.99	66	P	Pn	08 36 53.6	-0.6
VLS	Valsamata	1.01	192	P	Pg	08 36 52.5	-0.7
VLS				S	Sn	08 37 08.3	-0.6
VLS	Valsamata	1.01	192	P	Pg	08 36 52.5	-0.7
ANX	Ano Chora	1.01	124	P	Pn	08 36 54.6	0.0
ANX	Ano Chora	1.01	124	P	Pn	08 36 54.5	-0.2
PENT	Pentalofos	1.05	12	P	Pg	08 36 53.9	-0.2
EFP	Efpalio	1.11	131	P	Pn	08 36 56.7	+0.9
EFP	Efpalio	1.11	131	P	Pn	08 36 56.7	+0.9
RLS	Riolos of Patr	1.21	156	P	Pg	08 36 57.4	+0.4
RLS				S	Sn	08 37 14.9	+1.1
comp=N,982nm,0.6s							
RLS	Riolos of Patr	1.21	156	P	Pg	08 36 57.4	+0.4
VLMS	Volimes, Zakyn	1.30	186	P	Pn	08 36 57.7	-0.7
DRO	Drossia	1.39	151	P	Pg	08 37 00.5	0.0
DRO	Drossia	1.39	151	P	Pb	08 37 00.3	+0.1
DSF	Desfina	1.51	119	P	Pg	08 37 02.8	-0.1
KLV	Kalavryta, Ach	1.52	137	P	Pg	08 37 02.7	-0.2
LIT	Litokhoron	1.57	53	P	Pb	08 37 03.5	+0.2
VOL3	Nea Ionia, Vol	1.63	82	P	Pb	08 37 03.6	-0.7
VOL2	Volos	1.64	82	P	Pg	08 37 05.3	-0.1
GUR	Goura	1.70	136	P	Pg	08 37 07.3	+0.9
LKR	Lokris	1.76	106	P	Pg	08 37 07.9	+0.3
XOR	Xorichti	1.83	83	P	Pb	08 37 07.5	-0.2
NEO	Neokhori	1.85	85	P	Pb	08 37 08.4	+0.4
LTK	Loutraki	2.02	124	P	Pb	08 37 11.3	+0.4
VIL2	Platees	2.12	116	P	Pg	08 37 13.5	-1.0
ITM	Ithomi	2.16	156	P	Pb	08 37 13.8	+0.5
TIR	Tirane	2.31	341	*e*Pn	Pn	08 37 12.6	+0.3
DID	Didima	2.50	131	P	Pb	08 37 17.9	-1.4
DION	Dionisos Attik	2.65	113	P	Pb	08 37 20.1	-1.5
VLY	Voula,Athens	2.66	119	P	Pb	08 37 20.2	-1.6
STIP	Stip	2.72	22	*i* Pn	Pb	08 37 22.8	-0.1
SKO	Skopje	2.84	9	*e*Pn	Pn	08 37 19.2	-0.4
SRS	Serrai	2.87	46	*e*Pn	Pn	08 37 19.9	-0.1
SRS				*e*Sn	Sn	08 37 56.2	+1.4
PDG	Podgorica	3.48	340	*e*Sn	Sn	08 38 10.4	+0.6
MATE	Matera	3.51	296	⇓P	Pg	08 37 42.5	+1.4
BOSS	Bosilegrad	3.55	20	*e*Pn	Pn	08 37 31.0	+1.6
BARS	Barje	3.72	11	*e*Pn	Pn	08 37 33.0	+1.3
SELS	Selova	4.05	3	*e*Pn	Pn	08 37 38.0	+1.6
SJES	Sjenica	4.14	351	*e*Pn	Pn	08 37 39.2	+1.5
ZAPS	Zavoj	4.32	18	*e*Pn	Pn	08 37 40.3	+0.3
BOVS	Bovan	4.51	8	*e*Pn	Pn	08 37 43.1	+0.5
GRUS	Gruza	4.72	359	*e*Pn	Pn	08 37 46.1	+0.6
BBLS	Lazići	4.82	347	*e*Pn	Pn	08 37 47.6	+0.7
DIVS	Divibare	4.97	353	*e*Pn	Pn	08 37 49.0	0.0
IDI	Anoyia	5.04	139	⇑P	Pn	08 37 51.6	+1.7
VOIR		7.00	25	⇑P	Pn	08 38 20.3	+3.5
MLR	Muntele Rosu	7.36	29	⇑P	Pn	08 38 27.8	+6.0
VRI	Vrincioaia	7.98	31	⇑P	Pn	08 38 35.8	+5.6
KEST	Kesra	9.77	253	Pn	Pn	08 38 56.5	+1.7
comp=N,0.3nm,0.3s,baz=68,slow=5.4,SNR=3.6							
OBN	Obninsk	19.13	28	LR	LR	08 49 46.2	
comp=N,9.5nm,19.7s,baz=216,slow=42							
ESDC	Sonseca Array	19.16	279	P	Pn	08 40 58.6	-0.2
baz=74,slow=9.6,SNR=2.8							
FINES	FINESS Array B	22.54	7	P	P	08 41 33.6	-0.5
comp=N,1.9nm,0.9s,baz=186,slow=13,SNR=4.1							
TORD	Torodi Ar. Bea	30.96	218	P	P	08 42 51.5	-0.2
comp=N,0.8nm,0.7s,baz=29,slow=9.5,SNR=5.5							
KURBB	Kurchatov Arra	41.44	54	P	P	08 44 19.4	-1.6
comp=N,0.2nm,0.3s,baz=277,slow=8.9,SNR=5.9							
MKAR	Makanchi Array	44.57	59	P	P	08 44 45.5	-0.9
comp=N,0.5nm,0.4s,baz=285,slow=6.8,SNR=7.7							

*IDC **10** 08:39:55.5±0.7,26.′26N×68.′40E, h0km, mb4.0/18, mb1 4.1/19, mb1mx3.9/70, mbtmp4.0/19, ML3.2/1, MS3.5/5, Ms1 3.5/5, ms1mx2.9/61, Error ellipse: s-maj=19.5km s-min=16.3km az=27.0*

*NEIC **10** 08:39:57.1±2.0, 26.′28N±0.′08×68.′33E±0.′07, h10km±1km, mb4.2/11, Error ellipse: s-maj=16.4km s-min=5.1km az=143.0*

ISC 10 08:39:57.3±0.5, 26.′31N±0.′05×68.′51E±0.′06, h10km, n45, σ1§65/48, mb4.1/21, MS3.4/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	Bhuj	3.22	161	*e*P	Pn	08 40 48.4	+0.5
BHUJ				*e*S	Sn	08 41 25.5	-0.7
BHUJ				IAML		08 41 28.1	
comp=N,697nm,0.4s							
BHUJ				IAML		08 41 29.4	
comp=E,423nm,0.4s							
NDI	New Delhi	8.08	71	*e*P	Pn	08 41 56.5	+1.8
NDI				*e*S	Sn	08 43 21.0	-5.2
KBL	Kabul	8.21	3	Pn	Pn	08 41 58.4	+1.7
KBL					Sn	08 43 29.2	-0.4
NIL	Nilore	8.38	28	Pn	Pn	08 42 00.9	+2.0
BHPL	Bhopal	8.66	109	*e*S	Sn	08 43 34.9	-5.5
THN	Thein Dam	8.75	44	*e*S	Sn	08 43 41.0	-1.6
SMLA	Simla	8.98	56	*e*P	Pn	08 42 09.4	+2.4
SMLA				*e*S	Sn	08 43 47.2	-1.1
SMLA				IAML		08 43 49.1	
comp=N,92nm,0.5s							
SMLA				IAML		08 43 50.4	
comp=E,173nm,0.9s							
DHRM	DHARAMSHALA	9.01	47	*e*P	Pn	08 42 10.8	+3.1
DHRM				*e*S	Sn	08 43 47.3	-2.0
DHRM				IAML		08 43 49.4	
comp=N,122nm,0.5s							
WSAR	Wadi Sarin	9.49	253	Pn	Pn	08 42 13.1	-0.9
comp=N,0.2nm,0.3s,baz=135,slow=1.4,SNR=1.3							
WSAR				Sn	Sn	08 43 47.8	-13
comp=N,0.2nm,0.3s,baz=250,slow=1.2,SNR=4.1							
WSAR				LR	LR	08 46 31.7	
comp=N,92nm,19.5s,baz=80,slow=42							
GAR	Garm	12.74	6	Pn	Pn	08 42 59.4	+0.8
GAR					Sn	08 45 20.1	-0.5
KK31	Karatay Array	16.83	5		P	08 43 54.9	-0.3
KK31				IAmb	IAmb	08 43 59.3	
comp=Z,4.4nm,0.7s							
KKAR	Karatay Array	16.83	5	P	P	08 43 55.0	-0.2
KKAR	Karatay Array	16.83	5		P	08 43 54.8	-0.3
SHL	Shillong	21.03	87	P	P	08 44 43.7	+2.2
SHL				IAmb	IAmb	08 44 44.7	
comp=Z,14nm,0.9s							
PALK	Pallekele	22.21	146	P	P	08 44 56.9	+2.8
comp=Z,6.7nm,0.8s,baz=12,slow=19,SNR=2.0							
PALK	Pallekele	22.21	146	P	P	08 44 54.7	+0.6
PALK				IAmb	IAmb	08 45 04.7	
comp=Z,15nm,1.1s							
MKAR	Makanchi Array	23.18	25	P	P	08 45 05.1	+1.1
comp=Z,1.0nm,0.6s,baz=207,slow=11,SNR=7.1							
MKAR				LR	LR	08 56 17.4	
comp=Z,93nm,18.4s,baz=184,slow=42							
MKAR	Makanchi Array	23.18	25	P	P	08 45 05.4	+1.4
ABKAR	Akbulak array	23.85	346	P	P	08 45 11.0	+0.4
AKTO	Aktyubinsk	25.40	344	P	P	08 45 25.7	+1.0
comp=Z,1.3nm,0.6s,baz=168,slow=5.2,SNR=4.0							
KURBB	Kurchatov Arra	25.46	15	P	P	08 45 25.4	+0.2
comp=Z,1.3nm,0.7s,baz=210,slow=8.7,SNR=6.4							
BVAR	Borovoye Array	26.71	3	P	P	08 45 37.8	+1.2
comp=Z,2.3nm,0.8s,baz=236,slow=42,SNR=1.0							
ZALV	Zalesovo Beam	30.14	19	P	P	08 46 07.9	+0.8
comp=Z,1.5nm,0.4s,baz=205,slow=8.3,SNR=4.3							
ZALV				LR	LR	09 00 12.5	
comp=Z,58nm,19.6s,baz=158,slow=40							
SONM	Songino Array	36.57	44	P	P	08 47 03.4	0.0
comp=Z,1.2nm,0.7s,baz=240,slow=9.4,SNR=4.6							
SONM	Songino Array	36.57	44	IAmb	IAmb	08 47 09.6	
comp=Z,1.0nm,0.8s							
MLR	Muntele Rosu	38.89	311	P	P	08 47 22.8	-0.3
comp=Z,2.1nm,0.6s,baz=118,slow=15,SNR=1.7							
MLR	Muntele Rosu	38.89	311	IAmb	IAmb	08 47 28.2	
comp=Z,2.6nm,0.7s							
BURAR	Bucovina Array	39.95	314	P	P	08 47 32.3	+0.4
NRIK	Noril'sk	44.49	10	LR	LR	09 11 05.4	
comp=Z,57nm,18.0s,baz=202,slow=42							
FINES	FINESS Array B	45.17	333	P	P	08 48 13.3	-0.6
comp=Z,2.1nm,0.8s,baz=134,slow=12,SNR=3.0							
GERES	GERESS Array B	47.73	313	P	P	08 48 33.3	-1.1
comp=Z,0.3nm,0.2s,baz=105,slow=7.5,SNR=1.7							
GERES				PcP	PcP	08 50 03.6	+0.1
comp=Z,0.4nm,0.2s,baz=126,slow=3.4,SNR=4.1							
ARCES	ARCESS Array B	49.94	342	P	P	08 48 51.2	+0.2
comp=Z,1.4nm,0.7s,baz=134,slow=6.9,SNR=6.5							
KSRS	Korea Array	50.91	62	P	P	08 48 58.8	+0.1
comp=Z,0.7nm,0.7s,baz=264,slow=6.3,SNR=3.6							
NOA	NORSAR Array B	51.60	328	P	P	08 49 02.3	-1.3
comp=Z,0.9nm,0.8s,baz=107,slow=7.4,SNR=2.8							
MJAR	Matsushiro Arr	59.19	62	LR	LR	09 18 27.4	
comp=Z,114nm,18.2s,baz=220,slow=39							
ESDC	Sonseca Array	60.73	302	P	P	08 50 07.4	-1.8
comp=Z,0.3nm,0.4s,baz=78,slow=6.8,SNR=2.8							
TORD	Torodi Ar. Bea	63.65	272	P	P	08 50 28.2	-0.9
comp=Z,2.1nm,0.7s,baz=56,slow=5.8,SNR=13							
SEY	Seymchan	64.16	30	P	P	08 50 31.6	0.0
comp=Z,1.3nm,0.7s,baz=352,slow=18,SNR=2.2							
WB0	Warramunga Arr	78.63	119	P	P	08 51 59.9	+0.2
WB0				IAmb	IAmb	08 52 10.9	
comp=Z,8.2nm,1.2s							
WRA	Warramunga Arr	78.68	119	P	P	08 52 00.6	+0.6
comp=Z,3.3nm,0.8s,baz=318,slow=4.9,SNR=38							
WRA	Warramunga Arr	78.68	119	P	P	08 51 59.1	-0.9
WRAB	Tennant Creek	78.68	119	P	P	08 52 00.8	+0.7
WB2	Warramunga Arr	78.69	119	P	P	08 52 00.7	+0.6
ASAR	Alice Springs	80.40	122	P	P	08 52 09.7	+0.3
comp=Z,1.4nm,0.7s,baz=308,slow=5.4,SNR=16							
CTA	Charters Tower	88.36	113	P	P	08 52 49.8	+0.1
comp=Z,2.5nm,0.7s,baz=317,slow=3.8,SNR=7.1							

*IDC **10** 08:47:05.2±2.5, 40.′63N×29.′44W, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/57, mbtmp3.8/10, ML4.1/1, MS3.6/22, Ms1 3.6/22, ms1mx3.4/49, Error ellipse: s-maj=82.5km s-min=20.4km az=171.0*

ISC 10 08:47:05.1±3.6, 40.′53N±0.′07×29.′45W±0.′08, h4km±23km, n37, σ0§86/25, mb3.9/9, MS3.5/21, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	FLORES T-PHASE	1.77	230	*e*P	Sn	08 47 57.7	-1.9
SRBC	Serra Branca	1.85	143	*e*P	Pn	08 47 38.4	+0.8
SRBC				*e*S	Sn	08 48 00.3	-1.1
SRBC				A	A	08 48 02.3	
128nm,0.4s							
PGRA	Graciosa	1.88	142	*e*P	Pn	08 47 38.2	+0.2
PGRA				*e*S	Sn	08 48 01.0	-1.2
PGRA				A	A	08 48 02.5	
40nm,0.3s							
PCED	Cedros	1.98	163	*e*P	Pb	08 47 41.7	-0.1
PCED				*e*S	Sn	08 48 05.0	+0.2
PCED				A	A	08 48 09.6	
68nm,0.3s							
ROSA	Rosais	2.04	152	*e*P	Pn	08 47 41.5	+1.3
ROSA				*e*S	Sn	08 48 05.9	-0.2
ROSA				A	A	08 48 10.2	
18nm,0.2s							
HOR	Horta	2.10	162	*e*S	Sn	08 48 07.8	+0.2
HOR				A	A	08 48 11.8	
173nm,0.2s							
PMAN	Manadas	2.17	150	*e*P	Pn	08 47 43.2	+1.2
PCAN	Candelaria	2.19	160	*e*P	Pb	08 47 44.6	-0.8
PCAN				*e*S	Sn	08 48 10.0	0.0
PCAN				A	A	08 48 15.8	
64nm,0.4s							
PSCM	Serra do Cume	2.57	135	*e*P	Pn	08 47 47.1	-0.4
ESDC	Sonseca Array	19.50	84	Pn	Pn	08 51 34.1	-0.3
0.1nm,0.3s,baz=292,slow=8.7,SNR=4.3							
ESDC				LR	LR	08 57 36.5	
comp=Z,260nm,20.7s,baz=290,slow=32							
MDT	Midelt	21.32	103	LR	LR	08 58 23.4	
comp=Z,158nm,21.5s,baz=314,slow=32							
EKA	Eskdalemuir Ar	22.82	41	P	P	08 52 08.5	-0.4
0.7nm,0.7s,baz=253,slow=9.6,SNR=3.6							
SCHQ	Schefferville	28.55	313	LR	LR	09 02 38.9	
comp=Z,134nm,20.8s,baz=77,slow=33							
DAVOX	Davos/Dischmat	28.91	64	LR	LR	09 02 46.3	
comp=Z,91nm,21.2s,baz=268,slow=33							
SFJD	Kangerlussuaq	29.00	343	LR	LR	09 02 04.5	
comp=Z,86nm,18.4s,baz=135,slow=31							
KEST	Kesra	30.72	86	LR	LR	09 05 22.4	
comp=Z,195nm,19.0s,baz=268,slow=36							
GERES	GERESS Array B	31.43	60	LR	LR	09 04 08.9	
comp=Z,73nm,21.2s,baz=263,slow=33							
NOA	NORSAR Array B	32.13	37	LR	LR	09 04 31.2	
comp=Z,34nm,21.9s,baz=250,slow=33							
HFS	Hagfors	32.99	39	LR	LR	09 05 17.9	
comp=Z,88nm,19.8s,baz=236,slow=33							
TORD	Torodi Ar. Bea	38.58	126	LR	LR	09 08 31.9	
comp=Z,117nm,20.6s,baz=20,slow=33							
DBIC	Dimbokro	40.26	140	LR	LR	09 09 14.4	
comp=Z,69nm,20.3s,baz=328,slow=33							
ARCES	ARCESS Array B	40.55	26	LR	LR	09 08 17.6	
comp=Z,50nm,19.5s,baz=186,slow=32							
AKASG	Malin Array Be	41.28	55	P	P	08 54 51.0	-0.3
0.2nm,0.3s,baz=273,slow=8.8,SNR=1.9							
AKASG				LR	LR	09 11 30.0	
comp=Z,109nm,18.1s,baz=265,slow=36							
OBN	Obninsk	44.95	48	LR	LR	09 14 03.0	
comp=Z,8.6nm,19.1s,baz=336,slow=36							
ULM	Lac du Bonnet	46.21	305	LR	LR	09 13 21.6	
comp=Z,155nm,20.4s,baz=106,slow=34							
KBZ	Khabaz	52.16	61	LR	LR	09 18 38.4	
comp=Z,30nm,19.5s,baz=74,slow=36							
ROSC	El Rosal	53.66	241	LR	LR	09 16 52.1	
comp=Z,86nm,21.0s,baz=103,slow=33							
ARU	Arti	56.43	42	P	P	08 56 47.9	+0.3
1.9nm,0.2s,baz=298,slow=17,SNR=1.6							
PDAR	Pinedale Array	57.70	301	P	P	08 56 57.6	+0.6
1.0nm,0.9s,baz=66,slow=7.2,SNR=7.1							
PDAR				LR	LR	09 20 07.6	
comp=Z,83nm,22.0s,baz=72,slow=34							
AKTO	Aktyubinsk	58.72	48	P	P	08 57 03.5	-0.4
1.1nm,0.6s,baz=316,slow=13,SNR=2.0							
AKTO				LR	LR	09 21 41.8	
comp=Z,31nm,20.3s,baz=251,slow=35							
TXAR	Lajitas Array	60.23	285	P	P	08 57 15.2	+0.5
1.2nm,0.9s,baz=69,slow=6.9,SNR=10							
TXAR				LR	LR	09 24 01.4	
comp=Z,69nm,18.1s,baz=0.0,slow=37							
BVAR	Borovoye Array	64.08	41	P	P	08 57 41.8	+1.8
0.5nm,0.6s,baz=316,slow=4.1,SNR=4.0							
ILAR	Eielson Array	64.26	335	P	P	08 57 40.6	-0.4
0.5nm,0.9s,baz=37,slow=6.1,SNR=4.1							
LPAZ	La Paz	66.98	221	LR	LR	09 26 11.6	
comp=Z,43nm,18.3s,baz=42,slow=35							
KURBB	Kurchatov Arra	69.57	40	P	P	08 58 14.9	-0.1
baz=312,slow=5.8							
MKAR	Makanchi Array	73.96	42	P	P	08 58 41.7	+0.1
1.4nm,1.0s,baz=306,slow=5.2,SNR=3.9							
BOSA	Boshof	85.48	134	LR	LR	09 36 38.0	
comp=Z,46nm,18.6s,baz=324,slow=35							

*SOME **10** 08:55:39.4, 40.′58N×73.′80E, h15km*

*NNC **10** 08:55:40.3±9.6, 40.′51N×73.′50E, h0km, mb2.5, mpv2.2, Error ellipse: s-maj=85.8km s-min=49.0km az=153.0*

ISC 10 08:55:41.5±3.1, 40.′5N±0.′2×73.′77E±0.′07, h10km, n6, σ1§86/11, 4C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	2.22	14	⇑Pn	Pb	08 56 21.5	-0.3
1.3nm,0.7s							
AAK				⇓Sn	Sb	08 56 47.7	-1.6
2.3nm,0.4s							
MRKS	Merke	2.29	350	*e*P	Pn	08 56 21.4	+1.9
1.7nm,0.2s							
MRKS				*e*S	Sb	08 56 50.6	-0.9
5.7nm,0.3s							
TKM2	Tokmak 2	2.79	29	⇑Pn	Pn	08 56 27.9	+1.5
0.6nm,0.6s							
TKM2				⇑Sn	Sn	08 57 02.8	+2.6
1.8nm,0.5s							
KST	Kastek	3.04	32	*e*P	Pb	08 56 33.9	-1.8
1.1nm,0.2s							
KST				*e*S	Sb	08 57 11.8	-1.1
2.3nm,0.5s							
KK31	Karatay Array	3.57	318	⇓Pg	Pb	08 56 43.0	-1.8
0.2nm,0.3s,baz=141,slow=16,SNR=2.6							
KK31				⇑Lg	Lg	08 57 32.9	
1.4nm,0.6s,baz=147,slow=31,SNR=4.5							
MDOK	Medeo	3.63	41	*e*P	Pb	08 56 44.0	-1.8
1.5nm,0.3s							
MDOK				*e*S	Sb	08 57 28.9	-1.0
7.8nm,0.3s							

*IDC **10** 08:59:29.5±0.6, 27.′24N×103.′62E, h0km, mb4.2/26, mb1 4.3/27, mb1mx4.1/61, mbtmp4.2/27, ML4.1/1, MS3.4/6, Ms1 3.5/6, ms1mx3.1/43, Error ellipse: s-maj=18.9km s-min=12.4km az=43.0*

*BJI **10** 08:59:30.0±0.0, 27.′11N×103.′36E, h17km, mB4.6/12, mb4.4/20, ML4.4/17, Ms4.3/26, Ms7 4.0/13*

*NEIC **10** 08:59:31.6±2.5, 27.′16N±0.′05×103.′55E±0.′09, h10km±1km, mb4.7/25, Error ellipse: s-maj=16.2km s-min=2.9km az=122.0*

ISC 10 08:59:31.4±0.4, 27.′15N±0.′03×103.′57E±0.′04, h10km, n81, σ1§57/88, mb4.4/35, MS3.5/5, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.15	201	⇑*i*Pn	Pn	09 00 08.2	+0.7
KMI				Sn	Sb	09 00 36.2	-1.2
KMI				Sg	Sg	09 00 40.1	-0.5
KMI				smax	smax		
comp=N,900nm,0.9s							
KMI				smax	smax		
comp=E,850nm,0.7s							
KMI	Kunming	2.15	201		Pn	09 00 07.5	0.0
GYA	Guiyang	2.85	103	⇓Pn	Pb	09 00 21.2	-1.2
GYA				Sn	Sg	09 01 02.8	-0.1
GYA				smax	smax		
comp=N,850nm,1.3s							
GYA				smax	smax		
comp=E,500nm,1.3s							
GYA				LR	LR		
comp=N,2μm,4.0s							
GYA				LR	LR		
comp=E,2μm,3.8s							
GYA				LR	LR		
comp=Z,740nm,4.0s							
CD2	Chengdu	3.75	2	Pn	Pn	09 00 31.2	+1.9
CD2				Pg	Pg	09 00 41.3	-1.9
CD2				Sn	Sn	09 01 16.8	+3.2
CD2				Sg	Sg	09 01 34.9	+3.1
CD2				smax	smax		
comp=N,1μm,0.7s							
CD2				smax	smax		
comp=E,3μm,1.2s							
SLVN	Son La	5.80	177	Pn	Pn	09 00 58.9	+1.3
ENH	Enshi	6.05	58	Pn	Pn	09 01 04.7	+3.7
XAN	Xi'an	8.27	33	P	Pn	09 01 32.4	+1.0
XAN				S	Sn	09 03 03.6	-1.3
XAN				smax	smax		
comp=N,600nm,1.3s							
XAN				smax	smax		
comp=E,490nm,1.3s							
XAN				LR	LR		
comp=N,970nm,6.4s							
XAN				LR	LR		
comp=E,1μm,6.4s							
XAN				LR	LR		
comp=Z,1μm,6.7s							
XAN	Xi'an	8.27	33	Pn	Pn	09 01 32.7	+1.3
LZH	Lanzhou	8.91	1	*e*P	Pn	09 01 39.1	-1.2
LZH				pmax	pmax		
comp=Z,12nm,1.1s							
LZH				LR	LR		
comp=N,630nm,8.1s							
LZH				LR	LR		
comp=E,2μm,7.6s							
LZH				LR	LR		
comp=Z,520nm,9.5s							
CHTO	Chiang Mai	9.33	208	Pn	Pn	09 01 49.4	+3.4
CMAR	Chiang Mai Arr	9.65	207	Pn	Pn	09 01 53.0	+2.7
0.4nm,0.3s,baz=10,slow=12,SNR=9.6							
CMAR				Lg	Lg	09 04 50.0	
0.9nm,0.3s,baz=33,slow=20,SNR=2.5							
CMAR				LR	LR	09 06 01.3	
comp=Z,221nm,19.9s,baz=48,slow=40							
GZH	Guangzhou	9.73	112	P	Pn	09 01 54.1	+2.6
QIZ	Qiongzhong	9.93	143	P	Pn	09 01 52.9	-1.3
QIZ				S	Sn	09 03 45.6	-0.2
QIZ				pmax	pmax		
comp=Z,7.0nm,1.4s							
QIZ				LR	LR		
comp=N,800nm,9.3s							
QIZ				LR	LR		
comp=E,800nm,8.6s							
QIZ				LR	LR		
comp=Z,1μm,8.2

comp=N,170nm,4.7s
BJI LR LR
comp=E,160nm,4.8s
SONM Songino Array 20.77 5 P **P** **09 04 12.8 +0.3**
2.3nm,0.7s,baz=183,slow=14,SNR=5.4
SONM LR LR 09 13 14.4
comp=Z,70nm,20.2s,baz=212,slow=40
WMQ Urumqi 21.00 326 *eP* **P** **09 04 15.2 +0.1**
IPM Ipoh 22.68 187 P **P** **09 04 34.6 +1.5**
IPM IAmb IAmb 09 04 37.2
comp=Z,11nm,0.8s
KSAR Wonju Array Be 22.91 57 P **P** **09 04 35.9 +0.5**
KS19 Wonju Array Si 22.92 57 P **P** **09 04 36.1 +0.6**
KSRS Korea Array 22.94 57 P **P** **09 04 34.5 -1.2**
comp=Z,3.0nm,0.6s,baz=243,slow=10.0,SNR=14
KKM Kota Kinabalu 24.20 148 P **P** **09 04 49.5 +1.2**
JNU Nakatsue 24.32 69 P **P** **09 04 49.9 +0.6**
comp=Z,7.9nm,0.9s,baz=227,slow=18,SNR=3.9
JNU Nakatsue 24.32 69 P **P** **09 04 49.7 +0.5**
JNU IAmb IAmb 09 04 51.9
comp=Z,32nm,1.5s
MK31 Makanchi Array 25.81 325 P **P** **09 05 03.6 +1.0**
MKAR Makanchi Array 25.81 325 P **P** **09 05 01.6 -1.1**
comp=Z,1.8nm,0.5s,baz=126,slow=12,SNR=14
MKAR Makanchi Array 25.81 325 P **P** **09 05 03.5 +0.9**
SBUM Sibu 25.92 160 P **P** **09 05 04.5 +0.7**
JHS Saijyo 26.42 65 P **P** **09 05 10.0 +1.7**
JHS IAmb IAmb 09 05 15.2
comp=Z,11nm,0.7s
NIL Nilore 26.88 291 P **P** **09 05 14.6 +2.1**
NIL IAmb IAmb 09 05 19.5
comp=Z,9.2nm,0.6s
USRK Ussuriysk Ar. 28.48 46 P **P** **09 05 26.0 -0.6**
comp=Z,2.7nm,0.7s,baz=249,slow=9.5,SNR=7.8
USRK LR LR 09 16 36.2
comp=Z,82nm,21.0s,baz=222,slow=36
USRK Ussuriysk Ar. 28.48 46 P **P** **09 05 26.8 +0.2**
ZALV Zalesovo Beam 30.13 338 P **P** **09 05 41.8 +0.6**
comp=Z,1.3nm,0.4s,baz=135,slow=9.3,SNR=5.0
KURBB Kurchatov Arra 30.22 328 P **P** **09 05 41.9 -0.1**
comp=Z,2.0nm,0.8s,baz=134,slow=9.9,SNR=16
KURK Kurchatov 30.23 328 P **P** **09 05 43.0 +0.9**
BVAR Borovoye Array 35.69 325 P **P** **09 06 30.0 +0.2**
comp=Z,0.8nm,0.6s,baz=125,slow=13,SNR=4.2
GEYT Alibeck 39.46 298 P **P** **09 07 03.2 +1.3**
comp=Z,4.4nm,0.8s,baz=140,slow=7.7,SNR=5.3
GEYT LR LR 09 26 05.5
comp=Z,65nm,20.4s,baz=185,slow=40
GEYT Alibeck 39.46 298 P **P** **09 07 04.5 +2.6**
ABKAR Abkulak array 40.05 315 P **P** **09 07 06.0 -0.7**
AKTO Aktyubinsk 41.59 317 P **P** **09 07 18.6 -0.7**
comp=Z,1.8nm,0.7s,baz=86,slow=9.7,SNR=3.9
ARU Arti 43.33 325 P **P** **09 07 34.3 +0.9**
comp=Z,1.0nm,0.3s,baz=170,slow=7.4,SNR=6.3
ARU Arti 43.33 325 P **P** **09 07 33.8 +0.4**
ARU IAmb IAmb 09 07 35.9
comp=Z,5.6nm,0.8s
PETK Petropavlovsk- 47.40 42 LR LR 09 30 42.4
comp=Z,50nm,18.4s,baz=197,slow=40
WB0 Warramunga Arr 55.38 144 P **P** **09 09 05.7 -0.3**
WB0 IAmb IAmb 09 09 10.5
comp=Z,10nm,1.1s
WRA Warramunga Arr 55.50 144 P **P** **09 09 06.6 -0.2**
comp=Z,6.6nm,0.5s,baz=334,slow=8.4,SNR=168
WRA Warramunga Arr 55.50 144 IAmb IAmb 09 09 07.7
comp=Z,0.8nm,1.4s
WB2 Warramunga Arr 55.51 144 P **P** **09 09 05.5 -1.3**
WR0 Warramunga Arr 55.62 144 P **P** **09 09 06.5 -1.1**
ASF Jabal al Asfar 57.34 292 P **P** **09 09 20.2 +0.3**
comp=Z,1.7nm,0.7s,baz=105,slow=5.2,SNR=3.7
BRTR Keskin Array B 58.35 302 P **P** **09 09 27.4 +0.4**
comp=Z,1.5nm,0.6s,baz=133,slow=6.9,SNR=4.5
ASAR Alice Springs 58.40 147 P **P** **09 09 27.4 +0.1**
comp=Z,2.5nm,0.6s,baz=329,slow=6.5,SNR=49
AKASG Malin Array Be 59.79 315 P **P** **09 09 34.9 -1.7**
comp=Z,1.1nm,0.5s,baz=70,slow=6.7,SNR=3.4
FINES FINESS Array B 60.61 327 P **P** **09 09 40.6 -1.4**
comp=Z,2.0nm,0.6s,baz=109,slow=6.0,SNR=5.6
ARCES ARCESS Array B 60.68 337 LR LR 09 36 01.0
comp=Z,42nm,20.5s,baz=322,slow=36
ELL Elmali 61.85 299 P **P** **09 09 50.3 -0.8**
CTA Charters Tower 62.57 134 P **P** **09 09 55.6 -0.2**
comp=Z,2.0nm,0.7s,baz=332,slow=6.7,SNR=5.4
MLR Muntele Rosu 62.81 309 P **P** **09 09 57.0 -0.4**
comp=Z,3.3nm,0.8s,baz=120,slow=4.0,SNR=3.5
MLR Muntele Rosu 62.81 309 IAmb IAmb 09 10 05.4
comp=Z,4.9nm,0.7s
BURAR Bucovina Array 62.88 312 P **P** **09 09 56.4 -1.3**
SPITS Spitsbergen Ar 63.06 347 P **P** **09 09 57.1 -1.2**
comp=Z,0.8nm,0.3s,baz=172,slow=2.9,SNR=8.3
IDI Anoyia 66.17 299 P **P** **09 10 16.0 -3.4**
comp=Z,4.4nm,0.7s,baz=51,slow=11,SNR=2.2
HFS Hagfors 66.80 327 P **P** **09 10 20.4 -2.5**
comp=Z,2.5nm,0.6s,baz=120,slow=8.8,SNR=4.3
NB2 NORSAR Subarra 67.75 328 P **P** **09 10 26.5 -2.5**
comp=Z,1.4nm,0.6s,baz=72,slow=6.5
NOA NORSAR Array B 67.75 328 P **P** **09 10 26.8 -2.2**
comp=Z,1.4nm,0.6s,baz=74,slow=6.2,SNR=9.4
VRAC Vranov 68.04 315 P **P** **09 10 31.3 +0.3**
comp=Z,2.2nm,0.4s,baz=99,slow=13,SNR=1.9
GERES GERESS Array B 70.00 315 P **P** **09 10 41.5 -1.7**
comp=Z,0.7nm,0.5s,baz=75,slow=7.1,SNR=6.1
IMAR Indian Mountai 70.48 25 P **P** **09 10 45.1 -0.7**
BPAW Bear Paw Mtn. 72.33 26 P **P** **09 10 56.4 -0.6**
BPAW IAmb IAmb 09 11 01.1
comp=Z,5.6nm,0.6s
PPLA Purkeypile 72.36 28 P **P** **09 10 57.8 +0.4**
PPLA IAmb IAmb 09 10 58.1
comp=Z,8.1nm,0.8s
MDM Murphy Dome 73.00 25 P **P** **09 11 01.2 +0.2**
MDM IAmb IAmb 09 11 04.8
comp=Z,6.3nm,0.8s
SKT Skwentna 73.03 28 P **P** **09 11 00.8 -0.4**
SKT IAmb IAmb 09 11 10.2
comp=Z,5.7nm,1.1s
BMAR Burnt Mountain 73.10 22 P **P** **09 11 01.8 +0.2**
DAVOX Davos/Dischmat 73.12 314 P **P** **09 11 01.1 -1.2**
comp=Z,3.6nm,0.5s,baz=108,slow=6.0,SNR=5.2
ILAR Eielson Array 73.60 25 P **P** **09 11 02.8 -1.7**
comp=Z,0.5nm,0.5s,baz=281,slow=3.9,SNR=9.4
RIDG Independent Ri 74.89 25 P **P** **09 11 11.0 -1.1**
RIDG IAmb IAmb 09 11 13.7
comp=Z,7.1nm,1.1s
BCAR Beaver Creek A 76.41 25 P **P** **09 11 21.0 +0.1**

*SJA **10** 09:06:20.3±0.5,37°.70S×76°.22W,h8km±948km,ML4.2, MW4.2*
*IDC **10** 09:06:27.2±0.7,38°.01S×75°.34W,h0km,mb4.2/11, mb1 4.4/14,mb1mx4.3/22,mbtmp4.2/14,ML4.0/3,MS3.3/5, Ms1 3.3/5,ms1mx3.0/21,Error ellipse: s-maj=23.8km s-min=15.5km az=86.0*
*GUC **10** 09:06:30.0±0.4,37°.85S×75°.14W,h16km±4km,ML4.1*
*NEIC **10** 09:06:30.1±2.4,37°.92S±0°.04×75°.1W±0°.1,h16km±4km, Error ellipse: s-maj=14.3km s-min=1.9km az=110.0*
ISC 10 09:06:28.9±0.5,37°.91S±0°.04×75°.16W±0°.06,h10km,n139, σ1$25/148,**mb4.6**/33,**MS3.1**/3,**5C-3D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**1.12**	**117**	*i* P	**Pb**	**09 06 49.5**	**-0.9**
BI04				*i* S	**Sg**	**09 07 03.8**	**-1.2**
BI04				IAML		09 07 04.9	
comp=N,6μm,0.2s							
BI03	**Tigo**	**2.01**	**59**	*e*P	**Pn**	**09 07 02.4**	**-0.4**
BI03				*e*S	**Sn**	**09 07 27.0**	**-0.9**
BI03				IAML		09 07 31.7	
comp=N,4μm,0.5s							
BI03	**Tigo**	**2.01**	**59**		**Pn**	**09 07 02.4**	**-0.4**
LAJA	**Laja**	**2.04**	**73**	*e*P	**Pn**	**09 07 02.9**	**-0.4**
LAJA				*e*S	**Sn**	**09 07 28.2**	**-0.6**
LC01	**Cunco**	**2.76**	**112**	⇑*i*P	**Pn**	**09 07 13.4**	**+0.2**
LC01				*i* S	**Sn**	**09 07 44.8**	**-1.8**
LC01				IAML		09 07 49.0	
comp=E,546nm,0.4s							
BI02	**San Fabin de**	**3.34**	**69**	⇑*e*P	**Pn**	**09 07 21.6**	**+0.4**
BI02				*i* S	**Sn**	**09 08 01.2**	**+0.2**
BI02				IAML		09 08 07.0	
comp=N,351nm,0.2s							
BI02	**San Fabin de**	**3.34**	**69**	Pn	**Pn**	**09 07 21.8**	**+0.5**
BI02				Sn	**Sn**	**09 08 02.4**	**+1.5**
GO05	**Huala**	**3.89**	**43**	⇓*i*P	**Pn**	**09 07 28.7**	**0.0**
GO05				*i* S	**Sn**	**09 08 13.6**	**-1.0**
GO05	**Huala**	**3.89**	**43**		**Pn**	**09 07 28.6**	**-0.1**
PLCA	**Paso Flores**	**4.55**	**130**	Pn	**Pn**	**09 07 38.2**	**+0.3**
comp=N,1.9nm,0.3s,baz=304,slow=10,SNR=20							
PLCA				Sn	**Sn**	**09 08 34.5**	**+3.6**
comp=N,9.4nm,0.3s,baz=8.0,slow=22,SNR=6.0							
PLCA				LR	LR	09 09 23.8	
comp=N,250nm,20.5s,baz=358,slow=38							
PLCA	**Paso Flores**	**4.55**	**130**		**Pn**	**09 07 38.4**	**+0.6**
PLCA				Sn	**Sn**	**09 08 32.6**	**+1.7**
BO02	**Sierra Bellavi**	**4.71**	**50**	*e*P	**Pn**	**09 07 40.2**	**+0.2**
BO02	**Sierra Bellavi**	**4.71**	**50**	Pn	**Pn**	**09 07 39.7**	**-0.3**
LL01	**San Ignacio de**	**4.94**	**156**		**Pn**	**09 07 41.3**	**-1.7**
H03S1	**Juan Fernandez**	**5.07**	**322**	T	T	09 13 26.0	
baz=147,slow=72,SNR=43							
H03S2	**Juan Fernandez**	**5.08**	**322**	T	T	09 13 24.5	
baz=147,slow=72,SNR=32							
H03S3	**Juan Fernandez**	**5.09**	**322**	T	T	09 13 31.4	
baz=147,slow=72,SNR=37							
COIS	**El Sosneado**	**5.28**	**60**	*i* P	**Pn**	**09 07 50.5**	**+2.6**
COIS				*e*S	**Sb**	**09 09 02.5**	**-2.3**
RCDM	**Rinconada Maip**	**5.66**	**40**	*e*P	**Pn**	**09 07 53.8**	**+0.8**
MT02	**Curacav**	**5.68**	**36**	⇓*i*P	**Pn**	**09 07 52.9**	**-0.4**
MT02				*i* S	**Sn**	**09 08 55.6**	**-3.0**
MT02	**Curacav**	**5.68**	**36**		**Pn**	**09 07 53.2**	**-0.2**
LMEL	**Las Melosas**	**5.71**	**46**	*e*P	**Pn**	**09 07 54.6**	**+0.7**
MT05	**Renca**	**5.77**	**40**	⇑*i*P	**Pn**	**09 07 54.5**	**-0.1**
MT05				*i* S	**Sn**	**09 08 59.7**	**-1.1**
MT05	**Renca**	**5.77**	**40**		**Pn**	**09 07 54.8**	**+0.2**
MT03	**Universidad Ad**	**5.81**	**42**	*e*P	**Pn**	**09 07 55.4**	**+0.2**
MT03				*i* S	**Sn**	**09 09 01.8**	**-0.1**
CLCH	**Cerro Calan**	**5.87**	**41**	*e*P	**Pn**	**09 07 55.9**	**0.0**
ROC1	**El Roble**	**5.97**	**36**		**Pn**	**09 07 58.0**	**+0.5**
ROC1	**El Roble**	**5.97**	**36**	*i* P	**Pn**	**09 07 57.9**	**+0.3**
ROC1				*e*S	**Sn**	**09 09 07.6**	**+1.5**
PEL	**Peldehue**	**5.99**	**39**	⇑*i*P	**Pn**	**09 07 57.5**	**-0.2**
PEL				*i* S	**Sn**	**09 09 06.2**	**-0.2**
PEL	**Peldehue**	**5.99**	**39**	Pn	**Pn**	**09 07 58.0**	**+0.4**
PEL	**Peldehue**	**5.99**	**39**	*i* P	**Pn**	**09 07 58.2**	**+0.5**
VA03	**San Esteban**	**6.37**	**38**		**Pn**	**09 08 03.1**	**+0.3**
AAGR	**Agrelo**	**7.06**	**49**	*i* P	**Pn**	**09 08 14.2**	**+1.9**
ARCO	**CERRO ARCO**	**7.17**	**47**	*i* P	**Pn**	**09 08 16.5**	**+2.5**
AUSP	**Uspallata**	**7.39**	**42**	*i* P	**Pn**	**09 08 18.6**	**+1.6**
AUSP				*e*S	**Sn**	**09 09 45.7**	**+4.7**
ASAL	**Salagasta**	**7.41**	**46**	*i* P	**Pn**	**09 08 18.9**	**+1.7**
CO02	**Combarbal**	**7.52**	**28**		**Pn**	**09 08 18.2**	**-0.5**
RTLS	**Leoncito**	**7.77**	**40**	*i* P	**Pn**	**09 08 24.2**	**+1.9**
CO03	**El Pedregal**	**7.96**	**29**		**Pn**	**09 08 24.6**	**-0.2**
ZON	**Zonda**	**8.29**	**42**	Pn	**Pn**	**09 08 29.8**	**+0.5**
ZON	**Zonda**	**8.29**	**42**	*i* P	**Pn**	**09 08 30.1**	**+0.9**
GO04	**Tololo Observa**	**8.52**	**26**	Pn	**Pn**	**09 08 31.4**	**-1.2**
RTLL	**Cerro Villicun**	**8.57**	**42**	*i* P	**Pn**	**09 08 33.6**	**+0.6**
RTLL				*e*S	**Sn**	**09 10 09.1**	**-0.6**
ACCO	**Cerro Coronel**	**8.87**	**36**	*i* P	**Pn**	**09 08 38.0**	**+0.5**
CO01	**Juntas del Tor**	**8.96**	**29**		**Pn**	**09 08 38.7**	**+0.2**
AROD	**Rodeo**	**9.05**	**33**	*i* P	**Pn**	**09 08 42.0**	**+2.1**
AROD				*e*S	**Sn**	**09 10 25.0**	**+3.1**
MRA	**San Martin**	**9.47**	**57**	*i* P	**Pn**	**09 08 47.2**	**+1.7**
LCO	**Las Campanas**	**9.62**	**24**	Pn	**Pn**	**09 08 46.9**	**-0.8**
AC05	**El Transito**	**9.93**	**26**	Pn	**Pn**	**09 08 51.4**	**-0.3**
AGUA	**GUANDACOL**	**10.07**	**35**	*i* P	**Pn**	**09 08 53.8**	**+0.2**
PB15	**IPOC Station P**	**15.45**	**20**		**Pn**	**09 10 06.3**	**-0.7**
PB15				IAmb	IAmb	09 10 16.9	
comp=Z,40nm,1.2s							
LVC	**Limon Verde**	**16.17**	**21**	Pn	**Pn**	**09 10 18.0**	**+1.5**
comp=Z,0.3nm,0.3s,baz=219,slow=14,SNR=2.7							
LVC	**Limon Verde**	**16.17**	**21**	IAmb	IAmb	09 10 23.5	
comp=Z,14nm,1.2s							
PB09	**IPOC Station P**	**16.85**	**19**	P	**Pn**	**09 10 26.2**	**+1.2**
PB09				IAmb	IAmb	09 10 29.9	
comp=Z,50nm,1.4s							
CPUP	**Villa Florida**	**18.97**	**58**	P	**Pn**	**09 10 53.4**	**+2.4**
comp=Z,0.2nm,0.3s,baz=216,slow=7.9,SNR=5.6							
CPUP				LR	LR	09 18 44.0	
comp=Z,129nm,19.0s,baz=216,slow=38							
CPUP	**Villa Florida**	**18.97**	**58**	P	**Pn**	**09 10 51.3**	**+0.2**
MNMC	**Minye Minye**	**19.33**	**16**	P	**P**	**09 10 54.4**	**-0.2**
LPAZ	**La Paz**	**22.41**	**18**	P	**P**	**09 11 30.4**	**+2.1**
comp=Z,7.1nm,1.0s,baz=163,slow=7.1,SNR=12							
LPAZ	**La Paz**	**22.41**	**18**	P	**P**	**09 11 27.7**	**-0.6**
SIV	**San Ignacio**	**25.12**	**33**	P	**P**	**09 11 56.4**	**+2.4**
comp=Z,3.4nm,0.7s,baz=225,slow=9.1,SNR=20							
SIV				LR	LR	09 22 30.6	
comp=Z,57nm,18.4s,baz=94,slow=38							
NNA	**Nana**	**25.86**	**356**	LR	LR	09 20 02.0	
comp=Z,45nm,19.1s,baz=32,slow=31							
BDFB	**Brasilia**	**32.64**	**55**	LR	LR	09 26 30.2	
comp=Z,83nm,18.0s,baz=262,slow=37							
BELA	**Belgrano 2**	**43.52**	**168**	P	**P**	**09 14 33.4**	**+1.3**
VNA3	**Neumayer Olymp**	**46.76**	**156**	P	**P**	**09 14 57.7**	**-0.1**
VNA1	**Neumayer--Stat**	**47.13**	**155**	P	**P**	**09 15 00.2**	**-0.5**
VNA2	**Neumayer--Watz**	**47.45**	**156**	P	**P**	**09 15 03.2**	**0.0**
SNAA	**Sanae**	**48.97**	**156**	P	**P**	**09 15 14.7**	**-0.3**
SNAA	**Sanae**	**48.97**	**156**	P	**P**	**09 15 14.6**	**-0.5**
SNAA				IAmb	IAmb	09 15 15.9	
comp=Z,11nm,1.0s							
QSPA	**South Pole Qui**	**52.33**	**180**	P	**P**	**09 15 40.2**	**-0.4**
comp=Z,9.1nm,1.0s,baz=160,slow=2.3,SNR=23							
QSPA	**South Pole Qui**	**52.33**	**180**	P	**P**	**09 15 40.0**	**-0.6**
QSPA				IAmb	IAmb	09 15 41.0	
comp=Z,10nm,1.0s							
SABA	**Saba**	**56.36**	**14**	P	**P**	**09 16 09.2**	**-1.0**
DR12	**Loma Pena Alta**	**56.66**	**7**	P	**P**	**09 16 11.7**	**-0.6**
VNDA	**Vanda**	**59.77**	**192**	P	**P**	**09 16 33.7**	**+0.3**
comp=Z,2.1nm,1.1s,baz=97,slow=6.2,SNR=5.0							
VNDA	**Vanda**	**59.77**	**192**	P	**P**	**09 16 33.6**	**+0.2**
VNDA				IAmb	IAmb	09 16 35.9	
comp=Z,4.1nm,1.2s							
SYO	**Syowa Base**	**63.16**	**158**	⇑*e*P	P	09 16 42.9	-14
SYO	**Syowa Base**	**63.16**	**158**	⇓*e*P	**P**	**09 16 53.6**	**-2.9**
MAW	**Mawson**	**70.14**	**164**	P	**P**	**09 17 40.3**	**-0.6**
comp=Z,2.6nm,0.7s,baz=204,slow=5.8,SNR=12							
MAW	**Mawson**	**70.14**	**164**	P	**P**	**09 17 40.7**	**-0.2**
TXAR	**Lajitas Array**	**72.02**	**334**	P	**P**	**09 17 53.6**	**+0.7**
comp=Z,1.9nm,0.8s,baz=155,slow=9.0,SNR=21							
TXAR	**Lajitas Array**	**72.02**	**334**		**P**	**09 17 53.3**	**+0.4**
TX31	**Lajitas Ar. Si**	**72.02**	**334**		**P**	**09 17 53.8**	**+0.8**
TX31				IAmb	IAmb	09 17 56.0	
comp=Z,7.9nm,0.9s							
TX32	**Lajitas Array**	**72.02**	**334**	P	**P**	**09 17 53.8**	**+0.8**
X48A	**Hartselle**	**72.84**	**350**	P	**P**	**09 17 58.0**	**+0.5**
X48A				IAmb	IAmb	09 17 58.3	
comp=Z,5.7nm,0.8s							
W50A	**Signal Mountai**	**73.35**	**351**	P	**P**	**09 18 01.2**	**+0.6**
SWET	**Sewanee**	**73.44**	**351**	P	**P**	**09 18 01.7**	**+0.5**
CPCT	**Cooper Cave**	**73.51**	**352**	P	**P**	**09 18 01.8**	**+0.3**
CPCT				IAmb	IAmb	09 18 02.4	
comp=Z,5.6nm,0.7s							
V48A	**Smith Brothers**	**74.07**	**350**	P	**P**	**09 18 05.0**	**+0.1**
V48A				IAmb	IAmb	09 18 05.7	
comp=Z,8.0nm,0.7s							
CLTN	**Cedars of Leba**	**74.36**	**351**	P	**P**	**09 18 07.2**	**+0.7**
CLTN				IAmb	IAmb	09 18 09.1	
comp=Z,6.1nm,1.0s							
X37A	**Clayton**	**74.54**	**343**	P	**P**	**09 18 08.0**	**+0.5**
WVT	**Waverly**	**74.60**	**349**	P	**P**	**09 18 07.5**	**-0.3**
WVT				IAmb	IAmb	09 18 10.2	
comp=Z,11nm,1.2s							
W39A	**Magazine**	**74.76**	**344**	P	**P**	**09 18 10.2**	**+1.3**
LCAR	**Lake Charles**	**75.09**	**347**	P	**P**	**09 18 10.6**	**-0.1**
LCAR				IAmb	IAmb	09 18 12.9	
comp=Z,6.9nm,0.9s							
U38A	**Gravette**	**76.09**	**344**	P	**P**	**09 18 15.8**	**-0.7**
CCM	**Cathedral Cave**	**77.03**	**347**	P	**P**	**09 18 22.0**	**+0.3**
ANMO	**Albuquerque**	**78.09**	**334**	P	**P**	**09 18 29.1**	**+1.1**
ANMO				IAmb	IAmb	09 18 31.6	
comp=Z,5.2nm,1.1s							
LIC	**Lamto**	**78.38**	**73**	*e*P	**P**	**09 18 30.6**	**+0.7**
comp=Z,5.9nm,0.7s							
P40A	**Paris**	**78.61**	**347**	P	**P**	**09 18 30.9**	**+0.4**
P40A				IAmb	IAmb	09 18 31.3	
comp=Z,7.4nm,0.8s							
TIC	**Toumodi**	**78.66**	**72**	*e*P	**P**	**09 18 31.3**	**-0.1**
KIC	**Kosan Boka**	**78.69**	**73**	*e*P	**P**	**09 18 32.4**	**+0.8**
comp=Z,5.9nm,0.6s							
DBIC	**Dimbokro**	**78.80**	**72**	P	**P**	**09 18 32.9**	**+0.7**
comp=Z,1.8nm,0.5s,baz=208,slow=6.9,SNR=4.7							
DBIC	**Dimbokro**	**78.80**	**72**	IAmb	IAmb	09 18 50.0	
comp=Z,16nm,1.4s							
T25A	**Trinidad**	**79.42**	**337**	P	**P**	**09 18 36.8**	**+1.5**
T25A				IAmb	IAmb	09 18 39.1	
comp=Z,4.6nm,1.0s							
X16A	**Lo Mia Camp, P**	**79.46**	**330**	P	**P**	**09 18 36.6**	**+1.0**
X16A				IAmb	IAmb	09 18 39.5	
comp=Z,7.6nm,1.5s							
WUAZ	**Wupatki**	**80.40**	**331**	P	**P**	**09 18 42.8**	**+2.2**
BOSA	**Boshof**	**80.46**	**119**	P	**P**	**09 18 41.3**	**0.0**
comp=Z,3.5nm,0.8s,baz=294,slow=4.0,SNR=4.0							
BOSA	**Boshof**	**80.46**	**119**	IAmb	IAmb	09 18 48.0	
comp=Z,17nm,1.4s							
S22A	**4UR Ranch, Cre**	**80.75**	**335**	P	**P**	**09 18 43.9**	**+1.3**
MVCO	**Mesa Verde**	**80.84**	**334**	P	**P**	**09 18 44.1**	**+1.1**
U15A	**North Rim**	**81.56**	**331**	P	**P**	**09 18 48.5**	**+1.7**
U15A				IAmb	IAmb	09 18 50.4	
comp=Z,4.6nm,1.1s							
KNB	**Kanab**	**82.28**	**330**	P	**P**	**09 18 51.9**	**+1.4**
MTPU	**Mount Pierson**	**82.93**	**331**	P	**P**	**09 18 56.4**	**+2.3**
CCUT	**Cedar City**	**82.95**	**330**	P	**P**	**09 18 56.0**	**+2.0**
Q16A	**Castle Valley**	**83.32**	**332**	P	**P**	**09 18 57.3**	**+1.4**
MVU	**Marysvale**	**83.34**	**332**	P	**P**	**09 18 58.6**	**+2.5**
ISA	**Isabella, Lake**	**83.48**	**326**	P	**P**	**09 18 58.4**	**+1.7**
ISA				IAmb	IAmb	09 18 59.0	
comp=Z,3.4nm,0.8s							
PRN	**Pahroc Range**	**83.50**	**329**	P	**P**	**09 18 58.9**	**+2.1**
PRN				IAmb	IAmb	09 19 01.2	
comp=Z,3.1nm,0.9s							
ECSD	**EROS Data Cent**	**83.56**	**345**	P	**P**	**09 18 57.2**	**+0.4**
TRQ	**Mont Tremblant**	**83.75**	**0**	P	**P**	**09 18 56.6**	**-1.1**
R11A	**Troy Canyon, C**	**84.53**	**329**	P	**P**	**09 19 00.9**	**-1.2**
NLU	**North Lily Min**	**84.56**	**332**	P	**P**	**09 19 01.8**	**-0.5**
DUG	**Dugway, Tooele**	**85.05**	**332**	P	**P**	**09 19 03.9**	**-0.7**
DUG				IAmb	IAmb	09 19 09.0	
comp=Z,8.9nm,1.3s							
NVAR	**Mina Array Bea**	**85.72**	**327**	P	**P**	**09 19 07.9**	**-0.2**
comp=Z,0.6nm,0.6s,baz=152,slow=7.6,SNR=6.5							
BGU	**Big Grassy Mou**	**85.76**	**332**	P	**P**	**09 19 06.9**	**-1.3**
HWUT	**Hardware Ranch**	**85.83**	**333**	P	**P**	**09 19 07.5**	**-1.0**
KVN	**Kaiserville**	**86.16**	**328**	P	**P**	**09 19 08.0**	**-2.2**
PDAR	**Pinedale Array**	**86.18**	**335**	P	**P**	**09 19 09.8**	**-0.5**
comp=Z,1.6nm,0.9s,baz=134,slow=6.4,SNR=10.0							
PDAR	**Pinedale Array**	**86.18**	**335**	P	**P**	**09 19 09.5**	**-0.8**
ELK	**Elko**	**86.44**	**331**	P	**P**	**09 19 13.1**	**+1.4**
RUBR	**Rubicon Trail**	**87.04**	**327**	P	**P**	**09 19 13.3**	**-1.3**
TPAW	**Teton Pass**	**87.29**	**335**	P	**P**	**09 19 15.6**	**-0.1**
TPAW				IAmb	IAmb	09 19 16.1	
comp=Z,3.6nm,0.9s							
IMW	**Indian Meadow**	**87.64**	**335**	P	**P**	**09 19 17.7**	**+0.2**
IMW				IAmb	IAmb	09 19 20.5	
comp=Z,4.2nm,1.1s							
FLWY	**Flagg Ranch**	**87.73**	**335**	P	**P**	**09 19 18.8**	**+1.0**
FLWY				IAmb	IAmb	09 19 19.4	
comp=Z,4.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**87.88**	**72**	P	**P**	**09 19 18.1**	**-0.8**
comp=Z,1.0nm,0.7s,baz=244,slow=4.1,SNR=5.3							
TORD	**Torodi Ar. Bea**	**87.88**	**72**	P	**P**	**09 19 18.6**	**-0.4**
YHH	**Holmes Hill**	**88.40**	**335**	P	**P**	**09 19 22.3**	**+1.2**
HLID	**Hailey**	**88.56**	**333**	P	**P**	**09 19 23.0**	**+1.3**
HLID				IAmb	IAmb	09 19 28.2	
comp=Z,3.7nm,1.2s							
AKTO	**Aktyubinsk**	**144.74**	**54**	PKP	PKPbc	09 26 04.5	+0.2
comp=Z,1.7nm,0.7s,baz=237,slow=1.5,SNR=6.8							
YAK	**Yakutsk**	**151.40**	**336**	PKPbc	**PKPbc**	**09 26 21.2**	**-0.7**
comp=Z,9.6nm,0.4s,baz=108,slow=0.9,SNR=1.2							
BVAR	**Borovoye Array**	**151.84**	**46**	PKPbc	**PKiKP**	**09 26 23.6**	**0.0**
comp=Z,1.7nm,0.5s,baz=303,slow=3.0,SNR=7.3							
BVAR				PKPab	**PKPab**	**09 26 31.2**	**-1.2**
comp=Z,1.3nm,0.5s,baz=256,slow=1.2,SNR=4.5							

WEL 10 09:11:35.1,40°.5±4°×17°.5E±°,h12km,M3.0/31,ML3.3/31, MLv3.0/31,Error ellipse: s-maj=0.0km s-min=0.0km az=0.6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.32**	**95**	P	Pb	09 11 42.5	-0.2
OHWZ				S	Sb	09 11 48.1	+0.4
WAZ	**Wanganui**	**0.43**	**8**	P	Pb	09 11 44.6	0.0
WAZ				S	Sb	09 11 51.6	+0.6
OGWZ	**Otaki Gorge**	**0.67**	**162**	P	Pg	09 11 48.0	-0.1
OGWZ				S	Sg	09 11 56.7	-0.2
KIW	**Kapiti Island**	**0.68**	**180**	P	Pg	09 11 47.8	-0.6
KIW				S	Sg	09 11 56.8	-0.6
POWZ	**Post Office Ro**	**0.69**	**108**	P	Pg	09 11 48.8	+0.2
MRZ	**Mangatainoka R**	**0.70**	**133**	P	Pg	09 11 48.9	+0.1
MRZ				S	Sb	09 11 58.5	-0.5
LREZ	**Lake Rotokare**	**0.82**	**332**	P	Pb	09 11 51.7	+0.5
LREZ				S	Sn	09 12 04.1	-0.3
TSZ	**Takapari Road**

HATZ	Hinemaiaia	1.58	36	P	Pn	09 12 02.1	-0.8
BKZ	Black Stump Fm	1.59	51	P	Pn	09 12 02.9	-0.2
WATZ	Wairara	1.60	24	P	Pn	09 12 02.7	-0.6
CMWZ	Cape Campbell	1.65	198	P	Pb	09 12 05.5	0.0
HIZ	Hauiti	1.67	359	P	Pn	09 12 03.3	-0.8
BSWZ	Blackbirch Sta	1.72	207	P	Pn	09 12 04.6	-0.2
MRHZ	Matea Rd	1.78	42	P	Pn	09 12 06.0	+0.2
NMHZ	Naumai	1.82	54	P	Pb	09 12 07.7	-0.7
KUTZ	Kaahu Road	1.83	23	P	Pb	09 12 08.3	-0.3
ARHZ	Aropaoanui	1.85	61	P	Pb	09 12 09.4	+0.4
TLZ	Tolley Road	1.91	15	P	Pn	09 12 05.8	-1.7
QRZ	Quartz Range	1.92	250	P	Pn	09 12 06.7	-1.0
ALRZ	Allen Road	1.96	35	P	Pn	09 12 07.7	-0.5
MTHZ	Maungataniwha	2.00	49	P	Pn	09 12 08.6	-0.2
PBRZ	Plateau Road	2.04	35	P	Pn	09 12 06.8	-0.4
HRRZ	Handcock Road	2.08	31	P	Pn	09 12 10.2	+0.3
RAHZ	Arahi	2.11	54	P	Pb	09 12 13.3	0.0
THZ	Tophouse	2.19	223	P	Pn	09 12 11.0	-0.3
RRRZ	Republican Roa	2.22	35	P	Pn	09 12 11.3	-0.5
MUGZ	Murupara	2.23	41	P	Pn	09 12 11.3	-0.6
RTZ	Ruatahuna	2.24	46	P	Pn	09 12 11.5	-0.6
TARZ	Mount Tarawera	2.31	33	P	Pn	09 12 14.8	+1.8
SNGZ	Shannon Statio	2.35	54	P	Pb	09 12 17.5	+0.1
KHZ	Kahutara	2.46	204	P	Pn	09 12 14.2	-0.8
TOZ	Tahuroa Road	2.49	11	P	Pn	09 12 13.9	-1.5
URZ	Urewera	2.57	42	P	Pn	09 12 15.6	-0.9
OPRZ	Ohinepanea	2.66	29	P	Pn	09 12 18.9	+1.1
TGRZ	Tauranga	2.67	24	P	Pn	09 12 19.8	+1.9
MWZ	Matawai	2.75	49	P	Pn	09 12 18.3	-0.8
DSZ	Denniston Nort	2.82	235	P	Pn	09 12 19.7	-0.3
RUGZ	Raukumara Rang	3.09	45	P	Pn	09 12 23.2	-0.6
GVZ	Greta Valley S	3.12	206	P	Pn	09 12 22.5	-1.6
LTZ	Lake Taylor	3.27	216	P	Pn	09 12 24.9	-1.2
HAZ	Te Kaha	3.30	44	P	Pn	09 12 26.3	-0.2
INZ	Inchbonnie	3.64	225	P	Pn	09 12 30.2	-1.0
OKCZ	Okains Bay	3.80	201	P	Pn	09 12 30.8	-2.7
AKCZ	Akaroa Harbour	3.98	201	P	Pn	09 12 33.6	-2.3
WVZ	Waitaha Valley	4.26	226	P	Pn	09 12 40.0	+0.3

*VAO **10** 09:23:25.6±0.5,21°.24S×68°.91W,h127km±5km,mb4.4*
*SJA **10** 09:23:26.9±0.6,21°.40S×68°.78W,h129km±3km,ML4.3, MW4.1*
*NEIC **10** 09:23:27.8±2.1,21°.41S±0°.04×68°.77W±0°.08,h122km±5km, Error ellipse: s-maj=10.6km s-min=5.7km az=87.0*
*IDC **10** 09:23:28.1±0.7,21°.41S×68°.45W,h13km±7km,mb3.7/7, mb1 3.9/10,mb1mx3.7/23,mbtmp4.1/10,Error ellipse: s-maj=20.2km s-min=10.5km az=103.0*
*GUC **10** 09:23:28.2±0.7,21°.41S×68°.68W,h120km±3km,ML4.4*

ISC 10 09:23:27.2±0.5,21°.41S±0°.03×68°.75W±0°.04,h123km±5km, n142,σ1§32/186,mb4.2/10,11C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.60	230	⇑iP	Pn	09 23 47.3	+0.9
PB09				eS	Sn	09 24 01.6	+0.8
PB09				IAML		09 24 02.7	
	comp=N,6μm,0.3s						
PB09	IPOC Station P	0.60	230		Pn	09 23 47.2	+0.9
PB09					Sn	09 24 01.7	+0.9
PB09	IPOC Station P	0.60	230	eP	Pn	09 23 47.2	+0.9
PB09				eS	Sn	09 24 02.1	+1.3
PB09				IAML		09 24 04.7	
	comp=Z,5μm,0.2s						
PB01	IPOC Station P	0.78	298	⇓iP	Pn	09 23 48.2	+0.6
PB01				iS	Sn	09 24 03.3	+0.3
PB01				IAML		09 24 05.0	
	comp=E,38μm,0.2s						
PB01	IPOC Station P	0.78	298		Pn	09 23 48.4	+0.8
PB01					Sn	09 24 03.1	+0.2
PB01	IPOC Station P	0.78	298	eP	Pn	09 23 48.2	+0.6
PB01				eS	Sn	09 24 03.9	+0.9
PB01				IAML		09 24 04.8	
	comp=Z,15μm,0.2s						
PB07	IPOC Station P	1.10	253	⇑iP	Pn	09 23 51.6	+0.9
PB07				iS	Sn	09 24 09.3	+0.8
PB07				IAML		09 24 10.3	
	comp=E,12μm,0.2s						
PB07	IPOC Station P	1.10	253		Pn	09 23 51.5	+0.9
PB07					Sn	09 24 09.3	+0.8
PB07	IPOC Station P	1.10	253	eP	Pn	09 23 51.4	+0.7
PB07				eS	Sn	09 24 09.6	+1.1
PB07				IAML		09 24 11.3	
	comp=Z,6μm,0.4s						
PB03	IPOC Station P	1.13	236	⇑iP	Pn	09 23 51.8	+0.9
PB03				eS	Sn	09 24 09.7	+0.8
PB03				IAML		09 24 11.3	
	comp=E,10μm,0.5s						
PB03	IPOC Station P	1.13	236	eP	Pn	09 23 51.6	+0.7
PB03				eS	Sn	09 24 10.0	+1.1
PB03				IAML		09 24 11.0	
	comp=Z,6μm,0.6s						
LVC	Limon Verde	1.20	187	P	Pn	09 23 52.6	+0.7
	comp=Z,318nm,0.3s,baz=15,slow=10,SNR=25						
LVC				S	Sn	09 24 11.3	+0.6
	comp=Z,131nm,0.3s,baz=25,slow=22,SNR=58						
LVC	Limon Verde	1.20	187	eP	Pn	09 23 52.7	+0.7
LVC				eS	Sn	09 24 11.5	+0.8
LVC	Limon Verde	1.20	187	eP	Pn	09 23 52.6	+0.7
LVC				eS	Sn	09 24 11.9	+1.2
LVC	Limon Verde	1.20	187	eP	Pn	09 23 52.8	+0.9
PB08	IPOC Station P	1.32	343	iP	Pn	09 23 54.2	+1.0
PB08				eS	Sn	09 24 13.9	+1.0
PB08				IAML		09 24 15.5	
	comp=N,4μm,0.3s						
PB08	IPOC Station P	1.32	343		Pn	09 23 54.2	+1.0
PB08				Sn	Sn	09 24 13.9	+1.0
PB08	IPOC Station P	1.32	343	eP	Pn	09 23 54.2	+1.0
PB08				eS	Sn	09 24 14.0	+1.0
PB08				IAML		09 24 16.2	
	comp=Z,2μm,0.3s						
PATCX	Punta Patache	1.44	294	⇑iP	Pn	09 23 55.1	+0.9
PATCX				eS	Sn	09 24 15.4	+0.7
PATCX				IAML		09 24 17.8	
	comp=N,14μm,0.5s						
PATCX	Punta Patache	1.44	294		Pn	09 23 55.0	+0.9
PATCX				Sn	Sn	09 24 15.1	+0.4
PATCX	Punta Patache	1.44	294	eP	Pn	09 23 55.1	+0.9
PB06	IPOC Station P	1.50	211	⇑iP	Pn	09 23 55.9	+1.0
PB06				iS	Sn	09 24 17.1	+1.0
PB06				IAML		09 24 18.1	
	comp=N,3μm,0.5s						
PB06	IPOC Station P	1.50	211		Pn	09 23 55.3	+0.4
PB06				Sn	Sn	09 24 16.6	+0.5
PB06	IPOC Station P	1.50	211	eP	Pn	09 23 55.9	+1.0
PB06				eS	Sn	09 24 17.3	+1.2
PB06				IAML		09 24 18.4	
	comp=Z,2μm,0.3s						
TA01	Diego Aracena	1.58	302	⇑iP	Pn	09 23 56.3	+0.6
TA01				iS	Sn	09 24 18.0	+0.5
TA01				IAML		09 24 19.4	
	comp=E,10μm,0.3s						
TA01	Diego Aracena	1.58	302		Pn	09 23 56.3	+0.6
TA01				Sn	Sn	09 24 18.0	+0.5
PB04	IPOC Station P	1.59	235	⇑iP	Pn	09 23 56.8	+0.7
PB04				iS	Sn	09 24 19.4	+1.4
PB04				IAML		09 24 24.4	
	comp=N,2μm,0.2s						
PB04	IPOC Station P	1.59	235		Pn	09 23 56.7	+0.7
PB04				Sn	Sn	09 24 19.5	+1.4
PB04	IPOC Station P	1.59	235	eP	Pn	09 23 56.8	+0.7
PB04				eS	Sn	09 24 19.2	+1.2
PB04				IAML		09 24 25.9	
	comp=Z,2μm,0.3s						
TA02	Huaiquique	1.72	311	eP	Pn	09 23 57.7	+0.3
TA02				eS	Sn	09 24 21.3	+0.9
TA02				IAML		09 24 25.9	
	comp=N,7μm,0.1s						
GO01	Chusmiza	1.78	346	⇓iP	Pn	09 23 59.3	+0.7
GO01				iS	Sn	09 24 23.6	+1.0
GO01				IAML		09 24 27.1	
	comp=E,4μm,0.1s						
GO01	Chusmiza	1.78	346		Pn	09 23 59.6	+0.9
GO01				Sn	Sn	09 24 24.8	+2.2
PB11	IPOC Station P	1.85	332	⇓iP	Pn	09 23 59.5	+0.4
PB11				iS	Sn	09 24 24.0	+0.5
PB11				IAML		09 24 25.9	
	comp=E,7μm,0.8s						
PB11	IPOC Station P	1.85	332		Pn	09 23 59.5	+0.4
PB11				Sn	Sn	09 24 24.8	+1.3
PB11	IPOC Station P	1.85	332	eP	Pn	09 23 59.7	+0.6
PB11				eS	Sn	09 24 24.1	+0.7
PB11				IAML		09 24 25.8	
	comp=Z,3μm,0.4s						
PB15	IPOC Station P	1.91	200	⇑iP	Pn	09 24 00.8	+0.9
PB15				iS	Sn	09 24 26.4	+1.5
PB15	IPOC Station P	1.91	200		Pn	09 24 01.0	+1.1
PB15	IPOC Station P	1.91	200	eP	Pn	09 24 00.8	+0.9
PB15				eS	Sn	09 24 26.3	+1.4
PB15				IAML		09 24 29.8	
	comp=Z,5μm,0.2s						
PB05	IPOC Station P	1.97	223	⇑iP	Pn	09 24 01.1	+0.6
PB05				iS	Sn	09 24 26.1	+0.1
PB05				IAML		09 24 31.4	
	comp=E,980nm,0.6s						
PB05	IPOC Station P	1.97	223	eP	Pn	09 24 00.9	+0.4
PB05				eS	Sn	09 24 26.8	+0.8
PSGC	Pisagua	2.22	324	⇑iP	Pn	09 24 03.3	-0.3
PSGC				iS	Sn	09 24 31.4	-0.1
PSGC				IAML		09 24 33.8	
	comp=E,1μm,0.3s						
PSGCX	Pisagua	2.22	324		Pn	09 24 03.7	+0.1
PSGCX	Pisagua	2.22	324	eP	Pn	09 24 03.3	-0.3
MNMC	Minye Minye	2.40	341	eP	Pn	09 24 06.6	+0.5
MNMC				iS	Sn	09 24 36.7	+0.7
MNMC				IAML		09 24 39.0	
	comp=E,4μm,0.2s						
MNMC	Minye Minye	2.40	341		Pn	09 24 07.5	+1.3
MNMCX	Minye Minye	2.40	341	eP	Pn	09 24 06.7	+0.6
PB10	IPOC Station P	2.68	218	eP	Pn	09 24 09.9	+0.6
PB10	IPOC Station P	2.68	218		Pn	09 24 10.0	+0.6
PB10	IPOC Station P	2.68	218	eP	Pn	09 24 10.2	+0.8
PB10				eS	Sn	09 24 41.4	-0.5
YJA	Yavi	3.10	105	eP	Pn	09 24 16.9	+1.6
YJA				eS	Sn	09 24 54.9	+2.6
PB16	IPOC Station P	3.14	347	eP	Pn	09 24 17.1	+1.1
PB16	IPOC Station P	3.14	347		Pn	09 24 17.4	+1.5
PB16	IPOC Station P	3.14	347	eP	Pn	09 24 17.1	+1.1
PB16				eS	Sn	09 24 54.0	+0.4
PB12	IPOC Station P	3.15	332	⇑iP	Pn	09 24 14.8	-0.9
PB12				iS	Sn	09 24 51.6	-1.5
PB12				IAML		09 24 59.2	
	comp=N,523nm,0.2s						
PB12	IPOC Station P	3.15	332		Pn	09 24 15.6	-0.1
PB12	IPOC Station P	3.15	332	eP	Pn	09 24 14.8	-0.9
PB12				eS	Sn	09 24 52.6	-0.5
PB12				IAML		09 24 57.3	
	comp=Z,438nm,0.6s						
PB14	IPOC Station P	3.54	205	eP	Pn	09 24 21.1	0.0
PB14	IPOC Station P	3.54	205		Pn	09 24 20.8	-0.2
PB14	IPOC Station P	3.54	205	eP	Pn	09 24 21.4	+0.4
PB14				eS	Sn	09 25 00.9	-1.8
PB14				IAML		09 25 25.4	
	comp=Z,262nm,0.4s						
GO02	Mina Guanaco	3.81	192		Pn	09 24 24.6	0.0
SLA	San Lorenzo	4.45	138	eP	Pn	09 24 34.8	+1.9
AC01	Pan de Azucar	5.01	199	eP	Pn	09 24 38.8	-1.5
AC01	Pan de Azucar	5.01	199		Pn	09 24 39.3	-1.0
LPAZ	La Paz	5.13	7	P	Pn	09 24 44.7	+2.2
	comp=Z,4.7nm,0.3s,baz=207,slow=3.9,SNR=59						
LPAZ				S	Sn	09 25 41.9	+0.9
	comp=Z,1.2nm,0.3s,baz=115,slow=11,SNR=1.7						
AC02	Maricunga	5.41	184		Pn	09 24 46.3	+0.2
GO03	Copiap	6.30	192		Pn	09 24 56.1	-1.7
AC04	Llanos de Chal	7.09	197	Pn	Pn	09 25 04.8	-3.5
VCA	Vinchina	7.31	176	eS	Sn	09 26 30.9	-2.1
VCA				IAML		09 26 35.6	
	comp=Z,18nm,1.1s						
AC05	El Transito	7.52	190		Pn	09 25 12.5	-1.8
LCO	Las Campanas	7.77	193	Pn	Pn	09 25 14.9	-2.9
CO01	Juntas del Tor	8.62	188	Pn	Pn	09 25 27.4	-1.8
GO04	Tololo Observa	8.92	192	Pn	Pn	09 25 30.0	-3.2
SIV	San Ignacio	9.05	55	P	Pn	09 25 31.3	-3.6
	comp=Z,8.3nm,0.3s,baz=250,slow=12,SNR=179						
CO03	El Pedregal	9.55	190	Pn	Pn	09 25 38.3	-3.3
PTLB	Pontes e Lacer	10.88	59	eP	Pn	09 25 57.1	-2.3
CPUP	Villa Florida	11.54	117	P	Pn	09 26 08.8	+0.7
	comp=Z,0.1nm,0.3s,baz=312,slow=12,SNR=3.8						
VILB	Vilhena	11.72	46	eP	Pn	09 26 08.2	-2.5
ETMB	Extrema	11.78	12	eP	Pn	09 26 08.1	-3.4
MT02	Curacav	11.99	190	Pn	Pn	09 26 13.6	-0.5
BO02	Sierra Bellavi	13.45	187	P	P	09 26 36.5	-1.6
SAML	Samuel	13.50	24	Pn	Pn	09 26 33.7	-0.2
SAML	Samuel	13.50	24	eP	Pn	09 26 30.6	-3.3
CZSB	Cruzeiro do Su	14.13	344	eP	Pn	09 26 37.4	-4.6
PTGB	Pitanga	15.70	105	eP	Pn	09 27 03.2	+1.5
ITAB	Concordia	16.21	114	eP	Pn	09 27 08.9	+1.0
CLDB	Colider	16.25	52	eP	Pn	09 27 06.8	-1.7
PCMB	Pacaembu	16.28	94	eP	Pn	09 27 09.7	+0.9
PLTB	Pedras Altas	17.00	130	eP	P	09 27 18.1	+0.7
ARAG	Araguaiana, MT	17.02	73	eP	P	09 27 17.3	-0.5
ITRB	Iturama	17.31	88	eP	P	09 27 20.7	-0.1
FRTB	Fartura	17.85	100	eP	P	09 27 27.2	+0.4
CNLB	Canela	17.97	120	eP	P	09 27 28.9	+0.7
TIJ01	Guaruva-PR	18.54	106	eP	P	09 27 35.1	+0.7
BB19B	Bebedouro	18.85	93	eP	P	09 27 37.2	-0.6
NPGB	Novo Progresso	19.27	44	eP	P	09 27 40.3	-2.6
PLCA	Paso Flores	19.32	184	P	Pn	09 27 44.7	-0.4
	comp=Z,0.3nm,0.3s,baz=6.2,slow=12,SNR=6.9						
PLCA	Paso Flores	19.32	184	P	P	09 27 41.5	-1.3
PLCA	Paso Flores	19.32	184	eP	P	09 27 42.0	-0.7
IPMB	Ipameri, GO	19.63	84	eP	P	09 27 45.8	-0.5
MACA	Manacapuru-AM	19.76	24	eP	P	09 27 45.1	-2.5
VAO	Valinhos	20.23	99	eP	P	09 27 51.1	-1.6
BDFB	Brasilia	20.47	77	P	P	09 27 54.9	-0.5
	comp=Z,12nm,0.4s,baz=245,slow=9.9,SNR=20						
BDFB	Brasilia	20.47	77	P	P	09 27 55.2	-0.3
ITTB	Itaituba	21.14	39	eP	P	09 28 00.6	-1.8
PEXB	Peixe	21.63	68	eP	P	09 28 06.4	-1.4
BSCB	Bom Sucesso	22.35	93	eP	P	09 28 14.4	-0.9
PRPB	Parauapebas	23.78	53	eP	P	09 28 27.7	-0.9
SMTB	Santa Maria do	23.89	62	eP	P	09 28 29.3	-0.4
MC01	Montes Claros	23.90	83	eP	P	09 28 29.5	-0.3
MALB	Monte Alegre	24.02	38	eP	P	09 28 28.7	-2.1
JANB	Januaria	24.04	79	eP	P	09 28 30.1	-0.9
SDBA	SAO DESIDERIO	24.48	72	eP	P	09 28 34.3	-0.8
SJMB	Sao Joao De Ma	26.02	89	eP	P	09 28 48.3	-0.6
BSFB	Barra de Sao F	26.31	89	eP	P	09 28 50.8	-0.8
MCPB	Macapa, AP	26.52	40	eP	P	09 28 51.7	-1.7
RIB01	Linhares ES	26.65	91	eP	P	09 28 54.1	-0.5
NAN01	Guarapari, ES	27.17	88	eP	P	09 28 58.6	-0.7
GDU01	Guandu, BA	28.81	79	eP	P	09 29 12.7	-1.2
ROSB	Rosrio	30.20	56	eP	P	09 29 24.0	-2.2
RCBR	Riachuelo	35.37	69	eP	P	09 30 09.4	-1.9
PDPR	Patillas Dam,	39.28	4	P	P	09 30 43.0	-1.0
PDPR				IAmb	IAmb	09 30 52.6	
	comp=Z,10.0nm,1.1s						
PMSA	Palmer Station	43.46	177	P	P	09 31 16.2	-1.4
	comp=Z,1.9nm,0.5s,baz=183,slow=19,SNR=7.4						
PMSA	Palmer Station	43.46	177	P	P	09 31 16.3	-1.4
PMSA				IAmb	IAmb	09 31 21.0	
	comp=Z,4.0nm,0.8s						
PMSA	Palmer Station	43.46	177	eP	P	09 31 16.0	-1.6
VNA3	Neumayer Olymp	60.11	161	P	P	09 33 23.0	+1.9
TXAR	Lajitas Array	60.64	325	P	P	09 33 27.5	+2.1
	comp=Z,0.2nm,0.6s,baz=139,slow=8.4,SNR=2.5						
VNA2	Neumayer--Watz	60.69	161	P	P	09 33 27.1	+2.1
HHAR	Hobbs	62.13	337	P	P	09 33 34.6	-0.6
SNAA	Sanae	62.31	161	P	P	09 33 37.8	+1.7
SNAA	Sanae	62.31	161	P	P	09 33 37.9	+1.9
SNAA				IAmb	IAmb	09 33 38.3	
	comp=Z,4.3nm,0.8s						
DBIC	Dimbokro	68.56	73	P	P	09 34 17.3	+0.2
	comp=Z,1.8nm,0.7s,baz=170,slow=8.4,SNR=3.9						
DBIC	Dimbokro	68.56	73	IAmb	IAmb	09 34 29.8	
	comp=Z,12nm,1.5s						
PDAR	Pinedale Array	74.11	330	P	P	09 34 52.6	+2.5
	comp=Z,0.2nm,0.6s,baz=127,slow=8.8,SNR=4.1						
NVAR	Mina Array Bea	75.52	322	P	P	09 35 01.4	+3.1
	comp=Z,0.4nm,0.7s,baz=157,slow=7.9,SNR=4.8						
TOA0	Torodi Ar. Sit	77.18	70	P	P	09 35 08.2	+0.3
TOA0				IAmb	IAmb	09 35 11.4	
	comp=Z,3.4nm,0.7s						
TORD	Torodi Ar. Bea	77.18	70	P	P	09 35 08.0	0.0
	comp=Z,2.9nm,0.6s,baz=252,slow=5.3,SNR=18						
TORD				pP	pP	09 35 40.0	-0.1
	comp=Z,1.5nm,0.8s,baz=252,slow=4.8,SNR=2.8						
TORD	Torodi Ar. Bea	77.18	70	P	P	09 35 08.2	+0.3
MAW	Mawson	84.37	163	P	P	09 35 47.4	+2.2
	comp=Z,2.6nm,0.6s,baz=209,slow=5.8,SNR=22						
MAW	Mawson	84.37	163	IAmb	IAmb	09 35 48.2	
	comp=Z,0.6nm,0.7s						
ZALV	Zalesovo Beam	141.81	25	PKP	PKPdf	09 42 45.4	+1.4
	comp=Z,0.7nm,0.4s,baz=289,slow=4.5,SNR=4.1						
MKAR	Makanchi Array	145.47	36	PKPbc	PKPab	09 42 53.1	+1.8
	comp=Z,1.9nm,0.8s,baz=322,slow=4.4,SNR=10						
SIJI	Sorong	150.46	224	PKPbc	PKiKP	09 43 07.8	+1.8
	comp=Z,17nm,0.7s,baz=219,slow=18,SNR=2.6						

NNC 10 09:25:00.9±5.0,53°.85N×90°.72E,h0km,mb3.9,mpv3.6, 8C-6D,Error ellipse: s-maj=37.1km s-min=27.9km az=53.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.49	274	⇓Pg	Pb	09 26 03.4	-0.2
	4.0nm,0.9s						
ZAA0				⇑Lg	Lg	09 26 54.1	
	10nm,0.9s						
KURK	Kurchatov	8.06	252	⇑Pn	Pn	09 27 00.3	+1.2
	4.0nm,0.8s						
KURK				⇓Sn	Sn	09 28 35.7	+4.9
	13nm,0.9s						
KURK				⇑Lg	Lg	09 29 17.0	
	32nm,1.2s						
KURBB	Kurchatov Arra	8.15	252	⇓Pn	Pn	09 27 01.1	+0.8
	6.4nm,0.9s						
KURBB				⇑Sn	Sn	09 28 31.7	-1.4
	26nm,0.8s						
KURBB				⇓Lg	Lg	09 29 23.2	
	74nm,0.9s						
MK31	Makanchi Array	8.88	221	⇑Pn	Pn	09 27 10.6	+0.2
	1.2nm,0.7s,baz=32,slow=14,SNR=11						
MK31				⇓Sn	Sn	09 28 52.1	+1.1
	4.0nm,0.8s,baz=0.0,slow=0.1,SNR=3.7						
MK31				⇑Lg	Lg	09 29 42.0	
	18nm,1.0s,baz=27,slow=24,SNR=5.6						
MAKZ	Makanchi	8.99	222	⇑Pn	Pn	09 27 11.2	-0.7
	2.5nm,0.7s						
MAKZ				⇑Sn	Sn	09 28 53.0	-0.8
	2.9nm,0.9s						
MAKZ				⇓Lg	Lg	09 29 47.3	
	20nm,1.1s						

*BJI **10** 09:32:57.6±0.0,0°.77S×125°.35E,h55km,mB5.1/55, mb5.3/74,Ms4.7/65,Ms7 4.5/59*
*NEIC **10** 09:32:57.9±2.2,0°.30S±0°.06×125°.13E±0°.06,h15km±3km, mb5.6/183,Mwc5.3(GCMT),Error ellipse: s-maj=8.8km s-min=8.4km az=87.0*
*MOS **10** 09:32:59.4±0.9,0°.26S×125°.08E,h38km,mb5.8/70, MS4.5/21,Error ellipse: s-maj=7.2km s-min=4.1km az=114.5*
*INMG **10** 09:32:59.3,0°.26S×125°.21E,h30km,Mb5.4*
*UNK **10** 09:32:59.4,0°.26S×125°.21E,h30km*
*IDC **10** 09:33:00.0±1.9,0°.22S×125°.01E,h25km±12km,mb5.1/32, mb1 5.1/35,mb1mx5.1/37,mbtmp5.2/35,ML4.3/2,MS4.3/28, Ms1 4.3/28,ms1mx4.2/41,Error ellipse: s-maj=13.2km s-min=8.2km az=65.0*
*GCMT **10** 09:33:01.9±0.1,0°.42S±0°.01×125°.16E±0°.01,h31km, MW5.3/116,Moment Tensor Solution. s114,c186; s116,c174; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.96±.02; $M_{\theta\theta}$-0.62±.02; $M_{\phi\phi}$-0.33±.02; $M_{r\theta}$0.24±.03; $M_{\theta\phi}$-0.68±.01; $M_{\phi r}$0.64±.03; Best double couple: $M_0$1.28100×10^{17} NP1:ϕ_s250.00000°,δ33.00000°, λ122.00000°. NP2:ϕ_s34.00000°,δ62.00000°,λ71.00000°. Principal axes: T 1.2270, Plg67.0000°, Azm267.0000°; N 0.1090, Plg17.0000°, Azm43.0000°; P -1.3340, Plg15.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **10** 09:33:02.8±0.2,0°.S±2°×12°.5E±°,h53km±2km,M5.3/78, mb5.6/78,mB5.8/52,MLv5.5/19,Mw(mB)5.3/52,Mwp5.3/13*
*NEIC **10** 09:33:04,0°.40S×125°.28E,h32km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.82; $M_{\theta\theta}$-0.57; $M_{\phi\phi}$-0.24; $M_{r\theta}$0.34; $M_{\theta\phi}$-0.73; $M_{\phi r}$0.62; Fault plane solution: $M_0$1.25000×10^{17} NP1:ϕ_s253.00000°, δ32.00000°,λ124.00000°. NP2:ϕ_s34.00000°,δ64.00000°, λ71.00000°. Principal axes: T 1.1033, Plg65.0000°, Azm271.0000°; N 0.2601, Plg17.0000°, Azm43.0000°; P -1.3635, Plg17.0000°, Azm139.0000°;*
*KLM **10** 09:33:05.0,0°.22S×125°.17E,h68km,mb5.5*

ISC 10 09:33:01.7±0.4,0°.30S±0°.03×125°.12E±0°.03,h41km±3km, n1197,σ1§20/1266,mb5.6/206,MS4.4/67,44C-27D, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.43	307	P	Pn	09 33 25.3	+0.1
KMSI				S	Sn	09 33 47.1	+4.3
SANI	Sanana	1.94	154	P	Pn	09 33 30.9	-1.4
GTOI	Gorontalo	2.31	294	P	Pn	09 33 40.6	+3.4
LUWI	Luwuk	2.46	252	P	Pn	09 33 40.9	+1.5
LUWI	Luwuk	2.46	252	Pn	Pn	09 33 41.4	+2.0
TNTI	Ternate	2.48	65	P	Pn	09 33 40.4	+0.8
TNTI	Ternate	2.48	65

MTN	**Manton Dam**	**13.82 155**	P	**Pn**	**09 36 15.0 -0.1**
	baz=14,SNR=30				
MTN	**Manton Dam**	**13.82 155**	Pn	**Pn**	**09 36 14.3 -0.8**
GMJI	**Gumukmas**	**14.08 235**	P	**P**	**09 36 25.1 -0.5**
	2µm212nm,1.0s				
KDU	**Kakadu**	**14.31 150**	P	**Pn**	**09 36 20.0 -1.8**
	baz=14,SNR=31				
TBJI	**Tambak Boyo**	**14.74 244**	P	**P**	**09 36 35.9 +2.9**
	13µm2µm,0.9s				
TGY	**Tagaytay City**	**14.89 344**	Pn	**P**	**09 36 37.7 +2.9**
	38nm,0.3s,baz=207,slow=6.1,SNR=8.8				
TGY			LR	LR	09 43 02.9
	comp=Z,1µm,18.7s,baz=168,slow=41				
KSM	**Kuching**	**14.92 277**		**Pn**	**09 36 31.3 +1.4**
KSM	**Kuching**	**14.92 277**	P	**Pn**	**09 36 32.0 +2.1**
GENI	**Genyem**	**15.21 99**	P	**Pn**	**09 36 32.9 -0.9**
	3µm154nm,1.0s				
NGJI	**Ngawi**	**15.33 242**	P	**P**	**09 36 45.1 +5.6**
	997nm,1.0s				
PWJI	**Pagerwojo**	**15.33 240**	P	**P**	**09 36 39.1 -0.5**
	5µm548nm,0.8s				
KNRA	**Kununurra**	**15.70 167**	P	**Pn**	**09 36 39.4 -0.7**
	baz=16,SNR=77				
KNRA	**Kununurra**	**15.70 167**		**Pn**	**09 36 39.8 -0.3**
KNRA			IAmb	IAmb	09 36 40.8
	comp=Z,285nm,0.9s				
JAY	**Jayapura**	**15.73 98**	Pn	**Pn**	**09 36 41.0 +0.4**
	baz=249,slow=17,SNR=2.5				
JAY	**Jayapura**	**15.73 98**	P	**Pn**	**09 36 41.9 +1.3**
	comp=Z,419nmcomp=Z,22nm,1.0s				
WOJI	**Wonogiri, Jawa**	**16.01 242**	P	**P**	**09 36 46.4 -0.7**
	comp=Z,225nm,1.0s				
SMRI	**Semarang**	**16.11 245**	P	**P**	**09 36 51.6 +3.4**
	comp=Z,13µmcomp=Z,1µm,0.9s				
UGM	**Wanagama**	**16.40 242**	P	**P**	**09 36 53.0 +1.5**
UGM	**Wanagama**	**16.40 242**	P	**P**	**09 36 50.9 -0.5**
UGM			IAmb	IAmb	09 37 17.5
	comp=Z,862nm,1.5s				
TPI	**Tanjungpandan**	**17.63 262**	P	**P**	**09 37 06.4 +1.3**
	comp=Z,2µmcomp=Z,223nm,0.7s				
FITZ	**Fitzroy Crossi**	**17.70 178**	P	**Pn**	**09 37 04.7 -0.5**
	comp=Z,1.1nm,0.3s,baz=359,slow=12,SNR=26				
FITZ			S	**Sn**	**09 40 24.6 +3.0**
	baz=180,slow=9.1,SNR=5.8				
FITZ			LR	LR	09 44 02.8
	comp=Z,884nm,21.7s,baz=87,slow=37				
FITZ	**Fitzroy Crossi**	**17.70 178**	P	**Pn**	**09 37 05.1 -0.1**
	baz=18,SNR=29				
FITZ	**Fitzroy Crossi**	**17.70 178**	P	**Pn**	**09 37 04.9 -0.3**
CMJI	**Cimerak**	**18.21 245**	P	**Pn**	**09 37 12.8 +1.3**
	comp=Z,4µmcomp=Z,555nm,0.8s				
LEM	**Lembang**	**18.63 249**	P	**Pn**	**09 37 17.6 +0.9**
	comp=Z,23nm,0.3s,baz=35,slow=8.3,SNR=87				
LEM			LR	LR	09 45 22.8
	comp=Z,5µm,20.8s,baz=45,slow=40				
LEM	**Lembang**	**18.63 249**	P	**Pn**	**09 37 18.0 +1.2**
	comp=Z,4µmcomp=Z,502nm,0.8s				
CISI	**Cisompet, Garu**	**18.70 247**	P	**Pn**	**09 37 18.0 +0.4**
	comp=Z,3µmcomp=Z,16µmcomp=Z,2µm,0.8s				
CISI	**Cisompet, Garu**	**18.70 247**	P	**Pn**	**09 37 17.6 0.0**
PPBI	**Pangkal Pinang**	**19.07 264**	P	**P**	**09 37 21.5 +0.6**
	comp=Z,21µmcomp=Z,309nm,0.8s				
CBJI	**Citeko**	**19.22 251**	P	**Pn**	**09 37 24.4 +0.6**
	comp=Z,49µmcomp=Z,2µm,0.8s				
CNJI	**Cibinong**	**19.25 248**	P	**Pn**	**09 37 23.7 -0.4**
	comp=Z,6µmcomp=Z,922nm,0.8s				
DBJI	**Dramaga**	**19.36 251**	P	**Pn**	**09 37 26.2 +0.8**
	comp=Z,441nm,0.9s				
CGJI	**Cibinong**	**20.38 252**	P	**P**	**09 37 36.2 +1.1**
	comp=Z,11µmcomp=Z,2µm,0.8s				
PMBI	**Palembang**	**20.51 262**	P	Pn	09 37 38.9 -0.1
DLV	**T Lat**	**20.51 307**	P	**P**	**09 37 37.8 +1.0**
DLV			IAmb	IAmb	09 37 54.8
	comp=Z,183nm,0.9s				
DSRI	**Dabo**	**20.54 269**	P	**P**	**09 37 37.2 +0.2**
	comp=Z,3µmcomp=Z,450nm,0.7s				
KLSI		**20.83 258**	P	**P**	**09 37 40.1 0.0**
	comp=Z,571nmcomp=Z,77nm,1.0s				
MDSI	**Maura Dua**	**21.33 258**	P	**P**	**09 37 44.9 -0.6**
	comp=Z,1µmcomp=Z,198nm,1.0s				
MYKOM	**Kota Tinggi**	**21.37 276**	P	**P**	**09 37 47.2 +1.3**
MYKOM			IAmb	IAmb	09 37 49.6
	comp=Z,208nm,0.8s				
MYKOM	**Kota Tinggi**	**21.37 276**	P	**P**	**09 37 48.0 +2.1**
WB0	**Warramunga Arr**	**21.38 155**	P	**P**	**09 37 44.5 -1.4**
WB0			IAmb	IAmb	09 37 49.5
	comp=Z,160nm,1.1s				
WRAB	**Tennant Creek**	**21.51 156***ce*P		**P**	**09 37 46.0 -1.3**
WRAB			pmax	pmax	
	comp=Z,137nm,1.3s				
WRAB	**Tennant Creek**	**21.51 156**	P	**P**	**09 37 45.8 -1.5**
WRA	**Warramunga Arr**	**21.51 156**	P	**P**	**09 37 46.0 -1.4**
	comp=Z,44nm,1.1s,baz=339,slow=9.5,SNR=81				
WRA			S	**S**	**09 41 37.8 -6.0**
	comp=Z,12nm,1.2s,baz=340,slow=14,SNR=2.9				
WRA			ScP	**ScP**	**09 45 23.8 +0.5**
	comp=Z,4.4nm,0.8s,baz=341,slow=3.1,SNR=8.6				
WRA			LR	LR	09 47 23.9
	comp=Z,470nm,19.6s,baz=335,slow=40				
WRA	**Warramunga Arr**	**21.51 156**	P	**P**	**09 37 44.7 -2.7**
WRA			pmax	pmax	
	comp=Z,7.0nm,1.2s				
WRA	**Warramunga Arr**	**21.51 156**	P	**P**	**09 37 44.6 -2.7**
LWLI	**Liwa**	**21.55 257**	P	**P**	**09 37 50.1 +2.1**
	comp=Z,342nm,0.7s				
WR0	**Warramunga Arr**	**21.61 155**	P	**P**	**09 37 46.8 -1.6**
PSA00	**Pilbara Seismi**	**21.77 193**	P	**P**	**09 37 50.3 +0.3**
XMIS	**Christmas Isla**	**21.84 242**	P	**P**	**09 37 50.5 -0.5**
COEN	**Coen**	**22.44 128**	P	**P**	**09 37 56.2 -1.1**
	baz=22,SNR=51				
COEN	**Coen**	**22.44 128**	P	**P**	**09 37 57.1 -0.3**
COEN			IAmb	IAmb	09 38 03.1
	comp=Z,383nm,1.5s				
MNAI	**Manna**	**22.51 259**	P	**P**	**09 37 58.4 +0.2**
	comp=Z,821nm,0.7s				
MNAI	**Manna**	**22.51 259**	P	**P**	**09 37 58.3 +0.2**
KSI	**Kapahiang**	**22.76 261**	P	**P**	**09 37 59.3 -1.5**
	comp=Z,9µmcomp=Z,215nm,0.7s				
SDSI	**Sungai Dareh**	**23.70 268**	P	**P**	**09 38 10.1 0.0**
	comp=Z,2µmcomp=Z,283nm,1.0s				
KRJI	**Kerinci**	**23.72 266**	P	**P**	**09 38 12.0 +1.6**
	comp=Z,26µmcomp=Z,3µm,0.9s				
PMG	**Port Moresby**	**23.73 113**	P	**P**	**09 38 11.1 +0.8**
	comp=Z,25nm,0.8s,baz=310,slow=10.0,SNR=7.2				
PMG	**Port Moresby**	**23.73 113***ce*P		**P**	**09 38 09.0 -1.3**
PMG			pmax	pmax	
	comp=Z,141nm,2.5s				
YULB	**Yu-li**	**23.84 351**	P	**P**	**09 38 10.8 -0.5**
TPUB	**Ta-pu**	**23.86 350**	P	**P**	**09 38 10.2 -1.3**
TPUB			IAmb	IAmb	09 38 16.9
	comp=Z,134nm,0.7s				
GUMO	**Guam**	**23.94 54**	P	**P**	**09 38 12.4 +0.1**
	comp=Z,36nm,0.7s,baz=302,slow=19,SNR=1.3				
GUMO	**Guam**	**23.94 54**	P	**P**	**09 38 11.7 -0.6**
GUMO			pmax	pmax	
	comp=Z,432nm,1.5s				
GUMO	**Guam**	**23.94 54**	P	**P**	**09 38 11.7 -0.6**
GUMO			IAmb	IAmb	09 38 38.2
	comp=Z,432nm,1.5s				
BKNI	**Bangkinang**	**24.09 271**	P	**P**	**09 38 14.5 +0.8**
	comp=Z,60µmcomp=Z,222nm,0.9s				
BKNI	**Bangkinang**	**24.09 271**	P	**P**	**09 38 13.7 0.0**
BKNI			IAmb	IAmb	09 38 16.0
	comp=Z,302nm,1.1s				
SSLB	**Suanglung**	**24.28 351**	P	**P**	**09 38 15.9 +0.5**
QIZ	**Qiongzhong**	**24.37 323**	P	**P**	**09 38 15.0 -1.2**
QIZ			S	**S**	**09 42 34.9 +1.7**
QIZ			pmax	pmax	
	comp=Z,19nm,1.0s				
QIZ			pmax	pmax	
	comp=Z,270nm,2.7s				
QIZ			LR	LR	
	comp=Z,580nm,18.2s				
QIZ			LR	LR	
	comp=Z,780nm,16.1s				
QIZ			LR	LR	
	comp=Z,900nm,24.0s				
QIZ	**Qiongzhong**	**24.37 323**	P	**P**	**09 38 15.6 -0.6**
IPM	**Ipoh**	**24.54 281**	P	**P**	**09 38 17.3 -0.6**
IPM			IAmb	IAmb	09 38 18.4
	comp=Z,92nm,0.9s				
IPM	**Ipoh**	**24.54 281**	P	**P**	**09 38 18.0 +0.2**
GIRL	**Giralia**	**24.61 205**	P	**P**	**09 38 19.6 +1.3**
	baz=25,SNR=9.6				
GIRL	**Giralia**	**24.61 205**	P	**P**	**09 38 18.6 +0.2**
QIS	**Mount Isa**	**24.62 146**	P	**P**	**09 38 18.7 +0.2**
	baz=25,SNR=122				
PDSI	**Padang**	**24.67 268**	P	**P**	**09 38 18.1 -0.9**
	comp=Z,4µmcomp=Z,240nm,1.3s				
YOJ	**Yonaguni jima**	**24.70 355**	P	**P**	**09 38 18.6 -0.5**
YOJ			pmax	pmax	
	comp=Z,74nm,0.7s				
YOJ	**Yonaguni jima**	**24.70 355**	P	**P**	**09 38 18.6 -0.5**
YOJ			IAmb	IAmb	09 38 27.1
	comp=Z,74nm,0.7s				
AS31	**Alice Springs**	**24.75 160**	P	**P**	**09 38 20.0 +0.4**
ASAR	**Alice Springs**	**24.75 160**	P	**P**	**09 38 19.9 +0.3**
	comp=Z,25nm,0.9s,baz=343,slow=11,SNR=135				
ASAR			PcP	**PcP**	**09 41 56.5 +0.7**
	comp=Z,15nm,0.7s,baz=352,slow=2.1,SNR=12				
ASAR			S	**S**	**09 42 39.7 +0.5**
	comp=Z,14nm,1.1s,baz=353,slow=21,SNR=5.1				
ASAR			ScP	**ScP**	**09 45 33.0 +1.2**
	comp=Z,3.7nm,0.9s,baz=347,slow=2.8,SNR=7.7				
ASAR			LR	LR	09 49 59.8
	comp=Z,625nm,21.1s,baz=325,slow=41				
ASAR	**Alice Springs**	**24.75 160**	P	**P**	**09 38 18.9 -0.7**
ASAR	**Alice Springs**	**24.75 160**	P	**P**	**09 38 18.9 -0.7**
WRKA	**Warakurna**	**24.79 173**	P	**P**	**09 38 20.3 +0.4**
	baz=25,SNR=144				
KULM	**Kulim**	**25.06 283**	P	**P**	**09 38 22.1 -0.5**
KULM			IAmb	IAmb	09 38 24.2
	comp=Z,164nm,1.4s				
KULM	**Kulim**	**25.06 283**	P	**P**	**09 38 23.0 +0.4**
YHNB	**Yeheng**	**25.08 352**	P	**P**	**09 38 23.3 +0.6**
TATO	**Taipei**	**25.37 352**	P	**P**	**09 38 24.3 -0.9**
QZH	**Quanzhou**	**25.87 346**⇑*i*P		**P**	**09 38 28.7 -1.1**
QZH			S	**S**	**09 42 57.1 +0.1**
QZH			LR	LR	
	comp=Z,440nm,14.2s				
QZH			LR	LR	
	comp=Z,470nm,18.9s				
QZH			LR	LR	
	comp=Z,550nm,20.4s				
MTSU	**Mount Surprise**	**25.89 134**	P	**P**	**09 38 30.5 +0.5**
	baz=26,SNR=28				
RPSI	**Rantau Prapat**	**26.36 277**	P	**P**	**09 38 33.5 -0.9**
RPSI			IAmb	IAmb	09 38 35.0
	comp=Z,101nm,1.0s				
RPSI	**Rantau Prapat**	**26.36 277**	P	**P**	**09 38 33.6 -0.7**
PSI	**Prapat**	**26.37 277**	P	**P**	**09 38 33.6 -1.0**
	comp=Z,79nm,1.0s,baz=179,slow=1.7,SNR=29				
PSI			PcP	**PcP**	**09 42 00.3 +0.4**
	comp=Z,14nm,0.9s,baz=180,slow=5.1,SNR=3.6				
PSI			LR	LR	09 51 43.1
	comp=Z,513nm,18.2s,baz=90,slow=43				
PSI	**Prapat**	**26.37 277**	P	**P**	**09 38 33.6 -1.0**
PSI			pmax	pmax	
	comp=Z,101nm,1.0s				
JMZ	**Minamidaito 2**	**26.62 12**	P	**P**	**09 38 35.2 -1.3**
JMZ			IAmb	IAmb	09 38 51.1
	comp=Z,95nm,1.0s				
MEEK	**Meekatharra**	**26.93 193**	P	**P**	**09 38 38.8 -0.5**
	baz=27,SNR=16				
KRVT	**Keravat (AS076**	**27.17 99**	P	**P**	**09 38 41.8 +0.2**
	comp=Z,151nm,0.8s,baz=138,slow=0.2,SNR=11				
KRVT			LR	LR	09 52 10.7
	comp=Z,298nm,18.5s,baz=268,slow=42				
RABL	**Rabaul**	**27.29 99**	P	**P**	**09 38 42.5 -0.3**
RABL			IAmb	IAmb	09 38 48.0
	comp=Z,114nm,0.8s				
GSI	**Gunungsitoli**	**27.59 273**	P	**P**	**09 38 44.7 -0.7**
GSI			IAmb	IAmb	09 38 45.1
	comp=Z,97nm,0.9s				
CTA	**Charters Tower**	**28.55 135**	P	**P**	**09 38 54.5 +0.6**
	comp=Z,14nm,0.9s,baz=319,slow=12,SNR=14				
CTA			ScP	**ScP**	**09 45 44.8 +1.7**
	comp=Z,11nm,1.0s,baz=337,slow=3.2,SNR=6.7				
CTA			LR	LR	09 53 08.0
	comp=Z,526nm,19.6s,baz=292,slow=42				
CTAO	**Charters Tower**	**28.55 135**	P	**P**	**09 38 54.2 +0.3**
CTAO			pmax	pmax	
	comp=Z,80nm,1.5s				
CTAO	**Charters Tower**	**28.55 135**	P	**P**	**09 38 54.2 +0.3**
PBKT	**Sadao Pong**	**29.12 306**	P	**P**	**09 38 58.9 0.0**
SLVN	**Son La**	**29.86 317**	P	**P**	**09 39 05.8 +0.2**
MORW	**Morawa**	**29.90 196**	P	**P**	**09 39 05.5 -0.2**
	baz=30,SNR=9.4				
MORW	**Morawa**	**29.90 196**	P	**P**	**09 39 05.3 -0.4**
FORT	**Forrest**	**30.44 175**	P	**P**	**09 39 10.6 +0.1**
	baz=31,SNR=18				
FORT	**Forrest**	**30.44 175**	P	**P**	**09 39 09.9 -0.6**
FORT			IAmb	IAmb	09 39 11.6
	comp=Z,83nm,0.9s				
COCO	**West Island**	**30.45 246**	P	P	09 39 24.1 +13
COCO	**West Island**	**30.45 246**	P	**P**	**09 39 11.1 +0.3**
COCO			pmax	pmax	
	comp=Z,230nm,0.7s				
COCO	**West Island**	**30.45 246**	P	**P**	**09 39 11.1 +0.3**
KMBL	**Kambalda**	**31.05 185**	P	**P**	**09 39 16.0 0.0**
	baz=31,SNR=7.4				
BLDU	**Ballidu**	**31.19 194**	P	**P**	**09 39 16.6 -0.5**
	baz=32,SNR=12				
SSE	**Sheshan**	**31.44 354**	P	**P**	**09 39 17.6 -1.7**
SSE			S	**S**	**09 44 32.4 +7.9**
SSE			pmax	pmax	
	comp=Z,27nm,0.7s				
SSE			pmax	pmax	
	comp=Z,87nm,5.7s				
SSE			LR	LR	
	comp=Z,310nm,23.5s				
SSE			LR	LR	
	comp=Z,460nm,17.9s				
CM31	**Chiang Mai Arr**	**31.77 307**	P	**P**	**09 39 22.9 +0.5**
	SNR=17				
CM31	**Chiang Mai Arr**	**31.77 307**	P	**P**	**09 39 22.7 +0.3**
CM31			IAmb	IAmb	09 39 24.2
	comp=Z,70nm,1.1s				
CMAR	**Chiang Mai Arr**	**31.77 307**	P	**P**	**09 39 22.3 -0.1**
	comp=Z,38nm,1.1s,baz=137,slow=7.2,SNR=89				
CMAR			PcP	**PcP**	**09 42 15.0 +1.8**
	comp=Z,18nm,0.8s,baz=169,slow=2.0,SNR=22				
CMAR			ScP	**ScP**	**09 45 54.5 +0.9**
	comp=Z,1.6nm,0.7s,baz=176,slow=2.5,SNR=4.7				
CMAR			LR	LR	09 52 23.3
	comp=Z,523nm,21.3s,baz=188,slow=37				
CMAR	**Chiang Mai Arr**	**31.77 307**	P	**P**	**09 39 21.7 -0.7**
CMAR	**Chiang Mai Arr**	**31.77 307**	P	**P**	**09 39 21.6 -0.7**
KLBR	**Kellerberrin**	**31.90 192**	P	**P**	**09 39 23.0 -0.3**
	baz=32,SNR=12				
CHTO	**Chiang Mai**	**31.96 308**	P	**P**	**09 39 24.3 +0.2**
CHTO			P	**P**	**09 39 24.3 +0.2**
CHTO	**Chiang Mai**	**31.96 308**	P	**P**	**09 39 23.6 -0.5**
CHTO			pmax	pmax	
	comp=Z,79nm,0.9s				
CHTO	**Chiang Mai**	**31.96 308**	P	**P**	**09 39 23.6 -0.5**
CHTO			IAmb	IAmb	09 39 25.1
	comp=Z,79nm,0.9s				
GYA	**Guiyang**	**32.00 328** ⇑P		**P**	**09 39 24.4 -0.1**
GYA			pP	sP	09 39 42.5 +3.1
GYA			PcP	**PcP**	**09 42 14.8 +0.9**
GYA			S	**S**	**09 44 29.8 -3.8**
GYA			pmax	pmax	
	comp=Z,19nm,1.0s				
GYA			pmax	pmax	
	comp=Z,90nm,3.5s				
GYA			LR	LR	
	comp=Z,400nm,19.7s				
GYA			LR	LR	
	comp=Z,340nm,18.1s				
GYA			LR	LR	
	comp=Z,490nm,20.0s				
JSU	**Suzuyama**	**32.03 9**	P	**P**	**09 39 23.2 -1.3**
JSU			IAmb	IAmb	09 39 25.7
	comp=Z,44nm,1.1s				
MUN	**Mundaring**	**32.62 194**	P	**P**	**09 39 30.6 +0.9**
	baz=33,SNR=4.6				
NJ2	**Nanjing**	**32.72 350**	*e*P	**P**	**09 39 32.0 +1.5**
NJ2			S	**S**	**09 44 48.2 +3.9**
NJ2			pmax	pmax	
	comp=Z,39nm,0.9s				
NJ2			LR	LR	
	comp=Z,420nm,18.8s				
NJ2			LR	LR	
	comp=Z,410nm,20.8s				
NJ2			LR	LR	
	comp=Z,1µm,22.9s				
KMI	**Kunming**	**33.28 321**⇑*i*P		**P**	**09 39 36.4 +0.6**
KMI			pP	pwP	09 39 55.2 +4.7
KMI			PP	**PnPn**	**09 40 49.2 +2.1**
KMI			S	**S**	**09 44 52.1 -1.6**
KMI			sS	sS	09 45 20.3 +9.3
KMI			SS	**SS**	**09 47 07.6 -11**
KMI			pmax	pmax	
	comp=Z,31nm,0.6s				
KMI			pmax	pmax	
	comp=Z,190nm,3.6s				
KMI			LR	LR	
	comp=Z,440nm,22.8s				
KMI			LR	LR	
	comp=Z,470nm,24.5s				
KMI			LR	LR	
	comp=Z,850nm,24.6s				
KMI	**Kunming**	**33.28 321**	P	**P**	**09 39 36.8 +1.0**
KMI			pmax	pmax	
	comp=Z,24nm,0.5s				
KMI	**Kunming**	**33.28 321**	P	**P**	**09 39 36.8 +1.0**
KMI			IAmb	IAmb	09 39 37.8
	comp=Z,24nm,0.5s				
NWAO	**Narrogin (SRO)**	**33.30 192**	P	**P**	**09 39 35.2 -0.4**
	comp=Z,20nm,0.9s,baz=11,slow=7.8,SNR=5.8				
NWAO			PcP	**PcP**	**09 42 17.9 +0.7**
	comp=Z,21nm,0.9s,baz=46,slow=9.1,SNR=4.2				
NWAO			LR	LR	09 55 45.7
	comp=Z,294nm,19.2s,baz=38,slow=41				
NWAO	**Narrogin (SRO)**	**33.30 192**	P	**P**	**09 39 35.6 0.0**
	baz=34,SNR=4.2				
NWAO	**Narrogin (SRO)**	**33.30 192**	P	**P**	**09 39 35.2 -0.4**
NWAO			pmax	pmax	
	comp=Z,25nm,1.0s				
NWAO	**Narrogin (SRO)**	**33.30 192**	IAmb	IAmb	09 39 36.2
	comp=Z,25nm,0.9s				
JNU	**Nakatsue**	**33.68 9**	P	**P**	**09 39 38.3 -0.7**
JNU			IAmb	IAmb	09 39 40.8
	comp=Z,62nm,1.0s				
ENH	**Enshi**	**33.85 335**	P	**P**	**09 39 39.7 -0.7**
ENH			IAmb	IAmb	09 39 46.4
	comp=Z,38nm,0.7s				
RMQ	**Roma**	**34.58 141**	P	**P**	**09 39 47.3 +0.5**
	baz=35,SNR=8.0				
JMN	**Monobe**	**34.83 13**	P	**P**	**09 39 47.4 -1.5**
JMN			IAmb	IAmb	09 39 56.0
	comp=Z,45nm,0.7s				
STKA	**Stephens Creek**	**35.06 155**	P	**P**	**09 39 51.0 0.0**
	comp=Z,37nm,0.9s,baz=326,slow=9.2,SNR=31				
STKA	**Stephens Creek**	**35.06 155**	P	**P**	**09 39 51.6 +0.7**
	baz=35,SNR=14				
STKA	**Stephens Creek**	**35.06 155**	P	**P**	**09 39 49.5 -1.4**
STKA			pmax	pmax	
	comp=Z,15nm,1.2s				
STKA	**Stephens Creek**	**35.06 155**	P	**P**	**09 39 49.5 -1.4**
EIDS	**Eidsvold**	**35.36 137**	P	**P**	**09 39 52.9 -0.7**
HTT	**Hallett**	**35.42 160**	P	**P**	**09 39 54.0 0.0**
	baz=36,SNR=4.3				
JHS	**Saijyo**	**35.90 11**	P	**P**	**09 39 57.5 -0.5**
JHS			IAmb	IAmb	09 40 15.1
	comp=Z,63nm,0.8s				
TJN	**Taejon**	**36.55 3***ce*P		**P**	**09 40 03.4 -0.1**
CMSA	**Cobar Meteorol**	**36.67 150**	P	**P**	**09 40 05.9 +1.2**
	baz=37,SNR=35				
JWT	**Wachi**	**36.67 14**	P	**P**	**09 40 03.2 -1.5**
JWT			IAmb	IAmb	09 40 06.3
	comp=Z,79nm,1.3s				
TIA	**Tai'an**	**37.08 349**	P	**P**	**09 40 07.8 -0.3**
TIA			pmax	pmax	
	comp=Z,27nm,1.3s				
TIA			LR	LR	
	comp=Z,370nm,27.3s				
TIA			LR	LR	
	comp=Z,270nm,21.8s				
TIA			LR	LR	
	comp=Z,730nm,27.5s				
CD2	**Chengdu**	**37.08 329**⇑*i*P		**P**	**09 40 09.5 +1.3**
CD2			PP	**PP**	**09 41 33.0 -0.4**
CD2			S	**S**	**09 45 53.9 +2.2**
CD2			pmax	pmax	
	comp=Z,110nm,1.0s				
CD2			pmax	pmax	
	comp=Z,170nm,5.7s				
CD2			LR	LR	
	comp=Z,1µm,23.3s				
CD2			LR	LR	
	comp=Z,1µm,20.0s				
CD2			LR	LR	
	comp=Z,1µm,20.6s				
INU	**Inuyama**	**37.16 16**	P	**P**	**09 40 08.7 -0.1**
XAN	**Xi'an**	**37.39 338**	P	**P**	**09 40 08.8 -2.0**
XAN			pP	pP	09 40 22.6 +1.4
XAN			PcP	**PcP**	**09 42 29.5 +0.3**
XAN			pmax	pmax	
	comp=Z,47nm,1.2s				
XAN			pmax	pmax	
	comp=Z,160nm,4.3s				
XAN			LR	LR	
	comp=Z,840nm,19.1s				
XAN			LR	LR	
	comp=Z,350nm,15.2s				
XAN			LR	LR	
	comp=Z,1µm,18.1s				
XAN	**Xi'an**	**37.39 338**	P	**P**	**09 40 09.5 -1.3**
XAN			pmax	pmax	
	comp=Z,47nm,0.9s				
XAN	**Xi'an**	**37.39 338**	P	**P**	**09 40 09.5 -1.3**
JGF	**Kuroka**	**37.49 16**	P	**P**	**09 40 11.0 -0.6**
INCN	**Inchon**	**37.62 2**	P	**P**	**09 40 12.9 +0.2**
INCN			pmax	pmax	
	comp=Z,37nm,1.0s				
INCN	**Inchon**	**37.62 2**	P	**P**	**09 40 12.8 +0.2**
KSAR	**Wonju Array Be**	**37.64 4**	P	**P**	**09 40 13.0 +0.2**
KSAR	**Wonju Array Be**	**37.64 4**	P	**P**	**09 40 13.0 +0.2**
KSRS	**Korea Array**	**37.65 4**	P	**P**	**09 40 13.5 +0.6**
	comp=Z,31nm,0.9s,baz=181,slow=10,SNR=94				
KSRS			PcP	**PcP**	**09 42 30.8 +1.0**
	comp=Z,12nm,0.7s,baz=179,slow=2.7,SNR=19				
KSRS			ScP	**ScP**	**09 46 15.2 +1.0**
	comp=Z,2.0nm,0.7s,baz=195,slow=3.9,SNR=6.6				
KSRS			LR	LR	09 54 48.7
	comp=Z,374nm,20.3s,baz=189,slow=35				
KS19	**Wonju Array Si**	**37.70 4**	P	**P**	**09 40 12.0 -1.3**
MJAR	**Matsushiro Arr**	**38.61 17**	P	**P**	**09 40 20.1 -1.0**
	comp=Z,24nm,0.7s,baz=192,slow=8.7,SNR=55				
MJAR			PcP	**PcP**	**09 42 34.1 +1.2**
	comp=Z,14nm,0.8s,baz=191,slow=2.8,SNR=9.6				
MJAR			ScP	**ScP**	**09 46 18.9 +0.9**
	comp=Z,5.0nm,0.8s,baz=188,slow=4.6,SNR=8.3				
MAJO	**Matsushiro**	**38.62 17**	P	**P**	**09 40 19.9 -1.2**
MAJO					09 46 19.5
MAJO			pmax	pmax	
	comp=Z,33nm,0.7s				
MAJO	**Matsushiro**	**38.62 17**	P	**P**	**09 40 19.9 -1.2**
MAJO			ScP	**ScP**	**09 46 19.5 +1.5**
MAT	**Matsushiro**	**38.62 17**	P	**P**	**09 40 20.1 -1.0**
MAT			S	**S**	**09 46 09.3 -5.5**
ARMA	**Armidale**	**39.14 142**	P	**P**	**09 40 25.9 +0.2**
	baz=39,SNR=11				
ARMA	**Armidale**	**39.14 142**	P	**P**	**09 40 26.3 +0.5**
DL2	**Dalian**	**39.14 356**	P	**P**	**09 40 22.6 -2.8**
DL2			S	**S**	**09 46 24.6 +2.0**
DL2			pmax	pmax	
	comp=Z,73nm,0.9s				
DL2			pmax	pmax	
	comp=Z,120nm,5.7s				
DL2			LR	LR	
	comp=Z,440nm,24.6s				
DL2			LR	LR	
	comp=Z,370nm,22.7s				
DL2			LR	LR	
	comp=Z,730nm,23.0s				
ARPS	**Mount Arapiles**	**39.46 159**	P	**P**	**09 40 29.6 +1.5**
	baz=40,SNR=14				
TIY	**Taiyuan**	**39.59 344** *e*P		**P**	**09 40 31.0 +1.7**
TIY			pmax	pmax	
	comp=Z,59nm,0.5s				
TIY			pmax	pmax	
	comp=Z,210nm,5.7s				
YNG	**Young**	**40.24 150**	P	**P**	**09 40 35.3 +0.7**
	baz=40,SNR=16				
JMM	**Marumori**	**40.63

comp=Z,340nm,24.0s
SHL Shillong 41.13 311 P P 09 40 42.0 -0.4
SNR=16
SHL Shillong 41.13 311 P P 09 40 41.0 -1.3
SHL pmax pmax
comp=Z,87nm,0.7s
SHL Shillong 41.13 311 P P 09 40 41.0 -1.3
SHL IAmb IAmb 09 40 43.9
comp=Z,87nm,0.7s
LZH Lanzhou 41.26 334 *eP* **P 09 40 43.5 +0.3**
LZH pP pP 09 40 54.9 +1.1
LZH sP sP 09 40 58.4 +0.1
LZH PcP **PcP 09 42 42.4 +0.8**
LZH sS sS 09 47 24.6 +12
LZH pmax pmax
comp=Z,140nm,1.1s
LZH pmax pmax
comp=Z,240nm,4.6s
LZH LR LR
comp=Z,670nm,14.4s
LZH LR LR
comp=Z,670nm,13.3s
LZH LR LR
comp=Z,940nm,17.1s
CAN Canberra 41.35 150 P **P 09 40 42.5 -1.3**
CAN pmax pmax
comp=Z,61nm,1.1s
CAN Canberra 41.35 150 P **P 09 40 42.5 -1.3**
CNB Canberra Magne 41.53 150 P **P 09 40 45.8 +0.4**
baz=42,SNR=5.9
TOO Toolangi 41.58 155 P **P 09 40 46.5 +0.7**
baz=42,SNR=10
TOO Toolangi 41.58 155 P **P 09 40 44.2 -1.5**
TOO pmax pmax
comp=Z,50nm,1.0s
TOO Toolangi 41.58 155 P **P 09 40 44.2 -1.5**
HHC Hu-ho-hao-te 42.77 345 *eP* **P 09 40 56.0 +0.6**
HHC S **S 09 47 17.1 +0.4**
HHC SS **SS 09 50 24.2 -4.5**
HHC pmax pmax
comp=Z,44nm,0.7s
HHC pmax pmax
comp=Z,140nm,7.7s
HHC LR LR
comp=Z,550nm,16.2s
HHC LR LR
comp=Z,370nm,17.9s
HHC LR LR
comp=Z,670nm,17.9s
BTO Baotou 42.97 343 *eP* **P 09 40 56.0 -1.0**
VLA Vladivostok 43.65 7 *i P* **P 09 41 01.8 -0.5**
VLA pmax pmax
comp=Z,37nm,0.7s
VLA MLR MLR
comp=Z,440nm,22.0s
LSA Lhasa 44.03 316 P **P 09 41 06.0 -0.2**
LSA pmax pmax
comp=Z,180nm,0.7s
LSA Lhasa 44.03 316 *i P* **P 09 41 07.7 +1.5**
SNR=7.2
LSA Lhasa 44.03 316 P **P 09 41 06.4 +0.2**
LSA pmax pmax
comp=Z,85nm,0.7s
LSA Lhasa 44.03 316 P **P 09 41 06.4 +0.2**
LSA IAmb IAmb 09 41 10.5
comp=Z,84nm,0.7s
CHLP Challavanipeta 44.45 297 *eP* **P 09 41 08.3 -0.8**
CHLP IVmBBB 09 41 11.8
comp=Z,221nm,0.7s
USA0B Ussuriysk Arra 44.72 7 P **P 09 41 10.0 -0.9**
USA0B pmax pmax
comp=Z,36nm,0.9s
USA0B Ussuriysk Arra 44.72 7 P **P 09 41 10.0 -0.9**
USRK Ussuriysk Ar. 44.72 7 P **P 09 41 11.2 +0.3**
comp=Z,20nm,0.5s,baz=186,slow=5.8,SNR=40
USRK PcP **PcP 09 42 53.1 +0.4**
comp=Z,6.9nm,0.8s,baz=195,slow=2.8,SNR=2.1
USRK LR LR 09 59 53.8
comp=Z,275nm,21.6s,baz=185,slow=36
USRK Ussuriysk Ar. 44.72 7 P **P 09 41 10.5 -0.4**
USRK Ussuriysk Ar. 44.72 7 P **P 09 41 10.5 -0.4**
MDJ Mudanjiang 44.90 5 P **P 09 41 12.8 +0.5**
MDJ pmax pmax
comp=Z,47nm,1.1s
MDJ pmax pmax
comp=Z,280nm,4.7s
MDJ Mudanjiang 44.90 5 P **P 09 41 12.1 -0.1**
MDJ IAmb IAmb 09 41 26.6
comp=Z,46nm,0.7s
PALK Pallekele 44.94 281 P **P 09 41 12.7 -0.5**
PALK pmax pmax
comp=Z,18nm,0.7s
PALK Pallekele 44.94 281 P **P 09 41 12.7 -0.5**
ERM Erimo 45.16 19 *ceP* **P 09 41 14.8 +0.4**
ERM pmax pmax
comp=Z,61nm,1.7s
ODAN Odare 45.23 310 *eP* **P 09 41 14.5 -1.1**
comp=Z,109nm,0.8s
ODAN Odare 45.23 310 *eP* **P 09 41 14.5 -1.1**
comp=Z,109nm,0.8s
TAPN Taplejung 45.24 310 *eP* **P 09 41 14.4 -1.3**
comp=Z,94nm,0.4s
TAPN Taplejung 45.24 310 *eP* **P 09 41 14.4 -1.3**
comp=Z,94nm,0.4s
DZM Mont Dzumac 45.69 121 P **P 09 41 20.4 +1.3**
baz=327,slow=6.7
DZM Mont Dzumac 45.69 121 *eLR* LR 09 54 06.1
comp=Z,1μm,24.6s
GTA Gaotai 45.80 332 ⇑P **P 09 41 19.6 -0.2**
GTA pP pP 09 41 29.7 -0.8
GTA PP **PP 09 43 09.1 +1.4**
GTA S **S 09 47 59.8 -1.2**
GTA SS **ScS 09 51 16.7 +4.0**
GTA pmax pmax
comp=Z,17nm,1.3s
GTA pmax pmax
comp=Z,130nm,7.3s
GTA LR LR
comp=Z,530nm,19.7s
GTA LR LR
comp=Z,460nm,19.0s
GTA LR LR
comp=Z,860nm,19.4s
RAMN Ramite 45.89 309 *eP* **P 09 41 20.0 -0.8**
comp=Z,163nm,0.5s
RAMN Ramite 45.89 309 *eP* **P 09 41 20.0 -0.8**
comp=Z,163nm,0.5s
PVM Polavaram 46.24 294 *eP* **P 09 41 22.5 -0.8**
PVM IVmB_BB 09 41 26.0
comp=Z,161nm,0.6s
JIRN Jiri 46.56 310 *eP* **P 09 41 25.0 -1.2**
comp=Z,208nm,0.4s
JIRN Jiri 46.56 310 *eP* **P 09 41 25.0 -1.2**
comp=Z,208nm,0.4s
ASAJ Asahikawa 46.89 17 P **P 09 41 27.3 -0.7**
ASAJ pmax pmax
comp=Z,64nm,1.2s
JKA Kamikawa-asahi 46.89 17 P **P 09 41 27.3 -0.7**
JKA IAmb IAmb 09 41 44.1
comp=Z,64nm,1.2s
GUN Gumba 46.92 310 *eP* **P 09 41 27.8 -1.2**
comp=Z,285nm,0.5s
GUN Gumba 46.92 310 *eP* **P 09 41 27.8 -1.2**
comp=Z,285nm,0.5s
MYLAV Mylavaram 47.00 293 *eP* **P 09 41 29.1 -0.1**
MYLAV IVmB_BB 09 41 29.2
comp=Z,230nm,1.3s
SKHT Srikalahasti 47.08 289 *eP* **P 09 41 29.3 -0.7**
SKHT IVmBBB 09 41 32.0
comp=Z,133nm,0.9s
PKI Pulchoki 47.12 309 *eP* **P 09 41 28.8 -1.7**
comp=Z,73nm,0.5s
PKI Pulchoki 47.12 309 *eP* **P 09 41 28.8 -1.7**
comp=Z,73nm,0.5s
PKIN Phulchoki 47.13 309 *eP* **P 09 41 28.8 -1.7**
comp=Z,100nm,0.6s
PKIN Phulchoki 47.13 309 *eP* **P 09 41 28.8 -1.7**
comp=Z,100nm,0.6s
KKN Kakani 47.32 309 *eP* **P 09 41 30.6 -1.4**
comp=Z,90nm,0.5s
KKN Kakani 47.32 309 *eP* **P 09 41 30.6 -1.4**
comp=Z,90nm,0.5s
ADKI Addanki 47.36 292 *eP* **P 09 41 31.8 -0.3**
ADKI IVmBBB 09 41 32.0
comp=Z,242nm,1.0s
DMN Daman 47.37 309 *eP* **P 09 41 31.2 -1.2**
comp=Z,109nm,0.7s
DMN Daman 47.37 309 *eP* **P 09 41 31.2 -1.2**
comp=Z,109nm,0.7s
GKN Gorkha 47.92 309 *eP* **P 09 41 35.1 -1.5**
comp=Z,124nm,0.4s
GKN Gorkha 47.92 309 *eP* **P 09 41 35.1 -1.5**
comp=Z,124nm,0.4s
NJS Nagarjunasagar 48.17 293 IVmB_BB 09 41 37.6
comp=Z,171nm,1.1s
NJS *eP* **P 09 41 37.8 -0.6**
KOLN Koldanda 48.62 308 *eP* **P 09 41 40.9 -1.1**
comp=Z,288nm,0.6s
KOLN Koldanda 48.62 308 *eP* **P 09 41 40.9 -1.1**
comp=Z,288nm,0.6s
CUPL Choutuppal 48.72 293 *eP* **P 09 41 42.2 -0.6**
HYB Hyderabad 49.09 293 *i P* **P 09 41 44.0 -1.6**
comp=Z,180nm,1.0s
HYBB Hyderabad (bro 49.09 293 *eP* **P 09 41 44.2 -1.4**
HYBB IVmB_BB 09 41 44.7
comp=Z,507nm,1.2s
PYUN Piuthan 49.25 309 *eP* **P 09 41 45.9 -0.9**
comp=Z,502nm,0.5s
PYUN Piuthan 49.25 309 *eP* **P 09 41 45.9 -0.9**
comp=Z,502nm,0.5s
YSS Yuzh-Sakhalins 49.53 16⇑*eP* **P 09 41 48.3 0.0**
YSS *e* 09 43 09.7
YSS *e* 09 43 46.1
YSS *eS* **S 09 48 53.4 +0.2**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,300nm,4.8s
YSS MLR MLR
comp=Z,300nm,15.0s
HIA Hailar 49.59 355 P **P 09 41 49.1 +0.3**
HIA pmax pmax
comp=Z,58nm,0.9s
HIA Hailar 49.59 355 P **P 09 41 49.1 +0.3**
HIA IAmb IAmb 09 41 52.7
comp=Z,58nm,0.9s
URV Uravakonda 49.67 290 *eP* **P 09 41 48.6 -1.4**
URV IVmB_BB 09 41 57.6
comp=Z,237nm,2.8s
SRSP Sriramsagar 49.72 295 *eP* **P 09 41 48.3 -2.0**
SRSP IVmBBB 09 41 49.2
comp=Z,185nm,1.4s
SONM Songino Array 50.63 344 P **P 09 41 56.0 -0.9**
comp=Z,24nm,0.7s,baz=158,slow=9.0,SNR=36
SONM PcP **PcP 09 43 13.7 -0.3**
comp=Z,8.0nm,0.8s,baz=162,slow=2.2,SNR=4.1
SONM ScP **ScP 09 47 07.5 +0.4**
comp=Z,1.9nm,0.9s,baz=148,slow=4.6,SNR=3.0
SONM LR LR 10 04 35.1
comp=Z,524nm,20.2s,baz=155,slow=38
SONM Songino Array 50.63 344 P **P 09 41 55.7 -1.2**
SONM pmax pmax
comp=Z,21nm,0.8s
SONM Songino Array 50.63 344 P **P 09 41 55.7 -1.2**
KLRI Killari 51.06 294 *eP* **P 09 41 59.2 -1.3**
KLRI IVmBBB 09 42 06.5
comp=Z,276nm,1.6s
GRNR Gornyy 51.78 9⇑*i P* **P 09 42 05.9 +0.6**
GRNR *eS* **S 09 49 29.0 +4.6**
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR smax smax
comp=N,8.0nm,0.9s
GRNR MLR MLR
comp=E,200nm,20.0s
GRNR MLR MLR
comp=N,200nm,18.0s
GRNR MLR MLR
comp=Z,170nm,16.0s
TYV Tymovskoe 53.11 14 *eP* **P 09 42 15.5 +0.4**
TYV pmax pmax
comp=Z,19nm,1.8s
TYV pmax pmax
comp=Z,400nm,5.8s
ZAK Zakamensk 53.82 343 *eP* **P 09 42 19.4 -1.1**
ZAK pmax pmax
comp=Z,15nm,1.0s
ZEA Zeya 53.88 2 *eP* **P 09 42 20.1 -0.6**
ZEA pmax pmax
comp=Z,52nm,1.0s
TLY Talaya 54.88 344 *eP* **P 09 42 27.6 -0.4**
TLY *e* 09 44 36.4
TLY *eS* **S 09 50 07.4 +0.9**
TLY pmax pmax
comp=Z,126nm,0.9s
TLY MLR MLR
comp=Z,678nm,19.0s
TLY Talaya 54.88 344 P **P 09 42 26.6 -1.4**
TLY IAmb IAmb 09 42 31.3
comp=Z,48nm,0.9s
WMQ Urumqi 55.16 328 *eP* **P 09 42 30.3 -0.1**
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,150nm,7.3s
WMQ LR LR
comp=Z,450nm,23.1s
WMQ LR LR
comp=Z,400nm,25.5s
WMQ LR LR
comp=Z,320nm,23.9s
WMQ Urumqi 55.16 328 P **P 09 42 30.2 -0.1**
WMQ pmax pmax
comp=Z,113nm,1.4s
WMQ Urumqi 55.16 328 P **P 09 42 30.2 -0.2**
WMQ IAmb IAmb 09 42 33.4
comp=Z,113nm,1.4s
BHK Bhakra 55.84 309 *ex* x 09 42 34.5
THN Thein Dam 56.80 310 *eP* **P 09 42 40.5 -1.6**
BOD Bodaibo 58.62 353 *eP* **P 09 42 54.2 -0.2**
BOD pmax pmax
comp=Z,104nm,1.1s
ZSN Zaisan 59.06 329 *eP* **P 09 42 57.2 -0.6**
comp=Z,13nm,0.8s,baz=329
ZSN Zaisan 59.06 329 *eP* **P 09 42 57.1 -0.6**
ZSN pmax pmax
comp=Z,13nm,0.8s
NIL Nilore 59.19 310 P **P 09 42 57.5 -1.4**
NIL Nilore 59.19 310 P **P 09 42 57.6 -1.4**
NIL pmax pmax
comp=Z,45nm,0.7s
NIL Nilore 59.19 310 P **P 09 42 57.6 -1.4**
NIL IAmb IAmb 09 43 08.6
comp=Z,45nm,0.7s
DGZ Jazzator, Alta 59.34 333 *i P* **P 09 42 59.7 -0.1**
DGZ pmax pmax
comp=Z,50nm,0.9s
SHLS Shalkode 59.47 323 *eP* **P 09 42 58.0 -2.9**
comp=Z,24nm,0.8s,baz=323
SHLS Shalkode 59.47 323 *eP* **P 09 42 57.9 -2.9**
SHLS pmax pmax
comp=Z,24nm,0.8s
RPZ Rata Peaks 59.48 143 P **P 09 43 02.3 +1.6**
comp=Z,7.9nm,0.6s,baz=234,slow=5.2
RPZ Rata Peaks 59.48 143 IAmb IAmb 09 43 18.8
comp=Z,105nm,1.4s
UZB Uzynbulak 59.74 322⇑*i P* **P 09 43 01.5 -1.2**
comp=Z,15nm,0.8s,baz=322
UZB *eS* **S 09 51 10.7 -0.4**
baz=322
UZB Uzynbulak 59.74 322 *c i P* **P 09 43 01.4 -1.2**
UZB *eS* **S 09 51 10.6 -0.4**
UZB pmax pmax
comp=Z,15nm,0.8s
PEA0B Petropavlovsk- 59.74 22 P **P 09 43 02.3 0.0**
PEA0B pmax pmax
comp=Z,53nm,0.8s
PEA0B Petropavlovsk- 59.74 22 P **P 09 43 02.3 0.0**
PEA0B IAmb IAmb 09 43 04.7
comp=Z,52nm,0.8s
PETK Petropavlovsk- 59.74 22 P **P 09 43 03.5 +1.2**
comp=Z,48nm,0.7s,baz=193,slow=6.0,SNR=56
PETK PcP **PcP 09 43 49.5 +0.7**
comp=Z,18nm,0.8s,baz=199,slow=1.0,SNR=1.9
PETK Petropavlovsk- 59.74 22 P **P 09 43 02.6 +0.3**
PETK Petropavlovsk- 59.74 22 P **P 09 43 02.6 +0.3**
PRZ Przheval'sk 59.76 321 P **P 09 43 02.2 -0.7**
PRZ pmax pmax
comp=Z,70nm,0.8s
PRZ Przheval'sk 59.76 321 P **P 09 43 02.2 -0.7**
KSH Kashi 59.82 317 P **P 09 43 05.3 +2.0**
KSH S **S 09 51 14.7 +2.5**
KSH ScS **ScS 09 52 49.9 -0.9**
KSH pmax pmax
comp=Z,110nm,3.7s
KSH LR LR
comp=Z,960nm,21.8s
KSH LR LR
comp=Z,540nm,21.4s
KSH LR LR
comp=Z,280nm,14.4s
MK31 Makanchi Array 59.99 327 P **P 09 43 03.5 -0.7**
MK31 pmax pmax
comp=Z,51nm,0.9s
MK31 Makanchi Array 59.99 327 P **P 09 43 03.5 -0.7**
MK31 IAmb IAmb 09 43 05.8
comp=Z,51nm,0.9s
MKAR Makanchi Array 59.99 327 P **P 09 43 03.4 -0.8**
comp=Z,54nm,0.6s,baz=126,slow=7.5,SNR=118
MKAR PcP **PcP 09 43 49.9 -0.1**
comp=Z,16nm,0.7s,baz=113,slow=5.8,SNR=4.4
MKAR S **S 09 51 13.1 -0.9**
comp=Z,1.5nm,1.0s,baz=124,slow=18,SNR=3.0
MKAR LR LR 10 10 36.6
comp=Z,665nm,19.5s,baz=122,slow=38
MKAR PKPPKP **P'P'df 10 12 33.8 +4.0**
comp=Z,1.5nm,0.9s,baz=11,slow=1.5,SNR=4.1
MKAR PKP2bc 10 12 41.0
comp=Z,1.2nm,0.9s,baz=251,slow=7.6,SNR=5.7
PET Petropavlovsk 60.04 23⇓*i P* **P 09 43 06.2 +1.9**
PET *eS* **S 09 51 20.0 +5.9**
PET *eSS* **SS 09 55 17.3 +5.8**
PET pmax pmax
comp=Z,200nm,18.0s
PET Petropavlovsk 60.04 23 P **P 09 43 03.7 -0.6**
PET IAmb IAmb 09 43 06.5
comp=Z,119nm,1.4s
SATY Saty 60.06 322 *eP* **P 09 43 03.1 -1.8**
comp=Z,58nm,0.8s,baz=322
SATY *eS* **S 09 51 15.0 -0.3**
baz=322
SATY Saty 60.06 322 *eP* **P 09 43 03.9 -1.0**
SATY *eS* **S 09 51 14.9 -0.3**
SATY pmax pmax
comp=Z,58nm,0.8s
TUWZ Tuamarina 60.10 139 P **P 09 43 04.6 -0.4**
KPKS Kokpek 60.12 323 *eP* **P 09 43 04.0 -1.3**
comp=Z,46nm,0.6s,baz=323
KPKS Kokpek 60.12 323 *eP* **P 09 43 03.9 -1.3**
KPKS pmax pmax
comp=Z,46nm,0.6s
MAKZ Makanchi 60.17 327 P **P 09 43 04.5 -0.9**
MAKZ pmax pmax
comp=Z,63nm,0.5s
MAKZ Makanchi 60.17 327 P **P 09 43 04.5 -0.9**
KDJ Kajisay 60.34 321 P **P 09 43 05.9 -1.0**
KDJ pmax pmax
comp=Z,65nm,0.7s
KDJ Kajisay 60.34 321 P **P 09 43 05.9 -1.0**
BKZ Black Stump Fm 60.76 136 P **P 09 43 09.5 -0.1**
URZ Urewera 60.79 135 P **P 09 43 09.6 -0.2**
comp=Z,4.3nm,0.5s,baz=207,slow=9.0
URZ Urewera 60.79 135 IAmb IAmb 09 43 38.6
comp=Z,22nm,0.8s
TNSS Tian-Shan 60.96 321 *eP* **P 09 43 10.6 -0.8**
baz=321
TNSS Tian-Shan 60.96 321 *eP* **P 09 43 10.5 -0.8**
MDOK Medeo 60.96 321 *eP* **P 09 43 10.0 -1.1**
baz=322
MDOK *eS* **S 09 51 26.4 -0.4**
baz=322
MDOK LR LR 10 07 58.4
comp=Z,191nm,21.8s,baz=322
MDOK Medeo 60.96 321 *eP* **P 09 43 10.0 -1.1**
MDOK *eS* **S 09 51 26.3 -0.4**
MDOK MLR MLR
comp=Z,191nm,22.0s
ULHL Ulahol 61.00 320 P **P 09 43 12.6 +1.2**
SNR=8.9
AAA Alma-Ata 61.07 321 *eP* **P 09 43 11.0 -0.7**
comp=Z,38nm,0.7s,baz=322
AAA Alma-Ata 61.07 321 *eP* **P 09 43 10.9 -0.7**
AAA pmax pmax
comp=Z,38nm,0.7s
TDK Taldyqorghan 61.13 324 *eP* **P 09 43 10.9 -1.1**
comp=Z,64nm,0.8s,baz=324
TDK LR LR 10 08 05.0
comp=Z,195nm,20.0s,baz=324
TDK Taldyqorghan 61.13 324 *eP* **P 09 43 10.8 -1.2**
TDK pmax pmax
comp=Z,64nm,0.8s
TDK MLR MLR
comp=Z,195nm,20.0s
BOOM Boomskoye usch 61.31 320 P **P 09 43 12.5 -1.0**
BOOM pmax pmax
comp=Z,55nm,1.2s
BOOM Boomskoye usch 61.31 320 P **P 09 43 12.5 -1.0**
BOOM IAmb IAmb 09 43 16.1
comp=Z,54nm,1.1s
CHKK Chushkaly 61.36 322 *eP* **P 09 43 12.0 -1.7**
baz=322
CHKK Chushkaly 61.36 322 *eP* **P 09 43 11.9 -1.7**
KZA Kyzart 61.55 320 P **P 09 43 17.1 +1.7**
SNR=7.3
TKM2 Tokmak 2 61.75 321 P **P 09 43 15.6 -0.9**
SNR=53
KBK Karagaybulak 62.03 320 P **P 09 43 18.7 +0.4**
SNR=28
UCH Uchtor 62.10 319 P **P 09 43 20.5 +1.4**
SNR=11
YAK Yakutsk 62.26 2 P **P 09 43 19.6 +0.4**
comp=Z,64nm,0.6s,baz=246,slow=0.7,SNR=24
YAK Yakutsk 62.26 2 *eP* **P 09 43 19.1 -0.1**
YAK *e*PP **pP 09 43 29.1 -1.3**
YAK *eS* **S 09 51 40.3 -1.8**
YAK *e*SS **sS 09 52 01.2 +0.7**
YAK *e* 09 53 01.8
YAK *eSS* **SS 09 55 44.7 -1.3**
YAK *eSSS* SSS 09 58 32.9
YAK pmax pmax
comp=Z,119nm,0.8s
YAK pmax pmax
comp=N,35nm,0.7s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK smax smax
comp=E,133nm,2.2s
YAK smax smax
comp=N,115nm,2.0s
YAK MLR MLR
comp=Z,202nm,21.0s
YAK MLR MLR
comp=N,148nm,21.0s
YAK Yakutsk 62.26 2 P **P 09 43 18.9 -0.3**
AAK Ala-Archa 62.31 320 P **P 09 43 19.5 -0.7**
SNR=41
AAK Ala-Archa 62.31 320 *ceP* **P 09 43 19.5 -0.7**
AAK pmax pmax
comp=Z,62nm,1.0s
CHMS Chumysh 62.33 320 P **P 09 43 20.3 +0.2**
SNR=10
AML Almayashu 62.59 319 P **P 09 43 21.8 -0.6**
SNR=25
USP Ospenovka 62.62 321 P **P 09 43 21.1 -1.0**
SNR=54
SGDS Sogindy 62.63 321 *i P* **P 09 43 20.7 -1.5**
comp=Z,14nm,0.7s,baz=321
SGDS *eS* **S 09 51 46.9 -0.8**
baz=321
SGDS Sogindy 62.63 321 *i P* **P 09 43 20.6 -1.5**
SGDS *eS* **S 09 51 46.8 -0.8**
SGDS pmax pmax
comp=Z,14nm,0.7s
KBL Kabul 62.76 310 P **P 09 43 21.8 -1.6**
SNR=25
KBL Kabul 62.76 310 P **P 09 43 22.1 -1.3**
KBL pmax pmax
comp=Z,74nm,0.8s
KBL Kabul 62.76 310 P **P 09 43 22.1 -1.3**
EKS2 Erkin-Say 62.79 320 P **P 09 43 24.7 +1.4**
SNR=7.9
MA2 Magadan 62.98 14 P **P 09 43 24.8 +0.7**
MA2 pmax pmax
comp=Z,62nm,0.8s
MA2 Magadan 62.98 14 P **P 09 43 24.8 +0.7**
MA2 IAmb IAmb 09 43 42.4

comp=Z,62nm,0.8s
SEM Semipalatinsk 63.29 330 *e*P **P 09 43 25.3 -1.4**
comp=Z,5.8nm,0.7s,baz=330
SEM Semipalatinsk 63.29 330 *e*P **P 09 43 25.2 -1.4**
SEM pmax pmax
comp=Z,6.0nm,0.7s
ZAA0 Zalesovo Array 63.47 335 P **P 09 43 26.4 -1.0**
ZAA0 IAmb IAmb 09 43 27.9
comp=Z,36nm,0.9s
ZALV Zalesovo Beam 63.47 335 P **P 09 43 25.3 -2.1**
comp=Z,42nm,0.9s,baz=120,slow=5.3,SNR=63
ZALV PcP **PcP 09 44 03.5 -0.4**
comp=Z,9.3nm,0.8s,baz=129,slow=4.7,SNR=1.7
ZALV LR LR 10 11 43.6
comp=Z,340nm,19.3s,baz=126,slow=37
ZALV PKP2bc 10 12 31.2
comp=Z,1.1nm,0.8s,baz=270,slow=4.3,SNR=4.4
ZALV Zalesovo Beam 63.47 335 P **P 09 43 26.5 -0.9**
ZALV Zalesovo Beam 63.47 335 P **P 09 43 26.5 -0.9**
GAR Garm 63.52 315 P **P 09 43 26.9 -1.3**
BTLS Baital 63.78 322 *e*P **P 09 43 28.1 -1.6**
comp=Z,11nm,0.7s,baz=322
BTLS Baital 63.78 322 *e*P **P 09 43 28.0 -1.6**
BTLS pmax pmax
comp=Z,11nm,0.7s
CHGR Chuyangaron 64.21 314 P **P 09 43 31.3 -1.5**
KURBB Kurchatov Arra 64.29 329 P **P 09 43 31.0 -1.9**
KURK Kurchatov 64.30 329*ce*P **P 09 43 31.4 -1.6**
KURK pmax pmax
comp=Z,120nm,0.7s
KURK Kurchatov 64.30 329 P **P 09 43 31.7 -1.3**
IUG Iuzhnay 65.03 318 *e*P **P 09 43 37.0 -1.1**
comp=Z,40nm,0.5s,baz=318
IUG *e*S **S 09 52 17.1 -0.5**
baz=318
IUG Iuzhnay 65.03 318 *e*P **P 09 43 36.9 -1.1**
IUG *e*S **S 09 52 17.1 -0.5**
IUG pmax pmax
comp=Z,40nm,0.5s
KK31 Karatay Array 65.12 319 P **P 09 43 37.7 -0.8**
KK31 pmax pmax
comp=Z,55nm,0.8s
KK31 Karatay Array 65.12 319 P **P 09 43 37.7 -0.8**
KK31 IAmb IAmb 09 43 40.6
comp=Z,55nm,0.8s
KKAR Karatay Array 65.12 319 P **P 09 43 38.0 -0.6**
KKAR pmax pmax
comp=Z,55nm,0.8s
KKAR Karatay Array 65.12 319 P **P 09 43 38.0 -0.6**
KKAR IAmb IAmb 09 43 40.6
comp=Z,55nm,0.8s
KKAR Karatay Array 65.12 319 P **P 09 43 37.5 -1.0**
TAS Tashkent 65.19 317 P **P 09 43 38.1 -0.9**
TAS pmax pmax
comp=Z,156nm,0.5s
TAS Tashkent 65.19 317 P **P 09 43 38.1 -0.9**
SEY Seymchan 66.29 13*c i*P **P 09 43 46.5 +0.9**
CASY Casey 66.66 186 P **P 09 43 47.7 -0.2**
CASY IAmb IAmb 09 43 49.5
comp=Z,24nm,0.9s
BRZS Berezniki 67.07 326 LR LR 10 12 22.4
comp=Z,144nm,15.4s,baz=326
HRA Herat 68.03 307 P **P 09 43 56.6 -0.9**
HRA IAmb IAmb 09 44 24.7
comp=Z,20nm,0.8s
WSAR Wadi Sarin 68.60 295 P **P 09 43 59.0 -2.0**
MHTO MHTO 68.84 293 P **P 09 44 01.8 -0.8**
SNR=13
MHTO P **P 09 44 01.8 -0.8**
SNR=13
JMDO Jabal Madar 68.93 294 P **P 09 44 01.3 -1.9**
BIDO Bidbid 69.10 295 P **P 09 44 02.2 -1.9**
BIDO P **P 09 44 02.2 -1.9**
BSY Bisya 69.82 294 P **P 09 44 06.4 -2.2**
HOQ Hoqain 69.85 295 P **P 09 44 08.0 -0.8**
HOQ P **P 09 44 08.0 -0.8**
BRVK Borovoye 69.91 328*ce*P **P 09 44 07.2 -1.3**
BRVK pmax pmax
comp=Z,90nm,1.1s
BRVK Borovoye 69.91 328 P **P 09 44 07.3 -1.2**
BRVK IAmb IAmb 09 44 10.8
comp=Z,94nm,1.1s
ARQ Araqi 70.53 295 P **P 09 44 11.4 -1.5**
SNR=5.7
SHAO Shalim 70.63 289 P **P 09 44 12.8 -0.8**
SOHO SOHO 70.64 296 P **P 09 44 11.2 -2.4**
SOHO SOHO 70.64 296 P **P 09 44 11.9 -1.7**
RER Riviere de l'E 70.69 248 P **P 09 44 13.6 -0.5**
MDH Madha 71.05 297 P **P 09 44 14.0 -2.0**
UOSS Minazif 71.07 296 P **P 09 44 13.7 -2.5**
UOSS Minazif 71.07 296 P **P 09 44 13.8 -2.4**
UOSS Minazif 71.07 296 P **P 09 44 15.1 -1.1**
HATD Hatta, Dubai 71.12 296 *i* P **P 09 44 14.4 -2.1**
SNR=13
HATD Hatta, Dubai 71.12 296 P **P 09 44 16.1 -0.4**
SNR=13
HATD P **P 09 44 16.1 -0.4**
SNR=13
BANOM Banah 71.15 297 P **P 09 44 16.4 -0.3**
ASHO Ashiyiah 71.16 296 *i* P **P 09 44 15.7 -1.1**
SNR=19
ASHO Ashiyiah 71.16 296 P **P 09 44 16.1 -0.7**
SNR=20
MSFE Esma-Masafi 71.18 297 P **P 09 44 16.6 -0.3**
SHME Shamm 71.31 298 P **P 09 44 16.8 -0.8**
ALNE Al Ain 71.34 295 *i* P **P 09 44 16.0 -1.9**
SNR=12
FAQ Al Faqa, Dubai 71.59 296 P **P 09 44 19.6 +0.2**
TIXI Tiksi 71.87 1 P **P 09 44 19.3 -0.8**
baz=202,slow=11
TIXI Tiksi 71.87 1*ce*P **P 09 44 18.8 -1.2**
TIXI pmax pmax
comp=Z,57nm,1.3s
TIXI MLR MLR
comp=Z,323nm,20.0s
TIXI Tiksi 71.87 1 P **P 09 44 19.2 -0.8**
TIXI IAmb IAmb 09 44 20.4
comp=Z,33nm,0.6s
GEYT Alibeck 72.20 310 P **P 09 44 21.4 -1.3**
comp=Z,12nm,0.6s,baz=129,slow=4.7,SNR=16
GEYT LR LR 10 19 39.1
comp=Z,177nm,20.7s,baz=125,slow=39
GEYT Alibeck 72.20 310 P **P 09 44 22.0 -0.8**
GYA0B ALIBECK ARRAY 72.20 310 P **P 09 44 21.8 -0.9**
GYA0B IAmb IAmb 09 44 42.4
comp=Z,26nm,0.8s
WHFO Wadi Hawf 72.37 289 P **P 09 44 22.6 -1.6**
ABTO Aybut 72.76 288 P **P 09 44 25.2 -1.3**
BILL Bilibino 73.83 15 *i* P **P 09 44 32.3 +0.5**
BILL pmax pmax
comp=Z,11nm,0.9s
BILL MLR MLR
comp=Z,220nm,22.0s
NRIK Noril'sk 73.95 347 P **P 09 44 32.5 +0.1**
comp=Z,100nm,0.6s,baz=125,slow=5.6,SNR=138
NRIK LR LR 10 20 44.0
comp=Z,159nm,18.2s,baz=186,slow=39
AB31 Akbulak array 74.27 322 P **P 09 44 33.0 -1.7**
ABKAR Akbulak array 74.27 322 P **P 09 44 34.0 -0.7**
AKTO Aktyubinsk 75.83 323 P **P 09 44 42.0 -1.7**
NIKH Nikolski High 76.02 35 P **P 09 44 43.9 -0.7**
NIKH IAmb IAmb 09 44 53.2
comp=Z,77nm,1.0s
SVE Sverdlovsk 76.56 329 *e*P **P 09 44 46.7 -0.9**
SVE pmax pmax
comp=Z,115nm,0.8s
ARU Arti 77.48 329*ce*P **P 09 44 51.2 -1.7**
ARU pmax pmax
comp=Z,71nm,0.7s
ARU MLR MLR
comp=Z,226nm,19.0s
ARU Arti 77.48 329 P **P 09 44 52.2 -0.7**
ARU IAmb IAmb 09 44 53.1
comp=Z,71nm,0.8s
UNV Unalaska Valle 77.63 34 P **P 09 44 52.3 -1.4**
UNV IAmb IAmb 09 45 02.9
comp=Z,38nm,0.7s
AKUT Akutan 78.13 34 P **P 09 44 55.0 -1.4**
ABPO Ambohimpanom 78.46 251 P **P 09 44 59.2 -0.1**
ABPO pmax pmax
comp=Z,23nm,0.8s
ABPO Ambohimpanom 78.46 251 P **P 09 44 59.2 -0.1**
MAW Mawson 79.45 200 P **P 09 45 04.4 +1.0**
comp=Z,11nm,0.8s,baz=68,slow=6.1,SNR=30
MAW PKKPbc **PKKPbc 10 03 52.7 -3.0**
comp=Z,1.9nm,0.7s,baz=252,slow=3.2,SNR=6.5
MAW LR LR 10 17 19.7
comp=Z,143nm,18.3s,baz=57,slow=34
MAW Mawson 79.45 200 P **P 09 45 04.5 +1.0**
baz=80,SNR=11
MAW Mawson 79.45 200 P **P 09 45 03.2 -0.3**
MAW pmax pmax
comp=Z,6.0nm,1.2s
MAW Mawson 79.45 200 P **P 09 45 03.2 -0.3**
FALS False Pass 79.65 34 P **P 09 45 03.4 -1.4**
VNDA Vanda 79.67 172 P **P 09 45 05.2 +0.7**
comp=Z,2.7nm,0.8s,baz=308,slow=6.9,SNR=14
VNDA PKKPbc **PKKPbc 10 03 53.0 -2.5**
comp=Z,0.9nm,0.8s,baz=219,slow=3.4,SNR=2.9
VNDA LR LR 10 20 38.3
comp=Z,192nm,21.5s,baz=328,slow=36
VNDA Vanda 79.67 172 P **P 09 45 04.6 +0.1**
VNDA pmax pmax
comp=Z,7.0nm,0.8s
VNDA Vanda 79.67 172 P **P 09 45 04.6 +0.1**
AKT Akhty 80.76 312 *e*P **P 09 45 10.9 -0.4**
AKT pmax pmax
comp=Z,137nm,0.6s
MAK Makhachkala 81.14 313 *e*P **P 09 45 09.6 -3.5**
MAK *e*S **S 09 55 14.8 -5.4**
MAK pmax pmax
comp=Z,164nm,1.4s
SDPT Sand Point 81.41 34 P **P 09 45 14.3 0.0**
GROC Groznyy 82.42 314 *e*P **P 09 45 20.0 +0.1**
GROC *e**PP **sP 09 45 34.3 -1.2**
GROC pmax pmax
comp=Z,111nm,0.9s
ATD Arta Tunnel 82.49 282 P **P 09 45 23.2 +2.3**
SNR=7.4
TBLG Delisi 83.01 312 *e*P **P 09 45 23.0 0.0**
TBLG Delisi 83.01 312 P **P 09 45 23.3 +0.3**
TBLG pmax pmax
comp=Z,152nm,0.7s
TBLG Delisi 83.01 312 P **P 09 45 23.3 +0.3**
TASB TASBURUN-IGDIR 83.20 310 *e*P **P 09 45 25.2 +1.1**
CLDR Caldiran 83.36 309 *e*P **P 09 45 25.7 +0.6**
CUKT Cukurca 83.42 307 *e*P **P 09 45 24.3 -1.0**
RDOG Red Dog Mine 83.59 21 P **P 09 45 24.2 -1.3**
VANB Van 83.71 309 *e*P **P 09 45 26.9 +0.1**
ZEI Tsey 83.75 313 *e*P **P 09 45 25.9 -1.1**
ZEI pmax pmax
comp=Z,139nm,0.9s
AKH Akhalkalaki 83.91 312 ⇓P **P 09 45 28.7 +0.9**
AKH Akhalkalaki 83.91 312 *e*P **P 09 45 28.8 +0.9**
AKH Akhalkalaki 83.91 312 P **P 09 45 27.9 +0.1**
AKH pmax pmax
comp=Z,144nm,0.8s
AKH Akhalkalaki 83.91 312 P **P 09 45 27.9 +0.1**
GEVA Gevas 83.95 308 P **P 09 45 28.1 0.0**
AKDM Akdamar-Van 84.01 308 *e*P **P 09 45 28.7 +0.3**
AGRB Hanur-Agry 84.11 310 *e*P **P 09 45 29.5 +0.6**
KARS Kars 84.14 311 *e*P **P 09 45 29.9 +0.9**
KBZ Khabaz 84.58 314 P **P 09 45 30.6 -0.3**
comp=Z,48nm,0.8s,baz=106,slow=4.1,SNR=75
KBZ LR LR 10 29 34.7
comp=Z,45nm,18.0s,baz=73,slow=40
GOF Gofitskoye 84.60 315⇑ *e*P **P 09 45 30.6 -0.4**
GOF pmax pmax
comp=Z,110nm,0.6s
SENK Senkaya-Erzuru 84.69 311 *e*P **P 09 45 32.4 +0.5**
KIV Kislovodsk 84.75 314 *i* P **P 09 45 32.5 +0.5**
SNR=10.0
KIV Kislovodsk 84.75 314 *e*P **P 09 45 31.3 -0.6**
KIV Kislovodsk 84.75 314 *e*P **P 09 45 31.7 -0.2**
KIV pmax pmax
comp=Z,216nm,1.0s
KIV MLR MLR
comp=Z,395nm,19.0s
KIV Kislovodsk 84.75 314 P **P 09 45 31.9 0.0**
GURO Guroymak-BITLI 84.77 309 *e*P **P 09 45 32.9 +0.7**
KOPR Koprukoy-ERZUR 85.02 310 *e*P **P 09 45 34.5 +1.0**
TTA Tatalina 85.19 27 P **P 09 45 34.0 +0.3**
TTA pmax pmax
comp=Z,24nm,0.9s
TTA Tatalina 85.19 27 P **P 09 45 34.0 +0.3**
TTA IAmb IAmb 09 45 36.5
comp=Z,24nm,0.9s
PRGR Permogore 85.26 332⇓ *i*P **P 09 45 33.8 -0.1**
PRGR pmax pmax
comp=Z,479nm,1.0s
VRTB Varto-Mus 85.27 309 *e*P **P 09 45 35.9 +1.2**
BATM Batumi 85.27 312 ⇓P **P 09 45 34.4 -0.1**
BATM Batumi 85.27 312 *e*P **P 09 45 34.6 +0.1**
BCA Borcka 85.31 311 ⇓P **P 09 45 34.4 -0.3**
BCA Borcka 85.31 311 *e*P **P 09 45 34.3 -0.4**
SVAN Silvan-Diyarba 85.39 308 *e*P **P 09 45 35.2 0.0**
PPT Papeete 85.43 107 LR LR 10 23 03.4
comp=Z,66nm,19.8s,baz=302,slow=35
PPT2 Papeete2 85.43 108 *e*LR LR 10 12 31.5
comp=Z,379nm,27.0s
MARD Mardin 85.67 307 P **P 09 45 36.8 +0.1**
TBI Tubuai 85.67 113 *e*LR LR 10 12 37.2
comp=Z,567nm,25.8s
OHAK Old Harbor 85.69 33 P **P 09 45 36.6 +0.5**
OHAK IAmb IAmb 09 45 38.2
comp=Z,54nm,0.8s
BNGB Bingl 85.86 309 *e*P **P 09 45 38.2 +0.6**
MAZI Mazidag 85.94 307 *e*P **P 09 45 38.1 0.0**
YEDI Yedisu-Bingol 85.99 309 *e*P **P 09 45 38.7 +0.4**
KOPT Kop Dagi 86.06 310 P **P 09 45 40.1 +1.3**
VRH Novokhopyorsk 86.08 321 *e*P **P 09 45 37.6 -0.7**
VRH pmax pmax
comp=Z,380nm,0.7s
KDAK Kodiak Island 86.13 32 P **P 09 45 38.7 +0.4**
KDAK pmax pmax
comp=Z,35nm,0.9s
KDAK Kodiak Island 86.13 32 P **P 09 45 38.7 +0.4**
KDAK IAmb IAmb 09 45 40.4
comp=Z,35nm,0.8s
DYBB Diyarbakir 86.22 308 *e*P **P 09 45 39.9 +0.5**
A21K Barrow 86.52 18 P **P 09 45 40.4 +0.4**
baz=259
IMAR Indian Mountai 86.65 24 P **P 09 45 41.2 +0.4**
KTUT Trabzon 86.68 311 *e*P **P 09 45 41.3 -0.1**
HOM Homer 86.83 30 P **P 09 45 41.2 -0.6**
baz=264
PTK Pertek 86.85 309 *e*P **P 09 45 43.2 +0.6**
SOC Sochi 86.86 313*c i*P **P 09 45 41.0 -1.3**
SOC *e* 09 49 03.4
SOC *e*S S 09 56 05.6 -12
SOC *e*SS **SS 10 01 59.9 -0.5**
SOC pmax pmax
comp=Z,70nm,0.6s
SOC MLR MLR
comp=Z,221nm,20.0s
SVRC Sivrice-ELAZID 86.89 308 *e*P **P 09 45 43.2 +0.4**
KIBK Kibwezi 87.07 268 P **P 09 45 45.6 +1.5**
SNR=9.9
SKT Skwentna 87.12 28 P **P 09 45 41.5 -1.7**
SKT IAmb IAmb 09 45 43.4
comp=Z,20nm,1.0s
BRLK Bradley Lake 87.22 30 P **P 09 45 42.5 -1.2**
BRLK IAmb IAmb 09 45 45.8
comp=Z,30nm,0.9s
URFA Urfa 87.23 307 *e*P **P 09 45 44.2 -0.2**
SUA Susitna One 87.44 29 P **P 09 45 44.9 +0.1**
SUA IAmb IAmb 09 45 46.3
comp=Z,41nm,0.8s
KTH Kantishna Hill 87.56 26 P **P 09 45 44.1 -1.2**
MALT Malatya 87.58 308 *e*P **P 09 45 46.7 +0.7**
BPAW Bear Paw Mtn. 87.58 26 P **P 09 45 43.5 -1.8**
VORD Divnogorie 87.59 321 *e*P **P 09 45 44.6 -1.0**
VORD pmax pmax
comp=Z,470nm,1.6s
ARPR Arapgir-MALATY 87.68 309 *e*P **P 09 45 47.8 +1.2**
VSR Storozhevoye 87.69 321 *e*P **P 09 45 44.8 -1.3**
VSR pmax pmax
comp=Z,230nm,1.3s
VORR Voronezh 87.69 322 *e*P **P 09 45 44.0 -2.1**
VORR pmax pmax
comp=Z,450nm,1.2s
CUT Chulitna 87.75 28 P **P 09 45 45.6 -0.6**
baz=265
TRF Thorofare Moun 87.83 27 P **P 09 45 45.9 -0.9**
KMBO Kilima Mbogo 87.86 269 P **P 09 45 50.5 +2.4**
comp=Z,54nm,1.0s,baz=69,slow=7.0,SNR=85
KMBO LR LR 10 20 46.3
comp=Z,350nm,21.7s,baz=94,slow=33
KMBO Kilima Mbogo 87.86 269 *i* P **P 09 45 49.4 +1.3**
SNR=40
KMBO Kilima Mbogo 87.86 269 P **P 09 45 49.5 +1.4**
KMBO pmax pmax
comp=Z,100nm,1.2s
KMBO Kilima Mbogo 87.86 269 P **P 09 45 49.5 +1.4**
LPSR Galich'ya Gora 87.91 322 *e*P **P 09 45 46.2 -0.9**
LPSR pmax pmax
comp=Z,210nm,0.8s
SEW Seward 87.97 30 P **P 09 45 47.5 +0.4**
SEW IAmb IAmb 09 45 48.2
comp=Z,30nm,0.9s
KLMR Klimovskoe 88.11 331 *e*P **P 09 45 45.9 -1.9**
KLMR *e* 09 49 14.5
KLMR pmax pmax
comp=Z,100nm,1.0s
KLMR Klimovskoe 88.11 331 *e*P **P 09 45 46.0 -1.9**
KLMR AMP 09 45 48.2
comp=Z,100nm,1.0s
KLMR *e*PP **PP 09 49 14.6 -0.3**
KLMR LQ LQ 10 20 05.8
KLMR LQ LQ 10 20 05.8
KLMR LR LR 10 25 33.8
SYO Syowa Base 88.12 201⇓ *e*P **P 09 45 47.0 -0.7**
SYO Syowa Base 88.12 201⇑ *i*PcP **PcP 09 45 49.0 -0.5**
SYO Syowa Base 88.12 201⇓ *e*sp 09 45 54.4
COLD Coldfoot 88.20 23 P **P 09 45 48.9 +0.7**
baz=265
COLD Coldfoot 88.20 23 P **P 09 45 49.2 +1.0**
PMR Palmer 88.23 28 P **P 09 45 48.4 0.0**
PMR pmax pmax
comp=Z,16nm,1.0s
PMR Palmer 88.23 28 P **P 09 45 48.4 0.0**
PMR IAmb IAmb 09 45 49.1
comp=Z,16nm,1.0s
BWN Browne 88.26 26 P **P 09 45 48.4 -0.1**
BWN IAmb IAmb 09 45 50.8
comp=Z,44nm,1.0s
DARE Darende-Malaty 88.33 308 *e*P **P 09 45 50.2 +0.6**
NEA2 Nenana 88.46 25 P **P 09 45 49.6 +0.1**
baz=266
MCK McKinley 88.46 26 P **P 09 45 49.4 -0.1**
MCK pmax pmax
comp=Z,26nm,0.9s
MCK McKinley 88.46 26 P **P 09 45 49.4 -0.1**
MCK IAmb IAmb 09 45 50.1
comp=Z,26nm,0.9s
RND Reindeer 88.47 27 P **P 09 45 49.4 -0.3**
RND pmax pmax
comp=Z,29nm,0.8s
RND Reindeer 88.47 27 P **P 09 45 49.4 -0.3**
RND IAmb IAmb 09 45 50.4
comp=Z,28nm,0.8s
RSDY Resadiye-TOKAT 88.51 310 *e*P **P 09 45 50.1 -0.2**
GAZ Gaziantep 88.51 307 *e*P **P 09 45 50.5 +0.1**
GAZ Gaziantep 88.51 307 P **P 09 45 50.3 -0.1**
KNK Knik Glacier 88.54 29 P **P 09 45 50.5 +0.6**
KNK IAmb IAmb 09 45 51.8
comp=Z,41nm,1.0s
TOLK Toolik Lake Re 88.56 21 P **P 09 45 50.6 +0.7**
baz=265
TOLK Toolik Lake Re 88.56 21 P **P 09 45 51.3 +1.3**
TOLK IAmb IAmb 09 45 51.9
comp=Z,22nm,0.8s
ANN Anapa 88.56 315 *i* P **P 09 45 49.0 -1.4**
ANN *e* 09 56 26.4
ANN pmax pmax
comp=N,96nm,0.7s
ANN pmax pmax
comp=Z,403nm,0.7s
ANN pmax pmax
comp=N,95nm,1.9s
SML Sawmill 88.62 28 P **P 09 45 50.8 +0.4**
SML IAmb IAmb 09 45 51.9
comp=Z,45nm,1.0s
SVSK Karacayir 88.75 310 *e*P **P 09 45 52.1 +0.8**
KMRS Kahramanmaras 88.76 307 *e*P **P 09 45 51.9 +0.3**
MOS Moscow 88.83 326 *e*P **P 09 45 49.5 -1.9**
MOS *e* 09 56 28.6
MOS pmax pmax
comp=Z,183nm,0.8s
MOS pmax pmax
comp=Z,200nm,0.9s
MDM Murphy Dome 88.84 25 P **P 09 45 50.9 -0.4**
WRH Wood River Hil 88.87 26 P **P 09 45 51.2 -0.2**
WRH IAmb IAmb 09 45 51.9
comp=Z,25nm,0.9s
TCOL CIGO, UAF Yank 88.99 25 P **P 09 45 52.2 +0.2**
baz=267
COLA College 89.00 25 *i* P **P 09 45 51.3 -0.7**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 89.00 25 P **P 09 45 50.5 -1.5**
CCB Clear Creek Bu 89.01 25 P **P 09 45 51.1 -0.9**
CCB IAmb IAmb 09 45 52.8
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 89.10 28 P **P 09 45 53.2 +0.6**
SCM pmax pmax
comp=Z,33nm,1.0s
SCM Sheep Creek Mo 89.10 28 P **P 09 45 53.2 +0.6**
SCM IAmb IAmb 09 45 54.0
comp=Z,34nm,1.0s
TOKT Tokat 89.10 310 *e*P **P 09 45 53.4 +0.3**
DHY Denali Highway 89.12 27 P **P 09 45 53.4 +0.6**
DHY IAmb IAmb 09 45 54.3
comp=Z,15nm,0.8s
SARI SarD1z-Kayseri 89.16 308 *e*P **P 09 45 53.9 +0.3**
POKR Poker Plat Res 89.19 25 P **P 09 45 53.6 +0.7**
baz=268
HDA Harding Lake 89.37 26 P **P 09 45 52.6 -1.1**
HDA IAmb IAmb 09 45 54.1
comp=Z,28nm,0.9s
YAYL Yayladag 89.37 306 *e*P **P 09 45 54.1 -0.5**
IL31 89.41 25 P **P 09 45 52.7 -1.2**
ILAR Eielson Array 89.41 25 P **P 09 45 52.4 -1.6**
comp=Z,5.5nm,0.7s,baz=236,slow=4.8,SNR=51
ILAR PP **PP 09 49 21.9 -3.3**
comp=Z,1.4nm,1.0s,baz=270,slow=7.0,SNR=4.1
ILAR PKKPbc **PKKPbc 10 03 30.1 -2.0**
comp=Z,1.0nm,0.8s,baz=98,slow=1.8,SNR=9.3
ILAR Eielson Array 89.41 25 P **P 09 45 52.2 -1.7**
ILAR Eielson Array 89.41 25 P **P 09 45 52.2 -1.7**
OBN Obninsk 89.41 325 P **P 09 45 53.3 -0.8**
comp=Z,48nm,0.7s,baz=109,slow=3.3,SNR=38
OBN Obninsk 89.41 325*c i*P **P 09 45 53.2 -0.8**
OBN *e* 09 49 31.2
OBN *e*S **S 09 56 38.3 -2.9**
OBN pmax pmax
comp=Z,199nm,0.9s
OBN Obninsk 89.41 325 P **P 09 45 53.4 -0.6**
KVT Kavak 89.49 311 *e*P **P 09 45 55.3 +0.4**
KOZT Kozan 89.62 307 *e*P **P 09 45 55.3 -0.3**
BNN Bunyan 89.62 309 *e*P **P 09 45 55.3 -0.4**
QSPA South Pole Qui 89.64 180 P **P 09 45 55.8 +0.7**
comp=Z,17nm,0.9s,baz=313,slow=1.6,SNR=56
QSPA South Pole Qui 89.64 180 P **P 09 45 55.9 +0.7**
QSPA IAmb IAmb 09 45 56.9
comp=Z,18nm,0.9s
M24K Tolsona, Glenn 89.65 28 P **P 09 45 55.7 +0.5**
baz=269
KLU Klutina 89.76 29 P **P 09 45 56.5 +0.8**
YURE YUREGIR 89.77 307 *e*P **P 09 45 57.3 +1.0**
LODK Lodwar 89.78 273 P **P 09 45 58.3 +1.4**
SNR=7.3
MMLI Mount Malkishu 89.90 302 *e*P **P 09 45 57.7 +0.7**
KRTS Karatas 89.97 306 *e*P **P 09 45 57.9 +0.7**
YOZ Yozgat 90.03 309 *e*P **P 09 45 56.8 -0.8**
HRFI Mount Harif 90.22 300 *e*P **P 09 45 59.0 +0.5**
RIDG Independent Ri 90.28 26 P **P 09 45 58.1 0.0**
RIDG IAmb IAmb 09 45 59.0
comp=Z,41nm,0.8s
CMRD Camardi-Nigde 90.28 307 *e*P **P 09 45 58.8 0.0**
EIL Elat 90.29 300 *e*P **P 09 45 59.1 +0.2**
BMAR Burnt Mountain 90.39 23 P **P 09 45 59.6 +1.1**
LVZ Lovozero 90.45 338*ce*P **P 09 45 57.1 -1.7**
LVZ pmax pmax
comp=Z,27nm,0.9s
LVZ MLR MLR
comp=Z,350nm,18.0s
CORM Corum 90.57 310 *e*P **P 09 46 00.2 +0.1**
DOT Dot Lake 90.63 27 P **P 09 46 00.2 +0.5**
DOT IAmb IAmb 09 46 00.8
comp=Z,20nm,0.8s
SCRK Sand Creek 90.66 26 P **P 09 45 59.7 -0.3**
baz=271

GLB **Gilahina Butte** 90.77 29 P P 09 46 01.3 +0.8
GLB IAmb IAmb 09 46 02.0
comp=Z,23nm,1.1s
MENT **Mentasta** 90.79 27 P P 09 46 01.2 +0.7
MENT IAmb IAmb 09 46 02.0
comp=Z,19nm,0.7s
SIM **Simferopol'** 90.92 315*d* *i*P P 09 45 59.8 -1.6
SIM pmax pmax
comp=Z,108nm,0.7s
APA **Apatity** 90.93 337⇑ *i*P P 09 45 58.2 -2.8
APA pmax pmax
comp=Z,13nm,1.1s
APA MLR MLR
comp=Z,600nm,17.0s
EREN **Erenkoy** 90.95 305 *e*P P 09 46 01.5 -0.2
KIZK **Mersin** 90.96 306 *e*P P 09 46 00.9 -0.9
BZK **Bozkurt** 91.03 312 ⇑P P 09 46 01.1 -0.8
SILI **Silifke-Mersin** 91.14 306 *e*P P 09 46 02.0 -0.6
MCARA **McCarthy VSAT** 91.15 29 P P 09 46 01.4 -0.8
MCARA IAmb IAmb 09 46 06.5
comp=Z,22nm,1.0s
ILGA **Ilgaz** 91.25 311 P P 09 46 03.2 -0.2
ILGA IAmb IAmb 09 46 03.8
comp=Z,19nm,0.8s
YESY **Yesilyurt** 91.27 308 *e*P P 09 46 02.9 -0.5
KEBE **Keben-Mersin** 91.31 306 *e*P P 09 46 03.6 +0.1
BRTR **Keskin Array B** 91.33 310 P P 09 46 02.5 -1.1
comp=Z,20nm,0.8s,baz=118,slow=4.6,SNR=34
IKL **Isikli** 91.33 306 *e*P P 09 46 03.1 -0.4
AKKU **Akkuyu-Mersin** 91.44 306 *e*P P 09 46 03.7 -0.4
LFK **Lefkose** 91.47 305 *e*P P 09 46 03.8 -0.5
BALM **Baldy** 91.49 29 P P 09 46 04.9 +1.1
BALM IAmb IAmb 09 46 05.6
comp=Z,13nm,0.9s
K27K **Chicken** 91.50 26 P P 09 46 04.9 +1.2
baz=272
TEVE **Tevekalti-Mers** 91.53 306 *e*P P 09 46 03.9 -0.7
CSS **Mathiatis** 91.64 305 *e*P P 09 46 04.8 -0.2
CSS **Mathiatis** 91.64 305 P P 09 46 04.6 -0.4
BCAR **Beaver Creek A** 91.67 27 P P 09 46 05.3 +0.8
AFSR **Afar-Bala (An** 91.77 309 *e*P P 09 46 04.9 -0.8
TEKE **Tekeli-Mersin** 91.80 306 *e*P P 09 46 04.9 -0.8
YAH **Yahtse** 91.81 30 P P 09 46 07.1 +1.6
YAH IAmb IAmb 09 46 07.7
comp=Z,42nm,1.0s
BARN **Barnard Glacie** 91.82 29 P P 09 46 07.0 +1.5
BARN IAmb IAmb 09 46 07.7
comp=Z,39nm,1.0s
EGAK **Eagle** 91.86 25 P P 09 46 06.0 +0.7
CTGM **Chitina Glacie** 91.98 29 P P 09 46 07.8 +1.6
CTGM IAmb IAmb 09 46 09.0
comp=Z,37nm,0.9s
LEF **Lefka** 92.00 305 *e*P P 09 46 05.4 -1.2
LADK **Ladik-KONYA** 92.35 308 *e*P P 09 46 06.9 -1.5
GAZI **Gazipasa** 92.44 306 *e*P P 09 46 07.7 -1.0
PUL **Pulkovo** 92.68 330*ce*P P 09 46 10.2 +1.0
PUL pmax pmax
comp=Z,93nm,0.8s
PUL MLR MLR
comp=Z,321nm,22.0s
KIZT **Kizilcal** 92.71 309 *e*P P 09 46 09.1 -0.9
SEYD **Seydisehir-KON** 92.79 307 *e*P P 09 46 10.3 -0.1
AUSIV **SIVRIHISAR** 92.96 309 *e*P P 09 46 10.1 -1.0
SVRH **Sivrihisar-ESK** 92.97 309 *e*P P 09 46 10.3 -0.9
MDUB **Mudurnu** 93.18 310 P P 09 46 11.2 -0.9
BOLV **Bolvadin** 93.45 309 P P 09 46 13.1 -0.3
EPYK **Eagle Plains** 93.55 24 P P 09 46 13.3 +0.1
baz=277
EPYK **Eagle Plains** 93.55 24 P P 09 46 13.3 +0.1
ARCES **ARCESS Array B** 93.64 340 P P 09 46 12.2 -1.3
comp=Z,8.6nm,0.8s,baz=76,slow=5.1,SNR=17
ARCES **ARCESS Array B** 93.64 340 P P 09 46 12.0 -1.5
ARCES **ARCESS Array B** 93.64 340 P P 09 46 11.9 -1.5
ARE0 **ARCESS Array S** 93.64 340 *e*P P 09 46 12.2 -1.3
SHUT **Suhut-Afyon** 93.77 308 *e*P P 09 46 13.9 -1.0
BORA **Eskisehir** 93.78 310 *e*P P 09 46 13.0 -1.9
ISP **Isparta** 93.82 308 *e*P P 09 46 13.2 -1.9
AKASG **Malin Array Be** 93.97 321 P P 09 46 13.9 -1.4
comp=Z,22nm,0.7s,baz=68,slow=4.6,SNR=7.7
AKASG LR LR 10 30 13.2
comp=Z,141nm,21.7s,baz=60,slow=37
AKASG **Malin Array Be** 93.97 321 P P 09 46 14.0 -1.4
AKASG pmax pmax
comp=Z,18nm,0.9s
AKASG **Malin Array Be** 93.97 321 P P 09 46 14.0 -1.3
AKBB **Malin Array Si** 93.97 321 P P 09 46 14.0 -1.4
AKBB pmax pmax
comp=Z,29nm,0.8s
AKBB **Malin Array Si** 93.97 321 P P 09 46 14.0 -1.4
AKBB IAmb IAmb 09 46 14.9
comp=Z,28nm,0.8s
HAMF **Hammerfest** 94.07 341 *e*P P 09 46 14.0 -1.4
SPA0 **Spitsbergen Ar** 94.09 349 P P 09 46 15.3 -0.1
SPA0 IAmb IAmb 09 46 15.7
comp=Z,32nm,0.9s
SPA0 **Spitsbergen Ar** 94.09 349 *e*P P 09 46 14.6 -0.8
ADVT **Abdulvahap** 94.30 310 *e*P P 09 46 16.0 -1.1
HRT **Hereke** 94.33 311 *e*P P 09 46 15.5 -1.8
ELL **Elmali** 94.36 307 *e*P P 09 46 16.4 -1.3
ELL **Elmali** 94.36 307 P P 09 46 16.9 -0.8
ELL pmax pmax
comp=Z,108nm,0.9s
ELL **Elmali** 94.36 307 P P 09 46 16.9 -0.8
MBAR **Mbarara** 94.38 269 P P 09 46 19.1 +0.8
MBAR pmax pmax
comp=Z,8.0nm,0.6s
MBAR **Mbarara** 94.38 269 P P 09 46 19.1 +0.8
MICGM **Minsk** 94.45 325⇓ *e*P P 09 46 16.0 -1.5
MICGM PM 09 46 18.0
comp=Z,0.3nm,1.0s
MNK **Minsk** 94.45 325⇓ *e*P P 09 46 16.0 -1.5
MNK pmax pmax
comp=Z,300nm,1.0s
KTK1 **Kautokeino** 94.53 339 *e*P P 09 46 16.1 -1.5
TVSB **Tavsanli** 94.57 309 *e*P P 09 46 17.2 -1.3
FIA1 **FINESS Array S** 94.59 332 P P 09 46 16.5 -1.4
FINES **FINESS Array B** 94.59 332 P P 09 46 16.5 -1.4
comp=Z,8.0nm,0.8s,baz=100,slow=7.9,SNR=23
FINES PKiKP **PKiKP** 09 51 01.2 +0.7
comp=Z,1.4nm,0.6s,baz=68,slow=4.9,SNR=1.8
FINES **FINESS Array B** 94.59 332 P P 09 46 16.9 -1.1
FINES **FINESS Array B** 94.59 332 P P 09 46 16.9 -1.1
HSPB **Hornsund (broa** 94.64 348 *e*P P 09 46 16.7 -1.2
HSPB **Hornsund (broa** 94.64 348 *e*P P 09 46 17.6 -0.3
VSU **Vasula** 94.65 329 *e*P P 09 46 16.9 -1.4
VSU **Vasula** 94.65 329 *i*P P 09 46 17.6 -0.7
VSU pmax pmax
comp=Z,55nm,0.9s
JURR **Jurilovca** 94.65 315 ⇑P P 09 46 18.7 +0.1
KBS **Kingsbay** 94.65 350 *e*P P 09 46 17.1 -0.8
TLCR 94.66 315 ⇑P P 09 46 18.1 -0.6
TSVK **Tesvikiye-Yalo** 94.78 311 *e*P P 09 46 17.3 -2.0
MANR **Mangalia** 94.93 314 ⇑P P 09 46 19.5 -0.5
ARMT **Armutlu** 94.96 311 *e*P P 09 46 18.3 -1.9
TOPG **Topolog** 95.00 315 ⇓P P 09 46 19.6 -0.6
TIRR **Tirgusor** 95.00 314 ⇑P P 09 46 19.1 -1.1
TIRR **Tirgusor** 95.00 314 P P 09 46 19.2 -1.1
TIRR pmax pmax
comp=Z,102nm,0.8s
TIRR **Tirgusor** 95.00 314 P P 09 46 19.2 -1.1
IDID **Didziasalis** 95.02 325 *e*P P 09 46 19.4 -0.7
FETY **Fethiye** 95.03 307 *e*P P 09 46 19.0 -1.6
NACGM **Naroch** 95.05 325 *e*P P 09 46 20.0 -0.2
NACGM PM 09 46 22.0
comp=Z,0.3nm,1.0s
SKAG **Skagway** 95.11 30 P P 09 46 21.9 +1.5
SKAG IAmb IAmb 09 46 23.2
comp=Z,20nm,1.0s
CFR **Carcaliu** 95.14 315 ⇓P P 09 46 19.7 -1.1
WHY **Whitehorse** 95.16 29 P P 09 46 22.2 +1.4
WHY IAmb IAmb 09 46 23.0
comp=Z,30nm,0.9s
IZAR **Zarasai** 95.25 326 *e*P P 09 46 20.1 -1.0
KULA **Kula-Manisa** 95.25 308 *e*P P 09 46 20.2 -1.4
IIGN **Ignalina** 95.31 325 *e*P P 09 46 20.3 -1.1
HARR **Harsova** 95.33 315 ⇑P P 09 46 21.1 -0.6
ISAL **Salakas** 95.34 326 *e*P P 09 46 20.3 -1.2
DALY **Dalyan (Mula)** 95.36 307 *e*P P 09 46 24.0 +1.9
BALB **Balikesir** 95.77 310 *e*P P 09 46 22.4 -1.5
JIS **Juneau Island** 95.77 31 P P 09 46 22.9 -0.5
JIS IAmb IAmb 09 46 44.8
comp=Z,16nm,1.2s
TRO **Tromso** 95.88 340 *e*P P 09 46 22.4 -1.3

TESR **Tescani** 96.05 317 ⇓P P 09 46 24.2 -0.8
VRI **Vrincioaia** 96.07 316 ⇓P P 09 46 25.1 0.0
VRI **Vrincioaia** 96.07 316 *e*P P 09 46 24.6 -0.5
PLOR **Plostina** 96.12 316 ⇑P P 09 46 24.9 -0.5
ISR **Istrita** 96.27 315 ⇓P P 09 46 26.3 +0.2
A36M **Sachs Harbour** 96.28 17 P P 09 46 25.9 +0.4
baz=289
BIZ **Bicaz** 96.38 317 ⇑P P 09 46 25.9 -0.6
NEHR **Nehoiu** 96.41 316 ⇑P P 09 46 27.2 +0.5
EDRB **Edirne** 96.45 312 *e*P P 09 46 25.3 -1.6
RAZG **Razgrad** 96.45 314 ⇓P P 09 46 26.4 -0.5
PABE **Paberze** 96.56 326 *e*P P 09 46 25.9 -1.2
UKOP **Uzunkopru-Edir** 96.60 311 *e*P P 09 46 26.6 -1.0
LSZ **Lusaka** 96.61 255 P P 09 46 28.0 -0.3
LSZ pmax pmax
comp=Z,33nm,0.9s
LSZ **Lusaka** 96.61 255 P P 09 46 28.0 -0.3
MLR **Muntele Rosu** 96.65 316 ⇑P P 09 46 27.2 -0.7
MLR **Muntele Rosu** 96.65 316 P P 09 46 27.6 -0.3
MLR pmax pmax
comp=Z,47nm,0.8s
MLR **Muntele Rosu** 96.65 316 P P 09 46 27.6 -0.3
KARP **Karpathos** 96.66 306 P P 09 46 27.6 -0.5
OZUR 96.69 316 ⇓P P 09 46 27.5 -0.5
URLA **Izmir** 96.88 308 *e*P P 09 46 27.6 -1.4
BURAR **Bucovina Array** 96.90 318 ⇑P P 09 46 28.7 -0.3
BURAR **Bucovina Array** 96.90 318 P P 09 46 28.5 -0.5
BUR08 **Bucovina Ar. S** 96.91 318 P P 09 46 28.8 -0.2
EZN **Ezine** 96.95 310 *e*P P 09 46 27.9 -1.3
ALN **Alexandroupoli** 97.06 311 *e*P P 09 46 27.8 -1.9
ALN **Alexandroupoli** 97.06 311 P P 09 46 28.4 -1.3
ALN pmax pmax
comp=Z,13nm,0.7s
ALN **Alexandroupoli** 97.06 311 P P 09 46 28.4 -1.3
ALN IAmb IAmb 09 46 29.0
comp=Z,13nm,0.7s
SUW **Suwalki** 97.25 324 *e*P P 09 46 29.1 -1.2
SUW **Suwalki** 97.25 324 P P 09 46 29.7 -0.5
SUW pmax pmax
comp=Z,120nm,1.1s
SUW **Suwalki** 97.25 324 P P 09 46 29.7 -0.5
VOIR 97.28 316 ⇓P P 09 46 29.6 -1.2
LVV **L'vov** 97.38 320 *e*P P 09 46 30.5 -0.5
RDO **Rodhopi** 97.42 311 *e*P P 09 46 29.8 -1.5
C36M **Paulatuk** 97.52 20 P Pdif 09 46 31.2 0.0
baz=289
C36M **Paulatuk** 97.52 20 P Pdif 09 46 31.4 +0.3
ARR **Arges** 97.58 316 ⇑P P 09 46 31.4 -0.7
PBUR **Paburge** 97.61 327 *e*P P 09 46 29.7 -2.1
STEI **Steigen** 97.66 339 *e*P P 09 46 30.2 -1.5
FAUS **Fauske** 97.81 338 *e*P P 09 46 31.0 -1.5
DLBC **Dease Lake** 98.00 31 LR LR 10 25 31.1
comp=Z,84nm,20.9s,baz=328,slow=32
BMR **Baia Mare** 98.05 318 ⇑P Pdif 09 46 34.0 0.0
CJR **Cluj-Napoca** 98.12 317 ⇓P Pdif 09 46 34.5 +0.1
MOR8 **Moi Rana** 98.52 337 *e*Pdif P 09 46 33.2 -2.5
BOSA **Boshof** 98.52 241 P P 09 46 36.5 -0.2
comp=Z,5.7nm,0.9s,baz=49,slow=5.0,SNR=4.8
BOSA PP **PP** 09 50 36.6 -1.0
comp=Z,7.6nm,1.0s,baz=83,slow=7.9,SNR=4.9
BOSA LR LR 10 25 47.9
comp=Z,332nm,21.1s,baz=86,slow=32
BOSA **Boshof** 98.52 241 P P 09 46 36.5 -0.2
BOSA pmax pmax
comp=Z,11nm,1.2s
BOSA **Boshof** 98.52 241 IAmb IAmb 09 46 38.2
comp=Z,11nm,1.1s
IDI **Anoyia** 98.53 306 ⇓P P 09 46 36.2 -0.3
IDI **Anoyia** 98.53 306 *e*P P 09 46 35.8 -0.7
IDI **Anoyia** 98.53 306 P P 09 46 35.8 -0.7
KOLS **Kolonicke sedl** 98.66 319 *e*P P 09 46 35.7 -1.0
KOLS **Kolonicke sedl** 98.66 319 *e*PDIFF P 09 46 35.7 -1.0
UZH **Uzhgorod** 98.69 319 ⇑ *i*P Pdif 09 46 36.9 0.0
UZH *e* 09 46 45.0
KLNR **Kaliningrad** 98.85 325 *i*P Pdif 09 46 37.8 +0.4
KLNR pmax pmax
comp=Z,69nm,0.9s
BEL **Belsk** 99.07 322 *e*P **Pdif** 09 46 38.5 0.0
CRVS **Cervenica-Dubn** 99.19 319 *e*P **Pdif** 09 46 39.3 +0.2
CRVS **Cervenica-Dubn** 99.19 319 *e*PDIFF **Pdif** 09 46 39.3 +0.2
HERR **Herculane** 99.20 315 ⇓P **Pdif** 09 46 39.0 -0.3
GVD **Gavdhos** 99.23 305 *e*P **Pdif** 09 46 38.4 -1.2
IMMV **Iera Moni Meta** 99.25 306 *e*P **Pdif** 09 46 38.5 -1.2
SIRR **Siria** 99.51 317 ⇑P **Pdif** 09 46 40.7 +0.1
VAY **Valandovo** 99.62 312 *i*P **Pdif** 09 46 39.0 -2.1
BZS **Buzias** 99.65 316 ⇓P **Pdif** 09 46 40.2 -1.0
MDVR **Moldovita** 99.72 315 ⇓P **Pdif** 09 46 41.4 -0.2
NIE **Niedzica** 99.84 320 *e*P **Pdif** 09 46 42.2 +0.2
STIP **Stip** 99.85 312 *i*P **Pdif** 09 46 40.2 -2.0
KTHA **Kythira Island** 99.90 307 *e*P **Pdif** 09 46 39.3 -3.3
KECS **Kecovo** 99.90 319 *e*P **Pdif** 09 46 42.2 -0.1
KECS **Kecovo** 99.90 319 *e*PDIFF **Pdif** 09 46 42.2 -0.1
OJC **Ojcow** 100.00 321 *e*P **Pdif** 09 46 42.0 -0.6
PSZ **Piszkesteto** 100.40 319 ⇓P **Pdif** 09 46 44.1 -0.5
LANS **Liptovska Anna** 100.43 320 *e*P **Pdif** 09 46 45.5 +0.8
LANS **Liptovska Anna** 100.43 320 *e*PDIFF **Pdif** 09 46 45.5 +0.8
SNAA **Sanae** 100.94 195 P **Pdif** 09 46 47.9 +1.4
VYHS **Vyhne** 100.97 319 *e*P **Pdif** 09 46 46.6 -0.5
MORC **Moravsky Berou** 101.52 321 ⇑P **Pdif** 09 46 49.5 0.0
MORC **Moravsky Berou** 101.52 321 *e*PDIFF **Pdif** 09 46 49.1 -0.4
NC602 **NORSAR Array S** 101.60 333 *e*Pdif **Pdif** 09 46 48.0 -1.5
NB2 **NORSAR Subarra** 101.64 333 P **Pdif** 09 46 47.6 -2.2
comp=Z,7.4nm,1.0s,baz=67,slow=4.4
NB2 **NORSAR Subarra** 101.64 333 P **Pdif** 09 46 47.6 -2.2
baz=67,slow=4.4
NOA **NORSAR Array B** 101.64 333 P **Pdif** 09 46 47.9 -1.9
comp=Z,2.7nm,0.9s,baz=77,slow=4.3,SNR=9.0
JAVC **Velka Javorina** 101.65 320 *e*PDIFF **Pdif** 09 46 50.7 +0.6
PDG **Podgorica** 101.88 313 ⇓P **Pdif** 09 46 50.2 -1.0
KRLC **Kraliky** 101.93 321 *e*PDIFF **Pdif** 09 46 51.2 -0.1
KRLC AMS AMS 10 34 50.0
comp=Z,200nm,23.3s
KRLC **Kraliky** 101.93 321 *e*P **Pdif** 09 46 51.2 -0.1
KRLC MLR MLR
comp=Z,200nm,23.3s
MODS **Modra-Piesok** 102.01 320 *e*P **Pdif** 09 46 51.0 -0.7
MODS **Modra-Piesok** 102.01 320 *e*PDIFF **Pdif** 09 46 51.0 -0.7
KSP **Ksiaz** 102.04 322 *e*P **Pdif** 09 46 51.6 -0.2
DPC **Dobruska-Polom** 102.14 322 *e*PDIFF **Pdif** 09 46 52.6 +0.3
DPC AMS AMS 10 34 50.0
comp=Z,300nm,21.6s
DPC **Dobruska-Polom** 102.14 322 *e*P **Pdif** 09 46 52.6 +0.3
DPC MLR MLR
comp=Z,300nm,21.6s
OSTC **Ostas** 102.16 322 *e*PDIFF **Pdif** 09 46 53.3 +1.0
OSTC AMS AMS 10 34 50.0
comp=Z,300nm,21.4s
DOMB **Dombas** 102.21 334 *e*Pdif **Pdif** 09 46 51.2 -1.1
VRAC **Vranov** 102.23 321 *e*PDIFF **Pdif** 09 46 52.6 0.0
CHVC **Chvalec** 102.25 322 AMS AMS 10 35 10.0
comp=Z,300nm,22.9s
UPC **Upice** 102.30 322 *e*PDIFF **Pdif** 09 46 53.4 +0.5
UPC AMS AMS 10 35 00.0
comp=Z,300nm,15.7s
UPC **Upice** 102.30 322 *e*P **Pdif** 09 46 53.4 +0.5
UPC MLR MLR
comp=Z,300nm,15.7s
KRUC **Moravsky** 102.42 320 *e*PDIFF **Pdif** 09 46 53.2 -0.3
VNA3 **Neumayer Olymp** 102.89 194 P **Pdif** 09 46 55.5 +0.4
KONO **Kongsberg** 102.90 332 *i*P **Pdif** 09 46 55.3 0.0
KONO pmax pmax
comp=Z,10.0nm,1.1s
CONA **Conrad Observa** 103.04 319 *i*Pdiff **Pdif** 09 46 55.9 -0.5
comp=Z,8.3nm,1.2s
AKN **Aaknes** 103.04 335 *e*Pdif **Pdif** 09 46 55.1 -0.9
PVCC **Panska Ves** 103.18 322 AMS AMS 10 35 30.0
comp=Z,200nm,18.4s
GOPC **GO Pecny, Ondr** 103.21 321 *e*PDIFF **Pdif** 09 46 57.3 +0.3
GOPC AMS AMS 10 35 30.0
comp=Z,300nm,23.0s
GOPC **GO Pecny, Ondr** 103.21 321 *e*P **Pdif** 09 46 57.3 +0.3
GOPC MLR MLR
comp=Z,300nm,23.0s
PRU **Pruhonice** 103.34 322 *e*PDIFF **Pdif** 09 46 58.1 +0.6
PRU AMS AMS 10 35 40.0
comp=Z,200nm,19.5s
PRU **Pruhonice** 103.34 322 *e*P **Pdif** 09 46 58.1 +0.6
PRU MLR MLR
comp=Z,200nm,19.5s
PRA **Prague** 103.39 322 AMS AMS 10 36 30.0
comp=Z,100nm,17.2s
BRG **Berggiesshubel** 103.47 323 *i*P **Pdif** 09 46 57.9 -0.2
comp=Z,16nm,1.1s

BRG *i* 09 47 03.2
comp=Z,8.0nm,0.7s
BRG **Berggiesshubel** 103.47 323 *i*P **Pdif** 09 46 57.9 -0.2
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,0.7s
YKA **Yellowknife Ar** 103.80 24 Pdiff **Pdif** 09 46 59.8 +0.6
comp=Z,1.6nm,0.8s,baz=309,slow=5.1,SNR=3.7
SOKA **Soboth** 103.90 318 *i* Pdiff **Pdif** 09 46 59.8 -0.4
comp=Z,5.8nm,1.5s
CLL **Collm** 103.91 323 *e*Sdif Sdif 09 58 48.0 +1.1
CLL *e*PS PS 10 00 24.0 -5.1
CLL *e*PPS PPS 10 01 24.0
CLL *e*SS **SS** **10 06 06.0 +4.4**
CLL *e*SSS SSS 10 10 18.0
CLL *e* 10 11 24.0
CLL LmV 10 35 00.0
comp=Z,200nm,21.6s
MOA **Molln** 104.10 320 *i* Pdiff **Pdif** 09 47 01.1 +0.1
comp=Z,10nm,0.8s
KHC **Kasperske Hory** 104.19 321 *e*PDIFF **Pdif** 09 47 01.4 0.0
KHC AMS AMS 10 36 20.0
comp=Z,300nm,22.1s
KHC **Kasperske Hory** 104.19 321 *e*P **Pdif** 09 47 01.4 0.0
KHC MLR MLR
comp=Z,300nm,22.1s
GERES **GERESS Array B** 104.19 321 Pdiff **Pdif** 09 47 01.4 0.0
comp=Z,2.6nm,0.7s,baz=76,slow=5.6,SNR=18
GERES PKiKP **PKiKP** 09 51 18.6 +0.4
comp=Z,1.2nm,0.6s,baz=90,slow=4.0,SNR=5.2
OBKA **Obir** 104.27 318 *e*Pdiff **Pdif** 09 46 59.1 -2.8
comp=Z,5.7nm,1.0s
TIP **Timpagrande** 104.36 310 ⇓P **Pdif** 09 47 01.9 -0.6
A04D **Lummi Island** 104.70 39 P **Pdif** 09 47 03.2 -0.4
baz=287
KBA **Koelnbreinsper** 104.91 319 *i* Pdiff **Pdif** 09 47 03.6 -1.2
comp=Z,4.3nm,0.9s
ABTA **Abfaltersbach** 105.55 319 *i* Pdiff **Pdif** 09 47 06.2 -1.4
comp=Z,9.0nm,1.0s
WTTA **Wattenberg** 105.97 319 *i* Pdiff **Pdif** 09 47 09.1 -0.4
comp=Z,9.0nm,0.8s
WATA **Walderalm** 105.99 320 *i* Pdiff **Pdif** 09 47 09.3 -0.3
comp=Z,7.9nm,1.0s
SQTA **Sankt Quirin** 106.26 320 *i* Pdiff **Pdif** 09 47 10.2 -0.6
comp=Z,10nm,1.0s
MOTA **Moosalm** 106.29 320 *i* Pdiff **Pdif** 09 47 10.1 -0.8
comp=Z,11nm,0.9s
J04D **Umpqua Nationa** 106.64 45 P **PKiKP** 09 51 22.9 -0.2
baz=286
DAVA **Damuels** 107.10 320 *e*Pdiff **Pdif** 09 47 15.0 +0.5
comp=Z,4.8nm,0.9s
NVAR **Mina Array Bea** 110.76 49 Pdiff **Pdif** 09 47 32.6 +1.4
comp=Z,0.2nm,0.5s,baz=261,slow=4.5,SNR=2.8
NVAR PKiKP **PKiKP** 09 51 31.7 +0.7
comp=Z,0.8nm,0.7s,baz=241,slow=2.3,SNR=7.4
NVAR PKKPbc **PKKPbc** 10 02 30.7 +0.2
comp=Z,0.5nm,0.7s,baz=144,slow=3.2,SNR=4.6
NVAR PKKPab **PKKPab** 10 02 41.0 +0.8
comp=Z,0.9nm,0.8s,baz=121,slow=6.0,SNR=6.8
MSO **Missoula** 110.90 39 P **PKiKP** 09 51 30.8 -0.1
baz=293
KEST **Kesra** 110.90 308 PP **PP** 09 52 07.8 -1.3
comp=Z,3.2nm,0.8s,baz=331,slow=9.4,SNR=3.9
ARVC **Arvin** 111.28 52 P **PKiKP** 09 51 32.2 +0.4
baz=285
CWC **Cottonwood Cre** 111.50 51 P **PKiKP** 09 51 33.2 +0.8
baz=286
HLID **Hailey** 111.84 42 P **PKiKP** 09 51 33.6 +0.7
baz=292
EDW2 **Edwards Air Fo** 112.00 52 P **PKiKP** 09 51 34.4 +1.1
baz=286
MPMC **Manual Prospec** 112.07 51 P **PKiKP** 09 51 34.1 +0.6
baz=287
FMP **Fort Macarthur** 112.08 54 P **PKiKP** 09 51 33.6 +0.3
baz=285
LRMC **Laurel Mtn Rad** 112.08 52 P **PKiKP** 09 51 33.9 +0.5
baz=286
FURC **Furnace Creek,** 112.44 50 P **PKiKP** 09 51 34.7 +0.8
baz=287
BFSC **Mount Baldy Ra** 112.44 53 P **PKiKP** 09 51 34.4 +0.2
baz=286
TPNV **Topopah Spring** 112.76 50 P **PKiKP** 09 51 34.9 +0.1
baz=288
GSC **Goldstone, Bar** 112.82 52 P **PKiKP** 09 51 34.9 +0.1
baz=287
R11A **Troy Canyon, C** 112.82 48 P **PKiKP** 09 51 34.9 0.0
baz=289
BOZ **Bozeman (W)** 112.87 40 P **PKiKP** 09 51 35.4 +0.7
baz=295
EGMT **Eagleton** 112.96 37 P **PKiKP** 09 51 35.2 +0.5
baz=297
MURC **Murrieta** 112.99 53 P **PKiKP** 09 51 35.8 +0.7
baz=286
SHOC **Shoshone, Teco** 113.06 51 P **PKiKP** 09 51 35.8 +0.6
baz=287
PFO **Pinyon Flats O** 113.58 53 P **PKiKP** 09 51 36.5 +0.1
baz=286
MONP2 **Monument Peak** 113.81 54 P **PKiKP** 09 51 38.3 +1.3
baz=286
BELC **Belle Mtn. Jos** 113.83 53 P **PKiKP** 09 51 38.0 +1.1
baz=287
GMRC **Granite Mounta** 113.87 52 P **PKiKP** 09 51 38.3 +1.3
baz=287
H17A **Grant Village** 114.05 40 P **PKiKP** 09 51 38.5 +1.3
baz=295
IKP **In-Ko-Pah, Jac** 114.13 54 P **PKiKP** 09 51 38.0 +0.6
baz=286
DUG **Dugway, Tooele** 114.20 45 P **PKiKP** 09 51 38.1 +0.7
baz=292
SWSC **Sam W. Stewart** 114.30 54 P **PKiKP** 09 51 39.2 +1.6
baz=286
BC3 **Big Chuckawall** 114.37 53 P **PKiKP** 09 51 39.3 +1.5
baz=287
IRM **Iron Mountain** 114.47 52 P **PKiKP** 09 51 39.3 +1.3
baz=288
RLMT **Red Lodge** 114.57 39 P PKPdf 09 51 39.1 +1.0
baz=297
PDAR **Pinedale Array** 115.42 42 PKP **PKPdf** 09 51 40.3 +0.5
comp=Z,0.5nm,0.6s,baz=224,slow=4.1,SNR=7.9
PDAR PKKPbc **PKKPbc** 10 02 13.8 -1.1
comp=Z,0.7nm,0.8s,baz=131,slow=6.3,SNR=6.7
PDAR PKKPab **PKKPab** 10 02 19.2 -0.3
comp=Z,2.1nm,0.9s,baz=116,slow=6.8,SNR=9.8
LAO **LASA Array** 115.70 37 P **PKPdf** 09 51 41.3 +1.3
baz=300
WUAZ **Wupatki** 116.95 50 P **PKiKP** 09 51 43.4 +0.5
baz=291
O20A **White River Ci** 117.44 44 P **PKiKP** 09 51 43.9 +0.2
baz=295
K22A **Casper** 117.47 41 P **PKPdf** 09 51 43.4 -0.3
baz=298
RSSD **Black Hills** 118.33 38 P **PKiKP** 09 51 45.7 +0.3
baz=301
W18A **Petrified Fore** 118.35 50 P **PKiKP** 09 51 45.9 +0.3
baz=292,SNR=6.2
MVCO **Mesa Verde** 118.47 47 P **PKiKP** 09 51 46.7 +0.8
baz=294,SNR=7.2
TUC **Tucson** 118.52 53 P **PKiKP** 09 51 46.2 +0.3
baz=290
N23A **Red Feather La** 118.67 42 P **PKiKP** 09 51 46.7 +0.5
baz=298
ESDC **Sonseca Array** 119.33 317 PKP **PKPdf** 09 51 47.1 -0.1
comp=Z,1.3nm,0.8s,baz=38,slow=2.0,SNR=7.4
ESDC PP **PP** 09 53 09.8 +1.6
comp=Z,2.7nm,0.9s,baz=58,slow=6.3,SNR=7.7
ISCO **Idaho Springs** 119.40 43 P **PKiKP** 09 51 48.3 +0.6
baz=297
S22A **4UR Ranch, Cre** 119.45 46 P **PKiKP** 09 51 48.7 +0.8
baz=295,SNR=8.6
Q24A **Divide** 120.10 44 P **PKiKP** 09 51 49.9 +0.8
baz=297
SDCO **Great Sand Dun** 120.40 45 P **PKiKP** 09 51 50.1 +0.4
baz=296,SNR=6.4
AGMN **Agassiz Nation** 120.52 31 P **PKiKP** 09 51 50.2 +1.0
baz=310
JBK **JBK** 120.58 310 P **PKiKP** 09 51 51.0 +0.9
SNR=9.3
MVO **Moncorvo** 120.67 319 *e*PKPdf **PKiKP** 09 51 50.5 +0.7
MVO **Moncorvo** 120.67 319 *e*LQ LQ 10 21 28.5
MVO **Moncorvo** 120.67 319 *e*LR LR 10 32 05.9
comp=Z,154nm,20.0s
121A **Cookes Peak, D** 120.81 52 P **PKiKP** 09 51 51.9 +1.4
baz=292,SNR=5.0
ANMO **Albuquerque** 120.89 49*c* *i*PKIKP **PKPdf** 09 51 50.0 -0.5
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO **Albuquerque** 120.89 49 P **PKiKP** 09 51 51.3 +0.7

baz=294
PGAV Gavieira, Arco 121.05 321 *e*PKPdf PKiKP 09 51 51.2 +0.6
PGAV Gavieira, Arco 121.05 321 *e*LQ LQ 10 21 07.9
PGAV A A 10 51 57.2
comp=Z,168nm,18.0s
PVRL Vila Real 121.05 320 *e*PKPdf PKiKP 09 51 51.8 +1.3
SUSD Miller 121.21 36 P PKiKP 09 51 50.6 -0.1
baz=306
T25A Trinidad 121.45 45 P PKPdf 09 51 51.1 -0.4
baz=297,SNR=7.7
PCBR Castelo Branco 121.63 318 *e*PKPdf PKiKP 09 51 51.6 0.0
PMRV Marv??o 121.78 318 A A 10 54 29.0
comp=Z,89nm,20.0s
TOA0 Torodi Ar. Sit 122.53 285 PKPdf PKiKP 09 51 54.0 -0.1
TORD Torodi Ar. Bea 122.53 285 PKP PKPdf 09 51 53.9 0.0
comp=Z,23nm,0.7s,baz=59,slow=1.9,SNR=136
TORD PKKPbc PKKPab 10 01 49.0 +0.5
comp=Z,2.6nm,0.9s,baz=281,slow=4.7,SNR=11
ECSD EROS Data Cent 122.99 35 P PKiKP 09 51 54.3 +0.1
baz=308
ECSD EROS Data Cent 122.99 35 PKPdf PKiKP 09 51 54.2 0.0
PVAQ Vaqueiros 123.00 316 *e*LQ LQ 10 23 21.0
PVAQ *e*LR LR 10 30 19.9
comp=Z,150nm,20.0s
MNTX Cornudas Mount 123.01 52 P PKPdf 09 51 54.2 -0.2
baz=293,SNR=23
MNTX Cornudas Mount 123.01 52 PKPdf PKiKP 09 51 56.0 +1.4
PCVE Castro Verde 123.11 316 *e*PKPdf PKiKP 09 51 55.1 +0.5
PNCL Nicolau / Gran 123.20 317 *e*PKPdf PKiKP 09 51 56.0 +1.2
F36A Milaca 123.33 31 PKPdf PKiKP 09 51 54.7 -0.2
BGNE Belgrade 123.44 38 P PKPdf 09 51 54.8 -0.2
baz=305
BGNE Belgrade 123.44 38 PKPdf PKiKP 09 51 55.3 0.0
MORF Marmelete 123.69 316 *e*PKPdf PKiKP 09 51 56.8 +0.9
ZHG ZHG 124.03 311 P PKiKP 09 51 58.0 +1.3
SNR=8.8
MSTX Muleshoe 124.06 48 P PKiKP 09 51 56.6 -0.2
baz=296,SNR=11
SPMN Marine on St. 124.13 32 P PKPdf 09 51 56.2 0.0
baz=312
AMTX Amarillo 124.45 47 P PKiKP 09 51 57.7 +0.2
baz=298
ZGR Zagora 124.61 307 P PKiKP 09 51 59.0 +1.0
SNR=19
SCHQ Schefferville 124.76 8 PKP PKPdf 09 51 57.1 +0.1
comp=Z,18nm,0.7s,baz=6.4,slow=2.3,SNR=22
SCHQ Schefferville 124.76 8 PKPdf PKiKP 09 51 58.0 +0.5
TXAR Lajitas Array 125.29 54 PKP PKiKP 09 51 59.7 +0.3
comp=Z,3.8nm,0.8s,baz=229,slow=1.0,SNR=49
TXAR PKKPbc PKKPbc 10 01 37.2 -0.4
comp=Z,0.4nm,0.7s,baz=116,slow=4.1,SNR=4.8
KSU1 Kansas State U 125.72 40 P PKPdf 09 51 59.2 -0.2
baz=305
SCIA State Center 126.08 35 P PKPdf 09 51 60.0 0.0
baz=310
WMOK Wichita Mounta 126.60 45 P PKPdf 09 52 00.9 -0.3
baz=300
TTIG Tnine Tigouga, 126.66 309 P PKiKP 09 52 03.0 +0.9
SNR=7.7
MATQ Matagami 127.01 18 P PKPdf 09 52 01.0 -0.5
baz=331
JFWS Jewell Farm 127.05 32 P PKPdf 09 52 01.5 -0.3
baz=314
LSQQ Lebel-sur-Quev 127.83 18 P PKiKP 09 52 03.6 -0.1
baz=332
CHGQ Chibougamau 127.83 16 P PKiKP 09 52 03.6 -0.1
baz=335
JCT Junction City 127.87 51 P PKiKP 09 52 04.1 -0.2
baz=297
TUL1 Leonard 128.06 42 P PKiKP 09 52 04.2 -0.3
baz=304
L44A Lake County Fo 128.80 31 P PKiKP 09 52 06.0 +0.2
baz=316
WHTX Lake Whitney, 128.93 48 P PKiKP 09 52 06.4 0.0
baz=300
833A Chaparral WMA, 129.13 53 P PKiKP 09 52 07.2 +0.3
baz=295
HDIL Hopedale 129.19 34 P PKiKP 09 52 06.4 -0.2
baz=313
D53A Lac Vacive, Po 129.32 20 P PKPdf 09 52 06.2 +0.2
baz=330
D54A Lac Fusel, La 129.61 19 P PKPdf 09 52 06.4 -0.2
baz=331
KIC Kosan Boka 129.61 278 *e*PKIKP PKiKP 09 52 08.3 0.0
comp=Z,41nm,0.8s
DBIC Dimbokro 129.70 278 PKP PKiKP 09 52 08.4 0.0
comp=Z,13nm,0.7s,baz=96,slow=2.5,SNR=18
DBIC Dimbokro 129.70 278 PKiKP PKiKP 09 52 08.8 +0.4
DBIC Dimbokro 129.70 278 PKPdf PKiKP 09 52 08.8 +0.4
CCM Cathedral Cave 129.70 37 P PKPdf 09 52 06.7 -0.3
baz=310
U40A Yellville 129.74 40 P PKPdf 09 52 07.1 -0.1
baz=307
W39A Magazine 129.81 42 P PKPdf 09 52 07.2 -0.1
baz=305
TIC Toumodi 129.87 278 *e*PKIKP PKiKP 09 52 08.5 -0.3
LIC Lamto 129.91 278 *e*PKIKP PKiKP 09 52 08.6 -0.2
comp=Z,66nm,0.8s
E53A Dumoine, Ponti 129.94 20 P PKPdf 09 52 07.5 +0.3
baz=330
E54A Lac Daplat, Po 130.06 20 P PKPdf 09 52 07.0 -0.4
baz=330
D55A Sainte-Anne-du 130.11 18 P PKPdf 09 52 07.6 +0.1
baz=333
ALGO Algonquin Park 130.17 21 P PKiKP 09 52 08.1 -0.3
baz=329
D56A ZEC Mazanza, M 130.30 18 P PKPdf 09 52 07.9 0.0
baz=334
MIAR Mount Ida 130.32 43 P PKPdf 09 52 08.5 +0.2
baz=305
E55A Montcerf-Lytto 130.42 19 P PKPdf 09 52 07.9 -0.2
baz=332
SFIN Lafayette 130.51 32 P PKPdf 09 52 08.2 -0.2
baz=316
LATQ La Tuque 130.57 16 P PKiKP 09 52 09.0 -0.2
baz=336
D57A Chemin Vers le 130.59 17 P PKPdf 09 52 08.6 +0.1
baz=335
G54A Lake Saint Pet 130.63 21 P PKPdf 09 52 08.9 +0.3
baz=329
E56A St. Veronique 130.67 18 P PKiKP 09 52 09.0 -0.5
baz=333
I51A Listowel 130.81 25 P PKPdf 09 52 08.9 -0.1
baz=324
D58A Chemin du LacG 130.81 16 P PKPdf 09 52 08.9 0.0
baz=336
F55A Otter Lake 130.87 20 P PKPdf 09 52 09.1 +0.1
baz=331
E57A Chemin Saint G 131.06 18 P PKPdf 09 52 09.3 0.0
baz=334
H53A Bobcaygeon 131.15 22 P PKPdf 09 52 09.9 +0.3
baz=328
G55A Calabogie 131.25 20 P PKiKP 09 52 10.2 -0.5
baz=330
E58A La Victoria 131.35 17 P PKPdf 09 52 09.8 -0.1
baz=335
ORIO Orleans, Innes 131.48 19 P PKPdf 09 52 10.5 +0.4
baz=332
D60A Saint Jean D'O 131.50 15 P PKPdf 09 52 10.3 +0.2
baz=338
H55A Tweed 131.69 21 P PKPdf 09 52 10.5 0.0
baz=329
D62A Allapoint, All 131.78 13 P PKiKP 09 52 11.2 -0.5
baz=341
G57A Newington 131.96 19 P PKPdf 09 52 11.4 +0.3
baz=332
F59A Saint Guilaume 131.97 17 P PKPdf 09 52 11.2 +0.1
baz=336
H56A Elgin 131.98 21 P PKiKP 09 52 11.8 -0.4
baz=331
PMOZ Porto Moniz, M 132.00 316 *e*LQ LQ 10 27 12.3
PMOZ *e*LR LR 10 33 57.3
comp=Z,172nm,20.0s
D63A Stockholm 132.03 12 P PKPdf 09 52 11.4 +0.3
baz=342
E61A Lac Etchemin 132.05 15 P PKiKP 09 52 12.1 -0.2
baz=339
F60A Warwick 132.10 16 P PKPdf 09 52 11.4 +0.1
baz=337
G58A Ormstown 132.22 18 P PKPdf 09 52 11.5 0.0
baz=334
F61A St Evariste 132.35 15 P PKPdf 09 52 12.2 +0.4
baz=338
H57A Richville 132.39 20 P PKPdf 09 52 12.3 +0.4
baz=332
WCI Wyandotte Cave 132.47 34 P PKPdf 09 52 12.5 +0.3
baz=315
N51A Ashland 132.50 28 P PKPdf 09 52 12.4 +0.2
baz=321
LONY Lake Ozonia 132.52 19 P PKiKP 09 52 13.1 -0.2
baz=333
J55A Hilton 132.55 23 P PKPdf 09 52 12.2 -0.1
baz=328
J55A Hilton 132.55 23 PKiKP 09 52 13.0 -0.3
E63A Oxbow 132.55 13 P PKPdf 09 52 12.5 +0.3
baz=341
MOQ Mont Orford 132.61 17 PKiKP 09 52 13.1 -0.4
ERPA Erie 132.62 25 P PKPdf 09 52 12.7 +0.3
baz=325
E64A Bridgewater 132.68 12 P PKPdf 09 52 12.0 -0.3
baz=342
F62A Pittston Farm, 132.68 14 P PKPdf 09 52 11.8 -0.6
baz=339
ACSO Alum Creek Sta 132.73 29 P PKPdf 09 52 13.0 +0.3
baz=320
K54A Basilika Farm, 132.75 24 P PKPdf 09 52 12.7 0.0
baz=327
I57A Carthage 132.76 20 P PKPdf 09 52 12.8 +0.1
baz=331
G60A Masonville 132.79 17 P PKPdf 09 52 12.8 +0.2
baz=336
H59A Cadyville 132.79 18 P PKPdf 09 52 13.0 +0.4
baz=334
L54A Sinclairville 132.81 25 P PKPdf 09 52 12.4 -0.4
baz=326
H58A Gabriels 132.84 19 P PKPdf 09 52 12.6 -0.2
baz=333
G61A St-Isidore-de- 132.84 16 P PKPdf 09 52 13.0 +0.3
baz=337
M53A Wl Miller and 132.87 27 P PKPdf 09 52 12.3 -0.6
baz=324
N52A McGinn's Farm, 132.90 28 P PKiKP 09 52 13.5 -0.6
baz=322
K55A Perry 132.90 23 P PKPdf 09 52 13.4 +0.4
baz=328
O51A Pataskala 132.98 29 P PKPdf 09 52 13.7 +0.5
baz=320
WVT Waverly 133.03 37 PKIKP PKiKP 09 52 14.1 -0.4
WVT Waverly 133.03 37 P PKiKP 09 52 14.2 -0.3
baz=312
WVT Waverly 133.03 37 PKPdf PKiKP 09 52 14.1 -0.4
F63A Nahmakanta, Br 133.07 14 P PKiKP 09 52 14.3 -0.1
baz=340
OXF Oxford 133.09 40 P PKPdf 09 52 13.8 +0.3
baz=309
F64A Sherman 133.09 13 P PKiKP 09 52 14.0 -0.4
baz=341
J57A Williamstown 133.10 21 P PKPdf 09 52 13.8 +0.5
baz=330
J57A Williamstown 133.10 21 PKPdf 09 52 12.6 -0.7
H60A Morristown 133.17 17 P PKiKP 09 52 14.5 0.0
baz=335
G62A West of Eustis 133.17 15 P PKiKP 09 52 14.1 -0.5
baz=338
L55A Hinsdale 133.21 24 P PKiKP 09 52 14.2 -0.6
baz=327
I58A Old Forge 133.22 20 P PKPdf 09 52 13.7 +0.2
baz=332
M54A Oil Creek Stat 133.26 26 P PKPdf 09 52 13.7 0.0
baz=325
P51A Williamsport 133.27 30 P PKPdf 09 52 14.1 +0.4
baz=320
O52A Adamsville 133.38 29 P PKPdf 09 52 13.9 0.0
baz=321
J58A Remsen 133.40 20 P PKPdf 09 52 14.3 +0.4
baz=331
H61A Lyndonville 133.42 17 P PKiKP 09 52 14.8 -0.3
baz=336
PKME Peaks-Kenny Pk 133.44 14 P PKPdf 09 52 13.7 -0.1
baz=340
I59A Olmsteadville 133.49 19 P PKiKP 09 52 14.6 -0.7
baz=333
K57A Scipio Center 133.50 22 P PKPdf 09 52 14.3 +0.2
baz=329
G63A Kingsbury 133.50 14 P PKPdf 09 52 14.3 +0.3
baz=339
N54A Moraine State 133.56 26 P PKPdf 09 52 14.5 +0.3
baz=324
O53A New Philadelph 133.57 28 P PKPdf 09 52 14.8 +0.5
baz=322
J59A Piesco 133.57 20 P PKPdf 09 52 14.5 +0.3
baz=332
G64A Maxfield 133.58 14 P PKiKP 09 52 14.9 -0.5
baz=341
L56A Greenwood 133.60 23 P PKPdf 09 52 14.6 +0.2
baz=328
P52A Corning 133.61 29 P PKPdf 09 52 14.7 +0.4
baz=321
I60A Shoreham 133.63 18 P PKiKP 09 52 14.8 -0.6
baz=334
M55A Ridgway 133.67 25 P PKPdf 09 52 14.8 +0.4
baz=326
LBNH Lisbon 133.69 17 P PKiKP 09 52 14.9 -0.7
baz=336
K58A Earlville 133.79 21 P PKPdf 09 52 15.0 +0.4
baz=331
LMN Caledonia Moun 133.80 10 PKiKP 09 52 15.3 -0.5
G65A Princeton 133.90 12 P PKiKP 09 52 15.4 -0.5
baz=342
M56A Emporium 133.90 24 P PKPdf 09 52 15.1 +0.2
baz=327
CLTN Cedars of Leba 133.94 36 PKiKP 09 52 16.0 -0.4
L57A Andrews Acres 134.00 23 P PKPdf 09 52 15.3 +0.3
baz=329
O54A Avella 134.01 27 P PKPdf 09 52 15.5 +0.4
baz=323
Q52A Bidwell 134.06 30 P PKPdf 09 52 15.7 +0.5
baz=320
P53A Whipple 134.09 29 P PKPdf 09 52 15.7 +0.5
baz=322
BINY Binghamton 134.16 22 P PKPdf 09 52 15.8 +0.5
baz=330
I62A Tamworth 134.19 17 P PKiKP 09 52 16.0 -0.7
baz=337
H65A Eastbrook 134.22 13 P PKiKP 09 52 16.1 -0.6
baz=341
I63A Otisfield 134.24 16 P PKiKP 09 52 16.3 -0.4
baz=338
J61A Chester 134.31 18 P PKiKP 09 52 16.6 -0.4
baz=335
N56A West Decatur 134.33 25 P PKPdf 09 52 15.9 +0.2
baz=326
L58A Harry Jones Me 134.34 22 P PKiKP 09 52 16.5 -0.5
baz=330
H66A Whiting 134.35 12 P PKiKP 09 52 16.4 -0.5
baz=342
P54A Burton 134.43 28 P PKiKP 09 52 16.9 -0.4
baz=323
M57A Sunshine Farm, 134.45 24 P PKiKP 09 52 16.7 -0.6
baz=328
O55A Ligonier 134.47 26 P PKiKP 09 52 16.8 -0.6
baz=325
Q53A Leroy 134.51 29 P PKPdf 09 52 16.6 +0.5
baz=321
L59A Walton 134.51 21 P PKiKP 09 52 16.7 -0.7
baz=331
I64A Boothbay 134.62 15 P PKiKP 09 52 16.8 -0.7
baz=339
J62A Henniker 134.65 17 P PKPdf 09 52 16.6 +0.4
baz=336
K61A Williamstown 134.69 19 P PKiKP 09 52 17.2 -0.6
baz=334
R53A Hurricane 134.70 30 P PKiKP 09 52 17.2 -0.7
baz=320
SSPA Standing Stone 134.73 25 P PKiKP 09 52 17.4 -0.5
baz=327
Q54A Coxs Mills 134.75 29 P PKPdf 09 52 16.9 +0.4
baz=322
O56A Blue Knob Stat 134.75 26 P PKPdf 09 52 17.2 +0.6
baz=326
N57A Milroy 134.77 24 P PKPdf 09 52 17.1 +0.6
baz=327
P55A Reedsville 134.80 27 P PKPdf 09 52 17.0 +0.4
baz=324
J63A Strafford 134.81 17 P PKPdf 09 52 16.7 +0.2
baz=337
M59A Waymart 134.93 22 P PKPdf 09 52 17.4 +0.6
baz=330
L60A Shokan 134.98 20 P PKPdf 09 52 17.5 +0.6
baz=332
L61A Hillsdale 1, H 135.03 20 P PKiKP 09 52 17.7 -0.7
baz=333
K62A Royalston 135.03 18 P PKiKP 09 52 17.7 -0.7
baz=335
N58A Sunbury 135.04 24 P PKPdf 09 52 17.1 +0.1
baz=328
L61B Northampton 135.08 19 P PKPdf 09 52 17.7 +0.6
baz=334
Q55A Buckhannon 135.09 28 P PKiKP 09 52 18.2 -0.6
baz=323
S53A Williamson 135.11 31 P PKPdf 09 52 17.7 +0.5
baz=320
O57A Amberson 135.19 25 P PKiKP 09 52 18.1 -0.7
baz=327
TZTN Tazewell 135.20 33 P PKPdf 09 52 18.0 +0.6
baz=317
K63A Dunstable 135.22 17 P PKiKP 09 52 18.5 -0.3
baz=336
P56A Dayton Farm, R 135.25 27 P PKPdf 09 52 17.5 +0.1
baz=325
R54A Victor 135.30 30 P PKPdf 09 52 18.0 +0.3
baz=321
N59A State Game Lan 135.34 23 P PKPdf 09 52 18.0 +0.4
baz=330
HRV Adam Dziewonsk 135.38 18 P PKiKP 09 52 18.3 -0.8
baz=336
T53A Wise 135.43 32 P PKPdf 09 52 18.1 +0.2
baz=319
S54A Dingess, Beckl 135.44 30 P PKPdf 09 52 17.9 0.0
baz=321
Q56A Snyder Ridge, 135.47 27 P PKPdf 09 52 17.9 +0.1
baz=324
O58A Lewisberry 135.56 24 P PKPdf 09 52 18.0 0.0
baz=328
LRAL Lakeview Retre 135.58 40 P PKPdf 09 52 18.2 0.0
baz=311
P57A Homestead Farm 135.63 26 P PKPdf 09 52 18.2 +0.1
baz=326
N60A Cedar Hill Far 135.64 22 P PKPdf 09 52 18.0 -0.1
baz=330
R55A Marlinton 135.64 29 P PKPdf 09 52 18.6 +0.3
baz=322
O59A Robesonia 135.70 23 P PKPdf 09 52 18.6 +0.3
baz=329
M61A Granite Spring 135.74 20 P PKPdf 09 52 18.6 +0.4
baz=332
Q57A Strasburg 135.83 27 P PKPdf 09 52 18.7 +0.2
baz=325
S55A Lewisburg 135.86 29 P PKPdf 09 52 18.8 +0.1
baz=322
T54A Tazewell 135.87 31 P PKPdf 09 52 18.5 -0.3
baz=320
R56A Bull Pasture M 135.88 28 P PKPdf 09 52 18.4 -0.4
baz=323
P58A Pank, Wackersv 135.94 25 P PKPdf 09 52 18.8 +0.1
baz=327
PAL Palisades 135.96 21 P PKPdf 09 52 18.8 +0.2
baz=332
O60A Telford 136.00 23 P PKPdf 09 52 19.1 +0.4
baz=330
N61A South Mountain 136.04 21 P PKPdf 09 52 19.4 +0.6
baz=331
Q58A Fox Den Farm, 136.23 26 P PKiKP 09 52 20.4 -0.6
baz=326
T55A Pulaski 136.23 30 P PKPdf 09 52 19.9 +0.5
baz=321
BLA Blacksburg 136.34 30 P PKPdf 09 52 20.0 +0.4
baz=321
P60A Greenville 136.35 23 P PKiKP 09 52 20.6 -0.6
baz=329
R57A Stanardsville 136.38 27 P PKiKP 09 52 20.5 -0.7
baz=324
U55A TA2, Sparta 136.57 31 P PKPdf 09 52 20.7 +0.6
baz=320
S57A Dark Hollow, R 136.61 28 P PKiKP 09 52 21.1 -0.7
baz=324
R58A Rapidan 136.61 27 P PKiKP 09 52 20.8 -0.9
baz=325
V54A Nebo 136.64 33 P PKiKP 09 52 21.0 -0.9
baz=318
T56A Rocky Mt 136.67 30 P PKPdf 09 52 20.6 +0.4
baz=322
PLCA Paso Flores 136.75 163 PKP PKiKP 09 52 21.7 -0.4
comp=Z,7.6nm,0.7s,baz=195,slow=3.5,SNR=15
PLCA SKPbc SKPbc 09 55 51.8 +1.9
comp=Z,5.1nm,0.9s,baz=182,slow=6.6,SNR=5.2
V55A Taylorsville 136.97 32 P PKiKP 09 52 21.7 -0.8
baz=320
W54A Cherokee Point 137.02 33 P PKiKP 09 52 22.0 -0.7
baz=318
U56A King 137.03 31 P PKiKP 09 52 22.1 -0.6
baz=321
T57A Hurt 137.08 29 P PKiKP 09 52 22.0 -0.7
baz=323
S58A Poland Farm, P 137.15 27 P PKiKP 09 52 22.3 -0.6
baz=325
R60A Leonardtown, M 137.26 25 P PKiKP 09 52 22.5 -0.6
baz=327
X54A Belton 137.31 34 P PKiKP 09 52 22.7 -0.6
baz=317
S59A Mechanicsville 137.37 27 P PKiKP 09 52 22.6 -0.7
baz=326
V56A Mocksville 137.38 31 P PKiKP 09 52 22.6 -0.8
baz=320
KMSC Kings Mountain 137.45 33 P PKiKP 09 52 22.7 -0.8
baz=319
T58A Grand View Acr 137.47 28 P PKiKP 09 52 22.8 -0.8
baz=324
U57A Blanch 137.49 30 P PKiKP 09 52 22.8 -0.8
baz=322
GOGA Godfrey 137.50 36 P PKiKP 09 52 23.0 -0.7
baz=315
V57A Coltrane Farms 137.69 31 P PKiKP 09 52 23.3 -0.7
baz=321
X55A Gracelyn & Ava 137.78 34 P PKiKP 09 52 23.4 -0.9
baz=318
W56A Indian Trail 137.85 32 P PKiKP 09 52 23.6 -0.8
baz=320
U58A Oxford 137.90 29 P PKiKP 09 52 23.9 -0.5
baz=323
T59A Double "B" Far 137.90 27 P PKiKP 09 52 23.8 -0.6
baz=325
Y55A Saluda 138.05 34 P PKPdf 09 52 23.5 +0.7
baz=317
X56A White Oak 138.10 33 P PKiKP 09 52 24.1 -0.7
baz=319
V58A Windy Hill, Pi 138.10 30 P PKiKP 09 52 24.1 -0.7
baz=322
T60A Surry 138.14 26 P PKiKP 09 52 24.3 -0.5
baz=326
W57A Gilead 138.15 31 P PKiKP 09 52 24.4 -0.6
baz=320
U59A Littleton 138.30 28 P PKiKP 09 52 24.5 -0.7
baz=324
V59A Middlesex 138.55 29 P PKiKP 09 52 24.6 -1.1
baz=323
W58A Raeford 138.65 31 P PKPdf 09 52 24.6 +0.7
baz=321
Z56A Williston 138.78 35 P PKPdf 09 52 24.8 +0.7
baz=318
X60A Albert Glenn T 139.63 30 P PKPdf 09 52 26.7 +1.1
baz=323
Z58A St. Stephen 139.63 33 P PKPdf 09 52 26.4 +0.7
baz=319
BO02 Sierra Bellavi 142.05 158 PKPdf PKPdf 09 52 29.1 -1.0
DWPF Disney Wildern 142.43 40 P PKPdf 09 52 31.8 +1.0
baz=313
RFA San Rafael 142.87 161 *i* P PKPdf 09 52 29.1 -2.5
MT02 Curacav 143.28 157 PKPdf 09 52 31.7 -0.6
ROC1 El Roble 143.58 157 *i* P PKPdf 09 52 32.0 -1.2
VA03 San Esteban 143.95 157 PKPdf 09 52 33.7 +0.1
AAGR Agrelo 144.29 160 *i* P PKPdf 09 52 33.9 -0.2
ARCO CERRO ARCO 144.47 159 *i* P PKPdf 09 52 34.2 -0.3
ASAL Salagasta 144.74 159 *i* P PKPdf 09 52 35.1 +0.2
AUSP Uspallata 144.87 158 *i* P PKPdf 09 52 36.2 +0.7
CO02 Combarbal 145.14 155 PKPdf 09 52 36.1 +0.4
RTLS Leoncito 145.28 158 *i* P PKPdf 09 52 37.3 +1.2
RTCV Cerro Valdivia 145.50 159 *i* P PKPab 09 52 37.0 +0.5
CO03 El Pedregal 145.58 156 PKPab 09 52 37.3 +0.4
ZON Zonda 145.74 159 *i* P PKPab 09 52 37.9 +0.5
SACV Santiago Islan 145.83 297 PKPab 09 52 38.8 +0.6
MRA San Martin 145.89 164 *i* P PKPab 09 52 38.5 +0.5
RTLL Cerro Villicun 146.00 159 *i* P PKPab 09 52 38.8 +0.4
ACCO Cerro Coronel 146.45 158 *i* P PKPbc 09 52 39.9 +0.3
CO01 Juntas del Tor 146.58 156 PKPab 09 52 41.7 +0.8
AROD Rodeo 146.67 157 *i* P PKPab 09 52 40.8 -0.5
ACDV Cuesta del Vie 146.80 157 *i* P PKPab 09 52 41.8 +0.2
LCO Las Campanas 147.16 154 PKP2 PKPbc 09 52 42.3 +0.7
LCO Las Campanas 147.16 154 PKPbc 09 52 42.3 +0.7
TCA Tanti 147.22 165 *i* P PKPab 09 52 42.4 -0.7
APLL PUNTA DE LOS L 147.53 161 *i* P PKPbc 09 52 43.0 +0.7
AGUA GUANDACOL 147.66 157 *i* P PKPbc 09 52 42.0 -0.8

AC04	Llanos de Chal	147.69	153	PKPab	PKiKP	09 52 44.4	-0.4
GB1A	Borinquen Arri	147.92	70	*e*P	PKiKP	09 52 45.9	+0.2
DUNO	Dulce Nombre,	148.03	71	*e*P	PKiKP	09 52 45.8	0.0
ACLC	CERRO LA CRUZ	148.28	160	*i* P	PKPdf	09 52 42.4	+1.3
VCA	Vinchina	148.44	157	*i* P	PKiKP	09 52 46.2	-0.3
JTS	Las Juntas de	148.49	71	PKP2	PKiKP	09 52 46.9	+0.1
JTS	Las Juntas de	148.49	71	*e*P	PKiKP	09 52 46.3	-0.5
JTS	Las Juntas de	148.49	71	PKPab	PKiKP	09 52 46.9	+0.1
ARE1	Arenal 1	148.66	70	*e*P	PKiKP	09 52 47.1	0.0
LAFE	Finca La Fe, P	148.66	72	*e*P	PKiKP	09 52 47.5	+0.4
CEDE	Laguna Cedeo	148.67	70	*e*P	PKiKP	09 52 46.4	-0.8
CBCY	The Bluff, Cay	148.90	50		PKiKP	09 52 47.6	+0.1
JACO	JACO, Garabito	148.94	72	*e*P	PKiKP	09 52 48.6	+0.9
HDC	Heredia	149.36	71	*e*P	PKiKP	09 52 49.4	+0.7
LCR2	La Lucha 2	149.54	71	*e*P	PKiKP	09 52 49.4	+0.2
CYA	Choya	149.57	161	*i* P	PKPbc	09 52 47.8	+0.2
AC01	Pan de Azucar	149.65	151		PKiKP	09 52 49.0	+0.1
CDM	Cerro de Muert	149.82	71	*e*P	PKiKP	09 52 51.1	+1.0
DRK0	Durika	150.39	72	*e*P	PKiKP	09 52 52.0	+1.1
PRVC	Isla de Provid	150.72	63	*e*P	PKPdf	09 52 44.9	-0.2
GO02	Mina Guanaco	150.96	152		PKiKP	09 52 52.7	+0.7
PB14	IPOC Station P	151.02	150		PKiKP	09 52 53.0	+0.9
CPUP	Villa Florida	153.42	175	PKP	PKPdf	09 52 50.6	+1.7
	comp=Z,5.2nm,0.9s,baz=75,slow=1.2,SNR=5.7						
CPUP				PKPbc	PKiKP	09 52 57.9	+1.3
	comp=Z,15nm,0.8s,baz=143,slow=1.0,SNR=17						
LVC	Limon Verde	153.44	150	PKPbc	PKiKP	09 52 58.9	+1.6
	comp=Z,15nm,0.8s,baz=286,slow=1.6,SNR=10						
ATAH	Atahualpa	155.41	108	PKP	PKPdf	09 52 53.1	+0.6
	comp=Z,7.6nm,0.9s,baz=266,slow=3.4,SNR=4.2						
ATAH				PKPab	PKPab	09 53 19.1	+1.0
	comp=Z,8.7nm,1.0s,baz=291,slow=23,SNR=4.3						
OTAV	Otavalo	156.43	90	*e*P	PKPdf	09 52 55.5	+1.6
BANI	BANI	156.45	39		PKPab	09 53 20.2	-1.6
DR12	Loma Pena Alta	156.75	37		PKPab	09 53 23.7	+0.6
CBOC	Ciudad Bolivar	158.19	75	*e*P	PKPdf	09 52 55.3	-0.4
YOTC	Yotoco, Valle	158.24	80	*e*P	PKPdf	09 52 56.3	+0.5
PUAC	Puerto Asis, P	158.31	89	*e*P	PKPdf	09 52 56.5	+0.8
ZARC	Zaragoza, Cauc	158.84	70	*e*P	PKPdf	09 52 56.9	+0.6
LPAZ	La Paz	158.96	142	PKP	PKPdf	09 52 58.5	+1.3
	comp=Z,4.4nm,0.9s,baz=32,slow=1.0,SNR=16						
LPAZ				PKPab	PKPab	09 53 35.5	+2.2
	comp=Z,8.0nm,0.8s,baz=206,slow=5.2,SNR=9.9						
GUY2C	Guyana, Caldas	158.97	76	*e*P	PKPdf	09 52 56.7	-0.4
TOLC	Tolima	159.14	78	*e*P	PKPdf	09 52 57.9	+0.8
ORTC	Ortega, Tolima	159.34	80	*e*P	PKPdf	09 52 57.2	+0.2
MTP	Monte Pirata	159.43	30	PKPab	PKPab	09 53 35.3	+0.8
PRAC	Prado	159.72	80	*e*P	PKPdf	09 52 57.5	+0.1
ROSC	El Rosal	160.06	77	PKP	PKPdf	09 52 59.5	+1.3
	comp=Z,11nm,0.7s,baz=195,slow=23,SNR=4.8						
ROSC				PKPab	PKPab	09 53 40.4	+2.2
	comp=Z,12nm,0.4s,baz=276,slow=19,SNR=3.0						
CHIC	Chingaza	160.68	77	*e*P	PKPdf	09 52 56.6	-2.3
RUSC	La Rusia	161.00	73	*e*P	PKPdf	09 52 54.3	-5.1
SDV	Santo Domingo	162.14	61	PKP	PKPdf	09 53 00.5	+0.3
	comp=Z,7.4nm,0.5s,baz=320,slow=7.2						
SDV				PKPab	PKPab	09 53 46.8	-0.1
	comp=Z,5.5nm,0.5s,baz=13,slow=11,SNR=2.1						
SIV	San Ignacio	162.70	160	PKP	PKPdf	09 53 01.5	+1.1
	comp=Z,5.9nm,0.8s,baz=167,slow=1.3,SNR=26						
SIV				PKPab	PKPab	09 53 49.8	+0.9
	comp=Z,1.8nm,0.7s,baz=240,slow=3.7,SNR=3.9						
BDFB	Brasilia	162.77	203	PKP	PKPdf	09 53 01.5	+0.8
	comp=Z,3.5nm,0.8s,baz=59,slow=13,SNR=3.1						
BDFB				PKPab	PKPab	09 53 50.1	+0.8
	comp=Z,6.1nm,0.8s,baz=205,slow=8.2,SNR=4.5						
SAML	Samuel	167.64	138	PKIKP	PKPdf	09 53 05.6	+0.9
SAML	Samuel	167.64	138		PKPdf	09 53 05.6	+0.9
MDP	Montagnes des	174.73	335	PKPab	PKPab	09 54 41.2	-0.8
	comp=Z,8.2nm,0.8s,baz=330,slow=1.0,SNR=4.9						

*IPEC **10** 10:18:36.6±0.2, 51°.52N×16°.22E, h1km, ML2.2/3, Error ellipse: s-maj=1.4km s-min=0.7km az=30.0*
*PRU **10** 10:18:38.0±0.0, 51°.46N×16°.09E, h0km*
*VIE **10** 10:18:39.1±2.3, 51°.29N×16°.77E, h0km, mb2.1/4, ml2.7/4, Error ellipse: s-maj=16.6km s-min=11.7km az=143.0 28 km NW of Wroclaw Suspected Mining induced.*

ISC 10 10:18:36.9±1.2, 51°.48N±0°.05×16°.12E±0°.03, h0km, n29, σ0°77/54, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.65	170	*i* Pg		Pg	10 18 49.9	+0.5
KSP				*e*Sg		Sg	10 18 58.4	+0.6
CHVC	Chvalec	0.90	183	*e*PG		Pg	10 18 54.6	+0.5
CHVC				*e*SG		Sg	10 19 06.7	+1.0
	comp=Z,39nm,0.3s							
OSTC	Ostas	0.93	176	*e*PG		Pb	10 18 55.6	-0.3
OSTC				*e*SG		Sg	10 19 07.4	+0.7
	comp=Z,60nm,0.4s							
UPC	Upice	0.98	184	*e*PG		Pg	10 18 56.0	+0.3
UPC				*e*SG		Sg	10 19 08.6	+0.3
	comp=Z,116nm,0.5s							
DPC	Dobruska-Polom	1.14	174	*e*PG		Pg	10 18 58.8	0.0
DPC				*e*SG		Sg	10 19 13.7	+0.1
	comp=Z,42nm,0.6s							
PVCC	Panska Ves	1.37	226	*e*PG		Pb	10 19 03.4	0.0
PVCC				*e*SG		Sb	10 19 21.6	+0.2
	comp=Z,141nm,0.4s							
KRLC	Kraliky	1.47	163	*e*PG		Pn	10 19 04.4	-0.3
KRLC				*e*SG		Sg	10 19 23.9	-0.2
	comp=Z,34nm,0.5s							
BRG	Berggiesshubel	1.50	247	PG		Pg	10 19 06.0	+0.4
BRG				SG		Sn	10 19 25.6	+0.3
	71nm,0.3s							
PRA	Prague	1.78	218	*e*SG		Sg	10 19 33.9	0.0
	comp=Z,14nm,0.5s							
GOPC	GO Pecny, Ondr	1.79	209	*e*PG		Pn	10 19 09.6	+0.6
GOPC				*e*SG		Sb	10 19 33.7	+0.3
	comp=Z,20nm,0.7s							
PRU	Pruhonice	1.80	214	*e*PG		Pb	10 19 10.8	0.0
PRU				*e*SG		Sg	10 19 34.8	0.0
	comp=Z,27nm,0.4s							
MORC	Moravsky Berou	1.93	152	*e*PN		Pn	10 19 10.6	-0.5
MORC				*e*SG		Sb	10 19 37.2	-0.5
MORC	Moravsky Berou	1.93	152	*e*Pn		Pn	10 19 10.5	-0.5
	baz=335							
MORC				*e*Sg		Sb	10 19 37.2	-0.5
	18nm,0.4s,baz=335							
CLL	Collm	1.96	266	*i* Pn		Pn	10 19 11.0	-0.4
CLL				*i* Pg		Pb	10 19 13.2	-0.3
CLL				*i* Sg		Sg	10 19 39.6	-0.3
	comp=Z,21nm,0.3s							
VRAC	Vranov	2.20	172	*e*PN		Pn	10 19 14.1	-0.6
VRAC				*e*SG		Sg	10 19 46.4	-1.1
VRAC	Vranov	2.20	172	*e*Pn		Pn	10 19 14.1	-0.6
	baz=354							
VRAC				*e*Sg		Sg	10 19 46.4	-1.1
	comp=Z,12nm,0.3s,baz=354							
TREC	Trest	2.23	191	*e*SG		Sg	10 19 47.8	-0.7
	comp=Z,16nm,0.2s							
PBCC	Pribram	2.25	218	*e*PG		Pg	10 19 19.5	-0.6
PBCC				*e*SG		Sg	10 19 48.6	-0.6
KRUC	Moravsky	2.43	176	*e*PN		Pn	10 19 17.6	-0.3
KRUC				*e*SG		Sg	10 19 53.6	-1.4
KRUC	Moravsky	2.43	176	*e*Pn		Pn	10 19 17.6	-0.3
	baz=358							
KRUC				*e*Sg		Sg	10 19 53.5	-1.4
	comp=Z,12nm,0.3s,baz=358							
NKC	Novy Kostel	2.64	243	*e*SG		Sg	10 20 01.3	-0.5
	comp=Z,27nm,0.3s							
OJC	Ojcow	2.65	117	*e*Pg		Pg	10 19 27.5	-0.2
OJC				*e*Sg		Sg	10 20 02.4	+0.4
KHC	Kasperske Hory	2.87	216	*e*PN		Pn	10 19 24.2	+0.3
KHC				*e*PG		Pb	10 19 29.3	+0.4
KHC				*e*SN		Sn	10 19 58.8	-0.2
KHC				*e*SG		Sg	10 20 08.0	-0.9
	comp=Z,16nm,0.5s							
LANS	Liptovska Anna	3.17	136	*e*SG		Sg	10 20 20.1	+1.4
MODS	Modra-Piesok	3.20	166	*e*SG		Sg	10 20 18.1	-1.6
VYHS	Vyhne	3.47	149	*e*SG		Sg	10 20 29.1	+0.9
CONA	Conrad Observa	3.56	183	*i* Pn		Pn	10 19 35.6	+2.1
	comp=Z,0.5nm,0.2s							
CONA				*e*Sg		Sg	10 20 30.9	-0.4
	comp=Z,13nm,0.4s							
MOA	Molln	3.83	199	*e*Pn		Pn	10 19 39.0	+1.9
	comp=Z,0.8nm,0.2s							
MOA				Sg		Sg	10 20 40.0	+0.1
	comp=Z,7.8nm,0.4s							
ARSA	Arzberg	4.26	186	*e*Sg		Sg	10 20 52.0	-1.5
	comp=Z,7.9nm,0.5s							

*IDC **10** 10:43:26.9±2.6, 61°.25N×152°.30W, h66km±22km, mb3.0/3, mb1 3.5/5, mb1mx3.2/36, mbtmp3.3/5, Error ellipse: s-maj=55.9km s-min=10.2km az=106.0*
*NEIC **10** 10:43:29.9±0.9, 61°.15N±0°.03×151°.25W±0°.06, h74km±5km, Error ellipse: s-maj=4.6km s-min=4.0km az=205.0*
*ANF **10** 10:43:30.7±0.3, 61°.18N×151°.14W, h76km±8km, ML3.4/11, Error ellipse: s-maj=5.0km s-min=2.5km az=111.0*
*UNK **10** 10:43:31.1, 61°.17N×151°.20W, h67km*
*AEIC **10** 10:43:31±0.9, 61°.17N±0°.03×151°.20W±0°.04, h67km±4km, ML3.0, Error ellipse: s-maj=5.0km s-min=2.6km az=191.0*

ISC 10 10:43:30.9±0.9, 61°.16N±0°.02×151°.20W±0°.03, h72km±6km, n130, σ1°05/161, mb3.1/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUA	Susitna One	0.38	35			Pn	10 43 42.1	-0.9
SUA						Sn	10 43 51.2	-0.6
CAPN	Captain Cook N	0.39	177	P		Pn	10 43 43.5	+0.6
	baz=357,SNR=6.0							
CAPN				S		Sn	10 43 54.4	+2.8
	baz=357							
CAPN	Captain Cook N	0.39	177			Pn	10 43 43.6	+0.6
SPU	Mount Spurr	0.41	274			Pn	10 43 42.1	-1.1
SPCG	Spurr Capps Gl	0.42	289			Pn	10 43 42.3	-1.0
SPCG						Sn	10 43 51.4	-1.0
STLK	Strandline Lak	0.46	319			Pn	10 43 42.7	-0.9
FIS	Fire Island	0.47	91			Pn	10 43 43.8	+0.2
FIS						Sn	10 43 53.3	+0.3
SPCP	Crater Peak Br	0.47	284			Pn	10 43 42.9	-0.9
SPCP						Sn	10 43 52.5	-0.8
SPCR	Spurr Chakacha	0.49	275			Pn	10 43 42.8	-1.1
SPCR						Sn	10 43 52.2	-1.3
SPBG	Spurr Blockage	0.58	281			Pn	10 43 43.8	-0.9
SPNN	North Nagishla	0.76	287			Pn	10 43 45.7	-1.0
SPNN						Sn	10 43 58.5	+0.1
SLKM	Skilak Lake	0.81	143			Pn	10 43 46.0	-1.1
SLKM						Sn	10 43 58.7	-0.6
RDT	Redoubt	0.83	226			Pn	10 43 46.5	-1.0
SKT	Skwentna	0.84	349			Pn	10 43 46.7	-0.9
SKT						Sn	10 43 59.2	-0.7
DFR	Drift River	0.92	233			Pn	10 43 47.8	-0.8
DFR						Sn	10 44 01.2	-0.6
O22K	Cooper Landing	0.99	133	P		Pn	10 43 48.5	-0.7
	baz=314,SNR=18							
O22K				S		Sn	10 44 03.2	+0.2
	baz=314							
O22K	Cooper Landing	0.99	133			Pn	10 43 48.6	-0.7
RSO	Redoubt South	1.03	228			Pn	10 43 49.4	-0.7
NCT	North Crescent	1.04	236			Pn	10 43 49.4	-0.7
NCT						Sn	10 44 04.0	-0.3
RDWB	Redoubt West	1.05	231			Pn	10 43 49.5	-0.7
RDWB						Sn	10 44 04.6	0.0
RED	Redoubt Volcan	1.07	227			Pn	10 43 49.7	-0.8
RED						Sn	10 44 05.2	+0.2
PMR	Palmer	1.09	65			Pn	10 43 49.7	-0.8
PMR						Sn	10 44 04.7	-0.5
GHO	Glory Hole Cre	1.25	60			Pn	10 43 52.3	-0.4
GHO					Sn	Sn	10 44 09.0	-0.2
CUT	Chulitna	1.33	19	P		Pn	10 43 53.2	-0.4
	baz=200,SNR=15							
CUT				S		Sn	10 44 10.6	0.0
	baz=200							
CUT	Chulitna	1.33	19			Pn	10 43 53.2	-0.4
CUT						Sn	10 44 10.8	+0.2
KNK	Knik Glacier	1.35	78			Pn	10 43 53.3	-0.6
KNK					Sn	Sn	10 44 11.3	+0.1
SEW	Seward	1.36	140			Pn	10 43 52.7	-1.4
ILIM	Iliamna	1.39	220			Pn	10 43 54.0	-0.4
BRLK	Bradley Lake	1.41	174			Pn	10 43 54.2	-0.5
PWL	Port Wells	1.43	101			Pn	10 43 53.7	-1.3
BRSE	Bradley Lake S	1.44	171			Pn	10 43 54.9	-0.2
IVE	Iliamna Volcan	1.45	219			Pn	10 43 54.8	-0.5
ILW	Iliamna West	1.46	222			Pn	10 43 54.9	-0.6
ILW						Sn	10 44 14.3	+0.3
ILS	Iliamna Low So	1.52	218			Pn	10 43 56.0	-0.2
HOM	Homer	1.52	189	P		Pn	10 43 56.3	+0.2
	baz=8.2							
HOM				S		Sn	10 44 16.6	+1.4
	baz=8.2							
SML	Sawmill	1.52	63			Pn	10 43 55.6	-0.6
CNPM	China Poot	1.64	181			Pn	10 43 57.3	-0.4
PPLA	Purkeypile	1.81	345			Pn	10 43 59.6	-0.5
OPT	Oil Point	1.82	215			Pn	10 44 00.3	+0.2
HUR	Hurricane	1.97	21			Pn	10 44 02.3	+0.2
SCM	Sheep Creek Mo	1.98	68			Pn	10 44 01.6	-0.7
WAT7	Susitna Watana	2.02	32			Pn	10 44 02.5	-0.3
GLI	Glacier Island	2.02	96			Pn	10 44 00.6	-2.1
WAT1	Susitna Watana	2.09	36			Pn	10 44 03.3	-0.5
AUL	Augustine Lava	2.10	213			Pn	10 44 03.7	-0.2
AUQ	Augustine Qik'	2.12	212			Pn	10 44 04.0	-0.1
AUJK	Augustine Jueg	2.12	212			Pn	10 44 04.4	+0.2
SVW2	Sparrevohn	2.13	270			Pn	10 44 03.1	-1.2
WAT6	Susitna Watana	2.17	47			Pn	10 44 04.3	-0.7
WAT2	Susitna Watana	2.19	33			Pn	10 44 04.8	-0.4
JPK	Jack Peak	2.24	91			Pn	10 44 04.2	-1.5
CAST	Castle Rocks	2.31	350			Pn	10 44 06.5	-0.2
FID	Port Fidalgo	2.34	98			Pn	10 44 04.4	-2.7
TRF	Thorofare Moun	2.34	10			Pn	10 44 07.0	-0.3
VMT	TAPS Tl Valdez	2.35	90			Pn	10 44 05.8	-1.4
KTH	Kantishna Hill	2.41	3			Pn	10 44 08.2	+0.1
RND	Reindeer	2.51	25			Pn	10 44 09.2	-0.3
KLU	Klutina	2.57	80			Pn	10 44 08.8	-1.4
M24K	Tolsona, Glenn	2.58	66	P		Pn	10 44 09.9	-0.5
	baz=251							
M24K				S		Sn	10 44 41.0	+0.2
	baz=251							
M24K	Tolsona, Glenn	2.58	66			Pn	10 44 10.2	-0.2
DIV	Divide	2.63	88			Pn	10 44 09.5	-1.6
DHY	Denali Highway	2.63	41			Pn	10 44 10.7	-0.5
EYAK	Cordova Ski Ar	2.73	101			Pn	10 44 10.1	-2.4
CHUM	Lake Minchumin	2.78	350			Pn	10 44 12.4	-0.7
MCK	McKinley	2.79	21			Pn	10 44 12.7	-0.5
TT01	Tatalina	2.87	310			Pn	10 44 13.3	-1.0
TTA	Tatalina	2.88	310			Pn	10 44 13.6	-0.9
BPAW	Bear Paw Mtn.	2.96	2			Pn	10 44 14.5	-1.0
BWN	Browne	3.13	14			Pn	10 44 18.6	+0.8
KAHC	Katmai Hardscr	3.17	219			Pn	10 44 17.8	-0.6
BMRM	Bremner River	3.21	91			Pn	10 44 16.8	-2.1
PAX	Paxson	3.25	54	Pn		Pn	10 44 20.0	+0.5
KDAK	Kodiak Island	3.46	192	P		Pn	10 44 20.1	-2.1
	1.3nm,0.3s,baz=46,slow=9.7,SNR=38							
KDAK				S		Sn	10 44 58.3	-3.6
	3.7nm,0.3s,baz=268,slow=20,SNR=8.6							
KDAK	Kodiak Island	3.46	192	Pn		Pn	10 44 21.0	-1.3
KDAK						Sn	10 44 58.4	-3.6
KAKN	Katmai Knife C	3.47	216			Pn	10 44 22.4	-0.2
KABU	Katmai Buttres	3.56	217			Pn	10 44 23.7	0.0
GLB	Gilahina Butte	3.58	82			Pn	10 44 22.5	-1.4
NEA2	Nenana	3.58	15	P		Pn	10 44 23.1	-0.9
	baz=197,SNR=12							
NEA2				S		Sn	10 45 04.0	-1.0
	baz=197							
NEA2	Nenana	3.58	15			Pn	10 44 23.4	-0.6
WRH	Wood River Hil	3.62	22			Pn	10 44 23.6	-0.8
HDA	Harding Lake	3.80	29	P		Pn	10 44 26.3	-0.7
	baz=213,SNR=22							
HDA	Harding Lake	3.80	29			Pn	10 44 26.5	-0.5
CCB	Clear Creek Bu	3.83	22			Pn	10 44 26.6	-0.8
RIDG	Independent Ri	3.93	46			Pn	10 44 29.0	+0.3
MENT	Mentasta	3.95	60	Pn		Pn	10 44 28.4	-0.6
CRQM	Cirque	3.95	92			Pn	10 44 29.1	0.0
MCARA	McCarthy VSAT	3.95	83			Pn	10 44 28.9	-0.2
TCOL	CIGO, UAF Yank	4.03	21	P		Pn	10 44 29.4	-0.5
	baz=204,SNR=13							
TCOL	CIGO, UAF Yank	4.03	21			Pn	10 44 29.5	-0.5
COLA	College	4.03	21	Pn		Pn	10 44 29.3	-0.7
MDM	Murphy Dome	4.05	18			Pn	10 44 29.6	-0.7
OHAK	Old Harbor	4.09	196			Pn	10 44 30.3	-0.5
TGL	Tana Glacier	4.10	92			Pn	10 44 31.6	+0.5
IL31		4.13	27			Pn	10 44 30.5	-0.8
ILAR	Eielson Array	4.13	27	P		Pn	10 44 30.5	-0.9
	2.0nm,0.3s,baz=217,slow=14,SNR=49							
ILAR				S		Sn	10 45 19.0	+0.7
	2.3nm,0.3s,baz=221,slow=20,SNR=5.5							
ILAR	Eielson Array	4.13	27	Pn		Pn	10 44 30.5	-0.9
ILAR						Sn	10 45 19.9	+1.5
DOT	Dot Lake	4.16	50			Pn	10 44 31.2	-0.6
PTPK	Patty Peak	4.23	86			Pn	10 44 31.3	-1.7
BALM	Baldy	4.30	88			Pn	10 44 32.0	-1.8
KIAG	Kiagna River	4.30	89			Pn	10 44 32.0	-1.9
POKR	Poker Plat Res	4.33	22	P		Pn	10 44 33.9	-0.2
	baz=205,SNR=6.4							
POKR				S		Sn	10 45 22.9	-0.2
	baz=205							
POKR	Poker Plat Res	4.33	22			Pn	10 44 33.4	-0.6
BARK	Barkley Ridge	4.33	96			Pn	10 44 32.2	-2.1
ISLE	Juniper Island	4.37	93			Pn	10 44 33.4	-1.3
PS07	TAPS Pump Stn7	4.37	16			Pn	10 44 34.3	-0.4
SCRK	Sand Creek	4.37	47	P		Pn	10 44 33.9	-0.9
	baz=233,SNR=10							
SCRK	Sand Creek	4.37	47			Pn	10 44 34.4	-0.5
GRNC	Granite Creek	4.63	91			Pn	10 44 36.5	-1.9
BARN	Barnard Glacie	4.63	87			Pn	10 44 37.8	-0.6
CTGM	Chitina Glacie	4.80	88			Pn	10 44 39.8	-0.8
BC03		4.82	62			Pn	10 44 39.9	-0.8
BCAR	Beaver Creek A	4.82	62			Pn	10 44 40.1	-0.7
IM03		4.98	348			Pn	10 44 42.3	-0.6
IMAR	Indian Mountai	4.98	348			Pn	10 44 42.1	-0.9
YUK2	White River	5.01	78			Pn	10 44 42.4	-1.0
K27K	Chicken	5.11	52	P		Pn	10 44 43.7	-1.0
	baz=240							
K27K				S		Sn	10 45 41.7	-0.5
	baz=240							
K27K	Chicken	5.11	52			Pn	10 44 43.3	-1.4
YUK3	Moose Creek	5.19	78			Pn	10 44 44.9	-1.2
PCA	Pinnacle	5.49	96			Pn	10 44 49.2	-0.8
EGAK	Eagle	5.84	47			Pn	10 44 54.1	-0.6
PNL	Peninsula	6.04	99			Pn	10 44 55.3	-2.1
COLD	Coldfoot	6.11	4	P		Pn	10 44 57.5	-0.9
	baz=184,SNR=5.1							
COLD				S		Sn	10 46 05.1	-1.7
	baz=184							
COLD	Coldfoot	6.11	4			Pn	10 44 57.0	-1.4
HYT	Haines Junctio	6.67	87			Pn	10 45 04.8	-1.4
BM03	Burnt Mountain	6.91	22			Pn	10 45 08.4	-0.9
BMAR	Burnt Mountain	6.92	22			Pn	10 45 09.0	-0.5
TOLK	Toolik Lake Re	7.55	5	P		Pn	10 45 17.3	-0.8
	baz=186							
TOLK				S		Sn	10 46 41.5	-0.5
	baz=186							
NVAR	Mina Array Bea	30.56	123	P		P	10 49 38.9	+1.4
	0.4nm,0.6s,baz=314,slow=9.7,SNR=4.8							
PDAR	Pinedale Array	30.85	107	P		P	10 49 40.6	+0.5
	0.2nm,0.5s,baz=331,slow=4.9,SNR=5.1							
TXAR	Lajitas Array	44.59	113	P		P	10 51 36.8	+1.0
	0.1nm,0.4s,baz=309,slow=4.5,SNR=2.3							

IDC 10 11:21:09.9±5.7, 35°.74S×53°.62E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/43, mbtmp3.6/3, Error ellipse: s-maj=240.9km s-min=49.4km az=47.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	32.86	36	T		T	12 02 02.2	
	baz=208,slow=76,SNR=31							
H08S2	Diego Garcia H	32.87	36	T		T	12 02 02.7	
	baz=208,slow=76,SNR=16							
H08S3	Diego Garcia H	32.88	36	T		T	12 01 59.0	
	baz=208,slow=76,SNR=29							
H01W2	Cape Leeuwin H	48.68	108	T		T	12 21 55.2	
	baz=250,slow=75,SNR=16							
H01W3	Cape Leeuwin H	48.69	108	T		T	12 21 56.6	
	baz=250,slow=75,SNR=15							
H01W1	Cape Leeuwin H	48.70	108	T		T	12 21 57.6	
	baz=250,slow=75,SNR=19							
ASAR	Alice Springs	69.03	105	P		P	11 32 17.7	+0.1
	0.4nm,0.7s,baz=234,slow=5.8,SNR=4.9							
WRA	Warramunga Arr	71.31	101	P		P	11 32 31.7	0.0
	0.8nm,0.8s,baz=233,slow=5.4,SNR=6.8							
MKAR	Makanchi Array	86.11	19	P		P	11 33 52.2	-0.1
	0.4nm,0.8s,baz=195,slow=2.8,SNR=2.2							
ILAR	Eielson Array	148.43	17	PKPbc		PKPbc	11 40 56.8	-0.6
	0.7nm,0.8s,baz=305,slow=3.1,SNR=6.6							

*ANF **10** 11

SIV	San Ignacio	18.98 113	P	Pn	11 37 32.9	+1.3
	comp=Z,0.1nm,0.3s,baz=264,slow=18,SNR=1.7					
JTS	Las Juntas de	20.01 343	P	P	11 37 41.1	-0.4
JTS			IAmb	IAmb	11 38 05.1	
	comp=Z,12nm,1.3s					
H03N2	Juan Fernandez	24.32 180	T	T	12 03 34.7	
	baz=359,slow=75,SNR=18					
H03N1	Juan Fernandez	24.32 179	T	T	12 03 36.6	
	baz=359,slow=75,SNR=17					
H03N3	Juan Fernandez	24.33 179	T	T	12 03 35.4	
	baz=359,slow=75,SNR=19					
TRQA	Tornquist	32.82 154	P	P	11 39 40.4	-0.8
KVTX	Kingsville	40.61 334	P	P	11 40 47.0	-0.5
NVAR	Mina Array Bea	59.63 325	P	P	11 43 14.6	+3.0
	comp=Z,0.5nm,0.7s,baz=124,slow=8.8,SNR=4.6					
TORD	Torodi Ar. Bea	83.25 76	P	P	11 45 35.8	+1.7
	comp=Z,0.8nm,0.9s,baz=266,slow=5.6,SNR=4.1					
H11N3	WAKE ISLAND Hyl	15.43 288	T	T	13 57 13.0	
	baz=90					
H11N2	WAKE ISLAND Hyl	15.44 288	T	T	13 57 21.9	
	baz=90					
H11N1	WAKE ISLAND Hyl	15.45 288	T	T	13 57 13.7	
	baz=90					
WRA	Warramunga Arr	136.22 229	PKP	PKiKP	11 52 31.6	+0.9
	comp=Z,0.4nm,0.9s,baz=120,slow=1.8,SNR=5.0					

*GII **10** 11:33:35.6±0.3, 37.°18N×31.°27E, h80km*
*DDA **10** 11:33:35.9, 37.°09N×30.°92E, h51km±7km, MW3.3*
*ISK **10** 11:33:35.3, 37.°09N×30.°95E, h89km, ML3.3/34*
*NIC **10** 11:33:37.4±0.0, 36.°78N×30.°92E, h107km±4km, Ml3.7/4*
*HLW **10** 11:33:42.1, 36.°34N×30.°68E, h11km±12km, Ml4.0*

ISC 10 11:33:34.6±1.2, 37.°07N±0.°03×30.°97E±0.°03, h102km±8km, n89, σ1°08/116, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.30	236	PG	Pn	11 33 49.2	-0.2
BCK	Bucak	0.49	322	PG	Pn	11 33 50.8	+0.2
KEPZ	Antalya-Kepez	0.54	108	*i* P	Pn	11 33 51.3	+0.4
KEPZ				*i* S	Sn	11 34 03.3	+0.2
KEMT	Kemer-ANTALYA	0.57	215	PG	Pn	11 33 51.3	+0.2
SEYD	Seydisehir-KON	0.77	64	PG	Pn	11 33 53.7	+0.7
ISP	Isparta	0.83	335	PG	Pn	11 33 53.9	+0.3
ISP	Isparta	0.83	335	Pg	Pn	11 33 53.3	-0.3
ISP				Sg	Sn	11 34 07.1	-0.6
AKUM	Antalya-Kumluc	0.90	214	*i* P	Pn	11 33 55.4	+1.3
AKUM				*i* S	Sn	11 34 11.9	+3.2
BAGO	Egridir - ISPA	0.93	351	*i* P	Pn	11 33 54.8	+0.3
BAGO				*i* S	Sn	11 34 08.6	-0.9
ALAN	Alanya-ANTALYA	1.00	121	PG	Pn	11 33 55.7	+0.5
GOLH	Golhisar	1.13	279	*i* P	Pn	11 33 57.5	+0.8
GOLH				*i* S	Sn	11 34 14.3	+0.9
GOLH				IAML		11 34 17.0	
	comp=E,47nm,0.5s						
GOLH				IAML		11 34 19.0	
	comp=N,326nm,0.3s						
DOGA	KONYA_Doganhis	1.17	28	*i* P	Pn	11 33 58.1	+0.8
DOGA				*i* S	Sn	11 34 14.5	+0.2
DEMR	Demre-Antalya	1.19	226	PN	Pn	11 33 58.4	+1.1
KMER	Konya-Meram	1.32	58	*i* P	Pn	11 33 59.8	+0.9
KMER				*i* S	Sn	11 34 16.6	-0.6
KZIL	AFYON_Kizioren	1.35	331	*i* P	Pn	11 33 59.4	+0.1
KZIL				*i* S	Sn	11 34 17.1	-0.9
GAZI	Gazipasa	1.37	127	PN	Pn	11 34 00.5	+1.1
GAZI	Gazipasa	1.37	127	*i* P	Pn	11 34 00.3	+0.9
GAZI				*i* S	Sn	11 34 18.6	+0.4
AKAS	Kas	1.38	233	PN	Pn	11 34 00.7	+1.0
AKAS	Kas	1.38	233	*i* P	Pn	11 34 00.6	+1.0
AKAS				*i* S	Sn	11 34 19.5	+1.0
KONT	Konya--Tatoy	1.41	51	PN	Pn	11 34 00.9	+1.0
KONT	Konya--Tatoy	1.41	51	*i* P	Pn	11 34 00.9	+1.0
KSL	Kastellorizon	1.44	231	P	Pn	11 34 01.3	+1.0
KSL				S	Sn	11 34 20.0	+0.3
KSL				AML	AML	11 34 22.4	
	comp=N,1.1nm,0.4s						
KSL				AML	AML	11 34 22.4	
	comp=N,1.1nm,0.4s						
KSL				AML	AML	11 34 25.7	
	comp=N,0.6nm,0.7s						
KSL				AML	AML	11 34 25.7	
	comp=N,0.6nm,0.7s						
SHUT	Suhut-Afyon	1.52	348	PN	Pn	11 34 01.9	+0.6
FETY	Fethiye	1.57	254	PN	Pn	11 34 02.4	+0.5
FETY	Fethiye	1.57	254	*i* P	Pn	11 34 02.6	+0.7
FETY				*i* S	Sn	11 34 22.6	0.0
LADK	Ladik-KONYA	1.58	44	PN	Pn	11 34 02.8	+0.7
BOLV	Bolvadin	1.64	360	*i* P	Pn	11 34 03.7	+0.8
BOLV				IAML		11 34 25.0	
	comp=N,67nm,0.5s						
BOLV				IAML		11 34 26.0	
	comp=E,124nm,0.4s						
TAVA	DENIZLI_Tavas	1.68	284	*i* P	Pn	11 34 04.2	+0.8
TAVA				*i* S	Sn	11 34 24.8	-0.4
KDHN	Kadinhani	1.71	32	*i* P	Pn	11 34 04.1	+0.4
KDHN				*i* S	Sn	11 34 25.2	-0.6
KRMN	Karaman	1.84	86	PN	Pn	11 34 06.7	+1.4
DALY	Dalyan (Mula)	1.87	263	PN	Pn	11 34 06.4	+0.8
DALY	Dalyan (Mula)	1.87	263	*i* P	Pn	11 34 06.2	+0.6
DALY				*i* S	Sn	11 34 28.4	-0.8
BOZY	Bozyazi-Mersin	1.88	120	PN	Pn	11 34 07.4	+1.7
KIZT	Kizilcal	1.94	22	PN	Pn	11 34 06.9	+0.2
TEKE	Tekeli-Mersin	1.96	118	PN	Pn	11 34 08.5	+1.7
TEVE	Tevekalti-Mers	2.09	107	PN	Pn	11 34 10.1	+1.6
CHBY	Cihanbeyli	2.14	45	PN	Pn	11 34 10.3	+1.1
YER	Yerkesik	2.15	272	PN	Pn	11 34 10.6	+1.4
YORU	Yoruktepe-Mers	2.17	114	PN	Pn	11 34 11.5	+2.1
OREN	Orenkoy-Mersin	2.18	113	PN	Pn	11 34 11.4	+1.8
TURN	Turunc	2.20	263	PN	Pn	11 34 10.3	+0.5
TURN	Turunc	2.20	263	*i* P	Pn	11 34 10.2	+0.3
TEPK	Tepekoy-MERSIN	2.24	111	PN	Pn	11 34 12.1	+1.7
USAK	Uak-Merkez	2.25	317	*i* P	Pn	11 34 11.0	+0.5
GULN	MERSIN_Gulnar	2.25	112	*i* P	Pn	11 34 10.1	-0.5
GULN				*i* S	Sn	11 34 39.3	+1.2
CIFT	Cifteler, Eski	2.29	2	PN	Pn	11 34 12.3	+1.2
KEBE	Keben-Mersin	2.29	105	PN	Pn	11 34 12.8	+1.7
SULT	Sultanhani-AKS	2.32	60	PN	Pn	11 34 12.9	+1.5
YESY	Yesilyurt	2.32	71	PN	Pn	11 34 13.1	+1.5
ALFC	Alefka	2.32	145	P	Pn	11 34 11.8	+0.3
ALFC				S	Sn	11 34 39.0	-0.8
ALFC				AML	AML	11 34 42.4	
	comp=E,1.4nm,0.2s						
ALFC				AML	AML	11 34 42.4	
	comp=E,1.4nm,0.2s						
ALFC				AML	AML	11 34 45.9	
	comp=E,1.5nm,0.3s						
ALFC				AML	AML	11 34 45.9	
	comp=E,1.5nm,0.3s						
KULA	Kula-Manisa	2.33	309	PN	Pn	11 34 12.2	+0.6
AKMS	Akamas	2.33	151	P	Pn	11 34 12.1	+0.5
AKMS				S	Sn	11 34 39.3	-0.6
AKMS				AML	AML	11 34 48.6	
	comp=E,0.9nm,0.4s						
AKMS				AML	AML	11 34 48.6	
	comp=E,0.9nm,0.4s						
AKMS				AML	AML	11 34 53.7	
	comp=E,1.3nm,0.4s						
AKMS				AML	AML	11 34 53.7	
	comp=E,1.3nm,0.4s						
MANT	Manisa	2.38	307	*i* P	Pn	11 34 12.6	+0.3
AUSIV	SIVRIHISAR	2.41	11	PN	Pn	11 34 13.9	+1.2
SVRH	Sivrihisar-ESK	2.41	10	PN	Pn	11 34 13.9	+1.2
ARG	Arkhangelos	2.44	250	PN	Pn	11 34 13.9	+0.9
LEF	Lefka	2.50	141	*i* P	Pn	11 34 13.2	-0.5
LEF				*i* S	Sn	11 34 40.5	-3.1
AYDN	Tasoluk	2.53	284	*i* P	Pn	11 34 14.9	+0.8
KERG	Konya-Eregli	2.54	81	*i* P	Pn	11 34 15.1	+0.6
SIMA	Simav-Kutahya	2.55	323	PN	Pn	11 34 15.7	+1.2
KKUL	Konya-Kulu	2.60	36	*i* P	Pn	11 34 16.1	+0.9
KIZK	Mersin	2.62	102	*i* P	Pn	11 34 17.3	+2.0
NATA	Nata	2.63	150	P	Pn	11 34 16.5	+1.0
TVSB	Tavsanli	2.65	334	PN	Pn	11 34 16.4	+0.5
DAT	Datca	2.74	264	PN	Pn	11 34 18.5	+1.5
ATHAL	Athalassa	2.75	134	S	Sn	11 34 51.0	+1.1
SZAC	Souni	2.79	145	P	Pn	11 34 18.7	+1.1
SZAC				AML	AML	11 35 03.7	
	comp=E,0.5nm,0.3s						
SZAC				AML	AML	11 35 04.7	
	comp=E,1.0nm,0.6s						
AUMIH	MIHALICIK	2.82	8	PN	Pn	11 34 19.5	+1.3
BORA	Eskisehir	2.83	352	PN	Pn	11 34 19.4	+1.1
CSS	Mathiatis	2.85	137	Pn	Pn	11 34 18.4	0.0
CSS				Sn	Sn	11 34 51.0	-1.1
CSS	Mathiatis	2.85	137	P	Pn	11 34 19.1	+0.7
BODT	Bodrum	2.92	271	PN	Pn	11 34 21.0	+1.6
ASGA	Asgata	2.94	140	P	Pn	11 34 21.4	+1.8
SRCK	Saricakaya, Es	2.98	355	PN	Pn	11 34 21.5	+1.4
MVOU	Mavrovouni	2.98	133	P	Pn	11 34 20.3	+0.2
EREN	Erenkoy	3.01	120	*i* P	Pn	11 34 21.9	+1.4
GULE	Gulek	3.05	85	*i* P	Pn	11 34 23.1	+1.8
KIRS	Kırehir-Merke	3.11	48	*i* P	Pn	11 34 22.6	+0.7
KIRS				*i* S	Sn	11 34 57.2	-1.2
KIRS				IAML		11 34 59.0	
	comp=E,14nm,0.6s						
KIRS				IAML		11 35 02.0	
	comp=N,6.5nm,0.4s						
OSC1	CSNet OBS 1	3.57	176	P	Pn	11 34 27.7	-0.4
OSC2	CSNet OBS 4	4.13	165	P	Pn	11 34 35.7	+0.2
OSC2				S	Sn	11 35 21.4	-1.4
MMA0B	Mount Meron ar	5.44	137	Pn	Pn	11 34 53.8	+0.4
MMA0B				Sn	Sn	11 35 53.5	-1.3
GEM	Giv'at Ha'Em	5.45	134	Pn	Pn	11 34 52.6	-0.8
GEM				Sn	Sn	11 35 53.6	-1.2
NATI	Neve Ativ	5.45	133	Pn	Pn	11 34 53.1	-0.3
NATI				Sn	Sn	11 35 53.4	-1.4
HMDT	Nahal Hemdat	6.10	141	Pn	Pn	11 35 02.6	+0.3
HMDT				Sn	Sn	11 36 09.8	-0.9
DSI	Dead Sea	6.59	145	Pn	Pn	11 35 08.7	-0.3
DSI				Sn	Sn	11 36 22.0	-0.6
SLUM	Salum	7.32	222	P	Pn	11 35 18.6	-0.3
SLUM	baz=225			AMP		11 36 00.0	
	baz=225						
SLUM				S	Sn	11 36 27.8	-13
	baz=225						
SUZ	Suez	7.38	167	P	Pn	11 35 18.9	-0.7
	baz=163						
SWA2		9.07	212	P	Pn	11 35 41.2	-1.4
	baz=214						
SWA2				AMP		11 37 00.0	
	baz=214						
SWA2				S	Sn	11 37 09.5	-13
	baz=214						
HFRF	Wahat Farafira	10.15	194	P	Pn	11 35 55.9	-1.4
	baz=194						

*IDC **10** 11:44:39.7±0.7, 31.°79N×141.°87E, h0km, mb3.9/12, mb1 4.1/17, mb1mx4.0/49, mbtmp3.9/17, ML3.1/4, MS3.1/10, Ms1 3.2/10, ms1mx2.9/44, Error ellipse: s-maj=21.1km s-min=15.3km az=85.0*
*NEIC **10** 11:44:42.8±1.9, 31.°75N±0.°05×141.°78E±0.°03, h24km±5km, mb4.4/18, Error ellipse: s-maj=7.7km s-min=4.3km az=174.0*
*NIED **10** 11:44:44.6, 32.°16N×141.°67E, h9km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.27; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.33; $M_{r\theta}$-0.44; $M_{\phi\phi}$-0.07; $M_{\phi r}$0.21; Fault plane solution: $M_0$1.39000×10^{15} NP1: ϕ_s345.00000°, δ52.00000°, λ67.00000°. NP2: ϕ_s200.00000°, δ44.00000°, λ116.00000°.*
*JMA **10** 11:44:44.6±0.6, 32.°16N×141.°67E, h9km, M3.7*

ISC 10 11:44:43.3±0.5, 31.°79N±0.°05×141.°81E±0.°07, h29km, n71, σ1°38/77, mb4.2/18, MS3.0/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.86	292	P	Pn	11 45 13.9	+0.6
JHCJ	Hachijojimakas	2.13	307	P	Pn	11 45 16.6	-0.4
JHJ2	Mitsune	2.14	309	P	Pn	11 45 16.9	-0.2
JHJ2	Mitsune	2.14	309	Pn	Pn	11 45 16.7	-0.4
JHJ	Hachijo jima 2	2.17	308	Pn	Pn	11 45 16.8	-0.7
	38nm,0.3s,baz=141,slow=23,SNR=11						
JHJ				Sn	Sn	11 45 43.1	-0.3
	51nm,0.3s,baz=243,slow=24,SNR=2.5						
JHJ				LR	LR	11 46 19.5	
	comp=Z,536nm,18.4s,baz=98,slow=46						
BSO1	Boso 1	2.94	346	P	Pn	11 45 27.3	-0.3
BSO3	Boso 3	3.20	340	P	Pn	11 45 30.8	-0.6
JHU	Hanno	4.57	333	P	Pn	11 45 50.1	-0.4
JHU				*eS*	Sn	11 46 39.0	-3.6
JYT	Yasato	4.63	344	Pn	Pn	11 45 52.1	+0.9
JYT				Sn	Sn	11 46 46.3	+2.3
JCJ	Chichijima	4.69	176	Pn	Pn	11 45 52.6	+0.5
	14nm,0.3s,baz=260,slow=23,SNR=9.7						
JCJ				Sn	Sn	11 46 44.7	-0.9
	8.5nm,0.3s,baz=302,slow=23,SNR=1.5						
JCJ				LR	LR	11 47 31.4	
	comp=Z,190nm,18.6s,baz=58,slow=37						
JCJ	Chichijima	4.69	176		Pn	11 45 52.4	+0.2
JCJ					Sn	11 46 44.2	-1.3
JRY	Ryogami san	4.86	331	P	Pn	11 45 54.6	+0.1
JHO	Hitachi	4.92	348	P	Pn	11 45 54.2	-1.1
JAG	Ashikaga	5.02	338	P	Pn	11 45 56.8	+0.1
JGF	Kuroka	5.32	317		Pn	11 46 01.1	+0.3
INU	Inuyama	5.35	313		Pn	11 46 01.9	+0.6
MJAR	Matsushiro Arr	5.60	329	Pn	Pn	11 46 05.1	+0.4
	0.3nm,0.3s,baz=157,slow=14,SNR=11						
MJAR				LR	LR	11 48 26.8	
	comp=Z,202nm,19.3s,baz=145,slow=41						
MJAR	Matsushiro Arr	5.60	329	Pn	Pn	11 46 05.4	+0.7
MAJO	Matsushiro	5.61	329	Pn	Pn	11 46 05.5	+0.8
MAT	Matsushiro	5.61	329	P	Pn	11 46 05.6	+0.9
MAT				*eS*	Sn	11 47 02.9	-5.3
MAT	Matsushiro	5.61	329	P	Pn	11 46 05.9	+1.2
JFT	Otama	5.84	348	P	Pn	11 46 07.4	-0.6
JFT				*eS*	Sn	11 47 10.5	-3.5
JMM	Marumori	6.12	352		Pn	11 46 10.4	-1.4
JMM				Sn	Sn	11 47 19.6	-1.2
JWT	Wachi	6.39	305	Pn	Pn	11 46 15.3	-0.2
JSD	Sado	6.88	336	Pn	Pn	11 46 22.5	+0.3
JMN	Monobe	6.96	288	Pn	Pn	11 46 24.1	+0.7
JHS	Saijyo	7.95	296	Pn	Pn	11 46 38.3	+1.4
JHS				Sn	Sn	11 48 04.0	-1.8
JTM	Tenmabayashi	9.00	356	Pn	Pn	11 46 51.9	+0.7
JNU	Nakatsue	9.34	281	LR	LR	11 50 27.3	
	comp=Z,96nm,18.9s,baz=105,slow=37						
ERM	Erimo	10.26	6	Pn	Pn	11 47 06.0	-2.6
ASAJ	Asahikawa	12.32	3	Pn	Pn	11 47 34.3	-2.5
	0.3nm,0.3s,baz=114,slow=20,SNR=1.9						
ASAJ				LR	LR	11 53 55.4	
	comp=Z,40nm,18.3s,baz=184,slow=45						
JKA	Kamikawa-asahi	12.32	3	Pn	Pn	11 47 36.0	-0.8
KSRS	Korea Array	12.76	300	Pn	Pn	11 47 47.8	+5.1
	0.1nm,0.3s,baz=112,slow=14,SNR=3.5						
KSRS				LR	LR	11 52 45.7	
	comp=Z,143nm,18.2s,baz=122,slow=38						
USRK	Ussuriysk Ar.	14.60	331	Pn	Pn	11 48 07.8	0.0
	baz=121,slow=14,SNR=2.2						
USRK				LR	LR	11 53 38.6	
	comp=Z,88nm,18.8s,baz=138,slow=37						
YOJ	Yonaguni jima	18.11	251	P	Pn	11 48 52.4	-0.3
YOJ				IAmb	IAmb	11 48 56.0	
	comp=Z,27nm,0.9s						
YULB	Yu-li	19.99	250	P	P	11 49 13.3	-0.3
TPUB	Ta-pu	20.57	251	P	P	11 49 19.7	-0.2
TPUB				IAmb	IAmb	11 49 35.9	
	comp=Z,13nm,1.1s						
TGY	Tagaytay City	25.98	232	LR	LR	11 59 31.0	
	comp=Z,158nm,22.0s,baz=190,slow=34						
MA2	Magadan	28.43	10	P	P	11 50 36.0	+0.7
MA2				IAmb	IAmb	11 50 40.5	
	comp=Z,22nm,1.5s						
SONM	Songino Array	31.25	311	P	P	11 51 02.7	+2.2
	comp=Z,1.8nm,0.7s,baz=116,slow=8.6,SNR=8.5						
SONM				LR	LR	12 03 04.3	
	comp=Z,32nm,20.4s,baz=90,slow=35						
SONM	Songino Array	31.25	311	P	P	11 51 02.2	+1.7
SEY	Seymchan	31.89	9	P	P	11 51 06.6	+0.9
	comp=Z,0.9nm,0.5s,baz=178,slow=9.6,SNR=6.2						
TLY	Talaya	34.20	317	P	P	11 51 26.4	+0.3
TLY				IAmb	IAmb	11 51 41.0	
	comp=Z,3.6nm,0.8s						
DLV	T Lat	36.47	245	P	P	11 51 45.1	-1.1
CMAR	Chiang Mai Arr	40.77	261	P	P	11 52 22.1	0.0
	comp=Z,0.3nm,0.3s,baz=71,slow=5.8,SNR=1.9						
CMAR				LR	LR	12 09 26.5	
	comp=Z,13nm,21.6s,baz=140,slow=36						
ZAA0	Zalesovo Array	45.81	316	P	P	11 52 59.9	-2.4
MK31	Makanchi Array	47.34	306	P	P	11 53 14.6	+0.1
MKAR	Makanchi Array	47.34	306	P	P	11 53 15.4	+0.9
	comp=Z,1.6nm,0.7s,baz=88,slow=10.0,SNR=12						
MKAR	Makanchi Array	47.34	306	P	P	11 53 14.9	+0.4
KURK	Kurchatov	49.55	312	P	P	11 53 31.7	+0.4
WB0	Warramunga Arr	51.75	189	P	P	11 53 48.0	-0.2
WB0				IAmb	IAmb	11 53 49.3	
	comp=Z,5.8nm,0.7s						
CTAO	Charters Tower	51.76	175	P	P	11 53 47.8	-0.5
WB2	Warramunga Arr	51.93	189	P	P	11 53 49.4	-0.2
WB2				IAmb	IAmb	11 54 16.4	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	51.93	189	P	P	11 53 50.0	+0.4
	comp=Z,2.9nm,0.6s,baz=7.1,slow=7.8,SNR=58						
WRA	Warramunga Arr	51.93	189	P	P	11 53 48.7	-0.9
FITZ	Fitzroy Crossi	51.97	200	P	P	11 53 47.5	-2.4
MDM	Murphy Dome	53.23	30	P	P	11 53 59.1	+0.3
MDM				IAmb	IAmb	11 54 02.3	
	comp=Z,4.3nm,1.0s						
IL31		53.80	30	P	P	11 54 03.5	+0.7
IL31				IAmb	IAmb	11 54 16.3	
	comp=Z,3.1nm,1.0s						
ILAR	Eielson Array	53.80	30	P	P	11 54 01.5	-1.4
	comp=Z,1.7nm,1.0s,baz=270,slow=5.4,SNR=10						
ILAR	Eielson Array	53.80	30	P	P	11 54 01.9	-1.0
XMIS	Christmas Isla	54.45	226	P	P	11 54 07.2	-1.1
AS31	Alice Springs	55.66	189	P	P	11 54 17.8	+1.0
ASAR	Alice Springs	55.66	189	P	P	11 54 17.4	+0.6
	comp=Z,0.8nm,0.6s,baz=16,slow=14,SNR=29						
FINES	FINESS Array B	73.62	333	P	P	11 56 14.5	+0.9
	comp=Z,2.3nm,0.8s,baz=64,slow=9.4,SNR=3.2						
FINES	FINESS Array B	73.62	333	P	P	11 56 15.4	+1.8
NVAR	Mina Array Bea	77.90	52	P	P	11 56 40.4	+1.6
	comp=Z,0.7nm,0.8s,baz=310,slow=4.6,SNR=4.5						
NVAR	Mina Array Bea	77.90	52	P	P	11 56 39.8	+1.0
NOA	NORSAR Array B	79.15	338	P	P	11 56 45.9	+0.9
	comp=Z,0.6nm,0.7s,baz=46,slow=5.1,SNR=2.2						
PDAR	Pinedale Array	81.12	45	P	P	11 56 57.3	+1.0
	comp=Z,0.3nm,0.6s,baz=247,slow=1.9,SNR=3.5						
TXAR	Lajitas Array	93.04	53	P	P	11 57 56.8	+2.1
	comp=Z,0.7nm,0.7s,baz=282,slow=2.8,SNR=11						
TXAR	Lajitas Array	93.04	53	P	P	11 57 56.5	+1.8

MEX 10 11:48:22.6±0.8, 17.°41N×100.°88W, h47km±11km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.59	290	*i* P	Pn	11 48 33.0	-1.8
ZIIG				*i* S	Sn	11 48 42.3	-1.3
ZIIG	Zihuatanejo	0.59	290	*i* P	Pn	11 48 33.2	-1.6
	baz=96,slow=12						
ZIIG				*i* S	Sn	11 48 42.3	-1.3
CAIG	El Cayaco	0.69	121	*i* P	Pn	11 48 34.5	-1.5
CAIG				*i* S	Sn	11 48 43.9	-1.9
CAIG	El Cayaco	0.69	121	*i* P	Pn	11 48 34.5	-1.5
CAIG				*i* S	Sn	11 48 43.7	-2.1
ARIG	Puente Sto Nin	1.01	30	*eP*	Pn	11 48 38.0	-2.5
ARIG				*i* S	Sn	11 48 51.1	-2.5
ARIG	Puente Sto Nin	1.01	30	*eP*	Pn	11 48 38.0	-2.5
ARIG				*i* S	Sn	11 48 50.6	-2.9
ACP2	Acapulco	1.09	119	*i* P	Pn	11 48 40.0	-1.5
ACP2				*i* S	Sn	11 48 52.4	-3.0
ACP2	Acapulco	1.09	119	*i* P	Pn	11 48 41.2	-0.3
ACP2				*i* S	Sn	11 48 53.0	-2.4
MEIG	Mezcala	1.31	67	*eP*	Pn	11 48 43.5	-1.1
MEIG				*i* S	Sn	11 48 59.3	-1.7
MEIG	Mezcala	1.31	67	*eP*	Pn	11 48 43.5	-1.1
MEIG				*i* S	Sn	11 49 00.4	-0.5
PLIG	Platanillo	1.64	53	*eP*	Pn	11 48 48.0	-1.1
PLIG				*i* S	Sn	11 49 07.0	-2.0
PLIG	Platanillo	1.64	53	*eP*	Pn	11 48 48.7	-0.4
PLIG				*i* S	Sn	11 49 11.0	+1.9
TLIG	Tlapa	2.22	86	*i* P	Pn	11 48 55.7	-1.3
TLIG				*i* S	Sn	11 49 20.6	-2.7
TLIG	Tlapa	2.22	86	*i* S	Sn	11 49 26.9	+3.6
MOIG	Morelia	2.28	353	*i* P	Pn	11 48 57.4	-0.6
MOIG	Morelia	2.28	353	*eP*	Pn	11 48 51.4	-6.6

*DJA **10** 11:49:40.9±0.2, 0.°S±3.°×12.°5E±.°, h10km, M4.8/12, mB5.1/3, mb5.0/4, MLv4.8/12, Mw(mB)4.4/3*
*NEIC **10** 11:49:42.3±1.7, 0.°38S±0.°06×125.°25E±0.°04, h35km±2km, mb4.6/54, Error ellipse: s-maj=10.3km s-min=7.0km az=161.0*
*IDC **10** 11:49:44.6±2.3, 0.°28S×125.°12E, h53km±21km, mb4.1/21, mb1 4.2/26, mb1mx4.1/37, mbtmp4.4/26, ML4.3/5, MS3.5/4, Ms1 3.5/4, ms1mx3.0/32, Error ellipse: s-maj=14.5km s-min=10.4km az=71.0*

ISC 10 11:49:44.3±0.3, 0.°36S±0.°04×125.°19E±0.°04, h52km, n145, σ1°43/158, mb4.5/53, MS3.4/4, 1C-2D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.53	308	P	Pn	11 50 06.3	-2.9
KMSI				S	Sn	11 50 25.2	-2.8
SANI	Sanana	1.85	155	P	Pn	11 50 12.1	-1.6
SANI				S	Sn	11 50 34.9	-1.0
TNTI	Ternate	2.45	63	P	Pn	11 50 21.8	0.0
TNTI	Ternate	2.45	63		Pn	11 50 21.8	0.0
TNTI				Sn	Sn	11 50 51.4	+0.9
LUWI	Luw

comp=Z,111nm,0.6s,baz=294,slow=10.0,SNR=3.0
PMG Port Moresby 23.64 113 P P 11 54 50.4 -0.7
PMG IAmb IAmb 11 54 52.8
comp=Z,15nm,0.8s
YULB Yu-li 23.91 351 P P 11 54 51.2 -2.3
TPUB Ta-pu 23.94 350 P P 11 54 50.8 -3.0
TPUB IAmb IAmb 11 54 56.8
comp=Z,22nm,0.9s
QIZ Qiongzhong 24.46 323 P P 11 55 01.0 +2.4
QIZ S S 11 59 20.2 +4.8
QIZ pmax pmax
comp=Z,9.0nm,1.2s
QIZ LR LR
comp=N,82nm,8.4s
QIZ LR LR
comp=E,100nm,7.7s
QIZ LR LR
comp=Z,150nm,8.8s
QIS Mount Isa 24.52 146 P P 11 55 00.2 +1.1
baz=25,SNR=90
GIRL Giralia 24.58 205 P P 11 54 59.2 -0.4
AS31 Alice Springs 24.66 161 P P 11 54 59.5 -0.9
ASAR Alice Springs 24.66 161 P P 11 55 00.7 +0.4
comp=Z,5.4nm,0.6s,baz=343,slow=10.0,SNR=45
ASAR PcP **PcP 11 58 37.9 +1.0**
comp=Z,2.5nm,0.5s,baz=349,slow=2.2,SNR=19
ASAR LR LR 12 06 24.0
comp=Z,140nm,18.5s,baz=300,slow=40
ASAR Alice Springs 24.66 161 P P 11 55 00.0 -0.3
ASAR Alice Springs 24.66 161 P PcP 11 58 38.1 +1.2
WRKA Warakurna 24.71 173 P P 11 55 01.2 +0.4
baz=25,SNR=27
MTSU Mount Surprise 25.79 134 P P 11 55 10.3 -0.3
baz=26,SNR=13
JMZ Minamidaito 2 26.67 12 P P 11 55 16.7 -1.8
JMZ IAmb IAmb 11 55 31.1
comp=Z,18nm,0.8s
MEEK Meekatharra 26.88 193 P P 11 55 19.8 -0.6
baz=27,SNR=5.7
KRVT Keravat (AS076 27.09 99 P P 11 55 24.1 +1.6
comp=Z,72nm,0.8s,baz=20,slow=2.8,SNR=8.5
CTA Charters Tower 28.45 135 P P 11 55 36.3 +1.8
comp=Z,1.0nm,0.3s,baz=313,slow=15,SNR=7.8
CTAO Charters Tower 28.45 135 P P 11 55 32.6 -1.9
MORW Morawa 29.85 196 P P 11 55 46.5 -0.3
FORT Forrest 30.37 175 P P 11 55 51.7 +0.3
baz=31,SNR=12
FORT Forrest 30.37 175 P P 11 55 48.8 -2.6
BLDU Ballidu 31.15 194 P P 11 55 57.7 -0.5
baz=31,SNR=7.5
CM31 Chiang Mai Arr 31.86 307 P P 11 56 05.8 +1.1
CMAR Chiang Mai Arr 31.86 307 P P 11 56 05.0 +0.3
comp=Z,0.5nm,0.3s,baz=147,slow=7.7,SNR=7.0
CMAR PcP **PcP 11 58 55.1 +0.5**
comp=Z,0.6nm,0.5s,baz=175,slow=1.7,SNR=4.3
CMAR Chiang Mai Arr 31.86 307 P P 11 56 05.5 +0.8
CHTO Chiang Mai 32.06 308 P P 11 56 06.4 0.0
NJ2 Nanjing 32.79 350 *eP* **P 11 56 15.2 +2.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NWAO Narrogin (SRO) 33.25 192 P P 11 56 16.6 0.0
KMI Kunming 33.38 321⇓ *eP* **P 11 56 22.4 +4.3**
KMI pP pP 11 56 25.8 -4.9
KMI sP pwP 11 56 31.0 -3.0
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,130nm,5.7s
JNU Nakatsue 33.73 9 P P 11 56 20.6 -0.3
comp=Z,7.4nm,0.9s,baz=148,slow=3.3,SNR=4.9
JNU Nakatsue 33.73 9 P P 11 56 22.0 +1.1
JNU IAmb IAmb 11 56 22.2
comp=Z,11nm,0.9s
BBOO Buckleboo 33.86 163 P P 11 56 21.3 -0.6
ENH Enshi 33.94 335 P P 11 56 22.4 -0.3
ENH IAmb IAmb 11 56 23.5
comp=Z,7.5nm,0.7s
STKA Stephens Creek 34.97 155 P P 11 56 32.8 +1.2
comp=Z,21nm,0.9s,baz=321,slow=8.5,SNR=18
STKA Stephens Creek 34.97 155 P P 11 56 32.8 +1.2
baz=35,SNR=16
STKA Stephens Creek 34.97 155 P P 11 56 31.5 -0.1
CMSA Cobar Meteorol 36.58 150 P P 11 56 46.9 +1.6
baz=37,SNR=20
JWT Wachi 36.72 14 P P 11 56 46.8 +0.3
JWT IAmb IAmb 11 56 58.3
comp=Z,6.3nm,0.9s
XAN Xi'an 37.48 338 P P 11 56 51.8 -1.2
XAN pP pP 11 56 58.8 -7.0
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN Xi'an 37.48 338 P P 11 56 51.7 -1.3
XAN IAmb IAmb 11 56 55.2
comp=Z,8.2nm,1.1s
KSAR Wonju Array Be 37.70 4 P P 11 56 54.3 -0.4
KSRS Korea Array 37.71 4 P P 11 56 55.0 +0.2
comp=Z,2.1nm,0.7s,baz=182,slow=10.0,SNR=13
KS19 Wonju Array Si 37.76 3 P P 11 56 55.4 +0.1
KS19 IAmb IAmb 11 57 05.8
comp=Z,7.1nm,0.9s
MJAR Matsushiro Arr 38.66 17 P P 11 57 01.4 -1.5
comp=Z,1.9nm,0.7s,baz=196,slow=8.2,SNR=6.2
MJAR Matsushiro Arr 38.66 17 P P 11 57 01.8 -1.1
MAT Matsushiro 38.66 17 P P 11 57 02.4 -0.5
ARMA Armidale 39.04 142 P P 11 57 08.6 +2.3
baz=39,SNR=5.1
ARMA Armidale 39.04 142 P P 11 57 06.9 +0.6
ARMA IAmb IAmb 11 57 09.0
comp=Z,7.3nm,0.8s
JSD Sado 40.07 16 P P 11 57 14.0 -0.6
JSD IAmb IAmb 11 57 15.4
comp=Z,24nm,1.1s
YNG Young 40.14 150 P P 11 57 17.9 +2.5
baz=40,SNR=6.4
SHL Shillong 41.23 311 P P 11 57 23.9 -0.7
CAN Canberra 41.25 150 P P 11 57 23.8 -0.8
CAN IAmb IAmb 11 57 28.8
comp=Z,25nm,1.3s
LZH Lanzhou 41.35 333 *eP* **P 11 57 25.4 0.0**
LZH pP pP 11 57 35.7 -2.5
LZH sP pwP 11 57 41.0 -1.0
LZH pmax pmax
comp=Z,15nm,1.1s
TOO Toolangi 41.49 155 P P 11 57 29.1 +2.7
baz=42,SNR=7.7
TOO Toolangi 41.49 155 P P 11 57 25.0 -1.4
TOO IAmb IAmb 11 57 29.8
comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 42.85 345 *eP* **P 11 57 38.6 +1.1**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,90nm,6.6s
SANVU Saraoutou 44.09 112 P P 11 57 47.0 -0.7
USA0B Ussuriysk Arra 44.78 7 P P 11 57 53.1 +0.3
USA0B IAmb IAmb 11 58 02.7
comp=Z,21nm,1.4s
USRK Ussuriysk Ar. 44.78 7 P P 11 57 53.0 +0.2
comp=Z,6.7nm,0.7s,baz=190,slow=6.0,SNR=18
USRK Ussuriysk Ar. 44.78 7 P P 11 57 53.0 +0.2
MDJ Mudanjiang 44.95 4 P P 11 57 53.3 -0.9
MDJ IAmb IAmb 11 57 56.3
comp=Z,11nm,0.8s
GTA Gaotai 45.90 332 ⇑P **P 11 58 02.3 +0.4**
GTA pP pP 11 58 12.5 -2.4
GTA sP pwP 11 58 16.6 -2.1
GTA S **S 12 04 46.8 +4.0**
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA pmax pmax
comp=Z,57nm,6.5s
GTA LR LR
comp=N,61nm,18.1s
GTA LR LR
comp=E,92nm,20.6s
GTA LR LR
comp=Z,79nm,19.4s
ASAJ Asahikawa 46.93 17 P P 11 58 09.7 0.0
comp=Z,15nm,1.0s,baz=215,slow=9.6,SNR=7.5
SONM Songino Array 50.72 344 P P 11 58 38.1 -0.8
comp=Z,2.7nm,0.8s,baz=161,slow=9.0,SNR=12
SONM LR LR 12 21 19.9
comp=Z,34nm,21.1s,baz=150,slow=37
SONM Songino Array 50.72 344 P P 11 58 37.8 -1.1
TLY Talaya 54.96 344 P P 11 59 10.1 +0.1

WMQ Urumqi 55.26 328 *eP* **P 11 59 14.3 +1.9**
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ pmax pmax
comp=Z,88nm,5.9s
PETK Petropavlovsk- 59.77 22 P P 11 59 43.3 -0.6
comp=Z,3.2nm,0.9s,baz=216,slow=6.4,SNR=2.3
PRZ Przheval'sk 59.85 321 P P 11 59 45.3 +0.4
MK31 Makanchi Array 60.09 327 P P 11 59 45.5 -0.7
MK31 IAmb IAmb 11 59 47.4
comp=Z,3.9nm,0.9s
MKAR Makanchi Array 60.09 327 P P 11 59 44.5 -1.7
comp=Z,2.5nm,0.4s,baz=125,slow=8.3,SNR=26
MKAR PcP **PcP 12 00 31.4 -0.2**
comp=Z,1.6nm,0.7s,baz=120,slow=4.8,SNR=3.9
MKAR LR LR 12 26 07.3
comp=Z,30nm,21.6s,baz=132,slow=36
MKAR Makanchi Array 60.09 327 P P 11 59 45.6 -0.6
MAKZ Makanchi 60.27 327 P P 11 59 46.9 -0.5
MAKZ IAmb IAmb 11 59 50.1
comp=Z,4.8nm,0.9s
YAK Yakutsk 62.33 2 P P 12 00 00.7 -0.3
AAK Ala-Archa 62.41 320 P P 12 00 02.5 +0.3
AAK IAmb IAmb 12 00 19.4
comp=Z,3.8nm,0.9s
KBL Kabul 62.85 310 P P 12 00 05.7 +0.4
KBL IAmb IAmb 12 00 18.4
comp=Z,5.6nm,0.6s
ZAA0 Zalesovo Array 63.56 335 P P 12 00 09.6 +0.2
ZAA0 IAmb IAmb 12 00 12.6
comp=Z,3.4nm,0.8s
ZALV Zalesovo Beam 63.56 335 P P 12 00 09.4 +0.1
comp=Z,2.2nm,0.5s,baz=125,slow=7.4,SNR=10
ZALV Zalesovo Beam 63.56 335 P P 12 00 09.2 -0.2
KURK Kurchatov 64.40 329 P P 12 00 14.6 -0.3
KK31 Karatay Array 65.22 319 P P 12 00 20.4 -0.1
KK31 IAmb IAmb 12 00 23.8
comp=Z,3.5nm,0.8s
KKAR Karatay Array 65.22 319 P P 12 00 20.4 -0.1
KKAR IAmb IAmb 12 00 23.8
comp=Z,3.5nm,0.8s
KKAR Karatay Array 65.22 319 P P 12 00 20.2 -0.3
CASY Casey 66.60 186 P P 12 00 29.7 +0.8
CASY IAmb IAmb 12 00 30.0
comp=Z,6.6nm,0.8s
NRIK Noril'sk 74.03 347 P P 12 01 14.3 +0.1
comp=Z,4.5nm,0.5s,baz=136,slow=5.2,SNR=4.8
ABKAR Akbulak array 74.36 322 P P 12 01 15.7 -0.8
ARU Arti 77.58 329 P P 12 01 34.6 -0.1
ARU IAmb IAmb 12 01 36.1
comp=Z,4.1nm,0.9s
MAW Mawson 79.41 200 P P 12 01 44.6 +0.1
comp=Z,1.7nm,0.8s,baz=4.0,slow=5.7,SNR=5.2
MAW Mawson 79.41 200 P P 12 01 45.1 +0.6
VNDA Vanda 79.59 172 P P 12 01 45.3 -0.1
comp=Z,1.3nm,0.8s,baz=297,slow=3.0,SNR=6.2
KBZ Khabaz 84.67 314 P P 12 02 12.1 -0.6
comp=Z,0.8nm,0.4s,baz=108,slow=6.4,SNR=1.6
IMAR Indian Mountai 86.68 24 P P 12 02 22.9 +0.8
COLD Coldfoot 88.23 23 P P 12 02 30.3 +0.7
ILAR Eielson Array 89.43 25 P P 12 02 34.4 -0.9
comp=Z,0.5nm,0.5s,baz=240,slow=5.4,SNR=10
ILAR Eielson Array 89.43 25 P P 12 02 34.6 -0.7
QSPA South Pole Qui 89.57 180 P P 12 02 37.0 +0.9
BCAR Beaver Creek A 91.70 27 P P 12 02 47.0 +1.1
AKASG Malin Array Be 94.07 321 P P 12 02 55.5 -1.5
comp=Z,0.2nm,0.3s,baz=70,slow=3.7,SNR=1.8
FINES FINESS Array B 94.68 332 P P 12 02 58.7 -0.9
comp=Z,1.9nm,1.0s,baz=96,slow=6.3,SNR=2.2
FINES FINESS Array B 94.68 332 P P 12 02 58.5 -1.2
BURAR Bucovina Array 97.00 318 P P 12 03 10.7 0.0
TORD Torodi Ar. Bea 122.62 285 PKP PKPdf 12 08 35.1 -0.1
comp=Z,1.4nm,0.7s,baz=68,slow=1.3,SNR=9.7
TORD PKKPbc **PKKPab 12 18 31.5 +2.1**
comp=Z,0.8nm,0.8s,baz=296,slow=5.0,SNR=3.6
TXAR Lajitas Array 125.28 54 PKP PKiKP 12 08 41.2 +0.8
comp=Z,0.3nm,0.8s,baz=211,slow=1.5,SNR=4.6
CPUP Villa Florida 153.35 175 PKPbc PKiKP 12 09 38.8 +1.2
comp=Z,3.4nm,0.9s,baz=153,slow=2.1,SNR=3.3
LPAZ La Paz 158.87 142 PKPab PKPab 12 10 15.2 +1.1
comp=Z,1.6nm,0.8s,baz=147,slow=6.8,SNR=6.0

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*IDC **10** 11:54:00.9±0.4, 9°.56S×118°.12E, h0km, mb4.6/22, mb1 4.6/26, mb1mx4.6/37, mbtmp4.6/26, ML4.3/4, MS3.7/9, Ms1 3.7/9, ms1mx3.3/34, Error ellipse: s-maj=16.5km s-min=11.8km az=61.0*
*NEIC **10** 11:54:06.5±1.0, 9°.80S±0°.07×118°.09E±0°.06, h60km±7km, mb4.7/55, Error ellipse: s-maj=9.8km s-min=8.3km az=176.0*
*UNK **10** 11:54:06.8, 9°.79S×118°.09E, h64km*
*DJA **10** 11:54:06.2±0.3, 10°.5±2°.×11°.8E±°, h39km±3km, M5.0/44, mb5.0/44, mB5.5/15, MLv5.1/19, Mw(mB)5.0/15*
*KLM **10** 11:54:07.0, 9°.94S×118°.06E, h65km, mb5.1*
ISC 10 11:54:05.4±0.3, 9°.71S±0°.04×118°.15E±0°.03, h35km, n310, σ1‡49/319, mb4.7/58, MS3.8/7, 3C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.95**	**337**	P	**Pn**	**11 54 22.5**	**+0.2**
PLAI				S	**Sn**	**11 54 35.0**	**+0.3**
WBSI	**Waikabubak, Su**	**1.23**	**87**	P	**Pn**	**11 54 24.8**	**-1.3**
WBSI				S	**Sn**	**11 54 42.0**	**+0.5**
TWSI	**Taliwang, Sumb**	**1.58**	**308**	P	**Pn**	**11 54 31.4**	**+0.4**
TWSI				S	**Sn**	**11 54 51.8**	**+1.6**
BASI	**Baing, Sumba**	**2.44**	**102**	P	**Pn**	**11 54 44.7**	**+1.9**
BASI				S	**Sn**	**11 55 13.0**	**+1.5**
EDFI	**Ende, Flores**	**3.62**	**75**	P	**Pn**	**11 54 58.3**	**-0.8**
EDFI				S	**Sn**	**11 55 42.1**	**+1.3**
JAGI	**Jajag, Banyuwa**	**4.14**	**287**	P	**Pn**	**11 55 07.1**	**+1.0**
JAGI				S	**Sn**	**11 55 53.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**4.14**	**287**		**Pn**	**11 55 07.2**	**+1.1**
JAGI				Sn	**Sn**	**11 55 53.3**	**0.0**
MMRI	**Maumere**	**4.18**	**75**	P	**Pn**	**11 55 08.9**	**+2.3**
MMRI	**Maumere**	**4.18**	**75**		**Pn**	**11 55 09.4**	**+2.7**
BKSI	**Bulukumba**	**4.78**	**24**	P	**Pn**	**11 55 17.1**	**+2.1**
GMJI	**Gumukmas**	**4.86**	**287**	P	**Pn**	**11 55 17.5**	**+1.4**
KMMI	**Kalianget**	**4.91**	**302**	P	**Pn**	**11 55 20.4**	**+3.6**
KAPI	**Kappang**	**4.93**	**19**	Pn	**Pn**	**11 55 19.6**	**+2.5**
9.7nm,0.3s,baz=199,slow=4.5,SNR=20							
KAPI				Sn	**Sn**	**11 56 12.8**	**-0.1**
62nm,0.3s,baz=79,slow=23,SNR=8.6							
KAPI				LR	LR	11 57 13.2	
comp=Z,938nm,20.4s,baz=230,slow=40							
KAPI	**Kappang**	**4.93**	**19**		**Pn**	**11 55 19.3**	**+2.2**
KAPI				Sn	**Sn**	**11 56 15.7**	**+2.8**
BATI	**Baumata**	**5.45**	**96**	Pn	**Pn**	**11 55 25.6**	**+1.4**
39nm,0.3s,baz=286,slow=3.3,SNR=26							
BATI				Sn	**Sn**	**11 56 28.7**	**+2.9**
41nm,0.3s,baz=16,slow=23,SNR=8.2							
BATI	**Baumata**	**5.45**	**96**	P	**Pn**	**11 55 26.3**	**+2.1**
0.7nm2μm143nm,0.6s							
BNSI	**Bone**	**5.62**	**20**	P	**Pn**	**11 55 28.7**	**+2.1**
2.0nm5μm582nm,0.9s							
SPSI	**Sidrap Palu**	**5.93**	**16**	P	**Pn**	**11 55 33.3**	**+2.5**
0.8nm2μm270nm,0.8s							
SOEI	**Soe**	**6.03**	**91**	P	**Pn**	**11 55 32.6**	**+0.3**
1.3nm4μm307nm,0.7s							
SOEI	**Soe**	**6.03**	**91**		**Pn**	**11 55 34.1**	**+1.9**
GRJI	**Gresik**	**6.26**	**296**	P	**Pn**	**11 55 38.3**	**+3.0**
1.8nm8μm321nm,0.5s							
PWJI	**Pagerwojo**	**6.49**	**285**	P	**Pn**	**11 55 41.3**	**+2.8**
1.3nm333nm,0.7s							
NGJI	**Ngawi**	**7.01**	**289**	P	**Pn**	**11 55 46.3**	**+0.6**
0.8nm219nm,0.9s							
BBKI	**Banjar Baru**	**7.03**	**332**	P	**Pn**	**11 55 48.7**	**+2.9**
0.5nm114nm,1.0s							
WOJI	**Wonogiri, Jawa**	**7.38**	**284**	P	**Pn**	**11 55 51.1**	**+0.4**
0.5nm70nm,0.7s							
UGM	**Wanagama**	**7.75**	**283**		**Pn**	**11 55 56.1**	**+0.3**
UGM				Sn	**Sn**	**11 57 21.6**	**-0.7**
CISI	**Cisompet, Garu**	**10.44**	**281**	P	**Pn**	**11 56 31.2**	**-1.6**
3μm159nm,0.6s							
CISI	**Cisompet, Garu**	**10.44**	**281**		**Pn**	**11 56 33.0**	**+0.3**
LEM	**Lembang**	**10.81**	**285**	Pn	**Pn**	**11 56 39.1**	**+1.2**
3.1nm,0.3s,baz=358,slow=8.3,SNR=5.3							
NLAI	**Namlea**	**10.97**	**55**	P	Pn	11 56 55.9	+16
FITZ	**Fitzroy Crossi**	**11.06**	**140**	Pn	**Pn**	**11 56 40.3**	**-0.8**
1.9nm,0.3s,baz=359,slow=6.9,SNR=24							
FITZ				Sn	Sn	11 58 34.0	-10
1.3nm,0.3s,baz=180,slow=16,SNR=2.8							
FITZ				LR	LR	12 01 22.7	
comp=Z,361nm,19.3s,baz=269,slow=40							
FITZ	**Fitzroy Crossi**	**11.06**	**140**	P	**Pn**	**11 56 39.3**	**-1.8**
baz=11,SNR=12							
FITZ	**Fitzroy Crossi**	**11.06**	**140**		**Pn**	**11 56 41.5**	**+0.4**
CBJI	**Citeko**	**11.66**	**285**	P	**Pn**	**11 56 47.6**	**-1.7**
120nm,0.8s							
PSA00	**Pilbara Seismi**	**11.90**	**172**		**Pn**	**11 56 52.4**	**-0.3**
KNRA	**Kununurra**	**11.93**	**121**	P	**Pn**	**11 56 51.8**	**-1.2**
baz=12,SNR=14							
KNRA	**Kununurra**	**11.93**	**121**		**Pn**	**11 56 54.2**	**+1.2**
CGJI	**Cibinong**	**12.71**	**283**	P	**Pn**	**11 57 02.1**	**-1.6**
78nm,0.7s							
MTN	**Manton Dam**	**13.11**	**105**	P	**Pn**	**11 57 07.6**	**-1.6**
baz=13,SNR=13							
MTN	**Manton Dam**	**13.11**	**105**		**Pn**	**11 57 10.5**	**+1.3**
GIRL	**Giralia**	**13.39**	**196**	Pn	**Pn**	**11 57 12.5**	**-0.5**
SBUM	**Sibu**	**13.45**	**334**		**Pn**	**11 57 15.6**	**+1.7**
SBUM	**Sibu**	**13.45**	**334**	P	Pn	11 57 19.0	+5.1
KSM	**Kuching**	**13.58**	**324**	P	**Pn**	**11 57 19.0**	**+3.3**
KLSI		**14.21**	**290**	P	**Pn**	**11 57 27.2**	**+2.9**
13nm,0.9s							
KDU	**Kakadu**	**14.36**	**103**	P	**Pn**	**11 57 25.5**	**-0.7**
baz=14,SNR=8.5							
MDSI	**Maura Dua**	**14.80**	**290**	P	**Pn**	**11 57 35.3**	**+3.0**
2μm16nm,1.4s							
FAKI	**Fak Fak**	**15.55**	**65**	P	**Pn**	**11 57 38.4**	**-3.7**
FAKI	**Fak Fak**	**15.55**	**65**	Pn	**Pn**	**11 57 43.3**	**+1.2**
FAKI				IAmb	IAmb	11 57 47.7	
comp=Z,44nm,1.0s							
LHSI	**Lahat**	**15.65**	**291**	P	**P**	**11 57 46.3**	**-0.9**
comp=Z,140nm,0.9s							
SIJI	**Sorong**	**15.73**	**57**	Pn	**Pn**	**11 57 43.2**	**-1.3**
comp=Z,0.9nm,0.3s,baz=264,slow=4.8,SNR=4.2							
SIJI				Sn	**Sn**	**12 00 33.9**	**-3.9**
comp=Z,0.4nm,0.3s,baz=176,slow=22,SNR=1.8							
DSRI	**Dabo**	**16.32**	**303**	P	**Pn**	**11 57 52.7**	**+0.6**
comp=Z,41nm,1.1s							
KSI	**Kapahiang**	**16.58**	**290**	P	**Pn**	**11 57 55.1**	**-0.2**
comp=Z,63nm,0.7s							
WRKA	**Warakurna**	**18.04**	**149**	P	**P**	**11 58 14.7**	**+1.0**
baz=18,SNR=21							
KRJI	**Kerinci**	**18.23**	**293**	P	**P**	**11 58 16.1**	**+0.2**
comp=Z,5μmcomp=Z,613nm,0.8s							
MYKOM	**Kota Tinggi**	**18.26**	**308**	P	**P**	**11 58 17.0**	**+0.9**
WB0	**Warramunga Arr**	**18.60**	**124**		**P**	**11 58 18.6**	**-1.3**
WRA	**Warramunga Arr**	**18.65**	**125**	P	**P**	**11 58 20.2**	**-0.2**
comp=Z,0.6nm,0.3s,baz=292,slow=13,SNR=12							
WRA				S	Sn	12 01 36.9	-12
comp=Z,0.1nm,0.3s,baz=285,slow=23,SNR=3.7							
WRA				LR	LR	12 05 35.8	
comp=Z,197nm,20.8s,baz=295,slow=37							
WRA	**Warramunga Arr**	**18.65**	**125**		pP	11 58 30.9	+2.2
WRAB	**Tennant Creek**	**18.65**	**125**	P	**P**	**11 58 19.5**	**-0.9**
WB2	**Warramunga Arr**	**18.66**	**125**		**P**	**11 58 20.7**	**+0.2**
SDSI	**Sungai Dareh**	**18.78**	**297**	P	**P**	**11 58 22.1**	**+0.3**
comp=Z,7μmcomp=Z,44nm,0.9s							
WR0	**Warramunga Arr**	**18.82**	**125**		**P**	**11 58 22.6**	**+0.3**
MORW	**Morawa**	**19.36**	**186**	P	**Pn**	**11 58 30.4**	**+1.1**
baz=19,SNR=14							
MORW	**Morawa**	**19.36**	**186**		**P**	**11 58 26.4**	**-1.6**
MORW				IAmb	IAmb	11 58 35.7	
comp=Z,46nm,1.4s							
PDSI	**Padang**	**19.65**	**295**	P	**P**	**11 58 28.8**	**-2.6**
comp=Z,21nm,0.7s							
BKNI	**Bangkinang**	**19.74**	**299**	P	**P**	**11 58 31.6**	**-0.7**
AS31	**Alice Springs**	**20.47**	**135**	P	**P**	**11 58 38.8**	**-1.5**
ASAR	**Alice Springs**	**20.47**	**135**	P	**P**	**11 58 41.2**	**+0.9**
comp=Z,6.7nm,0.7s,baz=317,slow=11,SNR=19							
ASAR				S	**S**	**12 02 23.6**	**-4.1**
comp=Z,4.7nm,0.9s,baz=308,slow=23,SNR=5.4							
BLDU	**Ballidu**	**20.84**	**183**	P	**P**	**11 58 45.3**	**+1.1**
baz=21,SNR=13							
IPM	**Ipoh**	**22.13**	**309**	P	**P**	**11 58 57.4**	**-0.8**
IPM				IAmb	IAmb	11 59 00.3	
comp=Z,34nm,1.2s							
IPM	**Ipoh**	**22.13**	**309**	P	**P**	**11 58 58.0**	**-0.2**
MUN	**Mundaring**	**22.23**	**184**	P	**P**	**11 58 59.8**	**+0.8**
baz=22,SNR=7.4							
RPSI	**Rantau Prapat**	**22.78**	**302**	P	**P**	**11 59 04.4**	**-0.7**
RPSI				IAmb	IAmb	11 59 06.1	
comp=Z,61nm,1.2s							
RPSI	**Rantau Prapat**	**22.78**	**302**	P	**P**	**11 59 04.0**	**-1.0**
PSI	**Prapat**	**22.83**	**302**	P	**P**	**11 59 04.0**	**-1.8**
comp=Z,14nm,0.5s,baz=180,slow=8.0,SNR=15							
PSI				LR	LR	12 07 46.2	
comp=Z,343nm,19.8s,baz=92,slow=36							
FORT	**Forrest**	**22.90**	**158**	P	**P**	**11 59 04.5**	**-1.7**
KULM	**Kulim**	**22.94**	**310**	P	**P**	**11 59 06.6**	**-0.1**
KULM	**Kulim**	**22.94**	**310**	P	**P**	**11 59 06.0**	**-0.7**
GSI	**Gunungsitoli**	**23.23**	**297**	P	**P**	**11 59 08.0**	**-1.6**
GSI				IAmb	IAmb	11 59 16.3	
comp=Z,18nm,0.7s							
QIS	**Mount Isa**	**23.32**	**120**	P	**P**	**11 59 12.7**	**+2.1**
baz=23,SNR=6.7							
JAY	**Jayapura**	**23.52**	**74**	P	**P**	**11 59 13.3**	**+0.7**
comp=Z,8.8nm,1.0s,baz=202,slow=19,SNR=2.3							
TPTI		**24.55**	**301**	P	**P**	**11 59 21.3**	**-0.8**
comp=Z,93nm,1.1s							
COEN	**Coen**	**24.85**	**102**	P	**P**	**11 59 24.4**	**-0.5**
COEN				IAmb	IAmb	11 59 37.4	
comp=Z,50nm,1.4s							
MLSI	**Meulaboh, Aceh**	**25.74**	**302**	P	**P**	**11 59 31.2**	**-1.7**
comp=Z,106nm,1.0s							
MTSU	**Mount Surprise**	**26.71**	**111**	P	**P**	**11 59 43.4**	**+1.6**
baz=27,SNR=8.8							
BBOO	**Buckleboo**	**28.31**	**147**	P	**P**	**11 59 55.3**	**-0.6**
BBOO				IAmb	IAmb	11 59 57.7	
comp=Z,30nm,1.3s							
PMG	**Port Moresby**	**28.61**	**92**	LR	LR	12 12 54.1	
comp=Z,118nm,18.9s,baz=278,slow=40							
CTA	**Charters Tower**	**29.00**	**114**	P	**P**	**12 00 03.1**	**+0.9**
comp=Z,1.9nm,0.6s,baz=267,slow=12,SNR=2.5							
QLP	**Quilpie**	**29.83**	**128**	P	**P**	**12 00 11.4**	**+2.0**
baz=30,SNR=4.1							
STKA	**Stephens Creek**	**30.95**	**139**	P	**P**	**12 00 20.4**	**+1.0**
comp=Z,2.8nm,0.7s,baz=315,slow=10.0,SNR=4.2							
STKA	**Stephens Creek**	**30.95**	**139**	P	**P**	**12 00 17.2**	**-2.1**
PBKT	**Sadao Pong**	**31.16**	**327**	P	**P**	**12 00 19.7**	**-1.4**
YULB	**Yu-li**	**33.05**	**5**	P	**P**	**12 00 37.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**33.81**	**326**	P	**P**	**12 00 43.6**	**-0.8**
comp=Z,2.5nm,0.9s,baz=154,slow=6.2,SNR=12							
CMAR				PcP	**PcP**	**12 03 25.5**	**+2.3**
comp=Z,3.7nm,0.9s,baz=186,slow=2.6,SNR=10							
CMAR				ScP	**ScP**	**12 07 10.2**	**+4.8**
comp=Z,0.8nm,0.6s,baz=147,slow=2.2,SNR=4.6							
SLVN	**Son La**	**33.88**	**336**	P	**P**	**12 00 43.6**	**-1.5**
SLVN				IAmb	IAmb	12 00 56.6	
comp=Z,5.4nm,1.0s							
TOO	**Toolangi**	**37.10**	**143**	P	**P**	**12 01 10.9**	**-1.7**
ARMA	**Armidale**	**37.37**	**128**	P	**P**	**12 01 13.6**	**-1.5**
ARMA				IAmb	IAmb	12 01 22.4	
comp=Z,15nm,1.4s							
KMI	**Kunming**	**37.74**	**337**⇑ *iP*		**P**	**12 01 20.6**	**+2.3**
KMI				pP	pP	12 01 29.8	+1.8
KMI				pmax	pmax		
comp=Z,15nm,0.6s							
KMI				pmax	pmax		
comp=Z,86nm,4.6s							
KMI				LR	LR		
comp=N,150nm,8.5s							
KMI				LR	LR		
comp=E,150nm,6.8s							
KMI				LR	LR		
comp=Z,130nm,7.3s							
ENH	**Enshi**	**40.62**	**348**	P	**P**	**12 01 42.4**	**+0.3**
ENH				IAmb	IAmb	12 01 43.0	
comp=Z,12nm,0.6s							
NJ2	**Nanjing**	**41.53**	**1**	*eP*	**P**	**12 01 51.3**	**+1.8**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.5s							
CD2	**Chengdu**	**42.69**	**342**	P	**P**	**12 01 59.1**	**+0.1**
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
CD2				pmax	pmax		
comp=Z,100nm,6.4s							
SHL	**Shillong**	**43.40**	**324**	P	**P**	**12 02 04.0**	**-1.0**
SHL				IAmb	IAmb	12 02 05.5	
comp=Z,24nm,1.2s				

baz=95,slow=75,SNR=55
H08S1 Diego Carcia H 45.17 269 T T 12 50 32.6
baz=95,slow=75,SNR=44
JTU Tsushima 45.27 13 P **P 12 02 18.9 -0.7**
JHS Saijyo 46.67 17 P **P 12 02 29.4 -1.3**
LZH Lanzhou 47.51 344 *e*P P 12 02 31.9 -5.5
LZH pP pP 12 02 44.4 -2.8
LZH sP pwP 12 02 49.7 -0.2
LZH pmax pmax
comp=Z,15nm,1.1s
JWT Wachi 47.63 19 P **P 12 02 36.8 -1.4**
JWT IAmb IAmb 12 02 47.4
comp=Z,8.1nm,1.0s
KSAR Wonju Array Be 47.79 10 P **P 12 02 37.5 -1.8**
KSRS Korea Array 47.80 11 P **P 12 02 40.4 +0.9**
comp=Z,17nm,0.9s,baz=188,slow=8.1,SNR=55
KS19 Wonju Array Si 47.84 10 P **P 12 02 39.2 -0.6**
BJI Beijing 49.53 358 P **P 12 02 52.3 -0.4**
BJI pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 49.73 21 P **P 12 02 53.0 -1.3**
MAJO IAmb IAmb 12 02 53.8
comp=Z,8.3nm,0.9s
MAT Matsushiro 49.73 21 P **P 12 02 53.1 -1.2**
MAT *e*S **S 12 10 01.2 +0.1**
MJAR Matsushiro Arr 49.73 21 P **P 12 02 52.9 -1.4**
comp=Z,7.1nm,0.9s,baz=192,slow=7.4,SNR=13
MJAR LR LR 12 24 46.3
comp=Z,29nm,20.3s,baz=225,slow=37
MJAR Matsushiro Arr 49.73 21 P **P 12 02 53.3 -1.0**
HHC Hu-ho-hao-te 50.67 354 *e*P **P 12 03 00.9 -0.6**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,110nm,7.2s
GTA Gaotai 51.76 342 ⇑P **P 12 03 10.3 +0.6**
GTA pP sP 12 03 26.7 +3.3
GTA sP pwP 12 03 34.0 +12
GTA PcP **PcP 12 04 24.0 +1.4**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,88nm,7.5s
GTA LR LR
comp=N,81nm,17.8s
GTA LR LR
comp=E,80nm,20.3s
GTA LR LR
comp=Z,81nm,18.1s
MDJ Mudanjiang 55.06 10 P **P 12 03 33.8 +0.1**
MDJ pmax pmax
comp=Z,51nm,0.9s
MDJ pmax pmax
comp=Z,110nm,4.1s
MDJ Mudanjiang 55.06 10 P **P 12 03 33.7 +0.1**
USA0B Ussuriysk Arra 55.11 12 P **P 12 03 33.4 -0.6**
USRK Ussuriysk Ar. 55.11 12 P **P 12 03 34.0 0.0**
comp=Z,26nm,0.6s,baz=188,slow=6.6,SNR=84
USRK Ussuriysk Ar. 55.11 12 P **P 12 03 33.4 -0.6**
CASY Casey 56.73 184 P **P 12 03 43.7 -1.7**
CASY IAmb IAmb 12 03 47.5
comp=Z,3.7nm,0.8s
SONM Songino Array 58.24 351 P **P 12 03 56.3 -0.1**
comp=Z,5.4nm,0.7s,baz=170,slow=8.7,SNR=24
SONM Songino Array 58.24 351 P **P 12 03 55.6 -0.8**
WMQ Urumqi 60.03 335 *e*P **P 12 04 09.9 +1.1**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,75nm,4.9s
KSH Kashi 62.68 324 P **P 12 04 26.0 -0.9**
KSH PP PcP 12 05 49.7 +44
KSH S **S 12 12 52.7 -0.5**
KSH ScS **SKSac 12 14 14.2 -2.8**
KSH pmax pmax
comp=Z,92nm,4.9s
KSH LR LR
comp=N,93nm,7.8s
KSH LR LR
comp=E,120nm,6.9s
SHLS Shalkode 63.33 329 *e*P **P 12 04 28.0 -3.1**
baz=329
SHLS *e*S **S 12 12 58.1 -3.1**
baz=329
UZB Uzynbulak 63.55 329 *e*P **P 12 04 30.9 -1.7**
baz=328
SATY Saty 63.80 329 *e*P **P 12 04 32.8 -1.4**
baz=328
SATY *e*S **S 12 13 06.6 -0.4**
baz=328
KPKS Kokpek 63.95 329 *e*P **P 12 04 33.4 -1.7**
comp=E,4.7nm,1.3s,baz=328
KBL Kabul 64.01 316 P **P 12 04 33.5 -2.4**
KBL IAmb IAmb 12 04 35.1
comp=Z,6.9nm,0.8s
MDOK Medeo 64.58 328 *e*P **P 12 04 38.3 -1.1**
baz=327
MK31 Makanchi Array 64.71 334 P **P 12 04 38.8 -1.2**
MK31 IAmb IAmb 12 04 50.3
comp=Z,4.2nm,0.8s
MKAR Makanchi Array 64.71 334 P **P 12 04 39.1 -0.9**
comp=Z,2.3nm,0.5s,baz=154,slow=7.0,SNR=21
MKAR Makanchi Array 64.71 334 P **P 12 04 38.9 -1.1**
MTBS Maitube 64.88 327 *e*P **P 12 04 40.1 -1.2**
baz=327
TDK Taldyqorghan 65.19 330 *e*P **P 12 04 42.0 -1.2**
baz=330
KUU Kurty 65.45 328 *e*P **P 12 04 43.1 -1.8**
comp=Z,4.1nm,0.7s,baz=328
AAK Ala-Archa 65.59 326 P **P 12 04 45.4 -0.6**
AAK IAmb IAmb 12 04 47.1
comp=Z,5.7nm,0.9s
GAR Garm 65.76 321 P **P 12 04 45.2 -1.9**
CHGR Chuyangaron 66.28 320 P **P 12 04 48.8 -1.6**
DZA Taraz 67.53 325 *e*P **P 12 04 57.7 -0.5**
baz=324
IUG Iuzhnay 67.83 323 *e*P **P 12 04 59.1 -1.1**
comp=Z,4.0nm,0.6s,baz=323
KK31 Karatay Array 68.14 324 P **P 12 05 00.9 -1.1**
KKAR Karatay Array 68.14 324 P **P 12 05 00.6 -1.4**
KKAR Karatay Array 68.14 324 P **P 12 05 00.5 -1.5**
KKAR IAmb IAmb 12 05 02.7
comp=Z,3.9nm,1.1s
MAW Mawson 68.28 200 P **P 12 05 03.6 +1.1**
comp=Z,3.5nm,0.6s,baz=91,slow=5.2,SNR=16
MAW LR LR 12 29 41.2
comp=Z,81nm,20.9s,baz=56,slow=31
SEM Semipalatinsk 68.35 335 *e*P **P 12 05 01.7 -1.7**
baz=335
KURK Kurchatov 69.27 334 P **P 12 05 08.1 -0.7**
KURK IAmb IAmb 12 05 09.0
comp=Z,10nm,1.1s
ZAA0 Zalesovo Array 69.41 340 P **P 12 05 08.2 -1.4**
ZAA0 IAmb IAmb 12 05 08.8
comp=Z,8.5nm,0.6s
ZALV Zalesovo Beam 69.41 340 P **P 12 05 08.1 -1.6**
comp=Z,10nm,0.6s,baz=145,slow=5.1,SNR=38
ZALV Zalesovo Beam 69.41 340 P **P 12 05 08.0 -1.6**
PETK Petropavlovsk- 71.06 24 P **P 12 05 20.4 +0.6**
comp=Z,9.1nm,0.7s,baz=23,slow=0.5,SNR=13
PETK Petropavlovsk- 71.06 24 P **P 12 05 18.8 -1.0**
VNDA Vanda 71.42 171 P **P 12 05 24.1 +2.5**
comp=Z,5.4nm,0.8s,baz=309,slow=7.7,SNR=16
BRZS Berezniki 71.44 331 *e*P **P 12 05 21.0 -1.1**
comp=Z,5.4nm,0.9s,baz=331
YAK Yakutsk 72.09 6 P **P 12 05 24.0 -1.7**
GEYT Alibeck 73.33 314 P **P 12 05 33.7 -0.1**
comp=Z,1.8nm,0.5s,baz=134,slow=8.4,SNR=2.2
GEYT Alibeck 73.33 314 P **P 12 05 31.6 -2.2**
BRVK Borovoye 74.60 332 P **P 12 05 40.0 -0.8**
BRVK IAmb IAmb 12 05 50.8
comp=Z,12nm,1.2s
SYO Syowa Base 76.89 201‖ *e*P **P 12 05 54.4 +0.8**
SYO Syowa Base 76.89 201‖ *e*pP pP 12 06 07.0 +3.2
ABKAR Akbulak array 77.66 325 P **P 12 05 56.8 -1.5**
KMBO Kilima Mbogo 80.84 270 P **P 12 06 19.4 +2.6**
comp=Z,1.0nm,0.3s,baz=58,slow=8.4,SNR=6.2
KMBO Kilima Mbogo 80.84 270 P **P 12 06 14.2 -2.5**
KMBO IAmb IAmb 12 06 19.5
comp=Z,5.1nm,0.9s
NRIK Noril'sk 81.69 349 P **P 12 06 18.6 -1.1**
comp=Z,2.0nm,0.5s,baz=142,slow=7.3,SNR=2.3
ARU Arti 82.08 331 P **P 12 06 20.2 -1.7**
ARU IAmb IAmb 12 06 31.7
comp=Z,10nm,1.3s
AKH Akhalkalaki 85.08 313 P **P 12 06 35.7 -2.3**
AKH IAmb IAmb 12 06 40.5
comp=Z,6.3nm,0.7s
MARD Mardin 85.95 309 P **P 12 06 39.7 -2.6**
KBZ Khabaz 86.19 315 P **P 12 06 43.0 -0.2**
comp=Z,2.6nm,0.9s,baz=338,slow=0.7,SNR=4.5
BOSA Boshof 87.93 241 P **P 12 06 54.0 +1.7**
comp=Z,4.9nm,0.6s,baz=109,slow=3.1,SNR=9.5
BOSA LR LR 12 40 39.0
comp=Z,42nm,19.2s,baz=131,slow=32
BOSA Boshof 87.93 241 P **P 12 06 50.9 -1.4**
BOSA IAmb IAmb 12 06 54.7
comp=Z,7.4nm,0.8s
SNAA Sanae 90.09 196 P **P 12 07 03.8 +2.3**
SNAA Sanae 90.09 196 P **P 12 06 59.2 -2.3**
SNAA IAmb IAmb 12 07 04.4
comp=Z,2.9nm,0.7s
VNA2 Neumayer--Watz 91.72 196 P **P 12 07 11.3 +2.4**
VNA3 Neumayer Olymp 92.12 195 P **P 12 07 11.8 +1.0**
AKASG Malin Array Be 96.75 320 P **P 12 07 30.9 -1.4**
comp=Z,1.0nm,0.5s,baz=82,slow=4.1,SNR=2.1
FINES FINESS Array B 99.45 331 P **Pdif 12 07 44.0 -0.2**
comp=Z,1.5nm,0.9s,baz=46,slow=6.0,SNR=2.3
FINES LR LR 13 00 30.8
comp=Z,23nm,18.7s,baz=90,slow=40
YKA Yellowknife Ar 115.18 24 PKP **PKiKP 12 12 43.1 +0.5**
comp=Z,1.2nm,0.7s,baz=352,slow=0.8,SNR=2.1
TORD Torodi Ar. Bea 117.76 280 PKP **PKPdf 12 12 50.1 +1.1**
comp=Z,2.0nm,0.6s,baz=68,slow=1.6,SNR=14
ESDC Sonseca Array 120.73 310 PKP **PKiKP 12 12 55.8 +1.5**
comp=Z,0.5nm,0.8s,baz=4.2,slow=3.9,SNR=4.4
NVAR Mina Array Bea 122.12 51 PKP **PKiKP 12 12 59.2 +1.9**
comp=Z,0.9nm,0.7s,baz=269,slow=1.2,SNR=7.2
DBIC Dimbokro 123.56 272 PKP **PKPdf 12 13 01.3 +1.1**
comp=Z,2.4nm,0.7s,baz=210,slow=1.8,SNR=3.8
PDAR Pinedale Array 127.01 43 PKP **PKPdf 12 13 07.4 +1.0**
comp=Z,0.3nm,0.8s,baz=82,slow=3.1,SNR=3.7
TXAR Lajitas Array 136.32 57 PKhKP PKPpre 12 13 16.2
comp=Z,0.2nm,0.7s,baz=316,slow=2.5,SNR=2.5
TXAR PKP **PKPdf 12 13 25.3 +1.1**
comp=Z,0.3nm,0.8s,baz=215,slow=1.1,SNR=3.7
CPUP Villa Florida 143.90 187 PKP PKPbc 12 13 36.6 +1.1
comp=Z,1.7nm,0.7s,baz=102,slow=4.7,SNR=2.9
G64A Maxfield 144.09 8 P PKPbc 12 13 37.5 +1.9
baz=348
G63A Kingsbury 144.10 9 P PKPbc 12 13 37.4 +1.8
baz=347
O51A Pataskala 144.52 28 P **PKPab 12 13 37.7 +0.8**
baz=323
L55A Hinsdale 144.53 21 P **PKPab 12 13 37.6 +0.7**
baz=331
I60A Shoreham 144.57 14 P **PKPab 12 13 38.2 +1.3**
baz=340
J59A Piesco 144.61 16 P **PKPab 12 13 38.2 +1.0**
baz=338
M54A Oil Creek Stat 144.65 23 P **PKPab 12 13 38.3 +1.0**
baz=329
WVT Waverly 144.67 38 P **PKPab 12 13 38.4 +0.8**
baz=312
K57A Scipio Center 144.69 19 P **PKPab 12 13 38.3 +0.9**
baz=335
H65A Eastbrook 144.71 8 P **PKPab 12 13 38.3 +0.9**
baz=349
OXF Oxford 144.71 41 P **PKPab 12 13 38.7 +0.9**
baz=308
H66A Whiting 144.74 7 P **PKPab 12 13 38.4 +0.9**
baz=351
N53A Lisbon 144.76 25 P **PKPab 12 13 38.5 +0.7**
baz=326
P51A Williamsport 144.83 29 P **PKPab 12 13 38.2 +0.2**
baz=322
L56A Greenwood 144.88 20 P **PKPab 12 13 38.7 +0.5**
baz=332
O52A Adamsville 144.89 27 P **PKPab 12 13 38.7 +0.4**
baz=324,SNR=6.4
K58A Earlville 144.93 18 P **PKPbc 12 13 39.0 +0.6**
baz=336
M55A Ridgway 145.03 22 P **PKPbc 12 13 39.3 +0.6**
baz=330,SNR=7.6
O53A New Philadelph 145.06 26 P **PKPbc 12 13 39.4 +0.5**
baz=325
J60A Lant Hill Farm 145.10 15 P **PKPbc 12 13 39.3 +0.4**
baz=340
P52A Corning 145.15 28 P **PKPbc 12 13 39.3 +0.2**
baz=323
K59A Cooperstown 145.15 17 P **PKPbc 12 13 39.6 +0.5**
baz=337
J61A Chester 145.22 14 P **PKPbc 12 13 39.9 +0.7**
baz=341
M56A Emporium 145.23 22 P **PKPbc 12 13 39.8 +0.4**
baz=331,SNR=9.2
L57A Andrews Acres 145.24 20 P **PKPbc 12 13 40.1 +0.7**
baz=334
VBMS Vicksburg 145.30 46 P **PKPdf 12 13 41.4 +1.3**
baz=304
BINY Binghamton 145.34 19 P **PKPbc 12 13 40.7 +1.0**
baz=335
O54A Avella 145.47 25 P **PKPdf 12 13 40.8 +0.6**
baz=327,SNR=8.2
J62A Henniker 145.50 13 P **PKPdf 12 13 41.3 +1.2**
baz=343
L58A Harry Jones Me 145.52 19 P **PKPdf 12 13 41.0 +0.8**
baz=335,SNR=7.1
N55A Marion Center 145.53 23 P **PKPdf 12 13 40.7 +0.4**
baz=329,SNR=5.0
P53A Whipple 145.60 27 P **PKPdf 12 13 41.4 +1.0**
baz=324,SNR=9.3
Q52A Bidwell 145.62 29 P **PKPdf 12 13 41.3 +0.8**
baz=323
L59A Walton 145.64 17 P **PKPdf 12 13 41.4 +0.9**
baz=337
K61A Williamstown 145.68 15 P **PKPdf 12 13 41.6 +1.1**
baz=340
N56A West Decatur 145.68 22 P **PKPdf 12 13 41.3 +0.8**
baz=330
M57A Sunshine Farm, 145.73 21 P **PKPdf 12 13 41.6 +1.1**
baz=333,SNR=11
O55A Ligonier 145.90 24 P **PKPdf 12 13 41.9 +1.0**
baz=328
P54A Burton 145.91 26 P **PKPdf 12 13 42.3 +1.4**
baz=326,SNR=9.4
M58A Price's Panora 145.93 20 P **PKPdf 12 13 42.3 +1.4**
baz=334
L61B Northampton 146.03 14 P **PKPdf 12 13 42.6 +1.6**
baz=341
Q53A Leroy 146.05 28 P **PKPdf 12 13 42.6 +1.4**
baz=324
L61A Hillsdale 1, H 146.05 16 P **PKPdf 12 13 42.8 +1.8**
baz=339
L60A Shokan 146.06 17 P **PKPdf 12 13 42.9 +1.8**
baz=338
SSPA Standing Stone 146.08 22 P **PKPdf 12 13 42.7 +1.5**
baz=331
N57A Milroy 146.10 22 P **PKPdf 12 13 42.6 +1.4**
baz=332
M59A Waymart 146.11 18 P **PKPdf 12 13 42.9 +1.7**
baz=336,SNR=5.5
MCWV Mont Chateau 146.14 25 P **PKPdf 12 13 43.0 +1.7**
baz=327
O56A Blue Knob Stat 146.14 23 P **PKPdf 12 13 43.1 +1.7**
baz=330
HRV Adam Dziewonsk 146.24 13 P **PKPdf 12 13 42.9 +1.5**
baz=343
Q54A Coxs Mills 146.26 27 P **PKPdf 12 13 43.2 +1.6**
baz=325
R53A Hurricane 146.27 29 P **PKPdf 12 13 43.1 +1.6**
baz=322
P55A Reedsville 146.27 25 P **PKPdf 12 13 43.1 +1.5**
baz=327
N58A Sunbury 146.32 21 P **PKPdf 12 13 43.3 +1.7**
baz=333
O57A Amberson 146.54 22 P **PKPdf 12 13 43.8 +1.8**
baz=331
M60A Port Jervis 146.55 18 P **PKPdf 12 13 43.7 +1.7**
baz=337
N59A State Game Lan 146.57 19 P **PKPdf 12 13 44.1 +2.1**
baz=335,SNR=5.2
Q55A Buckhannon 146.59 26 P **PKPdf 12 13 44.2 +2.0**
baz=326
P56A Dayton Farm, R 146.68 24 P **PKPdf 12 13 44.3 +2.0**
baz=328,SNR=6.8
S53A Williamson 146.69 30 P **PKPdf 12 13 44.6 +2.2**
baz=322
M61A Granite Spring 146.81 17 P **PKPbc 12 13 44.7 +0.5**
baz=338
N60A Cedar Hill Far 146.82 19 P **PKPbc 12 13 44.7 +0.5**
baz=336
TZTN Tazewell 146.83 33 P **PKPbc 12 13 45.1 +0.7**
baz=318
R54A Victor 146.84 28 P **PKPbc 12 13 45.0 +0.6**
baz=324
L63A North Scituate 146.84 13 P **PKPbc 12 13 44.8 +0.6**
baz=342
O58A Lewisberry 146.88 21 P **PKPbc 12 13 45.2 +0.8**
baz=332
Q56A Snyder Ridge, 146.93 25 P **PKPbc 12 13 45.0 +0.4**
baz=328
L64A Middleborough 146.94 12 P **PKPbc 12 13 45.4 +0.9**
baz=344
O59A Robesonia 146.97 20 P **PKPbc 12 13 45.2 +0.5**
baz=334
S54A Dingess, Beckl 147.00 29 P **PKPbc 12 13 45.3 +0.5**
baz=323
T53A Wise 147.03 31 P **PKPdf 12 13 45.2 +2.2**
baz=320
P57A Homestead Farm 147.03 23 P **PKPdf 12 13 45.1 +2.3**
baz=330
PAL Palisades 147.06 17 P **PKPdf 12 13 45.1 +2.3**
baz=338
R55A Marlinton 147.16 27 P **PKPdf 12 13 45.2 +2.0**
baz=325
LRAL Lakeview Retre 147.20 41 P **PKPdf 12 13 45.6 +2.3**
baz=310
O60A Telford 147.23 19 P **PKPdf 12 13 45.3 +2.2**
baz=335
N62A Caumsett State 147.25 16 P **PKPdf 12 13 45.4 +2.3**
baz=339
Q57A Strasburg 147.26 24 P **PKPdf 12 13 45.5 +2.2**
baz=329
P58A Pank, Wackersv 147.30 22 P **PKPdf 12 13 45.6 +2.4**
baz=331
R56A Bull Pasture M 147.37 26 P **PKPdf 12 13 45.9 +2.3**
baz=327
S55A Lewisburg 147.40 28 P **PKPdf 12 13 46.0 +2.4**
baz=324
T54A Tazewell 147.45 30 P **PKPbc 12 13 46.6 +0.4**
baz=322
P60A Greenville 147.61 20 P **PKPbc 12 13 46.8 +0.4**
baz=334
Q58A Fox Den Farm, 147.63 23 P **PKPbc 12 13 46.9 +0.4**
baz=330
T55A Pulaski 147.79 29 P **PKPbc 12 13 47.4 +0.2**
baz=323
R57A Stanardsville 147.84 25 P **PKPbc 12 13 47.6 +0.5**
baz=328
BLA Blacksburg 147.89 29 P **PKPbc 12 13 47.4 0.0**
baz=324
S56A Natural Bridge 147.90 27 P **PKPdf 12 13 47.2 +2.9**
baz=326
R58A Rapidan 148.05 24 P **PKPbc 12 13 47.5 -0.2**
baz=329
S57A Dark Hollow, R 148.10 26 P **PKPbc 12 13 48.1 +0.2**
baz=327
U55A TA2, Sparta 148.15 30 P **PKPbc 12 13 48.4 +0.3**
baz=322
T56A Rocky Mt 148.22 28 P **PKPbc 12 13 48.7 +0.5**
baz=324
V54A Nebo 148.25 32 P **PKPbc 12 13 49.0 +0.7**
baz=320
Q60A Greensboro 148.26 21 P **PKPbc 12 13 48.9 +0.7**
baz=333
R58B Mineral 148.39 25 P **PKPbc 12 13 48.9 +0.3**
baz=329
V55A Taylorsville 148.58 31 P **PKPbc 12 13 49.7 +0.6**
baz=321
U56A King 148.60 30 P **PKPbc 12 13 49.7 +0.5**
baz=323
T57A Hurt 148.60 27 P **PKPbc 12 13 49.7 +0.5**
baz=326
S58A Poland Farm, P 148.61 25 P **PKPbc 12 13 50.0 +0.8**
baz=328
W54A Cherokee Point 148.65 33 P **PKPbc 12 13 50.2 +0.8**
baz=319
X54A Belton 148.95 34 P **PKPbc 12 13 51.1 +1.0**
baz=318
T58A Grand View Acr 148.97 26 P **PKPbc 12 13 50.6 +0.5**
baz=327
V56A Mocksville 148.97 30 P **PKPbc 12 13 50.8 +0.6**
baz=322
U57A Blanch 149.03 28 P **PKPbc 12 13 51.0 +0.7**
baz=325
KMSC Kings Mountain 149.06 32 P **PKPbc 12 13 51.3 +0.9**
baz=320
GOGA Godfrey 149.15 37 P **PKPbc 12 13 51.6 +1.0**
baz=315
V57A Coltrane Farms 149.26 29 P **PKPbc 12 13 51.9 +1.0**
baz=324
T59A Double "B" Far 149.37 25 P **PKPbc 12 13 52.2 +1.1**
baz=329
X55A Gracelyn & Ava 149.41 33 P **PKPbc 12 13 52.4 +1.1**
baz=319
U58A Oxford 149.42 27 P **PKPbc 12 13 52.1 +0.9**
baz=326
W56A Indian Trail 149.46 31 P **PKPbc 12 13 52.7 +1.3**
baz=322
V58A Windy Hill, Pi 149.65 29 P **PKPbc 12 13 52.8 +1.0**
baz=325
U59A Littleton 149.79 26 P **PKPbc 12 13 53.4 +1.3**
baz=328
U60A Pendleton 149.96 25 P **PKPbc 12 13 53.5 +0.9**
baz=329
V59A Middlesex 150.08 27 P **PKPbc 12 13 54.1 +1.2**
baz=326
X58A Rowland 150.54 30 P **PKPbc 12 13 55.5 +1.5**
baz=323
BDFB Brasilia 151.32 209 PKPbc **PKiKP 12 13 58.3 +1.3**
comp=Z,1.3nm,0.3s,baz=188,slow=8.3,SNR=3.3
LPAZ La Paz 153.43 166 PKPbc **PKiKP 12 14 04.5 +2.5**
comp=Z,1.7nm,0.7s,baz=91,slow=2.6,SNR=8.2

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*IDC **10** 12:39:57.7±0.8, 11°.74S×165°.22E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.2/35, mbtmp4.2/15, ML4.7/2, MS3.6/9, Ms1 3.6/9, ms1mx3.2/33, Error ellipse: s-maj=23.6km s-min=19.0km az=123.0*
*NEIC **10** 12:39:59.1±1.0, 11°.75S±0°.06×165°.21E±0°.09, h10km±1km, mb4.7/42, Error ellipse: s-maj=17.3km s-min=2.9km az=56.0*

ISC 10 12:39:59.5±0.5, 11°.78S±0°.06×165°.20E±0°.07, h10km, n91, σ0s97/81, mb4.6/35, MS3.7/9, 2C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.13**	**152**	Pn	**Pn**	**12 41 02.9**	**+0.2**
SANVU				Sn	**Sn**	**12 41 51.6**	**+0.5**
HNR	**Honiara**	**5.67**	**294**	Pn	**Pn**	**12 41 24.4**	**+0.6**
49nm,0.3s,baz=163,slow=10.0,SNR=13							
HNR				Sn	**Sn**	**12 42 28.1**	**-0.8**
24nm,0.3s,baz=41,slow=20,SNR=1.7							
HNR	**Honiara**	**5.67**	**294**	Pn	**Pn**	**12 41 23.3**	**-0.5**
HNR					**Sn**	**12 42 28.2**	**-0.8**
DZM	**Mont Dzumac**	**10.30**	**174**	Pn	**Pn**	**12 42 28.2**	**+0.7**
2.2nm,0.3s,baz=355,slow=12,SNR=33							
DZM	**Mont Dzumac**	**10.30**	**174**	Pn	**Pn**	**12 42 26.8**	**-0.7**
DZM				Sn	**Sn**	**12 44 22.9**	**-0.3**
MSVF	**Nonsavu**	**13.76**	**117**	Pn	**Pn**	**12 43 14.2**	**-0.7**
KRVT	**Keravat (AS076**	**15.00**	**299**	LR	LR	12 49 46.9	
comp=Z,132nm,18.5s,baz=130,slow=39							
CTA	**Charters Tower**	**19.99**	**243**	P	**P**	**12 44 33.5**	**+1.2**
2.2nm,0.6s,baz=65,slow=14,SNR=7.1							
CTAO	**Charters Tower**	**19.99**	**243**		**P**	**12 44 31.6**	**-0.8**
COEN	**Coen**	**21.58**	**262**	P	**P**	**12 44 50.5**	**+0.9**
ARMA	**Armidale**	**22.41**	**212**	P	**P**	**12 44 58.7**	**+0.2**
BKZ	**Black Stump Fm**	**29.06**	**162**	P	**P**	**12 45 59.3**	**-0.8**
BKZ				IAmb	IAmb	12 46 02.6	
comp=Z,12nm,1.0s							
STKA	**Stephens Creek**	**29.54**	**224**	LR	LR	12 56 17.8	
comp=Z,173nm,20.1s,baz=23,slow=33							
H11S2	**WAKE ISLAND Hy**	**30.12**	**3**	T	T	13 17 44.3	
baz=183,slow=76,SNR=8.4							
H11S3	**WAKE ISLAND Hy**	**30.12**	**3**	T	T	13 17 44.7	
baz=183,slow=76,SNR=7.4							
H11S1	**WAKE ISLAND Hy**	**30.13**	**3**	T	T	13 17 46.9	
baz=183,slow=76,SNR=7.7							
WR0	**Warramunga Arr**	**30.55**	**251**	P	**P**	**12 46 13.4**	**0.0**
WB0	**Warramunga Arr**	**30.65**	**251**	P	**P**	**12 46 14.4**	**0.0**
WB0				IAmb	IAmb	12 46 17.4	
comp=Z,13nm,1.1s							
WB2	**Warramunga Arr**	**30.72**	**251**	P	**P**	**12 46 14.4**	**-0.6**
WRA	**Warramunga Arr**	**30.73**	**251**	P	**P**	**12 46 14.8**	**-0.3**
comp=Z,3.0nm,0.7s,baz=80,slow=9.2,SNR=16							
WRA				PcP	**PcP**	**12 49 12.8**	**-0.1**
comp=Z,1.2nm,0.8s,baz=78,slow=2.8,SNR=9.6							
WRA	**Warramunga Arr**	**30.73**	**251**	P	**P**	**12 46 14.9**	**-0.2**
TOO	**Toolangi**	**31.17**	**211**	P	**P**	**12 46 19.0**	**+0.2**

H11N1	**WAKE ISLAND Hy**	**31.34**	**3**	T	T	13 19 13.1	
	baz=182,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**31.34**	**3**	T	T	13 19 16.4	
	baz=182,slow=76,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**31.36**	**3**	T	T	13 19 18.9	
	baz=182,slow=76,SNR=9.1						
LTZ	**Lake Taylor**	**31.49**	**170**	P	**P**	**12 46 21.6**	**+0.1**
LTZ				IAmb	IAmb	12 46 27.4	
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**31.99**	**244**	P	**P**	**12 46 25.4**	**-0.7**
ASAR	**Alice Springs**	**31.99**	**244**	P	**P**	**12 46 25.2**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=69,slow=9.7,SNR=22						
ASAR				PcP	**PcP**	**12 49 15.9**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=105,slow=2.8,SNR=9.2						
ASAR				LR	LR	12 58 24.4	
	comp=Z,111nm,18.0s,baz=135,slow=35						
ASAR	**Alice Springs**	**31.99**	**244**	P	**P**	**12 46 25.8**	**-0.4**
SIJI	**Sorong**	**35.37**	**285**	LR	LR	13 01 44.2	
	comp=Z,29nm,19.7s,baz=74,slow=37						
KNRA	**Kununurra**	**35.58**	**260**	P	**P**	**12 46 56.8**	**-0.7**
KNRA				IAmb	IAmb	12 47 04.4	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**38.68**	**256**	LR	LR	13 02 01.2	
	comp=Z,125nm,18.2s,baz=268,slow=34						
FITZ	**Fitzroy Crossi**	**38.68**	**256**	P	**P**	**12 47 23.4**	**-0.4**
FITZ				IAmb	IAmb	12 47 27.1	
	comp=Z,14nm,1.4s						
FORT	**Forrest**	**39.19**	**235**	P	**P**	**12 47 27.2**	**-0.6**
FORT				IAmb	IAmb	12 47 31.9	
	comp=Z,20nm,0.9s						
TNTI	**Ternate**	**39.59**	**286**	P	**P**	**12 47 31.1**	**-0.4**
BATI	**Baumata**	**40.78**	**268**	LR	LR	13 07 59.0	
	comp=Z,121nm,18.1s,baz=243,slow=41						
DAV	**Davao City (W)**	**43.63**	**293**	LR	LR	13 06 47.1	
	comp=Z,24nm,18.2s,baz=128,slow=37						
PPT	**Papeete**	**44.05**	**103**	LR	LR	13 03 58.5	
	comp=Z,95nm,18.1s,baz=310,slow=33						
MORW	**Morawa**	**48.80**	**242**	P	**P**	**12 48 45.2**	**0.0**
MORW				IAmb	IAmb	12 49 02.2	
	comp=Z,14nm,1.2s						
JMN	**Monobe**	**54.20**	**328**	P	**P**	**12 49 24.2**	**-1.2**
MJAR	**Matsushiro Arr**	**54.38**	**333**	P	**P**	**12 49 25.5**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=167,slow=8.7,SNR=7.4						
MJAR	**Matsushiro Arr**	**54.38**	**333**	P	**P**	**12 49 25.6**	**-1.0**
MAT	**Matsushiro**	**54.38**	**333**	P	**P**	**12 49 25.6**	**-1.1**
KSRS	**Korea Array**	**60.18**	**326**	P	**P**	**12 50 07.5**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=148,slow=7.3,SNR=5.0						
NJ2	**Nanjing**	**62.17**	**316**	*e*P	**P**	**12 50 21.5**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**63.36**	**334**	P	**P**	**12 50 29.2**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=107,slow=6.4,SNR=4.7						
USRK	**Ussuriysk Ar.**	**63.36**	**334**	P	**P**	**12 50 27.9**	**-1.0**
VNDA	**Vanda**	**65.75**	**181**	LR	LR	13 14 45.8	
	comp=Z,32nm,19.2s,baz=312,slow=32						
ENH	**Enshi**	**67.95**	**310**	P	**P**	**12 50 57.6**	**-1.3**
ENH				IAmb	IAmb	12 50 59.2	
	comp=Z,7.2nm,0.9s						
XAN	**Xi'an**	**70.22**	**313**	P	**P**	**12 51 13.0**	**0.0**
XAN				pP	pwP	12 51 22.7	+1.5
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI	**Kunming**	**71.05**	**302⇑**	*e*P	P	12 51 23.4	+4.9
KMI				pP	pwP	12 51 28.5	+1.9
KMI				sP	sP	12 51 31.4	+11
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				pmax	pmax		
	comp=Z,48nm,3.6s						
CMAR	**Chiang Mai Arr**	**71.92**	**294**	P	**P**	**12 51 24.3**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=127,slow=4.2,SNR=8.7						
CMAR	**Chiang Mai Arr**	**71.92**	**294**	P	**P**	**12 51 23.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**72.05**	**320**	*e*P	**P**	**12 51 24.0**	**0.0**
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC				pmax	pmax		
	comp=Z,78nm,8.8s						
QSPA	**South Pole Qui**	**78.23**	**180**	P	**P**	**12 51 59.6**	**+0.3**
QSPA				IAmb	IAmb	12 52 04.1	
	comp=Z,13nm,1.2s						
SONM	**Songino Array**	**78.94**	**324**	P	**P**	**12 52 03.7**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=145,slow=7.6,SNR=5.9						
SONM	**Songino Array**	**78.94**	**324**	P	**P**	**12 52 03.0**	**-0.5**
GTA	**Gaotai**	**79.18**	**314**	⇑P	**P**	**12 52 06.1**	**+1.1**
GTA				pP	sP	12 52 10.4	+3.1
GTA				sP	pP	12 52 13.2	+6.5
GTA	**Gaotai**	**79.18**	**314**	S	**S**	**13 02 08.0**	**+2.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,47nm,8.3s						
GTA				LR	LR		
	comp=N,39nm,18.4s						
GTA				LR	LR		
	comp=E,50nm,19.7s						
GTA				LR	LR		
	comp=Z,71nm,20.3s						
SUCK	**Suckling Hills**	**82.34**	**23**	P	**P**	**12 52 20.4**	**-0.8**
IMAR	**Indian Mountai**	**83.27**	**16**	P	**P**	**12 52 25.5**	**-0.4**
MAW	**Mawson**	**83.84**	**202**	P	**P**	**12 52 29.2**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=114,slow=4.0,SNR=4.7						
MDM	**Murphy Dome**	**84.09**	**18**	P	**P**	**12 52 29.4**	**-0.8**
MDM				IAmb	IAmb	12 52 30.3	
	comp=Z,4.2nm,0.8s						
HDA	**Harding Lake**	**84.11**	**19**	P	**P**	**12 52 29.3**	**-1.0**
COLA	**College**	**84.15**	**18**	P	**P**	**12 52 30.2**	**-0.3**
IL31		**84.38**	**19**	P	**P**	**12 52 31.4**	**-0.2**
IL31				IAmb	IAmb	12 52 31.9	
	comp=Z,2.8nm,0.7s						
ILAR	**Eielson Array**	**84.38**	**19**	P	**P**	**12 52 31.0**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=240,slow=5.3,SNR=40						
BCAR	**Beaver Creek A**	**84.97**	**21**	P	**P**	**12 52 34.4**	**-0.4**
AFDM	**Forest Hills D**	**85.09**	**49**	P	**P**	**12 52 35.4**	**-0.5**
AFDM				IAmb	IAmb	12 52 36.7	
	comp=Z,3.8nm,1.0s						
CMB	**Columbia Colle**	**85.22**	**50**	P	**P**	**12 52 36.3**	**-0.3**
CMB				IAmb	IAmb	12 52 36.8	
	comp=Z,3.1nm,0.9s						
MDPB	**Devils Postpil**	**86.08**	**50**	P	**P**	**12 52 41.0**	**-0.1**
MDPB				IAmb	IAmb	12 52 41.6	
	comp=Z,3.7nm,1.0s						
EGAK	**Eagle**	**86.25**	**20**	P	**P**	**12 52 40.7**	**-0.3**
EGAK				IAmb	IAmb	12 52 44.5	
	comp=Z,5.8nm,0.9s						
NVAR	**Mina Array Bea**	**86.90**	**50**	P	**P**	**12 52 45.0**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=233,slow=7.9,SNR=12						
NV11	**Mina Array Sit**	**87.02**	**50**	P	**P**	**12 52 45.1**	**-0.4**
NV11				IAmb	IAmb	12 52 46.6	
	comp=Z,3.5nm,1.0s						
R11A	**Troy Canyon, C**	**88.93**	**51**	P	**P**	**12 52 55.2**	**+0.5**
PRN	**Pahroc Range**	**89.08**	**52**	P	**P**	**12 52 55.2**	**-0.2**
PRN				IAmb	IAmb	12 52 57.1	
	comp=Z,3.7nm,1.0s						
WMQ	**Urumqi**	**89.23**	**315**	*e*P	**P**	**12 52 56.3**	**+0.4**
W13A	**Hualapai Mount**	**89.39**	**54**	P	**P**	**12 52 56.7**	**-0.4**
PSUT	**Pine Spring**	**90.29**	**51**	P	**P**	**12 52 59.9**	**-1.2**
LCMT	**Little Creek M**	**90.37**	**52**	P	**P**	**12 53 00.1**	**-1.4**
CCUT	**Cedar City**	**90.41**	**52**	P	**P**	**12 53 01.5**	**-0.3**
KNB	**Kanab**	**90.70**	**52**	P	**P**	**12 53 02.6**	**-0.5**
U15A	**North Rim**	**90.97**	**53**	P	**P**	**12 53 03.1**	**-1.3**
U15A				IAmb	IAmb	12 53 05.7	
	comp=Z,4.1nm,0.9s						
MSU	**Marysvale**	**91.56**	**51**	P	**P**	**12 53 06.9**	**-0.2**
MKAR	**Makanchi Array**	**93.69**	**317**	P	**P**	**12 53 16.1**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=90,slow=6.3,SNR=11						
MKAR	**Makanchi Array**	**93.69**	**317**	P	**P**	**12 53 15.5**	**-0.9**
ZALV	**Zalesovo Beam**	**93.84**	**324**	P	**P**	**12 53 16.1**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=108,slow=4.8,SNR=4.5						
ISCO	**Idaho Springs**	**96.81**	**51**	P	P	12 53 27.2	-4.0
ARCES	**ARCESS Array B**	**116.91**	**345**	PKP	**PKPdf**	**12 58 42.9**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=325,slow=1.9,SNR=4.9						
KEST	**Kesra**	**147.66**	**322**	PKPbc	**PKPdf**	**12 59 44.6**	**+2.4**
	comp=Z,8.3nm,1.1s,baz=346,slow=4.6,SNR=3.8						
ESDC	**Sonseca Array**	**150.60**	**343**	PKPbc	**PKPdf**	**12 59 51.8**	**+5.1**
	comp=Z,1.0nm,0.8s,baz=4.4,slow=2.5,SNR=6.0						

RHSSO ***10*** *12:46:03.7±0.7, 44°.07N×16°.18E, h7km±4km, ML2.6/9*
VIE ***10*** *12:46:04.1±1.9, 44°.33N×16°.69E, h8km, mb2.1/2, ml2.4/2, Error ellipse: s-maj=62.4km s-min=11.2km az=65.0 92 km N of Split*
ISC 10 12:46:02.7±1.0, 44°.11N±0°.03×16°.29E±0°.04, h7km±8km, n28, σ1§46/46, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.13**	**141**	*i* Pg	**Pg**	**12 46 05.6**	**0.0**
KIJV				Sg	**Sg**	**12 46 09.0**	**+1.5**
MORI	**Morici**	**0.48**	**240**	*i* Pg	Pg	12 46 07.1	-5.0
MORI				Sg	Sg	12 46 12.2	-6.1
UDBI	**Udbina**	**0.56**	**318**	*e*Pg	**Pg**	**12 46 12.8**	**-0.8**
UDBI				Sg	**Sg**	**12 46 21.6**	**+0.6**
ZIRJ	**Zirje**	**0.65**	**226**	*i* Pg	Pg	12 46 10.0	-5.2
ZIRJ				Sg	Sg	12 46 18.2	-5.5
RICI	**Ricice**	**0.87**	**135**	*e*Pg	**Pg**	**12 46 18.3**	**-1.1**
RICI				Sg	**Sb**	**12 46 33.2**	**+1.3**
DUGI	**Dugi Otok**	**0.89**	**263**	*e*Pg	Pg	12 46 15.1	-4.8
DUGI				Sg	Sg	12 46 27.1	-4.4
BLY	**Banja Luka**	**0.91**	**45⇑**	*i*Pg	**Pn**	**12 46 21.2**	**-0.8**
BLY				*e*Sg	**Sn**	**12 46 34.9**	**-0.4**
HVAR	**Hvar**	**0.94**	**173**	*e*Pg	Pg	12 46 17.4	-3.4
HVAR				Sg	**Sg**	**12 46 30.6**	**-2.3**
MAKA	**Makarska**	**0.98**	**147**	*e*Pg	**Pg**	**12 46 18.7**	**-2.8**
MAKA				Sg	**Sg**	**12 46 34.6**	**+0.5**
NVLJ	**Novalja**	**1.11**	**295**	*e*Pg	Pg	12 46 20.8	-3.3
NVLJ				Sg	**Sg**	**12 46 37.0**	**-1.5**
MOSL	**Moslavina**	**1.54**	**12**	*e*Pn	**Pg**	**12 46 32.1**	**-0.2**
MOSL				Sn	**Sg**	**12 46 55.5**	**+3.2**
STON	**Ston**	**1.61**	**140**	*e*Pn	**Pn**	**12 46 32.8**	**+1.2**
STON				Sn	**Sg**	**12 46 56.0**	**+1.6**
OZLJ	**Ozalj**	**1.61**	**339**	*e*Pn	**Pb**	**12 46 33.0**	**+0.1**
OZLJ				Sn	**Sg**	**12 46 56.8**	**+2.2**
PTJ	**Puntijarka**	**1.81**	**353**	*e*Pn	**Pb**	**12 46 35.5**	**-0.8**
PTJ				Sn	**Sg**	**12 47 01.9**	**+0.9**
CRES	**Cresnjev**	**1.82**	**341⇑**	*i*Pn	**Pb**	**12 46 35.8**	**-0.5**
CRES				*e*Sn	**Sb**	**12 46 58.8**	**-0.5**
DBRK	**Dubrovnik**	**1.98**	**136**	*e*Pn	**Pn**	**12 46 38.8**	**+2.1**
DBRK				Sn	**Sb**	**12 47 04.4**	**+0.5**
BRY	**Bratogost**	**2.04**	**126**	*e*Pn	**Pn**	**12 46 38.3**	**+0.7**
BRY				*e*Sn	**Sb**	**12 47 04.9**	**-0.8**
CEY	**Cerknica**	**2.10**	**322⇑**	*i*Pn	**Pn**	**12 46 38.9**	**+0.5**
CEY				*e*Sn	**Sn**	**12 47 05.2**	**+0.4**
UPM	**Unac-Piva**	**2.10**	**115**	*e*Pn	**Pb**	**12 46 40.4**	**-1.0**
UPM				*e*Sn	**Sb**	**12 47 07.3**	**-0.5**
BBLS	**Lazići**	**2.26**	**95**	*e*Pn	**Pb**	**12 46 43.0**	**-1.0**
BBLS				*e*Sn	**Sb**	**12 47 11.4**	**-0.8**
LJU	**Ljubljana**	**2.30**	**328**	*e*Pn	**Pn**	**12 46 42.0**	**+0.8**
LJU				*e*Sn	**Sn**	**12 47 10.0**	**+0.2**
HCY	**Herceg Novi**	**2.31**	**135**	*e*Pn	**Pn**	**12 46 42.4**	**+1.1**
HCY				*e*Sn	**Sn**	**12 47 11.7**	**+1.7**
DIVS	**Divibare**	**2.67**	**89**	*e*Pn	**Pn**	**12 46 47.7**	**+1.4**
DIVS				*e*Sn	**Sb**	**12 47 21.2**	**-2.7**
MORH	**Mrgy, Hungar**	**2.69**	**38**	*e*Pn	**Pb**	**12 46 49.3**	**-1.8**
MORH				*e*Sn	**Sb**	**12 47 22.0**	**-2.3**
OBKA	**Obir**	**2.70**	**334**	*e*Pn	**Pn**	**12 46 48.9**	**+2.2**
	2.1nm,0.2s						
OBKA				*e*Sg	**Sb**	**12 47 23.5**	**-1.2**
	15nm,0.4s						
SOKA	**Soboth**	**2.72**	**341**	*e*Pn	**Pn**	**12 46 48.1**	**+1.1**
	2.0nm,0.6s						
PDG	**Podgorica**	**2.74**	**127**	*e*Sn	**Sn**	**12 47 21.9**	**+1.4**
DRME	**Dracevica, Mon**	**2.86**	**131**	*e*Pn	**Pn**	**12 46 50.2**	**+1.4**
DRME				*e*Sn	**Sn**	**12 47 25.2**	**+1.7**

SJA ***10*** *12:49:13.1±0.8, 28°.51S×67°.96W, h125km±3km, ML4.3, MW4.2*
NEIC ***10*** *12:49:13.1±1.8, 28°.50S±0°.05×67°.89W±0°.08, h114km±7km, mb4.6/47, Md4.2(SJA), Error ellipse: s-maj=10.7km s-min=6.6km az=93.0*
GUC ***10*** *12:49:14.4±0.7, 28°.42S×68°.24W, h155km±14km, ML4.4*
IDC ***10*** *12:49:14.7±0.6, 28°.43S×67°.89W, h123km±5km, mb3.9/11, mb1 3.9/15, mb1mx3.9/27, mbtmp4.2/15, MS2.8/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=18.7km s-min=10.8km az=83.0*
VAO ***10*** *12:49:16.7±0.6, 28°.34S×67°.68W, h128km±6km, mb4.3*
ISC 10 12:49:13.4±0.5, 28°.45S±0°.03×67°.94W±0°.03, h117km±4km, n199, σ1§41/251, mb4.5/30, 4C-3D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.37**	**220**	*e*P	**Pn**	**12 49 31.9**	**+1.3**
VCA				*e*S	**Sn**	**12 49 44.4**	**+0.9**
VCA				IAML		12 49 46.7	
	comp=Z,11μm,0.7s						
AGUA	**GUANDACOL**	**1.14**	**205**	*e*P	**Pn**	**12 49 37.5**	**+0.7**
AGUA				*e*S	**Sn**	**12 49 55.5**	**+0.9**
AGUA				IAML		12 49 56.4	
	comp=Z,3μm,0.4s						
CYA	**Choya**	**1.88**	**90**	*e*P	**Pn**	**12 49 47.0**	**+1.7**
CYA				*e*S	**Sn**	**12 50 11.0**	**+1.4**
AC02	**Maricunga**	**1.92**	**326⇓**	*i*P	**Pn**	**12 49 48.6**	**+2.2**
AC02	**Maricunga**	**1.92**	**326**		**Pn**	**12 49 48.5**	**+2.2**
AC02				Sn	**Sn**	**12 50 14.3**	**+2.9**
ACDV	**Cuesta del Vie**	**2.00**	**211**	*e*P	**Pn**	**12 49 47.8**	**+0.8**
ACDV				*e*S	**Sn**	**12 50 13.8**	**+1.2**
ACDV				IAML		12 50 14.7	
	comp=Z,844nm,0.4s						
AC05	**El Transito**	**2.09**	**259⇑**	*i*P	**Pn**	**12 49 49.0**	**+1.0**
AC05				*i* S	**Sn**	**12 50 15.3**	**+0.9**
AC05				IAML		12 50 16.9	
	comp=E,3μm,0.4s						
AC05	**El Transito**	**2.09**	**259**		**Pn**	**12 49 49.1**	**+1.0**
AC05				Sn	**Sn**	**12 50 15.4**	**+0.9**
GO03	**Copiap**	**2.20**	**292**	*i* P	**Pn**	**12 49 50.0**	**+0.7**
GO03				*i* S	**Sn**	**12 50 16.7**	**-0.2**
GO03				IAML		12 50 18.5	
	comp=E,3μm,0.2s						
GO03	**Copiap**	**2.20**	**292**		**Pn**	**12 49 50.1**	**+0.7**
GO03				Sn	**Sn**	**12 50 16.9**	**0.0**
GO03	**Copiap**	**2.20**	**292**	*e*P	**Pn**	**12 49 50.1**	**+0.7**
GO03				*e*S	**Sn**	**12 50 16.9**	**0.0**
AVFE	**Valle Fertil**	**2.24**	**169**	*e*P	**Pn**	**12 49 50.5**	**+0.6**
AVFE				*e*S	**Sn**	**12 50 17.2**	**-0.6**
ACCO	**Cerro Coronel**	**2.35**	**205**	*e*P	**Pn**	**12 49 52.0**	**+0.5**
ACCO				*e*S	**Sn**	**12 50 21.2**	**+0.6**
ACCO				IAML		12 50 23.3	
	comp=Z,988nm,0.4s						
CO01	**Juntas del Tor**	**2.43**	**231⇑**	*i*P	**Pn**	**12 49 53.7**	**+1.3**
CO01				*i* S	**Sn**	**12 50 24.4**	**+2.1**
CO01	**Juntas del Tor**	**2.43**	**231**		**Pn**	**12 49 53.6**	**+1.3**
CO01				Sn	**Sn**	**12 50 22.5**	**+0.2**
LCO	**Las Campanas**	**2.49**	**256**	*i* S	**Sn**	**12 50 23.8**	**-0.1**
LCO	**Las Campanas**	**2.49**	**256**		**Pn**	**12 49 53.6**	**+0.3**
LCO				Sn	**Sn**	**12 50 23.9**	**+0.1**
AC04	**Llanos de Chal**	**2.78**	**274**	*e*P	**Pn**	**12 49 56.2**	**-0.5**
AC04	**Llanos de Chal**	**2.78**	**274**		**Pn**	**12 49 56.5**	**-0.3**
AC04				Sn	**Sn**	**12 50 27.8**	**-2.2**
AHML	**Horco Molle**	**2.84**	**55**	*e*P	**Pn**	**12 49 59.2**	**+1.6**
AHML				*e*S	**Sn**	**12 50 28.4**	**-3.2**
FSA	**Cafayete**	**2.91**	**37**	*e*P	**Pn**	**12 50 01.9**	**+3.3**
RTLL	**Cerro Villicun**	**2.91**	**189**	*e*P	**Pn**	**12 49 58.8**	**+0.3**
RTLL				*e*S	**Sn**	**12 50 32.3**	**-0.9**
RTLL				IAML		12 50 35.2	
	comp=Z,1μm,0.4s						
ACHE	**Chepes**	**2.92**	**158**	*e*P	**Pn**	**12 49 59.7**	**+1.0**
ACHE				*e*S	**Sn**	**12 50 32.9**	**-0.8**
GO04	**Tololo Observa**	**3.04**	**235**	*e*P	**Pn**	**12 50 00.2**	**-0.2**
GO04				*i* S	**Sn**	**12 50 36.6**	**+0.1**
GO04	**Tololo Observa**	**3.04**	**235**		**Pn**	**12 50 00.1**	**-0.2**
GO04				Sn	**Sn**	**12 50 36.7**	**+0.3**
ZON	**Zonda**	**3.15**	**192**		**Pn**	**12 50 02.1**	**+0.3**
ZON				Sn	**Sn**	**12 50 38.3**	**-0.7**
ZON	**Zonda**	**3.15**	**192**	*e*P	**Pn**	**12 50 02.0**	**+0.3**
ZON				*e*S	**Sn**	**12 50 37.2**	**-1.8**
ZON				IAML		12 50 39.6	
	comp=Z,488nm,0.4s						
AC01	**Pan de Azucar**	**3.30**	**313⇓**	*i*P	**Pn**	**12 50 03.9**	**+0.4**
AC01				IAML		12 50 48.9	
	comp=E,458nm,0.4s						
AC01	**Pan de Azucar**	**3.30**	**313**		**Pn**	**12 50 04.0**	**+0.4**
AC01				Sn	**Sn**	**12 50 39.8**	**-2.5**
CO03	**El Pedregal**	**3.38**	**225⇑**	*i*P	**Pn**	**12 50 04.6**	**-0.1**
CO03				*i* S	**Sn**	**12 50 44.3**	**-0.1**
CO03				IAML		12 50 47.4	
	comp=E,578nm,0.5s						
CO03	**El Pedregal**	**3.38**	**225**		**Pn**	**12 50 04.6**	**-0.1**
CO03				Sn	**Sn**	**12 50 45.5**	**+1.1**
RTCV	**Cerro Valdivia**	**3.44**	**189**	*e*P	**Pn**	**12 50 06.0**	**+0.4**
RTCV				*e*S	**Sn**	**12 50 44.3**	**-1.5**
RTCV				IAML		12 50 46.0	
	comp=Z,829nm,0.8s						
RTLS	**Leoncito**	**3.54**	**199**	*e*P	**Pn**	**12 50 07.3**	**+0.2**
RTLS				*e*S	**Sn**	**12 50 48.2**	**-0.3**
RTLS				IAML		12 50 49.6	
	comp=Z,401nm,1.1s						
GO02	**Mina Guanaco**	**3.59**	**335⇓**	*i*P	**Pn**	**12 50 09.3**	**+1.5**
GO02				*i* S	**Sn**	**12 50 50.5**	**+0.7**
GO02	**Mina Guanaco**	**3.59**	**335**	Pn	**Pn**	**12 50 09.3**	**+1.5**
GO02				Sn	**Sn**	**12 50 51.2**	**+1.5**
CO02	**Combarbal**	**3.83**	**223⇑**	*i*P	**Pn**	**12 50 09.3**	**-1.3**
CO02				*i* S	**Sn**	**12 50 53.8**	**-1.3**
CO02	**Combarbal**	**3.83**	**223**		**Pn**	**12 50 09.6**	**-1.1**
CO02				Sn	**Sn**	**12 50 54.0**	**-1.0**
TCA	**Tanti**	**4.09**	**136**	*e*P	**Pn**	**12 50 13.9**	**-0.2**
TCA				*e*S	Sn	12 50 51.9	-9.3
TCA				IAML		12 51 00.0	
	comp=Z,272nm,0.6s						
ASAL	**Salagasta**	**4.20**	**190**	*e*P	**Pn**	**12 50 15.8**	**+0.1**
ASAL				IAML		12 51 28.4	
	comp=Z,311nm,0.6s						
SLA	**San Lorenzo**	**4.30**	**31**	*e*P	**Pn**	**12 50 20.0**	**+2.8**
SLA				*e*S	**Sn**	**12 50 58.2**	**-8.4**
SLA				IAML		12 51 07.5	
	comp=Z,143nm,0.6s						
PB14	**IPOC Station P**	**4.40**	**329**	*e*P	**Pn**	**12 50 19.4**	**+0.8**
PB14				*i* S	**Sn**	**12 51 08.5**	**-0.7**
PB14	**IPOC Station P**	**4.40**	**329**	Pn	**Pn**	**12 50 19.7**	**+1.0**
PB14				Sn	**Sn**	**12 51 08.9**	**-0.3**
PB14	**IPOC Station P**	**4.40**	**329**	*e*P	**Pn**	**12 50 19.4**	**+0.8**
PB14				*e*S	**Sn**	**12 51 06.3**	**-2.9**
PB14				IAML		12 51 17.1	
	comp=Z,250nm,0.4s						
AAGR	**Agrelo**	**4.69**	**189**	*e*P	**Pn**	**12 50 22.2**	**+0.1**
AAGR				*e*S	**Sn**	**12 51 14.0**	**-1.6**
AAGR				IAML		12 51 38.5	
	comp=Z,320nm,0.6s						
VA03	**San Esteban**	**4.86**	**207**	*e*P	**Pn**	**12 50 23.8**	**-0.6**
VA03				*i* S	**Sn**	**12 51 18.1**	**-1.7**
VA03	**San Esteban**	**4.86**	**207**		**Pn**	**12 50 23.9**	**-0.6**
AZAP	**Zapla**	**4.93**	**32**	*e*P	**Pn**	**12 50 27.7**	**+2.0**
AZAP				*e*S	Sn	12 51 08.7	-13
AZAP				IAML		12 51 24.1	
	comp=Z,174nm,0.7s						
ROC1	**El Roble**	**5.24**	**210**		**Pn**	**12 50 27.6**	**-2.2**
ROC1				Sn	**Sn**	**12 51 26.4**	**-2.7**
ROC1	**El Roble**	**5.24**	**210**	*e*P	**Pn**	**12 50 27.3**	**-2.4**
ROC1				*e*S	**Sn**	**12 51 23.1**	**-5.9**
PEL	**Peldehue**	**5.24**	**206**		**Pn**	**12 50 28.4**	**-1.3**
PEL				Sn	**Sn**	**12 51 25.7**	**-3.3**
PEL	**Peldehue**	**5.24**	**206**	*e*P	**Pn**	**12 50 28.4**	**-1.3**
PB15	**IPOC Station P**	**5.40**	**345**		**Pn**	**12 50 32.8**	**+0.9**
PB15				Sn	**Sn**	**12 51 33.1**	**+0.1**
PB10	**IPOC Station P**	**5.45**	**334**		**Pn**	**12 50 32.2**	**-0.3**
PB10	**IPOC Station P**	**5.45**	**334**	*e*P	**Pn**	**12 50 32.1**	**-0.3**
PB10				IAML		12 51 46.7	
	comp=Z,120nm,0.4s						
ASTB	**Santa Barbara**	**5.46**	**36**	*e*P	**Pn**	**12 50 35.2**	**+2.5**
ASTB				IAML		12 51 55.2	
	comp=Z,88nm,3.2s						
MT05	**Renca**	**5.49**	**205**		**Pn**	**12 50 31.7**	**-1.2**
MT05				Sn	**Sn**	**12 51 32.2**	**-2.7**
MT02	**Curacav**	**5.53**	**209**		**Pn**	**12 50 30.9**	**-2.5**
SUCO	**SUCO**	**5.54**	**153**	*e*P	**Pn**	**12 50 34.9**	**+1.2**
SUCO				*e*S	**Sn**	**12 51 32.0**	**-4.2**
SUCO				IAML		12 51 35.6	
	comp=Z,440nm,1.1s						
VA01	**Torpederas**	**5.57**	**214**		**Pn**	**12 50 31.2**	**-2.7**
LVC	**Limon Verde**	**5.88**	**351**	P	**Pn**	**12 50 39.5**	**+0.9**
	comp=Z,12nm,0.3s,baz=172,slow=12,SNR=75						
LVC				S	**Sn**	**12 51 44.5**	**-0.4**
	comp=Z,11nm,0.3s,baz=331,slow=20,SNR=12						
LVC	**Limon Verde**	**5.88**	**351**	*e*P	**Pn**	**12 50 39.6**	**+1.0**
PB06	**IPOC Station P**	**5.91**	**345**		**Pn**	**12 50 39.1**	**+0.4**
PB05	**IPOC Station P**	**5.94**	**339**	*e*P	**Pn**	**12 50 38.3**	**-0.8**
PB05				IAML		12 51 58.5	
	comp=Z,96nm,0.8s						
PB04	**IPOC Station P**	**

TOSP	**Speyside**	**40.16**	**11**	P	**P**	**12 56 38.6**	**+0.5**	
SABA	**Saba**	**46.02**	**6**	P	**P**	**12 57 24.3**	**-0.9**	
MLPR	**Magueyes Islan**	**46.15**	**1**	P	**P**	**12 57 25.9**	**-0.3**	
CRPR	**Cabo Rojo, PR**	**46.19**	**1**	P	**P**	**12 57 26.6**	**+0.1**	
PDPR	**Patillas Dam,**	**46.23**	**3**	P	**P**	**12 57 26.8**	**0.0**	
PDPR				IAmb	IAmb	12 57 38.1		
comp=Z,11nm,0.8s								
BELA	**Belgrano 2**	**51.77**	**172**	P	**P**	**12 58 09.3**	**+0.8**	
TEIG	**Tepich**	**52.23**	**336**	P	**P**	**12 58 12.5**	**0.0**	
VNA3	**Neumayer Olymp**	**53.26**	**160**	P	**P**	**12 58 20.0**	**+0.5**	
VNA1	**Neumayer--Stat**	**53.49**	**159**	P	**P**	**12 58 22.0**	**+0.8**	
VNA2	**Neumayer--Watz**	**53.85**	**159**	P	**P**	**12 58 24.6**	**+0.7**	
SNAA	**Sanae**	**55.47**	**160**	P	**P**	**12 58 35.9**	**+0.3**	
SNAA	**Sanae**	**55.47**	**160**	P	**P**	**12 58 35.6**	**0.0**	
comp=Z,6.1nm,0.8s,baz=279,slow=8.6,SNR=34								
SNAA				pP	**pP**	**12 59 05.6**	**+0.9**	
comp=Z,3.0nm,0.9s,baz=304,slow=8.1,SNR=3.6								
SNAA	**Sanae**	**55.47**	**160**	P	**P**	**12 58 35.1**	**-0.5**	
SNAA				IAmb	IAmb	12 58 36.7		
comp=Z,14nm,1.2s								
QSPA	**South Pole Qui**	**61.77**	**180**		sP	13 00 00.7	-1.4	
QSPA	**South Pole Qui**	**61.77**	**180**	P	**P**	**12 59 19.8**	**+0.3**	
V58A	**Windy Hill, Pi**	**64.76**	**350**	P	**P**	**12 59 39.7**	**+0.5**	
V58A				IAmb	IAmb	12 59 40.6		
comp=Z,6.8nm,0.7s								
CPCT	**Cooper Cave**	**65.45**	**345**	P	**P**	**12 59 43.9**	**+0.2**	
CPCT				IAmb	IAmb	12 59 44.7		
comp=Z,3.8nm,0.7s								
TXAR	**Lajitas Array**	**66.85**	**326**	P	**P**	**12 59 54.1**	**+1.2**	
comp=Z,0.4nm,0.5s,baz=120,slow=7.4,SNR=5.9								
WVT	**Waverly**	**66.91**	**343**	P	**P**	**12 59 53.3**	**+0.3**	
WVT				IAmb	IAmb	12 59 53.7		
comp=Z,12nm,0.7s								
FVM	**French Village**	**69.36**	**341**	P	**P**	**13 00 08.6**	**+0.3**	
FVM				IAmb	IAmb	13 00 09.5		
comp=Z,12nm,0.7s								
LIC	**Lamto**	**69.66**	**71**	*e*P	**P**	**13 00 10.8**	**+0.2**	
comp=Z,14nm,0.8s								
CCM	**Cathedral Cave**	**69.67**	**341**	P	**P**	**13 00 10.0**	**-0.1**	
CCM				IAmb	IAmb	13 00 11.4		
comp=Z,7.5nm,0.7s								
TIC	**Toumodi**	**69.89**	**70**	*e*P	**P**	**13 00 13.2**	**+1.1**	
S39A	**Bolivar**	**69.97**	**339**	P	**P**	**13 00 12.4**	**+0.4**	
S39A				IAmb	IAmb	13 00 13.5		
comp=Z,8.3nm,0.7s								
KIC	**Kosan Boka**	**69.97**	**71**	*e*P	**P**	**13 00 12.8**	**+0.2**	
comp=Z,16nm,0.8s								
DBIC	**Dimbokro**	**70.04**	**70**	P	**P**	**13 00 13.3**	**+0.4**	
comp=Z,6.2nm,0.7s,baz=216,slow=6.5,SNR=11								
DBIC	**Dimbokro**	**70.04**	**70**	P	**P**	**13 00 12.9**	**0.0**	
DBIC				IAmb	IAmb	13 00 28.1		
comp=Z,17nm,1.5s								
R40A	**Maddies Statio**	**70.19**	**340**	P	**P**	**13 00 13.1**	**-0.3**	
R40A				IAmb	IAmb	13 00 14.7		
comp=Z,7.2nm,0.8s								
VNDA	**Vanda**	**70.19**	**190**	P	**P**	**13 00 14.2**	**+1.3**	
comp=Z,1.1nm,0.8s,baz=132,slow=6.7,SNR=4.2								
MSTX	**Muleshoe**	**70.30**	**330**	P	**P**	**13 00 15.0**	**+0.7**	
MSTX				IAmb	IAmb	13 00 15.4		
comp=Z,5.0nm,0.7s								
N51A	**Ashland**	**70.30**	**348**	P	**P**	**13 00 14.3**	**+0.3**	
P43A	**Skaggs, Pawnee**	**70.66**	**342**	P	**P**	**13 00 16.4**	**+0.2**	
P40A	**Paris**	**71.27**	**341**	P	**P**	**13 00 20.3**	**+0.4**	
P40A				IAmb	IAmb	13 00 21.1		
comp=Z,5.7nm,0.7s								
ANMO	**Albuquerque**	**72.80**	**328**	P	**P**	**13 00 29.9**	**+0.5**	
L40A	**Anamosa**	**73.38**	**342**	P	**P**	**13 00 32.3**	**-0.1**	
L40A				IAmb	IAmb	13 00 33.4		
comp=Z,12nm,0.7s								
SDCO	**Great Sand Dun**	**74.67**	**330**	P	**P**	**13 00 40.3**	**0.0**	
MAW	**Mawson**	**77.45**	**163**	P	**P**	**13 00 55.9**	**+0.6**	
comp=Z,3.0nm,1.1s,baz=208,slow=6.0,SNR=8.6								
MAW	**Mawson**	**77.45**	**163**	P	**P**	**13 00 54.8**	**-0.5**	
RWWY	**Rawlins**	**78.66**	**331**	P	**P**	**13 01 02.7**	**0.0**	
RWWY				IAmb	IAmb	13 01 05.1		
comp=Z,4.7nm,0.7s								
TOA0	**Torodi Ar. Sit**	**78.96**	**68**	P	**P**	**13 01 03.9**	**-0.7**	
TOA0				IAmb	IAmb	13 01 06.2		
comp=Z,5.1nm,0.6s								
TORD	**Torodi Ar. Bea**	**78.96**	**68**	P	**P**	**13 01 05.1**	**+0.6**	
comp=Z,4.5nm,0.6s,baz=276,slow=5.9,SNR=33								
TORD				pP	**pP**	**13 01 36.5**	**+1.8**	
comp=Z,0.7nm,0.5s,baz=262,slow=5.7,SNR=2.1								
TORD	**Torodi Ar. Bea**	**78.96**	**68**	P	**P**	**13 01 04.6**	**0.0**	
BOSA	**Boshof**	**79.47**	**117**	P	**P**	**13 01 07.5**	**0.0**	
comp=Z,2.2nm,0.6s,baz=223,slow=5.0,SNR=5.7								
HWUT	**Hardware Ranch**	**80.53**	**328**	P	**P**	**13 01 13.2**	**+0.5**	
HWUT				IAmb	IAmb	13 01 14.6		
comp=Z,4.2nm,0.7s								
PDAR	**Pinedale Array**	**80.55**	**330**	P	**P**	**13 01 13.8**	**+0.9**	
comp=Z,1.1nm,0.6s,baz=133,slow=7.5,SNR=6.4								
PDAR	**Pinedale Array**	**80.55**	**330**	P	**P**	**13 01 13.4**	**+0.6**	
AHID	**Auburn Hatcher**	**81.23**	**329**	P	**P**	**13 01 17.2**	**+0.7**	
NVAR	**Mina Array Bea**	**81.50**	**322**	P	**P**	**13 01 19.1**	**+1.1**	
comp=Z,0.3nm,0.5s,baz=162,slow=6.2,SNR=3.1								
NVAR	**Mina Array Bea**	**81.50**	**322**	P	**P**	**13 01 17.6**	**-0.3**	
LOHW	**Long Hollow**	**81.69**	**330**	P	**P**	**13 01 19.7**	**+0.9**	
FXWY	**Fox Creek**	**81.89**	**330**	P	**P**	**13 01 20.9**	**+1.0**	
YHH	**Holmes Hill**	**82.73**	**331**	P	**P**	**13 01 26.2**	**+1.9**	
HLID	**Hailey**	**83.38**	**328**	P	**P**	**13 01 28.0**	**+0.5**	
MCMT	**McKenzie Canyo**	**83.64**	**330**	P	**P**	**13 01 31.2**	**+2.2**	
LRM	**Limekiln Ridge**	**84.24**	**330**	P	**P**	**13 01 33.3**	**+1.4**	
J08A	**Circle Bar Ran**	**85.18**	**326**	P	**P**	**13 01 38.3**	**+1.8**	
J08A				IAmb	IAmb	13 01 38.7		
comp=Z,3.5nm,0.6s								
CASY	**Casey**	**85.57**	**179**	P	**P**	**13 01 35.6**	**-2.5**	
K05A	**Summer Lake**	**85.96**	**324**	P	**P**	**13 01 42.4**	**+1.8**	
I07A	**Izee**	**86.22**	**326**	P	**P**	**13 01 42.2**	**+0.5**	
JCC	**Jacoby Creek,**	**86.32**	**321**	P	**P**	**13 01 43.7**	**+1.6**	
JTMT	**Jette**	**86.53**	**331**	P	**P**	**13 01 43.7**	**+0.6**	
JTMT				IAmb	IAmb	13 01 52.4		
comp=Z,14nm,1.3s								
PINE	**Pine Mountain**	**86.74**	**325**	P	**P**	**13 01 45.9**	**+1.5**	
PINE				IAmb	IAmb	13 01 46.7		
comp=Z,4.0nm,0.8s								
ASAR	**Alice Springs**	**124.08**	**204**	PKP	**PKPdf**	**13 07 58.0**	**-0.7**	
comp=Z,0.4nm,0.6s,baz=123,slow=1.7,SNR=8.6								
ASAR				pPKP	**pPKPdf**	**13 08 31.1**	**0.0**	
comp=Z,0.3nm,0.6s,baz=141,slow=1.8,SNR=2.1								
WRA	**Warramunga Arr**	**127.30**	**207**	PKP	**PKPdf**	**13 08 04.6**	**-0.3**	
comp=Z,0.7nm,0.6s,baz=164,slow=1.7,SNR=14								
WRA				pPKP	**pPKPdf**	**13 08 37.6**	**+0.3**	
comp=Z,0.7nm,0.8s,baz=165,slow=1.7,SNR=3.5								
ZALV	**Zalesovo Beam**	**147.67**	**30**	PKPbc	**PKPbc**	**13 08 44.9**	**+1.1**	
comp=Z,4.0nm,0.5s,baz=298,slow=3.6,SNR=16								
ZALV				pPKPbc	**pPKPab**	**13 09 17.0**	**-1.3**	
comp=Z,2.1nm,0.7s,baz=294,slow=3.6,SNR=3.1								
MKAR	**Makanchi Array**	**150.40**	**44**	PKPbc	**PKPbc**	**13 08 51.6**	**+0.7**	
comp=Z,2.7nm,0.6s,baz=306,slow=2.2,SNR=24								
MKAR				pPKPbc	**pPKPab**	**13 09 24.7**	**-4.5**	
comp=Z,0.7nm,0.7s,baz=301,slow=3.0,SNR=2.0								
SONM	**Songino Array**	**160.15**	**11**	PKPab	**PKPab**	**13 09 38.4**	**-1.0**	
comp=Z,0.2nm,0.3s,baz=333,slow=4.2,SNR=4.6								

IDC ***10*** *14:00:58.2±0.7, 21°.54S×169°.25E, h0km, mb4.5/17, mb1 4.6/20, mb1mx4.5/28, mbtmp4.5/20, ML3.9/3, MS3.8/15, Ms1 3.8/15, ms1mx3.6/35, Error ellipse: s-maj=18.6km s-min=17.7km az=126.0*

MOS ***10*** *14:01:01.7±0.9, 21°.54S×169°.21E, h34km, mb5.2/25, Error ellipse: s-maj=10.5km s-min=9.4km az=175.4*

NEIC ***10*** *14:01:01.4±1.0, 21°.49S±0°.08×169°.15E±0°.04, h25km±4km, mb5.0/83, Error ellipse: s-maj=11.2km s-min=4.6km az=168.0*

UNK ***10*** *14:01:01.1, 21°.48S×169°.15E, h23km*

BJI ***10*** *14:01:02.5±0.0, 21°.10S×168°.82E, h16km, mB5.1/27, mb4.7/33, Ms5.2/10, Ms7 5.0/10*

BGR ***10*** *14:01:05.4±0.0, 20°.38S×169°.52E, h33km*

ISC 10 14:01:02.5±0.3, 21°.53S±0°.06×169°.17E±0°.05, h29km, n263, σ1**92**/257**, mb5.0**/72**, MS3.9**/19**, 5C-1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.59**	**257**	Pn	**Pn**	**14 01 41.4**	**-1.1**
6.1nm,0.3s,baz=118,slow=11,SNR=102							
DZM				Sn	**Sn**	**14 02 13.0**	**-0.1**
25nm,0.3s,baz=39,slow=20,SNR=6.5							
DZM				LR	LR	14 02 18.6	
comp=Z,940nm,21.8s,baz=98,slow=30							
DZM	**Mont Dzumac**	**2.59**	**257**	*e*Pn	**Pn**	**14 01 41.4**	**-1.1**
89nm,0.3s							
DZM				*e*Sn	**Sn**	**14 02 13.4**	**+0.3**
111nm,0.3s							
DZM	**Mont Dzumac**	**2.59**	**257**	Pn	**Pn**	**14 01 40.9**	**-1.6**
SANVU	**Saraoutou**	**6.33**	**343**	Pn	**Pn**	**14 02 31.7**	**-2.2**
NFK	**Norfolk Island**	**7.56**	**188**	P	**Pn**	**14 02 50.1**	**-0.8**
baz=7.5,SNR=3.6							
MSVF	**Nonsavu**	**9.18**	**67**	P	**Pn**	**14 03 13.8**	**+0.6**
MSVF	**Nonsavu**	**9.18**	**67**	Pn	**Pn**	**14 03 13.8**	**+0.6**
HNR	**Honiara**	**14.95**	**322**	Pn	**Pn**	**14 04 32.5**	**+0.6**
2.2nm,0.3s,baz=155,slow=14,SNR=1.5							
EIDS	**Eidsvold**	**17.03**	**254**	Pn	**Pn**	**14 04 58.0**	**-0.6**
URZ	**Urewera**	**18.02**	**159**	P	**Pn**	**14 05 10.7**	**-0.1**
0.3nm,0.3s,baz=57,slow=7.8,SNR=4.4							
URZ	**Urewera**	**18.02**	**159**		**P**	**14 05 12.3**	**+1.2**
BKZ	**Black Stump Fm**	**18.67**	**162**	Pn	**Pn**	**14 05 20.6**	**+1.8**
RMQ	**Roma**	**19.28**	**251**	P	**P**	**14 05 25.4**	**+0.4**
baz=19,SNR=12							
AFI	**Afiamalu**	**19.66**	**70**	LR	LR	14 11 19.0	
comp=Z,361nm,20.6s,baz=267,slow=32							
NIUE	**Niue**	**19.76**	**87**	P	**Pn**	**14 05 31.1**	**-0.9**
THZ	**Tophouse**	**20.42**	**172**	P	**P**	**14 05 37.4**	**+0.1**
MSWZ	**Moikau Station**	**20.48**	**167**	P	**P**	**14 05 38.0**	**-0.1**
LTZ	**Lake Taylor**	**21.35**	**174**	P	**P**	**14 05 47.6**	**+0.2**
LTZ				IAmb	IAmb	14 06 07.8	
comp=Z,51nm,1.3s							
CTA	**Charters Tower**	**21.46**	**270**	P	**P**	**14 05 50.1**	**+1.3**
comp=Z,19nm,1.0s,baz=95,slow=12,SNR=20							
CTAO	**Charters Tower**	**21.46**	**270**	P	**P**	**14 05 46.8**	**-2.0**
CTAO				pmax	pmax		
comp=Z,33nm,1.1s							
CTAO	**Charters Tower**	**21.46**	**270**	P	**P**	**14 05 46.8**	**-2.0**
OXZ	**Oxford**	**21.87**	**174**	P	**P**	**14 05 52.8**	**-0.1**
OXZ				IAmb	IAmb	14 06 00.3	
comp=Z,60nm,1.4s							
RPZ	**Rata Peaks**	**22.18**	**176**	LR	LR	14 12 44.0	
comp=Z,311nm,18.5s,baz=50,slow=32							
CMSA	**Cobar Meteorol**	**23.20**	**240**	P	**P**	**14 06 06.9**	**-0.2**
baz=23,SNR=7.6							
QLP	**Quilpie**	**23.30**	**253**	P	**P**	**14 06 08.4**	**+0.2**
baz=23,SNR=18							
MTSU	**Mount Surprise**	**23.61**	**274**	P	**P**	**14 06 11.9**	**+0.6**
baz=24,SNR=18							
KRVT	**Keravat (AS076**	**23.87**	**313**	P	**P**	**14 06 14.8**	**+1.1**
comp=Z,119nm,1.2s,baz=156,slow=10.0,SNR=6.4							
WHZ	**Wether Hill Ro**	**24.32**	**182**	P	**P**	**14 06 19.1**	**+1.4**
WHZ				IAmb	IAmb	14 06 33.8	
comp=Z,34nm,1.1s							
PMG	**Port Moresby**	**24.36**	**296**	P	**P**	**14 06 19.4**	**+1.2**
comp=Z,22nm,0.9s,baz=119,slow=10,SNR=3.7							
PMG				LR	LR	14 13 11.3	
comp=Z,194nm,18.8s,baz=126,slow=30							
PMG	**Port Moresby**	**24.36**	**296**	P	**P**	**14 06 19.4**	**+1.2**
PMG				pmax	pmax		
comp=Z,31nm,1.1s							
PMG	**Port Moresby**	**24.36**	**296**	IAmb	IAmb	14 06 22.9	
comp=Z,31nm,1.1s							
COEN	**Coen**	**25.85**	**283**	P	**P**	**14 06 32.3**	**+0.5**
STKA	**Stephens Creek**	**26.63**	**241**	P	**P**	**14 06 39.6**	**+0.9**
comp=Z,6.4nm,1.0s,baz=68,slow=8.5,SNR=4.8							
STKA				LR	LR	14 16 55.8	
comp=Z,364nm,19.2s,baz=54,slow=36							
STKA	**Stephens Creek**	**26.63**	**241**	P	**P**	**14 06 40.0**	**+1.3**
STKA				pmax	pmax		
comp=Z,5.0nm,1.5s							
STKA	**Stephens Creek**	**26.63**	**241**	P	**P**	**14 06 40.0**	**+1.3**
RAR	**Rarotonga**	**28.91**	**95**	P	**P**	**14 07 00.3**	**+1.2**
RAR				pmax	pmax		
comp=Z,68nm,1.3s							
RAR	**Rarotonga**	**28.91**	**95**	P	**P**	**14 07 00.3**	**+1.2**
BBOO	**Buckleboo**	**31.40**	**242**	P	**P**	**14 07 20.4**	**-0.8**
BBOO				IAmb	IAmb	14 07 26.4	
comp=Z,26nm,1.4s							
WR0	**Warramunga Arr**	**32.38**	**266**	P	**P**	**14 07 28.7**	**-1.2**
WB0	**Warramunga Arr**	**32.55**	**267**	P	**P**	**14 07 30.4**	**-1.0**
WB0				IAmb	IAmb	14 07 32.3	
comp=Z,15nm,1.2s							
WB2	**Warramunga Arr**	**32.56**	**266**	P	**P**	**14 07 30.5**	**-1.0**
WRAB	**Tennant Creek**	**32.56**	**266**	*c i*P	**P**	**14 07 31.5**	**0.0**
WRAB				pmax	pmax		
comp=Z,11nm,1.1s							
WRA	**Warramunga Arr**	**32.57**	**266**	P	**P**	**14 07 30.6**	**-0.9**
comp=Z,4.9nm,0.9s,baz=96,slow=7.8,SNR=37							
WRA				LR	LR	14 19 46.3	
comp=Z,326nm,22.0s,baz=100,slow=35							
WRA	**Warramunga Arr**	**32.57**	**266**	P	**P**	**14 07 30.3**	**-1.3**
WRA				pmax	pmax		
comp=Z,1.0nm,1.1s							
WRA	**Warramunga Arr**	**32.57**	**266**	P	**P**	**14 07 30.3**	**-1.3**
AS31	**Alice Springs**	**32.58**	**259**	P	**P**	**14 07 31.2**	**-0.5**
ASAR	**Alice Springs**	**32.58**	**259**	P	**P**	**14 07 31.2**	**-0.4**
comp=Z,14nm,1.0s,baz=85,slow=7.2,SNR=54							
ASAR				PcP	**PcP**	**14 10 18.1**	**+0.4**
comp=Z,1.4nm,1.0s,baz=64,slow=2.2,SNR=4.3							
ASAR				LR	LR	14 19 50.6	
comp=Z,184nm,20.4s,baz=98,slow=35							
MTN	**Manton Dam**	**37.27**	**277**	P	**P**	**14 08 12.6**	**+0.5**
baz=37,SNR=3.6							
MTN	**Manton Dam**	**37.27**	**277**	P	**P**	**14 08 12.1**	**0.0**
WRKA	**Warakurna**	**37.60**	**257**	P	**P**	**14 08 15.0**	**0.0**
baz=38,SNR=5.7							
FORT	**Forrest**	**37.85**	**247**	P	**P**	**14 08 17.1**	**+0.1**
KNRA	**Kununurra**	**38.65**	**272**	P	**P**	**14 08 23.8**	**0.0**
baz=39,SNR=3.6							
KNRA	**Kununurra**	**38.65**	**272**	P	**P**	**14 08 23.9**	**+0.2**
KNRA				IAmb	IAmb	14 08 25.3	
comp=Z,40nm,1.4s							
PPT2	**Papeete2**	**38.99**	**92**	*e*LR	LR	14 18 58.9	
comp=Z,200nm,28.0s							
PPT	**Papeete**	**39.00**	**92**	LR	LR	14 20 03.0	
comp=Z,120nm,19.6s,baz=262,slow=29							
FAKI	**Fak Fak**	**40.37**	**292**	P	**P**	**14 08 37.5**	**-0.6**
FAKI				IAmb	IAmb	14 08 54.6	
comp=Z,54nm,1.3s							
FITZ	**Fitzroy Crossi**	**41.00**	**267**	P	**P**	**14 08 43.6**	**+0.4**
baz=41,SNR=14							
FITZ	**Fitzroy Crossi**	**41.00**	**267**	P	**P**	**14 08 42.7**	**-0.6**
KMBL	**Kambalda**	**43.18**	**247**	P	**P**	**14 09 01.1**	**+0.2**
baz=43,SNR=5.7							
MEEK	**Meekatharra**	**46.20**	**253**	P	**P**	**14 09 24.8**	**-0.4**
baz=46,SNR=3.7							
KLBR	**Kellerberrin**	**46.70**	**246**	P	**P**	**14 09 28.6**	**-0.4**
baz=46,SNR=6.1							
NWAO	**Narrogin (SRO)**	**47.14**	**245**	P	**P**	**14 09 32.6**	**+0.2**
NWAO				pmax	pmax		
comp=Z,20nm,1.0s							
NWAO	**Narrogin (SRO)**	**47.14**	**245**	P	**P**	**14 09 32.6**	**+0.2**
MORW	**Morawa**	**48.28**	**250**	P	**P**	**14 09 42.6**	**+1.3**
baz=48,SNR=4.9							
MORW	**Morawa**	**48.28**	**250**	P	**P**	**14 09 40.9**	**-0.5**
VNDA	**Vanda**	**56.15**	**182**	P	**P**	**14 10 39.0**	**0.0**
comp=Z,2.4nm,1.0s,baz=357,slow=7.1,SNR=4.5							
VNDA				LR	LR	14 30 32.9	
comp=Z,54nm,20.2s,baz=18,slow=32							
VNDA	**Vanda**	**56.15**	**182**	P	**P**	**14 10 38.8**	**-0.2**
VNDA				pmax	pmax		
comp=Z,5.0nm,1.1s							
VNDA	**Vanda**	**56.15**	**182**	P	**P**	**14 10 38.8**	**-0.2**
CASY	**Casey**	**58.01**	**204**	P	**P**	**14 10 51.6**	**-0.7**
CASY				IAmb	IAmb	14 10 53.8	
comp=Z,16nm,1.2s							
MJA0	**Matsu Arr-Jizo**	**64.73**	**333**	*e*P	**P**	**14 11 40.2**	**+2.1**
MJA0				pmax	pmax		
comp=Z,1.0nm,0.6s							
MJAR	**Matsushiro Arr**	**64.74**	**333**	P	**P**	**14 11 38.6**	**+0.4**
comp=Z,3.2nm,1.1s,baz=150,slow=6.7,SNR=4.5							
KSRS	**Korea Array**	**70.36**	**326**	P	**P**	**14 12 14.6**	**+1.0**
comp=Z,6.3nm,1.3s,baz=146,slow=5.1,SNR=7.3							
KSAR	**Wonju Array Be**	**70.37**	**326**	P	**P**	**14 12 13.4**	**-0.3**
KSAR	**Wonju Array Be**	**70.37**	**326**	P	**P**	**14 12 13.3**	**-0.3**
NJ2	**Nanjing**	**71.81**	**317**	*e*P	**P**	**14 12 22.7**	**+0.2**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
NJ2				LR	LR		
comp=Z,580nm,13.3s							
NJ2				LR	LR		
comp=Z,1μm,12.8s							
NJ2				LR	LR		
comp=Z,1μm,12.8s							
USA0B	**Ussuriysk Arra**	**73.73**	**333**	P	**P**	**14 12 33.0**	**-0.7**
USA0B				pmax	pmax		
comp=Z,19nm,1.4s							
USA0B	**Ussuriysk Arra**	**73.73**	**333**	P	**P**	**14 12 33.0**	**-0.7**
USA0B				IAmb	IAmb	14 12 52.8	
comp=Z,18nm,1.4s							
USRK	**Ussuriysk Ar.**	**73.73**	**333**	P	**P**	**14 12 34.1**	**+0.4**
comp=Z,6.6nm,1.1s,baz=116,slow=4.6,SNR=5.4							
USRK	**Ussuriysk Ar.**	**73.73**	**333**	P	**P**	**14 12 33.1**	**-0.6**
USRK	**Ussuriysk Ar.**	**73.73**	**333**	P	**P**	**14 12 33.1**	**-0.6**
PETK	**Petropavlovsk-**	**74.99**	**353**	P	**P**	**14 12 40.3**	**-0.6**
comp=Z,5.3nm,0.9s,baz=109,slow=8.0,SNR=4.3							
TIA	**Tai'an**	**75.61**	**319**	P	**P**	**14 12 43.0**	**-1.8**
TIA				pmax	pmax		
comp=Z,10.0nm,1.2s							
MAW	**Mawson**	**76.30**	**202**	P	**P**	**14 12 49.1**	**+0.9**
comp=Z,4.1nm,0.8s,baz=97,slow=6.4,SNR=13							
MAW				LR	LR	14 42 27.0	
comp=Z,136nm,19.6s,baz=66,slow=33							
MAW	**Mawson**	**76.30**	**202**	P	**P**	**14 12 50.0**	**+1.8**
baz=76,SNR=7.4							
MAW	**Mawson**	**76.30**	**202**	P	**P**	**14 12 48.3**	**0.0**
MAW				pmax	pmax		
comp=Z,1.0nm,1.0s							
MAW	**Mawson**	**76.30**	**202**	P	**P**	**14 12 48.3**	**0.0**
CMAR	**Chiang Mai Arr**	**79.39**	**295**	P	**P**	**14 13 08.3**	**+2.0**
comp=Z,1.0nm,0.3s,baz=133,slow=4.4,SNR=14							
CMAR	**Chiang Mai Arr**	**79.39**	**295**	P	**P**	**14 13 07.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**79.39**	**295**	P	**P**	**14 13 07.6**	**+1.3**
KMI	**Kunming**	**79.43**	**302↓**	*e*P	**P**	**14 13 04.7**	**-2.0**
KMI				pP	pP	14 13 10.3	-4.0
KMI				sP	sP	14 13 17.0	0.0
KMI				pmax	pmax		
comp=Z,20nm,0.5s							
KMI				pmax	pmax		
comp=Z,93nm,5.2s							
KMI				LR	LR		
comp=Z,220nm,9.9s							
KMI				LR	LR		
comp=Z,330nm,14.9s							
KMI				LR	LR		
comp=Z,350nm,17.4s							
CHTO	**Chiang Mai**	**79.55**	**295**	P	**P**	**14 13 08.2**	**+1.0**
CHTO				pmax	pmax		
comp=Z,9.0nm,1.2s							
CHTO	**Chiang Mai**	**79.55**	**295**	P	**P**	**14 13 08.2**	**+1.0**
XAN	**Xi'an**	**79.61**	**313**	P	**P**	**14 13 09.1**	**+1.9**
XAN				PcP	**sP**	**14 13 18.4**	**+0.9**
XAN				S	**S**	**14 23 00.8**	**-6.7**
XAN				pmax	pmax		
comp=Z,12nm,1.3s							
XAN	**Xi'an**	**79.61**	**313**	P	**P**	**14 13 08.0**	**+0.8**
XAN				pmax	pmax		
comp=Z,16nm,1.3s							
XAN	**Xi'an**	**79.61**	**313**	P	**P**	**14 13 08.0**	**+0.8**
XAN				IAmb	IAmb	14 13 10.2	
comp=Z,16nm,1.3s							
HHC	**Hu-ho-hao-te**	**81.91**	**320**	*e*P	**P**	**14 13 20.0**	**+0.5**
HHC				S	**S**	**14 23 35.7**	**+4.2**
HHC				pmax	pmax		
comp=Z,18nm,0.7s							
HHC				pmax	pmax		
comp=Z,84nm,7.5s							
HHC				LR	LR		
comp=Z,580nm,11.0s							
HHC				LR	LR		
comp=Z,470nm,12.0s							
HHC				LR	LR		
comp=Z,630nm,11.2s							
SYO	**Syowa Base**	**82.73**	**196↑**	*e*P	**P**	**14 13 22.0**	**-1.2**
SYO	**Syowa Base**	**82.73**	**196↑**	*e*sP	sP	14 13 33.2	-0.7
ZEA	**Zeya**	**83.22**	**336**	*e*P	**P**	**14 13 27.1**	**+1.3**
ZEA				pmax	pmax		
comp=Z,32nm,1.8s							
LZH	**Lanzhou**	**84.21**	**312**	*e*P	**P**	**14 13 33.7**	**+2.1**
LZH				pP	pP	14 13 39.1	0.0
LZH				sP	sP	14 13 43.0	+1.1
LZH				S	**S**	**14 23 57.3**	**+2.2**
LZH				pmax	pmax		
comp=Z,17nm,1.3s							
LZH				pmax	pmax		
comp=Z,76nm,4.6s							
LZH				LR	LR		
comp=Z,160nm,12.7s							
LZH				LR	LR		
comp=Z,450nm,13.3s							
LZH				LR	LR		
comp=Z,550nm,13.3s							
PMSA	**Palmer Station**	**84.79**	**160**	P	**P**	**14 13 33.5**	**-0.4**
PMSA				IAmb	IAmb	14 13 34.9	
comp=Z,15nm,1.1s							
KDAK	**Kodiak

baz=244,SNR=6.2
HUMO Hull Mountain 89.27 43 P P 14 13 55.4 -0.5
HUMO IAmb IAmb 14 13 57.1
comp=Z,9.1nm,0.9s
BILL Bilibino 89.33 359 *i* P **P 14 13 55.0 -0.5**
BILL pmax pmax
comp=Z,11nm,1.1s
IKP In-Ko-Pah, Jac 89.37 54 P **P 14 13 56.2 -0.5**
baz=244
RMX La Rumorosa 89.37 55 P **P 14 13 56.2 -0.6**
RMX IAmb IAmb 14 13 57.6
comp=Z,8.7nm,0.9s
MDPB Devils Postpil 89.45 49 P **P 14 13 55.9 -1.3**
MDPB IAmb IAmb 14 13 57.9
comp=Z,11nm,1.2s
LRMC Laurel Mtn Rad 89.46 51 P **P 14 13 56.3 -0.8**
baz=243,SNR=7.1
I02D Swisshome 89.47 42 P **P 14 13 56.5 -0.3**
baz=239
L04D Klamath Falls 89.49 44 P **P 14 13 56.7 -0.4**
baz=240
OMMB Old Mammoth Mi 89.50 49 P **P 14 13 56.7 -0.8**
OMMB IAmb IAmb 14 13 58.9
comp=Z,12nm,1.2s
PFO Pinyon Flats O 89.53 53 LR LR 14 46 07.9
comp=Z,45nm,19.4s,baz=261,slow=30
PFO Pinyon Flats O 89.53 53 P **P 14 13 56.7 -0.8**
PFO pmax pmax
comp=Z,13nm,1.4s
PFO Pinyon Flats O 89.53 53 P **P 14 13 56.4 -1.1**
baz=244
PFO Pinyon Flats O 89.53 53 P **P 14 13 56.7 -0.8**
PFO IAmb IAmb 14 14 05.8
comp=Z,13nm,1.4s
I03D Drain, OR 89.58 42 P **P 14 13 57.2 0.0**
baz=239
M04C Macdoel 89.58 44 P **P 14 13 57.1 -0.4**
baz=240
CWC Cottonwood Cre 89.61 50 P **P 14 13 57.3 -0.6**
baz=243
WAKR Walker 89.61 48 P **P 14 13 57.4 -0.5**
SWSC Sam W. Stewart 89.73 54 P **P 14 13 57.3 -0.9**
baz=244
PNTR Pine Nut 89.77 47 P **P 14 13 57.8 -0.8**
TIN Tinemaha, Big 89.78 50 P **P 14 13 58.1 -0.5**
baz=243
MPMC Manual Prospec 89.86 51 P **P 14 13 58.3 -0.8**
baz=243,SNR=12
YERR Yerington 89.97 48 P **P 14 13 58.6 -0.9**
YERR IAmb IAmb 14 14 00.1
comp=Z,14nm,1.2s
GSC Goldstone, Bar 90.02 52 P **P 14 13 59.0 -0.7**
GSC pmax pmax
comp=Z,9.0nm,1.2s
GSC Goldstone, Bar 90.02 52 P **P 14 13 58.6 -1.1**
baz=244
GSC Goldstone, Bar 90.02 52 P **P 14 13 59.0 -0.7**
GSC IAmb IAmb 14 14 00.3
comp=Z,9.4nm,1.2s
BELC Belle Mtn. Jos 90.04 53 P **P 14 13 59.5 -0.4**
baz=244,SNR=14
J04D Umpqua Nationa 90.12 43 P **P 14 13 59.5 -0.6**
baz=240
LHV Little Huntoon 90.14 49 P **P 14 13 59.8 -0.2**
HEC Hector,Ludlow 90.16 52 P **P 14 13 59.4 -0.9**
baz=244
I04A Tendick Farm, 90.21 42 P **P 14 13 59.6 -0.7**
baz=240
PAHR Pah Rah Range 90.21 47 P **P 14 13 59.6 -0.9**
PAHR IAmb IAmb 14 14 01.1
comp=Z,13nm,1.1s
BC3 Big Chuckawall 90.30 54 P **P 14 14 00.4 -0.6**
baz=244,SNR=6.1
RYN Ryan 90.30 48 P **P 14 13 60.0 -1.1**
RYN IAmb IAmb 14 14 01.6
comp=Z,9.1nm,1.0s
NVAR Mina Array Bea 90.36 49 P **P 14 14 01.2 -0.2**
comp=Z,5.3nm,0.7s,baz=227,slow=8.6,SNR=33
NVAR Mina Array Bea 90.36 49 P **P 14 14 00.5 -0.9**
GRAC Grapevine Rang 90.37 50 P **P 14 14 00.6 -0.7**
baz=243,SNR=8.3
H04D Lebanon 90.37 42 P **P 14 14 00.3 -0.6**
baz=240
G03D McMinnville, O 90.40 41 P **P 14 14 00.7 -0.4**
baz=239
NV11 Mina Array Sit 90.47 49 P **P 14 14 00.9 -0.9**
NV11 IAmb IAmb 14 14 02.3
comp=Z,11nm,0.9s
FURC Furnace Creek, 90.50 51 P **P 14 14 01.2 -0.6**
baz=243,SNR=10
GLA Glamis 90.51 55 P **P 14 14 01.8 -0.2**
GLA pmax pmax
comp=Z,18nm,0.9s
GLA Glamis 90.51 55 P **P 14 14 01.8 -0.2**
baz=245
GLA Glamis 90.51 55 P **P 14 14 01.8 -0.2**
GMRC Granite Mounta 90.64 53 P **P 14 14 01.9 -0.7**
baz=244,SNR=6.7
MOD Modoc Plateau 90.64 45 P **P 14 14 01.5 -1.0**
MOD IAmb IAmb 14 14 03.1
comp=Z,11nm,1.1s
K05A Summer Lake 90.65 44 P **P 14 14 01.8 -0.8**
J05D Fort Rock, OR 90.70 43 P **P 14 14 02.4 -0.3**
baz=241
TUQ Turquoise Moun 90.73 52 P **P 14 14 02.1 -1.0**
baz=244,SNR=9.0
IRM Iron Mountain 90.75 53 P **P 14 14 02.7 -0.3**
baz=244,SNR=9.0
KVN Kaiserville 90.79 48 P **P 14 14 02.6 -0.7**
KVN pmax pmax
comp=Z,10.0nm,0.9s
KVN Kaiserville 90.79 48 P **P 14 14 02.6 -0.7**
H04A Detroit Lake 90.79 42 P **P 14 14 01.9 -1.1**
H04A IAmb IAmb 14 14 03.2
comp=Z,9.5nm,1.1s
TPH Tonopah 90.96 49 P **P 14 14 03.3 -0.8**
TPH pmax pmax
comp=Z,86nm,1.3s
TPH Tonopah 90.96 49 P **P 14 14 03.3 -0.8**
PINE Pine Mountain 91.14 43 P **P 14 14 04.2 -0.6**
I05D Terrebonne, OR 91.15 42 P **P 14 14 03.9 -0.8**
baz=241
TPNV Topopah Spring 91.15 51 P **P 14 14 04.4 -0.6**
TPNV pmax pmax
comp=Z,15nm,1.0s
TPNV Topopah Spring 91.15 51 P **P 14 14 04.2 -0.8**
baz=244,SNR=16
TPNV Topopah Spring 91.15 51 P **P 14 14 04.4 -0.6**
BARN Barnard Glacie 91.30 22 P **P 14 14 04.3 -0.9**
E04D Cinebar 91.50 40 P **P 14 14 05.3 -0.8**
baz=240
PDMCI Parker Dam,Lak 91.56 54 P **P 14 14 05.9 -0.8**
baz=245,SNR=6.9
214A Organ Pipe Nat 91.60 56 P **P 14 14 06.3 -0.7**
baz=246
G05D Wamic, OR 91.61 41 P **P 14 14 06.3 -0.5**
baz=241
D03D Eldon 91.68 39 P **P 14 14 06.3 -0.7**
baz=240
SHPR Sheep Range 91.75 51 P **P 14 14 07.2 -0.6**
SHPR IAmb IAmb 14 14 08.7
comp=Z,9.8nm,1.2s
HSIG 91.88 60 P **P 14 14 07.4 -1.0**
WVOR Wild Horse Val 91.98 45 P **P 14 14 08.4 -0.3**
WVOR pmax pmax
comp=Z,14nm,1.3s
WVOR Wild Horse Val 91.98 45 P **P 14 14 08.3 -0.3**
W13A Hualapai Mount 92.09 53 P **P 14 14 08.8 -0.7**
W13A IAmb IAmb 14 14 10.2
comp=Z,6.1nm,0.9s
HDA Harding Lake 92.13 18 P **P 14 14 08.6 -0.1**
baz=220
I07A Izee 92.19 43 P **P 14 14 08.9 -0.7**
I07A IAmb IAmb 14 14 10.2
comp=Z,6.6nm,1.1s
PRN Pahroc Range 92.21 51 P **P 14 14 09.4 -0.5**
R11A Troy Canyon, C 92.24 50 P **P 14 14 09.0 -1.0**
baz=244
R11A Troy Canyon, C 92.24 50 P **P 14 14 09.0 -1.0**
DOT Dot Lake 92.40 19 P **P 14 14 08.8 -1.2**
DOT IAmb IAmb 14 14 10.0
comp=Z,5.9nm,1.1s
ILAR Eielson Array 92.43 17 P **P 14 14 07.4 -2.6**
comp=Z,0.6nm,0.6s,baz=232,slow=4.7,SNR=12
J08A Circle Bar Ran 92.51 44 P **P 14 14 09.9 -1.1**
J08A IAmb IAmb 14 14 21.0
comp=Z,7.8nm,1.1s
SCRK Sand Creek 92.67 19 P **P 14 14 10.9 -0.4**
baz=223
G08A Pilot Rock 93.09 42 P **P 14 14 12.5 -1.2**
G08A IAmb IAmb 14 14 14.0
comp=Z,5.1nm,1.0s
LCMT Little Creek M 93.36 52 P **P 14 14 14.4 -0.8**
CCUT Cedar City 93.49 51 P **P 14 14 15.1 -0.8**
COLD Coldfoot 93.50 15 P **P 14 14 15.0 0.0**
baz=217
ELK Elko 93.51 48 P **P 14 14 14.8 -1.1**
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 93.51 48 P **P 14 14 14.8 -1.1**
KNB Kanab 93.67 52 P **P 14 14 15.9 -0.8**
KNB pmax pmax
comp=Z,6.0nm,1.1s
KNB Kanab 93.67 52 P **P 14 14 15.9 -0.8**
U15A North Rim 93.82 52 P **P 14 14 16.8 -0.7**
U15A IAmb IAmb 14 14 19.1
comp=Z,7.5nm,0.9s
EGAK Eagle 94.10 19 P **P 14 14 16.0 -1.8**
WUAZ Wupatki 94.13 54 P **P 14 14 18.1 -0.8**
baz=247
WUAZ Wupatki 94.13 54 P **P 14 14 18.0 -0.8**
DAWY Dawson 94.16 20 P **P 14 14 16.8 -1.3**
DAWY IAmb IAmb 14 14 25.4
comp=Z,5.0nm,1.1s
TMUT Trail Mountain 95.74 50 P **P 14 14 26.0 -0.3**
EPYK Eagle Plains 96.54 19 P **P 14 14 28.0 -0.9**
baz=229
TIXI Tiksi 96.96 348 *i* P **P 14 14 33.0 +2.4**
TIXI pmax pmax
comp=Z,60nm,2.0s
TXAR Lajitas Array 97.91 62 P Pdif 14 14 35.9 -0.2
comp=Z,0.4nm,0.8s,baz=211,slow=3.9,SNR=4.6
TXAR LR LR 14 52 37.3
comp=Z,48nm,18.0s,baz=0.0,slow=32
TXAR Lajitas Array 97.91 62 P Pdif 14 14 36.0 -0.1
PDAR Pinedale Array 98.21 47 P Pdif 14 14 37.5 +0.2
comp=Z,0.7nm,0.8s,baz=184,slow=3.9,SNR=3.8
PDAR LR LR 14 53 58.5
comp=Z,21nm,18.4s,baz=284,slow=32
WMQ Urumqi 98.73 314 *eP* Pdif 14 14 39.7 +0.3
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,81nm,5.1s
A36M Sachs Harbour 103.12 17 P **Pdif 14 14 57.0 -1.1**
baz=240
ARCES ARCESS Array B 127.25 345 PKP **PKPdf 14 20 03.2 -0.3**
comp=Z,1.9nm,0.7s,baz=57,slow=3.3,SNR=1.6
OBN Obninsk 131.35 326⇑ *e*PKIKP **PKiKP 14 20 14.1 +1.5**
OBN *e* 14 22 30.8
OBN pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 142.05 324 *e*PKIKP **PKPdf 14 20 32.0 +0.3**
KOLS Kolonicke sedl 142.05 324 *e*PKP **PKPdf 14 20 32.0 +0.3**
BRG Berggiesshubel 144.87 333 *i* PKP PKPbc 14 20 35.6 -0.2
comp=Z,11nm,1.0s
BRG *i* 14 20 45.6
comp=Z,8.6nm,0.9s
BRG Berggiesshubel 144.87 333 *i* PKIKP PKPbc 14 20 35.6 -0.2
BRG *i* 14 20 45.6
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 144.94 334 *i* PKPdf **PKPdf 14 20 35.9 -0.8**
comp=Z,7.0nm,1.0s
CLL *i* PKiKP **PKiKP 14 20 41.1 +0.6**
comp=Z,7.0nm,0.9s
CLL Collm 144.94 334 *i* PKIKP **PKPdf 14 20 35.9 -0.8**
CLL pmax pmax
comp=Z,7.0nm,1.0s
MODS Modra-Piesok 145.03 327 *e*PKIKP **PKPbc 14 20 35.8 -0.6**
MODS Modra-Piesok 145.03 327 *e*PKP **PKPbc 14 20 35.8 -0.6**
STIP Stip 145.74 314 *i* P **PKPab 14 20 39.2 0.0**
SKO Skopje 146.11 314 *i* P **PKPab 14 20 40.6 0.0**
LIT Litokhoron 146.18 311 PKP2 **PKPdf 14 20 38.8 -0.5**
LIT Litokhoron 146.18 311 **PKPdf 14 20 38.8 -0.5**
KHC Kasperske Hory 146.31 331 *e*PKP **PKPab 14 20 40.9 -0.3**
KHC *ex* x 14 20 52.3
KHC *ex* x 14 21 02.0
KHC Kasperske Hory 146.31 331 PKP2 **PKPbc 14 20 39.4 -1.0**
KHC Kasperske Hory 146.31 331 PKPdf **PKPbc 14 20 39.4 -1.0**
GERES GERESS Array B 146.45 330 PKPbc **PKPbc 14 20 40.4 -0.5**
comp=Z,1.9nm,0.7s,baz=64,slow=3.1,SNR=13
GERES GERESS Array B 146.45 330 PKP2 **PKPdf 14 20 39.0 -0.5**
GERES GERESS Array B 146.45 330 **PKPdf 14 20 39.0 -0.5**
GRF Grafenberg Arr 146.91 333 *e*PKPbc **PKPab 14 20 43.0 -0.5**
baz=46,slow=2.8
OHR Ohrid 146.93 313 *i* P **PKPbc 14 20 42.2 -0.2**
FUORN Ofenpass-Fuorn 149.66 331 **PKPbc 14 20 49.0 -0.7**
TUE Stuetta 150.19 331 **PKPbc 14 20 50.1 -0.9**
TORD Torodi Ar. Bea 165.43 237 PKP **PKPdf 14 21 04.5 -0.6**
comp=Z,3.7nm,1.2s,baz=320,slow=1.4,SNR=8.1
TORD Torodi Ar. Bea 165.43 237 **PKPdf 14 21 03.6 -1.5**

*IDC **10** 14:08:13.7±1.0, 36°.31N×68°.85E, h0km, mb3.8/10, mb1 4.0/16, mb1mx3.7/52, mbtmp3.8/16, ML3.4/6, MS2.9/3, Ms1 2.9/3, ms1mx2.6/47, Error ellipse: s-maj=20.7km s-min=14.9km az=147.0*
*NNC **10** 14:08:16.0±5.1, 36°.58N×68°.56E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=50.1km s-min=38.8km az=116.0*
*MOS **10** 14:08:19.2±1.1, 36°.60N×68°.88E, h47km, mb4.6/8, Error ellipse: s-maj=11.3km s-min=6.0km az=87.6*
*NEIC **10** 14:08:21.4±1.3, 36°.60N±0°.06×69°.02E±0°.06, h53km±8km, mb4.0/8, Error ellipse: s-maj=8.7km s-min=6.4km az=152.0*
*BJI **10** 14:08:22.0±0.0, 36°.60N×69°.00E, h42km, mB4.8/7, mb4.6/7, Ms4.1/1, Ms7 3.9/1*
ISC 10 14:08:18.9±0.5, 36°.57N±0°.05×68°.74E±0°.05, h24km, n75, σ1§79/81, mb4.1/16, MS3.1/5, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.04**	**173**	PN	**Pn**	**14 08 53.3**	**+1.3**
KBL	**Kabul**	**2.04**	**173**		**Pn**	**14 08 53.3**	**+1.3**
CHGR	**Chuyangaron**	**2.11**	**9**	Pn	**Pn**	**14 08 53.6**	**+0.9**
GAR	**Garm**	**2.73**	**27**	Pn	**Pn**	**14 09 02.5**	**+1.3**
CEP	**Cherat**	**3.78**	**136**	P	**Pn**	**14 09 18.8**	**+3.1**
CEP				S	**Sb**	**14 10 09.0**	**-1.3**
NIL	**Nilore**	**4.71**	**127**	PN	**Pn**	**14 09 28.3**	**-0.1**
NIL	**Nilore**	**4.71**	**127**	Pn	**Pn**	**14 09 28.3**	**-0.1**
HRA	**Herat**	**5.73**	**250**	Pn	**Pn**	**14 09 47.3**	**+4.6**
KSH	**Kashi**	**6.42**	**61**	P	**Pn**	**14 09 51.4**	**-0.6**
KSH				S	**Sn**	**14 11 00.3**	**-4.3**
KK31	**Karatay Array**	**6.66**	**11**	⇑P	**Pn**	**14 09 56.2**	**+1.0**
	1.6nm,0.4s,baz=197,slow=14,SNR=11						
KK31				⇑S	**Sn**	**14 11 12.8**	**+2.5**
	11nm,0.8s,baz=195,slow=27,SNR=3.6						
KK31	**Karatay Array**	**6.66**	**11**	PN	**Pn**	**14 09 56.2**	**+1.0**
KK31	**Karatay Array**	**6.66**	**11**	Pn	**Pn**	**14 09 56.2**	**+1.0**
KKAR	**Karatay Array**	**6.66**	**11**	PN	**Pn**	**14 09 55.9**	**+0.7**
KKAR	**Karatay Array**	**6.66**	**11**	Pn	**Pn**	**14 09 55.5**	**+0.3**
KKAR	**Karatay Array**	**6.66**	**11**	Pn	**Pn**	**14 09 55.9**	**+0.7**
AAK	**Ala-Archa**	**7.51**	**34**	Pn	**Pn**	**14 10 08.6**	**+1.6**
	2.4nm,0.3s,baz=208,slow=9.7,SNR=25						
AAK				Sn	**Sn**	**14 11 35.9**	**+4.5**
	0.1nm,0.3s,baz=167,slow=19,SNR=1.2						
AAK				LR	LR	14 13 18.9	
	comp=Z,40nm,18.9s,baz=206,slow=40						
AAK	**Ala-Archa**	**7.51**	**34**	⇓P	**Pn**	**14 10 08.0**	**+1.0**
	6.6nm,0.4s						
AAK				⇑S	**Sn**	**14 11 38.0**	**+6.6**
	5.1nm,0.7s						
AAK	**Ala-Archa**	**7.51**	**34**	*d* P	**Pn**	**14 10 08.4**	**+1.4**
AAK	**Ala-Archa**	**7.51**	**34**	Pn	**Pn**	**14 10 06.3**	**-0.6**
DHRM	**DHARAMSHALA**	**7.59**	**122**	*eP*	**Pn**	**14 10 10.4**	**+2.3**
DHRM				*eS*	**Sn**	**14 11 33.7**	**+0.1**
DHRM				IAML		14 11 38.7	
	comp=N,87nm,0.8s						
DHRM				IAML		14 11 38.8	
	comp=E,85nm,0.8s						
BOOM	**Boomskoye usch**	**8.11**	**41**	P	**Pn**	**14 10 14.9**	**-0.4**
BOOM	**Boomskoye usch**	**8.11**	**41**	Pn	**Pn**	**14 10 14.9**	**-0.4**
TKM2	**Tokmak 2**	**8.25**	**38**	⇓P	**Pn**	**14 10 17.1**	**0.0**
	comp=E,10nm,1.1s						
TKM2				⇓S	**Sn**	**14 11 52.7**	**+3.0**
	comp=E,4.5nm,0.9s						
GEYT	**Alibeck**	**8.58**	**282**	Pn	**Pn**	**14 10 19.7**	**-1.9**
	comp=E,0.6nm,0.3s,baz=112,slow=12,SNR=6.8						
GEYT				Sn	**Sn**	**14 11 56.3**	**-1.3**
	comp=E,0.8nm,0.3s,baz=102,slow=12,SNR=1.2						
SMLA	**Simla**	**8.86**	**125**	*eP*	**Pn**	**14 10 28.5**	**+3.1**
SMLA				*eS*	**Sn**	**14 12 07.4**	**+2.9**
SMLA				IAML		14 12 24.0	
	comp=E,38nm,0.5s						
SMLA				IAML		14 12 26.8	
	comp=N,38nm,0.8s						
ABKAR	**Akbulak array**	**14.21**	**336**	Pn	**Pn**	**14 11 35.3**	**-3.1**
MK31	**Makanchi Array**	**14.36**	**40**	P	**Pn**	**14 11 39.2**	**-1.4**
MK31	**Makanchi Array**	**14.36**	**40**		**Pn**	**14 11 39.2**	**-1.4**
MKAR	**Makanchi Array**	**14.36**	**40**	Pn	**Pn**	**14 11 39.5**	**-1.1**
	comp=N,0.1nm,0.3s,baz=228,slow=13,SNR=8.4						
MKAR	**Makanchi Array**	**14.36**	**40**	P	**Pn**	**14 11 39.1**	**-1.5**
MKAR	**Makanchi Array**	**14.36**	**40**	Pn	**Pn**	**14 11 39.1**	**-1.5**
KURBB	**Kurchatov Arra**	**15.71**	**24**	Pn	**Pn**	**14 11 55.2**	**-3.3**
	comp=N,0.0nm,0.3s,baz=214,slow=12,SNR=5.8						
KURK	**Kurchatov**	**15.82**	**24**	*i* P	**P**	**14 12 01.9**	**-1.6**
KURK	**Kurchatov**	**15.82**	**24**	P	**P**	**14 12 02.8**	**-0.7**
AKTO	**Aktyubinsk**	**15.87**	**334**	Pn	**Pn**	**14 11 59.1**	**-1.4**
	comp=N,0.2nm,0.3s,baz=153,slow=15,SNR=12						
WMQ	**Urumqi**	**16.17**	**58**	*eP*	**Pn**	**14 12 04.0**	**-0.5**
BVAR	**Borovoye Array**	**16.49**	**4**	Pn	**Pn**	**14 12 06.4**	**-2.0**
	comp=N,0.3nm,0.3s,baz=187,slow=10,SNR=4.0						
BRVK	**Borovoye**	**16.52**	**3**	*i* P	**P**	**14 12 10.9**	**-0.4**
MAK	**Makhachkala**	**17.51**	**298**	*eP*	**P**	**14 12 22.7**	**+0.5**
MAK				*eS*	**Sn**	**14 15 37.1**	**+1.7**
MAK				pmax	pmax		
	comp=Z,24nm,0.3s						
MAK				MLR	MLR		
	comp=Z,144nm,11.0s						
DGZ	**Jazzator, Alta**	**18.86**	**40**	*i* P	**P**	**14 12 36.0**	**-1.3**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAA0	**Zalesovo Array**	**20.65**	**28**	P	**P**	**14 12 55.4**	**-1.2**
ZAA0				IAmb	IAmb	14 12 56.6	
	comp=Z,3.9nm,0.7s						
ZALV	**Zalesovo Beam**	**20.65**	**28**	P	**P**	**14 12 56.3**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=220,slow=9.9,SNR=18						
ZALV	**Zalesovo Beam**	**20.65**	**28**	P	**P**	**14 12 55.6**	**-1.0**
ZALV	**Zalesovo Beam**	**20.65**	**28**	P	**P**	**14 12 55.6**	**-1.0**
KBZ	**Khabaz**	**20.95**	**298**	P	**P**	**14 13 00.3**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=119,slow=8.9,SNR=7.5						
SVE	**Sverdlovsk**	**20.98**	**347**	*eP*	**P**	**14 13 01.1**	**+1.0**
ARU	**Arti**	**21.02**	**344**	P	**P**	**14 13 01.4**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=146,slow=11,SNR=6.3						
ARU	**Arti**	**21.02**	**344**	*d i* P	**P**	**14 13 01.1**	**+0.6**
ARU						14 13 18.6	
ARU				S	**S**	**14 16 53.6**	**+0.3**
ARU				SS	**SnSn**	**14 17 15.3**	**+0.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU				MLR	MLR		
	comp=Z,66nm,10.0s						
ARU	**Arti**	**21.02**	**344**	P	**P**	**14 13 00.3**	**-0.2**
ARU				IAmb	IAmb	14 13 03.3	
	comp=Z,6.5nm,0.9s						
KIV	**Kislovodsk**	**21.15**	**298**	*eP*	**P**	**14 13 02.6**	**+0.4**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV				MLR	MLR		
	comp=Z,55nm,14.0s						
VSR	**Storozhevoye**	**25.63**	**314**	*eP*	**P**	**14 13 47.3**	**+0.9**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAK	**Zakamensk**	**28.32**	**50**	*eP*	**P**	**14 14 08.6**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
OBN	**Obninsk**	**28.71**	**320⇑**	*eP*	**P**	**14 14 13.7**	**-0.2**
OBN				*e*		14 15 11.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,34nm,21.0s						
AKASG	**Malin Array Be**	**31.48**	**309**	P	**P**	**14 14 39.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=91,slow=7.7,SNR=4.3						
AKASG	**Malin Array Be**	**31.48**	**309**	P	**P**	**14 14 39.0**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**31.48**	**309**	IAmb	IAmb	14 14 41.2	
	comp=Z,0.6nm,0.8s						
HHC	**Hu-ho-hao-te**	**33.44**	**69**	*eP*	**P**	**14 14 55.2**	**-0.8**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,6.2s						
BURAR	**Bucovina Array**	**33.72**	**303**	P	**P**	**14 14 59.2**	**+0.9**
BUR08	**Bucovina Ar. S**	**33.73**	**303**	P	**P**	**14 14 59.6**	**+1.2**
BUR08				IAmb	IAmb	14 15 02.5	
	comp=Z,2.8nm,1.1s						
VSU	**Vasula**	**35.00**	**322**	*i* P	**P**	**14 15 10.7**	**+1.6**
VSU				pmax	pmax		
	comp=Z,17nm,1.1s						
KOLS	**Kolonicke sedl**	**35.74**	**305**	*eP*	**P**	**14 15 16.6**	**+0.9**
KOLS	**Kolonicke sedl**	**35.74**	**305**	*eP*	**P**	**14 15 16.5**	**+0.9**
FINES	**FINESS Array B**	**36.42**	**327**	LR	LR	14 30 34.7	
	comp=Z,29nm,19.0s,baz=80,slow=37						
NB2	**NORSAR Subarra**	**43.23**	**323**	P	**P**	**14 16 17.9**	**0.0**
	comp=Z,2.9nm,0.8s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**43.23**	**323**	P	**P**	**14 16 18.1**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=98,slow=8.0,SNR=7.6						
TIXI	**Tiksi**	**46.39**	**22**	*i* P	**P**	**14 16 42.8**	**0.0**
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s						
ESDC	**Sonseca Array**	**55.81**	**297**	P	**P**	**14 17 54.7**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=58,slow=8.4,SNR=5.2						
ESDC	**Sonseca Array**	**55.81**	**297**	IAmb	IAmb	14 18 00.2	
	comp=Z,6.6nm,1.5s						
BORG	**Borgarnes**	**57.62**	**329**	LR	LR	14 42 51.1	
	comp=Z,15nm,21.9s,baz=186,slow=36						
TORD	**Torodi Ar. Bea**	**63.90**	**267**	P	**P**	**14 18 49.2**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=54,slow=5.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**63.90**	**267**	IAmb	IAmb	14 18 49.9	
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**75.19**	**15**	P	**P**	**14 19 59.0**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=316,slow=4.5,SNR=7.2						
WRA	**Warramunga Arr**	**83.59**	**120**	P	**P**	**14 20 42.7**	**-2.6**
	comp=Z,0.5nm,0.8s,baz=329,slow=4.9,SNR=3.0						
WRA	**Warramunga Arr**	**83.59**	**120**	IAmb	IAmb	14 20 45.4	
	comp=Z,0.3nm,1.4s						
ASAR	**Alice Springs**	**85.80**	**123**	P	**P**	**14 20 54.3**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=305,slow=5.1,SNR=4.9						

*IDC **10** 14:38:53.8±0.8, 0°.14S×125°.40E, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.7/53, mbtmp4.0/10, ML3.8/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/38, Error ellipse: s-maj=47.2km s-min=15.3km az=70.0*
*DJA **10** 14:38:58.0±0.3, 0°.5S±3°.×12°.5E±°, h10km, M4.4/11, mB4.8/2, mb4.7/5, MLv4.3/11, Mw(mB)4.1/2*
*NEIC **10** 14:38:59.6±2.4, 0°.32S±0°.07×125°.19E±0°.06, h35km±2km, mb4.0/14, Error ellipse: s-maj=12.7km s-min=9.1km az=153.0*
ISC 10 14:39:01.0±0.5, 0°.30S±0°.06×125°.19E±0°.06, h52km, n47, σ1§09/47, mb4.0/13, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.49**	**306**	P	**Pn**	**14 39 22.6**	**-2.8**
KMSI				S	**Sn**	**14 39 43.1**	**-0.6**
SANI	**Sanana**	**1.91**	**155**	P	**Pn**	**14 39 29.6**	**-1.6**
TNTI	**Ternate**	**2.42**	**64**	Pn	**Pn**	**14 39 39.0**	**+0.8**
LUWI	**Luwuk**	**2.53**	**253**	P	**Pn**	**14 39 39.8**	**+0.2**
LUWI	**Luwuk**	**2.53**	**253**		**Pn**	**14 39 38.8**	**-0.8**
MSAI	**Masohi**	**4.81**	**129**	P	**Pn**	**14 40 12.3**	**+1.4**
MPSI	**Mapaga**	**5.33**	**277**	P	**Pn**	**14 40 17.7**	**-0.3**
	0.2nm602nm39nm,0.6s						
SIJI	**Sorong**	**6.11**	**95**	Pn	**Pn**	**14 40 28.6**	**-0.1**
	0.5nm,0.3s,baz=239,slow=19,SNR=1.4						
BNSI	**Bone**	**6.51**	**231**	P	**Pn**	**14 40 33.1**	**-1.1**
	0.2nm38nm,0.5s						
SPSI	**Sidrap Palu**	**6.52**	**236**	P	**Pn**	**14 40 35.2**	**+0.7**
	0.3nm1μm61nm,0.4s						
BKSI	**Bulukumba**	**7.10**	**225**	P	**Pn**	**14 40 43.2**	**+0.8**
	0.1nm13nm,0.4s						
KAPI	**Kappang**	**7.17**	**229**	Pn	**Pn**	**14 40 44.2**	**+0.9**
	5.0nm,0.3s,baz=22,slow=11,SNR=8.3						
KAPI				Sn	**Sn**	**14 42 03.2**	**-0.2**
	4.0nm,0.3s,baz=151,slow=19,SNR=2.7						
KAPI				LR	LR	14 44 16.3	
	comp=Z,140nm,20.3s,baz=45,slow=43						
DAV	**Davao City (W)**	**7.33**	**3**	LR	LR	14 43 56.7	
	comp=Z,131nm,19.0s,baz=269,slow=42						
DAV	**Davao City (W)**	**7.33**	**3**	Pn	**Pn**	**14 40 46.8**	**+1.3**

FAKI Fak Fak 7.52 110 Pn Pn 14 40 46.7 -1.4
MYLDM Lahad Datu 8.62 309 Pn Pn 14 41 05.7 +2.5
SOEI Soe 9.44 186 P Pn 14 41 16.1 +1.6
SOEI Soe 9.44 186 Pn Pn 14 41 16.2 +1.7
JAGI Jajag, Banyuwa 13.67 233 Pn Pn 14 42 10.8 -1.4
MTN Manton Dam 13.79 155 Pn Pn 14 42 14.4 +0.6
KSM Kuching 14.98 277 P P 14 42 34.4 +0.2
KNRA Kununurra 15.68 167 Pn Pn 14 42 38.0 -0.6
KNRA IAmb IAmb 14 42 39.0
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 17.69 179 P P 14 43 04.5 +0.3
comp=Z,0.1nm,0.3s,baz=6.3,slow=9.2,SNR=1.7
FITZ Fitzroy Crossi 17.69 179 P Pn 14 43 03.5 -0.3
LEM Lembang 18.69 249 LR LR 14 52 06.0
comp=Z,75nm,19.5s,baz=349,slow=42
CISI Cisompet, Garu 18.76 247 P Pn 14 43 16.7 -0.3
WB0 Warramunga Arr 21.35 156 P P 14 43 42.5 -1.5
WB0 IAmb IAmb 14 44 06.1
comp=Z,5.4nm,1.0s
WRA Warramunga Arr 21.48 156 P P 14 43 44.3 -1.1
comp=Z,1.2nm,0.6s,baz=333,slow=11,SNR=21
WRA Warramunga Arr 21.48 156 P P 14 43 43.7 -1.8
WB2 Warramunga Arr 21.49 156 P P 14 43 44.0 -1.5
WB2 IAmb IAmb 14 43 52.3
comp=Z,5.3nm,0.9s
WR0 Warramunga Arr 21.58 155 P P 14 43 45.2 -1.2
WR0 IAmb IAmb 14 43 54.0
comp=Z,4.9nm,0.9s
COEN Coen 22.39 128 P P 14 43 54.6 -0.6
COEN IAmb IAmb 14 44 02.0
comp=Z,8.5nm,1.1s
AS31 Alice Springs 24.72 161 P P 14 44 17.5 -0.1
ASAR Alice Springs 24.72 161 P P 14 44 17.6 0.0
comp=Z,0.6nm,0.6s,baz=344,slow=10,SNR=21
ASAR PcP **PcP 14 47 54.4 +0.6**
comp=Z,0.4nm,0.4s,baz=353,slow=1.8,SNR=12
STKA Stephens Creek 35.03 155 P P 14 45 49.4 +0.5
comp=Z,2.6nm,0.9s,baz=336,slow=7.1,SNR=4.6
STKA Stephens Creek 35.03 155 IAmb IAmb 14 45 59.0
comp=Z,1.9nm,1.3s
JHS Saijyo 35.89 11 P P 14 45 56.2 0.0
XAN Xi'an 37.42 337 P P 14 46 10.8 +1.5
SONM Songino Array 50.66 344 P P 14 47 55.1 0.0
comp=Z,0.4nm,0.4s,baz=181,slow=7.2,SNR=3.6
PETK Petropavlovsk- 59.72 22 P P 14 48 59.7 -0.5
MKAR Makanchi Array 60.03 327 P P 14 49 02.2 -0.3
comp=Z,1.2nm,0.4s,baz=122,slow=8.2,SNR=31
KURBB Kurchatov Arra 64.33 329 P P 14 49 31.4 +0.2
comp=Z,1.2nm,0.6s,baz=131,slow=6.1,SNR=9.0
BRVK Borovoye 69.95 328 P P 14 50 07.4 +0.6
BRVK IAmb IAmb 14 50 08.6
comp=Z,1.4nm,0.7s
NRIK Noril'sk 73.97 347 P P 14 50 30.4 -0.2
comp=Z,2.5nm,0.5s,baz=70,slow=7.1,SNR=4.5
ABKAR Akbulak array 74.31 322 P P 14 50 31.6 -1.4
AKTO Aktyubinsk 75.87 323 P P 14 50 41.5 -0.4
comp=Z,1.9nm,0.6s,baz=108,slow=8.1,SNR=8.1
TORD Torodi Ar. Bea 122.60 285 PKP PKiKP 14 57 52.1 0.0
comp=Z,0.4nm,0.6s,baz=98,slow=2.1,SNR=2.2

*IDC **10** 14:42:16.4±0.7,25°.82N×128°.20E,h0km,mb4.1/16,*
mb1 4.2/19,mb1mx4.0/53,mbtmp4.0/19,ML3.2/3,MS3.6/7,
Ms1 3.6/7,ms1mx3.2/42,Error ellipse: s-maj=28.0km
s-min=13.6km az=75.0
*NEIC **10** 14:42:16.9±2.3,25°.73N±0°.03×128°.33E±0°.06,h10km±1km,*
mb4.5/23,Error ellipse: s-maj=10.7km s-min=3.0km
az=241.0
*JMA **10** 14:42:18.0±0.2,25°.77N×128°.38E,h47km±3km,M3.7*
*NIED **10** 14:42:18.1,25°.77N×128°.38E,h47km,MW4.4,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}4.62; $M_{\theta\theta}$-2.05; $M_{\phi\phi}$-2.56; $M_{r\theta}$0.69; $M_{\theta\phi}$-3.37; $M_{r\phi}$0.31;
Fault plane solution: $M_0$5.21000×10^{15} NP1:ϕ_S47.00000°,
δ49.00000°,λ96.00000°. NP2:ϕ_S218.00000°,δ41.00000°,
λ83.00000°.
ISC 10 14:42:17.7±1.5,25°.79N±0°.05×128°.41E±0°.04,h15km±9km,
n80,σ1§28/87,mb4.3/24,MS3.6/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.66**	**302**	P	**Pg**	**14 42 31.2**	**+0.6**
JJT3				S	**Sg**	**14 42 40.2**	**+0.8**
JNTH	**Nagotoyohara**	**0.80**	**335**	P	**Pb**	**14 42 33.0**	**-0.3**
JNTH				S	**Sn**	**14 42 45.0**	**-1.1**
JOW	**Kunigami**	**1.04**	**354**	P	**Pb**	**14 42 37.1**	**-0.3**
JOW				S	**Sb**	**14 42 50.0**	**-0.9**
JOW	**Kunigami**	**1.04**	**354**	Pn	**Pn**	**14 42 38.2**	**+0.4**
JYRO	**Yoronjima**	**1.23**	**2**	P	**Pn**	**14 42 39.6**	**-0.7**
JYRO				*e*S	**Sb**	**14 42 55.7**	**-0.6**
JIH	**Iheya**	**1.30**	**343**	P	**Pn**	**14 42 40.9**	**-0.3**
JIH				S	**Sb**	**14 42 57.4**	**-0.9**
JAGN	**Aguni-jima**	**1.31**	**308**	P	**Pn**	**14 42 40.7**	**-0.7**
JAGN				*e*S	**Sb**	**14 42 57.0**	**-1.6**
JKE	**Kume jima 2**	**1.55**	**290**	P	**Pn**	**14 42 43.5**	**-1.2**
JKE				*e*S	**Sn**	**14 43 02.8**	**-1.7**
JOKE	**Okinoerabujima**	**1.57**	**5**	P	**Pn**	**14 42 44.5**	**-0.5**
JOKE				*e*S	**Sn**	**14 43 03.3**	**-1.8**
JTK	**Tokunoshima**	**2.05**	**14**	P	**Pn**	**14 42 51.2**	**-0.3**
JTK				S	**Sn**	**14 43 15.7**	**-1.1**
JMZ	**Minamidaito 2**	**2.54**	**89**	P	**Pn**	**14 42 57.9**	**-0.3**
JMZ				*e*S	**Sn**	**14 43 26.8**	**-2.1**
JMZ	**Minamidaito 2**	**2.54**	**89**	Pn	**Pn**	**14 42 57.9**	**-0.3**
JKDJ	**Kitadaitoujima**	**2.61**	**86**	P	**Pn**	**14 42 59.0**	**-0.2**
JKDJ				S	**Sn**	**14 43 28.7**	**-2.0**
YOJ	**Yonaguni jima**	**5.07**	**256**		**Pn**	**14 43 31.2**	**-1.8**
JSU	**Suzuyama**	**5.97**	**17**	Pn	**Pn**	**14 43 46.6**	**+1.1**
NACB	**Ninganchiao**	**6.39**	**257**	Pn	**Pn**	**14 43 48.4**	**-2.8**
YHNB	**Yeheng**	**6.46**	**262**		**Pn**	**14 43 52.2**	**-0.2**
YULB	**Yu-li**	**6.90**	**251**		Pn	14 43 53.8	-4.4
SSLB	**Suanglung**	**7.06**	**255**	Pn	**Pn**	**14 43 57.4**	**-3.1**
TPUB	**Ta-pu**	**7.50**	**252**	Pn	**Pn**	**14 44 04.5**	**-2.0**
JNU	**Nakatsue**	**7.62**	**16**	Pn	**Pn**	**14 44 09.4**	**+1.3**
0.9nm,0.3s,baz=200,slow=9.1,SNR=17							
JNU				Sn	**Sn**	**14 45 31.5**	**-2.7**
0.6nm,0.3s,baz=65,slow=17,SNR=0.8							
JMN	**Monobe**	**9.23**	**30**	Pn	**Pn**	**14 44 30.0**	**-0.3**
JWT	**Wachi**	**11.21**	**31**	Pn	**Pn**	**14 44 58.6**	**+1.3**
KSRS	**Korea Array**	**11.64**	**358**	Pn	**Pn**	**14 45 03.3**	**+0.2**
0.1nm,0.3s,baz=179,slow=13,SNR=7.8							
KSRS				LR	LR	14 49 52.2	
comp=Z,357nm,18.4s,baz=176,slow=39							
KS19	**Wonju Array Si**	**11.69**	**358**	Pn	**Pn**	**14 45 04.8**	**+0.9**
JCJ	**Chichijima**	**12.42**	**81**	LR	LR	14 49 30.8	
comp=Z,63nm,19.1s,baz=215,slow=34							
JCJ	**Chichijima**	**12.42**	**81**	Pn	**Pn**	**14 45 11.4**	**-2.4**
JGF	**Kuroka**	**12.44**	**36**	Pn	**Pn**	**14 45 11.6**	**-2.6**
USA0B	**Ussuriysk Arra**	**18.60**	**8**	P	**Pn**	**14 46 36.0**	**+1.5**
USRK	**Ussuriysk Ar.**	**18.60**	**8**	P	**Pn**	**14 46 35.5**	**+1.0**
baz=210,slow=11,SNR=5.4							
XAN	**Xi'an**	**18.76**	**301**	P	**P**	**14 46 34.8**	**-1.4**
YSS	**Yuzh-Sakhalins**	**24.00**	**25**	P	**P**	**14 47 33.1**	**+1.5**
SONM	**Songino Array**	**28.01**	**327**	P	**P**	**14 48 09.5**	**+1.4**
3.6nm,0.8s,baz=142,slow=11,SNR=12							
SONM				LR	LR	15 01 12.6	
comp=Z,223nm,18.7s,baz=115,slow=41							
SONM	**Songino Array**	**28.01**	**327**	P	**P**	**14 48 08.6**	**+0.6**
SONM				IAmb	IAmb	14 48 10.5	
comp=Z,2.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**28.21**	**261**	P	**P**	**14 48 10.3**	**+0.3**
comp=Z,0.6nm,0.4s,baz=57,slow=7.8,SNR=1.4							
YAK	**Yakutsk**	**36.24**	**1**	P	**P**	**14 49 20.2**	**+0.4**
YAK				IAmb	IAmb	14 49 23.2	
comp=Z,5.3nm,0.7s							
KRVT	**Keravat (AS076**	**37.68**	**139**	LR	LR	15 02 05.5	
comp=Z,103nm,20.1s,baz=277,slow=31							
KNRA	**Kununurra**	**41.22**	**179**	P	**P**	**14 50 02.8**	**+0.8**
MK31	**Makanchi Array**	**41.95**	**312**	P	**P**	**14 50 06.9**	**-0.9**
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**14 50 07.0**	**-0.7**
comp=Z,3.2nm,0.6s,baz=99,slow=11,SNR=22							
MKAR				LR	LR	15 09 03.7	
comp=Z,71nm,19.8s,baz=100,slow=38							
COEN	**Coen**	**42.04**	**158**	P	**P**	**14 50 10.9**	**+2.1**
COEN				IAmb	IAmb	14 50 32.3	
comp=Z,12nm,1.4s							
MAKZ	**Makanchi**	**42.16**	**312**	P	**P**	**14 50 08.2**	**-1.3**
ZALV	**Zalesovo Beam**	**42.69**	**323**	P	**P**	**14 50 12.7**	**-1.0**
comp=Z,0.7nm,0.4s,baz=114,slow=8.9,SNR=3.7							
ZALV				LR	LR	15 10 18.3	
comp=Z,76nm,18.2s,baz=83,slow=40							
ZALV	**Zalesovo Beam**	**42.69**	**323**	P	**P**	**14 50 12.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**43.71**	**184**	P	**P**	**14 50 23.2**	**+1.0**
comp=Z,2.0nm,0.8s,baz=357,slow=10,SNR=1.6							

KURK	**Kurchatov**	**45.25**	**317**	P	**P**	**14 50 33.4**	**-0.9**
KURK				IAmb	IAmb	14 50 42.9	
comp=Z,10.0nm,1.4s							
KURBB	**Kurchatov Arra**	**45.28**	**317**	P	**P**	**14 50 33.8**	**-0.8**
comp=Z,1.1nm,0.5s,baz=101,slow=7.9,SNR=7.2							
WB0	**Warramunga Arr**	**45.66**	**172**	P	**P**	**14 50 38.3**	**+0.6**
WB0				IAmb	IAmb	14 50 48.2	
comp=Z,3.1nm,0.8s							
WRA	**Warramunga Arr**	**45.82**	**172**	P	**P**	**14 50 40.4**	**+1.3**
comp=Z,1.8nm,0.6s,baz=353,slow=8.5,SNR=35							
WRA	**Warramunga Arr**	**45.82**	**172**	P	**P**	**14 50 38.8**	**-0.4**
WB2	**Warramunga Arr**	**45.83**	**172**	P	**P**	**14 50 38.9**	**-0.3**
WB2				IAmb	IAmb	14 50 41.2	
comp=Z,3.8nm,0.8s							
WR0	**Warramunga Arr**	**45.87**	**172**	P	**P**	**14 50 38.1**	**-1.3**
WR0				IAmb	IAmb	14 50 41.5	
comp=Z,3.5nm,0.9s							
AMKA	**Amchitka**	**46.09**	**42**	P	**P**	**14 50 43.3**	**+2.4**
CTA	**Charters Tower**	**48.79**	**157**	P	**P**	**14 51 04.3**	**+2.1**
comp=Z,1.3nm,0.6s,baz=346,slow=4.2,SNR=3.9							
CTAO	**Charters Tower**	**48.79**	**157**	P	**P**	**14 51 04.7**	**+2.5**
CTAO				IAmb	IAmb	14 51 22.1	
comp=Z,5.7nm,1.4s							
ASAR	**Alice Springs**	**49.45**	**173**	P	**P**	**14 51 08.8**	**+1.6**
comp=Z,1.0nm,0.7s,baz=0.5,slow=8.7,SNR=20							
ASAR	**Alice Springs**	**49.45**	**173**	P	**P**	**14 51 07.9**	**+0.7**
NRIK	**Noril'sk**	**49.72**	**342**	LR	LR	15 14 13.9	
comp=Z,135nm,18.7s,baz=197,slow=39							
KKAR	**Karatay Array**	**49.79**	**306**	P	**P**	**14 51 10.5**	**+0.7**
BRVK	**Borovoye**	**50.77**	**319**	P	**P**	**14 51 17.3**	**+0.3**
BRVK				IAmb	IAmb	14 51 26.4	
comp=Z,6.8nm,0.8s							
KBL	**Kabul**	**51.43**	**295**	P	**P**	**14 51 22.6**	**+0.1**
KBL				IAmb	IAmb	14 51 32.6	
comp=Z,7.2nm,0.9s							
ABKAR	**Akbulak array**	**57.06**	**313**	P	**P**	**14 52 02.2**	**-0.8**
IMAR	**Indian Mountai**	**61.80**	**27**	P	**P**	**14 52 35.5**	**0.0**
RND	**Reindeer**	**64.05**	**30**	P	**P**	**14 52 51.4**	**+0.8**
MDM	**Murphy Dome**	**64.16**	**28**	P	**P**	**14 52 52.6**	**+1.4**
KNTN	**Kanton**	**64.46**	**107**	P	**P**	**14 52 52.0**	**-1.9**
ILAR	**Eielson Array**	**64.75**	**28**	P	**P**	**14 52 56.8**	**+1.7**
comp=Z,0.3nm,0.7s,baz=277,slow=8.2,SNR=4.3							
KBZ	**Khabaz**	**69.56**	**310**	P	**P**	**14 53 26.7**	**+0.8**
comp=Z,4.2nm,0.9s,baz=111,slow=7.4,SNR=7.7							
FINES	**FINESS Array B**	**73.32**	**331**	P	**P**	**14 53 48.5**	**+0.2**
comp=Z,1.9nm,0.6s,baz=69,slow=6.0,SNR=10							
FINES	**FINESS Array B**	**73.32**	**331**	P	**P**	**14 53 48.2**	**-0.1**
AKASG	**Malin Array Be**	**75.97**	**320**	P	**P**	**14 54 03.8**	**-0.1**
comp=Z,1.7nm,0.5s,baz=53,slow=6.4,SNR=4.6							
AKASG	**Malin Array Be**	**75.97**	**320**	IAmb	IAmb	14 54 05.2	
comp=Z,1.3nm,0.8s							
BRTR	**Keskin Array B**	**77.43**	**308**	P	**P**	**14 54 13.4**	**+0.8**
comp=Z,2.9nm,0.9s,baz=102,slow=5.4,SNR=6.2							
BRTR	**Keskin Array B**	**77.43**	**308**	P	**P**	**14 54 12.3**	**-0.3**
NC303	**NORSAR Array S**	**79.61**	**334**	P	**P**	**14 54 24.1**	**+0.1**
BURAR	**Bucovina Array**	**79.66**	**318**	P	**P**	**14 54 25.2**	**+0.5**
NB2	**NORSAR Subarra**	**79.78**	**334**	P	**P**	**14 54 24.7**	**-0.3**
comp=Z,9.7nm,1.4s,baz=53,slow=5.9							
NOA	**NORSAR Array B**	**79.78**	**334**	P	**P**	**14 54 24.9**	**-0.1**
comp=Z,0.8nm,0.6s,baz=52,slow=5.6,SNR=3.9							
NC204	**NORSAR Array S**	**79.82**	**334**	P	**P**	**14 54 25.2**	**0.0**
GERES	**GERESS Array B**	**85.64**	**323**	P	**P**	**14 54 57.4**	**+1.6**
comp=Z,0.7nm,0.6s,baz=49,slow=6.2,SNR=5.2							

*IDC **10** 14:46:28.2±1.7,32°.63N×47°.67E,h0km,mb3.9/6,*
mb1 3.9/8,mb1mx3.6/51,mbtmp3.9/8,ML3.7/2,Error
ellipse: s-maj=34.0km s-min=25.6km az=170.0
*NEIC **10** 14:46:29.7±2.3,32°.65N±0°.06×47°.9E±0°.1,h10km±2km,*
mb4.3/6,Error ellipse: s-maj=21.6km s-min=9.7km
az=259.0
*THR **10** 14:46:29.6±0.4,32°.63N×47°.61E,h14km±5km,ML3.5*
*TEH **10** 14:46:30.9,32°.65N×47°.76E,h14km,ML3.6*
*ISN **10** 14:46:32.3±1.5,32°.73N×47°.58E,h16km±10km,ML3.5*
ISC 10 14:46:31.0±1.1,32°.65N±0°.03×47°.75E±0°.03,h17km±8km,
n72,σ1§40/77,mb3.9/9,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.40**	**275**	*e*Pg	**Pg**	**14 46 39.2**	**+0.1**
IKMR	**Kamar-syah**	**1.02**	**31**	*e*Pg	**Pg**	**14 46 49.3**	**-1.4**
IKMR				*e*		14 47 06.8	
SHGR	**Shooshtar-Gavs**	**1.04**	**121**	*e*Pg	**Pg**	**14 46 50.5**	**-0.7**
SHGR				*e*Sg	**Sn**	**14 47 06.1**	**+1.1**
SHGR				IAML		14 47 27.3	
comp=E,977nm,0.7s							
SHGR	**Shooshtar-Gavs**	**1.04**	**121**	*e*Pg	**Pg**	**14 46 50.5**	**-0.7**
IDOB	**Doab**	**1.19**	**17**	*e*Pg	**Pn**	**14 46 54.2**	**+1.0**
BMDN	**Meydan**	**1.36**	**41**	*e*Pg	**Pb**	**14 46 56.5**	**+0.3**
BMDN				*e*		14 47 28.6	
AHWZ	**Ahwaz**	**1.52**	**150**	*e*Pg	**Pb**	**14 46 59.0**	**+0.3**
AHWZ				*e*Sg	**Sg**	**14 47 21.3**	**+1.3**
IKOM	**Komasi**	**1.54**	**353**	*e*Pg	**Pg**	**14 47 00.1**	**-0.5**
IKOM				*e*		14 47 28.4	
IBDR	**Badra**	**1.60**	**287**	*e*Pg	**Pn**	**14 46 58.0**	**-0.5**
baz=105							
IBDR				*e*Sg	**Sn**	**14 47 19.0**	**+0.2**
IBDR				AML	AML	14 47 38.0	
comp=N,748nm,0.6s							
IBDR				AML	AML	14 47 43.1	
comp=E,681nm,0.5s							
HSAM	**Samen**	**1.72**	**24**	*e*Pg	**Pb**	**14 47 02.7**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.73**	**340**	*e*Pg	**Pb**	**14 47 02.3**	**-0.2**
KCHF				*e*		14 47 33.7	
KER	**Kermanshah**	**1.81**	**344**	*e*Pn	**Pb**	**14 47 04.0**	**+0.2**
IBZA	**Bozab**	**1.82**	**3**	*e*		14 47 33.0	
IBZA				*e*Pg	**Pb**	**14 47 04.0**	**-0.1**
IGHG	**Ghaleghazi**	**1.95**	**330**	*e*Pn	**Pb**	**14 47 06.0**	**-0.2**
IVIS	**Veis**	**2.02**	**338**	*e*		14 47 40.9	
IVIS				*e*Pn	**Pn**	**14 47 06.2**	**+1.7**
KHMZ	**Khomeyn**	**2.15**	**59**	*e*Pn	**Pb**	**14 47 08.8**	**-0.9**
KHMZ				*e*Sg	**Sg**	**14 47 40.8**	**+0.6**
KHMZ	**Khomeyn**	**2.15**	**59**	*e*Pn	**Pb**	**14 47 08.8**	**-0.9**
IALM	**Almabolaq**	**2.23**	**9**	*e*Pn	**Pb**	**14 47 10.2**	**-1.0**
IDHR	**Dehrash**	**2.34**	**331**	*e*Pn	**Pn**	**14 47 10.3**	**+1.3**
IDHR				*e*		14 47 52.1	
ILIN	**Lien**	**2.36**	**344**	*e*Pn	**Pn**	**14 47 10.0**	**+0.8**
ILIN				*e*		14 47 52.8	
HAGD	**Aghdareh**	**2.46**	**28**	*e*Pn	**Pn**	**14 47 13.1**	**+2.5**
HAGD				*e*		14 47 56.6	
SNGE	**Sanandaj**	**2.46**	**352**	*e*Pn	**Pn**	**14 47 11.5**	**+0.9**
SNGE	**Sanandaj**	**2.46**	**352**	*e*Pn	**Pn**	**14 47 11.5**	**+0.9**
JHBN	**Jahan bin**	**2.50**	**99**	*e*Pn	**Pn**	**14 47 12.4**	**+1.1**
JHBN				*e*		14 48 01.7	
HSRG	**Sareghieh**	**2.62**	**10**	*e*Pn	**Pb**	**14 47 15.9**	**-1.9**
HSRG				*e*		14 47 59.0	
IPIR	**Pirpir**	**2.65**	**88**	*e*Pn	**Pn**	**14 47 14.5**	**+1.2**
IPIR				*e*		14 48 03.1	
ASAO	**Ashtian**	**2.68**	**44**	*e*Pn	**Pn**	**14 47 16.0**	**+2.3**
ASAO	**Ashtian**	**2.68**	**44**	*e*Pn	**Pn**	**14 47 16.0**	**+2.3**
ROKH	**ROKH**	**2.79**	**95**	*e*Pn	**Pn**	**14 47 16.5**	**+1.3**
BHD	**Baghdad**	**2.90**	**283**	*e*Pn	**Pn**	**14 47 17.0**	**+0.6**
BHD				*e*Sn	**Sn**	**14 47 51.0**	**+0.1**
BHD				AML	AML	14 48 09.6	
comp=E,392nm,0.5s							
IKLH	**Kolahrood**	**3.29**	**77**	*e*Pn	**Pn**	**14 47 24.1**	**+2.1**
IKLH				*e*		14 48 24.7	
QAM	**Ghamsar**	**3.29**	**69**	*e*Pn	**Pn**	**14 47 24.9**	**+2.9**
QABG	**Abgarm-Qazvin**	**3.41**	**26**	*e*Pn	**Pn**	**14 47 25.5**	**+1.8**
GHVR	**GHOM**	**3.48**	**57**	*e*Pn	**Pn**	**14 47 26.4**	**+1.9**
GHVR	**GHOM**	**3.48**	**57**	*e*Pn	**Pn**	**14 47 26.4**	**+1.9**
IGAR	**Gharneh**	**3.63**	**93**	*e*Pn	**Pn**	**14 47 28.0**	**+1.2**
IGAR				*e*		14 48 37.4	
KLNJ	**Kolanjah**	**3.66**	**116**	*e*Pn	**Pn**	**14 47 27.7**	**+0.5**
IZEF	**Zefreh**	**3.87**	**85**	*e*Pn	**Pn**	**14 47 31.7**	**+1.7**
KRSH	**Karshahi**	**3.90**	**69**	*e*Pn	**Pn**	**14 47 31.9**	**+1.5**
IRAM	**Ramesheh**	**4.01**	**101**	*e*Pn	**Pn**	**14 47 32.7**	**+0.7**
QSDN	**Sirdan**	**4.02**	**17**	*e*Pn	**Pn**	**14 47 34.8**	**+2.7**
CHTH	**Charan**	**4.29**	**40**	*e*Pn	**Pn**	**14 47 38.3**	**+2.5**
CHTH	**Charan**	**4.29**	**40**	*e*Pn	**Pn**	**14 47 38.3**	**+2.5**
MAHB	**Mahabad**	**4.44**	**338**	*e*Pn	**Pn**	**14 47 38.8**	**+1.0**
QALM	**Alamut, Qazvin**	**4.47**	**32**	*e*Pn	**Pn**	**14 47 38.6**	**+0.3**
ANAR	**Anarak**	**5.06**	**82**	*e*Pn	**Pn**	**14 47 47.6**	**+1.3**
ISAD	**Sadrabad**	**5.08**	**97**	*e*Pn	**Pn**	**14 47 47.6**	**+0.9**
ILAS	**Lasjerd**	**5.12**	**56**	*e*Pn	**Pn**	**14 47 49.0**	**+1.9**
IPRN	**Peran**	**5.22**	**45**	*e*Pn	**Pn**	**14 47 51.3**	**+2.8**
IALA	**Alasht**	**5.41**	**49**	*e*Pn	**Pn**	**14 47 53.5**	**+2.3**
GEVA	**Gevas**	**6.82**	**327**	Pn	**Pn**	**14 48 11.8**	**+1.2**
MARD	**Mardin**	**7.37**	**311**	Pn	**Pn**	**14 48 19.7**	**+1.6**
TPRV	**Parvadeh(Tabas**	**7.53**	**85**	*e*Pn	**Pn**	**14 48 20.9**	**+0.7**
WSAR	**Wadi Sarin**	**13.42**	**132**	Pn	**Pn**	**14 49 38.6**	**-2.1**
comp=E,0.3nm,0.3s,baz=308,slow=12,SNR=2.0							

ABKAR	**Akbulak array**	**18.93**	**25**	P	**P**	**14 50 50.7**	**-0.4**
IDI	**Anoyia**	**19.14**	**284**	P	**Pn**	**14 50 55.0**	**+0.6**
IDI				IAmb	IAmb	14 51 19.0	
comp=Z,35nm,1.4s							
AKTO	**Aktyubinsk**	**19.33**	**20**	P	**P**	**14 50 55.6**	**+0.2**
comp=Z,0.3nm,0.3s,baz=197,slow=14,SNR=8.8							
MLR	**Muntele Rosu**	**21.16**	**314**	P	**P**	**14 51 19.1**	**+3.7**
comp=Z,4.2nm,0.7s,baz=196,slow=4.8,SNR=7.1							
AKASG	**Malin Array Be**	**22.62**	**328**	P	**P**	**14 51 29.2**	**-1.7**
comp=Z,0.8nm,0.5s,baz=138,slow=9.3,SNR=4.1							
BURAR	**Bucovina Array**	**22.69**	**318**	P	**P**	**14 51 31.8**	**0.0**
DIVS	**Divibare**	**24.46**	**306**	P	**P**	**14 51 48.6**	**-0.6**
KURBB	**Kurchatov Arra**	**28.89**	**42**	P	**P**	**14 52 29.5**	**+0.7**
comp=Z,0.4nm,0.4s,baz=258,slow=6.5,SNR=2.5							
MK31	**Makanchi Array**	**29.82**	**52**	P	**P**	**14 52 37.1**	**-0.1**
MK31				IAmb	IAmb	14 52 38.3	
comp=Z,1.2nm,0.6s							
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**14 52 37.6**	**+0.4**
comp=Z,1.2nm,0.7s,baz=245,slow=8.5,SNR=7.8							
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**14 52 37.1**	**-0.1**
ZCCA	**Zocca**	**30.81**	**303**	P	**P**	**14 52 45.0**	**-1.0**
VSL	**Villasalto**	**31.58**	**293**	P	**P**	**14 52 53.4**	**+0.6**
FINES	**FINESS Array B**	**32.05**	**340**	P	**P**	**14 52 56.0**	**-0.6**
comp=Z,0.5nm,0.3s,baz=142,slow=9.8,SNR=8.7							
ZALV	**Zalesovo Beam**	**33.80**	**40**	P	**P**	**14 53 12.2**	**+0.2**
comp=Z,0.6nm,0.4s,baz=236,slow=6.9,SNR=4.6							
ZALV	**Zalesovo Beam**	**33.80**	**40**	P	**P**	**14 53 10.8**	**-1.2**
BNI	**Bardonecchia**	**33.95**	**303**	P	**P**	**14 53 13.4**	**-0.2**
BNI				IAmb	IAmb	14 53 17.3	
comp=Z,3.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**46.24**	**256**	P	**P**	**14 54 55.4**	**-0.2**
comp=Z,0.4nm,0.6s,baz=57,slow=9.1,SNR=2.5							

*BJI **10** 14:52:47.6±0.0,12°.88N×144°.59E,h51km,mB4.9/17,*
mb4.5/19,Ms4.2/5,Ms7 3.9/3
*NEIC **10** 14:52:49.8±1.6,12°.98N±0°.07×144°.7E±0°.1,h50km±5km,*
mb4.6/67,Error ellipse: s-maj=16.1km s-min=9.4km
az=106.0
*IDC **10** 14:52:49.6±0.9,12°.97N×144°.74E,h41km±9km,mb4.2/16,*
mb1 4.3/16,mb1mx4.0/39,mbtmp4.4/16,MS3.6/22,
Ms1 3.6/22,ms1mx3.4/42,Error ellipse: s-maj=21.4km
s-min=11.1km az=99.0
*DJA **10** 14:52:52.4±0.4,13°N±6°×14°5E±°,h100km±4km,M4.5/19,*
mb4.7/19,mB5.7/2,MLv4.3/1,Mw(mB)5.2/2
ISC 10 14:52:50.4±0.4,12°.99N±0°.05×144°.78E±0°.07,h57km,n131,
σ1§14/123,mb4.6/50,MS3.6/21,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.60**	**8**	P	**Pn**	**14 53 03.4**	**+0.1**
2μm,0.3s,baz=170,slow=9.1,SNR=43							
GUMO				S	**Sn**	**14 53 12.7**	**+0.1**
3μm,0.3s,baz=23,slow=22,SNR=40							
GUMO				LR	LR	14 53 31.9	
comp=Z,2μm,20.4s,baz=289,slow=67							
GUMO	**Guam**	**0.60**	**8**		**Pn**	**14 53 03.1**	**-0.1**
GUMO				Sn	**Sn**	**14 53 12.3**	**-0.3**
PATS	**Pohnpei**	**14.66**	**113**	Pn	**Pn**	**14 56 11.3**	**-3.4**
SMPI	**Sarmi**	**16.06**	**202**	P	**P**	**14 56 36

comp=Z,12nm,1.2s
HHC Hu-ho-hao-te 40.17 320 *e*P **P 15 00 22.3 +1.1**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,140nm,8.4s
PETK Petropavlovsk- 41.32 12 LR LR 15 16 46.3
comp=Z,46nm,20.5s,baz=200,slow=35
LEM Lembang 41.84 244 P **P 15 00 35.4 0.0**
comp=Z,26nm,0.7s,baz=350,slow=12,SNR=4.6
MYKOM Kota Tinggi 42.01 258 P **P 15 00 36.3 -0.2**
PBKT Sadao Pong 42.45 280 P **P 15 00 40.1 +0.1**
PBKT IAmb IAmb 15 00 41.9
comp=Z,8.7nm,0.7s
LZH Lanzhou 43.33 309 *e*P **P 15 00 48.7 +1.6**
LZH pP pP 15 00 59.9 -1.5
LZH sP sP 15 01 05.3 -2.6
LZH pmax pmax
comp=Z,10.0nm,1.3s
KLSI 43.49 249 P **P 15 00 48.2 -0.3**
comp=Z,9.9nm,0.8s
MDSI Maura Dua 43.91 249 P **P 15 00 51.1 -0.7**
comp=Z,29nm,1.1s
LHSI Lahat 44.25 251 P **P 15 00 54.5 -0.1**
comp=Z,69nm,1.1s
CM31 Chiang Mai Arr 44.37 283 P **P 15 00 55.6 +0.1**
CMAR Chiang Mai Arr 44.37 283 P **P 15 00 55.7 +0.2**
comp=Z,2.8nm,0.6s,baz=83,slow=6.4,SNR=30
CMAR PcP **PP 15 02 39.9 0.0**
comp=Z,1.4nm,0.8s,baz=72,slow=1.6,SNR=8.2
CMAR LR LR 15 19 17.4
comp=Z,54nm,20.2s,baz=156,slow=36
CMAR Chiang Mai Arr 44.37 283 P **P 15 00 55.1 -0.4**
CMAR **PcP 15 02 37.3 -1.5**
CHTO Chiang Mai 44.37 284 P **P 15 00 55.1 -0.4**
STKA Stephens Creek 44.72 184 P **P 15 00 58.0 0.0**
comp=Z,3.4nm,0.5s,baz=9.2,slow=8.3,SNR=10
STKA Stephens Creek 44.72 184 P **P 15 00 57.7 -0.3**
MNAI Manna 44.97 250 P **P 15 00 59.5 -0.9**
BBOO Buckleboo 46.30 190 P **P 15 01 10.2 -0.3**
FORT Forrest 46.40 200 P **P 15 01 11.4 +0.2**
RPSI Rantau Prapat 46.48 261 P **P 15 01 11.9 -0.4**
RPSI IAmb IAmb 15 01 13.1
comp=Z,11nm,1.0s
SONM Songino Array 47.17 325 P **P 15 01 19.8 +2.4**
comp=Z,0.8nm,0.6s,baz=142,slow=5.8,SNR=4.4
SONM ScP **ScP 15 06 38.9 +1.4**
comp=Z,0.7nm,0.7s,baz=138,slow=4.9,SNR=3.6
SONM LR LR 15 21 30.8
comp=Z,75nm,19.1s,baz=126,slow=36
SONM Songino Array 47.17 325 P **P 15 01 16.6 -0.8**
GTA Gaotai 47.50 312 *e*P **P 15 01 20.5 +0.4**
GTA pmax pmax
comp=Z,2.0nm,0.7s
GTA pmax pmax
comp=Z,130nm,6.0s
GTA LR LR
comp=Z,56nm,15.9s
GTA LR LR
comp=Z,190nm,18.7s
GSI Gunungsitoli 48.16 260 P **P 15 01 23.9 -1.4**
MORW Morawa 50.19 213 P **P 15 01 40.6 0.0**
SHL Shillong 51.17 292 P **P 15 01 47.6 -0.7**
UNV Unalaska Valle 55.87 33 P **P 15 02 23.0 +1.0**
WMQ Urumqi 57.48 314 *e*P **P 15 02 35.6 +1.8**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,87nm,5.7s
SDPT Sand Point 59.69 33 P **P 15 02 49.3 +0.6**
BKZ Black Stump Fm 59.73 152 P **P 15 02 50.4 +1.0**
BKZ IAmb IAmb 15 03 06.5
comp=Z,8.1nm,1.0s
MK31 Makanchi Array 61.86 316 P **P 15 03 03.3 -0.5**
MKAR Makanchi Array 61.86 316 P **P 15 03 04.1 +0.3**
comp=Z,0.7nm,0.5s,baz=94,slow=8.6,SNR=7.9
MKAR Makanchi Array 61.86 316 P **P 15 03 03.3 -0.5**
ZALV Zalesovo Beam 62.05 325 LR LR 15 29 23.1
comp=Z,49nm,21.9s,baz=84,slow=35
MAKZ Makanchi 62.07 316 P **P 15 03 03.8 -1.4**
MAKZ IAmb IAmb 15 03 25.7
comp=Z,4.0nm,1.1s
PYZ Puysegur Point 62.10 163 P **P 15 03 04.1 -1.1**
SVW2 Sparrevohn 64.24 28 P **P 15 03 19.5 +0.2**
SVW2 IAmb IAmb 15 03 19.8
comp=Z,16nm,1.4s
KDAK Kodiak Island 64.62 32 P **P 15 03 22.9 +1.2**
KURK Kurchatov 64.98 320 P **P 15 03 23.4 -0.9**
KURK IAmb IAmb 15 03 44.9
comp=Z,5.8nm,1.1s
CNPM China Poot 65.79 30 P **P 15 03 30.0 +0.7**
BRLK Bradley Lake 66.03 30 P **P 15 03 31.2 +0.3**
PPLA Purkeypile 66.36 26 P **P 15 03 34.1 +1.0**
PPLA IAmb IAmb 15 03 34.5
comp=Z,14nm,1.4s
SKT Skwentna 66.36 28 P **P 15 03 33.2 +0.2**
SKT IAmb IAmb 15 03 34.0
comp=Z,13nm,1.4s
SUA Susitna One 66.57 28 P **P 15 03 34.0 -0.5**
SEW Seward 66.81 30 P **P 15 03 34.5 -1.3**
BPAW Bear Paw Mtn. 67.25 25 P **P 15 03 38.6 0.0**
BPAW IAmb IAmb 15 03 43.0
comp=Z,4.8nm,1.1s
GHO Glory Hole Cre 67.49 28 P **P 15 03 40.9 +0.6**
NIL Nilore 67.61 301 P **P 15 03 41.5 0.0**
NIL IAmb IAmb 15 03 42.3
comp=Z,5.9nm,0.8s
KNK Knik Glacier 67.61 29 P **P 15 03 41.8 +0.8**
SML Sawmill 67.77 28 P **P 15 03 42.6 +0.6**
RND Reindeer 67.95 26 P **P 15 03 43.5 +0.3**
RND IAmb IAmb 15 03 45.1
comp=Z,9.1nm,1.4s
SCM Sheep Creek Mo 68.24 28 P **P 15 03 46.0 +1.0**
SCM IAmb IAmb 15 03 51.3
comp=Z,12nm,1.0s
FID Port Fidalgo 68.40 29 P **P 15 03 46.7 +0.8**
DHY Denali Highway 68.52 27 P **P 15 03 48.0 +1.2**
COLD Coldfoot 68.53 22 P **P 15 03 48.0 +1.4**
WRH Wood River Hil 68.56 25 P **P 15 03 46.6 -0.2**
CCB Clear Creek Bu 68.73 25 P **P 15 03 47.7 -0.1**
KLU Klutina 68.82 29 P **P 15 03 49.7 +1.1**
KLU IAmb IAmb 15 04 14.8
comp=Z,12nm,1.2s
IL31 69.14 25 P **P 15 03 49.9 -0.5**
IL31 IAmb IAmb 15 03 50.5
comp=Z,2.8nm,0.5s
ILAR Eielson Array 69.14 25 P **P 15 03 50.0 -0.4**
comp=Z,1.8nm,0.5s,baz=250,slow=5.7,SNR=38
ILAR LR LR 15 30 42.9
comp=Z,40nm,21.8s,baz=282,slow=33
ILAR Eielson Array 69.14 25 P **P 15 03 49.8 -0.6**
PAX Paxson 69.34 27 P **P 15 03 51.9 +0.1**
RIDG Independent Ri 69.78 27 P **P 15 03 55.1 +0.6**
KKAR Karatay Array 69.78 311 P **P 15 03 53.9 -0.9**
DOT Dot Lake 70.10 27 P **P 15 03 56.8 +0.4**
DOT IAmb IAmb 15 03 57.7
comp=Z,3.9nm,0.7s
TGL Tana Glacier 70.16 30 P **P 15 03 56.5 -0.5**
ABKAR Akbulak array 76.92 318 P **P 15 04 35.8 -0.9**
ARU Arti 77.20 325 LR LR 15 41 25.7
comp=Z,46nm,18.1s,baz=72,slow=38
AKTO Aktyubinsk 78.06 319 LR LR 15 39 57.8
comp=Z,34nm,20.0s,baz=96,slow=36
KIRV Kirov 81.80 328 LR LR 15 44 53.5
comp=Z,35nm,18.1s,baz=82,slow=38
YKA Yellowknife Ar 83.43 27 LR LR 15 40 44.6
comp=Z,40nm,20.4s,baz=0.0,slow=34
PINE Pine Mountain 84.18 47 P **P 15 05 18.0 +2.0**
PINE IAmb IAmb 15 05 22.8
comp=Z,5.0nm,0.8s
BMO Blue Mountains 86.47 45 P **P 15 05 28.7 +1.4**
BMO IAmb IAmb 15 05 33.0
comp=Z,4.3nm,1.1s
NVAR Mina Array Bea 87.36 51 P **P 15 05 34.0 +2.2**
comp=Z,1.3nm,0.8s,baz=269,slow=6.0,SNR=8.4
ARCES ARCESS Array B 87.62 342 P **P 15 05 32.9 +0.7**
comp=Z,2.1nm,0.7s,baz=67,slow=9.3,SNR=3.6
FINES FINESS Array B 91.66 335 P **P 15 05 50.3 -0.9**
comp=Z,1.3nm,0.6s,baz=67,slow=6.4,SNR=5.1
PDAR Pinedale Array 92.44 45 LR LR 15 39 50.8
comp=Z,43nm,21.4s,baz=310,slow=30
MAW Mawson 98.84 203 LR LR 15 49 37.2
comp=Z,56nm,18.4s,baz=58,slow=34
SNAA Sanae 118.19 191 PKPdf **PKPdf 15 11 30.4 -0.2**
VNA2 Neumayer--Watz 119.63 190 PKPdf **PKiKP 15 11 34.4 +1.0**
VNA3 Neumayer Olymp 119.73 189 PKPdf **PKPdf 15 11 32.6 -0.9**
VNA1 Neumayer--Stat 120.01 190 PKPdf **PKiKP 15 11 35.5 +1.5**
DBIC Dimbokro 144.06 301 PKP PKPbc 15 12 18.9 +0.2
comp=Z,3.0nm,0.6s,baz=342,slow=3.2,SNR=6.6
LPAZ La Paz 148.01 100 PKPbc **PKiKP 15 12 33.4 +0.4**
comp=Z,6.6nm,0.7s,baz=306,slow=2.0,SNR=25
LPAZ La Paz 148.01 100 PKiKP 15 12 33.1 +0.1

*IDC **10** 14:51:29.7±26.0, 22.2°22S×173.°29W, h0km, mb4.4/4, mb1 4.6/4, mb1mx3.9/44, mbtmp4.4/4, Error ellipse: s-maj=485.1km s-min=149.6km az=76.0*
*NEIC **10** 14:53:04.5±1.8, 23.°5S±0.°1×179.°5W±0.°2, h524km±12km, mb4.4/33, Error ellipse: s-maj=23.3km s-min=17.4km az=106.0*
ISC 10 14:53:05.7±0.9,**23.°6S**±0.°1×**179.°5W**±0.°1,**h536**km,**n44,** σ0°**89**/43,**mb4.2**/14,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.25**	**338**	P	**P**	**14 54 47.7**	**+1.6**
URZ	**Urewera**	**14.90**	**190**	P	**P**	**14 56 14.4**	**+0.2**
BKZ	**Black Stump Fm**	**15.89**	**191**	P	**P**	**14 56 22.4**	**-2.0**
BKZ				IAmb	IAmb	14 56 37.9	
comp=Z,28nm,1.5s							
QRZ	**Quartz Range**	**18.44**	**199**	P	**P**	**14 56 48.7**	**+0.6**
QRZ				IAmb	IAmb	14 57 05.6	
comp=Z,25nm,1.2s							
NNZ	**Nelson**	**18.56**	**197**	P	**P**	**14 56 49.1**	**0.0**
TUWZ	**Tuamarina**	**18.61**	**196**	P	**P**	**14 56 49.2**	**-0.4**
THZ	**Tophouse**	**19.19**	**197**	P	**P**	**14 56 54.8**	**-0.3**
THZ				IAmb	IAmb	14 57 07.0	
comp=Z,19nm,1.3s							
FOZ	**Fox Glacier**	**21.75**	**201**	P	**P**	**14 57 17.8**	**-0.2**
EIDS	**Eidsvold**	**26.77**	**260**	P	**P**	**14 58 03.1**	**+0.2**
EIDS				IAmb	IAmb	14 58 12.2	
comp=Z,8.6nm,1.4s							
CAN	**Canberra**	**29.66**	**240**	P	**P**	**14 58 28.7**	**+0.6**
CAN				IAmb	IAmb	14 58 35.0	
comp=Z,16nm,1.3s							
CTA	**Charters Tower**	**31.90**	**270**	P	**P**	**14 58 47.7**	**+0.3**
comp=Z,6.0nm,0.3s,baz=94,slow=11,SNR=19							
CTA	**Charters Tower**	**31.90**	**270**	P	**P**	**14 58 47.7**	**+0.3**
CTAO	**Charters Tower**	**31.90**	**270**	P	**P**	**14 58 47.6**	**+0.2**
CTAO				IAmb	IAmb	14 58 48.0	
comp=Z,7.5nm,0.4s							
TOO	**Toolangi**	**32.97**	**237**	P	**P**	**14 58 56.7**	**+0.4**
MCQ	**Macquarie Isla**	**34.81**	**202**	P	**P**	**14 59 11.2**	**-0.1**
STKA	**Stephens Creek**	**35.23**	**248**	P	**P**	**14 59 15.2**	**-0.1**
comp=Z,1.4nm,0.6s,baz=89,slow=8.6,SNR=4.7							
STKA	**Stephens Creek**	**35.23**	**248**	P	**P**	**14 59 15.2**	**-0.1**
COEN	**Coen**	**36.48**	**278**	P	**P**	**14 59 26.7**	**+0.8**
COEN				IAmb	IAmb	14 59 34.2	
comp=Z,7.6nm,1.1s							
BBOO	**Buckleboo**	**39.95**	**247**	P	**P**	**14 59 52.9**	**-1.0**
AS31	**Alice Springs**	**42.50**	**260**	P	**P**	**15 00 13.2**	**-1.1**
ASAR	**Alice Springs**	**42.50**	**260**	P	**P**	**15 00 13.8**	**-0.5**
comp=Z,2.0nm,0.5s,baz=94,slow=7.3,SNR=12							
ASAR	**Alice Springs**	**42.50**	**260**	P	**P**	**15 00 14.1**	**-0.2**
WR0	**Warramunga Arr**	**42.66**	**266**	P	**P**	**15 00 14.6**	**-1.0**
WB2	**Warramunga Arr**	**42.84**	**266**	P	**P**	**15 00 15.8**	**-1.1**
WB0	**Warramunga Arr**	**42.84**	**266**	P	**P**	**15 00 15.9**	**-1.0**
WB0				IAmb	IAmb	15 00 16.8	
comp=Z,5.4nm,0.8s							
WRAB	**Tennant Creek**	**42.84**	**266**	P	**P**	**15 00 15.7**	**-1.2**
WRAB				IAmb	IAmb	15 00 16.3	
comp=Z,4.8nm,0.8s							
WRA	**Warramunga Arr**	**42.85**	**266**	P	**P**	**15 00 16.1**	**-0.9**
comp=Z,2.8nm,0.4s,baz=102,slow=8.3,SNR=71							
WRA	**Warramunga Arr**	**42.85**	**266**	P	**P**	**15 00 16.1**	**-0.9**
WRA	**Warramunga Arr**	**42.85**	**266**	IAmb	IAmb	15 00 16.7	
comp=Z,0.2nm,0.5s							
FORT	**Forrest**	**46.81**	**249**	P	**P**	**15 00 46.1**	**-1.2**
MTN	**Manton Dam**	**47.85**	**274**	P	**P**	**15 00 53.9**	**-1.4**
MTN				IAmb	IAmb	15 01 10.2	
comp=Z,24nm,1.4s							
AIN	**Ainahou**	**48.73**	**31**	P	**P**	**15 00 60.0**	**-1.9**
KKO	**Keanakako`i**	**48.85**	**31**	P	**P**	**15 01 01.7**	**-1.0**
PUH	**Pauahi**	**48.85**	**31**	P	**P**	**15 01 02.3**	**-0.3**
KNRA	**Kununurra**	**49.11**	**269**	P	**P**	**15 01 04.4**	**-0.3**
KIP	**Kipapa**	**49.41**	**27**	P	**P**	**15 01 05.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**51.27**	**265**	P	**P**	**15 01 20.5**	**0.0**
MBWA	**Marble Bar**	**55.84**	**260**	P	**P**	**15 01 52.7**	**-0.1**
MORW	**Morawa**	**57.38**	**250**	P	**P**	**15 02 02.8**	**-0.4**
MORW				IAmb	IAmb	15 02 30.8	
comp=Z,18nm,1.4s							
MMRI	**Maumere**	**57.51**	**275**	P	**P**	**15 02 03.9**	**-0.5**
MMRI				IAmb	IAmb	15 02 17.2	
comp=Z,17nm,0.8s							
CASY	**Casey**	**60.58**	**206**	P	**P**	**15 02 23.9**	**-0.1**
KAPI	**Kappang**	**61.20**	**277**	P	**P**	**15 02 28.9**	**-0.1**
KAPI				IAmb	IAmb	15 02 40.4	
comp=Z,12nm,1.0s							
QSPA	**South Pole Qui**	**66.50**	**180**	P	**P**	**15 03 04.0**	**+2.0**
KKM	**Kota Kinabalu**	**69.22**	**287**	P	**P**	**15 03 20.3**	**+0.8**
KKM				IAmb	IAmb	15 03 29.0	
comp=Z,30nm,1.3s							

*IDC **10** 15:00:31.6±2.2, 6.°41S×130.°18E, h117km±24km, mb3.5/2, mb1 4.0/7, mb1mx3.5/33, mbtmp4.3/7, Error ellipse: s-maj=27.3km s-min=19.0km az=107.0*
*DJA **10** 15:00:32.2±0.2, 6°S±3°×13°0E±°, h192km±7km, M4.5/13, mb4.3/9, mB5.1/7, MLv4.7/13, Mw(mB)4.4/7*
*NEIC **10** 15:00:33.3±3.0, 6.°28S±0.°08×130.°16E±0.°07, h142km±14km, mb4.0/2, Error ellipse: s-maj=13.9km s-min=4.3km az=139.0*
ISC 10 15:00:32.5±0.5,**6.°36S**±0.°05×**130.°16E**±0.°07,**h146**km,**n35,** σ2°**47**/38,**mb4.1**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.84**	**352**	P	**Pn**	**15 01 06.7**	**+1.1**
SAUI	**Saumlaki**	**1.97**	**145**	P	**Pn**	**15 01 09.7**	**+2.7**
SAUI	**Saumlaki**	**1.97**	**145**	Pn	**Pn**	**15 01 09.5**	**+2.5**
MSAI	**Masohi**	**3.24**	**338**	P	**Pn**	**15 01 24.2**	**+1.4**
FAKI	**Fak Fak**	**4.00**	**31**	P	**Pn**	**15 01 32.0**	**-0.7**
FAKI	**Fak Fak**	**4.00**	**31**	Pn	**Pn**	**15 01 31.8**	**-1.0**
KMPI	**Kaimana, Papua**	**4.43**	**53**	P	**Pn**	**15 01 38.7**	**+0.3**
SIJI	**Sorong**	**5.57**	**11**	P	**Pn**	**15 01 52.5**	**-0.9**
19nm,0.3s,baz=196,slow=14,SNR=78							
SIJI				S	**Sn**	**15 02 50.8**	**-5.9**
14nm,0.3s,baz=209,slow=24,SNR=11							
RKPI	**Ransiki, Papua**	**6.27**	**40**	P	**Pn**	**15 02 02.5**	**-0.3**
2.2nm5µm155nm,0.9s							
MTN	**Manton Dam**	**6.51**	**172**	Pn	**Pn**	**15 02 05.8**	**-0.2**
SOEI	**Soe**	**6.74**	**240**	P	**Pn**	**15 02 10.8**	**+1.6**
0.4nm47nm,0.8s							
SOEI	**Soe**	**6.74**	**240**	Pn	**Pn**	**15 02 10.3**	**+1.2**
BATI	**Baumata**	**7.48**	**239**	P	**Pn**	**15 02 19.5**	**+0.6**
8.6nm,0.3s,baz=71,slow=4.0,SNR=14							
BATI				S	**Sn**	**15 03 41.1**	**-1.4**
11nm,0.3s,baz=210,slow=23,SNR=12							
BATI	**Baumata**	**7.48**	**239**	P	**Pn**	**15 02 19.9**	**+0.9**
0.2nm20nm,1.3s							
LUWI	**Luwuk**	**9.07**	**305**	Pn	**Pn**	**15 02 35.7**	**-4.5**
KNRA	**Kununurra**	**9.36**	**188**	Pn	**Pn**	**15 02 42.3**	**-1.7**
FITZ	**Fitzroy Crossi**	**12.47**	**200**	P	**Pn**	**15 03 23.3**	**-1.8**
2.9nm,0.3s,baz=0.2,slow=11,SNR=55							
FITZ				S	Sn	15 05 32.5	-10
1.7nm,0.3s,baz=0.8,slow=6.2,SNR=5.0							
FITZ	**Fitzroy Crossi**	**12.47**	**200**	Pn	**Pn**	**15 03 22.4**	**-2.7**
WB0	**Warramunga Arr**	**13.95**	**163**	Pn	**Pn**	**15 03 41.9**	**-2.0**
WRAB	**Tennant Creek**	**14.09**	**164**	Pn	**Pn**	**15 03 42.6**	**-3.2**
WRA	**Warramunga Arr**	**14.10**	**164**	P	**Pn**	**15 03 44.3**	**-1.6**
1.8nm,0.3s,baz=346,slow=13,SNR=42							
WRA				S	Sn	15 06 11.1	-11
1.7nm,0.3s,baz=349,slow=18,SNR=8.2							
WRA	**Warramunga Arr**	**14.10**	**164**		**Pn**	**15 03 43.3**	**-2.5**
WB2	**Warramunga Arr**	**14.10**	**164**	Pn	**Pn**	**15 03 43.9**	**-2.0**
WR0	**Warramunga Arr**	**14.17**	**163**	Pn	**Pn**	**15 03 44.7**	**-2.1**
COEN	**Coen**	**14.86**	**122**		**P**	**15 03 57.9**	**+0.4**
BBKI	**Banjar Baru**	**15.53**	**280**	P	**Pn**	**15 04 00.7**	**-3.1**
AS31	**Alice Springs**	**17.58**	**169**		**Pn**	**15 04 29.8**	**+1.2**
AS31				IAmb	IAmb	15 04 36.1	
comp=Z,2.6nm,0.8s							
ASAR	**Alice Springs**	**17.58**	**169**	P	**Pn**	**15 04 29.3**	**+0.7**
comp=Z,0.9nm,0.3s,baz=345,slow=9.7,SNR=56							
ASAR				S	**S**	**15 07 36.7**	**-6.3**
comp=Z,1.1nm,0.3s,baz=352,slow=28,SNR=8.8							
ASAR	**Alice Springs**	**17.58**	**169**		**Pn**	**15 04 29.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**39.45**	**309**	P	**P**	**15 07 50.8**	**+2.1**
comp=Z,0.7nm,0.6s,baz=129,slow=7.4,SNR=6.0							
JWT	**Wachi**	**41.72**	**6**	P	**P**	**15 08 08.8**	**+1.8**
JWT				IAmb	IAmb	15 08 09.8	
comp=Z,7.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**49.99**	**342**	*e*P	**P**	**15 09 14.0**	**+2.0**
HHC				pmax	pmax		
comp=Z,21nm,0.9s							
HHC				pmax	pmax		
comp=Z,140nm,7.2s							
WMQ	**Urumqi**	**62.95**	**327**	*e*P	**P**	**15 10 47.0**	**+3.4**
MKAR	**Makanchi Array**	**67.78**	**327**	P	**P**	**15 11 17.1**	**+2.6**
comp=Z,0.7nm,0.5s,baz=123,slow=8.0,SNR=11							
MKAR	**Makanchi Array**	**67.78**	**327**	P	**P**	**15 11 16.5**	**+1.9**

*ISN **10** 15:03:15.7±1.6, 32.°71N×47.°36E, h0km±9km, ML2.8*
*TEH **10** 15:03:17.2, 32.°67N×47.°39E, h10km, ML2.8*
*THR **10** 15:03:17.9±0.3, 32.°70N×47.°29E, h14km±4km, ML3.0*
ISC 10 15:03:17.1±1.8,**32.°58N**±0.°07×**47.°25E**±0.°04,**h4**km±13km,
n14,σ1°**01**/19,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.11**	**16**	*e*Pg	**Pg**	**15 03 19.9**	**+0.6**
IBDR	**Badra**	**1.23**	**296**	*e*Pg	**Pn**	**15 03 41.0**	**0.0**
baz=108							
IBDR				*e*Sg	**Sn**	**15 04 00.0**	**+1.9**
IBDR				AML	AML	15 04 05.5	
comp=E,171nm,0.4s							
IBDR				AML	AML	15 04 06.2	
comp=N,178nm,0.6s							
IKMR	**Kamar-syah**	**1.34**	**45**	*e*Pg	**Pn**	**15 03 40.7**	**-1.8**
IKMR				*e*		15 03 58.8	
SHGR	**Shooshtar-Gavs**	**1.40**	**109**	*e*Pg	**Pb**	**15 03 43.7**	**0.0**
SHGR				*e*Sg	**Sn**	**15 04 02.8**	**+0.6**
SHGR				IAML		15 04 05.3	
comp=E,230nm,0.3s							
SHGR				IAML		15 04 05.5	
comp=N,199nm,0.4s							
IDOB	**Doab**	**1.44**	**33**	*e*Pg	**Pn**	**15 03 42.5**	**-1.7**
IDOB				*e*		15 04 05.3	
IKOM	**Komasi**	**1.61**	**8**	*e*Pg	**Pn**	**15 03 45.8**	**-0.7**
IKOM				*e*Sg	**Sb**	**15 04 08.0**	**-0.2**
IKOM				*e*		15 04 12.2	
BMDN	**Meydan**	**1.72**	**50**	*e*Pg	**Pn**	**15 03 47.0**	**-1.0**
BMDN				*e*		15 04 13.5	
IVIS	**Veis**	**1.97**	**350**	*e*Pg	**Pb**	**15 03 53.8**	**+0.2**
IVIS				*e*		15 04 27.5	
HSAM	**Samen**	**1.99**	**34**	*e*Pg	**Pn**	**15 03 51.3**	**-0.4**
HSAM				*e*		15 03 53.6	
BHD	**Baghdad**	**2.51**	**287**	*e*Pn	**Pb**	**15 04 01.0**	**-1.7**
BHD				*e*Sn	**Sb**	**15 04 34.0**	**+0.1**
SNGE	**Sanandaj**	**2.51**	**2**	*e*Pn	**Pn**	**15 03 58.7**	**-0.2**
KHMZ	**Khomeyn**	**2.56**	**62**	*e*Pn	**Pn**	**15 03 59.8**	**+0.3**
KHMZ				*e*Sg	**Sb**	**15 04 35.4**	**-0.1**
ASAO	**Ashtian**	**3.04**	**49**	*e*Pn	**Pn**	**15 04 06.4**	**+0.1**
GHVR	**GHOM**	**3.88**	**60**	*e*Pn	**Pn**	**15 04 17.4**	**-0.2**

TAP 10 15:08:08.9, 24.°48N×120.°14E, h20km±1km, ML2.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDJ	**Dajia District**	**0.47**	**106**	*e*P	Pb	15 08 18.9	+0.4
baz=106							
WDJ				*e*S	Sb	15 08 26.5	+1.4
baz=106							
WDJ	**Dajia District**	**0.47**	**106**	S	Pb	15 08 18.6	+0.1
baz=148							
NSY	**Sanyi**	**0.57**	**96**	*i* P	Pb	15 08 20.8	+0.6
baz=96							
NSY	**Sanyi**	**0.57**	**96**	*e*S	Pb	15 08 20.9	+0.6
baz=82							
TWQ1	**Liyutan**	**0.59**	**103**	P	Pn	15 08 21.4	-0.7
baz=103							
TWQ1	**Liyutan**	**0.59**	**103**	S	Pn	15 08 21.4	-0.7
baz=107							
WTCT	**Ta-ch'eng**	**0.63**	**168**	*e*S	Sn	15 08 32.7	+0.7
baz=167							
WHP	**Taichung City**	**0.76**	**105**	*e*P	Pn	15 08 24.3	-0.2
baz=105							
WNT	**Mingjian**	**0.78**	**140**	*e*P	Pb	15 08 23.6	-0.1
baz=140							
WNT				*e*S	Sn	15 08 35.0	-0.7
baz=140							
VWUC	**VWUC**	**0.81**	**309**	*e*P	Pb	15 08 24.2	-0.1
baz=308							
VWUC				*i* S	Sn	15 08 36.5	-0.1
baz=308							
LIOB	**Emei**	**0.81**	**78**	*e*P	Pb	15 08 24.1	-0.2
baz=78							
WTK	**Tuku**	**0.82**	**164**	*e*P	Pn	15 08 25.0	-0.3
baz=164							
WTK				*e*S	Sn	15 08 37.4	+0.6
baz=164							
WJS	**Zhushan**	**0.85**	**141**	*e*P	Pn	15 08 26.7	+1.1
baz=140							
WJS				*e*S	Sn	15 08 36.9	-0.6
baz=140							
TYC	**Yuchr**	**0.87**	**131**	*e*S	Sn	15 08 37.5	-0.5
baz=130							
TDCB	**Techi**	**0.95**	**103**	*e*P	Pn	15 08 27.6	+0.3
baz=103							
TWT	**Tachien**	**0.97**	**103**	*e*P	Pn	15 08 27.7	+0.2
baz=103							
CHN5	**Tsauling**	**1.01**	**151**	*e*P	Pn	15 08 28.0	+0.1
baz=150							
SSLB	**Suanglung**	**1.01**	**133**	*e*S	Sb	15 08 39.9	-0.8
baz=132							
CHGB	**Renai**	**1.03**	**114**	*e*P	Pn	15 08 29.6	+1.2
baz=113							
FUSS	**Fushou**	**1.03**	**103**	*e*P	Pn	15 08 29.2	+0.8
baz=102							
PNG	**Penghu**	**1.05**	**211**	*e*P	Pn	15 08 29.8	+1.3
baz=210							
PTTC	**Pingtan**	**1.07**	**342**	*e*P	Pb	15 08 26.9	-1.8
baz=341							
PTTC				*e*S	Sb	15 08 40.8	-1.5
baz=341							
WHF	**Hehuan Shan**	**1.08**	**108**	*e*P	Pn	15 08 30.5	+1.3
baz=108							
PTMZ	**Houxiangcun**	**1.08**	**301**	*i* P	Pb	15 08 29.2	+0.2
baz=300							
PTMZ				*e*S	Sn	15 08 44.5	+1.2
baz=300							
PHUB	**P'eng-hu**	**1.09**	**209**	*e*P	Pb	15 08 30.4	+1.3
baz=208							
PHUB				*e*S	Sn	15 08 48.1	+4.5
baz=208							
NNS	**Nan Shan**	**1.12**	**92**	*e*P	Pb	15 08 30.1	+0.4
baz=92							
NNSB	**Datong**	**1.13**	**92**	*e*P	Pb	15 08 30.6	+0.8
baz=92							
NNSH	**Datong**	**1.13**	**92**	*e*P	Pb	15 08 30.4	+0.6
baz=92							
YHNB	**Yeheng**	**1.14**	**80**	*e*P	Pn	15 08 29.8	+0.1
baz=80							
ALS	**Alishan**	**1.14**	**148**	*e*P	Pn	15 08 29.3	-0.6
baz=147							
ALS				*e*S	Sn	15 08 46.2	+1.0
baz=147							
VWDT	**VWDT**	**1.17**	**128**	*e*P	Pn	15 08 29.3	-0.7
baz=128							
VWDT				*e*S	Sb	15 08 44.6	-0.4
baz=128							
**CHN4

NSTT	Nanjuang	0.43	57	eP		Pb	15 08 24.1	+0.8
	baz=79							
NSTT	Nanjuang	0.43	57	eP		Pb	15 08 23.6	+0.3
	baz=57							
NSTT				S		Sb	15 08 30.0	+0.3
	baz=57							
LIOB	Emei	0.45	56	S		Sb	15 08 30.5	+0.2
	baz=55							
TDCB	Techi	0.52	106	P		Pb	15 08 24.6	-0.4
	baz=105							
TWT	Tachien	0.54	105	P		Pg	15 08 24.7	+0.4
	baz=105							
TYC	Yuchr	0.54	155	P		Pb	15 08 25.2	0.0
	baz=153							
SMLT	Sun Moon Lake	0.57	152	eP		Pg	15 08 25.1	+0.1
	baz=151							
FUSS	Fushou	0.60	104	P		Pb	15 08 26.0	-0.3
	baz=104							
CHGB	Renai	0.61	123	eP		Pb	15 08 26.4	-0.2
	baz=122							
WHF	Hehuan Shan	0.65	112	eP		Pb	15 08 27.4	+0.1
	baz=112							
NNS	Nan Shan	0.70	86	eP		Pg	15 08 26.6	-0.7
	baz=86							
NNSB	Datong	0.71	87	eP		Pg	15 08 26.6	-0.9
	baz=87							
NNSH	Datong	0.71	87	eP		Pg	15 08 26.6	-1.0
	baz=87							
WDLH	Douliu	0.71	185	S		Sb	15 08 38.2	+0.5
	baz=155							
WDLH	Douliu	0.71	185	eP		Pb	15 08 27.9	-0.2
	baz=185							
WDLH				eS		Sb	15 08 38.5	+0.8
	baz=185							
CHN5	Tsauling	0.80	175	eS		Sb	15 08 41.4	+1.0
	baz=175							
CHN5	Tsauling	0.80	175	eS		Sb	15 08 41.6	+1.2
	baz=150							

SOME ***10*** *15:34:58.7, 49.°58N×85.°53E, h25km*
ASRS ***10*** *15:35:00.3±0.3, 49.°N±2.°×8.°7E±.°, h10km, MLh3.1/23, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
NNC ***10*** *15:35:01.8±1.7, 49.°38N×86.°41E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=17.4km s-min=7.6km az=104.0*

ISC 10 15:35:00.1±0.8, 49.°35N±0.°03×86.°83E±0.°03, h10km, n24, σ1§67/51, 10C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	Jazzator, Alta	0.53	48	Pg	Pg	15 35 09.2	-1.2
DGZ				Sg	Sg	15 35 16.9	-0.4
TUNR	Tungur	0.87	338	Pg	Pg	15 35 15.7	-1.2
TUNR				Sg	Sg	15 35 28.3	-0.1
CHBI	Chibit, Altay	1.06	24	Pg	Pg	15 35 19.2	-1.2
CHBI				Sg	Sg	15 35 34.4	+0.2
SLNR	Muhor-Tarhata,	1.15	68	Pg	Pg	15 35 21.1	-1.1
SLNR				Sg	Sg	15 35 36.3	-0.8
CUR	Chagan-Uzun	1.24	52	Pg	Pn	15 35 22.8	-0.8
CUR				Sg	Sb	15 35 39.5	-0.3
ULGR	Ulagan, Altay	1.47	29	Pg	Pn	15 35 26.7	-0.1
ULGR				Sg	Sg	15 35 47.2	-0.2
UKR	Ust'-Kan	2.07	321	Pg	Pb	15 35 38.2	+0.4
UKR				Sg	Sg	15 36 06.8	+0.3
ZSN	Zaisan	2.31	215	eP	Pn	15 35 38.4	+0.2
	20nm,0.4s						
ZSN				eS	Sn	15 36 08.5	+1.9
	85nm,0.5s						
ARTR	Artybash	2.47	7	Pg	Pb	15 35 45.2	+0.6
ARTR				Sg	Sg	15 36 18.4	-1.0
GALT	Gorno-Altaysk,	2.67	348	Pg	Pb	15 35 48.6	+0.6
GALT				Pg	Pg	15 35 48.8	-2.5
GALT				Sg	Sg	15 36 24.0	-1.9
GALT				Sg	Sb	15 36 24.9	+4.0
TEL	Teeli	2.74	51	Pg	Pb	15 35 50.4	+1.2
TEL				Sg	Sg	15 36 26.9	-1.1
TASR	Tashtagol	3.48	11	Pg	Pb	15 36 02.8	+1.0
TASR				Sg	Sg	15 36 50.3	-1.5
MK31	Makanchi Array	3.98	232	⇑Pn	Pn	15 36 01.6	+0.5
	3.8nm,0.6s,baz=50,slow=13,SNR=101						
MK31				⇑Pg	Pb	15 36 11.3	+1.0
	2.1nm,0.4s,baz=57,slow=15,SNR=15						
MK31				⇑Lg	Lg	15 36 59.1	
	3.6nm,0.4s,baz=53,slow=34,SNR=4.2						
MKAR	Makanchi Array	3.98	232	Pn	Pn	15 36 01.3	+0.2
MKAR				Pg	Pb	15 36 12.0	+1.8
MKAR				Sg	Sb	15 36 58.7	+0.3
MAKZ	Makanchi	4.13	234	Pn	Pn	15 36 02.6	-0.6
MAKZ				Pg	Pb	15 36 13.9	+1.0
MAKZ				Sg	Sb	15 37 02.9	+0.1
MAKZ	Makanchi	4.13	234	⇓Pn	Pn	15 36 03.4	+0.2
	1.2nm,0.6s						
MAKZ				⇑Pg	Pb	15 36 13.4	+0.5
	3.8nm,0.7s						
MAKZ				⇓Lg	Lg	15 37 03.4	
	16nm,1.1s						
TBTR	Tabat	4.34	33	Pg	Pb	15 36 19.5	+3.0
TBTR				Sg	Sg	15 37 18.6	-0.8
DJO	Djoy, Khakassi	4.41	37	Pg	Pb	15 36 20.3	+2.6
DJO				Sg	Sg	15 37 19.9	-1.7
DJOS	Djoyskaya Sosn	4.49	38	Pg	Pb	15 36 22.5	+3.5
DJOS				Sg	Sg	15 37 22.6	-1.7
LUZB	Luzhba, Kemero	4.51	16	Sg	Sg	15 37 21.0	-3.8
ZAA0	Zalesovo Array	4.77	346	⇑Pn	Pn	15 36 12.8	+0.8
	0.3nm,0.5s						
ZAA0				⇓Pg	Pb	15 36 25.7	+1.9
	0.3nm,0.6s						
ZAA0				⇑Sn	Sn	15 37 09.8	+2.5
	0.4nm,0.4s						
ZAA0				⇓Lg	Lg	15 37 30.7	
	0.7nm,0.5s						
KURK	Kurchatov	5.46	288	⇑Pn	Pn	15 36 20.6	-0.9
	0.8nm,0.4s						
KURK				⇑Sn	Sn	15 37 21.7	-2.7
	1.9nm,0.5s						
KURK				⇓Lg	Lg	15 37 47.6	
	5.3nm,0.4s						
KURBB	Kurchatov Arra	5.50	287	⇑Pn	Pn	15 36 24.5	+2.5
	2.8nm,0.6s						
KURBB				⇑Lg	Lg	15 37 48.9	
	20nm,0.5s						
KAPS	Kapalarasan	6.50	234	eP	Pb	15 36 50.4	-2.9
	1.3nm,0.6s						
KAPS				eS	Sb	15 38 11.7	+0.6
	2.3nm,0.6s						

MEX 10 15:43:20.1±0.3, 13.°71N×91.°63W, h14km, MD3.6, Near coast of Guatemala

IDC ***10*** *16:01:47.8±0.5, 62.°86N×152.°03W, h0km, mb4.0/17, mb1 4.2/20, mb1mx4.1/45, mbtmp4.0/20, ML3.9/3, MS3.5/9, Ms1 3.5/9, ms1mx3.1/46, Error ellipse: s-maj=16.6km s-min=10.8km az=46.0*
NEIC ***10*** *16:01:48, 62.°59N×152.°08W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.68; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$-0.43; $M_{r\theta}$-0.42; $M_{\theta\phi}$0.29; $M_{\phi r}$1.09; Fault plane solution: $M_0$1.34000×10^{15} NP1:ϕ_s134.42000°, δ15.56000°, λ68.29000°. NP2:ϕ_s336.87000°, δ75.57000°, λ95.88000°. Principal axes: T 1.3729, Plg59.0000°, Azm255.0000°; N -0.0673, Plg6.0000°, Azm155.0000°; P -1.3057, Plg30.0000°, Azm62.0000°;*
AEIC ***10*** *16:01:48±2.2, 62.°60N±0.°03×152.°06W±0.°04, h4km±3km, ML4.2, mb4.5/41(NEIC), Mwr4.0/54(NEIC) Error ellipse: s-maj=4.1km s-min=2.1km az=206.0*
UNK ***10*** *16:01:48.5, 62.°60N×152.°06W, h4km*
ANF ***10*** *16:01:51.7±0.3, 62.°63N×151.°62W, h15km, ML4.7/10, Error ellipse: s-maj=5.9km s-min=2.2km az=93.0*

ISC 10 16:01:48.6±1.1, 62.°63N±0.°02×152.°14W±0.°03, h8km±7km, n232, σ1§06/251, mb4.3/32, MS3.4/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	Purkeypile	0.27	355		Pg	16 01 54.5	+0.4
PPLA					Sb	16 01 59.5	-1.3
SKT	Skwentna	0.71	156		Pg	16 02 01.4	-0.8
SKT					Sg	16 02 11.0	-0.4
CAST	Castle Rocks	0.80	2		Pb	16 02 04.0	-0.8
CUT	Chulitna	0.90	103	P	Pb	16 02 05.1	-1.3
	baz=284,SNR=961						
CUT				Sb	Sb	16 02 16.9	-1.6
	baz=284						
CUT	Chulitna	0.90	103		Pb	16 02 05.2	-1.3
CUT					Sb	16 02 17.3	-1.2
KTH	Kantishna Hill	1.08	30		Pb	16 02 08.7	-1.0
KTH					Sb	16 02 23.5	-0.5
STLK	Strandline Lak	1.14	173		Pn	16 02 08.8	-2.2
TRF	Thorofare Moun	1.18	45		Pn	16 02 10.6	-1.1
TRF					Sb	16 02 27.6	+0.7
HUR	Hurricane	1.20	72		Pn	16 02 10.6	-1.2
CHUM	Lake Minchumin	1.27	356		Pg	16 02 13.0	+0.1
SPNN	North Nagishla	1.29	192		Pn	16 02 11.3	-1.8
SUA	Susitna One	1.34	150		Pn	16 02 12.4	-1.3
SUA					Sn	16 02 30.8	-1.0
SPCG	Spurr Capps Gl	1.34	178		Pn	16 02 12.0	-1.7
SPCP	Crater Peak Br	1.36	180		Pn	16 02 12.6	-1.5
SPBG	Spurr Blockage	1.37	185		Pn	16 02 12.8	-1.5
SPCR	Spurr Chakacha	1.43	181		Pn	16 02 13.9	-1.1
WAT7	Susitna Watana	1.53	81		Pn	16 02 15.8	-0.6
WAT7					Sn	16 02 36.8	+0.3
BPAW	Bear Paw Mtn.	1.57	19		Pn	16 02 16.6	-0.3
BPAW					Sg	16 02 38.9	-0.1
WAT1	Susitna Watana	1.67	81		Pn	16 02 17.5	-0.7
WAT2	Susitna Watana	1.67	77		Pn	16 02 17.9	-0.4
WAT2					Sn	16 02 41.2	+1.3
RND	Reindeer	1.69	61		Pn	16 02 18.7	+0.2
GHO	Glory Hole Cre	1.73	118		Pn	16 02 18.5	-0.6
FIS	Fire Island	1.74	148		Pn	16 02 19.4	+0.3
PMR	Palmer	1.75	125		Pn	16 02 19.4	+0.2
TTA	Tatalina	1.81	281		Pb	16 02 20.1	-1.9
TT01	Tatalina	1.81	281		Pb	16 02 20.1	-1.9
MCK	McKinley	1.83	51		Pn	16 02 20.8	+0.4
CAPN	Captain Cook N	1.92	165	P	Pn	16 02 23.2	+1.6
	baz=347,SNR=11						
CAPN				Sb	Sb	16 02 50.3	+2.4
	baz=347						
CAPN	Captain Cook N	1.92	165		Pn	16 02 22.8	+1.2
SML	Sawmill	1.96	113		Pn	16 02 22.2	-0.1
BWN	Browne	1.96	37		Pn	16 02 23.3	+1.0
WAT6	Susitna Watana	2.04	89		Pn	16 02 22.1	-1.2
KNK	Knik Glacier	2.12	123		Pn	16 02 24.6	+0.2
RDWB	Redoubt West	2.17	189		Pn	16 02 25.0	-0.2
RSO	Redoubt South	2.19	188		Pn	16 02 25.4	-0.1
DHY	Denali Highway	2.23	76		Pn	16 02 25.3	-0.8
RED	Redoubt Volcan	2.23	188		Pn	16 02 26.1	+0.1
SVW2	Sparrevohn	2.24	228		Pn	16 02 24.8	-1.3
SLKM	Skilak Lake	2.31	156		Pn	16 02 26.7	-0.4
SCM	Sheep Creek Mo	2.39	107		Pn	16 02 28.5	+0.4
NEA2	Nenana	2.41	33	P	Pn	16 02 27.6	-0.6
	baz=215,SNR=406						
NEA2				S	Sn	16 02 56.8	-1.1
	baz=215						
NEA2	Nenana	2.41	33		Pn	16 02 27.7	-0.6
O22K	Cooper Landing	2.44	151	P	Pn	16 02 29.3	+0.5
	baz=333,SNR=87						
O22K				S	Sn	16 02 58.5	-0.3
	baz=333						
O22K	Cooper Landing	2.44	151		Pn	16 02 29.6	+0.8
MLY	Manley	2.49	14		Pn	16 02 30.2	+0.7
PWL	Port Wells	2.53	133		Pn	16 02 30.5	+0.4
WRH	Wood River Hil	2.59	43		Pn	16 02 30.6	-0.3
IVE	Iliamna Volcan	2.65	190		Pn	16 02 33.0	+1.2
ILS	Iliamna Low So	2.71	190		Pn	16 02 33.7	+1.1
CCB	Clear Creek Bu	2.80	42		Pn	16 02 33.5	-0.2
SEW	Seward	2.84	152		Pn	16 02 35.4	+1.1
MDM	Murphy Dome	2.92	35		Pn	16 02 35.3	-0.1
BRLK	Bradley Lake	2.93	168		Pn	16 02 35.9	+0.3
HDA	Harding Lake	2.94	50	P	Pn	16 02 35.1	-0.4
	baz=234						
HDA				Sb	Sb	16 03 17.3	+0.2
	baz=234						
HDA				Sb	Sb	16 03 17.3	+0.2
	baz=234						
HDA	Harding Lake	2.94	50		Pn	16 02 35.7	+0.1
TCOL	CIGO, UAF Yank	2.95	38	Sg	Sg	16 03 23.6	+0.3
	baz=221						
TCOL	CIGO, UAF Yank	2.95	38		Pn	16 02 36.4	+0.6
COLA	College	2.95	38		Pn	16 02 35.8	0.0
GLI	Glacier Island	2.97	124		Pn	16 02 36.1	+0.1
BRSE	Bradley Lake S	2.97	166		Pn	16 02 36.3	+0.2
HOM	Homer	2.99	175	P	Pn	16 02 37.6	+1.4
	baz=356,SNR=17						
HOM				S	Sn	16 03 15.1	+2.9
	baz=356						
OPT	Oil Point	3.03	191		Pn	16 02 37.9	+1.0
PS08	TAPS Pump Stn8	3.06	49		Pn	16 02 37.7	+0.5
PAX	Paxson	3.08	81		Pn	16 02 37.5	-0.2
KLU	Klutina	3.14	108		Pn	16 02 38.8	+0.3
CNPM	China Poot	3.14	172		Pn	16 02 38.8	+0.4
PS11	TAPS Pump St11	3.16	97		Pn	16 02 40.5	+1.9
IL31		3.18	45		Pn	16 02 38.8	-0.1
ILAR	Eielson Array	3.18	45	Pn	Pn	16 02 39.0	+0.1
	8.7nm,0.3s,baz=234,slow=14,SNR=228						
ILAR				Pg	Pb	16 02 46.0	+0.7
	56nm,0.3s,baz=237,slow=17,SNR=82						
ILAR				Lg	Lg	16 03 27.6	
	63nm,0.3s,baz=222,slow=28,SNR=2.5						
ILAR	Eielson Array	3.18	45	Pn	Pn	16 02 38.4	-0.6
PS07	TAPS Pump Stn7	3.19	31		Pn	16 02 39.8	+0.8
POKR	Poker Plat Res	3.25	38	P	Pn	16 02 39.4	-0.6
	baz=221,SNR=17						
POKR				Sb	Sb	16 03 27.5	+1.1
	baz=221						
POKR	Poker Plat Res	3.25	38		Pn	16 02 40.2	+0.2
FID	Port Fidalgo	3.29	122		Pn	16 02 40.2	-0.2
AU22	Augustine Moun	3.32	191		Pn	16 02 42.4	+1.6
AUW	Augustine West	3.33	192		Pn	16 02 42.5	+1.6
AUH	Augustine H	3.33	192		Pn	16 02 42.5	+1.4
AUP	Augustine Pinn	3.33	191		Pn	16 02 42.6	+1.5
AUQ	Augustine Qik'	3.34	191		Pn	16 02 42.3	+1.2
DIV	Divide	3.37	114		Pn	16 02 41.6	+0.1
PS06	TAPS Pump Stn6	3.41	17		Pn	16 02 43.0	+0.9
IM03		3.44	349		Pn	16 02 43.1	+0.6
IMAR	Indian Mountai	3.44	349		Pn	16 02 43.0	+0.4
RIDG	Independent Ri	3.49	68		Pn	16 02 43.7	+0.5
HIN	Hinchinbrook I	3.50	127	Pn	Pn	16 02 41.8	-1.6
EYAK	Cordova Ski Ar	3.70	121		Pn	16 02 45.7	-0.3
DOT	Dot Lake	3.81	71		Pn	16 02 47.9	+0.3
MENT	Mentasta	3.88	82		Pn	16 02 49.7	+1.1
SCRK	Sand Creek	3.92	66	P	Pn	16 02 48.8	-0.5
	baz=253,SNR=110						
SCRK	Sand Creek	3.92	66		Pn	16 02 48.9	-0.3
BMRM	Bremner River	3.94	112		Pn	16 02 49.3	-0.2
GOAT	Goat Mountain	4.09	117		Pn	16 02 52.9	+1.4
GLB	Gilahina Butte	4.10	103		Pn	16 02 51.9	+0.3
RAGM	Ragged Mountai	4.22	119	Pn	Pn	16 02 53.1	-0.2
KAHC	Katmai Hardscr	4.23	201		Pn	16 02 53.5	0.0
PS05	TAPS Pump Stn5	4.25	8		Pn	16 02 55.1	+1.5
MID	Middleton Isla	4.27	136	Pn	Pn	16 02 55.3	+1.4
KAHG	Katmai Hook Gl	4.31	197		Pn	16 02 56.9	+2.3
VRDI	Verde Repeater	4.34	105		Pn	16 02 55.3	+0.3
HMT	Hamilton	4.42	118	Pn	Pn	16 02 56.0	0.0
MCARA	McCarthy VSAT	4.47	102		Pn	16 02 56.8	+0.1
KAKN	Katmai Knife C	4.58	200		Pn	16 02 58.6	+0.4
KAIM	Kayak Island	4.60	123	Pn	Pn	16 02 58.7	+0.2
KABU	Katmai Buttres	4.64	201		Pn	16 02 59.8	+0.7
CRQM	Cirque	4.68	110		Pn	16 02 57.3	-2.3
COLD	Coldfoot	4.70	9	P	Pn	16 03 00.9	+1.2
	baz=190,SNR=58						
COLD	Coldfoot	4.70	9		Pn	16 03 00.7	+1.0
BC03		4.77	80		Pn	16 03 01.5	+0.8
BCAR	Beaver Creek A	4.77	80		Pn	16 03 01.5	+0.7
SUCK	Suckling Hills	4.77	119	Pn	Pn	16 02 59.9	-0.8
PTPK	Patty Peak	4.80	103		Pn	16 03 02.5	+1.2
TGL	Tana Glacier	4.81	109		Pn	16 03 01.2	-0.3
GRIN	Grindle Hills	4.84	115		Pn	16 03 02.7	+1.0
CAHL	Cahill	4.85	200		Pn	16 03 03.4	+1.5
KDAK	Kodiak Island	4.86	183	Pn	Pn	16 03 02.1	+0.1
	6.0nm,0.3s,baz=36,slow=8.9,SNR=87						
KDAK				Sn	Sn	16 03 60.0	+1.5
	baz=154,slow=20,SNR=1.1						
BALM	Baldy	4.91	105		Pn	16 03 02.4	-0.3
KIAG	Kiagna River	4.95	106		Pn	16 03 03.8	+0.4
ISLE	Juniper Island	5.10	109		Pn	16 03 04.9	-0.5
KULT	Kultieth River	5.11	114		Pn	16 03 07.1	+1.6
BARN	Barnard Glacie	5.21	103		Pn	16 03 07.7	+0.7
BVCY	Beaver Creek	5.23	87		Pn	16 03 08.5	+1.4
GRNC	Granite Creek	5.30	106		Pn	16 03 09.4	+1.2
PLK1	Peulik 1	5.33	207		Pn	16 03 08.9	+0.5
EGAK	Eagle	5.34	61		Pn	16 03 08.4	-0.2
YUK2	White River	5.35	94		Pn	16 03 10.0	+1.1
CTGM	Chitina Glacie	5.39	103		Pn	16 03 10.5	+1.1
OHAK	Old Harbor	5.45	187	Pn	Pn	16 03 09.8	-0.2
YAH	Yahtse	5.47	110		Pn	16 03 11.0	+0.4
MESA	MESA	5.47	112		Pn	16 03 09.9	-0.7
YUK3	Moose Creek	5.53	94		Pn	16 03 12.7	+1.2
LOGN	Logan Glacier	5.59	104		Pn	16 03 12.4	+0.2
RKAV	Rock Avalanche	5.67	109		Pn	16 03 13.8	+0.5
BM03	Burnt Mountain	5.77	30		Pn	16 03 14.4	-0.1
BMAR	Burnt Mountain	5.79	30		Pn	16 03 14.2	-0.5
DAWY	Dawson	5.92	70		Pn	16 03 16.9	+0.3
SAMH	Samovar Hills	6.00	110		Pn	16 03 19.2	+1.5
TOLK	Toolik Lake Re	6.13	9	P	Pn	16 03 21.7	+2.2
	baz=191,SNR=24						
TOLK				S	Sn	16 04 30.7	+0.9
	baz=191						
TOLK	Toolik Lake Re	6.13	9		Pn	16 03 21.8	+2.2
SII	Sitkinak Islan	6.17	191		Pn	16 03 20.2	+0.1
ANM	Nome	6.22	294		Pn	16 03 21.8	+1.2
PCA	Pinnacle	6.25	109		Pn	16 03 22.2	+1.1
YUK4	Talbot Arm	6.49	95		Pn	16 03 25.2	+0.7
BCPM	Bancas Point	6.59	108		Pn	16 03 26.0	+0.3
YUK6	Outpost Mounta	6.75	98		Pn	16 03 28.5	+0.4
PNL	Peninsula	6.84	110		Pn	16 03 30.3	+1.1
CHIR	Chirikof Islan	7.05	196	Pn	Pn	16 03 32.5	+0.4
RDOG	Red Dog Mine	7.06	325		Pn	16 03 32.9	+0.7
HYT	Haines Junctio	7.18	98		Pn	16 03 34.0	+0.1
VNFG	Fog Glacier, M	7.39	214		Pn	16 03 38.0	+1.1
EPYK	Eagle Plains	7.63	54	P	Pn	16 03 39.7	-0.3
	baz=247						
EPYK	Eagle Plains	7.63	54		Pn	16 03 40.2	+0.1
PLBC	Pleasant Camp	8.28	105		Pn	16 03 49.0	0.0
WHY	Whitehorse	8.45	96		Pn	16 03 50.0	-1.2
SDPT	Sand Point	8.46	214		Pn	16 03 52.2	+0.8
CNBA	Chernabura Isl	8.73	210	Pn	Pn	16 03 54.6	-0.4
GAMB	Gambell	8.91	286	Pn	Pn	16 03 58.3	+0.8
BESE	Bessie Mountai	9.40	108		Pn	16 04 04.3	-0.1
JIS	Juneau Island	9.78	108		Pn	16 04 09.3	-0.1
SIT	Sitka	10.12	116	Pn	Pn	16 04 13.9	-0.1
UNV	Unalaska Valle	11.58	227	Pn	Pn	16 04 33.9	-0.2
DLBC	Dease Lake	11.64	101	Pn	Pn	16 04 34.5	-0.4
	0.4nm,0.3s,baz=194,slow=22,SNR=1.9						
DLBC				Lg	Lg	16 07 48.8	
	0.6nm,0.3s,baz=33,slow=6.7,SNR=3.3						
DLBC				LR	LR	16 09 25.8	
	comp=Z,171nm,19.2s,baz=298,slow=39						
C36M	Paulatuk	13.15	47	P	Pn	16 04 54.8	-0.6
	baz=253						
C36M	Paulatuk	13.15	47	Pn	Pn	16 04 54.8	-0.6
ATKA	Atka Island	15.72	239	P	P	16 05 33.9	-0.4
ATKA				IAmb	IAmb	16 05 38.9	
	comp=Z,28nm,0.8s						
GSTR	Great Sitkin T	16.55	241	P	P	16 05 44.5	+1.0
ADK	Adak	16.96	242	P	P	16 05 49.1	+1.1
ADK				IAmb	IAmb	16 05 55.6	
	comp=Z,34nm,0.8s						
YKA	Yellowknife Ar	17.14	74	P	Pn	16 05 47.3	-0.9
	comp=Z,0.4nm,0.3s,baz=280,slow=9.5,SNR=4.8						
YKA				LR	LR	16 12 53.8	
	comp=Z,251nm,19.4s,baz=0.0,slow=39						
NEW	Newport	24.12	110	P	P	16 07 06.5	+1.9
	comp=Z,3.6nm,0.8s,baz=333,slow=9.8,SNR=3.1						
NEW				LR	LR	16 17 41.7	
	comp=Z,55nm,18.8s,baz=261,slow=40						
NEW	Newport	24.12	110	P	P	16 07 04.2	-0.5
SEY	Seymchan	24.72	296	P	P	16 07 09.8	-0.1
	comp=Z,5.3nm,0.9s,baz=87,slow=6.9,SNR=14						
SEY				LR	LR	16 18 46.7	
	comp=Z,26nm,20.1s,baz=192,slow=41						
YBH	Yreka Blue Hor	27.20	126	P	P	16 07 34.7	+2.0
	comp=Z,4.3nm,0.9s,baz=320,slow=8.5,SNR=3.0						
YBH	Yreka Blue Hor	27.20	126	IAmb	IAmb	16 08 00.3	
	comp=Z,11nm,1.4s						
PETK	Petropavlovsk-	27.62	273	P	P	16 07 36.6	+0.4
	comp=Z,1.6nm,0.7s,baz=64,slow=18,SNR=4.1						
PETK	Petropavlovsk-	27.62	273	P	P	16 07 37.4	+1.2
ELK	Elko	30.97	118	P	P	16 08 08.8	+2.4
ELK				IAmb	IAmb	16 08 11.7	
	comp=Z,3.1nm,0.8s						
RYN	Ryan	31.48	124	P	P	16 08 12.1	+1.3
PD31	Pinedale Array	31.73	109	P	P	16 08 13.7	+0.7
PD31				IAmb	IAmb	16 08 24.9	
	comp=Z,6.6nm,1.5s						
PDAR	Pinedale Array	31.73	109	P	P	16 08 14.6	+1.6
	comp=Z,0.8nm,0.5s,baz=302,slow=2.8,SNR=5.1						
PDAR				LR	LR	16 21 42.7	
	comp=Z,67nm,18.4s,baz=310,slow=38						
PDAR	Pinedale Array	31.73	109	P	P	16 08 14.3	+1.4
NVAR	Mina Array Bea	31.74	124	P	P	16 08 14.4	+1.3
	comp=Z,2.4nm,0.8s,baz=314,slow=8.6,SNR=12						
NVAR				PcP	PcP	16 11 03.1	-1.2
	comp=Z,0.4nm,0.6s,baz=296,slow=2.4,SNR=3.6						
NVAR				ScP	ScP	16 14 47.1	-0.5
	comp=Z,0.5nm,0.8s,baz=264,slow=3.0,SNR=3.7						
NVAR	Mina Array Bea	31.74	124	P	P	16 08 14.7	+1.6
R11A	Troy Canyon, C	32.87	120	P	P	16 08 23.2	+0.2
PAGB	Antelope Grade	33.40	129	P	P	16 08 27.6	+0.2
MSU	Marysvale	34.12	116	P	P	16 08 33.

ZALV	Zalesovo Beam	55.51 323	P	P	16 11 22.7	-0.9
NOA	NORSAR Array B	56.01 10	P	P	16 11 26.1	-1.0
	comp=Z,0.5nm,0.6s,baz=349,slow=7.4,SNR=2.8					
FINES	FINESS Array B	56.24 1	P	P	16 11 27.5	-1.3
	comp=Z,0.6nm,0.7s,baz=359,slow=9.7,SNR=3.4					
FINES	FINESS Array B	56.24 1	P	P	16 11 28.1	-0.6
KURK	Kurchatov	60.09 325	P	P	16 11 55.1	-0.7
KURK			IAmb	IAmb	16 11 59.5	
	comp=Z,4.3nm,1.2s					
MK31	Makanchi Array	62.64 321	P	P	16 12 12.4	-0.7
MK31			IAmb	IAmb	16 12 16.9	
	comp=Z,1.6nm,0.9s					
MKAR	Makanchi Array	62.64 321	P	P	16 12 12.6	-0.6
	comp=Z,1.4nm,0.5s,baz=48,slow=8.3,SNR=18					
MAKZ	Makanchi	62.72 321	P	P	16 12 13.4	-0.3
MAKZ			IAmb	IAmb	16 12 18.8	
	comp=Z,2.7nm,0.9s					
ABKAR	Akbulak array	65.59 338	P	P	16 12 32.3	-0.1
AKASG	Malin Array Be	67.02 359	P	P	16 12 40.6	-0.9
	comp=Z,2.1nm,0.5s,baz=24,slow=6.3,SNR=3.8					
GERES	GERESS Array B	68.31 10	P	P	16 12 47.6	-2.3
	comp=Z,0.6nm,0.7s,baz=357,slow=4.9,SNR=5.4					
ESDC	Sonseca Array	74.89 25	P	P	16 13 29.0	-0.6
	comp=Z,0.5nm,0.8s,baz=348,slow=3.3,SNR=2.0					
AFI	Afiamalu	77.82 200	LR	LR	16 40 13.3	
	comp=Z,217nm,21.5s,baz=269,slow=30					
HNR	Honiara	80.72 228	LR	LR	16 46 50.9	
	comp=Z,88nm,21.2s,baz=161,slow=33					

BJI ***10*** *16:31:57.9±0.0, 24°.62S×179°.51E, h526km, mB5.2/47, mb5.2/66*
UNK ***10*** *16:31:59.9, 24°.64S×179°.17E, h530km*
NEIC ***10*** *16:31:60.0±1.6, 24°.62S±0°.08×179°.15E±0°.09, h530km±5km, mb5.2/158, Error ellipse: s-maj=12.6km s-min=12.0km az=102.0*
IDC ***10*** *16:32:00.4±0.7, 24°.62S×179°.06E, h524km±6km, mb4.6/24, mb1 4.6/25, mb1mx4.4/37, mbtmp5.4/25, Error ellipse: s-maj=8.9km s-min=8.4km az=155.0*
MOS ***10*** *16:32:00.2±0.8, 24°.63S×179°.07E, h532km, mb5.4/11, Error ellipse: s-maj=9.4km s-min=7.8km az=122.4*
GCMT ***10*** *16:32:03.0±0.2, 24°.76S±0°.02×179°.26E±0°.02, h541km±1km, MW5.6/116, Moment Tension Solution. s116,c189; Duration: 1s6 Moment tensor: Scale 10^17^Nm; M_{rr}-0.83±.04; $M_{\theta\theta}$0.44±.07; $M_{\phi\phi}$0.39±.07; $M_{r\theta}$-1.29±.07; $M_{\theta\phi}$-2.81±.06; $M_{\phi r}$-0.98±.07; Best double couple: $M_0$3.32100×10^17^ NP1:φs355.00000°, δ65.00000°, λ-21.00000°. NP2:φs94.00000°, δ71.00000°, λ-154.00000°. Principal axes: T 3.2400, Plg4.0000°, Azm224.0000°; N 0.1620, Plg58.0000°, Azm128.0000°; P -3.4010, Plg32.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
BGR ***10*** *16:32:04.1±0.0, 24°.15S×176°.08E, h534km*
ISC 10 16:32:00.4±0.3,**24°.71S**±0°.04×**179°.17E**±0°.04,**h534**km±2km, **h535**km:**pP-P,n874,**σ1**926/995,mb5.2/**180,**37C-36D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	5.21	151	P	P	16 33 32.9	+1.9
RAO	Raoul Island	5.22	151	P	P	16 33 32.4	+1.3
	2μm,0.3s,baz=94,slow=10.0,SNR=40						
RAO				S	S	16 34 47.0	+1.8
	158nm,0.3s,baz=54,slow=22,SNR=1.3						
RAO	Raoul Island	5.22	151	P	P	16 33 31.1	0.0
GLKZ	Green Lake	5.22	151	P	P	16 33 33.4	+2.3
MSVF	Nonsavu	7.02	351	*c iP*	P	16 33 47.5	-0.7
MSVF	Nonsavu	7.02	351	P	P	16 33 47.2	-1.0
NFK	Norfolk Island	10.91	244	P	P	16 34 29.1	+1.5
	baz=11,SNR=12						
OUZ	Omahuta	11.53	203	P	P	16 34 36.9	+3.0
OUZ	Omahuta	11.53	203	P	P	16 34 36.6	+2.7
NIUE	Niue	11.57	63	P	P	16 34 33.1	-1.4
	baz=11,SNR=15						
NIUE	Niue	11.57	63		P	16 34 33.3	-1.2
WCZ	Waipu Caves	11.94	199	P	P	16 34 41.2	+3.1
DZM	Mont Dzumac	11.98	280	P	P	16 34 40.6	+1.7
	18nm,0.3s,baz=59,slow=22,SNR=146						
DZM				S	S	16 36 51.8	+2.5
	baz=343,slow=19,SNR=9.4						
DZM	Mont Dzumac	11.98	280	*eP*	P	16 34 41.0	+2.1
	2μm,1.3s						
DZM	Mont Dzumac	11.98	280	P	P	16 34 40.8	+1.9
KUZ	Kuaotunu	12.36	193	P	P	16 34 44.0	+1.6
WIAZ	Waiheke Island	12.53	195	P	P	16 34 46.9	+2.6
WTAZ	Waiatarua	12.80	197	P	P	16 34 49.8	+2.6
MXZ	Matakaoa Point	12.83	183	P	P	16 34 45.9	-1.5
MXZ	Matakaoa Point	12.83	183	P	P	16 34 46.2	-1.3
HAZ	Te Kaha	13.06	185	P	P	16 34 48.5	-1.2
HAZ				S	S	16 37 02.7	-6.6
WMGZ	Waiomatatini S	13.09	183	P	P	16 34 49.3	-0.8
WHRZ	Whale Island	13.24	188	P	P	16 34 52.8	+1.1
RUGZ	Raukumara Rang	13.28	185	P	P	16 34 49.8	-2.4
RUGZ				S	S	16 37 05.0	-8.6
PUZ	Puketiti	13.34	183	P	P	16 34 51.0	-1.8
URZ	Urewera	13.62	187	P	P	16 34 53.7	-1.9
	97nm,0.3s,baz=356,slow=2.4,SNR=188						
URZ				S	S	16 37 14.3	-5.6
	7.8nm,0.3s,baz=32,slow=8.7,SNR=11						
URZ	Urewera	13.62	187	P	P	16 34 53.8	-1.9
URZ				S	S	16 37 13.3	-6.6
URZ	Urewera	13.62	187		P	16 34 53.6	-2.0
MWZ	Matawai	13.65	185	P	P	16 34 54.6	-1.4
MWZ				S	S	16 37 16.4	-4.2
TARZ	Mount Tarawera	13.67	189	P	P	16 34 56.3	+0.1
AFI	Afiamalu	13.72	40	P	P	16 34 52.8	-4.3
	67nm,0.3s,baz=77,slow=1.2,SNR=69						
AFI				S	S	16 37 12.5	-10
	7.3nm,0.3s,baz=32,slow=23,SNR=2.6						
AFI	Afiamalu	13.72	40	P	P	16 34 51.9	-5.2
AFI				S	S	16 37 12.5	-10
AFI	Afiamalu	13.72	40		P	16 34 51.9	-5.1
TKGZ	Te Karaka	13.73	184	P	P	16 34 54.7	-2.0
CNGZ	Carnagh Statio	13.76	183	P	P	16 34 55.7	-1.3
RRRZ	Republican Roa	13.77	189	P	P	16 34 56.9	-0.4
RAWZ	Rawiri	13.82	186	P	P	16 34 52.0	-5.8
MUGZ	Murupara	13.88	188	P	P	16 34 56.4	-1.9
RTZ	Ruatahuna	13.99	187	P	P	16 34 57.0	-2.6
RIGZ	Rimuhau	14.01	185	P	P	16 34 57.4	-2.3
SNGZ	Shannon Statio	14.12	186	P	P	16 34 58.3	-2.5
PRGZ	Paritu Road	14.21	184	P	P	16 35 00.8	-1.0
MTHZ	Maungataniwha	14.24	187	P	P	16 34 59.4	-2.6
HIZ	Hauiti	14.24	194	P	P	16 35 01.9	-0.2
RAHZ	Arahi	14.27	187	P	P	16 35 00.1	-2.4
KNZ	Kokohu	14.33	185	P	P	16 35 00.1	-2.8
WHHZ	Waihua	14.42	186	P	P	16 35 01.8	-2.2
MHGZ	Mahia Peninsul	14.44	184	P	P	16 35 02.3	-1.9
NMHZ	Naumai	14.48	187	P	P	16 35 02.4	-2.3
SANVU	Saraoutou	14.53	307	P	P	16 35 03.1	-2.2
BKZ	Black Stump Fm	14.59	188	P	P	16 35 03.0	-2.8
BKZ	Black Stump Fm	14.59	188	P	P	16 35 02.6	-3.1
TUVZ	Tukino	14.82	191	P	P	16 35 06.9	-1.3
MCHZ	McNeil Hill	14.84	187	P	P	16 35 05.5	-2.8
KWHZ	Kaweka Forest	14.85	188	P	P	16 35 05.6	-3.0
WNVZ	Wahianoa	14.88	191	P	P	16 35 07.4	-1.6
PKVZ	Pokaka	14.89	192	P	P	16 35 08.0	-0.9
MOVZ	Moawhango	14.94	190	P	P	16 35 07.1	-2.3
MTVZ	Mangateitei	14.96	191	P	P	16 35 08.6	-1.1
BHHZ	Black Hill Sta	14.97	189	P	P	16 35 06.7	-3.0
KRHZ	Kereru	15.08	188	P	P	16 35 07.4	-3.4
KAHZ	Kahuranaki	15.16	187	P	P	16 35 09.1	-2.6
PNHZ	Pukenui	15.37	189	P	P	16 35 10.3	-3.5
PXZ	Pawanui	15.40	187	P	P	16 35 11.1	-3.0
WAZ	Wanganui	15.41	192	P	P	16 35 12.7	-1.6
WPHZ	Waipukurau	15.48	188	P	P	16 35 12.2	-2.8
TSZ	Takapari Road	15.54	189	P	P	16 35 12.6	-3.0
PRHZ	Porangahau	15.66	187	P	P	16 35 14.5	-2.3
DVHZ	Dannevirke	15.75	188	P	P	16 35 14.7	-3.1
ANWZ	Angora Road	15.87	188	P	P	16 35 16.3	-2.6
POWZ	Post Office Ro	15.90	190	P	P	16 35 16.6	-2.6
PRWZ	Pori Road	16.03	189	S	S	16 37 59.2	-5.1
BFZ	Birch Farm	16.11	188		P	16 35 18.6	-2.8
SNZO	South Karori	16.97	192	P	P	16 35 27.7	-1.7
MSWZ	Moikau Station	16.98	190	P	P	16 35 26.8	-2.7
QRZ	Quartz Range	17.00	197	P	P	16 35 29.7	0.0
BHW	Baring Head	17.03	191	P	P	16 35 28.1	-1.9
PLWZ	Palliser	17.13	190		P	16 35 28.4	-2.5
NNZ	Nelson	17.16	195	P	P	16 35 30.2	-0.9
TUWZ	Tuamarina	17.23	193	P	P	16 35 30.2	-1.6
CMWZ	Cape Campbell	17.49	192	P	P	16 35 33.4	-0.7
BSWZ	Blackbirch Sta	17.52	193	P	P	16 35 32.4	-2.1
THZ	Tophouse	17.79	196		P	16 35 36.2	-0.8
KHZ	Kahutara	18.27	193	P	P	16 35 38.9	-2.3
LTZ	Lake Taylor	18.90	196	P	P	16 35 45.1	-2.0
LHI	Lord Howe Isla	18.98	245	P	P	16 35 50.9	+2.9
	baz=19,SNR=17						
LHI	Lord Howe Isla	18.98	245	P	P	16 35 50.4	+2.5
OXZ	Oxford	19.47	196	P	P	16 35 50.8	-1.5
MQZ	McQueen's Vall	19.69	194	P	P	16 35 53.1	-1.1
MQZ				IAmb	IAmb	16 36 00.3	
	comp=Z,83nm,0.6s						
RAR	Rarotonga	19.70	84	P	P	16 35 56.0	+1.4
	comp=Z,1.4nm,0.3s,baz=258,slow=7.5,SNR=3.8						
RAR	Rarotonga	19.70	84	P	P	16 35 56.0	+1.4
RAR				pmax	pmax		
	comp=Z,49nm,0.8s						
RAR	Rarotonga	19.70	84	IAmb	IAmb	16 36 00.1	
	comp=Z,49nm,0.8s						
RPZ	Rata Peaks	20.09	197	P	P	16 35 58.1	+0.2
	comp=Z,160nm,0.5s,baz=5.9,slow=2.4,SNR=47						
RPZ				ScP	ScP	16 42 34.8	+0.6
	comp=Z,12nm,0.5s,baz=0.0,slow=12,SNR=2.9						
RPZ	Rata Peaks	20.09	197	P	P	16 35 56.9	-1.1
FOZ	Fox Glacier	20.28	200	P	P	16 35 59.1	-0.5
ODZ	Otahua Downs	21.43	197	P	P	16 36 09.2	-0.9
ODZ				IAmb	IAmb	16 36 19.1	
	comp=Z,114nm,1.4s						
WKZ	Wanaka	21.70	200	P	P	16 36 11.3	-1.2
WKZ				IAmb	IAmb	16 36 17.5	
	comp=Z,160nm,1.3s						
MLZ	Mavora Lakes	22.47	201	P	P	16 36 19.0	-0.3
MLZ				IAmb	IAmb	16 36 23.5	
	comp=Z,102nm,0.7s						
DCZ	Deep Cove	22.87	202	P	P	16 36 22.9	0.0
WHZ	Wether Hill Ro	22.99	200	P	P	16 36 24.2	+0.3
KNTN	Kanton	23.51	23	P	P	16 36 28.0	-1.0
HNR	Honiara	23.79	306	P	P	16 36 30.5	-1.0
	comp=Z,982nm,0.9s,baz=193,slow=2.5,SNR=79						
HNR	Honiara	23.79	306	P	P	16 36 30.2	-1.3
ARMA	Armidale	25.04	251	P	P	16 36 44.7	+2.2
	baz=25,SNR=28						
ARMA	Armidale	25.04	251	P	P	16 36 44.0	+1.5
ARMA				IAmb	IAmb	16 36 45.9	
	comp=Z,104nm,0.9s						
EIDS	Eidsvold	25.44	263	P	P	16 36 47.4	+1.4
	baz=26,SNR=9.1						
EIDS	Eidsvold	25.44	263	P	P	16 36 46.8	+0.7
MGCD	Mangrove Creek	25.91	244	P	P	16 36 52.5	+2.5
	baz=26,SNR=23						
RIV	Riverview	26.01	243	P	P	16 36 53.3	+2.5
	baz=26,SNR=5.7						
TARA	Tarawa	26.61	346	P	P	16 36 56.0	-0.4
RMQ	Roma	27.46	260	P	P	16 37 06.1	+2.4
	baz=28,SNR=17						
CNB	Canberra Magne	27.79	241	P	P	16 37 08.7	+2.0
	baz=28,SNR=68						
CAN	Canberra	28.08	241	P	P	16 37 10.5	+1.4
CAN				pmax	pmax		
	comp=Z,380nm,1.3s						
CAN	Canberra	28.08	241	P	P	16 37 10.5	+1.4
YNG	Young	28.34	243	P	P	16 37 13.3	+1.9
	baz=28,SNR=12						
PAE	Paea	29.92	83	*eP*	P	16 37 25.5	+0.3
	comp=Z,24nm,1.4s						
PPT	Papeete	29.96	82	P	P	16 37 26.6	+1.0
	comp=Z,16nm,0.5s,baz=222,slow=5.8,SNR=5.0						
TIAR	Tiarei	30.17	83	*eP*	P	16 37 27.9	+0.5
	comp=Z,65nm,1.6s						
CMSA	Cobar Meteorol	30.22	249	P	P	16 37 28.8	+1.1
	baz=30,SNR=128						
CTA	Charters Tower	30.73	272	ScP	ScP	16 43 07.8	+2.3
	comp=Z,24nm,1.0s,baz=164,slow=2.5,SNR=4.0						
CTAO	Charters Tower	30.73	272	P	P	16 37 33.2	+0.9
CTAO				pmax	pmax		
	comp=Z,170nm,0.8s						
CTAO	Charters Tower	30.73	272	P	P	16 37 33.2	+0.9
MEH	Mehetia	31.22	84	*eP*	P	16 37 36.7	+0.2
	comp=Z,48nm,1.4s						
TOO	Toolangi	31.38	238	P	P	16 37 39.1	+1.5
	baz=32,SNR=65						
TOO	Toolangi	31.38	238	P	P	16 37 38.8	+1.2
TOO				pmax	pmax		
	comp=Z,374nm,1.5s						
TOO	Toolangi	31.38	238	P	P	16 37 38.8	+1.2
QLP	Quilpie	31.49	259	P	P	16 37 39.8	+1.1
	baz=32,SNR=44						
MOO	Moorlands	31.73	228	P	P	16 37 42.6	+2.1
	baz=32,SNR=7.1						
TAU	Tasmania Unive	31.83	227	P	P	16 37 42.6	+1.3
TAU				pmax	pmax		
	comp=Z,293nm,1.3s						
TAU	Tasmania Unive	31.83	227	P	P	16 37 42.6	+1.3
PMOR	Pomariorio Ree	32.37	79	*eP*	P	16 37 46.5	+0.2
	comp=Z,170nm,1.2s						
VAH	Vaihoa	32.52	79	*eP*	P	16 37 47.7	+0.2
	comp=Z,159nm,1.3s						
RABL	Rabaul	33.03	304	P	P	16 37 49.6	-2.3
MTSU	Mount Surprise	33.03	275	P	P	16 37 53.2	+1.2
	baz=33,SNR=355						
STKA	Stephens Creek	33.72	249	P	P	16 37 58.7	+1.2
	comp=Z,38nm,0.4s,baz=94,slow=12,SNR=248						
STKA				S	S	16 42 42.7	-0.4
	comp=Z,29nm,1.0s,baz=212,slow=20,SNR=8.8						
STKA				ScP	ScP	16 43 18.1	+2.4
	comp=Z,21nm,0.8s,baz=81,slow=4.3,SNR=4.9						
STKA	Stephens Creek	33.72	249	P	P	16 37 58.7	+1.2
	baz=34,SNR=82						
STKA	Stephens Creek	33.72	249	P	P	16 37 58.2	+0.7
PMG	Port Moresby	34.06	291	*deP*	P	16 38 00.6	+0.1
PMG				pmax	pmax		
	comp=Z,497nm,1.0s						
PMG	Port Moresby	34.06	291	P	P	16 38 00.5	-0.1
ARPS	Mount Arapiles	34.06	240	P	P	16 38 01.4	+1.1
	baz=34,SNR=16						
XMAS	Kiritimati	34.96	44	P	P	16 38 08.6	+0.5
COEN	Coen	35.51	281	P	P	16 38 13.7	+1.0
	baz=36,SNR=133						
COEN	Coen	35.51	281	P	P	16 38 13.3	+0.6
HTT	Hallett	36.05	247	P	P	16 38 17.9	+0.8
	baz=36,SNR=43						
QIS	Mount Isa	36.66	268	P	P	16 38 22.5	+0.3
	baz=37,SNR=25						
PATS	Pohnpei	37.37	324	P	P	16 38 27.9	0.0
	baz=38,SNR=13						
PATS	Pohnpei	37.37	324	P	P	16 38 27.3	-0.6
BBOO	Buckleboo	38.44	248	P	P	16 38 36.7	+0.2
	baz=39,SNR=180						
BBOO	Buckleboo	38.44	248	P	P	16 38 36.4	-0.1
AS31	Alice Springs	41.16	262	P	P	16 38 58.3	-0.2
ASAR	Alice Springs	41.16	262	P	P	16 38 59.0	+0.5
	comp=Z,67nm,1.0s,baz=92,slow=7.6,SNR=351						
ASAR				ScP	ScP	16 43 46.9	+2.7
	comp=Z,12nm,0.8s,baz=103,slow=4.3,SNR=9.0						
ASAR				S	S	16 44 32.4	-1.2
	comp=Z,20nm,0.7s,baz=102,slow=15,SNR=18						
ASAR				ScS	ScS	16 48 02.2	-0.2
	comp=Z,6.3nm,0.9s,baz=102,slow=7.1,SNR=5.6						
ASAR	Alice Springs	41.16	262	P	P	16 38 58.2	-0.4
WR0	Warramunga Arr	41.42	267	P	P	16 39 00.0	-0.5
WR0				IAmb	IAmb	16 39 01.5	
	comp=Z,78nm,0.8s						
WB2	Warramunga Arr	41.59	267	P	P	16 39 01.6	-0.4
WB2				IAmb	IAmb	16 39 03.0	
	comp=Z,140nm,0.9s						
WRAB	Tennant Creek	41.60	267	*deP*	P	16 39 01.7	-0.3
WRAB				pmax	pmax		
	comp=Z,138nm,1.0s						
WRAB	Tennant Creek	41.60	267	P	P	16 39 01.5	-0.5
WRAB				IAmb	IAmb	16 39 02.9	
	comp=Z,122nm,0.9s						
WB0	Warramunga Arr	41.60	268	P	P	16 39 01.6	-0.5
WB0				IAmb	IAmb	16 39 03.0	
	comp=Z,154nm,0.9s						
WRA	Warramunga Arr	41.60	267	P	P	16 39 01.8	-0.2
	comp=Z,76nm,0.7s,baz=101,slow=8.3,SNR=233						
WRA				ScP	ScP	16 43 49.1	+3.1
	comp=Z,19nm,0.7s,baz=100,slow=3.9,SNR=15						
WRA				S	S	16 44 36.5	-3.4
	comp=Z,53nm,1.1s,baz=107,slow=16,SNR=25						
WRA	Warramunga Arr	41.60	267	P	P	16 39 00.8	-1.3
JAY	Jayapura	43.15	295	P	P	16 39 13.9	-0.3
	comp=Z,152nm,0.8s,baz=131,slow=7.7,SNR=8.8						
JAY				ScP	ScP	16 43 54.6	+2.3
	comp=Z,19nm,1.0s,baz=160,slow=7.4,SNR=4.1						
JAY	Jayapura	43.15	295	P	P	16 39 14.1	-0.2
	comp=Z,2μmcomp=Z,138nm,1.4s						
JAY	Jayapura	43.15	295	P	P	16 39 14.0	-0.3
GENI	Genyem	43.55	294	P	P	16 39 17.3	0.0
	comp=Z,6μmcomp=Z,546nm,1.3s						
SMPI	Sarmi	45.10	294	P	P	16 39 29.0	-0.3
	comp=Z,2μmcomp=Z,129nm,1.5s						
FORT	Forrest	45.32	250	P	P	16 39 30.6	-0.2
	baz=45,SNR=88						
FORT	Forrest	45.32	250	P	P	16 39 30.3	-0.5
FORT				IAmb	IAmb	16 39 31.5	
	comp=Z,99nm,0.6s						
WAKE	Wake Island	45.40	343	P	P	16 39 31.2	-0.1
KDU	Kakadu	45.62	276	P	P	16 39 32.8	-0.4
	baz=46,SNR=74						
WRKA	Warakurna	45.93	258	P	P	16 39 35.7	+0.2
	baz=46,SNR=48						
MTN	Manton Dam	46.77	276	P	P	16 39 41.3	-0.7
	baz=47,SNR=77						
MTN	Manton Dam	46.77	276	P	P	16 39 41.3	-0.7
SRPI	Serui, Papua	47.23	292	P	P	16 39 45.7	+0.2
	comp=Z,5μmcomp=Z,567nm,1.1s						
KNRA	Kununurra	47.93	271	P	P	16 39 51.1	+0.4
	baz=48,SNR=194						
KNRA	Kununurra	47.93	271	P	P	16 39 50.6	-0.1
FITZ	Fitzroy Crossi	50.02	267	S	S	16 46 38.4	+0.8
	comp=Z,14nm,0.9s,baz=0.0,slow=17,SNR=20						
FITZ	Fitzroy Crossi	50.02	267	P	P	16 40 06.6	+0.5
	baz=50,SNR=57						
FITZ	Fitzroy Crossi	50.02	267	P	P	16 40 06.5	+0.3
FITZ				IAmb	IAmb	16 40 07.9	
	comp=Z,103nm,1.1s						
FAKI	Fak Fak	50.10	288	P	P	16 40 07.4	+0.6
	comp=Z,2μmcomp=Z,150nm,1.4s						
FAKI	Fak Fak	50.10	288	P	P	16 40 05.5	-1.4
FAKI				IAmb	IAmb	16 40 07.0	
	comp=Z,116nm,1.0s						
KMBL	Kambalda	50.52	249	P	P	16 40 09.7	0.0
	baz=51,SNR=7.7						
GUMO	Guam	50.69	315	P	P	16 40 10.5	-0.5
	comp=Z,224nm,0.9s,baz=202,slow=4.8,SNR=6.6						
GUMO	Guam	50.69	315	P	P	16 40 09.5	-1.5
BNDI	Bandanaira	51.37	285	P	P	16 40 16.6	+0.5
	comp=Z,4μmcomp=Z,398nm,1.0s						
SIJI	Sorong	51.98	290	P	P	16 40 20.3	-0.2
	comp=Z,294nm,0.8s,baz=89,slow=4.9,SNR=100						
MSAI	Masohi	52.79	285	P	P	16 40 25.9	-0.3
	comp=Z,678nmcomp=Z,36nm,1.1s						
VNDA	Vanda	53.51	185	P	P	16 40 32.1	+1.7
	comp=Z,20nm,0.9s,baz=0.8,slow=7.7,SNR=54						
VNDA	Vanda	53.51	185	P	P	16 40 31.9	+1.6
KLBR	Kellerberrin	53.98	248	P	P	16 40 34.4	-0.1
	baz=54,SNR=34						
MEEK	Meekatharra	54.16	254	P	P	16 40 35.3	-0.5
	baz=54,SNR=4.9						
SOEI	Soe	54.17	276	P	P	16 40 37.5	+1.4
	comp=Z,3μmcomp=Z,198nm,0.9s						
SOEI	Soe	54.17	276	P	P	16 40 37.0	+0.9
SOEI				IAmb	IAmb	16 40 38.9	
	comp=Z,317nm,1.2s						
NWAO	Narrogin (SRO)	54.22	246	P	P	16 40 36.0	-0.1
	baz=54,SNR=4.4						
NWAO	Narrogin (SRO)	54.22	246	P	P	16 40 36.0	-0.1
NWAO				pmax	pmax		
	comp=Z,39nm,1.4s						
NWAO	Narrogin (SRO)	54.22	246	P	P	16 40 36.0	-0.1
NWAO	Narrogin (SRO)	54.22	246	P	P	16 40 36.0	-0.1
NWAO				IAmb	IAmb	16 40 36.9	
	comp=Z,28nm,1.3s						
NLAI	Namlea	54.44	285	P	P	16 40 37.9	0.0
	comp=Z,6μmcomp=Z,219nm,1.2s						
BATI	Baumata	54.54	275	P	P	16 40 40.4	+1.8
	comp=Z,81nm,1.2s						
BLDU	Ballidu	55.03	249	P	P	16 40 41.7	-0.2
	baz=55,SNR=9.6						
MUN	Mundaring	55.22	247	P	P	16 40 43.5	+0.3
	baz=55,SNR=9.8						
MORW	Morawa	55.89	251	P	P	16 40 48.1	+0.2
	baz=56,SNR=7.2						
MORW	Morawa	55.89	251	P	P	16 40 47.5	-0.4
SANI	Sanana	55.98	285	P	P	16 40 48.5	-0.2
	comp=Z,2μmcomp=Z,158nm,1.0s						
TNTI	Ternate	56.17	289	P	P	16 40 50.0	+0.1
	comp=Z,2μmcomp=Z,196nm,1.1s						
TNTI	Ternate	56.17	289	P	P	16 40 49.5	-0.4
TNTI				IAmb	IAmb	16 40 51.0	
	comp=Z,233nm,1.1s						
MMRI	Maumere	56.45	276	P	P	16 40 51.9	0.0
	comp=Z,2μmcomp=Z,188nm,1.1s						
MMRI	Maumere	56.45	276	P	P	16 40 51.3	-0.6
MMRI				IAmb	IAmb	16 40 52.9	
	comp=Z,150nm,1.0s						
EDFI	Ende, Flores	56.90	276	P	P	16 40 54.8	-0.3
	comp=Z,740nmcomp=Z,78nm,0.9s						
BASI	Baing, Sumba	57.33	274	P	P	16 40 58.5	+0.6
	comp=Z,2μmcomp=Z,148nm,1.3s						
WBSI	Waikabubak, Su	58.63	274	P	P	16 41 07.8	+1.0
	comp=Z,139nm,0.8s						
KMSI	Cibinong	59.00	287	P	P	16 41 09.5	+0.3
	comp=Z,3μmcomp=Z,80nm,0.4s						
CASY	Casey	59.05	206	P	P	16 41 08.6	-0.2
CASY				IAmb	IAmb	16 41 09.5	
	comp=Z,85nm,0.8s						
LUWI	Luwuk	59.29

JYT Yasato 70.91 327 P **P** **16 42 22.9 -0.8**
JYT IAmb IAmb 16 42 25.2
comp=Z,146nm,0.9s
DBJI Dramaga 71.33 271 P **P** **16 42 27.0 +0.2**
comp=Z,3µmcomp=Z,82nm,1.1s
KSM Kuching 71.50 281 P **P** **16 42 27.4 -0.4**
KSM IAmb IAmb 16 42 29.1
comp=Z,94nm,0.9s
KSM Kuching 71.50 281 P **P** **16 42 28.0 +0.3**
INU Inuyama 71.83 325 P **P** **16 42 28.8 -0.4**
INU IAmb IAmb 16 42 30.7
comp=Z,113nm,1.1s
JGF Kuroka 71.85 325 P **P** **16 42 28.7 -0.6**
JGF IAmb IAmb 16 42 31.5
comp=Z,101nm,1.3s
JMM Marumori 71.93 329 P **P** **16 42 29.6 0.0**
JMM IAmb IAmb 16 42 31.3
comp=Z,123nm,1.4s
MJAR Matsushiro Arr 72.14 326 P **P** **16 42 30.7 -0.3**
comp=Z,78nm,0.9s,baz=160,slow=5.5,SNR=134
MJAR PP **sP** **16 45 15.8 -0.2**
comp=Z,7.8nm,1.2s,baz=160,slow=6.9,SNR=4.0
MJAR Matsushiro Arr 72.14 326 P **P** **16 42 30.4 -0.5**
MJAR *SP **sP** **16 45 15.8 -0.2**
MJAR pmax pmax
comp=Z,52nm,1.0s
MJAR Matsushiro Arr 72.14 326 P **P** **16 42 30.4 -0.5**
MAJO Matsushiro 72.14 326 *d iP* **P** **16 42 30.7 -0.3**
MAJO pmax pmax
comp=Z,147nm,1.0s
MAJO Matsushiro 72.14 326 P **P** **16 42 30.8 -0.1**
MAJO IAmb IAmb 16 42 32.2
comp=Z,122nm,0.9s
MAT Matsushiro 72.14 326 P **P** **16 42 30.8 -0.2**
MAT S **SKiKP** **16 51 09.8 -0.5**
CGJI Cibinong 72.27 271 P **P** **16 42 32.1 -0.1**
comp=Z,133nm,0.9s
JMN Monobe 72.33 322 P **P** **16 42 32.0 -0.1**
JMN IAmb IAmb 16 42 34.2
comp=Z,136nm,1.3s
JWT Wachi 72.64 324 P **P** **16 42 34.1 +0.2**
JWT IAmb IAmb 16 42 34.9
comp=Z,90nm,1.0s
JSU Suzuyama 72.76 318 P **P** **16 42 34.5 -0.1**
JSU IAmb IAmb 16 42 35.3
comp=Z,88nm,0.9s
YOJ Yonaguni jima 73.12 308 P **P** **16 42 36.4 -0.4**
YOJ pmax pmax
comp=Z,191nm,1.0s
YOJ Yonaguni jima 73.12 308 P **P** **16 42 36.4 -0.4**
JSD Sado 73.28 327 P **P** **16 42 38.1 +0.7**
JSD IAmb IAmb 16 42 39.2
comp=Z,123nm,1.0s
TWG Pinlang 73.55 305 P **P** **16 42 37.1 -2.2**
TWG IAmb IAmb 16 42 38.0
comp=Z,64nm,0.7s
JNU Nakatsue 73.64 319 P **P** **16 42 39.4 -0.3**
comp=Z,49nm,0.9s,baz=108,slow=4.5,SNR=25
JNU PP **PP** **16 45 33.0 -0.8**
comp=Z,14nm,1.1s,baz=190,slow=4.6,SNR=5.0
JNU Nakatsue 73.64 319 P **P** **16 42 38.5 -1.1**
JNU IAmb IAmb 16 42 40.2
comp=Z,76nm,1.0s
JHS Saijyo 73.69 322 P **P** **16 42 39.9 0.0**
JHS IAmb IAmb 16 42 41.8
comp=Z,197nm,1.2s
YULB Yu-li 73.72 306 P **P** **16 42 38.1 -2.2**
KLSI 73.92 272 P **P** **16 42 41.2 -0.5**
comp=Z,16nm,1.7s
NACB Ninganchiao 73.97 307 P **P** **16 42 40.4 -1.2**
NACB IAmb IAmb 16 42 41.9
comp=Z,122nm,1.1s
JTM Tenmabayashi 74.16 331 P **P** **16 42 43.0 +0.7**
TPUB Ta-pu 74.16 305 P **P** **16 42 40.8 -2.1**
TPUB IAmb IAmb 16 42 42.2
comp=Z,61nm,0.9s
SSLB Suanglung 74.21 306 P **P** **16 42 41.3 -1.8**
SSLB IAmb IAmb 16 42 42.6
comp=Z,47nm,1.0s
ERM Erimo 74.28 333 *i* P **P** **16 42 44.3 +1.3**
ERM pmax pmax
comp=Z,117nm,1.4s
LWLI Liwa 74.40 272 P **P** **16 42 44.5 0.0**
comp=Z,3µmcomp=Z,110nm,1.2s
YHNB Yeheng 74.43 307 P **P** **16 42 43.5 -0.9**
YHNB IAmb IAmb 16 42 44.9
comp=Z,72nm,1.1s
MDSI Maura Dua 74.51 272 P **P** **16 42 43.7 -1.3**
comp=Z,94nm,1.0s
TATO Taipei 74.53 307 P **P** **16 42 43.7 -1.1**
YUK Yuzh-Kuril'sk 74.91 336 *d iP* **P** **16 42 47.4 +0.9**
YUK *e* 16 42 57.7
YUK *i* *PP **pP** **16 44 37.4 -0.3**
YUK *i* 16 45 43.6
YUK *e*PPP PPP 16 47 36.4
YUK *i* S **S** **16 51 40.1 -0.4**
YUK SS **SS** **16 56 40.4 -4.0**
YUK pmax pmax
comp=Z,200nm,1.1s
YUK pmax pmax
comp=N,143nm,1.2s
YUK pmax pmax
comp=E,146nm,0.6s
KUR Kuril'sk 75.23 338 *d iP* **P** **16 42 49.1 +0.9**
KUR *e*S **S** **16 51 47.3 +3.4**
KUR pmax pmax
comp=Z,213nm,2.1s
LHSI Lahat 75.37 273 P **P** **16 42 49.4 -0.4**
comp=Z,109nm,1.1s
BELA Belgrano 2 75.73 173 P **P** **16 42 50.9 +0.2**
AMKA Amchitka 75.75 0 P **P** **16 42 50.8 -0.2**
DSRI Dabo 75.81 276 P **P** **16 42 53.5 +1.2**
comp=Z,37nm,1.4s
JKA Kamikawa-asahi 76.25 334 P **P** **16 42 56.0 +2.0**
JKA IAmb IAmb 16 42 56.8
comp=Z,89nm,1.0s
ASAJ Asahikawa 76.25 334 P **P** **16 42 55.1 +1.2**
comp=Z,66nm,0.9s,baz=204,slow=8.2,SNR=35
KSI Kapahiang 76.29 272 P **P** **16 42 54.1 -0.9**
comp=Z,164nm,0.8s
ADK Adak 76.35 3 P **P** **16 42 54.1 -0.2**
ADK pmax pmax
comp=Z,80nm,1.0s
ADK Adak 76.35 3 P **P** **16 42 54.1 -0.2**
ADK IAmb IAmb 16 42 55.4
comp=Z,80nm,0.9s
GSTR Great Sitkin T 76.59 3 P **P** **16 42 55.7 +0.1**
QZH Quanzhou 76.63 306 P **P** **16 42 56.4 -0.1**
QZH S **S** **16 51 58.6 -1.2**
QZH ScS **ScS** **16 52 21.8 -1.5**
QZH pmax pmax
comp=Z,36nm,0.9s
QZH pmax pmax
comp=Z,390nm,2.8s
MAW Mawson 76.73 201 P **P** **16 42 57.4 +1.1**
comp=Z,39nm,0.9s,baz=129,slow=6.5,SNR=145
MAW Mawson 76.73 201 P **P** **16 42 57.3 +1.1**
baz=77,SNR=84
MAW Mawson 76.73 201 P **P** **16 42 57.1 +0.8**
ATKA Atka Island 76.80 4 P **P** **16 42 56.5 -0.3**
ATKA IAmb IAmb 16 42 57.6
comp=Z,67nm,0.9s
MYKOM Kota Tinggi 77.44 278 P **P** **16 43 00.5 -0.7**
MYKOM Kota Tinggi 77.44 278 P **P** **16 43 00.0 -1.2**
RGRI Rengat 77.90 275 P **P** **16 43 05.4 +1.7**
comp=Z,170nm,0.9s
DLV T Lat 77.94 289 P **P** **16 43 05.3 +1.2**
DLV IAmb IAmb 16 43 05.6
comp=Z,60nm,0.9s
KRJI Kerinci 77.96 273 P **P** **16 43 04.0 -0.1**
comp=Z,181nm,1.1s
TJN Taejon 77.97 320 *de*P **P** **16 43 03.8 +0.3**
NIKH Nikolski High 78.05 7 P **P** **16 43 03.4 -0.2**
NIKH IAmb IAmb 16 43 04.5
comp=Z,123nm,0.9s
KSRS Korea Array 78.39 321 P **P** **16 43 06.5 +0.9**
comp=Z,22nm,0.8s,baz=136,slow=5.7,SNR=98
KSRS PP **PP** **16 46 11.9 -1.1**
comp=Z,7.2nm,1.2s,baz=140,slow=6.9,SNR=4.1
KSAR Wonju Array Be 78.40 321 P **P** **16 43 06.0 +0.2**
KSAR Wonju Array Be 78.40 321 P **P** **16 43 06.0 +0.2**
KS19 Wonju Array Si 78.45 321 P **P** **16 43 05.9 -0.1**
PMSA Palmer Station 78.46 157 P **P** **16 43 06.9 +1.2**
SDSI Sungai Dareh 78.47 274 P **P** **16 43 05.5 -1.3**
comp=Z,24nm,1.1s

HKPS Hong Kong Po S 78.52 301 P **P** **16 43 07.6 +0.8**
YSS Yuzh-Sakhalins 78.55 335 *de*P **P** **16 43 08.1 +1.8**
YSS *e* 16 45 54.3
YSS *e*S **S** **16 52 21.7 +2.7**
YSS *e* 16 52 25.2
YSS *e*SS **SS** **16 57 43.8 +5.2**
YSS pmax pmax
comp=Z,600nm,3.2s
YSS pmax pmax
comp=Z,150nm,0.9s
YSS Yuzh-Sakhalins 78.55 335 P **P** **16 43 07.5 +1.2**
YSS IAmb IAmb 16 43 09.2
comp=Z,130nm,0.8s
INCN Inchon 79.15 320 P **P** **16 43 10.5 +0.6**
INCN pmax pmax
comp=Z,77nm,1.2s
INCN Inchon 79.15 320 P **P** **16 43 10.5 +0.6**
INCN IAmb IAmb 16 43 12.9
comp=Z,77nm,1.2s
PDSI Padang 79.36 274 P **P** **16 43 09.8 -1.7**
comp=Z,24nm,0.8s
PET Petropavlovsk 79.44 348 *e*P **P** **16 43 11.9 +1.0**
PET *e**PP **pP** **16 45 05.0 +1.1**
PET *e*S **S** **16 52 28.8 +0.8**
PET pmax pmax
comp=Z,77nm,0.9s
PET MLR MLR
comp=Z,200nm,19.0s
PET Petropavlovsk 79.44 348 P **P** **16 43 11.0 +0.1**
PEA0B Petropavlovsk- 79.71 347 P **P** **16 43 12.4 0.0**
PEA0B pmax pmax
comp=Z,204nm,1.3s
PEA0B Petropavlovsk- 79.71 347 P **P** **16 43 12.3 0.0**
PEA0B IAmb IAmb 16 43 14.2
comp=Z,204nm,1.2s
PETK Petropavlovsk- 79.71 347 P **P** **16 43 12.8 +0.5**
comp=Z,53nm,0.9s,baz=128,slow=5.1,SNR=51
PETK Petropavlovsk- 79.71 347 P **P** **16 43 12.5 +0.1**
QIZ Qiongzhong 80.27 296 P **P** **16 43 16.3 +0.2**
QIZ sP **sP** **16 46 02.7 -0.6**
QIZ S **S** **16 52 36.2 -1.8**
QIZ pmax pmax
comp=Z,17nm,1.0s
QIZ pmax pmax
comp=Z,170nm,6.3s
QIZ Qiongzhong 80.27 296 P **P** **16 43 15.8 -0.3**
NJ2 Nanjing 80.62 312 ⇓ *iP* **P** **16 43 18.3 +0.7**
NJ2 PP **PP** **16 46 30.1 -1.3**
NJ2 S **S** **16 52 39.9 -1.1**
NJ2 pmax pmax
comp=Z,40nm,1.4s
NJ2 pmax pmax
comp=Z,160nm,5.0s
MNSI Mandailing Nat 80.88 275 P **P** **16 43 18.0 -1.4**
comp=Z,47nm,0.9s
USRK Ussuriysk Ar. 81.04 328 P **P** **16 43 20.6 +1.1**
comp=Z,73nm,1.0s,baz=140,slow=3.7,SNR=66
USRK Ussuriysk Ar. 81.04 328 P **P** **16 43 19.7 +0.2**
USA0B Ussuriysk Arra 81.04 328 P **P** **16 43 19.9 +0.4**
USA0B pmax pmax
comp=Z,206nm,1.3s
USA0B Ussuriysk Arra 81.04 328 P **P** **16 43 19.9 +0.4**
USA0B IAmb IAmb 16 43 22.0
comp=Z,206nm,1.3s
IPM Ipoh 81.14 279 P **P** **16 43 20.4 -0.3**
IPM IAmb IAmb 16 43 21.9
comp=Z,56nm,0.8s
IPM Ipoh 81.14 279 P **P** **16 43 21.0 +0.2**
KULM Kulim 81.83 280 P **P** **16 43 23.8 -0.5**
TYV Tymovskoe 81.86 338 *e*P **P** **16 43 25.0 +1.5**
TYV pmax pmax
comp=Z,80nm,1.6s
TYV pmax pmax
comp=Z,600nm,3.0s
SYO Syowa Base 82.05 194 ⇓ *iP* **P** **16 43 23.0 -1.4**
SYO Syowa Base 82.05 194 ⇑ *iPcP* **PcP** **16 43 28.0 -0.2**
SYO Syowa Base 82.05 194 ⇑ *e*pP pP 16 45 18.3 +0.2
RPSI Rantau Prapat 82.27 277 P **P** **16 43 25.3 -1.2**
RPSI IAmb IAmb 16 43 26.9
comp=Z,49nm,0.9s
PSI Prapat 82.31 277 P **P** **16 43 25.3 -1.6**
PSI pmax pmax
comp=Z,49nm,0.9s
MDJ Mudanjiang 82.52 327 P **P** **16 43 27.7 +0.6**
MDJ IAmb IAmb 16 43 29.5
comp=Z,143nm,1.2s
WHN Wuhan 82.90 308 ⇓ *iP* **P** **16 43 30.0 +0.7**
WHN pP **pwP** **16 45 29.4 +0.3**
WHN S **S** **16 53 00.6 -3.3**
WHN pmax pmax
comp=Z,150nm,1.1s
GSI Gunungsitoli 82.91 275 P **P** **16 43 30.5 +0.8**
comp=Z,100nm,1.2s
GSI Gunungsitoli 82.91 275 P **P** **16 43 30.1 +0.4**
GSI IAmb IAmb 16 43 31.1
comp=Z,62nm,0.9s
DL2 Dalian 83.06 318 P **P** **16 43 30.5 +0.6**
DL2 sP **sP** **16 46 20.8 +2.8**
DL2 SKS **S** **16 52 58.8 -6.3**
DL2 S **SKKSac** **16 53 07.0 +0.6**
DL2 sS **sS** **16 56 31.2 +2.2**
DL2 pmax pmax
comp=Z,51nm,1.4s
DL2 pmax pmax
comp=Z,250nm,5.1s
SNAA Sanae 83.87 179 P **P** **16 43 33.6 0.0**
SNAA Sanae 83.87 179 P **P** **16 43 33.1 -0.5**
SNAA pmax pmax
comp=Z,25nm,1.4s
SNAA Sanae 83.87 179 P **P** **16 43 33.1 -0.5**
MONP2 Monument Peak 83.92 50 P **P** **16 43 36.5 +1.9**
baz=236
EDW2 Edwards Air Fo 83.99 47 P **P** **16 43 36.1 +1.4**
baz=234
TPTI 84.08 276 P **P** **16 43 37.3 +1.7**
comp=Z,28nm,0.7s
GRNR Gornyy 84.09 334 ⇓ *iP* **P** **16 43 36.5 +1.8**
GRNR pmax pmax
comp=E,10.0nm,0.8s
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,50nm,1.1s
GRNR MLR MLR
comp=E,50nm,13.0s
GRNR MLR MLR
comp=Z,80nm,15.0s
VNA3 Neumayer Olymp 84.11 177 P **P** **16 43 34.9 +0.2**
ISA Isabella, Lake 84.13 46 P **P** **16 43 37.1 +1.8**
baz=234
TIA Tai'an 84.25 314 P **P** **16 43 36.7 +0.8**
TIA S S 16 53 07.4 -9.5
TIA pmax pmax
comp=Z,100nm,1.2s
TIA pmax pmax
comp=Z,400nm,6.7s
NVL N'lazarevskaya 84.37 184 *e*P **P** **16 43 34.4 -1.5**
NVL pmax pmax
comp=Z,16nm,1.3s
AFDM Forest Hills D 84.50 43 P **P** **16 43 38.0 +1.0**
VNA2 Neumayer--Watz 84.52 178 P **P** **16 43 37.0 +0.3**
LRMC Laurel Mtn Rad 84.54 47 P **P** **16 43 39.5 +2.0**
baz=234
N02D Trinity Center 84.71 40 P **P** **16 43 40.5 +2.3**
baz=231
VNA1 Neumayer--Stat 84.76 178 P **P** **16 43 38.0 +0.2**
O03E Paynes Creek 84.83 41 P **P** **16 43 40.6 +1.9**
baz=232
CWC Cottonwood Cre 84.84 46 P **P** **16 43 40.3 +1.3**
baz=234
BELC Belle Mtn. Jos 84.84 49 P **P** **16 43 40.8 +1.7**
baz=236
OHAK Old Harbor 84.85 15 P **P** **16 43 38.5 +0.2**
OHAK IAmb IAmb 16 43 40.0
comp=Z,48nm,1.2s
MPMC Manual Prospec 85.01 47 P **P** **16 43 41.3 +1.4**
baz=235
YBH Yreka Blue Hor 85.19 40 P **P** **16 43 41.3 +0.8**
comp=Z,3.8nm,0.8s,baz=198,slow=4.7,SNR=6.3
YBH Yreka Blue Hor 85.19 40 P **P** **16 43 40.1 -0.4**
MLSI Meulaboh, Aceh 85.21 277 P **P** **16 43 41.2 +0.1**
comp=Z,117nm,1.3s
GMRC Granite Mounta 85.51 49 P **P** **16 43 44.1 +1.9**
baz=236
KDAK Kodiak Island 85.52 15 P **P** **16 43 41.9 +0.4**
comp=Z,6.9nm,0.8s,baz=146,slow=4.6,SNR=6.2
KDAK Kodiak Island 85.52 15 P **P** **16 43 41.9 +0.4**
KDAK pmax pmax
comp=Z,31nm,1.4s
HUMO Hull Mountain 85.60 39 P **P** **16 43 42.0 -0.4**
NVAR Mina Array Bea 85.86 44 P **P** **16 43 45.0 +1.1**
comp=Z,2.4nm,0.8s,baz=222,slow=8.4,SNR=16
NVAR Mina Array Bea 85.86 44 P **P** **16 43 43.5 -0.4**
NV11 Mina Array Sit 85.95 44 P **P** **16 43 44.2 -0.1**
SLVN Son La 86.25 295 P **P** **16 43 46.0 0.0**
ENH Enshi 86.29 306 P **P** **16 43 45.7 -0.2**
ENH IAmb IAmb 16 43 47.1
comp=Z,64nm,1.1s
TPNV Topopah Spring 86.33 46 P **P** **16 43 46.7 +0.6**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 86.33 46 P **P** **16 43 47.5 +1.4**
baz=235
TPNV Topopah Spring 86.33 46 P **P** **16 43 46.7 +0.6**
TPH Tonopah 86.34 45 P **P** **16 43 46.6 +0.4**
TPH pmax pmax
comp=Z,50nm,1.2s
TPH Tonopah 86.34 45 P **P** **16 43 46.6 +0.4**
KVN Kaiserville 86.35 44 P **P** **16 43 46.2 0.0**
KVN pmax pmax
comp=Z,13nm,1.5s
KVN Kaiserville 86.35 44 P **P** **16 43 46.2 0.0**
J04D Umpqua Nationa 86.48 39 P **P** **16 43 48.5 +1.7**
baz=231
GYA Guiyang 86.51 301 ⇓ *iP* **P** **16 43 47.6 +0.4**
GYA pP pP 16 45 45.0 +2.5
GYA SKS **SKSac** **16 53 22.9 -0.2**
GYA S **S** **16 53 36.3 -3.0**
GYA pmax pmax
comp=Z,16nm,1.3s
GYA pmax pmax
comp=Z,230nm,3.5s
PBKT Sadao Pong 86.53 290 P **P** **16 43 48.3 +1.1**
PBKT IAmb IAmb 16 43 49.5
comp=Z,37nm,1.0s
I04A Tendick Farm, 86.66 38 P **P** **16 43 48.8 +1.4**
baz=231
SHPR Sheep Range 86.81 47 P **P** **16 43 48.9 +0.6**
K05A Summer Lake 86.86 40 P **P** **16 43 49.2 +0.7**
K05A IAmb IAmb 16 43 51.7
comp=Z,44nm,1.3s
H04D Lebanon 86.94 37 P **P** **16 43 50.9 +2.3**
baz=231
J05D Fort Rock, OR 87.01 39 P **P** **16 43 51.0 +1.8**
baz=232
BJI Beijing 87.10 317 P **P** **16 43 50.5 +1.1**
BJI SKS **SKSac** **16 53 24.7 -0.9**
BJI S **S** **16 53 44.5 +0.7**
BJI pmax pmax
comp=Z,40nm,1.6s
H04A Detroit Lake 87.35 38 P **P** **16 43 50.2 -0.3**
CNPM China Poot 87.40 15 P **P** **16 43 50.6 +0.2**
CNPM IAmb IAmb 16 43 51.4
comp=Z,46nm,1.0s
R11A Troy Canyon, C 87.56 46 P **P** **16 43 53.3 +1.4**
baz=236
I05D Terrebonne, OR 87.61 38 P **P** **16 43 53.3 +1.6**
baz=232
TUC Tucson 87.61 53 P **P** **16 43 54.5 +2.3**
baz=239
RSO Redoubt South 87.91 13 P **P** **16 43 53.2 +0.2**
F04A Amboy 88.01 37 P **P** **16 43 53.6 +0.1**
F04A IAmb IAmb 16 43 56.1
comp=Z,46nm,1.4s
WVOR Wild Horse Val 88.02 41 P **P** **16 43 54.7 +0.9**
WVOR pmax pmax
comp=Z,25nm,1.3s
WVOR Wild Horse Val 88.02 41 P **P** **16 43 54.7 +0.9**
DIB Dawson Inlet, 88.19 27 P **P** **16 43 55.4 +1.2**
DIB IAmb IAmb 16 43 56.7
comp=Z,39nm,1.2s
E04D Cinebar 88.32 36 P **P** **16 43 57.2 +2.2**
baz=231
I07A Izee 88.49 39 P **P** **16 43 57.4 +1.4**
I07A IAmb IAmb 16 43 59.0
comp=Z,30nm,1.4s
CCUT Cedar City 88.58 47 P **P** **16 43 57.7 +0.9**
XAN Xi'an 88.65 309 P **P** **16 43 58.0 +1.1**
XAN PP **PP** **16 47 32.6 -3.1**
XAN SKS **SKSac** **16 53 34.7 -0.5**
XAN S **ScS** **16 54 01.0 -1.1**
XAN pmax pmax
comp=Z,77nm,1.4s
XAN pmax pmax
comp=Z,500nm,7.5s
XAN Xi'an 88.65 309 P **P** **16 43 57.3 +0.4**
XAN pmax pmax
comp=Z,86nm,1.2s
XAN Xi'an 88.65 309 P **P** **16 43 57.3 +0.4**
XAN IAmb IAmb 16 43 59.3
comp=Z,86nm,1.2s
J08A Circle Bar Ran 88.66 40 P **P** **16 43 57.9 +1.1**
D03D Eldon 88.67 35 P **P** **16 43 58.3 +1.7**
baz=230
PSUT Pine Spring 88.79 46 P **P** **16 43 56.9 -0.8**
KMI Kunming 88.97 298 ⇓ *iP* **P** **16 44 00.2 +1.4**
KMI sP sP 16 46 45.6 -2.7
KMI SKS **SKSac** **16 53 41.1 +3.2**
KMI S **S** **16 54 03.7 +1.3**
KMI sS sS 16 57 29.6 -0.8
KMI pmax pmax
comp=Z,42nm,0.8s
KMI pmax pmax
comp=Z,240nm,4.3s
CM31 Chiang Mai Arr 89.10 291 P **P** **16 43 59.9 +0.6**
CM31 IAmb IAmb 16 44 02.3
comp=Z,51nm,1.1s
CMAR Chiang Mai Arr 89.10 291 P **P** **16 44 00.3 +1.0**
comp=Z,17nm,0.9s,baz=137,slow=3.3,SNR=105
CMAR PP **PP** **16 47 40.0 +0.6**
comp=Z,8.7nm,1.1s,baz=127,slow=5.3,SNR=9.2
CMAR Chiang Mai Arr 89.10 291 P **P** **16 44 00.1 +0.8**
ELK Elko 89.12 44 P **P** **16 44 00.2 +1.0**
ELK pmax pmax
comp=Z,10.0nm,1.2s
ELK Elko 89.12 44 P **P** **16 44 00.2 +1.0**
CHTO Chiang Mai 89.26 291 P **P** **16 44 00.5 +0.5**
CHTO pmax pmax
comp=Z,50nm,1.1s
CHTO Chiang Mai 89.26 291 P **P** **16 44 00.5 +0.5**
CHTO IAmb IAmb 16 44 02.7
comp=Z,50nm,1.1s
TTA Tatalina 89.54 11 P **P** **16 43 59.8 -0.6**
TTA pmax pmax
comp=Z,33nm,1.3s
TTA Tatalina 89.54 11 P **P** **16 43 59.8 -0.6**
TTA IAmb IAmb 16 44 02.1
comp=Z,33nm,1.3s
SEY Seymchan 89.90 348 P **P** **16 44 01.8 -0.1**
comp=Z,21nm,0.9s,baz=155,slow=5.2,SNR=41
SEY Seymchan 89.90 348 *d iP* **P** **16 44 02.1 +0.2**
GHO Glory Hole Cre 89.92 15 P **P** **16 44 01.6 -0.6**
GHO IAmb IAmb 16 44 03.5
comp=Z,37nm,1.0s
ZEA Zeya 90.07 332 *e*P **P** **16 44 03.9 +1.0**
ZEA *e*S **SKSac** **16 53 44.0 +1.7**
ZEA *e* 16 54 17.0
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,71nm,1.2s
ZEA smax smax
comp=N,300nm,6.0s
MFID Camas Ranch 90.27 41 P **P** **16 44 03.3 -0.9**
HHC Hu-ho-hao-te 90.46 315 *e*P **P** **16 44 06.2 +1.0**
HHC SKS **SKSac** **16 53 43.8 -1.7**
HHC S **S** **16 54 14.4 -0.4**
HHC pmax pmax
comp=N,75nm,1.2s
HHC pmax pmax
comp=N,140nm,6.0s
HIA Hailar 90.64 326 P **P** **16 44 05.3 -0.4**
HIA pmax pmax
comp=Z,46nm,1.5s
HIA Hailar 90.64 326 P **P** **16 44 05.3 -0.4**
HIA IAmb IAmb 16 44 07.3
comp=Z,46nm,1.5s
CD2 Chengdu 90.89 304 P **P** **16 44 08.7 +1.3**
CD2 PP **PP** **16 47 52.8 -0.5**
CD2 S **S** **16 54 18.8 -0.2**

CD2 sS sS 16 57 48.1 -0.2
CD2 pmax pmax
comp=Z,120nm,1.3s
CD2 pmax pmax
comp=Z,210nm,3.7s
GLB Gilahina Butte 90.89 17 P **P 16 44 07.2 +0.5**
GLB IAmb IAmb 16 44 08.2
comp=Z,28nm,1.4s
KTH Kantishna Hill 91.07 13 P **P 16 44 06.3 -1.1**
TRF Thorofare Moun 91.11 13 P **P 16 44 06.9 -0.9**
TRF IAmb IAmb 16 44 07.7
comp=Z,14nm,1.0s
BARN Barnard Glacie 91.16 18 P **P 16 44 07.9 -0.1**
BARN IAmb IAmb 16 44 09.3
comp=Z,16nm,1.0s
BTO Baotou 91.32 315 *e*P **P 16 44 10.4 +1.2**
RND Reindeer 91.38 14 P **P 16 44 07.9 -1.0**
RND pmax pmax
comp=Z,30nm,1.2s
RND Reindeer 91.38 14 P **P 16 44 07.9 -1.0**
RND IAmb IAmb 16 44 09.8
comp=Z,30nm,1.2s
DHY Denali Highway 91.41 15 P **P 16 44 08.1 -1.0**
TXAR Lajitas Array 91.50 58 P **P 16 44 11.9 +1.6**
comp=Z,0.9nm,0.7s,baz=216,slow=5.8,SNR=6.6
MENT Mentasta 92.17 16 P **P 16 44 11.7 -0.8**
WRH Wood River Hil 92.47 14 P **P 16 44 12.8 -0.9**
WRH IAmb IAmb 16 44 14.4
comp=Z,20nm,1.3s
HDA Harding Lake 92.67 14 P **P 16 44 14.4 -0.3**
baz=210
CCB Clear Creek Bu 92.69 14 P **P 16 44 13.7 -1.0**
DOT Dot Lake 92.69 16 P **P 16 44 14.2 -0.6**
MDM Murphy Dome 92.87 13 P **P 16 44 14.4 -1.2**
MDM IAmb IAmb 16 44 16.1
comp=Z,26nm,1.4s
COLA College 92.88 13 *i* P **P 16 44 15.3 -0.3**
COLA pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 92.96 355 *d i*P **P 16 44 16.3 +0.4**
BILL *e**PP **pwP 16 46 17.7 0.0**
BILL *e* 16 48 12.0
BILL *e*PPP PPP 16 50 19.6
BILL *e*S **SKSac 16 53 56.8 -1.1**
BILL pmax pmax
comp=Z,17nm,1.2s
SCRK Sand Creek 92.98 15 P **P 16 44 16.3 +0.1**
baz=213
IL31 92.99 14 P **P 16 44 15.1 -1.0**
IL31 IAmb IAmb 16 44 16.8
comp=Z,15nm,1.3s
ILAR Eielson Array 92.99 14 P **P 16 44 15.4 -0.7**
comp=Z,3.4nm,1.0s,baz=227,slow=5.0,SNR=14
ILAR Eielson Array 92.99 14 P **P 16 44 15.0 -1.2**
S22A 4UR Ranch, Cre 93.14 50 P **P 16 44 19.0 +1.2**
baz=241
LZH Lanzhou 93.28 308 *e*P **P 16 44 19.8 +1.4**
LZH sP sP 16 47 06.5 -1.7
LZH SKS **SKSac 16 54 00.9 -0.5**
LZH S **ScS 16 54 40.4 -0.4**
LZH pmax pmax
comp=Z,42nm,1.2s
LZH pmax pmax
comp=Z,210nm,5.2s
K27K Chicken 93.50 16 P **P 16 44 19.7 +1.2**
baz=215
PDAR Pinedale Array 93.80 44 PP **PP 16 48 15.2 -0.5**
comp=Z,0.2nm,0.4s,baz=222,slow=6.0,SNR=4.2
SDCO Great Sand Dun 94.06 50 P **P 16 44 23.3 +1.2**
baz=242
EGAK Eagle 94.34 16 P **P 16 44 21.9 -0.3**
EGAK IAmb IAmb 16 44 23.6
comp=Z,11nm,1.1s
YAK Yakutsk 95.05 339 P **P 16 44 24.6 -0.9**
comp=Z,1.6nm,0.4s,baz=61,slow=0.5,SNR=12
YAK Yakutsk 95.05 339 *e*P **P 16 44 24.8 -0.7**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 95.05 339 P **P 16 44 24.6 -0.9**
YAK IAmb IAmb 16 44 25.7
comp=Z,16nm,0.9s
SONM Songino Array 97.22 320 P **P 16 44 36.0 +0.1**
comp=Z,7.1nm,1.1s,baz=142,slow=3.3,SNR=25
SONM Songino Array 97.22 320 P Pdif 16 44 35.0 -0.8
SONM Songino Array 97.22 320 ⇓P **P 16 44 38.5 +0.6**
GTA SKS **SKSac 16 54 22.9 -0.9**
GTA S **ScS 16 55 14.2 -2.7**
GTA sS sS 16 58 46.9 -1.9
GTA SS **SS 17 02 12.6 -0.8**
GTA pmax pmax
comp=Z,15nm,1.3s
GTA pmax pmax
comp=Z,94nm,7.5s
ZAK Zakamensk 100.22 321 *e*P **Pdif 16 44 47.7 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ZAK pmax pmax
comp=Z,3.0nm,1.3s
LPAZ La Paz 102.78 115 PKiKP **PKiKP 16 49 21.0 +1.7**
comp=Z,0.7nm,0.6s,baz=47,slow=2.3,SNR=4.1
LPAZ PKKPbc **PKKPbc 17 00 56.7 -1.0**
comp=Z,0.4nm,0.5s,baz=135,slow=4.3,SNR=3.8
ZALV Zalesovo Beam 112.09 320 PKiKP **PKiKP 16 49 33.3 -1.4**
comp=Z,1.5nm,0.6s,baz=119,slow=1.8,SNR=6.0
ZALV PP **PP 16 50 29.7 0.0**
comp=Z,0.8nm,0.6s,baz=101,slow=7.5,SNR=4.1
ZALV SKP **SKPdf 16 52 20.2 +0.7**
comp=Z,1.0nm,0.6s,baz=9.5,slow=1.8,SNR=4.0
ZALV Zalesovo Beam 112.09 320 **PKiKP 16 49 33.5 -1.2**
MKAR Makanchi Array 112.14 313 Pdiff **Pdif 16 45 42.8 +0.6**
comp=Z,1.2nm,0.7s,baz=99,slow=5.5,SNR=9.4
MKAR PKiKP **PKiKP 16 49 34.4 -0.7**
comp=Z,2.8nm,0.9s,baz=92,slow=2.1,SNR=9.3
MKAR PP **PP 16 50 30.6 +0.3**
comp=Z,2.0nm,0.9s,baz=96,slow=10.0,SNR=4.4
MKAR SKP **SKPdf 16 52 20.9 +1.0**
comp=Z,1.8nm,0.6s,baz=89,slow=1.5,SNR=9.5
NRIK Noril'sk 113.44 337 PP **PP 16 50 35.8 -2.9**
comp=Z,5.6nm,1.2s,baz=112,slow=10,SNR=6.3
KURK Kurchatov 115.26 316 *c i*PKIKP **PKPdf 16 49 40.5 -0.4**
KURK pmax pmax
comp=Z,20nm,1.3s
KURK Kurchatov 115.26 316 **PKPdf 16 49 39.9 -1.1**
KURK **SKiKP 16 52 26.3 +0.5**
KURBB Kurchatov Arra 115.30 316 SKP **SKPdf 16 52 26.6 +0.8**
comp=Z,3.0nm,0.8s,baz=110,slow=2.0,SNR=7.4
AAK Ala-Archa 116.78 307 *c i*PKIKP **PKiKP 16 49 44.9 +0.5**
AAK pmax pmax
comp=Z,4.0nm,1.3s
BDFB Brasilia 118.96 126 PKKPbc PKKPbc 17 00 05.5 +0.1
comp=Z,5.1nm,0.8s,baz=63,slow=4.5,SNR=5.0
KBL Kabul 119.54 297 PKIKP **PKPdf 16 49 49.5 -0.5**
KBL Kabul 119.54 297 **PKPdf 16 49 49.5 -0.5**
D58A Chemin du LacG 119.67 48 P **PKPdf 16 49 48.6 -1.0**
baz=265
KK31 Karatay Array 119.75 307 PKIKP **PKPdf 16 49 49.3 -0.6**
KK31 Karatay Array 119.75 307 **PKPdf 16 49 49.3 -0.6**
KKAR Karatay Array 119.75 307 PKIKP **PKPdf 16 49 49.2 -0.7**
KKAR Karatay Array 119.75 307 **PKPdf 16 49 49.2 -0.7**
KKAR Karatay Array 119.75 307 **PKPdf 16 49 49.0 -0.9**
BVAR Borovoye Array 120.54 318 SKP **SKPdf 16 52 34.9 -0.9**
comp=Z,2.1nm,0.6s,baz=128,slow=1.8,SNR=4.2
BRVK Borovoye 120.61 318 *c i*PKIKP **PKPdf 16 49 51.0 -0.2**
BRVK pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 120.61 318 **PKPdf 16 49 50.5 -0.7**
BOSA Boshof 121.34 207 PKP **PKiKP 16 49 54.1 +0.3**
comp=Z,2.6nm,0.9s,baz=340,slow=1.6,SNR=4.2
F64A Sherman 122.71 50 P **PKPdf 16 49 54.9 -0.5**
baz=267
D63A Stockholm 122.93 49 P **PKPdf 16 49 54.8 -1.0**
baz=268
LMN Caledonia Moun 125.18 50 **PKPdf 16 49 59.5 -0.6**
SPA0 Spitsbergen Ar 125.87 356 **PKPdf 16 50 00.4 -0.3**
SPA0 Spitsbergen Ar 125.87 356 *e*PKPdf **PKPdf 16 50 00.7 +0.1**
SPITS Spitsbergen Ar 125.87 356 PKP **PKPdf 16 50 00.4 -0.3**
comp=Z,18nm,0.8s,baz=125,slow=7.2,SNR=31
SVE Sverdlovsk 125.88 323 *e*PKIKP **PKPdf 16 50 01.1 0.0**
SVE pmax pmax
comp=Z,25nm,1.3s

ARU Arti 127.08 323 SKPbc SKPbc 16 52 32.4
comp=Z,1.0nm,0.5s,baz=161,slow=1.9,SNR=3.0
ARU Arti 127.08 323 PKIKP **PKPdf 16 50 02.9 -0.5**
ARU Arti 127.08 323 **PKPdf 16 50 02.9 -0.5**
ABKAR Akbulak array 127.23 314 **PKPdf 16 50 03.1 -0.9**
AKTO Aktyubinsk 128.35 316 SKPbc SKPbc 16 52 36.2
comp=Z,6.3nm,0.8s,baz=94,slow=3.0,SNR=9.8
UOSS Minazif 128.58 283 **PKPdf 16 50 06.5 -0.8**
GEYT Alibeck 128.72 300 PKP **PKPdf 16 50 07.5 +0.3**
comp=Z,7.2nm,0.8s,baz=232,slow=1.7,SNR=14
GEYT SKPbc SKPbc 16 52 40.5
comp=Z,7.1nm,0.7s,baz=132,slow=2.2,SNR=9.6
GEYT Alibeck 128.72 300 **PKPdf 16 50 06.8 -0.4**
GYA0B ALIBECK ARRAY 128.72 300 **PKPdf 16 50 06.2 -1.1**
KIRV Kirov 131.21 328 PKP **PKPdf 16 50 11.3 +0.1**
comp=Z,9.2nm,0.5s,baz=137,slow=3.6,SNR=2.7
KIRV SKPbc **SKPab 16 52 47.0 -0.2**
comp=Z,49nm,0.7s,baz=109,slow=2.0,SNR=19
ARCES ARCESS Array B 132.52 348 PKhKP PKPpre 16 50 05.2
comp=Z,0.8nm,0.3s,baz=113,slow=0.7,SNR=15
ARCES PKP **PKPdf 16 50 13.3 -0.2**
comp=Z,8.4nm,0.6s,baz=66,slow=2.2,SNR=23
ARCES SKPbc **SKPbc 16 52 51.6 +1.0**
comp=Z,40nm,0.9s,baz=22,slow=3.9,SNR=27
ARCES ARCESS Array B 132.52 348 SKPbc **SKPbc 16 52 51.2 +0.7**
TMCR Tamitsa 133.15 338 *e*PKIKP **PKPdf 16 50 13.5 -1.2**
KLMR Klimovskoe 134.57 334 *e*PKIKP **PKPdf 16 50 16.4 -1.0**
KLMR *e* 16 52 57.4
KLMR pmax pmax
comp=Z,14nm,1.0s
KLMR Klimovskoe 134.57 334 *e*PKPdf **PKPdf 16 50 16.5 -1.0**
KLMR AMP 16 50 18.7
comp=Z,14nm,1.0s
KLMR *e*PP **PP 16 52 57.4 -0.8**
KMBO Kilima Mbogo 135.04 241 PKP **PKPdf 16 50 20.5 +0.3**
comp=Z,3.7nm,0.8s,baz=71,slow=4.1,SNR=7.4
KMBO SKPbc **SKPbc 16 53 02.2 +1.4**
comp=Z,16nm,1.0s,baz=22,slow=1.3,SNR=22
N2TV Tŵrnvik 136.01 351 *e* 16 53 02.8
N2ST Straumen 136.15 351 *e* 16 53 03.3
AKT Akhty 136.60 305 *e*PKIKP **PKiKP 16 50 24.7 +0.8**
AKT *e* 16 53 12.2
AKT pmax pmax
comp=Z,21nm,1.1s
NBB30 Finnes 136.76 352 *e* 16 53 04.9
VRH Novokhopyorsk 138.13 320 *e*PKHKP PKPpre 16 50 16.6
VRH pmax pmax
comp=Z,8.0nm,0.4s
MOS Moscow 138.21 328 *i* PKIKP **PKPdf 16 50 24.6 +0.2**
MOS *e* 16 53 19.3
FINES FINESS Array B 138.96 341 PKhKP PKPpre 16 50 15.3
comp=Z,1.8nm,0.3s,baz=23,slow=7.5,SNR=14
FINES PKP **PKPdf 16 50 26.3 +0.7**
comp=Z,3.0nm,0.3s,baz=64,slow=3.2,SNR=13
FINES SKPbc **SKPbc 16 53 11.2 +0.9**
comp=Z,35nm,0.6s,baz=67,slow=5.0,SNR=26
FINES SKKPbc **SKKPbc 17 01 53.1 0.0**
comp=Z,1.9nm,1.0s,baz=197,slow=4.4,SNR=3.6
FINES FINESS Array B 138.96 341 SKPbc **SKPbc 16 53 11.0 +0.7**
OBN Obninsk 139.06 328 PKhKP PKPpre 16 50 17.0
comp=Z,2.5nm,0.4s,baz=110,slow=4.1,SNR=1.9
OBN SKPbc **SKPbc 16 53 11.6 +0.8**
comp=Z,3.2nm,0.5s,baz=116,slow=6.5,SNR=5.4
OBN Obninsk 139.06 328 ⇓*e*PKIKP **PKPdf 16 50 22.3 -3.6**
OBN *e* 16 53 30.7
OBN pmax pmax
comp=Z,9.0nm,0.9s
LPSR Galich'ya Gora 139.10 323 *e*PKHKP PKPpre 16 50 16.2
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ZEI Tsey 139.20 308 *i* PKHKP PKPpre 16 50 18.5
ZEI pmax pmax
comp=Z,8.0nm,1.0s
VSR Storozhevoye 139.59 321 *e*PKHKP PKPpre 16 50 19.3
VSR pmax pmax
comp=Z,8.0nm,0.5s
VORD Divnogorie 139.62 321 *e*PKHKP PKPpre 16 50 20.0
VORD pmax pmax
comp=Z,20nm,1.7s
KBZ Khabaz 139.71 309 PKhKP PKPpre 16 50 21.5
comp=Z,2.9nm,0.8s,baz=95,slow=3.3,SNR=6.1
KBZ SKPbc **SKiKP 16 53 15.4 -0.1**
comp=Z,4.8nm,0.9s,baz=146,slow=2.1,SNR=4.1
KIV Kislovodsk 139.81 310 *e*PKIKP **PKPdf 16 50 26.4 -1.4**
KIV *e* 16 53 29.6
KIV *e*SS SS 17 11 07.7 -2.5
KIV pmax pmax
comp=Z,27nm,1.0s
VSU Vasula 141.03 337 *e*P **PKPdf 16 50 24.2 -5.1**
SVAN Silvan-Diyarba 142.03 301 *e*P **PKPdf 16 50 29.7 -2.2**
AKN Aaknes 142.17 354 *e*PKPdf **PKPdf 16 50 28.4 -3.0**
KOPT Kop Dagi 142.26 304 PKPpre PKPpre 16 50 30.0
BNGB Bingl 142.30 302 *e*P **PKPdf 16 50 30.2 -2.3**
YEDI Yedisu-Bingol 142.33 303 *e*P **PKPdf 16 50 30.9 -1.7**
MARD Mardin 142.48 300 PKPpre PKPpre 16 50 29.2
NC303 NORSAR Array S 142.56 350 PKPpre PKPpre 16 50 28.7
NC204 NORSAR Array S 142.60 351 PKPpre PKPpre 16 50 28.9
KTUT Trabzon 142.60 306 ⇑P **PKPdf 16 50 30.5 -2.3**
KTUT Trabzon 142.60 306 *e*P **PKPdf 16 50 29.7 -3.0**
NC405 NORSAR Array S 142.61 350 PKPpre PKPpre 16 50 28.8
MAZI Mazidag 142.72 300 *e*P **PKPdf 16 50 31.2 -2.0**
NB201 NORSAR Array S 142.73 350 PKPpre PKPpre 16 50 29.4
NB2 NORSAR Subarra 142.75 350 PKP **PKPdf 16 50 29.0 -3.5**
comp=Z,53nm,1.0s,baz=16,slow=3.2
NB2 NORSAR Subarra 142.75 350 PKPab **PKPdf 16 50 29.0 -3.5**
baz=16,slow=3.2
NOA NORSAR Array B 142.75 350 PKhKP PKPpre 16 50 29.2
comp=Z,36nm,0.9s,baz=15,slow=4.9,SNR=79
NOA SKPbc **SKiKP 16 53 21.1 -0.2**
comp=Z,6.9nm,0.8s,baz=18,slow=4.6,SNR=9.0
NBO00 NORSAR Array S 142.83 351 PKPpre PKPpre 16 50 28.9
DYBB Diyarbakir 142.89 301 *e*P **PKPdf 16 50 32.0 -1.5**
FOO Floro 142.91 355 *e*PKPdf **PKPdf 16 50 30.3 -2.3**
NAO01 NORSAR Array S 142.99 350 PKPpre PKPpre 16 50 29.9
ANN Anapa 143.16 313 *d i*PKIKP PKPab 16 50 31.3 -0.1
ANN pmax pmax
comp=Z,212nm,0.9s
ANN pmax pmax
comp=Z,32nm,0.8s
SLIT Slitere, Latvi 143.17 339 *e*P PKPab 16 50 23.7 -7.3
HFS Hagfors 143.18 348 PKhKP PKPpre 16 50 30.6
comp=Z,28nm,0.3s,baz=0.0,slow=0.3,SNR=13
HFS SKPbc **SKiKP 16 53 22.0 -0.1**
comp=Z,21nm,0.8s,baz=27,slow=1.7,SNR=7.9
IZAR Zarasai 143.20 335 *e*P PKPbc 16 50 32.2 +0.6
HYA Hoyanger 143.24 354 *e*PKPab PKPab 16 50 31.0 -0.1
PTK Pertek 143.31 302 *e*P **PKPdf 16 50 34.0 -0.3**
IDID Didziasalis 143.32 334 *e*P PKPbc 16 50 32.5 +0.6
ISAL Salakas 143.38 334 *e*P **PKPdf 16 50 32.9 -0.7**
MICGM Minsk 143.41 332 ⇓*e*P PKPab 16 50 30.0 -2.0
MICGM PM 16 50 31.0
comp=Z,0.8nm,2.0s
MICGM PM 16 50 32.0
comp=N,0.2nm,2.0s
MICGM PM 16 50 33.0
comp=E,0.2nm,2.0s
MNK Minsk 143.41 332 ⇓*e*PKHKP PKPpre 16 50 30.0
MNK pmax pmax
comp=Z,810nm,2.0s
MNK pmax pmax
comp=N,240nm,2.0s
MNK pmax pmax
comp=E,240nm,2.0s
SUE Sulen 143.47 355 *e*PKPab PKPab 16 50 31.9 -0.1
SVRC Sivrice-ELAZID 143.47 302 *e*P **PKPdf 16 50 34.4 -0.2**
SKAR Skarslia 143.50 352 *e*PKPdf PKPbc 16 50 32.5 0.0
IIGN Ignalina 143.50 334 *e*P **PKPdf 16 50 33.2 -0.7**
NACGM Naroch 143.59 333 *e*P PKPbc 16 50 33.0 +0.2
NACGM PM 16 50 35.0
comp=Z,0.9nm,1.0s
OSL Oslo 143.88 350 *e*PKPab PKPbc 16 50 33.4 -0.1
URFA Urfa 144.00 300 *e*P **PKPdf 16 50 35.8 +0.4**
ASK Askoy 144.00 355 *e*PKPdf **PKPab 16 50 34.1 0.0**
BER Bergen 144.09 355 *e*PKPdf PKPbc 16 50 34.2 +0.1
MALT Malatya 144.16 302 *e*P **PKPdf 16 50 36.5 +0.8**
PABE Paberze 144.25 336 *e*P **PKPab 16 50 35.2 0.0**
KONO Kongsberg 144.33 351 *c i*PKIKP PKPbc 16 50 35.0 0.0
KONO pmax pmax
comp=Z,210nm,1.7s
KONO Kongsberg 144.33 351 PKPbc 16 50 34.3 -0.6
KONO Kongsberg 144.33 351 *e*PKPab PKPbc 16 50 34.8 -0.2
ODD1 Odda 144.44 354 *e*PKP **PKiKP 16 50 38.1 -1.2**
RSDY Resadiye-TOKAT 144.54 306 *e*P **PKPab 16 50 37.7 +0.8**
PBUR Paburge 144.57 338 *e*P PKPbc 16 50 36.0 +0.2

SVSK Karacayir 144.90 305 *e*P **PKPab 16 50 38.8 +0.6**
BLS5 Blasjo 144.93 354 *e*PKPab PKPbc 16 50 37.0 +0.1
TOKT Tokat 145.14 306 *e*P **PKPab 16 50 39.0 -0.2**
AKASG Malin Array Be 145.23 326 PKPbc **PKPbc 16 50 37.5 -0.4**
comp=Z,34nm,0.6s,baz=46,slow=4.3,SNR=160
AKASG SKPbc **SKiKP 16 53 27.4 +0.8**
comp=Z,24nm,0.7s,baz=46,slow=2.8,SNR=14
AKASG SKKPbc **SKKPab 17 01 25.4 -0.3**
comp=Z,1.5nm,0.5s,baz=237,slow=4.1,SNR=7.0
AKASG Malin Array Be 145.23 326 PKPdf **PKPdf 16 50 36.2 -0.7**
AKASG PKPbc **PKPbc 16 50 37.6 -0.4**
AKASG SKPbc **SKiKP 16 53 27.1 +0.5**
AKBB Malin Array Si 145.23 326 PKIKP **PKPdf 16 50 35.9 -1.1**
AKBB Malin Array Si 145.23 326 **PKPdf 16 50 35.9 -1.1**
AKBB PKPbc **PKPbc 16 50 37.4 -0.6**
KMY Karmoy 145.26 355 *e*PKPbc **PKPbc 16 50 37.8 0.0**
SIM Simferopol' 145.29 314 *d i*PKIKP **PKPbc 16 50 38.1 -0.3**
SIM pmax pmax
comp=Z,137nm,0.9s
KVT Kavak 145.30 307 *e*P **PKPab 16 50 39.9 +0.1**
GAZ Gaziantep 145.31 300 *e*P **PKPab 16 50 40.0 0.0**
GAZ Gaziantep 145.31 300 PKPbc **PKPbc 16 50 38.5 -0.3**
KMRS Kahramanmaras 145.50 301 *e*P **PKPab 16 50 40.4 -0.3**
SNOP Sinop 145.62 309 *e*P **PKPbc 16 50 39.2 -0.2**
SUW Suwalki 145.68 335 *i*PKPbcd **PKPbc 16 50 39.2 0.0**
SUW *e*PP **PP 16 54 01.7 -3.5**
SUW Suwalki 145.68 335 PKIKP **PKPbc 16 50 38.9 -0.3**
SUW Suwalki 145.68 335 **PKPbc 16 50 38.9 -0.3**
SARI SarD1z-Kayseri 145.69 302 *e*P **PKPab 16 50 41.1 -0.5**
DIKM Dikmen 145.69 308 ⇓P **PKPbc 16 50 40.1 +0.5**
DIKM Dikmen 145.69 308 *e*P **PKPab 16 50 40.5 -0.8**
HOMB Homborsund 145.81 351 *e*PKPbc **PKPbc 16 50 38.7 -0.7**
SNART Snartemo 145.91 352 *e*PKPbc **PKPbc 16 50 39.6 -0.1**
BNN Bunyan 146.03 303 *e*P **PKPbc 16 50 40.9 0.0**
ASF Jabal al Asfar 146.13 291 SKPbc **SKiKP 16 53 30.6 +1.4**
comp=Z,2.7nm,0.7s,baz=79,slow=2.2,SNR=3.9
BZK Bozkurt 146.48 310 ⇑P **PKPbc 16 50 42.7 +1.0**
BZK Bozkurt 146.48 310 *e*P **PKPbc 16 50 42.8 +1.0**
ILGA Ilgaz 146.99 308 PKPbc **PKPbc 16 50 43.9 +0.4**
SHBL Chebaa 147.02 294 *e*P **PKiKP 16 50 45.0 -0.6**
BHL Bhannes 147.03 295 *e*P **PKPbc 16 50 44.5 +0.8**
QRWL Qaraoun 147.05 294 *e*P **PKiKP 16 50 44.9 -0.7**
DQRL Deir Qamar 147.13 294 *e*P **PKiKP 16 50 45.2 -0.5**
BR131 Keskin Array S 147.45 306 PKIKP **PKPbc 16 50 44.0 -0.7**
BR131 Keskin Array S 147.45 306 **PKPbc 16 50 44.0 -0.7**
BRTR Keskin Array B 147.45 306 PKPbc **PKPbc 16 50 44.8 +0.1**
comp=Z,32nm,0.9s,baz=135,slow=2.8,SNR=20
BRTR Keskin Array B 147.45 306 PKP2 **PKPbc 16 50 44.4 -0.3**
BRTR Keskin Array B 147.45 306 PKPdf **PKPdf 16 50 39.8 -1.5**
BRTR PKPbc **PKPbc 16 50 44.4 -0.3**
MUD Monsted U'grnd 147.46 350 *i* P **PKPbc 16 50 44.3 +0.4**
MUD Monsted U'grnd 147.46 350 *i* PKP2 **PKPbc 16 50 44.3 +0.4**
MILM Milestii Mici 147.62 321 ⇓P **PKPbc 16 50 44.3 -0.4**
IKL Isikli 148.27 299 *e*P **PKPbc 16 50 47.1 +0.4**
BEL Belsk 148.28 334 *i*PKPbcd **PKPbc 16 50 47.0 +0.8**
LVV L'vov 148.35 329 *e*PKHKP PKPpre 16 50 44.2
AKKU Akkuyu-Mersin 148.39 299 *e*P **PKPbc 16 50 46.3 -0.7**
GKP Gorka Klasztor 148.40 339 *i*PKPbcd **PKPbc 16 50 46.9 +0.5**
GKP *e*PKPab **PKPab 16 50 52.0 +0.3**
TEVE Tevekalti-Mers 148.42 300 *e*P **PKPbc 16 50 47.5 +0.3**
TLCR 148.53 318 ⇑P **PKiKP 16 50 47.7 -0.4**
TLCR 148.53 318 ⇑PKP2 **PKiKP 16 50 47.7 -0.4**
TEKE Tekeli-Mersin 148.74 299 *e*P **PKPbc 16 50 47.9 +0.1**
CSS Mathiatis 148.79 297 **PKPbc 16 50 47.8 -0.2**
LADK Ladik-KONYA 148.83 304 *e*P **PKPbc 16 50 48.0 -0.2**
CFR Carcaliu 148.95 318 ⇑P **PKPbc 16 50 48.4 +0.3**
CFR Carcaliu 148.95 318 ⇑PKHKP PKPpre 16 50 48.4
TOPG Topolog 148.95 318 ⇑P **PKiKP 16 50 49.1 0.0**
MDUB Mudurnu 148.98 308 **PKPbc 16 50 47.8 -0.6**
TESR Tescani 149.08 322 ⇓P **PKiKP 16 50 48.9 -0.4**
SVRH Sivrihisar-ESK 149.09 306 *e*P **PKPbc 16 50 49.0 +0.3**
LEF Lefka 149.12 298 ⇓P **PKiKP 16 50 49.6 -0.1**
LEF Lefka 149.12 298 *e*P **PKiKP 16 50 49.4 -0.3**
BIZ Bicaz 149.13 323 ⇑P **PKiKP 16 50 49.3 0.0**
TIRR Tirgusor 149.14 317 ⇑P **PKPbc 16 50 48.8 +0.2**
TIRR Tirgusor 149.14 317 **PKPbc 16 50 48.1 -0.4**
BUR08 Bucovina Ar. S 149.19 325 PKPdf **PKPdf 16 50 43.6 -0.2**
BUR08 PKPbc **PKPbc 16 50 49.1 +0.4**
BURAR Bucovina Array 149.20 325 ⇑P **PKiKP 16 50 49.7 +0.1**
BURAR Bucovina Array 149.20 325 ⇑PKP2 **PKiKP 16 50 49.7 +0.1**
BURAR Bucovina Array 149.20 325 PKPdf **PKPdf 16 50 43.5 -0.3**
HARR Harsova 149.32 318 ⇓P **PKPbc 16 50 49.2 +0.2**
HARR Harsova 149.32 318 ⇓PKHKP PKPpre 16 50 49.2
TLBR Topalu 149.33 317 ⇓P **PKiKP 16 50 49.9 +0.1**
GAZI Gazipasa 149.35 300 *e*P **PKPbc 16 50 49.1 -0.3**
ESK Eskdalemuir 149.38 3 **PKPbc 16 50 48.1 -0.7**
VRI Vrincioaia 149.41 321 ⇑P **PKiKP 16 50 49.6 -0.4**
VRI Vrincioaia 149.41 321 ⇑PKHKP PKPpre 16 50 49.6
CIFT Cifteler, Eski 149.46 306 *e*P **PKPbc 16 50 49.5 -0.1**
PLOR Plostina 149.46 321 ⇑P **PKiKP 16 50 49.8 -0.3**
PLOR Plostina 149.46 321 ⇑PKHKP PKPpre 16 50 49.8
GULT Gulveren 149.48 309 *e*P **PKiKP 16 50 50.1 -0.3**
SAUV Serdivan-Sakar 149.50 309 *e*P **PKiKP 16 50 49.9 -0.4**
SRCK Saricakaya, Es 149.54 308 *e*P **PKPbc 16 50 49.9 +0.2**
ORH Orhaniye 149.64 310 P **PKPab 16 50 56.7 -0.6**
BSEG Bad Segeberg 149.64 347 *e*PKPbc **PKiKP 16 50 50.0 -0.1**
baz=23,slow=2.2
BSEG *e*PKPab **PKPab 16 50 57.5 +0.7**
baz=23,slow=2.2
BOLV Bolvadin 149.74 305 **PKPbc 16 50 49.7 -0.7**
KOLS Kolonicke sedl 149.79 329 *e*PKIKP **PKPdf 16 50 44.4 -0.2**
KOLS Kolonicke sedl 149.79 329 *e*PKP **PKPdf 16 50 44.4 -0.2**
KOLS *e* 16 50 50.1
SILT Sile 149.82 310 *e*P **PKiKP 16 50 50.9 0.0**
OJC Ojcow 149.93 333 *e*PKPdf **PKPdf 16 50 44.9 +0.1**
OJC *i*PKPbcd **PKPbc 16 50 58.7 +0.5**
OJC *e*PKPab **PKPab 16 50 58.2 0.0**
OJC *e*PP **PP 16 54 32.3 +2.6**
OJC Ojcow 149.93 333 PKIKP **PKPdf 16 50 44.3 -0.4**
OJC 16 50 58.5
OJC Ojcow 149.93 333 **PKPdf 16 50 44.3 -0.4**
OJC PKPbc **PKPbc 16 50 50.4 +0.2**
OJC PKPab **PKPab 16 50 58.5 +0.3**
HRT Hereke 149.93 310 *e*P **PKPbc 16 50 50.6 0.0**
ARCR ARCALIA 149.99 324 ⇑P **PKiKP 16 50 51.6 +0.5**
UZH Uzhgorod 149.99 329 *e*PKHKP PKPpre 16 50 49.3
UZH *i* 16 50 57.8
ADVT Abdulvahap 150.03 309 *e*P **PKiKP 16 50 51.1 -0.3**
CAVI Cavuskoy 150.04 309 *e*P **PKiKP 16 50 51.3 -0.2**
BMR Baia Mare 150.05 326 ⇑P **PKPbc 16 50 50.6 0.0**
BMR Baia Mare 150.05 326 ⇑PKHKP PKPpre 16 50 50.6
MLR Muntele Rosu 150.07 321 PKPbc **PKPbc 16 50 51.1 +0.2**
comp=Z,11nm,0.5s,baz=333,slow=4.5,SNR=7.8
MLR Muntele Rosu 150.07 321 ⇑P **PKiKP 16 50 51.3 -0.2**
MLR Muntele Rosu 150.07 321 **PKPdf 16 50 44.5 -0.7**
MLR **PKPbc 16 50 50.9 -0.1**
SHUT Suhut-Afyon 150.09 305 *e*P **PKPbc 16 50 51.4 +0.2**
DOPR Dopca 150.11 322 ⇑P **PKiKP 16 50 52.2 +0.8**
RUE Ruedersdorf 150.13 342 *e*P **PKiKP 16 50 51.1 0.0**
RUE Ruedersdorf 150.13 342 *e*PKPbc **PKiKP 16 50 51.3 +0.2**
baz=23,slow=2.2
RUE *e*PKPab **PKPab 16 50 59.9 +1.0**
baz=23,slow=2.2
CRVS Cervenica-Dubn 150.19 330 *e*PKIKP **PKPdf 16 50 46.6 +1.4**
CRVS *e* 16 51 00.1
CRVS Cervenica-Dubn 150.19 330 *e*PKP **PKPdf 16 50 46.6 +1.4**
CRVS *e* 16 50 51.7
CRVS *e* 16 51 00.1
SECR 150.26 320 ⇓P **PKiKP 16 50 52.0 +0.2**
NIE Niedzica 150.32 332 *e*PKPdf **PKPdf 16 50 46.0 +0.6**
NIE *i*PKPbcd **PKPbc 16 50 52.4 +1.1**
NIE *e*PP **PP 16 54 31.3 -0.8**
PRD Provadia 150.40 316 P **PKiKP 16 50 52.4 +0.4**
TVSB Tavsanli 150.59 307 *e*P **PKiKP 16 50 52.9 +0.2**
ARMT Armutlu 150.60 310 *e*P **PKPbc 16 50 52.3 +0.2**
CJR Cluj-Napoca 150.63 325 ⇓P **PKPbc 16 50 52.1 +0.1**
CJR Cluj-Napoca 150.63 325 ⇓PKIKP **PKPbc 16 50 52.1 +0.1**
KSP Ksiaz 150.75 338 *e*PKPdf **PKPdf 16 50 46.8 +0.8**
KSP *i*PKPbcd **PKPbc 16 50 53.0 +0.9**
KSP *e*PKPab **PKPab 16 51 02.3 +0.6**
ARR Arges 150.89 321 ⇓P **PKiKP 16 50 54.5 +1.4**
OSTC Ostas 151.02 337 ⇑*e*PKP **PKiKP 16 50 53.8 +0.7**
NRDL Niedersach Rie 151.04 346 *e*PKPbc **PKiKP 16 50 53.4 +0.4**
baz=23,slow=2.2
NRDL *e*PKPab **PKPab 16 51 03.4 +0.7**
baz=23,slow=2.2
CHVC Chvalec 151.05 338 ⇑*e*PKP **PKiKP 16 50 53.4 +0.2**
CHVC *ex* x 16 51 03.8
SIMA Simav-Kutahya 151.07 307 *e*P **PKiKP 16 50 53.8 +0.1**
ELL Elmali 151.11 302 PKIKP **PKPbc 16 50 52.9 -0.7**
ELL Elmali 151.11 302 **PKPbc 16 50 52.9 -0.7**

UPC	**Upice**	**151.13 337**	⇑	*e*PKP	**PKiKP**	**16 50 53.6 +0.2**
UPC				*e*PKPAB	**PKPab**	**16 51 04.5 +1.2**
UPC	**Upice**	**151.13 337**		*e*PKIKP	**PKiKP**	**16 50 53.6 +0.2**
UPC				*e*		16 51 04.5
DPC	**Dobruska-Polom**	**151.16 337**	⇑	*e*PKP	**PKiKP**	**16 50 53.5 0.0**
DPC				*e*PKPAB	**PKPab**	**16 51 04.5 +1.1**
DPC	**Dobruska-Polom**	**151.16 337**		*e*PKIKP	**PKiKP**	**16 50 53.5 0.0**
DPC				*e*		16 51 04.5
MORC	**Moravsky Berou**	**151.17 335**	⇓	*i*P	**PKiKP**	**16 50 54.0 +0.5**
MORC	**Moravsky Berou**	**151.17 335**		*e*PKP	**PKPdf**	**16 50 47.1 +0.4**
MORC				*e*		16 50 53.8
MORC				*e*		16 51 03.3
MORC	**Moravsky Berou**	**151.17 335**		PKIKP	**PKPbc**	**16 50 53.3 +0.1**
MORC	**Moravsky Berou**	**151.17 335**			**PKPdf**	**16 50 46.3 -0.4**
MORC					**PKPbc**	**16 50 53.3 +0.1**
KRLC	**Kraliky**	**151.22 336**		*e*PKPDF	**PKPdf**	**16 50 47.0 +0.2**
KRLC			⇑	*e*PKP	**PKiKP**	**16 50 53.6 0.0**
KRLC				*e*PKPAB	**PKPab**	**16 51 04.3 +0.6**
KRLC	**Kraliky**	**151.22 336**		*e*PKIKP	**PKPdf**	**16 50 47.0 +0.2**
KRLC				*e*		16 51 04.3
ASSE	**Asse, Remlinge**	**151.25 345**		*e*PKPbc	**PKiKP**	**16 50 53.7 +0.3**
	baz=23,slow=2.2					
ASSE				*e*PKPab	**PKPab**	**16 51 04.2 +0.7**
	baz=23,slow=2.2					
SZH	**Strazhica**	**151.29 317**		P	**PKiKP**	**16 50 53.8 -0.1**
CLL	**Collm**	**151.40 342**		*e*PKPdf	**PKPdf**	**16 50 47.0 +0.1**
	comp=Z,39nm,2.1s					
CLL			⇓	*i*PKPbc	**PKiKP**	**16 50 54.0 +0.1**
	comp=Z,78nm,0.9s					
CLL				*i* PKPab	**PKPab**	**16 51 04.8 +0.5**
	comp=Z,62nm,1.1s					
CLL				*es*PKPbc	**sPKPab**	**16 53 53.0 -2.6**
CLL				*e*PP	**PP**	**16 54 38.0 +0.2**
CLL				*es*PKSdf		16 57 14.0
CLL				*e*PPP	PPP	16 58 04.0
CLL				*e*SKKSac	SKKSac	17 00 34.0 -0.9
CLL				*e*		17 03 36.0
CLL				*e*PSKS		17 04 57.0
CLL				*ep*PSKS		17 06 46.0
CLL				*e*PPS	PPS	17 07 42.0
CLL				LmV		17 21 00.0
	comp=Z,100nm,18.6s					
CLL	**Collm**	**151.40 342**		PKIKP	**PKPdf**	**16 50 46.4 -0.5**
CLL	**Collm**	**151.40 342**		*e*PKPbc	**PKiKP**	**16 50 53.9 +0.1**
	baz=23,slow=2.2					
CLL				*e*PKPab	**PKPab**	**16 51 05.3 +1.0**
	baz=23,slow=2.2					
CLL	**Collm**	**151.40 342**		PKPdf	**PKPdf**	**16 50 46.4 -0.5**
CLL				PKPbc	**PKPbc**	**16 50 53.5 -0.1**
MRMT	**Marmara Adasi**	**151.46 311**		*e*P	**PKPbc**	**16 50 54.1 -0.1**
AKAS	**Kas**	**151.48 301**			**PKPbc**	**16 50 54.1 -0.3**
EDRB	**Edirne**	**151.48 314**		*e*P	**PKPbc**	**16 50 53.6 -0.5**
BRG	**Berggiesshubel**	**151.50 340**		*e*PKP	**PKPdf**	**16 50 46.5 -0.6**
	comp=Z,17nm,1.4s					
BRG				*i*		16 50 54.2
	comp=Z,49nm,0.9s					
BRG				*i*		16 51 05.3
	comp=Z,63nm,1.1s					
BRG	**Berggiesshubel**	**151.50 340**		*e*PKIKP	**PKPdf**	**16 50 46.5 -0.6**
BRG				*i*		16 51 05.3
BRG				pmax	pmax	
	comp=Z,17nm,1.4s					
BRG				pmax	pmax	
	comp=Z,49nm,0.9s					
BRG				pmax	pmax	
	comp=Z,63nm,1.1s					
BRG	**Berggiesshubel**	**151.50 340**		*e*PKPbc	**PKiKP**	**16 50 54.5 +0.4**
	baz=23,slow=2.2					
BRG				*e*PKPab	**PKPab**	**16 51 06.0 +1.2**
	baz=23,slow=2.2					
CLZ	**Clausthal**	**151.59 345**		*e*PKPbc	**PKiKP**	**16 50 54.5 +0.2**
	baz=23,slow=2.2					
CLZ				*e*PKPab	**PKPab**	**16 51 06.0 +0.8**
	baz=23,slow=2.2					
MANT	**Manisa**	**151.59 306**			**PKPbc**	**16 50 54.1 -0.6**
PVCC	**Panska Ves**	**151.60 339**	⇑	*e*PKP	**PKiKP**	**16 50 54.7 +0.4**
PVCC				*e*PKPAB	**PKPab**	**16 51 06.2 +1.0**
PVCC	**Panska Ves**	**151.60 339**		*e*PKIKP	**PKiKP**	**16 50 54.7 +0.4**
PVCC				*e*		16 51 06.2
PSZ	**Piszkesteto**	**151.62 330**	⇑	P	**PKPbc**	**16 50 53.9 -0.4**
PSZ	**Piszkesteto**	**151.62 330**		PKIKP	**PKPdf**	**16 50 46.6 -0.9**
PSZ	**Piszkesteto**	**151.62 330**			**PKPdf**	**16 50 46.6 -0.9**
FBE	**Freiberg**	**151.64 341**		*e*PKPbc	**PKiKP**	**16 50 55.0 +0.6**
	baz=23,slow=2.2					
FBE				*e*PKPab	**PKPab**	**16 51 06.6 +1.3**
	baz=23,slow=2.2					
BALB	**Balikesir**	**151.65 309**		*e*P	**PKiKP**	**16 50 54.7 -0.1**
VYHS	**Vyhne**	**151.65 332**		*e*PKIKP	**PKPdf**	**16 50 49.0 +1.6**
VYHS				*e*		16 51 06.4
VYHS	**Vyhne**	**151.65 332**		*e*PKP	**PKPdf**	**16 50 49.0 +1.6**
VYHS				*e*		16 50 54.5
VYHS				*e*		16 51 06.4
IBBN	**Ibbenburen**	**151.68 349**		*e*PKPbc	**PKiKP**	**16 50 54.6 +0.2**
	baz=23,slow=2.2					
IBBN				*e*PKPab	**PKPab**	**16 51 06.3 +0.8**
	baz=23,slow=2.2					
NEUB	**Neuenburg**	**151.82 343**		*e*PKPbc	**PKiKP**	**16 50 55.2 +0.4**
	baz=23,slow=2.2					
NEUB				*e*PKPab	**PKPab**	**16 51 07.0 +0.9**
	baz=23,slow=2.2					
JAVC	**Velka Javorina**	**151.85 334**		*e*PKP	**PKPdf**	**16 50 48.8 +1.0**
JAVC				*e*		16 50 56.2
JAVC				*e*		16 51 07.9
VRAC	**Vranov**	**151.92 335**		*e*PKP	**PKPdf**	**16 50 47.8 0.0**
VRAC				*e*		16 50 55.0
VRAC				*e*		16 51 06.9
SIRR	**Siria**	**151.93 326**	⇓	P	**PKiKP**	**16 50 55.7 +0.5**
GTTG	**Gottingen**	**151.96 346**		*e*PKPbc	**PKiKP**	**16 50 55.3 +0.3**
	baz=23,slow=2.2					
GTTG				*e*PKPab	**PKPab**	**16 51 07.3 +0.6**
	baz=23,slow=2.2					
GOPC	**GO Pecny, Ondr**	**152.06 338**		*e*PKP	**PKiKP**	**16 50 55.8 +0.5**
GOPC				*e*PKPAB	**PKPab**	**16 51 08.1 +0.9**
GOPC	**GO Pecny, Ondr**	**152.06 338**		*e*PKIKP	**PKiKP**	**16 50 55.8 +0.5**
GOPC				*e*		16 51 08.1
PRU	**Pruhonice**	**152.08 339**	⇑	*e*PKP	**PKiKP**	**16 50 55.5 +0.2**
PRU				*e*PKPAB	**PKPab**	**16 51 07.9 +0.7**
PRU	**Pruhonice**	**152.08 339**		*e*PKIKP	**PKiKP**	**16 50 55.5 +0.2**
PRU				*e*		16 51 07.9
KRUC	**Moravsky**	**152.19 335**		*e*PKP	**PKPdf**	**16 50 47.9 -0.3**
KRUC				*e*		16 50 55.6
KRUC				*e*		16 51 07.9
SMOL	**Smolenice**	**152.23 333**		*e*PKIKP	**PKiKP**	**16 50 56.6 +0.9**
SMOL				*e*		16 51 09.0
SMOL	**Smolenice**	**152.23 333**		*e*PKP	**PKiKP**	**16 50 56.6 +0.9**
SMOL				*e*		16 51 09.0
TANN	**Tannenbergstha**	**152.35 342**		*e*PKPbc	**PKiKP**	**16 50 56.4 +0.4**
	baz=23,slow=2.2					
TANN				*e*PKPab	**PKPab**	**16 51 09.0 +0.6**
	baz=23,slow=2.2					
WERD	**Werda**	**152.36 342**		*e*PKPbc	**PKiKP**	**16 50 56.3 +0.3**
	baz=23,slow=2.2					
WERD				*e*PKPab	**PKPab**	**16 51 09.1 +0.6**
	baz=23,slow=2.2					
MOX	**Moxa**	**152.38 343**		*e*PKPbc	**PKiKP**	**16 50 56.3 +0.3**
	baz=23,slow=2.2					
MOX				*e*PKPab	**PKPab**	**16 51 09.0 +0.6**
	baz=23,slow=2.2					
ALN	**Alexandroupoli**	**152.39 312**		PKP2	**PKPab**	**16 51 08.6 -0.3**
ALN	**Alexandroupoli**	**152.39 312**			**PKPab**	**16 51 08.6 -0.3**
MODS	**Modra-Piesok**	**152.40 333**		*e*PKIKP	**PKPdf**	**16 50 48.4 -0.1**
MODS				*e*		16 51 08.7
MODS	**Modra-Piesok**	**152.40 333**		*e*PKP	**PKPdf**	**16 50 48.3 -0.2**
MODS				*e*		16 50 56.0
MODS				*e*		16 51 08.7
GUNZ	**Gunzen**	**152.43 342**		*e*PKPbc	**PKiKP**	**16 50 56.6 +0.5**
	baz=23,slow=2.2					
GUNZ				*e*PKPab	**PKPab**	**16 51 09.6 +0.8**
	baz=23,slow=2.2					
HERR	**Herculane**	**152.43 323**	⇓	P	**PKPbc**	**16 50 56.0 -0.1**
WERN	**Wernitzgruen**	**152.49 342**		*e*PKPbc	**PKiKP**	**16 50 56.5 +0.3**
	baz=23,slow=2.2					
WERN				*e*PKPab	**PKPab**	**16 51 10.3 +1.3**
	baz=23,slow=2.2					
NKC	**Novy Kostel**	**152.51 341**	⇑	*e*PKP	**PKiKP**	**16 50 56.6 +0.4**
NKC				*e*PKPAB	**PKPab**	**16 51 09.9 +0.8**
NKC	**Novy Kostel**	**152.51 341**		*e*PKIKP	**PKiKP**	**16 50 56.6 +0.4**
NKC				*e*		16 51 09.9
UBBA	**Unterbreizbach**	**152.62 345**		*e*PKPbc	**PKiKP**	**16 50 56.5 +0.2**
	baz=23,slow=2.2					
UBBA				*e*PKPab	**PKPab**	**16 51 08.7 -0.7**
	baz=23,slow=2.2					
MANZ	**Manzenberg**	**152.83 342**		*e*PKPbc	**PKiKP**	**16 50 57.4 +0.5**
	baz=23,slow=2.2					
MANZ				*e*PKPab	**PKPab**	**16 51 11.5 +1.0**
	baz=23,slow=2.2					
RZN	**Rozhen**	**152.88 315**		P	**PKPbc**	**16 50 56.9 -0.5**
ROTZ	**Rotzenmuhle**	**153.00 341**		*e*PKPbc	**PKiKP**	**16 50 57.8 +0.6**
	baz=23,slow=2.2					
ROTZ				*e*PKPab	**PKPab**	**16 51 12.4 +1.2**
	baz=23,slow=2.2					
KHC	**Kasperske Hory**	**153.13 339**		*e*PKPDF	**PKPdf**	**16 50 48.9 -0.7**
KHC			⇑	*e*PKP	**PKiKP**	**16 50 57.8 +0.2**
KHC				*e*PKPAB	**PKPab**	**16 51 12.6 +0.8**
KHC	**Kasperske Hory**	**153.13 339**		PKIKP	**PKPdf**	**16 50 48.9 -0.7**
KHC						16 51 12.0
KHC	**Kasperske Hory**	**153.13 339**			**PKPdf**	**16 50 48.9 -0.7**
KHC					**PKPab**	**16 51 12.0 +0.2**
CONA	**Conrad Observa**	**153.32 335**		*i* PKPdf	**PKPdf**	**16 50 49.8 -0.2**
	comp=Z,4.4nm,1.0s					
CONA				*i* PKiKP	**PKiKP**	**16 50 58.9 +0.8**
	comp=Z,27nm,1.5s					
CONA				*i* PKPab	**PKPab**	**16 51 13.9 +1.2**
	comp=Z,31nm,1.2s					
GEC2	**GERESS Array S**	**153.34 338**		*e*PKPbc	**PKiKP**	**16 50 58.2 +0.1**
	baz=23,slow=2.2					
GEC2				*e*PKPab	**PKPab**	**16 51 13.2 +0.4**
	baz=23,slow=2.2					
GEC2	**GERESS Array S**	**153.34 338**			**PKPdf**	**16 50 49.4 -0.6**
GEC2					**PKPbc**	**16 50 57.6 -0.5**
GEC2					**PKPab**	**16 51 12.4 -0.4**
GERES	**GERESS Array B**	**153.34 338**		PKP	**PKPdf**	**16 50 49.6 -0.4**
	comp=Z,1.1nm,0.8s,baz=48,slow=2.0,SNR=10					
GERES				PKPbc	**PKiKP**	**16 50 58.1 0.0**
	comp=Z,4.9nm,0.8s,baz=42,slow=2.2,SNR=17					
GERES				PKPab	**PKPab**	**16 51 12.8 0.0**
	comp=Z,6.6nm,0.9s,baz=48,slow=4.0,SNR=16					
GERES	**GERESS Array B**	**153.34 338**		PKPdf	**PKPdf**	**16 50 48.7 -1.3**
GERES				PKPbc	**PKPbc**	**16 50 57.5 -0.5**
GERES				PKPab	**PKPab**	**16 51 12.3 -0.4**
GRA1	**Grafenberg Arr**	**153.35 342**		PKPdf	**PKPdf**	**16 50 49.5 -0.3**
GRA1					**PKPab**	**16 51 13.1 +0.4**
GRF	**Grafenberg Arr**	**153.35 342**		PKP2	**PKPab**	**16 51 13.1 +0.4**
GRF						17 50 49.5
GRF	**Grafenberg Arr**	**153.35 342**		*e*PKPab	**PKPab**	**16 51 13.7 +1.0**
	baz=23,slow=2.2					
WET	**Wettzell**	**153.35 340**		*e*PKPab	**PKPab**	**16 51 13.4 +0.7**
	baz=23,slow=2.2					
MORH	**Mrgy, Hungar**	**153.45 329**		*e*P	**PKPab**	**16 51 12.0 -1.2**
BEBN	**Eben Emael**	**153.47 351**		PKPab	**PKPab**	**16 51 13.2 +0.2**
TNS	**Taunus Mts**	**153.53 347**		*e*PKPbc	**PKiKP**	**16 50 59.1 +0.7**
	baz=23,slow=2.2					
TNS				*e*PKPab	**PKPab**	**16 51 13.7 +0.2**
	baz=23,slow=2.2					
MMB	**Musomiste**	**153.56 316**		P	**PKPbc**	**16 50 58.5 -0.2**
KARP	**Karpathos**	**153.58 301**		PKPab	**PKPab**	**16 51 13.5 -0.7**
MEM	**Membach**	**153.61 350**		PKPbc	**PKiKP**	**16 50 58.8 +0.3**
MEM				PKPab	**PKPab**	**16 51 14.5 +0.8**
FRGS	**Fruska Gora**	**153.63 326**		*e*P	**PKPab**	**16 51 14.2 +0.1**
BSTI	**Sart Tilman**	**153.70 351**		PKPab	**PKPab**	**16 51 14.4 +0.3**
KKB	**Krupnik**	**153.82 317**		P	**PKPbc**	**16 50 58.8 -0.4**
BHOU	**Houvegnez**	**153.85 350**		PKPab	**PKPab**	**16 51 15.3 +0.5**
BCLA	**Clavier**	**153.90 351**		PKPab	**PKPab**	**16 51 14.7 -0.3**
SNF	**Seneffe**	**153.94 353**		PKPab	**PKPab**	**16 51 15.3 +0.2**
BGES	**Gesves**	**153.96 351**		PKPab	**PKPab**	**16 51 15.0 -0.2**
MOA	**Molln**	**153.99 336**		*i* PKPab	**PKPab**	**16 51 16.6 +1.1**
	SNR=8.4					
ARSA	**Arzberg**	**154.01 334**		*e*PKPdf	**PKPdf**	**16 50 50.8 -0.1**
	comp=Z,6.4nm,1.1s					
ARSA				*i* PKiKP	**PKiKP**	**16 50 59.8 +0.3**
	comp=Z,4.9nm,1.1s					
ARSA				*i* PKPab	**PKPab**	**16 51 16.4 +0.8**
	comp=Z,24nm,1.9s					
BMRD	**Maredsous**	**154.08 352**		PKPbc	**PKPbc**	**16 50 59.1 -0.3**
BMRD				PKPab	**PKPab**	**16 51 15.5 -0.2**
TEKS	**Tekeris**	**154.20 325**		*e*P	**PKPab**	**16 51 17.2 +0.7**
DIVS	**Divibare**	**154.26 324**		*e*P	**PKPab**	**16 51 16.6 -0.3**
DIVS	**Divibare**	**154.26 324**			**PKiKP**	**16 50 59.7 -0.4**
DIVS				PKPab	**PKPab**	**16 51 16.8 -0.1**
DOU	**Dourbes**	**154.31 352**		PKPbc	**PKiKP**	**16 50 59.8 -0.1**
DOU				PKPab	**PKPab**	**16 51 17.0 +0.3**
KOGS	**Kog**	**154.35 332**		*e*PKPab	**PKPab**	**16 51 17.3 +0.2**
VAY	**Valandovo**	**154.44 316**		*i* P	**PKPab**	**16 51 18.4 +0.8**
STIP	**Stip**	**154.47 317**		*i* P	**PKPab**	**16 51 17.5 -0.3**
WLF	**Walferdange**	**154.50 349**		PKPab	**PKPab**	**16 51 18.1 +0.5**
WLF	**Walferdange**	**154.50 349**		PKP2	**PKPab**	**16 51 17.2 -0.3**
WLF	**Walferdange**	**154.50 349**		*e*PKPbc	**PKPbc**	**16 51 01.3 +1.0**
	baz=23,slow=2.2					
WLF	**Walferdange**	**154.50 349**		PKPab	**PKPab**	**16 51 17.2 -0.3**
RJOB	**Jochberg**	**154.60 338**		*e*PKPab	**PKPab**	**16 51 18.1 -0.1**
	baz=23,slow=2.2					
SOKA	**Soboth**	**154.67 334**		*i* PKPdf	**PKPdf**	**16 50 51.4 -0.4**
	comp=Z,5.6nm,1.1s					
SOKA				*i* PKiKP	**PKPbc**	**16 51 01.1 +0.2**
	comp=Z,15nm,1.7s					
SOKA				*i* PKPab	**PKPab**	**16 51 19.1 +0.5**
	comp=Z,36nm,1.4s,SNR=7.4					
FUR	**Furstenfeldbru**	**154.71 341**		*e*PKPab	**PKPab**	**16 51 19.6 +1.1**
	baz=23,slow=2.2					
BBLS	**Lazići**	**154.73 324**		*e*P	**PKPab**	**16 51 18.8 -0.1**
SKO	**Skopje**	**154.77 318**		*i* P	**PKPab**	**16 51 20.7 +1.7**
RUDO	**Rudo**	**154.91 324**		*e*P	**PKPab**	**16 51 19.6 0.0**
KBA	**Koelnbreinsper**	**154.98 337**		*i* PKPdf	**PKPdf**	**16 50 51.0 -1.3**
	comp=Z,8.0nm,1.3s					
KBA				*i* PKPab	**PKPab**	**16 51 20.4 +0.4**
	comp=Z,19nm,1.3s					
OBKA	**Obir**	**155.00 334**		*i* PKPab	**PKPab**	**16 51 19.8 -0.1**
	comp=Z,11nm,1.6s					
LIT	**Litokhoron**	**155.14 314**		PKP2	**PKPab**	**16 51 20.1 -0.7**
LIT	**Litokhoron**	**155.14 314**		PKPab	**PKPab**	**16 51 20.1 -0.7**
CRES	**Cresnjev**	**155.18 332**		*e*P	**PKPab**	**16 51 19.4 -1.3**
PDKS	**Podkum**	**155.18 333**		*e*PKPab	**PKPab**	**16 51 20.8 0.0**
BLY	**Banja Luka**	**155.23 328**		*e*P	**PKPab**	**16 51 20.3 -0.6**
MYKA	**Terra Mystica**	**155.25 336**		*i* PKPdf	**PKPdf**	**16 50 51.7 -1.0**
	comp=Z,2.6nm,0.8s					
MYKA				*i* PKPab	**PKPab**	**16 51 21.0 0.0**
	comp=Z,35nm,1.5s,SNR=6.3					
BFO	**Black Forest**	**155.34 345**		PKIKP	**PKPdf**	**16 50 52.0 -0.7**
BFO						16 51 20.6
BFO	**Black Forest**	**155.34 345**		*e*PKPbc	PKPbc	16 51 02.7
	baz=23,slow=2.2					
BFO				*e*PKPab	**PKPab**	**16 51 21.7 +0.4**
	baz=23,slow=2.2					
BFO	**Black Forest**	**155.34 345**		PKPdf	**PKPdf**	**16 50 52.0 -0.7**
BFO				PKPab	**PKPab**	**16 51 20.6 -0.7**
WATA	**Walderalm**	**155.35 339**		*i* PKPdf	**PKPdf**	**16 50 53.2 +0.3**
	comp=Z,6.5nm,1.1s					
WATA				*i* PKPab	**PKPab**	**16 51 22.2 +0.7**
	comp=Z,45nm,1.8s,SNR=6.7					
LJU	**Ljubljana**	**155.39 334**		*i* PKPdf	**PKPdf**	**16 50 52.6 -0.1**
LJU				*e*PKPab	**PKPab**	**16 51 21.5 0.0**
LJU	**Ljubljana**	**155.39 334**		*e*P	**PKPab**	**16 51 20.2 -1.3**
WTTA	**Wattenberg**	**155.40 339**		*i* PKPdf	**PKPdf**	**16 50 53.0 +0.1**
	comp=Z,18nm,1.7s,SNR=5.2					
WTTA				*i* PKPab	**PKPab**	**16 51 22.7 +0.9**
	comp=Z,34nm,0.9s,SNR=6.0					
PRED	**Cave del Predi**	**155.43 336**		PKPab	**PKPab**	**16 51 21.0 -0.8**
UPM	**Unac-Piva**	**155.44 324**		*e*P	**PKPab**	**16 51 21.4 -0.7**
RETA	**Reutte**	**155.47 341**		*i* PKPdf	**PKPdf**	**16 50 52.6 -0.3**
	comp=Z,4.9nm,1.3s					
RETA				*i* PKPab	**PKPab**	**16 51 22.5 +0.6**
	comp=Z,51nm,1.1s,SNR=12					
UBR	**Ueberruh**	**155.48 342**		*e*PKPbc	PKPbc	16 51 02.7
	baz=23,slow=2.2					
UBR				*e*PKPab	**PKPab**	**16 51 22.9 +1.0**
	baz=23,slow=2.2					
MOTA	**Moosalm**	**155.49 340**		*i* PKPdf	**PKPdf**	**16 50 52.9 -0.2**
	comp=Z,8.0nm,1.0s					
MOTA				*i* PKPab	**PKPab**	**16 51 22.9 +0.8**
	comp=Z,55nm,1.2s,SNR=8.5					
CADS	**Cadrg**	**155.55 335**		*e*PKPdf	**PKPdf**	**16 50 51.9 -1.2**
CADS				*e*PKPab	**PKPab**	**16 51 21.4 -0.8**
ABTA	**Abfaltersbach**	**155.56 337**		*i* PKPdf	**PKPdf**	**16 50 52.6 -0.5**
	comp=Z,7.3nm,0.9s					
ABTA				*i* PKPab	**PKPab**	**16 51 22.2 -0.1**
	comp=Z,29nm,1.1s					
ZOU	**Zoufplan**	**155.56 337**			**PKPab**	**16 51 20.8 -1.7**
SQTA	**Sankt Quirin**	**155.57 340**		*i* PKPdf	**PKPdf**	**16 50 52.9 -0.2**
	comp=Z,7.7nm,0.9s					
SQTA				*i* PKPab	**PKPab**	**16 51 23.3 +0.9**
	comp=Z,47nm,1.5s,SNR=8.8					
OHR	**Ohrid**	**155.66 317**		*i* P	**PKPab**	**16 51 23.4 +0.4**
CEY	**Cerknica**	**155.68 333**		*e*P	**PKPab**	**16 51 22.4 -0.4**
ECH	**Echery**	**155.70 347**		PKP2	**PKPab**	**16 51 21.4 -1.4**
ECH	**Echery**	**155.70 347**		PKPab	**PKPab**	**16 51 21.4 -1.4**
PDG	**Podgorica**	**155.76 322**		*e*P	**PKPab**	**16 51 23.9 +0.6**
PDG	**Podgorica**	**155.76 322**		PKPab	**PKPab**	**16 51 23.2 0.0**
BRY	**Bratogost**	**155.84 323**		*e*P	**PKPab**	**16 51 23.7 -0.1**
FETA	**Feichten**	**155.90 340**		*i* PKPdf	**PKPdf**	**16 50 53.6 0.0**
	comp=Z,13nm,1.2s,SNR=7.7					
FETA				*i* PKPab	**PKPab**	**16 51 24.8 +0.9**
	comp=Z,30nm,1.2s,SNR=6.8					
DAVA	**Damuels**	**155.91 342**		*e*PKPdf	**PKPdf**	**16 50 53.8 +0.2**
	comp=Z,4.8nm,0.8s					
DAVA				*i* PKPab	**PKPab**	**16 51 24.7 +0.8**
	comp=Z,38nm,1.0s,SNR=8.4					
CIMO	**Cimolais**	**155.96 337**		PKPdf	**PKPdf**	**16 50 52.5 -1.1**
CIMO				PKPab	**PKPab**	**16 51 23.1 -0.9**
DRME	**Dracevica, Mon**	**155.96 321**		*e*P	**PKPab**	**16 51 24.9 +0.7**
TRI	**Trieste**	**155.97 334**		PKP2	**PKPab**	**16 51 23.3 -0.7**
TRI	**Trieste**	**155.97 334**			**PKPab**	**16 51 23.3 -0.7**
TIR	**Tirane**	**156.09 319**		PKP2	**PKPab**	**16 51 25.4 +0.7**
TIR	**Tirane**	**156.09 319**		PKPab	**PKPab**	**16 51 25.4 +0.7**
HCY	**Herceg Novi**	**156.18 323**		*e*P	**PKPab**	**16 51 25.1 0.0**
DAVOX	**Davos/Dischmat**	**156.37 341**		PKPab	**PKPab**	**16 51 26.7 +0.7**
	baz=341,slow=6.6					
FUORN	**Ofenpass-Fuorn**	**156.40 341**		PKPab	**PKPab**	**16 51 26.6 +0.4**
CTI	**Castel Tesino**	**156.46 338**		PKP2	**PKPab**	**16 51 25.6 -0.7**
CTI	**Castel Tesino**	**156.46 338**			**PKPab**	**16 51 25.6 -0.7**
CLF	**Chambon-Foret**	**156.60 355**		PKPab	**PKPab**	**16 51 26.3 -0.3**
TUE	**Stuetta**	**156.80 342**		PKPab	**PKPab**	**16 51 27.3 -0.6**
ITM	**Ithomi**	**156.93 308**		PKPab	**PKPab**	**16 51 27.8 -0.7**
SENIN	**Lac Senin/Sane**	**157.43 345**		PKPab	**PKPab**	**16 51 30.1 -0.5**
SCTE	**Santa Cesarea**	**157.71 318**			**PKPab**	**16 51 31.1 -0.7**
MURB	**Monte Urbino**	**158.48 333**			**PKPab**	**16 51 36.3 +1.2**
BNI	**Bardonecchia**	**158.81 345**		PKP2	**PKPab**	**16 51 35.9 -0.6**
BNI	**Bardonecchia**	**158.81 345**		PKPab	**PKPab**	**16 51 35.9 -0.6**
AQU	**L'Aquila**	**158.83 330**		*e*P	**PKPab**	**16 51 36.5 -0.1**
INTR	**Introdacqua**	**158.86 328**		PKPdf	**PKPdf**	**16 50 56.3 -1.0**
INTR				PKPab	**PKPab**	**16 51 36.2 -0.6**
SSB	**Saint Sauveur**	**159.02 349**		PKP2	**PKPab**	**16 51 36.7 -0.6**
SSB	**Saint Sauveur**	**159.02 349**		PKPab	**PKPab**	**16 51 36.7 -0.6**
PAOL	**Paolisi**	**159.26 325**			**PKPab**	**16 51 38.0 -0.6**
TIP	**Timpagrande**	**159.30 318**		PKPab	**PKPab**	**16 51 39.6 +0.7**
CEL	**Celeste**	**160.40 318**		PKPab	**PKPab**	**16 51 43.8 +0.1**
DBIC	**Dimbokro**	**161.65 167**		PKP	**PKPdf**	**16 51 00.2 -0.8**
	comp=Z,7.9nm,1.1s,baz=116,slow=5.0,SNR=3.7					
DBIC				PP	**PP**	**16 55 38.1 +4.8**
	comp=Z,6.8nm,1.1s,baz=151,slow=5.3,SNR=3.6					
PBRG	**Braganca**	**162.26 15**		*e*PKPab	**PKPab**	**16 51 51.8 +0.2**
PVRL	**Vila Real**	**162.51 18**		*e*PKPab	**PKPab**	**16 51 53.6 +0.9**
MVO	**Moncorvo**	**162.79 16**		*e*PKPdf	**PKPdf**	**16 51 02.9 +1.4**
MVO	**Moncorvo**	**162.79 16**		*e*PKPab	**PKPab**	**16 51 54.9 +0.9**
PCBR	**Castelo Branco**	**163.91 19**		*e*PKPdf	**PKPdf**	**16 51 04.0 +1.6**
ESBB	**Sonseca Array**	**164.85 9**			**PKPab**	**16 52 02.9 -0.1**
ESDC	**Sonseca Array**	**164.85 9**		PKPab	**PKPab**	**16 52 03.0 -0.1**
	comp=Z,8.9nm,1.1s,baz=347,slow=4.4,SNR=30					
ESDC				PP	**PP**	**16 55 54.0 +3.9**
	comp=Z,1.4nm,1.1s,baz=16,slow=5.5,SNR=4.2					
ESDC	**Sonseca Array**	**164.85 9**		PKPab	**PKPab**	**16 52 02.6 -0.5**
PAB	**San Pablo**	**164.91 11**		PKP2	**PKPab**	**16 52 02.3 -1.1**
PAB	**San Pablo**	**164.91 11**			**PKPab**	**16 52 02.3 -1.1**
PNCL	**Nicolau / Gran**	**165.12 24**		*e*PKPdf	**PKPdf**	**16 51 04.7 +1.2**
**KE

BFSB Bamfield 3.67 114 Pn **Pn 16 37 36.6 -0.2**
B928 Bamfield 3.67 114 Pn **Pn 16 37 36.3 -0.4**
B927 Port Alberni 3.70 107 Pn **Pn 16 37 37.1 -0.2**
MASB Masset 3.77 344 Pn **Pn 16 37 36.5 -1.7**
KITB Kitimat 3.79 14 Pn **Pn 16 37 37.0 -1.5**
KITB Sn **Sn 16 38 19.4 -3.1**
TXB Texada 3.79 99 Pn **Pn 16 37 37.8 -0.8**
MGB Mount Grey 3.86 110 Pn **Pn 16 37 38.5 -1.1**
RUBB Prince Rupert 3.91 360 Pn **Pn 16 37 38.4 -1.7**
RUBB Sn **Sn 16 38 21.5 -4.0**
NDB Naden 3.92 336 Pn **Pn 16 37 38.2 -2.1**
GHNB Nanoose 4.03 104 Pn **Pn 16 37 41.0 -0.7**
SHB Sechelt 4.17 99 Pn **Pn 16 37 43.8 -0.1**
PFB Port Renfrew 4.20 114 Pn **Pn 16 37 43.5 -0.6**
NLLB Nanaimo Lost L 4.21 104 Pn **Pn 16 37 45.3 +1.1**
OCP Olym-Cheeka Pk 4.23 118 Pn **Pn 16 37 45.7 +1.1**
B926 Mesachie Lake 4.27 110 Pn **Pn 16 37 46.0 +0.9**
BIB Bowen Island 4.58 100 Pn **Pn 16 37 49.8 +0.4**
WPB Watts Point 4.58 97 Pn **Pn 16 37 49.8 +0.4**
GOBB Galiano Island 4.60 106 Pn **Pn 16 37 49.8 +0.2**
OBC Olympics--Boni 4.68 118 Pn **Pn 16 37 51.8 +1.0**
WSLR Whistler 4.69 91 Pn **Pn 16 37 50.8 -0.1**
SOKB Sooke 4.73 113 Pn **Pn 16 37 51.9 +0.5**
B010 North Saanich 4.75 109 Pn **Pn 16 37 52.5 +0.8**
B009 North Saanich 4.75 109 Pn **Pn 16 37 52.4 +0.7**
PGC Sidney 4.75 109 Pn **Pn 16 37 52.2 +0.5**
PGC Sidney 4.75 109 **Pn 16 37 51.8 +0.1**
B011 North Saanich 4.75 109 Pn **Pn 16 37 53.0 +1.3**
STW Striped Peak 4.85 115 Pn **Pn 16 37 54.2 +1.1**
SNB Saturna Island 4.87 107 Pn **Pn 16 37 55.0 +1.7**
VGZ Gonzales 4.93 111 Pn **Pn 16 37 55.6 +1.5**
OSD Olympics--Snow 5.01 119 Pn **Pn 16 37 56.6 +1.2**
HNBB Haney 5.07 100 Pn **Pn 16 37 57.6 +1.5**
MCW Mount Constitu 5.11 107 Pn **Pn 16 37 57.9 +1.2**
NLWA Neilton Lookou 5.17 124 Pn **Pn 16 37 58.8 +1.3**
A04D Lummi Island 5.17 106 P **Pn 16 37 59.3 +1.8**
baz=292
LLLB Lillooet 5.32 85 Pn **Pn 16 37 58.9 -0.7**
BLN Blyn Mountain 5.33 114 Pn **Pn 16 37 59.8 +0.1**
CRAG Craig 5.35 342 Pn **Pn 16 37 58.3 -1.6**
FSB Fort Saint Jam 5.43 39 Pn **Pn 16 38 01.1 0.0**
VDB Vedder Mountai 5.44 102 Pn **Pn 16 38 02.3 +1.0**
HDW Hoodsport 5.47 118 Pn **Pn 16 38 03.4 +1.7**
D03D Eldon 5.51 119 P **Pn 16 38 04.4 +2.3**
baz=304
CMW Cultus Mountai 5.65 108 Pn **Pn 16 38 05.1 +0.9**
MBW Mount Baker 5.65 104 Pn **Pn 16 38 05.0 +0.8**
B05A Bryant 5.73 109 P **Pn 16 38 07.3 +2.1**
baz=295
J28D J28D 5.78 158 S **Sb 16 39 27.2 -2.4**
HOPB Hope 5.78 97 Pn **Pn 16 38 06.4 +0.6**
CPW Capitol Peak 5.82 124 Pn **Pn 16 38 08.4 +2.0**
JCW Jim Creek 5.86 109 Pn **Pn 16 38 08.6 +1.6**
B06A Marblemount 6.00 105 Pn **Pn 16 38 10.0 +1.1**
B06A Marblemount 6.00 105 **Pn 16 38 09.7 +0.8**
RPW Rockport 6.01 106 Pn **Pn 16 38 10.2 +1.1**
WRAK Wrangell Islan 6.14 349 **Pn 16 38 10.3 -0.4**
J27D J27D 6.17 153 S **Sb 16 39 35.5 -5.4**
D05A Enumclaw 6.32 118 **Pn 16 38 15.9 +2.5**
GPW Glacier Peak 6.37 108 Pn **Pn 16 38 15.8 +1.5**
E04D Cinebar 6.39 124 P **Pn 16 38 18.5 +4.4**
baz=310
J20D J20D 6.42 160 S **Sb 16 39 42.3 -5.9**
FMW Mount Fremont 6.65 118 Pn **Pn 16 38 20.0 +2.0**
LON Longmire 6.68 120 Pn **Pn 16 38 20.8 +2.6**
LON Longmire 6.68 120 **Pn 16 38 20.3 +2.1**
J19D J19D 6.80 155 S **Sb 16 39 53.7 -5.3**
F04A Amboy 6.88 128 **Pn 16 38 23.1 +2.1**
PNT Penticton 6.94 95 Pn **Pn 16 38 22.4 +0.6**
LTY Liberty 7.05 113 Pn **Pn 16 38 25.5 +2.1**
LTY Liberty 7.05 113 **Pn 16 38 25.5 +2.1**
J11D J11D 7.37 158 S **Sb 16 40 08.2 -7.1**
B08A Colville Reser 7.40 102 Pn **Pn 16 38 28.9 +0.8**
B08A Colville Reser 7.40 102 Pn **Pn 16 38 28.8 +0.7**
BMBC Bull Mountain 7.43 38 Pn **Pn 16 38 29.6 +1.0**
E07A Sunnyside 7.89 115 Pn **Pn 16 38 37.4 +2.5**
H04A Detroit Lake 7.90 134 **Pn 16 38 36.4 +1.3**
DLBC Dease Lake 8.03 1 Pn **Pn 16 38 38.6 +1.8**
6.3nm,0.3s,baz=199,slow=15,SNR=25
DLBC Sn **Sn 16 40 07.3 +0.1**
1.4nm,0.3s,baz=192,slow=10,SNR=2.1
DLBC Lg Lg 16 40 42.9
baz=53,slow=13,SNR=1.8
DLBC Dease Lake 8.03 1 Pn **Pn 16 38 38.1 +1.3**
DLBC Dease Lake 8.03 1 Pn **Pn 16 38 37.6 +0.8**
DLBC Dease Lake 8.03 1 **Sn 16 40 07.3 +0.1**
G37D G37D 8.05 164 S Sb 16 40 24.9 -10
HAWA Hanford 8.17 115 **Pn 16 38 40.5 +1.9**
D08A Wollman Farm, 8.19 110 Pn **Pn 16 38 40.5 +1.5**
C09A Chrisman Ranch 8.26 104 **Pn 16 38 40.4 +0.5**
G36D G36D 8.29 163 S Sn 16 40 25.4 +13
G35D G35D 8.30 160 S Sb 16 40 31.1 -11
NBC5 NorthernBC 5 8.38 29 Pn **Pn 16 38 42.0 +0.4**
E08A Dider Farm, El 8.39 114 **Pn 16 38 41.7 +0.1**
G29D G29D 8.40 167 S Sb 16 40 33.2 -12
G29D P **Pn 16 38 44.4 +2.9**
BESE Bessie Mountai 8.61 344 Pn **Pn 16 38 44.5 -0.1**
NEW Newport 8.82 99 Pn **Pn 16 38 47.0 -0.6**
1.5nm,0.3s,baz=294,slow=9.5,SNR=9.7
NEW Lg Lg 16 41 15.3
0.1nm,0.3s,baz=50,slow=17,SNR=2.2
NEW LR LR 16 42 11.2
comp=Z,2μm,20.4s,baz=282,slow=39
NEW Newport 8.82 99 P **Pn 16 38 49.0 +1.4**
baz=289
NEW Newport 8.82 99 Pn **Pn 16 38 47.7 +0.1**
G22D G22D 9.12 170 S Sn 16 40 53.5 +20
G08A Pilot Rock 9.14 120 Pn **Pn 16 38 53.3 +1.2**
G21D G21D 9.50 167 S Sn 16 41 01.3 +19
G21D P Pn 16 39 11.2 +15
I07A Izee 9.65 127 **Pn 16 39 02.4 +3.3**
PLBC Pleasant Camp 9.71 341 Pn **Pn 16 38 59.3 -0.4**
F10A Beach Ranch, E 9.74 112 **Pn 16 39 02.9 +2.5**
G13D G13D 9.80 170 S Sn 16 41 11.5 +21
PRDA Priddis 10.13 81 Pn **Pn 16 39 07.8 +2.3**
YBH Yreka Blue Hor 10.13 146 LR LR 16 42 22.1
comp=Z,604nm,21.4s,baz=332,slow=34
BMO Blue Mountains 10.34 118 **Pn 16 39 10.4 +2.0**
BSMT Bassoo Peak 10.43 98 Pn **Pn 16 39 11.7 +1.8**
G04D G04D 10.54 165 S Sn 16 41 34.1 +26
WHY Whitehorse 10.59 347 Pn **Pn 16 39 11.7 -0.2**
WHY Whitehorse 10.59 347 **Pn 16 39 12.3 +0.4**
JTMT Jette 10.79 98 Pn **Pn 16 39 15.7 +1.0**
HYT Haines Junctio 11.20 341 Pn **Pn 16 39 19.5 -0.7**
HYT Haines Junctio 11.20 341 Pn **Pn 16 39 20.5 +0.3**
MSO Missoula 11.35 102 Pn **Pn 16 39 21.9 -0.4**
YAH Yahtse 11.90 331 Pn **Pn 16 39 31.0 +1.1**
LRM Limekiln Ridge 12.72 104 **Pn 16 39 41.6 +0.5**
HRY Holter Researc 12.73 100 **Pn 16 39 41.5 +0.4**
DLMT Dillon 12.85 106 **Pn 16 39 44.2 +1.3**
MCMT McKenzie Canyo 12.97 109 **Pn 16 39 46.0 +1.4**
GCMT Greycliff 14.47 101 P **P 16 40 11.3 -0.4**
YPP Pitchstone Pla 14.51 108 P **P 16 40 09.8 -2.4**
FLWY Flagg Ranch 14.67 108 P **P 16 40 11.2 -2.8**
NVAR Mina Array Bea 14.68 140 Pn **P 16 40 13.3 -0.8**
0.1nm,0.3s,baz=312,slow=11,SNR=3.1
NVAR LR LR 16 45 27.0
comp=Z,270nm,20.5s,baz=330,slow=36
NVAR Mina Array Bea 14.68 140 **P 16 40 13.3 -0.8**
FXWY Fox Creek 14.72 110 P **P 16 40 13.0 -1.5**
YKA Yellowknife Ar 14.80 29 Pn **Pn 16 40 06.2 -3.0**
1.0nm,0.3s,baz=221,slow=12,SNR=10.0
YKA Lg Lg 16 44 05.4
baz=216,slow=30,SNR=1.4
YKA LR LR 16 45 26.9
comp=Z,465nm,21.8s,baz=0.0,slow=36
YKA Yellowknife Ar 14.80 29 **Pn 16 40 06.2 -3.0**
TPAW Teton Pass 14.85 110 **P 16 40 13.5 -2.4**
LOHW Long Hollow 14.99 109 P **P 16 40 15.8 -1.7**
KDAK Kodiak Island 15.00 308 Pn **P 16 40 16.4 -0.8**
0.1nm,0.3s,baz=343,slow=19,SNR=1.2
KDAK LR LR 16 44 32.3
comp=Z,776nm,20.5s,baz=127,slow=31
KDAK Kodiak Island 15.00 308 **P 16 40 16.4 -0.8**
KDAK Kodiak Island 15.00 308 IAmb IAmb 16 40 25.9
comp=Z,28nm,1.3s
RLMT Red Lodge 15.03 103 **P 16 40 16.1 -1.9**
EGAK Eagle 15.50 342 **P 16 40 20.1 -2.7**
EGAK IAmb IAmb 16 40 34.5
comp=Z,15nm,1.2s
HWUT Hardware Ranch 15.64 117 P **P 16 40 23.2 -1.4**
HWUT IAmb IAmb 16 40 52.5
comp=Z,18nm,1.5s
PD31 Pinedale Array 16.10 110 P **P 16 40 29.6 -0.2**
PD31 IAmb IAmb 16 40 32.3
comp=Z,10nm,1.1s
PDAR Pinedale Array 16.10 110 Pn **P 16 40 30.2 +0.4**
comp=Z,0.3nm,0.3s,baz=314,slow=12,SNR=31
PDAR LR LR 16 46 47.6
comp=Z,724nm,18.0s,baz=320,slow=38
PDAR Pinedale Array 16.10 110 **P 16 40 29.8 0.0**
LAO LASA Array 16.30 94 P **P 16 40 31.4 -0.4**
LAO IAmb IAmb 16 40 32.8
comp=Z,14nm,0.9s
EPYK Eagle Plains 16.34 351 **P 16 40 31.7 -0.4**
EPYK IAmb IAmb 16 40 59.4
comp=Z,12nm,1.0s
TPNV Topopah Spring 16.80 138 P **P 16 40 39.8 +2.3**
TPNV IAmb IAmb 16 40 46.2
comp=Z,12nm,1.1s
ILAR Eielson Array 16.84 335 Pn **P 16 40 40.4 +2.8**
comp=Z,0.2nm,0.3s,baz=145,slow=11,SNR=29
ILAR Eielson Array 16.84 335 **P 16 40 39.7 +2.0**
PRN Pahroc Range 16.95 134 P **P 16 40 40.6 +1.5**
WRH Wood River Hil 16.95 333 P **P 16 40 40.4 +1.6**
WRH IAmb IAmb 16 40 56.8
comp=Z,12nm,1.1s
DGMT Dagmar 17.01 87 P **P 16 40 40.1 +0.5**
SHPR Sheep Range 17.64 136 P **P 16 40 48.0 +1.1**
SVW2 Sparrevohn 17.70 317 P **P 16 40 48.8 +1.6**
K22A Casper 18.00 106 P **P 16 40 51.5 +0.7**
K22A IAmb IAmb 16 40 55.3
comp=Z,10nm,0.9s
O20A White River Ci 18.50 115 P **Pn 16 40 59.2 +2.6**
O20A IAmb IAmb 16 41 02.5
comp=Z,13nm,1.1s
PV21 Cone Mtn., Par 19.16 120 P **Pn 16 41 06.9 +2.3**
PV23 Carpenter Ridg 19.22 120 P **Pn 16 41 08.3 +3.0**
PV23 IAmb IAmb 16 41 11.5
comp=Z,8.5nm,0.8s
PV14 Lion Creek, Pa 19.27 121 P **Pn 16 41 07.9 +2.1**
PV22 Blue Mesa, Par 19.29 120 **Pn 16 41 09.5 +3.5**
PV22 IAmb IAmb 16 41 14.8
comp=Z,6.0nm,0.8s
PV04 Paradox Valley 19.32 120 P **Pn 16 41 07.5 +1.1**
PV04 IAmb IAmb 16 41 10.4
comp=Z,8.0nm,1.0s
PV20 West Nyswonger 19.32 121 **Pn 16 41 08.5 +2.0**
PV20 IAmb IAmb 16 41 12.9
comp=Z,7.0nm,0.7s
PV19 Morning Glory 19.34 121 P **Pn 16 41 08.7 +2.1**
PV17 East Wray Mesa 19.37 121 P **Pn 16 41 09.2 +2.2**
PV17 IAmb IAmb 16 41 15.0
comp=Z,13nm,1.1s
PV16 Nyswonger Mesa 19.37 121 P **Pn 16 41 09.5 +2.4**
PV16 IAmb IAmb 16 41 22.6
comp=Z,6.2nm,0.8s
PV11 David Mesa, Pa 19.41 120 P **Pn 16 41 09.5 +2.0**
PV11 IAmb IAmb 16 41 26.2
comp=Z,9.6nm,1.0s
PV18 Skein Mesa, Pa 19.42 121 P **Pn 16 41 08.8 +1.2**
PV18 IAmb IAmb 16 41 15.6
comp=Z,7.9nm,0.8s
PV12 Saucer Basin, 19.43 120 P **Pn 16 41 09.6 +1.8**
PV05 Paradox Valley 19.44 121 P **Pn 16 41 10.1 +2.2**
PV03 Paradox Valley 19.45 121 P **Pn 16 41 09.7 +1.7**
PV03 IAmb IAmb 16 41 15.8
comp=Z,5.7nm,0.8s
PV13 Radium Mtn., P 19.54 121 P **Pn 16 41 10.7 +1.6**
PV13 IAmb IAmb 16 41 15.3
comp=Z,10nm,1.1s
PV01 Paradox Valley 19.69 120 P **Pn 16 41 12.2 +1.3**
S22A 4UR Ranch, Cre 20.94 118 P Pn 16 41 26.6 +1.1
ESJX Sierra Juarez 21.23 145 P **P 16 41 28.7 +2.6**
SDCO Great Sand Dun 21.69 116 P **P 16 41 34.0 +2.8**
ULM Lac du Bonnet 21.81 77 P **P 16 41 31.6 -0.3**
comp=Z,7.2nm,0.6s,baz=292,slow=14,SNR=2.5
ULM LR LR 16 50 29.1
comp=Z,490nm,20.1s,baz=285,slow=38
ULM Lac du Bonnet 21.81 77 P **P 16 41 32.2 +0.3**
TUC Tucson 23.12 134 P **P 16 41 49.7 +3.6**
TUC IAmb IAmb 16 41 51.9
comp=Z,6.1nm,1.1s
ANMO Albuquerque 23.18 123 LR LR 16 50 44.8
comp=Z,27nm,18.3s,baz=126,slow=37
ANMO Albuquerque 23.18 123 P **P 16 41 49.9 +3.1**
ANMO IAmb IAmb 16 41 51.5
comp=Z,4.0nm,1.0s
LENM Lemitar 23.50 125 P **P 16 41 53.3 +3.3**
ECSD EROS Data Cent 23.69 93 P **P 16 41 53.7 +2.1**
BNM Barren Site 23.70 124 P **P 16 41 54.5 +2.5**
AMTX Amarillo 25.89 116 P **P 16 42 15.3 +3.4**
MNTX Cornudas Mount 26.27 126 P **P 16 42 18.6 +3.3**
MNTX IAmb IAmb 16 42 19.9
comp=Z,3.9nm,0.9s
GDL2 Guadalupe Moun 26.41 124 P **P 16 42 18.1 +1.5**
WMOK Wichita Mounta 27.69 112 P **P 16 42 30.4 +2.4**
P38A Dawn 27.82 99 P **P 16 42 30.6 +1.5**
JFWS Jewell Farm 28.16 90 P **P 16 42 31.6 -0.5**
RES Resolute Bay 28.39 19 LR LR 16 54 05.6
comp=Z,806nm,18.1s,baz=270,slow=37
TXAR Lajitas Array 29.04 126 P **P 16 42 41.5 +1.3**
comp=Z,1.1nm,0.8s,baz=324,slow=6.2,SNR=10
TXAR LR LR 16 54 36.8
comp=Z,230nm,18.7s,baz=0.0,slow=37
TXAR Lajitas Array 29.04 126 P **P 16 42 42.1 +1.9**
LPIG La Paz 30.49 142 LR LR 16 55 48.1
comp=Z,172nm,18.6s,baz=341,slow=38
SCHQ Schefferville 37.56 58 LR LR 16 57 50.6
comp=Z,591nm,20.4s,baz=292,slow=34
SEY Seymchan 41.64 318 LR LR 17 01 50.6
comp=Z,335nm,19.1s,baz=79,slow=36
PETK Petropavlovsk- 42.96 303 P P 16 44 45.3 +6.6
comp=Z,4.3nm,0.7s,baz=103,slow=6.2,SNR=2.9
PETK LR LR 16 59 41.5
comp=Z,162nm,21.8s,baz=82,slow=32
PETK Petropavlovsk- 42.96 303 P P 16 44 45.3 +6.6
APG El Apazote 47.70 123 LR LR 17 06 18.7
comp=Z,83nm,20.7s,baz=344,slow=37
SPITS Spitsbergen Ar 50.06 9 LR LR 17 07 55.2
comp=Z,364nm,18.1s,baz=325,slow=38
JMIC Jan Mayen 51.98 21 LR LR 17 08 18.2
comp=Z,172nm,19.8s,baz=303,slow=37
BORG Borgarnes 52.73 31 LR LR 17 08 37.4
comp=Z,126nm,19.8s,baz=309,slow=36
JTS Las Juntas de 54.58 121 LR LR 17 13 34.6
comp=Z,85nm,18.2s,baz=22,slow=41
NRIK Noril'sk 57.37 345 P P 16 46 32.6 +5.0
comp=Z,3.7nm,0.9s,baz=37,slow=7.8,SNR=3.6
NRIK Noril'sk 57.37 345 P P 16 46 32.6 +5.0
H11N2 WAKE ISLAND Hy 57.82 262 T T 17 49 02.8
baz=42,slow=76,SNR=1177
H11N3 WAKE ISLAND Hy 57.82 262 T T 17 49 14.7
baz=42,slow=76,SNR=3131
H11N1 WAKE ISLAND Hy 57.84 262 T T 17 49 05.0
baz=42,slow=76,SNR=1068
H11S1 WAKE ISLAND Hy 58.85 261 T T 17 50 29.1
baz=40,slow=75,SNR=85
H11S2 WAKE ISLAND Hy 58.86 261 T T 17 50 33.5
baz=40,slow=75,SNR=71
H11S3 WAKE ISLAND Hy 58.87 261 T T 17 50 29.5
baz=40,slow=75,SNR=70
ARCES ARCESS Array B 59.04 10 LR LR 17 12 26.4
comp=Z,162nm,21.9s,baz=240,slow=36
USRK Ussuriysk Ar. 61.86 306 LR LR 17 13 44.8
comp=Z,142nm,20.4s,baz=57,slow=36
NOA NORSAR Array B 64.66 20 LR LR 17 15 27.0
comp=Z,174nm,20.6s,baz=330,slow=36
ROSC El Rosal 65.05 114 LR LR 17 19 46.3
comp=Z,32nm,18.3s,baz=25,slow=40
FINES FINESS Array B 66.88 12 LR LR 17 16 26.3
comp=Z,181nm,22.0s,baz=342,slow=36
KSRS Korea Array 68.85 303 LR LR 17 16 43.0
comp=Z,53nm,21.0s,baz=46,slow=35
SONM Songino Array 70.68 323 LR LR 17 19 17.9
comp=Z,204nm,19.2s,baz=34,slow=36
ZALV Zalesovo Beam 71.92 339 P P 16 48 08.1 +5.4
comp=Z,0.3nm,0.3s,baz=18,slow=5.2,SNR=1.6
ZALV Zalesovo Beam 71.92 339 P P 16 48 08.1 +5.4
HHC Hu-ho-hao-te 74.25 316 *eP* **P 16 48 20.0 +3.1**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,130nm,7.1s
GERES GERESS Array B 76.38 24 LR LR 17 24 14.5
comp=Z,120nm,18.6s,baz=341,slow=38
AKASG Malin Array Be 77.74 13 P **P 16 48 40.4 +3.9**
comp=Z,0.2nm,0.3s,baz=348,slow=5.6,SNR=1.6
AKASG LR LR 17 23 34.3
comp=Z,170nm,19.2s,baz=340,slow=36
AKASG Malin Array Be 77.74 13 P **P 16 48 40.4 +3.9**
MKAR Makanchi Array 79.17 338 P P 16 48 49.0 +4.5
comp=Z,0.8nm,0.7s,baz=43,slow=3.6,SNR=3.1
MKAR Makanchi Array 79.17 338 P P 16 48 49.0 +4.5
WMQ Urumqi 80.50 333 *eP* P 16 48 56.2 +4.4
LPAZ La Paz 85.79 122 LR LR 17 30 20.8
comp=Z,31nm,21.5s,baz=322,slow=38
KBZ Khabaz 86.04 5 LR LR 17 31 21.7
comp=Z,77nm,18.7s,baz=346,slow=38
BDFB Brasilia 97.03 106 LR LR 17 37 33.1
comp=Z,56nm,19.1s,baz=316,slow=38
CPUP Villa Florida 99.80 119 LR LR 17 39 25.0
comp=Z,43nm,21.6s,baz=346,slow=38

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*IDC **10** 16:42:24.4±1.8, 53°.27N×162°.75W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.4/81, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=50.9km s-min=27.1km az=179.0*
*AEIC **10** 16:42:28.1±1.9, 52°.72N±0°.08×162°.9W±0°.1, h37km±8km, Error ellipse: s-maj=11.6km s-min=8.4km az=151.0*
*NEIC **10** 16:42:28.7±1.3, 52°.7N±0°.1×162°.7W±0°.1, h37km±14km, ML3.1(AEIC), Error ellipse: s-maj=15.3km s-min=8.5km az=161.0*

ISC 10 16:42:28.9±1.0, 52°.8N±0°.1×162°.60W±0°.05, h35km, n56, σ1§45/57, mb3.6/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**2.05**	**326**		**Pn**	**16 43 01.4**	**+0.5**
SSLS	**Shishaldin Sou**	**2.08**	**337**		**Sn**	**16 43 28.1**	**+2.0**
WESP	**Westdahl Peak**	**2.11**	**324**		**Pn**	**16 43 01.8**	**+0.1**
FALS	**False Pass**	**2.11**	**347**		**Pn**	**16 43 02.2**	**+0.6**
WECS	**Westdahl Cape**	**2.16**	**324**		**Pn**	**16 43 02.7**	**+0.3**
AKSA	**Akutan Strait**	**2.28**	**307**		**Pn**	**16 43 03.3**	**-0.7**
AKSA					**Sn**	**16 43 29.5**	**-1.3**
AKSA	**Akutan Strait**	**2.28**	**307**		**Pn**	**16 43 03.3**	**-0.7**
AKSA					**Sn**	**16 43 30.0**	**-0.9**
AKUT	**Akutan**	**2.32**	**306**	Pn	**Pn**	**16 43 04.0**	**-0.4**
AKBBA	**Akutan Broad B**	**2.38**	**304**		**Pn**	**16 43 04.9**	**-0.5**
AKBBA					**Sn**	**16 43 32.5**	**-0.7**
AKMO	**Akutan Morgan**	**2.41**	**304**		**Pn**	**16 43 05.3**	**-0.5**
AKMO					**Sn**	**16 43 34.0**	**-0.1**
AKGG	**Akutan Green G**	**2.46**	**306**		**Pn**	**16 43 06.1**	**-0.4**
AKGG					**Sn**	**16 43 35.4**	**+0.1**
UNV	**Unalaska Valle**	**2.56**	**296**	Pn	**Pn**	**16 43 06.7**	**-1.2**
MNAT	**Makushin Natee**	**2.67**	**295**		**Pn**	**16 43 08.8**	**-0.7**
MNAT					**Sn**	**16 43 39.2**	**-1.4**
MREP	**Makushin Rep't**	**2.68**	**294**		**Pn**	**16 43 08.7**	**-0.9**
CNBA	**Chernabura Isl**	**2.70**	**40**		**Pn**	**16 43 09.2**	**-0.5**
MTBL	**Makushin Table**	**2.71**	**297**		**Pn**	**16 43 09.3**	**-0.6**
MSW	**Makushin Switc**	**2.74**	**296**		**Pn**	**16 43 09.6**	**-0.7**
MSW					**Sn**	**16 43 41.0**	**-1.3**
MGOD	**Makushin Gods**	**2.75**	**293**		**Pn**	**16 43 09.2**	**-1.2**
MAPS	**Pakushin South**	**2.79**	**293**		**Pn**	**16 43 09.0**	**-2.0**
MCIR	**Makushin Cirqu**	**2.81**	**296**		**Pn**	**16 43 10.2**	**-1.2**
SDPT	**Sand Point**	**2.84**	**25**	Pn	**Pn**	**16 43 12.0**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**3.33**	**282**		**Pn**	**16 43 17.0**	**-1.5**
OKCE	**Okmok Cone E**	**3.41**	**283**		**Pn**	**16 43 18.4**	**-1.1**
OKSP	**Okmok Steeple**	**3.46**	**280**		**Pn**	**16 43 18.7**	**-1.6**
NIKH	**Nikolski High**	**3.79**	**275**	Pn	**Pn**	**16 43 23.0**	**-1.7**
VNFG	**Fog Glacier, M**	**3.91**	**26**		**Pn**	**16 43 28.4**	**+1.9**
OHAK	**Old Harbor**	**6.95**	**47**	Pn	**Pn**	**16 44 08.1**	**+0.1**
ATKA	**Atka Island**	**7.11**	**270**	Pn	**Pn**	**16 44 09.3**	**-0.9**
KDAK	**Kodiak Island**	**7.58**	**45**	Pn	Pn	16 44 12.3	-4.5
KDAK					**Sn**	**16 45 34.9**	**-6.5**
KDAK	**Kodiak Island**	**7.58**	**45**	Pn	**Pn**	**16 44 16.0**	**-0.8**
ADK	**Adak**	**8.67**	**270**	Pn	**Pn**	**16 44 30.7**	**-1.0**
SVW2	**Sparrevohn**	**9.15**	**22**	Pn	**Pn**	**16 44 39.7**	**+1.4**
CNPM	**China Poot**	**9.24**	**39**	Pn	**Pn**	**16 44 41.2**	**+1.7**
SEW	**Seward**	**10.30**	**40**	Pn	**Pn**	**16 44 55.2**	**+1.3**
SUA	**Susitna One**	**10.79**	**32**	Pn	**Pn**	**16 45 00.8**	**0.0**
SKT	**Skwentna**	**10.95**	**29**	Pn	**Pn**	**16 45 03.5**	**+0.7**
PPLA	**Purkeypile**	**11.52**	**24**	Pn	**Pn**	**16 45 12.7**	**+2.0**
FID	**Port Fidalgo**	**11.87**	**42**	Pn	**Pn**	**16 45 14.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**12.05**	**43**	Pn	**Pn**	**16 45 18.6**	**+0.7**
SCM	**Sheep Creek Mo**	**12.21**	**36**	Pn	**Pn**	**16 45 20.7**	**+0.5**
KLU	**Klutina**	**12.52**	**39**	Pn	**Pn**	**16 45 23.6**	**-0.9**
BPAW	**Bear Paw Mtn.**	**12.82**	**23**	Pn	**Pn**	**16 45 29.2**	**+0.7**
DHY	**Denali Highway**	**13.05**	**32**	Pn	**Pn**	**16 45 32.3**	**+0.6**
GLB	**Gilahina Butte**	**13.33**	**42**	Pn	**Pn**	**16 45 36.6**	**+1.2**
YAH	**Yahtse**	**13.71**	**48**	Pn	**Pn**	**16 45 41.4**	**+0.7**
CTGM	**Chitina Glacie**	**14.15**	**46**	Pn	**Pn**	**16 45 49.1**	**+2.4**
RIDG	**Independent Ri**	**14.33**	**33**	Pn	**Pn**	**16 45 50.9**	**+1.8**
PETK	**Petropavlovsk-**	**23.71**	**287**	P	**P**	**16 47 35.6**	**-1.6**
	1.0nm,0.5s,baz=89,slow=11,SNR=1.9						
NVAR	**Mina Array Bea**	**33.58**	**97**	P	**P**	**16 49 07.7**	**+2.0**
	0.4nm,0.7s,baz=305,slow=8.7,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**40.59**	**227**	T	T	17 35 09.8	
	baz=26,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**40.59**	**227**	T	T	17 35 09.8	
	baz=26,slow=76,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**40.60**	**227**	T	T	17 35 10.5	
	baz=26,slow=76,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**41.75**	**227**	T	T	17 36 36.0	
	baz=25,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**41.76**	**227**	T	T	17 36 37.5	
	baz=25,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**41.77**	**227**	T	T	17 36 35.3	
	baz=25,slow=76,SNR=10						
TXAR	**Lajitas Array**	**48.64**	**95**	P	**P**	**16 51 10.5**	**+1.2**
	1.3nm,0.7s,baz=302,slow=5.6,SNR=11						

WEL 10 16:43:05.6, 44°S±6°×17°3E±°, h8km±8km, M2.0/7, ML2.1/6, MLv2.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=141.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.14**	**135**	P	Pg	16 43 10.0	+1.4
AKCZ	**Akaroa Harbour**	**0.39**	**133**	P	Pb	16 43 14.8	+0.1
OKCZ	**Okains Bay**	**0.41**	**107**	P	Pb	16 43 15.2	+0.1
OXZ	**Oxford**	**0.45**	**309**	P	Pb	16 43 16.0	+0.2
WACZ	**Wakanui South**	**0.59**	**235**	P	Pn	16 43 19.8	-0.5
GVZ	**Greta Valley S**	**0.74**	**31**	P	Pn	16 43 21.8	-0.5
LTZ	**Lake Taylor**	**0.84**	**348**	P	Pn	16 43 23.6	-0.2
ARCZ	**Arundel**	**1.03**	**250**	P	Pn	16 43 27.3	+1.0
INZ	**Inchbonnie**	**1.18**	**318**	P	Pn	16 43 30.3	+1.9

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*IDC **10** 16:50:49.3±0.6, 19°.85N×147°.03E, h0km, mb4.2/18, mb1 4.2/21, mb1mx3.9/73, mbtmp4.2/21, ML3.9/3, Error ellipse: s-maj=23.8km s-min=13.3km az=84.0*
*NEIC **10** 16:50:51.5±1.5, 19°.90N±0°.07×147°.0E±0°.1, h12km±4km, mb4.6/40, Error ellipse: s-maj=15.0km s-min=9.5km az=85.0*

ISC 10 16:50:55.1±0.5, 19°.90N±0°.05×147°.01E±0°.09, h40km, n74, σ1§10/70, mb4.5/33, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.60**	**198**	Pn	**Pn**	**16 52 30.6**	**+0.9**
	18nm,0.3s,baz=105,slow=4.3,SNR=13						
GUMO					**Sn**	**16 53 43.5**	**-0.1**
	7.6nm,0.3s,baz=200,slow=22,SNR=1.2						
JCJ	**Chichijima**	**8.42**	**329**	Pn	**Pn**	**16 52 53.7**	**-1.0**
	6.8nm,0.3s,baz=286,slow=22,SNR=1.7						
JCJ					**Sn**	**16 54 24.3**	**-4.2**
	4.4nm,0.3s,baz=306,slow=23,SNR=1.5						
PATS	**Pohnpei**	**17.00**	**138**	Pn	**Pn**	**16 54 47.8**	**-2.2**
PATS	

H11N3	WAKE ISLAND Hy	18.73	87	T	T	17 14 20.2
	baz=274,slow=75,SNR=2.3					
JNU	Nakatsue	19.51 316		P	P	16 55 19.9 +0.9
	comp=Z,0.3nm,0.3s,baz=153,slow=9.0,SNR=2.0					
JSD	Sado	19.61 339		P	P	16 55 20.2 +0.2
YOJ	Yonaguni jima	22.68 286		P	P	16 55 52.1 -1.1
YOJ				IAmb	IAmb	16 56 10.9
	comp=Z,19nm,1.1s					
KSRS	Korea Array	24.14 320		P	P	16 56 08.0 +0.7
	comp=Z,2.1nm,0.7s,baz=147,slow=9.1,SNR=10					
KSRS	Korea Array	24.14 320		P	P	16 56 08.0 +0.7
KSAR	Wonju Array Be	24.15 320		P	P	16 56 10.0 +2.5
PMG	Port Moresby	29.12 180		P	P	16 56 51.8 -0.5
PMG				IAmb	IAmb	16 57 20.9
	comp=Z,16nm,1.0s					
LUWI	Luwuk	31.59 232		P	P	16 57 12.9 -1.4
COEN	Coen	33.85 187		P	P	16 57 33.7 -0.2
COEN				IAmb	IAmb	16 57 45.4
	comp=Z,5.0nm,0.9s					
MTN	Manton Dam	36.09 207		P	P	16 57 52.0 -1.2
MTN				IAmb	IAmb	16 58 13.5
	comp=Z,9.1nm,1.1s					
KAPI	Kappang	36.49 230		P	P	16 57 56.0 -0.7
	comp=Z,11nm,0.5s,baz=117,slow=4.5,SNR=1.9					
XAN	Xi'an	36.53 301		P	P	16 57 57.6 +0.5
SOEI	Soe	37.01 219		P	P	16 58 00.0 -1.3
SMY	Shemya	38.92	26	P	P	16 58 15.2 -1.6
CTAO	Charters Tower	39.74 181		P	P	16 58 23.9 -0.1
WB2	Warramunga Arr	41.49 198		P	P	16 58 37.7 -0.8
WB2				IAmb	IAmb	16 58 38.3
	comp=Z,8.4nm,0.8s					
WRA	Warramunga Arr	41.49 198		P	P	16 58 37.8 -0.7
	comp=Z,3.7nm,0.8s,baz=19,slow=8.9,SNR=14					
WRA				PcP	PcP	17 00 36.3 +0.5
	comp=Z,0.9nm,0.6s,baz=8.9,slow=3.4,SNR=4.9					
WRA	Warramunga Arr	41.49 198		P	P	16 58 37.5 -1.0
SONM	Songino Array	43.01 320		P	P	16 58 50.6 -0.2
	comp=Z,0.6nm,0.4s,baz=125,slow=7.2,SNR=2.8					
SONM				PcP	PcP	17 00 42.0 +1.5
	comp=Z,0.6nm,0.6s,baz=93,slow=2.9,SNR=3.6					
SEY	Seymchan	43.16	4	P	P	16 58 51.5 0.0
	comp=Z,0.7nm,0.7s,baz=19,slow=22,SNR=1.3					
FITZ	Fitzroy Crossi	43.19 210		P	P	16 58 51.7 -0.6
YAK	Yakutsk	43.79 348		P	P	16 58 57.3 +0.7
	comp=Z,1.2nm,0.3s,baz=355,slow=0.5,SNR=2.3					
YAK	Yakutsk	43.79 348		IAmb	IAmb	16 59 11.4
	comp=Z,4.0nm,0.7s					
AS31	Alice Springs	45.14 197		P	P	16 59 06.9 -1.1
ASAR	Alice Springs	45.15 197		P	P	16 59 07.1 -0.9
	comp=Z,1.6nm,0.7s,baz=24,slow=8.5,SNR=20					
ASAR				PcP	PcP	17 00 48.8 +0.8
	comp=Z,0.6nm,0.8s,baz=34,slow=3.3,SNR=4.1					
ASAR	Alice Springs	45.15 197		P	P	16 59 06.6 -1.4
KULM	Kulim	47.34 259		P	P	16 59 26.1 +0.7
PSA00	Pilbara Seismi	49.03 214		P	P	16 59 37.3 -1.0
PSA00				IAmb	IAmb	16 59 37.8
	comp=Z,15nm,1.2s					
LSA	Lhasa	51.23 293		P	P	16 59 58.4 +2.9
LSA				IAmb	IAmb	17 00 12.4
	comp=Z,5.5nm,1.0s					
GSI	Gunungsitoli	51.73 255		P	P	16 59 59.2 +0.3
GSI				IAmb	IAmb	17 00 08.1
	comp=Z,14nm,1.4s					
STKA	Stephens Creek	51.74 186		P	P	16 59 58.0 -0.6
	comp=Z,1.4nm,0.4s,baz=19,slow=4.5,SNR=5.4					
BBOO	Buckleboo	53.45 191		P	P	17 00 11.2 +0.1
BBOO				IAmb	IAmb	17 00 23.4
	comp=Z,14nm,1.2s					
FORT	Forrest	53.58 200		P	P	17 00 13.8 +1.6
MORW	Morawa	57.12 212		P	P	17 00 37.0 -0.7
MORW				IAmb	IAmb	17 00 37.8
	comp=Z,5.3nm,1.1s					
ZAA0	Zalesovo Array	57.84 322		P	P	17 00 43.1 +0.6
ZAA0				IAmb	IAmb	17 00 44.0
	comp=Z,2.7nm,0.7s					
ZALV	Zalesovo Beam	57.84 322		P	P	17 00 42.2 -0.3
	comp=Z,3.0nm,0.7s,baz=92,slow=6.8,SNR=12					
ZALV	Zalesovo Beam	57.84 322		P	P	17 00 41.6 -0.9
MKAR	Makanchi Array	58.54 313		P	P	17 00 47.6 0.0
	comp=Z,1.0nm,0.7s,baz=88,slow=9.8,SNR=7.1					
MKAR	Makanchi Array	58.54 313		P	P	17 00 48.4 +0.8
BPAW	Bear Paw Mtn.	60.13	27	P	P	17 00 59.2 +0.9
BPAW				IAmb	IAmb	17 01 08.6
	comp=Z,3.8nm,1.2s					
TRF	Thorofare Moun	60.25	27	P	P	17 00 59.7 +0.4
NRIK	Noril'sk	60.92 340		P	P	17 01 04.3 +0.7
	comp=Z,1.3nm,0.3s,baz=95,slow=17,SNR=3.5					
KURK	Kurchatov	61.22 318		P	P	17 01 06.7 +0.8
KURK				IAmb	IAmb	17 01 07.7
	comp=Z,2.7nm,0.8s					
KURBB	Kurchatov Arra	61.27 317		P	P	17 01 06.9 +0.6
	comp=Z,4.1nm,0.9s,baz=93,slow=7.6,SNR=31					
WRH	Wood River Hil	61.45	27	P	P	17 01 08.0 +0.8
ILAR	Eielson Array	62.03	26	P	P	17 01 10.9 -0.2
	comp=Z,1.2nm,0.8s,baz=258,slow=5.6,SNR=12					
DOT	Dot Lake	63.02	28	P	P	17 01 18.7 +0.9
DOT				IAmb	IAmb	17 01 21.7
	comp=Z,4.5nm,1.3s					
BMAR	Burnt Mountain	63.53	24	P	P	17 01 23.1 +2.0
BCAR	Beaver Creek A	63.94	29	P	P	17 01 24.9 +1.0
BKZ	Black Stump Fm	64.91 155		P	P	17 01 31.0 +0.5
PALK	Pallekele	65.31 269		P	P	17 01 32.6 -1.0
NNZ	Nelson	65.54 158		P	P	17 01 34.9 +0.4
BVAR	Borovoye Array	66.35 320		P	P	17 01 40.5 +0.8
	comp=Z,4.6nm,0.6s,baz=104,slow=8.1,SNR=35					
BRVK	Borovoye	66.42 320		P	P	17 01 40.7 +0.6
BRVK				IAmb	IAmb	17 01 42.2
	comp=Z,3.9nm,0.8s					
KKAR	Karatay Array	66.97 309		P	P	17 01 44.8 +1.0
ARU	Arti	72.82 324		P	P	17 02 20.0 +0.5
	comp=Z,1.0nm,0.5s,baz=155,slow=6.3,SNR=5.7					
ARU	Arti	72.82 324		IAmb	IAmb	17 02 21.2
	comp=Z,4.4nm,0.8s					
ABKAR	Akbulak array	73.32 317		P	P	17 02 23.4 +0.8
AKTO	Aktyubinsk	74.30 318		P	P	17 02 28.1 -0.2
	comp=Z,1.1nm,0.6s,baz=89,slow=6.2,SNR=4.7					
NVAR	Mina Array Bea	81.43	52	P	P	17 03 08.9 +0.4
	comp=Z,0.9nm,0.7s,baz=264,slow=5.2,SNR=8.1					
FINES	FINESS Array B	86.32 336		P	P	17 03 32.2 -0.4
	comp=Z,1.4nm,0.7s,baz=64,slow=4.4,SNR=6.3					
LPAZ	La Paz	146.44	90	PKPbc	PKPab	17 10 34.1 -0.4
	comp=Z,1.8nm,0.7s,baz=360,slow=3.1,SNR=7.3					

*IDC **10** 17:43:25.4±2.0, 0.°23S×125.°16E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/44, mbtmp3.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/30, Error ellipse: s-maj=189.8km s-min=28.3km az=64.0*

*DJA **10** 17:43:30.5±1.2, 0.°S±3.°×12.°5E±.°, h18km±9km, M3.8/6, mb4.0/1, MLv3.6/6*

ISC 10 17:43:30.8±1.4, 0.°1S±0.°1×125.°4E±0.°1, h49km, n7, σ1$20/9, **mb3.1**/3, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinuk	1.59	296	P	Pn	17 43 55.2	-1.3
KMSI				S	Sn	17 44 14.8	-1.0
SANI	Sanana	1.99	163	P	Pn	17 44 00.4	-1.6
SANI				S	Sn	17 44 26.4	+0.6
LUWI	Luwuk	2.78	251	P	Pn	17 44 12.4	-0.5
MPSI	Mapaga	5.53	275	P	Pn	17 44 50.5	0.0
WRA	Warramunga Arr	21.55	157	P	P	17 48 15.8	-0.3
	0.7nm,1.0s,baz=334,slow=11,SNR=4.2						
ASAR	Alice Springs	24.81	161	P	P	17 48 49.8	+1.3
	0.6nm,0.9s,baz=346,slow=11,SNR=8.3						
MKAR	Makanchi Array	60.01	327	P	P	17 53 33.5	+1.0
	0.5nm,0.5s,baz=117,slow=7.1,SNR=3.4						
MKAR				LR	LR	18 18 27.6	
	comp=Z,44nm,20.3s,baz=164,slow=35						

*NEIC **10** 17:46:19.2±1.8, 0.°67S±0.°05×100.°54E±0.°06, h31km±4km, mb4.8/63, Error ellipse: s-maj=9.3km s-min=6.8km az=65.0*

*DJA **10** 17:46:19.8±0.1, 1.°S±1.°×10.°1E±.°, h10km, M4.8/24, mB5.3/8, mb4.8/15, MLv5.0/24, Mw(mB)4.7/8*

*KLM **10** 17:46:20.0, 0.°41S×100.°47E, h10km, mb5.1*

*BJI **10** 17:46:20.0±0.0, 0.°40S×100.°50E, h5km, mB4.8/15, mb4.5/21, Ms4.7/15, Ms7 4.6/13*

*GCMT **10** 17:46:21.2±0.4, 0.°41S±0.°02×100.°58E±0.°02, h20km±2km, MW4.8/76, Moment Tensor Solution. s14,c15; s76,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47±.12; $M_{\theta\theta}$-1.43±.08; $M_{\phi\phi}$1.90±.11; $M_{r\theta}$-0.52±.19; $M_{\theta\phi}$0.82±.08; $M_{\phi r}$-0.56±.20; Best double couple: $M_0$2.00100×10^{16} NP1:ϕ_s148.00000°, δ67.00000°, λ-177.00000°. NP2: ϕ_s57.00000°, δ87.00000°, λ-23.00000°. Principal axes: T 2.2550, Plg14.0000°, Azm105.0000°; N -0.5140, Plg67.0000°, Azm230.0000°; P -1.7470, Plg18.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **10** 17:46:22.1±2.3, 0.°42S×100.°74E, h44km±21km, mb4.0/31, mb1 4.1/34, mb1mx4.0/60, mbtmp4.3/34, ML3.8/3, MS3.9/22, Ms1 3.9/22, ms1mx3.7/45 Error ellipse: s-maj=15.0km s-min=9.8km az=50.0*

ISC 10 17:46:19.5±0.3, 0.°60S±0.°03×100.°55E±0.°03, h25km, n240, σ1$85/223, **mb4.7**/81, **MS4.0**/25, **4C-4D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.32	195	P	Pb	17 46 25.7	-1.2
PDSI				Pg	Pb	17 46 25.7	-1.2
PDSI				S	Sb	17 46 31.5	-0.4
SDSI	Sungai Dareh	0.94	111	P	Pn	17 46 36.5	-0.7
BKNI	Bangkinang	1.04	28	P	Pn	17 46 37.1	-1.5
BKNI	Bangkinang	1.04	28		Pn	17 46 37.0	-1.5
SISI	Saibi	1.62	244	P	Pn	17 46 46.7	+0.1
SISI				S	Sb	17 47 10.6	+1.6
MNSI	Mandailing Nat	1.69	325	P	Pn	17 46 47.5	0.0
KRJI	Kerinci	1.74	148	P	Pn	17 46 52.6	+4.3
KRJI				Pg	Pb	17 46 52.2	+1.3
RGRI	Rengat	1.81	82	P	Pn	17 46 50.5	+1.4
PPSI	Pulau Pagai	2.21	194	P	Pb	17 46 57.1	-1.8
PBSI	Pulau Batu	2.33	283	P	Pn	17 46 55.4	-0.9
GSI	Gunungsitoli	3.52	302	P	Pn	17 47 14.1	+1.4
GSI	Gunungsitoli	3.52	302	Pn	Pn	17 47 13.1	+0.3
RPSI	Rantau Prapat	3.65	334	Pn	Pn	17 47 12.5	-2.0
RPSI	Rantau Prapat	3.65	334		Pn	17 47 16.2	+1.7
RPSI					Sb	17 48 09.4	+2.1
KSI	Kapahiang	3.66	146	P	Pn	17 47 18.3	+3.7
PSI	Prapat	3.75	334	P	Pn	17 47 16.2	+0.3
	7.5nm,0.3s,baz=180,slow=13,SNR=16						
PSI				S	Sb	17 48 09.4	-0.8
	40nm,0.3s,baz=180,slow=14,SNR=3.8						
DSRI	Dabo	4.03	88	P	Pn	17 47 19.8	+0.1
MYKOM	Kota Tinggi	4.07	54		Pn	17 47 21.0	+0.8
MYKOM	Kota Tinggi	4.07	54	P	Pn	17 47 21.0	+0.8
LHSI	Lahat	4.37	137	P	Pn	17 47 28.2	+3.8
MNAI	Manna	4.44	147	Pn	Pn	17 47 23.5	-1.9
TSI	Tuntungan	4.53	334	P	Pn	17 47 27.0	+0.4
IPM	Ipoh	5.07	5	Pn	Pn	17 47 35.3	+1.3
IPM	Ipoh	5.07	5	P	Pn	17 47 35.0	+1.0
TPTI		5.10	319	P	Pn	17 47 37.8	+3.4
	1.4nm1μm133nm,1.0s						
MDSI	Maura Dua	5.30	137	P	Pn	17 47 42.2	+5.1
	0.6nm2μm174nm,1.1s						
LWLI	Liwa	5.62	141	P	Pn	17 47 43.3	+1.7
	1.0nm4μm226nm,1.3s						
KLSI		5.83	134	P	Pn	17 47 48.2	+3.8
	0.2nm38nm,1.3s						
KULM	Kulim	5.85	1		Pn	17 47 45.1	+0.4
KULM	Kulim	5.85	1	P	Pn	17 47 45.0	+0.2
MLSI	Meulaboh, Aceh	6.37	319	P	Pn	17 47 53.2	+1.4
	1.1nm3μm191nm,0.5s						
BLSI	Bandar Lampung	6.67	135	P	Pb	17 48 07.5	-7.3
	0.6nm101nm,0.4s						
BLSI				Pn	Pn	17 47 59.0	+3.0
	0.6nm101nm,0.4s						
DBJI	Dramaga	8.56	134	P	Pn	17 48 32.5	+11
LEM	Lembang	9.38	131	P	Pn	17 48 41.3	+7.9
	1.4nm,0.3s,baz=304,slow=15,SNR=3.1						
LEM				LR	LR	17 53 04.2	
	comp=Z,260nm,20.1s,baz=302,slow=43						
SBUM	Sibu	12.06	75	P	Pn	17 49 12.0	+2.1
MTKI	Muara Teweh, K	14.35	91	P	P	17 49 48.3	+0.2
PBKT	Sadao Pong	17.07	1		P	17 50 17.8	-0.4
MYLDM	Lahad Datu	18.83	72	P	P	17 50 34.0	-3.7
CM31	Chiang Mai Arr	19.00	355	P	P	17 50 38.5	-1.1
CMAR	Chiang Mai Arr	19.00	355	P	P	17 50 38.8	-0.8
	0.0nm,0.3s,baz=184,slow=11,SNR=3.1						
CMAR				PcP	PcP	17 55 04.3	-0.4
	0.1nm,0.3s,baz=199,slow=1.9,SNR=2.4						
CMAR				ScP	ScP	17 58 36.6	-2.4
	baz=200,slow=3.3,SNR=1.2						
CMAR				LR	LR	17 58 59.8	
	comp=Z,328nm,21.3s,baz=222,slow=40						
CMAR	Chiang Mai Arr	19.00	355	P	P	17 50 39.9	+0.3
CHTO	Chiang Mai	19.36	355	P	P	17 50 39.0	-4.5
MPSI	Mapaga	19.37	87	P	Pn	17 50 46.2	+1.3
	15nm,0.9s						
KAPI	Kappang	19.67	103	P	P	17 50 46.3	-0.7
	2.0nm,0.3s,baz=266,slow=13,SNR=1.5						
KAPI				LR	LR	17 59 04.2	
	comp=Z,546nm,18.2s,baz=260,slow=39						
KAPI	Kappang	19.67	103	P	P	17 50 44.3	-2.6
KAPI				IAmb	IAmb	17 50 59.0	
	comp=Z,56nm,1.1s						
BNSI	Bone	19.90	101	P	Pn	17 50 52.1	+0.9
	comp=Z,1μmcomp=Z,84nm,1.6s						
BKSI	Bulukumba	20.10	104	P	Pn	17 50 57.5	+4.0
	comp=Z,872nmcomp=Z,69nm,1.0s						
PALK	Pallekele	21.28	292	P	P	17 51 07.0	+2.5
	comp=Z,13nm,0.7s,baz=227,slow=11,SNR=7.1						
PALK				LR	LR	17 58 56.0	
	comp=Z,520nm,19.2s,baz=218,slow=35						
PALK	Pallekele	21.28	292	P	P	17 51 03.5	-1.0
PALK				IAmb	IAmb	17 51 11.3	
	comp=Z,58nm,1.4s						
QIZ	Qiongzhong	21.54	25	P	P	17 51 10.5	+3.4
QIZ				S	Sn	17 55 13.1	-0.6
QIZ				LR	LR		
	comp=Z,640nm,12.9s						
QIZ				LR	LR		
	comp=Z,900nm,13.1s						
QIZ				LR	LR		
	comp=Z,430nm,12.6s						
QIZ	Qiongzhong	21.54	25	P	P	17 51 05.6	-1.5
QIZ				IAmb	IAmb	17 51 16.2	
	comp=Z,46nm,1.3s						
SLVN	Son La	22.05	8	P	P	17 51 14.2	+1.6
BATI	Baumata	24.89	113	P	P	17 51 39.4	-1.3
	comp=Z,4.1nm,0.4s,baz=344,slow=7.4,SNR=1.6						
BATI				LR	LR	18 03 27.5	
	comp=Z,1μm,19.4s,baz=296,slow=41						
BWNR	Bhubaneshwar	25.29	326	eP	P	17 51 37.0	-7.2
DAV	Davao City (W)	26.11	73	LR	LR	18 04 25.8	
	comp=Z,215nm,18.5s,baz=236,slow=42						
SHL	Shillong	27.33	343	P	P	17 52 00.7	-2.1
SHL				IAmb	IAmb	17 52 22.4	
	comp=Z,45nm,1.3s						
ODAN	Odare	30.10	336	eP	P	17 52 29.3	+1.8
	comp=Z,30nm,0.8s						
ODAN	Odare	30.10	336	eP	P	17 52 29.3	+1.8
	comp=Z,30nm,0.8s						
NGP	Nagpur	30.15	317	eP	P	17 52 30.4	+2.7
FITZ	Fitzroy Crossi	30.17	127	P	P	17 52 27.9	-0.1
	comp=Z,2.5nm,0.7s,baz=8.0,slow=0.9,SNR=4.1						
FITZ				LR	LR	18 04 23.7	
	comp=Z,197nm,20.7s,baz=80,slow=36						
FITZ	Fitzroy Crossi	30.17	127	P	P	17 52 26.2	-1.8
TAPN	Taplejung	30.41	337	eP	P	17 52 30.5	+0.2
	comp=Z,46nm,0.9s						
TAPN	Taplejung	30.41	337	eP	P	17 52 30.5	+0.2
	comp=Z,46nm,0.9s						
RAMN	Ramite	30.51	335	eP	P	17 52 33.5	+2.4
	comp=Z,16nm,0.7s						
RAMN	Ramite	30.51	335	eP	P	17 52 33.5	+2.4
	comp=Z,16nm,0.7s						
SIJI	Sorong	30.72	91	LR	LR	18 08 10.9	
	comp=Z,191nm,18.9s,baz=238,slow=43						
TPUB	Ta-pu	30.75	38	P	P	17 52 33.0	-0.1
TPUB				IAmb	IAmb	17 52 39.5	
	comp=Z,25nm,1.1s						
JIRN	Jiri	31.30	335	eP	P	17 52 38.4	+0.1
	comp=Z,74nm,0.9s						
JIRN	Jiri	31.30	335	eP	P	17 52 38.4	+0.1
	comp=Z,74nm,0.9s						
LSA	Lhasa	31.44	344	P	P	17 52 37.4	-2.1
CD2	Chengdu	31.49	5	eP	P	17 52 42.3	+2.8
CD2				LR	LR		
	comp=Z,1μm,12.0s						
CD2				LR	LR		
	comp=Z,930nm,10.6s						
CD2				LR	LR		
	comp=Z,1μm,12.0s						
PKI	Pulchoki	31.56	334	eP	P	17 52 40.1	-0.4
PKI	Pulchoki	31.56	334	eP	P	17 52 40.1	-0.4
PKIN	Phulchoki	31.57	334	eP	P	17 52 40.2	-0.4
	comp=Z,37nm,1.2s						
PKIN	Phulchoki	31.57	334	eP	P	17 52 40.2	-0.4
	comp=Z,37nm,1.2s						
KNRA	Kununurra	31.62	120	P	P	17 52 42.0	+1.2
	baz=32,SNR=3.6						
DMN	Daman	31.73	333	eP	P	17 52 42.2	+0.3
	comp=Z,30nm,1.1s						
DMN	Daman	31.73	333	eP	P	17 52 42.2	+0.3
	comp=Z,30nm,1.1s						
KKN	Kakani	31.81	334	eP	P	17 52 41.9	-0.7
KKN	Kakani	31.81	334	eP	P	17 52 41.9	-0.7
KOLN	Koldanda	32.57	331	eP	P	17 52 49.3	+0.1
	comp=Z,53nm,0.8s						
KOLN	Koldanda	32.57	331	eP	P	17 52 49.3	+0.1
	comp=Z,53nm,0.8s						
PYUN	Piuthan	33.14	331	eP	P	17 52 53.7	-0.5
	comp=Z,20nm,0.5s						
PYUN	Piuthan	33.14	331	eP	P	17 52 53.7	-0.5
	comp=Z,20nm,0.5s						
XAN	Xi'an	35.34	12	P	P	17 53 15.4	+2.3
XAN				pP	pP	17 53 20.4	-0.5
XAN				PP	PP	17 54 37.3	+3.7
XAN				S	S	17 58 49.7	+3.6
XAN				SS	SnSn	18 01 08.8	+3.1
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,97nm,5.3s						
XAN				LR	LR		
	comp=Z,430nm,16.5s						
XAN				LR	LR		
	comp=Z,550nm,11.6s						
XAN				LR	LR		
	comp=Z,930nm,16.7s						
NWAO	Narrogin (SRO)	35.79	156	LR	LR	18 06 17.0	
	comp=Z,491nm,21.6s,baz=309,slow=33						
WRKA	Warakurna	36.18	134	P	P	17 53 20.4	0.0
	baz=36,SNR=9.9						
LZH	Lanzhou	36.63	4	eP	P	17 53 27.9	+3.7
LZH				pP	pP	17 53 32.5	+0.5
LZH				sP	sP	17 53 35.3	+0.1
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				LR	LR		
	comp=Z,580nm,9.5s						
LZH				LR	LR		
	comp=Z,590nm,12.5s						
LZH				LR	LR		
	comp=Z,680nm,14.6s						
SSE	Sheshan	37.12	30	P	P	17 53 30.0	+1.8
SSE				S	S	17 59 19.8	+6.6
SSE				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SSE				pmax	pmax		
	comp=Z,86nm,5.0s						
SSE				LR	LR		
	comp=Z,170nm,14.4s						
SSE				LR	LR		
	comp=Z,200nm,14.1s						
WB0	Warramunga Arr	38.22	122	P	P	17 53 36.8	-1.0
WRA	Warramunga Arr	38.25	122	P	P	17 53 36.6	-1.4
	comp=Z,4.2nm,0.8s,baz=298,slow=9.2,SNR=24						
WRA				PcP	PcP	17 55 51.8	-0.3
	comp=Z,1.2nm,0.8s,baz=310,slow=2.4,SNR=3.1						
WRA	Warramunga Arr	38.25	122	P	P	17 53 37.1	-1.0
WRAB	Tennant Creek	38.26	122	P	P	17 53 37.5	-0.5
WRAB				IAmb	IAmb	17 53 39.7	
	comp=Z,12nm,0.8s						
WB2	Warramunga Arr	38.26	122	P	P	17 53 37.1	-1.0
WR0	Warramunga Arr	38.43	122	P	P	17 53 38.2	-1.3
WR0				IAmb	IAmb	17 53 51.1	
	comp=Z,9.2nm,0.8s						
AS31	Alice Springs	39.65	128	P	P	17 53 49.0	-0.8
ASAR	Alice Springs	39.65	128	P	P	17 53 48.9	-0.9
	comp=Z,4.0nm,0.7s,baz=301,slow=7.2,SNR=38						
ASAR				PcP	PcP	17 55 55.5	-1.0
	comp=Z,1.9nm,0.7s,baz=300,slow=3.1,SNR=8.5						
ASAR				LR	LR	18 11 11.0	
	comp=Z,195nm,19.7s,baz=300,slow=38						
ASAR	Alice Springs	39.65	128	P	P	17 53 49.0	-0.8
FORT	Forrest	39.77	142	P	P	17 53 48.5	-2.1
GTA	Gaotai	39.82	359	eP	P	17 53 52.3	+1.3
GTA				pP	sP	17 54 02.8	+0.7
GTA				sP	pP	17 54 06.8	+7.9
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,75nm,7.5s						
GTA				LR	LR		
	comp=Z,260nm,15.2s						
GTA				LR	LR		
	comp=Z,400nm,15.2s						
GTA				LR	LR		
	comp=Z,300nm,16.5s						
NIL	Nilore	42.65	326	P	P	17 54 13.7	-0.6
NIL				IAmb	IAmb	17 54 18.1	
	comp=Z,24nm,0.8s						
JNU	Nakatsue	44.06	38	P	P	17 54 24.0	-1.7
	comp=Z,4.0nm,0.8s,baz=54,slow=20,SNR=1.9						
JNU	Nakatsue	44.06	38	P	P	17 54 27.0	+1.3
JNU				IAmb	IAmb	17 54 31.8	
	comp=Z,33nm,1.1s						
KSAR	Wonju Array Be	45.52	31	P	P	17 54 38.8	+1.7
KSRS	Korea Array	45.55	31	P	P	17 54 36.2	-1.1
	comp=Z,1.0nm,0.7s,baz=225,slow=8.4,SNR=12						
KSRS				LR	LR	18 15 47.8	
	comp=Z,72nm,18.0s,baz=208,slow=39						
KBL	Kabul	45.74	323	P	P	17 54 38.2	-1.0
KBL				IAmb	IAmb	17 54 48.6	
	comp=Z,6.2nm,0.6s						
GAR	Garm	48.19	328	P	P	17 54 57.3	-0.8
SONM	Songino Array	48.51	5	P	P	17 54 59.4	-1.1
	comp=Z,1.0nm,0.6s,baz=193,slow=9.9,SNR=3.5						
SONM				PcP	PcP	17 56 25.0	-1.2
	comp=Z,1.4nm,0.8s,baz=185,slow=4.0,SNR=1.8						
SONM				LR	LR	18 18 42.9	
	comp=Z,189nm,20.2s,baz=190,slow=40						
SONM	Songino Array	48.51	5	P	P	17 54 59.9	-0.6
CHGR	Chuyangaron	48.56	327	P	P	17 54 59.9	-1.1
HTT	Hallett	48.

ZAA0 Zalesovo Array 55.91 349 P **P** **17 55 54.2 -1.0**
ZAA0 IAmb IAmb 17 56 01.9
comp=Z,6.6nm,0.8s
ZALV Zalesovo Beam 55.91 349 P **P** **17 55 53.7 -1.5**
comp=Z,4.3nm,0.8s,baz=173,slow=6.3,SNR=14
ZALV LR LR 18 21 02.6
comp=Z,111nm,21.8s,baz=188,slow=37
ZALV Zalesovo Beam 55.91 349 P **P** **17 55 53.2 -2.0**
BRVK Borovoye 59.14 339 P **P** **17 56 17.9 0.0**
ABKAR Akbulak array 60.69 331 P **P** **17 56 27.7 -1.0**
KMBO Kilima Mbogo 63.29 269 LR LR 18 19 24.7
comp=Z,75nm,18.4s,baz=95,slow=31
TBLG Delisi 65.56 317 P **P** **17 57 02.0 +0.7**
ARU Arti 66.16 336 P **P** **17 57 03.7 -1.0**
ARU IAmb IAmb 17 57 08.3
comp=Z,15nm,1.2s
YAK Yakutsk 66.26 15 P **P** **17 57 04.5 -0.8**
comp=Z,1.3nm,0.3s,baz=86,slow=1.4,SNR=5.4
YAK Yakutsk 66.26 15 P **P** **17 57 04.5 -0.8**
YAK IAmb IAmb 17 57 08.8
comp=Z,4.5nm,0.7s
AKH Akhalkalaki 66.28 316 P **P** **17 57 03.3 -2.8**
AKH IAmb IAmb 17 57 12.9
comp=Z,7.7nm,1.1s
MARD Mardin 66.73 311 P **P** **17 57 08.1 -0.9**
KBZ Khabaz 67.62 319 P **P** **17 57 14.4 +0.1**
comp=Z,8.9nm,1.0s,baz=171,slow=8.0,SNR=10.0
GAZ Gaziantep 69.38 310 P **P** **17 57 25.3 -0.3**
MAW Mawson 71.77 194 P **P** **17 57 41.0 +1.6**
comp=Z,2.1nm,1.0s,baz=30,slow=10,SNR=5.2
MAW LR LR 18 22 04.8
comp=Z,70nm,20.7s,baz=54,slow=30
BRTR Keskin Array B 72.79 312 P **P** **17 57 45.4 -0.9**
comp=Z,3.3nm,0.8s,baz=131,slow=7.0,SNR=6.6
BRTR Keskin Array B 72.79 312 P **P** **17 57 46.5 +0.1**
MATP Matopo 72.98 249 P **P** **17 57 49.6 +1.8**
comp=Z,1.9nm,0.5s,baz=88,slow=6.3,SNR=8.6
SEY Seymchan 74.13 22 P **P** **17 57 52.4 -1.1**
comp=Z,1.2nm,0.8s,baz=346,slow=15,SNR=1.6
MDUB Mudurnu 74.79 312 P **P** **17 57 55.1 -2.9**
RPZ Rata Peaks 75.58 135 P **P** **17 58 02.6 +0.3**
comp=Z,7.2nm,0.8s,baz=307,slow=5.1,SNR=2.5
LBTB Lobatse 76.12 244 P **P** **17 58 08.0 +2.1**
comp=Z,1.4nm,0.6s,baz=184,slow=14,SNR=1.8
LBTB LR LR 18 28 40.6
comp=Z,61nm,19.8s,baz=88,slow=33
LBTB Lobatse 76.12 244 P **P** **17 58 05.0 -0.9**
BOSA Boshof 76.81 241 P **P** **17 58 12.0 +2.2**
comp=Z,2.7nm,0.7s,baz=196,slow=20,SNR=1.9
BOSA Boshof 76.81 241 P **P** **17 58 08.6 -1.2**
BOSA IAmb IAmb 17 58 28.7
comp=Z,19nm,1.4s
KLMR Klimovskoe 76.82 334 *e*P **P** **17 58 07.3 -1.7**
KLMR AMP 17 58 13.7
comp=Z,30nm,1.4s
AKASG Malin Array Be 78.72 322 P **P** **17 58 19.0 -0.8**
comp=Z,1.7nm,0.7s,baz=83,slow=4.8,SNR=15
AKASG Malin Array Be 78.72 322 P **P** **17 58 18.4 -1.4**
AKBB Malin Array Si 78.72 322 P **P** **17 58 18.6 -1.2**
VRI Vrincioaia 79.21 317 ⇓P **P** **17 58 23.2 +0.5**
PLOR Plostina 79.26 317 ⇑P **P** **17 58 23.6 +0.7**
SYO Syowa Base 79.36 199⇓ *e*pP pP 17 58 32.4 +1.2
SYO Syowa Base 79.36 199⇓ *e*sP sP 17 58 35.1 +0.9
MLR Muntele Rosu 79.67 316 ⇑P **P** **17 58 26.5 +1.2**
MLR Muntele Rosu 79.67 316 P **P** **17 58 26.5 +1.2**
VOIR 80.28 316 ⇓P **P** **17 58 28.2 -0.3**
BURAR Bucovina Array 80.58 318 ⇓P **P** **17 58 31.4 +1.2**
BURAR Bucovina Array 80.58 318 P **P** **17 58 30.7 +0.6**
BUR08 Bucovina Ar. S 80.60 318 P **P** **17 58 31.0 +0.7**
BUR08 IAmb IAmb 17 58 35.9
comp=Z,6.0nm,0.8s
LIT Litokhoron 81.25 311 P **P** **17 58 33.6 -0.2**
LIT IAmb IAmb 17 58 37.0
comp=Z,20nm,1.4s
KOLS Kolonicke sedl 82.75 319 *e*P **P** **17 58 43.7 +2.3**
SUW Suwalki 83.07 325 *e*P **P** **17 58 46.2 +3.2**
SUW Suwalki 83.07 325 P **P** **17 58 42.6 -0.3**
FINES FINESS Array B 83.14 332 P **P** **17 58 42.8 -0.3**
comp=Z,2.5nm,0.7s,baz=105,slow=5.8,SNR=11
TSUM Tsumeb 83.16 251 P **P** **17 58 46.0 +1.7**
comp=Z,0.9nm,0.4s,baz=118,slow=5.8,SNR=1.9
TSUM LR LR 18 30 39.3
comp=Z,53nm,20.1s,baz=98,slow=32
VNDA Vanda 83.42 169 P **P** **17 58 45.6 +1.3**
comp=Z,1.1nm,0.8s,baz=326,slow=9.5,SNR=2.7
VNDA LR LR 18 30 39.8
comp=Z,73nm,21.5s,baz=326,slow=32
DIVS Divibare 83.63 314 P **P** **17 58 44.8 -1.4**
DIVS IAmb IAmb 17 58 50.7
comp=Z,11nm,1.3s
PDG Podgorica 83.97 313 P **P** **17 58 44.9 -2.9**
PDG IAmb IAmb 17 58 51.8
comp=Z,8.6nm,1.1s
NIE Niedzica 84.10 320 *e*P **P** **17 58 52.6 +4.2**
PSZ Piszkesteto 84.17 318 ⇓P **P** **17 58 52.6 +3.7**
PSZ Piszkesteto 84.17 318 P **P** **17 58 47.5 -1.3**
PSZ IAmb IAmb 17 58 53.9
comp=Z,5.3nm,1.0s
VYHS Vyhne 84.94 319 *e*P **P** **17 58 55.0 +2.3**
ARCES ARCESS Array B 85.35 340 P **P** **17 58 53.8 -0.5**
comp=Z,2.8nm,0.9s,baz=67,slow=3.2,SNR=5.7
JAVC Velka Javorina 85.75 319 *e*P **P** **17 58 57.5 +0.7**
MORC Moravsky Berou 85.93 320 *e*P **P** **17 58 57.5 -0.1**
MORC Moravsky Berou 85.93 320 P **P** **17 58 55.1 -2.5**
MORC IAmb IAmb 17 59 02.4
comp=Z,18nm,1.5s
KRLC Kraliky 86.44 320 *e*P **P** **17 59 01.5 +1.4**
DPC Dobruska-Polom 86.76 320 *e*P **P** **17 59 06.2 +4.5**
KSP Ksiaz 86.82 321 *e*P P 17 59 06.6 +4.7
CHVC Chvalec 86.95 321 *e*P **P** **17 59 07.1 +4.5**
ARSA Arzberg 87.05 317 *i* pP P 17 59 08.2 +5.1
comp=Z,9.1nm,1.3s
SOKA Soboth 87.35 317 *i* PcP **P** **17 59 07.4 +2.7**
comp=Z,11nm,1.3s
BRG Berggiesshubel 88.31 321 *e*P **P** **17 59 10.6 +1.5**
comp=Z,13nm,1.2s
BRG Berggiesshubel 88.31 321 *e*P P 17 59 13.8 +4.7
comp=Z,6.2nm,1.0s,baz=89,slow=4.7
PRED Cave del Predi 88.34 316 P **P** **17 59 09.5 +0.1**
PRED IAmb IAmb 17 59 13.9
comp=Z,9.6nm,1.0s
GEC2 GERESS Array S 88.36 319 *e*P P 17 59 14.4 +4.9
comp=Z,41nm,1.7s,baz=89,slow=4.7
GEC2 GERESS Array S 88.36 319 P **P** **17 59 08.2 -1.3**
GEC2 IAmb IAmb 17 59 15.7
comp=Z,6.3nm,1.0s
GERES GERESS Array B 88.36 319 P **P** **17 59 08.1 -1.4**
comp=Z,0.9nm,0.7s,baz=83,slow=4.2,SNR=4.8
GERES GERESS Array B 88.36 319 P **P** **17 59 08.0 -1.5**
KHC Kasperske Hory 88.46 319 *e*P **P** **17 59 11.7 +1.8**
FBE Freiberg 88.69 321 *e*P P 17 59 15.7 +4.9
comp=Z,10nm,0.9s,baz=89,slow=4.7
WET Wettzell 88.92 319 *e*P P 17 59 16.9 +4.9
comp=Z,4.3nm,1.0s,baz=89,slow=4.7
RJOB Jochberg 88.92 318 *e*P P 17 59 17.2 +5.1
baz=89,slow=4.7
CLL Collm 88.92 321 *i* P **P** **17 59 14.7 +2.8**
comp=Z,11nm,1.1s
CLL Collm 88.92 321 *e*P P 17 59 16.6 +4.7
comp=Z,6.8nm,1.0s,baz=89,slow=4.7
CLL Collm 88.92 321 P **P** **17 59 10.9 -1.1**
ABTA Abfaltersbach 89.08 317 PcP **P** **17 59 14.6 +1.7**
comp=Z,4.6nm,1.2s
CIMO Cimolais 89.12 316 P **P** **17 59 11.8 -1.2**
TANN Tannenbergstha 89.23 320 *e*P P 17 59 18.2 +4.7
comp=Z,8.9nm,1.0s,baz=89,slow=4.7
WERN Wernitzgruen 89.28 320 *e*P P 17 59 18.4 +4.7
comp=Z,3.3nm,0.9s,baz=89,slow=4.7
GUNZ Gunzen 89.31 320 *e*P P 17 59 18.8 +5.0
comp=Z,4.1nm,0.9s,baz=89,slow=4.7
ROTZ Rotzenmuhle 89.38 320 *e*P P 17 59 19.0 +4.9
comp=Z,4.0nm,1.0s,baz=89,slow=4.7
MANZ Manzenberg 89.45 320 *e*P P 17 59 19.5 +5.1
comp=Z,9.4nm,1.1s,baz=89,slow=4.7
CTI Castel Tesino 89.66 316 P **P** **17 59 14.8 -0.9**
NEUB Neuenburg 89.69 321 *e*P P 17 59 20.5 +5.0
comp=Z,20nm,1.1s,baz=89,slow=4.7
WTTA Wattenberg 89.69 317 *i* PcP **P** **17 59 16.0 +0.1**
comp=Z,6.2nm,0.9s
WATA Walderalm 89.74 317 *i* PcP **P** **17 59 19.6 +3.5**
comp=Z,12nm,0.6s
MOX Moxa 89.78 320 *e*P P 17 59 20.8 +4.8
comp=Z,3.3nm,1.0s,baz=89,slow=4.7
SQTA Sankt Quirin 89.98 317 *e*PcP **P** **17 59 17.9 +0.7**
comp=Z,5.1nm,0.8s
GRF Grafenberg Arr 90.02 320 *e*P P 17 59 21.8 +4.7
comp=Z,6.4nm,0.9s,baz=89,slow=4.7
MOTA Moosalm 90.06 317 *e*PcP **P** **17 59 17.7 +0.2**
comp=Z,10nm,1.1s
NOA NORSAR Array B 90.20 331 LR LR 18 44 41.5
comp=Z,23nm,18.9s,baz=25,slow=39
RETA Reutte 90.29 317 *i* PcP **P** **17 59 20.9 +2.4**
comp=Z,9.7nm,1.0s
FETA Feichten 90.31 317 *i* PcP P **17 59 22.0 +3.3**
comp=Z,7.6nm,1.1s
CLZ Clausthal 90.58 322 *e*P **P** **17 59 24.4 +4.7**
comp=Z,17nm,1.3s,baz=89,slow=4.7
BSEG Bad Segeberg 90.62 324 *e*P P 17 59 24.7 +5.0
baz=89,slow=4.7
FUORN Ofenpass-Fuorn 90.63 316 P **P** **17 59 17.2 -3.1**
NRDL Niedersach Rie 90.74 322 *e*P P 17 59 25.7 +5.4
comp=Z,5.0nm,1.0s,baz=89,slow=4.7
DAVA Damuels 90.89 317 *i* PcP **P** **17 59 24.2 +2.7**
comp=Z,11nm,0.9s
KEST Kesra 91.32 306 P **P** **17 59 23.8 +0.2**
comp=Z,4.3nm,0.8s,baz=260,slow=3.3,SNR=6.0
KEST Kesra 91.32 306 P **P** **17 59 21.9 -1.7**
KEST IAmb IAmb 17 59 29.7
comp=Z,7.9nm,0.9s
IMAR Indian Mountai 96.91 23 P **P** **17 59 48.1 -0.4**
TORD Torodi Ar. Bea 98.76 283 LR LR 18 43 46.0
comp=Z,42nm,18.6s,baz=145,slow=35
TXAR Lajitas Array 143.26 37 PKP **PKPdf** **18 05 51.6 -1.0**
comp=Z,0.6nm,0.5s,baz=303,slow=0.5,SNR=6.4
TXAR Lajitas Array 143.26 37 PKPdf PKPbc 18 05 50.1 +0.6
BDFB Brasilia 145.00 241 PKPbc PKPbc 18 05 55.3 +0.1
comp=Z,11nm,0.7s,baz=91,slow=4.7,SNR=9.8
BDFB Brasilia 145.00 241 **PKPab** **18 05 53.9 -1.3**
CPUP Villa Florida 145.76 217 PKPbc **PKPbc** **18 05 57.2 0.0**
comp=Z,5.8nm,0.7s,baz=107,slow=1.4,SNR=9.9
CPUP Villa Florida 145.76 217 **PKPab** **18 05 57.5 -0.1**

*NEIC **10** 17:52:19.2±1.1, 0.°80S±0.°07×100.°67E±0.°05, h35km±1km, mb4.3/4, Error ellipse: s-maj=12.3km s-min=9.4km az=8.0*
*DJA **10** 17:52:21.4±0.2, 1.°S±2.°×10.°1E±.°, h10km, M4.2/11, MLv4.2/11*
*IDC **10** 17:52:27.8±3.9, 0.°50S×100.°70E, h89km±32km, mb3.4/5, mb1 3.5/6, mb1mx3.2/52, mbtmp3.7/6, Error ellipse: s-maj=111.4km s-min=19.4km az=52.0*
ISC 10 17:52:20.3±0.9, 0.°72S±0.°05×100.°66E±0.°04, h31km±7km, n29, σ1§84/36, mb3.9/7, Southern Sumatera
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PDSI Padang 0.28 227 P **Pb** **17 52 26.9 -0.8**
PDSI S **Sb** **17 52 32.4 -0.2**
SDSI Sungai Dareh 0.79 105 P **Pb** **17 52 38.2 +2.6**
SDSI S Sb 17 52 55.2 +9.1
BKNI Bangkinang 1.10 20 P **Pn** **17 52 38.9 -0.7**
BKNI S **Sb** **17 52 55.2 +0.2**
BKNI Bangkinang 1.10 20 **Pn** **17 52 38.2 -1.4**
BKNI **Sn** **17 52 54.2 +0.4**
KRJI Kerinci 1.58 150 P Pb 17 52 54.1 +5.1
SISI Saibi 1.69 249 P **Pn** **17 52 48.4 +0.8**
SISI S **Sb** **17 53 11.8 +0.3**
MNSI Mandailing Nat 1.85 324 P **Pn** **17 52 48.6 -1.3**
MNSI S **Sn** **17 53 12.9 +0.6**
PPSI Pulau Pagai 2.13 198 P **Pb** **17 52 59.7 +1.4**
PBSI Pulau Batu 2.47 285 P **Pn** **17 52 58.6 +0.1**
GSI Gunungsitoli 3.69 303 P **Pn** **17 53 16.9 +1.8**
GSI Gunungsitoli 3.69 303 **Pn** **17 53 14.7 -0.4**
RPSI Rantau Prapat 3.81 333 Pn **Pn** **17 53 18.5 +1.6**
PSI Prapat 3.91 334 P **Pn** **17 53 22.6 +4.3**
15nm,0.3s,baz=177,slow=0.6,SNR=16
PSI S **Sn** **17 54 09.1 +6.0**
7.0nm,0.3s,baz=180,slow=15,SNR=2.2
MYKOM Kota Tinggi 4.04 52 Pn **Pn** **17 53 20.2 +0.1**
IPM Ipoh 5.18 4 Pn **Pn** **17 53 35.3 -0.4**
KULM Kulim 5.97 360 Pn **Pn** **17 53 46.2 -0.4**
WB0 Warramunga Arr 38.06 122 P **P** **17 59 33.9 -2.4**
WB0 IAmb IAmb 17 59 37.8
comp=Z,5.9nm,1.3s
WRA Warramunga Arr 38.09 122 P **P** **17 59 38.2 +1.7**
comp=Z,0.9nm,1.0s,baz=303,slow=9.2,SNR=4.9
WRA PcP **PcP** **18 01 52.8 +1.4**
comp=Z,0.2nm,0.6s,baz=317,slow=2.3,SNR=1.8
WR0 Warramunga Arr 38.27 122 P **P** **17 59 36.7 -1.4**
WR0 IAmb IAmb 17 59 37.3
comp=Z,6.7nm,1.4s
AS31 Alice Springs 39.49 128 P **P** **17 59 46.0 -2.2**
ASAR Alice Springs 39.49 128 P **P** **17 59 50.5 +2.2**
comp=Z,1.2nm,0.9s,baz=304,slow=7.6,SNR=8.2
ASAR PcP **PcP** **18 01 57.1 +1.3**
comp=Z,0.2nm,0.6s,baz=303,slow=2.7,SNR=1.5
NIL Nilore 42.81 326 P **P** **18 00 14.9 -0.6**
MKAR Makanchi Array 49.99 344 P **P** **18 01 10.7 -0.9**
comp=Z,0.5nm,0.6s,baz=153,slow=8.1,SNR=3.0
MKAR Makanchi Array 49.99 344 P **P** **18 01 10.2 -1.4**
KKAR Karatay Array 51.34 332 P **P** **18 01 20.8 -1.1**
ZALV Zalesovo Beam 56.05 349 P **P** **18 01 55.5 -0.5**
comp=Z,0.4nm,0.3s,baz=145,slow=5.4,SNR=4.0
ZALV Zalesovo Beam 56.05 349 P **P** **18 01 55.0 -1.0**
ABKAR Akbulak array 60.85 331 P **P** **18 02 27.7 -1.9**
FINES FINESS Array B 83.30 332 P **P** **18 04 43.5 -0.2**
comp=Z,0.7nm,0.6s,baz=116,slow=6.3,SNR=1.3

*UNK **10** 17:53:24.1, 28.°84N×98.°67W, h5km*
*NEIC **10** 17:53:25.1±1.2, 28.°92N±0.°02×98.°67W±0.°03, h5km±2km, mb_Lg3.2/36, Error ellipse: s-maj=5.1km s-min=3.2km az=224.0*
*ANF **10** 17:53:25.5±0.7, 28.°94N×98.°72W, h0km, ML4.0/5, Error ellipse: s-maj=9.3km s-min=4.0km az=117.0*
ISC 10 17:53:23.7±2.1, 28.°79N±0.°05×98.°63W±0.°04, h8km±17km, n40, σ1§15/36, Southern Texas
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
735A Kenedy 0.72 84 **Pn** **17 53 40.1 -0.1**
735A **Sn** **17 53 51.3 -0.2**
833A Chaparral WMA, 0.82 236 P **Pn** **17 53 41.9 +0.3**
baz=51
833A S **Sn** **17 53 54.5 +0.6**
baz=51
833A Chaparral WMA, 0.82 236 Pg **Pn** **17 53 42.0 +0.4**
833A **Sn** **17 53 54.2 +0.3**
KVTX Kingsville 1.39 152 Pn **Pg** **17 53 50.7 +0.3**
JCT Junction City 1.98 329 P **Pn** **17 53 57.7 +0.1**
baz=149
JCT S **Sn** **17 54 23.1 +0.5**
baz=149
JCT Junction City 1.98 329 **Pn** **17 53 57.4 -0.2**
JCT **Sn** **17 54 22.9 +0.3**
435B Jarrell 2.19 24 P **Pn** **17 54 01.6 +1.1**
baz=206
435B S **Sb** **17 54 32.0 +1.1**
baz=206
435B Jarrell 2.19 24 **Pn** **17 54 01.0 +0.6**
435B Sn **Sn** **17 54 28.6 +0.8**
HKT Hockley 2.70 64 IAmb_Lg 17 54 56.4
comp=Z,3.2nm,1.0s
WHTX Lake Whitney, 3.35 17 P **Pn** **17 54 16.9 +0.4**
baz=199
WHTX Lake Whitney, 3.35 17 **Pn** **17 54 16.3 -0.2**
WHTX IAmb_Lg 17 55 17.0
comp=Z,41nm,0.9s
ABTX Abilene, Hawle 3.92 347 S **Sn** **17 55 10.4 -0.3**
baz=167
ABTX Abilene, Hawle 3.92 347 **Pn** **17 54 24.2 -0.1**
237A Washetta, Mont 4.03 37 Pn **Pn** **17 54 24.8 -0.9**
237A IAmb_Lg 17 55 40.0
comp=Z,35nm,0.9s
TXAR Lajitas Array 4.45 278 **Pn** **17 54 31.0 -0.7**
TX31 Lajitas Ar. Si 4.45 278 Pn **Pn** **17 54 30.5 -1.2**
TX32 Lajitas Array 4.45 278 **Pn** **17 54 30.4 -1.2**
Z35A Perchaven, San 4.68 14 IAmb_Lg 17 55 59.5
comp=Z,72nm,1.0s
X34A Smith Ranch, M 5.84 6 **Pn** **17 54 46.9 -3.8**
WMOK Wichita Mounta 5.94 359 P **Pn** **17 54 52.3 +0.3**
baz=179
WMOK Wichita Mounta 5.94 359 **Pn** **17 54 51.3 -0.7**
GDL2 Guadalupe Moun 6.01 306 Pn **Pn** **17 54 54.7 +1.6**
MSTX Muleshoe 6.27 327 **Pn** **17 54 56.9 +0.2**
MSTX IAmb_Lg 17 56 43.8
comp=Z,34nm,0.9s
X37A Clayton 6.42 25 **Pn** **17 54 58.3 -0.3**
X37A IAmb_Lg 17 56 59.6
comp=Z,32nm,1.2s
W35A Tecumseh 6.52 13 Pn **Pn** **17 54 57.4 -2.6**
MNTX Cornudas Mount 6.53 298 Pn 17 54 54.8 -5.3
AMTX Amarillo 6.61 338 Pn **Pn** **17 54 59.4 -2.0**
OK025 Westminster Rd 6.86 9 IAmb_Lg 17 57 11.1
comp=Z,31nm,0.7s
OK029 Liberty Lake 7.06 8 IAmb_Lg 17 57 22.1
comp=Z,29nm,0.9s
MIAR Mount Ida 7.17 36 **Pn** **17 55 08.5 -0.4**
TUL1 Leonard 7.50 18 IAmb_Lg 17 57 26.5
comp=Z,18nm,1.0s
X40A Basin Creek Fa 7.53 40 Pn **Pn** **17 55 12.1 -1.8**
U32A Winter Ranch, 7.58 358 IAmb_Lg 17 57 31.1
comp=Z,35nm,0.7s
W39A Magazine 7.60 32 Pn **Pn** **17 55 14.4 -0.4**
W39A **Sn** **17 56 41.5 +0.3**
CROK Carrier 7.72 4 IAmb_Lg 17 57 30.1
comp=Z,42nm,0.9s
T35A Sooner Cattle 8.30 12 IAmb_Lg 17 57 51.9
comp=Z,23nm,1.1s
U40A Yellville 8.98 31 Pn **Pn** **17 55 32.5 -1.3**
ANMO Albuquerque 9.06 315 IAmb_Lg 17 58 13.9
comp=Z,18nm,1.1s
T25A Trinidad 9.64 331 IAmb_Lg 17 58 45.7
comp=Z,32nm,0.9s
CBKS Cedar Bluff 10.05 355 IAmb_Lg 17 59 06.1
comp=Z,19nm,0.8s

JMA 10 17:54:28.0±0.1, 33.°05N×131.°75E, h15km±1km, M-0.3, Kyushu
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JUS Usuki 0.02 2 P Pg 17 54 30.8 +0.1
JUS S Sg 17 54 32.6 +0.2
JSKE Saikikamae 0.28 153 P Pg 17 54 34.0 0.0
JSKE S Sg 17 54 37.8 -0.2

IDC 10 17:55:36.0±2.5, 31.°38N×140.°44E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/55, mbtmp3.5/5, ML2.1/1, Error ellipse: s-maj=116.1km s-min=21.6km az=78.0, Southeast of Honshu
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JHJ Hachijo jima 2 1.82 342 Pn Pn 17 56 08.0 -0.6
12nm,0.3s,baz=131,slow=19,SNR=1.7
MJAR Matsushiro Arr 5.47 341 Pn Pn 17 56 57.1 -1.7
0.1nm,0.3s,baz=156,slow=12,SNR=2.2
MKAR Makanchi Array 46.64 307 P P 18 04 05.4 -0.6
0.4nm,0.7s,baz=82,slow=10,SNR=3.8
WRA Warramunga Arr 51.36 187 P P 18 04 41.9 -0.5
0.4nm,0.5s,baz=5.7,slow=8.0,SNR=5.8
ASAR Alice Springs 55.09 187 P P 18 05 09.8 -0.1
0.3nm,0.8s,baz=8.9,slow=6.6,SNR=2.7
AKASG Malin Array Be 78.28 323 P P 18 07 39.0 +1.3
0.2nm,0.3s,baz=50,slow=6.1,SNR=4.1

*DJA **10** 17:56:10.2±0.2, 1.°S±2.°×10.°1E±.°, h10km, M4.3/15, mb4.5/3, MLv4.2/15*
*NEIC **10** 17:56:11.1±1.1, 0.°6S±0.°1×100.°67E±0.°08, h35km±2km, mb4.1/3, Error ellipse: s-maj=20.2km s-min=13.4km az=343.0*
*IDC **10** 17:56:15.3±5.7, 0.°92S×100.°37E, h74km±45km, mb3.3/3, mb1 3.6/4, mb1mx3.1/48, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=150.3km s-min=25.7km az=52.0*
ISC 10 17:56:10.4±0.7, 0.°63S±0.°04×100.°57E±0.°04, h25km, n28, σ1§94/33, mb3.7/6, Southern Sumatera
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PDSI Padang 0.30 201 P **Pb** **17 56 16.9 -0.6**
PDSI S **Sn** **17 56 22.6 -2.4**
SDSI Sungai Dareh 0.91 109 P **Pn** **17 56 28.0 +0.4**
SDSI S **Sn** **17 56 44.0 +4.1**
BKNI Bangkinang 1.06 26 P **Pn** **17 56 27.8 -1.9**
BKNI S **Sn** **17 56 44.1 +0.4**
BKNI Bangkinang 1.06 26 Pn **Pn** **17 56 27.7 -1.9**
SISI Saibi 1.64 245 P **Pn** **17 56 37.7 +0.1**
SISI S **Sb** **17 57 00.1 0.0**
KRJI Kerinci 1.70 148 P Pb 17 56 43.7 +2.5
MNSI Mandailing Nat 1.73 325 P **Pn** **17 56 37.9 -1.0**
PPSI Pulau Pagai 2.19 195 P **Pb** **17 56 47.6 -1.8**
PBSI Pulau Batu 2.36 284 P **Pn** **17 56 48.2 +0.6**
GSI Gunungsitoli 3.56 303 P **Pn** **17 57 05.1 +1.0**
GSI Gunungsitoli 3.56 303 **Pn** **17 57 04.9 +0.8**
RPSI Rantau Prapat 3.69 334 **Pn** **17 57 09.6 +3.7**
RPSI Rantau Prapat 3.69 334 **Sb** **17 58 04.1 +4.8**
PSI Prapat 3.78 334 P **Pb** **17 57 13.0 -3.7**
6.7nm,0.3s,baz=177,slow=0.7,SNR=7.4
PSI S **Sb** **17 58 04.1 +2.0**
5.3nm,0.3s,baz=180,slow=11,SNR=2.4
DSRI Dabo 4.01 88 P **Pn** **17 57 10.1 -0.2**
MYKOM Kota Tinggi 4.07 54 Pn **Pn** **17 57 10.4 -0.7**
IPM Ipoh 5.09 5 Pn **Pn** **17 57 25.7 +0.4**
MDSI Maura Dua 5.26 137 P **Pn** **17 57 30.1 +2.6**
0.1nm26nm,0.9s
KULM Kulim 5.88 1 Pn **Pn** **17 57 35.4 -0.7**
FITZ Fitzroy Crossi 30.13 127 PcP **PcP** **18 05 21.5 +1.7**
1.1nm,0.6s,baz=329,slow=5.9,SNR=6.0
WB0 Warramunga Arr 38.18 122 P **P** **18 03 27.0 -1.3**
WB0 IAmb IAmb 18 03 36.4
comp=Z,6.9nm,1.2s
WRA Warramunga Arr 38.21 122 P **P** **18 03 28.0 -0.6**
comp=Z,0.7nm,0.5s,baz=303,slow=8.9,SNR=12
WR0 Warramunga Arr 38.39 122 P **P** **18 03 28.4 -1.7**
WR0 IAmb IAmb 18 03 35.3
comp=Z,5.4nm,1.3s
ASAR Alice Springs 39.61 128 P **P** **18 03 39.8 -0.5**
comp=Z,1.0nm,0.7s,baz=302,slow=8.0,SNR=11
ASAR PcP **PcP** **18 05 46.7 -0.6**
comp=Z,0.3nm,0.8s,baz=307,slow=2.2,SNR=2.8
ASAR Alice Springs 39.61 128 P **P** **18 03 39.2 -1.1**
AS31 Alice Springs 39.62 128 P **P** **18 03 38.6 -1.7**
AS31 IAmb IAmb 18 03 40.6
comp=Z,0.7nm,0.9s
MKAR Makanchi Array 49.88 344 P **P** **18 05 02.5 +0.7**
comp=Z,0.2nm,0.5s,baz=167,slow=8.8,SNR=2.4
MKAR Makanchi Array 49.88 344 P **P** **18 05 02.3 +0.6**

IDC 10 17:59:03.6±1.7, 6.°81S×155.°38E, h83km±22km, mb3.1/3, mb1 3.4/5, mb1mx3.1/43, mbtmp3.6/5, Error ellipse: s-maj=41.4km s-min=12.2km az=34.0, Bougainville-Solomon Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KRVT Keravat (AS076 4.16 307 P Pn 18 00 05.8 +1.1
1.1nm,0.3s,baz=117,slow=6.8,SNR=3.2
KRVT S Sn 18 00 52.4 +0.3
3.8nm,0.3s,baz=191,slow=19,SNR=1.8
HNR Honiara 5.22 120 P Pn 18 00 20.2 +0.9
3.0nm,0.3s,baz=238,slow=17,SNR=2.5
HNR S Sn 18 01 18.1 -0.1
2.9nm,0.3s,baz=212,slow=21,SNR=1.7
WRA Warramunga Arr 24.23 235 P P 18 04 13.0 +0.1
0.5nm,0.5s,baz=60,slow=9.6,SNR=6.2
ASAR Alice Springs 26.58 229 P P 18 04 33.6 -0.6
0.1nm,0.4s,baz=58,slow=9.6,SNR=5.3
ASAR PcP PcP 18 07 57.2 +0.4
0.1nm,0.9s,baz=60,slow=3.7,SNR=0.9
CMAR Chiang Mai Arr 61.04 295 P P 18 09 09.0 -0.2
0.5nm,0.4s,baz=119,slow=6.1,SNR=4.9

IDC 10 18:07:20.7±5.3, 29.°11S×178.°06W, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.3/22, mbtmp3.2/2, Error ellipse: s-maj=239.2km s-min=83.3km az=164.0, Kermadec Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ASAR Alice Springs 43.14 266 P P 18 15 22.2 -1.0
0.1nm,0.6s,baz=105,slow=7.4,SNR=6.9
WRA Warramunga Arr 44.01 271 P P 18 15 31.1 +0.9
0.2nm,0.4s,baz=110,slow=8.0,SNR=6.7
FINES FINESS Array B 143.91 341 PKP **PKPdf** **18 26 56.5 -0.8**
0.6nm,0.4s,baz=53,slow=3.5,SNR=11

IDC 10 18:25:00.6±1.4, 19°.58N×145°.26E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/39, mbtmp3.5/4, Error ellipse: s-maj=65.7km s-min=26.8km az=98.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.71**	**196**	P	P	18 32 43.4	+0.2
	0.3nm,0.4s,baz=21,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**44.39**	**195**	P	P	18 33 12.7	-0.5
	0.3nm,1.0s,baz=10.0,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**57.55**	**314**	P	P	18 34 51.6	-0.5
	0.3nm,0.8s,baz=90,slow=5.8,SNR=2.0						
ILAR	**Eielson Array**	**63.04**	**26**	P	P	18 35 29.6	+0.3
	1.8nm,0.6s,baz=245,slow=5.5,SNR=1.4						

*BJI **10** 18:27:57.1±0.0, 52°.34N×178°.22E, h112km, mB5.3/53, mb5.7/75*
*UNK **10** 18:27:59.3, 52°.12N×178°.29E, h116km*
*MOS **10** 18:27:59.7±0.9, 52°.09N×178°.34E, h133km, mb5.5/47, Error ellipse: s-maj=5.3km s-min=4.1km az=96.6*
*INMG **10** 18:27:59.2, 52°.12N×178°.29E, h116km, Mb5.3*
*AEIC **10** 18:28:00±1.8, 51°.85N±0°.08×178°.17E±0°.08, h130km±3km, Error ellipse: s-maj=11.6km s-min=6.6km az=187.0*
*NEIC **10** 18:28:00.2±1.4, 52°.10N±0°.04×178°.30E±0°.07, h125km±3km, mb5.3/652, Mwb5.3/11, ML4.9(AEIC), Error ellipse: s-maj=6.9km s-min=6.4km az=48.0*
*NEIC **10** 18:28:00.2, 52°.10N×178°.30E, h114km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.03; $M_{\theta\theta}$=0.59; $M_{\phi\phi}$=0.62; $M_{r\theta}$=0.12; $M_{\theta\phi}$=0.28; $M_{\phi r}$=1.07; Fault plane solution: M_0=1.26000×10^{17} NP1:ϕ_s=340.47000°, δ=87.45000°, λ=-119.14000°. NP2:ϕ_p=245.91000°, δ=29.24000°, λ=-5.23000°. Principal axes: T 1.4197, Plg36.0000°, Azm96.0000°; N -0.4219, Plg29.0000°, Azm342.0000°; P -0.9978, Plg40.0000°, Azm224.0000°;*
*IDC **10** 18:28:01.4±0.4, 52°.12N×178°.39E, h133km±3km, mb4.9/39, mb1 4.9/42, mb1mx4.9/50, mbtmp5.3/42, MS4.0/22, Ms1 4.0/22, ms1mx3.7/47 Error ellipse: s-maj=8.7km s-min=6.5km az=160.0*
*GCMT **10** 18:28:02.2±0.1, 52°.10N±0°.01×178°.41E±0°.01, h116km, MW5.3/157, Moment Tensor Solution. s119,c190; s157,c288; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.73±.01; $M_{\theta\theta}$=0.25±.02; $M_{\phi\phi}$=0.98±.02; $M_{r\theta}$=0.28±.01; $M_{\theta\phi}$=-0.23±.02; $M_{\phi r}$=-0.60±.01; Best double couple: M_0=1.11000×10^{17} NP1:ϕ_s=187.00000°, δ=29.00000°, λ=-64.00000°. NP2:ϕ_p=338.00000°, δ=64.00000°, λ=-104.00000°. Principal axes: T 1.2370, Plg18.0000°, Azm78.0000°; N -0.2540, Plg12.0000°, Azm344.0000°; P -0.9830, Plg68.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **10** 18:28:05.6±0.0, 53°.09N×175°.77E, h146km±1km, mb5.0*

ISC 10 18:28:00.4±0.3, 52°.08N±0°.04×178°.30E±0°.03, h125km±1km, h125km:pP-P, n1731, σ0=96/1908, mb5.3/522, 47C-63D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.17**	**129**		**Pn**	**18 28 17.4**	**-0.2**
LSSA	**Little Sitkin**	**0.18**	**135**		**Pn**	**18 28 17.6**	**-0.1**
LSPA	**Little Sitkin**	**0.21**	**126**		**Pn**	**18 28 17.5**	**-0.1**
CETU	**Semis' Tuman**	**0.74**	**98**		**Pn**	**18 28 21.1**	**+0.6**
CEAP	**Semis' Anvil P**	**0.79**	**95**		**Pn**	**18 28 21.3**	**+0.4**
CESW	**Semis' Southwe**	**0.80**	**102**		**Pn**	**18 28 20.9**	**-0.1**
CERB	**Semis' Cerberu**	**0.83**	**100**		**Pn**	**18 28 21.6**	**+0.3**
CERAA	**Semis' Rag'd T**	**0.87**	**101**		**Pn**	**18 28 21.7**	**+0.1**
AMKA	**Amchitka**	**0.94**	**138**	Pn	**Pn**	**18 28 21.3**	**-0.9**
AMKA	**Amchitka**	**0.94**	**138**		**Sn**	**18 28 37.1**	**-1.7**
GALAA	**Gareloi Lava P**	**1.84**	**99**		**Pn**	**18 28 32.1**	**+0.1**
GAEA	**Gareloi East**	**1.85**	**98**		**Pn**	**18 28 32.3**	**+0.1**
TANO	**Tanaga North**	**2.22**	**93**		**Pn**	**18 28 37.3**	**+0.6**
TASE	**Tanaga Southea**	**2.28**	**95**		**Pn**	**18 28 37.4**	**-0.1**
TAFP	**Tanaga Falls P**	**2.30**	**93**		**Pn**	**18 28 37.6**	**-0.2**
TAFP					**Sn**	**18 29 07.9**	**+1.3**
SMY	**Shemya**	**2.66**	**286**	P	**Pn**	**18 28 41.1**	**-1.2**
SMY						18 29 13.4	
SMY	**Shemya**	**2.66**	**286**	Pn	**Pn**	**18 28 41.1**	**-1.2**
KIMD	**Kanaga Island**	**2.78**	**95**		**Pn**	**18 28 43.3**	**-0.6**
KICM	**Kanaga Island**	**2.79**	**91**		**Pn**	**18 28 43.9**	**-0.1**
KIKV	**Kanaga Island**	**2.81**	**92**		**Pn**	**18 28 44.3**	**+0.1**
KIRH	**Kanaga Island**	**2.85**	**92**		**Pn**	**18 28 44.7**	**-0.1**
ADK	**Adak**	**3.10**	**92**	P	**Pn**	**18 28 47.1**	**-1.0**
ADK	**Adak**	**3.10**	**92**	Pn	**Pn**	**18 28 47.1**	**-1.0**
ADAG	**Mount Adagdak**	**3.15**	**90**		**Pn**	**18 28 48.3**	**-0.4**
GSTD	**Great Sitkin T**	**3.43**	**88**		**Pn**	**18 28 51.7**	**-0.7**
GSTD					**Sn**	**18 29 32.1**	**-0.5**
GSTR	**Great Sitkin T**	**3.48**	**88**	Pn	**Pn**	**18 28 52.3**	**-0.7**
GSMY	**Great Sitkin M**	**3.48**	**88**		**Pn**	**18 28 52.5**	**-0.6**
ATKA	**Atka Island**	**4.62**	**85**	Pn	**Pn**	**18 29 07.3**	**-0.9**
ATKA	**Atka Island**	**4.62**	**85**		**Sn**	**18 29 59.7**	**-1.2**
KOKV	**Korovin Volcan**	**4.64**	**84**		**Pn**	**18 29 08.5**	**0.0**
KOSE	**Korovin Southe**	**4.71**	**84**		**Pn**	**18 29 10.0**	**+0.6**
NIKH	**Nikolski High**	**7.89**	**78**	Pn	**Pn**	**18 29 51.7**	**-0.4**
OKSP	**Okmok Steeple**	**8.24**	**77**		**Pn**	**18 29 57.3**	**+0.4**
OKCE	**Okmok Cone E**	**8.32**	**75**		**Pn**	**18 29 59.0**	**+1.0**
OKNC	**Okmok New Cone**	**8.35**	**75**		**Pn**	**18 29 58.8**	**+0.4**
SPIA	**Saint Paul Isl**	**8.37**	**48**	Pn	**Pn**	**18 30 00.7**	**+2.1**
OKFG	**Magazine Ridge**	**8.47**	**76**		**Pn**	**18 30 00.2**	**+0.2**
MAPS	**Pakushin South**	**9.08**	**73**		**Pn**	**18 30 09.4**	**+1.2**
MGOD	**Makushin Gods**	**9.12**	**73**		**Pn**	**18 30 09.6**	**+0.9**
MSW	**Makushin Switc**	**9.18**	**73**		**Pn**	**18 30 10.9**	**+1.3**
MREP	**Makushin Rep't**	**9.19**	**73**		**Pn**	**18 30 11.1**	**+1.3**
MNAT	**Makushin Natee**	**9.24**	**73**		**Pn**	**18 30 11.8**	**+1.4**
UNV	**Unalaska Valle**	**9.34**	**73**		**Pn**	**18 30 12.4**	**+0.7**
AKRB	**Akutan Reef Bi**	**9.62**	**72**		**Pn**	**18 30 16.3**	**+0.8**
AKMO	**Akutan Morgan**	**9.65**	**72**		**Pn**	**18 30 17.0**	**+1.1**
AKUT	**Akutan**	**9.80**	**72**		**Pn**	**18 30 19.8**	**+2.0**
FALS	**False Pass**	**11.24**	**68**		**Pn**	**18 30 39.0**	**+1.9**
PET	**Petropavlovsk**	**12.00**	**282**	*eP*	**Pn**	**18 30 47.5**	**+0.4**
PET				*e*S	**Sn**	**18 32 57.8**	**-1.3**
PET				pmax	pmax		
	comp=Z,400nm,11.7s						
PET				pmax	pmax		
	comp=Z,341nm,0.8s						
PET				MLR	MLR		
	comp=Z,700nm,14.0s						
PET				MLR	MLR		
	comp=Z,600nm,13.0s						
PET	**Petropavlovsk**	**12.00**	**282**		**Pn**	**18 30 46.6**	**-0.5**
PEA0B	**Petropavlovsk-**	**12.57**	**283**	P	**Pn**	**18 30 54.7**	**+0.1**
PEA0B	**Petropavlovsk-**	**12.57**	**283**		**Pn**	**18 30 54.7**	**+0.1**
PETK	**Petropavlovsk-**	**12.57**	**283**	P	**Pn**	**18 30 55.3**	**+0.7**
	comp=Z,5.9nm,0.3s,baz=80,slow=7.5,SNR=89						
PETK				S	**Sn**	**18 33 07.5**	**-5.4**
	comp=Z,6.6nm,0.3s,baz=26,slow=17,SNR=6.3						
PETK				LR	LR	18 35 24.2	
	comp=Z,370nm,21.1s,baz=97,slow=35						
PETK				PcP	**PcP**	**18 36 23.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=65,slow=3.3,SNR=4.6						
PETK				ScP	**ScP**	**18 39 43.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=89,slow=5.1,SNR=15						
PETK	**Petropavlovsk-**	**12.57**	**283**		**Pn**	**18 30 54.5**	**-0.1**
SDPT	**Sand Point**	**12.98**	**67**		**Pn**	**18 30 58.4**	**-1.4**
CNBA	**Chernabura Isl**	**13.45**	**70**		**Pn**	**18 31 03.3**	**-2.6**
SKR	**Severo-Kuril's**	**13.92**	**273**	*eP*	**Pn**	**18 31 11.3**	**-0.7**
SKR				*e*S	Sn	18 33 35.2	-10
SKR				pmax	pmax		
	comp=Z,300nm,6.5s						
SKR				pmax	pmax		
	comp=Z,160nm,1.5s						
SKR				pmax	pmax		
	comp=Z,600nm,2.3s						
SKR				MLR	MLR		
	comp=Z,500nm,15.0s						
SKR				MLR	MLR		
	comp=Z,200nm,15.0s						
ANM	**Nome**	**15.10**	**28**	P	**P**	**18 31 28.5**	**-0.5**
ANM				pmax	pmax		
	comp=Z,81nm,1.0s						
ANM	**Nome**	**15.10**	**28**	P	**P**	**18 31 28.5**	**-0.5**
CHIR	**Chirikof Islan**	**15.76**	**66**	P	**Pn**	**18 31 32.7**	**-2.4**
SII	**Sitkinak Islan**	**16.61**	**63**	P	**Pn**	**18 31 43.8**	**-1.7**
SII				IAmb	IAmb	18 31 46.5	
	comp=Z,263nm,1.0s						
SVW2	**Sparrevohn**	**16.87**	**47**	P	**Pn**	**18 31 50.1**	**+1.4**
SVW2				IAmb	IAmb	18 31 57.5	
	comp=Z,208nm,0.9s						
BILL	**Bilibino**	**17.04**	**344**	*d iP*	**Pn**	**18 31 51.6**	**+1.0**
BILL				pmax	pmax		
	comp=Z,426nm,1.0s						
BILL	**Bilibino**	**17.04**	**344**	P	**Pn**	**18 31 52.0**	**+1.4**
OHAK	**Old Harbor**	**17.15**	**61**	P	**P**	**18 31 49.3**	**-2.4**
TTA	**Tatalina**	**17.42**	**41**	P	**Pn**	**18 31 56.0**	**+0.6**
TTA				pmax	pmax		
	comp=Z,256nm,0.8s						
TTA	**Tatalina**	**17.42**	**41**	P	**Pn**	**18 31 56.0**	**+0.6**
TTA				IAmb	IAmb	18 31 58.8	
	comp=Z,256nm,0.8s						
SEY	**Seymchan**	**17.52**	**318**	P	**Pn**	**18 31 56.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=125,slow=9.9,SNR=29						
SEY				PcP	**PcP**	**18 36 28.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=136,slow=3.1,SNR=8.3						
SEY	**Seymchan**	**17.52**	**318**	*d iP*	**Pn**	**18 31 56.7**	**+0.2**
KDAK	**Kodiak Island**	**17.59**	**60**	P	**P**	**18 31 54.8**	**-1.7**
	comp=Z,57nm,0.3s,baz=275,slow=6.0,SNR=317						
KDAK				ScP	**ScP**	**18 39 50.8**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=228,slow=2.9,SNR=10						
KDAK	**Kodiak Island**	**17.59**	**60**	P	**P**	**18 31 54.7**	**-1.7**
RSO	**Redoubt South**	**18.00**	**51**	P	**Pn**	**18 32 02.5**	**+0.1**
HOM	**Homer**	**18.36**	**54**	P	**P**	**18 32 05.1**	**+0.2**
	baz=259,SNR=18						
RDOG	**Red Dog Mine**	**18.42**	**23**	P	**Pn**	**18 32 07.7**	**+0.5**
RDOG				IAmb	IAmb	18 32 10.7	
	comp=Z,120nm,0.8s						
SPU	**Mount Spurr**	**18.52**	**49**	P	**Pn**	**18 32 09.2**	**+0.7**
CNPM	**China Poot**	**18.54**	**54**	P	**P**	**18 32 07.2**	**+0.3**
BRLK	**Bradley Lake**	**18.76**	**54**	P	**P**	**18 32 09.3**	**0.0**
CAPN	**Captain Cook N**	**18.84**	**51**	P	**P**	**18 32 10.1**	**0.0**
	baz=256						
SKT	**Skwentna**	**18.99**	**47**	P	**Pn**	**18 32 13.4**	**-0.5**
PPLA	**Purkeypile**	**19.01**	**44**	P	**P**	**18 32 13.0**	**+0.9**
SUA	**Susitna One**	**19.20**	**49**	P	**P**	**18 32 15.3**	**+1.0**
O22K	**Cooper Landing**	**19.46**	**52**	P	**P**	**18 32 16.6**	**-0.3**
	baz=259,SNR=54						
O22K				S	**S**	**18 35 48.2**	**-1.7**
	baz=259						
SEW	**Seward**	**19.53**	**53**	P	**P**	**18 32 16.9**	**-0.7**
CUT	**Chulitna**	**19.69**	**46**	P	**P**	**18 32 19.8**	**+0.5**
	baz=253,SNR=30						
IMAR	**Indian Mountai**	**19.77**	**35**	P	**P**	**18 32 20.3**	**+0.1**
KTH	**Kantishna Hill**	**19.78**	**43**	P	**Pn**	**18 32 21.9**	**-1.2**
BPAW	**Bear Paw Mtn.**	**19.96**	**41**	P	**Pn**	**18 32 23.7**	**-1.5**
PMR	**Palmer**	**19.99**	**49**	P	**P**	**18 32 22.4**	**-0.1**
PMR				pmax	pmax		
	comp=Z,69nm,0.9s						
PMR	**Palmer**	**19.99**	**49**	P	**P**	**18 32 22.4**	**-0.1**
TRF	**Thorofare Moun**	**20.01**	**43**	P	**P**	**18 32 23.6**	**+0.6**
GHO	**Glory Hole Cre**	**20.13**	**48**	P	**P**	**18 32 23.9**	**-0.3**
KNK	**Knik Glacier**	**20.26**	**50**	P	**P**	**18 32 25.4**	**-0.2**
KNK				IAmb	IAmb	18 32 28.2	
	comp=Z,155nm,0.8s						
SML	**Sawmill**	**20.41**	**49**	P	**P**	**18 32 26.7**	**-0.5**
MLY	**Manley**	**20.43**	**39**	P	Pn	18 32 29.2	-1.5
BWN	**Browne**	**20.61**	**42**	P	**P**	**18 32 30.5**	**+1.3**
RND	**Reindeer**	**20.61**	**44**	P	**P**	**18 32 28.8**	**-0.5**
RND				pmax	pmax		
	comp=Z,94nm,0.8s						
RND	**Reindeer**	**20.61**	**44**	P	**P**	**18 32 28.8**	**-0.5**
RND				IAmb	IAmb	18 32 32.1	
	comp=Z,94nm,0.8s						
MCK	**McKinley**	**20.68**	**43**	P	**P**	**18 32 29.3**	**-0.7**
MCK				pmax	pmax		
	comp=Z,242nm,1.0s						
MCK	**McKinley**	**20.68**	**43**	P	**P**	**18 32 29.2**	**-0.7**
MCK				IAmb	IAmb	18 32 33.5	
	comp=Z,242nm,1.0s						
GLI	**Glacier Island**	**20.81**	**51**	P	**P**	**18 32 30.7**	**-0.7**
SCM	**Sheep Creek Mo**	**20.88**	**49**	P	**P**	**18 32 31.7**	**-0.5**
SCM				pmax	pmax		
	comp=Z,405nm,1.0s						
SCM	**Sheep Creek Mo**	**20.88**	**49**	P	**P**	**18 32 31.7**	**-0.5**
NEA2	**Nenana**	**20.92**	**41**	P	**P**	**18 32 33.5**	**+1.0**
	baz=249,SNR=175						
NEA2				S	**S**	**18 36 20.8**	**+2.3**
	baz=249						
Q23K	**Middleton Isla**	**21.00**	**56**	P	**P**	**18 32 34.7**	**+1.3**
	baz=265,SNR=6.3						
MID	**Middleton Isla**	**21.00**	**56**	P	**P**	**18 32 33.9**	**+0.4**
MID				pmax	pmax		
	comp=Z,573nm,0.9s						
MID	**Middleton Isla**	**21.00**	**56**	P	**P**	**18 32 33.9**	**+0.4**
HIN	**Hinchinbrook I**	**21.03**	**53**	P	**P**	**18 32 34.1**	**+0.3**
FID	**Port Fidalgo**	**21.09**	**52**	P	**P**	**18 32 33.0**	**-1.4**
KUR	**Kuril'sk**	**21.13**	**263**	*i* P	**P**	**18 32 34.9**	**-0.1**
DHY	**Denali Highway**	**21.15**	**45**	P	**P**	**18 32 34.3**	**-1.0**
WRH	**Wood River Hil**	**21.27**	**41**	P	**P**	**18 32 35.6**	**-0.7**
WRH				IAmb	IAmb	18 32 39.6	
	comp=Z,135nm,1.0s						
MDM	**Murphy Dome**	**21.39**	**40**	P	**P**	**18 32 37.9**	**+0.3**
MDM				IAmb	IAmb	18 32 39.6	
	comp=Z,188nm,1.0s						
EYAK	**Cordova Ski Ar**	**21.42**	**53**	P	**P**	**18 32 37.2**	**-0.7**
EYAK				IAmb	IAmb	18 32 40.5	
	comp=Z,165nm,0.9s						
CCB	**Clear Creek Bu**	**21.45**	**41**	P	**P**	**18 32 37.3**	**-0.9**
CCB				IAmb	IAmb	18 32 41.1	
	comp=Z,89nm,0.9s						
KLU	**Klutina**	**21.47**	**50**	P	**P**	**18 32 38.0**	**-0.6**
KLU				IAmb	IAmb	18 32 50.7	
	comp=Z,119nm,0.8s						
TCOL	**CIGO, UAF Yank**	**21.50**	**40**	P	**P**	**18 32 39.3**	**+0.5**
	baz=250						
COLA	**College**	**21.51**	**40**	P	**P**	**18 32 38.9**	**+0.1**
COLA				pmax	pmax		
	comp=Z,190nm,1.0s						
COLA	**College**	**21.51**	**40**	P	**P**	**18 32 38.9**	**+0.1**
COLA				IAmb	IAmb	18 32 42.9	
	comp=Z,190nm,0.9s						
COLD	**Coldfoot**	**21.62**	**33**	P	**P**	**18 32 40.5**	**+0.5**
	baz=241,SNR=34						
COLD				S	**S**	**18 36 32.9**	**+1.4**
	baz=241						
COLD	**Coldfoot**	**21.62**	**33**	P	**P**	**18 32 40.4**	**+0.3**
HDA	**Harding Lake**	**21.72**	**42**	P	**P**	**18 32 41.6**	**+0.4**
	baz=252,SNR=85						
HDA				S	**S**	**18 36 32.0**	**-1.4**
	baz=252						
HDA				S	**S**	**18 36 32.0**	**-1.4**
	baz=252						
HDA	**Harding Lake**	**21.72**	**42**	P	**P**	**18 32 39.2**	**-2.0**
HDA				IAmb	IAmb	18 32 43.1	
	comp=Z,79nm,0.6s						
POKR	**Poker Plat Res**	**21.76**	**40**	P	**P**	**18 32 41.8**	**+0.3**
	baz=250,SNR=46						
POKR				S	**S**	**18 36 35.0**	**+0.9**
	baz=250						
IL31		**21.86**	**41**	P	**P**	**18 32 40.6**	**-1.9**
IL31				IAmb	IAmb	18 32 45.9	
	comp=Z,172nm,1.5s						
ILAR	**Eielson Array**	**21.86**	**41**	P	**P**	**18 32 41.0**	**-1.7**
	comp=Z,12nm,0.5s,baz=240,slow=8.8,SNR=125						
ILAR				PcP	**PcP**	**18 36 35.8**	**-0.9**
	comp=Z,4.0nm,0.8s,baz=249,slow=3.6,SNR=4.5						
ILAR				ScP	**ScP**	**18 39 58.9**	**-3.2**
	comp=Z,9.0nm,0.7s,baz=285,slow=3.5,SNR=28						
ILAR				LR	LR	18 40 13.9	
	comp=Z,530nm,21.8s,baz=278,slow=34						
ILAR				P3KPbc		19 06 26.6	
	comp=Z,1.1nm,1.0s,baz=52,slow=3.3,SNR=6.2						
ILAR	**Eielson Array**	**21.86**	**41**	P	**P**	**18 32 40.4**	**-2.2**
RAGM	**Ragged Mountai**	**21.93**	**53**	P	**P**	**18 32 42.9**	**-0.5**
PAX	**Paxson**	**21.97**	**46**	P	**P**	**18 32 43.7**	**-0.2**
PAX				pmax	pmax		
	comp=Z,314nm,1.1s						
PAX	**Paxson**	**21.97**	**46**	P	**P**	**18 32 43.7**	**-0.2**
KAIM	**Kayak Island**	**22.02**	**54**	P	**P**	**18 32 44.6**	**+0.4**
TYV	**Tymovskoe**	**22.11**	**281**	*eP*	**P**	**18 32 46.3**	**+1.1**
TYV				*e*S	**S**	**18 36 44.8**	**+4.6**
TYV				pmax	pmax		
	comp=Z,900nm,2.2s						
TYV				pmax	pmax		
	comp=Z,126nm,1.3s						
HMT	**Hamilton**	**22.13**	**53**	P	**P**	**18 32 45.5**	**+0.1**
A21K	**Barrow**	**22.34**	**21**	P	**P**	**18 32 48.0**	**+0.6**
	baz=224						
SUCK	**Suckling Hills**	**22.35**	**54**	P	**P**	**18 32 48.0**	**+0.4**
RIDG	**Independent Ri**	**22.42**	**44**	P	**P**	**18 32 47.4**	**-1.0**
RIDG				IAmb	IAmb	18 33 00.8	
	comp=Z,91nm,0.9s						
GLB	**Gilahina Butte**	**22.47**	**51**	P	**P**	**18 32 48.7**	**-0.2**
GLB				IAmb	IAmb	18 32 53.0	
	comp=Z,111nm,0.8s						
TOLK	**Toolik Lake Re**	**22.54**	**31**	P	**P**	**18 32 50.3**	**+0.8**
	baz=239,SNR=24						
TOLK				S	**S**	**18 36 48.2**	**+1.1**
	baz=239						
TOLK	**Toolik Lake Re**	**22.54**	**31**	P	**P**	**18 32 50.2**	**+0.8**
TOLK				IAmb	IAmb	18 32 52.3	
	comp=Z,82nm,0.8s						
VRDI	**Verde Repeater**	**22.61**	**51**	P	**P**	**18 32 50.6**	**+0.2**
VRDI				IAmb	IAmb	18 32 52.9	
	comp=Z,151nm,1.2s						
CRQM	**Cirque**	**22.72**	**52**	P	**P**	**18 32 51.2**	**-0.2**
DOT	**Dot Lake**	**22.74**	**45**	P	**P**	**18 32 50.8**	**-0.7**
DOT				IAmb	IAmb	18 32 53.8	
	comp=Z,165nm,0.9s						
MENT	**Mentasta**	**22.75**	**47**	P	**P**	**18 32 51.7**	**+0.1**
MENT				IAmb	IAmb	18 32 54.0	
	comp=Z,137nm,0.8s						
MCARA	**McCarthy VSAT**	**22.84**	**51**	P	**P**	**18 32 52.6**	**+0.3**
SCRK	**Sand Creek**	**22.85**	**44**	P	**P**	**18 32 51.8**	**-0.8**
	baz=256,SNR=175						
SCRK				S	**S**	**18 36 48.7**	**-3.5**
	baz=256						
TGL	**Tana Glacier**	**22.87**	**52**	P	**P**	**18 32 53.0**	**+0.2**
TGL				IAmb	IAmb	18 32 55.6	
	comp=Z,223nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**22.97**	**262**	*i iP*	**P**	**18 32 53.8**	**0.0**
YUK				*i* S	**S**	**18 36 54.4**	**+0.1**
YUK				pmax	pmax		
	comp=Z,207nm,0.7s						
YUK				pmax	pmax		
	comp=N,89nm,0.9s						
YUK				pmax	pmax		
	comp=Z,800nm,1.0s						
ISLE	**Juniper Island**	**23.10**	**53**	P	**P**	**18 32 55.2**	**+0.2**
BALM	**Baldy**	**23.13**	**52**	P	**P**	**18 32 55.7**	**+0.5**
BALM				IAmb	IAmb	18 32 57.1	
	comp=Z,117nm,0.8s						
MESA	**MESA**	**23.27**	**54**	P	**P**	**18 32 57.0**	**+0.4**
YAH	**Yahtse**	**23.38**	**54**	P	**P**	**18 32 58.1**	**+0.5**
BARN	**Barnard Glacie**	**23.46**	**52**	P	**P**	**18 32 58.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**23.48**	**272**	*i eP*	**P**	**18 32 59.6**	**+1.2**
YSS				*e*SP	**sP**	**18 33 37.7**	**-1.1**
YSS				*e*		18 36 41.0	
YSS				*e*S	**S**	**18 37 04.0**	**+1.6**
YSS				pmax	pmax		
	comp=Z,900nm,3.6s						
YSS				pmax	pmax		
	comp=Z,250nm,0.9s						
YSS	**Yuzh-Sakhalins**	**23.48**	**272**	P	**P**	**18 32 59.1**	**+0.7**
CTGM	**Chitina Glacie**	**23.61**	**52**	P	**P**	**18 32 59.9**	**+0.1**
BCAR	**Beaver Creek A**	**23.64**	**47**	P	**P**	**18 32 59.8**	**0.0**
BMAR	**Burnt Mountain**	**23.68**	**35**	P	**P**	**18 33 00.7**	**+0.6**
K27K	**Chicken**	**23.68**	**44**	P	**P**	**18 33 01.0**	**+0.8**
	baz=258,SNR=194						
PCA	**Pinnacle**	**24.11**	**54**	P	**P**	**18 33 04.0**	**-0.1**
EGAK	**Eagle**	**24.23**	**43**	P	**P**	**18 33 05.3**	**+0.3**
DAWY	**Dawson**	**24.85**	**45**	P	**P**	**18 33 11.2**	**+0.5**
JKA	**Kamikawa-asahi**	**24.93**	**266**	P	**P**	**18 33 12.6**	**+0.9**
JKA				IAmb	IAmb	18 33 15.5	
	comp=Z,180nm,1.0s						
ASAJ	**Asahikawa**	**24.93**	**266**	P	**P**	**18 33 12.7**	**+1.0**
	comp=Z,113nm,0.8s,baz=74,slow=9.3,SNR=46						
ASAJ				PcP	**PcP**	**18 36 43.9**	**+0.3**
	comp=Z,24nm,1.0s,baz=284,slow=6.4,SNR=3.8						
HYT	**Haines Junctio**	**25.48**	**53**	P	**P**	**18 33 16.7**	**+0.1**
ERM	**Erimo**	**25.74**	**261**	*ceP*	**P**	**18 33 19.9**	**+0.9**
ERM				pmax	pmax		
	comp=Z,153nm,1.3s						
ERM	**Erimo**	**25.74**	**261**	P	**P**	**18 33 20.3**	**+1.3**
ERM				IAmb	IAmb	18 33 21.1	
	comp=Z,106nm,0.8s						
GRNR	**Gornyy**	**25.89**	**284**	*i iP*	**P**	**18 33 20.8**	**+0.5**
GRNR				*e*		18 33 45.6	
GRNR				*e*S	**S**	**18 37 44.9**	**+4.1**
GRNR				pmax	pmax		
	comp=E,30nm,0.6s						
GRNR				pmax	pmax		
	comp=N,20nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,60nm,1.1s						
GRNR				smax	smax		
	comp=N,6.0nm,0.9s						
GRNR				MLR	MLR		
	comp=N,110nm,16.0s						
GRNR				MLR	MLR		
	comp=E,140nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,140nm,14.0s						
EPYK	**Eagle Plains**	**26.36**	**40**	P	**P**	**18 33 24.4**	**0.0**
	baz=259,SNR=75						
EPYK	**Eagle Plains**	**26.36**	**40**	P	**P**	**18 33 24.3**	**0.0**
EPYK				IAmb	IAmb	18 33 26.1	
	comp=Z,132nm,0.9s						
SKAG	**Skagway**	**26.62**	**56**	P	**P**	**18 33 27.3**	**+0.6**
WHY	**Whitehorse**	**26.77**	**53**	P	**P**	**18 33 28.8**	**+0.6**
SIT	**Sitka**	**26.92**	**61**	P	**P**	**18 33 29.8**	**+0.5**
SIT				pmax	pmax		
	comp=Z,113nm,1.2s						
SIT	**Sitka**	**26.92**	**61**

JSD PcP 18 36 59.3 +0.3
JYT Yasato 31.17 255 P P 18 34 07.7 +0.5
A36M Sachs Harbour 31.36 30 P P 18 34 10.3 +1.8
baz=261,SNR=10.0
USA0B Ussuriysk Arra 31.43 274 P P 18 34 09.1 -0.3
USA0B 18 37 00.3
USA0B pmax pmax
comp=Z,70nm,0.7s
USA0B Ussuriysk Arra 31.43 274 P P 18 34 09.1 -0.3
USA0B PcP PcP 18 37 00.3 +0.7
USRK Ussuriysk Ar. 31.43 274 P P 18 34 09.2 -0.2
comp=Z,100nm,0.8s,baz=57,slow=9.3,SNR=182
USRK PcP PcP 18 37 00.4 +0.8
comp=Z,29nm,0.8s,baz=63,slow=2.2,SNR=24
USRK ScP ScP 18 40 31.8 +1.0
comp=Z,4.6nm,0.9s,baz=66,slow=4.6,SNR=7.9
USRK Ussuriysk Ar. 31.43 274 P P 18 34 09.1 -0.4
USRK PcP PcP 18 37 00.1 +0.5
USRK ScP ScP 18 40 32.0 +1.1
C36M Paulatuk 31.47 35 P P 18 34 10.5 +1.0
baz=267,SNR=9.7
C36M Paulatuk 31.47 35 P P 18 34 10.5 +1.0
C36M IAmb IAmb 18 34 11.6
comp=Z,64nm,0.9s
VLA Vladivostok 32.07 272 *i* P P 18 34 15.3 +0.3
VLA pmax pmax
comp=Z,96nm,1.0s
MJAR Matsushiro Arr 32.15 257 P P 18 34 16.7 +0.9
comp=Z,17nm,0.7s,baz=48,slow=7.1,SNR=46
MJAR PcP PcP 18 37 02.1 +0.3
comp=Z,5.0nm,0.6s,baz=87,slow=1.5,SNR=11
MJAR ScP ScP 18 40 34.5 +1.1
comp=Z,4.4nm,1.2s,baz=35,slow=4.6,SNR=4.7
MJAR LR LR 18 45 13.5
comp=Z,96nm,21.9s,baz=75,slow=32
MJAR Matsushiro Arr 32.15 257 P P 18 34 16.2 +0.3
MAJO Matsushiro 32.15 257 *d i* P P 18 34 16.5 +0.7
MAJO pmax pmax
comp=Z,114nm,1.2s
MAJO Matsushiro 32.15 257 P P 18 34 15.5 -0.3
MAJO IAmb IAmb 18 34 18.0
comp=Z,102nm,1.1s
MAT Matsushiro 32.15 257 P P 18 34 16.6 +0.8
MAT S S 18 39 23.4 +4.3
BBB Bella Bella 32.26 68 LR LR 18 45 25.1
comp=Z,224nm,21.3s,baz=288,slow=32
MDJ Mudanjiang 32.69 277 P P 18 34 19.9 -0.6
MDJ pmax pmax
comp=Z,46nm,1.0s
MDJ pmax pmax
comp=Z,220nm,8.2s
MDJ Mudanjiang 32.69 277 P P 18 34 19.6 -0.9
MDJ IAmb IAmb 18 34 20.8
comp=Z,40nm,1.0s
MDJ PcP 18 37 03.5 +0.4
JGF Kuroka 33.29 257 P P 18 34 26.5 +0.7
JGF IAmb IAmb 18 34 28.2
comp=Z,81nm,0.9s
H11N2 WAKE ISLAND Hy 33.49 200 T T 19 09 49.0
baz=11,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 33.50 200 T T 19 09 51.7
baz=11,slow=76,SNR=83
H11N1 WAKE ISLAND Hy 33.51 200 T T 19 09 49.0
baz=11,slow=76,SNR=15
INU Inuyama 33.66 257 P P 18 34 29.7 +0.7
JWT Wachi 34.68 258 P P 18 34 38.6 +0.9
JWT IAmb IAmb 18 34 39.9
comp=Z,97nm,1.2s
H11S1 WAKE ISLAND Hy 34.72 200 T T 19 11 26.4
baz=11,slow=76,SNR=40
H11S2 WAKE ISLAND Hy 34.74 200 T T 19 11 26.5
baz=11,slow=76,SNR=52
H11S3 WAKE ISLAND Hy 34.74 200 T T 19 11 21.8
baz=11,slow=76,SNR=52
YKA Yellowknife Ar 36.06 47 P P 18 34 49.5 +0.3
comp=Z,82nm,0.9s,baz=289,slow=8.9,SNR=50
YKA ScP ScP 18 40 45.1 -1.7
comp=Z,15nm,0.9s,baz=296,slow=3.6,SNR=14
YKA LR LR 18 50 34.7
comp=Z,483nm,18.5s,baz=0.0,slow=38
BOD Bodaibo 36.11 305 *eP* P 18 34 48.7 -1.0
BOD pmax pmax
comp=Z,102nm,1.1s
JHS Saijyo 36.26 260 P P 18 34 52.2 +0.9
JHS IAmb IAmb 18 34 53.6
comp=Z,49nm,0.9s
HIA Hailar 36.35 289 P P 18 34 51.0 -0.9
HIA IAmb IAmb 18 34 52.0
comp=Z,50nm,0.6s
HIA PcP 18 37 14.0 +0.4
HHU Hamhung 36.57 271 P P 18 34 54.7 +0.9
JMN Monobe 36.66 258 P P 18 34 56.4 +1.7
JCJ Chichijima 36.78 241 P P 18 34 56.4 +0.7
comp=Z,76nm,0.6s,baz=274,slow=21,SNR=6.1
JCJ Chichijima 36.78 241 P P 18 34 56.6 +0.9
NLWA Neilton Lookou 36.81 74 P P 18 34 56.6 +0.8
NLWA IAmb IAmb 18 34 57.8
comp=Z,71nm,1.0s
D03D Eldon 37.20 73 P P 18 34 59.8 +0.7
baz=300,SNR=52
E03A Lebam 37.41 75 P P 18 35 01.5 +0.6
B05A Bryant 37.43 71 P P 18 35 01.2 +0.2
baz=299,SNR=20
D04E Lakebay 37.57 73 P P 18 35 02.9 +0.8
baz=300,SNR=5.8
B06A Marblemount 37.67 71 P P 18 35 02.7 -0.3
B06A IAmb IAmb 18 35 03.7
comp=Z,34nm,1.0s
F03A Seaside 37.73 76 P P 18 35 04.2 +0.6
F03A IAmb IAmb 18 35 05.4
comp=Z,64nm,0.9s
KSRS Korea Array 37.85 268 P P 18 35 06.0 +1.4
comp=Z,48nm,0.9s,baz=58,slow=8.3,SNR=135
KSRS PcP PcP 18 37 19.2 +0.9
comp=Z,16nm,0.8s,baz=55,slow=3.0,SNR=29
KSRS ScP ScP 18 40 55.8 +1.8
comp=Z,0.4nm,0.7s,baz=133,slow=33,SNR=4.0
KS19 Wonju Array Si 37.85 268 P P 18 35 05.4 +0.7
KS19 IAmb IAmb 18 35 07.3
comp=Z,70nm,1.0s
KS19 PcP 18 37 18.6 +0.3
KSAR Wonju Array Be 37.88 268 P P 18 35 04.6 -0.3
KSAR Wonju Array Be 37.88 268 P P 18 35 04.6 -0.3
KSAR PcP PcP 18 37 18.7 +0.3
SNY Shenyang 37.90 277 ↓P P 18 35 05.6 +0.6
SNY S S 18 40 47.2 +0.3
SNY pmax pmax
comp=Z,130nm,2.1s
SNY LR LR
comp=Z,530nm,15.8s
SNY LR LR
comp=Z,200nm,16.4s
SNY LR LR
comp=Z,370nm,19.9s
F04D Rainier, OR 37.98 75 P P 18 35 06.2 +0.5
baz=301
E04D Cinebar 38.00 74 P P 18 35 06.6 +0.8
baz=301,SNR=30
D05A Enumclaw 38.02 73 P P 18 35 06.5 +0.5
G03D McMinnville, O 38.28 76 P P 18 35 08.9 +0.7
baz=302
SUJ Sinuiju 38.34 274 P P 18 35 09.4 +0.7
SUJ sP sP 18 35 49.3 -1.3
SUJ S S 18 40 49.9 -3.8
SUJ sS ScP 18 40 55.5 -0.3
LON Longmire 38.35 73 P P 18 35 08.8 -0.1
LON pmax pmax
comp=Z,19nm,0.8s
LON Longmire 38.35 73 P P 18 35 08.8 -0.1
F04A Amboy 38.41 75 P P 18 35 09.5 +0.2
F04A IAmb IAmb 18 35 10.5
comp=Z,64nm,0.9s
I02D Swisshome 38.53 78 P P 18 35 11.2 +1.0
baz=303
COR Corvallis 38.59 77 P P 18 35 11.5 +0.7
COR pmax pmax
comp=Z,68nm,0.9s
COR Corvallis 38.59 77 P P 18 35 11.5 +0.7
COR IAmb IAmb 18 35 13.0
comp=Z,68nm,0.8s
INCN Inchon 38.62 269 P P 18 35 12.4 +1.2
INCN Inchon 38.62 269 P P 18 35 12.2 +1.0
INCN pmax pmax
comp=Z,155nm,0.9s
INCN Inchon 38.62 269 P P 18 35 12.2 +1.0

LTY Liberty 38.77 72 P P 18 35 11.8 -0.6
LTY IAmb IAmb 18 35 13.0
comp=Z,40nm,1.1s
TJN Taejon 38.88 267 *de* P P 18 35 14.2 +0.9
JNU Nakatsue 38.89 260 P P 18 35 14.8 +1.2
comp=Z,80nm,0.9s,baz=49,slow=7.1,SNR=40
JNU PcP PcP 18 37 21.4 -0.4
comp=Z,15nm,0.8s,baz=312,slow=1.8,SNR=6.2
JNU Nakatsue 38.89 260 P P 18 35 14.3 +0.8
KEBM Edson Butte 38.91 80 P P 18 35 14.5 +0.9
KEBM IAmb IAmb 18 35 15.9
comp=Z,63nm,1.0s
H04D Lebanon 38.97 77 P P 18 35 14.7 +0.8
baz=303,SNR=10
B08A Colville Reser 38.99 70 P P 18 35 13.7 -0.5
B08A IAmb IAmb 18 35 15.0
comp=Z,55nm,0.9s
J01E Myrtle Point 39.00 80 P P 18 35 15.2 +1.0
baz=304
F05D White Salmon 39.01 74 P P 18 35 14.5 +0.2
baz=302
I03D Drain, OR 39.05 79 P P 18 35 15.4 +0.7
baz=304,SNR=5.7
H04A Detroit Lake 39.21 76 P P 18 35 16.3 +0.2
H04A IAmb IAmb 18 35 17.4
comp=Z,74nm,0.9s
KBO Bosley Butte 39.35 81 P P 18 35 19.1 +1.8
K02D Willamette Mer 39.42 80 P P 18 35 18.9 +1.1
baz=305,SNR=8.4
G05D Wamic, OR 39.43 75 P P 18 35 18.0 +0.2
baz=302,SNR=15
I04A Tendick Farm, 39.56 78 P P 18 35 19.4 +0.4
baz=304,SNR=23
E07A Sunnyside 39.60 73 P P 18 35 19.0 -0.2
E07A IAmb IAmb 18 35 20.4
comp=Z,59nm,1.2s
L02E Cave Junction 39.76 81 P P 18 35 21.8 +1.2
baz=305,SNR=14
HAWA Hanford 39.88 73 P P 18 35 21.7 +0.2
HAWA IAmb IAmb 18 35 22.6
comp=Z,91nm,0.9s
C09A Chrisman Ranch 39.89 70 P P 18 35 21.3 -0.3
C09A IAmb IAmb 18 35 22.1
comp=Z,60nm,1.0s
D08A Wollman Farm, 39.89 71 P P 18 35 21.4 -0.2
D08A IAmb IAmb 18 35 22.2
comp=Z,46nm,1.0s
HUMO Hull Mountain 39.90 80 P P 18 35 22.7 +0.9
HUMO IAmb IAmb 18 35 24.0
comp=Z,38nm,1.1s
I05D Terrebonne, OR 39.91 76 P P 18 35 22.1 +0.2
baz=303
F07A Phinny Hill Vi 39.91 74 P P 18 35 21.6 -0.1
F07A IAmb IAmb 18 35 22.9
comp=Z,73nm,0.9s
KRMB Red Mountain 39.94 82 P P 18 35 23.9 +1.7
KRMB IAmb IAmb 18 35 24.7
comp=Z,116nm,1.5s
J04D Umpqua Nationa 40.05 78 P P 18 35 24.1 +0.8
baz=304,SNR=11
EUNU Eureka 40.09 16 P P 18 35 24.1 +1.1
EUNU IAmb IAmb 18 35 25.8
comp=Z,36nm,0.9s
E08A Dider Farm, El 40.11 72 P P 18 35 23.1 -0.2
E08A IAmb IAmb 18 35 24.1
comp=Z,53nm,0.9s
JSU Suzuyama 40.28 258 P P 18 35 25.8 +0.8
JCC Jacoby Creek, 40.28 83 P P 18 35 26.1 +1.2
NEW Newport 40.32 69 P P 18 35 24.5 -0.6
NEW pmax pmax
comp=Z,64nm,0.9s
NEW Newport 40.32 69 P P 18 35 24.6 -0.6
baz=301,SNR=39
NEW Newport 40.32 69 P P 18 35 24.5 -0.6
NEW IAmb IAmb 18 35 25.7
comp=Z,64nm,0.8s
KHMM Horse Mountain 40.43 82 P P 18 35 28.1 +1.9
KHMM IAmb IAmb 18 35 28.6
comp=Z,61nm,0.8s
PINE Pine Mountain 40.45 77 P P 18 35 27.0 +0.5
PINE IAmb IAmb 18 35 28.3
comp=Z,37nm,1.1s
L04D Klamath Falls 40.52 80 P P 18 35 27.7 +0.7
baz=305,SNR=23
YBH Yreka Blue Hor 40.55 81 P P 18 35 28.6 +1.4
YBH pmax pmax
comp=Z,74nm,1.1s
YBH Yreka Blue Hor 40.55 81 P P 18 35 28.6 +1.4
YBH IAmb IAmb 18 35 29.8
comp=Z,74nm,1.1s
J05D Fort Rock, OR 40.56 78 P P 18 35 28.2 +0.9
baz=304,SNR=39
K04D Chiloquin, OR 40.62 79 P P 18 35 28.6 +0.8
baz=305,SNR=5.2
E09A Wood Farm, Sta 40.63 72 P P 18 35 27.1 -0.5
E09A IAmb IAmb 18 35 28.9
comp=Z,80nm,1.2s
M02C Callahan 40.66 81 P P 18 35 29.4 +1.3
baz=306,SNR=15
G08A Pilot Rock 40.81 74 P P 18 35 28.8 -0.5
DL2 Dalian 40.83 274 P P 18 35 29.6 +0.3
DL2 sP sP 18 36 09.9 -1.5
DL2 S S 18 41 31.1 +0.3
DL2 sS sS 18 42 17.6 -2.0
DL2 pmax pmax
comp=Z,130nm,0.8s
DL2 pmax pmax
comp=Z,72nm,4.1s
KMRM Mail Ridge 40.83 83 P P 18 35 31.4 +1.9
KMRM IAmb IAmb 18 35 32.5
comp=Z,92nm,0.9s
N02D Trinity Center 41.00 82 P P 18 35 32.3 +1.4
baz=306,SNR=10
M04C Macdoel 41.05 80 P P 18 35 32.3 +0.9
baz=306,SNR=17
K05A Summer Lake 41.08 78 P P 18 35 32.5 +0.9
K05A IAmb IAmb 18 35 33.8
comp=Z,117nm,1.4s
I07A Izee 41.15 76 P P 18 35 32.1 0.0
I07A IAmb IAmb 18 35 33.3
comp=Z,54nm,0.9s
KCPM Cahto Peak 41.23 84 P P 18 35 33.5 +0.6
WDC Whiskeytown Da 41.33 82 P P 18 35 34.5 +1.0
WDC pmax pmax
comp=Z,41nm,0.9s
WDC Whiskeytown Da 41.33 82 P P 18 35 34.5 +1.0
WDC IAmb IAmb 18 35 35.7
comp=Z,41nm,0.9s
O02D Mt. Diablo Mer 41.42 83 P P 18 35 35.7 +1.4
baz=307,SNR=27
F10A Beach Ranch, E 41.46 72 P P 18 35 33.9 -0.7
WALA Waterton Lakes 41.74 66 P P 18 35 36.4 -0.5
MOD Modoc Plateau 41.91 79 P P 18 35 38.8 +0.4
MOD IAmb IAmb 18 35 39.6
comp=Z,32nm,0.7s
O03E Paynes Creek 41.96 82 P P 18 35 39.1 +0.4
baz=307,SNR=44
HOPS Hopland Field 41.97 84 P P 18 35 39.6 +0.9
BMO Blue Mountains 42.03 73 P P 18 35 38.9 -0.3
BMO pmax pmax
comp=Z,43nm,1.0s
BMO Blue Mountains 42.03 73 P P 18 35 38.9 -0.3
BMO IAmb IAmb 18 35 40.1
comp=Z,43nm,0.9s
J08A Circle Bar Ran 42.17 76 P P 18 35 40.2 -0.3
JTMT Jette 42.22 68 P P 18 35 40.3 -0.5
JTMT IAmb IAmb 18 35 41.4
comp=Z,58nm,1.3s
GDXM Geysers 42.26 84 P P 18 35 42.5 +1.4
ORV Oroville 42.59 82 P P 18 35 43.6 -0.1
ORV pmax pmax
comp=Z,61nm,1.1s
ORV Oroville 42.59 82 P P 18 35 43.6 -0.1
ORV IAmb IAmb 18 35 44.9
comp=Z,61nm,1.1s
WVOR Wild Horse Val 42.61 77 P P 18 35 44.0 0.0
WVOR pmax pmax
comp=Z,38nm,0.9s
WVOR Wild Horse Val 42.61 77 P P 18 35 44.0 0.0
WVOR IAmb IAmb 18 35 45.3
comp=Z,38nm,0.9s
MCCM Marconi Confer 42.61 85 P P 18 35 44.3 +0.4
MCCM IAmb IAmb 18 35 45.5
comp=Z,69nm,1.0s
NRIK Noril'sk 42.88 329 P P 18 35 46.0 +0.4
comp=Z,78nm,0.8s,baz=82,slow=9.7,SNR=58

NRIK pP pwP 18 36 16.4 -1.5
comp=Z,16nm,0.8s,baz=53,slow=7.4,SNR=2.1
NRIK ScP ScP 18 41 13.1 0.0
comp=Z,15nm,0.8s,baz=75,slow=3.4,SNR=6.5
NRIK LR LR 18 54 42.0
comp=Z,107nm,20.5s,baz=21,slow=37
MSO Missoula 42.91 69 P P 18 35 45.5 -0.8
baz=303,SNR=23
MSO Missoula 42.91 69 P P 18 35 45.3 -1.0
MSO IAmb IAmb 18 35 46.6
comp=Z,66nm,1.1s
AFDM Forest Hills D 43.29 83 P P 18 35 49.7 +0.4
AFDM IAmb IAmb 18 35 51.0
comp=Z,62nm,1.2s
BJI Beijing 43.47 279 P P 18 35 51.7 +0.9
BJI PcP PcP 18 37 35.8 -0.7
BJI S S 18 42 12.8 +3.1
BJI pmax pmax
comp=Z,76nm,1.0s
IRK Irkutsk 43.54 301 *eP* P 18 35 49.8 -1.4
IRK *e* 18 37 32.4
IRK pmax pmax
comp=Z,78nm,1.8s
MFID Camas Ranch 43.72 74 P P 18 35 52.4 -0.5
PAHR Pah Rah Range 43.79 81 P P 18 35 53.7 +0.2
PAHR IAmb IAmb 18 35 55.2
comp=Z,110nm,1.4s
VCNR Virginia City 43.88 81 P P 18 35 55.1 +0.8
VCNR IAmb IAmb 18 35 56.3
comp=Z,117nm,1.3s
JMZ Minamidaito 2 43.98 252 P P 18 35 54.9 -0.1
JMZ IAmb IAmb 18 35 55.7
comp=Z,61nm,1.0s
PNTR Pine Nut 44.04 82 P P 18 35 56.1 +0.5
TLY Talaya 44.16 300 P P 18 35 56.5 +0.3
TLY Talaya 44.16 300 *ceP* P 18 35 56.9 +0.7
TLY pmax pmax
comp=Z,84nm,1.7s
TLY Talaya 44.16 300 P P 18 35 56.4 +0.2
TLY IAmb IAmb 18 35 57.3
comp=Z,32nm,0.7s
HRY Holter Researc 44.18 68 P P 18 35 55.5 -1.1
CMB Columbia Colle 44.21 83 P P 18 35 57.1 +0.3
CMB pmax pmax
comp=Z,56nm,1.2s
CMB Columbia Colle 44.21 83 P P 18 35 57.1 +0.3
CMB IAmb IAmb 18 35 58.8
comp=Z,56nm,1.2s
YERR Yerington 44.32 82 P P 18 35 58.1 +0.3
YERR IAmb IAmb 18 35 59.7
comp=Z,74nm,1.2s
LRM Limekiln Ridge 44.32 69 P P 18 35 56.6 -1.2
SAO San Andreas Ge 44.37 86 P P 18 35 58.1 +0.1
SAO pmax pmax
comp=Z,29nm,1.0s
SAO San Andreas Ge 44.37 86 P P 18 35 58.1 +0.1
HLID Hailey 44.47 73 P P 18 35 58.6 -0.3
baz=306,SNR=71
HLID Hailey 44.47 73 P P 18 35 58.4 -0.6
HLID IAmb IAmb 18 36 00.4
comp=Z,53nm,1.1s
DLMT Dillon 44.50 70 P P 18 35 58.0 -1.1
WAKR Walker 44.50 82 P P 18 36 00.1 +0.8
WAKR IAmb IAmb 18 36 01.4
comp=Z,96nm,1.2s
EGMT Eagleton 44.63 65 P P 18 35 59.0 -1.0
baz=304,SNR=13
EGMT Eagleton 44.63 65 P P 18 35 59.1 -1.0
EGMT IAmb IAmb 18 36 00.2
comp=Z,41nm,0.9s
MCMT McKenzie Canyo 44.66 71 P P 18 35 59.3 -1.2
SONM Songino Array 44.72 294 P P 18 36 01.5 +0.7
comp=Z,42nm,0.6s,baz=62,slow=8.2,SNR=194
SONM PcP PcP 18 37 41.3 +0.4
comp=Z,19nm,0.8s,baz=68,slow=2.3,SNR=11
SONM ScP ScP 18 41 21.3 0.0
comp=Z,18nm,1.0s,baz=217,slow=6.1,SNR=4.8
SONM LR LR 18 54 50.4
comp=Z,140nm,19.6s,baz=54,slow=36
SONM Songino Array 44.72 294 P P 18 36 00.5 -0.3
SONM PcP 18 37 40.8 0.0
SONM ScP 18 41 21.3 0.0
BOZ Bozeman (W) 44.93 69 P P 18 36 01.1 -1.4
BOZ pmax pmax
comp=Z,66nm,1.0s
BOZ Bozeman (W) 44.93 69 P P 18 36 01.7 -0.8
baz=305,SNR=74
BOZ Bozeman (W) 44.93 69 P P 18 36 01.1 -1.4
BOZ IAmb IAmb 18 36 02.8
comp=Z,66nm,1.0s
KVN Kaiserville 44.98 81 P P 18 36 03.2 +0.2
KVN pmax pmax
comp=Z,91nm,1.5s
KVN Kaiserville 44.98 81 P P 18 36 03.2 +0.2
KVN IAmb IAmb 18 36 04.7
comp=Z,91nm,1.5s
RYN Ryan 44.98 81 P P 18 36 03.2 +0.2
RYN IAmb IAmb 18 36 04.1
comp=Z,34nm,0.6s
ZAK Zakamensk 45.05 299 *eP* P 18 36 03.2 -0.1
ZAK *e* 18 37 43.0
ZAK pmax pmax
comp=Z,43nm,1.4s
ZAK pmax pmax
comp=Z,26nm,1.4s
PMPB Monarch Peak 45.12 86 P P 18 36 04.9 +0.8
PMPB IAmb IAmb 18 36 09.4
comp=Z,39nm,0.8s
FFC Flin Flon 45.19 54 P P 18 36 04.0 -0.2
FFC pmax pmax
comp=Z,21nm,0.9s
FFC Flin Flon 45.19 54 P P 18 36 04.0 -0.2
LHV Little Huntoon 45.23 82 P P 18 36 05.6 +0.8
LHV IAmb IAmb 18 36 07.2
comp=Z,58nm,1.0s
NVAR Mina Array Bea 45.24 81 P P 18 36 05.7 +0.5
comp=Z,24nm,0.7s,baz=299,slow=7.5,SNR=172
NVAR pP pP 18 36 34.8 +1.1
comp=Z,13nm,0.7s,baz=297,slow=7.4,SNR=7.4
NVAR ScP ScP 18 41 22.8 -0.9
comp=Z,6.1nm,0.9s,baz=285,slow=4.0,SNR=13
NVAR Mina Array Bea 45.24 81 P P 18 36 05.0 -0.2
NVAR pP 18 36 33.4 -0.3
NVAR ScP ScP 18 41 21.8 -1.9
TIA Tai'an 45.30 275 P P 18 36 06.0 +0.6
TIA S S 18 42 34.2 -2.1
TIA pmax pmax
comp=Z,240nm,0.8s
TIA pmax pmax
comp=Z,280nm,3.6s
TIA LR LR
comp=Z,120nm,14.7s
TIA LR LR
comp=Z,250nm,16.1s
NV11 Mina Array Sit 45.33 81 P P 18 36 06.0 +0.2
NV11 IAmb IAmb 18 36 07.5
comp=Z,65nm,1.4s
OMMB Old Mammoth Mi 45.33 83 P P 18 36 06.5 +0.5
OMMB IAmb IAmb 18 36 08.1
comp=Z,67nm,1.2s
QLMT Earthquake Lak 45.48 70 P P 18 36 05.8 -1.2
MOY Mondy 45.57 302 *eP* P 18 36 07.8 +0.4
MOY pmax pmax
comp=Z,89nm,1.5s
YHL Hebgen Lake 45.61 70 P P 18 36 07.1 -1.0
ELK Elko 45.66 77 P P 18 36 08.5 0.0
ELK pmax pmax
comp=Z,29nm,0.9s
ELK Elko 45.66 77 P P 18 36 08.5 0.0
YHB Horse Butte 45.66 70 P P 18 36 07.6 -0.8
HHC Hu-ho-hao-te 45.77 283 *eP* P 18 36 10.3 +1.2
HHC S S 18 42 42.6 -0.5
HHC sS sS 18 43 29.4 -3.2
HHC SS SS 18 46 01.6 -7.1
HHC pmax pmax
comp=Z,99nm,0.9s
HHC pmax pmax
comp=Z,490nm,5.1s
PAGB Antelope Grade 45.77 86 P P 18 36 09.9 +0.7
YHH Holmes Hill 45.84 70 P P 18 36 08.6 -1.3
YMR Madison River 45.85 70 P P 18 36 09.3 -0.5
VOG Valley Oaks Go 45.92 85 P P 18 36 10.6 +0.3
baz=311
GCMT Greycliff 45.94 68 P P 18 36 09.7 -0.8
YNM Yellowstone No 45.96 70 P P 18 36 10.7 -0.1

YUF	Upper Falls	46.08	70	P	P	18 36 10.9	-0.8
TPH	Tonopah	46.12	81	P	P	18 36 12.4	+0.3
TPH				pmax	pmax		
	comp=Z,449nm,1.4s						
TPH	Tonopah	46.12	81	P	P	18 36 12.3	+0.3
TIN	Tinemaha, Big	46.16	83	P	P	18 36 13.1	+0.9
	baz=310,SNR=12						
YPP	Pitchstone Pla	46.17	70	P	P	18 36 12.3	-0.2
YNE	Yellowstone No	46.20	69	P	P	18 36 11.6	-1.1
SMMC	Simmler	46.20	86	P	P	18 36 13.8	+1.3
	baz=311						
SSE	Sheshan	46.23	266	P	P	18 36 13.5	+0.8
H17A	Grant Village	46.23	70	P	P	18 36 13.6	+0.7
	baz=306,SNR=21						
H17A	Grant Village	46.23	70	P	P	18 36 13.6	+0.7
H17A				IAmb	IAmb	18 36 15.4	
	comp=Z,66nm,1.1s						
LKWY	Lake	46.23	70	P	P	18 36 12.9	0.0
LKWY				pmax	pmax		
	comp=Z,32nm,1.0s						
LKWY	Lake	46.23	70	P	P	18 36 12.9	0.0
YMP	Mirror Lake Pl	46.27	69	P	P	18 36 13.1	-0.2
IMW	Indian Meadow	46.31	71	P	P	18 36 12.9	-0.7
NOR	Nord	46.32	3	*i* P	P	18 36 12.9	+0.1
	comp=Z,18nm,0.9s						
NOR	Nord	46.32	3	*i* P	P	18 36 12.9	+0.1
NOR				pmax	pmax		
	comp=Z,18nm,0.9s						
FLWY	Flagg Ranch	46.34	70	P	P	18 36 13.7	-0.1
FLWY				IAmb	IAmb	18 36 14.8	
	comp=Z,41nm,0.8s						
FXWY	Fox Creek	46.42	71	P	P	18 36 13.7	-0.7
VES	Vestal, Richgr	46.42	85	P	P	18 36 14.3	+0.1
	baz=311,SNR=26						
HVU	Hansel Valley	46.50	74	P	P	18 36 14.6	-0.3
HVU				pmax	pmax		
	comp=Z,36nm,0.8s						
HVU	Hansel Valley	46.50	74	P	P	18 36 14.6	-0.3
TPAW	Teton Pass	46.55	71	P	P	18 36 13.9	-1.5
RLMT	Red Lodge	46.56	68	P	P	18 36 14.9	-0.5
	baz=306,SNR=38						
RLMT	Red Lodge	46.56	68	P	P	18 36 14.9	-0.5
RLMT				IAmb	IAmb	18 36 16.8	
	comp=Z,73nm,1.1s						
PKM	Mcpherson Peak	46.60	86	P	P	18 36 16.7	+0.9
	baz=312,SNR=17						
CWC	Cottonwood Cre	46.65	83	P	P	18 36 16.7	+0.6
	baz=311						
LOHW	Long Hollow	46.68	71	P	P	18 36 15.7	-0.7
SNOW	Snow King Moun	46.68	71	P	P	18 36 16.0	-0.4
REDW	Red Top Meadow	46.68	71	P	P	18 36 16.0	-0.4
GRAC	Grapevine Rang	46.73	82	P	P	18 36 17.3	+0.7
	baz=310,SNR=5.2						
BTO	Baotou	46.84	284	*e*P	P	18 36 18.1	+0.6
BGU	Big Grassy Mou	46.88	75	P	P	18 36 17.6	-0.3
AHID	Auburn Hatcher	46.90	72	P	P	18 36 17.4	-0.6
ISA	Isabella, Lake	46.91	85	P	P	18 36 17.6	-0.5
ISA				pmax	pmax		
	comp=Z,57nm,1.5s						
ISA	Isabella, Lake	46.91	85	P	P	18 36 17.9	-0.2
	baz=311,SNR=19						
ISA	Isabella, Lake	46.91	85	P	P	18 36 17.6	-0.5
ISA				IAmb	IAmb	18 36 19.0	
	comp=Z,57nm,1.4s						
R11A	Troy Canyon, C	46.95	80	P	P	18 36 18.5	0.0
	baz=310,SNR=77						
R11A	Troy Canyon, C	46.95	80	P	P	18 36 17.8	-0.7
SBC	Santa Barbara	46.95	87	P	P	18 36 19.0	+0.7
	baz=312						
SPUT	South Promonto	46.99	74	P	P	18 36 18.9	+0.2
NJ2	Nanjing	47.01	269	⇓*i* P	P	18 36 19.1	+0.4
NJ2				PcP	PcP	18 37 49.3	+0.4
NJ2				S	S	18 43 00.2	-0.5
NJ2				pmax	pmax		
	comp=Z,94nm,0.6s						
ARVC	Arvin	47.05	85	P	P	18 36 19.1	0.0
	baz=312						
MPMC	Manual Prospec	47.26	83	P	P	18 36 21.4	+0.4
	baz=311,SNR=18						
HWUT	Hardware Ranch	47.33	74	P	P	18 36 20.9	-0.5
LAO	LASA Array	47.37	65	P	P	18 36 21.0	-0.5
	baz=306,SNR=5.9						
LAO	LASA Array	47.37	65	P	P	18 36 21.3	-0.2
LAO				IAmb	IAmb	18 36 22.3	
	comp=Z,56nm,1.1s						
FURC	Furnace Creek,	47.38	83	P	P	18 36 22.3	+0.7
	baz=311,SNR=34						
TPNV	Topopah Spring	47.44	82	P	P	18 36 22.5	+0.2
TPNV				pmax	pmax		
	comp=Z,71nm,1.0s						
TPNV	Topopah Spring	47.44	82	P	P	18 36 22.6	+0.2
	baz=310,SNR=93						
TPNV	Topopah Spring	47.44	82	P	P	18 36 22.4	+0.2
TPNV				IAmb	IAmb	18 36 23.8	
	comp=Z,71nm,0.9s						
OSI	Osito Audit: C	47.45	86	P	P	18 36 22.9	+0.6
	baz=312						
OSI	Osito Audit: C	47.45	86	P	P	18 36 22.5	+0.3
OSI				IAmb	IAmb	18 36 23.9	
	comp=Z,60nm,1.1s						
DGMT	Dagmar	47.45	62	P	P	18 36 21.1	-0.9
	baz=305,SNR=6.6						
DGMT	Dagmar	47.45	62	P	P	18 36 20.9	-1.2
DGMT				IAmb	IAmb	18 36 22.3	
	comp=Z,48nm,1.1s						
DUG	Dugway, Tooele	47.46	76	P	P	18 36 22.3	0.0
DUG				pmax	pmax		
	comp=Z,78nm,1.2s						
DUG	Dugway, Tooele	47.46	76	P	P	18 36 22.3	0.0
	baz=309,SNR=66						
DUG	Dugway, Tooele	47.46	76	P	P	18 36 22.3	0.0
DUG				IAmb	IAmb	18 36 23.6	
	comp=Z,78nm,1.1s						
LRMC	Laurel Mtn Rad	47.52	84	P	P	18 36 22.8	0.0
	baz=311,SNR=25						
TCUT	Toone Canyon	47.72	74	P	P	18 36 23.9	-0.6
EDW2	Edwards Air Fo	47.72	85	P	P	18 36 24.7	+0.3
	baz=312,SNR=15						
CTU	Camp Tracy	47.78	75	P	P	18 36 24.6	-0.3
PD31	Pinedale Array	47.80	71	P	P	18 36 24.1	-1.0
PD31				IAmb	IAmb	18 36 25.4	
	comp=Z,45nm,1.1s						
PDAR	Pinedale Array	47.80	71	P	P	18 36 24.4	-0.7
	comp=Z,22nm,0.8s,baz=309,slow=4.7,SNR=130						
PDAR				pP	pP	18 36 53.4	-0.5
	comp=Z,9.0nm,0.7s,baz=304,slow=3.7,SNR=3.1						
PDAR				ScP	ScP	18 41 31.5	-2.8
	comp=Z,8.1nm,1.0s,baz=256,slow=6.0,SNR=11						
PDAR				LR	LR	18 54 16.3	
	comp=Z,147nm,21.8s,baz=346,slow=33						
PDAR	Pinedale Array	47.80	71	P	P	18 36 23.9	-1.2
PDAR					pP	18 36 52.5	-1.3
PRN	Pahroc Range	47.87	80	P	P	18 36 25.8	+0.2
PRN				IAmb	IAmb	18 36 27.1	
	comp=Z,92nm,1.3s						
PSUT	Pine Spring	47.88	78	P	P	18 36 25.3	-0.4
DECC	Green Verdugo	47.93	86	P	P	18 36 26.3	+0.3
	baz=312						
PATS	Pohnpei	48.01	207	P	P	18 36 25.9	-0.8
PATS				IAmb	IAmb	18 36 28.5	
	comp=Z,56nm,0.9s						
JLU	Jordanelle	48.02	75	P	P	18 36 26.6	-0.2
PASC	Pasadena Art C	48.08	86	P	P	18 36 27.1	+0.1
PASC				IAmb	IAmb	18 36 28.3	
	comp=Z,52nm,1.1s						
SHOC	Shoshone, Teco	48.10	83	P	P	18 36 27.6	+0.3
	baz=311,SNR=14						
MWC	Mount Wilson	48.12	86	P	P	18 36 27.3	-0.3
MWC				pmax	pmax		
	comp=Z,183nm,1.4s						
MWC	Mount Wilson	48.12	86	P	P	18 36 27.3	-0.3
GSC	Goldstone, Bar	48.17	84	P	P	18 36 27.9	0.0
GSC				pmax	pmax		
	comp=Z,98nm,1.0s						
GSC	Goldstone, Bar	48.17	84	P	P	18 36 28.4	+0.5
	baz=312,SNR=63						
GSC	Goldstone, Bar	48.17	84	P	P	18 36 27.9	0.0
FMP	Fort Macarthur	48.32	86	P	P	18 36 29.0	+0.2
	baz=313						
RRX	Edison Barstow	48.34	84	P	P	18 36 29.5	+0.4
	baz=312						
KULLO	Kullorsuaq	48.34	17	*i* P	P	18 36 29.2	+0.7
	comp=Z,111nm,0.8s						
KULLO	Kullorsuaq	48.34	17	*i* P	P	18 36 29.2	+0.7
KULLO				pmax	pmax		
	comp=Z,110nm,0.8s						
BFSC	Mount Baldy Ra	48.35	85	P	P	18 36 29.6	+0.2
	baz=312,SNR=19						
SHPR	Sheep Range	48.39	81	P	P	18 36 29.3	-0.3
CIS	Catalina Islan	48.45	87	P	P	18 36 30.0	+0.1
	baz=313,SNR=5.1						
TUQ	Turquoise Moun	48.62	83	P	P	18 36 31.5	+0.1
	baz=312,SNR=33						
SCI2	San Clemente I	48.66	87	P	P	18 36 31.9	+0.4
	baz=313						
TCRU	Three Creeks R	48.68	77	P	P	18 36 31.8	0.0
HEC	Hector,Ludlow	48.77	84	P	P	18 36 32.7	+0.2
	baz=312,SNR=17						
BBRC	Big Bear Solar	48.79	85	P	P	18 36 33.2	+0.4
	baz=312						
CCUT	Cedar City	48.80	79	P	P	18 36 33.0	+0.1
MVU	Marysvale	48.89	77	P	P	18 36 33.6	+0.1
MSU	Marysvale	48.90	77	P	P	18 36 33.4	-0.2
MSU	Marysvale	48.90	77	P	P	18 36 33.4	-0.2
SZCU	Shurtz Canyon	48.94	79	P	P	18 36 33.5	-0.4
TMUT	Trail Mountain	48.98	76	P	P	18 36 34.2	-0.1
KBS	Kingsbay	49.00	357	*ce*P	P	18 36 34.1	+0.6
KBS				pmax	pmax		
	comp=Z,50nm,0.7s						
KBS	Kingsbay	49.00	357	P	P	18 36 34.0	+0.6
KBS				IAmb	IAmb	18 36 35.2	
	comp=Z,64nm,0.8s						
KBS	Kingsbay	49.00	357	*e*P	P	18 36 34.5	+1.0
MURC	Murrieta	49.07	86	P	P	18 36 34.8	+0.2
	baz=313						
P17A	Butcher Ranch,	49.15	75	P	P	18 36 35.3	-0.1
RDMU	Red Mountain	49.15	73	P	P	18 36 35.2	-0.3
MTPU	Mount Pierson	49.20	78	P	P	18 36 36.1	+0.1
GMRC	Granite Mounta	49.22	83	P	P	18 36 36.1	+0.1
	baz=312,SNR=46						
LCMT	Little Creek M	49.23	79	P	P	18 36 35.9	-0.1
Q16A	Castle Valley	49.25	76	P	P	18 36 36.0	-0.1
KNB	Kanab	49.48	79	P	P	18 36 38.1	+0.2
KNB				pmax	pmax		
	comp=Z,21nm,0.7s						
KNB	Kanab	49.48	79	P	P	18 36 38.1	+0.2
SRU	San Rafael Swe	49.51	76	P	P	18 36 37.9	-0.2
SRU				pmax	pmax		
	comp=Z,53nm,1.0s						
SRU	San Rafael Swe	49.51	76	P	P	18 36 37.9	-0.2
PFO	Pinyon Flats O	49.51	85	P	P	18 36 38.0	-0.1
PFO				pmax	pmax		
	comp=Z,42nm,1.4s						
PFO	Pinyon Flats O	49.51	85	P	P	18 36 38.1	-0.1
	baz=313,SNR=9.7						
PFO	Pinyon Flats O	49.51	85	P	P	18 36 38.0	-0.1
PFO				IAmb	IAmb	18 36 39.4	
	comp=Z,42nm,1.4s						
XPFO	Pion Flat	49.52	85	P	P	18 36 38.0	-0.2
XPFO				IAmb	IAmb	18 36 39.4	
	comp=Z,42nm,1.4s						
TPFO	Pinon Flats	49.52	85	P	P	18 36 38.3	0.0
	baz=313,SNR=8.1						
BELC	Belle Mtn. Jos	49.53	84	P	P	18 36 38.0	-0.4
	baz=312,SNR=21						
SPA0	Spitsbergen Ar	49.54	355	P	P	18 36 37.9	+0.3
SPA0	Spitsbergen Ar	49.54	355	*e*P	P	18 36 37.4	-0.3
109C	Camp Elliot, M	49.61	86	P	P	18 36 39.1	+0.5
	baz=313						
109C	Camp Elliot, M	49.61	86	P	P	18 36 38.8	+0.1
109C				IAmb	IAmb	18 36 40.4	
	comp=Z,73nm,1.0s						
K22A	Casper	49.63	69	P	P	18 36 37.9	-1.1
	baz=309,SNR=11						
K22A	Casper	49.63	69	P	P	18 36 37.7	-1.3
RWWY	Rawlins	49.84	71	P	P	18 36 39.1	-1.5
RWWY				IAmb	IAmb	18 36 40.7	
	comp=Z,46nm,1.2s						
NEE2	Needles Airpor	49.87	83	P	P	18 36 40.5	-0.1
	baz=312						
YOJ	Yonaguni jima	49.89	258	P	P	18 36 39.1	-1.8
YOJ				pmax	pmax		
	comp=Z,117nm,0.9s						
YOJ	Yonaguni jima	49.89	258	P	P	18 36 39.1	-1.8
IRM	Iron Mountain	49.95	84	P	P	18 36 41.5	+0.1
	baz=312,SNR=41						
BAR	Barrett	50.01	86	P	P	18 36 41.9	0.0
BAR				IAmb	IAmb	18 36 43.2	
	comp=Z,56nm,1.0s						
MONP2	Monument Peak	50.02	86	P	P	18 36 42.2	+0.1
	baz=313,SNR=17						
W13A	Hualapai Mount	50.09	82	P	P	18 36 42.5	-0.2
BC3	Big Chuckawall	50.10	84	P	P	18 36 42.3	-0.3
	baz=313,SNR=20						
TKX	Tecate	50.13	86	P	P	18 36 41.9	-0.8
RSSD	Black Hills	50.14	66	P	P	18 36 41.6	-1.3
RSSD				pmax	pmax		
	comp=Z,32nm,1.4s						
RSSD	Black Hills	50.14	66	P	P	18 36 41.7	-1.3
	baz=308						
RSSD	Black Hills	50.14	66	P	P	18 36 41.6	-1.3
U15A	North Rim	50.19	79	P	P	18 36 43.2	-0.2
U15A				IAmb	IAmb	18 36 44.9	
	comp=Z,71nm,1.1s						
O20A	White River Ci	50.21	73	P	P	18 36 42.8	-0.7
	baz=310,SNR=16						
O20A	White River Ci	50.21	73	P	P	18 36 42.5	-0.9
O20A				IAmb	IAmb	18 36 43.8	
	comp=Z,45nm,1.1s						
MDND	Maddock	50.30	60	P	P	18 36 43.5	-0.3
	baz=308,SNR=6.6						
MDND	Maddock	50.30	60	P	P	18 36 43.2	-0.6
SWSC	Sam W. Stewart	50.37	85	P	P	18 36 44.3	-0.2
	baz=313						
IKP	In-Ko-Pah, Jac	50.38	86	P	P	18 36 44.7	+0.1
	baz=313,SNR=8.1						
PDMCI	Parker Dam,Lak	50.47	83	P	P	18 36 45.1	0.0
	baz=312,SNR=18						
E28A	Huff	50.49	62	P	P	18 36 44.7	-0.5
E28A				IAmb	IAmb	18 36 45.7	
	comp=Z,39nm,1.1s						
HOPEN	Hopen	50.55	352	*e*P	P	18 36 45.4	+0.2
CCX	Cicese	50.58	87	P	P	18 36 46.2	+0.2
CCX				IAmb	IAmb	18 36 48.4	
	comp=Z,28nm,0.9s						
YHNB	Yeheng	50.73	260	P	P	18 36 46.9	-0.4
YHNB				IAmb	IAmb	18 36 48.8	
	comp=Z,34nm,0.7s						
HSPB	Hornsund (broa	50.73	355	*e*P	P	18 36 46.6	+0.1
HSPB				*e*pP	pP	18 37 14.1	-0.4
HSPB	Hornsund (broa	50.73	355	*e*P	P	18 36 46.5	0.0
TARA	Tarawa	50.75	187	P	P	18 36 48.7	+1.4
PV21	Cone Mtn., Par	50.79	75	P	P	18 36 47.1	-0.7
PV21				IAmb	IAmb	18 36 48.9	
	comp=Z,31nm,0.9s						
ULM	Lac du Bonnet	50.79	56	P	P	18 36 46.9	-0.5
	comp=Z,26nm,0.7s,baz=306,slow=8.4,SNR=15						
ULM				LR	LR	18 59 31.1	
	comp=Z,375nm,19.0s,baz=314,slow=37						
ULM	Lac du Bonnet	50.79	56	P	P	18 36 46.8	-0.5
ULM				IAmb	IAmb	18 36 47.8	
	comp=Z,32nm,0.8s						
WHN	Wuhan	50.83	271	⇓*i* P	P	18 36 48.2	+0.3
WHN				PcP	PcP	18 38 03.5	+0.7
WHN				S	S	18 43 54.5	+0.3
WHN				pmax	pmax		
	comp=Z,290nm,0.7s						
PV23	Carpenter Ridg	50.84	75	P	P	18 36 47.8	-0.5
PV23				IAmb	IAmb	18 36 48.9	
	comp=Z,64nm,1.3s						
PV10	Paradox Valley	50.87	75	P	P	18 36 48.2	-0.3
PV10				IAmb	IAmb	18 36 49.4	
	comp=Z,46nm,0.8s						
PV14	Lion Creek, Pa	50.88	75	P	P	18 36 47.8	-0.7
PV14				IAmb	IAmb	18 36 48.9	
	comp=Z,62nm,1.4s						
GLA	Glamis	50.90	84	P	P	18 36 48.8	+0.3
GLA				pmax	pmax		
	comp=Z,63nm,1.0s						
GLA	Glamis	50.90	84	P	P	18 36 48.6	+0.1
	baz=313,SNR=9.2						
GLA	Glamis	50.90	84	P	P	18 36 48.8	+0.3
GLA				IAmb	IAmb	18 36 49.7	
	comp=Z,63nm,0.9s						
PV22	Blue Mesa, Par	50.92	75	P	P	18 36 49.2	+0.4
PV22				IAmb	IAmb	18 36 51.0	
	comp=Z,45nm,1.1s						
ESJX	Sierra Juarez	50.92	86	P	P	18 36 47.9	-1.0
ESJX				IAmb	IAmb	18 36 49.4	
	comp=Z,26nm,1.0s						
PV20	West Nyswonger	50.94	75	P	P	18 36 48.0	-0.9
PV20				IAmb	IAmb	18 36 49.4	
	comp=Z,62nm,1.3s						
PV04	Paradox Valley	50.94	75	P	P	18 36 48.6	-0.3
PV04				IAmb	IAmb	18 36 50.1	
	comp=Z,43nm,0.8s						
PV19	Morning Glory	50.95	75	P	P	18 36 48.3	-0.7
PV19				IAmb	IAmb	18 36 50.1	
	comp=Z,34nm,0.9s						
NACB	Ninganchiao	50.96	259	P	P	18 36 48.4	-0.6
DAG	Danmarks Havn	50.97	5	*i* P	P	18 36 47.9	-0.4
	comp=Z,25nm,0.8s						
DAG	Danmarks Havn	50.97	5	*i* P	P	18 36 47.9	-0.4
DAG				pmax	pmax		
	comp=Z,25nm,0.8s						
PV17	East Wray Mesa	50.98	75	P	P	18 36 48.6	-0.7
PV16	Nyswonger Mesa	50.99	75	P	P	18 36 48.3	-1.0
PV16				IAmb	IAmb	18 36 49.8	
	comp=Z,70nm,1.3s						
PV11	David Mesa, Pa	51.02	75	P	P	18 36 49.0	-0.5
PV18	Skein Mesa, Pa	51.03	75	P	P	18 36 49.0	-0.7
PV18				IAmb	IAmb	18 36 50.8	
	comp=Z,57nm,0.9s						
PV12	Saucer Basin,	51.05	75	P	P	18 36 49.1	-0.7
PV12				IAmb	IAmb	18 36 50.5	
	comp=Z,61nm,1.1s						
PV03	Paradox Valley	51.06	75	P	P	18 36 49.2	-0.7
PV03				IAmb	IAmb	18 36 51.0	
	comp=Z,68nm,1.1s						
PV07	Paradox Valley	51.06	75	P	P	18 36 48.9	-1.0
PV07				IAmb	IAmb	18 36 50.4	
	comp=Z,31nm,1.1s						
N23A	Red Feather La	51.08	71	P	P	18 36 49.4	-0.6
	baz=310,SNR=7.4						
N23A	Red Feather La	51.08	71	P	P	18 36 49.0	-1.0
PHWY	Pilot Hill	51.10	70	P	P	18 36 49.3	-0.9
PV13	Radium Mtn., P	51.14	75	P	P	18 36 50.1	-0.4
PV02	Paradox Valley	51.16	75	P	P	18 36 49.9	-0.7
PV02				IAmb	IAmb	18 36 51.8	
	comp=Z,59nm,1.0s						
PV15	Paradox Valley	51.23	75	P	P	18 36 50.4	-0.7
PV15				IAmb	IAmb	18 36 52.2	
	comp=Z,42nm,1.0s						
PV01	Paradox Valley	51.31	75	P	P	18 36 50.8	-1.0
PV01				IAmb	IAmb	18 36 53.0	
	comp=Z,36nm,0.9s						
WUAZ	Wupatki	51.35	80	P	P	18 36 52.3	+0.3
	baz=312,SNR=22						
WUAZ	Wupatki	51.35	80	P	P	18 36 51.3	-0.6
WUAZ				IAmb	IAmb	18 36 53.5	
	comp=Z,61nm,1.3s						
SSLB	Suanglung	51.64	260	P	P	18 36 53.5	-0.6
YULB	Yu-li	51.73	259	P	P	18 36 53.5	-1.2
113A	Mohawk Valley,	51.74	84	P	P	18 36 54.1	-0.6
XAN	Xi'an	51.77	278	P	P	18 36 55.0	+0.1
XAN				pmax	pmax		
	comp=Z,82nm,1.2s						
XAN				pmax	pmax		
	comp=Z,260nm,7.2s						
XAN				LR	LR		
	comp=Z,320nm,14.5s						
XAN				LR	LR		
	comp=Z,360nm,14.5s						
XAN				LR	LR		
	comp=Z,330nm,17.6s						
XAN	Xi'an	51.77	278	P	P	18 36 54.7	-0.3
XAN				pmax	pmax		
	comp=Z,124nm,1.3s						
XAN	Xi'an	51.77	278	P	P	18 36 54.7	-0.3
SPX	San Pedro Mart	51.89	87	P	P	18 36 56.5	+0.3
SPX				IAmb	IAmb	18 36 57.8	
	comp=Z,25nm,0.9s						
MVCO	Mesa Verde	51.96	76	P	P	18 36 56.1	-0.5
	baz=312,SNR=17						
MVCO	Mesa Verde	51.96	76	P	P	18 36 56.1	-0.5
MVCO				IAmb	IAmb	18 36 57.9	
	comp=Z,44nm,1.3s						
ISCO	Idaho Springs	51.97	72	P	P	18 36 56.2	-0.5
ISCO				pmax	pmax		
	comp=Z,21nm,1.1s						
ISCO	Idaho Springs	51.97	72	P	P	18 36 56.2	-0.5
	baz=311,SNR=18						
ISCO	Idaho Springs	51.97	72	P	P	18 36 56.2	-0.5
AGMN	Agassiz Nation	52.00	58	P	P	18 36 55.6	-0.8
	baz=309,SNR=11						
AGMN	Agassiz Nation	52.00	58	P	P	18 36 55.3	-1.1
AGMN				IAmb	IAmb	18 36 56.7	
	comp=Z,59nm,1.1s						
X16A	Lo Mia Camp, P	52.04	81	P	P	18 36 57.6	+0.4
X16A				IAmb	IAmb	18 36 58.9	
	comp=Z,38nm,1.2s						
D32A	Dogwood Acres,	52.12	59		P	18 36 56.3	-1.0
D32A				IAmb	IAmb	18 36 57.1	
	comp=Z,57nm,1.0s						
TPUB	Ta-pu	52.20	259	P	P	18 36 57.3	-0.9
QZH	Quanzhou	52.23	263	⇓*i* P	P	18 36 58.9	+0.6
QZH				sP	sP	18 37 39.6	-1.8
QZH				S	S	18 44 14.5	+1.1
QZH				sS	sS	18 45 05.1	+1.5
QZH				pmax	pmax		
	comp=Z,130nm,1.0s						
ZAA0	Zalesovo Array	52.23	312	P	P	18 36 57.0	-1.0
ZALV	Zalesovo Beam	52.23	312	P	P	18 36 57.4	-0.6
	comp=Z,6.7nm,0.4s,baz=48,slow=6.8,SNR=35						
ZALV				PcP	PcP	18 38 08.6	+0.9
	comp=Z,41nm,0.8s,baz=32,slow=4.1,SNR=25						
ZALV				ScP	ScP	18 41 52.8	0.0
	comp=Z,8.1nm,0.7s,baz=32,slow=5.4,SNR=15						
ZALV				LR	LR	19 01 56.3	
	comp=Z,81nm,18.6s,baz=64,slow=39						
ZALV	Zalesovo Beam	52.23	312	P	P	18 36 56.7	-1.3
ZALV					PcP	18 38 07.0	-0.7
ZALV					ScP	18 41 52.8	0.0
TWG	Pinlang	52.29	259	P	P	18 36 58.0	-0.9
S22A	4UR Ranch, Cre	52.60	74	P	P	18 37 01.5	+0.1
	baz=312,SNR=34						
S22A	4UR Ranch, Cre	52.60	74	P	P	18 37 01.4	+0.1
S22A				IAmb	IAmb	18 37 02.9	
	comp=Z,50nm,1.4s						
W18A	Petrified Fore	52.61	79	P	P	18 37 01.5	+0.2
	baz=313,SNR=9.7						
W18A	Petrified Fore	52.61	79	P	P	18 37 00.9	-0.4
W18A				IAmb	IAmb	18 37 02.8	
	comp=Z,49nm,1.1s						
KNMB	Chin-men Tao	52.70	262	P	P	18 37 02.1	+0.2
PIX	Pinacate	52.76	85	P	P	18 37 01.6	-0.6
SUSD	Miller	52.78	63	P	P	18 37 01.1	-1.1
	baz=310,SNR=5.2						
SUSD	Miller	52.78	63	P	P	18 37 01.1	-1.1
Q24A	Divide	52.79	72	P	P	18 37 02.6	-0.2
	baz=311						
Q24A	Divide	52.79	72	P	P	18 37 02.3	-0.5
214A	Organ Pipe Nat	52.88	84	P	P	18 37 03.1	-0.1
	baz=314,SNR=21						
214A	Organ Pipe Nat	52.88	84	P	P	18 37 02.7	-0.5
214A				IAmb	IAmb	18 37 04.5	

LZH sS sS 18 45 14.5 -6.2
LZH pmax pmax
comp=Z,160nm,1.0s
LZH pmax pmax
comp=Z,360nm,5.2s
LZH LR LR
comp=Z,280nm,14.1s
LZH LR LR
comp=Z,330nm,14.4s
LZH LR LR
comp=Z,290nm,16.0s
GTA Gaotai 53.63 289 ⇓P P 18 37 09.4 +0.7
GTA PcP **PcP 18 38 13.9 +0.4**
GTA ScP **ScP 18 42 00.2 +0.8**
GTA PcS **PcS 18 42 13.2 +0.3**
GTA S **S 18 44 31.6 -1.0**
GTA sS sS 18 45 21.2 -1.3
GTA ScS **ScS 18 46 43.6 -1.9**
GTA SS **SKiKP 18 48 11.0 +1.4**
GTA pmax pmax
comp=Z,160nm,1.0s
GTA pmax pmax
comp=Z,360nm,7.6s
GTA LR LR
comp=Z,200nm,16.2s
GTA LR LR
comp=Z,270nm,16.2s
GTA LR LR
comp=Z,230nm,17.5s
DGZ Jazzator, Alta 53.68 306 *d iP* **P 18 37 09.4 +0.5**
DGZ pmax pmax
comp=Z,86nm,1.1s
ILULI Ilulissat 53.73 20 ⇓*iP* **P 18 37 08.7 0.0**
comp=Z,90nm,0.8s
ILULI Ilulissat 53.73 20 ⇓*iP* **P 18 37 08.7 0.0**
ILULI pmax pmax
comp=Z,90nm,0.8s
ILULI Ilulissat 53.73 20 P P 18 37 08.6 -0.2
TUC Tucson 53.88 82 P **P 18 37 10.7 +0.1**
TUC pmax pmax
comp=Z,44nm,1.3s
TUC Tucson 53.88 82 P P 18 37 10.9 +0.4
baz=314
TUC Tucson 53.88 82 P P 18 37 10.7 +0.1
TUC IAmb IAmb 18 37 12.1
comp=Z,44nm,1.3s
ENH Enshi 54.01 275 P P 18 37 10.6 -0.9
K31A O'Neill 54.07 65 P **P 18 37 10.7 -0.9**
K31A IAmb IAmb 18 37 12.1
comp=Z,52nm,0.9s
KSCO Kaye Shedlock' 54.23 71 P P 18 37 13.2 +0.1
baz=312
KSCO Kaye Shedlock' 54.23 71 P P 18 37 13.3 +0.2
T25A Trinidad 54.44 73 P **P 18 37 14.8 +0.1**
baz=312,SNR=34
T25A Trinidad 54.44 73 P P 18 37 14.3 -0.4
T25A IAmb IAmb 18 37 16.6
comp=Z,79nm,1.2s
EYMN Ely 54.48 56 P P 18 37 14.2 -0.4
baz=311,SNR=5.6
EYMN Ely 54.48 56 P P 18 37 13.7 -0.9
EYMN IAmb IAmb 18 37 15.2
comp=Z,49nm,0.8s
ECSD EROS Data Cent 54.52 62 P P 18 37 13.5 -1.5
baz=311,SNR=8.5
ECSD EROS Data Cent 54.52 62 P P 18 37 13.3 -1.6
ANMO Albuquerque 54.70 77 *ceP* **P 18 37 16.4 -0.2**
ANMO pmax pmax
comp=Z,17nm,1.3s
ANMO Albuquerque 54.70 77 P P 18 37 16.5 -0.1
baz=313
ANMO Albuquerque 54.70 77 P P 18 37 16.2 -0.4
F36A Milaca 54.79 59 P **P 18 37 15.7 -1.1**
LENM Lemitar 54.92 78 P **P 18 37 19.0 +0.9**
BNM Barren Site 55.14 78 P **P 18 37 19.9 +0.1**
BGNE Belgrade 55.20 66 P **P 18 37 19.4 -0.5**
baz=312
BGNE Belgrade 55.20 66 P **P 18 37 19.2 -0.7**
E38A The Farm, Brul 55.33 57 P **P 18 37 20.1 -0.6**
319A Douglas 55.45 82 P **P 18 37 21.8 -0.1**
319A IAmb IAmb 18 37 23.4
comp=Z,46nm,1.1s
121A Cookes Peak, D 55.56 80 P P 18 37 22.9 +0.2
baz=314,SNR=9.1
121A Cookes Peak, D 55.56 80 P P 18 37 22.6 -0.1
121A IAmb IAmb 18 37 24.2
comp=Z,47nm,1.5s
SPMN Marine on St. 55.59 59 P P 18 37 22.1 -0.4
baz=312,SNR=5.2
SPMN Marine on St. 55.59 59 P P 18 37 22.0 -0.6
SPMN IAmb IAmb 18 37 23.2
comp=Z,34nm,0.9s
SFJD Kangerlussuaq 55.66 21 *i P* **P 18 37 22.3 -0.4**
SFJD Kangerlussuaq 55.66 21 P **P 18 37 22.9 +0.2**
SFJD pmax pmax
comp=Z,66nm,1.1s
SFJD Kangerlussuaq 55.66 21 P P 18 37 22.9 +0.2
SFJD IAmb IAmb 18 37 23.7
comp=Z,66nm,1.1s
L34A Svendsen Farm, 55.82 64 P P 18 37 23.4 -0.9
L34A IAmb IAmb 18 37 24.3
comp=Z,40nm,0.8s
CBKS Cedar Bluff 56.04 69 P P 18 37 25.5 -0.4
CBKS pmax pmax
comp=Z,85nm,1.1s
CBKS Cedar Bluff 56.04 69 P P 18 37 25.6 -0.3
baz=313,SNR=9.1
CBKS Cedar Bluff 56.04 69 P P 18 37 25.5 -0.4
N33A J Bar K, Exete 56.05 66 P **P 18 37 24.6 -1.4**
I37A Lemond, Waseca 56.08 60 P **P 18 37 25.7 -0.3**
HSIG 56.08 85 P **P 18 37 25.5 -0.8**
HSIG IAmb IAmb 18 37 27.5
comp=Z,46nm,1.2s
ZSN Zaisan 56.44 306 ⇓*iP* **P 18 37 29.0 +0.3**
comp=Z,48nm,1.4s,baz=306
ZSN *eS* **S 18 45 11.5 +1.9**
baz=306
ZSN Zaisan 56.44 306 *d iP* **P 18 37 28.9 +0.3**
ZSN *eS* **S 18 45 11.5 +1.9**
ZSN pmax pmax
comp=Z,48nm,1.4s
SEM Semipalatinsk 56.68 311 ⇓*d iP* **P 18 37 29.8 -0.7**
comp=Z,82nm,2.1s,baz=311
SEM Semipalatinsk 56.68 311 *d iP* **P 18 37 29.8 -0.7**
SEM pmax pmax
comp=Z,82nm,2.1s
SCO Scoresbysund 56.87 8 P **P 18 37 31.8 +0.5**
SCO pmax pmax
comp=Z,45nm,1.1s
SCO Scoresbysund 56.87 8 P P 18 37 31.8 +0.5
SCO IAmb IAmb 18 37 32.9
comp=Z,45nm,1.1s
R32A Long Quarter, 56.90 69 P P 18 37 31.3 -0.7
R32A IAmb IAmb 18 37 32.1
comp=Z,71nm,1.3s
COWI Conover 56.91 56 P P 18 37 31.2 -0.8
COWI IAmb IAmb 18 37 32.5
comp=Z,26nm,0.8s
G40A Rib Lake 56.92 57 P P 18 37 31.4 -0.6
G40A IAmb IAmb 18 37 32.7
comp=Z,30nm,0.9s
HKPS Hong Kong Po S 56.93 264 P **P 18 37 33.5 +1.2**
N35A Tabor 56.98 64 P **P 18 37 32.1 -0.4**
CD2 Chengdu 57.08 279 P **P 18 37 33.7 +0.3**
CD2 sP sP 18 38 13.8 -2.2
CD2 S **S 18 45 18.2 -0.2**
CD2 sS sS 18 46 08.1 +1.0
CD2 pmax pmax
comp=Z,120nm,1.0s
CD2 pmax pmax
comp=Z,220nm,4.7s
CD2 LR LR
comp=Z,300nm,27.9s
ARCES ARCESS Array B 57.08 349 P **P 18 37 32.2 -0.5**
comp=Z,17nm,0.6s,baz=28,slow=7.3,SNR=30
ARCES pP **pwP 18 38 05.5 -0.8**
comp=Z,11nm,0.7s,baz=20,slow=7.8,SNR=4.0
ARCES PcP **PcP 18 38 25.8 -0.3**
comp=Z,7.7nm,0.8s,baz=359,slow=6.1,SNR=4.6
ARCES LR LR 19 04 42.1
comp=Z,62nm,18.3s,baz=46,slow=39
ARCES ARCESS Array B 57.08 349 P **P 18 37 32.1 -0.7**
ARE0 ARCESS Array S 57.08 349 P **P 18 37 32.3 -0.4**
ARE0 ARCESS Array S 57.08 349 *eP* **P 18 37 32.7 0.0**
KURK Kurchatov 57.22 312 *deP* **P 18 37 34.2 +0.2**
KURK pmax pmax
comp=Z,202nm,1.3s
KURK Kurchatov 57.22 312 P **P 18 37 33.8 -0.2**
LVZ Lovozero 57.30 345 *deP* **P 18 37 33.6 -0.8**
LVZ pmax pmax
comp=Z,123nm,0.7s
LVZ Lovozero 57.30 345 P **P 18 37 33.9 -0.5**
KURBB Kurchatov Arra 57.33 312 P **P 18 37 34.5 -0.3**
K38A Parkersburg 57.34 61 P **P 18 37 33.8 -1.2**
K38A IAmb IAmb 18 37 35.8
comp=Z,54nm,1.1s
WMQ Urumqi 57.44 301 P **P 18 37 36.6 +0.8**
WMQ pP pP 18 38 04.3 -0.4
WMQ PcP **PcP 18 38 29.1 +1.0**
WMQ S **S 18 45 23.4 +0.5**
WMQ sS sS 18 46 11.5 -0.7
WMQ pmax pmax
comp=Z,52nm,0.7s
WMQ pmax pmax
comp=Z,200nm,4.7s
WMQ LR LR
comp=Z,180nm,19.1s
WMQ LR LR
comp=Z,180nm,24.3s
WMQ LR LR
comp=Z,100nm,24.3s
WMQ Urumqi 57.44 301 P **P 18 37 36.6 +0.8**
WMQ pmax pmax
comp=Z,62nm,0.7s
WMQ Urumqi 57.44 301 P **P 18 37 36.6 +0.8**
MSTX Muleshoe 57.58 75 P **P 18 37 36.5 -0.5**
baz=314,SNR=12
MSTX Muleshoe 57.58 75 P **P 18 37 36.3 -0.6**
MSTX IAmb IAmb 18 37 38.4
comp=Z,84nm,1.5s
AMTX Amarillo 57.59 74 P **P 18 37 36.7 -0.3**
baz=314
AMTX Amarillo 57.59 74 P **P 18 37 36.7 -0.3**
AMTX IAmb IAmb 18 37 38.0
comp=Z,33nm,1.2s
MNTX Cornudas Mount 57.59 79 P **P 18 37 37.1 +0.2**
baz=315,SNR=49
MNTX Cornudas Mount 57.59 79 P **P 18 37 36.7 -0.2**
MNTX IAmb IAmb 18 37 38.4
comp=Z,39nm,1.1s
SCIA State Center 57.60 62 P **P 18 37 36.4 -0.5**
baz=313,SNR=6.0
SCIA State Center 57.60 62 P **P 18 37 36.5 -0.4**
KSU1 Kansas State U 57.63 67 P **P 18 37 35.8 -1.2**
baz=313,SNR=5.3
KSU1 Kansas State U 57.63 67 P **P 18 37 35.9 -1.2**
KSU1 IAmb IAmb 18 37 37.6
comp=Z,38nm,0.9s
I40A Norwalk 57.64 59 P **P 18 37 36.2 -0.9**
F42A Maple Grove Fa 57.66 56 P **P 18 37 37.2 +0.1**
F42A IAmb IAmb 18 37 38.2
comp=Z,39nm,0.7s
TRO Tromso 57.67 352 *eP* **P 18 37 37.3 +0.5**
APA Apatity 57.80 345 ⇓*iP* **P 18 37 35.7 -2.1**
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,300nm,12.0s
E43A Lone Tree Farm 57.81 55 P **P 18 37 38.1 -0.2**
KTK1 Kautokeino 57.84 350 *eP* **P 18 37 38.5 +0.4**
GDL2 Guadalupe Moun 57.86 78 P **P 18 37 38.9 -0.1**
U32A Winter Ranch, 58.13 70 P **P 18 37 40.2 -0.5**
U32A IAmb IAmb 18 37 40.9
comp=Z,62nm,1.1s
MK31 Makanchi Array 58.18 306 P **P 18 37 40.2 -0.6**
MK31 pmax pmax
comp=Z,32nm,0.7s
MK31 Makanchi Array 58.18 306 P **P 18 37 40.2 -0.6**
MK31 IAmb IAmb 18 37 41.0
comp=Z,32nm,0.7s
MKAR Makanchi Array 58.18 306 P **P 18 37 40.3 -0.5**
comp=Z,47nm,0.7s,baz=52,slow=7.3,SNR=323
MKAR PcP **PcP 18 38 31.1 +0.2**
comp=Z,8.3nm,0.7s,baz=46,slow=3.5,SNR=3.7
MKAR ScP **ScP 18 42 19.6 +0.5**
comp=Z,2.4nm,0.8s,baz=40,slow=9.6,SNR=3.7
MKAR S **S 18 45 33.3 +1.0**
comp=Z,1.7nm,1.0s,baz=42,slow=15,SNR=4.2
MKAR ScS **ScS 18 47 19.1 +1.2**
comp=Z,0.3nm,0.5s,baz=50,slow=8.0,SNR=3.5
MKAR LR LR 19 03 25.8
comp=Z,107nm,18.9s,baz=40,slow=36
MKAR PKPPKP **P'P'df 19 07 19.8 -2.6**
comp=Z,0.6nm,0.8s,baz=224,slow=5.1,SNR=3.8
MKAR Makanchi Array 58.18 306 P **P 18 37 40.0 -0.9**
MKAR **PcP 18 38 30.6 -0.3**
MAKZ Makanchi 58.32 307 P **P 18 37 41.0 -0.8**
MAKZ pmax pmax
comp=Z,57nm,0.7s
MAKZ Makanchi 58.32 307 P **P 18 37 41.0 -0.8**
N38A Joes South For 58.35 63 P **P 18 37 40.6 -1.5**
GYA Guiyang 58.47 273 ⇓*iP* **P 18 37 43.2 0.0**
GYA ScP **ScP 18 42 24.6 +3.8**
GYA S **S 18 45 31.8 -5.0**
GYA sS sS 18 46 28.3 +2.8
GYA pmax pmax
comp=Z,57nm,0.9s
GYA LR LR
comp=Z,70nm,5.2s
GYA LR LR
comp=Z,85nm,4.8s
GYA LR LR
comp=Z,110nm,8.9s
JFWS Jewell Farm 58.51 59 P **P 18 37 41.7 -1.4**
JFWS pmax pmax
comp=Z,39nm,0.8s
JFWS Jewell Farm 58.51 59 P **P 18 37 41.9 -1.2**
baz=314,SNR=6.7
JFWS Jewell Farm 58.51 59 P **P 18 37 41.7 -1.4**
JFWS IAmb IAmb 18 37 43.6
comp=Z,39nm,0.8s
I42A Draeger Farm, 58.54 58 P **P 18 37 42.7 -0.6**
L40A Anamosa 58.58 61 P **P 18 37 42.4 -1.2**
L40A IAmb IAmb 18 37 43.6
comp=Z,48nm,1.1s
P38A Dawn 59.00 64 P **P 18 37 44.7 -1.9**
P38A IAmb IAmb 18 37 47.0
comp=Z,49nm,1.1s
TGY Tagaytay City 59.11 252 P **P 18 37 48.7 +1.0**
comp=Z,392nm,0.8s,baz=291,slow=3.3,SNR=14
E46A Sault Ste Mari 59.16 53 P **P 18 37 47.4 -0.2**
BRVK Borovoye 59.20 318 *deP* **P 18 37 48.1 +0.4**
BRVK pmax pmax
comp=Z,81nm,0.6s
BRVK Borovoye 59.20 318 P **P 18 37 47.8 +0.1**
T35A Sooner Cattle 59.20 68 P **P 18 37 46.7 -1.3**
T35A IAmb IAmb 18 37 49.1
comp=Z,30nm,1.1s
WMOK Wichita Mounta 59.40 72 P **P 18 37 49.0 -0.5**
WMOK pmax pmax
comp=Z,50nm,1.5s
WMOK Wichita Mounta 59.40 72 P **P 18 37 49.0 -0.5**
baz=315
WMOK Wichita Mounta 59.40 72 P **P 18 37 49.0 -0.5**
WMOK IAmb IAmb 18 37 50.4
comp=Z,50nm,1.4s
OK029 Liberty Lake 59.43 70 P **P 18 37 48.6 -1.0**
BCOK Bluff Creek, N 59.44 70 P **P 18 37 49.3 -0.4**
ANGG Ammassalik, Gr 59.44 16 P **P 18 37 48.3 -0.9**
L42A Oliver, Polo 59.45 60 P **P 18 37 47.9 -1.7**
L42A IAmb IAmb 18 37 49.5
comp=Z,50nm,1.1s
QUOK Quay 59.60 69 P **P 18 37 50.1 -0.7**
QUOK IAmb IAmb 18 37 50.8
comp=Z,37nm,1.2s
STEI Steigen 59.64 353 *eP* **P 18 37 50.9 +0.4**
OK025 Westminster Rd 59.65 70 P **P 18 37 50.1 -1.0**
OK025 IAmb IAmb 18 37 52.2
comp=Z,35nm,0.7s
OKCFA Oklahoma City 59.70 70 P **P 18 37 51.3 -0.2**
OKCFA IAmb IAmb 18 37 52.1
comp=Z,30nm,0.8s
N41A Harden Midland 59.72 62 P **P 18 37 50.0 -1.4**
FNO Franklin 59.84 70 P **P 18 37 52.5 +0.1**
P40A Paris 59.88 63 P **P 18 37 51.5 -1.2**
MATQ Matagami 59.89 47 P **P 18 37 51.8 -0.7**
baz=316
SVE Sverdlovsk 60.02 326 *c iP* **P 18 37 54.7 +1.4**
SVE *eS* **S 18 45 58.6 +3.0**
SVE pmax pmax
comp=Z,200nm,1.4s
TMCR Tamitsa 60.05 341 *eP* **P 18 37 52.2 -1.1**
X34A Smith Ranch, M 60.05 71 P **P 18 37 52.6 -1.3**
X34A IAmb IAmb 18 37 55.2
comp=Z,58nm,1.4s
L44A Lake County Fo 60.26 59 P **P 18 37 54.7 -0.5**
baz=315
RABL Rabaul 60.30 210 P **P 18 37 55.5 -0.2**
RABL IAmb IAmb 18 37 56.9
comp=Z,55nm,1.1s
TX31 Lajitas Ar. Si 60.31 80 P **P 18 37 55.5 -0.4**
TX32 Lajitas Array 60.31 80 P **P 18 37 55.5 -0.3**
TX32 IAmb IAmb 18 37 57.0
comp=Z,56nm,1.4s
TXAR Lajitas Array 60.31 80 P **P 18 37 55.8 -0.1**
comp=Z,12nm,0.6s,baz=304,slow=4.9,SNR=148
TXAR pP **pP 18 38 27.0 +1.2**
comp=Z,3.6nm,0.6s,baz=318,slow=3.5,SNR=2.4
TXAR ScP **ScP 18 42 27.6 -1.4**
comp=Z,4.6nm,1.0s,baz=287,slow=3.2,SNR=8.5
TXAR PKPPKP **P'P'df 19 07 17.0 -1.8**
comp=Z,0.6nm,0.8s,baz=160,slow=4.0,SNR=5.6
TXAR Lajitas Array 60.31 80 P **P 18 37 55.2 -0.6**
TXAR **ScP 18 42 27.4 -1.6**
TUL1 Leonard 60.31 69 P **P 18 37 54.9 -0.7**
baz=315
TUL1 Leonard 60.31 69 P **P 18 37 54.7 -1.0**
TUL1 IAmb IAmb 18 37 56.6
comp=Z,39nm,1.1s
ABTX Abilene, Hawle 60.38 74 P **P 18 37 56.1 -0.1**
baz=316,SNR=12
ABTX Abilene, Hawle 60.38 74 P **P 18 37 55.7 -0.5**
BRZS Berezniki 60.42 314 ⇓*iP* **P 18 37 56.1 -0.1**
comp=Z,80nm,1.1s,baz=314
BRZS Berezniki 60.42 314 *d iP* **P 18 37 56.1 -0.1**
BRZS pmax pmax
comp=Z,80nm,1.1s
KRVT Keravat (AS076 60.45 210 P **P 18 37 56.8 +0.1**
comp=Z,32nm,0.8s,baz=51,slow=6.1,SNR=5.9
S39A Bolivar 60.47 66 P **P 18 37 55.4 -1.2**
SCHQ Schefferville 60.55 37 P **P 18 37 57.4 +0.4**
comp=Z,12nm,0.6s,baz=334,slow=5.8,SNR=13
SCHQ pP **pP 18 38 27.8 +1.5**
comp=Z,35nm,1.1s,baz=348,slow=6.6,SNR=6.3
SCHQ LR LR 19 05 22.4
comp=Z,317nm,18.9s,baz=328,slow=37
PRGR Permogore 60.56 336 ⇑*iP* **P 18 37 58.2 +1.4**
PRGR *eS* **S 18 46 00.5 -1.8**
SLBS Sierra La Lagu 60.56 89 P **P 18 37 58.1 +0.6**
SLBS IAmb IAmb 18 37 59.5
comp=Z,52nm,1.2s
R40A Maddies Statio 60.63 65 P **P 18 37 55.9 -1.9**
R40A IAmb IAmb 18 37 57.1
comp=Z,46nm,1.5s
HDIL Hopedale 60.67 61 P **P 18 37 57.2 -0.8**
baz=315
HDIL Hopedale 60.67 61 P **P 18 37 57.7 -0.2**
HDIL IAmb IAmb 18 37 58.3
comp=Z,33nm,0.7s
LSQQ Lebel-sur-Quev 60.69 47 P **P 18 37 57.0 -1.0**
baz=317
U38A Gravette 60.75 67 P **P 18 37 56.8 -1.8**
U38A IAmb IAmb 18 37 58.2
comp=Z,33nm,1.4s
ARU Arti 61.04 327 *ceP* **P 18 38 01.0 +0.8**
ARU pmax pmax
comp=Z,345nm,1.3s
ARU Arti 61.04 327 P **P 18 38 00.7 +0.5**
HHAR Hobbs 61.11 67 P **P 18 38 00.3 -0.7**
J47A Sunmer 61.11 56 P **P 18 38 00.9 -0.1**
J47A IAmb IAmb 18 38 02.2
comp=Z,44nm,0.9s
IVI Ivigtut 61.14 24 P **P 18 38 00.4 -0.3**
VLDQ Val d'Or 61.17 48 P **P 18 37 59.1 -2.1**
VLDQ IAmb IAmb 18 38 00.5
comp=Z,38nm,1.1s
P43A Skaggs, Pawnee 61.19 62 P **P 18 38 01.0 -0.5**
P43A IAmb IAmb 18 38 02.3
comp=Z,30nm,1.1s
CHGQ Chibougamau 61.22 45 P **P 18 38 01.4 -0.1**
baz=318,SNR=7.4
Z35A Perchaven, San 61.29 72 P **P 18 38 01.6 -0.7**
Z35A IAmb IAmb 18 38 03.5
comp=Z,54nm,1.3s
TDK Taldyqorghan 61.36 307 *i* P **P 18 38 03.1 +0.4**
comp=Z,73nm,0.7s,baz=307
TDK Taldyqorghan 61.36 307 *i* P **P 18 38 03.0 +0.4**
TDK pmax pmax
comp=Z,73nm,0.7s
CCM Cathedral Cave 61.37 64 P **P 18 38 01.0 -1.7**
CCM pmax pmax
comp=Z,10.0nm,0.8s
CCM Cathedral Cave 61.37 64 P **P 18 38 01.3 -1.4**
baz=316
CCM Cathedral Cave 61.37 64 P **P 18 38 01.0 -1.7**
MGMO Mountain Grove 61.44 65 P **P 18 38 01.4 -1.8**
MGMO IAmb IAmb 18 38 03.0
comp=Z,26nm,1.2s
MOR8 Moi Rana 61.44 353 *eP* **P 18 38 02.2 -0.6**
X37A Clayton 61.49 70 P **P 18 38 03.2 -0.4**
X37A IAmb IAmb 18 38 04.5
comp=Z,33nm,1.1s
U40A Yellville 61.67 66 P **P 18 38 02.9 -1.9**
baz=316,SNR=16
U40A Yellville 61.67 66 P **P 18 38 03.0 -1.8**
U40A IAmb IAmb 18 38 05.0
comp=Z,59nm,1.3s
D53A Lac Vacive, Po 61.81 49 P **P 18 38 05.3 -0.3**
baz=317,SNR=7.9
D53A Lac Vacive, Po 61.81 49 P **P 18 38 04.5 -1.1**
D53A IAmb IAmb 18 38 05.7
comp=Z,47nm,1.2s
JCT Junction City 61.82 76 P **P 18 38 05.1 -0.8**
JCT pmax pmax
comp=Z,30nm,1.1s
JCT Junction City 61.82 76 P **P 18 38 05.0 -0.8**
baz=316,SNR=6.3
JCT Junction City 61.82 76 P **P 18 38 05.1 -0.8**
JCT IAmb IAmb 18 38 06.4
comp=Z,30nm,1.1s
NRS Narsarsuaq 61.84 22 P **P 18 38 04.2 -1.3**
NRS pmax pmax
comp=Z,46nm,0.9s
NRS Narsarsuaq 61.84 22 P **P 18 38 04.2 -1.3**
NRS IAmb IAmb 18 38 05.9
comp=Z,46nm,0.9s
KMI Kunming 61.85 275 ⇓*iP* **P 18 38 06.7 +0.3**
KMI pP pP 18 38 38.9 +2.4
KMI sP PcP 18 38 47.1 +0.9
KMI PP **PP 18 40 22.2 -1.6**
KMI S **S 18 46 19.1 -1.2**
KMI pmax pmax
comp=Z,45nm,0.7s
KMI pmax pmax
comp=Z,230nm,3.5s
KMI LR LR
comp=Z,140nm,15.4s
KMI LR LR
comp=Z,170nm,17.7s
KMI LR LR
comp=Z,200nm,14.1s
KMI Kunming 61.85 275 P **P 18 38 06.3 -0.2**
KMI Kunming 61.85 275 P **P 18 38 06.3 -0.2**
KMI IAmb IAmb 18 38 07.2
comp=Z,34nm,0.9s
FVM French Village 61.87 64 P **P 18 38 04.2 -1.9**
FVM pmax pmax
comp=Z,8.0nm,0.6s
FVM French Village 61.87 64 P **P 18 38 04.2 -1.9**
SFIN Lafayette 61.97 60 P **P 18 38 06.2 -0.6**
baz=316,SNR=8.9
SFIN Lafayette 61.97 60 P **P 18 38 06.1 -0.6**
W39A Magazine 61.97 68 P **P 18 38 06.1 -0.7**
baz=316,SNR=13
W39A Magazine 61.97 68 P **P 18 38 05.6 -1.2**
W39A IAmb IAmb 18 38 08.0
comp=Z,78nm,1.4s
QIZ Qiongzhong 62.01 265 P **P 18 38 08.3 +1.1**
QIZ sP **PcP 18 38 47.4 +0.8**
QIZ S **S 18 46 24.2 +2.4**
QIZ pmax pmax
comp=Z,49nm,1.2s
QIZ pmax pmax
comp=Z,250nm,4.7s
QIZ Qiongzhong 62.01 265 P **P 18 38 07.8 +0.6**

WHTX	Lake Whitney,	62.13	73	P	P	18 38 07.6	-0.3	
	baz=316,SNR=5.8							
WHTX	Lake Whitney,	62.13	73	P	P	18 38 07.7	-0.2	
WHTX				IAmb	IAmb	18 38 09.6		
	comp=Z,33nm,0.9s							
SHLS	Shalkode	62.17	305	⇓*i*P	P	18 38 07.0	-1.2	
	comp=Z,53nm,0.6s,baz=305							
SHLS	Shalkode	62.17	305	*d i*P	P	18 38 07.0	-1.2	
SHLS				pmax	pmax			
	comp=Z,53nm,0.6s							
T42A	Van Buren	62.18	65	P	P	18 38 06.1	-2.1	
D54A	Lac Fusel, La	62.24	48	P	P	18 38 07.4	-1.0	
	baz=318							
L48A	N Adams	62.24	57	P	P	18 38 07.9	-0.7	
L48A				IAmb	IAmb	18 38 09.5		
	comp=Z,53nm,1.2s							
KPKS	Kokpek	62.34	306	⇓*i*P	P	18 38 09.8	+0.5	
	comp=Z,55nm,0.7s,baz=306							
KPKS	Kokpek	62.34	306	*d i*P	P	18 38 09.7	+0.5	
KPKS				pmax	pmax			
	comp=Z,55nm,0.7s							
E53A	Dumoine, Ponti	62.34	49	P	P	18 38 08.2	-0.9	
	baz=318,SNR=6.7							
UZB	Uzynbulak	62.40	305	⇓*i*P	P	18 38 10.0	+0.3	
	comp=Z,36nm,1.1s,baz=306							
UZB	Uzynbulak	62.40	305	*d i*P	P	18 38 10.0	+0.3	
UZB				pmax	pmax			
	comp=Z,36nm,1.1s							
FCAR	Ozark Folk Cen	62.42	66	P	P	18 38 08.2	-1.6	
FCAR				IAmb	IAmb	18 38 10.0		
	comp=Z,52nm,0.8s							
P46A	Rosedale	62.46	60	P	P	18 38 09.6	-0.4	
P46A				IAmb	IAmb	18 38 10.4		
	comp=Z,54nm,1.2s							
ALGO	Algonquin Park	62.47	50	P	P	18 38 09.9	-0.1	
	baz=318,SNR=5.7							
E54A	Lac Daplat, Po	62.52	49	P	P	18 38 09.0	-1.3	
	baz=318,SNR=8.5							
MIAR	Mount Ida	62.56	68	P	P	18 38 10.0	-0.7	
MIAR				pmax	pmax			
	comp=Z,52nm,1.1s							
MIAR	Mount Ida	62.56	68	P	P	18 38 10.1	-0.7	
	baz=316,SNR=22							
MIAR	Mount Ida	62.56	68	P	P	18 38 10.0	-0.7	
MIAR				IAmb	IAmb	18 38 12.1		
	comp=Z,52nm,1.1s							
OLIL	Olney	62.61	62	P	P	18 38 10.4	-0.6	
OLIL				IAmb	IAmb	18 38 11.4		
	comp=Z,64nm,1.4s							
I51A	Listowel	62.62	53	P	P	18 38 11.3	+0.3	
	baz=317,SNR=7.3							
Z38A	Mt. Pleasant	62.67	70	P	P	18 38 11.0	-0.4	
KLMR	Klimovskoe	62.69	339	*e*P	P	18 38 09.4	-1.7	
KLMR				*e**PP	pP	18 38 41.3	+1.1	
KLMR				pmax	pmax			
	comp=Z,106nm,1.4s							
KLMR	Klimovskoe	62.69	339	*e*P	P	18 38 09.4	-1.7	
KLMR				AMP		18 38 13.3		
	comp=Z,106nm,1.4s							
KLMR				*e*pP	pP	18 38 41.3	+1.1	
WHAR	Wooly Hollow	62.76	67	P	P	18 38 10.9	-1.1	
WHAR				IAmb	IAmb	18 38 12.0		
	comp=Z,25nm,1.1s							
SATY	Saty	62.77	306	⇓*i*P	P	18 38 12.8	+0.6	
	comp=Z,38nm,1.4s,baz=306							
SATY	Saty	62.77	306	*d i*P	P	18 38 12.8	+0.6	
SATY				pmax	pmax			
	comp=Z,38nm,1.4s							
SADO	Sadowa	62.83	51	P	P	18 38 12.0	-0.3	
SADO				IAmb	IAmb	18 38 13.1		
	comp=Z,24nm,1.1s							
LCAR	Lake Charles	62.84	66	P	P	18 38 10.9	-1.6	
W41B	Gary Mavity, V	62.86	67	P	P	18 38 11.5	-1.2	
	baz=316,SNR=10							
W41B	Gary Mavity, V	62.86	67	P	P	18 38 11.2	-1.5	
W41B				IAmb	IAmb	18 38 13.4		
	comp=Z,24nm,1.0s							
G54A	Lake Saint Pet	62.87	50	P	P	18 38 11.6	-1.0	
	baz=318							
CHKK	Chushkaly	62.90	307	⇓*i*P	P	18 38 12.3	-0.6	
	comp=Z,409nm,1.0s,baz=307							
CHKK	Chushkaly	62.90	307	*d i*P	P	18 38 12.3	-0.6	
CHKK				pmax	pmax			
	comp=Z,409nm,1.0s							
435B	Jarrell	62.92	74	P	P	18 38 13.0	-0.2	
	baz=317							
435B	Jarrell	62.92	74	P	P	18 38 13.5	+0.3	
435B				IAmb	IAmb	18 38 15.1		
	comp=Z,46nm,0.9s							
JAY	Jayapura	62.98	223	P	P	18 38 13.8	0.0	
	comp=Z,49nm,1.0s,baz=327,slow=3.1,SNR=9.7							
JAY	Jayapura	62.98	223	P	P	18 38 14.1	+0.3	
	comp=Z,35nm,1.2s							
X40A	Basin Creek Fa	63.02	68	P	P	18 38 12.8	-1.0	
	baz=316,SNR=8.3							
X40A	Basin Creek Fa	63.02	68	P	P	18 38 13.1	-0.7	
UALR	University of	63.10	67	P	P	18 38 12.5	-1.8	
N49A	Columbus Grove	63.11	57	P	P	18 38 13.1	-1.2	
N49A				IAmb	IAmb	18 38 15.1		
	comp=Z,38nm,1.1s							
D56A	ZEC Mazanza, M	63.18	47	P	P	18 38 13.5	-1.2	
	baz=319,SNR=6.4							
KUU	Kurty	63.19	308	⇓*i*P	P	18 38 14.3	-0.5	
	comp=Z,78nm,1.2s,baz=308							
KUU	Kurty	63.19	308	*d i*P	P	18 38 14.2	-0.5	
KUU				pmax	pmax			
	comp=Z,78nm,1.2s							
H53A	Bobcaygeon	63.24	51	P	P	18 38 14.1	-1.0	
	baz=318,SNR=6.2							
HNR	Honiara	63.27	200	P	P	18 38 15.6	+0.2	
	comp=Z,19nm,0.4s,baz=157,slow=3.7,SNR=5.6							
HNR				LR	LR	19 02 02.1		
	comp=Z,109nm,19.4s,baz=42,slow=32							
HNR	Honiara	63.27	200	P	P	18 38 15.7	+0.2	
HNR				pmax	pmax			
	comp=Z,90nm,1.0s							
HNR	Honiara	63.27	200	P	P	18 38 15.7	+0.2	
GENI	Genyem	63.28	224	P	P	18 38 17.0	+1.3	
	comp=Z,139nm,1.1s							
F55A	Otter Lake	63.36	49	P	P	18 38 15.3	-0.6	
	baz=318							
MDOK	Medeo	63.37	307	*i*P	P	18 38 16.5	+0.2	
	baz=307							
MDOK	Medeo	63.37	307	*i*P	P	18 38 16.4	+0.2	
SMPI	Sarmi	63.38	225	P	P	18 38 17.2	+0.9	
	comp=Z,37nm,1.3s							
AAA	Alma-Ata	63.41	307	⇓*i*P	P	18 38 16.8	+0.4	
	comp=Z,60nm,0.9s,baz=307							
AAA	Alma-Ata	63.41	307	*d i*P	P	18 38 16.7	+0.4	
AAA				pmax	pmax			
	comp=Z,60nm,0.9s							
E56A	St. Veronique	63.44	48	P	P	18 38 15.1	-1.2	
	baz=319,SNR=5.1							
BTLS	Baital	63.44	310	⇓*i*P	P	18 38 16.5	+0.1	
	comp=Z,30nm,1.0s,baz=310							
BTLS	Baital	63.44	310	*d i*P	P	18 38 16.5	+0.1	
BTLS				pmax	pmax			
	comp=Z,30nm,1.0s							
TNSS	Tian-Shan	63.52	307	⇓*i*P	P	18 38 17.9	+0.4	
	baz=307							
TNSS	Tian-Shan	63.52	307	*d i*P	P	18 38 17.8	+0.4	
P48A	Milroy	63.52	59	P	P	18 38 15.6	-1.5	
P48A				IAmb	IAmb	18 38 17.4		
	comp=Z,49nm,1.1s							
O49A	Covington	63.56	58	P	P	18 38 17.1	-0.2	
O49A				IAmb	IAmb	18 38 18.1		
	comp=Z,25nm,1.1s							
D57A	Chemin Vers le	63.60	47	P	P	18 38 16.3	-1.1	
	baz=319,SNR=5.7							
PLVO	Plevna	63.61	50	P	P	18 38 17.2	-0.3	
G55A	Calabogie	63.62	50	P	P	18 38 16.2	-1.3	
	baz=318,SNR=6.3							
833A	Chaparral WMA,	63.62	77	P	P	18 38 17.6	-0.3	
	baz=317							
833A	Chaparral WMA,	63.62	77	P	P	18 38 17.8	-0.1	
MTBS	Maitube	63.70	307	*e*P	P	18 38 18.8	+0.5	
	baz=307							
MTBS	Maitube	63.70	307	*e*P	P	18 38 18.8	+0.5	
DELO	Deloro Mine	63.74	51	P	P	18 38 17.8	-0.6	
DELO				IAmb	IAmb	18 38 19.4		
	comp=Z,38nm,1.2s							
P49A	Miami Univ. Ec	63.84	59	P	P	18 38 18.1	-1.0	
	baz=317							
P49A	Miami Univ. Ec	63.84	59	P	P	18 38 17.7	-1.5	
P49A				IAmb	IAmb	18 38 19.7		
	comp=Z,24nm,0.9s							
TRQ	Mont Tremblant	63.90	48	P	P	18 38 18.7	-0.8	
H55A	Tweed	63.93	50	P	P	18 38 18.9	-0.6	
	baz=318,SNR=5.4							
E57A	Chemin Saint G	63.94	47	P	P	18 38 18.4	-1.3	
	baz=319,SNR=12							
I55A	Frankford	63.94	51	P	P	18 38 18.9	-0.8	
	baz=318							
NATX	Nacogdoches	63.94	71	P	P	18 38 19.6	-0.2	
	baz=317							
SLVN	Son La	63.94	272	P	P	18 38 20.4	+0.3	
SLVN				IAmb	IAmb	18 38 22.2		
	comp=Z,50nm,1.0s							
WCI	Wyandotte Cave	63.95	61	P	P	18 38 19.2	-0.7	
WCI				pmax	pmax			
	comp=Z,26nm,1.1s							
WCI	Wyandotte Cave	63.95	61	P	P	18 38 18.9	-0.9	
	baz=317							
WCI	Wyandotte Cave	63.95	61	P	P	18 38 19.2	-0.7	
WCI				IAmb	IAmb	18 38 20.2		
	comp=Z,26nm,1.1s							
D58A	Chemin du LacG	63.99	46	P	P	18 38 19.0	-1.0	
	baz=320,SNR=7.9							
N51A	Ashland	64.05	56	P	P	18 38 20.4	0.0	
	baz=318							
M52A	Chesterland	64.11	55	P	P	18 38 20.9	+0.1	
	baz=318							
X43A	Marvell	64.11	67	P	P	18 38 21.0	+0.1	
	baz=317							
J54A	Appleton	64.18	52	P	P	18 38 21.1	-0.2	
	baz=318							
J54A	Appleton	64.18	52	P	P	18 38 21.1	-0.2	
J54A				IAmb	IAmb	18 38 22.7		
	comp=Z,56nm,1.1s							
735A	Kenedy	64.19	76	P	P	18 38 22.3	+0.8	
ACSO	Alum Creek Sta	64.24	57	P	P	18 38 21.4	-0.3	
	baz=318							
ACSO	Alum Creek Sta	64.24	57	P	P	18 38 21.6	-0.1	
TKM2	Tokmak 2	64.27	307	P	P	18 38 22.8	+0.6	
	SNR=24							
H56A	Elgin	64.33	50	P	P	18 38 21.7	-0.5	
	baz=319							
SGDS	Sogindy	64.34	308	⇓*i*P	P	18 38 23.0	+0.6	
	comp=Z,60nm,1.5s,baz=308							
SGDS	Sogindy	64.34	308	*d i*P	P	18 38 23.0	+0.6	
SGDS				pmax	pmax			
	comp=Z,60nm,1.5s							
MEDO	Medina	64.35	52	P	P	18 38 22.3	0.0	
MEDO				IAmb	IAmb	18 38 23.8		
	comp=Z,48nm,1.0s							
L53A	Girard	64.36	54	P	P	18 38 21.5	-0.9	
	baz=318							
E58A	La Victoria	64.36	47	P	P	18 38 21.3	-1.1	
	baz=320							
ERPA	Erie	64.37	54	P	P	18 38 22.6	+0.1	
	baz=318							
ERPA	Erie	64.37	54	P	P	18 38 22.7	+0.2	
ERPA				IAmb	IAmb	18 38 24.0		
	comp=Z,47nm,1.1s							
SRPI	Serui, Papua	64.38	228	P	P	18 38 24.2	+1.4	
	comp=Z,2umcomp=Z,88nm,1.1s							
T47A	Sharon Grove	64.42	62	P	P	18 38 22.5	-0.4	
T47A				IAmb	IAmb	18 38 24.2		
	comp=Z,42nm,0.9s							
BOOM	Boomskoye usch	64.42	307	P	P	18 38 23.5	+0.4	
BOOM				pmax	pmax			
	comp=Z,71nm,1.0s							
BOOM	Boomskoye usch	64.42	307	P	P	18 38 23.5	+0.4	
ULHL	Ulahol	64.45	306	P	P	18 38 24.6	+1.3	
	SNR=8.7							
PECO	Prince Edward	64.48	51	P	P	18 38 23.2	0.0	
O51A	Pataskala	64.50	57	P	P	18 38 22.9	-0.5	
	baz=318							
R49A	Shelbyville	64.51	60	P	P	18 38 22.8	-0.7	
M53A	WI Miller and	64.53	55	P	P	18 38 23.3	-0.3	
	baz=318,SNR=5.5							
M53A	WI Miller and	64.53	55	P	P	18 38 23.5	-0.1	
M53A				IAmb	IAmb	18 38 24.9		
	comp=Z,48nm,1.1s							
G57A	Newington	64.54	49	P	P	18 38 22.8	-0.8	
	baz=319							
USP	Ospenovka	64.55	308	P	P	18 38 24.6	+0.9	
	SNR=54							
HKT	Hockley	64.56	73	P	P	18 38 24.8	+0.9	
HKT				pmax	pmax			
	comp=Z,7.0nm,1.0s							
HKT	Hockley	64.56	73	P	P	18 38 24.8	+0.9	
J55A	Hilton	64.58	52	P	P	18 38 23.1	-0.7	
	baz=319							
J55A	Hilton	64.58	52	P	P	18 38 24.0	+0.1	
J55A				IAmb	IAmb	18 38 25.1		
	comp=Z,26nm,0.8s							
W45A	Hickory Valley	64.60	65	P	P	18 38 23.4	-0.7	
W45A				IAmb	IAmb	18 38 24.8		
	comp=Z,58nm,1.2s							
L54A	Sinclairville	64.62	53	P	P	18 38 23.9	-0.3	
	baz=318							
CHMS	Chumysh	64.62	308	P	P	18 38 24.9	+0.7	
	SNR=25							
K54A	Basiliko Farm,	64.65	53	P	P	18 38 24.1	-0.2	
	baz=318,SNR=11							
WVT	Waverly	64.65	63	P	P	18 38 23.5	-0.9	
WVT				pmax	pmax			
	comp=Z,35nm,1.5s							
WVT	Waverly	64.65	63	P	P	18 38 23.7	-0.7	
	baz=317							
WVT	Waverly	64.65	63	P	P	18 38 23.5	-0.9	
WVT				IAmb	IAmb	18 38 24.7		
	comp=Z,35nm,1.5s							
FIA1	FINESS Array S	64.68	346	P	P	18 38 23.2	-1.0	
FIA1				IAmb	IAmb	18 38 26.2		
	comp=Z,27nm,0.9s							
FINES	FINESS Array B	64.68	346	P	P	18 38 23.7	-0.5	
	comp=Z,9.2nm,0.4s,baz=22,slow=7.6,SNR=140							
FINES				pP	PcP	18 38 56.0	-0.9	
	comp=Z,6.6nm,0.7s,baz=46,slow=8.2,SNR=2.5							
FINES				PKPPKP	P'P'df	19 07 09.2	-2.6	
	comp=Z,4.1nm,0.9s,baz=122,slow=2.9,SNR=7.7							
FINES				LR	LR	19 11 08.7		
	comp=Z,96nm,18.4s,baz=30,slow=40							
FINES	FINESS Array B	64.68	346	P	P	18 38 23.2	-1.0	
P51A	Williamsport	64.75	58	P	P	18 38 24.6	-0.5	
	baz=318							
P51A	Williamsport	64.75	58	P	P	18 38 24.7	-0.4	
KBK	Karagaybulak	64.78	308	P	P	18 38 26.2	+0.8	
	SNR=22							
FRU1	Bishkek	64.82	308	P	P	18 38 26.0	+0.4	
FRU1				pmax	pmax			
	comp=Z,156nm,1.1s							
FRU1	Bishkek	64.82	308	P	P	18 38 26.0	+0.4	
H57A	Richville	64.84	49	P	P	18 38 25.2	-0.3	
	baz=319							
WVNY	West Valley, N	64.84	53	P	P	18 38 25.2	-0.4	
K55A	Perry	64.86	52	P	P	18 38 25.3	-0.5	
	baz=319							
N53A	Lisbon	64.92	55	P	P	18 38 25.6	-0.5	
	baz=318							
O52A	Adamsville	64.92	57	P	P	18 38 25.4	-0.7	
	baz=318,SNR=9.5							
O52A	Adamsville	64.92	57	P	P	18 38 26.0	-0.1	
O52A				IAmb	IAmb	18 38 27.1		
	comp=Z,48nm,0.9s							
Q51A	Peebles	64.94	58	P	P	18 38 25.6	-0.7	
Q51A				IAmb	IAmb	18 38 27.0		
	comp=Z,98nm,1.4s							
G58A	Ormstown	64.94	48	P	P	18 38 25.5	-0.6	
	baz=320							
MMNY	Mt. Morris Dam	64.94	52	P	P	18 38 26.1	-0.1	
MMNY				IAmb	IAmb	18 38 27.4		
	comp=Z,42nm,0.9s							
OXF	Oxford	64.95	66	P	P	18 38 26.0	-0.4	
OXF				pmax	pmax			
	comp=Z,111nm,1.2s							
OXF	Oxford	64.95	66	P	P	18 38 25.8	-0.6	
	baz=317							
OXF	Oxford	64.95	66	P	P	18 38 26.0	-0.4	
R50A	Paris	64.97	59	P	P	18 38 25.8	-0.7	
F59A	Saint Guilaume	64.98	47	P	P	18 38 25.8	-0.6	
	baz=320							
M54A	Oil Creek Stat	64.98	54	P	P	18 38 26.1	-0.5	
	baz=318							
M54A	Oil Creek Stat	64.98	54	P	P	18 38 26.4	-0.1	
M54A				IAmb	IAmb	18 38 27.8		
	comp=Z,21nm,0.9s							
D60A	Saint Jean D'O	64.99	45	P	P	18 38 25.8	-0.7	
	baz=321							
AAK	Ala-Archa	65.02	308	P	P	18 38 27.8	+0.9	
	SNR=32							
AAK	Ala-Archa	65.02	308	*i*P	P	18 38 27.8	+0.9	
	SNR=34							
AAK	Ala-Archa	65.02	308	*de*P	P	18 38 27.3	+0.3	
AAK				pmax	pmax			
	comp=Z,129nm,1.7s							
AAK	Ala-Archa	65.02	308	P	P	18 38 27.5	+0.6	
J56A	Wolcott	65.04	51	P	P	18 38 26.6	-0.3	
	baz=319,SNR=5.4							
J56A	Wolcott	65.04	51	P	P	18 38 26.5	-0.3	
J56A				IAmb	IAmb	18 38 27.7		
	comp=Z,33nm,0.8s							
KZA	Kyzart	65.07	307	P	P	18 38 28.6	+1.1	
	SNR=12							
D61A	St Aubert, Com	65.09	44	P	P	18 38 26.8	-0.3	
	baz=321							
L55A	Hinsdale	65.09	53	P	P	18 38 27.2	-0.1	
	baz=319,SNR=8.4							
LONY	Lake Ozonia	65.10	49	P	P	18 38 26.3	-0.9	
	baz=320							
LONY	Lake Ozonia	65.10	49	P	P	18 38 25.7	-1.6	
I57A	Carthage	65.11	50	P	P	18 38 26.6	-0.7	
	baz=319							
P52A	Corning	65.12	57	P	P	18 38 26.9	-0.6	
	baz=318							
O53A	New Philadelph	65.14	56	P	P	18 38 27.3	-0.2	
	baz=318							
O53A	New Philadelph	65.14	56	P	P	18 38 27.2	-0.4	
E60A	Ste Agathe de	65.18	46	P	P	18 38 27.0	-0.7	
	baz=320							
N54A	Moraine State	65.23	55	P	P	18 38 27.5	-0.6	
	baz=318							
N54A	Moraine State	65.23	55	P	P	18 38 27.8	-0.4	
K56A	Middlesex	65.25	52	P	P	18 38 28.1	-0.1	
	baz=319,SNR=12							
F60A	Warwick	65.26	46	P	P	18 38 27.5	-0.7	
	baz=320							
J57A	Williamstown	65.35	51	P	P	18 38 28.6	-0.2	
	baz=319							
J57A	Williamstown	65.35	51		P	18 38 28.2	-0.6	
EKS2	Erkin-Say	65.35	308	P	P	18 38 30.1	+1.0	
	SNR=38							
PLAL	Pickwick Lake	65.35	64	P	P	18 38 27.7	-1.2	
G59A	Clarenceville	65.39	48	P	P	18 38 28.1	-0.9	
	baz=320							
H58A	Gabriels	65.44	49	P	P	18 38 28.4	-1.0	
	baz=320							
M55A	Ridgway	65.46	54	P	P	18 38 29.4	-0.3	
	baz=319,SNR=11							
M55A	Ridgway	65.46	54	P	P	18 38 29.3	-0.4	
M55A				IAmb	IAmb	18 38 31.1		
	comp=Z,36nm,0.8s							
MOL	Molde	65.46	355	*e*P	P	18 38 29.2	0.0	
V48A	Smith Brothers	65.49	63	P	P	18 38 28.3	-1.5	
U49A	Red Boiling Sp	65.49	62	P	P	18 38 28.5	-1.4	
H59A	Cadyville	65.49	48	P	P	18 38 29.0	-0.8	
	baz=320							
CLTN	Cedars of Leba	65.50	62	P	P	18 38 29.0	-1.0	
CLTN				IAmb	IAmb	18 38 31.3		
	comp=Z,32nm,0.8s							
LSA	Lhasa	65.51	287	*i*P	P	18 38 31.9	+1.2	
	SNR=66							
LSA	Lhasa	65.51	287	P	P	18 38 31.7	+1.0	
LSA				pmax	pmax			
	comp=Z,100nm,0.9s							
LSA	Lhasa	65.51	287	P	P	18 38 31.7	+1.0	
PUL	Pulkovo	65.55	343	*i*P	P	18 38 29.5	-0.3	
PUL				pmax	pmax			
	comp=Z,50nm,0.8s							
Q52A	Bidwell	65.55	58	P	P	18 38 29.8	-0.4	
	baz=318							
E61A	Lac Etchemin	65.55	45	P	P	18 38 29.6	-0.5	
	baz=321							
L56A	Greenwood	65.56	52	P	P	18 38 30.2	-0.1	
	baz=319,SNR=32							
L56A	Greenwood	65.56	52	P	P	18 38 29.9	-0.4	
K57A	Scipio Center	65.61	51	P	P	18 38 30.1	-0.5	
	baz=319,SNR=8.4							
O54A	Avella	65.61	56	P	P	18 38 30.3	-0.3	
	baz=318							
P53A	Whipple	65.61	57	P	P	18 38 30.3	-0.3	
	baz=318							
I58A	Old Forge	65.62	50	P	P	18 38 29.9	-0.7	
	baz=320							
T50A	Nancy	65.62	61	P	P	18 38 30.0	-0.7	
MOQ	Mont Orford	65.63	47	P	P	18 38 30.1	-0.7	
D62A	Allapoint, All	65.67	44	P	P	18 38 30.4	-0.4	
	baz=321							
D62A	Allapoint, All	65.67	44	P	P	18 38 30.8	0.0	
F61A	St Evariste	65.69	46	P	P	18 38 30.7	-0.3	
	baz=321							
J58A	Remsen	65.72	50	P	P	18 38 30.9	-0.4	
	baz=320,SNR=5.9							
J58A	Remsen	65.72	50	P	P	18 38 30.7	-0.6	
J58A				IAmb	IAmb	18 38 32.6		
	comp=Z,25nm,1.0s							
M56A	Emporium	65.74	53	P	P	18 38 31.1	-0.4	
	baz=319,SNR=12							
M56A	Emporium	65.74	53	P	P	18 38 31.0	-0.4	
M56A				IAmb	IAmb	18 38 32.7		
	comp=Z,56nm,1.1s							
NCB	Newcomb	65.76	49	P	P	18 38 31.3	-0.2	
G60A	Masonville	65.76	47	P	P	18 38 30.7	-0.7	
	baz=320							
AML	Almayashu	65.79	308	P	P	18 38 33.0	+0.8	
	SNR=24							
E62A	Clayton Lake	65.83	44	P	P	18 38 31.6	-0.3	
	baz=321							
S51A	Beattyville	65.83	59	P	P	18 38 31.9	-0.1	
N55A	Marion Center	65.87	54	P	P	18 38 31.8	-0.5	
	baz=319							
SIJI	Sorong	65.88	233	P	P	18 38 32.9	+0.3	
	comp=Z,249nm,0.9s,baz=24,slow=6.5,SNR=57							
DOMB	Dombas	65.91	354	*e*P	P	18 38 31.0	-1.2	
G61A	St-Isidore-de-	65.98	47	P	P	18 38 32.4	-0.5	
	baz=321							
P54A	Burton	66.00	56	P	P	18 38 32.2	-0.9	
	baz=319							
VBMS	Vicksburg	66.00	68	P	P	18 38 33.0	-0.1	
	baz=318							
L57A	Andrews Acres	66.00	52	P	P	18 38 32.6	-0.5	
	baz=319,SNR=9.2							
K58A	Earlville	66.00	51	P	P	18 38 32.6	-0.5	
	baz=320							
K58A	Earlville	66.00	51	P	P	18 38 33.0	-0.1	
H60A	Morristown	66.01	48	P	P	18 38 32.7	-0.4	
	baz=320							
Q53A	Leroy	66.01	57	P	P	18 38 32.7	-0.5	
	baz=318,SNR=13							
J59A	Piesco	66.01	50	P	P	18 38 32.0	-1.2	
	baz=320,SNR=5.3							
J59A	Piesco	66.01	50	P	P	18 38 32.2	-0.9	
J59A				IAmb	IAmb	18 38 33.5		
	comp=Z,16nm,0.6s							
I59A	Olmsteadville	66.05	49	P	P	18 38 32.8	-0.6	
	baz=320,SNR=7.7							
D63A	Stockholm	66.10	43	P	P	18 38 33.4	-0.2	
	baz=322							
N56A	West Decatur	66.11	54	P	P	18 38 33.7	-0.1	
	baz=319							
O55A	Ligonier	66.14	55	P	P	18 38 33.5	-0.5	

DZA	Taraz	66.35	310	*d iP*	P	18 38 35.6	+0.3
DZA				pmax	pmax		
	comp=Z,19nm,0.9s						
SWET	Sewanee	66.36	63	P	P	18 38 33.5	-2.0
M57A	Sunshine Farm,	66.37	53	P	P	18 38 35.0	-0.4
	baz=320,SNR=15						
M57A	Sunshine Farm,	66.37	53	P	P	18 38 35.1	-0.4
K59A	Cooperstown	66.38	50	P	P	18 38 34.8	-0.6
	baz=320						
H61A	Lyndonville	66.38	47	P	P	18 38 34.9	-0.6
	baz=321						
P55A	Reedsville	66.40	56	P	P	18 38 35.0	-0.6
	baz=319						
PQI	Presque Isle	66.43	43	P	P	18 38 35.3	-0.4
E63A	Oxbow	66.45	44	P	P	18 38 34.9	-0.9
	baz=322						
E63A	Oxbow	66.45	44	P	P	18 38 35.0	-0.9
L58A	Harry Jones Me	66.45	51	P	P	18 38 35.8	-0.2
	baz=320,SNR=7.8						
TNTI	Ternate	66.46	238	P	P	18 38 36.1	-0.2
	comp=Z,54nm,1.5s						
TNTI	Ternate	66.46	238	P	P	18 38 36.3	0.0
TNTI				IAmb	IAmb	18 38 37.5	
	comp=Z,70nm,1.2s						
O56A	Blue Knob Stat	66.46	54	P	P	18 38 35.6	-0.5
	baz=319						
O56A	Blue Knob Stat	66.46	54	P	P	18 38 36.0	-0.2
ACCN	Adirondack Com	66.47	49	P	P	18 38 35.4	-0.6
G62A	West of Eustis	66.47	46	P	P	18 38 35.7	-0.4
	baz=321,SNR=5.5						
G62A	West of Eustis	66.47	46	P	P	18 38 36.3	+0.2
SSPA	Standing Stone	66.53	54	P	P	18 38 35.9	-0.5
	baz=319						
SSPA	Standing Stone	66.53	54	P	P	18 38 36.1	-0.4
SSPA				IAmb	IAmb	18 38 37.6	
	comp=Z,34nm,0.8s						
NC204	NORSAR Array S	66.56	353	P	P	18 38 36.1	-0.3
NC204				IAmb	IAmb	18 38 38.9	
	comp=Z,71nm,1.1s						
NC204	NORSAR Array S	66.56	353	*e*P	P	18 38 36.1	-0.3
NC303	NORSAR Array S	66.56	353	P	P	18 38 36.6	+0.2
NC303				IAmb	IAmb	18 38 39.5	
	comp=Z,56nm,1.0s						
KK31	Karatay Array	66.57	311	P	P	18 38 36.7	0.0
KK31				pmax	pmax		
	comp=Z,63nm,0.7s						
KK31	Karatay Array	66.57	311	P	P	18 38 36.7	0.0
KKAR	Karatay Array	66.57	311	P	P	18 38 36.4	-0.3
KKAR				pmax	pmax		
	comp=Z,63nm,0.7s						
KKAR	Karatay Array	66.57	311	P	P	18 38 36.4	-0.3
S53A	Williamson	66.58	58	P	P	18 38 36.1	-0.8
	baz=319						
N57A	Milroy	66.60	53	P	P	18 38 36.3	-0.6
	baz=319,SNR=8.6						
LBNH	Lisbon	66.61	47	P	P	18 38 36.9	0.0
LBNH				pmax	pmax		
	comp=Z,26nm,1.2s						
LBNH	Lisbon	66.61	47	P	P	18 38 36.5	-0.4
	baz=321						
LBNH	Lisbon	66.61	47	P	P	18 38 36.9	0.0
KSH	Kashi	66.63	305	‖*iP*	P	18 38 41.4	+4.1
KSH				S	S	18 47 22.9	+4.4
KSH				SS	SS	18 51 45.8	+8.5
KSH				pmax	pmax		
	comp=Z,120nm,3.9s						
KSH				LR	LR		
	comp=Z,170nm,6.7s						
KSH				LR	LR		
	comp=Z,150nm,9.0s						
NC405	NORSAR Array S	66.65	353	P	P	18 38 36.6	-0.3
NC405				IAmb	IAmb	18 38 37.4	
	comp=Z,62nm,1.1s						
Q55A	Buckhannon	66.65	56	P	P	18 38 36.9	-0.4
	baz=319,SNR=5.3						
Z47A	Carrollton	66.67	66	P	P	18 38 36.7	-0.7
Z47A				IAmb	IAmb	18 38 37.7	
	comp=Z,28nm,0.7s						
TZTN	Tazewell	66.67	60	P	P	18 38 37.1	-0.3
	baz=318						
TZTN	Tazewell	66.67	60	P	P	18 38 37.1	-0.3
M58A	Price's Panora	66.67	52	P	P	18 38 37.1	-0.3
	baz=320						
J60A	Lant Hill Farm	66.69	49	P	P	18 38 37.6	+0.1
	baz=320,SNR=6.4						
H62A	Milan	66.70	47	P	P	18 38 37.1	-0.3
	baz=321,SNR=7.6						
H62A	Milan	66.70	47	P	P	18 38 37.1	-0.3
H62A				IAmb	IAmb	18 38 38.9	
	comp=Z,30nm,0.8s						
E64A	Bridgewater	66.71	44	P	P	18 38 36.9	-0.5
	baz=322,SNR=6.4						
W50A	Signal Mountai	66.71	62	P	P	18 38 36.9	-0.8
W50A				IAmb	IAmb	18 38 38.7	
	comp=Z,35nm,1.4s						
I61A	Oroboro, Fairl	66.72	48	P	P	18 38 37.3	-0.3
	baz=321						
F63A	Nahmakanta, Br	66.72	45	P	P	18 38 37.1	-0.5
	baz=322						
L59A	Walton	66.73	51	P	P	18 38 37.5	-0.2
	baz=320						
L59A	Walton	66.73	51	P	P	18 38 37.6	-0.2
L59A				IAmb	IAmb	18 38 39.3	
	comp=Z,22nm,0.8s						
NB201	NORSAR Array S	66.75	353	P	P	18 38 37.3	-0.2
NB201				IAmb	IAmb	18 38 39.6	
	comp=Z,67nm,1.1s						
NB2	NORSAR Subarra	66.76	353	P	P	18 38 37.1	-0.5
	comp=Z,40nm,1.2s,baz=9.2,slow=6.5						
NB2	NORSAR Subarra	66.76	353	P	P	18 38 37.1	-0.5
	baz=9.2,slow=6.5						
NOA	NORSAR Array B	66.76	353	P	P	18 38 37.0	-0.7
	comp=Z,15nm,0.9s,baz=10,slow=6.4,SNR=17						
NOA				pP	pwP	18 39 10.0	-1.7
	comp=Z,7.9nm,0.9s,baz=9.6,slow=6.3,SNR=4.0						
NOA				PKPPKP	P'P'df	19 07 04.5	-3.9
	comp=Z,0.9nm,0.8s,baz=143,slow=1.8,SNR=3.5						
BATG	Bathurst New B	66.77	42	P	P	18 38 37.5	-0.4
V51A	Loudon	66.79	61	P	P	18 38 37.6	-0.6
R54A	Victor	66.80	57	P	P	18 38 37.9	-0.3
	baz=319,SNR=7.9						
NBO00	NORSAR Array S	66.80	353	P	P	18 38 38.0	+0.2
NBO00				IAmb	IAmb	18 38 38.8	
	comp=Z,35nm,1.2s						
PMG	Port Moresby	66.83	214	P	P	18 38 38.8	+0.3
	comp=Z,24nm,1.0s,baz=5.7,slow=10,SNR=6.3						
PMG	Port Moresby	66.83	214	*ceP*	P	18 38 39.3	+0.8
PMG				pmax	pmax		
	comp=Z,38nm,1.0s						
KSPA	Keystone Colle	66.87	52	P	P	18 38 38.6	+0.1
T53A	Wise	66.88	59	P	P	18 38 38.5	-0.4
	baz=319,SNR=5.5						
P56A	Dayton Farm, R	66.90	55	P	P	18 38 38.3	-0.6
	baz=319,SNR=6.3						
F64A	Sherman	66.92	44	P	P	18 38 38.5	-0.3
	baz=322,SNR=5.2						
F64A	Sherman	66.92	44	P	P	18 38 38.5	-0.3
N58A	Sunbury	66.95	53	P	P	18 38 38.9	-0.2
	baz=320,SNR=15						
N58A	Sunbury	66.95	53	P	P	18 38 39.0	-0.1
N58A				IAmb	IAmb	18 38 40.5	
	comp=Z,53nm,0.9s						
CPCT	Cooper Cave	66.96	62	P	P	18 38 38.7	-0.6
G63A	Kingsbury	66.96	45	P	P	18 38 38.7	-0.4
	baz=322						
O57A	Amberson	66.97	54	P	P	18 38 38.8	-0.5
	baz=320,SNR=12						
NAO01	NORSAR Array S	66.98	353	P	P	18 38 39.2	+0.2
NAO01				IAmb	IAmb	18 38 39.9	
	comp=Z,56nm,1.4s						
PKME	Peaks-Kenny Pk	66.99	45	P	P	18 38 38.9	-0.3
	baz=322						
PKME	Peaks-Kenny Pk	66.99	45	P	P	18 38 38.7	-0.5
J61A	Chester	67.01	48	P	P	18 38 39.0	-0.5
	baz=321						
NC602	NORSAR Array S	67.04	353	P	P	18 38 39.2	-0.1
NC602				IAmb	IAmb	18 38 40.1	
	comp=Z,79nm,1.4s						
M59A	Waymart	67.04	52	P	P	18 38 39.2	-0.5
	baz=320,SNR=7.4						
Q56A	Snyder Ridge,	67.08	56	P	P	18 38 39.6	-0.3
	baz=319						
Y49A	Blount Mountai	67.11	64	P	P	18 38 39.1	-1.1
H63A	New Sharon	67.13	46	P	P	18 38 39.8	-0.3
	baz=322						
I62A	Tamworth	67.16	47	P	P	18 38 40.0	-0.4
	baz=321						
V52A	Sevierville	67.17	61	P	P	18 38 40.2	-0.4
R55A	Marlinton	67.17	57	P	P	18 38 40.3	-0.4
	baz=319,SNR=5.2						
R55A	Marlinton	67.17	57	P	P	18 38 40.4	-0.3
FAKI	Fak Fak	67.17	231	P	P	18 38 41.3	+0.5
	comp=Z,1μmcomp=Z,148nm,1.1s						
FAKI	Fak Fak	67.17	231	P	P	18 38 40.6	-0.2
K61A	Williamstown	67.20	49	P	P	18 38 40.2	-0.5
	baz=321						
TKL	Tuckaleechee C	67.21	61	P	P	18 38 40.4	-0.4
TKL				pmax	pmax		
	comp=Z,20nm,1.1s						
TKL	Tuckaleechee C	67.21	61	P	P	18 38 40.4	-0.4
G64A	Maxfield	67.23	45	P	P	18 38 40.2	-0.6
	baz=322						
L60A	Shokan	67.28	50	P	P	18 38 40.6	-0.6
	baz=320						
SKAR	Skarslia	67.31	355	*eP*	P	18 38 41.0	-0.1
T54A	Tazewell	67.33	59	P	P	18 38 41.1	-0.5
	baz=319,SNR=11						
P57A	Homestead Farm	67.34	55	P	P	18 38 41.2	-0.4
	baz=320						
P57A	Homestead Farm	67.34	55	P	P	18 38 41.8	+0.3
N59A	State Game Lan	67.35	52	P	P	18 38 41.2	-0.5
	baz=320						
N59A	State Game Lan	67.35	52	P	P	18 38 41.7	0.0
N59A				IAmb	IAmb	18 38 43.1	
	comp=Z,44nm,1.0s						
S55A	Lewisburg	67.36	57	P	P	18 38 41.3	-0.5
	baz=319						
I63A	Otisfield	67.36	47	P	P	18 38 41.1	-0.5
	baz=322						
I63A	Otisfield	67.36	47	P	P	18 38 41.3	-0.4
I63A				IAmb	IAmb	18 38 43.0	
	comp=Z,28nm,0.9s						
LRAL	Lakeview Retre	67.39	65	P	P	18 38 41.0	-0.9
	baz=318						
LRAL	Lakeview Retre	67.39	65	P	P	18 38 41.2	-0.8
O58A	Lewisberry	67.39	53	P	P	18 38 41.7	-0.2
	baz=320,SNR=8.8						
VSU	Vasula	67.41	344	*eP*	P	18 38 41.6	-0.1
VSU	Vasula	67.41	344	*d iP*	P	18 38 41.1	-0.6
VSU				pmax	pmax		
	comp=Z,90nm,0.9s						
L61A	Hillsdale 1, H	67.44	50	P	P	18 38 41.9	-0.3
	baz=321						
R56A	Bull Pasture M	67.44	56	P	P	18 38 41.8	-0.6
	baz=319,SNR=5.6						
J62A	Henniker	67.45	48	P	P	18 38 41.7	-0.5
	baz=321						
Q57A	Strasburg	67.47	55	P	P	18 38 42.0	-0.5
	baz=320						
H64A	Troy	67.51	46	P	P	18 38 41.8	-0.7
	baz=322						
IUG	Iuzhnay	67.53	310	‖*iP*	P	18 38 44.0	+1.1
	comp=Z,51nm,0.8s,baz=310						
IUG	Iuzhnay	67.53	310	*d iP*	P	18 38 44.0	+1.1
IUG				pmax	pmax		
	comp=Z,51nm,0.8s						
W52A	Murphy	67.55	62	P	P	18 38 42.7	-0.4
M60A	Port Jervis	67.59	51	P	P	18 38 42.4	-0.7
	baz=320						
U54A	Nelsons Funny	67.61	59	P	P	18 38 43.0	-0.4
	baz=319						
U54A	Nelsons Funny	67.61	59	P	P	18 38 43.3	-0.2
O59A	Robesonia	67.61	53	P	P	18 38 43.0	-0.3
	baz=320,SNR=9.0						
L61B	Northampton	67.65	49	P	P	18 38 43.1	-0.4
	baz=321						
MYLDM	Lahad Datu	67.68	249	P	P	18 38 45.3	+1.3
K62A	Royalston	67.69	49	P	P	18 38 43.0	-0.7
	baz=321						
P58A	Pank, Wackersv	67.69	54	P	P	18 38 42.9	-0.9
	baz=320						
T55A	Pulaski	67.70	58	P	P	18 38 43.9	-0.1
	baz=319						
N60A	Cedar Hill Far	67.72	52	P	P	18 38 43.1	-0.8
	baz=320						
V53A	Saluda	67.72	60	P	P	18 38 43.6	-0.5
MOS	Moscow	67.73	337	*eP*	P	18 38 43.1	-0.7
MOS				*e**PP	pP	18 39 12.4	-0.8
MOS				*e*		18 41 15.4	
MOS				*eS*	S	18 47 29.7	-1.2
MOS				*e*		18 48 11.5	
MOS				pmax	pmax		
	comp=Z,136nm,0.8s						
MOS				pmax	pmax		
	comp=Z,200nm,0.9s						
J63A	Strafford	67.74	48	P	P	18 38 43.8	-0.2
	baz=322						
MVL	Millersville	67.77	53	P	P	18 38 44.9	+0.6
MVL				IAmb	IAmb	18 38 45.4	
	comp=Z,22nm,0.8s						
G65A	Princeton	67.79	44	P	P	18 38 43.5	-0.8
	baz=323						
G65A	Princeton	67.79	44	P	P	18 38 44.1	-0.1
LUPA	Lehigh Univers	67.79	52	P	P	18 38 45.1	+0.7
LUPA				IAmb	IAmb	18 38 45.7	
	comp=Z,61nm,1.0s						
BLA	Blacksburg	67.82	58	P	P	18 38 45.3	+0.6
BLA				pmax	pmax		
	comp=Z,18nm,0.8s						
BLA	Blacksburg	67.82	58	P	P	18 38 44.2	-0.5
	baz=319						
BLA	Blacksburg	67.82	58	P	P	18 38 45.2	+0.6
H65A	Eastbrook	67.89	45	P	P	18 38 44.4	-0.5
	baz=322						
OSL	Oslo	67.89	353	*eP*	P	18 38 45.0	+0.4
S56A	Natural Bridge	67.91	57	P	P	18 38 44.7	-0.6
	baz=320						
Q58A	Fox Den Farm,	67.92	55	P	P	18 38 44.7	-0.5
	baz=320						
R57A	Stanardsville	67.98	56	P	P	18 38 45.6	0.0
	baz=320						
SDMD	Soldier's Deli	67.98	54	P	P	18 38 46.0	+0.4
O60A	Telford	67.99	52	P	P	18 38 45.2	-0.4
	baz=320						
K63A	Dunstable	68.00	48	P	P	18 38 45.2	-0.5
	baz=322						
M61A	Granite Spring	68.02	51	P	P	18 38 45.3	-0.5
	baz=321						
P59A	Jarrettsville	68.03	53	P	P	18 38 45.8	-0.1
	baz=320						
U55A	TA2, Sparta	68.03	59	P	P	18 38 45.9	-0.1
	baz=319						
V54A	Nebo	68.10	60	P	P	18 38 46.2	-0.2
	baz=319						
HRV	Adam Dziewonsk	68.12	48	P	P	18 38 46.2	-0.3
	baz=322						
SHL	Shillong	68.13	284	P	P	18 38 46.9	-0.1
	SNR=54						
SHL	Shillong	68.13	284	P	P	18 38 46.8	-0.1
SHL				pmax	pmax		
	comp=Z,208nm,1.1s						
SHL	Shillong	68.13	284	P	P	18 38 46.8	-0.1
GGN	Saint George	68.16	44	P	P	18 38 46.2	-0.4
GGN				IAmb	IAmb	18 38 47.8	
	comp=Z,24nm,0.8s						
BG3	Lake Jocassee	68.16	61	P	P	18 38 46.7	-0.1
T56A	Rocky Mt	68.16	58	P	P	18 38 46.4	-0.5
	baz=320						
S57A	Dark Hollow, R	68.17	56	P	P	18 38 46.4	-0.4
	baz=320						
S57A	Dark Hollow, R	68.17	56	P	P	18 38 47.4	+0.6
PAL	Palisades	68.19	51	P	P	18 38 47.3	+0.5
PAL				pmax	pmax		
	comp=Z,28nm,1.1s						
PAL	Palisades	68.19	51	P	P	18 38 46.5	-0.3
	baz=321						
PAL	Palisades	68.19	51	P	P	18 38 47.3	+0.5
PAL				IAmb	IAmb	18 38 47.9	
	comp=Z,28nm,1.1s						
EMMW	East Machias	68.22	44	P	P	18 38 46.8	-0.2
EMMW				IAmb	IAmb	18 38 48.5	
	comp=Z,24nm,0.8s						
H66A	Whiting	68.22	44	P	P	18 38 46.7	-0.3
	baz=323						
R58A	Rapidan	68.24	55	P	P	18 38 46.8	-0.5
	baz=320						
KONO	Kongsberg	68.25	354	*ceP*	P	18 38 47.4	+0.4
KONO				pmax	pmax		
	comp=Z,37nm,1.3s						
KONO	Kongsberg	68.25	354	P	P	18 38 47.2	+0.3
KONO				IAmb	IAmb	18 38 48.1	
	comp=Z,35nm,1.1s						
KONO	Kongsberg	68.25	354	*eP*	P	18 38 46.7	-0.3
DLV	T Lat	68.27	261	P	P	18 38 47.6	-0.4
DLV				IAmb	IAmb	18 38 49.7	
	comp=Z,73nm,1.3s						
KKM	Kota Kinabalu	68.31	251	P	P	18 38 48.6	+0.6
KKM				IAmb	IAmb	18 38 49.3	
	comp=Z,35nm,1.0s						
WES	Weston	68.33	48	P	P	18 38 48.1	+0.4
WES				pmax	pmax		
	comp=Z,41nm,1.0s						
WES	Weston	68.33	48	P	P	18 38 48.1	+0.4
WES				IAmb	IAmb	18 38 49.4	
	comp=Z,41nm,1.0s						
Y52A	Lilburn	68.39	63	P	P	18 38 47.8	-0.5
KMSI	Cibinong	68.42	241	P	P	18 38 57.8	+9.2
LMN	Caledonia Moun	68.43	42	P	P	18 38 48.0	-0.3
LMN				IAmb	IAmb	18 38 49.1	
	comp=Z,26nm,0.8s						
V55A	Taylorsville	68.43	59	P	P	18 38 48.0	-0.5
	baz=319						
V55A	Taylorsville	68.43	59	P	P	18 38 48.0	-0.5
DRLN	Deer Lake	68.46	36	P	P	18 38 48.5	+0.1
DRLN				IAmb	IAmb	18 38 49.2	
	comp=Z,31nm,0.9s						
W54A	Cherokee Point	68.49	60	P	P	18 38 48.5	-0.4
	baz=319						
U56A	King	68.50	58	P	P	18 38 48.5	-0.4
	baz=320						
U56A	King	68.50	58	P	P	18 38 48.8	-0.1
TAS	Tashkent	68.52	310	P	P	18 38 49.2	+0.2
TAS				pmax	pmax		
	comp=Z,91nm,0.8s						
TAS	Tashkent	68.52	310	P	P	18 38 49.2	+0.2
OBN	Obninsk	68.56	338	*d iP*	P	18 38 48.7	-0.2
OBN				*i* *PP	pwP	18 39 23.2	+0.9
OBN				*i* S	S	18 47 38.7	-2.0
OBN				pmax	pmax		
	comp=Z,96nm,1.0s						
OBN	Obninsk	68.56	338	P	P	18 38 48.8	-0.1
R58B	Mineral	68.56	56	P	P	18 38 48.8	-0.4
	baz=320						
R58B	Mineral	68.56	56	P	P	18 38 49.3	0.0
250A	Grady	68.59	65	P	P	18 38 48.7	-0.8
250A				IAmb	IAmb	18 38 50.3	
	comp=Z,22nm,0.7s						
T57A	Hurt	68.59	57	P	P	18 38 48.9	-0.5
	baz=320						
T57A	Hurt	68.59	57	P	P	18 38 48.9	-0.5
BRYW	Bryant College	68.59	49	P	P	18 38 49.6	+0.2
S58A	Poland Farm, P	68.74	56	P	P	18 38 50.5	+0.1
	baz=320						
S58A	Poland Farm, P	68.74	56	P	P	18 38 50.1	-0.2
M63A	Gales Ferry	68.76	49	P	P	18 38 50.0	-0.3
	baz=322						
R59A	King George, V	68.77	55	P	P	18 38 50.5	0.0
	baz=320						
X54A	Belton	68.80	61	P	P	18 38 50.6	-0.2
	baz=319						
V56A	Mocksville	68.84	59	P	P	18 38 51.1	+0.1
	baz=320						
CHTO	Chiang Mai	68.89	274	P	P	18 38 51.5	-0.1
CHTO				pmax	pmax		
	comp=Z,53nm,1.0s						
CHTO	Chiang Mai	68.89	274	P	P	18 38 51.5	-0.1
CHTO				IAmb	IAmb	18 38 52.9	
	comp=Z,53nm,0.9s						
PAULI	Pauline	68.89	60	P	P	18 38 50.8	-0.6
GTOI	Gorontalo	68.90	242	P	P	18 38 51.1	-0.5
	comp=Z,386nmcomp=Z,23nm,1.2s						
L64A	Middleborough	68.90	48	P	P	18 38 51.2	-0.1
	baz=322						
SLIT	Slitere, Latvi	68.90	346	*eP*	P	18 38 50.5	-0.4
KMSC	Kings Mountain	68.91	60	P	P	18 38 51.4	0.0
	baz=320						
KMSC	Kings Mountain	68.91	60	P	P	18 38 51.0	-0.4
KMSC				IAmb	IAmb	18 38 52.6	
	comp=Z,33nm,0.9s						
152A	Waverly Hall	68.93	64	P	P	18 38 50.2	-1.4
U57A	Blanch	68.98	58	P	P	18 38 51.7	-0.1
	baz=320						
T58A	Grand View Acr	69.00	57	P	P	18 38 51.7	-0.3
	baz=320						
S59A	Mechanicsville	69.01	55	P	P	18 38 51.9	-0.1
	baz=320						
GOGA	Godfrey	69.06	62	P	P	18 38 51.2	-1.2
GOGA				pmax	pmax		
	comp=Z,12nm,1.1s						
GOGA	Godfrey	69.06	62	P	P	18 38 52.3	-0.1
	baz=319						
GOGA	Godfrey	69.06	62	P	P	18 38 51.2	-1.2
CM31	Chiang Mai Arr	69.16	273	P	P	18 38 53.7	+0.4
	SNR=20						
CM31	Chiang Mai Arr	69.16	273	P	P	18 38 53.3	0.0
CM31				IAmb	IAmb	18 38 54.8	
	comp=Z,54nm,1.0s						
CMAR	Chiang Mai Arr	69.16	273	P	P	18 38 53.5	+0.3
	comp=Z,29nm,0.8s,baz=25,slow=7.1,SNR=202						
CMAR				PKiKP	PKiKP	18 45 13.3	+4.3
	comp=Z,0.4nm,0.7s,baz=355,slow=1.8,SNR=4.5						
CMAR				PKPPKP	P'P'df	19 06 57.7	-6.2
	comp=Z,0.7nm,0.8s,baz=251,slow=5.0,SNR=4.7						
CMAR				LR	LR	19 12 45.4	
	comp=Z,45nm,18.4s,baz=68,slow=39						
CMAR	Chiang Mai Arr	69.16	273	P	P	18 38 53.4	+0.1
V57A	Coltrane Farms	69.16	58	P	P	18 38 52.8	-0.2
	baz=320						
MSAI	Masohi	69.17	234	P	P	18 38 55.4	+2.1
	comp=Z,207nmcomp=Z,25nm,0.8s						
X55A	Gracelyn & Ava	69.25	60	P	P	18 38 53.3	-0.3
	baz=320						
TAPN	Taplejung	69.28	288	*eP*	P	18 38 55.1	+0.9
TAPN	Taplejung	69.28	288	*eP*	P	18 38 55.1	+0.9
W56A	Indian Trail	69.31	59	P	P	18 38 53.6	-0.3
	baz=320						
PBKT	Sadao Pong	69.34	271	P	P	18 38 54.4	+0.1
PBKT				IAmb	IAmb	18 38 55.7	
	comp=Z,27nm,0.9s						
U58A	Oxford	69.42	57	P	P	18 38 54.2	-0.3
	baz=320						
T59A	Double "B" Far	69.49	56	P	P	18 38 54.7	-0.2
	baz=320						
T59A	Double "B" Far	69.49	56	P	P	18 38 54.9	-0.1
MSVF	Nonsavu	69.51	180	P	P	18 38 57.2	+2.0
MSVF				pmax	pmax		
	comp=Z,78nm,1.4s						
MSVF	Nonsavu	69.51	180	P	P	18 38 57.2	+2.0
MSVF				IAmb	IAmb	18 38 58.6	
	comp=Z,78nm,1.4s						
Y55A	Saluda	69.54	61	P	P	18 38 55.1	-0.2
	baz=320						
X56A	White Oak	69.56	60	P	P	18 38 55.3	-0.2
	baz=320						
V58A	Windy Hill, Pi	69.58	58	P	P	18 38 55.4	-0.2
	baz=320						
V58A	Windy Hill, Pi	69.58	58	P	P	18 38 54.9	-0.6
JSC	Jenkinsville	69.60	60	P	P	18 38 55.4	-0.3
JSC				pmax	pmax		
	comp=Z,11nm,0.8s						
JSC	Jenkinsville	69.60	60	P	P	18 38 55.4	-0.3
W57A	Gilead	69.61	59	P	P	18 38 55.4	-0.4
	baz=320						
W57A	Gilead	69.61	59	P	P	18 38 55.0	-0.8
BIRD	Birdtown, Kers	69.75	60	P	P	18 38 56.4	-0.2
T60A	Surry	69.78	55	P	P	18 38 57.1	+0.4
	baz=321						
T60A	Surry	69.78	55	P	P	18 38 56.4	-0.3
T60A				IAmb	IAmb	18 38 58.4	
	comp=Z,50nm,1.0s						
ODAN	Odare	69.83	288	*eP*	P	18 38 58.3	+0.8
	comp=Z,168nm,0.8s						
ODAN	Odare	69.83	288	*eP*	P	18 38 58.3	+0.8
	comp=Z,168nm,0.8s						
GAR	Garm	69.84	308	P	P	18 38 57.9	+0.6
U59A	Littleton	69.84	57	P	P	18 38 57.2	+0.1
	baz=320						
U59A	Littleton	69.84	57

	baz=321						
IZAR	Zarasai	70.08	344	eP		P	18 38 58.4 +0.1
X57A	Johnson Farm,	70.08	59	P		P	18 38 58.6 -0.1
	baz=320						
W58A	Raeford	70.11	58	P		P	18 38 58.5 -0.3
	baz=320						
RAMN	Ramite	70.22	289	eP		P	18 39 00.7 +0.7
RAMN	Ramite	70.22	289	eP		P	18 39 00.7 +0.7
LPSR	Galich'ya Gora	70.26	335	eP		P	18 38 59.4 0.0
LPSR				pmax		pmax	
	comp=Z,60nm,0.9s						
Z56A	Williston	70.27	61	P		P	18 38 59.7 -0.1
	baz=320						
ISAL	Salakas	70.27	344	eP		P	18 38 59.5 +0.1
KKN	Kakani	70.36	290	eP		P	18 39 01.6 +0.9
	comp=Z,377nm,0.7s						
KKN	Kakani	70.36	290	eP		P	18 39 01.6 +0.9
	comp=Z,377nm,0.7s						
IDID	Didziasalis	70.41	343	eP		P	18 39 00.6 +0.4
X58A	Rowland	70.41	59	P		P	18 39 00.6 -0.1
	baz=320						
LUWI	Luwuk	70.43	241	P		P	18 39 00.4 -0.5
	comp=Z,3µmcomp=Z,242nm,1.1s						
LUWI	Luwuk	70.43	241	P		P	18 38 59.9 -1.0
PKI	Pulchoki	70.45	290	eP		P	18 39 02.1 +0.7
PKI	Pulchoki	70.45	290	eP		P	18 39 02.1 +0.7
PKIN	Phulchoki	70.45	290	eP		P	18 39 01.9 +0.5
	comp=Z,278nm,0.5s						
PKIN	Phulchoki	70.45	290	eP		P	18 39 01.9 +0.5
	comp=Z,278nm,0.5s						
IIGN	Ignalina	70.46	344	eP		P	18 39 00.9 +0.3
V60A	Jim Taylor Roa	70.56	57	P		P	18 39 01.6 +0.1
	baz=321						
V60A	Jim Taylor Roa	70.56	57	P		P	18 39 01.8 +0.3
V60A				IAmb		IAmb	18 39 02.9
	comp=Z,34nm,0.9s						
GKN	Gorkha	70.57	291	eP		P	18 39 02.6 +0.6
GKN	Gorkha	70.57	291	eP		P	18 39 02.6 +0.6
DMN	Daman	70.60	290	eP		P	18 39 03.1 +0.9
	comp=Z,319nm,0.9s						
DMN	Daman	70.60	290	eP		P	18 39 03.1 +0.9
	comp=Z,319nm,0.9s						
Z57A	Bowman	70.65	61	P		P	18 39 02.0 -0.1
	baz=320						
CHGR	Chuyangaron	70.67	308	P		P	18 39 02.7 +0.4
PABE	Paberze	70.69	345	eP		P	18 39 02.0 0.0
VRH	Novokhopyorsk	70.76	333	eP		P	18 39 02.2 -0.2
VRH				pmax		pmax	
	comp=Z,120nm,0.6s						
MPSI	Mapaga	70.86	244	P		P	18 39 03.3 -0.2
	comp=Z,1µmcomp=Z,136nm,1.0s						
W60A	Pink Hill	70.88	57	P		P	18 39 03.9 +0.4
	baz=321						
V61A	Roper	70.90	56	P		P	18 39 03.7 +0.2
	baz=321						
NHSC	New Hope	71.08	60	P		P	18 39 05.0 +0.3
	baz=320						
NHSC	New Hope	71.08	60	P		P	18 39 05.4 +0.7
NHSC				IAmb		IAmb	18 39 07.0
	comp=Z,86nm,1.1s						
Z58A	St. Stephen	71.10	60	P		P	18 39 05.1 +0.3
	baz=320						
X60A	Albert Glenn T	71.11	58	P		P	18 39 05.1 +0.2
	baz=321						
W61A	Ground Anchor	71.16	57	P		P	18 39 05.4 +0.3
	baz=321						
KOLN	Koldanda	71.35	291	eP		P	18 39 07.2 +0.5
	comp=Z,343nm,0.9s						
KOLN	Koldanda	71.35	291	eP		P	18 39 07.2 +0.5
	comp=Z,343nm,0.9s						
Y60A	Bolivia	71.43	58	P		P	18 39 06.7 0.0
	baz=321						
PYUN	Piuthan	71.45	292	eP		P	18 39 08.0 +0.7
	comp=Z,580nm,0.9s						
PYUN	Piuthan	71.45	292	eP		P	18 39 08.0 +0.7
	comp=Z,580nm,0.9s						
VSR	Storozhevoye	71.45	334	eP		P	18 39 06.7 +0.1
VSR				pmax		pmax	
	comp=Z,30nm,0.6s						
Z59A	Georgetown, SC	71.45	60	P		P	18 39 06.9 0.0
	baz=321						
MUD	Monsted U'grnd	71.46	354	i P		P	18 39 06.9 +0.3
	comp=Z,34nm,1.1s						
MUD	Monsted U'grnd	71.46	354	eP		P	18 39 06.9 +0.3
MUD				pmax		pmax	
	comp=Z,34nm,1.1s						
VORD	Divnogorie	71.64	334	eP		P	18 39 07.3 -0.5
VORD				pmax		pmax	
	comp=Z,40nm,0.6s						
SUW	Suwalki	72.26	345	eP		P	18 39 10.3 -1.1
SUW				ePcP		PcP	18 39 28.3 -0.5
SUW	Suwalki	72.26	345	P		P	18 39 10.7 -0.7
SUW				pmax		pmax	
	comp=Z,46nm,1.0s						
SUW	Suwalki	72.26	345	P		P	18 39 10.7 -0.7
SUW				IAmb		IAmb	18 39 12.9
	comp=Z,46nm,1.0s						
COEN	Coen	72.45	216	P		P	18 39 12.9 -0.1
NIL	Nilore	72.53	302	P		P	18 39 14.4 +1.0
NIL				pmax		pmax	
	comp=Z,255nm,1.2s						
NIL	Nilore	72.53	302	P		P	18 39 14.4 +1.0
BHK	Bhakra	72.58	299	ex		P	18 39 14.7 +1.0
SBUM	Sibu	73.54	252	P		P	18 39 19.7 +0.2
SBUM				IAmb		IAmb	18 39 20.7
	comp=Z,25nm,0.7s						
SBUM	Sibu	73.54	252	P		P	18 39 20.0 +0.5
GKP	Gorka Klasztor	73.83	348	eP		P	18 39 20.2 -0.4
BSEG	Bad Segeberg	73.88	353	eP		P	18 39 20.3 -0.6
	comp=Z,35nm,1.0s,baz=9.2,slow=5.6						
KBL	Kabul	73.98	306	P		P	18 39 21.8 -0.3
	SNR=62						
KBL	Kabul	73.98	306	P		P	18 39 21.7 -0.5
KBL				pmax		pmax	
	comp=Z,127nm,0.9s						
KBL	Kabul	73.98	306	P		P	18 39 21.7 -0.5
DWPF	Disney Wildern	74.24	65	P		P	18 39 23.5 0.0
	baz=321						
AKASG	Malin Array Be	74.30	340	P		P	18 39 23.1 -0.4
	comp=Z,46nm,0.5s,baz=22,slow=6.3,SNR=92						
AKASG				pP		pwP	18 39 58.0 +0.4
	comp=Z,11nm,0.4s,baz=21,slow=6.2,SNR=5.1						
AKASG				PP		PP	18 42 09.3 -0.9
	comp=Z,0.4nm,0.3s,baz=20,slow=8.8,SNR=4.4						
AKASG				LR		LR	19 16 47.6
	comp=Z,62nm,18.4s,baz=25,slow=39						
AKASG	Malin Array Be	74.30	340	P		P	18 39 22.9 -0.5
AKBB	Malin Array Si	74.30	340	P		P	18 39 22.9 -0.5
AKBB				pmax		pmax	
	comp=Z,66nm,0.6s						
AKBB	Malin Array Si	74.30	340	P		P	18 39 22.9 -0.5
SPSI	Sidrap Palu	74.49	242	P		P	18 39 25.0 0.0
	comp=Z,51nm,1.0s						
DZM	Mont Dzumac	74.56	191	P		P	18 39 27.0 +1.7
DZM				IAmb		IAmb	18 39 28.6
	comp=Z,75nm,1.3s						
BNSI	Bone	74.67	241	P		P	18 39 27.0 +0.9
	comp=Z,858nmcomp=Z,67nm,1.1s						
MTKI	Muara Teweh, K	74.73	248	P		P	18 39 26.3 -0.1
	comp=Z,41nm,0.8s						
DSB	Dublin	74.97	3	P		P	18 39 27.2 -0.1
NRDL	Niedersach Rie	75.33	353	eP		P	18 39 28.6 -0.6
	comp=Z,21nm,1.1s,baz=9.2,slow=5.6						
KAPI	Kappang	75.38	241	P		P	18 39 30.1 0.0
KAPI				pmax		pmax	
	comp=Z,38nm,1.0s						
KAPI	Kappang	75.38	241	P		P	18 39 30.1 0.0
KAPI				IAmb		IAmb	18 39 31.3
	comp=Z,38nm,0.9s						
BKSI	Bulukumba	75.43	241	P		P	18 39 30.6 +0.2
	comp=Z,1µmcomp=Z,99nm,1.2s						
KSM	Kuching	75.45	253	P		P	18 39 30.8 +0.2
KSM				IAmb		IAmb	18 39 31.5
	comp=Z,48nm,0.8s						
KSM	Kuching	75.45	253	P		P	18 39 31.0 +0.4
ASSE	Asse, Remlinge	75.64	352	eP		P	18 39 30.6 -0.4
	baz=9.2,slow=5.6						
IBBN	Ibbenburen	75.68	354	eP		P	18 39 31.4 +0.1
	comp=Z,79nm,1.3s,baz=9.2,slow=5.6						
BWNR	Bhubaneshwar	75.75	285	eP		P	18 39 23.5 -8.8
STKI	Sintang	75.89	251	P		P	18 39 34.9 +1.8
CLZ	Clausthal	75.96	352	eP		P	18 39 32.9 -0.1
	comp=Z,24nm,1.0s,baz=9.2,slow=5.6						
CLZ				epP		pwP	18 40 08.8 +2.0
LVV	L'vov	76.15	343	eP		P	18 39 34.0 -0.1
MAK	Makhachkala	76.22	325	eP		P	18 39 33.2 -1.3
MAK				e*PP		pP	18 40 03.4 -1.8
MAK				e*SP		sP	18 40 16.4 -1.9
MAK				ePPP		PPP	18 44 12.5
MAK				eS		S	18 49 08.1 -0.1
MAK				e*SS		sS	18 49 59.7 -0.3
MAK				pmax		pmax	
	comp=Z,201nm,1.0s						
CLL	Collm	76.24	351	i P		P	18 39 34.5 -0.1
	comp=Z,8.0nm,1.3s						
CLL				epP		pP	18 40 06.0 +1.0
CLL				eS		S	18 49 08.0 -0.3
CLL				esS		sS	18 50 06.0 +5.9
CLL	Collm	76.24	351	i P		P	18 39 34.5 -0.1
CLL				pmax		pmax	
	comp=Z,8.0nm,1.3s						
CLL	Collm	76.24	351	eP		P	18 39 34.4 -0.2
	baz=9.2,slow=5.6						
GTTG	Gottingen	76.28	353	eP		P	18 39 34.6 -0.2
	baz=9.2,slow=5.6						
KSP	Ksiaz	76.33	348	eP		P	18 39 34.8 -0.3
GEYT	Alibeck	76.33	315	P		P	18 39 36.3 +0.9
	comp=Z,31nm,0.8s,baz=343,slow=2.5,SNR=56						
GEYT				PP		PP	18 42 25.9 -2.0
	comp=Z,7.3nm,0.8s,baz=5.4,slow=6.3,SNR=6.0						
GEYT				LR		LR	19 17 18.0
	comp=Z,81nm,18.2s,baz=180,slow=39						
GEYT	Alibeck	76.33	315	P		P	18 39 36.2 +0.8
GEYT						PP	18 42 28.1 +0.2
GYA0B	ALIBECK ARRAY	76.33	315	P		P	18 39 36.2 +0.8
MTN	Manton Dam	76.39	227	P		P	18 39 35.9 +0.1
NEUB	Neuenburg	76.46	351	eP		P	18 39 35.4 -0.4
	comp=Z,16nm,0.8s,baz=9.2,slow=5.6						
OJC	Ojcow	76.46	346	eP		P	18 39 35.8 0.0
OJC				epP		pP	18 40 07.9 +1.7
OJC	Ojcow	76.46	346	P		P	18 39 35.7 -0.1
OJC				pmax		pmax	
	comp=Z,24nm,0.9s						
OJC	Ojcow	76.46	346	P		P	18 39 35.7 -0.1
BRG	Berggiesshubel	76.57	350	eP		P	18 39 36.0 -0.4
	comp=Z,7.8nm,1.1s						
BRG				epP		pwP	18 40 12.0 +1.4
	comp=Z,37nm,2.0s						
BRG	Berggiesshubel	76.57	350	eP		P	18 39 36.0 -0.4
BRG				e*PP		pwP	18 40 12.0 +1.4
BRG				pmax		pmax	
	comp=Z,8.0nm,1.1s						
BRG				pmax		pmax	
	comp=Z,37nm,2.1s						
BRG	Berggiesshubel	76.57	350	eP		P	18 39 35.6 -0.9
	baz=9.2,slow=5.6						
BRG				epP		pwP	18 40 11.7 +1.1
BUG	Bochum--Univer	76.58	354	eP		P	18 39 35.8 -0.6
	baz=9.2,slow=5.6						
FBE	Freiberg	76.59	350	eP		P	18 39 35.9 -0.6
	baz=9.2,slow=5.6						
GROC	Groznyy	76.60	326	eP		P	18 39 37.2 +0.5
GROC				e			18 39 47.8
GROC				e*PP		pP	18 40 06.5 -0.9
GROC				e			18 42 27.6
GROC				eS		S	18 49 15.1 +2.7
GROC				pmax		pmax	
	comp=Z,105nm,1.1s						
CHVC	Chvalec	76.61	348	eP		P	18 39 36.6 -0.1
OSTC	Ostas	76.62	348	eP		P	18 39 37.6 +0.8
UPC	Upice	76.69	348	eP		P	18 39 38.3 +1.2
UPC	Upice	76.69	348	eP		P	18 39 38.3 +1.2
DPC	Dobruska-Polom	76.81	348	eP		P	18 39 37.9 +0.1
DPC	Dobruska-Polom	76.81	348	eP		P	18 39 37.9 +0.1
BBKI	Banjar Baru	76.82	247	P		P	18 39 38.7 +0.4
	comp=Z,52nm,1.2s						
SORM	Soroca	76.92	340	⇑P		P	18 39 38.0 -0.3
KIV	Kislovodsk	76.96	329	i P		P	18 39 39.9 +1.0
	SNR=26						
KIV	Kislovodsk	76.96	329	eP		P	18 39 39.1 +0.3
KIV				pmax		pmax	
	comp=Z,183nm,1.0s						
KIV				MLR		MLR	
	comp=Z,158nm,18.0s						
KIV	Kislovodsk	76.96	329	P		P	18 39 38.9 0.0
KIV				IAmb		IAmb	18 39 41.1
	comp=Z,76nm,1.1s						
SOEI	Soe	77.01	235	P		P	18 39 39.5 +0.1
	comp=Z,75nm,0.9s						
SOEI	Soe	77.01	235	P		P	18 39 39.2 -0.2
SOEI				IAmb		IAmb	18 39 47.3
	comp=Z,50nm,0.8s						
KRLC	Kraliky	77.02	348	eP		P	18 39 38.9 -0.1
KRLC	Kraliky	77.02	348	eP		P	18 39 38.9 -0.1
MOX	Moxa	77.03	351	eP		P	18 39 38.7 -0.3
	comp=Z,11nm,1.2s,baz=9.2,slow=5.6						
MOX				epP		pwP	18 40 14.8 +1.8
KBZ	Khabaz	77.09	329	P		P	18 39 40.2 +0.7
	comp=Z,36nm,0.8s,baz=76,slow=1.4,SNR=67						
KBZ				LR		LR	19 15 26.0
	comp=Z,62nm,22.0s,baz=10,slow=37						
MMRI	Maumere	77.10	237	P		P	18 39 39.9 +0.1
	comp=Z,76nm,1.1s						
MMRI	Maumere	77.10	237	P		P	18 39 39.3 -0.5
MMRI				IAmb		IAmb	18 39 40.1
	comp=Z,91nm,1.1s						
CTAO	Charters Tower	77.11	211	P		P	18 39 39.7 0.0
CTAO				pmax		pmax	
	comp=Z,80nm,1.3s						
CTAO	Charters Tower	77.11	211	P		P	18 39 39.7 0.0
CTAO				IAmb		IAmb	18 39 41.3
	comp=Z,80nm,1.3s						
NIE	Niedzica	77.16	345	eP		P	18 39 40.3 +0.5
TANN	Tannenbergstha	77.18	351	eP		P	18 39 39.0 -1.0
	baz=9.2,slow=5.6						
MORC	Moravsky Berou	77.21	347	⇑P		P	18 39 40.3 +0.1
MORC	Moravsky Berou	77.21	347	eP		P	18 39 39.5 -0.6
MORC	Moravsky Berou	77.21	347	P		P	18 39 40.0 -0.1
MORC				pmax		pmax	
	comp=Z,8.0nm,1.0s						
MORC	Moravsky Berou	77.21	347	P		P	18 39 40.0 -0.1
GUNZ	Gunzen	77.24	351	eP		P	18 39 39.6 -0.7
	baz=9.2,slow=5.6						
BEBN	Eben Emael	77.31	355	P		P	18 39 40.7 +0.2
BEBN				sP		pwP	18 40 16.8 +2.2
KOLS	Kolonicke sedl	77.31	344	eP		P	18 39 40.3 -0.3
KOLS				pmax		pmax	
	comp=Z,20nm,0.7s						
KOLS	Kolonicke sedl	77.31	344	eP		P	18 39 40.3 -0.3
KOLS				ePP		PP	18 42 33.4 -2.2
WERN	Wernitzgruen	77.31	351	eP		P	18 39 40.0 -0.6
	comp=Z,14nm,1.0s,baz=9.2,slow=5.6						
NKC	Novy Kostel	77.36	351	eP		P	18 39 41.2 +0.3
NKC				ex		x	18 39 45.5
NKC	Novy Kostel	77.36	351	eP		P	18 39 41.2 +0.3
NKC				e			18 39 45.5
PRU	Pruhonice	77.38	349	eP		P	18 39 40.6 -0.4
PRU				ex		x	18 39 46.3
PRU	Pruhonice	77.38	349	eP		P	18 39 40.6 -0.4
PRU				e			18 39 46.3
HRA	Herat	77.40	310	P		P	18 39 42.5 +0.9
HRA				IAmb		IAmb	18 39 43.4
	comp=Z,67nm,0.7s						
GOPC	GO Pecny, Ondr	77.42	349	eP		P	18 39 42.7 +1.4
GOPC				ex		x	18 39 46.3
GOPC	GO Pecny, Ondr	77.42	349	eP		P	18 39 42.7 +1.4
GOPC				e			18 39 46.3
AKT	Akhty	77.43	324	eP		P	18 39 42.4 +0.8
AKT				e			18 39 52.9
AKT				e*PP		pP	18 40 11.7 -0.5
AKT				pmax		pmax	
	comp=Z,193nm,1.0s						
CRVS	Cervenica-Dubn	77.48	345	eP		P	18 39 42.2 +0.6
CRVS				pmax		pmax	
	comp=Z,38nm,0.8s						
CRVS	Cervenica-Dubn	77.48	345	eP		P	18 39 42.2 +0.6
EDFI	Ende, Flores	77.48	238	P		P	18 39 40.4 -1.7
	comp=Z,598nmcomp=Z,65nm,1.5s						
MEM	Membach	77.48	355	P		P	18 39 41.8 +0.2
AHRW	Bad Neuenahr-A	77.49	354	eP		P	18 39 41.4 -0.1
	baz=9.2,slow=5.6						
LANS	Liptovska Anna	77.55	346	eP		P	18 39 43.3 +1.3
LANS				pmax		pmax	
	comp=Z,15nm,0.8s						
LANS	Liptovska Anna	77.55	346	eP		P	18 39 43.3 +1.3
UZH	Uzhgorod	77.60	344	⇓P		P	18 39 43.8 +1.6
UZH				e			18 39 46.1
ZEI	Tsey	77.60	327	eP		P	18 39 39.6 -3.0
ZEI				pmax		pmax	
	comp=Z,147nm,1.0s						
MANZ	Manzenberg	77.64	351	eP		P	18 39 41.7 -0.8
	comp=Z,6.4nm,1.0s,baz=9.2,slow=5.6						
MANZ				epP		pwP	18 40 17.9 +1.4
BATI	Baumata	77.70	235	P		P	18 39 43.4 +0.2
	comp=Z,92nm,1.0s						
BCLA	Clavier	77.71	355	P		P	18 39 42.1 -0.7
BCLA				sP		pwP	18 40 19.0 +2.2
TNS	Taunus Mts	77.71	353	eP		P	18 39 42.4 -0.5
	baz=9.2,slow=5.6						
BHOU	Houvegnez	77.74	355	P		P	18 39 44.6 +1.6
BHOU				pP		pP	18 40 05.6 -7.9
BHOU				sP		pwP	18 40 19.3 +2.2
BGES	Gesves	77.75	356	P		P	18 39 42.6 -0.4
BGES				sP		pwP	18 40 18.8 +1.7
ANN	Anapa	77.78	333	eP		P	18 39 42.6 -0.6
ANN				pmax		pmax	
	comp=Z,50nm,0.9s						
VRAC	Vranov	77.80	348	⇑P		P	18 39 43.8 +0.5
VRAC	Vranov	77.80	348	eP		P	18 39 43.2 -0.1
ROTZ	Rotzenmuhle	77.85	351	eP		P	18 39 43.2 -0.4
	comp=Z,15nm,1.5s,baz=9.2,slow=5.6						
BMRD	Maredsous	77.85	356	P		P	18 39 42.7 -0.8
BMRD				sP		pwP	18 40 17.1 -0.6
MILM	Milestii Mici	77.97	339	⇑P		P	18 39 44.1 -0.1
GRF	Grafenberg Arr	78.01	351	eP		P	18 39 44.5 -0.1
	baz=9.2,slow=5.6						
BUR08	Bucovina Ar. S	78.03	342	P		P	18 39 44.9 +0.2
BUR08				IAmb		IAmb	18 39 47.5
	comp=Z,41nm,0.7s						
KECS	Kecovo	78.04	345	eP		P	18 39 45.3 +0.6
KECS	Kecovo	78.04	345	eP		P	18 39 45.3 +0.6
BURAR	Bucovina Array	78.05	342	⇑P		P	18 39 45.7 +0.8
BURAR	Bucovina Array	78.05	342	P		P	18 39 45.0 +0.1
DOU	Dourbes	78.06	356	P		P	18 39 44.4 -0.3
DOU				sP		pwP	18 40 18.8 -0.1
KRUC	Moravsky	78.06	348	eP		P	18 39 44.6 -0.2
JAVC	Velka Javorina	78.09	347	eP		P	18 39 45.8 +0.8
SOC	Sochi	78.22	331	eP		P	18 39 46.4 +0.7
SOC				e			18 42 39.1
SOC				ePPP		PPP	18 44 33.1
SOC				eS		S	18 49 34.3 +4.4
SOC				eSS		SS	18 54 30.6 -2.6
SOC				eSSS		SSS	18 58 01.4
SOC				pmax		pmax	
	comp=Z,33nm,0.8s						
KULM	Kulim	78.26	263	P		P	18 39 46.1 -0.3
KULM				IAmb		IAmb	18 39 47.5
	comp=Z,44nm,1.1s						
KULM	Kulim	78.26	263	P		P	18 39 46.0 -0.3
CHVG	Ch'k'valeri	78.26	329	⇑P		P	18 39 47.5 +1.5
TBLG	Delisi	78.26	326	P		P	18 39 47.1 +1.0
TBLG	Delisi	78.26	326	P		P	18 39 47.1 +1.0
VYHS	Vyhne	78.28	346	eP		P	18 39 46.5 +0.5
VYHS				pmax		pmax	
	comp=Z,14nm,0.9s						
VYHS	Vyhne	78.28	346	eP		P	18 39 46.5 +0.5
VYHS				ePP		PP	18 42 45.1 +1.4
BMR	Baia Mare	78.31	343	⇑P		P	18 39 47.1 +0.9
KHC	Kasperske Hory	78.33	350	eP		P	18 39 46.1 -0.3
KHC				epP		pwP	18 40 20.0 -0.5
KHC	Kasperske Hory	78.33	350	eP		P	18 39 46.1 -0.3
KHC				e			18 40 20.0
KHC	Kasperske Hory	78.33	350	P		P	18 39 46.0 -0.3
WET	Wettzell	78.39	350	eP		P	18 39 46.5 -0.2
	comp=Z,6.4nm,1.1s,baz=9.2,slow=5.6						
WLF	Walferdange	78.42	355	sP		sP	18 40 22.5 -7.8
WLF	Walferdange	78.42	355	eP		P	18 39 47.6 +0.9
	baz=9.2,slow=5.6						
SMOL	Smolenice	78.47	347	eP		P	18 39 47.9 +0.9
SMOL				pmax		pmax	
	comp=Z,9.0nm,0.8s						
SMOL	Smolenice	78.47	347	eP		P	18 39 47.9 +0.9
BIZ	Bicaz	78.52	341	⇑P		P	18 39 48.5 +1.1
GEC2	GERESS Array S	78.60	350	eP		P	18 39 47.4 -0.5
	comp=Z,15nm,1.4s,baz=9.2,slow=5.6						
GEC2	GERESS Array S	78.60	350	P		P	18 39 47.8 -0.1
GERES	GERESS Array B	78.60	350	P		P	18 39 47.6 -0.3
	comp=Z,2.9nm,0.8s,baz=19,slow=4.9,SNR=19						
GERES				pP		pwP	18 40 22.9 +0.9
	comp=Z,1.4nm,0.6s,baz=24,slow=6.4,SNR=3.3						
GERES				LR		LR	19 16 11.3
	comp=Z,74nm,21.8s,baz=54,slow=37						
GERES	GERESS Array B	78.60	350	P		P	18 39 48.9 +1.0
MODS	Modra-Piesok	78.62	347	eP		P	18 39 48.0 +0.1
MODS				pmax		pmax	
	comp=Z,19nm,1.0s						
MODS	Modra-Piesok	78.62	347	eP		P	18 39 48.0 +0.1
MODS				ePP		PP	18 42 45.9 -0.6
IPM	Ipoh	78.67	263	P		P	18 39 47.9 -0.8
IPM				IAmb		IAmb	18 39 49.0
	comp=Z,30nm,0.8s						
IPM	Ipoh	78.67	263	P		P	18 39 48.0 -0.6
PSZ	Piszkesteto	78.69	345	⇑P		P	18 39 49.4 +1.1
PSZ	Piszkesteto	78.69	345	P		P	18 39 48.7 +0.4
PSZ				pmax		pmax	
	comp=Z,13nm,0.9s						
PSZ	Piszkesteto	78.69	345	P		P	18 39 48.7 +0.4
ARCR	ARCALIA	78.72	342	⇑P		P	18 39 50.1 +1.7
TESR	Tescani	78.82	340	⇑P		P	18 39 49.3 +0.3
AKH	Akhalkalaki	78.97	327	⇑P		P	18 39 52.0 +1.9
AKH	Akhalkalaki	78.97	327	P		P	18 39 51.5 +1.4
AKH				pmax		pmax	
	comp=Z,59nm,0.9s						
AKH	Akhalkalaki	78.97	327	P		P	18 39 51.5 +1.4
AKH				IAmb		IAmb	18 39 52.9
	comp=Z,59nm,0.9s						
MYKOM	Kota Tinggi	79.06	259	P		P	18 39 50.8 +0.1
MYKOM	Kota Tinggi	79.06	259	P		P	18 39 51.0 +0.3
NGP	Nagpur	79.07	290	eP		P	18 39 50.7 -0.1
GHRR		79.09	340	⇑P		P	18 39 51.7 +1.2
CONA	Conrad Observa	79.25	348	i P		P	18 39 52.1 +0.7
	comp=Z,14nm,0.8s,SNR=10						
BATM	Batumi	79.39	328	⇓P		P	18 39 52.7 +0.6
OZUR		79.39	341	⇑P		P	18 39 53.3 +1.2
VRI	Vrincioaia	79.42	340	⇑P		P	18 39 52.9 +0.7
WBSI	Waikabubak, Su	79.44	239	P		P	18 39 53.1 +0.4
	comp=Z,88nm,1.1s						
ODBI	Odobesti	79.45	340	⇑P		P	18 39 53.2 +0.8
PLOR	Plostina	79.45	340	⇑P		P	18 39 53.1 +0.7
MOA	Molln	79.52	349	i P		P	18 39 54.4 +1.6
	comp=Z,4.6nm,0.9s						
BCA	Borcka	79.56	328	⇑P		P	18 39 53.5 +0.4
DOPR	Dopca	79.59	341	⇑P		P	18 39 54.8 +1.6
BFO	Black Forest	79.60	353	P

HARR	Harsova	80.28 339	⇑P	P	18 39 57.4	+0.5
WATA	Walderalm	80.31 351	*i* P	P	18 39 57.3	+0.1
	comp=Z,12nm,0.5s,SNR=9.7					
MOTA	Moosalm	80.35 351	*i* P	P	18 39 57.3	-0.1
	comp=Z,24nm,1.2s,SNR=11					
WTTA	Wattenberg	80.38 351	*i* P	P	18 39 57.9	+0.3
	comp=Z,14nm,0.5s,SNR=10					
KBA	Koelnbreinsper	80.38 350	*i* P	P	18 39 58.2	+0.6
	comp=Z,50nm,0.8s,SNR=38					
TIRR	Tirgusor	80.39 339	⇑P	P	18 39 58.8	+1.3
TIRR	Tirgusor	80.39 339	P	P	18 39 57.3	-0.2
TIRR			pmax	pmax		
	comp=Z,57nm,0.7s					
TIRR	Tirgusor	80.39 339	P	P	18 39 57.3	-0.2
TIRR			IAmb	IAmb	18 39 59.7	
	comp=Z,57nm,0.7s					
TPI	Tanjungpandan	80.41 253	P	P	18 39 59.0	+1.0
	comp=Z,59nm,1.3s					
SQTA	Sankt Quirin	80.46 351	*i* P	P	18 39 58.2	+0.2
	comp=Z,10nm,1.1s,SNR=6.5					
DAVA	Damuels	80.52 352	*i* P	P	18 39 58.1	-0.2
	comp=Z,7.6nm,1.1s					
MORH	Mrgy, Hungar	80.54 346	*e*P	P	18 39 57.8	-0.4
KTUT	Trabzon	80.56 329	⇑P	P	18 39 59.1	+0.6
SOKA	Soboth	80.58 348	*i* P	P	18 39 59.3	+0.7
	comp=Z,20nm,0.9s,SNR=15					
LHMI	Lhok Sumawe	80.58 266	P	P	18 40 00.7	+1.8
	comp=Z,5µmcomp=Z,476nm,1.1s					
LHMI	Lhok Sumawe	80.58 266	P	P	18 40 00.3	+1.3
BISS	Bistriski jare	80.60 348	*i* P	P	18 39 58.8	+0.2
PERS	Pernice	80.61 348	*e*P	P	18 39 58.9	+0.2
BZS	Buzias	80.64 344	⇑P	P	18 39 59.2	+0.4
FETA	Feichten	80.71 351	*i* P	P	18 39 59.5	+0.1
	comp=Z,12nm,1.1s,SNR=8.3					
GROS	Grobnik	80.73 348	*i* P	P	18 39 59.3	-0.1
AGRB	Hanur-Agry	80.78 327	*e*P	P	18 40 00.9	+1.0
KOPR	Koprukoy-ERZUR	80.79 328	*e*P	P	18 40 01.2	+1.2
MYKA	Terra Mystica	80.79 349	*i* P	P	18 39 59.7	0.0
	comp=Z,10nm,1.5s					
ABTA	Abfaltersbach	80.80 350	*i* P	P	18 40 00.0	+0.2
	comp=Z,21nm,1.3s,SNR=9.4					
OBKA	Obir	80.81 349	*i* P	P	18 40 00.4	+0.6
	comp=Z,36nm,1.1s,SNR=9.8					
CLDR	Caldiran	80.85 326	*e*P	P	18 40 01.8	+1.4
ZOU	Zoufplan	80.94 350	P	P	18 40 00.4	-0.2
TSI	Tuntungan	80.94 264	P	P	18 40 00.6	-0.2
	comp=Z,170nm,1.1s					
SNOP	Sinop	80.97 333	*e*P	P	18 40 00.1	-0.5
PRED	Cave del Predi	80.99 349	P	P	18 40 00.3	-0.5
WB0	Warramunga Arr	81.13 221	P	P	18 40 01.2	-0.4
FUORN	Ofenpass-Fuorn	81.15 352	P	P	18 40 01.3	-0.5
HERR	Herculane	81.21 343	⇑P	P	18 40 01.7	-0.2
KOPT	Kop Dagi	81.21 329	P	P	18 40 01.8	-0.5
WR0	Warramunga Arr	81.24 221	P	P	18 40 01.7	-0.5
WR0			IAmb	IAmb	18 40 02.5	
	comp=Z,33nm,0.8s					
PSI	Prapat	81.27 263	P	P	18 40 02.2	-0.5
PSI			pmax	pmax		
	comp=Z,99nm,1.0s					
DIKM	Dikmen	81.30 333	⇑P	P	18 40 03.6	+1.3
WRAB	Tennant Creek	81.30 221	*c*eP	P	18 40 02.2	-0.3
WRAB			pmax	pmax		
	comp=Z,127nm,1.7s					
WRAB	Tennant Creek	81.30 221	P	P	18 40 02.1	-0.4
WRAB			IAmb	IAmb	18 40 03.5	
	comp=Z,69nm,1.1s					
WB2	Warramunga Arr	81.30 221	P	P	18 40 02.3	-0.2
WB2			IAmb	IAmb	18 40 03.5	
	comp=Z,87nm,1.1s					
WRA	Warramunga Arr	81.31 221	P	P	18 40 02.4	-0.2
	comp=Z,40nm,1.0s,baz=32,slow=6.3,SNR=232					
WRA			PKiKP	PKiKP	18 45 26.5	-0.3
WRA			PKKPbc	PKKPbc	18 58 35.8	+0.4
	comp=Z,1.4nm,1.0s,baz=247,slow=1.8,SNR=5.3					
WRA	Warramunga Arr	81.31 221	P	P	18 40 01.7	-0.9
MLAZ	Malazgirt-MUS	81.32 327	*e*P	P	18 40 02.9	+0.1
RPSI	Rantau Prapat	81.35 263	P	P	18 40 02.2	-0.8
CRES	Cresnjev	81.36 348	*e*P	P	18 40 01.9	-0.8
TUE	Stuetta	81.37 352	P	P	18 40 03.0	0.0
FRGS	Fruska Gora	81.39 345	*e*P	P	18 40 01.9	-0.9
MDVR	Moldovita	81.43 343	⇑P	P	18 40 03.3	+0.2
VANB	Van	81.53 326	*e*P	P	18 40 05.7	+1.9
CEY	Cerknica	81.58 349	*e*P	P	18 40 02.0	-1.8
CTI	Castel Tesino	81.58 351	P	P	18 40 03.2	-0.7
CTI			pmax	pmax		
	comp=Z,14nm,1.1s					
CTI	Castel Tesino	81.58 351	P	P	18 40 03.2	-0.7
KVT	Kavak	81.60 332	*e*P	P	18 40 05.1	+1.1
SENIN	Lac Senin/Sane	81.63 354	P	P	18 40 04.0	-0.4
RAZG	Razgrad	81.66 340	⇑P	P	18 40 04.2	-0.1
MLSI	Meulaboh, Aceh	81.67 266	P	P	18 40 03.6	-1.1
	comp=Z,86nm,1.1s					
YEDI	Yedisu-Bingol	81.72 328	*e*P	P	18 40 05.8	+0.9
RSDY	Resadiye-TOKAT	81.85 331	*e*P	P	18 40 02.0	-3.3
GEVA	Gevas	81.89 326	P	P	18 40 06.2	+0.4
GEVA			IAmb	IAmb	18 40 08.2	
	comp=Z,52nm,1.1s					
AKDM	Akdamar-Van	81.91 326	*e*P	P	18 40 06.9	+1.0
BKNI	Bangkinang	81.92 260	P	P	18 40 06.2	+0.2
	comp=Z,1µmcomp=Z,137nm,1.0s					
BKNI	Bangkinang	81.92 260	P	P	18 40 05.8	-0.2
TEKS	Tekeris	82.02 345	*e*P	P	18 40 05.5	-0.7
GURO	Guroymak-BITLI	82.03 327	*e*P	P	18 40 07.7	+1.2
BNGB	Bingl	82.08 328	*e*P	P	18 40 07.9	+1.2
TOKT	Tokat	82.15 331	*e*P	P	18 40 07.8	+0.8
TOKA	Tokat	82.17 332	P	P	18 40 08.7	+1.7
BLY	Banja Luka	82.19 347	*e*P	P	18 40 06.3	-0.7
PWJI	Pagerwojo	82.26 246	P	P	18 40 06.8	-0.9
	comp=Z,76nm,1.5s					
ILGA	Ilgaz	82.28 334	P	P	18 40 08.9	+1.1
HYB	Hyderabad	82.28 288	*i* P	P	18 40 08.0	+0.1
	comp=Z,250nm,1.0s					
DIVS	Divibare	82.39 344	*e*P	P	18 40 08.0	-0.2
DIVS	Divibare	82.39 344	P	P	18 40 08.0	-0.2
SVSK	Karacayir	82.39 331	*e*P	P	18 40 09.1	+1.0
MNSI	Mandailing Nat	82.44 262	P	P	18 40 06.9	-1.8
	comp=Z,49nm,0.8s					
PTK	Pertek	82.59 329	*e*P	P	18 40 10.9	+1.5
CUKT	Cukurca	82.66 325	*e*P	P	18 40 10.4	+0.7
SVAN	Silvan-Diyarba	82.67 327	*e*P	P	18 40 10.8	+1.1
SDSI	Sungai Dareh	82.68 259	P	P	18 40 09.6	-0.3
	comp=Z,1µmcomp=Z,37nm,1.5s					
BBLS	Lazići	82.71 345	*e*P	P	18 40 10.0	+0.2
CORM	Corum	82.84 333	*e*P	P	18 40 11.7	+1.1
SSB	Saint Sauveur	82.87 356	P	P	18 40 11.0	+0.4
SSB			pmax	pmax		
	comp=Z,5.0nm,0.9s					
SSB	Saint Sauveur	82.87 356	P	P	18 40 11.0	+0.4
RUDO	Rudo	82.96 345	*e*P	P	18 40 07.9	-3.1
BNI	Bardonecchia	82.98 354	P	P	18 40 12.3	+1.0
BNI			pmax	pmax		
	comp=Z,16nm,0.9s					
BNI	Bardonecchia	82.98 354	P	P	18 40 12.3	+1.0
SVRC	Sivrice-ELAZID	83.08 329	*e*P	P	18 40 13.5	+1.5
GSI	Gunungsitoli	83.27 263	P	P	18 40 12.9	-0.1
	comp=Z,104nm,1.3s					
GSI	Gunungsitoli	83.27 263	P	P	18 40 12.6	-0.4
GSI			IAmb	IAmb	18 40 13.5	
	comp=Z,50nm,0.8s					
ZCCA	Zocca	83.33 351	P	P	18 40 14.4	+1.5
ZCCA			IAmb	IAmb	18 40 17.7	
	comp=Z,22nm,0.8s					
MALT	Malatya	83.42 329	*e*P	P	18 40 14.9	+1.3
UPM	Unac-Piva	83.44 345	*e*P	P	18 40 12.5	-1.2
DARE	Darende-Malaty	83.48 330	*e*P	P	18 40 15.2	+1.3
FITZ	Fitzroy Crossi	83.51 230	P	P	18 40 14.4	+0.5
BRTR	Keskin Array B	83.54 333	P	P	18 40 14.7	+0.4
	comp=Z,5.0nm,0.6s,baz=42,slow=2.7,SNR=14					
BRTR	Keskin Array B	83.54 333	P	P	18 40 14.2	0.0
MAZI	Mazidag	83.55 327	*e*P	P	18 40 15.1	+0.8
MARD	Mardin	83.57 327	P	P	18 40 15.5	+1.1
KRJI	Kerinci	83.58 258	P	P	18 40 16.5	+1.8
	comp=Z,145nm,1.7s					
KLSI		83.68 254	P	P	18 40 14.0	-1.1
	comp=Z,20nm,1.9s					
LHSI	Lahat	83.71 256	P	P	18 40 15.3	+0.1
	comp=Z,86nm,1.2s					
BRY	Bratogost	83.79 345	*e*P	P	18 40 14.5	-1.0
CBJI	Citeko	83.82 251	P	P	18 40 16.3	+0.6
	comp=Z,6µmcomp=Z,69nm,1.2s					
MDSI	Maura Dua	83.85 255	P	P	18 40 14.2	-1.7
	comp=Z,32nm,1.3s					
BLSI	Bandar Lampung	83.92 253	P	P	18 40 15.3	-1.0
	comp=Z,86nm,1.4s					
SARI	SarD1z-Kayseri	83.95 331	*e*P	P	18 40 17.4	+1.0
DBJI	Dramaga	83.98 251	P	P	18 40 15.7	-0.9
	comp=Z,2µmcomp=Z,48nm,1.3s					
URFA	Urfa	84.09 329	*e*P	P	18 40 18.3	+1.3
OSSC	Osservatorio P	84.12 351	P	P	18 40 16.8	-0.2
OSSC			IAmb	IAmb	18 40 17.6	
	comp=Z,26nm,0.9s					
PDG	Podgorica	84.13 345	*e*P	P	18 40 16.3	-0.7
PDG	Podgorica	84.13 345	P	P	18 40 16.4	-0.6
SKO	Skopje	84.20 343	*i* P	P	18 40 17.9	+0.5
HCY	Hercog Novi	84.24 345	*e*P	P	18 40 16.7	-0.9
MURB	Monte Urbino	84.24 350	P	P	18 40 18.1	+0.5
MURB			IAmb	IAmb	18 40 20.7	
	comp=Z,81nm,1.1s					
STIP	Stip	84.33 342	*i* P	P	18 40 17.4	-0.7
DRME	Dracevica, Mon	84.38 345	*e*P	P	18 40 17.9	-0.4
SISI	Saibi	84.41 261	P	P	18 40 19.3	+0.5
	comp=Z,50nm,0.9s					
NRCA	Norcia	84.60 349	P	P	18 40 20.0	+0.5
NRCA			IAmb	IAmb	18 40 21.6	
	comp=Z,53nm,1.0s					
AS31	Alice Springs	84.82 220	P	P	18 40 20.6	+0.1
ASAR	Alice Springs	84.82 220	P	P	18 40 20.9	+0.3
	comp=Z,27nm,1.0s,baz=20,slow=5.3,SNR=153					
ASAR			PKiKP	PKiKP	18 45 32.4	0.0
	comp=Z,1.4nm,0.9s,baz=28,slow=1.5,SNR=6.7					
ASAR			PKKPbc	PKKPbc	18 58 27.4	0.0
	comp=Z,0.2nm,0.5s,baz=200,slow=2.2,SNR=5.2					
ASAR	Alice Springs	84.82 220	P	P	18 40 20.7	+0.1
GAZ	Gaziantep	84.85 330	P	P	18 40 21.7	+0.8
GAZ			IAmb	IAmb	18 40 22.3	
	comp=Z,31nm,1.0s					
KOZT	Kozan	84.99 331	*e*P	P	18 40 21.9	+0.5
AQU	L'Aquila	85.04 349	P	P	18 40 21.3	-0.3
AQU			pmax	pmax		
	comp=Z,29nm,0.9s					
AQU	L'Aquila	85.04 349	*e*P	P	18 40 21.6	0.0
AQU	L'Aquila	85.04 349	P	P	18 40 21.3	-0.3
AQU			IAmb	IAmb	18 40 31.0	
	comp=Z,29nm,0.9s					
BOLV	Bolvadin	85.20 335	P	P	18 40 22.7	+0.1
INTR	Introdacqua	85.32 348	P	P	18 40 23.3	+0.2
ARMA	Armidale	85.41 203	P	P	18 40 25.4	+2.0
ARMA			IAmb	IAmb	18 40 26.5	
	comp=Z,76nm,1.4s					
LIT	Litokhoron	85.81 342	P	P	18 40 24.4	-1.1
LIT			pmax	pmax		
	comp=Z,4.0nm,0.9s					
LIT	Litokhoron	85.81 342	P	P	18 40 24.4	-1.1
PBRG	Braganca	86.39 4	*e*P	P	18 40 28.1	-0.2
	comp=Z,2.4nm,0.7s					
PCAB	Cabril	86.43 5	*e*P	P	18 40 28.1	-0.4
	comp=Z,3.8nm,0.9s					
MVO	Moncorvo	87.02 4	*e*P	P	18 40 30.8	-0.6
	comp=Z,5.6nm,0.8s					
SHME	Shamm	87.24 310	*i* P	P	18 40 32.0	-0.7
	SNR=7.1					
BANOM	Banah	87.27 310	*i* P	P	18 40 32.4	-0.5
	SNR=12					
BANOM	Banah	87.27 310	P	P	18 40 32.4	-0.5
	SNR=9.6					
PVIS	Viseu	87.43 5	*e*P	P	18 40 31.6	-1.8
	comp=Z,5.0nm,0.7s					
MDH	Madha	87.80 310	*i* P	P	18 40 33.9	-1.4
	SNR=7.4					
MDH	Madha	87.80 310	P	P	18 40 34.1	-1.2
	SNR=5.7					
MSFE	Esma-Masafi	87.82 310	*i* P	P	18 40 34.6	-0.9
	SNR=6.7					
PCAS	Casmilo, Conde	88.06 5	*e*P	P	18 40 35.8	-0.5
UOSS	Minazif	88.15 310	*i* P	P	18 40 35.8	-1.2
	SNR=10					
UOSS	Minazif	88.15 310	P	P	18 40 35.5	-1.4
UOSS			IAmb	IAmb	18 40 37.9	
	comp=Z,33nm,1.1s					
HATD	Hatta, Dubai	88.28 310	*i* P	P	18 40 36.7	-1.0
	SNR=12					
HATD	Hatta, Dubai	88.28 310	P	P	18 40 37.0	-0.6
	SNR=9.3					
PCBR	Castelo Branco	88.32 4	*e*P	P	18 40 36.7	-0.8
	comp=Z,3.1nm,0.7s					
NAZ	Nazwa, Dubai	88.37 310	*i* P	P	18 40 37.1	-0.9
	SNR=6.5					
NAZ	Nazwa, Dubai	88.37 310	P	P	18 40 37.2	-0.9
	SNR=7.1					
WSAR	Wadi Sarin	88.42 307	P	P	18 40 38.5	+0.2
	SNR=6.6					
ASHO	Ashiyiah	88.44 310	*i* P	P	18 40 37.6	-0.9
	SNR=16					
ASHO	Ashiyiah	88.44 310	P	P	18 40 37.7	-0.7
	SNR=7.7					
ESDC	Sonseca Array	88.60 2	P	P	18 40 37.7	-1.3
	comp=Z,3.1nm,1.0s,baz=347,slow=4.6,SNR=18					
ESDC			pP	pwP	18 41 14.0	+1.0
	comp=Z,4.5nm,1.1s,baz=350,slow=4.7,SNR=5.6					
ESDC	Sonseca Array	88.60 2	P	P	18 40 37.9	-1.0
ESDC			pP	pP	18 41 11.4	+1.0
SOHO	SOHO	88.68 309	*i* P	P	18 40 38.2	-1.3
	SNR=9.6					
HOQ	Hoqain	88.77 308	P	P	18 40 40.3	+0.3
PALK	Pallekele	88.97 280	P	P	18 40 41.5	+0.5
PALK			pmax	pmax		
	comp=Z,42nm,1.1s					
PALK	Pallekele	88.97 280	P	P	18 40 41.5	+0.5
PALK			IAmb	IAmb	18 40 42.5	
	comp=Z,42nm,1.1s					
ALNE	Al Ain	89.12 310	*i* P	P	18 40 40.9	-0.7
	SNR=5.6					
PSA00	Pilbara Seismi	89.26 232	P	P	18 40 41.7	-0.3
PSA00			IAmb	IAmb	18 40 42.5	
	comp=Z,32nm,0.9s					
ARQ	Araqi	89.36 309	P	P	18 40 43.1	+0.4
	SNR=7.2					
JMDO	Jabal Madar	89.41 307	P	P	18 40 42.0	-1.0
	SNR=5.0					
STKA	Stephens Creek	89.58 211	P	P	18 40 44.2	+1.0
	comp=Z,64nm,1.0s,baz=353,slow=6.2,SNR=45					
STKA			LR	LR	19 14 54.7	
	comp=Z,73nm,21.6s,baz=211,slow=31					
STKA	Stephens Creek	89.58 211	P	P	18 40 44.2	+1.0
STKA			IAmb	IAmb	18 40 45.6	
	comp=Z,29nm,1.3s					
KEST	Kesra	92.03 351	P	P	18 40 54.4	-0.6
	comp=Z,6.9nm,1.0s,baz=300,slow=5.7,SNR=4.8					
KEST	Kesra	92.03 351	P	P	18 40 54.5	-0.4
FORT	Forrest	93.50 222	P	P	18 41 01.9	+0.5
TORD	Torodi Ar. Bea	114.98 356	PKP	PKiKP	18 46 25.7	-0.8
	comp=Z,4.8nm,0.5s,baz=356,slow=2.2,SNR=39					
TORD			PP	PP	18 47 23.8	-2.4
	comp=Z,1.9nm,1.0s,baz=354,slow=6.3,SNR=3.8					
TORD			PKKPbc	PKKPbc	18 57 02.4	+1.7
	comp=Z,1.3nm,0.5s,baz=185,slow=2.4,SNR=11					
LPAZ	La Paz	117.15 82	PKP	PKPdf	18 46 31.1	-0.2
	comp=Z,1.2nm,0.7s,baz=344,slow=2.3,SNR=6.1					
LPAZ	La Paz	117.15 82		PKPdf	18 46 30.5	-0.8
KMBO	Kilima Mbogo	119.69 314	PKP	PKiKP	18 46 37.6	+1.6
	comp=Z,12nm,0.9s,baz=36,slow=3.0,SNR=23					
KMBO	Kilima Mbogo	119.69 314	*i* P	PKiKP	18 46 36.5	+0.5
	SNR=13					
KMBO	Kilima Mbogo	119.69 314	PKIKP	PKiKP	18 46 36.7	+0.7
KMBO	Kilima Mbogo	119.69 314	PKPdf	PKiKP	18 46 36.6	+0.7
SIV	San Ignacio	121.18 75	PKP	PKPdf	18 46 37.3	-1.1
	comp=Z,2.4nm,0.6s,baz=199,slow=0.3,SNR=9.2					
SIV			SKP	SKPdf	18 50 01.2	-0.7
	comp=Z,3.0nm,0.8s,baz=311,slow=1.4,SNR=5.9					
DBIC	Dimbokro	121.42 4	PKP	PKPdf	18 46 38.4	-0.6
	comp=Z,7.6nm,0.6s,baz=32,slow=1.9,SNR=21					
PTLB	Pontes e Lacer	121.91 73	*e*P	PKiKP	18 46 41.1	+1.2
MBAR	Mbarara	121.94 321	PKIKP	PKiKP	18 46 40.7	+0.3
MBAR	Mbarara	121.94 321		PKiKP	18 46 40.7	+0.3
SMTB	Santa Maria do	123.02 58	*e*P	PKiKP	18 46 43.0	+0.8
AC05	El Transito	125.12 93		PKiKP	18 46 46.1	0.0
ROC1	El Roble	127.55 97		PKPdf	18 46 49.9	-0.4
MT02	Curacav	127.67 98		PKPdf	18 46 50.3	0.0
VA03	San Esteban	127.69 97		PKPdf	18 46 50.2	-0.2
ZON	Zonda	128.00 94	PKIKP	PKPdf	18 46 51.1	+0.1
ZON	Zonda	128.00 94	PKPdf	PKPdf	18 46 51.1	+0.1
BDFB	Brasilia	128.43 63	SKPbc	SKiKP	18 49 58.5	-19
	comp=Z,6.2nm,0.8s,baz=148,slow=6.5,SNR=3.5					
CASY	Casey	128.69 209	PKPdf	PKiKP	18 46 51.5	-0.2
BO02	Sierra Bellavi	128.92 99	PKPdf	PKiKP	18 46 53.1	-0.3
VNDA	Vanda	129.74 185	PKP	PKiKP	18 46 53.6	0.0
	comp=Z,3.0nm,0.9s,baz=322,slow=5.5,SNR=9.3					
VNDA			SKPbc	SKPbc	18 50 03.9	+0.4
	comp=Z,11nm,1.1s,baz=338,slow=4.7,SNR=14					
VNDA	Vanda	129.74 185	PKIKP	PKiKP	18 46 54.0	+0.3
VNDA	Vanda	129.74 185	PKPdf	PKiKP	18 46 54.0	+0.3
BI02	San Fabin de	129.86 101	PKPdf	PKPdf	18 46 54.6	+0.1
LC01	Cunco	130.95 104	PKPdf	PKPdf	18 46 56.4	+0.1
CPUP	Villa Florida	131.28 80	PKP	PKPdf	18 46 56.9	-0.4
	comp=Z,8.2nm,0.9s,baz=8.2,slow=4.4,SNR=7.8					
CPUP			SKPbc	SKPbc	18 50 08.6	-2.0
	comp=Z,25nm,0.9s,baz=334,slow=3.8,SNR=25					
CPUP	Villa Florida	131.28 80	SKPbc	SKPbc	18 50 08.4	-2.2
BB19B	Bebedouro	132.50 67	*e*P	PKPdf	18 47 00.2	+0.3
PLCA	Paso Flores	132.89 105	PKP	PKPdf	18 47 00.2	+0.2
	comp=Z,13nm,0.9s,baz=255,slow=1.9,SNR=11					
PLCA			pPKP	pPKPdf	18 47 33.8	+0.2
	comp=Z,3.3nm,0.6s,baz=244,slow=1.7,SNR=2.9					
PLCA			SKPbc	SKPbc	18 50 15.0	-0.9
	comp=Z,49nm,1.1s,baz=310,slow=4.0,SNR=21					
PLCA	Paso Flores	132.89 105	PKPdf	PKiKP	18 47 00.7	-0.6
PLCA			SKPbc	SKPbc	18 50 15.2	-0.7
PET01	Itanhaem-SP	135.73 69	*e*P	PKiKP	18 47 07.4	0.0
LSZ	Lusaka	136.26 316	PKIKP	PKPdf	18 47 07.2	+0.1
LSZ	Lusaka	136.26 316	PKPdf	PKPdf	18 47 07.2	+0.1
QSPA	South Pole Qui	141.83 180	SKPbc	SKPbc	18 50 40.2	-0.9
	comp=Z,13nm,0.8s,baz=297,slow=1.9,SNR=9.7					
QSPA	South Pole Qui	141.83 180		PKPpre	18 47 11.0	
QSPA			SKPbc	SKPbc	18 50 40.8	-0.3
TSUM	Tsumeb	143.88 328	PKPdf	PKPbc	18 47 19.3	+0.4
MAW	Mawson	145.93 218	PKPbc	PKPbc	18 47 23.5	-0.1
	comp=Z,71nm,0.9s,baz=71,slow=2.9,SNR=124					
MAW			PP	PP	18 50 45.9	-1.2
	comp=Z,4.4nm,1.1s,baz=68,slow=8.1,SNR=3.6					
MAW	Mawson	145.93 218	PKPdf	PKPbc	18 47 23.1	-0.6
LBTB	Lobatse	145.94 312	PKP2	PKPdf	18 47 24.3	+0.1
LBTB	Lobatse	145.94 312	PKPdf	PKPdf	18 47 24.3	+0.1
PMSA	Palmer Station	146.47 137	PKP	PKPdf	18 47 22.5	-1.2
	comp=Z,38nm,1.1s,baz=289,slow=4.2,SNR=20					
PMSA			PKPbc	PKPbc	18 47 25.6	+0.3
	comp=Z,28nm,1.0s,baz=234,slow=2.0,SNR=20					
PMSA	Palmer Station	146.47 137	*e*P	PKPdf	18 47 24.1	+0.5
BOSA	Boshof	149.15 309	PKP	PKPdf	18 47 28.8	-0.7
	comp=Z,6.7nm,0.9s,baz=338,slow=1.3,SNR=7.5					
BOSA			PKPbc	PKPbc	18 47 33.8	0.0
	comp=Z,60nm,0.7s,baz=32,slow=1.9,SNR=62					
BOSA	Boshof	149.15 309		PKPbc	18 47 34.1	+0.3
SYO	Syowa Base	154.30 213	∥*e*X	PKPdf	18 47 33.2	-2.5
SYO	Syowa Base	154.30 213	∥*i*X	PKPbc	18 47 42.4	-1.7
SYO	Syowa Base	154.30 213	∥*i*PKiKP	PKiKP	18 47 45.1	+1.0
NVL	N'lazarevskaya	160.26 193	*e*PKP2	PKPab	18 48 21.3	-3.2
NVL			pmax	pmax		
	comp=Z,11nm,1.0s					
SNAA	Sanae	160.33 179	PKPab	PKPab	18 48 24.1	-0.8
SNAA	Sanae	160.33 179	PKPdf	PKPdf	18 47 41.8	-1.5
SNAA	Sanae	160.33 179	PKPab	PKPab	18 48 24.1	-0.8
SNAA			SKP	SKPdf	18 51 02.8	-0.8
	comp=Z,2.4nm,0.8s,baz=175,slow=22,SNR=5.0					
SNAA			PP	PP	18 52 12.5	+4.5
	comp=Z,1.1nm,0.9s,baz=120,slow=11,SNR=3.1					
SNAA	Sanae	160.33 179	PKPab	PKPab	18 48 23.8	-1.1
VNA3	Neumayer Olymp	160.43 172	PKPdf	PKPdf	18 47 41.7	-1.6
VNA2	Neumayer--Watz	160.91 174	PKPab	PKPab	18 48 27.3	0.0
VNA1	Neumayer--Stat	161.12 173	PKPab	PKPab	18 48 28.1	-0.1
VNA1	Neumayer--Stat	161.12 173	PKPdf	PKPdf	18 47 42.7	-1.3

NEIC ***10*** *18:52:04.6±1.7, 52°.1N×0°.2×171°.1W±0°.1, h58km±18km, Error ellipse: s-maj=26.6km s-min=6.2km az=158.0*

AEIC 10 18:52:01±1.6, 51°.8N±0°.1×171°.0W±0°.1, h24km±9km, mb4.2/3(NEIC), Error ellipse: s-maj=21.9km s-min=5.7km az=157.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.78	46		Pn	18 52 30.3	+0.1
NIKH	Nikolski High	1.78	46		Sn	18 52 52.3	+0.3
KOFP	Korovin Flat P	2.00	286		Pn	18 52 32.7	-0.6
ATKA	Atka Island	2.04	284		Pn	18 52 33.2	-0.6
KOKL	Mount Kliuchef	2.07	287		Pn	18 52 33.8	-0.5
OKSP	Okmok Steeple	2.22	47		Pn	18 52 36.9	+0.6
OKCE	Okmok Cone E	2.39	45		Pn	18 52 39.4	+0.7
OKNC	Okmok New Cone	2.43	45		Pn	18 52 39.1	-0.1
OKFG	Magazine Ridge	2.49	47		Pn	18 52 40.9	+0.8
OKFG					Sn	18 53 11.2	+1.5
GSMY	Great Sitkin M	3.16	277		Pn	18 52 50.3	+1.1
GSTR	Great Sitkin T	3.17	278		Pn	18 52 49.9	+0.6
MAPS	Pakushin South	3.19	49		Pn	18 52 50.3	+0.7
MAPS					Sn	18 53 29.2	+2.2
GSTD	Great Sitkin T	3.21	277		Pn	18 52 50.3	+0.3
GSTD					Sn	18 53 30.8	+3.2
MGOD	Makushin Gods	3.22	49		Pn

BSO4	**Boso 4**	**3.77**	**61**	P	**P**	**19 08 48.9**	**+0.8**
BSO4				*e*S	**S**	**19 09 47.9**	**+0.3**
JAG	**Ashikaga**	**4.12**	**38**	P	**P**	**19 08 52.4**	**+1.2**
JAG				S	**S**	**19 09 52.9**	**-0.3**
JYT	**Yasato**	**4.39**	**45**	P	**P**	**19 08 53.8**	**+0.2**
JHO	**Hitachi**	**4.87**	**45**	P	**P**	**19 08 58.7**	**+0.6**
JHO				S	**S**	**19 10 02.6**	**-3.3**
H11S1	**WAKE ISLAND Hy**	**30.87**	**111**	T	T	19 40 18.7	
	baz=310,slow=74,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**30.88**	**111**	T	T	19 40 25.3	
	baz=20,slow=74,SNR=8.0						
MKAR	**Makanchi Array**	**42.75**	**305**	P	**P**	**19 14 49.5**	**-1.7**
	0.4nm,0.8s,baz=99,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**52.88**	**182**	P	**P**	**19 16 07.8**	**0.0**
	0.3nm,0.3s,baz=0.3,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**56.60**	**183**	P	**P**	**19 16 34.0**	**0.0**
	0.5nm,1.1s,baz=12,slow=5.7,SNR=4.8						

*ECX **10** 19:22:04.0±0.5,28°.03N×112°.14W,h20km±11km,MD2.9*
*MEX **10** 19:22:06.5±0.8,27°.92N×112°.07W,h10km,MD3.7*

ISC 10 19:22:03.6±1.9,27°.99N±0°.06×112°.09W±0°.09,h21km±5km, n7,σ0°.45/12,1D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.68**	**192**	*i* P	**Pb**	**19 22 16.6**	**-0.3**
SRIG				*e*S	**Sb**	**19 22 26.2**	**+0.3**
SRIG	**Santa Rosalia**	**0.68**	**192**	⇓*i*P	**Pb**	**19 22 16.4**	**-0.5**
SRIG				*i* S	**Sb**	**19 22 26.7**	**+0.7**
GUYB	**Guaymas**	**1.08**	**95**	*i* P	**Pn**	**19 22 23.6**	**+0.1**
GUYB				*e*S	**Sb**	**19 22 36.7**	**-0.5**
GUYB	**Guaymas**	**1.08**	**95**	*e*P	**Pn**	**19 22 23.6**	**+0.1**
GUYB				*e*S	**Sn**	**19 22 38.0**	**+0.2**
HSIG		**1.43**	**44**	*e*P	**Pb**	**19 22 29.7**	**+0.1**
HSIG				*e*S	**Sb**	**19 22 47.5**	**+0.1**
HSIG		**1.43**	**44**	*e*P	**Pn**	**19 22 28.0**	**-0.4**
HSIG				*e*S	**Sn**	**19 22 47.1**	**+0.5**
BAHB	**Baha de los**	**2.33**	**327**	*e*P	Pn	19 22 30.2	-11
BAHB				*e*S	Sn	19 22 50.0	-19

*IPEC **10** 19:33:50.3±0.2,51°.52N×16°.21E,h1km,ML1.9/3,Error ellipse: s-maj=1.7km s-min=0.9km az=37.0*
*PRU **10** 19:33:50.5±0.0,51°.49N×16°.18E,h0km*
*VIE **10** 19:33:52.9±1.1,51°.35N×16°.01E,h0km,mb1.9/3,ml2.6/4, Error ellipse: s-maj=7.3km s-min=4.9km az=33.0 75 km WNW of Wroclaw Suspected Mining induced.*

ISC 10 19:33:49.0±1.5,51°.57N±0°.06×16°.22E±0°.04,h0km,n26, σ0°.95/53,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**176**	*e*Pg	**Pb**	**19 34 03.9**	**-0.6**
KSP				*e*Sg	**Sg**	**19 34 12.3**	**+0.1**
CHVC	**Chvalec**	**0.98**	**186**	*e*PG	**Pb**	**19 34 08.6**	**-0.3**
CHVC				*e*SG	**Sg**	**19 34 20.5**	**0.0**
	comp=Z,24nm,0.5s						
OSTC	**Ostas**	**1.01**	**180**	*e*PG	**Pb**	**19 34 09.5**	**+0.1**
OSTC				*e*SG	**Sg**	**19 34 21.5**	**+0.1**
	comp=Z,35nm,0.5s						
UPC	**Upice**	**1.07**	**187**	*e*PG	**Pb**	**19 34 10.1**	**-0.2**
UPC				*e*SG	**Sg**	**19 34 22.6**	**-0.6**
	comp=Z,97nm,0.6s						
DPC	**Dobruska-Polom**	**1.22**	**177**	*e*PG	**Pg**	**19 34 12.5**	**+0.2**
DPC				*e*SG	**Sg**	**19 34 27.6**	**-0.5**
	comp=Z,24nm,0.5s						
PVCC	**Panska Ves**	**1.47**	**226**	*e*PG	**Pb**	**19 34 17.3**	**+0.1**
PVCC				*e*SG	**Sg**	**19 34 35.1**	**-1.1**
	comp=Z,128nm,0.7s						
KRLC	**Kraliky**	**1.53**	**166**	*e*PG	**Pb**	**19 34 18.7**	**+0.4**
KRLC				*e*SG	**Sg**	**19 34 37.0**	**-1.2**
	comp=Z,25nm,0.4s						
BRG	**Berggiesshubel**	**1.59**	**245**	PG	**Pg**	**19 34 19.6**	**+0.1**
BRG				SG	**Sg**	**19 34 39.8**	**-0.3**
	38nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.89**	**209**	*e*PG	**Pb**	**19 34 24.3**	**0.0**
GOPC				*e*SG	**Sb**	**19 34 47.9**	**-0.5**
	comp=Z,8.7nm,0.5s						
PRU	**Pruhonice**	**1.90**	**215**	*e*PG	**Pb**	**19 34 24.3**	**-0.3**
PRU				*e*SG	**Sb**	**19 34 47.9**	**-1.0**
	comp=Z,18nm,0.6s						
MORC	**Moravsky Berou**	**1.98**	**154**	*e*PN	**Pn**	**19 34 24.7**	**+0.9**
MORC				*e*SG	**Sb**	**19 34 51.4**	**+0.3**
MORC	**Moravsky Berou**	**1.98**	**154**	*e*Pn	**Pn**	**19 34 24.6**	**+0.8**
	baz=335						
MORC				*e*Sg	**Sb**	**19 34 51.4**	**+0.3**
	10.0nm,0.3s,baz=335						
CLL	**Collm**	**2.03**	**264**	*i* Pn	**Pn**	**19 34 24.6**	**+0.2**
CLL				*i* Pg	**Pb**	**19 34 27.0**	**+0.3**
CLL				*i*		19 34 30.5	
CLL				*i* Sg	**Sg**	**19 34 53.9**	**-0.2**
	comp=Z,13nm,0.5s						
VRAC	**Vranov**	**2.27**	**174**	*e*PN	**Pn**	**19 34 28.9**	**+1.1**
VRAC				*e*SG	**Sb**	**19 34 59.7**	**+0.2**
VRAC	**Vranov**	**2.27**	**174**	*e*Pn	**Pn**	**19 34 28.9**	**+1.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**19 34 59.7**	**+0.2**
	comp=Z,6.7nm,0.3s,baz=354						
TREC	**Trest**	**2.32**	**192**	*e*SG	**Sb**	**19 35 01.2**	**+0.3**
	comp=Z,12nm,0.2s						
PBCC	**Pribram**	**2.35**	**218**	*e*SG	**Sb**	**19 35 02.0**	**+0.1**
	comp=Z,3.9nm,0.3s						
KRUC	**Moravsky**	**2.51**	**177**	*e*PG	**Pb**	**19 34 35.1**	**+0.2**
KRUC				*e*SG	**Sb**	**19 35 07.1**	**+0.8**
KRUC	**Moravsky**	**2.51**	**177**	*e*Pg	**Pb**	**19 34 35.0**	**+0.2**
	baz=357						
KRUC				*e*Sg	**Sb**	**19 35 07.1**	**+0.8**
	comp=Z,5.5nm,0.3s,baz=357						
NKC	**Novy Kostel**	**2.73**	**242**	*e*PN	**Pn**	**19 34 35.5**	**+1.4**
NKC				*e*PG	**Pg**	**19 34 40.5**	**-0.9**
NKC				*e*SG	**Sg**	**19 35 15.2**	**-1.6**
	comp=Z,29nm,0.8s						
KHC	**Kasperske Hory**	**2.97**	**216**	*e*PN	**Pn**	**19 34 38.0**	**+0.7**
KHC				*e*PG	**Pb**	**19 34 43.6**	**+0.9**
KHC				*e*SN	**Sn**	**19 35 12.6**	**-1.0**
KHC				*e*SG	**Sb**	**19 35 21.1**	**+1.6**
	comp=Z,5.2nm,0.3s						
LANS	**Liptovska Anna**	**3.19**	**138**	*e*PN	Pn	19 34 34.3	-6.1
LANS				*e*PG	**Pg**	**19 34 49.9**	**-0.2**
LANS				*e*SG	**Sg**	**19 35 32.1**	**+0.7**
MODS	**Modra-Piesok**	**3.27**	**168**	*e*PG	**Pb**	**19 34 49.0**	**+1.2**
MODS				*e*SG	**Sg**	**19 35 32.0**	**-1.9**
VYHS	**Vyhne**	**3.51**	**150**	*e*PN	**Pn**	**19 34 43.0**	**-1.8**
VYHS				*e*SG	**Sg**	**19 35 38.9**	**-2.7**
CONA	**Conrad Observa**	**3.65**	**184**	*e*Pn	**Pn**	**19 34 48.8**	**+2.0**
	comp=Z,0.6nm,0.3s						
CONA				*i* Sg	**Sg**	**19 35 44.5**	**-1.7**
	comp=Z,7.2nm,0.4s						
ARSA	**Arzberg**	**4.34**	**186**	*i* Sg	**Sg**	**19 36 09.5**	**+1.0**
	comp=Z,4.7nm,0.5s						

*IDC **10** 19:39:34.5±1.1,12°.93N×141°.67E,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.5/60,mbtmp3.6/7,ML4.0/1,Error ellipse: s-maj=35.1km s-min=21.1km az=78.0*
*NEIC **10** 19:39:39.5±1.4,12°.9N±0°.1×141°.8E±0°.1,h35km±2km, mb4.3/7,Error ellipse: s-maj=25.2km s-min=10.4km az=51.0*

ISC 10 19:39:39.7±1.0,12°.9N±0°.2×141°.8E±0°.1,h35km,n15, σ0°.85/14,mb3.9/9,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.10**	**77**	Pn	**Pn**	**19 40 26.5**	**+0.4**
	16nm,0.3s,baz=281,slow=6.9,SNR=13						
GUMO				Sn	Sn	19 40 52.2	-10
	54nm,0.3s,baz=161,slow=23,SNR=27						
GUMO	**Guam**	**3.10**	**77**		**Pn**	**19 40 25.8**	**-0.3**
WB0	**Warramunga Arr**	**33.27**	**193**	P	**P**	**19 46 14.5**	**+0.6**
WB0				IAmb	IAmb	19 46 30.2	
	comp=Z,6.7nm,1.4s						
WR0	**Warramunga Arr**	**33.42**	**192**	P	**P**	**19 46 15.9**	**+0.6**
WRAB	**Tennant Creek**	**33.44**	**193**	P	**P**	**19 46 15.4**	**+0.1**
WRAB				IAmb	IAmb	19 46 20.9	
	comp=Z,4.0nm,1.3s						
WB2	**Warramunga Arr**	**33.44**	**193**	P	**P**	**19 46 15.2**	**-0.2**
WB2				IAmb	IAmb	19 46 20.6	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**33.45**	**193**	P	**P**	**19 46 15.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=17,slow=9.6,SNR=20						
WRA	**Warramunga Arr**	**33.45**	**193**	P	**P**	**19 46 15.2**	**-0.3**
ASAR	**Alice Springs**	**37.15**	**192**	P	**P**	**19 46 47.0**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=22,slow=11,SNR=6.0						
SONM	**Songino Array**	**45.60**	**327**	P	**P**	**19 47 57.6**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=162,slow=6.2,SNR=2.3						
SONM	**Songino Array**	**45.60**	**327**	IAmb	IAmb	19 47 57.9	
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**59.90**	**317**	P	**P**	**19 49 43.0**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=88,slow=11,SNR=3.0						
KURK	**Kurchatov**	**63.17**	**321**	P	**P**	**19 50 03.3**	**-0.8**
KURBB	**Kurchatov Arra**	**63.21**	**320**	P	**P**	**19 50 03.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=108,slow=6.2,SNR=5.2						
BVAR	**Borovoye Array**	**68.60**	**322**	P	**P**	**19 50 37.2**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=120,slow=8.6,SNR=8.1						

ATH 10 19:42:59.5,38°.46N×22°.17E,h12km±3km,ML1.3/3,Error ellipse: s-maj=3.3km s-min=0.8km az=222.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.12**	**220**	P	Pg	19 43 02.3	-0.2
TRIZ				S	Sg	19 43 04.7	0.0
EFP	**Efpalio**	**0.21**	**262**	P	Pg	19 43 03.8	-0.2
EFP				S	Sg	19 43 07.3	+0.3
ANX	**Ano Chora**	**0.24**	**306**	P	Pg	19 43 04.4	-0.2
ANX				S	Sg	19 43 08.4	+0.4
ANX				AML	AML	19 43 09.1	
	comp=E,278μm,0.1s						
ANX				AML	AML	19 43 09.8	
	comp=N,336μm,0.4s						
DLFA	**Delphi**	**0.26**	**85**	P	Pg	19 43 04.6	-0.3
DLFA				S	Sg	19 43 08.9	+0.4
DSF	**Desfina**	**0.29**	**99**	P	Pg	19 43 05.1	-0.3
DSF				S	Sg	19 43 10.1	+0.8
DSF				AML	AML	19 43 11.0	
	comp=E,119μm,0.2s						
DSF				AML	AML	19 43 11.2	
	comp=N,161μm,0.1s						
KLV	**Kalavryta, Ach**	**0.41**	**182**	P	Pg	19 43 07.5	-0.2
KLV				S	Sg	19 43 14.0	+0.8
GUR	**Goura**	**0.54**	**165**	P	Pg	19 43 10.3	+0.3
EVR	**Evrytania**	**0.54**	**329**	P	Pg	19 43 09.9	-0.2
EVR				S	Sb	19 43 18.4	-0.4
EVR				AML	AML	19 43 19.0	
	comp=N,99μm,0.4s						
EVR				AML	AML	19 43 19.1	
	comp=E,66μm,0.4s						
DRO	**Drossia**	**0.62**	**216**	P	Pg	19 43 11.4	-0.2
DRO				S	Sb	19 43 20.6	-0.3

PRU 10 19:44:17.3±0.0,50°.34N×19°.20E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.40**	**107**	*e*Pg	Pg	19 44 24.2	-0.8
OJC				*e*Sg	Sg	19 44 30.0	-0.2
NIE	**Niedzica**	**1.17**	**142**	*e*Pg	Pg	19 44 39.5	-0.1
NIE				*e*Sg	Sg	19 44 55.3	+0.6
LANS	**Liptovska Anna**	**1.20**	**172**	*e*PG	Pg	19 44 39.6	-0.7
LANS				*e*SG	Sg	19 44 54.9	-1.0
LANS				eLG	Lg	19 44 57.8	
MORC	**Moravsky Berou**	**1.21**	**243**	*e*PG	Pg	19 44 39.8	-0.6
MORC				*e*SG	Sg	19 44 55.5	-0.6
KRLC	**Kraliky**	**1.58**	**261**	*e*PG	Pn	19 44 45.7	-0.9
KRLC				*e*SG	Sn	19 45 07.2	-0.5
	comp=Z,2.9nm,0.4s						
DPC	**Dobruska-Polom**	**1.84**	**271**	*e*PG	Pb	19 44 51.1	-0.8
DPC				*e*SG	Sg	19 45 16.6	+0.1
	comp=Z,3.5nm,0.6s						
VYHS	**Vyhne**	**1.86**	**187**	*e*PN	Pn	19 44 49.5	-1.0
VYHS				*e*SN	Sn	19 45 12.6	-2.1

*PRU **10** 19:45:53.8±0.0,45°.45N×27°.03E,h108km,M4.7*
*PDG **10** 19:45:54.8±1.3,45°.51N×26°.33E,h10km±3km,ML4.4/13, Error ellipse: s-maj=1.2km s-min=1.8km az=0.0*
*SOF **10** 19:45:55.3,45°.68N×26°.36E,h21km,MD5.0*
*MOS **10** 19:45:56.2±0.9,45°.65N×26°.51E,h103km,mb4.6/9,Error ellipse: s-maj=4.8km s-min=3.7km az=108.6*
MOS Felt (IV) at Kishinev.
*SIGU **10** 19:45:56.3±0.1,45°.6N±0°.8×26°.5E±0°.8,h122km,mb4.4/14*
*IDC **10** 19:45:57.6±0.3,45°.63N×26°.32E,h103km±2km,mb4.0/24, mb1 4.0/34,mb1mx3.9/56,mbtmp4.3/34,MS2.9/9, Ms1 2.9/9,ms1mx2.6/42,Error ellipse: s-maj=9.9km s-min=6.3km az=151.0*
*NEIC **10** 19:45:57.7±2.7,45°.64N±0°.04×26°.51E±0°.06,h113km±3km, Error ellipse: s-maj=6.4km s-min=5.8km az=69.0*
*BUC **10** 19:45:57.8±0.2,45°.60N×26°.45E,h106km±1km,ml4.8/65, Error ellipse: s-maj=1.5km s-min=1.4km az=9.0*
*MED_RC **10** 19:45:58.0±0.3,45°.60N×26°.45E,h106km±7km,MW4.4/23, Moment Tensor Solution.Mantle waves: s23,c27; Duration: 1s1 Moment tensor: Scale 10^15Nm; Mrr3.82±.56; Mθθ-3.82±1.68; Mφφ0.00±1.39; Mrθ-3.75±.49; Mθφ-0.41±.86; Mφr2.15±.32; Best double couple: M0:5.75000×10^15 NP1:φs67.00000°,δ26.00000°, λ51.00000°. NP2:φs288.00000°,δ70.00000°,λ107.00000°. Principal axes: T 6.1100, Plg61.0000°, Azm224.0000°; N -0.7200, Plg16.0000°, Azm102.0000°; P -5.3900, Plg23.0000°, Azm5.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*BEO **10** 19:45:59.8±2.2,45°.68N×26°.28E,h83km±5km,ML4.6/11*
*THE **10** 19:45:59.6,45°.26N×26°.44E,h122km±21km,ML4.1/4, Error ellipse: s-maj=21.7km s-min=2.2km az=184.0*

ISC 10 19:45:57.5±0.3,45°.65N±0°.03×26°.45E±0°.02,h108km±3km, h108km:pP-P,n683,σ1°.82/810,mb4.5/60,123C-138D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.21**	**118**	⇑P	**Pn**	**19 46 13.5**	**+0.7**
BISRR				⇓S	**Sn**	**19 46 24.9**	**+0.7**
BISRR	**Bisoca**	**0.21**	**118**	⇑P	**Pn**	**19 46 13.5**	**+0.7**
BISRR	**Bisoca**	**0.21**	**118**	⇓S	Sn	19 46 24.9	+2.5
NEHR	**Nehoiu**	**0.24**	**206**	⇓P	**Pn**	**19 46 13.3**	**+0.5**
NEHR				⇑S	**Sn**	**19 46 24.2**	**-0.1**
NEHR	**Nehoiu**	**0.24**	**206**	⇓P	**Pn**	**19 46 13.3**	**+0.5**
NEHR	**Nehoiu**	**0.24**	**206**	⇑S	**Sn**	**19 46 24.2**	**-0.1**
PLOR	**Plostina**	**0.25**	**35**	⇑P	**Pn**	**19 46 13.2**	**+0.3**
PLOR				⇑S	**Sn**	**19 46 25.6**	**+1.2**
PLOR	**Plostina**	**0.25**	**35**	⇑P	Pb	19 46 13.2	+1.6
PLOR	**Plostina**	**0.25**	**35**	⇑S	Sn	19 46 25.6	+3.0
PLOR	**Plostina**	**0.25**	**35**	P	**Pn**	**19 46 13.2**	**+0.3**
PLOR				S	**Sn**	**19 46 25.7**	**+1.2**
PLOR	**Plostina**	**0.25**	**35**		**Pn**	**19 46 13.2**	**+0.3**
PLOR					**Sn**	**19 46 25.7**	**+1.3**
VRI	**Vrincioaia**	**0.30**	**42**	⇑P	**Pn**	**19 46 13.6**	**+0.6**
VRI				⇓S	**Sn**	**19 46 25.8**	**+1.1**
VRI	**Vrincioaia**	**0.30**	**42**	⇑P	Pb	19 46 13.6	+1.7
VRI	**Vrincioaia**	**0.30**	**42**	P	**Pn**	**19 46 13.5**	**+0.6**
VRI				S	**Sn**	**19 46 25.7**	**+1.1**
VRI	**Vrincioaia**	**0.30**	**42**		**Pn**	**19 46 13.6**	**+0.6**
VRI					**Sn**	**19 46 25.8**	**+1.1**
MLR	**Muntele Rosu**	**0.38**	**246**	P	**Pn**	**19 46 13.9**	**+0.4**
	760nm,0.3s,baz=72,slow=2.2						
MLR				S	**Sn**	**19 46 25.8**	**+0.1**
	7μm,0.3s,baz=210,slow=22,SNR=52						
MLR	**Muntele Rosu**	**0.38**	**246**	⇑P	**Pn**	**19 46 14.1**	**+0.5**
MLR				⇑S	**Sn**	**19 46 25.5**	**-0.2**
MLR	**Muntele Rosu**	**0.38**	**246**	⇑P	Pb	19 46 14.1	+0.5
MLR	**Muntele Rosu**	**0.38**	**246**	Pn	**Pn**	**19 46 14.0**	**+0.4**
MLR				Sn	**Sn**	**19 46 25.1**	**-0.5**
ODBI	**Odobesti**	**0.44**	**74**	⇑S	**Sn**	**19 46 26.4**	**+0.5**
ODBI	**Odobesti**	**0.44**	**74**	⇑S	**Sn**	**19 46 26.4**	**+0.5**
GRER		**0.46**	**125**	⇑S	**Sn**	**19 46 26.1**	**0.0**
GRER		**0.46**	**125**	⇑S	**Sn**	**19 46 26.1**	**0.0**
ISR	**Istrita**	**0.53**	**172**	P	**Pn**	**19 46 14.9**	**+0.5**
PETR	**Petresti**	**0.56**	**82**	⇑P	**Pn**	**19 46 15.4**	**+1.0**
PETR				⇓S	**Sn**	**19 46 28.3**	**+1.1**
PETR	**Petresti**	**0.56**	**82**	⇑P	**Pn**	**19 46 15.4**	**+1.0**
PETR	**Petresti**	**0.56**	**82**	⇓S	Sn	19 46 28.3	+2.0
PETR	**Petresti**	**0.56**	**82**		**Pn**	**19 46 15.4**	**+1.0**
PETR					**Sn**	**19 46 28.3**	**+1.1**
OZUR		**0.64**	**315**	⇑P	**Pn**	**19 46 15.5**	**+0.2**
OZUR				⇑S	**Sn**	**19 46 28.1**	**-0.5**
OZUR		**0.64**	**315**	⇑P	Pg	19 46 15.5	+1.0
OZUR		**0.64**	**315**	⇑S	Sn	19 46 28.1	+0.2
SECR		**0.67**	**204**	⇓P	**Pn**	**19 46 16.1**	**+0.8**
SECR				⇓S	**Sn**	**19 46 29.8**	**+1.0**
SECR		**0.67**	**204**	⇓P	**Pn**	**19 46 16.1**	**+0.8**
SECR		**0.67**	**204**	⇓S	**Sn**	**19 46 29.8**	**+1.0**
SECR					**Pn**	**19 46 16.2**	**+0.8**
SECR					**Sn**	**19 46 30.0**	**+1.2**
PLAR	**PLOIESTI**	**0.79**	**202**	⇑P	**Pn**	**19 46 17.1**	**+0.7**
PLAR	**PLOIESTI**	**0.79**	**202**	⇑P	**Pn**	**19 46 17.1**	**+0.7**
GHRR		**0.79**	**58**	⇑P	**Pn**	**19 46 17.4**	**+0.9**
GHRR				⇑S	**Sn**	**19 46 31.3**	**+0.6**
GHRR		**0.79**	**58**	⇑P	Pb	19 46 17.4	+1.6
GHRR		**0.79**	**58**		**Pn**	**19 46 17.4**	**+0.9**
GHRR					**Sn**	**19 46 31.3**	**+0.6**
DOPR	**Dopca**	**0.81**	**294**	⇑P	**Pn**	**19 46 17.0**	**+0.4**
DOPR				⇓S	**Sn**	**19 46 30.9**	**-0.1**
DOPR	**Dopca**	**0.81**	**294**	⇑P	**Pn**	**19 46 17.0**	**+0.4**
DOPR	**Dopca**	**0.81**	**294**	⇓S	**Sn**	**19 46 30.9**	**-0.1**
PGOR	**Pogoanele**	**0.83**	**153**	⇓P	**Pn**	**19 46 17.2**	**+0.4**
PGOR				⇑S	**Sn**	**19 46 32.0**	**+0.7**
PGOR	**Pogoanele**	**0.83**	**153**	⇓P	**Pn**	**19 46 17.2**	**+0.4**
PGOR	**Pogoanele**	**0.83**	**153**	⇑S	**Sn**	**19 46 32.0**	**+0.7**
TUDR		**0.86**	**93**	⇓P	**Pn**	**19 46 17.0**	**0.0**
TUDR				⇑S	**Sn**	**19 46 31.4**	**-0.4**
TUDR		**0.86**	**93**	⇓P	**Pn**	**19 46 17.0**	**0.0**
TUDR		**0.86**	**93**	⇑S	Sn	19 46 31.4	0.0
TESR	**Tescani**	**0.88**	**9**	⇑P	**Pn**	**19 46 17.9**	**+0.6**
TESR				⇑S	**Sn**	**19 46 32.4**	**+0.2**
TESR	**Tescani**	**0.88**	**9**	⇑P	Pg	19 46 17.9	+0.6
SULR		**0.98**	**188**	⇓P	**Pn**	**19 46 18.7**	**+0.5**
SULR				⇑S	**Sn**	**19 46 34.5**	**+0.7**
SULR		**0.98**	**188**	⇓P	Pb	19 46 18.7	+0.4
SULR		**0.98**	**188**	⇑S	**Sn**	**19 46 34.5**	**+0.7**
SCHL	**Schela**	**0.98**	**98**	⇑P	**Pn**	**19 46 18.1**	**-0.1**
SCHL				⇓S	**Sn**	**19 46 33.0**	**-1.0**
SCHL	**Schela**	**0.98**	**98**	⇑P	**Pn**	**19 46 18.1**	**-0.1**
SCHL	**Schela**	**0.98**	**98**	⇓S	**Sn**	**19 46 33.0**	**-1.0**
VOIR		**1.00**	**258**	⇓S	**Sn**	**19 46 33.8**	**-0.8**
VOIR		**1.00**	**258**	⇓S	**Sn**	**19 46 33.8**	**-0.8**
VARL	**Varlezi**	**1.01**	**75**	⇑P	**Pn**	**19 46 19.4**	**+0.8**
VARL				⇑S	**Sn**	**19 46 34.8**	**+0.3**
VARL	**Varlezi**	**1.01**	**75**	⇑P	**Pn**	**19 46 19.4**	**+0.8**
VARL	**Varlezi**	**1.01**	**75**	⇑S	**Sn**	**19 46 34.8**	**+0.3**
BIR	**Birlad**	**1.03**	**53**	⇑P	**Pn**	**19 46 19.7**	**+0.9**
BIR				⇓S	**Sn**	**19 46 35.2**	**+0.2**
BIR	**Birlad**	**1.03**	**53**	⇑P	Pb	19 46 19.7	+1.0
MTUR	**Matau**	**1.06**	**247**	⇑P	**Pn**	**19 46 20.0**	**+0.7**
MTUR	**Matau**	**1.06**	**247**	⇑P	Pb	19 46 20.0	+0.5
GISR	**Galati**	**1.15**	**100**	⇑P	**Pn**	**19 46 20.3**	**+0.2**
GISR				⇑S	**Sn**	**19 46 36.9**	**-0.3**
GISR	**Galati**	**1.15**	**100**	⇑P	**Pn**	**19 46 20.3**	**+0.2**
GISR	**Galati**	**1.15**	**100**	⇑S	**Sn**	**19 46 36.9**	**-0.3**
LEHL	**Lehliu**	**1.20**	**167**	⇓P	**Pn**	**19 46 20.8**	**+0.2**
LEHL				⇑S	**Sn**	**19 46 38.2**	**0.0**
LEHL	**Lehliu**	**1.20**	**167**	⇓P	Pb	19 46 20.8	+0.2
LEHL	**Lehliu**	**1.20**	**167**	⇑S	**Sn**	**19 46 38.2**	**0.0**
LEHL	**Lehliu**	**1.20**	**167**		**Pn**	**19 46 20.8**	**+0.2**
LEHL					**Sn**	**19 46 38.2**	**0.0**
AMRR	**Amara**	**1.21**	**148**	⇓P	**Pn**	**19 46 21.1**	**+0.3**
AMRR				⇑S	**Sn**	**19 46 38.2**	**-0.1**
AMRR	**Amara**	**1.21**	**148**	⇓P	**Pn**	**19 46 21.1**	**+0.3**
AMRR	**Amara**	**1.21**	**148**	⇑S	**Sn**	**19 46 38.2**	**-0.1**
AMRR	**Amara**	**1.21**	**148**	P	**Pn**	**19 46 21.1**	**+0.3**
AMRR						19 46 38.2	
AMRR	**Amara**	**1.21**	**148**		**Pn**	**19 46 21.1**	**+0.3**
AMRR					**Sn**	**19 46 38.2**	**-0.1**
INCR	**INCERC-Sediu C**	**1.22**	**190**	⇑P	**Pn**	**19 46 20.9**	**+0.1**
INCR				⇑S	**Sn**	**19 46 38.2**	**-0.4**
INCR	**INCERC-Sediu C**	**1.22**	**190**	⇑P	**Pn**	**19 46 20.9**	**+0.1**
INCR	**INCERC-Sediu C**	**1.22**	**190**	⇑S	**Sn**	**19 46 38.2**	**-0.4**
JOSR	**Joseni**	**1.24**	**329**	⇑P	**Pn**	**19 46 21.5**	**+0.3**
JOSR	**Joseni**	**1.24**	**329**	⇑P	**Pn**	**19 46 21.5**	**+0.3**
GIUM	**Giurgiulesti**	**1.25**	**97**	P	**Pn**	**19 46 21.8**	**+0.6**
GIUM				S	**Sn**	**19 46 39.4**	**+0.3**
GIUM	**Giurgiulesti**	**1.25**	**97**	⇓P	**Pn**	**19 46 21.8**	**+0.6**
GIUM				⇑S	**Sn**	**19 46 39.5**	**+0.3**
GIUM	**Giurgiulesti**	**1.25**	**97**	⇓P	**Pn**	**19 46 21.8**	**+0.6**
GIUM	**Giurgiulesti**	**1.25**	**97**	⇑S	**Sn**	**19 46 39.5**	**+0.3**
GIUM	**Giurgiulesti**	**1.25**	**97**		**Pn**	**19 46 21.8**	**+0.6**
GIUM					**Sn**	**19

KIS m 19 46 57.9
KIS Kishinev 2.13 50⇓P Pn 19 46 32.7 +0.7
KIS Kishinev 2.13 50⇓P Pg 19 46 32.7 +2.4
KIS Kishinev 2.13 50*d*i P Pn 19 46 32.7 +0.7
KIS *i* S **Sn 19 46 57.3 -1.1**
KIS pmax pmax
comp=N,2µm,0.2s
KIS smax smax
comp=N,10µm,0.1s
KIS smax smax
comp=E,22µm,0.2s
KIS Kishinev 2.13 50⇓*i*P Pg 19 46 32.7 +2.3
comp=E,2µm,0.2s
ZIMR 2.13 202⇓P Pn 19 46 31.7 -0.3
ZIMR ⇓S **Sn 19 46 56.6 -1.8**
ZIMR 2.13 202⇓P Pn 19 46 31.7 -0.3
ZIMR 2.13 202⇓S Sn 19 46 56.6 -1.8
BURAR Bucovina Array 2.14 337⇓P Pn 19 46 34.4 +2.1
BURAR Bucovina Array 2.14 337⇓P Pn 19 46 34.4 +2.1
BURAR Bucovina Array 2.14 337 Pn 19 46 34.4 +2.1
TSCT Constanta Port 2.16 133⇑P Pn 19 46 32.5 +0.1
TSCT Constanta Port 2.16 133⇑P Pb 19 46 32.5 +1.2
BUR08 Bucovina Ar. S 2.17 337 Pn 19 46 34.1 +1.4
VLAD Vladila 2.20 222⇓P Pn 19 46 32.3 -0.5
VLAD Vladila 2.20 222⇓P Pn 19 46 32.3 -0.5
EFOR EFORIE 2.21 134⇓P Pn 19 46 33.3 +0.3
EFOR EFORIE 2.21 134⇓P Pb 19 46 33.3 +0.6
CJR Cluj-Napoca 2.25 299⇓P Pn 19 46 34.2 +0.6
CJR Cluj-Napoca 2.25 299⇓P Pn 19 46 34.2 +0.6
PSN Preselentsi 2.32 147 P Pn 19 46 35.0 +0.5
MANR Mangalia 2.38 139⇑P Pn 19 46 35.3 0.0
MANR Mangalia 2.38 139⇑P Pn 19 46 35.3 0.0
TSMN Mangalia Port- 2.40 140⇑P Pn 19 46 35.5 0.0
TSMN Mangalia Port- 2.40 140⇑P Pn 19 46 35.5 0.0
SZH Strazhica 2.41 189 P Pn 19 46 35.3 -0.3
DEV Deva 2.49 277⇓P Pn 19 46 37.5 +0.8
DEV Deva 2.49 277⇓P Pn 19 46 37.5 +0.8
SRE Strehaia 2.49 248⇓P Pn 19 46 36.6 -0.1
SRE Strehaia 2.49 248⇓P Pn 19 46 36.6 -0.1
PRD Provadia 2.54 164 P Pn 19 46 38.0 +0.7
PVL Pavlikeni 2.56 199 P Pn 19 46 38.9 +1.4
CHRU Chernivtsi 2.68 352⇓*i*P Pn 19 46 39.3 +0.2
CHRU Pm 19 46 39.8
CHRU *i* S **Sn 19 47 11.9 +0.8**
CHRU Sm 19 47 14.5
BAIL Bailesti 2.74 235⇓P Pn 19 46 39.6 -0.3
BAIL Bailesti 2.74 235⇓P Pn 19 46 39.6 -0.3
SORM Soroca 2.81 27⇓P Pn 19 46 40.8 0.0
SORM Soroca 2.81 27⇓P Pn 19 46 40.8 0.0
KSV Kosov 2.83 341⇓*i*P Pn 19 46 41.3 +0.1
KSV Pm 19 46 41.9
KSV *i* S **Sn 19 47 15.7 +0.9**
KSV Sm 19 47 18.0
PUNG Punghina 2.84 243⇓P Pn 19 46 40.3 -1.0
PUNG Punghina 2.84 243⇓P Pn 19 46 40.3 -1.0
BMR Baia Mare 2.87 316⇓P Pn 19 46 42.4 +0.7
BMR Baia Mare 2.87 316⇓P Pn 19 46 42.4 +0.7
NSLU Nyzhne Selyshc 2.89 333 *i* P Pn 19 46 47.7 +5.8
NSLU Pm 19 46 48.8
NSLU *i* S Sn 19 47 27.3 +11
NSLU Sm 19 48 02.9
KMPD K-Podol'skiy 2.92 0⇑*i*P Pn 19 46 42.5 +0.2
KMPD *i* S **Sn 19 47 16.5 -0.3**
DJES Djerdap 2.94 252 *e*Pn **Pn 19 46 41.9 -0.8**
DJES *e*Sn **Sn 19 47 08.9 -8.6**
HERR Herculane 2.95 256⇓P Pn 19 46 42.1 -0.6
HERR Herculane 2.95 256⇓P Pn 19 46 42.1 -0.6
NDNU Novodnistrovsk 3.02 12⇓*i*P Pn 19 46 43.8 +0.2
NDNU Pm 19 46 44.6
NDNU *i* S **Sn 19 47 18.7 -0.4**
NDNU Sm 19 47 20.9
JMB Yambol 3.18 178 P Pn 19 46 45.4 -0.4
STNU Starunia 3.34 337⇑*i*P Pn 19 46 48.9 +1.0
STNU *i* S **Sn 19 47 28.8 +2.0**
KORU Korolevo 3.39 319 *e*P **Pn 19 46 49.0 +0.5**
KORU Pm 19 46 50.6
KORU *i* S **Sn 19 47 29.2 +1.3**
KORU Sm 19 47 56.4
BZS Buzias 3.39 271 *e*Pn **Pn 19 46 48.2 -0.3**
BZS *e*Sn Sn 19 47 17.9 -10
BZS Buzias 3.39 271⇑P Pn 19 46 48.5 -0.1
BZS Buzias 3.39 271⇑P Pn 19 46 48.5 -0.1
SIRR Siria 3.40 282⇓P Pn 19 46 49.5 +0.9
SIRR Siria 3.40 282⇓P Pn 19 46 49.5 +0.9
TRSU Trosnyk 3.42 317 *i* P **Pn 19 46 49.9 +0.9**
TRSU Pm 19 46 55.6
TRSU Sm 19 48 03.0
MDVR Moldovita 3.45 257⇑P Pn 19 46 49.0 -0.5
MDVR Moldovita 3.45 257⇑P Pn 19 46 49.0 -0.5
MEZ Mezhgor'ye 3.50 326⇓*i*P Pn 19 46 51.7 +1.7
MEZ Pm 19 46 52.7
MEZ *i* S **Sn 19 47 32.3 +1.7**
MEZ Sm 19 47 37.6
PGB Panagyurishte 3.50 209 P Pn 19 46 50.3 +0.1
ZAGS Zajecar 3.52 240 *i* Pn **Pn 19 46 48.6 -1.7**
ZAGS *e*Sn **Sn 19 47 22.4 -8.7**
BRIU Brid 3.57 320⇓*i*P Pn 19 46 51.6 +0.7
BRIU Pm 19 46 52.0
BRIU *i* S **Sn 19 47 33.3 +1.0**
BRIU Sm 19 47 58.0
HORU Horodok 3.57 360 *i* P **Pn 19 46 51.4 +0.5**
HORU *i* S **Sn 19 47 33.8 +1.5**
KUBS Kucevo 3.60 252 *i* Pn **Pn 19 46 50.0 -1.4**
ZAPS Zavoj 3.62 230 *i* Pn **Pn 19 46 51.3 -0.3**
BERU Beregovo 3.67 316⇓*i*P Pn 19 46 52.4 +0.1
BERU *i* S **Sn 19 47 36.2 +1.5**
BANR Banloc 3.74 268⇓P Pn 19 46 53.9 +0.7
BANR Banloc 3.74 268⇓P Pn 19 46 53.9 +0.7
MUKU Mukachevo 3.81 319 *i* P **Pn 19 46 54.8 +0.7**
MUKU *i* S **Sn 19 47 39.9 +2.0**
VTS Vitosha 3.81 218 P Pn 19 46 53.9 -0.4
MORS Morshin 3.90 335⇓*i*P Pn 19 46 56.9 +1.6
MORS *i* S **Sn 19 47 41.6 +1.5**
BOVS Bovan 3.94 241 *e*Pn **Pn 19 46 54.9 -1.0**
BOVS *e*Sn **Sn 19 47 32.4 -8.7**
SVIS Svilajnac 3.96 251 *i* Pn **Pn 19 46 55.4 -0.8**
SVIS *e*Sn Sn 19 47 32.2 -10
KDZ Kurdzhali 4.06 191 P Pn 19 46 57.6 0.0
UZH Uzhgorod 4.12 318⇓*i*P Pn 19 46 59.4 +1.2
UZH *i* S **Sn 19 47 47.2 +1.8**
UZH Uzhgorod 4.12 318⇓*i*P Pn 19 46 59.3 +1.1
UZH *i* S **Sn 19 47 46.5 +1.1**
UZH MLR MLR
comp=N,40nm,1.2s
UZH MLR MLR
comp=E,40nm,1.2s
UZH MLR MLR
comp=Z,20nm,1.2s
SHIU Shidnytsya 4.15 331 *i* P **Pn 19 46 59.6 +0.9**
SHIU *i* S **Sn 19 47 47.7 +1.5**
RZN Rozhen 4.15 198 P Pn 19 46 58.4 -0.6
BOSS Bosilegrad 4.25 224 *i* Pn **Pn 19 47 00.2 0.0**
KOLS Kolonicke sedl 4.34 321 *e*P **Pn 19 47 01.6 +0.2**
KOLS Kolonicke sedl 4.34 321 *e*P **Pn 19 47 01.6 +0.2**
BARS Barje 4.37 231 *i* Pn **Pn 19 47 01.5 -0.2**
BARS *e*Sn **Sn 19 47 43.5 -8.1**
GRUS Gruza 4.44 249 *e*Pn **Pn 19 47 01.8 -0.9**
LVV L'vov 4.48 340⇓*i*P Pn 19 47 04.1 +0.9
LVV Pm 19 47 06.6
LVV *i* S **Sn 19 47 55.6 +1.4**
LVV Sm 19 48 04.6
LVV L'vov 4.48 340*c i*P Pn 19 47 04.8 +1.6
LVV *i* S **Sn 19 47 55.8 +1.6**
LVV pmax pmax
comp=Z,220nm,0.6s
LVV smax smax
comp=N,300nm,0.9s
LVV smax smax
comp=E,900nm,0.9s
LVV MLR MLR
comp=Z,620nm,4.5s
KKB Krupnik 4.49 214 P Pn 19 47 03.5 +0.1
MMB Musomiste 4.51 207 P Pn 19 47 03.5 -0.2
TRUS Trudelj 4.52 254 *i* Pn **Pn 19 47 02.8 -0.9**
TRUS *e*Sn Sn 19 47 45.5 -10
SELS Selova 4.52 239 *i* Pn **Pn 19 47 02.9 -0.9**
SELS *e*Sn Sn 19 47 46.1 -9.2
RDO Rodhopi 4.55 189 P Pn 19 47 03.5 -0.6
RDO S **Sn 19 47 51.4 -4.5**
NVR Nevrokopi 4.69 205 P Pn 19 47 05.6 -0.5

NVR S **Sn 19 47 55.2 -4.2**
FRGS Fruska Gora 4.70 266 *i* Pn **Pn 19 47 06.0 -0.2**
FRGS Fruska Gora 4.70 266⇓*i*Pn Pn 19 47 05.6 -0.6
CRVS Cervenica-Dubn 4.70 316 *e*P **Pn 19 47 07.2 +1.0**
CRVS *e*S **Sn 19 47 57.4 -2.2**
CRVS Cervenica-Dubn 4.70 316 *e*P **Pn 19 47 07.2 +1.0**
CRVS *e*S **Sn 19 47 57.4 -2.2**
ALN Alexandroupoli 4.76 184 P Pn 19 47 06.2 -0.7
ALN S **Sn 19 47 57.4 -3.5**
comp=Z,330nm,0.9s
ALN Alexandroupoli 4.76 184 P Pn 19 47 06.2 -0.7
ALN Alexandroupoli 4.76 184 Pn **Pn 19 47 06.2 -0.7**
DIVS Divibare 4.84 254 *e*Pn **Pn 19 47 07.2 -1.0**
DIVS Divibare 4.84 254⇓*i*Pn Pn 19 47 07.0 -1.1
DIVS Divibare 4.84 254 Pn **Pn 19 47 07.0 -1.1**
ISK Istanbul-Kandi 4.96 156 P Pn 19 47 08.8 -0.9
ISK S **Sn 19 48 00.9 -4.9**
KECS Kecovo 4.96 307 *e*P **Pn 19 47 10.2 +0.5**
KECS Kecovo 4.96 307 *e*P **Pn 19 47 10.2 +0.5**
SRS Serrai 4.98 206 P Pn 19 47 08.5 -1.5
SRS S **Sn 19 48 03.2 -3.2**
STIP Stip 5.01 220 *i* Pn **Pn 19 47 07.6 -2.8**
TEKS Tekeris 5.02 260 *i* Pn **Pn 19 47 09.7 -0.8**
TEKS Tekeris 5.02 260 *e*Pn **Pn 19 47 09.9 -0.6**
PSZ Piszkesteto 5.04 299⇑P Pn 19 47 11.5 +0.7
PSZ Piszkesteto 5.04 299⇑P Pn 19 47 11.5 +0.7
PSZ Piszkesteto 5.04 299 P Pn 19 47 09.9 -0.9
PSZ Piszkesteto 5.04 299 Pn Pn 19 47 09.9 -0.9
VAY Valandovo 5.16 214 *e*Pn **Pn 19 47 12.1 -0.3**
VAY Valandovo 5.16 214 *i* Pn **Pn 19 47 12.2 -0.3**
KNT Kendrikon 5.17 211 P Pn 19 47 12.4 -0.2
KNT S **Sn 19 48 08.4 -2.7**
comp=Z,258nm,0.5s
THAS Thassos island 5.19 195 P Pn 19 47 11.5 -1.3
SJES Sjenica 5.21 245 *e*Pn **Pn 19 47 12.4 -0.8**
SJES *e*Sn Sn 19 48 02.6 -9.5
SMTH Samothraki Isl 5.22 188 P Pn 19 47 11.9 -1.3
SEV Sevastopol' 5.23 100 *e*P **Pn 19 47 12.1 -1.2**
SEV Pm 19 47 12.5
SEV *e*S **Sn 19 48 08.6 -3.8**
SEV Sm 19 48 08.6
SEV Sevastopol' 5.23 100 *e*P **Pn 19 47 12.1 -1.2**
SEV *e*S **Sn 19 48 08.6 -3.8**
BBLS Lazići 5.32 253 *i* Pn **Pn 19 47 14.1 -0.5**
BBLS *e*Sn Sn 19 48 05.3 -9.4
BBLS Lazići 5.32 253⇓*i*Pn Pn 19 47 13.7 -0.9
SOH Sokhos 5.32 206 P Pn 19 47 14.3 -0.4
SOH S **Sn 19 48 10.9 -3.9**
AKASG Malin Array Be 5.39 19 P Pn 19 47 14.8 -0.6
comp=Z,92nm,0.3s,baz=201,slow=13,SNR=165
AKASG S **Sn 19 48 12.7 -3.5**
comp=Z,306nm,0.3s,baz=202,slow=21,SNR=3.7
AKASG Malin Array Be 5.39 19 Pn 19 47 13.5 -1.9
AKBB Malin Array Si 5.39 19 P Pn 19 47 14.7 -0.7
AKBB Malin Array Si 5.39 19 Pn **Pn 19 47 14.7 -0.7**
RUDO Rudo 5.44 251 *e*Pn **Pn 19 47 14.8 -1.4**
SIM Simferopol' 5.46 95 *e*P **Pn 19 47 15.2 -1.1**
SIM Pm 19 47 15.4
SIM *e*S **Sn 19 48 14.3 -3.6**
SIM Sm 19 48 15.4
SIM Simferopol' 5.46 95*d i*P Pn 19 47 15.3 -1.1
SIM *e*S **Sn 19 48 15.4 -2.5**
SIM pmax pmax
comp=Z,92nm,0.4s
SIM smax smax
comp=E,467nm,0.6s
SIM smax smax
comp=N,110nm,0.3s
IVA Berane 5.46 242⇓*i*Pn Pn 19 47 16.1 -0.5
IVA *i* Sn **Sn 19 48 14.7 -3.4**
GADA Gvkgeada 5.47 184 P Pn 19 47 15.6 -1.0
MORH Mrgy, Hungar 5.47 279 *e*Pn **Pn 19 47 17.3 +0.7**
PLE Pljevlja 5.55 248⇓*i*Pn Pn 19 47 17.3 -0.5
PLE *i* Sn **Sn 19 48 17.4 -3.0**
PVY Plav 5.58 239⇑*i*Pn Pn 19 47 17.8 -0.4
PVY *i* Sn **Sn 19 48 17.3 -3.7**
YAL Yalta 5.58 99 *e*P **Pn 19 47 17.1 -1.0**
YAL *e*S **Sn 19 48 17.7 -3.2**
YAL Yalta 5.58 99 *e*P **Pn 19 47 17.1 -1.0**
YAL *e*S **Sn 19 48 17.7 -3.2**
OUR Ouranopolis 5.61 200 P Pn 19 47 16.9 -1.5
HORT Hortiatis 5.61 207 P Pn 19 47 18.1 -0.4
NIE Niedzica 5.62 314 *e*P **Pn 19 47 19.9 +1.3**
KOME Kolasin 5.71 243 *e*Pn **Pn 19 47 19.7 -0.2**
KOME *i* Sn **Sn 19 48 20.9 -3.2**
ALU Alushta 5.71 97 *e*P **Pn 19 47 18.6 -1.2**
ALU Pm 19 47 33.4
ALU *e*S **Sn 19 48 21.2 -2.8**
ALU Sm 19 48 23.4
ALU Alushta 5.71 97 *e*P **Pn 19 47 18.6 -1.2**
ALU *e*S **Sn 19 48 21.2 -2.8**
PLG Polygyros 5.71 204 P Pn 19 47 19.2 -0.7
EZN Ezine 5.82 181 P Pn 19 47 20.4 -0.9
EZN S **Sn 19 48 22.6 -4.0**
LIA Limnos Island 5.82 190 P Pn 19 47 20.0 -1.3
PHP Peshkopia 5.88 230 P Pn 19 47 22.2 -0.1
LANS Liptovska Anna 5.89 309 *e*P **Pn 19 47 23.6 +1.3**
LANS Liptovska Anna 5.89 309 *e*P **Pn 19 47 23.6 +1.3**
UPM Unac-Piva 5.93 248 *e*Pn **Pn 19 47 22.4 -0.5**
UPM *i* Sn **Sn 19 48 26.1 -3.4**
UPM Unac-Piva 5.93 248 *e*Pn **Pn 19 47 22.5 -0.5**
VYHS Vyhne 5.93 301 *e*P **Pn 19 47 24.6 +1.9**
VYHS Vyhne 5.93 301 *e*P **Pn 19 47 24.6 +1.9**
SRO2 Moca 5.93 294 *e*P **Pn 19 47 23.6 +0.9**
SRO2 Moca 5.93 294 *e*P **Pn 19 47 23.6 +0.9**
SRO Srobarova 6.00 294 *e*P **Pn 19 47 26.1 +2.4**
SRO Srobarova 6.00 294 *e*P **Pn 19 47 26.1 +2.4**
NKY Niksic 6.06 245⇓*i*Pn Pn 19 47 24.3 -0.3
NKY *i* Sn **Sn 19 48 29.3 -3.3**
PAIG Paliouri 6.07 201 P Pn 19 47 23.2 -1.5
SUDU Sudak 6.08 94 *e*P **Pn 19 47 24.0 -0.9**
SUDU Pm 19 47 36.8
SUDU *e*S **Sn 19 48 30.0 -3.1**
SUDU Sm 19 48 32.8
SUDU Sudak 6.08 94 *e*P **Pn 19 47 24.0 -0.9**
SUDU *e*S **Sn 19 48 30.0 -3.1**
PDG Podgorica 6.10 241 *e*Pn **Pn 19 47 25.0 -0.1**
PDG Podgorica 6.10 241⇓P Pn 19 47 25.1 +0.1
PDG Podgorica 6.10 241⇓P Pn 19 47 25.1 +0.1
PDG Podgorica 6.10 241⇓*i*Pn Pn 19 47 24.9 -0.1
PDG Podgorica 6.10 241 Pn **Pn 19 47 24.8 -0.3**
TTG Podgorica 6.10 241 *e*Pn **Pn 19 47 24.9 -0.1**
TTG *i* Sn **Sn 19 48 30.2 -3.2**
NKME Niksic 6.11 245⇑*i*Pn Pn 19 47 24.8 -0.4
NKME *i* Sn **Sn 19 48 29.9 -3.8**
OHR Ohrid 6.12 224 *i* Pn **Pn 19 47 25.7 +0.2**
KOLL Kolacno 6.22 301 *e*P **Pn 19 47 28.4 +1.7**
MDUB Mudurnu 6.23 144 Pn **Pn 19 47 26.5 -0.5**
CEME Cevo 6.24 243⇓*i*Pn Pn 19 47 26.9 -0.2
CEME *i* Sn **Sn 19 48 33.3 -3.8**
LIT Litokhoron 6.26 209 P Pn 19 47 26.1 -1.2
LIT Litokhoron 6.26 209 P Pn 19 47 26.0 -1.2
LIT Litokhoron 6.26 209 Pn **Pn 19 47 26.0 -1.2**
DRME Dracevica, Mon 6.28 239⇓*i*Pn Pn 19 47 27.6 0.0
DRME *i* Sn **Sn 19 48 34.5 -3.4**
DRME Dracevica, Mon 6.28 239 *e*Pn **Pn 19 47 28.5 +0.9**
BRY Bratogost 6.30 247⇓*i*Pn Pn 19 47 27.5 -0.5
BRY *i* Sn **Sn 19 48 35.0 -3.7**
BRY Bratogost 6.30 247⇑*i*Pn Pn 19 47 27.9 -0.1
FEO Feodosiya 6.34 92 *e*P **Pn 19 47 28.5 +0.2**
FEO Pm 19 47 39.2
FEO *e*S **Sn 19 48 37.6 -1.6**
FEO Sm 19 48 41.7
FEO Feodosiya 6.34 92 *e*P **Pn 19 47 28.5 +0.2**
FEO *e*S **Sn 19 48 37.6 -1.6**
KZN Kozani 6.34 214 P Pn 19 47 28.1 -0.4
ULC Ulcinj 6.38 237⇑*i*Pn Pn 19 47 28.4 -0.5
ULC *i* Sn **Sn 19 48 36.7 -3.6**
BUM Brajici-Budva 6.39 241⇑*i*Pn Pn 19 47 29.2 +0.1
BUM *i* Sn **Sn 19 48 36.6 -4.1**
OJC Ojcow 6.39 318 *e*P **Pn 19 47 29.3 +0.3**
OJC Ojcow 6.39 318 P Pn 19 47 29.1 +0.1
OJC Ojcow 6.39 318 Pn **Pn 19 47 29.1 +0.1**
PRK Paraskevi 6.40 181 P Pn 19 47 29.5 +0.3
PRK S **Sn 19 48 38.8 -1.9**
TIR Tirane 6.43 230 *e*Pn **Pn 19 47 29.5 -0.1**
TIR Tirane 6.43 230 P Pn 19 47 29.8 +0.2
TIR Tirane 6.43 230 Pn **Pn 19 47 29.8 +0.2**
SIGR SIGRI 6.45 184 P Pn 19 47 28.3 -1.5
NEST Nestorio 6.55 219 P Pn 19 47 31.6 +0.2

NEST S **Sn 19 48 42.9 -1.8**
HCY Herceg Novi 6.56 244⇑*i*Pn Pn 19 47 31.3 -0.1
HCY *i* Sn **Sn 19 48 41.3 -3.4**
HCY Herceg Novi 6.56 244 *e*Pn **Pn 19 47 32.4 +1.0**
BLY Banja Luka 6.61 265 *e*Pn **Pn 19 47 30.4 -1.5**
BLY Banja Luka 6.61 265 *e*Pn **Pn 19 47 30.1 -1.8**
XOR Xorichti 6.72 202 P Pn 19 47 32.1 -1.5
NEO Neokhori 6.77 202 P Pn 19 47 32.5 -1.7
JAVC Velka Javorina 6.78 301 *e*PN **Pn 19 47 35.5 +1.1**
SMOL Smolenice 6.79 298 *e*P **Pn 19 47 36.9 +2.5**
SMOL Smolenice 6.79 298 *e*P **Pn 19 47 36.9 +2.5**
KPRO Kipourio 6.80 215 P Pn 19 47 34.9 +0.1
KPRO S **Sn 19 48 48.3 -2.4**
comp=N,98nm,0.6s
MODS Modra-Piesok 6.84 297 *e*P **Pn 19 47 35.9 +0.8**
MODS *e*S **Sn 19 48 44.5 -6.8**
MODS Modra-Piesok 6.84 297 *e*P **Pn 19 47 35.9 +0.8**
MODS *e*S **Sn 19 48 44.5 -6.8**
THL Klokotos Trika 6.90 210 P Pn 19 47 35.3 -0.7
ILGA Ilgaz 7.01 128 Pn **Pn 19 47 36.0 -1.7**
KERU Kerch 7.05 89 *e*P **Pn 19 47 35.9 -2.0**
KERU Kerch 7.05 89 *e*P **Pn 19 47 35.9 -2.0**
KYMI Kymi, Euboea I 7.22 195 P Pn 19 47 38.7 -1.6
BEL Belsk 7.23 331 *e*P **Pn 19 47 42.2 +1.9**
BEL *e*S **Sn 19 49 03.5 +2.6**
CHOS Chios island 7.26 182 P Pn 19 47 40.5 -0.4
BLCB Balcova 7.27 176 P Pn 19 47 41.6 +0.6
MORC Moravsky Berou 7.29 308⇓P Pn 19 47 41.6 +0.4
MORC Moravsky Berou 7.29 308⇓P Pn 19 47 41.6 +0.4
MORC Moravsky Berou 7.29 308 *e*PN **Pn 19 47 40.7 -0.5**
MORC Moravsky Berou 7.29 308 P Pn 19 47 40.7 -0.5
MORC Moravsky Berou 7.29 308 Pn 19 47 40.7 -0.5
KULA Kula-Manisa 7.31 166 P Pn 19 47 40.5 -1.2
MANT Manisa 7.32 167 Pn **Pn 19 47 40.3 -1.6**
AXAR Agios Charalam 7.43 204 P Pn 19 47 44.1 +1.0
LKR Lokris 7.44 201 P Pn 19 47 42.0 -1.4
SRN Sarande 7.46 222 P Pn 19 47 45.1 +1.5
SRN S **Sn 19 49 06.0 -0.5**
DIKM Dikmen 7.54 119⇑P Pn 19 47 42.9 -1.7
DIKM Dikmen 7.54 119⇑P Pn 19 47 42.9 -1.7
EVR Evrytania 7.55 209 P Pn 19 47 44.6 -0.3
GOLS Golise 7.57 277 *i* Pn **Pn 19 47 46.4 +1.4**
IGT Igoumenitsa 7.59 219 P Pn 19 47 47.2 +1.8
IGT S **Sn 19 49 10.4 +0.6**
comp=N,40nm,0.9s
VRAC Vranov 7.61 302 P Pn 19 47 45.6 0.0
baz=112,slow=13,SNR=5.6
VRAC Vranov 7.61 302 *e*PN **Pn 19 47 45.4 -0.2**
CONA Conrad Observa 7.62 291 *e*Pn **Pn 19 47 50.3 +4.6**
comp=N,1.9nm,0.4s
KRUC Moravsky 7.63 300 *e*PN **Pn 19 47 45.9 +0.1**
BOLV Bolvadin 7.69 153 Pn 19 47 47.1 +0.3
CRES Cresnjev 7.69 275 *e*Pn **Pn 19 47 47.2 +0.5**
ARSA Arzberg 7.71 286 *i* Pn **Pn 19 47 51.0 +4.0**
comp=N,1.8nm,0.4s
ARSA *i* Sn **Sn 19 49 13.5 +0.8**
comp=N,6.3nm,0.6s
DION Dionisos Attik 7.79 195 P Pn 19 47 45.9 -2.2
DSF Desfina 7.79 203 P Pn 19 47 46.6 -1.6
ANN Anapa 7.80 92 *e*P **Pn 19 47 45.4 -2.8**
ANN *e*S **Sn 19 49 09.6 -5.2**
ANN pmax pmax
comp=Z,8.0nm,0.4s
ANX Ano Chora 7.81 207 P Pn 19 47 48.3 -0.1
VILL Villia 7.83 198 P Pn 19 47 47.8 -0.9
KRLC Kraliky 7.86 308 *e*PN **Pn 19 47 48.8 -0.2**
KRLC Kraliky 7.86 308 *e*P **Pn 19 47 48.8 -0.2**
PVO Paravola 7.92 209 P Pn 19 47 51.1 +1.3
PERS Pernice 7.93 281 *e*Pn **Pn 19 47 51.4 +1.4**
BR131 Keskin Array S 7.94 136 P Pn 19 47 48.6 -1.6
BR131 Keskin Array S 7.94 136 Pn 19 47 48.6 -1.6
BRTR Keskin Array B 7.94 136 P Pn 19 47 49.2 -1.0
comp=Z,0.5nm,0.3s,baz=2.4,slow=25,SNR=14
BRTR LR LR 19 51 28.4
comp=Z,14nm,21.6s,baz=336,slow=41
BRTR Keskin Array B 7.94 136 Pn 19 47 48.6 -1.7
EFP Efpalio 7.96 207 P Pn 19 47 50.1 -0.3
SOKA Soboth 7.99 282 *i* Pn **Pn 19 47 52.5 +1.7**
comp=Z,12nm,0.9s,SNR=6.0
VLY Voula,Athens 8.04 195 P Pn 19 47 50.2 -1.2
LTK Loutraki 8.05 200 P Pn 19 47 50.2 -1.4
TSLK Tsoukalades, L 8.05 214 P Pn 19 47 52.8 +1.2
SCTE Santa Cesarea 8.08 229 Pn **Pn 19 47 52.0 0.0**
LKD2 Lefkada island 8.08 214 P Pn 19 47 53.7 +1.6
KLV Kalavryta, Ach 8.24 204 P Pn 19 47 53.9 -0.4
DPC Dobruska-Polom 8.26 308 *e*PN **Pn 19 47 54.4 0.0**
DPC Dobruska-Polom 8.26 308 *e*P **Pn 19 47 54.4 0.0**
TREC Trest 8.27 300 *e*PN **Pn 19 47 54.7 +0.2**
TREC Trest 8.27 300 *e*P **Pn 19 47 54.7 +0.2**
GUR Goura 8.29 203 P Pn 19 47 54.0 -0.9
OBKA Obir 8.32 280 *i* Pn **Pn 19 47 58.1 +2.8**
comp=Z,4.6nm,0.7s
LJU Ljubljana 8.33 277 *e*Pn **Pn 19 47 57.7 +2.3**
LJU Ljubljana 8.33 277 *e*Pn **Pn 19 47 56.5 +1.1**
ISP Isparta 8.39 157 P Pn 19 47 56.1 -0.2
ISP Isparta 8.39 157 Pn **Pn 19 47 56.0 -0.2**
GBAS Gorenja Brezov 8.39 276 *i* Pn **Pn 19 47 58.5 +2.3**
CEY Cerknica 8.42 275 *e*Pn **Pn 19 47 57.2 +0.7**
DRO Drossia 8.46 206 P Pn 19 47 58.1 +0.9
DID Didima 8.48 198 P Pn 19 47 55.8 -1.7
UPC Upice 8.51 309 *e*PN **Pn 19 47 57.7 0.0**
UPC Upice 8.51 309 *e*P **Pn 19 47 57.7 0.0**
CHVC Chvalec 8.53 309 *e*PN **Pn 19 47 58.0 0.0**
KSP Ksiaz 8.54 311 *e*P **Pn 19 47 57.7 -0.4**
APE Apeiranthos 8.60 185 *i* P **Pn 19 47 58.5 -0.6**
SUW Suwalki 8.64 347 *e*P **Pn 19 47 58.0 -1.3**
SUW *e*S **Sn 19 49 32.8 -2.1**
SUW Suwalki 8.64 347 P Pn 19 47 58.1 -1.3
SUW Suwalki 8.64 347 Pn 19 47 58.1 -1.3
SGRT San Giovanni R 8.67 247 Pn **Pn 19 48 00.1 0.0**
TRIP Tripoli 8.69 203 P Pn 19 48 02.1 +1.7
VLX Vlachokerasia 8.81 202 P Pn 19 48 02.0 0.0
CADS Cadrg 8.88 278 *e*Pn **Pn 19 48 04.4 +1.6**
MICGM Minsk 8.91 5⇑*e*P Pn 19 48 01.0 -2.2
MICGM PM 19 48 02.0
comp=Z,0.1nm,1.8s
MICGM PM 19 48 03.0
comp=N,0.2nm,1.8s
MICGM pP 19 48 20.0
MICGM *e*S **Sn 19 49 35.0 -6.7**
MICGM SM 19 49 36.0
comp=N,0.4nm,1.0s
MICGM SM 19 49 36.0
comp=E,0.5nm,1.0s
MICGM sS 19 49 54.0
MNK Minsk 8.91 5⇑*e*P Pn 19 48 01.0 -2.2
MNK *e*S **Sn 19 49 35.0 -6.7**
MNK pmax pmax
comp=N,210nm,1.8s
MNK pmax pmax
comp=Z,120nm,1.8s
MNK smax smax
comp=N,410nm,1.0s
MNK smax smax
comp=E,540nm,1.0s
MYKA Terra Mystica 8.95 281 *e*Pn **Pn 19 48 06.4 +2.6**
comp=E,3.4nm,0.5s
PRED Cave del Predi 9.00 280 Pn 19 48 05.0 +0.6
TOKA Tokat 9.07 122 Pn **Pn 19 48 04.4 -1.1**
ITM Ithomi 9.11 203 P Pn 19 48 07.7 +1.7
ITM Ithomi 9.11 203 Pn **Pn 19 48 06.8 +0.7**
KBA Koelnbreinsper 9.17 284 *i* Pn **Pn 19 48 10.0 +3.0**
comp=E,18nm,1.1s,SNR=7.3
GEC2 GERESS Array S 9.24 295 Pn **Pn 19 48 08.7 +1.0**
GERES GERESS Array B 9.24 295 P Pn 19 48 07.5 -0.2
comp=E,0.3nm,0.3s,baz=99,slow=14,SNR=15
GERES S **Sn 19 49 51.1 +1.3**
comp=E,0.2nm,0.3s,baz=116,slow=18,SNR=1.7
GERES GERESS Array B 9.24 295 P Pn 19 48 08.4 +0.7
GERES 19 49 51.1
GERES GERESS Array B 9.24 295 Pn **Pn 19 48 08.4 +0.7**
ELL Elmali 9.26 162 P Pn 19 48 08.4 +0.2
ELL Elmali 9.26 162 Pn **Pn 19 48 08.4 +0.2**
NACGM Naroch 9.27 1 *e*P **Pn 19 48 06.0 -2.0**
NACGM PM 19 48 08.0
comp=Z,0.6nm,1.0s
NACGM *e*S **Sn 19 49 44.0 -6.3**
SANT Santorini 9.30 185 Pn **Pn 19 48 08.2 -0.3**
KHC Kasperske Hory 9.40 296 *e*PN **Pn 19 48 08.9 -0.9**
KHC Kasperske Hory 9.40 296*ce*P Pn 19 48 11.5 +1.7
KHC pmax pmax
comp=Z,10.0nm,1.7s

KHC Kasperske Hory 9.40 296 Pn **Pn 19 48 10.4 +0.6**
TIP Timpagrande 9.64 231 Pn **Pn 19 48 13.2 -0.1**
IDID Didziasalis 9.68 1 *eP* **Pn 19 48 11.8 -1.8**
GKP Gorka Klasztor 9.70 325 *eP* **Pn 19 48 13.4 -0.4**
IIGN Ignalina 9.72 359 *eP* **Pn 19 48 12.3 -1.7**
ABTA Abfaltersbach 9.73 281 *e*Pn **Pn 19 48 17.6 +3.2**
comp=Z,6.7nm,1.4s
INTR Introdacqua 9.76 253 Pn **Pn 19 48 15.3 +0.4**
CIMO Cimolais 9.78 279 Pn **Pn 19 48 15.5 +0.5**
PAOL Paolisi 9.80 246 Pn **Pn 19 48 15.1 -0.3**
KLNR Kaliningrad 9.82 338*d i*P **Pn 19 48 14.2 -1.2**
ISAL Salakas 9.94 359 *eP* **Pn 19 48 15.1 -1.9**
AQU L'Aquila 9.96 255 P **Pn 19 48 16.9 -0.6**
AQU L'Aquila 9.96 255 **Pn 19 48 16.9 -0.6**
NRCA Norcia 9.97 258 **Pn 19 48 17.8 +0.1**
PABE Paberze 10.00 352 *eP* **Pn 19 48 16.0 -1.8**
VORD Divnogorie 10.07 53 *eP* **Pn 19 48 17.1 -1.8**
VORD *eS* **Sn 19 50 03.2 -6.7**
VORD pmax pmax
comp=Z,160nm,0.4s
VORD pmax pmax
comp=Z,530nm,1.0s
VORD smax smax
comp=E,2μm,0.9s
KARP Karpathos 10.10 177 Pn **Pn 19 48 19.4 0.0**
IZAR Zarasai 10.12 359 *eP* **Pn 19 48 17.2 -2.2**
VSR Storozhevoye 10.12 52 *eP* **Pn 19 48 17.8 -1.7**
VSR *eS* **Sn 19 50 03.8 -7.2**
VSR pmax pmax
comp=Z,130nm,0.4s
VSR pmax pmax
comp=Z,180nm,0.4s
VSR smax smax
comp=N,970nm,0.8s
MURB Monte Urbino 10.24 261 Pn **Pn 19 48 21.5 +0.2**
CTI Castel Tesino 10.34 278 P **Pn 19 48 23.5 +0.9**
CTI Castel Tesino 10.34 278 Pn **Pn 19 48 23.5 +0.9**
WTTA Wattenberg 10.35 284 *i* Pn **Pn 19 48 27.3 +4.5**
comp=N,7.6nm,1.1s
VORR Voronezh 10.37 50 *eP* **Pn 19 48 23.0 +0.1**
VORR pmax pmax
comp=Z,350nm,0.6s
WATA Walderalm 10.39 285 *i* Pn **Pn 19 48 26.4 +2.9**
comp=Z,15nm,1.2s
IDI Anoyia 10.41 187 P **Pn 19 48 22.0 -1.7**
comp=Z,1.3nm,0.3s,baz=0.1,slow=14,SNR=12
IDI Anoyia 10.41 187 Pn **Pn 19 48 22.5 -1.3**
CLL Collm 10.56 307 *e*(P) **Pn 19 48 26.0 +0.4**
comp=Z,3.0nm,1.0s
CLL *e* 19 49 13.0
CLL *i* 19 49 18.8
CLL L L 19 53 00.0
comp=Z,100nm,19.1s
CLL Collm 10.56 307 *eP* **Pn 19 48 26.0 +0.4**
MOTA Moosalm 10.72 285 *e*Pn **Pn 19 48 30.4 +2.6**
comp=Z,4.0nm,0.8s,SNR=6.0
LPSR Galich'ya Gora 10.73 45 *eP* **Pn 19 48 25.7 -2.1**
LPSR *eS* Sn 19 50 15.8 -10
LPSR pmax pmax
comp=Z,150nm,0.8s
LPSR pmax pmax
comp=Z,100nm,0.5s
LPSR smax smax
comp=E,2μm,2.0s
CEL Celeste 10.77 230 **Pn 19 48 27.2 -1.3**
PBUR Paburge 10.77 346 *eP* **Pn 19 48 26.9 -1.4**
FETA Feichten 10.96 283 *e*Pn Pn 19 48 36.7 +5.6
comp=E,12nm,0.9s
OBN Obninsk 11.46 31 P **Pn 19 48 34.3 -3.3**
comp=E,31nm,0.3s,baz=46,slow=6.8,SNR=37
OBN S Sn 19 50 31.9 -11
comp=E,11nm,0.3s,baz=265,slow=23,SNR=14
OBN Obninsk 11.46 31*d i*P **Pn 19 48 34.1 -3.4**
OBN pmax pmax
comp=Z,109nm,0.4s
OBN MLR MLR
comp=Z,54nm,18.0s
OBN Obninsk 11.46 31 Pn **Pn 19 48 34.5 -3.0**
DAVOX Davos/Dischmat 11.54 282 P **Pn 19 48 41.7 +2.8**
comp=Z,0.1nm,0.3s,baz=84,slow=8.2,SNR=3.5
DAVOX LR LR 19 54 30.0
comp=Z,61nm,18.2s,baz=77,slow=45
DAVA Damuels 11.54 284 *e*Pn **P 19 48 49.5 +1.4**
comp=Z,18nm,0.9s,SNR=8.5
VRH Novokhopyorsk 11.56 56 *eP* **Pn 19 48 36.6 -2.4**
VRH *eS* **Sn 19 50 38.3 -7.7**
VRH pmax pmax
comp=Z,410nm,0.6s
VRH pmax pmax
comp=Z,380nm,0.6s
VRH smax smax
comp=N,580nm,0.9s
KIV Kislovodsk 11.66 93 *eP* **Pn 19 48 40.3 -0.2**
KIV *eS* **Sn 19 50 48.8 +0.1**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 11.66 93 Pn **Pn 19 48 40.5 0.0**
KVAR Kislovodsk Arr 11.67 93 S **Sn 19 50 41.3 -7.6**
baz=280,slow=15,SNR=2.3
GOF Gofitskoye 11.70 87⇑ *eP* **Pn 19 48 39.1 -1.7**
GOF *eS* **Sn 19 50 41.7 -7.7**
GOF pmax pmax
comp=Z,6.0nm,0.4s
GOF smax smax
comp=N,80nm,0.6s
GOF smax smax
comp=E,80nm,0.6s
KBZ Khabaz 11.87 93 P **Pn 19 48 43.9 +0.8**
comp=E,0.3nm,0.3s,baz=291,slow=5.1,SNR=2.4
VAE Valguarnera 12.15 232 P **Pn 19 48 46.5 -0.4**
comp=E,1.0nm,0.3s,baz=355,slow=5.9,SNR=6.3
SLIT Slitere, Latvi 12.27 349 *eP* **Pn 19 48 45.1 -3.2**
MOS Moscow 12.32 31 *eP* **Pn 19 48 44.8 -4.2**
MOS pmax pmax
comp=E,52nm,0.5s
MOS pmax pmax
comp=Z,96nm,0.6s
MOS pmax pmax
comp=N,63nm,0.5s
RAFF Raffo Rosso 12.36 231 Pn **Pn 19 48 50.1 +0.5**
CORL Corleone 12.49 236 Pn **Pn 19 48 52.9 +1.5**
CLTB Caltabellotta 12.75 235 **Pn 19 48 54.1 -0.8**
VSU Vasula 12.84 1 *eP* **Pn 19 48 52.8 -2.9**
VSU Vasula 12.84 1 *i* P **Pn 19 48 52.7 -3.0**
ZEI Tsey 12.85 97 *eP* P 19 49 10.0 +7.2
ZEI pmax pmax
comp=Z,5.0nm,0.7s
SENIN Lac Senin/Sane 13.33 280 **P 19 49 08.3 +0.1**
ECH Echery 13.43 288 P **P 19 49 09.8 +0.8**
ECH Echery 13.43 288 **P 19 49 09.8 +0.8**
BNI Bardonecchia 13.92 275 P **Pn 19 49 11.3 +1.3**
BNI Bardonecchia 13.92 275 Pn **Pn 19 49 11.3 +1.3**
PUL Pulkovo 14.34 8 *eP* **Pn 19 49 11.4 -3.8**
PUL Pulkovo 14.34 8 *i* P **Pn 19 49 11.6 -3.5**
PUL pmax pmax
comp=Z,150nm,0.5s
MMAI Mount Meron Ar 14.38 148 P **Pn 19 49 17.4 +1.5**
comp=Z,0.2nm,0.3s,baz=332,slow=10,SNR=2.9
MMAI PcP **PcP 19 54 25.2 +1.0**
comp=Z,0.5nm,0.3s,baz=349,slow=1.7,SNR=4.9
MMAI LR LR 19 56 33.0
comp=Z,30nm,20.8s,baz=145,slow=44
MEM Membach 14.51 297 P **P 19 49 24.0 +3.0**
comp=Z,14nm,1.2s
BSTI Sart Tilman 14.78 297 P **P 19 49 27.6 +3.7**
BMRD Maredsous 15.23 296 P **P 19 49 31.6 +2.6**
comp=Z,23nm,1.2s
MUD Monsted U'grnd 15.28 321 *i* P **Pn 19 49 28.0 +1.0**
MUD Monsted U'grnd 15.28 321 *eP* **Pn 19 49 28.0 +1.0**
SSB Saint Sauveur 15.37 276 P **P 19 49 31.6 +1.0**
SSB pmax pmax
comp=Z,8.0nm,0.6s
SSB Saint Sauveur 15.37 276 **P 19 49 31.6 +1.0**
FIA1 FINESS Array S 15.83 359 Pn **Pn 19 49 28.8 -5.1**
FIA1 IAmb IAmb 19 49 36.8
comp=Z,33nm,0.8s
FINES FINESS Array B 15.83 359 P **Pn 19 49 29.2 -4.7**
comp=Z,3.8nm,0.3s,baz=169,slow=12,SNR=101
FINES S Sn 19 52 18.2 -11
comp=Z,1.8nm,0.3s,baz=174,slow=21,SNR=3.7
FINES FINESS Array B 15.83 359 Pn **Pn 19 49 28.9 -5.0**
KEST Kesra 16.29 239 P **P 19 49 42.0 +1.2**
comp=Z,0.8nm,0.3s,baz=314,slow=3.4,SNR=14
KEST Kesra 16.29 239 **P 19 49 41.3 +0.4**
HFS Hagfors 16.38 337 P **Pn 19 49 37.9 -2.7**
comp=Z,1.7nm,0.3s,baz=134,slow=15,SNR=33
CLF Chambon-Foret 16.70 287 P **P 19 49 45.6 +0.4**
HOMB Homborsund 16.72 326 *eP* **P 19 49 46.8 +1.5**
KLMR Klimovskoe 17.07 22*c i*P **Pn 19 49 45.6 -3.5**
KLMR *e* 19 52 48.6
KLMR pmax pmax
comp=Z,131nm,1.1s
KLMR Klimovskoe 17.07 22⇑ *i*Pn **Pn 19 49 45.7 -3.4**
KLMR *i* Pn **Pn 19 49 45.7 -3.4**
KLMR *i* Pn **Pn 19 49 45.7 -3.4**
KLMR AMP 19 49 51.5
comp=Z,131nm,1.1s
KLMR *e*Sn **Sn 19 52 48.7 -10**
KLMR *e*Sn **Sn 19 52 48.7 -10**
KONO Kongsberg 17.27 330 *i* P **Pn 19 49 53.2 +1.6**
KONO pmax pmax
comp=Z,5.0nm,0.9s
KONO Kongsberg 17.27 330 P **P 19 49 50.7 -0.8**
KONO IAmb IAmb 19 49 52.4
comp=Z,52nm,1.7s
KONO Kongsberg 17.27 330 *eP* **P 19 49 51.4 -0.1**
EIL Elat 17.29 154 P **Pn 19 49 53.4 +1.2**
comp=Z,0.2nm,0.3s,baz=343,slow=6.2,SNR=5.0
NC602 NORSAR Array S 17.48 335 P **P 19 49 51.8 -2.0**
NC602 IAmb IAmb 19 49 54.7
comp=Z,34nm,0.7s
NC405 NORSAR Array S 17.74 336 P **P 19 49 55.3 -1.3**
NC405 IAmb IAmb 19 49 59.0
comp=Z,28nm,0.9s
NAO01 NORSAR Array S 17.77 335 P **P 19 49 55.7 -1.2**
NAO01 NORSAR Array S 17.77 335 *eP* **P 19 49 55.5 -1.4**
NB201 NORSAR Array S 17.81 335 P **P 19 49 56.1 -1.2**
NB201 IAmb IAmb 19 49 59.7
comp=Z,41nm,0.8s
NB2 NORSAR Subarra 17.82 335 P **P 19 49 55.4 -2.1**
comp=Z,11nm,0.6s,baz=145,slow=12
NB2 NORSAR Subarra 17.82 335 P **P 19 49 55.4 -2.1**
baz=145,slow=12
NOA NORSAR Array B 17.82 335 P **P 19 49 55.5 -2.1**
comp=Z,0.2nm,0.3s,baz=144,slow=10.0,SNR=36
NOA LR LR 19 57 45.7
comp=Z,24nm,20.9s,baz=150,slow=40
NC303 NORSAR Array S 17.93 336 P **P 19 49 57.3 -1.3**
NB000 NORSAR Array S 17.95 335 P **P 19 49 58.2 -0.7**
NC204 NORSAR Array S 18.15 335 P **P 19 50 00.8 -0.3**
NC204 IAmb IAmb 19 50 04.0
comp=Z,32nm,0.8s
BLS5 Blasjo 18.28 326 *eP* **Pn 19 50 03.9 +0.1**
SKAR Skarslia 18.47 331 *eP* **P 19 50 05.2 +0.6**
ODD1 Odda 18.54 327 *eP* **Pn 19 50 10.0 +3.2**
KIRV Kirov 19.02 39 P **P 19 50 11.3 +0.7**
comp=Z,13nm,0.3s,baz=236,slow=2.9,SNR=41
DOMB Dombas 19.25 335 *eP* **Pn 19 50 14.7 -0.5**
PRGR Permogore 19.51 28 *eP* **P 19 50 16.3 +0.4**
PRGR *e* 19 53 39.6
PRGR pmax pmax
comp=Z,85nm,0.6s
HYA Hoyanger 19.55 330 *eP* **Pn 19 50 18.3 -0.3**
TMCR Tamitsa 19.66 15 *eP* **P 19 50 16.1 -1.3**
AKN Aaknes 20.00 333 *eP* Pn 19 50 23.0 -0.9
MOL Molde 20.11 334 *eP* **P 19 50 23.6 +1.2**
EKA Eskdalemuir Ar 21.03 308 P **P 19 50 33.1 +0.8**
comp=Z,1.4nm,0.6s,baz=104,slow=11,SNR=10
AKTO Aktyubinsk 21.55 66 P **P 19 50 38.8 +0.9**
comp=Z,9.1nm,0.5s,baz=271,slow=10,SNR=44
AKTO LR LR 19 59 34.9
comp=Z,25nm,19.7s,baz=268,slow=38
APA Apatity 22.28 7⇑ *i*P **P 19 50 44.4 -1.0**
APA *eS* **S 19 54 36.0 -6.9**
APA *i* 19 54 39.5
APA pmax pmax
comp=Z,38nm,0.8s
APA MLR MLR
comp=Z,300nm,15.0s
ARU Arti 22.68 50 P **P 19 50 49.6 0.0**
comp=Z,12nm,0.7s,baz=252,slow=7.6,SNR=61
ARU LR LR 19 59 29.7
comp=Z,49nm,18.0s,baz=275,slow=36
ARU Arti 22.68 50*d i*P **P 19 50 49.5 -0.1**
ARU *PP **pP 19 51 09.6 -0.9**
ARU 19 51 20.4
ARU S **S 19 54 51.6 +2.0**
ARU SS **SnSn 19 55 35.3 +3.9**
ARU pmax pmax
comp=Z,29nm,0.7s
ARU Arti 22.68 50 P **P 19 50 48.8 -0.7**
ARU IAmb IAmb 19 51 11.9
comp=Z,34nm,0.8s
LVZ Lovozero 22.72 8*ce*P **P 19 50 50.5 +0.6**
LVZ pmax pmax
comp=Z,69nm,2.0s
LVZ Lovozero 22.72 8 P **P 19 50 50.2 +0.4**
ABKAR Akbulak array 22.83 69 P **P 19 50 51.0 -0.1**
ESBB Sonseca Array 23.06 266 P **P 19 50 52.5 -1.0**
ESDC Sonseca Array 23.06 266 P **P 19 50 52.6 -0.9**
comp=Z,12nm,0.8s,baz=64,slow=8.9,SNR=96
ESDC Sonseca Array 23.06 266 P **P 19 50 52.4 -1.1**
PAB San Pablo 23.38 266 P **P 19 50 55.8 -0.7**
PAB pmax pmax
comp=Z,15nm,1.1s
PAB San Pablo 23.38 266 P **P 19 50 55.8 -0.7**
KTK1 Kautokeino 23.49 357 *eP* **P 19 50 57.9 +0.9**
SVE Sverdlovsk 23.89 50⇑ *eP* **P 19 51 03.6 +2.8**
SVE pmax pmax
comp=Z,28nm,0.9s
ARCES ARCESS Array B 23.96 359 P **P 19 51 03.0 +1.7**
comp=Z,2.9nm,0.4s,baz=179,slow=11,SNR=24
ARCES ARCESS Array B 23.96 359 P **P 19 51 01.9 +0.5**
KEV Kevo 24.18 0 P **P 19 51 04.0 +0.7**
KEV pmax pmax
comp=Z,39nm,0.9s
KEV Kevo 24.18 0 P **P 19 51 04.0 +0.7**
KEV IAmb IAmb 19 51 17.5
comp=Z,39nm,0.9s
PBRG Braganca 24.19 273 *eP* **P 19 51 04.6 +0.9**
MVO Moncorvo 24.62 272 *eP* **P 19 51 07.3 -0.4**
comp=Z,25nm,1.3s
GEYT Alibeck 24.72 97 P **P 19 51 11.4 +2.8**
comp=Z,4.7nm,0.6s,baz=302,slow=8.5,SNR=12
GEYT pP **pP 19 51 33.7 +1.7**
comp=Z,3.7nm,0.7s,baz=325,slow=7.2,SNR=4.4
GEYT Alibeck 24.72 97 P **P 19 51 09.2 +0.6**
GYA0B ALIBECK ARRAY 24.72 97 P **P 19 51 08.4 -0.2**
PVRL Vila Real 25.06 272 *eP* **P 19 51 11.3 -0.4**
PCAB Cabril 25.12 273 *eP* **P 19 51 11.1 -1.1**
PGAV Gavieira, Arco 25.20 274 *eP* **P 19 51 13.0 0.0**
PVIS Viseu 25.39 271 *eP* **P 19 51 14.4 -0.3**
PCBR Castelo Branco 25.45 269 *eP* **P 19 51 14.5 -0.7**
PMRV Marv??o 25.56 268 *eP* **P 19 51 15.3 -0.9**
COI Coimbra 25.96 270 *eP* **P 19 51 20.0 +0.3**
PMTG Montargil 26.30 268 *eP* **P 19 51 22.1 -0.7**
PBEJ Beja 26.52 266 *eP* **P 19 51 24.1 -0.7**
comp=Z,27nm,1.8s
PCVE Castro Verde 26.82 265 *eP* **P 19 51 27.7 +0.2**
PNCL Nicolau / Gran 26.94 266 *eP* **P 19 51 28.5 -0.1**
MDT Midelt 27.07 253 P **P 19 51 29.6 -0.3**
comp=Z,6.5nm,0.7s,baz=87,slow=6.6,SNR=6.1
MDT LR LR 20 04 11.6
comp=Z,37nm,18.4s,baz=55,slow=40
TAM Tamanrasset 28.45 224 P **P 19 51 42.9 +0.5**
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM Tamanrasset 28.45 224 P **P 19 51 42.9 +0.5**
BRVK Borovoye 29.12 59*de*P **P 19 51 49.2 +1.4**
BRVK pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 29.12 59 P **P 19 51 49.5 +1.7**
BRVK IAmb IAmb 19 52 14.1
comp=Z,10nm,0.7s
BVAR Borovoye Array 29.18 59 P **P 19 51 50.1 +1.7**
comp=Z,0.7nm,0.4s,baz=266,slow=8.9,SNR=15
KKAR Karatay Array 31.31 79 P **P 19 52 08.8 +1.6**
KKAR Karatay Array 31.31 79 P **P 19 52 08.8 +1.6**
UOSS Minazif 31.60 121 P **P 19 52 10.2 +0.3**
UOSS IAmb IAmb 19 52 24.4
comp=Z,32nm,1.9s
SPITS Spitsbergen Ar 32.88 356 P **P 19 52 21.9 +1.3**
comp=Z,0.9nm,0.5s,baz=155,slow=18,SNR=5.1
AAK Ala-Archa 34.21 77 P **P 19 52 35.2 +2.5**
comp=Z,1.6nm,0.5s,baz=229,slow=6.5,SNR=3.8
AAK pP **pP 19 52 58.3 +1.5**
comp=Z,4.1nm,0.6s,baz=254,slow=3.7,SNR=5.1
AAK Ala-Archa 34.21 77 P **P 19 52 35.2 +2.5**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 34.21 77 IAmb IAmb 19 53 01.1
comp=Z,10nm,1.2s
WSAR Wadi Sarin 34.34 120 P **P 19 52 34.3 +0.5**
comp=Z,5.2nm,0.8s,baz=310,slow=6.7,SNR=4.7
KURBB Kurchatov Arra 34.52 62 P **P 19 52 35.9 +0.9**
comp=Z,0.6nm,0.3s,baz=171,slow=18,SNR=11
KURBB pP **pP 19 52 59.8 +0.6**
comp=Z,1.9nm,0.6s,baz=287,slow=9.2,SNR=7.4
KURK Kurchatov 34.55 62 *i* P **P 19 52 36.1 +0.8**
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 34.55 62 P **P 19 52 36.4 +1.0**
KURK IAmb IAmb 19 53 01.6
comp=Z,23nm,2.0s
ZAA0 Zalesovo Array 37.60 56 P **P 19 53 02.1 +0.9**
ZAA0 IAmb IAmb 19 53 28.0
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 37.60 56 P **P 19 53 02.8 +1.6**
comp=Z,3.3nm,0.4s,baz=281,slow=9.0,SNR=17
ZALV pP **pP 19 53 26.1 +0.4**
comp=Z,8.4nm,0.5s,baz=281,slow=9.2,SNR=16
ZALV LR LR 20 10 13.4
comp=Z,37nm,18.8s,baz=322,slow=39
ZALV Zalesovo Beam 37.60 56 P **P 19 53 02.6 +1.4**
ZALV **pP 19 53 25.4 -0.3**
MAKZ Makanchi 37.75 68 P **P 19 53 03.9 +1.2**
MAKZ pmax pmax
comp=Z,8.0nm,1.7s
MAKZ Makanchi 37.75 68 P **P 19 53 03.9 +1.2**
MK31 Makanchi Array 37.96 68 P **P 19 53 05.9 +1.5**
MK31 pmax pmax
comp=Z,5.0nm,1.6s
MK31 Makanchi Array 37.96 68 P **P 19 53 05.9 +1.5**
MKAR Makanchi Array 37.96 68 P **P 19 53 06.4 +1.9**
comp=Z,1.8nm,0.4s,baz=270,slow=8.6,SNR=42
MKAR pP **pP 19 53 28.2 -0.7**
comp=Z,0.8nm,0.5s,baz=268,slow=9.1,SNR=4.3
MKAR LR LR 20 10 39.7
comp=Z,21nm,18.2s,baz=344,slow=39
MKAR Makanchi Array 37.96 68 P **P 19 53 06.1 +1.6**
MKAR *PP **pP 19 53 27.7 -1.2**
MKAR Makanchi Array 37.96 68 P **P 19 53 06.1 +1.6**
MKAR **pP 19 53 27.7 -1.2**
TOA0 Torodi Ar. Sit 38.59 221 P **P 19 53 09.9 0.0**
TORD Torodi Ar. Bea 38.59 221 P **P 19 53 10.2 +0.3**
comp=Z,19nm,0.5s,baz=27,slow=8.8,SNR=229
TORD pP **pP 19 53 34.8 +0.1**
comp=Z,5.4nm,0.6s,baz=25,slow=8.3,SNR=4.0
TORD PcP **PcP 19 55 19.8 -0.5**
comp=Z,3.0nm,0.6s,baz=16,slow=2.4,SNR=8.1
TORD ScP **S 19 58 56.0 -2.2**
comp=Z,0.4nm,0.8s,baz=48,slow=3.5,SNR=2.4
TORD Torodi Ar. Bea 38.59 221 P **P 19 53 09.4 -0.5**
TORD **pP 19 53 34.7 +0.1**
TORD **PcP 19 55 19.7 -0.5**
DGZ Jazzator, Alta 40.28 61 *i* P **P 19 53 25.3 +1.5**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
WMQ Urumqi 42.61 70 *eP* **P 19 53 45.9 +3.0**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,66nm,4.7s
MBAR Mbarara 46.21 174*ce*P **P 19 54 13.4 +1.6**
MBAR pmax pmax
comp=Z,5.0nm,1.7s
DBIC Dimbokro 47.34 225 P **P 19 54 19.9 -0.5**
comp=Z,10nm,0.3s,baz=15,slow=7.2,SNR=87
DBIC pP **pP 19 54 45.7 -0.2**
comp=Z,12nm,1.1s,baz=355,slow=8.5,SNR=3.2
DBIC Dimbokro 47.34 225 P **P 19 54 19.8 -0.7**
TIC Toumodi 47.45 225 *eP* **P 19 54 21.3 0.0**
KIC Kosan Boka 47.55 224 *eP* **P 19 54 21.5 -0.6**
comp=Z,26nm,0.6s
LIC Lamto 47.81 224 *eP* **P 19 54 23.4 -0.7**
comp=Z,35nm,0.4s
SACV Santiago Islan 51.81 251 P **P 19 54 56.0 +1.5**
LSA Lhasa 52.26 84 P **P 19 54 57.4 -0.8**
LSA pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 52.26 84 P **P 19 54 57.4 -0.8**
SONM Songino Array 52.47 57 P **P 19 55 00.8 +1.6**
comp=Z,1.0nm,0.8s,baz=292,slow=7.7,SNR=7.7
SONM pP **pP 19 55 24.6 -0.3**
comp=Z,3.4nm,0.9s,baz=302,slow=8.0,SNR=11
SONM ScP **ScP 19 59 57.2 +1.9**
comp=Z,0.2nm,0.6s,baz=331,slow=8.8,SNR=3.7
SONM Songino Array 52.47 57 P **P 19 54 59.6 +0.5**
GTA Gaotai 52.69 69 *eP* **P 19 54 59.8 -1.0**
GTA pP pP 19 55 26.5 -0.1
GTA sP sP 19 55 38.5 -0.1
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,47nm,7.3s
GTA LR LR
comp=N,58nm,17.5s
GTA LR LR
comp=E,110nm,16.2s
GTA LR LR
comp=Z,82nm,15.9s
YAK Yakutsk 56.44 33 *i* P **P 19 55 27.6 +0.2**
YAK pmax pmax
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 59.36 61 *eP* **P 19 55 50.8 +2.5**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,130nm,8.1s
LSZ Lusaka 60.65 178 P **P 19 55 57.7 +0.5**
LSZ pmax pmax
comp=Z,11nm,1.0s
LSZ Lusaka 60.65 178 P **P 19 55 57.7 +0.5**
LSZ IAmb IAmb 19 55 60.0
comp=Z,10nm,1.0s
BILL Bilibino 62.70 16 *i* P **P 19 56 11.6 +1.4**
BILL pmax pmax
comp=Z,4.0nm,1.0s
SEY Seymchan 63.55 24 *i* P **P 19 56 19.0 +3.1**
CHTO Chiang Mai 64.64 89 P **P 19 56 24.4 +0.7**
CHTO *PP **pP 19 56 50.8 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 64.64 89 P **P 19 56 24.4 +0.7**
CHTO **pP 19 56 50.8 +0.3**
CMAR Chiang Mai Arr 64.88 89 P **P 19 56 26.3 +1.0**
comp=Z,2.8nm,0.8s,baz=303,slow=7.8,SNR=19
CMAR pP **pP 19 56 52.6 +0.6**
comp=Z,1.7nm,0.5s,baz=303,slow=7.5,SNR=4.6
CMAR Chiang Mai Arr 64.88 89 P **P 19 56 26.4 +1.1**
TSUM Tsumeb 65.04 189 P **P 19 56 26.2 -0.1**
TSUM IAmb IAmb 19 58 45.6
comp=Z,23nm,1.9s
BMAR Burnt Mountain 67.05 356 P **P 19 56 40.5 +2.0**
COLD Coldfoot 67.43 359 P **P 19 56 42.9 +2.1**
COLD IAmb IAmb 19 57 02.6
comp=Z,15nm,1.8s
YKA Yellowknife Ar 67.80 342 P **P 19 56 43.9 +0.7**
comp=Z,1.6nm,0.7s,baz=280,slow=28,SNR=1.8
IMAR Indian Mountai 68.71 0 P **P 19 56 50.8 +2.0**
NJ2 Nanjing 69.43 65 *eP* **P 19 56 53.3 -0.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
ILAR Eielson Array 69.80 357 P **P 19 56 56.7 +1.1**
comp=Z,0.5nm,0.6s,baz=359,slow=5.5,SNR=6.2
ILAR Eielson Array 69.80 357 P **P 19 56 56.9 +1.3**
ILAR Eielson Array 69.80 357 P **P 19 56 56.9 +1.3**
LBTB Lobatse 70.33 181 P **P 19 56 59.8 +0.5**
LBTB pmax pmax
comp=Z,10.0nm,0.8s
LBTB Lobatse 70.33 181 P **P 19 56 59.8 +0.5**
LBTB IAmb IAmb 19 57 00.8
comp=Z,10nm,0.8s
DOT Dot Lake 70.79 356 P **P 19 57 03.3 +1.6**
DOT IAmb IAmb 19 57 06.0
comp=Z,28nm,2.0s
MCK McKinley 70.91 358 P **P 19 57 03.2 +0.8**
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 70.91 358 P **P 19 57 03.2 +0.8**
MCK IAmb IAmb 19 57 03.4
comp=Z,7.0nm,0.9s
KTH Kantishna Hill 71.13 359 P **P 19 57 05.6 +1.8**
BCAR Beaver Creek A 71.23 354 P **P 19 57 06.3 +2.0**

BOSA	**Boshof**	**73.91 181**	P	**P**		**19 57 20.7**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=10,slow=5.0,SNR=12						
BOSA	**Boshof**	**73.91 181**	P	**P**		**19 57 20.7**	**+0.1**
BOSA			pmax	pmax			
	comp=Z,32nm,1.6s						
BOSA	**Boshof**	**73.91 181**	P	**P**		**19 57 20.7**	**+0.1**
DLBC	**Dease Lake**	**74.47 347**	P	**P**		**19 57 25.7**	**+2.2**
	comp=Z,1.0nm,0.5s,baz=244,slow=20,SNR=1.7						
DLBC	**Dease Lake**	**74.47 347**	IAmb	IAmb		19 59 16.4	
	comp=Z,13nm,1.6s						
CLTN	**Cedars of Leba**	**78.58 310**	P	**P**		**19 57 47.0**	**0.0**
CLTN			pP	**pP**		**19 58 12.8**	**-2.0**
CLTN			IAmb	IAmb		19 58 14.5	
	comp=Z,15nm,1.1s						
V48A	**Smith Brothers**	**79.11 310**	P	**P**		**19 57 50.9**	**+0.9**
V48A			IAmb	IAmb		19 57 57.5	
	comp=Z,25nm,1.3s						
EGMT	**Eagleton**	**79.14 332**	P	**P**		**19 57 50.8**	**+0.7**
EGMT			IAmb	IAmb		19 58 26.3	
	comp=Z,15nm,0.9s						
YMP	**Mirror Lake Pl**	**82.14 330**	P	**P**		**19 58 03.6**	**-2.8**
PDAR	**Pinedale Array**	**83.65 329**	P	**P**		**19 58 13.2**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=57,slow=5.5,SNR=3.5						
PDAR	**Pinedale Array**	**83.65 329**	P	**P**		**19 58 14.1**	**0.0**
MFID	**Camas Ranch**	**85.19 333**	P	**P**		**19 58 22.2**	**+0.5**
MFID			IAmb	IAmb		19 58 22.9	
	comp=Z,3.4nm,0.6s						
BDFB	**Brasilia**	**90.57 248**	P	**P**		**19 58 48.5**	**+0.9**
	comp=Z,6.3nm,0.7s,baz=74,slow=6.6,SNR=7.4						
BDFB	**Brasilia**	**90.57 248**	P	**P**		**19 58 48.7**	**+1.0**
MAW	**Mawson**	**116.23 165**	PKP	**PKPdf**		**20 04 26.4**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=113,slow=2.3,SNR=9.8						
MAW	**Mawson**	**116.23 165**		**PKPdf**		**20 04 26.9**	**+0.3**
WRA	**Warramunga Arr**	**116.39 92**	PKP	**PKPdf**		**20 04 27.9**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=320,slow=1.7,SNR=11						
ASAR	**Alice Springs**	**118.52 95**	PKP	**PKPdf**		**20 04 32.1**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=324,slow=1.5,SNR=25						
STKA	**Stephens Creek**	**128.92 98**	PKP	**PKPdf**		**20 04 52.3**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=284,slow=2.3,SNR=6.5						
STKA	**Stephens Creek**	**128.92 98**		**PKPdf**		**20 04 52.2**	**0.0**
VNDA	**Vanda**	**143.54 165**	PKP	**PKPdf**		**20 05 17.4**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=272,slow=2.2,SNR=4.2						

NEIC ***10*** *20:16:49.0±2.2, 7°.3S±0°.1×154°.5E±0°.1, h49km±8km, mb4.3/15, Error ellipse: s-maj=15.6km s-min=13.6km az=133.0*
IDC ***10*** *20:16:50.9±1.8, 7°.30S×154°.49E, h55km±16km, mb3.7/9, mb1 4.0/12, mb1mx3.8/31, mbtmp4.1/12, ML3.3/3, MS3.7/7, Ms1 3.7/7, ms1mx3.1/43, Error ellipse: s-maj=16.3km s-min=11.9km az=39.0*

ISC 10 20:16:46.8±0.6, 7°.31S±0°.07×154°.67E±0°.08, h27km, n47, σ1§22/44, mb4.3/15, MS3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.98**	**318**	P	**Pn**	**20 17 46.6**	**+0.6**
	18nm,0.3s,baz=191,slow=3.2,SNR=13						
KRVT				S	**Sn**	**20 18 32.1**	**+0.2**
	25nm,0.3s,baz=138,slow=23,SNR=6.0						
RABL	**Rabaul**	**3.98**	**321**	Pn	**Pn**	**20 17 46.2**	**+0.1**
HNR	**Honiara**	**5.63**	**112**	S	Sn	20 19 21.6	+8.9
	10nm,0.3s,baz=191,slow=20,SNR=5.0						
PMG	**Port Moresby**	**7.72**	**254**	P	**Pn**	**20 18 39.3**	**+1.8**
	2.8nm,0.3s,baz=63,slow=10,SNR=3.2						
PMG				S	**Sn**	**20 20 07.0**	**+2.9**
	3.1nm,0.3s,baz=308,slow=21,SNR=8.5						
PMG	**Port Moresby**	**7.72**	**254**		**Pn**	**20 18 37.8**	**+0.2**
PMG					**Sn**	**20 20 03.7**	**-0.4**
CTA	**Charters Tower**	**15.10**	**212**	P	**P**	**20 20 22.0**	**-1.4**
	0.1nm,0.3s,baz=24,slow=6.0,SNR=1.8						
DZM	**Mont Dzumac**	**18.56**	**144**	P	**Pn**	**20 21 03.9**	**+1.7**
	0.3nm,0.3s,baz=344,slow=13,SNR=3.0						
DZM	**Mont Dzumac**	**18.56**	**144**	P	**Pn**	**20 21 03.4**	**+1.3**
DZM				IAmb	IAmb	20 21 08.3	
	comp=Z,17nm,1.3s						
WR0	**Warramunga Arr**	**23.22**	**235**	P	**P**	**20 21 49.4**	**-2.6**
WB0	**Warramunga Arr**	**23.24**	**236**	P	**P**	**20 21 51.0**	**-1.3**
WB0				IAmb	IAmb	20 22 26.1	
	comp=Z,19nm,1.7s						
WB2	**Warramunga Arr**	**23.36**	**235**	P	**P**	**20 21 52.4**	**-1.1**
WRA	**Warramunga Arr**	**23.37**	**235**	P	**P**	**20 21 51.8**	**-1.8**
	comp=Z,2.1nm,0.8s,baz=57,slow=9.3,SNR=20						
WRA	**Warramunga Arr**	**23.37**	**235**	P	**P**	**20 21 51.9**	**-1.6**
MTN	**Manton Dam**	**23.81**	**255**	P	**P**	**20 21 55.9**	**-1.9**
MTN				IAmb	IAmb	20 22 17.6	
	comp=Z,14nm,1.3s						
AS31	**Alice Springs**	**25.72**	**229**	P	**P**	**20 22 13.1**	**-2.1**
ASAR	**Alice Springs**	**25.72**	**229**	P	**P**	**20 22 14.4**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=61,slow=8.8,SNR=13						
ASAR				LR	LR	20 31 44.6	
	comp=Z,132nm,18.8s,baz=112,slow=35						
ASAR	**Alice Springs**	**25.72**	**229**	P	**P**	**20 22 13.9**	**-1.3**
STKA	**Stephens Creek**	**27.32**	**205**	LR	LR	20 33 11.0	
	comp=Z,160nm,18.7s,baz=41,slow=36						
LEM	**Lembang**	**46.68**	**268**	LR	LR	20 47 49.9	
	comp=Z,80nm,18.4s,baz=180,slow=40						
KSRS	**Korea Array**	**51.07**	**333**	P	**P**	**20 25 47.0**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=148,slow=7.6,SNR=4.6						
PETK	**Petropavlovsk-**	**60.24**	**2**	LR	LR	20 49 21.4	
	comp=Z,30nm,21.6s,baz=137,slow=32						
CMAR	**Chiang Mai Arr**	**60.63**	**296**	P	**P**	**20 26 56.3**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=126,slow=4.6,SNR=1.6						
SONM	**Songino Array**	**69.42**	**328**	P	**P**	**20 27 53.7**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=146,slow=4.7,SNR=10						
SONM	**Songino Array**	**69.42**	**328**	P	**P**	**20 27 53.3**	**+0.6**
IMAR	**Indian Mountai**	**82.13**	**19**	P	**P**	**20 29 05.3**	**+0.6**
MCK	**McKinley**	**82.47**	**22**	P	**P**	**20 29 06.0**	**-0.6**
QSPA	**South Pole Qui**	**82.67**	**180**	P	**P**	**20 29 06.9**	**-1.0**
MK31	**Makanchi Array**	**83.43**	**319**	P	**P**	**20 29 12.3**	**+0.3**
MK31				IAmb	IAmb	20 29 13.3	
	comp=Z,4.8nm,1.6s						
MKAR	**Makanchi Array**	**83.43**	**319**	P	**P**	**20 29 12.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=99,slow=5.0,SNR=7.3						
MKAR	**Makanchi Array**	**83.43**	**319**	P	**P**	**20 29 12.2**	**+0.2**
MAKZ	**Makanchi**	**83.64**	**319**	P	**P**	**20 29 12.1**	**-0.9**
MAKZ				IAmb	IAmb	20 29 17.2	
	comp=Z,4.0nm,1.2s						
ILAR	**Eielson Array**	**83.78**	**22**	P	**P**	**20 29 12.8**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=263,slow=5.1,SNR=4.6						
ILAR	**Eielson Array**	**83.78**	**22**	P	**P**	**20 29 12.2**	**-1.1**
PCA	**Pinnacle**	**84.25**	**27**	P	**P**	**20 29 14.0**	**-2.0**
ZAA0	**Zalesovo Array**	**84.26**	**326**	P	**P**	**20 29 15.1**	**-0.9**
ZAA0				IAmb	IAmb	20 29 16.7	
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**84.26**	**326**	P	**P**	**20 29 15.5**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=113,slow=5.4,SNR=15						
ZALV	**Zalesovo Beam**	**84.26**	**326**	P	**P**	**20 29 15.0**	**-1.0**
DOT	**Dot Lake**	**84.28**	**23**	P	**P**	**20 29 16.4**	**+0.4**
DOT				IAmb	IAmb	20 29 17.6	
	comp=Z,9.8nm,1.4s						
BCAR	**Beaver Creek A**	**84.91**	**24**	P	**P**	**20 29 20.3**	**+1.1**
BBB	**Bella Bella**	**87.96**	**37**	LR	LR	20 59 29.6	
	comp=Z,40nm,21.6s,baz=216,slow=29						
YBH	**Yreka Blue Hor**	**89.34**	**48**	LR	LR	21 05 07.2	
	comp=Z,83nm,19.3s,baz=274,slow=32						
NVAR	**Mina Array Bea**	**92.17**	**52**	P	**P**	**20 29 55.4**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=252,slow=5.4,SNR=7.1						
NVAR	**Mina Array Bea**	**92.17**	**52**	P	**P**	**20 29 55.7**	**+1.1**
YKA	**Yellowknife Ar**	**96.76**	**28**	LR	LR	21 09 52.8	
	comp=Z,33nm,21.2s,baz=0.0,slow=33						
GERES	**GERESS Array B**	**127.15**	**329**	PKP	**PKiKP**	**20 35 49.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=48,slow=2.0,SNR=4.4						
EKA	**Eskdalemuir Ar**	**128.95**	**344**	PKP	**PKiKP**	**20 35 52.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=193,slow=21,SNR=2.1						
TORD	**Torodi Ar. Bea**	**152.79**	**285**	PKP	**PKPdf**	**20 36 36.0**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=136,slow=36,SNR=2.4						
TORD				PKPbc	**PKPbc**	**20 36 41.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=53,slow=2.0,SNR=8.5						

NEIC ***10*** *20:27:21.6±1.8, 51°.1N±0°.1×170°.92W±0°.04, h43km±15km, Error ellipse: s-maj=18.5km s-min=2.4km az=170.0*
AEIC ***10*** *20:27:22±1.5, 51°.2N±0°.1×170°.92W±0°.07, h30km±8km, mb3.8/12(NEIC), Error ellipse: s-maj=16.7km s-min=5.5km az=167.0*

ISC 10 20:27:19.2±2.2, 51°.1N±0°.2×170°.88W±0°.07, h23km, n36, σ1§24/43, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**2.28**	**33**		**Pn**	**20 27 56.0**	**+0.7**
NIKH					**Sn**	**20 28 21.6**	**-1.1**

KOFP	**Korovin Flat P**	**2.34**	**302**		**Pn**	**20 27 57.4**	**+1.1**
ATKA	**Atka Island**	**2.36**	**300**		**Pn**	**20 27 57.0**	**+0.6**
ATKA					**Sn**	**20 28 23.9**	**-0.7**
KOKL	**Mount Kliuchef**	**2.42**	**302**		**Pn**	**20 27 58.7**	**+1.4**
OKTU	**Okmok Mt. Tuli**	**2.90**	**36**		**Pn**	**20 28 04.8**	**+0.9**
OKFG	**Magazine Ridge**	**2.97**	**37**		**Pn**	**20 28 05.7**	**+0.9**
OKFG					**Sn**	**20 28 40.7**	**+1.0**
GSMY	**Great Sitkin M**	**3.38**	**289**		**Pn**	**20 28 12.3**	**+1.9**
GSTR	**Great Sitkin T**	**3.39**	**290**		**Pn**	**20 28 12.5**	**+1.8**
GSTD	**Great Sitkin T**	**3.43**	**289**		**Pn**	**20 28 12.5**	**+1.2**
GSTD					**Sn**	**20 28 50.6**	**-0.6**
MAPS	**Pakushin South**	**3.65**	**40**		**Pn**	**20 28 15.0**	**+0.8**
MAPS					**Sn**	**20 28 55.6**	**-0.9**
ADAG	**Mount Adagdak**	**3.69**	**286**		**Pn**	**20 28 16.0**	**+1.3**
ADK	**Adak**	**3.72**	**285**		**Pn**	**20 28 16.0**	**+0.8**
MREP	**Makushin Rep't**	**3.73**	**41**		**Pn**	**20 28 16.4**	**+1.1**
MSW	**Makushin Switc**	**3.79**	**40**		**Pn**	**20 28 16.9**	**+0.8**
MNAT	**Makushin Natee**	**3.81**	**41**		**Pn**	**20 28 17.3**	**+1.0**
MNAT					**Sn**	**20 28 59.6**	**-0.8**
UNV	**Unalaska Valle**	**3.85**	**42**		**Pn**	**20 28 17.9**	**+0.9**
UNV					**Sn**	**20 29 02.2**	**+0.7**
AKBBA	**Akutan Broad B**	**4.28**	**43**		**Pn**	**20 28 24.6**	**+1.8**
AMKA	**Amchitka**	**6.18**	**277**	Pn	**Pn**	**20 28 49.9**	**+1.0**
SDPT	**Sand Point**	**7.57**	**52**	Pn	**Pn**	**20 29 09.1**	**+1.1**
CNBA	**Chernabura Isl**	**7.78**	**57**	Pn	**Pn**	**20 29 11.3**	**+0.4**
SII	**Sitkinak Islan**	**11.28**	**54**	Pn	**Pn**	**20 30 00.2**	**+1.4**
OHAK	**Old Harbor**	**11.99**	**52**	Pn	**Pn**	**20 30 07.7**	**-0.8**
KDAK	**Kodiak Island**	**12.57**	**51**	Pn	**Pn**	**20 30 15.3**	**-1.0**
BPAW	**Bear Paw Mtn.**	**16.75**	**31**	Pn	**Pn**	**20 31 13.5**	**+1.5**
BPAW				IAmb	IAmb	20 31 16.0	
	comp=Z,6.0nm,0.8s						
SCM	**Sheep Creek Mo**	**16.79**	**41**	Pn	**Pn**	**20 31 11.0**	**-1.5**
KLU	**Klutina**	**17.22**	**43**	Pn	**Pn**	**20 31 15.7**	**-2.3**
KLU				IAmb	IAmb	20 31 17.7	
	comp=Z,12nm,1.2s						
WRH	**Wood River Hil**	**17.96**	**33**	Pn	**Pn**	**20 31 25.6**	**-1.4**
WRH				IAmb	IAmb	20 31 43.0	
	comp=Z,4.3nm,1.2s						
GLB	**Gilahina Butte**	**18.12**	**45**		**Pn**	**20 31 29.4**	**+0.3**
GLB				IAmb	IAmb	20 31 34.4	
	comp=Z,9.6nm,0.9s						
CCB	**Clear Creek Bu**	**18.16**	**33**	P	**Pn**	**20 31 28.4**	**-1.1**
VRDI	**Verde Repeater**	**18.20**	**46**	Pn	**Pn**	**20 31 27.8**	**-2.4**
MDM	**Murphy Dome**	**18.21**	**32**	Pn	**Pn**	**20 31 28.8**	**-1.4**
IL31		**18.55**	**33**	P	**P**	**20 31 33.5**	**-0.4**
RIDG	**Independent Ri**	**18.73**	**37**	P	**P**	**20 31 34.5**	**-1.5**
RIDG				IAmb	IAmb	20 31 47.2	
	comp=Z,5.7nm,1.1s						
HYT	**Haines Junctio**	**20.85**	**49**	P	**P**	**20 32 00.6**	**+1.4**
HYT				IAmb	IAmb	20 32 05.5	
	comp=Z,7.4nm,1.0s						
BMAR	**Burnt Mountain**	**20.92**	**29**	P	**P**	**20 32 01.0**	**+1.2**
EPYK	**Eagle Plains**	**23.00**	**35**	P	**P**	**20 32 22.4**	**+0.4**

BJI ***10*** *20:54:01.0±0.0, 23°.96N×122°.87E, h9km, mB4.3/13, mb4.3/17, ML3.8/6, Ms3.7/5, Ms7 3.5/2*
NEIC ***10*** *20:54:03.1±2.0, 23°.74N±0°.06×123°.05E±0°.05, h35km±5km, mb4.5/29, Error ellipse: s-maj=9.3km s-min=6.2km az=155.0*
TAP ***10*** *20:54:04.6, 23°.84N×122°.87E, h34km, ML4.6, D*
IDC ***10*** *20:54:05.7±4.1, 23°.95N×122°.99E, h50km±39km, mb3.8/17, mb1 3.9/19, mb1mx3.7/47, mbtmp4.0/19, ML3.5/2, MS3.3/10, Ms1 3.3/10, ms1mx3.1/41, Error ellipse: s-maj=19.1km s-min=16.7km az=89.0*

ISC 10 20:54:02.8±1.2, 23°.77N±0°.03×122°.91E±0°.03, h27km±8km, n191, σ1§37/265, mb4.3/30, MS3.5/8, 10C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**7**	P	**Pb**	**20 54 17.4**	**+1.1**
	baz=11						
YOJ				S	**Sb**	**20 54 26.6**	**+1.2**
	baz=11						
YOJ	**Yonaguni jima**	**0.69**	**7**		**Pn**	**20 54 16.9**	**+0.1**
ENAH	**Nanao**	**1.21**	**304**	*eP*	**Pn**	**20 54 24.6**	**+0.6**
	baz=302						
ENAH				*eS*	**Sb**	**20 54 41.9**	**+1.6**
	baz=302						
HWA	**Hwalien**	**1.21**	**280**	*eP*	**Pn**	**20 54 24.3**	**+0.3**
	baz=266						
HWA				*eS*	**Sn**	**20 54 40.0**	**+0.4**
	baz=266						
TWD	**Chiawan**	**1.24**	**285**	P	**Pn**	**20 54 24.3**	**-0.1**
	baz=269						
TWD				S	**Sn**	**20 54 39.2**	**-1.1**
	baz=269						
ENA	**Nanau**	**1.25**	**302**	*eP*	**Pn**	**20 54 25.3**	**+0.7**
	baz=299						
ENA				*eS*	**Sb**	**20 54 41.0**	**-0.5**
	baz=299						
NACB	**Ninganchiao**	**1.27**	**289**	P	**Pn**	**20 54 24.8**	**0.0**
	baz=273						
NACB				S	**Sn**	**20 54 40.1**	**-0.9**
	baz=273						
NACB	**Ninganchiao**	**1.27**	**289**		**Pn**	**20 54 24.4**	**-0.3**
TWC	**Suao**	**1.28**	**311**	*eP*	**Pn**	**20 54 25.5**	**+0.6**
	baz=310						
ESL	**Shilin**	**1.36**	**272**	P	**Pn**	**20 54 25.6**	**-0.4**
	baz=259						
ESL				*eS*	**Sn**	**20 54 42.9**	**-0.2**
	baz=259						
EGFH	**Guangfu**	**1.36**	**266**	*eP*	**Pn**	**20 54 26.4**	**+0.3**
	baz=263						
EGFH				*eS*	**Sn**	**20 54 43.7**	**+0.4**
	baz=263						
ETLH	**Xiulin Townshi**	**1.38**	**289**	*eP*	**Pn**	**20 54 26.7**	**+0.3**
	baz=275						
ETLH				*eS*	**Sn**	**20 54 43.0**	**-0.8**
	baz=275						
EGS		**1.39**	**320**	*eP*	**Pn**	**20 54 27.6**	**+1.1**
	baz=331						
HGSD	**Ruisui**	**1.39**	**259**	*eP*	**Pn**	**20 54 26.5**	**0.0**
	baz=256						
HGSD				*eS*	**Sn**	**20 54 42.8**	**-1.2**
	baz=256						
NTC	**Toucheng**	**1.46**	**318**	*eP*	**Pb**	**20 54 29.1**	**-0.2**
	baz=331						
NTC				*eS*	**Sn**	**20 54 46.0**	**+0.3**
	baz=331						
EHY	**Hungye**	**1.48**	**260**	*eP*	**Pn**	**20 54 28.2**	**+0.5**
	baz=257						
EHY				*eS*	**Sn**	**20 54 46.2**	**0.0**
	baz=257						
TWB1	**Santiao Chiao**	**1.49**	**326**	*eP*	**Pn**	**20 54 28.6**	**+0.8**
	baz=325						
TWB1				*eS*	**Sb**	**20 54 46.8**	**-1.5**
	baz=325						
ENTT	**Nioudou**	**1.50**	**305**	*eP*	**Pn**	**20 54 29.4**	**+1.4**
	baz=303						
ENTT				*eS*	**Sb**	**20 54 47.4**	**-1.3**
	baz=303						
EYUL	**Yuli**	**1.52**	**254**	*eP*	**Pn**	**20 54 28.8**	**+0.6**
	baz=252						
EYUL				*eS*	**Sn**	**20 54 47.0**	**-0.2**
	baz=252						
NDT	**Datong Townshi**	**1.52**	**303**	*eP*	**Pn**	**20 54 29.7**	**+1.4**
	baz=289						
NDT				*eS*	**Sb**	**20 54 48.1**	**-1.2**
	baz=289						
YULB	**Yu-li**	**1.53**	**256**	*eP*	**Pn**	**20 54 28.9**	**+0.6**
	baz=244						
YULB				*eS*	**Sn**	**20 54 47.8**	**+0.4**
	baz=244						
YULB	**Yu-li**	**1.53**	**256**		**Pn**	**20 54 28.4**	**+0.1**
TWF1	**Yuli**	**1.54**	**255**	*eP*	**Pn**	**20 54 29.0**	**+0.5**
	baz=252						
TWF1				*eS*	**Sn**	**20 54 48.2**	**+0.6**
	baz=252						
NNSB	**Datong**	**1.54**	**295**	P	**Pn**	**20 54 29.5**	**+0.9**
	baz=282						
NNSB				S	**Sn**	**20 54 47.5**	**-0.4**
	baz=282						
NNSH	**Datong**	**1.54**	**295**	P	**Pn**	**20 54 29.8**	**+1.2**
	baz=283						
NNSH				S	**Sn**	**20 54 47.6**	**-0.3**
	baz=283						
TIPB	**Shuangxi**	**1.55**	**321**	*eP*	**Pn**	**20 54 30.0**	**+1.3**
	baz=333						
TIPB				*eS*	**Sn**	**20 54 47.5**	**-0.5**
	baz=333						
WHF	**Hehuan Shan**	**1.55**	**284**	P	**Pn**	**20 54 29.3**	**+0.3**
	baz=271						
WHF				S	**Sn**	**20 54 48.4**	**-0.1**
	baz=271						
NNS	**Nan Shan**	**1.56**	**296**	P	**Pn**	**20 54 29.7**	**+0.9**
	baz=283						
NNS				S	**Sn**	**20 54 48.8**	**+0.6**
	baz=283						
CHKT	**Chengkung**	**1.57**	**245**	*eP*	**Pn**	**20 54 28.7**	**-0.2**
	baz=243						
CHKT				*eS*	**Sn**	**20 54 46.6**	**-1.7**
	baz=243						
FULB	**Fuli**	**1.59**	**249**	*eP*	**Pn**	**20 54 29.5**	**+0.3**
	baz=247						
FULB				*eS*	**Sn**	**20 54 47.7**	**-1.2**
	baz=247						
FUSS	**Fushou**	**1.60**	**288**	P	**Pn**	**20 54 30.5**	**+1.0**
	baz=285						
FUSS				S	**Sn**	**20 54 49.0**	**-0.4**
	baz=285						
OWD	**Renai**	**1.60**	**277**	*eP*	**Pn**	**20 54 30.2**	**+0.8**
	baz=266						
OWD				*eS*	**Sn**	**20 54 50.6**	**+1.2**
	baz=266						
CHGB	**Renai**	**1.62**	**281**	P	**Pn**	**20 54 30.4**	**+0.6**
	baz=269						
CHGB				*eS*	**Sn**	**20 54 50.3**	**+0.5**
	baz=269						
VWDT	**VWDT**	**1.62**	**270**	P	**Pn**	**20 54 30.4**	**+0.8**
	baz=258						
VWDT				*eS*	**Sn**	**20 54 48.7**	**-0.9**
	baz=258						
NWLT	**Wulai**	**1.63**	**308**	*eP*	**Pn**	**20 54 31.3**	**+1.5**
	baz=306						
NWLT				*eS*	**Sb**	**20 54 50.7**	**-1.7**
	baz=306						
NWF	**Wu-fen Shan**	**1.65**	**322**	*eP*	**Pn**	**20 54 31.5**	**+1.4**
	baz=321						
NWF				*eS*	**Sn**	**20 54 50.8**	**+0.3**
	baz=321						
WFSB	**Wu-fen Shan**	**1.65**	**322**	*eP*	**Pn**	**20 54 31.4**	**+1.4**
	baz=321						
WFSB				*eS*	**Sb**	**20 54 51.5**	**-1.5**
	baz=321						
YHNB	**Yeheng**	**1.66**	**303**	*eP*	**Pn**	**20 54 31.6**	**+1.4**
	baz=301						
YHNB				*eS*	**Sn**	**20 54 50.6**	**-0.1**
	baz=301						
YHNB	**Yeheng**	**1.66**	**303**		**Pn**	**20 54 31.3**	**+1.0**
TDCB	**Techi**	**1.67**	**287**	P	**Pn**	**20 54 31.4**	**+1.0**
	baz=275						
TDCB				*eS*	**Sn**	**20 54 51.0**	**-0.1**
	baz=275						
EDH	**Donghe**	**1.68**	**242**	*eP*	**Pn**	**20 54 30.4**	**0.0**
	baz=240						
EDH				*eS*	**Sn**	**20 54 49.3**	**-1.8**
	baz=240						
NSK	**Sanguang**	**1.68**	**303**	*eP*	**Pn**	**20 54 31.7**	**+1.3**
	baz=301						
NSK				*eS*	**Sn**	**20 54 51.3**	**+0.1**
	baz=301						
TWA	**Mucha**	**1.71**	**315**	*eP*	**Pb**	**20 54 32.9**	**-0.6**
	baz=314						
TWA				*eS*	**Sb**	**20 54 54.1**	**-0.5**
	baz=314						
LDUT	**Ludao**	**1.72**	**231**	*eP*	**Pn**	**20 54 30.9**	**0.0**
	baz=229						
LDUT				*eS*	**Sn**	**20 54 50.0**	**-2.1**
	baz=229						
TATO	**Taipei**	**1.77**	**313**	*eP*	**Pb**	**20 54 33.8**	**-0.7**
	baz=327						
TATO				*eS*	**Sb**	**20 54 55.1**	**-1.1**
	baz=327						
TATO	**Taipei**	**1.77**	**313**		**Pn**	**20 54 32.8**	**+1.2**
SSLB	**Suanglung**	**1.79**	**271**	P	**Pn**	**20 54 32.6**	**+0.6**
	baz=269						
SSLB	**Suanglung**	**1.79**	**271**		**Pn**	**20 54 32.4**	**+0.4**
ELDTW	**Lidau**	**1.83**	**252**	*eP*	**Pn**	**20 54 33.0**	**+0.3**
	baz=250						
ELDTW				*eS*	**Sn**	**20 54 54.1**	**-0.9**
	baz=250						
YM01	**YM01**	**1.83**	**318**	*eP*	**Pn**	**20 54 33.9**	**+1.3**
	baz=318						
YM01				*eS*	**Sn**	**20 54 55.3**	**+0.3**
	baz=318						
YM11	**YM11**	**1.85**	**319**	*eP*	**Pn**	**20 54 34.1**	**+1.3**
	baz=319						
YM10	**YM10**	**1.85**	**318**	*eP*	**Pn**	**20 54 33.7**	**+0.9**
	baz=318						
YM05	**YM05**	**1.85**	**319**	*eP*	**Pn**	**20 54 33.7**	**+0.9**
	baz=319						
LONT	**Longtian**	**1.85**	**243**	*eP*	**Pn**	**20 54 33.8**	**+1.0**
	baz=241						
LONT				*eS*	**Sn**	**20 54 55.6**	**+0.3**
	baz=241						
YM08	**YM08**	**1.85**	**320**	*eP*	**Pn**	**20 54 33.8**	**+1.0**
	baz=320						
YM04	**YM04**	**1.86**	**318**	*eP*	**Pn**	**20 54 33.9**	**+1.0**
	baz=317						
YM04				*eS*	**Sn**	**20 54 55.5**	**-0.1**
	baz=317						
WHP	**Taichung City**	**1.87**	**286**	*eP*	**Pn**	**20 54 34.9**	**+1.9**
	baz=274						
WHP				*eS*	**Sn**	**20 54 56.2**	**+0.4**
	baz=274						
WHYT	**Xinyi Township**	**1.89**	**268**	*eP*	**Pn**	**20 54 34.9**	**+1.5**
	baz=259						
ANP	**Anpu**	**1.90**	**318**	*eP*	**Pn**	**20 54 35.2**	**+1.7**
	baz=318						
TWS1	**Kuangyinshan**	**1.90**	**314**	*eP*	**Pn

baz=289
PTSB Yuanli 2.13 289 *e*P **Pn 20 54 39.2 +2.6**
baz=286
PTSB *e*S **Sb 20 55 05.0 -1.6**
baz=286
LAY Lan-yu 2.13 216 *e*P **Pn 20 54 36.6 -0.1**
baz=225
TPUB Ta-pu 2.15 258 *e*P **Pn 20 54 39.2 +2.4**
baz=250
TPUB *e*S **Sn 20 55 05.0 +2.4**
baz=250
TPUB Ta-pu 2.15 258 Pn 20 54 38.8 +1.9
ECL Taimali 2.15 237 *e*P **Pn 20 54 37.1 +0.3**
baz=247
ECL *e*S **Sn 20 55 01.3 -1.3**
baz=247
WDJ Dajia District 2.15 286 *e*P **Pb 20 54 39.8 -1.3**
baz=283
WDJ *e*S **Sb 20 55 06.2 -1.2**
baz=283
WGK Gukeng 2.16 268 *e*P **Pn 20 54 39.6 +2.7**
baz=266
CHN4 Tsaushan 2.17 259 *e*P **Pn 20 54 39.9 +2.8**
baz=249
WTP Ta-pu 2.17 257 *e*P **Pn 20 54 39.8 +2.5**
baz=255
WTP *e*S **Sn 20 55 06.3 +2.9**
baz=255
WCHH Zhanghua 2.18 279 *e*P **Pb 20 54 40.4 -1.1**
baz=276
WCHH *e*S **Sb 20 55 06.5 -1.5**
baz=276
WDLH Douliu 2.18 268 *e*P **Pb 20 54 40.3 -1.2**
baz=266
SLGT Liugui 2.22 250 *e*P **Pn 20 54 40.0 +2.2**
baz=242
SLGT *e*S **Sn 20 55 06.7 +2.3**
baz=242
SGST Jiashian 2.25 253 *e*P **Pn 20 54 40.1 +1.8**
baz=244
SGST *e*S **Sn 20 55 07.5 +2.4**
baz=244
CHN1 Nanshi 2.27 256 *e*P **Pn 20 54 41.8 +3.3**
baz=254
CHN1 *e*S **Sb 20 55 09.4 -1.2**
baz=254
TWK Hsinying 2.28 258 *e*P **Pn 20 54 41.8 +3.0**
baz=256
TWK *e*S **Sb 20 55 09.9 -1.2**
baz=256
SNST Tainan City 2.29 257 *e*P **Pb 20 54 42.5 -0.9**
baz=254
SNST *e*S **Sb 20 55 10.2 -0.9**
baz=254
CHY Chiayi 2.30 264 *e*P **Pn 20 54 41.8 +2.9**
baz=262
CHY *e*S **Sb 20 55 09.8 -1.7**
baz=262
WTK Tuku 2.31 268 *e*P **Pn 20 54 42.4 +3.3**
baz=267
TAW Tawu 2.33 233 *e*P **Pn 20 54 40.2 +0.8**
baz=241
TAW *e*S **Sn 20 55 06.2 -0.9**
baz=241
SSD Sandimen 2.33 244 *e*P **Pn 20 54 41.3 +1.9**
baz=237
RLNB Erlin 2.34 273 *e*P **Pn 20 54 42.6 +3.2**
baz=262
RLNB *e*S **Sb 20 55 11.5 -1.3**
baz=262
EAST Anshuo 2.35 234 *e*P **Pn 20 54 40.4 +0.7**
baz=243
SCST Cishan 2.39 249 *e*P **Pn 20 54 43.7 +3.5**
baz=248
SCST *e*S **Sb 20 55 13.5 -0.7**
baz=248
MASBT Mashibuluo 2.40 242 *e*P **Pn 20 54 41.3 +1.1**
baz=241
MASBT *e*S **Sn 20 55 08.9 +0.2**
baz=241
JMJ Miyako jima 2 2.41 64 *e*P **Pn 20 54 41.5 +1.1**
baz=64
JMJ *e*S **Sn 20 55 09.9 +0.9**
baz=64
WLGB Puzi 2.41 264 *e*P **Pn 20 54 43.2 +2.7**
baz=262
WLGB *e*S **Sb 20 55 13.2 -1.7**
baz=262
CHN3 Shinhua 2.44 254 *e*P **Pb 20 54 45.4 -0.6**
baz=252
CHN3 *e*S **Sb 20 55 14.9 -0.8**
baz=252
ICHU Yijhu 2.45 261 *e*P **Pn 20 54 44.1 +3.1**
baz=259
ICHU *e*S **Sb 20 55 13.7 -2.2**
baz=259
WSF Szhu 2.47 267 *e*P **Pn 20 54 44.5 +3.2**
baz=254
QZH Quanzhou 4.11 287 Pn **Pn 20 55 04.0 +0.2**
QZH Sn **Sn 20 55 48.4 -2.6**
QZH smax smax
comp=N,140nm,0.4s
QZH smax smax
comp=E,140nm,0.5s
KNMB Chin-men Tao 4.19 280 Pn **Pn 20 55 05.4 +0.4**
JOW Kunigami 5.73 57 Pn 20 55 22.7 -3.4
CVP Callao Caves 6.12 190⇑ *e*P **Pn 20 55 32.7 +1.2**
CVP *i* S **Sn 20 56 39.8 -1.0**
JMZ Minamidaito 2 7.82 73 Pn Pn 20 55 51.3 -3.5
HKPS Hong Kong Po S 8.21 261 Pn 20 56 01.6 +1.3
LQP Lukban 9.70 188⇑ *e*P **Pn 20 56 24.1 +3.3**
JNU Nakatsue 11.65 35 LR LR 21 01 19.5
comp=Z,62nm,18.5s,baz=225,slow=38
QIZ Qiongzhong 13.05 251 P **Pn 20 57 09.6 +3.0**
QIZ S **Sn 20 59 35.1 +4.1**
QIZ pmax pmax
comp=Z,7.0nm,1.1s
QIZ LR LR
comp=N,130nm,13.4s
QIZ LR LR
comp=E,150nm,12.9s
QIZ Qiongzhong 13.05 251 Pn 20 57 07.5 +1.0
KSRS Korea Array 14.30 16 P **Pn 20 57 23.5 +0.1**
0.7nm,0.3s,baz=199,slow=12,SNR=18
KSRS LR LR 21 02 58.3
comp=Z,110nm,19.3s,baz=198,slow=38
KS19 Wonju Array Si 14.33 16 P 20 57 29.2 -1.5
MJAR Matsushiro Arr 18.32 43 P **P 20 58 15.5 +0.5**
0.0nm,0.3s,baz=241,slow=10,SNR=4.8
MJAR LR LR 21 06 30.6
comp=Z,74nm,19.1s,baz=225,slow=41
LZH Lanzhou 20.54 311 *e*P Pn 20 58 42.2 +0.5
LZH pP pP 20 58 48.3 +2.6
LZH sP sP 20 58 50.8 +2.2
LZH pmax pmax
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 21.69 18 P **P 20 58 51.1 -0.4**
USA0B IAmb IAmb 20 59 19.1
comp=Z,13nm,1.4s
USRK Ussuriysk Ar. 21.69 18 P **P 20 58 50.5 -1.0**
comp=Z,2.8nm,0.5s,baz=198,slow=9.5,SNR=11
CHTO Chiang Mai 22.86 262 P **P 20 59 06.7 +2.4**
CMAR Chiang Mai Arr 22.96 261 P **P 20 59 07.0 +1.7**
comp=Z,2.0nm,0.8s,baz=62,slow=8.6,SNR=13
CMAR LR LR 21 08 11.5
comp=Z,30nm,18.3s,baz=75,slow=37
CMAR Chiang Mai Arr 22.96 261 P **P 20 59 06.3 +1.0**
GTA Gaotai 25.00 314 *e*P **P 20 59 24.9 +0.4**
GTA pP pP 20 59 34.8 +3.5
GTA sP pwP 20 59 39.2 +3.2
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,59nm,5.4s
GTA LR LR
comp=Z,110nm,17.1s
GTA LR LR
comp=Z,110nm,15.2s
GTA LR LR
comp=Z,79nm,17.8s
ASAJ Asahikawa 25.93 34 P **P 20 59 31.4 -1.3**
comp=Z,10nm,1.0s,baz=206,slow=11,SNR=5.6
JKA Kamikawa-asahi 25.93 34 P **P 20 59 30.4 -2.3**
SONM Songino Array 27.38 335 P **P 20 59 43.9 -2.0**
comp=Z,2.3nm,0.8s,baz=148,slow=9.5,SNR=19
SONM LR LR 21 11 59.4
comp=Z,66nm,18.0s,baz=144,slow=39

SONM Songino Array 27.38 335 P **P 20 59 44.3 -1.6**
PETK Petropavlovsk- 39.34 33 P **P 21 01 27.3 -2.3**
comp=Z,1.6nm,0.6s,baz=204,slow=13,SNR=1.8
MK31 Makanchi Array 39.73 316 P **P 21 01 32.6 -0.4**
MKAR Makanchi Array 39.73 316 P **P 21 01 32.5 -0.6**
comp=Z,0.8nm,0.5s,baz=98,slow=10,SNR=17
MKAR Makanchi Array 39.73 316 P **P 21 01 32.7 -0.3**
MAKZ Makanchi 39.94 315 P **P 21 01 34.5 -0.2**
ZALV Zalesovo Beam 41.45 327 P **P 21 01 45.5 -1.6**
comp=Z,0.8nm,0.4s,baz=111,slow=8.4,SNR=5.4
ZALV Zalesovo Beam 41.45 327 P **P 21 01 45.6 -1.5**
KURK Kurchatov 43.42 320 P **P 21 02 02.9 -0.2**
AAK Ala-Archa 44.01 307 LR LR 21 20 59.6
comp=Z,50nm,18.1s,baz=78,slow=37
WRA Warramunga Arr 44.85 165 P **P 21 02 15.3 +0.4**
comp=Z,0.3nm,0.5s,baz=347,slow=9.1,SNR=6.3
WRA Warramunga Arr 44.85 165 P **P 21 02 14.9 0.0**
WB2 Warramunga Arr 44.86 165 P **P 21 02 13.8 -1.1**
WB2 IAmb IAmb 21 02 28.6
comp=Z,8.1nm,1.4s
WR0 Warramunga Arr 44.92 164 P **P 21 02 14.9 -0.6**
WR0 IAmb IAmb 21 02 39.4
comp=Z,3.6nm,0.9s
GAR Garm 46.78 302 P **P 21 02 31.1 +0.9**
GAR IAmb IAmb 21 02 32.1
comp=Z,8.8nm,0.8s
KK31 Karatay Array 46.98 307 P **P 21 02 32.1 +0.6**
KK31 IAmb IAmb 21 02 44.0
comp=Z,5.1nm,1.4s
KKAR Karatay Array 46.98 307 P **P 21 02 32.3 +0.8**
KKAR Karatay Array 46.98 307 P **P 21 02 32.4 +0.9**
KKAR IAmb IAmb 21 02 44.0
comp=Z,5.1nm,1.4s
CHGR Chuyangaron 47.67 301 P **P 21 02 38.3 +1.2**
CHGR IAmb IAmb 21 02 39.1
comp=Z,8.5nm,0.9s
TAS Tashkent 47.70 305 P **P 21 02 38.2 +1.0**
KBL Kabul 47.77 296 P **P 21 02 39.3 +1.2**
KBL IAmb IAmb 21 02 57.9
comp=Z,5.2nm,0.8s
ASAR Alice Springs 48.35 166 P **P 21 02 44.0 +1.7**
comp=Z,0.3nm,0.8s,baz=349,slow=6.9,SNR=5.5
NRIK Noril'sk 50.21 344 LR LR 21 26 51.2
comp=Z,55nm,19.2s,baz=10.0,slow=39
GEYT Alibeck 56.37 301 P **P 21 03 42.6 +0.8**
comp=Z,3.0nm,0.7s,baz=48,slow=2.2,SNR=7.6
GEYT Alibeck 56.37 301 P **P 21 03 43.5 +1.6**
ARU Arti 56.39 323 P **P 21 03 41.1 -0.4**
ARU IAmb IAmb 21 03 59.8
comp=Z,4.5nm,1.2s
RND Reindeer 68.24 29 P **P 21 05 00.7 -0.3**
RND IAmb IAmb 21 05 17.5
comp=Z,8.7nm,1.1s
MDM Murphy Dome 68.25 27 P **P 21 05 01.6 +0.7**
MDM IAmb IAmb 21 05 02.3
comp=Z,11nm,1.3s
ILAR Eielson Array 68.85 27 P **P 21 05 03.6 -1.0**
comp=Z,0.4nm,0.5s,baz=261,slow=4.7,SNR=7.8
BMAR Burnt Mountain 69.25 24 P **P 21 05 07.9 +0.8**
MARD Mardin 70.01 303 P **P 21 05 13.2 +0.8**
SPITS Spitsbergen Ar 70.22 348 LR LR 21 40 21.8
comp=Z,32nm,19.3s,baz=145,slow=40
ARCES ARCESS Array B 70.51 338 P **P 21 05 14.3 -0.5**
comp=Z,4.6nm,1.0s,baz=64,slow=5.5,SNR=5.3
ARCES ARCESS Array B 70.51 338 P **P 21 05 13.7 -1.1**
BCAR Beaver Creek A 71.44 29 P **P 21 05 21.2 +0.7**
FINES FINESS Array B 72.59 330 P **P 21 05 27.0 -0.4**
comp=Z,1.5nm,0.4s,baz=54,slow=5.9,SNR=29
FINES LR LR 21 40 59.3
comp=Z,32nm,19.9s,baz=61,slow=39
FINES FINESS Array B 72.59 330 P **P 21 05 26.5 -0.9**
AKASG Malin Array Be 74.22 319 P **P 21 05 36.7 -0.5**
comp=Z,0.7nm,0.4s,baz=66,slow=6.0,SNR=4.3
AKASG Malin Array Be 74.22 319 IAmb IAmb 21 05 37.6
comp=Z,1.2nm,1.1s
BRTR Keskin Array B 74.69 307 P **P 21 05 40.7 +0.4**
comp=Z,2.6nm,0.9s,baz=110,slow=1.7,SNR=3.8
BRTR Keskin Array B 74.69 307 P **P 21 05 40.3 -0.1**
TOPG Topolog 76.68 313 ⇑P **P 21 05 51.2 -0.2**
PETR Petresti 77.14 314 ⇑P **P 21 05 57.4 +3.4**
TESR Tescani 77.24 315 ⇑P **P 21 05 54.9 +0.3**
VRI Vrincioaia 77.42 315 ⇑P **P 21 05 56.9 +1.3**
BIZ Bicaz 77.44 316 ⇑P **P 21 05 56.4 +0.7**
PLOR Plostina 77.48 315 ⇑P **P 21 05 58.4 +2.4**
BUR08 Bucovina Ar. S 77.75 317 P **P 21 05 57.5 0.0**
BUR08 IAmb IAmb 21 06 10.4
comp=Z,3.7nm,1.3s
BURAR Bucovina Array 77.75 317 ⇑P **P 21 05 58.8 +1.2**
BURAR Bucovina Array 77.75 317 P **P 21 05 57.8 +0.2**
MLR Muntele Rosu 78.07 314 ⇑P **P 21 06 00.4 +1.0**
NC405 NORSAR Array S 79.07 333 P **P 21 06 04.0 -0.4**
NB2 NORSAR Subarra 79.32 333 P **P 21 06 05.0 -0.9**
comp=Z,0.9nm,0.5s,baz=53,slow=6.2
NOA NORSAR Array B 79.32 333 P **P 21 06 04.8 -1.0**
comp=Z,0.3nm,0.4s,baz=74,slow=6.6,SNR=7.9
NOA LR LR 21 44 33.7
comp=Z,13nm,18.1s,baz=325,slow=38
VYHS Vyhne 81.31 319 *e*P **P 21 06 17.2 +0.4**
VYHS *e* 21 06 33.1
CLL Collm 83.33 324 *e*P **P 21 06 26.0 -1.2**
KHC Kasperske Hory 84.09 321 P **P 21 06 31.0 -0.2**
GEC2 GERESS Array S 84.16 321 P **P 21 06 31.1 -0.6**
GEC2 IAmb IAmb 21 06 32.6
comp=Z,2.9nm,1.0s
GERES GERESS Array B 84.16 321 P **P 21 06 31.4 -0.3**
comp=Z,2.0nm,0.8s,baz=55,slow=5.1,SNR=16
GERES GERESS Array B 84.16 321 P **P 21 06 31.5 -0.2**
ITM Ithomi 84.16 308 P **P 21 06 30.8 -1.0**
AHID Auburn Hatcher 97.19 37 P **P 21 07 32.6 -0.8**

TIR ***10*** *21:18:50.3, 41°.20N×20°.06E, h14km±1km, Md2.7*
SKO ***10*** *21:18:51.6, 41°.14N×19°.96E, h0km*
ISC 10 21:18:51.4±1.3, 41°.27N±0°.07×20°.10E±0°.06, h9km, n4, σ0°75/8, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.20**	**293**	P	**Pg**	**21 18 55.2**	**-0.2**
TIR	baz=316			S	**Sg**	**21 18 59.0**	**+0.8**
PHP	**Peshkopia**	**0.48**	**31**	P	**Pb**	**21 19 01.9**	**-0.3**
PHP	baz=30			S	**Sb**	**21 19 10.4**	**+1.0**
OHR	**Ohrid**	**0.55**	**107**	*i* Pg	**Pb**	**21 19 03.0**	**-0.2**
OHR				*i* Sg	**Sb**	**21 19 11.7**	**+0.5**
PUK	**Puka**	**0.79**	**349**	P	**Pb**	**21 19 07.2**	**-0.1**
PUK	baz=352			S	**Sn**	**21 19 19.8**	**-0.9**
	baz=352						

IDC 10 21:23:06.2±2.1, 7°.02S×129°.13E, h0km, mb3.8/1, mb1 4.1/3, mb1mx3.5/38, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=142.4km s-min=31.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.80**	**159**	Pn	Pn	21 26 22.9	-0.4
WRA	0.9nm,0.3s,baz=341,slow=14,SNR=44			Sn	Sn	21 28 46.4	-11
ASAR	**Alice Springs**	**17.17**	**165**	P	Pn	21 27 08.1	+0.3
ASAR	0.6nm,0.3s,baz=344,slow=9.3,SNR=35			S	Sn	21 30 09.4	-10
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	21 34 06.0	0.0
	0.5nm,0.4s,baz=125,slow=7.6,SNR=8.9						

ISN ***10*** *21:36:50.3±1.7, 32°.78N×47°.47E, h0km±9km, ML3.2*
TEH ***10*** *21:36:51.4, 32°.77N×47°.51E, h10km, ML3.2*
THR ***10*** *21:36:52.2±0.4, 32°.82N×47°.47E, h14km±5km, ML3.1*
ISC 10 21:36:51.5±1.1, 32°.78N±0°.03×47°.50E±0°.03, h6km±11km, n39, σ1°30/44, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.21**	**242**	*e*Pg	**Pg**	**21 36 55.4**	**-0.2**
DHL1				*e*Sg	**Sg**	**21 36 59.5**	**+1.1**
IKMR	**Kamar-syah**	**1.04**	**45**	*e*Pg	**Pg**	**21 37 10.3**	**-1.2**
IKMR				*e*		21 37 31.7	
IDOB	**Doab**	**1.15**	**29**	*e*Pg	**Pn**	**21 37 14.1**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.29**	**121**	*e*Pg	**Pg**	**21 37 16.7**	**+0.5**
SHGR				*e*Sg	**Sn**	**21 37 34.5**	**+0.9**
SHGR				IAML		21 37 42.2	
	comp=N,278nm,0.8s						
SHGR	**Shooshtar-Gavs**	**1.29**	**121**	*e*Pg	**Pg**	**21 37 16.7**	**+0.5**
IBDR	**Badra**	**1.36**	**284**	*e*Pg	**Pb**	**21 37 17.0**	**-0.3**
	baz=104						
IBDR				*e*Sg	**Sg**	**21 37 37.0**	**+1.8**
IBDR				AML	AML	21 37 41.5	
	comp=N,452nm,0.7s						
IBDR				AML	AML	21 37 42.5	
	comp=E,262nm,0.7s						
IKOM	**Komasi**	**1.39**	**0**	*e*Pg	**Pg**	**21 37 18.7**	**+0.5**
IKOM				*e*		21 37 20.1	
BMDN	**Meydan**	**1.42**	**51**	*e*Pg	**Pg**	**21 37 18.6**	**-0.2**
BMDN				*e*		21 37 45.3	
KCHF	**Cheshme Sefid,**	**1.54**	**346**	*e*Pg	**Pg**	**21 37 21.3**	**+0.3**
KCHF				*e*		21 37 45.3	
KER	**Kermanshah**	**1.63**	**349**	*e*Pg	**Pg**	**21 37 22.6**	**-0.2**
HSAM	**Samen**	**1.70**	**33**	*e*Pg	**Pb**	**21 37 23.4**	**+0.1**
HSAM				*e*		21 37 51.3	
IBZA	**Bozab**	**1.71**	**10**	*e*Pg	**Pb**	**21 37 23.7**	**+0.2**
IBZA				*e*		21 37 52.4	
IGHG	**Ghaleghazi**	**1.73**	**334**	*e*Pg	**Pg**	**21 37 24.9**	**+0.2**
IGHG				*e*		21 38 05.9	
AHWZ	**Ahwaz**	**1.74**	**146**	*e*Pg	**Pg**	**21 37 24.6**	**-0.3**
IVIS	**Veis**	**1.82**	**343**	*e*Pn	**Pg**	**21 37 26.0**	**-0.5**
IVIS				*e*		21 37 55.8	
IDHR	**Dehrash**	**2.13**	**334**	*e*Pn	**Pb**	**21 37 30.7**	**+0.1**
IDHR				*e*		21 37 32.2	
ILIN	**Lien**	**2.18**	**348**	*e*Pn	**Pb**	**21 37 30.2**	**-1.3**
ILIN				*e*		21 38 05.7	
KHMZ	**Khomeyn**	**2.27**	**64**	*e*Pn	**Pb**	**21 37 31.7**	**-1.4**
KHMZ				*e*Sg	**Sg**	**21 38 03.8**	**-0.7**
KHMZ	**Khomeyn**	**2.27**	**64**	*e*Pn	**Pb**	**21 37 31.7**	**-1.4**
SNGE	**Sanandaj**	**2.31**	**357**	*e*Pn	**Pn**	**21 37 31.2**	**+0.9**
SNGE	**Sanandaj**	**2.31**	**357**	*e*Pn	**Pn**	**21 37 31.2**	**+0.9**
HAGD	**Aghdareh**	**2.45**	**33**	*e*Pn	**Pb**	**21 37 34.2**	**-1.9**
HAGD				*e*		21 38 14.5	
HSRG	**Sareghieh**	**2.54**	**15**	*e*Pn	**Pb**	**21 37 36.0**	**-1.7**
HSRG				*e*		21 38 14.8	
BHD	**Baghdad**	**2.67**	**281**	*e*Pn	**Pb**	**21 37 37.0**	**-2.6**
BHD				*e*Sn	**Sb**	**21 38 10.0**	**-2.5**
BHD				AML	AML	21 38 32.2	
	comp=E,228nm,0.6s						
JHBN	**Jahan bin**	**2.73**	**101**	*e*Pn	**Pn**	**21 37 36.9**	**+0.7**
ASAO	**Ashtian**	**2.75**	**49**	*e*Pn	**Pn**	**21 37 38.0**	**+1.6**
ASAO	**Ashtian**	**2.75**	**49**	*e*Pn	**Pn**	**21 37 38.0**	**+1.6**
IPIR	**Pirpir**	**2.86**	**91**	*e*Pn	**Pn**	**21 37 39.1**	**+1.2**
IPIR				*e*		21 38 29.3	
ROKH	**ROKH**	**3.02**	**97**	*e*Pn	**Pn**	**21 37 40.5**	**+0.5**
ROKH				*e*		21 37 51.0	
QABG	**Abgarm-Qazvin**	**3.39**	**30**	*e*Pn	**Pn**	**21 37 46.4**	**+1.2**
QAM	**Ghamsar**	**3.44**	**72**	*e*Pn	**Pn**	**21 37 48.1**	**+2.2**
IKLH	**Kolahrood**	**3.47**	**80**	*e*Pn	**Pn**	**21 37 48.0**	**+1.8**
GHVR	**GHOM**	**3.59**	**61**	*e*Pn	**Pn**	**21 37 48.9**	**+1.1**
GHVR	**GHOM**	**3.59**	**61**	*e*Pn	**Pn**	**21 37 48.9**	**+1.1**
KLNJ	**Kolanjah**	**3.90**	**116**	*e*Pn	**Pn**	**21 37 53.0**	**+0.7**
QSDN	**Sirdan**	**3.96**	**20**	*e*Pn	**Pn**	**21 37 55.5**	**+2.5**
MAHB	**Mahabad**	**4.24**	**340**	*e*Pn	**Pn**	**21 37 57.8**	**+1.0**
QALM	**Alamut, Qazvin**	**4.47**	**35**	*e*Pn	**Pn**	**21 38 01.9**	**+1.9**
IDMV	**Damavand**	**4.68**	**52**	*e*Pn	**Pn**	**21 38 04.0**	**+1.1**

IDC 10 21:37:39.4±4.8, 29°.99S×137°.28E, h0km, mb1 2.9/3, mb1mx2.8/27, mbtmp2.6/3, ML2.7/3, Error ellipse: s-maj=98.4km s-min=17.9km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.16**	**118**	Pn	Pn	21 38 43.8	-0.4
	0.2nm,0.3s,baz=301,slow=18,SNR=1.2						
STKA				Sn	Sn	21 39 34.5	+1.0
	0.7nm,0.3s,baz=254,slow=15,SNR=4.7						
STKA				Lg	Lg	21 39 51.7	
	0.6nm,0.3s,baz=350,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**6.98**	**334**	Pn	Pn	21 39 23.8	+0.8
	0.1nm,0.3s,baz=176,slow=8.1,SNR=4.5						
ASAR				Sn	Sn	21 40 43.9	+0.8
	0.1nm,0.3s,baz=157,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**10.35**	**344**	Pn	Pn	21 40 09.2	0.0
	0.1nm,0.3s,baz=166,slow=14,SNR=5.1						
WRA				Sn	Sn	21 42 05.3	-0.6
	0.0nm,0.3s,baz=174,slow=22,SNR=1.8						

IDC 10 21:41:13.0±17.0, 19°.19S×65°.24E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/33, mbtmp3.6/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/35, Error ellipse: s-maj=553.9km s-min=41.4km az=58.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.46**	**32**	T	T	21 55 48.0	
	baz=211,slow=75,SNR=232						
H08S2	**Diego Garcia H**	**13.47**	**33**	T	T	21 55 50.6	
	baz=211,slow=75,SNR=130						
H08S3	**Diego Garcia H**	**13.48**	**32**	T	T	21 55 45.5	
	baz=211,slow=75,SNR=238						
LEM	**Lembang**	**42.96**	**79**	LR	LR	22 04 32.3	
	comp=Z,52nm,19.0s,baz=193,slow=33						
H01W2	**Cape Leeuwin H**	**45.83**	**120**	T	T	22 38 44.9	
	baz=279,slow=75,SNR=97						
H01W3	**Cape Leeuwin H**	**45.83**	**120**	T	T	22 38 42.4	
	baz=279,slow=75,SNR=92						
H01W1	**Cape Leeuwin H**	**45.84**	**120**	T	T	22 38 43.7	
	baz=279,slow=75,SNR=116						
ASAR	**Alice Springs**	**63.53**	**107**	P	P	21 51 45.6	-0.2
	0.5nm,0.3s,baz=274,slow=4.8,SNR=4.1						
WRA	**Warramunga Arr**	**64.66**	**103**	P	P	21 51 53.3	+0.1
	0.5nm,0.7s,baz=263,slow=6.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**74.77**	**12**	P	P	21 52 54.7	+0.1
	0.3nm,0.4s,baz=199,slow=7.6,SNR=1.6						
SONM	**Songino Array**	**76.23**	**27**	P	P	21 53 03.5	+0.1
	0.2nm,0.6s,baz=213,slow=6.9,SNR=1.7						

DJA 10 21:51:26.9±0.4, 1°S±2°×10°1E±°, h10km, M2.9/6, MLv2.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.33**	**192**	P	Pg	21 51 34.0	+0.5
PDSI				S	Sb	21 51 39.4	-0.8
SDSI	**Sungai Dareh**	**0.96**	**111**	P	Pg	21 51 45.2	-0.2
SDSI				S	Sb	21 51 58.7	+0.3
BKNI	**Bangkinang**	**1.04**	**29**	P	Pg	21 51 45.5	-1.5
BKNI				S	Sn	21 52 01.7	-0.5
SISI	**Saibi**	**1.61**	**243**	P	Pn	21 51 55.8	+0.3
SISI				S	Sg	21 52 18.3	-0.6
MNSI	**Mandailing Nat**	**1.67**	**325**	P	Pn	21 51 56.2	-0.1
KRJI	**Kerinci**	**1.76**	**148**	P	Pn	21 51 58.1	+0.6

TEH ***10*** *21:58:07.7, 32°.68N×47°.67E, h8km, ML3.0*
ISN ***10*** *21:58:09.1±1.3, 32°.69N×47°.44E, h0km±7km, ML2.9*
ISC 10 21:58:08.9±1.0, 32°.70N±0°.06×47°.66E±0°.04, h10km, n25, σ1°51/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.32**	**266**	*e*Pg	**Pg**	**21 58 14.6**	**-0.7**
IKMR	**Kamar-syah**	**1.01**	**37**	*e*Pg	**Pb**	**21 58 26.9**	**-1.6**
IKMR				*e*		21 58 32.0	
SHGR	**Shooshtar-Gavs**	**1.13**	**121**	*e*Pg	**Pb**	**21 58 29.3**	**-1.3**
IDOB	**Doab**	**1.17**	**22**	*e*Pg	**Pn**	**21 58 30.4**	**-1.1**
BMDN	**Meydan**	**1.37**	**45**	*e*Pg	**Pn**	**21 58 34.6**	**+0.3**
BMDN				*e*		21 59 01.6	
IKOM	**Komasi**	**1.47**	**355**	*e*Pg	**Pn**	**21 58 37.2**	**+1.6**
IKOM				*e*		21 58 41.5	
IBDR	**Badra**	**1.51**	**286**	*e*Pg	**Pb**	**21 58 36.0**	**-1.0**
	baz=108						
IBDR				*e*Sg	**Sg**	**21 58 56.0**	**-1.4**
IBDR				AML	AML	21 59 02.5	
	comp=E,159nm,0.6s						
AHWZ	**Ahwaz**	**1.60**	**148**	*e*Sg	**Sg**	**21 59 00.9**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.65**	**342**	*e*Pg	**Pn**	**21 58 39.4**	**+1.3**
KCHF				*e*		21 59 07.2	
HSAM	**Samen**	**1.70**	**27**	*e*Pg	**Pn**	**21 58 40.3**	**+1.5**
KER	**Kermanshah**	**1.73**	**345**	*e*Pg	**Pn**	**21 58 40.7**	**+1.5**
IBZA	**Bozab**	**1.77**	**5**	*e*Pg	**Pn**	**21 58 41.9**	**+2.1**
IBZA				*e*		21 58 46.2	
IGHG	**Ghaleghazi**	**1.86**	**331**	*e*Pn	**Pn**	**21 58 42.5**	**+1.5**

IGHG				*e*			21 59 26.2
IVIS	**Veis**	**1.94**	**340**	*e*Pn	**Pn**		**21 58 43.4 +1.4**
IVIS				*e*			21 59 19.7
KHMZ	**Khomeyn**	**2.19**	**61**	*e*Pn	**Pn**		**21 58 47.2 +1.7**
IALM	**Almabolaq**	**2.19**	**11**	*e*Pn	**Pn**		**21 58 47.3 +1.7**
IDHR	**Dehrash**	**2.26**	**332**	*e*Pn	**Pn**		**21 58 48.0 +1.6**
IDHR				*e*			21 59 27.9
ILIN	**Lien**	**2.29**	**345**	*e*Pn	**Pn**		**21 58 48.2 +1.3**
ILIN				*e*			21 59 27.6
SNGE	**Sanandaj**	**2.40**	**354**	*e*Pn	**Pn**		**21 58 48.9 +0.5**
HAGD	**Aghdareh**	**2.45**	**30**	*e*Pn	**Pn**		**21 58 51.1 +2.0**
HAGD				*e*			21 58 58.0
HSRG	**Sareghieh**	**2.58**	**11**	*e*Pn	**Pn**		**21 58 53.7 +2.7**
HSRG				*e*			21 59 02.5
ASAO	**Ashtian**	**2.70**	**46**	*e*Pn	**Pn**		**21 58 54.1 +1.5**
BHD	**Baghdad**	**2.81**	**282**	*e*Pn	**Pn**		**21 58 55.0 +1.1**
BHD				*e*Sn	**Sn**		**21 59 29.0 +1.2**
BHD				AML	AML		21 59 52.0
	comp=E,99nm,0.4s						
QABG	**Abgarm-Qazvin**	**3.40**	**27**	*e*Pn	**Pn**		**21 59 03.3 +1.2**
GHVR	**GHOM**	**3.51**	**59**	*e*Pn	**Pn**		**21 59 04.7 +1.1**

IDC ***10*** *22:05:10.8±2.4, 8°.31S×111°.69E, h92km±31km, mb3.4/4, mb1 3.6/6, mb1mx3.2/45, mbtmp3.8/6, Error ellipse: s-maj=50.9km s-min=13.6km az=36.0*
DJA ***10*** *22:05:11.3±0.4, 9°.S±6°.×11°.1E±°, h54km±15km, M4.4/13, mB5.2/1, mb5.0/2, MLv4.0/13, Mw(mB)4.5/1*
ISC 10 22:05:09.1±1.0, **8°.96S**±0°.08×**111°.51E**±0°.05, **h58**km, **n21**, σ1**s83**/22, **mb3.8/4, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.98**	**18**	P	**Pn**	**22 05 27.7**	**+1.0**
PWJI				S	**Sn**	**22 05 39.7**	**-0.1**
WOJI	**Wonogiri, Jawa**	**1.25**	**333**	P	**Pn**	**22 05 30.8**	**+0.4**
UGM	**Wanagama**	**1.42**	**317**	P	**Pn**	**22 05 33.8**	**+1.1**
NGJI	**Ngawi**	**1.58**	**358**	P	**Pn**	**22 05 36.4**	**+1.6**
YOGI	**Yogyakarta**	**1.65**	**313**	P	**Pn**	**22 05 36.3**	**+0.5**
GMJI	**Gumukmas**	**2.04**	**71**	P	**Pn**	**22 05 43.1**	**+2.1**
TBJI	**Tambak Boyo**	**2.15**	**9**	P	**Pn**	**22 05 42.1**	**-0.5**
SMRI	**Semarang**	**2.17**	**331**	P	**Pn**	**22 05 43.2**	**+0.3**
GRJI	**Gresik**	**2.25**	**25**	P	**Pn**	**22 05 43.8**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.66**	**80**	P	**Pn**	**22 05 52.3**	**+2.7**
CMJI	**Cimerak**	**3.24**	**291**	P	**Pn**	**22 05 57.6**	**+0.1**
CISI	**Cisompet, Garu**	**3.91**	**291**	P	**Pn**	**22 06 07.7**	**+1.0**
LEM	**Lembang**	**4.39**	**299**	P	**Pn**	**22 06 13.8**	**+0.4**
	3.8nm,0.3s,baz=311,slow=22,SNR=1.6						
LEM				S	**Sn**	**22 07 04.0**	**+0.6**
	2.5nm,0.3s,baz=106,slow=22,SNR=1.4						
CNJI	**Cibinong**	**4.63**	**290**	P	**Pn**	**22 06 17.5**	**+1.0**
CGJI	**Cibinong**	**6.21**	**292**	P	**Pn**	**22 06 40.2**	**+2.0**
BATI	**Baumata**	**12.05**	**97**	P	**Pn**	**22 07 58.1**	**-0.1**
	7.2nm,0.3s,baz=255,slow=2.1,SNR=5.8						
FITZ	**Fitzroy Crossi**	**16.46**	**125**	P	**P**	**22 08 58.2**	**+0.1**
	0.3nm,0.3s,baz=6.5,slow=7.6,SNR=11						
FITZ				S	**Sn**	**22 11 52.1**	**-6.2**
	0.2nm,0.3s,baz=179,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**24.62**	**119**	P	**P**	**22 10 24.9**	**+0.6**
	1.5nm,0.8s,baz=294,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.94**	**127**	P	**P**	**22 10 36.9**	**+0.6**
	0.3nm,0.3s,baz=301,slow=9.5,SNR=6.0						
SONM	**Songino Array**	**56.73**	**356**	P	P	22 14 41.0	-6.0
	0.5nm,0.4s,baz=178,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**61.31**	**338**	P	P	22 15 12.6	-6.1
	0.4nm,0.3s,baz=154,slow=7.5,SNR=11						

SJA ***10*** *22:19:36.3±0.5, 21°.12S×68°.76W, h136km±2km, ML4.3, MW4.1*
IDC ***10*** *22:19:37.5±1.0, 21°.10S×68°.38W, h111km±8km, mb4.2/10, mb1 4.2/14, mb1mx4.0/29, mbtmp4.6/14, MS3.0/3, Ms1 3.0/3, ms1mx2.6/27, Error ellipse: s-maj=21.9km s-min=10.1km az=118.0*
NEIC ***10*** *22:19:37.2±2.0, 21°.11S±0°.02×68°.74W±0°.08, h124km±5km, Error ellipse: s-maj=10.4km s-min=2.2km az=83.0*
GUC ***10*** *22:19:37.8±0.6, 21°.14S×68°.66W, h124km±3km, ML4.3*
VAO ***10*** *22:19:38.0±0.5, 21°.08S×68°.56W, h127km±5km, mb4.7*
ISC 10 22:19:37.0±0.5, **21°.10S**±0°.03×**68°.64W**±0°.04, **h120**km±5km, **n172**, σ1**s15**/213, **mb4.7**/19, **12C-6D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.80**	**274**	⇑*i*P	**Pn**	**22 19 57.4**	**+0.1**
PB01				*i* S	**Sn**	**22 20 12.7**	**+0.2**
PB01				IAML		22 20 13.8	
	comp=N,10μm,0.1s						
PB01	**IPOC Station P**	**0.80**	**274**		**Pn**	**22 19 57.2**	**-0.1**
PB01				Sn	**Sn**	**22 20 12.0**	**-0.5**
PB01	**IPOC Station P**	**0.80**	**274**	*e*S	**Sn**	**22 20 13.6**	**+1.1**
PB01				IAML		22 20 15.9	
	comp=Z,7μm,0.1s						
PB09	**IPOC Station P**	**0.89**	**219**	⇑*i*P	**Pn**	**22 19 58.8**	**+0.6**
PB09				*i* S	**Sn**	**22 20 15.4**	**+1.2**
PB09	**IPOC Station P**	**0.89**	**219**		**Pn**	**22 19 58.6**	**+0.4**
PB09				Sn	**Sn**	**22 20 15.0**	**+0.8**
PB09	**IPOC Station P**	**0.89**	**219**	*e*P	**Pn**	**22 19 58.9**	**+0.7**
PB09				*e*S	**Sn**	**22 20 15.8**	**+1.6**
PB09				IAML		22 20 16.2	
	comp=Z,2μm,0.5s						
PB08	**IPOC Station P**	**1.07**	**333**	⇓*i*P	**Pn**	**22 20 01.4**	**+1.2**
PB08				*i* S	**Sn**	**22 20 19.1**	**+1.5**
PB08				IAML		22 20 21.1	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**1.07**	**333**		**Pn**	**22 20 00.9**	**+0.7**
PB08				Sn	**Sn**	**22 20 18.6**	**+1.0**
PB08	**IPOC Station P**	**1.07**	**333**	*e*P	**Pn**	**22 20 01.4**	**+1.2**
PB08				*e*S	**Sn**	**22 20 19.7**	**+2.1**
PB08				IAML		22 20 22.8	
	comp=Z,3μm,0.6s						
PB02	**IPOC Station P**	**1.19**	**259**	⇑*i*P	**Pn**	**22 20 01.4**	**+0.3**
PB02				*i* S	**Sn**	**22 20 19.3**	**-0.1**
PB02				IAML		22 20 22.1	
	comp=E,15μm,0.2s						
PB02	**IPOC Station P**	**1.19**	**259**	*e*P	**Pn**	**22 20 01.4**	**+0.3**
PB02				*e*S	**Sn**	**22 20 19.7**	**+0.3**
PB02				IAML		22 20 21.9	
	comp=Z,11μm,0.4s						
PB07	**IPOC Station P**	**1.32**	**242**	⇑*i*P	**Pn**	**22 20 02.7**	**+0.2**
PB07				*i* S	**Sn**	**22 20 21.6**	**-0.3**
PB07				IAML		22 20 23.4	
	comp=E,4μm,0.5s						
PB07	**IPOC Station P**	**1.32**	**242**		**Pn**	**22 20 02.6**	**0.0**
PB07				Sn	**Sn**	**22 20 21.1**	**-0.8**
PB07	**IPOC Station P**	**1.32**	**242**	*e*P	**Pn**	**22 20 02.8**	**+0.3**
PB07				*e*S	**Sn**	**22 20 22.0**	**+0.1**
PB07				IAML		22 20 28.0	
	comp=Z,3μm,0.4s						
PB03	**IPOC Station P**	**1.40**	**228**	⇑*i*P	**Pn**	**22 20 03.6**	**+0.1**
PB03				*i* S	**Sn**	**22 20 23.5**	**-0.1**
PB03				IAML		22 20 24.6	
	comp=N,3μm,0.4s						
PB03	**IPOC Station P**	**1.40**	**228**	*e*P	**Pn**	**22 20 03.6**	**+0.1**
PB03				*e*S	**Sn**	**22 20 23.7**	**+0.1**
PB03				IAML		22 20 26.3	
	comp=Z,2μm,0.4s						
PATCX	**Punta Patache**	**1.44**	**281**	⇑*i*P	**Pn**	**22 20 04.2**	**+0.3**
PATCX				*i* S	**Sn**	**22 20 24.2**	**0.0**
PATCX				IAML		22 20 26.5	
	comp=E,7μm,0.2s						
PATCX	**Punta Patache**	**1.44**	**281**		**Pn**	**22 20 03.9**	**0.0**
PATCX				Sn	**Sn**	**22 20 24.1**	**-0.1**
PATCX	**Punta Patache**	**1.44**	**281**	*e*P	**Pn**	**22 20 04.2**	**+0.3**
PATCX				*e*P	**P**	**22 20 04.4**	**+0.5**
PATCX				*e*P	**P**	**22 20 04.4**	**+0.5**
GO01	**Chusmiza**	**1.52**	**340**	⇓*i*P	**Pn**	**22 20 06.1**	**+0.9**
GO01	**Chusmiza**	**1.52**	**340**		**Pn**	**22 20 06.1**	**+0.9**
GO01				Sn	**Sn**	**22 20 27.6**	**+1.1**
LVC	**Limon Verde**	**1.52**	**189**	P	**Pn**	**22 20 05.8**	**+0.7**
	comp=E,96nm,0.3s,baz=25,slow=11,SNR=680						
LVC				S	**Sn**	**22 20 27.0**	**+0.6**
	comp=E,167nm,0.3s,baz=108,slow=24,SNR=60						
LVC	**Limon Verde**	**1.52**	**189**	*e*S	**Sn**	**22 20 27.6**	**+1.2**
LVC	**Limon Verde**	**1.52**	**189**	*e*P	**Pn**	**22 20 05.8**	**+0.7**
TA01	**Diego Aracena**	**1.54**	**290**	⇑*i*P	**Pn**	**22 20 04.8**	**0.0**
TA01				*i* S	**Sn**	**22 20 25.7**	**-0.3**
TA01				IAML		22 20 27.1	
	comp=N,16μm,0.9s						
TA01	**Diego Aracena**	**1.54**	**290**		**Pn**	**22 20 04.7**	**-0.1**
TA01				Sn	**Sn**	**22 20 25.6**	**-0.5**
TA02	**Huaiquique**	**1.62**	**300**	⇑*i*P	**Pn**	**22 20 06.1**	**+0.2**
TA02				*i* S	**Sn**	**22 20 28.1**	**+0.3**
TA02				IAML		22 20 33.1	
	comp=N,11μm,0.1s						
PB11	**IPOC Station P**	**1.64**	**324**	⇓*i*P	**Pn**	**22 20 06.7**	**+0.4**
PB11				*i* S	**Sn**	**22 20 29.1**	**+0.6**
PB11				IAML		22 20 30.4	
	comp=E,3μm,0.2s						
PB11	**IPOC Station P**	**1.64**	**324**	Pn	**Pn**	**22 20 06.4**	**+0.2**
PB11	**IPOC Station P**	**1.64**	**324**	*e*P	**Pn**	**22 20 06.7**	**+0.4**
PB11				*e*S	**Sn**	**22 20 29.4**	**+0.9**
PB11				IAML		22 20 31.4	
	comp=Z,2μm,0.1s						
PB06	**IPOC Station P**	**1.82**	**208**	⇑*i*P	**Pn**	**22 20 08.7**	**+0.3**
PB06				*i* S	**Sn**	**22 20 32.2**	**-0.1**
PB06				IAML		22 20 33.2	
	comp=E,6μm,0.4s						
PB06	**IPOC Station P**	**1.82**	**208**		**Pn**	**22 20 08.2**	**-0.2**
PB06	**IPOC Station P**	**1.82**	**208**	*e*P	**Pn**	**22 20 08.7**	**+0.3**
PB06				*e*S	**Sn**	**22 20 32.6**	**+0.3**
PB06				IAML		22 20 33.5	
	comp=Z,2μm,0.5s						
PB04	**IPOC Station P**	**1.86**	**229**	⇑*i*P	**Pn**	**22 20 08.8**	**-0.2**
PB04				*i* S	**Sn**	**22 20 32.9**	**-0.5**
PB04				IAML		22 20 38.0	
	comp=N,3μm,0.1s						
PB04	**IPOC Station P**	**1.86**	**229**		**Pn**	**22 20 08.9**	**-0.1**
PB04	**IPOC Station P**	**1.86**	**229**	*e*P	**Pn**	**22 20 08.9**	**-0.1**
PB04				*e*S	**Sn**	**22 20 33.1**	**-0.3**
PB04				IAML		22 20 35.8	
	comp=Z,1μm,0.2s						
PSGC	**Pisagua**	**2.04**	**317**	⇓*i*P	**Pn**	**22 20 10.9**	**-0.3**
PSGC				*i* S	**Sn**	**22 20 37.4**	**+0.1**
PSGC				IAML		22 20 41.6	
	comp=N,1μm,0.5s						
PSGCX	**Pisagua**	**2.04**	**317**		**Pn**	**22 20 10.7**	**-0.4**
PSGCX	**Pisagua**	**2.04**	**317**	*e*P	**Pn**	**22 20 10.8**	**-0.4**
PSGCX				*e*S	**Sn**	**22 20 37.3**	**+0.1**
MNMC	**Minye Minye**	**2.16**	**335**		**Pn**	**22 20 13.4**	**+0.7**
MNMCX	**Minye Minye**	**2.16**	**335**	*e*P	**Pn**	**22 20 13.6**	**+0.8**
PB15	**IPOC Station P**	**2.23**	**200**	⇑*i*P	**Pn**	**22 20 13.9**	**+0.3**
PB15				*i* S	**Sn**	**22 20 42.0**	**+0.4**
PB15	**IPOC Station P**	**2.23**	**200**		**Pn**	**22 20 13.1**	**-0.6**
PB15	**IPOC Station P**	**2.23**	**200**	*e*P	**Pn**	**22 20 14.0**	**+0.3**
PB15				*e*S	**Sn**	**22 20 42.4**	**+0.7**
PB15				IAML		22 20 47.0	
	comp=Z,4μm,0.1s						
PB05	**IPOC Station P**	**2.27**	**219**	⇑*e*P	**Pn**	**22 20 13.5**	**-0.5**
PB05				*i* S	**Sn**	**22 20 41.1**	**-1.2**
PB05				IAML		22 20 46.0	
	comp=E,871nm,0.4s						
PB05	**IPOC Station P**	**2.27**	**219**	*e*P	**Pn**	**22 20 13.9**	**-0.1**
PB05				*e*S	**Sn**	**22 20 41.4**	**-0.9**
PB05				IAML		22 20 50.2	
	comp=Z,633nm,0.4s						
PB16	**IPOC Station P**	**2.87**	**343**	⇓*i*P	**Pn**	**22 20 23.4**	**+1.2**
PB16				*i* S	**Sn**	**22 20 58.8**	**+2.0**
PB16				IAML		22 21 00.7	
	comp=N,394nm,0.7s						
PB16	**IPOC Station P**	**2.87**	**343**	Pn	**Pn**	**22 20 23.0**	**+0.8**
PB16	**IPOC Station P**	**2.87**	**343**	*e*P	**Pn**	**22 20 23.4**	**+1.2**
PB16				*e*S	**Sn**	**22 20 58.7**	**+1.8**
PB12	**IPOC Station P**	**2.94**	**327**	⇓*i*P	**Pn**	**22 20 21.8**	**-0.9**
PB12				*i* S	**Sn**	**22 20 56.4**	**-1.4**
PB12				IAML		22 21 03.7	
	comp=N,756nm,0.3s						
PB12	**IPOC Station P**	**2.94**	**327**	Pn	**Pn**	**22 20 21.4**	**-1.3**
PB12	**IPOC Station P**	**2.94**	**327**	*e*P	**Pn**	**22 20 22.6**	**-0.1**
PB12				*e*S	**Sn**	**22 20 56.8**	**-1.0**
PB12				IAML		22 21 03.5	
	comp=Z,423nm,0.4s						
PB10	**IPOC Station P**	**2.98**	**216**	*e*P	**Pn**	**22 20 22.5**	**-0.7**
PB10				IAML		22 21 14.1	
	comp=E,372nm,0.4s						
PB10	**IPOC Station P**	**2.98**	**216**	Pn	**Pn**	**22 20 22.5**	**-0.7**
PB10	**IPOC Station P**	**2.98**	**216**	*e*P	**Pn**	**22 20 22.7**	**-0.4**
PB10				*e*S	**Sn**	**22 20 57.2**	**-1.5**
YJA	**Yavi**	**3.10**	**111**	*e*P	**Pn**	**22 20 27.6**	**+2.6**
YJA				*e*S	**Sn**	**22 21 05.8**	**+3.9**
AP01	**Chacalluta**	**3.15**	**329**		**Pn**	**22 20 25.4**	**+0.1**
PB14	**IPOC Station P**	**3.87**	**205**	Pn	**Pn**	**22 20 34.5**	**-0.6**
GO02	**Mina Guanaco**	**4.14**	**192**	Pn	**Pn**	**22 20 37.9**	**-0.8**
LPAZ	**La Paz**	**4.81**	**6**	P	**Pn**	**22 20 49.4**	**+1.3**
	comp=E,3.6nm,0.3s,baz=189,slow=7.7,SNR=90						
LPAZ	**La Paz**	**4.81**	**6**		**Pn**	**22 20 49.9**	**+1.8**
LPAZ	**La Paz**	**4.81**	**6**	*e*P	**Pn**	**22 20 50.4**	**+2.3**
AC01	**Pan de Azucar**	**5.33**	**199**	Pn	**Pn**	**22 20 52.5**	**-2.0**
AC02	**Maricunga**	**5.73**	**184**	Pn	**Pn**	**22 20 59.7**	**-0.5**
AHML	**Horco Molle**	**6.41**	**153**	*e*P	**Pn**	**22 21 09.8**	**+0.7**
GO03	**Copiap**	**6.62**	**192**	Pn	**Pn**	**22 21 09.6**	**-2.4**
AC05	**El Transito**	**7.84**	**191**	Pn	**Pn**	**22 21 25.4**	**-3.1**
AGUA	**GUANDACOL**	**8.35**	**179**	*e*P	**Pn**	**22 21 33.6**	**-1.7**
AGUA				*e*S	**Sn**	**22 23 05.6**	**-2.4**
AGUA				IAML		22 23 07.2	
	comp=Z,58nm,0.6s						
SIV	**San Ignacio**	**8.79**	**56**	P	**Pn**	**22 21 38.9**	**-2.4**
	comp=Z,48nm,0.3s,baz=258,slow=9.8,SNR=496						
SIV				S	**Sn**	**22 23 12.0**	**-6.7**
	comp=Z,0.1nm,0.3s,baz=280,slow=14,SNR=1.2						
VILB	**Vilhena**	**11.43**	**46**	*e*P	**Pn**	**22 22 15.4**	**-1.5**
ETMB	**Extrema**	**11.46**	**12**	*e*P	**Pn**	**22 22 17.7**	**+0.5**
CPUP	**Villa Florida**	**11.59**	**119**	P	**Pn**	**22 22 16.6**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=299,slow=12,SNR=9.8						
CPUP	**Villa Florida**	**11.59**	**119**		**Pn**	**22 22 17.1**	**-1.7**
CPUP	**Villa Florida**	**11.59**	**119**	*e*P	**Pn**	**22 22 17.4**	**-1.4**
NNA	**Nana**	**11.99**	**318**	LR	LR	22 26 55.2	
	comp=Z,34nm,20.1s,baz=156,slow=36						
MT02	**Curacav**	**12.31**	**190**	Pn	**Pn**	**22 22 25.9**	**-2.3**
SAML	**Samuel**	**13.18**	**24**	Pn	**Pn**	**22 22 38.1**	**-1.6**
SAML	**Samuel**	**13.18**	**24**	*e*P	**Pn**	**22 22 38.6**	**-1.1**
BO02	**Sierra Bellavi**	**13.77**	**187**	Pn	**Pn**	**22 22 45.9**	**-1.4**
BI02	**San Fabin de**	**15.68**	**188**	P	**Pn**	**22 23 10.5**	**-0.9**
BI02				IAmb	IAmb	22 23 12.9	
	comp=Z,29nm,0.9s						
PTGB	**Pitanga**	**15.69**	**106**	*e*P	**P**	**22 23 14.6**	**+1.4**
CLDB	**Colider**	**15.98**	**52**	*e*P	**Pn**	**22 23 14.8**	**-0.4**
PCMB	**Pacaembu**	**16.20**	**95**	*e*P	**P**	**22 23 18.5**	**-0.2**
ITAB	**Concordia**	**16.25**	**115**	*e*P	**P**	**22 23 19.2**	**0.0**
CPSB	**Cacapava Do Su**	**16.52**	**127**	*e*P	**Pn**	**22 23 19.9**	**-1.8**
ARAG	**Araguaiana, MT**	**16.84**	**74**	*e*P	**P**	**22 23 25.9**	**0.0**
PLTB	**Pedras Altas**	**17.13**	**131**	*e*P	**Pn**	**22 23 28.2**	**-0.9**
ITRB	**Iturama**	**17.19**	**89**	*e*P	**Pn**	**22 23 29.9**	**-0.2**
FRTB	**Fartura**	**17.80**	**101**	*e*P	**P**	**22 23 36.4**	**0.0**
LC01	**Cunco**	**17.95**	**188**	P	**P**	**22 23 35.5**	**-2.4**
CNLB	**Canela**	**18.04**	**121**	*e*P	**P**	**22 23 38.6**	**-0.4**
TIJ01	**Guaruva-PR**	**18.53**	**107**	*e*P	**P**	**22 23 44.6**	**+0.1**
BB19B	**Bebedouro**	**18.77**	**94**	*e*P	**P**	**22 23 46.6**	**-0.4**
NPGB	**Novo Progresso**	**18.98**	**45**	*e*P	**P**	**22 23 47.7**	**-1.7**
MACA	**Manacapuru-AM**	**19.44**	**25**	*e*P	**P**	**22 23 54.1**	**-0.3**
IPMB	**Ipameri, GO**	**19.50**	**84**	*e*P	**P**	**22 23 55.0**	**0.0**
PLCA	**Paso Flores**	**19.64**	**184**	P	**P**	**22 23 57.1**	**+0.8**
	comp=Z,6nm,0.3s,baz=356,slow=13,SNR=19						
PLCA	**Paso Flores**	**19.64**	**184**	P	**P**	**22 23 56.2**	**-0.2**
PLCA				IAmb	IAmb	22 24 02.1	
	comp=Z,22nm,0.8s						
PLCA	**Paso Flores**	**19.64**	**184**	*e*P	**P**	**22 23 57.8**	**+1.4**
PET01	**Itanhaem-SP**	**19.96**	**103**	*e*P	**P**	**22 23 59.8**	**-0.1**
VAO	**Valinhos**	**20.18**	**99**	*e*P	**P**	**22 24 00.9**	**-1.4**
BDFB	**Brasilia**	**20.31**	**78**	P	**P**	**22 24 03.7**	**-0.1**
	comp=Z,14nm,0.5s,baz=254,slow=10,SNR=33						
BDFB				LR	LR	22 33 51.1	
	comp=Z,67nm,19.1s,baz=102,slow=42						
BDFB	**Brasilia**	**20.31**	**78**	P	**P**	**22 24 03.6**	**-0.2**
BDFB				IAmb	IAmb	22 24 04.1	
	comp=Z,17nm,0.6s						
ITTB	**Itaituba**	**20.83**	**39**	*e*P	**P**	**22 24 08.0**	**-1.4**
PEXB	**Peixe**	**21.42**	**69**	*e*P	**P**	**22 24 14.8**	**-0.9**
LL01	**San Ignacio de**	**21.45**	**188**	P	**P**	**22 24 14.7**	**-1.0**
LL01				IAmb	IAmb	22 24 19.4	
	comp=Z,27nm,1.0s						
PTGA	**Pitinga**	**21.95**	**24**	P	**P**	**22 24 19.7**	**-1.5**
PTGA				IAmb	IAmb	22 24 25.1	
	comp=Z,14nm,0.7s						
BSCB	**Bom Sucesso**	**22.27**	**94**	*e*P	**P**	**22 24 24.8**	**+0.2**
OTAV	**Otavalo**	**23.28**	**334**	P	**P**	**22 24 33.5**	**-1.3**
PRPB	**Parauapebas**	**23.51**	**54**	*e*P	**P**	**22 24 35.5**	**-0.9**
FLOC	**Florencia**	**23.57**	**342**	*e*P	**P**	**22 24 36.2**	**-0.8**
SMTB	**Santa Maria do**	**23.66**	**62**	*e*P	**P**	**22 24 37.6**	**-0.2**
MALB	**Monte Alegre**	**23.72**	**38**	*e*P	**P**	**22 24 37.2**	**-1.1**
MC01	**Montes Claros**	**23.76**	**84**	*e*P	**P**	**22 24 37.8**	**-1.0**
JANB	**Januaria**	**23.88**	**79**	*e*P	**P**	**22 24 39.3**	**-0.5**
SDBA	**SAO DESIDERIO**	**24.29**	**73**	*e*P	**P**	**22 24 43.1**	**-0.5**
BBAC	**Balboa, Cauca**	**24.48**	**339**	*e*P	**P**	**22 24 46.7**	**+1.3**
PCON	**Cinco Dias**	**24.49**	**341**	*e*P	**P**	**22 24 48.3**	**+2.3**
ORTC	**Ortega, Tolima**	**25.69**	**345**	*e*P	**P**	**22 24 56.8**	**+0.7**
SJMB	**Sao Joao De Ma**	**25.91**	**90**	*e*P	**P**	**22 24 57.8**	**-0.4**
CHIC	**Chingaza**	**26.05**	**348**	*e*P	**P**	**22 24 58.6**	**-1.3**
BSFB	**Barra de Sao F**	**26.21**	**90**	*e*P	**P**	**22 25 00.5**	**-0.3**
MCPB	**Macapa, AP**	**26.22**	**40**	*e*P	**P**	**22 25 01.5**	**+0.6**
RIB01	**Linhares ES**	**26.55**	**91**	*e*P	**P**	**22 25 03.8**	**-0.2**
GUY2C	**Guyana, Caldas**	**26.98**	**345**	*e*P	**P**	**22 25 07.1**	**-1.2**
NAN01	**Guarapari, ES**	**27.06**	**88**	*e*P	**P**	**22 25 08.1**	**-0.4**
TMAB	**Tom-Au,PA,Br**	**27.34**	**50**	*e*P	**P**	**22 25 10.7**	**-0.3**
GDU01	**Guandu, BA**	**28.65**	**80**	*e*P	**P**	**22 25 22.3**	**-0.4**
MDP	**Montagnes des**	**30.41**	**33**	P	**P**	**22 25 37.9**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=233,slow=8.8,SNR=5.2						
RCBR	**Riachuelo**	**35.16**	**69**	P	**P**	**22 26 20.2**	**+0.5**
	comp=Z,20nm,0.8s,baz=237,slow=8.9,SNR=7.8						
RCBR	**Riachuelo**	**35.16**	**69**	P	**P**	**22 26 19.3**	**-0.4**
RCBR	**Riachuelo**	**35.16**	**69**	*e*P	**P**	**22 26 19.3**	**-0.4**
MLPR	**Magueyes Islan**	**38.86**	**2**	P	**P**	**22 26 49.6**	**-1.1**
CRPR	**Cabo Rojo, PR**	**38.90**	**2**	P	**P**	**22 26 49.1**	**-1.9**
OBIP	**Obispado Ponce**	**38.95**	**3**	P	**P**	**22 26 49.9**	**-1.7**
OBIP				IAmb	IAmb	22 27 04.1	
	comp=Z,13nm,0.8s						
PDPR	**Patillas Dam,**	**38.96**	**4**	P	**P**	**22 26 49.5**	**-2.1**
PMSA	**Palmer Station**	**43.76**	**177**	P	**P**	**22 27 32.1**	**+1.9**
	comp=Z,3.8nm,0.7s,baz=14,slow=6.9,SNR=6.8						
PMSA	**Palmer Station**	**43.76**	**177**	P	**P**	**22 27 31.9**	**+1.6**
JSC	**Jenkinsville**	**56.37**	**347**	P	**P**	**22 29 05.9**	**+0.2**
BIRD	**Birdtown, Kers**	**56.57**	**348**	P	**P**	**22 29 07.5**	**+0.4**
BIRD				IAmb	IAmb	22 29 08.7	
	comp=Z,7.1nm,0.7s						
Y49A	**Blount Mountai**	**57.22**	**342**	P	**P**	**22 29 11.4**	**-0.4**
TKL	**Tuckaleechee C**	**58.24**	**346**	LR	LR	22 55 43.0	
	comp=Z,21nm,21.6s,baz=208,slow=37						
TKL	**Tuckaleechee C**	**58.24**	**346**	P	**P**	**22 29 18.6**	**-0.4**
TKL				IAmb	IAmb	22 29 21.1	
	comp=Z,5.1nm,1.1s						
SWET	**Sewanee**	**58.36**	**343**	P	**P**	**22 29 19.6**	**-0.2**
T57A	**Hurt**	**58.65**	**350**	P	**P**	**22 29 22.5**	**+0.8**
T57A				IAmb	IAmb	22 29 27.3	
	comp=Z,6.5nm,1.2s						
BELA	**Belgrano 2**	**59.11**	**172**	P	**P**	**22 29 25.0**	**+0.6**
WVT	**Waverly**	**59.75**	**342**	P	**P**	**22 29 28.9**	**-0.4**
WVT				IAmb	IAmb	22 29 29.6	
	comp=Z,5.3nm,0.7s						
T47A	**Sharon Grove**	**60.35**	**343**	P	**P**	**22 29 33.1**	**-0.3**
VNA3	**Neumayer Olymp**	**60.37**	**161**	P	**P**	**22 29 34.4**	**+1.3**
VNA1	**Neumayer--Stat**	**60.57**	**161**	P	**P**	**22 29 36.2**	**+1.7**
VNA2	**Neumayer--Watz**	**60.94**	**161**	P	**P**	**22 29 38.4**	**+1.4**
SNAA	**Sanae**	**62.57**	**161**	P	**P**	**22 29 49.1**	**+1.1**
SNAA	**Sanae**	**62.57**	**161**	P	**P**	**22 29 48.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.40**	**156**	P	P	22 45 06.4	-0.7
	0.2nm,0.5s,baz=336,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**24.64**	**161**	P	P	22 45 40.9	+0.7
	0.2nm,0.3s,baz=331,slow=10,SNR=1.9						
STKA	**Stephens Creek**	**34.95**	**155**	P	P	22 47 11.3	-0.1
	2.5nm,0.7s,baz=342,slow=9.6,SNR=3.5						
MKAR	**Makanchi Array**	**60.13**	**327**	P	P	22 50 26.9	-0.1
	0.3nm,0.4s,baz=122,slow=8.4,SNR=8.6						

KRNET ***10*** *22:54:50.8±0.1, 39°.06N×69°.45E, h15km, mb3.5*
NNC ***10*** *22:54:50.3±3.3, 39°.15N×69°.02E, h1km±11km, mb4.0, mpv3.6, Error ellipse: s-maj=22.9km s-min=14.1km az=0.0*
ISC 10 22:54:51.6±1.0, 39°.06N±0°.06×69°.51E±0°.05, h10km, n17, σ2°30/27, 25C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**0.48**	**214**	⇑*i*P	Pg	22 54 59.7	-1.4
	baz=9.0						
CHGR				⇑*i*S	**Sg**	**22 55 06.3**	**-1.2**
	baz=9.0						
GAR	**Garm**	**0.63**	**95**	⇑*i*P	**Pg**	**22 55 04.0**	**+0.1**
	baz=95						
GAR				⇑*i*S	**Sb**	**22 55 13.5**	**-0.3**
	baz=95						
BTK	**Batken**	**1.42**	**45**	⇑*i*P	**Pn**	**22 55 17.5**	**-0.1**
	baz=46						
BTK				⇑*i*S	**Sg**	**22 55 37.3**	**-0.1**
	baz=46						
TAS	**Tashkent**	**2.27**	**356**	⇑*e*P	**Pn**	**22 55 30.9**	**+1.7**
	baz=57						
TAS				⇑*e*S	**Sn**	**22 55 59.6**	**+2.4**
	baz=57						
OHH	**Osh**	**2.92**	**59**	⇑*i*P	**Pn**	**22 55 37.7**	**-0.5**
	baz=59						
OHH				⇑*i*S	**Sn**	**22 56 12.4**	**-0.9**
	baz=59						
IUG	**Iuzhnay**	**3.11**	**7**	Pg	**Pb**	**22 55 47.2**	**+0.1**
	22nm,0.3s						
IUG				Lg	Lg	22 56 28.6	
	96nm,0.6s						
ARK	**Arkit**	**3.32**	**34**	⇑*i*P	**Pn**	**22 55 44.5**	**+0.8**
	baz=35						
ARK				⇑*i*S	**Sn**	**22 56 23.0**	**-0.2**
	baz=35						
BRLS	**Borolday**	**3.98**	**3**	Pg	Pn	22 55 58.0	+5.4
	9.1nm,0.1s						
BRLS				Lg	Lg	22 56 46.9	
	29nm,0.3s						
KK31	**Karatay Array**	**4.11**	**10**	⇑Pn	**Pn**	**22 55 55.8**	**+1.3**
	1.2nm,0.5s,baz=167,slow=8.5,SNR=11						
KK31				⇑Pg	**Pb**	**22 56 05.1**	**+1.0**
	1.4nm,0.3s,baz=193,slow=18,SNR=14						
KK31				⇑Lg	Lg	22 56 58.9	
	7.1nm,0.4s,baz=194,slow=29,SNR=11						
AML	**Almayashu**	**4.42**	**45**	⇓*i*P	**Pn**	**22 56 00.0**	**+0.9**
	baz=45						
AML				⇓*i*S	**Sn**	**22 56 50.1**	**-0.8**
	baz=45						
ARLS	**Aral**	**4.62**	**51**	⇑*e*P	**Pn**	**22 56 02.3**	**+0.7**
	baz=51						
ARLS				⇑*i*S	**Sn**	**22 56 53.6**	**-1.8**
	baz=51						
MRKS	**Merke**	**4.64**	**36**	Pg	**Pn**	**22 56 04.2**	**+2.4**
	3.8nm,0.4s						
MRKS				Lg	Lg	22 56 57.2	
	3.8nm,0.6s						
EKS2	**Erkin-Say**	**4.84**	**41**	⇑*e*P	**Pn**	**22 56 05.5**	**+0.9**
	baz=41						
EKS2				⇑*i*S	**Sn**	**22 56 59.5**	**-1.3**
	baz=41						
AAK	**Ala-Archa**	**5.20**	**45**	⇑Pn	**Pn**	**22 56 12.2**	**+2.5**
	3.1nm,0.4s						
AAK				⇑Pg	**Pb**	**22 56 26.6**	**+3.8**
	4.2nm,0.5s						
AAK				⇓Sn	**Sb**	**22 57 18.6**	**-6.8**
	4.4nm,0.8s						
AAK				⇓Lg	Lg	22 57 41.2	
	9.4nm,1.4s						
TKM2	**Tokmak 2**	**6.01**	**48**	⇑Pn	**Pn**	**22 56 22.8**	**+2.1**
	1.8nm,0.3s						
TKM2				⇑Sn	**Sn**	**22 57 34.6**	**+4.9**
	2.4nm,0.7s						
TKM2				⇓Lg	Lg	22 58 09.9	
	3.3nm,0.7s						
AB31	**Akbulak array**	**12.28**	**329**	⇑Pn	**Pn**	**22 57 44.7**	**-1.7**
	6.4nm,0.4s,baz=151,slow=12,SNR=14						
AB31				⇑Sn	Sn	22 59 56.3	-7.0
	4.1nm,0.3s,baz=152,slow=23,SNR=2.7						
AKTO	**Aktyubinsk**	**13.98**	**328**	⇓Pn	Pn	22 58 02.1	-7.6
	1.8nm,1.1s						
AKTO				⇓Sn	Sn	23 00 37.2	-7.6
	1.6nm,1.1s						

IDC 10 22:58:36.5±1.8, 2°.65N×122°.99E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/38, mbtmp3.7/4, Error ellipse: s-maj=130.8km s-min=27.0km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.78**	**173**	P	P	23 03 18.9	-0.4
	2.4nm,0.3s,baz=0.5,slow=9.6,SNR=16						
WRA	**Warramunga Arr**	**25.07**	**154**	P	P	23 04 02.5	-0.4
	0.6nm,0.5s,baz=333,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.24**	**158**	P	P	23 04 32.1	+0.6
	0.4nm,0.6s,baz=338,slow=8.2,SNR=5.8						
MKAR	**Makanchi Array**	**56.37**	**327**	P	P	23 08 19.6	0.0
	0.4nm,0.8s,baz=148,slow=8.4,SNR=2.9						

RSNC 10 22:58:45.9±0.9, 6°.78N×73°.20W, h144km±9km, ML1.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**173**	*e*S	Sn	22 59 20.8	0.0
BARC				*i*		22 59 21.9	
	comp=Z,6.2nm,0.2s						
BARC	**Barichara**	**0.19**	**173**	*e*P	Pn	22 59 05.3	-0.5
BARC				*e*S	Sn	22 59 20.7	-0.1
BARC				*i*		22 59 21.9	
	comp=Z,6.1nm,0.2s						
PAMC	**Pamplona, Colo**	**0.75**	**42**	*e*P	Pn	22 59 08.7	0.0
PAMC				*e*S	Sn	22 59 25.3	-0.6
PAMC				*i*		22 59 27.6	
	comp=Z,7.5nm,0.5s						
PAMC	**Pamplona, Colo**	**0.75**	**42**	*e*P	Pn	22 59 08.7	0.0
PAMC				*e*S	Sn	22 59 24.5	-1.5
PAMC				*i*		22 59 27.6	
	comp=Z,7.5nm,0.5s						
RUSC	**La Rusia**	**0.89**	**172**	*e*P	Pn	22 59 09.7	-0.1
RUSC				*e*S	Sn	22 59 27.5	-0.4
RUSC				*i*		22 59 29.0	
	comp=Z,2.8nm,0.4s						
RUSC	**La Rusia**	**0.89**	**172**	*e*P	Pn	22 59 09.5	-0.3
RUSC				*e*S	Sn	22 59 27.0	-0.9
RUSC				*i*		22 59 29.1	
	comp=Z,2.8nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.27**	**259**	*e*P	Pn	22 59 11.3	-1.3
PTBC				*e*S	Sn	22 59 32.5	-0.4
PTBC				*i*		22 59 36.6	
	comp=Z,3.0nm,0.1s						
PTBC	**PUERTO BERRIO,**	**1.27**	**259**	*e*P	Pn	22 59 13.5	+0.9
PTBC				*e*S	Sn	22 59 33.0	+0.1
PTBC				*i*		22 59 36.6	
	comp=Z,3.0nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.79**	**293**	*e*S	Sn	22 59 42.8	-0.2
ZARC				*i*		22 59 50.8	
	comp=Z,4.1nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.79**	**293**	*e*S	Sn	22 59 44.2	+1.3
ZARC				*i*		22 59 50.8	
	comp=Z,4.1nm,0.3s						
SMLC	**San Martn de**	**2.19**	**337**	*e*S	Sn	22 59 50.6	-0.8
SMLC				*i*		22 59 54.5	
	comp=Z,6.3nm,0.1s						
SJCC	**San Jacinto, C**	**3.66**	**328**	*e*P	Pn	22 59 39.7	-2.0
SJCC				*e*S	Sn	23 00 20.0	-4.9
SJCC				*i*		23 00 25.2	
	comp=Z,1.8nm,0.4s						

ATH ***10*** *23:59:17.6, 37°.57N×26°.91E, h20km±1km, ML2.9/1, Error ellipse: s-maj=3.5km s-min=1.4km az=304.0*
DDA ***10*** *23:59:18.8, 37°.58N×26°.91E, h7km±3km, ML2.0*
ISK ***10*** *23:59:18.1, 37°.55N×26°.90E, h9km, ML2.4/11*
THE ***10*** *23:59:18.7, 37°.56N×26°.88E, h6km±1km, ML2.3/3, Error ellipse: s-maj=1.9km s-min=0.5km az=62.0*
ISC 10 23:59:18.6±0.9, 37°.56N±0°.02×26°.89E±0°.03, h11km±7km, n32, σ0°37/50, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.15**	**345**	P	**Pg**	**23 59 22.1**	**0.0**
SMG				S	**Sg**	**23 59 24.7**	**0.0**
	6μm,0.2s						
SMG	**Samos**	**0.15**	**345**	P	**Pg**	**23 59 22.2**	**0.0**
SMG				S	**Sg**	**23 59 24.6**	**-0.1**
SMG				AML	AML	23 59 25.1	
	comp=N,7616μm,0.3s						
SMG				AML	AML	23 59 25.4	
	comp=E,14499μm,0.2s						
DGB	**zmir**	**0.49**	**360**	*i* P	**Pg**	**23 59 28.0**	**-0.2**
DGB				*i* S	**Sg**	**23 59 34.7**	**0.0**
DGB				IAML		23 59 39.0	
	comp=E,102nm,0.2s						
BODT	**Bodrum**	**0.60**	**146**	P	**Pg**	**23 59 30.3**	**0.0**
BODT				S	**Sb**	**23 59 39.4**	**-0.2**
BODT	**Bodrum**	**0.60**	**146**	PG	**Pg**	**23 59 29.9**	**-0.4**
BDRM	**Kayabasi**	**0.66**	**138**	*i* P	**Pb**	**23 59 32.4**	**+0.2**
BDRM				*i* S	**Sg**	**23 59 40.7**	**+0.5**
BDRM				IAML		23 59 45.0	
	comp=E,195nm,1.0s						
AYDN	**Tasoluk**	**0.80**	**82**	*i* P	**Pb**	**23 59 34.2**	**-0.2**
AYDN				*i* S	**Sb**	**23 59 44.5**	**-0.7**
AYDN				IAML		23 59 49.0	
	comp=E,59nm,0.5s						
KOSK	**Kos Island**	**0.81**	**175**	P	**Pg**	**23 59 34.0**	**-0.2**
KOSK				S	**Sb**	**23 59 46.1**	**+0.6**
	comp=E,162nm,0.4s						
URLA	**Izmir**	**0.83**	**344**	PG	**Pg**	**23 59 34.8**	**+0.1**
URLA				SG	**Sb**	**23 59 46.9**	**+0.6**
URLA	**Izmir**	**0.83**	**344**	*i* P	**Pg**	**23 59 34.8**	**+0.1**
URLA				*i* S	**Sb**	**23 59 46.2**	**0.0**
BLCB	**Balcova**	**0.83**	**8**	P	**Pg**	**23 59 34.3**	**-0.4**
BLCB				S	**Sb**	**23 59 46.7**	**+0.4**
BLCB	**Balcova**	**0.83**	**8**	PG	**Pg**	**23 59 34.3**	**-0.4**
BLCB				SG	**Sb**	**23 59 46.9**	**+0.6**
DAT	**Datca**	**1.00**	**146**	P	**Pg**	**23 59 37.4**	**-0.4**
DAT				S	**Sb**	**23 59 51.3**	**+0.2**
DAT	**Datca**	**1.00**	**146**	PG	**Pg**	**23 59 37.3**	**-0.5**
DAT				SG	**Sb**	**23 59 51.2**	**+0.2**
DAT	**Datca**	**1.00**	**146**	*i* P	**Pg**	**23 59 37.7**	**-0.1**
DAT				*i* S	**Sg**	**23 59 51.0**	**+0.2**
CHOS	**Chios island**	**1.05**	**322**	P	**Pg**	**23 59 38.3**	**-0.6**
CHOS				S	**Sb**	**23 59 53.2**	**+0.5**
	comp=E,85nm,0.3s						
CHOS	**Chios island**	**1.05**	**322**	P	**Pg**	**23 59 38.2**	**-0.7**
CHOS	**Chios island**	**1.05**	**322**	PG	**Pg**	**23 59 38.9**	**0.0**
AMGA	**Amorgos Island**	**1.07**	**228**	P	**Pg**	**23 59 38.6**	**-0.6**
AMGA				S	**Sg**	**23 59 53.5**	**+0.2**
APE	**Apeiranthos**	**1.19**	**246**	P	**Pb**	**23 59 41.1**	**0.0**
APE				S	**Sb**	**23 59 57.0**	**+0.5**
APE	**Apeiranthos**	**1.19**	**246**	P	**Pb**	**23 59 41.0**	**-0.1**
APE				S	**Sb**	**23 59 56.5**	**+0.1**
APE	**Apeiranthos**	**1.19**	**246**	PN	**Pb**	**23 59 41.3**	**+0.2**
YER	**Yerkesik**	**1.19**	**110**	P	**Pb**	**23 59 41.3**	**+0.1**
YER	**Yerkesik**	**1.19**	**110**	PN	**Pb**	**23 59 41.0**	**-0.2**
TURN	**Turunc**	**1.34**	**125**	PN	**Pn**	**23 59 43.2**	**+0.1**
DKL	**Dikili**	**1.51**	**1**	PN	**Pn**	**23 59 46.1**	**+0.6**
ARG	**Arkhangelos**	**1.67**	**143**	P	**Pn**	**23 59 47.5**	**-0.2**
ARG	**Arkhangelos**	**1.67**	**143**	P	**Pn**	**23 59 47.7**	**0.0**
ARG	**Arkhangelos**	**1.67**	**143**	PN	**Pn**	**23 59 47.8**	**+0.1**
PRK	**Paraskevi**	**1.75**	**344**	P	**Pn**	**23 59 48.7**	**-0.2**
SIGR	**SIGRI**	**1.84**	**334**	P	**Pn**	**23 59 49.4**	**-0.7**
FETY	**Fethiye**	**1.98**	**117**	PN	**Pn**	**23 59 52.4**	**+0.3**

REY ***11*** *00:07:38.3, 64°.62N×17°.39W, h6km*
IDC ***11*** *00:07:39.5±0.4, 64°.46N×17°.45W, h0km, mb4.5/29, mb1 4.6/36, mb1mx4.5/46, mbtmp4.5/36, ML3.4/6, MS4.8/47, Ms1 4.8/47, ms1mx4.8/48, Error ellipse: s-maj=13.0km s-min=9.5km az=22.0*
BGR ***11*** *00:07:39.9±0.0, 64°.85N×17°.14W, h5km, mb5.2, Ms4.6*
MOS ***11*** *00:07:39.1±1.1, 64°.54N×17°.30W, h10km, mb5.2/81, MS4.7/26, Error ellipse: s-maj=7.6km s-min=4.6km az=105.7*
NEIC ***11*** *00:07:40.3±1.1, 64°.53N±0°.07×17°.3W±0°.1, h8km±3km, mb5.1/188, Mww5.3, Error ellipse: s-maj=10.2km s-min=7.3km az=184.0*
NAO ***11*** *00:07:40.1±5.9, 64°.49N×17°.16W, ML4.9*
IEPN ***11*** *00:07:40.0, 64°.42N×17°.55W, h10km*
BJI ***11*** *00:07:40.4±0.0, 65°.10N×16°.86W, h4km, mB5.4/51, mb4.8/50, Ms5.2/49, Ms7 5.0/46*
UNK ***11*** *00:07:41.1, 64°.65N×17°.00W, h10km*
GCMT ***11*** *00:07:42.3±0.1, 64°.59N±0°.01×17°.22W±0°.02, h12km, MW5.3/146, Moment Tensor Solution. s100,c146; s146,c306; Duration: 1ꟷ1 Moment tensor: Scale 10^17 Nm; Mrr-1.14±.01; Mθθ0.81±.01; Mφφ0.32±.01; Mrθ0.22±.03; Mφθ0.03±.01; Mφr-0.32±.03; Best double couple: M0 1.03500×10^17 NP1:φ78.00000°, δ40.00000°, λ-108.00000°. NP2:φ281.00000°, δ52.00000°, λ-75.00000°. Principal axes: T 0.8400, Plg6.0000°, Azm0.0000°; N 0.3890, Plg12.0000°, Azm92.0000°; P -1.2310, Plg77.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DNK ***11*** *00:07:43.4±4.3, 64°.55N×17°.19W, h27km±137km, Ms5.1, Hypocentre not reviewed by the ISC*
NEIC ***11*** *00:07:44, 64°.85N×16°.77W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr-9.93; Mθθ6.90; Mφφ3.02; Mrθ1.04; Mθφ-0.28; Mφr-3.55; Fault plane solution: M0 9.56000×10^16 NP1:φ84.00000°, δ41.00000°, λ-110.00000°. NP2:φ291.00000°, δ52.00000°, λ-72.00000°. Principal axes: T 7.0444, Plg5.0000°, Azm9.0000°; N 3.8407, Plg14.0000°, Azm100.0000°; P -10.8852, Plg75.0000°, Azm258.0000°;*
ISC 11 00:07:39.8±0.4, 64°.64N±0°.02×17°.46W±0°.02, h4km±2km, h4km: pP-P, n1141, σ1ꟷ74/1250, mb5.1/233, MS4.8/86, 32C-52D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.14**	**286**	P	**Pg**	**00 07 41.8**	**-0.8**
	baz=289						
IDYN	**Dyngjuhals**	**0.16**	**14**	P	**Pg**	**00 07 41.9**	**-1.2**
	baz=3.0						
IDJK	**Dyngjujokull**	**0.16**	**144**	P	**Pg**	**00 07 41.2**	**-1.8**
	baz=150						
IDJK				S	**Sg**	**00 07 43.2**	**-2.0**
	baz=150						
IURH	**Urdarhals**	**0.23**	**35**	P	**Pg**	**00 07 42.9**	**-1.4**
	baz=27						
IGRF	**Grimsfjall**	**0.24**	**160**	P	**Pg**	**00 07 42.6**	**-1.9**
	baz=166						
IKVE	**Kverkfjoll**	**0.34**	**82**	P	**Pg**	**00 07 44.4**	**-2.0**
	baz=79						
IBJK	**Bruarjokull**	**0.35**	**119**	P	**Pg**	**00 07 44.2**	**-2.3**
	baz=118						
IHUS	**Husbondi**	**0.35**	**194**	P	**Pg**	**00 07 44.9**	**-1.8**
	baz=200						
IVOT	**Vottur**	**0.39**	**162**	P	**Pg**	**00 07 45.2**	**-2.1**
	baz=166						
ISKR	**Skrokkalda**	**0.41**	**260**	P	**Pg**	**00 07 46.1**	**-1.6**
	baz=263						
IJOK	**Jokulheimar**	**0.46**	**226**	P	**Pg**	**00 07 46.7**	**-2.0**
	baz=230						
IKRE	**Kreppuhraun**	**0.48**	**72**	P	**Pg**	**00 07 46.7**	**-2.5**
	baz=68						
IKRE				S	**Sg**	**00 07 53.9**	**-1.5**
	baz=68						
IASK	**Askja**	**0.54**	**39**	P	**Pg**	**00 07 47.9**	**-2.3**
	baz=36						
IMKO	**Mokollar**	**0.59**	**54**	P	**Pg**	**00 07 48.7**	**-2.4**
	baz=51						
IMKO				S	**Sg**	**00 07 57.2**	**-1.5**
	baz=51						
IIEY	**Innrieyrar**	**0.62**	**208**	P	**Pg**	**00 07 49.2**	**-2.4**
	baz=212						
IIEY				S	**Sg**	**00 07 57.8**	**-1.8**
	baz=212						
IKSK	**Karasker**	**0.64**	**138**	P	**Pg**	**00 07 48.7**	**-3.4**
	baz=139						
IKSK				S	**Sg**	**00 07 57.3**	**-3.1**
	baz=139						
IKAL	**Kalfafell**	**0.70**	**188**	P	**Pg**	**00 07 52.5**	**-0.6**
	baz=191						
ISVA	**Svartarkot**	**0.71**	**7**	P	**Pg**	**00 07 51.0**	**-2.4**
	baz=4.4						
IVSH	**V-Sauoahnukur**	**0.76**	**76**	P	**Pg**	**00 07 51.2**	**-3.2**
	baz=74						
IVSH				S	**Sg**	**00 08 00.5**	**-3.7**
	baz=74						
IVAT	**Vatnsfell**	**0.78**	**235**	P	**Pg**	**00 07 52.3**	**-2.4**
	baz=238						
IVAT				S	**Sg**	**00 08 02.1**	**-2.7**
	baz=238						
IADA	**Aoalbol**	**0.89**	**64**	P	**Pg**	**00 07 53.4**	**-3.5**
	baz=62						
IADA				S	**Sg**	**00 08 04.9**	**-3.5**
	baz=62						
IHVE	**Hveravellir**	**0.94**	**286**	P	**Pg**	**00 07 54.8**	**-2.9**
	baz=286						
IHVE				S	**Sg**	**00 08 07.7**	**-2.1**
	baz=286						
IMEL	**Melhnausar**	**1.00**	**19**	P	**Pg**	**00 07 55.6**	**-3.3**
	baz=18						
ISNB	**Snabyli**	**1.04**	**210**	P	**Pg**	**00 07 56.3**	**-3.4**
	baz=212						
ISNB				S	**Sg**	**00 08 10.2**	**-3.0**
	baz=212						
IREN	**Reynihlio**	**1.04**	**13**	P	**Pg**	**00 07 56.4**	**-3.3**
	baz=11						
ISLY	**Slysaalda**	**1.09**	**222**	P	**Pg**	**00 07 57.4**	**-3.4**
	baz=224						
ISLY				S	**Sg**	**00 08 12.4**	**-2.4**
	baz=224						
IKVO	**Krokottuvotn**	**1.11**	**12**	P	**Pg**	**00 07 57.6**	**-3.5**
	baz=11						
IFED	**Fedgar**	**1.15**	**239**	P	**Pg**	**00 07 58.6**	**-3.3**
	baz=240						
IGRS	**Grimsstaoir**	**1.15**	**29**	P	**Pg**	**00 07 58.2**	**-3.7**
	baz=27						
IGRS				S	**Sg**	**00 08 14.0**	**-2.9**
	baz=27						
IRJU	**Rjupnafell**	**1.15**	**208**	P	**Pg**	**00 07 58.5**	**-3.5**
	baz=210						
IMJO	**Mjoaskard**	**1.20**	**235**	P	**Pg**	**00 07 59.2**	**-3.5**
	baz=236						
IGYG	**Gygjarholskot**	**1.25**	**255**	P	**Pg**	**00 07 60.0**	**-3.7**
	baz=256						
ISKI	**Skildingahlsh**	**1.25**	**8**	P	**Pg**	**00 07 60.0**	**-3.9**
	baz=6.7						
IGHA	**Grjothals**	**1.26**	**15**	P	**Pg**	**00 08 00.3**	**-3.6**
	baz=14						
IHVO	**Lagu-Hvolar**	**1.27**	**209**	P	**Pg**	**00 08 00.6**	**-3.5**
	baz=211						
IGOD	**Go??abunga**	**1.28**	**221**	P	**Pg**	**00 08 00.8**	**-3.5**
	baz=222						
IHAU	**Haukadalur**	**1.28**	**240**	P	**Pg**	**00 08 00.7**	**-3.7**
	baz=241						
IGRA	**Granastaoir**	**1.29**	**358**	P	**Pg**	**00 08 00.4**	**-4.1**
	baz=357						
IGRA				S	**Sg**	**00 08 18.4**	**-2.8**
	baz=357						
IDIM	**Dimmadalss**	**1.35**	**9**	P	**Pn**	**00 08 01.4**	**-4.0**
	baz=7.9						
ISMJ	**Smjorgil**	**1.36**	**226**	P	**Pn**	**00 08 01.0**	**-4.7**
	baz=228						
IHLA	**Hella**	**1.37**	**344**	P	**Pn**	**00 08 02.1**	**-3.6**
	baz=343						
IALF	**Alftagrof**	**1.38**	**214**	P	**Pn**	**00 08 02.0**	**-3.8**
	baz=216						
IESK	**Eystri-Skogar**	**1.42**	**219**	P	**Pn**	**00 08 02.7**	**-3.7**
	baz=220						
ISAU	**Saurbar**	**1.44**	**245**	P	**Pn**	**00 08 02.8**	**-3.9**
	baz=246						
IMID	**Miomork**	**1.45**	**228**	P	**Pn**	**00 08 03.3**	**-3.5**
	baz=230						
IHED	**Heoinshofoi**	**1.45**	**2**	P	**Pn**	**00 08 03.0**	**-3.8**
	baz=1.2						
IHED				S	**Sb**	**00 08 23.8**	**-2.4**
	baz=1.2						
IBRE	**Brettingsstaoi**	**1.51**	**353**	P	**Pn**	**00 08 04.0**	**-3.6**
	baz=352						
IGIL	**Gilhagi**	**1.52**	**17**	P	**Pn**	**00 08 03.9**	**-3.8**
	baz=16						
ISIG	**Siglufjorour**	**1.62**	**339**	P	**Pn**	**00 08 05.7**	**-3.4**
	baz=338						
IASB	**`sbjarnarst**	**1.67**	**276**	P	**Pn**	**00 08 06.5**	**-3.3**
	baz=276						
BORG	**Borgarnes**	**1.67**	**276**	Pn	**Pn**	**00 08 07.1**	**-2.7**
	140nm,0.3s,baz=94,slow=8.9,SNR=163						
BORG				Sn	**Sn**	**00 08 30.4**	**-1.2**
	38nm,0.3s,baz=268,slow=21,SNR=19						
BORG				LR	LR	00 08 56.4	
	comp=Z,18μm,21.7s,baz=110,slow=45						
BORG	**Borgarnes**	**1.67**	**276**	P	**Pn**	**00 08 07.1**	**-2.7**
BORG						00 08 30.8	
BORG	**Borgarnes**	**1.67**	**276**	Pn	**Pn**	**00 08 07.1**	**-2.7**
BORG				Sn	**Sn**	**00 08 30.8**	**-0.8**
ISOL	**Solvholt**	**1.68**	**247**	P	**Pn**	**00 08 06.5**	**-3.4**
	baz=248						
IKRO	**Krokur**	**1.68**	**253**	P	**Pn**	**00 08 06.6**	**-3.4**
	baz=254						
IKRO				S	**Sn**	**00 08 30.1**	**-1.8**
	baz=254						
IHEI	**Heioarbar**	**1.70**	**257**	P	**Pn**	**00 08 06.8**	**-3.4**
	baz=258						
IHEI				S	**Sn**	**00 08 30.4**	**-1.9**
	baz=258						
IBJA	**Bjarnastaoir**	**1.81**	**249**	P	**Pn**	**00 08 09.1**	**-2.7**
	baz=250						
IHRN	**Hraun**	**1.85**	**324**	P	**Pn**	**00 08 09.2**	**-3.2**
	baz=324						
ISAN	**Sandskeio**	**1.88**	**254**	P	**Pn**	**00 08 10.0**	**-2.8**
	baz=255						
IGRI	**Grimsey**	**1.93**	**353**	P	**Pn**	**00 08 10.2**	**-3.2**
	baz=353						
IKUD	**Kuludalsa**	**1.94**	**263**	P	**Pn**	**00 08 10.5**	**-3.0**
	baz=263						
IVOS	**Vogsosar**	**2.02**	**249**	P	**Pn**	**00 08 12.1**	**-2.5**
	baz=250						
SCO	**Scoresbysund**	**6.12**	**346**	*i* P	**Pn**	**00 09 10.2**	**-0.7**
SCO	**Scoresbysund**	**6.12**	**346**	P	**Pn**	**00 09 11.8**	**+0.9**
SCO	**Scoresbysund**	**6.12**	**346**		**Pn**	**00 09 11.8**	**+0.9**
JMIC	**Jan Mayen**	**7.21**	**24**	Pn	**Pn**	**00 09 27.3**	**+1.5**
	baz=219,slow=10,SNR=2.4						
JMIC				LR	LR	00 11 44.2	
	comp=Z,13μm,18.1s,baz=236,slow=33						
LRW	**Lerwick**	**8.79**	**113**	*e*P	**Pn**	**00 09 47.1**	**-0.4**
KPL	**Plockton**	**9.28**	**137**	*e*P	**Pn**	**00 09 51.7**	**-2.5**
SUMG	**Summit**	**10.98**	**325**	*i* P	**Pn**	**00 10 20.9**	**+3.1**
SUMG	**Summit**	**10.98**	**325**	*i* P	**Pn**	**00 10 20.9**	**+3.1**
SUMG	**Summit**	**10.98**	**325**		**Pn**	**00 10 19.1**	**+1.3**
AKN	**Aaknes**	**11.20**	**91**	Pn	**Pn**	**00 10 18.9**	**-1.6**
AKN	**Aaknes**	**11.20**	**91**	Pn	**Pn**	**00 10 18.9**	**-1.6**
ASK	**Askoy**	**11.21**	**101**	*e*P	**Pn**	**00 10 19.8**	**-0.9**
EDI	**Edinburgh**	**11.22**	**134**	*e*P	**Pn**	**00 10 21.3**

NB2	NORSAR Subarra	13.51	92	Pn	Pn	00 10 48.7	-3.4
	comp=Z,307nm,5.0s,baz=298,slow=14						
NB2	NORSAR Subarra	13.51	92	P	Pn	00 10 50.5	-1.6
NOA	NORSAR Array B	13.51	92	Pn	Pn	00 10 49.1	-3.0
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=7.9						
NOA				LR	LR	00 15 51.9	
	comp=Z,2μm,20.9s,baz=300,slow=36						
KONO	Kongsberg	13.53	99	*i* P	Pn	00 10 51.0	-1.3
NC405	NORSAR Array S	13.70	91		Pn	00 10 51.6	-2.9
SFJD	Kangerlussuaq	13.70	295	LR	LR	00 15 41.7	
	comp=Z,7μm,19.5s,baz=87,slow=35						
SFJD	Kangerlussuaq	13.70	295	*i* P	Pn	00 10 55.7	+1.2
SFJD	Kangerlussuaq	13.70	295	*e*P	Pn	00 10 55.7	+1.2
ILULI	Ilulissat	13.83	304	*i* P	Pn	00 10 56.9	+0.6
ILULI	Ilulissat	13.83	304	*e*P	Pn	00 10 56.9	+0.6
ILULI	Ilulissat	13.83	304	Pn	Pn	00 10 57.3	+1.1
HOMB	Homborsund	13.88	105	*e*P	P	00 11 01.6	-3.9
IVI	Ivigtut	14.32	270		Pn	00 11 04.7	+1.7
STRU	Stroemstad	14.55	99	*e*P	Pn	00 11 06.8	+0.7
HFS	Hagfors	15.03	93	P	Pn	00 11 11.2	-1.5
	baz=338,slow=11						
HFS	Hagfors	15.03	93	Pn	Pn	00 11 11.2	-1.5
	comp=Z,0.2nm,0.3s,baz=331,slow=8.5,SNR=6.3						
HFS				LR	LR	00 16 38.3	
	comp=Z,2μm,21.9s,baz=286,slow=36						
HFS	Hagfors	15.03	93	P	Pn	00 11 11.2	-1.5
	baz=338,slow=11						
MUD	Monsted U'grnd	15.34	110	*i* P	Pn	00 11 15.1	-1.7
MUD	Monsted U'grnd	15.34	110	*i* P	Pn	00 11 15.1	-1.7
MUD	Monsted U'grnd	15.34	110	*e*P	Pn	00 11 16.0	-0.8
HSPB	Hornsund (broa	16.09	26	P	P	00 11 29.0	-0.9
HSPB	Hornsund (broa	16.09	26	*e*P	P	00 11 28.8	-1.1
HSPB				*e*S	S	00 14 48.8	+10
HSPB	Hornsund (broa	16.09	26	⇑*i*P	P	00 11 28.9	-1.0
HSPB				*e*S	Sn	00 14 29.6	+4.7
HSPB	Hornsund (broa	16.09	26	P	P	00 11 29.0	-0.9
HLG	Helgoland	16.47	117	*e*P	Pn	00 11 30.8	-0.7
	comp=Z,734nm,1.4s,baz=326,slow=11						
KBS	Kingsbay	16.66	19	⇑*i*P	P	00 11 37.1	+0.8
KBS				*e*S	S	00 14 46.0	-4.4
KBS	Kingsbay	16.66	19	*i* P	P	00 11 36.8	+0.6
KBS				pmax	pmax		
	comp=Z,82nm,2.0s						
KBS	Kingsbay	16.66	19	Pn	Pn	00 11 34.9	+1.2
SKMB	Sankelmark Bun	16.68	114	*e*P	Pn	00 11 33.2	-0.9
	baz=326,slow=11						
SPA0	Spitsbergen Ar	16.89	23	P	P	00 11 38.8	+0.1
SPA0	Spitsbergen Ar	16.89	23	*i* P	P	00 11 40.1	+1.3
SPA0				*e*S	S	00 14 52.1	-2.9
SPA0	Spitsbergen Ar	16.89	23	Pn	Pn	00 11 37.3	+0.6
SPA0	Spitsbergen Ar	16.89	23	P	P	00 11 38.8	+0.1
SPITS	Spitsbergen Ar	16.89	23	Pn	P	00 11 40.9	+2.1
	baz=153,slow=19,SNR=14						
SPITS				LR	LR	00 16 30.8	
	comp=Z,4μm,19.6s,baz=215,slow=31						
NOR	Nord	17.06	0	P	P	00 11 40.5	0.0
NOR	Nord	17.06	0	⇑*i*P	P	00 11 39.7	-0.9
NOR	Nord	17.06	0	⇑*i*P	P	00 11 39.7	-0.9
NOR	Nord	17.06	0	P	P	00 11 40.5	0.0
ARA0	ARCESS Array S	17.12	55	P	Pn	00 11 40.1	+0.5
ARA0	ARCESS Array S	17.12	55	P	Pn	00 11 40.1	+0.5
ARCES	ARCESS Array B	17.12	55	P	Pn	00 11 40.0	+0.4
	comp=Z,0.2nm,0.3s,baz=290,slow=10,SNR=2.8						
ARCES				LR	LR	00 17 02.1	
	comp=Z,4μm,19.8s,baz=277,slow=33						
ARCES	ARCESS Array B	17.12	55	Pn	Pn	00 11 38.9	-0.8
ARE0	ARCESS Array S	17.12	55	Pn	Pn	00 11 39.7	+0.1
COP	Copenhagen	17.20	107	*i* P	Pn	00 11 40.2	-0.4
COP	Copenhagen	17.20	107	*e*P	Pn	00 11 40.2	-0.4
BSEG	Bad Segeberg	17.61	114	*e*P	Pn	00 11 42.9	-2.8
	comp=Z,102nm,1.6s,baz=326,slow=11						
KEV	Kevo	17.63	54	P	Pn	00 11 45.4	-0.5
KEV				pmax	pmax		
	comp=Z,30nm,0.8s						
KEV	Kevo	17.63	54	Pn	Pn	00 11 45.4	-0.5
HOPEN	Hopen	17.85	31	P	Pn	00 11 48.1	-0.6
HOPEN				*e*S	Sn	00 15 07.6	0.0
IBBN	Ibbenburen	17.90	122	*e*P	Pn	00 11 48.7	-0.6
	comp=Z,166nm,1.7s,baz=326,slow=11						
UCC	Uccle	17.97	130	P	Pn	00 11 48.3	-1.9
UCC	Uccle	17.97	130	P	Pn	00 11 48.0	-2.2
UCC				pmax	pmax		
	comp=Z,65nm,1.4s						
UCC	Uccle	17.97	130	Pn	Pn	00 11 48.0	-2.2
RGN	Rugen	18.36	109	*e*P	P	00 11 55.4	+0.4
RGN	Rugen	18.36	109	P	Pn	00 11 52.6	-2.3
RGN				IAmb	IAmb	00 11 59.2	
	comp=Z,204nm,1.1s						
BEBN	Eben Emael	18.41	128	P	Pn	00 11 53.9	-1.7
BUG	Bochum--Univer	18.43	124	*e*P	Pn	00 11 55.5	-0.3
	comp=Z,97nm,1.4s,baz=326,slow=11						
BMRD	Maredsous	18.53	130	P	P	00 11 56.5	-0.4
BSTI	Sart Tilman	18.55	128	P	P	00 11 55.5	-1.8
BGES	Gesves	18.56	130	P	Pn	00 11 58.4	+0.9
BCLA	Clavier	18.60	129	P	Pn	00 11 58.4	+0.4
NRDL	Niedersach Rie	18.63	118	*e*P	P	00 11 56.3	-1.7
	baz=326,slow=11						
DOU	Dourbes	18.65	131	P	Pn	00 11 59.6	+1.1
MEM	Membach	18.68	128	P	P	00 11 58.1	-0.5
BHOU	Houvegnez	18.89	128	P	P	00 12 00.1	-0.9
AHRW	Bad Neuenahr-A	19.11	126	*e*P	Pn	00 12 04.5	+0.4
	baz=326,slow=11						
ASSE	Asse, Remlinge	19.13	118	*e*P	Pn	00 12 04.2	-0.1
	comp=Z,586nm,2.7s,baz=326,slow=11						
CLZ	Clausthal	19.24	119	*e*P	P	00 12 05.1	+0.2
	comp=Z,114nm,1.2s,baz=326,slow=11						
GTTG	Gottingen	19.33	120	*e*P	Pn	00 12 06.9	+0.2
	comp=Z,131nm,1.4s,baz=326,slow=11						
WLF	Walferdange	19.53	129	P	Pn	00 12 09.4	+0.2
WLF	Walferdange	19.53	129	P	P	00 12 06.6	-1.4
WLF				pmax	pmax		
	comp=Z,45nm,1.2s						
WLF	Walferdange	19.53	129	*e*P	P	00 12 07.5	-0.5
	comp=Z,130nm,1.6s,baz=326,slow=11						
WLF	Walferdange	19.53	129	P	P	00 12 06.6	-1.4
FIA0	FINESS Array S	19.69	79	P	P	00 12 10.0	+0.4
	baz=309,slow=9.3						
FIA0	FINESS Array S	19.69	79	P	P	00 12 10.0	+0.4
	baz=309,slow=9.3						
FIA1	FINESS Array S	19.69	79		P	00 12 08.9	-0.7
FINES	FINESS Array B	19.69	79	P	P	00 12 10.1	+0.4
	comp=Z,0.3nm,0.3s,baz=319,slow=8.4,SNR=25						
FINES				LR	LR	00 19 20.6	
	comp=Z,2μm,20.3s,baz=300,slow=36						
FINES	FINESS Array B	19.69	79	P	P	00 12 08.0	-1.6
FINES	FINESS Array B	19.69	79	P	P	00 12 08.0	-1.6
CLF	Chambon-Foret	19.76	138	P	P	00 12 08.6	-1.9
TNS	Taunus Mts	19.86	124	*e*P	P	00 12 11.0	-0.6
	comp=Z,106nm,1.5s,baz=326,slow=11						
TULEG	Thule	19.89	327	P	Pn	00 12 12.6	-0.6
TULEG				IAmb	IAmb	00 12 30.8	
	comp=Z,197nm,1.4s						
UBBA	Unterbreizbach	19.93	121	*e*P	P	00 12 12.1	0.0
	comp=Z,766nm,2.9s,baz=326,slow=11						
RUE	Ruedersdorf	20.07	112	*e*P	P	00 12 12.7	-1.1
RUE	Ruedersdorf	20.07	112	*e*P	P	00 12 14.2	+0.3
	baz=326,slow=11						
SLIT	Slitere, Latvi	20.13	92	*e*P	P	00 12 13.9	-0.5
NEUB	Neuenburg	20.28	118	*e*P	P	00 12 15.6	-0.5
	comp=Z,132nm,1.1s,baz=326,slow=11						
APA	Apatity	20.33	59	⇑*i*P	P	00 12 13.6	-2.9
APA				*i* S	S	00 15 53.0	-11
APA				pmax	pmax		
	comp=Z,26nm,1.1s						
APA				MLR	MLR		
	comp=Z,3μm,18.0s						
MOX	Moxa	20.67	119	*e*P	P	00 12 19.9	-0.5
	comp=Z,502nm,2.5s,baz=326,slow=11						
MOX				*e*L	L	00 20 52.2	
	comp=Z,3μm,20.1s						
CLL	Collm	20.68	116	*i* P	P	00 12 19.8	-0.6
	comp=Z,98nm,1.4s						
CLL				*e*S	Sn	00 16 15.0	-1.0
CLL				*e*S	Sn	00 16 15.0	-1.0
CLL				*e*S	Sn	00 16 15.0	-1.0
CLL				L	L	00 20 00.0	
	comp=Z,2μm,19.6s						
CLL	Collm	20.68	116	*i* P	P	00 12 19.8	-0.6
CLL				*e*S	Sn	00 16 15.0	-1.0
CLL				pmax	pmax		
	comp=Z,98nm,1.4s						
CLL				MLR	MLR		
	comp=Z,2μm,19.6s						
CLL	Collm	20.68	116	*e*P	P	00 12 19.8	-0.6
	comp=Z,98nm,1.4s,baz=326,slow=11						
CLL	Collm	20.68	116	P	P	00 12 18.2	-2.2
LVZ	Lovozero	20.69	58	*i* P	P	00 12 20.2	-0.4
LVZ				pmax	pmax		
	comp=Z,102nm,1.8s						
LVZ	Lovozero	20.69	58		P	00 12 19.3	-1.3
GKP	Gorka Klasztor	20.89	107	*e*P	P	00 12 22.8	+0.1
GKP				*e*S	Sn	00 16 29.7	+8.6
PBUR	Paburge	20.98	96	*e*P	P	00 12 23.0	-0.6
PLN	Plauen	21.00	118	*e*P	P	00 12 23.5	-0.5
	comp=Z,145nm,1.4s,baz=326,slow=11						
WERD	Werda	21.09	118	*e*P	P	00 12 24.5	-0.4
	comp=Z,191nm,1.9s,baz=326,slow=11						
FBE	Freiberg	21.12	116	*e*P	P	00 12 24.5	-0.6
	comp=Z,160nm,1.4s,baz=326,slow=11						
ECH	Echery	21.12	129	P	P	00 12 24.2	-1.1
ECH				pmax	pmax		
	comp=Z,72nm,1.1s						
ECH	Echery	21.12	129	P	P	00 12 24.1	-1.1
ECH				IAmb	IAmb	00 12 29.2	
	comp=Z,72nm,1.1s						
GUNZ	Gunzen	21.17	118	*e*P	P	00 12 25.2	-0.6
	comp=Z,494nm,2.4s,baz=326,slow=11						
TANN	Tannenbergstha	21.18	118	*e*P	P	00 12 25.2	-0.7
	comp=Z,721nm,2.1s,baz=326,slow=11						
KLNR	Kaliningrad	21.19	100	*i* P	P	00 12 24.4	-1.5
KLNR				pmax	pmax		
	comp=Z,32nm,0.8s						
WERN	Wernitzgruen	21.25	118	*e*P	P	00 12 26.0	-0.6
	comp=Z,150nm,1.4s,baz=326,slow=11						
GRA1	Grafenberg Arr	21.30	121	P	P	00 12 26.1	-1.1
GRF	Grafenberg Arr	21.30	121	P	P	00 12 26.1	-1.1
GRF				pmax	pmax		
	comp=Z,199nm,1.3s						
GRF	Grafenberg Arr	21.30	121	*e*P	P	00 12 27.1	-0.1
	comp=Z,468nm,2.3s,baz=326,slow=11						
GRF				*e*L	L	00 20 52.6	
	comp=Z,2μm,20.6s						
NKC	Novy Kostel	21.32	118	*e*P	P	00 12 27.5	+0.1
NKC				AMS	AMS	00 21 30.0	
	comp=Z,3μm,18.6s						
NKC	Novy Kostel	21.32	118	*e*P	P	00 12 27.5	+0.1
NKC				MLR	MLR		
	comp=Z,3μm,18.6s						
STU	Stuttgart	21.34	125	P	P	00 12 25.8	-1.8
STU				pmax	pmax		
	comp=Z,174nm,1.2s						
STU	Stuttgart	21.34	125	*e*P	P	00 12 27.8	+0.2
	comp=Z,157nm,1.2s,baz=326,slow=11						
STU	Stuttgart	21.34	125	P	P	00 12 25.8	-1.8
BRG	Berggiesshubel	21.38	115	*i* P	P	00 12 27.2	-0.8
	comp=Z,334nm,2.1s						
BRG				*e*		00 12 37.9	
	comp=Z,163nm,1.5s						
BRG				PP	PnPn	00 12 54.7	+7.1
	comp=Z,125nm,1.8s						
	comp=Z,4μm,16.2s						
	comp=N,3μm,14.8s						
	comp=E,2μm,14.8s						
BRG	Berggiesshubel	21.38	115	*i* P	P	00 12 27.2	-0.8
BRG						00 12 54.7	
BRG				pmax	pmax		
	comp=Z,334nm,2.1s						
BRG				pmax	pmax		
	comp=Z,163nm,1.5s						
BRG				pmax	pmax		
	comp=Z,125nm,1.8s						
BRG				MLR	MLR		
	comp=Z,4μm,16.2s						
BRG				MLR	MLR		
	comp=N,3μm,14.8s						
BRG				MLR	MLR		
	comp=E,2μm,14.8s						
BRG	Berggiesshubel	21.38	115	*e*P	P	00 12 26.9	-1.2
	comp=E,334nm,2.1s,baz=326,slow=11						
MANZ	Manzenberg	21.39	119	*e*P	P	00 12 27.3	-0.9
	comp=E,78nm,1.4s,baz=326,slow=11						
BFO	Black Forest	21.42	127	P	P	00 12 27.0	-1.5
BFO				pmax	pmax		
	comp=Z,123nm,1.3s						
BFO	Black Forest	21.42	127	*e*P	P	00 12 28.0	-0.5
	comp=Z,128nm,1.3s,baz=326,slow=11						
BFO	Black Forest	21.42	127	P	P	00 12 27.0	-1.5
BFO				IAmb	IAmb	00 12 32.5	
	comp=Z,123nm,1.3s						
VSU	Vasula	21.55	86	*e*P	P	00 12 28.5	-1.3
VSU	Vasula	21.55	86	*i* P	P	00 12 28.3	-1.5
VSU				pmax	pmax		
	comp=Z,53nm,0.9s						
ROTZ	Rotzenmuhle	21.61	119	*e*P	P	00 12 29.5	-0.9
	comp=Z,587nm,2.7s,baz=326,slow=11						
FRB	Frobisher Bay	21.78	291	P	P	00 12 33.0	+0.8
	comp=Z,13nm,1.0s,baz=78,slow=11,SNR=1.9						
FRB				LR	LR	00 20 31.5	
	comp=Z,2μm,19.1s,baz=76,slow=35						
FRB	Frobisher Bay	21.78	291	P	P	00 12 33.0	+0.8
PVCC	Panska Ves	21.90	115	*e*P	P	00 12 37.0	+3.4
PVCC				AMS	AMS	00 22 10.0	
	comp=Z,3μm,17.2s						
PVCC	Panska Ves	21.90	115	*e*P	P	00 12 37.0	+3.4
PVCC				MLR	MLR		
	comp=Z,3μm,17.2s						
SLVR	Solovky	22.06	65	*e*P	P	00 12 32.9	-2.3
	comp=Z,103nm,1.3s						
SLVR				*e*S	S	00 16 35.5	-3.1
PABE	Paberze	22.19	95	*e*P	P	00 12 36.5	-0.2
PRA	Prague	22.21	116	*e*S	S	00 16 45.6	+3.9
PRA				AMS	AMS	00 22 30.0	
	comp=Z,1μm,15.8s						
PRU	Pruhonice	22.32	116	*e*P	P	00 12 37.3	-0.8
PRU				*e*pP	sP	00 12 41.7	+1.3
PRU				*e*S	S	00 16 46.0	+2.2
PRU				AMS	AMS	00 22 40.0	
	comp=Z,2μm,17.7s						
PRU	Pruhonice	22.32	116	*e*P	P	00 12 37.3	-0.8
PRU				*e*		00 12 41.7	
PRU				*e*S	S	00 16 46.0	+2.2
PRU				MLR	MLR		
	comp=Z,2μm,17.7s						
KSP	Ksiaz	22.33	112	*e*P	P	00 12 37.3	-1.0
KSP				*e*S	Sn	00 16 53.2	-2.6
WET	Wettzell	22.37	119	*e*P	P	00 12 38.8	+0.1
	comp=Z,147nm,2.0s,baz=326,slow=11						
CHVC	Chvalec	22.44	113	*e*P	P	00 12 38.7	-0.7
CHVC				AMS	AMS	00 21 40.0	
	comp=Z,3μm,19.6s						
GOPC	GO Pecny, Ondr	22.47	116	*e*P	P	00 12 39.6	-0.2
GOPC				AMS	AMS	00 22 40.0	
	comp=Z,2μm,16.1s						
GOPC	GO Pecny, Ondr	22.47	116	*e*P	P	00 12 39.6	-0.2
GOPC				MLR	MLR		
	comp=Z,2μm,16.1s						
UPC	Upice	22.48	113	*e*P	P	00 12 40.6	+0.7
UPC				*e*S	S	00 16 49.8	+2.9
UPC				AMS	AMS	00 21 30.0	
	comp=Z,3μm,18.3s						
UPC	Upice	22.48	113	*e*P	P	00 12 40.6	+0.7
UPC				MLR	MLR		
	comp=Z,3μm,18.3s						
OSTC	Ostas	22.53	113	*e*P	P	00 12 39.6	-0.8
OSTC				*e*S	S	00 16 51.0	+3.3
OSTC				AMS	AMS	00 21 30.0	
	comp=Z,2μm,18.2s						
UBR	Ueberruh	22.59	126	*e*P	P	00 12 41.1	0.0
	comp=Z,130nm,1.4s,baz=326,slow=11						
FUR	Furstenfeldbru	22.59	123	*e*P	P	00 12 40.3	-0.8
	comp=Z,409nm,1.8s,baz=326,slow=11						
KHC	Kasperske Hory	22.64	118	*e*P	P	00 12 41.3	-0.3
KHC				*e*pP	sP	00 12 45.4	+1.5
KHC				*e*S	Sn	00 16 58.0	-5.3
KHC				AMS	AMS	00 22 10.0	
	comp=Z,3μm,17.9s						
KHC	Kasperske Hory	22.64	118	*c*e*P	P	00 12 40.8	-0.8
KHC				pmax	pmax		
	comp=Z,144nm,2.5s						
KHC	Kasperske Hory	22.64	118	P	P	00 12 40.2	-1.4
DPC	Dobruska-Polom	22.73	113	*e*P	P	00 12 42.1	-0.4
DPC				AMS	AMS	00 22 00.0	
	comp=Z,2μm,19.8s						
DPC	Dobruska-Polom	22.73	113	*e*P	P	00 12 42.1	-0.4
DPC				MLR	MLR		
	comp=Z,2μm,19.8s						
SENIN	Lac Senin/Sane	22.79	132	P	P	00 12 41.6	-1.7
SENIN				IAmb	IAmb	00 12 58.0	
	comp=Z,130nm,1.6s						
DAVA	Damuels	22.85	126	*i* pP	P	00 12 44.4	+0.4
	comp=Z,56nm,1.1s,SNR=13						
SUW	Suwalki	22.86	98	*e*P	P	00 12 41.1	-2.7
SUW				*e*S	S	00 16 57.6	+4.0
SUW	Suwalki	22.86	98	P	P	00 12 42.3	-1.5
SUW				pmax	pmax		
	comp=Z,93nm,1.0s						
SUW	Suwalki	22.86	98	P	P	00 12 42.3	-1.5
SUW				IAmb	IAmb	00 12 47.3	
	comp=Z,93nm,1.0s						
SSB	Saint Sauveur	22.91	137	P	P	00 12 42.8	-1.7
SSB				pmax	pmax		
	comp=Z,64nm,1.3s						
SSB	Saint Sauveur	22.91	137	P	P	00 12 42.8	-1.7
SSB				IAmb	IAmb	00 13 12.5	
	comp=Z,64nm,1.3s						
GEC2	GERESS Array S	22.92	119	*e*P	P	00 12 44.4	-0.3
	comp=Z,91nm,1.5s,baz=326,slow=11						
GEC2	GERESS Array S	22.92	119	P	P	00 12 43.5	-1.1
GEC2				IAmb	IAmb	00 12 54.3	
	comp=Z,105nm,1.5s						
GERES	GERESS Array B	22.92	119	P	P	00 12 44.2	-0.4
	comp=Z,14nm,1.0s,baz=330,slow=7.7,SNR=37						
GERES				LR	LR	00 22 40.9	
	comp=Z,3μm,18.8s,baz=330,slow=40						
GERES	GERESS Array B	22.92	119	P	P	00 12 42.8	-1.9
RETA	Reutte	22.98	125	*i* P	P	00 12 44.4	-0.9
	comp=Z,26nm,1.1s,SNR=16						
IZAR	Zarasai	23.01	92	*e*P	P	00 12 44.5	-0.9
ISAL	Salakas	23.07	92	*e*P	P	00 12 45.2	-0.8
KRLC	Kraliky	23.13	113	*e*P	P	00 12 46.4	-0.3
KRLC				*e*S	S	00 17 03.4	+4.9
KRLC				AMS	AMS	00 22 10.0	
	comp=Z,2μm,17.8s						
KRLC	Kraliky	23.13	113	*e*P	P	00 12 46.4	-0.3
KRLC				MLR	MLR		
	comp=Z,2μm,17.8s						
MOTA	Moosalm	23.23	124	*i* pP	P	00 12 50.0	+2.1
	comp=Z,47nm,1.2s,SNR=16						
TREC	Trest	23.24	116	AMS	AMS	00 23 10.0	
	comp=Z,2μm,16.4s						
IIGN	Ignalina	23.26	93	*e*P	P	00 12 46.5	-1.4
DAVOX	Davos/Dischmat	23.29	127	P	P	00 12 48.2	-0.2
	comp=Z,12nm,0.9s,baz=331,slow=8.8,SNR=13						
DAVOX				LR	LR	00 22 38.7	
	comp=Z,2μm,19.9s,baz=320,slow=39						
PGAV	Gavieira, Arco	23.32	162	*e*P	P	00 12 48.2	-0.5
	comp=Z,116nm,2.0s						
PGAV				*e*S	S	00 17 04.9	+3.1
PGAV				*e*LR	LR	00 19 06.5	
	comp=Z,4μm,20.0s						
TMCR	Tamitsa	23.34	66	*e*P	P	00 12 47.9	-0.7
TMCR	Tamitsa	23.34	66	*e*P	P	00 12 47.9	-0.7
TMCR				*e*S	S	00 17 02.5	+0.9
SQTA	Sankt Quirin	23.37	124	*i* pP	P	00 12 49.1	-0.2
	comp=Z,41nm,1.2s,SNR=13						
TUE	Stuetta	23.37	128	P	P	00 12 48.0	-1.4
TUE				IAmb	IAmb	00 12 53.8	
	comp=Z,66nm,1.2s						
FETA	Feichten	23.37	125	*i* pP	P	00 12 50.1	+0.7
	comp=Z,12nm,1.1s,SNR=9.2						
WATA	Walderalm	23.40	124	*i* pP	P	00 12 49.5	-0.1
	comp=Z,43nm,1.3s,SNR=10.0						
BEL	Belsk	23.42	105	*e*P	P	00 12 48.8	-0.7
BEL				*e*S	S	00 17 07.1	+4.1
WTTA	Wattenberg	23.49	124	*i* pP	P	00 12 50.1	-0.4
	comp=Z,34nm,1.3s,SNR=16						
IDID	Didziasalis	23.50	92	*e*P	P	00 12 49.2	-1.1
RJOB	Jochberg	23.51	122	*e*P	P	00 12 48.7	-1.9
	comp=Z,698nm,3.2s,baz=326,slow=11						
FUORN	Ofenpass-Fuorn	23.56	127	P	P	00 12 50.0	-1.3
FUORN				IAmb	IAmb	00 13 20.6	
	comp=Z,70nm,1.4s						
PCAB	Cabril	23.60	162	*e*P	P	00 12 51.9	+0.4
	comp=Z,97nm,2.0s						
VRAC	Vranov	23.66	114	P	P	00 12 52.4	+0.3
	comp=Z,18nm,0.8s,baz=325,slow=10.0,SNR=20						
VRAC				LR	LR	00 23 24.7	
	comp=Z,3μm,18.0s,baz=330,slow=40						
VRAC	Vranov	23.66	114	⇓P	P	00 12 51.3	-0.8
VRAC	Vranov	23.66	114	⇓*i*P	P	00 12 51.0	-1.0
VRAC				*e*S	S	00 17 12.4	+5.3
MORC	Moravsky Berou	23.67	112	⇓P	P	00 12 51.0	-1.0
MORC	Moravsky Berou	23.67	112	⇓*i*P	P	00 12 50.9	-1.2
MORC				*e*S	S	00 17 12.4	+5.2
MORC	Moravsky Berou	23.67	112	P	P	00 12 51.1	-1.0
MORC				pmax	pmax		
	comp=Z,143nm,1.8s						
MORC	Moravsky Berou	23.67	112	P	P	00 12 51.1	-1.0
MORC				IAmb	IAmb	00 12 58.7	
	comp=Z,143nm,1.8s						
PBRG	Braganca	23.69	160	*e*P	P	00 12 53.0	+0.7
	comp=Z,76nm,2.1s						
BNI	Bardonecchia	23.76	134	P	P	00 12 51.8	-1.4
BNI				pmax	pmax		
	comp=Z,90nm,1.5s						
BNI	Bardonecchia	23.76	134	P	P	00 12 51.8	-1.4
BNI				IAmb	IAmb	00 13 37.5	
	comp=Z,90nm,1.5s						
KRUC	Moravsky	23.79	115	⇓*i*P	P	00 12 52.0	-1.2
KRUC				*e*S	S	00 17 14.3	+5.3
NACGM	Naroch	23.80	93	*e*P	P	00 12 53.0	-0.2
NACGM				*e*P	P	00 12 53.0	-0.2
NACGM				*e*S	S	00 17 07.0	-2.1
NACGM				*e*LQ	LQ	00 19 08.0	
NACGM				*e*LR	LR	00 20 10.0	
MOA	Molln	23.96	119	*i* P	P	00 12 54.6	-0.2
	comp=Z,16nm,1.2s,SNR=8.3						
PVRL	Vila Real	24.07	162	*e*P	P	00 12 56.7	+0.7
	comp=Z,118nm,1.9s						
OJC	Ojcow	24.23	109	*e*P	P	00 12 56.0	-1.4
OJC				*e*S	S	00 17 20.9	+4.7
OJC	Ojcow	24.23	109	P	P	00

MNK				MLR	MLR		
	comp=Z,3µm,14.0s						
MNK				MLR	MLR		
	comp=E,2µm,12.0s						
ZOU	**Zoufplan**	**24.57**	**123**	P	**P**	**00 12 59.7**	**-1.0**
PVIS	**Viseu**	**24.59**	**162**	*e*P	**P**	**00 13 01.2**	**+0.4**
	comp=E,85nm,2.0s						
SMOL	**Smolenice**	**24.63**	**114**	*e*P	**P**	**00 13 01.0**	**0.0**
SMOL				pmax	pmax		
	comp=Z,46nm,1.1s						
SMOL	**Smolenice**	**24.63**	**114**	*e*P	**P**	**00 13 01.0**	**0.0**
MODS	**Modra-Piesok**	**24.69**	**115**	*e*P	**P**	**00 13 01.1**	**-0.5**
MODS				pmax	pmax		
	comp=Z,129nm,1.7s						
MODS	**Modra-Piesok**	**24.69**	**115**	*e*P	**P**	**00 13 01.1**	**-0.5**
MODS				*e*S	**S**	**00 17 27.3**	**+3.8**
MODS				*e*L	L	00 21 09.9	
STAL	**STALIGIAL**	**24.73**	**124**	P	**P**	**00 13 00.7**	**-1.2**
MYKA	**Terra Mystica**	**24.75**	**122**	*i* pP	**P**	**00 13 02.7**	**+0.5**
	comp=Z,12nm,1.1s,SNR=8.5						
ARSA	**Arzberg**	**24.93**	**118**	*i* P	**P**	**00 13 03.6**	**-0.1**
	comp=Z,18nm,0.9s,SNR=12						
LANS	**Liptovska Anna**	**24.93**	**111**	*e*P	**P**	**00 13 03.9**	**+0.1**
LANS				pmax	pmax		
	comp=Z,33nm,1.0s						
LANS	**Liptovska Anna**	**24.93**	**111**	*e*P	**P**	**00 13 03.9**	**+0.1**
COI	**Coimbra**	**25.03**	**163**	P	**P**	**00 13 03.8**	**-0.9**
COI				pmax	pmax		
	comp=Z,176nm,1.7s						
COI	**Coimbra**	**25.03**	**163**	P	**P**	**00 13 03.8**	**-0.9**
COI	**Coimbra**	**25.03**	**163**	*e*P	**P**	**00 13 05.8**	**+1.2**
	comp=Z,112nm,1.6s						
NIE	**Niedzica**	**25.06**	**109**	*e*P	**P**	**00 13 05.4**	**+0.5**
NIE				*e*S	**S**	**00 17 35.9**	**+6.4**
CADS	**Cadrg**	**25.13**	**122**	*i* P	**P**	**00 13 04.5**	**-1.1**
CADS				*e*S	**S**	**00 17 33.4**	**+2.8**
PCAS	**Casmilo, Conde**	**25.17**	**164**	*e*P	**P**	**00 13 08.1**	**+2.1**
	comp=Z,137nm,1.8s						
OBKA	**Obir**	**25.19**	**121**	*i* P	**P**	**00 13 04.4**	**-1.8**
	comp=Z,7.8nm,1.1s						
PRMA	**PARMA**	**25.20**	**129**	P	**P**	**00 13 04.7**	**-1.4**
PRMA				IAmb	IAmb	00 13 11.7	
	comp=Z,64nm,1.0s						
VYHS	**Vyhne**	**25.20**	**112**	*e*P	**P**	**00 13 05.9**	**-0.3**
VYHS				pmax	pmax		
	comp=Z,878nm,3.6s						
VYHS	**Vyhne**	**25.20**	**112**	*e*P	**P**	**00 13 05.9**	**-0.3**
VYHS				*e*S	**S**	**00 17 36.4**	**+4.6**
VYHS				*e*L	L	00 21 09.9	
SOKA	**Soboth**	**25.23**	**120**	*i* P	**P**	**00 13 05.6**	**-0.9**
	comp=Z,11nm,1.1s,SNR=13						
PCBR	**Castelo Branco**	**25.51**	**162**	*e*P	**P**	**00 13 09.2**	**+0.2**
	comp=Z,69nm,1.4s						
SRO	**Srobarova**	**25.55**	**114**	*e*P	**P**	**00 13 09.8**	**+0.5**
SRO				pmax	pmax		
	comp=Z,67nm,1.5s						
SRO	**Srobarova**	**25.55**	**114**	*e*P	**P**	**00 13 09.8**	**+0.5**
LJU	**Ljubljana**	**25.57**	**121**	*i* P	**P**	**00 13 08.7**	**-0.9**
LJU	**Ljubljana**	**25.57**	**121**	⇓*i*P	**P**	**00 13 07.9**	**-1.7**
TRI	**Trieste**	**25.58**	**123**	P	**P**	**00 13 08.2**	**-1.4**
TRI				pmax	pmax		
	comp=Z,28nm,1.2s						
TRI	**Trieste**	**25.58**	**123**	P	**P**	**00 13 08.2**	**-1.4**
KLMR	**Klimovskoe**	**25.59**	**72**	⇑*i*P	**P**	**00 13 07.9**	**-1.7**
	comp=Z,61nm,1.2s						
KLMR				*i* S	**S**	**00 17 36.2**	**-1.5**
KLMR	**Klimovskoe**	**25.59**	**72**	*e*P	**P**	**00 13 07.9**	**-1.7**
KLMR				*e*S	**S**	**00 17 36.2**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,61nm,1.2s						
KLMR	**Klimovskoe**	**25.59**	**72**	*e*P	**P**	**00 13 07.9**	**-1.7**
KLMR				AMP		00 13 16.9	
	comp=Z,61nm,1.2s						
KLMR				*e*S	**S**	**00 17 36.2**	**-1.5**
KLMR				*e*S	**S**	**00 17 36.2**	**-1.5**
KLMR				LQ	LQ	00 20 11.5	
KLMR				LQ	LQ	00 20 11.5	
KLMR				LR	LR	00 21 26.3	
SRO2	**Moca**	**25.62**	**114**	*e*P	**P**	**00 13 09.6**	**-0.3**
SRO2				pmax	pmax		
	comp=Z,26nm,1.0s						
SRO2	**Moca**	**25.62**	**114**	*e*P	**P**	**00 13 09.6**	**-0.3**
PSBE	**So Bento**	**25.67**	**164**	*e*P	**P**	**00 13 11.3**	**+0.8**
	comp=Z,118nm,1.9s						
UCM	**Universidad Co**	**25.73**	**154**	⇓*i*P	**P**	**00 13 10.0**	**-1.1**
UCM				*i* S	**S**	**00 17 44.2**	**+3.9**
CEY	**Cerknica**	**25.80**	**122**	*i* P	**P**	**00 13 10.4**	**-1.2**
CEY				*e*S	**S**	**00 17 44.2**	**+2.9**
CEY	**Cerknica**	**25.80**	**122**	⇓*i*P	**P**	**00 13 10.3**	**-1.3**
KECS	**Kecovo**	**25.88**	**110**	*e*P	**P**	**00 13 14.5**	**+2.2**
KECS				pmax	pmax		
	comp=Z,14nm,1.2s						
KECS	**Kecovo**	**25.88**	**110**	*e*P	**P**	**00 13 14.5**	**+2.2**
PMRV	**Marv??o**	**25.93**	**162**	*e*P	**P**	**00 13 12.9**	**+0.1**
	comp=Z,115nm,1.9s						
PMRV				*e*S	**S**	**00 17 52.3**	**+8.9**
PMRV				*e*LR	LR	00 20 22.9	
	comp=Z,4µm,18.0s						
CRVS	**Cervenica-Dubn**	**25.94**	**109**	*e*P	**P**	**00 13 12.6**	**-0.3**
CRVS				pmax	pmax		
	comp=Z,239nm,2.3s						
CRVS	**Cervenica-Dubn**	**25.94**	**109**	*e*P	**P**	**00 13 12.6**	**-0.3**
CRVS				*e*S	**S**	**00 17 49.5**	**+6.0**
CRVS				*e*L	L	00 21 26.4	
LSH	**Leshukonskoye**	**25.97**	**60**	*e*P	**P**	**00 13 12.1**	**-0.8**
	comp=Z,49nm,1.1s						
LSH				*e*S	**S**	**00 17 43.5**	**0.0**
BEHE	**Becsehely**	**26.06**	**118**	⇓*i*P	**P**	**00 13 15.6**	**+1.7**
SCHQ	**Schefferville**	**26.06**	**271**	P	**P**	**00 13 14.7**	**+0.8**
	comp=Z,13nm,0.7s,baz=51,slow=9.4,SNR=17						
SCHQ				LR	LR	00 21 52.1	
	comp=Z,1µm,19.9s,baz=66,slow=33						
SCHQ	**Schefferville**	**26.06**	**271**	P	**P**	**00 13 14.4**	**+0.5**
SCHQ				IAmb	IAmb	00 13 19.8	
	comp=Z,23nm,0.8s						
PSZ	**Piszkesteto**	**26.09**	**112**	⇓P	**P**	**00 13 15.2**	**+0.9**
PSZ	**Piszkesteto**	**26.09**	**112**	P	**P**	**00 13 12.6**	**-1.7**
PSZ				pmax	pmax		
	comp=Z,67nm,1.2s						
PSZ	**Piszkesteto**	**26.09**	**112**	P	**P**	**00 13 12.6**	**-1.7**
PSZ				IAmb	IAmb	00 13 21.4	
	comp=Z,67nm,1.2s						
CRES	**Cresnjev**	**26.10**	**120**	⇓*i*P	**P**	**00 13 12.0**	**-2.4**
DRLN	**Deer Lake**	**26.13**	**253**	P	**P**	**00 13 15.7**	**+1.1**
DRLN				IAmb	IAmb	00 13 35.1	
	comp=Z,75nm,1.5s						
PMAFR	**Mafra**	**26.17**	**165**	*e*P	**P**	**00 13 13.6**	**-1.4**
	comp=Z,149nm,1.5s						
PMTG	**Montargil**	**26.18**	**164**	*e*P	**P**	**00 13 13.9**	**-1.2**
	comp=Z,75nm,2.1s						
ESBB	**Sonseca Array**	**26.22**	**156**	P	**P**	**00 13 14.4**	**-1.1**
ESBB				IAmb	IAmb	00 13 22.1	
	comp=Z,41nm,1.4s						
ESDC	**Sonseca Array**	**26.22**	**156**	P	**P**	**00 13 15.2**	**-0.3**
	comp=Z,8.8nm,0.9s,baz=346,slow=9.5,SNR=24						
ESDC				LR	LR	00 23 33.0	
	comp=Z,3µm,18.2s,baz=345,slow=37						
ESDC	**Sonseca Array**	**26.22**	**156**	P	**P**	**00 13 14.1**	**-1.4**
KOLS	**Kolonicke sedl**	**26.25**	**108**	*e*P	**P**	**00 13 14.3**	**-1.4**
KOLS				pmax	pmax		
	comp=Z,77nm,1.4s						
KOLS	**Kolonicke sedl**	**26.25**	**108**	*e*P	**P**	**00 13 14.3**	**-1.4**
KOLS				*e*S	**S**	**00 17 45.3**	**-3.0**
KOLS				*e*L	L	00 21 46.2	
PAB	**San Pablo**	**26.28**	**157**	P	**P**	**00 13 15.6**	**-0.5**
PAB				pmax	pmax		
	comp=Z,66nm,1.6s						
PAB	**San Pablo**	**26.28**	**157**	P	**P**	**00 13 15.6**	**-0.5**
PAB				IAmb	IAmb	00 13 19.7	
	comp=Z,66nm,1.6s						
LVV	**L'vov**	**26.29**	**104**	*e*P	**P**	**00 13 16.2**	**+0.2**
LVV				*e*		00 13 59.8	
LVV				*e*S	**S**	**00 17 46.6**	**-2.3**
LVV				pmax	pmax		
	comp=Z,200nm,1.3s						
LVV				smax	smax		
	comp=E,2µm,6.7s						
LVV				MLR	MLR		
	comp=Z,1µm,15.0s						
LIS	**Lisbon**	**26.42**	**165**	*e*P	**P**	**00 13 17.2**	**0.0**
LIS				AMb	AMB	00 13 21.8	
	comp=Z,159nm,1.7s						
LIS				*e*S	**S**	**00 17 51.0**	**-0.1**
LIS	**Lisbon**	**26.42**	**165**	*e*P	**P**	**00 13 17.2**	**0.0**
LIS				*e*S	**S**	**00 17 50.9**	**-0.1**
LIS				pmax	pmax		
	comp=Z,159nm,1.7s						
UZH	**Uzhgorod**	**26.49**	**108**	*e*P	**P**	**00 13 17.4**	**-0.4**
UZH				*e*		00 13 20.5	
UZH				*i* S	**S**	**00 17 48.2**	**-3.9**
UZH				MLR	MLR		
	comp=N,400nm,15.0s						
UZH				MLR	MLR		
	comp=E,480nm,15.0s						
UZH				MLR	MLR		
	comp=Z,150nm,15.0s						
RES	**Resolute Bay**	**26.50**	**324**	LR	LR	00 23 59.6	
	comp=Z,2µm,19.0s,baz=96,slow=37						
MORH	**Mrgy, Hungar**	**26.99**	**116**	⇓*i*P	**P**	**00 13 20.9**	**-1.4**
PNCL	**Nicolau / Gran**	**27.08**	**164**	*e*P	**P**	**00 13 22.8**	**-0.4**
PBEJ	**Beja**	**27.25**	**163**	*e*P	**P**	**00 13 25.5**	**+0.8**
	comp=Z,37nm,2.3s						
MURB	**Monte Urbino**	**27.27**	**127**	P	**P**	**00 13 24.0**	**-1.0**
MURB				IAmb	IAmb	00 13 36.6	
	comp=Z,57nm,1.1s						
PCVE	**Castro Verde**	**27.62**	**164**	*e*P	**P**	**00 13 27.2**	**-0.8**
	comp=Z,59nm,1.9s						
PRGR	**Permogore**	**27.62**	**67**	*e*P	**P**	**00 13 30.0**	**+2.2**
	comp=Z,141nm,1.7s						
PRGR				*e*S	**S**	**00 18 14.1**	**+4.4**
PRGR	**Permogore**	**27.62**	**67**	*e*P	**P**	**00 13 30.0**	**+2.2**
PTEO	**Sao Teotonio**	**27.62**	**165**	*e*P	**P**	**00 13 28.0**	**-0.1**
	comp=Z,66nm,1.6s						
BLY	**Banja Luka**	**27.66**	**119**	⇓*i*P	**P**	**00 13 26.2**	**-2.2**
BMR	**Baia Mare**	**27.74**	**108**	⇓P	**P**	**00 13 28.3**	**-0.9**
AKASG	**Malin Array Be**	**27.82**	**98**	P	**P**	**00 13 28.7**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=323,slow=9.5,SNR=9.2						
AKASG				LR	LR	00 24 14.3	
	comp=Z,1µm,20.9s,baz=320,slow=36						
AKASG	**Malin Array Be**	**27.82**	**98**	P	**P**	**00 13 28.1**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKASG	**Malin Array Be**	**27.82**	**98**	P	**P**	**00 13 28.1**	**-1.6**
AKBB	**Malin Array Si**	**27.82**	**98**	P	**P**	**00 13 28.6**	**-1.1**
AKBB				pmax	pmax		
	comp=Z,18nm,1.0s						
AKBB	**Malin Array Si**	**27.82**	**98**	P	**P**	**00 13 28.6**	**-1.1**
MAHO	**Mahon**	**27.82**	**142**	⇓*i*P	**P**	**00 13 28.6**	**-1.2**
MAHO				*i* S	**S**	**00 18 16.0**	**+2.9**
MORF	**Marmelete**	**27.87**	**165**	*e*P	**P**	**00 13 29.9**	**-0.4**
MORF				AMb	AMB	00 13 53.4	
	comp=Z,62nm,1.5s						
MORF				*e*S	**S**	**00 18 14.0**	**-0.1**
MORF	**Marmelete**	**27.87**	**165**	*e*P	**P**	**00 13 29.9**	**-0.4**
MORF				*e*S	**S**	**00 18 13.9**	**-0.1**
MORF				pmax	pmax		
	comp=Z,62nm,1.5s						
MORF	**Marmelete**	**27.87**	**165**	*e*P	**P**	**00 13 30.1**	**-0.2**
OBN	**Obninsk**	**27.87**	**84**	P	**P**	**00 13 29.9**	**-0.1**
	comp=Z,8.9nm,0.9s,baz=288,slow=16,SNR=10						
OBN				LR	LR	00 24 06.4	
	comp=Z,208nm,21.8s,baz=332,slow=35						
OBN	**Obninsk**	**27.87**	**84**	⇓P	**P**	**00 13 30.3**	**+0.2**
OBN	**Obninsk**	**27.87**	**84**	*de*P	**P**	**00 13 30.0**	**-0.1**
OBN				*e*		00 14 16.2	
OBN				*i* S	**S**	**00 18 17.7**	**+4.1**
OBN				pmax	pmax		
	comp=Z,67nm,1.3s						
OBN				MLR	MLR		
	comp=Z,867nm,16.0s						
OBN	**Obninsk**	**27.87**	**84**	P	**P**	**00 13 29.3**	**-0.8**
PVAQ	**Vaqueiros**	**27.88**	**163**	*e*P	**P**	**00 13 31.2**	**+0.8**
	comp=Z,35nm,1.8s						
PVAQ				*e*S	**S**	**00 18 23.1**	**+8.9**
PVAQ				*e*LR	LR	00 21 12.4	
	comp=Z,3µm,20.0s						
MOS	**Moscow**	**27.90**	**82**	*e*P	**P**	**00 13 31.1**	**+0.7**
MOS				*e*		00 14 26.0	
MOS				*e*S	**S**	**00 18 17.1**	**+2.9**
MOS				pmax	pmax		
	comp=Z,60nm,1.7s						
MOS				pmax	pmax		
	comp=Z,200nm,2.5s						
MOS				smax	smax		
	comp=E,800nm,4.9s						
MOS				smax	smax		
	comp=N,1µm,6.4s						
MOS				MLR	MLR		
	comp=Z,1µm,20.0s						
MGRS	**Mrkonjic Grad**	**27.91**	**120**	*e*P	P	00 13 41.6	+11
PBDV	**Barranco-do-Ve**	**28.01**	**164**	*e*P	**P**	**00 13 32.2**	**+0.6**
	comp=Z,47nm,1.7s						
PFVI	**Vila Bisbo**	**28.02**	**165**	*e*P	**P**	**00 13 32.6**	**+1.0**
	comp=Z,89nm,2.0s						
SIRR	**Siria**	**28.13**	**112**	⇑P	**P**	**00 13 32.8**	**+0.2**
FRGS	**Fruska Gora**	**28.32**	**115**	⇓*i*P	**P**	**00 13 33.1**	**-1.2**
AQU	**L'Aquila**	**28.38**	**127**	P	**P**	**00 13 33.0**	**-1.9**
AQU				pmax	pmax		
	comp=Z,44nm,1.1s						
AQU	**L'Aquila**	**28.38**	**127**	⇓*i*P	**P**	**00 13 34.0**	**-0.9**
AQU	**L'Aquila**	**28.38**	**127**	P	**P**	**00 13 33.0**	**-1.9**
AQU				IAmb	IAmb	00 14 05.8	
	comp=Z,44nm,1.1s						
BUR08	**Bucovina Ar. S**	**28.47**	**106**	P	**P**	**00 13 35.2**	**-0.6**
BUR08				IAmb	IAmb	00 13 45.5	
	comp=Z,70nm,1.9s						
BURAR	**Bucovina Array**	**28.50**	**106**	⇓P	**P**	**00 13 35.6**	**-0.4**
BURAR	**Bucovina Array**	**28.50**	**106**	P	**P**	**00 13 34.4**	**-1.6**
CJR	**Cluj-Napoca**	**28.55**	**109**	⇓P	**P**	**00 13 36.3**	**-0.2**
BZS	**Buzias**	**28.65**	**113**	⇓P	**P**	**00 13 37.2**	**0.0**
TEKS	**Tekeris**	**28.72**	**116**	*e*P	**P**	**00 13 35.9**	**-2.0**
DEV	**Deva**	**28.95**	**111**	⇑P	**P**	**00 13 40.5**	**+0.6**
EMAL	**Malaga-Limoner**	**28.98**	**158**	*e*P	**P**	**00 13 38.3**	**-1.9**
EMAL				*i* S	S	00 18 43.8	+12
SFS	**San Fernando**	**29.00**	**161**	⇓*i*P	**P**	**00 13 41.7**	**+1.3**
SFS				*e*S	S	00 18 44.0	+12
BBLS	**Lazići**	**29.25**	**117**	⇓*i*P	**P**	**00 13 41.9**	**-0.8**
DIVS	**Divibare**	**29.28**	**116**	⇓*i*P	**P**	**00 13 39.2**	**-3.7**
DIVS	**Divibare**	**29.28**	**116**	P	**P**	**00 13 41.6**	**-1.3**
MDVR	**Moldovita**	**29.38**	**114**	⇑P	**P**	**00 13 44.0**	**+0.2**
SORM	**Soroca**	**29.40**	**102**	⇓P	**P**	**00 13 42.9**	**-0.9**
BIZ	**Bicaz**	**29.40**	**106**	⇑P	**P**	**00 13 43.8**	**-0.1**
HERR	**Herculane**	**29.58**	**113**	⇓P	**P**	**00 13 45.5**	**+0.1**
LOT	**Lotru**	**29.65**	**110**	⇑P	**P**	**00 13 46.3**	**0.0**
CEU	**Ceuta**	**29.68**	**160**	⇓*i*P	**P**	**00 13 47.1**	**+0.7**
CEU				*i* S	S	00 18 51.9	+10
IAS	**Iasi**	**29.81**	**104**	⇓P	**P**	**00 13 47.7**	**+0.2**
DOPR	**Dopca**	**29.89**	**108**	⇓P	**P**	**00 13 47.8**	**-0.5**
OZUR		**29.95**	**107**	⇓P	**P**	**00 13 49.3**	**+0.5**
TESR	**Tescani**	**29.97**	**106**	⇓P	**P**	**00 13 50.0**	**+1.0**
ARR	**Arges**	**30.07**	**109**	⇓P	**P**	**00 13 50.8**	**+1.0**
SRE	**Strehaia**	**30.07**	**112**	⇓P	**P**	**00 13 49.7**	**-0.2**
VOIR		**30.18**	**109**	⇓P	**P**	**00 13 51.7**	**+0.8**
PUNG	**Punghina**	**30.28**	**113**	⇓P	**P**	**00 13 52.0**	**+0.3**
PDG	**Podgorica**	**30.42**	**119**	*e*P	**P**	**00 13 51.0**	**-1.9**
CHEFC	**Chefchaouen**	**30.46**	**160**	P	**P**	**00 13 58.0**	**+4.5**
	comp=Z,9.2						
CHEFC				P	**P**	**00 13 58.0**	**+4.5**
	SNR=9.2						
KIS	**Kishinev**	**30.49**	**103**	⇑*i*P	**P**	**00 13 53.5**	**0.0**
	comp=Z,250nm,4.6s						
KIS	**Kishinev**	**30.49**	**103**	*i* PP	PP	00 14 54.5	-7.5
KIS				*e*S	**S**	**00 18 53.0**	**-2.0**
	comp=Z,400nm,12.0s						
KIS				*e*LQ	LQ	00 26 10.0	
	comp=Z,570nm,17.0s						
KIS				*e*LR	LR	00 28 21.0	
	comp=Z,470nm,11.0s						
KIS	**Kishinev**	**30.49**	**103**	*c*P	**P**	**00 13 53.5**	**0.0**
KIS				*i*		00 14 54.0	
KIS				*e*S	**S**	**00 18 53.0**	**-2.0**
KIS				smax	smax		
	comp=E,400nm,12.0s						
KIS				MLR	MLR		
	comp=Z,500nm,12.0s						
KIS				MLR	MLR		
	comp=E,470nm,11.0s						
PLOR	**Plostina**	**30.50**	**107**	⇓P	**P**	**00 13 54.5**	**+0.9**
MLR	**Muntele Rosu**	**30.50**	**108**	⇓P	**P**	**00 13 53.7**	**-0.1**
MLR	**Muntele Rosu**	**30.50**	**108**	P	**P**	**00 13 52.5**	**-1.3**
MLR				pmax	pmax		
	comp=Z,40nm,1.3s						
MLR	**Muntele Rosu**	**30.50**	**108**	P	**P**	**00 13 52.5**	**-1.3**
MLR				IAmb	IAmb	00 14 09.7	
	comp=Z,40nm,1.3s						
VRI	**Vrincioaia**	**30.52**	**106**	⇑P	**P**	**00 13 54.0**	**+0.2**
MILM	**Milestii Mici**	**30.55**	**103**	⇓P	**P**	**00 13 53.4**	**-0.6**
PVLZ	**Peæn de**	**30.55**	**158**	⇓*i*P	**P**	**00 13 52.1**	**-2.0**
PVLZ				*i* S	**S**	**00 19 02.5**	**+6.3**
DRME	**Dracevica, Mon**	**30.61**	**119**	*e*P	**P**	**00 13 52.2**	**-2.4**
RSA	**Sarsar**	**30.61**	**161**	P	**P**	**00 13 59.0**	**+4.2**
	SNR=6.5						
LPSR	**Galich'ya Gora**	**30.61**	**86**	*e*P	**P**	**00 13 53.5**	**-1.0**
LPSR				*e*S	**S**	**00 19 00.4**	**+3.6**
LPSR				pmax	pmax		
	comp=Z,20nm,1.0s						
LPSR				smax	smax		
	comp=E,510nm,6.9s						
LPSR				MLR	MLR		
	comp=Z,620nm,11.0s						
GHRR		**30.65**	**106**	⇓P	**P**	**00 13 55.8**	**+1.0**
MELI	**Melilla**	**30.66**	**156**	⇓*i*P	**P**	**00 13 54.7**	**-0.4**
MELI				*i* S	S	00 19 07.6	+10
NEHR	**Nehoiu**	**30.70**	**107**	⇑P	**P**	**00 13 56.1**	**+0.7**
GOG	**Mont Gurugu**	**30.72**	**156**	P	**P**	**00 13 59.0**	**+3.3**
	SNR=10						
GOG				P	**P**	**00 13 59.0**	**+3.3**
	SNR=10						
HUMR	**Humele**	**30.90**	**110**	⇑P	**P**	**00 13 57.0**	**-0.1**
SECR		**30.92**	**108**	⇓P	**P**	**00 13 58.2**	**+0.8**
MATE	**Matera**	**31.04**	**124**	⇓P	**P**	**00 13 57.6**	**-0.8**
ISR	**Istrita**	**31.05**	**108**	⇓P	**P**	**00 13 58.8**	**+0.2**
TAF	**Taforalt**	**31.22**	**156**	P	**P**	**00 14 04.0**	**+3.8**
	SNR=10						
BATG	**Bathurst New B**	**31.25**	**260**	P	**P**	**00 14 00.7**	**+0.5**
BATG				IAmb	IAmb	00 14 03.3	
	comp=Z,46nm,1.5s						
PURM	**Purcari**	**31.30**	**102**	⇓P	**P**	**00 14 00.9**	**+0.3**
COPA	**Copaceanca**	**31.32**	**110**	⇓P	**P**	**00 14 00.7**	**-0.1**
RTC	**Rabat Centre**	**31.36**	**163**	P	**P**	**00 14 05.0**	**+3.8**
	SNR=6.3						
TIR	**Tirane**	**31.59**	**119**	⇓P	**P**	**00 14 03.3**	**+0.1**
TIR	**Tirane**	**31.59**	**119**	P	**P**	**00 14 02.0**	**-1.2**
TIR				pmax	pmax		
	comp=Z,54nm,1.2s						
TIR	**Tirane**	**31.59**	**119**	P	**P**	**00 14 02.0**	**-1.2**
CFR	**Carcaliu**	**31.66**	**106**	⇑P	**P**	**00 14 02.7**	**-1.1**
VSR	**Storozhevoye**	**31.71**	**88**	*e*P	**P**	**00 14 04.4**	**+0.2**
VSR				*e*S	**S**	**00 19 11.8**	**-2.3**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR				smax	smax		
	comp=E,610nm,4.6s						
VSR				MLR	MLR		
	comp=Z,1µm,15.0s						
VTS	**Vitosha**	**31.80**	**114**	P	**P**	**00 14 03.3**	**-1.9**
PMOZ	**Porto Moniz, M**	**31.84**	**180**	*e*P	**P**	**00 14 06.3**	**+0.7**
PMOZ				*e*LQ	LQ	00 19 33.9	
PMOZ				*e*LR	LR	00 22 28.3	
	comp=Z,2µm,18.0s						
VORD	**Divnogorie**	**31.95**	**88**	*e*P	**P**	**00 14 05.9**	**-0.4**
VORD				*e*S	**S**	**00 19 17.5**	**-0.3**
VORD				pmax	pmax		
	comp=Z,50nm,1.7s						
VORD				smax	smax		
	comp=E,120nm,6.0s						
AVE	**Averroes**	**31.97**	**164**	⇓*i*P	**P**	**00 14 06.0**	**-0.6**
AVE				*i* S	S	00 19 27.9	+10
HARR	**Harsova**	**31.97**	**106**	⇑P	**P**	**00 14 05.8**	**-0.7**
IFR	**Ifrane**	**32.05**	**160**	⇓*i*P	**P**	**00 14 07.0**	**-0.6**
IFR				*i* S	**S**	**00 19 26.7**	**+6.7**
D63A	**Stockholm**	**32.31**	**262**	P	**P**	**00 14 09.6**	**+0.1**
	baz=38						
SZH	**Strazhica**	**32.33**	**110**	P	**P**	**00 14 08.1**	**-1.6**
CORL	**Corleone**	**32.35**	**131**	P	**P**	**00 14 09.5**	**-0.5**
TIRR	**Tirgusor**	**32.36**	**106**	P	**P**	**00 14 07.4**	**-2.5**
TIRR				pmax	pmax		
	comp=Z,43nm,1.1s						
TIRR	**Tirgusor**	**32.36**	**106**	P	**P**	**00 14 07.4**	**-2.5**
KKB	**Krupnik**	**32.38**	**115**	P	**P**	**00 14 09.5**	**-0.6**
CZD	**Col de Zad**	**32.54**	**160**	P	**P**	**00 14 16.0**	**+4.1**
	SNR=12						
CZD				P	**P**	**00 14 16.0**	**+4.1**
	SNR=12						
CLTB	**Caltabellotta**	**32.61**	**131**	P	**P**	**00 14 10.8**	**-1.5**
CLTB				IAmb	IAmb	00 14 16.4	
	comp=Z,34nm,1.0s						
D62A	**Allapoint, All**	**32.68**	**263**	P	**P**	**00 14 12.2**	**-0.5**
	baz=39						
E64A	**Bridgewater**	**32.68**	**261**	P	**P**	**00 14 12.5**	**-0.2**
	baz=38						
CHGQ	**Chibougamau**	**32.81**	**271**	P	**P**	**00 14 14.1**	**+0.3**
	baz=42						
MDT	**Midelt**	**32.82**	**160**	P	**P**	**00 14 16.6**	**+2.4**
	SNR=15						
VRH	**Novokhopyorsk**	**32.82**	**85**	*e*P	**P**	**00 14 11.7**	**-2.2**
VRH				*e*S	**S**	**00 19 37.5**	**+6.2**
VRH				pmax	pmax		
	comp=Z,30nm,1.0s						
VRH				smax	smax		
	comp=N,1µm,10.3s						
VRH				MLR	MLR		
	comp=Z,1µm,13.0s						
MMB	**Musomiste**	**32.86**	**114**	P	**P**	**00 14 14.1**	**-0.4**
PSN	**Preselentsi**	**32.90**	**107**	P	**P**	**00 14 11.8**	**-2.9**
E63A	**Oxbow**	**32.93**	**261**	P	**P**	**00 14 15.1**	**+0.2**
	baz=38						
TDRA	**Tendrara**	**33.02**	**156**	P	**P**	**00 14 20.0**	**+3.9**
	SNR=7.0						
D61A	**St Aubert, Com**	**33.07**	**264**	P	**P**	**00 14 16.0**	**-0.2**

baz=41
ALN Alexandroupoli 34.37 112 P P 00 14 26.5 -1.0
ALN pmax pmax
comp=Z,32nm,1.1s
ALN Alexandroupoli 34.37 112 P P 00 14 26.5 -1.0
ALN IAmb IAmb 00 14 30.8
comp=Z,32nm,1.1s
F61A St Evariste 34.38 263 P P 00 14 27.0 -0.6
baz=38
OUZM OUZ 34.41 164 P P 00 14 32.0 +3.9
SNR=7.8
OUZM P P 00 14 32.0 +3.9
SNR=7.8
G63A Kingsbury 34.48 261 P P 00 14 28.5 +0.1
baz=37
LSQQ Lebel-sur-Quev 34.57 272 P P 00 14 29.2 0.0
baz=41
H64A Troy 34.69 260 P P 00 14 30.0 -0.2
baz=36
G62A West of Eustis 34.78 262 P P 00 14 30.2 -0.8
baz=37
F60A Warwick 34.79 264 P P 00 14 29.7 -1.4
baz=38
D57A Chemin Vers le 34.80 267 P P 00 14 29.1 -2.1
baz=39,SNR=5.5
H63A New Sharon 35.02 261 P P 00 14 32.6 -0.4
baz=36
E58A La Victoria 35.05 266 P P 00 14 32.7 -0.6
baz=38
D56A ZEC Mazanza, M 35.15 268 P P 00 14 34.7 +0.5
baz=39
G61A St-Isidore-de- 35.16 263 P P 00 14 34.4 +0.1
baz=37
A36M Sachs Harbour 35.24 329 P P 00 14 33.1 -1.6
baz=45
F59A Saint Guilaume 35.24 265 P P 00 14 35.0 0.0
baz=38
ZGR Zagora 35.33 162 P P 00 14 38.3 +2.3
SNR=11
ZGR P P 00 14 38.3 +2.3
SNR=11
E57A Chemin Saint G 35.39 267 P P 00 14 36.3 0.0
baz=38
I64A Boothbay 35.44 260 P P 00 14 36.1 -0.6
baz=36
D55A Sainte-Anne-du 35.48 269 P P 00 14 36.1 -1.0
baz=39
H62A Milan 35.56 262 P P 00 14 36.7 -1.1
baz=37
G60A Masonville 35.65 264 P P 00 14 38.2 -0.4
baz=37
E56A St. Veronique 35.67 268 P P 00 14 38.0 -0.7
baz=38
F58A St-Lin Laurent 35.67 266 P P 00 14 38.0 -0.7
baz=38
TRQ Mont Tremblant 35.71 267 P P 00 14 39.4 +0.2
I63A Otisfield 35.74 261 P P 00 14 38.6 -0.7
baz=36
ANN Anapa 35.89 97 *e*P **P 00 14 39.4 -1.1**
ANN *e**PP **pP 00 14 41.9 -0.3**
ANN *e* 00 15 55.8
ANN *e*S **S 00 20 20.9 +2.1**
ANN pmax pmax
comp=Z,32nm,1.2s
ANN MLR MLR
comp=Z,2μm,13.0s
D54A Lac Fusel, La 35.89 270 P P 00 14 39.7 -0.9
baz=39
H61A Lyndonville 35.92 263 P P 00 14 40.6 -0.3
baz=37
ITM Ithomi 36.01 120 P P 00 14 40.6 -1.1
ITM IAmb IAmb 00 14 44.5
comp=Z,39nm,1.3s
G59A Clarenceville 36.02 265 P P 00 14 41.1 -0.6
baz=37
ARU Arti 36.08 66*c i*P **P 00 14 42.9 +0.8**
ARU 00 16 00.4
ARU PPP PPP 00 16 21.3
ARU 00 17 02.2
ARU S **S 00 20 24.8 +3.4**
ARU pmax pmax
comp=Z,26nm,1.5s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 36.08 66 P P 00 14 42.6 +0.5
ARU IAmb IAmb 00 14 48.5
comp=Z,87nm,2.0s
F57A Harrington 36.09 267 P P 00 14 41.6 -0.7
baz=38
LBNH Lisbon 36.16 262 P P 00 14 41.5 -1.4
baz=36
I62A Tamworth 36.20 262 P P 00 14 42.4 -0.8
baz=36
H60A Morristown 36.23 264 P P 00 14 42.8 -0.7
baz=37
G58A Ormstown 36.34 265 P P 00 14 42.9 -1.5
baz=37
FRNY Flat Rock 36.40 265 P P 00 14 45.4 +0.5
FRNY IAmb IAmb 00 14 47.2
comp=Z,53nm,1.6s
D53A Lac Vacive, Po 36.40 271 P P 00 14 44.1 -0.8
baz=39
D53A Lac Vacive, Po 36.40 271 P P 00 14 45.7 +0.8
D53A IAmb IAmb 00 14 51.0
comp=Z,30nm,1.1s
NRIK Noril'sk 36.47 35 P P 00 14 45.8 +0.5
comp=Z,12nm,0.8s,baz=336,slow=1.8,SNR=12
NRIK LR LR 00 31 38.2
comp=Z,2μm,18.3s,baz=359,slow=39
J63A Strafford 36.58 261 P P 00 14 45.8 -0.7
baz=36
H59A Cadyville 36.59 265 P P 00 14 45.0 -1.6
baz=37
SVE Sverdlovsk 36.61 64 *e*P **P 00 14 46.9 +0.3**
SVE *e*S **S 00 20 28.8 -0.7**
SVE MLR MLR
comp=Z,2μm,18.0s
E54A Lac Daplat, Po 36.68 270 P P 00 14 45.5 -1.8
baz=38
ORIO Orleans, Innes 36.73 267 P P 00 14 45.8 -2.0
baz=38
G57A Newington 36.78 266 P P 00 14 47.5 -0.6
baz=37
F55A Otter Lake 36.79 268 P P 00 14 47.9 -0.4
baz=38
MDUB Mudurnu 36.82 107 P P 00 14 47.5 -1.1
C36M Paulatuk 36.86 325 P P 00 14 46.4 -2.1
baz=43
E53A Dumoine, Ponti 36.93 270 P P 00 14 49.0 -0.5
baz=38
J62A Henniker 36.93 261 P P 00 14 48.3 -1.2
baz=36
H58A Gabriels 36.98 265 P P 00 14 48.3 -1.6
baz=37
LONY Lake Ozonia 36.99 265 P P 00 14 50.0 0.0
baz=37
I60A Shoreham 37.06 263 P P 00 14 49.9 -0.7
baz=36
J61A Chester 37.15 262 P P 00 14 51.0 -0.3
baz=36
K63A Dunstable 37.25 261 P P 00 14 51.6 -0.6
baz=35
I59A Olmsteadville 37.35 264 P P 00 14 52.7 -0.4
baz=36
ILGA Ilgaz 37.38 104 P P 00 14 52.6 -0.9
ILGA IAmb IAmb 00 15 01.2
comp=Z,61nm,1.6s
G55A Calabogie 37.41 268 P P 00 14 53.1 -0.4
baz=37
HRV Adam Dziewonsk 37.41 260 P P 00 14 53.3 -0.3
baz=35
H57A Richville 37.47 266 P P 00 14 53.2 -0.8
baz=37
K62A Royalston 37.57 261 P P 00 14 54.2 -0.7
baz=35
L64A Middleborough 37.57 259 P P 00 14 53.8 -1.1
baz=34
J60A Lant Hill Farm 37.60 263 P P 00 14 55.3 +0.1
baz=36
H56A Elgin 37.74 267 P P 00 14 55.4 -0.9
baz=37
M65A Busby, Falmout 37.80 259 P P 00 14 56.1 -0.8
baz=34
SOC Sochi 37.85 96 *e*P **P 00 14 57.9 +0.7**
SOC *e* 00 16 22.4
SOC *e*S **S 00 20 50.2 +1.6**
SOC *e*SS **SnSn 00 23 27.8 -0.7**
SOC *e*SSS SSS 00 23 51.6
SOC pmax pmax
comp=Z,13nm,0.6s
SOC MLR MLR
comp=Z,806nm,14.0s
G54A Lake Saint Pet 37.88 269 P P 00 14 56.3 -1.3
baz=38
J59A Piesco 37.89 264 P P 00 14 56.8 -0.8
baz=36
I58A Old Forge 37.91 265 P P 00 14 57.8 0.0
baz=36
L61B Northampton 37.93 261 P P 00 14 57.3 -0.7
baz=35
L63A North Scituate 37.96 260 P P 00 14 57.5 -0.7
baz=34
BR231 Keskin MP Arra 38.00 106 P P 00 14 57.7 -1.0
I57A Carthage 38.00 266 P P 00 14 57.4 -1.2
baz=36
K61A Williamstown 38.01 262 P P 00 14 57.4 -1.2
baz=35
M64A Tiverton 38.05 259 P P 00 14 58.3 -0.7
baz=34
GOF Gofitskoye 38.09 91⇑*e*P **P 00 14 59.2 -0.1**
GOF pmax pmax
comp=Z,56nm,0.9s
H55A Tweed 38.17 268 P P 00 14 59.1 -0.8
baz=37
BOLV Bolvadin 38.20 109 P P 00 14 59.5 -0.9
L62A Suffield 38.27 261 P P 00 14 59.7 -1.1
baz=35
J58A Remsen 38.31 265 P P 00 14 59.9 -1.2
baz=36
K60A Five Rivers En 38.31 263 P P 00 15 00.4 -0.7
baz=35
BR131 Keskin Array S 38.45 105 P P 00 15 01.9 -0.6
BR131 pmax pmax
comp=Z,17nm,1.1s
BR131 Keskin Array S 38.45 105 P P 00 15 01.9 -0.6
BRTR Keskin Array B 38.45 105 P P 00 15 02.8 +0.2
comp=Z,16nm,0.9s,baz=323,slow=5.3,SNR=20
BRTR LR LR 00 33 29.3
comp=Z,318nm,18.6s,baz=284,slow=40
BRTR Keskin Array B 38.45 105 P P 00 15 02.3 -0.3
L61A Hillsdale 1, H 38.52 262 P P 00 15 02.5 -0.3
baz=35
M63A Gales Ferry 38.52 260 P P 00 15 02.6 -0.3
baz=34
J57A Williamstown 38.57 266 P P 00 15 02.7 -0.7
baz=36
K59A Cooperstown 38.60 264 P P 00 15 01.6 -2.0
baz=36
I55A Frankford 38.65 268 P P 00 15 02.7 -1.2
baz=37
H53A Bobcaygeon 38.75 269 P P 00 15 02.8 -2.1
baz=37
KIV Kislovodsk 38.82 92 *e*P **P 00 15 04.0 -1.6**
KIV *e* 00 16 32.7
KIV *e*S **S 00 21 01.3 -2.3**
KIV pmax pmax
comp=Z,45nm,1.1s
KIV pmax pmax
comp=Z,308nm,4.0s
KIV MLR MLR
comp=Z,2μm,16.0s
KIV Kislovodsk 38.82 92 P P 00 15 05.4 -0.2
M62A Hamden 38.85 261 P P 00 15 04.6 -1.1
baz=34
K58A Earlville 38.95 265 P P 00 15 06.9 +0.3
baz=36
L60A Shokan 38.97 263 P P 00 15 05.9 -0.8
baz=35
J56A Wolcott 39.05 266 P P 00 15 07.0 -0.4
baz=36
KBZ Khabaz 39.09 92 P P 00 15 09.0 +1.3
comp=Z,14nm,1.1s,baz=329,slow=7.2,SNR=14
KBZ LR LR 00 31 25.6
comp=Z,1μm,21.7s,baz=328,slow=36
KBZ Khabaz 39.09 92 P P 00 15 09.0 +1.3
TOKA Tokat 39.14 102 P P 00 15 08.1 -0.1
L59A Walton 39.16 264 P P 00 15 08.3 0.0
baz=35
YKA Yellowknife Ar 39.25 313 P P 00 15 10.4 +1.6
comp=Z,3.9nm,0.8s,baz=53,slow=8.2,SNR=3.8
YKA LR LR 00 31 19.4
comp=Z,1μm,18.4s,baz=0.0,slow=36
M61A Granite Spring 39.33 261 P P 00 15 09.4 -0.3
baz=34
K57A Scipio Center 39.35 265 P P 00 15 09.1 -0.7
baz=36
ELL Elmali 39.47 112 P P 00 15 10.1 -1.0
ELL pmax pmax
comp=Z,135nm,1.2s
ELL Elmali 39.47 112 P P 00 15 10.1 -1.0
J55A Hilton 39.47 267 P P 00 15 10.4 -0.4
baz=36
N62A Caumsett State 39.52 261 P P 00 15 10.5 -0.7
baz=34
BINY Binghamton 39.55 264 P P 00 15 11.3 -0.3
baz=35
L58A Harry Jones Me 39.62 264 P P 00 15 11.1 -1.0
baz=35
PAL Palisades 39.64 261 P P 00 15 10.8 -1.5
baz=34
M60A Port Jervis 39.69 262 P P 00 15 11.8 -0.9
baz=34
K56A Middlesex 39.72 266 P P 00 15 11.5 -1.5
baz=36
AKAS Kas 39.80 112 P P 00 15 13.2 -0.6
AKAS IAmb IAmb 00 15 16.9
comp=Z,36nm,1.1s
J54A Appleton 39.82 268 P P 00 15 12.5 -1.2
baz=36
M59A Waymart 39.85 263 P P 00 15 12.9 -1.2
baz=35
K55A Perry 40.02 267 P P 00 15 14.6 -0.9
baz=36
N61A South Mountain 40.02 262 P P 00 15 14.3 -1.1
baz=34
L57A Andrews Acres 40.08 265 P P 00 15 14.8 -1.3
baz=35
N60A Cedar Hill Far 40.26 262 P P 00 15 17.1 -0.4
baz=34
L56A Greenwood 40.28 266 P P 00 15 16.8 -0.9
baz=35
ZEI Tsey 40.29 92 *e*P **P 00 15 17.4 -0.5**
ZEI pmax pmax
comp=Z,17nm,1.2s
K54A Basiliko Farm, 40.38 267 P P 00 15 18.0 -0.5
baz=36
I51A Listowel 40.42 271 P P 00 15 17.8 -0.9
baz=36
M58A Price's Panora 40.43 264 P P 00 15 17.7 -1.3
baz=35
N59A State Game Lan 40.51 263 P P 00 15 18.3 -1.2
baz=34
L55A Hinsdale 40.62 267 P P 00 15 19.4 -1.0
baz=35
M57A Sunshine Farm, 40.75 265 P P 00 15 21.1 -0.4
baz=35
GROC Groznyy 40.77 90 *e*P **P 00 15 21.0 -0.6**
GROC *e* 00 16 53.9
GROC *e*S **S 00 21 32.9 +0.4**
GROC pmax pmax
comp=Z,67nm,1.4s
O60A Telford 40.85 262 P P 00 15 21.1 -1.2
baz=34
L54A Sinclairville 40.95 268 P P 00 15 21.9 -1.3
baz=35
N58A Sunbury 40.98 264 P P 00 15 21.8 -1.6
baz=34
M56A Emporium 41.08 266 P P 00 15 23.4 -0.9
baz=35
KOPT Kop Dagi 41.10 98 P P 00 15 24.7 0.0
KOPT IAmb IAmb 00 15 39.3
comp=Z,28nm,1.0s
O59A Robesonia 41.19 263 P P 00 15 23.9 -1.2
baz=34
AKH Akhalkalaki 41.23 94 P P 00 15 24.9 -0.8
AKH pmax pmax
comp=Z,49nm,1.4s
AKH Akhalkalaki 41.23 94 P P 00 15 24.9 -0.8
AKH IAmb IAmb 00 15 33.4
comp=Z,49nm,1.4s
ERPA Erie 41.34 268 P P 00 15 23.8 -2.5
baz=35
M55A Ridgway 41.34 266 P P 00 15 24.6 -1.8
baz=35
P60A Greenville 41.37 262 P P 00 15 25.8 -0.8
baz=34
N57A Milroy 41.41 265 P P 00 15 25.3 -1.6
baz=34
TBLG Delisi 41.51 93 P P 00 15 28.2 +0.4
TBLG pmax pmax
comp=Z,96nm,1.8s
TBLG Delisi 41.51 93 P P 00 15 28.2 +0.4
TBLG IAmb IAmb 00 15 35.6
comp=Z,96nm,1.8s
L53A Girard 41.59 268 P P 00 15 25.9 -2.5
baz=35
N56A West Decatur 41.59 265 P P 00 15 26.8 -1.7
baz=34
EYMN Ely 41.61 283 P P 00 15 24.7 -3.8
baz=38
ULM Lac du Bonnet 41.63 289 LR LR 00 31 38.3
comp=Z,707nm,18.6s,baz=23,slow=34
SSPA Standing Stone 41.65 265 P P 00 15 26.8 -2.1
baz=34
O58A Lewisberry 41.66 264 P P 00 15 27.8 -1.2
baz=34
M54A Oil Creek Stat 41.70 267 P P 00 15 28.4 -0.9
baz=35
MAK Makhachkala 41.70 89*d i*P P 00 15 22.3 -6.9
MAK *e* 00 17 02.9
MAK *e*S S 00 21 34.6 -12
MAK *e*SS **SS 00 24 45.6 -5.6**
MAK pmax pmax
comp=Z,21nm,0.3s
MAK MLR MLR
comp=Z,1μm,18.0s
P59A Jarrettsville 41.88 263 P P 00 15 30.0 -0.8
baz=34
O57A Amberson 41.89 264 P P 00 15 30.1 -0.9
baz=34
ABKAR Akbulak array 41.98 73 P P 00 15 31.2 -0.3
TIXI Tiksi 42.06 15 LR LR 00 31 11.9
comp=Z,455nm,21.3s,baz=359,slow=33
TIXI Tiksi 42.06 15 *i* P **P 00 15 31.6 -0.2**
TIXI pmax pmax
comp=Z,25nm,0.9s
TIXI Tiksi 42.06 15 P P 00 15 32.7 +0.8
TIXI IAmb IAmb 00 15 38.7
comp=Z,31nm,1.0s
GAZ Gaziantep 42.10 104 P P 00 15 32.9 +0.1
GAZ IAmb IAmb 00 15 38.0
comp=Z,27nm,1.0s
Q60A Greensboro 42.13 262 P P 00 15 32.1 -0.8
baz=33
EPYK Eagle Plains 42.18 328 P P 00 15 31.2 -1.8
baz=34
EPYK Eagle Plains 42.18 328 P P 00 15 34.0 +1.0
M53A WI Miller and 42.19 268 P P 00 15 32.8 -0.5
baz=35
O56A Blue Knob Stat 42.24 265 P P 00 15 32.9 -0.9
baz=34
O56A Blue Knob Stat 42.24 265 P P 00 15 34.8 +0.9
N54A Moraine State 42.28 267 P P 00 15 32.5 -1.6
baz=34
P58A Pank, Wackersv 42.35 263 P P 00 15 33.4 -1.2
baz=34
CSS Mathiatis 42.40 109 P P 00 15 34.7 -0.4
CSS IAmb IAmb 00 15 39.0
comp=Z,30nm,1.1s
M52A Chesterland 42.40 269 P P 00 15 34.9 -0.1
baz=35
O55A Ligonier 42.61 266 P P 00 15 36.3 -0.5
baz=34
P57A Homestead Farm 42.66 264 P P 00 15 36.3 -0.8
baz=34
AAM Ann Arbor 42.77 272 P P 00 15 37.5 -0.5
baz=35
N53A Lisbon 42.78 268 P P 00 15 36.9 -1.2
baz=34
TOLK Toolik Lake Re 42.78 336 P P 00 15 35.2 -2.7
baz=28,SNR=11
TOLK Toolik Lake Re 42.78 336 P P 00 15 39.1 +1.2
TOLK IAmb IAmb 00 15 43.0
comp=Z,48nm,1.1s
M51A Elyria 42.92 269 P P 00 15 38.3 -1.0
baz=35
BMAR Burnt Mountain 42.93 333 P P 00 15 40.0 +0.9
Q58A Fox Den Farm, 42.97 263 P P 00 15 38.8 -0.8
baz=33
P56A Dayton Farm, R 42.99 265 P P 00 15 38.2 -1.7
baz=34
AKT Akhty 43.00 90 *e*P P 00 15 47.3 +7.2
AKT *e* 00 17 26.9
AKT *e* 00 17 33.7
AKT pmax pmax
comp=Z,28nm,1.5s
R60A Leonardtown, M 43.06 262 P P 00 15 40.4 0.0
baz=33
O54A Avella 43.09 267 P P 00 15 41.8 +1.1
O54A IAmb IAmb 00 15 47.6
comp=Z,66nm,1.6s
BRVK Borovoye 43.13 62*ce*P **P 00 15 39.8 -1.0**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 43.13 62 P P 00 15 40.8 0.0
BRVK IAmb IAmb 00 15 47.5
comp=Z,70nm,2.0s
AGMN Agassiz Nation 43.15 287 P P 00 15 39.7 -1.3
baz=38
S61A Accomac 43.17 260 P P 00 15 39.7 -1.5
baz=32
Q57A Strasburg 43.20 264 P P 00 15 40.6 -1.0
baz=33
MCWV Mont Chateau 43.30 266 P P 00 15 41.9 -0.5
baz=34
N51A Ashland 43.35 269 P P 00 15 41.8 -0.9
baz=34
R59A King George, V 43.35 262 P P 00 15 42.3 -0.4
baz=33
O53A New Philadelph 43.40 268 P P 00 15 43.0 -0.1
baz=34
P55A Reedsville 43.42 266 P P 00 15 42.8 -0.5
baz=34
CBN Corbin Frederi 43.45 262 P P 00 15 43.1 -0.5
baz=33
MARD Mardin 43.49 100 P P 00 15 44.2 +0.1
Q56A Snyder Ridge, 43.53 265 P P 00 15 42.9 -1.3
baz=33
S60A Water View 43.57 261 P P 00 15 43.6 -0.9
baz=32
GEVA Gevas 43.62 97 P P 00 15 44.9 -0.3
P54A Burton 43.62 266 P P 00 15 44.4 -0.5
baz=34
R58A Rapidan 43.64 263 P P 00 15 44.7 -0.4
baz=33
O52A Adamsville 43.78 268 P P 00 15 45.5 -0.6
baz=34
O52A Adamsville 43.78 268 P P 00 15 46.8 +0.6
S59A Mechanicsville 43.79 262 P P 00 15 45.9 -0.4
baz=32
R57A Stanardsville 43.87 264 P P 00 15 46.9 0.0
baz=33
R58B Mineral 43.87 263 P P 00 15 47.0 +0.1
baz=33
Q55A Buckhannon 43.95 266 P P 00 15 47.5 -0.1
baz=33
T60A Surry 44.08 261 P P 00 15 49.0 +0.5
baz=32
O51A Pataskala 44.08 269 P P 00 15 48.1 -0.5
baz=34
P53A Whipple 44.11 267 P P 00 15 48.7 -0.1
baz=34,SNR=6.5
P53A Whipple 44.11 267 P P 00 15 49.9 +1.0
N49A Columbus Grove 44.12 271 P P 00 15 49.0 +0.1
N49A IAmb IAmb 00 15 53.5
comp=Z,28nm,0.9s
COLD Coldfoot 44.15 336 P P 00 15 47.2 -1.7
baz=27
COLD Coldfoot 44.15 336 P P 00 15 50.3 +1.4
R56A Bull Pasture M 44.15 264 P P 00 15 48.8 -0.6
baz=33
ACSO Alum Creek Sta 44.17 269 P P 00 15 48.5 -0.9
baz=34
ACSO Alum Creek Sta 44.17 269 P P 00 15 50.0 +0.6
S58A Poland Farm, P 44.24 263 P P 00 15 49.5 -0.4
baz=32
S58A Poland Farm, P 44.24 263 P P 00 15 49.4 -0.4
BHL Bhannes 44.27 108 *e*P **P 00 15 50.4 +0.1**
Q54A Coxs Mills 44.28 266 P P 00 15 49.8 -0.5
baz=33
P52A Corning 44.30 268 P P 00 15 49.5 -0.9

baz=34
SPMN Marine on St. 44.31 282 P P 00 15 49.7 -0.7
baz=36
TAM Tamanrasset 44.48 149 P P 00 15 51.9 -0.2
TAM pmax pmax
comp=Z,40nm,1.5s
TAM Tamanrasset 44.48 149 P P 00 15 51.9 -0.2
TAM IAmb IAmb 00 15 56.2
comp=Z,40nm,1.5s
S57A Dark Hollow, R 44.50 264 P P 00 15 52.0 0.0
baz=33
EGAK Eagle 44.52 329 P P 00 15 52.5 +0.7
R55A Marlinton 44.56 265 P P 00 15 51.6 -1.0
baz=33
T59A Double "B" Far 44.57 262 P P 00 15 51.7 -0.8
baz=32
U61A Possum Corner 44.64 260 P P 00 15 53.2 +0.1
baz=32
Q53A Leroy 44.69 267 P P 00 15 53.0 -0.5
baz=33
SHBL Chebaa 44.78 108 *e*P **P 00 15 54.6 +0.1**
U60A Pendleton 44.82 261 P P 00 15 54.6 0.0
baz=32
P51A Williamsport 44.83 269 P P 00 15 53.7 -0.9
baz=34
P51A Williamsport 44.83 269 P P 00 15 54.9 +0.3
P51A IAmb IAmb 00 15 58.4
comp=Z,50nm,1.4s
Q52A Bidwell 44.92 268 P P 00 15 55.2 -0.1
baz=33
T58A Grand View Acr 45.01 263 P P 00 15 55.9 -0.1
baz=32
MDND Maddock 45.03 289 P P 00 15 55.2 -1.0
baz=37
MDND Maddock 45.03 289 P P 00 15 57.2 +1.0
JFWS Jewell Farm 45.10 278 P P 00 15 56.5 -0.3
baz=35
S55A Lewisburg 45.16 265 P P 00 15 57.2 -0.1
baz=33
V61A Roper 45.16 260 P P 00 15 57.2 0.0
baz=31
U59A Littleton 45.20 261 P P 00 15 57.1 -0.4
baz=32
T57A Hurt 45.27 263 P P 00 15 58.0 -0.2
baz=32,SNR=5.6
T57A Hurt 45.27 263 P P 00 15 58.1 -0.1
T57A IAmb IAmb 00 16 00.9
comp=Z,47nm,1.6s
R53A Hurricane 45.31 267 P P 00 15 57.9 -0.5
baz=33
K27K Chicken 45.37 329 P P 00 15 56.6 -2.0
baz=30,SNR=9.8
V60A Jim Taylor Roa 45.47 260 P P 00 15 59.3 -0.4
baz=31
S54A Dingess, Beckl 45.48 266 P P 00 15 59.7 -0.1
baz=33
U58A Oxford 45.48 262 P P 00 15 59.3 -0.5
baz=32
P49A Miami Univ. Ec 45.50 270 P P 00 15 59.7 -0.2
baz=34
POKR Poker Plat Res 45.52 333 P P 00 15 57.9 -1.9
baz=27
T56A Rocky Mt 45.58 264 P P 00 16 00.5 -0.1
baz=32
BLA Blacksburg 45.59 265 P P 00 16 00.7 -0.1
baz=32
IL31 45.72 332 P P 00 16 02.6 +1.3
IL31 IAmb IAmb 00 16 12.0
comp=Z,40nm,1.5s
ILAR Eielson Array 45.72 332 P P 00 16 02.6 +1.2
comp=Z,7.3nm,1.1s,baz=27,slow=5.5,SNR=23
ILAR PcP **PcP 00 17 38.9 -0.1**
comp=Z,4.2nm,1.0s,baz=358,slow=2.5,SNR=6.7
ILAR LR LR 00 37 38.3
comp=Z,1μm,19.8s,baz=36,slow=39
ILAR Eielson Array 45.72 332 P P 00 16 02.0 +0.6
U57A Blanch 45.79 263 P P 00 16 01.0 -1.2
baz=32
MDM Murphy Dome 45.82 333 P P 00 16 03.9 +1.7
MDM IAmb IAmb 00 16 07.1
comp=Z,41nm,1.4s
COLA College 45.82 333 P P 00 16 03.5 +1.4
COLA College 45.82 333 P P 00 16 03.5 +1.4
COLA IAmb IAmb 00 16 06.9
comp=Z,22nm,0.9s
SFIN Lafayette 45.83 273 P P 00 16 02.3 -0.2
baz=34
SCRK Sand Creek 45.83 330 P P 00 16 00.1 -2.2
baz=29,SNR=5.5
T55A Pulaski 45.83 265 P P 00 16 01.7 -0.9
baz=32
W61A Ground Anchor 45.85 260 P P 00 16 02.0 -0.8
baz=31
V59A Middlesex 45.88 261 P P 00 16 03.0 0.0
baz=32
IMAR Indian Mountai 45.89 337 P P 00 16 04.1 +1.3
S53A Williamson 45.93 266 P P 00 16 02.9 -0.6
baz=33
HDA Harding Lake 46.06 332 P P 00 16 01.5 -2.5
baz=27,SNR=6.7
DOT Dot Lake 46.13 330 P P 00 16 06.1 +1.4
DOT IAmb IAmb 00 16 09.5
comp=Z,15nm,1.1s
BCAR Beaver Creek A 46.14 329 P P 00 16 06.2 +1.4
CNNC Cliffs of the 46.18 261 P P 00 16 04.8 -0.6
baz=31
T54A Tazewell 46.22 266 P P 00 16 05.1 -0.6
baz=32
V58A Windy Hill, Pi 46.23 262 P P 00 16 04.5 -1.2
baz=32
W60A Pink Hill 46.27 260 P P 00 16 05.4 -0.6
baz=31
U56A King 46.31 264 P P 00 16 06.2 -0.1
baz=32
U56A King 46.31 264 P P 00 16 06.9 +0.5
U56A IAmb IAmb 00 16 09.1
comp=Z,32nm,1.4s
NEA2 Nenana 46.31 334 P P 00 16 04.3 -1.7
baz=26
DGMT Dagmar 46.38 293 P P 00 16 05.7 -1.1
baz=36
DGMT Dagmar 46.38 293 P P 00 16 08.7 +1.9
V57A Coltrane Farms 46.44 263 P P 00 16 06.5 -0.8
baz=32
U55A TA2, Sparta 46.46 265 P P 00 16 07.4 -0.2
baz=32,SNR=5.8
W59A Clinton 46.48 261 P P 00 16 06.7 -1.0
baz=31
WHY Whitehorse 46.55 323 P P 00 16 09.5 +1.4
WHY IAmb IAmb 00 16 22.2
comp=Z,25nm,1.5s
HDIL Hopedale 46.62 275 P P 00 16 07.3 -1.5
baz=34
T53A Wise 46.69 266 P P 00 16 08.5 -1.0
baz=32
U54A Nelsons Funny 46.77 265 P P 00 16 09.5 -0.6
baz=32
X60A Albert Glenn T 46.78 260 P P 00 16 08.1 -2.0
baz=31
V56A Mocksville 46.81 264 P P 00 16 09.8 -0.5
baz=32
W58A Raeford 46.94 262 P P 00 16 11.7 +0.4
baz=31
PAX Paxson 47.03 331 P P 00 16 13.7 +1.9
PAX pmax pmax
comp=Z,66nm,1.9s
PAX Paxson 47.03 331 P P 00 16 13.7 +1.9
X59A McDuffie Farm, 47.05 261 P P 00 16 11.0 -1.2
baz=31
MCK McKinley 47.06 333 P P 00 16 12.8 +0.9
MCK pmax pmax
comp=Z,50nm,1.5s
MCK McKinley 47.06 333 P P 00 16 12.8 +0.9
V55A Taylorsville 47.08 264 P P 00 16 12.8 +0.3
baz=32,SNR=6.2
V55A Taylorsville 47.08 264 P P 00 16 13.2 +0.7
BPAW Bear Paw Mtn. 47.12 334 P P 00 16 13.7 +1.3
BPAW IAmb IAmb 00 16 16.8
comp=Z,20nm,1.2s
ECSD EROS Data Cent 47.12 284 P P 00 16 11.8 -0.9
baz=35
ECSD EROS Data Cent 47.12 284 P P 00 16 14.0 +1.3
ECSD IAmb IAmb 00 16 15.1
comp=Z,23nm,1.6s
W57A Gilead 47.15 263 P P 00 16 12.1 -0.8
baz=31
SCIA State Center 47.19 279 P P 00 16 12.4 -0.8
baz=34
WCI Wyandotte Cave 47.27 271 P P 00 16 14.2 +0.4
WCI pmax pmax
comp=Z,26nm,0.8s
WCI Wyandotte Cave 47.27 271 P P 00 16 12.6 -1.2
baz=33
WCI Wyandotte Cave 47.27 271 P P 00 16 14.2 +0.4
Y60A Bolivia 47.38 260 P P 00 16 13.9 -0.8
baz=31
X58A Rowland 47.38 262 P P 00 16 14.4 -0.4
baz=31
W56A Indian Trail 47.42 263 P P 00 16 14.2 -0.8
baz=31
V54A Nebo 47.46 265 P P 00 16 15.4 +0.1
baz=32
TZTN Tazewell 47.50 267 P P 00 16 16.4 +0.7
baz=32,SNR=5.0
SUSD Miller 47.52 286 P P 00 16 15.2 -0.5
baz=35
KTH Kantishna Hill 47.60 334 P P 00 16 17.3 +1.1
KTH IAmb IAmb 00 16 25.6
comp=Z,22nm,1.3s
ZAA0 Zalesovo Array 47.64 51 P P 00 16 16.5 0.0
ZAA0 IAmb IAmb 00 16 22.7
comp=Z,19nm,1.3s
ZALV Zalesovo Beam 47.64 51 P P 00 16 16.9 +0.4
comp=Z,5.2nm,0.8s,baz=334,slow=9.9,SNR=16
ZALV PcP **PcP 00 17 45.7 -0.2**
comp=Z,3.2nm,1.0s,baz=323,slow=3.6,SNR=3.1
ZALV LR LR 00 38 57.1
comp=Z,546nm,18.6s,baz=323,slow=39
ZALV Zalesovo Beam 47.64 51 P P 00 16 16.6 +0.1
KMSC Kings Mountain 47.73 264 P P 00 16 17.5 -0.1
baz=31
KMSC Kings Mountain 47.73 264 P P 00 16 17.7 +0.2
X57A Johnson Farm, 47.78 262 P P 00 16 17.5 -0.4
baz=31
USIN University of 48.08 272 P P 00 16 20.1 0.0
KURK Kurchatov 48.11 58 *ce*P **P 00 16 19.5 -0.7**
KURK pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 48.11 58 P P 00 16 19.4 -0.8
KURK IAmb IAmb 00 16 24.7
comp=Z,21nm,0.8s
W54A Cherokee Point 48.15 265 P P 00 16 21.0 +0.3
baz=31,SNR=6.1
X56A White Oak 48.16 263 P P 00 16 21.5 +0.7
baz=31,SNR=5.8
PAULI Pauline 48.21 264 P P 00 16 21.5 +0.3
Y57A Sumter 48.29 262 P P 00 16 21.0 -0.8
baz=31
X55A Gracelyn & Ava 48.44 264 P P 00 16 23.6 +0.7
baz=31,SNR=5.9
PPLA Purkeypile 48.44 334 P P 00 16 24.2 +1.4
PPLA IAmb IAmb 00 18 15.0
comp=Z,15nm,0.8s
V51A Loudon 48.47 267 P P 00 16 23.5 +0.3
U49A Red Boiling Sp 48.48 269 P P 00 16 23.4 +0.1
CUT Chulitna 48.52 333 P P 00 16 20.7 -2.5
baz=25
BG3 Lake Jocassee 48.55 265 P P 00 16 24.2 +0.4
BG3 IAmb IAmb 00 16 26.4
comp=Z,24nm,1.7s
LAO LASA Array 48.63 293 P P 00 16 24.1 -0.2
baz=35
LAO LASA Array 48.63 293 P P 00 16 25.4 +1.1
LAO IAmb IAmb 00 16 43.8
comp=Z,16nm,0.6s
Z58A St. Stephen 48.63 261 P P 00 16 24.0 -0.4
baz=30
T47A Sharon Grove 48.66 271 P P 00 16 24.6 0.0
X54A Belton 48.69 264 P P 00 16 24.8 -0.1
baz=31
CPCT Cooper Cave 48.84 267 P P 00 16 26.1 +0.1
Y56A Pelion 48.88 263 P P 00 16 25.9 -0.4
baz=31
EGMT Eagleton 48.91 297 P P 00 16 25.5 -1.0
baz=35,SNR=19
HODGE Hodges 48.91 264 P P 00 16 27.0 +0.4
NHSC New Hope 48.98 261 P P 00 16 27.5 +0.4
baz=30
Y55A Saluda 48.99 264 P P 00 16 26.7 -0.4
baz=31
Z57A Bowman 49.04 262 P P 00 16 27.2 -0.4
baz=30
CLTN Cedars of Leba 49.08 269 P P 00 16 28.2 +0.3
CLTN IAmb IAmb 00 16 41.5
comp=Z,51nm,1.7s
Z56A Williston 49.30 263 P P 00 16 29.6 0.0
baz=31
W50A Signal Mountai 49.39 268 P P 00 16 30.7 +0.4
V48A Smith Brothers 49.59 269 P P 00 16 32.4 +0.7
V48A IAmb IAmb 00 16 34.0
comp=Z,54nm,1.8s
WALA Waterton Lakes 49.62 301 P P 00 16 33.0 +1.0
SWET Sewanee 49.65 268 P P 00 16 32.6 +0.3
SWET IAmb IAmb 00 16 34.1
comp=Z,50nm,1.8s
BGNE Belgrade 49.68 283 P P 00 16 32.3 -0.2
baz=34
WVT Waverly 49.69 271 P P 00 16 32.4 -0.2
baz=32
157A Early Branch 49.70 262 P P 00 16 31.8 -0.8
baz=30
RSSD Black Hills 49.86 290 P P 00 16 34.6 +0.6
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 49.86 290 P P 00 16 33.7 -0.4
baz=34
RSSD Black Hills 49.86 290 P P 00 16 34.6 +0.6
GOGA Godfrey 50.13 265 P P 00 16 35.5 -0.4
baz=31
GEYT Alibeck 50.41 84 P P 00 16 38.9 +0.8
comp=Z,2.4nm,0.6s,baz=291,slow=8.9,SNR=6.2
GEYT PP **PP 00 18 39.9 +6.7**
comp=Z,2.1nm,0.8s,baz=116,slow=3.4,SNR=3.8
GEYT LR LR 00 40 21.7
comp=Z,874nm,18.2s,baz=355,slow=39
GEYT Alibeck 50.41 84 P P 00 16 37.8 -0.2
GYA0B ALIBECK ARRAY 50.41 84 P P 00 16 37.9 -0.1
GYA0B IAmb IAmb 00 16 46.2
comp=Z,35nm,1.6s
ASHT Ashkhabad 50.51 83 P P 00 16 38.4 -0.4
ASHT pmax pmax
comp=Z,60nm,0.5s
ASHT Ashkhabad 50.51 83 P P 00 16 38.4 -0.4
GCMT Greycliff 50.72 295 P P 00 16 40.5 +0.1
SVW2 Sparrevohn 50.73 335 P P 00 16 41.0 +0.9
KSU1 Kansas State U 50.95 280 P P 00 16 41.3 -0.8
baz=33
KSU1 Kansas State U 50.95 280 P P 00 16 42.3 +0.2
KSU1 IAmb IAmb 00 16 46.0
comp=Z,17nm,0.9s
RLMT Red Lodge 51.12 295 P P 00 16 42.3 -1.2
baz=33,SNR=14
RLMT Red Lodge 51.12 295 P P 00 16 44.7 +1.2
RLMT IAmb IAmb 00 16 50.6
comp=Z,39nm,1.4s
KK31 Karatay Array 51.27 70 P P 00 16 43.9 -0.5
KK31 pmax pmax
comp=Z,36nm,1.5s
KK31 Karatay Array 51.27 70 P P 00 16 43.9 -0.5
KK31 IAmb IAmb 00 16 51.6
comp=Z,36nm,1.5s
KKAR Karatay Array 51.27 70 P P 00 16 44.3 -0.1
KKAR Karatay Array 51.27 70 P P 00 16 44.3 -0.1
YAK Yakutsk 51.29 19 LR LR 00 39 23.0
comp=Z,285nm,19.7s,baz=350,slow=37
YAK Yakutsk 51.29 19 *i* **P P 00 16 44.5 +0.2**
YAK pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 51.46 303 LR LR 00 39 17.2
comp=Z,1μm,18.4s,baz=28,slow=37
NEW Newport 51.46 303 P P 00 16 45.4 -0.4
baz=33
MSO Missoula 51.48 299 P P 00 16 44.7 -1.4
baz=33
MSO Missoula 51.48 299 P P 00 16 46.6 +0.5
BOZ Bozeman (W) 51.64 297 P P 00 16 46.0 -1.3
baz=33,SNR=24
U40A Yellville 51.66 275 P P 00 16 46.7 -0.7
baz=32
OGNE Ogallala 51.68 286 P P 00 16 47.8 +0.2
baz=33
OXF Oxford 51.74 271 P P 00 16 47.1 -0.9
baz=31
TIGA Tifton 51.88 264 P P 00 16 48.3 -0.7
baz=30
TIGA Tifton 51.88 264 P P 00 16 49.1 +0.1
TIGA IAmb IAmb 00 17 05.5
comp=Z,59nm,1.6s
LRAL Lakeview Retre 51.97 268 P P 00 16 49.2 -0.5
baz=31
LRAL Lakeview Retre 51.97 268 P P 00 16 49.9 +0.2
LRAL IAmb IAmb 00 16 53.4
comp=Z,43nm,2.0s
DGZ Jazzator, Alta 52.08 53 *i* P **P 00 16 50.2 -0.4**
DGZ pmax pmax
comp=Z,17nm,1.1s
K22A Casper 52.09 291 P P 00 16 49.9 -0.9
baz=33
TAS Tashkent 52.26 72 P P 00 16 52.0 +0.1
TAS pmax pmax
comp=Z,34nm,1.0s
TAS Tashkent 52.26 72 P P 00 16 52.0 +0.1
TAS IAmb IAmb 00 16 55.1
comp=Z,34nm,1.0s
WHAR Wooly Hollow 52.32 274 P P 00 16 52.5 +0.2
WHAR IAmb IAmb 00 16 54.2
comp=Z,65nm,1.8s
X43A Marvell 52.37 272 P P 00 16 52.6 -0.1
baz=31
W41B Gary Mavity, V 52.40 274 P P 00 16 52.4 -0.5
baz=32
W41B Gary Mavity, V 52.40 274 P P 00 16 52.9 0.0
W41B IAmb IAmb 00 17 07.2
comp=Z,41nm,1.6s
BOD Bodaibo 52.43 30 *e*P **P 00 16 53.0 +0.2**
BOD pmax pmax
comp=Z,11nm,2.1s
SEY Seymchan 52.51 6 *i* P **P 00 16 53.9 +0.5**
CBKS Cedar Bluff 52.52 283 P P 00 16 53.3 -0.5
baz=32
FLWY Flagg Ranch 52.55 295 P P 00 16 55.1 +0.9
MAKZ Makanchi 52.60 59 P P 00 16 54.6 +0.3
MAKZ pmax pmax
comp=Z,30nm,1.9s
MAKZ Makanchi 52.60 59 P P 00 16 54.6 +0.3
MAKZ IAmb IAmb 00 17 01.7
comp=Z,30nm,1.9s
MK31 Makanchi Array 52.73 58 P P 00 16 54.5 -0.7
MK31 pmax pmax
comp=Z,9.0nm,1.2s
MK31 Makanchi Array 52.73 58 P P 00 16 54.5 -0.7
MKAR Makanchi Array 52.73 58 P P 00 16 55.3 +0.1
comp=Z,6.0nm,0.9s,baz=350,slow=3.7,SNR=15
MKAR LR LR 00 39 25.2
comp=Z,540nm,19.6s,baz=318,slow=36
MKAR Makanchi Array 52.73 58 P P 00 16 54.5 -0.7
W39A Magazine 53.04 275 P P 00 16 57.0 -0.7
baz=31
A04D Lummi Island 53.05 307 P P 00 16 56.4 -1.0
baz=31
SNOW Snow King Moun 53.09 295 P P 00 16 58.3 0.0
TOA0 Torodi Ar. Sit 53.11 156 P P 00 16 56.8 -1.4
TOA0 IAmb IAmb 00 17 00.5
comp=Z,36nm,1.4s
TORD Torodi Ar. Bea 53.11 156 P P 00 16 56.5 -1.8
comp=Z,14nm,1.1s,baz=343,slow=5.4,SNR=25
TORD LR LR 00 39 39.6
comp=Z,802nm,18.7s,baz=350,slow=36
TORD Torodi Ar. Bea 53.11 156 P P 00 16 56.6 -1.6
PDAR Pinedale Array 53.21 293 P P 00 16 59.0 -0.1
comp=Z,9.9nm,0.8s,baz=57,slow=5.9,SNR=37
PDAR LR LR 00 38 56.8
comp=Z,1μm,19.9s,baz=26,slow=35
PDAR Pinedale Array 53.21 293 P P 00 16 58.6 -0.5
KDAK Kodiak Island 53.23 332 LR LR 00 41 02.1
comp=Z,1μm,22.0s,baz=31,slow=38
X40A Basin Creek Fa 53.24 274 P P 00 16 58.9 -0.2
baz=31
AAK Ala-Archa 53.25 67 *ce*P **P 00 16 59.5 +0.2**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 53.25 67 P P 00 16 59.7 +0.4
AAK IAmb IAmb 00 17 07.7
comp=Z,30nm,1.3s
TUL1 Leonard 53.30 277 P P 00 16 58.4 -1.1
baz=32
N23A Red Feather La 53.33 289 P P 00 16 59.0 -1.1
baz=32,SNR=13
KSCO Kaye Shedlock' 53.56 285 P P 00 17 00.9 -0.6
baz=32
BRAL Brewton 53.59 267 P P 00 17 01.8 +0.1
baz=30
DWPF Disney Wildern 53.85 259 P P 00 17 03.6 0.0
baz=28
BTK Batken 53.95 72 P P 00 17 04.2 -0.2
BTK Batken 53.95 72 P P 00 17 04.2 -0.2
ISCO Idaho Springs 54.12 288 P P 00 17 04.5 -1.4
baz=32
D03D Eldon 54.19 306 P P 00 17 04.8 -1.1
baz=30
Z41A Richland Creek 54.27 273 P P 00 17 06.9 +0.2
baz=31
D04E Lakebay 54.39 306 P P 00 17 06.6 -0.8
baz=30
HLID Hailey 54.42 297 P P 00 17 07.2 -0.7
baz=32
CHGR Chuyangaron 54.45 74 P P 00 17 08.2 +0.1
Q24A Divide 54.64 287 P P 00 17 08.3 -1.4
baz=32
GAR Garm 54.64 73 P P 00 17 09.5 0.0
MOY Mondy 54.67 42 *e*P **P 00 17 09.2 -0.3**
MOY pmax pmax
comp=Z,74nm,2.0s
E04D Cinebar 54.85 305 P P 00 17 09.5 -1.3
baz=30
O20A White River Ci 54.91 290 P P 00 17 10.6 -0.8
baz=32,SNR=7.8
F05D White Salmon 55.04 304 P P 00 17 11.2 -1.0
baz=30
HRA Herat 55.17 82 P P 00 17 13.3 -0.2
HRA IAmb IAmb 00 17 20.4
comp=Z,26nm,1.5s
TLY Talaya 55.41 40 LR LR 00 43 41.5
comp=Z,1μm,18.5s,baz=338,slow=39
TLY Talaya 55.41 40 *e*P **P 00 17 11.5 -3.2**
TLY *e*S **S 00 25 04.0 +4.5**
TLY MLR MLR
comp=Z,4μm,16.0s
F04D Rainier, OR 55.42 305 P P 00 17 14.2 -0.6
baz=30
WMOK Wichita Mounta 55.57 279 P P 00 17 15.9 -0.2
baz=31,SNR=7.5
SDCO Great Sand Dun 55.82 287 P P 00 17 17.3 -0.9
baz=31
SDCO Great Sand Dun 55.82 287 P P 00 17 19.0 +0.8
T25A Trinidad 55.89 285 P P 00 17 17.7 -0.9
baz=31
NATX Nacogdoches 56.36 274 P P 00 17 21.3 -0.5
baz=30
S22A 4UR Ranch, Cre 56.37 288 P P 00 17 22.0 -0.1
baz=31,SNR=7.2
ZAK Zakamensk 56.47 41 *e*P **P 00 17 23.2 +0.8**
ZAK pmax pmax
comp=Z,14nm,1.2s
KSH Kashi 56.49 68 P P 00 17 26.5 +3.7
KSH PP **PP 00 19 29.4 +1.4**
KSH S **S 00 25 10.1 -4.3**
KSH sS sS 00 25 17.8 +0.4
KSH pmax pmax
comp=Z,40nm,1.1s
KSH pmax pmax
comp=Z,390nm,5.7s
KSH LR LR
comp=Z,1μm,18.0s
KSH LR LR
comp=Z,1μm,19.9s
KSH LR LR
comp=Z,2μm,20.4s
H04D Lebanon 56.67 304 P P 00 17 23.9 +0.1
baz=30
DUG Dugway, Tooele 56.68 294 P P 00 17 23.3 -0.8
baz=31,SNR=7.7
PV13 Radium Mtn., P 56.83 290 P P 00 17 25.1 -0.2
I04A Tendick Farm, 57.19 304 P P 00 17 26.5 -1.1
baz=29
WMQ Urumqi 57.23 56 *e*P **P 00 17 30.0 +2.1**
WMQ sP sP 00 17 40.7 +10
WMQ PcP **PcP 00 18 27.0 +4.8**
WMQ S **S 00 25 23.2 -0.8**

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WMQ                                  ScS   ScS   00 27 15.9 -1.8
WMQ                                  pmax  pmax
     comp=Z,14nm,1.1s
WMQ                                  pmax  pmax
     comp=Z,170nm,5.1s
WMQ                                  LR    LR
     comp=Z,490nm,19.9s
WMQ                                  LR    LR
     comp=Z,510nm,18.3s
WMQ                                  LR    LR
     comp=Z,320nm,19.1s
WMQ  Urumqi          57.23  56       P     P     00 17 28.8 +0.9
WMQ                                  pmax  pmax
     comp=Z,21nm,1.0s
WMQ  Urumqi          57.23  56       P     P     00 17 28.8 +0.9
WMQ                                  IAmb  IAmb  00 17 33.9
     comp=Z,21nm,1.0s
WHTX Lake Whitney,   57.36 276       P     P     00 17 28.7 -0.1
     baz=30
MVCO Mesa Verde      57.51 289       P     P     00 17 30.0 -0.1
     baz=30
I03D Drain, OR       57.61 304       P     P     00 17 30.2 -0.2
     baz=29
ABTX Abilene, Hawle  57.75 279       P     P     00 17 30.9 -0.7
     baz=30
SDDR Presa de Saban  57.84 244       P     P     00 17 32.3  0.0
SDDR                                 IAmb  IAmb  00 17 38.8
     comp=Z,28nm,1.1s
MSTX Muleshoe        57.92 282       P     P     00 17 31.6 -1.3
     baz=30
KBL  Kabul           57.92  77       P     P     00 17 32.7 -0.4
KBL                                  pmax  pmax
     comp=Z,13nm,1.2s
KBL  Kabul           57.92  77       P     P     00 17 32.7 -0.4
BANI BANI            58.01 243       P     P     00 17 33.9 +0.2
435B Jarrell         58.46 276       P     P     00 17 35.9 -0.7
     baz=30
DBIC Dimbokro        58.55 165       P     P     00 17 34.9 -2.5
     comp=Z,15nm,0.9s,baz=334,slow=8.6,SNR=6.8
DBIC                                 LR    LR    00 43 32.9
     comp=Z,1μm,18.8s,baz=342,slow=37
DBIC Dimbokro        58.55 165       P     P     00 17 35.9 -1.4
DBIC                                 pmax  pmax
     comp=Z,44nm,1.4s
DBIC Dimbokro        58.55 165       P     P     00 17 35.9 -1.4
TIC  Toumodi         58.56 165       eP    P     00 17 35.1 -2.3
K02D Willamette Mer  58.59 304       P     P     00 17 35.6 -1.8
     baz=29
ANMO Albuquerque     58.62 286       ceP   P     00 17 37.7 -0.2
ANMO                                 pmax  pmax
     comp=Z,19nm,2.5s
ANMO Albuquerque     58.62 286       P     P     00 17 37.1 -0.8
     baz=30
ANMO Albuquerque     58.62 286       P     P     00 17 38.8 +0.9
ANMO                                 IAmb  IAmb  00 17 40.8
     comp=Z,26nm,1.9s
M04C Macdoel         58.73 302       P     P     00 17 36.6 -1.9
     baz=29
KIC  Kosan Boka      58.87 165       eP    P     00 17 38.1 -1.5
     comp=Z,82nm,1.4s
LIC  Lamto           58.98 166       eP    P     00 17 38.7 -1.6
     comp=Z,79nm,1.3s
R11A Troy Canyon, C  59.35 295       P     P     00 17 41.7 -1.2
     baz=30,SNR=17
M02C Callahan        59.44 303       P     P     00 17 42.7 -0.7
     baz=29
SONM Songino Array   59.65  40       P     P     00 17 45.7 +0.9
     comp=Z,5.3nm,0.9s,baz=332,slow=6.7,SNR=19
SONM                                 PP    PP    00 19 53.4 -2.4
     comp=Z,0.6nm,0.6s,baz=354,slow=6.6,SNR=3.7
SONM                                 LR    LR    00 45 53.0
     comp=Z,2μm,20.0s,baz=340,slow=38
SONM Songino Array   59.65  40       P     P     00 17 44.5 -0.3
SONM                                 pmax  pmax
     comp=Z,5.0nm,0.9s
SONM Songino Array   59.65  40       P     P     00 17 44.5 -0.3
JCT  Junction City   59.67 278       P     P     00 17 44.7 -0.3
     baz=30
N02D Trinity Center  59.75 302       P     P     00 17 44.8 -0.7
     baz=28
W18A Petrified Fore  59.82 289       P     P     00 17 45.6 -0.6
     baz=30
O03E Paynes Creek    60.02 301       P     P     00 17 46.4 -1.0
     baz=29
WUAZ Wupatki         60.14 290       P     P     00 17 48.0 -0.4
     baz=30,SNR=14
RYN  Ryan            60.24 298       P     P     00 17 49.6 +0.6
NV11 Mina Array Sit  60.27 297       P     P     00 17 48.7 -0.5
NV11                                 IAmb  IAmb  00 17 50.1
     comp=Z,25nm,1.9s
NVAR Mina Array Bea  60.33 297       P     P     00 17 51.3 +1.6
     comp=Z,1.2nm,0.8s,baz=53,slow=3.5,SNR=7.2
NVAR                                 LR    LR    00 44 00.7
     comp=Z,3μm,18.3s,baz=28,slow=36
NVAR Mina Array Bea  60.33 297       P     P     00 17 49.9 +0.1
NIL  Nilore          60.44  74       P     P     00 17 49.3 -1.0
NIL                                  pmax  pmax
     comp=Z,29nm,1.0s
NIL  Nilore          60.44  74       P     P     00 17 49.3 -1.0
O02D Mt. Diablo Mer  60.48 302       P     P     00 17 49.9 -0.7
     baz=28
WAKR Walker          60.70 298       P     P     00 17 53.0 +0.8
WAKR                                 IAmb  IAmb  00 18 07.4
     comp=Z,34nm,1.8s
UOSS Minazif         60.76  93       P     P     00 17 52.4 -0.1
SHPR Sheep Range     60.79 294       P     P     00 17 53.5 +0.7
SHPR                                 IAmb  IAmb  00 18 01.9
     comp=Z,26nm,1.5s
TPNV Topopah Spring  60.83 295       P     P     00 17 51.9 -1.2
     baz=29
MNTX Cornudas Mount  60.98 283       P     P     00 17 53.1 -0.9
     baz=29
MNTX Cornudas Mount  60.98 283       P     P     00 17 54.2 +0.3
121A Cookes Peak, D  61.25 286       P     P     00 17 55.3 -0.7
     baz=29
121A Cookes Peak, D  61.25 286       P     P     00 17 56.1 +0.1
121A                                 IAmb  IAmb  00 17 59.9
     comp=Z,18nm,1.4s
MDPB Devils Postpil  61.33 298       P     P     00 17 57.0 +0.5
833A Chaparral WMA,  61.37 276       P     P     00 17 56.4 -0.2
     baz=29
FURC Furnace Creek,  61.49 295       P     P     00 17 57.0 -0.3
     baz=29
W13A Hualapai Mount  61.51 292       P     P     00 17 58.1 +0.4
SHOC Shoshone, Teco  61.76 294       P     P     00 17 57.6 -1.6
     baz=29
TUQ  Turquoise Moun  62.02 294       P     P     00 17 59.4 -1.7
     baz=29
MPMC Manual Prospec  62.09 295       P     P     00 18 00.9 -0.7
     baz=28
PDMCI Parker Dam,Lak 62.30 292       P     P     00 18 02.3 -0.6
     baz=29
TX31 Lajitas Ar. Si  62.31 280       P     P     00 18 03.0  0.0
TXAR Lajitas Array   62.31 280       P     P     00 18 03.2 +0.2
     comp=Z,1.8nm,0.8s,baz=69,slow=4.2,SNR=13
TXAR                                 LR    LR    00 44 23.9
     comp=Z,1μm,19.3s,baz=0.0,slow=35
TXAR Lajitas Array   62.31 280       P     P     00 18 03.0  0.0
TXAR Lajitas Array   62.31 280       P     P     00 18 03.0  0.0
GSC  Goldstone, Bar  62.49 294       P     P     00 18 05.1 +0.9
GSC                                  pmax  pmax
     comp=Z,5.0nm,0.7s
GSC  Goldstone, Bar  62.49 294       P     P     00 18 03.6 -0.6
     baz=28
GSC  Goldstone, Bar  62.49 294       P     P     00 18 05.1 +0.9
GMRC Granite Mounta  62.49 293       P     P     00 18 04.4 +0.1
     baz=28,SNR=6.3
PETK Petropavlovsk-  62.53   3       P     P     00 18 04.5 +0.4
     comp=Z,5.9nm,1.0s,baz=240,slow=7.7,SNR=3.7
PETK Petropavlovsk-  62.53   3       P     P     00 18 04.3 +0.2
PET  Petropavlovsk   62.64   3       eP    P     00 18 08.2 +3.5
PET                                  eS    S     00 26 35.3 +2.3
PET                                  ePS   PnS   00 27 02.3 +16
PET                                  MLR   MLR
     comp=Z,400nm,19.0s
PET                                  MLR   MLR
     comp=Z,500nm,16.0s
LRMC Laurel Mtn Rad  62.67 295       P     P     00 18 05.3 -0.2
     baz=28
TUC  Tucson          62.69 288       P     P     00 18 05.7 +0.2
     baz=29
HEC  Hector,Ludlow   62.72 294       P     P     00 18 05.9 +0.2
     baz=28
ISA  Isabella, Lake  62.82 296       P     P     00 18 06.3  0.0
     baz=28
IRM  Iron Mountain   62.83 293       P     P     00 18 06.7 +0.3
     baz=28
BELC Belle Mtn. Jos  63.31 293       P     P     00 18 10.0 +0.3
     baz=28,SNR=6.9
EDW2 Edwards Air Fo  63.32 295       P     P     00 18 10.2 +0.5
     baz=28
BC3  Big Chuckawall  63.40 293       P     P     00 18 10.1 -0.1
     baz=28
ARVC Arvin           63.43 296       P     P     00 18 10.4 +0.1
     baz=28
GLA  Glamis          63.67 292       P     P     00 18 12.0  0.0
     baz=28
BFSC Mount Baldy Ra  63.75 295       P     P     00 18 12.2 -0.5
     baz=28
214A Organ Pipe Nat  63.82 289       P     P     00 18 12.8 -0.2
     baz=28
PFO  Pinyon Flats O  63.83 293       P     P     00 18 13.1  0.0
     baz=28
OSI  Osito Audit: C  63.84 296       P     P     00 18 12.7 -0.4
     baz=28
PKM  Mcpherson Peak  64.02 297       P     P     00 18 13.8 -0.6
     baz=28
MURC Murrieta        64.13 294       P     P     00 18 15.2 +0.2
     baz=28
SWSC Sam W. Stewart  64.16 292       P     P     00 18 16.1 +1.0
     baz=28
MONP2 Monument Peak  64.45 293       P     P     00 18 18.3 +1.0
     baz=28
IKP  In-Ko-Pah, Jac  64.54 293       P     P     00 18 19.0 +1.3
     baz=28
109C Camp Elliot, M  64.72 293       P     P     00 18 19.2 +0.4
     baz=28
SCI2 San Clemente I  65.21 295       P     P     00 18 21.7 -0.3
     baz=28
GTA  Gaotai          65.31  49       ⇑P    P     00 18 22.7  0.0
GTA                                  pP    sP    00 18 28.1 +2.9
GTA                                  sP    pP    00 18 31.8 +7.3
GTA                                  S     S     00 27 07.2 +0.4
GTA                                  sS    sS    00 27 13.1 +3.3
GTA                                  pmax  pmax
     comp=Z,4.0nm,1.3s
GTA                                  pmax  pmax
     comp=Z,280nm,5.3s
GTA                                  LR    LR
     comp=Z,540nm,17.6s
GTA                                  LR    LR
     comp=Z,730nm,17.1s
GTA                                  LR    LR
     comp=Z,880nm,18.2s
HSIG                 65.63 286       P     P     00 18 24.9 +0.1
SDV  Santo Domingo   66.82 239       P     P     00 18 32.5 -0.2
SDV  Santo Domingo   66.82 239       eP    P     00 18 33.1 +0.4
HHC  Hu-ho-hao-te    67.52  40       eP    P     00 18 39.1 +2.2
HHC                                  S     S     00 27 33.2 -0.5
HHC                                  ScS   SKiKP 00 28 35.3  0.0
HHC                                  pmax  pmax
     comp=Z,12nm,0.9s
HHC                                  pmax  pmax
     comp=Z,180nm,6.6s
HHC                                  LR    LR
     comp=Z,670nm,14.5s
HHC                                  LR    LR
     comp=Z,430nm,14.5s
HHC                                  LR    LR
     comp=Z,810nm,16.5s
ZAIG Zacatecas       67.59 276       P     P     00 18 38.3 +0.6
YSS  Yuzh-Sakhalins  67.68  15       eP    P     00 18 39.7 +2.2
YSS                                  e           00 21 09.8
YSS                                  eS    S     00 27 37.8 +2.8
YSS                                  ePS   PnS   00 28 03.7 +8.0
YSS                                  pmax  pmax
     comp=Z,20nm,0.8s
YSS                                  pmax  pmax
     comp=Z,400nm,6.7s
YSS                                  MLR   MLR
     comp=Z,500nm,17.0s
YSS                                  MLR   MLR
     comp=N,600nm,16.0s
YSS                                  MLR   MLR
     comp=E,500nm,18.0s
CN2  Changchun       68.06  28       eP    P     00 18 41.0 +1.0
CN2                                  eS    S     00 27 37.8 -1.9
CN2                                  pmax  pmax
     comp=E,10.0nm,0.6s
CN2                                  pmax  pmax
     comp=E,300nm,6.0s
CN2                                  LR    LR
     comp=E,400nm,16.0s
CN2                                  LR    LR
     comp=E,800nm,16.0s
CN2                                  LR    LR
     comp=E,200nm,19.0s
USRK Ussuriysk Ar.   68.89  23       P     P     00 18 48.1 +2.9
     comp=E,1.0nm,0.5s,baz=321,slow=2.0,SNR=2.2
USRK                                 LR    LR    00 51 05.6
     comp=E,384nm,18.4s,baz=335,slow=38
BJI  Beijing         69.50  36       P     P     00 18 50.7 +1.6
BJI                                  SS    SS    00 32 19.3 -3.9
BJI                                  pmax  pmax
     comp=E,4.0nm,1.7s
BJI                                  LR    LR
     comp=E,1μm,18.0s
BJI                                  LR    LR
     comp=E,680nm,17.0s
BJI                                  LR    LR
     comp=E,1μm,18.0s
BJT  Baijiatuau      69.52  36       P     P     00 18 49.5 +0.3
BJT                                  pmax  pmax
     comp=Z,7.0nm,0.8s
BJT  Baijiatuau      69.52  36       P     P     00 18 49.5 +0.3
MCPB Macapa, AP      69.58 217       eP    P     00 18 49.2 -0.6
LZH  Lanzhou         69.64  48       eP    P     00 18 51.8 +1.6
LZH                                  pP    sP    00 18 59.7 +7.0
LZH                                  sP    PcP   00 19 03.8 -9.3
LZH                                  pmax  pmax
     comp=Z,17nm,1.2s
LSA  Lhasa           71.02  61       P     P     00 18 59.5 +0.4
LSA                                  pmax  pmax
     comp=Z,7.0nm,0.5s
LSA  Lhasa           71.02  61       P     P     00 18 59.5 +0.4
LSA                                  IAmb  IAmb  00 19 04.6
     comp=Z,6.6nm,0.5s
MALB Monte Alegre    71.60 219       eP    P     00 19 01.8 -0.3
MALB                                 epP   sP    00 19 05.6 +1.0
DL2  Dalian          71.91  33       P     P     00 19 07.0 +3.3
DL2                                  pmax  pmax
     comp=Z,14nm,1.2s
DL2                                  pmax  pmax
     comp=Z,250nm,6.3s
DL2                                  LR    LR
     comp=Z,640nm,15.2s
DL2                                  LR    LR
     comp=Z,350nm,15.2s
DL2                                  LR    LR
     comp=Z,1μm,19.0s
ROSC El Rosal        71.93 241       P     P     00 19 04.5 -0.1
     comp=Z,6.4nm,0.5s,baz=9.8,slow=6.8,SNR=8.8
ROSC                                 LR    LR    00 47 05.8
     comp=Z,618nm,21.8s,baz=352,slow=33
ROSC El Rosal        71.93 241       P     P     00 19 04.6  0.0
PTGA Pitinga         72.18 225       P     P     00 19 04.9 -0.7
PTGA Pitinga         72.18 225       eP    P     00 19 05.3 -0.3
XAN  Xi'an           73.10  44       P     P     00 19 11.8 +0.8
XAN                                  pP    PcP   00 19 21.7 -6.0
XAN                                  S     S     00 28 37.6 -1.3
XAN                                  ScS   ScS   00 29 20.3 +0.6
XAN                                  pmax  pmax
     comp=Z,5.0nm,0.8s
XAN                                  pmax  pmax
     comp=Z,410nm,6.2s
XAN                                  LR    LR
     comp=Z,1μm,21.7s
XAN                                  LR    LR
     comp=Z,850nm,18.7s
XAN                                  LR    LR
     comp=Z,1μm,22.2s
XAN  Xi'an           73.10  44       P     P     00 19 11.5 +0.5
XAN                                  pmax  pmax
     comp=Z,7.0nm,1.1s
XAN  Xi'an           73.10  44       P     P     00 19 11.5 +0.5
MBAR Mbarara         73.88 129       P     P     00 19 14.9 -1.0
MBAR                                 pmax  pmax
     comp=Z,6.0nm,1.2s
MBAR Mbarara         73.88 129       P     P     00 19 14.9 -1.0
CD2  Chengdu         74.37  50       P     P     00 19 16.5 -2.0
CD2                                  S     S     00 28 49.4 -3.9
CD2                                  sS    sS    00 28 58.2 +1.9
CD2                                  pmax  pmax
     comp=Z,30nm,1.4s
CD2                                  pmax  pmax
     comp=Z,770nm,7.3s
CD2                                  LR    LR
     comp=Z,2μm,16.7s
CD2                                  LR    LR
     comp=Z,2μm,19.2s
CD2                                  LR    LR
     comp=Z,2μm,17.6s
ITTB Itaituba        74.40 220       eP    P     00 19 17.9 -0.8
PRPB Parauapebas     74.61 214       eP    P     00 19 20.0 +0.1
KSRS Korea Array     74.67  28       P     P     00 19 22.6 +2.6
     comp=Z,1.2nm,0.7s,baz=336,slow=2.7,SNR=4.3
KSRS                                 LR    LR    00 55 40.2
     comp=Z,469nm,18.3s,baz=345,slow=38
KSAR Wonju Array Be  74.67  28       P     P     00 19 20.6 +0.5
KSAR Wonju Array Be  74.67  28       P     P     00 19 20.6 +0.5
SHL  Shillong        75.02  62       P     P     00 19 21.6 -0.9
SHL                                  pmax  pmax
     comp=Z,11nm,0.3s
SHL  Shillong        75.02  62       P     P     00 19 21.6 -0.9
KMBO Kilima Mbogo    76.63 123       LR    LR    00 56 40.7
     comp=Z,533nm,19.4s,baz=310,slow=38
SMTB Santa Maria do  76.70 211       eP    P     00 19 31.9 +0.1
ENH  Enshi           76.78  45       P     P     00 19 32.8 +0.5
ENH                                  IAmb  IAmb  00 19 46.9
     comp=Z,16nm,1.2s
NPGB Novo Progresso  76.86 219       eP    P     00 19 32.7 -0.1
MJAR Matsushiro Arr  77.35  20       P     P     00 19 37.4 +2.0
     comp=Z,1.0nm,0.3s,baz=326,slow=5.9,SNR=2.6
OTAV Otavalo         77.73 244       P     P     00 19 38.0 -0.2
OTAV                                 pmax  pmax
     comp=Z,38nm,1.9s
OTAV Otavalo         77.73 244       P     P     00 19 38.0 -0.2
OTAV                                 IAmb  IAmb  00 19 41.9
     comp=Z,38nm,1.9s
OTAV Otavalo         77.73 244       eP    P     00 19 39.0 +0.7
NJ2  Nanjing         77.75  37       eP    P     00 19 36.7 -1.0
NJ2                                  S     S     00 29 22.9 -7.4
NJ2                                  sS    sS    00 29 36.5 +3.1
NJ2                                  pmax  pmax
     comp=Z,6.0nm,0.5s
NJ2                                  pmax  pmax
     comp=Z,360nm,5.7s
NJ2                                  LR    LR
     comp=Z,1μm,20.4s
NJ2                                  LR    LR
     comp=Z,350nm,16.1s
NJ2                                  LR    LR
     comp=Z,1μm,16.1s
WHN  Wuhan           77.96  41       P     P     00 19 40.2 +1.4
WHN                                  S     S     00 29 36.9 +4.3
WHN                                  pmax  pmax
     comp=Z,420nm,7.2s
WHN                                  LR    LR
     comp=Z,910nm,17.7s
WHN                                  LR    LR
     comp=Z,1μm,15.5s
WHN                                  LR    LR
     comp=Z,2μm,18.5s
SSE  Sheshan         79.25  35       P     P     00 19 45.8 -0.2
SSE                                  S     S     00 29 43.9 -2.6
SSE                                  pmax  pmax
     comp=Z,24nm,0.6s
SSE                                  pmax  pmax
     comp=Z,130nm,6.8s
SSE                                  LR    LR
     comp=Z,390nm,17.2s
SSE                                  LR    LR
     comp=Z,280nm,18.6s
KMI  Kunming         79.36  53       ⇑P    P     00 19 47.6 +0.7
KMI                                  pP    sP    00 19 50.1 +0.7
KMI                                  S     S     00 29 47.0 -1.2
KMI                                  pmax  pmax
     comp=Z,11nm,0.7s
KMI                                  pmax  pmax
     comp=Z,280nm,5.2s
KMI                                  LR    LR
     comp=Z,410nm,18.2s
KMI                                  LR    LR
     comp=Z,230nm,15.4s
KMI                                  LR    LR
     comp=Z,500nm,17.9s
KMI  Kunming         79.36  53       P     P     00 19 46.4 -0.5
KMI                                  pmax  pmax
     comp=Z,16nm,0.3s
KMI  Kunming         79.36  53       P     P     00 19 46.4 -0.5
GYA  Guiyang         79.43  49       ⇑P    P     00 19 48.2 +1.0
GYA                                  S     S     00 29 48.7 -0.1
GYA                                  pmax  pmax
     comp=Z,6.0nm,0.6s
GYA                                  pmax  pmax
     comp=Z,200nm,4.8s
GYA                                  LR    LR
     comp=Z,280nm,17.0s
GYA                                  LR    LR
     comp=Z,280nm,20.2s
GYA                                  LR    LR
     comp=Z,240nm,20.2s
CLDB Colider         80.64 218       eP    P     00 19 52.6 -0.9
CLDB                                 epP   sP    00 19 56.2 +0.1
SAML Samuel          80.93 226       P     P     00 19 54.5 -0.6
SAML                                 pmax  pmax
     comp=Z,40nm,1.8s
SAML Samuel          80.93 226       P     P     00 19 54.5 -0.6
SAML                                 IAmb  IAmb  00 19 56.8
     comp=Z,40nm,1.8s
SAML Samuel          80.93 226       eP    P     00 19 55.0 -0.1
ETMB Extrema         82.70 228       eP    P     00 20 04.6 +0.2
CZSB Cruzeiro do Su  82.95 235       eP    P     00 20 05.5 -0.3
SLVN Son La          83.26  53       P     P     00 20 07.1 -0.3
SLVN                                 IAmb  IAmb  00 20 12.4
     comp=Z,14nm,1.6s
BDFB Brasilia        83.37 210       LR    LR    00 50 47.7
     comp=Z,736nm,21.1s,baz=340,slow=31
CHTO Chiang Mai      83.81  59       P     P     00 20 10.1 -0.1
CHTO                                 pmax  pmax
     comp=Z,9.0nm,1.0s
CHTO Chiang Mai      83.81  59       P     P     00 20 10.1 -0.1
CHTO                                 IAmb  IAmb  00 20 13.5
     comp=Z,9.2nm,1.0s
VILB Vilhena         83.84 222       eP    P     00 20 10.5 +0.2
CM31 Chiang Mai Arr  84.13  59       P     P     00 20 12.3 +0.4
CMAR Chiang Mai Arr  84.13  59       P     P     00 20 11.9  0.0
     comp=Z,5.7nm,1.1s,baz=301,slow=4.9,SNR=13
CMAR                                 LR    LR    01 00 22.9
     comp=Z,373nm,18.3s,baz=360,slow=38
CMAR Chiang Mai Arr  84.13  59       P     P     00 20 11.7 -0.2
IPMB Ipameri, GO     85.68 209       eP    P     00 20 18.7 -0.9
PTLB Pontes e Lacer  85.91 220       eP    P     00 20 20.9 +0.3
PBKT Sadao Pong      86.61  58       P     P     00 20 24.2  0.0
QIZ  Qiongzhong      87.39  49       P     P     00 20 26.5 -1.6
QIZ                                  sP    sP    00 20 31.5 +0.9
QIZ                                  PP    PP    00 23 50.7 -1.1
QIZ                                  S     S     00 31 04.2 -5.0
QIZ                                  SS    SS    00 36 51.7 -1.0
QIZ                                  pmax  pmax
     comp=Z,190nm,6.5s
QIZ                                  LR    LR
     comp=Z,580nm,15.7s
QIZ                                  LR    LR
     comp=Z,350nm,19.8s
QIZ                                  LR    LR
     comp=Z,680nm,17.2s
LPAZ La Paz          89.39 228       LR    LR    00 58 04.2
     comp=Z,182nm,19.3s,baz=8.5,slow=34
BSI  Banda Aceh      94.59  67       P     P     00 21 02.7 +1.1
CPUP Villa Florida   95.83 215       LR    LR    01 00 11.0
     comp=Z,443nm,19.1s,baz=24,slow=33
BOSA Boshof          98.73 143       LR    LR    01 08 29.2
     comp=Z,1μm,18.2s,baz=344,slow=37
WRA  Warramunga Arr 131.54  36       PKP   PKiKP 00 26 55.1 +0.8
     comp=Z,1.9nm,1.0s,baz=360,slow=2.7,SNR=7.7
WRA  Warramunga Arr 131.54  36       PKIKP PKiKP 00 26 54.8 +0.5
WRA  Warramunga Arr 131.54  36       PKPdf PKiKP 00 26 54.8 +0.5
ASAR Alice Springs  134.98  38       PKP   PKiKP 00 27 00.5 -0.7
     comp=Z,1.8nm,0.9s,baz=308,slow=1.6,SNR=9.2
SNAA Sanae          136.41 173       PKIKP PKPdf 00 27 00.2 -0.7
SNAA Sanae          136.41 173       PKPdf PKPdf 00 27 00.2 -0.7
MAW  Mawson         143.69 140       PKP   PKPdf 00 27 14.9 +0.9
     comp=Z,1.8nm,1.0s,baz=302,slow=5.6,SNR=4.6
MAW  Mawson         143.69 140       PKIKP PKPdf 00 27 15.0 +0.9
STKA Stephens Creek 144.74  32       PKP   PKPbc 00 27 16.2 +0.1
     comp=Z,5.5nm,0.8s,baz=357,slow=7.4,SNR=5.3
```

STKA	Stephens Creek	144.74	32	PKIKP	PKPdf	00 27 16.9	-0.2
STKA	Stephens Creek	144.74	32		PKPdf	00 27 16.9	-0.2
QSPA	South Pole Qui	154.56	180	PKPdf	PKPdf	00 27 32.0	+0.4

*NEIC **11** 00:08:42.4±1.9, 39°.24N±0°.02×120°.12W±0°.02, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.1km az=174.0*
*NCEDC **11** 00:08:42.9±1.9, 39°.24N±0°.02×120°.10W±0°.02, h6km±2km, Mwr3.4/3, Error ellipse: s-maj=2.5km s-min=1.9km az=162.0*
*ANF **11** 00:08:42.7±1.0, 39°.28N×120°.10W, h4km±9km, ML3.1/8, Error ellipse: s-maj=8.9km s-min=2.7km az=39.0*
*NEIC **11** 00:08:42.9, 39°.24N×120°.10W, h39km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-0.13; Mθθ-1.50; Mφφ 1.63; Mrθ-0.39; Mrφ0.04; Mθφ0.10; Fault plane solution: M0 1.62000×10^14^ NP1:φs45.00000°, δ77.00000°, λ-8.00000°. NP2:φs137.00000°, δ82.00000°, λ-167.00000°. Principal axes: T 1.6392, Plg3.0000°, Azm270.0000°; N -0.0335, Plg75.0000°, Azm168.0000°; P -1.6057, Plg15.0000°, Azm1.0000°;*

ISC 11 00:08:42.4±0.9, 39°.22N±0°.02×120°.12W±0°.02, h11km±6km, n184, σ1§15/189, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAHR	Tahoe	0.08	208		Pg	00 08 45.1	-0.1
MPK	Martis Peak	0.10	42		Pg	00 08 44.7	-0.8
RUBR	Rubicon Trail	0.17	190		Pg	00 08 46.4	0.0
RUBR	Rubicon Trail	0.17	190		Sg	00 08 49.7	+0.4
DONR	Donner Summit	0.21	309		Pg	00 08 46.8	-0.2
DONR					Sg	00 08 50.0	-0.2
IND	Independence	0.25	327		Pg	00 08 47.6	-0.2
VPK	Verdi Peak	0.26	13		Pg	00 08 47.3	-0.6
KBF	Kyburz Flat	0.29	345		Pg	00 08 48.2	-0.4
VCNR	Virginia City	0.37	78		Pg	00 08 49.2	-0.7
BABR	Babbit Peak	0.38	1		Pg	00 08 49.6	-0.6
PEAR	Peavine Mounta	0.40	17		Pg	00 08 50.0	-0.6
PNTR	Pine Nut	0.42	108		Pg	00 08 50.5	-0.3
LOY	Loyalton	0.45	348		Pg	00 08 50.7	-0.6
BFC	Buffalo Canyon	0.51	129		Pg	00 08 52.0	-0.5
AFDM	Forest Hills D	0.72	248		Pg	00 08 56.0	-0.4
YERR	Yerington	0.72	109		Pg	00 08 55.7	-0.7
PAHR	Pah Rah Range	0.74	49		Pg	00 08 56.1	-0.8
PAHR					Sg	00 09 06.0	-0.7
WVA	Winnemucca Val	0.76	17		Pg	00 08 56.2	-0.9
WAKR	Walker	0.89	143		Pg	00 08 58.9	-0.7
BMRR	Black Mountain	0.90	351		Pg	00 08 58.6	-1.2
OHCM	Honcut	1.07	277		Pg	00 09 01.8	-1.2
AASM	Arroyo Seco	1.11	225		Pb	00 09 03.1	-0.5
PAM	Palermo	1.11	282		Pb	00 09 02.5	-1.1
ORV	Oroville	1.12	288		Pb	00 09 02.7	-1.1
ORV	Oroville	1.11	288		Pn	00 09 02.8	-1.1
CMB	Columbia Colle	1.20	190		Pn	00 09 04.2	-1.0
MNHB	New Hogan Dam	1.21	207		Pn	00 09 04.5	-0.7
SUTB	Sutter Butte	1.30	271		Pn	00 09 06.0	-0.4
TVH1	TV Hill, Hawth	1.30	125		Pn	00 09 06.7	-0.1
MCUB	Copperopolis B	1.30	198		Pn	00 09 06.0	-0.5
OSUM	Sutter Buttes	1.35	273		Pn	00 09 07.2	0.0
RYN	Ryan	1.38	115		Pn	00 09 07.3	-0.4
LUL	Lundy Lake	1.38	148		Pb	00 09 08.4	+0.1
LCMM	Colby Mountain	1.43	311		Pn	00 09 08.3	-0.1
NDHM	Dunnigan Hills	1.47	253		Pb	00 09 10.0	+0.3
KVN	Kaiserville	1.58	96	Pn	Pn	00 09 10.6	+0.1
LHV	Little Huntoon	1.59	127		Pb	00 09 11.5	-0.2
NVAR	Mina Array Bea	1.62	119	Pn	Pn	00 09 11.0	-0.1
NVAR					Sb	00 09 33.5	+0.5
NADM	Allendale	1.64	243		Pg	00 09 13.6	-0.3
HCK	Huntoon Valley	1.65	133		Pb	00 09 13.1	+0.2
O03E	Paynes Creek	1.69	310	P	Pb	00 09 12.9	-0.6
O03E	baz=128			S	Sg	00 09 35.5	-1.1
O03E	baz=128						
O03E	Paynes Creek	1.69	310		Pb	00 09 12.9	-0.6
GFC	Funks Creek	1.69	274		Pb	00 09 13.4	-0.1
HMR	Hamilton Ranch	1.69	232		Pb	00 09 14.3	+0.7
NBPM	Berryessa Peak	1.71	252		Pb	00 09 13.8	-0.1
NV11	Mina Array Sit	1.72	117	Pn	Pn	00 09 13.1	+0.6
LMEM	Manzanita Entr	1.73	320		Pg	00 09 14.8	-0.8
MDCM	Deadman Creek	1.73	150		Pb	00 09 14.2	-0.1
LMCR	Lookout Mounta	1.75	148		Pb	00 09 15.2	+0.5
LDBM	Digger Butte	1.77	314		Pb	00 09 14.4	-0.5
MINS	Minaret Summit	1.77	152		Pb	00 09 15.1	0.0
ANTLA	Antelope Range	1.78	136		Pb	00 09 15.2	0.0
MDPB	Devils Postpil	1.78	153		Pb	00 09 14.7	-0.5
MDYM	Dry Creek	1.79	151		Pb	00 09 15.6	+0.3
MGNR	McGee Canyon	1.79	141		Pb	00 09 15.7	+0.2
MMSM	Mammoth Summit	1.80	151		Pb	00 09 15.9	+0.3
MEMM	East Mammoth H	1.81	149		Pb	00 09 16.2	+0.6
MMPM	Mammoth Pass	1.82	152		Pb	00 09 16.1	+0.2
MRDM	Red Cones	1.82	153		Pb	00 09 15.7	-0.2
MMIM	Miami Mountain	1.82	171		Pb	00 09 15.4	-0.5
GCK	Clark Valley	1.83	281		Pb	00 09 15.4	-0.4
OMMB	Old Mammoth Mi	1.83	151		Pb	00 09 15.9	-0.1
MCSM	Casa Diablo Ho	1.83	148		Pb	00 09 16.8	+0.7
LTCM	Tuscan Springs	1.84	303		Pb	00 09 16.1	+0.1
MCBM	Casa Benchmark	1.84	148		Pb	00 09 17.0	+0.8
CBSNC	Byron Hot Spri	1.84	221		Pb	00 09 15.5	-0.6
MNRC	McLaughlin Min	1.84	260		Pb	00 09 15.3	-0.9
GBMM	Baldy Mountain	1.85	268		Pb	00 09 15.4	-0.9
MYLM	Yosemite Lake	1.85	188		Pn	00 09 15.4	+1.4
MGPM	Gravel Pit	1.86	149		Pb	00 09 17.0	+0.5
NMTM	Middletown	1.86	258		Pn	00 09 15.3	+1.0
MLCM	Laurel Creek C	1.86	149		Pb	00 09 17.1	+0.5
BDM	Black Diamond	1.87	228		Pb	00 09 15.8	-0.7
MDRNC	Doe Ridge	1.87	147		Pb	00 09 16.8	0.0
MCMM	Convict Lake	1.88	148		Pb	00 09 17.5	+0.5
HATC	Hat Creek Radi	1.90	327		Pb	00 09 17.4	+0.3
BONR	Boundary Peak	1.90	131		Pb	00 09 17.3	0.0
CTAM	Taylor	1.91	232		Pb	00 09 17.0	-0.2
MCVM	Convict Lake	1.92	148		Pb	00 09 18.1	+0.6
CRPB	Russellman Par	1.92	228		Pb	00 09 16.5	-0.9
BENR	Benton	1.93	141		Pn	00 09 16.2	+0.8
CMOB	Morgan Territo	1.93	224		Pn	00 09 16.4	+1.1
GTSM	Trough Springs	1.93	273		Pn	00 09 16.5	+1.2
NLHM	Lake Herman	1.93	236		Pn	00 09 14.0	-1.2
ORC	Owens River	1.96	144		Pb	00 09 17.4	-0.8
MRCM	Red Rock Canyo	2.00	140		Pb	00 09 18.2	-0.7
GRTM	Round Top Moun	2.01	263		Pn	00 09 17.3	+1.0
CVS	Carmenet Vineyd	2.03	245		Pn	00 09 17.5	+1.0
NHSM	Mount Saint He	2.03	255		Pn	00 09 17.9	+1.3
GBGM	Boggs Mountain	2.04	259		Pn	00 09 18.2	+1.4
RCCR	Rock Creek Can	2.05	147		Pb	00 09 20.4	+0.6
GSGM	Seigler Mounta	2.05	261		Pb	00 09 18.5	-1.2
WENL	Wente Vineyard	2.05	219		Pb	00 09 19.0	-0.7
CPIM	Pinole Ridge	2.05	234		Pb	00 09 18.5	-1.2
GVV	Valley View	2.06	286		Pn	00 09 17.9	+0.9
BRIB	Briones	2.06	231		Pn	00 09 17.8	+0.9
GASB	Alder Springs	2.06	283		Pn	00 09 18.2	+1.2
NSHM	Saint Helena R	2.07	251		Pn	00 09 18.3	+1.2
CMMM	Mount Mocho	2.07	212		Pn	00 09 18.0	+0.8
BGC	Bolinger Road	2.07	228		Pb	00 09 18.9	-1.1
CMPM	Mikes Peak	2.09	207		Pb	00 09 20.2	-0.1
GROM	Round Mountain	2.09	290		Pn	00 09 18.6	+1.1
SNT	Sears Point	2.10	241		Pn	00 09 18.3	+0.8
MHDM	Hidden Dam	2.11	175		Pb	00 09 19.9	-0.7
CMLM	Mount Lewis	2.12	215		Pn	00 09 19.2	+1.4
GAXM	Alexander Vall	2.12	257		Pn	00 09 18.7	+0.9
CVPM	Vollmer Peak	2.12	232		Pn	00 09 18.9	+1.0
MCDM	Chidago Canyon	2.12	141		Pb	00 09 21.1	+0.1
GDXM	Geysers	2.13	260		Pn	00 09 19.3	+1.3
BKS	Berkeley--Byer	2.14	232		Pn	00 09 19.1	+1.1
MLNR	Milner Canyon	2.14	139		Pb	00 09 21.7	+0.4
MAC	Mark West Spri	2.14	253		Pn	00 09 19.2	+1.2
NTYM	Taylor	2.16	248		Pn	00 09 19.5	+1.3
GACM	Adobe Creek	2.17	262		Pn	00 09 20.1	+1.6
CNIC	Niles Canyon	2.17	223		Pn	00 09 19.5	+1.0
SCHCA	Scheelite	2.17	148		Pn	00 09 20.0	+1.3
ARN	Arnold Ranch	2.18	211		Pn	00 09 20.5	+1.9
GHMM	Hull Mountain	2.20	278		Pn	00 09 20.7	+1.7
LTIM	Timbered Crate	2.22	332		Pb	00 09 22.8	+0.2
MHC	Mount Hamilton	2.23	213		Pn	00 09 21.1	+1.7
MTUM	Tungsten Hills	2.23	146		Pn	00 09 21.0	+1.6
GHLM	Highland Sprin	2.27	266		Pn	00 09 21.0	+1.2
NMCNC	Mill Creek, So	2.27	255		Pn	00 09 21.1	+1.2
O02D	Mt. Diablo Mer	2.27	296	P	Pn	00 09 20.9	+1.0
O02D	baz=114						
O02D	Mt. Diablo Mer	2.27	296		Pn	00 09 20.9	+1.0
GCVM	Cloverdale	2.30	260		Pn	00 09 21.9	+1.6
WDC	Whiskeytown Da	2.31	307		Pn	00 09 22.0	+1.7
WDC	Whiskeytown Da	2.31	307	Pn	Pn	00 09 21.7	+1.4
HOPS	Hopland Field	2.31	265		Pn	00 09 21.6	+1.2
HOPS	Hopland Field	2.31	265	Pn	Pn	00 09 21.4	+1.0
SLD	San Luis Dam	2.31	202		Pb	00 09 23.3	-0.8
GSSM	Skaggs Springs	2.32	258		Pn	00 09 21.3	+0.9
SFJWR	San Luis Fatjo	2.32	201		Pb	00 09 24.2	-0.1
HPCM	Pacheco Lake	2.34	203		Pn	00 09 22.5	+1.6
POCCA	Poleta Canyon	2.35	142		Pb	00 09 23.3	-1.6
GHS	Gilroy Hot Spr	2.37	207		Pn	00 09 23.2	+2.0
HSPM	Sheep	2.38	208		Pb	00 09 24.2	-1.0
PACP	Pacheco Peak	2.40	203		Pb	00 09 25.2	-0.4
LBPM	Beegum Peak	2.40	298		Pn	00 09 23.2	+1.5
GSNM	Snow Mountain	2.41	264		Pn	00 09 23.3	+1.5
MCCM	Marconi Confer	2.42	244	Pn	Pn	00 09 22.6	+0.8
BRMM	Rolling Bench	2.45	193		Pb	00 09 24.9	-1.5
HFEM	San Felipe	2.45	205		Pb	00 09 24.9	-1.6
JCHM	Cahill Ridge	2.46	227		Pn	00 09 24.5	+2.1
JRSC	Jasper Ridge	2.47	223		Pn	00 09 24.2	+1.7
AMC	Almaden	2.47	214		Pn	00 09 24.3	+1.7
KBNM	Bluenose Ridge	2.47	287		Pb	00 09 25.1	-1.8
FTR	Fort Ross	2.48	255		Pn	00 09 24.0	+1.3
GDCM	Dry Creek	2.48	260		Pn	00 09 24.1	+1.3
GHCM	House Creek	2.48	257		Pn	00 09 23.9	+1.2
JUMM	Mount Umunhum	2.49	215		Pn	00 09 24.2	+1.3
JHLM	Holstrom Ranch	2.51	213		Pn	00 09 24.4	+1.3
TPH	Tonopah	2.54	116		Pn	00 09 25.8	+2.1
CSR	Chase Ranch	2.54	208		Pn	00 09 25.5	+2.0
M03C	McCloud	2.56	324		Pb	00 09 28.9	+0.5
KFPM	Farley Peak	2.60	280		Pn	00 09 26.2	+1.8
BMSM	Mercy Hot Spri	2.62	192		Pn	00 09 26.8	+2.2
N02D	Trinity Center	2.65	312		Pb	00 09 28.1	-1.8
LGBM	Gray Butte	2.65	324		Pb	00 09 30.0	0.0
SAO	San Andreas Ge	2.67	204	Pn	Pn	00 09 27.2	+1.9
BAVM	Antelope Valle	2.67	196		Pn	00 09 27.3	+2.0
BEMM	Emmet	2.67	197		Pn	00 09 27.9	+2.6
GTC	Three Chop Rid	2.67	275		Pn	00 09 26.9	+1.5
LGPM	Granite Peak	2.68	310		Pn	00 09 27.5	+1.9
MOD	Modoc Plateau	2.68	357		Pb	00 09 29.6	-0.9
LBKM	Bonanza King	2.70	314		Pn	00 09 28.1	+2.3
KCPM	Cahto Peak	2.72	281		Pn	00 09 28.5	+2.3
M04C	Macdoel	2.88	333	Pb	Pb	00 09 33.9	+0.1
KMRM	baz=152 Mail Ridge	2.95	291		Pn	00 09 31.4	+2.2
M02C	Callahan	3.01	317	Pb	Pb	00 09 35.5	-0.6
PMPB	baz=135 Monarch Peak	3.05	190		Pn	00 09 32.5	+1.9
GRAC	Grapevine Rang	3.10	135	Pb	Pb	00 09 39.5	+1.9
YBH	baz=317 Yreka Blue Hor	3.19	323		Pn	00 09 35.2	+2.5
CWC	Cottonwood Cre	3.21	149	Pb	Pb	00 09 41.2	+1.7
L04D	baz=331 Klamath Falls	3.42	332	Pb	Pb	00 09 43.9	+0.7
K05A	baz=150 Summer Lake	3.55	351		Pn	00 09 40.7	+3.1
PTRM	Twissleman Ran	3.56	181		Pn	00 09 35.4	-2.2
R11A	Troy Canyon, C	3.65	102	P	Pn	00 09 39.1	+0.2
R11A	baz=286			Sb	Sg	00 10 36.4	-3.1
R11A	baz=286						
R11A	Troy Canyon, C	3.65	102		Pn	00 09 39.4	+0.4
TPNV	Topopah Spring	3.80	125		Pn	00 09 42.2	+1.1
ELK	Elko	4.04	66	Pn	Pn	00 09 44.2	-0.3
PRN	Pahroc Range	4.38	113		Pn	00 09 50.7	+1.8
BGU	Big Grassy Mou	5.70	70		Pn	00 10 08.5	+1.4
DUG	Dugway, Tooele	5.71	78	Pn	Pn	00 10 09.0	+1.7

*IDC **11** 00:15:17.0±4.8, 35°.65N×143°.70E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/41, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=96.8km s-min=39.9km az=32.0*
*JMA **11** 00:15:19.9±0.2, 36°.15N×143°.55E, h74km, M3.3*

ISC 11 00:15:18.8±1.6, 36°.06N±0°.06×143°.72E±0°.10, h35km, n17, σ1§09/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	2.55	277	P	Pn	00 15 57.9	+0.3
JHYU				S	Sn	00 16 26.9	-0.5
ONAJ	Iwakimizuishiy	2.57	295	P	Pn	00 15 58.3	+0.3
JHO	Hitachi	2.60	283	P	Pn	00 15 58.2	-0.2
JHO				eS	Sn	00 16 27.4	-1.4
JFT	Otama	3.08	299	eS	Sn	00 16 39.8	-0.8
JAG	Ashikaga	3.47	277	P	Pn	00 16 10.7	+0.4
JAG				S	Sn	00 16 49.2	-0.9
JMK	Ichinoseki	3.50	326	P	Pn	00 16 10.8	0.0
JMK				eS	Sn	00 16 48.8	-2.2
JOD2	Odawara 2	3.85	259	P	Pn	00 16 16.0	+0.4
JOD2				eS	Sn	00 16 59.0	-0.7
JRY	Ryogami san	3.90	271	P	Pn	00 16 17.1	+0.8
JRY				S	Sn	00 17 00.9	0.0
JYK	Kaneyama	3.91	318	P	Pn	00 16 17.3	+1.0
JYK				eS	Sn	00 17 00.7	-0.3
JOM	Ohasama	3.91	331	P	Pn	00 16 17.1	+0.7
JOM				S	Sn	00 16 59.1	-2.0
JHJ	Hachijo jima 2	4.38	229	Pn	Pn	00 16 21.4	-1.3
JHJ	4.8nm,0.3s,baz=69,slow=18,SNR=0.9			Sn	Sn	00 17 01.6	-11
	16nm,0.3s,baz=88,slow=23,SNR=2.3						
MJAR	Matsushiro Arr	4.48	278	Pn	Pn	00 16 26.4	+2.3
	0.4nm,0.3s,baz=103,slow=9.1,SNR=15						
H11N2	WAKE ISLAND Hy	26.06	122	T	T	00 48 04.2	
	baz=313						
H11N1	WAKE ISLAND Hy	26.07	122	T	T	00 48 04.5	
	baz=313						
H11N3	WAKE ISLAND Hy	26.08	122	T	T	00 48 04.5	
	baz=313						
WRA	Warramunga Arr	56.40	191	P	P	00 24 57.3	+0.5
	0.7nm,0.6s,baz=12,slow=7.6,SNR=13						
ASAR	Alice Springs	60.12	190	P	P	00 25 23.4	+0.7
	0.3nm,0.6s,baz=7.8,slow=7.5,SNR=6.0						

*MAN **11** 00:30:10.8, 2°.84N×128°.67E, h196km, mb5.5, ML4.4, MS4.7*
*DJA **11** 00:30:11.0±0.4, 3°N±3°×12°9E±°, h217km±3km, M4.7/29, mb4.7/29, mB5.2/7, MLv4.7/10, Mw(mB)4.6/7*
*NEIC **11** 00:30:12.2±1.1, 2°.76N±0°.07×128°.57E±0°.07, h233km±6km, mb4.7/81, Error ellipse: s-maj=11.6km s-min=8.9km az=53.0*
*IDC **11** 00:30:12.4±0.8, 2°.78N×128°.63E, h233km±8km, mb4.1/28, mb1 4.1/33, mb1mx4.0/48, mbtmp4.7/33, Error ellipse: s-maj=11.9km s-min=6.2km az=73.0*

ISC 11 00:30:14.6±0.4, 2°.70N±0°.04×128°.54E±0°.06, h250km, n194, σ1§39/129, mb4.6/73, 6C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.25	212	P	Pn	00 30 56.3	-3.1
TNTI				S	S	00 31 30.4	-4.3
TNTI	Ternate	2.25	212	Pn	Pn	00 30 56.2	-3.2
TNTI				S	S	00 31 30.6	-4.1
LBMI	Labuha	3.47	197	P	Pn	00 31 09.8	-2.6
LBMI				S	S	00 31 57.0	-1.2
SIJI	Sorong	4.47	142	P	Pn	00 31 22.6	-1.4
SIJI	9.2nm,0.3s,baz=329,slow=14,SNR=12			S	S	00 32 16.5	-2.8
	1.5nm,0.3s,baz=130,slow=20,SNR=6.2						
KMSI	Cibinong	5.02	245	P	Pn	00 31 28.9	-1.8
	3.9nm172nm,0.5s						
DAV	Davao City (W)	5.25	326	P	Pn	00 31 30.2	-3.3
	18nm,0.3s,baz=100,slow=1.4,SNR=11						
DAV				S	S	00 32 32.7	-3.7
	59nm,0.3s,baz=136,slow=5.8,SNR=1.5						
DAV	Davao City (W)	5.25	326	Pn	Pn	00 31 29.7	-3.8
KCP	Kidapawan	5.49	321	⇑iP	Pn	00 31 32.1	-4.4
GTOI	Gorontalo	5.89	250	P	Pn	00 31 40.7	-0.8
	0.3nm494nm42nm,0.6s						
MSAI	Masohi	6.02	176	P	Pn	00 31 41.8	-1.2
	0.1nm22nm,0.9s						
NLAI	Namlea	6.07	194	P	Pn	00 31 42.6	-1.0
	0.6nm2μm37nm,0.8s						
FAKI	Fak Fak	6.70	146	P	Pn	00 31 49.4	-2.1
	0.2nm60nm,0.9s						
FAKI	Fak Fak	6.70	146		Pn	00 31 49.4	-2.1
LUWI	Luwuk	6.86	237	P	Pn	00 31 52.2	-1.4
	1.2nm6μm81nm,0.5s						
LUWI	Luwuk	6.86	237	Pn	Pn	00 31 52.1	-1.4
MYLDM	Lahad Datu	10.32	284	Pn	Pn	00 32 36.8	-0.4
SAUI	Saumlaki	10.96	165	Pn	Pn	00 32 43.0	-2.3
BKSI	Bulukumba	11.58	227	P	P	00 32 58.7	+2.1
KAPI	Kappang	11.65	229	P	Pn	00 32 54.9	+1.0
	1.3nm,0.3s,baz=101,slow=22,SNR=1.5						
KAPI				S	S	00 35 03.3	-0.9
	2.9nm,0.3s,baz=154,slow=12,SNR=2.0						
GENI	Genyem	12.76	114	P	Pn	00 33 10.5	+2.9
MMRI	Maumere	12.89	209		Pn	00 33 09.1	-0.2
SOEI	Soe	13.08	199	P	Pn	00 33 12.7	+0.9
	94nm,0.8s						
SOEI	Soe	13.08	199		Pn	00 33 12.1	+0.4
JAY	Jayapura	13.22	113	P	Pn	00 33 12.8	-0.5
	3.9nm,0.3s,baz=256,slow=3.8,SNR=12						
JAY	Jayapura	13.22	113	P	Pn	00 33 15.2	+1.9
BATI	Baumata	13.71	201	P	Pn	00 33 19.0	-0.3
	27nm,0.3s,baz=38,slow=2.9,SNR=9.7						
BATI	Baumata	13.71	201	P	Pn	00 33 20.1	+0.8
	59nm,0.6s						
MTN	Manton Dam	15.65	171	P	P	00 33 40.3	-1.4
PLAI	Plampang	15.69	223	P	P	00 33 44.7	+2.5
	114nm,0.7s						
SBUM	Sibu	16.31	270		P	00 33 49.7	+0.8
KNRA	Kununurra	18.26	179	P	P	00 34 09.4	-0.6
KSM	Kuching	18.26	267	P	P	00 34 10.5	+0.3
FITZ	Fitzroy Crossi	20.86	188	P	P	00 34 36.7	-1.2
	8.4nm,0.4s,baz=0.2,slow=9.5,SNR=62						
FITZ				ScP	ScP	00 41 50.0	+1.8
	1.0nm,0.6s,baz=0.0,slow=6.1,SNR=1.7						
FITZ	Fitzroy Crossi	20.86	188	P	P	00 34 37.1	-0.8
TWG	Pinlang	21.27	341	P	P	00 34 37.3	-4.6
TPUB	Ta-pu	21.87	340	P	P	00 34 44.5	-2.9
DLV	T Lat	21.89	296	P	P	00 34 47.3	-0.7
DLV				IAmb	IAmb	00 35 00.5	
	comp=Z,22nm,1.1s						
COEN	Coen	22.01	139	P	P	00 34 47.5	-1.3
SSLB	Suanglung	22.21	341	P	P	00 34 48.2	-2.4
SSLB				IAmb	IAmb	00 34 50.7	
	comp=Z,17nm,0.8s						
YOJ	Yonaguni jima	22.29	347	P	P	00 34 50.4	-0.8
YOJ				IAmb	IAmb	00 34 50.8	
	comp=Z,38nm,1.1s						
WB0	Warramunga Arr	23.05	166	P	P	00 34 57.5	-0.9
WRAB	Tennant Creek	23.20	166	P	P	00 34 59.2	-0.4
WRA	Warramunga Arr	23.21	166	P	P	00 34 59.4	-0.4
	comp=Z,11nm,0.4s,baz=344,slow=10,SNR=150						
WRA				ScP	ScP	00 41 55.8	+1.5
	comp=Z,0.7nm,0.7s,baz=341,slow=3.0,SNR=8.6						
WRA	Warramunga Arr	23.21	166	P	P	00 34 58.9	-0.8
WB2	Warramunga Arr	23.21	166	P	P	00 34 59.0	-0.8
WB2				IAmb	IAmb	00 35 01.5	
	comp=Z,17nm,0.5s						
WR0	Warramunga Arr	23.27	166	P	P	00 34 59.7	-0.6
WR0				IAmb	IAmb	00 35 02.1	
	comp=Z,13nm,0.5s						
PMBI	Palembang	24.41	257	P	P	00 35 02.2	-8.5
QIZ	Qiongzhong	24.46	313	P	P	00 35 10.5	-0.6
QIZ				IAmb	IAmb	00 35 26.8	
	comp=Z,20nm,1.0s						
PSA00	Pilbara Seismi	25.58	199	P	P	00 35 20.5	-0.6
PSA00				IAmb	IAmb	00 35 24.5	
	comp=Z,13nm,1.1s						
RGRI	Rengat	26.37	264	P	P	00 35 30.1	+1.7
	comp=Z,93μmcomp=Z,566nm,0.4s						
AS31	Alice Springs	26.72	169	P	P	00 35 30.8	-0.6
ASAR	Alice Springs	26.72	169	P	P	00 35 31.4	0.0
	comp=Z,9.0nm,0.4s,baz=352,slow=7.5,SNR=163						
ASAR				pP	pP	00 36 18.9	-1.4
	comp=Z,4.8nm,0.6s,baz=346,slow=11,SNR=7.4						
ASAR				PcP	PcP	00 38 48.1	+0.1
	comp=Z,0.4nm,0.4s,baz=27,slow=2.3,SNR=2.4						
ASAR				ScP	ScP	00 42 05.7	+1.5
	comp=Z,1.4nm,0.6s,baz=345,slow=3.1,SNR=9.5						
ASAR	Alice Springs	26.72	169	P	P	00 35 30.6	-0.8
JCJ	Chichijima	27.55	27	P	P	00 35 37.3	-1.4
BKNI	Bangkinang	27.59	266	P	P	00 35 39.5	+0.3
CTA	Charters Tower	28.55	143	P	P	00 35 47.5	-0.1
	comp=Z,1.5nm,0.6s,baz=342,slow=13,SNR=2.1						
GIRL	Giralia	28.80	208	P	P	00 35 50.6	+0.9
PSI	Prapat	29.58	271	P	P	00 35 57.8	+0.8
	comp=Z,15nm,0.9s,baz=181,slow=0.5,SNR=9.9						
RPSI	Rantau Prapat	29.58	271	P	P	00 35 57.1	+0.3
R

CD2				pmax	pmax		
	comp=Z,30nm,1.4s						
CD2				pmax	pmax		
	comp=Z,190nm,3.5s						
STKA	**Stephens Creek**	**36.55**	**161**	P	**P**	**00 36 56.3**	**-0.4**
	comp=Z,7.8nm,0.4s,baz=343,slow=8.2,SNR=33						
STKA	**Stephens Creek**	**36.55**	**161**	P	P	00 36 56.0	-0.7
NWAO	**Narrogin (SRO)**	**37.01**	**196**	P	**P**	**00 37 00.3**	**-0.3**
NWAO				IAmb	IAmb	00 37 01.6	
	comp=Z,23nm,0.8s						
BJT	**Baijiatuau**	**38.81**	**345**	P	P	00 37 14.0	-1.5
BJT				IAmb	IAmb	00 37 15.5	
	comp=Z,17nm,0.7s						
BJI	**Beijing**	**38.83**	**345**	P	**P**	**00 37 15.0**	**-0.6**
BJI				pmax	pmax		
	comp=Z,23nm,0.7s						
ARMA	**Armidale**	**39.63**	**148**	P	**P**	**00 37 22.2**	**-0.3**
LZH	**Lanzhou**	**40.31**	**328**	*e*P	**P**	**00 37 28.9**	**+0.8**
LZH				pP	pP	00 38 15.1	-4.2
LZH				sP	sP	00 38 39.9	-7.5
LZH				pmax	pmax		
	comp=Z,52nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
H11S3	**WAKE ISLAND Hy**	**40.51**	**64**	T	T	01 21 16.1	
	baz=256						
H11S2	**WAKE ISLAND Hy**	**40.53**	**64**	T	T	01 21 17.4	
	baz=256,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.53**	**64**	T	T	01 21 17.4	
	baz=256,slow=74,SNR=9.3						
HHC	**Hu-ho-hao-te**	**40.96**	**340**	*e*P	**P**	**00 37 33.0**	**-0.2**
HHC				S	**S**	**00 43 26.1**	**0.0**
HHC				SS	**SS**	**00 46 36.6**	**-2.4**
HHC				pmax	pmax		
	comp=Z,31nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,9.1s						
H11N1	**WAKE ISLAND Hy**	**41.09**	**63**	T	T	01 22 06.9	
	baz=250,slow=75,SNR=25						
H11N2	**WAKE ISLAND Hy**	**41.10**	**63**	T	T	01 22 06.3	
	baz=250,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**41.11**	**63**	T	T	01 22 07.6	
	baz=250,slow=75,SNR=60						
USA0B	**Ussuriysk Arra**	**41.44**	**4**	P	P	00 37 35.8	-1.2
USRK	**Ussuriysk Ar.**	**41.44**	**4**	P	**P**	**00 37 36.6**	**-0.3**
	comp=Z,10nm,0.8s,baz=184,slow=7.3,SNR=19						
USRK	**Ussuriysk Ar.**	**41.44**	**4**	P	P	00 37 35.9	-1.0
MDJ	**Mudanjiang**	**41.75**	**1**	P	P	00 37 38.8	-0.7
MDJ				IAmb	IAmb	00 37 39.9	
	comp=Z,11nm,0.7s						
SHL	**Shillong**	**41.94**	**306**	P	P	00 37 40.6	-0.9
ASAJ	**Asahikawa**	**43.08**	**15**	P	P	00 37 48.3	-1.8
	comp=Z,8.7nm,0.6s,baz=212,slow=19,SNR=2.0						
DZM	**Mont Dzumac**	**44.47**	**126**	P	P	00 38 00.8	-0.8
	comp=Z,3.5nm,0.7s,baz=280,slow=9.1,SNR=5.2						
DZM	**Mont Dzumac**	**44.47**	**126**	P	P	00 38 01.1	-0.5
LSA	**Lhasa**	**44.47**	**311**	P	**P**	**00 38 01.9**	**-0.1**
LSA				IAmb	IAmb	00 38 04.2	
	comp=Z,15nm,0.7s						
GTA	**Gaotai**	**44.91**	**328**	P	**P**	**00 38 05.3**	**+0.4**
GTA				pmax	pmax		
	comp=Z,19nm,0.7s						
TAPN	**Taplejung**	**46.08**	**306**	*e*P	**P**	**00 38 14.6**	**+0.1**
	comp=Z,46nm,0.7s						
TAPN	**Taplejung**	**46.08**	**306**	*e*P	**P**	**00 38 14.6**	**+0.1**
	comp=Z,46nm,0.7s						
ODAN	**Odare**	**46.14**	**305**	*e*P	**P**	**00 38 15.0**	**+0.2**
	comp=Z,69nm,0.7s						
ODAN	**Odare**	**46.14**	**305**	*e*P	**P**	**00 38 15.0**	**+0.2**
	comp=Z,69nm,0.7s						
RAMN	**Ramite**	**46.82**	**305**	*e*P	**P**	**00 38 20.5**	**+0.4**
	comp=Z,72nm,0.5s						
RAMN	**Ramite**	**46.82**	**305**	*e*P	**P**	**00 38 20.5**	**+0.4**
	comp=Z,72nm,0.5s						
JIRN	**Jiri**	**47.44**	**306**	*e*P	**P**	**00 38 25.2**	**+0.2**
	comp=Z,97nm,0.5s						
JIRN	**Jiri**	**47.44**	**306**	*e*P	**P**	**00 38 25.2**	**+0.2**
	comp=Z,97nm,0.5s						
PKI	**Pulchoki**	**48.04**	**305**	*e*P	**P**	**00 38 29.0**	**-0.6**
	comp=Z,25nm,0.7s						
PKI	**Pulchoki**	**48.04**	**305**	*e*P	**P**	**00 38 29.0**	**-0.6**
	comp=Z,25nm,0.7s						
PKIN	**Phulchoki**	**48.05**	**305**	*e*P	**P**	**00 38 29.0**	**-0.6**
	comp=Z,14nm,0.4s						
PKIN	**Phulchoki**	**48.05**	**305**	*e*P	**P**	**00 38 29.0**	**-0.6**
	comp=Z,14nm,0.4s						
KKN	**Kakani**	**48.23**	**306**	*e*P	**P**	**00 38 30.2**	**-0.7**
	comp=Z,45nm,0.8s						
KKN	**Kakani**	**48.23**	**306**	*e*P	**P**	**00 38 30.2**	**-0.7**
	comp=Z,45nm,0.8s						
DMN	**Daman**	**48.30**	**305**	*e*P	**P**	**00 38 31.3**	**-0.2**
	comp=Z,46nm,0.8s						
DMN	**Daman**	**48.30**	**305**	*e*P	**P**	**00 38 31.3**	**-0.2**
	comp=Z,46nm,0.8s						
SONM	**Songino Array**	**48.86**	**340**	P	**P**	**00 38 35.0**	**-0.2**
	comp=Z,3.9nm,0.6s,baz=158,slow=8.6,SNR=28						
SONM				PP	**PP**	**00 40 31.0**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=146,slow=7.4,SNR=4.0						
SONM	**Songino Array**	**48.86**	**340**	P	P	00 38 34.3	-0.9
KOLN	**Koldanda**	**49.59**	**305**	*e*P	**P**	**00 38 41.5**	**+0.3**
	comp=Z,85nm,0.6s						
KOLN	**Koldanda**	**49.59**	**305**	*e*P	**P**	**00 38 41.5**	**+0.3**
	comp=Z,85nm,0.6s						
PYUN	**Piuthan**	**50.22**	**305**	*e*P	**P**	**00 38 46.2**	**+0.3**
	comp=Z,105nm,0.7s						
PYUN	**Piuthan**	**50.22**	**305**	*e*P	**P**	**00 38 46.2**	**+0.3**
	comp=Z,105nm,0.7s						
WMQ	**Urumqi**	**54.60**	**324**	*e*P	**P**	**00 39 18.1**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,54nm,5.7s						
WMQ	**Urumqi**	**54.60**	**324**	P	**P**	**00 39 17.1**	**-0.4**
WMQ				IAmb	IAmb	00 39 18.6	
	comp=Z,17nm,0.9s						
PETK	**Petropavlovsk-**	**55.72**	**21**	P	P	00 39 24.8	-0.5
	comp=Z,4.3nm,0.6s,baz=194,slow=5.6,SNR=4.6						
PETK	**Petropavlovsk-**	**55.72**	**21**	P	P	00 39 24.6	-0.6
YAK	**Yakutsk**	**59.20**	**1**	P	P	00 39 48.1	-1.1
MK31	**Makanchi Array**	**59.43**	**325**	P	**P**	**00 39 50.7**	**-0.5**
MKAR	**Makanchi Array**	**59.43**	**325**	P	**P**	**00 39 50.7**	**-0.5**
	comp=Z,7.3nm,0.5s,baz=115,slow=8.4,SNR=86						
MKAR				PcP	**PcP**	**00 40 36.0**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=117,slow=5.4,SNR=7.0						
MKAR	**Makanchi Array**	**59.43**	**325**	P	P	00 39 50.2	-1.0
MAKZ	**Makanchi**	**59.62**	**325**	P	P	00 39 51.7	-0.8
MAKZ				IAmb	IAmb	00 39 53.0	
	comp=Z,11nm,0.7s						
NIL	**Nilore**	**59.98**	**308**	P	**P**	**00 39 54.7**	**-0.5**
KSH	**Kashi**	**60.05**	**315**	P	**P**	**00 39 57.0**	**+1.3**
KSH				S	**S**	**00 47 57.5**	**+8.9**
KSH				ScS	SKKSac	00 49 21.4	+0.4
KSH				pmax	pmax		
	comp=Z,21nm,1.3s						
KSH				pmax	pmax		
	comp=Z,320nm,9.7s						
KDJ	**Kajisay**	**60.32**	**318**	P	**P**	**00 39 57.4**	**-0.2**
KHZ	**Kahutara**	**60.55**	**143**	P	P	00 39 58.2	-0.6
KHZ				IAmb	IAmb	00 39 59.3	
	comp=Z,18nm,1.1s						
BKZ	**Black Stump Fm**	**60.61**	**139**	P	**P**	**00 39 59.1**	**-0.3**
BKZ				IAmb	IAmb	00 40 03.7	
	comp=Z,17nm,1.0s						
ZAA0	**Zalesovo Array**	**62.33**	**333**	P	P	00 40 09.0	-1.4
ZAA0				IAmb	IAmb	00 40 09.9	
	comp=Z,10nm,1.0s						
ZALV	**Zalesovo Beam**	**62.33**	**333**	P	P	00 40 08.8	-1.7
	comp=Z,3.9nm,0.4s,baz=128,slow=6.8,SNR=25						
ZALV	**Zalesovo Beam**	**62.33**	**333**	P	P	00 40 08.6	-1.8
KURK	**Kurchatov**	**63.58**	**327**	P	P	00 40 17.8	-0.9
KBL	**Kabul**	**63.58**	**307**	P	**P**	**00 40 18.6**	**-0.8**
KBL				IAmb	IAmb	00 40 19.2	
	comp=Z,6.8nm,0.5s						
GAR	**Garm**	**63.95**	**312**	P	**P**	**00 40 20.9**	**-0.6**
CHGR	**Chuyangaron**	**64.70**	**312**	P	**P**	**00 40 25.9**	**-0.5**
CHGR				IAmb	IAmb	00 40 26.6	
	comp=Z,7.4nm,0.6s						
KK31	**Karatay Array**	**65.22**	**317**	P	P	00 40 28.6	-1.0
KK31				IAmb	IAmb	00 40 29.9	
	comp=Z,7.8nm,0.9s						
KKAR	**Karatay Array**	**65.22**	**317**	P	P	00 40 28.8	-0.8
HRA	**Herat**	**69.00**	**306**	P	P	00 40 52.6	-1.1
BRVK	**Borovoye**	**69.24**	**327**	P	**P**	**00 40 54.0**	**-0.5**
BRVK				IAmb	IAmb	00 40 54.7	
	comp=Z,13nm,0.8s						
NRIK	**Noril'sk**	**71.86**	**346**	P	**P**	**00 41 09.5**	**-0.5**
	comp=Z,6.3nm,0.8s,baz=128,slow=5.3,SNR=8.6						
UOSS	**Minazif**	**72.86**	**295**	P	P	00 41 15.2	-1.5
GEYT	**Alibeck**	**72.94**	**309**	P	**P**	**00 41 16.9**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=172,slow=4.5,SNR=7.0						
GEYT	**Alibeck**	**72.94**	**309**	P	**P**	**00 41 16.4**	**-0.6**
ABKAR	**Akbulak array**	**74.09**	**321**	P	P	00 41 22.2	-1.1
ARU	**Arti**	**76.77**	**328**	P	P	00 41 36.9	-1.5
RDOG	**Red Dog Mine**	**79.59**	**21**	P	P	00 41 53.2	-0.5
RDOG				IAmb	IAmb	00 41 53.6	
	comp=Z,9.5nm,0.6s						
KDAK	**Kodiak Island**	**81.79**	**32**	P	P	00 42 04.7	-0.8
	comp=Z,7.2nm,0.4s,baz=255,slow=2.6,SNR=19						
KDAK	**Kodiak Island**	**81.79**	**32**	P	P	00 42 05.0	-0.5
KDAK				IAmb	IAmb	00 42 06.6	
	comp=Z,10nm,0.6s						
VNDA	**Vanda**	**82.19**	**173**	P	**P**	**00 42 07.5**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=313,slow=6.8,SNR=14						
VNDA	**Vanda**	**82.19**	**173**	P	**P**	**00 42 07.2**	**+0.1**
IMAR	**Indian Mountai**	**82.55**	**24**	P	**P**	**00 42 09.6**	**+0.3**
SKT	**Skwentna**	**82.89**	**28**	P	P	00 42 10.2	-1.0
SKT				IAmb	IAmb	00 42 11.7	
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**83.42**	**201**	P	**P**	**00 42 14.2**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=66,slow=5.6,SNR=6.1						
MAW	**Mawson**	**83.42**	**201**	P	**P**	**00 42 14.2**	**+0.6**
RND	**Reindeer**	**84.28**	**27**	P	P	00 42 17.2	-1.0
AKH	**Akhalkalaki**	**84.51**	**311**	P	**P**	**00 42 20.0**	**0.0**
AKH				IAmb	IAmb	00 42 21.8	
	comp=Z,12nm,1.1s						
GLI	**Glacier Island**	**84.91**	**29**	P	**P**	**00 42 21.2**	**-0.1**
KBZ	**Khabaz**	**85.00**	**313**	P	**P**	**00 42 21.6**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=354,slow=2.6,SNR=3.8						
ILAR	**Eielson Array**	**85.25**	**25**	P	P	00 42 21.4	-1.5
	comp=Z,0.5nm,0.8s,baz=245,slow=5.1,SNR=6.2						
ILAR	**Eielson Array**	**85.25**	**25**	P	P	00 42 22.4	-0.6
BMAR	**Burnt Mountain**	**86.32**	**23**	P	**P**	**00 42 28.5**	**+0.3**
SPITS	**Spitsbergen Ar**	**91.83**	**349**	P	P	00 42 51.9	-1.9
	comp=Z,7.3nm,1.1s,baz=116,slow=9.4,SNR=5.2						
ARCES	**ARCESS Array B**	**92.03**	**340**	P	P	00 42 53.5	-1.4
	comp=Z,6.8nm,0.8s,baz=84,slow=5.9,SNR=19						
SYO	**Syowa Base**	**92.12**	**201⇑**	*e*P	P	00 42 44.0	-11
SYO	**Syowa Base**	**92.12**	**201⇑**	*e*P	P	00 42 54.3	-0.9
FINES	**FINESS Array B**	**93.59**	**332**	P	P	00 43 00.4	-1.7
	comp=Z,0.7nm,0.5s,baz=76,slow=3.3,SNR=8.7						
FINES	**FINESS Array B**	**93.59**	**332**	P	P	00 43 00.3	-1.9
AKASG	**Malin Array Be**	**93.83**	**321**	P	P	00 43 01.8	-1.7
	comp=Z,0.2nm,0.2s,baz=67,slow=4.9,SNR=4.3						
BURAR	**Bucovina Array**	**96.97**	**318**	P	P	00 43 16.9	-1.1
BUR08	**Bucovina Ar. S**	**96.97**	**318**	P	P	00 43 17.2	-0.8
VNA1	**Neumayer--Stat**	**106.67**	**194**	PKiKP	**PKiKP**	**00 48 09.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**124.96**	**288**	**PKP**	**PKPdf**	**00 48 45.5**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=72,slow=2.1,SNR=8.5						
TORD	**Torodi Ar. Bea**	**124.96**	**288**	PKPdf	**PKPdf**	**00 48 45.0**	**-1.0**

IDC ***11*** *00:31:47.6±0.6, 13°.94N×145°.23E, h96km±5km, mb3.9/12, mb1 4.0/12, mb1mx3.7/47, mbtmp4.2/12, Error ellipse: s-maj=23.0km s-min=11.5km az=96.0*
NEIC ***11*** *00:31:48.2±1.5, 14°.0N±0°.1×145°.2E±0°.2, h102km±8km, mb4.5/15, Error ellipse: s-maj=22.8km s-min=14.0km az=104.0*

ISC 11 00:31:49.9±0.5, 13°.93N±0°.07×145°.2E±0°.1, h125km, n42, σ1§95/43, mb4.2/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.44**	**220**	P	**Pn**	**00 32 04.8**	**-3.3**
	3μm,0.3s,baz=107,slow=3.7,SNR=816						
GUMO				S	**Sn**	**00 32 15.9**	**-5.8**
	3μm,0.3s,baz=115,slow=15,SNR=12						
PATS	**Pohnpei**	**14.72**	**117**	Pn	**Pn**	**00 35 10.0**	**-2.2**
H11S3	**WAKE ISLAND Hy**	**21.16**	**75**	T	T	00 58 31.4	
	baz=261,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**21.17**	**75**	T	T	00 58 31.1	
	baz=261,slow=75,SNR=40						
H11S2	**WAKE ISLAND Hy**	**21.18**	**75**	T	T	00 58 27.8	
	baz=261,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**21.57**	**72**	T	T	00 59 28.6	
	baz=257,slow=75,SNR=63						
H11N2	**WAKE ISLAND Hy**	**21.58**	**72**	T	T	00 59 30.3	
	baz=257,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**21.59**	**72**	T	T	00 59 34.2	
	baz=257,slow=75,SNR=77						
MJAR	**Matsushiro Arr**	**23.37**	**346**	P	**P**	**00 36 47.6**	**+0.3**
	2.1nm,0.5s,baz=166,slow=12,SNR=5.0						
JTM	**Tenmabayashi**	**27.00**	**353**	P	**P**	**00 37 20.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**32.20**	**342**	P	**P**	**00 38 07.4**	**+1.4**
	2.4nm,0.8s,baz=152,slow=6.5,SNR=2.5						
USRK	**Ussuriysk Ar.**	**32.20**	**342**	P	**P**	**00 38 06.9**	**+0.9**
CTA	**Charters Tower**	**33.82**	**178**	P	**P**	**00 38 20.9**	**+0.6**
	3.4nm,0.5s,baz=1.9,slow=8.1,SNR=8.6						
CTAO	**Charters Tower**	**33.82**	**178**	P	**P**	**00 38 21.6**	**+1.3**
CTAO				IAmb	IAmb	00 38 22.6	
	comp=Z,4.1nm,0.8s						
WB0	**Warramunga Arr**	**35.12**	**198**	P	**P**	**00 38 32.0**	**+0.5**
WB0				IAmb	IAmb	00 38 35.0	
	comp=Z,3.5nm,0.8s						
WB2	**Warramunga Arr**	**35.30**	**198**	P	**P**	**00 38 34.0**	**+0.9**
WB2				IAmb	IAmb	00 38 35.3	
	comp=Z,6.6nm,0.7s						
WRA	**Warramunga Arr**	**35.30**	**198**	P	**P**	**00 38 33.8**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=20,slow=9.5,SNR=9.7						
WRA				pP	**pP**	**00 38 56.6**	**-3.4**
	comp=Z,1.9nm,0.7s,baz=20,slow=9.6,SNR=2.9						
WRA				sP	**pwP**	**00 39 05.5**	**+2.6**
	comp=Z,3.1nm,0.6s,baz=20,slow=9.6,SNR=5.3						
WRA				PcP	**PcP**	**00 41 01.8**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=16,slow=3.6,SNR=2.7						
FITZ	**Fitzroy Crossi**	**37.19**	**212**	P	**P**	**00 38 50.1**	**+1.0**
AS31	**Alice Springs**	**38.95**	**197**	P	**P**	**00 39 05.3**	**+1.4**
ASAR	**Alice Springs**	**38.95**	**197**	P	**P**	**00 39 04.6**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=22,slow=10,SNR=3.8						
ASAR				sP	**pwP**	**00 39 37.9**	**+2.8**
	comp=Z,0.9nm,0.7s,baz=21,slow=9.7,SNR=2.5						
ASAR				PcP	**PcP**	**00 41 14.3**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=38,slow=4.7,SNR=4.0						
ASAR	**Alice Springs**	**38.95**	**197**	P	**P**	**00 39 04.8**	**+0.9**
EIDS	**Eidsvold**	**39.48**	**172**	P	**P**	**00 39 08.9**	**+0.7**
PEA0B	**Petropavlovsk-**	**40.34**	**12**	P	**P**	**00 39 15.1**	**0.0**
PEA0B				IAmb	IAmb	00 39 31.5	
	comp=Z,10nm,0.9s						
PETK	**Petropavlovsk-**	**40.34**	**12**	P	**P**	**00 39 14.2**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=183,slow=8.7,SNR=2.1						
PETK	**Petropavlovsk-**	**40.34**	**12**	P	**P**	**00 39 15.2**	**+0.1**
DZM	**Mont Dzumac**	**41.42**	**149**	P	**P**	**00 39 25.3**	**+1.0**
	comp=Z,3.7nm,0.5s,baz=215,slow=5.2,SNR=8.7						
DZM	**Mont Dzumac**	**41.42**	**149**	P	**P**	**00 39 25.9**	**+1.6**
DZM				IAmb	IAmb	00 39 27.1	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.52**	**282**	pP	pP	00 40 13.2	-3.4
	comp=Z,0.7nm,0.4s,baz=92,slow=4.9,SNR=1.3						
ARMA	**Armidale**	**44.52**	**172**	P	**P**	**00 39 50.6**	**+1.4**
ARMA				IAmb	IAmb	00 39 58.1	
	comp=Z,3.5nm,0.9s						
STKA	**Stephens Creek**	**45.67**	**184**	P	**P**	**00 39 58.0**	**-0.2**
	comp=Z,5.7nm,0.5s,baz=354,slow=8.1,SNR=8.4						
STKA	**Stephens Creek**	**45.67**	**184**	P	**P**	**00 39 58.4**	**+0.2**
BBOO	**Buckleboo**	**47.28**	**190**	P	**P**	**00 40 11.6**	**+0.8**
BBOO				IAmb	IAmb	00 40 12.3	
	comp=Z,14nm,0.9s						
ADK	**Adak**	**48.63**	**31**	P	**P**	**00 40 21.8**	**+0.9**
CAN	**Canberra**	**49.11**	**176**	P	**P**	**00 40 26.7**	**+1.9**
CAN				IAmb	IAmb	00 40 33.2	
	comp=Z,4.1nm,0.9s						
MORW	**Morawa**	**51.17**	**213**	P	**P**	**00 40 40.6**	**+0.1**
MORW				IAmb	IAmb	00 40 55.3	
	comp=Z,6.6nm,1.1s						
TOO	**Toolangi**	**51.22**	**180**	P	**P**	**00 40 42.7**	**+2.0**
MKAR	**Makanchi Array**	**61.45**	**316**	P	**P**	**00 41 54.7**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=102,slow=7.8,SNR=1.3						
MKAR				pP	**pP**	**00 42 19.4**	**-3.0**
	comp=Z,1.2nm,0.5s,baz=89,slow=8.9,SNR=4.6						
ILAR	**Eielson Array**	**68.14**	**25**	P	**P**	**00 42 35.2**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=249,slow=5.7,SNR=13						
NVAR	**Mina Array Bea**	**86.49**	**51**	P	**P**	**00 44 21.2**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=261,slow=6.0,SNR=3.6						
NVAR				pP	**pP**	**00 44 45.6**	**-5.1**
	comp=Z,0.2nm,0.4s,baz=275,slow=4.6,SNR=2.2						
FINES	**FINESS Array B**	**90.98**	**335**	P	**P**	**00 44 40.3**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=58,slow=4.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**134.91**	**305**	PKP	**PKPdf**	**00 50 55.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=87,slow=3.0,SNR=4.3						
LPAZ	**La Paz**	**147.79**	**98**	PKPbc	**PKPbc**	**00 51 22.9**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=290,slow=2.9,SNR=6.4						

NEIC ***11*** *00:41:09.5±2.3, 7°.78S±0°.06×128°.57E±0°.05, h111km±8km, mb4.1/10, Error ellipse: s-maj=10.9km s-min=4.2km az=145.0*
IDC ***11*** *00:41:10.2±2.1, 7°.84S×128°.53E, h117km±22km, mb3.9/5, mb1 3.9/10, mb1mx3.6/32, mbtmp4.3/10, MS4.2/2, Ms1 4.2/2, ms1mx3.2/29, Error ellipse: s-maj=23.7km s-min=19.3km az=121.0*

ISC 11 00:41:08.7±0.5, 7°.84S±0°.05×128°.57E±0°.06, h100km, n37, σ1§85/41, mb4.2/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.70**	**93**	Pn	**Pn**	**00 41 52.4**	**+1.9**
SAUI				Sn	**Sn**	**00 42 23.6**	**+0.9**
SOEI	**Soe**	**4.66**	**246**		**Pn**	**00 42 19.0**	**+2.0**
BATI	**Baumata**	**5.39**	**244**	P	**Pn**	**00 42 29.0**	**+2.2**
	34nm,0.3s,baz=126,slow=4.9,SNR=31						
BATI				S	**Sn**	**00 43 28.3**	**+0.7**
	12nm,0.3s,baz=90,slow=15,SNR=1.6						
MTN	**Manton Dam**	**5.57**	**153**	Pn	**Pn**	**00 42 32.9**	**+3.6**
FAKI	**Fak Fak**	**6.11**	**37**		**Pn**	**00 42 35.6**	**-0.9**
MMRI	**Maumere**	**6.32**	**262**	Pn	**Pn**	**00 42 40.6**	**+1.1**
SIJI	**Sorong**	**7.43**	**21**	P	**Pn**	**00 42 56.5**	**+2.0**
	4.4nm,0.3s,baz=299,slow=9.0,SNR=4.3						
SIJI				S	**Sn**	**00 44 15.6**	**-1.6**
	1.8nm,0.3s,baz=238,slow=23,SNR=1.7						
KNRA	**Kununurra**	**7.79**	**179**	Pn	**Pn**	**00 43 01.9**	**+2.5**
FITZ	**Fitzroy Crossi**	**10.59**	**195**	P	**Pn**	**00 43 37.7**	**+0.2**
	2.5nm,0.3s,baz=0.6,slow=9.9,SNR=56						
FITZ				S	**Sn**	**00 45 29.3**	**-4.9**
	2.2nm,0.3s,baz=360,slow=8.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**10.59**	**195**	Pn	**Pn**	**00 43 37.4**	**0.0**
WB0	**Warramunga Arr**	**13.13**	**155**	Pn	**Pn**	**00 44 12.5**	**+1.1**
WRA	**Warramunga Arr**	**13.27**	**156**	P	**Pn**	**00 44 13.1**	**-0.1**
	0.9nm,0.3s,baz=328,slow=14,SNR=24						
WRA				S	**Sn**	**00 46 34.8**	**-4.4**
	2.7nm,0.3s,baz=331,slow=22,SNR=14						
WRA	**Warramunga Arr**	**13.27**	**156**		**Pn**	**00 44 13.6**	**+0.5**
WB2	**Warramunga Arr**	**13.27**	**156**	Pn	**Pn**	**00 44 14.1**	**+0.8**
COEN	**Coen**	**15.57**	**114**		**P**	**00 44 44.2**	**-0.7**
COEN				IAmb	IAmb	00 44 53.0	
	comp=Z,5.8nm,1.1s						
PSA00	**Pilbara Seismi**	**16.04**	**211**		**Pn**	**00 44 49.1**	**+0.5**
PSA00				IAmb	IAmb	00 44 56.0	
	comp=Z,19nm,0.8s						
AS31	**Alice Springs**	**16.55**	**163**	P	**Pn**	**00 44 56.0**	**+1.2**
ASAR	**Alice Springs**	**16.55**	**163**	P	**P**	**00 44 57.4**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=339,slow=10,SNR=20						
ASAR				S	**Sn**	**00 47 54.0**	**-4.6**
	comp=Z,1.1nm,0.3s,baz=345,slow=25,SNR=6.9						
ASAR	**Alice Springs**	**16.55**	**163**	P	**Pn**	**00 44 55.2**	**+0.4**
JWT	**Wachi**	**43.37**	**8**	P	**P**	**00 48 60.0**	**-1.2**
JSD	**Sado**	**46.53**	**11**	P	**P**	**00 49 25.5**	**-0.7**
JSD				IAmb	IAmb	00 49 25.7	
	comp=Z,5.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.89**	**3**	P	**P**	**00 50 05.8**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=160,slow=6.1,SNR=4.8						
MCQ	**Macquarie Isla**	**52.51**	**158**	P	**P**	**00 50 12.0**	**+0.6**
AFI	**Afiamalu**	**58.77**	**101**	LR	LR	01 14 14.6	
	comp=Z,158nm,18.7s,baz=11,slow=34						
SONM	**Songino Array**	**58.80**	**343**	P	**P**	**00 50 56.5**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=160,slow=7.1,SNR=15						
SONM	**Songino Array**	**58.80**	**343**	P	**P**	**00 50 57.0**	**+0.3**
PETK	**Petropavlovsk-**	**65.56**	**19**	P	**P**	**00 51 41.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=188,slow=5.2,SNR

SRS				AML	AML	01 43 56.8	
	comp=N,987μm,0.5s						
PLG	**Polygyros**	**0.70 135**	P	**Pg**		**01 43 44.3**	**-0.4**
PLG	**Polygyros**	**0.70 135**	P	**Pg**		**01 43 44.3**	**-0.4**
PLG				AML	AML	01 43 58.0	
	comp=E,637μm,0.3s						
PLG				AML	AML	01 44 01.0	
	comp=N,606μm,0.2s						
LIT	**Litokhoron**	**0.81 197**	P	**Pg**		**01 43 46.5**	**-0.2**
LIT	**Litokhoron**	**0.81 197**	P	**Pg**		**01 43 46.3**	**-0.4**
LIT				AML	AML	01 44 01.3	
	comp=N,489μm,0.2s						
LIT				AML	AML	01 44 03.4	
	comp=E,448μm,0.3s						
NVR	**Nevrokopi**	**0.93 59**	P	**Pn**		**01 43 49.4**	**-0.3**
NVR			S	**Sn**		**01 44 03.7**	**+0.7**
	comp=E,385nm,0.4s						
NVR	**Nevrokopi**	**0.93 59**	P	**Pn**		**01 43 49.5**	**-0.3**
NVR			S	**Sn**		**01 44 02.2**	**-0.7**
NVR				AML	AML	01 44 05.5	
	comp=N,837μm,0.5s						
NVR				AML	AML	01 44 06.3	
	comp=E,1106μm,0.4s						
STIP	**Stip**	**0.94 331**	*i* Pg	**Pb**		**01 43 47.8**	**-1.4**
KZN	**Kozani**	**0.97 235**	P	**Pb**		**01 43 49.7**	**0.0**
KZN			S	**Sn**		**01 44 03.9**	**0.0**
	comp=E,345nm,0.5s						
KZN	**Kozani**	**0.97 235**	P	**Pb**		**01 43 49.7**	**0.0**
KZN			S	**Sn**		**01 44 03.3**	**-0.6**
KZN				AML	AML	01 44 06.0	
	comp=E,914μm,0.5s						
KZN				AML	AML	01 44 06.2	
	comp=N,463μm,0.6s						
MMB	**Musomiste**	**1.00 44**	P	**Pg**		**01 43 50.1**	**-0.2**
KKB	**Krupnik**	**1.01 12**	P	**Pb**		**01 43 50.1**	**-0.3**
OUR	**Ouranopolis**	**1.05 121**	P	**Pg**		**01 43 51.2**	**0.0**
PAIG	**Paliouri**	**1.16 144**	P	**Pn**		**01 43 52.6**	**-0.2**
PAIG			S	**Sg**		**01 44 11.1**	**+2.6**
	comp=N,370nm,0.6s						
PAIG	**Paliouri**	**1.16 144**	P	**Pn**		**01 43 52.6**	**-0.2**
PAIG				AML	AML	01 44 14.1	
	comp=N,797μm,0.8s						
PAIG				AML	AML	01 44 14.7	
	comp=E,628μm,0.4s						
KVLA	**Kavala**	**1.20 86**	P	**Pg**		**01 43 54.1**	**-0.1**
KVLA			S	**Sg**		**01 44 09.6**	**-0.3**
LRSO	**Larissa Observ**	**1.24 195**	P	**Pn**		**01 43 53.3**	**-0.7**
NEST	**Nestorio**	**1.41 252**	P	**Pb**		**01 43 57.5**	**+0.3**
NEST	**Nestorio**	**1.41 252**	P	**Pb**		**01 43 57.6**	**+0.3**
KPRO	**Kipourio**	**1.43 231**	P	**Pb**		**01 43 57.6**	**0.0**
KPRO	**Kipourio**	**1.43 231**	P	**Pb**		**01 43 57.4**	**-0.2**
KPRO				AML	AML	01 44 22.2	
	comp=N,188μm,0.7s						
KPRO				AML	AML	01 44 25.8	
	comp=E,246μm,1.2s						
PENT	**Pentalofos**	**1.44 242**	P	**Pb**		**01 43 57.7**	**0.0**
PENT				AML	AML	01 44 22.1	
	comp=N,48μm,0.1s						
PENT				AML	AML	01 44 25.4	
	comp=E,104μm,0.5s						
THL	**Klokotos Trika**	**1.44 205**	P	**Pn**		**01 43 57.0**	**+0.3**
THL	**Klokotos Trika**	**1.44 205**	P	**Pn**		**01 43 57.0**	**+0.3**
THL				AML	AML	01 44 22.5	
	comp=N,131μm,0.9s						
THL				AML	AML	01 44 25.6	
	comp=E,151μm,0.6s						
THAS	**Thassos island**	**1.48 100**	P	**Pb**		**01 43 58.0**	**-0.3**
THAS	**Thassos island**	**1.48 100**	P	**Pb**		**01 43 57.7**	**-0.6**
THAS				AML	AML	01 44 23.1	
	comp=N,262μm,0.5s						
THAS				AML	AML	01 44 23.4	
	comp=E,315μm,0.4s						
VOL3	**Nea Ionia, Vol**	**1.50 176**	P	**Pb**		**01 43 58.7**	**0.0**
OHR	**Ohrid**	**1.54 280**	*i* Pn	**Pb**		**01 43 59.1**	**-0.2**
XOR	**Xorichti**	**1.54 169**	P	**Pn**		**01 43 58.4**	**+0.3**
XOR	**Xorichti**	**1.54 169**	P	**Pn**		**01 43 58.1**	**+0.1**
XOR				AML	AML	01 44 18.5	
	comp=N,300μm,0.6s						
XOR				AML	AML	01 44 18.5	
	comp=E,367μm,0.5s						
NEO	**Neokhori**	**1.60 168**	P	**Pn**		**01 43 59.0**	**0.0**
NEO			S	**Sb**		**01 44 20.0**	**-0.4**
	comp=E,260nm,0.3s						
NEO	**Neokhori**	**1.60 168**	P	**Pn**		**01 43 58.9**	**0.0**
NEO				AML	AML	01 44 20.2	
	comp=N,390μm,0.3s						
NEO				AML	AML	01 44 20.4	
	comp=E,647μm,0.3s						
BOSS	**Bosilegrad**	**1.64 352**	*e*Pg	**Pb**		**01 44 01.4**	**+0.3**
BOSS			*e*Sg	**Sg**		**01 44 23.6**	**-0.2**
RZN	**Rozhen**	**1.66 60**	P	**Pb**		**01 44 01.4**	**-0.1**
VTS	**Vitosha**	**1.77 10**	P	**Pb**		**01 44 02.2**	**-1.2**
JAN	**Janina**	**1.93 231**	P	**Pb**		**01 44 05.2**	**-0.8**
JAN	**Janina**	**1.93 231**	P	**Pb**		**01 44 05.4**	**-0.6**
JAN			S	**Sb**		**01 44 28.8**	**-1.1**
JAN				AML	AML	01 44 36.1	
	comp=E,71μm,0.5s						
JAN				AML	AML	01 44 42.7	
	comp=N,61μm,0.4s						
PGB	**Panagyurishte**	**1.96 31**	P	**Pg**		**01 44 08.0**	**-0.7**
LIA	**Limnos Island**	**2.06 117**	P	**Pn**		**01 44 05.9**	**+0.6**
LIA				AML	AML	01 44 48.0	
	comp=N,124μm,0.5s						
LIA				AML	AML	01 44 48.1	
	comp=E,103μm,0.7s						
BARS	**Barje**	**2.08 340**	*e*Pn	**Pn**		**01 44 05.8**	**+0.3**
RDO	**Rodhopi**	**2.09 82**	P	**Pb**		**01 44 07.1**	**-1.6**
RDO	**Rodhopi**	**2.09 82**	P	**Pn**		**01 44 06.5**	**+0.9**
RDO				AML	AML	01 44 43.3	
	comp=E,159μm,0.3s						
RDO				AML	AML	01 44 45.0	
	comp=N,189μm,0.6s						
EVR	**Evrytania**	**2.10 202**	P	**Pn**		**01 44 06.4**	**+0.5**
EVR	**Evrytania**	**2.10 202**	P	**Pn**		**01 44 06.4**	**+0.5**
EVR				AML	AML	01 44 45.7	
	comp=E,69μm,0.6s						
EVR				AML	AML	01 44 50.1	
	comp=N,69μm,0.8s						
SMTH	**Samothraki Isl**	**2.11 100**	P	**Pn**		**01 44 06.7**	**+0.7**
SMTH	**Samothraki Isl**	**2.11 100**	P	**Pn**		**01 44 06.5**	**+0.5**
SMTH				AML	AML	01 44 42.5	
	comp=N,70μm,0.6s						
SMTH				AML	AML	01 44 47.6	
	comp=E,69μm,0.4s						
KDZ	**Kurdzhali**	**2.12 68**	P	**Pn**		**01 44 05.4**	**-0.7**
IGT	**Igoumenitsa**	**2.32 235**	P	**Pn**		**01 44 10.2**	**+1.4**
IGT	**Igoumenitsa**	**2.32 235**	*e*Pn	**Pb**		**01 44 10.9**	**-1.7**
IGT	**Igoumenitsa**	**2.32 235**	P	**Pn**		**01 44 10.4**	**+1.6**
ANX	**Ano Chora**	**2.38 197**	P	**Pn**		**01 44 10.5**	**+0.8**
ANX	**Ano Chora**	**2.38 197**	P	**Pn**		**01 44 10.6**	**+0.8**
ZAPS	**Zavoj**	**2.40 357**	*e*Pn	**Pb**		**01 44 11.9**	**-2.2**
KYMI	**Kymí, Euboea I**	**2.45 155**	P	**Pn**		**01 44 11.0**	**+0.3**
ALN	**Alexandroupoli**	**2.46 88**	P	**Pn**		**01 44 11.6**	**+0.9**
ALN	**Alexandroupoli**	**2.46 88**	P	**Pn**		**01 44 11.4**	**+0.7**
ALN				AML	AML	01 44 55.7	
	comp=N,62μm,0.6s						
ALN				AML	AML	01 45 00.7	
	comp=E,76μm,0.6s						
PVO	**Paravola**	**2.46 204**	P	**Pn**		**01 44 11.6**	**+0.8**
PVO				AML	AML	01 44 54.1	
	comp=N,45μm,0.4s						
PVO				AML	AML	01 45 07.1	
	comp=E,33μm,0.7s						
EFP	**Efpalio**	**2.54 196**	P	**Pn**		**01 44 12.6**	**+0.8**
EFP	**Efpalio**	**2.54 196**	P	**Pn**		**01 44 12.4**	**+0.6**
EFP				AML	AML	01 44 48.0	
	comp=N,86μm,0.4s						
EFP				AML	AML	01 44 54.5	
	comp=E,78μm,1.0s						
TRIZ	**Trizonia**	**2.57 193**	P	**Pn**		**01 44 13.0**	**+0.8**
LKD2	**Lefkada island**	**2.66 219**	P	**Pb**		**01 44 16.3**	**-2.1**
SELS	**Selova**	**2.66 332**	*e*Pn	**Pn**		**01 44 14.5**	**+1.0**
VIL2	**Platees**	**2.68 172**	P	**Pn**		**01 44 14.7**	**+0.9**
EVGI	**Lefkada island**	**2.79 217**	P	**Pn**		**01 44 17.1**	**+1.8**
LTK	**Loutraki**	**2.85 177**	P	**Pn**		**01 44 16.6**	**+0.4**
KLV	**Kalavryta, Ach**	**2.87 190**	P	**Pn**		**01 44 17.1**	**+0.6**
DION	**Dionisos Attik**	**2.93 162**	P	**Pn**		**01 44 17.7**	**+0.5**
GUR	**Goura**	**2.96 187**	P	**Pn**		**01 44 18.3**	**+0.7**
GUR				AML	AML	01 45 00.3	
	comp=E,42μm,1.0s						
GUR				AML	AML	01 45 04.4	
	comp=N,39μm,0.4s						
FSK	**Fiskardo**	**2.97 216**	P	**Pn**		**01 44 19.0**	**+1.3**
ZAGS	**Zajecar**	**2.97 352**	*e*Pn	**Pn**		**01 44 19.3**	**+1.6**
PRK	**Paraskevi**	**3.12 120**	P	**Pn**		**01 44 21.2**	**+1.4**
SJES	**Sjenica**	**3.18 319**	*e*Pn	**Pn**		**01 44 21.4**	**+0.6**
GRUS	**Gruza**	**3.39 334**	*e*Pn	**Pn**		**01 44 23.8**	**+0.3**
TRUS	**Trudelj**	**3.79 333**	*e*Pn	**Pn**		**01 44 29.2**	**+0.2**
DIVS	**Divibare**	**3.83 328**	*e*Pn	**Pn**		**01 44 30.1**	**+0.4**
MDVR	**Moldovita**	**3.99 349**	⇑P	**Pn**		**01 44 31.4**	**-0.4**
HUMR	**Humele**	**3.99 23**	⇑P	**Pg**		**01 44 48.4**	**+0.9**
HERR	**Herculane**	**4.01 356**	⇑P	**Pb**		**01 44 37.9**	**-3.7**
LOT	**Lotru**	**4.63 8**	⇑P	**Pn**		**01 44 44.7**	**+4.1**
BZS	**Buzias**	**4.82 350**	⇑P	**Pn**		**01 44 46.7**	**+3.5**
ICOR	**Ion Corvin**	**4.91 47**	⇑P	**Pb**		**01 44 57.3**	**+0.5**
MLR	**Muntele Rosu**	**5.15 25**	⇑P	**Pn**		**01 44 51.6**	**+3.7**
DOPR	**Dopca**	**5.43 19**	⇑P	Pn		01 44 57.8	+6.2
OZUR		**5.65 22**	⇑P	Pn		01 45 00.9	+6.3
PLOR	**Plostina**	**5.71 28**	⇑P	**Pn**		**01 44 58.5**	**+3.1**
VRI	**Vrincioaia**	**5.75 29**	⇑P	Pn		01 45 01.0	+5.0
CFR	**Carcaliu**	**5.81 40**	⇑P	Pn		01 45 03.3	+6.5

IDC 11 01:47:37.2±4.4, 28°.32S×177°.74W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/23, mbtmp3.4/2, Error ellipse: s-maj=88.2km s-min=24.3km az=77.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94 190**		Pn	Pn	01 47 57.3	-0.5
	150nm,0.3s,baz=73,slow=20,SNR=4.5						
RAO				Sn	Sn	01 48 13.8	+1.8
	236nm,0.3s,baz=97,slow=22,SNR=6.2						
ASAR	**Alice Springs**	**43.49 265**		P	P	01 55 43.7	+1.1
	0.3nm,0.6s,baz=110,slow=8.0,SNR=1.9						
WRA	**Warramunga Arr**	**44.29 270**		P	P	01 55 48.0	-1.0
	0.3nm,0.5s,baz=111,slow=7.8,SNR=6.5						
FINES	**FINESS Array B**	**143.26 341**		PKP	PKPdf	02 07 12.8	+0.1
	0.9nm,0.6s,baz=28,slow=6.3,SNR=1.6						

*RSPR **11** 01:59:08.2, 17°.93N×67°.12W, h10km, MD2.9/15*

ISC 11 01:59:08.0±1.2, 17°.92N±0°.05×67°.11W±0°.04, h14km±5km, n50, σ0°70/61, 5C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLPR	**Magueyes Islan**	**0.08**	**48**	*e*P	**Pg**	**01 59 10.6**	**-0.4**
MLPR	**Magueyes Islan**	**0.08**	**48**	*e*S	**Sg**	**01 59 12.6**	**-0.3**
MLPR	**Magueyes Islan**	**0.08**	**48**		**Pg**	**01 59 10.6**	**-0.4**
MLPR					**Sg**	**01 59 12.6**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.09**	**357**	⇑*i*P	**Pg**	**01 59 10.7**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.09**	**357**	*e*S	**Sg**	**01 59 12.5**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.09**	**357**		**Sg**	**01 59 12.5**	**-0.6**
GBPR	**Guanica, Bosqu**	**0.22**	**75**	⇑*i*P	**Pg**	**01 59 13.1**	**+0.1**
GBPR	**Guanica, Bosqu**	**0.22**	**75**	*e*S	**Sg**	**01 59 17.4**	**+1.1**
GBPR	**Guanica, Bosqu**	**0.22**	**75**		**Pg**	**01 59 13.1**	**+0.1**
GBPR					**Sg**	**01 59 17.4**	**+1.1**
LSP	**Las Mesas**	**0.26**	**4**	⇓*i*P	**Pg**	**01 59 13.5**	**-0.1**
LSP	**Las Mesas**	**0.26**	**4**		**Pg**	**01 59 13.5**	**-0.1**
MPR	**Mayaguez**	**0.29**	**354**	⇑*i*P	**Pg**	**01 59 14.0**	**-0.2**
MPR	**Mayaguez**	**0.29**	**354**	*e*S	**Sg**	**01 59 18.9**	**+0.5**
MPR	**Mayaguez**	**0.29**	**354**		**Pg**	**01 59 14.0**	**-0.2**
MPR					**Sg**	**01 59 18.9**	**+0.5**
OBIP	**Obispado Ponce**	**0.49**	**75**	⇓*i*P	**Pg**	**01 59 16.5**	**-1.3**
OBIP	**Obispado Ponce**	**0.49**	**75**	*e*S	**Sg**	**01 59 24.1**	**-0.3**
OBIP	**Obispado Ponce**	**0.49**	**75**		**Pg**	**01 59 16.5**	**-1.3**
OBIP					**Sg**	**01 59 24.1**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.49**	**48**		**Pg**	**01 59 17.5**	**-0.4**
UUPR					**Sg**	**01 59 24.4**	**-0.1**
CELP	**Cerrillos**	**0.52**	**73**	⇓*i*P	**Pg**	**01 59 18.1**	**-0.3**
CELP	**Cerrillos**	**0.52**	**73**	*e*S	**Sg**	**01 59 26.2**	**+0.8**
CELP	**Cerrillos**	**0.52**	**73**		**Pg**	**01 59 18.1**	**-0.3**
CELP					**Sg**	**01 59 26.2**	**+0.8**
AOPR	**Arecibo Observ**	**0.54**	**38**	⇑*i*P	**Pg**	**01 59 18.4**	**-0.4**
AOPR	**Arecibo Observ**	**0.54**	**38**	*e*S	**Sg**	**01 59 26.0**	**0.0**
AOPR	**Arecibo Observ**	**0.54**	**38**		**Pg**	**01 59 18.4**	**-0.4**
AOPR					**Sg**	**01 59 26.0**	**0.0**
AGPR	**Aguadilla, PR**	**0.55**	**359**	⇑*e*P	**Pg**	**01 59 18.3**	**-0.5**
AGPR	**Aguadilla, PR**	**0.55**	**359**	*e*S	**Sg**	**01 59 26.3**	**+0.2**
AGPR	**Aguadilla, PR**	**0.55**	**359**		**Pg**	**01 59 18.3**	**-0.5**
AGPR					**Sg**	**01 59 26.3**	**+0.2**
ICMP	**Isla Caja de M**	**0.55**	**93**	⇓*i*P	**Pg**	**01 59 19.0**	**+0.1**
ICMP	**Isla Caja de M**	**0.55**	**93**	*e*S	**Sb**	**01 59 27.6**	**+0.4**
ICMP	**Isla Caja de M**	**0.55**	**93**		**Pg**	**01 59 19.0**	**+0.1**
ICMP					**Sb**	**01 59 27.6**	**+0.4**
EMPR	**Esperanza - Ma**	**0.78**	**44**	⇑*e*P	**Pg**	**01 59 22.9**	**-0.3**
EMPR	**Esperanza - Ma**	**0.78**	**44**	*e*S	**Sb**	**01 59 34.2**	**+0.4**
EMPR	**Esperanza - Ma**	**0.78**	**44**		**Pg**	**01 59 22.9**	**-0.3**
EMPR					**Sb**	**01 59 34.2**	**+0.4**
IGPR	**InterUniversit**	**0.95**	**87**	⇑*e*P	**Pg**	**01 59 25.7**	**-0.7**
IGPR	**InterUniversit**	**0.95**	**87**		**Pg**	**01 59 25.9**	**-0.6**
PDPR	**Patillas Dam,**	**1.03**	**84**	⇓*e*P	**Pg**	**01 59 26.7**	**-1.3**
PDPR	**Patillas Dam,**	**1.03**	**84**		**Pg**	**01 59 26.7**	**-1.3**
GCPR	**Guaynabo City**	**1.05**	**68**	⇑*i*P	**Pg**	**01 59 26.8**	**-1.5**
GCPR	**Guaynabo City**	**1.05**	**68**	*e*S	**Sg**	**01 59 40.7**	**-1.3**
GCPR	**Guaynabo City**	**1.05**	**68**		**Pg**	**01 59 26.8**	**-1.5**
GCPR					**Sg**	**01 59 40.7**	**-1.3**
CBYP	**Canovanas**	**1.24**	**73**		**Pn**	**01 59 30.0**	**-0.9**
MTP	**Monte Pirata**	**1.49**	**83**	⇑*e*P	**Pn**	**01 59 34.4**	**+0.1**
MTP	**Monte Pirata**	**1.49**	**83**		**Pn**	**01 59 34.4**	**+0.1**
CUPR	**Culebra, Puert**	**1.78**	**77**	⇓*e*P	**Pn**	**01 59 39.1**	**+0.8**
CUPR	**Culebra, Puert**	**1.78**	**77**		**Pn**	**01 59 39.1**	**+0.8**
STVI	**Saint Thomas**	**2.09**	**78**	⇑*e*P	**Pn**	**01 59 43.5**	**+0.9**
STVI	**Saint Thomas**	**2.09**	**78**		**Pn**	**01 59 43.5**	**+0.9**
CDVI	**St. Croix**	**2.23**	**94**	Pn	**Pn**	**01 59 45.8**	**+1.2**
DR12	**Loma Pena Alta**	**2.33**	**292**		**Pn**	**01 59 45.8**	**-0.2**
SDDR	**Presa de Saban**	**4.11**	**286**	Pn	**Pn**	**02 00 10.6**	**+0.2**

*NEIC **11** 02:23:57.8±1.5, 0°.76N±0°.04×99°.61E±0°.04, h138km±5km, mb4.3/14, Error ellipse: s-maj=6.9km s-min=4.7km az=144.0*

*IDC **11** 02:23:59.0±0.9, 0°.90N×99°.86E, h135km±6km, mb3.7/11, mb1 3.8/12, mb1mx3.5/39, mbtmp4.1/12, Error ellipse: s-maj=33.3km s-min=10.4km az=58.0*

*DJA **11** 02:24:00.2±0.3, 1°N±3°×10°0E±°, h120km±5km, M4.5/19, mb4.7/4, MLv4.3/19*

ISC 11 02:23:58.0±0.5, 0°.80N±0°.05×99°.63E±0°.05, h138km±4km, h138km:pP-P, n70, σ1°26/92, mb4.1/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.49 108**		P	**Pn**	**02 24 28.2**	**+1.7**
BKNI				S	**Sn**	**02 24 49.5**	**+1.2**
BKNI	**Bangkinang**	**1.49 108**			**Pn**	**02 24 26.6**	**+0.8**
BKNI				Sn	**Sn**	**02 24 48.4**	**+0.2**
PBSI	**Pulau Batu**	**1.59 238**		P	**Pn**	**02 24 29.4**	**+1.8**
PDSI	**Padang**	**1.89 154**		P	**Pn**	**02 24 33.3**	**+2.1**
RPSI	**Rantau Prapat**	**2.01 340**			**Pn**	**02 24 32.9**	**+0.3**
RPSI				Sn	**Sn**	**02 24 59.2**	**+0.2**
GSI	**Gunungsitoli**	**2.11 284**		P	**Pn**	**02 24 35.4**	**+1.7**
GSI	**Gunungsitoli**	**2.11 284**			**Pn**	**02 24 33.7**	**0.0**
GSI				Sn	**Sn**	**02 25 00.4**	**-0.7**
PSI	**Prapat**	**2.11 341**		P	**Pn**	**02 24 34.2**	**+0.4**
	46nm,0.3s,baz=180,slow=9.2,SNR=205						
PSI				S	**Sn**	**02 24 59.8**	**-1.6**
	3.5nm,0.3s,baz=180,slow=16,SNR=8.9						
SISI	**Saibi**	**2.18 194**		P	**Pn**	**02 24 35.0**	**+0.4**
SDSI	**Sungai Dareh**	**2.49 134**		P	**Pn**	**02 24 40.4**	**+2.0**
TSI	**Tuntungan**	**2.89 338**		P	**Pn**	**02 24 45.5**	**+2.1**
RGRI	**Rengat**	**2.94 113**		P	**Pn**	**02 24 47.0**	**+2.9**
KRJI	**Kerinci**	**3.41 147**		P	**Pn**	**02 24 52.5**	**+2.2**
TPTI		**3.46 315**		P	**Pn**	**02 24 52.1**	**+1.3**
PPSI	**Pulau Pagai**	**3.56 174**		P	**Pn**	**02 24 54.8**	**+2.6**
IPM	**Ipoh**	**3.92 21**			**Pn**	**02 24 56.7**	**-0.2**
KULM	**Kulim**	**4.58 13**			**Pn**	**02 25 05.7**	**+0.1**
MLSI	**Meulaboh, Aceh**	**4.71 317**		P	**Pn**	**02 25 08.4**	**+1.0**
LHMI	**Lhok Sumawe**	**5.15 329**		Pn	**Pn**	**02 25 12.4**	**-0.9**
KSI	**Kapahiang**	**5.32 146**		P	**Pn**	**02 25 16.4**	**+0.8**
	1.1nm70nm,0.6s						
LHSI	**Lahat**	**6.02 140**		P	**Pn**	**02 25 28.1**	**+3.2**
	0.8nm249nm,0.7s						
MNAI	**Manna**	**6.11 147**		Pn	**Pn**	**02 25 26.6**	**+0.5**
MNAI				Sn	**Sn**	**02 26 33.9**	**-1.1**
MDSI	**Maura Dua**	**6.95 139**		P	**Pn**	**02 25 38.8**	**+1.5**
	0.3nm78nm,0.9s						
KLSI		**7.47 137**		P	**Pn**	**02 25 46.1**	**+1.8**
COCO	**West Island**	**13.20 192**		Pn	**Pn**	**02 26 59.5**	**-0.7**
LUWI	**Luwuk**	**23.22 94**		P	**P**	**02 28 52.4**	**-0.7**
H08S2	**Diego Garcia H**	**28.33 252**		T	T	02 57 46.9	
	baz=72,slow=75,SNR=7.3						
H08S3	**Diego Garcia H**	**28.33 252**		T	T	02 57 45.8	
	baz=72,slow=75,SNR=24						
H08S1	**Diego Carcia H**	**28.35 252**		T	T	02 57 47.5	
	baz=72,slow=75,SNR=13						
MBWA	**Marble Bar**	**29.37 139**		P	**P**	**02 29 45.1**	**-3.2**
FITZ	**Fitzroy Crossi**	**31.74 128**		P	**P**	**02 30 07.1**	**-2.1**
NWAO	**Narrogin (SRO)**	**37.43 155**		P	**P**	**02 30 55.6**	**-2.4**
WB0	**Warramunga Arr**	**39.74 123**		P	**P**	**02 31 16.3**	**-1.2**
WB0				IAmb	IAmb	02 31 21.1	
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**39.78 123**		P	**P**	**02 31 17.6**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=304,slow=9.1,SNR=27						
WRA				PcP	**PcP**	**02 33 22.6**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=313,slow=2.5,SNR=13						
WRA				ScP	**ScP**	**02 36 56.6**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=308,slow=3.3,SNR=2.8						
WRA	**Warramunga Arr**	**39.78 123**		P	**P**	**02 31 17.6**	**-0.2**
WRA					**PcP**	**02 33 21.8**	**+0.3**
WRA					**ScP**	**02 36 57.5**	**-0.3**
WB2	**Warramunga Arr**	**39.79 123**		P	**P**	**02 31 17.0**	**-0.9**
WB2				IAmb	IAmb	02 31 18.7	
	comp=Z,3.3nm,0.7s						
WB2				PcP	**PcP**	**02 33 21.7**	**+0.2**
WR0	**Warramunga Arr**	**39.95 123**		P	**P**	**02 31 19.6**	**+0.4**
WR0				IAmb	IAmb	02 31 23.4	
	comp=Z,4.5nm,0.6s						
ASAR	**Alice Springs**	**41.23 128**		P	**P**	**02 31 29.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=308,slow=8.2,SNR=11						
ASAR				PcP	**PcP**	**02 33 27.4**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=308,slow=2.6,SNR=16						
ASAR				ScP	**ScP**	**02 37 01.9**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=307,slow=4.2,SNR=7.7						
ASAR	**Alice Springs**	**41.23 128**		P	**P**	**02 31 27.7**	**-2.0**
ASAR					**PcP**	**02 33 25.6**	**-0.6**
ASAR					**ScP**	**02 37 02.9**	**-0.5**
FORT	**Forrest**	**41.44 142**		P	**P**	**02 31 30.3**	**-0.9**
KSRS	**Korea Array**	**44.84 32**		P	**P**	**02 31 56.9**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=221,slow=9.0,SNR=4.2						
COEN	**Coen**	**45.55 110**		P	**P**	**02 32 05.3**	**+0.8**
COEN				IAmb	IAmb	02 32 07.3	
	comp=Z,4.2nm,0.9s						
SONM	**Songino Array**	**47.22 6**		P	**P**	**02 32 18.5**	**+1.4**
	comp=Z,1.9nm,0.5s,baz=191,slow=9.7,SNR=10						
SONM				PcP	**PcP**	**02 33 47.3**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=203,slow=2.9,SNR=7.3						
SONM				ScP	**ScP**	**02 37 27.0**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=193,slow=5.8,SNR=2.7						
SONM	**Songino Array**	**47.22 6**		P	**P**	**02 32 16.7**	**-0.4**
SONM					**PcP**	**02 33 46.5**	**+0.3**
SONM					**ScP**	**02 37 26.9**	**-0.7**
BBOO	**Buckleboo**	**47.93 138**		P	**P**	**02 32 23.0**	**+0.2**
MK31	**Makanchi Array**	**48.25 344**		P	**P**	**02 32 25.1**	**+0.1**
MKAR	**Makanchi Array**	**48.25 344**		P	**P**	**02 32 26.4**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=161,slow=8.2,SNR=7.6						
MKAR				pP	**pP**	**02 32 57.3**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=156,slow=9.2,SNR=2.9						
MKAR				PcP	**PcP**	**02 33 51.5**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=166,slow=4.3,SNR=2.2						
MKAR	**Makanchi Array**	**48.25 344**		P	**P**	**02 32 25.6**	**+0.7**
CTAO	**Charters Tower**	**50.16 117**		P	**P**	**02 32 38.8**	**-1.1**
CTAO				IAmb	IAmb	02 32 44.5	
	comp=Z,4.1nm,0.8s						
STKA	**Stephens Creek**	**51.30 133**		P	**P**	**02 32 47.6**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=306,slow=6.6,SNR=4.0						
STKA	**Stephens Creek**	**51.30 133**		P	**P**	**02 32 48.3**	**0.0**
ZAA0	**Zalesovo Array**	**54.37 349**		P	**P**	**02 33 10.7**	**+0.4**
ZAA0				IAmb	IAmb	02 33 12.1	
	comp=Z,4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**54.37 349**		P

CTA	**Charters Tower**	**32.52**	**263**	P	**P**	**03 09 15.3**	**+1.1**
	2.4nm,0.3s,baz=90,slow=9.8,SNR=11						
TOO	**Toolangi**	**35.54**	**232**	P	**P**	**03 09 38.4**	**-0.6**
COEN	**Coen**	**36.47**	**273**	P	**P**	**03 09 49.3**	**+2.5**
COEN				IAmb	IAmb	03 09 49.4	
	comp=Z,16nm,1.5s						
BBOO	**Buckleboo**	**41.97**	**243**	P	**P**	**03 10 29.4**	**-1.1**
JAY	**Jayapura**	**42.77**	**288**	P	**P**	**03 10 38.1**	**+1.1**
	comp=Z,9.4nm,0.9s,baz=104,slow=8.3,SNR=1.7						
WR0	**Warramunga Arr**	**43.47**	**261**	P	**P**	**03 10 43.2**	**+0.9**
WB0	**Warramunga Arr**	**43.64**	**262**	P	**P**	**03 10 43.2**	**-0.4**
WB0				IAmb	IAmb	03 11 29.7	
	comp=Z,18nm,1.8s						
WB2	**Warramunga Arr**	**43.65**	**261**	P	**P**	**03 10 43.5**	**-0.1**
WB2				IAmb	IAmb	03 11 07.5	
	comp=Z,24nm,1.9s						
WRA	**Warramunga Arr**	**43.66**	**261**	P	**P**	**03 10 44.2**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=97,slow=7.4,SNR=46						
WRA	**Warramunga Arr**	**43.66**	**261**	P	**P**	**03 10 43.3**	**-0.5**
AS31	**Alice Springs**	**43.67**	**256**	P	**P**	**03 10 44.4**	**+0.6**
ASAR	**Alice Springs**	**43.68**	**256**	P	**P**	**03 10 44.2**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=92,slow=7.7,SNR=18						
ASAR				PcP	**PcP**	**03 12 16.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=103,slow=3.5,SNR=2.4						
ASAR	**Alice Springs**	**43.68**	**256**	P	**P**	**03 10 43.5**	**-0.3**
ASAR					**PcP**	**03 12 15.3**	**-0.5**
MTN	**Manton Dam**	**48.09**	**270**	P	**P**	**03 11 18.0**	**+0.9**
MTN				IAmb	IAmb	03 11 47.3	
	comp=Z,34nm,1.8s						
FORT	**Forrest**	**48.65**	**246**	P	**P**	**03 11 19.6**	**-1.4**
FORT				IAmb	IAmb	03 12 04.6	
	comp=Z,29nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.08**	**262**	P	**P**	**03 11 46.7**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=45,slow=1.6,SNR=6.0						
FITZ	**Fitzroy Crossi**	**52.08**	**262**	P	**P**	**03 11 44.9**	**-1.1**
LUWI	**Luwuk**	**59.74**	**281**	P	**P**	**03 12 37.7**	**-0.8**
LUWI				IAmb	IAmb	03 14 33.3	
	comp=Z,61nm,0.9s						
ILAR	**Eielson Array**	**87.76**	**13**	P	**P**	**03 15 15.7**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=214,slow=5.7,SNR=2.1						
ILAR	**Eielson Array**	**87.76**	**13**	P	**P**	**03 15 14.8**	**0.0**
GERES	**GERESS Array B**	**149.12**	**343**	PKPbc	**PKiKP**	**03 22 11.8**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=54,slow=5.0,SNR=3.5						
GERES	**GERESS Array B**	**149.12**	**343**		**PKPbc**	**03 22 11.3**	**+0.9**

SJA ***11*** *03:13:28.0±0.7, 19°.95S×71°.09W, h26km±6km, ML4.4, MW4.7*
GUC ***11*** *03:13:29.2±0.7, 19°.90S×71°.15W, h45km±4km, ML4.2*
NEIC ***11*** *03:13:30.2±1.4, 19°.93S±0°.03×70°.92W±0°.04, h24km±4km, mb4.3/11, ML4.3(GUC), Error ellipse: s-maj=5.2km s-min=4.0km az=108.0*
IDC ***11*** *03:13:35.8±2.0, 19°.91S×70°.74W, h58km±19km, mb3.5/8, mb1 3.8/12, mb1mx3.7/29, mbtmp3.9/12, ML3.7/4, MS3.7/8, Ms1 3.7/8, ms1mx3.6/16, Error ellipse: s-maj=24.3km s-min=13.9km az=66.0*

ISC 11 03:13:29.5±0.5, 19°.91S±0°.02×71°.01W±0°.05, h21km±3km, n100, σ1°32/117, mb4.1/11, MS3.8/5, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.90**	**70**	*eP*	**Pn**	**03 13 47.0**	**+0.1**
PSGC				*i S*	**Sn**	**03 14 00.5**	**+1.1**
PSGC				IAML		03 14 02.8	
	comp=E,5μm,0.7s						
PSGCX	**Pisagua**	**0.90**	**70**		**Pn**	**03 13 46.5**	**-0.5**
PSGCX				Sn	**Sn**	**03 13 57.9**	**-1.5**
PSGCX	**Pisagua**	**0.90**	**70**	*eP*	**Pn**	**03 13 47.1**	**+0.1**
PSGCX				*eS*	**Sn**	**03 14 00.9**	**+1.5**
TA02	**Huaiquique**	**0.90**	**114**	*eP*	**Pn**	**03 13 47.6**	**+0.6**
TA02				*i S*	**Sn**	**03 14 01.5**	**+2.0**
TA02				IAML		03 14 06.0	
	comp=E,7μm,0.4s						
TA01	**Diego Aracena**	**1.02**	**130**	*eP*	**Pn**	**03 13 49.0**	**+0.4**
TA01				*i S*	**Sn**	**03 14 03.8**	**+1.5**
TA01				IAML		03 14 10.0	
	comp=E,5μm,0.3s						
TA01	**Diego Aracena**	**1.02**	**130**		**Pb**	**03 13 47.6**	**-0.8**
TA01				Sn	**Sn**	**03 14 00.4**	**-1.9**
PATCX	**Punta Patache**	**1.21**	**138**	*eP*	**Pb**	**03 13 52.0**	**+0.1**
PATCX				IAML		03 14 20.4	
	comp=E,4μm,0.5s						
PATCX	**Punta Patache**	**1.21**	**138**		**Pn**	**03 13 51.0**	**-0.3**
PATCX				Sn	**Sn**	**03 14 05.4**	**-1.8**
PATCX	**Punta Patache**	**1.21**	**138**	*eP*	**Pb**	**03 13 51.8**	**0.0**
PATCX				*eP*	**Pb**	**03 13 52.0**	**+0.1**
PATCX				*eP*		03 13 52.0	
PB11	**IPOC Station P**	**1.29**	**84**	*eP*	**Pb**	**03 13 53.4**	**+0.2**
PB11				*i S*	**Sb**	**03 14 12.0**	**+2.7**
PB11				IAML		03 14 14.0	
	comp=E,8μm,0.6s						
PB11	**IPOC Station P**	**1.29**	**84**	Pn	**Pb**	**03 13 52.2**	**-0.9**
PB11				Sn	**Sn**	**03 14 07.2**	**-1.9**
PB12	**IPOC Station P**	**1.44**	**27**	*eP*	**Pn**	**03 13 54.5**	**0.0**
PB12				IAML		03 14 23.7	
	comp=E,5μm,0.8s						
PB12	**IPOC Station P**	**1.44**	**27**	Pn	**Pn**	**03 13 54.5**	**0.0**
PB12				Sn	**Sn**	**03 14 12.1**	**-0.9**
MNMC	**Minye Minye**	**1.55**	**60**	*eP*	**Pb**	**03 13 57.2**	**-0.4**
MNMC	**Minye Minye**	**1.55**	**60**		**Pn**	**03 13 55.6**	**-0.6**
MNMC				Sn	**Sb**	**03 14 15.0**	**-1.8**
MNMCX	**Minye Minye**	**1.55**	**60**	*eP*	**Pb**	**03 13 57.2**	**-0.4**
AP01	**Chacalluta**	**1.66**	**23**	*eP*	**Pn**	**03 13 57.6**	**+0.2**
AP01				*i S*	**Sb**	**03 14 19.2**	**-0.6**
AP01	**Chacalluta**	**1.66**	**23**		**Pn**	**03 13 58.0**	**+0.6**
AP01				Sn	**Sn**	**03 14 17.3**	**-0.7**
GO01	**Chusmiza**	**1.73**	**82**	*eP*	**Pb**	**03 14 00.2**	**-0.6**
GO01				*i S*	**Sb**	**03 14 24.8**	**+2.4**
GO01				IAML		03 14 26.2	
	comp=N,4μm,0.7s						
GO01	**Chusmiza**	**1.73**	**82**		**Pn**	**03 13 57.8**	**-1.1**
GO01				Sn	**Sn**	**03 14 17.2**	**-3.3**
PB02	**IPOC Station P**	**1.75**	**143**	*eP*	**Pn**	**03 13 59.5**	**+0.7**
PB02				IAML		03 14 35.4	
	comp=N,7μm,0.5s						
PB02	**IPOC Station P**	**1.75**	**143**	*eP*	**Pn**	**03 13 59.6**	**+0.7**
PB02				*eS*	**Sb**	**03 14 22.1**	**-0.5**
PB02				IAML		03 14 36.0	
	comp=Z,6μm,0.5s						
PB08	**IPOC Station P**	**1.77**	**98**	*eP*	**Pb**	**03 14 00.6**	**-0.8**
PB08				*i S*	**Sb**	**03 14 25.6**	**+2.4**
PB08				IAML		03 14 35.9	
	comp=N,4μm,0.6s						
PB08	**IPOC Station P**	**1.77**	**98**		**Pn**	**03 13 58.6**	**-0.6**
PB08				Sn	**Sn**	**03 14 18.5**	**-2.8**
PB01	**IPOC Station P**	**1.82**	**128**	*eP*	**Pb**	**03 14 01.0**	**-1.2**
PB01				*i S*	**Sb**	**03 14 24.9**	**+0.3**
PB01				IAML		03 14 36.2	
	comp=N,4μm,0.4s						
PB01	**IPOC Station P**	**1.82**	**128**		**Pn**	**03 13 59.2**	**-0.6**
PB01	**IPOC Station P**	**1.82**	**128**	*eP*	**Pb**	**03 14 01.0**	**-1.2**
PB01				*eS*	**Sb**	**03 14 25.5**	**+0.9**
PB01				IAML		03 14 36.9	
	comp=Z,3μm,0.5s						
PB07	**IPOC Station P**	**2.09**	**150**	*eP*	**Pn**	**03 14 04.0**	**+0.5**
PB07				IAML		03 14 44.3	
	comp=E,3μm,0.6s						
PB07	**IPOC Station P**	**2.09**	**150**	Pn	**Pn**	**03 14 03.6**	**0.0**
PB07				Sn	**Sn**	**03 14 27.9**	**-1.2**
PB07	**IPOC Station P**	**2.09**	**150**	*eP*	**Pn**	**03 14 04.1**	**+0.5**
PB07				*eS*	Sb	03 14 41.7	+9.2
PB07				IAML		03 14 46.0	
	comp=Z,3μm,0.6s						
PB16	**IPOC Station P**	**2.12**	**43**		**Pn**	**03 14 03.9**	**-0.3**
PB03	**IPOC Station P**	**2.43**	**151**	*eP*	**Pn**	**03 14 09.0**	**+0.8**
PB03				IAML		03 14 57.5	
	comp=E,953nm,0.7s						
PB03	**IPOC Station P**	**2.43**	**151**	*eP*	**Pn**	**03 14 08.8**	**+0.6**
PB03				*eS*	**Sn**	**03 14 38.2**	**+0.7**
PB03				IAML		03 14 54.5	
	comp=Z,2μm,0.8s						
PB09	**IPOC Station P**	**2.50**	**139**		**Pn**	**03 14 09.4**	**+0.2**
PB09				Sn	**Sn**	**03 14 37.4**	**-1.8**
PB04	**IPOC Station P**	**2.54**	**162**	*eP*	**Pn**	**03 14 09.7**	**0.0**
PB04				IAML		03 15 06.0	
	comp=N,2μm,0.7s						
PB04	**IPOC Station P**	**2.54**	**162**		**Pn**	**03 14 10.1**	**+0.3**
PB04	**IPOC Station P**	**2.54**	**162**	*eP*	**Pn**	**03 14 09.8**	**0.0**
PB04				*eS*	**Sn**	**03 14 39.4**	**-0.8**
PB04				IAML		03 15 07.7	
	comp=Z,2μm,0.6s						
PB05	**IPOC Station P**	**3.02**	**166**	*eP*	**Pn**	**03 14 16.1**	**-0.2**
PB05				*eS*	**Sn**	**03 14 50.4**	**-1.6**
PB05				IAML		03 15 21.2	
	comp=Z,876nm,0.9s						
PB06	**IPOC Station P**	**3.09**	**154**	*eP*	**Pn**	**03 14 17.5**	**+0.3**
PB06				*i S*	**Sn**	**03 14 55.1**	**+1.4**
PB06	**IPOC Station P**	**3.09**	**154**		**Pn**	**03 14 17.5**	**+0.3**
PB06	**IPOC Station P**	**3.09**	**154**	*eP*	**Pn**	**03 14 17.7**	**+0.4**
PB06				*eS*	**Sn**	**03 14 54.5**	**+0.8**
PB06				IAML		03 15 17.0	
	comp=Z,2μm,0.8s						
LVC	**Limon Verde**	**3.33**	**144**	P	**Pn**	**03 14 22.9**	**+2.2**
	comp=Z,10nm,0.3s,baz=320,slow=9.7,SNR=86						
LVC				S	**Sn**	**03 15 01.4**	**+1.6**
	comp=Z,58nm,0.3s,baz=23,slow=12,SNR=7.8						
LVC	**Limon Verde**	**3.33**	**144**	Pn	**Pn**	**03 14 20.3**	**-0.4**
LVC					**Sn**	**03 14 58.5**	**-1.3**
LVC	**Limon Verde**	**3.33**	**144**	*eP*	**Pn**	**03 14 23.0**	**+2.3**
LVC				*eS*	Sb	03 15 18.6	+10
LVC				IAML		03 15 25.4	
	comp=Z,634nm,1.2s						
PB15	**IPOC Station P**	**3.58**	**157**		**Pn**	**03 14 23.8**	**-0.3**
PB15				Sn	**Sn**	**03 15 05.9**	**0.0**
PB10	**IPOC Station P**	**3.61**	**173**	Pn	**Pn**	**03 14 23.4**	**-0.9**
PB10	**IPOC Station P**	**3.61**	**173**	*eP*	**Pn**	**03 14 23.3**	**-1.0**
LPAZ	**La Paz**	**4.53**	**38**	P	**Pn**	**03 14 41.5**	**+4.0**
	comp=Z,1.6nm,0.3s,baz=220,slow=2.5,SNR=36						
LPAZ				LR	LR	03 16 34.5	
	comp=Z,762nm,19.3s,baz=236,slow=41						
LPAZ	**La Paz**	**4.53**	**38**	Pn	**Pn**	**03 14 38.3**	**+0.9**
PB14	**IPOC Station P**	**4.73**	**173**		**Pn**	**03 14 38.8**	**-1.2**
PB14				Sn	**Sn**	**03 15 33.0**	**-1.3**
PB14	**IPOC Station P**	**4.73**	**173**	*eP*	**Pn**	**03 14 38.7**	**-1.2**
PB14				IAML		03 16 27.0	
	comp=Z,209nm,1.0s						
GO02	**Mina Guanaco**	**5.39**	**166**	Pn	**Pn**	**03 14 49.1**	**+0.1**
YJA	**Yavi**	**5.61**	**115**	*eP*	Pb	03 14 59.0	-8.0
AC02	**Maricunga**	**7.11**	**166**	Pn	**Pn**	**03 15 12.5**	**-0.3**
AC02				Sn	**Sn**	**03 16 33.4**	**+0.2**
NNA	**Nana**	**9.67**	**324**	P	Pn	03 15 53.1	+5.6
	comp=Z,0.7nm,0.3s,baz=79,slow=14,SNR=1.5						
NNA				S	Sn	03 17 26.8	-8.7
	comp=Z,1.0nm,0.3s,baz=131,slow=9.3,SNR=1.4						
NNA	**Nana**	**9.67**	**324**		**Pn**	**03 15 49.2**	**+1.7**
SIV	**San Ignacio**	**10.23**	**69**	P	**Pn**	**03 15 57.5**	**+2.2**
	comp=Z,1.7nm,0.3s,baz=266,slow=11,SNR=42						
SIV				LR	LR	03 20 00.7	
	comp=Z,329nm,19.1s,baz=277,slow=38						
SAML	**Samuel**	**13.27**	**36**		**Pn**	**03 16 37.0**	**+0.2**
CPUP	**Villa Florida**	**14.11**	**119**	LR	LR	03 23 16.1	
	comp=Z,246nm,18.0s,baz=300,slow=42						
H03N1	**Juan Fernandez**	**15.20**	**206**	T	T	03 32 54.4	
	baz=33,slow=72,SNR=41						
H03N2	**Juan Fernandez**	**15.21**	**206**	T	T	03 32 54.9	
	baz=33,slow=72,SNR=40						
H03N3	**Juan Fernandez**	**15.22**	**206**	T	T	03 32 54.9	
	baz=33,slow=72,SNR=28						
BI02	**San Fabin de**	**16.69**	**181**	Pn	**Pn**	**03 17 21.8**	**-0.5**
BI02				IAmb	IAmb	03 17 30.7	
	comp=Z,18nm,1.1s						
PLCA	**Paso Flores**	**20.76**	**179**	P	Pn	03 18 12.3	+0.8
	comp=Z,2.3nm,0.9s,baz=18,slow=17,SNR=2.8						
PLCA	**Paso Flores**	**20.76**	**179**	P	**P**	**03 18 08.2**	**-0.9**
FLOC	**Florencia**	**21.84**	**347**	*eP*	**P**	**03 18 19.6**	**-1.2**
PTGA	**Pitinga**	**21.92**	**31**	P	**P**	**03 18 20.5**	**-1.1**
PTGA				IAmb	IAmb	03 18 29.6	
	comp=Z,9.1nm,0.8s						
BDFB	**Brasilia**	**22.30**	**83**	P	**P**	**03 18 25.4**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=219,slow=13,SNR=2.0						
BDFB				LR	LR	03 27 39.0	
	comp=Z,220nm,19.6s,baz=283,slow=38						
BDFB	**Brasilia**	**22.30**	**83**	P	**P**	**03 18 24.0**	**-1.9**
GARC	**Garzon, Huila**	**22.39**	**348**	*eP*	**P**	**03 18 22.5**	**-4.5**
ORTC	**Ortega, Tolima**	**24.03**	**350**	*eP*	P	03 18 34.0	-9.3
YOTC	**Yotoco, Valle**	**24.32**	**347**	*eP*	**P**	**03 18 44.8**	**-1.3**
TOLC	**Tolima**	**24.71**	**350**	*eP*	P	03 18 59.1	+9.3
RUSC	**La Rusia**	**25.72**	**355**	*eP*	**P**	**03 19 00.6**	**+1.5**
WLAR	**White Oak Lake**	**57.31**	**338**	P	**P**	**03 23 17.1**	**+1.1**
TXAR	**Lajitas Array**	**58.21**	**326**	P	**P**	**03 23 25.1**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=155,slow=7.0,SNR=3.3						
TXAR	**Lajitas Array**	**58.21**	**326**	P	**P**	**03 23 21.9**	**-0.5**
SNAA	**Sanae**	**64.42**	**161**	P	**P**	**03 24 03.4**	**-0.6**
SNAA				IAmb	IAmb	03 24 17.1	
	comp=Z,3.0nm,1.1s						
DBIC	**Dimbokro**	**70.20**	**75**	P	**P**	**03 24 40.1**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=219,slow=4.9,SNR=3.8						
DBIC				LR	LR	03 54 05.6	
	comp=Z,56nm,18.9s,baz=200,slow=35						
DBIC	**Dimbokro**	**70.20**	**75**	P	**P**	**03 24 40.7**	**-0.7**
QSPA	**South Pole Qui**	**70.27**	**180**	P	**P**	**03 24 41.9**	**+0.8**
QSPA				IAmb	IAmb	03 24 55.0	
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**71.77**	**331**	P	**P**	**03 24 52.9**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=106,slow=2.9,SNR=1.9						
NVAR	**Mina Array Bea**	**73.04**	**323**	P	**P**	**03 25 00.7**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=152,slow=6.1,SNR=3.0						
NVAR	**Mina Array Bea**	**73.04**	**323**	P	**P**	**03 24 59.3**	**+1.0**
SCHQ	**Schefferville**	**74.52**	**3**	LR	LR	03 59 04.0	
	comp=Z,48nm,20.2s,baz=51,slow=37						
TORD	**Torodi Ar. Bea**	**78.70**	**72**	P	**P**	**03 25 30.8**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=250,slow=5.6,SNR=23						
TORD				LR	LR	03 58 20.3	
	comp=Z,74nm,20.2s,baz=120,slow=34						
TORD	**Torodi Ar. Bea**	**78.70**	**72**	P	**P**	**03 25 31.1**	**+0.3**
TAM	**Tamanrasset**	**85.88**	**64**	P	**P**	**03 26 07.3**	**-1.2**
TAM				IAmb	IAmb	03 26 20.9	
	comp=Z,4.0nm,1.1s						
ESDC	**Sonseca Array**	**86.11**	**45**	P	**P**	**03 26 10.8**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=255,slow=7.4,SNR=3.1						
ESDC				LR	LR	04 04 40.1	
	comp=Z,41nm,18.0s,baz=135,slow=36						
ESDC	**Sonseca Array**	**86.11**	**45**	P	**P**	**03 26 09.4**	**+0.3**
H11S2	**WAKE ISLAND Hy**	**125.71**	**279**	T	T	05 51 53.3	
	baz=101,slow=74,SNR=23						
H11S1	**WAKE ISLAND Hy**	**125.71**	**279**	T	T	05 51 53.6	
	baz=101,slow=74,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**125.72**	**279**	T	T	05 51 53.3	
	baz=101,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**125.75**	**280**	T	T	05 51 56.1	
	baz=100,slow=75,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**125.77**	**280**	T	T	05 51 57.1	
	baz=100,slow=75,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**125.77**	**280**	T	T	05 51 57.3	
	baz=100,slow=75,SNR=6.1						
ZALV	**Zalesovo Beam**	**141.31**	**23**	PKP	**PKiKP**	**03 33 00.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=344,slow=4.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**141.31**	**23**		**PKPdf**	**03 32 57.8**	**-0.6**
MKAR	**Makanchi Array**	**145.44**	**33**	PKPbc	**PKPab**	**03 33 07.1**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=277,slow=2.0,SNR=7.2						
MKAR	**Makanchi Array**	**145.44**	**33**		**PKPbc**	**03 33 05.5**	**-0.5**

VAO 11 03:13:58.7±0.3, 11°.59S×56°.67W, h0km, mbR3.6, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDB	**Colider**	**1.11**	**50**	*eP*	Pg	03 14 19.9	-0.1
VILB	**Vilhena**	**3.71**	**248**	*eP*	Pn	03 14 56.8	-0.6
PTLB	**Pontes e Lacer**	**4.53**	**212**	*eP*	Pn	03 15 09.2	+0.6
NPGB	**Novo Progresso**	**4.69**	**16**	*eP*	Pn	03 15 11.1	+0.2
ARAG	**Araguaiana, MT**	**6.25**	**132**	*eP*	Pn	03 15 31.3	-0.9
SAML	**Samuel**	**6.93**	**292**	*eP*	Pn	03 15 41.8	+0.2
ITTB	**Itaituba**	**7.23**	**7**	*eP*	Pn	03 15 45.3	-0.5
PEXB	**Peixe**	**8.21**	**94**	*eP*	Pn	03 15 59.6	+0.4
PRPB	**Parauapebas**	**8.64**	**52**	*eP*	Pn	03 16 05.3	+0.2
MACA	**Manacapuru-AM**	**9.27**	**334**	*eP*	Pn	03 16 13.4	-0.3
SMTB	**Santa Maria do**	**9.34**	**74**	*eP*	Pn	03 16 14.4	-0.2
MALB	**Monte Alegre**	**9.96**	**14**	*eP*	Pn	03 16 22.6	-0.6
IPMB	**Ipameri, GO**	**10.36**	**129**	*eP*	Pn	03 16 28.5	-0.2
SDBA	**ŠAO DESIDERIO**	**11.54**	**95**	*eP*	Pn	03 16 44.8	-0.1
TRCB	**Terra Rica**	**11.79**	**161**	*eP*	Pn	03 16 48.2	-0.1
MCPB	**Macapa, AP**	**12.05**	**23**	*eP*	Pn	03 16 51.8	-0.1
JANB	**Januaria**	**12.51**	**107**	*eP*	Pn	03 16 57.8	-0.4
ITAB	**Concordia**	**16.14**	**165**	*eP*	Pn	03 17 46.9	-0.2

VAO 11 03:17:18.4±0.2, 11°.62S×56°.65W, h0km, mbR3.9, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDB	**Colider**	**1.12**	**48**	*eP*	Pg	03 17 40.0	+0.1
CLDB				*eS*	Sg	03 17 55.0	+0.5
VILB	**Vilhena**	**3.71**	**249**	*eP*	Pn	03 18 16.9	-0.2
PTLB	**Pontes e Lacer**	**4.50**	**212**	*eP*	Pn	03 18 27.8	-0.1
NPGB	**Novo Progresso**	**4.72**	**16**	*eP*	Pn	03 18 31.0	0.0
ARAG	**Araguaiana, MT**	**6.21**	**131**	*eP*	Pn	03 18 51.4	0.0
SAML	**Samuel**	**6.96**	**292**	*eP*	Pn	03 19 02.0	+0.3
ITTB	**Itaituba**	**7.27**	**7**	*eP*	Pn	03 19 05.2	-0.7
PEXB	**Peixe**	**8.19**	**94**	*eP*	Pn	03 19 18.6	-0.1
PRPB	**Parauapebas**	**8.66**	**52**	*eP*	Pn	03 19 23.6	-1.4
MACA	**Manacapuru-AM**	**9.31**	**334**	*eP*	Pn	03 19 34.3	+0.3
SMTB	**Santa Maria do**	**9.33**	**74**	*eP*	Pn	03 19 34.1	-0.2
ETMB	**Extrema**	**9.57**	**280**	*eP*	Pn	03 19 37.8	+0.3
MALB	**Monte Alegre**	**9.99**	**14**	*eP*	Pn	03 19 42.5	-0.8
ITRB	**Iturama**	**10.06**	**144**	*eP*	Pn	03 19 44.3	0.0
IPMB	**Ipameri, GO**	**10.32**	**129**	*eP*	Pn	03 19 47.7	-0.2
SDBA	**ŠAO DESIDERIO**	**11.52**	**95**	*eP*	Pn	03 20 04.3	0.0
LPAZ	**La Paz**	**12.07**	**246**	*eP*	Pn	03 20 11.1	-1.2
MCPB	**Macapa, AP**	**12.09**	**22**	*eP*	Pn	03 20 11.8	-0.2
BB19B	**Bebedouro**	**12.20**	**141**	*eP*	Pn	03 20 13.4	-0.2
JANB	**Januaria**	**12.48**	**107**	*eP*	Pn	03 20 17.2	-0.4
TMAB	**Tom-Au,PA,Br**	**12.51**	**43**	*eP*	Pn	03 20 17.9	0.0
PTGB	**Pitanga**	**13.73**	**162**	*eP*	Pn	03 20 34.7	+0.2

TRN 11 03:41:45.9, 10°.88N×62°.36W, h100km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.97**	**104**	*eP*	Pn	03 42 07.1	+1.1
TRN				*eS*	Sn	03 42 21.2	+0.1
GRGR	**Grenville**	**1.43**	**29**	*eP*	Pn	03 42 10.9	-0.4
GRGR				*eS*	Sn	03 42 29.4	-1.1
GRHS	**Sauteurs**	**1.51**	**28**	*eS*	Sn	03 42 32.0	-0.3
GCMP	**Grenada, Carri**	**1.84**	**30**	*eP*	Pn	03 42 15.8	-0.6
GCMP				*eS*	Sn	03 42 38.9	-0.8
TOSP	**Speyside**	**1.84**	**77**	*eP*	Pn	03 42 16.3	-0.2
TOSP				*eS*	Sn	03 42 38.6	-1.1
SVB	**Belmont**	**2.62**	**24**	*eP*	Pn	03 42 27.4	+0.9
SVB				*eS*	Sn	03 42 57.3	-0.5
SVCV	**St. Vincent, C**	**2.66**	**26**	*eP*	Pn	03 42 26.9	-0.2
SVCV				*eS*	Sn	03 42 57.2	-1.6
SVV	**Soufriere Volc**	**2.67**	**25**	*eP*	Pn	03 42 27.9	+0.6
SVV				*eS*	Sn	03 42 58.6	-0.6
MCLT	**Moule a Chique**	**3.14**	**26**	*eP*	Pn	03 42 34.1	+0.5
MCLT				*eS*	Sn	03 43 08.3	-2.0
SLAC	**Saint Lucia, A**	**3.33**	**25**	*eP*	Pn	03 42 36.1	+0.1
SLAC				*eS*	Sn	03 43 13.6	-1.2
SLBI	**Saint Lucia, B**	**3.41**	**23**	*eP*	Pn	03 42 37.1	-0.1
SLBI				*eS*	Sn	03 43 15.6	-1.1
BAUV	**El Baul**	**5.92**	**252**	*eP*	Pn	03 43 10.4	-0.6
BAUV	**El Baul**	**5.92**	**252**	*eS*	Sn	03 44 14.2	-3.4

NEIC ***11*** *04:06:30.2±1.2, 64°.85S±0°.2×178°.0E±0°.6, h10km±1km, mb4.5/9, Error ellipse: s-maj=42.2km s-min=23.6km az=68.0*
IDC ***11*** *04:06:30.9±1.4, 64°.75S×177°.20E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/20, mbtmp4.2/7, ML3.9/1, MS4.0/10, Ms1 4.0/10, ms1mx3.8/20, Error ellipse: s-maj=59.0km s-min=20.2km az=72.0*

ISC 11 04:06:31.4±1.1, 64°.8S±0°.1×177°.4E±0°.3, h10km, n43, σ0°.78/30, mb4.4/9, MS4.0/9, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.64**	**194**	Pn	**Pn**	**04 09 44.1**	**-0.4**
	0.6nm,0.3s,baz=35,slow=17,SNR=37						
VNDA				LR	LR	04 13 49.8	
	comp=Z,600nm,19.1s,baz=16,slow=32						
VNDA	**Vanda**	**13.64

DJA 11 04:32:46.7±1.0,3°N±4°×9°0E±°, h30km±9km, M4.9/21, mb5.0/21, mB5.0/7, MLv5.3/4, Mw(mB)4.3/7

ISC 11 04:32:42.4±0.3, 2°47N±0°05×90°40E±0°04, h10km, n248, σ1§47/233, mb4.7/95, MS4.0/25, 3C-13D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**6.25**	**73**	P	**Pn**	**04 34 17.7**	**+3.0**
	1.9nm4μm210nm,0.9s						
MLSI				S	**Sn**	**04 35 24.6**	**-1.7**
	1.9nm4μm210nm,0.9s						
TPTI		**6.81**	**83**	P	**Pn**	**04 34 21.4**	**-1.1**
	0.2nm36nm,0.9s						
LHMI	**Lhok Sumawe**	**7.08**	**67**	P	**Pn**	**04 34 25.7**	**-0.4**
	1.4nm271nm,1.0s						
LHMI				S	**Sn**	**04 35 45.1**	**-1.6**
	1.4nm271nm,1.0s						
LHMI	**Lhok Sumawe**	**7.08**	**67**	Pn	**Pn**	**04 34 26.0**	**-0.1**
GSI	**Gunungsitoli**	**7.26**	**99**	P	**Pn**	**04 34 29.0**	**+0.4**
	0.7nm88nm,0.8s						
GSI				S	**Sn**	**04 35 53.0**	**+1.8**
	0.7nm88nm,0.8s						
GSI	**Gunungsitoli**	**7.26**	**99**	Pn	**Pn**	**04 34 29.0**	**+0.4**
PBSI	**Pulau Batu**	**8.26**	**108**	P	**Pn**	**04 34 44.6**	**+2.2**
	166nm,0.8s						
RPSI	**Rantau Prapat**	**8.51**	**88**	Pn	**Pn**	**04 34 46.1**	**+0.3**
PSI	**Prapat**	**8.52**	**88**	Pn	**Pn**	**04 34 48.7**	**+2.7**
	2.6nm,0.3s,baz=180,slow=3.7,SNR=6.2						
PSI				Sn	**Sn**	**04 36 18.2**	**-4.1**
	1.1nm,0.3s,baz=360,slow=19,SNR=1.1						
PSI				LR	LR	04 38 18.2	
	comp=Z,881nm,18.6s,baz=269,slow=40						
PBA	**Port Blair**	**9.41**	**14**	*ex*	Pn	04 34 58.6	+0.5
PBA	**Port Blair**	**9.41**	**14**	Pn	Pn	04 34 55.9	-2.3
KULM	**Kulim**	**10.60**	**74**	Pn	**Pn**	**04 35 14.5**	**+0.1**
PALK	**Pallekele**	**10.78**	**297**	Pn	**Pn**	**04 35 18.2**	**+1.2**
	6.1nm,0.3s,baz=225,slow=13,SNR=19						
PALK				Sn	Sn	04 37 07.4	-10
	28nm,0.3s,baz=36,slow=3.7,SNR=15						
PALK				LR	LR	04 39 11.8	
	comp=Z,253nm,18.4s,baz=221,slow=36						
PALK	**Pallekele**	**10.78**	**297**	Pn	**Pn**	**04 35 15.1**	**-1.8**
IPM	**Ipoh**	**10.79**	**79**	Pn	**Pn**	**04 35 16.4**	**-0.6**
DGPR	**DIGLIPUR**	**10.93**	**13**	*eP*	**Pn**	**04 35 18.0**	**-0.9**
DGPR				IAmb	IAmb	04 35 23.3	
	comp=Z,54nm,0.3s						
KSI	**Kapahiang**	**13.62**	**116**	P	**Pn**	**04 35 54.4**	**-1.4**
TRD	**Trivandrum**	**14.66**	**295**	*ex*	Sn	04 38 41.1	-12
SKHT	**Srikalahasti**	**15.40**	**317**	*eP*	**Pn**	**04 36 19.0**	**-0.9**
KLSI		**15.98**	**116**	P	**P**	**04 36 29.8**	**-1.3**
	comp=Z,7.0nm,0.8s						
ADKI	**Addanki**	**16.80**	**323**	*eP*	**Pn**	**04 36 36.0**	**-1.9**
PVM	**Polavaram**	**17.03**	**330**	*eP*	**Pn**	**04 36 39.4**	**-1.4**
CHLP	**Challavanipeta**	**17.11**	**339**	*eP*	**Pn**	**04 36 40.6**	**-1.1**
MYLAV	**Mylavaram**	**17.13**	**327**	*eP*	**Pn**	**04 36 40.6**	**-1.5**
NJS	**Nagarjunasagar**	**17.75**	**323**	*eP*	**Pn**	**04 36 48.4**	**-1.3**
URV	**Uravakonda**	**17.94**	**314**	*eP*	**P**	**04 36 52.3**	**-0.5**
CM31	**Chiang Mai Arr**	**17.95**	**27**	P	**Pn**	**04 36 51.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.96**	**27**	P	**Pn**	**04 36 51.1**	**-1.2**
	baz=224,slow=12,SNR=11						
CMAR				LR	LR	04 44 36.4	
	comp=Z,403nm,18.2s,baz=252,slow=40						
CHTO	**Chiang Mai**	**18.27**	**27**	P	**Pn**	**04 36 53.6**	**-2.6**
BWNR	**Bhubaneshwar**	**18.27**	**346**	*ex*	Pn	04 36 46.2	-10
BWNR				IAmb	IAmb	04 36 49.3	
	comp=Z,106nm,0.4s						
HYB	**Hyderabad**	**18.87**	**323**	*i* P	**Pn**	**04 37 04.0**	**+0.5**
HYB				*e*S	**Sn**	**04 40 35.0**	**+0.1**
HYBB	**Hyderabad (bro**	**18.87**	**323**	*eP*	**P**	**04 37 02.6**	**-0.5**
SRSP	**Sriramsagar**	**20.17**	**325**	*eP*	**P**	**04 37 17.7**	**+0.5**
DLV	**T Lat**	**20.24**	**61**	P	**P**	**04 37 18.5**	**+0.3**
H08S2	**Diego Garcia H**	**20.50**	**241**	T	T	04 58 26.0	
	baz=60,slow=75,SNR=1189						
H08S3	**Diego Garcia H**	**20.50**	**241**	T	T	04 58 23.5	
	baz=60,slow=75,SNR=1363						
H08S1	**Diego Carcia H**	**20.52**	**241**	T	T	04 58 27.2	
	baz=60,slow=75,SNR=388						
KLRI	**Killari**	**20.58**	**320**	*eP*	**P**	**04 37 21.5**	**-0.2**
STKI	**Sintang**	**21.20**	**96**	P	P	04 37 20.9	-7.5
NGP	**Nagpur**	**21.61**	**330**	*eP*	**P**	**04 37 33.9**	**+1.2**
NGP				IAmb	IAmb	04 37 48.3	
	comp=Z,13nm,0.5s						
BOK	**Bokaro**	**21.64**	**349**	*ex*	**P**	**04 37 34.2**	**+1.1**
BOK				IAmb	IAmb	04 37 42.1	
	comp=Z,32nm,0.9s						
SLVN	**Son La**	**22.90**	**34**	P	**P**	**04 37 46.3**	**-0.2**
SHL	**Shillong**	**23.00**	**3**	*eP*	**P**	**04 37 46.6**	**-1.2**
SHL				IAmb	IAmb	04 37 51.2	
	comp=Z,8.9nm,0.5s						
SHL	**Shillong**	**23.00**	**3**	P	**P**	**04 37 47.1**	**-0.6**
SHL				IAmb	IAmb	04 37 56.3	
	comp=Z,47nm,1.1s						
GUWA	**GUWAHATI**	**23.62**	**3**	*eP*	**P**	**04 37 53.7**	**0.0**
GUWA				IAmb	IAmb	04 37 58.2	
	comp=Z,23nm,0.9s						
TEZP	**TEZPUR**	**24.12**	**5**	*eP*	**P**	**04 37 58.0**	**-0.4**
TEZP				IAmb	IAmb	04 38 05.8	
	comp=Z,31nm,1.1s						
BHPL	**Bhopal**	**24.18**	**330**	*eP*	**P**	**04 38 01.2**	**+2.0**
BHPL				IAmb	IAmb	04 38 11.6	
	comp=Z,9.6nm,0.5s						
ODAN	**Odare**	**24.42**	**353**	*eP*	**P**	**04 38 02.4**	**+0.8**
	comp=Z,109nm,0.7s						
ODAN	**Odare**	**24.42**	**353**	*eP*	**P**	**04 38 02.4**	**+0.8**
	comp=Z,109nm,0.7s						
RAMN	**Ramite**	**24.61**	**352**	*eP*	**P**	**04 38 04.6**	**+1.3**
	comp=Z,68nm,0.8s						
RAMN	**Ramite**	**24.61**	**352**	*eP*	**P**	**04 38 04.6**	**+1.3**
	comp=Z,68nm,0.8s						
TAPN	**Taplejung**	**24.87**	**354**	*eP*	**P**	**04 38 06.9**	**+1.2**
	comp=Z,70nm,0.8s						
TAPN	**Taplejung**	**24.87**	**354**	*eP*	**P**	**04 38 06.9**	**+1.2**
	comp=Z,70nm,0.8s						
QIZ	**Qiongzhong**	**25.15**	**48**	P	**P**	**04 38 09.4**	**+1.4**
QIZ				S	**S**	**04 42 37.7**	**+4.5**
QIZ				pmax	pmax		
	comp=Z,26nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,180nm,3.5s						
QIZ				LR	LR		
	comp=Z,640nm,14.1s						
QIZ				LR	LR		
	comp=Z,290nm,14.9s						
QIZ				LR	LR		
	comp=Z,370nm,16.3s						
QIZ	**Qiongzhong**	**25.15**	**48**	P	**P**	**04 38 06.8**	**-1.2**
JIRN	**Jiri**	**25.37**	**351**	*eP*	**P**	**04 38 11.4**	**+1.1**
	comp=Z,73nm,0.8s						
JIRN	**Jiri**	**25.37**	**351**	*eP*	**P**	**04 38 11.4**	**+1.1**
	comp=Z,73nm,0.8s						
PKI	**Pulchoki**	**25.41**	**350**	*eP*	**P**	**04 38 12.4**	**+1.8**
PKI	**Pulchoki**	**25.41**	**350**	*eP*	**P**	**04 38 12.4**	**+1.8**
PKIN	**Phulchoki**	**25.42**	**350**	*eP*	**P**	**04 38 12.2**	**+1.6**
PKIN	**Phulchoki**	**25.42**	**350**	*eP*	**P**	**04 38 12.2**	**+1.6**
KMI	**Kunming**	**25.47**	**27**	⇑P	**P**	**04 38 12.7**	**+1.7**
KMI				S	**S**	**04 42 41.9**	**+3.4**
KMI				SS	**SnSn**	**04 43 37.5**	**+6.4**
KMI				pmax	pmax		
	comp=Z,13nm,1.2s						
KMI				pmax	pmax		
	comp=Z,77nm,3.9s						
KMI				LR	LR		
	comp=Z,310nm,17.4s						
KMI				LR	LR		
	comp=Z,330nm,15.4s						
KMI				LR	LR		
	comp=Z,450nm,18.5s						
GKN	**Gorkha**	**25.98**	**348**	*eP*	**P**	**04 38 16.5**	**+0.9**
	comp=Z,42nm,0.6s						
GKN	**Gorkha**	**25.98**	**348**	*eP*	**P**	**04 38 16.5**	**+0.9**
	comp=Z,42nm,0.6s						
KOLN	**Koldanda**	**25.98**	**346**	*eP*	**P**	**04 38 16.7**	**+1.0**
	comp=Z,64nm,0.7s						
KOLN	**Koldanda**	**25.98**	**346**	*eP*	**P**	**04 38 16.7**	**+1.0**
	comp=Z,64nm,0.7s						
PYUN	**Piuthan**	**26.45**	**345**	*eP*	**P**	**04 38 21.1**	**+1.2**
	comp=Z,120nm,0.8s						
PYUN	**Piuthan**	**26.45**	**345**	*eP*	**P**	**04 38 21.1**	**+1.2**
	comp=Z,120nm,0.8s						
LSA	**Lhasa**	**27.09**	**1**	P	**P**	**04 38 26.9**	**+1.0**
LSA	**Lhasa**	**27.09**	**1**	P	**P**	**04 38 24.3**	**-1.6**
MYLDM	**Lahad Datu**	**28.16**	**84**	P	**P**	**04 38 34.8**	**-0.4**
MYLDM				IAmb	IAmb	04 38 44.4	
	comp=Z,18nm,0.9s						
GYA	**Guiyang**	**28.50**	**32**	⇓P	**P**	**04 38 39.1**	**+0.8**
GYA				S	**S**	**04 43 31.4**	**+5.2**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,4.5s						
GYA				LR	LR		
	comp=Z,260nm,18.0s						
GYA				LR	LR		
	comp=Z,190nm,13.9s						
GYA				LR	LR		
	comp=Z,350nm,18.2s						
CD2	**Chengdu**	**30.98**	**23**	P	**P**	**04 39 03.0**	**+3.0**
CD2				pmax	pmax		
	comp=Z,100nm,0.9s						
SMLA	**Simla**	**31.13**	**338**	*eP*	**P**	**04 39 02.5**	**+1.2**
SMLA				IAmb	IAmb	04 39 05.0	
	comp=Z,15nm,0.5s						
ENH	**Enshi**	**33.04**	**31**	P	**P**	**04 39 15.8**	**-2.3**
NIL	**Nilore**	**34.92**	**335**	P	**P**	**04 39 32.5**	**-2.0**
DAV	**Davao City (W)**	**35.34**	**81**	LR	LR	04 54 30.8	
	comp=Z,121nm,21.7s,baz=162,slow=37						
LZH	**Lanzhou**	**35.69**	**19**	*eP*	P	04 39 45.8	+4.6
LZH				pP	pwP	04 39 50.2	+3.7
LZH				PP	**PnPn**	**04 40 59.8**	**-1.0**
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,4.9s						
LZH				LR	LR		
	comp=Z,220nm,15.0s						
LZH				LR	LR		
	comp=Z,200nm,14.7s						
LZH				LR	LR		
	comp=Z,240nm,17.0s						
XAN	**Xi'an**	**35.85**	**27**	P	**P**	**04 39 41.1**	**-1.4**
XAN				pP	pwP	04 39 53.2	+5.4
XAN				sP	sP	04 39 58.3	+12
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,150nm,5.2s						
XAN				LR	LR		
	comp=Z,290nm,15.5s						
XAN				LR	LR		
	comp=Z,310nm,16.5s						
XAN				LR	LR		
	comp=Z,540nm,19.3s						
WHN	**Wuhan**	**35.96**	**37**	P	P	04 39 50.7	+7.3
WHN				S	**S**	**04 45 25.3**	**+3.3**
WHN				pmax	pmax		
	comp=Z,180nm,1.4s						
WHN				LR	LR		
	comp=N,250nm,12.0s						
WHN				LR	LR		
	comp=E,840nm,17.1s						
WHN				LR	LR		
	comp=Z,570nm,16.7s						
SSLB	**Suanglung**	**36.36**	**52**	P	**P**	**04 39 46.5**	**-0.5**
SSLB				IAmb	IAmb	04 39 56.1	
	comp=Z,21nm,1.1s						
YULB	**Yu-li**	**36.43**	**53**	P	**P**	**04 39 47.1**	**-0.4**
GTA	**Gaotai**	**37.75**	**12**	*eP*	**P**	**04 39 59.0**	**+0.3**
GTA				S	**S**	**04 45 47.9**	**-1.5**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,80nm,4.0s						
GTA				LR	LR		
	comp=Z,110nm,16.6s						
GTA				LR	LR		
	comp=Z,120nm,17.1s						
GTA				LR	LR		
	comp=Z,120nm,17.6s						
KSH	**Kashi**	**39.14**	**342**	P	**P**	**04 40 10.9**	**+0.5**
KSH				pmax	pmax		
	comp=Z,11nm,0.5s						
KSH				pmax	pmax		
	comp=Z,100nm,4.6s						
NJ2	**Nanjing**	**39.77**	**39**	*eP*	**P**	**04 40 16.2**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.28**	**122**	P	**P**	**04 40 19.7**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=181,slow=6.1,SNR=3.2						
FITZ	**Fitzroy Crossi**	**40.28**	**122**	P	**P**	**04 40 19.7**	**-0.3**
GAR	**Garm**	**40.71**	**336**	P	**P**	**04 40 22.5**	**-1.0**
GAR				IAmb	IAmb	04 40 32.0	
	comp=Z,37nm,1.1s						
CHGR	**Chuyangaron**	**40.91**	**334**	P	**P**	**04 40 24.2**	**-0.9**
CHGR				IAmb	IAmb	04 40 32.9	
	comp=Z,19nm,1.0s						
HRA	**Herat**	**41.19**	**324**	P	**P**	**04 40 26.5**	**-1.1**
WMQ	**Urumqi**	**41.24**	**357**	*eP*	**P**	**04 40 28.8**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,46nm,4.1s						
SHLS	**Shalkode**	**41.67**	**348**	*eP*	P	04 40 38.2	+6.9
	comp=Z,20nm,1.3s,baz=348						
TIA	**Tai'an**	**41.68**	**33**	P	P	04 40 38.7	+7.4
TIA				S	S	04 45 25.5	-83
TIA				pmax	pmax		
	comp=Z,13nm,0.8s						
TIA				pmax	pmax		
	comp=Z,41nm,3.5s						
TIA				LR	LR		
	comp=N,36nm,3.8s						
TIA				LR	LR		
	comp=E,71nm,5.7s						
TIA				LR	LR		
	comp=Z,51nm,6.4s						
UZB	**Uzynbulak**	**41.75**	**347**	*eP*	P	04 40 39.3	+7.3
	comp=Z,6.5nm,0.8s,baz=347						
UZB				*e*S	**S**	**04 46 56.5**	**+7.2**
	baz=347						
SATY	**Saty**	**41.80**	**347**	*eP*	P	04 40 39.5	+7.1
	comp=Z,6.4nm,0.8s,baz=347						
KPKS	**Kokpek**	**42.13**	**347**	*eP*	P	04 40 42.0	+7.0
	comp=Z,6.8nm,0.9s,baz=347						
MDOK	**Medeo**	**42.23**	**345**	*eP*	P	04 40 43.0	+7.1
	baz=345						
MDOK				LR	LR	04 57 19.0	
	comp=Z,125nm,15.7s,baz=345						
HHC	**Hu-ho-hao-te**	**42.72**	**24**	*eP*	**P**	**04 40 41.7**	**+1.9**
HHC				S	**S**	**04 47 03.5**	**-0.1**
HHC				SS	**SS**	**04 50 07.4**	**-6.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.5s						
HHC				LR	LR		
	comp=Z,200nm,15.3s						
HHC				LR	LR		
	comp=Z,350nm,16.4s						
HHC				LR	LR		
	comp=Z,220nm,14.5s						
CHKK	**Chushkaly**	**42.89**	**346**	*eP*	P	04 40 47.5	+6.4
	baz=346						
SGDS	**Sogindy**	**43.15**	**343**	*eP*	P	04 40 50.4	+7.1
	comp=Z,16nm,1.3s,baz=343						
H01W3	**Cape Leeuwin H**	**43.32**	**151**	T	T	05 26 53.7	
	baz=325,slow=75,SNR=142						
H01W2	**Cape Leeuwin H**	**43.33**	**151**	T	T	05 26 54.7	
	baz=325,slow=75,SNR=191						
H01W1	**Cape Leeuwin H**	**43.34**	**151**	T	T	05 26 55.0	
	baz=325,slow=75,SNR=171						
NWAO	**Narrogin (SRO)**	**43.40**	**146**	P	**P**	**04 40 46.3**	**+0.9**
	comp=Z,9.7nm,1.0s,baz=42,slow=11,SNR=2.1						
TDK	**Taldyqorghan**	**43.65**	**348**	*eP*	P	04 40 53.9	+6.7
	comp=Z,18nm,0.5s,baz=348						
BJI	**Beijing**	**44.09**	**29**	P	**P**	**04 40 51.3**	**+0.5**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KK31	**Karatay Array**	**44.17**	**339**	P	**P**	**04 40 51.4**	**-0.1**
KK31				IAmb	IAmb	04 41 00.6	
	comp=Z,23nm,0.9s						
KKAR	**Karatay Array**	**44.17**	**339**	P	**P**	**04 40 51.7**	**+0.2**
KKAR				IAmb	IAmb	04 41 00.6	
	comp=Z,23nm,0.9s						
MK31	**Makanchi Array**	**44.71**	**352**	P	**P**	**04 40 55.3**	**-0.4**
MK31				IAmb	IAmb	04 41 03.5	
	comp=Z,13nm,0.8s						
MKAR	**Makanchi Array**	**44.71**	**352**	P	**P**	**04 40 55.1**	**-0.5**
	comp=Z,4.7nm,0.7s,baz=168,slow=8.1,SNR=34						
MKAR				LR	LR	05 01 18.9	
	comp=Z,124nm,18.9s,baz=168,slow=38						
MAKZ	**Makanchi**	**44.77**	**352**	P	**P**	**04 40 54.8**	**-1.3**
MAKZ				IAmb	IAmb	04 41 04.0	
	comp=Z,11nm,0.9s						
BTLS	**Baital**	**44.78**	**344**	*eP*	P	04 41 03.4	+7.2
	baz=343						
ZSN	**Zaisan**	**45.06**	**355**	*eP*	P	04 41 05.6	+7.2
	comp=Z,10nm,0.7s,baz=355						
GEYT	**Alibeck**	**46.04**	**324**	P	**P**	**04 41 07.3**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=163,slow=11,SNR=4.6						
GEYT				LR	LR	05 00 46.7	
	comp=Z,103nm,21.3s,baz=20,slow=37						
GEYT	**Alibeck**	**46.04**	**324**	P	**P**	**04 41 05.6**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**46.04**	**324**	P	**P**	**04 41 07.3**	**+0.8**
GYA0B				IAmb	IAmb	04 41 21.9	
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**47.25**	**15**	P	**P**	**04 41 16.2**	**+0.3**
	comp=Z,17nm,0.7s,baz=197,slow=9.0,SNR=64						
SONM				LR	LR	05 03 30.8	
	comp=Z,173nm,18.2s,baz=182,slow=39						
SONM	**Songino Array**	**47.25**	**15**	P	**P**	**04 41 14.2**	**-1.7**
OPO	**Ambohidratompo**	**47.38**	**242**	P	**P**	**04 41 18.6**	**+1.3**
	comp=Z,10nm,0.8s,baz=53,slow=6.5,SNR=11						
ABPO	**Ambohimpanom**	**47.51**	**241**	P	**P**	**04 41 17.9**	**-0.5**
WB0	**Warramunga Arr**	**48.50**	**119**	P	**P**	**04 41 25.6**	**-0.3**
WRA	**Warramunga Arr**	**48.52**	**119**	P	**P**	**04 41 26.1**	**0.0**
	comp=Z,7.1nm,1.0s,baz=296,slow=8.5,SNR=32						
WRA	**Warramunga Arr**	**48.52**	**119**	P	**P**	**04 41 25.7**	**-0.3**
WRAB	**Tennant Creek**	**48.53**	**119**	P	**P**	**04 41 26.0**	**-0.1**
WRAB				IAmb	IAmb	04 41 27.3	
	comp=Z,9.1nm,0.9s						
SEM	**Semipalatinsk**	**48.53**	**351**	*eP*	P	04 41 32.1	+6.2
	comp=Z,3.2nm,0.7s,baz=351						
WB2	**Warramunga Arr**	**48.53**	**119**	P	**P**	**04 41 25.9**	**-0.2**
WB2				IAmb	IAmb	04 41 27.2	
	comp=Z,10nm,0.9s						
WR0	**Warramunga Arr**	**48.70**	**119**	P	**P**	**04 41 27.4**	**0.0**
WR0				IAmb	IAmb	04 41 28.6	
	comp=Z,14nm,1.0s						
KSRS	**Korea Array**	**48.96**	**40**	P	**P**	**04 41 29.4**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=226,slow=8.3,SNR=8.2						
KSRS				LR	LR	05 03 48.2	
	comp=Z,124nm,18.4s,baz=223,slow=38						
KURBB	**Kurchatov Arra**	**49.02**	**350**	P	**P**	**04 41 28.8**	**-0.5**
	comp=Z,6.0nm,0.8s,baz=173,slow=7.3,SNR=44						
KURBB				PcP	**PcP**	**04 42 51.6**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=177,slow=6.2,SNR=1.0						
KURK	**Kurchatov**	**49.09**	**350**	P	**P**	**04 41 28.8**	**-1.0**
KURK					**PcP**	**04 42 52.3**	**-1.1**
ASAR	**Alice Springs**	**49.66**	**124**	P	**P**	**04 41 34.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=123,slow=21,SNR=8.8						
ASAR				PcP	**PcP**	**04 42 55.1**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=288,slow=4.1,SNR=5.7						
ASAR	**Alice Springs**	**49.66**	**124**	P	**P**	**04 41 35.2**	**+0.5**
ASAR					**PcP**	**04 42 56.0**	**-0.1**
BRZS	**Berezniki**	**49.68**	**345**	*eP*	P	04 41 41.0	+6.6
	comp=Z,12nm,0.6s,baz=345						
BRZS				LR	LR	05 02 36.8	
	comp=Z,91nm,16.7s,baz=345						
TLY	**Talaya**	**50.28**	**11**	P	**P**	**04 41 37.9**	**-1.1**
	comp=Z,15nm,0.8s,baz=60,slow=3.8,SNR=6.0						
TLY	**Talaya**	**50.28**	**11**	P	**P**	**04 41 38.2**	**-0.8**
ZAA0	**Zalesovo Array**	**51.51**	**356**	P	**P**	**04 41 47.6**	**-0.6**
ZAA0				IAmb	IAmb	04 41 55.4	
	comp=Z,13nm,0.6s						
ZALV	**Zalesovo Beam**	**51.51**	**356**	P	**P**	**04 41 47.4**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=181,slow=6.8,SNR=9.9						
ZALV				LR	LR	05 05 03.0	
	comp=Z,169nm,21.2s,baz=154,slow=38						
ZALV	**Zalesovo Beam**	**51.51**	**356**	P	**P**	**04 41 47.5**	**-0.6**
CN2	**Changchun**	**51.55**	**32**	*eP*	**P**	**04 41 50.2**	**+1.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
BRVK	**Borovoye**	**53.10**	**345**	P	**P**	**04 41 59.4**	**-0.6**
KMBO	**Kilima Mbogo**	**53.26**	**267**	P	**P**	**04 42 03.5**	**+1.4**
	comp=Z,3.6nm,0.8s,baz=52,slow=8.5,SNR=8.8						
KMBO				LR	LR	05 02 57.8	
	comp=Z,116nm,18.1s,baz=100,slow=34						
KMBO	**Kilima Mbogo**	**53.26**	**267**	P	**P**	**04 42 01.9**	**-0.3**
ABKAR	**Akbulak array**	**53.37**	**336**	P	**P**	**04 42 01.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**55.44**	**35**	P	**P**	**04 42 17.2**	**0.0**
	comp=Z,2.9nm,1.0s,baz=252,slow=6.2,SNR=4.1						
USRK				LR	LR	05 07 00.4	
	comp=Z,111nm,20.8s,baz=206,slow=37						
USRK	**Ussuriysk Ar.**	**55.44**	**35**	P	**P**	**04 42 16.9**	**-0.3**
MAT	**Matsushiro**	**55.54**	**46**	P	P	04 42 24.4	+6.3
MJAR	**Matsushiro Arr**	**55.54**	**46**	P	**P**	**04 42 17.4**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=245,slow=7.7,SNR=4.5						
MJAR				LR	LR	05 08 25.9	
	comp=Z,116nm,18.7s,baz=235,slow=39						
MJAR	**Matsushiro Arr**	**55.54**	**46**	P	**P**	**04 42 17.3**	**-0.8**
KBZ	**Khabaz**	**58.75**	**321**	P	**P**	**04 42 41.7**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=142,slow=8.6,SNR=5.5						
CTA	**Charters Tower**	**59.17**	**115**	P	**P**	**04 42 44.9**	**+0.9**
	comp=Z,2.5nm,0.4s,baz=278,slow=8.8,SNR=9.8						
CTAO	**Charters Tower**	**59.17**	**115**	P	**P**	**04 42 44.3**	**+0.3**
CTAO				IAmb	IAmb	04 42 53.7	
	comp=Z,15nm,1.0s						
STKA	**Stephens Creek**	**59.32**	**130**	P	**P**	**04 42 45.4**	**+0.5**
	comp=Z,6.5nm,0.9s,baz=329,slow=6.9,SNR=6.1						
STKA				LR	LR	05 10 57.7	
	comp=Z,113nm,18.1s,baz=206,slow=39						
STKA	**Stephens Creek**	**59.32**	**130**	P	**P**	**04 42 45.6**	**+0.8**
BRTR	**Keskin Array B**	**63.28**	**314**	P	**P**	**04 43 11.8**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=166,slow=6.4,SNR=3.9						
BRTR	**Keskin Array B**	**63.28**	**314**	P	**P**	**04 43 10.7**	**-1.1**
LSZ	**Lusaka**	**64.01**	**252**	P	**P**	**04 43 16.5**	**-0.4**
LSZ				IAmb	IAmb	04 43 18.8	
	comp=Z,8.6nm,1.0s						
NRIK	**Noril'sk**	**66.78**	**

FINES	FINESS Array B	75.78 333	P	P	04 44 27.5	-0.8
VYHS	Vyhne	75.99 319	e	P	04 44 37.9	+8.1
MODS	Modra-Piesok	76.98 319	e	P	04 44 42.9	+7.5
KRLC	Kraliky	77.63 321	eP	P	04 44 40.4	+1.3
KRLC			epP	PcP	04 44 47.3	-1.9
ARSA	Arzberg	77.94 318	i P	P	04 44 42.0	+1.1
	comp=Z,3.1nm,0.7s					
DPC	Dobruska-Polom	77.97 321	eP	P	04 44 42.4	+1.4
DPC			epP	PcP	04 44 49.5	-1.2
SOKA	Soboth	78.18 317	i P	P	04 44 43.0	+0.7
	comp=Z,4.3nm,1.1s					
ARCES	ARCESS Array B	79.09 341	P	P	04 44 46.8	+0.1
	comp=Z,4.1nm,0.8s,baz=111,slow=4.9,SNR=3.7					
ARCES	ARCESS Array B	79.09 341	P	P	04 44 46.7	0.0
MYKA	Terra Mystica	79.12 317	i P	P	04 44 46.7	-0.8
	comp=Z,6.6nm,1.1s					
SYO	Syowa Base	79.19 197⇑	i P	P	04 44 47.0	-0.2
SYO	Syowa Base	79.19 197⇑	epP	pP	04 44 52.6	+2.9
GEC2	GERESS Array S	79.40 319	P	P	04 44 48.6	-0.4
GEC2			IAmb	IAmb	04 44 58.1	
	comp=Z,18nm,1.2s					
GERES	GERESS Array B	79.40 319	P	P	04 44 49.8	+0.8
	comp=Z,2.9nm,0.7s,baz=100,slow=5.5,SNR=25					
GERES	GERESS Array B	79.40 319	P	P	04 44 48.1	-0.9
KHC	Kasperske Hory	79.52 319	eP	P	04 44 50.4	+0.9
KHC			epP	PcP	04 44 57.6	+0.1
KHC	Kasperske Hory	79.52 319	P	P	04 44 49.1	-0.4
BRG	Berggiesshubel	79.55 321	eP	P	04 44 54.9	+5.3
	comp=Z,2.7nm,0.7s					
BRG			i		04 44 58.4	
	comp=Z,7.0nm,0.7s					
CIMO	Cimolais	79.90 316	P	P	04 44 50.6	-1.1
ABTA	Abfaltersbach	79.91 317	i P	P	04 44 49.9	-1.9
	comp=Z,5.0nm,1.2s					
CLL	Collm	80.20 322	eP	P	04 44 54.0	+0.9
	comp=Z,3.0nm,0.9s					
CLL			i sP	PcP	04 45 01.3	+1.0
	comp=Z,8.0nm,1.1s					
CLL			i		04 45 06.5	
CLL			eS	S	04 55 00.0	+1.7
CTI	Castel Tesino	80.42 316	P	P	04 44 53.6	-0.9
CTI			IAmb	IAmb	04 45 03.3	
	comp=Z,9.3nm,0.8s					
WTTA	Wattenberg	80.57 317	i P	P	04 44 55.3	-0.1
	comp=Z,5.8nm,0.7s					
WATA	Walderalm	80.61 317	i P	P	04 44 55.6	0.0
	comp=Z,6.7nm,1.0s					
SQTA	Sankt Quirin	80.85 317	i P	P	04 44 55.5	-1.3
	comp=Z,4.3nm,0.7s					
MOTA	Moosalm	80.94 317	i P	P	04 44 57.4	+0.1
	comp=Z,4.7nm,0.8s					
GRF	Grafenberg Arr	81.12 320	eP	P	04 45 07.0	+8.9
	comp=Z,11nm,1.1s,baz=106,slow=5.2					
FETA	Feichten	81.16 317	i P	P	04 44 59.5	+0.9
	comp=Z,2.3nm,0.7s					
RETA	Reutte	81.18 318	i P	P	04 44 58.9	+0.3
	comp=Z,10nm,1.8s					
KEST	Kesra	81.30 306	P	P	04 45 00.9	+1.5
	comp=Z,5.4nm,0.8s,baz=59,slow=12,SNR=6.4					
KEST	Kesra	81.30 306	P	P	04 44 58.5	-1.0
KEST			IAmb	IAmb	04 45 09.8	
	comp=Z,14nm,1.1s					
DAVA	Damuels	81.76 317	i P	P	04 45 02.1	+0.3
	comp=Z,11nm,1.0s					
NOA	NORSAR Array B	82.61 331	P	P	04 45 05.9	+0.2
	comp=Z,1.1nm,0.9s,baz=330,slow=15,SNR=3.2					
NOA			LR	LR	05 24 16.4	
	comp=Z,47nm,19.0s,baz=220,slow=38					
SENIN	Lac Senin/Sane	83.46 316	P	P	04 45 09.6	-1.0
BNI	Bardonecchia	83.82 315	P	P	04 45 11.4	-1.0
BNI			IAmb	IAmb	04 45 21.3	
	comp=Z,8.1nm,0.9s					
TAM	Tamanrasset	84.33 293	P	P	04 45 14.3	-1.2
TAM			IAmb	IAmb	04 45 18.5	
	comp=Z,6.1nm,1.0s					
TORD	Torodi Ar. Bea	88.19 283	P	P	04 45 35.3	+0.8
	comp=Z,0.8nm,0.9s,baz=87,slow=4.9,SNR=2.8					
TORD	Torodi Ar. Bea	88.19 283	P	P	04 45 33.4	-1.1
VNDA	Vanda	88.43 168	P	P	04 45 35.2	+0.9
	comp=Z,1.2nm,0.9s,baz=304,slow=11,SNR=4.0					
VNDA			LR	LR	05 19 44.8	
	comp=Z,95nm,18.5s,baz=359,slow=32					
URZ	Urewera	88.92 128	LR	LR	05 26 10.2	
	comp=Z,96nm,18.1s,baz=316,slow=36					
ESDC	Sonseca Array	91.80 310	P	P	04 45 52.0	+1.0
	comp=Z,1.4nm,1.0s,baz=75,slow=3.9,SNR=6.6					
ESDC	Sonseca Array	91.80 310	P	P	04 45 49.9	-1.0
ILAR	Eielson Array	101.11 22	PP	PP	04 50 44.4	+3.7
	comp=Z,0.7nm,1.1s,baz=282,slow=6.3,SNR=2.6					
NVAR	Mina Array Bea	131.43 30	PKP	PKPdf	04 51 56.3	+0.4
	comp=Z,0.2nm,0.6s,baz=339,slow=4.8,SNR=1.9					
NVAR	Mina Array Bea	131.43 30		PKPdf	04 51 54.7	-1.3
PDAR	Pinedale Array	131.49 20	PKP	PKiKP	04 51 56.7	-0.2
	comp=Z,0.1nm,0.3s,baz=170,slow=27,SNR=1.8					
PDAR	Pinedale Array	131.49 20		PKPdf	04 51 54.8	-1.2
AAGR	Agrelo	143.86 210	eP	PKPbc	04 52 17.4	+1.0
ARCO	CERRO ARCO	144.10 210	eP	PKPbc	04 52 18.0	+0.8
ASAL	Salagasta	144.25 211	eP	PKPdf	04 52 18.8	-0.7
APLL	PUNTA DE LOS L	144.67 216	eP	PKPdf	04 52 19.8	-0.4
RTCV	Cerro Valdivia	144.67 212	eP	PKPdf	04 52 19.7	-0.5
AUSP	Uspallata	144.83 211	eP	PKPdf	04 52 20.8	0.0
RTLS	Leoncito	145.12 211	eP	PKPbc	04 52 20.2	-0.5
TXAR	Lajitas Array	145.62 22	PKPbc	PKPab	04 52 22.3	-0.1
	comp=Z,4.0nm,0.8s,baz=287,slow=1.5,SNR=39					
TXAR	Lajitas Array	145.62 22		PKPdf	04 52 20.6	-1.3
CYA	Choya	145.62 219	eP	PKPab	04 52 22.2	-0.1
ACLC	CERRO LA CRUZ	145.62 217	eP	PKPab	04 52 22.8	+0.3
ACCO	Cerro Coronel	145.95 213	eP	PKPab	04 52 24.5	+0.6
AGUA	GUANDACOL	146.47 215	eP	PKPab	04 52 25.5	-0.1
LPAZ	La Paz	154.81 236	PKPbc	PKiKP	04 52 46.7	+0.8
	comp=Z,2.4nm,0.8s,baz=124,slow=3.0,SNR=8.0					
LPAZ	La Paz	154.81 236	PKPdf	PKPdf	04 52 35.2	-2.1

*IDC **11** 04:37:24.2±5.2, 30.°48S×179.°34W, h413km±46km, mb2.9/2, mb1 3.2/4, mb1mx2.9/39, mbtmp3.9/4, Error ellipse: s-maj=58.2km s-min=34.8km az=62.0*

ISC 11 04:37:22.4±2.7, 30.°5S±0.°1×179.°1W±0.°3, h400km, n30, σ1°64/44, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.61	40	P	Pn	04 38 06.0	-10
GLKZ				S	S	04 38 44.1	-16
RIZ	Raoul Island	1.62	40	P	Pn	04 38 05.6	-11
RIZ				S	S	04 38 46.2	-14
MXZ	Matakaoa Point	7.36	196	P	P	04 39 11.2	+0.8
MXZ				S	S	04 40 38.5	+0.6
WMGZ	Waiomatatini S	7.58	195	P	P	04 39 14.6	+1.7
HAZ	Te Kaha	7.68	199	P	Pn	04 39 12.5	-1.0
HAZ				S	S	04 40 45.9	+1.3
PUZ	Puketiti	7.86	195	P	P	04 39 17.7	+1.7
PUZ				S	S	04 40 46.3	-2.1
RUGZ	Raukumara Rang	7.90	199	P	P	04 39 18.2	+1.6
RUGZ				S	S	04 40 47.4	-2.1
MWZ	Matawai	8.29	199	P	P	04 39 22.9	+2.0
MWZ				S	S	04 40 55.7	-1.8
TKGZ	Te Karaka	8.30	197	P	Pn	04 39 15.1	-5.6
TKGZ				S	S	04 40 57.3	-0.4
URZ	Urewera	8.34	201	P	P	04 39 23.2	+1.8
	3.0nm,0.3s,baz=261,slow=4.3,SNR=31						
URZ				S	S	04 40 58.9	+0.4
	2.7nm,0.3s,baz=268,slow=23,SNR=12						
URZ	Urewera	8.34	201	P	P	04 39 22.4	+1.0
URZ				S	S	04 40 58.1	-0.4
RIGZ	Rimuhau	8.58	197	P	P	04 39 27.7	+3.6
RIGZ				S	S	04 41 00.6	-3.0
MUGZ	Murupara	8.65	202	P	Pn	04 39 22.6	-2.1
MUGZ				S	S	04 41 05.7	+0.6
SNGZ	Shannon Statio	8.76	198	P	P	04 39 26.8	+0.8
SNGZ				S	S	04 41 06.8	-0.7
MTHZ	Maungataniwha	8.97	201	S	S	04 41 09.7	-2.2
NMHZ	Naumai	9.21	200	P	P	04 39 29.1	-2.0
NMHZ				S	S	04 41 17.3	+0.4
ARHZ	Aropaoanui	9.30	199	P	Pn	04 39 34.2	+2.0
ARHZ				S	S	04 41 21.1	+2.3
HIZ	Hauiti	9.41	210	P	Pn	04 39 38.7	+5.3
KWHZ	Kaweka Forest	9.62	201	P	Pn	04 39 36.3	+0.3
KWHZ				S	S	04 41 25.3	-0.2
CKHZ	Cape Kidnapper	9.65	198	S	S	04 41 26.1	+0.1
BHHZ	Black Hill Sta	9.80	202	P	Pn	04 39 39.4	+1.4
BHHZ				S	S	04 41 27.2	-1.9
PXZ	Pawanui	10.06	198	P	Pn	04 39 41.1	+0.2
PXZ				S	S	04 41 32.2	-2.0

BFZ	Birch Farm	10.83 199	P	P	04 39 48.6	-0.5
BFZ			S	S	04 41 47.3	-2.8
HOWZ	Holdsworth Sta	11.25 201	P	Pn	04 39 55.1	+0.3
HOWZ			S	S	04 41 57.2	-1.4
TCW	Tory Channel	11.95 205	P	Pn	04 40 03.4	+0.6
TCW			S	S	04 42 11.8	-0.9
QRZ	Quartz Range	12.33 211	P	Pn	04 40 07.8	+0.5
QRZ			S	S	04 42 23.4	+2.9
DZM	Mont Dzumac	15.42 300	P	P	04 40 38.9	-0.7
	0.5nm,0.3s,baz=124,slow=11,SNR=6.2					
ASAR	Alice Springs	42.14 268	P	P	04 44 37.2	-0.5
	0.4nm,0.4s,baz=101,slow=7.7,SNR=5.5					
WRA	Warramunga Arr	43.14 273	P	P	04 44 44.8	-0.9
	1.1nm,0.8s,baz=112,slow=7.5,SNR=7.7					
FINES	FINESS Array B	144.90 339	PKP	PKPbc	04 56 11.3	-0.7
	1.7nm,0.7s,baz=57,slow=3.4,SNR=12					

*BUT **11** 04:56:10.7±0.7, 49.°17N±0.°05×113.°36W±0.°08, h41km±10km, Error ellipse: s-maj=8.0km s-min=6.6km az=74.0*
*NEIC **11** 04:56:10.5±0.8, 49.°16N±0.°03×113.°37W±0.°08, h31km±7km, Error ellipse: s-maj=7.2km s-min=3.6km az=96.0*
*OTT **11** 04:56:11.8±0.8, 49.°15N±0.°04×113.°40W±0.°08, h50km±9km, ML2.7, ML2.7/40(NEIC), Error ellipse: s-maj=7.8km s-min=5.9km az=77.0*
*PGC **11** 04:56:11.8±0.6, 49.°15N×113.°40W, h50km, ML2.7/5, 74km southwest of Lethbridge, Alberta Alberta, Canada*

ISC 11 04:56:08.0±1.0, 49.°18N±0.°04×113.°34W±0.°04, h10km, n80, σ1°45/88, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALA	Waterton Lakes	0.40	252	P	Pn	04 56 21.6	+1.6
WALA				S	Sb	04 56 28.6	+5.2
WALA	Waterton Lakes	0.40	252	Pn	Pn	04 56 21.5	+1.6
WALA					Sb	04 56 28.2	+4.7
YBMT	Yellow Bay	1.39	199	Pn	Pn	04 56 34.0	+0.3
YBMT	Yellow Bay	1.39	199	Pn	Pn	04 56 34.0	+0.3
JTMT	Jette	1.57	204	Pn	Pn	04 56 35.9	-0.2
JTMT	Jette	1.57	204	Pn	Pn	04 56 35.9	-0.2
JTMT				IAML		04 56 54.9	
	comp=E,71nm,0.4s						
BSMT	Bassoo Peak	1.64	216	Pn	Pn	04 56 37.3	+0.1
BSMT	Bassoo Peak	1.64	216	Pn	Pn	04 56 37.3	+0.1
SWMT	Swartz Lake	1.73	195	Pn	Pn	04 56 38.2	-0.1
SWMT	Swartz Lake	1.73	195	Pn	Pn	04 56 38.2	-0.1
PRDA	Priddis	1.80	340	Pn	Pb	04 56 41.4	+0.3
PRDA				Sn	Sn	04 57 02.2	+0.1
PRDA	Priddis	1.80	340	Pn	Pb	04 56 41.4	+0.3
PRDA				Sn	Sn	04 57 02.2	+0.1
FBMT	Ferry Basin	1.92	203	Pn	Pn	04 56 40.6	-0.3
FBMT	Ferry Basin	1.92	203	Pn	Pn	04 56 40.6	-0.3
SLMT	Seeley Lake	1.94	183	Pn	Pn	04 56 41.5	+0.2
SLMT	Seeley Lake	1.94	183	Pn	Pn	04 56 41.5	+0.2
BHMT	Big Hole Peak	1.96	216	Pn	Pn	04 56 41.5	+0.1
BHMT	Big Hole Peak	1.96	216	Pn	Pn	04 56 41.5	+0.1
OVMT	Ovando	2.13	174	Pn	Pn	04 56 44.3	+0.5
OVMT	Ovando	2.13	174	Pn	Pn	04 56 44.3	+0.5
LYMT	Lyon Mountain	2.32	162	Pn	Pn	04 56 46.9	+0.3
LYMT	Lyon Mountain	2.32	162	Pn	Pn	04 56 46.9	+0.3
MSO	Missoula	2.39	190		Pn	04 56 47.3	0.0
EGMT	Eagleton	2.65	115	Pn	Pn	04 56 51.2	+0.4
NEW	Newport	2.67	251		Pn	04 56 51.0	-0.1
HRY	Holter Researc	2.67	157	Pn	Pn	04 56 50.8	-0.5
HRY	Holter Researc	2.67	157	Pn	Pn	04 56 51.8	+0.6
LRM	Limekiln Ridge	3.42	170	Pn	Pn	04 57 01.0	-0.5
LRM	Limekiln Ridge	3.42	170	Pn	Pn	04 57 01.0	-0.5
LRM	Limekiln Ridge	3.42	170	Pn	Pn	04 57 01.1	-0.5
C09A	Chrisman Ranch	3.56	249	Pn	Pn	04 57 03.0	-0.3
C09A	Chrisman Ranch	3.56	249	Pn	Pn	04 57 02.8	-0.5
SLEB	Sale Mountain	3.67	305	Sg	Sg	04 58 05.5	-0.2
SLEB	Sale Mountain	3.67	305		Sg	04 58 05.5	-0.2
BOZ	Bozeman (W)	3.77	161	Pn	Pn	04 57 06.8	+0.5
DLMT	Dillon	3.85	172	Pn	Pn	04 57 08.6	+1.1
DLMT				IAML		04 57 55.8	
	comp=E,10nm,4.5s						
DLMT				IAML		04 58 19.5	
	comp=E,8.5nm,3.2s						
EDM	Edmonton	4.05	360	Pn	Pn	04 57 10.7	+0.7
EDM				Sn	Sn	04 57 53.4	-4.0
EDM	Edmonton	4.05	360	Pn	Pn	04 57 10.7	+0.7
EDM				Sn	Sn	04 57 53.4	-4.0
B08A	Colville Reser	4.05	261	Pn	Pn	04 57 09.3	-0.7
B08A				Sn	Sn	04 57 52.3	-5.2
B08A	Colville Reser	4.05	261	Pn	Pn	04 57 09.2	-0.9
B08A	Colville Reser	4.05	261	IAML		04 58 24.8	
	comp=N,9.0nm,0.6s						
PNT	Penticton	4.12	274	Pn	Pn	04 57 10.9	-0.1
PNT				Sn	Sn	04 57 54.1	-5.1
PNT	Penticton	4.12	274	Pn	Pn	04 57 10.9	-0.1
PNT				Sn	Sn	04 57 54.1	-5.1
F10A	Beach Ranch, E	4.15	221		Pn	04 57 11.6	+0.1
F10A				IAML		04 58 36.2	
	comp=N,12nm,0.5s						
F10A				IAML		04 58 40.8	
	comp=E,12nm,1.0s						
E09A	Wood Farm, Sta	4.20	232	Pn	Pn	04 57 11.9	-0.2
E09A				IAML		04 58 29.6	
	comp=N,6.8nm,0.6s						
E09A				IAML		04 58 31.9	
	comp=E,7.2nm,0.5s						
GCMT	Greycliff	4.21	142	Pn	Pn	04 57 13.3	+0.9
GCMT					Sn	04 58 00.3	-1.3
MCMT	McKenzie Canyo	4.37	175	Pn	Pn	04 57 14.6	0.0
MNB	Mounoet Dainar	4.41	315	Pn	Pn	04 57 15.3	+0.2
MNB	Mounoet Dainar	4.41	315	Pn	Pn	04 57 15.3	+0.2
YHL	Hebgen Lake	4.58	160	Pn	Pn	04 57 17.9	+0.4
E08A	Dider Farm, El	4.70	237	Pn	Pn	04 57 18.7	-0.3
E08A				IAML		04 58 57.9	
	comp=E,6.2nm,0.4s						
E08A				IAML		04 58 59.0	
	comp=N,6.8nm,3.3s						
YHH	Holmes Hill	4.71	158	Pn	Pn	04 57 18.8	-0.6
YNE	Yellowstone No	4.75	150	Pn	Pn	04 57 20.6	+0.6
YMR	Madison River	4.80	159	Pn	Pn	04 57 20.3	-0.2
RLMT	Red Lodge	4.92	144	Pn	Pn	04 57 22.2	0.0
RLMT				IAML		04 58 57.1	
	comp=N,7.3nm,0.5s						
RLMT				IAML		04 59 04.4	
	comp=N,8.0nm,0.5s						
BMO	Blue Mountains	5.11	214		Pn	04 57 24.9	+0.2
BMO				IAML		04 58 20.9	
	comp=N,3.6nm,0.5s						
BMO				IAML		04 58 43.1	
	comp=N,3.9nm,3.7s						
E07A	Sunnyside	5.11	242	Pn	Pn	04 57 23.8	-0.9
LTY	Liberty	5.26	251	Pn	Pn	04 57 25.9	-0.9
LTY	Liberty	5.26	251	Pn	Pn	04 57 25.9	-0.9
LTY	Liberty	5.26	251	IAML		04 58 52.5	
	comp=E,5.6nm,4.7s						
LTY				IAML		04 59 16.3	
	comp=N,5.8nm,3.1s						
GPW	Glacier Peak	5.28	261	Pn	Pn	04 57 27.2	0.0
GPW	Glacier Peak	5.28	261	Pn	Pn	04 57 27.2	0.0
LAO	LASA Array	5.39	115	Pn	Pn	04 57 29.0	+0.4
B06A	Marblemount	5.42	266	Pn	Pn	04 57 28.9	+0.1
RPW	Rockport	5.45	265	Pn	Pn	04 57 29.4	0.0
RPW	Rockport	5.45	265	Pn	Pn	04 57 29.4	0.0
G08A	Pilot Rock	5.46	227		Pn	04 57 29.8	+0.3
F07A	Phinny Hill Vi	5.54	236	Pn	Pn	04 57 30.7	+0.2
MBW	Mount Baker	5.65	269	Pn	Pn	04 57 32.2	0.0
MBW	Mount Baker	5.65	269	Pn	Pn	04 57 32.2	0.0
HLID	Hailey	5.67	188	Pn	Pn	04 57 32.6	+0.1
VDB	Vedder Mountai	5.76	272	Pn	Pn	04 57 33.8	+0.3
VDB	Vedder Mountai	5.76	272	Pn	Pn	04 57 33.8	+0.3
MFID	Camas Ranch	6.02	198	Pn	Pn	04 57 37.0	-0.2
DGMT	Dagmar	6.08	93	Pn	Pn	04 57 37.7	-0.2
D05A	Enumclaw	6.12	254	Pn	Pn	04 57 38.3	-0.2
LON	Longmire	6.19	250	Pn	Pn	04 57 39.2	-0.2
I07A	Izee	6.63	222	Pn	Pn	04 57 46.0	+0.4
PINE	Pine Mountain	7.52	227	Pn	Pn	04 57 57.8	-0.1
K05A	Summer Lake	8.33	222	Pn	Pn	04 58 08.8	-0.2

WEL 11 05:08:21.5, 44.°3±15.°×17.°3E±., h20km±11km, M2.2/7, ML2.3/7, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=172.7, South Island

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

MQZ	McQueen's Vall	0.09 184	P	Pb	05 08 26.4	+0.9
OKCZ	Okains Bay	0.31 111	P	Pb	05 08 29.5	+1.1
AKCZ	Akaroa Harbour	0.32 145	P	Pb	05 08 29.7	+1.2
AMCZ	Amberley	0.44 359	P	Pb	05 08 30.2	-0.3
OXZ	Oxford	0.54 302	P	Pn	05 08 33.7	-0.3
WACZ	Wakanui South	0.68 241	P	Pn	05 08 38.8	+2.9
GVZ	Greta Valley S	0.70 23	P	Pb	05 08 35.5	+0.4
LTZ	Lake Taylor	0.88 341	P	Pn	05 08 38.8	+0.1
HHSZ	Highcliff Hill	2.71 212	P	Pn	05 09 04.3	+0.5

*IDC **11** 05:09:59.3±1.4, 16.°18S×176.°09W, h343km±18km, mb3.7/8, mb1 3.8/9, mb1mx3.4/31, mbtmp4.4/9, Error ellipse: s-maj=23.2km s-min=15.8km az=157.0*

ISC 11 05:10:00.4±0.8, 16.°1S±0.°2×176.°1W±0.°1, h360km, n10, σ1°09/13, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.67	63	P	Pn	05 11 17.7	+0.7
	33nm,0.3s,baz=178,slow=2.2,SNR=30						
AFI				S	S	05 12 16.8	-2.2
	6.4nm,0.3s,baz=223,slow=23,SNR=1.4						
DZM	Mont Dzumac	17.58	248	P	P	05 13 42.0	-0.5
	0.2nm,0.3s,baz=58,slow=18,SNR=3.8						
URZ	Urewera	22.88	194	P	P	05 14 31.9	-1.9
	4.5nm,0.3s,baz=267,slow=3.7,SNR=13						
PPT	Papeete	25.37	97	P	P	05 14 57.2	+0.8
	19nm,0.6s,baz=278,slow=21,SNR=1.5						
STKA	Stephens Creek	41.48	240	P	P	05 17 13.5	-0.2
	2.4nm,0.6s,baz=99,slow=11,SNR=6.3						
WRA	Warramunga Arr	47.20	258	P	P	05 17 58.5	-0.3
	4.2nm,0.5s,baz=93,slow=6.9,SNR=137						
WRA				PcP	PcP	05 19 24.1	+0.3
	0.5nm,0.5s,baz=96,slow=3.3,SNR=4.3						
ASAR	Alice Springs	47.47	253	P	P	05 18 00.6	-0.2
	10nm,0.4s,baz=87,slow=8.0,SNR=260						
ASAR				PcP	PcP	05 19 25.0	+0.3
	0.9nm,0.7s,baz=89,slow=4.1,SNR=4.2						
VNDA	Vanda	62.44	185	P	P	05 19 47.2	+1.3
	0.9nm,0.8s,baz=37,slow=6.7,SNR=5.3						
ILAR	Eielson Array	83.64	12	P	P	05 21 49.3	+0.4
	0.3nm,0.8s,baz=216,slow=5.6,SNR=6.0						
MAW	Mawson	86.31	199	P	P	05 22 02.0	0.0
	0.8nm,0.7s,baz=135,slow=4.3,SNR=4.8						

*NEIC **11** 05:12:28.5±1.4, 14.°47N±0.°06×93.°53W±0.°07, h44km±6km, Error ellipse: s-maj=10.7km s-min=7.4km az=53.0*
*MEX **11** 05:12:29.1±1.3, 14.°52N×93.°54W, h23km±45km, MD4.4*
*UNK **11** 05:12:31.1, 14.°79N×93.°58W, h42km*
*IDC **11** 05:12:31.1±2.6, 14.°62N×93.°20W, h60km±22km, mb3.9/18, mb1 4.1/21, mb1mx4.0/37, mbtmp4.2/21, ML3.7/3, MS3.8/7, Ms1 3.8/7, ms1mx3.4/25, Error ellipse: s-maj=22.1km s-min=11.5km az=47.0*

ISC 11 05:12:27.7±0.5, 14.°49N±0.°06×93.°52W±0.°05, h35km±3km, n315, σ1°15/313, mb4.4/74, MS3.9/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.24	13	eP	Pn	05 12 48.2	-0.3
PCIG				i S	Sn	05 13 01.6	-2.4
THIG		1.28	71	i P	Pn	05 12 49.0	0.0
THIG				eS	Sn	05 13 03.7	-1.2
RTAL	Retalhuleu	1.76	89		Pn	05 12 55.2	-0.5
RTAL				Sn	Sn	05 13 20.5	+3.5
HUEH	Huehuetenango	2.11	67	Pn	Pn	05 13 02.3	+1.5
CCIG	Comitan	2.23	37		Pn	05 13 04.6	+2.4
CCIG				Sn	Sn	05 13 23.6	-4.9
TGIG		2.31	9	eP	Pn	05 13 05.0	+1.8
TGIG				i S	Sn	05 13 29.7	-0.8
CMIG	Matias Romero	2.90	333	i P	Pn	05 13 10.4	-1.1
CMIG				eS	Sn	05 13 43.8	-1.3
APG	El Apazote	3.00	80	P	Pn	05 13 13.9	+1.1
	9.6nm,0.3s,baz=269,slow=5.8,SNR=83						
APG				S	Sn	05 13 43.4	-4.3
	15nm,0.3s,baz=228,slow=15,SNR=6.5						
TUIG	Tuzandepetl	3.63	346	eP	Pn	05 13 25.9	+4.5
PEIG	Puerto Escondi	3.81	294	eP	Pn	05 13 21.0	-3.0
VHO	Vista Hermosa	4.03	310	eP	Pn	05 13 26.1	-0.9
VHO				i S	Sn	05 14 13.0	0.0
MTO3	Montecristo	4.03	91		Pn	05 13 27.1	+0.1
ESQI	Esquipulas	4.04	88	Pn	Pn	05 13 27.8	+0.6
SNET	Serv Nac Est T	4.23	100		Pn	05 13 29.5	-0.3
PETF	Flores	4.26	55		Pn	05 13 31.1	+1.0
YOIG	Yosondua	4.54	302	eP	Pn	05 13 34.0	-0.2
PNIG	Pinotepa	4.83	294	eP	Pn	05 13 35.0	-3.0
TXIG	Tlaxiaco	4.93	304	eP	Pn	05 13 39.6	+0.1
TXIG				i S	Sn	05 14 35.5	0.0
TOIG	Toxpalan	4.95	317	eP	Pn	05 13 40.4	+0.8
SCIG	Sabancuy	4.98	26	eP	Pn	05 13 41.3	+1.3
HLIG	Huajuapan de L	5.29	309	eP	Pn	05 13 44.5	0.0
TLIG	Tlapa	5.74	303	eP	Pn	05 13 50.5	0.0
TLIG	Tlapa	5.74	303	Pn	Pn	05 13 50.8	+0.3
CRIG	Cruz Grande

Y45A Yeager Farm, C 19.63 10 P **P 05 16 54.0 +0.8**
Y45A IAmb IAmb 05 16 56.6
comp=Z,25nm,0.9s
MIAR Mount Ida 19.97 360 P **P 05 16 54.8 -2.1**
baz=180
MIAR Mount Ida 19.97 360 P **P 05 16 57.3 +0.4**
MIAR IAmb IAmb 05 17 13.7
comp=Z,28nm,1.1s
GUY2C Guyana, Caldas 20.09 115 *e*P Pn 05 17 00.5 -0.4
GDL2 Guadalupe Moun 20.22 333 P **P 05 16 59.8 -0.1**
UALR University of 20.23 3 **P 05 16 59.1 -0.6**
UALR IAmb IAmb 05 17 16.4
comp=Z,14nm,0.8s
OXF Oxford 20.28 10 P **P 05 16 59.5 -0.8**
baz=192
MNTX Cornudas Mount 20.28 330 P **P 05 16 58.3 -2.1**
baz=145,SNR=16
MNTX Cornudas Mount 20.28 330 P **P 05 17 01.1 +0.7**
PTBC PUERTO BERRIO, 20.32 111 *e*P **P 05 17 00.7 -0.3**
154A Montrose 20.39 26 P Pn 05 17 03.4 -0.3
154A IAmb IAmb 05 17 20.2
comp=Z,49nm,1.4s
X34A Smith Ranch, M 20.40 350 P **P 05 17 02.8 +1.2**
X34A IAmb IAmb 05 17 10.3
comp=Z,14nm,0.9s
POPC Popayan, Colom 20.43 124 *e*P **P 05 17 01.8 -0.5**
TOLC Tolima 20.45 117 *e*P Pn 05 17 05.2 +0.4
W39A Magazine 20.62 359 P **P 05 17 01.8 -2.1**
baz=179,SNR=8.6
W39A Magazine 20.62 359 P **P 05 17 04.2 +0.2**
W39A IAmb IAmb 05 17 09.1
comp=Z,22nm,1.1s
W41B Gary Mavity, V 20.63 3 P **P 05 17 01.1 -3.0**
baz=184
W41B Gary Mavity, V 20.63 3 P **P 05 17 04.3 +0.3**
W41B IAmb IAmb 05 17 21.6
comp=Z,35nm,1.3s
WMOK Wichita Mounta 20.71 348 P **P 05 17 03.0 -2.0**
baz=166
WMOK Wichita Mounta 20.71 348 P **P 05 17 03.0 -2.0**
X48A Hartselle 20.72 15 P **P 05 17 06.2 +1.1**
CPRX Cap Rock 20.72 335 P **P 05 17 04.9 -0.3**
W35A Tecumseh 20.80 352 P **P 05 17 06.4 +0.5**
FNO Franklin 20.97 351 P **P 05 17 08.2 +0.4**
PLAL Pickwick Lake 20.99 13 IAmb IAmb 05 17 24.6
comp=Z,17nm,1.3s
SPBC San Pablo de B 21.04 113 *e*P **P 05 17 10.0 +1.1**
Y52A Lilburn 21.11 22 P **P 05 17 08.8 -0.4**
MSTX Muleshoe 21.13 338 P **P 05 17 07.7 -1.9**
baz=154,SNR=15
MSTX Muleshoe 21.13 338 P **P 05 17 09.8 +0.2**
OKCFA Oklahoma City 21.14 351 P **P 05 17 10.2 +0.7**
ROSC El Rosal 21.19 115 P **P 05 17 10.3 -0.4**
comp=Z,2.6nm,0.4s,baz=119,slow=21,SNR=1.6
ROSC El Rosal 21.19 115 P **P 05 17 10.6 -0.1**
ROSC IAmb IAmb 05 17 22.7
comp=Z,44nm,1.3s
FPAL Fort Paine 21.20 18 P **P 05 17 09.3 -1.0**
OK025 Westminster Rd 21.28 351 P **P 05 17 11.3 +0.1**
FCAR Ozark Folk Cen 21.35 3 P **P 05 17 11.9 +0.1**
FCAR IAmb IAmb 05 17 15.7
comp=Z,15nm,0.9s
BCOK Bluff Creek, N 21.40 351 P **P 05 17 12.1 -0.2**
TUL1 Leonard 21.43 355 P **P 05 17 13.3 +0.5**
baz=174
TUL1 Leonard 21.43 355 P **P 05 17 13.2 +0.5**
TUL1 IAmb IAmb 05 17 26.8
comp=Z,16nm,0.9s
BARC Barichara 21.46 109 *e*P **P 05 17 15.0 +1.6**
OK029 Liberty Lake 21.51 351 P **P 05 17 13.6 +0.1**
OK029 IAmb IAmb 05 17 16.5
comp=Z,14nm,0.9s
AMTX Amarillo 21.60 342 P **P 05 17 14.4 -0.2**
baz=158
GNAR Gosnell 21.62 8 P **P 05 17 14.7 0.0**
HALT Halls 21.66 9 P **P 05 17 14.6 -0.5**
HHAR Hobbs 21.71 359 P **P 05 17 16.1 +0.5**
HHAR IAmb IAmb 05 17 18.8
comp=Z,18nm,0.9s
U40A Yellville 21.79 1 P **P 05 17 17.1 +0.6**
baz=182
RUSC La Rusia 21.83 111 *e*P **P 05 17 18.7 +1.0**
U38A Gravette 21.88 358 P **P 05 17 17.7 +0.2**
U38A IAmb IAmb 05 17 19.9
comp=Z,11nm,0.8s
V48A Smith Brothers 22.00 15 P **P 05 17 18.9 +0.1**
Y55A Saluda 22.06 27 P **P 05 17 19.2 -0.2**
baz=212
WVT Waverly 22.14 12 P **P 05 17 20.0 -0.4**
baz=195
WVT Waverly 22.14 12 P **P 05 17 20.6 +0.3**
NHSC New Hope 22.15 31 P **P 05 17 19.1 -1.3**
baz=217
NHSC New Hope 22.15 31 P **P 05 17 18.0 -2.4**
319A Douglas 22.16 322 P **P 05 17 21.2 +0.4**
121A Cookes Peak, D 22.18 327 P **P 05 17 22.3 +1.3**
baz=141,SNR=12
121A Cookes Peak, D 22.18 327 P **P 05 17 23.7 +2.7**
CROK Carrier 22.29 350 P **P 05 17 21.9 0.0**
PARMO Parma 22.34 8 P **P 05 17 22.9 +0.5**
U32A Winter Ranch, 22.35 348 P **P 05 17 23.3 +0.8**
U32A IAmb IAmb 05 17 25.1
comp=Z,37nm,1.4s
PBMO Poplar Bluff 22.37 7 P **P 05 17 22.3 -0.5**
PBMO IAmb IAmb 05 17 39.7
comp=Z,18nm,1.0s
CLTN Cedars of Leba 22.46 15 P **P 05 17 23.8 +0.1**
T35A Sooner Cattle 22.50 354 P **P 05 17 23.6 -0.6**
T35A IAmb IAmb 05 17 28.6
comp=Z,14nm,1.2s
T42A Van Buren 22.55 5 P **P 05 17 24.8 +0.1**
MGMO Mountain Grove 22.60 3 P **P 05 17 25.5 +0.3**
KAN13 South Haven SW 22.71 352 P **P 05 17 26.9 +0.5**
V51A Loudon 22.76 20 P **P 05 17 27.8 +0.8**
Y57A Sumter 22.79 29 P **P 05 17 26.5 -0.7**
Y57A IAmb IAmb 05 17 42.8
comp=Z,15nm,1.1s
TKL Tuckaleechee C 22.82 21 P **P 05 17 27.0 -0.7**
comp=Z,3.4nm,1.0s,baz=194,slow=11,SNR=4.8
TKL Tuckaleechee C 22.82 21 P **P 05 17 27.2 -0.4**
T45A Paducah 22.86 10 P **P 05 17 27.8 -0.1**
X56A White Oak 22.89 27 P **P 05 17 26.3 -1.9**
baz=213
BNM Barren Site 22.89 331 P **P 05 17 30.6 +2.0**
W54A Cherokee Point 22.91 24 P **P 05 17 29.8 +1.3**
baz=210
Y22D IRIS PASSCAL I 22.97 330 P **P 05 17 29.2 -0.1**
SDV Santo Domingo 23.08 101 P **P 05 17 30.0 -0.6**
comp=Z,5.8nm,0.5s,baz=296,slow=13,SNR=3.1
SDV Santo Domingo 23.08 101 P **P 05 17 30.7 +0.1**
SDV IAmb IAmb 05 17 37.7
comp=Z,7.7nm,0.6s
S39A Bolivar 23.11 0 P **P 05 17 30.5 0.0**
S39A IAmb IAmb 05 17 32.0
comp=Z,21nm,0.9s
T47A Sharon Grove 23.13 13 P **P 05 17 30.2 -0.5**
T47A IAmb IAmb 05 17 31.4
comp=Z,11nm,0.7s
V53A Saluda 23.18 23 P **P 05 17 32.4 +1.1**
KMSC Kings Mountain 23.31 26 P **P 05 17 31.9 -0.6**
baz=212
S44A Carbondale 23.42 9 P **P 05 17 33.6 +0.1**
S44A IAmb IAmb 05 17 34.8
comp=Z,21nm,1.0s
ANMO Albuquerque 23.47 332 P **P 05 17 35.1 +0.8**
comp=Z,0.2nm,0.8s,baz=306,slow=12,SNR=7.9
ANMO Albuquerque 23.47 332 P **P 05 17 34.3 -0.1**
baz=147
ANMO Albuquerque 23.47 332 P **P 05 17 35.3 +1.0**
CCM Cathedral Cave 23.56 4 P **P 05 17 34.2 -0.7**
baz=186
CCM Cathedral Cave 23.56 4 P **P 05 17 34.7 -0.2**
V54A Nebo 23.61 24 P **P 05 17 34.2 -1.2**
baz=209
W56A Indian Trail 23.63 27 P **P 05 17 35.2 -0.4**
baz=213
TZTN Tazewell 23.70 20 P **P 05 17 35.7 -0.6**
baz=205
TUC Tucson 23.73 321 P **P 05 17 37.3 +0.6**
baz=134
TUC Tucson 23.73 321 P **P 05 17 37.7 +1.0**
TUC IAmb IAmb 05 17 40.0
comp=Z,13nm,1.0s
X58A Rowland 23.73 30 P **P 05 17 35.9 -0.6**
baz=216

R40A Maddies Statio 23.73 2 P **P 05 17 35.8 -0.8**
W57A Gilead 23.91 28 P **P 05 17 36.2 -2.0**
baz=214
V55A Taylorsville 23.97 25 P **P 05 17 36.7 -2.1**
baz=211
X59A McDuffie Farm, 24.11 31 P **P 05 17 39.0 -1.1**
baz=218
W58A Raeford 24.16 30 P **P 05 17 40.0 -0.5**
baz=216
SLM Saint Louis 24.23 6 P **P 05 17 40.9 -0.2**
R32A Long Quarter, 24.28 350 P **P 05 17 41.6 0.0**
WCI Wyandotte Cave 24.50 14 P **P 05 17 44.1 +0.5**
baz=197
WCI Wyandotte Cave 24.50 14 P **P 05 17 43.4 -0.2**
WCI IAmb IAmb 05 17 44.6
comp=Z,15nm,0.8s
T25A Trinidad 24.56 339 P **P 05 17 45.4 +0.9**
baz=154,SNR=16
T25A Trinidad 24.56 339 P **P 05 17 46.5 +2.1**
U55A TA2, Sparta 24.59 25 P **P 05 17 43.9 -0.7**
baz=210
OLIL Olney 24.62 10 P **P 05 17 44.7 0.0**
OLIL IAmb IAmb 05 17 46.0
comp=Z,17nm,0.8s
Q44A Meyer Farm, Va 24.64 8 P **P 05 17 44.9 -0.1**
Q44A IAmb IAmb 05 17 46.4
comp=Z,17nm,0.9s
KSU1 Kansas State U 24.67 354 P **P 05 17 44.2 -0.9**
baz=173
KSU1 Kansas State U 24.67 354 P **P 05 17 43.8 -1.3**
KSU1 IAmb IAmb 05 17 45.7
comp=Z,8.0nm,0.7s
U56A King 24.74 26 P **P 05 17 45.2 -0.6**
baz=212
214A Organ Pipe Nat 24.76 318 P **P 05 17 46.5 +0.4**
baz=130
214A Organ Pipe Nat 24.76 318 P **P 05 17 46.4 +0.2**
CBKS Cedar Bluff 24.85 348 P **P 05 17 46.4 -0.5**
baz=166
CBKS Cedar Bluff 24.85 348 P **P 05 17 46.1 -0.7**
CBKS IAmb IAmb 05 17 48.1
comp=Z,14nm,0.9s
P40A Paris 24.98 3 P **P 05 17 47.3 -0.7**
P40A IAmb IAmb 05 17 49.5
comp=Z,12nm,0.8s
P38A Dawn 25.04 360 P **P 05 17 47.5 -1.0**
P38A IAmb IAmb 05 17 49.6
comp=Z,11nm,0.8s
S53A Williamson 25.22 22 P **P 05 17 49.9 -0.4**
baz=207
V59A Middlesex 25.23 30 P **P 05 17 49.8 -0.5**
baz=217
SDCO Great Sand Dun 25.49 338 P **P 05 17 54.1 +1.1**
baz=152,SNR=15
SDCO Great Sand Dun 25.49 338 P **P 05 17 53.3 +0.3**
SDCO IAmb IAmb 05 17 56.1
comp=Z,10nm,1.1s
X16A Lo Mia Camp, P 25.61 324 P **P 05 17 54.4 +0.4**
KSCO Kaye Shedlock' 25.72 343 P **P 05 17 55.8 +1.0**
baz=159
KSCO Kaye Shedlock' 25.72 343 P **P 05 17 54.7 -0.1**
KSCO IAmb IAmb 05 17 57.7
comp=Z,13nm,0.8s
S22A 4UR Ranch, Cre 26.01 335 P **P 05 17 58.5 +0.8**
baz=149,SNR=5.1
S22A 4UR Ranch, Cre 26.01 335 P **P 05 17 59.0 +1.3**
V61A Roper 26.09 33 P **P 05 17 56.8 -1.3**
baz=220
ATAH Atahualpa 26.20 144 P **P 05 18 00.5 +0.7**
comp=Z,7.4nm,0.9s,baz=26,slow=10,SNR=3.3
HDIL Hopedale 26.23 7 P **P 05 17 58.3 -1.0**
baz=190
MVCO Mesa Verde 26.27 332 P **P 05 18 00.7 +0.7**
baz=146,SNR=6.2
MVCO Mesa Verde 26.27 332 P **P 05 18 00.5 +0.5**
MVCO IAmb IAmb 05 18 02.9
comp=Z,9.5nm,1.1s
WUAZ Wupatki 26.38 326 P **P 05 18 02.0 +1.1**
baz=138
WUAZ Wupatki 26.38 326 P **P 05 18 01.2 +0.3**
WUAZ IAmb IAmb 05 18 07.5
comp=Z,9.3nm,1.1s
Q24A Divide 26.45 339 P **P 05 18 02.4 +0.7**
baz=154
Q53A Leroy 26.48 21 P **P 05 18 02.2 +0.6**
baz=207
R55A Marlinton 26.50 24 P **P 05 18 02.4 +0.5**
baz=210
T59A Double "B" Far 26.53 30 P **P 05 18 01.6 -0.5**
baz=217
PV01 Paradox Valley 27.07 333 P **P 05 18 07.7 +0.5**
PV01 IAmb IAmb 05 18 10.6
comp=Z,11nm,1.1s
BGNE Belgrade 27.12 352 P **P 05 18 07.4 0.0**
baz=170
PDMCI Parker Dam,Lak 27.14 320 P **P 05 18 08.9 +1.3**
baz=131
PV13 Radium Mtn., P 27.20 333 P **P 05 18 10.1 +1.7**
PV13 IAmb IAmb 05 18 11.4
comp=Z,7.4nm,1.0s
PV02 Paradox Valley 27.20 333 P **P 05 18 11.0 +2.6**
PV02 IAmb IAmb 05 18 11.7
comp=Z,15nm,1.3s
PV15 Paradox Valley 27.20 334 IAmb IAmb 05 18 12.1
comp=Z,13nm,1.3s
PV05 Paradox Valley 27.25 332 P **P 05 18 09.1 +0.3**
PV05 IAmb IAmb 05 18 24.4
comp=Z,6.2nm,0.8s
PV18 Skein Mesa, Pa 27.31 333 P **P 05 18 08.8 -0.5**
PV18 IAmb IAmb 05 18 12.3
comp=Z,10nm,1.2s
PV12 Saucer Basin, 27.32 333 P **P 05 18 09.4 0.0**
PV12 IAmb IAmb 05 18 12.7
comp=Z,20nm,1.1s
PV11 David Mesa, Pa 27.34 333 P **P 05 18 09.8 +0.3**
PV11 IAmb IAmb 05 18 14.9
comp=Z,9.2nm,1.0s
PV07 Paradox Valley 27.35 334 P **P 05 18 10.0 +0.3**
PV07 IAmb IAmb 05 18 13.0
comp=Z,11nm,1.1s
SWSC Sam W. Stewart 27.35 316 P **P 05 18 10.3 +0.7**
baz=127
PV17 East Wray Mesa 27.36 333 P **P 05 18 09.5 -0.3**
PV17 IAmb IAmb 05 18 20.1
comp=Z,15nm,1.4s
ISCO Idaho Springs 27.36 339 P **P 05 18 10.8 +0.9**
baz=154,SNR=11
ISCO Idaho Springs 27.36 339 P **P 05 18 09.6 -0.3**
ISCO IAmb IAmb 05 18 12.6
comp=Z,7.4nm,0.9s
PV16 Nyswonger Mesa 27.36 333 P **P 05 18 09.7 -0.1**
PV16 IAmb IAmb 05 18 12.9
comp=Z,12nm,1.2s
PV19 Morning Glory 27.39 333 P **P 05 18 09.8 -0.3**
PV19 IAmb IAmb 05 18 16.1
comp=Z,12nm,1.4s
U15A North Rim 27.55 326 P **P 05 18 10.9 -0.7**
BC3 Big Chuckawall 27.56 318 P **P 05 18 13.0 +1.5**
baz=128,SNR=5.9
IRM Iron Mountain 27.68 319 P **P 05 18 13.8 +1.4**
baz=130
BELC Belle Mtn. Jos 28.13 318 P **P 05 18 17.6 +1.0**
baz=128
PFO Pinyon Flats O 28.20 316 P **P 05 18 20.3 +3.1**
comp=Z,0.9nm,0.7s,baz=84,slow=14,SNR=1.9
GMRC Granite Mounta 28.40 319 P **P 05 18 20.3 +1.2**
baz=130
N23A Red Feather La 28.45 340 P **P 05 18 20.1 +0.5**
baz=154
O20A White River Ci 28.62 336 P **P 05 18 21.9 +0.9**
baz=149
N54A Moraine State 28.89 22 P **P 05 18 21.1 -2.1**
baz=208
P17A Butcher Ranch, 29.13 332 P **P 05 18 26.0 +0.5**
ECSD EROS Data Cent 29.27 355 P **P 05 18 25.0 -1.4**
baz=174
ECSD EROS Data Cent 29.27 355 P **P 05 18 26.1 -0.3**
ECSD IAmb IAmb 05 18 26.5
comp=Z,6.3nm,0.8s
SUSD Miller 30.21 352 P **P 05 18 34.9 +0.1**
baz=170
SUSD Miller 30.21 352 P **P 05 18 34.5 -0.3**
K22A Casper 30.22 341 P **P 05 18 34.9 -0.2**
baz=154
K22A Casper 30.22 341 P **P 05 18 32.1 -3.0**
K22A IAmb IAmb 05 18 37.7
comp=Z,9.8nm,1.1s
MPMC Manual Prospec 30.36 319 P **P 05 18 36.7 +0.2**
baz=129
SPMN Marine on St. 30.64 1 P **P 05 18 37.6 -1.0**
baz=182
DUG Dugway, Tooele 30.68 330 P **P 05 18 40.4 +1.2**
baz=141
R11A Troy Canyon, C 30.75 325 P **P 05 18 41.0 +1.1**
baz=134
TCUT Toone Canyon 30.76 333 P **P 05 18 39.7 -0.3**
VES Vestal, Richgr 31.26 317 P **P 05 18 43.4 -0.8**
baz=126
PD31 Pinedale Array 31.38 337 P **P 05 18 45.5 0.0**
PDAR Pinedale Array 31.38 337 P **P 05 18 46.1 +0.6**
comp=Z,2.0nm,0.9s,baz=140,slow=8.8,SNR=15
PDAR Pinedale Array 31.38 337 P **P 05 18 45.6 +0.2**
NV11 Mina Array Sit 32.29 322 P **P 05 18 54.1 +0.7**
NV11 IAmb IAmb 05 18 56.8
comp=Z,6.9nm,1.1s
ELK Elko 32.30 328 P **P 05 18 52.4 -1.1**
ELK IAmb IAmb 05 18 56.8
comp=Z,4.6nm,1.1s
MDPB Devils Postpil 32.34 320 P **P 05 18 56.4 +2.4**
NVAR Mina Array Bea 32.38 322 P **P 05 18 56.4 +2.1**
comp=Z,3.0nm,0.8s,baz=137,slow=9.0,SNR=24
NVAR PcP **PcP 05 21 42.7 +1.2**
comp=Z,0.5nm,0.7s,baz=134,slow=2.6,SNR=3.6
NVAR LR LR 05 33 00.9
comp=Z,209nm,18.2s,baz=140,slow=38
NVAR Mina Array Bea 32.38 322 P **P 05 18 56.1 +1.9**
REDW Red Top Meadow 32.39 336 P **P 05 18 54.4 +0.1**
KVN Kaiserville 32.67 323 P **P 05 18 57.9 +1.2**
FXWY Fox Creek 32.69 336 P **P 05 18 58.2 +1.2**
RLMT Red Lodge 33.33 340 P **P 05 19 02.7 +0.3**
baz=151
RLMT Red Lodge 33.33 340 IAmb IAmb 05 19 04.2
comp=Z,5.5nm,0.8s
YNE Yellowstone No 33.48 339 P **P 05 19 04.4 +0.6**
MDND Maddock 33.64 353 P **P 05 19 03.9 -1.0**
baz=169,SNR=5.7
L64A Middleborough 33.66 31 P **P 05 19 02.2 -2.9**
baz=223
LAO LASA Array 33.82 344 P **P 05 19 06.4 -0.1**
baz=158
GCMT Greycliff 34.05 340 P **P 05 19 09.2 +0.6**
HLID Hailey 34.05 332 P **P 05 19 10.1 +1.3**
baz=142,SNR=7.1
HLID Hailey 34.05 332 P **P 05 19 09.2 +0.5**
HLID IAmb IAmb 05 19 11.4
comp=Z,4.7nm,0.9s
MCMT McKenzie Canyo 34.41 335 P **P 05 19 14.2 +2.3**
BOZ Bozeman (W) 34.58 337 P **P 05 19 14.1 +0.9**
baz=148
BOZ Bozeman (W) 34.58 337 P **P 05 19 14.4 +1.2**
DLMT Dillon 34.75 336 P **P 05 19 15.9 +1.2**
LRM Limekiln Ridge 35.08 337 P **P 05 19 19.2 +1.5**
WVOR Wild Horse Val 35.28 327 P **P 05 19 20.1 +0.8**
WVOR IAmb IAmb 05 19 21.9
comp=Z,6.4nm,1.1s
MOD Modoc Plateau 35.82 325 P **P 05 19 24.6 +0.6**
MOD IAmb IAmb 05 19 25.6
comp=Z,3.2nm,0.8s
J08A Circle Bar Ran 35.85 328 P **P 05 19 25.1 +1.0**
J08A IAmb IAmb 05 19 26.2
comp=Z,5.9nm,0.7s
BMO Blue Mountains 36.37 331 P **P 05 19 28.1 -0.5**
BMO IAmb IAmb 05 19 30.3
comp=Z,6.0nm,1.4s
PTGA Pitinga 36.48 112 IAmb IAmb 05 19 31.6
comp=Z,6.9nm,0.8s
MSO Missoula 36.49 336 P **P 05 19 30.2 +0.6**
baz=145
MSO Missoula 36.49 336 P **P 05 19 30.2 +0.6**
MSO IAmb IAmb 05 19 32.2
comp=Z,7.3nm,1.1s
F10A Beach Ranch, E 37.19 332 P **P 05 19 35.4 -0.1**
F10A IAmb IAmb 05 19 37.3
comp=Z,9.4nm,0.9s
C09A Chrisman Ranch 39.05 333 P **P 05 19 51.4 +0.3**
C09A IAmb IAmb 05 19 53.2
comp=Z,7.3nm,1.1s
LPAZ La Paz 39.55 140 P **P 05 19 55.5 -0.7**
comp=Z,1.0nm,0.8s,baz=333,slow=10,SNR=3.9
LON Longmire 39.92 329 P **P 05 19 59.3 +0.9**
SCHQ Schefferville 45.29 21 LR LR 05 40 54.8
comp=Z,166nm,19.2s,baz=99,slow=38
YKA Yellowknife Ar 50.22 347 P **P 05 21 20.5 +0.6**
comp=Z,7.5nm,0.8s,baz=155,slow=6.7,SNR=6.5
DLBC Dease Lake 51.62 336 P **P 05 21 30.8 +0.3**
DLBC IAmb IAmb 05 21 33.6
comp=Z,9.3nm,1.1s
BDFB Brasilia 54.02 122 P **P 05 21 48.2 -0.8**
comp=Z,1.0nm,0.4s,baz=278,slow=18,SNR=3.7
BDFB LR LR 05 44 08.0
comp=Z,57nm,18.1s,baz=239,slow=35
BDFB Brasilia 54.02 122 P **P 05 21 48.4 -0.6**
BDFB IAmb IAmb 05 22 04.2
comp=Z,6.6nm,1.3s
PLCA Paso Flores 58.93 160 P **P 05 22 23.7 +0.3**
comp=Z,5.2nm,1.1s,baz=329,slow=13,SNR=4.3
BCAR Beaver Creek A 59.01 337 P **P 05 22 24.2 +0.5**
K27K Chicken 59.64 338 P **P 05 22 28.2 +0.2**
baz=123
DOT Dot Lake 60.19 337 P **P 05 22 32.1 +0.3**
SCRK Sand Creek 60.33 337 P **P 05 22 33.5 +0.7**
baz=121
HDA Harding Lake 61.67 337 P **P 05 22 41.7 -0.1**
baz=118
IL31 61.82 337 IAmb IAmb 05 22 44.4
comp=Z,5.0nm,0.9s
IL31 pP pP 05 22 53.1 -0.3
ILAR Eielson Array 61.82 337 P **P 05 22 43.0 +0.3**
comp=Z,3.4nm,0.9s,baz=141,slow=4.6,SNR=28
ILAR Eielson Array 61.82 337 P **P 05 22 43.5 +0.7**
ILAR pP **pP 05 22 53.4 -0.1**
RND Reindeer 61.97 335 P **P 05 22 43.3 -0.6**
CCB Clear Creek Bu 62.11 337 P **P 05 22 45.1 +0.3**
WRH Wood River Hil 62.14 336 P **P 05 22 45.4 +0.5**
WRH IAmb IAmb 05 22 46.3
comp=Z,6.1nm,1.2s
BMAR Burnt Mountain 62.33 340 P **P 05 22 47.0 +0.8**
RSO Redoubt South 62.52 331 P **P 05 22 49.0 +1.2**
SKT Skwentna 62.52 333 P **P 05 22 48.7 +1.1**
SKT IAmb IAmb 05 22 57.1
comp=Z,3.4nm,0.8s
BWN Browne 62.55 336 P **P 05 22 48.1 +0.4**
NEA2 Nenana 62.57 336 P **P 05 22 48.1 +0.2**
baz=116
TRF Thorofare Moun 62.58 335 P **P 05 22 48.9 +0.8**
KTH Kantishna Hill 62.88 335 P **P 05 22 50.4 +0.4**
BPAW Bear Paw Mtn. 63.12 335 P **P 05 22 52.1 +0.6**
TOLK Toolik Lake Re 64.57 340 P **P 05 23 02.0 +1.0**
ESDC Sonseca Array 80.56 51 P **P 05 24 34.3 -2.5**
comp=Z,1.4nm,0.8s,baz=284,slow=4.9,SNR=7.5
ESDC Sonseca Array 80.56 51 IAmb IAmb 05 24 43.6
comp=Z,5.8nm,1.1s
MDT Midelt 81.39 58 LR LR 05 55 38.3
comp=Z,33nm,18.6s,baz=278,slow=32
NB2 NORSAR Subarra 84.42 28 P **P 05 24 57.9 +1.5**
comp=Z,13nm,1.0s,baz=291,slow=5.1
NB2 NORSAR Subarra 84.42 28 P **P 05 24 57.9 +1.5**
baz=291,slow=5.1
NOA NORSAR Array B 84.42 28 P **P 05 24 56.5 +0.1**
comp=Z,5.2nm,0.8s,baz=292,slow=4.9,SNR=17
ARCES ARCESS Array B 86.13 18 P **P 05 25 04.6 -0.2**
comp=Z,2.6nm,0.8s,baz=274,slow=6.7,SNR=4.6
ARCES LR LR 06 03 27.0
comp=Z,62nm,21.2s,baz=286,slow=36
GERES GERESS Array B 90.16 39 P **P 05 25 25.0 +0.5**
comp=Z,0.6nm,0.7s,baz=311,slow=8.1,SNR=4.5
FINES FINESS Array B 90.68 25 P **P 05 25 26.7 +0.2**
comp=Z,1.0nm,0.7s,baz=116,slow=35,SNR=2.3
TORD Torodi Ar. Bea 91.69 76 P **P 05 25 31.4 -0.7**
comp=Z,0.5nm,0.7s,baz=267,slow=5.9,SNR=3.0
TORD Torodi Ar. Bea 91.69 76 IAmb IAmb 05 25 32.0
comp=Z,0.7nm,0.9s
NRIK Noril'sk 96.39 360 LR LR 06 11 14.8
comp=Z,75nm,20.8s,baz=192,slow=37
WRA Warramunga Arr 134.09 256 PKP **PKPdf 05 31 42.1 -0.2**
comp=Z,0.5nm,1.0s,baz=90,slow=1.9,SNR=4.8
CMAR Chiang Mai Arr 145.04 339 PKPbc **PKPbc 05 32 01.5 0.0**
comp=Z,5.9nm,0.9s,baz=340,slow=3.7,SNR=18
CMAR Chiang Mai Arr 145.04 339 PKPbc **PKPab 05 32 01.8 +0.3**

ARE 11 05:37:02.2±10.0, 16°.83S×0°.09×71°.5W×0°.2, h15km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=156.0
NEIC 11 05:37:02.3±1.6, 16°.6S±0°.1×70°.8W±0°.2, h100km±9km, mb3.9/6, ML4.3(ARE), Error ellipse: s-maj=33.9km s-min=10.6km az=68.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**3.83**	**156**	Pn	Pn	05 37 59.6	0.0
PB08				Sn	Sn	05 38 40.6	-3.3
PATCX	**Punta Patache**	**4.22**	**172**	Pn	Pn	05 38 05.7	+1.1
PB04	**IPOC Station P**	**5.71**	**174**	Pn	Pn	05 38 24.6	-0.3
NNA	**Nana**	**7.44**	**308**	Pn	Pn	05 38 48.5	+0.1
CPUP	**Villa Florida**	**15.82**	**130**	Pn	Pn	05 40 39.3	-0.1
ROC1	**El Roble**	**16.28**	**181**	P	P	05 40 46.9	+0.4
MT05	**Renca**	**16.69**	**180**	Pn	Pn	05 40 49.1	-1.1
MT05				IAmb	IAmb	05 40 54.3	
	comp=Z,27nm,1.3s						
OTAV	**Otavalo**	**18.37**	**335**	P	P	05 41 10.2	+0.3
OTAV				IAmb	IAmb	05 41 19.1	
	comp=Z,2.3nm,0.9s						
BI03	**Tigo**	**20.23**	**185**	P	P	05 41 28.9	-0.5
FDF	**Fort de France**	**32.59**	**18**	P	P	05 43 29.3	+4.8
BANI	**BANI**	**34.80**	**1**	P	P	05 43 44.6	+0.9
PMSA	**Palmer Station**	**48.32**	**176**	P	P	05 45 36.3	+3.0
545A	**Edgard**	**50.13**	**338**	P	P	05 45 46.5	-1.0

KNET 11 06:28:11.8±0.2, 43°.04N×74°.91E, h8km±2km, ml1.2, Error ellipse: s-maj=1.3km s-min=1.1km az=50.0
SOME 11 06:28:12.3, 43°.03N×74°.93E
NNC 11 06:28:12.4±0.4, 42°.99N×74°.95E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=4.3km s-min=1.0km az=159.0, Suspected Mining explosion.
ISC 11 06:28:11.9±0.9, 43°.04N±0°.04×74°.91E±0°.02, h0km, n14, σ0°.75/24, 12C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.12**	**252**	⇑P	**Pg**	**06 28 14.3**	**+0.1**
CHMS	41nm,0.2s,SNR=84			⇑S	**Sg**	**06 28 16.7**	**+0.9**
USP	**Ospenovka**	**0.38**	**308**	⇑P	**Pg**	**06 28 19.1**	**0.0**
USP	59nm,0.1s			⇓S	**Sg**	**06 28 24.9**	**+0.9**
KBK	**Karagaybulak**	**0.38**	**176**	⇑P	**Pg**	**06 28 19.7**	**+0.5**
KBK	17nm,0.2s			⇑S	**Sb**	**06 28 26.4**	**-1.8**
AAK	**Ala-Archa**	**0.50**	**218**	⇑P	**Pg**	**06 28 21.7**	**+0.1**
AAK	4.4nm,0.2s,SNR=7.3			⇑S	**Sg**	**06 28 29.1**	**+1.1**
AAK	**Ala-Archa**	**0.50**	**218**	⇑P	**Pg**	**06 28 21.9**	**+0.4**
AAK	10nm,0.2s			⇓S	**Sg**	**06 28 29.1**	**+1.1**
TKM2	**Tokmak 2**	**0.52**	**103**	⇑P	**Pg**	**06 28 21.8**	**0.0**
TKM2	3.9nm,0.1s,SNR=36			⇑S	**Sg**	**06 28 21.6**	**-0.2**
TKM2	**Tokmak 2**	**0.52**	**103**	⇑P	**Pg**	**06 28 21.6**	**-0.2**
TKM2	1.4nm,0.6s			⇑S	**Sg**	**06 28 28.9**	**+0.4**
DGS	**Degeres**	**0.66**	**72**	P	**Pg**	**06 28 25.4**	**+0.8**
DGS	3.7nm,0.2s			S	**Sb**	**06 28 35.2**	**-1.1**
KST	**Kastek**	**0.77**	**89**	P	**Pg**	**06 28 27.2**	**+0.5**
KST	4.1nm,0.2s			S	**Sb**	**06 28 38.2**	**-1.2**
EKS2	**Erkin-Say**	**0.91**	**246**	⇑P	**Pg**	**06 28 29.4**	**0.0**
MRKS	**Merke**	**1.27**	**257**	P	**Pg**	**06 28 36.3**	**0.0**
MRKS	2.5nm,0.1s			S	**Sn**	**06 28 54.6**	**-0.2**
KTBS	**Karatobe**	**1.46**	**62**	P	**Pn**	**06 28 39.4**	**-0.1**
KTBS	1.0nm,0.2s			S	**Sg**	**06 28 59.2**	**+0.5**
ARXS	**Arharly**	**2.42**	**60**	Pg	**Pb**	**06 28 56.7**	**+0.3**
ARXS	3.6nm,0.2s			Lg	Lg	06 29 28.5	
KK31	**Karatay Array**	**3.22**	**273**	⇓Pg	**Pg**	**06 29 13.4**	**-0.3**
KK31	0.3nm,0.5s,baz=89,slow=16,SNR=6.6			⇓Lg	Lg	06 29 53.5	
	0.7nm,0.5s,baz=93,slow=27,SNR=4.1						

IDC 11 07:02:36.7±0.4, 1°.99N×30°.62W, h0km, mb4.4/27, mb1 4.6/28, mb1mx4.5/39, mbtmp4.4/28, ML3.8/1, MS4.4/31, Ms1 4.4/31, ms1mx4.4/36, Error ellipse: s-maj=15.4km s-min=10.5km az=146.0
NEIC 11 07:02:38.1±2.0, 1°.96N±0°.06×30°.64W±0°.09, h10km±1km, mb4.8/112, Error ellipse: s-maj=15.2km s-min=9.7km az=282.0
GCMT 11 07:02:42.1±0.1, 2°.06N±0°.01×30°.65W±0°.01, h12km, MW5.1/132, Moment Tensor Solution. s69,c88; s132,c227; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=6.31±.10; $M_{\theta\theta}$=-0.01±.11; $M_{\phi\phi}$=6.32±.09; $M_{r\theta}$=0.02±.39; $M_{\theta\phi}$=-0.04±.09; $M_{\phi r}$=-0.18±.29; Best double couple: M_0=6.31800×10^{16} NP1:ϕ_s=180.00000°, δ=44.00000°, λ=-90.00000°. NP2:ϕ_s=359.00000°, δ=46.00000°, λ=-90.00000°. Principal axes: T 6.3230, Plg1.0000°, Azm90.0000°; N -0.0090, Plg0.0000°, Azm360.0000°; P -6.3130, Plg89.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 11 07:02:38.4±0.3, 1°.99N±0°.06×30°.69W±0°.06, h10km, n249, σ1°.33/247, mb4.8/71, MS4.4/32, 8C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.35**	**214**	Pn	**Pn**	**07 04 51.9**	**-1.5**
RCBR	1.0nm,0.3s,baz=5.4,slow=16,SNR=19			Sn	Sn	07 06 25.1	-14
RCBR	0.5nm,0.3s,baz=108,slow=20,SNR=1.6			LR	LR	07 07 50.7	
	comp=Z,4μm,19.2s,baz=22,slow=33						
RCBR	**Riachuelo**	**9.35**	**214**	Pn	**Pn**	**07 04 52.8**	**-0.6**
RCBR					**Sn**	**07 06 33.2**	**-5.6**
ROSB	**Rosrio**	**14.28**	**250**	*e*P	**Pn**	**07 05 59.3**	**-1.5**
SACV	**Santiago Islan**	**14.67**	**28**	Pn	**Pn**	**07 06 04.2**	**-1.9**
NBCP	**Cabaceiras do**	**16.77**	**210**	*e*P	**P**	**07 06 36.8**	**+1.0**
TMAB	**Tom-Au,PA,Br**	**17.94**	**256**	*e*P	**Pn**	**07 06 47.1**	**-1.0**
H10N3	**ASCENSION HYDR**	**18.87**	**121**	T	T	07 26 17.5	
	baz=300,slow=75,SNR=818						
H10N2	**ASCENSION HYDR**	**18.87**	**121**	T	T	07 26 32.6	
	baz=300,slow=75,SNR=1073						
H10N1	**ASCENSION HYDR**	**18.89**	**121**	T	T	07 26 18.6	
	baz=300,slow=75,SNR=867						
SMTB	**Santa Maria do**	**20.00**	**237**	*e*P	Pn	07 07 12.5	-0.6
SDBA	**SAO DESIDERIO**	**20.10**	**224**	*e*P	Pn	07 07 13.6	-0.7
PRPB	**Parauapebas**	**20.75**	**247**	*e*P	**P**	**07 07 19.3**	**-0.3**
MCPB	**Macapa, AP**	**21.49**	**264**	*e*P	**P**	**07 07 27.6**	**+0.1**
JANB	**Januaria**	**21.65**	**218**	*e*P	**P**	**07 07 29.3**	**+0.1**
NAN01	**Guarapari, ES**	**21.79**	**205**	*e*P	**P**	**07 07 33.4**	**+2.7**
MDP	**Montagnes des**	**22.13**	**279**	P	**P**	**07 07 33.3**	**-1.1**
	8.1nm,1.0s,baz=135,slow=3.9,SNR=1.8						
MDP				LR	LR	07 15 01.6	
	comp=Z,1μm,21.0s,baz=105,slow=34						
PEXB	**Peixe**	**22.41**	**231**	*e*P	**P**	**07 07 38.4**	**+0.9**
MC01	**Montes Claros**	**22.73**	**215**	*e*P	**P**	**07 07 43.5**	**+2.8**
BSFB	**Barra de Sao F**	**22.98**	**205**	*e*P	**P**	**07 07 46.9**	**+3.6**
SJMB	**Sao Joao De Ma**	**23.01**	**206**	*e*P	**P**	**07 07 47.2**	**+3.6**
RIB01	**Linhares ES**	**23.22**	**204**	*e*P	**P**	**07 07 49.6**	**+3.8**
MALB	**Monte Alegre**	**23.88**	**261**	*e*P	**P**	**07 07 53.0**	**+0.6**
BDFB	**Brasilia**	**24.51**	**224**	P	**P**	**07 07 58.3**	**0.0**
	8.9nm,0.8s,baz=52,slow=7.1,SNR=9.3						
BDFB				LR	LR	07 16 44.7	
	comp=Z,2μm,18.5s,baz=57,slow=34						
BDFB	**Brasilia**	**24.51**	**224**	P	**P**	**07 07 57.7**	**-0.6**
BDFB				IAmb	IAmb	07 08 06.3	
	comp=Z,27nm,1.2s						
ITTB	**Itaituba**	**25.81**	**256**	*e*P	**P**	**07 08 10.1**	**0.0**
LIC	**Lamto**	**25.93**	**80**	*e*P	**P**	**07 08 13.0**	**+1.9**
	comp=Z,57nm,0.8s						
TIC	**Toumodi**	**26.00**	**79**	*e*P	**P**	**07 08 13.4**	**+1.6**
DBIC	**Dimbokro**	**26.16**	**79**	P	**P**	**07 08 13.3**	**+0.1**
	comp=Z,18nm,1.1s,baz=238,slow=12,SNR=8.0						
DBIC				LR	LR	07 16 14.2	
	comp=Z,2μm,20.6s,baz=240,slow=31						
DBIC	**Dimbokro**	**26.16**	**79**	P	**P**	**07 08 11.7**	**-1.6**
DBIC				IAmb	IAmb	07 08 25.3	
	comp=Z,36nm,1.2s						
NPGB	**Novo Progresso**	**26.21**	**250**	*e*P	**P**	**07 08 14.0**	**+0.3**
KIC	**Kosan Boka**	**26.23**	**80**	*e*P	**P**	**07 08 15.1**	**+1.2**
	comp=Z,38nm,1.1s						
IPMB	**Ipameri, GO**	**26.30**	**220**	*e*P	**P**	**07 08 16.1**	**+1.6**
BSCB	**Bom Sucesso**	**26.69**	**210**	*e*P	**P**	**07 08 19.8**	**+1.8**
VAS01	**Vassouras-RJ**	**27.15**	**207**	*e*P	**P**	**07 08 25.8**	**+3.8**
ARAG	**Araguaiana, MT**	**27.30**	**229**	*e*P	**P**	**07 08 25.1**	**+1.6**
MAN01	**Angra dos Reis**	**27.89**	**207**	*e*P	**P**	**07 08 30.7**	**+1.9**
CLDB	**Colider**	**28.06**	**242**	*e*P	**P**	**07 08 31.1**	**+0.8**
BB19B	**Bebedouro**	**28.81**	**216**	*e*P	**P**	**07 08 38.1**	**+1.1**
ITRB	**Iturama**	**28.95**	**221**	*e*P	**P**	**07 08 39.7**	**+1.5**
PARB	**Paraibuna**	**29.08**	**209**	*e*P	**P**	**07 08 41.6**	**+2.3**
PTGA	**Pitinga**	**29.40**	**265**	*e*P	**P**	**07 08 41.6**	**-0.6**
VAO	**Valinhos**	**29.48**	**212**	*e*P	**P**	**07 08 44.9**	**+2.0**
SPB	**Sao Paulo**	**30.20**	**212**	*e*P	**P**	**07 08 50.6**	**+1.4**
MACA	**Manacapuru-AM**	**30.42**	**260**	*e*P	**P**	**07 08 50.8**	**-0.5**
PET01	**Itanhaem-SP**	**30.70**	**211**	*e*P	**P**	**07 08 55.9**	**+2.3**
PCMB	**Pacaembu**	**30.90**	**220**	*e*P	**P**	**07 08 57.2**	**+1.7**
PCMB				*ep*P	**pwP**	**07 09 00.5**	**-0.5**
TIJ01	**Guaruva-PR**	**32.44**	**212**	*e*P	**P**	**07 09 11.5**	**+2.5**
TIJ01				*ep*P	**pwP**	**07 09 13.8**	**-0.8**
TRCB	**Terra Rica**	**32.63**	**220**	*e*P	**P**	**07 09 12.3**	**+1.6**
PTLB	**Pontes e Lacer**	**33.05**	**237**	*e*P	**P**	**07 09 16.1**	**+1.7**
PTGB	**Pitanga**	**33.69**	**217**	*e*P	**P**	**07 09 21.5**	**+1.5**
TOA0	**Torodi Ar. Sit**	**33.91**	**69**	P	**P**	**07 09 21.4**	**-0.5**
TOA0				IAmb	IAmb	07 09 24.2	
	comp=Z,11nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.91**	**69**	P	**P**	**07 09 20.9**	**-1.0**
	comp=Z,10nm,1.1s,baz=256,slow=8.6,SNR=27						
TORD				PcP	**PcP**	**07 11 59.0**	**-1.6**
	comp=Z,1.5nm,1.1s,baz=232,slow=3.5,SNR=3.0						
TORD				LR	LR	07 21 18.4	
	comp=Z,3μm,19.6s,baz=255,slow=33						
TORD	**Torodi Ar. Bea**	**33.91**	**69**	P	**P**	**07 09 20.9**	**-1.0**
SAML	**Samuel**	**34.16**	**251**	P	**P**	**07 09 26.1**	**+2.0**
SAML	**Samuel**	**34.16**	**251**	*e*P	**P**	**07 09 24.8**	**+0.7**
SAML				*ep*P	**pP**	**07 09 27.0**	**+0.6**
SIV	**San Ignacio**	**34.94**	**238**	P	**P**	**07 09 32.1**	**+1.2**
	comp=Z,3.2nm,0.9s,baz=92,slow=9.4,SNR=14						
CNLB	**Canela**	**36.63**	**210**	*e*P	**P**	**07 09 47.6**	**+2.3**
ETMB	**Extrema**	**37.27**	**251**	*e*P	**P**	**07 09 51.2**	**+0.4**
CPUP	**Villa Florida**	**38.15**	**221**	P	**P**	**07 09 59.1**	**+1.1**
	comp=Z,8.2nm,0.8s,baz=33,slow=8.4,SNR=17						
CPUP				LR	LR	07 25 19.1	
	comp=Z,2μm,19.1s,baz=48,slow=36						
CPUP	**Villa Florida**	**38.15**	**221**	P	**P**	**07 09 59.9**	**+1.9**
CPUP				IAmb	IAmb	07 10 06.7	
	comp=Z,23nm,1.2s						
CPUP	**Villa Florida**	**38.15**	**221**	*e*P	**P**	**07 09 59.6**	**+1.6**
CPSB	**Cacapava Do Su**	**38.84**	**212**	*e*P	**P**	**07 10 05.6**	**+1.7**
MDT	**Midelt**	**39.24**	**36**	P	**P**	**07 10 07.6**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=241,slow=8.4,SNR=8.5						
PLTB	**Pedras Altas**	**40.00**	**211**	*e*P	**P**	**07 10 15.1**	**+1.6**
PLTB				*ep*P	**pwP**	**07 10 18.6**	**-0.5**
SDV	**Santo Domingo**	**40.32**	**281**	P	**P**	**07 10 18.7**	**+2.0**
	comp=Z,5.0nm,0.4s,baz=199,slow=4.5,SNR=3.8						
SDV	**Santo Domingo**	**40.32**	**281**	P	**P**	**07 10 16.5**	**-0.2**
SDV	**Santo Domingo**	**40.32**	**281**	*e*P	**P**	**07 10 15.8**	**-0.9**
TAM	**Tamanrasset**	**40.76**	**57**	P	**P**	**07 10 20.1**	**-0.1**
SFS	**San Fernando**	**41.09**	**31**	P	**P**	**07 10 23.2**	**+0.7**
LPAZ	**La Paz**	**41.20**	**242**	P	**P**	**07 10 25.1**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=32,slow=0.9,SNR=10						
LPAZ				LR	LR	07 27 25.6	
	comp=Z,3μm,18.5s,baz=60,slow=36						
LPAZ	**La Paz**	**41.20**	**242**	P	**P**	**07 10 23.6**	**-0.8**
LPAZ	**La Paz**	**41.20**	**242**	*e*P	**P**	**07 10 24.5**	**+0.1**
LPAZ				*ep*P	**pP**	**07 10 26.3**	**-0.4**
LPAZ				*e*S	**S**	**07 16 40.3**	**+1.6**
RUSC	**La Rusia**	**42.46**	**277**	*e*P	**P**	**07 10 35.5**	**+0.8**
BARC	**Barichara**	**42.61**	**278**	*e*P	**P**	**07 10 36.9**	**+1.4**
CZSB	**Cruzeiro do Su**	**43.01**	**257**	*e*P	**P**	**07 10 38.2**	**-0.3**
SPBC	**San Pablo de B**	**43.43**	**276**	*e*P	**P**	**07 10 41.1**	**-0.9**
ROSC	**El Rosal**	**43.64**	**275**	P	**P**	**07 10 45.1**	**+1.0**
	comp=Z,17nm,0.7s,baz=123,slow=3.3,SNR=14						
ROSC				LR	LR	07 29 05.0	
	comp=Z,2μm,18.5s,baz=113,slow=36						
ROSC	**El Rosal**	**43.64**	**275**	*e*P	**P**	**07 10 43.6**	**-0.5**
ROSC	**El Rosal**	**43.64**	**275**	P	**P**	**07 10 43.0**	**-1.1**
NORC	**Norcasia**	**44.22**	**276**	*e*P	**P**	**07 10 47.2**	**-1.1**
ORTC	**Ortega, Tolima**	**44.54**	**274**	*e*P	**P**	**07 10 50.2**	**-0.7**
LVC	**Limon Verde**	**44.58**	**235**	*e*P	**P**	**07 10 52.3**	**+0.9**
TOLC	**Tolima**	**44.63**	**274**	*e*P	**P**	**07 10 51.4**	**-0.5**
ESDC	**Sonseca Array**	**44.69**	**30**	P	**P**	**07 10 51.4**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=219,slow=8.6,SNR=9.2						
ESDC				LR	LR	07 27 15.2	
	comp=Z,176nm,19.5s,baz=210,slow=33						
GUY2C	**Guyana, Caldas**	**44.70**	**275**	*e*P	**P**	**07 10 51.7**	**-0.9**
FLOC	**Florencia**	**44.95**	**270**	*e*P	**P**	**07 10 54.0**	**-0.1**
GO02	**Mina Guanaco**	**46.35**	**232**	P	**P**	**07 11 06.1**	**+0.7**
OTAV	**Otavalo**	**47.78**	**269**	*e*P	**P**	**07 11 16.2**	**-0.8**
KEST	**Kesra**	**50.01**	**43**	P	**P**	**07 11 33.4**	**+0.2**
	comp=Z,6.7nm,1.2s,baz=330,slow=0.5,SNR=4.1						
KEST				LR	LR	07 31 59.1	
	comp=Z,843nm,20.9s,baz=195,slow=35						
TSUM	**Tsumeb**	**51.88**	**116**	P	**P**	**07 11 47.0**	**-0.6**
BNI	**Bardonecchia**	**54.03**	**32**	P	**P**	**07 12 02.4**	**-0.8**
BNI				IAmb	IAmb	07 12 20.0	
	comp=Z,11nm,1.2s						
PLCA	**Paso Flores**	**55.91**	**216**	LR	LR	07 36 49.3	
	comp=Z,863nm,18.6s,baz=17,slow=37						
PLCA	**Paso Flores**	**55.91**	**216**	*e*P	**P**	**07 12 18.2**	**+1.4**
V58A	**Windy Hill, Pi**	**56.00**	**313**	P	**P**	**07 12 17.8**	**+0.4**
V58A				IAmb	IAmb	07 12 19.7	
	comp=Z,6.8nm,1.0s						
MVL	**Millersville**	**56.04**	**319**	P	**P**	**07 12 18.3**	**+0.8**
MVL				IAmb	IAmb	07 12 20.1	
	comp=Z,18nm,1.3s						
S58A	**Poland Farm, P**	**56.05**	**315**	P	**P**	**07 12 18.9**	**+1.3**
S58A				IAmb	IAmb	07 12 21.3	
	comp=Z,8.2nm,1.1s						
BIRD	**Birdtown, Kers**	**56.52**	**311**	P	**P**	**07 12 22.2**	**+1.1**
BIRD				IAmb	IAmb	07 12 24.1	
	comp=Z,5.7nm,0.9s						
Y52A	**Lilburn**	**58.99**	**309**	P	**P**	**07 12 39.3**	**+0.8**
Y52A				IAmb	IAmb	07 12 40.4	
	comp=Z,4.6nm,0.8s						
V51A	**Loudon**	**59.90**	**311**	P	**P**	**07 12 45.1**	**+0.3**
V51A				IAmb	IAmb	07 12 47.2	
	comp=Z,8.9nm,1.1s						
GEC2	**GERESS Array S**	**60.15**	**32**	P	**P**	**07 12 44.8**	**-1.6**
GERES	**GERESS Array B**	**60.15**	**32**	P	**P**	**07 12 46.1**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=232,slow=6.6,SNR=9.5						
GERES				LR	LR	07 36 36.0	
	comp=Z,189nm,21.5s,baz=247,slow=34						
GERES	**GERESS Array B**	**60.15**	**32**	P	**P**	**07 12 44.6**	**-1.7**
KHC	**Kasperske Hory**	**60.26**	**32**	*e*P	**P**	**07 12 46.5**	**-0.5**
SCHQ	**Schefferville**	**60.33**	**337**	LR	LR	07 34 20.2	
	comp=Z,173nm,21.5s,baz=40,slow=32						
FPAL	**Fort Paine**	**60.42**	**309**	P	**P**	**07 12 49.2**	**+0.7**
FPAL				IAmb	IAmb	07 12 51.1	
	comp=Z,8.9nm,1.0s						
LBTB	**Lobatse**	**60.74**	**120**	P	**P**	**07 12 49.5**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=245,slow=13,SNR=3.7						
Y49A	**Blount Mountai**	**60.82**	**308**	P	**P**	**07 12 51.2**	**+0.1**
Y49A				IAmb	IAmb	07 13 04.1	
	comp=Z,5.9nm,0.9s						
SWET	**Sewanee**	**60.90**	**310**	P	**P**	**07 12 50.7**	**-1.0**
SWET				IAmb	IAmb	07 12 54.1	
	comp=Z,8.4nm,0.9s						
IDI	**Anoyia**	**61.18**	**50**	⇑P	**P**	**07 12 55.5**	**+1.9**
CLL	**Collm**	**61.28**	**30**	*e*S	**S**	**07 21 20.0**	**+5.9**
CLL				LmV		07 36 00.0	
	comp=Z,200nm,20.1s						
BOSA	**Boshof**	**61.60**	**124**	P	**P**	**07 12 55.5**	**-1.1**
	comp=Z,8.9nm,1.1s,baz=296,slow=7.8,SNR=6.5						
BOSA				LR	LR	07 33 59.4	
	comp=Z,487nm,21.8s,baz=286,slow=31						
BOSA	**Boshof**	**61.60**	**124**	P	**P**	**07 12 55.0**	**-1.6**
Z47A	**Carrollton**	**61.94**	**307**	P	**P**	**07 12 56.9**	**-1.8**
CCIG	**Comitan**	**62.07**	**287**	P	**P**	**07 12 59.5**	**-0.6**
KKB	**Krupnik**	**62.35**	**43**	P	**P**	**07 13 02.2**	**+0.9**
T47A	**Sharon Grove**	**62.40**	**311**	P	**P**	**07 13 02.0**	**+0.3**
PLAL	**Pickwick Lake**	**62.49**	**309**	P	**P**	**07 13 03.1**	**+0.8**
PLAL				IAmb	IAmb	07 13 07.6	
	comp=Z,6.4nm,1.0s						
MMB	**Musomiste**	**62.67**	**43**	P	**P**	**07 13 04.1**	**+0.6**
VTS	**Vitosha**	**62.76**	**42**	P	**P**	**07 13 05.2**	**+1.0**
PSZ	**Piszkesteto**	**63.10**	**36**	⇑P	**P**	**07 13 07.3**	**+1.0**
PSZ	**Piszkesteto**	**63.10**	**36**	P	**P**	**07 13 06.7**	**+0.5**
PGB	**Panagyurishte**	**63.36**	**43**	P	**P**	**07 13 09.0**	**+0.9**
PLD	**Plovdiv**	**63.55**	**43**	P	**P**	**07 13 10.0**	**+0.8**
ARR	**Arges**	**64.83**	**40**	⇑P	**P**	**07 13 18.9**	**+1.2**
JMB	**Yambol**	**64.97**	**43**	P	**P**	07 13 13.3	-5.3
VOIR		**65.12**	**40**	⇑P	**P**	**07 13 20.1**	**+0.4**
LCAR	**Lake Charles**	**65.21**	**309**	P	**P**	**07 13 19.7**	**-0.5**
LCAR				IAmb	IAmb	07 13 31.1	
	comp=Z,12nm,1.4s						
DOPR	**Dopca**	**65.56**	**39**	⇑P	**P**	**07 13 22.2**	**-0.2**
MLR	**Muntele Rosu**	**65.72**	**40**	⇑P	**P**	**07 13 24.4**	**+0.8**
MLR	**Muntele Rosu**	**65.72**	**40**	P	**P**	**07 13 23.8**	**+0.2**
PRD	**Provadia**	**65.80**	**43**	P	**P**	**07 13 22.5**	**-1.4**
VRI	**Vrincioaia**	**66.37**	**40**	⇑P	**P**	**07 13 29.2**	**+1.6**
MGMO	**Mountain Grove**	**66.38**	**310**	P	**P**	**07 13 27.7**	**-0.1**
MGMO				IAmb	IAmb	07 13 42.9	
	comp=Z,13nm,1.2s						
PSN	**Preselentsi**	**66.51**	**43**	P	**P**	**07 13 26.8**	**-1.7**
NB2	**NORSAR Subarra**	**66.91**	**21**	P	**P**	**07 13 30.8**	**0.0**
	comp=Z,63nm,2.5s,baz=226,slow=6.5						
NB2	**NORSAR Subarra**	**66.91**	**21**	P	**P**	**07 13 30.8**	**0.0**
	baz=226,slow=6.5						
NOA	**NORSAR Array B**	**66.91**	**21**	P	**P**	**07 13 30.7**	**0.0**
	comp=Z,5.1nm,1.0s,baz=229,slow=6.3,SNR=6.7						
NOA				LR	LR	07 39 18.6	
	comp=Z,94nm,19.8s,baz=235,slow=33						
NC405	**NORSAR Array S**	**67.14**	**21**	P	**P**	**07 13 31.9**	**-0.2**
NC405				IAmb	IAmb	07 13 48.0	
	comp=Z,13nm,1.4s						
KMBO	**Kilima Mbogo**	**68.00**	**92**	LR	LR	07 39 20.9	
	comp=Z,640nm,21.5s,baz=274,slow=32						
BR131	**Keskin Array S**	**69.15**	**48**	P	**P**	**07 13 44.0**	**-1.4**
BR131				IAmb	IAmb	07 13 53.4	
	comp=Z,8.1nm,1.1s						
BRTR	**Keskin Array B**	**69.15**	**48**	P	**P**	**07 13 44.6**	**-0.8**
	comp=Z,5.5nm,1.0s,baz=225,slow=5.9,SNR=11						
BRTR				LR	LR	07 44 14.9	
	comp=Z,149nm,20.4s,baz=216,slow=36						
BRTR	**Keskin Array B**	**69.15**	**48**	P	**P**	**07 13 43.9**	**-1.6**
T35A	**Sooner Cattle**	**69.59**	**309**	P	**P**	**07 13 46.9**	**-1.2**
T35A				IAmb	IAmb	07 13 54.3	
	comp=Z,13nm,1.1s						
AKASG	**Malin Array Be**	**69.80**	**36**	P	**P**	**07 13 48.6**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=240,slow=7.2,SNR=7.2						
AKASG				LR	LR	07 42 36.7	
	comp=Z,76nm,21.4s,baz=235,slow=34						
AKASG	**Malin Array Be**	**69.80**	**36**	P	**P**	**07 13 48.8**	**-0.2**
AKBB	**Malin Array Si**	**69.80**	**36**	P	**P**	**07 13 49.0**	**0.0**
AKBB				IAmb	IAmb	07 14 05.2	
	comp=Z,14nm,1.2s						
N35A	**Tabor**	**69.92**	**313**	P	**P**	**07 13 49.7**	**-0.2**
OK025	**Westminster Rd**	**69.95**	**307**	P	**P**	**07 13 49.8**	**-0.5**
OK025				IAmb	IAmb	07 14 00.7	
	comp=Z,14nm,1.2s						
SUMG	**Summit**	**70.66**	**358**	*i* P	**P**	**07 13 54.0**	**-0.4**
	comp=Z,26nm,1.1s						
SUMG	**Summit**	**70.66**	**358**	P	**P**	**07 13 53.9**	**-0.4**
L34A	**Svendsen Farm,**	**70.74**	**314**	P	**P**	**07 13 54.2**	**-0.8**
PMSA	**Palmer Station**	**70.94**	**194**	*e*P	**P**	**07 13 56.8**	**+1.2**
PMSA				*ep*P	**pwP**	**07 14 02.0**	**+0.8**
ABTX	**Abilene, Hawle**	**71.26**	**304**	P	**P**	**07 13 58.4**	**+0.1**
ABTX				IAmb	IAmb	07 14 13.9	
	comp=Z,13nm,1.2s						
BGNE	**Belgrade**	**71.89**	**313**	P	**P**	**07 14 01.5**	**-0.5**
ULM	**Lac du Bonnet**	**72.80**	**322**	LR	LR	07 40 22.7	
	comp=Z,384nm,21.8s,baz=128,slow=31						
FINES	**FINESS Array B**	**72.93**	**25**	P	**P**	**07 14 08.2**	**+0.5**
	comp=Z,5.4nm,1.0s,baz=207,slow=8.1,SNR=9.5						
FINES				LR	LR	07 43 56.6	
	comp=Z,150nm,19.6s,baz=240,slow=34						
FINES	**FINESS Array B**	**72.93**	**25**	P	**P**	**07 14 07.8**	**+0.1**
FIA1	**FINESS Array S**	**72.94**	**25**	P	**P**	**07 14 08.6**	**+0.9**
VNA1	**Neumayer--Stat**	**74.01**	**172**	P	**P**	**07 14 15.2**	**+1.3

SZCU	Shurtz Canyon	82.77	307	P		P		07 15 03.4	+0.1
BGU	Big Grassy Mou	82.91	311	P		P		07 15 03.6	-0.3
CCUT	Cedar City	82.98	307	P		P		07 15 05.5	+1.0
W13A	Hualapai Mount	83.29	305	P		P		07 15 06.7	+0.6
PSUT	Pine Spring	83.42	308	P		P		07 15 06.2	-0.4
HLID	Hailey	84.08	313	P		P		07 15 10.8	+0.9
HLID				IAmb		IAmb		07 15 15.3	
comp=Z,6.1nm,1.4s									
ELK	Elko	84.58	311	P		P		07 15 13.1	+0.5
R11A	Troy Canyon, C	84.77	308	P		P		07 15 13.6	+0.1
SYO	Syowa Base	84.88	160⇑	*e*P		P		07 15 11.7	-1.3
TPNV	Topopah Spring	85.26	307	P		P		07 15 16.5	+0.5
TPNV				IAmb		IAmb		07 15 21.1	
comp=Z,5.5nm,1.0s									
YKA	Yellowknife Ar	85.43	332	P		P		07 15 14.8	-1.2
comp=Z,6.7nm,1.0s,baz=93,slow=4.3,SNR=5.0									
YKA				LR		LR		07 50 51.9	
comp=Z,307nm,18.7s,baz=0.0,slow=34									
TPH	Tonopah	86.05	308	P		P		07 15 20.4	+0.5
BMO	Blue Mountains	86.21	315	P		P		07 15 20.8	+0.3
KVN	Kaiserville	86.75	309	P		P		07 15 23.3	0.0
KVN				IAmb		IAmb		07 15 27.4	
comp=Z,5.5nm,0.9s									
NV11	Mina Array Sit	86.79	308	P		P		07 15 23.9	+0.4
NV11				IAmb		IAmb		07 15 26.5	
comp=Z,4.5nm,1.1s									
NVAR	Mina Array Bea	86.91	308	P		P		07 15 24.6	+0.5
comp=Z,2.2nm,0.8s,baz=98,slow=5.6,SNR=16									
NVAR				LR		LR		07 52 09.1	
comp=Z,74nm,19.1s,baz=121,slow=34									
J08A	Circle Bar Ran	87.03	313	P		P		07 15 24.7	+0.2
J08A				IAmb		IAmb		07 15 27.4	
comp=Z,5.5nm,1.0s									
ISA	Isabella, Lake	87.05	305	P		P		07 15 25.4	+0.6
ISA				IAmb		IAmb		07 15 28.4	
comp=Z,5.8nm,0.9s									
LHV	Little Huntoon	87.06	308	P		P		07 15 24.0	-0.5
LHV				IAmb		IAmb		07 15 37.2	
comp=Z,7.2nm,1.0s									
RYN	Ryan	87.08	308	P		P		07 15 25.8	+0.8
RYN				IAmb		IAmb		07 15 28.0	
comp=Z,10nm,1.1s									
WVOR	Wild Horse Val	87.15	312	P		P		07 15 26.2	+1.1
OMMB	Old Mammoth Mi	87.46	307	P		P		07 15 27.5	+0.5
OMMB				IAmb		IAmb		07 15 39.5	
comp=Z,6.8nm,1.3s									
GEYT	Alibeck	87.84	52	LR		LR		07 59 13.9	
comp=Z,75nm,18.3s,baz=195,slow=39									
PNTR	Pine Nut	87.91	309	P		P		07 15 29.9	+0.9
ARU	Arti	87.94	34	LR		LR		07 53 45.4	
comp=Z,142nm,20.7s,baz=274,slow=35									
VCNR	Virginia City	87.95	309	P		P		07 15 29.2	+0.1
VCNR				IAmb		IAmb		07 15 46.2	
comp=Z,7.5nm,1.4s									
ABKAR	Akbulak array	88.92	41	P		P		07 15 33.7	+0.5
MAW	Mawson	93.19	157	P		P		07 15 53.0	+0.4
comp=Z,3.6nm,1.2s,baz=304,slow=5.8,SNR=4.9									
MAW				LR		LR		07 51 10.1	
comp=Z,135nm,18.5s,baz=244,slow=31									
MAW	Mawson	93.19	157	P		P		07 15 53.5	+0.9
BMAR	Burnt Mountain	97.15	339	P		P		07 16 10.4	-0.4
NRIK	Noril'sk	97.79	18	LR		LR		08 02 48.9	
comp=Z,41nm,18.1s,baz=12,slow=37									
ILAR	Eielson Array	99.09	337	P		Pdif		07 16 19.3	-0.3
comp=Z,1.5nm,1.0s,baz=44,slow=4.4,SNR=9.0									
ILAR				LR		LR		07 59 11.3	
comp=Z,244nm,18.9s,baz=95,slow=34									
ILAR	Eielson Array	99.09	337	P		Pdif		07 16 19.0	-0.5
GTA	Gaotai	118.75	42	*e*PKP		PKiKP		07 21 32.3	+4.7
HHC	Hu-ho-hao-te	125.24	35	*e*PKP		PKiKP		07 21 40.3	0.0
HHC				AMB		AMB			
comp=Z,89nm,6.2s									
HHC				LR		LR			
comp=Z,230nm,17.0s									
HHC				LR		LR			
comp=Z,160nm,17.0s									
HHC				LR		LR			
comp=Z,320nm,19.6s									
GYA	Guiyang	130.06	53	*e*PKP		PKPdf		07 21 47.2	-2.4
NJ2	Nanjing	135.50	38	*e*PKP		PKPdf		07 21 58.4	-1.1
ASAR	Alice Springs	153.79	147	PKP		PKPdf		07 22 29.9	-1.1
comp=Z,1.0nm,1.0s,baz=234,slow=2.9,SNR=5.4									
ASAR				PKPbc		PKPbc		07 22 38.2	-0.6
comp=Z,1.3nm,0.9s,baz=199,slow=3.2,SNR=8.0									
ASAR				PKPab		PKPab		07 22 51.7	+0.1
comp=Z,2.1nm,1.0s,baz=205,slow=1.0,SNR=6.9									
ASAR	Alice Springs	153.79	147			PKPdf		07 22 29.5	-1.4
ASAR						PKPbc		07 22 38.4	-0.4
ASAR						PKPab		07 22 50.3	-1.2
WRA	Warramunga Arr	156.92	142	PKP		PKPdf		07 22 33.3	-2.0
comp=Z,0.8nm,1.1s,baz=224,slow=1.3,SNR=2.8									
WRA				PKPab		PKPab		07 23 04.2	-0.8
comp=Z,0.4nm,0.9s,baz=228,slow=8.8,SNR=4.9									
WRA	Warramunga Arr	156.92	142			PKPdf		07 22 31.7	-3.5
WRA						PKPab		07 23 01.5	-3.5

IDC 11 07:05:27.8±12.0, 24°.40S×178°.63W, h692km±244km, mb2.8/3, mb1 3.1/4, mb1mx2.7/24, mbtmp4.1/4, Error ellipse: s-maj=227.9km s-min=59.9km az=72.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.29	194	P	P	07 08 27.1	+0.4
0.9nm,0.3s,baz=57,slow=6.3,SNR=6.5							
URZ				S	S	07 10 50.6	-1.4
0.3nm,0.3s,baz=235,slow=9.2,SNR=2.2							
STKA	Stephens Creek	35.71	249	P	P	07 11 33.0	+0.1
1.3nm,0.5s,baz=130,slow=7.9,SNR=2.9							
ASAR	Alice Springs	43.19	261	P	P	07 12 32.4	+0.2
0.8nm,0.5s,baz=93,slow=7.0,SNR=15							
WRA	Warramunga Arr	43.63	266	P	P	07 12 35.2	-0.3
2.1nm,0.5s,baz=103,slow=8.3,SNR=39							

IDC 11 07:06:18.5±0.8, 1°.94N×30°.65W, h0km, mb4.0/8, mb1 4.3/9, mb1mx3.9/39, mbtmp4.0/9, ML3.3/1, Error ellipse: s-maj=28.5km s-min=24.2km az=137.0

NEIC 11 07:06:19.9±1.3, 1°.8N±0°.1×30°.58W±0°.09, h10km±1km, mb4.4/8, Error ellipse: s-maj=28.2km s-min=5.4km az=328.0

ISC 11 07:06:19.8±0.7, 1°.8N±0°.1×30°.6W±0°.2, h10km, n27, σ0°.91/26, mb4.2/11, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	9.27	215	Pn	Pn	07 08 33.1	-0.6
0.3nm,0.3s,baz=53,slow=17,SNR=2.1							
H10N3	ASCENSION HYDR	18.68	121	T	T	07 30 02.8	
baz=300,slow=75							
H10N2	ASCENSION HYDR	18.69	121	T	T	07 30 04.7	
baz=300,slow=75							
H10N1	ASCENSION HYDR	18.70	121	T	T	07 30 05.8	
baz=300,slow=75							
TOA0	Torodi Ar. Sit	33.86	69	P	P	07 13 02.8	-0.2
TOA0				IAmb	IAmb	07 13 09.4	
comp=Z,5.1nm,1.1s							
TORD	Torodi Ar. Bea	33.86	69	P	P	07 13 02.8	-0.2
comp=Z,0.9nm,0.6s,baz=259,slow=8.9,SNR=6.8							
TORD	Torodi Ar. Bea	33.86	69	P	P	07 13 03.3	+0.4
CPUP	Villa Florida	38.09	221	P	P	07 13 40.6	+1.6
comp=Z,5.1nm,1.1s,baz=60,slow=8.4,SNR=3.5							
CPUP	Villa Florida	38.09	221	P	P	07 13 40.2	+1.1
TXAR	Lajitas Array	74.39	300	P	P	07 17 57.6	-0.9
comp=Z,0.4nm,0.8s,baz=116,slow=6.2,SNR=4.7							
TXAR	Lajitas Array	74.39	300	P	P	07 17 58.9	+0.4
TX31	Lajitas Ar. Si	74.39	300	P	P	07 17 58.6	+0.1
TX31				IAmb	IAmb	07 18 01.5	
comp=Z,7.2nm,1.2s							
TX32	Lajitas Array	74.39	300	P	P	07 17 59.2	+0.6
SNAA	Sanae	75.52	171	P	P	07 18 04.4	+0.2
comp=Z,0.9nm,0.8s,baz=355,slow=13,SNR=4.2							
SNAA	Sanae	75.52	171	IAmb	IAmb	07 18 06.0	
comp=Z,3.7nm,1.5s							
KBZ	Khabaz	76.83	46	P	P	07 18 13.1	+1.0
comp=Z,0.7nm,0.3s,baz=317,slow=2.3,SNR=3.7							
PDAR	Pinedale Array	80.68	313	P	P	07 18 31.9	-1.8
comp=Z,0.2nm,0.3s,baz=69,slow=8.8,SNR=2.5							
PDAR	Pinedale Array	80.68	313	P	P	07 18 33.3	-0.4
BMO	Blue Mountains	86.41	315	P	P	07 19 03.2	+0.3
BMO				IAmb	IAmb	07 19 04.8	
comp=Z,4.2nm,1.1s							
KVN	Kaiserville	86.94	309	P	P	07 19 05.7	-0.1
KVN				IAmb	IAmb	07 19 06.8	
comp=Z,2.3nm,1.1s							
NVAR	Mina Array Bea	87.10	308	P	P	07 19 07.0	+0.4
comp=Z,0.4nm,0.5s,baz=109,slow=4.9,SNR=6.8							
NVAR	Mina Array Bea	87.10	308	P	P	07 19 06.8	+0.3
RYN	Ryan	87.27	308	P	P	07 19 07.5	+0.2
ILAR	Eielson Array	99.29	337	P	Pdif	07 20 01.8	-0.1
comp=Z,0.9nm,1.1s,baz=48,slow=2.7,SNR=3.6							
ILAR	Eielson Array	99.29	337	P	Pdif	07 20 01.1	-0.8
ASAR	Alice Springs	153.58	147	PKP	PKPdf	07 26 11.6	-0.6
comp=Z,0.4nm,0.9s,baz=188,slow=15,SNR=2.8							
ASAR				PKPbc	pPKPbc	07 26 21.6	-0.7
comp=Z,0.6nm,1.0s,baz=204,slow=2.0,SNR=4.7							
ASAR				PKPab	PKPab	07 26 32.6	+0.5
comp=Z,0.2nm,0.8s,baz=193,slow=3.8,SNR=4.6							
ASAR	Alice Springs	153.58	147		PKPdf	07 26 09.7	-2.4
ASAR					PKPab	07 26 31.1	-1.0

BGR 11 07:30:25.8±0.0, 27°.50N×140°.97E, h437km±1km, mb4.9
BJI 11 07:30:25.8±0.0, 27°.33N×140°.28E, h426km, mB4.6/42, mb4.7/61
IDC 11 07:30:25.7±0.8, 27°.27N×140°.30E, h414km±7km, mb4.5/35, mb1 4.5/41, mb1mx4.3/60, mbtmp5.2/41, Error ellipse: s-maj=8.8km s-min=7.0km az=77.0
UNK 11 07:30:25.8, 27°.30N×140°.36E, h412km
JMA 11 07:30:25.2±0.1, 27°.39N×140°.70E, h427km, M5.2
NIED 11 07:30:25.2, 27°.39N×140°.70E, h427km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.00; $M_{\theta\theta}$0.42; $M_{\phi\phi}$0.58; $M_{r\theta}$-0.75; $M_{\theta\phi}$-0.85; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.43000×10^{16} NP1: ϕ_s117.00000°, δ63.00000°, λ-114.00000°. NP2: ϕ_s342.00000°, δ36.00000°, λ-51.00000°.
NEIC 11 07:30:26.6±1.3, 27°.29N±0°.08×140°.28E±0°.03, h423km±5km, mb4.9/345 Error ellipse: s-maj=12.1km s-min=3.0km az=168.0

ISC 11 07:30:25.7±0.4, 27°.32N±0°.04×140°.42E±0°.05, h415km±3km, h415km:pP-P, n799, σ1°.22/840, mb4.8/244, 28C-12D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.58	98	P	P	07 31 20.7	-0.1
CBIJ				*e*S	S	07 32 03.7	-1.6
JCJ	Chichijima	1.58	98	P	P	07 31 20.9	+0.1
623nm,0.3s,baz=355,slow=19,SNR=284							
JCJ				S	S	07 32 02.0	-3.3
526nm,0.3s,baz=296,slow=23,SNR=30							
JCJ	Chichijima	1.58	98	P	P	07 31 20.5	-0.3
JHH2	Haha-jima-NKT2	1.71	113	P	P	07 31 21.7	+0.3
JHH2				*e*S	S	07 32 05.4	-1.0
JAOM	Aogashimamukai	5.16	354	P	P	07 31 50.5	+0.8
JHCJ	Hachijojimakas	5.76	355	P	P	07 31 56.0	+0.1
JHCJ				*e*S	S	07 33 06.3	-3.6
JHJ2	Mitsune	5.79	355	P	P	07 31 56.6	+0.3
JHJ2				S	S	07 33 09.7	-0.9
JHJ2	Mitsune	5.79	355		P	07 31 56.5	+0.3
JHJ	Hachijo jima 2	5.80	355	P	P	07 31 56.2	-0.2
378nm,0.3s,baz=81,slow=20,SNR=40							
JHJ				S	S	07 33 08.1	-2.8
71nm,0.3s,baz=90,slow=20,SNR=2.0							
JMKN	Mikurajimanish	6.59	354	P	P	07 32 04.5	-0.9
JKO	Kozu shima	6.93	351	P	P	07 32 09.0	-0.1
TK02	Tokai 2	6.99	341	P	P	07 32 10.9	+1.4
TTO1	TONANKAI O.B.S	7.02	334	P	P	07 32 12.2	+2.4
BSO1	Boso 1	7.33	4	P	P	07 32 13.0	+0.2
JIM2	Oshima 3	7.42	354	P	P	07 32 14.0	-0.5
BSO3	Boso 3	7.46	1	P	P	07 32 14.3	-0.3
JIZS	Izushimoda	7.49	350	P	P	07 32 14.9	-0.4
JMMH	Miemihama	7.50	331	P	P	07 32 17.4	+2.0
JSG	Sagara	7.58	346	P	P	07 32 17.4	+1.2
BSO4	Boso 4	7.64	359	P	P	07 32 16.6	-0.2
JTNC	Tanabenakahech	7.69	329	P	P	07 32 19.4	+1.9
JHTM	Izuhatsuma	7.71	351	P	P	07 32 17.4	-0.3
JIE	Ise	7.74	337	P	P	07 32 19.6	+1.6
JKN2	Miekihoku	7.76	334	P	P	07 32 19.9	+1.6
JKN2				S	S	07 33 48.7	-1.4
AJI	Ajiro2	7.78	352	P	P	07 32 18.0	-0.5
JKUC	kamogawauchiur	7.82	359	P	P	07 32 17.9	-0.9
JWM	Minabe	7.83	327	P	P	07 32 21.6	+2.5
HMMJ	Hamamatsu 2	7.86	344	P	P	07 32 19.6	+0.3
HMMJ				S	S	07 33 48.7	-3.4
JYZW	Yoshizawa	7.99	344	P	P	07 32 21.0	+0.3
JOD2	Odawara 2	8.00	352	P	P	07 32 20.3	-0.6
TSUJ	Tsu 2	8.12	336	P	P	07 32 24.5	+2.4
JKDJ	Kitadaitoujima	8.28	263	P	P	07 32 24.8	+0.8
JNY	Yasuok	8.30	345	P	P	07 32 24.8	+0.6
JYN	Shimob	8.31	349	P	P	07 32 24.2	0.0
JSGW	Sagamiharawaka	8.32	353	P	P	07 32 23.3	-1.0
JMZ	Minamidaito 2	8.37	262	P	P	07 32 25.5	+0.5
JMZ	Minamidaito 2	8.37	262		P	07 32 25.6	+0.6
INU	Inuyama	8.52	341		P	07 32 26.5	+0.1
JMN	Monobe	8.52	320	P	P	07 32 29.5	+2.9
JTO	Tosashimizu	8.60	312	P	P	07 32 30.3	+2.9
JGF	Kuroka	8.66	343	P	P	07 32 27.1	-1.0
JRY	Ryogami san	8.77	352	P	P	07 32 28.8	-0.4
JRY				*e*S	S	07 34 06.0	-4.9
JYT	Yasato	8.88	359		P	07 32 29.3	-1.2
JFM	Mihama	9.02	336	P	P	07 32 34.7	+2.7
JWT	Wachi	9.02	333		P	07 32 33.4	+1.3
JET	Tanbara	9.04	317	P	P	07 32 35.3	+3.0
JAG	Ashikaga	9.11	355	P	P	07 32 31.5	-1.5
JHO	Hitachi	9.26	1	P	P	07 32 34.4	-0.3
MJAR	Matsushiro Arr	9.38	349	P	P	07 32 35.3	-0.7
0.8nm,0.3s,baz=172,slow=12,SNR=20							
MJAR				S	S	07 34 20.1	-3.6
0.9nm,0.3s,baz=148,slow=12,SNR=5.8							
MJAR	Matsushiro Arr	9.38	349	P	P	07 32 35.0	-1.0
MAJO	Matsushiro	9.38	349		P	07 32 35.9	-0.2
JKIT	Kitakata	9.40	306	P	P	07 32 40.1	+3.8
JUS	Usuki	9.44	309	P	P	07 32 40.2	+3.5
JKT	Katashina	9.47	354	P	P	07 32 36.0	-1.1
JKSM	Kasumi	9.59	331	P	P	07 32 41.0	+2.6
JHM	Kurahashi	9.61	317	P	P	07 32 41.5	+3.0
JSU	Suzuyama	9.64	298	P	P	07 32 41.0	+2.1
JZO	Okuchi	9.80	302	P	P	07 32 45.0	+4.3
JHS	Saijyo	9.88	323	P	P	07 32 44.3	+2.7
JHS	Saijyo	9.88	323	P	P	07 32 44.0	+2.4
JAMN	Amaminishikomi	10.00	278	P	P	07 32 45.3	+2.3
JNU	Nakatsue	10.07	307	P	P	07 32 44.5	+0.7
13nm,0.3s,baz=14,slow=3.1,SNR=52							
JNU				S	S	07 34 39.2	+1.4
baz=205,slow=15,SNR=1.4							
JNU	Nakatsue	10.07	307	P	P	07 32 44.1	+0.3
JTK	Tokunoshima	10.19	275	P	P	07 32 47.6	+2.5
JSJ	Shimokoshiki	10.29	298	P	P	07 32 49.5	+3.4
JFA	Akaike	10.46	310	P	P	07 32 50.6	+2.6
JMM	Marumori	10.52	2	P	P	07 32 47.9	-0.7
NGSJ	Nagasakinomoza	10.62	302	P	P	07 32 53.1	+3.3
JOW	Kunigami	10.84	270	P	P	07 32 54.2	+1.9
JSD	Sado	10.84	351	P	P	07 32 52.3	+0.2
JSD	Sado	10.84	351	P	P	07 32 51.7	-0.4
JHGM	Hagimishima	10.89	315	P	P	07 32 55.2	+2.5
JIH	Iheya	11.10	271	P	P	07 32 57.0	+1.9
JNTH	Nagotoyohara	11.10	269	P	P	07 32 57.0	+1.9
JAW	Awa shima	11.15	355	P	P	07 32 56.6	+1.1
JII	Iki	11.24	308	P	P	07 32 59.5	+2.9
JMK	Ichinoseki	11.62	3	P	P	07 33 02.2	+1.6
JTSM	Tsushimamitsus	11.78	309	P	P	07 33 05.4	+2.9
JAGN	Aguni-jima	11.78	269	P	P	07 33 04.6	+2.0
JTU	Tsushima	11.87	310	P	P	07 33 06.3	+2.8
JTU	Tsushima	11.87	310	P	P	07 33 05.5	+2.0
JKE	Kume jima 2	12.22	268	P	P	07 33 09.2	+1.8
JTM	Tenmabayashi	13.44	2	P	P	07 33 22.2	+1.6
KSRS	Korea Array	14.60	317	P	P	07 33 33.4	+0.2
2.3nm,0.3s,baz=132,slow=10,SNR=63							
KSAR	Wonju Array Be	14.62	317	P	P	07 33 34.5	+1.1
KS19	Wonju Array Si	14.66	317	P	P	07 33 33.2	-0.7
JISG	Ishigakijimahi	14.75	263	P	P	07 33 36.0	+1.0
ERM	Erimo	14.83	8	P	P	07 33 37.6	+2.0
JIJ	Ishigaki jima	14.95	262	P	P	07 33 38.0	+0.8
JKRS	Kuro-shima	15.10	262	P	P	07 33 40.3	+1.5
IRIF	Iriomote-Funau	15.32	263	P	P	07 33 41.9	+0.7
HATJ	Hateruma jima	15.33	261	P	P	07 33 42.5	+1.2
YOJ	Yonaguni jima	15.93	264	P	P	07 33 48.2	+0.6
YOJ	Yonaguni jima	15.93	264	P	P	07 33 48.3	+0.6
JYNG	Yonaguni jima	15.99	264	P	P	07 33 48.6	+0.3
WOSN	Wonsan	16.03	321	P	P	07 33 53.5	+4.9
HJU	Haeju	16.33	315	P	P	07 33 51.8	0.0
HHU	Hamhung	16.51	323	P	P	07 33 53.5	-0.2
HHU				pP		07 33 54.0	
HHU				sP	sP	07 33 57.6	-104
HHU				S	S	07 36 46.9	+1.1
ASAJ	Asahikawa	16.85	5	P	P	07 33 58.7	+1.5
2.7nm,0.3s,baz=79,slow=13,SNR=12							
JKA	Kamikawa-asahi	16.85	5	P	P	07 33 57.2	0.0
JKA				IAmb	IAmb	07 34 00.1	
comp=Z,32nm,0.9s							
PYAG	Pyongyang	16.93	317	P	P	07 33 59.0	+0.9
PYAG				pP		07 34 01.5	
PYAG				S	S	07 37 00.0	+6.0
PYS	Pyongsong	17.00	318	P	P	07 33 58.7	-0.2
NACB	Ninganchiao	17.25	264	P	P	07 34 00.7	-1.1
YHNB	Yeheng	17.33	266	P	P	07 34 02.2	-0.4
YULB	Yu-li	17.72	261	P	P	07 34 06.6	-0.2
YULB				IAmb	IAmb	07 34 13.8	
comp=Z,33nm,1.1s							
SSLB	Suanglung	17.91	263	P	P	07 34 08.8	-0.1
SSLB				IAmb	IAmb	07 34 11.6	
comp=Z,57nm,1.0s							
TWG	Pinlang	18.09	260	P	P	07 34 09.5	-1.2
USA0B	Ussuriysk Arra	18.16	340	P	P	07 34 12.4	+1.3
USA0B				IAmb	IAmb	07 34 14.3	
comp=Z,50nm,0.8s							
USRK	Ussuriysk Ar.	18.16	340	P	P	07 34 11.8	+0.7
baz=150,slow=9.8,SNR=108							
USRK	Ussuriysk Ar.	18.16	340	P	P	07 34 12.0	+0.9
TPUB	Ta-pu	18.34	262	P	P	07 34 13.0	-0.2
TPUB				IAmb	IAmb	07 34 19.8	
comp=Z,32nm,0.8s							
SUJ	Sinuiju	18.35	318	P	P	07 34 12.2	-0.9
SUJ				pP		07 34 14.4	
SUJ				S	S	07 37 19.6	-0.8
NJ2	Nanjing	19.32	289	*e*P	P	07 34 22.7	-0.1
NJ2				S	S	07 37 34.6	-2.1
NJ2				pmax	pmax		
comp=Z,31nm,0.5s							
NJ2				pmax	pmax		
comp=Z,190nm,5.3s							
MDJ	Mudanjiang	19.33	336	P	P	07 34 23.8	+1.0
MDJ				sP	sP	07 36 12.6	0.0
MDJ				S	S	07 37 38.8	+2.2
MDJ				ScS	ScS	07 45 01.8	-0.6
MDJ				pmax	pmax		
comp=Z,86nm,0.8s							
MDJ				pmax	pmax		
comp=Z,270nm,4.2s							
MDJ	Mudanjiang	19.33	336	P	P	07 34 23.2	+0.5
DL2	Dalian	19.49	311	P	P	07 34 20.6	-3.7
DL2				pmax	pmax		
comp=Z,14nm,0.9s							
YSS	Yuzh-Sakhalins	19.68	5	P	P	07 34 27.1	+1.1
CN2	Changchun	20.41	328⇓	*i*P	P	07 34 33.8	+1.1
CN2				sP	sP	07 36 26.5	+2.0
CN2				*e*S	S	07 37 52.0	-2.2
CN2				PcP	PcP	07 38 26.5	+0.1
CN2				pmax	pmax		
comp=Z,80nm,0.9s							
CN2				pmax	pmax		
comp=Z,200nm,3.0s							
TIA	Tai'an	21.66	300	P	P	07 34 43.9	-0.3
TIA				pmax	pmax		
comp=Z,26nm,0.6s							
WHN	Wuhan	23.03	284	P	P	07 34 59.5	+2.9
WHN				sP	sP	07 36 53.2	+0.3
BJI	Beijing	23.75	308	P	P	07 35 02.2	-0.8
BJI				pmax	pmax		
comp=Z,8.0nm,1.0s							
HIA	Hailar	27.10	329	P	P	07 35 33.0	+0.3
ENH	Enshi	27.23	284	P	P	07 35 33.7	-0.4
HHC	Hu-ho-hao-te	27.30	307	*e*P	P	07 35 35.4	+0.6
HHC				pmax	pmax		
comp=Z,33nm,0.7s							
HHC				pmax	pmax		
comp=Z,140nm,5.5s							
XAN	Xi'an	27.84	292	P	P	07 35 39.2	-0.2
XAN				pmax	pmax		
comp=Z,43nm,0.8s							
XAN				pmax	pmax		
comp=Z,130nm,4.3s							
XAN	Xi'an	27.84	292	P	P	07 35 39.2	-0.2
XAN				IAmb	IAmb	07 35 40.2	
comp=Z,27nm,0.8s							
XAN					PcP	07 38 43.9	+0.9
PETK	Petropavlovsk-	28.79	22	P	P	07 35 49.0	+1.5
comp=Z,4.0nm,0.5s,baz=194,slow=4.5,SNR=23							
PETK	Petropavlovsk-	28.79	22	P	P	07 35 48.8	+1.3
PET	Petropavlovsk	29.04	23	P	P	07 35 49.4	-0.3
PET				IAmb	IAmb	07 35 52.4	
comp=Z,101nm,1.3s							
TNTI	Ternate	29.22	208	P	P	07 35 51.8	+0.1
comp=Z,60nm,0.8s							
TNTI	Ternate	29.22	208	P	P	07 35 50.7	-1.0
TNTI				IAmb	IAmb	07 35 55.4	
comp=Z,51nm,0.9s							
QIZ	Qiongzhong	29.24	260	P	P	07 35 50.9	-1.0
SIJI	Sorong	29.38	199	P	P	07 35 53.1	0.0
comp=Z,21nm,0.6s,baz=11,slow=14,SNR=4.3							
GYA	Guiyang	30.07

SOEI Soe 40.05 205 P P 07 37 21.2 -2.0
SOEI IAmb IAmb 07 37 35.5
comp=Z,60nm,0.9s
ADK Adak 40.33 41 P P 07 37 25.9 +1.0
ADK IAmb IAmb 07 37 27.2
comp=Z,33nm,0.8s
GSTR Great Sitkin T 40.77 41 P P 07 37 29.9 +1.4
COEN Coen 41.12 176 P P 07 37 32.9 +1.2
ATKA Atka Island 41.89 41 P P 07 37 38.3 +0.9
ATKA IAmb IAmb 07 37 39.6
comp=Z,54nm,1.1s
KULM Kulim 43.72 247 P P 07 37 51.8 -0.6
IPM Ipoh 43.87 246 P P 07 37 53.5 -0.1
TIXI Tiksi 44.84 355 P P 07 38 00.3 0.0
comp=Z,33nm,0.8s,baz=138,slow=6.7,SNR=16
TIXI Tiksi 44.84 355 P P 07 38 00.5 +0.2
TIXI IAmb IAmb 07 38 01.4
comp=Z,32nm,0.8s
WMQ Urumqi 45.17 306 P P 07 38 04.3 +0.8
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,100nm,3.9s
NIKH Nikolski High 45.23 41 P P 07 38 04.7 +1.0
UGM Wanagama 45.45 224 P P 07 38 05.9 +0.1
SPIA Saint Paul Isl 45.68 35 P P 07 38 09.0 +2.0
TAPN Taplejung 46.52 283 *eP* **P 07 38 15.2 +0.8**
TAPN Taplejung 46.52 283 *eP* **P 07 38 15.2 +0.8**
RPSI Rantau Prapat 46.61 246 P P 07 38 14.5 -0.3
ODAN Odare 46.91 282 *eP* **P 07 38 17.8 +0.5**
ODAN Odare 46.91 282 *eP* **P 07 38 17.8 +0.5**
KLSI 46.91 233 P P 07 38 17.0 -0.1
comp=Z,16nm,1.2s
MDSI Maura Dua 47.16 233 P P 07 38 18.9 -0.1
comp=Z,60nm,0.9s
WB0 Warramunga Arr 47.17 188 P P 07 38 19.2 +0.2
WB0 IAmb IAmb 07 38 19.6
comp=Z,25nm,0.6s
PBA Port Blair 47.28 260 P P 07 38 19.3 -0.6
AKUT Akutan 47.29 40 P P 07 38 20.8 +1.4
WRAB Tennant Creek 47.34 188 P P 07 38 20.0 -0.3
WR0 Warramunga Arr 47.34 188 P P 07 38 19.5 -0.8
WB2 Warramunga Arr 47.35 188 P P 07 38 19.9 -0.4
WRA Warramunga Arr 47.35 188 P P 07 38 19.9 -0.5
comp=Z,12nm,0.5s,baz=7.8,slow=8.0,SNR=7.4
WRA PcP **pP 07 39 40.9 -0.2**
comp=Z,7.0nm,0.8s,baz=5.6,slow=8.5,SNR=6.9
WRA ScP **ScP 07 42 56.1 -0.9**
comp=Z,8.2nm,0.7s,baz=4.1,slow=4.5,SNR=15
WRA Warramunga Arr 47.35 188 P P 07 38 19.0 -1.3
FITZ Fitzroy Crossi 47.37 199 P P 07 38 20.1 -0.4
comp=Z,16nm,1.0s,baz=360,slow=8.0,SNR=18
FITZ Fitzroy Crossi 47.37 199 P P 07 38 20.4 0.0
ZSN Zaisan 47.40 311 *eP* **P 07 38 20.8 +0.3**
baz=310
CTA Charters Tower 47.47 173 P P 07 38 20.9 -0.2
comp=Z,0.9nm,0.3s,baz=346,slow=11,SNR=2.5
CTA PcP **pP 07 39 41.8 -0.7**
comp=Z,1.2nm,0.4s,baz=22,slow=10,SNR=4.1
RAMN Ramite 47.58 283 *eP* **P 07 38 22.9 +0.5**
comp=Z,49nm,0.9s
RAMN Ramite 47.58 283 *eP* **P 07 38 22.9 +0.5**
comp=Z,49nm,0.9s
JIRN Jiri 47.77 284 *eP* **P 07 38 25.0 +1.0**
comp=Z,137nm,0.7s
JIRN Jiri 47.77 284 *eP* **P 07 38 25.0 +1.0**
comp=Z,137nm,0.7s
GUN Gumba 47.98 284 *eP* **P 07 38 26.4 +0.8**
comp=Z,101nm,0.7s
GUN Gumba 47.98 284 *eP* **P 07 38 26.4 +0.8**
comp=Z,101nm,0.7s
ZAA0 Zalesovo Array 48.29 319 P P 07 38 26.2 -0.8
ZAA0 IAmb IAmb 07 38 27.4
comp=Z,39nm,0.9s
ZAA0 PcP **PcP 07 39 45.6 -0.8**
ZALV Zalesovo Beam 48.29 319 P P 07 38 26.5 -0.5
comp=Z,42nm,0.6s,baz=101,slow=7.3,SNR=110
ZALV PcP **PcP 07 39 45.7 -0.6**
comp=Z,13nm,0.4s,baz=108,slow=3.2,SNR=17
PKI Pulchoki 48.47 284 *eP* **P 07 38 29.4 +0.2**
comp=Z,36nm,1.0s
PKI Pulchoki 48.47 284 *eP* **P 07 38 29.4 +0.2**
comp=Z,36nm,1.0s
PKIN Phulchoki 48.48 284 *eP* **P 07 38 29.3 +0.1**
comp=Z,15nm,0.5s
PKIN Phulchoki 48.48 284 *eP* **P 07 38 29.3 +0.1**
comp=Z,15nm,0.5s
GSI Gunungsitoli 48.51 245 P P 07 38 29.0 -0.3
GSI IAmb IAmb 07 38 30.1
comp=Z,42nm,1.0s
KKN Kakani 48.53 284 *eP* **P 07 38 29.9 +0.4**
comp=Z,49nm,0.8s
KKN Kakani 48.53 284 *eP* **P 07 38 29.9 +0.4**
comp=Z,49nm,0.8s
DMN Daman 48.72 284 *eP* **P 07 38 31.4 +0.4**
DMN Daman 48.72 284 *eP* **P 07 38 31.4 +0.4**
GKN Gorkha 49.04 284 *eP* **P 07 38 33.6 +0.4**
GKN Gorkha 49.04 284 *eP* **P 07 38 33.6 +0.4**
MK31 Makanchi Array 49.12 309 P P 07 38 33.2 -0.2
MK31 PcP **PcP 07 39 49.4 -0.2**
MKAR Makanchi Array 49.12 309 P P 07 38 33.3 -0.1
comp=Z,16nm,0.7s,baz=93,slow=9.4,SNR=121
MKAR PcP **PcP 07 39 49.5 -0.1**
comp=Z,16nm,0.7s,baz=76,slow=5.1,SNR=14
MKAR ScP **ScP 07 43 03.5 -0.8**
comp=Z,2.1nm,0.6s,baz=86,slow=4.8,SNR=7.0
MKAR Makanchi Array 49.12 309 P P 07 38 33.2 -0.2
MKAR PcP **PcP 07 39 49.4 -0.2**
MKAR **ScP 07 43 03.2 -1.2**
MAKZ Makanchi 49.34 309 P P 07 38 34.6 -0.4
MAKZ IAmb IAmb 07 38 36.3
comp=Z,37nm,1.1s
KOLN Koldanda 49.98 284 *eP* **P 07 38 40.9 +0.6**
comp=Z,85nm,0.9s
KOLN Koldanda 49.98 284 *eP* **P 07 38 40.9 +0.6**
comp=Z,85nm,0.9s
PYUN Piuthan 50.43 285 *eP* **P 07 38 44.4 +0.8**
comp=Z,131nm,0.3s
PYUN Piuthan 50.43 285 *eP* **P 07 38 44.4 +0.8**
comp=Z,131nm,0.3s
ANM Nome 50.47 27 P P 07 38 45.3 +2.3
ANM IAmb IAmb 07 38 46.3
comp=Z,36nm,0.9s
SDPT Sand Point 50.53 39 P P 07 38 43.7 +0.1
SDPT IAmb IAmb 07 38 44.6
comp=Z,51nm,0.8s
SEM Semipalatinsk 50.65 314 ⇓*iP* **P 07 38 44.5 -0.5**
comp=Z,55nm,0.9s,baz=314
CNBA Chernabura Isl 50.96 40 P P 07 38 47.8 +1.1
CNBA IAmb IAmb 07 38 48.6
comp=Z,38nm,0.8s
ASAR Alice Springs 51.08 188 P P 07 38 47.6 -0.4
comp=Z,2.1nm,0.4s,baz=2.0,slow=4.7,SNR=13
ASAR PcP **PcP 07 39 56.8 -0.3**
comp=Z,2.6nm,0.8s,baz=16,slow=4.3,SNR=8.0
ASAR ScP **ScP 07 43 11.8 -1.2**
comp=Z,3.8nm,0.7s,baz=5.4,slow=4.5,SNR=12
ASAR Alice Springs 51.08 188 P P 07 38 47.5 -0.6
ASAR **PcP 07 39 56.0 -1.1**
ASAR ScP **ScP 07 43 12.0 -1.0**
SHLS Shalkode 51.16 305 *eP* **P 07 38 46.4 -2.3**
comp=Z,8.7nm,0.6s,baz=304
SHLS *eS* **S 07 45 29.5 -5.0**
baz=304
UZB Uzynbulak 51.48 305 ⇓*iP* **P 07 38 51.1 +0.1**
comp=Z,8.2nm,0.7s,baz=304
UZB *eS* **S 07 45 38.2 -0.7**
baz=304
KURK Kurchatov 51.71 314 P P 07 38 52.2 -0.2
KURK **PcP 07 39 58.4 -0.6**
KURBB Kurchatov Arra 51.76 314 P P 07 38 52.7 -0.1
comp=Z,94nm,0.6s,baz=91,slow=7.9,SNR=827
KURBB PcP **PcP 07 39 58.7 -0.6**
comp=Z,9.5nm,0.6s,baz=93,slow=4.0,SNR=9.1
TDK Taldyqorghan 51.84 307 *eP* **P 07 38 53.8 +0.4**
comp=Z,27nm,1.1s,baz=307
NRIK Noril'sk 51.87 339 P P 07 38 53.5 +0.3
comp=Z,47nm,0.6s,baz=111,slow=9.0,SNR=89
SATY Saty 51.94 305 ⇓*iP* **P 07 38 54.7 +0.4**
comp=Z,5.8nm,0.6s,baz=304
PRZ Przheval'sk 51.98 304 P P 07 38 55.4 +0.6
PSA00 Pilbara Seismi 52.53 204 P P 07 38 56.6 0.0
RDOG Red Dog Mine 52.64 23 P P 07 39 00.1 +1.2
CHKK Chushkaly 52.91 306 *eP* **P 07 39 01.5 +0.2**
baz=305
MDOK Medeo 52.92 305 *iP* **P 07 39 02.4 +0.9**
baz=304
TNSS Tian-Shan 53.00 305 *eP* **P 07 39 03.1 +0.8**
baz=304
AAA Alma-Ata 53.01 305 *eP* **P 07 39 02.1 +0.1**
comp=Z,37nm,0.9s,baz=305
MTBS Maitube 53.37 305 *eP* **P 07 39 05.0 +0.4**
baz=304
EIDS Eidsvold 53.38 168 P P 07 39 05.6 +0.9
BOOM Boomskoye usch 53.79 304 P P 07 39 08.2 +0.5
BOOM IAmb IAmb 07 39 09.3
comp=Z,28nm,0.6s
SVW2 Sparrevohn 53.95 33 P P 07 39 09.9 +1.6
TKM2 Tokmak 2 54.00 305 P P 07 39 10.1 +0.8
SNR=14
TTA Tatalina 54.04 30 P P 07 39 10.3 +1.2
KSH Kashi 54.11 301 ⇓*iP* **P 07 39 13.9 +3.8**
KSH S **S 07 46 19.1 +4.9**
KSH ScS **ScS 07 48 16.4 +0.7**
KSH pmax pmax
comp=Z,68nm,0.6s
KSH pmax pmax
comp=Z,150nm,4.4s
SII Sitkinak Islan 54.18 38 P P 07 39 11.0 +1.0
KZA Kyzart 54.34 304 P P 07 39 13.6 +1.6
SNR=14
KBK Karagaybulak 54.50 304 P P 07 39 13.7 +0.9
SNR=16
SGDS Sogindy 54.65 305 ⇓*iP* **P 07 39 13.9 +0.2**
comp=Z,13nm,1.5s,baz=305
OHAK Old Harbor 54.71 38 P P 07 39 14.7 +0.9
OHAK IAmb IAmb 07 39 15.4
comp=Z,40nm,1.0s
USP Ospenovka 54.77 305 P P 07 39 14.9 +0.4
SNR=11
AAK Ala-Archa 54.84 304 P P 07 39 15.7 +0.5
SNR=11
UCH Uchtor 54.87 304 P P 07 39 17.2 +1.4
SNR=7.3
BTLS Baital 54.92 307 ⇓*iP* **P 07 39 15.7 +0.2**
comp=Z,11nm,0.4s,baz=307
BTLS *eS* **S 07 46 24.0 -0.4**
baz=307
KDAK Kodiak Island 55.12 37 P P 07 39 17.6 +0.9
comp=Z,17nm,0.4s,baz=304,slow=1.5,SNR=46
KDAK PcP **PcP 07 40 12.6 +0.5**
comp=Z,3.9nm,0.5s,baz=274,slow=2.9,SNR=1.5
KDAK Kodiak Island 55.12 37 P P 07 39 17.9 +1.2
KDAK IAmb IAmb 07 39 18.6
comp=Z,33nm,0.8s
RSO Redoubt South 55.24 34 P P 07 39 18.6 +0.8
AML Almayashu 55.49 304 P P 07 39 21.2 +1.2
SNR=14
BRZS Berezniki 55.52 314 ⇓*iP* **P 07 39 19.6 0.0**
comp=Z,12nm,0.4s,baz=313
IMAR Indian Mountai 55.55 27 P P 07 39 20.5 +1.0
PPLA Purkeypile 55.77 31 P P 07 39 23.0 +1.7
CNPM China Poot 55.93 35 P P 07 39 22.8 +0.5
SKT Skwentna 55.98 32 P P 07 39 23.3 +0.6
CAPN Captain Cook N 56.06 33 P P 07 39 23.8 +0.7
baz=266
BRLK Bradley Lake 56.12 35 P P 07 39 23.7 0.0
SUA Susitna One 56.31 33 P P 07 39 25.8 +0.8
KTH Kantishna Hill 56.41 30 P P 07 39 26.9 +1.2
BPAW Bear Paw Mtn. 56.44 29 P P 07 39 27.1 +1.3
BPAW IAmb IAmb 07 39 28.3
comp=Z,25nm,0.5s
CUT Chulitna 56.60 31 P P 07 39 27.6 +0.6
baz=266
TRF Thorofare Moun 56.68 30 P P 07 39 29.0 +1.2
TRF IAmb IAmb 07 39 29.7
comp=Z,26nm,0.8s
O22K Cooper Landing 56.74 34 P P 07 39 28.5 +0.6
baz=267
BVAR Borovoye Array 56.81 317 P P 07 39 28.8 +0.2
comp=Z,98nm,0.4s,baz=108,slow=7.4,SNR=408
BVAR PcP **PcP 07 40 18.3 -0.5**
comp=Z,13nm,0.7s,baz=111,slow=6.7,SNR=6.0
SEW Seward 56.86 34 P P 07 39 29.3 +0.5
SEW IAmb IAmb 07 39 30.3
comp=Z,55nm,1.3s
BRVK Borovoye 56.88 317 P P 07 39 29.3 +0.2
PMR Palmer 57.09 32 P P 07 39 30.7 +0.4
PMR IAmb IAmb 07 39 32.1
comp=Z,34nm,0.9s
BWN Browne 57.11 29 P P 07 39 31.8 +1.3
DZA Taraz 57.12 305 *eP* **P 07 39 31.1 +0.2**
comp=Z,6.2nm,0.4s,baz=305
COLD Coldfoot 57.14 26 P P 07 39 32.4 +1.7
baz=262,SNR=22
COLD Coldfoot 57.14 26 P P 07 39 32.1 +1.5
COLD IAmb IAmb 07 39 33.4
comp=Z,33nm,1.0s
GHO Glory Hole Cre 57.20 32 P P 07 39 31.4 +0.3
MCK McKinley 57.31 30 P P 07 39 32.7 +0.8
NEA2 Nenana 57.32 29 P P 07 39 33.3 +1.4
baz=265,SNR=51
RND Reindeer 57.32 30 P P 07 39 32.5 +0.4
NIL Nilore 57.33 294 P P 07 39 33.1 +0.5
NIL IAmb IAmb 07 39 35.0
comp=Z,22nm,0.8s
KNK Knik Glacier 57.40 33 P P 07 39 33.1 +0.6
SML Sawmill 57.48 32 P P 07 39 33.8 +0.7
SML IAmb IAmb 07 39 34.8
comp=Z,57nm,0.8s
TOLK Toolik Lake Re 57.57 24 P P 07 39 35.2 +1.6
baz=262,SNR=12
TOLK Toolik Lake Re 57.57 24 P P 07 39 34.8 +1.1
TOLK IAmb IAmb 07 39 36.4
comp=Z,37nm,1.2s
KK31 Karatay Array 57.68 306 P P 07 39 35.0 +0.2
KK31 IAmb IAmb 07 39 36.0
comp=Z,39nm,0.8s
KKAR Karatay Array 57.68 306 P P 07 39 35.0 +0.2
KKAR IAmb IAmb 07 39 36.0
comp=Z,39nm,0.8s
KKAR Karatay Array 57.68 306 P P 07 39 34.9 +0.1
MDM Murphy Dome 57.71 28 P P 07 39 35.4 +0.8
MDM IAmb IAmb 07 39 36.8
comp=Z,29nm,0.5s
WRH Wood River Hil 57.73 29 P P 07 39 35.2 +0.5
TCOL CIGO, UAF Yank 57.86 29 P P 07 39 37.1 +1.5
baz=266,SNR=14
COLA College 57.86 29 P P 07 39 36.3 +0.7
COLA IAmb IAmb 07 39 38.0
comp=Z,28nm,0.7s
CCB Clear Creek Bu 57.87 29 P P 07 39 35.6 0.0
SCM Sheep Creek Mo 57.95 32 P P 07 39 37.2 +0.8
DHY Denali Highway 57.97 31 P P 07 39 37.2 +0.6
DHY IAmb IAmb 07 39 38.6
comp=Z,23nm,0.5s
GLI Glacier Island 58.05 33 P P 07 39 37.3 +0.3
GLI IAmb IAmb 07 39 38.6
comp=Z,52nm,0.8s
POKR Poker Plat Res 58.06 28 P P 07 39 37.8 +0.8
baz=266,SNR=7.9
IUG Iuzhnay 58.18 304 *eP* **P 07 39 38.9 +0.5**
comp=Z,16nm,0.7s,baz=304
HDA Harding Lake 58.22 29 P P 07 39 38.3 +0.2
baz=267,SNR=41
HDA Harding Lake 58.22 29 P P 07 39 38.0 -0.1
HDA IAmb IAmb 07 39 39.1
comp=Z,40nm,0.6s
IL31 58.27 29 P P 07 39 38.1 -0.2
ILAR Eielson Array 58.27 29 P P 07 39 38.4 0.0
comp=Z,44nm,1.1s,baz=247,slow=6.1,SNR=167
ILAR PcP **PcP 07 40 23.6 -0.7**
comp=Z,2.3nm,0.7s,baz=233,slow=4.1,SNR=1.9
ILAR Eielson Array 58.27 29 P P 07 39 38.2 -0.2
FID Port Fidalgo 58.35 34 P P 07 39 39.4 +0.4
FID IAmb IAmb 07 39 40.7
comp=Z,34nm,1.0s
M24K Tolsona, Glenn 58.50 32 P P 07 39 41.5 +1.4
baz=269
GAR Garm 58.53 301 P P 07 39 41.0 +0.2
GAR IAmb IAmb 07 39 41.6
comp=Z,43nm,0.6s
KLU Klutina 58.62 33 P P 07 39 42.0 +1.1
KLU IAmb IAmb 07 39 43.0
comp=Z,38nm,0.7s
EYAK Cordova Ski Ar 58.71 34 P P 07 39 42.9 +1.5
EYAK IAmb IAmb 07 39 43.2
comp=Z,18nm,0.6s
PAX Paxson 58.84 31 P P 07 39 42.7 +0.3
PAX IAmb IAmb 07 39 44.5
comp=Z,22nm,0.6s
STKA Stephens Creek 58.88 179 P P 07 39 42.4 -0.5
comp=Z,1.8nm,0.6s,baz=353,slow=16,SNR=3.6
STKA Stephens Creek 58.88 179 P P 07 39 42.4 -0.5
RIDG Independent Ri 59.13 30 P P 07 39 44.6 +0.3
BMAR Burnt Mountain 59.33 26 P P 07 39 46.7 +1.0
DOT Dot Lake 59.48 30 P P 07 39 47.2 +0.6
CHGR Chuyangaron 59.48 301 P P 07 39 47.0 -0.3
SCRK Sand Creek 59.51 30 P P 07 39 47.7 +0.7
baz=270,SNR=84
GLB Gilahina Butte 59.64 33 P P 07 39 49.0 +1.2
GLB IAmb IAmb 07 39 50.0
comp=Z,40nm,1.0s
MENT Mentasta 59.64 31 P P 07 39 49.0 +1.3
VRDI Verde Repeater 59.82 33 P P 07 39 50.0 +0.8
CRQM Cirque 59.99 33 P P 07 39 51.5 +1.2
CRQM IAmb IAmb 07 39 53.5
comp=Z,65nm,1.0s
MCARA McCarthy VSAT 60.02 33 P P 07 39 51.7 +1.4
TGL Tana Glacier 60.14 33 P P 07 39 52.0 +0.8
TGL IAmb IAmb 07 39 53.3
comp=Z,39nm,0.7s
K27K Chicken 60.35 30 P P 07 39 54.0 +1.6
baz=272
BALM Baldy 60.36 33 P P 07 39 53.5 +0.8
BALM IAmb IAmb 07 39 54.5
comp=Z,31nm,0.6s
ISLE Juniper Island 60.39 34 P P 07 39 53.8 +0.9
ISLE IAmb IAmb 07 39 54.7
comp=Z,25nm,0.5s
KBL Kabul 60.52 296 P P 07 39 54.7 +0.3
KBL IAmb IAmb 07 39 56.0
comp=Z,26nm,0.9s
BCAR Beaver Creek A 60.52 31 P P 07 39 54.7 +1.1
BARN Barnard Glacie 60.69 33 P P 07 39 56.2 +1.2
BARN IAmb IAmb 07 39 57.1
comp=Z,18nm,0.7s
YAH Yahtse 60.70 34 P P 07 39 55.7 +0.6
YAH IAmb IAmb 07 40 07.5
comp=Z,56nm,1.3s
EGAK Eagle 60.72 29 P P 07 39 55.2 +0.3
CTGM Chitina Glacie 60.86 33 P P 07 39 57.3 +1.2
PCA Pinnacle 61.46 34 P P 07 40 01.2 +1.2
PCA IAmb IAmb 07 40 02.2
comp=Z,42nm,0.9s
EPYK Eagle Plains 62.46 27 P P 07 40 07.8 +1.5
baz=275,SNR=40
EPYK Eagle Plains 62.46 27 P P 07 40 07.6 +1.2
HYT Haines Junctio 62.73 33 P P 07 40 10.2 +1.8
HYT IAmb IAmb 07 40 11.2
comp=Z,30nm,0.9s
ARU Arti 63.28 322 P P 07 40 11.7 -0.1
comp=Z,15nm,0.5s,baz=85,slow=3.2,SNR=47
ARU Arti 63.28 322 P P 07 40 11.5 -0.3
ABKAR Akbulak array 63.81 314 P P 07 40 15.0 -0.4
SKAG Skagway 64.02 34 P P 07 40 18.0 +1.4
SKAG IAmb IAmb 07 40 18.8
comp=Z,16nm,0.6s
WHY Whitehorse 64.03 33 P P 07 40 17.1 +0.3
AKTO Aktyubinsk 64.78 316 P P 07 40 21.1 -0.5
comp=Z,23nm,0.7s,baz=88,slow=7.8,SNR=59
A36M Sachs Harbour 65.61 20 P P 07 40 27.4 +1.0
baz=283,SNR=12
HRA Herat 65.96 298 P P 07 40 30.1 +0.5
HRA IAmb IAmb 07 40 31.2
comp=Z,20nm,0.8s
WRAK Wrangell Islan 66.20 37 P P 07 40 32.4 +2.0
WRAK IAmb IAmb 07 40 32.7
comp=Z,16nm,0.9s
C36M Paulatuk 66.64 23 P P 07 40 33.4 +0.5
baz=285,SNR=5.8
C36M Paulatuk 66.64 23 P P 07 40 33.3 +0.5
DLBC Dease Lake 66.92 35 P P 07 40 36.8 +1.7
DLBC IAmb IAmb 07 40 37.5
comp=Z,14nm,0.7s
DIB Dawson Inlet, 66.94 41 P P 07 40 35.9 +0.8
DIB IAmb IAmb 07 40 36.9
comp=Z,20nm,0.7s
KIRV Kirov 67.62 326 P P 07 40 39.2 0.0
comp=Z,59nm,0.7s,baz=68,slow=3.0,SNR=21
GEYT Alibeck 68.06 302 P P 07 40 42.4 0.0
comp=Z,3.4nm,0.5s,baz=36,slow=2.8,SNR=9.3
GEYT Alibeck 68.06 302 P P 07 40 41.8 -0.6
GYA0B ALIBECK ARRAY 68.06 302 P P 07 40 43.1 +0.7
BBB Bella Bella 69.77 41 P P 07 40 52.9 +0.5
SPA0 Spitsbergen Ar 69.88 350 P P 07 40 53.2 +0.5
SPA0 IAmb IAmb 07 41 01.2
comp=Z,24nm,0.9s
SPA0 Spitsbergen Ar 69.88 350 *eP* **P 07 40 53.1 +0.4**
SPITS Spitsbergen Ar 69.88 350 *P* **P 07 40 53.2 +0.5**
comp=Z,13nm,0.5s,baz=123,slow=10,SNR=29
EUNU Eureka 69.89 8 P P 07 40 53.5 +0.7
KBS Kingsbay 70.07 351 P P 07 40 54.2 +0.4
KBS IAmb IAmb 07 40 55.6
comp=Z,28nm,0.7s
KBS Kingsbay 70.07 351 *eP* **P 07 40 54.5 +0.8**
HSPB Hornsund (broa 70.76 349 *eP* **P 07 40 58.8 +0.9**
HSPB Hornsund (broa 70.76 349 *eP* **P 07 40 58.7 +0.8**
KLMR Klimovskoe 71.60 330 *eP* **P 07 41 01.7 -1.4**
KLMR AMP 07 41 03.3
comp=Z,26nm,0.8s
KEV Kevo 72.25 340 P P 07 41 06.2 -0.5
KEV IAmb IAmb 07 41 07.7
comp=Z,21nm,0.7s
YKA Yellowknife Ar 72.68 28 P P 07 41 09.7 +0.3
comp=Z,17nm,0.4s,baz=242,slow=5.0,SNR=81
ARCES ARCESS Array B 72.81 340 P P 07 41 10.5 +0.4
comp=Z,26nm,0.7s,baz=71,slow=8.2,SNR=79
ARCES ARCESS Array B 72.81 340 P P 07 41 09.9 -0.2
ARE0 ARCESS Array S 72.81 340 *eP* **P 07 41 10.7 +0.6**
KTK1 Kautokeino 73.77 341 *eP* **P 07 41 15.9 +0.3**
NLWA Neilton Lookou 74.05 45 P P 07 41 19.9 +2.2
NLWA IAmb IAmb 07 41 20.8
comp=Z,25nm,0.7s
UOSS Minazif 74.17 290 P P 07 41 18.6 -0.1
UOSS IAmb IAmb 07 41 19.7
comp=Z,21nm,1.1s
D03D Eldon 74.48 44 P P 07 41 22.4 +2.3
baz=294,SNR=36
E03A Lebam 74.57 45 P P 07 41 21.9 +1.3
TRO Tromso 74.64 342 *eP* **P 07 41 20.4 -0.1**
B05A Bryant 74.80 43 P P 07 41 23.7 +1.8
baz=294,SNR=14
D04E Lakebay 74.82 45 P P 07 41 24.3 +2.4
baz=294
F03A Seaside 74.82 46 P P 07 41 24.4 +2.4
B06A Marblemount 75.06 43 P P 07 41 23.6 +0.3
B06A IAmb IAmb 07 41 25.7
comp=Z,19nm,0.8s
F04D Rainier, OR 75.11 46 P P 07 41 25.7 +2.1
baz=294
E04D Cinebar 75.20 45 P P 07 41 26.2 +2.0
baz=294,SNR=10
G03D McMinnville, O 75.30 47 P P 07 41 26.8 +2.1
baz=294
D05A Emumclaw 75.30 44 P P 07 41 26.0 +1.3
I02D Swisshome 75.36 48 P P 07 41 27.2 +2.0
baz=294
KEBM Edson Butte 75.54 49 P P 07 41 28.6 +2.3
F04A Amboy 75.55 46 P P 07 41 28.1 +2.0
LON Longmire 75.59 45 P P 07 41 27.9 +1.4
LON IAmb IAmb 07 41 28.9
comp=Z,27nm,1.4s
C06D Leavenworth 75.67 43 P P 07 41 28.4 +1.5
baz=295
J01E Myrtle Point 75.69 49 P P 07 41 29.0 +2.1
baz=294
I03D Drain, OR 75.86 48 P P 07 41 30.0 +2.1
baz=294,SNR=5.5
H04D Lebanon 75.92 47 P P 07 41 30.3 +2.0
baz=294,SNR=5.5
K02D Willamette Mer 76.06 49 P P 07 41 30.8 +1.7
baz=294,SNR=6.1
LTY Liberty 76.09 44 P P 07 41 30.4 +1.1
LTY IAmb IAmb 07 41 30.9
comp=Z,16nm,0.7s
F05D White Salmon 76.17 45 P P 07 41 31.4 +1.7
baz=295
H04A Detroit Lake 76.21 47 P P 07 41 31.7 +1.7
H04A IAmb IAmb 07 41 32.4
comp=Z,25nm,0.9s
L02E Cave Junction 76.32 50 P P 07 41 32.5 +1.9
baz=294
B08A Colville Reser 76.43 42 P P 07 41 31.7 +0.7
I04A Tendick Farm, 76.44 48 P P 07 41 32.7 +1.5
baz=295,SNR=13
G05D Wamic, OR 76.54 46 P P 07 41 33.5 +1.8

baz=295,SNR=5.7
HUMO Hull Mountain 76.57 49 P P 07 41 33.9 +2.0
KBZ Khabaz 76.70 312 P P 07 41 32.9 +0.3
comp=Z,26nm,0.8s,baz=99,slow=3.2,SNR=49
KIV Kislovodsk 76.75 313 P P 07 41 32.9 -0.1
KIV IAmb IAmb 07 41 35.4
comp=Z,24nm,1.0s
J04D Umpqua Nationa 76.87 48 P P 07 41 35.5 +1.7
baz=295,SNR=12
E07A Sunnyside 76.89 44 P P 07 41 34.9 +1.2
E07A IAmb IAmb 07 41 36.3
comp=Z,37nm,1.3s
I05D Terrebonne, OR 76.91 47 P P 07 41 35.4 +1.5
baz=295,SNR=9.6
FIA1 FINESS Array S 77.05 333 P P 07 41 33.7 -0.4
FINES FINESS Array B 77.05 333 P P 07 41 33.9 -0.2
comp=Z,46nm,0.4s,baz=68,slow=5.4,SNR=408
YBH Yreka Blue Hor 77.11 50 P P 07 41 36.5 +1.5
comp=Z,17nm,0.7s,baz=359,slow=5.8,SNR=55
YBH Yreka Blue Hor 77.11 50 P P 07 41 36.6 +1.6
YBH IAmb IAmb 07 41 37.8
comp=Z,22nm,0.8s
F07A Phinny Hill Vi 77.14 45 P P 07 41 35.9 +1.0
F07A IAmb IAmb 07 41 37.7
comp=Z,22nm,0.8s
M02C Callahan 77.15 50 P P 07 41 37.2 +2.0
baz=295,SNR=7.3
HAWA Hanford 77.17 44 P P 07 41 36.4 +1.2
HAWA IAmb IAmb 07 41 37.2
comp=Z,14nm,0.6s
L04D Klamath Falls 77.17 49 P P 07 41 37.0 +1.6
baz=295,SNR=12
D08A Wollman Farm, 77.25 44 P P 07 41 36.4 +0.9
D08A IAmb IAmb 07 41 37.9
comp=Z,29nm,0.9s
AKH Akhalkalaki 77.29 310 ⇑P P 07 41 37.0 +0.9
AKH Akhalkalaki 77.29 310 P P 07 41 36.9 +0.8
AKH IAmb IAmb 07 41 38.1
comp=Z,17nm,1.0s
C09A Chrisman Ranch 77.31 43 P P 07 41 36.2 +0.3
KCPM Cahto Peak 77.37 52 P P 07 41 38.0 +1.5
K04D Chiloquin, OR 77.37 49 P P 07 41 38.1 +1.7
baz=296
PINE Pine Mountain 77.40 47 P P 07 41 38.6 +1.9
E08A Dider Farm, El 77.42 44 P P 07 41 37.4 +0.9
E08A IAmb IAmb 07 41 38.5
comp=Z,15nm,0.7s
J05D Fort Rock, OR 77.43 48 P P 07 41 38.7 +1.9
baz=296,SNR=23
N02D Trinity Center 77.43 50 P P 07 41 38.7 +2.0
baz=295,SNR=8.5
M04C Macdoel 77.67 49 P P 07 41 39.9 +1.8
baz=296,SNR=21
KULLO Kullorsuaq 77.70 5 *i* P P 07 41 37.6 +0.1
comp=Z,56nm,0.9s
WDC Whiskeytown Da 77.71 51 P P 07 41 39.2 +1.0
WDC IAmb IAmb 07 41 40.9
comp=Z,22nm,1.2s
O02D Mt. Diablo Mer 77.71 51 P P 07 41 40.4 +2.0
baz=295
NEW Newport 77.79 42 P P 07 41 39.7 +1.1
comp=Z,25nm,0.8s,baz=302,slow=4.6,SNR=33
NEW Newport 77.79 42 P P 07 41 39.8 +1.3
baz=297,SNR=23
NEW Newport 77.79 42 P P 07 41 39.6 +1.1
NEW IAmb IAmb 07 41 40.8
comp=Z,36nm,1.1s
K05A Summer Lake 77.90 48 P P 07 41 40.9 +1.5
E09A Wood Farm, Sta 77.97 44 P P 07 41 40.9 +1.4
E09A IAmb IAmb 07 41 42.0
comp=Z,28nm,0.9s
G08A Pilot Rock 78.02 45 P P 07 41 41.1 +1.2
MOR8 Moi Rana 78.18 340 *e*P P 07 41 39.0 -1.2
I07A Izee 78.21 46 P P 07 41 41.5 +0.5
I07A IAmb IAmb 07 41 43.5
comp=Z,12nm,0.7s
GDXM Geysers 78.30 52 P P 07 41 43.2 +1.7
O03E Paynes Creek 78.34 51 P P 07 41 42.7 +0.9
baz=296,SNR=11
BATM Batumi 78.42 311 ⇑P P 07 41 42.5 +0.5
VSU Vasula 78.43 331 *e*P P 07 41 40.3 -1.4
BCA Borcka 78.54 311 ⇑P P 07 41 42.6 -0.1
MOD Modoc Plateau 78.65 49 P P 07 41 44.3 +0.8
MOD IAmb IAmb 07 41 45.8
comp=Z,19nm,0.8s
F10A Beach Ranch, E 78.78 44 P P 07 41 45.4 +1.4
ORV Oroville 78.88 51 P P 07 41 45.5 +1.0
ORV IAmb IAmb 07 41 46.4
comp=Z,22nm,1.0s
GEVA Gevas 78.92 307 P P 07 41 44.4 -0.6
GEVA IAmb IAmb 07 41 46.2
comp=Z,28nm,1.4s
J08A Circle Bar Ran 79.20 47 P P 07 41 47.1 +0.8
BMO Blue Mountains 79.26 45 P P 07 41 47.5 +0.9
BMO IAmb IAmb 07 41 49.0
comp=Z,32nm,0.9s
WALA Waterton Lakes 79.29 40 P P 07 41 47.9 +1.1
WALA IAmb IAmb 07 41 49.1
comp=Z,22nm,0.7s
AFDM Forest Hills D 79.51 52 P P 07 41 48.9 +1.0
WVOR Wild Horse Val 79.52 48 P P 07 41 49.0 +0.9
KOPT Kop Dagi 79.94 310 P P 07 41 51.1 +0.5
RUBR Rubicon Trail 80.03 51 P P 07 41 52.2 +1.2
RUBR IAmb IAmb 07 41 53.3
comp=Z,38nm,1.0s
SAO San Andreas Ge 80.15 54 P P 07 41 52.6 +1.2
IZAR Zarasai 80.18 328 *e*P P 07 41 50.8 -0.3
IDID Didziasalis 80.19 328 *e*P P 07 41 51.0 -0.2
PAHR Pah Rah Range 80.27 50 P P 07 41 53.0 +0.9
PAHR IAmb IAmb 07 41 54.2
comp=Z,25nm,0.8s
VCNR Virginia City 80.27 51 P P 07 41 53.5 +1.3
VCNR IAmb IAmb 07 41 54.6
comp=Z,18nm,0.9s
CMB Columbia Colle 80.33 52 P P 07 41 53.5 +1.1
CMB IAmb IAmb 07 41 54.5
comp=Z,17nm,0.9s
ISAL Salakas 80.34 328 *e*P P 07 41 51.8 -0.2
SUMG Summit 80.37 360 ⇓*i*P P 07 41 53.3 +1.0
comp=Z,46nm,0.7s
SUMG Summit 80.37 360 P P 07 41 53.2 +0.9
SUMG IAmb IAmb 07 41 53.7
comp=Z,18nm,0.6s
MSO Missoula 80.37 42 P P 07 41 52.9 +0.5
baz=300,SNR=7.4
MSO Missoula 80.37 42 P P 07 41 53.0 +0.6
PNTR Pine Nut 80.40 51 P P 07 41 54.5 +1.6
PNTR IAmb IAmb 07 41 55.4
comp=Z,32nm,0.8s
NACGM Naroch 80.41 328 *e* P 07 41 51.0 -1.3
IIGN Ignalina 80.42 328 *e*P P 07 41 52.0 -0.4
YERR Yerington 80.70 51 P P 07 41 55.7 +1.3
YERR IAmb IAmb 07 41 56.6
comp=Z,24nm,0.7s
WAKR Walker 80.78 51 P P 07 41 56.3 +1.4
WAKR IAmb IAmb 07 41 57.4
comp=Z,15nm,0.7s
SLIT Slitere, Latvi 80.84 331 *e*P P 07 41 53.4 -1.1
PMPB Monarch Peak 80.86 54 P P 07 41 57.0 +1.8
PMPB IAmb IAmb 07 42 03.0
comp=Z,18nm,1.0s
MFID Camas Ranch 80.88 46 P P 07 41 56.6 +1.4
MARD Mardin 80.98 307 P P 07 41 56.3 +0.4
MARD IAmb IAmb 07 41 59.8
comp=Z,14nm,0.6s
RYN Ryan 81.36 51 P P 07 41 59.3 +1.4
RYN IAmb IAmb 07 42 00.2
comp=Z,24nm,0.7s
PABE Paberze 81.38 329 *e*P P 07 41 56.7 -0.6
MDPB Devils Postpil 81.44 52 P P 07 41 59.5 +1.1
KVN Kaiserville 81.45 51 P P 07 41 59.7 +1.3
KVN IAmb IAmb 07 42 00.6
comp=Z,26nm,0.7s
PAGB Antelope Grade 81.48 54 P P 07 41 59.9 +1.5
PAGB IAmb IAmb 07 42 00.9
comp=Z,25nm,0.9s
OMMB Old Mammoth Mi 81.50 52 P P 07 42 00.4 +1.5
AKASG Malin Array Be 81.50 323 P P 07 41 57.5 -0.7
comp=Z,3.1nm,0.3s,baz=46,slow=5.6,SNR=41
AKASG Malin Array Be 81.50 323 P P 07 41 57.3 -0.8
AKBB Malin Array Si 81.50 323 P P 07 41 57.5 -0.6
AKBB IAmb IAmb 07 41 58.5
comp=Z,40nm,1.2s
LHV Little Huntoon 81.55 51 P P 07 42 00.9 +2.3
LHV IAmb IAmb 07 42 01.5
comp=Z,17nm,0.8s
NVAR Mina Array Bea 81.61 51 P P 07 42 00.7 +1.4
comp=Z,19nm,0.6s,baz=294,slow=5.5,SNR=226
NVAR Mina Array Bea 81.61 51 P P 07 42 00.5 +1.2
MLAC Mammoth, Mammo 81.61 52 P P 07 42 00.8 +1.6
baz=298
HRY Holter Researc 81.68 41 P P 07 42 00.5 +1.2
HLID Hailey 81.70 45 P P 07 42 01.2 +1.6
baz=300,SNR=38
HLID Hailey 81.70 45 P P 07 42 00.9 +1.4
HLID IAmb IAmb 07 42 02.1
comp=Z,19nm,0.7s
NV11 Mina Array Sit 81.71 51 P P 07 42 00.7 +1.0
LRM Limekiln Ridge 81.77 42 P P 07 42 01.2 +1.3
SMMC Simmler 81.86 55 P P 07 42 01.8 +1.5
baz=298
DLMT Dillon 81.92 43 P P 07 42 01.8 +1.2
DLMT IAmb IAmb 07 42 03.5
comp=Z,44nm,1.4s
PBUR Paburge 81.98 330 *e*P P 07 41 59.7 -0.8
MCMT McKenzie Canyo 82.04 43 P P 07 42 01.7 +0.3
PKM Mcpherson Peak 82.19 55 P P 07 42 03.8 +1.6
baz=298,SNR=6.8
EGMT Eagleton 82.19 40 P P 07 42 02.9 +1.0
baz=302,SNR=16
EGMT Eagleton 82.19 40 P P 07 42 01.8 -0.1
EGMT IAmb IAmb 07 42 03.9
comp=Z,30nm,0.8s
VES Vestal, Richgr 82.27 54 P P 07 42 02.9 +0.6
baz=298,SNR=6.1
TIN Tinemaha, Big 82.31 52 P P 07 42 04.1 +1.4
baz=298,SNR=6.0
FFC Flin Flon 82.37 31 P P 07 42 03.3 +0.8
FFC IAmb IAmb 07 42 04.0
comp=Z,32nm,0.8s
BOZ Bozeman (W) 82.38 42 P P 07 42 04.1 +1.2
baz=302,SNR=30
BOZ Bozeman (W) 82.38 42 P P 07 42 03.0 +0.1
BOZ IAmb IAmb 07 42 05.1
comp=Z,30nm,1.3s
TPH Tonopah 82.52 51 P P 07 42 05.1 +1.2
ELK Elko 82.56 48 P P 07 42 05.0 +0.9
ELK IAmb IAmb 07 42 06.6
comp=Z,19nm,0.9s
NC405 NORSAR Array S 82.59 338 P P 07 42 02.9 -0.7
NC303 NORSAR Array S 82.63 338 P P 07 42 02.5 -1.2
SUW Suwalki 82.64 328 *e*P P 07 42 03.2 -0.7
SUW Suwalki 82.64 328 P P 07 42 03.0 -0.8
CWC Cottonwood Cre 82.70 53 P P 07 42 05.6 +0.8
baz=299
NB201 NORSAR Array S 82.78 338 P P 07 42 03.4 -1.1
DOMB Dombas 82.78 339 *e*P P 07 42 04.1 -0.5
ARVC Arvin 82.79 54 P P 07 42 06.0 +1.0
baz=298
ISA Isabella, Lake 82.79 54 P P 07 42 05.5 +0.4
baz=298,SNR=10
ISA Isabella, Lake 82.79 54 P P 07 42 05.3 +0.1
NC204 NORSAR Array S 82.79 338 *e*P P 07 42 04.0 -0.7
NB2 NORSAR Subarra 82.81 338 P P 07 42 03.6 -1.1
comp=Z,19nm,0.6s,baz=46,slow=5.1
NB2 NORSAR Subarra 82.81 338 P P 07 42 03.6 -1.1
baz=46,slow=5.1
NOA NORSAR Array B 82.81 338 P P 07 42 03.8 -0.9
comp=Z,22nm,0.6s,baz=47,slow=4.9,SNR=88
NOA PP **PP 07 45 19.2 -1.9**
comp=Z,2.0nm,0.9s,baz=46,slow=7.8,SNR=3.9
GRAC Grapevine Rang 82.94 52 P P 07 42 07.2 +1.3
baz=299,SNR=11
YHB Horse Butte 83.08 43 P P 07 42 08.3 +1.7
MPMC Manual Prospec 83.31 53 P P 07 42 08.9 +1.0
baz=299,SNR=22
BZK Bozkurt 83.31 314 ⇓P P 07 42 07.7 +0.2
SORM Soroca 83.39 321 ⇑P P 07 42 07.2 -0.6
LRMC Laurel Mtn Rad 83.45 54 P P 07 42 09.7 +1.2
baz=299,SNR=9.7
EDW2 Edwards Air Fo 83.51 54 P P 07 42 10.2 +1.5
baz=299,SNR=19
R11A Troy Canyon, C 83.51 50 P P 07 42 10.1 +1.2
baz=300,SNR=52
R11A Troy Canyon, C 83.51 50 IAmb IAmb 07 42 11.2
comp=Z,20nm,0.9s
FURC Furnace Creek, 83.55 52 P P 07 42 10.2 +1.4
baz=299,SNR=35
DECC Green Verdugo 83.56 55 P P 07 42 10.1 +1.0
baz=299
HVU Hansel Valley 83.64 46 P P 07 42 10.2 +0.8
H17A Grant Village 83.65 43 P P 07 42 12.9 +3.4
baz=302,SNR=7.7
H17A Grant Village 83.65 43 IAmb IAmb 07 42 14.6
comp=Z,38nm,1.1s
IMW Indian Meadow 83.69 44 P P 07 42 09.8 0.0
IMW IAmb IAmb 07 42 12.8
comp=Z,28nm,0.8s
PASC Pasadena Art C 83.71 55 IAmb IAmb 07 42 11.5
comp=Z,18nm,0.8s
TPNV Topopah Spring 83.75 52 P P 07 42 11.1 +1.1
baz=300,SNR=50
TPNV Topopah Spring 83.75 52 P P 07 42 10.9 +0.8
FXWY Fox Creek 83.77 44 IAmb IAmb 07 42 13.1
comp=Z,32nm,1.4s
MWC Mount Wilson 83.78 55 IAmb IAmb 07 42 12.1
comp=Z,21nm,0.8s
FMP Fort Macarthur 83.85 55 P P 07 42 11.5 +1.1
baz=299
TPAW Teton Pass 83.90 44 P P 07 42 11.5 +0.7
TPAW IAmb IAmb 07 42 12.6
comp=Z,23nm,0.8s
CIS Catalina Islan 83.91 56 P P 07 42 11.7 +0.9
baz=299
SNOW Snow King Moun 84.03 44 IAmb IAmb 07 42 14.2
comp=Z,12nm,0.8s
RLMT Red Lodge 84.04 42 P P 07 42 13.3 +1.8
baz=303,SNR=38
SKAR Skarsla 84.05 338 *e*P P 07 42 09.8 -1.1
LOHW Long Hollow 84.05 44 IAmb IAmb 07 42 14.1
comp=Z,12nm,0.8s
BFSC Mount Baldy Ra 84.06 55 P P 07 42 12.2 +0.6
baz=299,SNR=7.2
GSC Goldstone, Bar 84.16 53 P P 07 42 13.3 +1.3
baz=299,SNR=26
GSC Goldstone, Bar 84.16 53 P P 07 42 12.7 +0.6
AHID Auburn Hatcher 84.19 45 IAmb IAmb 07 42 14.5
comp=Z,18nm,0.8s
RRX Edison Barstow 84.23 54 P P 07 42 13.7 +1.4
baz=299
SHOC Shoshone, Teco 84.24 53 P P 07 42 13.5 +1.1
baz=300,SNR=6.9
PRN Pahroc Range 84.35 51 IAmb IAmb 07 42 15.4
comp=Z,33nm,1.1s
DUG Dugway, Tooele 84.44 47 P P 07 42 14.6 +1.2
baz=301,SNR=29
DUG Dugway, Tooele 84.44 47 P P 07 42 14.2 +0.8
DUG IAmb IAmb 07 42 15.7
comp=Z,28nm,1.1s
HWUT Hardware Ranch 84.51 46 IAmb IAmb 07 42 16.3
comp=Z,25nm,0.9s
BBRC Big Bear Solar 84.58 54 P P 07 42 15.2 +0.9
baz=299,SNR=8.0
PSUT Pine Spring 84.60 49 P P 07 42 14.4 +0.1
BR131 Keskin Array S 84.69 312 P P 07 42 12.5 -2.2
BRTR Keskin Array B 84.69 312 P P 07 42 13.9 -0.7
comp=Z,7.4nm,0.7s,baz=80,slow=4.5,SNR=14
BRTR Keskin Array B 84.69 312 P P 07 42 13.7 -1.0
MURC Murrieta 84.71 55 P P 07 42 15.7 +1.0
baz=299,SNR=10
TUQ Turquoise Moun 84.72 53 P P 07 42 16.1 +1.2
baz=300,SNR=27
SHPR Sheep Range 84.72 52 P P 07 42 16.0 +1.1
SHPR IAmb IAmb 07 42 17.3
comp=Z,16nm,0.9s
HEC Hector,Ludlow 84.73 54 P P 07 42 16.1 +1.3
baz=300,SNR=11
TLCR 84.77 319 ⇑P P 07 42 14.3 -0.5
CTU Camp Tracy 84.87 47 P P 07 42 16.3 +0.7
LAO LASA Array 84.93 39 P P 07 42 16.8 +1.2
baz=305,SNR=13
LAO LASA Array 84.93 39 P P 07 42 16.3 +0.7
DGMT Dagmar 85.01 37 P P 07 42 16.6 +0.7
baz=306,SNR=8.6
109C Camp Elliot, M 85.12 56 P P 07 42 17.8 +1.1
baz=300
109C Camp Elliot, M 85.12 56 IAmb IAmb 07 42 18.6
comp=Z,24nm,1.1s
PD31 Pinedale Array 85.15 44 P P 07 42 16.8 -0.1
PDAR Pinedale Array 85.15 44 P P 07 42 17.6 +0.6
comp=Z,8.3nm,0.9s,baz=282,slow=2.9,SNR=48
PDAR Pinedale Array 85.15 44 P P 07 42 15.9 -1.1
CFR Carcaliu 85.18 319 ⇑P P 07 42 16.2 -0.5
TOPG Topolog 85.20 319 ⇑P P 07 42 16.6 -0.3
GMRC Granite Mounta 85.23 53 P P 07 42 18.6 +1.2
baz=300,SNR=27
PFO Pinyon Flats O 85.24 55 P P 07 42 18.4 +1.0
baz=300,SNR=27
PFO Pinyon Flats O 85.24 55 P P 07 42 18.1 +0.7
TESR Tescani 85.27 321 ⇑P P 07 42 16.4 -0.8
BELC Belle Mtn. Jos 85.38 54 P P 07 42 19.0 +0.9
baz=300,SNR=30
BUR08 Bucovina Ar. S 85.41 322 P P 07 42 17.4 -0.5
TIRR Tirgusor 85.42 318 ⇑P P 07 42 16.9 -1.0
TIRR Tirgusor 85.42 318 P P 07 42 16.9 -1.0
BURAR Bucovina Array 85.42 322 ⇑P P 07 42 17.4 -0.6
BURAR Bucovina Array 85.42 322 P P 07 42 16.8 -1.2
CCUT Cedar City 85.43 50 P P 07 42 19.5 +1.0
BAR Barrett 85.54 56 P P 07 42 19.3 +0.5
BAR IAmb IAmb 07 42 20.7
comp=Z,15nm,0.9s
HARR Harsova 85.57 319 ⇑P P 07 42 18.6 0.0
TLBR Topalu 85.58 318 ⇑P P 07 42 18.6 -0.1
VRI Vrincioaia 85.60 320 ⇑P P 07 42 18.7 -0.1
SFJD Kangerlussuaq 85.61 4 *i* P P 07 42 18.2 -0.1
comp=Z,2.0nm,0.8s
SFJD Kangerlussuaq 85.61 4 P P 07 42 18.8 +0.5
MONP2 Monument Peak 85.62 55 P P 07 42 20.5 +1.1
baz=300,SNR=11
PLOR Plostina 85.65 320 ⇑P P 07 42 18.7 -0.4
BISRR Bisoca 85.79 320 ⇑P P 07 42 20.5 +0.7
LCMT Little Creek M 85.79 50 P P 07 42 20.1 0.0
IRM Iron Mountain 85.91 54 P P 07 42 21.9 +1.3
baz=300,SNR=20
BC3 Big Chuckawall 85.94 54 P P 07 42 22.0 +1.2
baz=300,SNR=26
TMUT Trail Mountain 85.96 48 P P 07 42 22.1 +1.1
IKP In-Ko-Pah, Jac 85.97 55 P P 07 42 22.1 +1.2
baz=300,SNR=9.9
MTPU Mount Pierson 85.98 49 P P 07 42 22.8 +1.5
OZUR 86.00 321 ⇑P P 07 42 20.7 0.0
RMX La Rumorosa 86.01 55 IAmb IAmb 07 42 23.7
comp=Z,40nm,1.3s
SWSC Sam W. Stewart 86.05 55 P P 07 42 22.2 +1.0
baz=300,SNR=6.8
P17A Butcher Ranch, 86.17 47 P P 07 42 22.9 +1.0
MLR Muntele Rosu 86.26 320 ⇑P P 07 42 21.6 -0.6
MLR Muntele Rosu 86.26 320 P P 07 42 21.7 -0.5
DOPR Dopca 86.30 321 ⇑P P 07 42 22.0 -0.2
RDMU Red Mountain 86.34 46 P P 07 42 23.8 +1.0
ESJX Sierra Juarez 86.41 56 P P 07 42 23.4 +0.2
ESJX IAmb IAmb 07 42 24.5
comp=Z,11nm,0.9s
PDMCI Parker Dam,Lak 86.56 53 P P 07 42 24.8 +1.2
baz=301,SNR=8.8
CRVS Cervenica-Dubn 86.63 325 *e*P P 07 42 23.8 +0.1
OJC Ojcow 86.63 326 *e*P P 07 42 23.5 -0.1
GLA Glamis 86.70 54 P P 07 42 25.8 +1.5
baz=301,SNR=7.0
GLA Glamis 86.70 54 P P 07 42 25.1 +0.8
GLA IAmb IAmb 07 42 26.7
comp=Z,24nm,0.8s
U15A North Rim 86.75 50 P P 07 42 25.6 +0.8
VOIR 86.80 320 ⇑P P 07 42 23.9 -0.7
NIE Niedzica 86.89 326 *e*P P 07 42 25.4 +0.4
K22A Casper 87.07 43 P P 07 42 26.9 +0.8
baz=305
ARR Arges 87.08 321 ⇑P P 07 42 25.9 -0.1
SPX San Pedro Mart 87.25 56 P P 07 42 27.6 +0.2
CSS Mathiatis 87.38 308 IAmb IAmb 07 42 27.0
comp=Z,10nm,0.8s
O20A White River Ci 87.42 46 P P 07 42 28.6 +0.8
baz=304
LANS Liptovska Anna 87.48 326 *e*P P 07 42 28.3 +0.5
LOT Lotru 87.52 321 ⇑P P 07 42 27.8 -0.3
113A Mohawk Valley, 87.61 54 P P 07 42 29.7 +1.1
113A IAmb IAmb 07 42 30.8
comp=Z,12nm,0.9s
RSSD Black Hills 87.68 41 P P 07 42 29.7 +0.6
baz=307
RSSD Black Hills 87.68 41 P P 07 42 29.4 +0.4
RSSD IAmb IAmb 07 42 31.7
comp=Z,11nm,0.8s
MDND Maddock 87.82 36 P P 07 42 30.3 +1.0
baz=310
PV21 Cone Mtn., Par 87.82 47 P P 07 42 30.7 +0.8
PV21 IAmb IAmb 07 42 31.9
comp=Z,9.0nm,0.6s
PV23 Carpenter Ridg 87.86 47 IAmb IAmb 07 42 32.0
comp=Z,14nm,0.7s
WUAZ Wupatki 87.86 51 P P 07 42 31.0 +1.1
baz=302,SNR=5.0
WUAZ Wupatki 87.86 51 P P 07 42 29.0 -0.9
PV10 Paradox Valley 87.88 47 IAmb IAmb 07 42 32.3
comp=Z,16nm,0.7s
KSP Ksiaz 87.90 328 *e*P P 07 42 29.4 -0.2
PV20 West Nyswonger 87.95 47 IAmb IAmb 07 42 32.3
comp=Z,11nm,0.7s
PV19 Morning Glory 87.96 47 IAmb IAmb 07 42 32.4
comp=Z,14nm,0.7s
PV17 East Wray Mesa 87.99 47 IAmb IAmb 07 42 32.5
comp=Z,13nm,0.8s
PV16 Nyswonger Mesa 88.00 47 IAmb IAmb 07 42 32.6
comp=Z,9.0nm,0.7s
MORC Moravsky Berou 88.02 327 ⇑P P 07 42 30.0 -0.3
MORC Moravsky Berou 88.02 327 P P 07 42 29.2 -1.0
PV11 David Mesa, Pa 88.03 47 IAmb IAmb 07 42 33.9
comp=Z,13nm,0.6s
PV18 Skein Mesa, Pa 88.04 47 IAmb IAmb 07 42 32.6
comp=Z,9.2nm,0.6s
PSZ Piszkesteto 88.06 325 ⇑P P 07 42 30.6 0.0
PSZ Piszkesteto 88.06 325 P P 07 42 28.6 -1.9
PSZ IAmb IAmb 07 42 31.2
comp=Z,15nm,0.9s
PV12 Saucer Basin, 88.07 47 P P 07 42 32.0 +1.0
ULM Lac du Bonnet 88.10 32 P P 07 42 30.7 +0.1
comp=Z,4.6nm,0.4s,baz=305,slow=5.1,SNR=6.7
PV02 Paradox Valley 88.17 47 P P 07 42 32.0 +0.6
PV02 IAmb IAmb 07 42 33.3
comp=Z,8.4nm,0.6s
CHVC Chvalec 88.19 328 *e*P P 07 42 30.5 -0.5
KRLC Kraliky 88.19 328 *e*P P 07 42 30.1 -0.9
DPC Dobruska-Polom 88.22 328 *e*P P 07 42 30.9 -0.3
VYHS Vyhne 88.23 325 *e*P P 07 42 31.2 0.0
UPC Upice 88.26 328 *e*P P 07 42 30.8 -0.5
BSEG Bad Segeberg 88.32 333 *e*P P 07 42 30.6 -0.9
comp=Z,15nm,1.1s,baz=43,slow=4.6
PV01 Paradox Valley 88.32 47 P P 07 42 32.9 +0.7
PV01 IAmb IAmb 07 42 33.9
comp=Z,9.1nm,0.6s
X16A Lo Mia Camp, P 88.40 52 P P 07 42 33.3 +0.8
N23A Red Feather La 88.43 44 P P 07 42 34.3 +1.6
baz=306,SNR=9.8
N23A Red Feather La 88.43 44 P P 07 42 33.4 +0.8
N23A IAmb IAmb 07 42 35.3
comp=Z,30nm,1.4s
PHWY Pilot Hill 88.50 43 P P 07 42 33.5 +0.5
JAVC Velka Javorina 88.57 326 *e*P P 07 42 33.7 +0.8
BZS Buzias 88.61 322 ⇑P P 07 42 31.7 -1.3
HERR Herculane 88.62 321 ⇑P P 07 42 32.2 -0.9
214A Organ Pipe Nat 88.72 54 P P 07 42 35.4 +1.5
baz=302,SNR=6.7
214A Organ Pipe Nat 88.72 54 P P 07 42 34.5 +0.6
214A IAmb IAmb 07 42 36.4
comp=Z,12nm,1.0s
ELL Elmali 88.77 311 P P 07 42 33.4 -0.7
VRAC Vranov 88.80 327 *e*P P 07 42 33.6 -0.2
MVCO Mesa Verde 88.89 48 P P 07 42 35.8 +0.9
baz=304
PVCC Panska Ves 88.92 329 *e*P P 07 42 34.1 -0.3
SMOL Smolenice 88.92 326 *e*P P 07 42 34.8 +0.4
BRG Berggiesshubel 88.96 329 ⇓*i*P P 07 42 33.7 -0.9
comp=Z,9.3nm,0.8s
BRG Berggiesshubel 88.96 329 *e*P P 07 42 33.9 -0.7
comp=Z,5.6nm,0.7s,baz=43,slow=4.6
KRUC Moravsky 89.06 327 *e*P P 07 42 34.7 -0.4
MDVR Moldovita 89.08 321 ⇑P P 07 42 33.8 -1.5
CLL Collm 89.08 330 ⇓*i*P P 07 42 34.1 -1.0
comp=Z,9.0nm,0.7s
CLL Collm 89.08 330 *e*P P 07 42 34.1 -1.0
comp=Z,5.7nm,0.7s,baz=43,slow=4.6
MODS Modra-Piesok 89.09 326 *e*P P 07 42 34.5 -0.7
FBE Freiberg 89.20 330 *e*P P 07 42 35.1 -0.6
comp=Z,7.2nm,0.7s,baz=43,slow=4.6
GOPC GO Pecny, Ondr 89.24 328 *e*P P 07 42 35.3 -0.6

ISCO	Idaho Springs	89.27	45	P		P	07 42 38.0	+1.3
	baz=306,SNR=8.8							
ISCO	Idaho Springs	89.27	45	P		P	07 42 36.9	+0.2
AGMN	Agassiz Nation	89.42	34	P		P	07 42 37.2	+0.4
	baz=312							
AGMN	Agassiz Nation	89.42	34	P		P	07 42 36.4	-0.3
NRDL	Niedersach Rie	89.47	332	eP		P	07 42 36.1	-0.7
	comp=Z,3.4nm,0.7s,baz=43,slow=4.6							
S22A	4UR Ranch, Cre	89.68	47	P		P	07 42 40.1	+1.5
	baz=305,SNR=7.4							
CLZ	Clausthal	89.83	332	eP		P	07 42 38.1	-0.5
	comp=Z,5.9nm,0.7s,baz=43,slow=4.6							
TUC	Tucson	89.99	53	P		P	07 42 41.3	+1.5
	baz=303							
TUC	Tucson	89.99	53	P		P	07 42 40.1	+0.3
GUNZ	Gunzen	90.05	330	eP		P	07 42 39.2	-0.5
	comp=Z,4.3nm,0.7s,baz=43,slow=4.6							
Q24A	Divide	90.05	45	P		P	07 42 41.4	+1.1
	baz=306							
WERN	Wernitzgruen	90.09	330	eP		P	07 42 39.4	-0.5
	comp=Z,4.8nm,0.7s,baz=43,slow=4.6							
CONA	Conrad Observa	90.09	326	i PcP		P	07 42 39.8	-0.1
	comp=Z,15nm,1.0s							
MOX	Moxa	90.17	330	eP		P	07 42 39.5	-0.7
	comp=Z,2.3nm,0.8s,baz=43,slow=4.6							
GTTG	Gottingen	90.22	332	eP		P	07 42 39.7	-0.7
	comp=Z,6.3nm,0.6s,baz=43,slow=4.6							
SUSD	Miller	90.35	38	IAmb		IAmb	07 42 42.5	
	comp=Z,18nm,0.9s							
KHC	Kasperske Hory	90.35	328	eP		P	07 42 40.5	-0.6
KHC	Kasperske Hory	90.35	328	P		P	07 42 39.8	-1.3
MANZ	Manzenberg	90.42	330	eP		P	07 42 40.9	-0.5
	comp=Z,2.0nm,0.7s,baz=43,slow=4.6							
GEC2	GERESS Array S	90.50	328	eP		P	07 42 41.0	-0.9
	comp=Z,3.8nm,0.8s,baz=43,slow=4.6							
GEC2	GERESS Array S	90.50	328	IAmb		IAmb	07 42 41.9	
	comp=Z,14nm,1.2s							
GERES	GERESS Array B	90.50	328	P		P	07 42 41.0	-0.9
	comp=Z,4.5nm,0.7s,baz=46,slow=4.2,SNR=28							
GERES	GERESS Array B	90.50	328	P		P	07 42 40.4	-1.5
ROTZ	Rotzenmuhle	90.53	329	eP		P	07 42 41.3	-0.6
	comp=Z,3.9nm,0.8s,baz=43,slow=4.6							
SDCO	Great Sand Dun	90.54	46	P		P	07 42 43.8	+1.3
	baz=306,SNR=18							
SDCO	Great Sand Dun	90.54	46	P		P	07 42 42.5	0.0
SDCO				IAmb		IAmb	07 42 44.8	
	comp=Z,14nm,1.2s							
IBBN	Ibbenburen	90.56	333	eP		P	07 42 41.4	-0.6
	comp=Z,18nm,0.7s,baz=43,slow=4.6							
WET	Wettzell	90.67	329	eP		P	07 42 42.1	-0.5
	comp=Z,1.5nm,0.7s,baz=43,slow=4.6							
ARSA	Arzberg	90.72	326	i PcP		P	07 42 42.5	-0.4
	comp=Z,14nm,1.1s							
F33A	5 Mile Ranch,	90.85	36	IAmb		IAmb	07 42 45.0	
	comp=Z,21nm,1.0s							
MOA	Molln	90.92	327	i PcP		P	07 42 43.0	-0.8
	comp=Z,6.0nm,0.6s							
SOKA	Soboth	91.36	326	i PcP		P	07 42 45.0	-0.8
	comp=Z,11nm,0.8s							
ANMO	Albuquerque	91.53	49	P		P	07 42 48.9	+1.8
	baz=305							
ANMO	Albuquerque	91.53	49	P		P	07 42 47.1	0.0
ANMO				IAmb		IAmb	07 42 49.5	
	comp=Z,13nm,0.8s							
LIT	Litokhoron	91.53	317	P		P	07 42 44.9	-1.8
319A	Douglas	91.57	53	IAmb		IAmb	07 42 49.8	
	comp=Z,18nm,0.9s							
T25A	Trinidad	91.60	46	P		P	07 42 48.6	+1.3
	baz=306,SNR=8.2							
T25A	Trinidad	91.60	46	IAmb		IAmb	07 42 49.7	
	comp=Z,18nm,1.1s							
LENM	Lemitar	91.62	50	P		P	07 42 48.9	+1.4
HSIG		91.64	56	P		P	07 42 47.3	-0.1
HSIG				IAmb		IAmb	07 42 49.7	
	comp=Z,8.9nm,0.9s							
RJOB	Jochberg	91.71	328	eP		P	07 42 46.1	-1.3
	comp=Z,15nm,0.8s,baz=43,slow=4.6							
Y22D	IRIS PASSCAL I	91.71	50	P		P	07 42 49.7	+1.9
	baz=305							
OBKA	Obir	91.72	326	i P		P	07 42 46.2	-1.4
	comp=Z,6.4nm,0.9s							
TNS	Taunus Mts	91.85	331	eP		P	07 42 47.3	-0.7
	comp=Z,4.1nm,0.7s,baz=43,slow=4.6							
TNS				ePP		pwP	07 44 26.6	-0.3
BNM	Barren Site	91.87	50	P		P	07 42 48.9	+0.2
KBA	Koelnbreinsper	91.91	327	i PcP		P	07 42 47.5	-1.1
	comp=Z,4.2nm,0.7s							
121A	Cookes Peak, D	91.99	52	P		P	07 42 51.0	+1.8
	baz=304,SNR=5.1							
121A	Cookes Peak, D	91.99	52	IAmb		IAmb	07 42 52.0	
	comp=Z,15nm,1.1s							
MYKA	Terra Mystica	92.08	326	i P		P	07 42 47.5	-1.7
	comp=Z,4.8nm,0.6s							
ECSD	EROS Data Cent	92.09	37	P		P	07 42 49.5	+0.3
	baz=312							
ECSD	EROS Data Cent	92.09	37	P		P	07 42 49.2	0.0
PRED	Cave del Predi	92.25	326	P		P	07 42 48.4	-1.6
ABTA	Abfaltersbach	92.55	327	i P		P	07 42 49.9	-1.4
	comp=Z,15nm,1.0s							
WATA	Walderalm	92.57	328	i P		P	07 42 49.9	-1.6
	comp=Z,3.8nm,0.6s							
WTTA	Wattenberg	92.60	328	i PcP		P	07 42 50.6	-1.1
	comp=Z,8.6nm,1.0s							
MOTA	Moosalm	92.79	328	i PcP		P	07 42 51.4	-1.2
	comp=Z,6.1nm,1.1s							
STAL	STALIGIAL	92.80	327	P		P	07 42 50.4	-2.0
STAL				IAmb		IAmb	07 42 51.7	
	comp=Z,9.3nm,0.8s							
SQTA	Sankt Quirin	92.83	328	i P		P	07 42 51.3	-1.4
	comp=Z,3.2nm,0.7s							
RETA	Reutte	92.84	328	i PcP		P	07 42 51.9	-0.7
	comp=Z,5.9nm,0.7s							
CIMO	Cimolais	92.89	327	P		P	07 42 50.8	-2.0
CIMO				IAmb		IAmb	07 42 51.6	
	comp=Z,8.7nm,1.1s							
SPMN	Marine on St.	93.06	35	P		P	07 42 53.8	+0.3
	baz=315							
SPMN	Marine on St.	93.06	35	P		P	07 42 53.9	+0.3
SPMN				IAmb		IAmb	07 42 54.8	
	comp=Z,12nm,0.8s							
FETA	Feichten	93.20	328	i PcP		P	07 42 53.6	-0.8
	comp=Z,9.6nm,1.0s							
BFO	Black Forest	93.32	330	eP		P	07 42 53.9	-0.9
	comp=Z,6.2nm,0.7s,baz=43,slow=4.6							
BFO	Black Forest	93.32	330	P		P	07 42 53.4	-1.4
L34A	Svendsen Farm,	93.39	39	P		P	07 42 55.5	+0.2
DAVA	Damuels	93.40	329	i PcP		P	07 42 54.5	-0.9
	comp=Z,16nm,1.1s							
CBKS	Cedar Bluff	93.49	43	P		P	07 42 55.7	-0.1
	baz=310							
ITM	Ithomi	93.69	315	P		P	07 42 54.8	-1.9
ITM				IAmb		IAmb	07 42 56.7	
	comp=Z,23nm,1.5s							
ECH	Echery	93.92	331	P		P	07 42 55.9	-1.7
ECH				IAmb		IAmb	07 42 57.3	
	comp=Z,8.4nm,1.1s							
MNTX	Cornudas Mount	94.13	51	P		P	07 42 60.0	+1.1
	baz=306,SNR=5.1							
MNTX	Cornudas Mount	94.13	51	P		P	07 42 59.8	+1.0
AMTX	Amarillo	94.72	47	P		P	07 43 02.5	+0.9
	baz=308							
U32A	Winter Ranch,	95.49	44	P		P	07 43 07.2	+2.3
TIP	Timpagrande	95.51	319	P		P	07 43 05.0	0.0
TIP				IAmb		IAmb	07 43 05.7	
	comp=Z,10nm,0.9s							
CEL	Celeste	96.63	319	P		P	07 43 09.2	-0.8
TX31	Lajitas Ar. Si	96.72	52	P		P	07 43 11.8	+1.1
TX32	Lajitas Array	96.72	52	P		P	07 43 11.8	+1.1
TX32				IAmb		IAmb	07 43 12.7	
	comp=Z,4.6nm,0.7s							
TXAR	Lajitas Array	96.72	52	P		P	07 43 11.9	+1.3
	comp=Z,4.2nm,0.7s,baz=304,slow=2.4,SNR=66							
LSQQ	Lebel-sur-Quev	96.95	24	P		P	07 43 10.1	-1.1
	baz=327							
RAFF	Raffo Rosso	98.22	319	P		Pdif	07 43 17.6	+0.4
LSZ	Lusaka	116.39	266	PKPdf		PKiKP	07 48 22.1	+0.4
QSPA	South Pole Qui	117.09	180	PKPdf		PKPdf	07 48 21.1	-0.4
SYO	Syowa Base	119.09	204	⇑ePKPdf		PKPdf	07 48 24.0	-1.2
LBTB	Lobatse	122.07	256			PKiKP	07 48 33.0	+0.4
TOA0	Torodi Ar. Sit	123.24	310	PKPdf		PKPdf	07 48 34.3	-0.6
TORD	Torodi Ar. Bea	123.24	310	PKP		PKPdf	07 48 34.2	-0.7
	comp=Z,6.0nm,0.7s,baz=16,slow=3.3,SNR=30							
TORD				PP		PP	07 50 17.9	-2.9
	comp=Z,2.2nm,0.8s,baz=34,slow=5.5,SNR=6.4							
TORD	Torodi Ar. Bea	123.24	310			PKPdf	07 48 33.9	-1.0
BOSA	Boshof	123.38	252	PKP		PKPdf	07 48 34.0	-0.9
	comp=Z,3.7nm,0.7s,baz=53,slow=1.8,SNR=8.3							
BOSA	Boshof	123.38	252			PKPdf	07 48 34.0	-0.9
SNAA	Sanae	131.20	195	PKPdf		PKPdf	07 48 48.2	-0.2
SNAA	Sanae	131.20	195	PKPdf		PKPdf	07 48 48.4	0.0
DBIC	Dimbokro	132.35	310	PKP		PKPdf	07 48 52.1	-0.1
	comp=Z,9.2nm,0.8s,baz=95,slow=2.9,SNR=11							
DBIC				SKPbc		SKPbc	07 51 39.1	-0.4
	comp=Z,9.3nm,0.9s,baz=36,slow=3.7,SNR=6.2							
DBIC	Dimbokro	132.35	310			PKPdf	07 48 52.9	+0.6
TIC	Toumodi	132.48	310	ePKIKP		PKPdf	07 48 52.8	+0.3
KIC	Kosan Boka	132.50	310	ePKIKP		PKPdf	07 48 52.9	+0.4
	comp=Z,30nm,1.1s							
VNA2	Neumayer--Watz	132.74	194	PKPdf		PKPdf	07 48 51.4	+0.2
LIC	Lamto	132.79	310	ePKIKP		PKPdf	07 48 53.2	+0.1
	comp=Z,48nm,1.2s							
VNA3	Neumayer Olymp	132.96	193	PKPdf		PKiKP	07 48 52.4	-0.6
SDV	Santo Domingo	133.09	44	PKPdf		PKPdf	07 48 54.0	+0.1
VNA1	Neumayer--Stat	133.14	194	PKPdf		PKPdf	07 48 52.3	+0.3
PTGA	Pitinga	147.10	40	PKPbc		PKPbc	07 49 21.9	+0.3
LL01	San Ignacio de	149.37	128			PKiKP	07 49 27.1	-0.3
PB12	IPOC Station P	150.45	80			PKiKP	07 49 30.4	0.0
LC01	Cunco	150.73	121			PKiKP	07 49 30.5	+0.1
PB16	IPOC Station P	151.06	78			PKiKP	07 49 33.0	+0.7
PB16				PKPab		PKPab	07 49 41.6	+0.3
SAML	Samuel	151.16	55			PKPbc	07 49 31.5	0.0
PLCA	Paso Flores	151.22	126	PKPbc		PKiKP	07 49 31.6	+0.3
	comp=Z,12nm,0.6s,baz=236,slow=2.7,SNR=44							
PLCA	Paso Flores	151.22	126			PKiKP	07 49 31.3	-0.1
MNMC	Minye Minye	151.29	80			PKiKP	07 49 32.5	+0.1
MNMC				PKPab		PKPab	07 49 43.7	+1.8
LPAZ	La Paz	151.37	73	PKPbc		PKiKP	07 49 33.6	+0.5
	comp=Z,16nm,0.7s,baz=337,slow=2.5,SNR=68							
LPAZ	La Paz	151.37	73	PKPdf		PKPdf	07 49 24.0	-2.2
LPAZ						PKiKP	07 49 33.7	+0.7
PB11	IPOC Station P	151.47	81			PKiKP	07 49 32.9	+0.3
PB11				PKPab		PKPab	07 49 43.2	+0.7
BI02	San Fabin de	151.66	117			PKPbc	07 49 31.5	-0.6
GO01	Chusmiza	151.84	81	PKPbc		PKiKP	07 49 34.0	+0.2
PB08	IPOC Station P	152.04	82			PKiKP	07 49 34.3	+0.3
PB01	IPOC Station P	152.05	84			PKiKP	07 49 34.0	+0.4
PB01				PKPab		PKPab	07 49 46.3	+1.5
ROC1	El Roble	152.30	109			PKPbc	07 49 33.6	-0.3
BO02	Sierra Bellavi	152.33	113			PKiKP	07 49 34.3	+0.4
CO02	Combarbal	152.36	106			PKPbc	07 49 33.8	-0.1
GO04	Tololo Observa	152.52	103			PKiKP	07 49 34.7	+0.1
PEL	Peldehue	152.56	110			PKiKP	07 49 34.4	0.0
PB15	IPOC Station P	152.69	88			PKPbc	07 49 35.0	0.0
AC05	El Transito	152.91	100			PKiKP	07 49 35.5	+0.3
CPUP	Villa Florida	164.12	90	PKP		PKPdf	07 49 40.0	-0.6
	comp=Z,2.2nm,0.8s,baz=221,slow=0.3,SNR=4.6							
CPUP				PKPab		PKPab	07 50 37.4	+0.4
	comp=Z,3.4nm,0.8s,baz=263,slow=3.7,SNR=5.7							
CPUP	Villa Florida	164.12	90			PKPdf	07 49 36.6	-4.1
CPUP						PKPab	07 50 36.0	-1.0

*IDC **11** 07:34:44.5±2.2, 6°.80S×129°.46E, h129km×27km, mb3.3/1, mb1 3.7/6, mb1mx3.3/47, mbtmp4.1/6, MS2.7/1, Ms1 2.7/1, ms1mx2.4/13, Error ellipse: s-maj=37.9km s-min=20.5km az=96.0*

ISC 11 07:34:42.7±0.9, **6°.87S**±0°.06×**129°.7E**±0°.1, **h139**km, **n7**, σ**3**^{s}**37**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.15	14	P	Pn	07 36 13.1	+1.7
	1.6nm,0.3s,baz=293,slow=23,SNR=13						
SIJI				S	Sn	07 37 15.8	-4.9
	6.4nm,0.3s,baz=228,slow=23,SNR=9.6						
BATI	Baumata	6.86	241	P	Pn	07 36 20.2	-0.6
	3.4nm,0.3s,baz=69,slow=8.6,SNR=1.6						
JAY	Jayapura	11.76	69	LR	LR	07 42 27.3	
	comp=Z,37nm,19.6s,baz=206,slow=39						
FITZ	Fitzroy Crossi	11.86	199	P	Pn	07 37 29.9	+2.4
	0.4nm,0.3s,baz=2.0,slow=8.9,SNR=26						
FITZ				S	Sn	07 39 34.5	-3.8
	0.9nm,0.3s,baz=180,slow=13,SNR=3.2						
WRA	Warramunga Arr	13.75	161	P	P	07 37 54.4	-1.5
	0.8nm,0.3s,baz=338,slow=13,SNR=42						
WRA				S	Sn	07 40 20.9	-3.1
	1.4nm,0.3s,baz=334,slow=25,SNR=6.0						
ASAR	Alice Springs	17.18	167	P	Pn	07 38 38.5	+4.1
	1.1nm,0.3s,baz=347,slow=9.4,SNR=77						
ASAR				S	S	07 41 45.0	-0.9
	0.3nm,0.3s,baz=175,slow=16,SNR=4.4						
MKAR	Makanchi Array	67.97	327	P	P	07 45 28.3	+1.6
	0.2nm,0.3s,baz=126,slow=6.8,SNR=5.4						

*SOME **11** 07:55:32.5, 47°.72N×81°.68E, h0km*
*NNC **11** 07:55:33.7±0.8, 47°.63N×82°.00E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=6.8km s-min=4.0km az=73.0*

ISC 11 07:55:37.9±1.0, **47°.43N**±0°.05×**81°.94E**±0°.06, **h12**km, **n14**, σ**1**^{s}**65**/19, **6C, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	Makanchi	0.62	178	⇑P	Pg	07 55 50.0	0.0
	5.9nm,0.2s						
MAKZ				⇑S	Sb	07 56 00.9	+1.6
	13nm,0.3s						
MK31	Makanchi Array	0.68	159	⇑P	Pg	07 55 50.7	-0.3
	3.4nm,0.2s,baz=351,slow=17,SNR=556						
MK31				⇑S	Sb	07 56 02.2	+1.2
	25nm,0.4s,baz=356,slow=28,SNR=28						
ZSN	Zaisan	1.98	88	eP	Pn	07 56 09.6	-1.8
	8.6nm,0.2s						
ZSN				eS	Sn	07 56 36.9	+0.7
	20nm,0.3s						
KAPS	Kapalarasan	2.79	221	eP	Pb	07 56 26.8	-1.0
	0.5nm,0.1s						
KAPS				eS	Sg	07 57 06.3	-1.2
	3.6nm,0.1s						
KAPS	Kapalarasan	2.79	221	Pg	Pb	07 56 26.8	-1.0
	0.5nm,0.1s						
KAPS				Lg	Lg	07 57 06.3	
	13nm,0.3s						
SEM	Semipalatinsk	3.19	340	eP	Pn	07 56 27.2	-0.8
	6.4nm,0.1s						
SEM				eS	Sn	07 57 07.2	+1.1
	30nm,0.1s						
SEM	Semipalatinsk	3.19	340	Pg	Pn	07 56 27.2	-0.8
	6.4nm,0.1s						
SEM				Lg	Lg	07 57 07.2	
	25nm,0.1s						
KURBB	Kurchatov Arra	3.91	326	⇑Lg	Lg	07 57 34.0	
	21nm,0.4s						
KURK	Kurchatov	3.95	328	⇑Lg	Lg	07 57 36.2	
	9.1nm,0.4s						
ARXS	Arharly	4.31	223	eP	Pb	07 56 55.5	+1.9
	3.5nm,0.4s						
ARXS				eS	Sg	07 57 55.4	-0.9
	14nm,0.5s						
ARXS	Arharly	4.31	223	Pg	Pb	07 56 55.5	+1.9
	3.5nm,0.4s						
ARXS				Lg	Lg	07 57 55.4	
	14nm,0.5s						
UZB	Uzynbulak	4.75	207	Pg	Pb	07 57 03.0	+1.9
UZB				Lg	Lg	07 58 08.0	
KTBS	Karatobe	5.24	227	eP	Pb	07 57 11.5	+2.1
	0.9nm,0.7s						
KTBS				eS	Sg	07 58 22.9	-3.1
	5.7nm,0.6s						
KTBS	Karatobe	5.24	227	Pg	Pb	07 57 11.5	+2.1
	0.6nm,0.3s						
KTBS				Lg	Lg	07 58 22.9	
	5.7nm,0.6s						

*BGR **11** 08:00:15.6±0.1, 50°.68N×9°.18E, h10km, ML3.0/21, Error ellipse: s-maj=1.1km s-min=1.1km az=150.0*
*LDG **11** 08:00:17.1±0.1, 50°.63N×9°.04E, h5km, Md3.1/1, Ml3.2/17, Error ellipse: s-maj=2.5km s-min=1.5km az=160.0*
*BUG **11** 08:00:17.5±0.0, 50°.68N×8°.98E, h0km±5km, MD3.5/7, ML3.3/7, Mining explosion.*
*BNS **11** 08:00:17.2±0.5, 50°.61N×9°.06E, h6km±3km, ML2.6*
*STR **11** 08:00:18.5±0.8, 50°.N±5°.×°.±°., h10km, MLv2.8/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
*PRU **11** 08:00:18.3±0.0, 50°.59N×9°.38E, h0km*

ISC 11 08:00:13.8±0.7, **50°.63N**±0°.02×**9°.13E**±0°.01, **h0**km, **n103**, σ**1**^{s}**63**/191, **Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UBBA	Unterbreizbach	0.59	71	ePg	Pg	08 00 26.4	+1.4
UBBA				eSg	Sg	08 00 33.3	+0.7
TNS	Taunus Mts	0.59	227	ePg	Pb	08 00 28.4	+1.3
TNS				eSg	Sb	08 00 36.5	+0.5
VITZ	Vitzeroda	0.67	67	ePg	Pg	08 00 27.7	+1.2
VITZ				eSg	Sg	08 00 35.7	+0.5
KOE	Koeppel	0.91	258	ePg	Pn	08 00 33.9	0.0
KOE				eSg	Sb	08 00 45.7	+0.5
SORT	Sorpetalsperre	1.03	315	ePg	Pb	08 00 35.2	+0.8
SORT				eSg	Sg	08 00 47.8	+1.1
	190nm,0.3s						
GTTG	Gottingen	1.06	30	ePg	Pg	08 00 34.9	+0.8
GTTG				eSg	Sg	08 00 47.8	0.0
WBS	Wahnbachtalspe	1.19	279	ePg	Pn	08 00 38.5	+1.0
WBS				eSg	Sb	08 00 53.6	+0.6
	242nm,0.3s						
HOBG	Hohbusch	1.19	288	eSg	Sb	08 00 53.9	+0.7
BGG	Burgeitz	1.22	250	ePg	Pb	08 00 38.2	+0.5
BGG				eSg	Sb	08 00 54.2	+0.2
	172nm,0.1s						
ENTS	Ennepetalsperr	1.25	300	ePg	Pn	08 00 39.5	+1.0
ENTS				eSg	Sg	08 00 54.7	+0.9
ABH	Alteburg	1.26	234	ePn	Pb	08 00 38.5	+0.1
ABH	Alteburg	1.26	234	Pn	Pb	08 00 38.4	+0.1
ABH				Pg	Pn	08 00 41.1	+2.4
ABH				Sg	Sn	08 00 58.3	+2.0
BHE	Schloss Buerre	1.27	258	ePg	Pn	08 00 40.3	+1.5
BHE				eSg	Sn	08 00 57.2	+0.6
	120nm,0.1s						
POSS	Possen	1.31	57	ePg	Pg	08 00 39.2	+0.4
POSS				eSg	Sg	08 00 56.0	+0.3
AHRW	Bad Neuenahr-A	1.31	267	ePn	Pn	08 00 40.2	+0.8
AHRW				ePg	Pb	08 00 41.2	+1.9
AHRW				eSg	Sn	08 00 58.1	+0.6
TDN	Todenfeld	1.39	269	ePg	Pb	08 00 42.2	+1.6
TDN				eSg	Sb	08 00 59.6	+0.7
	132nm,0.3s						
BKLB	Ruhr-Universit	1.43	305	Pg	Pb	08 00 42.9	+1.7
BTEZ	Ruhr-Universit	1.43	306	Pg	Pb	08 00 42.6	+1.4
BUG	Bochum--Univer	1.43	305	ePg	Pb	08 00 42.6	+1.4
BUG				eSg	Sg	08 01 00.1	+0.5
BULI	Ruhr-Universit	1.44	306	Pg	Pb	08 00 42.8	+1.4
BULI				Sg	Sb	08 01 01.6	+1.3
CLZ	Clausthal	1.45	32	ePn	Pn	08 00 39.8	-1.5
CLZ				ePg	Pg	08 00 41.4	-0.1
CLZ				eSg	Sg	08 00 59.6	-0.6
CHRS	Christianenhau	1.45	47	ePn	Pn	08 00 40.4	-0.9
CHRS				ePg	Pg	08 00 42.0	+0.5
CHRS				eSg	Sg	08 01 00.0	-0.3
STB	Steinbach	1.46	270	ePn	Pn	08 00 41.7	+0.4
STB				eSn	Sg	08 01 00.4	-0.1
	110nm,0.7s						
KTD	Kalmit	1.47	208	ePn	Pb	08 00 42.6	+0.5
KTD				ePg	Pg	08 00 45.2	+3.3
KTD				eSn	Sn	08 01 01.4	-0.2
KTD				eSg	Sb	08 01 04.3	+3.0
KTD	Kalmit	1.47	208	Pn	Pb	08 00 42.7	+0.7
KTD				Sn	Sn	08 01 01.4	-0.2
PLH	Pulheim	1.51	285	ePn	Pb	08 00 43.3	+0.7
PLH				eSn	Sb	08 01 01.5	-0.8
LAUG	Laupendahl	1.56	299	eSg	Sn	08 01 03.0	-0.6
MOX	Moxa	1.58	88	ePn	Pn	08 00 43.7	+0.6
MOX				eSg	Sn	08 01 04.0	-0.3
HILG	Hillesheim	1.60	259	ePn	Pn	08 00 44.1	+0.8
HILG				eSn	Sn	08 01 03.7	-1.0
GRF	Grafenberg Arr	1.64	124	ePn	Pn	08 00 44.3	+0.4
GRF				ePg	Pg	08 00 47.4	+2.2
GRF				eSg	Sg	08 01 08.0	+1.5
TAUT	Tautenburg	1.68	77	ePg	Pb	08 00 46.2	+0.6
TAUT				eSg	Sn	08 01 06.5	-0.1
LOH	Wallersheim-Lo	1.72	256	ePn	Pg	08 00 47.1	+0.4
LOH				eSn	Sn	08 01 08.0	+0.4
	72nm,0.5s						
GSH	Grosshau	1.75	275	eSn	Sn	08 01 07.6	-0.8
	84nm,0.5s						
NEUB	Neuenburg	1.77	70	ePg	Pb	08 00 47.5	+0.3
NEUB				eSg	Sn	08 01 09.6	+0.6
RIVT	Riveris	1.78	240	ePn	Pn	08 00 46.0	+0.3
RIVT				eSg	Sg	08 01 13.6	+2.8
ASSE	Asse, Remlinge	1.79	32	ePn	Pn	08 00 45.0	-0.8
ASSE				ePg	Pb	08 00 48.4	+1.1
ASSE				eSg	Sn	08 01 09.7	+0.5
KLL	Kalltalsperre	1.79	272	ePn	Pn	08 00 46.4	+0.4
DREG	Dreilaegerbach	1.84	272	ePn	Pn	08 00 47.0	+0.4
LANF	Langenberg	1.86	208	Pn	Pb	08 00 48.4	-0.2
LANF				Pg	Pg	08 00 52.4	+3.0
IBBN	Ibbenburen	1.89	334	ePg	Pb	08 00 50.7	+1.6
IBBN				eSg	Sb	08 01 14.3	+1.2
SUBF	Surbourg	1.90	206	Pn	Pb	08 00 48.8	-0.6
MANZ	Manzenberg	2.02	107	eSg	Sg

comp=Z,17nm,0.3s,baz=53
PRU Pruhonice 3.53 98 *e*SG **Sg 08 02 05.5 -1.6**
MOTA Moosalm 3.54 158 Pn **Pn 08 01 10.7 +0.6**
comp=Z,3.7nm,0.2s,SNR=8.6
MOTA *i* Sn **Sn 08 01 52.1 -0.6**
comp=Z,4.6nm,0.2s
SFTF Sexfontaines 3.61 229 *e*Pn **Pn 08 01 11.1 +0.2**
SFTF Sexfontaines 3.61 229 *e*Pg **Pg 08 01 22.9 0.0**
baz=41
SFTF *e*Sg **Sg 08 02 08.8 -0.8**
baz=37
WATA Walderalm 3.67 153 Pn **Pn 08 01 12.8 +0.9**
comp=Z,9.9nm,0.2s,SNR=9.8
WATA *i* Sn **Sn 08 01 54.8 -1.1**
comp=Z,1.5nm,0.1s
SQTA Sankt Quirin 3.68 157 Pn **Pn 08 01 12.9 +1.0**
comp=Z,4.7nm,0.2s,SNR=4.7
SQTA *i* Sn **Sn 08 01 55.0 -1.1**
comp=Z,4.8nm,0.2s
WTTA Wattenberg 3.75 153 Pn **Pn 08 01 14.2 +1.1**
comp=Z,3.1nm,0.1s,SNR=9.9
WTTA *i* Sn **Sn 08 01 58.4 +0.4**
comp=Z,1.7nm,0.2s
FETA Feichten 3.76 163 Pn **Pn 08 01 14.2 +1.1**
SNR=13
FETA *i* Sn **Sn 08 01 58.0 -0.3**
comp=Z,0.5nm,0.1s
ABTA Abfaltersbach 4.49 149 *i* Pn **Pn 08 01 25.7 +2.7**
comp=Z,4.6nm,0.2s
ABTA *i* Sn **Sn 08 02 16.8 +0.8**
comp=Z,2.0nm,0.2s
CABF La Chapelle 4.50 208 *e*Pn **Pn 08 01 23.1 -0.1**
CABF La Chapelle 4.50 208 *e*Pg **Pg 08 01 40.1 +0.2**
CABF *e*Sn **Sn 08 02 12.3 -3.9**
CABF *e*Sg **Sg 08 02 37.0 -1.2**
KBA Koelnbreinsper 4.51 140 *i* Pn **Pn 08 01 25.4 +1.9**
comp=Z,5.8nm,0.3s,SNR=6.0
KBA *i* Sn **Sn 08 02 17.2 +0.4**
comp=Z,0.6nm,0.1s
DPC Dobruska-Polom 4.60 91 *e*SG **Sg 08 02 38.4 -3.2**
comp=Z,8.9nm,0.5s
LOR Lormes 4.83 228 *e*Pn **Pn 08 01 27.1 -0.6**
baz=55
LOR Lormes 4.83 228 *e*Pg **Pg 08 01 45.5 -0.8**
baz=49
LOR *e*Sn **Sn 08 02 20.2 -4.2**
comp=Z,5.4nm,0.2s
LOR *e*Sg **Sg 08 02 47.0 -1.9**
comp=Z,4.5nm,0.3s
KRUC Moravsky 4.96 106 *e*SG **Sg 08 02 49.3 -3.7**
MYKA Terra Mystica 5.00 141 *i* Pn **Pn 08 01 32.4 +2.4**
comp=Z,0.2nm,0.1s
MYKA *i* Sn **Sn 08 02 26.3 -2.2**
comp=Z,1.1nm,0.4s
VRAC Vranov 5.00 102 *e*SG **Sg 08 02 50.2 -4.0**
SSF Saint Saulge 5.15 228 *e*Pn **Pn 08 01 31.1 -1.0**
SSF Saint Saulge 5.15 228 *e*Pg **Pg 08 01 51.7 -0.7**
SSF *e*Sn **Sn 08 02 27.9 -4.2**
comp=Z,3.5nm,0.2s
SSF *e*Sg **Sg 08 02 56.8 -2.3**
SMF Signal de Mont 5.31 223 *e*Pn **Pn 08 01 33.9 -0.3**
SMF Signal de Mont 5.31 223 *e*Pg **Pg 08 01 54.6 -0.8**
SMF *e*Sn **Sn 08 02 31.6 -4.5**
comp=Z,2.6nm,0.3s
SMF *e*Sg **Sg 08 03 01.5 -2.6**
comp=Z,7.0nm,0.4s
AVF Avril sur Loir 5.42 227 *e*Pn **Pn 08 01 35.4 -0.3**
AVF Avril sur Loir 5.42 227 *e*P **Pn 08 01 39.7 +4.0**
AVF Avril sur Loir 5.42 227 *e*Pg **Pg 08 01 56.3 -1.2**
AVF *e*Sn **Sn 08 02 33.6 -5.2**
comp=Z,2.3nm,0.3s
HYF Humbligny 5.44 234 *e*P **Pn 08 01 39.8 +3.8**
MORC Moravsky Berou 5.47 96 *e*SG **Sg 08 03 05.3 -4.2**
JAVC Velka Javorina 5.81 104 *e*SG **Sg 08 03 19.1 -1.4**
BGF Bois d'Agland 5.83 228 *e*Pn **Pn 08 01 40.5 -0.9**
BGF *e*Sn **Sn 08 02 44.1 -4.7**
comp=Z,18nm,0.4s
BGF *e*Sg **Sg 08 03 18.2 -2.6**
comp=Z,17nm,0.5s
TCF Toulx Ste Croi 6.33 229 *e*Pn **Pn 08 01 47.4 -0.9**
LDF La Druitiere 6.35 255 *e*Pn **Pn 08 01 48.0 -0.5**
LDF La Druitiere 6.35 255 *e*Pg **Pg 08 02 13.7 -1.6**
LDF *e*Sg **Sg 08 03 34.3 -3.2**
FLN La Foliniere 6.51 257 *e*Pn **Pn 08 01 50.3 -0.4**

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*IDC **11** 08:07:46.9±1.2, 33°.52N×135°.37E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.4/40, mbtmp3.4/6, ML3.1/3, Error ellipse: s-maj=31.8km s-min=26.1km az=115.0*
*JMA **11** 08:07:51.6, 33°.83N×135°.30E, h50km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s197.00000°, δ48.00000°, λ-6.00000°. NP2: ϕ_s291.00000°, δ86.00000°, λ-137.00000°. Principal axes: T Plg25.0000°, Azm56.0000°; N Plg47.0000°, Azm296.0000°; P Plg32.0000°, Azm163.0000°;*
JMA Felt I J1.
*NIED **11** 08:07:51.6, 33°.83N×135°.30E, h50km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.82; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$2.05; $M_{r\theta}$1.52; $M_{\theta\phi}$-1.43; $M_{\phi r}$-0.83; Fault plane solution: $M_0$2.84000×10^{14} NP1: ϕ_s301.00000°, δ79.00000°, λ-137.00000°. NP2: ϕ_s201.00000°, δ48.00000°, λ-14.00000°.*

ISC 11 08:07:52.0±1.0, 33°.80N±0°.05×135°.27E±0°.03, h45km±7km, n20, σ1§25/34, mb3.4/3, 7C-4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.09**	**53**	⇓P	**Pn**	**08 07 59.2**	**0.0**
JWM				*i* S	**Sn**	**08 08 04.5**	**+0.2**
JTNC	**Tanabenakahech**	**0.28**	**86**	⇑P	**Pn**	**08 08 00.3**	**-0.2**
JTNC				S	**Sn**	**08 08 06.4**	**-0.2**
JWY	**Kouya**	**0.50**	**32**	⇓P	**Pn**	**08 08 02.6**	**-0.4**
JWY				S	**Sn**	**08 08 10.0**	**-0.8**
JAI	**Aioi**	**0.68**	**270**	⇑P	**Pn**	**08 08 05.0**	**-0.3**
JAI				S	**Sn**	**08 08 14.6**	**-0.4**
JAWN	**Awajishima-nag**	**0.75**	**336**	P	**Pn**	**08 08 05.8**	**-0.4**
JAWN				S	**Sn**	**08 08 16.1**	**-0.5**
JHE	**Heguri**	**0.92**	**22**	⇓P	**Pn**	**08 08 07.8**	**-0.7**
JHE				S	**Sn**	**08 08 19.5**	**-1.1**
JKN2	**Miekihoku**	**0.94**	**62**	⇑P	**Pn**	**08 08 07.9**	**-0.9**
JKN2				S	**Sn**	**08 08 19.3**	**-1.8**
JMN	**Monobe**	**1.16**	**267**	⇑P	**Pn**	**08 08 11.3**	**-0.6**
JMN				S	**Sn**	**08 08 25.6**	**-1.0**
JKS	**Kasai**	**1.23**	**343**	⇓P	**Pn**	**08 08 12.2**	**-0.6**
JKS				S	**Sn**	**08 08 27.0**	**-1.3**
JJS	**Sakaide**	**1.25**	**298**	P	**Pn**	**08 08 12.4**	**-0.7**
JJS				S	**Sn**	**08 08 27.4**	**-1.4**
TTO1	**TONANKAI O.B.S**	**1.27**	**98**	⇑P	**Pn**	**08 08 12.5**	**-0.5**
TTO1				X		08 08 29.1	
TSUJ	**Tsu 2**	**1.31**	**46**	⇑P	**Pn**	**08 08 12.7**	**-1.2**
TSUJ				S	**Sn**	**08 08 27.2**	**-3.0**
JIE	**Ise**	**1.33**	**63**	⇑P	**Pn**	**08 08 13.5**	**-0.6**
JIE				S	**Sn**	**08 08 29.7**	**-0.9**
MAT	**Matsushiro**	**3.64**	**40**	P	**Pn**	**08 08 45.9**	**+0.1**
MAT				*e*S	**Sn**	**08 09 28.7**	**+1.1**
MJAR	**Matsushiro Arr**	**3.64**	**40**	Pn	**Pn**	**08 08 46.1**	**+0.2**
	0.2nm,0.3s,baz=255,slow=15,SNR=7.6						
JNU	**Nakatsue**	**3.73**	**261**	Pn	**Pn**	**08 08 47.0**	**-0.1**
	4.1nm,0.3s,baz=216,slow=21,SNR=41						
JNU				Sn	**Sn**	**08 09 27.2**	**-2.7**
	1.0nm,0.3s,baz=163,slow=19,SNR=1.9						
KSRS	**Korea Array**	**7.01**	**303**	Pn	**Pn**	**08 09 33.3**	**+1.4**
	0.3nm,0.3s,baz=121,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**53.45**	**181**	P	**P**	**08 17 06.2**	**-1.3**
	1.0nm,0.8s,baz=357,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**57.16**	**181**	P	**P**	**08 17 33.6**	**-0.6**
	0.2nm,0.5s,baz=13,slow=13,SNR=6.0						
NVAR	**Mina Array Bea**	**80.92**	**50**	P	**P**	**08 20 04.9**	**+3.1**
	0.1nm,0.3s,baz=300,slow=7.2,SNR=1.6						

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*UCR **11** 08:26:22.1±1.0, 13°.79N×91°.19W, h17km±4km, ML4.4, mb4.5(NEIC)*
*SNET **11** 08:26:22.2±1.1, 13°.74N×91°.18W, h18km±5km, ML4.6*
*NEIC **11** 08:26:24.0±2.2, 13°.71N±0°.07×91°.16W±0°.06, h64km±5km, mb4.5/214, Md4.6(SNET), Error ellipse: s-maj=12.1km s-min=6.2km az=215.0*
*IDC **11** 08:26:27.6±1.8, 13°.95N×90°.83W, h88km±14km, mb4.0/14, mb1 4.2/17, mb1mx4.0/39, mbtmp4.3/17, MS3.6/19, Ms1 3.6/19, ms1mx3.5/31, Error ellipse: s-maj=27.9km s-min=10.2km az=50.0*
*INET **11** 08:26:30.4, 13°.74N×90°.69W, h15km, ML4.3*

ISC 11 08:26:22.2±1.2, 13°.61N±0°.06×91°.28W±0°.06, h55km±10km, n319, σ1§11/298, mb4.5/88, MS3.6/19, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.00**	**336**		**Pn**	**08 26 37.6**	**-2.5**
RTAL				Sn	**Sn**	**08 26 52.9**	**-0.4**
NUBE	**Las Nubes**	**1.48**	**78**	*e*P	**Pn**	**08 26 45.8**	**-0.9**
NUBE				*e*S	**Sn**	**08 27 05.0**	**-0.1**
NUBE	**Las Nubes**	**1.48**	**78**	*e*P	**Pn**	**08 26 45.8**	**-0.9**
NUBE				*e*S	**Sn**	**08 27 05.0**	**-0.1**
APG	**El Apazote**	**1.60**	**29**	P	**Pn**	**08 26 48.6**	**+0.2**
	227nm,0.3s,baz=194,slow=9.4,SNR=1308						
APG				S	**Sn**	**08 27 11.3**	**+3.3**
	306nm,0.3s,baz=32,slow=14,SNR=7.9						
RTR	**El Retiro**	**1.61**	**79**	*e*P	**Pn**	**08 26 48.4**	**-0.1**
RTR	**El Retiro**	**1.61**	**79**	*e*P	**Pn**	**08 26 48.4**	**-0.1**
CEVE	**Cerro Verde**	**1.62**	**82**	*e*P	**Pn**	**08 26 48.6**	**-0.1**
CEVE				*e*S	**Sn**	**08 27 09.5**	**+0.9**
CEVE				IAML		08 27 16.7	
	comp=Z,10μm,0.6s						
CEVE	**Cerro Verde**	**1.62**	**82**	*e*P	**Pn**	**08 26 48.6**	**-0.1**
CEVE				*e*S	**Sn**	**08 27 09.5**	**+0.9**
CEVE				IAML		08 27 16.7	
	comp=Z,10μm,0.6s						
SBLS	**San Blas**	**1.62**	**82**	*e*P	**Pn**	**08 26 48.2**	**-0.5**
SBLS	**San Blas**	**1.62**	**82**	*e*P	**Pn**	**08 26 48.2**	**-0.5**
SNJE	**San Jose**	**1.64**	**81**	*e*P	**Pn**	**08 26 48.7**	**-0.3**
SNJE	**San Jose**	**1.64**	**81**	*e*P	**Pn**	**08 26 48.7**	**-0.3**
HUEH	**Huehuetenango**	**1.71**	**353**	Pn	**Pn**	**08 26 49.4**	**-0.6**
HUEH				Sn	**Sn**	**08 27 15.2**	**+4.3**
UNIC	**Universidad Ca**	**1.72**	**77**	*e*P	**Pn**	**08 26 49.6**	**-0.3**
UNIC				*e*S	**Sn**	**08 27 11.5**	**+0.7**
UNIC	**Universidad Ca**	**1.72**	**77**	*e*P	**Pn**	**08 26 49.6**	**-0.3**
UNIC				*e*S	**Sn**	**08 27 11.5**	**+0.7**
CEDA	**San Andres**	**1.84**	**84**	*e*P	**Pn**	**08 26 51.4**	**-0.1**
CEDA				*e*S	**Sn**	**08 27 14.5**	**+0.9**
CEDA				IAML		08 27 29.2	
	comp=Z,7μm,0.4s						
CEDA	**San Andres**	**1.84**	**84**	*e*P	**Pn**	**08 26 51.4**	**-0.1**
CEDA				*e*S	**Sn**	**08 27 14.5**	**+0.9**
CEDA				IAML		08 27 29.2	
	comp=Z,7μm,0.4s						
TACO	**Tacachico**	**1.90**	**79**	⇓*e*P	**Pn**	**08 26 52.5**	**+0.2**
TACO				*e*S	**Sn**	**08 27 15.8**	**+0.7**
TACO	**Tacachico**	**1.90**	**79**	⇓*e*P	**Pn**	**08 26 52.5**	**+0.2**
TACO				*e*S	**Sn**	**08 27 15.8**	**+0.7**
BOQS	**Boqueron**	**1.94**	**86**	*e*P	**Pn**	**08 26 53.1**	**0.0**
BOQS				*e*S	**Sn**	**08 27 17.1**	**+0.7**
BOQS	**Boqueron**	**1.94**	**86**	*e*P	**Pn**	**08 26 53.1**	**0.0**
BOQS				*e*S	**Sn**	**08 27 17.1**	**+0.7**
QUEZ	**Alcaldia de Qu**	**1.96**	**83**	*e*P	**Pn**	**08 26 53.6**	**+0.5**
UEES	**Universidad Ev**	**1.98**	**87**	*e*P	**Pn**	**08 26 53.3**	**-0.2**
UEES	**Universidad Ev**	**1.98**	**87**	*e*P	**Pn**	**08 26 53.3**	**-0.2**
SNET	**Serv Nac Est T**	**1.99**	**87**	*e*P	**Pn**	**08 26 53.4**	**-0.2**
SNET	**Serv Nac Est T**	**1.99**	**87**	*e*P	**Pn**	**08 26 53.4**	**-0.2**
SNET	**Serv Nac Est T**	**1.99**	**87**	Pn	**Pn**	**08 26 53.4**	**-0.2**
SEMO	**Seminario San**	**2.00**	**87**	*e*P	**Pn**	**08 26 54.3**	**+0.7**
MTO3	**Montecristo**	**2.02**	**67**		**Pn**	**08 26 54.4**	**+0.3**
MTO3				Sn	**Sn**	**08 27 20.5**	**+2.2**
UTEC	**Universidad Te**	**2.02**	**87**	*e*P	**Pn**	**08 26 54.5**	**+0.6**
UTEC	**Universidad Te**	**2.02**	**87**	*e*P	**Pn**	**08 26 54.5**	**+0.6**
OPAM	**Oficina de Pla**	**2.02**	**87**	*e*P	**Pn**	**08 26 54.2**	**+0.2**
OPAM				IAML		08 27 23.4	
	comp=Z,3μm,0.5s						
OPAM	**Oficina de Pla**	**2.02**	**87**	*e*P	**Pn**	**08 26 54.2**	**+0.2**
OPAM				IAML		08 27 23.4	
	comp=Z,3μm,0.5s						
IGN	**Direccin Gen**	**2.05**	**87**	*e*P	**Pn**	**08 26 55.1**	**+0.7**
IGN	**Direccin Gen**	**2.05**	**87**	*e*P	**Pn**	**08 26 55.1**	**+0.7**
UDBS	**Universidad Do**	**2.06**	**87**	*e*P	**Pn**	**08 26 55.1**	**+0.5**
UDBS	**Universidad Do**	**2.06**	**87**	*e*P	**Pn**	**08 26 55.1**	**+0.5**
AEIL	**Aeropuerto Ilo**	**2.10**	**87**	*e*P	**Pn**	**08 26 55.9**	**+0.9**
AEIL				IAML		08 27 35.2	
	comp=Z,5μm,0.5s						
AEIL	**Aeropuerto Ilo**	**2.10**	**87**	*e*P	**Pn**	**08 26 55.9**	**+0.9**
AEIL				IAML		08 27 35.2	
	comp=Z,5μm,0.5s						
ESQI	**Esquipulas**	**2.10**	**63**	Pn	**Pn**	**08 26 55.7**	**+0.6**
LFU	**La Fuente**	**2.10**	**86**	*e*P	**Pn**	**08 26 55.7**	**+0.5**
LFU	**La Fuente**	**2.10**	**86**	*e*P	**Pn**	**08 26 55.7**	**+0.5**
LFRS	**El Faro**	**2.15**	**89**	*e*P	**Pn**	**08 26 56.0**	**+0.2**
LFRS	**El Faro**	**2.15**	**89**	*e*P	**Pn**	**08 26 56.0**	**+0.2**
LBRS	**Las Brisas**	**2.17**	**86**	*e*P	**Pn**	**08 26 56.8**	**+0.7**
LBRS	**Las Brisas**	**2.17**	**86**	*e*P	**Pn**	**08 26 56.8**	**+0.7**
PAVA	**Las Pavas**	**2.27**	**87**	*e*P	**Pn**	**08 26 58.0**	**+0.5**
PAVA				IAML		08 27 34.7	
	comp=Z,2μm,0.5s						
PAVA	**Las Pavas**	**2.27**	**87**	*e*P	**Pn**	**08 26 58.0**	**+0.5**
PAVA				IAML		08 27 34.7	
	comp=Z,2μm,0.5s						
COEG	**Centro de Oper**	**2.33**	**89**	*e*P	**Pn**	**08 26 59.0**	**+0.8**
COEG				IAML		08 27 34.5	
	comp=Z,3μm,0.6s						
COEG	**Centro de Oper**	**2.33**	**89**	*e*P	**Pn**	**08 26 59.0**	**+0.8**
COEG				IAML		08 27 34.5	
	comp=Z,3μm,0.6s						
LLGN	**La Laguna**	**2.33**	**76**	*e*P	**Pn**	**08 26 58.2**	**-0.1**
LLGN	**La Laguna**	**2.33**	**76**	*e*P	**Pn**	**08 26 58.2**	**-0.1**
UESV	**Universidad de**	**2.42**	**89**	*e*P	**Pn**	**08 26 59.8**	**+0.4**
UESV	**Universidad de**	**2.42**	**89**	*e*P	**Pn**	**08 26 59.8**	**+0.4**
ALJI	**Alcalda de J**	**2.65**	**96**	*e*P	**Pn**	**08 27 03.0**	**+0.5**
ALJI				IAML		08 27 40.1	
	comp=Z,2μm,0.5s						
ALJI	**Alcalda de J**	**2.65**	**96**	*e*P	**Pn**	**08 27 03.0**	**+0.5**
ALJI				IAML		08 27 40.1	
	comp=Z,2μm,0.5s						
COEB	**Comit de Eme**	**2.67**	**92**	*e*P	**Pn**	**08 27 03.4**	**+0.5**
COEB				IAML		08 27 46.5	
	comp=Z,2μm,0.5s						
COEB	**Comit de Eme**	**2.67**	**92**	*e*P	**Pn**	**08 27 03.4**	**+0.5**
COEB				IAML		08 27 46.5	
	comp=Z,2μm,0.5s						
TECA	**Tecapa**	**2.70**	**92**	*e*P	**Pn**	**08 27 04.1**	**+0.7**
TECA				*e*S	**Sn**	**08 27 37.0**	**+2.0**
TECA	**Tecapa**	**2.70**	**92**	*e*P	**Pn**	**08 27 04.1**	**+0.7**
TECA				*e*S	**Sn**	**08 27 37.0**	**+2.0**
CCIG	**Comitan**	**2.79**	**343**	Pn	**Pn**	**08 27 05.1**	**+0.5**
LCY	**Lacayo**	**2.91**	**93**	*e*P	**Pn**	**08 27 06.9**	**+0.8**
LCY	**Lacayo**	**2.91**	**93**	*e*P	**Pn**	**08 27 06.9**	**+0.8**
FAGO	**Alcalda de S**	**3.08**	**88**	*e*P	**Pn**	**08 27 08.7**	**+0.2**
FAGO	**Alcalda de S**	**3.08**	**88**	*e*P	**Pn**	**08 27 08.7**	**+0.2**
LCND	**La Caada**	**3.31**	**95**	*e*P	**Pn**	**08 27 12.2**	**+0.7**
LCND	**La Caada**	**3.31**	**95**	*e*P	**Pn**	**08 27 12.2**	**+0.7**
CNCH	**Conchagua**	**3.36**	**95**	*e*P	**Pn**	**08 27 13.5**	**+1.1**
CNCH				IAML		08 28 01.4	
	comp=Z,3μm,0.5s						
CNCH	**Conchagua**	**3.36**	**95**	*e*P	**Pn**	**08 27 13.5**	**+1.1**
CNCH				IAML		08 28 01.4	
	comp=Z,3μm,0.5s						
PETF	**Flores**	**3.56**	**22**		**Pn**	**08 27 15.7**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.91**	**83**	*e*P	**Pn**	**08 27 20.5**	**+0.5**
TGUH	**Tegucigalpa,Un**	**3.91**	**83**	*e*P	**Pn**	**08 27 20.5**	**+0.5**
TGUH	**Tegucigalpa,Un**	**3.91**	**83**	Pn	**Pn**	**08 27 20.6**	**+0.5**
TGUH				Sn	**Sn**	**08 28 06.2**	**+1.5**
CRIN	**San Cristobal**	**4.21**	**102**		**Pn**	**08 27 20.9**	**-3.2**
MATN	**Matagalpa**	**5.25**	**97**	Pn	**Pn**	**08 27 37.6**	**-0.7**
BOAB	**BOACO BROADBAN**	**5.59**	**101**	Pn	**Pn**	**08 27 41.2**	**-1.6**
ACON	**Acoyapa**	**6.17**	**105**		**Pn**	**08 27 54.0**	**+3.2**
ESPN	**Las Esperanzas**	**6.94**	**101**		**Pn**	**08 28 03.0**	**+1.5**
JTS	**Las Juntas de**	**7.01**	**117**	P	**Pn**	**08 28 05.1**	**+2.8**
	comp=Z,1.4nm,0.3s,baz=3.6,slow=21,SNR=8.8						
JTS				S	**Sn**	**08 29 20.6**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=339,slow=18,SNR=0.8						
JTS				LR	LR	08 30 52.8	
	comp=Z,311nm,20.1s,baz=358,slow=39						
TEIG	**Tepich**	**7.18**	**23**	Pn	**Pn**	**08 28 05.2**	**+0.5**
TLIG	**Tlapa**	**8.05**	**300**	Pn	**Pn**	**08 28 18.0**	**+1.3**
HKT	**Hockley**	**16.80**	**346**	Pn	**Pn**	**08 30 12.2**	**-1.6**
060A	**Indiantown**	**16.81**	**36**	Pn	**Pn**	**08 30 12.5**	**-1.5**
656A	**Willston**	**17.65**	**26**		**Pn**	**08 30 24.2**	**-0.1**
656A				IAmb	IAmb	08 30 38.8	
	comp=Z,29nm,0.7s						
553A	**Crawfordville**	**17.67**	**20**	P	**P**	**08 30 25.5**	**+0.7**
451A	**Vernon**	**17.68**	**16**	P	**Pn**	**08 30 23.8**	**-0.9**
344A	**Westbrook Farm**	**17.77**	**2**	P	**Pn**	**08 30 24.8**	**-0.9**
344A				IAmb	IAmb	08 30 33.3	
	comp=Z,23nm,0.7s						
346A	**Big Creek Wild**	**17.78**	**5**	P	**Pn**	**08 30 25.6**	**-0.3**
OTAV	**Otavalo**	**18.38**	**135**	P	**P**	**08 30 32.5**	**-0.8**
VBMS	**Vicksburg**	**18.54**	**2**	P	**P**	**08 30 33.0**	**-1.4**
VBMS				IAmb	IAmb	08 30 51.6	
	comp=Z,29nm,0.8s						
JCT	**Junction City**	**18.54**	**336**	P	**P**	**08 30 34.2**	**-0.4**
352A	**Blakely**	**18.72**	**17**	P	**P**	**08 30 35.3**	**-1.0**
352A				IAmb	IAmb	08 30 42.4	
	comp=Z,21nm,0.8s						
237A	**Washetta, Mont**	**18.77**	**348**	P	**P**	**08 30 35.9**	**-1.1**
237A				IAmb	IAmb	08 30 44.3	
	comp=Z,27nm,1.3s						
250A	**Grady**	**18.85**	**13**	P	**P**	**08 30 36.0**	**-1.9**
250A				IAmb	IAmb	08 30 54.3	
	comp=Z,47nm,1.3s						
ROSC	**El Rosal**	**18.85**	**116**	P	**Pn**	**08 30 39.0**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=46,slow=22,SNR=5.7						
ROSC	**El Rosal**	**18.85**	**116**	P	**P**	**08 30 36.1**	**-2.3**
143A	**Socs Landing,**	**19.01**	**360**	P	**P**	**08 30 38.8**	**-0.7**
143A				IAmb	IAmb	08 30 42.5	
	comp=Z,34nm,1.2s						
TIGA	**Tifton**	**19.10**	**20**	P	**P**	**08 30 40.4**	**-0.2**
WHTX	**Lake Whitney,**	**19.16**	**344**	P	**P**	**08 30 41.4**	**+0.2**
WHTX				IAmb	IAmb	08 30 50.2	
	comp=Z,12nm,0.7s						
TXAR	**Lajitas Array**	**19.41**	**326**	P	**Pn**	**08 30 46.4**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=150,slow=12,SNR=43						
TXAR				PcP	**PcP**	**08 35 05.6**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=167,slow=3.8,SNR=4.1						
TXAR	**Lajitas Array**	**19.41**	**326**	P	**P**	**08 30 44.9**	**+0.8**
TX31	**Lajitas Ar. Si**	**19.41**	**326**	P	**P**	**08 30 44.4**	**+0.2**
TX31				IAmb	IAmb	08 30 53.8	
	comp=Z,18nm,0.8s						
TX32	**Lajitas Array**	**19.41**	**326**	P	**Pn**	**08 30 45.2**	**-0.6**
Z41A	**Richland Creek**	**19.61**	**356**	P	**P**	**08 30 45.8**	**-0.3**
Z41A				IAmb	IAmb	08 31 04.5	
	comp=Z,19nm,0.8s						
Z47A	**Carrollton**	**19.72**	**8**	P	**P**	**08 30 47.6**	**+0.3**
Z47A				IAmb	IAmb	08 30 52.0	
	comp=Z,22nm,0.8s						
LRAL	**Lakeview Retre**	**19.73**	**11**	P	**Pn**	**08 30 48.7**	**-0.6**
152A	**Waverly Hall**	**19.90**	**16**	P	**P**	**08 30 50.1**	**+0.8**
152A				IAmb	IAmb	08 30 56.7	
	comp=Z,24nm,0.6s						
Y45A	**Yeager Farm, C**	**20.23**	**4**	P	**P**	**08 30 53.3**	**+0.5**
154A	**Montrose**	**20.34**	**20**	P	**P**	**08 30 54.4**	**+0.4**
Z35A	**Perchaven, San**	**20.38**	**345**	P	**P**	**08 30 53.7**	**-0.7**
Z35A				IAmb	IAmb	08 31 03.1	
	comp=Z,18nm,0.7s						
Z51A	**Franklin**	**20.39**	**15**	P	**P**	**08 30 54.6**	**0.0**
Z51A				IAmb	IAmb	08 30 59.4	
	comp=Z,31nm,0.8s						
ABTX	**Abilene, Hawle**	**20.42**	**339**	P	**P**	**08 30 55.4**	**+0.5**
ABTX				IAmb	IAmb	08 31 01.3	
	comp=Z,12nm,0.8s						
Y49A	**Blount Mountai**	**20.64**	**12**	P	**P**	**08 30 57.7**	**+0.4**
Y49A				IAmb	IAmb	08 31 09.5	
	comp=Z,19nm,0.8s						
SDV	**Santo Domingo**	**20.78**	**101**	P	**P**	**08 30 58.0**	**-1.1**
	comp=Z,8.1nm,0.6s,baz=289,slow=7.6,SNR=4.6						
SDV				LR	LR	08 39 47.9	
	comp=Z,96nm,20.2s,baz=238,slow=39						
LPIG	**La Paz**	**20.79**	**303**	LR	LR	08 39 51.1	
	comp=Z,142nm,18.6s,baz=158,slow=38						
OXF	**Oxford**	**20.88**	**4**	P	**P**	**08 30 58.4**	**-1.4**
OXF				IAmb	IAmb	08 31 17.9	
	comp=Z,42nm,1.1s						
MIAR	**Mount Ida**	**20.95**	**355**	P	**P**	**08 31 00.2**	**-0.4**
GOGA	**Godfrey**	**20.96**	**19**	P	**P**	**08 31 00.8**	**+0.1**
GOGA				IAmb	IAmb	08 31 15.3	
	comp=Z,13nm,0.8s						
UALR	**University of**	**21.10**	**358**	P	**P**	**08 31 01.9**	**-0.3**
X48A	**Hartselle**	**21.10**	**10**	P	**P**	**08 31 02.0**	**-0.3**
Y52A	**Lilburn**	**21.20**	**17**	P	**P**	**08 31 04.2**	**+0.8**
Y52A				IAmb	IAmb	08 31 18.7	
	comp=Z,14nm,0.7s						
X37A	**Clayton**	**21.22**	**351**	P	**P**	**08 31 02.7**	**-0.8**
X37A				IAmb	IAmb	08 31 17.4	
	comp=Z,12nm,0.8s						
FPAL	**Fort Paine**	**21.46**	**13**	IAmb	IAmb	08 31 21.4	
	comp=Z,21nm,0.9s						
WHAR	**Wooly Hollow**	**21.61**	**358**	P	**P**	**08 31 07.7**	**0.0**
X51A	**Calhoun**	**21.66**	**14**	IAmb	IAmb	08 31 26.0	
	comp=Z,20nm,0.9s						
X34A	**Smith Ranch, M**	**21.73**	**345**	P	**P**	**08 31 09.2**	**+0.3**
X34A				IAmb	IAmb	08 31 27.3	
	comp=Z,23nm,1.0s						
GDL2	**Guadalupe Moun**	**22.05**	**329**	P	**P**	**08 31 14.5**	**+1.9**
SWET	**Sewanee**	**22.05**	**12**	P	**P**	**08 31 12.4**	**-0.1**
SWET				IAmb	IAmb	08 31 27.6	
	comp=Z,25nm,1.2s						
HODGE	**Hodges**	**22.10**	**20

S44A **Carbondale** 24.06 4 P **P** 08 31 32.7 +0.4
S44A IAmb IAmb 08 31 48.3
comp=Z,25nm,1.1s
121A **Cookes Peak, D** 24.14 324 IAmb IAmb 08 31 38.7
comp=Z,13nm,1.1s
ATAH **Atahualpa** 24.25 147 LR LR 08 39 48.5
comp=Z,128nm,19.8s,baz=340,slow=33
CCM **Cathedral Cave** 24.35 0 P **P** 08 31 34.4 -0.6
R40A **Maddies Statio** 24.60 358 P **P** 08 31 37.0 -0.3
R40A IAmb IAmb 08 31 37.8
comp=Z,15nm,0.8s
V58A **Windy Hill, Pi** 24.65 24 P **P** 08 31 37.3 -0.5
V58A IAmb IAmb 08 31 38.2
comp=Z,14nm,0.9s
S51A **Beattyville** 24.89 15 P **P** 08 31 39.5 -0.5
S51A IAmb IAmb 08 31 55.8
comp=Z,18nm,1.0s
WCI **Wyandotte Cave** 24.92 9 P **P** 08 31 38.7 -1.5
WCI IAmb IAmb 08 31 40.5
comp=Z,20nm,0.8s
R49A **Shelbyville** 25.18 11 P **P** 08 31 41.8 -0.7
OLIL **Olney** 25.18 6 P **P** 08 31 42.1 -0.5
OLIL IAmb IAmb 08 31 45.9
comp=Z,11nm,0.7s
ANMO **Albuquerque** 25.29 330 P **P** 08 31 45.6 +1.8
comp=Z,0.4nm,0.6s,baz=315,slow=11,SNR=33
ANMO LR LR 08 43 39.3
comp=Z,4.9nm,18.8s,baz=346,slow=41
ANMO **Albuquerque** 25.29 330 P **P** 08 31 45.4 +1.5
R50A **Paris** 25.34 13 P **P** 08 31 43.4 -0.7
R50A IAmb IAmb 08 32 00.0
comp=Z,9.3nm,0.9s
V60A **Jim Taylor Roa** 25.41 27 P **P** 08 31 44.8 +0.2
V60A IAmb IAmb 08 31 46.9
comp=Z,12nm,0.7s
VWCC **Virginia Weste** 25.61 21 P **P** 08 31 46.8 +0.3
T57A **Hurt** 25.66 23 P **P** 08 31 46.6 -0.3
TUC **Tucson** 25.79 319 P **P** 08 31 50.0 +1.7
P40A **Paris** 25.83 359 IAmb IAmb 08 31 49.2
comp=Z,15nm,0.8s
P38A **Dawn** 25.99 356 IAmb IAmb 08 31 52.6
comp=Z,13nm,1.1s
Q51A **Peebles** 26.27 14 IAmb IAmb 08 32 07.2
comp=Z,17nm,0.8s
T59A **Double "B" Far** 26.30 25 IAmb IAmb 08 32 08.6
comp=Z,9.2nm,1.0s
SDCO **Great Sand Dun** 27.17 335 P **P** 08 32 02.3 +1.4
X16A **Lo Mia Camp, P** 27.62 322 P **P** 08 32 07.2 +2.4
S22A **4UR Ranch, Cre** 27.75 333 P **P** 08 32 07.0 +0.9
MVCO **Mesa Verde** 28.09 330 P **P** 08 32 10.5 +1.4
MVCO IAmb IAmb 08 32 11.7
comp=Z,8.3nm,0.8s
WUAZ **Wupatki** 28.35 324 P **P** 08 32 10.6 -0.7
WUAZ IAmb IAmb 08 32 16.6
comp=Z,7.3nm,0.9s
PV02 **Paradox Valley** 29.00 331 P **P** 08 32 15.8 -1.4
PV05 **Paradox Valley** 29.07 330 P **P** 08 32 18.0 +0.2
PV18 **Skein Mesa, Pa** 29.11 331 IAmb IAmb 08 32 20.7
comp=Z,5.6nm,0.7s
PV12 **Saucer Basin,** 29.11 331 IAmb IAmb 08 32 21.0
comp=Z,12nm,0.6s
PV11 **David Mesa, Pa** 29.13 331 IAmb IAmb 08 32 20.9
comp=Z,6.1nm,0.6s
PV17 **East Wray Mesa** 29.16 331 IAmb IAmb 08 32 21.1
comp=Z,6.9nm,0.7s
PV16 **Nyswonger Mesa** 29.16 331 P **P** 08 32 19.7 +1.1
NNA **Nana** 29.18 150 LR LR 08 42 06.4
comp=Z,70nm,19.3s,baz=303,slow=32
PV19 **Morning Glory** 29.20 331 IAmb IAmb 08 32 22.6
comp=Z,5.1nm,0.7s
PV04 **Paradox Valley** 29.22 331 IAmb IAmb 08 32 21.7
comp=Z,8.7nm,0.7s
PV14 **Lion Creek, Pa** 29.26 331 P **P** 08 32 20.3 +0.7
U15A **North Rim** 29.52 324 P **P** 08 32 24.1 +2.2
O20A **White River Ci** 30.34 334 IAmb IAmb 08 32 31.7
comp=Z,4.7nm,0.7s
MTPU **Mount Pierson** 30.62 326 P **P** 08 32 34.0 +2.3
Q16A **Castle Valley** 30.74 329 P **P** 08 32 33.9 +1.3
MSU **Marysvale** 30.96 327 P **P** 08 32 34.7 +0.2
MVU **Marysvale** 30.97 327 P **P** 08 32 35.2 +0.6
TMUT **Trail Mountain** 31.05 329 P **P** 08 32 36.6 +1.2
TCRU **Three Creeks R** 31.17 327 P **P** 08 32 38.5 +2.1
SHPR **Sheep Range** 31.27 321 P **P** 08 32 39.4 +2.2
RDMU **Red Mountain** 31.28 333 P **P** 08 32 36.7 -0.5
PSUT **Pine Spring** 31.88 325 P **P** 08 32 45.2 +2.6
TPNV **Topopah Spring** 32.22 321 P **P** 08 32 47.0 +1.4
CTU **Camp Tracy** 32.39 330 P **P** 08 32 46.7 -0.3
DUG **Dugway, Tooele** 32.54 328 P **P** 08 32 49.2 +1.0
TCUT **Toone Canyon** 32.56 331 P **P** 08 32 50.2 +1.6
R11A **Troy Canyon, C** 32.74 323 P **P** 08 32 52.3 +2.2
PD31 **Pinedale Array** 33.07 335 P **P** 08 32 52.8 -0.1
PDAR **Pinedale Array** 33.07 335 P **P** 08 32 54.0 +1.0
comp=Z,0.9nm,0.6s,baz=138,slow=10.0,SNR=10
PDAR PcP **PcP** 08 35 36.5 +1.0
comp=Z,0.6nm,0.5s,baz=138,slow=4.4,SNR=5.6
PDAR LR LR 08 48 45.8
comp=Z,82nm,21.1s,baz=152,slow=41
PDAR **Pinedale Array** 33.07 335 P **P** 08 32 51.6 -1.4
PTGA **Pitinga** 34.14 112 P **P** 08 33 03.5 +1.1
SNOW **Snow King Moun** 34.14 334 P **P** 08 33 03.4 +1.1
LOHW **Long Hollow** 34.20 335 P **P** 08 33 03.1 +0.3
ELK **Elko** 34.20 327 P **P** 08 33 04.3 +1.4
ELK IAmb IAmb 08 33 06.0
comp=Z,4.6nm,0.7s
TPAW **Teton Pass** 34.25 334 P **P** 08 33 03.6 +0.4
TPAW IAmb IAmb 08 33 12.5
comp=Z,6.1nm,1.0s
NV11 **Mina Array Sit** 34.33 321 P **P** 08 33 06.6 +2.7
NV11 IAmb IAmb 08 33 09.5
comp=Z,5.1nm,0.8s
OMMB **Old Mammoth Mi** 34.36 319 P **P** 08 33 06.5 +2.2
OMMB IAmb IAmb 08 33 20.9
comp=Z,5.2nm,1.1s
FXWY **Fox Creek** 34.40 334 P **P** 08 33 05.8 +1.2
NVAR **Mina Array Bea** 34.42 321 P **P** 08 33 07.7 +2.9
comp=Z,5.4nm,0.7s,baz=132,slow=8.5,SNR=37
NVAR PcP **PcP** 08 35 40.9 +1.5
comp=Z,1.9nm,0.6s,baz=127,slow=3.2,SNR=10
NVAR LR LR 08 49 00.1
comp=Z,103nm,19.6s,baz=154,slow=39
NVAR **Mina Array Bea** 34.42 321 P **P** 08 33 06.2 +1.5
LHV **Little Huntoon** 34.43 320 P **P** 08 33 07.6 +3.1
LHV IAmb IAmb 08 33 15.9
comp=Z,6.4nm,0.9s
KVN **Kaiserville** 34.69 322 P **P** 08 33 08.5 +1.5
KVN IAmb IAmb 08 33 12.3
comp=Z,3.7nm,0.6s
YERR **Yerington** 35.34 321 IAmb IAmb 08 33 18.4
comp=Z,3.0nm,0.7s
CMB **Columbia Colle** 35.49 319 P **P** 08 33 15.5 +1.7
CMB IAmb IAmb 08 33 27.3
comp=Z,8.0nm,1.5s
PNTR **Pine Nut** 35.62 321 P **P** 08 33 17.4 +2.3
PNTR IAmb IAmb 08 33 20.5
comp=Z,6.3nm,0.7s
VCNR **Virginia City** 35.78 321 P **P** 08 33 18.8 +2.3
HLID **Hailey** 35.86 331 IAmb IAmb 08 33 21.7
comp=Z,4.6nm,0.8s
MCMT **McKenzie Canyo** 36.13 334 P **P** 08 33 21.1 +1.7
MFID **Camas Ranch** 36.44 329 IAmb IAmb 08 33 27.0
comp=Z,7.0nm,0.9s
DLMT **Dillon** 36.45 334 P **P** 08 33 22.6 +0.6
DLMT IAmb IAmb 08 33 25.7
comp=Z,5.0nm,0.8s
ULM **Lac du Bonnet** 36.73 355 P **P** 08 33 22.6 -1.6
comp=Z,6.1nm,0.7s,baz=162,slow=6.1,SNR=5.7
ULM LR LR 08 51 56.7
comp=Z,120nm,18.6s,baz=164,slow=42
LATQ **La Tuque** 37.05 21 P **P** 08 33 25.2 -1.6
LATQ IAmb IAmb 08 33 26.7
comp=Z,6.4nm,1.0s
WVOR **Wild Horse Val** 37.21 326 P **P** 08 33 30.3 +1.9
LPAZ **La Paz** 37.49 142 P **P** 08 33 33.4 +1.8
comp=Z,0.6nm,0.5s,baz=332,slow=17,SNR=2.4
LPAZ LR LR 08 49 05.1
comp=Z,75nm,19.3s,baz=293,slow=36
LPAZ **La Paz** 37.49 142 P **P** 08 33 32.1 +0.5
LPAZ IAmb IAmb 08 33 49.3
comp=Z,5.4nm,1.4s
J08A **Circle Bar Ran** 37.75 327 P **P** 08 33 34.6 +1.6
MSO **Missoula** 38.19 335 IAmb IAmb 08 33 38.4
comp=Z,4.0nm,0.9s
BMO **Blue Mountains** 38.21 330 IAmb IAmb 08 33 38.2
comp=Z,3.5nm,0.8s
I07A **Izee** 38.79 327 IAmb IAmb 08 33 45.1
comp=Z,6.1nm,0.9s
F10A **Beach Ranch, E** 38.99 331 P **P** 08 33 44.0 +0.6
YBH **Yreka Blue Hor** 39.11 322 LR LR 08 52 06.0
comp=Z,104nm,19.0s,baz=158,slow=39
PINE **Pine Mountain** 39.37 326 P **P** 08 33 45.6 -1.1
E09A **Wood Farm, Sta** 39.82 331 P **P** 08 33 50.4 +0.2
E09A IAmb IAmb 08 33 51.4
comp=Z,5.0nm,0.9s
D08A **Wollman Farm,** 40.58 331 IAmb IAmb 08 33 58.1
comp=Z,4.9nm,0.9s
H04A **Detroit Lake** 40.63 326 P **P** 08 33 57.6 +0.6
NEW **Newport** 40.66 333 LR LR 08 54 25.5
comp=Z,81nm,19.1s,baz=131,slow=41
E07A **Sunnyside** 40.68 330 P **P** 08 33 57.9 +0.6
E07A IAmb IAmb 08 34 00.0
comp=Z,9.2nm,0.8s
C09A **Chrisman Ranch** 40.82 332 P **P** 08 33 59.5 +1.0
LTY **Liberty** 41.57 330 P **P** 08 34 05.6 +0.9
LTY IAmb IAmb 08 34 06.6
comp=Z,4.6nm,0.8s
B08A **Colville Reser** 41.72 332 P **P** 08 34 06.0 +0.1
B08A IAmb IAmb 08 34 07.7
comp=Z,4.4nm,0.8s
LON **Longmire** 41.79 328 P **P** 08 34 07.6 +1.1
SIV **San Ignacio** 41.91 134 P **P** 08 34 09.0 +1.3
comp=Z,3.1nm,0.9s,baz=311,slow=8.2,SNR=13
D05A **Enumclaw** 42.18 329 P **P** 08 34 09.8 +0.3
D05A IAmb IAmb 08 34 12.2
comp=Z,11nm,0.8s
E03A **Lebam** 42.57 327 P **P** 08 34 14.8 +2.1
B06A **Marblemount** 42.84 331 P **P** 08 34 14.7 -0.1
SCHQ **Schefferville** 45.35 20 P **P** 08 34 33.0 -1.9
comp=Z,10nm,0.8s,baz=187,slow=8.0,SNR=7.9
SCHQ **Schefferville** 45.35 20 P **P** 08 34 33.4 -1.5
YKA **Yellowknife Ar** 51.57 346 P **P** 08 35 22.0 -0.6
comp=Z,1.2nm,0.6s,baz=144,slow=6.5,SNR=9.0
YKA LR LR 09 01 48.2
comp=Z,81nm,18.0s,baz=0.0,slow=41
CPUP **Villa Florida** 51.63 140 LR LR 08 58 49.5
comp=Z,85nm,18.6s,baz=262,slow=38
DLBC **Dease Lake** 53.30 336 P **P** 08 35 37.0 +1.4
PLCA **Paso Flores** 57.38 161 LR LR 08 55 08.0
comp=Z,98nm,19.6s,baz=333,slow=30
BCAR **Beaver Creek A** 60.68 336 P **P** 08 36 27.7 0.0
KLU **Klutina** 61.64 334 P **P** 08 36 35.7 +1.5
GHO **Glory Hole Cre** 63.06 333 P **P** 08 36 44.5 +0.7
BRLK **Bradley Lake** 63.22 331 P **P** 08 36 45.5 +0.7
CNPM **China Poot** 63.31 330 P **P** 08 36 46.8 +1.5
HDA **Harding Lake** 63.34 336 P **P** 08 36 45.5 +0.1
HDA IAmb IAmb 08 36 46.5
comp=Z,6.1nm,1.0s
KDAK **Kodiak Island** 63.42 328 P **P** 08 36 47.0 +1.0
comp=Z,5.7nm,0.6s,baz=141,slow=1.8,SNR=15
KDAK **Kodiak Island** 63.42 328 P **P** 08 36 47.5 +1.4
IL31 **Eielson Array** 63.48 337 P **P** 08 36 46.4 +0.1
ILAR **Eielson Array** 63.48 337 P **P** 08 36 46.4 +0.1
comp=Z,4.8nm,0.9s,baz=125,slow=5.0,SNR=30
ILAR **Eielson Array** 63.48 337 P **P** 08 36 45.9 -0.5
RND **Reindeer** 63.68 335 P **P** 08 36 48.6 +0.8
COLA **College** 63.89 337 P **P** 08 36 48.8 -0.3
BMAR **Burnt Mountain** 63.90 340 P **P** 08 36 49.6 +0.5
TRF **Thorofare Moun** 64.29 335 P **P** 08 36 52.7 +0.8
RSO **Redoubt South** 64.34 331 P **P** 08 36 53.0 +0.8
KTH **Kantishna Hill** 64.59 335 P **P** 08 36 54.3 +0.5
BPAW **Bear Paw Mtn.** 64.83 335 P **P** 08 36 55.5 +0.3
SVW2 **Sparrevohn** 65.85 331 P **P** 08 37 02.0 +0.2
TTA **Tatalina** 66.56 333 P **P** 08 37 06.5 0.0
IMAR **Indian Mountai** 66.60 337 P **P** 08 37 06.5 0.0
ESDC **Sonseca Array** 79.41 52 P **P** 08 38 22.0 -0.8
comp=Z,0.3nm,0.4s,baz=290,slow=4.3,SNR=2.8
ESDC **Sonseca Array** 79.41 52 P **P** 08 38 22.5 -0.4
NOA **NORSAR Array B** 84.15 29 LR LR 09 14 37.8
comp=Z,17nm,20.2s,baz=335,slow=35
DBIC **Dimbokro** 84.99 84 LR LR 09 11 07.6
comp=Z,27nm,20.3s,baz=210,slow=32
ARCES **ARCESS Array B** 86.29 18 P **P** 08 38 56.0 -1.8
comp=Z,14nm,1.2s,baz=294,slow=4.6,SNR=2.9
ARCES LR LR 09 17 59.0
comp=Z,45nm,18.8s,baz=254,slow=36
CIRO **Champorcher** 86.47 44 P P 08 39 07.0 +7.4
SATI **Passo dei Sala** 86.60 44 P P 08 39 10.9 +11
TRAV **Traversella** 86.62 44 P P 08 39 08.4 +8.3
GERES **GERESS Array B** 89.45 40 LR LR 09 13 58.1
comp=Z,39nm,19.8s,baz=298,slow=32
TORD **Torodi Ar. Bea** 89.78 77 P **P** 08 39 13.7 -1.9
comp=Z,0.6nm,0.8s,baz=292,slow=5.9,SNR=2.8
TORD **Torodi Ar. Bea** 89.78 77 P **P** 08 39 14.3 -1.2
NRIK **Noril'sk** 97.26 0 LR LR 09 26 37.3
comp=Z,47nm,21.2s,baz=20,slow=37
KURK **Kurchatov** 115.34 7 PKiKP **PKiKP** 08 44 56.4 -1.4
KURBB **Kurchatov Arra** 115.42 7 PKP **PKPdf** 08 44 58.8 +0.8
comp=Z,1.1nm,0.6s,baz=352,slow=2.4,SNR=10
KSRS **Korea Array** 117.26 326 PKP **PKiKP** 08 45 02.9 +1.0
comp=Z,1.1nm,0.6s,baz=4.7,slow=1.4,SNR=6.6
BOSA **Boshof** 119.55 115 PKP **PKiKP** 08 45 07.5 +0.8
comp=Z,1.8nm,0.8s,baz=194,slow=9.2,SNR=3.2
BOSA **Boshof** 119.55 115 **PKPdf** 08 45 06.4 -0.3
MKAR **Makanchi Array** 119.60 5 PKP **PKiKP** 08 45 06.3 +0.1
comp=Z,0.4nm,0.4s,baz=8.7,slow=3.5,SNR=5.7
MKAR **Makanchi Array** 119.60 5 **PKPdf** 08 45 05.5 -0.7
WRA **Warramunga Arr** 135.98 255 PKP **PKiKP** 08 45 39.5 -0.2
comp=Z,0.9nm,0.8s,baz=91,slow=2.4,SNR=9.8
ASAR **Alice Springs** 136.20 250 PKP **PKiKP** 08 45 39.6 -0.4
comp=Z,0.3nm,0.6s,baz=105,slow=1.3,SNR=6.9
ASAR **Alice Springs** 136.20 250 **PKPdf** 08 45 38.2 -0.2
FITZ **Fitzroy Crossi** 144.25 258 PKP **PKPdf** 08 45 53.7 +0.7
comp=Z,1.1nm,0.6s,baz=203,slow=11,SNR=7.1
FITZ **Fitzroy Crossi** 144.25 258 **PKPdf** 08 45 52.9 -0.1
CMAR **Chiang Mai Arr** 146.58 342 PKPbc **PKPab** 08 45 59.3 -0.3
comp=Z,9.2nm,0.6s,baz=331,slow=3.5,SNR=39
CMAR **Chiang Mai Arr** 146.58 342 **PKPab** 08 45 59.2 -0.4
PSI **Prapat** 160.81 327 PKPab **PKPab** 08 47 00.3 +0.7
comp=Z,4.3nm,0.5s,baz=359,slow=1.7,SNR=5.5
RPSI **Rantau Prapat** 160.90 327 **PKPab** 08 47 00.3 +0.5

ECX 11 08:29:30.8±0.6, 27.°71N×111.°65W, h17km±51km, MD3.0
MEX 11 08:29:31.5±0.4, 27.°47N×111.°53W, h33km±21km, MD3.6
ISC 11 08:29:29.8±1.9, 27.°64N±0.°08×111.°60W±0.°06, h21km±5km, n6, σ0°39/12, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	0.65	241	*eP*	**Pb**	08 29 42.3	-0.2
SRIG				*i* S	**Sb**	08 29 51.2	0.0
SRIG	**Santa Rosalia**	0.65	241	⇑*eP*	**Pb**	08 29 42.3	-0.2
SRIG				*i* S	**Sb**	08 29 51.5	+0.3
GUYB	**Guaymas**	0.69	68	*i* P	**Pb**	08 29 43.2	0.0
GUYB				*i* S	**Sb**	08 29 52.7	+0.3
GUYB	**Guaymas**	0.69	68	⇑*eP*	**Pb**	08 29 43.1	0.0
GUYB				*i* S	**Sn**	08 29 53.7	-0.8
HSIG		1.49	22	*i* P	**Pb**	08 29 56.6	-0.2
HSIG				*i* S	**Sb**	08 30 15.0	-0.3
HSIG		1.49	22	*eP*	**Pn**	08 29 55.7	+0.3
HSIG				*eS*	**Sn**	08 30 14.4	+0.2

NNC 11 08:34:08.0±2.1, 36.°78N×70.°39E, h0km, mb4.4, mpv3.9,
Error ellipse: s-maj=16.6km s-min=13.3km az=164.0
ISC 11 08:34:06.3±1.1, 36.°37N±0.°06×70.°4E±0.°1, h35km, n12, σ1°30/18, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	2.82	154	⇓P	**Pn**	08 34 49.9	+0.9
CEP				S	**Sn**	08 35 24.0	+2.1
THW	**Thamme Wali**	3.73	163	P	**Pn**	08 35 00.7	-0.8
THN	**Thein Dam**	5.88	130	*eP*	**Pn**	08 35 30.5	-0.4
THN				*eS*	**Sn**	08 36 34.5	-2.6
AML	**Almayashu** SNR=10	6.28	23	P	**Pn**	08 35 38.1	+1.3
KK31	**Karatay Array** 3.8nm,0.6s,baz=194,slow=19,SNR=35	6.72	1	⇑P	**Pn**	08 35 42.6	+0.2
KK31				⇑S	**Sn**	08 36 56.4	-1.4
EKS2	**Erkin-Say** SNR=6.1 14nm,0.8s,baz=191,slow=24,SNR=9.7	6.79	21	P	**Pn**	08 35 45.1	+1.6
KZA	**Kyzart** SNR=6.2	6.82	32	P	**Pn**	08 35 45.0	+0.9
AAK	**Ala-Archa** SNR=6.9	7.00	25	P	**Pn**	08 35 48.0	+1.6
AAK	**Ala-Archa** 5.3nm,0.6s	7.00	25	⇓P	**Pn**	08 35 47.7	+1.3
AAK	21nm,0.9s			⇓S	**Sn**	08 37 05.5	+0.6
TKM2	**Tokmak 2** SNR=8.8	7.66	30	P	**Pn**	08 35 56.4	+0.9
TKM2	**Tokmak 2** 6.2nm,0.6s	7.66	30	⇑P	**Pn**	08 35 55.8	+0.3
TKM2	10nm,1.3s			⇑S	**Sn**	08 37 20.6	-0.5
AB31	**Akbulak array** 4.7nm,0.3s,baz=148,slow=11,SNR=43	14.97	333	P	**Pn**	08 37 35.2	0.0
AB31	1.7nm,0.2s,baz=149,slow=24,SNR=7.6			⇑S	**Sn**	08 40 19.4	-0.4

IDC 11 08:34:29.8±3.3, 53.°60N×87.°95E, h0km, mb1 2.8/2, mb1mx2.7/55, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=29.8km s-min=17.8km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** BAZ=97,slow=330,SNR=1.2	1.89	282	*i*		08 46 30.0	
ZALV	**Zalesovo Beam** 0.9nm,0.3s,baz=103,slow=15,SNR=10	1.89	282	Pg	Pn	08 35 03.7	+0.4
ZALV	3.5nm,0.3s,baz=103,slow=28,SNR=18			Lg	Lg	08 35 29.6	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=64,slow=14,SNR=3.5	6.52	247	Pn	Pn	08 36 07.6	+0.7
KURBB	0.0nm,0.3s,baz=64,slow=29,SNR=1.4			Lg	Lg	08 37 58.1	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=29,slow=14,SNR=4.2	7.72	210	Pn	Pn	08 36 24.6	+1.2

NEIC 11 08:38:33.2±2.1, 56.°47N±0.°03×152.°25W±0.°07, h7km±6km,
Error ellipse: s-maj=6.1km s-min=3.0km az=126.0
AEIC 11 08:38:36.4±1.9, 56.°41N±0.°06×152.°2W±0.°1, h5km±5km,
ML3.5/73, Error ellipse: s-maj=10.1km s-min=7.0km
az=222.0
IDC 11 08:38:40.1±3.1, 56.°74N×152.°06W, h46km±26km, mb3.4/7,
mb1 3.7/8, mb1mx3.4/43, mbtmp3.7/8, ML3.6/1, MS2.6/1,
Ms1 2.7/1, ms1mx2.5/27, Error ellipse: s-maj=39.2km
s-min=16.4km az=39.0
ISC 11 08:38:36.2±0.9, 56.°63N±0.°08×152.°14W±0.°07, h18km,
n102, σ1°13/98, mb3.8/7, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	0.86	314		**Pb**	08 38 51.9	-0.7
OHAK					**Sb**	08 39 04.6	+0.7
SII	**Sitkinak Islan**	1.14	267		**Pn**	08 38 53.7	-3.5
KDAK	**Kodiak Island** 8.0nm,0.3s,baz=168,slow=5.7,SNR=108	1.18	348	P	**Pn**	08 38 57.5	-0.2
KDAK	49nm,0.3s,baz=201,slow=14,SNR=14			S	**Sb**	08 39 13.0	+0.1
KDAK	comp=Z,341nm,18.2s,baz=61,slow=57			LR	LR	08 39 41.9	
KDAK	**Kodiak Island**	1.18	348		**Pn**	08 38 57.7	0.0
AUP	**Augustine Pinn**	2.82	346		**Pn**	08 39 20.1	-0.3
CNPM	**China Poot**	2.94	9		**Pn**	08 39 22.9	+1.0
OPT	**Oil Point**	3.08	350		**Pn**	08 39 25.9	+2.0
BRSE	**Bradley Lake S**	3.20	13		**Pn**	08 39 25.4	-0.2
BRLK	**Bradley Lake**	3.21	11		**Pn**	08 39 25.3	-0.4
ILS	**Iliamna Low So**	3.37	352		**Pn**	08 39 28.8	+0.8
IVE	**Iliamna Volcan**	3.42	353		**Pn**	08 39 29.1	+0.4
SEW	**Seward**	3.76	21		**Pn**	08 39 32.7	-0.4
RED	**Redoubt Volcan**	3.81	355		**Pn**	08 39 34.9	+0.9
RSO	**Redoubt South**	3.85	355		**Pn**	08 39 35.7	+1.0
SLKM	**Skilak Lake**	4.01	14		**Pn**	08 39 36.5	-0.2
O22K	**Cooper Landing**	4.06	17		**Pn**	08 39 37.4	+0.1
CKL	**Chakachamna La**	4.58	359		**Pn**	08 39 45.0	+0.5
CNBA	**Chernabura Isl**	4.59	250		Pn	08 39 40.1	-4.4
SPCP	**Crater Peak Br**	4.65	360		**Pn**	08 39 46.0	+0.5
PWL	**Port Wells**	4.68	23		**Pn**	08 39 45.6	-0.2
HIN	**Hinchinbrook I**	4.79	36		**Pn**	08 39 46.9	-0.5
SVW2	**Sparrevohn**	4.82	340	Pn	**Pn**	08 39 48.6	+0.8
STLK	**Strandline Lak**	4.88	2		**Pn**	08 39 49.3	+0.6
GLI	**Glacier Island**	5.00	30		**Pn**	08 39 49.8	-0.4
FID	**Port Fidalgo**	5.07	33		**Pn**	08 39 50.4	-0.9
EYAK	**Cordova Ski Ar**	5.15	38		**Pn**	08 39 52.1	-0.1
KNK	**Knik Glacier**	5.16	20		**Pn**	08 39 52.5	+0.1
PMR	**Palmer**	5.21	16		**Pn**	08 39 53.2	+0.2
KAIM	**Kayak Island**	5.24	48		**Pn**	08 39 53.1	-0.4
SKT	**Skwentna**	5.37	3	Pn	**Pn**	08 39 56.8	+1.4
GHO	**Glory Hole Cre**	5.41	16		**Pn**	08 39 56.1	+0.1
RAGM	**Ragged Mountai**	5.43	43	Pn	**Pn**	08 39 56.2	+0.1
GOAT	**Goat Mountain**	5.54	41		**Pn**	08 39 57.0	-0.6
SML	**Sawmill**	5.54	19		**Pn**	08 39 58.2	+0.5
HMT	**Hamilton**	5.55	45	Pn	**Pn**	08 39 58.8	+0.9
DIV	**Divide**	5.59	34		**Pn**	08 39 58.2	-0.2
SUCK	**Suckling Hills**	5.59	48	Pn	**Pn**	08 39 59.2	+0.8
SCM	**Sheep Creek Mo**	5.77	23		**Pn**	08 40 01.3	+0.5
KLU	**Klutina**	5.83	31		**Pn**	08 40 01.2	-0.5
BMRM	**Bremner River**	5.85	39		**Pn**	08 40 01.4	-0.5
GRIN	**Grindle Hills**	5.90	48		**Pn**	08 40 02.4	-0.2
PS12	**TAPS Pump St12**	6.05	34		**Pn**	08 40 04.6	0.0
CRQM	**Cirque**	6.25	45	Pn	**Pn**	08 40 09.0	+1.5
M24K	**Tolsona, Glenn**	6.28	27		**Pn**	08 40 07.8	0.0
PPLA	**Purkeypile**	6.28	360	Pn	**Pn**	08 40 09.0	+1.0
WAT6	**Susitna Watana**	6.37	19		**Pn**	08 40 09.2	+0.1
TGL	**Tana Glacier**	6.37	46		**Pn**	08 40 08.4	-0.7
MESA	**MESA**	6.42	52	Pn	**Pn**	08 40 11.8	+1.8
VRDI	**Verde Repeater**	6.43	41	Pn	**Pn**	08 40 10.5	+0.4
WAT7	**Susitna Watana**	6.44	14		**Pn**	08 40 10.7	+0.7
GLB	**Gilahina Butte**	6.46	38		**Pn**	08 40 09.8	-0.4
TT01	**Tatalina**	6.59	344		**Pn**	08 40 11.8	-0.2
YAH	**Yahtse**	6.60	51		**Pn**	08 40 13.8	+1.4
TTA	**Tatalina**	6.61	344	Pn	**Pn**	08 40 13.5	+1.1
KIAG	**Kiagna River**	6.66	46		**Pn**	08 40 13.1	0.0
MCARA	**McCarthy VSAT**	6.69	41	Pn	**Pn**	08 40 14.2	+0.8
BALM	**Baldy**	6.73	45		**Pn**	08 40 14.2	+0.1
RKAV	**Rock Avalanche**	6.75	53		**Pn**	08 40 13.3	-1.0
PTPK	**Patty Peak**	6.77	44		**Pn**	08 40 14.6	-0.1
GRNC	**Granite Creek**	6.79	48		**Pn**	08 40 14.6	-0.4
DHY	**Denali Highway**	6.89	18		**Pn**	08 40 18.4	+2.1
TRF	**Thorofare Moun**	6.90	7		**Pn**	08 40 18.2	+1.7
KTH	**Kantishna Hill**	6.97	4		**Pn**	08 40 19.1	+1.8
RND	**Reindeer**	6.99	12		**Pn**	08 40 19.1	+1.5
BARN	**Barnard Glacie**	7.01	46	Pn	**Pn**	08 40 18.5	+0.5
CTGM	**Chitina Glacie**	7.09	48	Pn	**Pn**	08 40 21.1	+2.0
PCA	**Pinnacle**	7.14	56		**Pn**	08 40 20.2	+0.5
PAX	**Paxson**	7.19	25	Pn	**Pn**	08 40 22.7	+2.4
MCK	**McKinley**	7.30	11	Pn	**Pn**	08 40 24.5	+2.7
BCPM	**Bancas Point**	7.38	58		**Pn**	08 40 23.1	+0.3
PNL	**Peninsula**	7.39	60		**Pn**	08 40 22.2	-0.8
BPAW	**Bear Paw Mtn.**	7.51	4	Pn	**Pn**	08 40 26.1	+1.4
YUK2	**White River**	7.76	44		**Pn**	08 40 29.1	+1.0
RIDG	**Independent Ri**	8.00	24		**Pn**	08 40 32.5	+1.2
WRH	**Wood River Hil**	8.11	13		**Pn**	08 40 33.7	+0.9
HDA	**Harding Lake**	8.21	16		**Pn**	08 40 36.6	+2.4
BCAR	**Beaver Creek A**	8.28	35	Pn	**Pn**	08 40 37.0	+1.7
CCB	**Clear Creek Bu**	8.31	13		**Pn**	08 40 36.4	+0.7
TCOL	**CIGO, UAF Yank**	8.53	12		**Pn**	08 40 39.4	+0.8
COLA	**College**	8.53	12	Pn	**Pn**	08 40 40.6	+2.1
IL31		8.56	15	Pn	**Pn**	08 40 40.4	+1.4
ILAR	**Eielson Array** 0.7nm,0.3s,baz=199,slow=14,SNR=32	8.56	15	P	**Pn**	08 40 40.6	+1.6
ILAR	0.3nm,0.

baz=28,slow=76
H11S3 WAKE ISLAND Hy 48.89 236 T T 09 39 49.9
baz=28,slow=76
SONM Songino Array 57.19 308 P **P** **08 48 21.8 0.0**
1.4nm,0.7s,baz=49,slow=7.4,SNR=6.9
ZALV Zalesovo Beam 60.39 325 P **P** **08 48 43.5 -0.2**
0.4nm,0.3s,baz=25,slow=4.9,SNR=4.5
FINES FINESS Array B 62.25 1 P **P** **08 48 55.8 -0.4**
1.9nm,0.9s,baz=25,slow=6.9,SNR=1.9
MKAR Makanchi Array 67.37 323 P **P** **08 49 29.4 -0.5**
0.5nm,0.7s,baz=32,slow=7.1,SNR=3.7

ANF 11 08:57:14.8±2.4, 43°.32N×127°.12W, h0km, ML3.8/1, Error ellipse: s-maj=27.8km s-min=7.5km az=64.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**2.34**	**93**	P	Pn	08 57 54.1	-0.3
	baz=275						
J01E				S	Sn	08 58 24.0	+0.2
	baz=275						
I02D	**Swisshome**	**2.50**	**71**	P	Pn	08 57 56.2	-0.4
	baz=253,SNR=18						
K02D	**Willamette Mer**	**2.61**	**103**	P	Pn	08 57 58.5	+0.2
	baz=285						
K02D				S	Sn	08 58 31.3	+0.6
	baz=285						
I03D	**Drain, OR**	**2.77**	**81**	P	Pn	08 58 00.6	+0.2
	baz=264,SNR=32						
H04D	**Lebanon**	**3.39**	**68**	P	Pn	08 58 09.7	+0.9
	baz=251						
E04D	**Cinebar**	**4.57**	**43**	P	Pn	08 58 25.2	+0.1
	baz=226,SNR=22						
D04E	**Lakebay**	**4.93**	**37**	P	Pn	08 58 29.8	-0.2
	baz=220						
D03D	**Eldon**	**5.08**	**33**	P	Pn	08 58 31.6	-0.5
	baz=215,SNR=5.8						

IDC 11 09:35:25.8±5.9, 18°.66S×172°.79W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/24, mbtmp3.6/2, Error ellipse: s-maj=324.9km s-min=51.6km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.73**	**254**	P	P	09 44 20.2	-0.1
	0.2nm,0.4s,baz=93,slow=7.8,SNR=8.4						
WRA	**Warramunga Arr**	**49.74**	**259**	P	P	09 44 20.2	-0.2
	0.3nm,0.3s,baz=98,slow=7.0,SNR=28						
GERES	**GERESS Array B**	**149.44**	**352**	PKPbc	PKPbc	09 55 16.5	-0.5
	0.6nm,0.4s,baz=20,slow=3.1,SNR=4.7						

*IDC **11** 09:50:58.8±1.0, 13°.09N×143°.32E, h197km±10km, mb3.6/13, mb1 3.8/13, mb1mx3.6/41, mbtmp4.1/13, Error ellipse: s-maj=21.6km s-min=11.0km az=90.0*
ISC 11 09:50:59.1±0.7, 13°.1N±0°.1×143°.3E±0°.1, h200km, n14, σ0°93/16, mb3.8/13, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.60**	**71**	P	**Pn**	**09 51 34.0**	**+0.3**
	33nm,0.3s,baz=331,slow=6.1,SNR=27						
GUMO				S	**Sn**	**09 51 59.6**	**-0.8**
	108nm,0.3s,baz=185,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**23.82**	**350**	P	**P**	**09 55 53.2**	**-0.6**
	2.1nm,0.8s,baz=194,slow=8.2,SNR=5.5						
WRA	**Warramunga Arr**	**33.98**	**195**	P	**P**	**09 57 23.6**	**-0.3**
	2.2nm,0.6s,baz=16,slow=9.3,SNR=46						
ASAR	**Alice Springs**	**37.66**	**194**	P	**P**	**09 57 54.8**	**-0.3**
	1.5nm,0.7s,baz=18,slow=13,SNR=31						
DZM	**Mont Dzumac**	**41.65**	**147**	P	**P**	**09 58 29.4**	**+1.3**
	1.7nm,0.4s,baz=273,slow=7.7,SNR=8.5						
STKA	**Stephens Creek**	**44.72**	**182**	P	**P**	**09 58 51.5**	**-1.0**
	0.5nm,0.4s,baz=18,slow=4.7,SNR=3.7						
SONM	**Songino Array**	**46.30**	**326**	P	**P**	**09 59 06.1**	**+1.2**
	1.0nm,0.6s,baz=135,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**60.82**	**316**	P	**P**	**10 00 51.5**	**+1.3**
	0.7nm,0.5s,baz=95,slow=8.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**61.17**	**325**	P	**P**	**10 00 51.3**	**-1.0**
	1.3nm,0.8s,baz=107,slow=9.5,SNR=4.1						
ZALV				PcP	**PcP**	**10 01 32.7**	**-0.4**
	1.2nm,0.5s,baz=101,slow=3.0,SNR=4.9						
ILAR	**Eielson Array**	**69.68**	**25**	P	**P**	**10 01 45.9**	**-0.9**
	0.9nm,0.5s,baz=244,slow=6.0,SNR=20						
YKA	**Yellowknife Ar**	**84.01**	**27**	P	**P**	**10 03 06.9**	**+0.1**
	2.0nm,0.7s,baz=288,slow=4.7,SNR=2.4						
ARCES	**ARCESS Array B**	**87.11**	**342**	P	**P**	**10 03 21.9**	**0.0**
	8.7nm,1.1s,baz=61,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**88.42**	**51**	P	**P**	**10 03 30.1**	**+1.1**
	1.2nm,0.7s,baz=263,slow=5.9,SNR=13						
FINES	**FINESS Array B**	**90.99**	**335**	P	**P**	**10 03 39.3**	**-0.9**
	1.8nm,0.3s,baz=68,slow=4.6,SNR=18						

ROM 11 10:19:03.0±0.1, 43°.393N±0°.002×12°.768E±0°.004, h13km, ML0.9/2, Error ellipse: s-maj=0.3km s-min=0.1km az=259.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSFR	**Montelago di S**	**0.04**	**13**	P	Pg	10 19 05.8	+0.2
SSFR				S	Sg	10 19 07.8	+0.4
SSFR	**Montelago di S**	**0.04**	**13**	P	Pg	10 19 05.8	+0.2
FOSV	**Fossato di Vic**	**0.10**	**183**	P	Pg	10 19 06.2	+0.2
FOSV				S	Sg	10 19 08.6	+0.4
FOSV	**Fossato di Vic**	**0.10**	**183**	P	Pg	10 19 06.2	+0.2
FRON	**Frontone**	**0.13**	**346**	P	Pg	10 19 06.7	+0.2
FRON				S	Sg	10 19 09.4	+0.6
FRON				AML	AML		
	comp=E,80μm,0.1s						
FRON				AML	AML		
	comp=N,71μm,0.8s						
FRON	**Frontone**	**0.13**	**346**	P	Pg	10 19 06.8	+0.3
FRON				AML	AML		
	comp=E,80μm,0.1s						
FRON				AML	AML		
	comp=N,71μm,0.8s						
FRON				AML	AML		
	comp=E,80μm,0.1s						
FRON				AML	AML		
	comp=N,71μm,0.8s						
FRON				AML	AML		
	comp=E,80μm,0.1s						
FRON				AML	AML		
	comp=N,71μm,0.8s						
ATFO	**Monte Foce - G**	**0.15**	**260**	P	Pg	10 19 07.0	+0.3
ATFO				S	Sg	10 19 09.9	+0.7
ATFO	**Monte Foce - G**	**0.15**	**260**	P	Pg	10 19 07.0	+0.3
ARVD	**Arcevia**	**0.16**	**50**	P	Pg	10 19 04.7	-2.3
ARVD	**Arcevia**	**0.16**	**50**	P	Pg	10 19 04.7	-2.3
ARVD	**Arcevia**	**0.16**	**50**	P	Pg	10 19 04.7	-2.3
ARVD	**Arcevia**	**0.16**	**50**	P	Pg	10 19 04.7	-2.3
SNTG	**Esanatoglia**	**0.19**	**138**	S	Sg	10 19 08.0	-2.2
PIEI	**Pieia**	**0.22**	**310**	P	Pg	10 19 08.2	+0.3
PIEI				S	Sg	10 19 12.0	+0.8
PIEI	**Pieia**	**0.22**	**310**	P	Pg	10 19 08.1	+0.2
ATCC	**AVT- Casa Cast**	**0.23**	**204**	P	Pg	10 19 08.3	+0.3
ATCC				S	Sb	10 19 12.5	-0.5
ATCC	**AVT- Casa Cast**	**0.23**	**204**	P	Pg	10 19 08.3	+0.4
MPAG	**Monte Paganucc**	**0.24**	**358**	P	Pg	10 19 08.4	+0.3
MPAG				S	Sb	10 19 12.6	-0.7
MPAG	**Monte Paganucc**	**0.24**	**358**	P	Pg	10 19 08.5	+0.3
EL6	**Elcito**	**0.25**	**105**	S	Sg	10 19 10.0	-2.1
EL6	**Elcito**	**0.25**	**105**	S	Sg	10 19 10.0	-2.1
EL6	**Elcito**	**0.25**	**105**	S	Sg	10 19 10.0	-2.1
NARO	**Abbazia di Nar**	**0.26**	**328**	P	Pg	10 19 08.7	+0.2
NARO				S	Sb	10 19 13.3	-0.6
NARO				AML	AML		
	comp=E,32μm,1.6s						
NARO				AML	AML		
	comp=N,30μm,1.6s						
NARO	**Abbazia di Nar**	**0.26**	**328**	P	Pg	10 19 08.7	+0.2
NARO				AML	AML		
	comp=E,32μm,1.6s						
NARO				AML	AML		
	comp=N,30μm,1.6s						
NARO				AML	AML		
	comp=N,30μm,1.6s						
NARO				AML	AML		
	comp=E,32μm,1.6s						
NARO				AML	AML		
	comp=N,30μm,1.6s						
RSM	**Repubblica di**	**0.58**	**337**	S	Sg	10 19 22.0	-0.3
RSM	**Repubblica di**	**0.58**	**337**	S	Sg	10 19 22.0	-0.3
RSM	**Repubblica di**	**0.58**	**337**	S	Sg	10 19 22.0	-0.3
RSM	**Repubblica di**	**0.58**	**337**	S	Sg	10 19 22.0	-0.3
FROS	**Frosini**	**1.19**	**262**	P	Pg	10 19 29.9	+3.9
FROS	**Frosini**	**1.19**	**262**	P	Pg	10 19 29.9	+3.9
FROS	**Frosini**	**1.19**	**262**	P	Pg	10 19 29.9	+3.9
FROS	**Frosini**	**1.19**	**262**	P	Pg	10 19 29.9	+3.9
ERBM	**Eremo**	**1.99**	**302**	P	Pb	10 19 39.0	0.0
ERBM	**Eremo**	**1.99**	**302**	P	Pb	10 19 39.0	0.0
ERBM	**Eremo**	**1.99**	**302**	P	Pb	10 19 39.0	0.0
PZUN	**Potenza**	**3.56**	**139**	S	Sn	10 20 37.0	-2.7
PZUN	**Potenza**	**3.56**	**139**	S	Sn	10 20 37.0	-2.7
PZUN	**Potenza**	**3.56**	**139**	S	Sn	10 20 37.0	-2.7
PZUN	**Potenza**	**3.56**	**139**	S	Sn	10 20 37.0	-2.7
GBOS	**Grotte di Boss**	**3.67**	**285**	P	Pn	10 19 58.8	-0.6
GBOS	**Grotte di Boss**	**3.67**	**285**	P	Pn	10 19 58.8	-0.6
GBOS	**Grotte di Boss**	**3.67**	**285**	P	Pn	10 19 58.8	-0.6
GBOS	**Grotte di Boss**	**3.67**	**285**	P	Pn	10 19 58.8	-0.6

*JMA **11** 10:19:19.2, 24°.15N×122°.23E, h43km±2km, M1.9*
*TAP **11** 10:19:19.3, 24°.24N×122°.22E, h32km, ML2.5, C*
ISC 11 10:19:19.0±1.1, 24°.22N±0°.03×122°.23E±0°.02, h28km±11km, n60, σ0°54/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.45**	**301**	P	**Pn**	**10 19 29.4**	**-0.2**
	baz=298						
ENAH				S	**Sn**	**10 19 36.4**	**-0.2**
	baz=298						
ENA	**Nanau**	**0.49**	**295**	P	**Pn**	**10 19 30.1**	**-0.1**
	baz=293						
ENA				S	**Sn**	**10 19 37.8**	**0.0**
	baz=293						
TWC	**Suao**	**0.52**	**318**	P	**Pb**	**10 19 30.1**	**+0.4**
	baz=317						
TWC				*e*S	**Sb**	**10 19 37.1**	**+0.2**
	baz=317						
NACB	**Ninganchiao**	**0.58**	**266**	P	**Pn**	**10 19 31.2**	**-0.2**
	baz=263						
NACB				S	**Sn**	**10 19 40.0**	**0.0**
	baz=263						
TWD	**Chiawan**	**0.59**	**257**	P	**Pn**	**10 19 31.5**	**-0.1**
	baz=254						
TWD				S	**Sn**	**10 19 40.7**	**+0.3**
	baz=254						
EGS		**0.68**	**337**	*e*P	**Pn**	**10 19 32.8**	**0.0**
	baz=337						
EGS				*e*S	**Sn**	**10 19 41.9**	**-0.5**
	baz=337						
ETLH	**Xiulin Townshi**	**0.68**	**269**	P	**Pn**	**10 19 32.9**	**0.0**
	baz=267						
ETLH				S	**Sn**	**10 19 42.5**	**-0.2**
	baz=267						
JYNG	**Yonagunijimaku**	**0.69**	**70**	P	**Pn**	**10 19 33.0**	**+0.1**
JYNG				*e*S	**Sn**	**10 19 42.8**	**0.0**
NTC	**Toucheng**	**0.73**	**330**	P	**Pn**	**10 19 33.5**	**0.0**
	baz=329						
ENTT	**Nioudou**	**0.73**	**305**	P	**Pn**	**10 19 33.8**	**+0.2**
	baz=303						
ENTT				S	**Sn**	**10 19 43.9**	**+0.1**
	baz=303						
YOJ	**Yonaguni jima**	**0.75**	**71**	P	**Pb**	**10 19 33.8**	**+0.2**
	baz=72						
YOJ				S	**Sn**	**10 19 44.8**	**+0.5**
	baz=72						
YOJ	**Yonaguni jima**	**0.75**	**71**	P	**Pb**	**10 19 33.8**	**+0.2**
YOJ				*e*S	**Sn**	**10 19 44.2**	**0.0**
NDT	**Datong Townshi**	**0.76**	**300**	P	**Pn**	**10 19 34.1**	**+0.2**
	baz=299						
NDT				S	**Sn**	**10 19 44.4**	**+0.1**
	baz=299						
NNSH	**Datong**	**0.80**	**285**	P	**Pn**	**10 19 34.5**	**-0.1**
	baz=283						
NNSH				S	**Sn**	**10 19 45.5**	**0.0**
	baz=283						
NNSB	**Datong**	**0.80**	**285**	P	**Pn**	**10 19 34.6**	**0.0**
	baz=283						
NNSB				S	**Sn**	**10 19 45.6**	**0.0**
	baz=283						
NNS	**Nan Shan**	**0.81**	**286**	*e*P	**Pb**	**10 19 34.6**	**0.0**
	baz=284						
TWB1	**Santiao Chiao**	**0.81**	**344**	*e*P	**Pb**	**10 19 34.1**	**-0.5**
	baz=344						
TWB1				*e*S	**Sb**	**10 19 44.4**	**-0.8**
	baz=344						
ESL	**Shilin**	**0.83**	**241**	*e*P	**Pb**	**10 19 34.6**	**-0.3**
	baz=239						
ESL				S	**Sn**	**10 19 46.6**	**+0.3**
	baz=239						
TIPB	**Shuangxi**	**0.83**	**334**	P	**Pb**	**10 19 34.7**	**-0.2**
	baz=333						
TIPB				*e*S	**Sb**	**10 19 45.7**	**-0.1**
	baz=333						
NWLT	**Wulai**	**0.86**	**310**	*e*P	**Pn**	**10 19 35.7**	**+0.3**
	baz=309						
NWLT				*e*S	**Sn**	**10 19 47.3**	**+0.2**
	baz=309						
WHF	**Hehuan Shan**	**0.88**	**265**	P	**Pb**	**10 19 35.8**	**-0.2**
	baz=263						
WHF				S	**Sb**	**10 19 47.8**	**+0.1**
	baz=263						
YHNB	**Yeheng**	**0.90**	**300**	P	**Pn**	**10 19 36.1**	**+0.2**
	baz=298						
FUSS	**Fushou**	**0.90**	**272**	*e*P	**Pn**	**10 19 36.3**	**+0.3**
	baz=270						
FUSS				*e*S	**Sn**	**10 19 48.5**	**+0.3**
	baz=270						
EGFH	**Guangfu**	**0.92**	**233**	P	**Pn**	**10 19 36.5**	**+0.5**
	baz=231						
EGFH				*e*S	**Sn**	**10 19 48.8**	**+0.5**
	baz=231						
NWF	**Wu-fen Shan**	**0.94**	**334**	P	**Pb**	**10 19 36.3**	**-0.5**
	baz=334						
WFSB	**Wu-fen Shan**	**0.94**	**334**	P	**Pb**	**10 19 36.3**	**-0.4**
	baz=334						
TWT	**Tachien**	**0.96**	**272**	*e*S	**Sn**	**10 19 50.2**	**+0.5**
	baz=270						
CHGB	**Renai**	**0.98**	**261**	P	**Pb**	**10 19 37.2**	**-0.3**
	baz=259						
CHGB				S	**Sn**	**10 19 50.2**	**+0.1**
	baz=259						
TDCB	**Techi**	**0.98**	**272**	*e*P	**Pn**	**10 19 37.6**	**+0.6**
	baz=270						
TDCB				S	**Sb**	**10 19 50.1**	**+0.1**
	baz=270						
TATO	**Taipei**	**1.01**	**318**	*e*P	**Pn**	**10 19 38.5**	**+1.1**
	baz=317						
HGSD	**Ruisui**	**1.03**	**226**	*e*P	**Pb**	**10 19 37.6**	**-0.7**
	baz=224						
EHY	**Hungye**	**1.09**	**230**	*e*P	**Pn**	**10 19 38.3**	**-0.2**
	baz=228						
VWDT	**VWDT**	**1.10**	**245**	P	**Pn**	**10 19 39.0**	**+0.5**
	baz=243						
VWDT				S	**Sn**	**10 19 53.6**	**+0.8**
	baz=243						
YM01	**YM01**	**1.10**	**327**	*e*P	**Pn**	**10 19 38.8**	**+0.2**
	baz=326						
YM10	**YM10**	**1.11**	**327**	*e*P	**Pn**	**10 19 38.6**	**-0.1**
	baz=326						
WHP	**Taichung City**	**1.17**	**273**	*e*P	**Pb**	**10 19 41.1**	**+0.4**
	baz=271						
WHP				*e*S	**Sn**	**10 19 55.6**	**+0.9**
	baz=271						
LIOB	**Emei**	**1.19**	**291**	*e*P	**Pb**	**10 19 40.7**	**-0.1**
	baz=290						
YULB	**Yu-li**	**1.19**	**226**	*e*P	**Pn**	**10 19 39.5**	**-0.2**
	baz=225						
NSTT	**Nanjuang**	**1.19**	**290**	*e*P	**Pb**	**10 19 40.9**	**-0.1**
	baz=289						
EYUL	**Yuli**	**1.20**	**224**	*e*P	**Pn**	**10 19 40.4**	**+0.4**
	baz=222						
TWF1	**Yuli**	**1.22**	**225**	*e*P	**Pn**	**10 19 40.0**	**-0.2**
	baz=223						
SSLB	**Suanglung**	**1.24**	**250**	P	**Pn**	**10 19 41.0**	**+0.5**
	baz=248						
SSLB				*e*S	**Sn**	**10 19 56.8**	**+0.4**
	baz=248						
SMLT	**Sun Moon Lake**	**1.26**	**255**	*e*P	**Pb**	**10 19 41.6**	**-0.6**
	baz=253						
SMLT				*e*S	**Sb**	**10 19 57.8**	**-0.3**
	baz=253						
TYC	**Yuchr**	**1.29**	**256**	*e*P	**Pn**	**10 19 42.0**	**+0.8**
	baz=254						
TYC				*e*S	**Sn**	**10 19 58.1**	**+0.5**
	baz=254						
FULB	**Fuli**	**1.33**	**220**	*e*P	**Pn**	**10 19 41.6**	**-0.2**
	baz=219						
FULB				S	**Sn**	**10 19 59.4**	**+0.8**
	baz=219						
IRIF	**Iriomote-Funau**	**1.37**	**85**	P	**Pn**	**10 19 42.9**	**+0.6**
IRIF				S	**Sn**	**10 19 59.6**	**0.0**
HATJ	**Hateruma jima**	**1.45**	**96**	*e*S	**Sn**	**10 20 01.2**	**-0.2**
ALS	**Alishan**	**1.48**	**242**	*e*P	**Pb**	**10 19 45.4**	**-0.7**
	baz=240						
ELDTW	**Lidau**	**1.51**	**228**	*e*P	**Pn**	**10 19 44.2**	**-0.1**
	baz=226						
CHN5	**Tsauling**	**1.55**	**247**	*e*P	**Pb**	**10 19 46.7**	**-0.4**
	baz=245						
JKRS	**Kuro-shima**	**1.62**	**89**	P	**Pn**	**10 19 46.5**	**+0.7**
JKRS				S	**Sn**	**10 20 06.3**	**+0.5**
TPUB	**Ta-pu**	**1.73**	**238**	*e*P	**Pb**	**10 19 49.0**	**-1.1**
	baz=237						
CHN4	**Tsaushan**	**1.73**	**240**	*e*P	**Pb**	**10 19 49.5**	**-0.7**
	baz=239						
JIJ	**Ishigaki jima**	**1.75**	**85**	P	**Pn**	**10 19 47.8**	**+0.3**
JIJ				S	**Sn**	**10 20 07.8**	**-1.1**
WTP	**Ta-pu**	**1.77**	**237**	*e*P	**Pn**	**10 19 49.0**	**+1.2**
	baz=235						
CHN1	**Nanshi**	**1.87**	**237**	*e*P	**Pb**	**10 19 51.3**	**-1.2**
	baz=235						
SLGT	**Liugui**	**1.90**	**230**	*e*P	**Pb**	**10 19 51.6**	**-1.3**
	baz=229						
JISG	**Ishigakijimahi**	**1.93**	**79**	*e*S	**Sn**	**10 20 11.7**	**-1.7**
MASBT	**Mashibuluo**	**2.17**	**223**	*e*P	**Pn**	**10 19 54.6**	**+1.3**
	baz=222						
JTJ	**Tarama**	**2.29**	**79**	P	**Pn**	**10 19 56.1**	**+1.1**
JTJ				*e*S	**Sn**	**10 20 21.9**	**-0.4**

*ROM **11** 10:19:44.8±0.4, 47°.19N±0°.02×11°.54E±0°.02, h10km, ML1.7/2, Error ellipse: s-maj=2.2km s-min=1.1km az=337.0, hypocenter*
*BGR **11** 10:19:45.6±0.5, 47°.21N×11°.55E, h10km, ML2.0/9, Error ellipse: s-maj=6.7km s-min=2.2km az=168.0*
VIE 11 10:19:43.7±0.1, 47°.21N×11°.51E, h15km, mb1.5/10, ml2.1/18, Error ellipse: s-maj=1.2km s-min=0.8km az=169.0 8 km S of Hall in Tirol, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTTA	**Wattenberg**	**0.10**	**61**	*e*Pg	Pb	10 19 47.6	+0.1
WTTA				*e*Sg	Sb	10 19 49.8	-0.3
WTTA	**Wattenberg**	**0.10**	**61**	*e*Pg	Pb	10 19 47.5	0.0
	57nm,0.1s,SNR=321						
WTTA				*i* Sg	Sg	10 19 49.7	+0.1
	88nm,0.1s						
WATA	**Walderalm**	**0.13**	**22**	*e*Pg	Pg	10 19 47.7	+0.2
	51nm,0.1s,SNR=134						
WATA				*i* Sg	Sg	10 19 50.2	+0.1
	107nm,0.1s						
SQTA	**Sankt Quirin**	**0.20**	**272**	*e*Pg	Pg	10 19 48.8	+0.3
	28nm,0.1s,SNR=29						
SQTA				*i* Sg	Sg	10 19 51.9	+0.2
	38nm,0.1s						
ROSI	**Rosskopf**	**0.29**	**193**	P	Pb	10 19 50.7	-0.1
ROSI	**Rosskopf**	**0.29**	**193**	P	Pb	10 19 50.7	-0.1
ROSI				S	Sb	10 19 55.1	-0.5
ROSI	**Rosskopf**	**0.29**	**193**	P	Pb	10 19 50.7	-0.1
ROSI	**Rosskopf**	**0.29**	**193**	P	Pb	10 19 50.7	-0.1
ROSI	**Rosskopf**	**0.29**	**193**	S	Sb	10 19 55.1	-0.5
MOTA	**Moosalm**	**0.30**	**296**	*e*Pg	Pg	10 19 50.1	-0.1
	0.5nm,0.0s,SNR=9.2						
MOTA				*e*Sg	Sg	10 19 54.6	0.0
	10nm,0.1s,SNR=49						
RISI	**Rein**	**0.47**	**124**	P	Pb	10 19 53.9	0.0
RISI	**Rein**	**0.47**	**124**	P	Pb	10 19 53.9	0.0
RISI	**Rein**	**0.47**	**124**	P	Pb	10 19 53.9	0.0
RISI				AML	AML		
	comp=E,114μm,1.2s						
RISI				AML	AML		
	comp=N,282μm,0.5s						
RISI				AML	AML		
	comp=E,114μm,1.2s						
RISI				AML	AML		
	comp=N,282μm,0.5s						
RISI	**Rein**	**0.47**	**124**	P	Pb	10 19 53.9	0.0
RISI				S	Sb	10 20 00.3	-0.5
RISI				AML	AML		
	comp=E,114μm,1.2s						
RISI				AML	AML		
	comp=N,282μm,0.5s						
RISI	**Rein**	**0.47**	**124**	P	Pb	10 19 53.9	0.0
RISI	**Rein**	**0.47**	**124**	S	Sb	10 20 00.3	-0.5
ABSI	**Aberstueckl**	**0.50**	**195**	P	Pb	10 19 54.6	+0.2
ABSI				AML	AML		
	comp=E,78μm,0.6s						
ABSI				AML	AML		
	comp=N,72μm,0.5s						
ABSI				AML	AML		
	comp=E,78μm,0.6s						
ABSI				AML	AML		
	comp=N,72μm,0.5s						
ABSI	**Aberstueckl**	**0.50**	**195**	P	Pb	10 19 54.6	+0.3
ABSI				S	Sb	10 20 01.8	+0.3
ABSI				AML	AML		
	comp=N,72μm,0.5s						
ABSI				AML	AML		
	comp=E,78μm,0.6s						
BRES	**Bressanone**	**0.54**	**163**	P	Pb	10 19 55.4	+0.3
BRES	**Bressanone**	**0.54**	**163**	P	Pb	10 19 55.4	+0.3
BRES				S	Sb	10 20 02.9	+0.1
FETA	**Feichten**	**0.56**	**250**	*e*Pg	Pg	10 19 55.0	+0.1
	comp=E,1.3nm,0.2s,SNR=4.8						
FETA				*e*Sg	Sg	10 20 02.8	+0.4
	comp=E,3.8nm,0.2s,SNR=16						
RETA	**Reutte**	**0.57**	**299**	*i* Pg	Pb	10 19 55.3	-0.2
	comp=E,0.6nm,0.1s						
RETA				*i* Sg	Sg	10 20 03.1	+0.4
	comp=E,6.3nm,0.1s						
KOSI	**Kohlern**	**0.76**	**187**	P	Pb	10 19 59.4	+0.7
KOSI	**Kohlern**	**0.76**	**187**	P	Pb	10 19 59.4	+0.7
KOSI				S	Sb	10 20 09.7	+0.8
APPI	**Appiano**	**0.76**	**195**	P	Pn	10 19 59.5	-0.5
APPI	**Appiano**	**0.76**	**195**	P	Pb	10 19 59.3	+0.6
ABTA	**Abfaltersbach**	**0.83**	**124**	*i* Pg	Pb	10 20 00.3	+0.3
	comp=E,2.8nm,0.2s						
ABTA				*e*Sg	Sb	10 20 11.1	+0.1
	comp=E,9.4nm,0.3s,SNR=4.3						
FUR	**Furstenfeldbru**	**0.96**	**351**	*e*Pg	Pn	10 20 04.6	+1.8
FUR				*e*Sg	Sn	10 20 17.1	+0.8
RJOB	**Jochberg**	**1.02**	**59**	*e*Pg	Pn	10 20 05.2	+1.6
RJOB				*e*Sg	Sn	10 20 17.4	-0.3
UBR	**Ueberruh**	**1.06**	**297**	*e*Pg	Pg	10 20 06.4	+2.2
UBR				*e*Sg	Sn	10 20 19.3	+0.7
DAVA	**Damuels**	**1.11**	**274**	*e*Pn	Pg	10 20 07.0	+1.8
DAVA				*e*Pg	Pn	10 20 07.4	+2.5
DAVA				*e*Sg	Sn	10 20 22.1	+2.1
DAVA	**Damuels**	**1.11**	**274**	*i* Pn	Pb	10 20 04.7	0.0
	comp=E,0.7nm,0.1s						
DAVA				*i* Sg	Sn	10 20 21.4	+1.4
	comp=E,5.1nm,0.2s						
KBA	**Koelnbreinsper**	**1.26**	**96**	*i* Pg	Pg	10 20 08.4	+0.3
	comp=E,0.7nm,0.1s						
KBA				*i* Sn	Sn	10 20 23.9	+0.1
	comp=E,1.7nm,0.2s						
PLONS	**Plons/SG**	**1.46**	**264**	*e*Sg	Sg	10 20 33.5	+2.7
MYKA	**Terra Mystica**	**1.58**	**111**	*i* Pg	Pg

mb1 4.2/14, mb1mx3.8/57, mbtmp4.1/14, ML3.4/2, MS3.2/6, Ms1 3.2/6, ms1mx2.8/57, Error ellipse: s-maj=25.6km s-min=15.7km az=52.0
NEIC ***11*** *10:56:03.4±1.1, 32°.4N±0°.1×71°.24E±0°.08, h10km±1km, mb4.0/9, Error ellipse: s-maj=19.5km s-min=11.3km az=192.0*
NNC ***11*** *10:56:09.4±2.8, 32°.98N×70°.65E, h0km, mb4.3, Error ellipse: s-maj=31.4km s-min=20.0km az=129.0*
NDI ***11*** *10:56:09.5±5.5, 32°.14N×71°.37E, h15km±97km, MD4.0, ML4.2, mb4.0(NEIC)*

ISC 11 10:56:02.7±0.6, 32°.38N±0°.04×71°.47E±0°.06, h10km, n63, σ2§10/65, mb4.2/11, MS3.0/4, 5C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**1.96**	**49**		**Pg**	**10 56 40.7**	**+0.4**
JMU	**Jammu**	**2.91**	**82**	*e*P	**Pn**	**10 56 45.0**	**-4.1**
JMU				*e*S	Sn	10 57 14.0	-10
KBL	**Kabul**	**2.96**	**317**	Pn	**Pn**	**10 56 51.2**	**+1.2**
THN	**Thein Dam**	**3.59**	**88**	*e*P	**Pb**	**10 57 07.0**	**+0.7**
THN				*e*x	x	10 57 16.0	
THN				*e*x	x	10 57 50.0	
THN				*e*x	x	10 58 02.5	
THN				*e*x	x	10 58 25.5	
THN				*e*x	x	11 06 29.0	
DHRM	**DHARAMSHALA**	**4.09**	**91**	*e*P	**Pb**	**10 57 12.6**	**-2.4**
DHRM				*e*S	**Sb**	**10 58 00.8**	**-3.7**
DHRM				IAML		10 58 25.5	
	comp=E,970nm,0.4s						
DHRM				IAML		10 58 25.5	
	comp=N,959nm,0.3s						
BHK	**Bhakra**	**4.31**	**102**	*e*P	**Pb**	**10 57 14.8**	**-3.8**
BHK				*e*x	x	10 58 04.6	
JASL	**Jaisalmer**	**5.46**	**185**	*e*P	**Pn**	**10 57 26.1**	**+1.9**
JASL				*e*S	**Sn**	**10 58 22.4**	**-4.6**
NDI	**New Delhi**	**6.17**	**125**	*e*P	Pn	10 57 22.2	-12
NDI				*e*P	Pb	10 57 39.0	-11
NDI				*e*S	Sn	10 58 31.1	-14
AJM	**Ajmer**	**6.50**	**154**	*e*P	**Pg**	**10 58 10.0**	**+2.9**
AJM				*i* S	**Sg**	**10 59 25.0**	**-6.3**
CHGR	**Chuyangaron**	**6.54**	**344**	Pn	**Pn**	**10 57 39.0**	**-0.2**
GAR	**Garm**	**6.67**	**352**	Pn	**Pn**	**10 57 42.3**	**+1.3**
BHPL	**Bhopal**	**10.51**	**148**	*e*P	**Pn**	**10 58 36.5**	**+2.9**
BHPL				*e*S	**Sn**	**11 00 31.2**	**-0.3**
BHPL				IAML		11 01 48.9	
	comp=E,58nm,1.2s						
BHPL				IAML		11 01 49.0	
	comp=N,59nm,0.9s						
AAK	**Ala-Archa**	**10.52**	**12**	⇑P	**Pn**	**10 58 36.4**	**+2.7**
	comp=N,7.1nm,0.8s						
AAK				⇓S	**Sn**	**11 00 30.4**	**-1.2**
	comp=N,15nm,0.8s						
KK31	**Karatay Array**	**10.73**	**356**	⇑P	**Pn**	**10 58 36.3**	**-0.2**
	comp=N,2.3nm,0.3s,baz=180,slow=13,SNR=54						
KK31				⇓S	**Sn**	**11 00 30.8**	**-5.9**
	comp=N,2.6nm,0.5s,baz=179,slow=25,SNR=3.7						
KK31	**Karatay Array**	**10.73**	**356**	Pn	**Pn**	**10 58 36.9**	**+0.4**
KKAR	**Karatay Array**	**10.73**	**356**		**Pn**	**10 58 36.3**	**-0.2**
KKAR	**Karatay Array**	**10.73**	**356**	Pn	**Pn**	**10 58 36.6**	**+0.1**
PYUN	**Piuthan**	**10.83**	**110**	*e*P	**Pn**	**10 58 40.3**	**+2.2**
	comp=N,39nm,0.4s						
PYUN	**Piuthan**	**10.83**	**110**	*e*P	**Pn**	**10 58 40.3**	**+2.2**
	comp=N,39nm,0.4s						
TKM2	**Tokmak 2**	**11.02**	**16**	⇑P	**Pn**	**10 58 42.8**	**+2.3**
	comp=N,4.9nm,0.7s						
TKM2				⇑S	**Sn**	**11 00 47.0**	**+3.0**
	comp=N,5.5nm,1.1s						
KOLN	**Koldanda**	**11.46**	**110**	*e*P	**Pn**	**10 58 49.1**	**+2.4**
	comp=N,14nm,0.4s						
KOLN	**Koldanda**	**11.46**	**110**	*e*P	**Pn**	**10 58 49.1**	**+2.4**
	comp=N,14nm,0.4s						
GKN	**Gorkha**	**12.19**	**108**	*e*P	**Pn**	**10 58 58.2**	**+1.6**
	comp=N,23nm,0.3s						
GKN	**Gorkha**	**12.19**	**108**	*e*P	**Pn**	**10 58 58.2**	**+1.6**
	comp=N,23nm,0.3s						
GEYT	**Alibeck**	**12.25**	**301**	LR	LR	11 04 19.9	
	comp=N,152nm,18.6s,baz=30,slow=42						
KKN	**Kakani**	**12.80**	**107**	*e*P	**Pn**	**10 59 05.1**	**+0.1**
	comp=N,40nm,0.5s						
KKN	**Kakani**	**12.80**	**107**	*e*P	**Pn**	**10 59 05.1**	**+0.1**
	comp=N,40nm,0.5s						
PKIN	**Phulchoki**	**12.98**	**108**	*e*P	**Pn**	**10 59 07.6**	**+0.1**
	comp=N,31nm,0.4s						
PKIN	**Phulchoki**	**12.98**	**108**	*e*P	**Pn**	**10 59 07.6**	**+0.1**
	comp=N,31nm,0.4s						
PKI	**Pulchoki**	**12.99**	**108**	*e*P	**Pn**	**10 59 07.5**	**-0.3**
	comp=N,23nm,0.5s						
PKI	**Pulchoki**	**12.99**	**108**	*e*P	**Pn**	**10 59 07.5**	**-0.3**
	comp=N,23nm,0.5s						
JIRN	**Jiri**	**13.59**	**106**	*e*P	**Pn**	**10 59 16.0**	**+0.1**
	comp=N,55nm,0.5s						
JIRN	**Jiri**	**13.59**	**106**	*e*P	**Pn**	**10 59 16.0**	**+0.1**
	comp=N,55nm,0.5s						
RAMN	**Ramite**	**14.22**	**108**	*e*P	**Pn**	**10 59 23.8**	**-0.6**
	comp=N,20nm,0.5s						
RAMN	**Ramite**	**14.22**	**108**	*e*P	**Pn**	**10 59 23.8**	**-0.6**
	comp=N,20nm,0.5s						
WSAR	**Wadi Sarin**	**14.55**	**234**	Sn	Sn	11 01 55.0	-15
	comp=N,0.4nm,0.3s,baz=225,slow=23,SNR=2.8						
MK31	**Makanchi Array**	**16.61**	**27**	P	**P**	**10 59 59.0**	**+0.9**
MKAR	**Makanchi Array**	**16.61**	**27**	Pn	**Pn**	**10 59 55.7**	**0.0**
	comp=N,0.1nm,0.3s,baz=219,slow=13,SNR=4.1						
MKAR				LR	LR	11 06 59.7	
	comp=N,161nm,18.6s,baz=144,slow=39						
AB31	**Akbulak array**	**18.95**	**336**	⇑P	**P**	**11 00 22.4**	**-1.5**
	comp=N,0.9nm,0.2s,baz=148,slow=12,SNR=19						
ABKAR	**Akbulak array**	**18.95**	**336**	P	**P**	**11 00 23.9**	**+0.1**
KURBB	**Kurchatov Arra**	**18.96**	**14**	P	**P**	**11 00 23.4**	**-0.6**
	comp=N,0.2nm,0.3s,baz=203,slow=10,SNR=9.8						
KURK	**Kurchatov**	**19.07**	**14**	P	**Pn**	**11 00 26.2**	**+0.2**
KURK				IAmb	IAmb	11 00 28.7	
	comp=Z,8.5nm,1.5s						
AKTO	**Aktyubinsk**	**20.61**	**335**	P	**P**	**11 00 41.0**	**-1.0**
	comp=Z,3.9nm,0.7s,baz=162,slow=8.0,SNR=15						
AKTO				LR	LR	11 08 37.3	
	comp=Z,37nm,22.0s,baz=302,slow=37						
BVAR	**Borovoye Array**	**20.65**	**358**	P	**P**	**11 00 42.5**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=163,slow=10,SNR=16						
BRVK	**Borovoye**	**20.69**	**358**		**P**	**11 00 43.0**	**+0.2**
BRVK				IAmb	IAmb	11 00 46.1	
	comp=Z,20nm,1.6s						
ZAA0	**Zalesovo Array**	**23.58**	**20**	P	**P**	**11 01 14.7**	**+1.4**
ZAA0				IAmb	IAmb	11 01 19.6	
	comp=Z,3.8nm,0.8s						
ZALV	**Zalesovo Beam**	**23.58**	**20**	P	**P**	**11 01 14.7**	**+1.4**
	comp=Z,4.3nm,0.7s,baz=214,slow=11,SNR=12						
ZALV				LR	LR	11 10 57.6	
	comp=Z,52nm,20.4s,baz=358,slow=38						
ARU	**Arti**	**25.67**	**343**	P	**P**	**11 01 32.2**	**-0.3**
	comp=Z,2.7nm,0.2s,baz=125,slow=3.3,SNR=6.2						
ARU	**Arti**	**25.67**	**343**	P	**P**	**11 01 32.4**	**-0.2**
PALK	**Pallekele**	**26.41**	**159**	LR	LR	11 11 14.0	
	comp=Z,40nm,20.2s,baz=281,slow=34						
CMAR	**Chiang Mai Arr**	**28.32**	**113**	P	**P**	**11 02 01.6**	**+4.8**
	comp=Z,1.0nm,0.4s,baz=296,slow=13,SNR=8.5						
CMAR	**Chiang Mai Arr**	**28.32**	**113**	P	**P**	**11 01 58.9**	**+2.1**
SONM	**Songino Array**	**30.54**	**49**	P	**P**	**11 02 18.0**	**+1.6**
AKASG	**Malin Array Be**	**35.94**	**313**	P	**P**	**11 03 02.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=96,slow=7.2,SNR=2.0						
AKASG				LR	LR	11 18 56.5	
	comp=Z,37nm,21.6s,baz=330,slow=38						
FINES	**FINESS Array B**	**41.16**	**329**	P	**P**	**11 03 46.6**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=95,slow=9.9,SNR=4.8						
ARCES	**ARCESS Array B**	**45.11**	**339**	P	**P**	**11 04 19.0**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=107,slow=8.1,SNR=9.5						
NB2	**NORSAR Subarra**	**47.94**	**325**	P	**P**	**11 04 40.4**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=102,slow=7.9						
NOA	**NORSAR Array B**	**47.94**	**325**	P	**P**	**11 04 40.3**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=102,slow=7.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**66.09**	**271**	P	**P**	**11 06 49.0**	**-1.4**
	comp=Z,1.9nm,0.6s,baz=53,slow=5.3,SNR=11						
TORD	**Torodi Ar. Bea**	**66.09**	**271**	P	**P**	**11 06 49.4**	**-1.0**
WRA	**Warramunga Arr**	**79.49**	**122**	P	**P**	**11 08 12.0**	**+2.1**
	comp=Z,2.4nm,0.7s,baz=323,slow=5.3,SNR=22						
WRA	**Warramunga Arr**	**79.49**	**122**	IAmb	IAmb	11 08 13.3	
	comp=Z,0.2nm,0.8s						
ASAR	**Alice Springs**	**81.58**	**125**	P	**P**	**11 08 23.2**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=311,slow=5.3,SNR=9.8						

MAN ***11*** *11:01:13.7, 9°.91N×122°.97E, h2km, MS4.1*
MAN Intensity IV - Ayungon Negros Oriental;Intensity III - Tayasan Negros Oriental; Intensity II - Bais City Negros Oriental; Intensity I - La Libertad Nagros Oriental.

IDC ***11*** *11:01:13.6±0.7, 9°.84N×123°.33E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.7/57, mbtmp3.9/11, MS3.4/6, Ms1 3.4/6, ms1mx2.9/54, Error ellipse: s-maj=29.4km s-min=14.2km az=80.0*
NEIC ***11*** *11:01:14.6±1.3, 9°.9N±0°.1×123°.4E±0°.1, h9km±7km, mb4.1/3, Error ellipse: s-maj=24.4km s-min=5.6km az=128.0*

ISC 11 11:01:14.6±0.5, 9°.82N±0°.03×123°.05E±0°.03, h10km, n42, σ1§83/49, mb3.9/13, MS3.5/4, 3C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**0.40**	**271**	*e*P	**Pg**	**11 01 22.7**	**+0.2**
CNOP				*e*S	**Sb**	**11 01 30.5**	**+0.4**
TBP	**Tagbilaran**	**0.81**	**99**	*e*P	**Pg**	**11 01 30.0**	**-0.2**
TBP				*i* S	**Sg**	**11 01 34.9**	**-6.0**
GUIM	**Jordan**	**0.92**	**331**	*e*P	**Pg**	**11 01 29.2**	**-3.2**
GUIM				*e*S	**Sg**	**11 01 41.1**	**-3.2**
LLP	**Lapu-Lapu**	**1.03**	**61**	*e*P	**Pg**	**11 01 32.0**	**-2.4**
LLP				*i* S	**Sg**	**11 01 46.3**	**-1.6**
JAP	**San Jose, Anti**	**1.42**	**310**	⇑*i*P	**Pn**	**11 01 39.9**	**-0.6**
MSLP	**Maasin**	**1.81**	**80**	*e*P	**Pn**	**11 01 46.4**	**+0.6**
MSLP				*e*S	**Sb**	**11 02 11.9**	**+1.3**
OCLP	**Ormoc**	**1.96**	**51**	*e*P	**Pn**	**11 01 48.2**	**+0.3**
OCLP				*e*S	**Sb**	**11 02 14.6**	**-0.4**
PAGZ	**Pagadian**	**1.98**	**170**	*e*P	**Pb**	**11 01 50.8**	**0.0**
PAGZ				*e*S	**Sb**	**11 02 16.4**	**+0.7**
CUYO	**Cuyo Island**	**2.25**	**297**	*e*P	**Pn**	**11 01 50.5**	**-1.3**
CUYO				*e*S	**Sn**	**11 02 18.4**	**-1.3**
OTRP	**Odiongan**	**2.72**	**338**	*e*P	**Pn**	**11 01 59.1**	**+0.7**
OTRP				*e*S	**Sn**	**11 02 33.5**	**+2.1**
BUKP	**Musuan**	**2.77**	**134**	*e*P	**Pb**	**11 02 02.1**	**-2.1**
BUKP				*e*S	**Sb**	**11 02 37.4**	**-0.9**
GLSP	**General Luna,**	**3.03**	**90**	*e*P	**Pn**	**11 02 03.4**	**+0.7**
GLSP				*e*S	**Sn**	**11 02 42.7**	**+3.6**
CNP	**Catarman**	**3.11**	**30**	*e*P	**Pn**	**11 02 04.3**	**+0.7**
CNP				*e*S	**Sg**	**11 02 54.7**	**+0.2**
KCP	**Kidapawan**	**3.44**	**144**	⇑*i*P	**Pb**	**11 02 12.2**	**-3.6**
BUSP	**Coron**	**3.54**	**308**	*e*P	**Pn**	**11 02 08.8**	**-0.9**
BUSP				*e*S	**Sn**	**11 02 48.9**	**-2.7**
ENPP	**El Nido**	**3.82**	**291**	*e*P	**Pn**	**11 02 12.9**	**-0.6**
PVCP	**Virac**	**3.91**	**16**	*e*P	**Pn**	**11 02 15.4**	**+0.8**
LQP	**Lukban**	**4.52**	**341**	⇑*e*P	**Pb**	**11 02 34.7**	**+0.6**
TGY	**Tagaytay City**	**4.73**	**334**	LR	LR	11 04 36.5	
	comp=Z,300nm,18.1s,baz=94,slow=42						
MYLDM	**Lahad Datu**	**6.45**	**225**		Pn	11 02 54.1	+4.5
KKM	**Kota Kinabalu**	**7.74**	**242**	Pn	Pn	11 03 12.5	+5.1
SIJI	**Sorong**	**13.40**	**142**	LR	LR	11 10 06.1	
	comp=Z,84nm,19.7s,baz=124,slow=40						
YULB	**Yu-li**	**13.60**	**353**	Pn	**Pn**	**11 04 26.5**	**-1.2**
LEM	**Lembang**	**22.58**	**223**	P	**P**	**11 06 19.7**	**+4.2**
	35nm,0.4s,baz=338,slow=14,SNR=5.8						
CMAR	**Chiang Mai Arr**	**24.88**	**293**	P	**P**	**11 06 40.5**	**+2.8**
	0.6nm,0.3s,baz=111,slow=6.2,SNR=2.8						
FITZ	**Fitzroy Crossi**	**27.86**	**175**	P	**P**	**11 07 03.6**	**-1.0**
	0.9nm,0.7s,baz=357,slow=9.6,SNR=1.1						
FITZ	**Fitzroy Crossi**	**27.86**	**175**	IAmb	IAmb	11 07 23.5	
	comp=Z,3.4nm,1.1s						
KSRS	**Korea Array**	**27.86**	**8**	P	**P**	**11 07 03.7**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=184,slow=9.8,SNR=11						
WRA	**Warramunga Arr**	**31.59**	**159**	P	**P**	**11 07 36.8**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=341,slow=9.2,SNR=7.1						
WRA				PcP	**PcP**	**11 10 30.0**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=336,slow=2.5,SNR=3.1						
WRA	**Warramunga Arr**	**31.59**	**159**	P	**P**	**11 07 37.7**	**0.0**
WB2	**Warramunga Arr**	**31.60**	**159**	P	**P**	**11 07 39.0**	**+1.3**
WB2				IAmb	IAmb	11 07 39.5	
	comp=Z,2.8nm,0.9s						
KRVT	**Keravat (AS076**	**32.10**	**115**	LR	LR	11 21 10.3	
	comp=Z,22nm,18.5s,baz=234,slow=38						
ASAR	**Alice Springs**	**34.93**	**162**	P	**P**	**11 08 06.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=344,slow=7.7,SNR=25						
ASAR				PcP	**PcP**	**11 10 39.4**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=337,slow=2.5,SNR=2.6						
USRK	**Ussuriysk Ar.**	**35.12**	**11**	P	**P**	**11 08 08.3**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=215,slow=7.1,SNR=4.3						
SONM	**Songino Array**	**40.42**	**343**	P	**P**	**11 08 53.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=171,slow=9.8,SNR=1.8						
STKA	**Stephens Creek**	**45.10**	**158**	P	**P**	**11 09 31.4**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=342,slow=13,SNR=3.4						
STKA				LR	LR	11 30 56.5	
	comp=Z,212nm,18.5s,baz=201,slow=40						
MKAR	**Makanchi Array**	**50.51**	**324**	P	**P**	**11 10 13.7**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=124,slow=7.2,SNR=4.6						
PETK	**Petropavlovsk-**	**51.40**	**26**	P	**P**	**11 10 20.8**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=218,slow=6.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**53.54**	**333**	LR	LR	11 34 57.4	
	comp=Z,49nm,18.2s,baz=108,slow=38						
KURBB	**Kurchatov Arra**	**54.67**	**327**	P	**P**	**11 10 45.4**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=116,slow=8.4,SNR=3.4						
NRIK	**Noril'sk**	**63.69**	**347**	LR	LR	11 41 06.4	
	comp=Z,26nm,18.1s,baz=17,slow=38						
PLCA	**Paso Flores**	**146.94**	**161**	PKPbc	**PKPab**	**11 20 58.4**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=270,slow=1.0,SNR=4.3						

MEX 11 11:07:01.5±0.7, 15°.22N×93°.28W, h80km±6km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.48**	**7**	*i* P	Pn	11 07 13.6	-1.5
PCIG				*i* S	Sn	11 07 23.7	-1.5
THIG		**1.03**	**108**	*i* P	Pn	11 07 20.0	-0.9
THIG				*e*S	Sn	11 07 33.4	-2.0
CCIG	**Comitan**	**1.52**	**46**	*e*P	Pn	11 07 26.6	-0.8
CCIG				*i* S	Sn	11 07 44.6	-2.2
TGIG		**1.56**	**6**	*i* P	Pn	11 07 26.2	-1.4
TGIG				*i* S	Sn	11 07 44.7	-2.6
CMIG	**Matias Romero**	**2.41**	**321**	*e*P	Pn	11 07 37.8	-1.1
CMIG				*i* S	Sn	11 08 06.2	-1.4

IDC 11 11:21:22.2±421.0, 58°.01N×30°.62E, h0km, Error ellipse: s-maj=102.1km s-min=47.6km az=149.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.80**	**107**	*i*		11 48 00.0	
	baz=291,slow=318,SNR=1.9						
I37NO	**I37NO**	**12.29**	**339**	*i*		12 33 00.0	
	baz=148,slow=331,SNR=1.2						
I31KZ	**AKTYUBINSK INF**	**17.65**	**104**	*i*		13 07 50.0	
	baz=305,slow=323,SNR=1.3						

NEIC ***11*** *11:23:21.7±1.9, 21°.1S±0°.1×177°.8W±0°.2, h481km±8km, mb4.4/24, Error ellipse: s-maj=21.3km s-min=18.5km az=102.0*
IDC ***11*** *11:23:26.8±3.5, 20°.73S×178°.14W, h520km±32km, mb3.8/10, mb1 3.9/11, mb1mx3.4/40, mbtmp4.7/11, Error ellipse: s-maj=32.2km s-min=24.4km az=151.0*

ISC 11 11:23:22.9±0.6, 21°.04S±0°.10×177°.8W±0°.1, h495km, n52, σ1§02/49, mb4.5/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.11**	**309**	P	**P**	**11 24 50.7**	**0.0**
AFI	**Afiamalu**	**9.13**	**40**	S	**S**	**11 27 13.8**	**-2.8**
	2.0nm,0.3s,baz=196,slow=23,SNR=2.0						
DZM	**Mont Dzumac**	**14.69**	**263**	P	**P**	**11 26 31.0**	**+0.9**
	0.7nm,0.3s,baz=78,slow=20,SNR=14						
DZM	**Mont Dzumac**	**14.69**	**263**	P	**P**	**11 26 29.6**	**-0.5**
URZ	**Urewera**	**17.72**	**193**	P	**P**	**11 26 59.2**	**-1.5**
	0.6nm,0.3s,baz=90,slow=13,SNR=1.7						
URZ				S	**S**	**11 29 57.1**	**-1.5**
	0.2nm,0.3s,baz=299,slow=12,SNR=1.7						
URZ	**Urewera**	**17.72**	**193**	P	**P**	**11 26 59.3**	**-1.4**
URZ				IAmb	IAmb	11 27 12.9	
	comp=Z,17nm,1.1s						
BKZ	**Black Stump Fm**	**18.72**	**194**	P	**P**	**11 27 09.6**	**-0.4**
BKZ				IAmb	IAmb	11 27 27.6	
	comp=Z,14nm,1.2s						
QRZ	**Quartz Range**	**21.37**	**200**	P	**P**	**11 27 34.5**	**+0.5**
LTZ	**Lake Taylor**	**23.22**	**199**	P	**P**	**11 27 50.2**	**-0.5**
LTZ				IAmb	IAmb	11 27 54.2	
	comp=Z,7.7nm,0.8s						
EIDS	**Eidsvold**	**28.88**	**255**	P	**P**	**11 28 40.5**	**-0.5**
EIDS				IAmb	IAmb	11 28 42.3	
	comp=Z,8.6nm,0.6s						
ARMA	**Armidale**	**29.00**	**245**	P	**P**	**11 28 41.6**	**-0.4**
ARMA				IAmb	IAmb	11 28 45.2	
	comp=Z,24nm,1.4s						
CTA	**Charters Tower**	**33.62**	**265**	P	**P**	**11 29 21.8**	**+0.1**
	comp=Z,13nm,0.5s,baz=95,slow=11,SNR=15						
CTAO	**Charters Tower**	**33.62**	**265**	P	**P**	**11 29 21.8**	**+0.1**
CTAO				IAmb	IAmb	11 29 22.6	
	comp=Z,16nm,0.9s						
PMG	**Port Moresby**	**35.64**	**284**	P	**P**	**11 29 37.7**	**-0.9**
	comp=Z,12nm,0.5s,baz=110,slow=1.3,SNR=5.4						
PMG	**Port Moresby**	**35.64**	**284**	IAmb	IAmb	11 29 38.9	
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**37.72**	**245**	P	**P**	**11 29 57.2**	**+1.6**
	comp=Z,6.3nm,0.8s,baz=88,slow=12,SNR=11						
STKA	**Stephens Creek**	**37.72**	**245**	P	**P**	**11 29 56.5**	**+0.8**
COEN	**Coen**	**37.80**	**274**	P	**P**	**11 29 56.2**	**-0.3**
COEN				IAmb	IAmb	11 29 57.1	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**42.47**	**244**	P	**P**	**11 30 34.5**	**+0.6**
JAY	**Jayapura**	**44.38**	**289**	P	**P**	**11 30 48.0**	**-1.1**
	comp=Z,13nm,0.5s,baz=122,slow=3.0,SNR=16						
WR0	**Warramunga Arr**	**44.52**	**263**	P	**P**	**11 30 49.1**	**-0.9**
WR0				IAmb	IAmb	11 30 50.8	
	comp=Z,7.6nm,0.8s						
AS31	**Alice Springs**	**44.57**	**257**	P	**P**	**11 30 50.6**	**+0.2**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**11 30 50.5**	**+0.1**
	comp=Z,17nm,0.5s,baz=90,slow=8.3,SNR=281						
ASAR				PcP	**PcP**	**11 32 23.9**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=100,slow=3.6,SNR=7.1						
ASAR				ScP	**ScP**	**11 35 26.0**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=99,slow=4.8,SNR=2.8						
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**11 30 50.0**	**-0.4**
WB0	**Warramunga Arr**	**44.69**	**263**	P	**P**	**11 30 50.6**	**-0.8**
WB2	**Warramunga Arr**	**44.70**	**263**	IAmb	IAmb	11 30 51.5	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**44.70**	**263**	P	**P**	**11 30 50.9**	**-0.5**
WRAB				IAmb	IAmb	11 30 51.5	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**44.71**	**263**	P	**P**	**11 30 50.6**	**-0.9**
	comp=Z,9.5nm,0.7s,baz=97,slow=7.3,SNR=170						
WRA				PcP	**PcP**	**11 32 23.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=106,slow=2.6,SNR=2.5						
WRA	**Warramunga Arr**	**44.71**	**263**	P	**P**	**11 30 50.6**	**-0.9**
FORT	**Forrest**	**49.25**	**247**	P	**P**	**11 31 25.6**	**-0.1**
MTN	**Manton Dam**	**49.35**	**271**	IAmb	IAmb	11 31 26.1	
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	**50.80**	**267**	P	**P**	**11 31 37.0**	**-0.3**
KNRA				IAmb	IAmb	11 31 37.6	
	comp=Z,15nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.14**	**263**	P	**P**	**11 31 54.0**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=187,slow=0.2,SNR=25						
FITZ	**Fitzroy Crossi**	**53.14**	**263**	P	**P**	**11 31 54.3**	**+0.2**
SIJI	**Sorong**	**53.55**	**285**	P	**P**	**11 31 56.6**	**-0.6**
	comp=Z,20nm,0.7s,baz=127,slow=11,SNR=4.4						
SOEI	**Soe**	**56.70**	**272**	P	**P**	**11 32 19.9**	**+0.6**
PSA00	**Pilbara Seismi**	**57.72**	**257**	IAmb	IAmb	11 32 26.7	
	comp=Z,9.8nm,0.7s						
QSPA	**South Pole Qui**	**69.03**	**180**	P	**P**	**11 33 37.1**	**-1.0**
PDAR	**Pinedale Array**	**89.23**	**43**	P	**P**	**11 35 27.8**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=190,slow=5.7,SNR=4.3						
MSTX	**Muleshoe**	**89.89**	**53**		pP	11 37 14.3	-4.4
CMAR	**Chiang Mai Arr**	**90.46**	**290**	P	**P**	**11 35 33.1**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=128,slow=2.9,SNR=7.1						
MNMC	**Minye Minye**	**99.19**	**115**		pP	11 37 54.2	-8.2
MKAR	**Makanchi Array**	**111.69**	**313**	PKiKP	**PKiKP**	**11 41 00.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=166,slow=2.2,SNR=1.9						
ARCES	**ARCESS Array B**	**129.48**	**350**	PKP	**PKPdf**	**11 41 35.0**	**+0.8**
	comp=Z,5.1nm,0.9s,baz=328,slow=3.2,SNR=2.2						
AKASG	**Malin Array Be**	**143.57**	**331**	PKP	PKPab	11 41 58.3	-0.7
	comp=Z,4.4nm,0.5s,baz=40,slow=4.1,SNR=17						
AKASG	**Malin Array Be**	**143.57**	**331**		PKPab	11 41 58.7	-0.4
BRTR	**Keskin

comp=Z,1.8nm,0.8s,baz=99,slow=7.5,SNR=9.8
MKAR Makanchi Array 82.62 319 P **P 11 42 41.7 -0.2**
ZALV Zalesovo Beam 83.33 326 P **P 11 42 44.2 -1.2**
comp=Z,0.6nm,0.3s,baz=101,slow=6.0,SNR=1.7
MAW Mawson 85.29 203 P **P 11 42 54.9 -0.1**
comp=Z,1.1nm,0.6s,baz=135,slow=4.3,SNR=4.1
NVAR Mina Array Bea 91.15 52 P **P 11 43 24.3 +0.6**
comp=Z,1.2nm,0.9s,baz=274,slow=6.2,SNR=7.3
NVAR Mina Array Bea 91.15 52 P **P 11 43 25.0 +1.3**
TORD Torodi Ar. Bea 152.69 287 PKPbc **PKPbc 11 50 13.8 -1.3**
comp=Z,0.7nm,0.6s,baz=89,slow=2.1,SNR=6.0

*DDA **11** 11:38:07.9, 35°.84N×28°.17E, h52km±4km, ML2.4*
*ATH **11** 11:38:07.6, 35°.88N×28°.18E, h79km±3km, ML2.9/2, Error ellipse: s-maj=3.9km s-min=2.1km az=333.0*
*ISK **11** 11:38:07.5, 35°.88N×28°.17E, h86km, ML2.8/16*
*THE **11** 11:38:09.8, 35°.86N×28°.20E, h74km±1km, ML2.8/2, Error ellipse: s-maj=1.4km s-min=0.6km az=98.0*
*NIC **11** 11:38:09.6±0.0, 35°.61N×28°.30E, h33km±27km, Ml3.5/3*
ISC 11 11:38:07.7±1.3,**35°.83N**±0°.03×**28°.19E**±0°.03,**h82**km±8km,
n55,σ0§**96**/84,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.39**	**353**	P	**Pn**	**11 38 20.8**	**-0.1**
ARG				S	**Sn**	**11 38 29.8**	**-0.8**
	848nm,0.3s						
ARG	**Arkhangelos**	**0.39**	**353**	P	**Pn**	**11 38 20.9**	**-0.1**
ARG				S	**Sn**	**11 38 29.6**	**-1.0**
ARG				AML	AML	11 38 29.6	
	comp=N,1043μm,0.3s						
ARG				AML	AML	11 38 30.1	
	comp=E,2324μm,0.3s						
ARG	**Arkhangelos**	**0.39**	**353**	PG	**Pn**	**11 38 20.8**	**-0.1**
ARG	**Arkhangelos**	**0.39**	**353**	P	**Pn**	**11 38 20.8**	**-0.1**
ARG				S	**Sn**	**11 38 29.6**	**-1.0**
KARP	**Karpathos**	**0.88**	**252**	P	**Pn**	**11 38 26.5**	**+0.9**
KARP				S	**Sn**	**11 38 39.1**	**+0.2**
	comp=E,522nm,0.1s						
KARP	**Karpathos**	**0.88**	**252**	P	**Pn**	**11 38 26.5**	**+0.9**
KARP				S	**Sn**	**11 38 39.3**	**+0.4**
KARP				AML	AML	11 38 39.6	
	comp=N,1108μm,0.4s						
KARP				AML	AML	11 38 40.5	
	comp=E,1038μm,0.2s						
KARP	**Karpathos**	**0.88**	**252**	PG	**Pn**	**11 38 26.6**	**+0.9**
KARP	**Karpathos**	**0.88**	**252**	P	**Pn**	**11 38 26.4**	**+0.9**
KARP				S	**Sn**	**11 38 39.0**	**+0.1**
KARP				AML	AML	11 38 39.2	
	comp=E,1.1nm,0.4s						
KARP				AML	AML	11 38 39.2	
	comp=E,1.1nm,0.4s						
KARP				AML	AML	11 38 40.1	
	comp=E,1.0nm,0.2s						
KARP				AML	AML	11 38 40.1	
	comp=E,1.0nm,0.2s						
TURN	**Turunc**	**0.95**	**3**	PG	**Pn**	**11 38 26.7**	**+0.4**
TURN				SG	**Sn**	**11 38 40.6**	**+0.5**
TURN	**Turunc**	**0.95**	**3**	*i* P	**Pn**	**11 38 26.8**	**+0.4**
TURN				*i* S	**Sn**	**11 38 40.2**	**+0.1**
TURN				IAML		11 38 41.0	
	comp=N,271nm,0.3s						
TURN				IAML		11 38 41.0	
	comp=E,468nm,0.2s						
DAT	**Datca**	**1.02**	**332**	P	**Pn**	**11 38 27.6**	**+0.3**
DAT				S	**Sn**	**11 38 41.4**	**-0.6**
DAT	**Datca**	**1.02**	**332**	PG	**Pn**	**11 38 27.2**	**-0.1**
DAT				SG	**Sn**	**11 38 41.8**	**-0.2**
DAT	**Datca**	**1.02**	**332**	*i* P	**Pn**	**11 38 27.5**	**+0.1**
DAT				*i* S	**Sn**	**11 38 41.2**	**-0.8**
DAT				IAML		11 38 42.0	
	comp=N,78nm,0.6s						
DAT				IAML		11 38 42.0	
	comp=E,63nm,0.6s						
DALY	**Dalyan (Mula)**	**1.06**	**21**	PG	**Pn**	**11 38 27.9**	**+0.3**
DALY	**Dalyan (Mula)**	**1.06**	**21**	*i* P	**Pn**	**11 38 28.1**	**+0.5**
DALY				*i* S	**Sn**	**11 38 42.1**	**-0.3**
DALY				IAML		11 38 43.0	
	comp=E,96nm,0.6s						
DALY				IAML		11 38 44.0	
	comp=N,115nm,0.4s						
FETY	**Fethiye**	**1.08**	**42**	P	**Pn**	**11 38 28.3**	**+0.3**
FETY	**Fethiye**	**1.08**	**42**	PG	**Pn**	**11 38 28.2**	**+0.3**
FETY	**Fethiye**	**1.08**	**42**	*i* P	**Pn**	**11 38 28.1**	**+0.1**
FETY				IAML		11 38 43.0	
	comp=N,50nm,0.3s						
FETY				*i* S	**Sn**	**11 38 43.1**	**0.0**
KSL	**Kastellorizon**	**1.18**	**74**	P	**Pn**	**11 38 29.4**	**+0.3**
KSL	**Kastellorizon**	**1.18**	**74**	P	**Pn**	**11 38 29.5**	**+0.5**
KSL				S	**Sn**	**11 38 45.3**	**+0.2**
AKAS	**Kas**	**1.22**	**70**	PN	**Pn**	**11 38 30.4**	**+0.7**
AKAS	**Kas**	**1.22**	**70**	*i* P	**Pn**	**11 38 30.0**	**+0.2**
AKAS				*i* S	**Sn**	**11 38 46.6**	**+0.4**
AKAS				IAML		11 38 50.0	
	comp=N,40nm,0.4s						
YER	**Yerkesik**	**1.31**	**3**	P	**Pn**	**11 38 32.0**	**+1.2**
YER	**Yerkesik**	**1.31**	**3**	PN	**Pn**	**11 38 29.9**	**-0.9**
YER				SN	**Sn**	**11 38 47.9**	**-0.2**
BDRM	**Kayabasi**	**1.37**	**334**	*i* P	**Pn**	**11 38 31.4**	**-0.1**
BDRM				*i* S	**Sn**	**11 38 48.7**	**-0.8**
BDRM				IAML		11 39 13.0	
	comp=E,96nm,1.5s						
BODT	**Bodrum**	**1.42**	**330**	P	**Pn**	**11 38 32.5**	**+0.4**
BODT				S	**Sn**	**11 38 49.6**	**-0.9**
BODT	**Bodrum**	**1.42**	**330**	PN	**Pn**	**11 38 32.5**	**+0.4**
ELL	**Elmali**	**1.67**	**56**	PN	**Pn**	**11 38 36.3**	**+0.9**
ELL				SN	**Sn**	**11 38 56.9**	**+0.5**
ELL	**Elmali**	**1.67**	**56**	P	**Pn**	**11 38 37.0**	**+1.5**
ELL				S	**Sn**	**11 38 59.2**	**+2.8**
TAVA	**DENIZLI_Tavas**	**1.74**	**19**	*i* P	**Pn**	**11 38 37.1**	**+0.8**
TAVA				*i* S	**Sn**	**11 38 58.2**	**+0.2**
TAVA				IAML		11 39 00.0	
	comp=N,74nm,0.2s						
TAVA				IAML		11 39 00.0	
	comp=E,58nm,0.2s						
ZKR	**Zakros**	**1.76**	**247**	PN	**Pn**	**11 38 37.7**	**+1.2**
GOLH	**Golhisar**	**1.79**	**38**	*i* P	**Pn**	**11 38 38.6**	**+1.6**
GOLH				IAML		11 39 01.0	
	comp=E,20nm,1.1s						
GOLH				*i* S	**Sn**	**11 39 01.3**	**+2.0**
GOLH				IAML		11 39 02.0	
	comp=N,72nm,0.7s						
AKUM	**Antalya-Kumluc**	**1.82**	**74**	*i* P	**Pn**	**11 38 38.2**	**+0.9**
AKUM				*i* S	**Sn**	**11 39 00.2**	**+0.6**
AKUM				IAML		11 39 02.0	
	comp=N,36nm,0.4s						
AKUM				IAML		11 39 04.0	
	comp=E,33nm,0.3s						
AYDN	**Tasoluk**	**1.85**	**352**	*i* P	**Pn**	**11 38 38.2**	**+0.4**
AYDN				*i* S	**Sn**	**11 38 59.6**	**-0.9**
AYDN				IAML		11 39 02.0	
	comp=N,38nm,0.2s						
ANAF	**Anafi Island**	**2.02**	**286**	P	**Pn**	**11 38 40.8**	**+0.8**
ANAF				S	**Sn**	**11 39 03.3**	**-1.3**
ANAF	**Anafi Island**	**2.02**	**286**	P	**Pn**	**11 38 40.4**	**+0.4**
AMGA	**Amorgos Island**	**2.10**	**299**	P	**Pn**	**11 38 41.8**	**+0.7**
SMG	**Samos**	**2.17**	**330**	P	**Pn**	**11 38 42.5**	**+0.5**
SANT	**Santorini**	**2.27**	**285**	P	**Pn**	**11 38 44.2**	**+0.8**
SANT	**Santorini**	**2.27**	**285**	PN	**Pn**	**11 38 44.2**	**+0.8**
LAST	**Lasithi**	**2.31**	**254**	P	**Pn**	**11 38 44.4**	**+0.5**
THT2	**Imerovigli**	**2.32**	**286**	PN	**Pn**	**11 38 44.8**	**+0.9**
DGB	**zmir**	**2.45**	**335**	*i* P	**Pn**	**11 38 45.5**	**-0.2**
DGB				IAML		11 39 13.0	
	comp=E,12nm,0.9s						
DGB				*i* S	**Sn**	**11 39 14.3**	**-0.6**
APE	**Apeiranthos**	**2.47**	**301**	P	**Pn**	**11 38 47.2**	**+1.2**
APE	**Apeiranthos**	**2.47**	**301**	PN	**Pn**	**11 38 47.3**	**+1.2**
MANT	**Manisa**	**2.67**	**6**	*i* P	**Pn**	**11 38 46.6**	**-2.3**
MANT				*i* S	**Sn**	**11 39 17.9**	**-2.6**
MANT				IAML		11 39 20.0	
	comp=E,13nm,0.7s						
MANT				IAML		11 39 22.0	
	comp=N,19nm,0.5s						
KULA	**Kula-Manisa**	**2.71**	**8**	PN	**Pn**	**11 38 49.8**	**+0.5**
BLCB	**Balcova**	**2.71**	**341**	PN	**Pn**	**11 38 49.9**	**+0.7**
URLA	**Izmir**	**2.83**	**334**	PN	**Pn**	**11 38 51.4**	**+0.6**
KEPZ	**Antalya-Kepez**	**2.96**	**68**	*i* P	**Pn**	**11 38 53.2**	**+0.6**
KEPZ				IAML		11 40 36.0	
	comp=E,31nm,3.3s						
GAZI	**Gazipasa**	**3.37**	**82**	*i* S	**Sn**	**11 39 35.0**	**-2.1**
OSC1	**CSNet OBS 1**	**3.45**	**131**	P	**Pn**	**11 38 58.2**	**-0.9**
OSC1				S	**Sn**	**11 39 36.2**	**-2.6**
AKMS	**Akamas**	**3.48**	**102**	P	**Pn**	**11 38 60.0**	**+0.3**
AKMS				AML	AML	11 39 38.9	
	comp=E,0.3nm,0.3s						
SZAC	**Souni**	**3.99**	**104**	P	**Pn**	**11 39 07.3**	**+0.7**
SZAC				AML	AML	11 39 52.3	
	comp=E,0.2nm,0.2s						
SZAC				AML	AML	11 39 52.4	
	comp=E,0.2nm,0.3s						
OSC2	**CSNet OBS 4**	**4.35**	**128**	P	**Pn**	**11 39 11.8**	**+0.4**
OSC2				S	**Sn**	**11 39 59.6**	**-1.3**

*IDC **11** 11:40:31.6±1.4, 30°.12S×177°.62W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/31, mbtmp4.1/5, ML2.9/1, Error ellipse: s-maj=35.5km s-min=21.5km az=90.0*
*NEIC **11** 11:40:34.8±2.8, 30°.09S±0°.02×177°.7W±0°.3, h26km±8km, mb4.3/6, Error ellipse: s-maj=31.3km s-min=3.2km az=92.0*
ISC 11 11:40:36.5±1.2,**30°.10S**±0°.07×**177°.8W**±0°.2,**h35**km,**n17**,
σ1§**42**/19,**mb4.3/6**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**350**	Pn	**Pn**	**11 40 52.4**	**+0.3**
	470nm,0.3s,baz=87,slow=12,SNR=27						
RAO				Sn	**Sn**	**11 41 02.6**	**-0.9**
	2μm,0.3s,baz=104,slow=19,SNR=23						
RAO	**Raoul Island**	**0.86**	**350**		**Pn**	**11 40 50.9**	**-1.2**
URZ	**Urewera**	**9.18**	**206**	Pn	**Pn**	**11 42 44.9**	**-1.5**
	0.1nm,0.3s,baz=52,slow=14,SNR=1.8						
URZ				Sn	**Sn**	**11 44 26.8**	**-1.7**
	0.9nm,0.3s,baz=232,slow=22,SNR=12						
CTA	**Charters Tower**	**33.97**	**279**	P	**P**	**11 47 19.3**	**+2.4**
	1.6nm,0.5s,baz=95,slow=11,SNR=9.0						
CTAO	**Charters Tower**	**33.97**	**279**	P	**P**	**11 47 18.1**	**+1.2**
CTAO				IAmb	IAmb	11 47 20.7	
	comp=Z,4.2nm,1.1s						
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**11 48 36.0**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=103,slow=7.4,SNR=28						
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**11 48 35.5**	**0.0**
WR0	**Warramunga Arr**	**44.12**	**272**	P	**P**	**11 48 42.7**	**+0.9**
WR0				IAmb	IAmb	11 48 44.5	
	comp=Z,8.0nm,1.4s						
WB2	**Warramunga Arr**	**44.30**	**272**	P	**P**	**11 48 44.0**	**+0.8**
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**11 48 43.6**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=110,slow=8.1,SNR=42						
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**11 48 42.4**	**-0.8**
WB0	**Warramunga Arr**	**44.33**	**272**	P	**P**	**11 48 44.1**	**+0.7**
WB0				IAmb	IAmb	11 48 45.2	
	comp=Z,2.8nm,0.6s						
QSPA	**South Pole Qui**	**60.01**	**180**	P	**P**	**11 50 41.7**	**+2.2**
	comp=Z,1.5nm,1.1s,baz=60,slow=2.6,SNR=2.6						
QSPA	**South Pole Qui**	**60.01**	**180**	P	**P**	**11 50 41.8**	**+2.3**
FINES	**FINESS Array B**	**144.94**	**340**	PKP	**PKPdf**	**12 00 08.2**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=50,slow=3.2,SNR=16						
NOA	**NORSAR Array B**	**148.49**	**352**	PKPbc	**PKiKP**	**12 00 18.8**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=15,slow=3.1,SNR=2.1						
AKASG	**Malin Array Be**	**151.19**	**323**	PKPbc	**PKPbc**	**12 00 25.1**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=50,slow=2.6,SNR=2.4						

*JMA **11** 12:05:40.0±0.3, 21°.67N×121°.95E, h10km, M4.1*
*TAP **11** 12:05:40.4, 21°.61N×121°.96E, h37km, ML3.2, D*
ISC 11 12:05:41.6±2.0,**21°.73N**±0°.06×**121°.88E**±0°.03,**h14**km±12km,
n74,σ1§**03**/133,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.43**	**316**	*i* P	**Pb**	**12 05 52.2**	**+1.1**
	baz=319						
LAY				S	**Sn**	**12 06 00.1**	**-1.0**
	baz=319						
TSEB	**Hengchuen, Pin**	**0.92**	**281**	P	**Pb**	**12 05 59.5**	**+0.1**
	baz=286						
TSEB				S	**Sn**	**12 06 14.4**	**+1.1**
	baz=286						
TWKBT	**Hengchun**	**1.01**	**282**	P	**Pb**	**12 05 59.5**	**-1.4**
	baz=298						
LDUT	**Ludao**	**1.01**	**338**	P	**Pb**	**12 06 00.1**	**-0.9**
	baz=337						
LDUT				S	**Sn**	**12 06 15.3**	**-0.1**
	baz=337						
TWK1	**Hengchun**	**1.02**	**282**	*i* P	**Pb**	**12 06 00.2**	**-0.8**
	baz=298						
TWK1				*e*S	**Sn**	**12 06 16.2**	**+0.6**
	baz=298						
HEN	**Hengchun**	**1.09**	**285**	P	**Pb**	**12 06 01.4**	**-0.9**
	baz=298						
HEN				S	**Sg**	**12 06 17.2**	**+0.3**
	baz=298						
TAW	**Tawu**	**1.10**	**305**	P	**Pb**	**12 06 02.1**	**-0.4**
	baz=307						
TAW				S	**Sn**	**12 06 17.8**	**+0.1**
	baz=307						
EAST	**Anshuo**	**1.15**	**304**	*i* P	**Pb**	**12 06 02.4**	**-1.0**
	baz=317						
EAST				S	**Sn**	**12 06 19.1**	**+0.1**
	baz=317						
ECL	**Taimali**	**1.21**	**315**	*i* P	**Pn**	**12 06 02.6**	**-1.6**
	baz=307						
ECL				*e*S	**Sb**	**12 06 20.0**	**0.0**
	baz=307						
TTN	**Taitung**	**1.22**	**327**	*e*S	**Sg**	**12 06 22.0**	**+0.9**
	baz=335						
TWGBT	**Beinan**	**1.31**	**326**	P	**Pn**	**12 06 03.9**	**-1.6**
	baz=313						
TWGBT				S	**Sg**	**12 06 24.1**	**+0.1**
	baz=313						
TWG	**Pinlang**	**1.32**	**326**	*i* P	**Pn**	**12 06 04.8**	**-0.8**
	baz=313						
TWG				S	**Sn**	**12 06 23.3**	**+0.3**
	baz=313						
SCZT	**Fangliau**	**1.33**	**299**	*i* P	**Pn**	**12 06 05.2**	**-0.6**
	baz=312						
SCZT				S	**Sb**	**12 06 23.2**	**0.0**
	baz=312						
EDH	**Donghe**	**1.34**	**337**	P	**Pn**	**12 06 04.3**	**-1.8**
	baz=345						
EDH				S	**Sn**	**12 06 23.3**	**-0.4**
	baz=345						
SSPT	**Xinbi**	**1.43**	**302**	*e*P	**Pn**	**12 06 06.9**	**-0.3**
	baz=315						
SSPT				*e*S	**Sb**	**12 06 26.1**	**0.0**
	baz=315						
CHKT	**Chengkung**	**1.44**	**341**	*e*P	**Pn**	**12 06 05.8**	**-1.6**
	baz=348						
CHKT				*i* S	**Sn**	**12 06 25.4**	**-0.7**
	baz=348						
MASBT	**Mashibuluo**	**1.45**	**308**	P	**Pn**	**12 06 07.4**	**-0.1**
	baz=309						
SSD	**Sandimen**	**1.53**	**312**	*i* P	**Pn**	**12 06 08.9**	**+0.3**
	baz=319						
SSD				*e*S	**Sn**	**12 06 28.5**	**+0.1**
	baz=319						
FULB	**Fuli**	**1.56**	**340**	*i* P	**Pn**	**12 06 08.5**	**-0.5**
	baz=347						
FULB				*i* S	**Sn**	**12 06 28.8**	**-0.2**
	baz=347						
ELDTW	**Lidau**	**1.66**	**332**	P	**Pn**	**12 06 10.6**	**+0.2**
	baz=321						
SLGT	**Liugui**	**1.70**	**318**	*i* P	**Pn**	**12 06 11.5**	**+0.7**
	baz=319						
SLGT				*e*S	**Sb**	**12 06 34.6**	**+0.8**
	baz=319						
TWF1	**Yuli**	**1.70**	**342**	P	**Pn**	**12 06 10.1**	**-0.8**
	baz=350						
TWF1				*i* S	**Sn**	**12 06 33.3**	**+0.8**
	baz=350						
YULB	**Yu-li**	**1.74**	**342**	*i* P	**Pn**	**12 06 10.9**	**-0.6**
	baz=328						
YULB				S	**Sb**	**12 06 34.8**	**-0.3**
	baz=328						
STYT	**Tauyuan**	**1.76**	**324**	P	**Pn**	**12 06 12.1**	**+0.3**
	baz=325						
SGST	**Jiashian**	**1.80**	**319**	P	**Pb**	**12 06 13.9**	**-0.6**
	baz=319						
SGST				S	**Sb**	**12 06 37.3**	**+0.4**
	baz=319						
HGSD	**Ruisui**	**1.80**	**347**	P	**Pn**	**12 06 11.2**	**-1.1**
	baz=345						
EHY	**Hungye**	**1.84**	**344**	*i* P	**Pn**	**12 06 12.9**	**0.0**
	baz=329						
EHY				*i* S	**Sb**	**12 06 37.9**	**-0.1**
	baz=329						
WTP	**Ta-pu**	**1.91**	**323**	*i* P	**Pb**	**12 06 16.2**	**-0.1**
	baz=323						
WTP				S	**Sb**	**12 06 40.5**	**+0.5**
	baz=323						
CHN1	**Nanshi**	**1.91**	**320**	*i* P	**Pb**	**12 06 16.5**	**+0.2**
	baz=320						
CHN1				S	**Sb**	**12 06 40.8**	**+0.8**
	baz=320						
TPUB	**Ta-pu**	**1.94**	**324**	P	**Pn**	**12 06 15.5**	**+1.2**
	baz=324						
TPUB				S	**Sb**	**12 06 40.9**	**-0.1**
	baz=324						
SNST	**Tainan City**	**1.96**	**320**	P	**Pb**	**12 06 16.1**	**-1.0**
	baz=320						
SNST				*e*S	**Sb**	**12 06 42.1**	**+0.8**
	baz=320						
EGFH	**Guangfu**	**1.97**	**348**	*e*P	**Pn**	**12 06 14.6**	**-0.1**
	baz=331						
EGFH				*i* S	**Sn**	**12 06 40.5**	**+1.2**
	baz=331						
TWK	**Hsinying**	**2.00**	**320**	*i* P	**Pn**	**12 06 16.4**	**+1.3**
	baz=321						
TWK				S	**Sb**	**12 06 43.1**	**+0.5**
	baz=321						
CHN4	**Tsaushan**	**2.00**	**324**	*i* P	**Pb**	**12 06 17.2**	**-0.7**
	baz=324						
CHN4				S	**Sb**	**12 06 43.8**	**+1.1**
	baz=324						
ALS	**Alishan**	**2.03**	**331**	P	**Pb**	**12 06 17.4**	**-1.1**
	baz=331						
ALS				*e*S	**Sb**	**12 06 44.5**	**+0.7**
	baz=331						
VWDT	**VWDT**	**2.12**	**342**	P	**Pn**	**12 06 17.6**	**+0.9**
	baz=341						
VWDT				*e*S	**Sn**	**12 06 44.1**	**+1.2**
	baz=341						
CHN5	**Tsauling**	**2.16**	**329**	*i* P	**Pb**	**12 06 19.9**	**-0.8**
	baz=315						
CHN5				S	**Sb**	**12 06 47.2**	**-0.2**
	baz=315						
SSLB	**Suanglung**	**2.22**	**338**	P	**Pn**	**12 06 19.0**	**+0.9**
	baz=346						
SSLB				*e*S	**Sb**	**12 06 47.8**	**-1.1**
	baz=346						
WDLH	**Douliu**	**2.31**	**328**	*e*S	**Sb**	**12 06 50.3**	**-1.2**
	baz=328						
SMLT	**Sun Moon Lake**	**2.32**	**337**	*i* P	**Pn**	**12 06 21.5**	**+1.9**
	baz=348						
SMLT				S	**Sb**	**12 06 50.9**	**-1.2**
	baz=348						
TYC	**Yuchr**	**2.36**	**337**	P	**Pb**	**12 06 22.6**	**-1.4**
	baz=336						
TYC				S	**Sb**	**12 06 53.3**	**+0.3**
	baz=336						
CHGB	**Renai**	**2.41**	**345**	P	**Pn**	**12 06 22.0**	**+1.2**
	baz=354						
CHGB				S	**Sn**	**12 06 52.2**	**+1.9**
	baz=354						
NACB	**Ninganchiao**	**2.45**	**354**	P	**Pn**	**12 06 20.3**	**-0.9**
	baz=1.0						
NACB				S	**Sn**	**12 06 49.1**	**-1.9**
	baz=1.0						
WHF	**Hehuan Shan**	**2.47**	**347**	*i* P	**Pn**	**12 06 22.4**	**+0.5**
	baz=346						
WHF				S	**Sn**	**12 06 52.7**	**+0.6**
	baz=346						
ETLH	**Xiulin Townshi**	**2.49**	**352**	P	**Pn**	**12 06 21.5**	**-0.4**
	baz=359						
ETLH				S	**Sn**	**12 06 53.3**	**+1.1**
	baz=359						
WDGT	**Dungji**	**2.55**	**307**	*i* P	**Pn**	**12 06 22.6**	**-0.1**
	baz=308						
WDGT				S	**Sn**	**12 06 52.6**	**-0.9**
	baz=308						
TWT	**Tachien**	**2.59**	**346**	P	**Pn**	**12 06 24.7**	**+1.4**
	baz=353						
TWT				*e*S	**Sn**	**12 06 56.7**	**+1.9**
	baz=353						
WHP	**Taichung City**	**2.68**	**342**	*i* P	**Pn**	**12 06 27.1**	**+2.7**
	baz=330						
WHP				S	**Sb**	**12 07 00.4**	**-1.8**
	baz=330						
NNSB	**Datong**	**2.72**	**351**	P	**Pn**	**12 06 25.7**	**+0.5**
	baz=359						
NNSB				S	**Sn**	**12 06 58.2**	**+0.3**
	baz=359						
NNSH	**Datong**	**2.72**	**351**	P	**Pn**	**12 06 25.6**	**+0.5**
	baz=358						
NNSH				*e*S	**Sn**	**12 06 58.4**	**+0.4**
	baz=358						
NNS	**Nan Shan**	**2.74**	**350**	*e*S	**Sn**	**12 06 59.3**	**+1.0**
	baz=359						
PHUB	**P'eng-hu**	**2.77**	**310**	*e*P	**Pn**	**12 06 25.6**	**-0.1**
	baz=311						
PHUB				*e*S	**Sn**	**12 06 58.1**	**-0.8**
	baz=311						
TWQ1	**Liyutan**	**2.80**	**339**	S	**Sn**	**12 07 02.4**	**+2.8**
	baz=326						
TWC	**Suao**	**2.87**	**360**	*e*S	**Sn**	**12 07 01.3**	**+0.1**
	baz=358						
NDT	**Datong Townshi**	**2.88**	**353**	P	**Pn**	**12 06 27.7**	**+0.5**
	baz=352						
JYNG	**Yonagunijimaku**	**2.88**	**20**	P	**Pn**	**12 06 28.2**	**+1.0**
JYNG				*e*S	**Sn**	**12 07 03.6**	**+1.9**
ENTT	**Nioudou**	**2.91**	**354**	*e*P	**Pn**	**12 06 28.4**	**+0.9**
	baz=2.0						
ENTT				S	**Sn**	**12 07 03.5**	**+1.1**
	baz=2.0						
YOJ	**Yonaguni jima**	**2.91**	**21**	*e*P	**Pn**	**12 06 27.3**	**-0.3**
	baz=18						
YOJ				*e*S	**Sn**	**12 07 00.9**	**-1.5**
	baz=18						
YOJ	**Yonaguni jima**	**2.91**	**21**	P	**Pn**	**12 06 29.2**	**+1.6**
YOJ				*e*S	**Sn**	**12 07 04.0**	**+1.6**
HATJ	**Hateruma jima**	**2.92**	**37**	P	**Pn**	**12 06 28.5**	**+0.8**
HATJ				*e*S	**Sn**	**12 07 03.3**	**+0.7**
YHNB	**Yeheng**	**2.96**	**351**	P	**Pn**	**12 06 27.9**	**-0.5**
	baz=359						
YHNB				*e*S	**Sn**	**12 07 03.3**	**-0.4**
	baz=359						
NSTT	**Nanjuang**	**3.00**	**345**	*e*S	**Sb**	**12 07 08.1**	**-3.3**
	baz=328						
LIOB	**Emei**	**3.01**	**345**	*e*P	**Pn**	**12 06 31.5**	**+2.6**
	baz=329						
NWLT	**Wulai**	**3.05**	**354**	*e*P	**Pn**	**12 06 29.9**	**+0.3**
	baz=353						
NWLT				S	**Sn**	**12 07 05.9**	**-0.1**
	baz=353						
IRIF	**Iriomote-Funau**	**3.10**	**33**	P	**Pn**	**12 06 31.1**	**+0.9**
IRIF				*e*S	**Sn**	**12 07 08.6**	**+1.4**
JKRS	**Kuro-shima**	**3.18**	**38**	P	**Pn**	**12 06 32.4**	**+1.2**
TIPB	**Shuangxi**	**3.23**	**359**	P	**Pn**	**12 06 32.9**	**+0.9**
	baz=7.0						
TIPB				S	**Sn**	**12 07 10.3**	**0.0**
	baz=7.0						
JIJ	**Ishigaki jima**	**3.35**	**38**	P	**Pn**	**12 06 34.4**	**+0.8**
JIJ				S	**Sn**	**12 07 12.8**	**-0.5**
JISG	**Ishigakijimahi**	**3.62**	**38**	P	**Pn**	**12 06 37.7**	**+0.4**
JISG				S	**Sn**	**12 07 19.4**	**-0.5**
JTJ	**Tarama**	**3.89**	**41**	P	**Pn**	**12 06 41.

GPS3				*i* S		**Sb**	**12 18 55.5**	**+1.8**
GPS1	**Guardaparques**	**1.03**	**95**	*i* P		**Pn**	**12 18 39.6**	**+0.1**
GPS1				*i* S		**Sb**	**12 18 55.3**	**+1.3**
GPS2	**Hotel Rincn d**	**1.03**	**97**	*i* P		**Pn**	**12 18 39.5**	**0.0**
ORTG	**Ortega, Santa**	**1.05**	**119**	*eP*		**Pn**	**12 18 41.0**	**+1.2**
LIM1	**Limonal**	**1.14**	**99**	*i* P		**Pn**	**12 18 41.1**	**+0.2**
LIM1				*i* S		**Sb**	**12 18 58.2**	**+1.2**
PLVR	**Palo Verde**	**1.15**	**117**	*eP*		**Pn**	**12 18 41.3**	**+0.1**
GUAB	**Guayabo de Bag**	**1.16**	**98**	*i* P		**Pn**	**12 18 41.4**	**+0.2**
GUAB				*i* S		**Sb**	**12 18 59.0**	**+1.4**
MICM	**Guayabo**	**1.19**	**98**	*i* S		**Sb**	**12 18 59.7**	**+1.2**
COLC	**Colonia**	**1.19**	**100**	*i* P		**Pn**	**12 18 42.2**	**+0.6**
COLC				*i* S		**Sb**	**12 18 59.8**	**+1.3**
CUI	**Cuipilapa**	**1.23**	**100⇑**	*eP*		**Pn**	**12 18 42.6**	**+0.4**
CUI				*i* S		**Sb**	**12 19 01.1**	**+1.4**
ACAL	**Aguas Claras**	**1.36**	**100**	*i* P		**Pn**	**12 18 45.1**	**+1.2**
PTEN	**Parque Tenorio**	**1.39**	**96**	*i* P		**Pn**	**12 18 45.4**	**+0.9**
JTS	**Las Juntas de**	**1.53**	**112**	P		**Pn**	**12 18 46.3**	**0.0**
	25nm,0.3s,baz=10,slow=19,SNR=55							
JTS				LR		LR	12 19 05.6	
	comp=Z,56nm,18.7s,baz=21,slow=30							
JTS				S		**Sn**	**12 19 07.9**	**+2.8**
	47nm,0.3s,baz=305,slow=14,SNR=7.1							
JTS	**Las Juntas de**	**1.53**	**112**	*eP*		**Pn**	**12 18 46.9**	**+0.5**
JTS	**Las Juntas de**	**1.53**	**112**			**Pn**	**12 18 46.7**	**+0.3**
ACON	**Acoyapa**	**1.62**	**48**			**Pn**	**12 18 47.5**	**0.0**
ARE1	**Arenal 1**	**1.70**	**104**	*eP*		**Pn**	**12 18 49.7**	**+1.1**
ARE1				*eS*		**Sb**	**12 19 14.6**	**+1.6**
CEDE	**Laguna Cedeo**	**1.71**	**103⇑**	*eP*		**Pn**	**12 18 49.8**	**+1.0**
CEDE				*eS*		**Sb**	**12 19 14.8**	**+1.6**
BOAB	**BOACO BROADBAN**	**.72**	**24**			**Pn**	**12 18 48.8**	**-0.1**
FORC	**Fortuna**	**1.75**	**103**	*i* P		**Pn**	**12 18 50.4**	**+1.2**
MATN	**Matagalpa**	**2.09**	**13**	Pn		**Pn**	**12 18 54.8**	**+0.7**
HDC	**Heredia**	**2.41**	**111**	Pn		**Pn**	**12 18 57.8**	**-0.7**
ESPN	**Las Esperanzas**	**2.44**	**57**			**Pn**	**12 18 59.7**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.28**	**345**	Pn		**Pn**	**12 19 11.9**	**+1.5**
MTO3	**Montecristo**	**4.54**	**321**			**Pn**	**12 19 29.6**	**+1.7**
APG	**El Apazote**	**5.71**	**316**	P		**Pn**	**12 19 47.0**	**+3.1**
	0.4nm,0.3s,baz=112,slow=10,SNR=4.6							
LRAL	**Lakeview Retre**	**22.06**	**359**	P		**P**	**12 23 12.3**	**-1.0**
LRAL				IAmb		IAmb	12 23 16.8	
	comp=Z,6.8nm,0.7s							
Y49A	**Blount Mountai**	**22.88**	**360**	P		**P**	**12 23 21.9**	**-0.1**
Y49A				IAmb		IAmb	12 23 23.6	
	comp=Z,5.1nm,0.6s							
WHTX	**Lake Whitney,**	**23.37**	**336**	P		**P**	**12 23 27.1**	**+0.1**
PLAL	**Pickwick Lake**	**24.05**	**357**	P		**P**	**12 23 33.7**	**+0.3**
PLAL				IAmb		IAmb	12 23 34.4	
	comp=Z,6.4nm,0.7s							
UALR	**University of**	**24.40**	**348**	P		**P**	**12 23 35.6**	**-1.0**
TX31	**Lajitas Ar. Si**	**24.44**	**321**	P		**P**	**12 23 37.8**	**+0.5**
TX32	**Lajitas Array**	**24.44**	**321**	P		**P**	**12 23 36.6**	**-0.6**
TXAR	**Lajitas Array**	**24.44**	**321**	P		**P**	**12 23 37.0**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=137,slow=9.6,SNR=50							
TXAR	**Lajitas Array**	**24.44**	**321**	P		**P**	**12 23 37.2**	**+0.1**
MIAR	**Mount Ida**	**24.46**	**346**	P		**P**	**12 23 35.1**	**-2.0**
MIAR				IAmb		IAmb	12 23 37.9	
	comp=Z,7.8nm,0.8s							
TKL	**Tuckaleechee C**	**24.79**	**5**	P		**P**	**12 23 40.3**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=201,slow=9.7,SNR=4.4							
TKL	**Tuckaleechee C**	**24.79**	**5**	IAmb		IAmb	12 23 52.8	
	comp=Z,9.9nm,1.2s							
WHAR	**Wooly Hollow**	**24.89**	**348**	P		**P**	**12 23 39.5**	**-1.6**
X37A	**Clayton**	**24.99**	**342**	IAmb		IAmb	12 23 59.0	
	comp=Z,6.0nm,0.9s							
U40A	**Yellville**	**26.03**	**348**	IAmb		IAmb	12 23 51.2	
	comp=Z,7.4nm,0.8s							
HHAR	**Hobbs**	**26.20**	**346**	P		**P**	**12 23 51.9**	**-1.0**
HHAR				IAmb		IAmb	12 23 52.4	
	comp=Z,6.3nm,0.8s							
WMOK	**Wichita Mounta**	**26.30**	**337**	P		**P**	**12 23 53.9**	**0.0**
WMOK				IAmb		IAmb	12 23 56.5	
	comp=Z,11nm,0.8s							
S39A	**Bolivar**	**27.42**	**348**	IAmb		IAmb	12 24 03.3	
	comp=Z,6.1nm,0.9s							
ANMO	**Albuquerque**	**30.13**	**326**	P		**P**	**12 24 29.2**	**+0.8**
	comp=Z,0.1nm,0.8s,baz=90,slow=20,SNR=6.0							
PV13	**Radium Mtn., P**	**33.79**	**327**	P		**P**	**12 25 01.4**	**+1.0**
PV13				IAmb		IAmb	12 25 02.2	
	comp=Z,2.1nm,0.8s							
PV03	**Paradox Valley**	**33.87**	**327**	IAmb		IAmb	12 25 02.8	
	comp=Z,3.1nm,0.8s							
PV11	**David Mesa, Pa**	**33.92**	**327**	IAmb		IAmb	12 25 03.1	
	comp=Z,3.8nm,0.7s							
SRU	**San Rafael Swe**	**35.39**	**327**	P		**P**	**12 25 14.4**	**+0.1**
PDAR	**Pinedale Array**	**37.64**	**332**	P		**P**	**12 25 32.5**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=126,slow=10,SNR=11							
PDAR				PcP		**PcP**	**12 27 49.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=144,slow=5.2,SNR=2.5							
HWUT	**Hardware Ranch**	**37.75**	**329**	P		**P**	**12 25 34.1**	**-0.2**
HWUT				IAmb		IAmb	12 25 36.1	
	comp=Z,2.7nm,0.8s							
REDW	**Red Top Meadow**	**38.71**	**331**	IAmb		IAmb	12 25 42.9	
	comp=Z,3.8nm,0.8s							
TPAW	**Teton Pass**	**38.85**	**331**	IAmb		IAmb	12 25 43.9	
	comp=Z,2.5nm,0.8s							
ELK	**Elko**	**39.14**	**325**	P		**P**	**12 25 46.0**	**-0.1**
NVAR	**Mina Array Bea**	**39.56**	**319**	P		**P**	**12 25 51.4**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=137,slow=7.3,SNR=15							
NVAR				PcP		**PcP**	**12 27 57.9**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=137,slow=4.8,SNR=10							
HLID	**Hailey**	**40.62**	**328**	P		**P**	**12 25 59.3**	**+1.1**
BMO	**Blue Mountains**	**43.01**	**328**	P		**P**	**12 26 16.5**	**-1.2**
SCHQ	**Schefferville**	**46.50**	**15**	LR		LR	12 44 55.6	
	comp=Z,64nm,21.1s,baz=267,slow=34							
ILAR	**Eielson Array**	**67.87**	**336**	P		**P**	**12 29 14.6**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=131,slow=4.4,SNR=16							
ILAR	**Eielson Array**	**67.87**	**336**	P		**P**	**12 29 12.6**	**-3.5**
NOA	**NORSAR Array B**	**84.24**	**29**	LR		LR	13 04 11.0	
	comp=Z,18nm,21.7s,baz=290,slow=33							
KSRS	**Korea Array**	**122.15**	**328**	PKP		**PKPdf**	**12 37 11.8**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=42,slow=1.0,SNR=4.4							
ASAR	**Alice Springs**	**139.61**	**246**	PKP		**PKPdf**	**12 37 47.2**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=123,slow=2.1,SNR=5.2							
WRA	**Warramunga Arr**	**139.80**	**252**	PKP		**PKPdf**	**12 37 45.3**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=91,slow=2.1,SNR=5.5							
CMAR	**Chiang Mai Arr**	**150.38**	**350**	PKPbc		**PKPbc**	**12 38 09.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=323,slow=2.8,SNR=2.7							

*IDC **11** 12:36:10.7±0.9, 68°.08N×162°.52W, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/34, mbtmp3.6/8, ML3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/40, Error ellipse: s-maj=36.5km s-min=15.8km az=31.0*
*AEIC **11** 12:36:11±1.2, 67°.69N±0°.04×162°.5W±0°.2, h16km±4km, ML3.6/38, Error ellipse: s-maj=8.6km s-min=5.5km az=91.0*
*UNK **11** 12:36:11.3, 67°.69N×162°.48W, h16km*
*NEIC **11** 12:36:12.2±1.1, 67°.74N±0°.04×162°.5W±0°.1, h22km±5km, Error ellipse: s-maj=7.9km s-min=5.5km az=52.0*
*ANF **11** 12:36:14.8±1.4, 67°.72N×161°.83W, h15km, ML4.1/3, Error ellipse: s-maj=14.8km s-min=10.4km az=71.0*

ISC 11 12:36:11.1±0.7, 67°.74N±0°.05×162°.35W±0°.05, h10km, n69, σ1§13/81, mb3.5/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.39**	**327**		**Pb**	**12 36 19.4**	**-0.7**
RDOG					**Sb**	**12 36 25.6**	**-0.5**
ANM	**Nome**	**3.41**	**203**		**Pn**	**12 37 04.0**	**-0.3**
ANM					**Sn**	**12 37 43.0**	**-1.8**
IM03		**3.82**	**113**		**Pn**	**12 37 10.0**	**+0.1**
IM03					**Sn**	**12 37 54.8**	**0.0**
IMAR	**Indian Mountai**	**3.82**	**113**		**Pn**	**12 37 09.2**	**-0.8**
A21K	**Barrow**	**4.13**	**27**	S	**Sn**	**12 38 02.4**	**+0.1**
	baz=212						
A21K	**Barrow**	**4.13**	**27**		**Pn**	**12 37 14.7**	**+0.7**
A21K					**Sn**	**12 38 01.5**	**-0.8**
COLD	**Coldfoot**	**4.70**	**91**	P	**Pn**	**12 37 22.5**	**+0.6**
	baz=281,SNR=12						
COLD				S	**Sn**	**12 38 15.4**	**-1.0**
	baz=281						
COLD	**Coldfoot**	**4.70**	**91**		**Pn**	**12 37 22.3**	**+0.3**
TOLK	**Toolik Lake Re**	**4.85**	**73**	P	**Pn**	**12 37 24.9**	**+0.7**
	baz=265,SNR=21						
TOLK				S	**Sn**	**12 38 20.5**	**+0.2**
	baz=265						
TOLK	**Toolik Lake Re**	**4.85**	**73**		**Pn**	**12 37 24.8**	**+0.7**
PS04	**TAPS Pump Stn4**	**4.92**	**76**		**Pn**	**12 37 25.4**	**+0.4**
PS06	**TAPS Pump Stn6**	**5.33**	**105**		**Pn**	**12 37 30.9**	**+0.3**
TTA	**Tatalina**	**5.50**	**148**	Pn	**Pn**	**12 37 33.1**	**0.0**
TT01	**Tatalina**	**5.52**	**148**		**Pn**	**12 37 33.4**	**+0.1**
PS01	**TAPS Pump Stn**	**5.55**	**57**		**Pn**	**12 37 34.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**5.91**	**123**		**Pn**	**12 37 38.9**	**+0.3**
NEA2	**Nenana**	**6.23**	**114**	P	**Pn**	**12 37 43.2**	**+0.2**
	baz=306,SNR=26						
NEA2				S	**Sn**	**12 38 52.4**	**-1.8**
	baz=306						
NEA2	**Nenana**	**6.23**	**114**		**Pn**	**12 37 43.5**	**+0.5**
KTH	**Kantishna Hill**	**6.32**	**126**		**Pn**	**12 37 44.8**	**+0.6**
MDM	**Murphy Dome**	**6.32**	**110**		**Pn**	**12 37 44.7**	**+0.4**
BWN	**Browne**	**6.36**	**118**		**Pn**	**12 37 41.5**	**-3.3**
PPLA	**Purkeypile**	**6.45**	**134**		**Pn**	**12 37 46.5**	**+0.4**
TCOL	**CIGO, UAF Yank**	**6.50**	**109**	P	**Pn**	**12 37 47.1**	**+0.4**
	baz=302,SNR=35						
TCOL				S	**Sn**	**12 38 58.8**	**-2.0**
	baz=302						
TCOL	**CIGO, UAF Yank**	**6.50**	**109**		**Pn**	**12 37 47.4**	**+0.8**
COLA	**College**	**6.50**	**109**		**Pn**	**12 37 47.0**	**+0.2**
POKR	**Poker Plat Res**	**6.53**	**107**	P	**Pn**	**12 37 47.4**	**+0.3**
	baz=300,SNR=16						
POKR	**Poker Plat Res**	**6.53**	**107**		**Pn**	**12 37 47.1**	**0.0**
TRF	**Thorofare Moun**	**6.58**	**125**		**Pn**	**12 37 48.5**	**+0.5**
CCB	**Clear Creek Bu**	**6.65**	**111**		**Pn**	**12 37 49.1**	**+0.4**
WRH	**Wood River Hil**	**6.65**	**113**		**Pn**	**12 37 49.1**	**+0.4**
BM03	**Burnt Mountain**	**6.79**	**84**		**Pn**	**12 37 51.2**	**+0.5**
BMAR	**Burnt Mountain**	**6.80**	**84**		**Pn**	**12 37 51.3**	**+0.5**
MCK	**McKinley**	**6.83**	**120**		**Pn**	**12 37 51.6**	**+0.4**
IL31		**6.91**	**108**		**Pn**	**12 37 52.1**	**-0.2**
ILAR	**Eielson Array**	**6.91**	**108**	Pn	**Pn**	**12 37 52.0**	**-0.3**
	6.3nm,0.3s,baz=302,slow=13,SNR=430						
ILAR				Sn	**Sn**	**12 39 09.2**	**-1.6**
	1.0nm,0.3s,baz=309,slow=25,SNR=8.9						
ILAR	**Eielson Array**	**6.91**	**108**	Pn	**Pn**	**12 37 51.7**	**-0.6**
PS08	**TAPS Pump Stn8**	**7.06**	**110**		**Pn**	**12 37 54.8**	**+0.5**
RND	**Reindeer**	**7.07**	**121**		**Pn**	**12 37 54.9**	**+0.3**
HDA	**Harding Lake**	**7.09**	**111**	P	**Pn**	**12 37 54.7**	**-0.1**
	baz=304,SNR=10						
HDA				S	**Sn**	**12 39 11.4**	**-3.9**
	baz=304						
HDA				S	**Sn**	**12 39 11.4**	**-3.9**
	baz=304						
HDA	**Harding Lake**	**7.09**	**111**		**Pn**	**12 37 54.9**	**+0.1**
SVW2	**Sparrevohn**	**7.27**	**153**	Pn	**Pn**	**12 37 57.5**	**+0.2**
SVW2	**Sparrevohn**	**7.27**	**153**		**Sn**	**12 39 19.9**	**0.0**
SKT	**Skwentna**	**7.38**	**136**	Pn	**Pn**	**12 37 59.6**	**+0.9**
DHY	**Denali Highway**	**7.79**	**120**		**Pn**	**12 38 04.9**	**+0.4**
WAT6	**Susitna Watana**	**8.02**	**123**		**Pn**	**12 38 08.2**	**+0.5**
RIDG	**Independent Ri**	**8.23**	**111**	Pn	**Pn**	**12 38 11.2**	**+0.8**
GHO	**Glory Hole Cre**	**8.27**	**130**		**Pn**	**12 38 12.2**	**+1.1**
SCRK	**Sand Creek**	**8.40**	**108**	P	**Pn**	**12 38 13.0**	**+0.2**
	baz=304,SNR=15						
SCRK				S	**Sn**	**12 39 45.7**	**-1.9**
	baz=304						
SCRK	**Sand Creek**	**8.40**	**108**		**Pn**	**12 38 12.0**	**-0.9**
RSO	**Redoubt South**	**8.41**	**146**		**Pn**	**12 38 14.3**	**+1.2**
SML	**Sawmill**	**8.42**	**128**		**Pn**	**12 38 14.3**	**+1.2**
DOT	**Dot Lake**	**8.56**	**110**	Pn	**Pn**	**12 38 14.9**	**-0.1**
EGAK	**Eagle**	**9.03**	**99**	Pn	**Pn**	**12 38 19.9**	**-1.4**
K27K	**Chicken**	**9.07**	**105**	P	**Pn**	**12 38 22.0**	**+0.1**
	baz=303,SNR=14						
K27K				S	**Sn**	**12 40 01.7**	**-2.2**
	baz=303						
K27K	**Chicken**	**9.07**	**105**		**Pn**	**12 38 22.2**	**+0.4**
MENT	**Mentasta**	**9.13**	**113**		**Pn**	**12 38 23.7**	**+0.9**
BCAR	**Beaver Creek A**	**9.74**	**109**		**Pn**	**12 38 30.9**	**-0.1**
EPYK	**Eagle Plains**	**10.07**	**86**	P	**Pn**	**12 38 35.5**	**0.0**
	baz=289,SNR=13						
EPYK	**Eagle Plains**	**10.07**	**86**	Pn	**Pn**	**12 38 35.9**	**+0.4**
KDAK	**Kodiak Island**	**10.92**	**151**	Pn	**Pn**	**12 38 48.9**	**+1.6**
	0.2nm,0.3s,baz=4.4,slow=13,SNR=1.7						
A36M	**Sachs Harbour**	**13.29**	**55**	P	**Pn**	**12 39 18.1**	**-1.3**
	baz=270,SNR=8.3						
PDAR	**Pinedale Array**	**37.33**	**105**	P	**P**	**12 43 25.8**	**+2.4**
	0.3nm,0.5s,baz=340,slow=5.5,SNR=4.4						
NVAR	**Mina Array Bea**	**38.05**	**118**	P	**P**	**12 43 32.2**	**+2.5**
	0.1nm,0.3s,baz=329,slow=6.8,SNR=1.7						
ARCES	**ARCESS Array B**	**42.89**	**356**	LR	LR	13 02 01.6	
	comp=Z,32nm,18.1s,baz=264,slow=36						
KSRS	**Korea Array**	**48.32**	**268**	P	**P**	**12 44 52.5**	**+0.2**
	0.8nm,0.6s,baz=19,slow=7.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**48.83**	**314**	P	**P**	**12 44 55.2**	**-0.8**
	0.4nm,0.3s,baz=29,slow=7.1,SNR=2.0						
TXAR	**Lajitas Array**	**51.42**	**107**	P	**P**	**12 45 17.0**	**+0.9**
	0.5nm,0.6s,baz=334,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	**55.97**	**311**	P	**P**	**12 45 48.8**	**-0.3**
	0.2nm,0.4s,baz=25,slow=7.9,SNR=2.7						
ESDC	**Sonseca Array**	**71.67**	**17**	P	**P**	**12 47 32.2**	**-0.5**
	0.3nm,0.7s,baz=338,slow=6.8,SNR=4.7						

*ISN **11** 12:38:15.8±1.1, 32°.72N×47°.53E, h15km±5km, ML2.8*
*TEH **11** 12:38:16.3, 32°.67N×47°.47E, h10km, ML2.9*
*THR **11** 12:38:19.0±0.3, 32°.86N×47°.47E, h17km±5km, ML3.1*

ISC 11 12:38:17.4±1.1, 32°.73N±0°.04×47°.45E±0°.03, h7km±9km, n14, σ2§30/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.15**	**251**	*e*Pg	**Pg**	**12 38 19.7**	**-0.8**
DHL1				*e*Sg	**Sg**	**12 38 23.0**	**+0.4**
IKMR	**Kamar-syah**	**1.11**	**45**	*e*Pg	**Pb**	**12 38 37.5**	**-1.4**
IKMR				*e*		12 38 57.2	
SHGR	**Shooshtar-Gavs**	**1.30**	**118**	*e*Pg	**Pb**	**12 38 43.9**	**+1.7**
SHGR				*e*Sg	**Sg**	**12 39 01.9**	**+2.7**
SHGR				IAML		12 39 03.8	
	comp=E,282nm,0.4s						
SHGR				IAML		12 39 07.3	
	comp=N,308nm,0.4s						
IBDR	**Badra**	**1.33**	**287**	*e*Pg	**Pn**	**12 38 41.0**	**-1.4**
IBDR				*e*Sg	**Sb**	**12 39 00.0**	**+0.1**
IBDR				AML	AML	12 39 17.9	
	comp=E,57nm,0.4s						
IBDR				AML	AML	12 39 30.6	
	comp=N,87nm,0.3s						
IKOM	**Komasi**	**1.44**	**2**	*e*Pg	**Pg**	**12 38 45.6**	**+0.6**
IKOM				*e*		12 38 48.6	
BMDN	**Meydan**	**1.49**	**51**	*e*	Sg	12 39 15.2	+10
IGHG	**Ghaleghazi**	**1.76**	**336**	*e*Pn	**Pb**	**12 38 49.9**	**-0.2**
IBZA	**Bozab**	**1.77**	**11**	*e*Pg	**Pg**	**12 38 50.3**	**-1.0**
IBZA				*e*		12 39 20.2	
IVIS	**Veis**	**1.86**	**345**	*e*	**Sg**	**12 39 23.5**	**+6.3**
NSR	**Nassriya**	**2.04**	**213**	*e*Pn	**Pn**	**12 38 51.0**	**-1.1**
NSR				*e*Sn	**Sn**	**12 39 17.0**	**-0.9**
KHMZ	**Khomeyn**	**2.33**	**64**	*e*Pn	**Pb**	**12 38 57.9**	**-2.0**
KHMZ				*e*Sg	**Sg**	**12 39 30.2**	**-2.1**
SNGE	**Sanandaj**	**2.36**	**358**	*e*Pn	**Pb**	**12 38 57.3**	**-3.0**
BHD	**Baghdad**	**2.63**	**283**	*e*Pn	**Pn**	**12 39 01.0**	**+0.7**
BHD				*e*Sn	**Sn**	**12 39 34.0**	**+1.6**
BHD				AML	AML	12 39 59.2	
	comp=E,327nm,0.6s						
IPIR	**Pirpir**	**2.90**	**90**	*e*		12 39 44.2	
IPIR				*e*Pn	**Pn**	**12 39 05.0**	**+0.7**

IDC 11 13:00:48.4±1.6, 0°.87N×146°.38E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.4/3, Error ellipse: s-maj=139.6km s-min=27.9km az=116.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.81**	**209**	P	P	13 06 03.9	+0.6
	0.4nm,0.5s,baz=31,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**27.24**	**206**	P	P	13 06 35.8	+1.4
	0.5nm,1.2s,baz=41,slow=8.6,SNR=1.5						
ILAR	**Eielson Array**	**79.46**	**24**	P	P	13 12 55.1	-1.4
	0.4nm,0.7s,baz=252,slow=6.0,SNR=4.2						

*KRNET **11** 13:04:01.1±0.1, 41°.16N×72°.53E, h19km, mb2.7*
*NNC **11** 13:04:02.9±1.6, 41°.15N×72°.49E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=13.6km s-min=5.6km az=176.0*
*SOME **11** 13:04:02.7, 41°.20N×72°.55E, h10km*

ISC 11 13:04:01.8±1.2, 41°.15N±0°.03×72°.54E±0°.03, h3km±11km, n26, σ1§04/44, 21C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.65**	**163⇑**	*iP*	**Pg**	**13 04 14.0**	**-0.2**
	baz=63						
OHH				⇑*iS*	**Sg**	**13 04 23.0**	**+0.3**
	baz=63						
AML	**Almayashu**	**1.31**	**41⇑**	*iP*	**Pn**	**13 04 25.5**	**-1.8**
	baz=42						
AML				⇑*iS*	**Sb**	**13 04 42.8**	**-1.8**
	baz=42						
ARLS	**Aral**	**1.52**	**61⇑**	*eP*	**Pn**	**13 04 29.0**	**-1.0**
	baz=62						
ARLS				⇑*iS*	**Sn**	**13 04 49.2**	**-1.1**
	baz=62						
MRKS	**Merke**	**1.68**	**18**	*eP*	**Pb**	**13 04 33.9**	**+0.6**
	9.1nm,0.4s						
MRKS				*eS*	**Sg**	**13 04 55.7**	**0.0**
	16nm,0.6s						
MRKS	**Merke**	**1.68**	**18**	P	**Pg**	**13 04 34.6**	**+0.7**
	9.1nm,0.4s						
MRKS				S	**Sg**	**13 04 57.7**	**+2.0**
	16nm,0.6s						
BTK	**Batken**	**1.70**	**231⇑**	*iP*	**Pn**	**13 04 31.9**	**-0.5**
	baz=30						
BTK				⇑*iS*	**Sn**	**13 04 55.0**	**+0.3**
	baz=30						
EKS2	**Erkin-Say**	**1.77**	**31⇓**	*eP*	**Pn**	**13 04 33.3**	**-0.1**
	baz=32						
EKS2				⇓*iS*	**Sn**	**13 04 56.6**	**0.0**
	baz=32						
AAK	**Ala-Archa**	**2.08**	**44⇓**	*eP*	**Pn**	**13 04 37.9**	**+0.1**
	baz=44						
AAK				⇓*iS*	**Sn**	**13 05 04.5**	**+0.2**
	baz=44						
AAK	**Ala-Archa**	**2.08**	**44**	⇑Pn	**Pb**	**13 04 40.0**	**-0.3**
	5.2nm,0.3s						
AAK				⇓Lg	Lg	13 05 09.3	
	3.1nm,0.3s						
IUG	**Iuzhnay**	**2.13**	**299**	*eP*	**Pb**	**13 04 41.4**	**+0.4**
	9.9nm,0.3s						
IUG				*eS*	**Sb**	**13 05 08.8**	**+1.0**
	57nm,0.4s						
IUG	**Iuzhnay**	**2.13**	**299**	Pg	**Pb**	**13 04 41.1**	**0.0**
	9.9nm,0.3s						
IUG				Lg	Lg	13 05 08.8	
	57nm,0.4s						
KZA	**Kyzart**	**2.23**	**65⇑**	*iP*	**Pn**	**13 04 40.0**	**-0.1**
	baz=65						
KZA				⇑*iS*	**Sn**	**13 05 08.5**	**+0.1**
	baz=65						
KBK	**Karagaybulak**	**2.35**	**49⇑**	*iP*	**Pn**	**13 04 41.5**	**+0.1**
	baz=50						
KBK				⇑*iS*	**Sn**	**13 05 10.7**	**-0.1**
	baz=50						
KK31	**Karatay Array**	**2.47**	**323**	Pg	**Pb**	**13 04 46.5**	**-0.2**
	0.3nm,0.2s,baz=132,slow=14,SNR=8.3						
KK31				Lg	Lg	13 05 19.0	
	0.9nm,0.3s,baz=132,slow=28,SNR=5.5						
CHMS	**Chumysh**	**2.48**	**41⇑**	*iP*	**Pn**	**13 04 43.5**	**+0.5**
	baz=41						
CHMS				⇑*iS*	**Sn**	**13 05 14.1**	**+0.3**
	baz=41						
USP	**Ospenovka**	**2.57**	**34⇑**	*iP*	**Pn**	**13 04 44.1**	**-0.2**
	baz=34						
USP				⇑*iS*	**Sn**	**13 05 16.0**	**-0.1**
	baz=34						
BRLS	**Borolday**	**2.75**	**314**	*eP*	**Pb**	**13 04 51.5**	**-0.1**
	2.8nm,0.3s						
BRLS				*eS*	**Sb**	**13 05 26.4**	**+0.6**
	8.2nm,0.3s						
BRLS	**Borolday**	**2.75**	**314**	Pg	**Pb**	**13 04 51.5**	**-0.1**
	2.8nm,0.3s						
BRLS				Lg	Lg	13 05 26.4	
	8.2nm,0.3s						
TKM2	**Tokmak 2**	**2.89**	**51⇑**	*iP*	**Pn**	**13 04 49.5**	**+0.7**
	baz=51						
TKM2				⇑*iS*	**Sn**	**13 05 24.3**	**+0.2**
	baz=51						
TKM2	**Tokmak 2**	**2.89**	**51**	⇑Pg	**Pb**	**13 04 55.1**	**+1.1**
	2.2nm,0.7s						
TKM2				⇑Lg	Lg	13 05 32.7	
	5.3nm,0.5s						
KST	**Kastek**	**3.17**	**52**	*eP*	**Pb**	**13 05 01.2**	**+2.3**
	2.8nm,0.4s						
KST				*eS*	**Sg**	**13 05 43.2**	**-0.6**
	6.1nm,0.

LIOB				*i* S	Sg	13 14 15.7	+1.3
	baz=300						
NSTT	**Nanjuang**	**0.44**	**298**	*e*P	Pg	13 14 08.4	-0.3
	baz=297						
NSTT				S	Sg	13 14 15.3	+0.8
	baz=297						
WHP	**Taichung City**	**0.47**	**252**	*i* P	Pg	13 14 09.2	0.0
	baz=251						
WHP				*i* S	Sg	13 14 15.5	+0.2
	baz=251						
TIPB	**Shuangxi**	**0.65**	**33**	P	Pg	13 14 12.6	-0.1
	baz=33						
TIPB				S	Sg	13 14 20.9	-0.3
	baz=33						
VWDT	**VWDT**	**0.72**	**202**	*e*P	Pg	13 14 13.0	-0.9
	baz=201						
VWDT				S	Sg	13 14 23.3	+0.1
	baz=201						

JMA 11 13:14:44.5±0.1, 24°.61N×123°.50E, h0km, M0.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.34**	**143**	P	Pg	13 14 51.5	+0.4
IRIF				*e*S	Sg	13 14 56.9	+1.3
YOJ	**Yonaguni jima**	**0.47**	**252**	*e*S	Sg	13 15 00.8	+1.2
JYNG	**Yonagunijimaku**	**0.53**	**253**	*e*S	Sg	13 15 02.6	+1.1
JKRS	**Kuro-shima**	**0.59**	**129**	P	Pg	13 14 56.7	+0.8
JKRS				S	Sg	13 15 04.9	+1.3
HATJ	**Hateruma jima**	**0.62**	**153**	P	Pg	13 14 57.2	+0.9
HATJ				S	Sg	13 15 05.2	+0.9
JIJ	**Ishigaki jima**	**0.64**	**113**	P	Pg	13 14 57.2	+0.5
JIJ				S	Sg	13 15 06.1	+1.2
JISG	**Ishigakijimahi**	**0.74**	**92**	P	Pg	13 14 59.1	+0.4
JISG				*e*S	Sb	13 15 10.6	-0.3
JTJ	**Tarama**	**1.09**	**88**	P	Pb	13 15 06.3	0.0
JTJ				*e*S	Sb	13 15 20.9	-0.2

IDC 11 13:26:29.0±405.0, 57°.67N×31°.36E, h0km, Error ellipse: s-maj=114.2km s-min=43.8km az=154.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.32**	**104**	*i*		13 50 50.0	
	baz=284,slow=310,SNR=4.0						
I37NO	**I37NO**	**12.76**	**339**	*i*		14 36 50.0	
	baz=147,slow=329,SNR=1.9						
I31KZ	**AKTYUBINSK INF**	**17.18**	**104**	*i*		15 10 00.0	
	baz=304,slow=370,SNR=2.4						

*NEIC **11** 13:36:32.6±2.8, 19°.38N±0°.07×145°.2E±0°.2, h259km±9km, mb3.4/11, Error ellipse: s-maj=32.0km s-min=10.5km az=88.0*
*IDC **11** 13:36:33.4±8.9, 19°.42N×145°.29E, h258km±87km, mb3.1/8, mb1 3.4/8, mb1mx3.1/44, mbtmp3.7/8, Error ellipse: s-maj=36.3km s-min=16.2km az=87.0*
ISC 11 13:36:31.9±0.8, 19°.4N±0°.1×145°.2E±0°.2, h250km, n22, σ1°09/22, mb3.4/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**17.62**	**338**	P	**P**	**13 40 20.4**	**-0.1**
KSRS	**Korea Array**	**23.53**	**324**	P	**P**	**13 41 20.9**	**+1.0**
	0.6nm,0.6s,baz=143,slow=9.6,SNR=3.4						
WB0	**Warramunga Arr**	**40.30**	**196**	P	**P**	**13 43 43.7**	**-1.6**
WB0				IAmb	IAmb	13 43 57.7	
	comp=Z,1.9nm,1.1s						
WR0	**Warramunga Arr**	**40.44**	**196**	P	**P**	**13 43 48.1**	**+1.7**
WRAB	**Tennant Creek**	**40.47**	**196**	P	**P**	**13 43 46.7**	**0.0**
WB2	**Warramunga Arr**	**40.48**	**196**	P	**P**	**13 43 47.6**	**+0.8**
WB2				IAmb	IAmb	13 43 49.1	
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**40.48**	**196**	P	**P**	**13 43 47.8**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=17,slow=8.7,SNR=6.4						
WRA				PcP	**PcP**	**13 45 44.8**	**+0.5**
	comp=Z,0.4nm,1.1s,baz=14,slow=3.3,SNR=1.7						
WRA	**Warramunga Arr**	**40.48**	**196**	IAmb	IAmb	13 43 49.3	
	comp=Z,0.2nm,1.1s						
AS31	**Alice Springs**	**44.16**	**195**	P	**P**	**13 44 15.8**	**-0.5**
ASAR	**Alice Springs**	**44.16**	**195**	P	**P**	**13 44 17.6**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=13,slow=6.3,SNR=11						
ASAR	**Alice Springs**	**44.16**	**195**	P	**P**	**13 44 16.8**	**+0.5**
EIDS	**Eidsvold**	**44.81**	**172**	P	**P**	**13 44 20.4**	**-1.0**
EIDS				IAmb	IAmb	13 44 34.4	
	comp=Z,3.1nm,1.0s						
KURK	**Kurchatov**	**60.49**	**318**	P	**P**	**13 46 14.2**	**-1.4**
KURK				IAmb	IAmb	13 46 24.1	
	comp=Z,0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**60.54**	**318**	P	**P**	**13 46 16.8**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=90,slow=7.8,SNR=8.1						
SKT	**Skwentna**	**60.59**	**29**	P	**P**	**13 46 15.2**	**-0.9**
IMAR	**Indian Mountai**	**60.81**	**24**	P	**P**	**13 46 18.2**	**+0.7**
BPAW	**Bear Paw Mtn.**	**61.38**	**27**	P	**P**	**13 46 21.0**	**-0.4**
BPAW				IAmb	IAmb	13 46 22.7	
	comp=Z,3.0nm,1.2s						
ILAR	**Eielson Array**	**63.26**	**26**	P	**P**	**13 46 33.0**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=261,slow=5.7,SNR=5.1						
ARCES	**ARCESS Array B**	**81.74**	**342**	P	**P**	**13 48 23.4**	**+1.0**
	comp=Z,4.8nm,1.1s,baz=72,slow=6.7,SNR=1.2						
ARE0	**ARCESS Array S**	**81.74**	**342**	P	**P**	**13 48 20.6**	**-1.8**
ARE0				IAmb	IAmb	13 48 28.7	
	comp=Z,0.7nm,1.1s						
NVAR	**Mina Array Bea**	**83.09**	**52**	P	**P**	**13 48 31.5**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=264,slow=6.3,SNR=5.6						
FINES	**FINESS Array B**	**86.11**	**335**	P	**P**	**13 48 43.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=63,slow=3.7,SNR=7.4						

*ISK **11** 13:42:59.8, 38°.24N×39°.90E, h2km, ML2.5/8*
*DDA **11** 13:43:00.6, 38°.21N×39°.88E, h14km±2km, ML2.2*
ISC 11 13:43:00.5±1.1, 38°.23N±0°.03×39°.89E±0°.02, h13km±10km, n18, σ0°.78/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYBB	**Diyarbakir**	**0.34**	**144**	PG	**Pg**	**13 43 07.6**	**+0.3**
DYBB				SG	**Sb**	**13 43 13.3**	**-0.4**
DIYA	**Diyarbakir**	**0.35**	**149**	*i* P	**Pb**	**13 43 08.1**	**-0.5**
DIYA				*i* S	**Sb**	**13 43 13.2**	**-0.9**
DIYA				IAML		13 43 21.0	
	comp=N,191nm,0.4s						
HANI	**Diyarbakir_Han**	**0.44**	**65**	*i* P	**Pg**	**13 43 09.0**	**-0.3**
HANI				*i* S	**Sb**	**13 43 16.4**	**-0.4**
SVRC	**Sivrice-ELAZID**	**0.48**	**289**	PG	**Pg**	**13 43 10.2**	**+0.1**
SVRC				SG	**Sb**	**13 43 17.8**	**-0.3**
ELZG	**Elazig**	**0.76**	**291**	*i* P	**Pg**	**13 43 14.8**	**-0.5**
ELZG				*i* S	**Sb**	**13 43 26.3**	**+0.2**
ELZG				IAML		13 43 29.0	
	comp=N,81nm,0.5s						
ELZG				IAML		13 43 32.0	
	comp=E,79nm,0.4s						
PTK	**Pertek**	**0.77**	**330**	PG	**Pg**	**13 43 15.3**	**-0.2**
MAZI	**Mazidag**	**0.88**	**150**	PG	**Pb**	**13 43 17.8**	**+0.1**
MAZI				SG	**Sb**	**13 43 30.8**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.03**	**94**	PG	**Pb**	**13 43 20.4**	**+0.1**
SVAN				SG	**Sn**	**13 43 35.6**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.03**	**94**	*i* P	**Pn**	**13 43 20.8**	**0.0**
SVAN				*i* S	**Sn**	**13 43 35.0**	**-0.1**
MARD	**Mardin**	**1.15**	**142**	*i* P	**Pg**	**13 43 22.3**	**-0.4**
MARD				*i* S	**Sn**	**13 43 38.5**	**+0.4**
MARD				IAML		13 43 42.0	
	comp=N,119nm,0.4s						
MARD				IAML		13 43 42.0	
	comp=E,83nm,0.5s						
URFA	**Urfa**	**1.15**	**228**	PN	**Pn**	**13 43 23.1**	**+0.7**
MALT	**Malatya**	**1.16**	**275**	PN	**Pn**	**13 43 22.8**	**+0.3**
SANL	**SANLIURFA_Merk**	**1.27**	**214**	*i* P	**Pn**	**13 43 21.6**	**-2.4**
SANL				*i* S	**Sn**	**13 43 42.2**	**+1.2**
SANL				IAML		13 43 44.0	
	comp=N,75nm,0.5s						
SANL				IAML		13 43 46.0	
	comp=E,52nm,0.4s						
MUSM	**Mu-Merkez**	**1.37**	**68**	*i* P	**Pg**	**13 43 26.3**	**-0.5**
MUSM				*i* S	**Sg**	**13 43 46.4**	**+1.8**
ATAB	**Bozova**	**1.47**	**240**	*i* P	**Pn**	**13 43 27.1**	**+0.3**
ATAB				*i* S	**Sn**	**13 43 46.4**	**+0.5**
ARPR	**Arapgir-MALATY**	**1.50**	**306**	PN	**Pg**	**13 43 28.7**	**-0.5**
SRTM	**Siirt_Merkez**	**1.62**	**98**	*i* P	**Pb**	**13 43 30.0**	**-0.3**
SRTM				*i* S	**Sg**	**13 43 52.4**	**-0.3**
SRTM				IAML		13 43 55.0	
	comp=E,40nm,0.4s						
SRTM				IAML		13 43 56.0	
	comp=N,49nm,0.5s						
GZT	**Gaziantep**	**2.04**	**245**	*i* P	**Pg**	**13 43 40.0**	**+0.4**
GZT				*i* S	**Sg**	**13 44 05.7**	**-0.4**
GZT				IAML		13 44 15.0	
	comp=E,20nm,0.8s						
GZT				IAML		13 44 17.0	
	comp=N,25nm,0.8s						

*NEIC **11** 13:58:01.8±2.7, 4°.68S±0°.06×153°.47E±0°.07, h64km±11km, mb4.1/12, Error ellipse: s-maj=13.5km s-min=3.5km az=128.0*
*IDC **11** 13:58:04.0±1.5, 4°.61S×153°.31E, h82km±11km, mb3.6/7, mb1 3.7/10, mb1mx3.4/44, mbtmp4.0/10, MS2.8/1, Ms1 2.8/1, ms1mx2.5/32, Error ellipse: s-maj=22.7km s-min=15.0km az=21.0*
ISC 11 13:58:04.0±0.7, 4°.60S±0°.08×153°.32E±0°.06, h85km, n28, σ1°37/32, mb4.0/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.22**	**289**		**Pn**	**13 58 25.5**	**-0.6**
KRVT	**Keravat (AS076**	**1.32**	**283**	P	**Pn**	**13 58 26.4**	**-0.9**
	103nm,0.3s,baz=137,slow=1.1,SNR=222						
KRVT				S	**Sn**	**13 58 44.5**	**-0.4**
	191nm,0.3s,baz=162,slow=20,SNR=6.8						
PMG	**Port Moresby**	**7.75**	**232**	P	**Pn**	**13 59 54.5**	**+0.2**
	0.7nm,0.3s,baz=82,slow=15,SNR=1.3						
PMG				S	**Sn**	**14 01 18.4**	**-2.1**
	2.8nm,0.3s,baz=50,slow=17,SNR=6.5						
PMG	**Port Moresby**	**7.75**	**232**		**Pn**	**13 59 53.2**	**-1.1**
HNR	**Honiara**	**8.14**	**126**	P	**Pn**	**14 00 01.5**	**+2.0**
	3.0nm,0.3s,baz=299,slow=19,SNR=1.5						
HNR				S	**Sn**	**14 01 29.9**	**0.0**
	0.6nm,0.3s,baz=270,slow=16,SNR=1.6						
HNR				LR	LR	14 03 01.7	
	comp=Z,74nm,21.0s,baz=184,slow=36						
PATS	**Pohnpei**	**12.41**	**24**	Pn	**Pn**	**14 00 56.8**	**-0.8**
COEN	**Coen**	**13.65**	**226**	Pn	**Pn**	**14 01 14.3**	**+0.2**
CTA	**Charters Tower**	**16.86**	**203**	P	**P**	**14 01 56.9**	**+1.3**
	0.4nm,0.3s,baz=15,slow=12,SNR=3.8						
SANVU	**Saraoutou**	**17.39**	**129**	Pn	**Pn**	**14 01 57.5**	**-3.9**
DZM	**Mont Dzumac**	**21.52**	**145**	P	**P**	**14 02 46.3**	**-0.1**
	4.8nm,0.8s,baz=278,slow=6.4,SNR=7.2						
DZM	**Mont Dzumac**	**21.52**	**145**	P	**P**	**14 02 45.3**	**-1.1**
DZM				IAmb	IAmb	14 02 47.8	
	comp=Z,12nm,1.2s						
WB0	**Warramunga Arr**	**23.82**	**229**	P	**P**	**14 03 09.2**	**-0.2**
WR0	**Warramunga Arr**	**23.82**	**229**	P	**P**	**14 03 08.6**	**-0.9**
WRAB	**Tennant Creek**	**23.95**	**229**	P	**P**	**14 03 10.5**	**0.0**
WRAB				IAmb	IAmb	14 03 18.9	
	comp=Z,8.2nm,1.2s						
WB2	**Warramunga Arr**	**23.95**	**229**	P	**P**	**14 03 10.9**	**+0.3**
WB2				IAmb	IAmb	14 03 14.6	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**23.96**	**229**	P	**P**	**14 03 10.6**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=54,slow=9.9,SNR=44						
WRA				S	**S**	**14 07 24.3**	**+2.8**
	comp=Z,0.3nm,0.8s,baz=49,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**23.96**	**229**	P	**P**	**14 03 09.2**	**-1.5**
ARMA	**Armidale**	**25.73**	**183**	P	**P**	**14 03 27.9**	**+1.2**
KNRA	**Kununurra**	**26.52**	**244**	P	**P**	**14 03 36.2**	**+2.3**
KNRA				IAmb	IAmb	14 03 39.4	
	comp=Z,5.0nm,0.6s						
ASAR	**Alice Springs**	**26.64**	**223**	P	**P**	**14 03 34.2**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=56,slow=8.7,SNR=7.0						
STKA	**Stephens Creek**	**29.28**	**201**	P	**P**	**14 03 57.1**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=16,slow=15,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.21**	**241**	P	**P**	**14 04 06.2**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=354,slow=10,SNR=7.7						
FITZ	**Fitzroy Crossi**	**30.21**	**241**	P	**P**	**14 04 06.1**	**-0.5**
FITZ				IAmb	IAmb	14 04 07.9	
	comp=Z,5.9nm,1.2s						
VNDA	**Vanda**	**73.01**	**178**	P	**P**	**14 09 25.0**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=332,slow=5.6,SNR=9.7						
VNDA	**Vanda**	**73.01**	**178**	P	**P**	**14 09 24.9**	**+0.8**
VNDA				IAmb	IAmb	14 09 25.7	
	comp=Z,3.5nm,0.9s						
MK31	**Makanchi Array**	**80.52**	**319**	P	**P**	**14 10 08.5**	**+1.5**
MK31				IAmb	IAmb	14 10 26.1	
	comp=Z,2.2nm,1.1s						
MKAR	**Makanchi Array**	**80.52**	**319**	P	**P**	**14 10 08.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=92,slow=7.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**150.74**	**289**	PKPbc	**PKPbc**	**14 17 47.4**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=59,slow=1.7,SNR=7.0						

*BGR **11** 14:23:21.5±0.0, 64°.27N×20°.19W, h5km, mb4.7*
*REY **11** 14:23:22.2, 64°.68N×17°.44W, h10km*
*IDC **11** 14:23:23.3±0.5, 64°.67N×17°.75W, h0km, mb3.9/20, mb1 4.1/24, mb1mx3.9/69, mbtmp3.9/24, ML3.0/3, MS3.5/26, Ms1 3.5/26, ms1mx3.4/52, Error ellipse: s-maj=18.3km s-min=10.1km az=17.0*
*NEIC **11** 14:23:23.3±1.3, 64°.56N±0°.09×17°.9W±0°.2, h6km±5km, mb4.1/3, Error ellipse: s-maj=13.5km s-min=9.5km az=208.0*
ISC 11 14:23:24.5±0.4, 64°.69N±0°.02×17°.51W±0°.02, h10km, n104, σ2°57/95, mb3.9/25, MS3.5/31, 1C, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**260**	S	**Sg**	**14 23 28.0**	**-1.3**
	baz=268						
IVON				P	**Pg**	**14 23 25.1**	**-2.2**
	baz=268						
IDYN	**Dyngjuhals**	**0.12**	**31**	P	**Pg**	**14 23 25.1**	**-2.3**
	baz=16						
IDYN				S	**Sg**	**14 23 27.8**	**-1.7**
	baz=16						
IDJK	**Dyngjujokull**	**0.22**	**148**	P	**Pg**	**14 23 26.5**	**-2.7**
	baz=153						
IGRF	**Grimsfjall**	**0.30**	**160**	P	**Pg**	**14 23 27.8**	**-2.8**
	baz=165						
IGRF				S	**Sg**	**14 23 32.3**	**-2.4**
	baz=165						
IKVE	**Kverkfjoll**	**0.36**	**92**	P	**Pg**	**14 23 28.7**	**-2.9**
	baz=90						
IBJK	**Bruarjokull**	**0.40**	**124**	P	**Pg**	**14 23 28.9**	**-3.4**
	baz=125						
ISKR	**Skrokkalda**	**0.40**	**251**	P	**Pg**	**14 23 30.3**	**-2.1**
	baz=254						
IVOT	**Vottur**	**0.45**	**162**	P	**Pg**	**14 23 30.2**	**-3.0**
	baz=165						
IJOK	**Jokulheimar**	**0.49**	**220**	P	**Pg**	**14 23 31.5**	**-2.5**
	baz=223						
IKRE	**Kreppuhraun**	**0.49**	**79**	P	**Pg**	**14 23 30.7**	**-3.3**
	baz=76						
IASK	**Askja**	**0.52**	**45**	P	**Pg**	**14 23 31.5**	**-3.0**
	baz=42						
IMKO	**Mokollar**	**0.58**	**60**	P	**Pg**	**14 23 32.4**	**-3.2**
	baz=57						
IIEY	**Innrieyrar**	**0.66**	**204**	P	**Pg**	**14 23 33.8**	**-3.4**
	baz=207						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**14 23 34.3**	**-2.9**
	baz=6.7						
ISVA				S	**Sg**	**14 23 44.9**	**-0.9**
	baz=6.7						
IKSK	**Karasker**	**0.70**	**139**	P	**Pg**	**14 23 33.7**	**-4.2**
	baz=141						
IVSH	**V-Sauoahnukur**	**0.77**	**81**	P	**Pg**	**14 23 35.3**	**-4.0**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**231**	P	**Pg**	**14 23 36.6**	**-3.1**
	baz=233						
IADA	**Aoalbol**	**0.89**	**67**	P	**Pg**	**14 23 37.4**	**-4.2**
	baz=66						
IHVE	**Hveravellir**	**0.90**	**282**	P	**Pg**	**14 23 38.8**	**-3.0**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**22**	P	**Pg**	**14 23 39.0**	**-3.7**
	baz=20						
IREN	**Reynihlio**	**0.99**	**15**	P	**Pg**	**14 23 39.7**	**-3.8**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**	**14 23 40.9**	**-3.9**
	baz=12						
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**	**14 23 41.2**	**-4.0**
	baz=209						
IGRS	**Grimsstaoir**	**1.11**	**31**	P	**Pb**	**14 23 41.8**	**-4.0**
	baz=29						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pb**	**14 23 42.1**	**-3.8**
	baz=221						
IFED	**Fedgar**	**1.16**	**236**	P	**Pb**	**14 23 43.1**	**-3.5**
	baz=237						
IRJU	**Rjupnafell**	**1.19**	**206**	P	**Pb**	**14 23 43.3**	**-3.9**
	baz=207						
ISKI	**Skildingahlsh**	**1.20**	**9**	P	**Pb**	**14 23 43.1**	**-4.2**
	baz=8.1						
IGHA	**Grjothals**	**1.21**	**17**	P	**Pn**	**14 23 43.1**	**-4.3**
	baz=15						
IMJO	**Mjoaskard**	**1.21**	**232**	P	**Pb**	**14 23 44.2**	**-3.3**
	baz=234						
IGRA	**Granastaoir**	**1.23**	**359**	P	**Pn**	**14 23 43.7**	**-4.0**
	baz=357						
IGRA				S	**Sb**	**14 24 01.3**	**-2.4**
	baz=357						
BORG	**Borgarnes**	**1.64**	**274**	Pn	**Pn**	**14 23 49.9**	**-3.4**
	125nm,0.3s,baz=97,slow=9.6,SNR=147						
BORG				Sn	**Sn**	**14 24 13.1**	**-1.4**
	44nm,0.3s,baz=53,slow=20,SNR=7.8						
BORG				LR	LR	14 24 38.8	
	comp=Z,1μm,21.8s,baz=126,slow=49						
BORG	**Borgarnes**	**1.64**	**274**	Pn	**Pn**	**14 23 50.2**	**-3.1**
SCO	**Scoresbysund**	**6.06**	**346**	*i* P	**Pn**	**14 24 55.0**	**+1.0**
SCO				*i* S	**Sn**	**14 26 08.2**	**+5.0**
SCO	**Scoresbysund**	**6.06**	**346**	Pn	**Pn**	**14 24 55.0**	**+1.0**
JMIC	**Jan Mayen**	**7.17**	**24**	LR	LR	14 27 18.3	
	comp=Z,237nm,20.9s,baz=242,slow=32						
SUMG	**Summit**	**10.92**	**325**	*i* P	Pn	14 26 07.5	+6.6
SUMG	**Summit**	**10.92**	**325**	Pn	**Pn**	**14 26 00.1**	**-0.7**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**14 26 11.8**	**-0.6**
	baz=321,slow=13,SNR=20						
ESK	**Eskdalemuir**	**11.78**	**136**		**Pn**	**14 26 11.6**	**-0.7**
NOA	**NORSAR Array B**	**13.54**	**92**	LR	LR	14 31 53.3	
	comp=Z,134nm,18.9s,baz=295,slow=37						
SFJD	**Kangerlussuaq**	**13.65**	**295**	LR	LR	14 31 44.6	
	comp=Z,192nm,21.8s,baz=70,slow=37						
HFS	**Hagfors**	**15.05**	**93**	Pn	**Pn**	**14 26 57.4**	**+0.5**
	0.1nm,0.3s,baz=339,slow=7.7,SNR=1.6						
HFS				LR	LR	14 32 40.9	
	comp=Z,137nm,20.2s,baz=295,slow=37						
SPITS	**Spitsbergen Ar**	**16.85**	**23**	LR	LR	14 32 04.1	
	comp=Z,114nm,20.9s,baz=255,slow=31						
ARCES	**ARCESS Array B**	**17.11**	**55**	P	**P**	**14 27 25.3**	**+0.3**
	0.1nm,0.3s,baz=285,slow=8.2,SNR=1.5						
ARCES				LR	LR	14 32 32.8	
	comp=Z,84nm,18.7s,baz=302,slow=32						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**14 27 54.9**	**-0.1**
	0.1nm,0.3s,baz=324,slow=9.4,SNR=4.0						
FINES				LR	LR	14 35 01.7	
	comp=Z,73nm,20.7s,baz=284,slow=35						
CLL	**Collm**	**20.72**	**116**	*e*P	Pn	14 28 05.0	-2.0
CLL				⇑*i*pP	pP	14 28 07.0	-1.0
	comp=Z,36nm,1.4s						
CLL				*e*S	Sn	14 32 02.0	+1.5
CLL				*e*S	Sn	14 32 02.0	+1.5
CLL				L	L	14 36 00.0	
	comp=Z,100nm,20.5s						
GRF	**Grafenberg Arr**	**21.35**	**121**	*e*P	**P**	**14 28 14.2**	**+2.7**
	comp=Z,63nm,1.9s,baz=322,slow=11						
NKC	**Novy Kostel**	**21.36**	**118**	AMS	AMS	14 37 10.0	
	comp=Z,200nm,15.1s						
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P	**P**	**14 28 13.2**	**+0.9**
	comp=Z,70nm,1.9s						
BRG				*e*		14 28 25.2	
	comp=Z,49nm,1.8s						
BRG				S	Sn	14 32 25.0	+7.5
FRB	**Frobisher Bay**	**21.74**	**291**	LR	LR	14 36 04.7	
	comp=Z,129nm,19.4s,baz=339,slow=35						
PVCC	**Panska Ves**	**21.94**	**115**	AMS	AMS	14 37 30.0	
	comp=Z,200nm,12.2s						
PRA	**Prague**	**22.26**	**116**	AMS	AMS	14 38 30.0	
	comp=Z,100nm,14.4s						
PRU	**Pruhonice**	**22.36**	**116**	*e*P	**P**	**14 28 23.7**	**+1.4**
PRU				*e*S	Sn	14 32 33.8	-6.2
PRU				AMS	AMS	14 38 30.0	
	comp=Z,200nm,10.7s						
GOPC	**GO Pecny, Ondr**	**22.52**	**116**	*e*S	**S**	**14 32 33.9**	**+3.2**
GOPC				AMS	AMS	14 38 20.0	
	comp=Z,200nm,18.1s						
UPC	**Upice**	**22.53**	**113**	AMS	AMS	14 37 50.0	
	comp=Z,200nm,15.4s						
OSTC	**Ostas**	**22.57**	**113**	AMS	AMS	14 37 20.0	
	comp=Z,200nm,15.6s						
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P	**P**	**14 28 26.8**	**+0.9**
KHC				*e*S	Sn	14 32 40.2	-7.7
KHC				AMS	AMS	14 37 20.0	
	comp=Z,200nm,14.7s						
KHC	**Kasperske Hory**	**22.69**	**118**	P	**P**	**14 28 25.8**	**-0.1**
KHC				IAmb	IAmb	14 28 29.7	
	comp=Z,2.7nm,1.1s						
DPC	**Dobruska-Polom**	**22.77**	**113**	*e*P	**P**	**14 28 28.4**	**+1.6**
DPC				*e*S	**S**	**14 32 41.2**	**+5.8**
DPC				AMS	AMS	14 38 00.0	
	comp=Z,200nm,14.5s						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**14 28 30.1**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=330,slow=7.7,SNR=9.1						
GERES				LR	LR	14 38 15.0	
	comp=Z,170nm,19.0s,baz=310,slow=39						
KRLC	**Kraliky**	**23.17**	**113**	*e*P	**P**	**14 28 32.7**	**+1.8**
KRLC				*e*S	**S**	**14 32 47.5**	**+5.2**
KRLC				AMS	AMS	14 38 20.0	
	comp=Z,200nm,17.0s						
TREC	**Trest**	**23.29**	**116**	AMS	AMS	14 39 20.0	
	comp=Z,200nm,17.2s						
VRAC	**Vranov**	**23.71**	**114**	P	**P**	**14 28 37.4**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=322,slow=12,SNR=8.7						
VRAC				LR	LR	14 38 40.4	
	comp=Z,149nm,18.2s,baz=330,slow=38						
VRAC	**Vranov**	**23.71**	**114**	*e*P	**P**	**14 28 37.3**	**+1.1**
MORC	**Moravsky Berou**	**23.71**	**112**	*e*P	**P**	**14 28 37.1**	**+0.9**
KRUC	**Moravsky**	**23.83**	**115**	*e*P	**P**	**14 28 37.9**	**+0.6**
SMOL	**Smolenice**	**24.68**	**114**	*e*P	**P**	**14 28 46.6**	**+1.5**
MODS	**Modra-Piesok**	**24.73**	**115**	*e*P	**P**	**14 28 47.6**	**+1.9**
VYHS	**V

MKAR	**Makanchi Array**	**52.71**	**58**	P	**P**	**14 32 38.7**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=327,slow=6.4,SNR=6.4						
MKAR	**Makanchi Array**	**52.71**	**58**	P	**P**	**14 32 39.2**	**+0.4**
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**14 32 42.3**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=55,slow=6.2,SNR=17						
PDAR				LR	LR	14 54 50.5	
	comp=Z,91nm,19.3s,baz=287,slow=36						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**14 32 42.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P	**P**	**14 32 42.2**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=344,slow=8.5,SNR=7.2						
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P	**P**	**14 32 41.2**	**-1.1**
NVAR	**Mina Array Bea**	**60.29**	**297**	P	**P**	**14 33 33.6**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=40,slow=3.8,SNR=4.4						
NVAR				LR	LR	14 58 26.9	
	comp=Z,143nm,20.1s,baz=282,slow=35						
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**14 33 46.8**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=73,slow=4.3,SNR=5.9						
TXAR				LR	LR	14 59 24.6	
	comp=Z,85nm,21.8s,baz=0.0,slow=35						
GTA	**Gaotai**	**65.29**	**49**	*e*P	**P**	**14 34 08.3**	**+2.1**
GTA				pP	sP	14 34 13.5	+2.2
GTA				sP	pP	14 34 16.9	+7.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
KSRS	**Korea Array**	**74.63**	**28**	LR	LR	15 11 25.0	
	comp=Z,21nm,18.0s,baz=280,slow=39						
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**14 35 55.7**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=315,slow=4.8,SNR=5.2						
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKiKP**	**14 42 44.0**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=338,slow=2.0,SNR=4.1						

*IDC **11** 14:25:02.2±3.4, 22°.34S×179°.62W, h542km±36km, mb3.1/6, mb1 3.4/6, mb1mx3.0/34, mbtmp4.0/6, Error ellipse: s-maj=39.8km s-min=21.9km az=159.0*

ISC 11 14:25:05.3±0.9, 22°.4S±0°.3×179°.7W±0°.2, h579km, n7, σ1§65/8, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.58**	**246**	P	**P**	**14 31 15.2**	**0.0**
	2.2nm,0.4s,baz=95,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**42.60**	**259**	P	**P**	**14 32 11.6**	**-0.3**
	4.3nm,0.7s,baz=98,slow=7.6,SNR=62						
WRA	**Warramunga Arr**	**42.84**	**264**	P	**P**	**14 32 12.8**	**-0.9**
	1.4nm,0.4s,baz=95,slow=8.2,SNR=79						
WRA				ScP	**ScP**	**14 36 51.3**	**+3.5**
	0.5nm,0.8s,baz=101,slow=3.6,SNR=3.7						
QSPA	**South Pole Qui**	**67.66**	**180**	P	**P**	**14 35 05.0**	**-0.3**
	0.6nm,0.6s,baz=11,slow=1.1,SNR=1.5						
NVAR	**Mina Array Bea**	**83.47**	**44**	P	**P**	**14 36 33.1**	**-0.1**
	0.5nm,0.8s,baz=220,slow=8.3,SNR=4.0						
TXAR	**Lajitas Array**	**89.39**	**58**	P	**P**	**14 37 01.5**	**+0.2**
	0.5nm,0.9s,baz=212,slow=6.1,SNR=4.2						
EKA	**Eskdalemuir Ar**	**147.03**	**4**	PKPbc	**PKPbc**	**14 43 42.7**	**-0.7**
	0.5nm,0.4s,baz=350,slow=2.9,SNR=2.0						

*IDC **11** 14:32:21.6±0.8, 30°.22N×139°.52E, h318km±15km, mb3.1/6, mb1 3.1/10, mb1mx2.8/59, mbtmp3.7/10, Error ellipse: s-maj=42.9km s-min=10.3km az=71.0*

*JMA **11** 14:32:22.4±0.1, 30°.33N×139°.68E, h324km, M3.2*

ISC 11 14:32:22.5±0.9, 30°.40N±0°.07×139°.8E±0°.1, h350km, n29, σ2§08/40, mb3.3/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.71**	**360**	P	**Pn**	**14 33 19.2**	**-0.1**
	9.8nm,0.3s,baz=270,slow=23,SNR=5.6						
JHJ				S	**S**	**14 34 02.5**	**-2.5**
	20nm,0.3s,baz=230,slow=22,SNR=4.0						
CBIJ	**Chichi jima**	**3.91**	**147**	P	**Pn**	**14 33 29.2**	**-1.4**
CBIJ				*e*S	**S**	**14 34 20.6**	**-4.9**
JCJ	**Chichijima**	**3.91**	**147**	P	**Pn**	**14 33 28.1**	**-2.5**
	7.0nm,0.3s,baz=283,slow=19,SNR=6.8						
JCJ				S	**S**	**14 34 20.6**	**-4.9**
	46nm,0.3s,baz=287,slow=22,SNR=20						
TTO1	**TONANKAI O.B.S**	**4.10**	**322**	P	**Pn**	**14 33 31.7**	**-0.4**
BSO1	**Boso 1**	**4.36**	**13**	P	**Pn**	**14 33 35.6**	**+1.1**
BSO1				*e*S	**S**	**14 34 32.3**	**-0.6**
BSO3	**Boso 3**	**4.43**	**8**	P	**Pn**	**14 33 35.9**	**+0.3**
BSO3				S	**S**	**14 34 33.7**	**-1.1**
BSO4	**Boso 4**	**4.60**	**6**	*e*S	**S**	**14 34 37.6**	**-0.7**
JIE	**Ise**	**4.76**	**328**	P	**Pn**	**14 33 39.2**	**-0.2**
HMMJ	**Hamamatsu 2**	**4.78**	**339**	P	**Pn**	**14 33 40.1**	**+0.6**
JKN2	**Miekihoku**	**4.85**	**323**	P	**Pn**	**14 33 39.5**	**-0.9**
JOD2	**Odawara 2**	**4.89**	**353**	P	**Pn**	**14 33 41.0**	**+0.2**
JOD2				*e*S	**S**	**14 34 41.9**	**-2.2**
JTNC	**Tanabenakahech**	**4.92**	**315**	P	**Pn**	**14 33 39.7**	**-1.4**
JNY	**Yasuok**	**5.21**	**342**	P	**Pn**	**14 33 44.8**	**+0.5**
JAO	**Obara**	**5.30**	**337**	P	**Pn**	**14 33 46.0**	**+0.6**
JHU	**Hanno**	**5.46**	**356**	P	**Pn**	**14 33 46.7**	**-0.4**
JRY	**Ryogami san**	**5.65**	**353**	P	**Pn**	**14 33 49.7**	**+0.4**
JYT	**Yasato**	**5.83**	**3**	P	**Pn**	**14 33 51.1**	**-0.1**
JYT				S	**S**	**14 35 01.8**	**-1.3**
JAG	**Ashikaga**	**6.02**	**357**	P	**Pn**	**14 33 52.6**	**-0.8**
JAG				*e*S	**S**	**14 35 02.9**	**-4.3**
JHO	**Hitachi**	**6.23**	**6**	P	**Pn**	**14 33 55.7**	**-0.1**
JHO				*e*S	**S**	**14 35 07.5**	**-4.1**
MJAR	**Matsushiro Arr**	**6.27**	**348**	P	**Pn**	**14 33 55.9**	**-0.4**
	0.2nm,0.3s,baz=170,slow=11,SNR=5.4						
MJAR				S	**S**	**14 35 08.6**	**-3.8**
	0.0nm,0.3s,baz=150,slow=17,SNR=1.2						
JFK	**Kawauchi**	**7.01**	**7**	S	**S**	**14 35 25.0**	**-3.2**
JMK	**Ichinoseki**	**8.62**	**7**	P	**Pn**	**14 34 25.6**	**+1.8**
JMK				S	**S**	**14 36 00.9**	**-2.0**
KSRS	**Korea Array**	**12.10**	**309**	P	**Pn**	**14 35 06.0**	**+0.7**
	0.1nm,0.3s,baz=125,slow=13,SNR=5.4						
CMAR	**Chiang Mai Arr**	**38.84**	**262**	P	**P**	**14 39 14.6**	**-0.7**
	0.3nm,0.3s,baz=61,slow=7.3,SNR=1.5						
ZALV	**Zalesovo Beam**	**45.63**	**317**	P	**P**	**14 40 10.1**	**+1.1**
	0.7nm,0.4s,baz=94,slow=7.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**49.25**	**313**	P	**P**	**14 40 37.3**	**+0.7**
	0.6nm,0.3s,baz=98,slow=6.5,SNR=1.6						
WRA	**Warramunga Arr**	**50.32**	**187**	P	**P**	**14 40 46.3**	**+1.4**
	0.1nm,0.4s,baz=1.5,slow=7.7,SNR=4.6						
BVAR	**Borovoye Array**	**54.20**	**316**	P	**P**	**14 41 14.2**	**+1.4**
	1.5nm,0.8s,baz=99,slow=9.5,SNR=6.7						
FINES	**FINESS Array B**	**74.06**	**333**	P	**P**	**14 43 23.4**	**+2.9**
	0.6nm,0.4s,baz=57,slow=5.1,SNR=8.8						

WEL 11 14:50:12.8, 41°.S±4°.×17°.3E±°, h198km±11km, M2.6/18, MLv2.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=97.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.34**	**336**	P	Pn	14 50 39.3	+0.1
NNZ	**Nelson**	**0.51**	**99**	P	Pn	14 50 39.6	-0.1
THZ	**Tophouse**	**0.64**	**167**	P	Pn	14 50 40.3	0.0
DSZ	**Denniston Nort**	**0.91**	**228**	P	Pn	14 50 41.5	-0.3
TUWZ	**Tuamarina**	**0.97**	**108**	P	Pn	14 50 42.5	+0.3
DUWZ	**D'Urville Isla**	**0.98**	**70**	P	Pn	14 50 42.5	+0.3
BSWZ	**Blackbirch Sta**	**1.05**	**124**	P	Pn	14 50 42.8	+0.1
TCW	**Tory Channel**	**1.19**	**94**	P	Pn	14 50 44.1	+0.4
KHZ	**Kahutara**	**1.42**	**154**	P	Pn	14 50 45.5	-0.1
LTZ	**Lake Taylor**	**1.68**	**191**	P	Pn	14 50 47.9	-0.1
KIW	**Kapiti Island**	**1.69**	**81**	P	Pn	14 50 48.3	+0.2
CAW	**Cannon Point**	**1.78**	**90**	P	Pn	14 50 49.1	+0.2
GVZ	**Greta Valley S**	**1.84**	**173**	P	Pn	14 50 49.3	-0.2
INZ	**Inchbonnie**	**1.84**	**210**	P	Pn	14 50 49.3	-0.2
OGWZ	**Otaki Gorge**	**1.89**	**81**	P	Pn	14 50 50.3	+0.3
PLWZ	**Palliser**	**1.96**	**104**	P	Pn	14 50 50.8	0.0
HOWZ	**Holdsworth Sta**	**2.14**	**84**	P	Pn	14 50 52.8	+0.2
MRZ	**Mangatainoka R**	**2.23**	**79**	P	Pn	14 50 53.6	0.0
OXZ	**Oxford**	**2.24**	**193**	P	Pn	14 50 52.6	-1.1
TMWZ	**Te Maipa**	**2.40**	**90**	P	Pn	14 50 55.9	+0.4
TIWZ	**Tintock**	**2.43**	**83**	P	Pn	14 50 56.2	+0.3
MQZ	**McQueen's Vall**	**2.57**	**181**	P	Pn	14 50 56.1	-1.1
BFZ	**Birch Farm**	**2.72**	**82**	P	Pn	14 50 59.4	+0.4
ANWZ	**Angora Road**	**2.94**	**78**	P	Pn	14 51 08.1	+6.5
MWZ	**Matawai**	**4.65**	**55**	P	Pn	14 51 23.7	+0.9

*IDC **11** 14:56:17.3±2.5, 21°.89N×143°.03E, h272km±24km, mb3.1/10, mb1 3.3/11, mb1mx3.1/47, mbtmp3.8/11, Error ellipse: s-maj=29.9km s-min=13.8km az=82.0*

*NEIC **11** 14:56:17.2±0.9, 21°.91N±0°.10×143°.1E±0°.2, h278km±9km, mb3.7/10, Error ellipse: s-maj=26.4km s-min=13.2km az=75.0*

ISC 11 14:56:19.9±0.9, 22°.07N±0°.09×142°.9E±0°.2, h300km, n30, σ1§74/31, mb3.3/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.05**	**353**	P	**Pn**	**14 57 36.2**	**-1.7**
	11nm,0.3s,baz=107,slow=19,SNR=9.0						
JCJ				S	**S**	**14 58 37.1**	**-3.5**
	8.8nm,0.3s,baz=253,slow=19,SNR=6.3						
JCJ	**Chichijima**	**5.05**	**353**		**Pn**	**14 57 36.0**	**-2.0**
JMN	**Monobe**	**14.08**	**328**	P	**P**	**14 59 25.7**	**-1.2**
JMM	**Marumori**	**15.85**	**354**	Pn	**Pn**	**14 59 49.9**	**+1.7**
JSD	**Sado**	**16.41**	**347**	P	**P**	**14 59 54.0**	**+1.7**
JSD				IAmb	IAmb	14 59 55.9	
	comp=Z,9.9nm,1.0s						
KSRS	**Korea Array**	**20.06**	**323**	P	**P**	**15 00 33.2**	**+1.9**
	comp=Z,2.1nm,0.6s,baz=147,slow=8.8,SNR=19						
KSAR	**Wonju Array Be**	**20.07**	**323**	P	**P**	**15 00 33.7**	**+2.2**
KS19	**Wonju Array Si**	**20.13**	**323**	P	**P**	**15 00 33.4**	**+1.3**
KS19				IAmb	IAmb	15 00 34.9	
	comp=Z,3.3nm,0.7s						
PEA0B	**Petropavlovsk-**	**33.00**	**16**	P	**P**	**15 02 27.0**	**-0.2**
PETK	**Petropavlovsk-**	**33.00**	**16**	P	**P**	**15 02 26.0**	**-1.1**
SONM	**Songino Array**	**38.89**	**320**	P	**P**	**15 03 19.2**	**+2.1**
	comp=Z,0.6nm,0.4s,baz=122,slow=6.4,SNR=4.1						
SONM	**Songino Array**	**38.89**	**320**	P	**P**	**15 03 15.8**	**-1.3**
WB0	**Warramunga Arr**	**42.40**	**192**	P	**P**	**15 03 44.3**	**-1.5**
WR0	**Warramunga Arr**	**42.56**	**192**	P	**P**	**15 03 44.0**	**-3.1**
WR0				IAmb	IAmb	15 03 48.5	
	comp=Z,2.3nm,1.1s						
WB2	**Warramunga Arr**	**42.58**	**192**	P	**P**	**15 03 45.6**	**-1.6**
WB2				IAmb	IAmb	15 03 48.5	
	comp=Z,2.4nm,1.1s						
WRA	**Warramunga Arr**	**42.58**	**192**	P	**P**	**15 03 45.9**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=20,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**42.58**	**192**	P	**P**	**15 03 45.6**	**-1.7**
AS31	**Alice Springs**	**46.29**	**191**	P	**P**	**15 04 14.8**	**-1.6**
ASAR	**Alice Springs**	**46.29**	**191**	P	**P**	**15 04 14.8**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=9.8,slow=8.2,SNR=6.2						
ASAR	**Alice Springs**	**46.29**	**191**	P	**P**	**15 04 14.6**	**-1.8**
ZALV	**Zalesovo Beam**	**53.76**	**322**	P	**P**	**15 05 13.1**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=96,slow=8.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**53.76**	**322**	P	**P**	**15 05 12.9**	**+1.2**
MKAR	**Makanchi Array**	**54.25**	**312**	P	**P**	**15 05 17.1**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.2,SNR=6.6						
MKAR	**Makanchi Array**	**54.25**	**312**	P	**P**	**15 05 16.3**	**+0.9**
ILAR	**Eielson Array**	**61.83**	**27**	P	**P**	**15 06 07.7**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=275,slow=4.7,SNR=2.5						
ILAR	**Eielson Array**	**61.83**	**27**	P	**P**	**15 06 07.3**	**-0.1**
ARCES	**ARCESS Array B**	**78.49**	**341**	P	**P**	**15 07 49.5**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=69,slow=7.8,SNR=1.3						
ARCES	**ARCESS Array B**	**78.49**	**341**	P	**P**	**15 07 47.4**	**-0.3**
FINES	**FINESS Array B**	**82.73**	**334**	P	**P**	**15 08 10.9**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=65,slow=4.9,SNR=16						
NVAR	**Mina Array Bea**	**83.12**	**51**	P	**P**	**15 08 14.8**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=265,slow=6.2,SNR=2.1						

IDC 11 15:21:09.9±10.0, 5°.33N×95°.94E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/34, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=277.2km s-min=43.8km az=80.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.37**	**12**	Pn	Pn	15 24 20.8	-0.4
	0.2nm,0.3s,baz=204,slow=11,SNR=8.3						
H08S2	**Diego Garcia H**	**26.71**	**241**	T	T	15 53 06.9	
	baz=58						
H08S3	**Diego Garcia H**	**26.71**	**241**	T	T	15 52 34.3	
	baz=58						
H08S1	**Diego Carcia H**	**26.73**	**241**	T	T	15 52 50.1	
	baz=58						
WRA	**Warramunga Arr**	**45.34**	**125**	P	P	15 29 29.9	-0.3
	0.3nm,0.5s,baz=302,slow=9.6,SNR=9.6						
ASAR	**Alice Springs**	**46.92**	**129**	P	P	15 29 42.9	+0.1
	0.2nm,0.4s,baz=302,slow=7.9,SNR=15						

*VIE **11** 15:38:14.1±0.3, 50°.40N×18°.80E, h0km, mb1.9/3, ml2.5/4, Error ellipse: s-maj=2.6km s-min=1.7km az=2.0 21 km NW of Katowice Suspected Mining induced.*

*PRU **11** 15:38:15.8±0.0, 50°.36N×18°.76E, h0km*

*IDC **11** 15:38:17.6±1.7, 50°.52N×18°.57E, h0km, mb1 3.7/2, mb1mx3.2/25, mbtmp3.6/2, ML2.6/3, Error ellipse: s-maj=38.4km s-min=12.2km az=138.0*

ISC 11 15:38:13.7±0.8, 50°.44N±0°.04×18°.85E±0°.03, h0km, n26, σ1§13/41, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.65**	**110**	*e*Pg	**Pg**	**15 38 26.8**	**+0.6**
OJC				*e*Sg	**Sb**	**15 38 36.3**	**-1.3**
MORC	**Moravsky Berou**	**1.07**	**232**	*e*PG	**Pg**	**15 38 34.4**	**+0.2**
MORC				*e*SG	**Sg**	**15 38 47.5**	**-0.6**
LANS	**Liptovska Anna**	**1.36**	**162**	*e*PG	**Pg**	**15 38 39.7**	**0.0**
LANS				*e*SG	**Sb**	**15 38 57.9**	**0.0**
LANS				*e*LG	Lg	15 39 01.0	
KRLC	**Kraliky**	**1.38**	**255**	*e*PG	**Pg**	**15 38 39.7**	**-0.3**
KRLC				*e*SG	**Sg**	**15 38 57.7**	**-0.1**
	comp=Z,34nm,0.4s						
NIE	**Niedzica**	**1.39**	**137**	*e*Pg	**Pn**	**15 38 40.5**	**+0.1**
NIE				*e*Sg	**Sn**	**15 38 59.5**	**0.0**
DPC	**Dobruska-Polom**	**1.62**	**268**	*e*PG	**Pb**	**15 38 44.4**	**0.0**
DPC				*e*SG	**Sg**	**15 39 06.3**	**+0.7**
	comp=Z,17nm,0.6s						
KSP	**Ksiaz**	**1.67**	**285**	*e*Pg	**Pg**	**15 38 46.5**	**+0.8**
KSP				*e*Sg	**Sg**	**15 39 09.4**	**+1.9**
OSTC	**Ostas**	**1.68**	**275**	*e*PG	**Pb**	**15 38 45.5**	**-0.1**
OSTC				*e*SG	**Sg**	**15 39 08.4**	**+0.7**
	comp=Z,22nm,0.7s						
JAVC	**Velka Javorina**	**1.76**	**206**	*e*PN	**Pn**	**15 38 45.6**	**+0.1**
CHVC	**Chvalec**	**1.79**	**276**	*e*PG	**Pb**	**15 38 46.9**	**-0.4**
CHVC				*e*SG	**Sb**	**15 39 10.7**	**+0.4**
	comp=Z,16nm,0.9s						
VRAC	**Vranov**	**1.85**	**233**	*e*PN	**Pn**	**15 38 47.4**	**+0.7**
VRAC				*e*SG	**Sn**	**15 39 10.1**	**-0.6**
VYHS	**Vyhne**	**1.95**	**180**	*e*PN	**Pn**	**15 38 47.8**	**-0.3**
VYHS				*e*SN	**Sn**	**15 39 13.4**	**+0.1**
KRUC	**Moravsky**	**2.11**	**230**	*e*PN	**Pn**	**15 38 49.9**	**-0.3**
KRUC				*e*SG	**Sn**	**15 39 17.6**	**+0.5**
KECS	**Kecovo**	**2.23**	**151**	*e*	Pg	15 39 18.1	+22
KECS				*e*		15 39 27.3	
CRVS	**Cervenica-Dubn**	**2.29**	**131**	*e*PN	**Pg**	**15 38 57.4**	**-0.3**
CRVS				*e*		15 39 25.4	
KOLS	**Kolonicke sedl**	**2.69**	**123**	*e*PN	**Pn**	**15 38 58.7**	**+0.5**
KOLS				*e*PG	**Pg**	**15 39 06.8**	**+1.6**
KOLS				*e*SN	**Sn**	**15 39 30.9**	**-0.6**
PRU	**Pruhonice**	**2.80**	**262**	*e*SG	**Sg**	**15 39 42.5**	**-1.2**
	comp=Z,8.4nm,0.8s						
BRG	**Berggiesshubel**	**3.15**	**280**	SG	**Sg**	**15 39 55.5**	**+0.7**
	6.0nm,0.5s						
CONA	**Conrad Observa**	**3.19**	**219**	*i* Pn	**Pn**	**15 39 05.6**	**+0.4**
	0.1nm,0.1s						
CONA				*i* Sg	**Sg**	**15 39 58.1**	**+2.0**
	6.8nm,0.5s						
KHC	**Kasperske Hory**	**3.66**	**251**	*e*PG	**Pb**	**15 39 20.1**	**+0.9**
KHC				*e*SG	**Sg**	**15 40 09.8**	**-1.3**
	comp=Z,12nm,0.6s						
GERES	**GERESS Array B**	**3.71**	**246**	Pn	**Pn**	**15 39 13.8**	**+1.5**
	0.1nm,0.3s,baz=62,slow=14,SNR=2.2						
GERES				Pg	**Pg**	**15 39 22.9**	**-1.8**
	0.5nm,0.3s,baz=60,slow=17,SNR=10						
GERES				Lg	Lg	15 40 07.5	
	1.6nm,0.3s,baz=60,slow=28,SNR=19						
CLL	**Collm**	**3.80**	**285**	*i* Sg	**Sg**	**15 40 18.9**	**+3.2**
ARSA	**Arzberg**	**3.88**	**216**	*i* Sg	**Sg**	**15 40 20.9**	**+2.7**
	1.4nm,0.4s						
AKASG	**Malin Array Be**	**6.62**	**84**	Pg	Pb	15 40 14.9	+5.3
	0.5nm,0.3s,baz=274,slow=13,SNR=1.4						
AKASG				Lg	Lg	15 41 41.6	
	0.6nm,0.3s,baz=271,slow=28,SNR=2.1						
FINES	**FINESS Array B**	**11.74**	**17**	Pn	**Pn**	**15 41 00.2**	**-2.0**
	0.1nm,0.3s,baz=203,slow=10,SNR=6.4						
FINES				Sn	Sn	15 43 04.1	-10
	0.1nm,0.3s,baz=210,slow=23,SNR=1.8						
ARCES	**ARCESS Array B**	**19.42**		Pn	**P**	**15 42 41.4**	**+0.2**
	0.1nm,0.3s,baz=195,slow=14,SNR=1.3						

IDC 11 15:55:06.2±13.0, 26°.18S×28°.66E, h0km, Error ellipse: s-maj=86.6km s-min=74.8km az=138.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**3.88**	**231**	Pg	Pb	15 56 17.9	+2.3
	0.1nm,0.3s,baz=59,slow=17,SNR=2.0						
BOSA				Lg	Lg	15 57 08.2	
	0.6nm,0.3s,baz=148,slow=6.6,SNR=8.5						
I47ZA	**BOSHOF INFRASO**	**3.90**	**231**	*i*		16 22 50.0	
	baz=52,slow=306,SNR=1.0						
I35NA	**TSUMEB INFRASO**	**12.37**	**302**	*i*		17 14 20.0	
	baz=123,slow=319,SNR=4.5						

IDC 11 15:55:26.1±1.2, 0°.65N×125°.41E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/40, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=80.6km s-min=20.3km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.63**	**179**	P	P	15 59 45.1	-0.4
	0.0nm,0.3s,baz=358,slow=13,SNR=1.8						
WRA	**Warramunga Arr**	**22.26**	**157**	P	P	16 00 23.6	-1.3
	1.1nm,0.7s,baz=338,slow=12,SNR=13						
ASAR	**Alice Springs**	**25.54**	**162**	P	P	16 00 58.0	+1.2
	0.6nm,0.5s,baz=344,slow=9.2,SNR=22						
ASAR				PcP	PcP	16 04 27.6	-0.9
	0.2nm,0.7s,baz=348,slow=1.9,SNR=1.7						
STKA	**Stephens Creek**	**35.80**	**156**	P	P	16 02 27.3	-0.1
	1.9nm,1.0s,baz=336,slow=12,SNR=1.9						
KSRS	**Korea Array**	**36.70**	**3**	P	P	16 02 35.6	+0.7
	0.4nm,0.6s,baz=187,slow=8.4,SNR=2.2						
MKAR	**Makanchi Array**	**59.36**	**327**	P	P	16 05 29.3	-0.9
	7.5nm,0.3s,baz=133,slow=6.7,SNR=1.7						

TIR 11 16:00:18.2, 41°.83N×20°.24E, h7km±8km, Md1.9, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.21**	**134**	P	Pg	16 00 23.0	+0.5
	baz=134						
PHP				S	Sg	16 00 26.5	+1.1
	baz=134						
PUK	**Puka**	**0.33**	**309**	P	Pg	16 00 25.1	+0.4
	baz=310						
PUK				S	Sg	16 00 30.3	+1.3
	baz=310						

*IDC **11** 16:00:38.4±8.2, 26°.30S×28°.89E, h0km, mb1 2.7/1, mb1mx2.7/44, mbtmp2.7/1, ML2.3/1, Error ellipse: s-maj=78.2km s-min=56.3km az=143.0*

ISC 11 16:00:35.5±3.9, 26°.3S±0°.1×29°.0E±0°.2, h6km, n9, σ2§22/10, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.35**	**291**	*i* P	**Pn**	**16 01 28.6**	**+0.1**
LBTB				*i* S	**Sb**	**16 02 15.7**	**-0.8**
LBTB	**Lobatse**	**3.35**	**291**	*i* P	**Pn**	**16 01 28.6**	**+0.1**
LBTB				*i* S	**Sb**	**16 02 15.7**	**-0.8**
BOSA	**Boshof**	**4.10**	**234**	Pn	**Pn**	**16 01 42.4**	**+3.6**
	0.1nm,0.3s,baz=58,slow=13,SNR=2.0						
BOSA				Pg	**Pb**	**16 01 48.8**	**+0.6**
	0.3nm,0.3s,baz=58,slow=16,SNR=4.8						
BOSA				Lg	Lg	16 02 44.2	
	1.0nm,0.3s,baz=348,slow=12,SNR=8.2						
BOSA	**Boshof**	**4.10**	**234**	*i* P	**Pn**	**16 01 35.7**	**-3.1**
BOSA				*i* S	**Sn**	**16 02 28.0**	**+0.8**
BOSA	**Boshof**	**4.10**	**234**	*i* P	**Pn**	**16 01 35.7**	**-3.1**
BOSA				*i* S	**Sn**	**16 02 28.0**	**+0.8**
I47ZA	**BOSHOF INFRASO**	**4.12**	**234**	*i*		16 28 30.0	
	baz=55,slow=321,SNR=0.9						
BLWY	**Bulawayo**	**6.11**	**356**	*i* P	Pn	16 01 58.0	-8.5
BLWY				*i* S	Sn	16 03 07.4	-9.5
BLWY	**Bulawayo**	**6.11**	**356**	*i* P	Pn	16 01 58.0	-8.5
BLWY				*i* S	Sn	16 03 07.4	-9.5
I35NA	**TSUMEB INFRASO**	**12.70**	**301**	*i*		17 22 10.0	
	baz=122,slow=321,SNR=4.1						

ATH 11 16:01:17.5, 38°.70N×23°.17E, h22km±4km, ML1.5/3, Error ellipse: s-maj=4.3km s-min=1.4km az=356.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.15**	**249**	P	Pb	16 01 22.1	-1.2
LKR				S	Sb	16 01 25.6	-1.6
LKR				AML	A

SATY	**Saty**	**3.69 254**	Pg	**Pb**	**16 02 28.2**	**-1.2**
	3.5nm,0.4s					
SATY			Lg	Lg	16 03 16.8	
	18nm,0.2s					
KURS	**Kuram**	**3.73 261**	*e*P	**Pb**	**16 02 27.2**	**-2.9**
	2.6nm,0.5s					
KURS			*e*S	**Sb**	**16 03 15.8**	**+0.8**
	4.2nm,0.6s					
ARXS	**Arharly**	**3.90 272**	*e*P	**Pb**	**16 02 31.3**	**-1.7**
	13nm,0.4s					
ARXS			*e*S	**Sb**	**16 03 22.1**	**+2.5**
	14nm,0.6s					
ARXS	**Arharly**	**3.90 272**	Pg	**Pb**	**16 02 31.3**	**-1.7**
	13nm,0.4s					
ARXS			Lg	Lg	16 03 22.1	
	14nm,0.6s					
CHKK	**Chushkaly**	**4.53 268**	*e*P	**Pb**	**16 02 41.4**	**-2.2**
	6.0nm,0.3s					
CHKK			*e*S	**Sb**	**16 03 39.0**	**+1.4**
	7.8nm,0.2s					
CHKK	**Chushkaly**	**4.53 268**	Pg	**Pb**	**16 02 43.5**	**-0.1**
	6.0nm,0.3s					
CHKK			Lg	Lg	16 03 43.0	
	8.6nm,0.5s					
KTBS	**Karatobe**	**4.76 267**	*e*P	**Pb**	**16 02 46.8**	**-0.8**
	2.1nm,0.4s					
KTBS			*e*S	**Sb**	**16 03 49.4**	**+4.9**
	10nm,0.8s					
KTBS	**Karatobe**	**4.76 267**	Pg	**Pb**	**16 02 46.8**	**-0.8**
	2.1nm,0.4s					
KTBS			Lg	Lg	16 03 49.4	
	10nm,0.8s					
KUU	**Kurty**	**4.99 269**	*e*P	**Pb**	**16 02 49.4**	**-2.0**
	2.5nm,0.4s					
KUU			*e*S	**Sb**	**16 03 53.4**	**+2.4**
	6.4nm,0.4s					
DGS	**Degeres**	**5.50 263**	*e*P	**Pb**	**16 02 59.5**	**-0.7**
	1.7nm,0.4s					
DGS			*e*S	**Sb**	**16 04 10.9**	**+5.2**
	7.1nm,0.7s					
DGS	**Degeres**	**5.50 263**	Pg	**Pb**	**16 02 59.5**	**-0.7**
	1.2nm,0.5s					
DGS			Lg	Lg	16 04 11.1	
	7.1nm,0.7s					

*IDC **11** 16:29:33.2±0.5, 28.°10N×103.°48E, h0km, mb4.2/24, mb1 4.1/25, mb1mx4.0/55, mbtmp4.1/25, ML4.0/1, MS3.5/11, Ms1 3.5/11, ms1mx3.2/50, Error ellipse: s-maj=18.5km s-min=10.8km az=59.0*
*BJI **11** 16:29:34.4±0.0, 28.°14N×103.°48E, h5km, mB4.7/25, mb4.3/32, ML4.4/22, Ms4.2/29, Ms7 3.9/25*
*NEIC **11** 16:29:38.1±1.4, 28.°17N±0.°06×103.°59E±0.°09, h33km±5km, mb4.4/41, Error ellipse: s-maj=11.1km s-min=9.2km az=102.0*

ISC 11 16:29:35.0±0.4, **28.°17N**±0.°03×**103.°58E**±0.°05, **h10**km, **n102**, σ**1**§**28**/104, **mb4.4**/40, **MS3.6**/11, **2C-1D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.74**	**3**	⇑*i*Pn	**Pn**	**16 30 21.6**	**+2.5**
CD2				Pg	**Pg**	**16 30 26.1**	**-1.4**
CD2				Sn	**Sb**	**16 31 00.4**	**+2.6**
CD2				Sg	**Sg**	**16 31 06.4**	**+3.3**
CD2				smax	smax		
	comp=N,5μm,0.7s						
CD2				smax	smax		
	comp=E,5μm,0.7s						
KMI	**Kunming**	**3.12 194**		⇑Pn	**Pn**	**16 30 25.8**	**+1.3**
KMI				Pg	**Pb**	**16 30 31.1**	**+0.4**
KMI				Sg	**Sg**	**16 31 13.4**	**-1.9**
KMI				smax	smax		
	comp=N,220nm,0.9s						
KMI				smax	smax		
	comp=E,230nm,0.9s						
KMI				LR	LR		
	comp=N,860nm,3.8s						
KMI				LR	LR		
	comp=E,1μm,4.7s						
KMI				LR	LR		
	comp=Z,1μm,6.8s						
KMI	**Kunming**	**3.12 194**			**Pn**	**16 30 25.9**	**+1.4**
GYA	**Guiyang**	**3.23 121**		⇓Pn	**Pn**	**16 30 28.0**	**+2.1**
GYA				Pg	**Pg**	**16 30 38.0**	**+1.1**
GYA				Sn	**Sn**	**16 31 05.4**	**+0.9**
GYA				smax	smax		
	comp=N,1μm,0.8s						
GYA				smax	smax		
	comp=E,840nm,0.8s						
GYA				LR	LR		
	comp=Z,920nm,4.8s						
ENH	**Enshi**	**5.58**	**66**	Pn	**Pn**	**16 31 00.2**	**+2.1**
SLVN	**Son La**	**6.81**	**177**	Pn	**Pn**	**16 31 15.6**	**+0.6**
XAN	**Xi'an**	**7.43**	**37**	Pn	**Pn**	**16 31 24.3**	**+0.7**
XAN				Pg	Pb	16 31 50.1	+6.0
XAN				Sn	**Sn**	**16 32 45.2**	**-2.8**
XAN				Sg	**Sg**	**16 33 31.7**	**-1.9**
XAN				smax	smax		
	comp=N,850nm,1.1s						
XAN				smax	smax		
	comp=E,710nm,1.0s						
XAN				LR	LR		
	comp=N,2μm,6.1s						
XAN				LR	LR		
	comp=E,2μm,5.8s						
XAN				LR	LR		
	comp=Z,680nm,5.2s						
XAN	**Xi'an**	**7.43**	**37**	Pn	**Pn**	**16 31 24.1**	**+0.5**
LZH	**Lanzhou**	**7.90**	**2**	*e*P	Pn	16 31 35.7	+5.6
LZH				pP	Pb	16 31 39.1	-13
LZH				sP	Pg	16 31 41.6	-25
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,27nm,4.3s						
LZH				LR	LR		
	comp=N,620nm,10.1s						
LZH				LR	LR		
	comp=E,580nm,8.7s						
LZH				LR	LR		
	comp=Z,730nm,11.2s						
WHN	**Wuhan**	**9.69**	**73**	P	**Pn**	**16 31 56.1**	**+1.6**
WHN				LR	LR		
	comp=N,750nm,6.3s						
WHN				LR	LR		
	comp=E,2μm,6.2s						
WHN				LR	LR		
	comp=Z,2μm,8.7s						
CHTO	**Chiang Mai**	**10.23 206**		Pn	**Pn**	**16 32 04.5**	**+2.5**
CM31	**Chiang Mai Arr**	**10.56 205**			**Pn**	**16 32 08.6**	**+2.2**
CMAR	**Chiang Mai Arr**	**10.56 205**		Pn	**Pn**	**16 32 09.6**	**+3.1**
	0.2nm,0.3s,baz=16,slow=12,SNR=44						
CMAR				Lg	Lg	16 35 08.9	
	0.1nm,0.3s,baz=22,slow=31,SNR=2.3						
CMAR				LR	LR	16 36 36.5	
	comp=Z,162nm,20.5s,baz=44,slow=40						
CMAR	**Chiang Mai Arr**	**10.56 205**		Pn	**Pn**	**16 32 09.1**	**+2.6**
QIZ	**Qiongzhong**	**10.75 146**		P	**Pn**	**16 32 07.5**	**-1.6**
QIZ				S	**Sn**	**16 34 08.5**	**-1.1**
QIZ				LR	LR		
	comp=N,880nm,10.8s						
QIZ				LR	LR		
	comp=E,1μm,10.6s						
QIZ				LR	LR		
	comp=Z,440nm,7.4s						
QIZ	**Qiongzhong**	**10.75 146**		Pn	**Pn**	**16 32 08.9**	**-0.2**
LSA	**Lhasa**	**10.99 281**		Pn	**Pn**	**16 32 14.0**	**+1.1**
GTA	**Gaotai**	**11.64 345**		*e*P	Pn	16 32 28.0	+6.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,42nm,7.0s						
GTA				LR	LR		
	comp=Z,330nm,12.8s						
GTA				LR	LR		
	comp=Z,750nm,12.8s						
PBKT	**Sadao Pong**	**11.79 192**		Pn	**Pn**	**16 32 25.6**	**+2.4**
NJ2	**Nanjing**	**13.78**	**70**	*e*P	**Pn**	**16 32 52.1**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,12.3s						
NJ2				LR	LR		
	comp=Z,470nm,13.7s						
NJ2				LR	LR		
	comp=Z,410nm,9.9s						
TIA	**Tai'an**	**13.99**	**52**	P	**P**	**16 32 58.2**	**-3.1**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIA				pmax	pmax		
	comp=Z,110nm,3.9s						
TIA				LR	LR		
	comp=Z,38nm,3.8s						
TIA				LR	LR		
	comp=Z,380nm,9.6s						
TIA				LR	LR		
	comp=Z,220nm,6.9s						
HHC	**Hu-ho-hao-te**	**14.25**	**25**	*e*P	**Pn**	**16 32 58.6**	**+1.6**
HHC				S	**Sn**	**16 35 34.7**	**-0.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
HHC				LR	LR		
	comp=Z,420nm,7.7s						
HHC				LR	LR		
	comp=Z,240nm,6.4s						
HHC				LR	LR		
	comp=Z,360nm,7.7s						
SSLB	**Suanglung**	**16.22**	**102**		**P**	**16 33 26.3**	**+0.1**
SSLB				IAmb	IAmb	16 33 55.9	
	comp=Z,36nm,1.6s						
SONM	**Songino Array**	**19.76**	**6**	P	**Pn**	**16 34 06.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=188,slow=13,SNR=9.8						
SONM				LR	LR	16 42 42.6	
	comp=Z,90nm,20.1s,baz=181,slow=40						
SONM	**Songino Array**	**19.76**	**6**	P	**Pn**	**16 34 06.0**	**-0.7**
WMQ	**Urumqi**	**20.17**	**325**	*e*P	**P**	**16 34 10.1**	**+0.4**
WMQ				pP	pP	16 34 13.2	+0.3
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,60nm,5.5s						
WMQ				LR	LR		
	comp=Z,170nm,10.7s						
WMQ				LR	LR		
	comp=Z,120nm,10.9s						
WMQ				LR	LR		
	comp=Z,160nm,8.1s						
KSAR	**Wonju Array Be**	**22.38**	**59**	P	**P**	**16 34 35.0**	**+1.6**
KS19	**Wonju Array Si**	**22.38**	**59**	P	**P**	**16 34 34.4**	**+0.9**
KS19				IAmb	IAmb	16 34 37.2	
	comp=Z,10nm,0.8s						
KSRS	**Korea Array**	**22.41**	**59**	P	**P**	**16 34 34.0**	**+0.2**
	comp=Z,6.1nm,0.5s,baz=244,slow=9.8,SNR=40						
CN2	**Changchun**	**23.49**	**43**	*e*P	**P**	**16 34 46.6**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
TLY	**Talaya**	**23.49**	**0**	LR	LR	16 44 50.9	
	comp=Z,131nm,19.4s,baz=170,slow=39						
IPM	**Ipoh**	**23.68**	**186**	P	**P**	**16 34 48.1**	**+1.1**
IPM				IAmb	IAmb	16 34 56.9	
	comp=Z,15nm,1.2s						
JNU	**Nakatsue**	**23.97**	**71**	P	**P**	**16 34 51.0**	**+1.3**
	comp=Z,9.0nm,1.0s,baz=217,slow=1.2,SNR=1.7						
JNU				LR	LR	16 43 32.1	
	comp=Z,82nm,20.3s,baz=238,slow=35						
JNU	**Nakatsue**	**23.97**	**71**	P	**P**	**16 34 51.2**	**+1.5**
JNU				IAmb	IAmb	16 35 16.8	
	comp=Z,14nm,1.0s						
HIA	**Hailar**	**24.46**	**26**	P	**P**	**16 34 53.2**	**-0.8**
HIA				IAmb	IAmb	16 34 59.7	
	comp=Z,7.4nm,0.6s						
MK31	**Makanchi Array**	**24.99**	**324**	P	**P**	**16 34 57.9**	**-0.9**
MKAR	**Makanchi Array**	**24.99**	**324**	P	**P**	**16 34 59.1**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=122,slow=12,SNR=18						
MKAR	**Makanchi Array**	**24.99**	**324**	P	**P**	**16 34 58.2**	**-0.6**
MAKZ	**Makanchi**	**25.16**	**324**	P	**P**	**16 34 59.8**	**-0.6**
MAKZ				IAmb	IAmb	16 35 04.5	
	comp=Z,4.8nm,0.7s						
PSI	**Prapat**	**25.61**	**191**	P	**P**	**16 35 05.0**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=360,slow=6.9,SNR=7.8						
RPSI	**Rantau Prapat**	**25.71**	**191**	P	**P**	**16 35 05.4**	**-0.2**
RPSI				IAmb	IAmb	16 35 08.0	
	comp=Z,9.1nm,0.8s						
NIL	**Nilore**	**26.53**	**289**	P	**P**	**16 35 13.6**	**+0.6**
SBUM	**Sibu**	**26.87**	**161**	P	**P**	**16 35 15.4**	**-0.6**
SBUM				IAmb	IAmb	16 35 21.2	
	comp=Z,6.6nm,0.9s						
MYLDM	**Lahad Datu**	**26.90**	**145**	P	**P**	**16 35 15.5**	**-0.8**
GSI	**Gunungsitoli**	**27.32**	**193**	P	**P**	**16 35 18.5**	**-1.6**
USA0B	**Ussuriysk Arra**	**27.78**	**47**	P	**P**	**16 35 22.0**	**-2.0**
USRK	**Ussuriysk Ar.**	**27.78**	**47**	P	**P**	**16 35 25.3**	**+1.3**
	comp=Z,5.1nm,0.8s,baz=260,slow=7.6,SNR=7.8						
ZAA0	**Zalesovo Array**	**29.20**	**337**	P	**P**	**16 35 35.8**	**-0.7**
ZALV	**Zalesovo Beam**	**29.20**	**337**	P	**P**	**16 35 36.1**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=133,slow=8.3,SNR=5.1						
ZALV				LR	LR	16 48 15.0	
	comp=Z,60nm,21.7s,baz=88,slow=38						
KURBB	**Kurchatov Arra**	**29.37**	**327**	P	**P**	**16 35 37.3**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=132,slow=10,SNR=8.2						
KURK	**Kurchatov**	**29.39**	**327**	P	**P**	**16 35 38.0**	**-0.2**
DAV	**Davao City (W)**	**29.55**	**131**	LR	LR	16 48 50.5	
	comp=Z,59nm,21.0s,baz=356,slow=39						
GAR	**Garm**	**29.59**	**300**	P	**P**	**16 35 39.8**	**-0.6**
GAR				IAmb	IAmb	16 35 43.3	
	comp=Z,11nm,1.1s						
KBL	**Kabul**	**30.07**	**291**	P	**P**	**16 35 44.1**	**-0.7**
KBL				IAmb	IAmb	16 35 59.6	
	comp=Z,6.7nm,1.1s						
CHGR	**Chuyangaron**	**30.42**	**299**	P	**P**	**16 35 47.4**	**-0.3**
CHGR				IAmb	IAmb	16 35 48.7	
	comp=Z,8.6nm,0.8s						
KK31	**Karatay Array**	**30.50**	**308**	P	**P**	**16 35 48.2**	**0.0**
KKAR	**Karatay Array**	**30.50**	**308**	P	**P**	**16 35 47.8**	**-0.4**
KKAR	**Karatay Array**	**30.50**	**308**	P	**P**	**16 35 48.0**	**-0.3**
KKAR				IAmb	IAmb	16 35 49.2	
	comp=Z,5.5nm,1.4s						
ASAJ	**Asahikawa**	**34.94**	**52**	LR	LR	16 50 41.6	
	comp=Z,46nm,18.2s,baz=179,slow=36						
YAK	**Yakutsk**	**38.01**	**20**	P	**P**	**16 36 53.8**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=160,slow=18,SNR=2.1						
GEYT	**Alibeck**	**39.00**	**296**	P	**P**	**16 37 02.9**	**+1.1**
	comp=Z,5.9nm,0.7s,baz=112,slow=6.7,SNR=12						
GEYT	**Alibeck**	**39.00**	**296**	P	**P**	**16 37 02.7**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**39.00**	**296**	P	**P**	**16 37 03.0**	**+1.2**
GYA0B				IAmb	IAmb	16 37 03.8	
	comp=Z,7.6nm,0.8s						
ABKAR	**Akbulak array**	**39.34**	**315**	P	**P**	**16 37 03.7**	**-0.7**
AKTO	**Aktyubinsk**	**40.86**	**316**	P	**P**	**16 37 16.0**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=93,slow=14,SNR=2.2						
NRIK	**Noril'sk**	**42.26**	**352**	P	**P**	**16 37 28.1**	**0.0**
	comp=Z,1.1nm,0.3s,baz=136,slow=11,SNR=2.2						
NRIK				LR	LR	16 56 42.4	
	comp=Z,83nm,20.4s,baz=193,slow=38						
ARU	**Arti**	**42.51**	**324**	P	**P**	**16 37 30.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=120,slow=20,SNR=3.3						
ARU	**Arti**	**42.51**	**324**	IAmb	IAmb	16 37 33.0	
	comp=Z,4.1nm,1.0s						
BATI	**Baumata**	**42.81**	**150**	P	**P**	**16 37 33.6**	**+0.4**
	comp=Z,53nm,0.9s,baz=34,slow=5.1,SNR=5.3						
TIXI	**Tiksi**	**45.72**	**11**	P	**P**	**16 37 55.8**	**0.0**
	comp=Z,2.0nm,0.3s,baz=248,slow=19,SNR=2.2						
TIXI	**Tiksi**	**45.72**	**11**	P	**P**	**16 37 55.8**	**0.0**
TIXI				IAmb	IAmb	16 38 13.0	
	comp=Z,6.4nm,1.4s						
KNRA	**Kununurra**	**49.94**	**148**	P	**P**	**16 38 28.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.71**	**153**	P	**P**	**16 38 35.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=6.8,slow=11,SNR=1.4						
WB0	**Warramunga Arr**	**56.20**	**145**	P	**P**	**16 39 14.6**	**-0.8**
WB0				IAmb	IAmb	16 39 26.0	
	comp=Z,5.6nm,1.1s						
PMG	**Port Moresby**	**56.30**	**125**	P	**P**	**16 39 15.9**	**-0.2**
WRA	**Warramunga Arr**	**56.32**	**145**	P	**P**	**16 39 15.3**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=335,slow=8.2,SNR=25						
WRA	**Warramunga Arr**	**56.32**	**145**	P	**P**	**16 39 15.1**	**-1.2**
WB2	**Warramunga Arr**	**56.33**	**145**	P	**P**	**16 39 15.7**	**-0.6**
WB2				IAmb	IAmb	16 39 26.8	
	comp=Z,5.9nm,0.8s						
WR0	**Warramunga Arr**	**56.44**	**144**	P	**P**	**16 39 16.3**	**-0.7**
WR0				IAmb	IAmb	16 39 27.5	
	comp=Z,3.5nm,0.8s						
COEN	**Coen**	**56.77**	**132**	P	**P**	**16 39 20.2**	**+0.7**
AKASG	**Malin Array Be**	**59.08**	**314**	P	**P**	**16 39 34.7**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=71,slow=6.2,SNR=8.0						
AKASG	**Malin Array Be**	**59.08**	**314**	P	**P**	**16 39 34.4**	**-0.9**
AKBB	**Malin Array Si**	**59.08**	**314**	P	**P**	**16 39 34.8**	**-0.5**
AKBB				IAmb	IAmb	16 39 35.6	
	comp=Z,4.2nm,0.8s						
AS31	**Alice Springs**	**59.25**	**147**	P	**P**	**16 39 36.7**	**-0.1**
ASAR	**Alice Springs**	**59.25**	**147**	P	**P**	**16 39 36.5**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=326,slow=6.7,SNR=78						
ARCES	**ARCESS Array B**	**59.75**	**337**	P	**P**	**16 39 39.7**	**0.0**
	comp=Z,5.2nm,1.0s,baz=94,slow=8.5,SNR=2.1						
ARCES				LR	LR	17 05 23.9	
	comp=Z,75nm,18.1s,baz=328,slow=36						
FINES	**FINESS Array B**	**59.76**	**327**	P	**P**	**16 39 39.3**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=97,slow=9.8,SNR=5.6						
CTA	**Charters Tower**	**63.27**	**134**	P	**P**	**16 40 04.1**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=307,slow=12,SNR=3.6						
CTAO	**Charters Tower**	**63.27**	**134**	P	**P**	**16 40 04.0**	**-0.1**
CTAO				IAmb	IAmb	16 40 14.8	
	comp=Z,3.9nm,1.0s						
VYHS	**Vyhne**	**66.14**	**314**	*e*P	**P**	**16 40 23.6**	**+1.0**
NC405	**NORSAR Array S**	**66.64**	**328**	P	**P**	**16 40 24.9**	**-0.7**
NB201	**NORSAR Array S**	**66.85**	**328**	P	**P**	**16 40 25.5**	**-1.4**
NB2	**NORSAR Subarra**	**66.89**	**328**	P	**P**	**16 40 26.0**	**-1.2**
	comp=Z,2.7nm,1.0s,baz=74,slow=6.9						
NOA	**NORSAR Array B**	**66.89**	**328**	P	**P**	**16 40 25.9**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=74,slow=6.5,SNR=4.8						
NC204	**NORSAR Array S**	**67.03**	**328**	P	**P**	**16 40 27.4**	**-0.7**
GERES	**GERESS Array B**	**69.28**	**315**	P	**P**	**16 40 42.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=71,slow=5.8,SNR=6.1						
GERES	**GERESS Array B**	**69.28**	**315**	P	**P**	**16 40 42.5**	**0.0**
STKA	**Stephens Creek**	**69.82**	**146**	P	**P**	**16 40 45.4**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=323,slow=6.1,SNR=4.3						
STKA	**Stephens Creek**	**69.82**	**146**	IAmb	IAmb	16 40 45.7	
	comp=Z,1.4nm,1.3s						
SFJD	**Kangerlussuaq**	**83.15**	**350**	LR	LR	17 23 32.7	
	comp=Z,54nm,18.8s,baz=280,slow=39						
YKA	**Yellowknife Ar**	**84.63**	**17**	LR	LR	17 23 01.4	
	comp=Z,71nm,20.1s,baz=0.0,slow=38						
TORD	**Torodi Ar. Bea**	**94.07**	**287**	P	**P**	**16 42 52.5**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=73,slow=3.5,SNR=1.8						

*PRE **11** 16:33:12.5±1.1, 27.°00S×26.°81E, h2km, ML2.9*
*EAF **11** 16:33:16.4±2.4, 27.°03S×26.°96E, h10km, MD4.2*

ISC 11 16:33:13.3±1.1, **26.°99S**±0.°03×**26.°80E**±0.°03, **h10**km±9km, **n23**, σ**1**§**28**/46, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.51**	**83**	*e*P	**Pg**	**16 33 22.0**	**-1.2**
PRYS				*e*S	**Sg**	**16 33 29.6**	**-0.3**
PRYS				AML	AML	16 33 36.0	
	comp=Z,530nm,0.8s						
WDLM	**Western Deep L**	**0.79**	**45**	*e*P	**Pg**	**16 33 28.1**	**-0.5**
WDLM				*e*S	**Sg**	**16 33 38.6**	**-0.4**
WDLM				AML	AML	16 33 47.9	
	comp=Z,522nm,0.2s						
KLOF	**Kloof**	**0.97**	**49**	*e*P	**Pg**	**16 33 31.3**	**-0.6**
KLOF				*e*S	**Sg**	**16 33 43.9**	**-0.6**
KLOF				AML	AML	16 33 49.8	
	comp=Z,2μm,0.2s						
KSR	**Koster**	**1.14**	**5**	*e*P	**Pb**	**16 33 34.8**	**-0.4**
KSR				*e*S	**Sb**	**16 33 49.8**	**-0.3**
KSR				AML	AML	16 33 55.1	
	comp=Z,1μm,0.1s						
SWZ	**Schweizer**	**1.32**	**261**	*e*P	**Pb**	**16 33 38.3**	**0.0**
SWZ				*e*S	**Sg**	**16 33 56.2**	**+0.3**
SWZ				AML	AML	16 34 00.5	
	comp=Z,297nm,0.2s						
ERPM	**east rand prop**	**1.44**	**64**	*e*P	**Pb**	**16 33 41.5**	**+1.1**
ERPM				*e*S	**Sg**	**16 34 01.5**	**+1.7**
ERPM				AML	AML	16 34 03.1	
	comp=Z,94nm,0.5s						
SLR	**Silverton**	**1.82**	**47**	*e*P	**Pn**	**16 33 46.2**	**+1.3**
SLR				*e*S	**Sn**	**16 34 09.0**	**+0.8**
SLR				AML	AML	16 34 12.6	
	comp=Z,256nm,0.5s						
BOSA	**Boshof**	**2.12**	**220**	*i* P	**Pb**	**16 33 51.8**	**-0.1**
BOSA				*i* S	**Sb**	**16 34 18.1**	**-0.2**
BOSA	**Boshof**	**2.12**	**220**	*e*P	**Pn**	**16 33 50.0**	**+1.1**
BOSA				*e*S	**Sb**	**16 34 16.9**	**-1.5**
BOSA				AML	AML	16 34 22.9	
	comp=Z,65nm,0.4s						
BOSA	**Boshof**	**2.12**	**220**	*i* P	**Pb**	**16 33 51.8**	**-0.1**
BOSA				*i* S	**Sb**	**16 34 18.1**	**-0.2**
LBTB	**Lobatse**	**2.24**	**331**	*i* P	**Pb**	**16 33 53.5**	**-0.5**
LBTB				*i* S	**Sb**	**16 34 23.3**	**+1.4**
LBTB	**Lobatse**	**2.24**	**331**	*e*P	**Pn**	**16 33 52.1**	**+1.4**
LBTB				*e*S	**Sb**	**16 34 20.5**	**-1.3**
LBTB				AML	AML	16 34 23.9	
	comp=Z,108nm,0.2s						
LBTB	**Lobatse**	**2.24**	**331**	*i* P	**Pb**	**16 33 53.5**	**-0.5**
LBTB				*i* S	**Sb**	**16 34 23.3**	**+1.4**
HVD	**Gariep Dam**	**3.78**	**197**	*e*P	**Pn**	**16 34 12.8**	**+1.0**
HVD				*e*S	**Sn**	**16 34 55.8**	**-0.6**
HVD				AML	AML	16 35 17.9	
	comp=Z,25nm,0.4s						
POGA	**Pongola**	**4.39**	**96**	*e*P	**Pn**	**16 34 20.9**	**+0.8**
POGA				*e*S	**Sn**	**16 35 10.0**	**-1.2**
POGA				AML	AML	16 35 33.8	
	comp=Z,56nm,0.5s						
UPI	**Upington**	**5.10**	**253**	*e*P	**Pn**	**16 34 30.7**	**+0.8**
UPI				*e*S	**Sn**	**16 35 28.1**	**-0.9**
UPI				AML	AML	16 35 58.7	
	comp=Z,10nm,0.6s						
MOPA	**Mopani**	**5.41**	**51**	*e*P	**Pn**	**16 34 34.7**	**+0.5**
MOPA				*e*S	**Sn**	**16 35 34.7**	**-1.8**
MOPA				AML	AML	16 36 04.4	
	comp=Z,14nm,0.4s						
KEIM	**Keimoes**	**5.44**	**250**	*e*P	**Pn**	**16 34 35.1**	**+0.6**
KEIM				*e*S	**Sn**	**16 35 35.6**	**-1.6**
KEIM				AML	AML	16 36 07.7	
	comp=Z,16nm,0.4s						
GRAN	**Grantham**	**6.65**	**216**	*e*P	**Pn**	**16 34 52.8**	**+1.6**
GRAN				*e*S	**Sn**	**16 36 04.3**	**-2.8**
GRAN				AML	AML	16 36 18.0	
	comp=Z,5.6nm,0.5s						
BLWY	**Bulawayo**	**7.02**	**14**	*i* P	**Pn**	**16 34 57.8**	**+1.5**
BLWY				*i* S	**Sn**	**16 36 14.3**	**-2.0**
BLWY	**Bulawayo**	**7.02**	**14**	*i* P	**Pn**	**16 34 57.8**	**+1.5**
BLWY				*i* S	**Sn**	**16 36 14.3**	**-2.0**
SUR	**Sutherland**	**7.48**	**223**	*i* P	**Pn**	**16 35 05.2**	**+2.5**
SUR				*i* S	**Sn**	**16 36 28.1**	**+0.3**
SUR	**Sutherland**	**7.48**	**223**	*i* P	**Pn**	**16 35 05.2**	**+2.5**
SUR				*i* S	**Sn**	**16 36 28.1**	**+0.3**

*IDC **11**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PATCX				*i* S	**S**	**16 38 26.4**	**-1.6**
TA01	**Diego Aracena**	**3.98**	**296**	*e*P	**Pn**	**16 37 41.1**	**+0.6**
PB11	**IPOC Station P**	**4.01**	**309**	⇑*i*P	**Pn**	**16 37 41.9**	**+0.8**
PB11				*i* S	**S**	**16 38 30.7**	**-1.1**
PB10	**IPOC Station P**	**4.05**	**252**	⇑*i*P	**Pn**	**16 37 42.0**	**+0.6**
PB10				*i* S	**S**	**16 38 29.3**	**-2.9**
MNMC	**Minye Minye**	**4.40**	**316**	*e*P	**Pn**	**16 37 47.4**	**+1.5**
MNMC				*i* S	**S**	**16 38 40.1**	**-0.4**
PSGC	**Pisagua**	**4.46**	**307**	*e*P	**Pn**	**16 37 46.2**	**-0.1**
PSGC				*i* S	**S**	**16 38 38.3**	**-2.9**
LPAZ	**La Paz**	**6.25**	**344**	P	**Pn**	**16 38 09.7**	**+0.7**
	comp=N,2.0nm,0.3s,baz=152,slow=7.8,SNR=42						
LPAZ				S	**S**	**16 39 22.9**	**+0.6**
	comp=N,0.1nm,0.3s,baz=355,slow=12,SNR=1.2						
SIV	**San Ignacio**	**8.04**	**39**	P	**Pn**	**16 38 29.9**	**-1.2**
	comp=N,0.6nm,0.3s,baz=241,slow=10,SNR=6.6						
PLCA	**Paso Flores**	**18.68**	**190**	P	**P**	**16 40 37.5**	**0.0**
	comp=N,0.1nm,0.3s,baz=12,slow=9.3,SNR=2.8						
MDP	**Montagnes des**	**30.39**	**28**	P	**P**	**16 42 25.7**	**-1.1**
	comp=N,2.0nm,0.4s,baz=198,slow=11,SNR=5.3						
TORD	**Torodi Ar. Bea**	**75.42**	**69**	P	**P**	**16 47 53.4**	**-1.2**
	comp=N,0.9nm,0.4s,baz=261,slow=5.3,SNR=8.7						
ASAR	**Alice Springs**	**130.21**	**205**	PKP	**PKPdf**	**16 55 19.6**	**+0.8**
	comp=N,0.5nm,1.1s,baz=137,slow=1.9,SNR=2.1						
WRA	**Warramunga Arr**	**133.37**	**207**	PKP	**PKiKP**	**16 55 26.7**	**+0.6**
	comp=N,0.3nm,1.0s,baz=155,slow=2.0,SNR=1.3						
MKAR	**Makanchi Array**	**144.86**	**38**	PKP	**PKPdf**	**16 55 45.8**	**+0.9**
	comp=N,0.6nm,0.7s,baz=317,slow=7.0,SNR=5.6						

*IDC **11** 16:40:22.5±4.6, 9.°32N×126.°64E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/45, mbtmp3.3/4, Error ellipse: s-maj=419.0km s-min=24.8km az=67.0*
*MAN **11** 16:40:28.7, 9.°18N×126.°56E, h33km, mb3.8, ML2.5, MS2.0*
ISC 11 16:40:29.6±1.4, 9.°2N±0.°1×126.°6E±0.°2, h54km, n10, σ0.94/9, mb3.4/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIP	**Bislig**	**0.99**	**197**	⇓*e*P	**Pn**	**16 40 46.9**	**-0.4**
BIP				*i* S	**Sn**	**16 40 58.8**	**-1.5**
BUKP	**Musuan**	**1.95**	**229**	*e*P	**Pn**	**16 41 00.4**	**0.0**
BUKP				*e*S	**Sn**	**16 41 23.9**	**+0.1**
DAV	**Davao City (W)**	**2.30**	**205**	Sn	**Sn**	**16 41 33.0**	**+0.8**
	30nm,0.3s,baz=126,slow=18,SNR=1.4						
WRA	**Warramunga Arr**	**29.93**	**165**	P	**P**	**16 46 33.5**	**+0.7**
	0.3nm,1.0s,baz=345,slow=8.8,SNR=1.7						
ASAR	**Alice Springs**	**33.42**	**168**	P	**P**	**16 47 04.1**	**+0.7**
	0.3nm,0.9s,baz=347,slow=7.7,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**39.98**	**72**	T	T	17 31 06.2	
	baz=262,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**40.00**	**72**	T	T	17 31 04.9	
	baz=262,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**40.00**	**72**	T	T	17 31 05.9	
	baz=262,slow=75,SNR=11						
MKAR	**Makanchi Array**	**53.06**	**323**	P	**P**	**16 49 41.8**	**+0.3**
	0.4nm,0.6s,baz=118,slow=7.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**57.12**	**326**	P	**P**	**16 50 09.6**	**-1.0**
	0.3nm,0.5s,baz=123,slow=6.5,SNR=3.9						

*BJI **11** 16:58:11.5±0.0, 15.°08S×167.°62E, h151km, mB4.9/34, mb5.0/58*
*IDC **11** 16:58:11.7±0.6, 15.°55S×167.°88E, h163km±5km, mb4.3/22, mb1 4.4/25, mb1mx4.2/39, mbtmp4.8/25, MS3.2/1, Ms1 3.2/1, ms1mx2.8/27, Error ellipse: s-maj=13.1km s-min=9.4km az=87.0*
*MOS **11** 16:58:11.2±1.1, 15.°55S×167.°84E, h169km, mb4.6/12, Error ellipse: s-maj=10.1km s-min=8.3km az=32.0*
*NEIC **11** 16:58:12.3±1.7, 15.°59S±0.°07×167.°85E±0.°09, h170km±2km, mb5.1/98, Error ellipse: s-maj=12.2km s-min=9.7km az=66.0*
*GCMT **11** 16:58:13.3±0.3, 15.°67S±0.°02×167.°69E±0.°03, h174km±2km, MW5.0/78, Moment Tensor Solution. s27,c32; s78,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.81±.12; $M_{\theta\theta}$2.80±.17; $M_{\phi\phi}$0.01±.15; $M_{r\theta}$1.88±.13; $M_{\theta\phi}$-0.69±.19; $M_{r\phi}$0.71±.12; Best double couple: $M_0$3.51600×10^{16} NP1:ϕ_s120.00000°, δ32.00000°, λ-60.00000°. NP2: ϕ_s265.00000°, δ63.00000°, λ-108.00000°. Principal axes: T 3.4330, Plg16.0000°, Azm8.0000°; N 0.1700, Plg16.0000°, Azm274.0000°; P -3.5990, Plg68.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 16:58:12.4±0.4, 15.°53S±0.°04×167.°85E±0.°05, h171km±3km, h170km; pP-P, n373, σ1.9/17/402, mb5.0/113, 8C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.63**	**278**	Pn	**Pn**	**16 58 35.6**	**-1.1**
SANVU				Sn	**Sn**	**16 58 55.1**	**-0.3**
DZM	**Mont Dzumac**	**6.64**	**191**	P	**Pn**	**16 59 47.3**	**-0.6**
	23nm,0.3s,baz=75,slow=10,SNR=118						
DZM				S	**Sn**	**17 00 59.8**	**-3.2**
	baz=284,slow=20,SNR=0.5						
DZM	**Mont Dzumac**	**6.64**	**191**	*e*Pn	**Pn**	**16 59 47.6**	**-0.2**
	485nm,1.1s						
DZM	**Mont Dzumac**	**6.64**	**191**	Pn	**Pn**	**16 59 47.4**	**-0.4**
DZM				Sn	**Sn**	**17 01 01.6**	**-1.4**
HNR	**Honiara**	**9.81**	**307**	P	**Pn**	**17 00 30.1**	**+0.4**
	4.8nm,0.3s,baz=154,slow=4.9,SNR=16						
HNR				S	**Sn**	**17 02 18.2**	**-0.7**
	9.9nm,0.3s,baz=177,slow=18,SNR=2.8						
HNR				LR	LR	17 03 34.5	
	comp=Z,142nm,19.6s,baz=192,slow=33						
HNR	**Honiara**	**9.81**	**307**	P	**Pn**	**17 00 30.7**	**+1.0**
HNR						17 02 19.7	
HNR	**Honiara**	**9.81**	**307**	Pn	**Pn**	**17 00 30.7**	**+1.0**
HNR				Sn	**Sn**	**17 02 19.7**	**+0.9**
NFK	**Norfolk Island**	**13.45**	**180**	P	**P**	**17 01 23.0**	**+3.0**
	baz=14,SNR=5.1						
EIDS	**Eidsvold**	**18.49**	**235**	P	**Pn**	**17 02 17.8**	**0.0**
	baz=19,SNR=11						
EIDS	**Eidsvold**	**18.49**	**235**	P	**Pn**	**17 02 17.8**	**0.0**
RABL	**Rabaul**	**19.11**	**305**	P	**Pn**	**17 02 24.8**	**-0.4**
RABL				IAmb	IAmb	17 02 30.5	
	comp=Z,30nm,0.6s						
KRVT	**Keravat (AS076**	**19.15**	**304**	P	**Pn**	**17 02 24.7**	**-1.0**
	comp=Z,4.7nm,0.3s,baz=43,slow=1.2,SNR=7.3						
AFI	**Afiamalu**	**19.77**	**88**	P	**P**	**17 02 29.6**	**-0.1**
AFI				pmax	pmax		
	comp=Z,132nm,1.4s						
AFI	**Afiamalu**	**19.77**	**88**	P	**P**	**17 02 29.6**	**-0.1**
AFI				IAmb	IAmb	17 03 10.8	
	comp=Z,132nm,1.4s						
OUZ	**Omahuta**	**20.27**	**166**	P	Pn	17 02 37.0	-1.9
OUZ	**Omahuta**	**20.27**	**166**	P	**P**	**17 02 35.6**	**+0.9**
OUZ				IAmb	IAmb	17 02 38.9	
	comp=Z,57nm,1.2s						
RMQ	**Roma**	**20.86**	**235**	P	**P**	**17 02 42.6**	**+1.5**
	baz=21,SNR=36						
ARMA	**Armidale**	**21.00**	**222**	P	**P**	**17 02 44.1**	**+1.5**
	baz=21,SNR=26						
ARMA	**Armidale**	**21.00**	**222**	P	**P**	**17 02 44.0**	**+1.4**
ARMA				IAmb	IAmb	17 02 46.6	
	comp=Z,73nm,1.1s						
CTA	**Charters Tower**	**21.05**	**254**	P	**P**	**17 02 44.1**	**+0.9**
	comp=Z,52nm,0.7s,baz=82,slow=12,SNR=67						
CTA	**Charters Tower**	**21.05**	**254**	P	**P**	**17 02 44.4**	**+1.2**
	baz=21						
CTAO	**Charters Tower**	**21.05**	**254**	P	**P**	**17 02 44.1**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,59nm,1.0s						
CTAO	**Charters Tower**	**21.05**	**254**	P	**P**	**17 02 44.1**	**+0.9**
CTAO				IAmb	IAmb	17 02 46.4	
	comp=Z,59nm,0.9s						
PMG	**Port Moresby**	**21.09**	**284**	P	**P**	**17 02 44.4**	**+0.7**
	comp=Z,20nm,0.7s,baz=110,slow=6.8,SNR=8.8						
PMG	**Port Moresby**	**21.09**	**284**	⇓*e*P	**P**	**17 02 44.6**	**+0.9**
PMG				pmax	pmax		
	comp=Z,18nm,0.7s						
PMG	**Port Moresby**	**21.09**	**284**	P	**P**	**17 02 43.5**	**-0.2**
WCZ	**Waipu Caves**	**21.14**	**165**	P	**P**	**17 02 46.6**	**+2.6**
WIAZ	**Waiheke Island**	**22.14**	**164**	P	**P**	**17 02 56.0**	**+1.7**
KUZ	**Kuaotunu**	**22.26**	**163**	P	**P**	**17 02 56.6**	**+1.1**
MTSU	**Mount Surprise**	**22.67**	**260**	P	**P**	**17 03 00.3**	**+0.9**
	baz=23,SNR=99						
TOZ	**Tahuroa Road**	**23.12**	**164**	P	**P**	**17 03 04.7**	**+1.4**
MGCD	**Mangrove Creek**	**23.23**	**218**	P	**P**	**17 03 06.0**	**+1.7**
	baz=23,SNR=17						
RIV	**Riverview**	**23.64**	**217**	P	**P**	**17 03 09.6**	**+1.5**
	baz=24,SNR=4.0						
TLZ	**Tolley Road**	**23.70**	**165**	P	**P**	**17 03 10.4**	**+1.7**
HIZ	**Hauiti**	**23.71**	**166**	P	**P**	**17 03 10.5**	**+1.8**
HIZ	**Hauiti**	**23.71**	**166**	P	**P**	**17 03 10.6**	**+1.8**
HIZ				IAmb	IAmb	17 03 12.4	
	comp=Z,93nm,1.2s						
HAZ	**Te Kaha**	**23.82**	**160**	P	**P**	**17 03 11.6**	**+2.0**
MXZ	**Matakaoa Point**	**23.82**	**159**	P	**P**	**17 03 11.4**	**+1.7**
MXZ	**Matakaoa Point**	**23.82**	**159**	P	**P**	**17 03 10.6**	**+0.9**
COEN	**Coen**	**23.91**	**271**	P	**P**	**17 03 11.2**	**+0.4**
	baz=24,SNR=42						
COEN	**Coen**	**23.91**	**271**	P	**P**	**17 03 11.1**	**+0.2**
COEN				IAmb	IAmb	17 03 13.6	
	comp=Z,35nm,0.8s						
RUGZ	**Raukumara Rang**	**23.97**	**161**	P	**P**	**17 03 12.3**	**+1.0**
URZ	**Urewera**	**24.07**	**162**	P	**P**	**17 03 12.1**	**+0.1**
	comp=Z,14nm,0.5s,baz=249,slow=1.3,SNR=16						
URZ				S	**S**	**17 07 16.8**	**0.0**
	comp=Z,14nm,1.1s,baz=234,slow=19,SNR=3.1						
URZ	**Urewera**	**24.07**	**162**	P	**P**	**17 03 12.5**	**+0.6**
URZ	**Urewera**	**24.07**	**162**	P	**P**	**17 03 12.5**	**+0.6**
URZ					**S**	**17 07 16.1**	**-0.8**
PATS	**Pohnpei**	**24.15**	**336**	P	**P**	**17 03 14.9**	**+2.0**
	baz=24,SNR=3.1						
PATS	**Pohnpei**	**24.15**	**336**	P	**P**	**17 03 13.8**	**+0.9**
PATS				IAmb	IAmb	17 03 16.6	
	comp=Z,60nm,0.9s						
MUGZ	**Murupara**	**24.17**	**163**	P	**P**	**17 03 14.6**	**+1.7**
RATZ	**Rangitukua**	**24.27**	**165**	P	**P**	**17 03 15.7**	**+1.9**
RTZ	**Ruatahuna**	**24.36**	**162**	P	**P**	**17 03 15.7**	**+1.0**
MRHZ	**Matea Rd**	**24.41**	**164**	P	**P**	**17 03 17.1**	**+2.0**
TKGZ	**Te Karaka**	**24.46**	**161**	P	**P**	**17 03 15.9**	**+0.4**
QLP	**Quilpie**	**24.58**	**240**	P	**P**	**17 03 17.7**	**+0.9**
	baz=25,SNR=80						
RAHZ	**Arahi**	**24.67**	**163**	P	**P**	**17 03 18.4**	**+1.0**
RIGZ	**Rimuhau**	**24.68**	**161**	P	**P**	**17 03 18.2**	**+0.6**
BKZ	**Black Stump Fm**	**24.74**	**164**	P	**P**	**17 03 18.9**	**+0.8**
BKZ	**Black Stump Fm**	**24.74**	**164**	P	**P**	**17 03 18.8**	**+0.7**
BKZ				IAmb	IAmb	17 03 19.9	
	comp=Z,27nm,0.5s						
BHHZ	**Black Hill Sta**	**24.93**	**165**	P	**P**	**17 03 20.7**	**+0.9**
QRZ	**Quartz Range**	**25.53**	**172**	P	**P**	**17 03 27.2**	**+2.0**
QRZ				IAmb	IAmb	17 03 27.8	
	comp=Z,62nm,1.3s						
YNG	**Young**	**25.61**	**220**	P	**P**	**17 03 27.5**	**+1.5**
	baz=26,SNR=5.4						
CMSA	**Cobar Meteorol**	**25.74**	**228**	P	**P**	**17 03 27.6**	**+0.5**
	baz=26,SNR=41						
CNB	**Canberra Magne**	**25.74**	**217**	P	**P**	**17 03 28.0**	**+0.8**
	baz=26,SNR=20						
CAN	**Canberra**	**25.95**	**217**	P	**P**	**17 03 30.0**	**+0.9**
CAN				pmax	pmax		
	comp=Z,33nm,1.3s						
CAN	**Canberra**	**25.95**	**217**	P	**P**	**17 03 30.0**	**+0.9**
NNZ	**Nelson**	**26.04**	**170**	P	**P**	**17 03 30.6**	**+0.9**
NNZ				IAmb	IAmb	17 03 55.2	
	comp=Z,49nm,1.2s						
BFZ	**Birch Farm**	**26.10**	**165**	P	**P**	**17 03 29.1**	**-1.2**
TUWZ	**Tuamarina**	**26.34**	**170**	P	**P**	**17 03 31.0**	**-1.4**
THZ	**Tophouse**	**26.50**	**172**	P	**P**	**17 03 34.5**	**+0.5**
THZ	**Tophouse**	**26.50**	**172**	P	**P**	**17 03 34.4**	**+0.5**
MSWZ	**Moikau Station**	**26.58**	**167**	P	**P**	**17 03 34.1**	**-0.5**
KHZ	**Kahutara**	**27.23**	**171**	P	**P**	**17 03 39.1**	**-1.3**
QIS	**Mount Isa**	**27.30**	**255**	P	**P**	**17 03 41.7**	**+0.4**
	baz=28,SNR=16						
LTZ	**Lake Taylor**	**27.42**	**173**	P	**P**	**17 03 42.6**	**+0.5**
LTZ	**Lake Taylor**	**27.42**	**173**	P	**P**	**17 03 42.4**	**+0.2**
LTZ				IAmb	IAmb	17 03 44.0	
	comp=Z,33nm,0.7s						
WVZ	**Waitaha Valley**	**27.56**	**175**	P	**P**	**17 03 43.4**	**+0.1**
OXZ	**Oxford**	**27.93**	**173**	P	**P**	**17 03 47.1**	**+0.5**
OXZ	**Oxford**	**27.93**	**173**	P	**P**	**17 03 47.1**	**+0.5**
OXZ				IAmb	IAmb	17 03 48.0	
	comp=Z,26nm,0.6s						
RPZ	**Rata Peaks**	**28.22**	**175**	P	**P**	**17 03 49.4**	**+0.2**
	comp=Z,22nm,0.7s,baz=303,slow=4.3,SNR=11						
RPZ	**Rata Peaks**	**28.22**	**175**	IAmb	IAmb	17 03 50.9	
	comp=Z,23nm,0.7s						
STKA	**Stephens Creek**	**28.91**	**231**	P	**P**	**17 03 55.6**	**+0.1**
	comp=Z,45nm,0.7s,baz=46,slow=8.0,SNR=146						
STKA				PcP	**PcP**	**17 07 00.4**	**+0.1**
	comp=Z,15nm,0.7s,baz=46,slow=3.5,SNR=13						
STKA	**Stephens Creek**	**28.91**	**231**	P	**P**	**17 03 56.6**	**+1.2**
	baz=29,SNR=81						
STKA	**Stephens Creek**	**28.91**	**231**	P	**P**	**17 03 56.7**	**+1.2**
STKA				PcP	**PcP**	**17 07 00.5**	**+0.1**
WKZ	**Wanaka**	**29.22**	**178**	P	**P**	**17 03 59.4**	**+1.3**
TOO	**Toolangi**	**29.55**	**218**	P	**P**	**17 04 02.3**	**+1.2**
	baz=30,SNR=14						
TOO	**Toolangi**	**29.55**	**218**	P	**P**	**17 04 02.1**	**+1.0**
TOO				pmax	pmax		
	comp=Z,31nm,0.8s						
TOO	**Toolangi**	**29.55**	**218**	P	**P**	**17 04 02.1**	**+1.0**
TOO				IAmb	IAmb	17 04 03.0	
	comp=Z,31nm,0.8s						
JAY	**Jayapura**	**29.71**	**293**	P	**P**	**17 04 03.0**	**+0.2**
	comp=Z,4.0nm,0.5s,baz=140,slow=17,SNR=1.9						
JAY	**Jayapura**	**29.71**	**293**	P	**P**	**17 04 03.0**	**+0.2**
ARPS	**Mount Arapiles**	**31.32**	**223**	P	**P**	**17 04 17.7**	**+1.0**
	baz=32,SNR=5.2						
HTT	**Hallett**	**31.63**	**230**	P	**P**	**17 04 20.3**	**+0.8**
	baz=32,SNR=19						
WR0	**Warramunga Arr**	**32.00**	**257**	P	**P**	**17 04 21.6**	**-1.2**
WB0	**Warramunga Arr**	**32.13**	**258**	P	**P**	**17 04 22.8**	**-1.1**
WB0				IAmb	IAmb	17 04 23.7	
	comp=Z,31nm,0.7s						
WC3	**Warramunga Arr**	**32.15**	**257**	P	**P**	**17 04 22.8**	**-1.4**
	baz=32						
MOO	**Moorlands**	**32.16**	**209**	P	**P**	**17 04 24.8**	**+0.9**
	baz=32,SNR=6.9						
WB2	**Warramunga Arr**	**32.17**	**257**	P	**P**	**17 04 23.0**	**-1.3**
WB2				IAmb	IAmb	17 04 24.2	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**32.17**	**257**	⇓*e*P	**P**	**17 04 23.1**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,25nm,0.9s						
WRA	**Warramunga Arr**	**32.18**	**257**	P	**P**	**17 04 22.8**	**-1.7**
	comp=Z,17nm,0.7s,baz=85,slow=8.9,SNR=99						
WRA				PcP	**PcP**	**17 07 09.2**	**0.0**
	comp=Z,5.4nm,0.9s,baz=91,slow=2.9,SNR=8.4						
WRA				S	**S**	**17 09 19.4**	**-5.5**
	comp=Z,0.9nm,0.7s,baz=93,slow=14,SNR=5.0						
WRA				ScP	**ScP**	**17 10 38.2**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=84,slow=3.5,SNR=3.3						
WRA	**Warramunga Arr**	**32.18**	**257**	P	**P**	**17 04 22.9**	**-1.5**
WRA						17 07 09.0	
WRA				S	**S**	**17 09 26.9**	**+2.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**32.18**	**257**	P	**P**	**17 04 22.9**	**-1.5**
WRA					**PcP**	**17 07 09.0**	**-0.2**
WRA				S	**S**	**17 09 26.9**	**+2.0**
WRA					**ScP**	**17 10 36.7**	**-0.2**
TAU	**Tasmania Unive**	**32.46**	**209**	P	**P**	**17 04 27.6**	**+1.1**
TAU				pmax	pmax		
	comp=Z,205nm,1.7s						
TAU	**Tasmania Unive**	**32.46**	**209**	P	**P**	**17 04 27.6**	**+1.1**
AS31	**Alice Springs**	**32.92**	**250**	P	**P**	**17 04 30.1**	**-0.7**
AS31				IAmb	IAmb	17 04 31.4	
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**32.92**	**250**	P	**P**	**17 04 30.1**	**-0.7**
	comp=Z,41nm,0.6s,baz=77,slow=9.0,SNR=886						
ASAR				PcP	**PcP**	**17 07 11.2**	**-0.1**
	comp=Z,3.8nm,0.5s,baz=92,slow=2.9,SNR=7.9						
ASAR				ScP	**ScP**	**17 10 40.5**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=98,slow=3.9,SNR=6.5						
ASAR	**Alice Springs**	**32.92**	**250**	P	**P**	**17 04 30.0**	**-0.9**
ASAR				PcP	**PcP**	**17 07 10.7**	**-0.6**
ASAR					**ScP**	**17 10 40.6**	**+1.1**
BBOO	**Buckleboo**	**33.54**	**233**	P	**P**	**17 04 36.8**	**+0.7**
	baz=34,SNR=53						
BBOO	**Buckleboo**	**33.54**	**233**	P	**P**	**17 04 36.9**	**+0.8**
KDU	**Kakadu**	**34.40**	**270**	P	**P**	**17 04 43.0**	**-0.6**
	baz=35,SNR=13						
MTN	**Manton Dam**	**35.67**	**270**	P	**P**	**17 04 54.1**	**-0.5**
	baz=36,SNR=22						
MTN	**Manton Dam**	**35.67**	**270**	P	**P**	**17 04 53.8**	**-0.7**
FAKI	**Fak Fak**	**37.23**	**286**	P	**P**	**17 05 08.1**	**+0.3**
FAKI				IAmb	IAmb	17 05 08.8	
	comp=Z,38nm,0.7s						
KNRA	**Kununurra**	**37.61**	**264**	P	**P**	**17 05 10.4**	**-0.6**
	baz=38,SNR=35						
KNRA	**Kununurra**	**37.61**	**264**	P	**P**	**17 05 10.3**	**-0.6**
WRKA	**Warakurna**	**38.17**	**249**	P	**P**	**17 05 15.1**	**-0.4**
	baz=38,SNR=72						
FORT	**Forrest**	**39.38**	**240**	P	**P**	**17 05 25.9**	**+0.4**
	baz=40,SNR=54						
FORT	**Forrest**	**39.38**	**240**	P	**P**	**17 05 25.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.42**	**260**	P	**P**	**17 05 34.1**	**-0.1**
	baz=41,SNR=141						
FITZ	**Fitzroy Crossi**	**40.42**	**260**	P	**P**	**17 05 34.1**	**-0.1**
NLAI	**Namlea**	**41.92**	**283**	P	**P**	**17 05 47.7**	**+1.1**
	comp=Z,43nm,0.8s						
PMOR	**Pomariorio Ree**	**42.64**	**95**	*e*P	**P**	**17 05 53.6**	**+1.3**
	comp=Z,304nm,1.5s						
SOEI	**Soe**	**42.85**	**272**	P	**P**	**17 05 56.0**	**+1.8**
	comp=Z,33nm,0.8s						
SOEI	**Soe**	**42.85**	**272**	P	**P**	**17 05 54.6**	**+0.4**
SOEI				IAmb	IAmb	17 05 56.0	
	comp=Z,44nm,1.1s						
SOEI				PcP	**PcP**	**17 07 41.2**	**-1.0**
BATI	**Baumata**	**43.34**	**272**	P	**P**	**17 05 59.8**	**+1.8**
	comp=Z,91nm,1.1s						
KMBL	**Kambalda**	**44.69**	**241**	P	**P**	**17 06 08.5**	**0.0**
	baz=45,SNR=26						
MMRI	**Maumere**	**45.05**	**273**	P	**P**	**17 06 11.3**	**-0.3**
EDFI	**Ende, Flores**	**45.55**	**273**	P	**P**	**17 06 15.5**	**-0.2**
	comp=Z,38nm,0.9s						
PSA00	**Pilbara Seismi**	**45.77**	**255**	P	**P**	**17 06 17.0**	**-0.2**
PSA00				IAmb	IAmb	17 06 18.4	
	comp=Z,43nm,0.9s						
LUWI	**Luwuk**	**46.73**	**284**	P	**P**	**17 06 25.7**	**+1.0**
LUWI				IAmb	IAmb	17 07 57.8	
	comp=Z,64nm,1.0s						
MEEK	**Meekatharra**	**47.00**	**248**	P	**P**	**17 06 26.8**	**+0.1**
	baz=47,SNR=78						
GTOI	**Gorontalo**	**47.11**	**286**	P	**P**	**17 06 30.7**	**+3.0**
	comp=Z,13nm,0.7s						
BKSI	**Bulukumba**	**47.92**	**277**	P	**P**	**17 06 34.5**	**+0.6**
	comp=Z,34nm,0.9s						
BNSI	**Bone**	**48.19**	**278**	P	**P**	**17 06 37.0**	**+1.0**
	comp=Z,52nm,0.9s						
KLBR	**Kellerberrin**	**48.21**	**241**	P	**P**	**17 06 35.3**	**-0.7**
	baz=48,SNR=30						
KAPI	**Kappang**	**48.36**	**277**	P	**P**	**17 06 37.8**	**+0.5**
KAPI				pmax	pmax		
	comp=Z,42nm,0.8s						
KAPI	**Kappang**	**48.36**	**277**	P	**P**	**17 06 37.8**	**+0.5**
KAPI				IAmb	IAmb	17 06 38.8	
	comp=Z,42nm,0.8s						
SPSI	**Sidrap Palu**	**48.64**	**279**	P	**P**	**17 06 39.3**	**-0.2**
	comp=Z,36nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.82**	**240**	P	**P**	**17 06 40.4**	**-0.2**
	baz=49,SNR=12						
NWAO	**Narrogin (SRO)**	**48.82**	**240**	P	**P**	**17 06 40.2**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,53nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.82**	**240**	P	**P**	**17 06 40.3**	**-0.4**
NWAO				IAmb	IAmb	17 06 41.3	
	comp=Z,46nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.82**	**240**	P	**P**	**17 06 40.2**	**-0.4**
NWAO				IAmb	IAmb	17 06 41.3	
	comp=Z,53nm,0.9s						
BLDU	**Balliduu**	**48.99**	**243**	P	**P**	**17 06 41.5**	**-0.4**
	baz=49,SNR=9.3						
JCJ	**Chichijima**	**49.16**	**329**	P	**P**	**17 06 42.5**	**-0.6**
PLAI	**Plampang**	**49.31**	**272**	P	**P**	**17 06 45.2**	**+0.7**
	comp=Z,112nm,0.7s						
MORW	**Morawa**	**49.43**	**245**	P	**P**	**17 06 45.1**	**-0.2**
	baz=50,SNR=13						
MORW	**Morawa**	**49.43**	**245**	P	**P**	**17 06 45.1**	**-0.2**
MORW				IAmb	IAmb	17 06 46.2	
	comp=Z,47nm,0.9s						
MORW				PcP	**PcP**	**17 08 04.6**	**-0.4**
MUN	**Mundaring**	**49.56**	**241**	P	**P**	**17 06 46.1**	**-0.1**
	baz=50,SNR=4.7						
KHU	**Kahuku**	**49.87**	**47**	P	**P**	**17 06 49.2**	**+0.3**
KHU				pmax	pmax		
	comp=Z,402nm,1.9s						
KHU	**Kahuku**	**49.87**	**47**	P	**P**	**17 06 49.2**	**+0.3**
MPSI	**Mapaga**	**49.91**	**284**	P	**P**	**17 06 48.9**	**-0.1**
	comp=Z,578nmcomp=Z,67nm,0.8s						
AIN	**Ainahou**	**50.06**	**47**	P	**P**	**17 06 51.6**	**+1.3**
TWSI	**Taliwang, Sumb**	**50.19**	**272**	P	**P**	**17 06 51.5**	**+0.3**
	comp=Z,155nm,0.9s						
GIRL	**Giralia**	**50.94**	**253**	P	**P**	**17 06 58.0**	**+1.3**
	baz=51,SNR=6.6						
GIRL	**Giralia**	**50.94**	**253**	P	**P**	**17 06

VNDA pmax pmax
comp=Z,81nm,2.0s
VNDA Vanda 62.08 181 P P 17 08 14.7 +0.2
CASY Casey 63.00 202 P P 17 08 20.4 -0.3
CASY IAmb IAmb 17 08 22.1
comp=Z,42nm,1.1s
KUR Kuril'sk 63.14 344⇑ eP P 17 08 23.1 +1.3
MDSI Maura Dua 63.45 273 P P 17 08 23.2 -1.4
comp=Z,1μmcomp=Z,30nm,0.7s
TJN Taejon 64.25 324⇑ eP P 17 08 29.9 +0.6
KSRS Korea Array 64.72 326 P P 17 08 32.9 +0.6
comp=Z,2.1nm,0.8s,baz=145,slow=7.4,SNR=16
KSAR Wonju Array Be 64.73 326 P P 17 08 32.6 +0.2
KSAR Wonju Array Be 64.73 326 P P 17 08 32.6 +0.2
MYKOM Kota Tinggi 65.54 279 P P 17 08 39.0 +0.9
NJ2 Nanjing 66.64 316 eP P 17 08 45.4 +0.6
NJ2 pmax pmax
comp=Z,14nm,0.7s
USA0B Ussuriysk Arra 67.85 333 P P 17 08 54.9 +2.8
USA0B pmax pmax
comp=Z,9.0nm,0.8s
USA0B Ussuriysk Arra 67.85 333 P P 17 08 54.9 +2.8
USRK Ussuriysk Ar. 67.85 333 P P 17 08 53.3 +1.2
comp=Z,6.8nm,0.7s,baz=145,slow=6.1,SNR=19
WHN Wuhan 68.89 312 P P 17 08 59.2 +0.3
WHN pmax pmax
comp=Z,28nm,0.6s
PETK Petropavlovsk- 68.92 353 P P 17 08 59.1 +0.6
comp=Z,1.6nm,0.8s,baz=152,slow=7.5,SNR=2.9
PETK pP pP 17 09 38.6 +0.2
comp=Z,12nm,0.9s,baz=125,slow=9.3,SNR=5.0
IPM Ipoh 69.05 281 P P 17 08 59.6 -0.7
IPM Ipoh 69.05 281 P P 17 09 01.0 +0.7
MDJ Mudanjiang 69.25 332 P P 17 09 02.1 +1.3
MDJ pmax pmax
comp=Z,23nm,0.9s
MDJ pmax pmax
comp=Z,74nm,3.2s
MDJ Mudanjiang 69.25 332 P P 17 09 01.9 +1.1
MNSI Mandailing Nat 69.32 277 P P 17 09 01.3 -0.6
comp=Z,40nm,1.0s
KULM Kulim 69.66 282 P P 17 09 04.0 0.0
KULM PcP PcP 17 09 27.8 +2.0
KULM Kulim 69.66 282 P P 17 09 05.0 +1.0
TIA Tai'an 70.31 318 P P 17 09 07.5 0.0
TIA pmax pmax
comp=Z,11nm,0.8s
RPSI Rantau Prapat 70.50 279 P P 17 09 08.4 -0.7
RPSI PcP 17 09 28.8 -0.6
PSI Prapat 70.53 279 P P 17 09 08.4 -1.1
PSI 17 09 28.8
PSI pmax pmax
comp=Z,21nm,1.1s
CN2 Changchun 70.62 329 eP P 17 09 10.3 +1.1
CN2 pmax pmax
comp=Z,20nm,0.7s
GSI Gunungsitoli 71.38 277 P P 17 09 14.9 +0.5
comp=Z,35nm,0.9s
GSI Gunungsitoli 71.38 277 P P 17 09 14.5 +0.1
GSI IAmb IAmb 17 09 15.5
comp=Z,26nm,0.8s
ENH Enshi 72.31 309 P P 17 09 19.7 +0.1
ENH IAmb IAmb 17 09 20.7
comp=Z,24nm,0.8s
GYA Guiyang 72.63 305 ⇓P P 17 09 22.6 +0.9
GYA sP sP 17 10 18.6 -2.5
GYA S S 17 18 30.1 -3.0
GYA pmax pmax
comp=Z,22nm,0.7s
GYA pmax pmax
comp=Z,49nm,3.5s
GYA LR LR
comp=Z,62nm,4.1s
GYA LR LR
comp=Z,70nm,4.3s
GYA LR LR
comp=Z,81nm,5.7s
SLVN Son La 72.63 299 P P 17 09 22.4 +0.6
BJI Beijing 73.24 321 P P 17 09 25.9 +1.1
BJI pmax pmax
comp=Z,17nm,1.1s
PBKT Sadao Pong 73.29 293 P P 17 09 26.4 +0.8
TIY Taiyuan 74.23 317 eP P 17 09 31.2 +0.4
TIY pmax pmax
comp=Z,20nm,0.6s
QSPA South Pole Qui 74.50 180 P P 17 09 32.0 0.0
QSPA IAmb IAmb 17 09 33.2
comp=Z,41nm,0.9s
XAN Xi'an 74.64 312 P P 17 09 33.8 +0.6
XAN pmax pmax
comp=Z,31nm,0.7s
XAN pmax pmax
comp=Z,210nm,5.2s
XAN Xi'an 74.64 312 P P 17 09 33.6 +0.4
XAN pmax pmax
comp=Z,19nm,0.7s
XAN Xi'an 74.64 312 P P 17 09 33.6 +0.4
XAN IAmb IAmb 17 09 34.8
comp=Z,19nm,0.7s
KMI Kunming 75.20 302 ⇓P P 17 09 38.0 +1.2
KMI pmax pmax
comp=Z,23nm,0.7s
CM31 Chiang Mai Arr 75.79 294 P P 17 09 41.2 +1.1
CMAR Chiang Mai Arr 75.79 294 P P 17 09 41.2 +1.2
comp=Z,7.1nm,0.8s,baz=131,slow=4.6,SNR=58
CMAR Chiang Mai Arr 75.79 294 P P 17 09 40.8 +0.8
CMAR Chiang Mai Arr 75.79 294 P P 17 09 40.8 +0.8
CHTO Chiang Mai 75.92 294 P P 17 09 41.3 +0.5
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO Chiang Mai 75.92 294 P P 17 09 41.3 +0.5
CHTO Chiang Mai 75.92 294 P P 17 09 41.5 +0.7
HHC Hu-ho-hao-te 76.56 320 eP P 17 09 44.8 +0.8
HHC S S 17 19 14.0 -2.1
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.4s
HHC LR LR
comp=Z,110nm,14.5s
HHC LR LR
comp=Z,120nm,15.3s
HHC LR LR
comp=Z,120nm,14.5s
CD2 Chengdu 76.94 307 P P 17 09 47.1 +0.8
CD2 pmax pmax
comp=Z,40nm,0.9s
ZEA Zeya 77.25 337 eP P 17 09 48.6 +1.2
ZEA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 77.26 330c iP P 17 09 48.7 +1.0
HIA pmax pmax
comp=Z,10.0nm,1.2s
LZH Lanzhou 79.27 312 eP P 17 10 00.7 +1.5
LZH pP pP 17 10 43.0 +2.5
LZH pmax pmax
comp=Z,41nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.7s
MAW Mawson 81.35 202 P P 17 10 10.0 +0.5
comp=Z,12nm,0.8s,baz=113,slow=5.4,SNR=31
MAW Mawson 81.35 202 P P 17 10 10.1 +0.5
baz=81,SNR=23
MAW Mawson 81.35 202 P P 17 10 09.5 0.0
MAW pmax pmax
comp=Z,7.0nm,1.3s
MAW Mawson 81.35 202 P P 17 10 09.5 0.0
YAK Yakutsk 82.96 343 P P 17 10 17.7 -0.1
comp=Z,2.3nm,0.5s,baz=162,slow=0.5,SNR=6.4
YAK Yakutsk 82.96 343 eP P 17 10 18.3 +0.5
YAK e 17 11 03.3
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK Yakutsk 82.96 343 IAmb IAmb 17 11 04.2
comp=Z,26nm,1.2s
PAF Port-aux-Franc 83.25 221 P P 17 10 20.6 +0.8
PAF pmax pmax
comp=Z,358nm,1.1s
PAF Port-aux-Franc 83.25 221 P P 17 10 20.6 +0.8
SONM Songino Array 83.47 323 P P 17 10 21.7 +0.7
comp=Z,14nm,0.9s,baz=139,slow=5.2,SNR=55
SONM Songino Array 83.47 323 P P 17 10 21.4 +0.4
SONM pmax pmax
comp=Z,17nm,1.0s
SONM Songino Array 83.47 323 P P 17 10 21.4 +0.4

GTA Gaotai 83.62 314 P P 17 10 22.9 +0.9
GTA pmax pmax
comp=Z,18nm,1.1s
GTA pmax pmax
comp=Z,48nm,6.9s
GTA LR LR
comp=Z,69nm,18.2s
GTA LR LR
comp=Z,110nm,19.2s
GTA LR LR
comp=Z,66nm,19.2s
SHL Shillong 84.44 298 P P 17 10 25.9 -0.6
SHL pmax pmax
comp=Z,34nm,0.8s
SHL Shillong 84.44 298 P P 17 10 25.9 -0.6
SHL IAmb IAmb 17 10 27.6
comp=Z,34nm,0.8s
BOD Bodaibo 85.44 334 eP P 17 10 30.4 0.0
BOD pmax pmax
comp=Z,11nm,1.8s
BELA Belgrano 2 85.88 175 P P 17 10 31.4 -1.1
LSA Lhasa 86.46 302 P P 17 10 37.5 +0.8
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 86.46 302 P P 17 10 37.5 +0.8
ZAK Zakamensk 86.53 325 eP P 17 10 36.1 0.0
ZAK e 17 11 18.8
ZAK pmax pmax
comp=Z,8.0nm,1.3s
ZAK pmax pmax
comp=Z,7.0nm,1.2s
TLY Talaya 86.97 326⇓ eP P 17 10 37.5 -0.6
TLY pmax pmax
comp=Z,9.0nm,1.2s
ILAR Eielson Array 87.11 18 P P 17 10 37.0 -1.4
comp=Z,1.2nm,0.6s,baz=234,slow=4.9,SNR=13
ILAR pP pP 17 11 18.4 -2.5
comp=Z,2.2nm,0.8s,baz=237,slow=5.6,SNR=6.8
NVAR Mina Array Bea 87.37 49 P P 17 10 41.3 +0.7
comp=Z,1.0nm,0.7s,baz=227,slow=7.5,SNR=8.6
NVAR pP pP 17 11 21.5 -0.8
comp=Z,0.5nm,0.7s,baz=240,slow=5.0,SNR=4.3
NVAR PKKPbc PKKPbc 17 28 31.6 +0.3
comp=Z,0.7nm,0.7s,baz=93,slow=2.4,SNR=7.0
SYO Syowa Base 88.10 196⇑ iP P 17 10 41.3 -1.9
SYO Syowa Base 88.10 196⇓ iP P 17 10 43.0 -0.2
TIXI Tiksi 90.86 349 P P 17 10 55.4 -0.5
comp=Z,1.3nm,0.7s,baz=180,slow=16,SNR=3.5
TIXI Tiksi 90.86 349⇑ eP P 17 10 55.7 -0.2
TIXI pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 90.86 349 IAmb IAmb 17 10 56.5
comp=Z,4.2nm,1.1s
NVL N'lazarevskaya 92.34 188 eP P 17 11 01.4 -1.5
NVL pmax pmax
comp=Z,21nm,0.8s
SNAA Sanae 92.78 183 P P 17 11 04.1 -1.0
SNAA Sanae 92.78 183 deP P 17 11 03.9 -1.2
SNAA pmax pmax
comp=Z,19nm,1.5s
SNAA Sanae 92.78 183 P P 17 11 03.7 -1.4
SNAA IAmb IAmb 17 11 05.2
comp=Z,28nm,1.5s
VNA3 Neumayer Olymp 93.42 181 P P 17 11 07.0 -1.0
WMQ Urumqi 93.69 314 eP P 17 11 10.3 +0.6
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,75nm,4.5s
VNA2 Neumayer--Watz 93.70 182 P P 17 11 08.5 -0.7
PDAR Pinedale Array 95.08 47 PKKPbc PKKPbc 17 28 09.7 -2.2
comp=Z,0.6nm,0.7s,baz=90,slow=4.4,SNR=3.9
ANMO Albuquerque 95.30 55⇓ eP P 17 11 16.1 -1.4
ANMO pmax pmax
comp=Z,2.0nm,1.0s
DGZ Jazzator, Alta 95.64 320⇑ iP P 17 11 18.6 0.0
DGZ i *PP pwP 17 12 02.2 -1.3
DGZ pmax pmax
comp=Z,5.0nm,1.0s
TXAR Lajitas Array 96.17 61 PKKP 17 28 08.3
comp=Z,0.3nm,0.5s,baz=92,slow=3.3,SNR=4.9
MKAR Makanchi Array 98.17 316 P Pdif 17 11 30.2 +0.2
comp=Z,1.5nm,0.7s,baz=106,slow=4.9,SNR=11
MKAR pP pP 17 12 11.7 -0.5
comp=Z,1.5nm,0.9s,baz=96,slow=5.8,SNR=3.9
MKAR Makanchi Array 98.17 316 P Pdif 17 11 29.9 0.0
MKAR Makanchi Array 98.17 316 P Pdif 17 11 29.9 -0.1
ZAA0 Zalesovo Array 98.37 324 P P 17 11 29.5 -1.1
ZAA0 IAmb IAmb 17 11 30.8
comp=Z,6.1nm,1.1s
ZALV Zalesovo Beam 98.37 324 P P 17 11 29.4 -1.2
comp=Z,3.1nm,0.9s,baz=108,slow=4.7,SNR=11
ZALV pP pP 17 12 12.8 +0.2
comp=Z,1.6nm,0.9s,baz=108,slow=4.7,SNR=2.7
ZALV Zalesovo Beam 98.37 324 P P 17 11 29.6 -0.9
ZALV pP 17 12 13.8 +1.2
MAKZ Makanchi 98.38 316 P Pdif 17 11 31.6 +0.7
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 98.38 316 P Pdif 17 11 31.6 +0.7
MAKZ IAmb IAmb 17 11 32.4
comp=Z,5.2nm,1.1s
AKTO Aktyubinsk 114.44 319 PKP **PKiKP 17 16 31.9 0.0**
comp=Z,1.6nm,0.5s,baz=122,slow=8.4,SNR=3.8
GEYT Alibeck 114.85 305 PKP **PKiKP 17 16 32.9 -0.2**
comp=Z,2.5nm,0.9s,baz=117,slow=0.3,SNR=4.4
ARCES ARCESS Array B 121.17 345 PKP **PKPdf 17 16 43.8 -0.5**
comp=Z,5.1nm,0.7s,baz=85,slow=2.5,SNR=11
KLMR Klimovskoe 121.65 333 ePKIKP **PKPdf 17 16 43.8 -1.6**
KLMR pmax pmax
comp=Z,14nm,1.2s
KLMR Klimovskoe 121.65 333 ePKPdf **PKPdf 17 16 43.8 -1.6**
KLMR AMP 17 16 45.7
comp=Z,14nm,1.2s
SCHQ Schefferville 122.65 34 PKKPbc PKKPbc 17 26 42.1 -1.4
comp=Z,3.7nm,0.6s,baz=90,slow=6.1,SNR=5.4
BOSA Boshof 123.12 220 PKP **PKPdf 17 16 49.3 -0.2**
comp=Z,5.2nm,0.9s,baz=104,slow=1.1,SNR=7.2
ZEI Tsey 125.20 312 iPKIKP **PKiKP 17 16 53.0 -0.5**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 125.67 328⇓ iPKIKP **PKiKP 17 16 53.8 +0.1**
OBN pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 125.71 313 PKP **PKiKP 17 16 54.9 +0.8**
comp=Z,2.9nm,0.8s,baz=76,slow=5.2,SNR=5.2
AKH Akhalkalaki 125.77 310 PKIKP **PKiKP 17 16 54.7 +0.1**
AKH Akhalkalaki 125.77 310 PKPdf **PKiKP 17 16 54.7 +0.1**
KIV Kislovodsk 125.80 313 ePKIKP **PKPdf 17 16 53.6 -0.5**
KIV pmax pmax
comp=Z,25nm,1.1s
FINES FINESS Array B 126.67 338 PKP **PKiKP 17 16 55.0 -0.5**
comp=Z,1.9nm,0.7s,baz=105,slow=3.3,SNR=6.6
KMBO Kilima Mbogo 128.46 256 PKP **PKiKP 17 17 02.1 +1.3**
comp=Z,1.4nm,0.5s,baz=43,slow=3.4,SNR=4.1
KMBO Kilima Mbogo 128.46 256 PKIKP **PKPdf 17 17 00.0 -0.2**
KMBO Kilima Mbogo 128.46 256 PKPdf **PKPdf 17 17 00.0 -0.2**
HUMP Col San Antoni 128.68 79 PKPdf 17 16 59.7 -0.5
LSZ Lusaka 129.75 234 PKIKP **PKPdf 17 17 01.7 -0.7**
LSZ Lusaka 129.75 234 PKPdf **PKPdf 17 17 01.7 -0.7**
NB2 NORSAR Subarra 131.54 345 PKPdf **PKiKP 17 17 05.7 +0.3**
comp=Z,0.6nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 131.54 345 PKP **PKiKP 17 17 04.5 -0.9**
comp=Z,1.0nm,0.8s,baz=33,slow=2.0,SNR=5.0
NOA SKPbc **SKPab 17 20 14.2 -0.4**
comp=Z,1.2nm,0.9s,baz=18,slow=4.1,SNR=3.8
HFS Hagfors 131.65 343 PKP **PKiKP 17 17 04.7 -0.9**
comp=Z,1.6nm,0.7s,baz=122,slow=1.9,SNR=2.6
AKASG Malin Array Be 131.71 326 PKP **PKPdf 17 17 04.8 -0.2**
comp=Z,2.8nm,0.7s,baz=55,slow=2.3,SNR=8.4
AKASG SKPbc **SKPab 17 20 15.2 -0.4**
comp=Z,4.6nm,0.7s,baz=43,slow=4.5,SNR=14
BRTR Keskin Array B 133.46 310 PKP **PKPdf 17 17 08.1 -0.7**
comp=Z,1.8nm,0.8s,baz=112,slow=1.3,SNR=6.4
BRTR Keskin Array B 133.46 310 PKIKP **PKPdf 17 17 07.8 -1.0**
BRTR Keskin Array B 133.46 310 PKPdf **PKPdf 17 17 07.8 -1.0**
MBAR Mbarara 134.70 253⇓ iPKIKP **PKiKP 17 17 13.0 -0.4**
BURAR Bucovina Array 135.59 324 PKPdf **PKiKP 17 17 13.5 -0.6**
KOLS Kolonicke sedl 136.42 327 ePKIKP **PKPdf 17 17 14.1 +0.2**
KOLS Kolonicke sedl 136.42 327 ePKP **PKPdf 17 17 14.1 +0.2**
CRVS Cervenica-Dubn 136.86 328 ePKIKP **PKiKP 17 17 17.7 +1.2**
CRVS Cervenica-Dubn 136.86 328 ePKP **PKiKP 17 17 17.7 +1.2**
KRLC Kraliky 138.34 332 ePKPDF **PKiKP 17 17 18.8 -0.7**
KRLC Kraliky 138.34 332 ePKIKP **PKiKP 17 17 18.8 -0.7**
VYHS Vyhne 138.45 329 ePKIKP **PKiKP 17 17 18.7 -1.1**

VYHS Vyhne 138.45 329 ePKP **PKiKP 17 17 18.7 -1.1**
BRG Berggiesshubel 138.97 335 ePKP **PKiKP 17 17 21.0 +0.3**
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 138.97 335 ePKIKP **PKiKP 17 17 21.0 +0.3**
BRG pmax pmax
comp=Z,4.0nm,0.9s
EKA Eskdalemuir Ar 139.68 352 PKhKP PKPpre 17 17 11.9
comp=Z,0.2nm,0.4s,baz=344,slow=2.4,SNR=2.1
CONA Conrad Observa 140.29 330 iPKPdf **PKPdf 17 17 16.3 -4.8**
comp=Z,5.0nm,1.3s
KHC Kasperske Hory 140.45 333 ePKPDF **PKPdf 17 17 19.5 -1.8**
KHC ex x 17 17 21.4
KHC Kasperske Hory 140.45 333⇑ iPKIKP **PKiKP 17 17 23.6 -0.3**
KHC pmax pmax
comp=Z,7.0nm,1.3s
GERES GERESS Array B 140.61 333 PKP **PKPdf 17 17 21.6 0.0**
comp=Z,1.4nm,0.8s,baz=16,slow=1.9,SNR=9.7
GERES SKPbc **SKiKP 17 20 43.1 -1.3**
comp=Z,1.2nm,0.9s,baz=348,slow=3.2,SNR=4.1
GERES GERESS Array B 140.61 333 PKPdf **PKPdf 17 17 21.0 -0.7**
GERES **SKPbc 17 20 42.7 +0.6**
WATA Walderalm 142.68 333 iPKiKP **PKiKP 17 17 27.6 -1.0**
comp=Z,4.2nm,0.9s
ABTA Abfaltersbach 142.71 332 iPKPdf **PKPdf 17 17 20.5 -5.0**
comp=Z,6.8nm,0.8s
WTTA Wattenberg 142.71 333 iPKPdf **PKPdf 17 17 20.8 -4.8**
comp=Z,4.4nm,0.9s
MOTA Moosalm 142.88 334 iPKPdf **PKPdf 17 17 21.0 -4.8**
comp=Z,4.0nm,1.0s
RETA Reutte 142.91 334 iPKPdf **PKPdf 17 17 21.6 -4.2**
comp=Z,5.2nm,1.5s
SQTA Sankt Quirin 142.93 333 iPKPdf **PKPdf 17 17 23.2 -2.7**
comp=Z,10.0nm,1.3s
FETA Feichten 143.29 334 iPKPdf PKPbc 17 17 24.2 0.0
comp=Z,11nm,1.5s
DAVA Damuels 143.44 335 iPKPdf **PKPdf 17 17 25.9 -0.9**
comp=Z,0.6nm,0.2s
FUORN Ofenpass-Fuorn 143.81 334 PKPdf **PKPdf 17 17 26.3 -1.4**
DAVOX Davos/Dischmat 143.84 334 PKP **PKPdf 17 17 26.5 -1.1**
comp=Z,6.7nm,0.6s,baz=335,slow=7.6,SNR=14
TUE Stuetta 144.31 334 PKPdf **PKPdf 17 17 27.6 -0.9**
ZCCA Zocca 145.22 330 PKPab 17 17 30.6 +0.5
SENIN Lac Senin/Sane 145.23 336 PKPab 17 17 29.7 -0.6
MURB Monte Urbino 145.25 328 PKPab 17 17 30.4 +0.1
CLF Chambon-Foret 145.48 343 PKPab 17 17 30.8 -0.1
OSSC Osservatorio P 145.70 329 PKPdf 17 17 30.4 -0.3
MSSA Maissana 145.93 332 PKPdf 17 17 30.6 -0.5
LATE Laterza 146.08 328 PKPdf 17 17 31.0 -0.4
BNI Bardonecchia 146.56 335 PKP2 **PKPab 17 17 34.5 -0.8**
BNI Bardonecchia 146.56 335 PKPab 17 17 34.5 -0.8
SSB Saint Sauveur 147.18 338 PKP2 **PKPab 17 17 36.3 -1.4**
SSB Saint Sauveur 147.18 338 PKPab 17 17 36.2 -1.4
RAFF Raffo Rosso 148.09 318 PKiKP 17 17 38.7 -1.2
VSL Villasalto 149.59 326 PKPbc 17 17 41.9 0.0
KEST Kesra 152.18 320 PKPbc **PKiKP 17 17 48.8 +0.2**
comp=Z,16nm,0.8s,baz=114,slow=1.7,SNR=19
ESDC Sonseca Array 154.90 345 PKPbc **PKiKP 17 17 54.7 +0.7**
comp=Z,0.4nm,0.7s,baz=29,slow=2.9,SNR=2.5
ESDC PKPab **PKPab 17 18 10.2 +0.4**
comp=Z,1.9nm,1.0s,baz=11,slow=4.4,SNR=7.0
ESDC Sonseca Array 154.90 345 PKiKP 17 17 53.6 -0.3
TOA0 Torodi Ar. Sit 166.38 262 PKPdf **PKPdf 17 17 56.1 -2.0**
TOA0 PKPab **sPKPdf 17 18 59.9 0.0**
TORD Torodi Ar. Bea 166.38 262 PKP **PKPdf 17 17 57.3 -0.9**
comp=Z,1.8nm,0.9s,baz=43,slow=0.6,SNR=7.0
TORD PKPab **sPKPdf 17 18 59.9 0.0**
comp=Z,5.7nm,0.8s,baz=97,slow=4.4,SNR=20
TORD PP **PP 17 22 46.1 -2.9**
comp=Z,3.7nm,1.3s,baz=117,slow=5.7,SNR=4.2
TORD Torodi Ar. Bea 166.38 262 PKPdf 17 17 57.2 -0.9
TORD PKPab **sPKPdf 17 18 59.9 0.0**
TORD **PP 17 22 45.0 -3.9**
KIC Kosan Boka 168.34 219 ePKP2 **PKPab 17 19 09.2 0.0**
comp=Z,32nm,0.9s
LIC Lamto 168.41 218 ePKP2 **PKPab 17 19 09.5 +0.1**
comp=Z,62nm,0.9s
DBIC Dimbokro 168.65 220 PKPab **PKPab 17 19 10.3 -0.2**
comp=Z,8.8nm,0.7s,baz=131,slow=5.1,SNR=15
DBIC Dimbokro 168.65 220 PKP2 **PKPab 17 19 09.9 -0.6**
DBIC Dimbokro 168.65 220 PKPab **PKPab 17 19 09.9 -0.6**
TIC Toumodi 168.74 219 ePKP2 **PKPab 17 19 10.9 0.0**

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*IDC **11** 17:12:18.6±0.8, 32°.52N×105°.33E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.7/56, mbtmp3.9/11, ML3.8/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/43, Error ellipse: s-maj=41.4km s-min=16.0km az=53.0*
*BJI **11** 17:12:19.7±0.0, 32°.69N×105°.37E, h13km, mB4.6/5, mb4.2/6, ML3.9/24, Ms3.5/6, Ms7 3.2/6*
*NEIC **11** 17:12:20.6±0.8, 32°.57N±0°.09×105°.3E±0°.1, h15km±1km, mb4.6/12, Error ellipse: s-maj=16.8km s-min=13.0km az=67.0*

ISC 11 17:12:20.2±0.5, **32°.65N**±0°.04×**105°.35E**±0°.05, **h11**km, **n39,**
σ1**51/45, mb4.3**/15, **2D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.21**	**218**	⇓Pg	**Pg**	**17 13 01.1**	**-1.4**
CD2				Sg	**Sb**	**17 13 27.9**	**+0.4**
CD2				smax	smax		
	comp=N,4μm,0.6s						
CD2				smax	smax		
	comp=E,3μm,0.6s						
XAN	**Xi'an**	**3.29**	**64**	Pn	**Pn**	**17 13 12.7**	**+1.0**
XAN				Pg	**Pb**	**17 13 19.7**	**+1.1**
XAN				Sn	**Sn**	**17 13 47.8**	**-3.1**
XAN				Sg	**Sb**	**17 13 58.5**	**-0.2**
XAN				smax	smax		
	comp=N,720nm,0.7s						
XAN				smax	smax		
	comp=E,710nm,0.8s						
XAN	**Xi'an**	**3.29**	**64**		**Pn**	**17 13 12.4**	**+0.7**
LZH	**Lanzhou**	**3.65**	**340**	ePg	**Pb**	**17 13 21.9**	**-2.8**
LZH				Sg	**Sg**	**17 14 15.9**	**-1.4**
LZH				smax	smax		
	comp=N,310nm,1.0s						
LZH				smax	smax		
	comp=E,440nm,0.9s						
LZH				LR	LR		
	comp=N,380nm,5.4s						
LZH				LR	LR		
	comp=E,320nm,5.1s						
LZH				LR	LR		
	comp=Z,360nm,6.0s						
ENH	**Enshi**	**4.26**	**123**		**Pn**	**17 13 25.3**	**+0.3**
GYA	**Guiyang**	**6.28**	**169**	⇓Pn	**Pn**	**17 13 53.4**	**+0.5**
GYA				Pg	**Pb**	**17 14 12.0**	**+2.4**
GYA				Sn	**Sn**	**17 15 02.1**	**-2.6**
GYA				smax	smax		
	comp=N,56nm,1.0s						
GYA				smax	smax		
	comp=E,80nm,1.1s						
GYA				LR	LR		
	comp=N,110nm,5.3s						
GYA				LR	LR		
	comp=E,130nm,3.9s						
GYA				LR	LR		
	comp=Z,100nm,5.8s						
KMI	**Kunming**	**7.84**	**198**	P	Pn	17 14 19.3	+4.8
WHN	**Wuhan**	**7.96**	**103**	P	**Pn**	**17 14 19.0**	**+3.2**
WHN				S	**Sn**	**17 15 41.5**	**-4.3**
WHN				LR	LR		
	comp=E,470nm,4.1s						
WHN				LR	LR		
	comp=Z,450nm,5.5s						
GTA	**Gaotai**	**8.10**	**328**	eP	**Pn**	**17 14 20.8**	**+3.0**
GTA				pP	Pb	17 14 27.0	-14
GTA				sP	Pg	17 14 30.8	-24
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,90nm,4.2s						
GTA				smax	smax		
	comp=N,9.0nm,0.7s						
GTA				smax	smax		
	comp=E,8.0nm,0.8s						
GTA				LR	LR		
	comp=N,160nm,10.2s						
GTA				LR	LR		
	comp=E,100nm,12.3s						
GTA				LR	LR		
	comp=Z,160nm,10.2s						
BTO	**Baotou**	**8.78**	**24**	eP	Pg	17 15 03.0	-5.2
BTO				S	**Sn**	**17 16 04.1**	**-2.0**

SONM	Songino Array	15.18	3	Pn		Pn	17 15 55.2	+0.6
	0.3nm,0.3s,baz=184,slow=13,SNR=3.8							
SONM	Songino Array	15.18	3			Pn	17 15 55.6	+1.0
WMQ	Urumqi	17.76	314	*e*P		P	17 16 28.6	+0.4
KSRS	Korea Array	19.07	69	P		Pn	17 16 43.2	-0.2
	0.3nm,0.3s,baz=255,slow=10,SNR=12							
MKAR	Makanchi Array	22.56	315	P		P	17 17 21.6	+1.2
	0.7nm,0.5s,baz=116,slow=10,SNR=3.0							
MKAR	Makanchi Array	22.56	315	P		P	17 17 20.0	-0.4
ZALV	Zalesovo Beam	25.83	332	P		P	17 17 53.1	+1.8
	0.5nm,0.4s,baz=133,slow=10,SNR=3.8							
KURBB	Kurchatov Arra	26.68	320	P		P	17 18 00.6	+1.5
	0.7nm,0.3s,baz=131,slow=8.4,SNR=6.7							
JAY	Jayapura	48.40	129	LR		LR	17 42 33.5	
	comp=Z,59nm,19.0s,baz=149,slow=38							
KNRA	Kununurra	53.02	151	P		P	17 21 36.5	-0.7
FITZ	Fitzroy Crossi	54.07	156	P		P	17 21 43.7	-1.2
FINES	FINESS Array B	56.88	326	P		P	17 22 05.3	+0.6
	0.6nm,0.4s,baz=90,slow=6.3,SNR=7.2							
AKASG	Malin Array Be	57.11	313	P		P	17 22 06.7	+0.2
	0.6nm,0.4s,baz=65,slow=7.0,SNR=4.5							
WB0	Warramunga Arr	59.06	148	P		P	17 22 19.8	-0.8
WB0				IAmb		IAmb	17 22 25.0	
	comp=Z,3.0nm,1.1s							
WRA	Warramunga Arr	59.19	148	P		P	17 22 20.6	-0.8
	comp=Z,2.0nm,0.6s,baz=342,slow=7.4,SNR=42							
WRA	Warramunga Arr	59.19	148	P		P	17 22 20.5	-0.9
WB2	Warramunga Arr	59.20	148	P		P	17 22 20.7	-0.7
WB2				IAmb		IAmb	17 22 21.5	
	comp=Z,3.1nm,0.6s							
WR0	Warramunga Arr	59.30	148	P		P	17 22 21.4	-0.7
WR0				IAmb		IAmb	17 22 24.9	
	comp=Z,8.3nm,1.4s							
AS31	Alice Springs	62.28	150	P		P	17 22 41.8	-0.7
ASAR	Alice Springs	62.28	150	P		P	17 22 42.0	-0.4
	comp=Z,1.1nm,0.5s,baz=333,slow=6.7,SNR=41							
ASAR	Alice Springs	62.28	150	P		P	17 22 41.3	-1.1
HFS	Hagfors	63.08	326	P		P	17 22 48.0	+0.6
	comp=Z,0.6nm,0.3s,baz=46,slow=10,SNR=1.9							
NC405	NORSAR Array S	63.68	327	P		P	17 22 51.6	+0.3
NOA	NORSAR Array B	63.93	327	P		P	17 22 52.8	-0.1
	comp=Z,0.5nm,0.6s,baz=69,slow=6.6,SNR=2.9							
NC204	NORSAR Array S	64.05	328	P		P	17 22 54.2	+0.4
NC204				IAmb		IAmb	17 23 07.8	
	comp=Z,10nm,1.2s							
NAO01	NORSAR Array S	64.15	327	P		P	17 22 54.3	-0.1
IMAR	Indian Mountai	64.87	26	P		P	17 22 59.1	+0.1
TTA	Tatalina	65.19	30	P		P	17 23 01.2	0.0
TTA				IAmb		IAmb	17 23 06.0	
	comp=Z,4.0nm,1.3s							
RIDG	Independent Ri	69.28	27	P		P	17 23 27.0	-0.1
RIDG				IAmb		IAmb	17 23 35.0	
	comp=Z,6.5nm,1.2s							

WEL 11 17:17:52.3,38°S±3°×17°6E±°,h206km±7km,M2.8/54,
MLv2.8/54,Error ellipse: s-maj=0.0km s-min=0.0km
az=108.3,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUGZ	Murupara	0.55	126	P	Pn	17 18 18.8	-1.4
TLZ	Tolley Road	0.56	252	P	Pn	17 18 20.5	+0.1
WATZ	Wairara	0.67	214	P	Pn	17 18 20.6	-0.2
MRHZ	Matea Rd	0.70	166	P	Pn	17 18 20.2	-0.8
URZ	Urewera	0.72	99	P	Pn	17 18 20.0	-1.0
RTZ	Ruatahuna	0.76	127	P	Pn	17 18 20.5	-0.8
RATZ	Rangitukua	0.79	206	P	Pn	17 18 21.2	-0.2
MTHZ	Maungataniwha	0.85	145	P	Pn	17 18 21.2	-0.6
KATZ	Kakaramea	0.91	206	P	Pn	17 18 22.1	-0.1
RAGZ	Rawiri	1.01	110	P	Pn	17 18 18.9	-3.9
RAHZ	Arahi	1.02	138	P	Pn	17 18 23.0	+0.2
BKZ	Black Stump Fm	1.03	168	P	Pn	17 18 22.5	-0.4
TMVZ	Te Maari	1.04	202	P	Pn	17 18 23.0	0.0
KRVZ	Karewarewa	1.04	205	P	Pn	17 18 22.8	-0.2
NMHZ	Naumai	1.05	154	P	Pn	17 18 23.6	+0.5
ETVZ	East Tongariro	1.05	202	P	Pn	17 18 23.3	+0.1
MWZ	Matawai	1.05	100	P	Pn	17 18 22.8	-0.2
WTVZ	West Tongariro	1.07	207	P	Pn	17 18 23.6	+0.4
SNGZ	Shannon Statio	1.09	126	P	Pn	17 18 23.5	+0.2
OTVZ	Oturere	1.09	203	P	Pn	17 18 23.9	+0.4
NGZ	Ngauruhoe	1.12	205	P	Pn	17 18 24.3	+0.7
RUGZ	Raukumara Rang	1.18	81	P	Pn	17 18 22.7	-1.4
TUVZ	Tukino	1.19	201	P	Pn	17 18 24.6	+0.4
FWVZ	Far West T-bar	1.21	205	P	Pn	17 18 24.9	+0.5
WNVZ	Wahianoa	1.26	202	P	Pn	17 18 25.1	+0.3
ARHZ	Aropaoanui	1.27	151	P	Pn	17 18 25.0	+0.5
KWHZ	Kaweka Forest	1.28	173	P	Pn	17 18 25.0	+0.3
MOVZ	Moawhango	1.30	196	P	Pn	17 18 24.9	0.0
HAZ	Te Kaha	1.31	73	P	Pn	17 18 24.9	0.0
TKGZ	Te Karaka	1.32	103	P	Pn	17 18 25.4	+0.4
BHHZ	Black Hill Sta	1.34	185	P	Pn	17 18 25.2	0.0
RIGZ	Rimuhau	1.34	115	P	Pn	17 18 25.6	+0.4
MTVZ	Mangateitei	1.36	205	P	Pn	17 18 26.0	+0.6
VRZ	Vera Road	1.49	229	P	Pn	17 18 27.9	+1.5
PUZ	Puketiti	1.62	88	P	Pn	17 18 28.0	+0.4
CKHZ	Cape Kidnapper	1.65	156	P	Pn	17 18 28.6	+0.8
KAHZ	Kahuranaki	1.72	163	P	Pn	17 18 29.3	+0.8
PNHZ	Pukenui	1.76	180	P	Pn	17 18 29.2	+0.3
MXZ	Matakaoa Point	1.76	71	P	Pn	17 18 29.2	+0.3
WMGZ	Waiomatatini S	1.77	80	P	Pn	17 18 30.0	+1.0
WAZ	Wanganui	1.86	210	P	Pn	17 18 31.0	+1.2
TSZ	Takapari Road	1.91	186	P	Pn	17 18 30.8	+0.4
WPHZ	Waipukurau	1.92	175	P	Pn	17 18 30.8	+0.5
PXZ	Pawanui	1.94	165	P	Pn	17 18 31.3	+0.7
PRHZ	Porangahau	2.13	171	P	Pn	17 18 33.3	+0.7
DVHZ	Dannevirke	2.14	181	P	Pn	17 18 33.0	+0.4
POWZ	Post Office Ro	2.26	189	P	Pn	17 18 34.5	+0.6
ANWZ	Angora Road	2.31	175	P	Pn	17 18 35.4	+1.0
PRWZ	Pori Road	2.40	184	P	Pn	17 18 36.4	+1.0
BFZ	Birch Farm	2.52	179	P	Pn	17 18 37.3	+0.6
MRZ	Mangatainoka R	2.55	191	P	Pn	17 18 37.6	+0.5
TIWZ	Tintock	2.63	185	P	Pn	17 18 38.6	+0.7
CPWZ	Castlepoint	2.75	180	P	Pn	17 18 40.6	+1.3
OGWZ	Otaki Gorge	2.78	196	P	Pn	17 18 40.3	+0.8
HOWZ	Holdsworth Sta	2.79	191	P	Pn	17 18 40.2	+0.4
KIW	Kapiti Island	2.88	200	P	Pn	17 18 41.3	+0.5
TMWZ	Te Maipa	2.96	185	P	Pn	17 18 42.2	+0.4
CAW	Cannon Point	3.08	196	P	Pn	17 18 43.6	+0.5
TRWZ	Traveller	3.26	187	P	Pn	17 18 45.7	+0.4
WEL	Wellington	3.32	199	P	Pn	17 18 46.6	+0.7
MSWZ	Moikau Station	3.34	192	P	Pn	17 18 46.4	+0.2
TCW	Tory Channel	3.40	205	P	Pn	17 18 47.5	+0.7
BHW	Baring Head	3.41	197	P	Pn	17 18 47.2	+0.3
PLWZ	Palliser	3.49	192	P	Pn	17 18 48.1	+0.1
TUWZ	Tuamarina	3.71	207	P	Pn	17 18 51.1	+0.5
BSWZ	Blackbirch Sta	3.98	206	P	Pn	17 18 54.9	+0.9
THZ	Tophouse	4.41	214	P	Pn	17 19 01.2	+1.8
KHZ	Kahutara	4.72	205	P	Pn	17 19 03.9	+0.7
GVZ	Greta Valley S	5.38	206	P	Pn	17 19 12.1	+0.5
MQZ	McQueen's Vall	6.16	205	P	Pn	17 19 21.2	-0.4

WEL 11 17:28:02.6,41°S±2°×17°3E±°,h101km±4km,M2.4/8,
ML2.7/7,MLv2.4/8,Error ellipse: s-maj=0.0km
s-min=0.0km az=97.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	Tophouse	0.36	150	P	Pn	17 28 18.3	+0.6
THZ				S	Sn	17 28 28.9	-0.1
NNZ	Nelson	0.58	66	S	Sn	17 28 31.9	+0.4
QRZ	Quartz Range	0.64	350	P	Pn	17 28 20.3	+0.8
QRZ				S	Sn	17 28 32.3	+0.1
DSZ	Denniston Nort	0.71	245	P	Pn	17 28 20.5	+0.3
DSZ				S	Sn	17 28 32.6	-0.9
BSWZ	Blackbirch Sta	0.94	107	P	Pn	17 28 22.8	+0.4
TUWZ	Tuamarina	0.96	89	P	Pn	17 28 23.6	+1.0
TUWZ				S	Sn	17 28 38.1	+0.4
DUWZ	D'Urville Isla	1.15	56	S	Sn	17 28 42.1	+0.6
KHZ	Kahutara	1.16	146	P	Pn	17 28 25.3	+0.4
TCW	Tory Channel	1.23	79	P	Pn	17 28 26.4	+0.7
LTZ	Lake Taylor	1.36	192	P	Pn	17 28 27.8	+0.6
LTZ				S	Sn	17 28 45.1	-0.8
INZ	Inchbonnie	1.56	215	P	Pn	17 28 29.8	+0.2
INZ				S	Sn	17 28 48.5	-1.7
KIW	Kapiti Island	1.79	71	P	Pn	17 28 32.6	0.0
KIW				S	Sn	17 28 54.7	-0.7
CAW	Cannon Point	1.84	80	P	Pn	17 28 32.7	-0.5
OXZ	Oxford	1.93	194	P	Pn	17 28 33.6	-0.7
OGWZ	Otaki Gorge	1.99	72	P	Pn	17 28 35.2	+0.1
WVZ	Waitaha Valley	2.16	221	P	Pn	17 28 37.2	0.0
HOWZ	Holdsworth Sta	2.22	76	P	Pn	17 28 37.2	-0.8
MQZ	McQueen's Vall	2.25	180	P	Pn	17 28 37.3	-1.1
OKCZ	Okains Bay	2.29	173	P	Pn	17 28 38.5	-0.4
MRZ	Mangatainoka R	2.34	71	P	Pn	17 28 39.8	+0.3
AKCZ	Akaroa Harbour	2.42	176	P	Pn	17 28 40.7	0.0
WAZ	Wanganui	2.45	47	P	Pn	17 28 43.4	+2.4
GCSZ	Gaunt Creek Bo	2.54	222	P	Pn	17 28 42.2	-0.1
RPZ	Rata Peaks	2.56	207	P	Pn	17 28 41.4	-1.1
WACZ	Wakanui South	2.56	194	P	Pn	17 28 40.2	-2.3
ARCZ	Arundel	2.73	203	P	Pn	17 28 43.4	-1.3
BFZ	Birch Farm	2.81	75	P	Pn	17 28 45.4	-0.4
BFZ				S	Sn	17 29 16.1	-3.1
VRZ	Vera Road	2.82	35	P	Pn	17 28 47.4	+1.4
TSZ	Takapari Road	2.86	62	P	Pn	17 28 49.1	+2.6
FOZ	Fox Glacier	2.96	224	P	Pn	17 28 47.4	-0.4
WNVZ	Wahianoa	3.08	47	P	Pn	17 28 51.8	+2.1
FWVZ	Far West T-bar	3.11	46	P	Pn	17 28 52.4	+2.4
WTVZ	West Tongariro	3.23	45	P	Pn	17 28 53.6	+2.1
OTVZ	Oturere	3.24	46	P	Pn	17 28 54.0	+2.3
KRVZ	Karewarewa	3.27	45	P	Pn	17 28 54.3	+2.1
ETVZ	East Tongariro	3.28	46	P	Pn	17 28 55.1	+2.8
TMVZ	Te Maari	3.29	46	P	Pn	17 28 55.2	+2.8
HIZ	Hauiti	3.38	30	P	Pn	17 28 54.0	+0.5

*IDC **11** 17:50:10.1±4.6, 12°.04N×91°.42W, h0km, mb3.0/2,*
mb1 3.6/2, mb1mx3.4/24, mbtmp3.1/2, Error ellipse:
s-maj=456.1km s-min=71.9km az=51.0
*SNET **11** 17:50:14.1±1.2, 12°.76N×90°.90W, h17km±15km, ML3.6*
*UCR **11** 17:50:14.1±1.3, 12°.72N×91°.00W, h35km±999km, ML3.5*
ISC 11 17:50:11.7±1.7, 12°.3N±0°.1×90°.61W±0°.08, h30km, n19,
σ0§86/27, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	Cerro Verde	1.82	32	*e*P	Pn	17 50 42.1	+0.8
CEVE				IAML		17 51 09.2	
	comp=Z,447nm,0.2s						
CEVE	Cerro Verde	1.82	32	*e*P	Pn	17 50 42.1	+0.8
CEVE				IAML		17 51 09.2	
	comp=Z,447nm,0.2s						
BOQS	Boqueron	1.95	42	*e*P	Pb	17 50 45.7	-1.0
BOQS	Boqueron	1.95	42	*e*P	Pb	17 50 45.7	-1.0
LFRS	El Faro	2.02	48	*e*P	Pb	17 50 47.0	-0.9
LFRS				*e*S	Sb	17 51 13.4	+0.7
LFRS	El Faro	2.02	48	*e*P	Pb	17 50 47.0	-0.9
LFRS				*e*S	Sb	17 51 13.4	+0.7
LFU	La Fuente	2.07	45	*e*P	Pb	17 50 47.6	-1.0
LFU	La Fuente	2.07	45	*e*P	Pb	17 50 47.6	-1.0
COEG	Centro de Oper	2.16	51	*e*P	Pb	17 50 49.4	-0.7
COEG				*e*S	Sb	17 51 15.8	-0.7
COEG	Centro de Oper	2.16	51	*e*P	Pb	17 50 49.4	-0.7
COEG				*e*S	Sb	17 51 15.8	-0.7
BLLM	Bellamira	2.59	63	*e*P	Pb	17 50 57.0	-0.5
BLLM	Bellamira	2.59	63	*e*P	Pb	17 50 57.0	-0.5
LCND	La Caada	2.85	68	*e*P	Pb	17 51 00.9	-0.9
LCND				*e*S	Sb	17 51 36.7	+0.4
LCND	La Caada	2.85	68	*e*P	Pb	17 51 00.9	-0.9
LCND				*e*S	Sb	17 51 36.7	+0.4
CNCH	Conchagua	2.89	69	*e*P	Pb	17 51 01.2	-1.4
CNCH				*e*S	Sb	17 51 38.5	+0.9
CNCH				IAML		17 51 41.8	
	comp=Z,324nm,0.5s						
CNCH	Conchagua	2.89	69	*e*P	Pb	17 51 01.2	-1.4
CNCH				*e*S	Sb	17 51 38.5	+0.9
CNCH				IAML		17 51 41.8	
	comp=Z,324nm,0.5s						
TXAR	Lajitas Array	20.88	326	P	P	17 54 51.6	0.0
	comp=Z,0.4nm,0.8s,baz=147,slow=12,SNR=5.9						
NVAR	Mina Array Bea	35.86	321	P	P	17 57 09.2	+0.1
	comp=Z,0.4nm,0.8s,baz=135,slow=9.0,SNR=2.1						
CMAR	Chiang Mai Arr	148.05	343	PKPbc	PKPab	18 09 57.9	0.0
	comp=Z,0.3nm,0.3s,baz=347,slow=3.7,SNR=2.0						

*KOLA **11** 18:01:07.9, 67°.99N×20°.25E, h0km*
*IDC **11** 18:01:10.3±1.2, 67°.08N×20°.91E, h0km, mb1 2.6/3,*
mb1mx2.6/39, mbtmp2.5/3, ML2.0/3, Error ellipse:
s-maj=17.9km s-min=10.2km az=101.0
*HEL **11** 18:01:10.1±0.2, 67°.07N×20°.92E, h0km, ML2.2, Explosion*
*NAO **11** 18:01:10.4±1.0, 67°.06N×21°.04E, ML2.4*
*BER **11** 18:01:11.7±3.2, 66°.97N×20°.93E, h0km, ML1.8,*
ML2.4(NAO), Suspected explosion
ISC 11 18:01:09.5±0.8, 67°.08N±0°.03×20°.80E±0°.04, h0km, n42,
σ1§15/60, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.76	133	PG	Pg	18 01 23.0	-1.0
ERTU				SG	Sg	18 01 32.7	-1.1
LANU	Lannavaara	1.08	24	PG	Pg	18 01 29.4	-0.7
LANU				SB	Sg	18 01 44.0	0.0
TOF	Tornio	1.73	124	PG	Pn	18 01 40.4	-0.3
	baz=303						
TOF				MSG		18 02 00.4	
	comp=Z,30nm,0.2s						
TOF				SG	Sn	18 02 02.8	-0.6
KIF	Kilpisjarvi	1.94	0	Pn	Pb	18 01 46.0	+0.5
KIF				Sn	Sg	18 02 11.9	+0.3
KIF	Kilpisjarvi	1.94	0	PG	Pb	18 01 45.6	0.0
KIF				MSG		18 02 09.2	
	comp=Z,28nm,0.2s						
KIF				SG	Sg	18 02 12.4	+0.8
KIF	Kilpisjarvi	1.94	0	Pn	Pb	18 01 46.0	+0.5
KIF				Sn	Sg	18 02 11.9	+0.3
N2IH	Innhavet	2.07	298	*e*P	Pn	18 01 42.5	-2.9
RNF	Rovaniemi	2.11	100	PG	Pn	18 01 46.5	+0.5
RNF				SG	Sn	18 02 14.2	+1.2
FAUS	Fauske	2.17	281	*e*P	Pb	18 01 49.5	0.0
FAUS				IAML		18 02 23.7	
	comp=Z,12nm,0.3s						
N2TV	Tørnvik	2.25	285	*e*P	Pb	18 01 50.3	-0.6
SGF	Sodankyl	2.25	78	PB	Pn	18 01 48.6	+0.6
	baz=260						
SGF				SG	Sn	18 02 18.1	+1.7
STEI	Steigen	2.30	294	*e*P	Pb	18 01 50.9	-0.9
BURU	Burvik	2.52	174	PB	Pn	18 01 52.7	+1.2
TRO	Tromso	2.66	346	Pn	Pb	18 01 56.0	-1.8
TRO				Sn	Sn	18 02 28.7	+2.4
TRO	Tromso	2.66	346	Pn	Pb	18 01 56.0	-1.8
TRO				Sn	Sn	18 02 28.7	+2.4
OUL	Oulu	2.88	132	PB	Pn	18 01 57.9	+1.4
OUL				SG	Sb	18 02 36.8	-0.6
OBF0	Syolatti, Pyha	2.95	150	PB	Pn	18 01 59.9	+2.4
OBF0				SB	Sn	18 02 35.2	+1.7
LOF	Lofoten	2.97	294	Pn	Pn	18 01 58.7	+0.9
LOF	Lofoten	2.97	294	*e*P	Pn	18 01 58.7	+0.9
ARA0	ARCESS Array S	3.02	33	Pn	Pn	18 01 58.9	+0.4
	baz=219,slow=14						
ARA0				Sn	Sn	18 02 36.3	+0.9
	baz=214,slow=28						
ARA0	ARCESS Array S	3.02	33	Pn	Pn	18 01 58.9	+0.4
	baz=219,slow=14						
ARA0				Sn	Sn	18 02 36.3	+0.9
	baz=214,slow=28						
ARCES	ARCESS Array B	3.02	33	Pn	Pn	18 01 59.2	+0.7
	comp=Z,0.5nm,0.3s,baz=215,slow=13,SNR=23						
ARE0	ARCESS Array S	3.02	33	PN	Pn	18 01 58.9	+0.4
ARE0				SG	Sb	18 02 42.1	+0.6
OUF	Merijarvi	3.17	147	PB	Pn	18 02 01.1	+0.6
OUF				SB	Sn	18 02 40.3	+1.4
OUF				MSG		18 02 42.1	
	comp=Z,3.7nm,0.2s						
UMAU	Umeaa	3.21	181	PB	Pn	18 02 01.9	+0.8
VRF	Varrio	3.47	75	PN	Pn	18 02 06.5	+1.9
	baz=261						
MSF	Maaselka	3.50	106	PN	Pn	18 02 05.5	+0.4
	baz=296						
KU6	Riekki	3.78	102	PN	Pn	18 02 09.6	+0.7
	baz=292						
HUSU	Husum	3.81	191	PN	Pn	18 02 10.4	+1.1
VAF	Ylistaro	4.13	168	PN	Pn	18 02 15.1	+1.5
	baz=352						
HEMU	Hemsoen	4.57	196	PN	Pn	18 02 20.1	+0.4
	baz=17						
APA0	Apatity Array	4.75	78	Pn	Pn	18 02 21.2	-0.9
	baz=280,slow=10						
APA0	Apatity Array	4.75	78	P	Pn	18 02 20.8	-1.3
APA0				S	Sn	18 03 15.6	-2.2
APA0	Apatity Array	4.75	78	Pn	Pn	18 02 21.2	-0.9
	baz=280,slow=10						
FINES	FINESS Array B	6.10	155	Pn	Pn	18 02 41.7	+0.9
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=9.7						
FINES				Sn	Sn	18 03 51.5	+0.3
	comp=Z,0.3nm,0.3s,baz=339,slow=21,SNR=7.6						
FINES				Lg	Lg	18 04 21.4	
	comp=Z,0.3nm,0.3s,baz=346,slow=29,SNR=1.9						
NB2	NORSAR Subarra	7.37	219	Pn	Pn	18 02 58.1	-0.1
	baz=31,slow=12						
NB2	NORSAR Subarra	7.37	219	Pn	Pn	18 02 58.1	-0.1
	baz=31,slow=12						
NOA	NORSAR Array B	7.37	219	Pn	Pn	18 02 58.2	0.0
	comp=Z,0.0nm,0.3s,baz=32,slow=12,SNR=4.9						
NOA				Lg	Lg	18 05 01.4	
	comp=Z,0.0nm,0.3s,baz=43,slow=22,SNR=1.3						
NRA0	NORESS Array S	7.55	217	Pn	Pn	18 03 01.6	+0.9
	baz=25,slow=14						
NRA0	NORESS Array S	7.55	217	Pn	Pn	18 03 01.6	+0.9
	baz=25,slow=14						
HFS	Hagfors	7.65	208	Pn	Pn	18 03 02.2	+0.2
	baz=26,slow=12						
HFS	Hagfors	7.65	208	Pn	Pn	18 03 02.2	+0.2
	baz=26,slow=12						

*IDC **11** 18:01:47.8±1.2, 67°.07N×21°.34E, h0km, mb1 2.9/3,*
mb1mx2.8/39, mbtmp2.8/3, ML2.4/3, Error ellipse:
s-maj=21.6km s-min=10.0km az=108.0
*KOLA **11** 18:01:51.0, 67°.99N×20°.78E, h0km*
ISC 11 18:01:47.6±1.4, 67°.13N±0°.08×20°.9E±0°.1, h0km, n5,
σ1§62/8, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	2.97	33	Pn	Pn	18 02 35.5	-0.4
	1.5nm,0.3s,baz=208,slow=14,SNR=10						
ARCES				Sn	Sn	18 03 11.1	-1.1
	0.9nm,0.3s,baz=211,slow=21,SNR=1.5						
APA0	Apatity Array	4.72	79	P	Pn	18 03 00.3	+0.5
APA0				S	Sn	18 03 53.1	-2.1
APA	Apatity	4.88	79	P	Pn	18 03 04.5	+2.4
APA				S	Sn	18 03 58.9	-0.2
FINES	FINESS Array B	6.14	156	Pn	Pn	18 03 18.6	-0.9
	0.3nm,0.3s,baz=342,slow=12,SNR=6.6						
FINES				Lg	Lg	18 04 56.0	
	0.3nm,0.3s,baz=347,slow=25,SNR=3.0						
NOA	NORSAR Array B	7.42	219	Pn	Pn	18 03 37.7	+0.7
	0.0nm,0.3s,baz=25,slow=11,SNR=2.3						
NOA				Lg	Lg	18 05 39.2	
	0.0nm,0.3s,baz=16,slow=19,SNR=1.6						

TAP 11 18:17:23.8, 24°.29N×121°.29E, h5km, ML1.3, 3C, C,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSS	Fushou	0.06	227	P	Pg	18 17 26.3	+0.7
	baz=227						
FUSS				S	Sg	18 17 27.8	+1.0
	baz=227						
TWT	Tachien	0.11	251	P	Pg	18 17 27.0	+0.7
	baz=250						
TWT				*i* S	Sg	18 17 29.1	+1.1
	baz=250						
TDCB	Techi	0.13	254	P	Pg	18 17 27.2	+0.6
	baz=252						
TDCB				S	Sg	18 17 29.0	+0.7
	baz=252						
WHF	Hehuan Shan	0.15	190	⇑ *i* P	Pg	18 17 27.7	+0.7
	baz=187						
WHF				*i* S	Sg	18 17 30.2	+1.2
	baz=187						
NNSB	Datong	0.16	30	⇑ P	Pg	18 17 27.3	+0.2
	baz=31						
NNSB				S	Sg	18 17 30.2	+0.9
	baz=31						
NNSH	Datong	0.16	30	*i* P	Pg	18 17 27.4	+0.3
	baz=28						
NNSH				*e*S	Sg	18 17 30.2	+1.0
	baz=28						
NNS	Nan Shan	0.17	26	*i* P	Pg	18 17 27.5	+0.3
	baz=29						
NNS				*i* S	Sg	18 17 30.4	+1.0
	baz=29						
ETLH	Xiulin Townshi	0.19	116	P	Pg	18 17 28.4	+0.8
	baz=116						
ETLH				S	Sg	18 17 31.3	+1.1
	baz=116						
CHGB	Renai	0.25	206	⇑ *e*P	Pg	18 17 29.2	+0.3
	baz=204						
CHGB				*e*S	Sb	18 17 34.2	-1.6
	baz=204						
NACB	Ninganchiao	0.30	113	*e*P	Pg	18 17 30.2	+0.6
	baz=123						
NACB				*e*S	Sg	18 17 34.4	+0.8
	baz=123						
WHP	Taichung City	0.32	268	P	Pg	18 17 31.0	+0.9
	baz=268						
WHP				*e*S	Sg	18 17 35.3	+1.1
	baz=268						
TWD	Chiawan	0.35	127	*e*P	Pg	18 17 31.0	+0.5
	baz=127						
OWD	Renai	0.35	198	P	Pg	18 17 31.6	+0.9
	baz=197						
OWD				*e*S	Sg	18

	baz=250						
TDCB	**Techi**	**0.13**	**252**	P	Pg	18 17 34.4	+1.1
	baz=251						
TDCB				S	Sg	18 17 36.0	+0.5
	baz=251						
WHF	**Hehuan Shan**	**0.15**	**190**	*i* P	Pg	18 17 34.8	+1.0
	baz=187						
NNSB	**Datong**	**0.16**	**31**	P	Pg	18 17 34.4	+0.7
	baz=30						
NNSB				S	Sg	18 17 37.4	+1.2
	baz=30						
NNSH	**Datong**	**0.16**	**31**	*i* P	Pg	18 17 34.4	+0.7
	baz=30						
NNSH				*i* S	Sg	18 17 37.4	+1.2
	baz=30						
NNS	**Nan Shan**	**0.16**	**26**	*i* P	Pg	18 17 34.6	+0.8
	baz=28						
NNS				*i* S	Sg	18 17 37.7	+1.3
	baz=28						
ETLH	**Xiulin Townshi**	**0.19**	**117**	P	Pg	18 17 35.5	+1.3
	baz=116						
ETLH				S	Sg	18 17 38.3	+1.3
	baz=116						
CHGB	**Renai**	**0.26**	**205**	*e*P	Pg	18 17 36.2	+0.8
	baz=205						
CHGB				*e*S	Sg	18 17 40.0	+1.0
	baz=205						
NACB	**Ninganchiao**	**0.30**	**113**	*e*P	Pb	18 17 37.4	-0.2
	baz=113						
NACB				S	Sb	18 17 41.8	-0.8
	baz=113						
WHP	**Taichung City**	**0.32**	**267**	S	Sb	18 17 42.5	-0.7
	baz=267						
TWD	**Chiawan**	**0.35**	**127**	*e*S	Sb	18 17 44.2	+0.2
	baz=126						
OWD	**Renai**	**0.35**	**198**	*e*S	Sb	18 17 44.4	+0.1
	baz=197						
NDT	**Datong Townshi**	**0.37**	**33**	P	Pb	18 17 38.6	-0.2
	baz=32						
NDT				*e*S	Sb	18 17 45.0	+0.4
	baz=32						
YHNB	**Yeheng**	**0.38**	**11**	P	Pb	18 17 38.8	-0.4
	baz=11						
NSK	**Sanguang**	**0.39**	**9**	P	Pb	18 17 39.1	0.0
	baz=9.0						
NSK				S	Sb	18 17 45.4	+0.2
	baz=9.0						
HWA	**Hwalien**	**0.42**	**138**	*e*P	Pb	18 17 40.3	+0.5
	baz=137						
HWA				*e*S	Sb	18 17 46.3	+0.1
	baz=137						
HWA	**Hwalien**	**0.42**	**138**	S	Pb	18 17 40.3	+0.5
	baz=138						
ENTT	**Nioudou**	**0.42**	**36**	P	Pb	18 17 39.3	-0.5
	baz=36						
ENTT				*e*S	Sb	18 17 46.1	-0.1
	baz=36						
ENTT	**Nioudou**	**0.42**	**36**	*i* S	Pb	18 17 39.4	-0.4
	baz=27						
ENA	**Nanau**	**0.43**	**72**	*e*S	Sb	18 17 46.3	0.0
	baz=72						
NSTT	**Nanjuang**	**0.43**	**322**	P	Pg	18 17 39.1	+0.5
	baz=322						
NSTT				S	Sb	18 17 46.5	+0.1
	baz=322						
NSTT	**Nanjuang**	**0.43**	**322**	S	Pg	18 17 39.4	+0.8
	baz=322						
LIOB	**Emei**	**0.43**	**324**	P	Pb	18 17 39.5	-0.4
	baz=324						
LIOB				S	Sb	18 17 46.7	+0.2
	baz=324						
LIOB	**Emei**	**0.43**	**324**	S	Pg	18 17 39.5	+0.8
	baz=324						
NWLT	**Wulai**	**0.52**	**21**	*e*P	Pb	18 17 41.2	-0.2
	baz=21						
NWLT	**Wulai**	**0.52**	**21**	*e*S	Pb	18 17 41.2	-0.2
	baz=10.0						
SMLT	**Sun Moon Lake**	**0.54**	**222**	P	Pb	18 17 41.8	-0.1
	baz=220						
VWDT	**VWDT**	**0.56**	**195**	*e*P	Pg	18 17 41.4	+0.5
	baz=194						

TAP 11 18:17:32.8, 24°.29N×121°.30E, h12km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSS	**Fushou**	**0.06**	**230**	P	Pg	18 17 36.0	+0.3
	baz=229						
FUSS				S	Sg	18 17 37.8	+0.1
	baz=229						
TWT	**Tachien**	**0.12**	**252**	*i* P	Pb	18 17 37.6	+0.5
	baz=252						
TWT				*i* S	Sg	18 17 39.1	+0.6
	baz=252						
TDCB	**Techi**	**0.13**	**254**	S	Sg	18 17 39.1	+0.3
	baz=253						
WHF	**Hehuan Shan**	**0.15**	**192**	*i* P	Pb	18 17 37.4	-0.4
	baz=188						
WHF				*i* S	Sg	18 17 40.3	+0.8
	baz=188						
WHF	**Hehuan Shan**	**0.15**	**192**	*i* S	Pb	18 17 37.2	-0.5
	baz=187						
NNSB	**Datong**	**0.16**	**29**	P	Pb	18 17 38.0	+0.2
	baz=29						
NNSB				S	Sg	18 17 40.5	+1.1
	baz=29						
NNSH	**Datong**	**0.16**	**29**	S	Sg	18 17 40.2	+0.8
	baz=29						
NNS	**Nan Shan**	**0.17**	**25**	S	Sg	18 17 40.8	+1.3
	baz=27						
ETLH	**Xiulin Townshi**	**0.19**	**116**	S	Sg	18 17 41.3	+1.2
	baz=115						
CHGB	**Renai**	**0.25**	**206**	*e*P	Pb	18 17 38.9	-0.6
	baz=206						
CHGB				*e*S	Sb	18 17 43.3	-0.6
	baz=206						
NACB	**Ninganchiao**	**0.29**	**113**	*e*P	Pg	18 17 39.4	+0.5
	baz=112						
NACB				S	Sb	18 17 44.3	-0.5
	baz=112						
WHP	**Taichung City**	**0.32**	**268**	S	Sb	18 17 45.5	-0.2
	baz=267						

WEL 11 18:26:10.2, 40°S±1°×174°.8E±0°.9, h36km±2km, M3.2/20, ML3.5/20, MLv3.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=174.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.13**	**97**	P	Pn	18 26 16.6	-4.0
WAZ				S	Sn	18 26 21.9	-8.4
LREZ	**Lake Rotokare**	**0.43**	**311**	P	Pn	18 26 19.7	0.0
LREZ				S	Sn	18 26 27.9	+1.4
OHWZ	**Ohakea**	**0.60**	**141**	P	Pn	18 26 22.4	0.0
OHWZ				S	Sn	18 26 31.8	+0.9
PKVZ	**Pokaka**	**0.61**	**42**	P	Pn	18 26 22.4	-0.1
MTVZ	**Mangateitei**	**0.61**	**55**	P	Pn	18 26 22.7	0.0
VRZ	**Vera Road**	**0.61**	**356**	P	Pn	18 26 22.7	+0.1
PREZ	**Palmer Road**	**0.65**	**308**	P	Pn	18 26 23.2	+0.2
DREZ	**Durham Road**	**0.73**	**319**	P	Pn	18 26 24.4	+0.4
DREZ				S	Sn	18 26 36.0	+2.1
WNVZ	**Wahianoa**	**0.73**	**56**	P	Pn	18 26 24.4	+0.3
WNVZ				S	Sn	18 26 34.8	+0.6
NEZ	**North Egmont**	**0.73**	**310**	P	Pn	18 26 24.2	+0.1
DRZ	**Dome Shelter**	**0.74**	**51**	P	Pn	18 26 24.9	+0.4
FWVZ	**Far West T-bar**	**0.74**	**50**	P	Pn	18 26 24.6	+0.2
FWVZ				S	Sn	18 26 35.0	+0.4
MHEZ	**Mangahewa**	**0.77**	**330**	P	Pn	18 26 24.7	+0.2
MHEZ				S	Sn	18 26 37.2	+2.4
MOVZ	**Moawhango**	**0.79**	**66**	P	Pn	18 26 25.0	+0.1
MOVZ				S	Sn	18 26 35.9	+0.2
NMEZ	**Namu Road**	**0.80**	**294**	P	Pn	18 26 25.2	+0.2
TUVZ	**Tukino**	**0.80**	**54**	P	Pn	18 26 25.6	+0.5
TUVZ				S	Sn	18 26 36.4	+0.6
TWVZ	**Taurewa**	**0.82**	**36**	P	Pn	18 26 25.7	+0.3
TWVZ				S	Sn	18 26 37.2	+0.8
NGZ	**Ngauruhoe**	**0.83**	**47**	P	Pn	18 26 25.7	+0.2
NGZ				S	Sn	18 26 37.4	+0.8
PKE	**Pukeiti**	**0.84**	**310**	P	Pn	18 26 26.4	+0.8
WTVZ	**West Tongariro**	**0.86**	**44**	P	Pn	18 26 26.2	+0.3
WTVZ				S	Sn	18 26 38.3	+0.8
OTVZ	**Oturere**	**0.87**	**49**	P	Pn	18 26 26.5	+0.4
OTVZ				S	Sn	18 26 38.3	+0.6
TSZ	**Takapari Road**	**0.93**	**110**	P	Pn	18 26 27.5	+0.6
POWZ	**Post Office Ro**	**0.98**	**132**	P	Pn	18 26 28.3	+0.8
BHHZ	**Black Hill Sta**	**0.99**	**76**	P	Pn	18 26 27.7	+0.1
KATZ	**Kakaramea**	**1.02**	**42**	P	Pn	18 26 28.5	+0.4
PNHZ	**Pukenui**	**1.08**	**100**	P	Pn	18 26 29.6	+0.8
MRZ	**Mangatainoka R**	**1.09**	**148**	P	Pn	18 26 29.5	+0.6
RITZ	**Rihia Road**	**1.11**	**47**	P	Pn	18 26 31.0	+1.8
OGWZ	**Otaki Gorge**	**1.11**	**166**	P	Pn	18 26 29.3	+0.1
KIW	**Kapiti Island**	**1.12**	**177**	P	Pn	18 26 29.1	-0.3
RATZ	**Rangitukua**	**1.14**	**41**	P	Pn	18 26 30.4	+0.7
DVHZ	**Dannevirke**	**1.18**	**119**	P	Pn	18 26 31.8	+1.7
KRHZ	**Kereru**	**1.20**	**86**	P	Pn	18 26 31.6	+1.1
PRWZ	**Pori Road**	**1.20**	**133**	P	Pn	18 26 32.1	+1.6
HIZ	**Hauiti**	**1.22**	**1**	P	Pn	18 26 31.7	+0.9
WATZ	**Wairara**	**1.25**	**35**	P	Pn	18 26 32.0	+0.8
DUWZ	**D'Urville Isla**	**1.27**	**213**	P	Pn	18 26 30.8	-0.6
HOWZ	**Holdsworth Sta**	**1.27**	**156**	P	Pn	18 26 32.2	+0.7
KWHZ	**Kaweka Forest**	**1.28**	**76**	P	Pn	18 26 33.0	+1.4
WPHZ	**Waipukurau**	**1.29**	**105**	P	Pn	18 26 34.1	+2.4
TIWZ	**Tintock**	**1.32**	**142**	P	Pn	18 26 33.7	+1.6
CAW	**Cannon Point**	**1.38**	**172**	P	Pn	18 26 33.2	+0.2
BKZ	**Black Stump Fm**	**1.42**	**67**	P	Pn	18 26 34.4	+0.9
BFZ	**Birch Farm**	**1.44**	**131**	P	Pn	18 26 35.7	+1.9
ANWZ	**Angora Road**	**1.46**	**120**	P	Pn	18 26 38.1	+4.1
KUTZ	**Kaahu Road**	**1.47**	**32**	P	Pn	18 26 36.1	+1.9
MCHZ	**McNeill Hill**	**1.48**	**79**	P	Pn	18 26 37.7	+3.4
PRHZ	**Porangahau**	**1.49**	**111**	P	Pn	18 26 37.1	+2.6
TLZ	**Tolley Road**	**1.51**	**22**	P	Pn	18 26 35.1	+0.3
TCW	**Tory Channel**	**1.53**	**196**	P	Pn	18 26 34.5	-0.5
MRHZ	**Matea Rd**	**1.53**	**54**	P	Pn	18 26 36.3	+1.2
WEL	**Wellington**	**1.54**	**181**	P	Pn	18 26 35.7	+0.5
CPWZ	**Castlepoint**	**1.58**	**138**	P	Pn	18 26 40.0	+4.3
KAHZ	**Kahuranaki**	**1.59**	**93**	P	Pn	18 26 38.6	+2.7
TMWZ	**Te Maipa**	**1.59**	**149**	P	Pn	18 26 37.5	+1.6
PXZ	**Pawanui**	**1.60**	**101**	P	Pn	18 26 39.3	+3.4
NMHZ	**Naumai**	**1.67**	**68**	P	Pn	18 26 39.0	+2.1
BHW	**Baring Head**	**1.67**	**179**	P	Pn	18 26 37.9	+1.0
MSWZ	**Moikau Station**	**1.71**	**169**	P	Pn	18 26 38.8	+1.3
ARHZ	**Aropaoanui**	**1.75**	**75**	P	Pn	18 26 40.8	+2.8
TRWZ	**Traveller**	**1.79**	**159**	P	Pn	18 26 40.7	+2.1
MTHZ	**Maungataniwha**	**1.80**	**61**	P	Pn	18 26 39.7	+1.0
TUWZ	**Tuamarina**	**1.82**	**201**	P	Pn	18 26 38.1	-0.8
NNZ	**Nelson**	**1.84**	**216**	P	Pn	18 26 39.7	+0.5
PLWZ	**Palliser**	**1.86**	**170**	P	Pn	18 26 40.0	+0.5
RAHZ	**Arahi**	**1.94**	**66**	P	Pn	18 26 43.4	+2.7
MUGZ	**Murupara**	**1.97**	**51**	P	Pn	18 26 42.7	+1.6
RTZ	**Ruatahuna**	**2.02**	**57**	P	Pn	18 26 43.4	+1.6
QRZ	**Quartz Range**	**2.06**	**237**	P	Pn	18 26 41.5	-0.8
TOZ	**Tahuroa Road**	**2.08**	**15**	P	Pn	18 26 42.9	+0.4
BSWZ	**Blackbirch Sta**	**2.10**	**200**	P	Pn	18 26 43.9	+1.1
URZ	**Urewera**	**2.32**	**51**	P	Pn	18 26 46.9	+1.1
KNZ	**Kokohu**	**2.33**	**73**	P	Pn	18 26 47.7	+1.8
RAGZ	**Rawiri**	**2.37**	**59**	P	Pn	18 26 45.4	-1.3
MHGZ	**Mahia Peninsul**	**2.46**	**77**	P	Pn	18 26 49.7	+1.9
THZ	**Tophouse**	**2.49**	**215**	P	Pn	18 26 48.9	+0.6
RIGZ	**Rimuhau**	**2.51**	**67**	P	Pn	18 26 49.3	+0.8
PRGZ	**Paritu Road**	**2.51**	**72**	P	Pn	18 26 50.1	+1.6
AWAZ	**Awhitu Peninsu**	**2.67**	**357**	P	Pn	18 26 51.7	+0.9
KHZ	**Kahutara**	**2.84**	**199**	P	Pn	18 26 53.2	+0.1
RUGZ	**Raukumara Rang**	**2.85**	**52**	P	Pn	18 26 54.1	+0.9
WIAZ	**Waiheke Island**	**2.95**	**5**	P	Pn	18 26 55.5	+0.9
DSZ	**Denniston Nort**	**3.04**	**228**	P	Pn	18 26 55.5	-0.3
WMGZ	**Waiomatatini S**	**3.40**	**57**	P	Pn	18 27 01.8	+1.1
GVZ	**Greta Valley S**	**3.49**	**202**	P	Pn	18 27 01.4	-0.6
LTZ	**Lake Taylor**	**3.60**	**211**	P	Pn	18 27 03.1	-0.3
WCZ	**Waipu Caves**	**3.81**	**354**	P	Pn	18 27 07.1	+0.7
MQZ	**McQueen's Vall**	**4.28**	**202**	P	Pn	18 27 10.7	-2.1
AKCZ	**Akaroa Harbour**	**4.37**	**198**	P	Pn	18 27 12.6	-1.4
ODZ	**Otahua Downs**	**6.14**	**209**	P	Pn	18 27 36.6	-1.6

JMA 11 18:49:14.7±0.1, 24°.49N×123°.56E, h1km±2km, M0.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.22**	**135**	P	Pg	18 49 19.3	+0.4
IRIF				S	Sg	18 49 22.5	+0.8
JKRS	**Kuro-shima**	**0.48**	**121**	P	Pg	18 49 24.5	+0.6
JKRS				S	Sg	18 49 31.2	+1.1
HATJ	**Hateruma jima**	**0.49**	**153**	*e*S	Sg	18 49 31.5	+1.2
YOJ	**Yonaguni jima**	**0.50**	**267**	*e*S	Sg	18 49 31.6	+0.8
JIJ	**Ishigaki jima**	**0.55**	**103**	P	Pg	18 49 25.6	+0.4
JIJ				S	Sg	18 49 33.1	+0.8
JISG	**Ishigakijimahi**	**0.69**	**82**	P	Pg	18 49 28.6	+0.7
JISG				S	Sb	18 49 39.1	-0.5
JTJ	**Tarama**	**1.05**	**82**	P	Pb	18 49 35.5	-0.2
JTJ				S	Sb	18 49 50.6	+0.7

TAP 11 18:49:22.8, 24°.47N×121°.85E, h17km, ML0.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.04**	**243**	*i* P	Pg	18 49 26.3	+0.5
	baz=243						
ENAH				*i* S	Sg	18 49 28.6	+0.8
	baz=243						
ENA	**Nanau**	**0.11**	**248**	*i* P	Pb	18 49 26.9	+0.4
	baz=245						
ENA				S	Sb	18 49 29.4	+0.5
	baz=245						
TWC	**Suao**	**0.14**	**360**	P	Pb	18 49 27.6	+0.5
	baz=3.0						
TWC				*i* S	Sb	18 49 30.2	+0.3
	baz=3.0						
ENTT	**Nioudou**	**0.31**	**304**	*e*P	Pb	18 49 30.7	+0.7
	baz=303						
ENTT				S	Sb	18 49 35.4	+0.7
	baz=303						
NDT	**Datong Townshi**	**0.34**	**294**	*e*P	Pb	18 49 31.2	+0.8
	baz=293						
NDT				S	Sb	18 49 36.5	+1.0
	baz=293						
NACB	**Ninganchiao**	**0.37**	**219**	*e*S	Sg	18 49 36.0	+0.2
	baz=218						
NNSB	**Datong**	**0.43**	**265**	P	Pb	18 49 32.2	+0.2
	baz=264						
NNSB				S	Sb	18 49 38.5	+0.2
	baz=264						
NNSH	**Datong**	**0.43**	**265**	*e*P	Pb	18 49 32.1	+0.1
	baz=264						
NNSH				*e*S	Sb	18 49 38.5	+0.2
	baz=264						
NWLT	**Wulai**	**0.44**	**314**	*e*S	Sb	18 49 39.1	+0.6
	baz=314						
YHNB	**Yeheng**	**0.48**	**295**	*e*P	Pb	18 49 33.3	+0.4
	baz=294						
YHNB				*e*S	Sb	18 49 40.0	+0.4
	baz=294						
NSK	**Sanguang**	**0.49**	**295**	*e*S	Sb	18 49 40.2	+0.1
	baz=294						
TIPB	**Shuangxi**	**0.50**	**357**	*e*P	Pg	18 49 33.1	+0.2
	baz=357						
TIPB				*e*S	Sb	18 49 40.3	0.0
	baz=357						

KRNET ***11*** *19:12:11.1±0.1, 41°.74N×70°.02E, mb3.6*
SOME ***11*** *19:12:12.3, 40°.88N×68°.78E, h5km*
NNC ***11*** *19:12:13.0±2.4, 40°.92N×68°.71E, h0km, mb3.2, mpv3.3,*
Error ellipse: s-maj=18.0km s-min=15.4km az=122.0

ISC 11 19:12:12.1±3.0, 40°.93N±0°.07×68°.7E±0°.1, h8km±14km, n12, σ1$31/19, 7C-1D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.58**	**48**	⇑*e*P	**Pb**	**19 12 24.0**	**-0.6**
	baz=33						
TAS				⇑*e*S	**Sb**	**19 12 33.4**	**+0.3**
	baz=33						
CHM	**Chimkent**	**1.53**	**25**	*e*P	**Pb**	**19 12 41.2**	**+0.4**
	4.3nm,0.2s						
CHM				*e*S	**Sg**	**19 13 02.4**	**+1.0**
	114nm,0.2s						
IUG	**Iuzhnay**	**1.56**	**39**	*e*P	**Pg**	**19 12 41.9**	**-0.2**
	10nm,0.2s						
IUG				*e*S	**Sg**	**19 13 03.8**	**+1.4**
	38nm,0.4s						
IUG	**Iuzhnay**	**1.56**	**39**	P	**Pg**	**19 12 41.9**	**-0.2**
	10nm,0.2s						
IUG				S	**Sg**	**19 13 03.8**	**+1.4**
	38nm,0.4s						
BTK	**Batken**	**1.82**	**118**	⇑*i*P	**Pn**	**19 12 43.5**	**-0.4**
	baz=60						
BTK				⇑*i*S	**Sn**	**19 13 07.3**	**+0.1**
	baz=60						
BRLS	**Borolday**	**2.25**	**21**	*e*P	**Pn**	**19 12 49.7**	**-0.1**
	9.0nm,0.1s						
BRLS				*e*S	**Sn**	**19 13 16.7**	**-1.0**
	22nm,0.2s						
BRLS	**Borolday**	**2.25**	**21**	Pg	**Pn**	**19 12 49.7**	**-0.1**
	9.0nm,0.1s						
BRLS				Lg	Lg	19 13 16.7	
	22nm,0.2s						
KK31	**Karatay Array**	**2.55**	**31**	⇓Pg	**Pg**	**19 12 59.7**	**-1.2**
	0.7nm,0.3s,baz=215,slow=17,SNR=43						
KK31				⇑Lg	Lg	19 13 33.2	
	4.2nm,0.3s,baz=205,slow=29,SNR=4.2						
DZA	**Taraz**	**2.76**	**44**	*e*P	**Pg**	**19 13 03.6**	**-1.4**
	21nm,0.2s						
DZA				*e*S	**Sg**	**19 13 40.2**	**-0.6**
	43nm,0.2s						
OHH	**Osh**	**3.12**	**96**	⇑*i*P	Pn	19 12 52.1	-10
	baz=19						
OHH				⇑*i*S	Sn	19 13 22.5	-17
	baz=19						
MRKS	**Merke**	**3.82**	**60**	*e*P	**Pb**	**19 13 22.1**	**+2.2**
	2.9nm,0.4s						
MRKS				*e*S	**Sg**	**19 14 12.5**	**-2.3**
	5.5nm,0.3s						
MRKS	**Merke**	**3.82**	**60**	Pg	**Pb**	**19 13 22.1**	**+2.2**
	1.5nm,0.1s						
MRKS				Lg	Lg	19 14 12.5	
	5.5nm,0.3s						

AEIC ***11*** *19:14:30±3.7, 51°.53N±0°.05×174°.49W±0°.04, h25km±4km, ML4.4/51, mb4.7/167(NEIC), Error ellipse: s-maj=6.8km s-min=3.9km az=173.0*
NEIC ***11*** *19:14:33.1±2.3, 51°.76N±0°.07×174°.52W±0°.07, h58km±5km, Error ellipse: s-maj=10.8km s-min=5.1km az=158.0*
IDC ***11*** *19:14:34.6±4.4, 51°.79N×174°.48W, h75km±40km, mb3.8/25, mb1 4.0/27, mb1mx3.8/58, mbtmp4.2/27, ML4.1/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/54, Error ellipse: s-maj=18.7km s-min=10.5km az=175.0*

ISC 11 19:14:30.4±0.5, 51°.65N±0°.08×174°.46W±0°.04, h38km, n271, σ1$70/258, mb4.6/75, MS3.2/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.58**	**16**		**Pn**	**19 14 43.6**	**+1.4**
ATKA	**Atka Island**	**0.58**	**16**		**Sn**	**19 14 54.1**	**+3.6**
KOWE	**Korovin West**	**0.73**	**10**		**Pn**	**19 14 46.4**	**+2.1**
KOSE	**Korovin Southe**	**0.74**	**20**		**Pn**	**19 14 46.6**	**+2.2**
GSMY	**Great Sitkin M**	**1.07**	**292**		**Pn**	**19 14 49.5**	**+0.7**
GSTR	**Great Sitkin T**	**1.09**	**295**		**Pn**	**19 14 50.1**	**+1.0**
GSTD	**Great Sitkin T**	**1.12**	**292**		**Pn**	**19 14 50.3**	**+0.7**
ADAG	**Mount Adagdak**	**1.37**	**285**		**Pn**	**19 14 54.3**	**+1.3**
ADK	**Adak**	**1.40**	**281**		**Pn**	**19 14 53.7**	**+0.3**
KIKV	**Kanaga Island**	**1.70**	**279**		**Pn**	**19 14 58.3**	**+0.8**
KICM	**Kanaga Island**	**1.72**	**280**		**Pn**	**19 14 58.8**	**+1.0**
KICM					**Sn**	**19 15 22.1**	**+3.6**
KIMD	**Kanaga Island**	**1.73**	**275**		**Pn**	**19 14 58.1**	**+0.2**
TAFP	**Tanaga Falls P**	**2.20**	**278**		**Pn**	**19 15 05.7**	**+1.2**
TAFP					**Sn**	**19 15 33.6**	**+3.1**
TASE	**Tanaga Southea**	**2.23**	**276**		**Pn**	**19 15 06.2**	**+1.3**
TANO	**Tanaga North**	**2.29**	**278**		**Pn**	**19 15 07.5**	**+1.8**
GAEA	**Gareloi East**	**2.67**	**275**		**Pn**	**19 15 12.4**	**+1.6**
GALAA	**Gareloi Lava P**	**2.69**	**274**		**Pn**	**19 15 12.4**	**+1.4**
CERAA	**Semis' Rag'd T**	**3.65**	**276**		**Pn**	**19 15 25.3**	**+1.1**
NIKH	**Nikolski High**	**3.69**	**67**	Pn	**Pn**	**19 15 26.0**	**+1.2**
NIKH	**Nikolski High**	**3.69**	**67**		**Sn**	**19 16 10.9**	**+3.9**
CEAP	**Semis' Anvil P**	**3.72**	**278**		**Pn**	**19 15 26.9**	**+1.7**
CESW	**Semis' Southwe**	**3.72**	**276**		**Pn**	**19 15 26.3**	**+1.0**
AMKA	**Amchitka**	**3.91**	**268**	Pn	**Pn**	**19 15 27.8**	**0.0**
OKSP	**Okmok Steeple**	**4.10**	**65**		**Pn**	**19 15 32.6**	**+2.1**
OKCE	**Okmok Cone E**	**4.24**	**63**		**Pn**	**19 15 35.0**	**+2.6**
OKNC	**Okmok New Cone**	**4.27**	**62**		**Pn**	**19 15 35.1**	**+2.3**
LSPA	**Little Sitkin**	**4.33**	**277**		**Pn**	**19 15 35.0**	**+1.3**
LSNW	**Little Sitkin**	**4.37**	**277**		**Pn**	**19 15 35.3**	**+1.1**
OKFG	**Magazine Ridge**	**4.37**	**64**		**Pn**	**19 15 37.6**	**+3.5**
LSSA	**Little Sitkin**	**4.37**	**277**		**Pn**	**19 15 35.9**	**+1.6**
MAPS	**Pakushin South**	**5.06**	**62**		**Pn**	**19 15 46.1**	**+2.5**
MGOD	**Makushin Gods**	**5.09**	**62**		**Pn**	**19 15 46.2**	**+2.1**
MREP	**Makushin Rep't**	**5.16**	**62**		**Pn**	**19 15 47.9**	**+2.7**
MSW	**Makushin Switc**	**5.18**	**61**		**Pn**	**19 15 47.9**	**+2.5**
MNAT	**Makushin Natee**	**5.23**	**62**		**Pn**	**19 15 48.5**	**+2.6**
UNV	**Unalaska Valle**	**5.31**	**62**		**Pn**	**19 15 49.1**	**+2.0**
AKRB	**Akutan Reef Bi**	**5.66**	**61**		**Pn**	**19 15 54.6**	**+2.7**
AKMO	**Akutan Morgan**	**5.67**	**61**		**Pn**	**19 15 55.3**	**+3.3**
AKBBA	**Akutan Broad B**	**5.72**	**61**		**Pn**	**19 15 56.1**	**+3.5**
AKGG	**Akutan Green G**	**5.72**	**60**		**Pn**	**19 15 55.7**	**+2.9**
AKLV	**Akutan Long Va**	**5.73**	**61**		**Pn**	**19 15 55.6**	**+2.8**
AKUT	**Akutan**	**5.82**	**61**	Pn	**Pn**	**19 15 57.4**	**+3.3**
AKSA	**Akutan Strait**	**5.86**	**61**		**Pn**	**19 15 57.8**	**+3.2**
SPIA	**Saint Paul Isl**	**6.06**	**22**	Pn	Pn	19 16 01.8	+4.5
SMY	**Shemya**	**7.12**	**283**	Pn	**Pn**	**19 16 12.4**	**+0.5**
SDPT	**Sand Point**	**9.12**	**61**	Pn	**Pn**	**19 16 40.1**	**+0.8**
CNBA	**Chernabura Isl**	**9.47**	**65**	Pn	**Pn**	**19 16 43.7**	**-0.3**
OHAK	**Old Harbor**	**13.50**	**57**	Pn	**Pn**	**19 17 36.5**	**-2.6**
KDAK	**Kodiak Island**	**14.02**	**55**	P	**Pn**	**19 17 43.9**	**-2.3**
	1.4nm,0.3s,baz=235,slow=4.1,SNR=16						
KDAK				S	**Sn**	**19 20 12.8**	**-7.4**
	baz=161,slow=13,SNR=1.5						
KDAK	**Kodiak Island**	**14.02**	**55**	Pn	**Pn**	**19 17 44.7**	**-1.5**
SVW2	**Sparrevohn

IL31		**19.37**	**37**	P	**Pn**	**19 18 53.1**	**-0.7**
IL31				IAmb	IAmb	19 18 54.8	
	comp=Z,13nm,0.5s						
ILAR	**Eielson Array**	**19.37**	**37**	P	**P**	**19 18 51.0**	**-1.5**
	comp=Z,3.3nm,0.3s,baz=241,slow=9.8,SNR=52						
ILAR				LR	LR	19 26 37.0	
	comp=Z,112nm,21.1s,baz=196,slow=38						
ILAR	**Eielson Array**	**19.37**	**37**	P	**P**	**19 18 52.7**	**+0.2**
COLD	**Coldfoot**	**19.68**	**28**		**P**	**19 18 56.0**	**+0.2**
RIDG	**Independent Ri**	**19.70**	**41**	P	**P**	**19 18 55.6**	**-0.6**
BALM	**Baldy**	**19.93**	**49**	P	**P**	**19 18 57.8**	**-0.9**
MESA	**MESA**	**19.93**	**52**	P	**Pn**	**19 19 00.1**	**-0.6**
DOT	**Dot Lake**	**19.98**	**41**	P	**P**	**19 18 59.0**	**-0.2**
YAH	**Yahtse**	**20.07**	**52**	P	**P**	**19 19 00.9**	**+0.5**
YAH				IAmb	IAmb	19 19 11.9	
	comp=Z,22nm,0.8s						
CTGM	**Chitina Glacie**	**20.39**	**50**	P	**P**	**19 19 03.4**	**-0.4**
CTGM				IAmb	IAmb	19 19 45.1	
	comp=Z,108nm,2.0s						
BCAR	**Beaver Creek A**	**20.74**	**44**	P	Pn	19 19 08.7	-1.3
TOLK	**Toolik Lake Re**	**20.80**	**26**	P	Pn	19 19 09.2	-1.4
TOLK				IAmb	IAmb	19 19 17.1	
	comp=Z,25nm,0.8s						
BCPM	**Bancas Point**	**21.04**	**53**	P	**P**	**19 19 10.0**	**-0.7**
BCPM				IAmb	IAmb	19 19 30.2	
	comp=Z,82nm,1.3s						
BMAR	**Burnt Mountain**	**21.55**	**32**	P	**P**	**19 19 16.9**	**+0.8**
EGAK	**Eagle**	**21.59**	**40**	P	**P**	**19 19 16.3**	**-0.1**
DAWY	**Dawson**	**22.07**	**42**	P	**P**	**19 19 21.8**	**0.0**
DAWY				IAmb	IAmb	19 19 38.8	
	comp=Z,20nm,1.2s						
HYT	**Haines Junctio**	**22.21**	**51**	P	**P**	**19 19 23.4**	**0.0**
HYT				IAmb	IAmb	19 19 55.3	
	comp=Z,29nm,1.8s						
EPYK	**Eagle Plains**	**23.88**	**38**	P	**P**	**19 19 39.7**	**-0.3**
DIB	**Dawson Inlet,**	**25.39**	**70**	P	**P**	**19 19 55.4**	**+1.6**
DIB				IAmb	IAmb	19 20 02.4	
	comp=Z,19nm,1.3s						
DLBC	**Dease Lake**	**25.94**	**57**	P	**P**	**19 19 59.6**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=280,slow=8.9,SNR=7.2						
DLBC	**Dease Lake**	**25.94**	**57**	P	**P**	**19 19 59.9**	**+1.0**
DLBC				IAmb	IAmb	19 20 04.9	
	comp=Z,33nm,1.9s						
BBB	**Bella Bella**	**28.22**	**70**	LR	LR	19 29 23.0	
	comp=Z,72nm,19.9s,baz=222,slow=32						
ASAJ	**Asahikawa**	**29.41**	**272**	LR	LR	19 34 43.6	
	comp=Z,46nm,18.6s,baz=132,slow=41						
YAK	**Yakutsk**	**31.28**	**311**	P	**P**	**19 20 47.1**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=93,slow=3.1,SNR=1.5						
YAK	**Yakutsk**	**31.28**	**311**	IAmb	IAmb	19 20 58.5	
	comp=Z,7.3nm,0.8s						
TIXI	**Tiksi**	**31.75**	**330**	P	**P**	**19 20 50.8**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=32,slow=9.5,SNR=1.7						
TIXI				LR	LR	19 34 03.1	
	comp=Z,52nm,20.3s,baz=92,slow=37						
TIXI	**Tiksi**	**31.75**	**330**	IAmb	IAmb	19 21 47.5	
	comp=Z,15nm,1.8s						
YKA	**Yellowknife Ar**	**33.07**	**47**	P	**P**	**19 21 00.7**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=267,slow=7.5,SNR=1.6						
YKA				LR	LR	19 36 44.3	
	comp=Z,115nm,18.4s,baz=0.0,slow=40						
LON	**Longmire**	**34.12**	**77**	P	**P**	**19 21 13.9**	**+2.5**
LON				IAmb	IAmb	19 21 26.4	
	comp=Z,5.1nm,0.8s						
B08A	**Colville Reser**	**34.88**	**73**	P	**P**	**19 21 19.2**	**+1.4**
B08A				IAmb	IAmb	19 21 32.3	
	comp=Z,8.4nm,0.8s						
H04A	**Detroit Lake**	**34.90**	**80**	P	**P**	**19 21 20.4**	**+2.2**
H04A				IAmb	IAmb	19 21 23.1	
	comp=Z,9.4nm,0.9s						
HAWA	**Hanford**	**35.67**	**76**	P	**P**	**19 21 26.2**	**+1.5**
HAWA				IAmb	IAmb	19 21 29.3	
	comp=Z,10nm,0.7s						
D08A	**Wollman Farm,**	**35.72**	**75**	P	**P**	**19 21 26.1**	**+1.0**
D08A				IAmb	IAmb	19 21 39.3	
	comp=Z,4.3nm,0.6s						
C09A	**Chrisman Ranch**	**35.76**	**73**	P	**P**	**19 21 26.6**	**+1.2**
C09A				IAmb	IAmb	19 21 39.7	
	comp=Z,7.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.94**	**280**	P	**P**	**19 21 26.4**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=59,slow=11,SNR=8.7						
YBH	**Yreka Blue Hor**	**36.16**	**85**	P	**P**	**19 21 30.3**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=300,slow=6.6,SNR=3.5						
YBH	**Yreka Blue Hor**	**36.16**	**85**	IAmb	IAmb	19 21 35.1	
	comp=Z,3.2nm,0.8s						
NEW	**Newport**	**36.23**	**72**	P	**P**	**19 21 30.4**	**+0.9**
	comp=Z,7.2nm,0.7s,baz=301,slow=8.8,SNR=2.7						
NEW	**Newport**	**36.23**	**72**	P	**P**	**19 21 30.4**	**+0.9**
NEW				IAmb	IAmb	19 21 43.6	
	comp=Z,7.8nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**36.26**	**211**	T	T	20 00 23.8	
	baz=19,slow=76						
H11S2	**WAKE ISLAND Hy**	**36.27**	**211**	T	T	20 00 22.7	
	baz=19,slow=76,SNR=417						
H11S3	**WAKE ISLAND Hy**	**36.27**	**211**	T	T	20 00 22.1	
	baz=19,slow=76,SNR=211						
MJAR	**Matsushiro Arr**	**36.51**	**264**	P	**P**	**19 21 32.4**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=24,slow=6.9,SNR=4.4						
MJAR				LR	LR	19 34 50.5	
	comp=Z,42nm,22.0s,baz=80,slow=33						
MJAR	**Matsushiro Arr**	**36.51**	**264**	P	**P**	**19 21 32.3**	**+0.5**
MAT	**Matsushiro**	**36.51**	**264**	P	**P**	**19 21 33.3**	**+1.4**
G08A	**Pilot Rock**	**36.57**	**78**	P	**P**	**19 21 34.2**	**+1.7**
K05A	**Summer Lake**	**36.73**	**82**	P	**P**	**19 21 36.3**	**+2.3**
K05A				IAmb	IAmb	19 21 40.0	
	comp=Z,8.5nm,0.9s						
I07A	**Izee**	**36.86**	**80**	P	**P**	**19 21 36.7**	**+1.7**
I07A				IAmb	IAmb	19 21 43.8	
	comp=Z,32nm,1.9s						
F10A	**Beach Ranch, E**	**37.27**	**76**	P	**P**	**19 21 40.0**	**+1.6**
WALA	**Waterton Lakes**	**37.75**	**69**	P	**P**	**19 21 43.7**	**+1.2**
WALA				IAmb	IAmb	19 21 45.2	
	comp=Z,11nm,1.2s						
J08A	**Circle Bar Ran**	**37.88**	**80**	P	**P**	**19 21 45.1**	**+1.5**
J08A				IAmb	IAmb	19 21 48.3	
	comp=Z,6.0nm,0.7s						
WVOR	**Wild Horse Val**	**38.28**	**81**	P	**P**	**19 21 50.1**	**+3.1**
WVOR				IAmb	IAmb	19 21 52.3	
	comp=Z,8.1nm,0.9s						
MSO	**Missoula**	**38.81**	**72**	P	**P**	**19 21 52.1**	**+0.7**
MSO				IAmb	IAmb	19 21 53.1	
	comp=Z,9.6nm,1.1s						
PAHR	**Pah Rah Range**	**39.39**	**85**	P	**P**	**19 21 58.8**	**+2.5**
PAHR				IAmb	IAmb	19 22 01.6	
	comp=Z,19nm,1.6s						
PNTR	**Pine Nut**	**39.62**	**86**	P	**P**	**19 21 60.0**	**+1.6**
PNTR				IAmb	IAmb	19 22 12.2	
	comp=Z,8.7nm,0.7s						
HRY	**Holter Researc**	**40.12**	**71**	P	**P**	**19 22 03.7**	**+1.4**
LRM	**Limekiln Ridge**	**40.22**	**73**	P	**P**	**19 22 04.3**	**+1.1**
MCMT	**McKenzie Canyo**	**40.51**	**75**	P	**P**	**19 22 06.6**	**+0.9**
KVN	**Kaiserville**	**40.58**	**85**	P	**P**	**19 22 08.9**	**+2.6**
EGMT	**Eagleton**	**40.67**	**69**	P	**P**	**19 22 07.6**	**+0.8**
EGMT				IAmb	IAmb	19 22 16.2	
	comp=Z,8.2nm,0.7s						
BOZ	**Bozeman (W)**	**40.82**	**73**	P	**P**	**19 22 08.7**	**+0.5**
NVAR	**Mina Array Bea**	**40.83**	**86**	P	**P**	**19 22 09.0**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=296,slow=8.3,SNR=18						
NVAR	**Mina Array Bea**	**40.83**	**86**	P	**P**	**19 22 09.3**	**+1.0**
NV11	**Mina Array Sit**	**40.92**	**86**	P	**P**	**19 22 09.9**	**+0.9**
ELK	**Elko**	**41.34**	**81**	P	**P**	**19 22 13.6**	**+1.0**
YHL	**Hebgen Lake**	**41.49**	**74**	P	**P**	**19 22 14.5**	**+0.7**
TPH	**Tonopah**	**41.72**	**86**	P	**P**	**19 22 18.0**	**+2.3**
YHH	**Holmes Hill**	**41.72**	**73**	P	**P**	**19 22 16.5**	**+0.7**
YNE	**Yellowstone No**	**42.11**	**73**	P	**P**	**19 22 19.1**	**+0.3**
IMW	**Indian Meadow**	**42.16**	**75**	P	**P**	**19 22 20.8**	**+1.4**
KSRS	**Korea Array**	**42.34**	**274**	P	**P**	**19 22 21.5**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=56,slow=7.4,SNR=13						
KSRS				LR	LR	19 39 34.0	
	comp=Z,25nm,20.3s,baz=45,slow=35						
KSAR	**Wonju Array Be**	**42.37**	**274**	P	**P**	**19 22 21.3**	**+0.6**
RLMT	**Red Lodge**	**42.48**	**72**	P	**P**	**19 22 23.7**	**+1.9**
RLMT				IAmb	IAmb	19 22 24.7	
	comp=Z,21nm,1.4s						
R11A	**Troy Canyon, C**	**42.56**	**84**	P	**P**	**19 22 25.9**	**+3.3**
TPNV	**Topopah Spring**	**43.02**	**86**	P	**P**	**19 22 28.3**	**+2.0**
HWUT	**Hardware Ranch**	**43.09**	**78**		**P**	**19 22 28.3**	**+1.6**
DUG	**Dugway, Tooele**	**43.16**	**80**	P	**P**	**19 22 29.4**	**+2.1**
DUG				IAmb	IAmb	19 22 32.3	
	comp=Z,12nm,1.2s						
PRN	**Pahroc Range**	**43.48**	**85**	P	**P**	**19 22 30.9**	**+1.1**
PRN				IAmb	IAmb	19 22 35.1	
	comp=Z,8.8nm,0.9s						
PSUT	**Pine Spring**	**43.52**	**83**	P	**P**	**19 22 31.1**	**+0.7**
BW06	**Boulder Array**	**43.63**	**75**	P	**P**	**19 22 32.0**	**+0.8**
BW06				IAmb	IAmb	19 22 35.1	
	comp=Z,7.2nm,0.8s						
PD31	**Pinedale Array**	**43.63**	**75**	P	**P**	**19 22 31.9**	**+0.7**
PD31				IAmb	IAmb	19 22 35.1	
	comp=Z,6.3nm,0.8s						
PDAR	**Pinedale Array**	**43.63**	**75**	P	**P**	**19 22 31.5**	**+0.4**
	comp=Z,7.2nm,0.8s,baz=307,slow=4.7,SNR=23						
PDAR	**Pinedale Array**	**43.63**	**75**	P	**P**	**19 22 31.9**	**+0.7**
GSC	**Goldstone, Bar**	**43.73**	**89**	P	**P**	**19 22 34.2**	**+2.3**
JLU	**Jordanelle**	**43.75**	**79**	P	**P**	**19 22 33.8**	**+1.6**
MPU	**Maple Canyon**	**43.99**	**80**	P	**P**	**19 22 37.3**	**+3.3**
MVU	**Marysvale**	**44.55**	**82**	P	**P**	**19 22 42.1**	**+3.4**
MSU	**Marysvale**	**44.57**	**82**	P	**P**	**19 22 41.8**	**+3.0**
TMUT	**Trail Mountain**	**44.69**	**80**	P	**P**	**19 22 42.7**	**+2.9**
LCMT	**Little Creek M**	**44.85**	**84**	P	**P**	**19 22 44.3**	**+3.5**
MTPU	**Mount Pierson**	**44.86**	**82**	P	**P**	**19 22 45.1**	**+3.9**
P17A	**Butcher Ranch,**	**44.87**	**80**	P	**P**	**19 22 42.1**	**+1.1**
RDMU	**Red Mountain**	**44.92**	**78**	P	**P**	**19 22 43.2**	**+1.7**
Q16A	**Castle Valley**	**44.94**	**81**	P	**P**	**19 22 44.1**	**+2.4**
SRU	**San Rafael Swe**	**45.22**	**80**	P	**P**	**19 22 47.4**	**+3.5**
W13A	**Hualapai Mount**	**45.68**	**87**	P	**P**	**19 22 49.4**	**+1.9**
U15A	**North Rim**	**45.81**	**84**	P	**P**	**19 22 49.5**	**+0.9**
U15A				IAmb	IAmb	19 23 09.5	
	comp=Z,5.5nm,0.8s						
O20A	**White River Ci**	**45.99**	**77**	P	**P**	**19 22 51.6**	**+1.7**
PV21	**Cone Mtn., Par**	**46.51**	**79**	P	**P**	**19 22 57.0**	**+2.9**
PV14	**Lion Creek, Pa**	**46.60**	**80**	P	**P**	**19 22 57.2**	**+2.5**
PV22	**Blue Mesa, Par**	**46.64**	**79**	P	**P**	**19 22 59.0**	**+4.0**
PV22				IAmb	IAmb	19 22 59.9	
	comp=Z,6.5nm,0.9s						
PV20	**West Nyswonger**	**46.65**	**80**	P	**P**	**19 22 58.5**	**+3.3**
PV20				IAmb	IAmb	19 22 59.3	
	comp=Z,6.1nm,1.0s						
PV04	**Paradox Valley**	**46.66**	**80**	P	**P**	**19 22 58.3**	**+3.1**
PV04				IAmb	IAmb	19 22 59.4	
	comp=Z,8.2nm,0.7s						
PV19	**Morning Glory**	**46.66**	**80**	P	**P**	**19 22 58.7**	**+3.4**
PV19				IAmb	IAmb	19 22 59.3	
	comp=Z,6.3nm,0.7s						
PV17	**East Wray Mesa**	**46.69**	**80**	P	**P**	**19 22 58.7**	**+3.2**
PV17				IAmb	IAmb	19 22 59.6	
	comp=Z,9.7nm,0.7s						
PV16	**Nyswonger Mesa**	**46.70**	**80**	P	**P**	**19 22 58.5**	**+2.9**
PV16				IAmb	IAmb	19 22 59.7	
	comp=Z,8.9nm,1.2s						
PV11	**David Mesa, Pa**	**46.73**	**80**	P	**P**	**19 22 58.1**	**+2.3**
PV18	**Skein Mesa, Pa**	**46.75**	**80**	P	**P**	**19 22 58.5**	**+2.6**
PV18				IAmb	IAmb	19 23 00.1	
	comp=Z,14nm,1.2s						
PV12	**Saucer Basin,**	**46.77**	**80**	P	**P**	**19 22 58.0**	**+1.9**
PV12				IAmb	IAmb	19 23 02.0	
	comp=Z,11nm,1.0s						
PV03	**Paradox Valley**	**46.78**	**80**	P	**P**	**19 22 57.4**	**+1.3**
PV03				IAmb	IAmb	19 23 00.4	
	comp=Z,8.4nm,1.0s						
PV13	**Radium Mtn., P**	**46.85**	**80**	P	**P**	**19 22 59.0**	**+2.2**
PV02	**Paradox Valley**	**46.88**	**80**	P	**P**	**19 22 59.4**	**+2.5**
WUAZ	**Wupatki**	**46.97**	**84**	P	**P**	**19 23 00.4**	**+2.8**
WUAZ				IAmb	IAmb	19 23 18.3	
	comp=Z,4.2nm,0.8s						
PV01	**Paradox Valley**	**47.02**	**80**	P	**P**	**19 23 00.8**	**+2.7**
PV01				IAmb	IAmb	19 23 01.9	
	comp=Z,8.5nm,0.7s						
ULM	**Lac du Bonnet**	**47.24**	**59**	P	**P**	**19 22 59.0**	**-0.4**
	comp=Z,3.6nm,0.3s,baz=295,slow=6.9,SNR=3.4						
ULM	**Lac du Bonnet**	**47.24**	**59**	P	**P**	**19 22 59.4**	**0.0**
ULM				IAmb	IAmb	19 22 59.5	
	comp=Z,21nm,1.4s						
AGMN	**Agassiz Nation**	**48.36**	**61**	P	**P**	**19 23 07.7**	**-0.3**
SONM	**Songino Array**	**48.92**	**299**	LR	LR	19 45 01.8	
	comp=Z,78nm,18.9s,baz=46,slow=37						
SDCO	**Great Sand Dun**	**49.15**	**78**	P	**P**	**19 23 16.9**	**+2.3**
B35A	**Bob, Littlefor**	**49.48**	**60**	P	**P**	**19 23 15.7**	**-0.9**
B35A				IAmb	IAmb	19 23 17.0	
	comp=Z,9.7nm,0.8s						
T25A	**Trinidad**	**50.20**	**78**	P	**P**	**19 23 24.4**	**+1.9**
T25A				IAmb	IAmb	19 23 27.5	
	comp=Z,11nm,0.8s						
SPITS	**Spitsbergen Ar**	**50.27**	**357**	P	**P**	**19 23 21.8**	**-0.4**
	comp=Z,8.0nm,1.0s,baz=24,slow=11,SNR=2.1						
ECSD	**EROS Data Cent**	**50.66**	**66**	P	**P**	**19 23 25.1**	**-0.6**
ECSD				IAmb	IAmb	19 23 25.8	
	comp=Z,4.0nm,0.8s						
L34A	**Svendsen Farm,**	**51.90**	**68**	P	**P**	**19 23 34.5**	**-0.5**
I37A	**Lemond, Waseca**	**52.30**	**64**	P	**P**	**19 23 38.0**	**+0.1**
I37A				IAmb	IAmb	19 23 38.8	
	comp=Z,14nm,0.7s						
E43A	**Lone Tree Farm**	**54.30**	**58**	P	**P**	**19 23 52.7**	**+0.1**
E46A	**Sault Ste Mari**	**55.73**	**57**	P	**P**	**19 24 02.7**	**-0.1**
TXAR	**Lajitas Array**	**55.93**	**85**	P	**P**	**19 24 04.8**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=297,slow=5.5,SNR=8.8						
TXAR	**Lajitas Array**	**55.93**	**85**	P	**P**	**19 24 05.2**	**+0.6**
P40A	**Paris**	**55.98**	**68**	P	**P**	**19 24 04.8**	**0.0**
R40A	**Maddies Statio**	**56.68**	**69**	P	**P**	**19 24 08.6**	**-1.1**
R40A				IAmb	IAmb	19 25 09.3	
	comp=Z,14nm,1.3s						
U40A	**Yellville**	**57.65**	**71**	P	**P**	**19 24 16.5**	**-0.1**
U40A				IAmb	IAmb	19 25 31.1	
	comp=Z,7.8nm,0.6s						
ARCES	**ARCESS Array B**	**58.25**	**352**	P	**P**	**19 24 19.3**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=16,slow=7.7,SNR=6.6						
ARCES	**ARCESS Array B**	**58.25**	**352**	P	**P**	**19 24 19.4**	**-0.9**
FCAR	**Ozark Folk Cen**	**58.40**	**71**	P	**P**	**19 24 20.3**	**-1.6**
FCAR				IAmb	IAmb	19 24 24.4	
	comp=Z,7.1nm,0.8s						
MIAR	**Mount Ida**	**58.47**	**73**	P	**P**	**19 24 22.4**	**+0.1**
MIAR				IAmb	IAmb	19 24 25.8	
	comp=Z,8.9nm,0.8s						
P49A	**Miami Univ. Ec**	**60.13**	**63**	P	**P**	**19 24 33.0**	**-0.8**
KURK	**Kurchatov**	**60.76**	**316**	P	**P**	**19 24 38.0**	**+0.1**
KURK				IAmb	IAmb	19 24 56.0	
	comp=Z,10nm,1.6s						
ALLY	**Alegheny Colle**	**61.14**	**59**	P	**P**	**19 24 41.1**	**+0.5**
N54A	**Moraine State**	**61.70**	**59**	P	**P**	**19 24 44.6**	**+0.1**
LONY	**Lake Ozonia**	**61.89**	**53**	P	**P**	**19 24 44.8**	**-0.8**
LONY				IAmb	IAmb	19 25 32.5	
	comp=Z,11nm,0.9s						
MK31	**Makanchi Array**	**61.95**	**311**	P	**P**	**19 24 45.5**	**-0.6**
MKAR	**Makanchi Array**	**61.95**	**311**	P	**P**	**19 24 45.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=45,slow=6.3,SNR=21						
MKAR	**Makanchi Array**	**61.95**	**311**	P	**P**	**19 24 45.2**	**-0.9**
P53A	**Whipple**	**61.99**	**61**	P	**P**	**19 24 46.7**	**+0.3**
M55A	**Ridgway**	**62.00**	**58**	P	**P**	**19 24 47.1**	**+0.7**
MAKZ	**Makanchi**	**62.09**	**311**	P	**P**	**19 24 47.0**	**0.0**
MAKZ				IAmb	IAmb	19 25 15.1	
	comp=Z,4.6nm,1.2s						
L56A	**Greenwood**	**62.15**	**57**	P	**P**	**19 24 47.9**	**+0.4**
M56A	**Emporium**	**62.29**	**58**	P	**P**	**19 24 48.6**	**+0.2**
BINY	**Binghamton**	**62.92**	**56**	P	**P**	**19 24 53.1**	**+0.5**
M57A	**Sunshine Farm,**	**62.95**	**57**	P	**P**	**19 24 53.2**	**+0.4**
O56A	**Blue Knob Stat**	**62.96**	**59**	P	**P**	**19 24 53.4**	**+0.5**
SSPA	**Standing Stone**	**63.05**	**58**	P	**P**	**19 24 53.8**	**+0.3**
L59A	**Walton**	**63.41**	**55**	P	**P**	**19 24 56.8**	**+0.9**
G62A	**West of Eustis**	**63.43**	**50**	P	**P**	**19 24 55.7**	**-0.2**
KSPA	**Keystone Colle**	**63.50**	**56**	P	**P**	**19 24 56.9**	**+0.5**
N59A	**State Game Lan**	**63.96**	**56**	P	**P**	**19 24 59.8**	**+0.3**
F64A	**Sherman**	**63.98**	**48**	P	**P**	**19 24 59.1**	**-0.4**
MVL	**Millersville**	**64.33**	**58**	P	**P**	**19 25 01.9**	**0.0**
LUPA	**Lehigh Univers**	**64.40**	**56**	P	**P**	**19 25 02.8**	**+0.5**
HODGE	**Hodges**	**65.28**	**66**	P	**P**	**19 25 09.0**	**+0.8**
HODGE				IAmb	IAmb	19 25 11.5	
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**66.07**	**349**	P	**P**	**19 25 11.4**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=32,slow=4.4,SNR=8.8						
NC204	**NORSAR Array S**	**67.35**	**357**	P	**P**	**19 25 20.5**	**-0.5**
NC303	**NORSAR Array S**	**67.38**	**357**	P	**P**	**19 25 20.7**	**-0.5**
NC405	**NORSAR Array S**	**67.48**	**357**	P	**P**	**19 25 21.4**	**-0.4**
NB201	**NORSAR Array S**	**67.56**	**357**	P	**P**	**19 25 22.0**	**-0.4**
NB2	**NORSAR Subarra**	**67.57**	**357**	P	**P**	**19 25 22.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=5.0,slow=6.9						
NOA	**NORSAR Array B**	**67.57**	**357**	P	**P**	**19 25 21.8**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=4.2,slow=7.4,SNR=11						
ABKAR	**Akbulak array**	**69.31**	**325**	P	**P**	**19 25 33.1**	**-0.3**
KK31	**Karatay Array**	**70.15**	**315**	P	**P**	**19 25 37.7**	**-1.1**
KK31				IAmb	IAmb	19 26 45.4	
	comp=Z,13nm,1.9s						
KKAR	**Karatay Array**	**70.15**	**315**	P	**P**	**19 25 38.3**	**-0.5**
KKAR	**Karatay Array**	**70.15**	**315**	P	**P**	**19 25 37.7**	**-1.1**
KKAR				IAmb	IAmb	19 26 45.4	
	comp=Z,13nm,1.9s						
CMAR	**Chiang Mai Arr**	**73.67**	**279**	P	**P**	**19 26 01.1**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=25,slow=7.2,SNR=21						
CHGR	**Chuyangaron**	**74.35**	**313**	P	**P**	**19 26 04.2**	**+0.2**
CHGR				IAmb	IAmb	19 26 42.4	
	comp=Z,6.6nm,0.6s						
AKASG	**Malin Array Be**	**76.06**	**345**	P	**P**	**19 26 11.9**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=18,slow=5.8,SNR=2.6						
GERES	**GERESS Array B**	**79.64**	**355**	P	**P**	**19 26 33.2**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=18,slow=6.0,SNR=4.1						
WRA	**Warramunga Arr**	**84.14**	**227**	P	**P**	**19 26 56.1**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=34,slow=5.8,SNR=7.6						
FITZ	**Fitzroy Crossi**	**86.81**	**236**	P	**P**	**19 27 11.4**	**+0.8**
	comp=Z,2.8nm,1.0s,baz=177,slow=2.8,SNR=3.4						
FITZ	**Fitzroy Crossi**	**86.81**	**236**	IAmb	IAmb	19 27 14.2	
	comp=Z,14nm,1.6s						
ASAR	**Alice Springs**	**87.57**	**226**	P	**P**	**19 27 13.0**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=44,slow=4.1,SNR=4.9						
ESDC	**Sonseca Array**	**88.68**	**7**	P	**P**	**19 27 17.4**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=335,slow=4.2,SNR=4.8						
H03N2	**Juan Fernandez**	**118.63**	**109**	T	T	21 44 58.0	
	baz=317,slow=78,SNR=54						
H03N1	**Juan Fernandez**	**118.65**	**109**	T	T	21 44 56.1	
	baz=317,slow=78,SNR=68						
H03N3	**Juan Fernandez**	**118.65**	**109**	T	T	21 44 50.1	
	baz=317,slow=78,SNR=62						
MAW	**Mawson**	**148.36**	**218**	PKPbc	**PKPbc**	**19 34 11.5**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=226,slow=1.6,SNR=6.9						
BOSA	**Boshof**	**152.66**	**320**	PKPbc	**PKPbc**	**19 34 21.9**	**-0.8**
	comp=Z,2.6nm,0.4s,baz=26,slow=3.1,SNR=17						

TAP 11 19:26:34.4,24°30N×121°29E,h9km,ML1.3,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FUSS	**Fushou**	**0.07**	**219**		P		Pg	19 26 37.3	+0.7
	baz=219								
FUSS					S		Sg	19 26 38.8	+0.6
	baz=219								
TDCB	**Techi**	**0.13**	**249**		P		Pg	19 26 38.2	+0.8
	baz=248								
TDCB					S		Sg	19 26 40.0	+0.6
	baz=248								
NNSB	**Datong**	**0.15**	**33**	*e*	P		Pg	19 26 38.4	+0.6
	baz=33								
NNSB				*e*	S		Sg	19 26 41.4	+1.3
	baz=33								
NNSH	**Datong**	**0.15**	**34**	*e*	P		Pg	19 26 38.3	+0.5
	baz=33								
NNSH				*e*	S		Sg	19 26 41.5	+1.4
	baz=33								
WHF	**Hehuan Shan**	**0.16**	**188**	*e*	P		Pg	19 26 39.0	+1.0
	baz=185								
WHF				*e*	S		Sg	19 26 41.2	+0.8
	baz=185								
NNS	**Nan Shan**	**0.16**	**28**	*e*	P		Pg	19 26 38.5	+0.6
	baz=31								
NNS				*e*	S		Sg	19 26 41.8	+1.5
	baz=31								
ETLH	**Xiulin Townshi**	**0.20**	**118**		P		Pg	19 26 39.5	+1.0
	baz=117								
ETLH				*e*	S		Sg	19 26 42.4	+1.1
	baz=117								
CHGB	**Renai**	**0.26**	**204**	*e*	P		Pg	19 26 40.2	+0.5
	baz=203								
CHGB				*e*	S		Sg	19 26 43.6	+0.3
	baz=203								
WHP	**Taichung City**	**0.32**	**266**	*e*	P		Pb	19 26 41.5	-0.8
	baz=266								
WHP				*e*	S		Sg	19 26 46.2

	baz=188							
WHF	**Hehuan Shan**	**0.14**	**192**	*i* S		Pg	19 26 48.2	0.0
	baz=190							
NNSB	**Datong**	**0.16**	**29**	*e*P		Pb	19 26 48.8	-0.5
NNSB	baz=29			*e*S		Sb	19 26 51.9	-0.6
	baz=29							
NNSB	**Datong**	**0.16**	**29**	*e*S		Pb	19 26 49.0	-0.3
	baz=27							
NNSH	**Datong**	**0.16**	**29**	*e*P		Pb	19 26 48.9	-0.4
NNSH	baz=29			*e*S		Sb	19 26 51.8	-0.8
	baz=29							
NNSH	**Datong**	**0.16**	**29**	*e*S		Pb	19 26 48.9	-0.4
	baz=27							
NNS	**Nan Shan**	**0.17**	**25**	*e*P		Pb	19 26 49.1	-0.3
NNS	baz=27			S		Sb	19 26 52.1	-0.6
	baz=27							
NNS	**Nan Shan**	**0.17**	**25**	*e*S		Pb	19 26 49.2	-0.2
	baz=25							
ETLH	**Xiulin Townshi**	**0.19**	**116**	*e*P		Pb	19 26 49.4	-0.4
ETLH	baz=115			*e*S		Sb	19 26 52.7	-0.6
	baz=115							
ETLH	**Xiulin Townshi**	**0.19**	**116**	*e*S		Pb	19 26 49.1	-0.6
	baz=115							
CHGB	**Renai**	**0.25**	**206**	*e*P		Pb	19 26 50.7	-0.2
CHGB	baz=206			S		Sg	19 26 54.2	+0.8
	baz=206							
CHGB	**Renai**	**0.25**	**206**	*e*S		Pb	19 26 51.0	+0.1
	baz=207							
NACB	**Ninganchiao**	**0.29**	**113**	*e*P		Pb	19 26 51.8	+0.3
NACB	baz=112			*e*S		Sb	19 26 55.9	-0.4
	baz=112							
NACB	**Ninganchiao**	**0.29**	**113**	*e*S		Pb	19 26 52.0	+0.5
	baz=112							
WHP	**Taichung City**	**0.32**	**268**	*e*S		Pb	19 26 53.0	+1.0
	baz=268							
WHP	**Taichung City**	**0.32**	**268**	*e*P		Pn	19 26 53.4	-1.4
WHP	baz=268			S		Sb	19 26 56.9	-0.2
	baz=268							
TWD	**Chiawan**	**0.34**	**127**	*e*P		Pb	19 26 53.5	+1.2
TWD	baz=126			*e*S		Sb	19 26 57.7	+0.1
	baz=126							
NDT	**Datong Townshi**	**0.37**	**32**	*e*P		Pb	19 26 52.5	-0.3
NDT	baz=32			*e*S		Sg	19 26 57.4	+0.6
	baz=32							
YHNB	**Yeheng**	**0.39**	**11**	*e*P		Pb	19 26 52.8	-0.4
YHNB	baz=10.0			*e*S		Sb	19 26 58.5	-0.6
	baz=10.0							
NSK	**Sanguang**	**0.39**	**8**	P		Pb	19 26 53.3	+0.1
NSK	baz=9.0			S		Sg	19 26 58.0	+0.5
	baz=9.0							
ENA	**Nanau**	**0.43**	**71**	*e*P		Pb	19 26 54.3	+0.6
ENA	baz=71			*e*S		Sb	19 27 00.4	+0.2
	baz=71							
ENTT	**Nioudou**	**0.43**	**35**	*e*P		Pb	19 26 53.7	-0.1
ENTT	baz=35			*e*S		Sb	19 26 59.4	-0.8
	baz=35							
NSTT	**Nanjuang**	**0.43**	**322**	*e*P		Pb	19 26 55.1	+1.2
NSTT	baz=322			*e*S		Sb	19 27 00.5	+0.1
	baz=322							
LIOB	**Emei**	**0.44**	**324**	*e*P		Pb	19 26 54.9	+1.0
LIOB	baz=324			*e*S		Sb	19 27 00.8	+0.3
	baz=324							
NWLT	**Wulai**	**0.52**	**21**	*e*P		Pb	19 26 55.5	+0.1
NWLT	baz=20			*e*S		Sg	19 27 01.7	+0.1
	baz=20							
NWLT	**Wulai**	**0.52**	**21**	*e*S		Pb	19 26 55.4	0.0
	baz=22							
SMLT	**Sun Moon Lake**	**0.54**	**222**	*e*P		Pb	19 26 55.9	+0.2
SMLT	baz=221			*e*S		Sb	19 27 05.2	+1.6
	baz=221							
VWDT	**VWDT**	**0.55**	**195**	*e*P		Pb	19 26 55.7	-0.1
VWDT	baz=195			*e*S		Sg	19 27 02.6	+0.2
	baz=195							
VWDT	**VWDT**	**0.55**	**195**	*e*S		Pg	19 26 55.3	+0.2
	baz=194							
TYC	**Yuchr**	**0.56**	**227**	*e*P		Pb	19 26 56.1	+0.1
TYC	baz=225			*e*S		Sb	19 27 03.6	-0.2
	baz=225							
SSLB	**Suanglung**	**0.59**	**212**	*e*S		Pb	19 26 56.1	-0.5
	baz=211							
SSLB	**Suanglung**	**0.59**	**212**	*e*P		Pb	19 26 56.4	-0.1
SSLB	baz=212			*e*S		Sg	19 27 04.0	+0.3
	baz=212							
EGFH	**Guangfu**	**0.63**	**169**	*e*P		Pb	19 26 57.6	+0.4
EGFH	baz=169			*e*S		Sb	19 27 05.9	0.0
	baz=169							
TWA	**Mucha**	**0.74**	**21**	*e*P		Pn	19 27 00.8	+0.3
TWA	baz=21			*e*S		Sn	19 27 10.8	-0.8
	baz=21							
EGS		**0.80**	**46**	*e*P		Pn	19 27 02.0	+0.7
	baz=46							

IDC ***11*** *19:31:25.3±1.6, 15°.86S×178°.04E, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.8/34, mbtmp3.8/6, MS3.4/3, Ms1 3.4/3, ms1mx3.0/32, Error ellipse: s-maj=115.4km s-min=23.4km az=150.0*

ISC 11 19:31:29.2±1.6, 16°.0S±0°.7×178°.1E±0°.4, h26km, n9, σ0.98/8, mb3.6/6, **Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.03**	**80**	LR	LR	19 36 46.9	
	comp=Z,202nm,19.4s,baz=126,slow=32						
DZM	**Mont Dzumac**	**12.55**	**239**	LR	LR	19 38 26.3	
	comp=Z,168nm,18.7s,baz=50,slow=34						
WRA	**Warramunga Arr**	**41.70**	**258**	P	**P**	**19 39 16.4**	**+0.2**
WRA				PcP	**PcP**	**19 41 14.5**	**+1.8**
	0.4nm,0.5s,baz=114,slow=2.2,SNR=8.9						
ASAR	**Alice Springs**	**42.11**	**252**	P	**P**	**19 39 19.0**	**-0.6**
	0.8nm,0.7s,baz=87,slow=9.1,SNR=13						
ASAR				PcP	**PcP**	**19 41 13.1**	**-0.9**
	0.5nm,0.8s,baz=94,slow=2.4,SNR=4.2						
DAV	**Davao City (W)**	**56.77**	**290**	LR	LR	20 00 27.3	
	comp=Z,27nm,21.8s,baz=141,slow=31						
NVAR	**Mina Array Bea**	**80.43**	**46**	P	**P**	**19 43 38.9**	**-0.1**
	0.2nm,0.4s,baz=228,slow=8.0,SNR=5.0						
ILAR	**Eielson Array**	**84.81**	**14**	P	**P**	**19 44 00.8**	**-0.1**
	1.4nm,0.8s,baz=233,slow=6.3,SNR=12						
TXAR	**Lajitas Array**	**87.85**	**59**	P	**P**	**19 44 17.2**	**+0.3**
	0.4nm,0.9s,baz=238,slow=5.2,SNR=4.1						
PDAR	**Pinedale Array**	**88.31**	**45**	P	**P**	**19 44 18.5**	**-0.4**
	0.2nm,0.3s,baz=262,slow=3.2,SNR=2.0						

NEIC ***11*** *19:57:12.9±1.8, 64°.6N±0°.1×17°.6W±0°.2, h10km±1km, mb5.1/425, Error ellipse: s-maj=17.5km s-min=11.1km az=179.0*
REY ***11*** *19:57:12.4, 64°.68N×17°.44W, h4km*
BGS ***11*** *19:57:13.7±2.3, 64°.63N×17°.56W, h5km, MS4.9*
BJI ***11*** *19:57:13.8±0.0, 64°.72N×17°.46W, h10km, mB5.5/60, mb4.8/60, Ms5.0/58, Ms7 4.8/54*
IDC ***11*** *19:57:14.7±0.4, 64°.68N×17°.29W, h0km, mb4.4/43, mb1 4.5/49, mb1mx4.5/59, mbtmp4.4/49, ML3.2/5, MS4.5/38, Ms1 4.5/38, ms1mx4.5/40, Error ellipse: s-maj=11.6km s-min=8.2km az=20.0*
MOS ***11*** *19:57:14.2±1.4, 64°.63N×17°.51W, h10km, mb5.3/46, MS4.6/42, Error ellipse: s-maj=6.8km s-min=4.4km az=105.4*
UNK ***11*** *19:57:16.2, 64°.72N×17°.30W, h10km*
IEPN ***11*** *19:57:17.0, 64°.43N×17°.15W, h10km*
NAO ***11*** *19:57:17.1±5.5, 64°.61N×16°.75W, ML4.8*

GCMT ***11*** *19:57:18.9±0.1, 64°.60N±0°.01×17°.19W±0°.01, h12km, MW5.2/137, Moment Tensor Solution. s100,c142; s137,c247; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr=0.96±.01; Mθθ=0.30±.01; Mφφ=0.66±.01; Mrθ=0.26±.03; Mrφ=-0.12±.01; Mθφ=-0.33±.03; Best double couple: M0=0.91600×1017 NP1:φs=154.00000°, δ38.00000°, λ=-112.00000°. NP2:φs=1.00000°, δ56.00000°, λ=-74.00000°. Principal axes: T 0.7460, Plg9.0000°, Azm80.0000°; N 0.3400, Plg13.0000°, Azm172.0000°; P -1.0860, Plg74.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DNK ***11*** *19:57:22.4±6.1, 64°.82N×17°.26W, h43km±89km, Ms4.6, Hypocentre not reviewed by the ISC*

ISC 11 19:57:16.0±0.2, 64°.69N±0°.02×17°.49W±0°.02, h10km, n1445, σ1.98/1518, mb5.1/351, **MS4.7**/93, **37C-30D, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**263**	P	**Pg**	**19 57 15.2**	**-3.7**
	baz=268						
IVON				S	**Sg**	**19 57 18.0**	**-2.9**
	baz=268						
IDYN	**Dyngjuhals**	**0.12**	**27**	P	**Pg**	**19 57 15.0**	**-3.9**
	baz=16						
IDYN				S	**Sg**	**19 57 17.9**	**-3.2**
	baz=16						
IURH	**Urdarhals**	**0.20**	**48**	P	**Pg**	**19 57 16.3**	**-3.9**
	baz=42						
IURH				S	**Sg**	**19 57 19.1**	**-4.1**
	baz=42						
IDJK	**Dyngjujokull**	**0.21**	**149**	S	**Sg**	**19 57 19.2**	**-4.4**
	baz=153						
IDJK				P	Pg	19 57 16.6	-4.0
	baz=153						
IGRF	**Grimsfjall**	**0.30**	**161**	P	Pg	19 57 17.7	-4.3
	baz=164						
IKVE	**Kverkfjoll**	**0.35**	**91**	P	**Pg**	**19 57 18.9**	**-4.1**
	baz=90						
IBJK	**Bruarjokull**	**0.39**	**124**	P	Pg	19 57 19.1	-4.6
	baz=125						
IHUS	**Husbondi**	**0.40**	**190**	P	**Pg**	**19 57 20.1**	**-3.9**
	baz=194						
ISKR	**Skrokkalda**	**0.41**	**252**	P	**Pg**	**19 57 20.3**	**-3.7**
	baz=254						
ISKR				S	**Sg**	**19 57 27.1**	**-2.3**
	baz=254						
IVOT	**Vottur**	**0.44**	**162**	P	Pg	19 57 20.3	-4.3
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**78**	P	Pg	19 57 20.8	-4.7
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**19 57 21.4**	**-4.2**
	baz=223						
IASK	**Askja**	**0.51**	**44**	P	**Pg**	**19 57 21.7**	**-4.3**
	baz=42						
IASK				S	**Sg**	**19 57 29.3**	**-3.4**
	baz=42						
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**	**19 57 22.5**	**-4.6**
	baz=57						
IIEY	**Innrieyrar**	**0.66**	**205**	P	Pg	19 57 24.0	-4.7
	baz=207						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**19 57 24.2**	**-4.6**
	baz=6.8						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P	Pg	19 57 25.6	-5.2
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**19 57 27.1**	**-4.2**
	baz=233						
IADA	**Aoalbol**	**0.88**	**67**	P	Pg	19 57 27.3	-5.7
	baz=66						
IHVE	**Hveravellir**	**0.91**	**283**	P	Pg	19 57 28.4	-5.1
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	Pg	19 57 29.1	-5.3
	baz=20						
IREN	**Reynihlio**	**0.99**	**14**	P	Pg	19 57 29.8	-5.4
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	Pg	19 57 31.1	-5.3
	baz=13						
ISNB	**Snabyli**	**1.08**	**208**	P	Pb	19 57 31.2	-5.5
	baz=209						
IGRS	**Grimsstaoir**	**1.11**	**31**	P	Pg	19 57 31.8	-5.7
	baz=29						
ISLY	**Slysaalda**	**1.12**	**220**	P	Pb	19 57 32.0	-5.5
	baz=221						
IFED	**Fedgar**	**1.17**	**236**	P	Pb	19 57 33.1	-5.1
	baz=237						
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**19 57 41.3**	**-3.6**
	34nm,0.3s,baz=102,slow=8.6,SNR=71						
BORG				Sn	**Sb**	**19 58 06.2**	**-1.1**
	88nm,0.3s,baz=221,slow=22,SNR=9.7						
BORG	**Borgarnes**	**1.65**	**274**	P	**Pn**	**19 57 40.9**	**-4.1**
BORG						19 58 06.2	
BORG	**Borgarnes**	**1.65**	**274**		**Pn**	**19 57 40.9**	**-4.1**
SOFL	**Sornfelli, Far**	**5.41**	**114**	*e*P	**Pn**	**19 58 37.5**	**+0.8**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**19 58 43.0**	**-2.6**
	comp=Z,17μm,12.0s						
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**19 58 43.0**	**-2.6**
SCO				MLR	MLR		
	comp=Z,17μm,12.0s						
SCO	**Scoresbysund**	**6.07**	**346**		**Pn**	**19 58 42.4**	**-3.1**
LEWI	**Lewis, Hebride**	**8.30**	**137**	*e*P	**Pn**	**19 59 13.1**	**-3.2**
WAL1	**Walls**	**8.58**	**114**	*e*P	**Pn**	**19 59 18.1**	**-1.9**
LRW	**Lerwick**	**8.82**	**114**	*e*P	**Pn**	**19 59 20.7**	**-2.7**
LRW				IAMs_20	IAMs_20	20 03 28.5	
	comp=Z,8μm,10.6s						
LRW	**Lerwick**	**8.82**	**114**	*e*P	**Pn**	**19 59 23.3**	**-0.1**
MLA1	**Latheron**	**9.29**	**127**	*e*P	**Pn**	**19 59 28.5**	**-1.3**
KAC	**Achnashellach**	**9.30**	**135**	*e*P	**Pn**	**19 59 27.5**	**-2.5**
KPL	**Plockton**	**9.33**	**137**	*e*P	**Pn**	**19 59 27.4**	**-2.9**
KPL				IAMs_20	IAMs_20	20 04 02.3	
	comp=Z,8μm,13.1s						
MCD	**Coleburn Disti**	**9.88**	**129**	*e*P	**Pn**	**19 59 36.2**	**-1.8**
LAWE	**Loch Awe, Argy**	**10.32**	**139**	*e*P	**Pn**	**19 59 41.6**	**-2.3**
INVG	**Invergeldie, C**	**10.58**	**135**	*e*P	**Pn**	**19 59 44.9**	**-2.5**
INVG				IAMs_20	IAMs_20	20 04 42.5	
	comp=Z,9μm,11.1s						
FOO	**Floro**	**10.63**	**97**	*e*P	**Pn**	**19 59 52.8**	**+4.7**
ELO	**Logie Almond**	**10.64**	**134**	*e*P	**Pn**	**19 59 46.0**	**-2.3**
EAB	**Aberfoyle**	**10.69**	**137**	*e*P	**Pn**	**19 59 47.2**	**-1.7**
SUE	**Sulen**	**10.76**	**100**	*e*P	Pn	19 59 55.0	+5.1
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**19 59 56.0**	**+3.5**
SUMG	**Summit**	**10.93**	**325**	P	**Pn**	**19 59 51.2**	**-1.3**
SUMG	**Summit**	**10.93**	**325**	Pn	**Pn**	**19 59 51.2**	**-1.3**
PGBU	**Glenifferbraes**	**10.97**	**138**	*e*P	**Pn**	**19 59 51.7**	**-1.1**
PGBU				IAMs_20	IAMs_20	20 05 02.1	
	comp=Z,7μm,10.5s						
CLGH	**Cloghs, Cushen**	**11.18**	**144**	*e*P	**Pn**	**19 59 53.5**	**-2.2**
CLGH				IAMs_20	IAMs_20	20 05 51.3	
	comp=Z,11μm,10.2s						
AKN	**Aaknes**	**11.22**	**92**	Pn	**Pn**	**19 59 53.0**	**-3.2**
AKN	**Aaknes**	**11.22**	**92**	Pn	**Pn**	**19 59 53.0**	**-3.2**
ASK	**Askoy**	**11.24**	**102**	*e*P	**Pn**	**19 59 54.6**	**-1.8**
EDI	**Edinburgh**	**11.26**	**135**	*e*P	**Pn**	**19 59 55.5**	**-1.3**
EDI				IAMs_20	IAMs_20	20 04 54.9	
	comp=Z,6μm,10.5s						
MOL	**Molde**	**11.30**	**89**	*e*P	**Pn**	**20 00 00.3**	**+3.0**
HYA	**Hoyanger**	**11.32**	**97**	*e*P	**Pn**	**19 59 58.5**	**+1.0**
BER	**Bergen**	**11.35**	**102**	*e*P	**Pn**	**20 00 01.3**	**+3.3**
EBL	**Broad Law**	**11.43**	**135**	*e*P	**Pn**	**19 59 57.5**	**-1.7**
NEWG	**New Galloway**	**11.65**	**139**	*e*P	**Pn**	**19 59 59.6**	**-2.5**
NEWG				IAMs_20	IAMs_20	20 05 37.3	
	comp=Z,9μm,11.8s						
GAL1	**Galloway**	**11.74**	**141**	*e*P	**Pn**	**20 00 01.5**	**-1.8**
GAL1				IAMs_20	IAMs_20	20 05 25.0	
	comp=Z,10μm,11.1s						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**20 00 02.1**	**-1.7**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**20 00 01.6**	**-2.2**
	baz=327,slow=13,SNR=92						
EKA				LR	LR	20 04 39.1	
	comp=Z,2μm,18.2s,baz=40,slow=38						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**20 00 02.1**	**-1.7**
ESK	**Eskdalemuir**	**11.77**	**136**	P	**Pn**	**20 00 01.8**	**-2.0**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**20 00 01.8**	**-2.0**
KMY	**Karmoy**	**11.98**	**107**	*e*P	**Pn**	**20 00 03.6**	**-3.0**
ODD1	**Odda**	**12.15**	**102**	*e*P	**Pn**	**20 00 12.8**	**+3.8**
DAG	**Danmarks Havn**	**12.15**	**359**	*i* P	**Pn**	**20 00 11.5**	**+2.7**
DAG	**Danmarks Havn**	**12.15**	**359**	*e*P	**Pn**	**20 00 11.5**	**+2.7**
DOMB	**Dombas**	**12.16**	**90**	*e*P	**Pn**	**20 00 13.0**	**+3.9**
BLS5	**Blasjo**	**12.36**	**104**	*e*P	**Pn**	**20 00 09.8**	**-1.9**
WIM	**Isle of Man**	**12.39**	**143**	*e*P	**Pn**	**20 00 10.3**	**-1.9**
KESW	**Keswick, Cumbr**	**12.43**	**138**	*e*P	**Pn**	**20 00 11.0**	**-1.8**
KESW				IAMs_20	IAMs_20	20 05 51.0	
	comp=Z,10μm,11.2s						
SKAR	**Skarslia**	**12.46**	**97**	*e*P	**Pn**	**20 00 12.2**	**-1.0**
EDMD	**Edmundbyers**	**12.56**	**135**	*e*P	**Pn**	**20 00 13.2**	**-1.3**
EDMD				IAMs_20	IAMs_20	20 05 45.3	
	comp=Z,6μm,12.0s						
KONS	**Konsvik**	**12.72**	**68**	*e*	**Pn**	**20 00 15.2**	**-1.3**
DSB	**Dublin**	**12.80**	**148**		**Pn**	**20 00 17.9**	**+0.2**
NRS	**Narsarsuaq**	**13.14**	**267**	*i* P	**P**	**20 00 29.5**	**-3.1**
NRS	**Narsarsuaq**	**13.14**	**267**	*e*P	**P**	**20 00 29.5**	**-3.1**
YRC	**Rhoscolyn**	**13.22**	**144**	*e*P	**Pn**	**20 00 23.2**	**-0.4**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**20 00 19.4**	**-4.2**
WLF1	**Llynfaes**	**13.23**	**144**	*e*P	**Pn**	**20 00 22.6**	**-1.1**
WLF1				IAMs_20	IAMs_20	20 06 08.6	
	comp=Z,11μm,13.8s						
SNART	**Snartemo**	**13.32**	**107**	*e*P	**Pn**	**20 00 24.5**	**-0.4**
NBO00	**NORSAR Array S**	**13.35**	**93**		**Pn**	**20 00 21.6**	**-3.6**
YLL	**Llanberis**	**13.43**	**143**	*e*P	**Pn**	**20 00 25.8**	**-0.5**
NAO01	**NORSAR Array S**	**13.48**	**93**		Pn	20 00 22.3	-4.8
NC303	**NORSAR Array S**	**13.51**	**92**		**Pn**	**20 00 24.4**	**-3.1**
NB2	**NORSAR Subarra**	**13.53**	**92**	Pn	**Pn**	**20 00 24.8**	**-3.0**
NB2	**NORSAR Subarra**	**13.53**	**92**	Pn	**Pn**	**20 00 23.9**	**-3.9**
	comp=Z,352nm,3.3s,baz=298,slow=14						
NB2	**NORSAR Subarra**	**13.53**	**92**	Pn	**Pn**	**20 00 24.8**	**-3.0**
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**20 00 23.6**	**-4.2**
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=12						
NOA				LR	LR	20 05 27.2	
	comp=Z,3μm,21.5s,baz=300,slow=37						
KONO	**Kongsberg**	**13.55**	**99**	*ce*P	**Pn**	**20 00 27.1**	**-0.9**
KONO				pmax	pmax		
	comp=Z,34nm,2.8s						
KONO	**Kongsberg**	**13.55**	**99**	Pn	**Pn**	**20 00 26.1**	**-1.9**
KONO	**Kongsberg**	**13.55**	**99**	*e*P	**Pn**	**20 00 29.9**	**+1.9**
NB201	**NORSAR Array S**	**13.56**	**92**		**Pn**	**20 00 26.6**	**-1.6**
SFJD	**Kangerlussuaq**	**13.66**	**295**	*i* P	**Pn**	**20 00 33.1**	**+3.7**
SFJD	**Kangerlussuaq**	**13.66**	**295**	*e*P	**Pn**	**20 00 33.1**	**+3.7**
NC405	**NORSAR Array S**	**13.71**	**92**	Pn	**Pn**	**20 00 26.7**	**-3.5**
ILULI	**Ilulissat**	**13.79**	**304**	*i* P	P	20 00 34.8	-4.9
ILULI	**Ilulissat**	**13.79**	**304**	*e*P	P	20 00 34.8	-4.9
NC602	**NORSAR Array S**	**13.82**	**93**	Pn	**Pn**	**20 00 28.3**	**-3.3**
LBWR	**Ladybower, Pea**	**13.87**	**137**	*e*P	**Pn**	**20 00 32.2**	**-0.1**
LBWR				IAMs_20	IAMs_20	20 06 44.9	
	comp=Z,8μm,10.9s						
HOMB	**Homborsund**	**13.90**	**105**	*e*P	**Pn**	**20 00 32.4**	**-0.4**
MONM	**Monmouth**	**14.96**	**142**	*e*P	**Pn**	**20 00 46.1**	**-1.1**
MONM				IAMs_20	IAMs_20	20 06 52.2	
	comp=Z,4μm,12.8s						
HFS	**Hagfors**	**15.04**	**93**	P	**Pn**	**20 00 47.0**	**-1.3**
	baz=312,slow=16						
HFS	**Hagfors**	**15.04**	**93**	Pn	**Pn**	**20 00 45.2**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=324,slow=9.8,SNR=3.6						
HFS				LR	LR	20 06 13.2	
	comp=Z,3μm,22.0s,baz=278,slow=36						
HFS	**Hagfors**	**15.04**	**93**	P	**Pn**	**20 00 47.0**	**-1.3**
	baz=312,slow=16						
MUD	**Monsted U'grnd**	**15.37**	**110**	*i* P	**P**	**20 00 57.7**	**+0.4**
	comp=Z,4μm,22.0s						
MUD	**Monsted U'grnd**	**15.37**	**110**	*i* P	**P**	**20 00 57.7**	**+0.4**
MUD				MLR	MLR		
	comp=Z,4μm,22.0s						
KIF	**Kilpisjarvi**	**15.46**	**57**	P	**Pn**	**20 00 54.2**	**+0.4**
KIF	**Kilpisjarvi**	**15.46**	**57**	P	**Pn**	**20 00 54.2**	**+0.4**
HSPB	**Hornsund (broa**	**16.05**	**27**	*e*P	**Pn**	**20 01 02.3**	**+1.0**
HSPB	**Hornsund (broa**	**16.05**	**27**	||*i*P	**Pn**	**20 01 00.7**	**-0.6**
HSPB				*e*S	**Sn**	**20 03 57.9**	**-1.1**
HLG	**Helgoland**	**16.51**	**118**	*e*P	**Pn**	**20 01 08.7**	**+1.4**
	baz=325,slow=11						
KBS	**Kingsbay**	**16.62**	**19**	P	**P**	**20 01 11.8**	**+0.8**
KBS	**Kingsbay**	**16.62**	**19**	||*i*P	**P**	**20 01 11.9**	**+0.8**
KBS				*e*S	**S**	**20 04 19.1**	**-5.2**
KBS	**Kingsbay**	**16.62**	**19**	||*e*P	**P**	**20 01 09.3**	**-1.8**
KBS				pmax	pmax		
	comp=Z,14nm,1.1s						
KBS	**Kingsbay**	**16.62**	**19**	P	**P**	**20 01 10.3**	**-0.8**
KBS	**Kingsbay**	**16.62**	**19**	P	**P**	**20 01 11.8**	**+0.8**
SKMB	**Sankelmark Bun**	**16.71**	**114**	*e*P	**Pn**	**20 01 08.5**	**-1.4**
	baz=325,slow=11						
SPA0	**Spitsbergen Ar**	**16.85**	**23**	*e*P	**P**	**20 01 15.8**	**+2.2**
SPA0				*e*S	**S**	**20 04 26.9**	**-2.1**
SPITS	**Spitsbergen Ar**	**16.85**	**23**	Pn	**Pn**	**20 01 10.0**	**-1.5**
	baz=259,slow=7.6,SNR=5.8						
SPITS				LR	LR	20 05 54.1	
	comp=Z,1μm,19.1s,baz=210,slow=31						
NOR	**Nord**	**17.01**	**0**	P	**P**	**20 01 15.6**	**+0.3**
NOR	**Nord**	**17.01**	**0**	*i* P	**P**	**20 01 15.2**	**-0.1**
NOR	**Nord**	**17.01**	**0**	*i* P	**P**	**20 01 15.2**	**-0.1**
NOR	**Nord**	**17.01**	**0**	P	**P**	**20 01 15.6**	**+0.3**
ARA0	**ARCESS Array S**	**17.10**	**55**	P	**Pn**	**20 01 12.1**	**-2.7**
ARA0	**ARCESS Array S**	**17.10**	**55**	P	**Pn**	**20 01 12.1**	**-2.7**
ARCES	**ARCESS Array B**	**17.10**	**55**	P	**Pn**	**20 01 14.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=40,slow=17,SNR=5.0						
ARCES				LR	LR	20 06 35.6	
	comp=Z,3μm,19.3s,baz=276,slow=33						
ARCES	**ARCESS Array B**	**17.10**	**55**	P	**Pn**	**20 01 12.7**	**-2.1**
ARCES	**ARCESS Array B**	**17.10**	**55**	P	**Pn**	**20 01 12.7**	**-2.1**
COP	**Copenhagen**	**17.23**	**107**	*i* P	**Pn**	**20 01 15.7**	**-0.6**
	comp=Z,1μm,11.0s						
COP	**Copenhagen**	**17.23**	**107**	*i* P	**Pn**	**20 01 15.7**	**-0.6**
COP				MLR	MLR		
	comp=Z,2μm,11.0s						
BSEG	**Bad Segeberg**	**17.64**	**114**	*e*P	**Pn**	**20 01 19.2**	**-2.3**
	baz=325,slow=11						
HOPEN	**Hopen**	**17.82**	**31**	P	**P**	**20 01 25.2**	**+1.0**
HOPEN	**Hopen**	**17.82**	**31**	P	**P**	**20 01 25.2**	**+1.0**
IBBN	**Ibbenburen**	**17.94**	**122**	*e*P	**Pn**	**20 01 23.2**	**-2.0**
	comp=Z,1μm,2.8s,baz=325,slow=11						
UCC	**Uccle**	**18

comp=Z,249nm,1.5s
TNS Taunus Mts 19.90 124 *e*P **P 20 01 48.2 +0.9**
baz=325,slow=11
UBBA Unterbreizbach 19.97 121 *e*P **P 20 01 48.8 +0.8**
comp=Z,566nm,2.8s,baz=325,slow=11
RUE Ruedersdorf 20.11 113 *e*P **P 20 01 50.1 +0.6**
RUE Ruedersdorf 20.11 113 *e*P Pn 20 01 50.8 -0.6
comp=Z,1μm,3.2s,baz=325,slow=11
SLIT Slitere, Latvi 20.14 92 *e*P Pn 20 01 51.8 0.0
APA0 Apatity Array 20.15 59 P **P 20 01 50.2 +0.3**
APA0 Apatity Array 20.15 59 P **P 20 01 50.2 +0.3**
APA Apatity 20.31 59⇓*i*P **P 20 01 51.7 0.0**
APA *i*S **S 20 05 36.0 -3.0**
APA pmax pmax
comp=Z,27nm,0.9s
NEUB Neuenburg 20.32 118 *e*P **P 20 01 52.8 +1.0**
baz=325,slow=11
LVZ Lovozero 20.68 58⇑*e*P **P 20 01 55.5 -0.2**
LVZ pmax pmax
comp=Z,27nm,1.4s
LVZ Lovozero 20.68 58 P Pn 20 01 57.5 -0.5
CLL Collm 20.71 116⇑*i*P **P 20 01 57.2 +1.1**
comp=Z,182nm,1.6s
CLL *e*Plp 20 01 58.0
CLL *e*S **S 20 05 50.0 +2.9**
CLL *e*S **S 20 05 50.0 +2.9**
CLL *e*S **S 20 05 50.0 +2.9**
CLL L L 20 10 00.0
comp=Z,2μm,18.7s
CLL Collm 20.71 116⇑*i*P **P 20 01 57.2 +1.1**
CLL pmax pmax
comp=Z,182nm,1.6s
CLL MLR MLR
comp=Z,2μm,18.7s
CLL Collm 20.71 116 *e*P **P 20 01 56.9 +0.8**
comp=Z,182nm,1.6s,baz=325,slow=11
CLL Collm 20.71 116 P **P 20 01 56.1 0.0**
CLL IAmb IAmb 20 02 06.4
comp=Z,162nm,1.5s
MOX Moxa 20.71 119 *e*P **P 20 01 56.9 +0.8**
comp=Z,332nm,1.9s,baz=325,slow=11
MOX *e*L L 20 10 39.9
comp=Z,3μm,19.5s
GKP Gorka Klasztor 20.92 107 *e*P Pn 20 02 00.1 -0.7
GKP *e*S Sn 20 06 08.4 +12
PBUR Paburge 21.00 96 *e*P **P 20 01 58.9 -0.3**
PLN Plauen 21.04 118 *e*P **P 20 02 00.8 +1.1**
comp=Z,336nm,1.8s,baz=325,slow=11
WERD Werda 21.13 118 *e*P **P 20 02 01.8 +1.1**
comp=Z,924nm,3.0s,baz=325,slow=11
FBE Freiberg 21.15 116 *e*P **P 20 02 01.6 +0.8**
comp=Z,1μm,2.5s,baz=325,slow=11
ECH Echery 21.16 129 P **P 20 02 00.3 -0.8**
ECH pmax pmax
comp=Z,51nm,1.1s
ECH Echery 21.16 129 P **P 20 02 00.3 -0.8**
GUNZ Gunzen 21.21 118 *e*P **P 20 02 02.4 +0.8**
comp=Z,2μm,3.3s,baz=325,slow=11
KLNR Kaliningrad 21.21 101 *ce*P **P 20 02 02.0 +0.5**
KLNR pmax pmax
comp=Z,393nm,2.7s
TANN Tannenbergstha 21.21 118 *e*P **P 20 02 02.4 +0.8**
comp=Z,2μm,2.8s,baz=325,slow=11
WERN Wernitzgruen 21.29 118 *e*P **P 20 02 03.5 +1.1**
comp=Z,1μm,3.0s,baz=325,slow=11
GRA1 Grafenberg Arr 21.34 121 P **P 20 02 02.6 -0.3**
GRA1 IAmb IAmb 20 02 14.9
comp=Z,83nm,1.2s
GRF Grafenberg Arr 21.34 121 P **P 20 02 02.6 -0.3**
GRF pmax pmax
comp=Z,83nm,1.2s
GRF Grafenberg Arr 21.34 121 *e*P **P 20 02 04.4 +1.5**
comp=Z,974nm,2.6s,baz=325,slow=11
GRF *e*L L 20 11 50.9
comp=Z,3μm,18.2s
NKC Novy Kostel 21.36 118 *e*P **P 20 02 03.6 +0.5**
NKC *e*S Sn 20 06 09.6 +2.2
NKC AMS AMS 20 12 10.0
comp=Z,2μm,14.3s
NKC Novy Kostel 21.36 118 *e*P **P 20 02 03.6 +0.5**
NKC *e*S Sn 20 06 09.6 +2.2
NKC MLR MLR
comp=Z,2μm,14.3s
STU Stuttgart 21.38 125 P **P 20 02 04.3 +0.9**
STU pmax pmax
comp=Z,116nm,1.2s
STU Stuttgart 21.38 125 *e*P **P 20 02 05.1 +1.8**
baz=325,slow=11
STU Stuttgart 21.38 125 P **P 20 02 04.3 +0.9**
STU IAmb IAmb 20 02 13.7
comp=Z,116nm,1.2s
BRG Berggiesshubel 21.42 115 *i*P **P 20 02 03.8 +0.1**
comp=Z,1μm,2.8s
BRG S Sn 20 06 09.0 +0.1
comp=Z,3μm,17.9s
comp=N,2μm,17.5s
comp=E,3μm,17.5s
BRG Berggiesshubel 21.42 115 *i*P **P 20 02 03.8 +0.1**
BRG S Sn 20 06 09.0 +0.1
BRG pmax pmax
comp=Z,1μm,2.8s
BRG MLR MLR
comp=Z,3μm,17.9s
BRG MLR MLR
comp=N,2μm,17.5s
BRG MLR MLR
comp=E,3μm,17.5s
BRG Berggiesshubel 21.42 115 *e*P **P 20 02 04.5 +0.8**
comp=E,1μm,3.1s,baz=325,slow=11
MANZ Manzenberg 21.43 119 *e*P **P 20 02 04.6 +0.7**
comp=E,626nm,3.0s,baz=325,slow=11
BFO Black Forest 21.46 127 P **P 20 02 03.4 -0.8**
BFO pmax pmax
comp=Z,89nm,1.2s
BFO Black Forest 21.46 127 *e*P **P 20 02 05.0 +0.8**
comp=Z,802nm,2.8s,baz=325,slow=11
BFO Black Forest 21.46 127 P **P 20 02 03.4 -0.8**
BFO IAmb IAmb 20 02 15.8
comp=Z,89nm,1.2s
VSU Vasula 21.56 86 *e*P **P 20 02 03.6 -1.6**
VSU Vasula 21.56 86 *de*P **P 20 02 02.9 -2.3**
VSU pmax pmax
comp=Z,70nm,0.7s
ROTZ Rotzenmuhle 21.64 119 *e*P **P 20 02 07.0 +0.9**
comp=Z,602nm,3.0s,baz=325,slow=11
FRB Frobisher Bay 21.75 291 P **P 20 02 09.4 +2.4**
comp=Z,18nm,0.9s,baz=78,slow=8.8,SNR=3.0
FRB LR LR 20 09 56.9
comp=Z,2μm,19.4s,baz=57,slow=35
PVCC Panska Ves 21.93 115 *e*P **P 20 02 10.4 +1.1**
PVCC AMS AMS 20 12 20.0
comp=Z,3μm,14.8s
SLVR Solovky 22.05 65 *e*P **P 20 02 10.3 -0.1**
comp=Z,139nm,1.1s
SLVR *e*S **S 20 06 12.6 -0.6**
PABE Paberze 22.21 95 *e*P **P 20 02 11.9 -0.2**
PRA Prague 22.25 116 AMS AMS 20 12 00.0
comp=Z,1μm,15.4s
PUL Pulkovo 22.35 80 *e*P **P 20 02 14.4 +0.7**
PUL Pulkovo 22.35 80⇓*e*P **P 20 02 13.5 -0.2**
PUL pmax pmax
comp=Z,70nm,0.4s
PRU Pruhonice 22.36 116 *e*P **P 20 02 14.5 +0.7**
PRU *e*S **S 20 06 21.6 +2.4**
PRU AMS AMS 20 11 50.0
comp=Z,2μm,15.5s
PRU Pruhonice 22.36 116 *e*P **P 20 02 14.5 +0.7**
PRU *e*S **S 20 06 21.6 +2.4**
PRU MLR MLR
comp=Z,2μm,15.5s
KSP Ksiaz 22.37 112 *e*P **P 20 02 13.0 -0.9**
KSP *e*S Sn 20 06 30.4 -1.2
PBCC Pribram 22.39 117 *e*P **P 20 02 15.0 +0.8**
WET Wettzell 22.41 119 *e*P **P 20 02 15.1 +0.7**
comp=Z,446nm,2.5s,baz=325,slow=11
CHVC Chvalec 22.47 113 *e*P **P 20 02 14.8 -0.3**
CHVC AMS AMS 20 11 40.0
comp=Z,2μm,16.8s
GOPC GO Pecny, Ondr 22.51 116 *e*P **P 20 02 16.8 +1.3**
GOPC *e*S **S 20 06 28.9 +6.8**
GOPC AMS AMS 20 12 00.0
comp=Z,3μm,16.2s
GOPC GO Pecny, Ondr 22.51 116 *e*P **P 20 02 16.8 +1.3**
GOPC MLR MLR
comp=Z,3μm,16.2s
UPC Upice 22.52 113 *e*P **P 20 02 15.7 +0.2**
UPC *e*S **S 20 06 28.4 +6.2**
UPC AMS AMS 20 12 00.0
comp=Z,2μm,17.1s
UPC Upice 22.52 113 *e*P **P 20 02 15.7 +0.2**
UPC MLR MLR
comp=Z,2μm,17.1s
OSTC Ostas 22.56 113 *e*P **P 20 02 16.9 +0.9**
OSTC *e*S Sn 20 06 30.3 -6.0
OSTC AMS AMS 20 11 10.0
comp=Z,2μm,16.9s
UBR Ueberruh 22.63 126 *e*P **P 20 02 17.8 +1.0**
comp=Z,406nm,1.8s,baz=325,slow=11
FUR Furstenfeldbru 22.63 123 *e*P **P 20 02 17.6 +0.8**
comp=Z,1μm,2.3s,baz=325,slow=11
KHC Kasperske Hory 22.68 118 *e*P **P 20 02 17.8 +0.5**
KHC *e*x x 20 02 35.5
KHC *e*S **S 20 06 31.6 +6.3**
KHC AMS AMS 20 13 00.0
comp=Z,3μm,14.0s
KHC Kasperske Hory 22.68 118 *d i*P **P 20 02 17.1 -0.2**
KHC pmax pmax
comp=Z,58nm,1.2s
KHC Kasperske Hory 22.68 118 P **P 20 02 17.5 +0.2**
DPC Dobruska-Polom 22.77 113 *e*P **P 20 02 18.0 -0.2**
DPC *e*S **S 20 06 32.7 +5.9**
DPC AMS AMS 20 12 10.0
comp=Z,2μm,17.5s
DPC Dobruska-Polom 22.77 113 *e*P **P 20 02 18.0 -0.2**
DPC MLR MLR
comp=Z,2μm,17.5s
SENIN Lac Senin/Sane 22.84 132 P **P 20 02 19.6 +0.5**
SENIN IAmb IAmb 20 02 31.1
comp=Z,85nm,1.4s
SUW Suwalki 22.88 98 *e*P **P 20 02 18.3 -1.1**
SUW *e*S **S 20 06 35.1 +6.4**
SUW Suwalki 22.88 98 P **P 20 02 19.0 -0.3**
SUW pmax pmax
comp=Z,194nm,1.4s
SUW Suwalki 22.88 98 P **P 20 02 19.0 -0.3**
DAVA Damuels 22.89 126 *i*pP **P 20 02 20.5 +0.8**
comp=Z,36nm,1.1s
GEC2 GERESS Array S 22.96 119 *e*P **P 20 02 20.1 -0.2**
comp=Z,2μm,3.4s,baz=325,slow=11
GEC2 GERESS Array S 22.96 119 P **P 20 02 20.5 +0.2**
GERES GERESS Array B 22.96 119 P **P 20 02 20.6 +0.2**
comp=Z,6.3nm,0.9s,baz=330,slow=7.7,SNR=32
GERES LR LR 20 11 47.4
comp=Z,3μm,20.3s,baz=329,slow=38
GERES GERESS Array B 22.96 119 P **P 20 02 19.2 -1.1**
GERES GERESS Array B 22.96 119 P **P 20 02 19.2 -1.1**
SSB Saint Sauveur 22.96 137 P **P 20 02 17.0 -3.3**
SSB pmax pmax
comp=Z,108nm,1.5s
SSB Saint Sauveur 22.96 137 P **P 20 02 17.0 -3.3**
SSB IAmb IAmb 20 02 31.2
comp=Z,108nm,1.5s
IZAR Zarasai 23.02 92 *e*P **P 20 02 21.9 +1.1**
RETA Reutte 23.03 125 *i*pP **P 20 02 21.1 +0.1**
comp=Z,54nm,2.3s,SNR=12
ZFI2 Zemlya Franca- 23.05 22 *i*P **P 20 02 20.2 -0.6**
comp=Z,56nm,1.9s
ISAL Salakas 23.09 93 *e*P **P 20 02 22.1 +0.6**
KRLC Kraliky 23.16 113 *e*P **P 20 02 22.8 +0.5**
KRLC *e*S **S 20 06 39.6 +5.9**
KRLC AMS AMS 20 12 30.0
comp=Z,2μm,17.1s
KRLC Kraliky 23.16 113 *e*P **P 20 02 22.8 +0.5**
KRLC MLR MLR
comp=Z,2μm,17.1s
MOTA Moosalm 23.27 125 *i*pP **P 20 02 23.5 -0.1**
comp=Z,51nm,1.9s,SNR=8.5
IIGN Ignalina 23.28 93 *e*P **P 20 02 23.5 +0.1**
TREC Trest 23.28 116 *e*P **P 20 02 24.5 +1.0**
TREC *e*S **S 20 06 42.5 +6.9**
TREC AMS AMS 20 12 20.0
comp=Z,2μm,17.5s
TREC Trest 23.28 116 *e*P **P 20 02 24.5 +1.0**
TREC MLR MLR
comp=Z,2μm,17.5s
DAVOX Davos/Dischmat 23.33 127 P **P 20 02 24.4 +0.3**
comp=Z,10nm,0.9s,baz=312,slow=11,SNR=20
DAVOX LR LR 20 12 15.5
comp=Z,2μm,19.9s,baz=328,slow=39
TMCR Tamitsa 23.33 66 *e*P **P 20 02 23.3 -0.5**
TMCR *e*S **S 20 06 36.6 +0.5**
TMCR Tamitsa 23.33 66 *e*P **P 20 02 23.4 -0.5**
TMCR *e*S **S 20 06 38.5 +2.4**
PGAV Gavieira, Arco 23.37 162 *e*P **P 20 02 25.4 +0.9**
comp=Z,74nm,1.4s
PGAV *e*S **S 20 06 40.6 +3.3**
SQTA Sankt Quirin 23.41 125 *i*pP **P 20 02 26.0 +1.0**
comp=Z,55nm,1.6s,SNR=10
FETA Feichten 23.41 126 *i*pP **P 20 02 28.1 +3.0**
comp=Z,36nm,2.1s,SNR=9.1
TUE Stuetta 23.41 128 P **P 20 02 21.8 -3.3**
BEL Belsk 23.44 105 *e*P **P 20 02 25.3 +0.2**
BEL *e*S Sn 20 06 48.9 -8.4
WATA Walderalm 23.45 124 *i*pP **P 20 02 26.1 +0.8**
comp=Z,23nm,1.2s,SNR=13
IDID Didziasalis 23.52 92 *e*P **P 20 02 25.2 -0.6**
WTTA Wattenberg 23.53 124 *i*pP **P 20 02 27.3 +1.1**
comp=Z,47nm,1.5s,SNR=10
FUORN Ofenpass-Fuorn 23.60 127 P **P 20 02 24.9 -2.0**
VRAC Vranov 23.70 114 P **P 20 02 28.3 +0.7**
comp=Z,6.8nm,1.0s,baz=328,slow=9.7,SNR=24
VRAC LR LR 20 13 00.8
comp=Z,3μm,18.7s,baz=330,slow=40
VRAC Vranov 23.70 114⇓*i*P **P 20 02 27.1 -0.5**
VRAC *e*S **S 20 06 47.2 +4.9**
MORC Moravsky Berou 23.70 112⇓*i*P **P 20 02 27.1 -0.6**
MORC *e*S **S 20 06 46.9 +4.5**
MORC Moravsky Berou 23.70 112 P **P 20 02 27.0 -0.6**
MORC pmax pmax
comp=Z,35nm,1.5s
MORC Moravsky Berou 23.70 112 P **P 20 02 27.0 -0.7**
PBRG Braganca 23.74 160 *e*P **P 20 02 29.1 +1.0**
comp=Z,69nm,3.2s
BNI Bardonecchia 23.81 134 P **P 20 02 27.7 -1.2**
BNI pmax pmax
comp=Z,59nm,1.5s
BNI Bardonecchia 23.81 134 P **P 20 02 27.7 -1.2**
NACGM Naroch 23.82 93 *e*P **P 20 02 28.0 -0.7**
NACGM *e*P **P 20 02 28.0 -0.7**
NACGM *e*S **S 20 06 40.0 -4.0**
NACGM *e*SS **SnSn 20 07 20.0 -2.2**
NACGM *e*LR LR 20 10 10.0
KRUC Moravsky 23.82 115⇓*i*P **P 20 02 28.1 -0.7**
KRUC *e*S **S 20 06 48.5 +4.3**
MOA Molln 24.00 119 *i*pP **P 20 02 31.1 +0.6**
comp=Z,39nm,1.9s
PVRL Vila Real 24.12 162 *e*P **P 20 02 32.8 +1.1**
comp=Z,71nm,2.3s
OJC Ojcow 24.26 109 *e*P **P 20 02 32.3 -0.7**
OJC *e*S **S 20 06 59.3 +8.0**
OJC Ojcow 24.26 109 P **P 20 02 29.4 -3.6**
OJC pmax pmax
comp=Z,13nm,1.2s
OJC Ojcow 24.26 109 P **P 20 02 29.4 -3.6**
ABTA Abfaltersbach 24.28 123 *i*pP **P 20 02 34.3 +1.1**
comp=Z,36nm,1.4s
MVO Moncorvo 24.33 161 *e*P **P 20 02 34.6 +1.0**
comp=Z,82nm,1.8s
MVO *e*S **S 20 06 58.8 +6.3**
JAVC Velka Javorina 24.48 113⇓*i*P **P 20 02 34.0 -1.0**
JAVC *e*S S 20 07 07.2 +12
CONA Conrad Observa 24.54 117 *i*pP **P 20 02 36.2 +0.6**
comp=Z,14nm,1.0s,SNR=6.7
MICGM Minsk 24.56 93⇑*e*P **P 20 02 35.0 -0.6**
MICGM ⇑*e*P **P 20 02 35.0 -0.6**
MICGM PM 20 02 36.0
comp=Z,1.0nm,2.5s
MICGM PM 20 02 36.0
comp=Z,2.6nm,5.0s
MICGM PM 20 02 38.0
comp=N,0.1nm,2.0s
MICGM *e*PP **PnPn 20 03 08.0 +1.6**
MICGM *e*S **S 20 06 50.0 -5.9**
MICGM *e*SS **SnSn 20 07 54.0 +14**
MICGM *e*LQ LQ 20 10 46.0
MICGM *e*LR LR 20 11 58.0
MICGM LRM MLR 20 14 04.0
comp=Z,1.7nm,12.0s
MNK Minsk 24.56 93 *oe*P **P 20 02 35.0 -0.6**
MNK *e* 20 03 08.0
MNK *e*S **S 20 06 50.0 -5.9**
MNK *e*SS **SnSn 20 07 54.0 +14**
MNK pmax pmax
comp=Z,990nm,2.5s
MNK pmax pmax
comp=N,120nm,2.0s
MNK pmax pmax
comp=Z,3μm,5.0s
MNK MLR MLR
comp=Z,2μm,12.0s
CTI Castel Tesino 24.58 125 P **P 20 02 34.7 -1.2**
CTI pmax pmax
comp=Z,110nm,1.5s
CTI Castel Tesino 24.58 125 P **P 20 02 34.7 -1.2**
CTI IAmb IAmb 20 02 53.1
comp=Z,110nm,1.5s
ZOU Zoufplan 24.61 123 P **P 20 02 37.3 +0.9**
ZOU IAmb IAmb 20 02 47.1
comp=Z,77nm,1.4s
CIMO Cimolais 24.63 124 P **P 20 02 35.4 -0.9**
CIMO IAmb IAmb 20 02 48.0
comp=Z,54nm,1.4s
PVIS Viseu 24.65 162 *e*P **P 20 02 42.7 +6.1**
comp=Z,50nm,1.4s
SMOL Smolenice 24.67 114 *e*P **P 20 02 38.0 +1.4**
SMOL pmax pmax
comp=Z,464nm,3.4s
SMOL Smolenice 24.67 114 *e*P **P 20 02 38.0 +1.4**
MODS Modra-Piesok 24.72 115 *e*P **P 20 02 37.0 -0.1**
MODS pmax pmax
comp=Z,644nm,2.9s
MODS Modra-Piesok 24.72 115 *e*P **P 20 02 37.0 -0.1**
MODS *e*S **S 20 07 06.4 +7.7**
MYKA Terra Mystica 24.79 122 *i*pP **P 20 02 39.6 +1.8**
comp=Z,35nm,1.6s
PRED Cave del Predi 24.92 122 P **P 20 02 38.1 -0.9**
PRED IAmb IAmb 20 02 54.5
comp=Z,76nm,1.5s
LANS Liptovska Anna 24.97 111 *e*P **P 20 02 41.0 +1.6**
LANS pmax pmax
comp=Z,14nm,1.0s
LANS Liptovska Anna 24.97 111 *e*P **P 20 02 41.0 +1.6**
ARSA Arzberg 24.97 118 *i*pP **P 20 02 40.1 +0.7**
comp=Z,21nm,1.0s
COI Coimbra 25.08 163 P **P 20 02 41.8 +1.4**
COI pmax pmax
comp=Z,95nm,1.2s
COI Coimbra 25.08 163 P **P 20 02 41.8 +1.4**
COI Coimbra 25.08 163 *e*P **P 20 02 43.1 +2.7**
comp=Z,126nm,1.3s
NIE Niedzica 25.09 109 *e*P **P 20 02 41.9 +1.4**
NIE *e*S **S 20 07 12.3 +7.6**
OBKA Obir 25.23 121 *i*pP **P 20 02 48.0 +6.3**
comp=Z,23nm,1.2s
PCAS Casmilo, Conde 25.23 164 *e*P **P 20 02 44.3 +2.6**
comp=Z,97nm,1.8s
VYHS Vyhne 25.24 112 *e*P **P 20 02 43.0 +1.2**
VYHS pmax pmax
comp=Z,942nm,3.5s
VYHS Vyhne 25.24 112 *e*P **P 20 02 43.0 +1.2**
VYHS *e*S **S 20 07 12.9 +5.9**
SOKA Soboth 25.26 120 *i*pP **P 20 02 43.0 +0.9**
comp=Z,49nm,1.5s
PCBR Castelo Branco 25.57 162 A A 20 02 55.8
comp=Z,58nm,2.8s
SRO Srobarova 25.58 114 *e*P **P 20 02 46.7 +1.9**
SRO pmax pmax
comp=Z,185nm,2.0s
SRO Srobarova 25.58 114 *e*P **P 20 02 46.7 +1.9**
KLMR Klimovskoe 25.59 72 *e*P **P 20 02 44.8 -0.1**
comp=Z,60nm,1.5s
KLMR *e*S **S 20 07 12.5 +0.2**
KLMR Klimovskoe 25.59 72 *e*P **P 20 02 44.7 -0.1**
KLMR *e* 20 06 19.4
KLMR *e*S **S 20 07 13.8 +1.4**
KLMR pmax pmax
comp=Z,60nm,1.5s
KLMR Klimovskoe 25.59 72 *e*P **P 20 02 44.7 -0.1**
KLMR AMP 20 02 48.3
comp=Z,60nm,1.5s
KLMR *e*PcP **PcP 20 06 19.5 +4.3**
KLMR *e*S **S 20 07 13.8 +1.4**
KLMR *e*S **S 20 07 13.8 +1.4**
KLMR LQ LQ 20 09 49.9
KLMR LQ LQ 20 09 49.9
KLMR LR LR 20 10 53.2
SRO2 Moca 25.65 114 *e*P **P 20 02 45.8 +0.3**
SRO2 pmax pmax
comp=Z,24nm,1.1s
SRO2 Moca 25.65 114 *e*P **P 20 02 45.8 +0.3**
PSBE So Bento 25.72 164 *e*P **P 20 02 49.8 +3.6**
comp=Z,80nm,1.8s
UCM Universidad Co 25.79 154 *e*P **P 20 02 49.0 +2.2**
UCM *i*S **S 20 07 25.1 +9.3**
VLC Villacollemand 25.80 129 P **P 20 02 48.0 +1.1**
VLC IAmb IAmb 20 02 54.2
comp=Z,50nm,1.3s
ZCCA Zocca 25.83 128 P **P 20 02 44.1 -3.1**
ZCCA IAmb IAmb 20 03 00.1
comp=Z,75nm,1.3s
KECS Kecovo 25.91 110 *e*P **P 20 02 49.1 +1.3**
KECS pmax pmax
comp=Z,14nm,1.2s
KECS Kecovo 25.91 110 *e*P **P 20 02 49.1 +1.3**
LSH Leshukonskoye 25.95 61 *e*P **P 20 02 46.1 -2.0**
LSH *e*S **S 20 07 15.6 -2.3**
CRVS Cervenica-Dubn 25.97 109 *e*P **P 20 02 49.5 +1.1**
CRVS pmax pmax
comp=Z,183nm,2.0s
CRVS Cervenica-Dubn 25.97 109 *e*P **P 20 02 49.5 +1.1**
CRVS *e*S **S 20 07 26.3 +7.7**
PMRV Marv??o 25.98 162 *e*P **P 20 02 52.1 +3.5**
comp=Z,88nm,2.8s
PMRV *e*S **S 20 07 23.5 +4.6**
SCHQ Schefferville 26.04 271 P **P 20 02 49.6 +0.6**
comp=Z,20nm,0.9s,baz=46,slow=11,SNR=8.9
SCHQ LR LR 20 11 59.5
comp=Z,1μm,18.7s,baz=52,slow=34
SCHQ Schefferville 26.04 271 **P 20 02 46.1 -2.9**
SCHQ IAmb IAmb 20 02 56.8
comp=Z,33nm,0.9s
PSZ Piszkesteto 26.12 112⇑⇑P **P 20 02 51.4 +1.5**
PSZ Piszkesteto 26.12 112⇑⇑P **P 20 02 51.4 +1.5**
PSZ Piszkesteto 26.12 112 P **P 20 02 48.7 -1.1**
PSZ IAmb IAmb 20 03 07.6
comp=Z,58nm,1.3s
DRLN Deer Lake 26.13 253 P **P 20 02 48.6 -1.2**
DRLN IAmb IAmb 20 02 56.6
comp=Z,83nm,1.4s
PMAFR Mafra 26.22 165 *e*P **P 20 02 54.9 +4.2**
comp=Z,142nm,1.8s
PMTG Montargil 26.23 164 *e*P **P 20 02 54.9 +4.1**
comp=Z,67nm,1.4s
ESBB Sonseca Array 26.27 156 P **P 20 02 51.9 +0.6**
ESDC Sonseca Array 26.27 156 P **P 20 02 51.2 -0.1**
comp=Z,5.2nm,0.9s,baz=348,slow=9.2,SNR=29
ESDC LR LR 20 12 55.6
comp=Z,827nm,18.4s,baz=335,slow=36
ESDC Sonseca Array 26.27 156 P **P 20 02 48.6 -2.6**
KOLS Kolonicke sedl 26.28 108 *e*P **P 20 02 51.7 +0.5**
KOLS pmax pmax
comp=Z,70nm,1.4s
KOLS Kolonicke sedl 26.28 108 *e*P **P 20 02 51.7 +0.5**
KOLS *e*S **S 20 07 29.7 +6.3**
LVV L'vov 26.32 104 *e*P **P 20 02 52.0 +0.5**
LVV *e* 20 03 39.2
LVV *e*S **S 20 07 20.2 -3.8**
LVV *e*SS SnSn 20 08 44.0 +21
LVV pmax pmax
comp=Z,70nm,1.2s
LVV MLR MLR
comp=Z,1μm,14.0s
PAB San Pablo 26.33 157 P **P 20 02 51.1 -0.7**
PAB pmax pmax
comp=Z,34nm,1.2s
PAB San Pablo 26.33 157 P **P 20 02 51.0 -0.7**
RES Resolute Bay 26.45 324 LR LR 20 13 23.1
comp=Z,563nm,18.4s,baz=56,slow=36
UZH Uzhgorod 26.52 108 *e*P **P 20 02 52.8 -0.6**
UZH *i* 20 02 54.5
UZH *e* 20 03 01.6
UZH *i*PPP PPP 20 03 43.5
UZH *e* 20 06 20.7
UZH *i*S **S 20 07 20.5 -6.7**

UZH MLR MLR
comp=N,450nm,15.0s
UZH MLR MLR
comp=E,350nm,15.0s
OSSC Osservatorio P 26.65 129 P P 20 02 53.2 -1.4
OSSC IAmb IAmb 20 03 07.9
comp=Z,79nm,1.3s
EVO Evora 26.79 163 *e*P **P 20 03 00.1 +4.3**
EVO *i* S **S 20 07 38.2 +6.7**
PRGR Permogore 27.61 67 *e*P **P 20 03 02.0 -1.0**
comp=Z,233nm,1.8s
PRGR *e*S **S 20 07 43.1 -1.1**
PRGR Permogore 27.61 67 *e*P **P 20 03 02.0 -1.0**
AKASG Malin Array Be 27.84 98 P **P 20 03 04.6 -0.6**
comp=Z,4.3nm,0.9s,baz=324,slow=9.6,SNR=14
AKASG LR LR 20 13 50.3
comp=Z,2μm,21.8s,baz=315,slow=36
AKASG Malin Array Be 27.84 98 P **P 20 03 04.2 -1.0**
AKASG Malin Array Be 27.84 98 P **P 20 03 04.2 -1.0**
AKBB Malin Array Si 27.84 98 P **P 20 03 04.6 -0.6**
AKBB pmax pmax
comp=Z,14nm,1.1s
AKBB Malin Array Si 27.84 98 P **P 20 03 04.6 -0.6**
MAHO Mahon 27.87 142 *e*P **P 20 03 03.8 -1.7**
MAHO *i* S **S 20 07 52.7 +4.1**
OBN Obninsk 27.88 84 P **P 20 03 04.7 -0.7**
comp=Z,2.8nm,0.5s,baz=216,slow=2.8,SNR=8.7
OBN LR LR 20 14 36.8
comp=Z,229nm,18.6s,baz=338,slow=38
OBN Obninsk 27.88 84*c i*P **P 20 03 05.9 +0.5**
OBN *e* 20 03 51.6
OBN *e* 20 06 21.7
OBN *e*SS SS 20 09 10.9 -35
OBN pmax pmax
comp=Z,129nm,2.5s
OBN MLR MLR
comp=Z,1μm,14.0s
OBN Obninsk 27.88 84 P **P 20 03 04.3 -1.1**
OBN IAmb IAmb 20 03 12.7
comp=Z,80nm,1.5s
MOS Moscow 27.91 82 *e*P **P 20 03 05.1 -0.7**
MOS *e*S **S 20 07 53.8 +4.8**
MOS pmax pmax
comp=Z,700nm,3.5s
MOS pmax pmax
comp=Z,98nm,2.7s
MOS MLR MLR
comp=Z,1μm,17.0s
PVAQ Vaqueiros 27.93 163 *e*S **S 20 07 55.3 +5.7**
BUR08 Bucovina Ar. S 28.50 106 P **P 20 03 10.0 -1.2**
BURAR Bucovina Array 28.53 106 ⇑P **P 20 03 15.2 +3.7**
BURAR Bucovina Array 28.53 106 ⇑P **P 20 03 15.2 +3.7**
BURAR Bucovina Array 28.53 106 P **P 20 03 09.9 -1.6**
BZS Buzias 28.68 113 ⇑P **P 20 03 14.1 +1.3**
BZS Buzias 28.68 113 ⇑P **P 20 03 14.1 +1.3**
CART Cartagena 28.85 152 *e*P **P 20 03 17.5 +3.3**
CART *i* S S 20 08 15.3 +11
EMAL Malaga-Limoner 29.03 158 *e*P **P 20 03 16.9 +1.0**
EMAL *i* S S 20 08 18.4 +12
MDVR Moldovita 29.41 114 ⇑P **P 20 03 17.8 -1.5**
SORM Soroca 29.43 102 ⇓P **P 20 03 18.9 -0.4**
SORM Soroca 29.43 102 ⇓P **P 20 03 18.9 -0.4**
BIZ Bicaz 29.43 106 ⇓P **P 20 03 21.0 +1.6**
HERR Herculane 29.61 113 ⇑P **P 20 03 22.5 +1.6**
LOT Lotru 29.68 110 ⇓P **P 20 03 23.3 +1.5**
CEU Ceuta 29.73 160 *e*P **P 20 03 20.7 -1.4**
CEU *i* S **S 20 08 26.6 +8.7**
DOPR Dopca 29.92 108 ⇓P **P 20 03 21.4 -2.3**
OZUR 29.98 107 ⇓P **P 20 03 25.7 +1.4**
TESR Tescani 30.00 106 ⇑P **P 20 03 25.7 +1.3**
ARR Arges 30.10 109 ⇑P **P 20 03 27.2 +1.8**
VOIR 30.21 109 ⇑P **P 20 03 27.5 +1.1**
VOIR 30.21 109 ⇑P **P 20 03 27.5 +1.1**
KIS Kishinev 30.51 103 *e*P **P 20 03 28.0 -0.9**
comp=Z,200nm,3.4s
KIS Kishinev 30.51 103 *e*PP **PnPn 20 04 27.0 -0.6**
KIS Kishinev 30.51 103 *e*PcP **PcP 20 06 30.0 +2.5**
KIS *e*S **S 20 08 24.0 -6.0**
KIS *e*SS **SnSn 20 10 04.0 -1.8**
KIS *e*LR LR 20 16 29.0
comp=Z,2μm,17.0s
KIS Kishinev 30.51 103 *e*P **P 20 03 28.0 -0.9**
KIS *e* 20 04 27.0
KIS *e*PPP PPP 20 04 49.0
KIS *e* 20 06 30.0
KIS *e*S **S 20 08 24.0 -6.0**
KIS *e*SS **SnSn 20 10 04.0 -1.8**
KIS pmax pmax
comp=Z,200nm,3.4s
KIS MLR MLR
comp=Z,800nm,16.0s
KIS MLR MLR
comp=N,1μm,17.0s
KIS MLR MLR
comp=E,2μm,17.0s
PLOR Plostina 30.53 107 ⇓P **P 20 03 30.3 +1.1**
PLOR Plostina 30.53 107 ⇓P **P 20 03 30.3 +1.1**
MLR Muntele Rosu 30.53 108 P **P 20 03 29.6 +0.3**
comp=E,5.8nm,1.1s,baz=326,slow=10,SNR=5.7
MLR Muntele Rosu 30.53 108 ⇑P **P 20 03 30.4 +1.1**
MLR Muntele Rosu 30.53 108 ⇑P **P 20 03 30.4 +1.1**
MLR Muntele Rosu 30.53 108 P **P 20 03 30.2 +0.9**
VRI Vrincioaia 30.55 107 ⇑P **P 20 03 29.8 +0.5**
VRI Vrincioaia 30.55 107 ⇑P **P 20 03 29.8 +0.5**
MILM Milestii Mici 30.57 103 ⇓P **P 20 03 29.9 +0.4**
PVLZ Peæn de 30.61 158 *e*P **P 20 03 29.1 -0.8**
PVLZ *i* S S 20 08 51.9 +20
LPSR Galich'ya Gora 30.62 86 *e*P **P 20 03 29.9 +0.1**
LPSR *e*S **S 20 08 30.9 -0.7**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
LPSR smax smax
comp=E,510nm,9.2s
LPSR MLR MLR
comp=Z,840nm,15.0s
MELI Melilla 30.72 156 *e*P P 20 03 37.6 +6.8
MELI *e*S **S 20 08 41.2 +7.9**
NEHR Nehoiu 30.73 108 ⇑P **P 20 03 33.2 +2.3**
BISRR Bisoca 30.80 107 ⇓P **P 20 03 32.2 +0.6**
KIRV Kirov 30.97 69 P **P 20 03 31.8 -1.0**
comp=Z,12nm,0.7s,baz=344,slow=2.0,SNR=12
MPEP Malo Peshtene 31.41 113 P **P 20 03 37.2 +0.3**
CFR Carcaliu 31.69 106 ⇑P **P 20 03 39.6 +0.3**
CFR Carcaliu 31.69 106 ⇑P **P 20 03 39.6 +0.3**
VSR Storozhevoye 31.73 88 *e*P **P 20 03 39.2 -0.4**
VSR *e*S **S 20 08 49.9 +1.0**
VSR pmax pmax
comp=Z,40nm,1.9s
VSR smax smax
comp=N,1μm,11.4s
VSR MLR MLR
comp=Z,2μm,22.0s
VTS Vitosha 31.83 114 P **P 20 03 40.3 -0.5**
VORD Divnogorie 31.96 88 *e*P **P 20 03 40.2 -1.5**
VORD *e*S **S 20 08 55.6 +3.0**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD smax smax
comp=E,50nm,4.4s
AVE Averroes 32.02 164 *e*P **P 20 03 44.7 +2.4**
AVE *i* S **S 20 09 01.9 +8.1**
TOPG Topolog 32.03 106 ⇓P **P 20 03 42.0 -0.3**
IFR Ifrane 32.11 160 *e*P **P 20 03 40.9 -2.4**
IFR *i* S **S 20 09 00.1 +4.6**
D63A Stockholm 32.30 262 P **P 20 03 44.3 -0.4**
baz=38
RAZG Razgrad 32.34 109 ⇑P **P 20 03 45.1 0.0**
SZH Strazhica 32.36 110 P **P 20 03 44.1 -1.1**
TIRR Tirgusor 32.39 106 P **P 20 03 45.3 -0.1**
TIRR pmax pmax
comp=Z,54nm,1.5s
TIRR Tirgusor 32.39 106 P **P 20 03 45.3 -0.1**
TIRR IAmb IAmb 20 03 47.7
comp=Z,54nm,1.5s
CORL Corleone 32.39 131 P **P 20 03 44.4 -1.2**
KKB Krupnik 32.41 115 P **P 20 03 45.9 +0.2**
CLTB Caltabellotta 32.65 131 P **P 20 03 49.0 +1.1**
D62A Allapoint, All 32.67 263 P **P 20 03 47.6 -0.3**
baz=38
E64A Bridgewater 32.67 261 P **P 20 03 47.8 -0.1**
baz=38
CHGQ Chibougamau 32.79 271 P **P 20 03 48.4 -0.6**
baz=42,SNR=5.2

VRH Novokhopyorsk 32.83 85 *e*P **P 20 03 48.5 -0.8**
VRH *e*S **S 20 09 10.8 +4.7**
VRH pmax pmax
comp=Z,30nm,1.2s
VRH smax smax
comp=N,2μm,13.1s
VRH MLR MLR
comp=Z,1μm,16.0s
MMB Musomiste 32.90 114 P **P 20 03 49.8 -0.2**
E63A Oxbow 32.92 261 P **P 20 03 50.5 +0.4**
baz=38
PSN Preselentsi 32.93 107 P **P 20 03 49.0 -1.2**
D61A St Aubert, Com 33.06 264 P **P 20 03 51.3 0.0**
baz=39
KEST Kesra 33.17 138 P **P 20 03 52.2 -0.2**
comp=Z,4.0nm,1.0s,baz=321,slow=5.3,SNR=3.3
KEST LR LR 20 16 13.2
comp=Z,781nm,19.3s,baz=334,slow=34
KEST Kesra 33.17 138 P P 20 03 47.8 -4.7
KEST IAmb IAmb 20 04 13.9
comp=Z,34nm,1.4s
RZN Rozhen 33.20 113 P **P 20 03 52.4 -0.4**
F64A Sherman 33.33 260 P **P 20 03 54.1 +0.4**
baz=37
G65A Princeton 33.53 259 P **P 20 03 55.7 +0.3**
baz=36
D60A Saint Jean D'O 33.60 264 P **P 20 03 54.7 -1.3**
baz=38
H66A Whiting 33.76 258 P **P 20 03 56.9 -0.5**
baz=36
F63A Nahmakanta, Br 33.78 261 P **P 20 03 58.4 +0.8**
baz=37,SNR=6.3
E61A Lac Etchemin 33.80 263 P **P 20 03 57.8 +0.1**
baz=38
D59A Saint-Raymond 33.92 265 P **P 20 03 58.7 0.0**
baz=39
G64A Maxfield 33.99 260 P **P 20 03 58.7 -0.7**
baz=37,SNR=5.7
F62A Pittston Farm, 33.99 262 P **P 20 04 00.0 +0.6**
baz=38
F62A Pittston Farm, 33.99 262 P **P 20 04 00.4 +1.0**
F62A IAmb IAmb 20 04 06.3
comp=Z,51nm,1.3s
PKME Peaks-Kenny Pk 34.21 261 P **P 20 04 01.2 -0.1**
baz=37
PKME Peaks-Kenny Pk 34.21 261 P **P 20 04 02.6 +1.3**
H65A Eastbrook 34.23 259 P **P 20 04 01.4 0.0**
baz=36
E60A Ste Agathe de 34.25 264 P **P 20 04 01.1 -0.6**
baz=38
D58A Chemin du LacG 34.30 266 P **P 20 04 01.7 -0.4**
baz=39
MATQ Matagami 34.31 274 P **P 20 04 02.0 -0.1**
baz=41
F61A St Evariste 34.37 263 P **P 20 04 02.0 -0.7**
baz=38
ALN Alexandroupoli 34.40 112 P **P 20 04 02.0 -1.0**
ALN pmax pmax
comp=Z,25nm,1.3s
ALN Alexandroupoli 34.40 112 P **P 20 04 02.0 -1.0**
ALN IAmb IAmb 20 04 21.9
comp=Z,25nm,1.3s
G63A Kingsbury 34.47 261 P **P 20 04 01.1 -2.5**
baz=37
LSQQ Lebel-sur-Quev 34.55 272 P **P 20 04 02.5 -1.8**
baz=41
E59A St. Maurice 34.62 265 P **P 20 04 02.8 -2.1**
baz=38
H64A Troy 34.68 260 P **P 20 04 04.2 -1.1**
baz=36
G62A West of Eustis 34.77 262 P **P 20 04 03.9 -2.3**
baz=37
F60A Warwick 34.78 264 P **P 20 04 05.2 -1.1**
baz=38
D57A Chemin Vers le 34.79 267 P **P 20 04 04.3 -2.1**
baz=39,SNR=7.0
H63A New Sharon 35.01 261 P **P 20 04 07.2 -1.1**
baz=36
E58A La Victoria 35.03 266 P **P 20 04 06.2 -2.2**
baz=38
D56A ZEC Mazanza, M 35.14 268 P **P 20 04 07.4 -2.0**
baz=39,SNR=7.1
G61A St-Isidore-de- 35.15 263 P **P 20 04 07.2 -2.3**
baz=37
A36M Sachs Harbour 35.19 329 P **P 20 04 05.7 -3.8**
baz=45
E57A Chemin Saint G 35.38 267 P **P 20 04 08.9 -2.6**
baz=38,SNR=6.5
I64A Boothbay 35.44 260 P **P 20 04 09.5 -2.4**
baz=36
D55A Sainte-Anne-du 35.47 269 P **P 20 04 11.5 -0.7**
baz=39,SNR=7.2
VLDQ Val d'Or 35.48 272 P **P 20 04 09.8 -2.4**
VLDQ IAmb IAmb 20 04 19.5
comp=Z,65nm,1.5s
H62A Milan 35.56 262 P **P 20 04 10.3 -2.6**
baz=36
G60A Masonville 35.64 264 P **P 20 04 14.9 +1.2**
baz=37,SNR=5.6
E56A St. Veronique 35.65 268 P **P 20 04 14.5 +0.7**
baz=38,SNR=7.2
F58A St-Lin Laurent 35.66 266 P **P 20 04 13.7 -0.1**
baz=38
I63A Otisfield 35.73 261 P **P 20 04 15.5 +1.0**
baz=36
D54A Lac Fusel, La 35.88 270 P **P 20 04 15.7 0.0**
baz=39,SNR=6.0
ANN Anapa 35.91 97 *e*P **P 20 04 14.3 -1.7**
ANN *e**PP **pP 20 04 17.7 -1.8**
ANN *e* 20 05 30.0
ANN *e*S **S 20 09 52.0 -1.7**
ANN pmax pmax
comp=Z,52nm,2.5s
ANN MLR MLR
comp=Z,2μm,16.0s
H61A Lyndonville 35.92 263 P **P 20 04 16.7 +0.6**
baz=36
G59A Clarenceville 36.02 264 P **P 20 04 17.0 +0.1**
baz=37
ARU Arti 36.07 66 P **P 20 04 16.3 -0.9**
comp=Z,0.3nm,0.4s,baz=136,slow=20,SNR=2.0
ARU Arti 36.07 66*c i*P **P 20 04 18.4 +1.2**
ARU 20 05 38.6
ARU 20 06 43.4
ARU S **S 20 09 59.3 +3.3**
ARU SS **SnSn 20 12 20.6 +0.3**
ARU pmax pmax
comp=Z,72nm,2.4s
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 36.07 66 P **P 20 04 13.7 -3.5**
F57A Harrington 36.08 267 P **P 20 04 18.0 +0.6**
baz=38
LBNH Lisbon 36.15 262 P **P 20 04 18.1 0.0**
baz=36
E55A Montcerf-Lytto 36.16 269 P **P 20 04 17.9 -0.2**
baz=38
I62A Tamworth 36.20 261 P **P 20 04 19.5 +1.1**
baz=36
H60A Morristown 36.23 263 P **P 20 04 19.6 +0.9**
baz=37
G58A Ormstown 36.34 265 P **P 20 04 20.2 +0.6**
baz=37
D53A Lac Vacive, Po 36.38 271 P **P 20 04 21.0 +1.0**
baz=39,SNR=7.7
D53A Lac Vacive, Po 36.38 271 P P 20 04 15.0 -5.0
D53A IAmb IAmb 20 04 26.4
comp=Z,45nm,1.1s
FRNY Flat Rock 36.39 265 P **P 20 04 18.9 -1.2**
NRIK Noril'sk 36.44 35 P **P 20 04 20.4 +0.1**
comp=Z,6.8nm,0.8s,baz=349,slow=6.4,SNR=6.2
NRIK LR LR 20 21 10.0
comp=Z,329nm,18.1s,baz=357,slow=39
I61A Oroboro, Fairl 36.52 262 P **P 20 04 22.4 +1.2**
baz=36
J63A Strafford 36.57 261 P **P 20 04 21.8 +0.1**
baz=35
H59A Cadyville 36.58 264 P **P 20 04 21.9 +0.2**
baz=37
SVE Sverdlovsk 36.60 64 *e*P **P 20 04 22.1 +0.4**
SVE *e*S **S 20 10 06.9 +2.9**
SVE pmax pmax
comp=Z,39nm,2.0s
SVE MLR MLR
comp=Z,2μm,19.0s
E54A Lac Daplat, Po 36.66 270 P **P 20 04 23.1 +0.7**
baz=38,SNR=6.0

ORIO Orleans, Innes 36.72 267 P **P 20 04 23.5 +0.7**
baz=38
ORIO Orleans, Innes 36.72 267 P **P 20 04 21.4 -1.4**
G57A Newington 36.77 266 P **P 20 04 24.0 +0.7**
baz=37,SNR=6.7
F55A Otter Lake 36.78 268 P **P 20 04 23.1 -0.2**
baz=38
C36M Paulatuk 36.81 325 P **P 20 04 22.3 -1.1**
baz=43
J62A Henniker 36.92 261 P **P 20 04 24.9 +0.2**
baz=35
H58A Gabriels 36.97 265 P **P 20 04 24.8 -0.3**
baz=36
LONY Lake Ozonia 36.98 265 P **P 20 04 26.1 +0.9**
baz=37,SNR=6.2
LONY Lake Ozonia 36.98 265 P **P 20 04 26.4 +1.2**
LONY IAmb IAmb 20 04 32.0
comp=Z,34nm,1.1s
I60A Shoreham 37.05 263 P **P 20 04 26.6 +0.9**
baz=36
J61A Chester 37.14 262 P **P 20 04 26.8 +0.3**
baz=36
K63A Dunstable 37.24 260 P **P 20 04 28.4 +1.1**
baz=35
I59A Olmsteadville 37.34 264 P **P 20 04 29.2 +0.9**
baz=36
G55A Calabogie 37.40 268 P **P 20 04 29.1 +0.5**
baz=37
ILGA Ilgaz 37.40 104 P **P 20 04 27.5 -1.5**
HRV Adam Dziewonsk 37.41 260 P **P 20 04 29.2 +0.4**
baz=35
ALGO Algonquin Park 37.41 270 P **P 20 04 28.9 +0.1**
baz=38
H57A Richville 37.46 266 P **P 20 04 30.0 +0.8**
baz=37
MANT Manisa 37.46 112 P **P 20 04 29.4 -0.1**
K62A Royalston 37.56 261 P **P 20 04 31.2 +1.1**
baz=35
L64A Middleborough 37.57 259 P **P 20 04 31.8 +1.7**
baz=34
J60A Lant Hill Farm 37.60 263 P **P 20 04 31.2 +0.8**
baz=36
H56A Elgin 37.72 267 P **P 20 04 32.1 +0.7**
baz=37
SOC Sochi 37.87 96*c i*P **P 20 04 33.5 +0.9**
SOC *e* 20 05 55.7
SOC *e*S **S 20 10 27.1 +3.6**
SOC *e*SS **SnSn 20 12 56.1 -7.9**
SOC pmax pmax
comp=Z,9.0nm,0.6s
SOC MLR MLR
comp=Z,981nm,15.0s
G54A Lake Saint Pet 37.87 269 P **P 20 04 33.5 +0.9**
baz=38
J59A Piesco 37.88 264 P **P 20 04 32.6 -0.2**
baz=36
I58A Old Forge 37.90 265 P **P 20 04 32.3 -0.6**
baz=36
L61B Northampton 37.93 261 P **P 20 04 34.2 +1.1**
baz=35
L63A North Scituate 37.95 260 P **P 20 04 33.6 +0.2**
baz=34
K61A Williamstown 38.00 262 P **P 20 04 33.6 -0.2**
baz=35
M64A Tiverton 38.04 259 P **P 20 04 35.0 +0.9**
baz=34
GOF Gofitskoye 38.11 91⇑*e*P **P 20 04 37.0 +2.3**
GOF pmax pmax
comp=Z,281nm,2.8s
H55A Tweed 38.16 268 P **P 20 04 35.6 +0.6**
baz=37
BOLV Bolvadin 38.23 109 P **P 20 04 36.7 +0.8**
L62A Suffield 38.26 261 P **P 20 04 37.2 +1.3**
baz=35
J58A Remsen 38.30 265 P **P 20 04 36.8 +0.5**
baz=36
K60A Five Rivers En 38.30 263 P **P 20 04 37.1 +0.7**
baz=35
BR131 Keskin Array S 38.48 105 P **P 20 04 38.8 +0.7**
BR131 pmax pmax
comp=Z,7.0nm,1.2s
BR131 Keskin Array S 38.48 105 P **P 20 04 38.8 +0.7**
BRTR Keskin Array B 38.48 105 P **P 20 04 37.1 -1.0**
comp=Z,5.2nm,0.9s,baz=314,slow=6.0,SNR=11
BRTR LR LR 20 23 01.4
comp=Z,260nm,18.1s,baz=286,slow=40
BRTR Keskin Array B 38.48 105 P **P 20 04 39.0 +1.0**
BRTR Keskin Array B 38.48 105 P **P 20 04 39.0 +1.0**
L61A Hillsdale 1, H 38.51 262 P **P 20 04 37.8 -0.2**
baz=35
M63A Gales Ferry 38.52 260 P **P 20 04 38.7 +0.5**
baz=34
J57A Williamstown 38.56 265 P **P 20 04 39.0 +0.5**
baz=36
K59A Cooperstown 38.59 264 P **P 20 04 39.6 +0.9**
baz=35,SNR=5.9
I55A Frankford 38.64 268 P **P 20 04 39.4 +0.3**
baz=36
H53A Bobcaygeon 38.74 269 P **P 20 04 40.0 0.0**
baz=37
IDI Anoyia 38.83 118 P **P 20 04 38.4 -2.5**
comp=Z,18nm,0.9s,baz=351,slow=8.3,SNR=12
IDI Anoyia 38.83 118 P **P 20 04 39.3 -1.6**
KIV Kislovodsk 38.84 92 P **P 20 04 41.4 +0.5**
KIV Kislovodsk 38.84 92 *e*P **P 20 04 42.3 +1.4**
KIV *e* 20 06 07.3
KIV *e*S **S 20 10 40.0 +1.6**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,2μm,16.0s
KIV Kislovodsk 38.84 92 P **P 20 04 41.0 +0.1**
KVAR Kislovodsk Arr 38.84 92 P **P 20 04 40.1 -0.9**
comp=Z,5.1nm,1.1s,baz=300,slow=20,SNR=1.7
M62A Hamden 38.85 261 P **P 20 04 41.3 +0.4**
baz=34
K58A Earlville 38.94 265 P **P 20 04 42.3 +0.7**
baz=35
L60A Shokan 38.96 262 P **P 20 04 42.5 +0.6**
baz=35
J56A Wolcott 39.04 266 P **P 20 04 43.1 +0.6**
baz=36
KBZ Khabaz 39.11 92 P **P 20 04 42.1 -1.0**
comp=Z,7.4nm,1.0s,baz=314,slow=13,SNR=17
KBZ LR LR 20 21 01.0
comp=Z,2μm,21.8s,baz=337,slow=36
L59A Walton 39.15 263 P **P 20 04 43.4 -0.1**
baz=35
YKA Yellowknife Ar 39.20 313 P **P 20 04 42.5 -1.1**
comp=Z,3.9nm,0.9s,baz=34,slow=8.3,SNR=5.9
YKA PcP **PcP 20 06 53.5 +1.1**
comp=Z,1.9nm,0.8s,baz=31,slow=3.7,SNR=2.9
YKA LR LR 20 20 33.1
comp=Z,636nm,19.3s,baz=0.0,slow=36
M61A Granite Spring 39.33 261 P **P 20 04 45.8 +0.9**
baz=34
K57A Scipio Center 39.34 265 P **P 20 04 46.2 +1.2**
baz=35
J55A Hilton 39.46 267 P **P 20 04 46.3 +0.3**
baz=36
ELL Elmali 39.50 112 P **P 20 04 47.0 +0.4**
ELL pmax pmax
comp=Z,112nm,1.2s
ELL Elmali 39.50 112 P **P 20 04 47.0 +0.4**
N62A Caumsett State 39.51 261 P **P 20 04 47.6 +1.1**
baz=34
BINY Binghamton 39.54 264 P **P 20 04 47.3 +0.6**
baz=35
L58A Harry Jones Me 39.61 264 P **P 20 04 49.1 +1.8**
baz=35
PAL Palisades 39.64 261 P **P 20 04 48.3 +0.9**
baz=34
M60A Port Jervis 39.68 262 P **P 20 04 49.4 +1.5**
baz=34
K56A Middlesex 39.71 266 P **P 20 04 49.8 +1.6**
baz=35
E46A Sault Ste Mari 39.77 276 P **P 20 04 47.7 -0.9**
E46A IAmb IAmb 20 04 55.4
comp=Z,49nm,1.1s
J54A Appleton 39.81 268 P **P 20 04 50.0 +1.2**
baz=36
AKAS Kas 39.83 112 P **P 20 04 48.8 -0.5**
M59A Waymart 39.84 263 P **P 20 04 50.7 +1.4**
baz=34
K55A Perry 40.00 267 P **P 20 04 52.9 +2.3**
baz=36
N61A South Mountain 40.01 261 P **P 20 04 53.4 +2.8**

baz=34
L57A Andrews Acres 40.07 265 P P 20 04 53.6 +2.4
baz=35
N60A Cedar Hill Far 40.26 262 P P 20 04 53.3 +0.7
baz=34
L56A Greenwood 40.27 266 P P 20 04 53.5 +0.7
baz=35,SNR=6.6
L56A Greenwood 40.27 266 P P 20 04 54.1 +1.3
L56A IAmb IAmb 20 05 00.0
comp=Z,70nm,1.2s
AKTO Aktyubinsk 40.28 73 P P 20 04 51.7 -1.1
comp=Z,5.2nm,0.9s,baz=318,slow=6.6,SNR=16
ZEI Tsey 40.30 92 *e*P **P 20 04 52.8 -0.5**
ZEI pmax pmax
comp=Z,13nm,1.1s
K54A Basiliko Farm, 40.37 267 P P 20 04 54.1 +0.5
baz=35
I51A Listowel 40.40 270 P P 20 04 53.9 +0.1
baz=36
M58A Price's Panora 40.42 264 P P 20 04 55.2 +1.1
baz=34
N59A State Game Lan 40.50 263 P P 20 04 56.1 +1.4
baz=34
FFC Flin Flon 40.59 297 P P 20 04 57.0 +1.7
FFC pmax pmax
comp=Z,44nm,1.3s
FFC Flin Flon 40.59 297 P P 20 04 57.0 +1.7
FFC IAmb IAmb 20 05 02.0
comp=Z,44nm,1.3s
L55A Hinsdale 40.60 267 P P 20 04 56.8 +1.3
baz=35
M57A Sunshine Farm, 40.74 265 P P 20 04 57.5 +0.9
baz=34,SNR=5.2
M57A Sunshine Farm, 40.74 265 P P 20 04 53.3 -3.4
M57A IAmb IAmb 20 05 04.3
comp=Z,44nm,1.2s
GROC Groznyy 40.78 90 *e*P **P 20 04 59.1 +2.1**
GROC *e* 20 07 01.6
GROC pmax pmax
comp=Z,53nm,1.7s
L54A Sinclairville 40.94 267 P P 20 04 59.1 +0.8
baz=35
N58A Sunbury 40.97 264 P P 20 04 59.2 +0.7
baz=34
M56A Emporium 41.07 266 P P 20 05 00.1 +0.8
baz=35,SNR=6.2
M56A Emporium 41.07 266 P P 20 05 04.4 +5.1
M56A IAmb IAmb 20 05 07.0
comp=Z,60nm,1.4s
KOPT Kop Dagi 41.12 98 P P 20 05 01.5 +1.3
KOPT IAmb IAmb 20 05 12.5
comp=Z,46nm,1.3s
O59A Robesonia 41.18 263 P P 20 05 02.2 +1.9
baz=34
AKH Akhalkalaki 41.25 94 P P 20 05 02.0 +0.9
AKH pmax pmax
comp=Z,47nm,1.5s
AKH Akhalkalaki 41.25 94 P P 20 05 02.0 +0.9
AKH IAmb IAmb 20 05 04.5
comp=Z,47nm,1.5s
ERPA Erie 41.33 268 P P 20 05 02.6 +1.1
baz=35
M55A Ridgway 41.33 266 P P 20 05 02.0 +0.5
baz=35,SNR=6.2
M55A Ridgway 41.33 266 P P 20 05 03.3 +1.7
M55A IAmb IAmb 20 05 08.0
comp=Z,75nm,1.4s
P60A Greenville 41.36 262 P P 20 05 02.8 +1.0
baz=33
N57A Milroy 41.40 265 P P 20 05 02.6 +0.6
baz=34
MVL Millersville 41.51 263 P P 20 04 58.3 -4.7
TBLG Delisi 41.52 93 P P 20 05 03.4 +0.3
TBLG pmax pmax
comp=Z,23nm,1.3s
TBLG Delisi 41.52 93 P P 20 05 03.4 +0.3
L53A Girard 41.58 268 P P 20 05 04.4 +0.9
baz=35
EYMN Ely 41.58 283 P P 20 05 02.9 -0.6
baz=38
N56A West Decatur 41.58 265 P P 20 05 04.7 +1.1
baz=34,SNR=5.4
ULM Lac du Bonnet 41.60 289 P P 20 05 04.1 +0.5
comp=Z,2.7nm,0.5s,baz=37,slow=10,SNR=5.4
ULM Lac du Bonnet 41.60 289 P P 20 05 00.4 -3.2
SSPA Standing Stone 41.64 265 P P 20 05 05.2 +1.1
baz=34
SSPA Standing Stone 41.64 265 P P 20 05 06.6 +2.5
O58A Lewisberry 41.65 263 P P 20 05 05.0 +0.8
baz=34
M54A Oil Creek Stat 41.69 267 P P 20 05 04.7 +0.2
baz=35,SNR=5.9
M54A Oil Creek Stat 41.69 267 P P 20 05 01.6 -2.8
M54A IAmb IAmb 20 05 11.9
comp=Z,57nm,1.1s
MAK Makhachkala 41.71 89 *e*P P 20 04 58.9 -5.7
MAK *e*SS SS 20 14 21.8 -4.4
MAK pmax pmax
comp=Z,101nm,1.0s
MAK MLR MLR
comp=Z,1μm,17.0s
P59A Jarrettsville 41.87 263 P P 20 05 06.6 +0.7
baz=33
O57A Amberson 41.88 264 P P 20 05 07.5 +1.5
baz=34,SNR=5.5
K50A Casco 41.92 271 P P 20 05 08.3 +2.0
K50A IAmb IAmb 20 05 13.4
comp=Z,64nm,1.1s
ABKAR Akbulak array 41.98 73 P P 20 05 06.3 -0.4
N55A Marion Center 41.99 266 P P 20 05 08.1 +1.1
baz=34
Q61A Milford 42.01 261 P P 20 05 08.6 +1.6
baz=33
TIXI Tiksi 42.01 15 P P 20 05 06.4 -0.3
comp=Z,22nm,0.9s,baz=350,slow=6.5,SNR=17
TIXI Tiksi 42.01 15 *de*P **P 20 05 08.1 +1.4**
TIXI pmax pmax
comp=Z,106nm,2.5s
TIXI Tiksi 42.01 15 P P 20 05 06.6 -0.1
TIXI IAmb IAmb 20 05 12.5
comp=Z,49nm,1.2s
Q60A Greensboro 42.13 261 P P 20 05 09.3 +1.3
baz=33
EPYK Eagle Plains 42.13 328 P P 20 05 05.2 -2.6
GAZ Gaziantep 42.13 104 P P 20 05 09.6 +1.4
M53A WI Miller and 42.17 268 P P 20 05 09.4 +1.0
baz=35
M53A WI Miller and 42.17 268 P P 20 05 06.3 -2.1
M53A IAmb IAmb 20 05 16.8
comp=Z,73nm,1.3s
B35A Bob, Littlefor 42.19 285 P P 20 05 04.6 -3.9
O56A Blue Knob Stat 42.23 265 P P 20 05 09.7 +0.8
baz=34
O56A Blue Knob Stat 42.23 265 P P 20 05 10.2 +1.2
O56A IAmb IAmb 20 05 16.8
comp=Z,51nm,1.4s
N54A Moraine State 42.27 267 P P 20 05 10.5 +1.2
baz=34,SNR=8.5
N54A Moraine State 42.27 267 P P 20 05 10.6 +1.4
N54A IAmb IAmb 20 05 16.4
comp=Z,47nm,1.0s
P58A Pank, Wackersv 42.34 263 P P 20 05 10.7 +1.0
baz=33
M52A Chesterland 42.38 269 P P 20 05 10.9 +0.7
baz=35
CSS Mathiatis 42.43 109 P P 20 05 08.8 -1.8
Q59A Harwood 42.59 262 P P 20 05 12.4 +0.6
baz=33
O55A Ligonier 42.60 266 P P 20 05 12.2 +0.3
baz=34
P57A Homestead Farm 42.65 264 P P 20 05 13.2 +0.9
baz=33
P57A Homestead Farm 42.65 264 P P 20 05 15.6 +3.3
TOLK Toolik Lake Re 42.73 336 P P 20 05 14.8 +2.1
baz=28,SNR=28
TOLK Toolik Lake Re 42.73 336 P P 20 05 13.3 +0.6
AAM Ann Arbor 42.75 271 P P 20 05 13.2 +0.1
baz=35
H43A Windswept, Lux 42.76 277 P P 20 05 16.7 +3.6
H43A IAmb IAmb 20 05 18.9
comp=Z,36nm,0.9s
N53A Lisbon 42.77 268 P P 20 05 14.2 +1.0
baz=34,SNR=5.7
N53A Lisbon 42.77 268 P P 20 05 15.2 +1.9
N53A IAmb IAmb 20 05 19.7
comp=Z,70nm,1.2s

M51A Elyria 42.91 269 P P 20 05 14.5 +0.1
baz=35
Q58A Fox Den Farm, 42.96 263 P P 20 05 14.1 -0.7
baz=33
P56A Dayton Farm, R 42.98 265 P P 20 05 14.6 -0.4
baz=34
AKT Akhty 43.02 90 *e*P **P 20 05 16.3 +0.9**
AKT *e* 20 06 56.4
AKT *e* 20 07 06.1
AKT pmax pmax
comp=Z,23nm,1.6s
R60A Leonardtown, M 43.05 262 P P 20 05 15.6 0.0
baz=33
O54A Avella 43.08 267 P P 20 05 15.4 -0.4
baz=34
O54A Avella 43.08 267 P P 20 05 17.1 +1.3
O54A IAmb IAmb 20 05 23.3
comp=Z,71nm,1.4s
AGMN Agassiz Nation 43.12 287 P P 20 05 13.8 -2.2
baz=38
AGMN Agassiz Nation 43.12 287 P P 20 05 12.6 -3.5
AGMN IAmb IAmb 20 05 22.3
comp=Z,39nm,1.3s
BRVK Borovoye 43.12 62 *de*P **P 20 05 16.2 +0.3**
BRVK pmax pmax
comp=Z,50nm,2.5s
BRVK Borovoye 43.12 62 P P 20 05 15.8 -0.1
N52A McGinn's Farm, 43.12 268 P P 20 05 16.0 -0.1
baz=34
G40A Rib Lake 43.16 280 P P 20 05 17.9 +1.6
G40A IAmb IAmb 20 05 22.5
comp=Z,39nm,1.1s
S61A Accomac 43.16 260 P P 20 05 17.0 +0.5
baz=32
BVAR Borovoye Array 43.18 62 P P 20 05 16.1 -0.4
comp=Z,12nm,1.1s,baz=311,slow=5.7,SNR=20
BVAR PP **PP 20 06 56.5 0.0**
comp=Z,1.5nm,0.9s,baz=324,slow=7.1,SNR=1.8
Q57A Strasburg 43.19 264 P P 20 05 16.1 -0.6
baz=33
MCWV Mont Chateau 43.29 266 P P 20 05 16.3 -1.1
baz=34
MCWV Mont Chateau 43.29 266 P P 20 05 13.7 -3.8
N51A Ashland 43.33 269 P P 20 05 17.4 -0.4
baz=34
N51A Ashland 43.33 269 P P 20 05 13.8 -4.1
N51A IAmb IAmb 20 05 24.8
comp=Z,54nm,1.1s
R59A King George, V 43.34 262 P P 20 05 18.4 +0.6
baz=33
L48A N Adams 43.38 272 P P 20 05 22.1 +4.0
L48A IAmb IAmb 20 05 25.4
comp=Z,47nm,1.1s
O53A New Philadelph 43.39 268 P P 20 05 19.8 +1.5
baz=34,SNR=6.3
O53A New Philadelph 43.39 268 P P 20 05 23.2 +4.9
O53A IAmb IAmb 20 05 24.9
comp=Z,52nm,1.1s
P55A Reedsville 43.41 266 P P 20 05 17.3 -1.2
baz=34
CBN Corbin Frederi 43.45 262 P P 20 05 18.6 -0.1
baz=33
MARD Mardin 43.51 100 P P 20 05 19.1 -0.4
MARD IAmb IAmb 20 05 30.6
comp=Z,70nm,1.5s
Q56A Snyder Ridge, 43.52 265 P P 20 05 19.1 -0.3
baz=33
Q56A Snyder Ridge, 43.52 265 P P 20 05 15.3 -4.1
S60A Water View 43.56 261 P P 20 05 19.0 -0.6
baz=32
P54A Burton 43.61 266 P P 20 05 20.2 +0.1
baz=34
R58A Rapidan 43.63 263 P P 20 05 20.5 +0.2
baz=33
GEVA Gevas 43.64 97 P 20 05 23.1 +2.6
I42A Draeger Farm, 43.72 277 P P 20 05 22.4 +1.6
I42A IAmb IAmb 20 05 27.3
comp=Z,56nm,1.2s
O52A Adamsville 43.76 268 P P 20 05 22.6 +1.3
baz=34,SNR=5.2
O52A Adamsville 43.76 268 P P 20 05 18.5 -2.8
S59A Mechanicsville 43.78 262 P P 20 05 21.8 +0.3
baz=32
R57A Stanardsville 43.86 263 P P 20 05 22.2 +0.2
baz=33
R58B Mineral 43.86 263 P P 20 05 23.1 +1.0
baz=32
Q55A Buckhannon 43.94 265 P P 20 05 22.7 -0.1
baz=33
O51A Pataskala 44.07 269 P P 20 05 24.9 +1.1
baz=34,SNR=6.7
T60A Surry 44.07 261 P P 20 05 23.9 +0.2
baz=32
F36A Milaca 44.08 283 P P 20 05 19.2 -4.6
P53A Whipple 44.09 267 P P 20 05 25.3 +1.4
baz=34,SNR=7.5
P53A Whipple 44.09 267 P P 20 05 25.1 +1.1
COLD Coldfoot 44.10 336 P P 20 05 21.3 -2.4
baz=27
COLD Coldfoot 44.10 336 P P 20 05 24.8 +1.1
N49A Columbus Grove 44.11 271 P P 20 05 25.6 +1.6
R56A Bull Pasture M 44.14 264 P P 20 05 26.2 +1.8
baz=33,SNR=6.5
ACSO Alum Creek Sta 44.16 269 P P 20 05 24.9 +0.4
baz=34,SNR=5.2
ACSO Alum Creek Sta 44.16 269 P P 20 05 25.6 +1.1
S58A Poland Farm, P 44.23 262 P P 20 05 24.7 -0.4
baz=32
S58A Poland Farm, P 44.23 262 P P 20 05 26.7 +1.6
Q54A Coxs Mills 44.27 266 P P 20 05 27.1 +1.7
baz=33,SNR=6.2
SPMN Marine on St. 44.29 282 P P 20 05 24.0 -1.5
baz=36
SPMN Marine on St. 44.29 282 P P 20 05 24.3 -1.1
SPMN IAmb IAmb 20 05 31.9
comp=Z,37nm,1.2s
P52A Corning 44.29 268 P P 20 05 26.7 +1.2
baz=34,SNR=5.9
P52A Corning 44.29 268 P P 20 05 26.6 +1.1
K43A Burlington 44.43 276 P P 20 05 27.8 +1.2
I40A Norwalk 44.44 279 P P 20 05 26.3 -0.4
I40A IAmb IAmb 20 05 33.4
comp=Z,28nm,1.1s
EGAK Eagle 44.47 329 P P 20 05 26.2 -0.4
EGAK IAmb IAmb 20 05 33.0
comp=Z,28nm,1.3s
S57A Dark Hollow, R 44.49 263 P P 20 05 28.4 +1.3
baz=32
S57A Dark Hollow, R 44.49 263 P P 20 05 28.9 +1.7
TAM Tamanrasset 44.53 149 P P 20 05 27.7 0.0
TAM pmax pmax
comp=Z,15nm,1.3s
TAM Tamanrasset 44.53 149 P P 20 05 27.7 0.0
R55A Manton 44.55 265 P P 20 05 28.8 +1.1
baz=33
T59A Double "B" Far 44.56 262 P P 20 05 28.7 +1.0
baz=32
T59A Double "B" Far 44.56 262 P P 20 05 29.2 +1.5
U61A Possum Corner 44.63 260 P P 20 05 29.4 +1.2
baz=32
Q53A Leroy 44.67 267 P P 20 05 29.9 +1.3
baz=33,SNR=7.2
L44A Lake County Fo 44.68 275 P P 20 05 28.7 +0.1
baz=35
O49A Covington 44.78 270 P P 20 05 27.6 -1.9
N47A Urbana 44.79 272 P P 20 05 30.1 +0.6
P51A Williamsport 44.82 269 P P 20 05 31.1 +1.4
baz=34,SNR=5.8
P51A Williamsport 44.82 269 P P 20 05 27.3 -2.4
U60A Pendleton 44.82 261 P P 20 05 31.0 +1.3
baz=32
S56A Natural Bridge 44.83 264 P P 20 05 30.8 +1.0
baz=32
Q52A Bidwell 44.91 268 P P 20 05 31.6 +1.1
baz=33
MMAI Mount Meron Ar 44.97 109 P P 20 05 29.9 -1.1
comp=Z,3.6nm,0.9s,baz=301,slow=6.7,SNR=5.0
T58A Grand View Acr 45.00 262 P P 20 05 32.1 +0.9
baz=32
MDND Maddock 45.00 289 P P 20 05 30.6 -0.6
baz=37
MDND Maddock 45.00 289 P P 20 05 33.0 +1.8
R54A Victor 45.01 266 P P 20 05 32.2 +0.9
baz=33,SNR=46
JFWS Jewell Farm 45.08 278 P P 20 05 32.4 +0.6
baz=35

S55A Lewisburg 45.15 265 P P 20 05 34.0 +1.6
baz=33
V61A Roper 45.15 260 P P 20 05 33.9 +1.5
baz=31
U59A Littleton 45.19 261 P P 20 05 33.7 +1.0
baz=32
U59A Littleton 45.19 261 P P 20 05 32.1 -0.6
F33A 5 Mile Ranch, 45.26 285 P P 20 05 33.4 +0.3
F33A IAmb IAmb 20 05 40.8
comp=Z,26nm,1.1s
T57A Hurt 45.26 263 P P 20 05 34.7 +1.4
baz=32,SNR=6.6
T57A Hurt 45.26 263 P P 20 05 34.5 +1.2
T57A IAmb IAmb 20 05 41.1
comp=Z,48nm,1.4s
RDOG Red Dog Mine 45.28 343 P P 20 05 35.4 +2.2
RDOG IAmb IAmb 20 05 41.8
comp=Z,42nm,1.2s
R53A Hurricane 45.30 267 P P 20 05 35.2 +1.6
baz=33,SNR=5.5
R53A Hurricane 45.30 267 P P 20 05 35.0 +1.5
Q51A Peebles 45.32 269 P P 20 05 31.4 -2.3
VWCC Virginia Weste 45.36 264 P P 20 05 30.2 -3.9
V60A Jim Taylor Roa 45.46 260 P P 20 05 35.7 +0.8
baz=31
POKR Poker Plat Res 45.47 333 P P 20 05 36.7 +2.1
baz=27
S54A Dingess, Beckl 45.47 266 P P 20 05 34.7 -0.2
baz=33
U58A Oxford 45.47 262 P P 20 05 36.2 +1.3
baz=32
P49A Miami Univ. Ec 45.48 270 P P 20 05 35.6 +0.5
baz=34,SNR=6.0
P49A Miami Univ. Ec 45.48 270 P P 20 05 33.6 -1.4
I37A Lemond, Waseca 45.52 281 P P 20 05 36.1 +0.8
T56A Rocky Mt 45.57 264 P P 20 05 37.6 +1.9
baz=32
BLA Blacksburg 45.58 264 P P 20 05 33.4 -2.5
BLA pmax pmax
comp=Z,27nm,1.4s
BLA Blacksburg 45.58 264 P P 20 05 37.9 +2.0
baz=32
BLA Blacksburg 45.58 264 P P 20 05 33.4 -2.5
BLA IAmb IAmb 20 05 53.6
comp=Z,26nm,1.4s
IL31 45.67 332 P P 20 05 35.5 -0.6
IL31 IAmb IAmb 20 05 43.4
comp=Z,37nm,1.4s
ILAR Eielson Array 45.67 332 P P 20 05 36.2 +0.1
comp=Z,5.1nm,0.9s,baz=23,slow=6.2,SNR=25
ILAR PcP **PcP 20 07 13.9 0.0**
comp=Z,4.5nm,0.9s,baz=360,slow=2.7,SNR=12
ILAR LR LR 20 27 09.5
comp=Z,274nm,19.1s,baz=22,slow=39
ILAR Eielson Array 45.67 332 P P 20 05 35.9 -0.3
MDM Murphy Dome 45.77 333 P P 20 05 39.3 +2.3
COLA College 45.77 333 *de*P **P 20 05 38.6 +1.7**
COLA pmax pmax
comp=Z,24nm,1.0s
COLA College 45.77 333 P P 20 05 37.5 +0.6
TCOL CIGO, UAF Yank 45.77 333 P P 20 05 35.9 -1.1
baz=27
SCRK Sand Creek 45.77 330 P P 20 05 36.7 -0.5
baz=29
U57A Blanch 45.78 263 P P 20 05 38.9 +1.6
baz=32
SFIN Lafayette 45.81 273 P P 20 05 38.6 +1.1
baz=34
SFIN Lafayette 45.81 273 P P 20 05 39.0 +1.4
T55A Pulaski 45.82 265 P P 20 05 38.2 +0.5
baz=32,SNR=6.7
W61A Ground Anchor 45.85 260 P P 20 05 39.0 +1.0
baz=31
P48A Milroy 45.85 271 P P 20 05 38.7 +0.7
V59A Middlesex 45.88 261 P P 20 05 38.9 +0.7
baz=31
S53A Williamson 45.92 266 P P 20 05 39.0 +0.5
baz=33
CCB Clear Creek Bu 45.96 333 P P 20 05 39.9 +1.4
CCB IAmb IAmb 20 05 46.7
comp=Z,37nm,1.5s
HDA Harding Lake 46.00 332 P P 20 05 39.5 +0.6
baz=27
HDA Harding Lake 46.00 332 P P 20 05 40.2 +1.4
HDA IAmb IAmb 20 05 46.0
comp=Z,27nm,1.2s
DOT Dot Lake 46.08 330 P P 20 05 39.7 +0.2
WRH Wood River Hil 46.17 333 P P 20 05 38.0 -2.2
CNNC Cliffs of the 46.18 261 P P 20 05 41.8 +1.3
baz=31
L40A Anamosa 46.19 278 P P 20 05 37.3 -3.2
L40A IAmb IAmb 20 05 46.8
comp=Z,43nm,1.3s
T54A Tazewell 46.20 265 P P 20 05 41.6 +0.8
baz=32,SNR=8.3
V58A Windy Hill, Pi 46.23 262 P P 20 05 42.1 +1.2
baz=31
V58A Windy Hill, Pi 46.23 262 P P 20 05 40.8 -0.1
NEA2 Nenana 46.26 333 P P 20 05 39.7 -1.1
baz=26,SNR=20
W60A Pink Hill 46.26 260 P P 20 05 41.9 +0.7
baz=31
U56A King 46.30 264 P P 20 05 42.3 +0.8
baz=32
U56A King 46.30 264 P P 20 05 42.5 +1.0
ASF Jabal al Asfar 46.31 108 P P 20 05 42.1 +0.4
comp=Z,2.8nm,1.0s,baz=209,slow=2.6,SNR=7.4
DGMT Dagmar 46.34 293 P P 20 05 40.5 -1.3
baz=36
DGMT Dagmar 46.34 293 P P 20 05 42.4 +0.7
R50A Paris 46.36 269 P P 20 05 42.0 0.0
R50A IAmb IAmb 20 05 48.1
comp=Z,31nm,1.1s
V57A Coltrane Farms 46.43 263 P P 20 05 43.0 +0.5
baz=32
U55A TA2, Sparta 46.45 265 P P 20 05 43.7 +1.0
baz=32,SNR=10
E28A Huff 46.47 289 P P 20 05 43.7 +1.0
BRZS Berezniki 46.47 63 *i*P **P 20 05 42.8 0.0**
comp=Z,256nm,3.9s,baz=63
BRZS *e*PP **PP 20 07 31.7 +0.2**
baz=63
BRZS LR LR 20 23 40.5
comp=Z,156nm,12.5s,baz=63
BRZS Berezniki 46.47 63 *i*P **P 20 05 42.7 0.0**
BRZS *e* 20 07 31.7
BRZS pmax pmax
comp=Z,256nm,3.9s
BRZS MLR MLR
comp=Z,156nm,12.0s
W59A Clinton 46.47 261 P P 20 05 44.3 +1.4
baz=31
P46A Rosedale 46.48 272 P P 20 05 41.5 -1.4
WHY Whitehorse 46.50 323 P P 20 05 44.1 +1.2
WHY IAmb IAmb 20 05 50.3
comp=Z,35nm,1.4s
O44A Mansfield 46.58 274 P P 20 05 40.0 -3.6
S51A Beattyville 46.58 268 P P 20 05 39.8 -3.9
S51A IAmb IAmb 20 05 50.4
comp=Z,31nm,1.0s
HDIL Hopedale 46.60 275 P P 20 05 43.9 +0.1
baz=34
HDIL Hopedale 46.60 275 P P 20 05 39.9 -3.9
MENT Mentasta 46.63 330 P P 20 05 44.5 +0.7
MENT IAmb IAmb 20 05 53.8
comp=Z,19nm,1.0s
T53A Wise 46.68 266 P P 20 05 45.5 +0.9
baz=32,SNR=7.9
BWN Browne 46.71 333 P P 20 05 42.2 -2.2
R49A Shelbyville 46.72 270 P P 20 05 46.5 +1.8
R49A IAmb IAmb 20 05 50.8
comp=Z,27nm,1.2s
U54A Nelsons Funny 46.77 265 P P 20 05 46.1 +0.9
baz=32,SNR=5.9
U54A Nelsons Funny 46.77 265 P P 20 05 41.4 -3.9
X60A Albert Glenn T 46.78 260 P P 20 05 46.1 +0.9
baz=31
V56A Mocksville 46.80 263 P P 20 05 46.6 +1.2
baz=32,SNR=7.9
W58A Raeford 46.93 262 P P 20 05 46.8 +0.4
baz=31
PAX Paxson 46.98 330 P P 20 05 47.2 +0.6
PAX pmax pmax
comp=Z,19nm,1.2s
PAX Paxson 46.98 330 P P 20 05 47.2 +0.6
PAX IAmb IAmb 20 05 55.1

comp=Z,20nm,1.2s
MCK McKinley 47.00 333 P P 20 05 47.3 +0.6
MCK pmax pmax
comp=Z,59nm,1.3s
MCK McKinley 47.00 333 P P 20 05 47.3 +0.6
HYT Haines Junctio 47.02 325 P P 20 05 45.9 -1.2
HYT IAmb IAmb 20 05 54.9
comp=Z,22nm,1.3s
X59A McDuffie Farm, 47.05 261 P P 20 05 48.6 +1.2
baz=31
BPAW Bear Paw Mtn. 47.06 334 P P 20 05 48.6 +1.4
BPAW IAmb IAmb 20 05 54.3
comp=Z,35nm,1.3s
V55A Taylorsville 47.07 264 P P 20 05 48.9 +1.3
baz=32,SNR=7.5
V55A Taylorsville 47.07 264 P P 20 05 48.5 +1.0
ECSD EROS Data Cent 47.10 284 P P 20 05 48.9 +1.2
baz=35,SNR=7.7
ECSD EROS Data Cent 47.10 284 P P 20 05 48.8 +1.1
ECSD IAmb IAmb 20 05 55.3
comp=Z,27nm,1.2s
W57A Gilead 47.14 263 P P 20 05 49.2 +1.1
baz=31,SNR=5.6
W57A Gilead 47.14 263 P P 20 05 45.3 -2.8
W57A IAmb IAmb 20 05 55.4
comp=Z,33nm,1.2s
SCIA State Center 47.16 279 P P 20 05 48.3 +0.1
baz=34
SCIA State Center 47.16 279 P P 20 05 43.8 -4.4
WCI Wyandotte Cave 47.25 271 P P 20 05 47.9 -1.0
WCI pmax pmax
comp=Z,46nm,1.1s
WCI Wyandotte Cave 47.25 271 P P 20 05 49.8 +0.9
baz=33
WCI Wyandotte Cave 47.25 271 P P 20 05 47.9 -1.0
DHY Denali Highway 47.28 332 P P 20 05 50.1 +1.0
DHY IAmb IAmb 20 05 56.2
comp=Z,17nm,1.2s
RND Reindeer 47.28 333 P P 20 05 50.3 +1.4
RND Reindeer 47.28 333 P P 20 05 50.3 +1.4
RND IAmb IAmb 20 05 57.8
comp=Z,22nm,1.2s
Y60A Bolivia 47.37 260 P P 20 05 50.3 +0.5
baz=30
X58A Rowland 47.38 261 P P 20 05 50.8 +0.9
baz=31
W56A Indian Trail 47.41 263 P P 20 05 51.1 +0.9
baz=31,SNR=7.8
V54A Nebo 47.45 265 P P 20 05 51.6 +1.1
baz=32,SNR=10
P43A Skaggs, Pawnee 47.46 275 P P 20 05 51.4 +0.9
TZTN Tazewell 47.49 267 P P 20 05 52.6 +1.8
baz=32,SNR=6.9
TZTN Tazewell 47.49 267 P P 20 05 52.3 +1.5
SUSD Miller 47.49 286 P P 20 05 50.6 -0.1
baz=35
TRF Thorofare Moun 47.52 333 P P 20 05 52.2 +1.2
TRF IAmb IAmb 20 06 08.5
comp=Z,29nm,1.4s
BILL Bilibino 47.53 358⇑ eP P 20 05 53.6 +2.9
BILL eS S 20 13 06.1 +21
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL MLR MLR
comp=Z,292nm,17.0s
KTH Kantishna Hill 47.55 334 P P 20 05 50.4 -0.6
KTH IAmb IAmb 20 05 58.8
comp=Z,15nm,1.1s
OLIL Olney 47.60 273 P P 20 05 48.3 -3.3
ZAA0 Zalesovo Array 47.62 51 P P 20 05 51.7 +0.2
ZALV Zalesovo Beam 47.62 51 P P 20 05 50.6 -0.9
comp=Z,4.0nm,0.9s,baz=332,slow=8.4,SNR=12
ZALV PcP **PcP 20 07 22.6 +1.6**
comp=Z,1.1nm,0.6s,baz=355,slow=3.0,SNR=2.8
ZALV LR LR 20 28 33.7
comp=Z,271nm,18.6s,baz=316,slow=40
T50A Nancy 47.64 268 P P 20 05 48.4 -3.5
T50A IAmb IAmb 20 05 57.5
comp=Z,24nm,1.3s
Y59A Loris 47.66 261 P P 20 05 52.9 +0.8
baz=31
Y59A Loris 47.66 261 P P 20 05 51.7 -0.4
EIL Elat 47.72 111 P P 20 05 52.5 -0.2
comp=Z,5.6nm,0.9s,baz=355,slow=9.1,SNR=3.9
KMSC Kings Mountain 47.73 264 P P 20 05 54.0 +1.3
baz=31,SNR=5.6
KMSC Kings Mountain 47.73 264 P P 20 05 50.6 -2.0
X57A Johnson Farm, 47.77 262 P P 20 05 53.4 +0.4
baz=31
BIRD Birdtown, Kers 47.78 263 P P 20 05 51.0 -2.0
BIRD IAmb IAmb 20 06 00.4
comp=Z,37nm,1.4s
Q44A Meyer Farm, Va 47.86 274 P P 20 05 49.6 -4.0
M24K Tolsona, Glenn 47.90 330 P P 20 05 53.1 -0.7
baz=27
V53A Saluda 47.91 266 P P 20 05 54.9 +0.7
V53A IAmb IAmb 20 06 00.5
comp=Z,21nm,1.4s
KURK Kurchatov 48.10 58⇓ eP P 20 05 55.2 -0.1
KURK pmax pmax
comp=Z,68nm,2.5s
KURK Kurchatov 48.10 58 P P 20 05 52.4 -3.0
KURK IAmb IAmb 20 05 57.5
comp=Z,16nm,0.9s
V52A Sevierville 48.10 266 P P 20 05 57.4 +1.9
V52A IAmb IAmb 20 06 01.9
comp=Z,20nm,1.1s
W54A Cherokee Point 48.14 265 P P 20 05 57.3 +1.4
baz=31,SNR=9.0
KURBB Kurchatov Arra 48.14 58 P P 20 05 54.8 -0.9
comp=Z,11nm,0.9s,baz=323,slow=7.5,SNR=27
X56A White Oak 48.15 263 P P 20 05 57.4 +1.4
baz=31,SNR=6.7
PAULI Pauline 48.20 264 P P 20 05 54.5 -1.9
Y57A Sumter 48.28 262 P P 20 05 57.5 +0.6
baz=31
TKL Tuckaleechee C 48.33 266 P P 20 05 54.8 -2.6
TKL pmax pmax
comp=Z,49nm,1.5s
TKL Tuckaleechee C 48.33 266 P P 20 05 54.8 -2.6
PPLA Purkeypile 48.39 334 P P 20 05 57.2 -0.4
SCM Sheep Creek Mo 48.39 331 P P 20 05 59.2 +1.6
SCM pmax pmax
comp=Z,36nm,1.2s
SCM Sheep Creek Mo 48.39 331 P P 20 05 59.2 +1.6
SCM IAmb IAmb 20 06 05.8
comp=Z,36nm,1.2s
X55A Gracelyn & Ava 48.43 264 P P 20 05 59.7 +1.6
baz=31,SNR=7.8
JSC Jenkinsville 48.43 263 P P 20 05 54.7 -3.4
JSC pmax pmax
comp=Z,22nm,1.2s
JSC Jenkinsville 48.43 263 P P 20 05 54.7 -3.4
JSC IAmb IAmb 20 06 05.6
comp=Z,22nm,1.2s
CUT Chulitna 48.47 333 P P 20 05 56.6 -1.4
baz=25
U49A Red Boiling Sp 48.47 269 P P 20 05 59.7 +1.3
U49A IAmb IAmb 20 06 04.5
comp=Z,35nm,1.2s
Z59A Georgetown, SC 48.48 261 P P 20 05 58.9 +0.5
baz=30
BG3 Lake Jocassee 48.54 265 P P 20 05 59.7 +0.8
BG3 IAmb IAmb 20 06 05.4
comp=Z,27nm,1.3s
LAO LASA Array 48.59 293 P P 20 05 57.7 -1.6
baz=35
LAO LASA Array 48.59 293 P P 20 05 59.6 +0.3
SLM Saint Louis 48.60 274 P P 20 05 56.8 -2.5
SLM pmax pmax
comp=Z,60nm,1.3s
SLM Saint Louis 48.60 274 P P 20 05 56.8 -2.5
Z58A St. Stephen 48.62 261 P P 20 06 00.0 +0.4
baz=30
T47A Sharon Grove 48.64 270 P P 20 05 59.4 -0.3
X54A Belton 48.68 264 P P 20 06 00.6 +0.6
baz=31
GHO Glory Hole Cre 48.77 332 P P 20 06 01.3 +0.8
GHO IAmb IAmb 20 06 08.8
comp=Z,29nm,1.2s
CPCT Cooper Cave 48.83 267 P P 20 06 01.8 +0.6
CPCT IAmb IAmb 20 06 07.7
comp=Z,27nm,1.2s
Y56A Pelion 48.87 263 P P 20 06 01.9 +0.5
baz=31
EGMT Eagleton 48.87 297 P P 20 06 00.1 -1.3
baz=35,SNR=34
EGMT Eagleton 48.87 297 P P 20 06 02.4 +1.0
W52A Murphy 48.88 266 P P 20 06 03.0 +1.4
W52A IAmb IAmb 20 06 07.9
comp=Z,27nm,1.1s
HODGE Hodges 48.90 264 P P 20 06 02.6 +0.9
K31A O'Neill 48.90 285 P P 20 06 03.5 +1.9
SEM Semipalatinsk 48.94 57 eP P 20 06 02.1 -0.1
comp=Z,70nm,2.7s,baz=58
SEM LR LR 20 26 07.4
comp=Z,296nm,17.3s,baz=58
SEM Semipalatinsk 48.94 57 eP P 20 06 02.0 -0.1
SEM pmax pmax
comp=Z,70nm,2.7s
SEM MLR MLR
comp=Z,296nm,17.0s
S44A Carbondale 48.97 273 P P 20 06 02.8 +0.6
NHSC New Hope 48.98 261 P P 20 06 02.1 -0.2
baz=30
NHSC New Hope 48.98 261 P P 20 06 01.6 -0.7
Y55A Saluda 48.98 263 P P 20 06 03.6 +1.3
baz=31,SNR=7.3
PMR Palmer 48.98 332 P P 20 06 04.1 +2.2
PMR pmax pmax
comp=Z,16nm,1.0s
PMR Palmer 48.98 332 P P 20 06 04.1 +2.2
PMR IAmb IAmb 20 06 17.8
comp=Z,16nm,1.0s
KNK Knik Glacier 49.00 331 P P 20 06 03.1 +0.9
KNK IAmb IAmb 20 06 08.9
comp=Z,17nm,1.0s
Z57A Bowman 49.03 262 P P 20 06 03.8 +1.1
baz=30
TTA Tatalina 49.04 336 P P 20 06 04.4 +1.8
TTA pmax pmax
comp=Z,16nm,1.1s
TTA Tatalina 49.04 336 P P 20 06 04.4 +1.8
TTA IAmb IAmb 20 06 09.1
comp=Z,16nm,1.1s
N35A Tabor 49.05 281 P P 20 06 01.1 -1.7
N35A IAmb IAmb 20 06 07.7
comp=Z,21nm,1.1s
CLTN Cedars of Leba 49.06 269 P P 20 05 58.9 -4.1
CLTN IAmb IAmb 20 06 09.1
comp=Z,26nm,1.2s
SKT Skwentna 49.10 333 P P 20 06 02.6 -0.4
SKT IAmb IAmb 20 06 10.1
comp=Z,30nm,1.2s
Z56A Williston 49.29 263 P P 20 06 06.0 +1.2
baz=30
Z56A Williston 49.29 263 P P 20 06 05.8 +1.1
158A Hollywood 49.30 261 P P 20 06 06.3 +1.6
baz=30
W50A Signal Mountai 49.38 268 P P 20 06 06.0 +0.6
CCM Cathedral Cave 49.52 275 P P 20 06 06.8 +0.4
CCM pmax pmax
comp=Z,15nm,1.3s
CCM Cathedral Cave 49.52 275 P P 20 06 06.8 +0.4
baz=33
CCM Cathedral Cave 49.52 275 P P 20 06 06.8 +0.4
V48A Smith Brothers 49.57 269 P P 20 06 08.3 +1.4
V48A IAmb IAmb 20 06 13.0
comp=Z,30nm,1.1s
WALA Waterton Lakes 49.58 301 P P 20 06 07.5 +0.6
WALA IAmb IAmb 20 06 14.9
comp=Z,24nm,1.3s
SWET Sewanee 49.63 268 P P 20 06 07.4 0.0
SWET IAmb IAmb 20 06 13.1
comp=Z,19nm,1.1s
BGNE Belgrade 49.65 283 P P 20 06 07.9 +0.4
baz=34
WVT Waverly 49.68 270 P P 20 06 08.6 +1.0
baz=32
157A Early Branch 49.69 262 P P 20 06 09.8 +2.1
baz=30
X51A Calhoun 49.73 267 P P 20 06 05.2 -2.8
R40A Maddies Statio 49.76 276 P P 20 06 08.3 +0.1
R40A IAmb IAmb 20 06 13.3
comp=Z,22nm,1.3s
RSSD Black Hills 49.83 290 P P 20 06 09.0 0.0
baz=34
Y52A Lilburn 49.98 265 P P 20 06 11.2 +1.2
Y52A IAmb IAmb 20 06 16.2
comp=Z,26nm,1.1s
FPAL Fort Paine 50.07 267 P P 20 06 11.8 +1.1
FPAL IAmb IAmb 20 06 16.6
comp=Z,32nm,1.2s
O22K Cooper Landing 50.11 331 P P 20 06 10.2 -0.4
baz=24
GOGA Godfrey 50.12 265 P P 20 06 08.6 -2.4
GOGA pmax pmax
comp=Z,33nm,1.2s
GOGA Godfrey 50.12 265 P P 20 06 12.0 +1.0
baz=31,SNR=7.4
GOGA Godfrey 50.12 265 P P 20 06 08.6 -2.4
GOGA IAmb IAmb 20 06 17.2
comp=Z,33nm,1.2s
CAPN Captain Cook N 50.14 332 P P 20 06 09.4 -1.4
baz=24
T42A Van Buren 50.32 274 P P 20 06 10.2 -2.3
T42A IAmb IAmb 20 06 17.9
comp=Z,23nm,1.3s
GEYT Alibeck 50.42 84 P P 20 06 12.8 -0.5
comp=Z,2.5nm,0.8s,baz=336,slow=14,SNR=6.6
GEYT LR LR 20 29 47.3
comp=Z,745nm,19.0s,baz=5.0,slow=39
GEYT Alibeck 50.42 84 P P 20 06 11.4 -1.9
GYA0B ALIBECK ARRAY 50.42 84 P P 20 06 11.7 -1.6
GCMT Greycliff 50.68 295 P P 20 06 16.6 +1.2
S39A Bolívar 50.72 276 P P 20 06 15.4 -0.1
S39A IAmb IAmb 20 06 20.9
comp=Z,33nm,1.2s
HRY Holter Researc 50.75 298 P P 20 06 15.7 -0.1
PLAL Pickwick Lake 50.76 270 P P 20 06 16.2 +0.4
PLAL IAmb IAmb 20 06 22.0
comp=Z,21nm,1.1s
X48A Hartselle 50.76 269 P P 20 06 16.3 +0.4
X48A IAmb IAmb 20 06 21.2
comp=Z,46nm,1.2s
JTMT Jette 50.81 300 P P 20 06 16.4 +0.1
KSU1 Kansas State U 50.93 280 P P 20 06 17.2 +0.1
baz=33
KSU1 Kansas State U 50.93 280 P P 20 06 17.2 +0.1
KSU1 IAmb IAmb 20 06 23.5
comp=Z,39nm,1.1s
Z51A Franklin 50.93 266 P P 20 06 18.1 +1.0
Z51A IAmb IAmb 20 06 23.3
comp=Z,29nm,1.2s
255A Hazlehurst 50.97 263 P P 20 06 17.6 +0.2
Y49A Blount Mountai 51.00 268 P P 20 06 15.8 -1.9
Y49A IAmb IAmb 20 06 23.4
comp=Z,31nm,1.2s
BRLK Bradley Lake 51.01 332 P P 20 06 18.5 +1.1
BRLK IAmb IAmb 20 06 25.2
comp=Z,37nm,1.4s
BTLS Baital 51.05 66 eP P 20 06 18.8 +0.8
comp=Z,70nm,2.5s,baz=66
BTLS eS S 20 13 36.2 +1.2
baz=66
BTLS LR LR 20 26 48.1
comp=Z,157nm,14.5s,baz=66
BTLS Baital 51.05 66 eP P 20 06 18.7 +0.8
BTLS eS S 20 13 36.2 +1.2
BTLS pmax pmax
comp=Z,70nm,2.5s
BTLS MLR MLR
comp=Z,157nm,15.0s
LCAR Lake Charles 51.16 273 P P 20 06 19.5 +0.7
LPAR Lepanto 51.19 272 P P 20 06 18.1 -0.9
YAK Yakutsk 51.25 19 P P 20 06 17.7 -1.4
comp=Z,3.5nm,0.3s,baz=357,slow=0.9,SNR=2.5
YAK Yakutsk 51.25 19 P P 20 06 17.7 -1.4
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 51.25 19 P P 20 06 17.7 -1.4
KK31 Karatay Array 51.27 70 P P 20 06 18.2 -1.4
KK31 pmax pmax
comp=Z,21nm,1.3s
KK31 Karatay Array 51.27 70 P P 20 06 18.2 -1.4
KKAR Karatay Array 51.27 70 P P 20 06 18.2 -1.4
KKAR pmax pmax
comp=Z,21nm,1.3s
KKAR Karatay Array 51.27 70 P P 20 06 18.7 -0.8
KKAR Karatay Array 51.27 70 P P 20 06 18.2 -1.4
152A Waverly Hall 51.29 265 P P 20 06 15.7 -4.2
NEW Newport 51.42 303 P P 20 06 19.4 -1.3
NEW pmax pmax
comp=Z,6.0nm,1.3s
NEW Newport 51.42 303 P P 20 06 19.7 -1.0
baz=33
NEW Newport 51.42 303 P P 20 06 19.4 -1.3
MSO Missoula 51.45 299 P P 20 06 20.7 -0.4
baz=33
YNE Yellowstone No 51.47 295 P P 20 06 21.9 +0.6
BOZ Bozeman (W) 51.60 297 P P 20 06 23.7 +1.5
BOZ pmax pmax
comp=Z,44nm,1.1s
BOZ Bozeman (W) 51.60 297 P P 20 06 21.8 -0.4
baz=33,SNR=51
BOZ Bozeman (W) 51.60 297 P P 20 06 23.7 +1.5
BOZ IAmb IAmb 20 06 30.0
comp=Z,44nm,1.1s
U40A Yellville 51.64 275 P P 20 06 22.8 +0.4
baz=32,SNR=6.9
U40A Yellville 51.64 275 P P 20 06 22.9 +0.4
U40A IAmb IAmb 20 06 28.1
comp=Z,34nm,1.2s
FCAR Ozark Folk Cen 51.72 274 P P 20 06 22.9 -0.1
LRM Limekiln Ridge 51.73 297 P P 20 06 20.0 -3.3
YMP Mirror Lake Pl 51.75 295 P P 20 06 24.6 +1.0
DZA Taraz 51.77 69 eP P 20 06 24.2 +0.8
comp=Z,182nm,2.3s,baz=70
DZA LR LR 20 27 37.4
comp=Z,296nm,15.8s,baz=70
DZA Taraz 51.77 69 eP P 20 06 24.2 +0.8
DZA pmax pmax
comp=Z,182nm,2.3s
DZA MLR MLR
comp=Z,296nm,16.0s
TIGA Tifton 51.87 263 P P 20 06 24.7 +0.5
baz=30
TIGA Tifton 51.87 263 P P 20 06 24.9 +0.7
IUG Iuzhnay 51.87 71 eP P 20 06 24.9 +0.6
comp=Z,130nm,3.3s,baz=71
IUG eS S 20 13 47.5 +1.0
baz=71
IUG Iuzhnay 51.87 71 eP P 20 06 24.8 +0.6
IUG eS S 20 13 47.5 +1.0
IUG pmax pmax
comp=Z,130nm,3.3s
LRAL Lakeview Retre 51.95 268 P P 20 06 25.2 +0.4
baz=31
LRAL Lakeview Retre 51.95 268 P P 20 06 21.3 -3.5
YHH Holmes Hill 51.98 296 P P 20 06 22.4 -2.8
YHL Hebgen Lake 52.05 296 P P 20 06 21.6 -4.2
K22A Casper 52.06 291 P P 20 06 25.4 -0.4
baz=33,SNR=6.1
K22A Casper 52.06 291 P P 20 06 21.9 -3.8
K22A IAmb IAmb 20 06 31.2
comp=Z,33nm,1.1s
DGZ Jazzator, Alta 52.06 53⇓ eP P 20 06 26.8 +1.2
DGZ pmax pmax
comp=Z,9.0nm,1.1s
YMR Madison River 52.12 296 P P 20 06 22.9 -3.3
B08A Colville Reser 52.13 304 P P 20 06 23.2 -2.7
QLMT Earthquake Lak 52.17 296 P P 20 06 23.5 -3.0
DLMT Dillon 52.17 297 P P 20 06 24.2 -2.2
DLMT IAmb IAmb 20 06 33.1
comp=Z,27nm,1.4s
HHAR Hobbs 52.17 276 P P 20 06 21.9 -4.5
H17A Grant Village 52.20 295 P P 20 06 25.6 -1.3
baz=33
H17A Grant Village 52.20 295 P P 20 06 26.9 0.0
C09A Chrisman Ranch 52.22 303 P P 20 06 27.2 +0.5
U38A Gravette 52.23 276 P P 20 06 24.8 -2.0
WHAR Wooly Hollow 52.30 274 P P 20 06 28.1 +0.7
WHAR IAmb IAmb 20 06 33.1
comp=Z,51nm,1.4s
X43A Marvell 52.36 272 P P 20 06 27.5 -0.3
baz=31
W41B Gary Mavity, V 52.38 274 P P 20 06 28.2 +0.2
baz=31
W41B Gary Mavity, V 52.38 274 P P 20 06 27.9 -0.1
W41B IAmb IAmb 20 06 32.9
comp=Z,36nm,1.4s
R32A Long Quarter, 52.39 281 P P 20 06 27.5 -0.5
R32A IAmb IAmb 20 06 34.0
comp=Z,44nm,1.2s
BOD Bodaibo 52.39 30 eP P 20 06 28.9 +1.2
BOD pmax pmax
comp=Z,19nm,1.9s
YPP Pitchstone Pla 52.40 295 P P 20 06 28.8 +0.5
CBKS Cedar Bluff 52.49 283 P P 20 06 28.8 0.0
CBKS pmax pmax
comp=Z,51nm,1.4s
CBKS Cedar Bluff 52.49 283 P P 20 06 28.4 -0.4
baz=32
CBKS Cedar Bluff 52.49 283 P P 20 06 28.8 0.0
CBKS IAmb IAmb 20 06 34.3
comp=Z,51nm,1.4s
FLWY Flagg Ranch 52.51 295 P P 20 06 30.2 +1.1
FLWY IAmb IAmb 20 06 46.5
comp=Z,27nm,1.2s
250A Grady 52.55 266 P P 20 06 28.8 -0.4
MAKZ Makanchi 52.58 59 P P 20 06 29.8 +0.4
MAKZ pmax pmax
comp=Z,15nm,1.2s
MAKZ Makanchi 52.58 59 P P 20 06 29.8 +0.4
SGDS Sogindy 52.62 66 eP P 20 06 30.4 +0.7
comp=Z,159nm,3.9s,baz=67
SGDS Sogindy 52.62 66 eP P 20 06 30.4 +0.7
SGDS pmax pmax
comp=Z,159nm,3.9s
MK31 Makanchi Array 52.71 58 P P 20 06 28.1 -2.2
MK31 pmax pmax
comp=Z,14nm,1.4s
MK31 Makanchi Array 52.71 58 P P 20 06 28.1 -2.2
MKAR Makanchi Array 52.71 58 P P 20 06 29.1 -1.2
comp=Z,5.1nm,0.9s,baz=316,slow=6.7,SNR=23
MKAR LR LR 20 29 09.6
comp=Z,285nm,19.5s,baz=306,slow=36
MKAR Makanchi Array 52.71 58 P P 20 06 29.0 -1.3
MCMT McKenzie Canyo 52.72 297 P P 20 06 29.0 -1.6
T35A Sooner Cattle 52.73 279 P P 20 06 29.4 -1.1
T35A IAmb IAmb 20 06 36.5
comp=Z,30nm,1.1s
PHWY Pilot Hill 52.76 289 P P 20 06 30.5 -0.6
PHWY IAmb IAmb 20 06 38.1
comp=Z,24nm,1.1s
IMW Indian Meadow 52.76 295 P P 20 06 30.5 -0.6
IMW IAmb IAmb 20 06 39.2
comp=Z,31nm,1.4s
TDK Taldyqorghan 52.77 62 eP P 20 06 31.2 +0.4
comp=Z,321nm,3.5s,baz=63
TDK Taldyqorghan 52.77 62 eP P 20 06 31.1 +0.3
TDK pmax pmax
comp=Z,321nm,3.5s
LOHW Long Hollow 52.87 295 P P 20 06 27.5 -4.3
LOHW IAmb IAmb 20 06 39.6
comp=Z,27nm,1.4s
KUU Kurty 52.91 65 eP P 20 06 32.2 +0.4
comp=Z,377nm,3.6s,baz=65
KUU LR LR 20 28 02.0
comp=Z,850nm,15.9s,baz=65
KUU Kurty 52.91 65 eP P 20 06 32.1 +0.3
KUU pmax pmax
comp=Z,377nm,3.6s
KUU MLR MLR
comp=Z,850nm,16.0s
FXWY Fox Creek 53.01 295 P P 20 06 31.2 -1.7
W39A Magazine 53.02 275 P P 20 06 33.0 +0.3
baz=31,SNR=6.0
W39A Magazine 53.02 275 P P 20 06 33.1 +0.4
KAN12 Harper NE Stat 53.04 280 P P 20 06 32.6 -0.2
SNOW Snow King Moun 53.06 295 P P 20 06 30.2 -2.9
SNOW IAmb IAmb 20 06 41.2
comp=Z,31nm,1.1s
ZSN Zaisan 53.08 56 eP P 20 06 34.0 +0.9
comp=Z,125nm,2.6s,baz=56
ZSN ePP **PP 20 08 33.9 +1.4**
baz=56
ZSN LR LR 20 28 49.6
comp=Z,224nm,13.8s,baz=56
ZSN Zaisan 53.08 56 eP P 20 06 33.9 +0.9
ZSN e 20 08 33.8
ZSN pmax pmax
comp=Z,125nm,2.6s
ZSN MLR MLR
comp=Z,224nm,14.0s
TPAW Teton Pass 53.11 295 P P 20 06 31.9 -1.7

TPAW IAmb IAmb 20 06 40.5
comp=Z,36nm,1.3s
RWWY Rawlins 53.14 291 P P 20 06 34.7 +0.8
RWWY IAmb IAmb 20 06 39.8
comp=Z,45nm,1.4s
FRU1 Bishkek 53.16 67 P P 20 06 34.5 +0.8
FRU1 pmax pmax
comp=Z,20nm,1.2s
FRU1 Bishkek 53.16 67 P P 20 06 34.5 +0.8
FRU1 IAmb IAmb 20 06 42.1
comp=Z,20nm,1.1s
TOA0 Torodi Ar. Sit 53.16 156 P P 20 06 33.8 -0.1
TOA0 IAmb IAmb 20 06 41.4
comp=Z,19nm,1.1s
TORD Torodi Ar. Bea 53.16 156 P P 20 06 33.3 -0.6
comp=Z,9.7nm,1.0s,baz=340,slow=8.6,SNR=22
TORD LR LR 20 29 09.6
comp=Z,319nm,19.0s,baz=330,slow=36
TORD Torodi Ar. Bea 53.16 156 P P 20 06 33.1 -0.8
BW06 Boulder Array 53.17 293 P P 20 06 34.0 -0.1
baz=32
PDAR Pinedale Array 53.17 293 P P 20 06 33.5 -0.5
comp=Z,25nm,1.0s,baz=51,slow=5.9,SNR=15
PDAR LR LR 20 28 54.2
comp=Z,1μm,19.2s,baz=32,slow=36
PDAR Pinedale Array 53.17 293 P P 20 06 33.1 -0.9
REDW Red Top Meadow 53.18 295 P P 20 06 32.0 -2.0
REDW IAmb IAmb 20 06 41.9
comp=Z,40nm,1.2s
CHKK Chushkaly 53.20 64 *eP* **P 20 06 34.9 +1.0**
baz=64
CHKK Chushkaly 53.20 64 *eP* **P 20 06 34.9 +1.0**
X40A Basin Creek Fa 53.22 274 P P 20 06 34.3 +0.1
baz=31
X40A Basin Creek Fa 53.22 274 P P 20 06 31.4 -2.8
TUL1 Leonard 53.27 277 P P 20 06 33.0 -1.5
baz=32
N23A Red Feather La 53.30 289 P P 20 06 35.1 +0.1
baz=32
N23A Red Feather La 53.30 289 P P 20 06 32.5 -2.6
MIAR Mount Ida 53.49 275 P P 20 06 36.2 0.0
MIAR pmax pmax
comp=Z,19nm,1.3s
MIAR Mount Ida 53.49 275 P P 20 06 36.0 -0.2
baz=31
MIAR Mount Ida 53.49 275 P P 20 06 36.1 0.0
KSCO Kaye Shedlock' 53.53 285 P P 20 06 36.4 -0.2
baz=32
KSCO Kaye Shedlock' 53.53 285 P P 20 06 34.0 -2.6
BRAL Brewton 53.58 267 P P 20 06 37.0 +0.2
baz=30
MTBS Maitube 53.59 65 *eP* **P 20 06 38.0 +1.1**
baz=65
MTBS Maitube 53.59 65 *eP* **P 20 06 38.0 +1.1**
CROK Carrier 53.70 280 P P 20 06 38.4 +0.7
AAA Alma-Ata 53.71 65 *eP* **P 20 06 39.1 +1.3**
comp=Z,308nm,2.9s,baz=65
AAA LR LR 20 28 25.8
comp=Z,563nm,14.6s,baz=65
AAA Alma-Ata 53.71 65 *eP* **P 20 06 39.1 +1.3**
AAA pmax pmax
comp=Z,308nm,2.9s
AAA MLR MLR
comp=Z,563nm,15.0s
AHID Auburn Hatcher 53.78 294 P P 20 06 38.5 0.0
AHID IAmb IAmb 20 06 47.0
comp=Z,38nm,1.5s
MDOK Medeo 53.80 65 *eP* **P 20 06 39.7 +1.1**
baz=65
MDOK LR LR 20 28 28.4
comp=Z,656nm,15.4s,baz=65
MDOK Medeo 53.80 65 *eP* **P 20 06 39.7 +1.1**
MDOK MLR MLR
comp=Z,656nm,15.0s
E07A Sunnyside 53.85 303 P P 20 06 38.0 -0.6
TNSS Tian-Shan 53.87 65 *eP* **P 20 06 40.2 +0.8**
baz=65
TNSS Tian-Shan 53.87 65 *eP* **P 20 06 40.2 +0.8**
OK029 Liberty Lake 54.08 279 P P 20 06 35.5 -5.0
ISCO Idaho Springs 54.09 288 P P 20 06 38.4 -2.5
ISCO pmax pmax
comp=Z,10.0nm,1.2s
ISCO Idaho Springs 54.09 288 P P 20 06 41.5 +0.6
baz=32
ISCO Idaho Springs 54.09 288 P P 20 06 38.4 -2.5
D03D Eldon 54.15 306 P P 20 06 41.0 +0.1
baz=31
VBMS Vicksburg 54.17 270 P P 20 06 42.4 +1.2
baz=30
OK025 Westminster Rd 54.21 278 P P 20 06 41.4 0.0
X37A Clayton 54.22 276 P P 20 06 42.0 +0.5
X37A IAmb IAmb 20 06 48.1
comp=Z,26nm,1.5s
U32A Winter Ranch, 54.24 280 P P 20 06 41.8 +0.1
Z41A Richland Creek 54.26 273 P P 20 06 41.4 -0.3
baz=31
Z41A Richland Creek 54.26 273 P 20 06 38.3 -3.5
BMO Blue Mountains 54.37 300 P P 20 06 42.2 -0.4
BMO pmax pmax
comp=Z,19nm,1.3s
BMO Blue Mountains 54.37 300 P P 20 06 42.2 -0.4
BMO IAmb IAmb 20 06 49.0
comp=Z,19nm,1.3s
W35A Tecumseh 54.38 278 P P 20 06 43.5 +0.8
HLID Hailey 54.38 297 P P 20 06 42.2 -0.6
baz=32
HLID Hailey 54.38 297 P P 20 06 43.8 +1.0
SATY Saty 54.42 64 *eP* **P 20 06 43.7 +0.6**
comp=Z,53nm,2.5s,baz=64
SATY LR LR 20 28 56.4
comp=Z,226nm,15.8s,baz=64
SATY Saty 54.42 64 *eP* **P 20 06 43.6 +0.6**
SATY pmax pmax
comp=Z,53nm,2.5s
SATY MLR MLR
comp=Z,226nm,16.0s
F07A Phinny Hill Vi 54.44 303 P P 20 06 44.3 +1.3
F07A IAmb IAmb 20 06 50.7
comp=Z,34nm,1.3s
CHGR Chuyangaron 54.45 74 P P 20 06 41.6 -1.7
CHGR IAmb IAmb 20 06 49.7
comp=Z,30nm,1.1s
FNO Franklin 54.52 278 P P 20 06 44.5 +0.8
UZB Uzynbulak 54.58 63 *eP* **P 20 06 44.8 +0.5**
comp=Z,114nm,3.7s,baz=63
UZB LR LR 20 33 09.5
comp=Z,147nm,12.8s,baz=63
UZB Uzynbulak 54.58 63 *eP* **P 20 06 44.7 +0.5**
UZB pmax pmax
comp=Z,114nm,3.7s
UZB MLR MLR
comp=Z,147nm,13.0s
G08A Pilot Rock 54.61 302 P P 20 06 43.9 -0.5
Q24A Divide 54.61 287 P P 20 06 43.0 -1.6
GAR Garm 54.64 73 P P 20 06 44.1 -0.5
MOY Mondy 54.64 42 *eP* **P 20 06 47.5 +3.0**
MOY pmax pmax
comp=Z,172nm,2.6s
SHLS Shalkode 54.74 63 *eP* **P 20 06 47.5 +2.1**
comp=Z,159nm,3.6s,baz=63
SHLS Shalkode 54.74 63 *eP* **P 20 06 47.4 +2.1**
SHLS pmax pmax
comp=Z,159nm,3.6s
E04D Cinebar 54.81 305 P P 20 06 43.8 -1.9
baz=30
O20A White River Ci 54.88 290 P P 20 06 47.9 +1.4
baz=32,SNR=5.3
O20A White River Ci 54.88 290 P P 20 06 43.4 -3.0
HWUT Hardware Ranch 54.95 294 P P 20 06 48.2 +1.2
HWUT IAmb IAmb 20 06 53.8
comp=Z,32nm,1.0s
F05D White Salmon 55.00 304 P P 20 06 46.1 -0.9
baz=30
RDMU Red Mountain 55.04 292 P P 20 06 46.0 -1.7
IRK Irkutsk 55.05 40 *eP* **P 20 06 45.4 -1.9**
IRK *e* 20 08 53.6
IRK pmax pmax
comp=Z,101nm,1.8s
HRA Herat 55.18 82 P P 20 06 47.8 -1.0
HRA IAmb IAmb 20 06 59.2
comp=Z,18nm,1.2s
X34A Smith Ranch, M 55.26 278 P P 20 06 48.0 -1.1
HVU Hansel Valley 55.27 295 P P 20 06 50.1 +0.9
HVU pmax pmax
comp=Z,20nm,1.2s
HVU Hansel Valley 55.27 295 P P 20 06 50.1 +0.9

TCUT Toone Canyon 55.30 294 P P 20 06 50.0 +0.5
F04D Rainier, OR 55.38 305 P P 20 06 49.2 -0.5
baz=30
TLY Talaya 55.38 40 *eP* **P 20 06 53.5 +3.8**
TLY *eS* S 20 14 50.6 +17
TLY pmax pmax
comp=Z,51nm,1.9s
TLY MLR MLR
comp=Z,1μm,14.0s
TLY Talaya 55.38 40 P P 20 06 51.0 +1.3
G05D Wamic, OR 55.50 304 P P 20 06 49.7 -0.9
baz=30
SPUT South Promonto 55.55 294 P P 20 06 51.5 +0.3
WMOK Wichita Mounta 55.55 279 P P 20 06 51.9 +0.8
WMOK pmax pmax
comp=Z,40nm,1.3s
WMOK Wichita Mounta 55.55 279 P P 20 06 52.2 +1.0
baz=31,SNR=10
WMOK Wichita Mounta 55.55 279 P P 20 06 51.9 +0.8
WMOK IAmb IAmb 20 06 58.3
comp=Z,40nm,1.3s
JLU Jordanelle 55.76 293 P P 20 06 52.6 -0.2
SDCO Great Sand Dun 55.79 287 P P 20 06 53.0 -0.2
baz=31
SDCO Great Sand Dun 55.79 287 P P 20 06 53.9 +0.7
CTU Camp Tracy 55.80 294 P P 20 06 51.5 -1.6
T25A Trinidad 55.86 285 P P 20 06 53.9 +0.3
baz=31
T25A Trinidad 55.86 285 P P 20 06 52.0 -1.6
T25A IAmb IAmb 20 07 01.4
comp=Z,29nm,1.4s
Z35A Perchaven, San 56.10 277 P P 20 06 53.6 -1.5
BGU Big Grassy Mou 56.10 295 P P 20 06 52.3 -2.9
G03D McMinnville, O 56.22 305 P P 20 06 55.6 -0.2
baz=30
MPU Maple Canyon 56.33 293 P P 20 06 55.3 -1.7
S22A 4UR Ranch, Cre 56.34 288 P P 20 06 57.7 +0.6
baz=31
S22A 4UR Ranch, Cre 56.34 288 P P 20 06 54.8 -2.3
NATX Nacogdoches 56.34 274 P P 20 06 57.8 +1.0
baz=30
P17A Butcher Ranch, 56.44 292 P P 20 06 58.5 +0.8
ZAK Zakamensk 56.44 41 *eP* **P 20 06 59.3 +1.9**
ZAK pmax pmax
comp=Z,15nm,1.4s
PV22 Blue Mesa, Par 56.46 290 P P 20 06 56.7 -1.1
PV22 IAmb IAmb 20 07 04.9
comp=Z,18nm,1.2s
PV07 Paradox Valley 56.48 290 P P 20 06 55.5 -2.5
PV07 IAmb IAmb 20 07 03.3
comp=Z,18nm,1.3s
KSH Kashi 56.49 68 P P 20 07 00.5 +2.6
KSH S **S 20 14 48.0 -0.9**
KSH pmax pmax
comp=Z,36nm,0.8s
KSH pmax pmax
comp=Z,450nm,3.6s
KSH LR LR
comp=Z,1μm,16.2s
KSH LR LR
comp=Z,1μm,18.4s
KSH LR LR
comp=Z,2μm,18.8s
PV15 Paradox Valley 56.50 289 P P 20 06 54.5 -3.7
PV15 IAmb IAmb 20 07 04.4
comp=Z,28nm,1.4s
PV21 Cone Mtn., Par 56.51 290 P P 20 06 57.4 -0.9
PV21 IAmb IAmb 20 07 04.7
comp=Z,23nm,1.0s
441A DeRidder 56.58 272 P P 20 06 58.2 -0.3
PINE Pine Mountain 56.62 302 P P 20 07 01.1 +2.1
PINE IAmb IAmb 20 07 10.8
comp=Z,22nm,1.5s
PV23 Carpenter Ridg 56.62 290 P P 20 06 59.2 +0.2
PV23 IAmb IAmb 20 07 07.5
comp=Z,37nm,1.2s
PV04 Paradox Valley 56.63 290 P P 20 06 59.8 +0.8
PV04 IAmb IAmb 20 07 07.3
comp=Z,43nm,1.3s
H04D Lebanon 56.63 304 P P 20 06 58.3 -0.4
baz=30
DUG Dugway, Tooele 56.64 294 P P 20 06 59.1 0.0
DUG pmax pmax
comp=Z,38nm,1.4s
DUG Dugway, Tooele 56.64 294 P P 20 07 00.6 +1.5
baz=31,SNR=7.2
DUG Dugway, Tooele 56.64 294 P P 20 06 59.1 0.0
DUG IAmb IAmb 20 07 06.0
comp=Z,38nm,1.4s
AMTX Amarillo 56.65 282 P P 20 06 59.3 +0.2
baz=31
PV12 Saucer Basin, 56.65 290 P P 20 06 57.7 -1.6
PV12 IAmb IAmb 20 07 05.4
comp=Z,40nm,1.4s
SRU San Rafael Swe 56.66 292 P P 20 06 59.8 +0.5
SRU pmax pmax
comp=Z,29nm,1.1s
SRU San Rafael Swe 56.66 292 P P 20 06 59.8 +0.5
PV14 Lion Creek, Pa 56.69 290 P P 20 06 57.2 -2.4
PV14 IAmb IAmb 20 07 05.6
comp=Z,36nm,1.3s
PV11 David Mesa, Pa 56.70 290 P P 20 07 00.5 +0.9
PV10 Paradox Valley 56.70 290 P P 20 06 59.2 -0.4
PV20 West Nyswonger 56.70 290 P P 20 06 59.8 +0.2
PV20 IAmb IAmb 20 07 05.6
comp=Z,19nm,1.1s
PV16 Nyswonger Mesa 56.70 290 P P 20 06 58.7 -0.9
PV16 IAmb IAmb 20 07 05.8
comp=Z,24nm,1.2s
PV01 Paradox Valley 56.71 289 P P 20 06 57.3 -2.4
PV01 IAmb IAmb 20 07 06.6
comp=Z,32nm,1.1s
PV02 Paradox Valley 56.72 290 P P 20 06 58.9 -0.9
PV03 Paradox Valley 56.72 290 P P 20 07 00.9 +1.2
PV03 IAmb IAmb 20 07 07.0
comp=Z,36nm,1.2s
PV19 Morning Glory 56.73 290 P P 20 06 59.2 -0.6
PV19 IAmb IAmb 20 07 05.9
comp=Z,38nm,1.4s
PV17 East Wray Mesa 56.75 290 P P 20 07 00.6 +0.6
PV18 Skein Mesa, Pa 56.76 290 P P 20 06 58.4 -1.6
PV18 IAmb IAmb 20 07 06.1
comp=Z,34nm,1.1s
PV13 Radium Mtn., P 56.79 290 P P 20 07 00.5 +0.2
Q16A Castle Valley 57.09 292 P P 20 06 56.8 -5.5
ELK Elko 57.11 296 P P 20 07 04.2 +1.7
ELK pmax pmax
comp=Z,16nm,1.3s
ELK Elko 57.11 296 P P 20 07 04.2 +1.7
J05D Fort Rock, OR 57.16 302 P P 20 07 02.3 -0.4
baz=30
WMQ Urumqi 57.22 56 *eP* **P 20 07 05.0 +2.0**
WMQ sP sP 20 07 12.8 +4.8
WMQ S **S 20 14 58.2 -0.1**
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=Z,540nm,20.1s
WMQ LR LR
comp=Z,520nm,20.1s
WMQ LR LR
comp=Z,250nm,17.3s
WHTX Lake Whitney, 57.34 276 P P 20 07 04.5 +0.6
baz=30
WHTX Lake Whitney, 57.34 276 P P 20 07 03.9 0.0
WHTX IAmb IAmb 20 07 10.7
comp=Z,34nm,1.1s
I02D Swisshome 57.38 305 P P 20 07 04.0 -0.1
baz=29
MVCO Mesa Verde 57.48 289 P P 20 07 05.3 +0.2
baz=30
MVCO Mesa Verde 57.48 289 P P 20 07 05.7 +0.6
J04D Umpqua Nationa 57.52 303 P P 20 07 05.0 -0.3
baz=29
K05A Summer Lake 57.52 302 P P 20 07 04.8 -0.5
K05A IAmb IAmb 20 07 14.3
comp=Z,25nm,1.2s
I03D Drain, OR 57.56 304 P P 20 07 05.5 +0.1
baz=29
ABTX Abilene, Hawle 57.73 279 P P 20 07 07.0 +0.4
baz=30
ABTX Abilene, Hawle 57.73 279 P P 20 07 03.8 -2.9
MSU Marysvale 57.84 293 P P 20 07 06.2 -1.4

MSU Marysvale 57.84 293 P P 20 07 06.2 -1.4
MVU Marysvale 57.86 293 P P 20 07 08.8 +1.0
TCRU Three Creeks R 57.86 293 P P 20 07 07.1 -0.8
MSTX Muleshoe 57.89 282 P P 20 07 08.7 +0.8
baz=30,SNR=5.1
MSTX Muleshoe 57.89 282 P P 20 07 08.4 +0.5
MSTX IAmb IAmb 20 07 14.7
comp=Z,18nm,1.1s
KBL Kabul 57.92 77 P P 20 07 07.9 -0.4
KBL pmax pmax
comp=Z,6.0nm,0.9s
KBL Kabul 57.92 77 P P 20 07 07.8 -0.4
MOD Modoc Plateau 58.02 301 P P 20 07 06.3 -2.5
MOD IAmb IAmb 20 07 16.2
comp=Z,26nm,1.4s
MTPU Mount Pierson 58.25 292 P P 20 07 08.1 -2.5
HKT Hockley 58.41 274 P P 20 07 11.1 -0.2
HKT pmax pmax
comp=Z,22nm,1.4s
HKT Hockley 58.41 274 P P 20 07 11.1 -0.2
HKT IAmb IAmb 20 07 17.6
comp=Z,22nm,1.4s
435B Jarrell 58.44 276 P P 20 07 11.8 +0.1
baz=30
435B Jarrell 58.44 276 P P 20 07 12.3 +0.6
PSUT Pine Spring 58.48 294 P P 20 07 14.0 +1.8
K02D Willamette Mer 58.55 304 P P 20 07 11.7 -0.7
baz=29
ANMO Albuquerque 58.59 286‖ *eP* **P 20 07 14.6 +1.7**
ANMO pmax pmax
comp=Z,16nm,1.6s
ANMO Albuquerque 58.59 286 P P 20 07 12.2 -0.7
baz=30
ANMO Albuquerque 58.59 286 P P 20 07 10.1 -2.8
ANMO IAmb IAmb 20 07 20.8
comp=Z,17nm,1.4s
DBIC Dimbokro 58.61 165 P P 20 07 11.7 -1.2
comp=Z,12nm,0.9s,baz=346,slow=9.2,SNR=10
DBIC LR LR 20 33 02.8
comp=Z,491nm,18.0s,baz=350,slow=37
TIC Toumodi 58.62 165 *eP* **P 20 07 12.7 -0.3**
M04C Macdoel 58.69 302 P P 20 07 11.8 -1.7
baz=29
PKCU Pink Cliffs 58.81 292 P P 20 07 11.5 -3.1
ZEA Zeya 58.82 24 *eP* **P 20 07 17.1 +3.1**
ZEA *e* 20 10 45.0
ZEA *e* 20 15 33.0
ZEA pmax pmax
comp=Z,48nm,1.8s
ZEA pmax pmax
comp=Z,300nm,10.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
KIC Kosan Boka 58.93 165 *eP* **P 20 07 14.5 -0.6**
comp=Z,102nm,1.6s
SZCU Shurtz Canyon 58.99 293 P P 20 07 15.1 -0.6
L02E Cave Junction 59.00 304 P P 20 07 14.2 -1.2
baz=29
LIC Lamto 59.03 166 *eP* **P 20 07 15.0 -0.8**
comp=Z,78nm,1.5s
CCUT Cedar City 59.14 293 P P 20 07 16.5 -0.2
R11A Troy Canyon, C 59.32 295 P P 20 07 19.5 +1.6
baz=30,SNR=37
R11A Troy Canyon, C 59.32 295 P P 20 07 17.7 -0.2
R11A IAmb IAmb 20 07 24.7
comp=Z,27nm,1.3s
BNM Barren Site 59.34 285 P P 20 07 18.2 0.0
KNB Kanab 59.38 292 P P 20 07 19.0 +0.6
KNB pmax pmax
comp=Z,27nm,1.3s
KNB Kanab 59.38 292 P P 20 07 19.0 +0.6
M02C Callahan 59.40 303 P P 20 07 17.8 -0.5
baz=29
LENM Lemitar 59.48 286 P P 20 07 19.5 +0.5
Y22D IRIS PASSCAL I 59.53 286 P P 20 07 20.3 +0.9
baz=30
Y22D IRIS PASSCAL I 59.53 286 P P 20 07 20.2 +0.9
LCMT Little Creek M 59.56 293 P P 20 07 16.3 -3.2
PAHR Pah Rah Range 59.59 299 P P 20 07 18.4 -1.3
PAHR IAmb IAmb 20 07 27.5
comp=Z,24nm,1.2s
SONM Songino Array 59.62 40 P P 20 07 19.2 -0.5
comp=Z,3.5nm,0.9s,baz=331,slow=7.0,SNR=13
SONM LR LR 20 35 24.8
comp=Z,628nm,20.0s,baz=330,slow=38
SONM Songino Array 59.62 40 P P 20 07 20.4 +0.6
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 59.62 40 P P 20 07 20.4 +0.6
JCT Junction City 59.65 278 P P 20 07 18.6 -1.5
JCT pmax pmax
comp=Z,49nm,1.1s
JCT Junction City 59.65 278 P P 20 07 21.2 +1.1
baz=29,SNR=6.7
JCT Junction City 59.65 278 P P 20 07 18.6 -1.5
KVN Kaiserville 59.68 298 P P 20 07 21.3 +0.9
KVN pmax pmax
comp=Z,17nm,1.1s
KVN Kaiserville 59.68 298 P P 20 07 21.3 +0.9
KVN IAmb IAmb 20 07 26.7
comp=Z,17nm,1.1s
U15A North Rim 59.68 291 P P 20 07 20.8 +0.2
U15A IAmb IAmb 20 07 26.2
comp=Z,22nm,1.1s
N02D Trinity Center 59.71 302 P P 20 07 20.2 -0.3
baz=28
SHME Shamm 59.78 93 P P 20 07 20.3 -0.7
W18A Petrified Fore 59.78 289 P P 20 07 19.7 -1.5
baz=30
W18A Petrified Fore 59.78 289 P P 20 07 22.2 +1.0
PRN Pahroc Range 59.93 294 P P 20 07 24.2 +2.2
PRN IAmb IAmb 20 07 29.5
comp=Z,31nm,1.4s
BANOM Banah 59.96 93 P P 20 07 21.9 -0.3
O03E Paynes Creek 59.98 301 P P 20 07 22.4 +0.1
baz=29
VCNR Virginia City 60.05 299 P P 20 07 23.1 +0.2
VCNR IAmb IAmb 20 07 31.5
comp=Z,22nm,1.5s
GDL2 Guadalupe Moun 60.09 282 P P 20 07 23.9 +0.7
WUAZ Wupatki 60.10 290 P P 20 07 24.3 +1.0
baz=30,SNR=22
WUAZ Wupatki 60.10 290 P P 20 07 24.7 +1.3
YERR Yerington 60.17 298 P P 20 07 23.2 -0.5
TPH Tonopah 60.19 296 P P 20 07 24.9 +1.0
TPH pmax pmax
comp=Z,72nm,1.4s
TPH Tonopah 60.19 296 P P 20 07 24.9 +1.0
RYN Ryan 60.21 298 P P 20 07 23.3 -0.7
PNTR Pine Nut 60.21 299 P P 20 07 22.4 -1.7
PNTR IAmb IAmb 20 07 31.9
comp=Z,28nm,1.5s
NV11 Mina Array Sit 60.24 297 P P 20 07 20.8 -3.4
NVAR Mina Array Bea 60.30 297 P P 20 07 25.7 +1.0
comp=Z,3.4nm,1.0s,baz=40,slow=3.5,SNR=8.5
NVAR LR LR 20 33 15.5
comp=Z,1μm,19.3s,baz=28,slow=36
NVAR Mina Array Bea 60.30 297 P P 20 07 22.6 -2.1
MSFE Esma-Masafi 60.39 93 *i P* **P 20 07 26.3 +1.0**
SNR=6.6
NIL Nilore 60.44 74 P P 20 07 22.9 -2.6
NIL pmax pmax
comp=Z,22nm,1.1s
NIL Nilore 60.44 74 P P 20 07 22.9 -2.6
NIL IAmb IAmb 20 07 37.0
comp=Z,22nm,1.1s
O02D Mt. Diablo Mer 60.44 302 P P 20 07 24.3 -1.1
baz=28
MDH Madha 60.50 93 *i P* **P 20 07 25.9 -0.1**
SNR=6.1
ORV Oroville 60.52 300 P P 20 07 23.0 -2.9
ORV pmax pmax
comp=Z,9.0nm,1.2s
ORV Oroville 60.52 300 P P 20 07 23.0 -2.9
LHV Little Huntoon 60.53 297 P P 20 07 29.6 +3.6
LHV IAmb IAmb 20 07 33.7
comp=Z,20nm,1.5s
WAKR Walker 60.66 298 P P 20 07 27.7 +0.6
WAKR IAmb IAmb 20 07 35.0
comp=Z,29nm,1.4s
SHPR Sheep Range 60.75 294 P P 20 07 29.5 +1.7
SHPR IAmb IAmb 20 07 34.8
comp=Z,33nm,1.3s
UOSS Minazif 60.77 93 P P 20 07 26.8 -1.0
TPNV Topopah Spring 60.80 295 P P 20 07 22.0 -6.0

TPNV pmax pmax
comp=Z,15nm,1.2s
TPNV Topopah Spring 60.80 295 P **P 20 07 29.0 +1.0**
baz=29,SNR=5.4
TPNV Topopah Spring 60.80 295 P P 20 07 22.0 -6.0
TPNV IAmb IAmb 20 07 34.4
comp=Z,15nm,1.2s
HATD Hatta, Dubai 60.85 93 *i* P **P 20 07 28.5 +0.2**
SNR=5.6
AFDM Forest Hills D 60.85 300 P **P 20 07 28.7 +0.5**
ASHO Ashiyiah 60.94 94 *i* P **P 20 07 28.6 -0.4**
SNR=5.6
MNTX Cornudas Mount 60.95 283 P **P 20 07 29.5 +0.6**
baz=29,SNR=7.4
MNTX Cornudas Mount 60.95 283 P **P 20 07 24.7 -4.2**
GRAC Grapevine Rang 61.19 296 P **P 20 07 31.5 +0.9**
baz=29,SNR=17
121A Cookes Peak, D 61.23 285 P **P 20 07 32.2 +1.2**
baz=29
121A Cookes Peak, D 61.23 285 P **P 20 07 31.4 +0.4**
121A IAmb IAmb 20 07 37.2
comp=Z,17nm,1.2s
OMMB Old Mammoth Mi 61.28 297 P **P 20 07 31.0 -0.4**
OMMB IAmb IAmb 20 07 39.6
comp=Z,21nm,1.3s
833A Chaparral WMA, 61.35 276 P **P 20 07 32.0 +0.3**
baz=29
833A Chaparral WMA, 61.35 276 P **P 20 07 29.2 -2.4**
ALNE Al Ain 61.36 94 *i* P **P 20 07 31.6 -0.2**
SNR=5.1
FURC Furnace Creek, 61.45 295 P **P 20 07 31.8 -0.4**
baz=29
TIN Tinemaha, Big 61.47 297 P **P 20 07 32.1 -0.5**
baz=29
W13A Hualapai Mount 61.48 292 P **P 20 07 33.8 +1.1**
HIA Hailar 61.61 30 P **P 20 07 31.8 -1.4**
HIA pmax pmax
comp=Z,9.0nm,1.1s
HIA Hailar 61.61 30 P **P 20 07 31.8 -1.4**
SOHO SOHO 61.63 93 P **P 20 07 32.7 -0.9**
SHOC Shoshone, Teco 61.72 294 P **P 20 07 35.2 +1.1**
baz=29
CWC Cottonwood Cre 61.95 296 P **P 20 07 35.7 -0.1**
baz=28
TUQ Turquoise Moun 61.99 294 P **P 20 07 35.9 -0.2**
baz=29
MPMC Manual Prospec 62.06 295 P **P 20 07 36.6 0.0**
baz=28
NEE2 Needles Airpor 62.06 292 P **P 20 07 35.2 -1.2**
baz=29
PDMCI Parker Dam,Lak 62.27 292 P **P 20 07 38.9 +1.1**
baz=29,SNR=5.7
TX31 Lajitas Ar. Si 62.28 280 P **P 20 07 38.8 +0.7**
TX32 Lajitas Array 62.28 280 P **P 20 07 35.9 -2.2**
TXAR Lajitas Array 62.28 280 P **P 20 07 39.3 +1.2**
comp=Z,6.8nm,1.0s,baz=53,slow=4.8,SNR=17
TXAR PcP **PcP 20 08 18.7 +0.9**
comp=Z,1.3nm,1.0s,baz=104,slow=3.3,SNR=2.2
TXAR PP **PP 20 09 55.9 +1.1**
comp=Z,1.3nm,1.1s,baz=73,slow=4.3,SNR=5.0
TXAR LR LR 20 34 11.7
comp=Z,1μm,19.2s,baz=0.0,slow=36
TXAR Lajitas Array 62.28 280 P **P 20 07 36.2 -1.9**
GSC Goldstone, Bar 62.45 294 P **P 20 07 36.9 -2.2**
GSC pmax pmax
comp=Z,18nm,1.4s
GSC Goldstone, Bar 62.45 294 P **P 20 07 38.1 -1.0**
baz=28
GSC Goldstone, Bar 62.45 294 P **P 20 07 36.9 -2.2**
GSC IAmb IAmb 20 07 48.4
comp=Z,18nm,1.4s
GMRC Granite Mounta 62.45 293 P **P 20 07 38.6 -0.6**
baz=28
PETK Petropavlovsk- 62.48 3 P **P 20 07 40.5 +1.6**
comp=Z,5.6nm,1.1s,baz=27,slow=20,SNR=4.6
PETK LR LR 20 34 21.5
comp=Z,128nm,20.1s,baz=1.1,slow=36
PETK Petropavlovsk- 62.48 3 P **P 20 07 41.4 +2.5**
VOG Valley Oaks Go 62.55 297 P **P 20 07 38.3 -1.3**
baz=28
PET Petropavlovsk 62.59 3 *e*P **P 20 07 39.6 0.0**
PET *e*S **S 20 16 07.0 +0.1**
PET pmax pmax
comp=Z,200nm,10.6s
PET MLR MLR
comp=Z,200nm,19.0s
LRMC Laurel Mtn Rad 62.64 295 P **P 20 07 39.9 -0.5**
baz=28
TUC Tucson 62.66 288 P **P 20 07 42.3 +1.8**
TUC pmax pmax
comp=Z,29nm,1.5s
TUC Tucson 62.66 288 P **P 20 07 40.8 +0.3**
baz=29
TUC Tucson 62.66 288 P **P 20 07 42.3 +1.8**
TUC IAmb IAmb 20 07 46.8
comp=Z,29nm,1.4s
HEC Hector,Ludlow 62.68 294 P **P 20 07 40.7 0.0**
baz=28
ISA Isabella, Lake 62.78 296 P **P 20 07 39.1 -2.2**
ISA pmax pmax
comp=Z,14nm,1.1s
ISA Isabella, Lake 62.78 296 P **P 20 07 42.6 +1.3**
baz=28,SNR=6.0
ISA Isabella, Lake 62.78 296 P **P 20 07 39.1 -2.2**
ISA IAmb IAmb 20 07 48.2
comp=Z,14nm,1.1s
IRM Iron Mountain 62.80 292 P **P 20 07 42.3 +0.9**
baz=28
319A Douglas 62.85 286 P **P 20 07 43.9 +2.1**
VES Vestal, Richgr 62.86 297 P **P 20 07 42.7 +1.0**
baz=28
RRX Edison Barstow 62.90 294 P **P 20 07 43.7 +1.6**
baz=28
PMPB Monarch Peak 63.19 298 P **P 20 07 45.0 +1.0**
BELC Belle Mtn. Jos 63.27 293 P **P 20 07 46.8 +2.2**
baz=28,SNR=8.5
EDW2 Edwards Air Fo 63.28 295 P **P 20 07 44.6 0.0**
baz=28
BC3 Big Chuckawall 63.36 292 P **P 20 07 46.5 +1.3**
baz=28,SNR=5.5
ARVC Arvin 63.39 296 P **P 20 07 46.2 +1.0**
baz=28
PAGB Antelope Grade 63.41 297 P **P 20 07 46.7 +1.3**
PAGB IAmb IAmb 20 08 10.4
comp=Z,25nm,1.4s
113A Mohawk Valley, 63.47 291 P **P 20 07 44.5 -1.3**
113A IAmb IAmb 20 07 52.2
comp=Z,17nm,1.2s
GLA Glamis 63.64 292 P **P 20 07 48.0 +1.1**
GLA pmax pmax
comp=Z,29nm,1.3s
GLA Glamis 63.64 292 P **P 20 07 48.1 +1.1**
baz=28
GLA Glamis 63.64 292 P **P 20 07 48.0 +1.1**
GLA IAmb IAmb 20 07 53.9
comp=Z,29nm,1.3s
SMMC Simmler 63.68 297 P **P 20 07 48.3 +1.1**
baz=28
BFSC Mount Baldy Ra 63.72 295 P **P 20 07 48.4 +0.9**
baz=28
214A Organ Pipe Nat 63.79 289 P **P 20 07 47.4 -0.6**
baz=28
214A Organ Pipe Nat 63.79 289 P **P 20 07 47.7 -0.3**
214A IAmb IAmb 20 07 56.7
comp=Z,23nm,1.4s
PFO Pinyon Flats O 63.80 293 P **P 20 07 48.2 +0.1**
baz=28
TPFO Pinon Flats 63.80 293 P **P 20 07 47.5 -0.7**
baz=28
OSI Osito Audit: C 63.80 296 P **P 20 07 48.6 +0.5**
baz=28
DECC Green Verdugo 63.97 295 P **P 20 07 47.9 -1.2**
baz=28
MURC Murrieta 64.10 294 P **P 20 07 50.8 +0.8**
baz=28
SWSC Sam W. Stewart 64.12 292 P **P 20 07 50.6 +0.5**
baz=28
MONP2 Monument Peak 64.42 293 P **P 20 07 50.9 -1.4**
baz=28
FMP Fort Macarthur 64.43 295 P **P 20 07 51.7 -0.4**
baz=28
IKP In-Ko-Pah, Jac 64.50 292 P **P 20 07 52.1 -0.6**
baz=28
GTA Gaotai 65.28 49 *e*P **P 20 07 58.2 +0.4**
GTA pP sP 20 08 05.1 +2.3
GTA sP pP 20 08 08.8 +7.3
GTA PcP **PcP 20 08 32.6 +2.6**
GTA sS sS 20 16 46.9 -0.4
GTA SS **SS 20 20 55.0 +2.0**
GTA pmax pmax
comp=Z,240nm,5.9s
GTA LR LR
comp=Z,490nm,16.0s
GTA LR LR
comp=Z,410nm,16.6s
GTA LR LR
comp=Z,560nm,15.5s
HSIG 65.61 286 P **P 20 07 59.2 -0.6**
HSIG IAmb IAmb 20 08 06.0
comp=Z,25nm,1.2s
SPX San Pedro Mart 65.67 291 P **P 20 08 00.7 +0.1**
SPX IAmb IAmb 20 08 07.5
comp=Z,27nm,1.4s
SDV Santo Domingo 66.84 239 *e*P **P 20 08 07.4 -0.6**
SDV Santo Domingo 66.84 239 P **P 20 08 09.7 +1.7**
BTO Baotou 67.29 41 *e*P **P 20 08 08.0 -2.6**
HHC Hu-ho-hao-te 67.49 40 *e*P **P 20 08 12.0 +0.2**
HHC PP **PP 20 10 42.0 +2.0**
HHC S **S 20 17 06.4 -1.4**
HHC SS **SS 20 21 24.9 -2.2**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,330nm,6.0s
HHC LR LR
comp=Z,460nm,17.0s
HHC LR LR
comp=Z,470nm,16.2s
HHC LR LR
comp=Z,420nm,16.3s
ZAIG Zacatecas 67.57 276 P **P 20 08 13.1 +0.3**
ZAIG IAmb IAmb 20 08 19.9
comp=Z,22nm,1.2s
SJCC San Jacinto, C 67.63 244 *e*P **P 20 08 16.2 +3.3**
YSS Yuzh-Sakhalins 67.63 14 *e*P **P 20 08 13.4 +1.0**
YSS *e* 20 10 49.2
YSS *e*PPP PPP 20 12 22.3
YSS *e*S **S 20 17 06.7 -2.3**
YSS *e*SS **SS 20 21 30.2 +1.6**
YSS pmax pmax
comp=Z,200nm,2.2s
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=N,100nm,13.0s
YSS MLR MLR
comp=E,200nm,14.0s
SRIG Santa Rosalia 67.64 287 P **P 20 08 13.4 +0.7**
CN2 Changchun 68.02 28 *e*P **P 20 08 16.3 +1.4**
CN2 *e*S **S 20 17 13.6 -0.2**
CN2 SS **SS 20 21 37.1 +2.4**
CN2 pmax pmax
comp=E,20nm,1.6s
CN2 pmax pmax
comp=E,300nm,4.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=E,200nm,16.0s
MDJ Mudanjiang 68.02 25 P **P 20 08 13.7 -1.3**
MDJ pmax pmax
comp=E,11nm,1.4s
MDJ pmax pmax
comp=E,320nm,6.4s
SMLC San Martn de 68.21 243 *e*P **P 20 08 15.9 -0.6**
USRK Ussuriysk Ar. 68.84 23 P **P 20 08 21.8 +1.6**
comp=E,2.0nm,1.1s,baz=337,slow=3.3,SNR=5.0
PYUN Piuthan 69.27 68 *e*P **P 20 08 23.5 +0.2**
comp=E,107nm,1.4s
PYUN Piuthan 69.27 68 *e*P **P 20 08 23.5 +0.2**
comp=E,107nm,1.4s
BJI Beijing 69.47 36 P **P 20 08 25.6 +1.6**
BJI S **S 20 17 28.1 -3.0**
BJI SS **SS 20 21 53.9 -3.4**
BJI pmax pmax
comp=E,360nm,3.5s
BJI LR LR
comp=E,390nm,17.7s
BJI LR LR
comp=E,300nm,18.7s
BJI LR LR
comp=E,370nm,19.0s
BJT Baijiatuau 69.49 36 P **P 20 08 21.4 -2.8**
BJT pmax pmax
comp=Z,15nm,1.4s
BJT Baijiatuau 69.49 36 P **P 20 08 21.4 -2.8**
LZH Lanzhou 69.61 48 *e*P **P 20 08 29.2 +4.0**
LZH pP sP 20 08 33.8 +3.5
LZH sP pP 20 08 36.9 +7.9
LZH pmax pmax
comp=Z,31nm,1.0s
BRRC Barranca, Sant 69.62 242 *e*P **P 20 08 24.3 -1.0**
ZARC Zaragoza, Cauc 69.71 243 *e*P **P 20 08 24.4 -1.4**
KOLN Koldanda 69.81 68 *e*P **P 20 08 26.7 +0.1**
comp=Z,48nm,1.2s
KOLN Koldanda 69.81 68 *e*P **P 20 08 26.7 +0.1**
comp=Z,48nm,1.2s
SLBS Sierra La Lagu 69.89 283 P **P 20 08 28.1 +1.1**
SLBS IAmb IAmb 20 08 33.5
comp=Z,26nm,1.1s
GKN Gorkha 70.01 67 *e*P **P 20 08 27.7 -0.1**
GKN Gorkha 70.01 67 *e*P **P 20 08 27.7 -0.1**
PTBC PUERTO BERRIO, 70.43 242 *e*P **P 20 08 25.7 -4.6**
TIY Taiyuan 70.66 40 *e*P **P 20 08 33.2 +1.7**
TIY S **S 20 17 51.0 +5.7**
TIY SS **SS 20 22 16.6 +0.7**
TIY pmax pmax
comp=Z,190nm,4.9s
TIY LR LR
comp=Z,83nm,10.2s
TIY LR LR
comp=Z,150nm,10.2s
TIY LR LR
comp=Z,170nm,14.1s
PKIN Phulchoki 70.69 66 *e*P **P 20 08 32.5 +0.4**
comp=Z,168nm,2.1s
PKIN Phulchoki 70.69 66 *e*P **P 20 08 32.5 +0.4**
comp=Z,168nm,2.1s
PKI Pulchoki 70.70 66 *e*P **P 20 08 32.3 +0.1**
comp=Z,162nm,2.1s
PKI Pulchoki 70.70 66 *e*P **P 20 08 32.3 +0.1**
comp=Z,162nm,2.1s
JIRN Jiri 70.93 66 *e*P **P 20 08 34.6 +1.0**
JIRN Jiri 70.93 66 *e*P **P 20 08 34.6 +1.0**
LSA Lhasa 71.00 61 P **P 20 08 32.9 -1.3**
LSA Lhasa 71.00 61 P **P 20 08 35.0 +0.8**
LSA pmax pmax
comp=Z,16nm,1.4s
LSA Lhasa 71.00 61 P **P 20 08 35.0 +0.8**
LSA IAmb IAmb 20 08 37.7
comp=Z,16nm,1.4s
SPBC San Pablo de B 71.10 241 *e*P **P 20 08 34.0 -0.4**
HELC Santa Helena 71.16 243 *e*P **P 20 08 36.9 +1.8**
CBOC Ciudad Bolivar 71.64 243 *e*P **P 20 08 38.5 +0.7**
RAMN Ramite 71.72 66 *e*P **P 20 08 38.9 +0.6**
comp=Z,24nm,1.0s
RAMN Ramite 71.72 66 *e*P **P 20 08 38.9 +0.6**
comp=Z,24nm,1.0s
TAPN Taplejung 71.80 65 *e*P **P 20 08 40.5 +1.7**
TAPN Taplejung 71.80 65 *e*P **P 20 08 40.5 +1.7**
DL2 Dalian 71.87 33 P **P 20 08 40.3 +1.6**
DL2 S **S 20 18 04.8 +5.7**
DL2 pmax pmax
comp=Z,5.0nm,0.6s
DL2 pmax pmax
comp=Z,240nm,8.4s
DL2 LR LR
comp=Z,270nm,23.2s
DL2 LR LR
comp=Z,550nm,26.0s
DL2 LR LR
comp=Z,510nm,15.9s
CHIC Chingaza 71.91 241 *e*P **P 20 08 40.0 +0.3**
ROSC El Rosal 71.94 241 P **P 20 08 42.1 +2.3**
comp=Z,9.2nm,0.6s,baz=345,slow=10.0,SNR=7.5
ROSC El Rosal 71.94 241 *e*P P 20 08 27.6 -12
ROSC El Rosal 71.94 241 P **P 20 08 38.4 -1.4**
GUY2C Guyana, Caldas 71.98 242 *e*P **P 20 08 38.9 -1.3**
ODAN Odare 72.11 65 *e*P **P 20 08 41.0 +0.4**
comp=Z,52nm,1.2s
ODAN Odare 72.11 65 *e*P **P 20 08 41.0 +0.4**
comp=Z,52nm,1.2s
TOLC Tolima 72.55 242 *e*P **P 20 08 44.3 +0.9**
PLMC San Jos del P 72.62 243 *e*P **P 20 08 47.1 +3.5**
XAN Xi'an 73.07 44 P **P 20 08 46.1 +0.1**
XAN S S 20 18 03.7 -9.4
XAN sS sS 20 18 26.5 +7.1
XAN SKS **SKSac 20 18 43.0 -8.6**
XAN pmax pmax
comp=Z,18nm,2.1s
XAN pmax pmax
comp=Z,260nm,4.6s
XAN LR LR
comp=Z,580nm,20.6s
XAN LR LR
comp=Z,420nm,17.6s
XAN LR LR
comp=Z,820nm,21.4s
XAN Xi'an 73.07 44 P **P 20 08 41.8 -4.2**
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN Xi'an 73.07 44 P **P 20 08 41.8 -4.2**
ORTC Ortega, Tolima 73.14 242 *e*P **P 20 08 46.4 -0.2**
PRAC Prado 73.19 241 *e*P P 20 08 40.1 -6.7
TIA Tai'an 73.33 37 P **P 20 08 49.9 +2.5**
TIA SS SS 20 23 05.0 +8.4
TIA pmax pmax
comp=Z,5.0nm,0.9s
TIA pmax pmax
comp=Z,220nm,3.5s
TIA LR LR
comp=Z,430nm,17.8s
TIA LR LR
comp=Z,98nm,7.1s
YOTC Yotoco, Valle 73.49 243 *e*P **P 20 08 46.8 -1.9**
MBAR Mbarara 73.92 129⇓*e*P **P 20 08 52.3 +1.0**
MBAR pmax pmax
comp=Z,2.0nm,1.1s
MACC Macarena, Meta 74.24 240 *e*P **P 20 08 51.8 -1.2**
CD2 Chengdu 74.35 50 P **P 20 08 53.0 -0.5**
CD2 S **S 20 18 25.0 -2.5**
CD2 sS sS 20 18 33.3 -0.5
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,620nm,5.5s
CD2 LR LR
comp=Z,720nm,16.7s
CD2 LR LR
comp=Z,1μm,20.6s
CD2 LR LR
comp=Z,920nm,17.1s
MARP Paez Belalcaza 74.39 242 *e*P **P 20 08 54.5 +0.3**
KSRS Korea Array 74.63 28 P **P 20 08 57.1 +2.1**
comp=Z,1.2nm,0.9s,baz=359,slow=7.5,SNR=5.9
KSRS LR LR 20 44 44.2
comp=Z,141nm,18.4s,baz=342,slow=38
GARC Garzon, Huila 74.82 241 *e*P **P 20 08 55.8 -0.9**
SHL Shillong 75.01 62 P **P 20 08 58.2 +0.6**
SHL pmax pmax
comp=Z,27nm,1.5s
SHL Shillong 75.01 62 P **P 20 08 58.1 +0.6**
SHL IAmb IAmb 20 09 02.3
comp=Z,27nm,1.5s
PCON Cinco Dias 75.03 242 *e*P P 20 08 48.3 -10
FLOC Florencia 75.44 241 *e*P P 20 08 49.8 -10
TJN Taejon 75.55 29⇑*e*P **P 20 09 04.0 +3.7**
KMBO Kilima Mbogo 76.67 123 LR LR 20 46 12.7
comp=Z,267nm,18.5s,baz=286,slow=38
ENH Enshi 76.75 45 P **P 20 09 08.4 +1.1**
MAT Matsushiro 77.31 20 P **P 20 09 11.2 +0.9**
MAT *e*S S 20 19 10.2 +10
MJAR Matsushiro Arr 77.31 20 P **P 20 09 10.4 +0.1**
comp=Z,1.4nm,0.8s,baz=336,slow=2.7,SNR=2.1
MJAR Matsushiro Arr 77.31 20 P **P 20 09 10.4 +0.1**
MJAR pmax pmax
comp=Z,4.0nm,1.4s
CUSE Cuicocha Este 77.66 243 *e*P P 20 09 19.8 +6.8
NJ2 Nanjing 77.72 37 *e*P **P 20 09 11.3 -1.3**
NJ2 pP **pP 20 09 14.4 -2.0**
NJ2 S **S 20 19 02.9 -1.6**
NJ2 sS **sS 20 19 16.6 +5.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,270nm,3.5s
NJ2 LR LR
comp=Z,390nm,17.5s
NJ2 LR LR
comp=Z,240nm,13.7s
NJ2 LR LR
comp=Z,400nm,18.5s
OTAV Otavalo 77.74 243 *e*P **P 20 09 12.9 -0.6**
OTAV Otavalo 77.74 243 P **P 20 09 15.6 +2.1**
OTAV pmax pmax
comp=Z,21nm,1.2s
OTAV Otavalo 77.74 243 P **P 20 09 15.6 +2.1**
OTAV IAmb IAmb 20 09 19.9
comp=Z,21nm,1.2s
PAC1 Pacto, Paraso 77.84 244 *e*P **P 20 09 14.9 +1.3**
WHN Wuhan 77.93 41 ⇓P **P 20 09 12.7 -1.1**
WHN PP **PP 20 12 10.2 +1.2**
WHN pmax pmax
comp=Z,410nm,4.3s
WHN LR LR
comp=Z,560nm,14.3s
WHN LR LR
comp=Z,600nm,13.9s
WHN LR LR
comp=Z,650nm,18.3s
SSE Sheshan 79.22 35 P **P 20 09 21.4 +0.5**
SSE S **S 20 19 27.2 +6.6**
SSE pmax pmax
comp=Z,15nm,0.8s
SSE pmax pmax
comp=Z,140nm,3.5s
SSE LR LR
comp=Z,190nm,18.3s
SSE LR LR
comp=Z,140nm,17.3s
KMI Kunming 79.34 53 ⇑P **P 20 09 22.5 +0.5**
KMI S **S 20 19 16.5 -6.0**
KMI pmax pmax
comp=Z,13nm,2.2s
KMI pmax pmax
comp=Z,170nm,3.5s
KMI LR LR
comp=Z,170nm,20.9s
KMI LR LR
comp=Z,220nm,25.6s
KMI LR LR
comp=Z,300nm,22.7s
GYA Guiyang 79.41 49 ⇓P **P 20 09 24.0 +1.8**
GYA PP **PP 20 12 25.7 +4.0**
GYA S **S 20 19 27.4 +4.3**
GYA pmax pmax
comp=Z,14nm,1.5s
GYA pmax pmax
comp=Z,390nm,3.5s
GYA LR LR
comp=Z,250nm,14.0s
GYA LR LR
comp=Z,180nm,14.9s
GYA LR LR
comp=Z,380nm,14.6s
SAML Samuel 80.96 226 P **P 20 09 30.4 0.0**
SAML pmax pmax
comp=Z,29nm,1.5s
SAML Samuel 80.96 226 P **P 20 09 30.4 0.0**
SAML IAmb IAmb 20 09 37.9
comp=Z,29nm,1.4s
SLVN Son La 83.24 53 P **P 20 09 42.2 -0.3**
SLVN IAmb IAmb 20 09 47.6
comp=Z,19nm,1.5s
BDFB Brasilia 83.40 210 P **P 20 09 43.2 -0.1**
comp=Z,2.7nm,0.7s,baz=0.0,slow=7.1,SNR=2.1
BDFB LR LR 20 41 32.2
comp=Z,230nm,18.5s,baz=321,slow=32
BDFB Brasilia 83.40 210 P **P 20 09 42.3 -1.0**
BDFB pmax pmax
comp=Z,7.0nm,1.1s
BDFB Brasilia 83.40 210 P **P 20 09 42.3 -1.0**
CHTO Chiang Mai 83.79 59 P **P 20 09 44.8 -0.5**

CHTO				pmax	pmax		
	comp=Z,17nm,1.2s						
CHTO	**Chiang Mai**	**83.79**	**59**	P	**P**	**20 09 44.8**	**-0.5**
CHTO				IAmb	IAmb	20 09 50.3	
	comp=Z,17nm,1.2s						
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**20 09 47.0**	**0.0**
	comp=Z,4.1nm,1.0s,baz=319,slow=6.3,SNR=13						
CMAR				LR	LR	20 49 58.0	
	comp=Z,235nm,20.1s,baz=345,slow=38						
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**20 09 46.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**20 09 46.7**	**-0.3**
QIZ	**Qiongzhong**	**87.36**	**49**	P	**P**	**20 10 02.5**	**-0.6**
QIZ				PP	**PP**	**20 13 26.8**	**0.0**
QIZ				S	**S**	**20 20 40.7**	**-2.7**
QIZ				SS	**SS**	**20 26 26.5**	**-0.4**
QIZ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
QIZ				LR	LR		
	comp=Z,160nm,11.2s						
QIZ				LR	LR		
	comp=Z,220nm,15.9s						
QIZ				LR	LR		
	comp=Z,240nm,15.1s						
LPAZ	**La Paz**	**89.42**	**228**	LR	LR	20 47 16.4	
	comp=Z,96nm,20.5s,baz=356,slow=34						
CPUP	**Villa Florida**	**95.86**	**215**	LR	LR	20 52 47.7	
	comp=Z,136nm,18.1s,baz=24,slow=35						
BOSA	**Boshof**	**98.78**	**143**	LR	LR	20 57 50.3	
	comp=Z,501nm,18.9s,baz=340,slow=37						
PSA00	**Pilbara Seismi**	**128.63**	**54**		**PKiKP**	**20 16 24.1**	**+0.6**
WRA	**Warramunga Arr**	**131.50**	**36**	PKP	**PKiKP**	**20 16 29.7**	**+0.3**
	comp=Z,1.7nm,1.1s,baz=347,slow=2.6,SNR=8.0						
WRA	**Warramunga Arr**	**131.50**	**36**	PKIKP	**PKiKP**	**20 16 29.4**	**+0.1**
WRA	**Warramunga Arr**	**131.50**	**36**		**PKiKP**	**20 16 29.4**	**+0.1**
WR0	**Warramunga Arr**	**131.57**	**36**	PKPdf	**PKiKP**	**20 16 30.0**	**+0.5**
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKPdf**	**20 16 34.0**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=347,slow=2.9,SNR=8.6						
SNAA	**Sanae**	**136.46**	**173**	PKIKP	**PKPdf**	**20 16 36.7**	**+0.5**
SNAA	**Sanae**	**136.46**	**173**	PKPdf	**PKPdf**	**20 16 36.6**	**+0.5**
STKA	**Stephens Creek**	**144.70**	**32**	PKP	PKPbc	20 16 51.3	+0.3
	comp=Z,2.6nm,0.7s,baz=346,slow=5.0,SNR=7.8						
STKA	**Stephens Creek**	**144.70**	**32**	PKIKP	PKPbc	20 16 51.1	0.0
STKA	**Stephens Creek**	**144.70**	**32**	PKPdf	PKPbc	20 16 51.1	+0.1

DDA 11 20:02:00.7, 38°.92N×27°.38E, h7km±5km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEDA	**zmir-Bergama**	**0.24**	**281**	*i* P	Pg	20 02 06.2	+0.7
ZEDA				*i* S	Sg	20 02 09.4	+0.6
AKHS	**Akhisar**	**0.34**	**97**	*i* P	Pg	20 02 06.0	-1.4
STEP	**BALIKESIR_Sava**	**0.53**	**30**	*i* P	Pg	20 02 09.9	-0.9
AYVA	**Ayvalik**	**0.67**	**306**	*i* P	Pg	20 02 14.1	+0.5
URLA	**Izmir**	**0.83**	**228**	*i* P	Pg	20 02 17.0	+0.3
URLA				*i* S	Sb	20 02 28.6	-0.3
URLA				IAML		20 02 32.0	
	comp=N,7.8nm,0.5s						
BALY	**Balya**	**0.84**	**12**	*i* P	Pb	20 02 17.9	+0.2
BALY				IAML		20 02 32.0	
	comp=E,12nm,0.5s						
BALY				IAML		20 02 33.0	
	comp=N,9.7nm,0.3s						
DGB	**zmir**	**0.95**	**205**	*i* P	Pb	20 02 19.4	-0.1
DGB				*i* S	Sg	20 02 30.5	-0.8
DGB				IAML		20 02 35.0	
	comp=N,11nm,1.1s						
MANT	**Manisa**	**1.01**	**115**	*i* P	Pg	20 02 19.8	-0.3
MANT				IAML		20 02 36.0	
	comp=N,8.3nm,1.1s						
BAYC	**CANAKKALE_Bayr**	**1.05**	**322**	*i* P	Pn	20 02 21.9	+0.1
DURS	**Dursunbey**	**1.09**	**51**	*i* P	Pn	20 02 22.7	+0.3
DURS				IAML		20 02 39.0	
	comp=E,17nm,0.5s						

REN ***11*** *20:02:20.7±0.7, 39°.61N±0°.02×119°.73W±0°.04, h11km±7km, ML2.7/7, Error ellipse: s-maj=5.1km s-min=2.2km az=61.0*
ANF ***11*** *20:02:23.7±2.8, 39°.20N×120°.29W, h3km±23km, ML2.7/5, Error ellipse: s-maj=27.1km s-min=5.6km az=43.0*
NEIC 11 20:02:20.7±0.7, 39°.61N±0°.03×119°.75W±0°.04, h11km±7km, Error ellipse: s-maj=6.0km s-min=1.1km az=53.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEAR	**Peavine Mounta**	**0.17**	**270**		Pg	20 02 24.8	+0.2
VPK	**Verdi Peak**	**0.26**	**240**		Pg	20 02 26.6	+0.4
PAHR	**Pah Rah Range**	**0.30**	**70**	Pg	Pg	20 02 26.9	+0.1
VCNR	**Virginia City**	**0.32**	**167**		Pg	20 02 27.1	-0.1
WVA	**Winnemucca Val**	**0.34**	**350**		Pg	20 02 27.9	+0.2
KBF	**Kyburz Flat**	**0.37**	**255**		Pg	20 02 28.4	+0.2
MPK	**Martis Peak**	**0.38**	**215**		Pg	20 02 28.6	+0.3
LOY	**Loyalton**	**0.38**	**278**		Pg	20 02 28.5	+0.2
IND	**Independence**	**0.46**	**248**		Pg	20 02 29.9	+0.2
PNTR	**Pine Nut**	**0.53**	**168**		Pg	20 02 30.9	-0.1
RUBR	**Rubicon Trail**	**0.64**	**210**	Pg	Pg	20 02 33.0	-0.1
BMRR	**Black Mountain**	**0.65**	**320**		Pg	20 02 33.5	0.0
BFC	**Buffalo Canyon**	**0.72**	**171**		Pg	20 02 34.4	-0.3
YERR	**Yerington**	**0.73**	**148**		Pg	20 02 34.5	-0.4
WAKR	**Walker**	**1.13**	**168**		Pb	20 02 41.8	-0.5
AFDM	**Forest Hills D**	**1.16**	**236**	Pn	Pb	20 02 42.3	-0.5
ORV	**Oroville**	**1.36**	**268**		Pn	20 02 45.5	-0.2
RYN	**Ryan**	**1.36**	**135**		Pn	20 02 45.5	-0.3
KVN	**Kaiserville**	**1.39**	**113**	Pn	Pn	20 02 46.2	-0.1
NVAR	**Mina Array Bea**	**1.63**	**136**		Pn	20 02 49.0	-0.5
LHV	**Little Huntoon**	**1.66**	**144**		Pn	20 02 50.4	+0.6
NV11	**Mina Array Sit**	**1.71**	**133**	Pn	Pn	20 02 50.5	-0.1
O03E	**Paynes Creek**	**1.72**	**294**	P	Pb	20 02 52.2	-0.2
	baz=113,SNR=169						
O03E				S	Sg	20 03 15.6	-0.6
	baz=113						
MDPB	**Devils Postpil**	**2.04**	**165**		Pn	20 02 53.6	-1.6
OMMB	**Old Mammoth Mi**	**2.07**	**163**		Pn	20 02 56.2	+0.4
MOD	**Modoc Plateau**	**2.33**	**350**		Pn	20 02 59.4	+0.2
WDC	**Whiskeytown Da**	**2.35**	**295**		Pn	20 02 59.7	+0.4
O02D	**Mt. Diablo Mer**	**2.41**	**285**	Pb	Pb	20 03 03.7	-0.5
	baz=103,SNR=9.1						
TPH	**Tonopah**	**2.49**	**127**		Pb	20 03 03.6	-2.1
N02D	**Trinity Center**	**2.64**	**302**	P	Pb	20 03 07.0	-1.1
	baz=120,SNR=22						
N02D				Sb	Sg	20 03 43.7	-1.9
	baz=120						
M04C	**Macdoel**	**2.69**	**324**	S	Sg	20 03 46.1	-1.2
	baz=143						
M02C	**Callahan**	**2.97**	**308**	P	Pb	20 03 12.1	-1.5
	baz=126,SNR=8.3						
GRAC	**Grapevine Rang**	**3.21**	**144**	Sb	Sg	20 04 03.0	-0.8
	baz=325						
K05A	**Summer Lake**	**3.23**	**345**		Pn	20 03 12.6	+0.9
L04D	**Klamath Falls**	**3.25**	**324**	P	Pb	20 03 17.6	-0.9
	baz=142,SNR=5.2						
R11A	**Troy Canyon, C**	**3.48**	**110**	S	Sg	20 04 09.0	-3.4
	baz=293						
R11A	**Troy Canyon, C**	**3.48**	**110**		Pn	20 03 15.3	+0.3
ELK	**Elko**	**3.63**	**70**	Pn	Pn	20 03 17.1	0.0
TPNV	**Topopah Spring**	**3.82**	**133**		Pn	20 03 20.2	+0.5

ISN ***11*** *20:05:40.3±1.4, 33°.53N×45°.44E, h0km±5km, ML2.9*
TEH ***11*** *20:05:41.1, 33°.66N×45°.53E, h8km, ML3.0*
ISC 11 20:05:41.9±0.9, 33°.60N±0°.04×45°.49E±0°.04, h13km, n21, σ1§25/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.61**	**143**	*e*Pg	**Pg**	**20 05 53.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**20 06 02.0**	**+0.2**
BHD	**Baghdad**	**0.99**	**251**	*e*Pg	**Pb**	**20 06 00.0**	**-0.9**
BHD				*e*Sg	**Sn**	**20 06 15.0**	**-0.3**
BHD				AML	AML	20 06 28.2	
	comp=E,729nm,0.4s						
IGHG	**Ghaleghazi**	**1.15**	**50**	*e*Pg	**Pb**	**20 06 02.5**	**-1.4**
IDHR	**Dehrash**	**1.32**	**34**	*e*Sg	**Sb**	**20 06 23.9**	**+0.1**
IDHR				*e*Pg	**Pn**	**20 06 05.4**	**-0.9**
IDHR				*e*		20 06 26.5	
KCHF	**Cheshme Sefid,**	**1.45**	**62**	*e*		20 06 31.1	
KCHF				*e*Pg	**Pn**	**20 06 07.8**	**-0.3**
IVIS	**Veis**	**1.46**	**50**	*e*		20 06 29.5	
IVIS				*e*Pg	**Pn**	**20 06 08.4**	**+0.3**
KER	**Kermanshah**	**1.57**	**60**	*e*Pg	**Pb**	**20 06 10.8**	**-0.1**
DHL1	**Dehloran**	**1.76**	**121**	*e*Sg	**Sg**	**20 06 40.1**	**+1.7**
IKOM	**Komasi**	**1.77**	**71**	*e*Pg	**Pb**	**20 06 14.3**	**-0.1**
IKOM				*e*		20 06 15.2	
ILIN	**Lien**	**1.79**	**42**	*e*Pg	**Pn**	**20 06 13.8**	**+1.0**
ILIN				*e*		20 06 38.0	
IBZA	**Bozab**	**2.15**	**65**	*e*Pn	**Pn**	**20 06 18.9**	**+1.2**
IBZA				*e*		20 06 22.5	
IDOB	**Doab**	**2.25**	**84**	*e*Pn	**Pn**	**20 06 20.1**	**+1.1**
IKMR	**Kamar-syah**	**2.41**	**91**	*e*Pn	**Pn**	**20 06 22.7**	**+1.7**
IKMR				*e*		20 07 04.6	
IALM	**Almabolaq**	**2.55**	**60**	*e*Pn	**Pn**	**20 06 24.6**	**+1.4**
NSR	**Nassriya**	**2.64**	**168**	*e*Pn	**Pn**	**20 06 25.0**	**+0.8**
NSR				*e*Sn	**Sn**	**20 06 56.0**	**0.0**
NSR				AML	AML	20 06 59.8	
	comp=E,219nm,0.2s						
HSAM	**Samen**	**2.66**	**76**	*e*	**Sg**	**20 07 07.9**	**+0.6**
BMDN	**Meydan**	**2.78**	**88**	*e*Pn	**Pn**	**20 06 27.7**	**+1.4**
BMDN				*e*		20 07 11.2	
HSRG	**Sareghieh**	**2.83**	**54**	*e*Pn	**Pn**	**20 06 29.0**	**+1.9**
HSRG				*e*		20 07 12.2	
HAGD	**Aghdareh**	**3.26**	**67**	*e*	**Sb**	**20 07 16.4**	**-3.0**
MSL	**Mosul**	**3.41**	**326**	*e*Pn	**Pn**	**20 06 36.0**	**+1.2**
MSL				*e*Sn	**Sn**	**20 07 17.0**	**+1.8**
MSL				AML	AML	20 07 50.1	
	comp=E,18nm,0.8s						
MSL				AML	AML	20 07 50.5	
	comp=N,19nm,0.7s						
QABG	**Abgarm-Qazvin**	**3.97**	**57**	*e*Pn	**Pn**	**20 06 43.0**	**+0.2**

IDC ***11*** *20:12:37.0±2.5, 6°.63S×152°.83E, h43km±23km, mb3.6/7, mb1 3.8/9, mb1mx3.5/25, mbtmp3.9/9, ML1.9/1, Error ellipse: s-maj=25.9km s-min=13.1km az=101.0*
ISC 11 20:12:35.6±1.1, 6°.66S±0°.07×152°.9E±0°.1, h31km, n10, σ1§23/12, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.49**	**340**	P	**Pn**	**20 13 14.7**	**+0.7**
	60nm,0.3s,baz=202,slow=1.5,SNR=53						
KRVT				S	**Sn**	**20 13 43.8**	**+0.5**
	64nm,0.3s,baz=152,slow=21,SNR=13						
PMG	**Port Moresby**	**6.30**	**244**	P	**Pn**	**20 14 06.8**	**+0.4**
	1.9nm,0.3s,baz=58,slow=11,SNR=2.7						
PMG				S	**Sn**	**20 15 18.3**	**+0.9**
	1.4nm,0.3s,baz=132,slow=23,SNR=1.5						
DZM	**Mont Dzumac**	**20.15**	**141**	P	**P**	**20 17 07.5**	**0.0**
	1.5nm,0.6s,baz=328,slow=18,SNR=1.4						
SIJI	**Sorong**	**22.32**	**284**	P	**P**	**20 17 28.8**	**-2.2**
	19nm,0.8s,baz=117,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**22.34**	**232**	P	**P**	**20 17 30.5**	**-0.5**
	0.6nm,0.6s,baz=56,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**24.88**	**225**	P	**P**	**20 17 55.5**	**-0.4**
	0.4nm,0.5s,baz=57,slow=9.3,SNR=5.7						
STKA	**Stephens Creek**	**27.22**	**201**	P	**P**	**20 18 18.5**	**+1.7**
	2.1nm,0.9s,baz=8.7,slow=13,SNR=2.2						
FITZ	**Fitzroy Crossi**	**28.90**	**244**	P	**P**	**20 18 31.3**	**-0.6**
	1.9nm,0.6s,baz=358,slow=6.2,SNR=20						
CMAR	**Chiang Mai Arr**	**58.76**	**296**	P	**P**	**20 22 32.1**	**+0.9**
	0.3nm,0.3s,baz=115,slow=6.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	**150.92**	**285**	PKPbc	**PKPbc**	**20 32 24.7**	**-1.6**
	0.3nm,0.5s,baz=45,slow=0.5,SNR=2.5						

KRSC ***11*** *20:56:27.8±1.2, 53°.41N×161°.99E, h40km±15km, ML3.8*
IDC ***11*** *20:56:27.4±0.8, 53°.57N×161°.66E, h0km, mb3.6/11, mb1 3.9/13, mb1mx3.7/47, mbtmp3.6/13, ML3.0/2, Error ellipse: s-maj=27.4km s-min=17.3km az=148.0*
NEIC ***11*** *20:56:33.2±0.9, 53°.6N±0°.2×161°.64E±0°.07, h40km±8km, mb4.6/3, Error ellipse: s-maj=24.6km s-min=3.1km az=167.0*
ISC 11 20:56:31.2±1.2, 53°.46N±0°.07×161°.88E±0°.07, h38km±2km, n57, σ1§49/36, mb3.6/12, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.17**	**253**	*e*P	**Pn**	**20 56 49.3**	**-1.7**
SPN				*e*S	**Sn**	**20 57 04.8**	**-0.9**
NLC	**Nalytchevo**	**1.55**	**260**	*e*P	**Pn**	**20 56 55.1**	**-1.1**
NLC				*e*S	**Sn**	**20 57 15.4**	**+0.5**
KII	**Karymskiy**	**1.55**	**293**	P	Pn	20 56 55.6	-0.7
SDLR	**Sedlovina**	**1.80**	**265**	*e*P	**Pn**	**20 56 58.9**	**-0.9**
UGLR	**Uglovaya**	**1.85**	**263**	*e*P	**Pn**	**20 56 59.9**	**-0.5**
SMAR	**Somma**	**1.85**	**265**	*e*P	**Pn**	**20 56 59.5**	**-1.1**
KRER	**Koryakskii**	**1.88**	**266**	*e*P	**Pn**	**20 57 00.6**	**-0.4**
AVH	**Avacha**	**1.89**	**265**	*e*P	**Pn**	**20 57 00.2**	**-0.8**
DALK	**Dalny**	**1.93**	**258**	*e*P	**Pn**	**20 56 59.8**	**-1.6**
DALK				*e*S	**Sn**	**20 57 23.3**	**-1.0**
KRX	**Arik**	**1.94**	**268**	*e*P	**Pn**	**20 57 00.4**	**-1.3**
TUMD	**Tumrok D**	**1.95**	**334**	*e*P	Pn	20 57 01.4	-0.3
TUMD				*e*S	**Sn**	**20 57 26.0**	**+1.1**
KOK	**Koryaka**	**1.95**	**266**	*e*P	**Pn**	**20 57 00.8**	**-1.0**
PET	**Petropavlovsk**	**1.99**	**259**	*e*P	**Pn**	**20 57 01.9**	**-0.3**
PET				*e*S	**Sn**	**20 57 26.9**	**+1.1**
PET	**Petropavlovsk**	**1.99**	**259**	Pn	Pn	20 57 02.6	+0.4
TUMR	**Tumrok**	**2.09**	**332**	*e*P	Pn	20 57 03.3	-0.4
TUMR				*e*S	**Sn**	**20 57 28.8**	**+0.3**
RUS	**Russkaya**	**2.28**	**244**	*e*P	**Pn**	**20 57 06.3**	**0.0**
RUS				*e*S	**Sn**	**20 57 34.5**	**+1.4**
KRMR	**Karymshinskiy**	**2.34**	**256**	*e*P	Pn	20 57 08.3	+1.2
KRMR				*e*S	Sn	20 57 37.9	+3.3
MTVR	**Mutnovka**	**2.44**	**248**	*e*P	**Pn**	**20 57 08.9**	**+0.3**
MTVR				*e*S	**Sn**	**20 57 38.8**	**+1.6**
GRL	**Gorelyy**	**2.47**	**250**	*e*P	Pn	20 57 09.7	+0.7
KMNR	**Kamenistaya**	**2.49**	**338**	*e*P	Pn	20 57 09.2	0.0
PEA0B	**Petropavlovsk-**	**2.53**	**264**		Pn	20 57 10.4	+0.6
PETK	**Petropavlovsk-**	**2.53**	**264**	Pn	Pn	20 57 10.1	+0.3
	4.3nm,0.3s,baz=90,slow=18,SNR=53						
PETK				Sn	**Sn**	**20 57 42.0**	**+2.7**
	3.2nm,0.3s,baz=76,slow=20,SNR=5.3						
BZGR	**Bezymyannyi-Gr**	**2.58**	**345**	*e*P	Pn	20 57 10.8	+0.4
BZWR	**Bezymyannyi-We**	**2.63**	**343**	*e*P	Pn	20 57 12.8	+1.5
ZLN	**Zelenaya**	**2.63**	**347**	*e*P	Pn	20 57 12.2	+1.0
ASAK	**Asacha**	**2.64**	**247**	*e*P	Pn	20 57 12.2	+0.9
ASAK				*e*S	**Sn**	**20 57 44.2**	**+2.2**
KIRR	**Kirishev**	**2.65**	**341**	*e*P	Pn	20 57 12.3	+0.8
KPT	**Kopyto**	**2.69**	**340**	*e*P	Pn	20 57 12.9	+1.0
CIRR	**Tsirk**	**2.74**	**347**	*e*P	Pn	20 57 14.6	+1.9
KBTR	**Krutoberegovo**	**2.81**	**11**	*e*P	**Pn**	**20 57 13.8**	**+0.3**
KDTR	**Khodutka, Kamc**	**2.85**	**236**	*e*P	**Pn**	**20 57 13.7**	**-0.3**
KDTR				*e*S	**Sn**	**20 57 48.1**	**+1.1**
KOZ	**Kozyrevsk**	**2.85**	**337**	*e*P	Pn	20 57 14.7	+0.6
KRSR	**Krestovskiy**	**2.86**	**345**	*e*P	Pn	20 57 15.5	+1.1
APC	**Apacha**	**2.89**	**261**	*e*P	Pn	20 57 15.9	+1.3
APC				*e*S	**Sn**	**20 57 50.2**	**+2.1**
KLY	**Klyuchi**	**2.94**	**347**	*e*P	Pn	20 57 15.6	+0.3
BKI	**Bering**	**2.96**	**52**	*e*S	**Sn**	**20 57 48.6**	**-1.3**
SRR	**Sredinnyy**	**3.12**	**337**	*e*P	Pn	20 57 18.4	+0.5
BDR	**Baidarnaya**	**3.14**	**353**	*e*P	Pn	20 57 19.9	+1.8
SMKR	**Semkarok**	**3.14**	**356**	*e*P	Pn	20 57 19.1	+1.0
SRKR	**Sorokina**	**3.23**	**353**	*e*P	Pn	20 57 20.2	+0.9
MIPR	**Malaya Ipel'ka**	**3.32**	**251**	*e*P	Pn	20 57 22.7	+2.1
ASAJ	**Asahikawa**	**15.73**	**241**	Pn	**P**	**21 00 09.4**	**-3.9**
	0.2nm,0.3s,baz=63,slow=9.0,SNR=1.5						
MJAR	**Matsushiro Arr**	**23.62**	**234**	P	**P**	**21 01 40.4**	**+1.7**
	1.8nm,0.8s,baz=18,slow=12,SNR=5.0						
MJAR	**Matsushiro Arr**	**23.62**	**234**	IAmb	IAmb	21 01 45.4	
	comp=Z,2.9nm,1.3s						
IMAR	**Indian Mountai**	**25.01**	**43**	P	**P**	**21 01 53.6**	**+2.5**
ILAR	**Eielson Array**	**27.79**	**46**	P	**P**	**21 02 17.9**	**+1.7**
	comp=Z,0.4nm,0.9s,baz=249,slow=10,SNR=2.6						
CRQM	**Cirque**	**29.92**	**54**	P	**P**	**21 02 36.3**	**+1.0**
CRQM				IAmb	IAmb	21 02 48.5	
	comp=Z,13nm,1.2s						
MKAR	**Makanchi Array**	**48.95**	**296**	P	**P**	**21 05 12.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=60,slow=10,SNR=2.2						
NVAR	**Mina Array Bea**	**54.61**	**71**	P	P	21 05 59.7	+3.7
	comp=Z,0.2nm,0.6s,baz=291,slow=7.6,SNR=2.6						
CMAR	**Chiang Mai Arr**	**59.30**	**259**	P	P	21 06 31.3	+2.2
	comp=Z,0.8nm,0.6s,baz=29,slow=7.0,SNR=6.1						
FINES	**FINESS Array B**	**60.20**	**337**	P	P	21 06 35.3	+0.6
	comp=Z,0.8nm,0.6s,baz=4.6,slow=7.0,SNR=4.6						
NOA	**NORSAR Array B**	**63.48**	**345**	P	**P**	**21 06 56.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=15,slow=3.8,SNR=2.4						
TXAR	**Lajitas Array**	**69.51**	**68**	P	P	21 07 38.7	+2.8
	comp=Z,0.4nm,0.6s,baz=301,slow=4.4,SNR=6.5						
KBZ	**Khabaz**	**70.00**	**318**	P	P	21 07 40.0	+1.5
	comp=Z,0.8nm,0.7s,baz=76,slow=6.6,SNR=3.5						
WRA	**Warramunga Arr**	**76.88**	**207**	P	**P**	**21 08 19.5**	**+0.3**
	comp=Z,0.9nm,1.1s,baz=18,slow=6.0,SNR=4.9						
WRA	**Warramunga Arr**	**76.88**	**207**	P	P	21 08 20.9	+1.7
ASAR	**Alice Springs**	**80.55**	**206**	P	P	21 08 41.3	+2.0
	comp=Z,0.1nm,0.4s,baz=14,slow=6.0,SNR=5.4						

TIR ***11*** *21:07:20.1, 40°.17N×20°.72E, h5km, Md2.7*
ATH ***11*** *21:07:20.8, 40°.17N×20°.70E, h12km±2km, ML2.3/8, Error ellipse: s-maj=2.6km s-min=1.4km az=132.0*
THE ***11*** *21:07:21.1, 40°.15N×20°.68E, h0km±1km, ML2.3/8, Error ellipse: s-maj=1.8km s-min=0.4km az=319.0*
ISC 11 21:07:21.1±0.9, 40°.14N±0°.02×20°.70E±0°.02, h5km±8km, n50, σ0§75/68, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.07**	**278**	P	**Pg**	**21 07 22.4**	**-0.4**
	baz=259						
LSK				S	**Sg**	**21 07 24.1**	**+0.1**
	baz=259						
PENT	**Pentalofos**	**0.34**	**81**	P	**Pg**	**21 07 27.7**	**-0.1**
PENT				S	**Sg**	**21 07 33.3**	**+1.0**
	765nm,0.3s						
PENT	**Pentalofos**	**0.34**	**81**	P	**Pg**	**21 07 27.6**	**-0.1**
PENT				S	**Sg**	**21 07 33.3**	**+1.0**
PENT				AML	AML	21 07 36.5	
	comp=E,1118μm,0.3s						
PENT				AML	AML	21 07 36.6	
	comp=N,1917μm,0.4s						
NEST	**Nestorio**	**0.39**	**44**	P	**Pg**	**21 07 28.4**	**-0.2**
NEST				S	**Sg**	**21 07 34.6**	**+0.9**
	comp=N,500nm,0.3s						
NEST	**Nestorio**	**0.39**	**44**	P	**Pg**	**21 07 28.5**	**0.0**
NEST				S	**Sg**	**21 07 33.6**	**-0.1**
NEST				AML	AML	21 07 35.3	
	comp=N,911μm,0.6s						
NEST				AML	AML	21 07 37.2	
	comp=E,878μm,0.3s						
JAN	**Janina**	**0.50**	**166**	P	**Pg**	**21 07 30.6**	**-0.1**
JAN				S	**Sg**	**21 07 38.4**	**+1.3**
	comp=E,840nm,0.3s						
JAN	**Janina**	**0.50**	**166**	P	**Pg**	**21 07 30.2**	**-0.5**
JAN				S	**Sg**	**21 07 38.6**	**+1.5**
JAN				AML	AML	21 07 40.9	
	comp=N,1520μm,0.3s						
JAN				AML	AML	21 07 42.2	
	comp=E,1833μm,0.3s						
MEV	**Metsovon**	**0.54**	**131**	P	**Pg**	**21 07 32.0**	**+0.5**
MEV	**Metsovon**	**0.54**	**131**	P	**Pg**	**21 07 31.3**	**-0.2**
KPRO	**Kipourio**	**0.55**	**110**	P	**Pg**	**21 07 31.2**	**-0.4**
KPRO				S	**Sb**	**21 07 40.1**	**-1.3**
	comp=E,435nm,0.4s						
KPRO	**Kipourio**	**0.55**	**110**	P	**Pg**	**21 07 31.1**	**-0.5**
KPRO				S	**Sg**	**21 07 39.7**	**+1.0**
KPRO				AML	AML	21 07 43.3	
	comp=N,764μm,0.4s						
KPRO				AML	AML	21 07 44.6	
	comp=E,981μm,0.5s						
SRN	**Sarande**	**0.59**	**244**	P	**Pg**	**21 07 32.1**	**-0.4**
SRN				S	**Sg**	**21 07 41.3**	**+1.1**
	comp=E,380nm,0.4s						
SRN	**Sarande**	**0.59**	**244**	P	**Pg**	**21 07 32.0**	**-0.4**
	baz=243						
SRN				S	**Sb**	**21 07 42.2**	**-0.5**
	baz=243						
IGT	**Igoumenitsa**	**0.67**	**205**	P	**Pg**	**21 07 33.6**	**-0.3**
IGT				S	**Sb**	**21 07 44.0**	**-0.8**
	comp=E,315nm,0.4s						
IGT	**Igoumenitsa**	**0.67**	**205**	P	**Pg**	**21 07 34.1**	**+0.2**
IGT				AML	AML	21 07 46.7	
	comp=E,675μm,0.3s						
IGT				AML	AML	21 07 51.2	
	comp=N,638μm,0.5s						
IGT	**Igoumenitsa**	**0.67**	**205**	P	**Pg**	**21 07 33.8**	**-0.1**
	baz=206						
IGT				S	**Sb**	**21 07 44.9**	**+0.1**
	baz=206						
KASA	**Kassiopi**	**0.70**	**236**	P	**Pg**	**21 07 34.4**	**-0.2**
KZN	**Kozani**	**0.84**	**78**	P	**Pg**	**21 07 37.1**	**-0.1**
KZN				S	**Sb**	**21 07 50.1**	**+0.2**
	comp=N,182nm,0.4s						
KZN	**Kozani**	**0.84**	**78**	P	**Pg**	**21 07 37.3**	**+0.1**
KZN				AML	AML	21 07 56.9	
	comp=N,346μm,0.3s						
KZN				AML	AML	21 07 57.9	
	comp=E,397μm,0.6s						
**V

RTLS IAML 21 36 21.3
comp=Z,2µm,0.3s
RTCV Cerro Valdivia 0.74 155 *e*P **Pn 21 36 04.4 +1.1**
ACDV Cuesta del Vie 1.03 350 *e*P **Pn 21 36 07.9 +1.6**
ACDV *e*S **Sn 21 36 24.6 +2.2**
ACDV IAML 21 36 25.6
comp=Z,4µm,0.2s
AUSP Uspallata 1.11 201 *e*P **Pn 21 36 08.3 +1.0**
AUSP *e*S **Sn 21 36 25.4 +1.3**
AROD Rodeo 1.13 335 *e*P **Pn 21 36 09.2 +1.8**
AROD *e*S **Sn 21 36 27.0 +2.5**
AVFE Valle Fertil 1.36 68 *e*P **Pn 21 36 11.6 +1.8**
AVFE *e*S **Sn 21 36 30.8 +1.9**
ASAL Salagasta 1.40 177 *e*P **Pn 21 36 11.9 +1.6**
ASAL *e*S **Sn 21 36 30.6 +0.9**
ASAL IAML 21 36 33.1
comp=Z,855nm,0.5s
CO03 El Pedregal 1.56 282 Pn 21 36 13.6 +1.3
CO03 Sn **Sn 21 36 34.8 +1.7**
CO01 Juntas del Tor 1.58 320 Pn **Pn 21 36 14.9 +2.3**
CO01 Sn **Sn 21 36 36.7 +2.9**
ARCO CERRO ARCO 1.65 180 *e*P **Pn 21 36 14.9 +1.5**
ARCO *e*S **Sn 21 36 36.3 +1.2**
ARCO IAML 21 36 40.1
comp=Z,2µm,0.3s
AGUA GUANDACOL 1.74 12 *e*P **Pn 21 36 16.6 +2.1**
AGUA *e*S **Sn 21 36 39.0 +2.0**
AGUA IAML 21 36 42.0
comp=Z,2µm,0.5s
CO02 Combarbal 1.79 269 Pn 21 36 15.8 +0.8
ACAN Cantantal 1.83 127 *e*P **Pn 21 36 17.3 +1.8**
ACAN *e*S **Sn 21 36 39.5 +0.6**
ACAN IAML 21 36 44.0
comp=Z,602nm,0.4s
AAGR Agrelo 1.89 178 *e*P **Pn 21 36 17.9 +1.5**
AAGR *e*S **Sn 21 36 41.3 +0.8**
AAGR IAML 21 36 43.7
comp=Z,788nm,0.7s
GO04 Tololo Observa 1.91 301 Pn 21 36 18.0 +1.2
ACHE Chepes 1.93 90 *e*P **Pn 21 36 18.6 +1.7**
ACHE *e*S **Sn 21 36 45.2 +3.8**
VA03 San Esteban 2.10 221 Pn 21 36 19.9 +0.9
AVIZ Vizcacheras 2.30 172 *e*P **Pn 21 36 23.4 +1.7**
ACLC CERRO LA CRUZ 2.44 45 *e*P **Pn 21 36 25.1 +1.5**
ACLC *e*S **Sn 21 36 57.7 +4.4**
ACLC IAML 21 37 25.5
comp=Z,565nm,0.4s
PEL Peldehue 2.46 217 Pn **Pn 21 36 23.9 +0.2**
PEL Peldehue 2.46 217 *e*P **Pn 21 36 24.9 +1.2**
PEL *e*S **Sn 21 36 54.9 +1.4**
ROC1 El Roble 2.52 224 Pn 21 36 24.7 0.0
ROC1 El Roble 2.52 224 *e*P **Pn 21 36 25.2 +0.6**
ROC1 *e*S **Sn 21 36 56.0 +0.8**
AC05 El Transito 2.62 333 Pn 21 36 27.8 +1.9
LCO Las Campanas 2.67 324 Pn **Pn 21 36 27.4 +0.8**
MT05 Renca 2.69 215 Pn **Pn 21 36 26.6 0.0**
MT02 Curacav 2.79 222 Pn 21 36 28.6 +0.6
VA01 Torpederas 2.95 231 Pn **Pn 21 36 29.7 -0.4**
MRA San Martin 2.99 115 *e*P **Pn 21 36 31.9 +1.2**
MRA *e*S **Sn 21 37 06.5 +0.6**
MRA IAML 21 37 08.3
comp=Z,607nm,0.4s
AC04 Llanos de Chal 3.52 327 Pn 21 36 38.0 +0.3
RFA San Rafael 3.59 174 *e*P **Pn 21 36 38.9 +0.2**
RFA *e*S **Sn 21 37 19.8 -0.5**
RFA IAML 21 37 51.7
comp=Z,226nm,0.4s
TCA Tanti 3.70 93 *e*P **Pn 21 36 41.1 +0.9**
TCA *e*S **Sn 21 37 23.2 +0.1**
TCA IAML 21 37 39.9
comp=Z,249nm,0.5s
LAMA Las Malvinas 3.74 184 *e*P **Pn 21 36 41.2 +0.5**
GO03 Copiap 3.76 342 Pn **Pn 21 36 41.6 +0.6**
GO03 Copiap 3.76 342 *e*P **Pn 21 36 42.0 +0.9**
GO03 *e*S **Sn 21 37 24.8 +0.3**
CYA Choya 3.85 45 *e*P **Pn 21 36 42.6 +0.5**
CYA *e*S **Sn 21 37 26.2 -0.3**
CYA IAML 21 38 09.0
comp=Z,92nm,0.7s
BO02 Sierra Bellavi 3.92 203 Pn **Pn 21 36 43.3 +0.2**
PUMA Malargue 4.32 186 *e*P **Pn 21 36 49.4 +1.0**
AC02 Maricunga 4.34 357 Pn **Pn 21 36 50.1 +0.9**
GO05 Huala 4.57 213 Pn 21 36 50.1 -1.8
GO05 Huala 4.57 213 *e*P **Pn 21 36 51.3 -0.5**
GO05 *e*S **Sn 21 37 45.0 +1.1**
AHML Horco Molle 5.39 36 *e*P **Pn 21 37 03.0 0.0**
AHML *e*S **Sn 21 38 02.8 -1.1**
FSA Cafayete 5.68 28 *e*P **Pn 21 37 08.7 +1.7**
BI02 San Fabin de 5.80 199 Pn 21 37 07.5 -0.9
PB15 IPOC Station P 7.96 356 Pn 21 37 37.2 -0.8
PB15 IPOC Station P 7.96 356 *e*P **Pn 21 37 37.0 -1.1**
PB15 *e*S **Sn 21 39 08.6 +1.9**
PB15 IAML 21 39 41.5
comp=Z,46nm,0.5s
LC01 Cunco 8.06 197 Pn Pn 21 37 35.2 -3.9
PB06 IPOC Station P 8.47 356 Pn **Pn 21 37 43.0 -1.9**
LVC Limon Verde 8.54 0 P **Pn 21 37 44.4 -1.7**
comp=Z,3.5nm,0.3s,baz=178,slow=10,SNR=28
LVC S **Sn 21 39 15.6 -5.4**
baz=201,slow=23,SNR=1.3
PB09 IPOC Station P 9.36 358 Pn **Pn 21 37 55.2 -1.7**
PB07 IPOC Station P 9.46 355 Pn **Pn 21 37 55.7 -2.7**
PLCA Paso Flores 9.62 187 P **Pn 21 37 59.3 -0.9**
comp=Z,0.2nm,0.3s,baz=8.0,slow=12,SNR=6.1
PLCA Paso Flores 9.62 187 Pn **Pn 21 37 58.7 -1.6**
PB01 IPOC Station P 10.12 357 Pn **Pn 21 38 03.8 -3.4**
PB08 IPOC Station P 11.00 359 Pn **Pn 21 38 17.6 -1.9**
CPUP Villa Florida 11.26 67 P **Pn 21 38 18.9 -3.6**
comp=Z,0.1nm,0.3s,baz=177,slow=6.9,SNR=2.3
CPUP S **Sn 21 40 21.4 -4.9**
comp=Z,0.4nm,0.3s,baz=81,slow=20,SNR=1.9
CPUP Villa Florida 11.26 67 Pn **Pn 21 38 21.6 -0.9**
PB11 IPOC Station P 11.40 356 Pn Pn 21 38 20.0 -4.5
GO01 Chusmiza 11.47 359 Pn **Pn 21 38 23.3 -2.6**
PSGCX Pisagua 11.59 354 Pn Pn 21 38 22.8 -4.3
MNMC Minye Minye 12.02 357 Pn **Pn 21 38 30.2 -2.8**
PB16 IPOC Station P 12.81 357 Pn **Pn 21 38 41.7 -1.9**
LPAZ La Paz 14.85 3 P **Pn 21 39 09.1 -1.0**
comp=Z,0.4nm,0.3s,baz=175,slow=7.2,SNR=26
LPAZ La Paz 14.85 3 Pn 21 39 11.4 +1.3
SIV San Ignacio 16.74 27 P **Pn 21 39 33.7 +0.3**
comp=Z,0.3nm,0.3s,baz=234,slow=13,SNR=12
EFI East Falkland 21.98 162 P **P 21 40 26.3 -3.7**
EFI IAmb IAmb 21 40 28.0
comp=Z,28nm,1.0s
SAML Samuel 22.76 15 P **P 21 40 38.9 +0.6**
ATAH Atahualpa 25.52 338 LR LR 21 50 14.0
comp=Z,60nm,18.2s,baz=252,slow=34
TOSP Speyside 43.00 12 P **P 21 43 34.8 +1.0**
PDPR Patillas Dam, 49.00 4 P **P 21 44 20.1 -0.7**
PDPR IAmb IAmb 21 44 34.8
comp=Z,11nm,1.0s
VNA3 Neumayer Olymp 51.00 159 P **P 21 44 35.8 +0.5**
VNA2 Neumayer--Watz 51.61 158 P **P 21 44 41.2 +1.3**
SNAA Sanae 53.22 159 P **P 21 44 52.8 +1.0**
SNAA Sanae 53.22 159 P **P 21 44 52.8 +1.0**
comp=Z,1.4nm,0.8s,baz=284,slow=6.9,SNR=20
TEIG Tepich 54.40 337 P **P 21 45 01.5 +0.6**
QSPA South Pole Qui 59.04 180 P **P 21 45 33.6 +0.2**
QSPA IAmb IAmb 21 45 35.8
comp=Z,4.8nm,1.1s
TXAR Lajitas Array 68.67 328 P **P 21 46 38.0 +1.2**
comp=Z,0.5nm,0.6s,baz=155,slow=8.3,SNR=7.6
TXAR pP **pP 21 47 04.0 -0.4**
comp=Z,0.3nm,0.7s,baz=146,slow=11,SNR=3.3
TXAR Lajitas Array 68.67 328 P **P 21 46 37.3 +0.4**
WVT Waverly 69.28 344 P **P 21 46 40.5 +0.2**
R55A Marlinton 69.90 351 P **P 21 46 44.4 +0.2**
R55A IAmb IAmb 21 46 46.6
comp=Z,5.1nm,0.8s
LIC Lamto 71.37 70 *e*P **P 21 46 54.0 +0.4**
comp=Z,2.2nm,0.2s
TIC Toumodi 71.62 70 *e*P **P 21 46 54.2 -0.9**
KIC Kosan Boka 71.68 70 *e*P **P 21 46 55.7 +0.2**
comp=Z,9.4nm,0.7s
DBIC Dimbokro 71.76 70 P **P 21 46 56.3 +0.3**
comp=Z,2.5nm,0.7s,baz=218,slow=8.2,SNR=5.7
DBIC Dimbokro 71.76 70 IAmb IAmb 21 46 57.1
comp=Z,9.5nm,1.1s
R40A Maddies Statio 72.47 341 P **P 21 47 00.6 +1.0**
R40A IAmb IAmb 21 47 01.3
comp=Z,10nm,0.7s
N49A Columbus Grove 73.13 348 P **P 21 47 03.7 +0.3**
N49A IAmb IAmb 21 47 04.4
comp=Z,5.9nm,0.6s
MAW Mawson 75.10 163 P **P 21 47 15.6 +0.9**
comp=Z,0.6nm,0.6s,baz=175,slow=8.9,SNR=3.6
BOSA Boshof 79.01 117 P **P 21 47 38.2 +0.7**
comp=Z,1.3nm,0.6s,baz=217,slow=10,SNR=1.6
BOSA Boshof 79.01 117 IAmb IAmb 21 47 44.4
comp=Z,6.3nm,1.1s
TORD Torodi Ar. Bea 80.75 69 P **P 21 47 47.6 +0.8**
comp=Z,2.4nm,0.6s,baz=281,slow=6.1,SNR=22
TORD pP **pP 21 48 13.7 -0.9**
comp=Z,0.9nm,0.9s,baz=280,slow=4.9,SNR=2.4
TORD Torodi Ar. Bea 80.75 69 P **P 21 47 47.5 +0.7**
NVAR Mina Array Bea 83.16 323 P **P 21 48 00.7 +1.5**
comp=Z,0.4nm,0.6s,baz=157,slow=7.8,SNR=4.5
ASAR Alice Springs 121.24 205 PKP **PKPdf 21 54 25.1 -0.8**
comp=Z,0.3nm,0.4s,baz=128,slow=1.9,SNR=6.2
WRA Warramunga Arr 124.47 207 PKP **PKPdf 21 54 32.0 -0.1**
comp=Z,0.8nm,0.3s,baz=156,slow=1.9,SNR=34
WRA pPKP **pPKPdf 21 55 02.0 0.0**
comp=Z,0.1nm,0.3s,baz=157,slow=1.8,SNR=1.7
ZALV Zalesovo Beam 150.45 32 PKPbc **PKiKP 21 55 24.4 +0.3**
comp=Z,4.3nm,0.5s,baz=299,slow=3.3,SNR=25
ZALV pPKPbc **pPKPbc 21 55 53.7 +0.9**
comp=Z,1.4nm,0.4s,baz=310,slow=2.9,SNR=5.0
ZALV Zalesovo Beam 150.45 32 PKiKP 21 55 24.0 -0.1
MKAR Makanchi Array 152.93 47 PKP **PKPdf 21 55 23.8 +1.7**
comp=Z,0.3nm,0.7s,baz=291,slow=4.5,SNR=2.3
MKAR PKPbc **PKiKP 21 55 29.9 +0.4**
comp=Z,1.5nm,0.7s,baz=314,slow=2.2,SNR=11
MKAR PKPab **PKPab 21 55 41.7 +0.8**
comp=Z,0.9nm,0.7s,baz=292,slow=4.2,SNR=6.1
MKAR Makanchi Array 152.93 47 PKiKP 21 55 29.8 +0.3
MKAR **PKPab 21 55 41.9 +1.0**
WMQ Urumqi 157.65 49 *e*PKP **PKPdf 21 55 27.4 -1.1**
WMQ AMB AMB
comp=Z,75nm,4.3s
SONM Songino Array 162.99 11 PKPab **PKPab 21 56 24.8 +0.3**
comp=Z,0.5nm,0.7s,baz=8.5,slow=2.9,SNR=2.3
HHC Hu-ho-hao-te 170.35 358 *e*PKP **PKPdf 21 55 39.5 -0.7**
HHC AMB AMB
comp=Z,99nm,5.1s
NJ2 Nanjing 173.32 279 *e*PKP **PKPdf 21 55 40.9 -0.8**

WEL 11 22:02:59.2, 43°±2′×17°3E±°, h13km±2km, M3.6/18, ML3.8/5, MLv3.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=18.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.23**	**196**	P	Pb	22 03 05.7	+0.5
MQZ				S	Sb	22 03 09.7	+0.4
OKCZ	**Okains Bay**	**0.33**	**136**	P	Pb	22 03 07.4	+0.4
AKCZ	**Akaroa Harbour**	**0.41**	**163**	P	Pb	22 03 08.9	+0.7
AKCZ				S	Sb	22 03 15.2	+0.8
OXZ	**Oxford**	**0.54**	**287**	S	Sb	22 03 19.0	+0.9
LTZ	**Lake Taylor**	**0.78**	**334**	P	Pn	22 03 15.6	-0.3
LTZ				S	Sb	22 03 26.3	+1.2
KHZ	**Kahutara**	**1.22**	**29**	P	Pn	22 03 21.2	-0.6
INZ	**Inchbonnie**	**1.22**	**308**	P	Pg	22 03 22.5	-0.1
RPZ	**Rata Peaks**	**1.25**	**259**	P	Pg	22 03 23.2	0.0
WVZ	**Waitaha Valley**	**1.52**	**285**	P	Pg	22 03 27.9	-0.5
THZ	**Tophouse**	**1.72**	**4**	P	Pn	22 03 29.1	+0.2
GCSZ	**Gaunt Creek Bo**	**1.77**	**275**	P	Pb	22 03 31.9	+0.5
DSZ	**Denniston Nort**	**1.87**	**338**	P	Pn	22 03 31.9	+1.0
BSWZ	**Blackbirch Sta**	**1.96**	**26**	P	Pn	22 03 32.2	+0.2
LBZ	**Lake Benmore**	**2.06**	**243**	P	Pb	22 03 35.0	-1.4
FOZ	**Fox Glacier**	**2.13**	**268**	P	Pb	22 03 37.0	-0.6
ODZ	**Otahua Downs**	**2.17**	**223**	P	Pn	22 03 35.9	+0.9
NNZ	**Nelson**	**2.31**	**12**	P	Pn	22 03 37.8	+0.9
TCW	**Tory Channel**	**2.54**	**27**	P	Pn	22 03 39.8	-0.2
BHW	**Baring Head**	**2.60**	**38**	P	Pn	22 03 40.4	-0.5
QRZ	**Quartz Range**	**2.66**	**356**	P	Pn	22 03 42.7	+1.0
PLWZ	**Palliser**	**2.67**	**45**	P	Pn	22 03 40.8	-1.1
MSWZ	**Moikau Station**	**2.78**	**43**	P	Pn	22 03 42.2	-1.2
DUWZ	**D'Urville Isla**	**2.82**	**19**	P	Pn	22 03 44.6	+0.7
HHSZ	**Highcliff Hill**	**2.85**	**212**	P	Pn	22 03 45.2	+0.9
CAW	**Cannon Point**	**2.93**	**37**	P	Pn	22 03 44.5	-0.9
WKZ	**Wanaka**	**3.00**	**242**	P	Pn	22 03 48.3	+1.9
TRWZ	**Traveller**	**3.02**	**47**	P	Pn	22 03 45.5	-1.1
KIW	**Kapiti Island**	**3.08**	**32**	P	Pn	22 03 47.2	-0.3
OGWZ	**Otaki Gorge**	**3.22**	**35**	P	Pn	22 03 48.6	-0.8
TUZ	**Tuapeka**	**3.32**	**221**	P	Pn	22 03 52.5	+1.7
TMWZ	**Te Maipa**	**3.33**	**46**	P	Pn	22 03 49.6	-1.3
MRZ	**Mangatainoka R**	**3.52**	**38**	P	Pn	22 03 52.3	-1.3
MLZ	**Mavora Lakes**	**3.81**	**239**	P	Pn	22 03 58.4	+0.9
BFZ	**Birch Farm**	**3.83**	**44**	P	Pn	22 03 56.0	-1.7
SYZ	**Scrubby Hill**	**3.98**	**219**	P	Pn	22 04 01.5	+1.7
ANWZ	**Angora Road**	**4.11**	**44**	P	Pn	22 04 01.1	-0.5
WHZ	**Wether Hill Ro**	**4.18**	**233**	P	Pn	22 04 02.6	-0.1
KHEZ	**Kahui Hut**	**4.29**	**13**	P	Pn	22 04 06.7	+2.5
NBEZ	**Newall Road No**	**4.30**	**12**	P	Pn	22 04 05.9	+1.7
NEZ	**North Egmont**	**4.33**	**14**	P	Pn	22 04 06.7	+2.0
PKE	**Pukeiti**	**4.39**	**13**	P	Pn	22 04 07.7	+2.3
PNHZ	**Pukenui**	**4.41**	**37**	P	Pn	22 04 05.7	-0.1
DREZ	**Durham Road**	**4.43**	**15**	P	Pn	22 04 07.8	+1.8
MOVZ	**Moawhango**	**4.66**	**30**	P	Pn	22 04 09.6	+0.3
WNVZ	**Wahianoa**	**4.67**	**28**	P	Pn	22 04 10.5	+1.0
KRHZ	**Kereru**	**4.70**	**37**	P	Pn	22 04 08.8	-1.0
FWVZ	**Far West T-bar**	**4.72**	**28**	P	Pn	22 04 11.6	+1.3
APZ	**The Paps**	**4.75**	**223**	P	Pn	22 04 11.8	+1.4
KAHZ	**Kahuranaki**	**4.81**	**41**	P	Pn	22 04 11.0	-0.3
OTVZ	**Oturere**	**4.84**	**28**	P	Pn	22 04 11.4	-0.5
ETVZ	**East Tongariro**	**4.88**	**28**	P	Pn	22 04 13.0	+0.5
TMVZ	**Te Maari**	**4.90**	**28**	P	Pn	22 04 12.6	0.0
HIZ	**Hauiti**	**5.22**	**19**	P	Pn	22 04 17.6	+0.8
MTHZ	**Maungataniwha**	**5.56**	**35**	P	Pn	22 04 21.1	-0.5
TLZ	**Tolley Road**	**5.57**	**23**	P	Pn	22 04 22.9	+1.2
TOZ	**Tahuroa Road**	**6.12**	**21**	P	Pn	22 04 29.2	-0.1
AWAZ	**Awhitu Peninsu**	**6.57**	**13**	P	Pn	22 04 36.3	+0.8

*NEIC **11** 22:05:03.7±2.9, 10°.48N±0°.05×72°.50W±0°.05, h10km±1km, mb4.5/14, Error ellipse: s-maj=10.4km s-min=5.3km az=222.0*
*RSNC **11** 22:05:05.2±1.0, 10°.66N×72°.74W, h1km±5km, ML4.1*
*IDC **11** 22:05:11.6±1.6, 10°.45N×72°.46W, h71km±15km, mb3.7/15, mb1 4.0/21, mb1mx3.8/35, mbtmp4.1/21, MS3.7/1, Ms1 3.8/1, ms1mx2.9/30, Error ellipse: s-maj=13.2km s-min=11.5km az=167.0*
ISC 11 22:05:04.3±1.0, 10°.57N±0°.03×72°.61W±0°.04, h11km±6km, n120, σ1999/148, mb4.2/22, 2C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**1.28**	**28**	*e*P	**Pn**	**22 05 27.9**	**-0.2**
URIC				*e*S	**Sg**	**22 05 45.4**	**-0.1**
URIC				*i*		22 05 47.4	
comp=Z,4µm,0.2s							
SMRC	**Santa Marta, M**	**1.69**	**291**	*e*P	**Pn**	**22 05 32.2**	**-1.6**
SMRC				*e*S	**Sn**	**22 05 52.5**	**-2.9**
SMRC				*i*		22 05 54.7	
comp=Z,2µm,0.7s							
ARGC	**Ariguani, Magd**	**1.76**	**246**	*e*P	**Pn**	**22 05 34.4**	**-0.3**
ARGC				*e*S	**Sn**	**22 05 57.2**	**+0.1**
ARGC				*i*		22 06 00.4	
comp=Z,1µm,0.2s							
SMLC	**San Martn de**	**2.27**	**219**	*e*P	**Pn**	**22 05 41.4**	**-0.4**
SMLC				*e*S	**Sb**	**22 06 12.3**	**-1.2**
SMLC				*i*		22 06 18.0	
comp=Z,2µm,0.2s							
OCAC	**Ocana**	**2.42**	**197**	*e*P	**Pn**	**22 05 45.9**	**+1.9**
OCAC				*e*S	**Sb**	**22 06 17.4**	**-0.5**
SDV	**Santo Domingo**	**2.57**	**130**	P	**Pn**	**22 05 47.5**	**+1.4**
comp=Z,25nm,0.3s,baz=290,slow=4.9,SNR=23							
SDV				S	**Sn**	**22 06 17.9**	**+0.4**
comp=Z,86nm,0.3s,baz=288,slow=8.3,SNR=5.7							
SDV	**Santo Domingo**	**2.57**	**130**	*e*P	**Pn**	**22 05 47.6**	**+1.4**
SDV				*e*S	**Sb**	**22 06 23.0**	**+0.6**
SDV				*i*		22 06 29.8	
comp=Z,661nm,0.5s							
SDV	**Santo Domingo**	**2.57**	**130**		**Pn**	**22 05 45.7**	**-0.4**
SJCC	**San Jacinto, C**	**2.61**	**255**	*e*P	**Pn**	**22 05 47.6**	**+1.1**
SJCC				*e*S	**Sn**	**22 06 18.1**	**-0.2**
SJCC				*i*		22 06 36.5	
comp=Z,622nm,0.8s							
PAMC	**Pamplona, Colo**	**3.21**	**182**	*e*P	**Pn**	**22 05 56.8**	**+1.6**
PAMC				*e*S	**Sb**	**22 06 38.8**	**-2.3**
PAMC				*i*		22 06 48.3	
comp=Z,665nm,0.2s							
BRRC	**Barranca, Sant**	**3.61**	**198**	*e*P	**Pn**	**22 06 02.1**	**+1.9**
BRRC				*e*S	**Sn**	**22 06 46.3**	**+3.4**
BRRC				*i*		22 07 03.3	
comp=Z,178nm,0.3s							
ZARC	**Zaragoza, Cauc**	**3.78**	**216**	*e*P	**Pn**	**22 06 02.6**	**+0.1**
ZARC				*e*S	**Sn**	**22 06 48.2**	**+1.2**
ZARC				*i*		22 07 07.7	
comp=Z,469nm,0.4s							
HATO	**Hato, Curacao**	**3.92**	**66**	Pn	**Pn**	**22 06 05.9**	**+1.4**
UREC	**San Jos de Ur**	**4.02**	**226**	*e*P	**Pn**	**22 06 07.0**	**+1.2**
UREC				*e*S	**Sn**	**22 06 54.4**	**+1.4**
UREC				*i*		22 07 14.4	
comp=Z,117nm,0.2s							
LCBC	**Los crdobas,**	**4.07**	**246**	*e*P	**Pn**	**22 06 07.2**	**+0.6**
LCBC				*e*S	**Sn**	**22 06 55.7**	**+1.4**
LCBC				*i*		22 06 57.4	
comp=Z,109nm,0.3s							
TAMC	**Tame, Arauca**	**4.19**	**169**	*e*P	**Pn**	**22 06 09.8**	**+1.6**
TAMC				*e*S	**Sg**	**22 07 18.0**	**-1.0**
TAMC				*i*		22 07 32.9	
comp=Z,333nm,0.5s							
PTBC	**PUERTO BERRIO,**	**4.40**	**205**	*e*P	**Pn**	**22 06 12.3**	**+1.2**
PTBC				*e*S	**Sn**	**22 07 03.7**	**+1.2**
PTBC				*i*		22 07 31.0	
comp=Z,238nm,0.7s							
RUSC	**La Rusia**	**4.67**	**186**	*e*P	**Pn**	**22 06 17.8**	**+2.6**
RUSC				*e*S	**Sg**	**22 07 31.0**	**-3.5**
RUSC				*i*		22 07 41.8	
comp=Z,214nm,0.7s							
DBBC	**Dabeiba**	**5.01**	**225**	*e*P	**Pn**	**22 06 22.3**	**+2.8**
DBBC				*e*S	**Sb**	**22 07 34.0**	**+1.6**
DBBC				*i*		22 07 52.5	
comp=Z,392nm,0.7s							
SPBC	**San Pablo de B**	**5.10**	**197**	*e*P	**Pn**	**22 06 22.1**	**+1.4**
SPBC				*e*S	**Sn**	**22 07 22.0**	**+2.3**
SPBC				*i*		22 07 34.7	
comp=Z,90nm,0.5s							
HELC	**Santa Helena**	**5.22**	**214**	*e*P	**Pn**	**22 06 26.0**	**+3.3**
HELC				*e*S	**Sn**	**22 07 27.6**	**+4.5**
HELC				*i*		22 07 50.8	
comp=Z,116nm,0.5s							
NORC	**Norcasia**	**5.45**	**204**	*e*P	**Pn**	**22 06 28.1**	**+2.4**
NORC				*e*S	**Sn**	**22 07 34.8**	**+6.3**
NORC				*i*		22 07 41.7	
comp=Z,107nm,0.5s							
CBOC	**Ciudad Bolivar**	**5.76**	**216**	*e*P	**Pn**	**22 06 32.2**	**+2.3**
CBOC				*e*S	**Sb**	**22 07 49.1**	**-5.1**
CBOC				*i*		22 08 07.2	
comp=Z,55nm,0.5s							
ROSC	**El Rosal**	**5.94**	**197**	P	**Pn**	**22 06 35.1**	**+2.5**
comp=Z,23nm,0.3s,baz=284,slow=6.2,SNR=28							
ROSC				S	**Sn**	**22 07 44.6**	**+3.7**
comp=Z,9.5nm,0.3s,baz=288,slow=20,SNR=1.4							
ROSC	**El Rosal**	**5.94**	**197**	*e*P	**Pn**	**22 06 34.6**	**+2.0**
ROSC				*e*S	**Sn**	**22 07 46.5**	**+5.6**
ROSC				*i*		22 08 17.1	
comp=Z,60nm,0.5s							
ROSC	**El Rosal**	**5.94**	**197**		**Pn**	**22 06 35.4**	**+2.8**
GUY2C	**Guyana, Caldas**	**5.97**	**207**	*e*P	**Pn**	**22 06 34.7**	**+1.6**
GUY2C				*e*S	Sn	22 07 51.1	+9.3
GUY2C				*i*		22 08 22.6	
comp=Z,96nm,0.6s							
CHIC	**Chingaza**	**6.01**	**191**	*e*P	**Pn**	**22 06 36.5**	**+3.0**
CHIC				*e*S	Sn	22 07 51.3	+8.7
CHIC				*i*		22 08 18.6	
comp=Z,52nm,0.7s							
PTAC	**Punta Ardita,**	**6.16**	**237**	*e*P	**Pn**	**22 06 33.5**	**-1.7**
VILC	**Villavicencio,**	**6.51**	**190**	*e*P	**Pn**	**22 06 41.6**	**+1.4**
VILC				*e*S	**Sn**	**22 07 57.7**	**+3.2**
VILC				*i*		22 08 43.7	
comp=Z,91nm,0.7s							
TOLC	**Tolima**	**6.52**	**204**	*e*P	**Pn**	**22 06 44.6**	**+4.0**
TOLC				*e*S	**Sn**	**22 07 57.8**	**+2.5**
TOLC				*i*		22 08 18.7	
comp=Z,169nm,0.7s							
ANIL	**Santa Ana**	**6.64**	**205**	*e*P	**Pn**	**22 06 44.5**	**+2.3**
ANIL				*e*S	Sn	22 08 06.7	+8.6
PLMC	**San Jos del P**	**6.70**	**213**	*e*P	**Pn**	**22 06 45.4**	**+2.6**
PLMC				*i*		22 08 40.1	
comp=Z,42nm,0.6s							
ORTC	**Ortega, Tolima**	**7.12**	**202**	*e*P	**Pn**	**22 06 50.9**	**+2.4**
ORTC				*e*S	Sn	22 08 19.0	+10
ORTC				*i*		22 08 31.5	
comp=Z,40nm,0.6s							
PRAC	**Prado**	**7.18**	**198**	*e*P	**Pn**	**22 06 51.5**	**+2.2**
PRAC				*e*S	**Sn**	**22 08 13.5**	**+2.6**
PRAC				*i*		22 09 00.1	
comp=Z,61nm,0.6s							
BCIP	**Isla Barro Col**	**7.25**	**260**	*e*P	**Pn**	**22 06 49.7**	**-0.6**
BCIP				*e*S	Sn	22 08 06.0	-6.8
BCIP				*i*		22 08 12.5	
comp=Z,25nm,0.6s							
BCIP	**Isla Barro Col**	**7.25**	**260**		**Pn**	**22 06 50.9**	**+0.6**
YOTC	**Yotoco, Valle**	**7.52**	**210**	*e*P	**Pn**	**22 06 52.9**	**-1.2**
YOTC				*e*S	**Sn**	**22 08 22.7**	**+3.2**
PCRV	**Puerto La Cruz**	**7.86**	**92**	P	**Pn**	**22 07 01.2**	**+2.5**
comp=Z,4.9nm,0.3s,baz=267,slow=1.9,SNR=13							
PCRV				S	**Sn**	**22 08 29.4**	**+1.7**
baz=319,slow=19,SNR=1.3							
PLCV	**Puerto La Cruz**	**7.91**	**92**		**Pn**	**22 07 01.2**	**+1.9**
PLCV					**Sn**	**22 08 29.4**	**+0.6**
PAPH	**Port-au-Prince**	**7.91**	**2**	Pn	**Pn**	**22 06 59.5**	**+0.1**
GUVC	**San Jose del G**	**7.97**	**180**	*e*P	**Pn**	**22 06 59.1**	**-1.1**
GUVC				*e*S	**Sn**	**22 08 29.5**	**-1.1**
GUVC				*i*		22 08 35.9	
comp=Z,63nm,0.3s							
BANI	**BANI**	**8.08**	**15**	Pn	**Pn**	**22 07 01.8**	**+0.1**
MARP	**Paez Belalcaza**	**8.36**	**204**	*e*P	**Pn**	**22 07 07.5**	**+1.6**
MACC	**Macarena, Meta**	**8.46**	**188**	*e*P	**Pn**	**22 07 05.9**	**-1.0**
MACC				*e*S	**Sn**	**22 08 36.6**	**-5.9**
MACC				*i*		22 09 20.5	
comp=Z,25nm,0.6s							
SDDR	**Presa de Saban**	**8.46**	**9**		**Pn**	**22 07 09.5**	**+2.6**
DR12	**Loma Pena Alta**	**8.75**	**21**		**Pn**	**22 07 09.8**	**-1.1**
GARC	**Garzon, Huila**	**8.81**	**199**	*e*P	**Pn**	**22 07 11.4**	**-0.5**
PCDR	**Punta Cana, DR**	**8.89**	**27**	Pn	**Pn**	**22 07 12.0**	**-0.8**
MTDJ	**Mount Denham**	**8.98**	**329**	Pn	**Pn**	**22 07 13.3**	**-0.8**
PCON	**Cinco Dias**	**9.01**	**205**	*e*P	**Pn**	**22 07 17.6**	**+2.6**
MLPR	**Magueyes Islan**	**

LPAZ La Paz 27.05 170 IAmb IAmb 22 10 50.0
comp=Z,2.6nm,1.1s
SIV San Ignacio 28.76 156 P **P 22 11 01.1 -1.1**
comp=Z,1.5nm,0.5s,baz=6.6,slow=10,SNR=8.5
I63A Otisfield 33.40 3 P **P 22 11 42.1 -0.7**
I63A IAmb IAmb 22 11 56.0
comp=Z,13nm,1.1s
TXAR Lajitas Array 34.48 307 P **P 22 11 55.6 +3.1**
comp=Z,0.4nm,0.7s,baz=135,slow=9.0,SNR=4.9
TXAR PcP **PcP 22 14 27.9 0.0**
comp=Z,0.2nm,0.8s,baz=132,slow=5.4,SNR=4.1
O20A White River Ci 43.13 319 P **P 22 13 06.6 +1.4**
O20A IAmb IAmb 22 13 06.9
comp=Z,16nm,1.1s
RWWY Rawlins 43.37 322 P **P 22 13 08.0 +0.9**
RWWY IAmb IAmb 22 13 12.7
comp=Z,6.7nm,0.8s
SCHQ Schefferville 44.39 5 P **P 22 13 16.2 +1.4**
comp=Z,3.2nm,0.5s,baz=173,slow=6.8,SNR=6.3
SCHQ Schefferville 44.39 5 IAmb IAmb 22 13 17.3
comp=Z,6.1nm,1.1s
PDAR Pinedale Array 45.41 322 P **P 22 13 23.4 0.0**
comp=Z,0.4nm,0.5s,baz=116,slow=8.1,SNR=1.7
PDAR PcP **PcP 22 15 01.8 -0.8**
comp=Z,0.8nm,0.5s,baz=124,slow=5.8,SNR=6.6
NVAR Mina Array Bea 49.29 312 PcP **PcP 22 15 16.7 +0.2**
comp=Z,0.5nm,0.6s,baz=114,slow=4.4,SNR=2.5
PLCA Paso Flores 51.08 178 P **P 22 14 05.1 -1.8**
comp=Z,1.3nm,0.7s,baz=338,slow=9.6,SNR=3.6
SUMG Summit 65.23 11 P **P 22 15 45.5 -0.5**
TIC Toumodi 66.84 87 *e*P **P 22 15 55.7 -1.2**
LIC Lamto 66.90 88 *e*P **P 22 15 56.1 -1.2**
comp=Z,16nm,0.7s
ESDC Sonseca Array 66.91 51 P **P 22 15 57.1 +0.1**
comp=Z,0.4nm,0.6s,baz=269,slow=4.5,SNR=4.3
ESDC Sonseca Array 66.91 51 IAmb IAmb 22 16 03.3
comp=Z,4.0nm,1.1s
DBIC Dimbokro 67.00 87 P **P 22 15 56.9 -0.9**
comp=Z,1.8nm,0.5s,baz=241,slow=5.8,SNR=6.5
DBIC Dimbokro 67.00 87 IAmb IAmb 22 16 02.4
comp=Z,6.6nm,0.9s
KIC Kosan Boka 67.16 88 *e*P **P 22 15 57.9 -1.0**
comp=Z,19nm,0.9s
TORD Torodi Ar. Bea 72.53 79 P **P 22 16 30.9 -1.1**
comp=Z,1.2nm,0.5s,baz=290,slow=6.7,SNR=18
TORD Torodi Ar. Bea 72.53 79 **P 22 16 31.2 -0.8**
ILAR Eielson Array 73.81 335 P **P 22 16 38.3 -0.3**
comp=Z,0.3nm,0.7s,baz=102,slow=4.7,SNR=4.1
RND Reindeer 74.45 333 P **P 22 16 42.9 +0.4**
RND IAmb IAmb 22 16 50.8
comp=Z,5.8nm,1.0s
NB2 NORSAR Subarra 77.84 30 P **P 22 17 01.5 -0.3**
comp=Z,1.4nm,0.7s,baz=270,slow=5.9
NOA NORSAR Array B 77.84 30 P **P 22 17 01.6 -0.1**
comp=Z,0.8nm,0.8s,baz=270,slow=5.7,SNR=3.0
GERES GERESS Array B 79.71 42 P **P 22 17 12.6 +0.2**
comp=Z,0.6nm,0.6s,baz=258,slow=4.5,SNR=4.7
ARCES ARCESS Array B 83.00 21 P **P 22 17 29.5 +0.1**
comp=Z,3.2nm,0.9s,baz=257,slow=3.6,SNR=1.1
FINES FINESS Array B 84.92 28 P **P 22 17 37.7 -1.5**
comp=Z,0.9nm,0.8s,baz=316,slow=3.8,SNR=1.3
FINES FINESS Array B 84.92 28 P **P 22 17 38.9 -0.4**
CMAR Chiang Mai Arr 149.98 16 PKPbc **PKPbc 22 24 54.7 -1.2**
comp=Z,1.0nm,0.5s,baz=316,slow=3.8,SNR=5.2
ASAR Alice Springs 151.57 239 PKP **PKPdf 22 24 53.3 -0.1**
comp=Z,0.5nm,0.7s,baz=112,slow=2.6,SNR=45
ASAR PKPbc **pPKPdf 22 24 58.3 +0.8**
comp=Z,7.4nm,0.7s,baz=112,slow=2.8,SNR=43
WRA Warramunga Arr 152.42 247 PKP **PKPdf 22 24 53.8 -0.9**
comp=Z,0.4nm,0.7s,baz=95,slow=1.2,SNR=8.3
WRA PKPbc **pPKPdf 22 25 00.8 +2.0**
comp=Z,5.3nm,0.5s,baz=105,slow=2.8,SNR=101

WEL 11 22:34:54.5±1.0, 36°.S±14°.×17°.9E±1°.5, h278km±9km, M3.8/25, mB4.3/4, MLv4.0/25, Mw(mB)3.4/4, Error ellipse: s-maj=0.0km s-min=0.0km az=132.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.88**	**194**	P	Pn	22 35 37.9	-0.3
MXZ				S	S	22 36 12.8	-0.2
WMGZ	**Waiomatatini S**	**2.12**	**190**	P	Pn	22 35 40.9	+0.7
HAZ	**Te Kaha**	**2.20**	**203**	P	Pn	22 35 40.3	-0.6
HAZ				S	S	22 36 17.2	-0.7
PUZ	**Puketiti**	**2.39**	**192**	P	Pn	22 35 43.0	+0.3
PUZ				S	S	22 36 21.3	+0.2
RUGZ	**Raukumara Rang**	**2.43**	**203**	P	Pn	22 35 42.3	-0.9
RUGZ				S	S	22 36 22.3	+0.4
CNGZ	**Carnagh Statio**	**2.80**	**191**	P	Pn	22 35 48.0	+1.4
OPRZ	**Ohinepanea**	**2.81**	**221**	P	Pn	22 35 47.3	+0.6
MWZ	**Matawai**	**2.81**	**202**	S	S	22 36 28.5	+0.1
TKGZ	**Te Karaka**	**2.83**	**196**	P	Pn	22 35 47.3	+0.5
TKGZ				S	S	22 36 30.1	+1.6
URZ	**Urewera**	**2.89**	**209**	P	Pn	22 35 46.9	-0.6
URZ				S	S	22 36 29.4	-0.4
RAGZ	**Rawiri**	**3.00**	**202**	P	Pn	22 35 45.1	-3.6
RIGZ	**Rimuhau**	**3.10**	**196**	P	Pn	22 35 49.6	-0.1
MUGZ	**Murupara**	**3.21**	**211**	P	Pn	22 35 50.7	-0.2
MUGZ				S	S	22 36 36.2	+0.4
SNGZ	**Shannon Statio**	**3.28**	**201**	P	Pn	22 35 52.4	+0.8
SNGZ				S	S	22 36 38.7	+1.5
PRGZ	**Paritu Road**	**3.28**	**193**	P	Pn	22 35 51.9	+0.2
KNZ	**Kokohu**	**3.42**	**196**	P	Pn	22 35 53.4	+0.4
RAHZ	**Arahi**	**3.48**	**203**	P	Pn	22 35 54.1	+0.4
RAHZ				S	S	22 36 41.9	+0.8
MHGZ	**Mahia Peninsul**	**3.50**	**192**	P	Pn	22 35 55.2	+1.2
MRHZ	**Matea Rd**	**3.66**	**211**	P	Pn	22 35 55.2	-0.6
TLZ	**Tolley Road**	**3.72**	**225**	P	Pn	22 35 56.9	+0.5
BKZ	**Black Stump Fm**	**3.92**	**208**	P	Pn	22 35 57.9	-0.7
PXZ	**Pawanui**	**4.58**	**200**	P	Pn	22 36 06.0	-0.1
PNHZ	**Pukenui**	**4.68**	**206**	P	Pn	22 36 06.6	-0.8
VRZ	**Vera Road**	**4.71**	**223**	P	Pn	22 36 10.1	+2.4
WPHZ	**Waipukurau**	**4.73**	**203**	P	Pn	22 36 08.2	+0.3
PRHZ	**Porangahau**	**4.86**	**201**	P	Pn	22 36 09.5	+0.1
TSZ	**Takapari Road**	**4.89**	**207**	P	Pn	22 36 02.9	-7.0
DVHZ	**Dannevirke**	**5.04**	**204**	P	Pn	22 36 10.8	-0.7
WAZ	**Wanganui**	**5.06**	**216**	P	Pn	22 36 10.8	-1.0
ANWZ	**Angora Road**	**5.08**	**201**	P	Pn	22 36 12.2	+0.1
NEZ	**North Egmont**	**5.18**	**226**	P	Pn	22 36 14.1	+0.7
POWZ	**Post Office Ro**	**5.26**	**207**	P	Pn	22 36 13.5	-0.7
BFZ	**Birch Farm**	**5.36**	**202**	P	Pn	22 36 14.8	-0.6
MTW	**Mount Morrison**	**6.03**	**205**	P	Pn	22 36 21.4	-2.0

NEIC ***11*** *22:46:25.4±2.0, 19°.0S±0°.1×169°.43E±0°.04, h212km±11km, mb4.4/9, Error ellipse: s-maj=15.0km s-min=4.9km az=187.0*
IDC ***11*** *22:46:27.4±3.5, 19°.36S×169°.56E, h242km±36km, mb3.4/6, mb1 3.6/7, mb1mx3.3/35, mbtmp4.0/7, Error ellipse: s-maj=88.4km s-min=35.0km az=151.0*
ISC 11 22:46:27.9±0.7, 19°.3S±0°.1×169°.46E±0°.09, h246km, n21, σ0.76/20, mb3.8/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.98**	**225**	P	**Pn**	**22 47 30.7**	**-0.7**
3.1nm,0.3s,baz=43,slow=19,SNR=32							
DZM	**Mont Dzumac**	**3.98**	**225**		**Pn**	**22 47 30.3**	**-1.1**
SANVU	**Saraoutou**	**4.35**	**330**	Pn	Pn	22 47 29.6	-6.1
MSVF	**Nonsavu**	**8.29**	**81**	Pn	**Pn**	**22 48 24.2**	**-0.9**
RAO	**Raoul Island**	**15.21**	**133**	P	**P**	**22 49 50.5**	**+0.2**
OUZ	**Omahuta**	**16.33**	**168**		**Pn**	**22 50 04.9**	**+0.9**
OUZ				IAmb	IAmb	22 50 17.3	
comp=Z,26nm,1.2s							
EIDS	**Eidsvold**	**18.05**	**247**	P	**P**	**22 50 21.2**	**-0.2**
CTA	**Charters Tower**	**21.86**	**264**	P	**P**	**22 51 02.2**	**+1.1**
comp=Z,1.3nm,0.4s,baz=93,slow=9.4,SNR=1.9							
COEN	**Coen**	**25.71**	**278**	P	**P**	**22 51 35.3**	**-0.8**
COEN				IAmb	IAmb	22 51 53.2	
comp=Z,6.0nm,1.1s							
STKA	**Stephens Creek**	**28.01**	**238**	P	**P**	**22 51 56.7**	**+0.3**
comp=Z,1.5nm,0.7s,baz=82,slow=7.1,SNR=3.5							
WRA	**Warramunga Arr**	**33.05**	**263**	P	**P**	**22 52 40.2**	**-0.6**
comp=Z,0.7nm,0.4s,baz=97,slow=8.3,SNR=12							
AS31	**Alice Springs**	**33.32**	**256**	P	**P**	**22 52 43.7**	**+0.6**
AS31				IAmb	IAmb	22 52 44.1	
comp=Z,4.5nm,0.3s							
ASAR	**Alice Springs**	**33.32**	**256**	P	**P**	**22 52 43.5**	**+0.5**
comp=Z,5.0nm,0.5s,baz=82,slow=8.9,SNR=78							
ASAR	**Alice Springs**	**33.32**	**256**	P	**P**	**22 52 43.2**	**+0.1**
MTN	**Manton Dam**	**37.32**	**274**	P	**P**	**22 53 16.8**	**-0.3**
KNRA	**Kununurra**	**38.92**	**269**	P	**P**	**22 53 29.9**	**-0.5**
KNRA				IAmb	IAmb	22 53 43.0	
comp=Z,11nm,1.1s							
FITZ	**Fitzroy Crossi**	**41.44**	**264**	P	**P**	**22 53 52.2**	**+1.2**
comp=Z,1.3nm,0.6s,baz=96,slow=19,SNR=6.2							
FITZ	**Fitzroy Crossi**	**41.44**	**264**	P	**P**	**22 53 51.9**	**+0.8**
JMZ	**Minamidaito 2**	**58.20**	**319**	P	**P**	**22 55 56.4**	**-0.3**
AMKA	**Amchitka**	**70.85**	**7**	P	**P**	**22 57 18.7**	**+0.9**
ILAR	**Eielson Array**	**90.18**	**17**	P	**P**	**22 59 00.0**	**+0.2**
comp=Z,0.3nm,0.7s,baz=225,slow=3.4,SNR=2.1							

IDC ***11*** *23:50:56.4±1.2, 11°.48S×162°.04E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/36, mbtmp3.7/6, ML3.6/1, MS2.9/2, Ms1 2.9/2, ms1mx2.7/29, Error ellipse: s-maj=41.7km s-min=27.4km az=135.0*
NEIC ***11*** *23:50:57.4±0.7, 11°.6S±0°.1×162°.1E±0°.1, h10km±1km, mb4.3/8, Error ellipse: s-maj=24.2km s-min=12.1km az=44.0*
ISC 11 23:51:01.0±0.7, 11°.60S±0°.09×162°.10E±0°.09, h39km, n26, σ1.36/19, mb3.8/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.02**	**315**	Sn	**Sn**	**23 52 21.3**	**+0.1**
25nm,0.3s,baz=164,slow=18,SNR=2.0							
HNR				LR	LR	23 53 00.1	
comp=Z,83nm,18.8s,baz=78,slow=43							
HNR	**Honiara**	**3.02**	**315**	Pn	**Pn**	**23 51 45.6**	**-0.7**
SANVU	**Saraoutou**	**6.27**	**128**	Pn	**Pn**	**23 52 29.8**	**-1.2**
DZM	**Mont Dzumac**	**11.21**	**159**	Pn	**Pn**	**23 53 40.3**	**+1.4**
0.4nm,0.3s,baz=3.8,slow=20,SNR=1.9							
DZM				LR	LR	23 57 10.2	
comp=Z,119nm,18.6s,baz=48,slow=33							
DZM	**Mont Dzumac**	**11.21**	**159**		**Pn**	**23 53 38.5**	**-0.4**
CTA	**Charters Tower**	**17.41**	**239**	P	**P**	**23 55 05.3**	**+3.3**
0.2nm,0.3s,baz=70,slow=16,SNR=5.9							
COEN	**Coen**	**18.60**	**261**	P	**Pn**	**23 55 15.3**	**-0.4**
AFI	**Afiamalu**	**25.58**	**98**	P	**P**	**23 56 26.9**	**+0.1**
WB0	**Warramunga Arr**	**27.85**	**250**	P	**P**	**23 56 47.4**	**+0.2**
WB0				IAmb	IAmb	23 56 59.8	
comp=Z,2.3nm,1.1s							
WRA	**Warramunga Arr**	**27.94**	**249**	P	**P**	**23 56 48.6**	**+0.7**
comp=Z,0.5nm,0.6s,baz=80,slow=9.4,SNR=3.9							
WRA	**Warramunga Arr**	**27.94**	**249**	IAmb	IAmb	23 56 51.4	
comp=Z,0.1nm,1.1s							
ASAR	**Alice Springs**	**29.36**	**242**	P	**P**	**23 57 01.2**	**+0.6**
comp=Z,0.7nm,0.6s,baz=69,slow=9.6,SNR=11							
TOO	**Toolangi**	**29.84**	**207**	P	**P**	**23 57 02.0**	**-2.7**
TOO				IAmb	IAmb	23 57 06.5	
comp=Z,5.1nm,0.9s							
H11S2	**WAKE ISLAND Hy 30.24**		**9**	T	T	00 28 10.0	
baz=188,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy 30.24**		**9**	T	T	00 28 09.1	
baz=188,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hy 30.26**		**9**	T	T	00 28 08.9	
baz=188,slow=76,SNR=11							
MTN	**Manton Dam**	**30.28**	**264**	P	**P**	**23 57 07.0**	**-1.8**
MTN				IAmb	IAmb	23 57 23.1	
comp=Z,5.9nm,1.1s							
H11N1	**WAKE ISLAND Hy 31.47**		**9**	T	T	00 29 42.1	
baz=188,slow=76,SNR=6.2							
H11N3	**WAKE ISLAND Hy 31.48**		**9**	T	T	00 29 41.3	
baz=188,slow=76,SNR=7.2							
H11N2	**WAKE ISLAND Hy 31.49**		**9**	T	T	00 29 42.1	
baz=188,slow=76,SNR=6.3							
THZ	**Tophouse**	**31.50**	**164**	P	**P**	**23 57 19.7**	**+0.4**
THZ				IAmb	IAmb	23 57 26.6	
comp=Z,6.2nm,0.9s							
SONM	**Songino Array**	**77.03**	**325**	P	**P**	**00 02 50.9**	**+0.8**
comp=Z,0.7nm,0.7s,baz=140,slow=6.0,SNR=4.1							
SONM	**Songino Array**	**77.03**	**325**	P	**P**	**00 02 49.7**	**-0.4**
ILAR	**Eielson Array**	**85.20**	**20**	P	**P**	**00 03 33.3**	**+0.3**
comp=Z,0.2nm,0.5s,baz=224,slow=5.0,SNR=4.2							
NVAR	**Mina Array Bea**	**89.13**	**51**	P	**P**	**00 03 54.2**	**+1.3**
comp=Z,0.4nm,0.7s,baz=240,slow=7.1,SNR=3.7							
KEST	**Kesra**	**145.58**	**319**	PKPbc	**PKPab**	**00 10 36.9**	**+0.7**
comp=Z,3.5nm,0.8s,baz=27,slow=4.5,SNR=6.3							

IDC 12 00:07:09.0±5.9, 47°.12N×147°.78E, h312km±84km, mb3.0/2, mb1 3.1/4, mb1mx2.7/42, mbtmp3.7/4, Error ellipse: s-maj=90.3km s-min=34.6km az=157.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**11.43**	**261**	P	Pn	00 09 44.1	-0.2
baz=71,slow=12,SNR=5.9							
KSRS	**Korea Array**	**17.54**	**244**	P	P	00 10 53.3	+0.4
0.3nm,0.3s,baz=55,slow=11,SNR=1.8							
ILAR	**Eielson Array**	**38.55**	**39**	P	P	00 14 01.6	-0.1
0.2nm,0.4s,baz=263,slow=6.3,SNR=3.3							
FINES	**FINESS Array B**	**62.09**	**332**	P	P	00 16 56.6	-0.1
0.8nm,0.5s,baz=43,slow=8.4,SNR=5.6							

BJI ***12*** *00:13:44.3±0.0, 10°.72S×165°.90E, h18km, mB5.1/31, mb4.8/40, Ms4.7/15, Ms7 4.4/15*
INMG ***12*** *00:13:49.5, 10°.86S×165°.67E, h42km, Mb5.1*
NEIC ***12*** *00:13:49.5±1.2, 10°.86S±0°.07×165°.67E±0°.08, h42km±2km, mb4.8/112, Error ellipse: s-maj=10.7km s-min=9.4km az=83.0*
GCMT ***12*** *00:13:49.5±0.3, 10°.96S±0°.02×165°.49E±0°.02, h31km, MW5.0/81, Moment Tensor Solution. s52,c61; s81,c98; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=3.67±.16; Mθθ=0.53±.11; Mφφ=3.15±.11; Mrθ=0.48±.14; Mθφ=-1.07±.09; Mφr=0.32±.12; Best double couple: M0=3.64400×10^16^ NP1:φs=332.00000°, δ=44.00000°, λ=-102.00000°. NP2: φs=169.00000°, δ=47.00000°, λ=-79.00000°. Principal axes: T 3.5340, Plg1.0000°, Azm251.0000°; N 0.2260, Plg8.0000°, Azm341.0000°; P -3.7540, Plg82.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***12*** *00:13:49.9±3.1, 10°.83S×165°.66E, h42km±26km, mb4.3/22, mb1 4.5/24, mb1mx4.4/38, mbtmp4.5/24, ML4.9/2, MS4.3/23, Ms1 4.3/23, ms1mx4.1/34 Error ellipse: s-maj=18.5km s-min=13.0km az=88.0*
ISC 12 00:13:48.5±0.3, 10°.88S±0°.05×165°.67E±0°.05, h30km, n197, σ1.21/176, mb4.8/74, MS4.4/27, 3C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.78**	**162**	Pn	**Pn**	**00 14 59.1**	**+0.6**
HNR	**Honiara**	**5.82**	**284**	P	**Pn**	**00 15 14.3**	**+1.6**
50nm,0.3s,baz=205,slow=2.5,SNR=11							
HNR				S	**Sn**	**00 16 18.9**	**+0.4**
16nm,0.3s,baz=20,slow=20,SNR=1.3							
HNR				LR	LR	00 17 32.8	
comp=Z,5μm,18.7s,baz=122,slow=38							
HNR	**Honiara**	**5.82**	**284**		**Pn**	**00 15 13.9**	**+1.1**
DZM	**Mont Dzumac**	**11.16**	**176**	P	**Pn**	**00 16 27.6**	**+1.5**
5.0nm,0.3s,baz=185,slow=21,SNR=43							
DZM				S	**Sn**	**00 18 26.7**	**-3.3**
0.9nm,0.3s,baz=147,slow=23,SNR=1.6							
DZM				LR	LR	00 20 15.5	
comp=Z,705nm,20.6s,baz=38,slow=34							
DZM	**Mont Dzumac**	**11.16**	**176**	*e*Pn	**Pn**	**00 16 28.7**	**+2.5**
111nm,1.4s							
DZM				*e*Sn	**Sn**	**00 18 25.5**	**-4.5**
32nm,0.8s							
DZM				*e*LR	LR	00 19 02.4	
comp=Z,2μm,25.4s							
DZM	**Mont Dzumac**	**11.16**	**176**	Pn	**Pn**	**00 16 27.3**	**+1.1**
DZM					**Sn**	**00 18 31.0**	**+1.0**
FUNA	**Funafuti**	**13.54**	**81**	Pn	**Pn**	**00 16 58.8**	**+0.2**
MSVF	**Nonsavu**	**13.79**	**121**	Pn	**Pn**	**00 17 06.2**	**+4.0**
TARA	**Tarawa**	**14.13**	**31**	Pn	**Pn**	**00 17 07.4**	**+0.7**
KRVT	**Keravat (AS076**	**15.01**	**295**	P	**P**	**00 17 23.1**	**-0.7**
2.8nm,0.3s,baz=36,slow=8.7,SNR=1.3							
KRVT				LR	LR	00 23 24.6	
comp=Z,2μm,19.7s,baz=125,slow=38							
PMG	**Port Moresby**	**18.28**	**273**	LR	LR	00 25 00.1	
comp=Z,2μm,18.9s,baz=96,slow=37							
PATS	**Pohnpei**	**19.06**	**337**	P	**P**	**00 18 09.3**	**+0.8**
PATS				IAmb	IAmb	00 18 21.3	
comp=Z,103nm,1.1s							
KWAJ	**Kwajalein Atol**	**19.64**	**6**	P	**P**	**00 18 16.2**	**+1.3**
KWAJ				IAmb	IAmb	00 18 25.0	
comp=Z,63nm,0.8s							
EIDS	**Eidsvold**	**19.97**	**222**		**Pn**	**00 18 20.7**	**+0.3**
CTA	**Charters Tower**	**20.82**	**242**	P	**P**	**00 18 29.1**	**+1.3**
comp=Z,21nm,0.6s,baz=68,slow=12,SNR=29							
CTAO	**Charters Tower**	**20.82**	**242**		**P**	**00 18 29.2**	**+1.5**
CTAO				IAmb	IAmb	00 18 38.5	
comp=Z,54nm,1.1s							
AFI	**Afiamalu**	**22.23**	**100**	LR	LR	00 25 40.5	
comp=Z,1μm,19.1s,baz=244,slow=32							
OUZ	**Omahuta**	**25.29**	**165**	P	**P**	**00 19 12.7**	**+0.4**
OUZ				IAmb	IAmb	00 19 14.7	
comp=Z,36nm,1.0s							
CAN	**Canberra**	**28.67**	**209**	P	**P**	**00 19 43.0**	**+0.1**
URZ	**Urewera**	**29.13**	**161**	LR	LR	00 29 28.9	
comp=Z,844nm,20.8s,baz=341,slow=32							
H11S2	**WAKE ISLAND Hy 29.20**		**2**	T	T	00 50 11.5	
baz=181,slow=76,SNR=199							
H11S3	**WAKE ISLAND Hy 29.20**		**2**	T	T	00 50 13.1	
baz=181,slow=76,SNR=107							
H11S1	**WAKE ISLAND Hy 29.21**		**2**	T	T	00 50 13.8	
baz=181,slow=76,SNR=150							
H11N1	**WAKE ISLAND Hy 30.42**		**2**	T	T	00 51 40.4	
baz=182,slow=76,SNR=192							
H11N3	**WAKE ISLAND Hy 30.42**		**2**	T	T	00 51 40.7	
baz=182,slow=76,SNR=162							
H11N2	**WAKE ISLAND Hy 30.44**		**2**	T	T	00 51 48.7	
baz=182,slow=76,SNR=198							
STKA	**Stephens Creek**	**30.52**	**223**	P	**P**	**00 20 00.1**	**+0.8**
comp=Z,2.9nm,0.5s,baz=55,slow=9.7,SNR=18							
STKA				PcP	**PcP**	**00 22 57.7**	**-0.2**
comp=Z,3.1nm,0.8s,baz=20,slow=4.6,SNR=4.0							
STKA				LR	LR	00 31 57.3	
comp=Z,1μm,18.0s,baz=39,slow=36							
STKA	**Stephens Creek**	**30.52**	**223**	P	**P**	**00 19 59.8**	**+0.6**
WR0	**Warramunga Arr**	**31.29**	**249**	P	**P**	**00 20 06.4**	**+0.2**
WB0	**Warramunga Arr**	**31.39**	**250**	P	**P**	**00 20 06.6**	**-0.5**
WB0				IAmb	IAmb	00 20 16.0	
comp=Z,26nm,1.1s							
WB2	**Warramunga Arr**	**31.46**	**250**	P	**P**	**00 20 07.5**	**-0.2**
WRA	**Warramunga Arr**	**31.47**	**250**	P	**P**	**00 20 06.8**	**-1.0**
comp=Z,6.5nm,0.7s,baz=82,slow=9.1,SNR=54							
WRA				PcP	**PcP**	**00 23 01.1**	**+0.3**
comp=Z,1.2nm,0.5s,baz=74,slow=3.1,SNR=7.2							
WRA				LR	LR	00 32 53.1	
comp=Z,1μm,18.1s,baz=85,slow=36							
WRA	**Warramunga Arr**	**31.47**	**250**	P	**P**	**00 20 07.6**	**-0.2**
AS31	**Alice Springs**	**32.80**	**243**	P	**P**	**00 20 18.6**	**-0.8**
ASAR	**Alice Springs**	**32.80**	**243**	P	**P**	**00 20 18.7**	**-0.8**
comp=Z,10nm,0.7s,baz=64,slow=10,SNR=168							
ASAR				PcP	**PcP**	**00 23 04.4**	**+0.1**
comp=Z,2.0nm,0.6s,baz=62,slow=2.7,SNR=9.4							
ASAR				LR	LR	00 32 57.1	
comp=Z,692nm,18.4s,baz=68,slow=35							
ASAR	**Alice Springs**	**32.80**	**243**	P	**P**	**00 20 18.0**	**-1.5**
MLZ	**Mavora Lakes**	**34.44**	**177**	P	**P**	**00 20 33.2**	**-0.2**
XMAS	**Kiritimati**	**38.87**	**73**	P	**P**	**00 21 11.9**	**+0.3**
LBMI	**Labuha**	**39.26**	**282**	P	P	00 21 06.7	-8.2
comp=Z,1μmcomp=Z,53nm,0.8s							
LUWI	**Luwuk**	**43.71**	**280**	P	**P**	**00 21 50.9**	**-0.5**
comp=Z,84nm,0.8s							
LUWI	**Luwuk**	**43.71**	**280**	P	**P**	**00 21 50.3**	**-1.1**
PPT	**Papeete**	**43.81**	**104**	LR	LR	00 38 33.9	
comp=Z,410nm,19.3s,baz=292,slow=34							
PPT2	**Papeete2**	**43.81**	**104**	*e*LR	LR	00 34 08.6	
comp=Z,707nm,22.8s							
PPTF	**Pamatai, Papee**	**43.82**	**104**	P	**P**	**00 21 51.0**	**-1.3**
TBI	**Tubuai**	**44.46**	**112**	*e*LR	LR	00 34 23.0	
comp=Z,764nm,24.5s							
NWAO	**Narrogin (SRO)**	**49.50**	**236**	P	**P**	**00 22 36.1**	**-0.3**
comp=Z,9.4nm,0.9s,baz=63,slow=7.5,SNR=5.6							
NWAO	**Narrogin (SRO)**	**49.50**	**236**	P	**P**	**00 22 36.5**	**0.0**
MORW	**Morawa**	**49.64**	**241**		pP	00 22 47.2	+1.2
TAOE	**Nuku Hiva Isla**	**53.36**	**93**	*e*LR	LR	00 38 40.1	
comp=Z,375nm,24.2s							
INU	**Inuyama**	**53.37**	**331**	P	**P**	**00 23 03.7**	**-1.6**
INU				IAmb	IAmb	00 23 05.7	
comp=Z,14nm,1.0s							
JGF	**Kuroka**	**53.41**	**331**	P	**P**	**00 23 04.5**	**-1.2**
JGF				IAmb	IAmb	00 23 13.4	
comp=Z,11nm,1.1s							
MJAR	**Matsushiro Arr**	**53.79**	**333**	P	**P**	**00 23 06.9**	**-1.5**
comp=Z,3.0nm,0.5s,baz=164,slow=7.3,SNR=11							
MJAR				LR	LR	00 44 00.4	
comp=Z,81nm,21.3s,baz=180,slow=34							
MAT	**Matsushiro**	**53.79**	**333**	P	**P**	**00 23 07.6**	**-0.8**
MAT				*e*S	**S**	**00 30 40.0**	**-1.2**
PBKI	**Pangkalan Bun**	**54.16**	**275**	P	**P**	**00 23 10.7**	**-0.9**
comp=Z,18μmcomp=Z,807nm,0.5s							
UGM	**Wanagama**	**54.43**	**268**	P	**P**	**00 23 12.0**	**-1.6**
JHS	**Saijyo**	**55.06**	**327**	P	**P**	**00 23 17.4**	**-0.3**
JHS				IAmb	IAmb	00 23 24.5	
comp=Z,9.5nm,0.9s							
ERM	**Erimo**	**56.55**	**340**	P	**P**	**00 23 28.6**	**+0.4**
JEM	**Erimo**	**56.55**	**340**	P	P	00 23 40.1	+12
JTU	**Tsushima**	**56.76**	**324**	P	**P**	**00 23 27.0**	**-2.8**
KSRS	**Korea Array**	**59.70**	**326**	P	**P**	**00 23 50.5**	**+0.2**
comp=Z,1.0nm,0.5s,baz=142,slow=6.3,SNR=5.5							
NJ2	**Nanjing**	**61

HHC				LR	LR		
	comp=Z,280nm,17.3s						
CMAR	**Chiang Mai Arr**	**71.98**	**294**	P	**P**	**00 25 10.3**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=113,slow=4.5,SNR=7.0						
LZH	**Lanzhou**	**74.59**	**312**	*e*P	**P**	**00 25 25.6**	**+0.5**
LZH				pP	pwP	00 25 37.1	+2.6
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
SVW2	**Sparrevohn**	**77.97**	**18**	P	**P**	**00 25 43.6**	**0.0**
SVW2				IAmb	IAmb	00 25 58.0	
	comp=Z,9.9nm,1.1s						
SONM	**Songino Array**	**78.49**	**324**	P	**P**	**00 25 46.3**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=136,slow=6.7,SNR=13						
SONM				LR	LR	01 00 47.4	
	comp=Z,63nm,18.1s,baz=151,slow=36						
SONM	**Songino Array**	**78.49**	**324**	P	**P**	**00 25 46.8**	**-0.1**
GTA	**Gaotai**	**78.89**	**314**	*e*P	**P**	**00 25 50.3**	**+1.0**
GTA				pP	PcP	00 25 58.2	+0.3
GTA				sP	sP	00 26 04.0	+1.9
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,5.3s						
GTA				LR	LR		
	comp=Z,85nm,20.3s						
GTA				LR	LR		
	comp=Z,190nm,21.9s						
GTA				LR	LR		
	comp=Z,170nm,20.8s						
QSPA	**South Pole Qui**	**79.13**	**180**	P	**P**	**00 25 50.2**	**0.0**
	comp=Z,14nm,1.0s,baz=19,slow=2.4,SNR=25						
QSPA	**South Pole Qui**	**79.13**	**180**	P	**P**	**00 25 50.1**	**0.0**
QSPA				IAmb	IAmb	00 25 52.0	
	comp=Z,13nm,0.9s						
PPLA	**Purkeypile**	**80.39**	**18**	P	**P**	**00 25 56.4**	**-0.5**
GLI	**Glacier Island**	**80.63**	**21**	P	**P**	**00 25 57.5**	**-0.7**
GLI				IAmb	IAmb	00 25 58.8	
	comp=Z,17nm,1.2s						
KTH	**Kantishna Hill**	**81.26**	**18**	P	**P**	**00 26 00.9**	**-0.6**
KLU	**Klutina**	**81.47**	**21**	IAmb	IAmb	00 26 03.6	
	comp=Z,13nm,1.1s						
BPAW	**Bear Paw Mtn.**	**81.64**	**18**	P	**P**	**00 26 02.8**	**-0.6**
RND	**Reindeer**	**81.80**	**19**	P	**P**	**00 26 03.9**	**-0.4**
RND				IAmb	IAmb	00 26 06.3	
	comp=Z,15nm,1.2s						
VRDI	**Verde Repeater**	**82.19**	**22**	P	**P**	**00 26 05.6**	**-1.0**
VRDI				IAmb	IAmb	00 26 06.9	
	comp=Z,6.7nm,0.6s						
BALM	**Baldy**	**82.49**	**23**	P	**P**	**00 26 07.7**	**-0.4**
KCPM	**Cahto Peak**	**82.49**	**47**	P	**P**	**00 26 08.6**	**0.0**
BARN	**Barnard Glacie**	**82.76**	**23**	IAmb	IAmb	00 26 19.2	
	comp=Z,8.8nm,0.8s						
WRH	**Wood River Hil**	**82.79**	**18**	IAmb	IAmb	00 26 10.2	
	comp=Z,8.1nm,0.8s						
CTGM	**Chitina Glacie**	**82.83**	**23**	P	**P**	**00 26 09.8**	**-0.1**
CCB	**Clear Creek Bu**	**83.00**	**18**	IAmb	IAmb	00 26 11.3	
	comp=Z,5.8nm,0.6s						
MDM	**Murphy Dome**	**83.09**	**18**	IAmb	IAmb	00 26 11.6	
	comp=Z,8.1nm,0.8s						
MENT	**Mentasta**	**83.20**	**21**	P	**P**	**00 26 11.2**	**-0.4**
MENT				IAmb	IAmb	00 26 13.8	
	comp=Z,11nm,1.1s						
RIDG	**Independent Ri**	**83.34**	**20**	IAmb	IAmb	00 26 14.2	
	comp=Z,12nm,1.0s						
IL31		**83.38**	**19**	IAmb	IAmb	00 26 12.6	
	comp=Z,7.7nm,0.9s						
ILAR	**Eielson Array**	**83.38**	**19**	P	**P**	**00 26 11.6**	**-0.8**
	comp=Z,5.8nm,0.7s,baz=239,slow=5.2,SNR=68						
ILAR				LR	LR	00 59 40.5	
	comp=Z,66nm,18.9s,baz=262,slow=33						
DOT	**Dot Lake**	**83.54**	**20**	IAmb	IAmb	00 26 13.8	
	comp=Z,9.3nm,1.0s						
YBH	**Yreka Blue Hor**	**83.83**	**46**	LR	LR	01 02 24.5	
	comp=Z,82nm,18.0s,baz=226,slow=35						
YBH	**Yreka Blue Hor**	**83.83**	**46**	P	**P**	**00 26 15.5**	**+0.1**
HUMO	**Hull Mountain**	**83.96**	**45**	P	**P**	**00 26 16.7**	**+0.7**
HUMO				IAmb	IAmb	00 26 17.0	
	comp=Z,6.9nm,1.1s						
AFDM	**Forest Hills D**	**84.14**	**49**	IAmb	IAmb	00 26 18.0	
	comp=Z,8.5nm,1.0s						
HYT	**Haines Junctio**	**84.26**	**24**	P	**P**	**00 26 16.7**	**-0.5**
HYT				IAmb	IAmb	00 26 18.2	
	comp=Z,11nm,1.0s						
MAW	**Mawson**	**84.85**	**202**	P	**P**	**00 26 20.7**	**+0.7**
	comp=Z,12nm,1.2s,baz=87,slow=7.0,SNR=14						
MAW	**Mawson**	**84.85**	**202**	P	**P**	**00 26 21.1**	**+1.1**
WAKR	**Walker**	**85.14**	**49**	P	**P**	**00 26 21.9**	**-0.4**
PNTR	**Pine Nut**	**85.20**	**49**	IAmb	IAmb	00 26 32.3	
	comp=Z,5.5nm,0.9s						
EGAK	**Eagle**	**85.24**	**20**	P	**P**	**00 26 22.0**	**+0.1**
K05A	**Summer Lake**	**85.43**	**45**	P	**P**	**00 26 23.6**	**0.0**
MOD	**Modoc Plateau**	**85.58**	**46**	IAmb	IAmb	00 26 24.6	
	comp=Z,3.8nm,0.9s						
PINE	**Pine Mountain**	**85.75**	**44**	P	**P**	**00 26 24.9**	**-0.3**
PINE				IAmb	IAmb	00 26 25.9	
	comp=Z,9.4nm,1.0s						
NVAR	**Mina Array Bea**	**85.97**	**50**	P	**P**	**00 26 26.5**	**+0.1**
	comp=Z,5.3nm,1.1s,baz=237,slow=7.1,SNR=21						
NVAR				LR	LR	00 58 32.9	
	comp=Z,265nm,19.3s,baz=267,slow=31						
NVAR	**Mina Array Bea**	**85.97**	**50**	P	**P**	**00 26 26.0**	**-0.4**
DLBC	**Dease Lake**	**86.29**	**28**	LR	LR	01 04 39.1	
	comp=Z,72nm,18.1s,baz=320,slow=35						
KVN	**Kaiserville**	**86.30**	**49**	IAmb	IAmb	00 26 36.8	
	comp=Z,4.7nm,1.1s						
I07A	**Izee**	**86.83**	**44**	IAmb	IAmb	00 26 30.9	
	comp=Z,4.6nm,0.9s						
LTY	**Liberty**	**87.08**	**41**	P	**P**	**00 26 29.7**	**-1.8**
TPNV	**Topopah Spring**	**87.11**	**52**	P	**P**	**00 26 30.9**	**-1.1**
GLA	**Glamis**	**87.22**	**56**	P	**P**	**00 26 32.1**	**-0.3**
J08A	**Circle Bar Ran**	**87.31**	**45**	IAmb	IAmb	00 26 41.5	
	comp=Z,9.1nm,1.2s						
HAWA	**Hanford**	**87.53**	**42**	P	**P**	**00 26 31.9**	**-1.7**
HAWA				IAmb	IAmb	00 26 34.7	
	comp=Z,6.7nm,1.1s						
G08A	**Pilot Rock**	**87.57**	**43**	P	**P**	**00 26 33.1**	**-0.9**
G08A				IAmb	IAmb	00 26 44.2	
	comp=Z,6.3nm,1.0s						
SHPR	**Sheep Range**	**87.84**	**52**	P	**P**	**00 26 33.8**	**-1.7**
R11A	**Troy Canyon, C**	**88.00**	**50**	P	**P**	**00 26 35.5**	**-0.7**
PRN	**Pahroc Range**	**88.16**	**52**	P	**P**	**00 26 36.5**	**-0.5**
PRN				IAmb	IAmb	00 26 38.5	
	comp=Z,8.6nm,1.1s						
W13A	**Hualapai Mount**	**88.48**	**54**	P	**P**	**00 26 37.7**	**-1.0**
W13A				IAmb	IAmb	00 26 40.7	
	comp=Z,6.6nm,1.1s						
BMO	**Blue Mountains**	**88.56**	**44**	P	**P**	**00 26 37.6**	**-1.0**
214A	**Organ Pipe Nat**	**88.60**	**57**	P	**P**	**00 26 38.7**	**-0.4**
ELK	**Elko**	**88.89**	**48**	P	**P**	**00 26 39.5**	**-1.0**
WMQ	**Urumqi**	**88.92**	**315**	*e*P	**P**	**00 26 40.1**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,87nm,5.3s						
WMQ				LR	LR		
	comp=Z,470nm,29.2s						
WMQ				LR	LR		
	comp=Z,180nm,29.3s						
WMQ				LR	LR		
	comp=Z,120nm,29.0s						
MFID	**Camas Ranch**	**89.18**	**46**	P	**P**	**00 26 40.5**	**-1.1**
PSUT	**Pine Spring**	**89.36**	**51**	P	**P**	**00 26 41.8**	**-0.9**
LCMT	**Little Creek M**	**89.45**	**52**	P	**P**	**00 26 42.1**	**-0.9**
CCUT	**Cedar City**	**89.49**	**52**	P	**P**	**00 26 43.5**	**+0.1**
SZCU	**Shurtz Canyon**	**89.72**	**52**	P	**P**	**00 26 43.8**	**-0.6**
KNB	**Kanab**	**89.78**	**52**	P	**P**	**00 26 44.0**	**-0.7**
U15A	**North Rim**	**90.06**	**53**	P	**P**	**00 26 44.7**	**-1.4**
U15A				IAmb	IAmb	00 26 47.2	
	comp=Z,4.7nm,0.9s						
HLID	**Hailey**	**90.21**	**46**	P	**P**	**00 26 45.5**	**-1.0**
HLID				IAmb	IAmb	00 26 47.3	
	comp=Z,3.0nm,0.9s						
PKCU	**Pink Cliffs**	**90.28**	**52**	P	**P**	**00 26 46.6**	**-0.6**
X16A	**Lo Mia Camp, P**	**90.28**	**55**	P	**P**	**00 26 46.3**	**-0.8**
X16A				IAmb	IAmb	00 26 48.2	
	comp=Z,3.0nm,0.9s						
TUC	**Tucson**	**90.35**	**57**	P	**P**	**00 26 46.5**	**-0.8**
TCRU	**Three Creeks R**	**90.45**	**51**	P	**P**	**00 26 47.0**	**-0.9**
MTPU	**Mount Pierson**	**90.52**	**51**	P	**P**	**00 26 47.2**	**-1.1**
DUG	**Dugway, Tooele**	**90.54**	**49**	P	**P**	**00 26 45.7**	**-2.4**
DUG				IAmb	IAmb	00 26 48.5	
	comp=Z,3.5nm,1.1s						
WUAZ	**Wupatki**	**90.58**	**54**	P	**P**	**00 26 47.5**	**-1.0**
WUAZ				IAmb	IAmb	00 26 50.6	
	comp=Z,5.4nm,1.1s						
MVU	**Marysvale**	**90.60**	**51**	P	**P**	**00 26 48.4**	**-0.1**
MSU	**Marysvale**	**90.63**	**51**	P	**P**	**00 26 48.2**	**-0.4**
BELA	**Belgrano 2**	**90.66**	**176**	P	**P**	**00 26 47.1**	**-0.7**
NLU	**North Lily Min**	**91.04**	**50**	P	**P**	**00 26 47.3**	**-3.2**
MCMT	**McKenzie Canyo**	**91.61**	**45**	P	**P**	**00 26 52.1**	**-1.0**
SYO	**Syowa Base**	**91.92**	**197**	*e*P	**P**	**00 26 52.6**	**-1.2**
SYO	**Syowa Base**	**91.92**	**197**	*e*SKSac	**SKSac**	**00 37 23.5**	**-0.8**
WALA	**Waterton Lakes**	**91.93**	**40**	P	**P**	**00 26 53.1**	**-1.2**
LRM	**Limekiln Ridge**	**92.12**	**44**	P	**P**	**00 26 54.1**	**-1.3**
FXWY	**Fox Creek**	**92.62**	**46**	P	**P**	**00 26 56.8**	**-1.0**
FXWY				IAmb	IAmb	00 26 58.7	
	comp=Z,2.2nm,0.9s						
BOZ	**Bozeman (W)**	**92.63**	**44**	P	**P**	**00 26 57.1**	**-0.6**
BOZ				IAmb	IAmb	00 26 58.9	
	comp=Z,4.9nm,1.1s						
HRY	**Holter Researc**	**92.74**	**43**	P	**P**	**00 26 57.0**	**-1.1**
YHL	**Hebgen Lake**	**92.77**	**45**	P	**P**	**00 26 57.6**	**-0.9**
MK31	**Makanchi Array**	**93.35**	**317**	P	**P**	**00 27 00.5**	**-0.3**
MK31				IAmb	IAmb	00 27 09.8	
	comp=Z,4.8nm,0.9s						
MKAR	**Makanchi Array**	**93.35**	**317**	P	**P**	**00 27 00.1**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=91,slow=6.0,SNR=20						
MKAR				PKKPbc	**PKKPdf**	**00 44 07.0**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=276,slow=3.3,SNR=7.8						
MKAR	**Makanchi Array**	**93.35**	**317**	P	**P**	**00 27 00.1**	**-0.7**
ZAA0	**Zalesovo Array**	**93.38**	**324**	P	**P**	**00 26 59.3**	**-1.4**
ZAA0				IAmb	IAmb	00 27 09.1	
	comp=Z,3.7nm,0.9s						
ZALV	**Zalesovo Beam**	**93.38**	**324**	P	**P**	**00 26 59.1**	**-1.6**
	comp=Z,1.9nm,0.4s,baz=116,slow=4.6,SNR=12						
ZALV				LR	LR	01 06 35.3	
	comp=Z,62nm,21.8s,baz=70,slow=34						
PDAR	**Pinedale Array**	**93.49**	**47**	P	**P**	**00 27 01.1**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=256,slow=2.4,SNR=6.4						
PDAR				LR	LR	01 04 42.7	
	comp=Z,63nm,18.6s,baz=271,slow=33						
PDAR	**Pinedale Array**	**93.49**	**47**	P	**P**	**00 27 01.0**	**-0.8**
MAKZ	**Makanchi**	**93.56**	**317**	P	**P**	**00 27 01.5**	**-0.3**
MAKZ				IAmb	IAmb	00 27 10.2	
	comp=Z,6.1nm,1.1s						
YKA	**Yellowknife Ar**	**94.86**	**27**	P	**P**	**00 27 05.3**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=268,slow=4.3,SNR=3.1						
YKA				LR	LR	01 07 18.6	
	comp=Z,189nm,18.0s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**95.81**	**61**	P	**P**	**00 27 12.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=232,slow=6.2,SNR=3.5						
TXAR				LR	LR	01 06 39.9	
	comp=Z,192nm,18.0s,baz=0.0,slow=33						
NRIK	**Noril'sk**	**95.94**	**340**	LR	LR	01 09 35.1	
	comp=Z,105nm,20.2s,baz=21,slow=35						
KURBB	**Kurchatov Arra**	**96.50**	**320**	P	**P**	**00 27 13.3**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=106,slow=2.9,SNR=5.2						
SNAA	**Sanae**	**97.28**	**184**	P	**P**	**00 27 18.4**	**0.0**
VNA3	**Neumayer Olymp**	**98.01**	**182**	P	**P**	**00 27 21.2**	**-0.4**
ARCES	**ARCESS Array B**	**116.15**	**345**	PKP	**PKiKP**	**00 32 27.4**	**-0.8**
	comp=Z,4.5nm,0.9s,baz=89,slow=2.3,SNR=11						
LPAZ	**La Paz**	**120.32**	**116**	PKP	**PKPdf**	**00 32 38.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=19,slow=2.5,SNR=5.5						
FINES	**FINESS Array B**	**121.59**	**339**	PKP	**PKPdf**	**00 32 38.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=80,slow=2.1,SNR=7.7						
CPUP	**Villa Florida**	**124.19**	**132**	PKP	**PKPdf**	**00 32 44.5**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=153,slow=2.3,SNR=4.2						
BOSA	**Boshof**	**125.19**	**223**	PKP	**PKPdf**	**00 32 46.7**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=91,slow=4.0,SNR=5.6						
NB2	**NORSAR Subarra**	**126.52**	**345**	PKPdf	**PKPdf**	**00 32 47.6**	**-0.9**
	comp=Z,6.7nm,1.4s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**126.52**	**345**	PKP	**PKPdf**	**00 32 47.5**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=31,slow=2.0,SNR=4.2						
AKASG	**Malin Array Be**	**126.68**	**327**	PKP	**PKPdf**	**00 32 47.5**	**-1.5**
	comp=Z,0.2nm,0.2s,baz=62,slow=3.1,SNR=1.5						
LSZ	**Lusaka**	**130.52**	**239**	PKP	**PKPdf**	**00 32 57.8**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=74,slow=1.1,SNR=3.8						
KOLS	**Kolonicke sedl**	**131.37**	**328**	*e*PKP	**PKiKP**	**00 33 02.9**	**+3.9**
GERES	**GERESS Array B**	**135.52**	**334**	PKP	**PKPdf**	**00 33 07.0**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=90,slow=2.9,SNR=6.3						
KEST	**Kesra**	**147.24**	**323**	PKPbc	**PKPdf**	**00 33 29.4**	**+2.2**
	comp=Z,5.3nm,0.8s,baz=309,slow=3.6,SNR=8.6						
KEST	**Kesra**	**147.24**	**323**	PKPbc	**PKPdf**	**00 33 29.3**	**+2.0**
MVO	**Moncorvo**	**149.15**	**349**	*e*PKPbc	**PKPbc**	**00 33 34.3**	**-0.1**
PVRL	**Vila Real**	**149.16**	**350**	*e*PKPbc	**PKPbc**	**00 33 34.3**	**-0.1**
PVIS	**Viseu**	**149.74**	**350**	*e*PKPbc	**PKPbc**	**00 33 35.5**	**-0.4**
ESDC	**Sonseca Array**	**149.87**	**344**	PKPbc	**PKPbc**	**00 33 36.2**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=9.9,slow=2.2,SNR=7.5						
ESDC				PKPab	**pPKPdf**	**00 33 41.6**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=8,3,slow=4.2,SNR=14						
ESDC	**Sonseca Array**	**149.87**	**344**	PKPbc	**PKPbc**	**00 33 35.2**	**-1.1**
PMRV	**Marv??o**	**150.90**	**349**	*e*PKPbc	**PKPbc**	**00 33 38.4**	**-0.2**
PMTG	**Montargil**	**151.40**	**350**	*e*PKPbc	**PKPbc**	**00 33 39.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**164.16**	**280**	PKP	**PKPdf**	**00 33 49.7**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=17,slow=1.5,SNR=5.7						
TORD				PKPab	**PKPab**	**00 34 43.2**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=22,slow=4.0,SNR=3.9						

IDC ***12*** *00:18:09.2±1.2, 43°.12S×172°.98E, h0km, mb4.0/1, mb1 4.3/2, mb1mx3.7/28, mbtmp4.1/2, ML4.1/1, Error ellipse: s-maj=49.7km s-min=24.0km az=146.0*
WEL ***12*** *00:18:11.3, 43°.3±1°×17°.3E±°, h18km±1km, M4.5/96, ML4.7/7, MLv4.5/96, Error ellipse: s-maj=0.0km s-min=0.0km az=54.3*
NEIC ***12*** *00:18:11.8±1.8, 43°.25S±0°.03×172°.99E±0°.08, h27km±5km, Error ellipse: s-maj=11.5km s-min=1.6km az=129.0*
ISC 12 00:18:10.9±0.6**, 43°.21S**±0°.03×**172°.99E**±0°.03**, h20**km±2**km, n159,** σ1**9**26/166**, mb4.1**/9**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMCZ	**Amberley**	**0.25**	**278**	P	**Pb**	**00 18 16.3**	**-0.4**
OKCZ	**Okains Bay**	**0.51**	**175**	P	**Pn**	**00 18 24.9**	**+1.8**
MQZ	**McQueen's Vall**	**0.55**	**206**	P	**Pn**	**00 18 24.0**	**+0.4**
MQZ				S	**Sn**	**00 18 32.6**	**+0.4**
MQZ	**McQueen's Vall**	**0.55**	**206**		**Pn**	**00 18 23.9**	**+0.3**
AKCZ	**Akaroa Harbour**	**0.66**	**185**	P	**Pn**	**00 18 26.5**	**+1.4**
LTZ	**Lake Taylor**	**0.68**	**309**	P	**Pb**	**00 18 23.5**	**-0.6**
LTZ				S	**Sb**	**00 18 31.4**	**-1.7**
LTZ	**Lake Taylor**	**0.68**	**309**	Pg	**Pb**	**00 18 23.5**	**-0.6**
OXZ	**Oxford**	**0.71**	**260**	P	**Pg**	**00 18 24.8**	**0.0**
OXZ				S	**Sb**	**00 18 33.9**	**+0.2**
OXZ	**Oxford**	**0.71**	**260**		**Pg**	**00 18 25.0**	**+0.2**
KHZ	**Kahutara**	**0.89**	**27**	P	**Pg**	**00 18 29.1**	**+0.8**
KHZ				S	**Sn**	**00 18 42.0**	**+1.4**
KHZ	**Kahutara**	**0.89**	**27**		**Pg**	**00 18 29.0**	**+0.8**
INZ	**Inchbonnie**	**1.24**	**293**	P	**Pn**	**00 18 32.5**	**-0.5**
THZ	**Tophouse**	**1.45**	**357**	P	**Pn**	**00 18 36.5**	**+0.5**
THZ				S	**Sn**	**00 18 54.7**	**+0.2**
THZ	**Tophouse**	**1.45**	**357**		**Pn**	**00 18 36.6**	**+0.5**
RPZ	**Rata Peaks**	**1.50**	**250**	Pg	**Pn**	**00 18 36.6**	**0.0**
	135nm,0.3s,baz=99,slow=3.3,SNR=318						
RPZ				Lg	Lg	00 18 54.0	
	402nm,0.3s,baz=260,slow=1.6,SNR=11						
RPZ	**Rata Peaks**	**1.50**	**250**	P	**Pn**	**00 18 36.7**	**0.0**
RPZ				S	**Sn**	**00 18 54.0**	**-1.7**
BSWZ	**Blackbirch Sta**	**1.63**	**24**	P	**Pb**	**00 18 40.0**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.63**	**24**		**Pb**	**00 18 39.9**	**-0.4**
WVZ	**Waitaha Valley**	**1.66**	**274**	P	**Pn**	**00 18 38.9**	**+0.1**
WVZ				S	**Sn**	**00 18 58.1**	**-1.4**
DSZ	**Denniston Nort**	**1.71**	**329**	P	**Pn**	**00 18 39.7**	**+0.2**
CMWZ	**Cape Campbell**	**1.72**	**32**	P	**Pb**	**00 18 41.5**	**-0.2**
CMWZ	**Cape Campbell**	**1.72**	**32**		**Pb**	**00 18 41.8**	**0.0**
TUWZ	**Tuamarina**	**1.92**	**22**	P	**Pn**	**00 18 43.4**	**+1.1**
TUWZ	**Tuamarina**	**1.92**	**22**		**Pn**	**00 18 43.1**	**+0.8**
GCSZ	**Gaunt Creek Bo**	**1.95**	**266**	P	**Pn**	**00 18 43.5**	**+0.7**
NNZ	**Nelson**	**2.02**	**8**	P	**Pn**	**00 18 45.0**	**+1.3**
NNZ	**Nelson**	**2.02**	**8**		**Pn**	**00 18 44.8**	**+1.1**
TCW	**Tory Channel**	**2.22**	**26**	P	**Pn**	**00 18 47.2**	**+0.7**
BHW	**Baring Head**	**2.28**	**38**	P	**Pn**	**00 18 48.1**	**+0.8**
BHW	**Baring Head**	**2.28**	**38**		**Pn**	**00 18 47.9**	**+0.6**
SNZO	**South Karori**	**2.29**	**34**		**Pn**	**00 18 48.1**	**+0.7**
WEL	**Wellington**	**2.34**	**35**	P	**Pn**	**00 18 49.0**	**+0.9**
FOZ	**Fox Glacier**	**2.34**	**261**	P	**Pn**	**00 18 49.6**	**+1.4**
FOZ	**Fox Glacier**	**2.34**	**261**	Pn	**Pn**	**00 18 49.6**	**+1.4**
LBZ	**Lake Benmore**	**2.35**	**239**	P	**Pn**	**00 18 48.8**	**+0.5**
PLWZ	**Palliser**	**2.35**	**46**	P	**Pn**	**00 18 48.8**	**+0.5**
PLWZ	**Palliser**	**2.35**	**46**		**Pn**	**00 18 48.7**	**+0.4**
QRZ	**Quartz Range**	**2.41**	**352**	P	**Pn**	**00 18 49.7**	**+0.5**
QRZ	**Quartz Range**	**2.41**	**352**	Pn	**Pn**	**00 18 50.4**	**+1.2**
MSWZ	**Moikau Station**	**2.46**	**44**	P	**Pn**	**00 18 50.3**	**+0.4**
MSWZ	**Moikau Station**	**2.46**	**44**		**Pn**	**00 18 50.2**	**+0.4**
ODZ	**Otahua Downs**	**2.49**	**222**	P	**Pn**	**00 18 50.9**	**+0.6**
ODZ	**Otahua Downs**	**2.49**	**222**		**Pn**	**00 18 50.9**	**+0.6**
DUWZ	**D'Urville Isla**	**2.51**	**16**	P	**Pn**	**00 18 51.3**	**+0.8**
CAW	**Cannon Point**	**2.61**	**37**	P	**Pn**	**00 18 52.4**	**+0.5**
TRWZ	**Traveller**	**2.70**	**49**	P	**Pn**	**00 18 53.5**	**+0.3**
KIW	**Kapiti Island**	**2.75**	**32**	P	**Pn**	**00 18 54.6**	**+0.7**
OGWZ	**Otaki Gorge**	**2.89**	**35**	P	**Pn**	**00 18 56.3**	**+0.5**
HOWZ	**Holdsworth Sta**	**2.98**	**40**	P	**Pn**	**00 18 57.2**	**+0.2**
TMWZ	**Te Maipa**	**3.01**	**47**	P	**Pn**	**00 18 57.5**	**0.0**
HHSZ	**Highcliff Hill**	**3.17**	**212**	P	**Pn**	**00 19 00.5**	**+0.9**
JCZ	**Jackson Bay**	**3.17**	**253**	P	**Pn**	**00 19 00.5**	**+0.8**
MRZ	**Mangatainoka R**	**3.20**	**38**	P	**Pn**	**00 19 00.0**	**0.0**
TIWZ	**Tintock**	**3.25**	**43**	P	**Pn**	**00 19 01.5**	**+0.7**
WKZ	**Wanaka**	**3.29**	**239**	P	**Pn**	**00 19 01.4**	**+0.1**
WKZ	**Wanaka**	**3.29**	**239**	Pn	**Pn**	**00 19 01.3**	**+0.1**
CPWZ	**Castlepoint**	**3.32**	**47**	P	**Pn**	**00 19 02.7**	**+1.0**
PRWZ	**Pori Road**	**3.46**	**41**	P	**Pn**	**00 19 03.6**	**0.0**
OHWZ	**Ohakea**	**3.47**	**31**	P	**Pn**	**00 19 05.1**	**+1.4**
POWZ	**Post Office Ro**	**3.50**	**37**	P	**Pn**	**00 19 04.2**	**0.0**
BFZ	**Birch Farm**	**3.51**	**45**	P	**Pn**	**00 19 04.0**	**-0.2**
BFZ	**Birch Farm**	**3.51**	**45**	Pn	**Pn**	**00 19 04.3**	**0.0**
TUZ	**Tuapeka**	**3.64**	**220**	P	**Pn**	**00 19 06.8**	**+0.7**
DVHZ	**Dannevirke**	**3.76**	**40**	P	**Pn**	**00 19 06.9**	**-0.8**
WAZ	**Wanganui**	**3.77**	**24**	P	**Pn**	**00 19 09.6**	**+1.8**
ANWZ	**Angora Road**	**3.79**	**45**	P	**Pn**	**00 19 09.1**	**+1.0**
NMEZ	**Namu Road**	**3.85**	**10**	P	**Pn**	**00 19 11.8**	**+2.8**
TSZ	**Takapari Road**	**3.86**	**36**	P	**Pn**	**00 19 08.8**	**-0.3**
LREZ	**Lake Rotokare**	**3.90**	**16**	P	**Pn**	**00 19 12.4**	**+2.8**
PREZ	**Palmer Road**	**3.97**	**13**	P	**Pn**	**00 19 13.8**	**+3.2**
KHEZ	**Kahui Hut**	**3.99**	**11**	P	**Pn**	**00 19 13.8**	**+2.8**
NBEZ	**Newall Road No**	**4.00**	**10**	P	**Pn**	**00 19 13.4**	**+2.4**
PRHZ	**Porangahau**	**4.01**	**44**	P	**Pn**	**00 19 12.5**	**+1.3**
NEZ	**North Egmont**	**4.03**	**12**	P	**Pn**	**00 19 13.9**	**+2.5**
WPHZ	**Waipukurau**	**4.07**	**41**	P	**Pn**	**00 19 12.7**	**+0.7**
PNHZ	**Pukenui**	**4.08**	**37**	P	**Pn**	**00 19 11.6**	**-0.6**
PKE	**Pukeiti**	**4.08**	**11**	P	**Pn**	**00 19 14.6**	**+2.4**
MLZ	**Mavora Lakes**	**4.11**	**237**	P	**Pn**	**00 19 12.2**	**-0.4**
MLZ	**Mavora Lakes**	**4.11**	**237**	Pn	**Pn**	**00 19 12.2**	**-0.4**
DREZ	**Durham Road**	**4.12**	**13**	P	**Pn**	**00 19 15.1**	**+2.4**
MTVZ	**Mangateitei**	**4.26**	**27**	P	**Pn**	**00 19 16.2**	**+1.6**
VRZ	**Vera Road**	**4.30**	**19**	P	**Pn**	**00 19 17.3**	**+2.2**
PXZ	**Pawanui**	**4.30**	**44**	P	**Pn**	**00 19 16.1**	**+0.9**
SYZ	**Scrubby Hill**	**4.31**	**218**	P	**Pn**	**00 19 16.2**	**+1.0**
MOVZ	**Moawhango**	**4.33**	**30**	P	**Pn**	**00 19 16.1**	**+0.5**
WNVZ	**Wahianoa**	**4.35

SNR=8.8
RBK Rabkut 6.71 330 P Pn 00 23 35.2 +6.2
ABTO Aybut 7.08 324 P Pn 00 23 39.5 +5.5
WHFO Wadi Hawf 7.28 329 P Pn 00 23 41.9 +5.1
WSAR Wadi Sarin 11.55 4 Pn **Pn 00 24 37.0 +1.7**
0.4nm,0.3s,baz=203,slow=7.9,SNR=11
WSAR Sn **Sn 00 26 39.2 -5.3**
0.1nm,0.3s,baz=326,slow=18,SNR=1.7
WSAR LR LR 00 28 24.1
comp=Z,173nm,19.5s,baz=200,slow=34
UOSS Minazif 13.29 354 Pn **Pn 00 24 59.0 -0.1**
MSEY Mahe Island 16.38 188 Pn **Pn 00 25 38.7 -1.8**
FURI Furi 18.90 263 **P 00 26 11.5 -0.1**
FURI IAmb IAmb 00 26 18.0
comp=Z,9.7nm,0.7s
HRA Herat 23.00 10 P **P 00 26 54.9 -0.6**
HRA IAmb IAmb 00 27 09.3
comp=Z,5.2nm,1.2s
KMBO Kilima Mbogo 23.95 239 P **P 00 27 06.9 +1.7**
comp=Z,5.6nm,0.8s,baz=46,slow=13,SNR=15
KMBO Kilima Mbogo 23.95 239 P **P 00 27 04.5 -0.7**
KMBO IAmb IAmb 00 27 07.3
comp=Z,9.8nm,1.1s
KBL Kabul 25.02 23 P **P 00 27 15.1 +0.3**
KBL IAmb IAmb 00 27 19.0
comp=Z,5.2nm,1.3s
NIL Nilore 26.11 31 P **P 00 27 24.2 -0.3**
NIL IAmb IAmb 00 27 42.4
comp=Z,5.3nm,0.6s
GEYT Alibeck 26.16 1 P **P 00 27 30.4 +5.5**
comp=Z,1.1nm,0.5s,baz=177,slow=12,SNR=3.1
GEYT Alibeck 26.16 1 P **P 00 27 24.9 0.0**
EIL Elat 27.72 314 LR LR 00 37 23.6
comp=Z,55nm,18.9s,baz=103,slow=34
ASF Jabal al Asfar 27.98 320 P **P 00 27 43.3 +1.9**
comp=Z,1.5nm,0.8s,baz=317,slow=5.4,SNR=4.2
MMAI Mount Meron Ar 29.48 320 LR LR 00 39 13.1
comp=Z,55nm,21.0s,baz=240,slow=35
KBZ Khabaz 34.41 341 LR LR 00 44 16.3
comp=Z,35nm,21.1s,baz=149,slow=39
BRTR Keskin Array B 35.13 327 LR LR 00 44 36.1
comp=Z,33nm,18.4s,baz=106,slow=39
ILGA Ilgaz 36.06 329 **P 00 28 51.6 -0.7**
ABKAR Akbulak array 37.52 2 P **P 00 29 05.1 +0.7**
LSZ Lusaka 39.62 228 P **P 00 29 23.3 +0.8**
comp=Z,1.3nm,0.7s,baz=64,slow=4.5,SNR=5.2
LSZ Lusaka 39.62 228 P **P 00 29 22.2 -0.4**
CMAR Chiang Mai Arr 40.34 75 P **P 00 29 28.8 +0.4**
comp=Z,0.9nm,0.3s,baz=276,slow=8.1,SNR=4.8
CMAR Chiang Mai Arr 40.34 75 P **P 00 29 27.6 -0.8**
MAKZ Makanchi 40.60 26 P **P 00 29 29.7 -0.6**
MK31 Makanchi Array 40.72 26 P **P 00 29 31.1 -0.1**
MKAR Makanchi Array 40.72 26 P **P 00 29 31.9 +0.6**
comp=Z,0.8nm,0.7s,baz=213,slow=9.6,SNR=4.7
MKAR Makanchi Array 40.72 26 P **P 00 29 30.7 -0.6**
KURBB Kurchatov Arra 42.44 20 P **P 00 29 46.0 +0.8**
comp=Z,0.9nm,0.7s,baz=219,slow=8.0,SNR=9.4
BRVK Borovoye 42.51 11 P **P 00 29 45.8 0.0**
BRVK IAmb IAmb 00 29 50.3
comp=Z,4.2nm,1.4s
KURK Kurchatov 42.55 20 P **P 00 29 46.0 -0.1**
KURK Kurchatov 42.55 20 IAmb IAmb 00 29 47.8
comp=Z,3.7nm,1.3s
MATP Matopo 42.91 222 P **P 00 29 50.2 +0.6**
comp=Z,1.1nm,0.8s,baz=166,slow=3.1,SNR=4.4
BURAR Bucovina Array 45.00 329 P **P 00 30 05.8 -0.3**
ZAA0 Zalesovo Array 47.36 21 P **P 00 30 24.1 -0.3**
ZALV Zalesovo Beam 47.36 21 P **P 00 30 24.2 -0.1**
comp=Z,3.3nm,0.6s,baz=220,slow=7.7,SNR=11
ZALV Zalesovo Beam 47.36 21 P **P 00 30 23.9 -0.5**
BOSA Boshof 50.85 217 LR LR 00 51 26.4
comp=Z,46nm,18.9s,baz=112,slow=35
CIMO Cimolais 51.47 321 P **P 00 30 56.4 +0.4**
CIMO IAmb IAmb 00 31 10.6
comp=Z,4.1nm,1.3s
GEC2 GERESS Array S 51.94 324 P **P 00 30 59.1 -0.4**
GEC2 IAmb IAmb 00 31 17.0
comp=Z,2.1nm,1.2s
TORD Torodi Ar. Bea 54.61 278 P **P 00 31 20.8 +1.3**
comp=Z,0.4nm,0.7s,baz=78,slow=6.1,SNR=4.7
FINES FINESS Array B 54.76 342 P **P 00 31 21.5 +1.6**
comp=Z,0.8nm,0.8s,baz=123,slow=8.9,SNR=1.3
FINES FINESS Array B 54.76 342 P **P 00 31 18.3 -1.5**
NOA NORSAR Array B 59.75 336 LR LR 01 02 40.4
comp=Z,16nm,18.7s,baz=315,slow=41
ESDC Sonseca Array 60.87 309 P **P 00 32 03.4 +0.1**
comp=Z,1.5nm,0.7s,baz=88,slow=6.3,SNR=21
ESDC Sonseca Array 60.87 309 P **P 00 32 03.0 -0.4**
H01W3 Cape Leeuwin H 70.69 133 T T 01 50 04.8
baz=301,slow=75,SNR=12
H01W2 Cape Leeuwin H 70.69 133 T T 01 50 13.0
baz=301,slow=75,SNR=11
H01W1 Cape Leeuwin H 70.70 133 T T 01 50 09.0
baz=301,slow=75,SNR=12
WRA Warramunga Arr 81.68 112 P **P 00 34 08.8 -0.8**
comp=Z,0.2nm,0.7s,baz=303,slow=4.0,SNR=2.0
WRA Warramunga Arr 81.68 112 P **P 00 34 07.3 -2.2**
ASAR Alice Springs 82.31 116 P **P 00 34 11.8 -1.0**
comp=Z,0.2nm,0.4s,baz=297,slow=4.7,SNR=2.7
ASAR Alice Springs 82.31 116 P **P 00 34 11.0 -1.8**

NEIC ***12*** *00:35:25.9±1.1,24°.39N±0°.04×121°.91E±0°.05,*
h34km±12km, Error ellipse: s-maj=6.0km s-min=5.2km
az=84.0
JMA ***12*** *00:35:25.8,24°.29N×121°.90E,h38km±1km,M2.8*
TAP ***12*** *00:35:25.8,24°.36N×121°.93E,h35km,ML3.8,B*
ISC 12 00:35:26.0±0.8,24°.35N±0°.02×121°.96E±0°.02,h32km±5km,
n135,σ1§22/234,7C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.17**	**306**	⇑*iP*	**Pb**	**00 35 32.2**	**+0.1**
ENAH	baz=318			*i* S	**Sb**	**00 35 37.0**	**+0.7**
ENA	**Nanau**	**0.22**	**291**	*i* P	**Pb**	**00 35 32.6**	**0.0**
ENA	baz=300			*i* S	**Sb**	**00 35 37.6**	**+0.5**
TWC	**Suao**	**0.28**	**338**	⇓*iP*	**Pb**	**00 35 33.6**	**+0.2**
TWC	baz=346			*i* S	**Sb**	**00 35 38.6**	**+0.3**
NACB	**Ninganchiao**	**0.38**	**243**	⇓*eP*	**Pb**	**00 35 34.0**	**-0.7**
NACB	baz=239			*e*S	**Sb**	**00 35 41.5**	**+0.9**
NACB	**Ninganchiao**	**0.38**	**243**	Pn	**Pb**	**00 35 34.0**	**-0.7**
TWD	**Chiawan**	**0.43**	**231**	⇓*iP*	**Pb**	**00 35 34.8**	**-0.6**
TWD	baz=227			*i* S	**Sb**	**00 35 42.8**	**+0.9**
ILA	**Ilan**	**0.46**	**335**	P	**Pb**	**00 35 36.2**	**+0.3**
ILA	baz=335			*i* S	**Sb**	**00 35 43.9**	**+1.2**
ETLH	**Xiulin Townshi**	**0.46**	**252**	*e*P	**Pb**	**00 35 35.5**	**-0.4**
ETLH	baz=250			*e*S	**Sb**	**00 35 43.3**	**+0.5**
ENTT	**Nioudou**	**0.46**	**309**	⇑*iP*	**Pb**	**00 35 35.7**	**-0.2**
ENTT	baz=304			*i* S	**Sb**	**00 35 43.0**	**+0.2**
NDT	**Datong Townshi**	**0.48**	**302**	⇑*iP*	**Pb**	**00 35 36.0**	**-0.2**
NDT	baz=299			S	**Sb**	**00 35 43.5**	**+0.2**
HWA	**Hwalien**	**0.49**	**221**	P	**Pb**	**00 35 36.8**	**+0.4**
NTC	**Toucheng**	**0.52**	**347**	⇓*iP*	**Pb**	**00 35 36.9**	**+0.1**
NTC	baz=349			*i* S	**Sb**	**00 35 44.7**	**+0.5**
NNSB	**Datong**	**0.53**	**279**	*e*P	**Pb**	**00 35 36.6**	**-0.6**
NNSB	baz=278			*e*S	**Sb**	**00 35 44.7**	**-0.1**
NNSH	**Datong**	**0.53**	**279**	P	**Pb**	**00 35 36.8**	**-0.4**
NNSH	baz=278			S	**Sb**	**00 35 44.6**	**-0.2**
NNS	**Nan Shan**	**0.54**	**280**	P	**Pb**	**00 35 36.9**	**-0.5**
NNS	baz=279			S	**Sb**	**00 35 44.7**	**-0.4**
NWLT	**Wulai**	**0.60**	**316**	*i* P	**Pb**	**00 35 38.0**	**-0.1**
NWLT	baz=317			S	**Sb**	**00 35 46.4**	**0.0**
YHNB	**Yeheng**	**0.62**	**301**	⇑*eP*	**Pb**	**00 35 38.1**	**-0.4**
YHNB	baz=301			*e*S	**Sb**	**00 35 46.8**	**-0.3**
YHNB	**Yeheng**	**0.62**	**301**	Pn	**Pb**	**00 35 37.6**	**-1.0**
TIPB	**Shuangxi**	**0.63**	**349**	⇓*iP*	**Pb**	**00 35 38.8**	**+0.1**
TIPB	baz=356			*i* S	**Sb**	**00 35 47.9**	**+0.5**
NSK	**Sanguang**	**0.64**	**301**	⇑*iP*	**Pb**	**00 35 38.4**	**-0.5**
NSK	baz=301			*i* S	**Sb**	**00 35 47.3**	**-0.3**
TWB1	**Santiao Chiao**	**0.66**	**2**	P	**Pb**	**00 35 39.3**	**+0.2**
TWB1	baz=5.0			S	**Sb**	**00 35 49.2**	**+1.2**
FUSS	**Fushou**	**0.66**	**261**	*e*P	**Pb**	**00 35 38.9**	**-0.4**
FUSS	baz=260			*e*S	**Sb**	**00 35 48.8**	**+0.3**
WHF	**Hehuan Shan**	**0.67**	**252**	*i* P	**Pb**	**00 35 38.7**	**-0.9**
WHF	baz=250			*i* S	**Sb**	**00 35 48.6**	**-0.2**
TWA	**Mucha**	**0.72**	**331**	*i* P	**Pn**	**00 35 40.5**	**+0.6**
TWA	baz=333			*i* S	**Sb**	**00 35 50.5**	**+0.8**
ESL	**Shilin**	**0.72**	**222**	P	**Pn**	**00 35 39.0**	**-1.0**
ESL	baz=233			*e*S	**Sb**	**00 35 50.1**	**+0.4**
TWT	**Tachien**	**0.72**	**263**	*i* P	**Pn**	**00 35 40.1**	**-0.1**
TWT	baz=261			*i* S	**Sb**	**00 35 50.4**	**+0.3**
NWF	**Wu-fen Shan**	**0.74**	**347**	⇓*iP*	**Pn**	**00 35 40.9**	**+0.5**
NWF	baz=343			*i* S	**Sb**	**00 35 51.3**	**+0.9**
WFSB	**Wu-fen Shan**	**0.74**	**347**	⇓*eP*	**Pn**	**00 35 40.9**	**+0.6**
WFSB	baz=343			*e*S	**Sb**	**00 35 51.0**	**+0.8**
TDCB	**Techi**	**0.74**	**263**	⇓*eP*	**Pn**	**00 35 40.0**	**-0.4**
TDCB	baz=262			*e*S	**Sb**	**00 35 49.9**	**-0.6**
TATO	**Taipei**	**0.76**	**325**	*e*P	**Pn**	**00 35 40.6**	**+0.2**
TATO	baz=316			*e*S	**Sb**	**00 35 51.1**	**+0.2**
TATO	**Taipei**	**0.76**	**325**	Pn	**Pn**	**00 35 39.6**	**-0.9**
CHGB	**Renai**	**0.78**	**248**	*e*P	**Pn**	**00 35 40.4**	**-0.6**
CHGB	baz=239			*e*S	**Sb**	**00 35 51.6**	**+0.1**
TAP	**Taipei**	**0.80**	**329**	*e*P	**Pn**	**00 35 42.1**	**+1.0**
TAP	baz=319			*e*S	**Sb**	**00 35 53.1**	**+1.0**
OWD	**Renai**	**0.82**	**241**	*e*P	**Pn**	**00 35 41.9**	**+0.4**
EGFH	**Guangfu**	**0.83**	**216**	P	**Pn**	**00 35 41.3**	**-0.3**
YM01	**YM01**	**0.87**	**336**	*e*P	**Pn**	**00 35 42.2**	**+0.1**
YM01	baz=337			*e*S	**Sn**	**00 35 54.5**	**+0.8**
YM10	**YM10**	**0.88**	**336**	*e*P	**Pn**	**00 35 42.6**	**+0.3**
YM10	baz=337			*e*S	**Sn**	**00 35 54.8**	**+0.7**
YM11	**YM11**	**0.89**	**337**	*e*P	**Pn**	**00 35 42.8**	**+0.5**
YM11	baz=338			*e*S	**Sn**	**00 35 55.0**	**+0.9**
YM05	**YM05**	**0.89**	**336**	*e*P	**Pn**	**00 35 42.5**	**+0.2**
YM05	baz=337			*e*S	**Sn**	**00 35 54.7**	**+0.5**
YM04	**YM04**	**0.89**	**334**	*e*P	**Pn**	**00 35 42.4**	**0.0**
YM04	baz=326			*e*S	**Sn**	**00 35 54.6**	**+0.5**
TWS1	**Kuangyinshan**	**0.90**	**327**	P	**Pn**	**00 35 42.8**	**+0.4**
TWS1	baz=328			*e*S	**Sb**	**00 35 56.0**	**+1.2**
YM08	**YM08**	**0.90**	**338**	*e*P	**Pn**	**00 35 42.5**	**0.0**
YM08	baz=339			*e*S	**Sn**	**00 35 54.6**	**+0.1**
JYNG	**Yonagunijimaku**	**0.90**	**83**	P	**Pn**	**00 35 43.3**	**+0.8**
JYNG				S	**Sb**	**00 35 56.2**	**+1.3**
LIOB	**Emei**	**0.91**	**289**	⇓*iP*	**Pn**	**00 35 43.4**	**+0.8**
LIOB	baz=289			*i* S	**Sn**	**00 35 55.8**	**+1.1**
YM03	**YM03**	**0.91**	**335**	*e*P	**Pn**	**00 35 42.8**	**+0.1**
YM03	baz=336			*e*S	**Sn**	**00 35 55.3**	**+0.6**
NSTT	**Nanjuang**	**0.92**	**288**	⇑*iP*	**Pn**	**00 35 43.2**	**+0.5**
NSTT	baz=288			*i* S	**Sn**	**00 35 55.4**	**+0.5**
WHP	**Taichung City**	**0.93**	**266**	*e*P	**Pn**	**00 35 43.4**	**+0.5**
WHP	baz=265			*e*S	**Sn**	**00 35 55.6**	**+0.3**
NTST	**Danshui**	**0.94**	**330**	*e*P	**Pn**	**00 35 43.5**	**+0.5**
NTST	baz=339			*i* S	**Sn**	**00 35 56.6**	**+1.4**
NCU	**National Centr**	**0.94**	**311**	⇓*iP*	**Pn**	**00 35 43.5**	**+0.6**
NCU	baz=312			S	**Sb**	**00 35 57.2**	**+1.2**
VWDT	**VWDT**	**0.96**	**232**	*e*P	**Pn**	**00 35 43.0**	**-0.2**
VWDT	baz=220			*e*S	**Sn**	**00 35 56.7**	**+1.0**
YOJ	**Yonaguni jima**	**0.96**	**83**	*e*P	**Pn**	**00 35 44.2**	**+0.9**
YOJ	baz=73			*e*S	**Sn**	**00 35 57.5**	**+1.6**
YOJ	**Yonaguni jima**	**0.96**	**83**	P	**Pn**	**00 35 43.9**	**+0.6**
YOJ				*e*S	**Sn**	**00 35 57.6**	**+1.6**
YOJ	**Yonaguni jima**	**0.96**	**83**	Pn	**Pn**	**00 35 43.9**	**+0.6**
TWY	**Chenhua**	**0.98**	**340**	P	**Pn**	**00 35 44.4**	**+0.8**
TWY	baz=342			S	**Sn**	**00 35 57.8**	**+1.5**
HGSD	**Ruisui**	**0.98**	**210**	*e*P	**Pn**	**00 35 43.2**	**-0.4**
HGSD	baz=192			*e*S	**Sb**	**00 35 59.3**	**+2.1**
SBCB	**Hsinchu**	**0.99**	**297**	*e*P	**Pn**	**00 35 44.1**	**+0.3**
SBCB	baz=311			*e*S	**Sb**	**00 35 59.1**	**+1.6**
HSN	**Hsinchu**	**1.01**	**297**	*e*P	**Pn**	**00 35 44.0**	**+0.1**
HSN	baz=299			S	**Sb**	**00 35 59.0**	**+1.0**
EHY	**Hungye**	**1.02**	**215**	*e*P	**Pn**	**00 35 43.1**	**-1.0**
SMLT	**Sun Moon Lake**	**1.07**	**245**	*i* P	**Pn**	**00 35 45.0**	**+0.1**
SMLT	baz=234			S	**Sn**	**00 36 00.6**	**+1.8**
SSLB	**Suanglung**	**1.08**	**239**	*e*P	**Pn**	**00 35 44.7**	**-0.3**
SSLB	baz=231			*e*S	**Sn**	**00 36 00.5**	**+1.7**
SSLB	**Suanglung**	**1.08**	**239**	Pn	**Pn**	**00 35 44.5**	**-0.5**
NMLH	**Miaoli**	**1.08**	**280**	P	**Pn**	**00 35 46.0**	**+1.1**
NMLH	baz=279			S	**Sn**	**00 36 00.6**	**+1.6**
TWQ1	**Liyutan**	**1.08**	**270**	*e*P	**Pn**	**00 35 46.1**	**+1.1**
TWQ1	baz=269			S	**Sn**	**00 36 00.9**	**+2.0**
NSY	**Sanyi**	**1.10**	**274**	P	**Pn**	**00 35 46.8**	**+1.6**
NSY	baz=273			S	**Sb**	**00 36 01.8**	**+1.4**
TYC	**Yuchr**	**1.10**	**247**	*e*P	**Pn**	**00 35 45.2**	**0.0**
TYC	baz=236			*e*S	**Sn**	**00 36 00.9**	**+1.6**
YULB	**Yu-li**	**1.13**	**213**	*e*P	**Pn**	**00 35 44.5**	**-1.1**
YULB	baz=211			*e*S	**Sn**	**00 35 59.6**	**-0.5**
YULB	**Yu-li**	**1.13**	**213**	Pn	**Pn**	**00 35 44.8**	**-0.9**
PTSB	**Yuanli**	**1.15**	**275**	*e*P	**Pn**	**00 35 47.7**	**+1.8**
PTSB	baz=274			S	**Sn**	**00 36 01.9**	**+1.4**
EYUL	**Yuli**	**1.16**	**211**	*e*P	**Pn**	**00 35 46.2**	**+0.2**
TWF1	**Yuli**	**1.16**	**212**	*i* P	**Pn**	**00 35 45.0**	**-1.1**
TWF1	baz=222			*e*S	**Sn**	**00 35 59.9**	**-1.0**
TCU	**Taichung**	**1.19**	**261**	*e*S	**Sb**	**00 36 04.2**	**+1.1**
WHYT	**Xinyi Township**	**1.20**	**238**	*e*P	**Pn**	**00 35 47.8**	**+1.1**
WHYT	baz=234			*e*S	**Sn**	**00 36 04.1**	**+2.1**
WDJ	**Dajia District**	**1.21**	**270**	P	**Pn**	**00 35 48.2**	**+1.6**
WDJ	baz=269			*i* S	**Sn**	**00 36 03.1**	**+1.2**
WJS	**Zhushan**	**1.24**	**245**	P	**Pn**	**00 35 48.9**	**+1.7**
WJS	baz=232			S	**Sb**	**00 36 05.9**	**+1.3**
WNT	**Mingjian**	**1.26**	**248**	*e*P	**Pn**	**00 35 49.5**	**+2.1**
WNT	baz=247			*e*S	**Sb**	**00 36 06.7**	**+1.7**
PCYT	**Pengchaiyu**	**1.28**	**4**	P	**Pn**	**00 35 48.0**	**+0.4**
FULB	**Fuli**	**1.30**	**208**	P	**Pn**	**00 35 47.4**	**-0.6**
FULB	baz=219			*e*S	**Sn**	**00 36 05.6**	**+1.4**
WCHH	**Zhanghua**	**1.31**	**258**	*e*S	**Sb**	**00 36 07.1**	**+0.6**
ALS	**Alishan**	**1.35**	**232**	*i* P	**Pn**	**00 35 49.7**	**+0.8**
ALS	baz=222			*i* S	**Sb**	**00 36 08.5**	**+0.6**
CHKT	**Chengkung**	**1.36**	**204**	*e*P	**Pn**	**00 35 47.6**	**-1.1**
CHN5	**Tsauling**	**1.39**	**238**	*i* P	**Pn**	**00 35 50.8**	**+1.5**
CHN5	baz=224			*i* S	**Sb**	**00 36 10.4**	**+1.5**
WGK	**Gukeng**	**1.44**	**243**	*e*P	**Pn**	**00 35 51.9**	**+2.1**
WGK	baz=242			S	**Sb**	**00 36 11.5**	**+1.3**
ELDTW	**Lidau**	**1.44**	**217**	*e*P	**Pn**	**00 35 50.0**	**0.0**
ELDTW	baz=215			*e*S	**Sn**	**00 36 09.3**	**+1.4**
WDLH	**Douliu**	**1.46**	**244**	*e*P	**Pn**	**00 35 52.4**	**+2.2**
WDLH	baz=242			*e*S	**Sb**	**00 36 11.9**	**+1.2**
EDH	**Donghe**	**1.50**	**204**	*e*P	**Pn**	**00 35 49.5**	**-1.2**
EDH	baz=187			*e*S	**Sn**	**00 36 07.7**	**-1.4**
WTK	**Tuku**	**1.58**	**246**	*e*P	**Pn**	**00 35 53.6**	**+1.8**
WTK	baz=244			*e*S	**Sn**	**00 36 13.1**	**+1.9**
CHN4	**Tsaushan**	**1.60**	**232**	*i* P	**Pn**	**00 35 54.0**	**+2.0**
CHN4	baz=218			S	**Sb**	**00 36 15.6**	**+0.8**
TPUB	**Ta-pu**	**1.60**	**230**	*e*P	**Pn**	**00 35 53.8**	**+1.6**
TPUB	baz=217			*e*S	**Sn**	**00 36 14.3**	**+2.4**
TPUB	**Ta-pu**	**1.60**	**230**	Pn	**Pn**	**00 35 52.0**	**-0.2**
WTCT	**Ta-ch'eng**	**1.61**	**253**	S	**Sn**	**00 36 14.5**	**+2.6**
IRIF	**Iriomote-Funau**	**1.61**	**90**	P	**Pn**	**00 35 53.5**	**+1.3**
IRIF				S	**Sn**	**00 36 13.8**	**+1.8**
STYT	**Tauyuan**	**1.62**	**223**	⇑P	**Pn**	**00 35 53.4**	**+1.0**
STYT	baz=215			S	**Sn**	**00 36 14.5**	**+2.4**
LONT	**Longtian**	**1.63**	**208**	*e*P	**Pn**	**00 35 52.0**	**-0.5**
LONT	baz=215			*e*S	**Sn**	**00 36 13.1**	**+0.7**
CHY	**Chiayi**	**1.64**	**239**	P	**Pn**	**00 35 55.1**	**+2.4**
CHY	baz=238			S	**Sb**	**00 36 16.8**	**+0.8**
WTP	**Ta-pu**	**1.65**	**229**	P	**Pn**	**00 35 54.3**	**+1.4**
WTP	baz=215			S	**Sb**	**00 36 17.1**	**+0.8**
TWG	**Pinlang**	**1.73**	**208**	*e*P	**Pn**	**00 35 53.6**	**-0.2**
TWG	baz=191			*e*S	**Sn**	**00 36 13.9**	**-0.9**
TWG	**Pinlang**	**1.73**	**208**	Pn	**Pn**	**00 35 54.1**	**+0.3**
TWGBT	**Beinan**	**1.73**	**208**	*e*P	**Pn**	**00 35 53.2**	**-0.6**
TWGBT	baz=191			*e*S	**Sn**	**00 36 14.2**	**-0.6**
TWK	**Hsinying**	**1.73**	**232**	P	**Pn**	**00 35 55.7**	**+1.8**
TWK	baz=230			S	**Sb**	**00 36 18.7**	**+0.2**
LDUT	**Ludao**	**1.73**	**195**	*e*P	**Pn**	**00 35 52.0**	**-1.8**
LDUT	baz=180			*e*S	**Sn**	**00 36 12.2**	**-2.6**
SNST	**Tainan City**	**1.75**	**230**	S	**Sb**	**00 36 19.2**	**+0.1**
CHN1	**Nanshi**	**1.75**	**229**	*e*P	**Pn**	**00 35 55.8**	**+1.6**
CHN1	baz=228			S	**Sn**	**00 36 18.9**	**+3.5**
SGST	**Jiashian**	**1.79**	**225**	*e*P	**Pn**	**00 35 56.2**	**+1.6**
SGST	baz=213			S	**Sn**	**00 36 18.9**	**+2.7**
SLGT	**Liugui**	**1.81**	**222**	*i* P	**Pn**	**00 35 57.1**	**+2.1**
SLGT	baz=221			S	**Sn**	**00 36 20.5**	**+3.6**
ICHU	**Yijhu**	**1.83**	**238**	*e*P	**Pn**	**00 35 57.5**	**+2.2**
ICHU	baz=223			*e*S	**Sn**	**00 36 20.5**	**+3.2**
JKRS	**Kuro-shima**	**1.87**	**93**	P	**Pn**	**00 35 56.8**	**+1.0**
JKRS				S	**Sn**	**00 36 19.9**	**+1.6**
SCST	**Cishan**	**1.98**	**223**	*e*P	**Pn**	**00 36 00.3**	**+2.9**
SCST	baz=222			*e*S	**Sb**	**00 36 25.5**	**-0.2**
JIJ	**Ishigaki jima**	**1.99**	**89**	P	**Pn**	**00 35 58.8**	**+1.4**
JIJ				*e*S	**Sn**	**00 36 21.8**	**+0.5**
SSD	**Sandimen**	**2.01**	**218**	*e*P	**Pn**	**00 35 59.9**	**+2.2**
SSD	baz=217			*e*S	**Sn**	**00 36 25.2**	**+3.4**
MASBT	**Mashibuluo**	**2.12**	**215**	*e*P	**Pn**	**00 36 00.2**	**+1.0**
MASBT	baz=215			*e*S	**Sn**	**00 36 26.4**	**+2.0**
JISG	**Ishigakijimahi**	**2.15**	**83**	*e*S	**Sn**	**00 36 25.7**	**+0.4**
EAST	**Anshuo**	**2.21**	**208**	*e*P	**Pn**	**00 35 59.9**	**-0.6**
PTTC	baz=198 **Pingtan**	**2.30**	**300**	*e*S	**Sn**	**00 36 27.7**	**-1.1**
SCZT	baz=299 **Fangliau**	**2.32**	**212**	P	**Pn**	**00 36 05.0**	**+2.9**

	baz=222						
SCZT				S		Sn	00 36 31.8 +2.4
	baz=222						
LAY	**Lan-yu**	**2.33**	**189**	P		**Pn**	**00 36 00.9 -1.3**
	baz=176						
LAY				*e*S		**Sn**	**00 36 28.0 -1.7**
	baz=176						
PNG	**Penghu**	**2.33**	**251**	P		**Pn**	**00 36 02.4 +0.2**
	baz=249						
PNG				*e*S		**Sn**	**00 36 29.6 -0.2**
	baz=249						
PHUB	**P'eng-hu**	**2.34**	**250**	*e*P		**Pn**	**00 36 02.2 0.0**
	baz=248						
PHUB				*e*S		**Sn**	**00 36 29.7 -0.2**
	baz=248						
WDGT	**Dungji**	**2.37**	**243**	*e*P		**Pn**	**00 36 03.6 +0.9**
	baz=241						
WDGT				*e*S		**Sn**	**00 36 31.4 +0.7**
	baz=241						
VWUC	**VWUC**	**2.37**	**286**	*e*P		**Pn**	**00 36 02.1 -0.6**
	baz=285						
SLIU	**Shizi**	**2.38**	**207**	*e*P		**Pn**	**00 36 02.9 +0.1**
	baz=196						
JTJ	**Tarama**	**2.51**	**83**	P		**Pn**	**00 36 05.6 +1.0**
MATB	**Ma-tsu**	**2.56**	**315**	*e*P		**Pn**	**00 36 04.5 -0.8**
	baz=314						
PTMZ	**Houxiangcun**	**2.67**	**285**	*e*P		**Pn**	**00 36 06.3 -0.5**
	baz=284						
LYJJ	**Jianjiangzhen**	**2.96**	**318**	*e*P		**Pn**	**00 36 10.9 +0.1**
	baz=318						
LYJJ				*e*S		**Sn**	**00 36 44.4 -0.8**
	baz=318						
XPSS	**Dashiqiu**	**3.03**	**328**	*e*P		**Pn**	**00 36 11.2 -0.5**
	baz=328						
XPSS				*e*S		**Sn**	**00 36 45.5 -1.3**
	baz=328						
MHZQ	**Yeshan**	**3.18**	**304**	*e*P		**Pn**	**00 36 14.6 +0.8**
	baz=303						
MHZQ				*e*S		**Sn**	**00 36 50.0 -0.5**
	baz=303						
KNM	**Kinmen**	**3.22**	**272**	*e*P		**Pn**	**00 36 16.4 +2.1**
	baz=270						
KNMB	**Chin-men Tao**	**3.26**	**273**	*e*P		**Pn**	**00 36 15.2 +0.3**
	baz=271						
KNMB	**Chin-men Tao**	**3.26**	**273**	Pn		**Pn**	**00 36 13.5 -1.4**
AXDP	**Jiaang**	**3.67**	**279**	*e*P		**Pn**	**00 36 20.2 -0.4**
	baz=278						
JOW	**Kunigami**	**6.21**	**65**	Pn		**Pn**	**00 36 55.6 +0.1**
HKPS	**Hong Kong Po S**	**7.48**	**256**			**Pn**	**00 37 10.4 -2.5**
JMZ	**Minamidaito 2**	**8.52**	**78**			**Pn**	**00 37 27.5 +0.3**
JSU	**Suzuyama**	**10.35**	**45**	Pn		**Pn**	**00 37 50.6 -1.7**
JNU	**Nakatsue**	**11.72**	**40**	Pn		**Pn**	**00 38 09.0 -2.1**

*GUC **12** 00:37:03.6±0.8, 16°.77S×71°.45W, h21km±4km, ML4.4*
*IDC **12** 00:37:11.4±1.9, 17°.16S×71°.04W, h111km±17km, mb3.4/2, mb1 3.6/6, mb1mx3.3/33, mbtmp3.9/6, MS2.6/1, Ms1 2.7/1, ms1mx2.3/13, Error ellipse: s-maj=34.4km s-min=22.0km az=23.0*

ISC 12 00:37:05.6±0.9, 16°.78S±0°.09×71°.3W±0°.1, h40km, n26, σ2.9 41/22, 3C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.83**	**150**	*e*P		**Pn**	**00 37 34.2 -0.4**
AP01				*e*S		**Sn**	**00 37 59.3 +2.7**
PB12	**IPOC Station P**	**2.05**	**153**	*e*P		**Pn**	**00 37 37.4 -0.3**
PB12				*i* S		**Sn**	**00 38 04.1 +1.9**
PB12				IAML			00 38 13.9
	comp=E,1μm,0.8s						
PB16	**IPOC Station P**	**2.31**	**132**	*e*P		**Pn**	**00 37 43.1 +1.3**
PB16				*e*S		**Sn**	**00 38 14.5 +5.2**
MNMC	**Minye Minye**	**2.85**	**145⇑**	*i* P		**Pn**	**00 37 48.7 -0.3**
MNMC				IAML			00 38 38.7
	comp=E,2μm,0.6s						
PSGC	**Pisagua**	**3.02**	**158⇑**	*i* P		**Pn**	**00 37 50.7 -0.3**
PSGC				*i* S		**Sn**	**00 38 27.4 +1.3**
LPAZ	**La Paz**	**3.09**	**81**	P		Pn	00 37 57.9 +5.4
	comp=E,1.4nm,0.3s,baz=290,slow=5.2,SNR=34						
LPAZ				LR		LR	00 39 30.6
	comp=E,103nm,20.6s,baz=304,slow=48						
PB11	**IPOC Station P**	**3.36**	**152⇑**	*i* P		**Pn**	**00 37 55.5 -0.2**
PB11				IAML			00 38 53.2
	comp=E,490nm,0.6s						
GO01	**Chusmiza**	**3.51**	**145**	*e*P		**Pn**	**00 37 59.4 +1.2**
PB08	**IPOC Station P**	**3.92**	**149**	*e*P		**Pn**	**00 38 04.1 +0.4**
PB08				*e*S		**Sn**	**00 38 52.0 +3.3**
LVC	**Limon Verde**	**6.22**	**159**	P		**Pn**	**00 38 34.7 -0.6**
	comp=E,1.6nm,0.3s,baz=354,slow=9.7,SNR=37						
LVC				S		**Sn**	**00 39 45.8 +0.3**
	comp=E,3.4nm,0.3s,baz=238,slow=24,SNR=11						
NNA	**Nana**	**7.17**	**311**	P		Pn	00 39 00.7 +13
	comp=E,2.5nm,0.3s,baz=210,slow=4.9,SNR=10						
NNA				S		**Sn**	**00 40 14.5 +6.1**
	comp=E,1.9nm,0.3s,baz=235,slow=18,SNR=1.6						
SIV	**San Ignacio**	**9.86**	**87**	P		**Pn**	**00 39 25.6 +0.7**
	comp=E,1.0nm,0.3s,baz=288,slow=10.0,SNR=23						
H03N1	**Juan Fernandez**	**17.95**	**201**	T		T	00 59 09.4
	baz=23,slow=73,SNR=542						
H03N2	**Juan Fernandez**	**17.95**	**201**	T		T	00 59 16.6
	baz=23,slow=73,SNR=292						
H03N3	**Juan Fernandez**	**17.97**	**201**	T		T	00 59 08.2
	baz=23,slow=73,SNR=431						
NVAR	**Mina Array Bea**	**70.39**	**322**	P		**P**	**00 48 14.9 -1.0**
	comp=E,0.4nm,0.8s,baz=160,slow=9.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**78.00**	**72**	P		**P**	**00 48 57.6 -2.9**
	comp=E,1.1nm,0.7s,baz=257,slow=5.3,SNR=10						
H11N3	**WAKE ISLAND Hyl**	**24.86**	**283**	T		T	03 12 57.0
	baz=102						
H11N2	**WAKE ISLAND Hyl**	**24.87**	**283**	T		T	03 12 59.3
	baz=102						
H11N1	**WAKE ISLAND Hyl**	**24.87**	**283**	T		T	03 12 57.2
	baz=102						
H11S2	**WAKE ISLAND Hyl**	**24.89**	**281**	T		T	03 13 02.6
	baz=90						
H11S1	**WAKE ISLAND Hyl**	**24.90**	**281**	T		T	03 13 02.1
	baz=90						
H11S3	**WAKE ISLAND Hyl**	**24.91**	**281**	T		T	03 13 04.6
	baz=90						
ZALV	**Zalesovo Beam**	**138.53**	**21**	PKP		**PKPdf**	**00 56 25.4 -1.5**
	comp=E,1.1nm,0.6s,baz=248,slow=1.5,SNR=5.2						
MJAR	**Matsushiro Arr**	**147.29**	**313**	PKPbc		**PKPbc**	**00 56 44.1 -1.2**
	comp=E,0.8nm,0.5s,baz=42,slow=2.0,SNR=4.4						
SONM	**Songino Array**	**148.97**	**3**	PKPbc		**PKPbc**	**00 56 47.5 -2.0**
	comp=E,0.3nm,0.4s,baz=347,slow=1.0,SNR=4.2						

*JMA **12** 00:43:18.6±0.2, 24°.52N×122°.74E, h85km±2km, M2.0*
*TAP **12** 00:43:19.6, 24°.33N×122°.68E, h71km±1km, ML2.6, C*

ISC 12 00:43:18.9±1.5, 24°.39N±0°.06×122°.73E±0°.03, h81km±10km, n37, σ0.9 76/69, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.21**	**74**	P		**Pn**	**00 43 31.0 +0.2**
JYNG				S		**Sn**	**00 43 40.4 +0.7**
YOJ	**Yonaguni jima**	**0.27**	**75**	P		**Pn**	**00 43 31.3 +0.2**
	baz=64						
YOJ				S		**Sn**	**00 43 40.2 0.0**
	baz=64						
YOJ	**Yonaguni jima**	**0.27**	**75**	P		**Pn**	**00 43 31.3 +0.2**
YOJ				S		**Sn**	**00 43 40.4 +0.2**
TWC	**Suao**	**0.83**	**285**	*e*P		**Pn**	**00 43 36.0 +0.1**
	baz=290						
TWC				*e*S		**Sn**	**00 43 48.2 -0.6**
	baz=290						
IRIF	**Iriomote-Funau**	**0.92**	**93**	P		**Pn**	**00 43 36.8 -0.2**
NTC	**Toucheng**	**0.94**	**300**	*e*P		**Pn**	**00 43 35.7 -1.5**
	baz=303						
NTC				*e*S		**Sn**	**00 43 49.4 -1.6**
	baz=303						
TIPB	**Shuangxi**	**1.00**	**305**	*e*P		**Pn**	**00 43 38.0 -0.1**
	baz=309						
TIPB				*e*S		**Sn**	**00 43 51.6 -0.8**
	baz=309						
HATJ	**Hateruma jima**	**1.04**	**109**	P		**Pn**	**00 43 39.3 +0.8**
HATJ				*e*S		**Sn**	**00 43 54.3 +1.2**
NACB	**Ninganchiao**	**1.05**	**258**	*e*P		**Pn**	**00 43 38.8 +0.1**
	baz=261						
NACB				*e*S		**Sn**	**00 43 52.9 -0.6**
	baz=261						
TWD	**Chiawan**	**1.08**	**253**	*e*P		**Pn**	**00 43 38.9 0.0**
	baz=255						
TWD				*e*S		**Sn**	**00 43 53.5 -0.5**
	baz=255						
ENTT	**Nioudou**	**1.08**	**283**	*e*P		**Pn**	**00 43 39.5 +0.4**
	baz=286						
ENTT				*e*S		**Sn**	**00 43 54.5 +0.3**
	baz=286						
NDT	**Datong Townshi**	**1.12**	**281**	*e*P		**Pn**	**00 43 40.3 +0.8**
	baz=284						
NDT				*e*S		**Sn**	**00 43 55.5 +0.5**
	baz=284						
ETLH	**Xiulin Townshi**	**1.15**	**261**	*e*P		**Pn**	**00 43 40.4 +0.5**
	baz=263						
ETLH				*e*S		**Sn**	**00 43 55.2 -0.5**
	baz=263						
NWLT	**Wulai**	**1.18**	**289**	*e*P		**Pn**	**00 43 41.5 +1.3**
	baz=292						
NWLT				*e*S		**Sn**	**00 43 55.9 -0.3**
	baz=292						
JKRS	**Kuro-shima**	**1.18**	**97**	P		**Pn**	**00 43 40.6 +0.4**
JKRS				S		**Sn**	**00 43 56.6 +0.4**
NNSB	**Datong**	**1.23**	**272**	*e*P		**Pn**	**00 43 41.7 +0.9**
	baz=274						
NNSB				*e*S		**Sn**	**00 43 57.0 -0.3**
	baz=274						
NNSH	**Datong**	**1.23**	**272**	*e*P		**Pn**	**00 43 41.6 +0.7**
	baz=274						
NNSH				*e*S		**Sn**	**00 43 56.9 -0.5**
	baz=274						
YHNB	**Yeheng**	**1.26**	**283**	*e*P		**Pn**	**00 43 41.9 +0.7**
	baz=285						
YHNB				*e*S		**Sn**	**00 43 58.6 +0.5**
	baz=285						
JIJ	**Ishigaki jima**	**1.29**	**91**	P		**Pn**	**00 43 41.7 +0.1**
JIJ				S		**Sn**	**00 43 57.8 -0.9**
WHF	**Hehuan Shan**	**1.36**	**260**	*e*S		**Sn**	**00 43 59.9 -0.8**
	baz=261						
FUSS	**Fushou**	**1.36**	**264**	*e*P		**Pn**	**00 43 43.1 +0.4**
	baz=266						
FUSS				*e*S		**Sn**	**00 43 59.3 -1.3**
	baz=266						
EGFH	**Guangfu**	**1.39**	**239**	*e*S		**Sn**	**00 43 59.5 -1.4**
	baz=240						
TWT	**Tachien**	**1.42**	**265**	*e*P		**Pn**	**00 43 44.0 +0.6**
	baz=266						
TWT				*e*S		**Sn**	**00 44 02.6 +0.7**
	baz=266						
TDCB	**Techi**	**1.44**	**265**	*e*S		**Sn**	**00 44 01.9 -0.3**
	baz=266						
CHGB	**Renai**	**1.46**	**257**	*e*P		**Pn**	**00 43 44.7 +0.9**
	baz=258						
CHGB				*e*S		**Sn**	**00 44 02.5 -0.2**
	baz=258						
JISG	**Ishigakijimahi**	**1.46**	**82**	P		**Pn**	**00 43 43.4 -0.3**
JISG				S		**Sn**	**00 44 01.4 -1.0**
HGSD	**Ruisui**	**1.49**	**233**	*e*P		**Pn**	**00 43 43.9 -0.2**
	baz=234						
HGSD				*e*S		**Sn**	**00 44 02.4 -0.8**
	baz=234						
VWDT	**VWDT**	**1.58**	**247**	*e*P		**Pn**	**00 43 45.8 +0.5**
	baz=247						
VWDT				*e*S		**Sn**	**00 44 05.6 +0.3**
	baz=247						
WHP	**Taichung City**	**1.63**	**266**	*e*P		**Pn**	**00 43 47.5 +1.6**
	baz=268						
WHP				*e*S		**Sn**	**00 44 06.8 +0.3**
	baz=268						
YULB	**Yu-li**	**1.64**	**233**	*e*P		**Pn**	**00 43 46.3 +0.1**
	baz=233						
YULB				*e*S		**Sn**	**00 44 05.1 -1.7**
	baz=233						
TWF1	**Yuli**	**1.67**	**232**	*e*P		**Pn**	**00 43 46.3 -0.2**
	baz=232						
TWF1				*e*S		**Sn**	**00 44 05.7 -1.6**
	baz=232						
SMLT	**Sun Moon Lake**	**1.74**	**253**	*e*P		**Pn**	**00 43 48.7 +1.2**
	baz=254						
SMLT				*e*S		**Sn**	**00 44 09.3 0.0**
	baz=254						
FULB	**Fuli**	**1.77**	**228**	*e*P		**Pn**	**00 43 48.3 +0.4**
	baz=228						
FULB				*e*S		**Sn**	**00 44 09.8 +0.1**
	baz=228						
TYC	**Yuchr**	**1.77**	**254**	*e*P		**Pn**	**00 43 49.0 +1.2**
	baz=255						
TYC				*e*S		**Sn**	**00 44 09.8 0.0**
	baz=255						
JTJ	**Tarama**	**1.82**	**82**	P		**Pn**	**00 43 48.5 +0.1**
JTJ				*e*S		**Sn**	**00 44 10.1 -0.7**
EDH	**Donghe**	**1.92**	**223**	*e*S		**Sn**	**00 44 12.6 -0.7**
	baz=223						
LONT	**Longtian**	**2.08**	**225**	*e*P		**Pn**	**00 43 52.5 +0.6**
	baz=225						
LONT				*e*S		**Sn**	**00 44 16.4 -0.8**
	baz=225						

WEL 12 01:36:01.5, 43°S±2°×17°3E±°, h13km±2km, M2.5/6, ML2.6/6, MLv2.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=22.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.23**	**193**	P		**Pb**	01 36 08.0 +0.5
MQZ				S		**Sb**	01 36 11.9 +0.5
AMCZ	**Amberley**	**0.31**	**350**	P		**Pb**	01 36 08.9 0.0
OKCZ	**Okains Bay**	**0.34**	**134**	P		**Pb**	01 36 09.6 +0.2
OKCZ				S		**Sb**	01 36 14.8 0.0
AKCZ	**Akaroa Harbour**	**0.41**	**161**	P		**Pb**	01 36 11.2 +0.6
OXZ	**Oxford**	**0.52**	**287**	P		**Pn**	01 36 13.6 -1.0
OXZ				S		**Sb**	01 36 21.6 +1.6
GVZ	**Greta Valley S**	**0.56**	**24**	P		**Pb**	01 36 14.1 +0.8
GVZ				S		**Sb**	01 36 22.0 +0.8
LTZ	**Lake Taylor**	**0.78**	**335**	P		**Pn**	01 36 17.8 -0.4
LTZ				S		**Sb**	01 36 28.2 +0.9
WACZ	**Wakanui South**	**0.79**	**234**	P		**Pn**	01 36 19.5 +1.2
WACZ				S		**Sn**	01 36 31.6 +1.7
INZ	**Inchbonnie**	**1.21**	**309**	P		**Pg**	01 36 25.7 +1.0
ARCZ	**Arundel**	**1.21**	**247**	P		**Pg**	01 36 26.1 +1.3
KHZ	**Kahutara**	**1.23**	**30**	P		**Pn**	01 36 24.1 -0.2
RPZ	**Rata Peaks**	**1.23**	**259**	P		**Pn**	01 36 22.3 -2.2
ODZ	**Otahua Downs**	**2.16**	**223**	P		**Pg**	01 36 44.8 +1.9
KIW	**Kapiti Island**	**3.08**	**33**	P		**Pn**	01 36 51.2 +1.3

*GII **12** 01:42:07.4±0.2, 33°.22N×35°.69E, h4km, MD2.4/4, Mm2.6/3*
*GRAL **12** 01:42:07.3±0.2, 33°.20N×35°.73E, h8km±1km, MD3.0*

ISC 12 01:42:07.2±0.9, 33°.23N±0°.03×35°.74E±0°.05, h9km±6km, n20, σ0.9 53/34, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATI	**Neve Ativ**	**0.03**	**358**	Pg		**Pg**	**01 42 09.0 0.0**
NATI				Sg		**Sg**	**01 42 10.4 +0.1**
GEM	**Giv'at Ha'Em**	**0.07**	**254**	Pg		**Pg**	**01 42 08.7 -0.6**
SHBL	**Chebaa**	**0.12**	**2**	*e*P		**Pg**	**01 42 10.4 +0.2**
SHBL				*e*S		**Sg**	**01 42 12.8 +0.5**
RCY	**Rachaya**	**0.28**	**17**	*e*P		**Pg**	**01 42 13.1 +0.2**
RCY				*e*S		**Sg**	**01 42 17.4 +0.6**
QRWL	**Qaraoun**	**0.32**	**352**	*e*P		**Pg**	**01 42 13.8 +0.1**
MMA0B	**Mount Meron ar**	**0.35**	**233**	Pg		**Pg**	**01 42 14.3 +0.1**
MMA0B				Sg		**Sg**	**01 42 19.7 +0.8**
HNTI	**Hanita**	**0.49**	**253**	Pg		**Pg**	**01 42 17.1 +0.2**
HNTI				Sg		**Sg**	**01 42 23.8 +0.4**
DQRL	**Deir Qamar**	**0.50**	**344**	*e*P		**Pg**	**01 42 16.9 -0.1**
DQRL				*e*S		**Sg**	**01 42 23.9 +0.4**
BLGI	**Bet Lehem HaGe**	**0.68**	**223**	Pg		**Pg**	**01 42 20.2 -0.1**
BLGI				Sg		**Sb**	**01 42 29.8 -0.8**
BHL	**Bhannes**	**0.68**	**354**	*e*P		**Pg**	**01 42 20.1 -0.3**
MMLI	**Mount Malkishu**	**0.83**	**199**	Pg		**Pg**	**01 42 23.2 -0.1**
MMLI				Sg		**Sb**	**01 42 35.4 +0.2**
OFRI	**`Ofer**	**0.88**	**226**	Pg		**Pg**	**01 42 23.7 -0.4**
OFRI				Sg		**Sb**	**01 42 36.0 -0.5**
HMDT	**Nahal Hemdat**	**0.99**	**190**	Pg		**Pg**	**01 42 25.9 -0.4**
HMDT				Sg		**Sb**	**01 42 40.1 +0.5**
HWQ	**Hawqa**	**1.06**	**9**	*e*P		**Pg**	**01 42 26.5 -1.1**
SLTI	**Sal'it**	**1.15**	**211**	Pg		**Pb**	**01 42 28.3 -0.9**
SLTI				Sg		**Sb**	**01 42 44.6 +0.4**
UJAP	**Al Uja**	**1.29**	**190**	Sg		**Sg**	**01 42 49.6 +0.7**
DSI	**Dead Sea**	**1.68**	**190**	Pn		**Pn**	**01 42 36.9 +0.1**
DSI				Sn		**Sn**	**01 42 58.8 +0.4**
AMAZ	**Amatzia**	**1.83**	**203**	Pn		**Pn**	**01 42 39.5 +0.6**
AMAZ				Sn		**Sb**	**01 43 03.4 -0.5**
GHAJ	**Ghor Haditha**	**1.93**	**184**	Pn		**Pn**	**01 42 40.7 +0.6**
YTIR	**Yattir**	**1.93**	**196**	Pn		**Pn**	**01 42 40.9 +0.5**
YTIR				Sn		**Sb**	**01 43 06.3 -0.6**

IDC 12 02:11:05.4±7.1, 20°.14S×165°.15E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/23, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=152.2km s-min=30.5km az=32.0, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.27**	**148**	Pn		Pn	02 11 44.4 +0.1
	8.3nm,0.3s,baz=117,slow=19,SNR=71						
DZM				Sn		Sg	02 12 25.6 +7.2
	13nm,0.3s,baz=312,slow=22,SNR=14						
STKA	**Stephens Creek**	**24.13**	**236**	P		P	02 16 22.9 -0.2
	1.9nm,0.6s,baz=62,slow=8.4,SNR=6.0						
WRA	**Warramunga Arr**	**28.93**	**265**	P		P	02 17 06.2 -0.3
	0.2nm,0.4s,baz=95,slow=8.8,SNR=2.9						
ASAR	**Alice Springs**	**29.17**	**257**	P		P	02 17 09.0 +0.3
	3.0nm,0.6s,baz=85,slow=8.9,SNR=43						

*IDC **12** 02:12:42.9±0.4, 18°.48N×69°.02W, h111km±3km, mb4.3/27, mb1 4.5/29, mb1mx4.5/32, mbtmp4.7/29, MS3.6/11, Ms1 3.6/11, ms1mx3.4/30, Error ellipse: s-maj=9.7km s-min=7.6km az=61.0*
*NEIC **12** 02:12:43.0±1.8, 18°.73N±0°.06×68°.99W±0°.05, h109km±3km, mb4.7/307, Mwr4.6/21, Md4.7/26(RSPR), Error ellipse: s-maj=8.8km s-min=6.7km az=199.0*
*GCMT **12** 02:12:43.0±0.2, 18°.68N±0°.02×68°.94W±0°.03, h100km±3km, MW4.8/90, Moment Tensor Solution. s33,c38; s90,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.87±.06; $M_{\theta\theta}$-2.13±.08; $M_{\phi\phi}$0.26±.08; $M_{r\theta}$-0.25±.07; $M_{\theta\phi}$-0.02±.10; $M_{\phi r}$-0.47±.06; Best double couple: $M_0$2.08000×10^{16} NP1:ϕ_s104.00000°, δ43.00000°, λ112.00000°. NP2: ϕ_s255.00000°, δ51.00000°, λ70.00000°. Principal axes: T 2.0130, Plg75.0000°, Azm102.0000°; N 0.1380, Plg15.0000°, Azm268.0000°; P -2.1470, Plg4.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UNK **12** 02:12:43.2, 19°.03N×68°.88W, h106km*
*INMG **12** 02:12:43.2, 19°.03N×68°.88W, h106km, Mb5.1*
*RSPR **12** 02:12:43.3, 19°.03N×68°.88W, h106km±2km, MD4.7/12*
*NEIC **12** 02:12:43.2, 19°.03N×68°.88W, h103km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.87; $M_{\theta\theta}$-0.84; $M_{\phi\phi}$-0.02; $M_{r\theta}$0.10; $M_{\theta\phi}$-0.37; $M_{\phi r}$-0.54; Fault plane solution: $M_0$1.08000×10^{16} NP1:ϕ_s223.77000°, δ54.41000°, λ55.62000°. NP2:ϕ_s93.38000°, δ47.84000°, λ128.27000°. Principal axes: T 1.1519, Plg62.0000°, Azm74.0000°; N -0.1637, Plg27.0000°, Azm245.0000°; P -0.9882, Plg4.0000°, Azm337.0000°;*
*OSPL **12** 02:12:45.6±3.3, 18°.26N×69°.04W, h102km±23km, ML5.0, Fault plane solution: NP1:ϕ_s224.00000°, δ54.00000°, λ56.00000°.*

ISC 12 02:12:42.7±0.3, 18°.46N±0°.03×69°.00W±0°.03, h112km±3km, h113km:pP-P, n827, σ1.9 57/777, mb4.6/162, 18C-13D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.49**	**312**	Pn		**Pn**	**02 12 59.0 -0.8**
DR12				Sn		**Sn**	**02 13 11.8 -0.8**
PCDR	**Punta Cana, DR**	**0.59**	**85⇑**	*e*P		**Pn**	**02 13 00.9 +0.6**
PCDR	**Punta Cana, DR**	**0.59**	**85**			**Pn**	**02 13 00.9 +0.6**
PCDR	**Punta Cana, DR**	**0.59**	**85**	Sn		**Sn**	**02 13 13.5 -0.2**
PCDR	**Punta Cana, DR**	**0.59**	**85**	*i* P		**Pn**	**02 13 00.7 +0.4**
PCDR				*e*S		**Sn**	**02 13 14.3 +0.6**
PCDR				IAML			02 13 19.1
	comp=Z,39μm,0.5s						
SDD	**Santo Domingo**	**0.87**	**270**			**Pn**	**02 13 02.5 -0.2**
SDD	**Santo Domingo**	**0.87**	**270**	*i* P		**Pn**	**02 13 02.5 -0.2**
SDD				*e*S		**Sn**	**02 13 17.6 -0.3**
SDD				IAML			02 13 23.9
	comp=Z,9μm,0.6s						
BANI	**BANI**	**1.29**	**267**			**Pn**	**02 13 07.5 +0.2**
BON1	**Bonao**	**1.41**	**290**	*i* P		**Pn**	**02 13 08.4 -0.1**
BON1				*e*S		**Sn**	**02 13 28.0 -0.1**
BON1				IAML			02 13 30.5
	comp=Z,17μm,0.5s						
MPR	**Mayaguez**	**1.78**	**98**			**Pn**	**02 13 13.4 +0.3**
MPR	**Mayaguez**	**1.78**	**98**	*i* P		**Pn**	**02 13 14.3 +1.2**
MPR				*i* P			02 13 15.2
MPR				IAML			02 13 49.6
	comp=Z,5μm,0.6s						
AGPR	**Aguadilla, PR**	**1.79**	**89**			**Pn**	**02 13 13.1 0.0**
AGPR	**Aguadilla, PR**	**1.79**	**89**	*i* P		**Pn**	**02 13 14.7 +1.6**
AGPR				*e*S		**Sn**	**02 13 38.7 +2.3**
AGPR				IAML			02 13 47.6
	comp=Z,10μm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.85**	**104**			**Pn**	**02 13 13.9 +0.1**
SC01	**Santiago de lo**	**1.90**	**301**			**Pn**	**02 13 14.6 +0.1**
SC01	**Santiago de lo**	**1.90**	**301**	*i* P		**Pn**	**02 13 14.9 +0.4**
SC01				*e*S		**Sn**	**02 13 39.9 +1.2**
SC01				IAML			02 13 47.1
	comp=Z,17μm,0.8s						
MLPR	**Magueyes Islan**	**1.92**	**104⇓**	*e*P		**Pn**	**02 13 15.9 +1.2**
MLPR	**Magueyes Islan**	**1.92**	**104**	*e*S		**Sn**	**02 13 42.3 +3.0**
MLPR	**Magueyes Islan**	**1.92**	**104**			**Pn**	**02 13 15.9 +1.2**
MLPR						**Sn**	**02 13 42.3 +3.0**
SJM1	**San Juan de la**	**2.13**	**280**	*i* P		**Pn**	**02 13 18.9 +1.4**
SJM1				*e*S		**Sn**	**02 13 44.3 +0.2**
AOPR	**Arecibo Observ**	**2.14**	**93**	*e*P		**Pn**	**02 13 19.6 +2.1**
AOPR				*e*S		**Sn**	**02 13 46.7 +2.6**
AOPR	**Arecibo Observ**	**2.14**	**93**	Pn		**Pn**	**02 13 19.0 +1.5**
SDDR	**Presa de Saban**	**2.23**	**284**	*e*P		**Pn**	**02 13 19.6 +0.8**
SDDR				*e*S		**Sn**	**02 13 47.1 +0.7**
SDDR	**Presa de Saban**	**2.23**	**284⇓**	*e*P		**Pn**	**02 13 19.6 +0.9**
SDDR	**Presa de Saban**	**2.23**	**284**			**Pn**	**02 13 19.6 +0.9**
SDDR	**Presa de Saban**	**2.23**	**284**	*i* P		**Pn**	**02 13 20.2 +1.4**
SDDR				*e*S		**Sn**	**02 13 48.5 +2.1**
SDDR				IAML			02 13 56.8
	comp=Z,7μm,0.7s						
OBIP	**Obispado Ponce**	**2.31**	**100⇑**	*e*P		**Pn**	**02

SMRT St. Maarten 5.64 93 Pn 02 14 04.0 -0.2
SEUS St. Eustatius 5.81 99 eP Pn 02 14 10.7 +4.2
SEUS St. Eustatius 5.81 99 eS Sn 02 15 15.6 +3.8
GTBY Guantanamo Bay 5.96 285 Pn Pn 02 14 06.0 -2.4
SKI Saint Kitts 6.07 100 eP Pn 02 14 12.0 +2.1
SKI Saint Kitts 6.07 100 eS Sn 02 15 19.9 +1.8
SKOC St. Kitts, UWI 6.08 100 eP Pn 02 14 10.9 +0.8
SKOC St. Kitts, UWI 6.08 100 eS Sn 02 15 17.2 -1.2
HATO Hato, Curacao 6.24 180 Pn 02 14 14.1 +1.7
MLYT Lee's Yard 6.72 104 eP Pn 02 14 19.3 +0.4
MLYT Lee's Yard 6.72 104 eS Sn 02 15 33.6 -0.4
ANWB Willy Bob 6.91 95 eP Pn 02 14 20.5 -0.9
ANWB Willy Bob 6.91 95 eS Sn 02 15 30.4 -8.0
URIC Uribia, Colomb 7.31 204 eP Pn 02 14 24.3 -2.6
ABD La Joyeuse, An 7.44 104 eP Pn 02 14 29.3 +0.8
ABD La Joyeuse, An 7.44 104 eS Sn 02 15 49.7 -1.6
CBE Ff, Capester 7.45 107 eP Pn 02 14 29.9 +1.1
CBE Ff, Capester 7.45 107 eS Sn 02 15 50.8 -1.0
TBG Guadaloupe-3 7.49 109 eP Pn 02 14 30.8 +1.5
TBG Guadaloupe-3 7.49 109 eS Sn 02 15 52.4 -0.4
TDBA Terre de Bas, 7.50 109 eP Pn 02 14 30.1 +0.7
TDBA Terre de Bas, 7.50 109 eS Sn 02 15 51.3 -1.6
MAGL Barre de l'ile 7.79 108 eP Pn 02 14 34.4 +1.1
MAGL Barre de l'ile 7.79 108 eS Sn 02 15 59.4 -0.5
DSLB Salisbury 7.85 111 eP Pn 02 14 35.8 +1.6
DSLB Salisbury 7.85 111 eS Sn 02 15 59.2 -2.3
H05N1 Guadeloupe/Mar 7.88 104 P Pn 02 14 35.3 +0.8
H05N1 S Sn 02 15 59.1 -3.0
MDN Morne-Daniel 7.92 112 eP Pn 02 14 37.2 +2.1
MDN Morne-Daniel 7.92 112 eS Sn 02 16 03.8 +0.6
DPMT Pointe Michel 7.96 112 eP Pn 02 14 38.0 +2.4
DLPL La Plaine 8.05 112 eP Pn 02 14 37.1 +0.2
DLPL La Plaine 8.05 112 eS Sn 02 15 59.6 -6.7
MTDJ Mount Denham 8.11 270 Pn Pn 02 14 38.2 +0.5
FDF Fort de France 8.39 115 eP Pn 02 14 42.9 +1.4
FDF Fort de France 8.39 115 eS Sn 02 16 13.2 -1.3
FDF Fort de France 8.39 115 Pn 02 14 42.7 +1.2
BIM Bigot 8.56 116 eP Pn 02 14 44.0 +0.3
BIM Bigot 8.56 116 eS Sn 02 16 14.2 -4.5
ILAM Ilet Lapin Mar 8.61 114 eP Pn 02 14 45.7 +1.3
ILAM Ilet Lapin Mar 8.61 114 eS Sn 02 16 15.1 -4.7
MPOM Morne Pois Mar 8.77 116 eP Pn 02 14 49.1 +2.5
MPOM Morne Pois Mar 8.77 116 eS Sn 02 16 24.5 +0.7
H05S1 Guadeloupe/Mar 8.80 116 P Pn 02 14 48.7 +1.7
H05S1 S Sn 02 16 21.5 -3.0
SMRC Santa Marta, M 8.84 216 eP Pn 02 14 44.9 -2.7
SLBI Saint Lucia, B 8.88 119 eP Pn 02 14 48.8 +0.7
SLBI Saint Lucia, B 8.88 119 eS Sn 02 16 21.3 -5.2
SLW Petit Monier 8.91 119 eP Pn 02 14 50.2 +1.7
SLW Petit Monier 8.91 119 eS Sn 02 16 24.7 -2.6
SLB Belfond 8.93 120 eP Pn 02 14 49.9 +1.1
SLB Belfond 8.93 120 eS Sn 02 16 25.5 -2.2
SLAC Saint Lucia, A 9.01 119 eP Pn 02 14 50.3 +0.4
SLAC Saint Lucia, A 9.01 119 eS Sn 02 16 23.9 -5.7
SVB Belmont 9.06 124 eP Pn 02 14 50.7 +0.1
SVB Belmont 9.06 124 eS Sn 02 16 25.7 -5.2
SVB Belmont 9.06 124 Pn 02 14 50.5 -0.1
SVV Soufriere Volc 9.07 123 eP Pn 02 14 51.8 +1.1
SVV Soufriere Volc 9.07 123 eS Sn 02 16 26.7 -4.3
MCLT Moule a Chique 9.07 120 eP Pn 02 14 52.1 +1.4
MCLT Moule a Chique 9.07 120 eS Sn 02 16 23.2 -8.0
MCLT Moule a Chique 9.07 120 Pn 02 14 57.9 +7.2
SVCV St. Vincent, C 9.15 123 eP Pn 02 14 52.2 +0.4
SVCV St. Vincent, C 9.15 123 eS Sn 02 16 26.9 -6.2
PCRV Puerto La Cruz 9.26 152 P Pn 02 14 54.7 +1.4
comp=Z,10nm,0.3s,baz=320,slow=1.6,SNR=75
PCRV S Sn 02 16 28.7 -7.0
comp=Z,12nm,0.3s,baz=257,slow=5.9,SNR=2.2
GCMP Grenada, Carri 9.41 128 eP Pn 02 14 54.2 -1.1
GCMP Grenada, Carri 9.41 128 eS Sn 02 16 32.2 -7.2
GRGR Grenville 9.47 131 eP Pn 02 14 54.8 -1.4
GRGR Grenville 9.47 131 eS Sn 02 16 36.3 -4.6
GRGR Grenville 9.47 131 Pn Pn 02 14 56.1 0.0
BAUV El Baul 9.51 174 eP Pn 02 14 58.2 +1.6
BAUV El Baul 9.51 174 eS Sn 02 16 34.8 -6.9
SDV Santo Domingo 9.65 190 P Pn 02 15 01.6 +2.9
comp=Z,113nm,0.3s,baz=47,slow=6.4,SNR=166
SDV S Sn 02 16 41.8 -3.7
comp=Z,7.5nm,0.3s,baz=175,slow=14,SNR=1.2
SDV LR LR 02 19 13.8
comp=Z,171nm,19.5s,baz=14,slow=40
SDV Santo Domingo 9.65 190 eP Pn 02 15 01.4 +2.7
SDV Santo Domingo 9.65 190 eP Pn 02 15 00.1 +1.4
BCHC Barbados, Cave 10.46 119 eP Pn 02 15 13.3 +3.9
BBGH Gun Hill 10.51 119 eP Pn 02 15 13.8 +3.6
BBGH Gun Hill 10.51 119 eS Sn 02 17 05.8 -0.2
TRN Trinidad (W) 10.69 136 eP Pn 02 15 15.5 +2.8
TRN Trinidad (W) 10.69 136 eS Sn 02 17 04.5 -6.0
TPR Prospect 10.74 131 eP Pn 02 15 18.2 +4.8
TPR Prospect 10.74 131 eS Sn 02 17 06.9 -4.9
TOSP Speyside 10.84 130 eP Pn 02 15 18.7 +4.0
TOSP Speyside 10.84 130 Pn 02 15 16.6 +1.9
OCAC Ocana 10.99 203 eP Pn 02 15 18.2 +1.3
MOTC Monteria, Cord 11.60 215 eP Pn 02 15 24.9 +0.1
PAMC Pamplona, Colo 11.62 199 eP Pn 02 15 26.5 +0.9
LCBC Los crobas, 11.93 218 eP Pn 02 15 31.5 +2.3
BRRC Barranca, Sant 12.18 203 eP Pn 02 15 32.5 0.0
TAMC Tame, Arauca 12.26 193 eP Pn 02 15 34.6 +1.0
ZARC Zaragoza, Cauc 12.30 208 eP Pn 02 15 34.4 +0.3
UREC San Jos de Ur 12.40 212 eP Pn 02 15 36.5 +1.2
BARC Barichara 12.48 200 eP Pn 02 15 38.1 +1.5
PTBC PUERTO BERRIO, 12.99 205 eP Pn 02 15 42.8 -0.3
RUSC La Rusia 13.11 198 eP Pn 02 15 47.4 +2.2
DBBC Dabeiba 13.37 213 eP Pn 02 15 48.0 -0.1
SPBC San Pablo de B 13.66 202 eP Pn 02 15 53.1 +1.2
BCIP Isla Barro Col 14.00 230 Pn Pn 02 15 57.2 +1.1
NORC Norcasia 14.04 205 eP P 02 15 59.3 -1.7
CBOC Ciudad Bolivar 14.27 210 eP Pn 02 16 00.6 +0.8
ROSC El Rosal 14.50 202 P P 02 16 07.2 +0.8
comp=Z,13nm,0.3s,baz=60,slow=6.2,SNR=32
ROSC S Sn 02 18 37.8 -5.5
comp=Z,1.2nm,0.3s,baz=119,slow=21,SNR=1.1
ROSC LR LR 02 22 29.2
comp=Z,130nm,18.5s,baz=43,slow=40
ROSC El Rosal 14.50 202 eP P 02 16 06.5 0.0
ROSC El Rosal 14.50 202 P Pn 02 16 04.4 +1.4
CHIC Chingaza 14.50 199 eP P 02 16 05.3 -1.2
GUY2C Guyana, Caldas 14.55 206 eP P 02 16 05.9 -1.2
SOLC Bahia Solano 14.66 215 eP P 02 16 06.5 -1.3
VILC Villavicencio, 14.98 198 eP P 02 16 10.6 -1.0
TOLC Tolima 15.11 205 eP P 02 16 12.9 -0.3
ANIL Santa Ana 15.23 205 eP P 02 16 14.2 -0.3
PLMC San Jos del P 15.23 209 eP P 02 16 14.5 +0.2
ORTC Ortega, Tolima 15.70 204 eP P 02 16 19.2 -0.2
PRAC Prado 15.75 202 eP P 02 16 19.2 -0.7
YOTC Yotoco, Valle 16.08 207 eP P 02 16 24.9 +1.2
GUVC San Jose del G 16.21 193 eP P 02 16 27.0 +2.0
656A Willston 16.45 314 Pn 02 16 22.9 -3.9
656A IAmb IAmb 02 16 27.5
comp=Z,40nm,0.7s
ACON Acoyapa 16.88 250 P P 02 16 33.8 +1.3
MACC Macarena, Meta 16.90 197 eP P 02 16 34.8 +2.2
MARP Paez Belalcaza 16.95 205 eP P 02 16 34.0 +0.5
456A Hilliard 16.99 318 Pn Pn 02 16 29.0 -4.5
Z59A Georgetown, SC 17.37 330 P P 02 16 37.0 -0.6
baz=144
GARC Garzon, Huila 17.38 202 eP Pn 02 16 40.4 +1.9
158A Hollywood 17.42 327 P P 02 16 37.8 -0.4
baz=141,SNR=9.7
JTS Las Juntas de 17.45 244 P P 02 16 38.9 +0.2
comp=Z,0.6nm,0.3s,baz=348,slow=14,SNR=4.7
JTS Las Juntas de 17.45 244 P Pn 02 16 40.8 +1.7
POPC Popayan, Colom 17.52 206 eP Pn 02 16 41.2 +0.9
Y60A Bolivia 17.53 334 P P 02 16 39.3 -0.2
baz=149,SNR=8.6
Y60A Bolivia 17.53 334 P 02 16 32.5 -7.0
CSU Charleston Sou 17.55 328 P 02 16 32.9 -6.8
PCON Cinco Dias 17.60 205 eP Pn 02 16 45.0 +3.6
NHSC New Hope 17.70 328 P P 02 16 41.5 +0.2
baz=142,SNR=13
NHSC New Hope 17.70 328 P P 02 16 40.1 -1.2
Z58A St. Stephen 17.70 329 P P 02 16 41.4 +0.1
baz=143,SNR=18
157A Early Branch 17.80 325 P P 02 16 42.5 +0.2
baz=139,SNR=12
Y59A Loris 17.80 332 P P 02 16 42.3 -0.2
baz=147,SNR=13
X60A Albert Glenn T 17.93 335 P P 02 16 43.4 -0.4
baz=150,SNR=57
FLOC Florencia 18.00 202 eP Pn 02 16 45.6 -0.2
W61A Ground Anchor 18.10 338 P P 02 16 45.2 -0.5
baz=154,SNR=9.5
V62A Hyde County Ai 18.12 341 P P 02 16 45.6 -0.2
baz=157
Z57A Bowman 18.12 327 P P 02 16 45.8 -0.1
baz=141,SNR=18
X59A McDuffie Farm, 18.18 334 P P 02 16 46.5 -0.1
baz=148,SNR=12
BBAC Balboa, Cauca 18.23 207 eP Pn 02 16 49.3 +0.6
W60A Pink Hill 18.25 337 P P 02 16 47.1 -0.2
baz=152,SNR=77
TEIG Tepich 18.28 279 P Pn 02 16 50.1 +1.1
comp=Z,0.7nm,0.3s,baz=17,slow=1.9,SNR=5.8
TIGA Tifton 18.47 317 P P 02 16 46.6 -3.1
X58A Rowland 18.49 332 P P 02 16 49.9 0.0
baz=146,SNR=6.6
X58A Rowland 18.49 332 P P 02 16 45.9 -4.0
Z56A Williston 18.49 326 P P 02 16 49.6 -0.4
baz=139
CRUC La Cruz 18.51 206 eP Pn 02 16 54.0 +1.8
V61A Roper 18.52 340 P P 02 16 50.2 0.0
baz=156,SNR=8.1
Y57A Sumter 18.54 329 P P 02 16 50.3 -0.1
baz=143
W59A Clinton 18.63 335 P P 02 16 51.5 0.0
baz=150
V60A Jim Taylor Roa 18.73 339 P P 02 16 52.4 -0.1
baz=154,SNR=31
X57A Johnson Farm, 18.76 330 P P 02 16 52.7 -0.2
baz=144
Y56A Pelion 18.82 327 P P 02 16 53.5 -0.1
baz=140,SNR=7.8
W58A Raeford 18.84 333 P P 02 16 53.6 -0.1
baz=148,SNR=30
U61A Possum Corner 18.98 341 P P 02 16 55.6 +0.4
baz=157,SNR=8.0
U61A Possum Corner 18.98 341 P P 02 16 48.6 -6.6
GCUF Volcan Galeras 18.98 206 eP Pn 02 16 58.6 +0.7
PTLC Puerto Leguiza 19.05 198 eP Pn 02 17 01.3 +3.2
BIRD Birdtown, Kers 19.08 330 IAmb IAmb 02 16 57.2
comp=Z,34nm,0.8s
V59A Middlesex 19.08 336 P P 02 16 56.5 +0.1
baz=151,SNR=17
JSC Jenkinsville 19.18 328 IAmb IAmb 02 17 05.4
comp=Z,26nm,0.6s
Y55A Saluda 19.22 326 P P 02 16 57.9 -0.1
baz=139,SNR=24
X56A White Oak 19.23 328 P P 02 16 57.8 -0.2
baz=142,SNR=23
W57A Gilead 19.28 332 P P 02 16 57.8 -0.7
baz=146,SNR=11
PUAC Puerto Asis, P 19.29 204 eP Pn 02 17 01.3 +0.3
U60A Pendleton 19.33 340 P P 02 16 59.6 +0.5
baz=155,SNR=18
352A Blakely 19.37 315 P P 02 16 53.9 -5.7
352A IAmb IAmb 02 17 04.8
comp=Z,24nm,0.8s
U59A Littleton 19.44 338 P P 02 17 01.1 +0.8
baz=153,SNR=20
U59A Littleton 19.44 338 P P 02 16 59.4 -0.8
U59A IAmb IAmb 02 17 10.7
comp=Z,38nm,0.8s
V58A Windy Hill, Pi 19.45 335 P P 02 17 00.7 +0.3
baz=149,SNR=24
X55A Gracelyn & Ava 19.52 327 P P 02 17 00.6 -0.5
baz=140,SNR=8.0
W56A Indian Trail 19.54 331 P P 02 17 00.9 -0.4
baz=144,SNR=25
HODGE Hodges 19.66 326 IAmb IAmb 02 17 03.6
comp=Z,29nm,0.9s
GOGA Godfrey 19.74 322 P P 02 17 03.7 +0.2
baz=134,SNR=25
GOGA Godfrey 19.74 322 P P 02 17 00.1 -3.5
GOGA IAmb IAmb 02 17 07.7
comp=Z,52nm,1.1s
U58A Oxford 19.75 337 P P 02 17 04.3 +0.7
baz=151,SNR=26
V57A Coltrane Farms 19.80 333 P P 02 17 04.0 -0.3
baz=148,SNR=26
T60A Surry 19.81 341 P P 02 17 04.2 -0.1
baz=157,SNR=18
PAULI Pauline 19.89 328 IAmb IAmb 02 17 15.1
comp=Z,24nm,0.6s
KMSC Kings Mountain 19.90 329 P P 02 17 04.7 -0.6
baz=142,SNR=10
KMSC Kings Mountain 19.90 329 IAmb IAmb 02 17 19.8
comp=Z,28nm,0.8s
T59A Double "B" Far 19.92 340 P P 02 17 05.0 -0.4
baz=155,SNR=21
MTO3 Montecristo 19.94 261 P Pn 02 17 09.2 +0.4
MTO3 IAmb IAmb 02 17 20.6
comp=Z,27nm,1.0s
PETF Flores 19.94 269 P P 02 17 06.9 +1.0
PETF IAmb IAmb 02 17 17.2
comp=Z,18nm,0.8s
X54A Belton 19.96 326 P P 02 17 06.0 0.0
baz=139,SNR=24
152A Waverly Hall 20.00 318 P P 02 17 04.2 -2.2
152A IAmb IAmb 02 17 11.2
comp=Z,38nm,0.8s
S61A Accomac 20.02 344 P P 02 17 06.5 0.0
baz=160
V56A Mocksville 20.05 332 P P 02 17 06.6 -0.3
baz=146,SNR=12
U57A Blanch 20.09 335 P P 02 17 07.1 -0.2
baz=149,SNR=12
T58A Grand View Acr 20.23 337 P P 02 17 08.4 -0.5
baz=152,SNR=21
CUSE Cuicocha Este 20.27 208 eP P 02 17 11.3 +1.5
W54A Cherokee Point 20.28 327 P P 02 17 09.2 -0.3
baz=140,SNR=11
S60A Water View 20.31 342 P P 02 17 10.0 +0.3
baz=158,SNR=5.0
OTAV Otavalo 20.35 208 eP Pn 02 17 13.5 -0.3
OTAV Otavalo 20.35 208 P Pn 02 17 13.8 0.0
Y52A Lilburn 20.41 322 IAmb IAmb 02 17 20.0
comp=Z,21nm,0.9s
V55A Taylorsville 20.42 330 P P 02 17 10.7 -0.2
baz=144,SNR=14
V55A Taylorsville 20.42 330 IAmb IAmb 02 17 23.1
comp=Z,38nm,0.7s
U56A King 20.45 333 P P 02 17 11.2 -0.1
baz=147,SNR=6.3
T57A Hurt 20.55 336 P P 02 17 11.7 -0.6
baz=150,SNR=16
T57A Hurt 20.55 336 IAmb IAmb 02 17 25.1
comp=Z,25nm,0.8s
S59A Mechanicsville 20.56 341 P P 02 17 12.5 +0.2
baz=156,SNR=13
R61A Willards 20.56 346 P P 02 17 12.6 +0.3
baz=162
BG3 Lake Jocassee 20.60 326 IAmb IAmb 02 17 25.3
comp=Z,22nm,0.6s
BRAL Brewton 20.66 311 P P 02 17 13.6 0.0
baz=122
S58A Poland Farm, P 20.66 339 P P 02 17 13.4 -0.1
baz=154,SNR=17
V54A Nebo 20.71 329 P P 02 17 13.9 -0.1
baz=142,SNR=35
MDP Montagnes des 20.77 128 P P 02 17 15.5 +0.7
comp=Z,24nm,0.7s,baz=317,slow=9.7,SNR=33
R60A Leonardtown, M 20.82 343 P P 02 17 15.2 +0.1
baz=159
APG El Apazote 20.84 264 P P 02 17 17.3 +1.5
comp=Z,12nm,0.8s,baz=84,slow=7.1,SNR=16
U55A TA2, Sparta 20.88 332 P P 02 17 16.2 +0.3
baz=145,SNR=31
T56A Rocky Mt 20.89 335 P P 02 17 15.7 -0.1
baz=148,SNR=11
R59A King George, V 20.91 342 P P 02 17 16.2 +0.1
baz=157,SNR=5.4
R58B Mineral 20.93 340 P P 02 17 16.4 +0.1
baz=155,SNR=28
CBN Corbin Frederi 20.99 341 P P 02 17 17.1 +0.2
baz=157,SNR=7.3
PTGA Pitinga 21.04 154 P P 02 17 19.1 +1.4
PTGA Pitinga 21.04 154 eP P 02 17 19.2 +1.5
Q61A Milford 21.08 346 P P 02 17 18.0 +0.1
baz=162
S57A Dark Hollow, R 21.11 338 P P 02 17 18.1 -0.2
baz=152,SNR=19
S57A Dark Hollow, R 21.11 338 IAmb IAmb 02 17 29.6
comp=Z,39nm,0.7s
BLA Blacksburg 21.20 334 P P 02 17 19.2 -0.1
baz=148,SNR=14
U54A Nelsons Funny 21.25 330 P P 02 17 19.8 0.0
baz=144,SNR=21
S56A Natural Bridge 21.27 336 P P 02 17 20.0 0.0
baz=150,SNR=12
R58A Rapidan 21.27 340 P P 02 17 19.7 -0.3
baz=155,SNR=19
T55A Pulaski 21.27 333 P P 02 17 20.2 +0.1
baz=147,SNR=15
Q60A Greensboro 21.32 345 P P 02 17 21.2 +0.8
baz=161,SNR=9.0
Q60A Greensboro 21.32 345 P P 02 17 17.0 -3.4
Q59A Harwood 21.39 343 P P 02 17 21.9 +0.6
baz=159
R57A Stanardsville 21.44 339 P P 02 17 21.9 +0.1
baz=154,SNR=6.3
TKL Tuckaleechee C 21.55 326 P P 02 17 23.4 +0.4
comp=Z,13nm,0.8s,baz=148,slow=12,SNR=19
TKL S S 02 21 16.1 +0.7
comp=Z,14nm,0.8s,baz=66,slow=14,SNR=4.1
TKL Tuckaleechee C 21.55 326 IAmb IAmb 02 17 40.3
comp=Z,22nm,0.7s
T54A Tazewell 21.58 332 P P 02 17 23.3 0.0
baz=145,SNR=16
V52A Sevierville 21.60 326 IAmb IAmb 02 17 39.9
comp=Z,18nm,0.8s
LRAL Lakeview Retre 21.71 315 P P 02 17 23.9 -0.9
baz=126
LRAL Lakeview Retre 21.71 315 P P 02 17 23.9 -0.9
LRAL IAmb IAmb 02 17 32.4
comp=Z,18nm,0.9s
S55A Lewisburg 21.71 335 P P 02 17 24.9 +0.1
baz=148,SNR=12
P61A Hammonton 21.73 348 P P 02 17 25.0 +0.2
baz=164
Q58A Fox Den Farm, 21.76 341 P P 02 17 25.0 -0.2
baz=157
FPAL Fort Paine 21.80 321 IAmb IAmb 02 17 40.9
comp=Z,24nm,1.0s
CPCT Cooper Cave 21.81 324 IAmb IAmb 02 17 42.8
comp=Z,25nm,0.6s
R56A Bull Pasture M 21.85 338 P P 02 17 26.4 +0.2
baz=152,SNR=7.5
SDMD Soldier's Deli 21.95 344 IAmb IAmb 02 17 42.2
comp=Z,42nm,0.8s
T53A Wise 21.95 330 P P 02 17 27.2 -0.1
baz=143,SNR=8.3
V51A Loudon 21.97 325 IAmb IAmb 02 17 44.6
comp=Z,25nm,0.6s
R55A Marlinton 22.00 336 P P 02 17 27.9 +0.1
baz=150,SNR=6.9
R55A Marlinton 22.00 336 IAmb IAmb 02 17 43.0
comp=Z,44nm,0.8s
P59A Jarrettsville 22.04 345 P P 02 17 28.0 0.0
baz=160
P60A Greenville 22.04 346 P P 02 17 28.2 +0.1
baz=162
P60A Greenville 22.04 346 IAmb IAmb 02 17 43.9
comp=Z,15nm,0.6s
Q57A Strasburg 22.07 340 P P 02 17 28.3 -0.1
baz=155
S54A Dingess, Beckl 22.07 333 P P 02 17 28.7 +0.1
baz=147,SNR=13
W50A Signal Mountai 22.08 322 IAmb IAmb 02 17 47.2
comp=Z,17nm,0.7s
O61A Allentown 22.09 349 P P 02 17 28.6 +0.1
baz=165
PSUB Penn St. - Bra 22.11 347 IAmb IAmb 02 17 43.7
comp=Z,34nm,1.1s
TZTN Tazewell 22.11 327 P P 02 17 28.6 -0.3
baz=140,SNR=13
TZTN Tazewell 22.11 327 IAmb IAmb 02 17 41.1
comp=Z,33nm,1.1s
P58A Pank, Wackersv 22.16 343 P P 02 17 29.7 +0.4
baz=158
CCIG Comitan 22.19 268 P P 02 17 30.9 +0.9
R54A Victor 22.26 334 P P 02 17 30.9 +0.4
baz=148
Q56A Snyder Ridge, 22.34 339 P P 02 17 31.4 +0.2
baz=153,SNR=7.4
Q56A Snyder Ridge, 22.34 339 IAmb IAmb 02 17 49.1
comp=Z,41nm,0.9s
P57A Homestead Farm 22.36 341 P P 02 17 31.9 +0.5
baz=156
MVL Millersville 22.39 345 IAmb IAmb 02 17 34.2
comp=Z,24nm,0.9s
O60A Telford 22.47 347 P P 02 17 33.3 +0.8
baz=163
Z47A Carrollton 22.53 314 IAmb IAmb 02 17 45.1
comp=Z,25nm,0.7s
Q55A Buckhannon 22.61 337 P P 02 17 35.2 +1.1
baz=151,SNR=5.9
P56A Dayton Farm, R 22.64 340 P P 02 17 34.9 +0.7
baz=154
O59A Robesonia 22.64 346 P P 02 17 35.4 +1.1
baz=161
O58A Lewisberry 22.65 344 P P 02 17 35.3 +1.0
baz=160
CPNY Central Park 22.66 350 P P 02 17 36.6 +2.2
CPNY IAmb IAmb 02 17 53.3
comp=Z,33nm,0.7s
PAGS Pennsylvania G 22.69 345 P P 02 17 35.8 +1.1
LUPA Lehigh Univers 22.73 347 P P 02 17 35.5 +0.3
LUPA IAmb IAmb 02 17 53.9
comp=Z,37nm,0.7s
M66A Nantucket 22.74 358 P P 02 17 36.4 +1.1
baz=177
R53A Hurricane 22.80 333 P P 02 17 35.9 +0.1
baz=146
PAL Palisades 22.86 350 P P 02 17 36.4 0.0
baz=167
PAL Palisades 22.86 350 P P 02 17 31.7 -4.7
PAL IAmb IAmb 02 17 38.2
comp=Z,22nm,0.8s
Q54A Coxs Mills 22.89 336 P P 02 17 37.2 +0.5
baz=149,SNR=8.1
Q54A Coxs Mills 22.89 336 IAmb IAmb 02 17 38.1
comp=Z,20nm,0.9s
O57A Amberson 22.92 343 P P 02 17 37.5 +0.5
baz=158
WSPT Westport, CT 22.94 352 IAmb IAmb 02 17 55.4
comp=Z,32nm,0.6s
N60A Cedar Hill Far 22.94 348 P P 02 17 37.7 +0.5
baz=164
P55A Reedsville 22.98 338 P P 02 17 38.4 +0.8
baz=152
S51A Beattyville 22.99 329 IAmb IAmb 02 17 56.6
comp=Z,20nm,0.7s
MACA Manacapuru-AM 22.99 158 eP P 02 17 39.5 +1.7
M63A Gales Ferry 23.02 354 P P 02 17 38.6 +0.7
baz=172
Q53A Leroy 23.06 334 P P 02 17 38.6 +0.2
baz=148
M64A Tiverton 23.09 356 P P 02 17 39.4 +0.8
baz=174
MCWV Mont Chateau 23.12 338 P P 02 17 39.7 +0.8
baz=152
N59A State Game Lan 23.12 347 P P 02 17 39.6 +0.7
baz=163,SNR=6.3
N59A State Game Lan 23.12 347 IAmb IAmb 02 17 58.7
comp=Z,29nm,0.7s
M61A Granite Spring 23.14 351 P P 02 17 39.1 0.0
baz=168
T50A Nancy 23.14 326 IAmb IAmb 02 17 41.3
comp=Z,19nm,0.8s
M62A Hamden 23.15 353 P P 02 17 39.1 0.0
baz=170
O56A Blue Knob Stat 23.25 341 P P 02 17 40.7 +0.6
baz=156
N58A Sunbury 23.27 345 P P 02 17 40.6 +0.3
baz=161
N58A Sunbury 23.27 345 IAmb IAmb 02 18 00.2
comp=Z,26nm,0.8s
M60A Port Jervis 23.30 349 P P 02 17 41.0 +0.5
baz=166
P54A Burton 23.30 337 P P 02 17 41.0 +0.4
baz=151
SSPA Standing Stone 23.39 343 P P 02 17 42.0 +0.6
baz=158
SSPA Standing Stone 23.39 343 P P 02 17 38.9 -2.5
N57A Milroy 23.41 343 P P 02 17 42.0 +0.5
baz=159
O55A Ligonier 23.43 340 P P 02 17 42.4 +0.7
baz=154
L63A North Scituate 23.43 355 P P 02 17 42.4 +0.7
baz=173
Q52A Bidwell 23.46 333 P P 02 17 42.4 +0.4
baz=146,SNR=9.8
P53A Whipple 23.54 335 P P 02 17 43.4 +0.6
baz=149
PLAL Pickwick Lake 23.62 318 P P 02 17 42.8 -0.7
M59A Waymart 23.66 348 P P 02 17 44.3 +0.5

	baz=164				
M58A	Price's Panora	23.71 346	P	P	02 17 44.9 +0.6
	baz=162				
N56A	West Decatur	23.76 342	P	P	02 17 45.6 +0.8
	baz=157				
O54A	Avella	23.77 338	P	P	02 17 45.9 +1.1
	baz=152				
M57A	Sunshine Farm,	23.84 345	P	P	02 17 46.5 +1.1
	baz=160				
N55A	Marion Center	23.84 341	P	P	02 17 46.0 +0.5
	baz=155				
R50A	Paris	23.85 329	IAmb	IAmb	02 17 48.5
	comp=Z,27nm,0.8s				
L60A	Shokan	23.87 350	P	P	02 17 46.6 +0.9
	baz=167				
P52A	Corning	23.97 334	P	P	02 17 47.2 +0.6
	baz=147,SNR=5.1				
P52A	Corning	23.97 334	IAmb	IAmb	02 17 49.5
	comp=Z,36nm,1.1s				
L61A	Hillsdale 1, H	23.97 352	P	P	02 17 47.5 +0.9
	baz=169,SNR=13				
HRV	Adam Dziewonsk	24.07 355	P	P	02 17 48.5 +1.1
	baz=174				
L61B	Northampton	24.12 353	P	P	02 17 48.9 +1.0
	baz=171				
O53A	New Philadelph	24.13 337	P	P	02 17 49.0 +0.9
	baz=150,SNR=7.3				
O53A	New Philadelph	24.13 337	IAmb	IAmb	02 17 50.9
	comp=Z,28nm,0.8s				
OXF	Oxford	24.20 315	P	P	02 17 49.3 +0.6
	baz=125				
L59A	Walton	24.21 349	P	P	02 17 49.7 +1.0
	baz=165,SNR=5.2				
L59A	Walton	24.21 349	IAmb	IAmb	02 17 51.6
	comp=Z,23nm,0.9s				
WVT	Waverly	24.21 320	P	P	02 17 49.2 +0.4
	baz=131				
WVT	Waverly	24.21 320	P	P	02 17 47.7 -1.1
WVT			IAmb	IAmb	02 17 58.9
	comp=Z,13nm,0.7s				
L58A	Harry Jones Me	24.22 347	P	P	02 17 49.7 +0.8
	baz=164				
P51A	Williamsport	24.23 333	P	P	02 17 50.1 +1.1
	baz=145				
P51A	Williamsport	24.23 333	IAmb	IAmb	02 17 51.5
	comp=Z,25nm,0.9s				
K63A	Dunstable	24.25 355	P	P	02 17 50.1 +1.0
	baz=174				
M56A	Emporium	24.26 343	P	P	02 17 50.1 +0.9
	baz=158,SNR=5.8				
M56A	Emporium	24.26 343	IAmb	IAmb	02 17 52.1
	comp=Z,21nm,0.9s				
O52A	Adamsville	24.26 336	P	P	02 17 50.3 +1.0
	baz=148,SNR=12				
K62A	Royalston	24.29 354	P	P	02 17 50.0 +0.6
	baz=172				
N54A	Moraine State	24.33 339	P	P	02 17 50.7 +0.8
	baz=153				
N54A	Moraine State	24.33 339	IAmb	IAmb	02 17 54.4
	comp=Z,14nm,0.8s				
BINY	Binghamton	24.40 347	P	P	02 17 51.0 +0.5
	baz=163				
L57A	Andrews Acres	24.40 346	P	P	02 17 51.7 +1.1
	baz=161,SNR=12				
K61A	Williamstown	24.40 352	P	P	02 17 51.7 +1.2
	baz=170				
M55A	Ridgway	24.41 342	P	P	02 17 51.4 +0.9
	baz=156				
N53A	Lisbon	24.48 338	P	P	02 17 51.9 +0.6
	baz=151,SNR=5.8				
O51A	Pataskala	24.59 334	P	P	02 17 52.9 +0.6
	baz=147				
L56A	Greenwood	24.70 345	P	P	02 17 53.8 +0.6
	baz=160,SNR=6.2				
L56A	Greenwood	24.70 345	IAmb	IAmb	02 17 57.3
	comp=Z,27nm,1.1s				
M54A	Oil Creek Stat	24.72 341	P	P	02 17 54.0 +0.6
	baz=154				
K59A	Cooperstown	24.74 350	P	P	02 17 54.5 +0.9
	baz=166,SNR=5.5				
J62A	Henniker	24.80 355	P	P	02 17 55.2 +1.0
	baz=173				
J63A	Strafford	24.80 356	P	P	02 17 55.2 +1.1
	baz=175				
WCI	Wyandotte Cave	24.81 326	P	P	02 17 55.2 +0.9
	baz=137				
WCI	Wyandotte Cave	24.81 326	P	P	02 17 53.5 -0.8
WCI				PcP	02 21 27.8 0.0
ACSO	Alum Creek Sta	24.82 334	P	P	02 17 55.3 +1.0
	baz=146,SNR=6.6				
MALB	Monte Alegre	24.85 143	eP	P	02 17 55.9 +1.0
K58A	Earlville	24.88 348	P	P	02 17 56.3 +1.4
	baz=164,SNR=8.6				
K58A	Earlville	24.88 348	IAmb	IAmb	02 17 58.0
	comp=Z,35nm,0.8s				
L55A	Hinsdale	24.98 343	P	P	02 17 56.6 +0.8
	baz=158				
M53A	WI Miller and	24.99 339	P	P	02 17 56.5 +0.6
	baz=152				
J60A	Lant Hill Farm	24.99 352	P	P	02 17 56.8 +1.0
	baz=170				
J61A	Chester	24.99 354	P	P	02 17 57.2 +1.4
	baz=172,SNR=5.8				
K57A	Scipio Center	25.02 347	P	P	02 17 57.1 +0.9
	baz=162				
P49A	Miami Univ. Ec	25.02 330	P	P	02 17 57.2 +1.0
	baz=142,SNR=9.0				
P49A	Miami Univ. Ec	25.02 330	IAmb	IAmb	02 17 59.2
	comp=Z,27nm,0.9s				
MCPB	Macapa, AP	25.04 136	eP	P	02 17 56.4 -0.2
N51A	Ashland	25.16 336	P	P	02 17 58.7 +1.3
	baz=148				
K56A	Middlesex	25.17 345	P	P	02 17 58.6 +1.0
	baz=161				
O49A	Covington	25.37 332	IAmb	IAmb	02 18 02.6
	comp=Z,30nm,0.9s				
I59A	Olmsteadville	25.59 352	P	P	02 18 02.9 +1.6
	baz=169				
J56A	Wolcott	25.62 347	P	P	02 18 02.6 +1.1
	baz=162				
J56A	Wolcott	25.62 347	P	P	02 17 59.9 -1.6
J56A			IAmb	IAmb	02 18 10.0
	comp=Z,28nm,0.8s				
BLO	Bloomington	25.63 327	IAmb	IAmb	02 18 14.1
	comp=Z,13nm,0.7s				
I58A	Old Forge	25.65 350	P	P	02 18 03.1 +1.3
	baz=166				
I57A	Carthage	26.01 349	P	P	02 18 05.8 +0.8
	baz=165				
H62A	Milan	26.10 356	P	P	02 18 06.6 +0.8
	baz=175				
S44A	Carbondale	26.10 321	IAmb	IAmb	02 18 10.7
	comp=Z,16nm,0.7s				
H64A	Troy	26.11 360	P	P	02 18 06.8 +0.9
	baz=179				
H61A	Lyndonville	26.11 355	P	P	02 18 07.3 +1.3
	baz=173				
OLIL	Olney	26.15 325	IAmb	IAmb	02 18 16.4
	comp=Z,28nm,1.1s				
ITTB	Itaituba	26.18 149	eP	P	02 18 07.8 +1.0
H58A	Gabriels	26.24 352	P	P	02 18 08.5 +1.3
	baz=168				
CZSB	Cruzeiro do Su	26.28 188	eP	P	02 18 09.6 +1.9
H66A	Whiting	26.29 3	P	P	02 18 08.7 +1.2
	baz=183				
P46A	Rosedale	26.32 327	IAmb	IAmb	02 18 13.4
	comp=Z,29nm,0.9s				
H59A	Cadyville	26.40 352	P	P	02 18 09.7 +1.1
	baz=170				
H57A	Richville	26.47 350	P	P	02 18 10.0 +0.8
	baz=166				
W41B	Gary Mavity, V	26.50 314	P	P	02 18 10.4 +0.9
	baz=122				
LONY	Lake Ozonia	26.50 351	P	P	02 18 10.8 +1.3
	baz=168				
N47A	Urbana	26.55 331	IAmb	IAmb	02 18 14.8
	comp=Z,24nm,0.8s				
X40A	Basin Creek Fa	26.55 312	P	P	02 18 11.0 +1.0
	baz=120				
NATX	Nacogdoches	26.66 305	P	P	02 18 11.2 +0.1
NATX			IAmb	IAmb	02 18 13.6
	comp=Z,32nm,1.1s				
G65A	Princeton	26.69 2	P	P	02 18 11.6 +0.5
	baz=183				
I55A	Frankford	26.69 346	P	P	02 18 11.7 +0.6
	baz=161				
G62A	West of Eustis	26.71 358	P	P	02 18 12.0 +0.7
	baz=176				
G64A	Maxfield	26.72 0	P	P	02 18 12.3 +0.9
	baz=180				
Q44A	Meyer Farm, Va	26.78 324	IAmb	IAmb	02 18 16.9
	comp=Z,11nm,0.7s				
H55A	Tweed	26.90 347	P	P	02 18 13.9 +0.9
	baz=162				
HKT	Hockley	26.95 300	P	P	02 18 13.4 -0.2
ATAH	Atahualpa	27.07 201	P	P	02 18 17.2 +2.0
	comp=Z,19nm,0.8s,baz=25,slow=9.5,SNR=8.2				
H53A	Bocaygeon	27.25 345	P	P	02 18 17.1 +1.0
	baz=159				
F64A	Sherman	27.33 1	P	P	02 18 17.7 +0.8
	baz=181				
F62A	Pittston Farm,	27.37 359	P	P	02 18 18.0 +0.8
	baz=178				
CCM	Cathedral Cave	27.53 320	P	P	02 18 19.0 +0.2
	baz=128				
CCM	Cathedral Cave	27.53 320	P	P	02 18 17.3 -1.5
F60A	Warwick	27.54 356	P	P	02 18 20.2 +1.5
	baz=174				
U40A	Yellville	27.56 315	P	P	02 18 19.7 +0.6
	baz=123				
W39A	Magazine	27.58 312	P	P	02 18 20.8 +1.6
	baz=120				
MGMO	Mountain Grove	27.63 317	P	P	02 18 18.9 -0.8
MGMO				PcP	02 21 34.2 -0.2
SAML	Samuel	27.83 168	P	P	02 18 22.7 +1.1
SAML	Samuel	27.83 168	eP	P	02 18 21.6 0.0
E63A	Oxbow	27.89 1	P	P	02 18 23.6 +1.7
	baz=181				
G54A	Lake Saint Pet	27.91 346	P	P	02 18 24.5 +2.4
	baz=161				
E58A	La Victoria	28.06 354	P	P	02 18 22.2 -1.1
	baz=171				
ETMB	Extrema	28.23 174	eP	P	02 18 24.8 -0.3
435B	Jarrell	28.65 301	P	P	02 18 29.3 +0.5
	baz=108				
435B	Jarrell	28.65 301	IAmb	IAmb	02 18 33.8
	comp=Z,27nm,1.0s				
D61A	St Aubert, Com	28.68 358	P	P	02 18 30.1 +1.3
	baz=177				
NPGB	Novo Progresso	28.70 151	eP	P	02 18 29.4 +0.1
WHTX	Lake Whitney,	28.95 303	P	P	02 18 32.7 +1.2
	baz=110				
WHTX	Lake Whitney,	28.95 303	IAmb	IAmb	02 18 36.1
	comp=Z,16nm,0.7s				
D55A	Sainte-Anne-du	28.98 351	P	P	02 18 33.0 +1.5
	baz=167				
LATQ	La Tuque	29.01 355	P	P	02 18 32.1 +0.3
	baz=172				
TMAB	Tom-Au,PA,Br	29.19 133	eP	P	02 18 32.8 -1.0
TMAB			epP	pP	02 18 35.3 -23
D54A	Lac Fusel, La	29.30 349	P	P	02 18 34.9 +0.5
	baz=165				
TUL1	Leonard	29.35 312	P	P	02 18 35.4 +0.4
	baz=118,SNR=5.2				
TUL1	Leonard	29.35 312	IAmb	IAmb	02 18 45.8
	comp=Z,13nm,0.7s				
D53A	Lac Vacive, Po	29.43 348	P	P	02 18 36.1 +0.7
	baz=163				
D53A	Lac Vacive, Po	29.43 348	IAmb	IAmb	02 18 50.1
	comp=Z,14nm,1.1s				
833A	Chaparral WMA,	29.50 295	P	P	02 18 36.6 +0.2
	baz=102				
833A	Chaparral WMA,	29.50 295	IAmb	IAmb	02 18 38.9
	comp=Z,13nm,0.8s				
QUOK	Quay	30.13 311	IAmb	IAmb	02 18 46.1
	comp=Z,14nm,1.1s				
JFWS	Jewell Farm	30.30 328	P	P	02 18 42.8 -0.4
	baz=136				
T35A	Sooner Cattle	30.35 313	IAmb	IAmb	02 18 45.1
	comp=Z,13nm,0.6s				
JCT	Junction City	30.38 299	P	P	02 18 43.4 -0.8
	baz=105				
JCT	Junction City	30.38 299	IAmb	IAmb	02 18 45.5
	comp=Z,11nm,0.9s				
ABTX	Abilene, Hawle	30.91 303	P	P	02 18 49.0 +0.2
	baz=109,SNR=8.0				
PRPB	Parauapebas	30.94 141	eP	P	02 18 49.0 -0.1
WMOK	Wichita Mounta	31.02 307	P	P	02 18 49.8 +0.1
	baz=113,SNR=11				
WMOK	Wichita Mounta	31.02 307	IAmb	IAmb	02 18 50.6
	comp=Z,6.2nm,0.7s				
K38A	Parkersburg	31.42 325	P	P	02 18 53.5 +0.4
K38A			IAmb	IAmb	02 19 01.9
	comp=Z,22nm,0.9s				
CLDB	Colider	31.93 155	eP	P	02 18 57.8 0.0
N35A	Tabor	31.94 320		PcP	02 21 46.0 +0.6
MATQ	Matagami	31.99 349	P	P	02 18 58.6 +0.6
	baz=164				
G40A	Rib Lake	32.03 331	P	P	02 18 59.7 +1.2
G40A			IAmb	IAmb	02 19 08.4
	comp=Z,10.0nm,0.9s				
G40A			PcP	PcP	02 21 46.1 +0.5
VILB	Vilhena	32.40 164	eP	P	02 19 03.1 +1.2
ROSB	Rosrio	32.41 128	eP	P	02 19 00.2 -1.9
ROSB			epP	P	02 19 03.1 +1.0
R32A	Long Quarter,	32.61 314	P	P	02 19 03.6 -0.1
R32A			IAmb	IAmb	02 19 09.5
	comp=Z,20nm,1.1s				
AMTX	Amarillo	33.28 306	P	P	02 19 09.6 0.0
	baz=110				
AMTX	Amarillo	33.28 306	IAmb	IAmb	02 19 13.8
	comp=Z,7.8nm,0.7s				
TX32	Lajitas Array	33.38 295	P	P	02 19 10.7 +0.2
TX32			IAmb	IAmb	02 19 12.9
	comp=Z,7.0nm,0.8s				
TX32			PcP	PcP	02 21 51.2 +1.4
TXAR	Lajitas Array	33.38 295	P	P	02 19 10.0 -0.5
	comp=Z,4.4nm,0.7s,baz=115,slow=9.9,SNR=19				
TXAR			PcP	PcP	02 21 49.6 -0.2
	comp=Z,5.7nm,0.8s,baz=134,slow=5.4,SNR=8.0				
TXAR			ScP	ScP	02 25 25.9 +1.8
	comp=Z,2.6nm,1.0s,baz=134,slow=7.2,SNR=7.5				
TXAR	Lajitas Array	33.38 295	P	P	02 19 10.2 -0.3
TXAR			PcP	PcP	02 21 50.4 +0.6
TXAR				ScP	02 25 25.3 +1.3
TX31	Lajitas Ar. Si	33.38 295	P	P	02 19 10.5 -0.1
TX31				PcP	02 21 51.2 +1.4
CBKS	Cedar Bluff	33.51 314	P	P	02 19 11.4 0.0
	baz=118				
MSTX	Muleshoe	33.82 304	P	P	02 19 14.5 +0.2
	baz=108,SNR=7.6				
ECSD	EROS Data Cent	34.26 323	P	P	02 19 17.8 -0.1
	baz=128,SNR=10				
ECSD	EROS Data Cent	34.26 323	IAmb	IAmb	02 19 31.4
	comp=Z,7.1nm,0.8s				
SMTB	Santa Maria do	34.40 140	eP	P	02 19 19.0 -0.4
LPAZ	La Paz	34.54 179	P	P	02 19 21.8 +0.6
	comp=Z,5.5nm,0.6s,baz=22,slow=3.6,SNR=18				
LPAZ			PcP	PcP	02 21 54.1 +0.3
	comp=Z,3.8nm,0.7s,baz=329,slow=5.9,SNR=2.4				
LPAZ			ScP	ScP	02 25 28.6 -0.3
	comp=Z,2.7nm,0.9s,baz=40,slow=4.7,SNR=4.8				
LPAZ			LR	LR	02 33 36.1
	comp=Z,81nm,21.6s,baz=21,slow=36				
LPAZ	La Paz	34.54 179	P	P	02 19 23.2 +2.0
LPAZ			IAmb	IAmb	02 19 27.6
	comp=Z,11nm,1.1s				
LPAZ	La Paz	34.54 179	eP	P	02 19 21.7 +0.6
PTLB	Pontes e Lacer	35.07 163	eP	P	02 19 25.0 0.0
MNTX	Cornudas Mount	35.32 299	P	P	02 19 27.7 +0.5
	baz=102,SNR=32				
F33A	5 Mile Ranch,	35.44 326	IAmb	IAmb	02 19 45.2
	comp=Z,5.1nm,0.6s				
B35A	Bob, Littlefor	35.95 332	IAmb	IAmb	02 19 41.7
	comp=Z,10nm,0.9s				
T25A	Trinidad	36.16 308	P	P	02 19 34.1 -0.4
T25A			IAmb	IAmb	02 19 39.3
	comp=Z,10nm,1.1s				
SCHQ	Schefferville	36.34 2	P	P	02 19 35.5 0.0
	comp=Z,5.2nm,0.5s,baz=173,slow=6.7,SNR=16				
SCHQ			pP	pP	02 20 01.8 +1.2
	comp=Z,9.7nm,0.5s,baz=193,slow=7.1,SNR=4.9				
SCHQ			LR	LR	02 35 05.2
	comp=Z,76nm,18.6s,baz=88,slow=37				
SCHQ	Schefferville	36.34 2	P	P	02 19 33.9 -1.7
SCHQ			IAmb	IAmb	02 19 47.8
	comp=Z,7.6nm,0.6s				
PEXB	Peixe	36.60 145	eP	P	02 19 38.5 +0.3
AGMN	Agassiz Nation	36.90 330	P	P	02 19 39.8 -0.5
	baz=134,SNR=6.7				
AGMN	Agassiz Nation	36.90 330	IAmb	IAmb	02 19 40.9
	comp=Z,7.1nm,0.6s				
ANMO	Albuquerque	37.02 304	P	P	02 19 42.1 +0.3
	baz=106				
ANMO	Albuquerque	37.02 304	P	P	02 19 42.3 +0.5
ANMO			IAmb	IAmb	02 19 44.1
	comp=Z,7.2nm,1.1s				
SDCO	Great Sand Dun	37.18 309	P	P	02 19 44.0 +0.7
	baz=110,SNR=16				
SDCO	Great Sand Dun	37.18 309	IAmb	IAmb	02 19 48.0
	comp=Z,6.5nm,0.8s				
121A	Cookes Peak, D	37.49 300	P	P	02 19 46.7 +0.9
	baz=102				
121A	Cookes Peak, D	37.49 300	IAmb	IAmb	02 19 58.7
	comp=Z,9.6nm,0.9s				
ARAG	Araguaiana, MT	37.94 152	eP	P	02 19 49.9 +0.5
ISCO	Idaho Springs	38.04 312	P	P	02 19 51.2 +0.7
	baz=112,SNR=15				
ISCO	Idaho Springs	38.04 312	IAmb	IAmb	02 19 55.4
	comp=Z,8.2nm,0.9s				
S22A	4UR Ranch, Cre	38.17 308	P	P	02 19 52.5 +0.9
	baz=109,SNR=9.5				
E28A	Huff	38.28 324	IAmb	IAmb	02 20 00.5
	comp=Z,8.9nm,0.7s				
ULM	Lac du Bonnet	38.29 332	P	P	02 19 51.0 -1.0
	comp=Z,3.0nm,0.7s,baz=146,slow=8.0,SNR=2.2				
ULM			PcP	PcP	02 22 04.0 +0.2
	comp=Z,16nm,1.1s,baz=109,slow=4.0,SNR=4.7				
ULM	Lac du Bonnet	38.29 332	IAmb	IAmb	02 20 09.3
	comp=Z,5.3nm,0.9s				
H07S1	FLORES T-PHASE	38.72 49	T	T	03 00 40.5
	SNR=63				
SDBA	SAO DESIDERIO	38.80 140	eP	P	02 19 56.3 -0.5
H07N1	FLORES T-PHASE	38.90 49	T	T	03 01 06.1
	SNR=8.2				
RSSD	Black Hills	38.91 319	P	P	02 19 54.6 -3.0
RSSD			PcP	PcP	02 22 07.1 +0.9
MVCO	Mesa Verde	39.26 307	P	P	02 20 05.0 +4.3
	baz=107				
HSIG		39.63 293	P	P	02 20 03.5 0.0
HSIG			IAmb	IAmb	02 20 06.1
	comp=Z,9.6nm,1.1s				
HSIG				PcP	02 22 09.1 +0.6
BDFB	Brasilia	39.69 147	P	P	02 20 04.8 +0.6
	comp=Z,14nm,0.7s,baz=322,slow=11,SNR=22				
BDFB			PcP	PcP	02 22 09.9 +1.0
	comp=Z,6.6nm,1.0s,baz=203,slow=1.6,SNR=2.5				
BDFB	Brasilia	39.69 147	P	P	02 20 04.8 +0.6
BDFB			IAmb	IAmb	02 20 05.6
	comp=Z,14nm,0.8s				
PV02	Paradox Valley	39.75 308	IAmb	IAmb	02 20 07.7
	comp=Z,9.5nm,0.9s				
PV13	Radium Mtn., P	39.79 308	IAmb	IAmb	02 20 10.9
	comp=Z,16nm,1.1s				
K22A	Casper	39.84 315	P	P	02 20 05.7 +0.4
	baz=115				
K22A	Casper	39.84 315	IAmb	IAmb	02 20 09.5
	comp=Z,5.7nm,0.8s				
TUC	Tucson	39.94 298	P	P	02 20 07.1 +0.9
	baz=99				
TUC	Tucson	39.94 298	P	P	02 20 07.2 +1.1
RCBR	Riachuelo	40.59 123	P	P	02 20 13.6 +1.9
RCBR	Riachuelo	40.59 123	eP	P	02 20 08.8 -2.8
LVC	Limon Verde	40.82 180	eP	P	02 20 13.3 -0.4
WUAZ	Wupatki	41.06 303	P	P	02 20 16.2 +0.8
	baz=102,SNR=7.1				
WUAZ	Wupatki	41.06 303	P	P	02 20 16.1 +0.6
JANB	Januaria	41.24 142	eP	P	02 20 16.3 -0.6
JANB			eS	S	02 26 40.3 +18
DGMT	Dagmar	41.31 324	P	P	02 20 18.1 +0.9
	baz=124,SNR=5.6				
SRU	San Rafael Swe	41.36 309	P	P	02 20 17.3 -0.5
LAO	LASA Array	41.53 321	P	P	02 20 19.6 +0.6
	baz=119				
214A	Organ Pipe Nat	41.58 298	P	P	02 20 20.5 +0.9
	baz=97				
IPMB	Ipameri, GO	41.58 149	eP	P	02 20 17.9 -1.8
TMUT	Trail Mountain	41.92 309		PcP	02 22 17.2 +1.1
BW06	Boulder Array	41.93 314	P	P	02 20 22.2 -0.3
	baz=112				
BW06	Boulder Array	41.93 314	P	P	02 20 21.4 -1.1
BW06				PcP	02 22 16.1 +0.1
PD31	Pinedale Array	41.93 314	P	P	02 20 22.1 -0.4
PD31				PcP	02 22 16.1 +0.1
PDAR	Pinedale Array	41.93 314	P	P	02 20 22.4 -0.1
	comp=Z,1.2nm,0.8s,baz=121,slow=9.1,SNR=12				
PDAR			pP	pP	02 20 48.2 -0.1
	comp=Z,4.4nm,0.9s,baz=128,slow=9.6,SNR=9.2				
PDAR			PcP	PcP	02 22 15.8 -0.2
	comp=Z,5.3nm,0.6s,baz=118,slow=4.7,SNR=13				
PDAR	Pinedale Array	41.93 314	P	P	02 20 22.0 -0.5
PDAR				PcP	02 22 15.6 -0.4
ITRB	Iturama	42.11 153	eP	P	02 20 24.2 +0.3
ITRB			epP	pP	02 20 26.9 -22
MTPU	Mount Pierson	42.30 307	P	P	02 20 26.2 +0.5
MTPU			PcP	PcP	02 22 19.0 +1.5
MSU	Marysvale	42.42 307	P	P	02 20 27.7 +1.1
MSU			PcP	PcP	02 22 19.3 +1.5
MVU	Marysvale	42.45 307	P	P	02 20 27.0 +0.2
MVU				PcP	02 22 18.9 +1.1
RLMT	Red Lodge	42.69 318	P	P	02 20 28.8 +0.2
	baz=115,SNR=10				
RLMT	Red Lodge	42.69 318	IAmb	IAmb	02 20 29.9
	comp=Z,6.7nm,0.8s				
W13A	Hualapai Mount	42.98 302	IAmb	IAmb	02 20 34.0
	comp=Z,8.2nm,1.1s				
REDW	Red Top Meadow	43.03 315	IAmb	IAmb	02 20 32.9
	comp=Z,9.2nm,1.1s				
PDMCI	Parker Dam,Lak	43.05 301	P	P	02 20 32.4 +1.0
	baz=99				
CCUT	Cedar City	43.08 306	P	P	02 20 32.4 +0.4
CCUT			PcP	PcP	02 22 21.8 +1.8
SFX	San Felipe	43.20 296	IAmb	IAmb	02 20 35.1
	comp=Z,12nm,0.9s				
H17A	Grant Village	43.24 316	P	P	02 20 32.8 -0.3
	baz=112				
DUG	Dugway, Tooele	43.37 309	P	P	02 20 34.9 +0.8
	baz=106,SNR=6.0				
DUG	Dugway, Tooele	43.37 309	P	P	02 20 34.1 +0.1
DUG			IAmb	IAmb	02 20 36.5
	comp=Z,6.1nm,0.8s				
DUG			PcP	PcP	02 22 20.3 -0.4
GLA	Glamis	43.42 299	P	P	02 20 36.6 +2.1
	baz=97				
PCMB	Pacaembu	43.44 156	eP	P	02 20 35.0 +0.3
SACV	Santiago Islan	43.53 88	P	P	02 20 37.0 +1.5
IRM	Iron Mountain	43.84 300	P	P	02 20 39.6 +1.7
	baz=98,SNR=17				
BC3	Big Chuckawall	44.02 300	P	P	02 20 40.7 +1.3
	baz=97,SNR=6.2				
BB19B	Bebedouro	44.11 152	eP	P	02 20 39.8 -0.2
BB19B			epP	pP	02 20 43.0 -22
SWSC	Sam W. Stewart	44.22 298	P	P	02 20 41.2 +0.4
	baz=96				
FCC	Fort Churchill	44.22 342	P	P	02 20 38.9 -1.5
SHPR	Sheep Range	44.26 304	IAmb	IAmb	02 20 47.7
	comp=Z,8.2nm,1.1s				
PRN	Pahroc Range	44.36 305	P	P	02 20 42.9 +0.9
PRN			IAmb	IAmb	02 20 45.0
	comp=Z,9.9nm,1.0s				
PRN			PcP	PcP	02 22 25.3 +1.1
GMRC	Granite Mounta	44.36 301	P	P	02 20 43.5 +1.4
	baz=98				
BOZ	Bozeman (W)	44.40 317	P	P	02 20 42.9 +0.6
	baz=113,SNR=7.7				
IKP	In-Ko-Pah, Jac	44.44 298	P	P	02 20 40.6 -2.1
	baz=96				
TUQ	Turquoise Moun	44.68 302	P	P	02 20 46.1 +1.5
	baz=99,SNR=12				
MONP2	Monument Peak	44.73 298	P	P	02 20 46.6 +1.5
	baz=96,SNR=12				
PFO	Pinyon Flats O	44.85 299	LR	LR	02 44 52.3
	comp=Z,117nm,18.8s,baz=194,slow=43				
HEC	Hector,Ludlow	44.92 301	P	P	02 20 47.9 +1.4
	baz=98				
R11A	Troy Canyon, C	44.98 306	P	P	02 20 48.5 +1.5
	baz=102,SNR=20				
R11A	Troy Canyon, C	44.98 306	IAmb	IAmb	02 20 49.6
	comp=Z,10nm,0.9s				
SHOC	Shoshone, Teco	45.04 303	P	P	02 20 48.9 +1.5
	baz=99				
TPNV	Topopah Spring	45.21 304	P	P	02 20 50.4 +1.6
	baz=100,SNR=36				
109C	Camp Elliot, M	45.30 298	P	P	02 20 51.5 +2.1
	baz=96				
109C	Camp Elliot, M	45.30 298	IAmb	IAmb	02 20 51.6
	comp=Z,18nm,1.1s				
GSC	Goldstone, Bar	45.37 302	P	P	02 20 51.6 +1.5
	baz=98,SNR=9.3				
GSC	Goldstone, Bar	45.37 302	IAmb	IAmb	02 20 53.5

comp=Z,12nm,1.1s
MURC Murrieta 45.46 299 P P 02 20 52.1 +1.5
baz=96
HLID Hailey 45.53 313 P P 02 20 52.2 +0.9
baz=108
FURC Furnace Creek, 45.61 303 P P 02 20 53.4 +1.7
baz=99,SNR=12
NAN01 Guarapari, ES 45.91 140 *eP* **P 02 20 53.6 -0.6**
BFSC Mount Baldy Ra 45.92 300 P P 02 20 56.3 +1.9
baz=96
CPUP Villa Florida 45.94 165 P P 02 20 53.5 -0.8
comp=Z,23nm,0.9s,baz=349,slow=7.7,SNR=42
CPUP pP **pP 02 21 20.9 +1.1**
comp=Z,6.5nm,0.8s,baz=9.7,slow=8.1,SNR=2.9
CPUP PcP **PcP 02 22 30.5 +1.0**
comp=Z,3.6nm,0.7s,baz=27,slow=4.5,SNR=2.0
CPUP LR LR 02 40 31.9
comp=Z,41nm,19.2s,baz=3.5,slow=36
CPUP Villa Florida 45.94 165 *eP* **P 02 20 53.7 -0.7**
CPUP Villa Florida 45.94 165 *eP* **P 02 20 52.6 -1.7**
PTGB Pitanga 45.98 158 *eP* **P 02 20 55.2 +0.4**
MPMC Manual Prospec 46.04 303 P P 02 20 56.8 +1.4
baz=98,SNR=9.9
GRAC Grapevine Rang 46.10 304 P P 02 20 57.4 +1.8
baz=99,SNR=19
LRMC Laurel Mtn Rad 46.10 302 P P 02 20 57.2 +1.4
baz=98
EDW2 Edwards Air Fo 46.27 301 P P 02 20 58.5 +1.4
baz=97,SNR=9.3
CWC Cottonwood Cre 46.57 303 P P 02 21 01.4 +1.9
baz=98
RIB01 Linhares ES 46.88 142 *eP* **P 02 21 01.1 -0.7**
ARVC Arvin 46.99 301 P P 02 21 04.7 +2.1
baz=97
AC05 El Transito 47.03 182 IAmb IAmb 02 21 08.0
comp=Z,12nm,0.9s
KVN Kaiserville 47.05 306 IAmb IAmb 02 21 05.7
comp=Z,11nm,0.9s
NVAR Mina Array Bea 47.09 306 P P 02 21 04.9 +1.3
comp=Z,10nm,0.8s,baz=87,slow=6.4,SNR=64
NVAR pP **pP 02 21 31.1 +1.2**
comp=Z,18nm,1.0s,baz=101,slow=6.7,SNR=8.4
NVAR PcP **PcP 02 22 35.2 +1.4**
comp=Z,1.0nm,0.5s,baz=202,slow=29,SNR=5.0
NVAR Mina Array Bea 47.09 306 P **P 02 21 04.0 +0.4**
LHV Little Huntoon 47.21 305 IAmb IAmb 02 21 06.9
comp=Z,12nm,0.7s
LCO Las Campanas 47.22 182 P P 02 21 07.3 +2.6
VES Vestal, Richgr 47.29 302 P P 02 21 06.4 +1.5
baz=97,SNR=12
RYN Ryan 47.29 306 IAmb IAmb 02 21 07.3
comp=Z,14nm,0.8s
OMMB Old Mammoth Mi 47.48 304 IAmb IAmb 02 21 09.5
comp=Z,12nm,0.9s
MDPB Devils Postpil 47.55 304 IAmb IAmb 02 21 10.0
comp=Z,11nm,0.8s
ACLC CERRO LA CRUZ 47.65 178 *eP* **P 02 21 06.9 -0.9**
PKM Mcpherson Peak 47.76 301 P P 02 21 10.7 +1.9
baz=96
YERR Yerington 47.91 306 IAmb IAmb 02 21 12.9
comp=Z,18nm,1.0s
WAKR Walker 47.97 305 IAmb IAmb 02 21 19.8
comp=Z,11nm,1.1s
WVOR Wild Horse Val 48.19 311 IAmb IAmb 02 21 13.5
comp=Z,8.7nm,0.9s
PAGB Antelope Grade 48.21 302 IAmb IAmb 02 21 14.6
comp=Z,9.8nm,0.9s
ITAB Concordia 48.28 160 *eP* **P 02 21 13.4 +0.9**
J08A Circle Bar Ran 48.30 312 IAmb IAmb 02 21 17.5
comp=Z,12nm,1.1s
AROD Rodeo 48.35 181 *eP* **P 02 21 14.2 +0.8**
APLL PUNTA DE LOS L 48.63 177 *eP* **P 02 21 14.6 -0.6**
ACCO Cerro Coronel 48.76 180 *eP* **P 02 21 16.1 -0.5**
MACI Morro de la Ar 48.85 68 P P 02 21 16.6 -0.7
NEW Newport 48.89 319 LR LR 02 42 00.8
comp=Z,153nm,20.1s,baz=148,slow=36
NEW Newport 48.89 319 P P 02 21 16.9 -0.2
baz=110,SNR=11
NEW Newport 48.89 319 IAmb IAmb 02 21 18.0
comp=Z,11nm,0.8s
CO03 El Pedregal 49.04 182 P P 02 21 19.2 +0.8
G08A Pilot Rock 49.16 314 IAmb IAmb 02 21 24.1
comp=Z,6.6nm,1.1s
AFDM Forest Hills D 49.23 306 IAmb IAmb 02 21 21.7
comp=Z,5.9nm,0.9s
MOD Modoc Plateau 49.28 310 P P 02 21 19.4 -0.9
SAO San Andreas Ge 49.30 303 IAmb IAmb 02 21 23.1
comp=Z,8.7nm,0.9s
TCA Tanti 49.69 175 *eP* **P 02 21 21.4 -2.0**
ORV Oroville 49.73 307 IAmb IAmb 02 21 26.0
comp=Z,6.1nm,0.9s
RTLS Leoncito 49.97 180 *eP* **P 02 21 26.1 +0.4**
RTCV Cerro Valdivia 50.04 179 *eP* **P 02 21 26.0 +0.1**
O03E Paynes Creek 50.08 307 P P 02 21 26.6 +0.3
baz=99
J05D Fort Rock, OR 50.24 311 P P 02 21 27.8 +0.3
baz=102
B08A Colville Reser 50.31 318 IAmb IAmb 02 21 28.6
comp=Z,6.3nm,0.9s
M04C Macdoel 50.38 309 P P 02 21 28.8 +0.2
baz=100
AUSP Uspallata 50.40 180 *eP* **P 02 21 29.6 +0.7**
CNLB Canela 50.62 159 *eP* **P 02 21 30.3 -0.1**
WDC Whiskeytown Da 50.69 308 IAmb IAmb 02 21 30.2
comp=Z,4.2nm,0.8s
ASAL Salagasta 50.76 180 *eP* **P 02 21 31.8 +0.4**
L04D Klamath Falls 50.80 310 P P 02 21 32.0 +0.3
baz=100,SNR=7.4
CPSB Cacapava Do Su 50.84 163 *eP* **P 02 21 31.1 -0.8**
LTY Liberty 50.85 316 IAmb IAmb 02 21 42.2
comp=Z,5.7nm,1.1s
N02D Trinity Center 50.88 308 P P 02 21 32.0 -0.3
baz=99
YBH Yreka Blue Hor 51.01 309 LR LR 02 45 55.6
comp=Z,33nm,19.6s,baz=120,slow=39
YBH Yreka Blue Hor 51.01 309 IAmb IAmb 02 21 33.4
comp=Z,6.2nm,0.9s
M02C Callahan 51.06 309 P P 02 21 32.8 -0.9
baz=99
I04A Tendick Farm, 51.19 312 P P 02 21 34.3 -0.2
baz=101
I03D Drain, OR 51.84 311 P P 02 21 39.7 +0.5
baz=101
K02D Willamette Mer 51.88 310 P P 02 21 41.2 +1.5
baz=100
PLTB Pedras Altas 52.08 163 *eP* **P 02 21 40.7 -0.4**
PGC Sidney 53.02 318 IAmb IAmb 02 21 48.1
comp=Z,6.7nm,0.6s
YKA Yellowknife Ar 54.05 336 P P 02 21 54.7 -0.5
comp=Z,4.1nm,0.7s,baz=110,slow=7.3,SNR=13
YKA pP **pP 02 22 20.9 -1.2**
comp=Z,15nm,0.9s,baz=113,slow=6.9,SNR=9.2
YKA LR LR 02 46 10.6
comp=Z,82nm,18.5s,baz=0.0,slow=37
MORF Marmelete 55.64 57 *eP* **P 02 22 09.0 +1.8**
PNCL Nicolau / Gran 55.77 56 *eP* **P 02 22 09.5 +1.5**
EVO Evora 56.20 56 *eP* **P 02 22 12.6 +1.5**
PBDV Barranco-do-Ve 56.21 57 *eP* **P 02 22 13.3 +2.1**
PBEJ Beja 56.29 56 *eP* **P 02 22 13.5 +1.7**
PVAQ Vaqueiros 56.39 57 *eP* **P 02 22 13.5 +1.1**
PVRL Vila Real 56.59 52 *eP* **P 02 22 15.0 +1.1**
PMRV Marv??o 56.73 55 *eP* **P 02 22 16.0 +1.2**
SUMG Summit 56.88 11⇑ *iP* **P 02 22 16.6 +0.8**
SUMG *i* 02 22 43.2
SUMG Summit 56.88 11 P P 02 22 13.9 -1.9
MVO Moncorvo 57.10 53 *eP* **P 02 22 18.4 +0.9**
LC01 Cunco 57.12 183 IAmb IAmb 02 22 18.9
comp=Z,11nm,0.9s
PLCA Paso Flores 58.91 181 P P 02 22 30.0 +0.1
comp=Z,8.9nm,0.8s,baz=358,slow=9.3,SNR=17
PLCA PcP **PcP 02 23 18.1 +0.1**
comp=Z,6.0nm,0.9s,baz=350,slow=7.6,SNR=13
PLCA Paso Flores 58.91 181 *eP* **P 02 22 29.4 -0.5**
DLBC Dease Lake 59.37 328 P P 02 22 32.5 -0.5
DLBC IAmb IAmb 02 22 35.0
comp=Z,6.3nm,1.0s
ESDC Sonseca Array 59.38 54 P P 02 22 34.3 +0.9
comp=Z,7.0nm,0.8s,baz=273,slow=7.4,SNR=47
ESDC pP **pP 02 23 01.0 +0.3**
comp=Z,6.6nm,0.9s,baz=271,slow=7.4,SNR=6.1
ESDC LR LR 02 44 53.9
comp=Z,24nm,19.7s,baz=275,slow=32
ESDC Sonseca Array 59.38 54 P P 02 22 32.8 -0.6
ESBB Sonseca Array 59.38 54 P P 02 22 32.6 -0.8
ESK Eskdalemuir 61.27 36 P P 02 22 44.0 -1.9
ESK IAmb IAmb 02 22 47.4
comp=Z,7.7nm,0.8s
TIC Toumodi 63.27 92 *eP* **P 02 23 00.1 +0.2**
LIC Lamto 63.39 92 *eP* **P 02 23 00.9 +0.2**
comp=Z,72nm,1.0s
DBIC Dimbokro 63.42 92 P P 02 23 01.3 +0.5
comp=Z,16nm,0.6s,baz=282,slow=6.8,SNR=38
DBIC Dimbokro 63.42 92 P **P 02 23 01.4 +0.5**
KIC Kosan Boka 63.62 92 *eP* **P 02 23 02.7 +0.5**
comp=Z,7.3nm,0.8s
CTGM Chitina Glacie 65.46 329 IAmb IAmb 02 23 16.0
comp=Z,13nm,1.2s
BMRD Maredsous 65.69 43 P P 02 23 15.7 +0.6
EGAK Eagle 65.86 333 IAmb IAmb 02 23 26.1
comp=Z,4.3nm,0.8s
BCAR Beaver Creek A 65.91 332 P P 02 23 16.0 -0.4
MEM Membach 66.48 42 P P 02 23 20.7 +0.6
WLF Walferdange 66.59 43 P P 02 23 21.1 +0.3
NOR Nord 66.63 7 *iP* **P 02 23 18.2 -2.4**
comp=Z,4.8nm,0.8s
NOR *i* 02 23 46.9
SCRK Sand Creek 66.99 332 P P 02 23 24.0 +0.7
baz=95,SNR=13
DOT Dot Lake 66.99 332 IAmb IAmb 02 23 34.1
comp=Z,8.0nm,1.2s
SENIN Lac Senin/Sane 67.50 47 P P 02 23 26.4 -0.5
SENIN IAmb IAmb 02 23 28.8
comp=Z,9.7nm,1.0s
BMAR Burnt Mountain 67.57 336 P P 02 23 26.4 -0.4
PAX Paxson 67.58 331 IAmb IAmb 02 23 28.4
comp=Z,8.0nm,1.1s
TORD Torodi Ar. Bea 67.86 83 P P 02 23 29.6 +0.1
comp=Z,15nm,0.8s,baz=293,slow=6.9,SNR=85
TORD pP **pP 02 23 57.4 0.0**
comp=Z,4.4nm,0.8s,baz=292,slow=7.4,SNR=3.3
TORD Torodi Ar. Bea 67.86 83 P P 02 23 29.5 +0.1
MUD Monsted U'grnd 68.30 36 *iP* **P 02 23 31.7 +0.3**
comp=Z,22nm,1.2s
ILAR Eielson Array 68.30 333 P P 02 23 31.1 -0.3
comp=Z,2.2nm,0.8s,baz=109,slow=4.9,SNR=17
ILAR pP **pP 02 23 57.9 -1.5**
comp=Z,3.4nm,0.7s,baz=104,slow=3.9,SNR=8.6
ILAR Eielson Array 68.30 333 P P 02 23 30.8 -0.5
HDA Harding Lake 68.31 333 P P 02 23 30.8 -0.6
baz=92
POKR Poker Plat Res 68.55 334 P P 02 23 32.2 -0.7
baz=92
WRH Wood River Hil 68.81 333 P P 02 23 33.5 -1.0
MDM Murphy Dome 68.88 333 IAmb IAmb 02 23 36.0
comp=Z,7.9nm,1.0s
NC204 NORSAR Array S 69.08 31 P P 02 23 34.6 -1.7
NC204 IAmb IAmb 02 23 38.6
comp=Z,18nm,1.1s
RND Reindeer 69.13 332 IAmb IAmb 02 23 38.1
comp=Z,15nm,1.0s
DAVA Damuels 69.20 46 *eP* **P 02 23 37.6 +0.2**
comp=Z,6.6nm,0.9s
TAM Tamanrasset 69.21 72 P P 02 23 38.4 +0.4
TAM IAmb IAmb 02 23 41.1
comp=Z,9.2nm,0.7s
NB2 NORSAR Subarra 69.30 31 P P 02 23 38.6 +0.9
comp=Z,7.0nm,0.8s,baz=272,slow=6.5
NOA NORSAR Array B 69.30 31 P P 02 23 38.0 +0.3
comp=Z,4.4nm,0.8s,baz=271,slow=6.3,SNR=26
NOA pP **pP 02 24 06.2 +0.5**
comp=Z,1.9nm,0.7s,baz=300,slow=6.2,SNR=6.3
FUORN Ofenpass-Fuorn 69.52 46 IAmb IAmb 02 23 41.5
comp=Z,8.5nm,0.7s
COLD Coldfoot 69.73 336 P P 02 23 40.1 0.0
baz=90
TRF Thorofare Moun 69.77 332 IAmb IAmb 02 23 41.9
comp=Z,20nm,1.1s
RETA Reutte 69.78 45 *eP* **P 02 23 41.0 +0.1**
comp=Z,7.1nm,0.7s
CUT Chulitna 69.78 331 P P 02 23 40.4 -0.1
baz=88
FETA Feichten 69.80 46 *eP* **P 02 23 41.4 +0.3**
comp=Z,9.9nm,0.8s
MOTA Moosalm 70.02 45 *eP* **P 02 23 42.3 -0.2**
comp=Z,5.7nm,0.8s
KTH Kantishna Hill 70.05 332 P P 02 23 41.5 -0.8
BPAW Bear Paw Mtn. 70.07 332 IAmb IAmb 02 23 43.0
comp=Z,9.6nm,0.9s
SQTA Sankt Quirin 70.10 46 *eP* **P 02 23 43.2 +0.3**
comp=Z,5.1nm,0.6s
KEST Kesra 70.19 58 P P 02 23 44.6 +1.0
comp=Z,19nm,0.8s,baz=256,slow=2.2,SNR=23
KEST pP **pP 02 24 11.8 +0.1**
comp=Z,8.4nm,0.9s,baz=240,slow=6.2,SNR=2.8
KEST Kesra 70.19 58 P P 02 23 43.6 0.0
WTTA Wattenberg 70.39 46 *eP* **P 02 23 44.8 0.0**
comp=Z,4.1nm,1.0s
CLL Collm 70.86 41 *eP* **P 02 23 48.0 +0.7**
ABTA Abfaltersbach 71.04 46 *eP* **P 02 23 48.9 +0.3**
comp=Z,3.1nm,0.6s,SNR=5.5
IMAR Indian Mountai 71.17 334 P P 02 23 47.7 -1.2
KHC Kasperske Hory 71.47 43 *eP* **P 02 23 51.9 +0.8**
KHC epP **pP 02 24 18.8 -0.4**
BRG Berggiesshubel 71.50 42 *eP* **P 02 23 51.9 +0.8**
comp=Z,7.3nm,0.9s
GERES GERESS Array B 71.58 44 P P 02 23 52.5 +0.6
comp=Z,2.8nm,0.9s,baz=267,slow=2.7,SNR=19
GERES GERESS Array B 71.58 44 P P 02 23 51.1 -0.8
ROBS Robic 71.79 46 *iPn* **P 02 23 53.4 +0.4**
PRED Cave del Predi 71.80 46 IAmb IAmb 02 23 54.4
comp=Z,7.3nm,0.8s
MYKA Terra Mystica 71.83 46 *eP* **P 02 23 52.8 -0.5**
comp=Z,3.9nm,0.7s
CADS Cadrg 71.95 46 *iPn* **P 02 23 54.8 +0.7**
CADS *iSn* **pP 02 24 24.4 +2.1**
PRU Pruhonice 71.98 42 *eP* **P 02 23 55.1 +1.0**
VOJS Vojsko 72.08 47 *iPn* **P 02 23 55.6 +0.8**
VOJS *iSn* **pP 02 24 26.1 +3.0**
MOA Molln 72.09 45 *eP* **P 02 23 54.7 -0.1**
comp=Z,2.5nm,0.7s
OBKA Obir 72.47 46 *eP* **P 02 23 56.6 -0.5**
comp=Z,7.3nm,1.0s
CHVC Chvalec 72.86 42 *eP* **P 02 24 00.2 +0.9**
OSTC Ostas 72.97 42 *eP* **P 02 24 00.9 +0.9**
DPC Dobruska-Polom 73.07 42 *eP* **P 02 24 01.6 +1.0**
DPC epP **pP 02 24 28.7 -0.2**
KRUC Moravsky 73.31 43 *eP* **P 02 24 02.1 +0.1**
VRAC Vranov 73.40 43 *i⇑P* **P 02 24 03.3 +0.8**
VRAC Vranov 73.40 43 *eP* **P 02 24 03.0 +0.5**
KRLC Kraliky 73.40 42 *eP* **P 02 24 03.7 +1.2**
MORC Moravsky Berou 73.93 42 *i⇓P* **P 02 24 06.6 +1.0**
MORC Moravsky Berou 73.93 42 *eP* **P 02 24 06.4 +0.7**
MODS Modra-Piesok 74.00 44 *eP* **P 02 24 06.5 +0.5**
JAVC Velka Javorina 74.17 43 *eP* **P 02 24 08.6 +1.5**
ARCES ARCESS Array B 74.43 21 P P 02 24 08.8 +0.7
comp=Z,10nm,0.7s,baz=285,slow=4.2,SNR=31
ARCES pP **pP 02 24 36.4 -0.2**
comp=Z,15nm,0.7s,baz=285,slow=4.6,SNR=7.5
VYHS Vyhne 75.00 43 *eP* **P 02 24 12.8 +1.0**
TIP Timpagrande 75.37 53 *i⇓P* **P 02 24 12.6 -1.6**
FINES FINESS Array B 76.37 30 P P 02 24 20.1 +0.8
comp=Z,12nm,0.7s,baz=273,slow=3.8,SNR=82
FINES pP **pP 02 24 48.2 +0.4**
comp=Z,12nm,0.7s,baz=300,slow=3.8,SNR=9.1
FIA1 FINESS Array S 76.37 30 P P 02 24 18.5 -0.8
FIA1 IAmb IAmb 02 24 20.9
comp=Z,15nm,0.9s
KOLS Kolonicke sedl 77.13 43 *eP* **P 02 24 24.7 +0.8**
TIR Tirane 77.22 51 P P 02 24 18.3 -6.2
SIRR Siria 77.34 45 *i⇓P* **P 02 24 27.8 +2.7**
BMR Baia Mare 78.23 44 *i⇓P* **P 02 24 31.8 +1.9**
BURAR Bucovina Array 79.37 43 *i⇑P* **P 02 24 38.0 +1.7**
BURAR Bucovina Array 79.37 43 P **P 02 24 36.8 +0.5**
ARR Arges 79.58 46 *i⇑P* **P 02 24 38.7 +1.2**
VOIR 79.85 46 *i⇑P* **P 02 24 39.2 +0.3**
BIZ Bicaz 80.13 44 *i⇑P* **P 02 24 41.6 +1.2**
MLR Muntele Rosu 80.44 45 *i⇓P* **P 02 24 44.4 +2.2**
NEHR Nehoiu 80.69 45 *i⇓P* **P 02 24 44.5 +1.1**
VRI Vrincioaia 80.85 45 *i⇓P* **P 02 24 44.3 0.0**
AKASG Malin Array Be 80.99 40 P P 02 24 45.2 +0.4
comp=Z,4.0nm,0.7s,baz=285,slow=4.5,SNR=13
AKASG pP **pP 02 25 13.2 -0.5**
comp=Z,1.2nm,0.5s,baz=282,slow=4.6,SNR=2.7
AKASG Malin Array Be 80.99 40 P P 02 24 44.0 -0.9
ODBI Odobesti 81.10 45 *i⇓P* **P** 02 24 39.5 -6.0
SORM Soroca 81.24 42 *i⇑P* **P 02 24 47.1 +0.9**
RASA Rasa 81.63 46 *i⇓P* **P** 02 24 39.2 -9.1
SCHL Schela 81.70 45 *i⇓P* **P** 02 24 42.3 -6.4
IDI Anoyia 82.63 55 *i⇑P* **P 02 24 55.3 +1.5**
KLMR Klimovskoe 82.71 28 *eP* **P 02 24 52.9 -0.7**
KLMR AMP 02 24 55.0
comp=Z,12nm,1.0s
KLMR epP **pP 02 25 21.8 -0.8**
PMSA Palmer Station 83.06 178 *eP* **P 02 24 53.3 -1.8**
OBN Obninsk 83.61 34 P **P 02 24 57.9 -0.5**
BRTR Keskin Array B 87.70 49 P P 02 25 19.8 +0.7
comp=Z,4.2nm,0.8s,baz=277,slow=3.7,SNR=11
BRTR pP **pP 02 25 49.1 +0.7**
comp=Z,4.2nm,0.8s,baz=270,slow=3.7,SNR=4.3
BRTR Keskin Array B 87.70 49 P P 02 25 18.4 -0.8
NRIK Noril'sk 90.85 8 P P 02 25 32.7 -0.4
comp=Z,3.2nm,0.6s,baz=20,slow=3.5,SNR=2.6
NRIK pP **pP 02 26 02.4 0.0**
comp=Z,7.0nm,0.9s,baz=351,slow=3.6,SNR=4.2
KBZ Khabaz 92.28 42 P P 02 25 40.5 +0.3
comp=Z,2.9nm,0.9s,baz=39,slow=7.4,SNR=3.8
TSUM Tsumeb 92.83 109 P P 02 25 44.3 +0.9
AKH Akhalkalaki 93.77 44 P P 02 25 47.6 +0.2
AKH IAmb IAmb 02 25 49.5
comp=Z,2.3nm,0.8s
RAR Rarotonga 97.19 250 P P 02 26 02.5 -0.5
comp=Z,38nm,0.6s,baz=126,slow=3.0,SNR=5.4
RAR LR LR 03 02 41.3
comp=Z,214nm,20.1s,baz=250,slow=31
RAR Rarotonga 97.19 250 IAmb IAmb 02 26 04.1
comp=Z,40nm,0.7s
VNA3 Neumayer Olymp 98.12 164 Pdiff Pdif 02 26 06.8 +0.7
VNA1 Neumayer--Stat 98.17 163 Pdiff Pdif 02 26 07.8 +1.5
SNAA Sanae 100.21 163 Pdiff **Pdif 02 26 16.2 +0.7**
KSRS Korea Array 122.14 344 PKP **PKPdf 02 31 24.3 -0.2**
comp=Z,3.4nm,0.7s,baz=15,slow=1.2,SNR=18
MAW Mawson 122.24 160 PKP **PKiKP 02 31 24.1 +0.3**
comp=Z,2.6nm,0.7s,baz=199,slow=1.9,SNR=18
MAW Mawson 122.24 160 PKPdf **PKiKP 02 31 24.3 +0.4**
CMAR Chiang Mai Arr 141.45 19 PKP **PKPdf 02 31 60.0 -1.3**
comp=Z,1.8nm,0.6s,baz=320,slow=2.7,SNR=8.8
PMG Port Moresby 143.83 279 PKPdf **PKPdf 02 32 04.7 -0.9**
COEN Coen 148.81 273 PKPbc **PKPbc 02 32 17.5 -0.4**
STKA Stephens Creek 149.38 238 PKPbc **PKPbc 02 32 18.2 -0.7**
comp=Z,11nm,0.7s,baz=117,slow=4.6,SNR=3.8
STKA Stephens Creek 149.38 238 PKPdf **PKPbc 02 32 17.9 -1.0**
WRA Warramunga Arr 157.91 262 PKP **PKPdf 02 32 26.3 -0.6**
comp=Z,5.3nm,0.9s,baz=76,slow=1.4,SNR=8.2
WRA Warramunga Arr 157.91 262 PKPdf 02 32 26.6 -0.3
ASAR Alice Springs 158.02 252 PKP **PKPdf 02 32 26.4 -0.5**
comp=Z,2.2nm,0.8s,baz=90,slow=2.0,SNR=4.5
ASAR PKPab **PKPab 02 33 00.5 -0.4**
comp=Z,5.1nm,0.7s,baz=105,slow=4.4,SNR=10
ASAR pPKPab **pPKPab 02 33 28.3 -2.1**
comp=Z,2.7nm,0.7s,baz=108,slow=4.1,SNR=3.7

INMG ***12*** *02:22:57.5, 6°.97S×155°.85E, h35km, Mb5.1*
NEIC ***12*** *02:22:57.4±1.4, 7°.00S±0°.07×155°.82E±0°.07, h35km±1km, mb4.9/63, Error ellipse: s-maj=13.1km s-min=10.8km az=30.0*
BJI ***12*** *02:22:58.5±0.0, 6°.76S×155°.76E, h44km, mB5.0/26, mb4.8/35, Ms4.7/7, Ms7 4.5/5*
IDC ***12*** *02:23:01.5±1.5, 6°.98S×155°.83E, h66km±13km, mb4.4/19, mb1 4.5/24, mb1mx4.4/36, mbtmp4.7/24, MS3.7/11, Ms1 3.7/11, ms1mx3.5/22, Error ellipse: s-maj=12.7km s-min=10.2km az=51.0*
DJA ***12*** *02:23:01.0±0.4, 7°.S±3°×15°6E±°, h61km±4km, M5.1/31, mb5.0/31, mB5.5/6, MLv5.2/2, Mw(mB)4.9/6, Mwp6.0/1*
ISC 12 02:22:59.4±0.8, 7°.01S±0°.05×155°.86E±0°.05, h53km±7km, n252, σ1°06/254, mb4.9/61, **MS3.9**/11, **3C-1D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.62**	**307**	Pn	**Pn**	**02 24 04.2**	**-2.6**
KRVT	**Keravat (AS076**	**4.66**	**305**	P	**Pn**	**02 24 08.4**	**+1.1**
	6.6nm,0.3s,baz=29,slow=19,SNR=1.2						
KRVT				S	Sn	02 25 16.9	+17
	82nm,0.3s,baz=30,slow=18,SNR=4.2						
KRVT				LR	LR	02 25 46.6	
	comp=Z,270nm,20.9s,baz=93,slow=36						
HNR	**Honiara**	**4.71**	**121**	P	**Pn**	**02 24 10.3**	**+2.4**
	86nm,0.3s,baz=205,slow=3.7,SNR=8.8						
HNR				S	**Sn**	**02 25 05.4**	**+4.1**
	107nm,0.3s,baz=220,slow=22,SNR=4.2						
HNR				LR	LR	02 26 15.8	
	comp=Z,883nm,18.2s,baz=285,slow=41						
HNR	**Honiara**	**4.71**	**121**	Pn	**Pn**	**02 24 06.8**	**-1.1**
PMG	**Port Moresby**	**8.94**	**254**	P	**Pn**	**02 25 08.8**	**+2.9**
	21nm,0.3s,baz=62,slow=8.2,SNR=35						
PMG				S	**Sn**	**02 26 48.1**	**+2.9**
	baz=78,slow=20,SNR=0.7						
PMG				LR	LR	02 28 23.6	
	comp=Z,676nm,21.2s,baz=66,slow=36						
PMG	**Port Moresby**	**8.94**	**254**	Pn	**Pn**	**02 25 04.2**	**-1.7**
SANVU	**Saraoutou**	**13.93**	**128**	Pn	**Pn**	**02 26 14.3**	**+0.2**
PATS	**Pohnpei**	**13.97**	**10**	Pn	**Pn**	**02 26 14.3**	**-0.3**
COEN	**Coen**	**14.25**	**240**	Pn	Pn	02 26 13.4	-5.0
JAY	**Jayapura**	**15.74**	**286**	P	**P**	**02 26 41.0**	**+0.1**
	0.8nm,0.3s,baz=68,slow=2.6,SNR=4.2						
JAY	**Jayapura**	**15.74**	**286**	P	P	02 26 54.4	+13
CTA	**Charters Tower**	**16.00**	**215**	P	**P**	**02 26 43.8**	**+0.1**
	0.7nm,0.3s,baz=31,slow=14,SNR=25						
CTAO	**Charters Tower**	**16.00**	**215**	Pn	**Pn**	**02 26 39.1**	**-1.9**
DZM	**Mont Dzumac**	**18.13**	**147**	P	**Pn**	**02 27 09.2**	**+1.7**
	1.1nm,0.3s,baz=150,slow=23,SNR=11						
DZM	**Mont Dzumac**	**18.13**	**147**		**P**	**02 27 05.5**	**-1.8**
EIDS	**Eidsvold**	**18.82**	**194**	P	**Pn**	**02 27 15.6**	**-0.2**
TARA	**Tarawa**	**18.95**	**65**	P	**P**	**02 27 15.5**	**-0.8**
TARA				IAmb	IAmb	02 27 20.3	
	comp=Z,86nm,1.0s						
KWAJ	**Kwajalein Atol**	**19.59**	**37**	P	**P**	**02 27 23.1**	**-0.2**
ARMA	**Armidale**	**23.62**	**189**	P	**P**	**02 28 06.1**	**+0.2**
MSVF	**Nonsavu**	**24.12**	**118**	P	**P**	**02 28 11.6**	**+1.0**
MSVF				IAmb	IAmb	02 28 14.1	
	comp=Z,43nm,1.1s						
WR0	**Warramunga Arr**	**24.36**	**236**	P	**P**	**02 28 12.3**	**-0.4**
SAUI	**Saumlaki**	**24.37**	**266**	P	**P**	**02 28 13.3**	**+0.5**
WB0	**Warramunga Arr**	**24.39**	**237**	P	**P**	**02 28 13.6**	**+0.7**
WB0				IAmb	IAmb	02 28 32.0	
	comp=Z,20nm,0.9s						
WB2	**Warramunga Arr**	**24.51**	**236**	P	**P**	**02 28 13.6**	**-0.4**
WB2					**PcP**	**02 31 51.4**	**-0.2**
WRA	**Warramunga Arr**	**24.52**	**236**	P	**P**	**02 28 14.8**	**+0.7**
	comp=Z,11nm,0.7s,baz=63,slow=9.5,SNR=65						
WRA				PcP	**PcP**	**02 31 52.0**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=59,slow=1.7,SNR=9.1						
WRA				ScP	**ScP**	**02 35 25.1**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=64,slow=3.0,SNR=2.6						
WRA				LR	LR	02 37 45.7	
	comp=Z,290nm,18.9s,baz=55,slow=36						
WRA	**Warramunga Arr**	**24.52**	**236**	P	**P**	**02 28 13.4**	**-0.7**
MTN	**Manton Dam**	**25.02**	**255**	P	**P**	**02 28 19.2**	**+0.4**
SIJI	**Sorong**	**25.27**	**283**	P	**P**	**02 28 22.1**	**+1.1**
	comp=Z,35nm,0.6s,baz=56,slow=10.0,SNR=5.9						
AS31	**Alice Springs**	**26.81**	**229**	P	**P**	**02 28 34.8**	**-0.1**
ASAR	**Alice Springs**	**26.81**	**229**	P	**P**	**02 28 34.8**	**-0.1**
	comp=Z,4.3nm,0.4s,baz=61,slow=8.7,SNR=57						
ASAR				PcP	**PcP**	**02 31 57.2**	**+0.5**
	comp=Z,3.7nm,0.4s,baz=69,slow=2.6,SNR=12						
ASAR				ScP	**ScP**	**02 35 33.8**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=81,slow=2.1,SNR=1.5						
ASAR				LR	LR	02 38 44.5	
	comp=Z,280nm,18.3s,baz=110,slow=35						
ASAR	**Alice Springs**	**26.81**	**229**	P	**P**	**02 28 35.0**	**+0.2**
ASAR					**PcP**	**02 31 56.5**	**-0.2**
H11S3	**WAKE ISLAND Hy 27.50**	**23**		T	T	02 56 59.6	
	baz=202,slow=75,SNR=439						
H11S2	**WAKE ISLAND Hy 27.50**	**23**		T	T	02 56 59.8	
	baz=202,slow=75,SNR=404						
H11S1	**WAKE ISLAND Hy 27.52**	**23**		T	T	02 57 00.9	
	baz=202,slow=75,SNR=316						
KNRA	**Kununurra**	**27.90**	**250**	P	**P**	**02 28 43.5**	**-1.1**
KNRA				IAmb	IAmb	02 28 45.9	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**28.09**	**206**	P	**P**	**02 28 46.3**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=32,slow=13,SNR=8.1						
STKA				PcP	**PcP**	**02 31 59.8**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=48,slow=3.5,SNR=4.1						
STKA				LR	LR	02 39 59.2	
	comp=Z,323nm,18.6s,baz=23,slow=36						
STKA	**Stephens Creek**	**28.09**	**206**	P	**P**	**02 28 45.4**	**-0.8**
H11N1	**WAKE ISLAND Hy 28.69**	**22**		T	T	02 58 32.5	
	baz=202,slow=76,SNR=140						
H11N3	**WAKE ISLAND Hy 28.70**	**22**		T	T	02 58 37.4	
	baz=202,slow=76,SNR=93						
H11N2	**WAKE ISLAND Hy 28.71**	**22**		T	T	02 58 33.8	
	baz=202,slow=76,SNR=53						
FITZ	**Fitzroy Crossi**	**31.43

GTOI	Gorontalo	33.64 282	P	P	02 29 37.6	+2.3
	comp=Z,22nm,0.8s					
EDFI	Ende, Flores	33.88 265	P	P	02 29 37.0	-0.6
	comp=Z,29nm,0.8s					
FORT	Forrest	35.17 224	P	P	02 29 48.0	-0.4
KAPI	Kappang	35.96 271	P	P	02 29 55.2	-0.1
URZ	Urewera	36.58 151	P	P	02 29 58.3	-2.0
	comp=Z,9.9nm,0.9s,baz=70,slow=9.9,SNR=2.0					
URZ	Urewera	36.58 151	P	P	02 30 00.1	-0.2
URZ	Urewera	36.58 151	IAmb	IAmb	02 30 09.7	
	comp=Z,33nm,1.1s					
MPSI	Mapaga	36.61 280	P	P	02 30 01.2	+0.3
	comp=Z,34nm,0.8s					
BKZ	Black Stump Fm	37.02 153	P	P	02 30 05.2	+1.0
BKZ	Black Stump Fm	37.02 153	P	P	02 30 05.5	+1.3
BKZ			IAmb	IAmb	02 30 09.5	
	comp=Z,16nm,1.0s					
RAHZ	Arahi	37.09 152	P	P	02 30 06.6	+1.9
BHHZ	Black Hill Sta	37.09 154	P	P	02 30 02.3	-2.4
KWHZ	Kaweka Forest	37.20 153	P	P	02 30 06.9	+1.3
KRHZ	Kereru	37.36 154	P	P	02 30 08.0	+1.1
TSZ	Takapari Road	37.52 154	P	P	02 30 09.5	+1.2
PSA00	Pilbara Seismi	37.66 244	P	P	02 30 09.3	-0.5
PSA00			IAmb	IAmb	02 30 11.1	
	comp=Z,16nm,0.8s					
KAHZ	Kahuranaki	37.70 153	P	P	02 30 10.0	+0.1
THZ	Tophouse	37.77 159	P	P	02 30 10.7	+0.2
BSWZ	Blackbirch Sta	38.09 158	P	P	02 30 13.0	0.0
BFZ	Birch Farm	38.16 155	P	P	02 30 13.6	-0.1
MSWZ	Moikau Station	38.36 156	P	P	02 30 15.2	-0.2
OXZ	Oxford	38.87 161	P	P	02 30 19.5	-0.1
RPZ	Rata Peaks	38.92 162	P	P	02 30 21.2	+1.2
	comp=Z,27nm,0.8s,baz=354,slow=4.0,SNR=19					
MYLDM	Lahad Datu	39.20 287	P	P	02 30 23.7	+0.9
KKM	Kota Kinabalu	41.63 287	P	P	02 30 41.5	-1.4
MORW	Morawa	43.45 235	P	P	02 30 56.9	-0.5
MORW			IAmb	IAmb	02 30 57.7	
	comp=Z,14nm,0.8s					
SBUM	Sibu	44.56 281	P	P	02 31 06.2	-0.3
KSM	Kuching	46.23 279	P	P	02 31 19.4	-0.4
MJAR	Matsushiro Arr	46.38 340	P	P	02 31 19.5	-1.0
	comp=Z,1.7nm,0.5s,baz=163,slow=6.3,SNR=3.3					
MJAR			PcP	PcP	02 32 55.4	+0.6
	comp=Z,3.1nm,0.8s,baz=174,slow=3.1,SNR=3.2					
MJAR			LR	LR	02 49 21.0	
	comp=Z,33nm,21.3s,baz=140,slow=34					
MJAR	Matsushiro Arr	46.38 340	IAmb	IAmb	02 31 26.3	
	comp=Z,1.8nm,0.7s					
CISI	Cisompet, Garu	47.64 266	P	P	02 31 28.7	-2.2
	comp=Z,108nm,0.6s					
CISI	Cisompet, Garu	47.64 266	P	P	02 31 29.8	-1.1
CGJI	Cibinong	49.79 267	P	P	02 31 46.3	-1.0
	comp=Z,88nm,0.7s					
DLV	T Lat	50.73 292	P	P	02 31 54.3	-0.3
KSRS	Korea Array	51.36 331	P	P	02 31 59.5	+0.8
	comp=Z,1.9nm,0.7s,baz=154,slow=9.8,SNR=6.0					
KSRS			LR	LR	02 53 50.0	
	comp=Z,15nm,19.1s,baz=215,slow=36					
QIZ	Qiongzhong	52.20 301	IAmb	IAmb	02 32 07.9	
	comp=Z,13nm,0.8s					
NJ2	Nanjing	52.48 320	eP	P	02 32 08.2	+1.1
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.5s					
USRK	Ussuriysk Ar.	55.34 339	P	P	02 32 28.9	+1.1
	comp=Z,15nm,1.1s,baz=134,slow=7.3,SNR=10					
USRK	Ussuriysk Ar.	55.34 339	P	P	02 32 27.8	0.0
IPM	Ipoh	55.90 280	P	P	02 32 31.3	-1.1
KULM	Kulim	56.43 281	P	P	02 32 35.4	-0.8
KULM			IAmb	IAmb	02 32 36.5	
	comp=Z,22nm,1.0s					
GYA	Guiyang	58.15 307	eP	P	02 32 50.7	+2.5
GYA			PP	PP	02 35 01.1	+3.5
GYA			S	S	02 40 48.6	+2.5
GYA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
GYA			pmax	pmax		
	comp=Z,93nm,3.7s					
GYA			LR	LR		
	comp=Z,88nm,4.3s					
GYA			LR	LR		
	comp=Z,59nm,3.8s					
GYA			LR	LR		
	comp=Z,110nm,6.0s					
SLVN	Son La	58.23 300	P	P	02 32 48.5	-0.3
SLVN			IAmb	IAmb	02 33 03.9	
	comp=Z,7.6nm,1.1s					
GSI	Gunungsitoli	58.74 276	P	P	02 32 50.9	-1.5
PETK	Petropavlovsk-	59.91 1	P	P	02 33 01.0	+1.3
	comp=Z,2.7nm,0.5s,baz=152,slow=7.7,SNR=11					
PETK			LR	LR	02 54 55.8	
	comp=Z,68nm,21.6s,baz=148,slow=32					
PETK	Petropavlovsk-	59.91 1	P	P	02 33 00.2	+0.5
KMI	Kunming	60.74 304	⇑P	P	02 33 08.4	+2.2
KMI			pP	pP	02 33 21.7	+0.8
KMI			sP	sP	02 33 26.8	-0.2
KMI			pmax	pmax		
	comp=Z,7.0nm,1.0s					
CM31	Chiang Mai Arr	61.56 295	P	P	02 33 12.1	+0.4
CMAR	Chiang Mai Arr	61.56 295	P	P	02 33 12.7	+1.0
	comp=Z,10nm,0.8s,baz=121,slow=5.3,SNR=34					
CMAR	Chiang Mai Arr	61.56 295	P	P	02 33 12.4	+0.8
CHTO	Chiang Mai	61.68 296	P	P	02 33 12.5	+0.1
CD2	Chengdu	62.48 310	P	P	02 33 17.3	-0.3
CD2			pmax	pmax		
	comp=Z,50nm,0.4s					
HHC	Hu-ho-hao-te	62.61 323	eP	P	02 33 19.8	+1.4
HHC			ScS	ScS	02 43 06.9	
HHC			pmax	pmax		
	comp=Z,16nm,1.0s					
HHC			pmax	pmax		
	comp=Z,82nm,5.6s					
HHC			LR	LR		
	comp=Z,140nm,17.0s					
HHC			LR	LR		
	comp=Z,150nm,16.9s					
CASY	Casey	66.85 198	P	P	02 33 45.6	+0.2
CASY			IAmb	IAmb	02 33 46.6	
	comp=Z,9.9nm,0.8s					
SONM	Songino Array	69.81 327	P	P	02 34 05.4	+0.9
	comp=Z,10nm,0.6s,baz=143,slow=7.1,SNR=44					
SONM	Songino Array	69.81 327	P	P	02 34 04.7	+0.2
SHL	Shillong	70.04 300	P	P	02 34 07.0	+0.6
VNDA	Vanda	70.55 179	P	P	02 34 09.7	+1.4
	comp=Z,3.5nm,0.8s,baz=335,slow=7.0,SNR=10					
VNDA	Vanda	70.55 179	P	P	02 34 09.2	+0.9
TLY	Talaya	73.51 329	P	P	02 34 26.4	-0.1
TLY			IAmb	IAmb	02 34 28.5	
	comp=Z,6.2nm,0.6s					
TAPN	Taplejung	74.14 301	eP	P	02 34 31.5	+0.5
	comp=Z,12nm,0.3s					
TAPN	Taplejung	74.14 301	eP	P	02 34 31.5	+0.5
	comp=Z,12nm,0.3s					
ODAN	Odare	74.28 300	eP	P	02 34 32.4	+0.6
	comp=Z,36nm,0.4s					
ODAN	Odare	74.28 300	eP	P	02 34 32.4	+0.6
	comp=Z,36nm,0.4s					
RAMN	Ramite	74.98 300	eP	P	02 34 36.3	+0.5
	comp=Z,12nm,0.4s					
RAMN	Ramite	74.98 300	eP	P	02 34 36.3	+0.5
	comp=Z,12nm,0.4s					
BILL	Bilibino	75.23 4	P	P	02 34 36.7	+0.6
BILL			IAmb	IAmb	02 34 38.5	
	comp=Z,19nm,1.1s					
JIRN	Jiri	75.53 301	eP	P	02 34 39.6	+0.5
	comp=Z,34nm,0.6s					
JIRN	Jiri	75.53 301	eP	P	02 34 39.6	+0.5
	comp=Z,34nm,0.6s					
GUN	Gumba	75.86 301	eP	P	02 34 41.6	+0.6
	comp=Z,40nm,0.6s					
GUN	Gumba	75.86 301	eP	P	02 34 41.6	+0.6
	comp=Z,40nm,0.6s					
PKI	Pulchoki	76.17 301	eP	P	02 34 43.0	+0.3
	comp=Z,16nm,0.5s					
PKI	Pulchoki	76.17 301	eP	P	02 34 43.0	+0.3
	comp=Z,16nm,0.5s					
PKIN	Phulchoki	76.18 301	eP	P	02 34 42.8	+0.1
	comp=Z,22nm,0.5s					
PKIN	Phulchoki	76.18 301	eP	P	02 34 42.8	+0.1
	comp=Z,22nm,0.5s					
KKN	Kakani	76.34 301	eP	P	02 34 43.8	+0.2
	comp=Z,27nm,0.5s					
KKN	Kakani	76.34 301	eP	P	02 34 43.8	+0.2
	comp=Z,27nm,0.5s					
DMN	Daman	76.44 300	eP	P	02 34 44.4	+0.2
	comp=Z,30nm,0.5s					
DMN	Daman	76.44 300	eP	P	02 34 44.4	+0.2
	comp=Z,30nm,0.5s					
GKN	Gorkha	76.94 301	eP	P	02 34 47.1	+0.2
	comp=Z,47nm,0.4s					
GKN	Gorkha	76.94 301	eP	P	02 34 47.1	+0.2
	comp=Z,47nm,0.4s					
KOLN	Koldanda	77.77 300	eP	P	02 34 51.6	0.0
	comp=Z,31nm,0.5s					
KOLN	Koldanda	77.77 300	eP	P	02 34 51.6	0.0
	comp=Z,31nm,0.5s					
PYUN	Piuthan	78.38 300	eP	P	02 34 54.2	-0.7
	comp=Z,32nm,0.6s					
PYUN	Piuthan	78.38 300	eP	P	02 34 54.2	-0.7
	comp=Z,32nm,0.6s					
WMQ	Urumqi	79.42 317	eP	P	02 35 02.2	+2.0
WMQ			pmax	pmax		
	comp=Z,11nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,44nm,5.3s					
WMQ			LR	LR		
	comp=Z,220nm,29.3s					
WMQ			LR	LR		
	comp=Z,520nm,29.2s					
WMQ			LR	LR		
	comp=Z,48nm,29.2s					
RDOG	Red Dog Mine	80.31 15	IAmb	IAmb	02 35 08.7	
	comp=Z,7.3nm,0.8s					
IMAR	Indian Mountai	81.47 19	P	P	02 35 10.7	+0.2
MCK	McKinley	81.75 22	P	P	02 35 11.4	-0.7
MCK			IAmb	IAmb	02 35 29.7	
	comp=Z,14nm,1.1s					
ZSN	Zaisan	82.51 320	eP	P	02 35 17.9	+1.4
	comp=Z,3.0nm,0.8s,baz=320					
ZSN			eS	S	02 45 32.2	+3.0
	baz=320					
CCB	Clear Creek Bu	82.67 21	P	P	02 35 15.3	-1.6
CCB			IAmb	IAmb	02 35 16.2	
	comp=Z,4.1nm,0.5s					
HDA	Harding Lake	82.86 22	IAmb	IAmb	02 35 24.7	
	comp=Z,4.1nm,0.6s					
QSPA	South Pole Qui	82.97 180	P	P	02 35 18.7	+0.1
ILAR	Eielson Array	83.07 21	P	P	02 35 19.3	+0.3
	comp=Z,1.7nm,0.5s,baz=241,slow=5.1,SNR=9.3					
ILAR			LR	LR	03 08 25.4	
	comp=Z,86nm,19.6s,baz=243,slow=33					
DOT	Dot Lake	83.54 23	P	P	02 35 21.5	+0.1
MK31	Makanchi Array	83.98 318	IAmb	IAmb	02 35 26.7	
	comp=Z,10nm,0.8s					
MKAR	Makanchi Array	83.98 318	P	P	02 35 24.6	+0.5
	comp=Z,11nm,0.5s,baz=102,slow=5.7,SNR=74					
MKAR	Makanchi Array	83.98 318	P	P	02 35 24.0	-0.1
MAKZ	Makanchi	84.19 318	P	P	02 35 25.3	+0.1
ZAA0	Zalesovo Array	84.67 326	IAmb	IAmb	02 35 29.1	
	comp=Z,5.1nm,0.6s					
ZALV	Zalesovo Beam	84.67 326	P	P	02 35 26.9	-0.4
	comp=Z,6.2nm,0.4s,baz=116,slow=5.7,SNR=22					
ZALV	Zalesovo Beam	84.67 326	P	P	02 35 26.4	-0.9
MAW	Mawson	84.71 203	P	P	02 35 28.0	+0.7
	comp=Z,8.7nm,0.7s,baz=95,slow=6.9,SNR=28					
MAW	Mawson	84.71 203	P	P	02 35 28.0	+0.7
SHLS	Shalkode	84.94 314	eP	P	02 35 28.0	-1.1
	comp=Z,1.1nm,0.5s,baz=314					
UZB	Uzynbulak	85.25 314	eP	P	02 35 30.8	0.0
	comp=Z,1.6nm,1.0s,baz=314					
SATY	Saty	85.67 314	eP	P	02 35 32.9	+0.1
	baz=314					
SEM	Semipalatinsk	86.29 322	eP	P	02 35 34.4	-1.4
	comp=Z,2.0nm,0.7s,baz=322					
MDOK	Medeo	86.66 314	eP	P	02 35 37.3	-0.4
	baz=314					
KSH	Kashi	86.67 310	P	P	02 35 40.4	+2.6
KSH			S	S	02 46 15.1	+3.9
KSH			pmax	pmax		
	comp=Z,19nm,0.7s					
KSH			pmax	pmax		
	comp=Z,120nm,6.2s					
KSH			LR	LR		
	comp=Z,110nm,5.3s					
KSH			LR	LR		
	comp=Z,120nm,5.1s					
KSH			LR	LR		
	comp=Z,160nm,12.3s					
AAA	Alma-Ata	86.76 314	eP	P	02 35 37.9	-0.2
	baz=314					
CHKK	Chushkaly	86.85 315	eP	P	02 35 37.9	-0.6
	baz=315					
KUU	Kurty	87.32 315	eP	P	02 35 40.7	0.0
	comp=Z,7.7nm,0.7s,baz=315					
KURK	Kurchatov	87.37 322	P	P	02 35 40.5	-0.2
KURK			IAmb	IAmb	02 35 40.6	
	comp=Z,5.5nm,0.5s					
EPYK	Eagle Plains	87.55 22	IAmb	IAmb	02 35 42.9	
	comp=Z,14nm,1.1s					
NIL	Nilore	87.73 304	P	P	02 35 42.1	-0.8
SGDS	Sogindy	88.44 314	eP	P	02 35 45.7	-0.4
	baz=314					
NRIK	Noril'sk	89.03 341	P	P	02 35 47.7	-0.5
	comp=Z,3.1nm,0.4s,baz=122,slow=3.4,SNR=5.9					
BTLS	Baital	89.16 315	eP	P	02 35 49.1	-0.2
	comp=Z,2.0nm,0.8s,baz=315					
BTK	Batken	90.68 310	P	P	02 35 56.6	-0.1
BTK			IAmb	IAmb	02 35 57.5	
	comp=Z,7.4nm,0.8s					
DZA	Taraz	90.72 313	eP	P	02 35 57.1	+0.3
	baz=313					
BRZS	Berezniki	90.94 320	eP	P	02 35 57.9	+0.3
	baz=320					
NVAR	Mina Array Bea	91.06 52	P	P	02 36 00.1	+1.4
	comp=Z,0.4nm,0.7s,baz=249,slow=6.6,SNR=4.4					
KBL	Kabul	91.31 304	P	P	02 35 59.0	-1.0
KKAR	Karatay Array	91.35 313	P	P	02 35 59.5	-0.2
IUG	Iuzhnay	91.57 312	eP	P	02 36 00.9	+0.1
	baz=312					
SYO	Syowa Base	92.59 199‖	eP	P	02 36 02.8	-2.0
SYO	Syowa Base	92.59 199⇑	i/PcP	P	02 36 03.4	-1.4
SYO	Syowa Base	92.59 199⇑	epP	pP	02 36 15.4	-4.9
BRVK	Borovoye	92.89 323	P	P	02 36 05.8	-0.7
BRVK			IAmb	IAmb	02 36 06.3	
	comp=Z,4.5nm,0.6s					
BELA	Belgrano 2	95.04 178	P	P	02 36 15.7	-0.3
YKA	Yellowknife Ar	95.95 28	P	P	02 36 20.6	+0.3
	comp=Z,0.9nm,0.8s,baz=280,slow=5.0,SNR=2.6					
YKA			LR	LR	03 15 50.2	
	comp=Z,41nm,19.8s,baz=0.0,slow=33					
HRA	Herat	96.89 304	P	P	02 36 23.8	-1.7
HRA			IAmb	IAmb	02 36 25.2	
	comp=Z,4.0nm,0.8s					
ABKAR	Akbulak array	99.13 319		Pdif	02 36 33.1	-1.8
SNAA	Sanae	100.23 187	PKiKP	PKiKP	02 41 06.7	+0.1
SNAA	Sanae	100.23 187	Pdiff	Pdif	02 36 39.2	-0.4
VNA3	Neumayer Olymp	101.32 185	PKiKP	PKiKP	02 41 08.3	-0.2
VNA3	Neumayer Olymp	101.32 185	Pdiff	Pdif	02 36 43.9	-0.5
VNA2	Neumayer--Watz	101.42 186	PKiKP	PKiKP	02 41 08.8	+0.1
VNA2	Neumayer--Watz	101.42 186	Pdiff	Pdif	02 36 45.0	+0.2
VNA1	Neumayer--Stat	101.77 185	PKiKP	PKiKP	02 41 09.3	0.0
ARCES	ARCESS Array B	109.85 343	PKiKP	PKiKP	02 41 23.8	-0.4
	comp=Z,3.1nm,0.7s,baz=70,slow=1.8,SNR=14					
ARCES			PKKPbc	PKKPbc	02 52 27.1	-3.1
	comp=Z,2.6nm,0.8s,baz=254,slow=2.6,SNR=4.5					
FINES	FINESS Array B	114.30 336	PKP	PKPdf	02 41 32.4	-0.4
	comp=Z,1.5nm,0.4s,baz=84,slow=2.8,SNR=21					
FINES			PKKPbc	PKKPbc	02 52 12.7	-2.5
	comp=Z,0.8nm,0.6s,baz=200,slow=3.9,SNR=6.2					
FINES			PKKPab	PKKPab	02 52 19.9	+0.6
	comp=Z,0.3nm,0.4s,baz=241,slow=4.6,SNR=3.4					
PLCA	Paso Flores	116.19 142	PKP	PKiKP	02 41 37.3	0.0
	comp=Z,0.8nm,0.5s,baz=204,slow=5.2,SNR=5.3					
PLCA			PKKPbc	PKKPbc	02 52 07.5	-0.7
	comp=Z,1.3nm,0.6s,baz=14,slow=4.2,SNR=1.7					
PLCA			PKKPab	PKKPab	02 52 11.6	-1.3
	comp=Z,1.3nm,0.6s,baz=49,slow=1.1,SNR=7.1					
AKASG	Malin Array Be	118.05 325	PKP	PKPdf	02 41 39.5	-0.8
	comp=Z,4.2nm,0.5s,baz=55,slow=2.3,SNR=20					
AKASG	Malin Array Be	118.05 325	PKPdf	PKPdf	02 41 39.9	-0.4
NB2	NORSAR Subarra	119.99 341	PKPdf	PKPdf	02 41 43.1	-0.8
	comp=Z,1.2nm,0.6s,baz=39,slow=1.8					
NOA	NORSAR Array B	119.99 341	PKP	PKPdf	02 41 43.3	-0.5
	comp=Z,1.8nm,0.7s,baz=43,slow=1.9,SNR=13					
NOA			PKKPbc	PKKPab	02 51 53.6	-0.8
	comp=Z,1.0nm,0.7s,baz=42,slow=3.6,SNR=8.0					
BOSA	Boshof	120.68 231	PKP	PKPdf	02 41 46.3	0.0
	comp=Z,5.9nm,0.7s,baz=170,slow=1.0,SNR=13					
KOLS	Kolonicke sedl	122.85 325	ePKP	PKPdf	02 41 49.6	-0.1
LANS	Liptovska Anna	124.29 327	ePKP	PKiKP	02 41 53.7	+0.9
MORC	Moravsky Berou	124.95 328	ePKP	PKiKP	02 41 54.3	+0.2
VYHS	Vyhne	125.00 326	ePKP	PKPdf	02 41 53.9	+0.1
OSTC	Ostas	125.16 330	ePKPDF	PKiKP	02 41 54.9	+0.5
KRLC	Kraliky	125.17 329	ePKPDF	PKiKP	02 41 54.8	+0.3
BSEG	Bad Segeberg	125.57 336	ePKPdf	PKiKP	02 41 55.4	+0.4
	baz=47,slow=2.0					
VRAC	Vranov	125.73 328	ePKP	PKPdf	02 41 55.0	-0.2
MODS	Modra-Piesok	125.92 327	ePKP	PKPdf	02 41 55.6	0.0
KRUC	Moravsky	125.98 328	ePKP	PKiKP	02 41 56.1	0.0
BRG	Berggiesshubel	126.07 331	i PKP	PKiKP	02 41 56.0	-0.2
	comp=Z,7.4nm,0.6s					
BRG	Berggiesshubel	126.07 331	ePKPdf	PKiKP	02 41 56.3	+0.1
	baz=47,slow=2.0					
CLL	Collm	126.23 332	i PKPdf	PKPdf	02 41 55.8	-0.2
	comp=Z,8.0nm,0.6s					
CLL	Collm	126.23 332	ePKPdf	PKiKP	02 41 56.4	-0.1
	baz=47,slow=2.0					
FBE	Freiberg	126.32 331	ePKPdf	PKiKP	02 41 57.0	+0.3
	baz=47,slow=2.0					
PRU	Pruhonice	126.35 330	ePKPDF	PKiKP	02 41 56.8	0.0
NRDL	Niedersach Rie	126.70 335	ePKPdf	PKiKP	02 41 57.8	+0.5
	baz=47,slow=2.0					
ASSE	Asse, Remlinge	126.71 334	ePKPdf	PKiKP	02 41 57.6	+0.2
	baz=47,slow=2.0					
CONA	Conrad Observa	126.95 327	i PKiKP	PKiKP	02 41 58.2	0.0
	comp=Z,2.2nm,0.5s					
CLZ	Clausthal	127.05 334	ePKPdf	PKiKP	02 41 58.6	+0.4
	baz=47,slow=2.0					
TANN	Tannenbergstha	127.08 331	ePKPdf	PKPdf	02 41 57.9	+0.1
	baz=47,slow=2.0					
PLN	Plauen	127.18 332	ePKPdf	PKiKP	02 41 58.5	0.0
	baz=47,slow=2.0					
WERN	Wernitzgruen	127.21 331	ePKPdf	PKiKP	02 41 58.7	+0.2
	baz=47,slow=2.0					
KHC	Kasperske Hory	127.38 330	ePKPDF	PKiKP	02 41 58.7	-0.2
GEC2	GERESS Array S	127.50 329	ePKPdf	PKiKP	02 41 59.1	-0.1
	baz=47,slow=2.0					
GERES	GERESS Array B	127.50 329	PKP	PKiKP	02 41 59.1	-0.1
	comp=Z,4.6nm,0.7s,baz=69,slow=1.9,SNR=40					
GERES	GERESS Array B	127.50 329		PKPdf	02 41 58.5	-0.2
MANZ	Manzenberg	127.54 331	ePKPdf	PKiKP	02 41 59.3	+0.1
	baz=47,slow=2.0					
MOA	Moln	127.84 328	ePKiKP	PKPdf	02 41 59.5	+0.2
	comp=Z,2.4nm,0.6s					
WATA	Walderalm	129.57 329	i PKPdf	PKPdf	02 42 02.3	-0.4
	comp=Z,2.9nm,0.5s					
WTTA	Wattenberg	129.59 329	i PKiKP	PKPdf	02 42 02.8	-0.1
	comp=Z,3.5nm,0.4s					
MOTA	Moosalm	129.80 329	ePKiKP	PKPdf	02 42 02.9	-0.3
	comp=Z,2.6nm,0.4s					
MEM	Membach	129.82 335	PKiKP	PKPdf	02 42 02.9	0.0
SQTA	Sankt Quirin	129.83 329	i PKiKP	PKPdf	02 42 03.5	+0.3
	comp=Z,2.6nm,0.4s					
RETA	Reutte	129.88 330	i PKiKP	PKPdf	02 42 03.4	+0.2
	comp=Z,1.7nm,0.4s					
UBR	Ueberruh	130.08 330	ePKPdf	PKiKP	02 42 04.1	-0.4
	baz=47,slow=2.0					
FETA	Feichten	130.21 329	i PKiKP	PKPdf	02 42 04.0	0.0
	comp=Z,1.6nm,0.5s					
DAVA	Damuels	130.46 330	i PKiKP	PKPdf	02 42 04.4	-0.1
	comp=Z,2.7nm,0.6s					
BMRD	Maredsous	130.56 336	PKiKP	PKiKP	02 42 04.8	-0.4
LPAZ	La Paz	130.70 118	PKP	PKiKP	02 42 07.3	+0.1
	comp=Z,0.8nm,0.6s,baz=347,slow=5.8,SNR=3.6					
DOU	Dourbes	130.79 336	PKiKP	PKiKP	02 42 05.8	+0.1
KEST	Kesra	138.08 318	PKP	PKiKP	02 42 20.9	-0.1
	comp=Z,1.1nm,0.5s,baz=45,slow=1.4,SNR=1.9					
ESDC	Sonseca Array	142.76 334	PKhKP	PKPpre	02 42 24.5	
	comp=Z,0.9nm,0.8s,baz=47,slow=2.0,SNR=6.8					
ESDC	Sonseca Array	142.76 334	PKPdf	PKPdf	02 42 25.7	-1.6
PVIS	Viseu	143.43 339	ePKP	PKPbc	02 42 26.5	+0.8
PCBR	Castelo Branco	144.05 338	ePKP	PKPdf	02 42 29.1	-0.4
PMRV	Marv??o	144.38 337	ePKP	PKPbc	02 42 29.2	+0.7
PSBE	So Bento	144.81 339	ePKP	PKPdf	02 42 30.6	-0.3
PMTG	Montargil	145.00 338	ePKP	PKPbc	02 42 29.5	-1.0
EVO	Evora	145.39 337	ePKP	PKPab	02 42 32.1	+0.1
PNCL	Nicolau / Gran	145.96 338	ePKP	PKPab	02 42 34.5	+0.4
PCVE	Castro Verde	146.19 337	ePKP	PKiKP	02 42 36.2	-1.3
PVAQ	Vaqueiros	146.26 336	ePKP	PKPdf	02 42 30.1	-3.3
BDFB	Brasilia	147.35 134	PKPbc	PKPbc	02 42 38.1	-0.2
	comp=Z,14nm,0.7s,baz=237,slow=3.5,SNR=13					
BDFB	Brasilia	147.35 134		PKPbc	02 42 38.3	-0.1
TAM	Tamanrasset	147.42 302		PKPbc	02 42 38.9	+0.5
TOA0	Torodi Ar. Sit	153.86 286		PKPbc	02 42 51.5	-2.3
TORD	Torodi Ar. Bea	153.86 286	PKP	PKPdf	02 42 45.3	-0.6
	comp=Z,1.3nm,0.8s,baz=26,slow=2.3,SNR=6.9					
TORD			PKPbc	PKPbc	02 42 52.9	-0.9
	comp=Z,4.2nm,0.5s,baz=48,slow=2.2,SNR=20					
TORD			PP	PP	02 46 39.2	-2.6
	comp=Z,0.6nm,0.8s,baz=66,slow=5.2,SNR=3.8					
KIC	Kosan Boka	160.72 269	ePKP2	PKPab	02 43 36.8	0.0
	comp=Z,36nm,0.8s					
DBIC	Dimbokro	160.85 270	PKP	PKPdf	02 42 55.0	+0.3
	comp=Z,4.3nm,1.0s,baz=52,slow=7.2,SNR=3.5					
DBIC			PKPab	PKPab	02 43 37.5	+0.2
	comp=Z,8.1nm,0.5s,baz=90,slow=4.4,SNR=21					
LIC	Lamto	161.00 269	ePKP2	PKPab	02 43 37.9	-0.1
	comp=Z,35nm,0.9s					
TIC	Toumodi	161.01 270	ePKP2	PKPab	02 43 37.9	-0.1

*PGC **12** 02:36:39.4±0.3,49°.49N×130°.03W,h10km,MLSn2.7/36, Mw3.4/36,230km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **12** 02:36:42.6±2.3,49°.63N×129°.53W,h0km,mb3.8/1, mb1 3.9/8,mb1mx3.5/38,mbtmp3.6/8,ML3.5/7,MS3.3/3, Ms1 3.3/3,ms1mx2.7/58,Error ellipse: s-maj=35.3km s-min=12.4km az=75.0*

ISC 12 02:36:41.4±2.7,49°.62N±0°.05×129°.72W±0°.06,h1km±17km, n70,σ1°83/81,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.37	66		Pn	Pn	02 37 05.6	-2.1
BPBC					Sn	Sg

VIB	Van Inlet	4.04	335	Pn	Pn	02 37 41.4	-3.1
GOBB	Galiano Island	4.12	97	Pn	Pn	02 37 44.9	-0.5
BIB	Bowen Island	4.18	90	Pn	Pn	02 37 45.9	-0.3
B009	North Saanich	4.23	101	Pn	Pn	02 37 46.8	-0.1
B010	North Saanich	4.23	101	Pn	Pn	02 37 46.5	-0.4
PGC	Sidney	4.23	101	Pn	Pn	02 37 46.2	-0.7
PA12	PA12 Sannich	4.23	101	Pn	Pn	02 37 47.0	+0.1
B011	North Saanich	4.23	101	Pn	Pn	02 37 47.0	0.0
B011				Sn	Sn	02 38 33.4	-3.5
WPB	Watts Point	4.23	87	Pn	Pn	02 37 47.4	+0.5
SNB	Saturna Island	4.37	99	Sn	Sn	02 38 39.2	-1.4
WSLR	Whistler	4.42	81	Pn	Pn	02 37 50.3	+0.6
KITB	Kitimat	4.52	8	Pn	Pn	02 37 50.1	-0.8
HNBB	Haney	4.67	91	Pn	Pn	02 37 52.7	-0.3
HNBB				Sn	Sn	02 38 47.3	-0.6
VDB	Vedder Mountai	5.01	94	Pn	Pn	02 37 57.5	-0.3
LLLB	Lillooet	5.14	76	Pn	Pn	02 37 59.5	0.0
MBW	Mount Baker	5.19	96	Pn	Pn	02 38 00.1	-0.3
JCW	Jim Creek	5.33	103	Pn	Pn	02 38 01.5	-0.6
HOPB	Hope	5.41	89	Pn	Pn	02 38 03.6	+0.4
RPW	Rockport	5.52	99	Pn	Pn	02 38 04.2	-0.6
FSB	Fort Saint Jam	5.89	32	Pn	Pn	02 38 10.1	+0.3
FMW	Mount Fremont	6.00	114	Pn	Pn	02 38 10.1	-1.5
LTY	Liberty	6.46	108	Pn	Pn	02 38 17.3	-0.5
PNT	Penticton	6.59	89	Pn	Pn	02 38 19.5	+0.1
NEW	Newport	8.40	94	Pn	Pn	02 38 44.5	+0.1
	0.8nm,0.3s,baz=272,slow=12,SNR=7.9						
DLBC	Dease Lake	8.84	359	LR	LR	02 41 33.1	
	comp=Z,145nm,18.2s,baz=210,slow=33						
NBC5	NorthernBC 5	8.95	25	Pn	Pn	02 38 53.0	+1.1
YBH	Yreka Blue Hor	9.28	146	Pn	Pn	02 38 57.9	+1.5
	0.1nm,0.3s,baz=348,slow=14,SNR=5.6						
NVAR	Mina Array Bea	13.86	140	Pn	Pn	02 40 00.5	+1.4
	0.0nm,0.3s,baz=325,slow=11,SNR=3.2						
YKA	Yellowknife Ar	15.36	27	Pn	Pn	02 40 17.1	-1.9
	0.1nm,0.3s,baz=222,slow=11,SNR=4.3						
PDAR	Pinedale Array	15.52	109	Pn	Pn	02 40 23.6	+2.0
	0.1nm,0.3s,baz=306,slow=10,SNR=12						
ILAR	Eielson Array	17.71	335	P	P	02 40 52.2	+2.3
	0.0nm,0.3s,baz=153,slow=10,SNR=5.1						
ULM	Lac du Bonnet	21.69	75	P	P	02 41 37.5	+4.1
	2.7nm,0.5s,baz=271,slow=8.8,SNR=3.1						
ULM				LR	LR	02 50 10.5	
	comp=Z,68nm,20.5s,baz=145,slow=38						
TXAR	Lajitas Array	28.30	126	P	P	02 42 37.8	+1.2
	0.6nm,0.6s,baz=339,slow=4.8,SNR=2.4						
RES	Resolute Bay	29.05	18	LR	LR	02 54 50.6	
	comp=Z,87nm,18.0s,baz=111,slow=38						
H11N2	WAKE ISLAND Hy	58.04	263	T	T	03 49 10.3	
	baz=43,slow=76,SNR=43						
H11N3	WAKE ISLAND Hy	58.04	263	T	T	03 49 05.4	
	baz=43,slow=76,SNR=34						
H11N1	WAKE ISLAND Hy	58.05	263	T	T	03 49 03.9	
	baz=43,slow=76,SNR=32						

*IDC **12** 02:52:45.5±0.6,20°.66S×175°.26W,h0km,mb4.2/15, mb1 4.4/16,mb1mx4.3/27,mbtmp4.2/16,ML4.6/1,MS3.6/2, Ms1 3.6/2,ms1mx3.0/36,Error ellipse: s-maj=21.6km s-min=15.9km az=134.0*

*NEIC **12** 02:52:46.8±1.8,20°.70S±0°.06×175°.13W±0°.09,h10km±1km, mb4.5/25,Error ellipse: s-maj=13.6km s-min=9.6km az=85.0*

ISC 12 02:52:46.3±0.4,20°.84S±0°.06×175°.12W±0°.07,h10km,n91, σ1972/82,mb4.3/21,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.19	71		Pn	02 54 02.6	-1.4
MSVF	Nonsavu	7.15	294		Pb	02 54 44.3	-6.4
AFI	Afiamalu	7.59	25	Pn	Pn	02 54 37.5	+0.3
	9.4nm,0.3s,baz=206,slow=6.5,SNR=8.0						
AFI				Sn	Sn	02 55 48.3	-15
	0.8nm,0.3s,baz=285,slow=21,SNR=1.3						
AFI	Afiamalu	7.59	25		Pn	02 54 35.5	-1.6
RAO	Raoul Island	8.75	196	Sn	Sn	02 56 25.3	-6.5
	baz=79,slow=22,SNR=1.3						
RAO	Raoul Island	8.75	196	Pn	Pn	02 54 54.4	+1.4
RAR	Rarotonga	14.34	94	Pn	Pn	02 56 06.3	-3.2
	4.3nm,0.3s,baz=254,slow=8.9,SNR=7.0						
RAR				Sn	Sn	02 58 30.8	-18
	4.4nm,0.3s,baz=6.1,slow=20,SNR=4.3						
DZM	Mont Dzumac	17.21	263	P	P	02 56 51.7	+3.1
	0.6nm,0.3s,baz=25,slow=2.5,SNR=3.1						
DZM				LR	LR	03 02 29.0	
	comp=Z,210nm,19.1s,baz=161,slow=34						
DZM	Mont Dzumac	17.21	263	Pn	Pn	02 56 46.8	-0.3
OUZ	Omahuta	17.43	212	Pn	Pn	02 56 49.2	-0.4
RUGZ	Raukumara Rang	18.17	199	P	P	02 57 00.3	+1.2
MWZ	Matawai	18.56	198	P	Pn	02 57 04.3	+0.8
URZ	Urewera	18.62	199	P	P	02 57 03.5	-0.4
	3.8nm,0.3s,baz=328,slow=1.8,SNR=16						
URZ				S	Sn	03 00 12.0	-20
	0.6nm,0.3s,baz=164,slow=23,SNR=1.2						
URZ	Urewera	18.62	199	P	P	02 57 03.2	-0.7
URZ	Urewera	18.62	199	P	Pn	02 57 06.3	+2.1
	comp=Z,31nm,1.1s						
UTU	Utuhina	18.84	202	P	P	02 56 57.2	-9.2
SNGZ	Shannon Statio	19.03	198	P	Pn	02 57 12.1	+2.9
MTHZ	Maungataniwha	19.25	199	P	P	02 57 09.6	-1.2
NMHZ	Naumai	19.48	199	P	Pn	02 57 17.4	+2.7
HIZ	Hauiti	19.63	204	P	Pn	02 57 19.1	+2.8
OTVZ	Oturere	19.91	201	P	P	02 57 17.5	-0.8
FWVZ	Far West T-bar	20.03	202	P	P	02 57 19.3	-0.3
BHHZ	Black Hill Sta	20.07	200	P	P	02 57 19.2	-0.7
WNVZ	Wahianoa	20.08	201	P	P	02 57 19.5	-0.6
OXZ	Oxford	24.86	203	P	P	02 58 08.5	-0.6
RPZ	Rata Peaks	25.56	204	P	P	02 58 17.0	+1.6
	comp=Z,7.4nm,0.7s,baz=45,slow=8.6,SNR=1.7						
HNR	Honiara	26.56	292	LR	LR	03 07 18.4	
	comp=Z,105nm,21.5s,baz=61,slow=33						
CTA	Charters Tower	36.14	264	P	P	02 59 49.6	+0.6
	comp=Z,3.3nm,0.5s,baz=93,slow=12,SNR=6.9						
CTAO	Charters Tower	36.14	264	P	P	02 59 50.2	+1.2
CTAO				IAmb	IAmb	03 00 01.2	
	comp=Z,15nm,1.6s						
PMG	Port Moresby	38.05	282	P	P	03 00 04.9	-0.3
	comp=Z,20nm,0.7s,baz=70,slow=6.3,SNR=6.7						
PMG	Port Moresby	38.05	282	P	P	03 00 06.5	+1.3
STKA	Stephens Creek	40.08	245	P	P	03 00 22.9	+0.8
	comp=Z,1.5nm,0.5s,baz=104,slow=9.2,SNR=4.8						
COEN	Coen	40.29	273	P	P	03 00 24.5	+0.5
COEN				IAmb	IAmb	03 00 27.2	
	comp=Z,7.8nm,0.7s						
WR0	Warramunga Arr	47.03	262	P	P	03 01 15.8	-2.5
AS31	Alice Springs	47.06	257	P	P	03 01 16.9	-1.6
ASAR	Alice Springs	47.06	257	P	P	03 01 18.2	-0.3
	comp=Z,2.1nm,0.8s,baz=91,slow=8.2,SNR=20						
ASAR				ScP	ScP	03 06 47.9	+3.1
	comp=Z,0.7nm,0.9s,baz=98,slow=5.7,SNR=2.9						
ASAR				S	S	03 08 02.5	-8.3
	comp=Z,0.2nm,0.6s,baz=97,slow=16,SNR=5.5						
WRA	Warramunga Arr	47.22	262	P	P	03 01 18.9	-0.9
	comp=Z,0.8nm,0.4s,baz=99,slow=9.3,SNR=5.1						
VNDA	Vanda	57.83	186	P	P	03 02 39.7	+2.1
	comp=Z,2.2nm,0.8s,baz=354,slow=5.9,SNR=11						
VNDA	Vanda	57.83	186	P	P	03 02 39.2	+1.6
VNDA				IAmb	IAmb	03 02 40.6	
	comp=Z,3.6nm,0.9s						
QSPA	South Pole Qui	69.24	180	P	P	03 03 54.5	+1.2
MJAR	Matsushiro Arr	72.10	322	P	P	03 04 10.8	-0.2
	comp=Z,2.8nm,0.7s,baz=157,slow=5.2,SNR=6.0						
MJAR	Matsushiro Arr	72.10	322	IAmb	IAmb	03 04 11.4	
	comp=Z,1.7nm,0.5s						
JHS	Saijyo	74.13	318	P	P	03 04 23.5	+0.4
PETK	Petropavlovsk-	77.32	344	P	P	03 04 39.8	-1.1
	comp=Z,2.0nm,0.8s,baz=116,slow=10,SNR=5.1						
ISA	Isabella, Lake	77.67	44	P	P	03 04 43.6	+0.3
ISA				IAmb	IAmb	03 05 14.4	
	comp=Z,6.0nm,1.4s						
NVAR	Mina Array Bea	79.44	42	P	P	03 04 54.9	+1.6
	comp=Z,1.7nm,0.8s,baz=222,slow=7.7,SNR=12						
NVAR	Mina Array Bea	79.44	42	P	P	03 04 55.0	+1.7
NV11	Mina Array Sit	79.54	42	P	P	03 04 53.1	-0.6
NV11				IAmb	IAmb	03 04 58.4	
	comp=Z,3.1nm,1.1s						
MAW	Mawson	82.15	199	P	P	03 05 08.3	+1.3
	comp=Z,1.0nm,0.5s,baz=152,slow=6.1,SNR=6.2						
MDJ	Mudanjiang	82.36	324	P	P	03 05 08.6	+0.2
H03S2	Juan Fernandez	83.57	124	T	T	04 37 34.2	
	baz=248,slow=75,SNR=308						
H03S1	Juan Fernandez	83.58	124	T	T	04 37 37.1	
	baz=248,slow=75,SNR=322						
H03S3	Juan Fernandez	83.59	124	T	T	04 37 35.8	
	baz=248,slow=75,SNR=313						
H03N2	Juan Fernandez	83.71	123	T	T	04 37 36.4	
	baz=249,slow=71,SNR=198						
H03N3	Juan Fernandez	83.71	123	T	T	04 37 29.9	
	baz=249,slow=71,SNR=120						
H03N1	Juan Fernandez	83.72	123	T	T	04 37 32.9	
	baz=249,slow=71,SNR=119						
HLID	Hailey	84.84	40		P	03 05 21.4	0.0
HLID				IAmb	IAmb	03 05 47.0	
	comp=Z,3.8nm,1.1s						
TXAR	Lajitas Array	84.98	56	P	P	03 05 24.0	+1.6
	comp=Z,2.8nm,1.1s,baz=226,slow=5.0,SNR=4.1						
ANMO	Albuquerque	85.53	50	P	P	03 05 25.4	+0.4
ANMO				IAmb	IAmb	03 05 48.4	
	comp=Z,3.4nm,1.3s						
PLCA	Paso Flores	87.08	133	P	P	03 05 33.6	+1.0
	comp=Z,1.3nm,0.8s,baz=184,slow=7.7,SNR=3.6						
PD31	Pinedale Array	87.38	42	P	P	03 05 34.2	+0.2
PD31				IAmb	IAmb	03 05 40.5	
	comp=Z,8.7nm,1.8s						
PDAR	Pinedale Array	87.38	42	P	P	03 05 34.7	+0.7
	comp=Z,0.4nm,0.8s,baz=198,slow=5.4,SNR=2.5						
SNAA	Sanae	87.58	178	P	P	03 05 34.1	-0.3
SNAA	Sanae	87.58	178	P	P	03 05 34.1	-0.3
SNAA				IAmb	IAmb	03 08 52.6	
	comp=Z,10nm,1.7s						
VNA3	Neumayer Olymp	87.61	175	P	P	03 05 34.6	+0.2
ILAR	Eielson Array	88.07	12	P	P	03 05 36.2	-0.2
	comp=Z,0.3nm,0.6s,baz=218,slow=5.4,SNR=7.1						
VNA2	Neumayer--Watz	88.08	176	P	P	03 05 37.1	+0.4
VNA1	Neumayer--Stat	88.29	176	P	P	03 05 37.6	-0.1
ENH	Enshi	88.47	303	P	P	03 05 39.1	-0.1
MKAR	Makanchi Array	113.39	313	PKiKP	PKiKP	03 11 23.5	-1.0
	comp=Z,0.3nm,0.4s,baz=160,slow=2.0,SNR=6.1						
ARCES	ARCESS Array B	129.71	351	PKP	PKPdf	03 11 55.2	+0.1
	comp=Z,5.2nm,0.9s,baz=358,slow=3.6,SNR=4.1						
FINES	FINESS Array B	136.82	345	PKP	PKPdf	03 12 07.7	-0.9
	comp=Z,1.0nm,0.8s,baz=304,slow=3.7,SNR=3.9						
NOA	NORSAR Array B	139.59	355	PKiKP	PKPpre	03 12 10.9	
	comp=Z,0.5nm,0.8s,baz=335,slow=5.9,SNR=2.8						
AKASG	Malin Array Be	144.57	333	PKP	PKPab	03 12 20.6	-0.8
	comp=Z,0.2nm,0.3s,baz=43,slow=4.7,SNR=8.1						
AKASG	Malin Array Be	144.57	333		PKPab	03 12 21.1	-0.4
MARD	Mardin	144.84	306	PKPdf	PKPab	03 12 22.7	-0.3
EKA	Eskdalemuir Ar	145.03	8	PKP	PKPab	03 12 21.4	-1.6
	comp=Z,1.3nm,0.6s,baz=111,slow=6.0,SNR=7.8						
MBAR	Mbarara	146.93	233	PKPbc	PKPab	03 12 31.3	-0.3
BUR08	Bucovina Ar. S	148.61	333	PKPbc	PKPbc	03 12 34.4	+0.7
BURAR	Bucovina Array	148.63	333	PKPbc	PKiKP	03 12 35.2	-0.1
CMLA	Cha da Macela	148.76	51	PKPbc	PKPbc	03 12 34.5	+0.1
CLL	Collm	148.93	350	*e*PKPbc	PKiKP	03 12 35.0	-0.6
CLL				*i*		03 12 53.8	
BRTR	Keskin Array B	149.04	314	PKPbc	PKiKP	03 12 36.3	-0.1
	comp=Z,1.0nm,0.4s,baz=116,slow=5.6,SNR=2.6						
DPC	Dobruska-Polom	149.19	346	*e*PKP	PKPbc	03 12 35.6	+0.6
KRLC	Kraliky	149.33	345	*e*PKP	PKiKP	03 12 36.0	-0.6
PRU	Pruhonice	149.92	348	*e*PKP	PKiKP	03 12 37.4	-0.3
MMAI	Mount Meron Ar	150.31	300	PKPbc	PKiKP	03 12 39.3	+0.1
	comp=Z,2.2nm,0.7s,baz=46,slow=6.2,SNR=3.2						
KHC	Kasperske Hory	150.92	348	*e*PKP	PKiKP	03 12 39.6	-0.3
KHC				*ex*	x	03 12 59.3	
GERES	GERESS Array B	151.17	348	PKPbc	PKPbc	03 12 39.7	-0.2
	comp=Z,1.2nm,0.7s,baz=8.5,slow=2.7,SNR=12						
GERES	GERESS Array B	151.17	348		PKPbc	03 12 40.1	+0.1
TORD	Torodi Ar. Bea	171.77	158	PKPab	PKPab	03 14 20.3	+2.5
	comp=Z,0.7nm,0.7s,baz=206,slow=2.8,SNR=5.0						

WEL 12 02:55:11.3,44°.3±2°.×17°.3E±°,h14km±3km,M2.4/7,ML2.5/7, MLv2.4/7,Error ellipse: s-maj=0.0km s-min=0.0km az=166.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.21	198	P	Pb	02 55 17.7	+0.7
MQZ				S	Sb	02 55 21.7	+1.0
OKCZ	Okains Bay	0.32	134	P	Pb	02 55 19.0	+0.2
AMCZ	Amberley	0.34	348	P	Pb	02 55 19.3	+0.3
AKCZ	Akaroa Harbour	0.39	162	P	Pb	02 55 20.7	+0.7
AKCZ				S	Sb	02 55 26.6	+0.8
OXZ	Oxford	0.55	289	P	Pn	02 55 23.8	-0.8
OXZ				S	Sn	02 55 32.7	-0.8
GVZ	Greta Valley S	0.58	22	P	Pb	02 55 23.2	0.0
GVZ				S	Sg	02 55 30.4	+0.1
WACZ	Wakanui South	0.79	236	P	Pn	02 55 29.7	+1.7
WACZ				S	Sn	02 55 41.5	+1.9
LTZ	Lake Taylor	0.80	334	P	Pn	02 55 28.0	-0.2
LTZ				S	Sn	02 55 38.9	-1.0
ARCZ	Arundel	1.22	248	P	Pg	02 55 36.7	+1.8
KHZ	Kahutara	1.23	28	P	Pn	02 55 33.7	-0.3
THZ	Tophouse	1.75	4	P	Pn	02 55 41.1	0.0
ODZ	Otahua Downs	2.16	224	P	Pg	02 55 54.5	+1.9
TIWZ	Tintock	3.59	42	P	Pn	02 56 07.7	+1.2

DJA 12 03:13:39.6±0.6,1°.S±4°.×10°.0E±°,h25km±7km,M4.1/12, mb4.3/1,MLv3.9/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.54	34	P	Pn	03 13 51.7	0.0
PDSI				S	Sn	03 14 00.7	+0.7
SISI	Saibi	1.07	272	P	Pn	03 13 59.1	+0.1
SISI				S	Sn	03 14 14.3	+1.2
SDSI	Sungai Dareh	1.34	71	P	Pn	03 14 02.5	-0.2
PPSI	Pulau Pagai	1.40	186	P	Pn	03 14 03.7	+0.1
KRJI	Kerinci	1.49	119	P	Pn	03 14 04.0	-0.9
KRJI				S	Sb	03 14 26.9	+1.7
BKNI	Bangkinang	1.89	28	P	Pn	03 14 10.6	+0.3
PBSI	Pulau Batu	2.28	305	P	Pn	03 14 15.8	+0.1
GSI	Gunungsitoli	3.70	316	P	Pn	03 14 34.2	-1.0
MNAI	Manna	4.08	137	P	Pn	03 14 40.0	-0.5
DSRI	Dabo	4.50	79	P	Pn	03 14 45.3	-1.0
MDSI	Maura Dua	5.07	128	P	Pn	03 14 54.0	-0.1

*IDC **12** 03:19:28.7±0.5,62°.60S×59°.83W,h0km,mb4.6/14, mb1 4.7/16,mb1mx4.6/24,mbtmp4.6/16,ML4.7/2,MS4.3/14, Ms1 4.3/14,ms1mx4.2/19,Error ellipse: s-maj=20.5km s-min=12.5km az=87.0*

*NEIC **12** 03:19:30.5±2.1,62°.70S±0°.05×59°.9W±0°.1,h10km±1km, mb4.9/57,Error ellipse: s-maj=12.0km s-min=5.7km az=125.0*

*BJI **12** 03:19:33.0±0.0,62°.70S×60°.00W,h10km,mB5.4/13, Ms5.2/7,Ms7 4.9/5*

*GCMT **12** 03:19:35.5±0.2,62°.67S±0°.01×59°.82W±0°.03,h12km, MW5.1/123,Moment Tensor Solution. s64,c82; s123,c185; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.84±.12; $M_{\theta\theta}$3.97±.09; $M_{\phi\phi}$-3.13±.13; $M_{r\theta}$-0.47±.26; $M_{\theta\phi}$3.58±.10; $M_{\phi r}$3.99±.34; Best double couple: M_o6.38000×10^16^ NP1:ϕ_s107.00000°,δ58.00000°, λ-16.00000°. NP2:ϕ_s205.00000°,δ77.00000°, λ-147.00000°. Principal axes: T 5.6990, Plg12.0000°, Azm333.0000°; N 1.3580, Plg55.0000°, Azm225.0000°; P -7.0620, Plg32.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 03:19:30.6±0.3,62°.69S±0°.05×60°.02W±0°.07,h10km,n196, σ1921/189,mb4.9/33,MS4.6/23,1D,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	2.75	219	Pn	Pn	03 20 14.6	-0.1
	143nm,0.3s,baz=44,slow=11,SNR=138						
PMSA				Sn	Sb	03 20 54.6	+1.1
	224nm,0.3s,baz=302,slow=22,SNR=13						
MG01	Puerto William	8.72	330	Pn	Pn	03 21 37.2	+0.7
USHA	Ushuaia	9.00	327	Pn	Pn	03 21 39.4	-1.1
	5.4nm,0.3s,baz=84,slow=2.0,SNR=2.6						
USHA				Sn	Sn	03 23 23.1	+1.3
	1.7nm,0.3s,baz=198,slow=10,SNR=1.7						
EFI	East Falkland	11.10	6	Pn	Pn	03 22 11.0	+1.9
HOPE	Hope Point	14.83	66	Pn	Pn	03 23 00.8	+0.8
BELA	Belgrano 2	17.19	162	Pn	Pn	03 23 28.8	-1.6
VNA3	Neumayer Olymp	20.81	135	P	P	03 24 11.9	+0.2
VNA1	Neumayer--Stat	21.30	134	P	P	03 24 18.2	+1.4
VNA2	Neumayer--Watz	21.57	135	P	P	03 24 20.6	+0.9
LL01	San Ignacio de	21.62	334	P	P	03 24 20.9	+0.4
LL01				IAmb	IAmb	03 24 24.1	
	comp=Z,48nm,1.1s						
PLCA	Paso Flores	22.88	339	P	P	03 24 33.3	-0.7
	comp=Z,21nm,0.8s,baz=165,slow=9.0,SNR=42						
PLCA				LR	LR	03 32 54.6	
	comp=Z,456nm,18.8s,baz=154,slow=35						
PLCA	Paso Flores	22.88	339	P	P	03 24 35.0	+1.0
PLCA				IAmb	IAmb	03 24 37.1	
	comp=Z,25nm,0.9s						
PLCA	Paso Flores	22.88	339	*e*P	P	03 24 34.2	+0.2
SNAA	Sanae	22.96	137	P	P	03 24 35.0	+0.3
SNAA	Sanae	22.96	137	P	P	03 24 34.9	+0.3
	comp=Z,59nm,0.9s,baz=267,slow=8.1,SNR=109						
SNAA				S	S	03 28 44.3	-0.2
	comp=Z,2.7nm,0.9s,baz=297,slow=16,SNR=1.4						
SNAA				LR	LR	03 32 46.6	
	comp=Z,897nm,18.2s,baz=267,slow=35						
SNAA	Sanae	22.96	137	P	P	03 24 33.7	-1.0
SNAA				IAmb	IAmb	03 24 51.1	
	comp=Z,84nm,1.1s						
LC01	Cunco	24.89	338	P	P	03 24 53.6	+0.4
LC01				IAmb	IAmb	03 24 55.0	
	comp=Z,33nm,0.8s						
BI02	San Fabin de	26.97	340	P	P	03 25 13.1	+0.9
BI02				IAmb	IAmb	03 25 15.9	
	comp=Z,44nm,0.9s						
QSPA	South Pole Qui	27.53	180	P	P	03 25 18.2	+1.0
	comp=Z,40nm,0.9s,baz=159,slow=3.7,SNR=93						
QSPA				LR	LR	03 35 53.2	
	comp=Z,587nm,21.1s,baz=162,slow=36						
QSPA	South Pole Qui	27.53	180	P	P	03 25 17.3	+0.1
GO05	Huala	28.69	339	P	P	03 25 28.6	+1.1
BO02	Sierra Bellavi	28.73	341	P	P	03 25 29.2	+1.3
MT05	Renca	30.10	342	P	P	03 25 41.4	+1.4
AAGR	Agrelo	30.15	345	*e*P	P	03 25 41.8	+1.3
MT02	Curacav	30.29	341	P	P	03 25 43.1	+1.5
PEL	Peldehue	30.33	342	P	P	03 25 44.4	+2.3
ROC1	El Roble	30.55	342	P	P	03 25 46.1	+1.9
ASAL	Salagasta	30.64	345	*e*P	P	03 25 45.0	+0.2
VA03	San Esteban	30.69	342	P	P	03 25 46.3	+1.0
AUSP	Uspallata	31.07	344	*e*P	P	03 25 49.8	+0.9
RTCV	Cerro Valdivia	31.32	346	*e*P	P	03 25 50.8	0.0
RTLS	Leoncito	31.48	345	*e*P	P	03 25 53.5	+1.0
TCA	Tanti	31.50	352	*e*P	P	03 25 52.2	-0.3
ZON	Zonda	31.65	346	P	P	03 25 54.6	+0.9
ZON				IAmb	IAmb	03 25 55.1	
	comp=Z,12nm,0.6s						
CO02	Combarbal	32.28	342	P	P	03 26 00.4	+1.0
APLL	PUNTA DE LOS L	32.58	350	*e*P	P	03 26 02.8	+0.9
CO03	El Pedregal	32.60	343	P	P	03 26 03.1	+1.0
ACCO	Cerro Coronel	32.64	345	*e*P	P	03 26 04.2	+1.4
ACDV	Cuesta del Vie	33.06	345	*e*P	P	03 26 07.4	+1.2
AROD	Rodeo	33.11	345	*i*P	P	03 26 07.5	+0.7
GO04	Tololo Observa	33.27	343	P	P	03 26 08.8	+0.7
CO01	Juntas del Tor	33.37	344	P	P	03 26 10.5	+1.5
ACLC	CERRO LA CRUZ	33.58	349	*e*P	P	03 26 11.3	+0.5
AGUA	GUANDACOL	33.67	347	*e*P	P	03 26 12.6	+1.1
CNLB	Canela	33.92	14	*e*P	P	03 26 14.1	+0.6
LCO	Las Campanas	34.40	343	P	P	03 26 18.4	+0.4
CYA	Choya	34.46	351	*e*P	P	03 26 18.5	+0.3
AC05	El Transito	34.52	344	P	P	03 26 19.6	+0.7
AC04	Llanos de Chal	35.24	343	P	P	03 26 25.4	+0.4
GO03	Copiap	35.74	344	IAmb	IAmb	03 26 30.8	
	comp=Z,15nm,0.8s						
ITAB	Concordia	35.84	12	*e*P	P	03 26 30.7	+0.6
AC02	Maricunga	36.36	346	IAmb	IAmb	03 26 37.2	
	comp=Z,17nm,0.7s						
CPUP	Villa Florida	36.40	4	P	P	03 26 34.0	-0.9
	comp=Z,3.2nm,0.7s,baz=166,slow=7.7,SNR=9.6						
CPUP				LR	LR	03 41 14.0	
	comp=Z,394nm,20.7s,baz=178,slow=36						
CPUP	Villa Florida	36.40	4	P	P	03 26 34.8	-0.1
SYO	Syowa Base	36.88	144	∥*e*P	P	03 26 37.9	-0.6
AC01	Pan de Azucar	37.21	344	IAmb	IAmb	03 26 43.7	
	comp=Z,26nm,0.8s						
VNDA	Vanda	37.69	194	P	P	03 26 46.7	+1.3
	comp=Z,1.1nm,0.8s,baz=162,slow=12,SNR=2.4						
VNDA	Vanda	37.69	194	P	P	03 26 46.1	+0.7
GO02	Mina Guanaco	38.06	346	IAmb	IAmb	03 26 55.8	
	comp=Z,15nm,0.8s						
PET01	Itanhaem-SP	39.34	19	*e*P

comp=Z,539nm,30.0s
PPT2 Papeete2 74.34 262 *e*LR LR 03 53 50.5
comp=Z,775nm,30.8s
PPT Papeete 74.36 262 LR LR 03 56 33.8
comp=Z,317nm,18.1s,baz=116,slow=30
LSZ Lusaka 75.75 96 P **P** **03 31 16.5 +0.1**
LSZ IAmb IAmb 03 31 17.6
comp=Z,8.9nm,0.8s
TAOE Nuku Hiva Isla 77.65 275 *e*LR LR 03 55 32.2
comp=Z,256nm,35.8s
MATN Matagalpa 78.04 334 P **P** **03 31 28.8 -0.4**
MATN IAmb IAmb 03 31 29.7
comp=Z,12nm,0.8s
DBIC Dimbokro 80.83 56 P **P** **03 31 43.6 -0.8**
comp=Z,9.7nm,1.3s,baz=151,slow=22,SNR=2.9
DBIC LR LR 04 02 09.4
comp=Z,61nm,18.9s,baz=184,slow=32
DBIC Dimbokro 80.83 56 IAmb IAmb 03 31 52.1
comp=Z,8.8nm,1.1s
ABPO Ambohimpanom 80.91 114 P **P** **03 31 43.2 -1.8**
CCIG Comitan 82.65 329 P **P** **03 31 54.0 0.0**
CCIG IAmb IAmb 03 31 58.9
comp=Z,7.7nm,0.8s
BBOO Buckleboo 83.96 194 P **P** **03 31 59.7 -0.9**
STKA Stephens Creek 84.17 198 P **P** **03 32 01.4 -0.3**
comp=Z,6.1nm,0.7s,baz=145,slow=6.7,SNR=13
STKA Stephens Creek 84.17 198 P **P** **03 32 01.4 -0.3**
FORT Forrest 86.63 187 P **P** **03 32 14.2 +0.2**
DZM Mont Dzumac 87.89 222 *e*LR LR 04 00 13.1
comp=Z,348nm,31.8s
TOA0 Torodi Ar. Sit 89.29 59 P **P** **03 32 26.1 -0.6**
TORD Torodi Ar. Bea 89.29 59 P **P** **03 32 25.2 -1.5**
comp=Z,0.5nm,0.5s,baz=215,slow=3.8,SNR=6.6
TORD LR LR 04 06 25.9
comp=Z,79nm,19.6s,baz=195,slow=32
TORD Torodi Ar. Bea 89.29 59 P **P** **03 32 25.8 -0.9**
MBAR Mbarara 89.82 91 P **P** **03 32 31.4 +1.9**
KMBO Kilima Mbogo 92.35 97 LR LR 04 11 18.5
comp=Z,101nm,18.5s,baz=190,slow=34
ASAR Alice Springs 93.23 193 P **P** **03 32 44.6 -0.5**
comp=Z,3.8nm,0.9s,baz=161,slow=4.7,SNR=24
ASAR Alice Springs 93.23 193 P **P** **03 32 44.1 -1.0**
AS31 Alice Springs 93.23 193 P **P** **03 32 44.7 -0.4**
WRA Warramunga Arr 96.86 194 P **P** **03 33 00.5 -1.2**
comp=Z,1.3nm,0.7s,baz=177,slow=4.0,SNR=20
WRA Warramunga Arr 96.86 194 P **P** **03 33 00.6 -1.2**
WRAB Tennant Creek 96.87 194 P **P** **03 32 59.8 -1.9**
TXAR Lajitas Array 98.11 323 LR LR 04 12 49.4
comp=Z,74nm,18.2s,baz=0.0,slow=33
GERES GERESS Array B 125.50 51 PKP **PKPdf** **03 38 28.6 -2.2**
comp=Z,0.8nm,0.8s,baz=183,slow=2.7,SNR=7.0
EKA Eskdalemuir Ar 125.74 36 PKP **PKPdf** **03 38 28.8 -2.0**
comp=Z,0.3nm,0.3s,baz=211,slow=1.0,SNR=5.9
VYHS Vyhne 127.10 55 *e*PKP **PKiKP** **03 38 40.6 +6.4**
YKA Yellowknife Ar 131.43 330 PKP **PKPdf** **03 38 41.4 0.0**
comp=Z,0.5nm,0.5s,baz=143,slow=2.7,SNR=2.3
CMAR Chiang Mai Arr 133.46 152 PKP **PKPdf** **03 38 46.3 -0.4**
comp=Z,1.2nm,0.3s,baz=216,slow=3.8,SNR=8.7
BCAR Beaver Creek A 139.45 316 **PKPdf** **03 38 55.7 -0.7**
FINES FINESS Array B 139.74 48 PKhKP PKPpre 03 38 51.7
comp=Z,1.4nm,0.8s,baz=236,slow=1.5,SNR=1.9
ILAR Eielson Array 142.26 316 PKhKP PKPpre 03 38 56.5
comp=Z,0.7nm,0.5s,baz=178,slow=3.1,SNR=6.9
BTK Batken 143.16 104 PKPdf PKPbc 03 39 01.4 +0.5
KLMR Klimovskoe 144.21 56 *e*PKPdf **PKPdf** **03 39 04.5 -0.4**
KLMR AMP 03 39 16.9
comp=Z,17nm,1.3s
COLD Coldfoot 144.87 317 PKPdf **PKiKP** **03 39 08.5 -1.2**
ARCES ARCESS Array B 144.88 38 PKP **PKPab** **03 39 03.0 -2.1**
comp=Z,2.6nm,0.5s,baz=270,slow=1.2,SNR=23
KSH Kashi 144.98 111 PKP **PKPdf** **03 39 07.2 0.0**
KSH PP **PP** **03 42 29.4 +3.6**
KSH SKS **SKSdf** **03 46 14.8 -1.3**
KSH SS **SS** **04 01 18.8 +3.7**
KSH AMB AMB
comp=Z,150nm,6.3s
KSH LR LR
comp=Z,350nm,13.3s
KSH LR LR
comp=Z,160nm,6.4s
KSH LR LR
comp=Z,180nm,7.4s
AKTO Aktyubinsk 145.16 81 PKPbc **PKPbc** **03 39 04.0 -2.6**
comp=Z,2.6nm,0.8s,baz=215,slow=5.0,SNR=6.6
ABKAR Akbulak array 145.21 84 PKPbc **PKPbc** **03 39 04.4 -2.3**
IMAR Indian Mountai 145.27 314 PKPbc **PKPbc** **03 39 05.9 -0.5**
KK31 Karatay Array 145.45 101 PKPbc **PKPbc** **03 39 07.4 -0.3**
KKAR Karatay Array 145.45 101 **PKPab** **03 39 08.2 +0.2**
KKAR Karatay Array 145.45 101 **PKPbc** **03 39 07.2 -0.6**
TOLK Toolik Lake Re 145.51 320 **PKPdf** **03 39 06.3 -0.7**
DZA Taraz 145.66 102 *i* PKP **PKPab** **03 39 09.0 +0.2**
baz=101
CD2 Chengdu 146.53 154 PKPbc **PKPdf** **03 39 09.8 -0.2**
ENH Enshi 146.87 163 **PKPbc** **03 39 12.3 -0.1**
FRU1 Bishkek 147.07 106 PKPbc **PKPbc** **03 39 12.6 -0.1**
BOOM Boomskoye usch 147.39 107 PKPbc **PKPbc** **03 39 14.1 +0.4**
SGDS Sogindy 147.58 105 *e*PKP **PKPdf** **03 39 12.2 +0.8**
TARG Taragay, Kyrgy 147.59 110 PKPbc **PKPbc** **03 39 13.6 -1.0**
KDJ Kajisay 147.65 109 **PKPbc** **03 39 14.3 -0.1**
TNSS Tian-Shan 148.27 108 *e*PKP **PKPdf** **03 39 13.8 +0.8**
baz=106
MDOK Medeo 148.42 108 *e*PKP **PKPdf** **03 39 13.6 +0.7**
baz=106
PRZ Przheval'sk 148.46 110 PKPbc **PKPbc** **03 39 16.3 -0.3**
BTLS Baital 148.56 102 *e*PKP **PKPdf** **03 39 13.9 +1.1**
baz=101
SATY Saty 148.93 110 *e*PKP **PKPdf** **03 39 14.6 +0.9**
baz=108
CHKK Chushkaly 148.94 107 *e*PKP **PKPdf** **03 39 14.4 +0.8**
baz=106
UZB Uzynbulak 149.27 110 *e*PKP **PKPdf** **03 39 15.2 +1.0**
baz=109
NJ2 Nanjing 149.34 178 *e*PKPbc **PKPdf** **03 39 15.8 +1.3**
ARU Arti 149.36 73 PKPbc **PKPbc** **03 39 16.2 -1.9**
comp=Z,1.4nm,0.4s,baz=118,slow=21,SNR=1.9
SHLS Shalkode 149.47 111 *e*PKP **PKPdf** **03 39 15.7 +1.2**
comp=Z,3.5nm,0.7s,baz=110
TDK Taldyqorghan 150.47 107 *e*PKP **PKPdf** **03 39 16.9 +1.0**
baz=106
XAN Xi'an 150.49 161 PKPbc **PKPbc** **03 39 21.0 -0.7**
XAN AMB AMB
comp=Z,110nm,3.8s
XAN Xi'an 150.49 161 **PKPbc** **03 39 21.7 0.0**
JHS Saijyo 151.09 203 **PKPab** **03 39 29.9 -0.8**
MJAR Matsushiro Arr 151.50 212 PKPbc **PKPbc** **03 39 23.5 -0.4**
comp=Z,0.9nm,0.4s,baz=267,slow=12,SNR=4.7
MJAR PKPab **PKPab** **03 39 33.8 +1.5**
comp=Z,3.1nm,0.8s,baz=167,slow=3.3,SNR=6.7
LZH Lanzhou 151.55 152 *e*PKPbc **PKiKP** **03 39 25.4 +0.7**
LZH LR LR
comp=Z,78nm,15.0s
LZH LR LR
comp=Z,99nm,15.7s
LZH LR LR
comp=Z,120nm,19.0s
BRZS Berezniki 151.59 94 *e*PKP **PKPdf** **03 39 18.4 +0.9**
baz=93
BVAR Borovoye Array 152.59 87 PKPbc **PKPbc** **03 39 25.4 -0.4**
comp=Z,4.2nm,0.8s,baz=197,slow=4.5,SNR=13
BVAR PKPab **PKPab** **03 39 37.4 +0.9**
comp=Z,1.9nm,0.6s,baz=260,slow=2.7,SNR=4.8
WMQ Urumqi 153.44 120 *e*PKPbc **PKPdf** **03 39 21.2 +0.7**
WMQ AMB AMB
comp=Z,75nm,5.9s
WMQ LR LR
comp=Z,310nm,28.8s
WMQ LR LR
comp=Z,130nm,29.1s
MK31 Makanchi Array 153.57 109 **PKPbc** **03 39 27.2 -1.0**
MKAR Makanchi Array 153.57 109 PKPbc **PKPbc** **03 39 27.1 -1.1**
comp=Z,4.5nm,0.9s,baz=238,slow=2.0,SNR=20
MKAR PKPab **PKPab** **03 39 41.4 +0.5**
comp=Z,10nm,0.9s,baz=235,slow=4.3,SNR=20
MKAR Makanchi Array 153.57 109 **PKPbc** **03 39 26.8 -1.4**
MKAR PKPab **PKPab** **03 39 39.7 -1.1**
GTA Gaotai 153.70 143 *e*PKPbc **PKPbc** **03 39 27.8 -1.1**
GTA pPKP pPKPbc 03 39 31.7 -0.5
GTA LR LR
comp=Z,67nm,18.2s
GTA LR LR
comp=Z,95nm,17.6s
GTA LR LR
comp=Z,95nm,18.7s
KSRS Korea Array 154.27 195 PKPbc **PKiKP** **03 39 30.9 +1.0**
comp=Z,1.4nm,0.8s,baz=186,slow=2.3,SNR=7.0
KSRS PKPab **PKPab** **03 39 45.2 +1.3**
comp=Z,1.8nm,0.8s,baz=178,slow=1.8,SNR=6.4
KURBB Kurchatov Arra 154.72 99 PKP **PKPdf** **03 39 20.9 -1.0**
comp=Z,0.2nm,0.2s,baz=248,slow=1.0,SNR=1.0
KURBB PKPab **PKPab** **03 39 44.8 -0.8**
comp=Z,3.3nm,0.9s,baz=234,slow=3.9,SNR=11
KURK Kurchatov 154.82 99 **PKPdf** **03 39 20.9 -1.2**
KURK **PKPab** **03 39 44.8 -1.2**
ZSN Zaisan 155.19 112 *e*PKP **PKPdf** **03 39 23.9 +1.2**
baz=110
HHC Hu-ho-hao-te 157.55 163 *e*PKP **PKPdf** **03 39 29.4 +3.2**
HHC LR LR
comp=Z,180nm,17.6s
HHC LR LR
comp=Z,140nm,20.6s
HHC LR LR
comp=Z,210nm,17.8s
ZALV Zalesovo Beam 159.81 99 PKPab **PKPab** **03 40 05.5 -2.0**
comp=Z,0.4nm,0.3s,baz=270,slow=4.4,SNR=4.6
ZALV Zalesovo Beam 159.81 99 **PKPab** **03 40 06.1 -1.4**
SONM Songino Array 163.28 147 PKPab **PKPab** **03 40 23.0 0.0**
comp=Z,1.8nm,0.9s,baz=202,slow=6.0,SNR=7.4

IDC 12 03:19:54.7±1.8, 25°.56N×141°.82E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/57, mbtmp3.8/4, Error ellipse: s-maj=59.0km s-min=22.3km az=101.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.56**	**12**	Pn	Pn	03 20 23.8	0.0
	89nm,0.3s,baz=283,slow=21,SNR=26						
JCJ				Sn	Sg	03 20 46.1	+1.2
	48nm,0.3s,baz=302,slow=23,SNR=16						
WRA	**Warramunga Arr**	**45.81**	**190**	P	P	03 28 18.6	0.0
	0.3nm,0.3s,baz=8.4,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**51.20**	**311**	P	P	03 29 01.0	+1.1
	0.1nm,0.3s,baz=110,slow=8.4,SNR=2.0						
KURBB	**Kurchatov Arra**	**53.88**	**315**	P	P	03 29 19.3	-0.4
	0.4nm,0.3s,baz=91,slow=8.0,SNR=1.2						
FINES	**FINESS Array B**	**79.17**	**334**	P	P	03 32 00.6	-0.6
	1.3nm,0.7s,baz=75,slow=5.1,SNR=8.2						

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*ECX **12** 03:20:18.3±0.8, 26°.99N×111°.37W, h12km±17km, MD3.4*
*MEX **12** 03:20:20.1±0.4, 26°.94N×111°.41W, h16km±78km, MD3.7*
ISC 12 03:20:18.6±2.9, 27°.2N±0°.2×111°.4W±0°.1, h10km, n5, σ0°.26/9, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.75**	**279**	*e*P	**Pg**	**03 20 33.0**	**-0.1**
SRIG	**Santa Rosalia**	**0.75**	**279**	*e*P	**Pg**	**03 20 33.0**	**-0.1**
SRIG				*e*S	**Sb**	**03 20 44.4**	**+0.3**
GUYB	**Guaymas**	**0.84**	**34**	*i* P	**Pn**	**03 20 36.5**	**0.0**
GUYB				*i* S	**Sn**	**03 20 49.2**	**+0.3**
GUYB	**Guaymas**	**0.84**	**34**	‖*i*P	**Pn**	**03 20 36.5**	**0.0**
GUYB				*i* S	**Sn**	**03 20 49.1**	**+0.3**
HSIG		**1.85**	**13**	*e*P	**Pb**	**03 20 52.3**	**-0.2**
HSIG				*i* S	**Sb**	**03 21 15.8**	**0.0**

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*IDC **12** 04:04:07.3±0.8, 14°.40S×167°.42E, h183km±6km, mb4.8/36, mb1 4.8/39, mb1mx4.7/44, mbtmp5.2/39, MS3.9/7, Ms1 3.9/7, ms1mx3.5/33, Error ellipse: s-maj=9.7km s-min=7.4km az=99.0*
*BJI **12** 04:04:08.2±0.0, 13°.93S×167°.32E, h188km, mB5.0/45, mb5.1/66*
*NEIC **12** 04:04:08.2±1.3, 14°.38S±0°.07×167°.35E±0°.08, h191km±3km, mb5.0/249, Error ellipse: s-maj=11.4km s-min=10.6km az=109.0*
*UNK **12** 04:04:08.2, 14°.38S×167°.35E, h191km*
*MOS **12** 04:04:09.0±1.1, 14°.32S×167°.31E, h204km, mb5.1/68, MS4.4/4, Error ellipse: s-maj=6.6km s-min=6.0km az=108.8*
*GCMT **12** 04:04:11.2±0.1, 14°.42S±0°.01×167°.26E±0°.01, h202km±1km, MW5.3/129, Moment Tensor Solution. s86,c119; s129,c197; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.70±.02; Mθθ-0.27±.02; Mφφ-0.42±.02; Mrθ0.63±.02; Mθφ0.29±.02; Mφr-0.41±.02; Best double couple: M0:1.00900×10^17 NP1:φs332.00000°, δ22.00000°, λ112.00000°. NP2:φs129.00000°, δ69.00000°, λ81.00000°. Principal axes: T 1.0490, Plg65.0000°, Azm24.0000°; N -0.0810, Plg8.0000°, Azm132.0000°; P -0.9680, Plg24.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 04:04:08.8±0.4, 14°.44S±0°.04×167°.34E±0°.04, h197km±3km, n931, σ1s18/999, mb5.0/211, 55C-16D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.01**	**187**	Pn	**Pn**	**04 04 38.3**	**0.0**
SANVU				Sn	**Sn**	**04 05 00.3**	**-1.1**
DZM	**Mont Dzumac**	**7.64**	**186**	P	**Pn**	**04 05 57.7**	**+0.3**
	7.4nm,0.3s,baz=44,slow=19,SNR=53						
DZM				S	**Sn**	**04 07 25.4**	**+1.6**
	6.2nm,0.3s,baz=305,slow=22,SNR=17						
DZM				LR	LR	04 08 23.7	
	comp=Z,794nm,20.0s,baz=34,slow=33						
DZM	**Mont Dzumac**	**7.64**	**186**	*e*Pn	**Pn**	**04 05 58.9**	**+1.5**
	50nm,0.2s						
DZM				*e*Sn	**Sn**	**04 07 21.2**	**-2.6**
	52nm,0.3s						
DZM				*e*LR	LR	04 07 29.2	
	comp=Z,903nm,25.2s						
DZM	**Mont Dzumac**	**7.64**	**186**	Pn	**Pn**	**04 05 57.9**	**+0.5**
HNR	**Honiara**	**8.78**	**304**	P	**Pn**	**04 06 13.2**	**+1.0**
	22nm,0.3s,baz=236,slow=5.2,SNR=14						
HNR				S	**Sn**	**04 07 53.5**	**+2.8**
	baz=167,slow=20,SNR=1.6						
HNR	**Honiara**	**8.78**	**304**	P	**Pn**	**04 06 12.9**	**+0.7**
HNR	**Honiara**	**8.78**	**304**	Pn	**Pn**	**04 06 12.9**	**+0.7**
MSVF	**Nonsavu**	**10.81**	**109**	*d* P	**Pn**	**04 06 41.5**	**+2.9**
MSVF				pmax	pmax		
	comp=Z,50nm,1.2s						
MSVF	**Nonsavu**	**10.81**	**109**		**Pn**	**04 06 42.0**	**+3.4**
FUNA	**Funafuti**	**13.02**	**64**		**P**	**04 07 11.1**	**+1.1**
TARA	**Tarawa**	**16.64**	**20**	P	**P**	**04 07 47.9**	**-2.1**
TARA				IAmb	IAmb	04 07 58.9	
	comp=Z,143nm,1.4s						
KRVT	**Keravat (AS076**	**18.14**	**302**	P	**Pn**	**04 08 07.7**	**-1.0**
	comp=Z,14nm,0.3s,baz=1.5,slow=3.1,SNR=6.6						
KRVT				S	**Sn**	**04 11 27.9**	**+3.9**
	comp=Z,5.7nm,0.3s,baz=103,slow=18,SNR=2.2						
KRVT				LR	LR	04 15 40.6	
	comp=Z,340nm,20.5s,baz=117,slow=38						
LHI	**Lord Howe Isla**	**18.61**	**203**	P	**P**	**04 08 12.7**	**+1.3**
	baz=19,SNR=4.1						
LHI	**Lord Howe Isla**	**18.61**	**203**	P	**P**	**04 08 12.3**	**+0.8**
EIDS	**Eidsvold**	**18.73**	**232**	P	**Pn**	**04 08 14.3**	**-1.3**
AFI	**Afiamalu**	**20.26**	**91**	P	**P**	**04 08 31.2**	**+1.9**
	comp=Z,378nm,0.9s,baz=311,slow=1.0,SNR=25						
AFI	**Afiamalu**	**20.26**	**91**	P	**P**	**04 08 28.0**	**-1.4**
AFI				pmax	pmax		
	comp=Z,391nm,0.9s						
AFI	**Afiamalu**	**20.26**	**91**	P	**P**	**04 08 28.0**	**-1.4**
PMG	**Port Moresby**	**20.36**	**282**	P	**P**	**04 08 30.8**	**+0.4**
	comp=Z,89nm,1.0s,baz=93,slow=6.2,SNR=18						
PMG	**Port Moresby**	**20.36**	**282**	*c* P	**P**	**04 08 31.5**	**+1.1**
PMG				pmax	pmax		
	comp=Z,132nm,1.0s						
PMG	**Port Moresby**	**20.36**	**282**	P	**P**	**04 08 30.2**	**-0.1**
CTA	**Charters Tower**	**20.89**	**251**	P	**P**	**04 08 37.2**	**+1.2**
	comp=Z,24nm,0.5s,baz=74,slow=12,SNR=40						
CTA				ScP	**ScP**	**04 15 53.9**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=51,slow=11,SNR=3.0						
CTAO	**Charters Tower**	**20.89**	**251**	P	**P**	**04 08 36.7**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,92nm,1.3s						
CTAO	**Charters Tower**	**20.89**	**251**	P	**P**	**04 08 36.7**	**+0.7**
CTAO				IAmb	IAmb	04 08 38.5	
	comp=Z,92nm,1.3s						
RMQ	**Roma**	**21.10**	**232**	P	**P**	**04 08 40.2**	**+2.1**
	baz=21,SNR=35						
ARMA	**Armidale**	**21.49**	**220**	P	**P**	**04 08 44.1**	**+1.8**
	baz=22,SNR=42						
ARMA	**Armidale**	**21.49**	**220**	P	**P**	**04 08 43.2**	**+0.9**
NIUE	**Niue**	**22.25**	**105**	P	**P**	**04 08 48.2**	**-1.5**
	baz=22,SNR=3.3						
NIUE	**Niue**	**22.25**	**105**	P	**P**	**04 08 48.5**	**-1.1**
MTSU	**Mount Surprise**	**22.39**	**257**	P	**P**	**04 08 52.5**	**+1.4**
	baz=22,SNR=71						
PATS	**Pohnpei**	**22.95**	**336**	P	**P**	**04 08 56.0**	**-0.1**
	baz=23,SNR=15						
PATS	**Pohnpei**	**22.95**	**336**	P	**P**	**04 08 55.6**	**-0.5**
KWAJ	**Kwajalein Atol**	**23.09**	**1**	P	**P**	**04 08 57.8**	**+0.5**
KWAJ				pmax	pmax		
	comp=Z,84nm,0.8s						
KWAJ	**Kwajalein Atol**	**23.09**	**1**	P	**P**	**04 08 57.8**	**+0.5**
COEN	**Coen**	**23.43**	**268**	P	**P**	**04 09 01.3**	**+0.9**
	baz=24,SNR=27						
COEN	**Coen**	**23.43**	**268**	P	**P**	**04 09 01.6**	**+1.2**
KNTN	**Kanton**	**23.70**	**63**	P	**P**	**04 09 02.5**	**-0.4**
MGCD	**Mangrove Creek**	**23.80**	**215**	P	**P**	**04 09 05.7**	**+2.0**
	baz=24,SNR=12						
QLP	**Quilpie**	**24.73**	**237**	P	**P**	**04 09 13.1**	**+1.0**
	baz=25,SNR=109						
URZ	**Urewera**	**25.26**	**162**	P	**P**	**04 09 16.9**	**+0.2**
	comp=Z,10nm,0.8s,baz=108,slow=11,SNR=2.0						
URZ				ScP	**ScP**	**04 16 05.2**	**0.0**
	comp=Z,14nm,1.0s,baz=149,slow=7.3,SNR=2.8						
URZ	**Urewera**	**25.26**	**162**	IAmb	IAmb	04 09 32.3	
	comp=Z,44nm,1.4s						
BKZ	**Black Stump Fm**	**25.92**	**164**	P	**P**	**04 09 22.3**	**-0.5**
CMSA	**Cobar Meteorol**	**26.12**	**226**	P	**P**	**04 09 25.8**	**+1.1**
	baz=26,SNR=72						
YNG	**Young**	**26.15**	**218**	P	**P**	**04 09 26.6**	**+1.6**
	baz=26,SNR=12						
CNB	**Canberra Magne**	**26.33**	**215**	P	**P**	**04 09 28.0**	**+1.5**
	baz=26,SNR=16						
CAN	**Canberra**	**26.54**	**215**	P	**P**	**04 09 29.0**	**+0.6**
CAN				pmax	pmax		
	comp=Z,44nm,1.5s						
CAN	**Canberra**	**26.54**	**215**	P	**P**	**04 09 29.0**	**+0.6**
CAN				IAmb	IAmb	04 09 31.1	
	comp=Z,44nm,1.5s						
QIS	**Mount Isa**	**27.11**	**253**	P	**P**	**04 09 33.7**	**0.0**
	baz=27,SNR=14						
LTZ	**Lake Taylor**	**28.56**	**172**	P	**P**	**04 09 46.4**	**+0.1**
STKA	**Stephens Creek**	**29.23**	**229**	P	**P**	**04 09 53.9**	**+1.6**
	comp=Z,91nm,0.4s,baz=53,slow=9.0,SNR=626						
STKA				PcP	**PcP**	**04 12 55.0**	**+0.6**
	comp=Z,13nm,0.8s,baz=68,slow=3.1,SNR=5.9						
STKA				S	**S**	**04 14 31.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=154,slow=21,SNR=1.3						
STKA				ScP	**ScP**	**04 16 18.0**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=74,slow=5.3,SNR=4.8						
STKA	**Stephens Creek**	**29.23**	**229**	P	**P**	**04 09 53.9**	**+1.6**
	baz=29,SNR=290						
STKA	**Stephens Creek**	**29.23**	**229**	P	**P**	**04 09 54.1**	**+1.8**
STKA				IAmb	IAmb	04 09 54.4	
	comp=Z,21nm,0.5s						
GENI	**Genyem**	**29.29**	**291**	P	**P**	**04 09 52.7**	**-0.3**
	comp=Z,4μcomp=Z,30nm,0.6s						
RPZ	**Rata Peaks**	**29.35**	**174**	P	**P**	**04 09 53.2**	**0.0**
	comp=Z,16nm,0.8s,baz=294,slow=2.9,SNR=6.1						
RPZ				ScP	**ScP**	**04 16 19.2**	**+1.6**
	comp=Z,16nm,0.9s,baz=7.9,slow=13,SNR=3.3						
RPZ	**Rata Peaks**	**29.35**	**174**	P	**P**	**04 09 53.2**	**0.0**
RPZ				IAmb	IAmb	04 10 03.2	
	comp=Z,26nm,1.0s						
TOO	**Toolangi**	**30.12**	**216**	P	**P**	**04 10 01.4**	**+1.3**
	baz=30,SNR=14						
TOO	**Toolangi**	**30.12**	**216**	P	**P**	**04 10 00.6**	**+0.5**
TOO				pmax	pmax		
	comp=Z,30nm,0.8s						
TOO	**Toolangi**	**30.12**	**216**	P	**P**	**04 10 00.6**	**+0.5**
TOO				IAmb	IAmb	04 10 02.1	
	comp=Z,30nm,0.8s						
WR0	**Warramunga Arr**	**31.77**	**255**	P	**P**	**04 10 14.3**	**-0.5**
WR0				IAmb	IAmb	04 10 15.4	
	comp=Z,42nm,1.1s						
ARPS	**Mount Arapiles**	**31.80**	**221**	P	**P**	**04 10 16.3**	**+1.5**
	baz=32,SNR=12						
WB0	**Warramunga Arr**	**31.89**	**256**	P	**P**	**04 10 15.3**	**-0.5**
WB2	**Warramunga Arr**	**31.95**	**255**	P	**P**	**04 10 15.8**	**-0.5**
WB2				IAmb	IAmb	04 10 17.0	
	comp=Z,40nm,1.0s						
WRAB	**Tennant Creek**	**31.95**	**255**	*d* P	**P**	**04 10 15.4**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,53nm,1.2s						
WRAB	**Tennant Creek**	**31.95**	**255**	P	**P**	**04 10 15.2**	**-1.2**
WRAB				IAmb	IAmb	04 10 16.9	
	comp=Z,41nm,1.0s						
HTT	**Hallett**	**31.96**	**229**	P	**P**	**04 10 17.6**	**+1.3**
	baz=32,SNR=31						
WRA	**Warramunga Arr**	**31.96**	**255**	P	**P**	**04 10 15.7**	**-0.7**
	comp=Z,20nm,0.7s,baz=86,slow=9.2,SNR=202						
WRA				S	**S**	**04 15 07.5**	**-5.8**
	comp=Z,8.7nm,1.0s,baz=86,slow=13,SNR=12						
WRA				ScP	**ScP**	**04 16 27.8**	**+1.1**
	comp=Z,6.2nm,1.1s,baz=81,slow=3.7,SNR=9.0						
AS31	**Alice Springs**	**32.84**	**249**	P	**P**	**04 10 23.8**	**-0.3**
ASAR	**Alice Springs**	**32.84**	**249**	P	**P**	**04 10 23.5**	**-0.6**
	comp=Z,32nm,0.8s,baz=78,slow=9.2,SNR=216						
ASAR				S	**S**	**04 15 22.2**	**-4.7**
	comp=Z,10.0nm,1.0s,baz=80,slow=15,SNR=20						
ASAR				ScP	**ScP**	**04 16 30.7**	**+1.0**
	comp=Z,5.0nm,1.0s,baz=88,slow=3.2,SNR=6.4						
ASAR	**Alice Springs**	**32.84**	**249**	P	**P**	**04 10 23.4**	**-0.7**
ASAR				ScP	**ScP**	**04 16 30.0**	**+0.3**
MOO	**Moorlands**	**32.87**	**208**	P	**P**	**04 10 25.6**	**+1.5**
	baz=33,SNR=5.2						
TAU	**Tasmania Unive**	**33.19**	**207**	P	**P**	**04 10 28.1**	**+1.3**
TAU				pmax	pmax		
	comp=Z,26nm,0.8s						
TAU	**Tasmania Unive**	**33.19**	**207**	P	**P**	**04 10 28.1**	**+1.3**
TAU				IAmb	IAmb	04 10 28.4	
	comp=Z,26nm,0.8s						
BBOO	**Buckleboo**	**33.81**	**232**	P	**P**	**04 10 33.3**	**+1.0**
	baz=34,SNR=35						
BBOO	**Buckleboo**	**33.81**	**232**	P	**P**	**04 10 32.7**	**+0.4**
KDU	**Kakadu**	**33.92**	**269**	P	**P**	**04 10 33.6**	**+0.2**
	baz=34,SNR=20						
MTN	**Manton Dam**	**35.20**	**268**	P	**P**	**04 10 45.6**	**+1.2**
	baz=35,SNR=4.6						
MTN	**Manton Dam**	**35.20**	**268**	P	**P**	**04 10 44.5**	**+0.1**
MTN				IAmb	IAmb	04 10 46.2	
	comp=Z,45nm,1.1s						
GUMO	**Guam**	**35.64**	**320**	P	**P**	**04 10 47.7**	**-0.4**
	comp=Z,42nm,0.5s,baz=170,slow=14,SNR=4.7						
GUMO	**Guam**	**35.64**	**320**	P	**P**	**04 10 48.1**	**0.0**
GUMO				pmax	pmax		
	comp=Z,267nm,1.5s						
GUMO	**Guam**	**35.64**	**320**	P	**P**	**04 10 48.1**	**0.0**
KNRA	**Kununurra**	**37.24**	**263**	P	**P**	**04 11 01.7**	**+0.1**
	baz=37,SNR=12						
KNRA	**Kununurra**	**37.24**	**263**	P	**P**	**04 11 01.8**	**+0.1**
WRKA	**Warakurna**	**38.10**	**248**	P	**P**	**04 11 08.7**	**-0.3**
	baz=38,SNR=115						
SIJI	**Sorong**	**38.12**	**288**	LR	LR	04 27 33.8	
	comp=Z,206nm,21.4s,baz=348,slow=37						
XMAS	**Kiritimati**	**38.54**	**68**	P	**P**	**04 11 11.9**	**-0.7**
FORT	**Forrest**	**39.50**	**239**	P	**P**	**04 11 20.7**	**+0.3**
	baz=40,SNR=57						
FORT	**Forrest**	**39.50**	**239**	P	**P**	**04 11 20.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**40.13**	**259**	P	**P**	**04 11 26.2**	**+0.5**
	comp=Z,36nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.13**	**259**	P	**P**	**04 11 25.9**	**+0.2**
	ba

MEEK	**Meekatharra**	**46.95 247**	P	**P**	**04 12 20.4 +0.3**
	baz=47,SNR=33				
WBSI	**Waikabubak, Su**	**47.07 270**	P	**P**	**04 12 21.7 +0.5**
	comp=Z,42nm,0.9s				
BKSI	**Bulukumba**	**47.30 276**	P	**P**	**04 12 20.8 -2.1**
	comp=Z,13nm,0.5s				
BNSI	**Bone**	**47.56 277**	P	**P**	**04 12 25.3 +0.4**
	comp=Z,40nm,1.2s				
KAPI	**Kappang**	**47.74 276**	P	**P**	**04 12 26.6 +0.3**
KAPI			pmax	pmax	
	comp=Z,36nm,1.2s				
KAPI	**Kappang**	**47.74 276**	P	**P**	**04 12 26.6 +0.3**
JCJ	**Chichijima**	**47.97 329**	P	**P**	**04 12 26.5 -1.3**
	comp=Z,130nm,0.7s,baz=275,slow=22,SNR=5.7				
JCJ			LR	LR	04 31 21.4
	comp=Z,76nm,21.6s,baz=120,slow=34				
JCJ	**Chichijima**	**47.97 329**	IAmb	IAmb	04 12 27.4
	comp=Z,151nm,0.8s				
KLBR	**Kellerberrin**	**48.30 240**	P	**P**	**04 12 30.1 -0.3**
	baz=48,SNR=17				
NWAO	**Narrogin (SRO)**	**48.95 239**	P	**P**	**04 12 35.2 -0.2**
	comp=Z,42nm,1.0s,baz=69,slow=6.3,SNR=12				
NWAO			PP	**PP**	**04 14 32.6 +1.9**
	comp=Z,33nm,1.1s,baz=93,slow=5.5,SNR=5.4				
NWAO	**Narrogin (SRO)**	**48.95 239**	P	**P**	**04 12 35.1 -0.2**
	baz=49,SNR=9.0				
NWAO	**Narrogin (SRO)**	**48.95 239**	P	**P**	**04 12 34.7 -0.6**
NWAO			IAmb	IAmb	04 12 37.0
	comp=Z,92nm,1.2s				
NWAO	**Narrogin (SRO)**	**48.95 239**	P	**P**	**04 12 35.1 -0.2**
NWAO			IAmb	IAmb	04 12 37.0
	comp=Z,74nm,1.2s				
BLDU	**Ballidu**	**49.05 242**	P	**P**	**04 12 35.5 -0.6**
	baz=49,SNR=8.3				
MPSI	**Mapaga**	**49.17 283**	P	**P**	**04 12 37.4 +0.2**
	comp=Z,4μmcomp=Z,29nm,0.8s				
KIP	**Kipapa**	**49.26 44**	P	**P**	**04 12 36.8 -0.9**
KIP			pmax	pmax	
	comp=Z,105nm,1.4s				
KIP	**Kipapa**	**49.26 44**	P	**P**	**04 12 36.8 -0.9**
KIP			IAmb	IAmb	04 12 38.2
	comp=Z,105nm,1.4s				
OPA	**Opana**	**49.45 44**	P	**P**	**04 12 38.3 -0.8**
OPA			pmax	pmax	
	comp=Z,186nm,1.3s				
OPA	**Opana**	**49.45 44**	P	**P**	**04 12 38.3 -0.8**
MORW	**Morawa**	**49.45 244**	P	**P**	**04 12 39.1 0.0**
	baz=50,SNR=16				
MORW	**Morawa**	**49.45 244**	P	**P**	**04 12 37.9 -1.3**
MORW			IAmb	IAmb	04 12 40.6
	comp=Z,40nm,0.8s				
MUN	**Mundaring**	**49.66 240**	P	**P**	**04 12 39.1 -1.6**
	baz=50,SNR=7.0				
TWSI	**Taliwang, Sumb**	**49.67 271**	P	**P**	**04 12 42.5 +1.5**
	comp=Z,88nm,1.1s				
GIRL	**Giralia**	**50.79 252**	P	**P**	**04 12 46.5 -2.7**
	baz=51,SNR=3.5				
MYLDM	**Lahad Datu**	**52.20 288**	P	**P**	**04 13 01.0 +1.1**
MYLDM			IAmb	IAmb	04 13 03.8
	comp=Z,63nm,1.2s				
JMZ	**Minamidaito 2**	**53.27 318**	P	**P**	**04 13 06.2 -1.2**
KKM	**Kota Kinabalu**	**54.63 288**	P	**P**	**04 13 17.6 -0.1**
PWJI	**Pagerwojo**	**54.73 270**	P	**P**	**04 13 18.4 +0.1**
	comp=Z,44nm,2.2s				
SMRI	**Semarang**	**56.26 271**	P	**P**	**04 13 25.6 -3.6**
JYT	**Yasato**	**56.55 334**	P	**P**	**04 13 31.1 +0.4**
INU	**Inuyama**	**57.25 331**	P	**P**	**04 13 35.6 -0.1**
JGF	**Kuroka**	**57.30 331**	P	**P**	**04 13 35.6 -0.4**
JGF			IAmb	IAmb	04 13 37.9
	comp=Z,49nm,1.3s				
JMN	**Monobe**	**57.54 327**	P	**P**	**04 13 38.0 +0.1**
KPJI	**Karang Pucung**	**57.66 270**	P	**P**	**04 13 38.2 -0.8**
	comp=Z,56nm,0.8s				
MJAR	**Matsushiro Arr**	**57.68 332**	P	**P**	**04 13 37.9 -0.8**
	comp=Z,36nm,1.0s,baz=162,slow=6.7,SNR=53				
MJAR			PcP	**PcP**	**04 14 29.6 +0.1**
	comp=Z,5.0nm,0.7s,baz=168,slow=3.1,SNR=4.9				
MJAR			ScP	**ScP**	**04 18 11.5 +0.9**
	comp=Z,2.6nm,0.8s,baz=172,slow=3.8,SNR=4.7				
MJAR	**Matsushiro Arr**	**57.68 332**	P	**P**	**04 13 38.1 -0.6**
MAJO	**Matsushiro**	**57.68 332** *c i*	P	**P**	**04 13 38.0 -0.7**
MAJO			*i* *PP	**PcP**	**04 14 28.9 -0.5**
MAJO			pmax	pmax	
	comp=Z,54nm,1.1s				
MAJO	**Matsushiro**	**57.68 332**	P	**P**	**04 13 38.6 -0.1**
MAT	**Matsushiro**	**57.68 332**	P	**P**	**04 13 37.8 -0.9**
MAT			*e*S	**S**	**04 21 21.2 -0.5**
JMM	**Marumori**	**57.69 335**	P	**P**	**04 13 38.5 -0.3**
JSU	**Suzuyama**	**57.79 323**	P	**P**	**04 13 39.0 -0.6**
JWT	**Wachi**	**57.98 329**	P	**P**	**04 13 39.5 -1.3**
KSM	**Kuching**	**58.62 281**	P	**P**	**04 13 45.5 -0.2**
KSM			IAmb	IAmb	04 13 47.7
	comp=Z,25nm,0.9s				
KSM	**Kuching**	**58.62 281**	P	**P**	**04 13 47.0 +1.3**
YULB	**Yu-li**	**58.66 309**	P	**P**	**04 13 45.1 -0.7**
YULB			IAmb	IAmb	04 13 47.2
	comp=Z,26nm,1.3s				
JNU	**Nakatsue**	**58.73 324**	P	**P**	**04 13 46.0 -0.1**
	comp=Z,38nm,0.9s,baz=165,slow=1.1,SNR=16				
JNU	**Nakatsue**	**58.73 324**	P	**P**	**04 13 45.7 -0.4**
NACB	**Ninganchiao**	**58.89 310**	P	**P**	**04 13 46.9 -0.4**
JSD	**Sado**	**58.90 333**	P	**P**	**04 13 47.1 0.0**
JHS	**Saijyo**	**58.92 327**	P	**P**	**04 13 46.8 -0.6**
JHS			IAmb	IAmb	04 13 48.8
	comp=Z,27nm,0.8s				
LEM	**Lembang**	**59.05 271**	P	**P**	**04 13 48.9 +0.1**
	comp=Z,38nm,1.0s				
TPUB	**Ta-pu**	**59.11 309**	P	**P**	**04 13 48.3 -0.6**
SSLB	**Suanglung**	**59.15 309**	P	**P**	**04 13 48.6 -0.5**
SSLB			IAmb	IAmb	04 13 50.4
	comp=Z,46nm,1.3s				
YHNB	**Yeheng**	**59.34 311**	P	**P**	**04 13 50.3 -0.2**
JTM	**Tenmabayashi**	**60.10 337**	P	**P**	**04 13 55.5 +0.2**
ERM	**Erimo**	**60.44 339⇓** *eP*		**P**	**04 13 58.5 +1.0**
ERM			pmax	pmax	
	comp=Z,49nm,1.1s				
CGJI	**Cibinong**	**60.96 270**	P	**P**	**04 14 00.6 -1.0**
	comp=Z,114nm,1.1s				
JKA	**Kamikawa-asahi**	**62.49 340**	P	**P**	**04 14 11.3 +0.1**
ASAJ	**Asahikawa**	**62.49 340**	P	**P**	**04 14 11.5 +0.3**
	comp=Z,64nm,0.9s,baz=212,slow=8.4,SNR=17				
TJN	**Taejon**	**63.07 324** *d i*	P	**P**	**04 14 15.4 +0.2**
TJN			*i* *PP	**PcP**	**04 14 52.0 +0.9**
VNDA	**Vanda**	**63.15 181**	P	**P**	**04 14 15.3 +0.2**
	comp=Z,4.0nm,0.6s,baz=4.7,slow=6.4,SNR=18				
VNDA			PcP	**PcP**	**04 14 51.3 +0.5**
	comp=Z,1.7nm,0.9s,baz=333,slow=9.5,SNR=1.8				
VNDA			PKPPKP	**P'P'df**	**04 43 13.0 +0.4**
	comp=Z,0.3nm,0.4s,baz=223,slow=3.3,SNR=4.3				
VNDA	**Vanda**	**63.15 181**	P	**P**	**04 14 15.1 -0.1**
KSRS	**Korea Array**	**63.54 326**	P	**P**	**04 14 18.4 +0.2**
	comp=Z,9.3nm,0.9s,baz=139,slow=7.1,SNR=32				
KSRS			PcP	**PcP**	**04 14 53.9 +0.9**
	comp=Z,7.4nm,1.0s,baz=134,slow=5.5,SNR=8.4				
KSAR	**Wonju Array Be**	**63.55 326**	P	**P**	**04 14 18.3 0.0**
KSAR	**Wonju Array Be**	**63.55 326**	P	**P**	**04 14 18.3 0.0**
KS19	**Wonju Array Si**	**63.60 326**	P	**P**	**04 14 18.4 -0.3**
KS19			IAmb	IAmb	04 14 19.1
	comp=Z,22nm,1.2s				
CASY	**Casey**	**63.82 202**	P	**P**	**04 14 20.0 +0.4**
CASY			IAmb	IAmb	04 14 20.8
	comp=Z,17nm,0.6s				
INCN	**Inchon**	**64.27 325**	P	**P**	**04 14 23.0 -0.1**
INCN			pmax	pmax	
	comp=Z,19nm,0.6s				
INCN	**Inchon**	**64.27 325**	P	**P**	**04 14 23.0 -0.1**
INCN			IAmb	IAmb	04 14 25.4
	comp=Z,19nm,0.6s				
MYKOM	**Kota Tinggi**	**64.87 279**	P	**P**	**04 14 28.0 +0.6**
YSS	**Yuzh-Sakhalins**	**64.97 342** *α i*	P	**P**	**04 14 28.6 +1.2**
YSS			pmax	pmax	
	comp=Z,1.0nm,3.6s				
YSS			pmax	pmax	
	comp=Z,110nm,1.0s				
YSS			MLR	MLR	
	comp=Z,300nm,18.0s				
YSS	**Yuzh-Sakhalins**	**64.97 342**	P	**P**	**04 14 27.9 +0.6**
NJ2	**Nanjing**	**65.51 316** *eP*		**P**	**04 14 31.5 +0.3**
NJ2			pmax	pmax	
	comp=Z,27nm,0.7s				
QIZ	**Qiongzhong**	**65.65 299**	P	**P**	**04 14 33.3 +1.0**
QIZ			pP	**pP**	**04 15 17.5 +0.8**
QIZ			S	**S**	**04 23 04.6 +2.1**
QIZ			sS	**sS**	**04 24 21.9 +1.5**
QIZ			pmax	pmax	
	comp=Z,16nm,1.1s				
QIZ			LR	LR	
	comp=Z,180nm,11.8s				
QIZ			LR	LR	
	comp=Z,130nm,12.9s				
QIZ			LR	LR	
	comp=Z,220nm,27.9s				
QIZ	**Qiongzhong**	**65.65 299**	P	**P**	**04 14 32.6 +0.3**
QIZ			IAmb	IAmb	04 14 34.4
	comp=Z,24nm,1.1s				
VLA	**Vladivostok**	**65.85 332** *c i*	P	**P**	**04 14 34.0 +0.9**
VLA			pmax	pmax	
	comp=Z,71nm,1.1s				
SDSI	**Sungai Dareh**	**66.46 275**	P	**P**	**04 14 36.8 -0.8**
	comp=Z,14nm,1.0s				
USA0B	**Ussuriysk Arra**	**66.66 333**	P	**P**	**04 14 38.5 +0.3**
USA0B			pmax	pmax	
	comp=Z,130nm,1.3s				
USA0B	**Ussuriysk Arra**	**66.66 333**	P	**P**	**04 14 38.5 +0.3**
USRK	**Ussuriysk Ar.**	**66.66 333**	P	**P**	**04 14 38.4 +0.2**
	comp=Z,67nm,1.1s,baz=134,slow=5.5,SNR=58				
USRK	**Ussuriysk Ar.**	**66.66 333**	P	**P**	**04 14 38.8 +0.6**
USRK	**Ussuriysk Ar.**	**66.66 333**	P	**P**	**04 14 38.8 +0.6**
BKNI	**Bangkinang**	**67.17 277**	P	**P**	**04 14 42.3 +0.3**
PDSI	**Padang**	**67.39 275**	P	**P**	**04 14 43.7 +0.2**
PET	**Petropavlovsk**	**67.60 354**	P	**P**	**04 14 43.6 -0.3**
PET			pmax	pmax	
	comp=Z,130nm,1.3s				
PET	**Petropavlovsk**	**67.60 354**	P	**P**	**04 14 43.6 -0.3**
PEA0B	**Petropavlovsk-**	**67.78 354**	P	**P**	**04 14 44.5 -0.6**
PEA0B			pmax	pmax	
	comp=Z,118nm,1.1s				
PEA0B	**Petropavlovsk-**	**67.78 354**	P	**P**	**04 14 44.5 -0.6**
PETK	**Petropavlovsk-**	**67.78 354**	P	**P**	**04 14 45.3 +0.2**
	comp=Z,37nm,0.7s,baz=126,slow=7.5,SNR=56				
PETK	**Petropavlovsk-**	**67.78 354**	P	**P**	**04 14 44.8 -0.3**
WHN	**Wuhan**	**67.80 312**	P	**P**	**04 14 45.6 0.0**
WHN			pmax	pmax	
	comp=Z,36nm,0.6s				
MDJ	**Mudanjiang**	**68.06 332**	P	**P**	**04 14 47.2 +0.3**
DL2	**Dalian**	**68.11 323**	P	**P**	**04 14 47.8 +0.4**
DL2			pmax	pmax	
	comp=Z,58nm,1.0s				
IPM	**Ipoh**	**68.36 281**	P	**P**	**04 14 49.6 +0.1**
IPM			IAmb	IAmb	04 14 51.6
	comp=Z,31nm,1.0s				
IPM	**Ipoh**	**68.36 281**	P	**P**	**04 14 50.0 +0.5**
TYV	**Tymovskoe**	**68.52 343** *eP*		**P**	**04 14 50.6 +0.9**
TYV			pmax	pmax	
	comp=Z,300nm,2.7s				
TYV			pmax	pmax	
	comp=Z,45nm,1.2s				
MNSI	**Mandailing Nat**	**68.70 277**	P	**P**	**04 14 52.9 +1.3**
KULM	**Kulim**	**68.95 282**	P	**P**	**04 14 54.0 +0.8**
TIA	**Tai'an**	**69.17 318**	P	**P**	**04 14 53.7 -0.3**
TIA			pmax	pmax	
	comp=Z,20nm,0.8s				
CN2	**Changchun**	**69.43 329** *eP*		**P**	**04 14 55.1 -0.4**
CN2			*e*pP	pwP	04 15 43.6 -0.3
CN2			*e*S	**S**	**04 23 45.2 -1.4**
CN2			pmax	pmax	
	comp=Z,50nm,1.0s				
CN2			pmax	pmax	
	comp=Z,160nm,3.0s				
RPSI	**Rantau Prapat**	**69.85 278**	P	**P**	**04 14 57.7 -1.0**
RPSI			IAmb	IAmb	04 14 59.5
	comp=Z,27nm,1.0s				
PSI	**Prapat**	**69.88 278**	P	**P**	**04 14 57.7 -1.3**
PSI			pmax	pmax	
	comp=Z,27nm,1.0s				
GRNR	**Gornyy**	**70.34 340⇑** *i P*		**P**	**04 15 02.2 +1.3**
GRNR			pmax	pmax	
	comp=N,20nm,1.2s				
GRNR			pmax	pmax	
	comp=Z,60nm,1.1s				
GRNR			MLR	MLR	
	comp=N,70nm,13.0s				
GRNR			MLR	MLR	
	comp=E,60nm,13.0s				
GRNR			MLR	MLR	
	comp=Z,30nm,13.0s				
GSI	**Gunungsitoli**	**70.76 277**	P	**P**	**04 15 04.7 +0.5**
	comp=Z,57nm,1.0s				
GSI	**Gunungsitoli**	**70.76 277**	P	**P**	**04 15 04.5 +0.2**
GSI			IAmb	IAmb	04 15 06.3
	comp=Z,49nm,1.0s				
ENH	**Enshi**	**71.23 309**	P	**P**	**04 15 06.6 -0.2**
GYA	**Guiyang**	**71.60 305**	⇑P	**P**	**04 15 09.4 +0.2**
GYA			S	**S**	**04 24 14.6 +2.0**
GYA			SKS	**SKKSac**	**04 24 54.6 +0.4**
GYA			pmax	pmax	
	comp=Z,20nm,1.0s				
GYA			pmax	pmax	
	comp=Z,77nm,3.5s				
GYA			LR	LR	
	comp=Z,55nm,4.8s				
GYA			LR	LR	
	comp=Z,83nm,5.7s				
GYA			LR	LR	
	comp=Z,120nm,5.9s				
SLVN	**Son La**	**71.68 299**	P	**P**	**04 15 10.3 +0.7**
BJT	**Baijiatuau**	**72.07 321**	P	**P**	**04 15 11.8 +0.3**
BJT			pmax	pmax	
	comp=Z,28nm,1.1s				
BJT	**Baijiatuau**	**72.07 321**	P	**P**	**04 15 11.8 +0.3**
BJT			IAmb	IAmb	04 15 13.2
	comp=Z,28nm,1.1s				
BJI	**Beijing**	**72.08 321**	P	**P**	**04 15 12.0 +0.5**
BJI			PcP	**PcP**	**04 15 29.7 +0.9**
BJI			pP	**pP**	**04 15 57.7 +0.1**
BJI			S	**S**	**04 24 20.2 +3.0**
BJI			pmax	pmax	
	comp=Z,23nm,1.2s				
BJI			LR	LR	
	comp=Z,71nm,6.8s				
PBKT	**Sadao Pong**	**72.41 293**	P	**P**	**04 15 14.7 +0.8**
PBKT			IAmb	IAmb	04 15 16.2
	comp=Z,26nm,1.1s				
MLSI	**Meulaboh, Aceh**	**72.70 279**	P	**P**	**04 15 15.8 0.0**
	comp=Z,131nm,1.1s				
TIY	**Taiyuan**	**73.09 317** *eP*		**P**	**04 15 18.6 +0.9**
TIY			pmax	pmax	
	comp=Z,54nm,0.5s				
XAN	**Xi'an**	**73.54 312**	P	**P**	**04 15 20.4 +0.1**
XAN			PP	**PP**	**04 18 11.1 +3.8**
XAN			S	**S**	**04 24 32.7 -1.5**
XAN			SS	**SS**	**04 29 13.8 -8.0**
XAN			pmax	pmax	
	comp=Z,31nm,1.1s				
XAN			pmax	pmax	
	comp=Z,150nm,7.6s				
XAN	**Xi'an**	**73.54 312**	P	**P**	**04 15 20.7 +0.4**
XAN			pmax	pmax	
	comp=Z,24nm,0.9s				
XAN	**Xi'an**	**73.54 312**	P	**P**	**04 15 20.7 +0.4**
XAN			IAmb	IAmb	04 15 21.8
	comp=Z,24nm,0.9s				
KMI	**Kunming**	**74.21 302**	⇑P	**P**	**04 15 25.9 +1.3**
KMI			PcP	**PcP**	**04 15 38.3 -0.3**
KMI			pP	pwP	04 16 13.2 -1.5
KMI			SS	SS	04 29 34.0 +1.5
KMI			pmax	pmax	
	comp=Z,50nm,1.2s				
KMI			pmax	pmax	
	comp=Z,150nm,3.5s				
KMI			LR	LR	
	comp=Z,200nm,12.3s				
KMI			LR	LR	
	comp=Z,130nm,21.9s				
KMI			LR	LR	
	comp=Z,190nm,17.3s				
CMAR	**Chiang Mai Arr**	**74.89 294**	P	**P**	**04 15 29.7 +1.3**
	comp=Z,18nm,1.0s,baz=118,slow=4.2,SNR=55				
MA2	**Magadan**	**74.97 351**	P	**P**	**04 15 27.2 -0.7**
MA2			pmax	pmax	
	comp=Z,43nm,1.1s				
MA2	**Magadan**	**74.97 351**	P	**P**	**04 15 27.2 -0.7**
MA2			IAmb	IAmb	04 15 28.7
	comp=Z,43nm,1.1s				
CHTO	**Chiang Mai**	**75.02 294**	P	**P**	**04 15 30.2 +1.1**
CHTO			pmax	pmax	
	comp=Z,39nm,1.2s				
CHTO	**Chiang Mai**	**75.02 294**	P	**P**	**04 15 30.2 +1.1**
CHTO			IAmb	IAmb	04 15 31.3
	comp=Z,39nm,1.1s				
HHC	**Hu-ho-hao-te**	**75.41 320** *eP*		**P**	**04 15 32.1 +1.1**
HHC			sP	sP	04 16 41.1 +2.8
HHC			S	**S**	**04 24 57.7 +3.0**
HHC			sS	sS	04 26 16.0 +2.0
HHC			pmax	pmax	
	comp=Z,44nm,1.2s				
HHC			pmax	pmax	
	comp=Z,220nm,6.4s				
QSPA	**South Pole Qui**	**75.59 180**	P	**P**	**04 15 31.5 -0.1**
QSPA			IAmb	IAmb	04 15 32.9
	comp=Z,21nm,0.9s				
CD2	**Chengdu**	**75.89 307**	P	**P**	**04 15 33.8 -0.1**
CD2			S	**S**	**04 25 01.2 +1.0**
CD2			pmax	pmax	
	comp=Z,50nm,1.3s				
ZEA	**Zeya**	**76.05 337** *eP*		**P**	**04 15 34.6 +0.4**
ZEA			*e*		04 25 05.0
ZEA			pmax	pmax	
	comp=N,59nm,1.0s				
ZEA			pmax	pmax	
	comp=Z,85nm,1.2s				
ZEA			pmax	pmax	
	comp=Z,200nm,6.0s				
HIA	**Hailar**	**76.07 330** *c i*	P	**P**	**04 15 34.3 -0.2**
HIA			pmax	pmax	
	comp=Z,49nm,1.2s				
HIA	**Hailar**	**76.07 330**	P	**P**	**04 15 35.6 +1.2**
HIA			IAmb	IAmb	04 15 35.9
	comp=Z,44nm,1.1s				
BTO	**Baotou**	**76.25 319** *eP*		**P**	**04 15 35.9 +0.1**
LZH	**Lanzhou**	**78.17 312** *eP*		**P**	**04 15 47.8 +1.1**
LZH			pmax	pmax	
	comp=Z,51nm,1.1s				
LZH			pmax	pmax	
	comp=Z,180nm,4.3s				
KDAK	**Kodiak Island**	**79.17 21**	P	**P**	**04 15 50.7 -0.7**
	comp=Z,19nm,1.0s,baz=301,slow=1.4,SNR=5.1				
KDAK	**Kodiak Island**	**79.17 21**	P	**P**	**04 15 50.7 -0.7**
KDAK			pmax	pmax	
	comp=Z,60nm,1.3s				
KDAK	**Kodiak Island**	**79.17 21**	IAmb	IAmb	04 15 55.0
	comp=Z,60nm,1.3s				
SVW2	**Sparrevohn**	**80.86 17**	P	**P**	**04 16 01.0 +0.6**
SVW2			IAmb	IAmb	04 16 02.7
	comp=Z,33nm,1.4s				
HOM	**Homer**	**80.93 20**	P	**P**	**04 15 59.7 -1.0**
	baz=220				
RSO	**Redoubt South**	**81.20 19**	P	**P**	**04 16 02.3 -0.1**
BRLK	**Bradley Lake**	**81.26 20**	P	**P**	**04 16 02.1 -0.5**
BRLK			IAmb	IAmb	04 16 03.7
	comp=Z,37nm,1.1s				
YAK	**Yakutsk**	**81.77 343**	P	**P**	**04 16 04.9 -0.1**
	comp=Z,44nm,0.6s,baz=61,slow=1.7,SNR=19				
YAK	**Yakutsk**	**81.77 343** *c i P*		**P**	**04 16 05.0 -0.1**
YAK			*e**PP	**pP**	**04 16 53.0 +0.4**
YAK			*e*		04 19 11.7
YAK			*e*PPP	PPP	04 21 03.8
YAK			*e*S	**S**	**04 26 01.0 -0.1**
YAK			*e*SS	**SS**	**04 31 22.9 -1.2**
YAK			*e*SSS	SSS	04 34 53.0
YAK			pmax	pmax	
	comp=Z,181nm,1.0s				
YAK			pmax	pmax	
	comp=N,88nm,1.3s				
YAK			pmax	pmax	
	comp=E,51nm,1.3s				
YAK			pmax	pmax	
	comp=Z,22nm,1.6s				
YAK			pmax	pmax	
	comp=N,22nm,1.6s				
YAK			pmax	pmax	
	comp=E,13nm,1.5s				
YAK			smax	smax	
	comp=E,36nm,1.8s				
YAK			smax	smax	
	comp=N,30nm,1.4s				
YAK	**Yakutsk**	**81.77 343**	P	**P**	**04 16 04.6 -0.5**
SEW	**Seward**	**82.00 20**	P	**P**	**04 16 05.8 -0.5**
SEW			IAmb	IAmb	04 16 06.7
	comp=Z,60nm,1.4s				
MAW	**Mawson**	**82.18 202**	P	**P**	**04 16 07.4 +0.1**
	comp=Z,14nm,0.7s,baz=114,slow=6.1,SNR=49				
MAW			LR	LR	04 49 36.1
	comp=Z,69nm,18.7s,baz=64,slow=33				
MAW	**Mawson**	**82.18 202**	P	**P**	**04 16 07.8 +0.5**
	baz=82,SNR=32				
MAW	**Mawson**	**82.18 202**	P	**P**	**04 16 07.8 +0.5**
MAW			pmax	pmax	
	comp=Z,3.0nm,0.8s				
MAW	**Mawson**	**82.18 202**	P	**P**	**04 16 07.8 +0.5**
O22K	**Cooper Landing**	**82.19 20**	P	**P**	**04 16 06.5 -0.8**
	baz=222				
TTA	**Tatalina**	**82.23 16**	P	**P**	**04 16 07.6 0.0**
TTA			pmax	pmax	
	comp=Z,10.0nm,0.9s				
TTA	**Tatalina**	**82.23 16**	P	**P**	**04 16 07.6 0.0**
BILL	**Bilibino**	**82.25 360** *c i P*		**P**	**04 16 06.8 -0.7**
BILL			*SS	sS	04 27 42.0 +13
BILL			SS	**SS**	**04 31 38.7 +7.6**
BILL			pmax	pmax	
	comp=Z,62nm,1.0s				
BILL			MLR	MLR	
	comp=Z,245nm,23.0s				
SONM	**Songino Array**	**82.30 324**	P	**P**	**04 16 08.6 +0.2**
	comp=Z,9.9nm,0.4s,baz=138,slow=4.2,SNR=106				
SONM	**Songino Array**	**82.30 324**	P	**P**	**04 16 07.7 -0.7**
SONM			pmax	pmax	
	comp=Z,58nm,1.2s				
SONM	**Songino Array**	**82.30 324**	P	**P**	**04 16 07.7 -0.7**
GTA	**Gaotai**	**82.51 314**	⇑P	**P**	**04 16 10.6 +0.9**
GTA			S	**S**	**04 26 09.9 -0.1**
GTA			pmax	pmax	
	comp=Z,48nm,1.3s				
GTA			pmax	pmax	
	comp=Z,81nm,4.5s				
GTA			LR	LR	
	comp=Z,110nm,19.8s				
GTA			LR	LR	
	comp=Z,94nm,20.3s				
GTA			LR	LR	
	comp=Z,140nm,19.2s				
Q23K	**Middleton Isla**	**82.58 22**	P	**P**	**04 16 08.9 -0.5**
	baz=225				
SUA	**Susitna One**	**82.60 19**	P	**P**	**04 16 09.3 -0.2**
SUA			IAmb	IAmb	04 16 12.6
	comp=Z,40nm,1.2s				
SKT	**Skwentna**	**82.75 18**	P	**P**	**04 16 09.6 -0.6**
PMR	**Palmer**	**83.21 19**	P	**P**	**04 16 12.1 -0.4**
PMR			pmax	pmax	
	comp=Z,87nm,1.4s				
PMR	**Palmer**	**83.21 19**	P	**P**	**04 16 12.1 -0.4**
KNK	**Knik Glacier**	**83.29 20**	P	**P**	**04 16 12.7 -0.3**
GLI	**Glacier Island**	**83.36 21**	P	**P**	**04 16 12.6 -0.7**
GLI			IAmb	IAmb	04 16 14.1
	comp=Z,39nm,0.8s				
GHO	**Glory Hole Cre**	**83.41 19**	P	**P**	**04 16 13.3 -0.4**
GHO			IAmb	IAmb	04 16 14.8
	comp=Z,43nm,1.0s				
CUT	**Chulitna**	**83.46 18**	P	**P**	**04 16 12.3 -1.5**
	baz=221,SNR=8.2				
FID	**Port Fidalgo**	**83.48 21**	P	**P**	**04 16 13.1 -0.8**
FID			IAmb	IAmb	04 16 14.0
	comp=Z,64nm,1.3s				
MCCM	**Marconi Confer**	**83.59 48**	P	**P**	**04 16 13.2 -1.9**
MCCM			IAmb	IAmb	04 16 16.0
	comp=Z,29nm,0.9s				
KCPM	**Cahto Peak**	**83.72 46**	P	**P**	**04 16 16.2 +0.3**
KCPM			IAmb	IAmb	04 16 17.0
	comp=Z,57nm,1.3s				
HOPS	**Hopland Field**	**83.80 47**	P	**P**	**04 16 16.2 +0.1**
KMRM	**Mail Ridge**	**83.86 46**	P	**P**	**04 16 17.0 +0.5**
GDXM	**Geysers**	**83.92 48**	P	**P**	**04 16 17.4 +0.5**
SCM	**Sheep Creek Mo**	**83.97 20**	P	**P**	**04 16 16.2 -0.3**
SCM			pmax	pmax	
	comp=Z,79nm,1.4s				
SCM	**Sheep Creek Mo**	**83.97 20**	P	**P**	**04 16 16.2 -0.3**
SAO	**San Andreas Ge**	**84.10 50**	P	**P**	**04 16 18.2 +0.5**
SAO			pmax	pmax	
	comp=Z,11nm,1.0s				
SAO	**San Andreas Ge**	**84.10 50**	P	**P**	**04 16 18.2 +0.5**
KHMM	**Horse Mountain**	**84.11 45**	P	**P**	**04 16 18.5 +0.6**
KHMM			IAmb	IAmb	04 16 19.3
	comp=Z,56nm,1.4s				
KTH	**Kantishna Hill**	**84.14 17**	P	**P**	**04 16 15.7 -1.6**
KTH			IAmb	IAmb	04 16 17.3

comp=Z,40nm,1.0s
KLU Klutina 84.20 21 P P 04 16 17.3 -0.4
BOD Bodaibo 84.24 334 eP P 04 16 17.7 -0.2
BOD pmax pmax
comp=Z,81nm,1.5s
TRF Thorofare Moun 84.25 18 P P 04 16 16.8 -1.2
TRF IAmb IAmb 04 16 17.6
comp=Z,55nm,1.3s
PMPB Monarch Peak 84.37 51 P P 04 16 19.5 +0.4
PMPB IAmb IAmb 04 16 20.3
comp=Z,27nm,1.3s
O02D Mt. Diablo Mer 84.48 46 P P 04 16 19.7 +0.1
baz=246,SNR=19
BPAW Bear Paw Mtn. 84.54 17 P P 04 16 17.8 -1.5
M24K Tolsona, Glenn 84.55 20 P P 04 16 19.7 +0.3
baz=225
PKM Mcpherson Peak 84.62 52 P P 04 16 20.3 -0.2
baz=248
SMMC Simmler 84.64 52 P P 04 16 20.1 -0.4
baz=248
RND Reindeer 84.64 18 P P 04 16 19.2 -0.7
RND pmax pmax
comp=Z,55nm,1.0s
RND Reindeer 84.64 18 P P 04 16 19.2 -0.7
CRQM Cirque 84.67 22 P P 04 16 19.7 -0.5
CRQM IAmb IAmb 04 16 21.1
comp=Z,17nm,0.7s
DIB Dawson Inlet, 84.73 32 P P 04 16 20.1 -0.3
DIB IAmb IAmb 04 16 21.4
comp=Z,25nm,1.1s
L02E Cave Junction 84.74 44 P P 04 16 20.3 -0.4
baz=245
WDC Whiskeytown Da 84.82 46 P P 04 16 20.9 -0.3
WDC pmax pmax
comp=Z,10.0nm,0.9s
WDC Whiskeytown Da 84.82 46 P P 04 16 20.9 -0.3
DHY Denali Highway 84.86 19 P P 04 16 20.6 -0.5
DHY IAmb IAmb 04 16 22.7
comp=Z,35nm,1.5s
ISLE Juniper Island 84.86 22 P P 04 16 20.6 -0.5
ISLE IAmb IAmb 04 16 21.2
comp=Z,35nm,1.3s
MCK McKinley 84.86 18 P P 04 16 20.0 -0.9
MCK pmax pmax
comp=Z,47nm,1.1s
MCK McKinley 84.86 18 P P 04 16 20.0 -0.9
MCK IAmb IAmb 04 16 21.6
comp=Z,47nm,1.1s
N02D Trinity Center 84.86 46 P P 04 16 21.7 +0.2
baz=246,SNR=11
VRDI Verde Repeater 84.87 22 P P 04 16 20.1 -1.1
GLB Gilahina Butte 84.89 21 P P 04 16 20.6 -0.6
K02D Willamette Mer 84.92 44 P P 04 16 21.5 -0.3
baz=245
M02C Callahan 84.93 45 P P 04 16 22.0 +0.2
baz=246,SNR=11
J01E Myrtle Point 84.94 43 P P 04 16 21.1 -0.6
baz=245
BWN Browne 85.03 18 P P 04 16 21.1 -0.6
RDOG Red Dog Mine 85.03 11 P P 04 16 22.3 +0.7
RDOG IAmb IAmb 04 16 23.2
comp=Z,45nm,1.2s
MCARA McCarthy VSAT 85.13 22 P P 04 16 22.5 +0.2
ORV Oroville 85.14 47 P P 04 16 22.1 -0.7
ORV pmax pmax
comp=Z,9.0nm,0.9s
ORV Oroville 85.14 47 P P 04 16 22.1 -0.7
BALM Baldy 85.14 22 P P 04 16 21.1 -1.4
BALM IAmb IAmb 04 16 23.2
comp=Z,16nm,0.6s
YBH Yreka Blue Hor 85.17 45 P P 04 16 23.0 -0.1
comp=Z,7.7nm,0.5s,baz=157,slow=0.5,SNR=35
YBH Yreka Blue Hor 85.17 45 P P 04 16 22.8 -0.2
YBH pmax pmax
comp=Z,29nm,1.3s
YBH Yreka Blue Hor 85.17 45 P P 04 16 22.8 -0.2
YBH IAmb IAmb 04 16 24.7
comp=Z,29nm,1.2s
O03E Paynes Creek 85.22 46 P P 04 16 22.6 -0.7
baz=247,SNR=12
IMAR Indian Mountai 85.27 15 P P 04 16 22.1 -0.8
AFDM Forest Hills D 85.29 48 P P 04 16 23.2 -0.4
AFDM IAmb IAmb 04 16 24.2
comp=Z,28nm,1.3s
PCA Pinnacle 85.31 23 P P 04 16 23.1 -0.2
PCA IAmb IAmb 04 16 23.5
comp=Z,39nm,1.3s
ZAK Zakamensk 85.35 325 eP P 04 16 23.3 -0.5
ZAK pmax pmax
comp=Z,58nm,1.2s
HUMO Hull Mountain 85.36 44 P P 04 16 23.7 -0.1
CMB Columbia Colle 85.36 49 P P 04 16 23.4 -0.7
CMB pmax pmax
comp=Z,14nm,1.1s
CMB Columbia Colle 85.36 49 P P 04 16 23.4 -0.7
I02D Swisshome 85.39 42 P P 04 16 24.0 0.0
baz=245
ARVC Arvin 85.46 52 P P 04 16 23.8 -0.7
baz=249
NEA2 Nenana 85.46 17 P P 04 16 23.5 -0.3
baz=222
LSA Lhasa 85.46 302 P P 04 16 25.6 +0.4
LSA pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 85.46 302 P P 04 16 25.6 +0.4
LSA IAmb IAmb 04 16 27.3
comp=Z,25nm,1.1s
CTGM Chitina Glacie 85.47 22 P P 04 16 23.6 -0.6
CTGM IAmb IAmb 04 16 25.1
comp=Z,22nm,0.9s
VES Vestal, Richgr 85.52 51 P P 04 16 24.1 -0.7
baz=249
I03D Drain, OR 85.55 43 P P 04 16 24.1 -0.6
baz=245
L04D Klamath Falls 85.64 45 P P 04 16 25.1 -0.3
baz=246,SNR=7.1
WRH Wood River Hil 85.66 18 P P 04 16 23.3 -1.5
WRH IAmb IAmb 04 16 25.1
comp=Z,27nm,1.1s
MWC Mount Wilson 85.73 53 P P 04 16 25.8 -0.3
MWC pmax pmax
comp=Z,14nm,0.9s
MWC Mount Wilson 85.73 53 P P 04 16 25.8 -0.3
M04C Macdoel 85.78 45 P P 04 16 25.7 -0.4
baz=246
TLY Talaya 85.79 326 c iP P 04 16 25.2 -0.6
TLY pmax pmax
comp=Z,37nm,1.1s
TLY Talaya 85.79 326 P P 04 16 25.9 +0.1
CCB Clear Creek Bu 85.87 18 P P 04 16 24.1 -1.7
CCB IAmb IAmb 04 16 25.7
comp=Z,10nm,0.5s
ISA Isabella, Lake 85.92 52 P P 04 16 26.5 -0.3
ISA pmax pmax
comp=Z,16nm,1.1s
ISA Isabella, Lake 85.92 52 P P 04 16 26.5 -0.3
baz=249,SNR=12
ISA Isabella, Lake 85.92 52 P P 04 16 26.5 -0.3
MENT Mentasta 85.95 20 P P 04 16 25.2 -1.0
HDA Harding Lake 85.95 18 P P 04 16 24.5 -1.7
baz=224,SNR=42
HDA Harding Lake 85.95 18 P P 04 16 25.0 -1.2
MDM Murphy Dome 85.97 17 P P 04 16 24.8 -1.6
MDM IAmb IAmb 04 16 26.8
comp=Z,18nm,0.9s
EDW2 Edwards Air Fo 86.01 53 P P 04 16 27.0 -0.3
baz=249,SNR=9.4
TCOL CIGO, UAF Yank 86.02 18 P P 04 16 25.9 -0.6
baz=223
109C Camp Elliot, M 86.02 55 P P 04 16 27.9 +0.6
109C IAmb IAmb 04 16 28.2
comp=Z,18nm,1.1s
COLA College 86.02 18 P P 04 16 25.1 -1.4
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 86.02 18 P P 04 16 25.1 -1.4
COLA IAmb IAmb 04 16 27.1
comp=Z,15nm,0.8s
BFSC Mount Baldy Ra 86.05 53 P P 04 16 26.8 -0.8
baz=250,SNR=7.5
RIDG Independent Ri 86.13 19 P P 04 16 26.1 -1.1
RIDG IAmb IAmb 04 16 28.3
comp=Z,20nm,1.0s
MDPB Devils Postpil 86.18 50 P P 04 16 28.0 -0.3
MDPB IAmb IAmb 04 16 29.6
comp=Z,17nm,1.0s

K04D Chiloquin, OR 86.18 44 P P 04 16 27.2 -0.8
baz=246
J04D Umpqua Nationa 86.18 44 P P 04 16 27.2 -0.9
baz=246
MURC Murrieta 86.19 54 P P 04 16 27.4 -0.8
baz=250
I04A Tendick Farm, 86.21 43 P P 04 16 27.2 -0.8
baz=246,SNR=7.3
OMMB Old Mammoth Mi 86.23 50 P P 04 16 28.6 0.0
IL31 86.23 18 P P 04 16 25.9 -1.7
IL31 IAmb IAmb 04 16 28.8
comp=Z,16nm,0.7s
ILAR Eielson Array 86.23 18 P P 04 16 25.6 -2.1
comp=Z,14nm,0.6s,baz=237,slow=5.5,SNR=92
ILAR PKKPbc PKKPdf 04 34 24.6 +3.3
comp=Z,0.5nm,0.9s,baz=344,slow=1.6,SNR=4.6
ILAR LR LR 04 52 04.4
comp=Z,63nm,19.1s,baz=140,slow=33
ILAR Eielson Array 86.23 18 P P 04 16 25.4 -2.2
WAKR Walker 86.23 49 P P 04 16 28.4 -0.1
WAKR IAmb IAmb 04 16 29.7
comp=Z,20nm,1.1s
G03D McMinnville, O 86.23 42 P P 04 16 27.8 -0.2
baz=245
H04D Lebanon 86.29 42 P P 04 16 27.8 -0.6
baz=246
BAR Barrett 86.30 55 P P 04 16 28.5 -0.2
DOT Dot Lake 86.32 20 P P 04 16 27.3 -0.9
DOT IAmb IAmb 04 16 29.2
comp=Z,14nm,0.8s
POKR Poker Plat Res 86.32 18 P P 04 16 26.5 -1.6
baz=224
PNTR Pine Nut 86.33 48 P P 04 16 29.1 +0.1
PNTR IAmb IAmb 04 16 29.9
comp=Z,19nm,1.2s
MLAC Mammoth, Mammo 86.36 50 P P 04 16 28.7 -0.5
baz=249
VCNR Virginia City 86.37 48 P P 04 16 29.4 +0.2
LRMC Laurel Mtn Rad 86.46 52 P P 04 16 29.3 -0.3
baz=250,SNR=6.7
CWC Cottonwood Cre 86.50 51 P P 04 16 29.1 -0.7
baz=249
BBB Bella Bella 86.50 34 P P 04 16 28.1 -1.1
BBB IAmb IAmb 04 16 30.7
comp=Z,32nm,1.5s
WRAK Wrangell Islan 86.53 29 P P 04 16 29.6 +0.5
YERR Yerington 86.55 48 P P 04 16 29.5 -0.5
YERR IAmb IAmb 04 16 30.8
comp=Z,22nm,1.4s
MONP2 Monument Peak 86.56 55 P P 04 16 30.1 -0.1
baz=250,SNR=11
SCRK Sand Creek 86.57 19 P P 04 16 28.1 -1.4
baz=227,SNR=13
BESE Bessie Mountai 86.60 26 P P 04 16 29.1 -0.5
BESE IAmb IAmb 04 16 31.0
comp=Z,24nm,1.3s
TIN Tinemaha, Big 86.60 51 P P 04 16 29.5 -0.7
baz=249
E03A Lebam 86.60 40 P P 04 16 30.0 +0.2
E03A IAmb IAmb 04 16 31.3
comp=Z,34nm,0.9s
BBRC Big Bear Solar 86.63 54 P P 04 16 29.7 -0.8
baz=250
ESJX Sierra Juarez 86.65 56 P P 04 16 30.1 -0.5
BCAR Beaver Creek A 86.69 21 P P 04 16 26.9 -3.0
PAHR Pah Rah Range 86.71 48 P P 04 16 30.7 0.0
H04A Detroit Lake 86.72 42 P P 04 16 29.3 -1.2
H04A IAmb IAmb 04 16 30.8
comp=Z,14nm,0.7s
IKP In-Ko-Pah, Jac 86.73 55 P P 04 16 30.5 -0.4
baz=251,SNR=5.5
NLWA Neilton Lookou 86.77 39 P P 04 16 30.5 -0.2
PFO Pinyon Flats O 86.78 54 P P 04 16 30.8 -0.3
PFO pmax pmax
comp=Z,11nm,1.1s
PFO Pinyon Flats O 86.78 54 P P 04 16 30.8 -0.3
baz=250,SNR=7.2
PFO Pinyon Flats O 86.78 54 P P 04 16 30.8 -0.3
J05D Fort Rock, OR 86.79 44 P P 04 16 30.8 -0.2
baz=247,SNR=20
K05A Summer Lake 86.80 45 P P 04 16 31.4 +0.2
K05A IAmb IAmb 04 16 32.3
comp=Z,48nm,1.4s
MPMC Manual Prospec 86.81 52 P P 04 16 31.0 -0.3
baz=250,SNR=14
LHV Little Huntoon 86.82 49 P P 04 16 31.5 +0.5
HYT Haines Junctio 86.84 24 P P 04 16 30.0 -0.8
MOD Modoc Plateau 86.89 45 P P 04 16 31.3 -0.2
SKAG Skagway 86.91 26 P P 04 16 31.1 +0.2
RYN Ryan 86.94 49 P P 04 16 31.8 -0.1
NVAR Mina Array Bea 87.03 49 P P 04 16 32.0 -0.4
comp=Z,5.8nm,0.8s,baz=229,slow=7.8,SNR=40
NVAR PKPPKP P'P'df 04 42 32.9 +1.7
comp=Z,0.1nm,0.4s,baz=82,slow=3.1,SNR=4.4
NVAR LR LR 04 52 10.8
comp=Z,67nm,18.1s,baz=268,slow=33
NVAR Mina Array Bea 87.03 49 P P 04 16 31.4 -1.1
F04A Amboy 87.07 41 P P 04 16 32.1 0.0
F04A IAmb IAmb 04 16 32.8
comp=Z,41nm,1.4s
GSC Goldstone, Bar 87.07 53 P P 04 16 32.6 +0.1
GSC pmax pmax
comp=Z,19nm,1.4s
GSC Goldstone, Bar 87.07 53 P P 04 16 31.9 -0.6
baz=250,SNR=5.4
GSC Goldstone, Bar 87.07 53 P P 04 16 32.6 +0.1
SWSC Sam W. Stewart 87.08 55 P P 04 16 32.3 -0.2
baz=251,SNR=7.0
I05D Terrebonne, OR 87.13 43 P P 04 16 32.2 -0.4
baz=247,SNR=7.3
COLD Coldfoot 87.14 15 P P 04 16 31.7 -0.2
baz=221
COLD Coldfoot 87.14 15 P P 04 16 33.3 +1.4
COLD IAmb IAmb 04 16 33.6
comp=Z,23nm,1.3s
NV11 Mina Array Sit 87.14 49 P P 04 16 32.3 -0.6
PINE Pine Mountain 87.18 44 P P 04 16 32.9 0.0
PINE IAmb IAmb 04 16 34.1
comp=Z,32nm,1.3s
SFX San Felipe 87.22 57 P P 04 16 33.4 +0.2
GRAC Grapevine Rang 87.23 51 P P 04 16 32.9 -0.3
baz=250,SNR=6.3
K27K Chicken 87.23 20 P P 04 16 31.9 -0.5
baz=228
E04D Cinebar 87.23 41 P P 04 16 32.2 -0.7
baz=246,SNR=7.5
MOY Mondy 87.23 325 eP P 04 16 33.4 +0.5
MOY pmax pmax
comp=Z,46nm,1.8s
BELC Belle Mtn. Jos 87.27 54 P P 04 16 33.5 0.0
baz=251,SNR=17
HEC Hector,Ludlow 87.28 53 P P 04 16 32.7 -0.8
baz=250
D03D Eldon 87.31 39 P P 04 16 33.1 -0.1
baz=245,SNR=13
KVN Kaiserville 87.40 49 P P 04 16 33.6 -0.5
KVN pmax pmax
comp=Z,6.0nm,0.8s
KVN Kaiserville 87.40 49 P P 04 16 33.6 -0.5
FURC Furnace Creek, 87.42 51 P P 04 16 33.8 -0.2
baz=250,SNR=18
G05D Wamic, OR 87.50 42 P P 04 16 33.6 -0.7
baz=247
PGC Sidney 87.56 38 P P 04 16 34.4 0.0
PGC IAmb IAmb 04 16 35.2
comp=Z,23nm,1.1s
BC3 Big Chuckawall 87.58 55 P P 04 16 35.0 +0.1
baz=251,SNR=13
TAPN Taplejung 87.60 299 eP P 04 16 35.8 +0.4
TAPN Taplejung 87.60 299 eP P 04 16 35.8 +0.4
F05D White Salmon 87.67 41 P P 04 16 34.4 -0.5
baz=247
SHOC Shoshone, Teco 87.68 52 P P 04 16 34.9 -0.4
baz=250,SNR=10
TPH Tonopah 87.71 50 P P 04 16 35.5 -0.1
TPH pmax pmax
comp=Z,79nm,1.5s
TPH Tonopah 87.71 50 P P 04 16 35.5 -0.1
ODAN Odare 87.72 298 eP P 04 16 35.8 -0.2
comp=Z,109nm,0.9s
ODAN Odare 87.72 298 eP P 04 16 35.8 -0.2
comp=Z,109nm,0.9s
GMRC Granite Mounta 87.79 53 P P 04 16 35.6 -0.3
baz=251,SNR=13
LON Longmire 87.79 41 P P 04 16 35.1 -0.5
LON pmax pmax

comp=Z,13nm,1.4s
LON Longmire 87.79 41 P P 04 16 35.1 -0.5
TUQ Turquoise Moun 87.80 53 P P 04 16 35.6 -0.4
baz=251,SNR=19
D05A Enumclaw 87.85 40 P P 04 16 36.3 +0.5
D05A IAmb IAmb 04 16 37.2
comp=Z,29nm,1.0s
GLA Glamis 87.88 55 P P 04 16 37.1 +0.8
GLA pmax pmax
comp=Z,23nm,1.0s
GLA Glamis 87.88 55 P P 04 16 36.3 0.0
baz=251
GLA Glamis 87.88 55 P P 04 16 37.1 +0.8
GLA IAmb IAmb 04 16 38.0
comp=Z,23nm,0.9s
IRM Iron Mountain 87.99 54 P P 04 16 36.8 0.0
baz=251,SNR=20
EGAK Eagle 88.02 20 P P 04 16 35.0 -1.1
A04D Lummi Island 88.04 38 P P 04 16 35.5 -1.0
baz=246
TPNV Topopah Spring 88.05 51 P P 04 16 36.9 -0.3
TPNV pmax pmax
comp=Z,8.0nm,0.8s
TPNV Topopah Spring 88.05 51 P P 04 16 37.0 -0.3
baz=250,SNR=16
TPNV Topopah Spring 88.05 51 P P 04 16 36.9 -0.3
B05A Bryant 88.22 39 P P 04 16 37.2 -0.3
baz=246
WVOR Wild Horse Val 88.24 45 P P 04 16 37.3 -0.6
WVOR pmax pmax
comp=Z,27nm,1.4s
WVOR Wild Horse Val 88.24 45 P P 04 16 37.3 -0.6
WVOR IAmb IAmb 04 16 39.1
comp=Z,27nm,1.4s
I07A Izee 88.25 44 P P 04 16 37.8 -0.1
I07A IAmb IAmb 04 16 39.0
comp=Z,31nm,1.4s
TOLK Toolik Lake Re 88.36 14 P P 04 16 38.1 +0.4
baz=221
TOLK Toolik Lake Re 88.36 14 P P 04 16 38.3 +0.5
RAMN Ramite 88.42 298 eP P 04 16 39.0 -0.3
RAMN Ramite 88.42 298 eP P 04 16 39.0 -0.3
113A Mohawk Valley, 88.64 56 P P 04 16 40.2 +0.4
113A IAmb IAmb 04 16 41.2
comp=Z,16nm,1.1s
DLBC Dease Lake 88.66 28 P P 04 16 38.7 -0.7
comp=Z,2.3nm,0.8s,baz=231,slow=7.0,SNR=4.8
DLBC Dease Lake 88.66 28 P P 04 16 38.9 -0.5
F07A Phinny Hill Vi 88.66 42 P P 04 16 39.8 +0.2
F07A IAmb IAmb 04 16 40.6
comp=Z,23nm,1.3s
J08A Circle Bar Ran 88.68 45 P P 04 16 40.0 +0.1
J08A IAmb IAmb 04 16 41.5
comp=Z,33nm,1.2s
LTY Liberty 88.71 40 P P 04 16 39.2 -0.7
LTY IAmb IAmb 04 16 40.5
comp=Z,24nm,1.3s
SHPR Sheep Range 88.73 52 P P 04 16 40.9 +0.5
SHPR IAmb IAmb 04 16 41.8
comp=Z,26nm,1.2s
BMAR Burnt Mountain 88.78 17 P P 04 16 38.4 -1.4
PDMCI Parker Dam,Lak 88.82 54 P P 04 16 40.6 -0.1
baz=252,SNR=12
E07A Sunnyside 88.95 41 P P 04 16 41.0 0.0
JIRN Jiri 88.98 299 eP P 04 16 41.9 -0.1
comp=Z,136nm,1.1s
JIRN Jiri 88.98 299 eP P 04 16 41.9 -0.1
comp=Z,136nm,1.1s
SYO Syowa Base 89.00 197 || eP P 04 16 39.3 -1.5
SYO Syowa Base 89.00 197 || ePcP P 04 16 40.3 -0.5
R11A Troy Canyon, C 89.01 50 P P 04 16 41.3 -0.4
baz=251,SNR=20
R11A Troy Canyon, C 89.01 50 P P 04 16 41.6 -0.1
G08A Pilot Rock 89.06 43 P P 04 16 41.5 -0.2
G08A IAmb IAmb 04 16 42.5
comp=Z,34nm,1.2s
HAWA Hanford 89.10 41 P P 04 16 41.4 -0.2
HAWA IAmb IAmb 04 16 42.8
comp=Z,38nm,1.4s
PRN Pahroc Range 89.11 51 P P 04 16 42.4 +0.2
PRN IAmb IAmb 04 16 43.5
comp=Z,36nm,1.2s
214A Organ Pipe Nat 89.17 57 P P 04 16 42.3 -0.1
baz=252
214A Organ Pipe Nat 89.17 57 P P 04 16 43.0 +0.7
214A IAmb IAmb 04 16 43.9
comp=Z,17nm,1.1s
W13A Hualapai Mount 89.27 54 P P 04 16 43.0 -0.1
W13A IAmb IAmb 04 16 44.3
comp=Z,16nm,1.1s
GUN Gumba 89.31 299 eP P 04 16 43.4 -0.1
comp=Z,90nm,1.0s
GUN Gumba 89.31 299 eP P 04 16 43.4 -0.1
comp=Z,90nm,1.0s
E08A Dider Farm, El 89.44 42 P P 04 16 43.6 +0.4
PKI Pulchoki 89.62 298 eP P 04 16 44.6 -0.3
comp=Z,102nm,1.1s
PKI Pulchoki 89.62 298 eP P 04 16 44.6 -0.3
comp=Z,102nm,1.1s
PKIN Phulchoki 89.63 298 eP P 04 16 44.4 -0.5
comp=Z,96nm,1.1s
PKIN Phulchoki 89.63 298 eP P 04 16 44.4 -0.5
comp=Z,96nm,1.1s
TIXI Tiksi 89.70 349 c iP P 04 16 43.0 -0.9
TIXI pmax pmax
comp=Z,31nm,1.3s
TIXI Tiksi 89.70 349 P P 04 16 42.5 -1.4
TIXI IAmb IAmb 04 16 44.9
comp=Z,18nm,0.9s
D08A Wollman Farm, 89.74 41 P P 04 16 44.7 +0.1
D08A IAmb IAmb 04 16 45.6
comp=Z,14nm,1.0s
KKN Kakani 89.79 299 eP P 04 16 45.3 -0.3
comp=Z,96nm,1.2s
KKN Kakani 89.79 299 eP P 04 16 45.3 -0.3
comp=Z,96nm,1.2s
HSIG 89.85 60 P P 04 16 45.5 0.0
HSIG IAmb IAmb 04 16 46.5
comp=Z,17nm,1.2s
DMN Daman 89.89 298 eP P 04 16 46.0 -0.1
comp=Z,141nm,1.0s
DMN Daman 89.89 298 eP P 04 16 46.0 -0.1
comp=Z,141nm,1.0s
B08A Colville Reser 89.96 40 P P 04 16 45.0 -0.7
B08A IAmb IAmb 04 16 46.1
comp=Z,20nm,1.1s
BMO Blue Mountains 90.00 43 P P 04 16 45.5 -0.6
BMO pmax pmax
comp=Z,17nm,1.1s
BMO Blue Mountains 90.00 43 P P 04 16 45.5 -0.6
BMO IAmb IAmb 04 16 46.7
comp=Z,17nm,1.1s
E09A Wood Farm, Sta 90.03 42 P P 04 16 45.9 -0.1
E09A IAmb IAmb 04 16 46.8
comp=Z,25nm,1.2s
ELK Elko 90.05 48 P P 04 16 46.3 -0.2
ELK pmax pmax
comp=Z,8.0nm,0.8s
ELK Elko 90.05 48 P P 04 16 46.3 -0.2
LCMT Little Creek M 90.35 52 P P 04 16 48.0 +0.1
PSUT Pine Spring 90.36 50 P P 04 16 48.2 +0.2
GKN Gorkha 90.39 299 eP P 04 16 47.6 -0.7
GKN Gorkha 90.39 299 eP P 04 16 47.6 -0.7
C09A Chrisman Ranch 90.42 40 P P 04 16 47.6 -0.2
CCUT Cedar City 90.43 51 P P 04 16 48.7 +0.3
F10A Beach Ranch, E 90.44 42 P P 04 16 47.5 -0.6
MFID Camas Ranch 90.51 45 P P 04 16 47.2 -1.3
MFID IAmb IAmb 04 16 49.3
comp=Z,16nm,1.1s
SZCU Shurtz Canyon 90.65 51 P P 04 16 50.0 +0.6
KNB Kanab 90.67 52 P P 04 16 49.6 +0.1
KNB pmax pmax
comp=Z,18nm,1.1s
KNB Kanab 90.67 52 P P 04 16 49.6 +0.1
U15A North Rim 90.91 53 P P 04 16 51.0 +0.2
U15A IAmb IAmb 04 16 52.2
comp=Z,19nm,1.1s
TUC Tucson 90.91 57 P P 04 16 50.9 +0.4
TUC pmax pmax
comp=Z,10.0nm,1.0s
TUC Tucson 90.91 57 P P 04 16 50.6 +0.1
baz=254
TUC Tucson 90.91 57 P P 04 16 50.9 +0.4
TUC IAmb IAmb 04 16 52.1
comp=Z,10nm,1.0s

X16A Lo Mia Camp, P 90.99 55 P P 04 16 51.6 +0.6
X16A IAmb IAmb 04 16 52.5
comp=Z,11nm,1.1s
PKCU Pink Cliffs 91.19 52 P P 04 16 53.2 +1.1
KOLN Koldanda 91.21 298 *eP* **P 04 16 51.0 -1.2**
comp=Z,54nm,1.3s
KOLN Koldanda 91.21 298 *eP* **P 04 16 51.0 -1.2**
comp=Z,54nm,1.3s
NEW Newport 91.30 40 P P 04 16 51.5 -0.4
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 91.30 40 P P 04 16 51.5 -0.4
baz=250
NEW Newport 91.30 40 P P 04 16 51.5 -0.4
NEW IAmb IAmb 04 16 52.8
comp=Z,8.5nm,0.8s
WUAZ Wupatki 91.35 54 P P 04 16 52.5 -0.2
baz=253
WUAZ Wupatki 91.35 54 P P 04 16 53.1 +0.5
WUAZ IAmb IAmb 04 16 54.0
comp=Z,12nm,1.1s
MTPU Mount Pierson 91.46 51 P P 04 16 54.3 +0.9
HLID Hailey 91.53 45 P P 04 16 53.2 -0.1
baz=252
HLID Hailey 91.53 45 P P 04 16 53.5 +0.2
MVU Marysvale 91.58 51 P P 04 16 54.4 +0.7
MSU Marysvale 91.61 51 P P 04 16 54.6 +0.8
MSU Marysvale 91.61 51 P P 04 16 54.6 +0.8
DUG Dugway, Tooele 91.64 49 P P 04 16 53.7 -0.1
DUG pmax pmax
comp=Z,10.0nm,1.5s
DUG Dugway, Tooele 91.64 49 P P 04 16 53.5 -0.3
baz=252
DUG Dugway, Tooele 91.64 49 P P 04 16 53.7 -0.1
PYUN Piuthan 91.82 298 *eP* **P 04 16 54.0 -1.0**
comp=Z,30nm,0.9s
PYUN Piuthan 91.82 298 *eP* **P 04 16 54.0 -1.0**
comp=Z,30nm,0.9s
319A Douglas 91.89 58 P P 04 16 55.9 +0.8
319A IAmb IAmb 04 16 57.1
comp=Z,14nm,0.9s
W18A Petrified Fore 92.53 55 P P 04 16 57.3 -0.8
baz=254
W18A Petrified Fore 92.53 55 P P 04 16 59.0 +0.9
W18A IAmb IAmb 04 17 00.7
comp=Z,14nm,1.0s
TMUT Trail Mountain 92.56 50 P P 04 16 58.6 +0.3
WMQ Urumqi 92.57 315 *eP* **P 04 16 58.5 +0.6**
WMQ pmax pmax
comp=Z,27nm,1.7s
WMQ pmax pmax
comp=Z,62nm,3.7s
WMQ LR LR
comp=Z,680nm,29.2s
WMQ LR LR
comp=Z,590nm,28.9s
WMQ LR LR
comp=Z,36nm,29.2s
MCMT McKenzie Canyo 92.99 45 P P 04 17 00.2 +0.1
SRU San Rafael Swe 93.02 51 P P 04 17 00.0 -0.3
SRU pmax pmax
comp=Z,9.0nm,1.4s
SRU San Rafael Swe 93.02 51 P P 04 17 00.0 -0.3
HYB Hyderabad 93.10 287 *i P* **P 04 17 01.0 +0.1**
NVL N'lazarevskaya 93.35 188 *eP* **P 04 16 59.6 -1.3**
NVL pmax pmax
comp=Z,9.0nm,0.7s
121A Cookes Peak, D 93.42 57 P P 04 17 01.9 -0.3
baz=255
WALA Waterton Lakes 93.57 40 P P 04 17 03.1 +0.6
WALA IAmb IAmb 04 17 05.1
comp=Z,9.3nm,1.2s
SNAA Sanae 93.84 183 P P 04 17 02.1 -1.2
SNAA Sanae 93.84 183 P P 04 17 02.4 -0.9
comp=Z,5.7nm,0.7s,baz=198,slow=5.8,SNR=28
SNAA Sanae 93.84 183⇑ *eP* **P 04 17 02.5 -0.9**
SNAA pmax pmax
comp=Z,23nm,1.6s
SNAA Sanae 93.84 183 P P 04 17 01.6 -1.7
SNAA IAmb IAmb 04 17 03.5
comp=Z,15nm,1.2s
REDW Red Top Meadow 93.95 46 P P 04 17 04.0 -0.6
BOZ Bozeman (W) 94.04 44 P P 04 17 04.7 -0.1
BOZ pmax pmax
comp=Z,5.0nm,1.2s
BOZ Bozeman (W) 94.04 44 P P 04 17 05.0 +0.2
baz=254
BOZ Bozeman (W) 94.04 44 P P 04 17 04.7 -0.1
DGZ Jazzator, Alta 94.48 320 *c i P* **P 04 17 06.4 -0.3**
DGZ pmax pmax
comp=Z,28nm,1.1s
VNA3 Neumayer Olymp 94.50 181 P P 04 17 04.9 -1.4
PD31 Pinedale Array 94.70 47 P P 04 17 07.3 -0.7
PDAR Pinedale Array 94.70 47 P P 04 17 07.0 -1.0
comp=Z,0.7nm,0.5s,baz=234,slow=3.4,SNR=12
PDAR PKKPbc **PKKPdf 04 34 03.3 -2.5**
comp=Z,0.5nm,0.8s,baz=99,slow=7.7,SNR=4.3
PDAR Pinedale Array 94.70 47 P P 04 17 06.6 -1.4
BNM Barren Site 94.76 56 P P 04 17 08.8 +0.4
VNA2 Neumayer--Watz 94.77 182 P P 04 17 06.7 -0.8
YNE Yellowstone No 94.98 45 P P 04 17 11.3 +2.1
O20A White River Ci 94.99 50 P P 04 17 09.1 -0.2
baz=255
O20A White River Ci 94.99 50 P P 04 17 09.1 -0.2
O20A IAmb IAmb 04 17 10.3
comp=Z,5.0nm,0.7s
VNA1 Neumayer--Stat 95.07 181 P P 04 17 07.9 -0.9
ANMO Albuquerque 95.09 55⇓ *eP* **P 04 17 09.0 -0.9**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 95.09 55 P P 04 17 09.5 -0.4
baz=256
ANMO Albuquerque 95.09 55 P P 04 17 09.5 -0.4
MNTX Cornudas Mount 95.19 59 P P 04 17 09.6 -0.6
baz=256
S22A 4UR Ranch, Cre 95.47 53 P P 04 17 11.1 -0.5
baz=256
S22A 4UR Ranch, Cre 95.47 53 P P 04 17 11.8 +0.1
ZSN Zaisan 95.50 317 *eP* **P 04 17 10.8 -0.5**
comp=Z,13nm,1.2s,baz=318
ZSN Zaisan 95.50 317 *eP* **P 04 17 10.7 -0.5**
ZSN pmax pmax
comp=Z,13nm,1.2s
RLMT Red Lodge 95.52 45 P P 04 17 12.1 +0.5
baz=255
TXAR Lajitas Array 96.08 61 P P 04 17 14.2 -0.2
comp=Z,0.7nm,0.7s,baz=219,slow=5.1,SNR=6.0
GDL2 Guadalupe Moun 96.14 58 P P 04 17 13.6 -1.1
ISCO Idaho Springs 96.87 51 P P 04 17 17.3 -0.7
baz=257
N23A Red Feather La 96.87 50 P P 04 17 17.5 -0.4
baz=257
MK31 Makanchi Array 97.04 316 P Pdif 04 17 18.5 +0.2
MK31 pmax pmax
comp=Z,30nm,1.2s
MK31 Makanchi Array 97.04 316 P Pdif 04 17 18.4 +0.2
MKAR Makanchi Array 97.04 316 P Pdif 04 17 18.7 +0.4
comp=Z,17nm,0.9s,baz=101,slow=6.5,SNR=86
MKAR PP **PP 04 21 11.9 -5.0**
comp=Z,0.2nm,0.4s,baz=109,slow=7.8,SNR=3.2
MKAR PKiKP **PKiKP 04 21 52.4 -0.7**
comp=Z,0.9nm,0.7s,baz=244,slow=1.5,SNR=5.6
MKAR PKKPbc **PKKPbc 04 33 57.3 -2.4**
comp=Z,0.4nm,0.5s,baz=252,slow=3.5,SNR=4.4
MKAR Makanchi Array 97.04 316 P P 04 17 17.6 -0.6
ZAA0 Zalesovo Array 97.20 324 P P 04 17 16.8 -1.9
ZALV Zalesovo Beam 97.20 324 P P 04 17 17.7 -1.0
comp=Z,20nm,1.0s,baz=108,slow=4.8,SNR=50
ZALV Zalesovo Beam 97.20 324 P P 04 17 17.0 -1.7
ZALV Zalesovo Beam 97.20 324 P P 04 17 17.0 -1.7
MAKZ Makanchi 97.25 316 P Pdif 04 17 19.5 +0.3
MAKZ pmax pmax
comp=Z,37nm,1.2s
MAKZ Makanchi 97.25 316 P Pdif 04 17 19.5 +0.2
YKA Yellowknife Ar 97.26 27 P P 04 17 17.6 -1.2
comp=Z,3.0nm,0.7s,baz=259,slow=4.8,SNR=9.1
SHLS Shalkode 98.20 312 *eP* **P 04 17 21.6 -2.0**
comp=Z,3.1nm,1.2s,baz=312
SHLS Shalkode 98.20 312 *eP* **P 04 17 21.6 -2.0**
SHLS pmax pmax
comp=Z,3.0nm,1.2s
UZB Uzynbulak 98.51 312 *eP* **P 04 17 24.2 -0.9**
baz=312
UZB Uzynbulak 98.51 312 *eP* **P 04 17 24.2 -0.9**
AMTX Amarillo 98.90 56 P P 04 17 26.2 -0.8
baz=259
NRIK Noril'sk 99.83 339 P Pdif 04 17 29.4 -0.6
comp=Z,7.3nm,0.7s,baz=132,slow=4.0,SNR=11
MDOK Medeo 99.93 312 *eP* **Pdif 04 17 30.8 -0.6**
baz=312
MDOK Medeo 99.93 312 *eP* **Pdif 04 17 30.8 -0.6**
TNSS Tian-Shan 99.98 312 *eP* **Pdif 04 17 30.5 -1.5**
baz=312
TNSS Tian-Shan 99.98 312 *eP* **Pdif 04 17 30.4 -1.5**
KURK Kurchatov 100.22 320 *d i P* **Pdif 04 17 31.7 -0.6**
SGDS Sogindy 101.72 312 *eP* **Pdif 04 17 38.6 -0.6**
comp=Z,1.6nm,0.7s,baz=312
SGDS Sogindy 101.72 312 *eP* **Pdif 04 17 38.6 -0.6**
SGDS pmax pmax
comp=Z,2.0nm,0.7s
SFIN Lafayette 111.01 52 P PKiKP 04 22 18.6 -0.3
baz=269
ARU Arti 112.29 325⇓ *i* PKIKP **PKiKP 04 22 20.7 -0.1**
ARU pmax pmax
comp=Z,14nm,1.3s
TZTN Tazewell 113.73 56 P PKiKP 04 22 23.4 -0.8
baz=269
GEYT Alibeck 113.82 305 PKiKP **PKiKP 04 22 24.5 +0.2**
comp=Z,2.3nm,0.7s,baz=318,slow=2.0,SNR=4.0
KBS Kingsbay 114.42 355 *e* PKPdf **PKiKP 04 22 24.5 +0.2**
T53A Wise 114.55 56 P PKPdf 04 22 25.5 -0.3
baz=270
T54A Tazewell 115.31 56 P PKPdf 04 22 26.8 -0.5
baz=271
V55A Taylorsville 115.61 57 P PKPdf 04 22 27.2 -0.6
baz=270
U55A TA2, Sparta 115.74 56 P PKPdf 04 22 27.7 -0.4
baz=271
NHSC New Hope 116.47 60 P PKPdf 04 22 28.9 -0.6
baz=270
X57A Johnson Farm, 116.54 59 P PKPdf 04 22 29.0 -0.6
baz=270
LPAZ La Paz 117.28 117 PKP **PKPdf 04 22 31.7 -0.6**
comp=Z,0.5nm,0.6s,baz=355,slow=3.7,SNR=3.7
LPAZ PKKPbc **PKKPbc 04 32 56.1 -0.3**
comp=Z,2.1nm,0.8s,baz=46,slow=5.7,SNR=7.0
LPAZ La Paz 117.28 117 PKKPbc PKKPbc 04 32 56.4 0.0
PRGR Permogore 117.44 333 *e* PKiKP **PKPdf 04 22 29.0 -1.5**
R58B Mineral 118.22 55 P PKPdf 04 22 32.1 -0.7
baz=274
LVZ Lovozero 118.55 342⇓ *i* PKIKP **PKiKP 04 22 32.7 +0.1**
E57A Chemin Saint G 119.93 45 P PKPdf 04 22 35.2 -0.6
baz=281
O60A Telford 119.93 52 P PKPdf 04 22 35.5 -0.5
baz=276
SUMG Summit 119.94 9 PKIKP **PKPdf 04 22 35.5 -0.1**
SUMG Summit 119.94 9 P PKPdf 04 22 35.5 -0.1
LONY Lake Ozonia 119.94 47 P PKPdf 04 22 34.9 -1.0
baz=280
L59A Walton 119.97 49 P PKPdf 04 22 35.9 -0.2
baz=278
ARCES ARCESS Array B 119.99 345 PKP **PKPdf 04 22 34.7 -0.6**
comp=Z,5.1nm,0.3s,baz=52,slow=1.9,SNR=98
ARE0 ARCESS Array S 119.99 345 *e* PKPdf **PKPdf 04 22 34.9 -0.3**
KLMR Klimovskoe 120.45 333 *e* PKiKP **PKPdf 04 22 34.4 -1.9**
KLMR pmax pmax
comp=Z,37nm,1.1s
KLMR Klimovskoe 120.45 333 *e* PKPdf **PKPdf 04 22 34.5 -1.9**
KLMR AMP 04 22 37.9
comp=Z,37nm,1.1s
E58A La Victoria 120.53 44 P PKPdf 04 22 36.3 -0.6
baz=282
CPUP Villa Florida 120.60 133 PKP **PKiKP 04 22 38.8 +1.0**
comp=Z,0.5nm,0.5s,baz=180,slow=2.0,SNR=3.1
KTK1 Kautokeino 120.92 346 *e* PKPdf **PKPdf 04 22 36.5 -0.5**
I60A Shoreham 120.99 47 P PKPdf 04 22 37.7 -0.2
baz=280
TRO Tromso 121.40 348 *e* PKPdf **PKPdf 04 22 37.5 -0.3**
F60A Warwick 121.51 45 P PKPdf 04 22 38.5 -0.4
baz=282
AKT Akhty 121.54 310 *e* PKIKP **PKiKP 04 22 39.5 +0.1**
AKT *e* 04 24 12.5
AKT pmax pmax
comp=Z,30nm,1.1s
I61A Oroboro, Fairl 121.74 47 P PKPdf 04 22 38.8 -0.6
baz=281
SCHQ Schefferville 122.02 34 PKP **PKPdf 04 22 39.5 -0.1**
comp=Z,1.5nm,0.5s,baz=217,slow=16,SNR=1.6
VRH Novokhopyorsk 123.20 322 *e* PKiKP **PKPdf 04 22 41.4 -0.5**
VRH pmax pmax
comp=Z,60nm,1.2s
G63A Kingsbury 123.30 45 P PKPdf 04 22 42.1 -0.2
baz=284
PKME Peaks-Kenny Pk 123.49 45 P PKPdf 04 22 42.7 0.0
baz=284
F63A Nahmakanta, Br 123.51 44 P PKPdf 04 22 42.7 0.0
baz=285
STEI Steigen 123.57 348 *e* PKPdf **PKiKP 04 22 42.3 0.0**
BOSA Boshof 123.64 220 PKP **PKPdf 04 22 43.6 0.0**
comp=Z,6.1nm,0.9s,baz=132,slow=4.2,SNR=5.6
MOS Moscow 123.67 328 *e* PKiKP **PKPdf 04 22 40.8 -1.8**
MOS pmax pmax
comp=Z,59nm,0.9s
TBLG Delisi 123.71 311 PKIKP **PKiKP 04 22 44.3 +0.8**
TBLG Delisi 123.71 311 PKPdf **PKiKP 04 22 44.3 +0.8**
ZEI Tsey 124.10 312 *i* PKIKP **PKPdf 04 22 44.3 +0.1**
ZEI pmax pmax
comp=Z,17nm,0.9s
LPSR Galich'ya Gora 124.30 325 *e* PKiKP **PKiKP 04 22 44.1 -0.1**
LPSR pmax pmax
comp=Z,70nm,1.0s
OBN Obninsk 124.49 328 PKP **PKiKP 04 22 44.6 +0.1**
comp=Z,4.7nm,0.3s,baz=167,slow=1.0,SNR=9.0
OBN Obninsk 124.49 328 *d i* PKIKP **PKiKP 04 22 44.4 -0.1**
OBN pmax pmax
comp=Z,55µm,1.2s
OBN MLR MLR
comp=Z,70nm,23.0s
KBZ Khabaz 124.60 313 PKP **PKiKP 04 22 45.3 +0.2**
comp=Z,6.0nm,0.9s,baz=144,slow=2.2,SNR=7.7
AKH Akhalkalaki 124.69 311 ⇑P PKiKP 04 22 46.7 +1.0
AKH Akhalkalaki 124.69 311 PKIKP **PKiKP 04 22 46.5 +0.8**
AKH Akhalkalaki 124.69 311 PKPdf **PKiKP 04 22 46.5 +0.8**
KIV Kislovodsk 124.69 314 *i* PKIKP **PKiKP 04 22 45.5 0.0**
KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,154nm,22.0s
VSR Storozhevoye 124.69 323 *e* PKiKP **PKPdf 04 22 44.2 -0.6**
VSR pmax pmax
comp=Z,30nm,0.7s
VORD Divnogorie 124.71 323 *e* PKiKP **PKPdf 04 22 43.9 -0.9**
VORD pmax pmax
comp=Z,30nm,1.1s
MOR8 Moi Rana 125.22 347 *e* PKPdf **PKPdf 04 22 44.9 -0.5**
KONS Konsvik 125.23 348 *e* PKPdf **PKPdf 04 22 45.4 +0.1**
FIA1 FINESS Array S 125.48 338 PKPdf **PKPdf 04 22 45.7 -0.2**
FINES FINESS Array B 125.48 338 PKP **PKPdf 04 22 45.7 -0.3**
comp=Z,17nm,0.9s,baz=96,slow=3.3,SNR=48
FINES FINESS Array B 125.48 338 PKPdf **PKPdf 04 22 45.2 -0.7**
GEVA Gevas 125.61 307 PKPdf **PKiKP 04 22 47.8 +0.2**
LBTB Lobatse 125.87 224 PKP **PKPdf 04 22 47.6 -0.5**
comp=Z,1.5nm,0.7s,baz=165,slow=4.3,SNR=4.6
BCA Borcka 126.05 311 ⇑P PKiKP 04 22 48.5 +0.3
MATP Matopo 126.73 230 PKP **PKPdf 04 22 49.5 -0.3**
comp=Z,7.0nm,1.0s,baz=160,slow=3.4,SNR=7.5
SOC Sochi 126.87 314 *i* PKIKP **PKPdf 04 22 48.8 -0.4**
SOC *e* 04 24 47.8
SOC *e* PPP PPP 04 27 33.3
SOC *e* PS **PS 04 34 51.2 -5.1**
SOC *e* SS SS 04 41 32.3 -8.1
SOC *e* SSS SSS 04 46 28.6
SOC pmax pmax
comp=Z,12nm,0.7s
NSS Namsos 127.17 347 *e* PKPdf **PKPdf 04 22 49.0 -0.1**
VSU Vasula 127.18 335 *e* P **PKPdf 04 22 48.9 -0.3**
VSU Vasula 127.18 335⇓ *i* PKIKP **PKPdf 04 22 49.2 -0.1**
KMBO Kilima Mbogo 128.23 257 PKP **PKiKP 04 22 54.9 +1.3**
comp=Z,3.7nm,1.0s,baz=272,slow=2.8,SNR=5.3
KMBO Kilima Mbogo 128.23 257 PKPdf **PKiKP 04 22 54.4 +0.8**
HUMP Col San Antoni 128.96 78 PKPdf 04 22 53.5 -0.3
IZAR Zarasai 129.09 333 *e* P **PKiKP 04 22 54.4 +0.6**
IDID Didziasalis 129.14 332 *e* P **PKiKP 04 22 54.6 +0.8**
ISAL Salakas 129.26 333 *e* P **PKiKP 04 22 54.7 +0.7**
IIGN Ignalina 129.35 332 *e* P **PKiKP 04 22 54.6 +0.3**
MOL Molde 129.84 348 *e* PKPdf **PKPdf 04 22 54.5 +0.3**
DOMB Dombas 129.99 347 *e* PKPdf **PKPdf 04 22 54.4 -0.2**
NC303 NORSAR Array S 130.16 345 PKiKP 04 22 55.5 -0.2
NC405 NORSAR Array S 130.17 345 PKPdf **PKiKP 04 22 55.8 0.0**
PABE Paberze 130.25 334 *e* P **PKPdf 04 22 55.3 +0.1**
AKN Aaknes 130.31 348 *e* PKPdf **PKPdf 04 22 55.2 0.0**
NB2 NORSAR Subarra 130.36 345 PKPdf **PKPdf 04 22 55.1 -0.3**
comp=Z,16nm,1.1s,baz=29,slow=1.8
NOA NORSAR Array B 130.36 345 PKP **PKPdf 04 22 55.2 -0.2**
comp=Z,5.0nm,0.9s,baz=34,slow=2.0,SNR=22
NOA SKPbc **SKPab 04 26 01.7 +1.5**
comp=Z,34nm,0.8s,baz=33,slow=2.8,SNR=130
HFS Hagfors 130.47 343 PKP **PKPdf 04 22 55.9 +0.4**
comp=Z,6.8nm,0.8s,baz=248,slow=0.8,SNR=8.7
HFS SKPbc **SKPab 04 26 01.9 +1.2**
comp=Z,35nm,0.7s,baz=46,slow=4.3,SNR=51
NBO00 NORSAR Array S 130.48 345 PKiKP 04 22 56.4 -0.1
AKASG Malin Array Be 130.53 326 PKP **PKPdf 04 22 55.8 -0.1**
comp=Z,2.9nm,0.5s,baz=51,slow=2.2,SNR=37
AKASG SKPbc **SKPab 04 26 02.4 +1.2**
comp=Z,8.8nm,0.6s,baz=44,slow=4.7,SNR=23
AKBB Malin Array Si 130.53 326 PKIKP **PKPdf 04 22 55.7 -0.2**
AKBB Malin Array Si 130.53 326 PKPdf **PKPdf 04 22 55.7 -0.2**
NC602 NORSAR Array S 130.54 345 PKPdf **PKPdf 04 22 56.0 +0.4**
NC602 NORSAR Array S 130.54 345 *e* PKPdf **PKPdf 04 22 55.6 0.0**
PBUR Paburge 130.75 335 *e* P **PKPdf 04 22 55.2 -1.0**
FOO Floro 131.22 349 *e* PKPdf **PKPdf 04 22 56.8 -0.1**
SKAR Skarslia 131.37 346 *e* PKPdf **PKPdf 04 22 57.1 -0.2**
HYA Hoyanger 131.39 348 *e* PKPdf **PKPdf 04 22 57.2 0.0**
SUW Suwalki 131.57 332 *e* PKP **SKPbc 04 26 06.2 +1.4**
ASF Jabal al Asfar 131.62 300 SKPbc **SKPab 04 26 07.6 +1.0**
comp=Z,2.1nm,0.8s,baz=176,slow=2.3,SNR=6.0
SUE Sulen 131.77 349 *e* PKPdf **PKPdf 04 22 55.8 -2.1**
ASK Askoy 132.21 348 *e* PKPdf **PKPdf 04 22 58.7 -0.1**
BR131 Keskin Array S 132.37 311 PKIKP **PKiKP 04 23 00.7 -0.4**
BR131 Keskin Array S 132.37 311 PKiKP 04 23 00.7 -0.4
BRTR Keskin Array B 132.37 311 PKP **PKPdf 04 22 59.8 -0.2**
comp=Z,6.3nm,0.9s,baz=86,slow=3.8,SNR=11
BRTR SKPbc **SKPab 04 26 09.8 +0.2**
comp=Z,5.5nm,0.8s,baz=131,slow=3.4,SNR=11
BRTR Keskin Array B 132.37 311 PKIKP **PKPdf 04 22 59.2 -0.8**
BRTR Keskin Array B 132.37 311 PKPdf **PKPdf 04 22 59.2 -0.8**
BRTR SKPbc **SKPab 04 26 09.7 0.0**
KLNR Kaliningrad 132.45 335⇑ *i* PKIKP **PKiKP 04 23 01.0 +0.5**
MMAI Mount Meron Ar 132.71 302 SKPbc **SKPab 04 26 10.9 -0.4**
comp=Z,3.5nm,0.6s,baz=79,slow=4.3,SNR=5.3
BLS5 Blasjo 132.92 347 *e* PKPdf **PKPdf 04 23 00.1 -0.1**
KMY Karmoy 133.37 347 *e* PKPdf **PKPdf 04 23 00.9 -0.1**
HOMB Homborsund 133.46 345 *e* PKPdf **PKPdf 04 23 01.7 +0.5**
TLCR 133.51 320 ⇑P PKiKP 04 23 03.1 +0.1
TLCR 133.51 320 ⇑ PKIKP **PKiKP 04 23 03.1 +0.1**
LRW Lerwick 133.60 352 IAmb IAmb 04 26 14.0
comp=Z,42nm,1.0s
LRW ⇑ *eP* **SKPbc 04 26 12.3 +0.8**
SNART Snartemo 133.72 346 *e* PKPdf **PKPdf 04 23 02.2 +0.5**
MDUB Mudurnu 133.88 313 PKPdf **PKPdf 04 23 03.2 +0.4**
TOPG Topolog 133.93 320 ⇓P PKiKP 04 23 04.1 +0.2
CFR Carcaliu 133.94 320 ⇑P PKiKP 04 23 03.2 -0.6
CFR Carcaliu 133.94 320 ⇑ PKIKP **PKiKP 04 23 03.2 -0.6**
BDFB Brasilia 134.02 129 SKPbc **SKPbc 04 26 15.6 +1.1**
comp=Z,7.1nm,0.7s,baz=222,slow=4.7,SNR=12
BDFB Brasilia 134.02 129 SKPbc **SKPbc 04 26 15.4 +0.9**
BEL Belsk 134.10 332 *e* PKP **SKPbc 04 26 15.2 +1.8**
BIZ Bicaz 134.27 323 ⇓P PKiKP 04 23 04.3 -0.2
BUR08 Bucovina Ar. S 134.41 324 PKPdf **PKiKP 04 23 04.8 -0.2**
BURAR Bucovina Array 134.41 324 ⇑P PKiKP 04 23 04.7 -0.2
BURAR Bucovina Array 134.41 324 ⇑ PKIKP **PKiKP 04 23 04.7 -0.2**
BURAR Bucovina Array 134.41 324 PKPdf **PKPdf 04 23 03.9 +0.4**
VRI Vrincioaia 134.46 322 ⇑P PKPdf 04 23 03.5 0.0
VRI Vrincioaia 134.46 322 ⇑ PKIKP **PKPdf 04 23 03.5 0.0**
PLOR Plostina 134.51 322 ⇑P PKPdf 04 23 03.8 +0.2
PLOR Plostina 134.51 322 ⇑ PKIKP **PKPdf 04 23 03.8 +0.2**
MBAR Mbarara 134.53 255⇓ *i* PKIKP **PKPdf 04 23 05.1 +0.3**
NEHR Nehoiu 134.94 321 ⇑P PKPdf 04 23 05.0 +0.5
MLR Muntele Rosu 135.12 322 PKP **PKPdf 04 23 04.8 -0.1**
comp=Z,10nm,0.9s,baz=36,slow=4.8,SNR=7.4
MLR Muntele Rosu 135.12 322 ⇑P PKPdf 04 23 04.4 -0.5
MLR Muntele Rosu 135.12 322 ⇑ PKIKP **PKPdf 04 23 04.4 -0.5**
RGN Rugen 135.13 339 *e* PKPbc **SKPbc 04 26 18.5 +1.8**
baz=36,slow=2.8
DOPR Dopca 135.21 322 ⇑P PKPdf 04 23 05.3 +0.4
KOLS Kolonicke sedl 135.24 328 *e* PKIKP **PKPdf 04 23 05.2 +0.3**
KOLS Kolonicke sedl 135.24 328 *e* PKP **PKPdf 04 23 05.2 +0.3**
KOLS *e* 04 26 18.4
UZH Uzhgorod 135.41 327 *e* PKIKP **PKPdf 04 23 05.6 +0.4**
UZH *e* 04 23 56.6
OJC Ojcow 135.64 330 *e* PKP **PKPdf 04 23 05.5 0.0**
OJC Ojcow 135.64 330 PKIKP **PKPdf 04 23 05.6 0.0**
OJC Ojcow 135.64 330 PKPdf **PKPdf 04 23 05.6 0.0**
VOIR 135.69 322 ⇑P PKiKP 04 23 07.2 -0.4
VOIR 135.69 322 ⇑ PKIKP **PKiKP 04 23 07.2 -0.4**
CJR Cluj-Napoca 135.83 324 ⇑P PKiKP 04 23 07.1 -0.7
CJR Cluj-Napoca 135.83 324 ⇑ PKIKP **PKiKP 04 23 07.1 -0.7**
NIE Niedzica 135.93 329 *e* PKP **PKiKP 04 23 07.5 -0.4**
ARR Arges 135.97 322 ⇑P PKiKP 04 23 07.9 -0.2
LEWI Lewis, Hebride 136.16 356 *e* P **SKPbc 04 26 20.6 +0.9**
MCD Coleburn Disti 136.35 353 *e* P **SKPbc 04 26 20.9 +0.6**
LANS Liptovska Anna 136.52 330 *e* PKIKP **PKiKP 04 23 08.9 -0.2**
LANS Liptovska Anna 136.52 330 *e* PKP **PKiKP 04 23 08.9 -0.2**
RUE Ruedersdorf 136.60 337 *e* PKPdf **PKPdf 04 23 06.2 -1.0**
baz=36,slow=2.0
BSEG Bad Segeberg 136.65 340 *e* PKPbc **SKPbc 04 26 23.4 +2.0**
baz=36,slow=2.8
KAC Achnashellach 136.66 354⇑ *e* P **SKPbc 04 26 22.3 +1.0**
KSP Ksiaz 136.81 333 *e* PKP **PKiKP 04 23 08.9 -0.7**
KPL Plockton 136.85 354 IAmb IAmb 04 26 24.3
comp=Z,40nm,0.9s
KPL ⇑ *eP* **SKPbc 04 26 22.7 +0.9**
MORC Moravsky Berou 137.01 331 ⇑P PKPdf 04 23 08.7 +0.5
MORC Moravsky Berou 137.01 331 *e* PKP **PKPdf 04 23 08.6 +0.5**
MORC *e* PP PP 04 26 25.4 +32
MORC Moravsky Berou 137.01 331 ⇑ PKIKP **PKPdf 04 23 08.7 +0.5**
OSTC Ostas 137.05 333 *e* PKPDF **PKiKP 04 23 09.4 -0.7**
CHVC Chvalec 137.10 333 *e* PKPDF **PKiKP 04 23 09.8 -0.4**
CHVC *e* SKP **SKPbc 04 26 25.0 +2.1**
PSZ Piszkesteto 137.11 328 ⇑P PKiKP 04 23 09.4 -0.9
PSZ Piszkesteto 137.11 328 ⇑ PKIKP **PKiKP 04 23 09.4 -0.9**
PSZ Piszkesteto 137.11 328 PKPdf **PKPdf 04 23 09.1 +0.7**
KRLC Kraliky 137.15 332 *e* PKPDF **PKiKP 04 23 09.4 -0.9**
KRLC *e* SKP **SKPbc 04 26 25.0 +2.0**
KRLC Kraliky 137.15 332 *e* PKIKP **PKiKP 04 23 09.4 -0.9**
DPC Dobruska-Polom 137.15 333 *e* PKPDF **PKPdf 04 23 08.9 +0.5**
DPC *e* SKP **SKPbc 04 26 24.8 +1.7**
DPC Dobruska-Polom 137.15 333 *e* PKIKP **PKPdf 04 23 08.9 +0.5**
VYHS Vyhne 137.26 329 *e* PKIKP **PKPdf 04 23 08.4 -0.3**
VYHS Vyhne 137.26 329 *e* PKP **PKPdf 04 23 08.4 -0.3**
VYHS *e* 04 26 26.1
HERR Herculane 137.55 323 ⇑P PKPdf 04 23 09.7 +0.4
INVG Invergeldie, C 137.58 353 IAmb IAmb 04 26 25.7
comp=Z,9.5nm,0.9s
INVG ⇑ *eP* **SKPbc 04 26 24.7 +0.7**
JAVC Velka Javorina 137.59 330 *e* PKP **PKiKP 04 23 10.7 -0.6**
JAVC *e* PP PP 04 26 27.3 +30
BZS Buzias 137.59 324 ⇑P PKPdf 04 23 09.9 +0.6
BZS Buzias 137.59 324 ⇑ PKIKP **PKPdf 04 23 09.9 +0.6**
BRG Berggiesshubel 137.78 335 *e* PKP **PKPdf 04 23 02.6 -6.8**
comp=Z,3.0nm,0.9s
BRG *i* 04 23 09.9
comp=Z,16nm,1.0s
BRG SKP **SKPbc 04 26 26.4 +1.6**
comp=Z,15nm,1.0s
BRG Berggiesshubel 137.78 335 *i* **PKPdf 04 23 09.9 +0.4**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,16nm,1.0s
BRG pmax pmax
comp=N,15nm,1.0s
BRG Berggiesshubel 137.78 335 *e* PKPdf **PKPdf 04 23 09.0 -0.5**
baz=36,slow=2.0
BRG Berggiesshubel 137.78 335 *e* PKPbc **SKPbc 04 26 26.5 +1.6**
baz=36,slow=2.8
VRAC Vranov 137.78 332 *e* PKP **PKPdf 04 23 10.4 +0.8**
comp=N,5.9nm,1.0s,baz=327,slow=4.6,SNR=5.8
VRAC SKPbc **SKPbc 04 26 25.9 +1.0**
comp=N,4.2nm,0.6s,baz=76,slow=3.7,SNR=4.1
VRAC Vranov 137.78 332 *e* PKP **PKPdf 04 23 09.9 +0.3**
VRAC *e* PP PP 04 26 26.8 +28
CLL Collm 137.82 336 *i* PKPdf **PKPdf 04 23 10.4 +0.9**
comp=Z,19nm,1.1s
CLL *i* SKPdf **SKPdf 04 26 26.8 +1.0**
comp=Z,17nm,1.0s
CLL *i* 04 26 34.7
comp=Z,8.0nm,0.8s
CLL Collm 137.82 336 *i* PKIKP **PKPdf 04 23 10.4 +0.9**
CLL pmax pmax
comp=Z,19nm,1.1s
CLL Collm 137.82 336 *e* PKPdf **PKPdf 04 23 08.5 -1.0**

baz=36,slow=2.0
CLL Collm 137.82 336 *e*PKPbc **SKPbc 04 26 26.6 +1.7**
baz=36,slow=2.8
CLL *e*PKPab **SKPab 04 26 34.4 +1.6**
baz=33,slow=4.3
EAB Aberfoyle 137.85 353⇑*eP* **SKPbc 04 26 25.0 +0.2**
NRDL Niedersach Rie 137.92 339 *e*PKPdf **PKPdf 04 23 09.4 -0.2**
baz=36,slow=2.0
NRDL Niedersach Rie 137.92 339 *e*PKPbc **SKPbc 04 26 27.2 +2.2**
baz=36,slow=2.8
FBE Freiberg 137.98 335 *e*PKPdf **PKPdf 04 23 09.4 -0.5**
baz=36,slow=2.0
FBE Freiberg 137.98 335 *e*PKPbc **SKPbc 04 26 26.6 +1.2**
baz=36,slow=2.8
ASSE Asse, Remlinge 138.03 339 *e*PKPbc **SKPbc 04 26 27.2 +1.9**
baz=36,slow=2.8
KRUC Moravsky 138.04 331 *e*PKP **PKPdf 04 23 10.4 +0.3**
KRUC *e*PP PP 04 26 27.4 +27
EBL Broad Law 138.09 352⇑*eP* **SKPbc 04 26 26.4 +0.8**
MODS Modra-Piesok 138.11 330 *e*PKIKP **PKPdf 04 23 10.3 +0.1**
MODS Modra-Piesok 138.11 330 *e*PKP **PKPdf 04 23 10.3 +0.1**
MODS *e* 04 26 26.5
PRU Pruhonice 138.19 334 *e*PKPDF **PKPdf 04 23 11.0 +0.7**
PRU *e*SKP **SKPbc 04 26 27.6 +1.6**
PRU Pruhonice 138.19 334 *e*PKIKP **PKPdf 04 23 11.0 +0.7**
NEUB Neuenburg 138.37 337 *e*PKPbc **SKPbc 04 26 28.3 +1.9**
baz=36,slow=2.8
CLZ Clausthal 138.37 339 *e*PKPbc **SKPbc 04 26 28.4 +1.9**
baz=36,slow=2.8
EKA Eskdalemuir Ar 138.53 352 PKhKP PKPpre 04 23 01.3
comp=Z,0.9nm,0.5s,baz=28,slow=2.3,SNR=6.9
EKA PKP **PKPdf 04 23 10.8 +0.1**
comp=Z,1.0nm,0.5s,baz=17,slow=2.3,SNR=9.2
EKA SKPbc **SKPbc 04 26 27.8 +1.1**
comp=Z,7.6nm,0.8s,baz=356,slow=2.6,SNR=20
PBCC Pribram 138.66 334 *e*SKP **SKPbc 04 26 29.5 +2.2**
TANN Tannenbergstha 138.73 336 *e*PKPdf **PKPdf 04 23 10.9 -0.4**
baz=36,slow=2.0
TANN Tannenbergstha 138.73 336 *e*PKPbc **SKPbc 04 26 29.2 +1.6**
baz=36,slow=2.8
GTTG Gottingen 138.76 339 *e*PKPbc **SKPbc 04 26 29.5 +1.9**
baz=36,slow=2.8
WERD Werda 138.77 336 *e*PKPdf **PKPdf 04 23 10.7 -0.7**
baz=36,slow=2.0
WERD Werda 138.77 336 *e*PKPbc **SKPbc 04 26 29.5 +1.8**
baz=36,slow=2.8
PLN Plauen 138.79 336 *e*PKPdf **PKPdf 04 23 10.8 -0.6**
baz=36,slow=2.0
PLN Plauen 138.79 336 *e*PKPbc **SKPbc 04 26 29.5 +1.8**
baz=36,slow=2.8
GUNZ Gunzen 138.82 336 *e*PKPdf **PKPdf 04 23 11.0 -0.5**
baz=36,slow=2.0
GUNZ Gunzen 138.82 336 *e*PKPbc **SKPbc 04 26 29.8 +2.0**
baz=36,slow=2.8
EDMD Edmundbyers 138.84 351 IAmb IAmb 04 26 29.7
comp=Z,17nm,1.0s
EDMD ⇑*eP* **SKPbc 04 26 28.3 +0.7**
IBBN Ibbenburen 138.85 341 *e*PKPdf **PKPdf 04 23 10.8 -0.6**
baz=36,slow=2.0
IBBN Ibbenburen 138.85 341 *e*PKPbc **SKPbc 04 26 29.5 +1.7**
baz=36,slow=2.8
WERN Wernitzgruen 138.86 336 *e*PKPdf **PKPdf 04 23 11.2 -0.4**
baz=36,slow=2.0
WERN Wernitzgruen 138.86 336 *e*PKPbc **SKPbc 04 26 29.8 +1.9**
baz=36,slow=2.8
NKC Novy Kostel 138.88 336 *e*SKP **SKPbc 04 26 29.6 +1.6**
MOX Moxa 138.88 337 *e*PKPdf **PKPdf 04 23 10.9 -0.6**
baz=36,slow=2.0
TRIB Obertriebel 138.91 336 *e*PKPab SKPbc 04 26 39.9 +12
baz=33,slow=4.3
GDLE Glaisdale, N Y 139.04 349⇑*eP* **SKPbc 04 26 29.3 +1.1**
CONA Conrad Observa 139.10 331 *e*PKPdf **PKPdf 04 23 09.5 -2.6**
comp=Z,23nm,1.2s
GAL1 Galloway 139.19 353 IAmb IAmb 04 26 30.9
comp=Z,20nm,0.9s
GAL1 ⇑*eP* **SKPbc 04 26 29.5 +1.0**
MANZ Manzenberg 139.21 336 *e*PKPdf **PKPdf 04 23 11.6 -0.6**
baz=36,slow=2.0
MANZ Manzenberg 139.21 336 *e*PKPbc **SKPbc 04 26 30.4 +1.5**
baz=36,slow=2.8
KHC Kasperske Hory 139.25 334 *e*PKPDF **PKPdf 04 23 12.5 +0.2**
KHC *e*SKP **SKPbc 04 26 30.6 +1.6**
KHC *ex* x 04 26 41.0
KHC Kasperske Hory 139.25 334⇓*i*PKIKP **PKPdf 04 23 12.8 +0.5**
KHC pmax pmax
comp=Z,73nm,1.7s
ROTZ Rotzenmuhle 139.34 335 *e*PKPbc **SKPbc 04 26 31.1 +1.9**
baz=36,slow=2.8
ROTZ *e*PKPab **SKPab 04 26 41.6 +1.9**
baz=33,slow=4.3
UBBA Unterbreizbach 139.34 338 *e*PKPdf **PKPdf 04 23 11.9 -0.4**
baz=36,slow=2.0
GEC2 GERESS Array S 139.41 333 *e*PKPdf **PKPdf 04 23 11.8 -0.9**
baz=36,slow=2.0
GEC2 GERESS Array S 139.41 333 *e*PKPbc **SKPbc 04 26 31.1 +1.5**
baz=36,slow=2.8
GEC2 GERESS Array S 139.41 333 PKPdf 04 23 12.8 0.0
GERES GERESS Array B 139.41 333 PKhKP PKPpre 04 23 06.5
comp=Z,1.3nm,0.7s,baz=37,slow=3.3,SNR=7.0
GERES PKP **PKPdf 04 23 13.5 +0.8**
comp=Z,7.6nm,0.9s,baz=29,slow=3.0,SNR=14
GERES SKPbc **SKiKP 04 26 31.2 -1.3**
comp=Z,6.6nm,0.9s,baz=38,slow=2.4,SNR=18
GERES GERESS Array B 139.41 333 SKPbc 04 26 30.8 +1.2
WET Wettzell 139.54 334 *e*PKPdf **PKPdf 04 23 12.3 -0.6**
baz=36,slow=2.0
WET Wettzell 139.54 334 *e*PKPbc **SKPbc 04 26 31.6 +1.7**
baz=36,slow=2.8
ARSA Arzberg 139.74 330 *e*PKPdf **PKPdf 04 23 09.7 -3.6**
comp=Z,6.8nm,1.1s
GRF Grafenberg Arr 139.79 336 *e*PKPdf **PKPdf 04 23 13.3 0.0**
baz=36,slow=2.0
GRF Grafenberg Arr 139.79 336 *e*PKPbc **SKPbc 04 26 31.6 +1.1**
baz=36,slow=2.8
MOA Molln 139.90 332 *e*PKPdf **PKPdf 04 23 08.5 -5.0**
comp=Z,5.7nm,1.2s
SOKA Soboth 140.38 330 *e*PKPdf **PKPdf 04 23 09.0 -5.5**
comp=Z,9.8nm,1.0s
TNS Taunus Mts 140.39 339 *e*PKPdf **PKPdf 04 23 13.5 -0.9**
baz=36,slow=2.0
TNS Taunus Mts 140.39 339 *e*PKPab SKPbc 04 26 44.8 +13
baz=33,slow=4.3
IDI Anoyia 140.43 308 PKhKP PKPpre 04 23 07.5
comp=Z,1.9nm,0.3s,baz=154,slow=7.7,SNR=1.8
IDI PKP **PKPdf 04 23 15.1 +0.2**
comp=Z,14nm,1.0s,baz=123,slow=3.4,SNR=3.9
AHRW Bad Neuenahr-A 140.59 340 *e*PKPdf **PKPdf 04 23 14.2 -0.4**
baz=36,slow=2.0
OBKA Obir 140.74 330 *e*PKPdf **PKPdf 04 23 10.1 -5.1**
comp=Z,2.0nm,0.6s
MEM Membach 140.88 341 PKPdf **PKPdf 04 23 15.0 -0.2**
MEM PKiKP **PKiKP 04 23 18.5 +0.7**
KBA Koelnbreinsper 140.89 332 *e*PKPdf **PKPdf 04 23 09.9 -5.7**
comp=Z,2.7nm,0.6s
MYKA Terra Mystica 141.08 331 *e*PKPdf **PKPdf 04 23 11.0 -4.7**
comp=Z,7.4nm,0.8s
BOJS Bojanci 141.10 328 *i* PKPdf **PKPdf 04 23 14.8 -0.9**
PRED Cave del Predi 141.26 331 PKPdf 04 23 16.6 +0.6
STU Stuttgart 141.32 337 *e*PKPbc **SKPbc 04 26 36.1 +1.7**
baz=36,slow=2.8
SNF Seneffe 141.48 343 PKPdf **PKPdf 04 23 16.1 -0.1**
WATA Walderalm 141.49 333 *e*PKPdf **PKPdf 04 23 12.1 -4.5**
comp=Z,22nm,1.3s
WATA *e*SKPbc **SKiKP 04 26 36.9 0.0**
comp=Z,4.8nm,0.5s
WTTA Wattenberg 141.52 333 *e*PKPdf **PKPdf 04 23 12.1 -4.5**
comp=Z,30nm,1.3s,SNR=8.2
WTTA *e*SKPbc **SKiKP 04 26 37.1 0.0**
comp=Z,5.3nm,0.9s
ABTA Abfaltersbach 141.52 332 *e*PKPdf **PKPdf 04 23 11.3 -5.2**
comp=Z,30nm,1.4s,SNR=7.1
BMRD Maredsous 141.52 342 PKPdf **PKPdf 04 23 16.1 -0.2**
BMRD PKiKP **PKiKP 04 23 18.6 -0.6**
WLF Walferdange 141.65 340 PKPdf **PKPdf 04 23 16.0 -0.6**
WLF Walferdange 141.65 340 PKIKP **PKPdf 04 23 17.4 +0.9**
WLF Walferdange 141.65 340 *e*PKPdf **PKPdf 04 23 16.7 +0.1**
baz=36,slow=2.0
WLF Walferdange 141.65 340 *e*PKPbc **SKPbc 04 26 37.4 +2.2**
baz=36,slow=2.8
WLF Walferdange 141.65 340 PKPdf **PKPdf 04 23 17.4 +0.9**
MOTA Moosalm 141.69 334 *e*PKPdf **PKPdf 04 23 11.7 -5.2**
comp=Z,32nm,1.1s,SNR=10.0
MOTA *e*SKPbc **SKPbc 04 26 36.5 +0.8**
comp=Z,7.9nm,0.8s
TRI Trieste 141.69 330 PKIKP **PKPdf 04 23 17.3 +0.5**
TRI Trieste 141.69 330 PKPdf 04 23 17.3 +0.5
RETA Reutte 141.72 334 *e*PKPdf **PKPdf 04 23 12.1 -4.8**
comp=Z,16nm,1.3s,SNR=6.2
SQTA Sankt Quirin 141.74 334 *e*PKPdf **PKPdf 04 23 11.7 -5.3**
comp=Z,24nm,1.3s,SNR=6.4
SQTA *e*SKPbc **SKPbc 04 26 36.5 +0.8**
comp=Z,10nm,0.9s
DOU Dourbes 141.76 342 PKPdf **PKPdf 04 23 15.6 -1.1**
DOU PKiKP **PKiKP 04 23 18.9 -0.8**
UBR Ueberruh 141.84 335 *e*PKPbc **SKPbc 04 26 37.1 +1.2**
baz=36,slow=2.8
FETA Feichten 142.10 334 *e*PKPdf **PKPdf 04 23 13.8 -3.9**
comp=Z,22nm,1.1s,SNR=13
FETA *e*SKPbc **SKiKP 04 26 38.5 +0.3**
comp=Z,12nm,1.0s
DAVA Damuels 142.25 335 *e*PKPdf **PKPdf 04 23 13.3 -4.6**
comp=Z,22nm,1.2s,SNR=7.5
DAVOX Davos/Dischmat 142.65 334 PKhKP PKPpre 04 23 15.8
comp=Z,12nm,0.6s,baz=225,slow=3.0,SNR=29
DAVOX SKPbc **SKiKP 04 26 39.0 -0.4**
comp=Z,11nm,0.9s,baz=342,slow=3.7,SNR=8.9
TIP Timpagrande 144.27 319⇑P **PKPdf 04 23 21.2 -0.4**
TIP Timpagrande 144.27 319 PKPdf PKPbc 04 23 20.9 +0.5
BNI Bardonecchia 145.36 336 PKP2 **PKPab 04 23 23.9 -0.1**
BNI Bardonecchia 145.36 336 PKPab 04 23 23.9 -0.1
SSB Saint Sauveur 145.98 338 PKP2 **PKPbc 04 23 25.2 -0.2**
SSB Saint Sauveur 145.98 338 PKPdf **PKPbc 04 23 25.2 -0.2**
VAE Valguarnera 146.76 319 PKPbc **PKPbc 04 23 28.4 +0.5**
comp=Z,25nm,0.8s,baz=28,slow=7.7,SNR=4.7
RAFF Raffo Rosso 146.94 318 PKPbc 04 23 28.2 -0.2
CLTB Caltabellotta 147.46 320 PKPbc 04 23 29.6 -0.3
VSL Villasalto 148.41 326 PKPdf 04 23 28.8 +0.3
KEST Kesra 151.03 321 PKPbc **PKiKP 04 23 39.5 +0.2**
comp=Z,110nm,1.0s,baz=222,slow=0.4,SNR=3.6
CMAH Djebel Manchou 151.54 325 P **PKiKP 04 23 40.4 0.0**
CKFL Kef-Lekhel 152.09 325 P **PKiKP 04 23 41.8 +0.2**
PBRG Braganca 152.25 350 *e*PKPbc **PKiKP 04 23 41.7 +0.1**
PBRG Braganca 152.25 350 *e*PKPab **PKPab 04 23 52.4 +0.6**
PGAV Gavieira, Arco 152.31 353 *e*PKPbc **PKiKP 04 23 41.8 0.0**
CASM Ain Smara 152.32 325 P **PKPbc 04 23 41.6 -0.1**
DFRA Djebel Bou Aff 152.45 326 P **PKiKP 04 23 42.9 +0.6**
CTEI Djebel Teioual 152.51 325 P **PKiKP 04 23 42.7 +0.2**
PCAB Cabril 152.53 352 *e*PKPbc **PKiKP 04 23 43.0 +0.8**
PVRL Vila Real 152.92 352 *e*PKPbc **PKiKP 04 23 43.1 +0.1**
PVRL Vila Real 152.92 352 *e*PKPab **PKPab 04 23 55.7 +1.0**
MVO Moncorvo 152.92 351 *e*PKPdf **PKPdf 04 23 36.0 +0.5**
MVO Moncorvo 152.92 351 *e*PKPbc **PKiKP 04 23 43.4 +0.3**
SET Setif 152.96 327 P **PKPdf 04 23 36.0 +0.2**
PTO Porto 153.16 353 *e*PKPbc **PKiKP 04 23 44.2 +0.8**
PVIS Viseu 153.49 352 *e*PKPbc **PKiKP 04 23 44.9 +0.7**
PVIS Viseu 153.49 352 *e*PKPab **PKPab 04 23 58.0 +0.9**
ESDC Sonseca Array 153.72 345 PKP **PKPdf 04 23 36.5 -0.1**
comp=Z,2.3nm,1.1s,baz=353,slow=2.6,SNR=9.8
ESDC PKPbc **PKiKP 04 23 44.8 +0.1**
comp=Z,6.2nm,0.9s,baz=4.8,slow=2.3,SNR=24
ESDC PKPab **PKPab 04 23 58.4 +0.2**
comp=Z,14nm,1.0s,baz=20,slow=4.7,SNR=9.3
ESDC PP **PP 04 27 29.5 -2.7**
comp=Z,3.3nm,1.0s,baz=15,slow=7.7,SNR=8.1
ESDC Sonseca Array 153.72 345 PKPdf **PKPdf 04 23 36.9 +0.2**
ESDC **PKiKP 04 23 44.9 +0.1**
COI Coimbra 154.06 353 *e*PKPab **PKPab 04 24 00.8 +1.4**
PCBR Castelo Branco 154.29 351 *e*PKPdf **PKPdf 04 23 38.0 +0.6**
PCBR Castelo Branco 154.29 351 *e*PKPbc **PKiKP 04 23 46.5 +0.7**
PCBR Castelo Branco 154.29 351 *e*PKPab **PKPab 04 24 01.4 +1.0**
PMRV Marv??o 154.68 350 *e*PKPdf **PKPdf 04 23 38.5 +0.5**
PMRV Marv??o 154.68 350 *e*PKPbc **PKiKP 04 23 47.0 +0.3**
PMRV Marv??o 154.68 350 *e*PKPab **PKPab 04 24 03.3 +1.2**
PSBE So Bento 154.79 353 *e*PKPab **PKPab 04 24 04.2 +1.6**
PMTG Montargil 155.16 352 *e*PKPbc PKPdf 04 23 47.8 +9.2
PMTG Montargil 155.16 352 *e*PKPab **PKPab 04 24 05.2 +1.0**
EVO Evora 155.65 351 *e*PKPdf **PKPdf 04 23 39.8 +0.5**
EVO Evora 155.65 351 *e*PKPab **PKPab 04 24 07.3 +1.0**
PBEJ Beja 156.12 351 *e*PKPab **PKPab 04 24 09.4 +1.0**
PNCL Nicolau / Gran 156.14 352 *e*PKPab **PKPab 04 24 09.6 +1.2**
PCVE Castro Verde 156.54 351 *e*PKPab **PKPab 04 24 11.3 +1.2**
PVAQ Vaqueiros 156.71 350 *e*PKPab **PKPab 04 24 11.9 +1.0**
PTEO Sao Teotonio 156.72 352 *e*PKPab **PKPab 04 24 12.7 +1.8**
PBDV Barranco-do-Ve 156.90 350 *e*PKPab **PKPab 04 24 13.3 +1.6**
MORF Marmelete 156.95 352 *e*PKPab **PKPab 04 24 12.9 +0.9**
PFVI Vila Bisbo 157.14 352 *e*PKPab **PKPab 04 24 14.2 +1.5**
MDT Midelt 160.29 340 PKPab **PKPab 04 24 26.3 -0.4**
comp=Z,12nm,1.1s,baz=30,slow=3.2,SNR=7.2
ARF Arif 161.40 337 P **PKPab 04 24 33.1 +1.5**
SNR=11
GOLM Goulmima 161.42 339 P **PKPab 04 24 34.0 +2.3**
SNR=14
SRHM Skhour des Reh 161.53 347 P **PKPab 04 24 33.0 +1.0**
SNR=11
OUZM OUZ 162.73 343 P **PKPab 04 24 39.0 +1.5**
SNR=11
OUK Oukaimeden 162.74 346 P **PKPab 04 24 39.0 +1.3**
SNR=19
TORD Torodi Ar. Bea 165.99 266 PKP **PKPdf 04 23 50.5 -0.5**
comp=Z,2.2nm,0.9s,baz=0.8,slow=1.1,SNR=11
TORD PKPab **PKPab 04 24 52.4 0.0**
comp=Z,6.8nm,0.9s,baz=98,slow=2.8,SNR=17
KIC Kosan Boka 168.81 225 *e*PKP1 **PKPdf 04 23 51.1 -2.0**
comp=Z,72nm,1.8s
KIC Kosan Boka 168.81 225 *e*PKP1 **PKPab 04 25 05.5 +0.8**
comp=Z,30nm,1.2s
LIC Lamto 168.91 223 *e*PKP1 **PKPdf 04 23 52.0 -1.2**
comp=Z,46nm,1.7s
LIC Lamto 168.91 223 *e*PKP1 **PKPab 04 25 05.9 +0.9**
comp=Z,17nm,1.0s
DBIC Dimbokro 169.12 226 PKP **PKPdf 04 23 51.4 -1.9**
comp=Z,3.8nm,0.9s,baz=90,slow=4.3,SNR=4.1
DBIC PKPab **PKPab 04 25 06.5 +0.5**
comp=Z,3.8nm,0.9s,baz=146,slow=5.4,SNR=5.4
TIC Toumodi 169.21 225 *e*PKP1 **PKPdf 04 23 51.1 -2.3**
TIC Toumodi 169.21 225 *e*PKP1 **PKPab 04 25 06.5 +0.1**

KRNET ***12*** *04:11:52.9±0.1, 42°.01N×79°.39E, h16km, mb2.5*
NNC ***12*** *04:11:54.6±1.4, 42°.12N×79°.29E, h0km, mb3.0, mpv2.8,*
Error ellipse: s-maj=9.6km s-min=4.9km az=145.0
SOME ***12*** *04:11:54.1, 42°.05N×79°.25E, h10km*
ISC 12 04:11:53.1±2.0, 42°.04N±0°.06×79°.32E±0°.06, h3km±11km,
n32, σ1°.8 14/55, 12C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.81**	**303**	⇑*iP*	**Pg**	**04 12 09.0**	**+0.3**
	baz=4.0						
PRZ				⇑*iS*	**Sb**	**04 12 21.3**	**-0.1**
	baz=4.0						
SHLS	**Shalkode**	**1.12**	**5**	*eP*	**Pn**	**04 12 16.6**	**+0.8**
	8.9nm,0.1s						
SHLS				*eS*	**Sn**	**04 12 32.5**	**+0.7**
	15nm,0.3s						
SHLS	**Shalkode**	**1.12**	**5**	P	**Pn**	**04 12 16.6**	**+0.8**
	8.9nm,0.1s						
SHLS				S	**Sn**	**04 12 32.5**	**+0.7**
	15nm,0.3s						
UZB	**Uzynbulak**	**1.12**	**349**	*eP*	**Pg**	**04 12 14.9**	**+0.2**
	3.1nm,0.2s						
UZB				*eS*	**Sg**	**04 12 29.5**	**+0.2**
	2.4nm,0.2s						
UZB	**Uzynbulak**	**1.12**	**349**	P	**Pg**	**04 12 14.9**	**+0.2**
	3.1nm,0.2s						
UZB				S	**Sg**	**04 12 29.5**	**+0.2**
	2.4nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.17**	**255**	⇓*iP*	**Pg**	**04 12 15.6**	**0.0**
	baz=57						
TARG				⇓*iS*	**Sn**	**04 12 32.8**	**-0.7**
	baz=57						
SATY	**Saty**	**1.22**	**327**	*eP*	**Pb**	**04 12 16.2**	**-0.8**
	1.5nm,0.2s						
SATY				*eS*	**Sb**	**04 12 31.9**	**-1.2**
	7.0nm,0.1s						
SATY	**Saty**	**1.22**	**327**	P	**Pb**	**04 12 16.2**	**-0.8**
	1.5nm,0.2s						
SATY				S	**Sb**	**04 12 31.9**	**-1.2**
	7.0nm,0.1s						
PDGK	**Podgornoye**	**1.29**	**6**	P	**Pn**	**04 12 17.5**	**-0.8**
	1.1nm,0.4s						
PDGK				S	**Sb**	**04 12 34.1**	**-1.2**
	2.2nm,0.3s						
PDGK	**Podgornoye**	**1.29**	**6**	⇓P	**Pn**	**04 12 16.4**	**-1.9**
	0.7nm,0.2s						
PDGK				⇑S	**Sb**	**04 12 34.2**	**-1.1**
	1.4nm,0.5s						
ANVS	**Anan'yevo**	**1.43**	**302**	⇑*iP*	**Pg**	**04 12 20.9**	**+0.4**
	baz=2.0						
ANVS				⇑*iS*	**Sg**	**04 12 41.1**	**+2.1**
	baz=2.0						
KDJ	**Kajisay**	**1.59**	**274**	⇑*iP*	**Pn**	**04 12 22.7**	**+0.3**
	baz=75						
KDJ				⇑*iS*	**Sg**	**04 12 45.2**	**+0.9**
	baz=75						
MDOK	**Medeo**	**2.01**	**305**	*eP*	**Pb**	**04 12 30.7**	**+0.2**
	3.1nm,0.2s						
MDOK				*eS*	**Sg**	**04 12 57.0**	**-0.9**
	12nm,0.3s						
MDOK	**Medeo**	**2.01**	**305**	Pg	**Pb**	**04 12 30.7**	**+0.2**
	3.1nm,0.2s						
MDOK				Lg	Lg	04 12 57.0	
	12nm,0.3s						
MNBS	**Baschi**	**2.14**	**342**	*eP*	**Pb**	**04 12 33.6**	**+0.9**
	7.5nm,0.3s						
MNBS				*eS*	**Sg**	**04 13 01.7**	**-0.3**
	6.6nm,0.3s						
MNBS	**Baschi**	**2.14**	**342**	Pg	**Pb**	**04 12 33.6**	**+0.9**
	7.5nm,0.3s						
MNBS				Lg	Lg	04 13 01.7	
	6.6nm,0.3s						
ULHL	**Ulahol**	**2.29**	**276**	⇑*iP*	**Pb**	**04 12 34.4**	**-0.9**
	baz=77						
ULHL				⇑*iS*	**Sb**	**04 13 04.1**	**-0.1**
	baz=77						
DJR	**Jarkent**	**2.31**	**8**	*eP*	**Pb**	**04 12 36.3**	**+0.7**
	2.7nm,0.2s						
DJR				*eS*	**Sg**	**04 13 06.8**	**-0.7**
	10nm,0.4s						
DJR	**Jarkent**	**2.31**	**8**	Pg	**Pb**	**04 12 36.3**	**+0.7**
	2.7nm,0.2s						
DJR				Lg	Lg	04 13 06.8	
	10nm,0.4s						
MTBS	**Maitube**	**2.39**	**298**	*eP*	**Pb**	**04 12 37.4**	**+0.4**
	4.5nm,0.3s						
MTBS				*eS*	**Sg**	**04 13 08.6**	**-1.4**
	13nm,0.4s						
MTBS	**Maitube**	**2.39**	**298**	Pg	**Pb**	**04 12 37.4**	**+0.4**
	4.5nm,0.3s						
MTBS				Lg	Lg	04 13 08.6	
	13nm,0.4s						
CHKK	**Chushkaly**	**2.49**	**317**	*eP*	**Pb**	**04 12 39.6**	**+1.1**
	2.9nm,0.3s						
CHKK				*eS*	**Sg**	**04 13 12.2**	**-1.0**
	18nm,0.5s						
CHKK	**Chushkaly**	**2.49**	**317**	Pg	**Pb**	**04 12 39.6**	**+1.1**
	2.9nm,0.3s						
CHKK				Lg	Lg	04 13 12.2	
	18nm,0.5s						
BOOM	**Boomskoye usch**	**2.54**	**281**	⇓*eP*	**Pb**	**04 12 37.7**	**-1.9**
	baz=82						
BOOM				⇓*iS*	**Sb**	**04 13 10.1**	**-1.2**
	baz=82						
KTBS	**Karatobe**	**2.56**	**312**	*eP*	**Pb**	**04 12 40.7**	**+1.0**
	1.8nm,0.3s						
KTBS				*eS*	**Sg**	**04 13 13.9**	**-1.4**
	28nm,0.6s						
KTBS	**Karatobe**	**2.56**	**312**	Pg	**Pb**	**04 12 40.7**	**+1.0**
	1.8nm,0.3s						
KTBS				Lg	Lg	04 13 13.9	
	28nm,0.6s						
KST	**Kastek**	**2.67**	**293**	*eP*	**Pb**	**04 12 42.4**	**+0.7**
	3.8nm,0.5s						
KST				*eS*	**Sb**	**04 13 16.6**	**+1.6**
	9.6nm,0.6s						
KST	**Kastek**	**2.67**	**293**	Pg	**Pb**	**04 12 42.4**	**+0.7**
	3.8nm,0.5s						
KST				Lg	Lg	04 13 16.6	
	9.6nm,0.6s						
TKM2	**Tokmak 2**	**2.89**	**289**	⇑*iP*	**Pn**	**04 12 42.7**	**+2.5**
	baz=89						
TKM2				⇑*iS*	**Sb**	**04 13 18.6**	**-2.6**
	baz=89						
TKM2	**Tokmak 2**	**2.89**	**289**	⇓Pg	**Pb**	**04 12 46.6**	**+1.2**
	0.5nm,0.4s						
TKM2				⇑Lg	Lg	04 13 21.4	
	2.7nm,0.5s						
KRBS	**Karabastau**	**3.15**	**303**	*eP*	**Pb**	**04 12 50.7**	**+1.0**
	0.9nm,0.4s						
KRBS				*eS*	**Sg**	**04 13 31.3**	**-2.8**
	7.8nm,0.4s						
KRBS	**Karabastau**	**3.15**	**303**	Pg	**Pb**	**04 12 50.7**	**+1.0**
	0.9nm,0.4s						
KRBS				Lg	Lg	04 13 31.3	
	7.8nm,0.4s						

IDC ***12*** *04:49:13.9±5.1, 31°.42S×179°.92E, h388km±50km, mb2.7/2,*
mb1 3.1/3, mb1mx2.9/27, mbtmp3.7/3, Error ellipse:
s-maj=55.3km s-min=32.9km az=28.0
WEL ***12*** *04:49:18.1±0.6, 32°.S±10°×18°.0W±2°.5, h328km±12km,*
M4.1/20, mB4.6/13, MLv5.0/20, Mw(mB)3.8/13, Error
ellipse: s-maj=0.0km s-min=0.0km az=110.6
ISC 12 04:49:12.6±0.7, 31°.24S±0°.08×179°.5E±0°.1, h350km, n44,
σ2°.45/71, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.99**	**50**	P	**Pn**	**04 50 12.4**	**+0.5**
GLKZ				S	**S**	**04 50 58.8**	**-0.8**
RIZ	**Raoul Island**	**3.00**	**49**	P	**Pn**	**04 50 12.8**	**+0.8**
RIZ				S	**S**	**04 51 01.4**	**+1.7**
MXZ	**Matakaoa Point**	**6.38**	**188**	P	**Pn**	**04 50 50.3**	**+2.7**
MXZ				S	**S**	**04 52 03.8**	**-1.0**
WMGZ	**Waiomatatini S**	**6.62**	**187**	P	**Pn**	**04 50 54.4**	**+3.9**
WMGZ				S	**S**	**04 52 12.0**	**+2.0**
HAZ	**Te Kaha**	**6.65**	**192**	P	**Pn**	**04 50 54.3**	**+3.6**
HAZ				S	**S**	**04 52 11.3**	**+0.8**
RUGZ	**Raukumara Rang**	**6.87**	**192**	P	**Pn**	**04 50 57.6**	**+4.1**
RUGZ				S	**S**	**04 52 15.4**	**-0.1**
PUZ	**Puketiti**	**6.89**	**188**	P	**Pn**	**04 50 57.0**	**+3.4**
PUZ				S	**S**	**04 52 14.8**	**-0.9**
MWZ	**Matawai**	**7.26**	**192**	P	**Pn**	**04 51 01.5**	**+3.6**
MWZ				S	**S**	**04 52 23.8**	**+0.2**
URZ	**Urewera**	**7.27**	**195**	P	**Pn**	**04 51 00.3**	**+2.3**
	3.5nm,0.3s,baz=263,slow=4.5,SNR=35						
URZ				S	**S**	**04 52 24.4**	**+0.7**
	11nm,0.3s,baz=66,slow=23,SNR=32						
URZ	**Urewera**	**7.27**	**195**	P	**Pn**	**04 51 00.7**	**+2.7**
URZ				S	**S**	**04 52 23.7**	**-0.1**
CNGZ	**Carnagh Statio**	**7.30**	**188**	P	**Pn**	**04 51 02.4**	**+4.0**
CNGZ				S	**S**	**04 52 22.8**	**-1.7**
TKGZ	**Te Karaka**	**7.31**	**190**	P	**Pn**	**04 51 02.5**	**+4.1**
TKGZ				S	**S**	**04 52 23.2**	**-1.4**
RAGZ	**Rawiri**	**7.43**	**193**	P	**Pn**	**04 51 01.2**	**+1.2**
RAGZ				S	**S**	**04 52 23.7**	**-3.8**
MUGZ	**Murupara**	**7.56**	**196**	P	**Pn**	**04 51 06.1**	**+4.8**
MUGZ				S	**S**	**04 52 33.6**	**+3.7**
RIGZ	**Rimuhau**	**7.58**	**190**	P	**Pn**	**04 51 04.3**	**+2.6**
RIGZ				S	**S**	**04 52 30.7**	**+0.2**
SNGZ	**Shannon Statio**	**7.73**	**193**	P	**Pn**	**04 51 07.6**	**+4.2**
SNGZ				S	**S**	**04 52 34.1**	**+0.4**
TLZ	**Tolley Road**	**7.78**	**204**	P	Pn	04 51 10.5	+6.4
KNZ	**Kokohu**	**7.91**	**190**	P	**Pn**	**04 51 06.7**	**+1.2**
KNZ				S	**S**	**04 52 33.5**	**-3.9**
RAHZ	**Arahi**	**7.91**	**194**	P	**Pn**	**04 51 09.9**	**+4.4**
RAHZ				S	**S**	**04 52 38.3**	**+0.7**
HIZ	**Hauiti**	**8.19**	**206**	P	P	04 51 17.8	+6.0
ARHZ	**Aropaoanui**	**8.26**	**194**	P	**P**	**04 51 13.6**	**+1.1**
ARHZ				S	**S**	**04 52 45.4**	**+0.2**
BKZ	**Black Stump Fm**	**8.28**	**196**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	77.60	177	P	P	05 00 28.1	-2.2
VNA2	Neumayer--Watz	78.01	178	P	P	05 00 30.7	-1.8
MKAR	Makanchi Array	116.65	310	PKP	PKPdf	05 07 11.9	-3.4
	0.2nm,0.5s,baz=72,slow=4.7,SNR=1.8						
KURBB	Kurchatov Arra	120.09	314	PKP	PKPdf	05 07 18.9	-2.8
	0.3nm,0.4s,baz=112,slow=2.2,SNR=3.0						
FINES	FINESS Array B	145.14	338	PKPbc	PKPdf	05 08 05.8	-2.2
	3.5nm,0.4s,baz=49,slow=4.3,SNR=50						
NB2	NORSAR Subarra	149.20	349	PKP	PKPdf	05 08 16.5	+1.8
	comp=Z,0.3nm,0.5s,baz=13,slow=2.6						
NOA	NORSAR Array B	149.20	349	PKPbc	PKPdf	05 08 16.6	+1.8
	comp=Z,0.4nm,0.5s,baz=17,slow=4.2,SNR=4.4						
AKASG	Malin Array Be	150.59	320	PKPbc	PKPdf	05 08 20.4	+3.2
	comp=Z,0.5nm,0.4s,baz=51,slow=3.2,SNR=2.8						
TORD	Torodi Ar. Bea	161.88	187	PKPab	PKPab	05 09 17.8	-2.7
	comp=Z,0.2nm,0.4s,baz=158,slow=4.6,SNR=1.9						

NEIC **12** *05:00:24.3±2.0, 0.°28S±0.°05×125.°24E±0.°03, h35km±2km, mb4.8/56, Error ellipse: s-maj=10.5km s-min=3.0km az=151.0*

IDC **12** *05:00:24.8±3.8, 0.°07S×125.°17E, h30km±26km, mb4.4/28, mb1 4.4/30, mb1mx4.4/42, mbtmp4.6/30, ML4.8/2, MS3.6/10, Ms1 3.7/10, ms1mx3.4/27, Error ellipse: s-maj=21.0km s-min=11.4km az=77.0*

BJI **12** *05:00:24.3±0.0, 0.°59S×125.°27E, h65km, mB5.0/26, mb4.8/37, Ms4.3/7, Ms7 4.0/6*

DJA **12** *05:00:26.9±0.2, 0.°S±2.°×12.°5E±.°, h52km±3km, M4.8/33, mb5.0/33, mB5.3/14, MLv4.8/14, Mw(mB)4.8/14*

ISC 12 05:00:26.7±0.3, 0.°25S±0.°04×125.°20E±0.°04, h53km, n189, σ1**§24**/199, **mb4.6**/63, **MS3.7**/12, **2C-1D, Southern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.47	304	P	Pn	05 00 49.3	-1.6
LBMI	Labuha	2.33	99	P	Pn	05 01 02.8	+0.1
GTOI	Gorontalo	2.36	292	P	Pn	05 01 04.9	+1.8
TNTI	Ternate	2.39	65	P	Pn	05 01 03.5	0.0
TNTI	Ternate	2.39	65	Pn	Pn	05 01 05.0	+1.4
TNTI				Sn	Sn	05 01 31.4	-0.2
LUWI	Luwuk	2.55	252	P	Pn	05 01 05.3	-0.4
LUWI	Luwuk	2.55	252	Pn	Pn	05 01 07.7	+2.0
LUWI				Sn	Sn	05 01 36.7	+1.2
NLAI	Namlea	3.52	147	P	Pn	05 01 18.3	-0.7
AAI	Ambon	4.54	139	P	Pn	05 01 33.9	+1.0
MSAI	Masohi	4.83	130	P	Pn	05 01 38.7	+1.8
MPSI	Mapaga	5.33	276	P	Pn	05 01 43.3	-0.6
	1.3nm6μm213nm,0.7s						
DDMP	Don Marcelino,	6.34	5	eP	Pn	05 01 60.0	+2.3
BNSI	Bone	6.55	231	P	Pn	05 02 00.6	+0.1
	0.7nm2μm179nm,0.7s						
SPSI	Sidrap Palu	6.56	236	P	Pn	05 02 01.6	+0.9
	1.0nm3μm235nm,0.6s						
SKMP	Bagumbayan, Su	6.76	354	eP	Pn	05 02 05.3	+1.9
BKSI	Bulukumba	7.14	225	P	Pn	05 02 09.6	+0.9
	0.3nm775nm46nm,0.5s						
KAPI	Kappang	7.21	229	Pn	Pn	05 02 09.9	+0.3
	10nm,0.3s,baz=339,slow=5.0,SNR=13						
KAPI				Sn	Sn	05 03 28.9	-1.3
	12nm,0.3s,baz=146,slow=23,SNR=7.5						
KAPI				LR	LR	05 05 43.4	
	comp=Z,912nm,20.3s,baz=54,slow=44						
KAPI	Kappang	7.21	229		Pn	05 02 09.9	+0.3
KAPI					Sn	05 03 31.0	+0.9
KCP	Kidapawan	7.22	359⇑	eP	Pn	05 02 12.9	+3.2
MATI	Mati	7.23	8	eP	Pn	05 02 20.3	+10
DAV	Davao City (W)	7.29	3	LR	LR	05 05 22.1	
	comp=Z,718nm,18.8s,baz=201,slow=42						
FAKI	Fak Fak	7.53	111	Pn	Pn	05 02 12.8	-1.2
FAKI				Sn	Sn	05 03 35.6	-2.4
SMKI	Samarinda	7.99	269	P	Pn	05 02 28.8	+8.4
BUKP	Musuan	8.08	359	eP	Pn	05 02 26.2	+4.7
PAGZ	Pagadian	8.25	347	eP	Pn	05 02 24.0	+0.1
MYLDM	Lahad Datu	8.60	309	Pn	Pn	05 02 29.9	+1.3
SOEI	Soe	9.48	186	P	Pn	05 02 41.5	+0.6
	1μm69nm,0.9s						
SOEI	Soe	9.48	186	Pn	Pn	05 02 39.3	-1.6
BATI	Baumata	10.01	189	LR	LR	05 07 10.9	
	comp=Z,602nm,21.7s,baz=348,slow=40						
MTKI	Muara Teweh, K	10.33	266	P	Pn	05 02 53.9	+1.6
BBKI	Banjar Baru	10.83	253	P	Pn	05 03 01.7	+2.5
	32nm,1.4s						
KKM	Kota Kinabalu	10.94	305	Pn	Pn	05 03 01.1	+0.4
SBUM	Sibu	13.25	282	Pn	Pn	05 03 31.6	-0.7
MTN	Manton Dam	13.82	155		Pn	05 03 39.3	-0.8
TBJI	Tambak Boyo	14.83	244	P	Pn	05 03 54.9	+1.5
	3μm316nm,0.9s						
KSM	Kuching	14.99	277	P	P	05 03 59.9	0.0
KSM				IAmb	IAmb	05 04 02.2	
	comp=Z,107nm,1.2s						
NGJI	Ngawi	15.42	242	P	Pn	05 04 02.9	+1.9
	comp=Z,205nm,1.2s						
PWJI	Pagerwojo	15.42	240	P	P	05 04 03.3	-1.4
	comp=Z,85nm,0.8s						
KNRA	Kununurra	15.72	167	P	Pn	05 04 04.8	-0.1
KNRA				IAmb	IAmb	05 04 05.5	
	comp=Z,64nm,0.8s						
SMRI	Semarang	16.20	245	P	P	05 04 13.6	+0.3
	comp=Z,216nm,1.1s						
SMRI	Semarang	16.20	245		Pn	05 04 09.5	-1.4
KPJI	Karang Pucung	17.68	246	P	P	05 04 31.6	+1.9
	comp=Z,3μmcomp=Z,260nm,0.8s						
FITZ	Fitzroy Crossi	17.74	179	P	Pn	05 04 29.2	-0.8
	comp=Z,0.3nm,0.3s,baz=360,slow=8.1,SNR=15						
FITZ	Fitzroy Crossi	17.74	179	P	Pn	05 04 30.0	0.0
LEM	Lembang	18.72	249	P	Pn	05 04 42.2	0.0
	comp=Z,5.1nm,0.3s,baz=31,slow=10,SNR=13						
CISI	Cisompet, Garu	18.79	247	P	P	05 04 42.0	0.0
	comp=Z,2μmcomp=Z,277nm,0.8s						
CISI	Cisompet, Garu	18.79	247	P	P	05 04 40.9	-1.1
CBJI	Citeko	19.31	251	P	Pn	05 04 48.6	-0.5
	comp=Z,229nm,0.7s						
CGJI	Cibinong	20.46	252	P	P	05 05 01.6	+1.4
	comp=Z,120nm,0.6s						
DLV	T Lat	20.55	307	P	P	05 05 01.7	+0.3
DLV				IAmb	IAmb	05 05 18.2	
	comp=Z,33nm,1.0s						
DSRI	Dabo	20.62	269	P	P	05 05 01.2	-0.7
	comp=Z,56nm,0.7s						
KLSI		20.92	258	P	P	05 05 06.3	+1.2
	comp=Z,11nm,0.8s						
WB0	Warramunga Arr	21.38	156	P	P	05 05 09.5	-0.5
MDSI	Maura Dua	21.42	258	P	P	05 05 09.4	-1.1
	comp=Z,27nm,1.0s						
MYKOM	Kota Tinggi	21.44	276	P	P	05 05 11.0	+0.3
MYKOM				IAmb	IAmb	05 05 13.3	
	comp=Z,20nm,0.9s						
WRAB	Tennant Creek	21.51	156	P	P	05 05 10.2	-1.2
WRA	Warramunga Arr	21.52	156	P	P	05 05 10.5	-1.0
	comp=Z,4.3nm,0.6s,baz=336,slow=12,SNR=57						
WRA				PcP	PcP	05 09 13.7	+1.0
	comp=Z,0.7nm,0.6s,baz=321,slow=2.4,SNR=3.8						
WRA				ScP	ScP	05 12 48.3	+2.8
	comp=Z,1.2nm,1.1s,baz=337,slow=2.8,SNR=6.2						
WRA				LR	LR	05 13 52.9	
	comp=Z,116nm,20.2s,baz=330,slow=37						
WRA	Warramunga Arr	21.52	156	P	P	05 05 10.1	-1.4
WB2	Warramunga Arr	21.52	156	P	P	05 05 10.0	-1.5
WR0	Warramunga Arr	21.61	156	P	P	05 05 11.0	-1.5
PSA00	Pilbara Seismi	21.82	194	P	P	05 05 14.9	+0.1
XMIS	Christmas Isla	21.93	242	P	P	05 05 15.1	-0.9
COEN	Coen	22.40	128	P	P	05 05 20.5	-0.6
COEN				IAmb	IAmb	05 05 27.8	
	comp=Z,23nm,0.9s						
RGRI	Rengat	22.87	270	P	P	05 05 26.5	+0.5
	comp=Z,67μmcomp=Z,278nm,0.5s						
SDSI	Sungai Dareh	23.78	268	P	P	05 05 33.8	-1.0
	comp=Z,2μmcomp=Z,28nm,1.0s						
TPUB	Ta-pu	23.83	350	P	P	05 05 34.0	-1.1
TPUB				IAmb	IAmb	05 05 37.3	
	comp=Z,32nm,1.0s						
QIZ	Qiongzhong	24.38	323	P	P	05 05 40.7	+0.5
QIZ				S	S	05 09 57.9	+1.6
QIZ				LR	LR		
	comp=Z,120nm,8.2s						
QIZ				LR	LR		
	comp=Z,160nm,14.7s						
PDSI	Padang	24.75	268	P	P	05 05 42.8	-0.8
	comp=Z,27nm,1.1s						
AS31	Alice Springs	24.76	161	P	P	05 05 43.0	-0.6
ASAR	Alice Springs	24.76	161	P	P	05 05 44.5	+0.9
	comp=Z,7.3nm,0.9s,baz=345,slow=10,SNR=42						
ASAR				PcP	PcP	05 09 20.7	+1.3
	comp=Z,2.7nm,0.5s,baz=349,slow=2.2,SNR=16						
ASAR				S	S	05 10 07.8	+5.4
	comp=Z,0.8nm,0.7s,baz=346,slow=20,SNR=4.3						
ASAR				ScP	ScP	05 12 56.6	+2.5
	comp=Z,0.4nm,0.8s,baz=345,slow=2.9,SNR=2.3						
ASAR	Alice Springs	24.76	161	P	P	05 05 43.8	+0.2
RPSI	Rantau Prapat	26.43	277	P	P	05 05 57.6	-1.2
FORT	Forrest	30.48	175	P	P	05 06 34.0	-0.7
FORT				IAmb	IAmb	05 07 01.2	
	comp=Z,15nm,0.8s						
CM31	Chiang Mai Arr	31.80	307	P	P	05 06 46.5	-0.1
CMAR	Chiang Mai Arr	31.80	307	P	P	05 06 46.4	-0.2
	comp=Z,1.2nm,0.3s,baz=141,slow=7.3,SNR=12						
CMAR				PcP	PcP	05 09 38.9	+2.0
	comp=Z,1.6nm,0.6s,baz=180,slow=2.3,SNR=8.4						
CMAR				LR	LR	05 19 10.6	
	comp=Z,79nm,21.5s,baz=206,slow=36						
CMAR	Chiang Mai Arr	31.80	307	P	P	05 06 45.7	-0.9
CHTO	Chiang Mai	32.00	308	P	P	05 06 47.3	-0.9
CHTO				IAmb	IAmb	05 06 48.7	
	comp=Z,9.5nm,1.1s						
NJ2	Nanjing	32.69	350	eP	P	05 06 56.1	+2.0
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KMI	Kunming	33.30	321	⇓P	P	05 07 01.0	+1.2
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
JNU	Nakatsue	33.63	9	P	P	05 07 01.9	-0.5
JNU				IAmb	IAmb	05 07 24.5	
	comp=Z,22nm,1.2s						
STKA	Stephens Creek	35.07	155	P	P	05 07 16.2	+1.4
	comp=Z,4.5nm,0.5s,baz=340,slow=8.2,SNR=13						
STKA				PcP	PcP	05 09 47.1	+1.3
	comp=Z,1.1nm,0.5s,baz=133,slow=14,SNR=1.5						
STKA	Stephens Creek	35.07	155	P	P	05 07 15.0	+0.2
JHS	Saijyo	35.84	11	P	P	05 07 20.3	-1.1
JHS				IAmb	IAmb	05 07 35.5	
	comp=Z,14nm,1.2s						
JWT	Wachi	36.62	14	P	P	05 07 27.0	-1.0
JWT				IAmb	IAmb	05 07 35.3	
	comp=Z,16nm,1.1s						
XAN	Xi'an	37.38	337	P	P	05 07 44.1	+10
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,94nm,4.6s						
KSAR	Wonju Array Be	37.59	4	P	P	05 07 37.0	+0.7
KSRS	Korea Array	37.60	4	P	P	05 07 35.0	-1.4
	comp=Z,3.6nm,0.8s,baz=180,slow=9.2,SNR=16						
KSRS				PcP	PcP	05 09 55.1	+1.9
	comp=Z,1.0nm,0.4s,baz=176,slow=1.5,SNR=2.9						
KSRS				LR	LR	05 22 10.1	
	comp=Z,36nm,20.8s,baz=30,slow=35						
MAT	Matsushiro	38.55	17	P	P	05 07 44.2	-0.2
MJAR	Matsushiro Arr	38.55	17	P	P	05 07 43.6	-0.8
	comp=Z,1.7nm,0.4s,baz=195,slow=8.2,SNR=7.5						
JMM	Marumori	40.57	19	P	P	05 08 00.7	-0.4
JMM				IAmb	IAmb	05 08 17.3	
	comp=Z,46nm,1.4s						
SHL	Shillong	41.16	311	P	P	05 08 05.4	-1.1
SHL				IAmb	IAmb	05 08 07.9	
	comp=Z,8.9nm,0.8s						
LZH	Lanzhou	41.25	333	eP	P	05 08 08.5	+1.5
LZH				pP	pwP	05 08 24.4	+0.6
LZH				sP	sP	05 08 31.0	+5.2
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
CAN	Canberra	41.34	150	P	P	05 08 06.6	-1.0
CAN				IAmb	IAmb	05 08 11.8	
	comp=Z,9.9nm,0.9s						
TOO	Toolangi	41.59	155	P	P	05 08 09.6	0.0
HHC	Hu-ho-hao-te	42.75	345	eP	P	05 08 18.3	-0.7
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
HHC				LR	LR		
	comp=Z,170nm,17.5s						
HHC				LR	LR		
	comp=Z,140nm,15.6s						
HHC				LR	LR		
	comp=Z,75nm,15.0s						
USRK	Ussurisk Ar.	44.67	7	P	P	05 08 34.3	0.0
	comp=Z,3.3nm,0.5s,baz=192,slow=8.1,SNR=9.2						
USRK	Ussuriysk Ar.	44.67	7	P	P	05 08 34.1	-0.2
ODAN	Odare	45.27	310	eP	P	05 08 38.8	-0.8
ODAN	Odare	45.27	310	eP	P	05 08 38.8	-0.8
TAPN	Taplejung	45.27	310	eP	P	05 08 39.4	-0.3
TAPN	Taplejung	45.27	310	eP	P	05 08 39.4	-0.3
GTA	Gaotai	45.80	332	eP	P	05 08 44.8	+1.2
GTA				pP	pwP	05 09 00.4	0.0
GTA				sP	sP	05 09 08.8	+6.3
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,55nm,4.0s						
GTA				LR	LR		
	comp=Z,87nm,18.7s						
GTA				LR	LR		
	comp=Z,94nm,20.3s						
GTA				LR	LR		
	comp=Z,140nm,18.2s						
RAMN	Ramite	45.92	309	eP	P	05 08 44.1	-0.7
	comp=Z,17nm,0.6s						
RAMN	Ramite	45.92	309	eP	P	05 08 44.1	-0.7
	comp=Z,17nm,0.6s						
JIRN	Jiri	46.59	310	eP	P	05 08 49.4	-0.8
JIRN	Jiri	46.59	310	eP	P	05 08 49.4	-0.8
GUN	Gumba	46.96	310	eP	P	05 08 52.2	-0.8
	comp=Z,25nm,0.5s						
GUN	Gumba	46.96	310	eP	P	05 08 52.2	-0.8
	comp=Z,25nm,0.5s						
PKI	Pulchoki	47.15	309	eP	P	05 08 53.9	-0.7
PKI	Pulchoki	47.15	309	eP	P	05 08 53.9	-0.7
PKIN	Phulchoki	47.16	309	eP	P	05 08 53.7	-0.9
PKIN	Phulchoki	47.16	309	eP	P	05 08 53.7	-0.9
KKN	Kakani	47.36	309	eP	P	05 08 55.0	-1.0
KKN	Kakani	47.36	309	eP	P	05 08 55.0	-1.0
DMN	Daman	47.41	309	eP	P	05 08 55.0	-1.4
DMN	Daman	47.41	309	eP	P	05 08 55.0	-1.4
KOLN	Koldanda	48.66	308	eP	P	05 09 04.6	-1.4
	comp=Z,40nm,0.9s						
KOLN	Koldanda	48.66	308	eP	P	05 09 04.6	-1.4
	comp=Z,40nm,0.9s						
PYUN	Piuthan	49.29	308	eP	P	05 09 10.1	-0.8
	comp=Z,34nm,0.5s						
PYUN	Piuthan	49.29	308	eP	P	05 09 10.1	-0.8
	comp=Z,34nm,0.5s						
SONM	Songino Array	50.62	344	P	P	05 09 18.9	-1.7
	comp=Z,4.0nm,0.9s,baz=162,slow=9.4,SNR=15						
SONM				LR	LR	05 32 28.1	
	comp=Z,61nm,20.1s,baz=159,slow=38						
SONM	Songino Array	50.62	344	P	P	05 09 20.3	-0.2
TLY	Talaya	54.86	344	P	P	05 09 50.4	-1.2
	comp=Z,1.7nm,0.5s,baz=245,slow=9.2,SNR=4.1						
TLY	Talaya	54.86	344	P	P	05 09 51.0	-0.6
WMQ	Urumqi	55.17	328	eP	P	05 09 55.5	+1.4
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,25nm,4.1s						
WMQ				LR	LR		
	comp=Z,660nm,29.0s						
WMQ				LR	LR		
	comp=Z,610nm,28.8s						
PETK	Petropavlovsk-	59.67	22	P	P	05 10 24.8	-0.8
KSH	Kashi	59.84	317	P	P	05 10 29.1	+1.9
KSH				ScP	ScP	05 15 10.5	+0.5
KSH				S	S	05 18 40.0	+4.8
KSH				pmax	pmax		
	comp=Z,19nm,0.7s						
KSH				pmax	pmax		
	comp=Z,140nm,5.7s						
KSH				LR	LR		
	comp=Z,310nm,10.5s						
KSH				LR	LR		
	comp=Z,280nm,13.3s						
KSH				LR	LR		
	comp=Z,140nm,11.7s						
MK31	Makanchi Array	60.00	327	P	P	05 10 27.6	-0.4
MK31				IAmb	IAmb	05 10 29.6	
	comp=Z,13nm,1.3s						
MKAR	Makanchi Array	60.00	327	P	P	05 10 26.7	-1.3
	comp=Z,6.3nm,0.5s,baz=125,slow=7.8,SNR=71						
MKAR				PcP	PcP	05 11 14.0	+0.4
	comp=Z,2.0nm,0.7s,baz=108,slow=4.7,SNR=4.8						
MKAR				LR	LR	05 37 58.0	
	comp=Z,68nm,19.2s,baz=130,slow=38						
MKAR	Makanchi Array	60.00	327	P	P	05 10 27.0	-1.0
MAKZ	Makanchi	60.18	327	P	P	05 10 28.6	-0.5
YAK	Yakutsk	62.22	2	P	P	05 10 42.6	+0.1
KBL	Kabul	62.79	310	P	P	05 10 46.9	-0.4
KBL				IAmb	IAmb	05 10 48.3	
	comp=Z,6.9nm,0.8s						
ZAA0	Zalesovo Array	63.47	335	P	P	05 10 49.0	-2.1
ZAA0				IAmb	IAmb	05 10 51.5	
	comp=Z,4.8nm,1.1s						
ZALV	Zalesovo Beam	63.47	335	P	P	05 10 50.4	-0.7
	comp=Z,1.9nm,0.5s,baz=123,slow=5.5,SNR=9.9						
ZALV				LR	LR	05 38 54.6	
	comp=Z,43nm,19.6s,baz=79,slow=36						
ZALV	Zalesovo Beam	63.47	335	P	P	05 10 49.5	-1.6
GAR	Garm	63.55	315	P	P	05 10 51.2	-0.9
BTK	Batken	63.63	316	P	P	05 10 52.1	-0.5
BTK				IAmb	IAmb	05 11 02.1	
	comp=Z,8.0nm,1.0s						
CHGR	Chuyangaron	64.24	314	P	P	05 10 55.5	-1.1
KURBB	Kurchatov Arra	64.30	329	P	P	05 10 55.4	-1.2
	comp=Z,4.5nm,0.5s,baz=135,slow=6.6,SNR=36						
KURK	Kurchatov	64.31	329	P	P	05 10 54.9	-1.8
KK31	Karatay Array	65.14	319	P	P	05 11 00.7	-1.6
KK31				IAmb	IAmb	05 11 04.1	
	comp=Z,5.1nm,0.9s						
KKAR	Karatay Array	65.14	319	P	P	05 11 01.0	-1.4
KKAR	Karatay Array	65.14	319	P	P	05 11 01.7	-0.7
KKAR				IAmb	IAmb	05 11 04.1	
	comp=Z,5.1nm,0.9s						
BVAR	Borovoye Array	69.84	328	P	P	05 11 31.4	-0.4
	comp=Z,5.0nm,0.9s,baz=145,slow=10,SNR=14						
BRVK	Borovoye	69.92	328	P	P	05 11 31.2	-1.0
BRVK				IAmb	IAmb	05 11 33.9	
	comp=Z,7.9nm,0.9s						
TIXI	Tiksi	71.83	1	P	P	05 11 42.8	-0.6
	comp=Z,2.5nm,0.4s,baz=201,slow=2.8,SNR=2.1						
GEYT	Alibeck	72.23	310	P	P	05 11 46.7	0.0
	comp=Z,0.9nm,0.3s,baz=141,slow=15,SNR=2.4						
NRIK	Noril'sk	73.92	347	P	P	05 11 55.5	-0.4
	comp=Z,12nm,0.6s,baz=144,slow=5.0,SNR=13						
ABKAR	Akbulak array	74.28	322	P	P	05 11 57.4	-1.0
AKTO	Aktyubinsk	75.84	323	P	P	05 12 07.6	+0.2
	comp=Z,9.7nm,0.6s,baz=108,slow=8.0,SNR=28						
ARU	Arti	77.49	329	P	P	05 12 15.7	-0.8
	comp=Z,1.5nm,0.5s,baz=201,slow=2.0,SNR=4.4						
ARU	Arti	77.49	329	P	P	05 12 15.8	-0.8
ARU				IAmb	IAmb	05 12 18.3	
	comp=Z,5.6nm,0.6s						
MAW	Mawson	79.51	200	P	P	05 12 28.3	+0.8
	comp=Z,1.0nm,0.4s,baz=86,slow=7.9,SNR=4.1						
MAW	Mawson	79.51	200	P	P	05 12 26.0	-1.4
VNDA	Vanda	79.70	172	P	P	05 12 29.5	+1.1
	comp=Z,1.2nm,1.0s,baz=311,slow=7.1,SNR=3.8						
KIRV	Kirov	82.83	329	P	P	05 12 45.1	-0.1
	comp=Z,8.5nm,0.5s,baz=269,slow=21,SNR=3.9						
GEVA	Gevas	83.98	308	P	P	05 12 51.5	-0.4
KBZ	Khabaz	84.60	314	P	P	05 12 54.9	+0.2
	comp=Z,5.4nm,0.8s,baz=67,slow=2.3,SNR=7.9						
MARD	Mardin	85.71	307	P	P	05 13 00.2	-0.3
KOPT	Kop Dagi	86.10	310	P	P	05 13 02.9	+0.3
IMAR	Indian Mountai	86.58	24	P	P	05 13 04.1	+0.1
KMBO	Kilima Mbogo	87.94	269	P	P	05 13 13.3	+1.3
	comp=Z,7.1nm,0.9s,baz=48,slow=5.7,SNR=14						
KMBO	Kilima Mbogo	87.94	269	P	P	05 13 10.3	-1.7
KLMR	Klimovskoe	88.11	331	eP	P	05 13 08.9	-2.6
KLMR				AMP		05 13 12.4	
	comp=Z,21nm,1.5s						
COLD	Coldfoot	88.13	23	P	P	05 13 12.3	+0.8
COLD				IAmb	IAmb	05 13 14.0	
	comp=Z,6.0nm,0.8s						
SYO	Syowa Base	88.18	201⇑	eP	P	05 13 09.4	-2.2
CCB	Clear Creek Bu	88.93	25	P	P	05 13 14.8	-0.5
CCB				IAmb	IAmb	05 13 16.4	
	comp=Z,3.0nm,1.0s						
ILAR	Eielson Array	89.33	25	P	P	05 13 16.7	-0.5
	comp=Z,0.7nm,0.7s,baz=235,slow=5.4,SNR=7.6						
ILAR	Eielson Array	89.33	25	P	P	05 13 16.9	-0.2
QSPA	South Pole Qui	89.68	180	P	P	05 13 19.3	+0.4
QSPA				IAmb	IAmb	05 13 21.2	
	comp=Z,2.6nm,0.8s						
RIDG	Independent Ri	90.20	26	P	P	05 13 21.5	+0.2
RIDG				IAmb	IAmb	05 13 23.2	
	comp=Z,8.0nm,1.0s						
BMAR	Burnt Mountain	90.32	23	P	P	05 13 20.9	-0.9
BRTR	Keskin Array B	91.36	310	P	P	05 13 27.3	-0.1
	comp=Z,1.0nm,0.5s,baz=316,slow=39,SNR=3.1						
BCAR	Beaver Creek A	91.60	27	P	P	05 13 28.0	+0.2
ARCES	ARCESS Array B	93.63	340	P	P	05 13 36.6	-0.4
	comp=Z,2.7nm,0.9s,baz=344,slow=18,SNR=1.8						
AKASG	Malin Array Be	93.99	321	P	P	05 13 37.9	-1.1
	comp=Z,1.8nm,0.6s,baz=68,slow=4.8,SNR=6.9						
AKASG	Malin Array Be	93.99	321	P	P	05 13 37.8	-1.3
SPITS	Spitsbergen Ar	94.06	349	P	P	05 13 38.0	-0.9
	comp=Z,2.9nm,0.6s,baz=131,slow=10,SNR=1.7						
FINES	FINESS Array B	94.59	332	P	P	05 13 40.5	-1.0
	comp=Z,4.2nm,1.1s,baz=86,slow=5.9,SNR=2.1						
FINES	FINESS Array B	94.59	332	P	P	05 13 40.4	-1.2
BURAR	Bucovina Array	96.92	318	P	P	05 13 52.2	-0.4
BUR08	Bucovina Ar. S	96.93	318	P	P	05 13 52.1	-0.6
BOSA	Boshof	98.61	241	LR	LR	05 55 22

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDR	Sredinnyy	3.69	285	eP	Pn	06 06 42.9	+0.3
SPN	Mys Shipunski	4.33	238	eP	Pn	06 06 51.0	-0.3
SPN				eS	Sn	06 07 38.6	-2.6
NLC	Nalytchevo	4.63	242	eS	Sn	06 07 47.0	-1.4
SDLR	Sedlovina	4.80	245	eP	Pn	06 06 58.9	+1.0
SMAR	Somma	4.85	245	eP	Pn	06 06 59.7	+1.0
SMAR				eS	Sn	06 07 53.3	-1.1
KRER	Koryakskii	4.86	246	eP	Pn	06 06 59.7	+0.9
UGLR	Uglovaya	4.87	244	eP	Pn	06 06 57.5	-1.3
KRX	Arik	4.88	247	eP	Pn	06 07 00.2	+1.2
AVH	Avacha	4.88	245	eP	Pn	06 07 00.5	+1.5
KOK	Koryaka	4.92	246	eP	Pn	06 07 00.4	+0.8
PET	Petropavlovsk	5.06	243	eS	Sn	06 07 58.7	-0.3
KRMR	Karymshinskiy	5.43	243	eP	Pn	06 07 07.3	+1.0
KRMR				eS	Sn	06 08 06.4	-1.7
RUS	Russkaya	5.47	238	eP	Pn	06 07 07.1	+0.2
PETK	Petropavlovsk- 0.3nm,0.3s,baz=73,slow=16,SNR=5.3	5.50	247	Pn	Pn	06 07 08.9	+1.4
PETK				Sn	Sn	06 08 17.0	+6.9
	0.3nm,0.3s,baz=234,slow=14,SNR=4.1						
MTVR	Mutnovka	5.60	240	eP	Pn	06 07 10.1	+1.2
MTVR				eS	Sn	06 08 10.1	-2.5
GRL	Gorelyy	5.61	241	eP	Pn	06 07 09.9	+0.9
ASAK	Asacha	5.80	240	eP	Pn	06 07 11.8	+0.3
ASAK				eS	Sn	06 08 16.7	-0.7
KDTR	Khodutka, Kamc	6.07	235	eP	Pn	06 07 14.9	-0.3
SKR	Severo-Kuril's	7.74	235	eP	Pn	06 07 37.2	-0.9
ALID	Alaid	7.89	238	eP	Pn	06 07 42.3	+2.0
ILAR	Eielson Array 1.3nm,1.0s,baz=254,slow=8.1,SNR=7.6	24.56	49	P	P	06 11 03.7	-1.0
H11N2	WAKE ISLAND Hy 35.75 179 baz=0.0,slow=76,SNR=25			T	T	06 50 05.1	
H11N3	WAKE ISLAND Hy 35.77 179 baz=0.0,slow=76,SNR=17			T	T	06 50 06.1	
H11N1	WAKE ISLAND Hy 35.77 179 baz=0.0,slow=76,SNR=21			T	T	06 50 06.5	
SONM	Songino Array 0.4nm,0.5s,baz=71,slow=9.3,SNR=2.1	36.78	284	P	P	06 12 54.7	+1.9
SONM				LR	LR	06 27 40.9	
	comp=Z,55nm,19.6s,baz=334,slow=36						
TXAR	Lajitas Array 0.3nm,0.5s,baz=291,slow=4.3,SNR=5.4	66.47	72	P	P	06 16 35.8	+1.2
WRA	Warramunga Arr 0.3nm,0.8s,baz=17,slow=5.2,SNR=1.7	79.89	210	P	P	06 17 53.8	+0.1

IDC 12 06:13:47.8±3.0, 53°.62N×87°.96E, h0km, mb1 3.1/2, mb1mx3.0/50, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=29.4km s-min=17.7km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.89	281	i		06 26 10.0	
	baz=97,slow=320,SNR=1.1						
ZALV	Zalesovo Beam	1.89	281	Pn	Pn	06 14 21.2	-0.1
	4.8nm,0.3s,baz=97,slow=16,SNR=15						
ZALV				Lg	Lg	06 14 47.5	
	7.7nm,0.3s,baz=102,slow=26,SNR=12						
KURBB	Kurchatov Arra	6.54	246	Pn	Pn	06 15 25.8	+0.8
	0.2nm,0.3s,baz=61,slow=14,SNR=6.4						
KURBB				Lg	Lg	06 17 15.0	
	0.1nm,0.3s,baz=62,slow=30,SNR=5.0						
MKAR	Makanchi Array	7.74	210	Pn	Pn	06 15 42.6	+1.0
	0.3nm,0.3s,baz=29,slow=14,SNR=9.2						
MKAR				Lg	Lg	06 17 48.3	
	baz=35,slow=33,SNR=2.9						

WEL 12 06:17:35.7, 39°S±4°.×17°6E±°., h220km±7km, M2.9/47, MLv2.9/47, Error ellipse: s-maj=0.0km s-min=0.0km az=101.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	Wairara	0.20	174	P	Pn	06 18 04.3	-0.1
TLZ	Tolley Road	0.22	323	P	Pn	06 18 04.5	-0.1
HATZ	Hinemaiaia	0.49	142	P	S	06 18 36.7	+8.4
TWVZ	Taurewa	0.60	200	P	Pn	06 18 05.5	-0.2
TMVZ	Te Maari	0.61	180	P	Pn	06 18 05.6	-0.1
TMVZ	Te Maari	0.61	180	P	S	06 18 40.0	+11
ETVZ	East Tongariro	0.63	180	P	Pn	06 18 05.6	-0.2
ETVZ	East Tongariro	0.63	180	P	S	06 18 40.2	+11
MRHZ	Matea Rd	0.65	121	P	Pn	06 18 05.0	-0.8
OTVZ	Oturere	0.66	183	P	S	06 18 40.9	+11
HIZ	Hauiti	0.67	269	P	Pn	06 18 06.2	+0.4
NGZ	Ngauruhoe	0.67	187	P	S	06 18 41.7	+12
FWVZ	Far West T-bar	0.76	189	P	Pn	06 18 06.2	-0.3
WNVZ	Wahianoa	0.82	186	P	Pn	06 18 06.7	0.0
MUGZ	Murupara	0.84	88	P	S	06 18 36.5	+5.8
MTVZ	Mangateitei	0.90	192	P	Pn	06 18 07.2	+0.1
MOVZ	Moawhango	0.90	178	P	Pn	06 18 06.7	-0.4
BKZ	Black Stump Fm	0.90	137	P	Pn	06 18 06.7	-0.3
MTHZ	Maungatanwha	0.95	112	P	Pn	06 18 06.3	-1.0
BHHZ	Black Hill Sta	1.02	164	P	Pn	06 18 07.5	-0.2
BHHZ	Black Hill Sta	1.02	164	P	S	06 18 35.2	+2.3
NMHZ	Naumai	1.04	125	P	Pn	06 18 08.8	+0.9
NMHZ	Naumai	1.04	125	P	S	06 18 27.8	-5.2
KWHZ	Kaweka Forest	1.07	149	P	Pn	06 18 08.2	+0.1
URZ	Urewera	1.13	78	P	Pn	06 18 08.0	-0.4
RAHZ	Arahi	1.16	111	P	S	06 18 29.2	-5.0
MCHZ	McNeill Hill	1.22	141	P	S	06 18 28.5	-6.4
KRHZ	Kereru	1.25	156	P	Pn	06 18 09.6	+0.3
ARHZ	Aropaoanui	1.26	127	P	Pn	06 18 10.1	+0.8
ARHZ	Aropaoanui	1.26	127	P	S	06 18 25.6	-10
WHHZ	Waihua	1.32	116	P	S	06 18 27.6	-8.7
WAZ	Wanganui	1.37	204	P	Pn	06 18 10.9	+0.8
MWZ	Matawai	1.44	84	P	Pn	06 18 11.0	+0.2
PNHZ	Pukenui	1.46	165	P	Pn	06 18 11.3	+0.5
NEZ	North Egmont	1.47	238	P	Pn	06 18 12.7	+1.7
TSZ	Takapari Road	1.56	173	P	Pn	06 18 12.3	+0.5
CKHZ	Cape Kidnapper	1.57	138	P	S	06 18 29.1	-11
KAHZ	Kahuranaki	1.58	145	P	Pn	06 18 13.0	+1.1
KAHZ	Kahuranaki	1.58	145	P	S	06 18 31.2	-8.9
KNZ	Kokohu	1.62	109	P	Pn	06 18 13.0	+0.8
KNZ	Kokohu	1.62	109	P	S	06 18 31.5	-9.1
RIGZ	Rimuhau	1.62	98	P	Pn	06 18 13.1	+0.8
RUGZ	Raukumara Rang	1.64	71	P	Pn	06 18 12.4	-0.2
WPHZ	Waipukurau	1.66	160	P	S	06 18 32.9	-8.4
TKGZ	Te Karaka	1.68	88	P	Pn	06 18 14.6	+1.8
PRGZ	Paritu Road	1.75	104	P	S	06 18 34.6	-8.1
PXZ	Pawanui	1.77	150	P	S	06 18 33.2	-10
HAZ	Te Kaha	1.80	66	P	Pn	06 18 14.1	+0.3
DVHZ	Dannevirke	1.83	169	P	Pn	06 18 14.5	+0.4
MHGZ	Mahia Peninsul	1.84	111	P	Pn	06 18 15.4	+1.2
POWZ	Post Office Ro	1.88	179	P	Pn	06 18 15.1	+0.5
ANWZ	Angora Road	2.04	163	P	Pn	06 18 17.0	+0.9
ANWZ	Angora Road	2.04	163	P	S	06 18 39.3	-8.3
PUZ	Puketiti	2.05	79	P	Pn	06 18 15.6	-0.8
PRWZ	Pori Road	2.06	174	P	Pn	06 18 17.1	+0.9
MRZ	Mangatainoka R	2.15	183	P	Pn	06 18 17.7	+0.5
BFZ	Birch Farm	2.21	169	P	Pn	06 18 18.5	+0.7
WMGZ	Waiomatatini S	2.24	73	P	Pn	06 18 17.8	-0.4
TIWZ	Tintock	2.27	177	P	Pn	06 18 19.2	+0.8
OGWZ	Otaki Gorge	2.34	190	P	Pn	06 18 20.0	+0.9
HOWZ	Holdsworth Sta	2.39	183	P	Pn	06 18 20.2	+0.5
KIW	Kapiti Island	2.43	194	P	Pn	06 18 20.7	+0.6
CPWZ	Castlepoint	2.43	171	P	S	06 18 46.5	-8.2
TMWZ	Te Maipa	2.60	177	P	Pn	06 18 22.5	+0.5
TMWZ	Te Maipa	2.60	177	P	S	06 18 49.8	-8.3
CAW	Cannon Point	2.65	191	P	Pn	06 18 23.0	+0.6
MTW	Mount Morrison	2.65	183	P	Pn	06 18 22.8	+0.3
DUWZ	D'Urville Isla	2.67	210	P	Pn	06 18 23.6	+0.9
WEL	Wellington	2.87	194	P	Pn	06 18 25.6	+0.8
PAWZ	Paruwai Farm	2.88	184	P	Pn	06 18 25.5	+0.4
TRWZ	Traveller	2.89	180	P	Pn	06 18 25.7	+0.5
TCW	Tory Channel	2.92	202	P	Pn	06 18 26.3	+0.9
MSWZ	Moikau Station	2.93	187	P	Pn	06 18 25.9	+0.4
BHW	Baring Head	2.97	192	P	Pn	06 18 26.4	+0.4
PLWZ	Palliser	3.08	186	P	Pn	06 18 27.6	+0.3
TUWZ	Tuamarina	3.22	204	P	Pn	06 18 29.6	+0.8
NNZ	Nelson	3.25	213	P	Pn	06 18 30.0	+0.8
BSWZ	Blackbirch Sta	3.50	203	P	Pn	06 18 33.1	+1.0
THZ	Tophouse	3.90	213	P	Pn	06 18 38.2	+1.2
KHZ	Kahutara	4.24	202	P	Pn	06 18 42.6	+1.5
GVZ	Greta Valley S	4.90	204	P	Pn	06 18 50.4	+1.2
MQZ	McQueen's Vall	5.68	203	P	Pn	06 18 59.3	+0.2

NEIC 12 06:32:18.9±1.7, 24°.17S±0°.04×68°.86W±0°.07, h93km±2km, Error ellipse: s-maj=9.0km s-min=5.8km az=97.0

GUC 12 06:32:19.4±0.7, 24°.11S×69°.06W, h105km±10km, ML4.4
SJA 12 06:32:19.1±1.1, 24°.09S×69°.06W, h111km±9km, ML4.2, MW4.1
IDC 12 06:32:20.6±0.6, 24°.09S×68°.87W, h105km±5km, mb3.9/9, mb1 3.9/12, mb1mx3.8/24, mbtmp4.2/12, MS3.7/1, Ms1 3.7/1, ms1mx2.8/30, Error ellipse: s-maj=18.5km s-min=8.0km az=82.0
VAO 12 06:32:25.4±0.5, 23°.67S×68°.47W, h111km±4km, mb4.6
ISC 12 06:32:19.4±0.5, 24°.13S±0°.03×69°.00W±0°.05, h102km±4km, n179, σ1§42/201, mb4.4/35, 4C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	IPOC Station P	1.01	335	Pn	Pn	06 32 40.7	+0.3
PB15				Sn	Sn	06 32 56.8	+0.6
PB15	IPOC Station P	1.01	335	i P	Pn	06 32 40.9	+0.5
PB15				i S	Sn	06 32 57.2	+1.0
PB15				IAML		06 32 58.6	
	comp=Z,36μm,0.2s						
GO02	Mina Guanaco	1.16	207	eP	Pn	06 32 43.1	+1.0
GO02				eS	Sn	06 33 00.7	+1.5
GO02				IAML		06 33 01.7	
	comp=N,20μm,0.2s						
GO02	Mina Guanaco	1.16	207	Pn	Pn	06 32 43.3	+1.2
PB14	IPOC Station P	1.37	249	Pn	Pn	06 32 45.3	+0.7
PB14				Sn	Sn	06 33 04.2	+0.7
PB06	IPOC Station P	1.51	340	⇓ i P	Pn	06 32 46.8	+0.6
PB06				i S	Sn	06 33 07.0	+0.6
PB06				IAML		06 33 08.3	
	comp=N,8μm,0.2s						
PB06	IPOC Station P	1.51	340	Pn	Pn	06 32 46.8	+0.6
PB06				Sn	Sn	06 33 06.9	+0.5
PB06	IPOC Station P	1.51	340	i P	Pn	06 32 46.8	+0.6
PB06				i S	Sn	06 33 07.0	+0.6
PB06				IAML		06 33 08.6	
	comp=Z,5μm,0.2s						
LVC	Limon Verde	1.52	3	P	Pn	06 32 46.8	+0.4
	comp=Z,273nm,0.3s,baz=168,slow=8.3,SNR=2389						
LVC				S	Sn	06 33 07.0	+0.2
	comp=Z,929nm,0.3s,baz=55,slow=23,SNR=44						
LVC				LR	LR	06 33 24.1	
	comp=Z,179nm,19.2s,baz=82,slow=43						
LVC	Limon Verde	1.52	3	Pn	Pn	06 32 47.1	+0.7
LVC				Sn	Sn	06 33 06.8	0.0
LVC	Limon Verde	1.52	3	i P	Pn	06 32 46.8	+0.4
LVC				i S	Sn	06 33 07.4	+0.6
LVC				IAML		06 33 09.7	
	comp=Z,2μm,0.3s						
LVC	Limon Verde	1.52	3	eP	Pn	06 32 47.1	+0.7
LVC				eS	Sn	06 33 06.8	0.0
PB05	IPOC Station P	1.68	319	⇑ i P	Pn	06 32 49.0	+0.7
PB05				i S	Sn	06 33 10.3	+0.3
PB04	IPOC Station P	2.08	329	⇑ i P	Pn	06 32 53.4	+0.2
PB04				i S	Sn	06 33 18.1	-1.0
PB04	IPOC Station P	2.08	329	Pn	Pn	06 32 53.5	+0.2
PB04	IPOC Station P	2.08	329	i P	Pn	06 32 53.4	+0.2
PB04				IAML		06 33 24.6	
	comp=Z,2μm,0.2s						
PB03	IPOC Station P	2.19	341	⇓ i P	Pn	06 32 55.0	+0.3
PB03				eS	Sn	06 33 20.9	-0.6
PB03				IAML		06 33 22.6	
	comp=E,3μm,0.2s						
PB03	IPOC Station P	2.19	341	eP	Pn	06 32 55.5	+0.8
PB03				IAML		06 33 24.1	
	comp=Z,2μm,0.3s						
PB09	IPOC Station P	2.33	355	⇓ eP	Pn	06 32 57.8	+1.1
PB09				i S	Sn	06 33 26.3	+1.2
PB09				IAML		06 33 29.7	
	comp=N,2μm,0.5s						
PB09	IPOC Station P	2.33	355	Pn	Pn	06 32 57.9	+1.3
PB09	IPOC Station P	2.33	355	eP	Pn	06 32 58.0	+1.3
PB09				i S	Sn	06 33 26.0	+0.9
PB09				IAML		06 33 32.4	
	comp=Z,2μm,0.4s						
AC01	Pan de Azucar	2.48	215	⇑ i P	Pn	06 32 58.0	-0.3
AC01				i S	Sn	06 33 24.4	-3.7
AC01	Pan de Azucar	2.48	215	Pn	Pn	06 32 58.0	-0.3
PB07	IPOC Station P	2.53	341	⇓ eP	Pn	06 32 59.1	-0.1
PB07				IAML		06 33 32.5	
	comp=N,1μm,0.2s						
PB07	IPOC Station P	2.53	341	Pn	Pn	06 32 59.1	-0.1
PB07	IPOC Station P	2.53	341	eP	Pn	06 32 59.5	+0.3
PB07				IAML		06 33 37.5	
	comp=Z,1μm,0.5s						
AC02	Maricunga	2.69	182	⇑ i P	Pn	06 33 03.2	+1.5
AC02				i S	Sn	06 33 32.4	-1.6
AC02				IAML		06 33 39.6	
	comp=E,862nm,0.4s						
PB02	IPOC Station P	2.92	343	eP	Pn	06 33 04.2	0.0
PB02				IAML		06 33 41.6	
	comp=Z,2μm,0.3s						
PB01	IPOC Station P	3.11	352	eP	Pn	06 33 06.5	-0.2
PB01				eS	Sn	06 33 34.8	-8.4
PB01				IAML		06 33 44.7	
	comp=N,916nm,0.2s						
PB01	IPOC Station P	3.11	352	Pn	Pn	06 33 06.6	-0.2
PB01	IPOC Station P	3.11	352	eP	Pn	06 33 06.8	0.0
PB01				IAML		06 33 45.3	
	comp=Z,733nm,0.1s						
SLA	San Lorenzo	3.24	101	i P	Pn	06 33 11.2	+2.6
SLA				IAML		06 34 08.0	
	comp=Z,35nm,0.9s						
PATCX	Punta Patache	3.46	342	Pn	Pn	06 33 10.3	-1.2
PATCX	Punta Patache	3.46	342	eP	Pn	06 33 10.5	-1.0
PATCX				IAML		06 34 29.8	
	comp=Z,382nm,0.5s						
GO03	Copiap	3.62	198	Pn	Pn	06 33 13.1	-0.5
YJA	Yavi	3.75	59	i P	Pn	06 33 17.5	+1.8
YJA				IAML		06 34 03.3	
	comp=Z,15nm,1.0s						
PB08	IPOC Station P	3.97	358	Pn	Pn	06 33 18.4	-0.3
PB11	IPOC Station P	4.39	352	Pn	Pn	06 33 22.7	-1.4
GO01	Chusmiza	4.45	358		Pn	06 33 24.4	-0.7
AC04	Llanos de Chal	4.46	204	Pn	Pn	06 33 22.8	-2.1
PSGCX	Pisagua	4.63	347	Pn	Pn	06 33 24.5	-2.8
AC05	El Transito	4.82	193		Pn	06 33 28.8	-1.1
MNMC	Minye Minye	5.01	354	Pn	Pn	06 33 31.1	-1.4
LCO	Las Campanas	5.09	197	Pn	Pn	06 33 31.7	-1.9
CO01	Juntas del Tor	5.90	189		Pn	06 33 44.0	-0.6
GO04	Tololo Observa	6.23	195		Pn	06 33 46.4	-2.6
CO03	El Pedregal	6.85	192		Pn	06 33 54.7	-2.6
CO02	Combarbal	7.26	194		Pn	06 33 59.8	-3.2
ZON	Zonda	7.39	178	Pn	Pn	06 34 03.6	-1.1
LPAZ	La Paz	7.85	6	P	Pn	06 34 11.5	+0.1
	comp=Z,2.2nm,0.3s,baz=194,slow=6.9,SNR=76						
LPAZ				S	Sn	06 35 39.2	+0.3
	comp=Z,0.4nm,0.3s,baz=67,slow=20,SNR=1.1						
LPAZ	La Paz	7.85	6	eP	Pn	06 34 10.9	-0.5
VA03	San Esteban	8.71	189		Pn	06 34 19.7	-2.9
PEL	Peldehue	9.10	189	Pn	Pn	06 34 23.9	-4.0
CPUP	Villa Florida	10.79	104	P	Pn	06 34 50.7	-0.2
	comp=Z,0.2nm,0.3s,baz=293,slow=12,SNR=5.4						
CPUP	Villa Florida	10.79	104	Pn	Pn	06 34 50.5	-0.4
SIV	San Ignacio	11.00	44	P	Pn	06 34 48.8	-4.9
	comp=Z,5.5nm,0.3s,baz=257,slow=9.5,SNR=179						
PTLB	Pontes e Lacer	12.68	49	eP	Pn	06 35 12.7	-3.4
VILB	Vilhena	13.89	38	eP	Pn	06 35 29.1	-2.9
ETMB	Extrema	14.48	11	eP	Pn	06 35 35.5	-4.0
LC01	Cunco	14.92	189	Pn	Pn	06 35 41.9	-3.1
PTGB	Pitanga	15.44	96	eP	P	06 35 52.8	-1.2
PCMB	Pacaembu	16.54	85	eP	P	06 36 04.9	-1.3
PLCA	Paso Flores	16.61	184	P	P	06 36 07.6	+0.8
	comp=Z,0.1nm,0.3s,baz=7,0,slow=9.1,SNR=5.3						
PLCA	Paso Flores	16.61	184		Pn	06 36 05.0	-1.0
CZSB	Cruzeiro do Su	16.69	347	eP	P	06 36 09.0	+1.2
CNLB	Canela	17.01	112	eP	P	06 36 13.5	+2.1
FRTB	Fartura	17.82	91	eP	P	06 36 18.3	-1.9
ITRB	Iturama	17.85	79	eP	Pn	06 36 20.8	-0.4
ARAG	Araguaiana, MT	18.19	66	eP	P	06 36 22.9	-1.4
CLDB	Colider	18.21	46	eP	P	06 36 22.5	-2.0
LL01	San Ignacio de	18.42	188	P	P	06 36 26.0	-0.6
BB19B	Bebedouro	19.15	85	eP	Pn	06 36 35.5	-1.3
SPB	Sao Paulo	19.74	93	eP	P	06 36 40.4	-0.7
VAO	Valinhos	20.23	91	eP	P	06 36 45.5	-1.1
IPMB	Ipameri, GO	20.33	76	eP	P	06 36 47.0	-0.7
PARB	Paraibuna	21.42	93	eP	P	06 37 00.6	+1.3
NPGB	Novo Progresso	21.45	40	eP	P	06 36 57.7	-1.9
BDFB	Brasilia	21.45	71	P	P	06 36 58.4	-1.3
	comp=Z,27nm,0.7s,baz=237,slow=12,SNR=43						
BDFB	Brasilia	21.45	71	P	P	06 36 58.9	-0.8
MACA	Manacapuru-AM	22.34	22	eP	P	06 37 07.3	-1.7
PEXB	Peixe	22.99	62	eP	P	06 37 14.2	-1.4
ITTB	Itaituba	23.44	35	eP	P	06 37 18.2	-1.5
MC01	Montes Claros	24.59	77	eP	P	06 37 30.1	-0.1
PTGA	Pitinga	24.86	22	P	P	06 37 33.1	+0.6
PTGA				IAmb	IAmb	06 37 37.7	
	comp=Z,8.5nm,0.8s						
PTGA	Pitinga	24.86	22	eP	P	06 37 32.5	0.0
JANB	Januaria	24.92	73	eP	P	06 37 32.1	-1.1
SMTB	Santa Maria do	25.48	57	eP	P	06 37 37.9	-0.3
SDBA	SAO DESIDERIO	25.64	67	eP	P	06 37 39.5	-0.2
PRPB	Parauapebas	25.66	49	eP	P	06 37 40.1	+0.2
OTAV	Otavalo	25.90	338	eP	P	06 37 45.3	+2.8
MALB	Monte Alegre	26.34	35	eP	P	06 37 46.7	+0.8
BSFB	Barra de Sao F	26.70	84	eP	P	06 37 49.4	+0.1
RIB01	Linhares ES	26.98	85	eP	P	06 37 52.1	+0.4
NAN01	Guarapari, ES	27.64	82	eP	P	06 37 57.3	-0.4
GDU01	Guandu, BA	29.64	75	eP	P	06 38 14.8	-0.6
RCBR	Riachuelo	36.63	66	P	P	06 39 17.3	+1.1
	comp=Z,12nm,0.9s,baz=234,slow=13,SNR=4.7						
RCBR	Riachuelo	36.63	66	P	P	06 39 16.6	+0.3
PMSA	Palmer Station	40.77	177	eP	P	06 39 58.6	+8.6
VNA3	Neumayer Olymp	57.63	161	P	P	06 41 59.0	+0.6
VNA2	Neumayer--Watz	58.21	160	P	P	06 42 03.1	+0.6
BIRD	Birdtown, Kers	59.46	349	P	P	06 42 11.6	+0.1
342A	Flagon Creek P	59.54	337	P	P	06 42 13.1	+1.0
SNAA	Sanae	59.84	160	P	P	06 42 14.0	+0.2
SNAA	Sanae	59.84	160	P	P	06 42 13.7	-0.1
	comp=Z,2.1nm,0.7s,baz=274,slow=8.7,SNR=18						
SNAA	Sanae	59.84	160	P	P	06 42 14.2	+0.4
SNAA				IAmb	IAmb	06 42 15.3	
	comp=Z,2.6nm,0.8s						
W57A	Gilead	59.87	350	P	P	06 42 14.3	0.0
W57A				IAmb	IAmb	06 42 21.2	
	comp=Z,4.3nm,1.1s						
Y49A	Blount Mountai	60.00	343	P	P	06 42 15.2	-0.1
Y49A				IAmb	IAmb	06 42 15.8	
	comp=Z,4.5nm,1.1s						
V58A	Windy Hill, Pi	60.36	351	P	P	06 42 18.1	+0.5
V58A				IAmb	IAmb	06 42 18.5	
	comp=Z,2.9nm,0.7s						
X48A	Hartselle	60.73	343	P	P	06 42 20.4	+0.2
TKL	Tuckaleechee C	61.09	346	P	P	06 42 22.6	0.0
TKL				IAmb	IAmb	06 42 23.3	
	comp=Z,4.9nm,1.0s						
SWET	Sewanee	61.17	344	P	P	06 42 23.1	-0.1
JCT	Junction City	61.82	330	P	P	06 42 28.9	+1.3
JCT				IAmb	IAmb	06 42 29.8	
	comp=Z,4.8nm,0.8s						
V48A	Smith Brothers	61.89	344	P	P	06 42 28.3	+0.3
CLTN	Cedars of Leba	62.10	344	P	P	06 42 29.8	+0.4
CLTN				IAmb	IAmb	06 42 30.1	
	comp=Z,3.9nm,0.7s						
WVT	Waverly	62.52	343	P	P	06 42 31.9	-0.2
TXAR	Lajitas Array	62.74	326	P	P	06 42 35.3	+1.3
	comp=Z,0.6nm,0.7s,baz=148,slow=7.4,SNR=5.1						
TXAR	Lajitas Array	62.74	326	P	P	06 42 34.6	+0.7
MIAR	Mount Ida	62.85	337	P	P	06 42 35.2	+0.8
MIAR				IAmb	IAmb	06 42 35.7	
	comp=Z,3.7nm,0.9s						
W39A	Magazine	63.51	337	P	P	06 42 40.2	+1.5
W39A				IAmb	IAmb	06 42 40.5	
	comp=Z,4.8nm,0.8s						
X37A	Clayton	63.54	336	P	P	06 42 38.8	-0.2
X37A				IAmb	IAmb	06 42 40.7	
	comp=Z,4.6nm,0.9s						
T45A	Paducah	63.58	343	P	P	06 42 38.5	-0.6
CCM	Cathedral Cave	65.29	341	P	P	06 42 50.4	+0.1
CCM				IAmb	IAmb	06 42 51.1	
	comp=Z,5.2nm,0.8s						
MNTX	Cornudas Mount	65.52	326	P	P	06 42 52.6	+0.6
MNTX				IAmb	IAmb	06 42 55.3	
	comp=Z,5.7nm,1.4s						
S39A	Bolivar	65.61	339	P	P	06 42 52.9	+0.5
R40A	Maddies Statio	65.82	340	P	P	06 42 54.9	+1.2
R40A				IAmb	IAmb	06 42 55.4	
	comp=Z,9.7nm,1.4s						
QSPA	South Pole Qui	66.07	180	P	P	06 42 56.7	+1.5
QSPA				IAmb	IAmb	06 42 57.4	
	comp=Z,4.0nm,0.6s						
MSTX	Muleshoe	66.11	330	P	P	06 42 57.0	+1.2
P38A	Dawn	67.44	340	P	P	06 43 04.6	+0.7
P38A				IAmb	IAmb	06 43 04.9	
	comp=Z,4.1nm,0.7s						
ANMO	Albuquerque	68.66	328	P	P	06 43 13.4	+1.5
FRNY	Fl

ABKAR	**Akbulak array**	**133.11**	**44**	PKPdf	**PKiKP**	**06 51 25.0**	**+1.0**
KURK	**Kurchatov**	**143.55**	**35**	PKPdf	**PKiKP**	**06 51 44.2**	**-1.0**
ZALV	**Zalesovo Beam**	**144.35**	**27**	**PKPdf**	**PKiKP**	**06 51 43.1**	**-0.1**
comp=Z,3.5nm,0.7s,baz=308,slow=7.0,SNR=1.9							
ZALV	**Zalesovo Beam**	**144.35**	**27**	PKPdf	**PKPdf**	**06 51 43.3**	**+0.2**
KDJ	**Kajisay**	**146.75**	**49**	PKPbc	**PKPab**	**06 51 50.5**	**-0.7**
MAKZ	**Makanchi**	**147.59**	**38**	PKPbc	**PKiKP**	**06 51 53.0**	**-0.8**
MK31	**Makanchi Array**	**147.78**	**38**	PKPbc	**PKPbc**	**06 51 52.0**	**-0.3**
MKAR	**Makanchi Array**	**147.78**	**38**	PKPbc	**PKiKP**	**06 51 52.8**	**-1.4**
comp=Z,3.1nm,0.7s,baz=310,slow=2.9,SNR=13							
MKAR				pPKPbc	**pPKPbc**	**06 52 20.4**	**-0.6**
comp=Z,1.7nm,0.6s,baz=323,slow=3.4,SNR=6.0							
MKAR	**Makanchi Array**	**147.78**	**38**	PKPbc	**PKPbc**	**06 51 51.9**	**-0.4**

WEL 12 06:34:47.9, 42°S±2°×17°3E±°, h19km±4km, M2.5/14, ML2.6/14, MLv2.5/14, Error ellipse: s-maj=0.0km s-min=0.0km az=56.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.43**	**86**	P	Pb	06 34 57.0	+0.2
KHZ				S	Sb	06 35 03.1	+0.3
GVZ	**Greta Valley S**	**0.52**	**174**	P	Pg	06 34 59.3	+0.9
GVZ				S	Sn	06 35 07.5	-1.1
LTZ	**Lake Taylor**	**0.61**	**237**	P	Pb	06 34 59.9	0.0
LTZ				S	Sb	06 35 07.9	-0.2
THZ	**Tophouse**	**0.69**	**356**	P	Pg	06 35 01.4	-0.1
THZ				S	Sb	06 35 09.8	-0.5
AMCZ	**Amberley**	**0.76**	**197**	P	Pn	06 35 03.8	+0.2
BSWZ	**Blackbirch Sta**	**1.00**	**43**	P	Pg	06 35 07.3	0.0
OXZ	**Oxford**	**1.11**	**218**	P	Pb	06 35 08.7	+0.2
OXZ				S	Sg	06 35 23.8	-0.3
DSZ	**Denniston Nort**	**1.11**	**309**	P	Pg	06 35 09.6	+0.1
DSZ				S	Sg	06 35 24.7	+0.6
INZ	**Inchbonnie**	**1.16**	**256**	P	Pb	06 35 09.6	+0.4
CMWZ	**Cape Campbell**	**1.16**	**53**	P	Pg	06 35 11.4	+1.0
TUWZ	**Tuamarina**	**1.25**	**36**	P	Pb	06 35 11.4	+0.5
NNZ	**Nelson**	**1.27**	**14**	P	Pg	06 35 12.1	-0.3
OKCZ	**Okains Bay**	**1.28**	**177**	P	Pb	06 35 11.4	+0.1
MQZ	**McQueen's Vall**	**1.28**	**190**	P	Pn	06 35 10.6	-0.1
AKCZ	**Akaroa Harbour**	**1.42**	**182**	P	Pn	06 35 12.8	+0.1
TCW	**Tory Channel**	**1.58**	**39**	P	Pb	06 35 16.5	+0.1
QRZ	**Quartz Range**	**1.65**	**348**	P	Pb	06 35 18.3	+0.6
WACZ	**Wakanui South**	**1.71**	**208**	P	Pn	06 35 16.7	+0.2
DUWZ	**D'Urville Isla**	**1.79**	**24**	P	Pb	06 35 19.9	-0.2
ARCZ	**Arundel**	**1.99**	**221**	P	Pn	06 35 21.0	+0.5
CAW	**Cannon Point**	**2.06**	**50**	P	Pn	06 35 22.6	+1.1
KIW	**Kapiti Island**	**2.15**	**43**	P	Pb	06 35 26.6	+0.4
ODZ	**Otahua Downs**	**3.09**	**212**	P	Pn	06 35 35.5	-0.1

*SOME **12** 06:38:35.1, 40°85N×69°87E, h0km*
*KRNET **12** 06:38:37.4±0.1, 41°16N×69°74E, mb3.2*
*NNC **12** 06:38:38.3±2.5, 40°82N×69°98E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=19.1km s-min=12.2km az=41.0*
ISC 12 06:38:39.2±1.3, 41°02N±0°03×69°83E±0°04, h7km±11km, n19, σ2§10/35, 12C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.51**	**307**	⇓*eP*	Pg	06 38 45.5	-3.5
baz=97							
TAS				⇓*eS*	**Sg**	**06 38 50.6**	**-5.1**
baz=97							
IUG	**Iuzhnay**	**1.14**	**7**	*eP*	**Pg**	**06 39 02.3**	**+1.3**
309nm,0.3s							
IUG				*eS*	**Sn**	**06 39 21.2**	**+3.8**
214nm,0.5s							
BTK	**Batken**	**1.22**	**142**	⇑*iP*	**Pg**	**06 39 02.6**	**0.0**
baz=43							
BTK				⇑*iS*	**Sn**	**06 39 21.0**	**+1.5**
baz=43							
CHM	**Chimkent**	**1.31**	**352**	*eP*	**Pn**	**06 39 04.6**	**+0.7**
4.7nm,0.3s							
CHM				*eS*	**Sg**	**06 39 26.1**	**+4.8**
675nm,0.4s							
BRLS	**Borolday**	**2.01**	**0**	*eP*	**Pn**	**06 39 10.9**	**-2.6**
38nm,0.3s							
BRLS				*eS*	**Sn**	**06 39 36.6**	**-2.2**
112nm,0.5s							
GAR	**Garm**	**2.05**	**169**	⇓*iP*	**Pn**	**06 39 15.1**	**+0.9**
baz=68							
GAR				⇓*iS*	**Sb**	**06 39 43.2**	**+0.6**
baz=68							
KK31	**Karatay Array**	**2.14**	**13**	⇑Pn	**Pb**	**06 39 17.8**	**-0.4**
5.7nm,0.3s,baz=200,slow=15,SNR=138							
KK31				Sn	**Sg**	**06 39 47.9**	**-0.1**
32nm,0.4s,baz=200,slow=18,SNR=22							
DZA	**Taraz**	**2.18**	**30**	*eP*	**Pb**	**06 39 19.1**	**+0.2**
85nm,0.1s							
DZA				*eS*	**Sg**	**06 39 51.0**	**+1.9**
230nm,0.5s							
OHH	**Osh**	**2.29**	**102**	⇓*iP*	**Pn**	**06 39 18.4**	**+0.9**
baz=4.0							
OHH				⇓*iS*	**Sb**	**06 39 47.7**	**-1.8**
baz=4.0							
CHGR	**Chuyangaron**	**2.42**	**193**	⇑*iP*	**Pn**	**06 39 19.4**	**+0.2**
baz=90							
CHGR				⇑*iS*	**Sb**	**06 39 51.2**	**-1.8**
baz=90							
MRKS	**Merke**	**3.06**	**55**	*eP*	**Pb**	**06 39 33.9**	**-0.2**
12nm,0.7s							
MRKS				*eS*	**Sg**	**06 40 16.2**	**-1.4**
25nm,0.6s							
AML	**Almayashu**	**3.10**	**68**	⇑*iP*	**Pn**	**06 39 27.8**	**-1.0**
baz=71							
AML				⇑*iS*	**Sn**	**06 40 05.2**	**-1.1**
baz=71							
EKS2	**Erkin-Say**	**3.37**	**60**	⇑*eP*	**Pn**	**06 39 30.7**	**-1.6**
baz=62							
EKS2				⇑*iS*	**Sn**	**06 40 11.1**	**-1.5**
baz=62							
ARLS	**Aral**	**3.48**	**75**	⇑*iP*	**Pn**	**06 39 33.8**	**0.0**
baz=77							
ARLS				⇑*iS*	**Sn**	**06 40 14.4**	**-0.9**
baz=77							
AAK	**Ala-Archa**	**3.84**	**64**	⇓Pg	**Pb**	**06 39 48.3**	**+1.0**
3.5nm,0.4s							
AAK				⇓Lg	Lg	06 40 39.8	
8.2nm,0.6s							
TKM2	**Tokmak 2**	**4.70**	**64**	⇓Pg	**Pb**	**06 40 03.2**	**+1.2**
3.2nm,0.6s							
TKM2				⇑Lg	Lg	06 41 07.5	
14nm,1.0s							
DGS	**Degeres**	**4.94**	**61**	*eP*	**Pb**	**06 40 08.0**	**+2.0**
5.3nm,0.7s							
DGS				*eS*	**Sg**	**06 41 15.4**	**-2.4**
12nm,0.7s							
KST	**Kastek**	**4.99**	**64**	*eP*	**Pb**	**06 40 09.2**	**+2.2**
4.5nm,0.7s							
KST				*eS*	**Sg**	**06 41 17.3**	**-2.2**
13nm,0.7s							
BTLS	**Baital**	**5.07**	**36**	*eP*	**Pb**	**06 40 11.2**	**+3.1**
2.0nm,0.3s							
BTLS				*eS*	**Sg**	**06 41 20.3**	**-1.6**
11nm,0.6s							

*IDC **12** 07:03:12.2±1.9, 27°87S×70°94W, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.5/31, mbtmp3.6/4, ML3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/19, Error ellipse: s-maj=92.4km s-min=20.1km az=99.0*
ISC 12 07:03:14.5±0.9, 27°6S±0°2×72°0W±0°2, h35km, n11, σ1§16/12, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.74**	**30**	Pn	**Pn**	**07 04 37.7**	**+0.2**
0.6nm,0.3s,baz=168,slow=6.6,SNR=14							
LVC				Sn	**Sn**	**07 05 41.3**	**-1.0**
1.3nm,0.3s,baz=3.9,slow=16,SNR=1.8							
LVC				Lg	Lg	07 06 07.9	
1.9nm,0.3s,baz=148,slow=21,SNR=7.2							
LVC				LR	LR	07 06 51.5	
comp=Z,161nm,18.0s,baz=216,slow=40							
H03N1	**Juan Fernandez**	**8.29**	**224**	Pn	**Pn**	**07 05 12.7**	**+0.7**
baz=284,slow=74,SNR=7.2							
H03N1				T	T	07 13 50.7	
baz=56,slow=71,SNR=78							
H03N2	**Juan Fernandez**	**8.31**	**224**	Pn	**Pn**	**07 05 12.7**	**+0.5**
H03N2				T	T	07 14 14.2	
baz=56,slow=71,SNR=79							
H03N3	**Juan Fernandez**	**8.31**	**224**	Pn	**Pn**	**07 05 12.3**	**0.0**
baz=105,slow=74,SNR=4.0							
H03N3				T	T	07 14 11.3	
baz=56,slow=71,SNR=66							
LPAZ	**La Paz**	**11.84**	**19**	Pn	**Pn**	**07 06 00.9**	**-0.6**
0.1nm,0.3s,baz=171,slow=3.9,SNR=2.0							
SIV	**San Ignacio**	**15.40**	**44**	Pn	**Pn**	**07 06 51.3**	**+2.0**
0.2nm,0.3s,baz=237,slow=12,SNR=15							
SNAA	**Sanae**	**57.51**	**159**	P	**P**	**07 12 58.5**	**-1.4**
0.8nm,0.7s,baz=295,slow=11,SNR=9.0							
TORD	**Torodi Ar. Bea**	**82.07**	**71**	P	**P**	**07 15 30.9**	**-0.8**
0.5nm,0.5s,baz=257,slow=4.7,SNR=5.3							
KURBB	**Kurchatov Arra**	**147.97**	**36**	PKPbc	**PKiKP**	**07 22 58.2**	**+0.6**
0.2nm,0.4s,baz=303,slow=3.2,SNR=4.9							
ZALV	**Zalesovo Beam**	**148.68**	**27**	PKPbc	**PKiKP**	**07 23 00.1**	**+1.2**
2.3nm,0.8s,baz=304,slow=2.6,SNR=6.7							
MKAR	**Makanchi Array**	**152.19**	**40**	PKPbc	**PKiKP**	**07 23 07.6**	**+1.1**
0.4nm,0.8s,baz=305,slow=4.3,SNR=5.4							

*DJA **12** 07:08:02.1±0.4, 7°S±5°×10°6E±°, h67km±7km, M4.3/12, mb4.5/1, MLv4.2/12*
ISC 12 07:08:01.1±1.8, 7°1S±0°1×105°68E±0°08, h89km±14km, n14, σ0§59/22, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.50**	**2**	P	**Pn**	**07 08 16.3**	**+0.5**
CGJI				S	**Sn**	**07 08 26.6**	**-0.1**
SKJI	**Sukabumi**	**0.88**	**83**	P	**Pn**	**07 08 19.7**	**+0.2**
SKJI				S	**Sn**	**07 08 32.3**	**-0.9**
DBJI	**Dramaga**	**1.20**	**63**	P	**Pn**	**07 08 23.9**	**+0.7**
DBJI				S	**Sn**	**07 08 40.2**	**+0.4**
CBJI	**Citeko**	**1.35**	**60**	P	**Pn**	**07 08 25.3**	**+0.3**
CBJI				S	**Sn**	**07 08 42.8**	**-0.3**
CNJI	**Cibinong**	**1.46**	**98**	P	**Pn**	**07 08 26.4**	**+0.1**
CNJI				S	**Sn**	**07 08 45.0**	**-0.3**
BLSI	**Bandar Lampung**	**1.79**	**346**	P	**Pn**	**07 08 30.5**	**-0.1**
BLSI				S	**Sn**	**07 08 52.0**	**-0.9**
KASI	**Kota Agung**	**1.97**	**323**	P	**Pn**	**07 08 33.4**	**+0.5**
KASI				S	**Sn**	**07 08 55.7**	**-1.4**
CISI	**Cisompet, Garu**	**2.17**	**102**	P	**Pn**	**07 08 35.6**	**0.0**
KLSI		**2.58**	**339**	P	**Pn**	**07 08 41.4**	**+0.3**
KLSI				S	**Sn**	**07 09 11.6**	**-0.2**
LWLI	**Liwa**	**2.63**	**322**	P	**Pn**	**07 08 42.4**	**+0.6**
CMJI	**Cimerak**	**2.83**	**104**	P	**Pn**	**07 08 44.7**	**+0.3**
MDSI	**Maura Dua**	**3.00**	**330**	P	**Pn**	**07 08 47.2**	**+0.5**
MNAI	**Manna**	**3.85**	**315**	P	**Pn**	**07 08 58.5**	**+0.4**
KSI	**Kapahiang**	**4.61**	**318**	P	**Pn**	**07 09 09.2**	**+0.7**

IDC 12 07:10:59.9±2.1, 30°09N×68°21E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.3/46, mbtmp3.7/4, ML3.5/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/52, Error ellipse: s-maj=63.6km s-min=36.5km az=128.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.95**	**234**	Pn	Pn	07 13 37.8	-0.2
0.3nm,0.3s,baz=50,slow=7.9,SNR=3.5							
WSAR				Sn	Sn	07 15 33.6	-7.7
0.2nm,0.3s,baz=160,slow=8.9,SNR=2.1							
WSAR				LR	LR	07 19 03.2	
comp=Z,55nm,20.9s,baz=162,slow=44							
MKAR	**Makanchi Array**	**19.94**	**29**	P	P	07 15 33.2	-0.1
0.2nm,0.3s,baz=199,slow=10,SNR=4.7							
GUMO	**Guam**	**71.88**	**85**	LR	LR	07 57 41.8	
comp=Z,101nm,18.6s,baz=13,slow=39							
WRA	**Warramunga Arr**	**80.74**	**119**	P	P	07 23 15.5	0.0
0.3nm,0.6s,baz=318,slow=5.2,SNR=3.1							
ASAR	**Alice Springs**	**82.65**	**123**	P	P	07 23 25.6	+0.1
0.4nm,0.8s,baz=305,slow=5.5,SNR=5.0							

IDC 12 07:31:28.6±10.0, 19°62N×108°52W, h0km, mb3.1/3, mb1 3.6/4, mb1mx3.6/27, mbtmp3.2/4, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/10, Error ellipse: s-maj=161.8km s-min=69.3km az=153.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**2.42**	**250**	Pn	Pn	07 31 60.0	-9.5
H06E1				T	T	07 34 34.8	
SNR=173							
H06N1	**SOCORRO T-PHAS**	**2.45**	**252**	T	T	07 34 38.9	
SNR=42							
TXAR	**Lajitas Array**	**10.63**	**24**	Pn	Pn	07 34 02.7	+0.4
0.1nm,0.3s,baz=198,slow=14,SNR=9.7							
NVAR	**Mina Array Bea**	**20.57**	**338**	P	P	07 36 08.7	-0.5
1.3nm,1.0s,baz=163,slow=11,SNR=8.5							
NVAR				LR	LR	07 42 11.2	
comp=Z,53nm,20.1s,baz=182,slow=31							
PDAR	**Pinedale Array**	**23.09**	**358**	P	P	07 36 37.4	+1.2
0.1nm,0.5s,baz=179,slow=12,SNR=1.7							
PDAR				LR	LR	07 45 11.8	
comp=Z,74nm,18.4s,baz=223,slow=36							
ILAR	**Eielson Array**	**51.80**	**340**	P	P	07 40 37.7	-0.2
0.3nm,0.6s,baz=157,slow=7.5,SNR=4.4							

*NEIC **12** 07:33:53.3±1.4, 0°04S±0°07×123°76E±0°06, h113km±7km, mb4.7/42, Error ellipse: s-maj=11.0km s-min=7.8km az=148.0*
*BJI **12** 07:33:53.0±0.0, 0°00N×123°80E, h120km, mB4.9/14, mb4.7/25*
*IDC **12** 07:33:54.1±1.5, 0°05N×123°64E, h122km±13km, mb4.0/17, mb1 4.2/20, mb1mx4.0/32, mbtmp4.4/20, Error ellipse: s-maj=16.2km s-min=9.1km az=83.0*
*DJA **12** 07:33:56.1±0.2, 0°S±3°×12°4E±°, h99km±5km, M4.9/16, mb5.0/13, mB5.2/8, MLv5.1/16, Mw(mB)4.6/8*
ISC 12 07:33:53.0±0.3, 0°05S±0°04×123°76E±0°05, h110km, n117, σ1§75/126, mb4.6/41, 3C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.66**	**20**	P	**Pn**	**07 34 14.8**	**+3.8**
KMSI				S	**Sn**	**07 34 30.9**	**+6.3**
LUWI	**Luwuk**	**1.39**	**225**	P	**Pn**	**07 34 20.4**	**+1.9**
LUWI				S	**Sn**	**07 34 38.4**	**+0.5**
LUWI	**Luwuk**	**1.39**	**225**	Pn	**Pn**	**07 34 20.3**	**+1.8**
LUWI				Sn	**Sn**	**07 34 39.4**	**+1.5**
TNTI	**Ternate**	**3.70**	**77**	P	**Pn**	**07 34 49.5**	**+1.2**
TNTI	**Ternate**	**3.70**	**77**	Pn	**Pn**	**07 34 49.6**	**+1.2**
TNTI				Sn	**Sn**	**07 35 32.1**	**+0.9**
LBMI	**Labuha**	**3.79**	**99**	P	**Pn**	**07 34 51.3**	**+1.7**
MPSI	**Mapaga**	**3.88**	**276**	P	**Pn**	**07 34 53.3**	**+2.6**
NLAI	**Namlea**	**4.61**	**133**	P	**Pn**	**07 35 02.2**	**+1.7**
SPSI	**Sidrap Palu**	**5.57**	**226**	P	**Pn**	**07 35 16.8**	**+3.3**
1.8nm6μm168nm,0.6s							
BNSI	**Bone**	**5.65**	**220**	P	**Pn**	**07 35 19.1**	**+4.4**
0.9nm2μm127nm,0.6s							
AAI	**Ambon**	**5.72**	**129**	P	**Pn**	**07 35 17.6**	**+2.0**
2.0nm5μm508nm,0.6s							
MSAI	**Masohi**	**6.12**	**122**	P	**Pn**	**07 35 23.8**	**+2.8**
0.4nm2μm141nm,0.9s							
KAPI	**Kappang**	**6.35**	**219**	P	**Pn**	**07 35 27.2**	**+3.1**
29nm,0.3s,baz=26,slow=4.6,SNR=34							
KAPI				S	**Sn**	**07 36 35.8**	**+0.5**
17nm,0.3s,baz=55,slow=24,SNR=3.2							
KAPI	**Kappang**	**6.35**	**219**	Pn	**Pn**	**07 35 27.9**	**+3.8**
KAPI					**Sn**	**07 36 37.3**	**+2.1**
BKSI	**Bulukumba**	**6.37**	**215**	P	**Pn**	**07 35 28.0**	**+3.6**
0.4nm50nm,0.5s							
DDMP	**Don Marcelino,**	**6.42**	**18**	*eP*	**Pn**	**07 35 28.3**	**+3.3**
SKMP	**Bagumbayan, Su**	**6.57**	**7**	*eP*	**Pn**	**07 35 29.1**	**+1.9**
BKB	**Balikpapan**	**6.96**	**260**	Pn	**Pn**	**07 35 34.7**	**+2.3**
KCP	**Kidapawan**	**7.14**	**11**	⇓*iP*	Pn	07 35 40.3	+5.4
MYLDM	**Lahad Datu**	**7.38**	**315**	Pn	Pn	07 35 44.2	+6.1
SIJI	**Sorong**	**7.55**	**96**	P	**Pn**	**07 35 42.4**	**+1.9**
24nm,0.3s,baz=245,slow=23,SNR=31							
PAGZ	**Pagadian**	**7.85**	**357**	*eP*	Pn	07 35 50.0	+5.4
BUKP	**Musuan**	**7.98**	**9**	*eP*	**Pn**	**07 35 50.5**	**+4.1**
KBKI	**Kotabaru**	**8.24**	**247**	P	**Pn**	**07 35 53.4**	**+3.6**
40nm,1.0s							
FAKI	**Fak Fak**	**8.96**	**109**	Pn	**Pn**	**07 35 59.4**	**-0.1**
KKM	**Kota Kinabalu**	**9.66**	**309**	Pn	**Pn**	**07 36 10.1**	**+0.9**
SMPI	**Sarmi**	**15.08**	**97**	P	**P**	**07 37 23.5**	**+0.5**
CISI	**Cisompet, Garu**	**17.55**	**245**	P	**P**	**07 37 49.5**	**-1.0**
CISI				IAmb	IAmb	07 37 54.4	
comp=Z,34nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**Pn**	**07 37 56.6**	**0.0**
comp=Z,0.3nm,0.3s,baz=358,slow=7.4,SNR=9.7							
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**P**	**07 37 54.8**	**-0.8**
WB0	**Warramunga Arr**	**22.20**	**153**	P	**P**	**07 38 40.3**	**-0.2**
WRAB	**Tennant Creek**	**22.32**	**153**	P	**P**	**07 38 42.6**	**+0.8**
WRAB				IAmb	IAmb	07 38 44.2	
comp=Z,9.7nm,0.6s							
WRA	**Warramunga Arr**	**22.32**	**153**	P	**P**	**07 38 41.5**	**-0.3**
comp=Z,3.4nm,0.4s,baz=334,slow=10,SNR=66							
WRA				PcP	**PcP**	**07 42 33.4**	**-0.2**
comp=Z,1.0nm,0.5s,baz=328,slow=2.2,SNR=6.3							
WRA				ScP	**ScP**	**07 45 58.7**	**-2.5**
comp=Z,0.4nm,0.6s,baz=327,slow=2.7,SNR=6.9							
WRA	**Warramunga Arr**	**22.32**	**153**	P	**P**	**07 38 40.6**	**-1.2**
WB2	**Warramunga Arr**	**22.33**	**153**	P	**P**	**07 38 41.6**	**-0.2**
WR0	**Warramunga Arr**	**22.43**	**153**	P	**P**	**07 38 42.7**	**-0.2**
TPUB	**Ta-pu**	**23.41**	**353**	P	**P**	**07 38 52.8**	**+0.5**
TPUB				IAmb	IAmb	07 38 53.6	
comp=Z,22nm,0.9s							
COEN	**Coen**	**23.68**	**127**	P	**P**	**07 38 54.2**	**-0.6**
AS31	**Alice Springs**	**25.46**	**158**	P	**P**	**07 39 11.3**	**+0.4**
ASAR	**Alice Springs**	**25.46**	**158**	P	**P**	**07 39 11.6**	**+0.7**
comp=Z,1.0nm,0.4s,baz=337,slow=9.4,SNR=28							
ASAR				PcP	**PcP**	**07 42 40.4**	**+0.1**
comp=Z,2.6nm,0.4s,baz=347,slow=2.3,SNR=19							
ASAR				ScP	**ScP**	**07 46 07.3**	**-2.4**
comp=Z,0.6nm,0.6s,baz=352,slow=2.9,SNR=5.5							
ASAR	**Alice Springs**	**25.46**	**158**	P	**P**	**07 39 10.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.54**	**308**	P	**P**	**07 39 56.3**	**+0.1**
comp=Z,2.3nm,0.3s,baz=132,slow=7.3,SNR=7.3							
CMAR	**Chiang Mai Arr**	**30.54**	**308**	P	**P**	**07 39 56.7**	**+0.5**
CHTO	**Chiang Mai**	**30.74**	**309**	P	**P**	**07 39 59.6**	**+1.6**
CHTO				IAmb	IAmb	07 40 00.5	
comp=Z,7.8nm,0.9s							
FORT	**Forrest**	**30.83**	**173**	P	**P**	**07 39 58.8**	**+0.2**
FORT				IAmb	IAmb	07 40 06.8	
comp=Z,13nm,0.8s							
KMI	**Kunming**	**32.24**	**322**	⇑Pg	**P**	**07 40 06.7**	**-4.7**
NJ2	**Nanjing**	**32.26**	**352**	*eP*	**P**	**07 40 13.7**	**+2.5**
NJ2				pmax	pmax		
comp=Z,3.0nm,0.6s							
BBOO	**Buckleboo**	**34.59**	**162**	P	**P**	**07 40 31.1**	**-0.3**
BBOO				IAmb	IAmb	07 40 41.1	
comp=Z,22nm,1.4s							
STKA	**Stephens Creek**	**35.87**	**154**	P	**P**	**07 40 43.6**	**+1.2**
comp=Z,3.9nm,0.3s,baz=335,slow=8.0,SNR=21							
STKA				PcP	**PcP**	**07 43 07.5**	**0.0**
comp=Z,3.0nm,0.5s,baz=349,slow=5.0,SNR=7.0							
STKA	**Stephens Creek**	**35.87**	**154**	P	**P**	**07 40 43.0**	**+0.5**
JHS	**Saijyo**	**35.95**	**13**	P	**P**	**07 40 43.4**	**+0.3**
JHS				IAmb	IAmb	07 40 48.8	
comp=Z,23nm,1.3s							
CD2	**Chengdu**	**36.17**	**330**	Pg	**P**	**07 40 41.0**	**-4.1**
CD2				smax	smax		
comp=N,100nm,0.6s							
CD2				smax	smax		
comp=E,150nm,1.0s							
JWT	**Wachi**	**36.79**	**16**	P	**P**	**07 40 50.2**	**+0.1**
JWT				IAmb	IAmb	07 40 50.6	
comp=Z,12nm,0.7s							
KSRS	**Korea Array**	**37.52**	**5**	P	**P**	**07 40 55.9**	**-0.4**
comp=Z,1.5nm,0.7s,baz=176,slow=10,SNR=7.0							
JGF	**Kuroka**	**37.67**	**18**	P	**P**	**07 40 56.9**	**-0.8**
JGF				IAmb	IAmb	07 40 58.7	
comp=Z,11nm,0.7s							
MAJO	**Matsushiro**	**38.80**	**19**	P	**P**	**07 41 06.5**	**-0.6**
MAJO				IAmb	IAmb	07 41 06.6	
comp=Z,11nm,0.8s							
MAT	**Matsushiro**	**38.80**	**19**	P	**P**	**07 41 05.7**	**-1.4**
MJAR	**Matsushiro Arr**	**38.80**	**19**	P	**P**	**07 41 06.1**	**-1.0**
comp=Z,11nm,0.7s,baz=191,slow=8.8,SNR=16							
ARMA	**Armidale**	**40.18**	**141**	P	**P**	**07 41 18.7**	**-0.1**
ARMA				IAmb	IAmb	07 41 45.7	
comp=Z,20nm,1.4s							
JSD	**Sado**	**40.19**	**18**	P	**P**	**07 41 18.0**	**-0.5**
LZH	**Lanzhou**	**40.44**	**335**	*eP*	**P**	**07 41 25.1**	**+4.2**
LZH				pP	pP	07 41 49.8	+3.6
LZH				sP	sP	07 42 04.2	+5.4
LZH				pmax	pmax		
comp=Z,12nm,1.3s							
JMM	**Marumori**	**40.87**	**21**	P	**P**	**07 41 23.8**	**-0.3**
HHC	**Hu-ho-hao-te**	**42.19**	**346**	*eP*	**P**	**07 41 33.5**	**-1.5**
HHC				pmax	pmax		
comp=Z,26nm,1.0s							
HHC				pmax	pmax		
comp=Z,91nm,5.3s							
HHC				LR	LR		
comp=Z,390nm,15.6s							
HHC				LR	LR		
comp=Z,330nm,16.1s							
HHC				LR	LR		
comp=Z,210nm,16.9s							
CAN	**Canberra**	**42.26**	**149**	P	**P**	**07 41 35.6**	**0.0**
TOO	**Toolangi**	**42.39**	**154**	P	**P**	**07 41 37.1**	**+0.5**
TOO				IAmb	IAmb	07 42 05.7	
comp=Z,21nm,1.4s							
JTM	**Tenmabayashi**	**43.59**	**19**	P	**P**	**07 41 45.6**	**-0.6**
USA0B	**Ussuriysk Arra**	**44.66**	**8**	P	**P**	**07 41 54.9**	**+0.2**
USA0B				IAmb	IAmb	07 41 55.1	
comp=Z,7.6nm,0.7s							
USRK	**Ussuriysk Ar.**	**44.66**	**8**	P	**P**	**07 41 54.5**	**-0.2**
comp=Z,6.0nm,0.

SYO	Syowa Base	87.85 201⇑	eP	P	07 46 28.6	-1.1
SYO	Syowa Base	87.85 201⇑	ePcP	PcP	07 46 31.6	+0.2
ILAR	Eielson Array	89.77 25	P	P	07 46 36.6	-2.2
	comp=Z,0.6nm,0.5s,baz=242,slow=5.1,SNR=14					
ARCES	ARCESS Array B	92.94 340	P	P	07 46 50.6	-2.9
	comp=Z,1.4nm,0.4s,baz=87,slow=5.1,SNR=12					
FINES	FINESS Array B	93.72 331	P	P	07 46 54.3	-2.9
	comp=Z,1.1nm,0.5s,baz=75,slow=4.4,SNR=9.9					
TORD	Torodi Ar. Bea	121.15 285	PKP	PKPdf	07 52 32.8	-1.2
	comp=Z,1.2nm,0.6s,baz=63,slow=1.6,SNR=9.5					
ANMO	Albuquerque	121.75 48	PKP	PKPdf	07 52 34.5	-0.4
	comp=Z,0.1nm,0.8s,baz=3.2,slow=7.0,SNR=3.6					
SCHQ	Schefferville	124.71 7	PKP	PKPdf	07 52 39.4	-0.3
	comp=Z,5.4nm,0.9s,baz=348,slow=2.0,SNR=6.6					
TXAR	Lajitas Array	126.24 53	PKP	PKiKP	07 52 44.3	+0.3
	comp=Z,0.2nm,0.4s,baz=164,slow=1.7,SNR=3.7					
ASAL	Salagasta	145.43 161	eP	PKPab	07 53 19.8	+0.6
AUSP	Uspallata	145.58 160	eP	PKPab	07 53 20.5	+0.5
RTLS	Leoncito	146.00 160	eP	PKPbc	07 53 21.3	+0.3
MRA	San Martin	146.49 165	eP	PKPbc	07 53 22.4	+0.2
ACCO	Cerro Coronel	147.18 159	eP	PKPbc	07 53 25.1	+0.5
ACDV	Cuesta del Vie	147.54 159	eP	PKPbc	07 53 26.1	+0.8
AGUA	GUANDACOL	148.39 159	eP	PKPbc	07 53 27.8	+0.3
ACLC	CERRO LA CRUZ	148.96 162	eP	PKPbc	07 53 29.3	+0.2
LPAZ	La Paz	159.97 145	PKPab	PKPab	07 54 22.8	+2.0
	comp=Z,1.8nm,0.7s,baz=280,slow=1.1,SNR=6.2					
SIV	San Ignacio	163.36 164	PKPab	PKPab	07 54 35.3	+0.4
	comp=Z,1.0nm,0.5s,baz=202,slow=2.0,SNR=8.2					

IDC 12 07:37:58.8±2.3, 1.77°N×127.05°E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/29, mbtmp3.6/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/31, Error ellipse: s-maj=179.8km s-min=27.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.74	162	P	P	07 43 00.8	-1.9
	1.2nm,0.6s,baz=340,slow=9.9,SNR=6.8						
ASAR	Alice Springs	26.15	166	P	P	07 43 34.9	-0.1
	0.4nm,0.3s,baz=345,slow=11,SNR=5.1						
USRK	Uessuriysk Ar.	42.47	5	LR	LR	08 03 07.9	
	comp=Z,101nm,21.9s,baz=136,slow=36						
MKAR	Makanchi Array	59.34	326	P	P	07 48 04.3	+1.6
	0.2nm,0.3s,baz=120,slow=7.7,SNR=2.4						

RSNC 12 07:38:19.7±1.0, 6.82°N×73.15°W, h146km±4km, ML3.2, Mw3.5, 3C-4D, Fault plane solution: NP1:φs98.00000°, δ18.00000°, λ-115.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	187	⇓iP	Pn	07 38 39.4	-0.5
BARC				eS	Sn	07 38 54.1	-1.2
BARC				i		07 38 55.7	
	comp=Z,981nm,0.2s						
BRRC	Barranca, Sant	0.62	297	⇓iP	Pn	07 38 41.2	-0.1
BRRC				eS	Sn	07 38 58.2	+0.5
BRRC				i		07 39 00.8	
	comp=Z,191nm,0.3s						
PAMC	Pamplona, Colo	0.69	41	⇓iP	Pn	07 38 42.2	-0.1
PAMC				eS	Sn	07 38 59.4	-0.1
PAMC				i		07 39 01.8	
	comp=Z,184nm,0.6s						
RUSC	La Rusia	0.92	176	⇑iP	Pn	07 38 43.4	-0.7
RUSC				eS	Sn	07 39 02.2	-0.4
RUSC				i		07 39 03.2	
	comp=Z,186nm,0.3s						
PTBC	PUERTO BERRIO,	1.32	258	⇑iP	Pn	07 38 45.9	-1.3
PTBC				eS	Sn	07 39 07.2	-0.9
PTBC				i		07 39 09.0	
	comp=Z,206nm,0.4s						
TAMC	Tame, Arauca	1.41	106	⇓iP	Pn	07 38 47.8	-0.3
TAMC				i		07 39 08.1	
	comp=Z,90nm,0.2s						
TAMC				eS	Sn	07 39 09.1	-0.6
OCAC	Ocana	1.42	353	eP	Pn	07 38 47.8	-0.6
OCAC				eS	Sn	07 39 10.1	-0.2
OCAC				i		07 39 12.5	
	comp=Z,206nm,0.2s						
SPBC	San Pablo de B	1.48	218	⇑iP	Pn	07 38 48.3	-0.6
SPBC				eS	Sn	07 39 10.6	-0.5
SPBC				i		07 39 17.3	
	comp=Z,232nm,0.4s						
ZARC	Zaragoza, Cauc	1.82	292	eP	Pn	07 38 51.9	-0.6
ZARC				eS	Sn	07 39 17.7	0.0
ZARC				i		07 39 26.7	
	comp=Z,143nm,0.3s						
NORC	Norcasia	2.11	234	eP	Pn	07 38 55.4	-0.6
NORC				eS	Sn	07 39 23.1	-0.8
NORC				i		07 39 28.7	
	comp=Z,173nm,0.2s						
SMLC	San Martn de	2.17	335	eP	Pn	07 38 55.7	-1.0
SMLC				eS	Sn	07 39 24.1	-1.0
SMLC				i		07 39 30.1	
	comp=Z,107nm,0.3s						
CHIC	Chingaza	2.25	195	eP	Pn	07 38 57.6	-0.4
CHIC				eS	Sn	07 39 27.4	-0.1
CHIC				i		07 39 33.9	
	comp=Z,87nm,0.4s						
ROSC	El Rosal	2.28	211	eP	Pn	07 38 59.2	+0.8
ROSC				eS	Sn	07 39 29.9	+1.8
ROSC				i		07 39 35.3	
	comp=Z,142nm,0.5s						
HELC	Santa Helena	2.44	255	eP	Pn	07 38 59.6	-0.7
HELC				eS	Sn	07 39 31.0	-0.5
HELC				i		07 39 39.2	
	comp=Z,79nm,0.2s						
UREC	San Jos de Ur	2.54	292	eP	Pn	07 38 59.5	-1.6
UREC				eS	Sn	07 39 30.9	-2.1
GUY2C	Guyana, Caldas	2.71	234	eP	Pn	07 39 03.7	-0.1
GUY2C				eS	Sn	07 39 38.3	+0.7
GUY2C				i		07 39 45.9	
	comp=Z,156nm,0.3s						
VILC	Villavicencio,	2.74	191	eP	Pn	07 39 03.1	-0.8
VILC				eS	Sn	07 39 37.9	0.0
VILC				i		07 39 41.2	
	comp=Z,91nm,0.3s						
CBOC	Ciudad Bolivar	3.00	252	eP	Pn	07 39 07.2	+0.2
CBOC				eS	Sn	07 39 42.6	-1.0
CBOC				i		07 39 53.0	
	comp=Z,29nm,0.5s						
DBBC	Dabeiba	3.04	274	eP	Pn	07 39 07.0	-0.6
DBBC				eS	Sn	07 39 43.2	-1.3
DBBC				i		07 39 47.4	
	comp=Z,158nm,0.4s						
TOLC	Tolima	3.09	224	eP	Pn	07 39 09.1	+0.6
TOLC				eS	Sn	07 39 46.0	-0.1
MOTC	Monteria, Cord	3.16	308	eP	Pn	07 39 06.8	-2.2
MOTC				eS	Sn	07 39 45.0	-2.1
MOTC				i		07 39 48.2	
	comp=Z,30nm,0.4s						
ANIL	Santa Ana	3.22	224	eP	Pn	07 39 10.5	+0.5
ANIL				eS	Sn	07 39 48.4	-0.5
ANIL				i		07 39 57.2	
	comp=Z,16nm,0.3s						
SDV	Santo Domingo	3.23	50	eP	Pn	07 39 08.9	-1.2
SDV				eS	Sn	07 39 46.2	-2.9
PRAC	Prado	3.53	209	eP	Pn	07 39 12.9	-1.0
PRAC				eS	Sn	07 39 55.3	-0.6
PRAC				i		07 40 01.7	
	comp=Z,115nm,0.5s						
ORTC	Ortega, Tolima	3.56	216	eP	Pn	07 39 13.7	-0.6
ORTC				eS	Sn	07 39 55.6	-0.9
ORTC				i		07 40 02.6	
	comp=Z,65nm,0.5s						
PLMC	San Jos del P	3.65	239	eP	Pn	07 39 15.4	+0.1
PLMC				eS	Sn	07 39 57.9	-0.6
PLMC				i		07 40 03.4	
	comp=Z,70nm,0.2s						
SJCC	San Jacinto, C	3.66	327	eP	Pn	07 39 13.6	-1.9
SJCC				eS	Sn	07 39 55.0	-3.8
SJCC				i		07 39 58.2	
	comp=Z,25nm,0.4s						
GUVC	San Jose del G	4.28	173	eP	Pn	07 39 21.8	-1.8
GUVC				eS	Sn	07 40 12.3	-0.9
GUVC				i		07 40 21.4	
	comp=Z,42nm,0.3s						
MACC	Macarena, Meta	4.69	189	eP	Pn	07 39 26.5	-2.6
MACC				eS	Sn	07 40 18.7	-4.4
GARC	Garzon, Huila	5.16	207	eP	Pn	07 39 34.5	-0.9
GARC				eS	Sn	07 40 30.1	-4.3
GARC				i		07 40 35.8	
	comp=Z,31nm,0.3s						
BBAC	Balboa, Cauca	6.27	221	eP	Pn	07 39 50.2	0.0
BBAC				eS	Sn	07 40 58.6	-2.5

INET 12 07:42:20.6, 9.35°N×86.46°W, h15km, ML4.7
IDC 12 07:42:31.6±1.0, 10.68°N×86.01°W, h0km, mb4.0/8, mb1 4.3/9, mb1mx4.0/35, mbtmp4.0/9, ML3.4/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/33, Error ellipse: s-maj=36.1km s-min=12.8km az=36.0
UCR 12 07:42:32.3±1.9, 10.33°N×86.30°W, h20km±6km, ML4.3, mb4.4(NEIC)
UNK 12 07:42:36.5, 10.51°N×86.03°W, h51km
NEIC 12 07:42:36.5±1.6, 10.51°N±0.07°×86.03°W±0.06, h51km±5km, mb4.4/119, Error ellipse: s-maj=11.5km s-min=5.7km az=217.0
SNET 12 07:42:37.5±1.2, 10.79°N×86.40°W, h0km±87km, ML4.6
ISC 12 07:42:30.8±1.6, 10.47°N±0.05×86.23°W±0.03, h5km±10km, n322, σ1°28/337, mb4.5/64, 10C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	Horizontes, Gu	0.67	69	eP	Pn	07 42 47.5	+0.6
HZTE				eS	Sn	07 42 59.5	+1.8
GUAI	GUAI	0.73	106	⇑iP	Pb	07 42 46.4	+0.3
GUAI				i S	Sb	07 42 56.9	+0.5
ORTG	Ortega, Santa	0.76	98	eP	Pb	07 42 47.2	+0.6
GRZA	Playa Garza	0.80	133	eP	Pg	07 42 46.0	-0.2
GBS3	Finca Las Img	0.82	68	⇑iP	Pn	07 42 49.3	+0.2
GBS3				i S	Sn	07 43 02.5	+0.9
DUNO	Dulce Nombre,	0.82	118	eP	Pg	07 42 47.0	+0.5
LAPC	Finca la Perla	0.83	69	⇑iP	Pn	07 42 49.4	+0.1
BUEV	Buena Vista	0.87	68	eP	Pn	07 42 50.0	+0.2
BUEV				i S	Sn	07 43 04.4	+1.5
PLVR	Palo Verde	0.87	98	eP	Pb	07 42 48.9	+0.3
PLVR				eS	Sb	07 43 01.8	+1.2
GB1A	Borinquen Arri	0.89	67	eP	Pn	07 42 50.3	+0.3
GB1A				i S	Sn	07 43 05.1	+1.8
GPS3	Bodega del ICE	0.89	72	⇑iP	Pn	07 42 50.4	+0.2
GPS2	Hotel Rincn d	0.90	72	⇑iP	Pn	07 42 50.6	+0.3
GPS1	Guardaparques	0.91	71	⇑iP	Pn	07 42 50.7	+0.2
BUAI	Buenos Aires	0.97	65	⇑iP	Pn	07 42 51.7	+0.6
LIM1	Limonal	0.98	77	i P	Pn	07 42 51.5	+0.2
LIM1				i S	Sn	07 43 07.2	+1.5
GUAB	Guayabo de Bag	1.01	76	i P	Pn	07 42 51.8	+0.1
GUAB				i S	Sn	07 43 08.3	+2.0
COLC	Colonia	1.02	79	i P	Pg	07 42 51.8	+1.3
CUI	Cuipilapa	1.06	80	eP	Pn	07 42 52.6	+0.2
CUI				i S	Sn	07 43 09.7	+2.1
ACAL	Aguas Claras	1.18	82	⇑iP	Pb	07 42 54.5	+0.6
ACAL				i S	Sn	07 43 13.1	+2.5
PTEN	Parque Tenorio	1.24	79	⇑iP	Pb	07 42 55.6	+0.7
JTS	Las Juntas de	1.27	98	Pg	Pn	07 42 54.5	-0.7
	56nm,0.3s,baz=8.0,slow=14,SNR=319						
JTS				Lg	Lg	07 43 13.8	
	182nm,0.3s,baz=8.2,slow=19,SNR=5.2						
JTS	Las Juntas de	1.27	98	eP	Pn	07 42 54.6	-0.7
JTS	Las Juntas de	1.27	98	Pn	Pn	07 42 54.6	-0.7
JTS				Sn	Sb	07 43 09.6	-2.3
LAFE	Finca La Fe, P	1.45	117	eP	Pn	07 42 55.6	-2.2
CASO	Castillo	1.47	91	⇑iP	Pn	07 42 58.5	+0.4
ARE1	Arenal 1	1.48	90	eP	Pb	07 42 59.1	+0.2
CEDE	Laguna Cedeo	1.50	89	i P	Pb	07 42 59.2	0.0
FORC	Fortuna	1.53	90	i P	Pn	07 42 59.4	+0.6
ACON	Acoyapa	1.81	35	eP	Pb	07 43 04.5	0.0
ACON	Acoyapa	1.81	35	Pn	Pn	07 43 04.2	+1.5
COVE	Coope Vega, Sa	1.81	82	eP	Pn	07 43 02.7	0.0
BOAB	BOACO BROADBAN	2.04	16	Pn	Pb	07 43 07.9	-0.5
HDC	Heredia	2.13	102	Pn	Pn	07 43 07.7	+0.5
HDC				Sn	Sn	07 43 33.1	-1.0
CRIN	San Cristobal	2.36	340	eP	Pb	07 43 12.7	-1.2
CRIN	San Cristobal	2.36	340	Pn	Pn	07 43 12.5	+2.2
MATN	Matagalpa	2.46	7	eP	Pn	07 43 14.0	+2.3
MATN	Matagalpa	2.46	7	Pn	Pn	07 43 14.0	+2.3
ESPN	Las Esperanzas	2.55	48	eP	Pn	07 43 14.4	+1.6
ESPN	Las Esperanzas	2.55	48	Pn	Pn	07 43 14.0	+1.2
CDM	Cerro de Muert	2.59	110	eP	Pn	07 43 13.9	+0.1
EDLM	Las Mercedes	2.86	114	eP	Pn	07 43 18.6	+1.5
DRK0	Durika	3.17	112	eP	Pn	07 43 21.5	-0.2
CNCH	Conchagua	3.20	331	eP	Pn	07 43 24.2	+2.3
CNCH	Conchagua	3.20	331	eP	Pn	07 43 24.2	+2.3
CNCH				eP	Pb	07 43 24.6	-3.7
CNCH				eS	Sn	07 44 00.6	0.0
RIOS	Rincon, Osa	3.20	123	eP	Pn	07 43 22.4	+0.6
LCND	La Caada	3.26	330	eS	Sn	07 44 01.8	0.0
LCND				eS	Sb	07 44 02.3	-6.8
JUCU	Jucuarın	3.40	325	eP	Pn	07 43 26.4	+1.8
JUCU				eS	Sn	07 44 06.2	+0.7
JUCU	Jucuarın	3.40	325	eP	Pn	07 43 26.4	+1.8
JUCU				eS	Sn	07 44 06.2	+0.7
PIRO	Carate, Puerto	3.51	126	eP	Pn	07 43 27.1	+1.0
BLLM	Bellamira	3.55	327	eP	Pn	07 43 29.6	+2.9
BLLM	Bellamira	3.55	327	eP	Pn	07 43 29.6	+2.9
PACA	Pacayal	3.62	326	eS	Sn	07 44 11.9	+1.0
PACA				IAML		07 44 19.4	
	comp=Z,21µm,0.3s						
PACA	Pacayal	3.62	326	eP	Pn	07 43 31.2	+3.6
PACA				eS	Sn	07 44 11.9	+1.0
PACA				IAML		07 44 19.4	
	comp=Z,21µm,0.3s						
FAGO	Alcalda de S	3.69	330	eS	Sn	07 44 13.3	+0.7
FAGO	Alcalda de S	3.69	330	eS	Sn	07 44 13.3	+0.7
TGUH	Tegucigalpa,Un	3.71	344	eP	Pn	07 43 31.8	+2.8
TGUH	Tegucigalpa,Un	3.71	344	eP	Pn	07 43 31.8	+2.8
TGUH	Tegucigalpa,Un	3.71	344	Pn	Pn	07 43 31.9	+3.0
COEB	Comit de Eme	3.76	323	eS	Sn	07 44 14.8	+0.4
COEB	Comit de Eme	3.76	323	eS	Sn	07 44 14.8	+0.4
COEG	Centro de Oper	4.07	321	IAML		07 44 28.4	
	comp=Z,168nm,0.2s						
COEG	Centro de Oper	4.07	321	IAML		07 44 28.4	
	comp=Z,168nm,0.2s						
LFRS	El Faro	4.18	319	eP	Pn	07 43 38.2	+2.7
LFRS	El Faro	4.18	319	eP	Pn	07 43 38.2	+2.7
SNET	Serv Nac Est T	4.34	318	Pn	Pn	07 43 41.9	+4.3
CEVE	Cerro Verde	4.71	315	eS	Sn	07 44 40.4	+2.4
CEVE				IAML		07 44 47.1	
	comp=Z,251nm,0.7s						
CEVE	Cerro Verde	4.71	315	eS	Sn	07 44 40.4	+2.4
CEVE				IAML		07 44 47.1	
	comp=Z,251nm,0.7s						
MTO3	Montecristo	4.96	322	Pn	Pn	07 43 49.9	+3.7
ESQI	Esquipulas	5.08	324	Pn	Pn	07 43 51.4	+3.7
APG	El Apazote	6.11	318	Pn	Pn	07 44 05.5	+3.4
	comp=Z,0.9nm,0.3s,baz=109,slow=12,SNR=11						
APG				Sn	Sn	07 45 17.4	+4.8
	comp=Z,0.2nm,0.3s,baz=87,slow=16,SNR=1.3						
RTAL	Retalhuleu	6.69	308	Pn	Pn	07 44 14.7	+4.9
HUEH	Huehuetenango	7.05	314	Pn	Pn	07 44 20.2	+5.3
HUEH				Sn	Sn	07 45 39.3	+3.7
PETF	Flores	7.32	332	Pn	Pn	07 44 21.0	+2.5
PETF				Sn	Sn	07 45 44.2	+2.2
CCIG	Comitan	8.15	316	Pn	Pn	07 44 34.4	+4.4
TLIG	Tlapa	13.89	302	Pn	P	07 45 54.2	-2.8
SDV	Santo Domingo	15.45	95	Pn	Pn	07 46 09.6	-0.3
KVTX	Kingsville	20.23	329	P	Pn	07 47 09.1	+0.3
456A	Hilliard	20.53	10	P	P	07 47 08.4	-1.7
TIGA	Tifton	21.01	6	P	P	07 47 14.8	-0.5
346A	Big Creek Wild	21.03	352	P	P	07 47 14.1	-1.4
346A				IAmb	IAmb	07 47 22.4	
	comp=Z,33nm,1.2s						
441A	DeRidder	21.19	343	P	P	07 47 16.0	-1.3
344A	Westbrook Farm	21.29	349	P	P	07 47 18.5	+0.1
HKT	Hockley	21.35	337	P	P	07 47 20.5	+1.5
HKT				IAmb	IAmb	07 47 28.2	
	comp=Z,29nm,1.4s						
250A	Grady	21.40	360	P	P	07 47 19.0	-0.6
250A				IAmb	IAmb	07 47 25.1	
	comp=Z,14nm,0.9s						
833A	Chaparral WMA,	21.64	327	P	P	07 47 25.2	+3.1
	baz=142,SNR=5.2						
833A	Chaparral WMA,	21.64	327	P	P	07 47 21.7	-0.4
833A				IAmb	IAmb	07 47 27.2	
	comp=Z,16nm,0.8s						
VBMS	Vicksburg	22.00	350	P	P	07 47 28.7	+2.7
	baz=168						
VBMS	Vicksburg	22.00	350	P	P	07 47 25.5	-0.5
152A	Waverly Hall	22.14	3	P	P	07 47 27.6	+0.2
146A	Union	22.21	354	P	P	07 47 28.0	-0.2
154A	Montrose	22.22	7	P	P	07 47 28.9	+0.5
LRAL	Lakeview Retre	22.47	358	P	P	07 47 31.9	+0.9
	baz=178,SNR=10						
LRAL	Lakeview Retre	22.47	358	P	P	07 47 31.1	+0.1
LRAL				IAmb	IAmb	07 47 34.9	
	comp=Z,12nm,0.8s						
NATX	Nacogdoches	22.58	341	P	P	07 47 34.1	+2.0
	baz=158						
NATX	Nacogdoches	22.58	341	P	P	07 47 32.5	+0.4
Z47A	Carrollton	22.68	356	P	P	07 47 33.8	+0.6
Z47A				IAmb	IAmb	07 47 35.9	
	comp=Z,13nm,0.8s						
435B	Jarrell	22.80	334	P	P	07 47 37.2	+2.7
	baz=150						
435B	Jarrell	22.80	334	P	P	07 47 35.3	+0.7
GOGA	Godfrey	22.97	6	P	P	07 47 37.4	+1.1
	baz=186						
GOGA	Godfrey	22.97	6	P	P	07 47 37.1	+0.8
237A	Washetta, Mont	23.19	339	P	P	07 47 39.7	+1.2
NHSC	New Hope	23.21	13	P	P	07 47 39.9	+1.2
	baz=195						
Y49A	Blount Mountai	23.28	360	P	P	07 47 38.8	-0.7
Y49A				IAmb	IAmb	07 47 42.1	
	comp=Z,15nm,0.8s						
Z57A	Bowman	23.28	12	P	P	07 47 40.3	+0.9
	baz=193						
Y52A	Lilburn	23.37	5	P	P	07 47 40.1	-0.2
Y52A				IAmb	IAmb	07 47 42.2	
	comp=Z,14nm,1.1s						
Z41A	Richland Creek	23.47	346	P	P	07 47 41.7	+0.3
Y45A	Yeager Farm, C	23.48	353	P	P	07 47 41.7	+0.2
Z59A	Georgetown, SC	23.55	15	P	P	07 47 43.0	+0.9
	baz=197						
JCT	Junction City	23.58	330	P	P	07 47 43.8	+1.2
	baz=144						
JCT	Junction City	23.58	330	P	P	07 47 43.1	+0.6
Y55A	Saluda	23.70	9	P	P	07 47 43.8	+0.2
	baz=190,SNR=9.2						
X48A	Hartselle	23.88	358	P	P	07 47 45.5	+0.1
HODGE	Hodges	23.93	8	P	P	07 47 45.8	0.0
HODGE				IAmb	IAmb	07 47 47.2	
	comp=Z,12nm,0.9s						
WLAR	White Oak Lake	23.96	346	P	P	07 47 46.8	+0.7
WLAR				IAmb	IAmb	07 47 48.0	
	comp=Z,12nm,0.8s						
FPAL	Fort Paine	23.96	1	P	P	07 47 45.2	-1.1
FPAL				IAmb	IAmb	07 47 46.9	
	comp=Z,14nm,1.2s						
X51A	Calhoun	24.02	3	P	P	07 47 46.6	-0.1
X51A				IAmb	IAmb	07 47 47.7	
	comp=Z,11nm,0.8s						
OXF	Oxford	24.11	354	P	P	07 47 48.0	+0.5
	baz=172						
OXF	Oxford	24.11	354	P	P	07 47 47.3	-0.2
X54A	Belton	24.22	8	P	P	07 47 48.7	+0.1
	baz=189						
X55A	Gracelyn & Ava	24.25	9	P	P	07 47 48.7	-0.2
	baz=191,SNR=8.0						
Y59A	Loris	24.36	15	P	P	07 47 50.0	+0.2
	baz=197						
X56A	White Oak	24.38	10	P	P	07 47 50.1	+0.1
	baz=192,SNR=5.4						
PLAL	Pickwick Lake	24.46	356	P	P	07 47 50.4	-0.3
PLAL				IAmb	IAmb	07 47 52.3	
	comp=Z,12nm,0.8s						
Y60A	Bolivia	24.55	16	P	P	07 47 51.8	+0.2
	baz=199						
PAULI	Pauline	24.57	9	P	P	07 47 51.8	0.0
PAULI				IAmb	IAmb	07 47 53.2	
	comp=Z,13nm,0.8s						
BG3	Lake Jocassee	24.59	7	P	P	07 47 52.0	0.0
BG3				IAmb	IAmb	07 47 53.5	
	comp=Z,11nm,0.8s						
W52A	Murphy	24.60	5	P	P	07 47 52.0	-0.1
W52A				IAmb	IAmb	07 47 53.4	
	comp=Z,13nm,0.8s						
W50A	Signal Mountai	24.63	2	P	P	07 47 51.9	-0.5
W50A				IAmb	IAmb	07 47 59.5	
	comp=Z,14nm,1.1s						
BIRD	Birdtown, Kers	24.63	11	P	P	07 47 52.3	0.0
SWET	Sewanee	24.63	1	P	P	07 47 52.1	-0.3
SWET				IAmb	IAmb	07 47 54.0	
	comp=Z,14nm,0.9s						
W45A	Hickory Valley	24.72	354	P	P	07 47 52.6	-0.6
W54A	Cherokee Point	24.78	8	P	P	07 47 53.8	+0.2
	baz=189,SNR=8.9						
UALR	University of	24.83	348	P	P	07 47 53.5	-0.6
UALR				IAmb	IAmb	07 47 55.3	
	comp=Z,17nm,0.9s						
TX32	Lajitas Array	24.86	321	P	P	07 47 56.3	+1.7
TXAR	Lajitas Array	24.86	321	P	P	07 47 56.5	+2.0
	comp=Z,2.8nm,0.6s,baz=138,slow=9.6,SNR=29						
TXAR				PcP	PcP	07 51 31.8	+1.0
	comp=Z,1.1nm,0.8s,baz=152,slow=4.0,SNR=7.3						
TXAR	Lajitas Array	24.86	321	P	P	07 47 55.9	+1.3
TX31	Lajitas Ar. Si	24.86	321	P	P	07 47 55.6	+1.0
MIAR	Mount Ida	24.89	345	P	P	07 47 54.4	-0.2
	baz=162,SNR=12						
MIAR	Mount Ida	24.89	345	P	P	07 47 54.6	0.0
MIAR				IAmb	IAmb	07 47 56.5	
	comp=Z,13nm,0.9s						
Z35A	Perchaven, San	24.91	338	P	P	07 47 55.2	+0.4
CPCT	Cooper Cave	24.91	3	P	P	07 47 54.7	-0.1
CPCT				IAmb	IAmb	07 47 58.0	
	comp=Z,21nm,1.3s						
KMSC	Kings Mountain	24.96	10	P	P	07 47 55.2	-0.1
	baz=191,SNR=6.0						
KMSC	Kings Mountain	24.96	10	P	P	07 47 54.8	-0.5
KMSC				IAmb	IAmb	07 47 56.7	
	comp=Z,8.7nm,0.8s						
W56A	Indian Trail	25.09	11	P	P	07 47 56.5	+0.1
	baz=193						
TKL	Tuckaleechee C	25.17	5	P	P	07 47 57.6	+0.4
	comp=Z,6.9nm,0.9s,baz=164,slow=11,SNR=8.2						
TKL				LR	LR	07 58 13.3	
	comp=Z,103nm,19.0s,baz=246,slow=38		

U56A	King	26.30	11	P	P	07 48 06.3	-1.1
U55A	TA2, Sparta	26.34	9	P	P	07 48 07.9	+0.1
	baz=191						
T47A	Sharon Grove	26.41	358	P	P	07 48 07.6	-0.8
T47A				IAmb	IAmb	07 48 08.7	
	comp=Z,13nm,0.9s						
U40A	Yellville	26.46	348	P	P	07 48 08.4	-0.4
	baz=165,SNR=6.0						
U40A	Yellville	26.46	348	P	P	07 48 08.5	-0.4
U57A	Blanch	26.59	12	P	P	07 48 10.1	+0.1
	baz=195						
T53A	Wise	26.61	7	P	P	07 48 09.5	-0.7
	baz=188						
FNO	Franklin	26.69	339	P	P	07 48 10.8	-0.2
WMOK	Wichita Mounta	26.74	337	P	P	07 48 12.7	+1.3
	baz=151,SNR=18						
WMOK	Wichita Mounta	26.74	337	P	P	07 48 13.2	+1.8
TUL1	Leonard	26.77	343	P	P	07 48 11.9	+0.1
	baz=158						
TUL1	Leonard	26.77	343	P	P	07 48 11.0	-0.7
TUL1				IAmb	IAmb	07 48 12.2	
	comp=Z,9.3nm,0.8s						
T54A	Tazewell	26.80	8	P	P	07 48 12.1	0.0
	baz=190						
U38A	Gravette	26.89	345	P	P	07 48 12.1	-0.7
T55A	Pulaski	26.98	10	P	P	07 48 14.3	+0.7
	baz=191						
T56A	Rocky Mt	27.03	11	P	P	07 48 14.2	+0.2
	baz=193						
T57A	Hurt	27.15	12	P	P	07 48 14.9	-0.2
	baz=195						
S51A	Beattyville	27.15	5	P	P	07 48 14.7	-0.5
S51A				IAmb	IAmb	07 48 15.8	
	comp=Z,9.9nm,0.8s						
T58A	Grand View Acr	27.26	14	P	P	07 48 15.6	-0.4
	baz=196						
MNTX	Cornudas Mount	27.58	323	P	P	07 48 20.2	+1.2
	baz=136						
WCI	Wyandotte Cave	27.64	360	P	P	07 48 19.2	-0.2
	baz=179						
WCI	Wyandotte Cave	27.64	360	P	P	07 48 18.2	-1.3
S55A	Lewisburg	27.67	10	P	P	07 48 20.1	+0.3
	baz=192						
CCM	Cathedral Cave	27.83	351	P	P	07 48 20.8	-0.4
	baz=169						
CCM	Cathedral Cave	27.83	351	P	P	07 48 20.2	-1.0
CCM				IAmb	IAmb	07 48 21.6	
	comp=Z,8.9nm,1.0s						
MSTX	Muleshoe	27.87	330	P	P	07 48 22.6	+0.9
	baz=143						
MSTX	Muleshoe	27.87	330	P	P	07 48 22.1	+0.3
MSTX				IAmb	IAmb	07 48 24.7	
	comp=Z,7.5nm,0.8s						
R54A	Victor	27.99	9	P	P	07 48 22.3	-0.3
	baz=191						
R55A	Marlinton	28.23	10	P	P	07 48 25.1	+0.3
	baz=192						
R56A	Bull Pasture M	28.48	11	P	P	07 48 27.2	+0.1
	baz=194						
Q51A	Peebles	28.55	5	P	P	07 48 27.0	-0.6
R57A	Stanardsville	28.56	13	P	P	07 48 27.5	-0.2
	baz=196						
Q53A	Leroy	28.58	8	P	P	07 48 27.8	0.0
	baz=189						
Q52A	Bidwell	28.59	6	P	P	07 48 27.9	-0.1
	baz=188						
R58A	Rapidan	28.67	14	P	P	07 48 28.7	0.0
	baz=197						
Q54A	Coxs Mills	28.80	9	P	P	07 48 29.8	0.0
	baz=191						
Q55A	Buckhannon	28.93	10	P	P	07 48 31.0	0.0
	baz=192						
P49A	Miami Univ. Ec	28.97	2	P	P	07 48 30.5	-0.9
	baz=183						
Q56A	Snyder Ridge,	29.14	11	P	P	07 48 33.2	+0.4
	baz=194						
P53A	Whipple	29.21	8	P	P	07 48 33.9	+0.5
	baz=189						
P53A	Whipple	29.21	8	P	P	07 48 33.2	-0.3
P52A	Corning	29.27	6	P	P	07 48 34.1	+0.1
	baz=188						
P52A	Corning	29.27	6	P	P	07 48 33.4	-0.5
Q57A	Strasburg	29.29	13	P	P	07 48 34.4	+0.3
	baz=195						
P55A	Reedsville	29.47	10	P	P	07 48 36.2	+0.3
	baz=192						
P56A	Dayton Farm, R	29.65	12	P	P	07 48 37.8	+0.4
	baz=194						
O51A	Pataskala	29.73	6	P	P	07 48 38.0	-0.1
	baz=187						
O52A	Adamsville	29.78	7	P	P	07 48 38.3	-0.2
	baz=188						
O53A	New Philadelph	29.99	8	P	P	07 48 39.8	-0.6
	baz=190						
HDIL	Hopedale	30.09	355	P	P	07 48 40.6	-0.6
	baz=174						
LENM	Lemitar	30.28	324	P	P	07 48 44.4	+1.2
ANMO	Albuquerque	30.56	326	P	P	07 48 47.3	+1.6
	comp=Z,0.1nm,0.8s,baz=318,slow=5.6,SNR=12						
ANMO				LR	LR	08 02 23.7	
	comp=Z,5.3nm,19.1s,baz=38,slow=39						
ANMO	Albuquerque	30.56	326	P	P	07 48 47.2	+1.6
	baz=138						
ANMO	Albuquerque	30.56	326	P	P	07 48 47.0	+1.3
SSPA	Standing Stone	30.94	12	P	P	07 48 48.5	-0.2
	baz=196						
N56A	West Decatur	31.12	12	P	P	07 48 50.8	+0.4
	baz=195						
M53A	WI Miller and	31.23	8	P	P	07 48 50.9	-0.4
	baz=190						
N58A	Sunbury	31.39	14	P	P	07 48 52.9	+0.1
	baz=198						
M56A	Emporium	31.69	12	P	P	07 48 55.1	-0.3
	baz=195						
N59A	State Game Lan	31.70	15	P	P	07 48 55.0	-0.4
	baz=199						
LPAZ	La Paz	32.06	146	P	P	07 49 00.9	+1.4
	comp=Z,0.5nm,0.4s,baz=17,slow=18,SNR=2.5						
LPAZ				LR	LR	08 02 36.6	
	comp=Z,126nm,19.0s,baz=321,slow=38						
LPAZ	La Paz	32.06	146	P	P	07 48 57.9	-1.6
SDCO	Great Sand Dun	32.22	331	P	P	07 49 01.7	+1.3
	baz=142						
SDCO	Great Sand Dun	32.22	331	P	P	07 48 59.3	-1.1
JFWS	Jewell Farm	32.51	354	P	P	07 49 02.3	-0.3
	baz=172						
L58A	Harry Jones Me	32.74	14	P	P	07 49 04.2	-0.4
	baz=199						
BINY	Binghamton	32.86	14	P	P	07 49 05.6	0.0
	baz=198						
S22A	4UR Ranch, Cre	32.87	329	P	P	07 49 07.5	+1.3
X16A	Lo Mia Camp, P	33.15	320	P	P	07 49 09.2	+0.7
M66A	Nantucket	33.79	22	P	P	07 49 11.7	-2.0
	baz=209						
PV13	Radium Mtn., P	34.21	327	P	P	07 49 18.9	+1.1
PV03	Paradox Valley	34.30	327	P	P	07 49 19.7	+1.2
PV03				IAmb	IAmb	07 49 21.5	
	comp=Z,3.9nm,0.9s						
PV12	Saucer Basin,	34.32	328	P	P	07 49 19.6	+0.9
PV12				IAmb	IAmb	07 49 21.9	
	comp=Z,6.1nm,0.9s						
PV18	Skein Mesa, Pa	34.33	327	P	P	07 49 18.5	-0.2
PV18				IAmb	IAmb	07 49 21.2	
	comp=Z,3.4nm,0.6s						
ECSD	EROS Data Cent	34.34	347	P	P	07 49 17.7	-0.8
	baz=161						
ECSD	EROS Data Cent	34.34	347	P	P	07 49 17.5	-1.1
ECSD				IAmb	IAmb	07 49 23.9	
	comp=Z,8.6nm,1.3s						
PV17	East Wray Mesa	34.38	327	P	P	07 49 20.2	+1.0
GLA	Glamis	34.59	315	P	P	07 49 22.1	+1.3
GLA				IAmb	IAmb	07 49 31.5	
	comp=Z,4.1nm,0.9s						
H53A	Bobcaygeon	34.61	10	P	P	07 49 19.9	-1.0
	baz=193						
SADO	Sadowa	34.72	9	P	P	07 49 20.3	-1.4
	comp=Z,2.9nm,0.6s,baz=213,slow=8.4,SNR=1.5						
J61A	Chester	34.85	18	P	P	07 49 23.0	+0.1
	baz=204						
PHWY	Pilot Hill	35.07	334	P	P	07 49 24.4	-0.8
PHWY				IAmb	IAmb	07 49 29.5	
	comp=Z,5.0nm,1.2s						
SPMN	Marine on St.	35.09	352	P	P	07 49 23.7	-1.2
W13A	Hualapai Mount	35.15	319	P	P	07 49 26.7	+0.8
W13A				IAmb	IAmb	07 49 30.2	
	comp=Z,4.6nm,1.1s						
LONY	Lake Ozonia	35.48	14	P	P	07 49 27.5	-0.8
	baz=200						
KNB	Kanab	35.69	322	P	P	07 49 30.1	-0.3
H59A	Cadyville	35.73	15	P	P	07 49 29.7	-0.8
	baz=201						
SRU	San Rafael Swe	35.82	327	P	P	07 49 31.4	-0.1
MTPU	Mount Pierson	36.00	324	P	P	07 49 34.0	+0.7
P17A	Butcher Ranch,	36.20	327	P	P	07 49 34.9	+0.1
SIV	San Ignacio	36.21	136	LR	LR	08 04 17.8	
	comp=Z,93nm,19.8s,baz=295,slow=36						
F33A	5 Mile Ranch,	36.28	348	P	P	07 49 33.6	-1.6
F33A				IAmb	IAmb	07 49 33.9	
	comp=Z,4.8nm,0.9s						
K22A	Casper	36.63	335	P	P	07 49 39.3	+0.8
	baz=145						
LVC	Limon Verde	37.00	153	LR	LR	08 04 28.3	
	comp=Z,80nm,18.6s,baz=244,slow=36						
E58A	La Victoria	37.44	15	P	P	07 49 43.8	-1.2
	baz=201						
D54A	Lac Fusel, La	37.45	11	P	P	07 49 43.9	-1.2
	baz=195						
D55A	Sainte-Anne-du	37.55	12	P	P	07 49 44.3	-1.7
	baz=197						
EYMN	Ely	37.62	354	P	P	07 49 44.7	-1.8
	baz=171						
TPNV	Topopah Spring	37.79	319	P	P	07 49 48.5	+0.1
TPNV				IAmb	IAmb	07 49 52.9	
	comp=Z,8.4nm,1.2s						
H66A	Whiting	37.88	22	P	P	07 49 47.4	-1.3
	baz=211						
D57A	Chemin Vers le	37.90	14	P	P	07 49 47.6	-1.3
	baz=200						
E60A	Ste Agathe de	37.93	17	P	P	07 49 47.4	-1.8
	baz=204						
PDAR	Pinedale Array	38.07	332	P	P	07 49 51.2	+0.5
	comp=Z,0.8nm,0.7s,baz=127,slow=10,SNR=9.2						
PDAR				PcP	PcP	07 52 06.5	+0.5
	comp=Z,0.4nm,0.7s,baz=141,slow=5.8,SNR=3.6						
PDAR	Pinedale Array	38.07	332	P	P	07 49 50.6	-0.1
HWUT	Hardware Ranch	38.18	329	P	P	07 49 51.1	-0.5
HWUT				IAmb	IAmb	07 49 53.6	
	comp=Z,4.8nm,0.8s						
LATQ	La Tuque	38.51	15	P	P	07 49 52.9	-1.1
	baz=201						
AGMN	Agassiz Nation	38.56	350	P	P	07 49 53.4	-1.1
	baz=164						
AHID	Auburn Hatcher	38.81	330	P	P	07 49 56.6	-0.3
MDND	Maddock	38.92	346	P	P	07 49 57.1	-0.4
	baz=158						
MDND	Maddock	38.92	346	P	P	07 49 56.8	-0.7
TPH	Tonopah	39.08	320	P	P	07 49 58.3	-0.9
REDW	Red Top Meadow	39.14	331	P	P	07 49 59.5	-0.2
REDW				IAmb	IAmb	07 50 02.0	
	comp=Z,6.7nm,1.1s						
SNOW	Snow King Moun	39.17	331	P	P	07 49 59.4	-0.6
ELK	Elko	39.56	325	P	P	07 50 03.2	-0.1
RLMT	Red Lodge	39.80	334	P	P	07 50 05.7	+0.5
	baz=143						
NV11	Mina Array Sit	39.88	320	P	P	07 50 06.8	+0.9
NV11				IAmb	IAmb	07 50 10.2	
	comp=Z,8.0nm,1.0s						
OMMB	Old Mammoth Mi	39.96	318	P	P	07 50 06.2	-0.5
NVAR	Mina Array Bea	39.98	320	P	P	07 50 09.1	+2.4
	comp=Z,4.4nm,0.8s,baz=137,slow=7.4,SNR=34						
NVAR				PcP	PcP	07 52 14.3	+2.2
	comp=Z,1.3nm,0.7s,baz=126,slow=4.6,SNR=8.0						
NVAR	Mina Array Bea	39.98	320	P	P	07 50 08.1	+1.3
LHV	Little Huntoon	40.00	319	P	P	07 50 07.1	+0.5
LHV				IAmb	IAmb	07 50 11.4	
	comp=Z,7.2nm,0.9s						
MDPB	Devils Postpil	40.02	318	P	P	07 50 07.0	-0.2
MDPB				IAmb	IAmb	07 50 11.3	
	comp=Z,6.4nm,1.0s						
KVN	Kaiserville	40.21	320	P	P	07 50 09.5	+0.8
KVN				IAmb	IAmb	07 50 12.3	
	comp=Z,5.9nm,1.0s						
RYN	Ryan	40.23	320	P	P	07 50 09.0	+0.2
RYN				IAmb	IAmb	07 50 12.8	
	comp=Z,5.4nm,1.0s						
QLMT	Earthquake Lak	40.53	332	P	P	07 50 10.4	-0.8
WAKR	Walker	40.75	319	P	P	07 50 12.2	-0.9
WAKR				IAmb	IAmb	07 50 17.4	
	comp=Z,6.7nm,1.1s						
DGMT	Dagmar	40.76	342	P	P	07 50 13.5	+0.7
	baz=152						
YERR	Yerington	40.89	320	P	P	07 50 14.6	+0.3
YERR				IAmb	IAmb	07 50 18.2	
	comp=Z,9.5nm,1.2s						
HLID	Hailey	41.05	328	P	P	07 50 16.1	+0.6
	baz=135						
HLID	Hailey	41.05	328	P	P	07 50 16.1	+0.6
PNTR	Pine Nut	41.18	319	P	P	07 50 16.0	-0.7
MCMT	McKenzie Canyo	41.19	331	P	P	07 50 17.7	+1.0
BOZ	Bozeman (W)	41.20	333	P	P	07 50 17.4	+0.7
	baz=140						
BOZ	Bozeman (W)	41.20	333	P	P	07 50 16.9	+0.2
VCNR	Virginia City	41.33	320	P	P	07 50 17.9	0.0
LRM	Limekiln Ridge	41.75	332	P	P	07 50 21.5	+0.2
ORV	Oroville	42.66	319	P	P	07 50 28.6	+0.1
J08A	Circle Bar Ran	43.09	325	P	P	07 50 32.2	+0.1
M04C	Macdoel	44.12	321	P	P	07 50 41.9	+1.4
	baz=124						
L04D	Klamath Falls	44.65	322	P	P	07 50 45.0	+0.3
	baz=124						
PINE	Pine Mountain	44.76	324	P	P	07 50 46.6	+0.9
PINE				IAmb	IAmb	07 50 48.6	
	comp=Z,4.3nm,0.8s						
I04A	Tendick Farm,	45.62	323	P	P	07 50 52.9	+0.6
	baz=126						
G05D	Wamic, OR	45.86	326	P	P	07 50 55.4	+1.2
	baz=128						
E07A	Sunnyside	45.91	328	P	P	07 50 54.5	+0.1
E07A				IAmb	IAmb	07 50 57.2	
	comp=Z,6.2nm,0.9s						
H04D	Lebanon	46.24	324	P	P	07 50 57.9	+0.8
	baz=126						
F05D	White Salmon	46.34	326	P	P	07 50 58.6	+0.7
	baz=128						
SCHQ	Schefferville	46.84	15	LR	LR	08 10 16.6	
	comp=Z,66nm,20.5s,baz=328,slow=36						
G03D	McMinnville, O	46.95	324	P	P	07 51 03.6	+1.0
	baz=126						
E04D	Cinebar	47.36	326	P	P	07 51 06.1	+0.3
	baz=127						
HDA	Harding Lake	68.19	336	P	P	07 53 31.4	-0.6
	baz=112						
ILAR	Eielson Array	68.30	336	P	P	07 53 32.6	-0.1
	comp=Z,1.1nm,1.0s,baz=120,slow=3.6,SNR=7.5						
ESDC	Sonseca Array	77.47	52	P	P	07 54 25.8	-1.9
	comp=Z,0.5nm,0.6s,baz=280,slow=6.2,SNR=4.1						
AKASG	Malin Array Be	97.44	35	LR	LR	08 37 25.4	
	comp=Z,35nm,20.1s,baz=35,slow=34						
KSRS	Korea Array	122.58	328	PKP	PKiKP	08 01 28.8	+0.6
	comp=Z,0.6nm,0.3s,baz=18,slow=2.1,SNR=2.7						
CMAR	Chiang Mai Arr	150.81	350	PKPbc	PKiKP	08 02 25.6	-0.5
	comp=Z,1.5nm,0.7s,baz=332,slow=3.6,SNR=6.4						

NEIC ***12*** *07:47:25.5±0.9, 22°.15N±0°.04×143°.77E±0°.08, h117km±4km, mb5.3/337, Mwb5.2/14, Error ellipse: s-maj=12.3km s-min=2.1km az=61.0*

BJI ***12*** *07:47:25.3±0.0, 22°.22N×143°.94E, h137km, mB4.9/53, mb4.9/72*

UNK ***12*** *07:47:25.5, 22°.15N×143°.77E, h117km*

JMA ***12*** *07:47:26.8±0.2, 22°.38N×144°.07E, h129km±3km, M5.4*

JMA Felt I J1.

NEIC ***12*** *07:47:27.5, 22°.16N×143°.82E, h117km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=2.08; Mθθ=2.07; Mφφ=0.01; Mrθ=-4.72; Mθφ=-0.40; Mφr=7.42; Fault plane solution: Mo=9.04000×10^16^ NP1:φs=270.51000°, δ=81.0000°, λ=-144.77000°. NP2:φs=145.60000°, δ=84.93000°, λ=-82.78000°. Principal axes: T 8.4627, Plg40.0000°, Azm229.0000°; N 1.0609, Plg7.0000°, Azm325.0000°; P -9.5236, Plg50.0000°, Azm63.0000°;*

IDC ***12*** *07:47:27.9±0.6, 22°.19N×143°.74E, h139km±4km, mb4.7/35, mb1 4.8/39, mb1mx4.6/52, mbtmp5.1/39, MS3.9/16, Ms1 3.9/16, ms1mx3.6/45 Error ellipse: s-maj=10.7km s-min=7.2km az=73.0*

MOS ***12*** *07:47:27.1±0.8, 22°.15N×143°.68E, h147km, mb5.2/81, MS4.1/4, Error ellipse: s-maj=6.5km s-min=4.0km az=105.1*

GCMT ***12*** *07:47:28.5±0.1, 22°.28N±0°.01×143°.93E±0°.01, h131km±1km, MW5.2/142, Moment Tensor Solution. s91,c135; s142,c244; Duration: 1s0 Moment tensor: Scale 10^16^Nm; Mrr=2.02±.14; Mθθ=2.61±.17; Mφφ=0.58±.17; Mrθ=-5.81±.10; Mθφ=0.80±.15; Mφr=5.55±.11; Best double couple: Mo=8.41500×10^16^ NP1:φs=256.00000°, δ=13.00000°, λ=-146.00000°. NP2:φs=132.00000°, δ=83.00000°, λ=-80.00000°. Principal axes: T 8.3830, Plg37.0000°, Azm213.0000°; N 0.0680, Plg10.0000°, Azm311.0000°; P -8.4460, Plg51.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 07:47:27.7±0.3, 22°.24N±0°.03×143°.78E±0°.04, h139km±2km, h139km: pP-P, n886, σ=1.931/975, mb5.2/276, 13C-21D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	4.61	342	P	Pn	07 48 35.3	-0.4
JHH2				eS	Sn	07 49 27.3	-1.4
CBIJ	Chichi jima	5.05	344	P	Pn	07 48 41.1	-0.4
CBIJ				eS	Sn	07 49 36.9	-2.2
JCJ	Chichijima	5.05	344	P	Pn	07 48 41.1	-0.4
	229nm,0.3s,baz=254,slow=12,SNR=67						
JCJ				S	Sn	07 49 37.2	-1.9
	731nm,0.3s,baz=316,slow=22,SNR=19						
JCJ	Chichijima	5.05	344	Pn	Pn	07 48 40.9	-0.6
JCJ				Sn	Sn	07 49 37.5	-1.6
GUMO	Guam	8.67	173	P	Pn	07 49 31.5	+1.4
	7.6nm,0.3s,baz=297,slow=2.5,SNR=20						
GUMO				S	Sn	07 51 16.7	+10
	7.1nm,0.3s,baz=357,slow=19,SNR=1.2						
GUMO	Guam	8.67	173	P	Pn	07 49 31.1	+1.0
GUMO	Guam	8.67	173	Pn	Pn	07 49 31.1	+1.0
JHJ2	Mitsune	11.38	343	P	Pn	07 50 07.7	+1.6
JHJ2	Mitsune	11.38	343	Pn	Pn	07 50 06.5	+0.4
JHJ	Hachijo jima 2	11.40	343	P	Pn	07 50 08.7	+2.3
	18nm,0.3s,baz=64,slow=21,SNR=11						
JHJ				S	Sn	07 52 07.6	-4.5
	22nm,0.3s,baz=255,slow=23,SNR=4.0						
JHJ				LR	LR	07 54 24.0	
	comp=Z,321nm,20.3s,baz=157,slow=36						
JMZ	Minamidaito 2	12.01	290	P	P	07 50 20.1	-1.4
JMZ	Minamidaito 2	12.01	290	Pn	P	07 50 20.3	-1.2
BSO1	Boso 1	12.61	349	P	Pn	07 50 21.8	+0.2
BSO3	Boso 3	12.84	348	P	Pn	07 50 24.1	-0.8
BSO4	Boso 4	13.06	347	P	Pn	07 50 28.6	+0.8
BSO4				eS	Sn	07 52 49.6	-2.3
JSG	Sagara	13.32	340		P	07 50 35.9	-0.1
JTNC	Tanabenakahech	13.60	330	P	Pn	07 50 35.6	+0.7
JIE	Ise	13.61	334	P	Pn	07 50 36.2	+1.2
JOD2	Odawara 2	13.61	343	P	Pn	07 50 34.0	-1.0
JOD2				eS	Sn	07 53 01.3	-4.2
HMMJ	Hamamatsu 2	13.64	338	P	Pn	07 50 35.1	-0.4
JKN2	Miekihoku	13.65	333	P	Pn	07 50 36.7	+1.1
JNY	Yasuok	14.06	340	P	Pn	07 50 39.8	-1.0
JHU	Hanno	14.12	345	P	Pn	07 50 40.0	-1.5
JAO	Obara	14.18	338	P	Pn	07 50 42.8	+0.5
JYT	Yasato	14.28	348	P	P	07 50 47.1	+0.5
JYT	Yasato	14.28	348	Pn	Pn	07 50 44.6	+1.1
INU	Inuyama	14.34	337	Pn	Pn	07 50 44.1	-0.2
JRY	Ryogami san	14.37	344	P	Pn	07 50 43.3	-1.4
JRY				eS	Sn	07 53 19.5	-4.3
JMN	Monobe	14.39	325	Pn	Pn	07 50 45.5	+0.5
JGF	Kuroka	14.45	339	P	Pn	07 50 44.8	-0.8
JGF	Kuroka	14.45	339	Pn	Pn	07 50 45.5	-0.2
JHO	Hitachi	14.59	350	P	Pn	07 50 47.0	-0.4
JHO				S	Sn	07 53 19.6	-9.4
JAG	Ashikaga	14.63	346	P	Pn	07 50 46.4	-1.5
JAG				eS	Sn	07 53 21.6	-8.3
JWT	Wachi	14.92	332	P	Pn	07 50 51.8	+0.3
JWT	Wachi	14.92	332	Pn	Pn	07 50 51.7	+0.2
JGN	Niukaw	15.03	339	P	Pn	07 50 52.9	0.0
JSU	Suzuyama	15.04	311	P	P	07 50 58.1	+3.0
JSU	Suzuyama	15.04	311	P	P	07 50 57.4	+2.3
MJAR	Matsushiro Arr	15.05	342	P	Pn	07 50 52.4	-0.8
	1.5nm,0.3s,baz=161,slow=8.6,SNR=41						
MJAR				ScP	ScP	07 59 10.3	-2.6
	0.0nm,0.3s,baz=191,slow=1.5,SNR=11						
MAJO	Matsushiro	15.05	342	P	Pn	07 50 53.3	+0.1
MAJO				pmax	pmax		
	comp=Z,131nm,1.0s						
MAJO	Matsushiro	15.05	342	Pn	Pn	07 50 53.3	+0.1
MAJO				IAmb	IAmb	07 50 58.7	
	comp=Z,131nm,0.9s						
MAT	Matsushiro	15.05	342	P	Pn	07 50 51.5	-1.7
MAT				S	Sn	07 53 31.5	-8.7
MAT	Matsushiro	15.05	342	P	Pn	07 50 51.5	-1.7
JAD	Aida	15.20	328	P	P	07 50 56.4	-0.4
JSJ	Shimokoshiki	15.66	310	P	P	07 51 04.3	+2.4
JNU	Nakatsue	15.73	316	P	P	07 51 04.8	+2.0
	comp=Z,0.3nm,0.3s,baz=86,slow=13,SNR=3.6						
JNU	Nakatsue	15.73	316	P	P	07 51 04.7	+1.9
JNU	Nakatsue	15.73	316	P	Pn	07 51 00.7	-1.1
JHS	Saijyo	15.77	326	P	P	07 51 04.9	+1.7
JHS	Saijyo	15.77	326	P	P	07 51 03.4	+0.3
JHS				IAmb	IAmb	07 51 09.1	
	comp=Z,117nm,0.6s						
JMM	Marumori	15.79	351	P	P	07 51 02.7	-0.5
JMM	Marumori	15.79	351	P	Pn	07 51 02.4	+0.2
JMM				IAmb	IAmb	07 51 04.2	
	comp=Z,292nm,1.1s						
JSD	Sado	16.45	344	P	Pn	07 51 09.1	-1.2
JSD	Sado	16.45	344	P	Pn	07 51 09.8	-0.5
JSD				IAmb	IAmb	07 51 14.5	
	comp=Z,160nm,0.8s						
JYA	Atsumi	16.67	349	P	P	07 51 14.8	+1.8
JOI	OKI	16.73	329	P	P	07 51 14.4	+0.7
JMK	Ichinoseki	16.80	353	P	Pn	07 51 15.5	+0.9
JFU	Fukue jima 2	16.88	311	P	Pn	07 51 18.6	+3.0
JTU	Tsushima	17.58	317	P	Pn	07 51 25.9	+1.9
JTM	Tenmabayashi	18.63	354	P	Pn	07 51 37.7	+1.2
JOT	Ohata	19.23	354	P	Pn	07 51 43.4	0.0
ERM	Erimo	19.73	359	*ceP*	Pn	07 51 48.8	-0.4
ERM				pmax	pmax		
	comp=Z,158nm,0.8s						
ERM	Erimo	19.73	359	P	Pn	07 51 47.7	-1.5
ERM				IAmb	IAmb	07 51 50.5	
	comp=Z,174nm,0.8s						
JEM	Erimo	19.73	359	P	Pn	07 51 49.4	+0.2
TJN	Taejon	20.04	318	*ceP*	P	07 51 50.0	+0.2
KSRS	Korea Array	20.42	321	P	P	07 51 54.0	+0.1
	comp=Z,27nm,0.8s,baz=147,slow=8.6,SNR=42						
KSRS				S	S	07 55 42.1	+7.1
	comp=Z,2.0nm,0.7s,baz=143,slow=16,SNR=3.8						
KSRS				LR	LR	07 58 41.6	
	comp=Z,161nm,21.1s,baz=130,slow=33						
KSRS				ScP	ScP	07 59 23.2	-0.9
	comp=Z,4.9nm,1.0s,baz=138,slow=2.5,SNR=15					

H11S2	WAKE ISLAND Hy	21.81	96	T	T	08 15 04.6
	baz=283,slow=75,SNR=16					
ASAJ	Asahikawa	21.84	358	P	P	07 52 11.1 +2.2
	comp=Z,46nm,0.8s,baz=232,slow=15,SNR=16					
ASAJ				LR	LR	08 00 10.3
	comp=Z,260nm,20.9s,baz=172,slow=35					
ASAJ	Asahikawa	21.84	358	P	P	07 52 11.2 +2.2
ASAJ	Asahikawa	21.84	358	P	P	07 52 11.0 +2.0
ASAJ				pmax	pmax	
	comp=Z,98nm,1.1s					
JKA	Kamikawa-asahi	21.84	358	P	P	07 52 11.0 +2.0
SSE	Sheshan	22.00	298	P	P	07 52 09.4 -1.3
VLA	Vladivostok	23.06	337*d*	*i*P	P	07 52 22.6 +1.8
VLA				pmax	pmax	
	comp=Z,279nm,1.0s					
TGY	Tagaytay City	23.14	253	P	P	07 52 23.0 +1.1
	comp=Z,276nm,0.4s,baz=12,slow=7.8,SNR=5.1					
TGY				LR	LR	07 59 42.5
	comp=Z,243nm,21.2s,baz=70,slow=32					
TGY	Tagaytay City	23.14	253	P	P	07 52 23.0 +1.1
KUR	Kuril'sk	23.18	7*d*	*i*P	P	07 52 23.3 +1.4
KUR				*e*S	S	07 56 29.1 +6.2
KUR				pmax	pmax	
	comp=Z,396nm,1.4s					
QZH	Quanzhou	23.23	282	*e*P	P	07 52 23.7 +1.1
QZH				sP	sP	07 53 06.9 +1.6
QZH				S	S	07 56 28.5 +4.4
QZH				SS	SnSn	07 57 14.6 -0.8
QZH				pmax	pmax	
	comp=Z,250nm,6.3s					
QZH				LR	LR	
	comp=Z,500nm,15.2s					
QZH				LR	LR	
	comp=Z,470nm,16.6s					
TEY	Ternei	23.49	347⇓	*e*P	P	07 52 25.4 +0.7
TEY				pmax	pmax	
	comp=Z,20nm,0.8s					
TEY				pmax	pmax	
	comp=E,20nm,0.9s					
USA0B	Ussuriysk Arra	23.97	339	P	P	07 52 30.5 +1.4
USA0B				pmax	pmax	
	comp=Z,37nm,0.9s					
USA0B	Ussuriysk Arra	23.97	339	P	P	07 52 30.5 +1.4
USRK	Ussuriysk Ar.	23.97	339	P	P	07 52 30.6 +1.5
	comp=Z,19nm,0.6s,baz=144,slow=9.7,SNR=41					
USRK				ScP	ScP	07 59 31.6 -1.5
	comp=Z,4.2nm,0.7s,baz=103,slow=5.6,SNR=7.1					
USRK	Ussuriysk Ar.	23.97	339	P	P	07 52 30.4 +1.3
NJ2	Nanjing	24.19	299	*e*P	P	07 52 33.3 +2.1
NJ2				S	S	07 56 41.8 +2.4
NJ2				sS	sS	07 57 28.9 -0.3
NJ2				pmax	pmax	
	comp=Z,17nm,0.7s					
NJ2				pmax	pmax	
	comp=Z,66nm,3.7s					
SMPI	Sarmi	24.58	192	P	P	07 52 36.2 +1.2
	comp=Z,59nm,1.4s					
YSS	Yuzh-Sakhalins	24.67	358	*e*P	P	07 52 29.9 -5.5
YSS				*e**PP	pP	07 52 58.6 -4.5
YSS				*e*		07 53 23.6
YSS				*e*		07 56 07.7
YSS				*e*S	S	07 56 37.9 -8.9
YSS				*e*SS	SnSn	07 57 31.8 -18
YSS				pmax	pmax	
	comp=Z,300nm,2.9s					
YSS				MLR	MLR	
	comp=N,200nm,15.0s					
YSS				MLR	MLR	
	comp=Z,400nm,15.0s					
YSS	Yuzh-Sakhalins	24.67	358	P	P	07 52 36.3 +0.9
YSS				IAmb	IAmb	07 53 09.2
	comp=Z,79nm,0.9s					
JAY	Jayapura	24.79	187	P	P	07 52 36.6 -0.2
	comp=Z,34nm,0.9s,baz=327,slow=8.2,SNR=6.5					
JAY	Jayapura	24.79	187	P	P	07 52 37.2 +0.4
	comp=Z,31nm,0.4s					
GENI	Genyem	24.93	189	P	P	07 52 45.8 +7.7
DL2	Dalian	25.19	316	P	P	07 52 41.8 +1.6
DL2				sP	sP	07 53 28.6 +4.5
DL2				S	S	07 57 00.8 +5.7
DL2				pmax	pmax	
	comp=Z,100nm,0.5s					
MDJ	Mudanjiang	25.19	336	P	P	07 52 42.0 +1.8
MDJ				pP	pP	07 53 09.2 +1.1
MDJ				sP	sP	07 53 24.1 +0.2
MDJ				S	S	07 56 56.2 +1.1
MDJ				sS	sS	07 57 48.9 +3.8
MDJ				pmax	pmax	
	comp=Z,43nm,1.2s					
MDJ				pmax	pmax	
	comp=Z,170nm,3.6s					
MDJ				LR	LR	
	comp=Z,290nm,22.1s					
MDJ				LR	LR	
	comp=Z,140nm,21.4s					
MDJ				LR	LR	
	comp=Z,400nm,18.5s					
MDJ	Mudanjiang	25.19	336	P	P	07 52 40.9 +0.7
CN2	Changchun	26.32	329	*e*P	P	07 52 47.6 -2.8
TIA	Tai'an	27.00	307	P	P	07 52 57.8 +1.2
TIA				S	S	07 57 24.4 +0.5
TIA				pmax	pmax	
	comp=Z,11nm,0.8s					
TIA				LR	LR	
	comp=Z,300nm,5.4s					
TIA				LR	LR	
	comp=Z,220nm,5.3s					
TIA				LR	LR	
	comp=Z,98nm,5.2s					
WHN	Wuhan	27.57	294⇓	*i*P	P	07 53 02.6 +0.9
WHN				S	S	07 57 34.0 +1.1
WHN				pmax	pmax	
	comp=Z,56nm,0.6s					
WHN				LR	LR	
	comp=Z,720nm,4.6s					
WHN				LR	LR	
	comp=Z,420nm,8.3s					
WHN				LR	LR	
	comp=Z,400nm,14.5s					
TYV	Tymovskoe	28.58	359	*e*P	P	07 53 12.1 +1.6
TYV				pmax	pmax	
	comp=Z,36nm,0.8s					
TYV				pmax	pmax	
	comp=Z,200nm,2.3s					
KMSI	Cibinong	28.90	224	P	P	07 53 14.0 +0.3
	comp=Z,175nm,0.5s					
GRNR	Gornyy	29.05	350⇓	*i*P	P	07 53 16.6 +1.9
GRNR				pmax	pmax	
	comp=E,10.0nm,0.6s					
GRNR				pmax	pmax	
	comp=N,20nm,0.8s					
GRNR				pmax	pmax	
	comp=Z,40nm,0.8s					
BJI	Beijing	29.37	314	P	P	07 53 17.4 -0.2
BJI				sP	sP	07 53 59.9 -2.0
BJI				S	S	07 57 58.8 -2.2
BJI				sS	sS	07 58 51.5 0.0
BJI				ScP	ScP	07 59 48.9 -0.4
BJI				pmax	pmax	
	comp=Z,8.0nm,0.7s					
BJI				LR	LR	
	comp=Z,150nm,16.2s					
BJI				LR	LR	
	comp=Z,94nm,9.6s					
GTOI	Gorontalo	29.49	226	P	P	07 53 19.0 +0.1
	comp=Z,30nm,1.0s					
MYLDM	Lahad Datu	29.75	239	P	P	07 53 20.8 -0.5
SKR	Severo-Kuril's	29.99	16	*e*P	P	07 53 24.1 +1.2
SKR				*e*S	S	07 58 18.3 +7.9
SKR				*e*SSS	SSS	08 00 33.9
SKR				pmax	pmax	
	comp=Z,75nm,0.8s					
SKR				pmax	pmax	
	comp=Z,200nm,6.0s					
SKR				pmax	pmax	
	comp=Z,400nm,5.4s					
SKR				MLR	MLR	
	comp=Z,300nm,16.0s					
SKR				MLR	MLR	
	comp=Z,300nm,16.0s					
KKM	Kota Kinabalu	31.11	243	P	P	07 53 32.4 -0.9
KKM				IAmb	IAmb	07 53 35.5
	comp=Z,45nm,0.7s					
PMG	Port Moresby	31.62	174	P	P	07 53 36.8 -0.9
	comp=Z,29nm,0.5s					
PMG	Port Moresby	31.62	174*ce*	P	P	07 53 36.7 -0.9
PMG				pmax	pmax	
	comp=Z,54nm,1.3s					
PMG	Port Moresby	31.62	174	P	P	07 53 35.7 -2.0
PMG				IAmb	IAmb	07 53 37.6
	comp=Z,48nm,0.8s					
ENH	Enshi	31.68	292	P	P	07 53 38.0 -0.2
MPSI	Mapaga	31.86	230	P	P	07 53 39.9 +0.2
	comp=Z,1μmcomp=Z,20nm,1.1s					
QIZ	Qiongzhong	31.88	271	P	P	07 53 40.7 +0.8
QIZ				pP	pP	07 54 08.5 -0.2
QIZ				S	S	07 58 38.4 -2.3
QIZ				sS	sS	07 59 32.6 +1.2
QIZ				pmax	pmax	
	comp=Z,95nm,5.9s					
QIZ				LR	LR	
	comp=Z,300nm,12.0s					
QIZ				LR	LR	
	comp=Z,190nm,13.0s					
QIZ				LR	LR	
	comp=Z,230nm,27.0s					
PEA0B	Petropavlovsk-	32.61	16	P	P	07 53 46.4 +0.5
PEA0B				pmax	pmax	
	comp=Z,70nm,1.3s					
PEA0B	Petropavlovsk-	32.61	16	P	P	07 53 46.4 +0.5
PEA0B				IAmb	IAmb	07 53 48.9
	comp=Z,71nm,1.3s					
PETK	Petropavlovsk-	32.61	16	P	P	07 53 47.6 +1.7
	comp=Z,20nm,0.8s,baz=185,slow=7.6,SNR=35					
PETK				PcP	PcP	07 56 28.9 +0.1
	comp=Z,3.6nm,0.7s,baz=217,slow=4.7,SNR=3.6					
PETK				ScP	ScP	07 59 58.1 -1.7
	comp=Z,5.8nm,0.9s,baz=188,slow=3.0,SNR=10					
PETK				LR	LR	08 05 26.7
	comp=Z,248nm,21.4s,baz=202,slow=33					
PETK	Petropavlovsk-	32.61	16	P	P	07 53 46.9 +1.1
PET	Petropavlovsk	32.78	17	*e*P	P	07 53 49.2 +1.9
PET				*e**PP	pwP	07 54 20.0 -1.6
PET				*e*S	S	07 58 52.5 -1.3
PET				*e*SS	SnSn	08 01 05.4 -1.0
PET				pmax	pmax	
	comp=Z,322nm,1.4s					
PET				pmax	pmax	
	comp=Z,100nm,12.4s					
PET				MLR	MLR	
	comp=Z,300nm,17.0s					
PET	Petropavlovsk	32.78	17	P	P	07 53 48.0 +0.7
HHC	Hu-ho-hao-te	32.88	312	*e*P	P	07 53 49.4 +0.9
HHC				ScS	ScS	08 03 58.3 -3.3
HHC				pmax	pmax	
	comp=Z,29nm,1.0s					
HHC				pmax	pmax	
	comp=Z,95nm,4.2s					
HIA	Hailar	33.01	331	P	P	07 53 50.0 +0.5
HIA				pmax	pmax	
	comp=Z,14nm,0.7s					
HIA	Hailar	33.01	331	P	P	07 53 50.0 +0.5
GYA	Guiyang	33.99	285	⇓P	P	07 54 00.8 +2.4
GYA				pP	pwP	07 54 32.1 +0.9
GYA				sP	sP	07 54 48.6 +5.3
GYA				S	S	07 59 11.2 -2.4
GYA				ScP	ScP	08 00 05.9 +0.5
GYA				pmax	pmax	
	comp=Z,11nm,0.8s					
GYA				pmax	pmax	
	comp=Z,220nm,3.8s					
GYA				LR	LR	
	comp=Z,100nm,5.5s					
GYA				LR	LR	
	comp=Z,100nm,5.4s					
GYA				LR	LR	
	comp=Z,86nm,6.1s					
SPSI	Sidrap Palu	35.06	225	P	P	07 54 07.9 +0.4
	comp=Z,66nm,0.7s					
DLV	T Lat	35.17	259	P	P	07 54 08.7 0.0
DLV				IAmb	IAmb	07 54 11.5
	comp=Z,62nm,0.9s					
BNSI	Bone	35.17	224	P	P	07 54 09.0 +0.5
	comp=Z,2μmcomp=Z,52nm,1.2s					
MIDW	Midway	35.54	72	P	P	07 54 11.9 +0.4
KAPI	Kappang	35.87	224	P	P	07 54 15.1 +0.7
KAPI				pmax	pmax	
	comp=Z,76nm,1.4s					
KAPI	Kappang	35.87	224	P	P	07 54 15.1 +0.7
KAPI				IAmb	IAmb	07 54 16.3
	comp=Z,76nm,1.4s					
COEN	Coen	35.98	181	P	P	07 54 14.0 -1.2
COEN				IAmb	IAmb	07 54 16.1
	comp=Z,45nm,0.8s					
MTKI	Muara Teweh, K	36.39	234	P	P	07 54 19.0 +0.1
	comp=Z,6μmcomp=Z,101nm,0.8s					
SBUM	Sibu	36.41	242	P	P	07 54 18.8 -0.3
SBUM	Sibu	36.41	242	P	P	07 54 21.0 +1.9
CD2	Chengdu	36.66	292	P	P	07 54 20.9 -0.2
CD2				pP	pP	07 54 53.3 +2.6
CD2				sP	sP	07 55 06.9 +0.6
CD2				PP	PP	07 55 47.2 -0.2
CD2				S	S	07 59 49.3 -4.8
CD2				pmax	pmax	
	comp=Z,50nm,0.8s					
CD2				pmax	pmax	
	comp=Z,160nm,5.8s					
CD2				LR	LR	
	comp=Z,330nm,11.5s					
SLVN	Son La	36.96	276	P	P	07 54 23.7 -0.1
MTN	Manton Dam	37.01	201	P	P	07 54 22.1 -1.9
MTN				IAmb	IAmb	07 54 23.8
	comp=Z,28nm,0.6s					
KBKI	Kotabaru	37.05	230	P	P	07 54 24.9 +0.5
	comp=Z,36nm,0.7s					
SOEI	Soe	37.11	213	P	P	07 54 23.6 -1.4
SOEI				IAmb	IAmb	07 54 44.1
	comp=Z,31nm,0.5s					
LZH	Lanzhou	37.24	301	*e*P	P	07 54 26.9 +0.8
LZH				pP	pP	07 54 54.5 -1.2
LZH				S	S	08 00 01.7 -1.3
LZH				SS	SS	08 02 46.3 -5.6
LZH				pmax	pmax	
	comp=Z,26nm,1.0s					
LZH				pmax	pmax	
	comp=Z,97nm,4.6s					
LZH				LR	LR	
	comp=Z,210nm,13.0s					
LZH				LR	LR	
	comp=Z,280nm,14.1s					
LZH				LR	LR	
	comp=Z,370nm,14.6s					
KMI	Kunming	37.59	283	⇓P	P	07 54 33.0 +3.8
KMI				pmax	pmax	
	comp=Z,14nm,0.5s					
KMI				LR	LR	
	comp=Z,160nm,5.0s					
KMI				LR	LR	
	comp=Z,100nm,7.3s					
KMI				LR	LR	
	comp=Z,220nm,13.0s					
MA2	Magadan	37.63	6	P	P	07 54 29.8 +1.0
MA2				pmax	pmax	
	comp=Z,51nm,0.8s					
MA2	Magadan	37.63	6	P	P	07 54 29.8 +1.0
MA2				IAmb	IAmb	07 54 31.6
	comp=Z,50nm,0.8s					
EDFI	Ende, Flores	37.65	217	P	P	07 54 29.2 -0.4
	comp=Z,22nm,0.6s					
BATI	Baumata	37.80	214	LR	LR	08 10 04.3
	comp=Z,314nm,20.8s,baz=102,slow=36					
KSM	Kuching	38.53	242	P	P	07 54 36.1 -0.9
KSM	Kuching	38.53	242	P	P	07 54 38.0 +1.1
SONM	Songino Array	39.28	320	P	P	07 54 43.8 +0.8
	comp=Z,16nm,0.6s,baz=131,slow=9.6,SNR=60					
SONM				ScP	ScP	08 00 23.8 -0.8
	comp=Z,2.1nm,0.7s,baz=165,slow=3.8,SNR=5.3					
SONM	Songino Array	39.28	320	P	P	07 54 43.4 +0.5
SONM				pmax	pmax	
	comp=Z,22nm,1.1s					
SONM	Songino Array	39.28	320	P	P	07 54 43.4 +0.5
KNRA	Kununurra	40.45	203	P	P	07 54 51.3 -1.4
KNRA				IAmb	IAmb	07 54 54.4
	comp=Z,40nm,0.7s					
PBKT	Sadao Pong	40.67	270	P	P	07 54 55.0 +0.4
YAK	Yakutsk	40.93	350	P	P	07 54 56.1 0.0
	comp=Z,75nm,0.8s,baz=115,slow=1.1,SNR=5.3					
YAK				LR	LR	08 12 12.9
	comp=Z,96nm,21.5s,baz=166,slow=36					
YAK	Yakutsk	40.93	350*d*	*i*P	P	07 54 56.5 +0.4
YAK				*e**PP	pwP	07 55 32.1 +0.1
YAK				*e*		07 56 38.0
YAK				*e*		07 56 59.2
YAK				*e*S	S	08 00 54.1 -3.1
YAK				*e*SS	SS	08 04 02.4 -1.9
YAK				*e*		08 04 41.0
YAK				pmax	pmax	
	comp=Z,142nm,0.9s					
YAK				pmax	pmax	
	comp=N,55nm,1.0s					
YAK				pmax	pmax	
	comp=E,9.0nm,0.9s					
YAK				pmax	pmax	
	comp=Z,40nm,1.2s					
YAK				pmax	pmax	
	comp=N,31nm,1.4s					
YAK				pmax	pmax	
	comp=E,16nm,1.2s					
YAK				smax	smax	
	comp=N,46nm,1.5s					
YAK				smax	smax	
	comp=E,66nm,1.5s					
YAK	Yakutsk	40.93	350	P	P	07 54 56.5 +0.4
GTA	Gaotai	41.01	305	*e*P	P	07 54 58.6 +1.3
GTA				pP	pwP	07 55 28.0 -3.1
GTA				sP	sP	07 55 42.2 -0.7
GTA				ScP	ScP	08 00 31.3 -0.3
GTA				S	S	08 00 59.4 0.0
GTA				sS	sS	08 01 51.5 0.0
GTA				ScS	ScS	08 04 46.8 -0.6
GTA				pmax	pmax	
	comp=E,14nm,0.7s					
GTA				pmax	pmax	
	comp=E,94nm,4.0s					
GTA				LR	LR	
	comp=E,130nm,19.2s					
GTA				LR	LR	
	comp=E,290nm,18.2s					
GTA				LR	LR	
	comp=E,130nm,17.6s					
BOD	Bodaibo	41.56	336	*e*P	P	07 55 01.0 -0.3
BOD				pmax	pmax	
	comp=Z,15nm,2.0s					
CHTO	Chiang Mai	42.01	274	P	P	07 55 05.9 +0.3
CHTO				pmax	pmax	
	comp=Z,17nm,1.1s					
CHTO	Chiang Mai	42.01	274	P	P	07 55 05.8 +0.3
CM31	Chiang Mai Arr	42.09	273	P	P	07 55 07.0 +0.8
CMAR	Chiang Mai Arr	42.09	273	P	P	07 55 07.0 +0.7
	comp=Z,5.6nm,0.6s,baz=62,slow=7.5,SNR=26					
CMAR				PcP	PcP	07 57 00.1 +1.7
	comp=Z,1.2nm,0.3s,baz=90,slow=0.9,SNR=4.4					
CMAR				LR	LR	08 10 45.5
	comp=Z,92nm,21.3s,baz=202,slow=33					
CMAR	Chiang Mai Arr	42.09	273	P	P	07 55 06.7 +0.5
CTAO	Charters Tower	42.14	177	P	P	07 55 06.2 -0.3
CTAO				pmax	pmax	
	comp=Z,123nm,0.9s					
CTAO	Charters Tower	42.14	177	P	P	07 55 06.2 -0.3
ZAK	Zakamensk	42.26	322	*e*P	P	07 55 08.0 +0.7
ZAK				*e*		07 55 36.6
ZAK				pmax	pmax	
	comp=Z,22nm,1.3s					
ZAK				pmax	pmax	
	comp=Z,13nm,1.3s					
ADK	Adak	42.42	36	P	P	07 55 09.1 +0.7
ADK				pmax	pmax	
	comp=Z,82nm,0.8s					
ADK	Adak	42.42	36	P	P	07 55 09.1 +0.7
TLY	Talaya	42.65	324	P	P	07 55 11.6 +1.3
TLY				pmax	pmax	
	comp=Z,65nm,1.8s					
TLY	Talaya	42.65	324	P	P	07 55 11.6 +1.3
WB0	Warramunga Arr	42.74	193	P	P	07 55 09.9 -1.5
WR0	Warramunga Arr	42.90	193	P	P	07 55 11.7 -0.9
WRAB	Tennant Creek	42.91	193*ce*	P	P	07 55 11.3 -1.4
WRAB				pmax	pmax	
	comp=Z,60nm,1.7s					
WRAB	Tennant Creek	42.91	193	P	P	07 55 11.7 -1.1
WB2	Warramunga Arr	42.92	193	P	P	07 55 11.3 -1.5
WB2				IAmb	IAmb	07 55 13.4
	comp=Z,94nm,1.6s					
WRA	Warramunga Arr	42.93	193	P	P	07 55 11.6 -1.2
	comp=Z,12nm,0.3s,baz=9.3,slow=8.5,SNR=435					
WRA				ScP	ScP	08 00 39.6 +0.4
	comp=Z,26nm,1.0s,baz=11,slow=4.2,SNR=40					
WRA	Warramunga Arr	42.93	193	P	P	07 55 10.9 -1.9
TPI	Tanjungpandan	43.15	239	P	P	07 55 15.3 +0.5
PWJI	Pagerwojo	43.43	230	P	P	07 55 17.3 +0.3
	comp=Z,168nm,0.9s					
FITZ	Fitzroy Crossi	43.84	205	ScP	ScP	08 00 42.9 -0.1
	comp=Z,3.5nm,0.9s,baz=178,slow=0.9,SNR=3.7					
FITZ	Fitzroy Crossi	43.84	205	P	P	07 55 19.2 -1.0
SANVU	Saraoutou	43.93	146	P	P	07 55 18.8 -2.1
ATKA	Atka Island	43.93	36	P	P	07 55 20.6 +0.1
MOY	Mondy	44.12	323	*e*P	P	07 55 22.5 +0.3
MOY				pmax	pmax	
	comp=Z,37nm,1.9s					
KULM	Kulim	44.94	255	P	P	07 55 29.1 0.0
KULM				IAmb	IAmb	07 55 31.5
	comp=Z,34nm,0.6s					
KULM	Kulim	44.94	255	P	P	07 55 30.0 +0.9
IPM	Ipoh	44.97	253	P	P	07 55 29.3 0.0
IPM	Ipoh	44.97	253	P	P	07 55 30.0 +0.7
KPJI	Karang Pucung	45.05	233	P	P	07 55 30.1 +0.2
	comp=Z,100nm,1.0s					
CBJI	Citeko	46.03	236	P	P	07 55 38.9 +1.3
	comp=Z,103nm,0.8s					
SBJI	Serang	46.40	237	P	P	07 55 41.4 +0.9
	comp=Z,5μmcomp=Z,339nm,0.8s					
AS31	Alice Springs	46.63	192	P	P	07 55 41.3 -0.9
ASAR	Alice Springs	46.63	192	P	P	07 55 41.0 -1.2
	comp=Z,6.6nm,0.4s,baz=12,slow=8.1,SNR=121					
ASAR				PcP	PcP	07 57 14.1 +0.3
	comp=Z,5.4nm,0.9s,baz=12,slow=3.1,SNR=6.7					
ASAR				PP	PP	07 57 31.9 -1.9
	comp=Z,5.6nm,1.1s,baz=14,slow=10,SNR=6.1					
ASAR				ScP	ScP	08 00 54.8 +0.3
	comp=Z,6.3nm,1.0s,baz=14,slow=4.2,SNR=16					
ASAR	Alice Springs	46.63	192	P	P	07 55 41.4 -0.7
KLSI		46.64	240	P	P	07 55 42.0 -0.4
	comp=Z,29nm,1.2s					
MDSI	Maura Dua	46.96	240	P	P	07 55 44.2 -0.7
	comp=Z,36nm,1.1s					
CGJI	Cibinong	47.05	237	P	P	07 55 44.1 -1.4
	comp=Z,7μmcomp=Z,195nm,0.9s					
LHSI	Lahat	47.11	242	P	P	07 55 46.5 +0.5
	comp=Z,239nm,1.0s					
SDSI	Sungai Dareh	47.27	246	P	P	07 55 47.8 +0.5
	comp=Z,50nm,1.1s					
LSA	Lhasa	47.56	290	P	P	07 55 51.1 +1.1
LSA				pmax	pmax	
	comp=Z,17nm,0.6s					
LSA	Lhasa	47.56	290	P	P	07 55 51.1 +1.1
PSI	Prapat	47.60	253	LR	LR	08 13 58.9
	comp=Z,180nm,20.7s,baz=90,slow=33					
PSI	Prapat	47.60	253	P	P	07 55 50.0 0.0
PSI				pmax	pmax	
	comp=Z,26nm,0.6s					
RPSI	Rantau Prapat	47.65	252	P	P	07 55 50.0 -0.2
RPSI				IAmb	IAmb	07 55 51.3
	comp=Z,26nm,0.6s					
KSI	Kapahiang	47.77	243	P	P	07 55 50.8 -0.4
	comp=Z,147nm,0.7s					
EIDS	Eidsvold	47.85	171	P	P	07 55 50.5 -1.1
EIDS				IAmb	IAmb	07 55 51.4
	comp=Z,76nm,1.4s					
BILL	Bilibino	47.88	11*d*	*i*P	P	07 55 52.5 +1.2
BILL				*e**PP	pwP	07 56 27.3 +0.3
BILL				*e*S	S	08 02 32.5 -5.1
BILL				pmax	pmax	
	comp=Z,134nm,1.7s					
BILL	Bilibino	47.88	11	P	P	07 55 52.4 +1.2
BILL				IAmb	IAmb	07 55 53.3
	comp=Z,68nm,1.1s					
PDSI	Padang	48.08	247	P	P	07 55 53.8 +0.2
	comp=Z,24nm,0.7s					
DZM	Mont Dzumac	49.27	152	P	P	07 56 00.9 -1.7
DZM				IAmb	IAmb	07 56 04.2
	comp=Z,44nm,1.2s					
AKUT	Akutan	49.35	37	P	P	07 56 03.6 +0.9
PSA00	Pilbara Seismi	49.41	210	P	P	07 56 02.7 -0.8
PSA00				IAmb	IAmb	07 56 04.7
	comp=Z,33nm,0.6s					
GSI	Gunungsitoli	49.49	252	P	P	07 56 04.5 +0.2

comp=Z,124nm,0.5s
GSI Gunungsitoli 49.49 252 P P 07 56 03.9 -0.4
TIXI Tiksi 50.17 354 P P 07 56 09.2 +0.5
comp=Z,8.7nm,0.4s,baz=146,slow=5.8,SNR=14
TIXI Tiksi 50.17 354 *ce*P **P 07 56 09.1 +0.5**
TIXI pmax pmax
comp=Z,33nm,1.3s
TIXI Tiksi 50.17 354 P P 07 56 08.9 +0.3
TIXI IAmb IAmb 07 56 12.1
comp=Z,19nm,0.7s
WMQ Urumqi 50.66 309 *e*P **P 07 56 14.7 +1.8**
WMQ pP pP 07 56 44.2 +0.2
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,51nm,3.8s
WMQ LR LR
comp=Z,130nm,29.1s
WMQ LR LR
comp=Z,140nm,23.7s
WMQ LR LR
comp=Z,36nm,23.7s
WMQ Urumqi 50.66 309 P P 07 56 13.5 +0.6
WMQ pmax pmax
comp=Z,44nm,1.3s
WMQ Urumqi 50.66 309 P P 07 56 13.5 +0.6
WMQ IAmb IAmb 07 57 15.0
comp=Z,44nm,1.3s
DGZ Jazzator, Alta 51.72 316 *d i*P **P 07 56 22.2 +1.5**
DGZ pmax pmax
comp=Z,61nm,0.9s
MSVF Nonsavu 51.99 137 P P 07 56 22.1 -0.9
MSVF pmax pmax
comp=Z,63nm,1.2s
MSVF Nonsavu 51.99 137 P P 07 56 22.1 -0.9
MSVF IAmb IAmb 07 56 25.6
comp=Z,63nm,1.1s
SDPT Sand Point 52.65 36 P P 07 56 28.0 +0.7
ARMA Armidale 52.90 171 P P 07 56 28.6 -0.9
ZSN Zaisan 53.05 313 *e*P **P 07 56 31.4 +0.9**
comp=Z,6.3nm,0.9s,baz=313
ZSN *i* S **S 08 03 51.3 +1.5**
baz=313
ZSN Zaisan 53.05 313 *e*P **P 07 56 31.4 +0.9**
ZSN *i* S **S 08 03 51.2 +1.5**
ZSN pmax pmax
comp=Z,6.0nm,0.9s
KIP Kipapa 53.74 79 *ce*P **P 07 56 36.7 +0.8**
KIP pmax pmax
comp=Z,45nm,1.3s
STKA Stephens Creek 53.85 182 P P 07 56 35.1 -1.2
comp=Z,29nm,0.6s,baz=348,slow=8.1,SNR=76
STKA Stephens Creek 53.85 182 P P 07 56 35.0 -1.3
ZAA0 Zalesovo Array 54.13 321 P P 07 56 37.9 -0.3
ZAA0 IAmb IAmb 07 56 39.1
comp=Z,29nm,0.7s
ZALV Zalesovo Beam 54.13 321 P P 07 56 38.2 +0.1
comp=Z,26nm,0.5s,baz=106,slow=7.4,SNR=79
ZALV Zalesovo Beam 54.13 321 P P 07 56 37.8 -0.4
MK31 Makanchi Array 54.74 312 P P 07 56 43.1 +0.4
MK31 pmax pmax
comp=Z,11nm,0.9s
MK31 Makanchi Array 54.74 312 P P 07 56 43.1 +0.4
MKAR Makanchi Array 54.74 312 P P 07 56 43.6 +0.9
comp=Z,8.6nm,0.5s,baz=90,slow=9.2,SNR=83
MKAR ScP **ScP 08 01 28.9 -0.2**
comp=Z,3.8nm,0.9s,baz=80,slow=8.8,SNR=7.4
MKAR S **S 08 04 14.0 +1.5**
comp=Z,4.4nm,1.1s,baz=92,slow=18,SNR=5.7
MKAR LR LR 08 20 24.6
comp=Z,63nm,19.9s,baz=104,slow=36
FORT Forrest 54.83 197 P P 07 56 42.4 -1.0
MAKZ Makanchi 54.95 312 P P 07 56 44.9 +0.6
MAKZ Makanchi 54.95 312 P P 07 56 45.0 +0.7
RDOG Red Dog Mine 56.17 21 P P 07 56 54.1 +1.5
PDGK Podgornoye 56.59 308 P P 07 56 56.9 +0.8
SHLS Shalkode 56.61 308 *e*P **P 07 56 54.7 -1.6**
comp=Z,3.0nm,0.5s,baz=308
SHLS *e*S **S 08 04 34.8 -2.8**
baz=308
SHLS Shalkode 56.61 308 *e*P **P 07 56 54.7 -1.6**
SHLS *e*S **S 08 04 34.8 -2.8**
SHLS pmax pmax
comp=Z,3.0nm,0.5s
SVW2 Sparrevohn 56.66 30 P P 07 56 57.3 +1.1
SVW2 IAmb IAmb 07 56 58.4
comp=Z,40nm,0.8s
UZB Uzynbulak 56.93 308 *e*P **P 07 56 59.1 +0.5**
comp=Z,3.4nm,0.6s,baz=308
UZB *e*S **S 08 04 42.8 +0.9**
baz=308
UZB Uzynbulak 56.93 308 *e*P **P 07 56 59.0 +0.5**
UZB *e*S **S 08 04 42.8 +0.9**
UZB pmax pmax
comp=Z,3.0nm,0.6s
TTA Tatalina 56.96 28 P P 07 56 59.2 +0.9
TTA pmax pmax
comp=Z,40nm,1.2s
TTA Tatalina 56.96 28 P P 07 56 59.2 +0.9
TTA IAmb IAmb 07 57 00.9
comp=Z,40nm,1.2s
TDK Taldyqorghan 57.38 310 *e*P **P 07 57 02.3 +0.7**
comp=Z,7.2nm,0.4s,baz=310
TDK *i* S **S 08 04 48.8 +1.4**
baz=310
TDK Taldyqorghan 57.38 310 *e*P **P 07 57 02.2 +0.7**
TDK *i* S **S 08 04 48.7 +1.4**
TDK pmax pmax
comp=Z,7.0nm,0.4s
SATY Saty 57.38 308 *e*P **P 07 57 02.3 +0.6**
baz=308
SATY *e*S **S 08 04 48.8 +1.0**
baz=308
SATY Saty 57.38 308 *e*P **P 07 57 02.3 +0.6**
SATY *e*S **S 08 04 48.7 +1.0**
PRZ Przheval'sk 57.40 307 P P 07 57 02.3 +0.4
PRZ pmax pmax
comp=Z,35nm,0.5s
PRZ Przheval'sk 57.40 307 P P 07 57 02.3 +0.4
KDAK Kodiak Island 57.44 35 P P 07 57 02.3 +0.6
KDAK pmax pmax
comp=Z,413nm,1.9s
KDAK Kodiak Island 57.44 35 P P 07 57 02.3 +0.6
KURK Kurchatov 57.46 317 *ce*P **P 07 57 02.2 +0.3**
KURK pmax pmax
comp=Z,108nm,1.7s
KURK Kurchatov 57.46 317 P P 07 57 01.8 -0.1
CAN Canberra 57.46 175 P P 07 57 01.5 -0.6
CAN pmax pmax
comp=Z,65nm,1.2s
CAN Canberra 57.46 175 P P 07 57 01.5 -0.6
CAN IAmb IAmb 07 57 03.2
comp=Z,65nm,1.2s
KURBB Kurchatov Arra 57.51 317 P P 07 57 02.8 +0.5
comp=Z,59nm,0.6s,baz=91,slow=7.8,SNR=459
KURBB S **S 08 04 48.3 -0.5**
comp=Z,8.5nm,1.2s,baz=94,slow=11,SNR=16
KURBB Kurchatov Arra 57.51 317 P P 07 57 02.5 +0.2
MORW Morawa 57.59 209 P P 07 57 01.9 -1.1
NRIK Noril'sk 57.68 340 P P 07 57 03.6 +0.4
comp=Z,14nm,0.6s,baz=108,slow=8.9,SNR=17
NRIK LR LR 08 22 07.6
comp=Z,133nm,21.5s,baz=181,slow=36
RSO Redoubt South 57.87 32 P P 07 57 05.4 +0.5
TARG Taragay, Kyrgy 57.87 306 P P 07 57 06.3 +0.9
HOM Homer 58.26 33 P P 07 57 08.1 +0.7
baz=260
MDOK Medeo 58.38 308 *e*P **P 07 57 09.4 +0.7**
baz=308
MDOK *e*S **S 08 05 01.9 +1.1**
baz=308
MDOK Medeo 58.38 308 *e*P **P 07 57 09.4 +0.7**
MDOK *e*S **S 08 05 01.8 +1.1**
CHKK Chushkaly 58.40 309 *e*P **P 07 57 09.5 +0.8**
baz=309
CHKK Chushkaly 58.40 309 *e*P **P 07 57 09.5 +0.8**
TNSS Tian-Shan 58.45 308 *e*P **P 07 57 10.2 +0.7**
baz=308
TNSS Tian-Shan 58.45 308 *e*P **P 07 57 10.2 +0.7**
AAA Alma-Ata 58.47 308 *e*P **P 07 57 10.1 +0.8**
baz=308
AAA *e*S **S 08 05 03.0 +1.2**
baz=308
AAA Alma-Ata 58.47 308 *e*P **P 07 57 10.0 +0.8**
AAA *e*S **S 08 05 03.0 +1.2**

PPLA Purkeypile 58.65 29 P P 07 57 11.3 +1.1
SKT Skwentna 58.75 30 P P 07 57 11.3 +0.5
IMAR Indian Mountai 58.76 25 P P 07 57 11.5 +0.8
MTBS Maitube 58.83 308 *e*P **P 07 57 12.1 +0.4**
baz=308
MTBS Maitube 58.83 308 *e*P **P 07 57 12.1 +0.4**
ULHL Ulahol 59.01 307 P P 07 57 14.8 +1.7
SNR=11
SUA Susitna One 59.02 31 P P 07 57 13.5 +0.8
SUA IAmb IAmb 07 57 14.2
comp=Z,30nm,1.0s
BOOM Boomskoye usch 59.22 307 P P 07 57 14.8 +0.2
BOOM pmax pmax
comp=Z,28nm,0.5s
BOOM Boomskoye usch 59.22 307 P P 07 57 14.8 +0.2
O22K Cooper Landing 59.34 32 P P 07 57 15.2 +0.4
baz=261,SNR=6.2
KTH Kantishna Hill 59.35 28 P P 07 57 15.7 +0.7
KSH Kashi 59.39 304 P P 07 57 21.0 +5.3
KSH pP pwP 07 57 53.9 +3.0
KSH S S 08 05 23.1 +9.2
KSH ScS **ScS 08 06 53.9 +1.3**
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH pmax pmax
comp=Z,100nm,5.1s
KSH LR LR
comp=Z,410nm,12.7s
KSH LR LR
comp=Z,270nm,10.3s
KSH LR LR
comp=Z,260nm,9.4s
CUT Chulitna 59.42 30 P P 07 57 15.1 -0.2
baz=259
BPAW Bear Paw Mtn. 59.44 28 P P 07 57 16.7 +1.2
TKM2 Tokmak 2 59.45 308 P P 07 57 17.7 +1.5
SNR=24
A21K Barrow 59.52 19 P P 07 57 16.9 +1.1
baz=248
TRF Thorofare Moun 59.61 28 P P 07 57 17.2 +0.3
KZA Kyzart 59.75 307 P P 07 57 20.9 +2.4
SNR=18
PMR Palmer 59.80 31 P P 07 57 18.4 +0.4
PMR pmax pmax
comp=Z,58nm,1.0s
PMR Palmer 59.80 31 P P 07 57 18.4 +0.4
GHO Glory Hole Cre 59.93 30 P P 07 57 19.2 +0.3
KBK Karagaybulak 59.94 307 P P 07 57 20.2 +0.7
SNR=11
KNK Knik Glacier 60.10 31 P P 07 57 20.1 +0.1
BWN Browne 60.10 28 P P 07 57 21.5 +1.5
SGDS Sogindy 60.13 308 *e*P **P 07 57 20.8 +0.2**
baz=308
SGDS *e*S **S 08 05 23.9 +0.7**
baz=308
SGDS Sogindy 60.13 308 *e*P **P 07 57 20.8 +0.2**
SGDS *e*S **S 08 05 23.8 +0.7**
SML Sawmill 60.22 30 P P 07 57 21.2 +0.3
RND Reindeer 60.23 29 P P 07 57 21.0 0.0
RND pmax pmax
comp=Z,162nm,2.0s
RND Reindeer 60.23 29 P P 07 57 21.0 0.0
USP Ospenovka 60.23 308 P P 07 57 22.6 +1.3
SNR=8.6
MCK McKinley 60.25 28 P P 07 57 21.6 +0.5
MCK pmax pmax
comp=Z,88nm,1.3s
MCK McKinley 60.25 28 P P 07 57 21.6 +0.5
AAK Ala-Archa 60.28 307 P P 07 57 22.8 +1.1
SNR=9.2
AAK Ala-Archa 60.28 307 *i* P **P 07 57 25.1 +3.4**
SNR=11
NEA2 Nenana 60.35 27 P P 07 57 22.2 +0.5
baz=259,SNR=20
NWAO Narrogin (SRO) 60.43 206 P P 07 57 21.1 -1.5
NWAO pmax pmax
comp=Z,30nm,0.6s
NWAO Narrogin (SRO) 60.43 206 P P 07 57 21.1 -1.5
NWAO IAmb IAmb 07 57 23.4
comp=Z,30nm,0.6s
COLD Coldfoot 60.45 24 P P 07 57 24.1 +1.8
baz=257,SNR=28
COLD Coldfoot 60.45 24 P P 07 57 23.5 +1.2
COLD IAmb IAmb 07 57 24.8
comp=Z,34nm,0.8s
BTLS Baital 60.47 310 *e*P **P 07 57 23.3 +0.4**
comp=Z,4.8nm,0.5s,baz=310
BTLS *i* S **S 08 05 28.2 +1.0**
baz=310
BTLS Baital 60.47 310 *e*P **P 07 57 23.2 +0.4**
BTLS *i* S **S 08 05 28.2 +1.0**
BTLS pmax pmax
comp=Z,5.0nm,0.5s
GLI Glacier Island 60.68 32 P P 07 57 24.6 +0.6
SCM Sheep Creek Mo 60.69 31 P P 07 57 24.9 +0.8
SCM pmax pmax
comp=Z,93nm,0.9s
SCM Sheep Creek Mo 60.69 31 P P 07 57 24.9 +0.8
WRH Wood River Hil 60.75 27 P P 07 57 24.8 +0.5
WRH IAmb IAmb 07 57 25.7
comp=Z,61nm,1.5s
MDM Murphy Dome 60.77 27 P P 07 57 25.5 +1.0
EKS2 Erkin-Say 60.80 307 P P 07 57 26.8 +1.5
SNR=7.3
DHY Denali Highway 60.84 29 P P 07 57 25.7 +0.5
DHY IAmb IAmb 07 57 26.9
comp=Z,81nm,1.6s
Q23K Middleton Isla 60.90 33 P P 07 57 26.0 +0.6
baz=265
CCB Clear Creek Bu 60.90 27 P P 07 57 25.7 +0.3
CCB IAmb IAmb 07 57 26.8
comp=Z,48nm,1.4s
AML Almayashu 60.90 307 P P 07 57 28.1 +1.7
SNR=20
TCOL CIGO, UAF Yank 60.91 27 P P 07 57 26.1 +0.7
baz=260,SNR=9.7
COLA College 60.92 27⇑ *i*P **P 07 57 26.2 +0.8**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 60.92 27 P P 07 57 25.4 -0.1
COLA IAmb IAmb 07 57 28.5
comp=Z,20nm,0.8s
FID Port Fidalgo 60.97 32 P P 07 57 26.4 +0.5
TOLK Toolik Lake Re 61.01 23 P P 07 57 28.0 +1.8
baz=256,SNR=27
TOLK Toolik Lake Re 61.01 23 P P 07 57 27.3 +1.2
POKR Poker Plat Res 61.13 27 P P 07 57 27.1 +0.2
baz=260,SNR=7.7
HYB Hyderabad 61.14 278 *i* P **P 07 57 27.0 -0.8**
HDA Harding Lake 61.23 28 P P 07 57 27.3 -0.3
baz=261,SNR=24
HDA Harding Lake 61.23 28 P P 07 57 27.6 0.0
HDA IAmb IAmb 07 57 28.9
comp=Z,26nm,0.7s
M24K Tolsona, Glenn 61.27 30 P P 07 57 29.2 +1.2
baz=263,SNR=8.4
EYAK Cordova Ski Ar 61.30 32 P P 07 57 28.8 +0.7
ILAR Eielson Array 61.31 27 P P 07 57 27.8 -0.3
comp=Z,22nm,0.7s,baz=259,slow=5.2,SNR=292
ILAR LR LR 08 21 50.4
comp=Z,130nm,20.9s,baz=248,slow=34
ILAR Eielson Array 61.31 27 P P 07 57 28.0 -0.1
ILAR Eielson Array 61.31 27 P P 07 57 28.0 -0.1
KLU Klutina 61.31 31 P P 07 57 29.3 +1.0
PAX Paxson 61.69 29 P P 07 57 31.1 +0.3
PAX pmax pmax
comp=Z,72nm,1.5s
PAX Paxson 61.69 29 P P 07 57 31.1 +0.3
PAX IAmb IAmb 07 57 33.0
comp=Z,72nm,1.5s
RIDG Independent Ri 62.05 29 P P 07 57 33.6 +0.3
RIDG IAmb IAmb 07 57 34.3
comp=Z,38nm,0.7s
NIL Nilore 62.28 297 P P 07 57 35.8 +0.6
NIL pmax pmax
comp=Z,17nm,0.8s
NIL Nilore 62.28 297 P P 07 57 35.8 +0.6
GLB Gilahina Butte 62.32 31 P P 07 57 35.6 +0.6
PALK Pallekele 62.38 267 P P 07 57 36.3 +0.1
comp=Z,7.0nm,0.6s,baz=130,slow=4.9,SNR=2.6
PALK Pallekele 62.38 267 P P 07 57 34.9 -1.3
PALK IAmb IAmb 07 57 37.8
comp=Z,88nm,1.8s
DOT Dot Lake 62.39 29 P P 07 57 35.4 -0.1
DOT IAmb IAmb 07 57 37.1

comp=Z,58nm,1.2s
SCRK Sand Creek 62.46 28 P P 07 57 36.5 +0.5
baz=264,SNR=71
VRDI Verde Repeater 62.48 31 P P 07 57 36.6 +0.4
VRDI IAmb IAmb 07 57 37.7
comp=Z,28nm,0.9s
MENT Mentasta 62.48 29 P P 07 57 36.8 +0.8
MENT IAmb IAmb 07 57 38.7
comp=Z,18nm,0.8s
DZA Taraz 62.58 308 *e*P **P 07 57 37.4 +0.3**
baz=308
DZA *e*S **S 08 05 54.8 +0.7**
baz=308
DZA Taraz 62.58 308 *e*P **P 07 57 37.4 +0.3**
DZA *e*S **S 08 05 54.7 +0.7**
CRQM Cirque 62.60 32 P P 07 57 37.9 +0.8
BVAR Borovoye Array 62.62 319 P P 07 57 37.8 +0.7
comp=Z,42nm,0.4s,baz=108,slow=8.4,SNR=254
BVAR S **S 08 05 53.4 -0.7**
comp=Z,2.4nm,0.7s,baz=95,slow=11,SNR=8.9
BMAR Burnt Mountain 62.63 24 P P 07 57 38.4 +1.4
BRVK Borovoye 62.68 319 P P 07 57 38.1 +0.6
BRVK pmax pmax
comp=Z,80nm,1.0s
BRVK Borovoye 62.68 319 P P 07 57 38.1 +0.6
MCARA McCarthy VSAT 62.69 31 P P 07 57 38.6 +1.2
TGL Tana Glacier 62.75 32 P P 07 57 38.9 +0.9
TGL IAmb IAmb 07 57 40.1
comp=Z,61nm,1.1s
ISLE Juniper Island 62.99 32 P P 07 57 40.3 +0.7
ISLE IAmb IAmb 07 57 41.0
comp=Z,32nm,0.7s
BALM Baldy 63.00 32 P P 07 57 40.3 +0.6
BALM IAmb IAmb 07 57 41.0
comp=Z,37nm,0.7s
KK31 Karatay Array 63.15 308 *i* P **P 07 57 41.5 +0.7**
KK31 Karatay Array 63.15 308 P P 07 57 41.8 +0.9
KKAR Karatay Array 63.15 308 P P 07 57 41.7 +0.9
KKAR pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 63.15 308 P P 07 57 41.7 +0.9
KKAR Karatay Array 63.15 308 P P 07 57 41.8 +1.0
YAH Yahtse 63.27 32 P P 07 57 42.7 +1.1
K27K Chicken 63.30 28 P P 07 57 42.8 +1.4
baz=266
BARN Barnard Glacie 63.34 32 P P 07 57 42.8 +0.8
BARN IAmb IAmb 07 57 43.5
comp=Z,22nm,0.7s
BCAR Beaver Creek A 63.37 29 P P 07 57 42.4 +0.5
CTGM Chitina Glacie 63.49 32 P P 07 57 43.8 +0.8
CTGM IAmb IAmb 07 57 46.1
comp=Z,27nm,0.7s
IUG Iuzhnay 63.61 307 *e*P **P 07 57 44.4 +0.4**
comp=Z,4.2nm,0.6s,baz=307
IUG *e*S **S 08 06 07.8 +0.8**
baz=307
IUG Iuzhnay 63.61 307 *e*P **P 07 57 44.3 +0.3**
IUG *e*S **S 08 06 07.8 +0.8**
IUG pmax pmax
comp=Z,4.0nm,0.6s
EGAK Eagle 63.75 27 P P 07 57 45.3 +1.0
EGAK IAmb IAmb 07 57 46.3
comp=Z,85nm,1.8s
GAR Garm 63.81 304 P P 07 57 45.4 +0.1
GAR IAmb IAmb 07 58 43.2
comp=Z,24nm,1.0s
PCA Pinnacle 64.01 33 P P 07 57 47.4 +1.2
PCA IAmb IAmb 07 57 48.0
comp=Z,39nm,0.7s
CHGR Chuyangaron 64.75 303 P P 07 57 52.3 +0.8
CHGR IAmb IAmb 07 57 59.8
comp=Z,34nm,0.6s
HYT Haines Junctio 65.36 32 P P 07 57 56.4 +1.3
KBL Kabul 65.56 299 P P 07 57 57.7 +0.8
SNR=6.4
KBL Kabul 65.56 299 P P 07 57 57.4 +0.5
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 65.56 299 P P 07 57 57.4 +0.5
EPYK Eagle Plains 65.64 26 P P 07 57 57.9 +1.3
baz=270,SNR=36
EPYK Eagle Plains 65.64 26 P P 07 57 57.8 +1.1
SKAG Skagway 66.52 33 P P 07 58 03.6 +1.3
SKAG IAmb IAmb 07 58 04.5
comp=Z,25nm,0.7s
WHY Whitehorse 66.66 32 P P 07 58 04.5 +1.2
WHY IAmb IAmb 07 58 05.5
comp=Z,29nm,0.8s
BESE Bessie Mountai 66.84 34 P P 07 58 06.0 +1.6
JIS Juneau Island 67.11 35 P P 07 58 06.9 +0.9
SVE Sverdlovsk 67.97 324⇑ *e*P **P 07 58 12.0 +0.6**
SVE pmax pmax
comp=Z,74nm,0.9s
BKZ Black Stump Fm 68.33 153 P P 07 58 12.9 -1.0
BKZ IAmb IAmb 07 58 13.8
comp=Z,82nm,1.4s
WRAK Wrangell Islan 68.42 36 P P 07 58 15.5 +1.3
WRAK IAmb IAmb 07 58 16.9
comp=Z,33nm,0.9s
DIB Dawson Inlet, 68.82 40 P P 07 58 17.6 +0.8
DIB IAmb IAmb 07 58 18.5
comp=Z,33nm,0.8s
ARU Arti 69.16 324 P P 07 58 19.0 +0.2
comp=Z,6.0nm,0.3s,baz=125,slow=2.7,SNR=25
ARU Arti 69.16 324 *c i*P **P 07 58 18.7 -0.1**
ARU 07 58 40.3
ARU *PP **pP 07 58 52.6 +1.1**
ARU S **S 08 07 15.4 +2.2**
ARU 08 08 01.1
ARU pmax pmax
comp=Z,60nm,1.4s
ARU Arti 69.16 324 P P 07 58 18.8 -0.1
ARU IAmb IAmb 07 58 19.9
comp=Z,31nm,0.8s
TUWZ Tuamarina 69.25 156 P P 07 58 18.4 -1.1
A36M Sachs Harbour 69.35 19 P P 07 58 20.6 +0.9
baz=278,SNR=5.6
DLBC Dease Lake 69.37 34 P P 07 58 21.5 +1.3
DLBC IAmb IAmb 07 58 23.2
comp=Z,53nm,0.9s
SNZO South Karori 69.44 156 P P 07 58 19.1 -1.5
ABKAR Akbulak array 69.54 316 P P 07 58 21.4 0.0
MSWZ Moikau Station 69.74 155 P P 07 58 21.4 -1.1
PLWZ Palliser 69.87 155 P P 07 58 21.8 -1.6
KHZ Kahutara 69.96 157 P P 07 58 22.0 -1.8
KHZ IAmb IAmb 07 58 22.8
comp=Z,38nm,1.1s
C36M Paulatuk 70.16 22 P P 07 58 25.4 +0.7
baz=280
AKTO Aktyubinsk 70.54 317 P P 07 58 27.1 -0.4
comp=Z,6.5nm,0.6s,baz=86,slow=8.5,SNR=14
AKTO Aktyubinsk 70.54 317 P P 07 58 26.2 -1.3
HRA Herat 71.07 300 P P 07 58 31.4 +0.1
GEYT Alibeck 73.39 305 P P 07 58 46.8 +2.0
comp=Z,9.9nm,0.8s,baz=111,slow=3.7,SNR=11
GEYT S **S 08 08 06.1 +3.4**
comp=Z,2.5nm,0.4s,baz=55,slow=11,SNR=4.7
GEYT Alibeck 73.39 305 P P 07 58 46.5 +1.7
PRGR Permogore 74.46 331 *e*P **P 07 58 47.3 -3.1**
PRGR *e**PP **pwP 07 59 25.5 -3.0**
EUNU Eureka 74.49 8 P P 07 58 51.2 +0.8
EUNU IAmb IAmb 07 58 52.2
comp=Z,35nm,0.8s
SPA0 Spitsbergen Ar 75.39 350 *e*P **P 07 58 56.0 +0.4**
PGC Sidney 75.41 43 P P 07 58 56.9 +0.8
NLWA Neilton Lookou 75.51 45 P P 07 58 58.0 +1.2
NLWA IAmb IAmb 07 59 00.1
comp=Z,66nm,1.4s
KBS Kingsbay 75.54 351 *e*P **P 07 58 57.0 +0.6**
YKA Yellowknife Ar 75.72 28 P P 07 58 58.1 +0.5
comp=Z,19nm,0.6s,baz=295,slow=5.9,SNR=67
A04D Lummi Island 75.86 43 P P 07 59 00.4 +1.8
baz=288,SNR=6.3
E03A Lebam 75.96 45 P P 07 59 00.5 +1.3
E03A IAmb IAmb 07 59 02.2
comp=Z,61nm,0.9s
D03D Eldon 75.97 44 P P 07 59 01.4 +2.1
baz=288,SNR=25
F03A Seaside 76.15 46 P P 07 59 01.1 +0.7
F03A IAmb IAmb 07 59 02.9
comp=Z,68nm,0.8s
D04E Lakebay 76.28 44 P P 07 59 03.3 +2.2
baz=288
HSPB Hornsund (broa 76.31 349 *e*P **P 07 59 01.6 +0.9**
B05A Bryant 76.39 43 P P 07 59 03.2 +1.6

baz=288,SNR=14
I02D Swisshome 76.51 48 P P 07 59 04.0 +1.6
baz=288
G03D McMinnville, O 76.56 47 P P 07 59 04.3 +1.6
baz=288
E04D Cinebar 76.61 45 P P 07 59 04.8 +1.8
baz=288,SNR=8.3
B06A Marblemount 76.69 43 P P 07 59 04.0 +0.6
COR Corvallis 76.73 47 P P 07 59 05.4 +1.7
COR pmax pmax
comp=Z,124nm,1.6s
COR Corvallis 76.73 47 P P 07 59 05.4 +1.7
COR IAmb IAmb 07 59 07.0
comp=Z,124nm,1.6s
J01E Myrtle Point 76.74 49 P P 07 59 05.5 +1.8
baz=288
D05A Enumclaw 76.79 44 P P 07 59 04.7 +0.7
D05A IAmb IAmb 07 59 06.5
comp=Z,28nm,0.7s
TMCR Tamiltsa 76.81 334 *e*P **P 07 59 03.4 -0.3**
F04A Amboy 76.90 46 P P 07 59 06.1 +1.4
F04A IAmb IAmb 07 59 07.2
comp=Z,56nm,0.9s
I03D Drain, OR 76.98 48 P P 07 59 06.8 +1.7
baz=288,SNR=9.2
LON Longmire 77.05 45 P P 07 59 06.2 +0.7
LON pmax pmax
comp=Z,10.0nm,0.8s
LON Longmire 77.05 45 P P 07 59 06.2 +0.7
K02D Willamette Mer 77.07 49 P P 07 59 07.2 +1.4
baz=288,SNR=7.0
APA Apatity 77.07 338⇑ *i*P **P 07 59 05.0 -0.1**
APA *i* 07 59 12.7
APA *i* *PP **pwP 07 59 39.9 -3.8**
APA pmax pmax
comp=Z,38nm,0.7s
H04D Lebanon 77.14 47 P P 07 59 07.7 +1.7
baz=288,SNR=7.9
C06D Leavenworth 77.26 43 P P 07 59 07.9 +1.2
baz=289
L02E Cave Junction 77.28 50 P P 07 59 08.6 +1.7
baz=288,SNR=6.3
WSAR Wadi Sarin 77.31 290 P P 07 59 07.7 +0.3
comp=Z,3.3nm,0.5s,baz=131,slow=5.7,SNR=2.0
H04A Detroit Lake 77.46 47 P P 07 59 08.7 +0.9
H04A IAmb IAmb 07 59 10.2
comp=Z,47nm,1.0s
KLMR Klimovskoe 77.50 331 *e*P **P 07 59 06.3 -1.3**
KLMR *e**PP **pP 07 59 41.3 +0.4**
KLMR pmax pmax
comp=Z,20nm,0.7s
KLMR Klimovskoe 77.50 331 *e*P **P 07 59 06.4 -1.2**
KLMR AMP 07 59 07.8
comp=Z,20nm,0.7s
KLMR *e*pP **pP 07 59 41.4 +0.5**
F05D White Salmon 77.55 45 P P 07 59 09.8 +1.5
baz=289,SNR=9.0
I04A Tendick Farm, 77.59 48 P P 07 59 09.8 +1.2
baz=289,SNR=15
HUMO Hull Mountain 77.59 49 P P 07 59 10.0 +1.4
KHMM Horse Mountain 77.60 51 P P 07 59 10.2 +1.4
KHMM IAmb IAmb 07 59 12.0
comp=Z,136nm,1.6s
LTY Liberty 77.62 44 P P 07 59 08.8 +0.1
G05D Wamic, OR 77.86 46 P P 07 59 11.5 +1.5
baz=289,SNR=5.6
J04D Umpqua Nationa 77.98 48 P P 07 59 12.5 +1.5
baz=289,SNR=14
YBH Yreka Blue Hor 78.05 50 P P 07 59 12.6 +1.3
YBH pmax pmax
comp=Z,24nm,0.8s
YBH Yreka Blue Hor 78.05 50 P P 07 59 12.6 +1.3
M02C Callahan 78.06 50 P P 07 59 13.1 +1.8
baz=289,SNR=14
KCPM Cahto Peak 78.09 52 P P 07 59 12.9 +1.4
KCPM IAmb IAmb 07 59 13.8
comp=Z,53nm,0.8s
B08A Colville Reser 78.10 43 P P 07 59 11.9 +0.6
B08A IAmb IAmb 07 59 12.9
comp=Z,29nm,0.7s
I05D Terrebonne, OR 78.14 47 P P 07 59 13.0 +1.4
baz=289,SNR=8.6
L04D Klamath Falls 78.18 49 P P 07 59 13.3 +1.3
baz=289,SNR=16
N02D Trinity Center 78.30 51 P P 07 59 14.4 +1.8
baz=289,SNR=18
E07A Sunnyside 78.38 44 P P 07 59 14.0 +1.1
E07A IAmb IAmb 07 59 15.7
comp=Z,126nm,1.9s
K04D Chiloquin, OR 78.43 49 P P 07 59 14.9 +1.5
baz=290,SNR=5.9
BANOM Banah 78.44 293 P P 07 59 15.1 +1.4
HAMF Hammerfest 78.47 343 *e*P **P 07 59 12.7 -0.2**
O02D Mt. Diablo Mer 78.50 51 P P 07 59 15.6 +1.8
baz=289,SNR=18
SHME Shamm 78.54 293 P P 07 59 15.4 +1.2
WDC Whiskeytown Da 78.55 51 P P 07 59 14.9 +1.0
WDC pmax pmax
comp=Z,56nm,1.6s
WDC Whiskeytown Da 78.55 51 P P 07 59 14.9 +1.0
WDC IAmb IAmb 07 59 16.6
comp=Z,56nm,1.6s
J05D Fort Rock, OR 78.57 48 P P 07 59 15.7 +1.6
baz=290,SNR=41
ARCES ARCESS Array B 78.58 342 P P 07 59 13.8 +0.3
comp=Z,19nm,0.6s,baz=73,slow=7.8,SNR=66
ARCES ARCESS Array B 78.58 342 P P 07 59 13.7 +0.2
ARCES ARCESS Array B 78.58 342 P P 07 59 13.7 +0.2
ARE0 ARCESS Array S 78.58 342 *e*P **P 07 59 13.8 +0.3**
PINE Pine Mountain 78.60 47 P P 07 59 15.7 +1.4
MHTO MHTO 78.62 288 P P 07 59 14.9 +0.3
HAWA Hanford 78.64 45 P P 07 59 15.3 +1.0
HAWA IAmb IAmb 07 59 17.0
comp=Z,80nm,1.9s
M04C Macdoel 78.65 50 P P 07 59 16.0 +1.4
baz=290,SNR=9.8
HOPS Hopland Field 78.69 53 P P 07 59 15.9 +1.2
BSY Bisya 78.71 290 P P 07 59 15.6 +0.4
MSFE Esma-Masafi 78.75 293 P P 07 59 15.7 +0.4
D08A Wollman Farm, 78.81 44 P P 07 59 15.8 +0.7
D08A IAmb IAmb 07 59 17.6
comp=Z,65nm,1.6s
SOHO SOHO 78.83 292 *i* P **P 07 59 15.8 +0.1**
SNR=10
SOHO SOHO 78.83 292 P P 07 59 16.2 +0.6
UOSS Minazif 78.84 292 P P 07 59 16.3 +0.6
UOSS Minazif 78.84 292 P P 07 59 16.8 +1.0
UOSS Minazif 78.84 292 P P 07 59 16.2 +0.4
E08A Dider Farm, El 78.92 44 P P 07 59 16.7 +1.0
E08A IAmb IAmb 07 59 18.4
comp=Z,60nm,1.7s
HATD Hatta, Dubai 78.95 292 *i* P **P 07 59 16.9 +0.5**
SNR=6.8
HATD Hatta, Dubai 78.95 292 P P 07 59 17.5 +1.1
SNR=6.8
GDXM Geysers 78.95 53 P P 07 59 17.3 +1.0
C09A Chrisman Ranch 78.96 43 P P 07 59 16.7 +0.7
C09A IAmb IAmb 07 59 18.4
comp=Z,100nm,1.6s
K05A Summer Lake 78.99 48 P P 07 59 17.6 +1.1
ASHO Ashiyiah 79.06 292 P P 07 59 17.5 +0.6
ASHO Ashiyiah 79.06 292 P P 07 59 17.9 +0.9
ARQ Araqi 79.11 291 P P 07 59 18.1 +0.9
SNR=6.4
O03E Paynes Creek 79.18 51 P P 07 59 18.4 +1.0
baz=290,SNR=40
NAZ Nazwa, Dubai 79.30 293 P P 07 59 18.4 +0.2
G08A Pilot Rock 79.41 45 P P 07 59 19.6 +1.0
I07A Izee 79.47 47 P P 07 59 19.4 +0.4
E09A Wood Farm, Sta 79.50 44 P P 07 59 19.7 +0.7
E09A IAmb IAmb 07 59 21.4
comp=Z,101nm,1.7s
NEW Newport 79.51 42 P P 07 59 19.5 +0.5
NEW pmax pmax
comp=Z,29nm,0.7s
NEW Newport 79.51 42 P P 07 59 20.1 +1.0
baz=292,SNR=32
NEW Newport 79.51 42 P P 07 59 19.5 +0.5
NEW IAmb IAmb 07 59 20.7
comp=Z,29nm,0.7s
ALNE Al Ain 79.53 292 *i* P **P 07 59 20.2 +0.6**
SNR=5.2
KTK1 Kautokeino 79.55 342 *e*P **P 07 59 19.0 +0.2**
ORV Oroville 79.65 52 P P 07 59 20.4 +0.5
ORV pmax pmax
comp=Z,152nm,2.0s
ORV Oroville 79.65 52 P P 07 59 20.4 +0.5
ORV IAmb IAmb 07 59 21.9
comp=Z,152nm,1.9s
MOD Modoc Plateau 79.69 49 P P 07 59 20.9 +0.7
MOD IAmb IAmb 07 59 22.7
comp=Z,82nm,1.6s
AKT Akhty 79.92 311 *e*P **P 07 59 21.8 +0.3**
AKT *e* 07 59 28.7
AKT *e**PP **pP 07 59 55.6 +0.4**
AKT pmax pmax
comp=Z,15nm,0.6s
VRH Novokhopyorsk 80.17 321 *e*P **P 07 59 22.2 -0.2**
VRH pmax pmax
comp=Z,20nm,0.5s
AFDM Forest Hills D 80.24 52 P P 07 59 23.8 +0.7
AFDM IAmb IAmb 07 59 25.4
comp=Z,60nm,1.6s
F10A Beach Ranch, E 80.29 44 P P 07 59 24.2 +0.9
TRO Tromso 80.38 343 *e*P **P 07 59 23.1 0.0**
J08A Circle Bar Ran 80.43 47 P P 07 59 24.8 +0.6
J08A IAmb IAmb 07 59 26.1
comp=Z,30nm,0.8s
WVOR Wild Horse Val 80.65 48 P P 07 59 25.7 +0.3
WVOR pmax pmax
comp=Z,21nm,0.9s
WVOR Wild Horse Val 80.65 48 P P 07 59 25.7 +0.3
BMO Blue Mountains 80.66 45 P P 07 59 25.7 +0.4
BMO pmax pmax
comp=Z,129nm,1.8s
BMO Blue Mountains 80.66 45 P P 07 59 25.7 +0.4
BMO IAmb IAmb 07 59 27.5
comp=Z,129nm,1.8s
SAO San Andreas Ge 80.66 54 P P 07 59 26.1 +0.7
SAO pmax pmax
comp=Z,20nm,1.2s
SAO San Andreas Ge 80.66 54 P P 07 59 26.1 +0.7
RUBR Rubicon Trail 80.80 52 P P 07 59 27.2 +0.8
RUBR IAmb IAmb 07 59 28.7
comp=Z,36nm,0.8s
CMB Columbia Colle 81.00 53 P P 07 59 27.9 +0.7
CMB pmax pmax
comp=Z,35nm,0.7s
CMB Columbia Colle 81.00 53 P P 07 59 27.9 +0.7
CMB IAmb IAmb 07 59 28.9
comp=Z,35nm,0.7s
VCNR Virginia City 81.08 51 P P 07 59 28.5 +0.7
PAHR Pah Rah Range 81.12 51 P P 07 59 28.3 +0.4
PAHR IAmb IAmb 07 59 30.1
comp=Z,70nm,1.6s
WALA Waterton Lakes 81.17 41 P P 07 59 29.1 +1.1
WALA IAmb IAmb 07 59 30.6
comp=Z,26nm,0.8s
LPSR Galich'ya Gora 81.18 323 *e*P **P 07 59 27.5 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
PNTR Pine Nut 81.19 51 P P 07 59 29.5 +1.1
PNTR IAmb IAmb 07 59 30.8
comp=Z,37nm,0.8s
OBN Obninsk 81.34 326⇑ *e*P **P 07 59 28.8 +0.3**
OBN *PP **pwP 08 00 05.0 -2.0**
OBN *SP **sP 08 00 18.0 +1.5**
OBN *e*S **S 08 09 24.0 -3.7**
OBN *e**SS sS 08 10 16.5 -10
OBN pmax pmax
comp=Z,12nm,0.5s
JTMT Jette 81.47 42 P P 07 59 30.2 +0.6
YERR Yerington 81.49 51 P P 07 59 30.7 +0.7
WAKR Walker 81.52 52 P P 07 59 31.0 +0.8
VSR Storozhevoye 81.63 322 *e*P **P 07 59 29.6 -0.6**
VSR pmax pmax
comp=Z,20nm,0.5s
VORD Divnogorie 81.66 322 *e*P **P 07 59 30.0 -0.3**
VORD pmax pmax
comp=Z,40nm,0.9s
SHAO Shalim 81.71 286 P P 07 59 31.8 +0.6
PAGB Antelope Grade 81.93 55 P P 07 59 33.2 +1.1
MSO Missoula 82.05 43 P P 07 59 33.1 +0.4
baz=294,SNR=5.9
MSO Missoula 82.05 43 P P 07 59 33.2 +0.6
ZEI Tsey 82.08 313 *e*P **P 07 59 32.7 -0.3**
ZEI pmax pmax
comp=Z,12nm,0.6s
MDPB Devils Postpil 82.11 53 P P 07 59 33.9 +0.6
RYN Ryan 82.14 52 P P 07 59 34.0 +0.6
OMMB Old Mammoth Mi 82.17 53 P P 07 59 34.5 +0.8
MFID Camas Ranch 82.19 46 P P 07 59 34.1 +0.6
MFID IAmb IAmb 07 59 35.2
comp=Z,27nm,0.8s
SMMC Simmler 82.28 55 P P 07 59 35.3 +1.3
baz=292
MLAC Mammoth, Mammo 82.29 53 P P 07 59 35.7 +1.5
baz=292,SNR=10
KVN Kaiserville 82.29 51 P P 07 59 35.0 +0.8
KVN pmax pmax
comp=Z,47nm,1.3s
KVN Kaiserville 82.29 51 P P 07 59 35.0 +0.8
KVN IAmb IAmb 07 59 36.4
comp=Z,47nm,1.3s
LHV Little Huntoon 82.30 52 P P 07 59 34.8 +0.8
LHV IAmb IAmb 07 59 36.2
comp=Z,25nm,0.8s
VOG Valley Oaks Go 82.37 54 P P 07 59 35.0 +0.7
baz=292
NVAR Mina Array Bea 82.38 52 P P 07 59 35.9 +1.2
comp=Z,24nm,0.7s,baz=279,slow=5.4,SNR=284
NVAR pP **pwP 08 00 10.4 -2.9**
comp=Z,4.6nm,0.6s,baz=275,slow=5.3,SNR=2.7
NVAR LR LR 08 30 31.1
comp=Z,132nm,19.8s,baz=262,slow=31
NVAR Mina Array Bea 82.38 52 P P 07 59 35.3 +0.6
KBZ Khabaz 82.39 314 P P 07 59 35.1 +0.8
comp=Z,15nm,0.8s,baz=105,slow=2.5,SNR=27
KIV Kislovodsk 82.44 314 *e*P **P 07 59 35.1 +0.4**
KIV pmax pmax
comp=Z,57nm,1.0s
KIV MLR MLR
comp=Z,117nm,19.0s
KIV Kislovodsk 82.44 314 P P 07 59 35.1 +0.4
NV11 Mina Array Sit 82.48 52 P P 07 59 35.9 +0.7
STEI Steigen 82.52 343 *e*P **P 07 59 34.2 -0.2**
PKM Mcpherson Peak 82.58 55 P P 07 59 37.0 +1.3
baz=292,SNR=11
VES Vestal, Richgr 82.77 54 P P 07 59 36.8 +0.4
baz=292,SNR=19
FAUS Fauske 82.88 342 *e*P **P 07 59 35.7 -0.7**
AKH Akhalkalaki 82.90 312 P P 07 59 38.2 +1.0
AKH pmax pmax
comp=Z,12nm,0.8s
AKH Akhalkalaki 82.90 312 P P 07 59 38.2 +1.0
FINES FINESS Array B 82.93 335 P P 07 59 36.1 -0.6
comp=Z,15nm,0.5s,baz=63,slow=4.7,SNR=165
FINES pP **pP 08 00 11.4 +1.1**
comp=Z,7.5nm,0.5s,baz=68,slow=4.9,SNR=3.2
TIN Tinemaha, Big 82.95 53 P P 07 59 38.8 +1.3
baz=292,SNR=11
HLID Hailey 83.08 46 P P 07 59 39.2 +1.1
baz=294,SNR=21
HLID Hailey 83.08 46 P P 07 59 38.4 +0.3
RBK Rabkut 83.16 286 P P 07 59 39.2 +0.4
ARVC Arvin 83.23 55 P P 07 59 39.6 +0.8
baz=292,SNR=5.3
CWC Cottonwood Cre 83.30 53 P P 07 59 40.0 +0.7
baz=293
ISA Isabella, Lake 83.30 54 P P 07 59 39.5 +0.2
ISA pmax pmax
comp=Z,11nm,0.9s
ISA Isabella, Lake 83.30 54 P P 07 59 39.5 +0.2
baz=292,SNR=13
ISA Isabella, Lake 83.30 54 P P 07 59 39.5 +0.2
TPH Tonopah 83.30 52 P P 07 59 40.2 +0.8
TPH pmax pmax
comp=Z,83nm,0.8s
TPH Tonopah 83.30 52 P P 07 59 40.2 +0.8
WHFO Wadi Hawf 83.40 287 P P 07 59 39.7 -0.3
LRM Limekiln Ridge 83.41 43 P P 07 59 40.3 +0.4
HRY Holter Researc 83.42 42 P P 07 59 40.6 +0.9
OSI Osito Audit: C 83.51 55 P P 07 59 41.1 +0.8
baz=292
DLMT Dillon 83.51 44 P P 07 59 40.6 +0.4
MCMT McKenzie Canyo 83.58 44 P P 07 59 41.4 +0.6
GRAC Grapevine Rang 83.61 53 P P 07 59 42.0 +1.2
baz=293,SNR=8.6
ELK Elko 83.65 49 P P 07 59 41.9 +0.7
ELK pmax pmax
comp=Z,72nm,1.7s
ELK Elko 83.65 49 P P 07 59 41.9 +0.7
ELK IAmb IAmb 07 59 43.6
comp=Z,72nm,1.7s
MPMC Manual Prospec 83.89 54 P P 07 59 43.4 +0.9
baz=293,SNR=35
DECC Green Verdugo 83.94 56 P P 07 59 43.1 +0.6
baz=293
MOR8 Moi Rana 83.96 342 *e*P **P 07 59 40.1 -1.8**
EDW2 Edwards Air Fo 83.96 55 P P 07 59 43.7 +1.1
baz=293,SNR=15
LRMC Laurel Mtn Rad 83.97 54 P P 07 59 43.9 +1.1
baz=293,SNR=59
ABTO Aybut 84.02 286 P P 07 59 43.5 +0.3
BOZ Bozeman (W) 84.03 43 P P 07 59 43.3 +0.4
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ Bozeman (W) 84.03 43 P P 07 59 43.8 +0.9
baz=296,SNR=20
BOZ Bozeman (W) 84.03 43 P P 07 59 43.2 +0.4
KONS Konsvik 84.11 342 *e*P **P 07 59 43.0 +0.4**
EGMT Eagleton 84.11 40 P P 07 59 43.9 +0.7
baz=297,SNR=9.3
EGMT Eagleton 84.11 40 P P 07 59 43.7 +0.5
EGMT IAmb IAmb 07 59 45.2
comp=Z,83nm,1.8s
FMP Fort Macarthur 84.18 56 P P 07 59 44.3 +0.7
baz=293
FURC Furnace Creek, 84.19 53 P P 07 59 44.8 +1.1
baz=293,SNR=26
CIS Catalina Islan 84.21 56 P P 07 59 44.5 +0.6
baz=293
VSU Vasula 84.33 332 *i* P **P 07 59 43.2 -0.7**
R11A Troy Canyon, C 84.37 51 P P 07 59 46.0 +1.1
baz=294,SNR=34
R11A Troy Canyon, C 84.37 51 P P 07 59 45.2 +0.4
R11A IAmb IAmb 07 59 47.3
comp=Z,73nm,1.6s
TPNV Topopah Spring 84.45 52 P P 07 59 45.7 +0.5
TPNV pmax pmax
comp=Z,25nm,0.9s
TPNV Topopah Spring 84.45 52 P P 07 59 46.2 +0.9
baz=294,SNR=30
TPNV Topopah Spring 84.45 52 P P 07 59 45.7 +0.5
TPNV IAmb IAmb 07 59 46.8
comp=Z,25nm,0.9s
BFSC Mount Baldy Ra 84.47 55 P P 07 59 45.4 +0.1
baz=293
QLMT Earthquake Lak 84.49 44 P P 07 59 46.5 +1.2
YHL Hebgen Lake 84.64 44 P P 07 59 47.1 +1.0
YHB Horse Butte 84.67 44 P P 07 59 47.3 +1.1
GSC Goldstone, Bar 84.69 54 P P 07 59 47.0 +0.6
GSC pmax pmax
comp=Z,20nm,0.8s
GSC Goldstone, Bar 84.69 54 P P 07 59 47.4 +1.0
baz=293,SNR=19
GSC Goldstone, Bar 84.69 54 P P 07 59 47.0 +0.6
GSC IAmb IAmb 07 59 47.9
comp=Z,20nm,0.8s
RRX Edison Barstow 84.72 55 P P 07 59 46.9 +0.5
baz=293
SHOC Shoshone, Teco 84.85 53 P P 07 59 47.9 +0.9
baz=294,SNR=15
YHH Holmes Hill 84.88 44 P P 07 59 48.5 +1.1
HVU Hansel Valley 84.92 47 P P 07 59 48.7 +1.2
HVU pmax pmax
comp=Z,95nm,1.7s
HVU Hansel Valley 84.92 47 P P 07 59 48.7 +1.2
BBRC Big Bear Solar 85.02 55 P P 07 59 48.9 +0.7
baz=293
MURC Murrieta 85.07 56 P P 07 59 48.7 +0.5
baz=293,SNR=6.6
FFC Flin Flon 85.08 32 P P 07 59 48.4 +0.7
FFC pmax pmax
comp=Z,65nm,0.8s
FFC Flin Flon 85.08 32 P P 07 59 48.4 +0.7
BGU Big Grassy Mou 85.11 48 P P 07 59 49.1 +0.7
YPP Pitchstone Pla 85.14 44 P P 07 59 49.6 +1.0
PRN Pahroc Range 85.14 52 P P 07 59 49.5 +0.9
IMW Indian Meadow 85.21 44 P P 07 59 50.2 +1.1
IMW IAmb IAmb 07 59 51.7
comp=Z,20nm,0.8s
H17A Grant Village 85.23 44 P P 07 59 52.0 +3.0
baz=296,SNR=11
H17A Grant Village 85.23 44 P P 07 59 50.8 +1.7
H17A IAmb IAmb 07 59 53.4
comp=Z,85nm,1.6s
HEC Hector,Ludlow 85.24 54 P P 07 59 50.1 +1.0
baz=294,SNR=7.1
LKWY Lake 85.26 44 P P 07 59 52.1 +2.8
LKWY pmax pmax
comp=Z,23nm,0.9s
LKWY Lake 85.26 44 P P 07 59 52.1 +2.8
LKWY IAmb IAmb 07 59 52.8
comp=Z,22nm,0.8s
FXWY Fox Creek 85.27 45 P P 07 59 50.3 +1.0
FXWY IAmb IAmb 07 59 52.0
comp=Z,69nm,1.9s
FLWY Flagg Ranch 85.29 44 P P 07 59 51.0 +1.6
FLWY IAmb IAmb 07 59 51.9
comp=Z,30nm,0.8s
TUQ Turquoise Moun 85.30 54 P P 07 59 50.5 +1.0
baz=294,SNR=21
YNE Yellowstone No 85.31 43 P P 07 59 50.3 +0.8
YMP Mirror Lake Pl 85.34 43 P P 07 59 50.7 +1.0
PAAW Teton Pass 85.39 45 P P 07 59 50.3 +0.4
SUMG Summit 85.42 1 ⇓ *i*P **P 07 59 50.8 +1.2**
comp=Z,109nm,0.7s
SUMG Summit 85.42 1 ⇓ *i*P **P 07 59 50.8 +1.2**
SUMG pmax pmax
comp=Z,110nm,0.7s
SUMG Summit 85.42 1 P P 07 59 49.9 +0.2
SUMG IAmb IAmb 07 59 51.8
comp=Z,43nm,0.7s
109C Camp Elliot, M 85.42 56 P P 07 59 50.6 +0.7
baz=293
SHPR Sheep Range 85.43 52 P P 07 59 51.1 +1.0
REDW Red Top Meadow 85.51 45 P P 07 59 51.2 +0.8
REDW IAmb IAmb 07 59 53.2
comp=Z,67nm,1.8s
SNOW Snow King Moun 85.53 45 P P 07 59 50.9 +0.3
SNOW IAmb IAmb 07 59 53.4
comp=Z,53nm,1.8s
PSUT Pine Spring 85.54 50 P P 07 59 51.2 +0.5
LOHW Long Hollow 85.56 45 P P 07 59 51.6 +0.9
DUG Dugway, Tooele 85.57 48 P P 07 59 51.2 +0.5
DUG pmax pmax
comp=Z,178nm,1.9s
DUG Dugway, Tooele 85.57 48 P P 07 59 51.7 +1.0
baz=295,SNR=38
DUG Dugway, Tooele 85.57 48 P P 07 59 51.2 +0.5
PFO Pinyon Flats O 85.63 56 P P 07 59 51.5 +0.4
PFO pmax pmax
comp=Z,34nm,1.2s
PFO Pinyon Flats O 85.63 56 P P 07 59 51.8 +0.7
baz=294,SNR=15
PFO Pinyon Flats O 85.63 56 P P 07 59 51.5 +0.4
PFO IAmb IAmb 07 59 53.0
comp=Z,34nm,1.1s
RLMT Red Lodge 85.73 43 P P 07 59 53.2 +1.7
baz=297,SNR=70
RLMT Red Lodge 85.73 43 P P 07 59 52.6 +1.1
GMRC Granite Mounta 85.76 54 P P 07 59 52.7 +1.0
baz=294,SNR=17
HWUT Hardware Ranch 85.81 47 P P 07 59 52.4 +0.5
HWUT IAmb IAmb 07 59 53.5
comp=Z,28nm,0.8s
BELC Belle Mtn. Jos 85.82 55 P P 07 59 52.6 +0.5
baz=294,SNR=18
NSS Namsos 85.86 341 *e*P **P 07 59 51.1 -0.3**
MONP2 Monument Peak 85.95 56 P P 07 59 53.5 +0.7
baz=294,SNR=15
CTU Camp Tracy 86.08 48 P P 07 59 53.3 +0.1
TCUT Toone Canyon 86.13 47 P P 07 59 54.1 +0.5
IKP In-Ko-Pah, Jac 86.28 56 P P 07 59 55.0 +0.7
baz=294,SNR=6.9
CCUT Cedar City 86.30 51 P P 07 59 55.2 +0.7
JLU Jordanelle 86.33 48 P P 07 59 55.1 +0.5
RMX La Rumorosa 86.33 56 P P 07 59 55.2 +0.6
BC3 Big Chuckawall 86.38 55 P P 07 59 55.8 +1.0
baz=294,SNR=24
SWSC Sam W. Stewart 86.40 56 P P 07 59 55.3 +0.6
baz=294,SNR=6.9
IRM Iron Mountain 86.41 55 P P 07 59 55.6 +0.8
baz=294,SNR=14

SZCU	Shurtz Canyon	86.48	51	P	P	07 59 56.0	+0.6
MARD	Mardin	86.50	309	P	P	07 59 55.6	+0.2
MARD				IAmb	IAmb	08 00 00.3	
	comp=Z,11nm,0.5s						
TCRU	Three Creeks R	86.50	50	P	P	07 59 56.1	+0.6
NEE2	Needles Airpor	86.55	54	P	P	07 59 56.4	+0.9
	baz=295						
BW06	Boulder Array	86.62	45	P	P	07 59 56.2	+0.2
	baz=297,SNR=9.2						
BW06	Boulder Array	86.62	45	P	P	07 59 56.0	0.0
PD31	Pinedale Array	86.62	45	P	P	07 59 56.3	+0.3
PDAR	Pinedale Array	86.62	45	P	P	07 59 56.1	+0.2
	comp=Z,2.8nm,0.6s,baz=254,slow=1.9,SNR=33						
PDAR				PP	PP	08 03 16.8	-2.6
	comp=Z,0.7nm,0.8s,baz=306,slow=3.0,SNR=3.8						
PDAR				PKKPbc	PKKPbc	08 17 49.6	-1.5
	comp=Z,0.1nm,0.4s,baz=38,slow=4.6,SNR=3.6						
PDAR				LR	LR	08 33 28.1	
	comp=Z,87nm,20.2s,baz=308,slow=32						
PDAR	Pinedale Array	86.62	45	P	P	07 59 56.5	+0.6
MSU	Marysvale	86.74	50	P	P	07 59 57.5	+0.9
MSU	Marysvale	86.74	50	P	P	07 59 57.5	+0.9
LAO	LASA Array	86.86	40	P	P	07 59 57.8	+1.0
	baz=299,SNR=18						
LAO	LASA Array	86.86	40	P	P	07 59 57.6	+0.8
KNB	Kanab	86.92	51	P	P	07 59 58.5	+1.1
KNB				pmax	pmax		
	comp=Z,71nm,0.9s						
KNB	Kanab	86.92	51	P	P	07 59 58.5	+1.1
MTPU	Mount Pierson	86.94	50	P	P	07 59 58.6	+0.9
W13A	Hualapai Mount	86.96	53	P	P	07 59 58.4	+0.7
TMUT	Trail Mountain	87.07	49	P	P	07 59 59.0	+0.7
PDMCI	Parker Dam,Lak	87.10	54	P	P	07 59 59.1	+1.0
	baz=295,SNR=19						
GLA	Glamis	87.11	56	P	P	07 59 58.8	+0.6
GLA				pmax	pmax		
	comp=Z,37nm,0.8s						
GLA	Glamis	87.11	56	P	P	07 59 59.4	+1.2
	baz=295,SNR=12						
GLA	Glamis	87.11	56	P	P	07 59 58.8	+0.6
GLA				IAmb	IAmb	08 00 00.4	
	comp=Z,37nm,0.8s						
PKCU	Pink Cliffs	87.11	51	P	P	07 59 59.1	+0.6
DGMT	Dagmar	87.16	38	P	P	07 59 58.5	+0.4
	baz=301,SNR=6.8						
DGMT	Dagmar	87.16	38	P	P	07 59 58.6	+0.4
DGMT				IAmb	IAmb	07 59 59.1	
	comp=Z,22nm,0.8s						
Q16A	Castle Valley	87.26	49	P	P	08 00 00.3	+1.2
P17A	Butcher Ranch,	87.32	48	P	P	07 59 59.6	+0.3
AKASG	Malin Array Be	87.39	325	P	P	07 59 57.9	-1.2
	comp=Z,4.2nm,0.5s,baz=54,slow=4.9,SNR=12						
AKASG				pP	pP	08 00 33.6	+0.4
	comp=Z,3.2nm,0.4s,baz=52,slow=5.3,SNR=5.1						
AKASG				S	S	08 10 25.3	-2.6
	comp=Z,0.5nm,0.3s,baz=56,slow=10.0,SNR=4.8						
U15A	North Rim	87.56	52	P	P	08 00 01.6	+0.9
U15A				IAmb	IAmb	08 00 03.0	
	comp=Z,22nm,0.8s						
RDMU	Red Mountain	87.62	47	P	P	08 00 01.2	+0.4
SRU	San Rafael Swe	87.63	49	P	P	08 00 01.2	+0.4
SRU				pmax	pmax		
	comp=Z,20nm,0.7s						
SRU	San Rafael Swe	87.63	49	P	P	08 00 01.2	+0.4
SFX	San Felipe	87.92	57	P	P	08 00 02.7	+0.6
SFX				IAmb	IAmb	08 00 03.5	
	comp=Z,16nm,0.7s						
113A	Mohawk Valley,	88.03	55	P	P	08 00 03.2	+0.7
113A				IAmb	IAmb	08 00 04.1	
	comp=Z,18nm,0.8s						
ILULI	Ilulissat	88.17	5	*i* P	P	08 00 02.8	+0.3
	comp=Z,16nm,0.6s						
ILULI	Ilulissat	88.17	5	*i* P	P	08 00 02.8	+0.3
ILULI				pmax	pmax		
	comp=Z,16nm,0.6s						
WUAZ	Wupatki	88.63	52	P	P	08 00 06.9	+1.3
	baz=296,SNR=23						
WUAZ	Wupatki	88.63	52	P	P	08 00 05.8	+0.2
WUAZ				IAmb	IAmb	08 00 08.1	
	comp=Z,25nm,0.9s						
NB2	NORSAR Subarra	88.64	339	P	P	08 00 03.3	-1.6
	comp=Z,14nm,1.1s,baz=43,slow=5.1						
NB2	NORSAR Subarra	88.64	339	P	P	08 00 03.3	-1.6
	baz=43,slow=5.1						
NOA	NORSAR Array B	88.64	339	P	P	08 00 03.6	-1.3
	comp=Z,3.3nm,0.8s,baz=45,slow=4.7,SNR=17						
NOA				pP	pP	08 00 39.3	+0.3
	comp=Z,1.5nm,0.5s,baz=46,slow=4.5,SNR=4.8						
NOA				PP	PP	08 03 34.4	-0.2
	comp=Z,1.4nm,0.8s,baz=38,slow=7.7,SNR=4.4						
NOA				LR	LR	08 44 02.2	
	comp=Z,38nm,19.1s,baz=55,slow=38						
K22A	Casper	88.65	44	P	P	08 00 06.1	+0.6
	baz=299,SNR=7.8						
K22A	Casper	88.65	44	P	P	08 00 04.9	-0.6
RWWY	Rawlins	88.67	45	P	P	08 00 05.4	-0.3
RWWY				IAmb	IAmb	08 00 07.8	
	comp=Z,74nm,1.9s						
O20A	White River Ci	88.72	47	P	P	08 00 06.4	+0.4
	baz=298,SNR=8.0						
O20A	White River Ci	88.72	47	P	P	08 00 06.0	0.0
O20A				IAmb	IAmb	08 00 07.8	
	comp=Z,77nm,1.8s						
NC602	NORSAR Array S	88.75	339	*e*P	P	08 00 04.4	-1.0
PV21	Cone Mtn., Par	88.96	48	P	P	08 00 07.5	+0.3
PV21				IAmb	IAmb	08 00 08.6	
	comp=Z,24nm,0.9s						
PV23	Carpenter Ridg	88.98	49	P	P	08 00 07.7	+0.4
PV23				IAmb	IAmb	08 00 08.7	
	comp=Z,30nm,0.8s						
PV10	Paradox Valley	89.00	49	P	P	08 00 08.4	+1.1
PV10				IAmb	IAmb	08 00 09.5	
	comp=Z,47nm,1.1s						
PV14	Lion Creek, Pa	89.01	49	P	P	08 00 07.5	0.0
PV14				IAmb	IAmb	08 00 08.8	
	comp=Z,31nm,0.7s						
PV20	West Nyswonger	89.06	49	P	P	08 00 08.0	+0.4
PV20				IAmb	IAmb	08 00 08.9	
	comp=Z,24nm,0.8s						
PV19	Morning Glory	89.07	49	P	P	08 00 08.4	+0.8
PV19				IAmb	IAmb	08 00 09.0	
	comp=Z,27nm,0.8s						
X16A	Lo Mia Camp, P	89.07	53	P	P	08 00 08.2	+0.6
PV04	Paradox Valley	89.08	49	P	P	08 00 07.9	+0.3
PV05	Paradox Valley	89.09	49	P	P	08 00 08.7	+0.9
PV05				IAmb	IAmb	08 00 09.2	
	comp=Z,16nm,0.8s						
PV17	East Wray Mesa	89.10	49	P	P	08 00 08.4	+0.6
PV22	Blue Mesa, Par	89.10	48	P	P	08 00 09.0	+1.2
PV22				IAmb	IAmb	08 00 11.0	
	comp=Z,60nm,1.8s						
214A	Organ Pipe Nat	89.11	56	P	P	08 00 09.0	+1.3
	baz=296,SNR=15						
214A	Organ Pipe Nat	89.11	56	P	P	08 00 08.7	+1.0
214A				IAmb	IAmb	08 00 09.7	
	comp=Z,20nm,0.8s						
PV16	Nyswonger Mesa	89.11	49	P	P	08 00 07.9	+0.1
PV16				IAmb	IAmb	08 00 09.2	
	comp=Z,23nm,0.9s						
PV18	Skein Mesa, Pa	89.15	49	P	P	08 00 08.2	+0.2
PV18				IAmb	IAmb	08 00 09.3	
	comp=Z,19nm,0.8s						
PV11	David Mesa, Pa	89.15	49	P	P	08 00 08.5	+0.5
PV03	Paradox Valley	89.19	49	P	P	08 00 08.7	+0.5
PV03				IAmb	IAmb	08 00 09.4	
	comp=Z,17nm,0.9s						
PV12	Saucer Basin,	89.19	49	P	P	08 00 08.4	+0.2
PV12				IAmb	IAmb	08 00 10.3	
	comp=Z,35nm,1.1s						
PV07	Paradox Valley	89.24	48	P	P	08 00 09.1	+0.6
PV13	Radium Mtn., P	89.25	49	P	P	08 00 08.7	+0.2
PV02	Paradox Valley	89.29	49	P	P	08 00 08.9	+0.2
PV02				IAmb	IAmb	08 00 09.9	
	comp=Z,16nm,0.8s						
PV15	Paradox Valley	89.40	49	P	P	08 00 10.0	+0.7
PV01	Paradox Valley	89.44	49	P	P	08 00 09.7	+0.3
PV01				IAmb	IAmb	08 00 10.6	
	comp=Z,14nm,0.7s						
RSSD	Black Hills	89.48	42	P	P	08 00 09.7	+0.3
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RSSD	Black Hills	89.48	42	P	P	08 00 09.7	+0.3
	baz=301						
RSSD	Black Hills	89.48	42	P	P	08 00 09.7	+0.3
N23A	Red Feather La	89.89	45	P	P	08 00 12.9	+1.4
	baz=300,SNR=15						
N23A	Red Feather La	89.89	45	P	P	08 00 12.1	+0.6
MVCO	Mesa Verde	89.92	50	P	P	08 00 12.5	+0.8
	baz=298,SNR=10						
MVCO	Mesa Verde	89.92	50	P	P	08 00 12.2	+0.6
MVCO				IAmb	IAmb	08 00 13.9	
	comp=Z,23nm,1.4s						
W18A	Petrified Fore	90.00	52	P	P	08 00 13.3	+1.2
	baz=297						
W18A	Petrified Fore	90.00	52	P	P	08 00 12.9	+0.9
W18A				IAmb	IAmb	08 00 14.7	
	comp=Z,44nm,1.6s						
MDND	Maddock	90.09	37	P	P	08 00 12.7	+0.8
	baz=304,SNR=8.3						
MDND	Maddock	90.09	37	P	P	08 00 12.5	+0.6
E28A	Huff	90.17	38	P	P	08 00 13.1	+0.7
BRTR	Keskin Array B	90.37	314	P	P	08 00 12.6	-1.0
	comp=Z,1.8nm,0.6s,baz=94,slow=4.0,SNR=5.1						
TUC	Tucson	90.50	55	P	P	08 00 14.3	+0.1
TUC				pmax	pmax		
	comp=Z,23nm,1.4s						
TUC	Tucson	90.50	55	P	P	08 00 15.7	+1.4
	baz=297						
TUC	Tucson	90.50	55	P	P	08 00 14.3	+0.1
TUC				IAmb	IAmb	08 00 17.1	
	comp=Z,23nm,1.4s						
ISCO	Idaho Springs	90.65	46	P	P	08 00 15.8	+0.7
ISCO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ISCO	Idaho Springs	90.65	46	P	P	08 00 16.4	+1.3
	baz=300,SNR=20						
ISCO	Idaho Springs	90.65	46	P	P	08 00 15.8	+0.7
ULM	Lac du Bonnet	90.69	34	P	P	08 00 15.0	+0.4
	comp=Z,12nm,0.8s,baz=312,slow=5.9,SNR=12						
S22A	4UR Ranch, Cre	90.83	48	P	P	08 00 17.1	+1.1
	baz=299,SNR=20						
S22A	4UR Ranch, Cre	90.83	48	P	P	08 00 16.6	+0.7
S22A				IAmb	IAmb	08 00 18.4	
	comp=Z,52nm,1.8s						
BURAR	Bucovina Array	91.29	324	P	P	08 00 17.1	-0.5
Q24A	Divide	91.38	47	P	P	08 00 19.5	+1.0
	baz=300						
SDCO	Great Sand Dun	91.75	48	P	P	08 00 21.0	+0.8
	baz=300,SNR=11						
SDCO	Great Sand Dun	91.75	48	P	P	08 00 20.9	+0.7
SDCO				IAmb	IAmb	08 00 22.3	
	comp=Z,32nm,1.6s						
CASY	Casey	91.76	193	P	P	08 00 18.7	-0.3
CASY				IAmb	IAmb	08 03 31.0	
	comp=Z,15nm,0.6s						
HSIG		91.84	58	P	P	08 00 20.8	+0.4
AGMN	Agassiz Nation	91.87	35	P	P	08 00 20.4	+0.2
	baz=307,SNR=7.5						
AGMN	Agassiz Nation	91.87	35	P	P	08 00 20.7	+0.5
AGMN				IAmb	IAmb	08 00 21.5	
	comp=Z,27nm,1.1s						
SUSD	Miller	92.38	40	P	P	08 00 22.8	+0.2
	baz=304,SNR=12						
SUSD	Miller	92.38	40	P	P	08 00 22.3	-0.3
ANMO	Albuquerque	92.45	51	P	P	08 00 24.4	+1.0
	comp=Z,0.4nm,1.0s,baz=61,slow=3.1,SNR=24						
ANMO	Albuquerque	92.45	51	*e*P	P	08 00 24.4	+1.0
ANMO				pmax	pmax		
	comp=Z,17nm,1.3s						
ANMO	Albuquerque	92.45	51	P	P	08 00 24.7	+1.3
	baz=299						
ANMO	Albuquerque	92.45	51	P	P	08 00 23.9	+0.5
ANMO				IAmb	IAmb	08 00 25.7	
	comp=Z,27nm,1.5s						
LENM	Lemitar	92.46	52	P	P	08 00 23.6	+0.2
CRVS	Cervenica-Dubn	92.53	326	*e*P	P	08 00 22.8	-0.4
CRVS	Cervenica-Dubn	92.53	326	*e*P	P	08 00 22.8	-0.4
121A	Cookes Peak, D	92.64	53	P	P	08 00 25.9	+1.6
	baz=298,SNR=8.3						
T25A	Trinidad	92.80	48	P	P	08 00 26.0	+1.0
	baz=301,SNR=11						
T25A	Trinidad	92.80	48	P	P	08 00 25.7	+0.7
T25A				IAmb	IAmb	08 00 27.4	
	comp=Z,22nm,1.2s						
B35A	Bob, Littlefor	92.96	34	P	P	08 00 25.7	+0.5
F33A	5 Mile Ranch,	93.10	37	P	P	08 00 26.5	+0.6
VYHS	Vyhne	94.13	327	*e*P	P	08 00 30.4	-0.2
VYHS	Vyhne	94.13	327	*e*P	P	08 00 30.4	-0.2
ECSD	EROS Data Cent	94.16	39	P	P	08 00 30.9	+0.1
	baz=306,SNR=12						
ECSD	EROS Data Cent	94.16	39	P	P	08 00 31.2	+0.4
ECSD				IAmb	IAmb	08 00 32.2	
	comp=Z,26nm,1.4s						
EYMN	Ely	94.38	34	P	P	08 00 31.7	0.0
	baz=310						
BGNE	Belgrade	94.59	42	P	P	08 00 32.2	-0.6
	baz=305						
BGNE	Belgrade	94.59	42	P	P	08 00 32.3	-0.6
MNTX	Cornudas Mount	94.83	53	P	P	08 00 35.2	+1.0
	baz=300,SNR=14						
MNTX	Cornudas Mount	94.83	53	P	P	08 00 34.5	+0.3
MNTX				IAmb	IAmb	08 00 37.3	
	comp=Z,15nm,1.4s						
SLBS	Sierra La Lagu	95.04	62	P	P	08 00 36.0	+0.7
CBKS	Cedar Bluff	95.04	45	P	P	08 00 34.9	-0.2
	baz=304						
E38A	The Farm, Brul	95.21	35	P	P	08 00 36.4	+0.9
E38A				IAmb	IAmb	08 03 03.2	
	comp=Z,16nm,1.2s						
L34A	Svendsen Farm,	95.35	41	P	P	08 00 36.6	+0.3
SPMN	Marine on St.	95.42	36	P	P	08 00 36.8	+0.3
	baz=309						
SPMN	Marine on St.	95.42	36	P	P	08 00 36.4	-0.1
SPMN				IAmb	IAmb	08 00 37.8	
	comp=Z,13nm,0.8s						
MSTX	Muleshoe	95.58	50	P	P	08 00 37.7	0.0
	baz=301						
AMTX	Amarillo	95.86	49	P	P	08 00 39.5	+0.6
	baz=302						
GERES	GERESS Array B	96.40	329	LR	LR	08 47 49.2	
	comp=Z,73nm,19.5s,baz=75,slow=38						
G40A	Rib Lake	96.80	35	P	P	08 00 43.4	+0.6
G40A				IAmb	IAmb	08 03 58.6	
	comp=Z,29nm,1.8s						
KSU1	Kansas State U	96.89	43	P	P	08 00 43.5	+0.2
	baz=306						
KSU1	Kansas State U	96.89	43	P	P	08 00 43.4	+0.2
GRA1	Grafenberg Arr	96.94	331	P	P	08 00 43.7	+0.4
GRF	Grafenberg Arr	96.94	331	P	P	08 00 43.7	+0.4
GRF				pmax	pmax		
	comp=Z,32nm,0.5s						
TX31	Lajitas Ar. Si	97.29	54	P	Pdif	08 00 46.0	+0.5
TX32	Lajitas Array	97.29	54	P	Pdif	08 00 45.9	+0.4
TX32				IAmb	IAmb	08 00 51.7	
	comp=Z,18nm,1.8s						
TXAR	Lajitas Array	97.29	54	P	Pdif	08 00 46.3	+0.7
	comp=Z,1.3nm,0.8s,baz=339,slow=3.1,SNR=11						
TXAR				PP	PP	08 04 43.5	0.0
	comp=Z,1.1nm,0.9s,baz=292,slow=6.6,SNR=6.5						
TXAR				PKKP	PKKPdf	08 17 24.4	-0.2
	comp=Z,0.7nm,0.6s,baz=126,slow=4.9,SNR=8.7						
TXAR	Lajitas Array	97.29	54	P	Pdif	08 00 45.8	+0.3
TXAR	Lajitas Array	97.29	54	P	Pdif	08 00 45.8	+0.2
WMOK	Wichita Mounta	97.94	48	P	Pdif	08 00 49.0	+0.8
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WMOK	Wichita Mounta	97.94	48	P	Pdif	08 00 48.5	+0.3
	baz=304						
WMOK	Wichita Mounta	97.94	48	P	Pdif	08 00 49.0	+0.8
MAW	Mawson	106.94	203	PKKPbc	PKKPbc	08 16 54.1	-2.6
	comp=Z,1.3nm,0.7s,baz=244,slow=6.4,SNR=4.3						
MAW				PKKP	PKKPdf	08 17 09.4	+0.3
	comp=Z,0.9nm,0.7s,baz=281,slow=6.1,SNR=3.9						
P58A	Pank, Wackersv	107.58	32	P	PKiKP	08 05 37.5	-0.9
	baz=320						
ESDC	Sonseca Array	111.43	334	PKKPab	PKKPab	08 16 51.9	-1.5
	comp=Z,1.3nm,0.8s,baz=221,slow=5.5,SNR=6.0						
SNAA	Sanae	126.99	193	PKiKP	PKPdf	08 06 14.6	+0.1
VNA2	Neumayer--Watz	128.48	192	PKiKP	PKiKP	08 06 18.0	+0.1
VNA3	Neumayer Olymp	128.62	191	PKiKP	PKPdf	08 06 17.5	0.0
TORD	Torodi Ar. Bea	128.82	310	PKP	PKPdf	08 06 19.4	-0.2
	comp=Z,1.2nm,0.4s,baz=34,slow=1.2,SNR=24						
TORD				SKPbc	SKiKP	08 09 26.3	-17
	comp=Z,2.9nm,0.7s,baz=36,slow=3.2,SNR=9.3						
VNA1	Neumayer--Stat	128.87	192	PKiKP	PKPdf	08 06 18.4	+0.4
OTAV	Otavalo	133.20	67	*e*P	PKiKP	08 06 29.5	-0.2
PMSA	Palmer Station	133.72	164	*e*P	PKiKP	08 06 28.9	+0.3
SDV	Santo Domingo	134.23	51	*e*P	PKPdf	08 06 30.7	+0.6
DBIC	Dimbokro	137.94	309	SKPbc	SKPbc	08 09 56.3	-1.6
	comp=Z,14nm,1.0s,baz=100,slow=1.5,SNR=9.4						
KIC	Kosan Boka	138.06	309	*e*P	PKiKP	08 06 38.3	-0.7
	comp=Z,5.9nm,0.7s						
TIC	Toumodi	138.07	310	*e*P	PKiKP	08 06 38.3	-0.8
LIC	Lamto	138.37	309	*e*P	PKiKP	08 06 39.8	+0.2
	comp=Z,4.7nm,0.3s						
PLCA	Paso Flores	145.69	131	PKPbc	PKPab	08 06 51.1	+0.1
	comp=Z,27nm,0.7s,baz=243,slow=3.9,SNR=114						
PLCA				SKPbc	SKPbc	08 10 16.2	-0.6
	comp=Z,2.2nm,0.7s,baz=293,slow=1.6,SNR=3.7						
PLCA	Paso Flores	145.69	131	*e*P	PKPab	08 06 51.3	+0.3
VA03	San Esteban	147.92	117		PKPbc	08 06 57.5	+0.4
GO04	Tololo Observa	148.08	112	PKPab	PKPab	08 07 01.1	+0.2
LCO	Las Campanas	148.27	109	PKP2	PKPbc	08 06 59.1	+0.8
LCO	Las Campanas	148.27	109		PKPbc	08 06 59.1	+0.8
PTGA	Pitinga	148.51	50	PKPbc	PKPbc	08 06 59.1	+0.1
PTGA	Pitinga	148.51	50	*e*P	PKPdf	08 06 55.7	+0.4
AC05	El Transito	148.66	109		PKPbc	08 06 59.5	+0.4
CO01	Juntas del Tor	148.71	111		PKPbc	08 07 00.0	+0.6
ETMB	Extrema	148.72	72	*e*P	PKPdf	08 06 57.4	+1.9
PB11	IPOC Station P	148.73	92		PKPbc	08 06 59.9	+0.3
AUSP	Uspallata	148.99	116	‖*e*P	PKiKP	08 07 01.0	-0.3
GO01	Chusmiza	149.14	91		PKiKP	08 07 03.1	+0.9
RTLS	Leoncito	149.14	115	‖*e*P	PKPbc	08 07 01.1	+0.6
ARCO	CERRO ARCO	149.25	117	‖*e*P	PKPbc	08 07 00.8	+0.3
PB08	IPOC Station P	149.26	92		PKiKP	08 07 03.4	+1.1
AAGR	Agrelo	149.28	118	*e*P	PKPbc	08 07 01.1	+0.5
LPAZ	La Paz	149.34	85	PKPbc	PKPbc	08 07 02.3	+0.6
	comp=Z,7.9nm,0.5s,baz=332,slow=1.6,SNR=55						
LPAZ	La Paz	149.34	85	PKPbc	PKiKP	08 07 03.1	+0.3
LPAZ	La Paz	149.34	85	*e*P	PKPdf	08 06 58.6	+1.3
ASAL	Salagasta	149.38	117	‖*e*P	PKPbc	08 07 01.2	+0.5
AVIZ	Vizcacheras	149.45	119	‖*e*P	PKiKP	08 07 02.0	0.0
ACCO	Cerro Coronel	149.52	113	*e*P	PKPbc	08 07 02.0	+0.5
ACDV	Cuesta del Vie	149.53	112	*e*P	PKiKP	08 07 02.2	-0.1
MACA	Manacapuru-AM	149.62	55	*e*P	PKPdf	08 06 58.9	+1.8
ZON	Zonda	149.70	115	PKP2	PKiKP	08 07 02.1	-0.4
ZON	Zonda	149.70	115		PKiKP	08 07 02.1	-0.4
RTCV	Cerro Valdivia	149.76	115	‖*e*P	PKPbc	08 07 02.1	+0.4
AGUA	GUANDACOL	150.15	111	‖*e*P	PKiKP	08 07 03.7	+0.2
SAML	Samuel	150.93	67	PKPbc	PKiKP	08 07 05.5	+0.1
SAML				PKPab	PKPab	08 07 12.6	-0.1
SAML	Samuel	150.93	67	*e*P	PKPdf	08 07 00.5	+1.5
ACLC	CERRO LA CRUZ	151.49	111	*e*P	PKPbc	08 07 06.1	+0.1
CYA	Choya	152.61	109	‖*e*P	PKPbc	08 07 08.4	+0.1
TCA	Tanti	153.16	116	*e*P	PKPbc	08 07 09.5	0.0
MALB	Monte Alegre	153.20	43	*e*P	PKPdf	08 07 03.7	+1.3
MCPB	Macapa, AP	153.34	37	*e*P	PKPdf	08 07 03.5	+0.8
ITTB	Itaituba	154.06	50	*e*P	PKPdf	08 07 05.3	+1.6
SIV	San Ignacio	155.73	80	PKPbc	PKPdf	08 07 15.2	+9.3
TMAB	Tom-Au,PA,Br	157.13	32	*e*P	PKPdf	08 07 10.1	+2.3
CPUP	Villa Florida	160.34	106	PKPab	PKPab	08 07 52.7	0.0
	comp=Z,2.4nm,0.7s,baz=274,slow=4.2,SNR=6.7						
AQDB	Aquidauana	161.77	88	*e*P	PKPdf	08 07 13.6	+0.7
RCBR	Riachuelo	163.68	359	*e*P	PKPdf	08 07 16.3	+1.3
BDFB	Brasilia	167.06	62	PKPab	PKPab	08 08 21.8	-0.8
	comp=Z,4.8nm,0.7s,baz=243,slow=3.8,SNR=7.5						

IDC ***12*** *07:56:40.8±2.0, 25°.69N×89°.72E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/62, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=50.3km s-min=31.2km az=38.0*

NEIC ***12*** *07:56:41.6±1.4, 25°.65N±0°.05×90°.00E±0°.07, h15km±6km, mb4.1/10, Error ellipse: s-maj=9.6km s-min=6.4km az=124.0*

NDI ***12*** *07:56:43.5±4.0, 25°.85N×90°.26E, h9km±23km, ML4.2, mb4.1(NEIC)*

DMN ***12*** *07:56:46.9±0.3, 25°.82N×90°.13E, h10km, Ml4.8/7, Error ellipse: s-maj=19.1km s-min=5.9km az=25.0*

ISC 12 07:56:39.6±2.7, 25°.59N±0°.05×90°.07E±0°.03, h3km±18km, n72, σ2s45/88, mb4.1/12, 1C, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUWA	GUWAHATI	1.58	67	*ex*	x	07 57 07.8	
GUWA				*e*P	Pn	07 57 07.9	-0.7
GUWA				*ex*	x	07 57 23.9	
GUWA				*ex*	x	07 57 24.2	
GUWA				*ex*	x	07 57 24.4	
GUWA				IAML		07 57 25.1	
	comp=N,6μm,0.1s						
GUWA				IAML		07 57 25.1	
	comp=E,3μm,0.2s						
GUWA				*e*S	Sn	07 57 26.2	-3.3
SHL	Shillong	1.64	91	*e*P	Pn	07 57 10.7	+1.2
SHL				*e*S	Sn	07 57 31.1	-0.2
SHL				*e*S	Sb	07 57 31.7	-0.1
SHL				IAML		07 57 32.6	
	comp=N,7μm,0.5s						
SHL				IAML		07 57 32.8	
	comp=E,5μm,0.0s						
SHL	Shillong	1.64	91		Pn	07 57 10.6	+1.0
SHL				Sn	Sn	07 57 32.0	+0.7
AGT	Agartala	2.02	147	*e*P	Pn	07 57 08.1	-6.4
AGT				*e*S	Sn	07 57 31.5	-8.7
GTK	Tadong	2.16	323	*e*P	Pb	07 57 18.9	-0.6
GTK				*e*S	Sb	07 57 44.2	-2.6
GTK				IAML		07 57 46.7	

KKN *e*Sn **Sn** **07 58 49.4 -0.1**
comp=E,120nm,0.2s
DMN Daman 4.87 295 *e*Pn **Pn** **07 57 57.5 +3.4**
DMN Daman 4.87 295 *e*Pn **Pn** **07 57 57.5 +3.4**
GKN Gorkha 5.41 298 *e*Pn **Pn** **07 58 05.1 +3.7**
GKN *e*Sn **Sn** **07 59 03.3 -1.0**
comp=E,351nm,0.2s
GKN Gorkha 5.41 298 *e*Pn **Pn** **07 58 05.1 +3.7**
GKN *e*Sn **Sn** **07 59 03.3 -1.0**
comp=E,351nm,0.2s
LKP Lekhapani 5.46 70 IAML 07 59 30.0
comp=E,699nm,1.0s
LKP IAML 07 59 30.5
comp=N,945nm,0.5s
KOLN Koldanda 6.18 292 *e*Pn **Pn** **07 58 15.3 +3.4**
KOLN *e*Sn **Sn** **07 59 22.2 -1.0**
comp=N,128nm,0.3s
KOLN Koldanda 6.18 292 *e*Pn **Pn** **07 58 15.3 +3.4**
KOLN *e*Sn **Sn** **07 59 22.2 -1.0**
comp=N,128nm,0.3s
BWNR Bhubaneshwar 6.57 218 *ex* Sn 07 58 19.4 -73
BWNR IAML 07 59 37.0
comp=E,54nm,0.3s
BWNR IAML 07 59 37.9
comp=N,64nm,0.2s
PYUN Piuthan 6.79 293 *e*Pn **Pn** **07 58 23.6 +3.2**
PYUN Piuthan 6.79 293 *e*Pn **Pn** **07 58 23.6 +3.2**
CMAR Chiang Mai Arr 10.87 129 Pn **Pn** **07 59 20.1 +3.9**
comp=N,0.3nm,0.3s,baz=315,slow=13,SNR=1.5
CMAR Chiang Mai Arr 10.87 129 **Pn** **07 59 18.3 +2.1**
NGP Nagpur 11.04 249 *e*S **Sn** **08 01 23.7 +1.1**
NGP IAML 08 02 38.4
comp=E,84nm,2.2s
NGP IAML 08 02 42.0
comp=N,86nm,1.6s
BHPL Bhopal 11.75 261 *ex* **Pn** **07 59 31.0 +2.7**
BHPL *ex* x 07 59 31.5
BHPL *e*P 07 59 31.9
BHPL *ex* x 08 01 33.6
BHPL *e*S **Sn** **08 01 36.5 -3.6**
BHPL *ex* x 08 01 36.5
NDI New Delhi 11.85 288 *ex* **Sn** **08 01 36.5 -5.8**
NDI *ex* x 08 03 13.0
SLVN Son La 13.39 106 Pn **Pn** **07 59 50.3 -0.4**
PBKT Sadao Pong 13.56 129 Pn **Pn** **07 59 54.5 +1.5**
PBA Port Blair 14.09 169 Pn Pn 08 00 00.9 +0.6
POO Poona 16.59 248 *ex* **Pn** **08 00 35.0 +1.7**
POO *ex* x 08 03 28.0
NIL Nilore 16.66 303 **Pn** **08 00 31.7 -2.6**
TARG Taragay, Kyrgy 19.02 331 P **P** **08 01 01.7 -1.4**
KDJ Kajisay 19.62 330 P **P** **08 01 08.9 -0.5**
KDJ IAmb IAmb 08 01 12.8
comp=Z,7.1nm,0.8s
KBL Kabul 20.23 301 P **P** **08 01 14.6 -1.5**
KBL IAmb IAmb 08 01 19.6
comp=Z,7.4nm,0.6s
BOOM Boomskoye usch 20.47 329 P **P** **08 01 18.7 0.0**
BTK Batken 21.61 317 P **P** **08 01 31.1 +0.3**
MK31 Makanchi Array 22.05 346 P **P** **08 01 34.5 -0.9**
MK31 IAmb IAmb 08 01 37.6
comp=Z,5.4nm,0.8s
MKAR Makanchi Array 22.05 346 P **P** **08 01 34.0 -1.4**
comp=Z,5.8nm,0.6s,baz=156,slow=9.6,SNR=18
MKAR Makanchi Array 22.05 346 P **P** **08 01 34.8 -0.6**
SONM Songino Array 25.67 26 P **P** **08 02 13.7 +2.9**
comp=Z,0.6nm,0.4s,baz=212,slow=9.9,SNR=5.2
SONM Songino Array 25.67 26 P **P** **08 02 10.2 -0.6**
KURBB Kurchatov Arra 26.52 343 P **P** **08 02 18.1 -0.2**
comp=Z,3.9nm,0.7s,baz=161,slow=9.0,SNR=7.9
KURK Kurchatov 26.58 344 P **P** **08 02 18.3 -0.6**
KURK IAmb IAmb 08 02 19.2
comp=Z,3.6nm,0.8s
BVAR Borovoye Array 31.13 337 P **P** **08 02 58.8 -0.5**
comp=Z,0.5nm,0.4s,baz=156,slow=7.4,SNR=2.2
ABKAR Akbulak array 33.25 323 P **P** **08 03 17.9 -0.1**
USRK Ussuriysk Ar. 38.58 50 P **P** **08 04 03.9 +0.1**
FINES FINESS Array B 55.45 328 P **P** **08 06 15.0 -0.3**
comp=Z,1.5nm,0.8s,baz=117,slow=5.5,SNR=1.7
FINES FINESS Array B 55.45 328 P **P** **08 06 15.3 0.0**
GERES GERESS Array B 62.41 314 P **P** **08 07 04.8 +0.8**
comp=Z,0.1nm,0.1s,baz=61,slow=7.1,SNR=4.4
NOA NORSAR Array B 62.59 327 P **P** **08 07 04.3 -0.6**
comp=Z,0.7nm,0.7s,baz=90,slow=6.7,SNR=3.9
ILAR Eielson Array 79.80 21 P **P** **08 08 51.6 +2.7**
comp=Z,0.2nm,0.7s,baz=296,slow=5.0,SNR=1.8
KIC Kosan Boka 91.60 278 *e*PKP1 P 08 09 56.2 +7.5
comp=Z,287nm,1.9s
TIC Toumodi 91.73 278 *e*PKP1 P 08 09 56.1 +6.8
LIC Lamto 91.92 278 *e*PKP1 P 08 09 57.1 +7.0
comp=Z,144nm,1.6s

IDC ***12*** *07:56:46.4±0.4,2.°12S×139.°15E,h0km,mb4.6/24, mb1 4.7/27,mb1mx4.6/45,mbtmp4.6/27,ML4.8/4,MS4.0/14, Ms1 4.0/14,ms1mx3.8/27,Error ellipse: s-maj=12.1km s-min=9.3km az=45.0*
BJI ***12*** *07:56:47.5±0.0,2.°56S×139.°75E,h58km,mB5.2/25, mb4.9/43,Ms4.5/15,Ms7 4.2/14*
DJA ***12*** *07:56:49.4±0.5,2.°S±4.°×13.°9E±.°,h16km±3km,M5.1/37, mb5.1/37,mB5.6/16,MLv5.1/7,Mw(mB)5.2/16,Mwp5.6/1*
MOS ***12*** *07:56:50.8±0.9,2.°18S×139.°03E,h42km,mb5.1/37,Error ellipse: s-maj=10.1km s-min=5.5km az=118.0*
NEIC ***12*** *07:56:53.0±1.1,2.°21S±0.°09×139.°05E±0.°07,h49km±5km, mb5.0/86,Error ellipse: s-maj=12.9km s-min=10.1km az=197.0*
UNK ***12*** *07:56:53.2,2.°21S×139.°05E,h51km*
ISC 12 07:56:51.6±0.3,2.°26S±0.°04×139.°12E±0.°04,h37km,n334, σ1°**31**/335**,mb4.9**/103**,MS4.0**/19**,4C-1D,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.49**	**303**	P	**Pn**	**07 56 59.6**	**-2.4**
SMPI				S	**Sn**	**07 57 08.0**	**-1.3**
GENI	**Genyem**	**1.10**	**108**	P	**Pn**	**07 57 09.4**	**-1.1**
JAY	**Jayapura**	**1.61**	**99**	Pg	**Pn**	**07 57 15.9**	**-1.6**
	368nm,0.3s,baz=260,slow=9.3,SNR=549						
JAY				Lg	Lg	07 57 36.5	
	748nm,0.3s,baz=118,slow=18,SNR=17						
JAY				LR	LR	07 58 13.2	
	comp=Z,8μm,19.2s,baz=285,slow=54						
JAY	**Jayapura**	**1.61**	**99**	P	**Pn**	**07 57 15.5**	**-2.0**
WAMI	**Wamena**	**1.67**	**194**	P	Pn	07 57 26.5	+8.2
SRPI	**Serui, Papua**	**2.90**	**278**	P	**Pn**	**07 57 36.5**	**+1.2**
KMPI	**Kaimana, Papua**	**5.58**	**255**	P	**Pn**	**07 58 15.3**	**+3.1**
	2.5nm7μm793nm,0.8s						
FAKI	**Fak Fak**	**6.89**	**264**	P	**Pn**	**07 58 31.7**	**+1.5**
	0.6nm1μm194nm,0.9s						
FAKI	**Fak Fak**	**6.89**	**264**	Pn	**Pn**	**07 58 31.3**	**+1.1**
FAKI				Sn	**Sn**	**07 59 48.9**	**+1.4**
SIJI	**Sorong**	**7.97**	**280**	Pn	**Pn**	**07 58 49.0**	**+4.0**
	2.0nm,0.3s,baz=342,slow=24,SNR=2.2						
BNDI	**Bandanaira**	**9.47**	**256**	P	**Pn**	**07 59 07.6**	**+2.1**
	26μm191nm,1.0s						
MSAI	**Masohi**	**10.23**	**264**	P	**Pn**	**07 59 19.2**	**+3.1**
	37nm,0.7s						
PMG	**Port Moresby**	**10.70**	**132**	Pn	Pn	07 59 27.4	+5.1
	1.5nm,0.3s,baz=307,slow=8.8,SNR=7.9						
PMG	**Port Moresby**	**10.70**	**132**	*i* P	Pn	07 59 27.7	+5.4
PMG	**Port Moresby**	**10.70**	**132**	Pn	**Pn**	**07 59 25.2**	**+2.9**
AAI	**Ambon**	**11.00**	**262**	P	**Pn**	**07 59 28.7**	**+2.1**
	114nm,0.7s						
NLAI	**Namlea**	**12.04**	**265**	P	**Pn**	**07 59 42.3**	**+1.5**
	93nm,1.0s						
KDU	**Kakadu**	**12.28**	**212**	P	**Pn**	**07 59 43.8**	**-0.1**
	baz=12,SNR=25						
KDU				S	**Sn**	**08 01 54.9**	**-4.7**
	baz=12						
COEN	**Coen**	**12.30**	**161**	P	**Pn**	**07 59 44.8**	**+0.5**
	baz=12,SNR=10						
COEN	**Coen**	**12.30**	**161**		**Pn**	**07 59 46.5**	**+2.2**
KRVT	**Keravat (AS076**	**13.05**	**99**	Pn	**P**	**08 00 00.8**	**-3.5**
	baz=78,slow=17,SNR=1.9						
KRVT				LR	LR	08 04 30.7	
	comp=Z,1μm,20.2s,baz=272,slow=36						
MTN	**Manton Dam**	**13.16**	**217**	P	**Pn**	**07 59 55.9**	**-0.1**
	baz=13,SNR=9.1						
MTN				S	**Sn**	**08 02 18.8**	**-2.4**
	baz=13						
MTN	**Manton Dam**	**13.16**	**217**		**Pn**	**07 59 56.6**	**+0.5**
GTOI	**Gorontalo**	**16.36**	**280**	P	**Pn**	**08 00 39.7**	**+1.1**
	28nm,1.2s						
SOEI	**Soe**	**16.53**	**243**	P	**Pn**	**08 00 42.0**	**+1.0**
	3μm277nm,1.1s						
SOEI				pP	**pP**	**08 00 49.6**	**-3.4**
	3μm277nm,1.1s						
SOEI	**Soe**	**16.53**	**243**	P	**Pn**	**08 00 41.3**	**+0.3**
MTSU	**Mount Surprise**	**16.58**	**162**	P	**Pn**	**08 00 41.9**	**+0.4**
	baz=17,SNR=5.7						
GUMO	**Guam**	**16.74**	**20**	LR	LR	08 06 37.6	
	comp=Z,432nm,19.5s,baz=200,slow=36						
KNRA	**Kununurra**	**16.79**	**217**	P	**Pn**	**08 00 42.1**	**-2.0**
	baz=17,SNR=14						
KNRA	**Kununurra**	**16.79**	**217**	P	**Pn**	**08 00 44.1**	**0.0**
KNRA				IAmb	IAmb	08 00 54.1	
	comp=Z,58nm,0.7s						
BATI	**Baumata**	**17.27**	**242**	P	**P**	**08 00 51.9**	**+0.7**
	comp=Z,12nm,0.3s,baz=186,slow=2.8,SNR=16						
BATI	**Baumata**	**17.27**	**242**	P	**P**	**08 00 52.4**	**+1.2**
	comp=Z,1μmcomp=Z,187nm,0.9s						
WB0	**Warramunga Arr**	**18.01**	**195**	P	**P**	**08 00 59.7**	**+0.3**
WR0	**Warramunga Arr**	**18.16**	**194**	P	**P**	**08 01 01.4**	**+0.3**
WR0				IAmb	IAmb	08 01 12.3	
	comp=Z,47nm,0.6s						
WRAB	**Tennant Creek**	**18.18**	**195**	P	**P**	**08 01 01.8**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,75nm,0.7s						
WRAB	**Tennant Creek**	**18.18**	**195**	P	**P**	**08 01 01.8**	**+0.6**
WRAB				IAmb	IAmb	08 01 12.6	
	comp=Z,75nm,0.7s						
WB2	**Warramunga Arr**	**18.19**	**195**	P	**Pn**	**08 01 01.7**	**+0.3**
WB2				IAmb	IAmb	08 01 13.2	
	comp=Z,137nm,1.1s						
WRA	**Warramunga Arr**	**18.19**	**195**	P	**Pn**	**08 01 02.5**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=16,slow=12,SNR=38						
WRA				S	**Sn**	**08 04 16.0**	**-7.5**
	comp=Z,0.4nm,0.3s,baz=18,slow=23,SNR=3.5						
WRA	**Warramunga Arr**	**18.19**	**195**	P	**Pn**	**08 01 01.9**	**+0.5**
WRA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**18.19**	**195**	P	**Pn**	**08 01 01.9**	**+0.5**
QIS	**Mount Isa**	**18.20**	**179**	P	**Pn**	**08 01 02.9**	**+1.4**
	baz=18,SNR=6.9						
EDFI	**Ende, Flores**	**18.50**	**249**	P	**Pn**	**08 01 07.9**	**+2.6**
	comp=Z,23nm,0.9s						
CTA	**Charters Tower**	**19.05**	**159**	P	**Pn**	**08 01 12.3**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=339,slow=12,SNR=17						
CTAO	**Charters Tower**	**19.05**	**159**	P	**Pn**	**08 01 12.7**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**19.05**	**159**	P	**Pn**	**08 01 12.7**	**+0.9**
BNSI	**Bone**	**19.10**	**263**	P	**Pn**	**08 01 15.3**	**+2.9**
	comp=Z,1μmcomp=Z,84nm,1.4s						
BKSI	**Bulukumba**	**19.20**	**260**	P	**Pn**	**08 01 15.2**	**+1.6**
	comp=Z,1μmcomp=Z,43nm,1.0s						
MPSI	**Mapaga**	**19.39**	**277**	P	**Pn**	**08 01 16.1**	**+0.2**
	comp=Z,2μmcomp=Z,16nm,0.9s						
SPSI	**Sidrap Palu**	**19.39**	**264**	P	**Pn**	**08 01 17.4**	**+1.4**
	comp=Z,1μmcomp=Z,67nm,0.9s						
KAPI	**Kappang**	**19.52**	**261**	P	**Pn**	**08 01 17.1**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=198,slow=9.4,SNR=1.4						
FITZ	**Fitzroy Crossi**	**20.56**	**219**	P	**P**	**08 01 28.2**	**+1.0**
	comp=Z,27nm,0.9s,baz=360,slow=7.3,SNR=18						
FITZ				S	**S**	**08 05 09.9**	**-5.4**
	comp=Z,22nm,1.0s,baz=180,slow=12,SNR=5.4						
FITZ				LR	LR	08 10 25.6	
	comp=Z,462nm,21.6s,baz=89,slow=40						
FITZ	**Fitzroy Crossi**	**20.56**	**219**	P	**P**	**08 01 28.3**	**+1.0**
	baz=21,SNR=21						
FITZ	**Fitzroy Crossi**	**20.56**	**219**	P	**P**	**08 01 28.1**	**+0.9**
PATS	**Pohnpei**	**21.18**	**65**	P	**P**	**08 01 34.7**	**+0.6**
AS31	**Alice Springs**	**21.87**	**193**	P	**P**	**08 01 42.0**	**+0.6**
ASAR	**Alice Springs**	**21.88**	**193**	P	**P**	**08 01 42.2**	**+0.8**
	comp=Z,38nm,0.9s,baz=23,slow=10,SNR=76						
ASAR				S	**S**	**08 05 35.1**	**-6.2**
	comp=Z,1.8nm,0.7s,baz=14,slow=24,SNR=3.3						
ASAR	**Alice Springs**	**21.88**	**193**	P	**P**	**08 01 41.3**	**-0.1**
MYLDM	**Lahad Datu**	**21.88**	**290**	P	**P**	**08 01 41.0**	**-0.6**
BKB	**Balikpapan**	**22.23**	**272**	P	**P**	**08 01 47.2**	**+1.8**
	comp=Z,265nm,1.2s						
KBKI	**Kotabaru**	**22.95**	**267**	P	**P**	**08 01 56.1**	**+3.2**
	comp=Z,35nm,1.1s						
MTKI	**Muara Teweh, K**	**24.25**	**273**	P	**P**	**08 02 07.8**	**+2.4**
	comp=Z,54nm,1.4s						
TGY	**Tagaytay City**	**24.27**	**313**	LR	LR	08 12 54.1	
	comp=Z,155nm,18.7s,baz=188,slow=40						
BBKI	**Banjar Baru**	**24.28**	**267**	P	**P**	**08 02 07.9**	**+2.2**
	comp=Z,206nm,1.2s						
KKM	**Kota Kinabalu**	**24.31**	**290**	P	**P**	**08 02 05.7**	**-0.4**
KKM				IAmb	IAmb	08 02 07.6	
	comp=Z,58nm,1.0s						
QLP	**Quilpie**	**24.68**	**169**	P	**P**	**08 02 11.2**	**+2.0**
	baz=25,SNR=7.2						
WRKA	**Warakurna**	**24.94**	**204**	P	**P**	**08 02 12.6**	**+1.0**
	baz=25,SNR=25						
EIDS	**Eidsvold**	**25.71**	**154**	P	**P**	**08 02 20.8**	**+2.3**
	baz=26,SNR=8.6						
EIDS	**Eidsvold**	**25.71**	**154**	P	**P**	**08 02 19.8**	**+1.2**
EIDS				IAmb	IAmb	08 02 24.1	
	comp=Z,64nm,0.9s						
RMQ	**Roma**	**25.81**	**160**	P	**P**	**08 02 21.1**	**+1.6**
	baz=26,SNR=28						
PSA00	**Pilbara Seismi**	**26.84**	**223**	P	**P**	**08 02 28.1**	**-0.8**
PSA00	**Pilbara Seismi**	**26.84**	**223**	P	**P**	**08 02 27.6**	**-1.3**
PSA00				IAmb	IAmb	08 02 33.2	
	comp=Z,24nm,0.8s						
SBUM	**Sibu**	**27.29**	**280**	P	**P**	**08 02 32.5**	**-0.5**
KSM	**Kuching**	**29.04**	**277**	P	**P**	**08 02 48.1**	**-0.6**
KSM				IAmb	IAmb	08 02 50.8	
	comp=Z,60nm,1.5s						
JCJ	**Chichijima**	**29.33**	**6**	LR	LR	08 12 56.5	
	comp=Z,291nm,20.2s,baz=118,slow=33						
STKA	**Stephens Creek**	**29.56**	**176**	P	**P**	**08 02 53.9**	**+0.9**
	comp=Z,13nm,0.7s,baz=345,slow=9.2,SNR=21						
STKA	**Stephens Creek**	**29.56**	**176**	P	**P**	**08 02 54.1**	**+1.2**
	baz=30,SNR=22						
STKA	**Stephens Creek**	**29.56**	**176**	P	**P**	**08 02 53.9**	**+0.9**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**29.56**	**176**	P	**P**	**08 02 53.9**	**+0.9**
CMSA	**Cobar Meteorol**	**29.78**	**169**	P	**P**	**08 02 57.0**	**+2.1**
	baz=30,SNR=11						
FORT	**Forrest**	**30.24**	**199**	P	**P**	**08 03 01.1**	**+2.1**
	baz=30,SNR=24						
FORT	**Forrest**	**30.24**	**199**	P	**P**	**08 02 59.6**	**+0.6**
BBOO	**Buckleboo**	**30.53**	**185**	P	**P**	**08 03 03.0**	**+1.4**
	baz=31,SNR=13						
BBOO	**Buckleboo**	**30.53**	**185**	P	**P**	**08 03 02.4**	**+0.8**
BBOO				IAmb	IAmb	08 03 04.1	
	comp=Z,36nm,0.9s						
HTT	**Hallett**	**31.01**	**180**	P	**P**	**08 03 06.6**	**+0.7**
	baz=31,SNR=22						
MEEK	**Meekatharra**	**31.22**	**217**	P	**P**	**08 03 09.0**	**+1.2**
	baz=31,SNR=6.2						
NACB	**Ninganchiao**	**31.31**	**328**	P	**P**	**08 03 07.5**	**-1.0**
NACB				IAmb	IAmb	08 03 16.1	
	comp=Z,51nm,1.4s						
GIRL	**Giralia**	**31.53**	**228**	P	**P**	**08 03 13.8**	**+3.3**
	baz=32,SNR=3.1						
GIRL	**Giralia**	**31.53**	**228**	P	**P**	**08 03 10.7**	**+0.3**
LEM	**Lembang**	**31.72**	**261**	LR	LR	08 18 11.2	
	comp=Z,234nm,18.7s,baz=7.0,slow=40						
PPBI	**Pangkal Pinang**	**32.96**	**270**	P	**P**	**08 03 24.9**	**+1.7**
	comp=Z,12μmcomp=Z,84nm,0.6s						
YNG	**Young**	**33.03**	**166**	P	**P**	**08 03 25.8**	**+2.3**
	baz=33,SNR=7.6						
DZM	**Mont Dzumac**	**33.06**	**129**	P	**P**	**08 03 24.6**	**+0.5**
	comp=Z,3.9nm,0.6s,baz=252,slow=8.7,SNR=5.4						
DZM	**Mont Dzumac**	**33.06**	**129**	P	**P**	**08 03 24.6**	**+0.5**
KMBL	**Kambalda**	**33.22**	**208**	P	**P**	**08 03 26.4**	**+1.2**
	baz=33,SNR=10						
CAN	**Canberra**	**34.16**	**166**	P	**P**	**08 03 34.2**	**+0.8**
CAN				pmax	pmax		
	comp=Z,24nm,1.2s						
CAN	**Canberra**	**34.16**	**166**	P	**P**	**08 03 34.2**	**+0.8**
CAN				IAmb	IAmb	08 03 37.6	
	comp=Z,24nm,1.2s						
CNB	**Canberra Magne**	**34.24**	**165**	P	**P**	**08 03 36.3**	**+2.2**
	baz=34,SNR=6.1						
ARPS	**Mount Arapiles**	**34.44**	**176**	P	**P**	**08 03 37.6**	**+1.9**
	baz=35,SNR=13						
MORW	**Morawa**	**34.55**	**217**	P	**P**	**08 03 38.0**	**+1.2**
	baz=35,SNR=12						
MORW	**Morawa**	**34.55**	**217**	P	**P**	**08 03 37.4**	**+0.6**
MDSI	**Maura Dua**	**34.95**	**265**	P	**P**	**08 03 40.9**	**+0.5**
	comp=Z,1μmcomp=Z,44nm,1.3s						
BLDU	**Ballidu**	**35.29**	**215**	P	**P**	**08 03 44.4**	**+1.2**
	baz=35,SNR=12						
KLBR	**Kellerberrin**	**35.46**	**212**	P	**P**	**08 03 45.8**	**+1.1**
	baz=36,SNR=7.7						
LHSI	**Lahat**	**35.58**	**267**	P	**P**	**08 03 47.5**	**+1.6**
	comp=Z,131nm,0.8s						
TOO	**Toolangi**	**35.63**	**171**	P	**P**	**08 03 47.4**	**+1.4**
	baz=36,SNR=5.8						
TOO	**Toolangi**	**35.63**	**171**	P	**P**	**08 03 47.4**	**+1.4**
TOO				pmax	pmax		
	comp=Z,22nm,1.0s						
TOO	**Toolangi**	**35.63**	**171**	P	**P**	**08 03 47.4**	**+1.4**
TOO				IAmb	IAmb	08 03 50.5	
	comp=Z,22nm,0.9s						
MUN	**Mundaring**	**36.60**	**214**	P	**P**	**08 03 54.4**	**0.0**
	baz=37,SNR=3.3						
NWAO	**Narrogin (SRO)**	**36.78**	**212**	P	**P**	**08 03 56.3**	**+0.4**
	comp=Z,28nm,0.9s,baz=33,slow=9.9,SNR=9.5						
NWAO				PcP	**PcP**	**08 06 18.1**	**+0.4**
	comp=Z,13nm,0.8s,baz=72,slow=2.1,SNR=4.1						
NWAO	**Narrogin (SRO)**	**36.78**	**212**	P	**P**	**08 03 56.1**	**+0.2**
	baz=37,SNR=7.0						
NWAO	**Narrogin (SRO)**	**36.78**	**212**	P	**P**	**08 03 56.5**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,58nm,1.2s						
NWAO	**Narrogin (SRO)**	**36.78**	**212**	P	**P**	**08 03 56.5**	**+0.6**
NWAO	**Narrogin (SRO)**	**36.78**	**212**	P	**P**	**08 03 55.9**	**0.0**
NWAO				IAmb	IAmb	08 03 58.3	
	comp=Z,46nm,1.1s						
JWT	**Wachi**	**37.50**	**355**	P	**P**	**08 04 01.2**	**-0.8**
JWT				IAmb	IAmb	08 04 11.0	
	comp=Z,16nm,1.1s						
SDSI	**Sungai Dareh**	**37.70**	**271**	P	**P**	**08 04 04.5**	**+0.5**
	comp=Z,7μmcomp=Z,27nm,1.1s						
BKNI	**Bangkinang**	**38.16**	**273**	P	**P**	**08 04 09.7**	**+1.9**
	comp=Z,91nm,1.1s						
BKNI	**Bangkinang**	**38.16**	**273**	P	**P**	**08 04 07.3**	**-0.5**
MJAR	**Matsushiro Arr**	**38.61**	**359**	PcP	**PcP**	**08 06 23.7**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=209,slow=2.9,SNR=4.9						
MJAR				LR	LR	08 18 01.0	
	comp=Z,208nm,19.5s,baz=210,slow=33						
PDSI	**Padang**	**38.66**	**271**	P	**P**	**08 04 11.7**	**-0.4**
	comp=Z,30nm,1.0s						
KULM	**Kulim**	**39.15**	**281**	P	**P**	**08 04 15.1**	**-1.0**
KULM				IAmb	IAmb	08 04 17.5	
	comp=Z,34nm,1.1s						
NJ2	**Nanjing**	**39.16**	**332**	*e*P	**P**	**08 04 17.4**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WHN	**Wuhan**	**40.27**	**326**	P	P	08 04 31.5	+6.3
RPSI	**Rantau Prapat**	**40.48**	**277**	P	**P**	**08 04 26.9**	**-0.4**
RPSI	**Rantau Prapat**	**40.48**	**277**	P	**P**	**08 04 27.1**	**-0.1**
PSI	**Prapat**	**40.49**	**277**	P	**P**	**08 04 27.1**	**-0.4**
	comp=Z,31nm,0.9s,baz=180,slow=0.8,SNR=21						
PSI	**Prapat**	**40.49**	**277**	P	**P**	**08 04 27.1**	**-0.4**
PSI				pmax	pmax		
	comp=Z,68nm,1.1s						
KSRS	**Korea Array**	**40.85**	**346**	P	**P**	**08 04 28.6**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=149,slow=6.2,SNR=5.6						
KSRS				PcP	**PcP**	**08 06 31.2**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=170,slow=3.6,SNR=9.0						
KSRS				LR	LR	08 21 55.3	
	comp=Z,131nm,18.2s,baz=173,slow=37						
MSVF	**Nonsavu**	**41.18**	**115**	*e*P	**P**	**08 04 36.4**	**+3.4**
MSVF				pmax	pmax		
	comp=Z,61nm,1.3s						
MSVF	**Nonsavu**	**41.18**	**115**	P	**P**	**08 04 34.0**	**+1.0**
MSVF				IAmb	IAmb	08 04 37.4	
	comp=Z,40nm,1.2s						
SLVN	**Son La**	**41.67**	**306**	P	**P**	**08 04 35.8**	**-1.2**
GSI	**Gunungsitoli**	**41.69**	**274**	P	**P**	**08 04 37.1**	**-0.1**
	comp=Z,14μmcomp=Z,97nm,1.3s						
GSI	**Gunungsitoli**	**41.69**	**274**	P	**P**	**08 04 35.8**	**-1.4**
PBKT	**Sadao Pong**	**42.05**	**298**	P	**P**	**08 04 39.6**	**-0.4**
GYA	**Guiyang**	**42.39**	**314**	⇓P	**P**	**08 04 43.8**	**+0.9**
GYA				pP	sP	08 04 58.1	0.0
GYA				S	**S**	**08 11 03.2**	**+1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=Z,120nm,18.8s						
GYA				LR	LR		
	comp=Z,110nm,15.4s						
GYA				LR	LR		
	comp=Z,130nm,12.5s						
TIA	**Tai'an**	**43.42**	**334**	P	**P**	**08 04 50.4**	**-0.5**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI	**Kunming**	**44.54**	**310**	⇑P	**P**	**08 05 01.1**	**+0.8**
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
CM31	**Chiang Mai Arr**	**44.57**	**299**	P	**P**	**08 05 00.3**	**-0.1**
CM31				IAmb	IAmb	08 05 02.0	
	comp=Z,23nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.57**	**299**	P	**P**	**08 05 00.7**	**+0.3**
	comp=Z,9.2nm,0.9s,baz=119,slow=6.3,SNR=34						
CMAR				PcP	**PP**	**08 06 45.0**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=156,slow=2.0,SNR=5.8						
CMAR				LR	LR	08 22 55.9	
	comp=Z,55nm,21.5s,baz=232,slow=35						
CMAR	**Chiang Mai Arr**	**44.57**	**299**	P	**P**	**08 05 00.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**44.57**	**299**	P	**P**	**08 05 00.1**	**-0.4**
CHTO	**Chiang Mai**	**44.71**	**300**	P	**P**	**08 05 00.7**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,16nm,1.2s						
CHTO	**Chiang Mai**	**44.71**	**300**	P	**P**	**08 05 00.7**	**-0.8**
XAN	**Xi'an**	**45.94**	**324**	P	P	08 04 58.8	-12
XAN				pP	pP	08 05 19.9	-2.1
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,200nm,7.0s						
USRK	**Ussuriysk Ar.**	**46.69**	**353**	P	**P**	**08 05 15.7**	**-1.0**
	comp=Z,

GTA SS SKiKP 08 17 38.4 +15
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,110nm,6.7s
GTA LR LR
comp=Z,110nm,16.6s
GTA LR LR
comp=Z,230nm,16.6s
GTA LR LR
comp=Z,83nm,16.6s
ZEA Zeya 56.67 352 *eP* **P 08 06 30.8 -0.3**
ZEA pmax pmax
comp=Z,28nm,1.4s
PEA0B Petropavlovsk- 57.33 13 P **P 08 06 35.9 +0.1**
PEA0B pmax pmax
comp=Z,33nm,1.4s
PEA0B Petropavlovsk- 57.33 13 P **P 08 06 35.9 +0.1**
PETK Petropavlovsk- 57.33 13 P **P 08 06 35.7 -0.1**
comp=Z,5.8nm,1.1s,baz=190,slow=6.9,SNR=7.3
PETK LR LR 08 33 37.8
comp=Z,104nm,18.3s,baz=209,slow=39
PETK Petropavlovsk- 57.33 13 P **P 08 06 35.3 -0.5**
SONM Songino Array 57.49 334 P **P 08 06 37.0 -0.2**
comp=Z,0.8nm,0.4s,baz=152,slow=6.7,SNR=5.0
SONM Songino Array 57.49 334 P **P 08 06 36.9 -0.3**
ZAK Zakamensk 60.75 335 *eP* **P 08 06 59.8 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.3s
TLY Talaya 61.57 336 P **P 08 07 04.5 -0.7**
comp=Z,2.2nm,0.5s,baz=107,slow=9.5,SNR=3.4
TLY Talaya 61.57 336 *eP* **P 08 07 06.2 +1.1**
TLY pmax pmax
comp=Z,24nm,1.8s
TLY MLR MLR
comp=Z,258nm,14.0s
TLY Talaya 61.57 336 P **P 08 07 04.1 -1.0**
TLY IAmb IAmb 08 07 22.0
comp=Z,11nm,1.3s
MOY Mondy 62.68 334 *eP* **P 08 07 13.3 +0.6**
MOY pmax pmax
comp=Z,46nm,2.3s
BOD Bodaibo 63.18 345 *eP* **P 08 07 15.0 -0.7**
BOD pmax pmax
comp=Z,10.0nm,1.8s
YAK Yakutsk 64.52 355 *eP* P 08 07 31.2 +6.8
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
WMQ Urumqi 64.91 321 *eP* **P 08 07 28.8 +1.3**
WMQ pmax pmax
comp=E,14nm,1.3s
WMQ pmax pmax
comp=E,22nm,4.2s
WMQ LR LR
comp=E,220nm,25.3s
WMQ LR LR
comp=E,140nm,26.7s
WMQ Urumqi 64.91 321 P **P 08 07 27.1 -0.4**
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ Urumqi 64.91 321 P **P 08 07 27.1 -0.4**
WMQ IAmb IAmb 08 07 36.4
comp=Z,22nm,1.1s
SEY Seymchan 65.78 7 P **P 08 07 33.2 +0.6**
comp=Z,0.6nm,0.4s,baz=357,slow=24,SNR=1.4
DGZ Jazzator, Alta 68.13 327 *i P* **P 08 07 47.1 -1.0**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
ZSN Zaisan 68.44 324 *eP* **P 08 07 50.2 +0.3**
baz=324
ZSN Zaisan 68.44 324 *eP* **P 08 07 50.1 +0.3**
MK31 Makanchi Array 69.68 322 P **P 08 07 57.2 -0.4**
MK31 pmax pmax
comp=Z,12nm,1.2s
MK31 Makanchi Array 69.68 322 P **P 08 07 57.2 -0.4**
MKAR Makanchi Array 69.68 322 P **P 08 07 58.0 +0.3**
comp=Z,6.2nm,0.8s,baz=111,slow=8.0,SNR=37
MKAR Makanchi Array 69.68 322 P **P 08 07 57.3 -0.3**
MKAR Makanchi Array 69.68 322 P **P 08 07 57.3 -0.3**
MAKZ Makanchi 69.88 322 P **P 08 07 58.8 0.0**
MAKZ pmax pmax
comp=Z,14nm,0.9s
MAKZ Makanchi 69.88 322 P **P 08 07 58.8 0.0**
MAKZ IAmb IAmb 08 08 00.2
comp=Z,14nm,0.9s
SHLS Shalkode 69.95 318 *eP* **P 08 07 57.6 -1.9**
comp=Z,3.2nm,0.8s,baz=318
SHLS Shalkode 69.95 318 *eP* **P 08 07 57.6 -1.9**
SHLS pmax pmax
comp=Z,3.0nm,0.8s
UZB Uzynbulak 70.25 318 *eP* **P 08 08 00.8 -0.6**
comp=Z,10nm,1.2s,baz=318
UZB Uzynbulak 70.25 318 *eP* **P 08 08 00.7 -0.6**
UZB pmax pmax
comp=Z,10.0nm,1.2s
PRZ Przheval'sk 70.41 317 P **P 08 08 02.1 -0.3**
PRZ pmax pmax
comp=Z,16nm,0.9s
PRZ Przheval'sk 70.41 317 P **P 08 08 02.1 -0.3**
PRZ IAmb IAmb 08 08 05.0
comp=Z,16nm,0.9s
TARG Taragay, Kyrgy 70.54 316 P **P 08 08 03.0 -0.5**
TARG IAmb IAmb 08 08 14.7
comp=Z,14nm,1.2s
KPKS Kokpek 70.60 318 *eP* **P 08 08 03.2 -0.2**
baz=318
KPKS Kokpek 70.60 318 *eP* **P 08 08 03.2 -0.2**
SATY Saty 70.63 317 *eP* **P 08 08 03.7 +0.1**
comp=Z,5.3nm,0.9s,baz=317
SATY Saty 70.63 317 *eP* **P 08 08 03.7 +0.1**
SATY pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 71.07 313 P **P 08 08 08.6 +2.2**
KSH S **S 08 17 20.7 +0.2**
KSH sS SKiKP 08 17 49.1 +3.8
KSH pmax pmax
comp=Z,40nm,1.2s
KSH pmax pmax
comp=Z,140nm,4.6s
KSH LR LR
comp=Z,470nm,16.0s
KSH LR LR
comp=Z,270nm,10.3s
KSH LR LR
comp=Z,420nm,12.6s
KDJ Kajisay 71.12 316 P **P 08 08 07.3 +0.6**
KDJ pmax pmax
comp=Z,15nm,1.2s
KDJ Kajisay 71.12 316 P **P 08 08 07.3 +0.6**
KDJ IAmb IAmb 08 08 17.1
comp=Z,14nm,1.1s
TDK Taldyqorghan 71.38 319 *eP* **P 08 08 08.7 +0.6**
baz=319
TDK Taldyqorghan 71.38 319 *eP* **P 08 08 08.6 +0.6**
MDOK Medeo 71.59 317 *eP* **P 08 08 09.7 +0.1**
baz=317
MDOK Medeo 71.59 317 *eP* **P 08 08 09.6 +0.1**
TNSS Tian-Shan 71.61 317 *eP* **P 08 08 10.6 +0.7**
baz=317
TNSS Tian-Shan 71.61 317 *eP* **P 08 08 10.6 +0.7**
AAA Alma-Ata 71.70 317 *eP* **P 08 08 09.8 -0.3**
baz=317
AAA Alma-Ata 71.70 317 *eP* **P 08 08 09.7 -0.3**
ZAA0 Zalesovo Array 71.75 330 P **P 08 08 09.0 -1.0**
ZALV Zalesovo Beam 71.75 330 P **P 08 08 08.3 -1.7**
comp=Z,1.7nm,0.7s,baz=100,slow=6.5,SNR=6.1
ZALV Zalesovo Beam 71.75 330 P **P 08 08 08.5 -1.5**
ZALV Zalesovo Beam 71.75 330 P **P 08 08 08.5 -1.5**
CHKK Chushkaly 71.89 318 *eP* **P 08 08 11.2 +0.1**
baz=318
CHKK Chushkaly 71.89 318 *eP* **P 08 08 11.1 +0.1**
MTBS Maitube 72.00 317 *eP* **P 08 08 12.8 +0.9**
baz=317
MTBS Maitube 72.00 317 *eP* **P 08 08 12.8 +0.9**
BOOM Boomskoye usch 72.11 316 P **P 08 08 12.3 -0.3**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
BOOM Boomskoye usch 72.11 316 P **P 08 08 12.3 -0.3**
KZA Kyzart 72.45 315 P **P 08 08 16.5 +1.5**
SNR=17
TKM2 Tokmak 2 72.50 316 P **P 08 08 15.7 +0.6**
SNR=7.6

USP Ospenovka 73.37 316 P **P 08 08 19.9 0.0**
SNR=9.1
AML Almayashu 73.56 315 P **P 08 08 22.7 +1.1**
SNR=6.1
KURK Kurchatov 73.58 325 *i P* **P 08 08 20.9 0.0**
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 73.58 325 P **P 08 08 19.8 -1.1**
KURBB Kurchatov Arra 73.59 325 P **P 08 08 20.7 -0.3**
comp=Z,5.8nm,1.0s,baz=114,slow=5.6,SNR=23
EKS2 Erkin-Say 73.67 316 P **P 08 08 22.8 +1.0**
SNR=8.0
BTLS Baital 74.28 318 *eP* **P 08 08 25.2 0.0**
comp=Z,3.9nm,1.4s,baz=318
BTLS Baital 74.28 318 *eP* **P 08 08 25.1 0.0**
BTLS pmax pmax
comp=Z,4.0nm,1.4s
KBL Kabul 74.99 307 P **P 08 08 28.9 -0.9**
KBL pmax pmax
comp=Z,13nm,1.1s
KBL Kabul 74.99 307 P **P 08 08 28.9 -0.9**
KBL IAmb IAmb 08 08 30.7
comp=Z,13nm,1.1s
GAR Garm 75.11 311 P **P 08 08 30.2 -0.1**
DZA Taraz 75.46 315 *eP* **P 08 08 31.9 -0.2**
baz=315
DZA Taraz 75.46 315 *eP* **P 08 08 31.9 -0.2**
CHGR Chuyangaron 75.89 311 P **P 08 08 34.5 -0.2**
KK31 Karatay Array 76.09 315 P **P 08 08 35.2 -0.5**
KK31 pmax pmax
comp=Z,12nm,1.4s
KK31 Karatay Array 76.09 315 P **P 08 08 35.2 -0.5**
KKAR Karatay Array 76.09 315 P **P 08 08 35.6 -0.1**
KKAR pmax pmax
comp=Z,12nm,1.4s
KKAR Karatay Array 76.09 315 P **P 08 08 34.9 -0.8**
KKAR Karatay Array 76.09 315 P **P 08 08 35.6 -0.1**
KKAR IAmb IAmb 08 08 37.1
comp=Z,12nm,1.4s
IUG luzhnay 76.17 314 *eP* **P 08 08 36.2 0.0**
comp=Z,4.7nm,0.7s,baz=314
IUG luzhnay 76.17 314 *eP* **P 08 08 36.2 0.0**
IUG pmax pmax
comp=Z,5.0nm,0.7s
VNDA Vanda 76.19 175 P **P 08 08 36.5 +0.9**
comp=Z,2.4nm,0.7s,baz=328,slow=6.1,SNR=13
VNDA LR LR 08 41 10.3
comp=Z,173nm,18.6s,baz=357,slow=35
VNDA Vanda 76.19 175 P **P 08 08 36.5 +0.9**
VNDA pmax pmax
comp=Z,10.0nm,1.3s
VNDA Vanda 76.19 175 P **P 08 08 36.5 +0.9**
BRZS Berezniki 76.82 323 *eP* **P 08 08 39.8 +0.1**
comp=Z,5.4nm,1.1s,baz=323
BRZS Berezniki 76.82 323 *eP* **P 08 08 39.8 +0.1**
BRZS pmax pmax
comp=Z,5.0nm,1.1s
BVAR Borovoye Array 79.17 325 P **P 08 08 52.9 +0.2**
comp=Z,9.2nm,0.7s,baz=120,slow=8.8,SNR=36
BRVK Borovoye 79.25 325 *i P* **P 08 08 53.2 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 79.25 325 P **P 08 08 52.2 -0.8**
BRVK IAmb IAmb 08 08 54.3
comp=Z,12nm,0.8s
NRIK Noril'sk 79.40 344 P **P 08 08 53.6 +0.1**
comp=Z,2.2nm,0.2s,baz=228,slow=5.9,SNR=5.6
HRA Herat 80.46 305 P **P 08 08 59.9 -0.4**
HRA IAmb IAmb 08 09 02.5
comp=Z,19nm,1.5s
MAW Mawson 82.70 202 P **P 08 09 11.9 +0.8**
comp=Z,10.0nm,1.0s,baz=69,slow=5.9,SNR=18
MAW LR LR 08 44 05.4
comp=Z,179nm,18.9s,baz=58,slow=34
MAW Mawson 82.70 202 P **P 08 09 12.2 +1.1**
baz=83,SNR=9.6
MAW Mawson 82.70 202 P **P 08 09 11.6 +0.5**
MAW pmax pmax
comp=Z,3.0nm,1.1s
MAW Mawson 82.70 202 P **P 08 09 11.6 +0.5**
IMAR Indian Mountai 82.92 22 P **P 08 09 12.1 -0.3**
RND Reindeer 84.04 25 P **P 08 09 18.4 +0.2**
RND pmax pmax
comp=Z,15nm,1.1s
RND Reindeer 84.04 25 P **P 08 09 18.4 +0.2**
RND IAmb IAmb 08 09 22.0
comp=Z,15nm,1.1s
MCK McKinley 84.10 25 P **P 08 09 19.1 +0.6**
MCK pmax pmax
comp=Z,18nm,1.3s
MCK McKinley 84.10 25 P **P 08 09 19.1 +0.6**
MCK IAmb IAmb 08 09 20.6
comp=Z,18nm,1.3s
GEYT Alibeck 84.28 308 P **P 08 09 20.6 +0.6**
comp=Z,7.0nm,0.8s,baz=90,slow=1.5,SNR=9.9
GEYT Alibeck 84.28 308 P **P 08 09 19.1 -0.9**
GYA0B ALIBECK ARRAY 84.28 308 P **P 08 09 19.5 -0.5**
GYA0B IAmb IAmb 08 09 27.5
comp=Z,20nm,1.1s
NEA2 Nenana 84.30 24 P **P 08 09 22.0 +2.5**
baz=253
UOSS Minazif 84.52 295 P **P 08 09 20.7 -0.7**
ABKAR Abkulak array 84.64 320 P **P 08 09 20.6 -0.8**
WRH Wood River Hil 84.67 25 P **P 08 09 21.2 -0.1**
WRH IAmb IAmb 08 09 24.3
comp=Z,20nm,1.2s
KLU Klutina 84.83 28 P **P 08 09 22.4 +0.1**
KLU IAmb IAmb 08 09 30.1
comp=Z,14nm,1.2s
CCB Clear Creek Bu 84.84 24 P **P 08 09 21.7 -0.4**
CCB IAmb IAmb 08 09 24.4
comp=Z,10nm,0.9s
COLA College 84.88 24 *i P* **P 08 09 23.6 +1.3**
COLA pmax pmax
comp=Z,5.0nm,1.1s
HDA Harding Lake 85.13 25 P **P 08 09 24.1 +0.5**
baz=255
HDA Harding Lake 85.13 25 P **P 08 09 23.6 0.0**
IL31 85.25 24 P **P 08 09 24.3 +0.2**
IL31 IAmb IAmb 08 09 25.9
comp=Z,6.8nm,0.9s
ILAR Eielson Array 85.25 24 P **P 08 09 22.8 -1.5**
comp=Z,5.2nm,0.8s,baz=261,slow=5.6,SNR=32
ILAR LR LR 08 43 44.5
comp=Z,54nm,19.8s,baz=236,slow=33
ILAR Eielson Array 85.25 24 P **P 08 09 24.1 -0.1**
ILAR Eielson Array 85.25 24 P **P 08 09 24.1 -0.1**
TOLK Toolik Lake Re 85.36 20 P **P 08 09 27.3 +2.6**
baz=252
GLB Gilahina Butte 85.81 28 P **P 08 09 27.5 +0.4**
GLB IAmb IAmb 08 09 29.9
comp=Z,18nm,1.3s
RIDG Independent Ri 85.86 26 P **P 08 09 27.5 +0.2**
RIDG IAmb IAmb 08 09 38.8
comp=Z,16nm,1.1s
AKTO Aktyubinsk 86.06 321 P **P 08 09 27.8 -0.7**
comp=Z,1.8nm,0.5s,baz=111,slow=6.0,SNR=5.3
TGL Tana Glacier 86.13 29 P **P 08 09 28.9 +0.1**
DOT Dot Lake 86.18 26 P **P 08 09 27.5 -1.3**
BALM Baldy 86.42 29 P **P 08 09 29.6 -0.6**
BALM IAmb IAmb 08 09 33.8
comp=Z,16nm,1.2s
ARU Arti 86.64 327 P **P 08 09 29.6 -1.6**
comp=Z,1.8nm,0.2s,baz=166,slow=5.2,SNR=6.0
ARU Arti 86.64 327 *c i P* **P 08 09 29.9 -1.3**
ARU *PP **sP 08 09 47.1 +0.1**
ARU S **SKSac 08 19 50.8 -4.2**
ARU SS **SS 08 25 45.7 -1.4**
ARU pmax pmax
comp=Z,15nm,1.1s
ARU Arti 86.64 327 P **P 08 09 30.0 -1.2**
ARU IAmb IAmb 08 09 32.0
comp=Z,12nm,1.0s
BMAR Burnt Mountain 86.83 22 P **P 08 09 32.1 +0.1**
BCAR Beaver Creek A 87.06 27 P **P 08 09 33.8 +0.6**
K27K Chicken 87.12 26 P **P 08 09 35.9 +2.5**
baz=259
EGAK Eagle 87.65 25 P **P 08 09 36.4 +0.4**
EGAK IAmb IAmb 08 09 44.5
comp=Z,15nm,1.1s
QSPA South Pole Qui 87.69 180 P **P 08 09 36.0 -0.3**
HYT Haines Junctio 88.72 29 P **P 08 09 40.9 -0.4**
SKAG Skagway 89.66 31 P **P 08 09 45.9 +0.4**
SKAG IAmb IAmb 08 09 47.9
comp=Z,12nm,1.2s

WHY Whitehorse 89.98 29 P **P 08 09 46.4 -0.8**
WHY IAmb IAmb 08 09 51.5
comp=Z,8.0nm,1.0s
SYO Syowa Base 91.33 201⇑ *eP* **P 08 09 53.1 0.0**
KIV Kislovodsk 96.19 314 *eP* **P 08 10 14.9 -1.3**
KIV pmax pmax
comp=Z,18nm,1.0s
YKA Yellowknife Ar 99.48 27 LR LR 08 50 46.8
comp=Z,85nm,21.9s,baz=0.0,slow=33
NVAR Mina Array Bea 101.25 51 P **Pdif 08 10 39.5 +0.4**
comp=Z,0.6nm,0.7s,baz=262,slow=6.5,SNR=5.3
GERES GERESS Array B 114.32 324 PKP PKPdf 08 15 27.0 -0.6
comp=Z,0.3nm,0.4s,baz=90,slow=3.9,SNR=4.1
TXAR Lajitas Array 114.71 59 PKP **PKiKP 08 15 29.6 +0.6**
comp=Z,0.3nm,0.7s,baz=225,slow=1.1,SNR=3.7
JCT Junction City 117.71 57 P **PKiKP 08 15 35.3 +0.6**
baz=285
P38A Dawn 119.54 45 **PKPdf 08 15 37.6 -0.3**
S39A Bolivar 120.47 47 PKPdf **PKPdf 08 15 39.2 -0.5**
W39A Magazine 121.07 50 P **PKiKP 08 15 41.1 0.0**
baz=292
U40A Yellville 121.33 48 P **PKPdf 08 15 41.3 -0.1**
baz=293
U40A Yellville 121.33 48 **PKPdf 08 15 41.3 -0.1**
MIAR Mount Ida 121.46 50 P **PKiKP 08 15 42.5 +0.7**
baz=292
SCHQ Schefferville 123.48 18 PKP **PKPdf 08 15 44.8 -0.2**
comp=Z,3.6nm,0.6s,baz=297,slow=2.6,SNR=4.7
CHGQ Chibougamau 124.65 26 P **PKPdf 08 15 47.0 -0.3**
baz=318
WVT Waverly 125.11 46 P **PKPdf 08 15 48.5 -0.1**
baz=297
D53A Lac Vacive, Po 125.12 30 P **PKPdf 08 15 48.2 -0.2**
baz=313
D54A Lac Fusel, La 125.58 29 P **PKPdf 08 15 49.0 -0.3**
baz=314
D56A ZEC Mazanza, M 126.57 28 P **PKiKP 08 15 51.4 -0.2**
baz=316
LRAL Lakeview Retre 127.09 49 P **PKPdf 08 15 52.3 -0.2**
baz=296
PLCA Paso Flores 129.37 151 PKP **PKiKP 08 15 58.0 +0.5**
comp=Z,2.2nm,0.8s,baz=298,slow=8.5,SNR=4.6
TORD Torodi Ar. Bea 136.52 287 PKP **PKPdf 08 16 11.3 +0.5**
comp=Z,3.5nm,0.8s,baz=48,slow=1.9,SNR=16
KIC Kosan Boka 143.74 278 *eP* PKPab 08 16 20.8 0.0
comp=Z,46nm,1.4s
DBIC Dimbokro 143.83 278 PKhKP PKPpre 08 16 21.0
comp=Z,17nm,1.0s,baz=54,slow=4.9,SNR=14
TIC Toumodi 143.99 278 *eP* PKPab 08 16 22.0 +0.2
LIC Lamto 144.04 277 *eP* PKPbc 08 16 22.2 -0.2
comp=Z,97nm,1.9s
ROSC El Rosal 146.53 85 PKPbc **PKPab 08 16 31.7 -0.1**
comp=Z,9.3nm,0.5s,baz=8.7,slow=1.6,SNR=7.2
LPAZ La Paz 147.38 125 PKPbc **PKPbc 08 16 34.3 +1.0**
comp=Z,20nm,0.8s,baz=295,slow=1.5,SNR=27
LPAZ La Paz 147.38 125 PKP2 **PKPbc 08 16 33.7 +0.4**
LPAZ La Paz 147.38 125 **PKPbc 08 16 33.7 +0.4**
CPUP Villa Florida 147.44 152 PKPbc **PKPbc 08 16 33.2 +0.8**
comp=Z,14nm,1.0s,baz=211,slow=4.3,SNR=18
SDV Santo Domingo 149.68 76 **PKPbc 08 16 39.2 +0.4**
PDPR Patillas Dam, 150.78 56 **PKPbc 08 16 41.3 +0.2**
MTP Monte Pirata 151.13 55 **PKiKP 08 16 42.3 -0.2**
STVI Saint Thomas 151.49 54 **PKPbc 08 16 42.8 +0.1**
CDVI St. Croix 151.95 55 **PKiKP 08 16 44.1 -0.1**
BDFB Brasilia 160.87 159 PKP **PKPdf 08 16 49.4 +0.3**
comp=Z,1.8nm,0.5s,baz=217,slow=2.4,SNR=4.3

DDA ***12*** *08:12:24.9, 40.°14N×25.°50E, h3km±1km, MW3.7*
ATH ***12*** *08:12:24.2, 40.°17N×25.°51E, h27km±1km, ML3.0/8, Error ellipse: s-maj=1.6km s-min=0.9km az=72.0*
ISK ***12*** *08:12:24.1, 40.°17N×25.°53E, h5km, ML3.4/44*
THE ***12*** *08:12:24.9, 40.°16N×25.°53E, h10km±1km, ML3.1/10, Error ellipse: s-maj=1.5km s-min=0.6km az=61.0*
SOF ***12*** *08:12:24.0, 40.°22N×25.°58E, h12km, MD3.8*
BEO ***12*** *08:12:25.4±2.5, 40.°20N×25.°54E, h7km±6km, ML3.0/5*
ISC 12 08:12:24.9±0.9,**40.°16N**±0.°01×**25.°53E**±0.°02,**h10**km±7km,
n141,σ1°§**15**/176,**10C-7D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.29**	**84**	P		**Pg**	**08 12 30.6**	**-0.1**
GADA				S		**Sg**	**08 12 34.5**	**0.0**
4μm,0.4s								
GADA	**Gvkgeada**	**0.29**	**84**	PG		**Pg**	**08 12 30.4**	**-0.3**
GADA				SG		**Sg**	**08 12 34.8**	**+0.3**
GOKA	**anakkale-Gk**	**0.29**	**84**	*i* P		**Pg**	**08 12 30.8**	**0.0**
GOKA				*i* S		**Sg**	**08 12 35.2**	**+0.4**
GOKA				IAML			08 12 36.0	
comp=N,5μm,0.3s								
GOKA				IAML			08 12 38.0	
comp=E,6μm,0.4s								
GOKC	**Gokceada-Canak**	**0.30**	**83**	PG		**Pg**	**08 12 30.9**	**-0.1**
GOKC				SG		**Sg**	**08 12 35.2**	**+0.2**
SMTH	**Samothraki Isl**	**0.31**	**1**	P		**Pg**	**08 12 31.1**	**0.0**
SMTH				S		**Sg**	**08 12 35.6**	**+0.3**
comp=E,2μm,0.3s								
SMTH	**Samothraki Isl**	**0.31**	**1**	P		**Pg**	**08 12 31.2**	**0.0**
SMTH				S		**Sg**	**08 12 35.8**	**+0.5**
SMTH				AML		AML	08 12 41.4	
comp=E,3182μm,0.4s								
SMTH				AML		AML	08 12 42.3	
comp=N,4632μm,0.3s								
LIA	**Limnos Island**	**0.37**	**225**	P		**Pg**	**08 12 32.4**	**+0.2**
LIA				S		**Sg**	**08 12 38.2**	**+1.0**
comp=N,3μm,0.3s								
LIA	**Limnos Island**	**0.37**	**225**	P		**Pg**	**08 12 32.5**	**+0.3**
LIA				S		**Sg**	**08 12 38.2**	**+1.0**
LIA				AML		AML	08 12 40.4	
comp=E,5591μm,0.3s								
LIA				AML		AML	08 12 42.9	
comp=N,5840μm,0.5s								
BOZC	**Bozcaada**	**0.52**	**128**	PG		**Pg**	**08 12 34.9**	**0.0**
BOZC				SG		**Sg**	**08 12 42.0**	**+0.3**
BOZC	**Bozcaada**	**0.52**	**128**	*i* P		**Pg**	**08 12 34.8**	**-0.1**
BOZC				*i* S		**Sg**	**08 12 42.0**	**+0.3**
BOZC				IAML			08 12 42.0	
comp=N,1μm,0.3s								
BOZC				IAML			08 12 42.0	
comp=E,2μm,0.3s								
EZN	**Ezine**	**0.70**	**118**	P		**Pg**	**08 12 37.9**	**-0.5**
EZN				S		**Sg**	**08 12 47.2**	**-0.3**
comp=E,2μm,0.4s								
EZN	**Ezine**	**0.70**	**118**	PG		**Pg**	**08 12 37.9**	**-0.5**
EZN				SG		**Sg**	**08 12 47.9**	**+0.4**
EFSA	**Agios Efstrati**	**0.75**	**214**	P		**Pg**	**08 12 39.7**	**+0.4**
ENEZ	**Enez**	**0.75**	**40**	P		**Pb**	**08 12 39.6**	**-0.3**
ENEZ				S		**Sb**	**08 12 50.0**	**-0.2**
ENEZ	**Enez**	**0.75**	**40**	PG		**Pg**	**08 12 38.8**	**-0.5**
ENEZ				SG		**Sb**	**08 12 49.5**	**-0.7**
THAS	**Thassos island**	**0.76**	**306**	P		**Pg**	**08 12 39.4**	**-0.2**
THAS				S		**Sb**	**08 12 50.4**	**-0.2**
comp=E,1μm,0.4s								
THAS	**Thassos island**	**0.76**	**306**	P		**Pg**	**08 12 39.2**	**-0.4**
THAS				S		**Sb**	**08 12 50.3**	**-0.2**
THAS				AML		AML	08 12 52.2	
comp=N,3084μm,0.4s								
THAS				AML		AML	08 12 52.3	
comp=E,2176μm,0.5s								
GELI	**Tayfur-Gelibol**	**0.76**	**72**	PG		**Pg**	**08 12 39.3**	**-0.3**
GELI				SG		**Sb**	**08 12 50.1**	**-0.5**
ALN	**Alexandroupoli**	**0.83**	**28**	P		**Pg**	**08 12 40.6**	**-0.4**
ALN				S		**Sb**	**08 12 52.2**	**-0.4**
comp=E,1μm,0.5s								
ALN	**Alexandroupoli**	**0.83**	**28**	P		**Pg**	**08 12 40.6**	**-0.4**
ALN				S		**Sb**	**08 12 52.3**	**-0.4**
ALN				AML		AML	08 12 54.2	
comp=E,3274μm,0.7s								
ALN				AML		AML	08 12 55.4	
comp=N,1578μm,0.3s								
ALN	**Alexandroupoli**	**0.83**	**28**	PG		**Pg**	**08 12 40.5**	**-0.4**
ALN				SG		**Sb**	**08 12 52.3**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.89**	**118**	*i* P		**Pg**	**08 12 41.6**	**-0.4**
BAYC				*i* S		**Sg**	**08 12 53.4**	**-0.2**
BAYC				IAML			08 12 56.0	
comp=E,616nm,0.5s								
BAYC				IAML			08 12 57.0	
comp=N,438nm,0.3s								
ERIK	**Erikli-Kesan**	**0.91**	**56**	PG		**Pg**	**08 12 41.7**	**-0.7**
ERIK				SG		**Sb**	**08 12 54.9**	**+0.1**
LPK	**Lapseki**	**0.97**	**77**	PG		**Pg**	**08 12 42.9**	**-0.6**
LPK				SG		**Sb**	**08 12 56.9**	**+0.4**
SIGR	**SIGRI**	**0.98**	**165**	P		**Pg**	**08 12 43.0**	**-0.8**
SIGR				S		**Sb**	**08 12 57.7**	**+0.8**

	comp=N,2μm,0.3s						
SIGR	SIGRI	0.98	165	P	Pg	08 12 43.0	-0.8
SIGR				S	Sg	08 12 56.9	+0.3
SIGR				AML	AML	08 12 59.6	
	comp=N,4668μm,0.3s						
SIGR				AML	AML	08 12 59.9	
	comp=E,2452μm,0.3s						
SIGR	SIGRI	0.98	165	PG	Pg	08 12 43.7	-0.1
RDO	Rodhopi	0.98	0	P	Pg	08 12 43.2	-0.6
RDO				S	Sn	08 12 58.0	-0.6
	comp=E,608nm,0.4s						
RDO	Rodhopi	0.98	0	P	Pg	08 12 43.2	-0.6
RDO				AML	AML	08 12 58.5	
	comp=N,1611μm,0.4s						
RDO				AML	AML	08 13 00.3	
	comp=E,815μm,0.4s						
RDO	Rodhopi	0.98	0	PG	Pg	08 12 43.2	-0.6
RDO				SG	Sb	08 12 57.1	+0.1
PRK	Paraskevi	1.08	148	P	Pn	08 12 46.0	0.0
PRK				S	Sn	08 13 00.7	-0.3
	comp=E,2μm,0.5s						
PRK	Paraskevi	1.08	148	P	Pb	08 12 45.5	0.0
PRK				S	Sn	08 13 00.9	0.0
KESN	Edirne-Kesan	1.10	53	*i* P	Pg	08 12 44.5	-1.6
KESN				*i* S	Sg	08 12 59.1	-1.4
KESN				IAML		08 13 02.0	
	comp=E,611nm,0.3s						
KESN				IAML		08 13 10.0	
	comp=N,479nm,0.3s						
KVLA	Kavala	1.17	312	P	Pb	08 12 46.4	-0.7
OUR	Ouranopolis	1.20	279	P	Pb	08 12 46.7	-0.8
OUR				S	Sb	08 13 02.6	-0.4
	comp=N,1μm,0.4s						
OUR	Ouranopolis	1.20	279	PN	Pb	08 12 46.8	-0.8
AYVA	Ayvalik	1.24	133	*i* P	Pn	08 12 48.2	+0.1
AYVA				*i* S	Sb	08 13 04.4	+0.2
AYVA				IAML		08 13 05.0	
	comp=E,652nm,0.3s						
AYVA				IAML		08 13 06.0	
	comp=N,2μm,0.5s						
UKOP	Uzunkopru-Edir	1.28	41	PN	Pn	08 12 48.5	-0.3
RKY	Sarkoy-Tekirda	1.37	67	PN	Pn	08 12 49.4	-0.6
SART	Tekirdag	1.37	67	*i* P	Pn	08 12 49.2	-0.8
SART				*i* S	Sg	08 13 09.3	+0.4
MAR6	Marsite Statio	1.43	67	PN	Pn	08 12 50.7	-0.2
PAIG	Paliouri	1.44	261	P	Pn	08 12 50.2	-0.7
MAR3	Marsite Statio	1.47	66	PN	Pn	08 12 51.5	+0.1
MAR2	Marsite Statio	1.47	67	PN	Pb	08 12 51.8	-0.5
SKY	Skiros Island	1.49	211	P	Pn	08 12 51.6	0.0
KDZ	Kurdzhali	1.49	357	P	Pn	08 12 51.1	-0.6
KDZ	Kurdzhali	1.49	357	Pg	Pb	08 12 52.7	+0.1
KDZ	Kurdzhali	1.49	357	PN	Pb	08 12 52.0	-0.6
MAR4	Marsite Statio	1.49	65	PN	Pn	08 12 51.2	-0.5
DKL	Dikili	1.52	135	PN	Pn	08 12 52.6	+0.5
PLG	Polygyros	1.61	278	P	Pn	08 12 52.8	-0.5
MRMT	Marmara Adasi	1.64	74	PN	Pn	08 12 54.2	+0.4
GONE	Gonen-Balikesi	1.66	93	PN	Pb	08 12 54.7	-0.8
BALY	Balya	1.66	104	*i* P	Pn	08 12 54.1	+0.1
BALY				*i* S	Sb	08 13 16.9	+0.4
BALY				IAML		08 13 18.0	
	comp=E,441nm,0.5s						
BALY				IAML		08 13 20.0	
	comp=N,642nm,0.5s						
ZEDA	zmir-Bergama	1.69	134	*i* P	Pn	08 12 54.7	+0.3
ZEDA				IAML		08 13 19.0	
	comp=E,278nm,0.3s						
ZEDA				*i* S	Sg	08 13 19.2	0.0
ZEDA				IAML		08 13 20.0	
	comp=N,525nm,0.4s						
MAR9	Marsite Statio	1.72	74	PN	Pn	08 12 55.3	+0.5
NVR	Nevrokopi	1.73	314	P	Pn	08 12 54.7	-0.4
SRS	Serrai	1.75	304	P	Pn	08 12 53.6	-1.7
SRS	Serrai	1.75	304	*e*Pg	Pb	08 12 56.5	-0.6
SRS				*e*Sg	Sg	08 13 25.5	-0.8
SRS	Serrai	1.75	304	P	Pn	08 12 53.7	-1.7
SOH	Sokhos	1.78	292	P	Pn	08 12 55.3	-0.4
SOH	Sokhos	1.78	292	P	Pn	08 12 55.1	-0.6
EDC	Edincik	1.80	83	PN	Pn	08 12 56.5	+0.6
CHOS	Chios island	1.82	167	P	Pn	08 12 55.8	-0.4
CHOS	Chios island	1.82	167	P	Pn	08 12 55.8	-0.4
CHOS				AML	AML	08 13 29.4	
	comp=E,1048μm,0.6s						
CHOS				AML	AML	08 13 29.8	
	comp=N,549μm,0.3s						
CHOS	Chios island	1.82	167	PN	Pn	08 12 56.8	+0.6
STEP	BALIKESIR_Sava	1.86	114	*i* P	Pn	08 12 57.4	+0.6
STEP				*i* S	Sb	08 13 22.6	+0.3
STEP				IAML		08 13 26.0	
	comp=N,319nm,0.9s						
STEP				IAML		08 13 28.0	
	comp=E,401nm,0.5s						
BALB	Balikesir	1.88	105	PN	Pn	08 12 57.5	+0.5
DIM	Dimitrovgrad	1.89	0	P	Pn	08 12 56.9	-0.2
DIM	Dimitrovgrad	1.89	0	Pg	Pb	08 12 59.9	+0.5
HORT	Hortiatis	1.91	284	P	Pn	08 12 57.0	-0.4
HORT	Hortiatis	1.91	284	P	Pn	08 12 57.1	-0.4
HORT	Hortiatis	1.91	284	PN	Pn	08 12 57.9	+0.5
EDRB	Edirne	1.92	28	P	Pn	08 12 56.3	-1.3
EDRB	Edirne	1.92	28	PN	Pn	08 12 58.1	+0.5
XOR	Xorichti	1.97	247	P	Pn	08 12 58.1	-0.1
MMB	Musomiste	1.97	317	P	Pn	08 12 57.6	-0.8
URLA	Izmir	1.98	155	PN	Pn	08 12 59.1	+0.7
PLD	Plovdiv	2.04	343	P	Pg	08 13 03.6	-0.4
PLD	Plovdiv	2.04	343	PN	Pn	08 12 59.7	+0.5
BOTS	Marmara Eregli	2.04	65	PN	Pn	08 12 59.9	+0.7
BLCB	Balcova	2.13	146	PN	Pn	08 13 01.3	+0.9
AKS	Akhisar	2.18	125	PN	Pn	08 13 02.1	+0.9
KNT	Kendrikon	2.24	297	P	Pn	08 13 02.0	+0.1
KNT	Kendrikon	2.24	297	PN	Pn	08 13 02.1	+0.1
SLVT	Silivri	2.30	62	PN	Pn	08 13 03.6	+0.8
GOMA	Golmarmara-Man	2.35	127	PN	Pn	08 13 04.5	+1.0
DST	Dursunbey	2.44	102	PN	Pn	08 13 05.7	+0.9
CTYL	Yalikoy Yolu	2.47	57	PN	Pn	08 13 05.9	+0.7
CTKS	Kestanelik-??a	2.51	64	PN	Pn	08 13 06.5	+0.9
KKB	Krupnik	2.51	313	P	Pn	08 13 06.7	+0.9
VAY	Valandovo	2.53	298	*i* Pn	Pg	08 13 14.0	+0.7
MDNY	Mudanya-Bursa	2.58	84	PN	Pn	08 13 07.6	+1.0
ARMT	Armutlu	2.58	80	PN	Pn	08 13 07.6	+0.9
ORLT	Orhaneli	2.59	91	PN	Pn	08 13 07.7	+0.9
PGB	Panagyurishte	2.60	337	P	Pn	08 13 06.6	-0.3
PGB	Panagyurishte	2.60	337	Pg	Pb	08 13 12.5	+1.0
SMG	Samos	2.65	157	P	Pn	08 13 07.6	0.0
SMG	Samos	2.65	157	P	Pn	08 13 07.7	0.0
SMG				AML	AML	08 13 52.4	
	comp=E,366μm,0.6s						
SMG				AML	AML	08 13 55.6	
	comp=N,296μm,0.4s						
BGKT	Bogazkoy	2.67	67	PN	Pn	08 13 08.8	+0.9
GCAM	G?zelcaml?	2.79	151	PN	Pn	08 13 11.2	+1.6
TRML	Termal-Yalova	2.82	80	PN	Pn	08 13 11.1	+1.2
ISK	Istanbul-Kandi	2.84	70	PN	Pn	08 13 11.2	+1.1
SIMA	Simav-Kutahya	2.88	111	PN	Pn	08 13 12.3	+1.5
CFTB	Yalova	2.92	79	PN	Pn	08 13 12.5	+1.2
KULA	Kula-Manisa	2.93	123	PN	Pn	08 13 12.6	+1.0
VTS	Vitosha	3.00	326	P	Pn	08 13 12.9	+0.3
APE	Apeiranthos	3.09	180	⇑P	Pn	08 13 10.2	-3.5
APE	Apeiranthos	3.09	180	⇑S	Sn	08 13 47.9	-2.8
APE	Apeiranthos	3.09	180	PN	Pn	08 13 14.1	+0.4
TVSB	Tavsanli	3.11	102	PN	Pn	08 13 15.1	+1.0
HRT	Hereke	3.23	77	PN	Pn	08 13 16.3	+0.7
ADVT	Abdulvahap	3.23	84	PN	Pn	08 13 16.9	+1.3
BOSS	Bosilegrad	3.27	316	*e*Pn	Pn	08 13 16.9	+0.7
SILT	Sile	3.28	71	PN	Pn	08 13 17.2	+0.9
BODT	Bodrum	3.40	155	PN	Pn	08 13 19.0	+1.1
MPEP	Malo Peshtene	3.46	338	P	Pn	08 13 19.7	+0.9
AUBOZ	BOZOYUK	3.47	93	PN	Pn	08 13 19.6	+0.7
RAZG	Razgrad	3.48	12	⇑P	Pn	08 13 19.8	+0.7
SAUV	Serdivan-Sakar	3.71	79	PN	Pn	08 13 23.7	+1.6
SANT	Santorini	3.78	181	⇓P	Pn	08 13 18.4	-4.9
ZAPS	Zavoj	3.79	326	*e*Pn	Pn	08 13 24.2	+0.9
GULT	Gulveren	3.82	84	PN	Pn	08 13 24.4	+0.6
BARS	Barje	3.85	315	*e*Pn	Pn	08 13 25.0	+0.9
BLKB	Belogradchik	4.06	329	⇓S	Sg	08 14 37.5	+2.3
ZAGS	Zajecar	4.40	327	*e*Pn	Pn	08 13 31.2	-0.4
BOVS	Bovan	4.49	322	*e*Pn	Pn	08 13 33.2	+0.3
SELS	Selova	4.50	314	*e*Pn	Pn	08 13 32.8	-0.2
SULR		4.55	7	⇑P	Pn	08 13 35.4	+1.8
TIRR	Tirgusor	4.80	26	⇑P	Pn	08 13 33.1	-4.0
HARR	Harsova	4.86	21	⇓P	Pn	08 13 35.7	-2.3
TOPG	Topolog	5.16	23	⇑P	Pn	08 13 39.0	-3.1
GRUS	Gruza	5.17	318	*e*Pn	Pn	08 13 41.9	-0.3
JURR	Jurilovca	5.23	27	⇑P	Pn	08 13 39.5	-3.4
VOIR		5.29	356	⇑P	Pn	08 13 47.5	+3.6
MLR	Muntele Rosu	5.34	3	⇓P	Pn	08 13 47.7	+3.1
MLR	Muntele Rosu	5.34	3	⇑S	Sn	08 14 52.9	+6.8
MDVR	Moldovita	5.41	330	⇓P	Pb	08 13 55.9	-3.6
PLOR	Plostina	5.75	8	⇑P	Pn	08 13 51.9	+1.7
VRI	Vrincioaia	5.77	8	⇓P	Pn	08 13 51.7	+1.2
BZS	Buzias	6.16	334	⇓P	Pb	08 14 04.6	-7.6

JMA **12** *08:16:54.6±0.1, 24°.34N×121°.88E, h44km±3km, M2.0*
TAP **12** *08:16:55.0, 24°.42N×121°.93E, h20km, ML3.2, B*
ISC 12 08:16:55.1±0.9, 24°.40N±0°.02×121°.93E±0°.02, h26km±4km, n83, σ0.97/149, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	Nanao	0.11	294	*i* P	Pn	08 16 59.8	-1.4
ENAH	baz=282			*i* S	Sn	08 17 03.4	0.0
ENA	Nanau	0.17	279	P	Pb	08 17 00.4	-0.2
ENA	baz=270			*i* S	Sn	08 17 04.1	-0.1
TWC	Suao	0.22	342	*i* P	Pb	08 17 00.8	-0.3
TWC	baz=339			S	Sb	08 17 04.5	-0.7
NACB	Ninganchiao	0.38	233	*i* P	Pn	08 17 03.5	-1.4
NACB	baz=231			*i* S	Sn	08 17 10.1	-1.2
TWE	Neicheng	0.40	324	P	Pb	08 17 03.6	-0.1
TWE	baz=322			S	Sb	08 17 09.4	-0.1
ILA	Ilan	0.40	336	*e*P	Pn	08 17 04.4	-0.7
ILA	baz=334			*e*S	Sb	08 17 10.6	+1.0
ENTT	Nioudou	0.40	306	*i* P	Pb	08 17 03.9	+0.1
ENTT	baz=303			S	Sb	08 17 09.9	+0.2
NDT	Datong Townshi	0.42	298	P	Pb	08 17 04.2	+0.1
NDT	baz=294			*i* S	Sb	08 17 10.8	+0.4
TWD	Chiawan	0.44	223	P	Pn	08 17 04.6	-1.1
TWD	baz=221			S	Sn	08 17 12.6	-0.2
ETLH	Xiulin Townshi	0.45	244	*e*P	Pn	08 17 04.7	-1.3
ETLH	baz=242			S	Sn	08 17 12.4	-0.7
NTC	Toucheng	0.46	349	*e*P	Pb	08 17 04.6	-0.1
NTC	baz=347			S	Sb	08 17 10.9	-0.3
NNSH	Datong	0.49	273	*e*P	Pn	08 17 05.6	-1.0
NNSH	baz=270			S	Sn	08 17 13.1	-1.3
NNSB	Datong	0.49	273	P	Pn	08 17 05.4	-1.2
NNSB	baz=270			S	Sn	08 17 13.1	-1.3
NNS	Nan Shan	0.50	274	*e*P	Pn	08 17 05.6	-1.1
NNS	baz=271			S	Sn	08 17 13.2	-1.4
HWA	Hwalien	0.51	215	*e*S	Sn	08 17 14.5	-0.1
NWLT	baz=213 Wulai	0.54	314	*e*P	Pb	08 17 05.4	-0.6
NWLT	baz=311			S	Sb	08 17 13.4	0.0
TIPB	Shuangxi	0.57	351	P	Pb	08 17 06.5	-0.2
TIPB	baz=349			S	Sb	08 17 14.3	-0.2
NSK	Sanguang	0.58	298	*e*P	Pn	08 17 07.8	0.0
NSK	baz=295			*e*S	Sn	08 17 16.1	-0.4
TWB1	Santiao Chiao	0.61	5	*e*P	Pb	08 17 07.2	0.0
TWB1	baz=5.0			*e*S	Sb	08 17 15.3	-0.1
FUSS	Fushou	0.64	256	*e*P	Pn	08 17 08.2	-0.5
FUSS	baz=254			S	Sn	08 17 18.0	-0.1
TWA	Mucha	0.65	332	*e*P	Pn	08 17 08.4	-0.3
TWA	baz=330			*e*S	Sn	08 17 17.4	-0.8
WHF	Hehuan Shan	0.65	247	P	Pn	08 17 08.3	-0.7
WHF	baz=245			S	Sn	08 17 18.6	-0.2
NWF	Wu-fen Shan	0.68	349	*e*P	Pn	08 17 08.1	-1.0
NWF	baz=347			S	Sn	08 17 18.3	-0.6
WFSB	Wu-fen Shan	0.68	349	*e*P	Pn	08 17 08.3	-0.7
WFSB	baz=347			S	Sn	08 17 18.4	-0.4
TATO	Taipei	0.70	325	*e*P	Pn	08 17 08.4	-0.9
TATO	baz=324			*e*S	Sn	08 17 18.6	-0.6
TWT	Tachien	0.70	258	*e*P	Pb	08 17 09.4	+0.6
TWT	baz=256			S	Sn	08 17 20.1	+0.6
TDCB	Techi	0.71	258	*e*P	Pb	08 17 09.4	+0.3
TDCB	baz=256			S	Sn	08 17 20.1	+0.3
TAP1	Taipei	0.73	330	*e*S	Sn	08 17 20.4	+0.3
ESL	baz=328 Shilin	0.74	218	*e*P	Pb	08 17 09.1	-0.3
ESL	baz=216			*e*S	Sn	08 17 20.4	+0.2
TAP	Taipei	0.74	329	*e*S	Sn	08 17 20.4	+0.1
CHGB	baz=328 Renai	0.77	244	*i* P	Pb	08 17 10.3	+0.4
CHGB	baz=242			S	Sn	08 17 22.5	+1.3
YM01	baz=242 YM01	0.81	337	P	Pb	08 17 11.1	+0.5
YM01	baz=335			S	Sb	08 17 21.9	+0.7
YM10	YM10	0.82	336	*e*P	Pb	08 17 11.1	+0.3
YM10	baz=335			*e*S	Sb	08 17 23.4	+1.9
YM11	YM11	0.82	337	*e*P	Pn	08 17 10.4	-0.7
YM11	baz=336			*e*S	Sb	08 17 22.9	+1.3
YM05	YM05	0.83	337	*e*P	Pb	08 17 11.1	+0.2
YM05	baz=335			*e*S	Sb	08 17 22.8	+1.1
YM04	YM04	0.83	335	*e*P	Pb	08 17 11.1	+0.2
YM04	baz=333			*e*S	Sb	08 17 22.8	+1.2
TWS1	Kuangyinshan	0.83	327	*e*P	Pb	08 17 11.5	+0.5
TWS1	baz=325			*e*S	Sb	08 17 23.3	+1.5
YM08	YM08	0.84	339	*e*S	Sb	08 17 23.8	+1.7
YM03	baz=337 YM03	0.85	336	*e*P	Pb	08 17 11.4	+0.1
YM03	baz=334			*e*S	Sb	08 17 23.5	+1.1
EGFH	Guangfu	0.86	212	*e*P	Pb	08 17 11.8	+0.3
EGFH	baz=211			*e*S	Sb	08 17 24.6	+2.1
ANP	Anpu	0.86	335	*e*P	Pb	08 17 11.6	+0.1
ANP	baz=334			*e*S	Sb	08 17 23.3	+0.6
LIOB	Emei	0.86	287	*e*P	Pb	08 17 12.1	+0.6
LIOB	baz=284			*e*S	Sb	08 17 24.4	+1.7
NSTT	Nanjuang	0.87	285	*e*P	Pb	08 17 12.1	+0.5
NSTT	baz=283			*e*S	Sb	08 17 24.4	+1.5
NTST	Danshui	0.87	330	*e*P	Pb	08 17 11.9	+0.2
NTST	baz=329			*e*S	Sb	08 17 24.1	+1.2
NCU	National Centr	0.88	310	*e*S	Sb	08 17 24.2	+1.1
WHP	baz=308 Taichung City	0.90	262	*e*P	Pb	08 17 13.1	+1.0
WHP	baz=260			*e*S	Sb	08 17 25.9	+2.0
TWY	Chenhua	0.92	341	*e*P	Pb	08 17 12.1	-0.3
TWY	baz=340			*e*S	Sb	08 17 25.3	+1.1
JYNG	Yonagunijimaku	0.93	87	P	Pn	08 17 12.2	-0.3
JYNG				*e*S	Sb	08 17 25.2	+0.6
SBCB	Hsinchu	0.94	295	*e*P	Pb	08 17 13.0	+0.2
SBCB	baz=293			*e*S	Sb	08 17 26.5	+1.6
HSN	Hsinchu	0.96	295	*e*S	Sb	08 17 26.2	+0.9
VWDT	baz=295 VWDT	0.96	228	P	Pb	08 17 13.0	-0.2
VWDT	baz=227			S	Sb	08 17 27.7	+2.2
YOJ	Yonaguni jima	0.99	86	*e*P	Pn	08 17 12.8	-0.5
YOJ	baz=87			*e*S	Sb	08 17 27.1	+0.8
YOJ	Yonaguni jima	0.99	86	P	Pn	08 17 13.2	-0.1
YOJ				S	Sb	08 17 26.6	+0.3
NHW	Xinwu Township	1.00	307	*e*S	Sb	08 17 28.3	+1.7
HGSD	baz=305 Ruisui	1.01	207	*e*P	Pb	08 17 13.9	-0.1
HGSD	baz=206			*e*S	Sb	08 17 29.6	+2.6
NMLH	Miaoli	1.04	278	*e*S	Sb	08 17 29.4	+1.7
EHY	baz=276 Hungye	1.05	212	*e*P	Pb	08 17 14.3	-0.3
EHY	baz=211			*e*S	Sb	08 17 30.0	+2.1
TWQ1	Liyutan	1.05	267	*e*P	Pb	08 17 15.3	+0.6
TWQ1	baz=265			*e*S	Sb	08 17 30.0	+1.9
NSY	Sanyi	1.06	271	*e*S	Sb	08 17 29.4	+1.0
SMLT	baz=269 Sun Moon Lake	1.07	241	*e*P	Pb	08 17 15.1	+0.1
SMLT	baz=239			*e*S	Sb	08 17 30.6	+1.9
SSLB	Suanglung	1.08	236	*e*P	Pb	08 17 14.8	-0.3
SSLB	baz=234			*e*S	Sb	08 17 30.5	+1.7
TYC	Yuchr	1.09	243	P	Pb	08 17 15.5	+0.2
TYC	baz=241			*e*S	Sb	08 17 31.5	+2.3
PTSB	Yuanli	1.11	273	*e*S	Sb	08 17 31.3	+1.5
YULB	baz=271 Yu-li	1.16	210	*e*P	Pb	08 17 15.8	-0.6
YULB	baz=209			*e*S	Sb	08 17 33.1	+2.0
WDJ	baz=209 Dajia District	1.17	268	*e*S	Sb	08 17 32.8	+1.3
TWF1	baz=266 Yuli	1.19	209	*e*P	Pb	08 17 16.4	-0.6
TWF1	baz=208			*e*S	Sb	08 17 33.9	+1.8
WJS	Zhushan	1.24	242	*e*P	Pb	08 17 17.9	+0.1
WJS	baz=241			*e*S	Sb	08 17 34.6	+1.3
FULB	Fuli	1.33	206	*e*P	Pb	08 17 18.8	-0.6
FULB	baz=205			*e*S	Sb	08 17 37.1	+1.0
ALS	Alishan	1.35	229	*e*P	Pb	08 17 19.6	-0.4
ALS	baz=228			*e*S	Sb	08 17 37.3	+0.2
CHN5	Tsauling	1.39	235	*e*S	Sb	08 17 38.4	+0.5
WDLH	baz=234 Douliu	1.45	241	*e*S	Sb	08 17 39.9	+0.3
EDH	baz=240 Donghe	1.53	202	*e*S	Sb	08 17 42.7	+0.8
CHN4	baz=201 Tsaushan	1.61	230	*e*P	Pb	08 17 23.1	-1.0
CHN4	baz=228			*e*S	Sb	08 17 44.0	0.0
TPUB	Ta-pu	1.61	228	*e*P	Pb	08 17 23.0	-1.3
TPUB	baz=226			*e*S	Sb	08 17 43.8	-0.5
IRIF	Iriomote-Funau	1.65	92	P	Pn	08 17 22.1	-0.2
IRIF				S	Sn	08 17 42.8	+0.1
WTP	Ta-pu	1.66	226	*e*P	Pb	08 17 24.0	-1.1
WTP	baz=225			*e*S	Sb	08 17 45.0	-0.7
TWK	Hsinying	1.73	230	*e*P	Pb	08 17 25.3	-1.0
TWK	baz=228			*e*S	Sb	08 17 47.0	-0.7
HATJ	Hateruma jima	1.75	101	*e*S	Sb	08 17 47.5	-0.6
CHN1	Nanshi	1.76	227	*e*P	Pb	08 17 25.7	-1.1
CHN1	baz=226			*e*S	Sb	08 17 48.1	-0.4
SLGT	Liugui	1.83	220	*e*P	Pb	08 17 26.9	-0.9
SLGT	baz=219			*e*S	Sb	08 17 49.6	-0.8
JKRS	Kuro-shima	1.91	94	S	Sn	08 17 49.8	+0.7
JIJ	Ishigaki jima	2.02	91	P	Pn	08 17 28.2	+0.7
JIJ				*e*S	Sn	08 17 53.0	+1.1
JISG	Ishigakijimahi	2.18	85	*e*S	Sn	08 17 56.1	+0.3

HEL 12 08:57:06.8±1.0, 60°.91N×29°.59E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	1.06	250	PG	Pg	08 57 26.4	-0.8
VJF	baz=58			MSG		08 57 39.2	
VJF	comp=Z,6.3nm,0.2s			SB	Sg	08 57 41.1	+0.2
FIA0	FINESS Array S	1.78	289	PG	Pn	08 57 38.1	-0.7
FIA0	baz=104			SG	Sn	08 58 00.5	-1.6
PVF	Pernaja	1.87	260	PG	Pn	08 57 39.6	-0.3
PVF				MSG		08 58 02.3	
PVF	comp=Z,4.0nm,0.2s			SN	Sn	08 58 04.7	+0.5
KAF	Kangasniemi	1.98	309	PG	Pb	08 57 43.0	-0.6
KAF	baz=127			SG	Sb	08 58 08.9	0.0
SUF	Sumiainen	2.44	320	PG	Pb	08 57 50.3	-1.2
SUF				MSG		08 58 18.8	
SUF	comp=Z,1.3nm,0.2s			SG	Sb	08 58 21.1	-1.0

NAO 12 08:57:40.4±1.6, 67°.63N×33°.92E, ML2.7, Baltic States-Belarus-Northwestern Russia

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

APZ9	**Apatity**	**0.21 252**	Pg	Pg	08 57 44.6	+0.3
APZ9			Lg	Lg	08 57 47.5	
APZ9	**Apatity**	**0.21 252**	Sg	Sg	08 57 47.5	+0.4
APZ9	**Apatity**	**0.21 252**	Pg	Pg	08 57 44.6	+0.3
APA0	**Apatity Array**	**0.36 266**	Pg	Pg	08 57 47.3	+0.1
	baz=85,slow=16					
APA0			Lg	Lg	08 57 52.4	
	baz=73,slow=37					
APA0			Rg	Rg	08 57 54.3	
	baz=86,slow=37					
APA0	**Apatity Array**	**0.36 266**	Sg	Sg	08 57 52.4	+0.5
	baz=73,slow=37					
APA0	**Apatity Array**	**0.36 266**	Pg	Pg	08 57 47.3	+0.1
	baz=85,slow=16					
ARA0	**ARCESS Array S**	**3.63 306**	Pn	Pn	08 58 38.1	+0.3
	baz=122,slow=16					
ARA0			Sn	Sn	08 59 20.9	-0.3
	baz=121,slow=28					
ARA0			Lg	Lg	08 59 31.5	
	baz=118,slow=37					
ARA0	**ARCESS Array S**	**3.63 306**	Sg	Sb	08 59 31.5	+1.7
	baz=118,slow=37					
ARA0	**ARCESS Array S**	**3.63 306**	Pn	Pn	08 58 38.1	+0.3
	baz=122,slow=16					
ARA0	**ARCESS Array S**	**3.63 306**	Sn	Sn	08 59 20.9	-0.3
	baz=121,slow=28					
HAMF	**Hammerfest**	**4.74 314**	Pn	Pn	08 58 53.4	+0.4
HAMF			Sn	Sn	08 59 47.1	-1.5
HAMF	**Hammerfest**	**4.74 314**	Sn	Sn	08 59 47.1	-1.5
HAMF	**Hammerfest**	**4.74 314**	Pn	Pn	08 58 53.4	+0.4
KIF	**Kilpisjarvi**	**5.05 292**	Pn	Pn	08 58 57.2	-0.1
KIF			Sn	Sn	08 59 52.5	-3.8
KIF			Lg	Lg	09 00 14.2	
KIF	**Kilpisjarvi**	**5.05 292**	Sg	Sb	09 00 14.2	+3.4
KIF	**Kilpisjarvi**	**5.05 292**	Pn	Pn	08 58 57.2	-0.1
KIF	**Kilpisjarvi**	**5.05 292**	Sn	Sn	08 59 52.5	-3.8
FIA0	**FINESS Array S**	**7.07 212**	Lg	Lg	09 01 17.4	
	baz=29,slow=28					
FIA0	**FINESS Array S**	**7.07 212**	Sg	Sb	09 01 17.4	+8.7
	baz=29,slow=28					

*UPP **12** 09:06:04.8±2.9, 64°.55N×30°.99E, h0km, ML1.8, Suspected explosion*
*KOLA **12** 09:06:06.3, 64°.70N×30°.87E, h0km*
*IDC **12** 09:06:06.1±3.3, 64°.74N×31°.35E, h0km, mb1 3.0/4, mb1mx2.9/49, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=47.6km s-min=11.3km az=102.0*
ISC 12 09:06:06.6±1.5, **64°.80N**±0°.06×**30°.64E**±0°.08, **h0km, n12,** σ**1**§**32/18, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**2.98**	**18**	P	**Pn**	**09 06 55.1**	**+0.1**
APA0				S	**Sn**	**09 07 31.6**	**+0.2**
APA	**Apatity**	**3.00**	**21**	P	**Pn**	**09 06 55.4**	**0.0**
APA				S	**Sn**	**09 07 32.0**	**0.0**
SJUU	**Sjulsmark**	**3.88**	**285**	P	**Pn**	**09 07 08.0**	**+0.6**
SJUU				S	**Sn**	**09 07 56.2**	**+2.6**
ERTU	**Ertsjaerv**	**3.91**	**301**	P	**Pn**	**09 07 08.8**	**+0.9**
FINES	**FINESS Array B**	**3.95**	**214**	Pn	**Pn**	**09 07 08.9**	**+0.5**
	0.2nm,0.3s,baz=26,slow=14,SNR=1.2						
FINES				Sn	**Sn**	**09 07 55.3**	**-0.1**
	0.3nm,0.3s,baz=39,slow=23,SNR=1.8						
FINES				Lg	Lg	09 08 09.2	
	1.6nm,0.3s,baz=31,slow=27,SNR=7.0						
BURU	**Burvik**	**3.98**	**271**	P	**Pn**	**09 07 08.8**	**-0.1**
UMAU	**Umeaa**	**4.43**	**263**	P	**Pn**	**09 07 13.8**	**-1.1**
UMAU				S	**Sn**	**09 08 05.5**	**-1.6**
LILU	**Lilltraesk**	**4.60**	**281**	P	**Pn**	**09 07 18.8**	**+1.6**
ARCES	**ARCESS Array B**	**5.16**	**340**	Pn	**Pn**	**09 07 24.4**	**-0.5**
	0.5nm,0.3s,baz=157,slow=12,SNR=18						
ARCES				Sn	**Sn**	**09 08 22.1**	**-3.1**
	0.4nm,0.3s,baz=156,slow=26,SNR=1.4						
ARCES				Lg	Lg	09 08 44.4	
	1.0nm,0.3s,baz=148,slow=33,SNR=8.4						
RATU	**Laukkuluspa**	**5.39**	**309**	P	**Pn**	**09 07 28.9**	**+0.8**
HFS	**Hagfors**	**9.12**	**247**	Pn	**Pn**	**09 08 18.3**	**-0.9**
	0.1nm,0.3s,baz=52,slow=9.5,SNR=1.8						
NOA	**NORSAR Array B**	**9.61**	**256**	Pn	**Pn**	**09 08 26.5**	**+0.5**
	0.0nm,0.3s,baz=59,slow=12,SNR=1.7						

*BJI **12** 09:25:53.7±0.0, 5°.76N×94°.34E, h71km, mB5.0/52, mb5.4/75, Ms4.3/46, Ms7 4.0/46*
*DJA **12** 09:25:56.6±0.4, 6°N±3°×9°4E±°, h62km±3km, M5.0/48, mb5.2/48, mB5.4/19, MLv5.3/10, Mw(mB)4.9/19, Mwp5.3/2*
*GCMT **12** 09:25:56.4±0.3, 5°.97N±0°.02×94°.46E±0°.02, h52km±2km, MW4.9/92, Moment Tensor Solution. s42,c51; s92,c132; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.67±.13; Mθθ-2.25±.09; Mφφ0.58±.10; Mrθ1.85±.08; Mθφ-1.28±.09; Mφr-0.89±.07; Best double couple: M0=3.15200×10^16^ NP1:φs=217.00000°, δ39.00000°, λ33.00000°. NP2: φs=100.00000°, δ70.00000°, λ124.00000°. Principal axes: T 3.1060, Plg52.0000°, Azm51.0000°; N 0.0960, Plg32.0000°, Azm267.0000°; P -3.1990, Plg18.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **12** 09:25:56.0, 5°.84N×94°.16E, h66km, mb5.2*
*BGR **12** 09:25:57.8±0.0, 5°.38N×94°.19E, h62km, mb5.3*
*NEIC **12** 09:25:57.4±1.5, 6°.04N±0°.05×94°.45E±0°.04, h69km±4km, mb5.3/163, Error ellipse: s-maj=7.7km s-min=4.5km az=147.0*
*UNK **12** 09:25:57.5, 6°.03N×94°.42E, h68km*
*IDC **12** 09:25:58.0±1.3, 6°.13N×94°.46E, h70km±10km, mb4.7/38, mb1 4.8/41, mb1mx4.8/46, mbtmp5.0/41, MS3.9/26, Ms1 3.9/26, ms1mx3.8/36, Error ellipse: s-maj=11.5km s-min=8.6km az=46.0*
*MOS **12** 09:25:57.8±1.1, 6°.10N×94°.45E, h85km, mb5.3/84, MS4.3/7, Error ellipse: s-maj=6.5km s-min=3.7km az=110.2*
ISC 12 09:25:57.6±0.5, **6°.00N**±0°.03×**94°.37E**±0°.03, **h73**km±3km, **h76**km:**pP-P, n1083,** σ**1**§**27**/1158, **mb5.2**/248, **45C-16D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.66**	**130**	P	**Pn**	**09 26 37.9**	**-0.4**
MLSI				S	**Sn**	**09 27 08.5**	**-0.9**
LHMI	**Lhok Sumawe**	**2.68**	**106**	P	**Pn**	**09 26 39.2**	**+0.7**
LHMI				S	**Sn**	**09 27 10.1**	**+0.2**
LHMI	**Lhok Sumawe**	**2.68**	**106**		**Pn**	**09 26 39.2**	**+0.7**
LHMI				Sn	**Sn**	**09 27 09.9**	**0.0**
TPTI		**3.90**	**134**	P	**Pn**	**09 26 54.8**	**-0.4**
TPTI				S	**Sn**	**09 27 37.7**	**-2.2**
PSI	**Prapat**	**5.54**	**125**	P	**Pn**	**09 27 18.9**	**+1.2**
	31nm,0.3s,baz=359,slow=5.4,SNR=176						
PSI				S	**Sn**	**09 28 19.5**	**-0.7**
	16nm,0.3s,baz=360,slow=9.9,SNR=4.7						
PSI				LR	LR	09 30 02.0	
	comp=Z,2μm,20.6s,baz=271,slow=44						
RPSI	**Rantau Prapat**	**5.60**	**126**	Pn	**Pn**	**09 27 18.3**	**-0.2**
RPSI				Sn	**Sn**	**09 28 19.6**	**-1.9**
RPSI	**Rantau Prapat**	**5.60**	**126**		**Pn**	**09 27 18.9**	**+0.5**
RPSI					**Sn**	**09 28 19.5**	**-2.0**
GSI	**Gunungsitoli**	**5.65**	**145**	P	**Pn**	**09 27 16.4**	**-2.8**
	1.8nm233nm,0.9s						
GSI	**Gunungsitoli**	**5.65**	**145**	Pn	**Pn**	**09 27 17.1**	**-2.1**
GSI				Sn	**Sn**	**09 28 18.8**	**-4.0**
SRIT	**Nakonsritamara**	**5.80**	**63**	Pn	**Pn**	**09 27 19.8**	**-1.3**
PBA	**Port Blair**	**5.85**	**344**	Pn	Pn	09 27 21.2	-0.6
PBA				Sn	Sn	09 28 25.9	-1.6
KULM	**Kulim**	**6.29**	**96**	Pn	**Pn**	**09 27 27.9**	**0.0**
KULM				Sn	**Sn**	**09 28 35.5**	**-2.9**
KULM	**Kulim**	**6.29**	**96**	P	**Pn**	**09 27 28.0**	**+0.2**
IPM	**Ipoh**	**6.80**	**102**	Pn	**Pn**	**09 27 34.4**	**-0.4**
IPM				Sn	**Sn**	**09 28 42.7**	**-8.2**
IPM	**Ipoh**	**6.80**	**102**	P	**Pn**	**09 27 35.0**	**+0.2**
DGPR	**DIGLIPUR**	**7.28**	**349**	*e*P	Pn	09 27 32.5	-8.8
DGPR				*e*S	Sn	09 28 49.6	-13
MNSI	**Mandailing Nat**	**7.33**	**135**	P	**Pn**	**09 27 39.4**	**-2.7**
SISI	**Saibi**	**8.67**	**147**	P	**Pn**	**09 27 58.3**	**-2.1**
	76nm,0.9s						
BKNI	**Bangkinang**	**8.72**	**130**	P	**Pn**	**09 28 00.9**	**-0.2**
	0.8nm7μm169nm,0.8s						
BKNI	**Bangkinang**	**8.72**	**130**		**Pn**	**09 28 00.5**	**-0.6**
PDSI	**Padang**	**9.17**	**138**	P	**Pn**	**09 28 05.1**	**-2.2**
	85nm,1.2s						
SDSI	**Sungai Dareh**	**9.85**	**134**	P	**Pn**	**09 28 14.8**	**-1.7**
	1μm29nm,0.9s						
MYKOM	**Kota Tinggi**	**10.34**	**113**	Pn	**Pn**	**09 28 24.2**	**+1.1**
MYKOM	**Kota Tinggi**	**10.34**	**113**	P	**Pn**	**09 28 25.0**	**+1.8**
PBKT	**Sadao Pong**	**12.34**	**31**	Pn	**Pn**	**09 28 51.5**	**+1.1**
KSI	**Kapahiang**	**12.62**	**139**	P	**Pn**	**09 28 54.2**	**-0.2**
	86nm,0.8s						
CM31	**Chiang Mai Arr**	**13.16**	**19**		**Pn**	**09 29 00.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**13.16**	**19**	P	**Pn**	**09 29 00.9**	**-0.7**
	2.5nm,0.3s,baz=209,slow=14,SNR=62						
CMAR				LR	LR	09 33 35.9	
	comp=Z,548nm,21.2s,baz=247,slow=35						
CMAR				ScP	**ScP**	**09 37 56.0**	**+1.2**
	0.5nm,0.3s,baz=233,slow=3.1,SNR=17						
CMAR	**Chiang Mai Arr**	**13.16**	**19**	P	**Pn**	**09 29 01.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**13.16**	**19**	Pn	**Pn**	**09 29 01.8**	**+0.1**
LHSI	**Lahat**	**13.37**	**137**	P	**Pn**	**09 29 03.3**	**-1.1**
	158nm,1.0s						
MNAI	**Manna**	**13.39**	**140**	Pn	**Pn**	**09 29 01.4**	**-3.3**
CHTO	**Chiang Mai**	**13.50**	**19**	P	**Pn**	**09 29 06.1**	**0.0**
CHTO	**Chiang Mai**	**13.50**	**19**		**Pn**	**09 29 06.1**	**0.0**
CHTO	**Chiang Mai**	**13.50**	**19**	Pn	**Pn**	**09 29 03.9**	**-2.2**
PALK	**Pallekele**	**13.64**	**276**	P	**Pn**	**09 29 09.0**	**+1.1**
	2.0nm,0.3s,baz=204,slow=14,SNR=10						
PALK				S	Sn	09 31 23.2	-15
	8.6nm,0.3s,baz=297,slow=19,SNR=15						
PALK				LR	LR	09 33 55.3	
	comp=Z,595nm,21.2s,baz=199,slow=35						
PALK	**Pallekele**	**13.64**	**276**		**Pn**	**09 29 08.8**	**+0.9**
MDSI	**Maura Dua**	**14.29**	**137**	P	**Pn**	**09 29 13.9**	**-2.6**
	50nm,0.9s						
LWLI	**Liwa**	**14.60**	**138**	P	P	09 29 35.8	+11
KLSI		**14.82**	**136**	P	**Pn**	**09 29 21.4**	**-2.0**
	24nm,0.9s						
DLV	**T Lat**	**15.14**	**66**		**Pn**	**09 29 25.2**	**-2.5**
KASI	**Kota Agung**	**15.27**	**138**	P	**Pn**	**09 29 28.7**	**-0.4**
	109nm,0.9s						
MDRS	**Chennai**	**15.59**	**298**	*e*P	**Pn**	**09 29 34.2**	**+0.9**
MDRS				*e*S	**Sn**	**09 32 15.3**	**-10**
VIS	**Vishakhapatnam**	**15.88**	**318**	*e*P	**Pn**	**09 29 34.7**	**-2.2**
VIS				*e*S	Sn	09 32 18.5	-14
CHLP	**Challavanipeta**	**15.99**	**322**	*e*P	**Pn**	**09 29 37.9**	**-0.4**
SKHT	**Srikalahasti**	**16.36**	**299**	*e*P	**P**	**09 29 44.8**	**+0.3**
SAIH	**SAIHA**	**16.45**	**355**	*e*P	**Pn**	**09 29 40.8**	**-3.3**
BWNR	**Bhubaneshwar**	**16.47**	**330**	*e*P	Pn	09 29 33.1	-11
BWNR				*e*S	Sn	09 32 21.3	-25
KSM	**Kuching**	**16.52**	**105**		**Pn**	**09 29 42.1**	**-2.9**
KSM	**Kuching**	**16.52**	**105**	P	**P**	**09 29 49.0**	**+2.6**
PVM	**Polavaram**	**16.75**	**313**	*e*P	**P**	**09 29 48.9**	**+0.2**
MYLAV	**Mylavaram**	**17.18**	**310**	*e*P	**P**	**09 29 55.3**	**+1.8**
ADKI	**Addanki**	**17.18**	**306**	*e*P	**P**	**09 29 55.1**	**+1.4**
TRD	**Trivandrum**	**17.45**	**279**	IAmb	IAmb	09 33 00.7	
	comp=Z,78nm,0.7s						
SLVN	**Son La**	**17.83**	**30**	P	**Pn**	**09 30 01.1**	**+0.1**
NJS	**Nagarjunasagar**	**18.10**	**307**	*e*P	**Pn**	**09 30 05.4**	**+1.1**
SBUM	**Sibu**	**18.14**	**100**	P	**Pn**	**09 30 04.6**	**-0.2**
SBUM	**Sibu**	**18.14**	**100**	P	**Pn**	**09 30 06.0**	**+1.2**
SRLM	**Srisailam**	**18.19**	**305**	*e*P	**Pn**	**09 30 06.8**	**+1.4**
CUPL	**Choutuppal**	**18.82**	**308**	*e*P	**Pn**	**09 30 14.1**	**+1.1**
URV	**Uravakonda**	**19.02**	**299**	*e*P	**Pn**	**09 30 16.3**	**+1.0**
HYB	**Hyderabad**	**19.18**	**308**	*i* P	**Pn**	**09 30 18.0**	**+0.7**
HYB				*e*S	**S**	**09 33 50.0**	**+0.6**
HYB	**Hyderabad**	**19.18**	**308**	*e*P	**Pn**	**09 30 17.2**	**0.0**
HYB				*e*S	**S**	**09 33 39.4**	**-10**
HYBB	**Hyderabad (bro**	**19.18**	**308**	*e*P	**Pn**	**09 30 18.0**	**+0.7**
SHL	**Shillong**	**19.61**	**353**	P	**P**	**09 30 17.4**	**-3.0**
SHL				pmax	pmax		
	comp=Z,34nm,0.8s						
SHL	**Shillong**	**19.61**	**353**	P	**P**	**09 30 17.4**	**-3.0**
QIZ	**Qiongzhong**	**19.87**	**48**	P	**Pn**	**09 30 24.3**	**-1.1**
QIZ				pP	**pP**	**09 30 37.5**	**0.0**
QIZ				S	**S**	**09 34 04.2**	**+1.1**
QIZ				sS	**sS**	**09 34 24.8**	**-2.0**
QIZ				pmax	pmax		
	comp=Z,110nm,0.8s						
QIZ				LR	LR		
	comp=Z,470nm,13.2s						
QIZ				LR	LR		
	comp=Z,400nm,20.6s						
QIZ				LR	LR		
	comp=Z,420nm,21.1s						
QIZ	**Qiongzhong**	**19.87**	**48**	P	**Pn**	**09 30 24.8**	**-0.6**
QIZ				IAmb	IAmb	09 30 26.2	
	comp=Z,150nm,0.9s						
SRSP	**Sriramsagar**	**20.22**	**311**	*e*P	Pn	09 30 28.4	-1.1
KMI	**Kunming**	**20.64**	**22**	⇑P	Pn	09 30 33.8	-0.8
KMI				pP	pP	09 30 46.0	-0.2
KMI				sP	sP	09 30 55.0	-0.2
KMI				S	**S**	**09 34 18.0**	**-0.5**
KMI				sS	sS	09 34 43.6	+1.1
KMI				SS	**SnSn**	**09 34 51.5**	**+7.9**
KMI				pmax	pmax		
	comp=Z,140nm,1.2s						
KMI				pmax	pmax		
	comp=Z,280nm,3.5s						
KMI				LR	LR		
	comp=Z,250nm,32.2s						
KMI				LR	LR		
	comp=Z,520nm,21.2s						
KMI				LR	LR		
	comp=Z,380nm,18.6s						
KMI	**Kunming**	**20.64**	**22**	P	Pn	09 30 33.4	-1.2
KMI				pmax	pmax		
	comp=Z,213nm,1.2s						
KMI	**Kunming**	**20.64**	**22**	P	Pn	09 30 33.4	-1.1
KMI				IAmb	IAmb	09 30 38.0	
	comp=Z,213nm,1.2s						
KLRI	**Killari**	**21.09**	**306**	*e*P	**P**	**09 30 38.1**	**+1.8**
NGP	**Nagpur**	**21.15**	**317**	*e*P	**P**	**09 30 36.1**	**-0.8**
NGP				*e*S	**S**	**09 34 22.4**	**-5.8**
NGP	**Nagpur**	**21.15**	**317**	*e*P	**P**	**09 30 38.9**	**+2.0**
NGP				*e*S	**pP**	**09 30 55.9**	**+4.0**
ZIRO	**ZIRO**	**21.42**	**359**	*e*P	**P**	**09 30 37.2**	**-2.7**
ZIRO				IAmb	IAmb	09 30 39.0	
	comp=Z,93nm,0.8s						
NGJI	**Ngawi**	**21.61**	**128**	P	P	09 30 53.9	+12
MTKI	**Muara Teweh, K**	**21.62**	**108**	P	**P**	**09 30 42.6**	**+0.6**
KKM	**Kota Kinabalu**	**21.72**	**89**	P	**P**	**09 30 42.6**	**-0.6**
ODAN	**Odare**	**21.79**	**343**	*e*P	**P**	**09 30 42.1**	**-1.8**
	comp=Z,58nm,0.7s						
ODAN	**Odare**	**21.79**	**343**	*e*P	**P**	**09 30 42.1**	**-1.8**
	comp=Z,58nm,0.7s						
RAMN	**Ramite**	**22.11**	**341**	*e*P	**P**	**09 30 46.0**	**-1.4**
	comp=Z,50nm,0.6s						
RAMN	**Ramite**	**22.11**	**341**	*e*P	**P**	**09 30 46.0**	**-1.4**
	comp=Z,50nm,0.6s						
TAPN	**Taplejung**	**22.16**	**344**	*e*P	**P**	**09 30 46.0**	**-2.0**
	comp=Z,118nm,0.7s						
TAPN	**Taplejung**	**22.16**	**344**	*e*P	**P**	**09 30 46.0**	**-2.0**
	comp=Z,118nm,0.7s						
BBKI	**Banjar Baru**	**22.50**	**114**	P	**P**	**09 30 52.2**	**+0.8**
	comp=Z,79nm,1.0s						
JIRN	**Jiri**	**22.91**	**341**	*e*P	**P**	**09 30 54.0**	**-1.9**
	comp=Z,198nm,0.7s						
JIRN	**Jiri**	**22.91**	**341**	*e*P	**P**	**09 30 54.0**	**-1.9**
	comp=Z,198nm,0.7s						
PKI	**Pulchoki**	**23.09**	**339**	*e*P	**P**	**09 30 55.8**	**-1.9**
	comp=Z,171nm,1.0s						
PKI	**Pulchoki**	**23.09**	**339**	*e*P	**P**	**09 30 55.8**	**-1.9**
	comp=Z,171nm,1.0s						
PKIN	**Phulchoki**	**23.10**	**339**	*e*P	**P**	**09 30 55.9**	**-1.8**
	comp=Z,44nm,0.6s						
PKIN	**Phulchoki**	**23.10**	**339**	*e*P	**P**	**09 30 55.9**	**-1.8**
	comp=Z,44nm,0.6s						
DMN	**Daman**	**23.23**	**339**	*e*P	**P**	**09 30 58.5**	**-0.5**
DMN	**Daman**	**23.23**	**339**	*e*P	**P**	**09 30 58.5**	**-0.5**
GUN	**Gumba**	**23.24**	**341**	*e*P	**P**	**09 30 56.6**	**-2.6**
	comp=Z,172nm,0.8s						
GUN	**Gumba**	**23.24**	**341**	*e*P	**P**	**09 30 56.6**	**-2.6**
	comp=Z,172nm,0.8s						
KKN	**Kakani**	**23.33**	**339**	*e*P	**P**	**09 30 57.7**	**-2.2**
KKN	**Kakani**	**23.33**	**339**	*e*P	**P**	**09 30 57.7**	**-2.2**
GYA	**Guiyang**	**23.49**	**29**	‖P	**P**	**09 31 02.0**	**+0.8**
GYA				PcP	**PcP**	**09 34 46.6**	**+1.4**
GYA				S	**S**	**09 35 11.7**	**+2.2**
GYA				sS	sS	09 35 38.7	+1.1
GYA				SS	**SnSn**	**09 36 04.1**	**+11**
GYA				pmax	pmax		
	comp=Z,260nm,1.0s						
GYA				pmax	pmax		
	comp=Z,490nm,3.5s						
GYA				LR	LR		
	comp=Z,210nm,13.2s						
GYA				LR	LR		
	comp=Z,230nm,9.1s						
GYA				LR	LR		
	comp=Z,310nm,14.4s						
BLJI	**Banyuglugur**	**23.54**	**125**	P	**P**	**09 31 02.7**	**+1.1**
	comp=Z,9μmcomp=Z,141nm,1.1s						
BHPL	**Bhopal**	**23.68**	**318**	*e*P	**P**	**09 31 04.9**	**+2.0**
BHPL				IAmb	IAmb	09 31 06.5	
	comp=Z,24nm,0.5s						
GKN	**Gorkha**	**23.76**	**338**	*e*P	**P**	**09 31 02.9**	**-0.8**
	comp=Z,64nm,0.3s						
GKN	**Gorkha**	**23.76**	**338**	*e*P	**P**	**09 31 02.9**	**-0.8**
	comp=Z,64nm,0.3s						
LSA	**Lhasa**	**23.77**	**353**	P	**P**	**09 31 05.6**	**+1.5**
LSA	**Lhasa**	**23.77**	**353**	P	**P**	**09 31 03.4**	**-0.7**
LSA				pmax	pmax		
	comp=Z,88nm,0.8s						
LSA	**Lhasa**	**23.77**	**353**	P	**P**	**09 31 03.4**	**-0.7**
LSA				IAmb	IAmb	09 31 06.2	
	comp=Z,88nm,0.8s						
KOLN	**Koldanda**	**23.95**	**336**	*e*P	**P**	**09 31 05.1**	**-0.4**
KOLN	**Koldanda**	**23.95**	**336**	*e*P	**P**	**09 31 05.1**	**-0.4**
MYLDM	**Lahad Datu**	**24.03**	**91**	P	**P**	**09 31 06.0**	**-0.1**
MYLDM				IAmb	IAmb	09 31 09.1	
	comp=Z,204nm,1.2s						
PYUN	**Piuthan**	**24.49**	**335**	*e*P	**P**	**09 31 10.8**	**+0.4**
	comp=Z,183nm,0.3s						
PYUN	**Piuthan**	**24.49**	**335**	*e*P	**P**	**09 31 10.8**	**+0.4**
	comp=Z,183nm,0.3s						
HKPS	**Hong Kong Po S**	**25.03**	**48**	P	**P**	**09 31 13.5**	**-1.7**
SRBI	**Singaraja**	**25.05**	**124**	P	**P**	**09 31 16.1**	**+0.7**
	comp=Z,256nm,1.0s						
H08S3	**Diego Garcia H**	**25.69**	**238**	T	T	09 57 54.9	
	baz=58						
H08S2	**Diego Garcia H**	**25.69**	**238**	T	T	09 58 02.3	
	baz=58						
H08S1	**Diego Carcia H**	**25.70**	**238**	T	T	09 57 32.2	
	baz=58						
MPSI	**Mapaga**	**26.09**	**102**	P	**P**	**09 31 25.5**	**+0.7**
	comp=Z,1μmcomp=Z,110nm,1.0s						
CD2	**Chengdu**	**26.30**	**18**	P	**P**	**09 31 26.2**	**-0.4**
CD2				pP	pP	09 31 43.0	-0.3
CD2				sP	sP	09 31 50.3	-1.4
CD2				PcP	**PcP**	**09 34 50.6**	**-0.7**
CD2				S	**S**	**09 36 03.0**	**+8.7**
CD2				SS	**SnSn**	**09 37 07.0**	**+5.4**
CD2				pmax	pmax		
	comp=Z,150nm,1.0s						
CD2				LR	LR		
	comp=Z,280nm,11.5s						
CD2				LR	LR		
	comp=Z,310nm,12.9s						
CD2				LR	LR		
	comp=Z,340nm,15.8s						
TGY	**Tagaytay City**	**27.35**	**71**	P	**P**	**09 31 36.6**	**+0.5**
	comp=Z,144nm,0.5s,baz=199,slow=1.4,SNR=3.4						
KAPI	**Kappang**	**27.60**	**113**	P	**P**	**09 31 39.4**	**+1.0**
	comp=Z,6.8nm,0.3s,baz=196,slow=11,SNR=3.9						
ENH	**Enshi**	**28.03**	**29**	P	**P**	**09 31 41.4**	**-0.6**
ENH				IAmb	IAmb	09 31 42.5	
	comp=Z,62nm,0.6s						
BKSI	**Bulukumba**	**28.06**	**113**	P	**P**	**09 31 42.9**	**+0.4**
	comp=Z,616nmcomp=Z,54nm,0.7s						
GTOI	**Gorontalo**	**29.07**	**99**	P	**P**	**09 31 50.8**	**-0.7**
	comp=Z,510nmcomp=Z,58nm,1.2s						
SMLA	**Simla**	**29.76**	**329**	*e*P	**P**	**09 31 57.9**	**+0.6**
SMLA				IAmb	IAmb	09 32 00.4	
	comp=Z,25nm,1.0s						
TPUB	**Ta-pu**	**30.58**	**53**	P	**P**	**09 32 06.1**	**+1.3**
WHN	**Wuhan**	**30.81**	**35**	⇑P	**P**	**09 32 07.5**	**+0.9**
WHN				S	**S**	**09 37 09.2**	**+4.3**
WHN				pmax	pmax		
	comp=Z,120nm,0.8s						
WHN				LR	LR		
	comp=Z,360nm,10.2s						
WHN				LR	LR		
	comp=Z,410nm,7.5s						
WHN				LR	LR		
	comp=Z,520nm,16.4s						
EDFI	**Ende, Flores**	**30.93**	**118**	P	**P**	**09 32 06.0**	**-2.0**
	comp=Z,18nm,0.8s						
XAN	**Xi'an**	**30.99**	**24**	P	**P**	**09 32 07.6**	**-0.6**
XAN				pP	pwP	09 32 29.9	+2.6
XAN				PP	**PnPn**	**09 33 12.6**	**+0.5**
XAN				PcP	**PcP**	**09 35 03.5**	**+0.6**
XAN				S	**S**	**09 37 02.2**	**-5.7**
XAN				sS	sS	09 37 40.7	+3.9
XAN				pmax	pmax		
	comp=Z,110nm,0.9s						
XAN				pmax	pmax		
	comp=Z,190nm,5.4s						
XAN				LR	LR		
	comp=Z,370nm,17.6s						
XAN				LR	LR		
	comp=Z,230nm,20.1s						
XAN				LR	LR		
	comp=Z,690nm,18.4s						
XAN	**Xi'an**	**30.99**	**24**	P	**P**	**09 32 07.7**	**-0.6**
XAN				pmax	pmax		
	comp=Z,169nm,1.1s						
XAN	**Xi'an**	**30.99**	**24**	P	**P**	**09 32 07.7**	**-0.6**
SSLB	**Suanglung**	**31.09**	**53**	P	**P**	**09 32 09.6**	**+0.4**
DHRM	**DHARAMSHALA**	**31.09**	**329**	*e*P	**P**	**09 32 09.7**	**+0.3**
DHRM				IAmb	IAmb	09 32 11.8	
	comp=Z,32nm,0.5s						
YULB	**Yu-li**	**31.16**	**54**	P	**P**	**09 32 08.9**	**-1.0**
LZH	**Lanzhou**	**31.18**	**15**	*e*P	**P**	**09 32 09.5**	**-0.6**
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
YHNB	**Yeheng**	**31

comp=Z,94nm,0.7s
KSH pmax pmax
comp=Z,130nm,4.3s
KSH LR LR
comp=Z,200nm,9.5s
KSH LR LR
comp=Z,160nm,9.3s
KSH LR LR
comp=Z,270nm,14.0s
SIJI Sorong 37.46 99 P **P 09 33 03.6 -0.8**
comp=Z,20nm,0.3s,baz=286,slow=3.5,SNR=6.1
HHC Hu-ho-hao-te 37.96 21 *e*P **P 09 33 09.1 +0.7**
HHC sP sP 09 33 31.4 -2.5
HHC S **S 09 38 55.4 +0.2**
HHC sS sS 09 39 28.6 +4.0
HHC pmax pmax
comp=Z,67nm,1.0s
HHC pmax pmax
comp=Z,240nm,5.4s
HHC LR LR
comp=Z,350nm,16.9s
HHC LR LR
comp=Z,370nm,13.3s
HHC LR LR
comp=Z,370nm,16.3s
WMQ Urumqi 38.13 352 *e*P **P 09 33 11.0 +1.3**
WMQ pP pP 09 33 25.4 -1.6
WMQ sP sP 09 33 36.9 +1.6
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,66nm,4.3s
WMQ LR LR
comp=Z,260nm,29.1s
WMQ LR LR
comp=Z,410nm,28.8s
WMQ LR LR
comp=Z,140nm,28.9s
WMQ Urumqi 38.13 352 P **P 09 33 09.8 +0.1**
WMQ pmax pmax
comp=Z,31nm,0.7s
WMQ Urumqi 38.13 352 P **P 09 33 09.8 +0.1**
WMQ IAmb IAmb 09 33 12.3
comp=Z,32nm,0.7s
TARG Taragay, Kyrgy 38.52 340 P **P 09 33 12.7 -0.8**
TARG IAmb IAmb 09 33 14.7
comp=Z,44nm,1.0s
PRZ Przheval'sk 39.00 341 P **P 09 33 19.1 +1.9**
PRZ pmax pmax
comp=Z,86nm,1.0s
PRZ Przheval'sk 39.00 341 P **P 09 33 19.1 +1.9**
FITZ Fitzroy Crossi 39.06 128 PcP **PcP 09 35 27.9 +1.4**
comp=Z,8.9nm,0.6s,baz=0.0,slow=1.6,SNR=6.3
FITZ ScP **ScP 09 39 08.5 -0.2**
comp=Z,9.4nm,0.8s,baz=0.8,slow=3.9,SNR=11
FITZ Fitzroy Crossi 39.06 128 P **P 09 33 17.5 -0.3**
baz=39,SNR=16
FITZ Fitzroy Crossi 39.06 128 P **P 09 33 17.4 -0.3**
KDJ Kajisay 39.09 340 P **P 09 33 18.6 +0.7**
KDJ pmax pmax
comp=Z,60nm,0.7s
KDJ Kajisay 39.09 340 P **P 09 33 18.6 +0.7**
BJT Baijiatuau 39.13 27 P **P 09 33 19.4 +1.3**
BJT pmax pmax
comp=Z,105nm,1.2s
BJT Baijiatuau 39.13 27 P **P 09 33 19.4 +1.3**
BJI Beijing 39.16 27 P **P 09 33 19.6 +1.3**
BJI S **S 09 39 14.6 +1.7**
BJI pmax pmax
comp=Z,69nm,1.1s
BJI LR LR
comp=Z,100nm,17.7s
BJI LR LR
comp=Z,170nm,21.2s
SHLS Shalkode 39.28 343⇑ *i*P **P 09 33 19.6 +0.1**
comp=Z,39nm,0.7s,baz=343
SHLS Shalkode 39.28 343*c i*P **P 09 33 19.6 +0.1**
SHLS pmax pmax
comp=Z,39nm,0.7s
GAR Garm 39.40 330 IAmb IAmb 09 33 37.3
comp=Z,46nm,1.1s
UZB Uzynbulak 39.40 342⇑ *i*P **P 09 33 21.6 +1.0**
comp=Z,30nm,0.8s,baz=342
UZB *e*S **S 09 39 17.9 +0.9**
comp=Z,43nm,1.8s,baz=342
UZB Uzynbulak 39.40 342*c i*P **P 09 33 21.5 +1.0**
UZB *e*S **S 09 39 17.8 +0.9**
UZB pmax pmax
comp=Z,30nm,0.8s
UZB smax smax
comp=N,43nm,1.8s
PDGK Podgornoye 39.43 343 P **P 09 33 21.2 +0.5**
SATY Saty 39.52 342⇑ *i*P **P 09 33 22.5 +1.1**
comp=N,27nm,0.7s,baz=341
SATY Saty 39.52 342*c i*P **P 09 33 22.5 +1.1**
SATY pmax pmax
comp=Z,27nm,0.7s
ULHL Ulahol 39.52 339 P **P 09 33 22.3 +0.7**
SNR=39
CHGR Chuyangaron 39.73 329 P **P 09 33 23.1 -0.1**
CHGR IAmb IAmb 09 33 41.9
comp=Z,37nm,0.9s
KZA Kyzart 39.75 338 P **P 09 33 24.7 +1.0**
SNR=20
BOOM Boomskoye usch 39.85 339 P **P 09 33 24.9 +0.7**
BOOM pmax pmax
comp=Z,44nm,0.7s
BOOM Boomskoye usch 39.85 339 P **P 09 33 24.9 +0.7**
BOOM IAmb IAmb 09 33 25.8
comp=Z,44nm,0.7s
TNSS Tian-Shan 39.97 340 *e*P **P 09 33 26.5 +0.9**
baz=340
TNSS Tian-Shan 39.97 340 *e*P **P 09 33 26.4 +0.9**
BTK Batken 39.98 331 P **P 09 33 26.6 +1.4**
BTK pmax pmax
comp=Z,38nm,0.8s
BTK Batken 39.98 331 P **P 09 33 26.6 +1.4**
BTK IAmb IAmb 09 33 42.9
comp=Z,38nm,0.8s
MDOK Medeo 40.05 340 *i* P **P 09 33 27.1 +1.2**
baz=340
MDOK *i* S **S 09 39 27.2 +0.6**
baz=340
MDOK Medeo 40.05 340 *i* P **P 09 33 27.1 +1.2**
MDOK *i* S **S 09 39 27.2 +0.6**
AAA Alma-Ata 40.14 340 *e*P **P 09 33 27.7 +1.1**
comp=Z,39nm,0.5s,baz=340
AAA *i* S **S 09 39 29.0 +1.2**
baz=340
AAA Alma-Ata 40.14 340 *e*P **P 09 33 27.6 +1.1**
AAA *i* S **S 09 39 29.0 +1.2**
AAA pmax pmax
comp=Z,39nm,0.5s
UCH Uchtor 40.16 337 P **P 09 33 28.6 +1.5**
SNR=7.1
MTBS Maitube 40.23 340 *e*P **P 09 33 27.8 +0.5**
baz=339
MTBS Maitube 40.23 340 *e*P **P 09 33 27.8 +0.5**
KNRA Kununurra 40.30 123 P **P 09 33 26.8 -1.2**
baz=40,SNR=5.1
KNRA Kununurra 40.30 123 P **P 09 33 26.4 -1.7**
KNRA **PcP 09 35 31.9 +1.3**
TKM2 Tokmak 2 40.35 339 P **P 09 33 29.3 +0.9**
SNR=31
KBK Karagaybulak 40.36 338 P **P 09 33 30.1 +1.6**
SNR=48
AML Almayashu 40.40 336 P **P 09 33 30.3 +1.2**
SNR=13
AAK Ala-Archa 40.51 337 P **P 09 33 31.0 +1.3**
SNR=26
CHKK Chushkaly 40.68 341 *e*P **P 09 33 30.7 -0.3**
baz=340
CHKK Chushkaly 40.68 341 *e*P **P 09 33 30.6 -0.3**
CHMS Chumysh 40.73 338 P **P 09 33 32.0 +0.7**
SNR=7.4
EKS2 Erkin-Say 40.81 337 P **P 09 33 33.8 +1.6**
SNR=5.8
DL2 Dalian 41.00 33 P **P 09 33 34.5 +1.0**
DL2 PcS **PcS 09 39 25.2 +1.8**
DL2 S **S 09 39 40.5 0.0**
DL2 pmax pmax
comp=Z,170nm,0.8s
DL2 pmax pmax
comp=Z,100nm,3.8s
DL2 LR LR
comp=Z,200nm,22.9s
DL2 LR LR
comp=Z,170nm,20.4s
MTN Manton Dam 41.05 117 P **P 09 33 33.3 -1.0**
baz=41,SNR=30
MTN Manton Dam 41.05 117 P **P 09 33 32.9 -1.4**
MTN IAmb IAmb 09 33 40.0
comp=Z,23nm,0.6s
USP Ospenovka 41.05 338 P **P 09 33 34.9 +0.9**
SNR=32
SGDS Sogindy 41.16 338 *e*P **P 09 33 35.7 +0.8**
comp=Z,8.8nm,0.7s,baz=338
SGDS Sogindy 41.16 338 *e*P **P 09 33 35.7 +0.8**
SGDS pmax pmax
comp=Z,9.0nm,0.7s
TDK Taldyqorghan 41.27 343 *e*P **P 09 33 36.1 +0.3**
comp=Z,44nm,1.2s,baz=343
TDK *e*S **S 09 39 43.3 -1.2**
baz=343
TDK Taldyqorghan 41.27 343 *e*P **P 09 33 36.1 +0.3**
TDK *e*S **S 09 39 43.3 -1.2**
TDK pmax pmax
comp=Z,44nm,1.2s
MK31 Makanchi Array 41.96 348 P **P 09 33 41.3 0.0**
MK31 pmax pmax
comp=Z,27nm,0.9s
MK31 Makanchi Array 41.96 348 P **P 09 33 41.3 0.0**
MKAR Makanchi Array 41.96 348 P **P 09 33 41.4 0.0**
comp=Z,29nm,0.6s,baz=165,slow=8.0,SNR=292
MKAR PcP **PcP 09 35 36.6 +1.0**
comp=Z,3.4nm,0.7s,baz=156,slow=1.9,SNR=2.6
MKAR S **S 09 39 56.6 +2.0**
comp=Z,0.8nm,0.9s,baz=161,slow=18,SNR=2.4
MKAR LR LR 09 54 00.8
comp=Z,145nm,21.7s,baz=166,slow=40
MKAR Makanchi Array 41.96 348 P **P 09 33 41.2 -0.2**
IUG luzhnay 41.99 333 *i* P **P 09 33 42.5 +0.8**
comp=Z,21nm,0.8s,baz=332
IUG *e*S **S 09 39 55.2 -0.2**
baz=332
IUG luzhnay 41.99 333 *i* P **P 09 33 42.5 +0.8**
IUG *e*S **S 09 39 55.1 -0.2**
IUG pmax pmax
comp=Z,21nm,0.8s
DZA Taraz 42.01 335 *e*P **P 09 33 42.0 +0.2**
comp=Z,13nm,0.7s,baz=334
DZA *e*S **S 09 39 54.8 -0.7**
baz=334
DZA Taraz 42.01 335 *e*P **P 09 33 42.0 +0.2**
DZA *e*S **S 09 39 54.8 -0.7**
DZA pmax pmax
comp=Z,13nm,0.7s
MAKZ Makanchi 42.04 347 P **P 09 33 42.3 +0.3**
MAKZ pmax pmax
comp=Z,39nm,0.6s
MAKZ Makanchi 42.04 347 P **P 09 33 42.3 +0.3**
MAKZ IAmb IAmb 09 33 42.9
comp=Z,39nm,0.6s
ZSN Zaisan 42.10 350 *e*P **P 09 33 43.2 +0.7**
comp=Z,8.9nm,0.6s,baz=350
ZSN Zaisan 42.10 350 *e*P **P 09 33 43.2 +0.7**
ZSN pmax pmax
comp=Z,9.0nm,0.6s
KDU Kakadu 42.17 116 P **P 09 33 44.0 +0.5**
baz=42,SNR=5.6
JSU Suzuyama 42.23 48 P **P 09 33 43.8 0.0**
JSU IAmb IAmb 09 33 45.4
comp=Z,34nm,1.0s
KK31 Karatay Array 42.53 334 P **P 09 33 46.3 +0.2**
KK31 pmax pmax
comp=Z,33nm,1.1s
KK31 Karatay Array 42.53 334 P **P 09 33 46.3 +0.2**
KKAR Karatay Array 42.53 334 P **P 09 33 46.2 +0.1**
KKAR Karatay Array 42.53 334 P **P 09 33 46.1 +0.1**
TJN Taejon 42.73 40*ce*P **P 09 33 47.6 -0.2**
BTLS Baital 42.74 339⇑ *i*P **P 09 33 48.1 +0.4**
comp=Z,19nm,0.7s,baz=338
BTLS *e*S **S 09 40 06.3 +0.2**
baz=338
BTLS Baital 42.74 339*c i*P **P 09 33 48.1 +0.4**
BTLS *e*S **S 09 40 06.3 +0.2**
BTLS pmax pmax
comp=Z,19nm,0.7s
SONM Songino Array 42.94 12 P **P 09 33 49.3 -0.1**
comp=Z,52nm,0.8s,baz=194,slow=8.6,SNR=79
SONM PcP **PcP 09 35 39.7 +0.8**
comp=Z,6.5nm,0.8s,baz=197,slow=3.8,SNR=4.2
SONM ScP **ScP 09 39 24.7 +1.0**
comp=Z,1.0nm,0.4s,baz=209,slow=2.7,SNR=3.7
SONM LR LR 09 52 52.2
comp=Z,144nm,21.6s,baz=198,slow=38
SONM Songino Array 42.94 12 P **P 09 33 49.3 -0.1**
SONM pmax pmax
comp=Z,48nm,0.8s
SONM Songino Array 42.94 12 P **P 09 33 49.2 -0.1**
INCN Inchon 42.95 39 P **P 09 33 48.7 -0.9**
INCN pmax pmax
comp=Z,53nm,0.9s
INCN Inchon 42.95 39 P **P 09 33 48.7 -0.9**
INCN IAmb IAmb 09 33 50.4
comp=Z,53nm,0.9s
JNU Nakatsue 43.34 47 P **P 09 33 52.8 +0.1**
JNU IAmb IAmb 09 33 54.9
comp=Z,64nm,1.0s
KSAR Wonju Array Be 43.71 39 P **P 09 33 54.6 -1.0**
KSAR Wonju Array Be 43.71 39 P **P 09 33 54.6 -1.0**
KS19 Wonju Array Si 43.73 39 P **P 09 33 55.8 0.0**
KSRS Korea Array 43.74 40 P **P 09 33 55.6 -0.2**
comp=Z,15nm,0.9s,baz=221,slow=8.9,SNR=54
KSRS PcP **PcP 09 35 42.0 +0.4**
comp=Z,3.2nm,0.6s,baz=242,slow=3.0,SNR=9.9
KSRS LR LR 09 53 01.6
comp=Z,145nm,18.9s,baz=232,slow=37
DGZ Jazzator, Alta 43.95 354 *i* P **P 09 33 57.1 -0.4**
DGZ pmax pmax
comp=Z,29nm,1.5s
NWAO Narrogin (SRO) 44.39 152 LR LR 09 49 56.5
comp=Z,134nm,21.0s,baz=20,slow=32
ZAK Zakamensk 44.86 8 *e*P **P 09 34 03.9 -0.9**
ZAK *e* 09 35 44.7
ZAK pmax pmax
comp=Z,17nm,1.1s
ZAK pmax pmax
comp=Z,7.0nm,1.1s
WRKA Warakurna 45.17 134 P **P 09 34 08.0 +0.5**
baz=45,SNR=42
GEYT Alibeck 45.75 319 P **P 09 34 13.0 +1.1**
comp=Z,16nm,0.6s,baz=148,slow=8.7,SNR=21
GEYT LR LR 09 57 15.6
comp=Z,100nm,18.5s,baz=20,slow=41
GEYT Alibeck 45.75 319 P **P 09 34 13.2 +1.3**
GYA0B ALIBECK ARRAY 45.75 319 P **P 09 34 13.4 +1.5**
GYA0B IAmb IAmb 09 34 13.9
comp=Z,17nm,0.6s
SEM Semipalatinsk 45.82 347 *i* P **P 09 34 12.5 0.0**
comp=Z,8.7nm,0.4s,baz=347
SEM Semipalatinsk 45.82 347 *i* P **P 09 34 12.4 0.0**
SEM pmax pmax
comp=Z,9.0nm,0.4s
JMN Monobe 45.82 48 P **P 09 34 13.2 +0.6**
JMN IAmb IAmb 09 34 14.3
comp=Z,33nm,0.8s
JHS Saijyo 45.89 46 P **P 09 34 14.3 +1.3**
TLY Talaya 46.18 8 *e*P **P 09 34 14.6 -0.5**
TLY *e* 09 36 05.1
TLY pmax pmax
comp=Z,68nm,0.9s
TLY MLR MLR
comp=Z,475nm,19.0s
TLY Talaya 46.18 8 P **P 09 34 15.9 +0.8**
TLY IAmb IAmb 09 34 16.6
comp=Z,23nm,0.8s
KURBB Kurchatov Arra 46.41 346 P **P 09 34 16.5 -0.3**
KURK Kurchatov 46.48 346*ce*P **P 09 34 17.9 +0.6**
KURK pmax pmax
comp=Z,119nm,1.6s
KURK Kurchatov 46.48 346 P **P 09 34 18.4 +1.1**
CN2 Changchun 46.50 31 *e*P **P 09 34 17.1 -0.5**
CN2 *e*PP **PP 09 36 07.5 -0.4**
CN2 *e*S **S 09 40 59.5 -1.1**
CN2 pmax pmax
comp=Z,50nm,0.6s
CN2 pmax pmax
comp=Z,110nm,3.0s
WB0 Warramunga Arr 46.97 124 P **P 09 34 21.8 +0.1**
WB0 IAmb IAmb 09 34 25.2
comp=Z,24nm,0.7s
WRA Warramunga Arr 47.01 124 P **P 09 34 22.0 0.0**
comp=Z,25nm,0.8s,baz=303,slow=9.2,SNR=224
WRA PcP **PcP 09 35 54.0 +0.7**
comp=Z,5.1nm,0.6s,baz=312,slow=3.1,SNR=6.2
WRA ScP **ScP 09 39 40.1 -0.8**
comp=Z,3.5nm,0.8s,baz=317,slow=3.6,SNR=13
WRA S **S 09 41 03.8 -4.8**
comp=Z,5.0nm,1.0s,baz=298,slow=16,SNR=11
WRA LR LR 09 57 40.7
comp=Z,97nm,18.3s,baz=140,slow=40
WRA Warramunga Arr 47.01 124 P **P 09 34 22.0 0.0**
WRAB Tennant Creek 47.01 124*ce*P **P 09 34 22.2 +0.2**
WRAB pmax pmax
comp=Z,35nm,0.7s
WRAB Tennant Creek 47.01 124 P **P 09 34 22.4 +0.4**
WRAB IAmb IAmb 09 34 23.2
comp=Z,38nm,0.8s
WB2 Warramunga Arr 47.02 124 P **P 09 34 21.8 -0.3**
WB2 IAmb IAmb 09 34 23.2
comp=Z,40nm,0.9s
WC3 Warramunga Arr 47.04 124 P **P 09 34 21.9 -0.3**
baz=47
WR0 Warramunga Arr 47.18 124 P **P 09 34 23.7 +0.4**
WR0 IAmb IAmb 09 34 24.6
comp=Z,46nm,0.9s
BRZS Berezniki 47.48 341⇑ *i*P **P 09 34 26.0 +0.7**
comp=Z,42nm,0.9s,baz=341
BRZS Berezniki 47.48 341*c i*P **P 09 34 25.9 +0.7**
BRZS pmax pmax
comp=Z,42nm,0.9s
JWT Wachi 47.66 47 P **P 09 34 26.6 -0.2**
JWT IAmb IAmb 09 34 28.3
comp=Z,21nm,0.8s
HIA Hailar 48.16 22 P **P 09 34 30.5 0.0**
HIA pmax pmax
comp=Z,55nm,0.7s
HIA Hailar 48.16 22 P **P 09 34 30.5 0.0**
ZAA0 Zalesovo Array 48.44 352 P **P 09 34 32.7 +0.2**
ZALV Zalesovo Beam 48.44 352 P **P 09 34 32.4 -0.1**
comp=Z,22nm,0.3s,baz=175,slow=7.3,SNR=66
ZALV PcP **PcP 09 35 56.4 -1.3**
comp=Z,3.9nm,0.6s,baz=163,slow=4.4,SNR=1.1
ZALV ScP **ScP 09 39 44.3 -1.8**
comp=Z,0.8nm,0.5s,baz=215,slow=1.8,SNR=2.2
ZALV S **S 09 41 25.6 -2.1**
comp=Z,2.7nm,0.7s,baz=173,slow=13,SNR=6.2
ZALV LR LR 09 58 41.9
comp=Z,86nm,19.4s,baz=183,slow=41
ZALV Zalesovo Beam 48.44 352 P **P 09 34 32.7 +0.2**
AS31 Alice Springs 48.55 129 P **P 09 34 33.7 -0.2**
ASAR Alice Springs 48.55 129 P **P 09 34 34.2 +0.3**
comp=Z,17nm,0.8s,baz=300,slow=7.4,SNR=167
ASAR PcP **PcP 09 35 60.0 +1.1**
comp=Z,8.1nm,0.8s,baz=311,slow=3.5,SNR=8.0
ASAR ScP **ScP 09 39 46.4 -1.0**
comp=Z,3.0nm,0.7s,baz=306,slow=4.5,SNR=10
ASAR S **S 09 41 27.8 -2.6**
comp=Z,10nm,0.8s,baz=302,slow=14,SNR=44
ASAR LR LR 09 55 34.6
comp=Z,108nm,20.2s,baz=300,slow=37
ASAR Alice Springs 48.55 129 P **P 09 34 33.5 -0.5**
FORT Forrest 48.74 141 P **P 09 34 37.1 +1.9**
INU Inuyama 48.87 47 P **P 09 34 35.2 -0.9**
JGF Kuroka 49.23 47 P **P 09 34 38.9 0.0**
MDJ Mudanjiang 49.24 33 P **P 09 34 39.7 +0.9**
MDJ pmax pmax
comp=Z,70nm,1.2s
MDJ pmax pmax
comp=Z,170nm,4.3s
MDJ Mudanjiang 49.24 33 P **P 09 34 39.6 +0.8**
MDJ pP pP 09 34 54.1 -2.5
MDJ sP pwP 09 35 01.1 +2.3
MDJ pmax pmax
comp=Z,70nm,1.3s
MDJ pmax pmax
comp=Z,170nm,4.3s
MDJ Mudanjiang 49.24 33 P **P 09 34 39.8 +1.0**
VLA Vladivostok 49.58 36 *i* P **P 09 34 41.2 -0.2**
VLA pmax pmax
comp=Z,43nm,1.1s
MAJO Matsushiro 50.26 46 P **P 09 34 46.4 -0.3**
MAJO 09 36 05.1
MAJO pmax pmax
comp=Z,23nm,0.9s
MAJO Matsushiro 50.26 46 P **P 09 34 46.4 -0.3**
MAJO PcP **PcP 09 36 05.1 +0.3**
MAJO IAmb IAmb 09 36 06.0
comp=Z,23nm,0.9s
MAT Matsushiro 50.26 46 P **P 09 34 46.2 -0.6**
MAT *e*S **S 09 41 53.6 -0.4**
MJAR Matsushiro Arr 50.26 46 P **P 09 34 46.0 -0.7**
comp=Z,9.3nm,0.8s,baz=252,slow=7.9,SNR=19
MJAR PcP **PcP 09 36 05.5 +0.6**
comp=Z,19nm,0.9s,baz=254,slow=4.7,SNR=16
MJAR LR LR 09 58 29.7
comp=Z,143nm,18.8s,baz=230,slow=39
MJAR Matsushiro Arr 50.26 46 P **P 09 34 46.5 -0.3**
MJAR 09 36 05.3
MJAR pmax pmax
comp=Z,14nm,0.8s
MJAR Matsushiro Arr 50.26 46 P **P 09 34 46.5 -0.3**
MJAR PcP **PcP 09 36 05.3 +0.4**
USA0B Ussuriysk Arra 50.30 35 P **P 09 34 45.2 -1.7**
USA0B pmax pmax
comp=Z,25nm,0.9s
USA0B Ussuriysk Arra 50.30 35 P **P 09 34 45.2 -1.7**
USA0B IAmb IAmb 09 34 48.1
comp=Z,25nm,0.9s
USRK Ussuriysk Ar. 50.30 35 P **P 09 34 46.6 -0.3**
comp=Z,26nm,0.9s,baz=242,slow=7.5,SNR=46
USRK LR LR 09 56 07.7
comp=Z,137nm,21.8s,baz=216,slow=36
USRK Ussuriysk Ar. 50.30 35 P **P 09 34 46.3 -0.6**
BRVK Borovoye 50.89 341 P **P 09 34 51.1 -0.1**
BRVK Borovoye 50.89 341 P **P 09 34 50.8 -0.4**
JSD Sado 50.98 45 P **P 09 34 51.7 -0.3**
QIS Mount Isa 51.68 122 P **P 09 34 57.7 +0.1**
baz=52,SNR=30
ABKAR Akbulak array 51.98 332 P **P 09 34 60.0 +0.6**
JMM Marumori 52.70 46 P **P 09 35 04.9 +0.1**
AKTO Aktyubinsk 53.70 332 P **P 09 35 11.9 -0.1**
comp=Z,18nm,0.6s,baz=113,slow=8.6
AKTO PcP **PcP 09 36 17.8 +0.5**
comp=Z,1.6nm,0.3s,baz=139,slow=3.7,SNR=3.6
BOD Bodaibo 53.91 13 *e*P **P 09 35 13.1 -0.3**
BOD pmax pmax
comp=Z,85nm,1.0s
ZEA Zeya 54.57 23 *e*P **P 09 35 18.1 -0.2**
ZEA pmax pmax
comp=Z,35nm,1.0s
PMG Port Moresby 54.78 106*ce*P **P 09 35 19.7 -0.8**
PMG pmax pmax
comp=Z,37nm,1.0s
PMG Port Moresby 54.78 106 P **P 09 35 20.0 -0.5**
PMG IAmb IAmb 09 35 21.6
comp=Z,48nm,1.1s
MTSU Mount Surprise 54.79 117 P **P 09 35 20.6 +0.1**
baz=55,SNR=20
JEW Eniwo 55.35 41 P **P 09 35 25.1 +1.0**
TBLG Delisi 56.56 317 P **P 09 35 33.3 +0.4**
TBLG pmax pmax
comp=Z,17nm,0.8s
TBLG Delisi 56.56 317 P **P 09 35 33.3 +0.4**
TBLG IAmb IAmb 09 35 34.1
comp=Z,18nm,0.8s
ASAJ Asahikawa 56.69 40 P **P 09 35 33.6 0.0**
comp=Z,31nm,0.9s,baz=260,slow=9.7,SNR=12
ASAJ Asahikawa 56.69 40 P **P 09 35 33.8 +0.2**
ASAJ pmax pmax
comp=Z,67nm,1.2s
JKA Kamikawa-asahi 56.69 40 P **P 09 35 33.8 +0.2**
GRNR Gornyy 56.69 31⇑ *i*P **P 09 35 33.8 +0.2**
GRNR pmax pmax
comp=Z,5.0nm,0.9s
GRNR MLR MLR
comp=E,140nm,18.0s
GRNR MLR MLR
comp=N,120nm,19.0s
GRNR MLR MLR
comp=Z,130nm,15.0s
CTAO Charters Tower 57.21 118 P **P 09 35 38.0 +0.3**
CTAO pmax pmax
comp=Z,39nm,0.9s
CTAO Charters Tower 57.21 118 P **P 09 35 38.0 +0.3**
SVE Sverdlovsk 57.22 339*de*P **P 09 35 38.1 +0.9**

SVE pmax pmax
comp=Z,200nm,0.9s
AKH Akhalkalaki 57.29 316 P **P 09 35 38.9 +0.7**
AKH pmax pmax
comp=Z,16nm,1.2s
AKH Akhalkalaki 57.29 316 P **P 09 35 38.9 +0.7**
KMBO Kilima Mbogo 57.46 265 P **P 09 35 41.5 +1.6**
comp=Z,1.0nm,0.3s,baz=227,slow=4.5,SNR=3.8
KMBO LR LR 09 55 26.2
comp=Z,79nm,21.8s,baz=91,slow=31
KMBO Kilima Mbogo 57.46 265 P **P 09 35 40.5 +0.6**
ZEI Tsey 57.57 318 *eP* **P 09 35 38.7 -1.5**
ZEI pmax pmax
comp=Z,11nm,0.8s
HTT Hallett 57.60 136 P **P 09 35 41.1 +0.7**
baz=58,SNR=4.0
ARU Arti 57.70 337*d iP* **P 09 35 40.7 +0.2**
ARU S **S 09 43 32.6 -0.9**
ARU SS **SS 09 47 19.5 -5.4**
ARU pmax pmax
comp=Z,67nm,0.8s
ARU Arti 57.70 337 P **P 09 35 40.8 +0.3**
MARD Mardin 57.77 311 P **P 09 35 41.7 +0.1**
MARD IAmb IAmb 09 35 43.9
comp=Z,16nm,0.5s
YSS Yuzh-Sakhalins 58.12 37 *eP* **P 09 35 41.4 -2.3**
YSS *e* 09 36 06.6
YSS *e* 09 36 31.4
YSS pmax pmax
comp=Z,200nm,4.9s
YSS pmax pmax
comp=Z,100nm,0.9s
YSS MLR MLR
comp=Z,200nm,13.0s
YSS Yuzh-Sakhalins 58.12 37 P **P 09 35 41.8 -1.9**
QLP Quilpie 58.13 126 P **P 09 35 45.4 +1.3**
baz=58,SNR=4.0
KBZ Khabaz 58.63 318 P **P 09 35 46.9 -0.4**
comp=Z,9.9nm,0.9s,baz=145,slow=5.3,SNR=13
STKA Stephens Creek 58.66 133 P **P 09 35 48.0 +0.4**
comp=Z,9.5nm,0.8s,baz=312,slow=8.0,SNR=14
STKA S **S 09 43 45.4 -1.5**
comp=Z,0.4nm,0.2s,baz=289,slow=14,SNR=1.9
STKA LR LR 10 04 01.3
comp=Z,86nm,21.0s,baz=293,slow=39
STKA Stephens Creek 58.66 133 P **P 09 35 48.5 +0.8**
baz=59,SNR=16
STKA Stephens Creek 58.66 133 P **P 09 35 47.2 -0.4**
KIV Kislovodsk 58.86 319 *eP* **P 09 35 48.7 -0.3**
KIV pmax pmax
comp=Z,68nm,1.0s
KIV MLR MLR
comp=Z,74nm,17.0s
KIV Kislovodsk 58.86 319 P **P 09 35 48.5 -0.5**
KIV IAmb IAmb 09 35 49.9
comp=Z,19nm,0.9s
TYV Tymovskoe 60.02 33 *eP* **P 09 35 57.9 +1.2**
TYV pmax pmax
comp=Z,21nm,1.8s
TYV MLR MLR
comp=Z,300nm,21.0s
GAZ Gaziantep 60.44 310 P **P 09 36 00.8 +0.8**
GAZ IAmb IAmb 09 36 01.9
comp=Z,16nm,0.9s
SOC Sochi 60.70 317 *eP* **P 09 35 59.5 -2.0**
SOC *e* 09 38 18.4
SOC *e*PPP PPP 09 39 41.7
SOC *e*S **S 09 44 13.1 +0.3**
SOC pmax pmax
comp=Z,16nm,0.7s
CMSA Cobar Meteorol 61.53 131 P **P 09 36 08.3 +1.0**
baz=62,SNR=30
YAK Yakutsk 61.70 18*c iP* **P 09 36 07.0 -0.9**
YAK *e* 09 36 47.4
YAK *e* 09 38 19.6
YAK *e*PPP PPP 09 39 50.8
YAK *e*S **S 09 44 25.9 +1.2**
YAK *e**SS **pS 09 44 50.0 +4.3**
YAK *e* 09 45 53.2
YAK *e*SS **SS 09 48 30.3 +2.9**
YAK pmax pmax
comp=Z,46nm,0.7s
YAK pmax pmax
comp=N,8.0nm,0.7s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,69nm,2.7s
YAK pmax pmax
comp=N,38nm,2.0s
YAK pmax pmax
comp=E,31nm,2.1s
YAK smax smax
comp=N,64nm,3.3s
YAK smax smax
comp=E,41nm,3.0s
YAK Yakutsk 61.70 18 P **P 09 36 06.9 -1.0**
RMQ Roma 61.77 124 P **P 09 36 10.5 +1.4**
baz=62,SNR=9.3
VRH Novokhopyorsk 62.59 326 *eP* **P 09 36 12.1 -2.0**
VRH pmax pmax
comp=Z,40nm,0.9s
ANN Anapa 62.67 318 *eP* **P 09 36 12.5 -2.2**
ANN pmax pmax
comp=Z,43nm,1.3s
CSS Mathiatis 62.95 306 P **P 09 36 16.6 -0.2**
CSS IAmb IAmb 09 36 19.5
comp=Z,34nm,1.2s
EIDS Eidsvold 63.28 122 P **P 09 36 19.5 +0.4**
baz=63,SNR=3.0
EIDS Eidsvold 63.28 122 P **P 09 36 19.5 +0.4**
NRIK Noril'sk 63.41 357 P **P 09 36 18.5 -0.7**
comp=Z,15nm,0.5s,baz=153,slow=5.2,SNR=19
NRIK LR LR 10 07 19.5
comp=Z,60nm,20.5s,baz=198,slow=39
BR131 Keskin Array S 63.83 311 P **P 09 36 21.9 -0.8**
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 63.83 311 P **P 09 36 21.9 -0.8**
BRTR Keskin Array B 63.83 311 P **P 09 36 22.2 -0.5**
comp=Z,10.0nm,0.8s,baz=122,slow=7.5,SNR=24
BRTR LR LR 10 05 05.4
comp=Z,38nm,21.3s,baz=92,slow=37
BRTR Keskin Array B 63.83 311 P **P 09 36 21.5 -1.2**
VORD Divnogorie 63.87 325 *eP* **P 09 36 21.1 -1.4**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 64.05 325 *eP* **P 09 36 21.8 -1.9**
VSR pmax pmax
comp=Z,40nm,1.5s
ILGA Ilgaz 64.12 313 P **P 09 36 24.5 -0.2**
ILGA IAmb IAmb 09 36 25.8
comp=Z,31nm,1.2s
BZK Bozkurt 64.16 314 ⇓P **P 09 36 24.4 -0.2**
TOO Toolangi 64.34 137 P **P 09 36 28.3 +2.4**
baz=64,SNR=5.8
TOO Toolangi 64.34 137 P **P 09 36 27.7 +1.8**
TOO pmax pmax
comp=Z,18nm,1.1s
TOO Toolangi 64.34 137 P **P 09 36 27.7 +1.8**
LPSR Galich'ya Gora 64.76 326 *eP* **P 09 36 27.4 -0.9**
LPSR pmax pmax
comp=Z,30nm,0.8s
YNG Young 64.82 132 P **P 09 36 30.3 +1.2**
baz=65,SNR=5.6
ARMA Armidale 65.64 127 P **P 09 36 36.7 +2.1**
baz=66,SNR=4.5
CAN Canberra 65.73 133 P **P 09 36 34.4 -0.6**
CAN pmax pmax
comp=Z,21nm,1.0s
CAN Canberra 65.73 133 P **P 09 36 34.4 -0.6**
ISP Isparta 65.76 309 P **P 09 36 35.5 +0.2**
ISP pmax pmax
comp=Z,58nm,1.5s
ISP Isparta 65.76 309 P **P 09 36 35.5 +0.2**
ISP IAmb IAmb 09 36 36.3
comp=Z,58nm,1.5s
MDUB Mudurnu 65.83 312 P **P 09 36 35.5 -0.1**
CNB Canberra Magne 65.99 133 P **P 09 36 37.6 +0.9**
baz=66
ELL Elmali 66.03 308 P **P 09 36 36.8 -0.3**
ELL pmax pmax
comp=Z,137nm,0.8s
ELL Elmali 66.03 308 P **P 09 36 36.8 -0.3**
PRGR Permogore 66.15 337 *eP* **P 09 36 36.0 -1.1**
PRGR pmax pmax
comp=Z,214nm,0.6s
MOS Moscow 66.79 329 *eP* **P 09 36 39.5 -1.8**
MOS *e* 09 37 04.4
MOS *e* 09 39 16.0
MOS pmax pmax
comp=Z,130nm,1.1s
OBN Obninsk 67.08 328 P **P 09 36 42.6 -0.5**
comp=Z,12nm,0.4s,baz=84,slow=0.8,SNR=13
OBN Obninsk 67.08 328⇑ *eP* **P 09 36 41.6 -1.5**
OBN *e**PP **pP 09 36 59.3 -2.5**
OBN *i* 09 37 10.0
OBN *e* 09 37 17.4
OBN *e* 09 46 23.8
OBN pmax pmax
comp=Z,97nm,1.3s
OBN MLR MLR
comp=Z,56nm,18.0s
OBN Obninsk 67.08 328 P **P 09 36 43.0 -0.1**
MANT Manisa 67.41 309 P **P 09 36 46.3 +0.4**
SKR Severo-Kuril's 67.69 37 *eP* **P 09 36 45.8 -1.3**
SKR *eS* S 09 46 00.7 +22
SKR pmax pmax
comp=Z,90nm,0.7s
SKR pmax pmax
comp=Z,200nm,6.3s
SKR MLR MLR
comp=Z,200nm,16.0s
KARP Karpathos 68.02 306 P **P 09 36 50.2 +0.6**
KLMR Klimovskoe 68.23 334 *eP* **P 09 36 48.9 -1.4**
KLMR pmax pmax
comp=Z,31nm,0.4s
KLMR Klimovskoe 68.23 334 *eP* **P 09 36 49.0 -1.4**
KLMR AMP 09 36 50.9
comp=Z,31nm,0.4s
MA2 Magadan 68.32 27 P **P 09 36 50.0 -0.9**
MA2 pmax pmax
comp=Z,36nm,1.1s
MA2 Magadan 68.32 27 P **P 09 36 50.0 -0.9**
MA2 IAmb IAmb 09 36 51.6
comp=Z,36nm,1.1s
LSZ Lusaka 68.87 251 P **P 09 36 57.7 +2.4**
LSZ pmax pmax
comp=Z,14nm,1.4s
LSZ Lusaka 68.87 251 P **P 09 36 57.7 +2.4**
TIXI Tiksi 69.02 11*c iP* **P 09 36 53.9 -1.1**
TIXI pmax pmax
comp=Z,133nm,1.3s
TIXI Tiksi 69.02 11 P **P 09 36 53.5 -1.5**
CFR Carcaliu 69.09 316 ⇑P **P 09 36 55.5 -0.4**
PETK Petropavlovsk- 69.39 35 P **P 09 36 56.6 -1.1**
comp=Z,2.4nm,0.7s,baz=302,slow=1.5,SNR=6.7
PETK LR LR 10 07 43.9
comp=Z,84nm,21.7s,baz=233,slow=36
PETK Petropavlovsk- 69.39 35 P **P 09 36 56.8 -0.9**
SANT Santorini 69.51 306 P **P 09 36 58.6 -0.2**
SANT IAmb IAmb 09 36 59.5
comp=Z,74nm,1.4s
ALN Alexandroupoli 69.75 311 P **P 09 37 00.3 +0.2**
ALN pmax pmax
comp=Z,34nm,1.3s
ALN Alexandroupoli 69.75 311 P **P 09 37 00.3 +0.2**
ALN IAmb IAmb 09 37 01.4
comp=Z,34nm,1.3s
AKASG Malin Array Be 69.76 322 P **P 09 36 59.0 -1.0**
comp=Z,6.5nm,0.6s,baz=86,slow=4.9,SNR=36
AKASG Malin Array Be 69.76 322 P **P 09 36 59.0 -1.0**
AKASG pmax pmax
comp=Z,13nm,1.3s
AKASG Malin Array Be 69.76 322 P **P 09 36 59.0 -1.0**
AKBB Malin Array Si 69.76 322 P **P 09 36 58.8 -1.2**
AKBB pmax pmax
comp=Z,18nm,1.0s
AKBB Malin Array Si 69.76 322 P **P 09 36 58.8 -1.2**
IDI Anoyia 69.82 305 ⇓P **P 09 37 01.4 +0.5**
IDI Anoyia 69.82 305 P **P 09 37 01.1 +0.3**
IDI IAmb IAmb 09 37 02.5
comp=Z,28nm,0.7s
PET Petropavlovsk 69.92 35 P **P 09 37 00.3 -0.6**
PET pmax pmax
comp=Z,19nm,0.7s
PET Petropavlovsk 69.92 35 P **P 09 37 00.3 -0.6**
PET IAmb IAmb 09 37 00.8
comp=Z,18nm,0.7s
VRI Vrincioaia 70.21 317 ⇑P **P 09 37 03.6 +0.7**
PLOR Plostina 70.26 317 ⇓P **P 09 37 03.7 +0.5**
TESR Tescani 70.40 317 ⇓P **P 09 37 04.2 +0.2**
TMCR Tamitsa 70.44 337 *eP* **P 09 37 03.2 -0.6**
SEY Seymchan 70.53 24*d iP* **P 09 37 04.3 -0.2**
MLR Muntele Rosu 70.67 316 ⇑P **P 09 37 06.7 +0.8**
MLR Muntele Rosu 70.67 316 P **P 09 37 06.4 +0.6**
MLR pmax pmax
comp=Z,36nm,1.0s
MLR Muntele Rosu 70.67 316 P **P 09 37 06.4 +0.6**
MLR IAmb IAmb 09 37 07.6
comp=Z,36nm,1.0s
VOIR 71.28 316 ⇓P **P 09 37 09.3 -0.2**
ARR Arges 71.55 316 ⇓P **P 09 37 11.2 0.0**
BURAR Bucovina Array 71.58 318 ⇑P **P 09 37 12.2 +0.9**
BURAR Bucovina Array 71.58 318 P **P 09 37 11.1 -0.2**
BUR08 Bucovina Ar. S 71.60 318 P **P 09 37 11.6 +0.1**
PUL Pulkovo 71.96 331*ce*P **P 09 37 13.6 +0.5**
PUL pmax pmax
comp=Z,153nm,0.5s
LIT Litokhoron 72.31 310 P **P 09 37 15.0 -0.7**
LIT pmax pmax
comp=Z,25nm,0.7s
LIT Litokhoron 72.31 310 P **P 09 37 15.0 -0.7**
LIT IAmb IAmb 09 37 15.8
comp=Z,25nm,0.7s
NACGM Naroch 72.32 326 *eP* **P 09 37 15.0 -0.4**
NACGM PM 09 37 16.0
comp=Z,0.2nm,1.0s
ITM Ithomi 72.42 307 IAmb IAmb 09 37 16.9
comp=Z,25nm,1.0s
IDID Didziasalis 72.45 326 *eP* **P 09 37 17.3 +1.1**
IIGN Ignalina 72.75 326 *eP* **P 09 37 18.5 +0.6**
LVV L'vov 72.79 320 *eP* **P 09 37 19.0 +0.7**
IZAR Zarasai 72.83 327 *eP* **P 09 37 19.3 +0.9**
ISAL Salakas 72.86 326 *eP* **P 09 37 19.3 +0.7**
HERR Herculane 73.02 315 ⇑P **P 09 37 19.6 -0.2**
CASY Casey 73.05 173 P **P 09 37 20.8 +1.4**
VSU Vasula 73.31 330 *eP* **P 09 37 21.6 +0.5**
VSU Vasula 73.31 330*c iP* **P 09 37 21.2 0.0**
VSU pmax pmax
comp=Z,184nm,0.7s
LVZ Lovozero 73.39 340*ce*P **P 09 37 22.4 +0.8**
LVZ pmax pmax
comp=Z,59nm,1.3s
LVZ Lovozero 73.39 340 P **P 09 37 21.2 -0.4**
LVZ IAmb IAmb 09 37 22.3
comp=Z,49nm,0.9s
MDVR Moldovita 73.50 315 ⇓P **P 09 37 23.0 +0.3**
KWP Kalwaria Pacla 73.60 320 *eP* **P 09 37 23.6 +0.5**
KWP Kalwaria Pacla 73.60 320 P **P 09 37 23.4 +0.3**
KWP pmax pmax
comp=Z,79nm,1.3s
KWP Kalwaria Pacla 73.60 320 P **P 09 37 23.4 +0.3**
KWP IAmb IAmb 09 37 24.6
comp=Z,79nm,1.3s
APA Apatity 73.67 340⇑ *iP* **P 09 37 22.8 -0.4**
APA pmax pmax
comp=Z,38nm,0.8s
APA MLR MLR
comp=Z,600nm,12.0s
BZS Buzias 73.69 316 ⇑P **P 09 37 23.7 +0.1**
SIRR Siria 73.75 316 ⇓P **P 09 37 24.7 +0.6**
KOLS Kolonicke sedl 73.76 319 *eP* **P 09 37 23.9 -0.2**
KOLS pmax pmax
comp=Z,17nm,1.1s
KOLS Kolonicke sedl 73.76 319 *eP* **P 09 37 23.9 -0.2**
PABE Paberze 74.03 326 *eP* **P 09 37 25.9 +0.5**
SUW Suwalki 74.15 324 *eP* **P 09 37 26.0 -0.2**
CRVS Cervenica-Dubn 74.28 319 *eP* **P 09 37 28.3 +1.2**
CRVS pmax pmax
comp=Z,45nm,1.1s
CRVS Cervenica-Dubn 74.28 319 *eP* **P 09 37 28.3 +1.2**
FINES FINESS Array B 74.47 332 P **P 09 37 27.9 0.0**
comp=Z,36nm,0.6s,baz=96,slow=5.7,SNR=167
FINES FINESS Array B 74.47 332 P **P 09 37 28.1 +0.2**
FINES FINESS Array B 74.47 332 P **P 09 37 28.1 +0.2**
DIVS Divibare 74.64 314 *eP* **P 09 37 28.6 -0.8**
BOSA Boshof 74.79 238 P **P 09 37 32.8 +2.2**
comp=Z,6.9nm,0.6s,baz=87,slow=4.9,SNR=18
BOSA LR LR 10 04 55.3
comp=Z,72nm,20.3s,baz=92,slow=31
BOSA Boshof 74.79 238 P **P 09 37 28.9 -1.7**
BOSA pmax pmax
comp=Z,8.0nm,0.8s
BOSA Boshof 74.79 238 P **P 09 37 28.9 -1.7**
KECS Kecovo 74.86 319 *eP* **P 09 37 31.1 +0.6**
KECS pmax pmax
comp=Z,13nm,0.8s
KECS Kecovo 74.86 319 *eP* **P 09 37 31.1 +0.6**
PDG Podgorica 74.99 312 *eP* **P 09 37 30.6 -0.7**
DRME Dracevica, Mon 75.02 312 *eP* **P 09 37 28.4 -3.1**
BBLS Lazići 75.03 314 *eP* **P 09 37 31.9 +0.3**
NIE Niedzica 75.12 319 *eP* **P 09 37 33.0 +1.1**
PSZ Piszkesteto 75.18 318 ⇑P **P 09 37 32.6 +0.2**
PSZ Piszkesteto 75.18 318 P **P 09 37 30.4 -2.0**
PSZ pmax pmax
comp=Z,20nm,0.9s
PSZ Piszkesteto 75.18 318 P **P 09 37 30.4 -2.0**
PBUR Paburge 75.27 326 *eP* **P 09 37 33.4 +0.8**
UPM Unac-Piva 75.33 313 *eP* **P 09 37 32.0 -1.5**
SLIT Slitere, Latvi 75.40 328 *eP* **P 09 37 32.7 -0.6**
OJC Ojcow 75.55 320 *eP* **P 09 37 35.1 +0.7**
OJC Ojcow 75.55 320 P **P 09 37 34.5 +0.1**
OJC pmax pmax
comp=Z,58nm,0.7s
OJC Ojcow 75.55 320 P **P 09 37 34.5 +0.1**
BRY Bratogost 75.56 313 *eP* **P 09 37 33.9 -0.9**
LANS Liptovska Anna 75.62 319 *eP* **P 09 37 35.7 +0.8**
LANS Liptovska Anna 75.62 319 *eP* **P 09 37 35.6 +0.7**
DZM Mont Dzumac 75.81 114 P **P 09 37 37.8 +1.3**
MORH Mrgy, Hungar 75.82 316⇑ *iP* **P 09 37 35.9 -0.1**
VYHS Vyhne 75.95 318 *eP* **P 09 37 37.3 +0.6**
VYHS pmax pmax
comp=Z,38nm,1.5s
VYHS Vyhne 75.95 318 *eP* **P 09 37 37.3 +0.6**
SRO Srobarova 76.22 318 *eP* **P 09 37 39.4 +1.2**
SRO Srobarova 76.22 318 *eP* **P 09 37 39.4 +1.2**
OKC Ostrava-Krasne 76.56 320 *eP* **P 09 37 41.1 +1.0**
OKC Ostrava-Krasne 76.56 320 *eP* **P 09 37 41.1 +1.0**
BLY Banja Luka 76.70 314⇑ *iP* **P 09 37 41.0 0.0**
MAW Mawson 76.75 192 P **P 09 37 43.3 +2.6**
comp=Z,1.9nm,0.6s,baz=40,slow=6.9,SNR=9.8
MAW LR LR 10 05 19.8
comp=Z,82nm,21.5s,baz=56,slow=31
MAW Mawson 76.75 192 P **P 09 37 44.2 +3.4**
baz=77,SNR=7.0
MAW Mawson 76.75 192 P **P 09 37 43.4 +2.6**
MAW pmax pmax
comp=Z,3.0nm,1.5s
MAW Mawson 76.75 192 P **P 09 37 43.4 +2.6**
JAVC Velka Javorina 76.76 319 *eP* **P 09 37 42.3 +0.9**
SMOL Smolenice 76.88 318 *eP* **P 09 37 42.4 +0.4**
SMOL pmax pmax
comp=Z,6.0nm,1.1s
SMOL Smolenice 76.88 318 *eP* **P 09 37 42.4 +0.4**
MORC Moravsky Berou 76.94 320 ⇑P **P 09 37 43.4 +1.1**
MORC Moravsky Berou 76.94 320 *eP* **P 09 37 42.7 +0.4**
MORC Moravsky Berou 76.94 320 P **P 09 37 42.6 +0.3**
MORC pmax pmax
comp=Z,65nm,1.3s
MORC Moravsky Berou 76.94 320 P **P 09 37 42.6 +0.3**
MORC IAmb IAmb 09 37 44.2
comp=Z,65nm,1.3s
MODS Modra-Piesok 76.97 318 *eP* **P 09 37 42.1 -0.4**
MODS pmax pmax
comp=Z,90nm,1.9s
MODS Modra-Piesok 76.97 318 *eP* **P 09 37 42.1 -0.4**
ARCES ARCESS Array B 77.10 340 P **P 09 37 43.2 +0.4**
comp=Z,27nm,0.8s,baz=101,slow=5.2,SNR=34
ARCES LR LR 10 14 11.7
comp=Z,108nm,19.0s,baz=170,slow=38
ARE0 ARCESS Array S 77.10 340 P **P 09 37 43.2 +0.5**
ARE0 ARCESS Array S 77.10 340 *eP* **P 09 37 42.9 +0.1**
BEHE Becsehely 77.13 316⇑ *iP* **P 09 37 45.7 +2.3**
KRLC Kraliky 77.46 320 *eP* **P 09 37 46.1 +0.8**
KRLC Kraliky 77.46 320 *eP* **P 09 37 46.1 +0.8**
KRLC smax smax
comp=N,18nm,0.5s
VRAC Vranov 77.51 319 P **P 09 37 46.2 +0.6**
comp=N,8.3nm,0.7s,baz=121,slow=6.8,SNR=8.7
VRAC Vranov 77.51 319 ⇓P **P 09 37 46.4 +0.9**
VRAC Vranov 77.51 319 *eP* **P 09 37 46.1 +0.6**
KRUC Moravsky 77.62 319 *eP* **P 09 37 46.4 +0.3**
KTK1 Kautokeino 77.72 340 *eP* **P 09 37 46.7 +0.5**
BILL Bilibino 77.74 21*de*P **P 09 37 46.3 -0.1**
BILL 09 37 53.0
BILL PS **PnS 09 48 19.0 -2.9**
BILL pmax pmax
comp=Z,8.0nm,0.4s
BILL MLR MLR
comp=Z,285nm,20.0s
BILL Bilibino 77.74 21 P **P 09 37 44.4 -2.0**
BILL IAmb IAmb 09 37 51.2
comp=Z,21nm,0.4s
DPC Dobruska-Polom 77.78 320 *eP* **P 09 37 48.3 +1.3**
DPC Dobruska-Polom 77.78 320 *eP* **P 09 37 48.3 +1.3**
KSP Ksiaz 77.85 321 *eP* **P 09 37 48.4 +1.0**
OSTC Ostas 77.87 320 *eP* **P 09 37 48.8 +1.3**
CONA Conrad Observa 77.87 318 *eP* **P 09 37 47.9 +0.3**
comp=Z,15nm,1.0s,SNR=7.0
UPC Upice 77.99 320 *eP* **P 09 37 49.4 +1.3**
UPC Upice 77.99 320 *eP* **P 09 37 49.4 +1.3**
CRES Cresnjev 78.00 315⇑ *iP* **P 09 37 48.6 +0.3**
GROS Grobnik 78.01 316 *i P* **P 09 37 48.9 +0.5**
HAMF Hammerfest 78.02 341 *eP* **P 09 37 48.4 +0.5**
ARSA Arzberg 78.05 317 *i P* **P 09 37 49.4 +0.8**
comp=Z,24nm,1.0s,SNR=11
ARSA Arzberg 78.05 317 *eP* **P 09 37 49.3 +0.7**
comp=Z,35nm,1.1s,baz=92,slow=5.3
BOJS Bojanci 78.12 315 *i P* **P 09 37 49.5 +0.6**
TREC Trest 78.23 319 *eP* **P 09 37 50.4 +0.9**
TREC Trest 78.23 319 *eP* **P 09 37 50.4 +0.9**
SOKA Soboth 78.35 316 *i P* **P 09 37 51.0 +0.7**
comp=Z,32nm,0.9s,SNR=23
VISS Visnje 78.43 315 *i P* **P 09 37 51.3 +0.6**
LJU Ljubljana 78.66 316 *eP* **P 09 37 52.8 +0.9**
LJU Ljubljana 78.66 316⇑ *iP* **P 09 37 52.6 +0.7**
OBKA Obir 78.67 316 *eP* **P 09 37 52.8 +0.7**
comp=Z,19nm,0.8s,SNR=6.3
OBKA Obir 78.67 316 *eP* **P 09 37 52.7 +0.6**
comp=Z,49nm,1.5s,baz=92,slow=5.3
CEY Cerknica 78.71 315⇑ *iP* **P 09 37 52.3 0.0**
GOPC GO Pecny, Ondr 78.73 320 *eP* **P 09 37 53.4 +1.2**
GOPC GO Pecny, Ondr 78.73 320 *eP* **P 09 37 53.4 +1.2**
PRU Pruhonice 78.89 320 *eP* **P 09 37 53.9 +0.8**
PRU Pruhonice 78.89 320 *eP* **P 09 37 53.9 +0.8**
PRU smax smax
comp=N,13nm,0.4s
PVCC Panska Ves 78.91 320 *eP* **P 09 37 54.4 +1.2**
PVCC Panska Ves 78.91 320 *eP* **P 09 37 54.4 +1.2**
MOA Molln 78.94 317 *i P* **P 09 37 53.7 +0.3**
comp=N,14nm,0.8s,SNR=5.8
MOA Molln 78.94 317 *eP* **P 09 37 53.3 -0.1**
comp=N,17nm,0.9s,baz=92,slow=5.3
PBCC Pribram 79.23 319 *eP* **P 09 37 55.8 +0.8**
MYKA Terra Mystica 79.30 316 *i P* **P 09 37 55.8 +0.3**
comp=N,13nm,0.8s,SNR=7.7
BRG Berggiesshubel 79.33 321 pmax pmax
comp=Z,38nm,2.0s
BRG pmax pmax
comp=Z,26nm,1.0s
BRG pmax pmax
comp=N,9.0nm,1.0s
BRG Berggiesshubel 79.33 321 *eP* **P 09 37 56.2 +0.7**
comp=N,24nm,1.0s,baz=92,slow=5.3
BRG Berggiesshubel 79.33 321 *i* PCP **P 09 37 56.2 +0.7**
comp=N,26nm,1.0s
PRED Cave del Predi 79.35 316 P **P 09 37 55.9 +0.2**
PRED IAmb IAmb 09 37 57.3
comp=Z,42nm,0.9s
TRO Tromso 79.35 340 *eP* **P 09 37 55.1 -0.1**
GEC2 GERESS Array S 79.37 318 *eP* **P 09 37 56.7 +0.7**
comp=Z,55nm,0.9s,baz=92,slow=5.3
GEC2 GERESS Array S 79.37 318 P **P 09 37 56.0 +0.1**
GEC2 IAmb IAmb 09 37 57.7
comp=Z,48nm,0.8s
GERES GERESS Array B 79.37 318 P **P 09 37 56.6 +0.7**
comp=Z,31nm,0.7s,baz=90,slow=5.3,SNR=198
GERES LR LR 10 16 58.5
comp=Z,37nm,18.3s,baz=62,slow=39
GERES GERESS Array B 79.37 318 P **P 09 37 56.1 +0.3**
ROBS Robic 79.38 316 *i P* **P 09 37 56.1 +0.3**
KHC Kasperske Hory 79.47 319 *eP* **P 09 37 57.1 +0.8**

KHC **Kasperske Hory 79.47 319** *ce*P **P 09 37 56.3 0.0**
KHC pmax pmax
comp=Z,40nm,0.7s
KHC Kasperske Hory 79.47 319 P **P 09 37 56.4 0.0**
KBA Koelnbreinsper 79.53 317 *eP* **P 09 37 56.8 0.0**
comp=Z,15nm,1.0s,SNR=7.4
KBA Koelnbreinsper 79.53 317 *eP* **P 09 37 56.7 -0.1**
comp=Z,24nm,1.2s,baz=92,slow=5.3
RUE Ruedersdorf 79.54 322 *eP* **P 09 37 56.9 +0.4**
RUE Ruedersdorf 79.54 322 *eP* **P 09 37 57.1 +0.5**
comp=Z,88nm,0.6s,baz=92,slow=5.3
NRCA Norcia 79.54 312 P **P 09 37 55.6 -1.3**
FBE Freiberg 79.71 321 *eP* **P 09 37 58.5 +0.9**
comp=Z,37nm,0.8s,baz=92,slow=5.3
ZOU Zoufplan 79.76 316 P **P 09 37 58.0 -0.2**
ZOU IAmb IAmb 09 37 59.5
comp=Z,55nm,1.3s
RJOB Jochberg 79.92 317 *eP* **P 09 37 57.8 -1.0**
comp=Z,18nm,0.7s,baz=92,slow=5.3
WET Wettzell 79.93 319 *eP* **P 09 37 59.5 +0.7**
comp=Z,24nm,0.8s,baz=92,slow=5.3
STAL STALIGIAL 79.93 316 P **P 09 37 58.1 -0.8**
CLL Collm 79.95 321 *i* P **P 09 37 58.9 +0.1**
comp=Z,20nm,1.1s
CLL *i* pP **pwP 09 38 21.1 +0.6**
comp=Z,10.0nm,0.9s
CLL Collm 79.95 321 P **P 09 37 59.0 +0.1**
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 79.95 321 *eP* **P 09 37 59.1 +0.2**
comp=Z,20nm,1.1s,baz=92,slow=5.3
CLL Collm 79.95 321 P **P 09 37 59.0 +0.2**
ABTA Abfaltersbach 80.08 316 *i* P **P 09 37 59.6 -0.2**
comp=Z,11nm,0.7s,SNR=5.5
CIMO Cimolais 80.12 316 P **P 09 37 59.8 -0.1**
N2IH Innhavet 80.13 338 *eP* **P 09 37 59.4 0.0**
HFS Hagfors 80.18 330 P **P 09 37 59.7 -0.2**
comp=Z,10nm,0.5s,baz=114,slow=6.6,SNR=46
TANN Tannenbergstha 80.25 320 *eP* **P 09 38 01.1 +0.6**
comp=Z,38nm,1.3s,baz=92,slow=5.3
FAUS Fauske 80.30 337 *eP* **P 09 38 00.5 +0.2**
WERN Wernitzgruen 80.30 320 *eP* **P 09 38 01.5 +0.7**
comp=Z,12nm,0.8s,baz=92,slow=5.3
GUNZ Gunzen 80.33 320 *eP* **P 09 38 01.7 +0.7**
comp=Z,27nm,1.3s,baz=92,slow=5.3
WERD Werda 80.35 320 *eP* **P 09 38 01.4 +0.3**
comp=Z,14nm,0.8s,baz=92,slow=5.3
STEI Steigen 80.39 338 *eP* **P 09 38 01.1 +0.3**
ROTZ Rotzenmuhle 80.39 319 *eP* **P 09 38 02.3 +1.0**
comp=Z,29nm,1.0s,baz=92,slow=5.3
PLN Plauen 80.45 320 *eP* **P 09 38 02.1 +0.5**
comp=Z,14nm,0.8s,baz=92,slow=5.3
MANZ Manzenberg 80.46 320 *eP* **P 09 38 02.8 +1.1**
comp=Z,48nm,1.2s,baz=92,slow=5.3
LATE Laterza 80.50 312 P **P 09 38 01.9 -0.2**
CTI Castel Tesino 80.66 316 P **P 09 38 03.3 +0.4**
CTI pmax pmax
comp=Z,39nm,0.9s
CTI Castel Tesino 80.66 316 P **P 09 38 03.3 +0.4**
CTI IAmb IAmb 09 38 04.7
comp=Z,39nm,0.9s
WTTA Wattenberg 80.70 317 *i* P **P 09 38 03.0 -0.2**
comp=Z,30nm,0.6s,SNR=12
NEUB Neuenburg 80.72 321 *eP* **P 09 38 03.3 +0.3**
comp=Z,32nm,0.8s,baz=92,slow=5.3
WATA Walderalm 80.74 317 *i* P **P 09 38 02.9 -0.5**
comp=Z,18nm,0.6s,SNR=9.0
MOX Moxa 80.80 320 *eP* **P 09 38 03.9 +0.5**
comp=Z,12nm,0.7s,baz=92,slow=5.3
N2VI Vinje 80.83 338 *eP* **P 09 38 03.1 0.0**
NBB30 Finnes 80.85 337 *eP* **P 09 38 03.6 +0.4**
FUR Furstenfeldbru 80.96 318 *eP* **P 09 38 04.7 +0.3**
comp=Z,22nm,0.5s,baz=92,slow=5.3
SQTA Sankt Quirin 80.99 317 *i* P **P 09 38 04.6 -0.1**
comp=Z,35nm,0.5s,SNR=13
GRA1 Grafenberg Arr 81.03 319 P **P 09 38 06.0 +1.3**
GRA1 IAmb IAmb 09 38 06.8
comp=Z,36nm,0.9s
GRF Grafenberg Arr 81.03 319 P **P 09 38 06.0 +1.3**
GRF pmax pmax
comp=Z,36nm,0.9s
GRF Grafenberg Arr 81.03 319 *eP* **P 09 38 05.7 +1.0**
comp=Z,43nm,0.9s,baz=92,slow=5.3
GRF *ep*P **pP 09 38 22.8 -1.0**
LOF Lofoten 81.05 338 *eP* **P 09 38 04.3 0.0**
MOTA Moosalm 81.06 317 *i* P **P 09 38 04.7 -0.4**
comp=Z,33nm,0.8s,SNR=12
ZCCA Zocca 81.12 314 P **P 09 38 02.8 -2.5**
ZCCA IAmb IAmb 09 38 08.3
comp=Z,31nm,0.8s
NC405 NORSAR Array S 81.23 331 P **P 09 38 05.1 -0.4**
NC405 IAmb IAmb 09 38 06.5
comp=Z,91nm,1.6s
NC602 NORSAR Array S 81.29 330 P **P 09 38 05.1 -0.6**
NC602 IAmb IAmb 09 38 16.8
comp=Z,33nm,1.2s
RETA Reutte 81.29 317 *i* P **P 09 38 06.3 +0.1**
comp=Z,37nm,0.5s,SNR=7.4
FETA Feichten 81.31 317 *i* P **P 09 38 06.6 +0.2**
comp=Z,18nm,0.7s,SNR=8.4
NC303 NORSAR Array S 81.40 331 P **P 09 38 04.4 -2.0**
NC303 IAmb IAmb 09 40 32.8
comp=Z,51nm,1.5s
ASSE Asse, Remlinge 81.43 322 *eP* **P 09 38 07.1 +0.5**
comp=Z,22nm,1.0s,baz=92,slow=5.3
NB201 NORSAR Array S 81.43 331 P **P 09 38 06.2 -0.4**
SALO Salr 81.44 315 P **P 09 38 07.7 +0.7**
NB2 NORSAR Subarra 81.47 331 P **P 09 38 06.2 -0.6**
comp=Z,8.0nm,0.8s,baz=97,slow=5.1
NB2 NORSAR Subarra 81.47 331 P **P 09 38 06.2 -0.6**
baz=97,slow=5.1
NOA NORSAR Array B 81.47 331 P **P 09 38 06.2 -0.6**
comp=Z,4.9nm,0.8s,baz=95,slow=5.4,SNR=15
NOA LR LR 10 17 26.5
comp=Z,39nm,20.2s,baz=110,slow=38
CLZ Clausthal 81.61 321 *eP* **P 09 38 08.3 +0.6**
comp=Z,36nm,1.1s,baz=92,slow=5.3
NAO01 NORSAR Array S 81.62 331 P **P 09 38 07.3 -0.3**
NAO01 IAmb IAmb 09 38 08.5
comp=Z,32nm,1.2s
NAO01 NORSAR Array S 81.62 331 *eP* **P 09 38 07.4 -0.1**
NBO00 NORSAR Array S 81.68 331 P **P 09 38 08.0 +0.1**
NBO00 IAmb IAmb 09 38 11.8
comp=Z,32nm,1.2s
BSEG Bad Segeberg 81.69 324 *eP* **P 09 38 08.7 +0.7**
comp=Z,47nm,1.0s,baz=92,slow=5.3
NC204 NORSAR Array S 81.70 331 P **P 09 38 08.3 +0.3**
NC204 IAmb IAmb 09 38 09.0
comp=Z,34nm,1.1s
SPA0 Spitsbergen Ar 81.71 348 P **P 09 38 08.2 +0.5**
SPA0 Spitsbergen Ar 81.71 348 *eP* **P 09 38 07.9 +0.2**
SPITS Spitsbergen Ar 81.71 348 P **P 09 38 07.6 -0.1**
comp=Z,31nm,0.5s,baz=122,slow=14,SNR=84
UBR Ueberruh 81.74 317 *eP* **P 09 38 08.6 0.0**
comp=Z,24nm,0.7s,baz=92,slow=5.3
NRDL Niedersach Rie 81.78 322 *eP* **P 09 38 09.6 +1.1**
comp=Z,47nm,1.4s,baz=92,slow=5.3
UBBA Unterbreizbach 81.83 320 *eP* **P 09 38 09.1 +0.4**
comp=Z,4.4nm,0.8s,baz=92,slow=5.3
GTTG Gottingen 81.86 321 *eP* **P 09 38 09.6 +0.6**
comp=Z,25nm,0.9s,baz=92,slow=5.3
DAVA Damuels 81.89 317 *eP* **P 09 38 09.8 +0.4**
comp=Z,28nm,1.0s,SNR=7.5
DAVOX Davos/Dischmat 81.89 316 P **P 09 38 10.3 +0.8**
comp=Z,51nm,0.7s,baz=116,slow=5.4,SNR=53
MSSA Maissana 82.17 314 P **P 09 38 10.7 -0.2**
MSSA IAmb IAmb 09 39 27.9
comp=Z,52nm,1.4s
AMKA Amchitka 82.19 39 P **P 09 38 10.7 0.0**
SKMB Sankelmark Bun 82.21 324 *eP* **P 09 38 12.0 +1.3**
comp=Z,103nm,0.8s,baz=92,slow=5.3
KONO Kongsberg 82.22 329 *ce*P **P 09 38 10.2 -0.5**
KONO pmax pmax
comp=Z,30nm,1.7s
KONO Kongsberg 82.22 329 P **P 09 38 10.9 +0.2**
KONO IAmb IAmb 09 38 11.7
comp=Z,41nm,1.5s
KONO Kongsberg 82.22 329 *eP* **P 09 38 11.0 +0.4**
TUE Stuetta 82.26 316 P **P 09 38 11.6 +0.1**
TUE IAmb IAmb 09 38 15.8
comp=Z,24nm,0.9s
STU Stuttgart 82.35 318 *eP* **P 09 38 11.8 +0.2**
comp=Z,20nm,0.8s,baz=92,slow=5.3
KEST Kesra 82.50 305 P **P 09 38 14.2 +1.4**
comp=Z,15nm,0.7s,baz=33,slow=2.9,SNR=14
KEST Kesra 82.50 305 P **P 09 38 14.7 +1.9**
KEST IAmb IAmb 09 38 15.3
comp=Z,31nm,1.1s
KBS Kingsbay 82.69 349 *ce*P **P 09 38 12.2 -0.6**
KBS pmax pmax
comp=Z,128nm,2.5s
KBS Kingsbay 82.69 349 P **P 09 38 12.7 -0.1**
KBS IAmb IAmb 09 40 33.2
comp=Z,31nm,0.8s
KBS Kingsbay 82.69 349 *eP* **P 09 38 12.7 -0.1**
TNS Taunus lifts 82.82 320 *eP* **P 09 38 14.7 +0.5**
comp=Z,23nm,1.1s,baz=92,slow=5.3
SKAR Skarslia 82.88 330 *eP* **P 09 38 15.1 +0.9**
BFO Black Forest 82.93 318 P **P 09 38 15.1 +0.4**
BFO pmax pmax
comp=Z,17nm,0.7s
BFO Black Forest 82.93 318 *eP* **P 09 38 14.7 0.0**
comp=Z,20nm,0.9s,baz=92,slow=5.3
BFO Black Forest 82.93 318 P **P 09 38 15.1 +0.4**
BFO IAmb IAmb 09 38 15.7
comp=Z,17nm,0.7s
IBBN Ibbenburen 83.22 322 *eP* **P 09 38 16.7 +0.6**
comp=Z,32nm,0.6s,baz=92,slow=5.3
MOL Molde 83.25 332 *eP* **P 09 38 16.8 +0.9**
SNART Snartemo 83.44 328 *eP* **P 09 38 18.3 +1.3**
AKN Aaknes 83.51 332 *eP* **P 09 38 18.1 +0.7**
BUG Bochum--Univer 83.55 321 *eP* **P 09 38 18.3 +0.6**
comp=Z,33nm,1.2s,baz=92,slow=5.3
SENIN Lac Senin/Sane 83.68 316 P **P 09 38 19.3 +0.4**
SENIN IAmb IAmb 09 38 21.3
comp=Z,23nm,0.7s
SYO Syowa Base 83.69 197⇓ *eP* **P 09 38 19.6 +1.6**
SYO Syowa Base 83.69 197⇓ *ePcP* **PcP 09 38 23.1 +1.1**
SYO Syowa Base 83.69 197⇓ *epP* pP 09 38 39.0 +1.9
AHRW Bad Neuenahr-A 83.69 320 *eP* **P 09 38 19.4 +0.9**
comp=Z,20nm,0.9s,baz=92,slow=5.3
ODD1 Odda 83.72 330 *eP* **P 09 38 21.8 +3.3**
BLS5 Blasjo 83.82 329 *eP* **P 09 38 19.8 +0.8**
HYA Hoyanger 83.91 331 *eP* **P 09 38 19.9 +0.6**
BNI Bardonecchia 84.17 315 P **P 09 38 21.2 -0.1**
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 84.17 315 P **P 09 38 21.2 -0.1**
WLF Walferdange 84.32 319 P **P 09 38 22.8 +1.0**
comp=Z,18nm,1.3s
WLF Walferdange 84.32 319 *eP* **P 09 38 22.7 +1.0**
comp=Z,40nm,1.3s,baz=92,slow=5.3
ADK Adak 84.68 38 P **P 09 38 22.9 -0.5**
ADK pmax pmax
comp=Z,205nm,1.9s
ADK Adak 84.68 38 P **P 09 38 22.9 -0.5**
BMRD Maredsous 85.18 320 ⇓P **P 09 38 26.7 +0.7**
DOU Dourbes 85.30 320 P **P 09 38 27.4 +0.8**
SNF Seneffe 85.47 320 P **P 09 38 27.7 +0.2**
SSB Saint Sauveur 85.67 315 IAmb IAmb 09 38 30.0
comp=Z,17nm,0.9s
TAM Tamanrasset 86.65 292 IAmb IAmb 09 38 37.7
comp=Z,18nm,1.1s
NOR Nord 87.13 352 *i* P **P 09 38 34.0 -1.0**
comp=Z,18nm,0.8s
NOR Nord 87.13 352 *i* P **P 09 38 34.0 -1.0**
NOR pmax pmax
comp=Z,18nm,0.8s
RDOG Red Dog Mine 89.21 22 P **P 09 38 45.7 +0.6**
RDOG IAmb IAmb 09 38 46.3
comp=Z,20nm,0.7s
EKA Eskdalemuir Ar 89.39 325 P **P 09 38 46.8 +0.6**
comp=Z,5.6nm,0.6s,baz=93,slow=5.3,SNR=27
VNDA Vanda 91.06 168 P **P 09 38 55.1 +1.7**
comp=Z,0.9nm,0.7s,baz=282,slow=8.1,SNR=3.6
VNDA LR LR 10 16 31.1
comp=Z,89nm,18.8s,baz=3.0,slow=33
TOA0 Torodi Ar. Sit 91.25 283 P **P 09 38 55.4 -0.4**
TOA0 IAmb IAmb 09 38 58.4
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 91.25 283 P **P 09 38 57.2 +1.5**
comp=Z,5.3nm,0.9s,baz=86,slow=5.5,SNR=27
TORD PKKPbc **PKKPbc 09 56 16.6 -1.0**
comp=Z,0.4nm,0.6s,baz=311,slow=2.9,SNR=3.7
TORD Torodi Ar. Bea 91.25 283 P **P 09 38 55.1 -0.6**
ESBB Sonseca Array 92.59 310 P **P 09 39 02.1 +0.5**
ESBB IAmb IAmb 09 39 27.0
comp=Z,17nm,1.3s
ESDC Sonseca Array 92.59 310 P **P 09 39 02.4 +0.9**
comp=Z,6.4nm,0.9s,baz=56,slow=4.4,SNR=23
ESDC PKKPbc **PKKPbc 09 56 14.6 -0.4**
comp=Z,0.8nm,0.9s,baz=253,slow=1.5,SNR=5.1
ESDC Sonseca Array 92.59 310 P **P 09 39 02.2 +0.7**
PAB San Pablo 92.91 310 P **P 09 39 03.9 +0.9**
PAB pmax pmax
comp=Z,10.0nm,1.0s
PAB San Pablo 92.91 310 P **P 09 39 03.9 +0.9**
PAB IAmb IAmb 09 39 05.6
comp=Z,10nm,1.0s
IMAR Indian Mountai 93.27 22 P **P 09 39 04.2 +0.2**
TTA Tatalina 93.47 26 P **P 09 39 04.8 -0.3**
TTA pmax pmax
comp=Z,24nm,1.2s
TTA Tatalina 93.47 26 P **P 09 39 04.8 -0.3**
TTA IAmb IAmb 09 39 06.7
comp=Z,24nm,1.2s
TOLK Toolik Lake Re 93.64 19 P **P 09 39 06.1 +0.4**
baz=296
TOLK Toolik Lake Re 93.64 19 P **P 09 39 05.0 -0.7**
COLD Coldfoot 94.05 21 P **P 09 39 08.1 +0.5**
baz=296
COLD Coldfoot 94.05 21 P **P 09 39 08.0 +0.4**
BPAW Bear Paw Mtn. 95.10 24 P **P 09 39 12.6 +0.1**
NEA2 Nenana 95.64 23 P **P 09 39 14.9 +0.1**
baz=297
SKT Skwentna 95.76 26 P **P 09 39 15.1 -0.4**
MDM Murphy Dome 95.79 22 P **P 09 39 15.1 -0.5**
BMAR Burnt Mountain 95.87 19 P **P 09 39 14.2 -1.7**
POKR Poker Plat Res 96.02 22 P **P 09 39 17.2 +0.6**
baz=298
MCK McKinley 96.08 24 P **P 09 39 15.9 -1.0**
MCK pmax pmax
comp=Z,9.0nm,0.5s
MCK McKinley 96.08 24 P **P 09 39 15.9 -1.0**
IL31 96.39 22 P **P 09 39 16.6 -1.6**
ILAR Eielson Array 96.39 22 P **P 09 39 16.7 -1.6**
comp=Z,2.3nm,0.8s,baz=305,slow=4.1,SNR=21
ILAR LR LR 10 27 37.5
comp=Z,64nm,20.8s,baz=294,slow=38
ILAR Eielson Array 96.39 22 P **P 09 39 15.8 -2.4**
HDA Harding Lake 96.54 23 P **P 09 39 18.4 -0.6**
baz=299
HDA Harding Lake 96.54 23 P **P 09 39 17.7 -1.3**
HDA IAmb IAmb 09 43 03.4
comp=Z,7.2nm,0.7s
RIDG Independent Ri 97.67 23 P **P 09 39 23.9 -0.3**
RIDG IAmb IAmb 09 39 26.8
comp=Z,6.4nm,0.8s
SCRK Sand Creek 97.88 22 P **P 09 39 25.2 0.0**
baz=301
A36M Sachs Harbour 98.03 12 P **P 09 39 25.2 -0.3**
baz=320
DBIC Dimbokro 98.42 278 P Pdif 09 39 30.1 +1.6
comp=Z,1.9nm,0.6s,baz=60,slow=3.3,SNR=4.4
DBIC Dimbokro 98.42 278 P Pdif 09 39 29.5 +0.9
MENT Mentasta 98.52 23 P Pdif 09 39 28.0 0.0
MENT IAmb IAmb 09 39 30.9
comp=Z,7.6nm,0.7s
K27K Chicken 98.56 22 P Pdif 09 39 28.3 +0.2
baz=303
EPYK Eagle Plains 99.02 19 **Pdif 09 39 29.6 -0.6**
EPYK IAmb IAmb 09 39 30.5
comp=Z,7.8nm,0.7s
BCAR Beaver Creek A 99.20 23 P **Pdif 09 39 30.6 -0.4**
C36M Paulatuk 100.33 13 P **Pdif 09 39 35.9 +0.1**
baz=321
B05A Bryant 117.21 27 P **PKiKP 09 44 35.0 +0.4**
baz=318
D03D Eldon 117.30 28 P **PKiKP 09 44 35.1 +0.2**
baz=317
SCHQ Schefferville 117.39 348 PKP **PKiKP 09 44 35.2 +0.3**
comp=Z,2.1nm,0.5s,baz=31,slow=1.4,SNR=5.5
SCHQ Schefferville 117.39 348 **PKPdf 09 44 33.8 -1.1**
E04D Cinebar 118.26 28 P **PKiKP 09 44 37.3 +0.5**
baz=317
LTY Liberty 118.60 26 **PKPdf 09 44 37.1 -0.4**
F04A Amboy 118.79 28 PKPdf **PKiKP 09 44 38.1 +0.3**
C09A Chrisman Ranch 119.21 25 **PKPdf 09 44 38.3 -0.3**
NEW Newport 119.31 24 PKP **PKiKP 09 44 39.0 +0.1**
comp=Z,2.7nm,0.7s,baz=313,slow=3.8,SNR=6.3
NEW Newport 119.31 24 PKIKP **PKiKP 09 44 39.0 +0.1**
NEW Newport 119.31 24 P **PKiKP 09 44 39.1 +0.3**
baz=324
NEW Newport 119.31 24 PKPdf **PKPdf 09 44 38.7 -0.1**
H04D Lebanon 119.66 30 P **PKiKP 09 44 40.2 +0.6**
baz=316,SNR=5.2
I03D Drain, OR 119.95 31 P **PKiKP 09 44 40.4 +0.2**
baz=316
I04A Tendick Farm, 120.35 30 P **PKiKP 09 44 41.0 0.0**
baz=316,SNR=5.2
I05D Terrebonne, OR 120.48 29 P **PKiKP 09 44 41.7 +0.5**
baz=318
K02D Willamette Mer 120.49 32 P **PKiKP 09 44 41.8 +0.4**
baz=315
J04D Umpqua Nationa 120.90 30 P **PKiKP 09 44 42.9 +0.6**
baz=316,SNR=6.0
HUMO Hull Mountain 120.92 31 PKPdf **PKiKP 09 44 43.2 +1.0**
J05D Fort Rock, OR 121.31 30 P **PKiKP 09 44 43.9 +0.8**
baz=317
K04D Chiloquin, OR 121.53 31 P **PKPdf 09 44 43.2 -0.2**
baz=317
L04D Klamath Falls 121.54 31 P **PKPdf 09 44 43.3 -0.1**
baz=316
I07A Izee 121.55 28 **PKiKP 09 44 43.6 +0.1**
YBH Yreka Blue Hor 121.67 32 PKP **PKPdf 09 44 43.4 -0.2**
comp=Z,1.6nm,0.9s,baz=312,slow=5.3,SNR=5.3
M02C Callahan 121.84 32 P **PKiKP 09 44 44.9 +0.8**
baz=315,SNR=6.2
K05A Summer Lake 121.89 30 **PKiKP 09 44 45.0 +0.7**
M04C Macdoel 122.09 31 P **PKiKP 09 44 44.6 0.0**
baz=316
EGMT Eagleton 122.17 19 P **PKiKP 09 44 44.9 +0.4**
baz=331
EGMT Eagleton 122.17 19 PKPdf **PKiKP 09 44 45.1 +0.5**
N02D Trinity Center 122.21 33 P **PKiKP 09 44 45.5 +0.7**
baz=315,SNR=5.8
J08A Circle Bar Ran 122.58 28 **PKiKP 09 44 45.8 +0.3**
O02D Mt. Diablo Mer 122.73 33 P **PKiKP 09 44 46.5 +0.6**
baz=314
O03E Paynes Creek 123.18 33 P **PKPdf 09 44 46.5 0.0**
baz=316,SNR=8.9
WVOR Wild Horse Val 123.21 29 PKIKP **PKiKP 09 44 47.1 +0.3**
WVOR Wild Horse Val 123.21 29 **PKiKP 09 44 47.1 +0.3**
ULM Lac du Bonnet 123.28 8 PKP **PKPdf 09 44 46.0 -0.3**
comp=Z,14nm,0.7s,baz=7.1,slow=2.6,SNR=16
ULM Lac du Bonnet 123.28 8 PKIKP **PKPdf 09 44 46.0 -0.3**
DGMT Dagmar 123.37 15 P **PKiKP 09 44 47.1 +0.3**
baz=338
DGMT Dagmar 123.37 15 PKPdf **PKiKP 09 44 47.0 +0.1**
CHGQ Chibougamau 123.47 351 P **PKPdf 09 44 46.6 -0.1**
baz=13,SNR=5.5
BOZ Bozeman (W) 123.62 22 P **PKiKP 09 44 47.8 +0.2**
baz=328
GDXM Geysers 123.67 35 **PKiKP 09 44 48.9 +1.1**
MATQ Matagami 124.04 354 P **PKiKP 09 44 47.9 -0.1**
baz=9.5
GCMT Greycliff 124.15 20 **PKiKP 09 44 48.6 -0.1**
HLID Hailey 124.22 25 P **PKiKP 09 44 49.3 +0.5**
baz=325
LAO LASA Array 124.45 17 P **PKiKP 09 44 50.1 +1.0**
baz=335
LAO LASA Array 124.45 17 **PKiKP 09 44 50.0 +1.0**
AFDM Forest Hills D 124.59 33 PKPdf **PKiKP 09 44 49.7 +0.2**
RLMT Red Lodge 124.87 20 P **PKiKP 09 44 50.5 +0.4**
baz=331
PAHR Pah Rah Range 124.88 32 PKPdf **PKiKP 09 44 50.6 +0.4**
MDND Maddock 124.99 11 P **PKPdf 09 44 49.5 -0.2**
baz=343
VCNR Virginia City 125.05 32 **PKPdf 09 44 50.3 0.0**
D62A Allapoint, All 125.15 346 P **PKiKP 09 44 50.4 +0.1**
baz=20
AGMN Agassiz Nation 125.19 8 P **PKPdf 09 44 49.9 -0.2**
baz=348
D61A St Aubert, Com 125.30 347 P **PKiKP 09 44 50.5 -0.1**
baz=19
IMW Indian Meadow 125.33 22 PKPdf **PKiKP 09 44 51.1 -0.1**
E64A Bridgewater 125.46 345 P **PKiKP 09 44 51.1 +0.2**
baz=22
E63A Oxbow 125.61 345 P **PKPdf 09 44 51.0 +0.1**
baz=21
LATQ La Tuque 125.65 349 P **PKiKP 09 44 51.2 -0.1**
baz=16
LATQ La Tuque 125.65 349 **PKPdf 09 44 51.0 +0.1**
TPAW Teton Pass 125.67 23 **PKPdf 09 44 51.4 -0.1**
REDW Red Top Meadow 125.82 23 **PKiKP 09 44 52.3 +0.2**
D58A Chemin du LacG 125.94 349 P **PKPdf 09 44 51.5 -0.1**
baz=16
EYMN Ely 126.04 5 P **PKiKP 09 44 51.9 -0.2**
baz=353
E61A Lac Etchemin 126.09 347 P **PKiKP 09 44 52.1 -0.2**
baz=19
F64A Sherman 126.11 345 P **PKPdf 09 44 51.9 +0.1**
baz=21
D32A Dogwood Acres, 126.15 10 **PKPdf 09 44 51.9 0.0**
D57A Chemin Vers le 126.20 350 P **PKPdf 09 44 52.1 0.0**
baz=14
D56A ZEC Mazanza, M 126.31 351 P **PKiKP 09 44 52.5 -0.2**
baz=13
E60A Ste Agathe de 126.36 348 P **PKPdf 09 44 52.5 +0.2**
baz=18
NVAR Mina Array Bea 126.39 32 PKP **PKiKP 09 44 54.3 +0.9**
comp=Z,9.5nm,0.8s,baz=293,slow=1.9,SNR=64
NVAR Mina Array Bea 126.39 32 **PKiKP 09 44 53.5 +0.2**
D55A Sainte-Anne-du 126.45 351 P **PKPdf 09 44 52.7 +0.2**
baz=12,SNR=6.9
NV11 Mina Array Sit 126.47 32 PKPdf **PKiKP 09 44 54.0 +0.5**
D54A Lac Fusel, La 126.49 352 P **PKPdf 09 44 52.6 0.0**
baz=11
F61A St Evariste 126.64 347 P **PKiKP 09 44 53.3 0.0**
baz=18
D53A Lac Vacive, Po 126.69 353 P **PKPdf 09 44 52.9 -0.1**
baz=9.8
D53A Lac Vacive, Po 126.69 353 PKPdf **PKPdf 09 44 53.2 +0.2**
E58A La Victoria 126.72 349 P **PKiKP 09 44 53.5 0.0**
baz=15
BW06 Boulder Array 126.82 22 P **PKiKP 09 44 53.9 -0.2**
baz=330
BW06 Boulder Array 126.82 22 **PKiKP 09 44 54.0 -0.1**
PD31 Pinedale Array 126.82 22 **PKPdf 09 44 53.8 +0.1**
PDAR Pinedale Array 126.82 22 PKP **PKPdf 09 44 53.6 0.0**
comp=Z,8.7nm,0.9s,baz=55,slow=1.6,SNR=58
E57A Chemin Saint G 126.83 350 P **PKPdf 09 44 53.4 +0.1**
baz=14,SNR=5.4
H66A Whiting 126.83 344 P **PKiKP 09 44 54.0 +0.2**
baz=23
F60A Warwick 126.84 348 P **PKPdf 09 44 53.3 0.0**
baz=17
E56A St. Veronique 126.85 351 P **PKPdf 09 44 53.3 0.0**
baz=13,SNR=5.8
PKME Peaks-Kenny Pk 126.91 346 P **PKiKP 09 44 53.9 0.0**
baz=20
TPH Tonopah 127.22 31 PKIKP **PKiKP 09 44 55.8 +0.8**
TPH Tonopah 127.22 31 **PKiKP 09 44 55.8 +0.8**
G62A West of Eustis 127.25 347 P **PKPdf 09 44 54.1 0.0**
baz=19
E54A Lac Daplat, Po 127.26 353 P **PKPdf 09 44 54.1 0.0**
baz=10
G61A St-Isidore-de- 127.41 347 P **PKPdf 09 44 54.6 +0.2**
baz=18
RSSD Black Hills 127.42 17 PKIKP **PKPdf 09 44 54.4 -0.3**
RSSD Black Hills 127.42 17 P **PKiKP 09 44 55.3 0.0**
baz=337
RSSD Black Hills 127.42 17 **PKPdf 09 44 54.4 -0.3**
R11A Troy Canyon, C 127.84 30 P **PKiKP 09 44 56.5 +0.3**
baz=321,SNR=38
ALGO Algonquin Park 127.84 353 P **PKPdf 09 44 55.0 -0.1**
baz=9.5
E46A Sault Ste Mari 127.86 359 PKPdf **PKiKP 09 44 55.5 -0.3**
VES Vestal, Richgr 127.86 35 P **PKiKP 09 44 55.8 -0.3**
baz=316
G59A Clarenceville 127.94 349 P **PKiKP 09 44 55.9 0.0**
baz=16
CWC Cottonwood Cre 127.98 33 P **PKiKP 09 44 56.5 -0.1**
baz=318
K22A Casper 127.99 20 P **PKPdf 09 44 55.8 0.0**
baz=333
ORIO Orleans, Innes 127.99 351 P **PKPdf 09 44 55.7 +0.2**
baz=13
H61A Lyndonville 128.21 348 P **PKiKP 09 44 56.6 0.0**
baz=17
ISA Isabella, Lake 128.33 34 PKIKP **PKiKP 09 44 57.5 +0.4**
ISA Isabella, Lake 128.33 34 P **PKPdf 09 44 56.6 +0.1**
baz=317
ISA Isabella, Lake 128.33 34 PKPdf **PKiKP 09 44 57.5 +0.4**
I63A Otisfield 128.36 346 P **PKiKP 09 44 56.6 -0.2**
baz=19
SUSD Miller 128.38 12 P **PKPdf 09 44 56.4 +0.1**
baz=343

SUSD	Miller	128.38	12		PKPdf	09 44 56.1	-0.1
G54A	Lake Saint Pet baz=9.5	128.39	353	P	PKPdf	09 44 56.3	0.0
H59A	Cadyville baz=15	128.46	349	P	PKPdf	09 44 56.0	-0.4
TPNV	Topopah Spring baz=320	128.58	31	P	PKiKP	09 44 57.6	-0.1
MPMC	Manual Prospec baz=319,SNR=14	128.59	33	P	PKiKP	09 44 58.1	+0.3
SPMN	Marine on St. baz=351	128.61	6	P	PKPdf	09 44 56.8	+0.1
FURC	Furnace Creek, baz=319,SNR=7.5	128.62	32	P	PKiKP	09 44 58.4	+0.8
LONY	Lake Ozonia baz=14	128.64	350	P	PKiKP	09 44 57.4	-0.1
I62A	Tamworth baz=18	128.71	347	P	PKiKP	09 44 57.5	0.0
H58A	Gabriels baz=15	128.77	349	P	PKiKP	09 44 58.1	+0.4
I61A	Oroboro, Fairl baz=17	128.84	348	P	PKiKP	09 44 58.2	+0.4
LRMC	Laurel Mtn Rad baz=317	128.91	34	P	PKiKP	09 44 58.6	+0.2
H56A	Elgin baz=12	128.94	351	P	PKiKP	09 44 57.9	0.0
TMUT	Trail Mountain	129.10	26		PKiKP	09 44 59.2	+0.3
H55A	Tweed baz=11	129.11	352	P	PKiKP	09 44 58.2	-0.1
P17A	Butcher Ranch,	129.15	25		PKiKP	09 44 59.1	+0.3
I60A	Shoreham baz=16	129.15	348	P	PKiKP	09 44 59.0	+0.6
EDW2	Edwards Air Fo baz=317	129.17	35	P	PKiKP	09 44 59.0	+0.1
H53A	Bobcaygeon baz=9.0	129.26	353	P	PKiKP	09 44 58.6	0.0
MVU	Marysvale	129.31	27		PKiKP	09 44 59.9	+0.7
I59A	Olmsteadville baz=15	129.31	349	P	PKiKP	09 44 58.5	-0.3
SHOC	Shoshone, Teco baz=319,SNR=8.6	129.36	32	P	PKiKP	09 44 59.1	0.0
J61A	Chester baz=17	129.48	348	P	PKPdf	09 44 58.5	+0.1
I57A	Carthage baz=13	129.49	351	P	PKPdf	09 44 58.5	+0.1
ECSD	EROS Data Cent baz=346	129.51	10	P	PKiKP	09 44 59.2	0.0
ECSD	EROS Data Cent	129.51	10		PKPdf	09 44 58.5	+0.1
GSC	Goldstone, Bar baz=318,SNR=7.5	129.52	33	P	PKiKP	09 45 00.1	+0.5
O20A	White River Ci baz=330	129.59	22	P	PKiKP	09 44 59.5	-0.2
I58A	Old Forge baz=14	129.61	350	P	PKiKP	09 44 59.4	0.0
N23A	Red Feather La baz=333	129.75	20	P	PKiKP	09 45 00.1	0.0
N23A	Red Feather La	129.75	20	PKPdf	PKiKP	09 44 60.0	-0.1
TUQ	Turquoise Moun baz=319,SNR=5.4	129.90	32	P	PKiKP	09 45 01.0	+0.6
J58A	Remsen baz=13	129.99	350	P	PKPdf	09 44 59.7	+0.3
LCMT	Little Creek M	130.03	29		PKiKP	09 45 01.2	+0.6
L61B	Northampton baz=17	130.36	347	P	PKPdf	09 45 00.2	+0.1
J55A	Hilton baz=10	130.46	353	P	PKiKP	09 45 01.0	0.0
GMRC	Granite Mounta baz=319,SNR=8.8	130.53	33	P	PKiKP	09 45 02.4	+0.8
MURC	Murrieta baz=317	130.55	35	P	PKiKP	09 45 01.5	-0.1
L61A	Hillsdale 1, H baz=16	130.79	348	P	PKiKP	09 45 02.1	+0.3
K57A	Scipio Center baz=12	130.80	351	P	PKiKP	09 45 02.0	+0.2
PV04	Paradox Valley	130.82	24		PKiKP	09 45 02.4	+0.2
ISCO	Idaho Springs baz=333	130.84	20	P	PKiKP	09 45 02.4	0.0
BELC	Belle Mtn. Jos baz=318	130.93	34	P	PKiKP	09 45 02.2	-0.3
K56A	Middlesex baz=11	130.95	352	P	PKiKP	09 45 02.0	-0.1
U15A	North Rim	130.96	29	PKPdf	PKiKP	09 45 02.5	-0.2
PFO	Pinyon Flats O baz=318	130.96	34	P	PKiKP	09 45 02.1	-0.4
K55A	Perry baz=9.9	131.02	353	P	PKPdf	09 45 01.7	+0.4
L59A	Walton baz=14	131.08	350	P	PKPdf	09 45 01.8	+0.3
JFWS	Jewell Farm	131.14	5	PKIKP	PKPdf	09 45 01.0	-0.6
JFWS	Jewell Farm baz=354	131.14	5	P	PKPdf	09 45 01.6	0.0
JFWS	Jewell Farm	131.14	5		PKPdf	09 45 01.0	-0.6
K54A	Basiliko Farm, baz=9.1	131.21	353	P	PKPdf	09 45 02.0	+0.2
W13A	Hualapai Mount	131.22	31	PKPdf	PKiKP	09 45 03.4	+0.3
BINY	Binghamton baz=13	131.24	350	P	PKiKP	09 45 02.6	-0.1
IRM	Iron Mountain baz=319,SNR=7.7	131.28	33	P	PKiKP	09 45 03.6	+0.6
L58A	Harry Jones Me baz=13	131.36	350	P	PKiKP	09 45 02.9	0.0
BGNE	Belgrade baz=343	131.45	13	P	PKiKP	09 45 02.7	-0.5
BGNE	Belgrade	131.45	13	PKPdf	PKPdf	09 45 01.3	-0.9
BC3	Big Chuckawall baz=319	131.49	34	P	PKiKP	09 45 03.8	+0.2
L56A	Greenwood baz=11	131.53	352	P	PKiKP	09 45 02.9	-0.4
L57A	Andrews Acres baz=12	131.56	351	P	PKPdf	09 45 02.9	+0.4
L55A	Hinsdale baz=9.5	131.60	353	P	PKiKP	09 45 03.0	-0.4
L54A	Sinclairville baz=8.3	131.66	354	P	PKiKP	09 45 03.4	-0.2
PDMCI	Parker Dam,Lak baz=321	131.70	32	P	PKiKP	09 45 04.3	+0.5
Q24A	Divide baz=334	131.75	20	P	PKPdf	09 45 03.4	+0.2
M59A	Waymart baz=14	131.78	350	P	PKiKP	09 45 03.5	-0.3
SWSC	Sam W. Stewart baz=318	131.82	35	P	PKiKP	09 45 03.9	-0.3
SCIA	State Center baz=350	131.83	8	P	PKPdf	09 45 03.0	+0.1
M60A	Port Jervis baz=15	131.84	349	P	PKiKP	09 45 03.8	-0.1
ERPA	Erie baz=7.4	131.84	354	P	PKPdf	09 45 03.1	+0.2
MVCO	Mesa Verde baz=329,SNR=6.7	132.00	25	P	PKiKP	09 45 04.6	-0.1
M58A	Price's Panora baz=12	132.12	351	P	PKPdf	09 45 03.8	+0.3
WUAZ	Wupatki baz=324	132.13	29	P	PKiKP	09 45 04.9	-0.1
S22A	4UR Ranch, Cre baz=331,SNR=5.7	132.21	23	P	PKPdf	09 45 04.6	+0.5
M57A	Sunshine Farm, baz=11	132.26	351	P	PKPdf	09 45 04.0	+0.3
M56A	Emporium baz=9.9	132.26	352	P	PKPdf	09 45 04.2	+0.4
GLA	Glamis baz=319	132.29	34	P	PKiKP	09 45 05.4	+0.3
N61A	South Mountain baz=15	132.33	348	P	PKiKP	09 45 04.4	-0.5
M55A	Ridgway baz=9.1	132.35	353	P	PKiKP	09 45 04.6	-0.4
M54A	Oil Creek Stat baz=7.9	132.41	354	P	PKPdf	09 45 04.4	+0.4
ESJX	Sierra Juarez	132.43	36		PKPdf	09 45 04.4	-0.1
N59A	State Game Lan baz=13	132.45	350	P	PKPdf	09 45 04.6	+0.5
M52A	Chesterland baz=5.7	132.53	356	P	PKiKP	09 45 04.9	-0.5
M53A	WI Miller and baz=6.6	132.58	355	P	PKPdf	09 45 04.7	+0.4
N58A	Sunbury baz=12	132.68	351	P	PKPdf	09 45 05.0	+0.5
SDCO	Great Sand Dun baz=333	132.71	22	P	PKPdf	09 45 04.9	-0.2
N56A	West Decatur baz=9.8	132.83	352	P	PKPdf	09 45 05.2	+0.4
N57A	Milroy baz=11	132.89	352	P	PKPdf	09 45 05.3	+0.4
O60A	Telford baz=14	132.96	349	P	PKPdf	09 45 05.6	+0.6
X16A	Lo Mia Camp, P	132.99	29		PKiKP	09 45 07.3	+0.6
N55A	Marion Center baz=8.9	133.05	353	P	PKiKP	09 45 06.0	-0.5
SSPA	Standing Stone	133.05	352	P	PKiKP	09 45 06.1	-0.3
	baz=10						
O59A	Robesonia baz=13	133.11	350	P	PKiKP	09 45 06.0	-0.6
N53A	Lisbon baz=6.4	133.22	355	P	PKiKP	09 45 06.5	-0.2
N53A	Lisbon	133.22	355		PKPdf	09 45 05.6	+0.1
N51A	Ashland baz=4.3	133.22	357	P	PKiKP	09 45 06.4	-0.3
W18A	Petrified Fore baz=326	133.22	27	P	PKiKP	09 45 07.0	-0.2
N52A	McGinn's Farm, baz=5.3	133.28	356	P	PKPdf	09 45 06.1	+0.4
O58A	Lewisberry baz=12	133.41	351	P	PKPdf	09 45 06.4	+0.5
O57A	Amberson baz=11	133.44	352	P	PKPdf	09 45 06.6	+0.6
P60A	Greenville baz=14	133.50	349	P	PKiKP	09 45 07.4	+0.1
O56A	Blue Knob Stat baz=9.6	133.51	353	P	PKPdf	09 45 06.4	+0.2
O56A	Blue Knob Stat	133.51	353		PKPdf	09 45 06.7	+0.5
HDIL	Hopedale baz=355	133.56	4	P	PKiKP	09 45 06.9	-0.5
T25A	Trinidad baz=334,SNR=6.6	133.64	21	P	PKPdf	09 45 07.2	+0.5
T25A	Trinidad	133.64	21	PKPdf	PKPdf	09 45 07.0	+0.3
O55A	Ligonier baz=8.6	133.66	353	P	PKPdf	09 45 07.0	+0.6
O54A	Avella baz=7.1	133.80	354	P	PKPdf	09 45 07.1	+0.5
O53A	New Philadelph baz=6.0	133.80	355	P	PKPdf	09 45 07.2	+0.5
P59A	Jarrettsville baz=13	133.83	350	P	PKPdf	09 45 07.1	+0.4
SFIN	Lafayette baz=358	133.83	2	P	PKPdf	09 45 07.2	+0.5
ACSO	Alum Creek Sta baz=3.6	133.94	357	P	PKPdf	09 45 07.1	+0.2
O52A	Adamsville baz=5.2	133.98	356	P	PKPdf	09 45 07.3	+0.3
KSU1	Kansas State U baz=345,SNR=5.2	133.99	12	P	PKiKP	09 45 07.8	-0.6
KSU1	Kansas State U	133.99	12	PKPdf	PKPdf	09 45 07.2	+0.1
O51A	Pataskala baz=4.1	134.00	357	P	PKPdf	09 45 06.9	-0.1
P58A	Pank, Wackersv baz=11	134.09	351	P	PKPdf	09 45 07.2	+0.1
P57A	Homestead Farm baz=10	134.20	352	P	PKPdf	09 45 07.5	0.0
214A	Organ Pipe Nat baz=321	134.22	33	P	PKiKP	09 45 08.6	-0.5
P56A	Dayton Farm, R baz=9.3	134.29	353	P	PKPdf	09 45 08.0	+0.4
P54A	Burton baz=7.1	134.38	354	P	PKPdf	09 45 08.3	+0.6
P55A	Reedsville baz=8.0	134.41	354	P	PKPdf	09 45 08.4	+0.5
P52A	Corning baz=4.8	134.48	356	P	PKPdf	09 45 08.1	+0.1
P53A	Whipple baz=5.8	134.57	355	P	PKPdf	09 45 08.5	+0.4
Q58A	Fox Den Farm, baz=11	134.69	351	P	PKPdf	09 45 08.9	+0.6
P51A	Williamsport baz=3.5	134.69	357	P	PKPdf	09 45 08.7	+0.4
P49A	Miami Univ. Ec baz=1.2	134.69	359	P	PKPdf	09 45 08.7	+0.3
Q57A	Strasburg baz=10.0	134.70	352	P	PKPdf	09 45 09.1	+0.7
ANMO	Albuquerque	134.79	24	PKIKP	PKiKP	09 45 09.9	-0.4
ANMO	Albuquerque baz=330	134.79	24	P	PKiKP	09 45 10.4	0.0
ANMO	Albuquerque	134.79	24	PKPdf	PKiKP	09 45 09.9	-0.4
Q56A	Snyder Ridge, baz=8.9	134.79	353	P	PKPdf	09 45 09.2	+0.7
Q55A	Buckhannon baz=7.7,SNR=5.8	134.94	354	P	PKPdf	09 45 09.6	+0.7
TUC	Tucson	135.00	31	PKIKP	PKPdf	09 45 08.9	-0.3
TUC	Tucson baz=323	135.00	31	P	PKPdf	09 45 09.4	+0.2
TUC	Tucson	135.00	31	PKPdf	PKPdf	09 45 08.9	-0.3
Q54A	Coxs Mills baz=6.7	135.03	355	P	PKPdf	09 45 09.5	+0.6
Q52A	Bidwell baz=4.7	135.16	356	P	PKPdf	09 45 09.3	+0.1
Q53A	Leroy baz=5.7	135.21	355	P	PKiKP	09 45 10.6	-0.3
R59A	King George, V baz=12	135.32	350	P	PKiKP	09 45 10.8	-0.3
R58A	Rapidan baz=11	135.36	351	P	PKPdf	09 45 10.2	+0.6
R57A	Stanardsville baz=10.0	135.44	352	P	PKPdf	09 45 10.4	+0.7
R56A	Bull Pasture M baz=8.7,SNR=7.5	135.45	353	P	PKiKP	09 45 10.7	-0.7
R58B	Mineral baz=11	135.67	351	P	PKPdf	09 45 10.9	+0.7
S59A	Mechanicsville baz=12	135.78	351	P	PKPdf	09 45 11.1	+0.7
R54A	Victor baz=6.5	135.84	355	P	PKPdf	09 45 11.1	+0.6
CCM	Cathedral Cave baz=352	135.86	6	P	PKPdf	09 45 10.8	+0.3
S39A	Bolivar	135.95	9	PKPdf	PKPdf	09 45 10.2	-0.6
WCI	Wyandotte Cave	136.00	1	PKIKP	PKPdf	09 45 08.7	-2.1
WCI	Wyandotte Cave baz=359	136.00	1	P	PKPdf	09 45 11.3	+0.5
WCI	Wyandotte Cave	136.00	1	PKPdf	PKPdf	09 45 08.7	-2.1
S57A	Dark Hollow, R baz=9.5,SNR=6.4	136.03	352	P	PKPdf	09 45 11.6	+0.8
S58A	Poland Farm, P baz=11	136.04	351	P	PKiKP	09 45 11.9	-0.6
T35A	Sooner Cattle	136.11	13	PKPdf	PKPdf	09 45 11.3	+0.2
S55A	Lewisburg baz=7.3	136.19	354	P	PKPdf	09 45 11.6	+0.3
S54A	Dingess, Beckl baz=6.1	136.24	355	P	PKPdf	09 45 11.8	+0.4
121A	Cookes Peak, D baz=327	136.27	27	P	PKiKP	09 45 12.9	-0.5
S53A	Williamson baz=5.0	136.43	356	P	PKiKP	09 45 12.8	-0.6
T59A	Double "B" Far baz=12	136.59	351	P	PKiKP	09 45 13.0	-0.7
AMTX	Amarillo baz=336	136.61	19	P	PKPdf	09 45 13.0	+0.9
MGMO	Mountain Grove	136.63	8		PKPdf	09 45 12.2	+0.2
BLA	Blacksburg baz=7.5	136.74	354	P	PKiKP	09 45 13.4	-0.7
T58A	Grand View Acr baz=10	136.77	352	P	PKiKP	09 45 13.2	-0.8
T57A	Hurt baz=9.2	136.82	353	P	PKiKP	09 45 13.3	-0.8
T55A	Pulaski baz=7.0	136.87	354	P	PKPdf	09 45 13.2	+0.6
T56A	Rocky Mt baz=8.0	136.88	353	P	PKiKP	09 45 13.7	-0.7
T42A	Van Buren	136.89	6		PKPdf	09 45 12.4	0.0
T54A	Tazewell baz=5.8	137.00	355	P	PKPdf	09 45 13.5	+0.7
MSTX	Muleshoe baz=335	137.07	21	P	PKPdf	09 45 13.3	+0.2
MSTX	Muleshoe	137.07	21	PKPdf	PKPdf	09 45 13.4	+0.4
T53A	Wise baz=4.4	137.15	356	P	PKPdf	09 45 13.8	+0.7
HHAR	Hobbs	137.23	10		PKPdf	09 45 13.0	-0.2
TUL1	Leonard baz=345	137.24	12	P	PKPdf	09 45 13.9	+0.8
TUL1	Leonard	137.24	12		PKPdf	09 45 13.1	-0.1
U59A	Littleton baz=11	137.24	351	P	PKiKP	09 45 14.3	-0.7
U58A	Oxford baz=10	137.31	352	P	PKPdf	09 45 13.8	+0.5
U40A	Yellville baz=349	137.33	9	P	PKPdf	09 45 13.3	0.0
U57A	Blanch baz=9.1	137.38	352	P	PKPdf	09 45 13.9	+0.5
U55A	TA2, Sparta baz=6.6,SNR=5.4	137.51	355	P	PKPdf	09 45 14.1	+0.4
U54A	Nelsons Funny baz=5.5	137.56	355	P	PKPdf	09 45 14.2	+0.4
U56A	King baz=7.6	137.59	354	P	PKPdf	09 45 13.7	-0.1
WMOK	Wichita Mounta	137.63	16	PKIKP	PKPdf	09 45 14.9	+0.9
WMOK	Wichita Mounta baz=340	137.63	16	P	PKPdf	09 45 14.4	+0.5
WMOK	Wichita Mounta	137.63	16		PKPdf	09 45 14.9	+0.9
TZTN	Tazewell	137.64	358	P	PKPdf	09 45 13.9	0.0
	baz=3.0						
TZTN	Tazewell	137.64	358	PKPdf	PKPdf	09 45 14.1	+0.2
U49A	Red Boiling Sp	137.71	0		PKPdf	09 45 13.4	-0.6
LCAR	Lake Charles	137.84	7		PKPdf	09 45 14.3	+0.1
V59A	Middlesex baz=11	137.88	351	P	PKPdf	09 45 14.5	+0.1
FCAR	Ozark Folk Cen	137.89	8	PKPdf	PKPdf	09 45 14.4	0.0
V57A	Coltrane Farms baz=8.6	137.98	353	P	PKPdf	09 45 14.6	+0.1
V58A	Windy Hill, Pi baz=9.6	137.98	352	P	PKPdf	09 45 14.4	-0.1
MNTX	Cornudas Mount baz=330	138.04	26	P	PKPdf	09 45 14.8	0.0
WVT	Waverly	138.05	3	PKIKP	PKPdf	09 45 14.8	+0.1
WVT	Waverly baz=357	138.05	3	P	PKPdf	09 45 14.6	0.0
WVT	Waverly	138.05	3	PKPdf	PKPdf	09 45 14.8	+0.1
CLTN	Cedars of Leba	138.13	1	PKPdf	PKPdf	09 45 15.3	+0.5
V56A	Mocksville baz=7.5	138.14	354	P	PKPdf	09 45 15.2	+0.3
V55A	Taylorsville baz=6.5	138.17	355	P	PKPdf	09 45 15.1	+0.2
V55A	Taylorsville	138.17	355		PKPdf	09 45 14.8	-0.1
V54A	Nebo baz=5.4	138.30	355	P	PKPdf	09 45 15.0	-0.2
W39A	Magazine baz=348	138.31	10	P	PKPdf	09 45 15.5	+0.3
W39A	Magazine	138.31	10	PKPdf	PKiKP	09 45 17.4	+0.1
V52A	Sevierville	138.34	358		PKPdf	09 45 15.3	0.0
W41B	Gary Mavity, V baz=350	138.58	8	P	PKPdf	09 45 15.7	+0.1
W57A	Gilead baz=8.4	138.73	353	P	PKPdf	09 45 16.1	+0.2
W58A	Raeford baz=9.6	138.76	352	P	PKPdf	09 45 16.4	+0.4
W56A	Indian Trail baz=7.5	138.81	354	P	PKPdf	09 45 16.6	+0.5
KMSC	Kings Mountain baz=6.4	138.88	355	P	PKPdf	09 45 17.3	+1.1
MIAR	Mount Ida baz=348	138.98	10	P	PKPdf	09 45 17.1	+0.7
W54A	Cherokee Point baz=5.1	139.01	356	P	PKPdf	09 45 17.2	+0.7
BG3	Lake Jocassee	139.15	357	PKPdf	PKPdf	09 45 17.5	+0.8
X40A	Basin Creek Fa baz=349	139.16	9	P	PKPdf	09 45 17.6	+0.8
X58A	Rowland baz=9.5	139.23	352	P	PKPdf	09 45 17.4	+0.5
ABTX	Abilene, Hawle baz=338	139.34	18	P	PKPdf	09 45 18.1	+1.0
X56A	White Oak baz=6.9	139.50	354	P	PKPdf	09 45 17.9	+0.5
X54A	Belton baz=4.9	139.56	356	P	PKPdf	09 45 18.6	+1.2
X55A	Gracelyn & Ava baz=6.0	139.58	355	P	PKPdf	09 45 18.2	+0.7
Y59A	Loris baz=10	139.72	351	P	PKPdf	09 45 18.5	+0.7
HODGE	Hodges	139.86	356		PKPdf	09 45 18.0	0.0
Y55A	Saluda baz=5.7	140.12	355	P	PKPdf	09 45 19.3	+0.8
Y52A	Lilburn	140.33	358		PKPdf	09 45 18.2	-0.7
Z57A	Bowman baz=7.6	140.64	353	P	PKPdf	09 45 20.0	+0.6
GOGA	Godfrey baz=3.3	140.75	357	P	PKPdf	09 45 20.8	+1.1
TXAR	Lajitas Array comp=Z,1.5nm,0.7s,baz=270,slow=1.7,SNR=8.1	140.82	25	PKhKP	PKPpre	09 45 13.0	
TXAR				PKP	PKPdf	09 45 21.0	+1.0
	comp=Z,4.3nm,0.6s,baz=55,slow=0.4,SNR=17						
TXAR				SKPbc	SKPbc	09 48 50.5	0.0
	comp=Z,7.3nm,1.1s,baz=264,slow=1.3,SNR=8.9						
LRAL	Lakeview Retre baz=358	141.16	2	P	PKPdf	09 45 21.2	+0.8
JCT	Junction City baz=337	141.27	20	P	PKPdf	09 45 21.4	+0.6
BDFB	Brasilia comp=Z,5.7nm,0.7s,baz=61,slow=8.1,SNR=3.2	141.89	252	PKhKP	PKPpre	09 45 20.0	
BDFB				PKP	PKiKP	09 45 23.9	-1.3
	comp=Z,5.7nm,0.7s,baz=143,slow=2.6,SNR=6.6						
PLCA	Paso Flores comp=Z,3.4nm,1.0s,baz=6.8,slow=0.9,SNR=8.0	142.87	199	PKhKP	PKPpre	09 45 20.8	
PLCA				SKPbc	SKPbc	09 48 55.9	+0.7
	comp=Z,1.4nm,0.7s,baz=228,slow=4.0,SNR=4.7						
PLCA	Paso Flores	142.87	199	PKiKP	PKPdf	09 45 20.9	-2.4
PLCA	Paso Flores	142.87	199		PKPdf	09 45 20.9	-2.4
HKT	Hockley	142.94	15	PKIKP	PKPdf	09 45 24.1	+0.5
HKT	Hockley	142.94	15	PKPdf	PKPdf	09 45 24.1	+0.5
PCMB	Pacaembu	143.32	242	eP	PKiKP	09 45 26.4	-1.4
TRCB	Terra Rica	144.07	239	eP	PKPdf	09 45 26.9	+1.0
656A	Willston	144.71	355		PKPbc	09 45 26.0	+0.3
LC01	Cunco	144.96	199	PKPdf	PKPdf	09 45 27.2	+0.3
MCPB	Macapa, AP	146.03	278	eP	PKPbc	09 45 30.4	0.0
CPUP	Villa Florida comp=Z,5.6nm,0.7s,baz=81,slow=3.0,SNR=17	146.27	230	PKPbc	PKPab	09 45 31.1	-0.4
CPUP	Villa Florida	146.27	230	PKP2	PKPab	09 45 31.8	+0.2
CPUP	Villa Florida	146.27	230	PKPbc	PKPab	09 45 31.8	+0.2
BI02	San Fabin de	146.77	201		PKPbc	09 45 31.4	-0.5
ZAIG	Zacatecas	146.96	30		PKPbc	09 45 33.1	-0.1
MTP	Monte Pirata	148.92	321		PKiKP	09 45 38.9	-0.5
HUMP	Col San Antoni	149.08	321		PKPbc	09 45 39.0	+0.5
OBIP	Obispado Ponce	149.62	322		PKPbc	09 45 39.2	-0.7
MPR	Mayaguez	149.81	323		PKiKP	09 45 41.0	-0.3
VA03	San Esteban	149.89	206		PKPdf	09 45 36.9	+1.5
VA03					PKiKP	09 45 41.6	+0.4
ROC1	El Roble	149.91	205		PKiKP	09 45 41.4	-0.1
ROC1				PKPab	PKPab	09 45 47.5	+1.3
NPGB	Novo Progresso	149.91	266	eP	PKPdf	09 45 36.8	+0.9
MLPR	Magueyes Islan	149.94	323		PKPbc	09 45 40.6	0.0
CRPR	Cabo Rojo, PR	149.95	323		PKPbc	09 45 41.0	+0.4
ZON	Zonda	150.03	210	PKIKP	PKiKP	09 45 42.1	+0.6
ZON	Zonda	150.03	210		PKiKP	09 45 42.1	+0.6
CLDB	Colider	150.11	259	eP	PKPdf	09 45 37.0	+0.9
ITTB	Itaituba	150.19	272	eP	PKPdf	09 45 37.1	+0.8
MOIG	Morelia	150.24	31		PKPbc	09 45 41.4	-0.2
MOIG				PKPab	PKPab	09 45 47.4	-0.4
DR12	Loma Pena Alta	150.62	327		PKPbc	09 45 42.5	+0.1
DR12				PKPab	PKPab	09 45 49.8	+0.6
CO02	Combarbal	151.41	207		PKiKP	09 45 44.4	-0.1
CO02				PKPab	PKPab	09 45 53.4	+1.1
SDDR	Presa de Saban	151.44	331		PKiKP	09 45 44.6	-0.1
SDDR				PKPab	PKPab	09 45 53.6	+1.1
CO03	El Pedregal	151.58	208		PKiKP	09 45 44.2	-0.1
GO04	Tololo Observa	152.19	208		PKiKP	09 45 47.0	+0.8
PTLB	Pontes e Lacer	152.36	248	eP	PKPdf	09 45 40.9	+1.4
AC05	El Transito	153.03	211		PKiKP	09 45 49.1	+1.2
TLIG	Tlapa	153.33	28		PKiKP	09 45 49.1	+0.3
VILB	Vilhena	154.00	253	eP	PKPdf	09 45 44.4	+2.5
SAML	Samuel	157.55	261	PKP2	PKPab	09 46 20.5	+1.6
SAML	Samuel	157.55	261	PKPab	PKPab	09 46 20.5	+1.6
MTO3	Montecristo	159.40	10		PKPab	09 46 26.5	-0.2
LPAZ	La Paz comp=Z,6.1nm,0.8s,baz=95,slow=1.1,SNR=30	160.04	238	PKP	PKPdf	09 45 51.6	+1.3
LPAZ				PKPab	PKPab	09 46 31.1	+0.9
	comp=Z,4.8nm,0.9s,baz=130,slow=2.7,SNR=5.1						
LPAZ	La Paz	160.04	238	PKPdf	PKPdf	09 45 52.1	+1.8
LPAZ					PKPab	09 46 32.1	+1.9
ETMB	Extrema	160.40	258	eP	PKPdf	09 45 51.0	+1.0
ROSC	El Rosal comp=Z,35nm,1.3s,baz=144,slow=11,SNR=5.3	164.40	313	PKP	PKPdf	09 45 55.5	+0.9
OTAV	Otavalo	170.53	311	PKP2	PKPab	09 47 15.6	-0.7
OTAV	Otavalo	170.53	311		PKPab	09 47 15.6	-0.7
OTAV	Otavalo	170.53	311	eP	PKPdf	09 45 59.5	+0.5

REY **12** *09:32:56.4, 64.68N × 17.48W, h4km*
IDC **12** *09:32:56.1±0.8, 64.64N × 17.61W, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.7/46, mbtmp3.8/11, ML

IURH	Urdarhals	0.20	49	P	Pg	09 33 00.6 -1.2
	baz=44					
IDJK	Dyngjujokull	0.22	150	P	Pg	09 33 00.6 -1.6
	baz=149					
IGRF	Grimsfjall	0.30	161	P	Pg	09 33 02.1 -1.7
	baz=162					
IKVE	Kverkfjoll	0.35	92	P	Pg	09 33 03.1 -1.6
	baz=89					
IKVE				S	Sg	09 33 08.6 -0.7
	baz=89					
IBJK	Bruarjokull	0.39	125	P	Pg	09 33 03.5 -1.9
	baz=123					
IHUS	Husbondi	0.41	190	P	Pg	09 33 04.2 -1.5
	baz=192					
ISKR	Skrokkalda	0.41	251	P	Pg	09 33 04.1 -1.6
	baz=254					
ISKR				S	Sg	09 33 10.4 -0.7
	baz=254					
IVOT	Vottur	0.44	162	P	Pg	09 33 04.4 -1.9
	baz=162					
IKRE	Kreppuhraun	0.48	79	P	Pg	09 33 05.0 -2.0
	baz=77					
IKRE				S	Sg	09 33 12.4 -1.0
	baz=77					
IJOK	Jokulheimar	0.49	220	P	Pg	09 33 05.3 -1.9
	baz=222					
IJOK				S	Sg	09 33 12.2 -1.5
	baz=222					
IASK	Askja	0.51	44	P	Pg	09 33 06.0 -1.5
	baz=43					
IMKO	Mokollar	0.57	59	P	Pg	09 33 06.8 -1.9
	baz=58					
IMKO				S	Sg	09 33 15.9 -0.3
	baz=58					
ISVA	Svartarkot	0.66	9	P	Pg	09 33 08.5 -1.8
	baz=8.0					
ISVA				S	Sg	09 33 17.3 -1.6
	baz=8.0					
IIEY	Innrieyrar	0.66	205	P	Pg	09 33 08.2 -2.2
	baz=206					
IIEY				S	Sg	09 33 17.4 -1.6
	baz=206					
IKSK	Karasker	0.69	140	P	Pg	09 33 07.9 -3.1
	baz=140					
IVSH	V-Sauoahnukur	0.76	80	P	Pg	09 33 09.7 -2.7
	baz=79					
IVSH				S	Sg	09 33 20.2 -2.1
	baz=79					
IADA	Aoalbol	0.88	67	P	Pg	09 33 11.7 -2.9
	baz=66					
IADA				S	Sg	09 33 24.4 -1.7
	baz=66					
IHVE	Hveravellir	0.91	282	P	Pg	09 33 12.4 -2.7
	baz=283					
IMEL	Melhnausar	0.95	21	P	Pg	09 33 13.2 -2.7
	baz=21					
IREN	Reynihlio	0.99	14	P	Pg	09 33 13.9 -2.7
	baz=14					
IKVO	Krokottuvotn	1.06	14	P	Pg	09 33 15.1 -2.8
	baz=13					
ISNB	Snabyli	1.08	208	P	Pg	09 33 15.4 -2.9
	baz=209					
IGRS	Grimsstaoir	1.11	31	P	Pb	09 33 15.9 -3.0
	baz=30					
ISLY	Slysaalda	1.12	220	P	Pb	09 33 16.3 -2.8
	baz=221					
ISKI	Skildingahlsh	1.20	9	P	Pb	09 33 17.5 -2.9
	baz=8.8					
ISKI				S	Sb	09 33 34.3 -1.6
	baz=8.8					
IGHA	Grjothals	1.21	16	P	Pb	09 33 17.6 -3.0
	baz=16					
IGRA	Granastaoir	1.23	358	P	Pn	09 33 18.2 -2.7
	baz=358					
IGRA				S	Sb	09 33 35.2 -1.6
	baz=358					
IGYG	Gygjarholskot	1.25	252	P	Pn	09 33 18.2 -2.9
	baz=253					
IDIM	Dimmadalss	1.30	10	P	Pn	09 33 19.1 -2.7
	baz=9.8					
BORG	Borgarnes	1.65	274	Pg	Pn	09 33 24.4 -2.2
	41nm,0.3s,baz=100,slow=8.4,SNR=80					
BORG				Lg	Lg	09 33 47.1
	24nm,0.3s,baz=189,slow=22,SNR=12					
BORG	Borgarnes	1.65	274		Pn	09 33 24.2 -2.4
SCO	Scoresbysund	6.06	346	*i* P	Pn	09 34 29.3 +2.2
SCO	Scoresbysund	6.06	346	Pn	Pn	09 34 28.3 +1.1
EKA	Eskdalemuir Ar	11.78	136	Pn	Pn	09 35 45.2 -0.2
	baz=328,slow=14,SNR=19					
ESK	Eskdalemuir	11.78	136		Pn	09 35 46.0 +0.6
NOA	NORSAR Array B	13.53	92	Pn	Pn	09 36 09.1 -0.3
	0.0nm,0.3s,baz=300,slow=12,SNR=2.2					
NOA				LR	LR	09 40 52.5
	comp=Z,22nm,20.9s,baz=80,slow=35					
HFS	Hagfors	15.04	93	Pn	Pn	09 36 28.2 -1.7
	baz=246,slow=31,SNR=2.7					
FIA1	FINESS Array S	19.70	79	P	Pn	09 37 27.9 -0.1
CLL	Collm	20.71	116	*e*P	Pn	09 37 40.0 -0.1
	comp=Z,23nm,1.7s					
ECH	Echery	21.17	129	P	P	09 37 43.8 +1.1
GRA1	Grafenberg Arr	21.34	121	P	P	09 37 44.8 +0.2
BRG	Berggiesshubel	21.42	115	*e*P	P	09 37 47.3 +2.0
	comp=Z,38nm,2.0s					
BRG				*es*P	sP	09 38 12.4 +22
	comp=Z,9.2nm,1.0s					
VRAC	Vranov	23.70	114	LR	LR	09 48 29.7
	comp=Z,27nm,18.3s,baz=316,slow=39					
ESDC	Sonseca Array	26.27	156	P	P	09 38 34.2 +1.3
	comp=Z,1.0nm,0.8s,baz=355,slow=9.5,SNR=2.7					
BRTR	Keskin Array B	38.48	105	P	P	09 40 19.2 -0.5
	comp=Z,1.2nm,0.7s,baz=308,slow=7.1,SNR=3.6					
BRTR	Keskin Array B	38.48	105	P	P	09 40 22.0 +2.4
KBZ	Khabaz	39.11	92	P	P	09 40 24.9 +0.2
	comp=Z,0.9nm,0.5s,baz=38,slow=17,SNR=1.7					
ABKAR	Akbulak array	41.98	73	P	P	09 40 48.5 +0.2
TIXI	Tiksi	42.01	15	P	P	09 40 49.2 +0.9
TIXI				IAmb	IAmb	09 40 52.2
	comp=Z,16nm,1.4s					
ILAR	Eielson Array	45.66	332	P	P	09 41 19.4 +1.6
	comp=Z,1.7nm,1.0s,baz=34,slow=6.7,SNR=8.7					
ILAR	Eielson Array	45.66	332	P	P	09 41 19.9 +2.1
IMAR	Indian Mountai	45.84	337	P	P	09 41 21.1 +2.0
BCAR	Beaver Creek A	46.09	329	P	P	09 41 21.9 +0.7
T47A	Sharon Grove	48.64	270	P	P	09 41 42.7 +1.4
T47A				IAmb	IAmb	09 41 43.8
	comp=Z,6.2nm,1.0s					
EGMT	Eagleton	48.87	297	P	P	09 41 44.6 +1.5
KK31	Karatay Array	51.26	70		P	09 42 02.2 +1.1
KKAR	Karatay Array	51.26	70		P	09 42 02.0 +0.8
KKAR	Karatay Array	51.26	70	P	P	09 42 01.7 +0.5
MKAR	Makanchi Array	52.71	58	P	P	09 42 11.7 -0.2
	comp=Z,1.4nm,1.0s,baz=317,slow=6.1,SNR=4.2					
MKAR	Makanchi Array	52.71	58	P	P	09 42 13.3 +1.4
TORD	Torodi Ar. Bea	53.16	156	P	P	09 42 15.0 -0.5
	comp=Z,1.5nm,0.9s,baz=347,slow=7.1,SNR=5.8					
TORD	Torodi Ar. Bea	53.16	156	P	P	09 42 16.2 +0.7
BW06	Boulder Array	53.17	293	P	P	09 42 16.6 +1.0
BW06				IAmb	IAmb	09 42 17.5
	comp=Z,6.3nm,1.3s					
PD31	Pinedale Array	53.17	293	P	P	09 42 16.1 +0.5
PD31				IAmb	IAmb	09 42 17.5
	comp=Z,5.2nm,1.2s					
PDAR	Pinedale Array	53.17	293	P	P	09 42 14.7 -0.9
	comp=Z,1.3nm,0.9s,baz=48,slow=6.6,SNR=11					
PDAR	Pinedale Array	53.17	293	P	P	09 42 16.1 +0.5
N23A	Red Feather La	53.30	289	P	P	09 42 18.0 +1.4
N23A				IAmb	IAmb	09 42 19.4
	comp=Z,11nm,1.4s					
GAR	Garm	54.64	73		P	09 42 27.6 +1.3
HWUT	Hardware Ranch	54.94	294	P	P	09 42 30.5 +2.0
WMOK	Wichita Mounta	55.55	279	P	P	09 42 34.5 +1.7
WMOK				IAmb	IAmb	09 42 37.5
	comp=Z,6.3nm,1.4s					
PV01	Paradox Valley	56.71	289	P	P	09 42 42.4 +1.1
PV01				IAmb	IAmb	09 42 43.9
	comp=Z,9.7nm,1.4s					
PV02	Paradox Valley	56.72	290	P	P	09 42 41.5 +0.2
PV02				IAmb	IAmb	09 42 43.9
	comp=Z,8.3nm,1.2s					
MSU	Marysvale	57.84	293	P	P	09 42 50.8 +1.5
R11A	Troy Canyon, C	59.32	295	P	P	09 43 00.2 +0.8
BNM	Barren Site	59.34	285	P	P	09 43 02.9 +3.1
U15A	North Rim	59.68	291	P	P	09 43 02.2 +0.1
U15A				IAmb	IAmb	09 43 04.1
	comp=Z,4.7nm,1.4s					
WUAZ	Wupatki	60.10	290	P	P	09 43 06.9 +2.0
WUAZ				IAmb	IAmb	09 43 07.6
	comp=Z,4.4nm,1.2s					
TX31	Lajitas Ar. Si	62.28	280	P	P	09 43 21.0 +1.3
TXAR	Lajitas Array	62.28	280	P	P	09 43 19.5 -0.2
	comp=Z,0.6nm,0.9s,baz=108,slow=2.9,SNR=4.1					
TXAR	Lajitas Array	62.28	280	P	P	09 43 19.9 +0.2
TX32	Lajitas Array	62.28	280	P	P	09 43 21.3 +1.6
TX32				IAmb	IAmb	09 43 22.8
	comp=Z,6.4nm,1.5s					

SOME **12** *09:41:52.4, 41.°95N×84.°72E, h10km*
BJI **12** *09:42:00.5±0.0, 41.°27N×83.°77E, h6km, ML3.7/10*
NNC **12** *09:42:00.4±2.1, 41.°28N×83.°93E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=15.7km s-min=10.3km az=132.0
ISC 12 09:41:46.9±3.2, 40.°9N±0.°2×84.°34E±0.°07, h10km, n14,
σ2ˢ19/18, 9C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	3.87	39	*e*Pn	Pg	09 43 03.7	+2.6
WMQ				Sn	Sg	09 43 47.9	-3.4
WMQ				smax	smax		
	comp=N,50nm,1.1s						
WMQ				smax	smax		
	comp=E,54nm,0.9s						
SHLS	Shalkode	4.30	304	*e*P	Pb	09 43 03.9	+1.2
	35nm,0.3s						
SHLS				*e*S	Sb	09 43 55.4	+0.8
	177nm,0.4s						
PDGK	Podgornoye	4.37	306	⇓Pg	Pg	09 43 10.2	-0.5
	52nm,0.9s						
PDGK				⇑Lg	Lg	09 44 03.0	
	45nm,0.7s						
UZB	Uzynbulak	4.58	302	*e*P	Pg	09 43 12.7	-1.9
	4.2nm,0.6s						
UZB				*e*S	Sg	09 44 11.1	-2.7
	39nm,0.7s						
DJR	Jarkent	4.83	318	*e*P	Pb	09 43 13.3	+1.6
	5.5nm,0.6s						
DJR				*e*S	Sb	09 44 11.8	+1.9
	23nm,0.6s						
SATY	Saty	4.94	298	*e*P	Pg	09 43 19.6	-1.9
	9.8nm,0.6s						
SATY				*e*S	Sg	09 44 23.0	-2.5
	72nm,0.9s						
MNBS	Baschi	5.45	308	*e*P	Pb	09 43 24.7	+2.6
	7.0nm,0.3s						
MNBS				*e*S	Sb	09 44 31.7	+4.1
	50nm,0.6s						
KAPS	Kapalarasan	5.74	322	*e*P	Pb	09 43 27.0	-0.1
	5.8nm,0.6s						
KAPS				*e*S	Sb	09 44 35.5	-0.4
	19nm,0.8s						
MK31	Makanchi Array	6.12	347	⇓Pg	Pg	09 43 43.7	-0.4
	1.8nm,0.5s,baz=166,slow=15,SNR=8.7						
MK31				⇑Lg	Lg	09 44 59.7	
	55nm,0.6s,baz=167,slow=30,SNR=4.8						
MAKZ	Makanchi	6.19	345	⇑Pg	Pg	09 43 44.7	-0.7
	2.0nm,0.6s						
MAKZ				⇑Lg	Lg	09 45 01.4	
	36nm,0.9s						
TKM2	Tokmak 2	6.84	290	⇓Pn	Pb	09 43 36.3	-10
	1.7nm,0.3s						
TKM2				⇑Lg	Lg	09 45 25.7	
	22nm,0.7s						
AAK	Ala-Archa	7.57	287	⇑Pg	Pg	09 44 12.2	+0.3
	5.0nm,0.8s						
AAK				⇑Lg	Lg	09 45 51.5	
	24nm,1.0s						
KURBB	Kurchatov Arra	10.58	339	⇑Lg	Lg	09 47 18.5	
	22nm,0.7s						
KURK	Kurchatov	10.64	340	⇑Lg	Lg	09 47 26.2	
	10.0nm,0.7s						

PRU 12 09:46:40.0±0.0, 51.°51N×15.°95E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	162	*e*Pg	Pg	09 46 52.4	-1.1
KSP				*e*Sg	Sg	09 47 02.5	0.0
CHVC	Chvalec	0.93	176	*e*PG	Pg	09 46 57.2	-0.5
CHVC				*e*SG	Sg	09 47 10.1	+0.4
	comp=Z,22nm,0.7s						
OSTC	Ostas	0.97	170	*e*PG	Pg	09 46 58.4	-0.1
OSTC				*e*SG	Sg	09 47 11.7	+0.6
	comp=Z,16nm,0.3s						
UPC	Upice	1.00	178	*e*PG	Pg	09 46 58.9	-0.3
UPC				*e*SG	Sg	09 47 12.5	+0.3
DPC	Dobruska-Polom	1.19	168	*e*PG	Pg	09 47 01.7	-1.0
DPC				*e*SG	Sg	09 47 17.6	-0.4
	comp=Z,17nm,0.6s						
PVCC	Panska Ves	1.31	222	*e*PG	Pg	09 47 04.9	-0.3
PVCC				*e*SG	Sb	09 47 22.7	-0.2
	comp=Z,61nm,0.5s						
BRG	Berggiesshubel	1.42	244	PG	Pn	09 47 06.3	-0.7
BRG				SG	Sg	09 47 25.6	+0.2
	30nm,0.3s						
KRLC	Kraliky	1.53	160	*e*PG	Pn	09 47 07.8	-0.8
KRLC				*e*SG	Sg	09 47 28.7	-0.4
	comp=Z,18nm,0.5s						
GOPC	GO Pecny, Ondr	1.76	205	*e*PG	Pb	09 47 13.2	0.0
GOPC				*e*SG	Sb	09 47 35.7	-0.1
PRU	Pruhonice	1.77	211	*e*PG	Pb	09 47 13.0	-0.2
PRU				*e*SG	Sb	09 47 36.0	+0.1
	comp=Z,13nm,0.4s						
CLL	Collm	1.86	265	*e*Pn	Pn	09 47 11.0	-2.0
CLL				*i* Pg	Pb	09 47 13.7	-1.1
CLL				*i*		09 47 15.3	
CLL				*i* Sg	Sg	09 47 39.2	-0.4
	comp=Z,9.0nm,0.5s						
MORC	Moravsky Berou	2.01	149	*e*PN	Pn	09 47 13.4	-1.8
MORC				*e*SG	Sg	09 47 44.3	-0.2
VRAC	Vranov	2.24	169	*e*SG	Sb	09 47 50.5	+0.8
KRUC	Moravsky	2.47	173	*e*SG	Sb	09 47 57.6	+1.5
NKC	Novy Kostel	2.56	241	*e*PN	Pn	09 47 22.2	-0.6
NKC				*e*PG	Pg	09 47 28.3	-0.7
NKC				*e*SG	Sg	09 48 02.5	+0.3
	comp=Z,14nm,0.4s						
KHC	Kasperske Hory	2.83	213	*e*PN	Pn	09 47 26.0	-0.4
KHC				*e*PG	Pb	09 47 31.8	+0.5
KHC				*e*SN	Sn	09 47 59.2	-2.0
KHC				*e*SG	Sg	09 48 08.7	-2.0
	comp=Z,3.6nm,0.4s						
MODS	Modra-Piesok	3.25	164	*e*SG	Sg	09 48 24.5	0.0

TEH **12** *10:05:20.5, 32.°66N×47.°74E, h10km, ML2.8*
ISN **12** *10:05:20.2±1.0, 32.°78N×47.°82E, h14km±7km, ML2.5*
ISC 12 10:05:20.7±1.0, 32.°67N±0.°05×47.°81E±0.°04, h15km, n13,
σ1ˢ18/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.45	272	*e*Pg	Pg	10 05 28.2	-1.4
IKMR	Kamar-syah	0.98	29	*e*Pg	Pn	10 05 39.8	-0.1
IKMR				*e*		10 05 44.1	
IDOB	Doab	1.16	15	*e*Pg	Pg	10 05 44.3	+1.1
BMDN	Meydan	1.32	40	*e*Pg	Pg	10 05 46.8	+0.7
BMDN				*e*		10 05 51.3	
IKOM	Komasi	1.53	351	*e*Pg	Pg	10 05 49.9	-0.2
IKOM				*e*		10 05 51.2	
IBDR	Badra	1.64	286	*e*Pg	Pb	10 05 50.0	-0.7
IBDR				*e*Sg	Sb	10 06 11.0	-0.2
IBDR				AML	AML	10 06 25.9	
	comp=N,64nm,0.6s						
IBDR				AML	AML	10 06 34.4	
	comp=E,61nm,0.6s						
HSAM	Samen	1.68	23	*e*Pg	Pg	10 05 52.6	-0.4
HSAM				*e*		10 05 53.4	
KCHF	Cheshme Sefid,	1.73	338	*e*Pg	Pg	10 05 53.1	-0.9
KCHF				*e*		10 06 20.0	
NSR	Nassriya	2.18	221	*e*Pn	Pn	10 05 58.0	+1.6
NSR				*e*Sn	Sb	10 06 26.0	-0.6
JHBN	Jahan bin	2.45	99	*e*Pn	Pb	10 06 04.1	-0.6
JHBN				*e*		10 06 48.2	
HSRG	Sareghieh	2.60	9	*e*		10 06 10.1	
HSRG				*e*Pn	Pb	10 06 06.1	-1.1
IPIR	Pirpir	2.60	89	*e*Pn	Pb	10 06 05.4	-1.8
IPIR				*e*		10 06 52.0	
BHD	Baghdad	2.94	283	*e*Pn	Pn	10 06 08.0	+1.1
BHD				*e*Sn	Sn	10 06 44.0	+2.0

ECX **12** *10:34:20.0±0.4, 26.°85N×111.°60W, h10km±119km, MD3.1*
MEX 12 10:34:21.9±0.3, 27.°70N×111.°73W, h1km, MD3.6, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.59	230	⇑ *e*P	Pg	10 34 32.8	-0.4
	baz=50,slow=1.5						
SRIG				*i* S	Sg	10 34 41.4	+0.5
SRIG	Santa Rosalia	0.59	230	*e*P	Pg	10 34 32.9	-0.4
SRIG				*i* S	Sb	10 34 43.2	-0.7
GUYB	Guaymas	0.79	75	*e*P	Pg	10 34 35.6	-1.3
GUYB				*e*S	Sg	10 34 47.1	-0.1
GUYB	Guaymas	0.79	75	*e*P	Pn	10 34 41.2	+1.1

NNC **12** *10:37:07.2±2.2, 43.°65N×69.°73E, h0km, mb3.7, mpv3.2,*
Error ellipse: s-maj=12.2km s-min=6.2km az=134.0,
Suspected Mining explosion.
SOME **12** *10:37:07.2, 43.°60N×69.°73E*
ISC 12 10:37:11.7±2.0, 43.°60N±0.°08×70.°18E±0.°07, h0km, n7,
σ1ˢ21/10, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.55	154	P	Pg	10 37 22.3	0.0
	0.7nm,0.3s,baz=318,slow=17,SNR=116						
KK31				S	Sb	10 37 34.0	+1.2
	34nm,0.7s,baz=318,slow=28,SNR=110						
BRLS	Borolday	0.62	204	P	Pg	10 37 23.3	-0.4
BRLS				S	Sb	10 37 34.9	+0.1
DZA	Taraz	1.10	130	P	Pg	10 37 31.8	-1.0
	30nm,0.2s						
DZA				S	Sb	10 37 50.0	+1.5
	85nm,0.3s						
MRKS	Merke	2.39	110	Pg	Pg	10 37 57.7	+0.2
	2.8nm,0.3s						
MRKS				Lg	Lg	10 38 34.2	
	12nm,0.4s						
BTLS	Baital	3.12	61	Pg	Pg	10 38 12.3	+0.7
	7.0nm,0.4s						
BTLS				Lg	Lg	10 38 59.2	
	7.4nm,0.5s						
KST	Kastek	4.26	96	Pg	Pg	10 38 31.6	-1.6
	2.8nm,0.6s						
KST				Lg	Lg	10 39 32.5	
	8.0nm,0.6s						
KTBS	Karatobe	4.72	86	Pg	Pg	10 38 40.6	-1.5
	1.8nm,0.4s						
KTBS				Lg	Lg	10 39 47.5	
	12nm,0.6s						

IDC **12** *10:59:07.0±6.5, 4.°91S×106.°94E, h85km±50km, mb3.5/4,*
mb1 3.7/5, mb1mx3.3/36, mbtmp3.9/5, ML4.2/1, Error
ellipse: s-maj=76.7km s-min=46.5km az=41.0
NEIC **12** *10:59:09.7±1.9, 6.°1S±0.°2×106.°1E±0.°1, h119km±7km,*
mb4.0/8, Error ellipse: s-maj=28.7km s-min=8.3km
az=213.0
DJA **12** *10:59:10.4±0.5, 7.°S±7.°×10.°6E±.°, h73km±7km, M4.0/12,*
mb4.3/1, MLv3.9/12
ISC 12 10:59:09.0±0.8, 6.°63S±0.°09×105.°83E±0.°07, h100km, n40,
σ1ˢ51/44, mb3.9/7, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.14	275	P	Pn	10 59 22.9	-0.1
CGJI				S	Sn	10 59 32.9	-0.6
SBJI	Serang	0.58	31	P	Pn	10 59 23.9	-1.6
SKJI	Sukabumi	0.81	118	P	Pn	10 59 27.3	-0.3
DBJI	Dramaga	0.92	86	P	Pn	10 59 27.5	-1.1
TNG	Tangerang	0.93	61	P	Sn	10 59 45.5	+2.0
CBJI	Citeko	1.03	79	P	Pn	10 59 29.9	+0.1
BLSI	Bandar Lampung	1.38	335	P	Pn	10 59 33.4	-0.5
CNJI	Cibinong	1.46	118	P	Pn	10 59 34.1	-0.7
KASI	Kota Agung	1.72	309	P	Pn	10 59 38.7	+0.6
LEM	Lembang	1.79	97	P	Pn	10 59 39.5	+0.5
	90nm,0.3s,baz=207,slow=10.0,SNR=32						
LEM				S	Sn	11 00 04.7	+2.8
	26nm,0.3s,baz=86,slow=19,SNR=12						
CISI	Cisompet, Garu	2.18	115	P	Pn	10 59 43.6	-0.4
CISI	Cisompet, Garu	2.18	115	Pn	Pn	10 59 43.8	-0.2
CISI				Sn	Sn	11 00 10.2	-0.5
KLSI		2.21	330	P	Pn	10 59 44.6	+0.2
LWLI	Liwa	2.38	312	P	Pn	10 59 47.7	+1.0
MDSI	Maura Dua	2.69	322	P	Pn	10 59 51.2	+0.5
CMJI	Cimerak	2.84	114	P	Pn	10 59 52.7	0.0
KPJI	Karang Pucung	3.16	103	P	Pn	10 59 57.4	+0.5
LHSI	Lahat	3.61	320	P	Pn	11 00 04.3	+1.3
MNAI	Manna	3.64	308	Pn	Pn	11 00 03.4	0.0
SMRI	Semarang	4.60	96	Pn	Pn	11 00 14.0	-2.4
UGM	Wanagama	4.83	106	Pn	Pn	11 00 20.2	+0.7
JAGI	Jajag, Banyuwa	8.45	103	Pn	Pn	11 01 08.2	-0.5
FITZ	Fitzroy Crossi	22.43	122	P	P	11 04 00.3	+0.5
	0.8nm,0.7s,baz=270,slow=20,SNR=1.5						
FITZ	Fitzroy Crossi	22.43	122	P	P	11 04 00.4	+0.5
FITZ				IAmb	IAmb	11 04 10.0	
	comp=Z,7.7nm,1.4s						
KNRA	Kununurra	24.21	114	P	P	11 04 13.2	-3.4
KNRA				IAmb	IAmb	11 04 42.9	
	comp=Z,14nm,1.4s						
CMMT	Chiang Mai	26.17	345	Pn	P	11 04 39.7	+5.3
PAYA	Payao	26.48	347	P	P	11 04 33.8	-3.3
WB0	Warramunga Arr	30.66	118	P	P	11 05 13.1	-1.2
WB0				IAmb	IAmb	11 05 37.4	
	comp=Z,8.1nm,1.4s						
WRA	Warramunga Arr	30.67	118	P	P	11 05 14.2	-0.3
	comp=Z,0.7nm,0.4s,baz=305,slow=9.1,SNR=26						
WRA				PcP	PcP	11 08 09.7	-0.7
	comp=Z,0.5nm,0.4s,baz=300,slow=1.9,SNR=14						
WRA	Warramunga Arr	30.67	118	P	P	11 05 13.0	-1.5
WB2	Warramunga Arr	30.68	118	P	P	11 05 14.2	-0.3
WB2				IAmb	IAmb	11 05 15.1	
	comp=Z,2.5nm,1.1s						
WR0	Warramunga Arr	30.85	118	P	P	11 05 15.8	-0.2
ASAR	Alice Springs	31.85	125	P	P	11 05 24.9	0.0
	comp=Z,0.4nm,0.6s,baz=299,slow=7.7,SNR=12						
ASAR				PcP	PcP	11 08 13.2	-0.3
	comp=Z,0.3nm,0.4s,baz=299,slow=2.0,SNR=5.6						
ASAR	Alice Springs	31.85	125	P	P	11 05 24.5	-0.3
AS31	Alice Springs	31.85	125	P	P	11 05 25.1	+0.2
STKA	Stephens Creek	41.75	132	P	P	11 06 49.7	+1.1
	comp=Z,3.2nm,0.4s,baz=297,slow=9.3,SNR=13						
STKA	Stephens Creek	41.75	132	P	P	11 06 49.5	+0.9
STKA				IAmb	IAmb	11 06 50.4	
	comp=Z,0.8nm,0.7s						
ABKAR	Akbulak array	68.50	330	P	P	11 09 55.8	-4.8
TXAR	Lajitas Array	144.18	47	PKP	PKPab	11 18 31.4	-0.5
	comp=Z,0.4nm,0.6s,baz=338,slow=1.0,SNR=6.7						
TXAR	Lajitas Array	144.18	47		PKPab	11 18 29.4	-2.6

IDC **12** *11:31:14.9±2.6, 0.°34N×145.°78E, h0km, mb3.9/5,*
mb1 4.1/6, mb1mx3.7/34, mbtmp3.9/6, ML2.9/1, MS3.3/7,
Ms1 3.3/7, ms1mx3.0/34, Error ellipse: s-maj=47.2km
s-min=29.4km az=73.0
NEIC **12** *11:31:14.2±1.1, 0.°6N±0.°1×145.°85E±0.°09, h10km±2km,*
mb4.2/10, Error ellipse: s-maj=20.6km s-min=11.9km
az=33.0
**ISC 12 11:31:14.8±1

DAV	**Davao City (W)**	**21.20 288**	LR	LR	11 42 24.7	
	comp=Z,71nm,22.0s,baz=174,slow=32					
WB0	**Warramunga Arr**	**23.07 208**	P	**P**	**11 36 20.7**	**-0.1**
WB0			IAmb	IAmb	11 36 30.5	
	comp=Z,4.7nm,0.7s					
WR0	**Warramunga Arr**	**23.17 208**	P	**P**	**11 36 21.6**	**-0.2**
WRAB	**Tennant Creek**	**23.24 208**	P	**P**	**11 36 22.7**	**+0.3**
WB2	**Warramunga Arr**	**23.24 208**	P	**P**	**11 36 22.7**	**+0.2**
WB2			IAmb	IAmb	11 36 32.0	
	comp=Z,9.2nm,1.1s					
WRA	**Warramunga Arr**	**23.25 208**	P	**P**	**11 36 22.0**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=31,slow=11,SNR=62					
WRA	**Warramunga Arr**	**23.25 208**	P	**P**	**11 36 22.1**	**-0.5**
KNRA	**Kununurra**	**23.31 226**	P	**P**	**11 36 23.0**	**-0.2**
KNRA			IAmb	IAmb	11 36 44.4	
	comp=Z,6.7nm,0.8s					
AS31	**Alice Springs**	**26.69 205**	P	**P**	**11 36 54.5**	**+0.1**
ASAR	**Alice Springs**	**26.69 205**	P	**P**	**11 36 54.5**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=37,slow=6.6,SNR=19					
ASAR			LR	LR	11 48 21.6	
	comp=Z,119nm,20.1s,baz=313,slow=39					
ASAR	**Alice Springs**	**26.69 205**	P	**P**	**11 36 54.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.14 226**	P	**P**	**11 36 58.8**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=37,slow=5.1,SNR=1.7					
FITZ	**Fitzroy Crossi**	**27.14 226**	P	**P**	**11 36 59.0**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**27.18 48**	T	T	12 05 29.1	
	baz=228					
H11S2	**WAKE ISLAND Hy**	**27.19 48**	T	T	12 05 34.7	
	baz=228,slow=74					
H11S1	**WAKE ISLAND Hy**	**27.20 48**	T	T	12 05 21.1	
	baz=228,slow=74					
TGY	**Tagaytay City**	**28.07 300**	LR	LR	11 50 22.3	
	comp=Z,36nm,18.0s,baz=214,slow=41					
H11N1	**WAKE ISLAND Hy**	**28.10 46**	T	T	12 06 39.1	
	baz=229					
H11N2	**WAKE ISLAND Hy**	**28.11 46**	T	T	12 06 37.6	
	baz=229					
H11N3	**WAKE ISLAND Hy**	**28.11 46**	T	T	12 06 37.7	
	baz=229					
STKA	**Stephens Creek**	**32.48 187**	LR	LR	11 51 37.6	
	comp=Z,75nm,19.0s,baz=260,slow=38					
CMAR	**Chiang Mai Arr**	**49.33 294**	P	**P**	**11 40 05.8**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=115,slow=5.7,SNR=11					
CMAR	**Chiang Mai Arr**	**49.33 294**	P	**P**	**11 40 03.1**	**-1.5**

TEH ***12*** *11:36:34.8, 34°.82N×44°.99E, h15km, ML3.4*
DDA ***12*** *11:36:34.6, 35°.24N×45°.98E, h7km±5km, ML3.5*
ISC 12 11:36:36.4±1.8, 34°.86N±0°.08×45°.06E±0°.06, h14km±13km, n23, σ1§91/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**1.11**	**98**	*e*Pg	**Pn**	**11 36 56.6**	**-1.1**
IDHR				*e*Sg	**Sn**	**11 37 13.3**	**+0.4**
IDHR				*e*		11 37 17.5	
IGHG	**Ghaleghazi**	**1.36**	**113**	*e*Pg	**Pb**	**11 37 00.6**	**-1.2**
IGHG				*e*		11 37 27.4	
IVIS	**Veis**	**1.52**	**102**	*e*Sg	**Sg**	**11 37 26.5**	**+1.2**
IVIS				*e*Pg	**Pb**	**11 37 03.7**	**-0.7**
IVIS				*e*		11 37 28.5	
ILIN	**Lien**	**1.57**	**87**	*e*Sg	**Sg**	**11 37 28.8**	**+1.8**
ILIN				*e*Pg	**Pg**	**11 37 05.6**	**-1.0**
ILIN				*e*		11 37 31.9	
KCHF	**Cheshme Sefid,**	**1.74**	**109**	*e*		11 37 39.5	
KCHF				*e*Pg	**Pb**	**11 37 07.1**	**-1.2**
KER	**Kermanshah**	**1.78**	**105**	*e*Sg	**Sg**	**11 37 34.3**	**+0.7**
KER				*e*Pg	**Pb**	**11 37 07.9**	**-1.0**
MAHB	**Mahabad**	**1.97**	**15**	*e*		11 37 44.0	
MAHB				*e*Pn	**Pn**	**11 37 09.7**	**+0.1**
IKOM	**Komasi**	**2.14**	**108**	*e*Pn	**Pb**	**11 37 12.6**	**-2.5**
IKOM				*e*		11 38 06.6	
IALM	**Almabolaq**	**2.56**	**89**	*e*Pn	**Pb**	**11 37 19.7**	**-2.6**
CUKT	**Cukurca**	**2.65**	**334**	*i* P	**Pb**	**11 37 20.4**	**-3.5**
CUKT				*i* S	**Sg**	**11 37 58.7**	**-3.0**
CUKT				IAML		11 38 08.0	
	comp=N,328nm,0.6s						
CUKT	**Cukurca**	**2.65**	**334**	*e*Pn	**Pb**	**11 37 20.3**	**-3.5**
HSRG	**Sareghieh**	**2.67**	**81**	*e*Pn	**Pn**	**11 37 20.5**	**+1.2**
HSRG				*e*		11 38 10.0	
YOVA	**Hakkari_Yksek**	**2.79**	**347**	*i* P	**Pn**	**11 37 21.7**	**+0.8**
IDOB	**Doab**	**2.80**	**112**	*e*Pn	**Pb**	**11 37 22.5**	**-3.8**
IDOB				*e*		11 38 31.9	
HAKT	**HAKKARI**	**2.90**	**338**	*i* P	**Pn**	**11 37 23.9**	**+1.4**
HAKT				*i* S	**Sb**	**11 38 02.9**	**-0.7**
HAKT				IAML		11 38 16.0	
	comp=E,65nm,0.9s						
HAKT	**HAKKARI**	**2.90**	**338**	*e*Pn	**Pn**	**11 37 23.8**	**+1.4**
IAZR	**Azarshahr**	**2.91**	**15**	*e*Pn	**Pn**	**11 37 22.5**	**0.0**
HSAM	**Samen**	**3.00**	**102**	*e*Pn	**Pn**	**11 37 24.7**	**+0.9**
BMDN	**Meydan**	**3.34**	**110**	*e*Pn	**Pn**	**11 37 29.6**	**+1.2**
BMDN				*e*		11 38 29.6	
SIRN	**Sırnak**	**3.39**	**322**	*i* P	**Pb**	**11 37 35.9**	**-0.4**
SIRN				*i* S	**Sb**	**11 38 19.2**	**+1.8**
SIRN				IAML		11 38 25.0	
	comp=E,168nm,0.7s						
IMRD	**Marand**	**3.88**	**7**	*e*	**Pg**	**11 37 53.7**	**+3.0**
SRTM	**Siirt_Merkez**	**4.02**	**322**	*i* S	**Sb**	**11 38 35.4**	**-0.1**
MARD	**Mardin**	**4.24**	**306**	*i* P	**Pb**	**11 37 49.2**	**-1.7**
MARD				*i* S	**Sb**	**11 38 43.7**	**+1.8**
MARD				IAML		11 39 01.0	
	comp=N,164nm,0.8s						

TEH ***12*** *12:00:27.9, 32°.32N×55°.81E, h5km, ML3.6*
THR ***12*** *12:00:29.4±0.4, 32°.32N×55°.77E, h18km±5km, ML3.6*
ISC 12 12:00:29.6±1.0, 32°.28N±0°.04×55°.80E±0°.03, h10km, n40, σ1§52/41, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.72**	**196**	*e*Pg	**Pg**	**12 00 42.5**	**-1.0**
IBAF				*e*		12 00 53.1	
YZKH	**Yazd**	**1.03**	**276**	*e*Pg	**Pg**	**12 00 48.5**	**-0.9**
YZKH				*e*Sg	**Sg**	**12 01 01.9**	**-0.8**
TPRV	**Parvadeh(Tabas**	**1.05**	**45**	*e*Pg	**Pg**	**12 00 48.4**	**-1.5**
TPRV				*e*		12 01 09.1	
ICHK	**Chekchek**	**1.18**	**268**	*e*Pg	**Pb**	**12 00 51.1**	**-1.1**
ICHK				*e*		12 01 11.0	
IMEH	**Mehriz**	**1.35**	**229**	*e*Pg	**Pn**	**12 00 54.2**	**-0.5**
TKDS	**Koohdasht(Taba**	**1.73**	**40**	*e*Pg	**Pn**	**12 01 00.5**	**+0.6**
TKDS				*e*		12 01 07.6	
TABS	**Tabas**	**1.76**	**39**	*e*Pn	**Pn**	**12 01 01.0**	**+0.8**
TABS				*e*Sg	**Sb**	**12 01 24.8**	**+0.6**
TABS	**Tabas**	**1.76**	**39**	*e*Pn	**Pn**	**12 01 01.0**	**+0.8**
TNSJ	**Nastanj**	**1.81**	**22**	*e*Pg	**Pn**	**12 01 01.8**	**+0.9**
ISAD	**Sadrabad**	**1.83**	**259**	*e*Pg	**Pn**	**12 01 03.1**	**+1.7**
ISAD				*e*		12 01 33.5	
ANAR	**Anarak**	**1.97**	**298**	*e*Pn	**Pn**	**12 01 04.7**	**+1.6**
KHGB	**Koh Gabri**	**1.99**	**163**	*e*		12 01 36.5	
KHGB				*e*Pn	**Pn**	**12 01 05.4**	**+1.9**
TVBK	**TV Kerman**	**2.43**	**160**	*e*Pn	**Pn**	**12 01 11.6**	**+1.9**
TVBK				*e*		12 01 54.3	
KRBR	**Kerman**	**2.44**	**160**	*e*Pn	**Pn**	**12 01 11.2**	**+1.5**
KRBR				IAML		12 01 53.0	
	comp=E,227nm,0.8s						
KRBR	**Kerman**	**2.44**	**160**	*e*Pn	**Pn**	**12 01 11.3**	**+1.5**
ITEG	**Tejag**	**2.56**	**75**	*e*Pn	**Pn**	**12 01 12.6**	**+1.2**
ITEG				*e*		12 01 55.2	
NGRK	**Negar Kerman**	**2.75**	**163**	*e*Pn	**Pn**	**12 01 14.9**	**+0.8**
NGRK				*e*		12 02 03.0	
BSRN	**Basiran**	**2.84**	**96**	*e*Pn	**Pn**	**12 01 16.3**	**+1.2**
BSRN	**Basiran**	**2.84**	**96**	*e*Pn	**Pn**	**12 01 16.3**	**+1.2**
CHMN	**Cheshme madani**	**2.84**	**148**	*e*Pn	**Pn**	**12 01 17.1**	**+1.8**
CHMN				*e*		12 02 12.8	
AFRZ	**Afriz**	**2.94**	**66**	*e*Pn	**Pn**	**12 01 17.5**	**+1.0**
IRAM	**Ramesheh**	**2.94**	**262**	*e*Pn	**Pn**	**12 01 18.6**	**+2.0**
IZEF	**Zefreh**	**2.99**	**283**	*e*Pn	**Pn**	**12 01 18.7**	**+1.3**
IZEF				*e*		12 02 05.9	
IGAR	**Gharneh**	**3.18**	**273**	*e*Pn	**Pn**	**12 01 20.8**	**+0.9**
IDAH	**Dahanechah**	**3.47**	**81**	*e*Pn	**Pn**	**12 01 25.2**	**+1.3**
IDAH				*e*		12 01 37.6	
KRSH	**Karshahi**	**3.50**	**300**	*e*Pn	**Pn**	**12 01 25.7**	**+1.4**
KRSH				*e*		12 02 28.5	
IANJ	**Anjilo**	**3.54**	**334**	*e*Pn	**Pn**	**12 01 25.9**	**+1.0**
IKLH	**Kolahrood**	**3.70**	**287**	*e*Pn	**Pn**	**12 01 29.5**	**+2.4**
IKLH				*e*		12 02 40.4	
NHDN	**Nehbandan**	**3.72**	**103**	*e*Pn	**Pn**	**12 01 29.1**	**+1.8**
NHDN				*e*		12 02 31.4	
KLNJ	**Kolanjah**	**3.81**	**252**	*e*Pn	**Pn**	**12 01 30.5**	**+1.9**
QAM	**Ghamsar**	**3.95**	**293**	*e*Pn	**Pn**	**12 01 33.2**	**+2.8**
ISHM	**Shahmirzad**	**4.08**	**330**	*e*Pn	**Pn**	**12 01 33.1**	**+0.7**
IFIR	**Firoozkooh**	**4.20**	**324**	*e*Pn	**Pn**	**12 01 35.3**	**+1.4**
SBZV	**Sabzevar**	**4.36**	**20**	*e*Pn	**Pn**	**12 01 38.1**	**+2.0**
IDMV	**Damavand**	**4.54**	**317**	*e*Pn	**Pn**	**12 01 40.0**	**+1.4**
IPRN	**Peran**	**4.88**	**325**	*e*Pn	**Pn**	**12 01 45.3**	**+2.1**
IPAY	**Payeh**	**4.92**	**32**	*e*Pn	**Pn**	**12 01 45.5**	**+1.6**
IKRD	**Kardeh**	**5.01**	**26**	*e*Pn	Pn	12 01 52.2	+7.1
IMYA	**Miami**	**5.39**	**40**	*e*Pn	**Pn**	**12 01 51.6**	**+1.4**
QALM	**Alamut, Qazvin**	**5.94**	**316**	*e*Pn	**Pn**	**12 01 59.8**	**+2.0**

IDC ***12*** *12:02:36.4±1.2, 0°.38S×125°.16E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/33, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=62.9km s-min=21.0km az=75.0*
DJA ***12*** *12:02:40.3±0.3, 0°.S±3°×12°.5E±°, h10km, M4.0/8, mb4.2/1, MLv3.9/8*
NEIC ***12*** *12:02:41.8±2.5, 0°.34S±0°.09×125°.33E±0°.06, h35km±2km, mb4.0/12, Error ellipse: s-maj=14.9km s-min=10.1km az=168.0*
ISC 12 12:02:43.8±0.7, 0°.30S±0°.06×125°.43E±0°.06, h57km, n33, σ1§98/37, mb4.0/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.69**	**301**	P	**Pn**	**12 03 09.5**	**-1.5**
KMSI				S	**Sn**	**12 03 29.2**	**-2.4**
SANI	**Sanana**	**1.82**	**162**	P	**Pn**	**12 03 10.4**	**-2.5**
SANI				S	**Sn**	**12 03 38.1**	**+3.2**
TNTI	**Ternate**	**2.21**	**61**	Pn	**Pn**	**12 03 16.5**	**-1.7**
GTOI	**Gorontalo**	**2.59**	**291**	P	**Pn**	**12 03 23.7**	**+0.4**
GTOI				S	**Sn**	**12 03 58.0**	**+4.3**
LUWI	**Luwuk**	**2.76**	**255**	P	**Pn**	**12 03 27.0**	**+1.4**
LUWI				S	**Sn**	**12 04 01.3**	**+3.6**
LUWI	**Luwuk**	**2.76**	**255**		**Pn**	**12 03 21.1**	**-4.5**
NLAI	**Namlea**	**3.36**	**150**	P	**Pn**	**12 03 32.9**	**-1.0**
MPSI	**Mapaga**	**5.57**	**277**	P	**Pn**	**12 04 02.5**	**-1.6**
FAKI	**Fak Fak**	**7.30**	**111**	Pn	**Pn**	**12 04 27.1**	**-0.8**
MYLDM	**Lahad Datu**	**8.80**	**308**	Pn	**Pn**	**12 04 45.5**	**-3.1**
KNRA	**Kununurra**	**15.63**	**168**	Pn	**Pn**	**12 06 20.1**	**-0.5**
KNRA				IAmb	IAmb	12 06 20.7	
	comp=Z,7.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**17.69**	**179**	P	**Pn**	**12 06 43.6**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=0.1,slow=15,SNR=2.2						
FITZ	**Fitzroy Crossi**	**17.69**	**179**	P	**P**	**12 06 46.6**	**+0.1**
FITZ				IAmb	IAmb	12 07 08.4	
	comp=Z,15nm,1.6s						
WB0	**Warramunga Arr**	**21.25**	**156**	P	**P**	**12 07 24.0**	**-1.4**
WB0				IAmb	IAmb	12 07 30.2	
	comp=Z,7.6nm,1.6s						
WRA	**Warramunga Arr**	**21.38**	**156**	P	**P**	**12 07 25.7**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=335,slow=11,SNR=17						
WRA	**Warramunga Arr**	**21.38**	**156**	P	**P**	**12 07 24.5**	**-2.3**
WB2	**Warramunga Arr**	**21.39**	**156**	P	**P**	**12 07 25.8**	**-1.1**
WB2				IAmb	IAmb	12 07 40.5	
	comp=Z,8.0nm,1.4s						
WR0	**Warramunga Arr**	**21.48**	**156**	P	**P**	**12 07 26.8**	**-1.0**
COEN	**Coen**	**22.20**	**128**	P	**P**	**12 07 36.3**	**+0.7**
COEN				IAmb	IAmb	12 07 41.0	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**24.64**	**161**	P	**P**	**12 07 59.2**	**0.0**
ASAR	**Alice Springs**	**24.64**	**161**	P	**P**	**12 07 59.2**	**0.0**
	comp=Z,0.5nm,0.4s,baz=340,slow=9.6,SNR=21						
ASAR	**Alice Springs**	**24.64**	**161**	P	**P**	**12 07 57.5**	**-1.8**
PEA0B	**Petropavlovsk-**	**59.63**	**22**	P	**P**	**12 12 44.3**	**+2.4**
PETK	**Petropavlovsk-**	**59.63**	**22**	P	**P**	**12 12 43.4**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=190,slow=6.2,SNR=5.6						
PETK	**Petropavlovsk-**	**59.63**	**22**	P	**P**	**12 12 43.3**	**+1.3**
MK31	**Makanchi Array**	**60.16**	**327**	P	**P**	**12 12 46.8**	**+1.0**
MK31				IAmb	IAmb	12 13 00.9	
	comp=Z,1.3nm,1.1s						
MKAR	**Makanchi Array**	**60.16**	**327**	P	**P**	**12 12 45.3**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=126,slow=7.9,SNR=8.0						
MKAR	**Makanchi Array**	**60.16**	**327**	P	**P**	**12 12 44.5**	**-1.2**
KURK	**Kurchatov**	**64.46**	**329**	P	**P**	**12 13 15.2**	**+0.9**
KK06	**Karatay Array**	**65.32**	**319**	P	**P**	**12 13 21.3**	**+1.2**
KK05	**Karatay Array**	**65.33**	**319**	P	**P**	**12 13 20.8**	**+0.6**
KK31	**Karatay Array**	**65.33**	**319**	P	**P**	**12 13 20.1**	**-0.1**
KK31				IAmb	IAmb	12 13 21.8	
	comp=Z,1.2nm,0.7s						
KKAR	**Karatay Array**	**65.33**	**319**	P	**P**	**12 13 21.2**	**+1.0**

IDC 12 12:08:40.7±4.2, 3°.46S×151°.06E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.3/3, Error ellipse: s-maj=125.8km s-min=36.5km az=106.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.12**	**224**	P	P	12 13 49.3	+0.7
	0.3nm,0.4s,baz=49,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**26.05**	**218**	P	P	12 14 15.4	-0.5
	0.4nm,1.0s,baz=54,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**78.19**	**319**	P	P	12 20 42.2	0.0
	0.2nm,0.6s,baz=123,slow=7.1,SNR=2.3						

IDC ***12*** *12:10:55.8±1.1, 27°.80S×71°.56W, h0km, mb4.1/3, mb1 3.9/7, mb1mx3.8/31, mbtmp3.9/7, ML3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/26, Error ellipse: s-maj=42.3km s-min=21.6km az=119.0*
NEIC ***12*** *12:10:57.6±2.7, 27°.78S±0°.03×71°.32W±0°.06, h10km±1km, mb4.2/6, ML3.7(GUC), Error ellipse: s-maj=8.6km s-min=5.5km az=86.0*
GUC ***12*** *12:11:00.4±0.7, 28°.13S×71°.48W, h17km±11km, ML3.7*
ISC 12 12:10:55.9±1.8, 27°.77S±0°.04×71°.52W±0°.07, h3km±11km, n64, σ1§26/69, mb4.1/5, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.59**	**138**	*i* P	**Pg**	**12 11 08.6**	**+1.4**
AC04				*i* S	**Sg**	**12 11 14.5**	**-0.3**
AC04				IAML		12 11 15.1	
	comp=E,14μm,0.1s						
AC04	**Llanos de Chal**	**0.59**	**138**	Pg	**Pg**	**12 11 08.4**	**+1.2**
GO03	**Copiap**	**1.15**	**82**	Pn	**Pg**	**12 11 19.2**	**+1.2**
GO03				Sg	**Sg**	**12 11 29.3**	**-3.7**
LCO	**Las Campanas**	**1.43**	**150**		**Pn**	**12 11 22.7**	**-0.4**
LCO				Sn	**Sb**	**12 11 40.0**	**-2.3**
AC05	**El Transito**	**1.53**	**134**	*i* P	**Pn**	**12 11 24.6**	**+0.3**
AC05				*i* S	**Sn**	**12 11 42.9**	**-1.9**
AC05				IAML		12 11 44.3	
	comp=N,2μm,0.5s						
AC05	**El Transito**	**1.53**	**134**	Pn	**Pn**	**12 11 24.3**	**0.0**
AC05				Sn	**Sn**	**12 11 40.9**	**-3.8**
AC01	**Pan de Azucar**	**1.81**	**27**	IAML		12 12 06.5	
	comp=N,578nm,0.4s						
AC01	**Pan de Azucar**	**1.81**	**27**	Pn	**Pn**	**12 11 29.4**	**+1.4**
AC01				Sn	**Sn**	**12 11 49.4**	**-2.2**
GO04	**Tololo Observa**	**2.48**	**165**	*e*P	**Pn**	**12 11 37.7**	**+0.3**
GO04				*i* S	**Sn**	**12 12 07.5**	**-0.8**
GO04	**Tololo Observa**	**2.48**	**165**		**Pn**	**12 11 37.8**	**+0.4**
CO01	**Juntas del Tor**	**2.53**	**151**	*i* P	**Pn**	**12 11 39.8**	**+1.6**
CO01				*i* S	**Sn**	**12 12 09.3**	**-0.4**
CO01				IAML		12 12 16.0	
	comp=N,596nm,0.4s						
CO01	**Juntas del Tor**	**2.53**	**151**		**Pn**	**12 11 39.7**	**+1.6**
GO02	**Mina Guanaco**	**3.12**	**34**	Pn	**Pn**	**12 11 46.9**	**+0.6**
CO03	**El Pedregal**	**3.14**	**167**	*e*P	**Pn**	**12 11 46.9**	**+0.4**
CO03				IAML		12 12 39.6	
	comp=E,509nm,0.5s						
CO03	**El Pedregal**	**3.14**	**167**		**Pn**	**12 11 46.7**	**+0.2**
PB14	**IPOC Station P**	**3.29**	**18**	Pn	**Pn**	**12 11 49.0**	**+0.3**
GO02	**Combarbal**	**3.45**	**173**		**Pn**	**12 12 50.5**	**-0.2**
PB10	**IPOC Station P**	**4.33**	**12**	Pn	**Pn**	**12 12 07.5**	**-0.8**
ZON	**Zonda**	**4.50**	**147**	Pn	**Pn**	**12 12 05.7**	**+0.5**
PB15	**IPOC Station P**	**4.90**	**23**		**Pn**	**12 12 12.6**	**+1.8**
VA03	**San Esteban**	**5.05**	**171**	Pn	**Pn**	**12 12 14.8**	**+2.1**
ROC1	**El Roble**	**5.21**	**175**	Pn	**Pn**	**12 12 15.2**	**+0.2**
PB06	**IPOC Station P**	**5.34**	**20**		**Pn**	**12 12 17.0**	**+0.2**
PEL	**Peldehue**	**5.41**	**173**	Pn	**Pn**	**12 12 17.7**	**+0.2**
MT02	**Curacav**	**5.48**	**177**	Pn	**Pn**	**12 12 19.1**	**+0.6**
PB04	**IPOC Station P**	**5.55**	**13**	Pn	**Pn**	**12 12 18.1**	**-1.5**
LVC	**Limon Verde**	**5.65**	**25**	Pn	**Pn**	**12 12 22.5**	**+1.3**
	comp=E,1.7nm,0.3s,baz=149,slow=7.1,SNR=11						
LVC				Sn	**Sn**	**12 13 27.3**	**+0.5**
	comp=E,2.3nm,0.3s,baz=202,slow=13,SNR=1.8						
LVC				Lg	Lg	12 13 44.6	
	comp=E,5.5nm,0.3s,baz=298,slow=4.8,SNR=4.9						
LVC				LR	LR	12 14 35.8	
	comp=E,231nm,18.5s,baz=210,slow=39						
LVC	**Limon Verde**	**5.65**	**25**	Pn	**Pn**	**12 12 22.1**	**+0.9**
PB07	**IPOC Station P**	**6.20**	**14**	Pn	**Pn**	**12 12 28.4**	**-0.1**
PB09	**IPOC Station P**	**6.29**	**20**	Pn	**Pn**	**12 12 31.7**	**+1.8**
PB01	**IPOC Station P**	**6.95**	**16**	Pn	**Pn**	**12 12 37.9**	**-0.9**
GO05	**Huala**	**7.23**	**183**	Pn	**Pn**	**12 12 43.6**	**+1.0**
PB08	**IPOC Station P**	**7.89**	**16**	Pn	**Pn**	**12 12 53.6**	**+1.5**
PB11	**IPOC Station P**	**8.15**	**12**	Pn	**Pn**	**12 12 53.8**	**-1.5**
PSGCX	**Pisagua**	**8.23**	**9**	Pn	**Pn**	**12 12 55.6**	**-0.8**
GO01	**Chusmiza**	**8.34**	**15**	Pn	**Pn**	**12 12 57.2**	**-1.0**
H03N1	**Juan Fernandez**	**8.52**	**227**	Pn	**Pn**	**12 12 58.9**	**-1.0**
	baz=70,slow=74						
H03N1				T	T	12 21 55.1	
	baz=55,slow=71,SNR=91						
H03N2	**Juan Fernandez**	**8.53**	**227**	Pn	**Pn**	**12 13 00.0**	**-0.1**
	baz=70						
H03N2				T	T	12 21 56.1	
	baz=55,slow=71,SNR=52						
H03N3	**Juan Fernandez**	**8.53**	**227**	Pn	**Pn**	**12 12 57.9**	**-2.3**
	baz=70,slow=74						
H03N3				T	T	12 21 58.8	
	baz=55,slow=71,SNR=65						
MNMC	**Minye Minye**	**8.78**	**12**	Pn	**Pn**	**12 13 03.4**	**-0.7**
BI02	**San Fabin de**	**8.87**	**179**	Pn	**Pn**	**12 13 06.2**	**+1.0**
PB12	**IPOC Station P**	**9.18**	**7**	Pn	**Pn**	**12 13 08.6**	**-0.8**
PB16	**IPOC Station P**	**9.57**	**12**	Pn	**Pn**	**12 13 15.2**	**0.0**
LPAZ	**La Paz**	**11.85**	**16**	Pn	**Pn**	**12 13 45.3**	**-1.1**
	comp=E,0.1nm,0.3s,baz=182,slow=7.2,SNR=2.9						
LPAZ	**La Paz**	**11.85**	**16**	Pn	**Pn**	**12 13 44.7**	**-1.7**
CPUP	**Villa Florida**	**12.73**	**87**	Pn	**Pn**	**12 13 58.5**	**+0.6**
	comp=E,0.1nm,0.3s,baz=31,slow=20,SNR=2.0						
CPUP	**Villa Florida**	**12.73**	**87**		**Pn**	**12 13 57.0**	**-0.9**
SIV	**San Ignacio**	**15.20**	**42**	Pn	**Pn**	**12 14 33.3**	**+1.7**
	comp=E,0.2nm,0.3s,baz=172,slow=15,SNR=2.3						
SNAA	**Sanae**	**57.21**	**159**	P	**P**	**12 20 44.1**	**0.0**
	comp=E,0.9nm,0.7s,baz=293,slow=6.4,SNR=4.7						
SNAA	**Sanae**	**57.21**	**159**	P	**P**	**12 20 43.7**	**-0.4**
QSPA	**South Pole Qui**	**62.45**	**180**	P	**P**	**12 21 21.9**	**+1.6**
QSPA				IAmb	IAmb	12 21 22.2	
	comp=Z,2.8nm,1.2s						
DBIC	**Dimbokro**	**72.83**	**73**	P	**P**	**12 22 26.7**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=212,slow=5.6,SNR=4.9						
DBIC	**Dimbokro**	**72.83**	**73**	P	**P**	**12 22 26.2**	**-0.3**
MTPU	**Mount Pierson**	**75.74**	**328**	P	**P**	**12 22 43.8**	**+0.4**
TOA0	**Torodi Ar. Sit**	**81.69**	**70**	P	**P**	**12 23 16.6**	**+0.5**
TOA0				IAmb	IAmb	12 23 17.7	
	comp=Z,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.69**	**70**	P	**P**	**12 23 16.9**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=269,slow=4.1,SNR=11						
TORD	**Torodi Ar. Bea**	**81.69**	**70**	P	**P**	**12 23 17.2**	**+1.1**
H11S2	**WAKE ISLAND Hy**	**26.08**	**273**	T	T	14 49 13.5	
	baz=112						
H11S1	**WAKE ISLAND Hy**	**26.09**	**273**	T	T	14 49 13.3	
	baz=112						
H11S3	**WAKE ISLAND Hy**	**26.10**	**273**	T	T	14 49 18.5	
	baz=112						
WRA	**Warramunga Arr**	**126.37**	**211**	PKP	**PKPdf**	**12 30 01.1**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=154,slow=1.9,SNR=1.5						
ZALV	**Zalesovo Beam**	**148.60**	**27**	PKPbc	**PKPbc**	**12 30 44.4**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=299,slow=3.1,SNR=9.4						
ZALV	**Zalesovo Beam**	**148.60**	**27**	PKPbc	**PKiKP**	**12 30 45.7**	**+0.2**
MKAR	**Makanchi Array**	**152.01**	**40**	PKPbc	**PKPbc**	**12 30 53.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=333,slow=1.4,SNR=3.7						

NEIC ***12*** *12:20:04.0±1.4, 35°.402N±0°.009×117°.80W±0°.01, h1km±5km, Error ellipse: s-maj=1.5km s-min=1.3km az=114.0*
ANF ***

LRRC	Littlerock Res	0.90 192		Pg	12 20 21.1	-0.3
LRRC				Sb	12 20 33.9	+0.5
ADO	Adelanto Recei	0.90 161		Pg	12 20 21.3	-0.2
ADO				Sb	12 20 33.5	-0.1
CJV	Casa Juvan	0.92 198		Pg	12 20 21.3	-0.5
VTV	Victorville	0.93 155		Sg	12 20 33.7	-0.4
QSM	Queen of Sheba	0.94 53		Pg	12 20 21.8	-0.4
HOLC	Holcomb Ridge	0.95 182		Pg	12 20 21.8	-0.5
HOLC				Sb	12 20 35.1	+0.2
BTPC	Burnt Peak	0.96 222		Pg	12 20 22.1	-0.6
JNH	Juniper Hills	0.96 188		Pg	12 20 22.2	-0.5
JNH				Sb	12 20 35.5	0.0
ALV	Alvord Mountai	1.01 109		Pg	12 20 23.1	-0.5
CWC	Cottonwood Cre	1.06 347	P	Pg	12 20 23.6	-0.9
	baz=168					
CWC			S	Sg	12 20 37.1	-1.1
	baz=168					
CWC	Cottonwood Cre	1.06 347		Pg	12 20 23.6	-0.9
CWC				Sg	12 20 37.2	-1.1
OSI	Osito Audit: C	1.10 224	S	Sb	12 20 39.7	+0.6
	baz=43					
OSI	Osito Audit: C	1.10 224		Pg	12 20 24.5	-0.7
XTL	Crystal Lake,	1.11 183		Pg	12 20 24.7	-0.7
SPG2	Springville 2	1.12 315		Pb	12 20 24.6	-0.7
SPG2				Sg	12 20 39.0	-1.2
IR2C	Iron Canyon	1.13 206		Pb	12 20 24.9	-0.6
VES	Vestal, Richgr	1.14 293	P	Pb	12 20 25.1	-0.4
	baz=112,SNR=109					
VES			S	Sg	12 20 40.4	-0.3
	baz=112					
VES	Vestal, Richgr	1.14 293		Pb	12 20 25.2	-0.3
PYR	Pyramid	1.14 223		Pb	12 20 25.4	-0.4
CGO	Cerro Gordo	1.14 360		Pg	12 20 25.3	-0.8
CSP	Cedar Springs	1.16 162		Pb	12 20 25.8	-0.3
BFSC	Mount Baldy Ra	1.17 174	P	Pb	12 20 25.8	-0.4
	baz=354,SNR=76					
BFSC			S	Sb	12 20 41.2	-0.1
	baz=354					
BFSC	Mount Baldy Ra	1.17 174		Pb	12 20 25.9	-0.4
BFSC				Sb	12 20 41.2	-0.1
SSK	Sunset Peak	1.20 176		Pb	12 20 26.5	-0.2
MWC	Mount Wilson	1.20 190		Pb	12 20 26.3	-0.4
MWC	Mount Wilson	1.20 190		Sn	12 20 43.1	+0.2
DECC	Green Verdugo	1.23 201	P	Pn	12 20 27.0	-0.1
	baz=21,SNR=24					
DECC	Green Verdugo	1.23 201		Pn	12 20 27.2	+0.1
PEM	Pine Mountain	1.24 183		Pb	12 20 27.4	+0.2
OAT	Oat Mountain	1.26 213		Pg	12 20 28.1	-0.1
PASC	Pasadena Art C	1.27 195		Pn	12 20 27.6	+0.1
FURC	Furnace Creek,	1.30 35	Pg	Pb	12 20 28.6	+0.2
	baz=216					
FURC			Sg	Sg	12 20 46.3	+0.3
	baz=216					
PSRC	Puddingstone R	1.31 180		Pg	12 20 29.5	+0.2
SIL	Silver Peak	1.32 143		Pb	12 20 29.1	+0.3
HEC	Hector,Ludlow	1.33 115	P	Pn	12 20 27.8	-0.6
	baz=296,SNR=196					
HEC			Sg	Sg	12 20 47.7	+0.9
	baz=296					
HEC	Hector,Ludlow	1.33 115		Pb	12 20 29.1	+0.2
HEC				Sg	12 20 47.8	+0.9
SHOC	Shoshone, Teco	1.33 68	P	Pn	12 20 27.6	-0.8
	baz=249,SNR=21					
SHOC			S	Sb	12 20 45.6	-0.3
	baz=249					
SHOC	Shoshone, Teco	1.33 68		Sg	12 20 47.9	+0.9
BBRC	Big Bear Solar	1.35 148	Pg	Pb	12 20 29.4	+0.1
	baz=328					
BBRC			S	Sb	12 20 46.6	0.0
	baz=328					
BBRC	Big Bear Solar	1.35 148		Pb	12 20 29.4	+0.1
BBRC				Sn	12 20 47.1	+0.4
BLCC	Black Canyon	1.37 212		Pn	12 20 29.3	+0.4
DSCC	Desert Studies	1.41 100		Sg	12 20 49.8	+0.4
RHC	Rose Hills Cem	1.41 187		Pg	12 20 32.0	+0.8
SVD	Seven Oaks Dam	1.42 156		Pg	12 20 31.0	-0.3
SVD				Sg	12 20 49.2	-0.5
TUQ	Turquoise Moun	1.53 88	P	Pn	12 20 30.4	-0.8
	baz=270,SNR=166					
TUQ			Sg	Sg	12 20 53.6	+0.3
	baz=270					
TUQ	Turquoise Moun	1.53 88		Pn	12 20 30.4	-0.8
TUQ				Sg	12 20 53.3	0.0
VOG	Valley Oaks Go	1.58 306	Pg	Pb	12 20 33.6	+0.5
	baz=125					
VOG	Valley Oaks Go	1.58 306		Pb	12 20 33.6	+0.5
AMDNV	Amargosa	1.61 49		Pn	12 20 31.6	-0.6
SME	Santa Rosa Min	1.62 167		Pn	12 20 32.3	0.0
GTM	Goat Mountain	1.62 133		Pb	12 20 34.6	+0.7
GTM				Sg	12 20 56.0	-0.3
GRAC	Grapevine Rang	1.62 12	Pg	Pb	12 20 34.5	+0.5
	baz=193					
CARC	Carrizo Plain	1.68 267		Pg	12 20 35.6	-0.6
TIN	Tinemaha, Big	1.68 348	Pg	Pb	12 20 35.4	+0.5
	baz=168					
PKM	Mcpherson Peak	1.73 253	Pg	Pg	12 20 36.5	-0.8
	baz=72					
BLAC	Blackrock camp	1.77 139		Pn	12 20 35.1	+0.6
YEG	Yeguas Mountai	1.77 272		Pn	12 20 34.8	+0.3
ELS	Elsinore Mount	1.78 170		Pn	12 20 34.7	+0.1
ELS				Pb	12 20 37.0	+0.4
SMMC	Simmler	1.80 268	Pb	Pn	12 20 36.0	+1.1
	baz=86					
SMMC			Sg	Sg	12 21 03.1	+1.2
	baz=86					
HMTC	Hemet	1.81 159		Pg	12 20 38.1	-0.8
EW2	E Wide Canyon	1.86 142		Pg	12 20 38.9	-0.7
GMRC	Granite Mounta	1.86 109	P	Pn	12 20 34.4	-1.3
	baz=290,SNR=193					
GMRC	Granite Mounta	1.86 109		Pn	12 20 34.5	-1.2
GMRC				Pb	12 20 38.7	+0.7
POB	Polly Butte	1.86 157		Pg	12 20 39.1	-0.7
MURC	Murrieta	1.87 164	P	Pn	12 20 35.7	-0.1
	baz=345					
BACC	Bachelor Mtn.	1.90 161		Pb	12 20 39.4	+0.9
TPC	Twentynine Pal	1.94 132		Pn	12 20 36.1	-0.6
TPNV	Topopah Spring	1.98 39	P	Pn	12 20 37.4	-0.1
	baz=220					
TPNV	Topopah Spring	1.98 39		Pn	12 20 37.4	-0.1
PAGB	Antelope Grade	2.03 280		Pb	12 20 40.6	-0.1
CRY	Cary Ranch	2.03 154		Pg	12 20 42.1	-0.9
BELC	Belle Mtn. Jos	2.04 133	P	Pn	12 20 37.5	-0.7
	baz=314,SNR=45					
CIS	Catalina Islan	2.06 195	P	Pn	12 20 38.1	-0.3
	baz=14					
DNR	Dunn Ranch,Anz	2.07 152		Pg	12 20 43.2	-0.6
PFO	Pinyon Flats O	2.10 148	P	Pn	12 20 38.7	-0.3
	baz=329					
PFO	Pinyon Flats O	2.10 148		Pn	12 20 38.9	-0.2
XPFO	Pion Flat	2.10 148		Pn	12 20 39.1	-0.1
BZNA	Buzz No.'s Pla	2.12 154		Pg	12 20 43.8	-1.0
FRD	Ford Ranch, An	2.15 152		Pg	12 20 44.3	-0.9
FRD	Ford Ranch, An	2.15 152		Pg	12 20 44.3	-0.9
MATG	Mataguay Scout	2.40 156		Pg	12 20 48.7	-1.3
SHPR	Sheep Range	2.40 62	Pn	Pn	12 20 42.7	-0.6
OMMB	Old Mammoth Mi	2.41 337	Pn	Pn	12 20 42.2	-1.2
MDPB	Devils Postpil	2.45 335		Pn	12 20 45.6	+1.6
IRM	Iron Mountain	2.51 119	P	Pn	12 20 43.5	-1.1
	baz=301,SNR=6.5					
109C	Camp Elliot, M	2.58 167	Pn	Pn	12 20 47.1	+1.7
BC3	Big Chuckawall	2.60 131	Pg	Pg	12 20 53.1	-0.9
	baz=313					
NEE2	Needles Airpor	2.68 103	Pg	Pg	12 20 54.2	-1.2
	baz=285					
TPH	Tonopah	2.70 10		Pn	12 20 48.1	+0.6
MONP2	Monument Peak	2.75 155	Sb	Sb	12 21 29.1	+2.1
	baz=336					
BAR	Barrett	2.88 161	Pn	Pn	12 20 51.1	+1.5
LHV	Little Huntoon	2.90 349	Pn	Pn	12 20 51.0	+1.2
PRN	Pahroc Range	2.98 47		Pn	12 20 51.7	+0.5
NV11	Mina Array Sit	3.03 355	Pn	Pn	12 20 52.9	+1.0
NVAR	Mina Array Bea	3.04 352	Pn	Pn	12 20 52.5	+0.3
RMX	La Rumorosa	3.14 152	Pn	Pn	12 20 53.4	0.0
W13A	Hualapai Mount	3.21 94	Pn	Pn	12 20 54.0	-0.5
CBX	Cerro Bola	3.23 163	Pn	Pn	12 20 55.0	+0.4
SAO	San Andreas Ge	3.25 296	Pn	Pn	12 20 55.4	+0.6
RYN	Ryan	3.27 350	Pn	Pn	12 20 55.6	+0.5
CMB	Columbia Colle	3.35 322	Pn	Pn	12 20 58.2	+2.0
R11A	Troy Canyon, C	3.43 30	Pn	Pn	12 20 57.5	+0.1
KVN	Kaiserville	3.65 356	Pn	Pn	12 21 01.4	+1.0
ESJX	Sierra Juarez	3.73 155	Pn	Pn	12 21 01.4	-0.1
YERR	Yerington	3.75 343	Pn	Pn	12 21 02.4	+0.5
PNTR	Pine Nut	3.95 339	Pn	Pn	12 21 08.2	+3.6
LCMT	Little Creek M	4.01 65		Pn	12 21 09.8	+4.4
VCNR	Virginia City	4.15 340	Pn	Pn	12 21 06.1	-1.2
CCUT	Cedar City	4.16 58	Pn	Pn	12 21 04.8	-2.7
113A	Mohawk Valley,	4.25 127	Pn	Pn	12 21 07.6	-1.0
KNB	Kanab	4.33 67	Pn	Pn	12 21 10.9	+1.2
SZCU	Shurtz Canyon	4.38 59	Pn	Pn	12 21 07.5	-2.9
PSUT	Pine Spring	4.44 44	Pn	Pn	12 21 11.7	+0.4
U15A	North Rim	4.58 76	Pn	Pn	12 21 14.3	+1.0
MTPU	Mount Pierson	5.22 58	Pn	Pn	12 21 23.8	+1.6
WUAZ	Wupatki	5.24 87	Pn	Pn	12 21 19.2	-3.1
X16A	Lo Mia Camp, P	5.31 99	Pn	Pn	12 21 22.2	-1.1
MVU	Marysvale	5.43 54	Pn	Pn	12 21 25.1	+0.1
ELK	Elko	5.70 20	Pn	Pn	12 21 30.0	+1.4

*IDC **12** 12:29:44.4±2.0, 17°.83S×178°.32W, h528km±24km, mb3.3/8, mb1 3.6/10, mb1mx3.2/32, mbtmp4.3/10, Error ellipse: s-maj=39.3km s-min=14.2km az=147.0*
*NEIC **12** 12:29:44.8±1.6, 17°.9S±0°.1×178°.2W±0°.1, h545km±9km, mb4.3/19, Error ellipse: s-maj=20.1km s-min=15.6km az=185.0*

ISC 12 12:29:45.1±0.6, 17°.9S±0°.1×178°.23W±0°.08, h550km, n40, σ1§27/44, mb4.2/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.55	272	P	P	12 31 05.0	+1.1
AFI	Afiamalu	7.37	58	P	P	12 31 35.6	-1.2
	11nm,0.3s,baz=186,slow=3.2,SNR=7.9						
AFI				S	S	12 33 04.2	-4.1
	3.1nm,0.3s,baz=36,slow=21,SNR=1.5						
AFI	Afiamalu	7.37	58	P	P	12 31 36.0	-0.8
AFI					S	12 33 07.4	-0.9
NIUE	Niue	7.96	100	P	P	12 31 42.4	-0.1
SANVU	Saraoutou	14.17	278	P	P	12 32 45.7	-0.4
DZM	Mont Dzumac	14.99	251	P	P	12 32 52.2	-2.5
	0.5nm,0.3s,baz=80,slow=14,SNR=6.4						
DZM	Mont Dzumac	14.99	251	P	P	12 32 54.1	-0.6
DZM				IAmb	IAmb	12 32 54.3	
	comp=Z,10nm,0.9s						
OUZ	Omahuta	18.71	201	P	P	12 33 28.5	-0.9
EIDS	Eidsvold	29.43	250	P	P	12 35 05.2	+0.5
EIDS				IAmb	IAmb	12 35 31.0	
	comp=Z,12nm,1.4s						
ARMA	Armidale	30.09	240	P	P	12 35 11.0	+0.5
CTAO	Charters Tower	33.62	261	P	P	12 35 41.0	+0.4
CTAO				IAmb	IAmb	12 35 43.0	
	comp=Z,4.3nm,0.8s						
COEN	Coen	37.28	270	P	P	12 36 12.7	+1.7
COEN				IAmb	IAmb	12 36 40.7	
	comp=Z,12nm,1.2s						
TOO	Toolangi	37.30	231	P	P	12 36 11.0	+0.1
TOO				IAmb	IAmb	12 36 11.4	
	comp=Z,5.8nm,0.7s						
STKA	Stephens Creek	38.78	241	P	P	12 36 23.3	+0.4
	comp=Z,3.4nm,0.5s,baz=92,slow=11,SNR=11						
STKA	Stephens Creek	38.78	241	P	P	12 36 23.4	+0.4
BBOO	Buckleboo	43.56	241	P	P	12 37 00.7	-0.1
BBOO				IAmb	IAmb	12 37 01.0	
	comp=Z,6.9nm,0.7s						
WR0	Warramunga Arr	44.61	260	P	P	12 37 08.8	-0.3
WB2	Warramunga Arr	44.79	260	P	P	12 37 10.3	-0.2
WRA	Warramunga Arr	44.80	260	P	P	12 37 10.6	0.0
	comp=Z,1.8nm,0.5s,baz=97,slow=6.6,SNR=65						
WRA				S	S	12 43 05.1	-3.2
	comp=Z,0.4nm,0.9s,baz=96,slow=14,SNR=3.0						
WRA	Warramunga Arr	44.80	260	P	P	12 37 09.9	-0.8
AS31	Alice Springs	44.96	254	P	P	12 37 11.8	0.0
AS31				IAmb	IAmb	12 37 12.9	
	comp=Z,5.2nm,0.5s						
ASAR	Alice Springs	44.96	254	P	P	12 37 12.0	+0.2
	comp=Z,14nm,0.6s,baz=89,slow=8.6,SNR=346						
ASAR				S	S	12 43 07.8	-2.6
	comp=Z,0.7nm,0.9s,baz=88,slow=16,SNR=6.0						
ASAR	Alice Springs	44.96	254	P	P	12 37 11.2	-0.6
MTN	Manton Dam	48.97	268	P	P	12 37 41.4	-0.7
MTN				IAmb	IAmb	12 37 44.7	
	comp=Z,6.7nm,1.0s						
FITZ	Fitzroy Crossi	53.20	261	P	P	12 38 13.0	+0.3
LUWI	Luwuk	60.27	279	P	P	12 39 00.0	-1.2
CASY	Casey	66.21	205	P	P	12 39 39.4	+1.0
MJAR	Matsushiro Arr	68.01	323	P	P	12 39 50.6	+0.7
	comp=Z,1.7nm,0.5s,baz=154,slow=4.5,SNR=6.3						
JHS	Saijyo	70.01	319	P	P	12 40 03.0	+1.0
SSLB	Suanglung	72.38	303	P	P	12 40 17.2	+1.1
SSLB				IAmb	IAmb	12 40 26.2	
	comp=Z,5.7nm,0.6s						
PEA0B	Petropavlovsk-	73.72	345	P	P	12 40 22.3	-0.8
PEA0B				IAmb	IAmb	12 40 30.9	
	comp=Z,10nm,1.2s						
PETK	Petropavlovsk-	73.72	345	P	P	12 40 23.6	+0.6
	comp=Z,1.5nm,0.6s,baz=107,slow=7.7,SNR=9.6						
PETK	Petropavlovsk-	73.72	345	P	P	12 40 23.4	+0.3
ILAR	Eielson Array	85.85	13	P	P	12 41 26.6	+0.3
	comp=Z,0.6nm,0.8s,baz=218,slow=4.9,SNR=6.5						
TXAR	Lajitas Array	85.85	58	P	P	12 41 29.0	+1.7
	comp=Z,0.7nm,0.7s,baz=212,slow=4.4,SNR=8.3						
PDAR	Pinedale Array	87.23	43	P	P	12 41 35.5	+1.8
	comp=Z,0.1nm,0.4s,baz=211,slow=1.6,SNR=1.5						
ARCES	ARCESS Array B	126.34	350	PKP	PKiKP	12 47 45.8	+0.3
	comp=Z,2.2nm,0.8s,baz=48,slow=1.3,SNR=1.7						
NOA	NORSAR Array B	136.39	353	PKP	PKiKP	12 48 04.8	-1.2
	comp=Z,0.1nm,0.4s,baz=0.0,slow=3.3,SNR=1.6						
CLL	Collm	145.50	348	ePKPbc	PKiKP	12 48 24.0	-0.9
GERES	GERESS Array B	147.66	345	PKPbc	PKPbc	12 48 28.0	-0.1
	comp=Z,0.4nm,0.4s,baz=28,slow=4.4,SNR=4.9						

IDC 12 12:33:58.7±7.9, 20°.38S×175°.83W, h491km±192km, mb2.7/3, mb1 3.1/4, mb1mx2.8/28, mbtmp3.9/4, Error ellipse: s-maj=314.7km s-min=31.1km az=68.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.84	197	P	P	12 37 46.9	-0.2
	0.8nm,0.3s,baz=173,slow=18,SNR=2.0						
URZ				S	S	12 40 54.0	+0.8
	0.2nm,0.3s,baz=152,slow=12,SNR=1.9						
STKA	Stephens Creek	39.68	244	P	P	12 40 47.5	-0.2
	0.9nm,0.4s,baz=108,slow=8.9,SNR=3.4						
ASAR	Alice Springs	46.53	256	P	P	12 41 41.8	+0.3
	0.4nm,0.6s,baz=98,slow=8.1,SNR=6.3						
WRA	Warramunga Arr	46.64	261	P	P	12 41 42.0	-0.4
	0.4nm,0.6s,baz=96,slow=7.4,SNR=7.5						

*IDC **12** 12:52:04.4±1.0, 62°.79S×60°.02W, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.9/22, mbtmp4.0/9, ML3.7/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/23, Error ellipse: s-maj=26.9km s-min=15.8km az=132.0*
*NEIC **12** 12:52:04.7±2.1, 62°.6S±0°.1×60°.0W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=18.4km s-min=11.5km az=339.0*

ISC 12 12:52:05.0±0.6, 62°.68S±0°.08×60°.1W±0°.1, h10km, n32, σ1§11/33, mb4.1/10, MS3.5/5, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	2.74	218	Pn	Pn	12 52 49.1	+0.3
	14nm,0.3s,baz=58,slow=10,SNR=19						
PMSA				Pg	Pb	12 52 53.1	-0.8
	30nm,0.3s,baz=30,slow=12,SNR=22						
PMSA				Lg	Lg	12 53 28.1	
	32nm,0.3s,baz=136,slow=20,SNR=11						
PMSA				LR	LR	12 53 43.5	
	comp=Z,192nm,19.6s,baz=87,slow=37						
PMSA	Palmer Station	2.74	218	Pn	Pn	12 52 49.3	+0.5
BELA	Belgrano 2	17.21	162	Pn	Pn	12 56 03.7	-1.3
VNA3	Neumayer Olymp	20.84	135	P	Pn	12 56 47.3	-1.6
VNA2	Neumayer--Watz	21.60	135	P	P	12 56 55.4	+0.9
PLCA	Paso Flores	22.86	339	P	P	12 57 10.8	+2.6
	1.8nm,0.8s,baz=163,slow=17,SNR=2.7						
PLCA				LR	LR	13 04 43.5	
	comp=Z,158nm,18.9s,baz=166,slow=33						
PLCA	Paso Flores	22.86	339	P	P	12 57 07.9	-0.3
PLCA				IAmb	IAmb	12 57 13.0	
	comp=Z,8.4nm,1.1s						
SNAA	Sanae	22.99	137	P	P	12 57 09.8	+0.4
SNAA	Sanae	22.99	137	P	P	12 57 09.2	-0.2
	comp=Z,2.5nm,0.8s,baz=266,slow=11,SNR=7.1						
SNAA				LR	LR	13 05 10.1	
	comp=Z,43nm,19.2s,baz=280,slow=34						
SNAA	Sanae	22.99	137	P	P	12 57 09.2	-0.2
	comp=Z,8.5nm,1.3s						
LC01	Cunco	24.87	338	P	P	12 57 25.3	-2.2
QSPA	South Pole Qui	27.54	180	P	P	12 57 52.3	+0.7
	comp=Z,2.6nm,0.9s,baz=167,slow=3.7,SNR=6.9						
QSPA	South Pole Qui	27.54	180	P	P	12 57 52.8	+1.1
QSPA				IAmb	IAmb	12 57 56.4	
	comp=Z,10nm,1.3s						
CO02	Combarbal	32.26	342	P	P	12 58 32.8	-0.8
CO03	El Pedregal	32.58	343	P	P	12 58 35.5	-0.9
CO03				IAmb	IAmb	12 58 38.7	
	comp=Z,6.6nm,0.8s						
LCO	Las Campanas	34.38	343	P	P	12 58 50.6	-1.6
LCO				IAmb	IAmb	12 58 56.2	
	comp=Z,8.1nm,0.9s						
AC04	Llanos de Chal	35.23	343	P	P	12 58 59.6	+0.4
MAW	Mawson	43.68	152	P	P	13 00 09.5	+0.3
	comp=Z,0.9nm,0.5s,baz=280,slow=13,SNR=3.9						
MAW				LR	LR	13 18 21.0	
	comp=Z,121nm,19.1s,baz=239,slow=36						
MAW	Mawson	43.68	152	P	P	13 00 08.6	-0.6
LPAZ	La Paz	46.68	349	LR	LR	13 23 16.0	
	comp=Z,54nm,18.6s,baz=144,slow=40						
BOSA	Boshof	62.90	100	P	P	13 02 31.2	0.0
	comp=Z,1.4nm,0.7s,baz=185,slow=8.5,SNR=1.4						
BOSA	Boshof	62.90	100	P	P	13 02 31.0	-0.3
BOSA				IAmb	IAmb	13 02 47.9	
	comp=Z,6.1nm,1.2s						
ROSC	El Rosal	68.20	345	LR	LR	13 36 02.0	
	comp=Z,98nm,18.1s,baz=140,slow=39						
STKA	Stephens Creek	84.17	198	P	P	13 04 37.6	+1.6
	comp=Z,1.9nm,0.7s,baz=298,slow=5.8,SNR=5.2						
STKA	Stephens Creek	84.17	198	P	P	13 04 37.6	+1.6
STKA				IAmb	IAmb	13 04 57.2	
	comp=Z,1.2nm,1.4s						
ASAR	Alice Springs	93.23	193	P	P	13 05 20.4	+0.9
	comp=Z,0.4nm,0.8s,baz=168,slow=5.1,SNR=5.7						
ASAR	Alice Springs	93.23	193	P	P	13 05 18.1	-1.4
WRA	Warramunga Arr	96.86	194	P	P	13 05 35.7	-0.5
	comp=Z,0.2nm,0.6s,baz=176,slow=3.9,SNR=5.2						
ARCES	ARCESS Array B	144.90	38	PKP	PKPab	13 11 39.1	-0.4
	comp=Z,1.4nm,0.6s,baz=248,slow=4.8,SNR=1.3						
ARCES	ARCESS Array B	144.90	38		PKPdf	13 11 41.0	+0.7
MKAR	Makanchi Array	153.61	109	PKPbc	PKiKP	13 12 04.0	+1.2
	comp=Z,0.3nm,0.6s,baz=229,slow=4.3,SNR=2.5						
MKAR				PKPab	PKPab	13 12 15.5	0.0
	comp=Z,0.9nm,0.7s,baz=212,slow=4.3,SNR=7.4						
MKAR	Makanchi Array	153.61	109	PKPdf	PKPdf	13 11 52.7	-2.2
MKAR					PKiKP	13 12 03.1	+0.3
MKAR					PKPab	13 12 15.6	+0.2

*BJI **12** 13:06:31.1±0.0, 8°.28N×92°.56E, h48km, mB4.9/32, mb4.8/51, Ms4.2/21, Ms7 3.9/15*
*MOS **12** 13:06:31.9±0.9, 8°.56N×92°.66E, h40km, mb5.1/31, Error ellipse: s-maj=8.7km s-min=4.7km az=107.1*
*NEIC **12** 13:06:33.6±1.9, 8°.57N±0°.07×92°.56E±0°.08, h39km±6km, mb5.0/56, Error ellipse: s-maj=12.5km s-min=8.9km az=57.0*
*INMG **12** 13:06:33.6, 8°.60N×92°.58E, h38km, Mb5.0*
*IDC **12** 13:06:34.8±1.8, 8°.63N×92°.62E, h50km±15km, mb4.3/25, mb1 4.4/28, mb1mx4.4/34, mbtmp4.6/28, ML4.6/3, MS3.7/20, Ms1 3.7/20, ms1mx3.6/42, Error ellipse: s-maj=15.8km s-min=10.7km az=49.0*
*NDI **12** 13:06:35.7±3.0, 8°.79N×92°.65E, h35km±28km, mb4.7, mb5.0(NEIC)*
*DJA **12** 13:06:35.2±0.3, 8°N±2°×9°3E±°, h52km±3km, M5.3/56, mb5.2/56, mB5.7/25, MLv5.4/3, Mw(mB)5.3/25*
*KLM **12** 13:06:38.0, 8°.66N×92°.62E, h75km, mb5.3*

ISC 12 13:06:34.7±0.5, 8°.58N±0°.04×92°.58E±0°.04, h49km±4km, h50km:pP-P, n373, σ1§40/371, mb4.9/104, MS3.8/26, 11C-16D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.06	3	eP	Pn	13 07 20.2	-0.4
PBA				ex	x	13 07 53.1	
PBA	Port Blair	3.06	3	Pn	Pn	13 07 20.2	-0.3
DGPR	DIGLIPUR	4.58	4	eP	Pn	13 07 40.9	-0.6
DGPR				eS	Sn	13 08 28.1	-5.4
LHMI	Lhok Sumawe	5.47	127	P	Pn	13 07 54.9	+1.2
	3.4nm10μm946nm,0.8s						
LHMI				S	Sn	13 08 54.3	-1.1
	3.4nm10μm946nm,0.8s						
LHMI	Lhok Sumawe	5.47	127		Pn	13 07 56.0	+2.3
MLSI	Meulaboh, Aceh	5.73	138	P	Pn	13 07 56.8	-0.5
	3.7nm7μm277nm,0.9s						
TPTI		7.00	139	P	Pn	13 08 14.4	-0.2
	0.5nm1μm62nm,0.8s						
PSI	Prapat	8.54	132	P	Pn	13 08 36.1	+0.3
	1.9nm,0.3s,baz=360,slow=11,SNR=12						
PSI				S	Sn	13 10 06.1	-4.8
	3.8nm,0.3s,baz=0.2,slow=14,SNR=1.7						
PSI				LR	LR	13 12 38.7	
	comp=Z,1μm,20.9s,baz=270,slow=42						
RPSI	Rantau Prapat	8.61	132	Pn	Pn	13 08 36.5	-0.3
RPSI	Rantau Prapat	8.61	132		Pn	13 08 36.1	-0.6
RPSI					Sn	13 10 06.1	-6.4
KULM	Kulim	8.66	112	Pn	Pn	13 08 37.8	+0.4
KULM	Kulim	8.66	112	P	Pn	13 08 39.0	+1.6
GSI	Gunungsitoli	8.78	145	P	Pn	13 08 38.0	-1.1
	69nm,0.6s						
GSI	Gunungsitoli	8.78	145	Pn	Pn	13 08 37.8	-1.3
IPM	Ipoh	9.33	115	Pn	Pn	13 08 45.9	-0.8
IPM	Ipoh	9.33	115	P	Pn	13 08 48.0	+1.3
PBSI	Pulau Batu	10

SHL	**Shillong**	**16.90 358**	P	**Pn**	**13 10 26.9**	**-1.2**
SHL			pmax	pmax		
comp=Z,55nm,0.8s						
SHL	**Shillong**	**16.90 358**	P	**Pn**	**13 10 26.9**	**-1.2**
SRSP	**Sriramsagar**	**17.21 308**	*e*P	**Pn**	**13 10 31.8**	**0.0**
PPBI	**Pangkal Pinang**	**17.23 128**	P	**P**	**13 10 33.4**	**+0.5**
comp=Z,13μmcomp=Z,59nm,0.7s						
MDSI	**Maura Dua**	**17.39 138**	P	**Pn**	**13 10 34.3**	**+0.3**
comp=Z,38nm,1.0s						
LWLI	**Liwa**	**17.71 139**	P	**Pn**	**13 10 38.2**	**+0.2**
comp=Z,5μmcomp=Z,163nm,0.7s						
KLSI		**17.91 137**	P	**P**	**13 10 40.7**	**+0.2**
comp=Z,14nm,0.7s						
NGP	**Nagpur**	**18.06 315**	*e*P	**P**	**13 10 41.5**	**-0.7**
NGP			IAmb	IAmb	13 10 46.5	
comp=Z,31nm,0.8s						
NGP			*e*S	Sn	13 13 48.6	-14
KLRI	**Killari**	**18.17 303**	*e*P	**Pn**	**13 10 44.2**	**+0.6**
KASI	**Kota Agung**	**18.38 139**	P	**P**	**13 10 45.5**	**-0.1**
comp=Z,2μmcomp=Z,148nm,0.9s						
ODAN	**Odare**	**18.83 346**	*e*P	**Pn**	**13 10 52.1**	**+0.4**
comp=Z,172nm,0.4s						
ODAN	**Odare**	**18.83 346**	*e*P	**Pn**	**13 10 52.1**	**+0.4**
comp=Z,172nm,0.4s						
ZIRO	**ZIRO**	**18.88 4**	*e*P	**P**	**13 10 50.7**	**-0.6**
GTK	**Tadong**	**19.01 349**	*e*x	x	13 10 54.6	
GTK			IAmb	IAmb	13 10 57.1	
comp=Z,70nm,0.8s						
KSM	**Kuching**	**19.01 111**	P	**P**	**13 10 51.5**	**-1.2**
KSM	**Kuching**	**19.01 111**	P	**P**	**13 10 53.0**	**+0.4**
KMI	**Kunming**	**19.09 29**	⇑P	**Pn**	**13 10 56.1**	**+1.3**
KMI			pP	pP	13 11 06.6	+1.7
KMI			sP	sP	13 11 09.8	-1.4
KMI			S	**S**	**13 14 26.3**	**-1.6**
KMI			sS	sS	13 14 43.4	-2.2
KMI			pmax	pmax		
comp=Z,20nm,0.8s						
KMI			LR	LR		
comp=Z,230nm,17.8s						
KMI			LR	LR		
comp=Z,130nm,24.0s						
RAMN	**Ramite**	**19.13 344**	*e*P	**Pn**	**13 10 56.4**	**+1.1**
comp=Z,424nm,0.6s						
RAMN	**Ramite**	**19.13 344**	*e*P	**Pn**	**13 10 56.4**	**+1.1**
comp=Z,424nm,0.6s						
TAPN	**Taplejung**	**19.23 347**	*e*P	**Pn**	**13 10 57.0**	**+0.5**
comp=Z,296nm,0.7s						
TAPN	**Taplejung**	**19.23 347**	*e*P	**Pn**	**13 10 57.0**	**+0.5**
comp=Z,296nm,0.7s						
GOA	**Goa**	**19.57 292**	IAmb	IAmb	13 13 25.8	
comp=Z,24nm,1.1s						
QIZ	**Qiongzhong**	**19.70 56**	P	**P**	**13 10 59.4**	**-0.7**
QIZ			sP	**pP**	**13 11 13.0**	**+1.6**
QIZ			S	**Sn**	**13 14 42.4**	**-0.2**
QIZ			pmax	pmax		
comp=Z,31nm,1.8s						
QIZ			LR	LR		
comp=Z,240nm,16.1s						
QIZ			LR	LR		
comp=Z,150nm,12.4s						
QIZ			LR	LR		
comp=Z,150nm,11.3s						
JIRN	**Jiri**	**19.91 343**	*e*P	**Pn**	**13 11 04.4**	**-0.3**
comp=Z,233nm,0.6s						
JIRN	**Jiri**	**19.91 343**	*e*P	**Pn**	**13 11 04.4**	**-0.3**
comp=Z,233nm,0.6s						
CGJI	**Cibinong**	**19.97 139**	P	**P**	**13 11 00.0**	**-3.1**
PKI	**Pulchoki**	**20.07 341**	*e*P	Pn	13 11 05.8	-0.7
comp=Z,555nm,0.8s						
PKI	**Pulchoki**	**20.07 341**	*e*P	Pn	13 11 05.8	-0.7
comp=Z,555nm,0.8s						
PKIN	**Phulchoki**	**20.08 341**	*e*P	Pn	13 11 05.8	-0.7
comp=Z,542nm,0.8s						
PKIN	**Phulchoki**	**20.08 341**	*e*P	Pn	13 11 05.8	-0.7
comp=Z,542nm,0.8s						
DMN	**Daman**	**20.20 340**	*e*P	Pn	13 11 07.1	-0.9
comp=Z,496nm,0.7s						
DMN	**Daman**	**20.20 340**	*e*P	Pn	13 11 07.1	-0.9
comp=Z,496nm,0.7s						
GUN	**Gumba**	**20.24 343**	*e*P	Pn	13 11 07.7	-0.8
comp=Z,129nm,0.5s						
GUN	**Gumba**	**20.24 343**	*e*P	Pn	13 11 07.7	-0.8
comp=Z,129nm,0.5s						
SBUM	**Sibu**	**20.47 106**	P	Pn	13 11 10.0	-1.1
BHPL	**Bhopal**	**20.58 317**	*e*P	Pn	13 11 11.7	-0.6
BHPL			*i* x	x	13 11 22.2	
BHPL			*e*S	**S**	**13 14 47.2**	**-10**
STKI	**Sintang**	**20.64 113**	P	**P**	**13 11 11.1**	**+0.7**
comp=Z,61nm,0.5s						
POO	**Poona**	**20.70 300**	*e*P	Pn	13 11 13.1	-0.7
POO			IAmb	IAmb	13 11 16.5	
comp=Z,27nm,0.8s						
GKN	**Gorkha**	**20.72 340**	*e*P	Pn	13 11 12.7	-1.4
comp=Z,297nm,0.3s						
GKN	**Gorkha**	**20.72 340**	*e*P	Pn	13 11 12.7	-1.4
comp=Z,297nm,0.3s						
KOLN	**Koldanda**	**20.89 337**	*e*P	Pn	13 11 14.7	-1.4
comp=Z,578nm,0.6s						
KOLN	**Koldanda**	**20.89 337**	*e*P	Pn	13 11 14.7	-1.4
comp=Z,578nm,0.6s						
LSA	**Lhasa**	**21.05 357**	P	**P**	**13 11 15.1**	**0.0**
LSA			pmax	pmax		
comp=Z,33nm,0.7s						
LSA	**Lhasa**	**21.05 357**	P	**P**	**13 11 15.1**	**0.0**
LSA			IAmb	IAmb	13 11 20.2	
comp=Z,33nm,0.7s						
PYUN	**Piuthan**	**21.42 336**	*e*P	**P**	**13 11 20.7**	**+1.9**
comp=Z,464nm,0.5s						
PYUN	**Piuthan**	**21.42 336**	*e*P	**P**	**13 11 20.7**	**+1.9**
comp=Z,464nm,0.5s						
GYA	**Guiyang**	**22.25 35**	⇓P	**P**	**13 11 28.9**	**+1.3**
GYA			S	**S**	**13 15 25.1**	**-4.6**
GYA			pmax	pmax		
comp=Z,11nm,1.3s						
GYA			LR	LR		
comp=Z,74nm,3.8s						
GYA			LR	LR		
comp=Z,95nm,5.8s						
GYA			LR	LR		
comp=Z,79nm,5.5s						
KPJI	**Karang Pucung**	**22.71 134**	P	**P**	**13 11 30.3**	**-2.2**
comp=Z,31nm,1.8s						
KKM	**Kota Kinabalu**	**23.58 95**	P	**P**	**13 11 41.3**	**0.0**
SMRI	**Semarang**	**23.63 131**	P	**P**	**13 11 41.8**	**+0.2**
comp=Z,195nm,1.2s						
SPMM	**Sapulut**	**24.04 98**	P	**P**	**13 11 48.0**	**+2.6**
MTKI	**Muara Teweh, K**	**24.17 112**	P	**P**	**13 11 47.4**	**+0.7**
comp=Z,4μmcomp=Z,108nm,0.8s						
WOJI	**Wonogiri, Jawa**	**24.50 131**	P	**P**	**13 11 48.4**	**-1.2**
comp=Z,56nm,1.9s						
CD2	**Chengdu**	**24.55 24**	P	**P**	**13 11 51.2**	**+1.3**
CD2			pmax	pmax		
comp=Z,30nm,0.7s						
NGJI	**Ngawi**	**24.61 130**	P	**P**	**13 11 51.0**	**+0.5**
comp=Z,242nm,0.8s						
BBKI	**Banjar Baru**	**25.22 117**	P	**P**	**13 11 57.4**	**+1.2**
comp=Z,19nm,0.6s						
H08S3	**Diego Garcia H**	**25.70 232**	T	T	13 38 39.8	
baz=51,slow=75,SNR=566						
H08S2	**Diego Garcia H**	**25.70 232**	T	T	13 38 24.0	
baz=51,slow=75,SNR=511						
H08S1	**Diego Carcia H**	**25.71 232**	T	T	13 38 17.8	
baz=51,slow=75,SNR=469						
MYLDM	**Lahad Datu**	**25.95 96**	P	**P**	**13 12 04.3**	**+1.4**
BLJI	**Banyuglugur**	**26.49 127**	P	**P**	**13 12 05.8**	**-1.9**
comp=Z,69nm,0.7s						
SMLA	**Simla**	**26.64 329**	*e*P	**P**	**13 12 10.2**	**+1.4**
SMLA			IAmb	IAmb	13 12 14.4	
comp=Z,62nm,1.3s						
DHRM	**DHARAMSHALA**	**27.98 330**	*e*P	**P**	**13 12 21.5**	**+0.4**
DHRM			IAmb	IAmb	13 12 24.3	
comp=Z,9.2nm,0.7s						
DHRM			*i* x	x	13 12 57.3	
MPSI	**Mapaga**	**28.42 105**	P	**P**	**13 12 25.8**	**+0.8**
comp=Z,934nmcomp=Z,66nm,0.6s						
LZH	**Lanzhou**	**29.24 19**	*e*P	**P**	**13 12 33.8**	**+1.6**
LZH			pP	pP	13 12 46.4	+1.5
LZH			sP	sP	13 12 53.1	+2.3
LZH			*e*PP	**PnPn**	**13 13 31.3**	**+4.1**
LZH			pmax	pmax		
comp=Z,20nm,1.1s						
LZH			pmax	pmax		
comp=Z,180nm,5.5s						
LZH			LR	LR		
comp=Z,310nm,14.6s						
LZH			LR	LR		
comp=Z,200nm,15.7s						
LZH			LR	LR		
comp=Z,300nm,17.3s						
XAN	**Xi'an**	**29.47 28**	P	**P**	**13 12 32.5**	**-1.6**
XAN			PP	**PnPn**	**13 13 33.0**	**+2.9**
XAN			S	**S**	**13 17 19.1**	**-6.1**
XAN			pmax	pmax		
comp=Z,10.0nm,0.6s						
XAN			pmax	pmax		
comp=Z,110nm,5.2s						
XAN			LR	LR		
comp=Z,190nm,13.0s						
XAN			LR	LR		
comp=Z,110nm,15.4s						
WHN	**Wuhan**	**29.86 40**	P	P	13 12 46.7	+9.2
BNSI	**Bone**	**30.33 114**	P	**P**	**13 12 42.6**	**+0.7**
comp=Z,18nm,1.2s						
NIL	**Nilore**	**30.66 327**	P	**P**	**13 12 45.2**	**+0.6**
NIL			pmax	pmax		
comp=Z,77nm,0.6s						
NIL	**Nilore**	**30.66 327**	P	**P**	**13 12 45.2**	**+0.6**
BKSI	**Bulukumba**	**30.75 116**	P	**P**	**13 12 46.2**	**+0.6**
comp=Z,27nm,0.6s						
YULB	**Yu-li**	**31.20 58**	P	**P**	**13 12 51.4**	**+1.8**
GTOI	**Gorontalo**	**31.32 103**	P	**P**	**13 12 50.0**	**-0.7**
comp=Z,1μmcomp=Z,112nm,0.8s						
GTA	**Gaotai**	**31.38 11**	⇑P	**P**	**13 12 51.7**	**+0.7**
GTA			pP	sP	13 13 07.2	-2.2
GTA			sP	pP	13 13 11.6	+8.0
GTA			pmax	pmax		
comp=Z,17nm,0.7s						
GTA			pmax	pmax		
comp=Z,66nm,4.8s						
GTA			LR	LR		
comp=Z,110nm,17.6s						
GTA			LR	LR		
comp=Z,170nm,18.7s						
GTA			LR	LR		
comp=Z,140nm,22.4s						
LUWI	**Luwuk**	**31.58 106**	P	**P**	**13 12 53.7**	**+0.8**
comp=Z,4μmcomp=Z,438nm,0.8s						
KMSI	**Cibinong**	**32.27 103**	P	**P**	**13 12 59.9**	**+0.8**
comp=Z,2μmcomp=Z,142nm,0.7s						
EDFI	**Ende, Flores**	**33.73 120**	P	**P**	**13 13 10.4**	**-1.5**
comp=Z,16nm,0.7s						
NJ2	**Nanjing**	**33.77 43**	*e*P	**P**	**13 13 12.7**	**+0.8**
NJ2			pmax	pmax		
comp=Z,12nm,0.5s						
KSH	**Kashi**	**34.20 337**	P	**P**	**13 13 15.4**	**-0.3**
KSH			sP	sP	13 13 32.1	-1.9
KSH			S	**S**	**13 18 44.0**	**+5.0**
KSH			sS	sS	13 18 57.0	-3.2
KSH			SS	**SnSn**	**13 20 51.7**	**+0.5**
KSH			pmax	pmax		
comp=Z,75nm,0.6s						
KSH			pmax	pmax		
comp=Z,140nm,4.5s						
KSH			LR	LR		
comp=Z,200nm,6.7s						
KSH			LR	LR		
comp=Z,190nm,10.4s						
KSH			LR	LR		
comp=Z,300nm,16.3s						
WMQ	**Urumqi**	**35.36 354**	*e*P	**P**	**13 13 25.9**	**+0.3**
WMQ			pP	pP	13 13 35.2	-3.1
WMQ			sP	sP	13 13 42.9	-1.1
WMQ			pmax	pmax		
comp=Z,14nm,0.7s						
WMQ			pmax	pmax		
comp=Z,48nm,3.7s						
WMQ			LR	LR		
comp=Z,310nm,29.2s						
WMQ			LR	LR		
comp=Z,270nm,29.1s						
TARG	**Taragay, Kyrgy**	**35.50 341**	P	**P**	**13 13 27.4**	**+0.2**
TARG			IAmb	IAmb	13 13 28.8	
comp=Z,26nm,1.0s						
GAR	**Garm**	**36.28 330**	P	**P**	**13 13 34.1**	**+0.5**
HHC	**Hu-ho-hao-te**	**36.29 25**	*e*P	**P**	**13 13 34.3**	**+0.6**
HHC			ScS	ScS	13 23 46.1	-0.4
HHC			pmax	pmax		
comp=Z,23nm,0.8s						
HHC			pmax	pmax		
comp=Z,170nm,5.3s						
HHC			LR	LR		
comp=Z,130nm,13.5s						
HHC			LR	LR		
comp=Z,140nm,13.9s						
HHC			LR	LR		
comp=Z,96nm,14.8s						
SHLS	**Shalkode**	**36.31 344**	*i* P	**P**	**13 13 34.4**	**+0.6**
comp=Z,29nm,1.3s,baz=344						
SHLS			*e*S	**S**	**13 19 11.4**	**+0.1**
baz=344						
SHLS	**Shalkode**	**36.31 344**	*i* P	**P**	**13 13 34.3**	**+0.6**
SHLS			*e*S	**S**	**13 19 11.3**	**+0.1**
SHLS			pmax	pmax		
comp=Z,29nm,1.3s						
NLAI	**Namlea**	**36.37 107**	P	**P**	**13 13 35.2**	**+0.7**
comp=Z,1μmcomp=Z,51nm,0.6s						
UZB	**Uzynbulak**	**36.42 343**	⇓*i* P	**P**	**13 13 36.1**	**+1.3**
comp=Z,4.0nm,0.4s,baz=343						
UZB	**Uzynbulak**	**36.42 343**	*d* P	**P**	**13 13 36.1**	**+1.3**
UZB			pmax	pmax		
comp=Z,4.0nm,0.4s						
SOEI	**Soe**	**36.44 119**	P	**P**	**13 13 31.4**	**-3.8**
SOEI	**Soe**	**36.44 119**	P	**P**	**13 13 31.2**	**-4.0**
SOEI			IAmb	IAmb	13 13 46.5	
comp=Z,27nm,0.9s						
PDGK	**Podgornoye**	**36.46 344**	P	**P**	**13 13 35.9**	**+0.8**
SATY	**Saty**	**36.52 342**	⇓*i* P	**P**	**13 13 37.1**	**+1.5**
comp=Z,11nm,0.6s,baz=342						
SATY			*e*S	**S**	**13 19 16.5**	**+1.9**
baz=342						
SATY	**Saty**	**36.52 342**	*d* P	**P**	**13 13 37.1**	**+1.5**
SATY			*e*S	**S**	**13 19 16.4**	**+1.9**
SATY			pmax	pmax		
comp=Z,11nm,0.6s						
CHGR	**Chuyangaron**	**36.61 329**	P	**P**	**13 13 36.3**	**-0.1**
KZA	**Kyzart**	**36.70 338**	P	**P**	**13 13 38.9**	**+1.5**
SNR=11						
BTK	**Batken**	**36.87 332**	P	**P**	**13 13 40.9**	**+2.3**
BTK			pmax	pmax		
comp=Z,109nm,0.9s						
BTK	**Batken**	**36.87 332**	P	**P**	**13 13 40.9**	**+2.3**
TNSS	**Tian-Shan**	**36.96 341**	*e*P	**P**	**13 13 41.0**	**+1.3**
baz=341						
TNSS	**Tian-Shan**	**36.96 341**	*e*P	**P**	**13 13 40.9**	**+1.3**
MDOK	**Medeo**	**37.04 341**	*i* P	**P**	**13 13 41.5**	**+1.5**
baz=341						
MDOK	**Medeo**	**37.04 341**	*i* P	**P**	**13 13 41.5**	**+1.5**
AAA	**Alma-Ata**	**37.12 341**	*e*P	**P**	**13 13 42.4**	**+1.7**
comp=Z,46nm,1.0s,baz=341						
AAA			*e*S	**S**	**13 19 25.6**	**+2.1**
baz=341						
AAA	**Alma-Ata**	**37.12 341**	*e*P	**P**	**13 13 42.3**	**+1.7**
AAA			*e*S	**S**	**13 19 25.6**	**+2.1**
AAA			pmax	pmax		
comp=Z,46nm,1.0s						
MTBS	**Maitube**	**37.21 340**	*e*P	**P**	**13 13 42.4**	**+1.0**
baz=340						
MTBS	**Maitube**	**37.21 340**	*e*P	**P**	**13 13 42.4**	**+1.0**
TKM2	**Tokmak 2**	**37.31 339**	P	**P**	**13 13 43.6**	**+1.2**
SNR=17						
TKM2	**Tokmak 2**	**37.31 339**	P	**P**	**13 13 43.1**	**+0.7**
KBK	**Karagaybulak**	**37.31 338**	P	**P**	**13 13 44.5**	**+2.1**
SNR=8.2						
AML	**Almayashu**	**37.33 337**	P	**P**	**13 13 44.7**	**+1.9**
SNR=99						
AAK	**Ala-Archa**	**37.46 338**	P	**P**	**13 13 45.3**	**+1.6**
SNR=22						
AAK	**Ala-Archa**	**37.46 338**	P	**P**	**13 13 45.1**	**+1.5**
AAI	**Ambon**	**37.55 108**	P	**P**	**13 13 45.4**	**+0.8**
comp=Z,2μmcomp=Z,126nm,0.7s						
CHMS	**Chumysh**	**37.68 338**	P	**P**	**13 13 46.5**	**+1.2**
SNR=7.6						
BJT	**Baijiatuau**	**37.73 30**	P	**P**	**13 13 46.4**	**+0.7**
BJT			pmax	pmax		
comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**37.73 30**	P	**P**	**13 13 46.4**	**+0.7**
BJT			IAmb	IAmb	13 13 47.6	
comp=Z,9.7nm,0.6s						
BJI	**Beijing**	**37.75 30**	P	**P**	**13 13 46.4**	**+0.6**
BJI			pmax	pmax		
comp=Z,12nm,0.7s						
EKS2	**Erkin-Say**	**37.75 337**	P	**P**	**13 13 48.1**	**+2.0**
SNR=36						
KUU	**Kurty**	**37.92 341**	⇓*i* P	**P**	**13 13 47.9**	**+0.5**
comp=Z,32nm,1.1s,baz=341						
KUU	**Kurty**	**37.92 341**	*d* P	**P**	**13 13 47.8**	**+0.5**
KUU			pmax	pmax		
comp=Z,32nm,1.1s						
USP	**Ospenovka**	**38.00 338**	P	**P**	**13 13 49.2**	**+1.2**
SNR=24						
SGDS	**Sogindy**	**38.12 339**	⇓*i* P	**P**	**13 13 50.1**	**+1.1**
comp=Z,27nm,1.8s,baz=339						
SGDS	**Sogindy**	**38.12 339**	*d* P	**P**	**13 13 50.1**	**+1.1**
SGDS			pmax	pmax		
comp=Z,27nm,1.8s						
MSAI	**Masohi**	**38.14 107**	P	**P**	**13 13 50.2**	**+0.7**
IUG	**Iuzhnay**	**38.89 333**	⇓*i* P	**P**	**13 13 57.1**	**+1.4**
comp=Z,20nm,0.6s,baz=333						
IUG	**Iuzhnay**	**38.89 333**	*d* P	**P**	**13 13 57.0**	**+1.4**
IUG			pmax	pmax		
comp=Z,20nm,0.6s						
DZA	**Taraz**	**38.93 335**	*e*P	**P**	**13 13 56.7**	**+0.8**
comp=Z,11nm,0.5s,baz=335						
DZA	**Taraz**	**38.93 335**	*e*P	**P**	**13 13 56.6**	**+0.8**
DZA			pmax	pmax		
comp=Z,11nm,0.5s						
MK31	**Makanchi Array**	**39.08 349**	*e*P	**P**	**13 13 56.6**	**-0.4**
MK31	**Makanchi Array**	**39.08 349**	P	**P**	**13 13 56.9**	**-0.1**
MKAR	**Makanchi Array**	**39.08 349**	P	**P**	**13 13 57.0**	**0.0**
comp=Z,12nm,0.5s,baz=169,slow=8.1,SNR=128						
MKAR			LR	LR	13 33 38.7	
comp=Z,80nm,21.0s,baz=168,slow=42						
MKAR	**Makanchi Array**	**39.08 349**	P	**P**	**13 13 56.7**	**-0.3**
MKAR	**Makanchi Array**	**39.08 349**	P	**P**	**13 13 56.7**	**-0.3**
MAKZ	**Makanchi**	**39.15 348**	P	**P**	**13 13 57.1**	**-0.5**
MAKZ	**Makanchi**	**39.15 348**	P	**P**	**13 13 57.4**	**-0.2**
MAKZ			IAmb	IAmb	13 13 58.4	
comp=Z,14nm,0.6s						
ZSN	**Zaisan**	**39.28 352**	*e*P	**P**	**13 13 59.6**	**+0.9**
baz=352						
ZSN	**Zaisan**	**39.28 352**	*e*P	**P**	**13 13 59.6**	**+0.9**
BNDI	**Bandanaira**	**39.44 108**	P	**P**	**13 13 58.5**	**-1.9**
comp=Z,196nm,0.7s						
KK31	**Karatay Array**	**39.45 334**	*i* P	**P**	**13 14 01.2**	**+1.1**
KKAR	**Karatay Array**	**39.45 334**	P	**P**	**13 14 00.8**	**+0.7**
KKAR	**Karatay Array**	**39.45 334**	P	**P**	**13 14 00.8**	**+0.7**
BTLS	**Baital**	**39.70 339**	⇓*i* P	**P**	**13 14 03.0**	**+0.8**
comp=Z,4.7nm,0.5s,baz=339						
BTLS	**Baital**	**39.70 339**	*d* P	**P**	**13 14 03.0**	**+0.8**
BTLS			pmax	pmax		
comp=Z,5.0nm,0.5s						
PSA00	**Pilbara Seismi**	**40.18 139**	P	**P**	**13 14 06.6**	**+0.1**
PSA00			IAmb	IAmb	13 14 07.4	
comp=Z,31nm,0.8s						
SONM	**Songino Array**	**40.84 14**	P	**P**	**13 14 10.9**	**-0.8**
comp=Z,1.2nm,0.4s,baz=207,slow=8.3,SNR=4.2						
SONM			LR	LR	13 33 40.8	
comp=Z,108nm,20.4s,baz=210,slow=40						
SONM	**Songino Array**	**40.84 14**	P	**P**	**13 14 10.6**	**-1.1**
FAKI	**Fak Fak**	**41.17 104**	P	**P**	**13 14 14.4**	**-0.4**
comp=Z,28nm,1.0s						
DGZ	**Jazzator, Alta**	**41.21 355**	*i* P	**P**	**13 14 15.2**	**+0.4**
DGZ			pmax	pmax		
comp=Z,4.0nm,0.6s						
TJN	**Taejon**	**42.01 43**	*c*eP	**P**	**13 14 20.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.05 129**	P	**P**	**13 14 20.4**	**-1.4**
baz=42,SNR=10						
FITZ	**Fitzroy Crossi**	**42.05 129**	P	**P**	**13 14 20.4**	**-1.4**
GEYT	**Alibeck**	**42.65 319**	P	**P**	**13 14 27.2**	**+0.6**
comp=Z,25nm,0.7s,baz=138,slow=9.1,SNR=43						
GEYT			LR	LR	13 33 20.6	
comp=Z,92nm,21.2s,baz=190,slow=38						
GEYT	**Alibeck**	**42.65 319**	P	**P**	**13 14 27.4**	**+0.8**
GYA0	**ALIBECK ARRAY**	**42.65 319**	P	**P**	**13 14 27.9**	**+1.4**
GYA0B	**ALIBECK ARRAY**	**42.65 319**	P	**P**	**13 14 26.4**	**-0.2**
GYA0B			IAmb	IAmb	13 14 29.6	
comp=Z,32nm,0.8s						
KSRS	**Korea Array**	**42.97 42**	P	**P**	**13 14 28.5**	**-0.6**
comp=Z,2.7nm,0.7s,baz=244,slow=8.6,SNR=13						
MEEK	**Meekatharra**	**43.18 145**	P	**P**	**13 14 32.0**	**+1.0**
baz=43,SNR=22						
KURBB	**Kurchatov Arra**	**43.50 347**	P	**P**	**13 14 33.0**	**-0.2**
KURK	**Kurchatov**	**43.57 347**	*d* P	**P**	**13 14 34.1**	**+0.4**
KURK			pmax	pmax		
comp=Z,37nm,1.7s						
KURK	**Kurchatov**	**43.57 347**	P	**P**	**13 14 33.5**	**-0.1**
KURK			IAmb	IAmb	13 14 35.1	
comp=Z,18nm,0.9s						
MORW	**Morawa**	**43.74 150**	P	**P**	**13 14 37.6**	**+2.2**
baz=44,SNR=9.7						
MTN	**Manton Dam**	**43.82 119**	P	**P**	**13 14 34.8**	**-1.5**
baz=44,SNR=5.6						
KDU	**Kakadu**	**44.92 118**	P	**P**	**13 14 45.0**	**0.0**
baz=45,SNR=5.8						
CN2	**Changchun**	**45.28 34**	*e*P	**P**	**13 14 47.3**	**-0.2**
CN2			*e*S	**S**	**13 21 24.6**	**+0.2**
BLDU	**Ballidu**	**45.34 150**	P	**P**	**13 14 49.6**	**+1.5**
baz=46,SNR=5.5						
JHS	**Saijyo**	**45.44 48**	P	**P**	**13 14 48.7**	**-0.3**
JHS			IAmb	IAmb	13 14 50.9	
comp=Z,14nm,0.8s						
ZAA0	**Zalesovo Array**	**45.67 354**	P	**P**	**13 14 50.2**	**-0.2**
ZAA0			IAmb	IAmb	13 14 51.5	
comp=Z,12nm,0.8s						
ZALV	**Zalesovo Beam**	**45.67 354**	P	**P**	**13 14 50.2**	**-0.2**
comp=Z,14nm,0.8s,baz=178,slow=8.7,SNR=53						
ZALV			LR	LR	13 36 56.0	
comp=Z,83nm,20.7s,baz=169,slow=40						
MUN	**Mundaring**	**46.23 152**	P	**P**	**13 14 57.0**	**+1.9**
baz=46,SNR=11						
KLBR	**Kellerberrin**	**46.65 150**	P	**P**	**13 14 59.7**	**+1.3**
baz=47,SNR=50						
SMPI	**Sarmi**	**47.17 101**	P	**P**	**13 15 02.6**	**-0.2**
comp=Z,32nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.49 152**	P	**P**	**13 15 06.7**	**+1.7**
baz=48,SNR=12						
NWAO	**Narrogin (SRO)**	**47.49 152**	P	**P**	**13 15 06.4**	**+1.4**
NWAO			pmax	pmax		
comp=Z,29nm,0.6s						
NWAO	**Narrogin (SRO)**	**47.49 152**	P	**P**	**13 15 06.4**	**+1.4**
NWAO	**Narrogin (SRO)**	**47.49 152**	IAmb	IAmb	13 15 08.8	
comp=Z,23nm,0.6s						
H01W3	**Cape Leeuwin H**	**47.80 156**	T	T	14 06 28.0	
baz=330						
H01W2	**Cape Leeuwin H**	**47.81 156**	T	T	14 06 36.5	
baz=330						
H01W1	**Cape Leeuwin H**	**47.81 156**	T	T	14 06 35.7	
baz=330						
BRVK	**Borovoye**	**47.89 342**	P	**P**	**13 15 08.1**	**+0.3**
BRVK			pmax	pmax		
comp=Z,12nm,0.7s						
BRVK	**Borovoye**	**47.89 342**	P	**P**	**13 15 08.1**	**+0.3**
BRVK			IAmb	IAmb	13 15 08.7	
comp=Z,12nm,0.7s						
WRKA	**Warakurna**	**48.25 135**	P	**P**	**13 15 10.5**	**-0.5**
baz=48,SNR=13						
KMBL	**Kambalda**	**48.63 146**	P	**P**	**13 15 14.7**	**+0.9**
baz=49,SNR=10						
RKGY	**Rocky Gully**	**48.77 153**	P	**P**	**13 15 17.9**	**+3.0**
baz=49,SNR=12						
JGF	**Kuroka**	**48.85 50**	IAmb	IAmb	13 15 16.5	
comp=Z,12nm,0.8s						
ABKAR	**Akbulak array**	**48.88 332**	P	**P**	**13 15 16.

comp=Z,1.0nm,0.8s
WRA Warramunga Arr 49.93 125 P **P 13 15 22.6 -1.4**
WRA **PcP 13 16 44.5 +0.8**
WRAB Tennant Creek 49.94 125 *ce*P **P 13 15 23.2 -0.8**
WRAB pmax pmax
comp=Z,31nm,0.8s
WB2 Warramunga Arr 49.94 125 P **P 13 15 23.2 -0.9**
baz=50
WB2 Warramunga Arr 49.94 125 P **P 13 15 23.2 -0.9**
WR0 Warramunga Arr 50.10 125 P **P 13 15 24.5 -0.8**
JSD Sado 50.47 47 P **P 13 15 27.1 -0.7**
AKT Akhty 51.34 317 *eP* **P 13 15 32.4 -2.0**
AKT *e**PP **pP 13 15 46.3 -1.3**
AKT *e* 13 16 44.8
AKT pmax pmax
comp=Z,33nm,1.1s
AS31 Alice Springs 51.56 129 P **P 13 15 35.1 -1.1**
ASAR Alice Springs 51.56 129 P **P 13 15 35.2 -0.9**
comp=Z,9.3nm,0.5s,baz=303,slow=7.7,SNR=250
ASAR PcP **PcP 13 16 50.8 +1.1**
comp=Z,4.9nm,0.7s,baz=309,slow=4.4,SNR=9.5
ASAR LR LR 13 39 11.1
comp=Z,56nm,18.4s,baz=301,slow=38
BOD Bodaibo 51.84 14 *eP* **P 13 15 39.5 +1.8**
BOD pmax pmax
comp=Z,5.0nm,0.8s
FORT Forrest 51.86 141 P **P 13 15 39.0 +0.7**
baz=52,SNR=9.8
JMM Marumori 52.26 48 P **P 13 15 40.6 -0.5**
ZEA Zeya 52.96 25 *eP* **P 13 15 46.4 +0.3**
SVE Sverdlovsk 54.18 339 *ce*P **P 13 15 55.7 +0.7**
SVE pmax pmax
comp=Z,62nm,0.9s
ZEI Tsey 54.47 317 *eP* **P 13 15 57.7 +0.1**
ZEI pmax pmax
comp=Z,5.0nm,0.5s
QIS Mount Isa 54.55 123 P **P 13 15 57.7 -0.6**
baz=55,SNR=11
ARU Arti 54.64 338 *d iP* **P 13 15 58.4 +0.1**
ARU *PP **pP 13 16 13.5 +2.0**
ARU 13 16 58.9
ARU 13 17 58.3
ARU S **S 13 23 36.0 +1.4**
ARU SS **SS 13 27 16.4 -1.5**
ARU pmax pmax
comp=Z,34nm,0.9s
COEN Coen 54.98 114 P **P 13 16 00.5 -0.9**
baz=55,SNR=8.1
KBZ Khabaz 55.53 318 P **P 13 16 04.5 -0.5**
comp=Z,5.2nm,0.7s,baz=104,slow=7.9,SNR=9.6
KBZ LR LR 13 43 22.8
comp=Z,51nm,20.1s,baz=118,slow=40
KIV Kislovodsk 55.76 318 *eP* **P 13 16 07.4 +0.7**
KIV pmax pmax
comp=Z,65nm,0.9s
KIV MLR MLR
comp=Z,87nm,16.0s
ASAJ Asahikawa 55.91 42 P **P 13 16 08.5 +0.8**
ASAJ pmax pmax
comp=Z,12nm,0.7s
JKA Kamikawa-asahi 55.91 42 P **P 13 16 08.5 +0.8**
JKA IAmb IAmb 13 16 15.5
comp=Z,12nm,0.7s
YSS Yuzh-Sakhalins 57.19 39 ‖ *eP* **P 13 16 17.4 +0.7**
YSS *e* 13 16 27.6
YSS pmax pmax
comp=Z,20nm,0.5s
PMG Port Moresby 57.22 107 *ce*P **P 13 16 17.0 -0.5**
PMG pmax pmax
comp=Z,22nm,1.3s
MTSU Mount Surprise 57.56 118 P **P 13 16 20.0 +0.2**
baz=58,SNR=6.8
BBOO Buckleboo 58.38 137 P **P 13 16 25.0 -0.3**
baz=58,SNR=9.7
CTAO Charters Tower 60.00 119 P **P 13 16 36.9 +0.1**
CTAO pmax pmax
comp=Z,15nm,1.1s
CTAO Charters Tower 60.00 119 P **P 13 16 36.9 +0.1**
CTAO IAmb IAmb 13 16 38.0
comp=Z,15nm,1.1s
HTT Hallett 60.69 136 P **P 13 16 41.4 +0.1**
baz=61,SNR=5.7
NRIK Noril'sk 60.77 358 P **P 13 16 40.9 -0.3**
comp=Z,3.0nm,0.5s,baz=195,slow=2.7,SNR=2.6
NRIK LR LR 13 47 03.9
comp=Z,80nm,18.7s,baz=201,slow=40
BRTR Keskin Array B 60.80 311 P **P 13 16 41.5 -0.6**
comp=Z,11nm,0.7s,baz=124,slow=7.6,SNR=29
BRTR LR LR 13 45 46.9
comp=Z,23nm,19.2s,baz=92,slow=39
QLP Quilpie 61.09 127 P **P 13 16 44.6 +0.6**
baz=61,SNR=14
STKA Stephens Creek 61.72 133 P **P 13 16 48.0 -0.1**
comp=Z,8.0nm,0.6s,baz=305,slow=5.3,SNR=24
STKA LR LR 13 47 49.7
comp=Z,76nm,18.1s,baz=315,slow=40
STKA Stephens Creek 61.72 133 P **P 13 16 48.2 +0.1**
baz=62,SNR=14
STKA Stephens Creek 61.72 133 P **P 13 16 48.1 -0.1**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 61.72 133 P **P 13 16 48.1 -0.1**
ELL Elmali 63.06 307 P **P 13 16 56.9 -0.4**
ELL pmax pmax
comp=Z,74nm,0.8s
ELL Elmali 63.06 307 P **P 13 16 56.9 -0.4**
PRGR Permogore 63.09 337 *eP* **P 13 16 56.1 -0.7**
MOS Moscow 63.67 329 *eP* **P 13 16 59.0 -1.8**
MOS *e* 13 17 14.6
OBN Obninsk 63.96 328 ‖ *eP* **P 13 17 02.3 -0.4**
OBN *PP **pP 13 17 14.0 -2.1**
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,83nm,17.0s
CMSA Cobar Meteorol 64.56 131 P **P 13 17 07.7 +0.7**
baz=65,SNR=12
RMQ Roma 64.69 125 P **P 13 17 09.6 +1.6**
baz=65,SNR=23
KARP Karpathos 65.08 305 P **P 13 17 10.9 +0.4**
KLMR Klimovskoe 65.15 334 *eP* **P 13 17 08.3 -2.1**
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 65.15 334 *eP* **P 13 17 08.4 -2.0**
KLMR AMP 13 17 11.7
comp=Z,18nm,1.4s
EIDS Eidsvold 66.16 123 P **P 13 17 18.1 +0.6**
baz=66,SNR=4.4
AKASG Malin Array Be 66.64 322 P **P 13 17 19.0 -1.1**
comp=Z,1.5nm,0.6s,baz=94,slow=4.4,SNR=7.1
AKASG LR LR 13 50 26.5
comp=Z,44nm,19.8s,baz=330,slow=40
TIXI Tiksi 66.85 12 *ce*P **P 13 17 20.9 -0.2**
TIXI pmax pmax
comp=Z,14nm,1.7s
TIXI Tiksi 66.85 12 P **P 13 17 21.1 -0.1**
TIXI IAmb IAmb 13 17 38.1
comp=Z,15nm,0.7s
TOO Toolangi 67.43 137 P **P 13 17 27.1 +1.6**
baz=68,SNR=4.7
TOO Toolangi 67.43 137 P **P 13 17 25.6 +0.2**
TOO pmax pmax
comp=Z,11nm,0.9s
TOO Toolangi 67.43 137 P **P 13 17 25.6 +0.2**
TOO IAmb IAmb 13 17 28.7
comp=Z,11nm,0.9s
PETK Petropavlovsk- 68.34 36 P **P 13 17 28.9 -1.9**
comp=Z,0.6nm,0.6s,baz=253,slow=3.2,SNR=7.3
PETK Petropavlovsk- 68.34 36 P **P 13 17 29.0 -1.9**
ARMA Armidale 68.62 127 P **P 13 17 34.9 +1.8**
baz=69,SNR=6.4
CAN Canberra 68.78 133 P **P 13 17 34.6 +0.6**
baz=69
CAN Canberra 68.78 133 P **P 13 17 34.5 +0.6**
CAN pmax pmax
comp=Z,8.0nm,0.7s
CAN Canberra 68.78 133 P **P 13 17 34.5 +0.6**
CAN IAmb IAmb 13 17 35.5
comp=Z,7.6nm,0.7s
NACGM Naroch 69.19 326 *e* **P 13 17 35.0 -1.1**
LIT Litokhoron 69.30 310 IAmb IAmb 13 17 37.2
comp=Z,15nm,0.8s
ITM Ithomi 69.45 306 P **P 13 17 36.7 -1.4**
ITM IAmb IAmb 13 17 38.5
comp=Z,16nm,0.7s
KOLS Kolonicke sedl 70.65 319 *eP* **P 13 17 45.4 +0.1**
KOLS Kolonicke sedl 70.65 319 *eP* **P 13 17 45.4 +0.1**
CRVS Cervenica-Dubn 71.18 319 *eP* **P 13 17 49.6 +1.2**
CRVS pmax pmax
comp=Z,20nm,1.2s
CRVS Cervenica-Dubn 71.18 319 *eP* **P 13 17 49.6 +1.2**
FINES FINESS Array B 71.37 332 P **P 13 17 49.0 -0.3**
comp=Z,10nm,0.8s,baz=103,slow=6.2,SNR=26
FINES LR LR 13 52 05.1
comp=Z,81nm,19.8s,baz=112,slow=38
FINES FINESS Array B 71.37 332 P **P 13 17 48.7 -0.5**
FINES FINESS Array B 71.37 332 P **P 13 17 48.7 -0.5**
VYHS Vyhne 72.85 318 *eP* **P 13 17 58.3 -0.1**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 72.85 318 *eP* **P 13 17 58.3 -0.1**
ARCES ARCESS Array B 74.08 340 P **P 13 18 04.4 -0.9**
comp=Z,7.6nm,0.9s,baz=74,slow=5.2,SNR=12
ARCES LR LR 13 52 58.2
comp=Z,97nm,18.9s,baz=120,slow=38
ARCES ARCESS Array B 74.08 340 P **P 13 18 05.3 0.0**
ARCES ARCESS Array B 74.08 340 P **P 13 18 05.3 0.0**
ARE0 ARCESS Array S 74.08 340 *eP* **P 13 18 05.6 +0.4**
KRLC Kraliky 74.35 320 *eP* **P 13 18 07.9 +0.6**
KRLC *ex* x 13 18 22.1
KRLC Kraliky 74.35 320 *eP* **P 13 18 07.9 +0.6**
KRLC *e* 13 18 22.1
BOSA Boshof 74.65 237 LR LR 13 44 56.0
comp=Z,51nm,20.6s,baz=86,slow=31
DPC Dobruska-Polom 74.67 320 *eP* **P 13 18 09.9 +0.8**
DPC *ep*P **PcP 13 18 23.8 +0.6**
DPC Dobruska-Polom 74.67 320 *eP* **P 13 18 09.9 +0.8**
DPC *e* 13 18 23.8
KTK1 Kautokeino 74.69 340 *eP* **P 13 18 09.0 +0.2**
HAMF Hammerfest 75.02 341 *eP* **P 13 18 10.9 +0.3**
PRU Pruhonice 75.78 319 *eP* **P 13 18 15.7 +0.2**
PRU Pruhonice 75.78 319 *eP* **P 13 18 15.7 +0.2**
CASY Casey 75.82 173 P **P 13 18 16.0 +0.8**
GERES GERESS Array B 76.27 318 P **P 13 18 18.4 0.0**
comp=Z,4.1nm,0.8s,baz=86,slow=5.6,SNR=25
GERES LR LR 13 55 34.8
comp=Z,32nm,21.9s,baz=88,slow=39
GERES GERESS Array B 76.27 318 P **P 13 18 18.3 -0.1**
TRO Tromso 76.33 340 *eP* **P 13 18 17.5 -0.6**
KHC Kasperske Hory 76.36 318 *eP* **P 13 18 18.9 +0.1**
KHC *ep*P **pP 13 18 33.3 +0.7**
KHC Kasperske Hory 76.36 318 *ce*P **P 13 18 18.6 -0.2**
KHC pmax pmax
comp=Z,9.0nm,1.7s
CIMO Cimolais 77.04 316 IAmb IAmb 13 18 23.7
comp=Z,13nm,0.9s
FAUS Fauske 77.24 337 *eP* **P 13 18 23.4 +0.1**
STEI Steigen 77.34 338 *eP* **P 13 18 24.0 +0.2**
MOR8 Moi Rana 77.40 336 *eP* **P 13 18 23.7 -0.6**
LOF Lofoten 78.00 338 *eP* **P 13 18 27.4 -0.1**
NC405 NORSAR Array S 78.12 331 P **P 13 18 28.2 -0.1**
NC602 NORSAR Array S 78.18 330 P **P 13 18 28.3 -0.5**
NC602 IAmb IAmb 13 18 28.6
comp=Z,12nm,0.7s
NC602 NORSAR Array S 78.18 330 *eP* **P 13 18 28.2 -0.5**
NSS Namsos 78.26 334 *eP* **P 13 18 29.5 +0.4**
NB2 NORSAR Subarra 78.36 331 P **P 13 18 28.9 -0.8**
comp=Z,3.3nm,0.6s,baz=98,slow=5.1
NB2 NORSAR Subarra 78.36 331 P **P 13 18 28.9 -0.8**
baz=98,slow=5.1
NOA NORSAR Array B 78.36 331 P **P 13 18 29.1 -0.6**
comp=Z,2.8nm,0.7s,baz=94,slow=5.7,SNR=20
NOA LR LR 13 57 10.7
comp=Z,47nm,20.5s,baz=100,slow=39
NAO01 NORSAR Array S 78.51 330 *eP* **P 13 18 30.2 -0.4**
MAW Mawson 78.92 191 P **P 13 18 32.8 +0.3**
comp=Z,0.6nm,0.5s,baz=11,slow=6.5,SNR=5.4
DOMB Dombas 79.43 332 *eP* **P 13 18 35.6 0.0**
KEST Kesra 79.57 305 P **P 13 18 37.3 +0.3**
comp=Z,2.8nm,0.4s,baz=57,slow=2.6,SNR=4.5
MOL Molde 80.15 332 *eP* **P 13 18 40.0 +0.6**
AKN Aaknes 80.40 332 *eP* **P 13 18 41.5 +0.7**
BLS5 Blasjo 80.70 329 *eP* **P 13 18 43.0 +0.5**
ASK Askoy 81.30 330 *eP* **P 13 18 46.1 +0.5**
KMY Karmoy 81.32 329 *eP* **P 13 18 46.0 +0.3**
SUE Sulen 81.50 331 *eP* **P 13 18 46.8 +0.2**
SYO Syowa Base 85.63 197 ‖ *es*P sP 13 19 25.0 -1.9
SYO Syowa Base 85.63 197 ‖ *ep*P PP 13 22 28.1 +1.1
TORD Torodi Ar. Bea 88.93 283 P **P 13 19 25.0 +0.3**
comp=Z,1.5nm,0.9s,baz=62,slow=3.5,SNR=6.3
TORD Torodi Ar. Bea 88.93 283 P **P 13 19 25.1 +0.3**
ESDC Sonseca Array 89.58 310 P **P 13 19 27.8 +0.5**
comp=Z,1.4nm,0.8s,baz=74,slow=4.6,SNR=8.2
ESDC LR LR 14 04 42.6
comp=Z,35nm,18.2s,baz=245,slow=39
IMAR Indian Mountai 91.56 22 P **P 13 19 36.9 +1.0**
VNDA Vanda 93.93 168 P **P 13 19 46.7 +0.1**
comp=Z,0.8nm,0.6s,baz=276,slow=6.8,SNR=5.1
ILAR Eielson Array 94.67 22 P **P 13 19 49.2 -1.1**
comp=Z,0.5nm,0.5s,baz=287,slow=4.2,SNR=7.9
ILAR Eielson Array 94.67 22 P **P 13 19 48.8 -1.5**
DBIC Dimbokro 96.31 278 LR LR 14 02 14.4
comp=Z,55nm,19.4s,baz=116,slow=35
PDAR Pinedale Array 125.05 20 PKP **PKiKP 13 25 30.6 0.0**
comp=Z,0.2nm,0.4s,baz=66,slow=1.1,SNR=2.2
NVAR Mina Array Bea 125.09 30 PKP **PKiKP 13 25 31.2 +0.5**
comp=Z,0.6nm,0.6s,baz=330,slow=2.2,SNR=6.6
TXAR Lajitas Array 139.18 22 PKP **PKPdf 13 25 56.7 -0.4**
comp=Z,0.3nm,0.5s,baz=245,slow=0.6,SNR=6.1
TXAR SKP **SKPdf 13 29 26.5 -1.5**
comp=Z,0.8nm,0.9s,baz=333,slow=1.0,SNR=4.6
PLCA Paso Flores 144.64 202 PKP **PKPdf 13 26 05.9 -0.5**
comp=Z,1.3nm,0.6s,baz=144,slow=2.9,SNR=3.8
CPUP Villa Florida 146.44 234 PKPbc **PKPab 13 26 12.2 +0.1**
comp=Z,0.6nm,0.5s,baz=112,slow=6.0,SNR=1.3

WEL 12 13:22:59.9±0.6, 33°S±8°×17°9W±1°8, h33km, M4.4/32, mB5.0/16, ML4.8/30, MLv4.6/32, Mw(mB)4.3/16, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.24**	**14**	P	Pn	13 23 56.8	-5.4
GLKZ				S	Sn	13 24 44.4	-6.2
MXZ	**Matakaoa Point**	**4.66**	**206**	P	Pn	13 24 10.7	+2.7
MXZ				S	Sn	13 25 04.3	+3.4
WMGZ	**Waiomatatini S**	**4.85**	**204**	P	Pn	13 24 15.3	+4.7
HAZ	**Te Kaha**	**5.04**	**209**	P	Pn	13 24 15.1	+2.0
HAZ				S	Sn	13 25 14.8	+4.6
PUZ	**Puketiti**	**5.14**	**204**	P	Pn	13 24 17.4	+2.8
RUGZ	**Raukumara Rang**	**5.26**	**209**	P	Pn	13 24 19.1	+2.8
RUGZ				S	Sn	13 25 18.4	+2.6
CNGZ	**Carnagh Statio**	**5.53**	**202**	P	Pn	13 24 22.7	+2.8
TKGZ	**Te Karaka**	**5.61**	**205**	P	Pn	13 24 23.2	+2.3
TKGZ				S	Sn	13 25 24.2	0.0
MWZ	**Matawai**	**5.63**	**208**	P	Pn	13 24 22.5	+1.1
MWZ				S	Sn	13 25 25.6	+0.6
OPRZ	**Ohinepanea**	**5.67**	**217**	P	Pn	13 24 25.8	+3.9
URZ	**Urewera**	**5.74**	**211**	P	Pn	13 24 24.0	+1.2
URZ				S	Sn	13 25 28.1	+0.5
RAGZ	**Rawiri**	**5.82**	**208**	P	Pn	13 24 22.0	-2.0
RAGZ				S	Sn	13 25 26.4	-3.2
RIGZ	**Rimuhau**	**5.88**	**205**	P	Pn	13 24 26.6	+1.9
RIGZ				S	Sn	13 25 28.9	-2.1
PRGZ	**Paritu Road**	**6.03**	**203**	P	Pn	13 24 28.9	+2.1
PRGZ				S	Sn	13 25 33.8	-0.9
MUGZ	**Murupara**	**6.07**	**212**	P	Pn	13 24 29.0	+1.6
MUGZ				S	Sn	13 25 38.2	+2.5
SNGZ	**Shannon Statio**	**6.10**	**207**	P	Pn	13 24 29.4	+1.7
SNGZ				S	Sn	13 25 33.8	-2.5
TOZ	**Tahuroa Road**	**6.17**	**224**	P	Pn	13 24 32.0	+3.4
KNZ	**Kokohu**	**6.19**	**204**	P	Pn	13 24 29.4	+0.4
KNZ				S	Sn	13 25 32.9	-5.6
RAHZ	**Arahi**	**6.31**	**208**	P	Pn	13 24 32.5	+1.8
RAHZ				S	Sn	13 25 40.4	-1.2
MTHZ	**Maungataniwha**	**6.36**	**210**	P	Pn	13 24 33.5	+2.2
MTHZ				S	Sn	13 25 42.2	-0.5
WHHZ	**Waihua**	**6.39**	**206**	P	Pn	13 24 34.4	+2.6
WHHZ				S	Sn	13 25 45.3	+1.7
NMHZ	**Naumai**	**6.58**	**209**	P	Pn	13 24 35.8	+1.4
NMHZ				S	Sn	13 25 48.9	+0.6
ARHZ	**Aropaoanui**	**6.65**	**207**	P	Pn	13 24 36.8	+1.5
ARHZ				S	Sn	13 25 50.3	+0.5
WATZ	**Wairara**	**6.75**	**217**	P	Pn	13 24 39.3	+2.6
BKZ	**Black Stump Fm**	**6.77**	**210**	P	Pn	13 24 38.0	+1.0
BKZ				S	Sn	13 25 52.8	-0.1
MCHZ	**McNeill Hill**	**6.92**	**208**	P	Pn	13 24 39.6	+0.6
MCHZ				S	Sn	13 25 57.9	+1.3
KWHZ	**Kaweka Forest**	**7.01**	**210**	P	Pn	13 24 40.5	+0.1
KWHZ				S	Sn	13 25 55.7	-3.2
HIZ	**Hauiti**	**7.07**	**222**	P	Pn	13 24 44.7	+3.6
KRVZ	**Karewarewa**	**7.09**	**215**	P	Pn	13 24 43.4	+1.8
OTVZ	**Oturere**	**7.14**	**215**	P	Pn	13 24 43.5	+1.3
KAHZ	**Kahuranaki**	**7.16**	**206**	P	Pn	13 24 43.0	+0.7
KAHZ				S	Sn	13 25 56.6	-5.9
BHHZ	**Black Hill Sta**	**7.22**	**211**	P	Pn	13 24 43.6	+0.4
BHHZ				S	Sn	13 26 00.6	-3.5
KRHZ	**Kereru**	**7.22**	**209**	P	Pn	13 24 42.7	-0.4
KRHZ				S	Sn	13 26 00.6	-3.4
FWVZ	**Far West T-bar**	**7.26**	**215**	P	Pn	13 24 44.9	+0.9
PXZ	**Pawanui**	**7.37**	**205**	P	Pn	13 24 45.1	-0.1
PXZ				S	Sn	13 26 03.4	-4.3
PNHZ	**Pukenui**	**7.52**	**209**	P	Pn	13 24 46.4	-0.8
PRHZ	**Porangahau**	**7.66**	**205**	P	Pn	13 24 48.4	-0.7
TSZ	**Takapari Road**	**7.74**	**209**	P	Pn	13 24 48.9	-1.4
ANWZ	**Angora Road**	**7.89**	**205**	P	Pn	13 24 51.2	-1.1
WAZ	**Wanganui**	**7.93**	**215**	P	Pn	13 24 53.2	+0.4
BFZ	**Birch Farm**	**8.17**	**206**	P	Pn	13 24 54.6	-1.5
TIWZ	**Tintock**	**8.38**	**207**	P	Pn	13 24 57.4	-1.7

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*IDC **12** 13:33:57.8±0.9, 11°.19N×147°.08E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/43, mbtmp3.9/7, ML5.0/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/45, Error ellipse: s-maj=36.3km s-min=18.2km az=95.0*
*NEIC **12** 13:34:03.0±2.2, 11°.29N±0°.08×147°.1E±0°.1, h56km±7km, mb4.4/10, Error ellipse: s-maj=16.6km s-min=11.0km az=89.0*

ISC 12 13:34:02.2±0.7, 11°22N±0°.09×147°0E±0°.1, h35km, n33, σ1§73/25, mb4.1/11, MS3.3/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.14**	**319**	Pn	**Pn**	**13 34 50.3**	**+1.1**
	185nm,0.3s,baz=141,slow=13,SNR=283						
GUMO				Sn	**Sn**	**13 35 24.0**	**-1.4**
	166nm,0.3s,baz=237,slow=23,SNR=8.2						
GUMO				LR	LR	13 37 19.0	
	comp=Z,116nm,18.4s,baz=222,slow=62						
GUMO	**Guam**	**3.14**	**319**		**Pn**	**13 34 50.1**	**+1.0**
GUMO				Sn	**Sn**	**13 35 25.3**	**-0.1**
PATS	**Pohnpei**	**12.00**	**110**		**Pn**	**13 36 51.0**	**+0.2**
SIJI	**Sorong**	**19.71**	**233**	LR	LR	13 44 07.9	
	comp=Z,90nm,21.8s,baz=289,slow=31						
H11S3	**WAKE ISLAND Hy**	**20.35**	**67**	T	T	13 59 37.8	
	baz=253,slow=74,SNR=166						
H11S2	**WAKE ISLAND Hy**	**20.37**	**67**	T	T	13 59 39.0	
	baz=253,slow=74,SNR=63						
H11S1	**WAKE ISLAND Hy**	**20.37**	**67**	T	T	13 59 39.0	
	baz=253,slow=74,SNR=54						
PMG	**Port Moresby**	**20.49**	**180**	P	**P**	**13 38 34.9**	**-2.4**
PMG				IAmb	IAmb	13 38 49.0	
	comp=Z,12nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**20.94**	**64**	T	T	14 00 17.3	
	baz=249,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**20.96**	**64**	T	T	14 00 24.5	
	baz=249,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**20.96**	**64**	T	T	14 00 18.6	
	baz=249,slow=75,SNR=27						
JHJ2	**Mitsune**	**22.76**	**344**	P	**P**	**13 38 57.9**	**-3.6**
JHJ	**Hachijo jima 2**	**22.78**	**344**	LR	LR	13 46 35.8	
	comp=Z,38nm,19.0s,baz=182,slow=33						
COEN	**Coen**	**25.30**	**189**	P	**P**	**13 39 23.8**	**-1.8**
MJAR	**Matsushiro Arr**	**26.43**	**344**	LR	LR	13 49 51.6	
	comp=Z,44nm,20.3s,baz=235,slow=36						
MJB9	**Matsu-Tunnel**	**26.43**	**344**	P	**P**	**13 39 30.7**	**-5.1**
MTN	**Manton Dam**	**28.62**	**214**	P	**P**	**13 39 55.1**	**-0.4**
MTN				IAmb	IAmb	13 40 04.4	
	comp=Z,15nm,1.4s						
KSRS	**Korea Array**	**31.24**	**330**	P	**P**	**13 40 19.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=143,slow=8.9,SNR=1.8						
KNRA	**Kununurra**	**32.25**	**214**	P	**P**	**13 40 26.0**	**-1.5**
KNRA				IAmb	IAmb	13 40 40.4	
	comp=Z,18nm,1.5s						
WB0	**Warramunga Arr**	**33.20**	**202**	P	**P**	**13 40 36.6**	**+0.7**
WR0	**Warramunga Arr**	**33.32**	**202**	P	**P**	**13 40 37.1**	**+0.2**
WR0				IAmb	IAmb	13 40 38.0	
	comp=Z,3.3nm,0.9s						
WB2	**Warramunga Arr**	**33.37**	**202**	P	**P**	**13 40 38.1**	**+0.8**
WB2				IAmb	IAmb	13 40 55.8	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**33.38**	**202**	P	**P**	**13 40 38.1**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=26,slow=9.6,SNR=25						
WRA	**Warramunga Arr**	**33.38**	**202**	P	**P**	**13 40 37.0**	**-0.5**
ASAR	**Alice Springs**	**36.96**	**200**	P	**P**	**13 41 09.1**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=24,slow=7.0,SNR=27						
ASAR				PcP	**PcP**	**13 43 30.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=21,slow=3.1,SNR=1.6						
STKA	**Stephens Creek**	**43.16**	**187**	P	**P**	**13 41 60.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=11,slow=9.7,SNR=3.4						
STKA	**Stephens Creek**	**43.16**	**187**	P	**P**	**13 41 59.6**	**+0.1**
URZ	**Urewera**	**56.71**	**152**	LR	LR	14 04 48.3	
	comp=Z,253nm,20.4s,baz=12,slow=33						
MKAR	**Makanchi Array**	**64.62**	**317**	P	**P**	**13 44 37.9**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=96,slow=5.8,SNR=1.7						
ILAR	**Eielson Array**	**69.83**	**25**	P	**P**	**13 45 10.0**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=252,slow=5.6,SNR=15						
ILAR	**Eielson Array**	**69.83**	**25**	P	**P**	**13 45 07.5**	**-1.4**
NVAR	**Mina Array Bea**	**86.77**	**52**	P	**P**	**13 46 44.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=269,slow=5.4,SNR=3.6						
AKASG	**Malin Array Be**	**98.13**	**325**	LR	LR	14 33 60.0	
	comp=Z,18nm,19.1s,baz=190,slow=37						

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*IDC **12** 13:38:54.1±3.4, 32°.82S×178°.33W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/35, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=75.9km s-min=48.3km az=118.0*
*NEIC **12** 13:38:59.4±1.8, 33°.1S±0°.1×178°.2W±0°.2, h59km±14km, mb4.4/12, Error ellipse: s-maj=26.5km s-min=14.4km az=77.0*

ISC 12 13:38:56.5±1.8, 33°0S±0°.1×178°1W±0°.2, h34km, n24, σ1§20/19, mb4.3/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.49**	**215**	Pn	**Pn**	**13 40 31.2**	**+1.6**
	1.5nm,0.3s,baz=260,slow=6.4,SNR=6.2						
URZ				Sn	**Sn**	**13 41 40.8**	**-1.7**
	0.6nm,0.3s,baz=36,slow=15,SNR=2.3						
URZ	**Urewera**	**6.49**	**215**		**Pn**	**13 40 31.0**	**+1.4**
LHI	**Lord Howe Isla**	**19.35**	**268**	P	**P**	**13 43 19.0**	**-0.1**
EIDS	**Eidsvold**	**27.88**	**278**	P	**P**	**13 44 41.7**	**-1.5**
EIDS				IAmb	IAmb	13 44 59.8	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**33.87**	**261**	P	**P**	**13 45 35.7**	**-0.2**
CTAO	**Charters Tower**	**34.21**	**283**	P	**P**	**13 45 40.1**	**+1.1**
CTAO				IAmb	IAmb	13 45 44.4	
	comp=Z,11nm,1.5s						
COEN	**Coen**	**39.97**	**289**	P	**P**	**13 46 26.7**	**-1.2**
COEN				IAmb	IAmb	13 46 45.2	
	comp=Z,7.5nm,1.1s						
ASAR	**Alice Springs**	**42.93**	**270**	P	**P**	**13 46 53.9**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=109,slow=7.2,SNR=9.8						
ASAR	**Alice Springs**	**42.93**	**270**	P	**P**	**13 46 51.9**	**-0.4**
WB2	**Warramunga Arr**	**44.15**	**275**	P	**P**	**13 47 02.7**	**+0.7**
WB2				IAmb	IAmb	13 47 10.4	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**44.16**	**275**	P	**P**	**13 47 03.0**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=114,slow=8.0,SNR=21						
WRA	**Warramunga Arr**	**44.16**	**275**	P	**P**	**13 47 02.6**	**+0.4**
WB0	**Warramunga Arr**	**44.19**	**275**	P	**P**	**13 47 03.6**	**+1.2**
WB0				IAmb	IAmb	13 47 12.6	
	comp=Z,7.2nm,1.3s						
FORT	**Forrest**	**45.33**	**258**	P	**P**	**13 47 11.1**	**-0.2**
FORT				IAmb	IAmb	13 47 19.8	
	comp=Z,9.1nm,0.9s						
VNDA	**Vanda**	**45.47**	**186**	P	**P**	**13 47 11.1**	**-0.6**
KNRA	**Kununurra**	**50.85**	**277**	P	**P**	**13 47 55.9**	**+1.7**
FITZ	**Fitzroy Crossi**	**52.30**	**272**	P	**P**	**13 48 06.2**	**+1.2**
FITZ				IAmb	IAmb	13 48 24.6	
	comp=Z,4.8nm,1.4s						
H03S2	**Juan Fernandez**	**79.10**	**123**	T	T	15 19 42.2	
	baz=236,slow=74,SNR=5.0						
H03S1	**Juan Fernandez**	**79.11**	**123**	T	T	15 19 38.2	
	baz=236,slow=74,SNR=4.6						
**H03

H03N1 Juan Fernandez 79.32 123 T T 15 19 46.3
baz=240,slow=72,SNR=21
FINES FINESS Array B 147.57 338 PKPbc **PKPab 13 58 38.1 -0.5**
comp=Z,1.0nm,0.8s,baz=38,slow=2.5,SNR=1.6

KRSC 12 13:51:01.9±0.9, 54°.87N×161°.74E, h24km±18km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.84 294**		*e*P	Pb	13 51 17.5	-0.3
TUMD				*e*S	Sb	13 51 28.2	-0.5
KZV	**Kizimen**	**0.87 287**		*e*P	Pb	13 51 18.0	-0.4
KZV				*e*S	Sb	13 51 28.9	-0.7
TUMR	**Tumrok**	**1.00 295**		*e*P	Pb	13 51 20.8	+0.1
TUMR				*e*S	Sn	13 51 34.1	+0.1
BZGR	**Bezymyannyi-Gr**	**1.23 331**		*e*P	Pn	13 51 23.8	+0.2
BZGR				*e*S	Sb	13 51 39.8	-0.1
KMNR	**Kamenistaya**	**1.24 317**		*e*P	Pb	13 51 24.5	-0.1
KMNR				*e*S	Sb	13 51 41.3	+1.2
ZLN	**Zelenaya**	**1.27 336**		*e*P	Pb	13 51 25.1	0.0
ZLN				*e*S	Sb	13 51 42.0	+0.9
BZWR	**Bezymyannyi-We**	**1.31 328**		*e*P	Pb	13 51 25.8	0.0
BZWR				*e*S	Sb	13 51 42.6	+0.4
KIRR	**Kirishev**	**1.35 324**		*e*P	Pb	13 51 26.4	-0.1
LGNR	**Loginova**	**1.35 334**		*e*P	Pb	13 51 26.8	+0.1
CIRR	**Tsirk**	**1.37 336**		*e*P	Pb	13 51 26.9	0.0
CIRR				*e*S	Sb	13 51 44.4	+0.4
KPT	**Kopyto**	**1.40 322**		*e*P	Pb	13 51 27.3	-0.1
KBTR	**Krutoberegovo**	**1.48 24**		*e*P	Pb	13 51 28.0	-0.6
KBTR				*e*S	Sb	13 51 46.9	0.0
KBG	**Krutoberegovo**	**1.49 21**		*e*P	Pb	13 51 29.3	+0.4
KRSR	**Krestovskiy**	**1.51 334**		*e*P	Pb	13 51 28.4	-0.8
KRSR				*e*S	Sb	13 51 47.5	-0.4
KLY	**Klyuchi**	**1.57 337**		*e*P	Pn	13 51 28.7	+0.4
KLY				*e*S	Sn	13 51 48.0	+0.2
KII	**Karymskiy**	**1.58 239**		*e*P	Pb	13 51 30.8	+0.4
KOZ	**Kozyrevsk**	**1.60 319**		*e*P	Pb	13 51 30.6	-0.1
KOZ				*e*S	Sb	13 51 51.4	+1.0
SMKR	**Semkarok**	**1.72 355**		*e*P	Pb	13 51 32.4	-0.5
SMKR				*e*S	Sb	13 51 53.9	-0.2
BDR	**Baidarnaya**	**1.73 350**		*e*P	Pb	13 51 32.4	-0.6
BDR				*e*S	Sb	13 51 54.4	+0.1
SRKR	**Sorokina**	**1.82 350**		*e*P	Pb	13 51 33.6	-0.9
SRKR				*e*S	Sb	13 51 55.9	-0.9
SRDR	**Sredinnyy**	**1.85 323**		*e*P	Pn	13 51 33.1	+1.0
ESO	**Esso**	**2.03 303**		*e*P	Pn	13 51 35.7	+1.1
ESO				*e*S	Sn	13 51 59.9	+0.7
SPN	**Mys Shipunski**	**2.04 210**		*e*P	Pn	13 51 35.7	+1.0
SPN				*e*S	Sn	13 52 00.1	+0.7
NLC	**Nalytchevo**	**2.21 221**		*e*P	Pb	13 51 39.1	-2.0
NLC				*e*S	Sb	13 52 06.3	-1.7
SDLR	**Sedlovina**	**2.32 228**		*e*P	Pb	13 51 40.9	-2.1
KRER	**Koryakskii**	**2.36 230**		*e*P	Pb	13 51 42.1	-1.7
SMAR	**Somma**	**2.36 228**		*e*P	Pb	13 51 41.8	-2.1
SMAR				*e*S	Sb	13 52 10.7	-1.9
KRX	**Arik**	**2.37 231**		*e*P	Pb	13 51 42.4	-1.4
KRX				*e*S	Sb	13 52 11.9	-0.7
AVH	**Avacha**	**2.39 229**		*e*P	Pb	13 51 42.2	-2.0
AVH				*e*S	Sb	13 52 11.7	-1.5
UGLR	**Uglovaya**	**2.39 227**		*e*P	Pb	13 51 42.2	-2.1
UGLR				*e*S	Sb	13 52 11.9	-1.4
KOK	**Koryaka**	**2.42 230**		*e*P	Pb	13 51 43.4	-1.3
BKI	**Bering**	**2.46 80**		*e*P	Pn	13 51 42.7	+2.3
BKI				*e*S	Sn	13 52 11.4	+1.7
DALK	**Dalny**	**2.55 225**		*e*P	Pn	13 51 43.8	+2.1
DALK				*e*S	Sb	13 52 15.0	-2.8
PET	**Petropavlovsk**	**2.60 226**		*e*P	Pn	13 51 44.7	+2.4
PET				*e*S	Sb	13 52 16.2	-2.9
KRMR	**Karymshinskiy**	**2.96 228**		*e*P	Pb	13 51 51.0	-2.8
KRMR				*e*S	Sb	13 52 26.8	-2.7
RUS	**Russkaya**	**3.10 219**		*e*P	Pn	13 51 51.5	+2.2
RUS				*e*S	Sn	13 52 28.1	+2.5
GRL	**Gorelyy**	**3.18 225**		*e*P	Pb	13 51 54.3	-3.5
GRL				*e*S	Sn	13 52 31.6	+3.9
MTVR	**Mutnovka**	**3.19 223**		*e*P	Pn	13 51 53.7	+3.1
MTVR				*e*S	Sn	13 52 30.7	+2.7
APC	**Apacha**	**3.34 236**		*e*P	Pn	13 51 55.7	+3.2
ASAK	**Asacha**	**3.38 224**		*e*P	Pn	13 51 56.6	+3.4
ASAK				*e*S	Sn	13 52 36.9	+4.4
KDTR	**Khodutka, Kamc**	**3.77 217**		*e*P	Pn	13 52 01.0	+2.6
KDTR				*e*S	Sn	13 52 45.4	+3.4
MIPR	**Malaya Ipel'ka**	**3.94 231**		*e*P	Pn	13 52 04.9	+4.0
ALID	**Alaid**	**5.49 226**		*e*P	Pn	13 52 27.6	+5.4

IDC 12 13:52:51.6±2.7, 7°.27N×94°.08E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/41, mbtmp3.4/5, ML3.9/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/27, Error ellipse: s-maj=92.0km s-min=26.1km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.56 132**		Pn	Pn	13 54 31.6	+2.1
0.7nm,0.3s,baz=180,slow=20,SNR=2.2							
CMAR	**Chiang Mai Arr**	**12.09 23**		Pn	Pn	13 55 45.6	+0.4
0.4nm,0.3s,baz=218,slow=14,SNR=1.9							
H08S3	**Diego Garcia H**	**26.13 236**		T	T	14 25 04.0	
baz=55,slow=75,SNR=13							
H08S2	**Diego Garcia H**	**26.13 236**		T	T	14 25 04.2	
baz=55,slow=75,SNR=11							
H08S1	**Diego Carcia H**	**26.14 236**		T	T	14 25 05.3	
baz=55,slow=75,SNR=8.7							
MKAR	**Makanchi Array**	**40.66 348**		P	P	14 00 33.8	+0.3
0.2nm,0.4s,baz=166,slow=8.1,SNR=3.2							
KSRS	**Korea Array**	**42.96 41**		LR	LR	14 20 27.2	
comp=Z,58nm,18.5s,baz=220,slow=39							
ZALV	**Zalesovo Beam**	**47.14 353**		P	P	14 01 25.2	-0.3
0.2nm,0.3s,baz=175,slow=7.2,SNR=1.9							
JAY	**Jayapura**	**47.53 100**		LR	LR	14 22 58.4	
comp=Z,113nm,18.9s,baz=81,slow=38							
WRA	**Warramunga Arr**	**47.97 125**		P	P	14 01 31.7	-0.8
0.4nm,0.9s,baz=307,slow=8.4,SNR=2.6							

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*NEIC **12** 13:53:03.8±2.9, 21°.29S±0°.06×174°.14W±0°.10, h10km±1km, mb4.5/15, Error ellipse: s-maj=16.1km s-min=9.1km az=251.0*
*IDC **12** 13:53:06.4±0.6, 21°.18S×174°.59W, h0km, mb4.2/16, mb1 4.4/18, mb1mx4.3/37, mbtmp4.2/18, ML3.8/2, MS3.9/14, Ms1 4.0/14, ms1mx3.8/32, Error ellipse: s-maj=22.3km s-min=15.7km az=131.0*
*GCMT **12** 13:53:10.8±0.4, 21°.47S±0°.04×173°.91W±0°.02, h27km, MW4.9/76, Moment Tensor Solution. s23,c28; s76,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.77±.21; $M_{\theta\theta}$-0.28±.14; $M_{\phi\phi}$-2.49±.13; $M_{r\theta}$0.61±.26; $M_{\theta\phi}$-1.14±.06; $M_{r\phi}$0.98±.18; Best double couple: $M_0$3.09500×10^{16} NP1:ϕ_s199.00000°, δ34.00000°, λ84.00000°. NP2: ϕ_s26.00000°, δ56.00000°, λ94.00000°. Principal axes: T 2.9990, Plg79.0000°, Azm311.0000°; N 0.1910, Plg3.0000°, Azm204.0000°; P -3.1920, Plg11.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 13:53:07.5±0.5, 21°.24S±0°.07×174°.5W±0°.1, h10km, n92, σ2^{s}40/77, mb4.4/22, MS4.0/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.84 64**		Pn	Pn	13 54 11.9	-8.5
NIUE				Sn	Sn	13 55 01.1	-15
AFI	**Afiamalu**	**7.75 20**		Pn	Pn	13 54 54.3	-6.2
12nm,0.3s,baz=244,slow=2.6,SNR=14							
AFI				Sn	Sn	13 56 13.5	-15
18nm,0.3s,baz=24,slow=23,SNR=6.0							
AFI	**Afiamalu**	**7.75 20**		Pn		13 54 54.8	-5.7
RIZ	**Raoul Island**	**8.54 200**		P	**Pn**	**13 55 14.8**	**+3.7**
GLKZ	**Green Lake**	**8.55 200**		P	**Pn**	**13 55 11.6**	**+0.3**
GLKZ				S	**Sn**	**13 56 47.8**	**-0.1**
RAR	**Rarotonga**	**13.78 93**		Pn	Pn	13 56 13.1	-10
12nm,0.3s,baz=244,slow=11,SNR=16							
RAR				Sn	Sn	13 58 29.6	-26
2.3nm,0.3s,baz=179,slow=4.8,SNR=2.7							
DZM	**Mont Dzumac**	**17.69 264**		P	**Pn**	**13 57 14.2**	**-0.1**
0.1nm,0.3s,baz=75,slow=22,SNR=2.0							
DZM				LR	LR	14 03 15.9	
comp=Z,763nm,19.8s,baz=97,slow=34							
DZM	**Mont Dzumac**	**17.69 264**		*e*Pn	**P**	**13 57 21.0**	**+5.9**
62nm,1.2s							
DZM				*e*LQ	LQ	14 00 51.8	
2μm,26.5s							
DZM				*e*LR	LR	14 01 37.4	
comp=Z,641nm,21.1s							
HAZ	**Te Kaha**	**17.75 200**		P	**Pn**	**13 57 13.4**	**-1.3**
HAZ				S	Sn	14 00 20.2	-12
ETAZ	**East Tamaki Re**	**18.14 208**		P	P	13 57 28.4	+8.6
WTAZ	**Waiatarua**	**18.28 209**		P	P	13 57 35.3	+14
MWZ	**Matawai**	**18.36 200**		P	**P**	**13 57 25.3**	**+3.0**
MWZ				S	Sn	14 00 32.9	-14
URZ	**Urewera**	**18.43 201**		P	**P**	**13 57 22.7**	**-0.2**
1.8nm,0.3s,baz=259,slow=5.1,SNR=2.5							
URZ				S	Sn	14 00 30.8	-18
0.4nm,0.3s,baz=328,slow=13,SNR=1.5							
URZ	**Urewera**	**18.43 201**		P	**P**	**13 57 22.2**	**-0.8**
URZ				S	Sn	14 00 33.3	-16
URZ	**Urewera**	**18.43 201**		P	**P**	**13 57 23.1**	**+0.2**
URZ				IAmb	IAmb	13 57 24.7	
comp=Z,55nm,1.3s							
KNZ	**Kokohu**	**18.94 199**		P	**Pn**	**13 57 31.3**	**+2.0**
TLZ	**Tolley Road**	**19.06 205**		P	**Pn**	**13 57 34.3**	**+3.5**
BKZ	**Black Stump Fm**	**19.45 201**		P	**P**	**13 57 32.9**	**-1.4**
HIZ	**Hauiti**	**19.49 206**		P	**Pn**	**13 57 37.8**	**+2.0**
TSZ	**Takapari Road**	**20.43 201**		P	**P**	**13 57 46.6**	**+1.6**
BFZ	**Birch Farm**	**20.90 200**		P	Pn	13 57 52.7	+0.2
HOWZ	**Holdsworth Sta**	**21.34 201**		P	**P**	**13 57 58.7**	**+4.0**
DUWZ	**D'Urville Isla**	**21.82 204**		P	P	13 58 07.2	+7.3
DUWZ				S	**S**	**14 01 55.1**	**-6.1**
TCW	**Tory Channel**	**22.05 203**		P	**P**	**13 58 01.2**	**-1.1**
TCW				S	S	14 01 53.2	-12
NNZ	**Nelson**	**22.39 204**		P	P	13 58 13.3	+7.4
NNZ				S	S	14 01 59.5	-12
QRZ	**Quartz Range**	**22.40 206**		P	**P**	**13 58 13.2**	**+7.1**
THZ	**Tophouse**	**23.04 205**		P	**P**	**13 58 17.3**	**+4.4**
THZ				S	S	14 02 11.2	-13
TBI	**Tubuai**	**23.30 100**		*e*LQ	LQ	14 02 37.4	
comp=Z,555nm,26.2s							
TBI				*e*LR	LR	14 03 41.8	
comp=Z,599nm,28.2s							
KHZ	**Kahutara**	**23.37 203**		P	**P**	**13 58 17.1**	**+1.0**
KHZ				S	**S**	**14 02 22.9**	**-6.1**
PPT2	**Papeete2**	**23.82 86**		*e*LR	LR	14 03 52.8	
comp=Z,728nm,28.2s							
PPT	**Papeete**	**23.82 86**		LR	LR	14 05 21.2	
comp=Z,204nm,19.8s,baz=271,slow=31							
LTZ	**Lake Taylor**	**24.15 204**		P	**P**	**13 58 26.6**	**+2.8**
INZ	**Inchbonnie**	**24.43 206**		P	**P**	**13 58 25.3**	**-1.0**
OXZ	**Oxford**	**24.71 204**		P	**P**	**13 58 33.4**	**+4.7**
OXZ				S	**S**	**14 02 43.7**	**-6.9**
MQZ	**McQueen's Vall**	**24.81 203**		S	**S**	**14 02 51.9**	**-0.2**
WVZ	**Waitaha Valley**	**25.01 206**		P	**P**	**13 58 33.6**	**+2.1**
RPZ	**Rata Peaks**	**25.42 205**		P	**P**	**13 58 36.6**	**+1.4**
comp=Z,6.6nm,0.5s,baz=43,slow=3.8,SNR=8.7							
RPZ	**Rata Peaks**	**25.42 205**		P	**P**	**13 58 38.7**	**+3.5**
HNR	**Honiara**	**27.21 292**		LR	LR	14 08 15.5	
comp=Z,191nm,20.1s,baz=102,slow=34							
ARMA	**Armidale**	**31.69 246**		P	**P**	**13 59 28.1**	**-3.4**
ARMA				PcP	**PcP**	**14 02 19.1**	**-4.3**
CAN	**Canberra**	**34.83 238**		P	**P**	**13 59 55.5**	**-3.2**
CAN				IAmb	IAmb	14 00 00.2	
comp=Z,7.5nm,1.2s							
TAOE	**Nuku Hiva Isla**	**35.33 75**		*e*LR	LR	14 09 16.3	
comp=Z,301nm,25.5s							
KRVT	**Keravat (AS076**	**36.56 293**		LR	LR	14 13 55.4	
comp=Z,175nm,22.0s,baz=106,slow=34							
TOO	**Toolangi**	**38.11 236**		P	**P**	**14 00 26.1**	**-0.7**
TOO				IAmb	IAmb	14 00 39.0	
comp=Z,6.9nm,1.0s							
PMG	**Port Moresby**	**38.66 282**		P	**P**	**14 00 31.6**	**+0.1**
comp=Z,9.3nm,0.8s,baz=90,slow=4.0,SNR=2.5							
PMG				LR	LR	14 14 18.5	
comp=Z,214nm,19.6s,baz=172,slow=33							
STKA	**Stephens Creek**	**40.40 245**		P	**P**	**14 00 46.1**	**+0.2**
comp=Z,1.6nm,0.5s,baz=101,slow=14,SNR=6.0							
STKA				LR	LR	14 16 27.7	
comp=Z,194nm,18.0s,baz=53,slow=35							
STKA	**Stephens Creek**	**40.40 245**		P	**P**	**14 00 44.8**	**-1.2**
COEN	**Coen**	**40.85 273**		P	**P**	**14 00 48.6**	**-1.2**
COEN				IAmb	IAmb	14 01 00.7	
comp=Z,7.4nm,1.1s							
AS31	**Alice Springs**	**47.50 257**		P	**P**	**14 01 42.9**	**-0.2**
ASAR	**Alice Springs**	**47.50 257**		P	**P**	**14 01 43.0**	**-0.1**
comp=Z,2.9nm,0.6s,baz=86,slow=8.4,SNR=45							
ASAR				PcP	**PcP**	**14 03 13.6**	**+0.3**
comp=Z,1.1nm,0.7s,baz=104,slow=4.1,SNR=2.0							
ASAR				LR	LR	14 21 11.5	
comp=Z,224nm,18.1s,baz=124,slow=36							
ASAR	**Alice Springs**	**47.50 257**		P	**P**	**14 01 42.4**	**-0.7**
WB0	**Warramunga Arr**	**47.68 262**		P	**P**	**14 01 44.5**	**0.0**
WB0				IAmb	IAmb	14 01 54.3	
comp=Z,4.8nm,0.9s							
WB2	**Warramunga Arr**	**47.69 262**		P	**P**	**14 01 45.1**	**+0.5**
WB2				IAmb	IAmb	14 02 00.1	
comp=Z,6.0nm,0.9s							
WRA	**Warramunga Arr**	**47.70 262**		P	**P**	**14 01 44.8**	**+0.1**
comp=Z,1.2nm,0.4s,baz=92,slow=5.7,SNR=96							
WRA				PcP	**PcP**	**14 03 14.4**	**+0.3**
comp=Z,0.6nm,0.5s,baz=94,slow=3.3,SNR=3.0							
WRA	**Warramunga Arr**	**47.70 262**		P	**P**	**14 01 44.3**	**-0.4**
WRA				PcP	**PcP**	**14 03 15.0**	**+1.0**
FORT	**Forrest**	**51.98 247**		P	**P**	**14 02 14.9**	**-2.2**
MTN	**Manton Dam**	**52.40 270**		P	**P**	**14 02 20.0**	**-0.4**
MTN				IAmb	IAmb	14 02 27.7	
comp=Z,7.0nm,1.0s							
KNRA	**Kununurra**	**53.83 266**		P	**P**	**14 02 31.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**56.13 262**		P	**P**	**14 02 47.8**	**+0.2**
comp=Z,1.7nm,0.5s,baz=344,slow=1.4,SNR=15							
FITZ	**Fitzroy Crossi**	**56.13 262**		P	**P**	**14 02 46.1**	**-1.5**
FITZ				IAmb	IAmb	14 02 55.1	
comp=Z,6.3nm,1.3s							
VNDA	**Vanda**	**57.49 186**		P	**P**	**14 02 57.2**	**+0.9**
comp=Z,0.6nm,0.5s,baz=14,slow=7.6,SNR=3.7							
MJAR	**Matsushiro Arr**	**72.75 322**		P	**P**	**14 04 36.4**	**+0.3**
comp=Z,2.0nm,0.6s,baz=151,slow=5.6,SNR=8.3							
MJAR				LR	LR	14 32 02.7	
comp=Z,45nm,21.5s,baz=260,slow=32							
PETK	**Petropavlovsk-**	**77.86 343**		P	**P**	**14 05 05.5**	**+0.5**
comp=Z,1.4nm,0.6s,baz=119,slow=7.6,SNR=9.1							
PETK	**Petropavlovsk-**	**77.86 343**		P	**P**	**14 05 04.6**	**-0.4**
NVAR	**Mina Array Bea**	**79.39 42**		P	**P**	**14 05 15.2**	**+1.1**
comp=Z,2.5nm,0.5s,baz=226,slow=8.2,SNR=26							
NVAR				LR	LR	14 34 54.5	
comp=Z,109nm,18.2s,baz=234,slow=32							
NVAR	**Mina Array Bea**	**79.39 42**		P	**P**	**14 05 10.2**	**-3.9**
KSRS	**Korea Array**	**79.61 317**		P	**P**	**14 05 15.5**	**+0.5**
comp=Z,0.7nm,0.6s,baz=151,slow=6.4,SNR=7.4							
KSRS				LR	LR	14 35 01.8	
comp=Z,51nm,20.7s,baz=218,slow=32							
USRK	**Ussuriysk Ar.**	**81.42 324**		LR	LR	14 36 36.4	
comp=Z,93nm,20.0s,baz=158,slow=32							
MAW	**Mawson**	**81.94 199**		P	**P**	**14 05 28.3**	**+1.3**
comp=Z,1.3nm,0.5s,baz=146,slow=4.8,SNR=4.1							
MAW	**Mawson**	**81.94 199**		P	**P**	**14 05 25.2**	**-1.8**
H03S2	**Juan Fernandez**	**82.90 123**		T	T	15 37 41.2	
baz=248,slow=74							
H03S1	**Juan Fernandez**	**82.91 123**		T	T	15 37 30.4	
baz=248							
H03S3	**Juan Fernandez**	**82.92 123**		T	T	15 37 02.5	
baz=248,slow=74							
H03N2	**Juan Fernandez**	**83.03 123**		T	T	15 37 09.3	
baz=248,slow=71,SNR=17							
H03N3	**Juan Fernandez**	**83.03 123**		T	T	15 37 12.1	
baz=248,slow=71,SNR=8.5							
H03N1	**Juan Fernandez**	**83.05 123**		T	T	15 37 34.3	
baz=248,slow=71,SNR=8.0							
TXAR	**Lajitas Array**	**84.76 56**		P	**P**	**14 05 43.0**	**+0.7**
comp=Z,0.2nm,0.6s,baz=214,slow=3.1,SNR=2.6							
TXAR	**Lajitas Array**	**84.76 56**		P	P	14 05 36.3	-6.1
SNAA	**Sanae**	**87.16 177**		P	**P**	**14 05 54.5**	**+1.0**
PDAR	**Pinedale Array**	**87.32 42**		P	**P**	**14 05 54.9**	**0.0**
comp=Z,0.3nm,0.6s,baz=172,slow=3.4,SNR=3.7							
PDAR				LR	LR	14 42 13.8	
comp=Z,79nm,18.1s,baz=308,slow=34							
VNA2	**Neumayer--Watz**	**87.64 176**		P	**P**	**14 05 57.4**	**+1.6**
ILAR	**Eielson Array**	**88.36 11**		P	**P**	**14 05 58.9**	**-0.1**
comp=Z,0.6nm,0.6s,baz=213,slow=4.8,SNR=8.5							
ILAR				LR	LR	14 39 18.6	
comp=Z,46nm,19.8s,baz=244,slow=31							
CMAR	**Chiang Mai Arr**	**93.41 288**		P	**P**	**14 06 24.1**	**+0.5**
comp=Z,0.8nm,0.3s,baz=110,slow=3.2,SNR=7.3							
LPAZ	**La Paz**	**98.79 111**		LR	LR	14 44 08.6	
comp=Z,65nm,18.5s,baz=168,slow=31							
MKAR	**Makanchi Array**	**114.06 313**		PKiKP	**PKiKP**	**14 11 46.7**	**-0.3**
comp=Z,0.2nm,0.4s,baz=139,slow=2.7,SNR=4.9							
ARCES	**ARCESS Array B**	**130.19 351**		PKP	**PKPdf**	**14 12 17.6**	**+0.5**
comp=Z,2.5nm,0.9s,baz=3.8,slow=2.7,SNR=3.7							
FINES	**FINESS Array B**	**137.34 346**		PKP	**PKPdf**	**14 12 29.8**	**-1.0**
comp=Z,2.2nm,1.0s,baz=87,slow=6.5,SNR=4.9							
AKASG	**Malin Array Be**	**145.17 333**		PKPbc	**PKPbc**	**14 12 44.7**	**0.0**
comp=Z,3.1nm,0.5s,baz=40,slow=4.2,SNR=14							
CLL	**Collm**	**149.41 351**		*i* PKPab	**PKiKP**	**14 12 58.1**	**+0.4**
comp=Z,18nm,1.5s							
CLL				*i*		14 13 06.5	
BRTR	**Keskin Array B**	**149.71 314**		PKPbc	**PKPbc**	**14 12 57.6**	**-0.3**
comp=Z,1.1nm,0.7s,baz=74,slow=5.1,SNR=2.9							
GERES	**GERESS Array B**	**151.68 348**		PKPbc	**PKPbc**	**14 13 01.2**	**-1.0**
comp=Z,0.7nm,0.7s,baz=0.0,slow=2.9,SNR=3.6							
TORD	**Torodi Ar. Bea**	**171.19 155**		PKP	**PKPdf**	**14 13 16.5**	**-0.5**
comp=Z,0.4nm,0.9s,baz=180,slow=0.1,SNR=1.9							
TORD				PKPab	**PKPab**	**14 14 36.9**	**+0.5**
comp=Z,0.5nm,0.9s,baz=192,slow=5.0,SNR=1.3							

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*IDC **12** 14:01:12.2±1.6, 13°.52N×119°.19E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/46, mbtmp3.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/16, Error ellipse: s-maj=29.7km s-min=16.9km az=155.0*
*MAN **12** 14:01:13.0, 15°.21N×122°.38E, h0km, MS3.4*
ISC 12 14:01:09.9±1.1, 15°.26N±0°.03×122°.59E±0°.08, h10km, n13, σ1^{s}00/19, mb3.0/3, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.82 230**		*e*P	**Pg**	**14 01 25.4**	**-0.4**
POLP				*e*S	**Sg**	**14 01 34.7**	**-1.8**
BALP	**Baler**	**1.09 296**		*e*P	**Pn**	**14 01 32.0**	**+0.8**
BALP				*e*S	**Sn**	**14 01 47.4**	**+1.0**
GQP	**Guinayangan**	**1.35 186**		*i*,*e*P	**Pg**	**14 01 36.7**	**+0.8**
GQP				*i* S	**Sg**	**14 01 53.6**	**+0.1**
LQP	**Lukban**	**1.53 222**		*i*,*e*P	**Pb**	**14 01 38.8**	**+0.3**
LQP				*i* S	**Sn**	**14 01 58.4**	**+0.9**
CAUP	**Cauayan**	**1.83 336**		*e*P	**Pg**	**14 01 44.7**	**-0.4**
CAUP				*e*S	**Sg**	**14 02 10.0**	**+1.2**
BOAC	**Boac**	**1.93 202**		*e*P	**Pb**	**14 01 46.0**	**+0.8**
BOAC				*e*S	**Sb**	**14 02 09.7**	**+0.4**
TGY	**Tagaytay City**	**1.97 235**		Pg	**Pb**	**14 01 46.0**	**+0.1**
140nm,0.3s,baz=197,slow=0.7,SNR=6.1							
TGY				Lg	Lg	14 02 08.5	
52nm,0.3s,baz=227,slow=13,SNR=3.6							
SMPP	**San Manuel, Pa**	**2.04 296**		*e*P	**Pb**	**14 01 46.2**	**-0.9**
SMPP				*e*S	**Sn**	**14 02 11.3**	**+1.4**
OTRP	**Odiongan**	**2.93 191**		*e*P	**Pb**	**14 02 00.7**	**-1.6**
SIJI	**Sorong**	**18.18 151**		LR	LR	14 12 05.3	
comp=Z,68nm,19.1s,baz=54,slow=35							
WRA	**Warramunga Arr**	**36.84 161**		P	**P**	**14 08 18.8**	**+0.3**
0.2nm,0.6s,baz=334,slow=10.0,SNR=2.1							
ASAR	**Alice Springs**	**40.24 164**		P	**P**	**14 08 46.2**	**-0.8**
0.2nm,0.7s,baz=342,slow=7.8,SNR=5.1							
MKAR	**Makanchi Array**	**45.91 322**		P	**P**	**14 09 31.7**	**-1.1**
0.1nm,0.6s,baz=122,slow=7.1,SNR=1.9							

IDC 12 14:03:21.4±12.0, 6°.69N×94°.30E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/46, mbtmp3.2/3, Error ellipse: s-maj=630.6km s-min=30.6km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.00 237**		T	T	14 35 33.9	
baz=55,slow=74							
H08S2	**Diego Garcia H**	**26.00 237**		T	T	14 35 34.1	
baz=55,slow=74							
H08S1	**Diego Carcia H**	**26.01 237**		T	T	14 35 36.1	
baz=55							
MKAR	**Makanchi Array**	**41.27 347**		P	P	14 11 08.3	-0.1
0.5nm,0.6s,baz=164,slow=8.2,SNR=5.4							
WRA	**Warramunga Arr**	**47.45 125**		P	P	14 11 57.4	-0.9
0.3nm,0.8s,baz=300,slow=8.1,SNR=1.7							
ASAR	**Alice Springs**	**49.04 129**		P	P	14 12 11.2	+0.7
0.1nm,0.6s,baz=301,slow=7.5,SNR=1.6							

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*IDC **12** 14:19:58.2±1.6, 21°.18S×169°.24E, h0km, mb4.0/9, mb1 4.2/10,

baz=40,SNR=525
WMOK S **Sb** 14 42 55.3 0.0
baz=40
WMOK Wichita Mounta 1.91 221 Pn 14 42 29.7 +0.6
X37A Clayton 2.22 135 Pn 14 42 34.4 +1.0
U38A Gravette 2.33 83 Pn 14 42 36.4 +1.4
R32A Long Quarter, 2.51 333 Pn 14 42 38.1 +0.6
KSU1 Kansas State U 2.95 10 P **Pn 14 42 44.0 +0.6**
baz=190,SNR=39
KSU1 Sb **Sb 14 43 27.2 +1.8**
baz=190
KSU1 Kansas State U 2.95 10 Pn 14 42 44.3 +0.8
W39A Magazine 3.00 108 P **Pn 14 42 44.7 +0.6**
baz=290,SNR=45
W39A S **Sn 14 43 20.0 -0.1**
baz=290
CBKS Cedar Bluff 3.28 324 P **Pn 14 42 48.1 +0.1**
baz=143,SNR=20
CBKS S **Sn 14 43 27.1 0.0**
baz=143
CBKS Cedar Bluff 3.28 324 Pn **Pn 14 42 48.5 +0.5**
MIAR Mount Ida 3.43 117 P **Pn 14 42 50.9 +0.9**
baz=300,SNR=42
MIAR S **Sn 14 43 31.6 +0.9**
baz=300
MIAR Mount Ida 3.43 117 Pn 14 42 51.0 +1.1
Z38A Mt. Pleasant 3.47 147 Pn 14 42 51.1 +0.5
S39A Bolivar 3.49 63 Pn 14 42 52.0 +1.1
U40A Yellville 3.56 86 P **Pn 14 42 52.2 +0.3**
baz=268,SNR=88
AMTX Amarillo 3.83 251 P **Pn 14 42 56.0 +0.3**
baz=69
AMTX Sb **Sb 14 43 54.5 +3.7**
baz=69
AMTX Amarillo 3.83 251 Pn 14 42 56.4 +0.7
X40A Basin Creek Fa 4.00 114 P **Pn 14 42 59.3 +1.5**
baz=296,SNR=16
X40A S **Sn 14 43 46.8 +2.0**
baz=296
X40A Basin Creek Fa 4.00 114 Pn **Pn 14 42 59.3 +1.5**
ABTX Abilene, Hawle 4.07 210 P **Pn 14 42 59.2 +0.4**
baz=28
ABTX S **Sn 14 43 46.5 0.0**
baz=28
WHAR Wooly Hollow 4.14 101 Pn 14 43 00.7 +0.9
WHTX Lake Whitney, 4.19 182 P **Pn 14 43 00.4 0.0**
baz=2.0,SNR=7.9
WHTX S **Sn 14 43 50.3 +0.8**
baz=2.0
WHTX Lake Whitney, 4.19 182 Pn **Pn 14 43 01.4 +1.0**
W41B Gary Mavity, V 4.20 102 P **Pn 14 43 00.8 +0.2**
baz=285,SNR=16
W41B S **Sn 14 43 50.4 +0.6**
baz=285
W41B Gary Mavity, V 4.20 102 Pn **Pn 14 43 01.4 +0.7**
237A Washetta, Mont 4.35 164 Pn **Pn 14 43 02.6 0.0**
R40A Maddies Statio 4.50 61 Pn 14 43 05.7 +1.0
Z41A Richland Creek 4.69 127 P **Pn 14 43 07.4 0.0**
baz=310
Z41A S **Sn 14 44 02.0 +0.1**
baz=310
Z41A Richland Creek 4.69 127 Pn **Pn 14 43 07.3 0.0**
LCAR Lake Charles 4.94 90 Pn 14 43 11.2 +0.3
T42A Van Buren 5.03 79 Pn 14 43 12.7 +0.6
CCM Cathedral Cave 5.16 67 P **Pn 14 43 13.3 -0.5**
baz=251
CCM Cathedral Cave 5.16 67 Pn 14 43 14.4 +0.7
BGNE Belgrade 5.26 353 P **Pn 14 43 14.8 -0.4**
baz=172
BGNE S **Sn 14 44 15.0 -0.9**
baz=172
BGNE Belgrade 5.26 353 Pn 14 43 14.5 -0.7
435B Jarrell 5.40 183 P **Pn 14 43 17.4 +0.3**
baz=2.7
FVM French Village 5.75 70 Pn 14 43 22.6 +0.7
T25A Trinidad 5.83 281 P **Pn 14 43 23.3 +0.2**
baz=97,SNR=8.4
T25A S **Sn 14 44 28.0 -2.1**
baz=97
T25A Trinidad 5.83 281 Pn 14 43 23.5 +0.4
JCT Junction City 6.08 201 P **Pn 14 43 25.8 -0.7**
baz=20
SCIA State Center 6.52 28 P **Pn 14 43 32.5 +0.1**
baz=210
SCIA State Center 6.52 28 Pn **Pn 14 43 33.1 +0.7**
S44A Carbondale 6.58 74 Pn 14 43 33.2 -0.2
OXF Oxford 6.63 102 P **Pn 14 43 33.3 -0.7**
baz=287
OXF Oxford 6.63 102 Pn 14 43 33.0 -1.0
SDCO Great Sand Dun 6.78 286 P **Pn 14 43 36.9 +0.6**
baz=101,SNR=58
SDCO S **Sn 14 44 51.2 -2.5**
baz=101
Q24A Divide 6.85 296 P **Pn 14 43 36.9 -0.4**
baz=112
P43A Skaggs, Pawnee 7.02 58 Pn 14 43 39.8 +0.5
Q44A Meyer Farm, Va 7.09 65 Pn 14 43 41.1 +0.9
ISCO Idaho Springs 7.52 301 P **Pn 14 43 46.1 -0.3**
baz=116,SNR=9.2
ISCO Idaho Springs 7.52 301 Pn 14 43 47.3 +0.9
ECSD EROS Data Cent 7.55 4 P **Pn 14 43 45.8 -0.8**
baz=184,SNR=9.9
ECSD EROS Data Cent 7.55 4 Pn 14 43 45.9 -0.8
HDIL Hopedale 7.62 53 P **Pn 14 43 47.9 +0.3**
baz=238,SNR=15
MNTX Cornudas Mount 8.10 239 P **Pn 14 43 53.4 -0.7**
baz=54,SNR=6.9
N23A Red Feather La 8.27 307 P **Pn 14 43 57.2 +0.5**
baz=122,SNR=14
SPMN Marine on St. 9.64 19 P **Pn 14 44 14.4 -0.8**
baz=202,SNR=5.7
ACSO Alum Creek Sta 11.93 66 P **Pn 14 44 45.7 -1.0**
baz=255,SNR=5.2
O51A Pataskala 12.19 67 P **Pn 14 44 49.5 -0.7**
baz=256,SNR=7.2
O58A Lewisberry 16.47 70 P **Pn 14 45 47.2 -0.4**
baz=263,SNR=6.6

*NEIC **12** 14:59:08.4±2.4, 17°.0S±0°.3×176°.9W±0°.2, h574^{km}±23^{km}, mb4.2/19, Error ellipse: s-maj=45.1km s-min=23.5km az=172.0*
*IDC **12** 14:59:23.9±8.2, 17°.17S×178°.84W, h588^{km}±107^{km}, mb3.3/5, mb1 3.6/6, mb1mx3.1/35, mbtmp4.2/6, Error ellipse: s-maj=100.3km s-min=34.6km az=155.0*
ISC 12 14:59:23.8±1.1, 17°.7S±0°.3×178°.7W±0°.2, h600^{km}, n27, σ0^{s}.79/27, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.12**	**268**	P	**P**	**15 00 42.4**	**-1.4**
SANVU	**Saraoutou**	**13.72**	**277**	P	**P**	**15 02 20.1**	**+0.1**
DZM	**Mont Dzumac**	**14.67**	**250**	P	**P**	**15 02 29.4**	**+0.3**
0.4nm,0.3s,baz=90,slow=14,SNR=3.6							
DZM	**Mont Dzumac**	**14.67**	**250**	P	**P**	**15 02 30.1**	**+1.0**
DZM				IAmb	IAmb	15 02 31.7	
comp=Z,9.0nm,1.0s							
EIDS	**Eidsvold**	**29.11**	**249**	P	**P**	**15 04 38.3**	**+0.2**
EIDS				IAmb	IAmb	15 04 39.1	
comp=Z,5.3nm,0.8s							
ARMA	**Armidale**	**29.85**	**239**	P	**P**	**15 04 44.0**	**-0.4**
ARMA				IAmb	IAmb	15 04 48.1	
comp=Z,8.0nm,1.1s							
CTAO	**Charters Tower**	**33.24**	**260**	P	**P**	**15 05 12.3**	**-0.9**
CTAO				IAmb	IAmb	15 05 14.5	
comp=Z,7.0nm,0.9s							
PMG	**Port Moresby**	**34.17**	**279**	P	**P**	**15 05 20.8**	**-0.3**
COEN	**Coen**	**36.85**	**270**	P	**P**	**15 05 43.1**	**-0.1**
COEN				IAmb	IAmb	15 05 45.4	
comp=Z,8.6nm,0.8s							
TOO	**Toolangi**	**37.13**	**230**	P	**P**	**15 05 43.5**	**-1.7**
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**15 05 58.0**	**+1.5**
comp=Z,3.0nm,0.5s,baz=58,slow=9.5,SNR=12							
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**15 05 57.3**	**+0.8**
WR0	**Warramunga Arr**	**44.24**	**259**	P	**P**	**15 06 42.4**	**+0.7**
WB0	**Warramunga Arr**	**44.39**	**260**	P	**P**	**15 06 43.1**	**+0.3**
WB2	**Warramunga Arr**	**44.42**	**259**	P	**P**	**15 06 43.2**	**+0.2**
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**15 06 43.1**	**0.0**
comp=Z,2.4nm,0.5s,baz=94,slow=6.8,SNR=98							
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**15 06 43.1**	**0.0**
AS31	**Alice Springs**	**44.61**	**254**	P	**P**	**15 06 45.5**	**+1.0**
AS31				IAmb	IAmb	15 06 45.9	
comp=Z,6.2nm,0.6s							
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**15 06 45.4**	**+0.8**
comp=Z,23nm,0.6s,baz=88,slow=8.3,SNR=409							
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**15 06 44.9**	**+0.4**
MTN	**Manton Dam**	**48.55**	**268**	P	**P**	**15 07 14.6**	**+0.4**
MTN				IAmb	IAmb	15 07 15.1	
comp=Z,4.0nm,0.7s							
FORT	**Forrest**	**49.88**	**244**	P	**P**	**15 07 23.6**	**-0.1**
KNRA	**Kununurra**	**50.26**	**264**	P	**P**	**15 07 26.9**	**+0.2**
KNRA				IAmb	IAmb	15 07 27.9	
comp=Z,9.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.82**	**260**	P	**P**	**15 07 46.2**	**+1.1**
PSA00	**Pilbara Seismi**	**57.73**	**255**	P	**P**	**15 08 18.8**	**-0.2**
PSA00				IAmb	IAmb	15 08 20.3	
comp=Z,5.7nm,0.7s							
NVAR	**Mina Array Bea**	**79.42**	**44**	P	**P**	**15 10 28.7**	**-0.6**
comp=Z,0.3nm,0.6s,baz=227,slow=8.5,SNR=3.5							
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**15 11 03.6**	**+1.0**
comp=Z,0.2nm,0.6s,baz=210,slow=7.2,SNR=5.1							

*NNC **12** 15:05:24.6±3.3, 38°.70N×57°.38E, h0^{km}, mb3.9, Error ellipse: s-maj=69.9km s-min=10.6km az=64.0*
*TEH **12** 15:05:25.3, 38°.45N×57°.23E, h8^{km}, ML3.5*
ISC 12 15:05:25.7±0.9, 38°.64N±0°.05×57°.28E±0°.06, h10^{km}, n25, σ1^{s}.23/29, 2C-3D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA0B	**ALIBECK ARRAY**	**0.97**	**137**	⇓P	**Pg**	**15 05 42.9**	**-1.4**
GYA0B				⇓S	**Sg**	**15 05 56.6**	**-0.3**
IEMG	**Emamgholi**	**1.63**	**138**	*e*Pg	**Pn**	**15 05 54.4**	**-0.4**
IEMG				*e*		15 06 25.7	
ISFR	**Sfrayin**	**1.69**	**160**	*e*Pg	**Pn**	**15 05 54.8**	**-0.7**
ISFR				*e*		15 05 56.5	
ISFR				*e*Sg	**Sn**	**15 06 16.6**	**-0.7**
IMND	**Minoodasht**	**2.03**	**228**	*e*Pn	**Pn**	**15 05 59.3**	**-0.6**
IMND				*e*		15 06 00.8	
IKRD	**Kardeh**	**2.10**	**152**	*e*		15 06 54.1	
IKRD				*e*Pn	**Pg**	**15 06 08.7**	**+2.6**
SBZV	**Sabzevar**	**2.27**	**173**	*e*Pn	**Pn**	**15 06 02.9**	**-0.5**
IAKL	**Akhelmad**	**2.35**	**150**	*e*		15 06 07.1	
IAKL				*e*Pn	**Pn**	**15 06 05.3**	**+0.7**
IPAY	**Payeh**	**2.58**	**148**	*e*Pn	**Pn**	**15 06 07.9**	**+0.2**
IMOG	**Moghan**	**3.01**	**146**	*e*Pn	**Pn**	**15 06 13.1**	**-0.7**
IMYA	**Miami**	**3.21**	**135**	*e*Pn	**Pn**	**15 06 17.0**	**+0.6**
IGLO	**Ghaloghah**	**3.48**	**233**	*e*Pn	**Pn**	**15 06 21.1**	**+1.0**
IANJ	**Anjilo**	**4.16**	**221**	*e*Pn	**Pn**	**15 06 28.5**	**-1.0**
ISHM	**Shahmirzad**	**4.26**	**230**	*e*Pn	**Pn**	**15 06 30.3**	**-0.6**
IPRN	**Peran**	**4.61**	**240**	*e*Pn	**Pn**	**15 06 35.8**	**+0.3**
TNSJ	**Nastanj**	**4.70**	**187**	*e*Pn	**Pn**	**15 06 36.2**	**-0.6**
ILAS	**Lasjerd**	**4.75**	**228**	*e*Pn	**Pn**	**15 06 38.1**	**+0.5**
TKDS	**Koohdasht(Taba**	**5.02**	**182**	*e*Pn	**Pn**	**15 06 41.3**	**+0.1**
IDMV	**Damavand**	**5.19**	**236**	*e*Pn	**Pn**	**15 06 43.2**	**-0.5**
AFRZ	**Afriz**	**5.39**	**164**	*e*Pn	**Pn**	**15 06 45.3**	**-1.1**
TPRV	**Parvadeh(Tabas**	**5.62**	**185**	*e*Pn	**Pn**	**15 06 48.7**	**-0.8**
ANAR	**Anarak**	**6.16**	**209**	*e*Pn	**Pn**	**15 06 55.4**	**-1.5**
KRSH	**Karshahi**	**6.25**	**223**	*e*Pn	**Pn**	**15 06 57.5**	**-0.6**
IRAM	**Ramesheh**	**7.91**	**212**	*e*Pn	**Pn**	**15 07 20.2**	**-0.8**
AB31	**Akbulak array**	**10.78**	**9**	⇑Pn	**Pn**	**15 08 03.0**	**+3.0**
1.0nm,0.4s,baz=199,slow=12,SNR=14							
AB31				Sn	**Sn**	**15 09 58.8**	**-1.9**
3.4nm,0.2s,baz=198,slow=23,SNR=9.4							
AKTO	**Aktyubinsk**	**11.80**	**2**	⇑Pn	**Pn**	**15 08 14.5**	**+0.5**
0.8nm,0.4s							
AKTO				⇓Sn	**Sn**	**15 10 23.2**	**-2.4**
1.4nm,0.5s							

*IDC **12** 15:06:11.7±2.3, 29°.80N×142°.57E, h0^{km}, mb3.4/3, mb1 3.6/8, mb1mx3.5/35, mbtmp3.7/8, ML3.3/5, Error ellipse: s-maj=69.8km s-min=18.7km az=74.0*
*JMA **12** 15:06:16.7±0.6, 30°.35N×142°.46E, h0^{km}, M4.0*
ISC 12 15:06:15.9±1.1, 29°.85N±0°.06×142°.5E±0°.2, h35^{km}, n16, σ1^{s}.53/23, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.75**	**186**	Pn	**Pn**	**15 06 57.6**	**0.0**
3.2nm,0.3s,baz=343,slow=14,SNR=1.7							
JCJ				Sn	**Sn**	**15 07 28.3**	**-1.3**
15nm,0.3s,baz=302,slow=19,SNR=8.4							
JHCJ	**Hachijojimakas**	**3.97**	**325**	P	**Pn**	**15 07 14.4**	**+0.2**
JHJ2	**Mitsune**	**3.99**	**325**	P	**Pn**	**15 07 14.7**	**+0.2**
JHJ	**Hachijo jima 2**	**4.01**	**325**	Pn	**Pn**	**15 07 14.9**	**+0.1**
4.5nm,0.3s,baz=248,slow=19,SNR=6.4							
JHJ				Sn	**Sn**	**15 07 59.0**	**-1.7**
15nm,0.3s,baz=75,slow=23,SNR=2.2							
JOD2	**Odawara 2**	**6.13**	**333**	P	**Pn**	**15 07 44.0**	**+0.1**
JOD2				*e*S	**Sn**	**15 08 50.2**	**-2.6**
JHU	**Hanno**	**6.58**	**336**	P	**Pn**	**15 07 50.4**	**+0.3**
JHU				*e*S	**Sn**	**15 09 00.8**	**-3.1**
JRY	**Ryogami san**	**6.86**	**335**	P	**Pn**	**15 07 55.2**	**+1.2**
JRY				*e*S	**Sn**	**15 09 09.9**	**-1.0**
JHO	**Hitachi**	**6.94**	**347**	P	**Pn**	**15 07 54.6**	**-0.5**
JAG	**Ashikaga**	**7.05**	**339**	P	**Pn**	**15 07 56.4**	**-0.1**
JAG				*e*S	**Sn**	**15 09 12.2**	**-3.2**
MJAR	**Matsushiro Arr**	**7.59**	**333**	Pn	**Pn**	**15 08 04.9**	**+0.9**
0.3nm,0.3s,baz=157,slow=10,SNR=16							
MJAR				Sn	**Sn**	**15 09 30.4**	**+1.6**
0.1nm,0.3s,baz=160,slow=18,SNR=4.0							
JNU	**Nakatsue**	**10.46**	**291**	Pn	**Pn**	**15 08 42.8**	**-0.5**
0.1nm,0.3s,baz=117,slow=6.8,SNR=2.1							
ASAJ	**Asahikawa**	**14.24**	**0**	Pn	**Pn**	**15 09 34.0**	**-1.0**
0.3nm,0.3s,baz=148,slow=11,SNR=1.7							
USRK	**Ussuriysk Ar.**	**16.59**	**333**	Pn	**P**	**15 10 09.6**	**+1.8**
baz=145,slow=21,SNR=2.3							
MKAR	**Makanchi Array**	**48.99**	**308**	P	**P**	**15 15 01.1**	**+2.1**
0.7nm,0.6s,baz=90,slow=8.8,SNR=8.1							
WRA	**Warramunga Arr**	**50.12**	**190**	P	**P**	**15 15 08.6**	**+0.8**
0.2nm,0.4s,baz=8.0,slow=7.8,SNR=2.9							
ASAR	**Alice Springs**	**53.84**	**190**	P	**P**	**15 15 35.2**	**-0.3**
0.2nm,0.7s,baz=360,slow=5.7,SNR=2.1							

*KRNET **12** 15:17:02.0±0.1, 41°.94N×79°.26E, h9^{km}, mb2.5*
*SOME **12** 15:17:02.2, 42°.02N×79°.28E, h15^{km}*
*NNC **12** 15:17:03.2±1.1, 42°.13N×79°.30E, h0^{km}, mb3.3, mpv3.1, Error ellipse: s-maj=7.2km s-min=3.7km az=149.0*
ISC 12 15:17:02.9±1.9, 42°.12N±0°.06×79°.30E±0°.05, h3^{km}±10^{km}, n44, σ1^{s}.09/73, 15C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.76**	**299**	⇑*i*P	**Pg**	**15 17 18.1**	**+0.6**
baz=11							
PRZ				⇑*i*S	**Sb**	**15 17 30.0**	**+0.2**
baz=11							
SHLS	**Shalkode**	**1.04**	**6**	*e*P	**Pn**	**15 17 24.7**	**+0.1**
14nm,0.1s							
SHLS				*e*S	**Sn**	**15 17 40.6**	**+0.7**
28nm,0.3s							
SHLS	**Shalkode**	**1.04**	**6**	P	**Pn**	**15 17 24.7**	**+0.1**
14nm,0.1s							
SHLS				S	**Sn**	**15 17 40.6**	**+0.7**
28nm,0.3s							
UZB	**Uzynbulak**	**1.05**	**349**	*e*P	**Pg**	**15 17 23.1**	**+0.1**
4.2nm,0.1s							
UZB				*e*S	**Sn**	**15 17 37.9**	**-2.1**
4.3nm,0.1s							
UZB	**Uzynbulak**	**1.05**	**349**	P	**Pg**	**15 17 23.1**	**+0.1**
4.2nm,0.1s							
UZB				S	**Sn**	**15 17 37.9**	**-2.1**
4.3nm,0.1s							
SATY	**Saty**	**1.15**	**325**	*e*P	**Pg**	**15 17 25.0**	**0.0**
2.7nm,0.1s							
SATY				*e*S	**Sn**	**15 17 41.1**	**-1.3**
16nm,0.1s							
SATY	**Saty**	**1.15**	**325**	P	**Pg**	**15 17 25.0**	**0.0**
2.7nm,0.1s							
SATY				S	**Sn**	**15 17 41.1**	**-1.3**
16nm,0.1s							
TARG	**Taragay, Kyrgy**	**1.18**	**251**	⇑*i*P	Pb	15 17 23.1	-3.2
baz=60							
TARG				⇑*i*S	**Sg**	**15 17 38.8**	**-2.1**
baz=60							
PDGK	**Podgornoye**	**1.22**	**6**	P	**Pg**	**15 17 25.9**	**-0.4**
2.7nm,0.2s							
PDGK				S	**Sn**	**15 17 42.7**	**-1.4**
4.3nm,0.3s							
PDGK	**Podgornoye**	**1.22**	**6**	⇑P	**Pg**	**15 17 26.0**	**-0.2**
1.0nm,0.2s							
PDGK				⇑S	**Sn**	**15 17 42.2**	**-1.9**
0.7nm,0.3s							
ANVS	**Anan'yevo**	**1.38**	**299**	⇓*i*P	**Pn**	**15 17 29.8**	**+0.5**
baz=6.0							
ANVS				⇓*i*S	**Sg**	**15 17 49.6**	**+2.4**
baz=6.0							
KDJ	**Kajisay**	**1.58**	**271**	⇑*e*P	**Pn**	**15 17 31.6**	**-0.4**
baz=78							
KDJ				⇑*i*S	**Sn**	**15 17 52.8**	**-0.3**
baz=78							
KOTS	**Kotyrbulak**	**1.96**	**305**	*e*P	**Pb**	**15 17 39.3**	**-0.1**
9.9nm,0.1s							
KOTS				*e*S	**Sg**	**15 18 05.9**	**0.0**
32nm,0.5s							
KOTS	**Kotyrbulak**	**1.96**	**305**	Pg	**Pb**	**15 17 39.3**	**-0.1**
9.9nm,0.1s							
KOTS				Lg	Lg	15 18 05.9	
32nm,0.5s							
MDOK	**Medeo**	**1.96**	**303**	*e*P	**Pb**	**15 17 39.2**	**-0.2**
2.0nm,0.4s							
MDOK				*e*S	**Sg**	**15 18 05.8**	**-0.2**
16nm,0.8s							
MDOK	**Medeo**	**1.96**	**303**	Pg	**Pb**	**15 17 39.2**	**-0.2**
2.0nm,0.4s							
MDOK				Lg	Lg	15 18 05.8	
16nm,0.8s							
MNBS	**Baschi**	**2.07**	**342**	*e*P	**Pg**	**15 17 42.1**	**-0.5**
14nm,0.4s							
MNBS				*e*S	**Sg**	**15 18 10.7**	**+1.4**
10.0nm,0.2s							
MNBS	**Baschi**	**2.07**	**342**	Pg	**Pg**	**15 17 42.1**	**-0.5**
14nm,0.4s							
MNBS				Lg	Lg	15 18 10.7	
10.0nm,0.2s							
IZV	**Izvestkoviy**	**2.19**	**296**	*e*P	**Pb**	**15 17 43.5**	**+0.2**
3.4nm,0.2s							
IZV				*e*S	**Sg**	**15 18 13.1**	**-0.1**
40nm,0.3s							
IZV	**Izvestkoviy**	**2.19**	**296**	Pg	**Pb**	**15 17 43.5**	**+0.2**
3.4nm,0.2s							
IZV				Lg	Lg	15 18 13.1	
40nm,0.3s							
DJR	**Jarkent**	**2.24**	**9**	*e*P	**Pb**	**15 17 44.8**	**+0.6**
5.5nm,0.2s							
DJR				*e*S	**Sg**	**15 18 15.3**	**+0.4**
22nm,0.6s							
DJR	**Jarkent**	**2.24**	**9**	Pg	**Pb**	**15 17 44.8**	**+0.6**
5.5nm,0.2s							
DJR				Lg	Lg	15 18 15.3	
22nm,0.6s							
ULHL	**Ulahol**	**2.28**	**274**	⇑*i*P	**Pn**	**15 17 43.1**	**+1.4**
baz=79							
ULHL				⇑*i*S	**Sb**	**15 18 12.7**	**-0.8**
baz=79							
MTBS	**Maitube**	**2.35**	**296**	*e*P	**Pb**	**15 17 46.1**	**+0.1**
3.7nm,0.1s							
MTBS				*e*S	**Sg**	**15 18 17.4**	**-0.9**
13nm,0.2s							
MTBS	**Maitube**	**2.35**	**296**	Pg	**Pb**	**15 17 46.1**	**+0.1**
3.7nm,0.1s							
MTBS				Lg	Lg	15 18 17.4	
13nm,0.2s							
ARXS	**Arharly**	**2.35**	**333**	*e*P	**Pb**	**15 17 46.7**	**+0.6**
5.0nm,0.2s							
ARXS				*e*S	**Sg**	**15 18 18.7**	**+0.1**
5.8nm,0.3s							
ARXS	**Arharly**	**2.35**	**333**	Pg	**Pb**	**15 17 46.7**	**+0.6**
5.0nm,0.2s							
ARXS				Lg	Lg	15 18 18.7	
5.8nm,0.3s							
CHKK	**Chushkaly**	**2.43**	**316**	*e*P	**Pb**	**15 17 47.9**	**+0.7**
2.3nm,0.1s							
CHKK				*e*S	**Sg**	**15 18 20.7**	**-0.1**
28nm,0.4s							
CHKK	**Chushkaly**	**2.43**	**316**	Pg	**Pb**	**15 17 47.9**	**+0.7**
2.3nm,0.1s							
CHKK				Lg	Lg	15 18 20.7	
28nm,0.4s							
KTBS	**Karatobe**	**2.50**	**310**	*e*P	**Pb**	**15 17 48.9**	**+0.4**
3.8nm,0.3s							
KTBS				*e*S	**Sg**	**15 18 22.2**	**-0.9**
24nm,0.4s							
KTBS	**Karatobe**	**2.50**	**310**	Pg	**Pb**	**15 17 48.9**	**+0.4**
3.8nm,0.3s							
KTBS				Lg	Lg	15 18 22.2	
24nm,0.4s							
BOOM	**Boomskoye usch**	**2.52**	**280**	⇓*i*P	**Pn**	**15 17 46.8**	**+1.8**
baz=84							
BOOM				⇓*i*S	**Sb**	**15 18 18.8**	**-1.6**
baz=84							
KST	**Kastek**	**2.63**	**292**	⇓*i*P	**Pb**	**15 17 51.0**	**+0.1**
6.1nm,0.3s							
KST				⇑*i*S	**Sg**	**15 18 26.2**	**-1.3**
14nm,0.5s							
KST	**Kastek**	**2.63**	**292**	Pg	**Pb**	**15 17 51.0**	**+0.1**
6.1nm,0.3s							
KST				Lg	Lg	15 18 26.2	
14nm,0.5s							
KUU	**Kurty**	**2.81**	**310**	*e*P	**Pb**	**15 17 54.0**	**+0.4**
2.2nm,0.1s							
KUU				*e*S	**Sg**	**15 18 31.3**	**-1.7**
26nm,0.4s							
KUU	**Kurty**	**2.81**	**310**	Pg	**Pb**	**15 17 54.0**	**+0.4**
2.2nm,0.1s							
KUU				Lg	Lg	15 18 31.3	
26nm,0.4s							
DGS	**Degeres**	**2.83**	**295**	*e*P	**Pb**	**15 17 54.3**	**+0.1**
2.2nm,0.4s							
DGS				*e*S	**Sb**	**15 18 31.8**	**+2.4**
11nm,0.4s							
DGS	**Degeres**	**2.83**	**295**	Pg	**Pb**	**15 17 54.3**	**+0.1**
2.2nm,0.4s							
DGS				Lg	Lg	15 18 31.8	
11nm,0.4s							
TKM2	**Tokmak 2**	**2.85**	**288**	⇓*i*P	**Pn**	**15 17 51.4**	**+1.8**
baz=91							
TKM2				⇓*i*S	**Sb**	**15 18 27.5**	**-2.6**
baz=91							
TKM2	**Tokmak 2**	**2.85**	**288**	⇑Pg	**Pb**	**15 17 52.9**	**-1.8**
3.6nm,1.1s							
TKM2				⇑Lg	Lg	15 18 31.2	
3.9nm,0.5s							
KZA	**Kyzart**	**3.02**	**271**	⇓*i*P	**Pn**	**15 17 52.8**	**+0.8**
baz=74							
KZA				⇓*i*S	**Sn**	**15 18 30.7**	**+1.8**
baz=74							
KAPS	**Kapalarasan**	**3.17**	**1**	*e*P	**Pb**	**15 18 00.9**	**+1.1**
0.7nm,0.4s							
KAPS				*e*S	**Sg**	**15 18 43.0**	**-1.6**
5.7nm,0.3s							
KAPS	**Kapalarasan**	**3.17**	**1**	Pg	**Pb**	**15 18 00.9**	**+1.1**
0.7nm,0.4s							
KAPS				Lg	Lg	15 18 43.0	
5.7nm,0.3s							
AML	**Almayashu**	**4.17**	**272**	⇑*i*P	**Pn**	**15 18 08.9**	**+1.1**
baz=75							
AML				⇑*i*S	**Sn**	**15 18 58.5**	**+1.2**
baz=75							

*THR **12** 15:17:29.3±0.3, 32°.50N×47°.54E, h18^{km}±5^{km}, ML3.2*
*TEH **12** 15:17:31.6, 32°.63N×47°.77E, h14^{km}, ML3.2*
*ISN **12** 15:17:31.8±0.6, 32°.71N×47°.80E, h14^{km}±4^{km}, ML3.2*
ISC 12 15:17:31.6±1.3, 32°.61N±0°.03×47°.76E±0°.03, h7^{km}±12^{km}, n31, σ1^{s}.18/37, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.41**	**280**	*e*Pg	**Pg**	**15 17 39.6**	**+0.1**
DHL1				*e*Sg	**Sb**	**15 17 47.2**	**-0.4**
SHGR	**Shooshtar-Gavs**	**1.01**	**119**	*e*Pg	**Pb**	**15 17 50.6**	**-0.8

KER	Kermanshah	1.85	344	*e*Pn	Pb	15 18 04.1	-1.7
IGHG	Ghaleghazi	1.98	330	*e*Pg	Pb	15 18 07.9	-0.3
IVIS	Veis	2.06	339	*e*		15 18 11.7	
IVIS				*e*Pn	Pb	15 18 08.9	-0.4
NSR	Nassriya	2.11	221	*e*Pn	Pb	15 18 09.0	-1.1
NSR				*e*Sn	Sb	15 18 36.0	-0.5
NSR				AML	AML	15 18 50.7	
	comp=E,436nm,0.1s						
KHMZ	Khomeyn	2.16	58	*e*Pn	Pb	15 18 09.8	-1.3
KHMZ				*e*Sg	Sg	15 18 44.3	+3.2
KHMZ	Khomeyn	2.16	58	*e*Pn	Pb	15 18 09.8	-1.3
IDHR	Dehrash	2.38	332	*e*Pn	Pb	15 18 13.7	-1.2
IDHR				*e*		15 18 16.2	
ILIN	Lien	2.40	344	*e*Pn	Pn	15 18 12.2	+0.7
ILIN				*e*		15 18 59.9	
JHBN	Jahan bin	2.49	98	*e*Pn	Pn	15 18 13.2	+0.4
JHBN				*e*		15 18 13.9	
SNGE	Sanandaj	2.50	352	*e*Pn	Pn	15 18 12.5	-0.4
SNGE	Sanandaj	2.50	352	*e*Pn	Pn	15 18 12.5	-0.4
IPIR	Pirpir	2.64	88	*e*Pn	Pn	15 18 15.6	+0.7
IPIR				*e*		15 19 03.1	
HSRG	Sareghieh	2.66	9	*e*Pn	Pb	15 18 17.7	-2.0
HSRG				*e*		15 18 58.9	
ASAO	Ashtian	2.71	44	*e*Pn	Pn	15 18 17.1	+1.4
ASAO	Ashtian	2.71	44	*e*Pn	Pn	15 18 17.1	+1.4
ROKH	ROKH	2.78	95	*e*Pn	Pn	15 18 17.1	+0.4
BHD	Baghdad	2.92	284	*e*Pn	Pn	15 18 20.0	+1.6
BHD				*e*Sn	Sn	15 18 55.0	+1.3
BHD				AML	AML	15 19 02.5	
	comp=E,269nm,0.3s						
QAM	Ghamsar	3.29	69	*e*Pn	Pn	15 18 24.8	+1.1
QABG	Abgarm-Qazvin	3.44	26	*e*Pn	Pn	15 18 27.6	+1.8
QSDN	Sirdan	4.06	16	*e*Pn	Pn	15 18 35.4	+1.1

IDC 12 15:25:49.8±57.0, 23°.05S×178°.48W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/21, mbtmp4.0/3, Error ellipse: s-maj=1032.0km s-min=162.1km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.33	247	P	P	15 32 54.5	-1.0
	0.4nm,0.2s,baz=86,slow=14,SNR=3.0						
ASAR	Alice Springs	43.55	259	P	P	15 33 55.4	-0.3
	0.7nm,0.4s,baz=93,slow=7.9,SNR=29						
WRA	Warramunga Arr	43.86	265	P	P	15 33 58.7	+0.5
	1.0nm,0.3s,baz=101,slow=8.3,SNR=58						

ISK ***12*** *15:30:26.4, 37°.35N×42°.60E, h8km, ML2.6/6*
DDA ***12*** *15:30:26.4, 37°.34N×42°.63E, h7km±3km, ML2.8*
ISC 12 15:30:26.7±1.2, 37°.35N±0°.05×42°.62E±0°.03, h7km±9km, n19, σ0°.77/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	Sirnak	0.21	316	PG	Pg	15 30 30.7	-0.3
SIRT				SG	Sg	15 30 34.7	+0.8
SIRN	Sırnak	0.22	311	*i* P	Pg	15 30 30.6	-0.7
SIRN				*i* S	Sg	15 30 35.4	+1.2
SIRN				IAML		15 30 42.0	
	comp=E,1μm,0.9s						
CUKT	Cukurca	0.79	97	PG	Pg	15 30 41.7	-0.3
CUKT				SG	Sb	15 30 54.5	+0.6
CUKT	Cukurca	0.79	97	*i* P	Pg	15 30 41.6	-0.4
CUKT				*i* S	Sn	15 30 55.5	-1.1
SRTM	Siirt_Merkez	0.85	319	*i* P	Pb	15 30 43.1	-0.7
SRTM				*i* S	Sn	15 30 57.6	-0.3
HAKT	HAKKARI	0.89	76	*i* P	Pg	15 30 43.4	-0.4
HAKT				*i* S	Sn	15 30 58.1	-1.0
AKDM	Akdamar-Van	1.02	16	Pg	Pg	15 30 46.1	-0.2
AKDM				SG	Sb	15 31 01.0	+0.6
GEVA	Gevas	1.02	20	*i* P	Pg	15 30 46.0	-0.4
GEVA				*i* S	Sb	15 31 00.1	-0.4
BLIS	Bitlis-Merkez	1.14	339	*i* P	Pn	15 30 49.3	+0.1
BLIS				*i* S	Sb	15 31 04.0	+0.2
BTMN	Batman	1.20	297	*i* P	Pn	15 30 50.7	+0.7
BTMN				*i* S	Sn	15 31 07.4	+0.8
BTMN				IAML		15 31 11.0	
	comp=N,176nm,0.8s						
BTMN				IAML		15 31 11.0	
	comp=E,187nm,0.8s						
GURO	Guroymak-BITLI	1.29	339	PN	Pg	15 30 51.1	-0.3
YOVA	Hakkari_Yksek	1.35	79	*i* P	Pb	15 30 52.1	-0.4
YOVA				*i* S	Sn	15 31 13.0	+2.6
SVAN	Silvan-Diyarba	1.38	306	PN	Pb	15 30 52.5	-0.4
SVAN	Silvan-Diyarba	1.38	306	*i* P	Pg	15 30 52.8	-0.4
SVAN				*i* S	Sg	15 31 11.8	+0.6
MARD	Mardin	1.47	269	*i* P	Pb	15 30 54.1	-0.4
MARD				*i* S	Sg	15 31 14.7	+0.6
MARD				IAML		15 31 18.0	
	comp=N,295nm,0.6s						
MARD				IAML		15 31 18.0	
	comp=E,229nm,0.9s						
MUSM	Mu-Merkez	1.63	328	*i* P	Pb	15 30 57.1	-0.1
MUSM				*i* S	Sg	15 31 18.4	-0.7
MAZI	Mazidag	1.74	274	PN	Pn	15 30 57.4	0.0
DYBB	Diyarbakir	2.06	288	PN	Pn	15 31 01.9	+0.1
SVRC	Sivrice-ELAZID	2.82	292	PN	Pn	15 31 11.9	-0.4

IDC ***12*** *15:41:43.2±0.4, 2°.90S×129°.46E, h0km, mb4.9/29, mb1 5.0/36, mb1mx4.9/48, mbtmp5.0/36, ML4.7/5, MS4.3/24, Ms1 4.3/24, ms1mx4.2/38, Error ellipse: s-maj=12.3km s-min=10.0km az=65.0*
MOS ***12*** *15:41:46.5±0.9, 2°.94S×129°.43E, h33km, mb5.3/37, Error ellipse: s-maj=9.3km s-min=5.0km az=118.2*
BJI ***12*** *15:41:47.0±0.0, 3°.00S×129°.50E, h40km, mB5.1/43, mb4.8/54, Ms4.5/37, Ms7 4.3/37*
NEIC ***12*** *15:41:48.2±2.2, 2°.94S±0°.07×129°.49E±0°.06, h35km±1km, mb5.1/58, Error ellipse: s-maj=11.8km s-min=9.6km az=24.0*
UNK ***12*** *15:41:48.7, 2°.96S×129°.45E, h39km*
GCMT ***12*** *15:41:48.2±0.2, 2°.82S±0°.01×129°.59E±0°.01, h19km, MW5.1/98, Moment Tensor Solution. s83,c109; s98,c144; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.85±.15; Mθθ-1.40±.09; Mφφ-2.45±.10; Mrθ-3.19±.27; Mrφ1.88±.06; Mθφ1.98±.22; Best double couple: M0 5.38400×10^16^ NP1:φs155.00000°, δ25.00000°, λ115.00000°. NP2:φs309.00000°, δ67.00000°, λ79.00000°. Principal axes: T 5.4920, Plg66.0000°, Azm199.0000°; N -0.2160, Plg10.0000°, Azm313.0000°; P -5.2760, Plg22.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***12*** *15:41:49.6±0.2, 3°S×2°×13°0E±°, h43km±2km, M5.0/76, mb5.2/76, mB5.5/34, MLv5.3/12, Mw(mB)5.0/34, Mwp5.2/6*
KLM ***12*** *15:41:51.0, 2°.95S×129°.50E, h44km, mb5.3*
ISC 12 15:41:48.0±0.4, 2°.95S±0°.03×129°.50E±0°.03, h30km±2km, h30km:pP-P, n394, σ1s50/437, mb5.1/117, MS4.3/34, 18C-6D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.69	236	P	Pb	15 42 01.3	-0.4
MSAI				S	Sn	15 42 16.0	+4.4
BNDI	Bandanaira	1.61	166	P	Pb	15 42 17.5	+0.4
BNDI				S	Sb	15 42 40.7	+3.6
NLAI	Namlea	2.42	263	P	Pn	15 42 27.2	+1.6
NLAI				S	Sb	15 42 57.6	-2.6
SIJI	Sorong	2.72	40	Pn	Pn	15 42 28.8	-0.9
	294nm,0.3s,baz=226,slow=18,SNR=2114						
SIJI				Sn	Sn	15 43 01.4	-0.2
	524nm,0.3s,baz=230,slow=19,SNR=21						
FAKI	Fak Fak	2.74	89	P	Pn	15 42 30.5	+0.4
FAKI				S	Sn	15 43 03.4	+1.2
FAKI	Fak Fak	2.74	89		Pn	15 42 30.6	+0.6
SANI	Sanana	3.62	284	P	Pn	15 42 40.0	-2.2
TNTI	Ternate	4.27	330	P	Pn	15 42 50.0	-1.1
TNTI	Ternate	4.27	330	Pn	Pn	15 42 50.4	-0.7
RKPI	Ransiki, Papua	4.88	73	P	Pn	15 42 59.0	-0.5
SAUI	Saumlaki	5.31	160	P	Pn	15 43 04.3	-1.1
KMSI	Cibinong	6.54	302	P	Pn	15 43 20.4	-1.9
SRPI	Serui, Papua	6.82	81	P	Pn	15 43 25.9	-0.2
	3.2nm5μm449nm,0.7s						
LUWI	Luwuk	6.99	286	P	Pn	15 43 27.8	-0.6
	2.2nm334nm,0.7s						
LUWI	Luwuk	6.99	286	Pn	Pn	15 43 27.9	-0.6

SOEI	Soe	8.53	217	P	Pn	15 43 54.0	+4.3
	6μm5μm364nm,0.9s						
MMRI	Maumere	9.17	232	P	Pn	15 44 01.8	+3.4
	4μm4μm277nm,1.3s						
SMPI	Sarmi	9.25	84	P	Pn	15 44 00.1	+0.6
	2μm1μm132nm,0.9s						
BATI	Baumata	9.25	219	Pn	Pn	15 44 03.4	+3.9
	17nm,0.3s,baz=106,slow=1.7,SNR=27						
BATI				LR	LR	15 47 41.2	
	comp=Z,9μm,20.9s,baz=42,slow=39						
BATI	Baumata	9.25	219	P	Pn	15 44 03.4	+3.9
	3μm1μm133nm,1.0s						
BNSI	Bone	9.49	261	P	Pn	15 44 04.9	+2.1
	1μm74nm,0.8s						
BKSI	Bulukumba	9.65	256	P	Pn	15 44 08.0	+3.0
	3μm3μm132nm,1.4s						
EDFI	Ende, Flores	9.67	233	P	Pn	15 44 09.7	+4.3
SPSI	Sidrap Palu	9.77	264	P	Pn	15 44 08.6	+2.0
	2μm119nm,1.0s						
KAPI	Kappang	9.94	258	Pn	Pn	15 44 09.0	0.0
	1.1nm,0.3s,baz=87,slow=11,SNR=5.6						
KAPI				Sn	Sn	15 46 00.7	+1.0
	1.4nm,0.3s,baz=85,slow=22,SNR=1.0						
KAPI				LR	LR	15 49 00.2	
	comp=Z,2μm,19.4s,baz=72,slow=44						
MTN	Manton Dam	9.96	171	P	Pn	15 44 10.2	+0.9
	baz=10,0,SNR=88						
MTN	Manton Dam	9.96	171	Pn	Pn	15 44 10.6	+1.4
KDU	Kakadu	10.11	163	P	Pn	15 44 11.0	-0.3
	baz=10,SNR=68						
MPSI	Mapaga	10.14	289	P	Pn	15 44 11.8	+0.1
	952nm126nm,0.8s						
GENI	Genyem	10.66	88	P	Pn	15 44 19.5	+0.7
	4μm400nm,0.9s						
DAV	Davao City (W)	10.70	339	Pn	Pn	15 44 18.8	-0.6
	42nm,0.3s,baz=102,slow=15,SNR=1.9						
JAY	Jayapura	11.20	88	Pn	Pn	15 44 25.0	-1.3
	4.1nm,0.3s,baz=250,slow=8.2,SNR=17						
JAY				Sn	Sn	15 46 30.9	+0.4
	0.3nm,0.3s,baz=319,slow=18,SNR=1.3						
JAY				LR	LR	15 50 07.9	
	comp=Z,3μm,19.2s,baz=286,slow=45						
JAY	Jayapura	11.20	88	P	Pn	15 44 26.7	+0.4
	640nm55nm,0.9s						
BASI	Baing, Sumba	11.43	230	P	Pn	15 44 32.2	+2.8
	3μm2μm173nm,1.0s						
WBSI	Waikabubak, Su	12.04	236	P	Pn	15 44 41.2	+3.3
	2μm179nm,0.9s						
KNRA	Kununurra	12.67	183	P	Pn	15 44 46.3	0.0
	baz=13,SNR=138						
KNRA	Kununurra	12.67	183	Pn	Pn	15 44 46.3	0.0
PLAI	Plampang	13.04	243	P	Pn	15 44 54.3	+2.9
	103nm,0.9s						
MYLDM	Lahad Datu	13.64	306	Pn	Pn	15 45 00.4	+0.8
TWSI	Taliwang, Sumb	13.80	245	P	Pn	15 45 03.8	+1.9
	2μm918nm52nm,1.2s						
BBKI	Banjar Baru	14.65	268	P	P	15 45 17.1	-2.2
MTKI	Muara Teweh, K	14.73	277	P	P	15 45 19.4	-0.9
FITZ	Fitzroy Crossi	15.52	194	Pn	Pn	15 45 22.7	-2.3
	2.6nm,0.3s,baz=0.0,slow=9.5,SNR=67						
FITZ				LR	LR	15 52 31.2	
	comp=Z,1μm,18.1s,baz=88,slow=42						
FITZ	Fitzroy Crossi	15.52	194	P	Pn	15 45 24.2	-0.8
	baz=16,SNR=90						
FITZ	Fitzroy Crossi	15.52	194	Pn	Pn	15 45 23.1	-1.8
ABJI	Asem Bagus	15.94	252	P	P	15 45 37.8	+4.1
KKM	Kota Kinabalu	16.00	304		Pn	15 45 31.6	+0.4
JAGI	Jajag, Banyuwa	16.22	250	P	Pn	15 45 35.2	+1.2
	95nm,0.9s						
JAGI	Jajag, Banyuwa	16.22	250	P	Pn	15 45 34.6	+0.6
JAGI				IAmb	IAmb	15 45 36.5	
	comp=Z,120nm,1.0s						
BLJI	Banyuglugur	16.54	253	P	P	15 45 40.9	+0.6
	comp=Z,2μmcomp=Z,204nm,0.6s						
GMJI	Gumukmas	16.83	251	P	P	15 45 43.4	-0.1
	comp=Z,109nm,0.9s						
COEN	Coen	17.38	130	P	Pn	15 45 48.2	-0.3
	baz=17,SNR=27						
COEN	Coen	17.38	130		Pn	15 45 48.2	-0.3
COEN				IAmb	IAmb	15 45 58.9	
	comp=Z,113nm,1.1s						
WB0	Warramunga Arr	17.38	164	Pn	Pn	15 45 45.9	-2.6
WB0				IAmb	IAmb	15 45 51.7	
	comp=Z,169nm,1.1s						
GRJI	Gresik	17.41	256	P	P	15 45 51.1	+1.1
	comp=Z,1μmcomp=Z,114nm,0.9s						
WRAB	Tennant Creek	17.53	165	*ce*P	Pn	15 45 48.7	-1.7
WRAB				pmax	pmax		
	comp=Z,152nm,1.7s						
WRAB	Tennant Creek	17.53	165		Pn	15 45 47.8	-2.6
WRAB				IAmb	IAmb	15 45 52.9	
	comp=Z,144nm,1.1s						
WRA	Warramunga Arr	17.54	165	P	Pn	15 45 48.3	-2.1
	comp=Z,3.9nm,0.3s,baz=341,slow=11,SNR=103						
WRA				S	Sn	15 49 00.6	-4.4
	comp=Z,1.3nm,0.3s,baz=358,slow=20,SNR=3.2						
WRA				PcP	PcP	15 50 30.5	+0.6
	baz=330,slow=1.6,SNR=1.5						
WRA	Warramunga Arr	17.54	165		Pn	15 45 47.2	-3.3
WB2	Warramunga Arr	17.54	165	P	Pn	15 45 50.7	+0.2
	baz=18						
WB2	Warramunga Arr	17.54	165	Pn	Pn	15 45 47.2	-3.3
WB2				IAmb	IAmb	15 45 53.6	
	comp=Z,105nm,0.9s						
WR0	Warramunga Arr	17.61	164	Pn	Pn	15 45 48.4	-3.0
SBUM	Sibu	18.09	287	P	P	15 45 59.0	+1.5
PWJI	Pagerwojo	18.32	253	P	P	15 45 58.8	-1.2
NGJI	Ngawi	18.49	256	P	Pn	15 46 04.9	+2.7
	comp=Z,203nm,1.7s						
PMG	Port Moresby	18.68	111	P	Pn	15 46 04.1	-0.4
	comp=Z,1.0nm,0.3s,baz=275,slow=9.4,SNR=9.4						
PMG	Port Moresby	18.68	111	*ce*P	Pn	15 46 05.7	+1.2
PMG				pmax	pmax		
	comp=Z,38nm,1.0s						
TGY	Tagaytay City	18.95	334	LR	LR	15 53 28.6	
	comp=Z,401nm,19.4s,baz=120,slow=37						
WOJI	Wonogiri, Jawa	19.12	255	P	Pn	15 46 11.5	+1.7
	comp=Z,144nm,1.1s						
SMRI	Semarang	19.42	257	P	Pn	15 46 14.3	+0.9
UGM	Wanagama	19.52	255	P	Pn	15 46 14.4	-0.3
	comp=Z,277nm,1.6s						
UGM	Wanagama	19.52	255	Pn	P	15 46 14.0	+0.7
KSM	Kuching	19.68	283	P	P	15 46 14.3	-0.8
KSM	Kuching	19.68	283	P	Pn	15 46 17.0	+0.4
YOGI	Yogyakarta	19.72	255	P	Pn	15 46 18.3	+1.3
	comp=Z,224nm,0.9s						
QIS	Mount Isa	20.08	151	P	P	15 46 19.7	+0.4
	baz=20,SNR=114						
PSA00	Pilbara Seismi	20.76	206	P	P	15 46 24.9	-1.8
PSA00				IAmb	IAmb	15 46 30.8	
	comp=Z,97nm,1.2s						
MTSU	Mount Surprise	20.94	137	P	P	15 46 29.7	+1.0
	baz=21,SNR=28						
KPJI	Karang Pucung	20.94	257	P	P	15 46 28.2	-0.5
	comp=Z,103nm,0.8s						
AS31	Alice Springs	21.03	169	P	P	15 46 29.3	-0.3
AS31				IAmb	IAmb	15 46 31.5	
	comp=Z,72nm,0.6s						
ASAR	Alice Springs	21.03	169	P	P	15 46 29.3	-0.3
	comp=Z,218nm,0.9s,baz=348,slow=10,SNR=1049						
ASAR				S	S	15 50 21.3	-1.1
	comp=Z,16nm,1.0s,baz=351,slow=19,SNR=5.9						
ASAR				PcP	PcP	15 50 36.5	+0.4
	comp=Z,4.0nm,0.5s,baz=7.3,slow=1.3,SNR=4.6						
ASAR				LR	LR	15 55 30.2	
	comp=Z,1μm,18.1s,baz=341,slow=39						
ASAR				PKiKP	PKiKP	15 58 22.9	-0.9
	comp=Z,0.6nm,0.8s,baz=6.6,slow=1.0,SNR=4.2						
ASAR	Alice Springs	21.03	169	P	P	15 46 28.6	-1.0
TPI	Tanjungpandan	21.82	270	P	P	15 46 38.8	+0.6
	comp=Z,67nm,1.0s						
WRKA	Warakurna	21.99	183	P	P	15 46 38.9	-1.0
	baz=22,SNR=274						
CISI	Cisompet, Garu	22.07	257	P	P	15 46 37.9	-3.0
CISI	Cisompet, Garu	22.07	257	P	P	15 46 38.2	-2.7
LEM	Lembang	22.14	259	P	P	15 46 40.0	-1.8
	comp=Z,54nm,0.9s,baz=87,slow=9.1,SNR=8.4						
LEM				LR	LR	15 56 59.3	
	comp=Z,2μm,18.5s,baz=94,slow=41						
LEM	Lembang	22.14	259	P	P	15 46 41.3	-0.4
	comp=Z,35nm,0.9s						
LEM	Lembang	22.14	259	P	P	15 46 40.0	-1.8
GUMO	Guam	22.42	43	P	P	15 46 43.8	-0.7
	comp=Z,16nm,0.4s,baz=292,slow=16,SNR=1.6						
GUMO				LR	LR	15 54 51.6	
	comp=Z,406nm,21.4s,baz=228,slow=35						
GUMO	Guam	22.42	43	P	P	15 46 41.8	-2.7

GUMO				IAmb	IAmb	15 46 55.3	
	comp=Z,159nm,1.2s						
KRVT	Keravat (AS076	22.52	94	P	P	15 46 44.3	-1.4
	comp=Z,68nm,0.9s,baz=180,slow=20,SNR=8.2						
KRVT				LR	LR	15 55 58.8	
	comp=Z,1μm,18.4s,baz=280,slow=38						
RABL	Rabaul	22.65	94	P	P	15 46 45.3	-1.7
RABL				IAmb	IAmb	15 46 52.6	
	comp=Z,127nm,1.1s						
CNJI	Cibinong	22.70	258	P	P	15 46 43.5	-4.0
CBJI	Citeko	22.84	261	P	P	15 46 53.5	+4.5
DBJI	Dramaga	22.95	260	P	P	15 47 01.0	+11
TNG	Tangerang	23.00	261	P	P	15 46 58.7	+8.0
PPBI	Pangkal Pinang	23.36	271	P	P	15 46 56.5	+2.2
	comp=Z,5μmcomp=Z,103nm,1.1s						
CTA	Charters Tower	23.61	137	P	P	15 46 57.1	+0.4
	comp=Z,73nm,0.9s,baz=321,slow=12,SNR=56						
CTA				PcP	PcP	15 50 43.1	+1.8
	comp=Z,7.6nm,0.8s,baz=261,slow=6.7,SNR=3.4						
CTAO	Charters Tower	23.61	137	P	P	15 46 57.5	+0.8
CTAO				pmax	pmax		
	comp=Z,109nm,1.0s						
CTAO	Charters Tower	23.61	137	P	P	15 46 57.5	+0.8
CTAO				IAmb	IAmb	15 46 59.3	
	comp=Z,109nm,1.0s						
CGJI	Cibinong	24.00	260	P	P	15 46 56.8	-3.6
GIRL	Giralia	24.55	216	P	P	15 47 05.0	-0.3
	baz=25,SNR=4.4						
KLSI		24.78	265	P	P	15 47 07.4	-0.2
	comp=Z,11nm,0.9s						
DSRI	Dabo	25.03	275	P	P	15 47 11.4	+1.5
	comp=Z,818nmcomp=Z,37nm,1.0s						
TPRI	Tanjung Pinang	25.26	278	P	P	15 47 13.4	+1.5
	comp=Z,9μmcomp=Z,77nm,0.9s						
MDSI	Maura Dua	25.32	266	P	P	15 47 13.3	+0.9
	comp=Z,38nm,0.8s						
DLV	T Lat	25.60	306	P	P	15 47 15.2	0.0
MEEK	Meekatharra	25.76	203	P	P	15 47 15.0	-1.4
	baz=26,SNR=21						
LHSI	Lahat	25.95	267	P	P	15 47 20.4	+2.2
	comp=Z,3μmcomp=Z,131nm,1.0s						
MYKOM	Kota Tinggi	26.07	280	P	P	15 47 20.0	+0.7
MYKOM				IAmb	IAmb	15 47 23.2	
	comp=Z,77nm,0.9s						
MYKOM	Kota Tinggi	26.07	280	P	P	15 47 21.0	+1.7
FORT	Forrest	27.71	183	P	P	15 47 30.6	-3.3
FORT				IAmb	IAmb	15 47 44.4	
	comp=Z,110nm,1.4s						
KRJI	Kerinci	28.03	271	P	P	15 47 38.9	+1.9
	comp=Z,3μmcomp=Z,278nm,0.8s						
SDSI	Sungai Dareh	28.13	274	P	P	15 47 38.9	+1.1
	comp=Z,31nm,0.9s						
BKNI	Bangkinang	28.64	276	P	P	15 47 43.8	+1.5
	comp=Z,129nm,1.0s						
MORW	Morawa	28.96	205	P	P	15 47 44.4	-0.6
	baz=29,SNR=9.6						
PDSI	Padang	29.09	273	P	P	15 47 46.4	0.0
	comp=Z,672nmcomp=Z,50nm,1.0s						
KMBL	Kambalda	29.16	193	P	P	15 47 45.5	-1.3
	baz=29,SNR=24						
QIZ	Qiongzhong	29.18	319	P	P	15 47 47.1	+0.1
QIZ				pP	sP	15 47 57.0	-2.3
QIZ				S	S	15 52 39.1	+1.4
QIZ				sS	sS	15 52 54.1	+2.6
QIZ				LR	LR		
	comp=Z,280nm,13.1s						
QIZ				LR	LR		
	comp=Z,170nm,10.2s						
QIZ				LR	LR		
	comp=Z,340nm,16.7s						
IPM	Ipoh	29.40	284	P	P	15 47 51.0	+1.9
RMQ	Roma	29.81	144	P	P	15 47 53.0	+0.4
	baz=30,SNR=4.8						
KULM	Kulim	29.96	286	P	P	15 47 53.7	-0.4
KULM	Kulim	29.96	286	P	P	15 47 55.0	+0.9
MNSI	Mandailing Nat	30.14	277	P	P	15 47 56.6	+0.9
	comp=Z,47nm,0.6s						
BBOO	Buckleboo	30.33	169	P	P	15 47 56.5	-0.7
	baz=30,SNR=26						
BBOO	Buckleboo	30.33	169	P	P	15 47 55.5	-1.6
BBOO				IAmb	IAmb	15 48 08.7	
	comp=Z,53nm,1.4s						
SISI	Saibi	30.43	272	P	P	15 47 58.1	-0.2
	comp=Z,86nm,1.0s						
KLBR	Kellerberrin	30.56	200	P	P	15 47 58.0	-1.2
	baz=31,SNR=18						
HNR	Honiara	30.93	103	P	P	15 48 02.7	+0.1
	comp=Z,151nm,0.9s,baz=222,slow=3.7,SNR=7.4						
STKA	Stephens Creek	30.94	160	P	P	15 48 02.3	-0.3
	comp=Z,9.8nm,0.5s,baz=341,slow=8.1,SNR=51						
STKA				LR	LR	16 02 09.1	
	comp=Z,940nm,19.1s,baz=335,slow=40						
STKA	Stephens Creek	30.94	160	P	P	15 48 02.5	0.0
	baz=31,SNR=35						
STKA	Stephens Creek	30.94	160	P	P	15 48 02.8	+0.2
STKA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
STKA	Stephens Creek	30.94	160	P	P	15 48 02.8	+0.2
RPSI	Rantau Prapat	31.08	280	P	P	15 48 02.5	-1.4
RPSI				IAmb	IAmb	15 48 12.5	
	comp=Z,30nm,0.8s						
PSI	Prapat	31.10	280	P	P	15 48 02.7	-1.6
	comp=Z,24nm,0.7s,baz=180,slow=1.9,SNR=31						
PSI				PcP	PcP	15 51 00.0	+0.5
	comp=Z,5.0nm,0.9s,baz=181,slow=3.2,SNR=3.7						
PSI				LR	LR	16 01 35.6	
	comp=Z,733nm,19.9s,baz=90,slow=38						
MUN	Mundaring	31.47	202	P	P	15 48 06.3	-0.9
	baz=32,SNR=5.0						
HTT	Hallett	31.58	165	P	P	15 48 08.4	+0.3
	baz=32,SNR=18						
NWAO	Narrogin (SRO)	31.96	200	LR	LR	16 02 02.1	
	comp=Z,879nm,20.2s,baz=42,slow=38						
NWAO	Narrogin (SR

CHTO	Chiang Mai	37.04	307	P	P	15 48 56.2 +0.6
CNB	Canberra Magne	37.10	153	P	P	15 48 58.4 +2.4
	baz=37,SNR=6.2					
TOO	Toolangi	37.45	159	P	P	15 49 00.9 +2.0
	baz=38,SNR=14					
TOO	Toolangi	37.45	159	P	P	15 49 00.1 +1.2
TOO				pmax	pmax	
	comp=Z,32nm,1.0s					
TOO	Toolangi	37.45	159	P	P	15 49 00.1 +1.2
TOO				IAmb	IAmb	15 49 01.8
	comp=Z,32nm,1.0s					
KMI	Kunming	38.12	319	⇓P	P	15 49 06.6 +1.7
KMI				pP	pP	15 49 13.9 +0.2
KMI				sP	sP	15 49 17.4 +0.1
KMI				S	S	15 54 58.2 +1.7
KMI				sS	sS	15 55 11.2 +0.8
KMI				SS	SnSn	15 57 33.7 -7.5
KMI				pmax	pmax	
	comp=Z,19nm,1.3s					
KMI				pmax	pmax	
	comp=Z,76nm,3.5s					
KMI				LR	LR	
	comp=Z,200nm,11.7s					
KMI				LR	LR	
	comp=Z,150nm,13.2s					
KMI				LR	LR	
	comp=Z,200nm,16.7s					
JWT	Wachi	38.43	8	P	P	15 49 06.8 -0.3
JWT				IAmb	IAmb	15 49 17.6
	comp=Z,20nm,0.9s					
MJAR	Matsushiro Arr	40.12	11	P	P	15 49 19.0 -2.2
	comp=Z,4.1nm,0.7s,baz=178,slow=9.1,SNR=12					
MJAR				PcP	PcP	15 51 26.2 +0.7
	comp=Z,0.7nm,0.5s,baz=196,slow=2.8,SNR=4.4					
MJAR	Matsushiro Arr	40.12	11	P	P	15 49 19.9 -1.3
MJAR						15 51 23.8
MJAR				pmax	pmax	
	comp=Z,3.0nm,0.8s					
MJAR	Matsushiro Arr	40.12	11	P	P	15 49 19.9 -1.3
MJAR					PcP	15 51 23.8 -1.7
MAJO	Matsushiro	40.12	11	*i* P	P	15 49 19.4 -1.9
MAJO	Matsushiro	40.12	11	P	P	15 49 19.0 -2.2
MAJO				IAmb	IAmb	15 49 34.9
	comp=Z,23nm,0.8s					
MAT	Matsushiro	40.12	11	P	P	15 49 19.4 -1.9
MAT				S	S	15 55 24.4 -1.5
KSRS	Korea Array	40.23	358	P	P	15 49 20.8 -1.3
	comp=Z,1.7nm,0.6s,baz=174,slow=9.7,SNR=15					
KSRS				PcP	PcP	15 51 26.8 +1.1
	comp=Z,3.2nm,0.8s,baz=181,slow=3.7,SNR=8.1					
KSRS				LR	LR	16 05 12.0
	comp=Z,475nm,20.7s,baz=180,slow=35					
DZM	Mont Dzumac	40.58	121	*e*P	P	15 49 25.5 +0.1
	comp=Z,46nm,1.2s					
DZM				*e*LR	LR	16 00 39.2
	comp=Z,629nm,22.6s					
XAN	Xi'an	41.59	334	P	P	15 49 33.2 -0.3
XAN				PP	PnPn	15 51 16.4 +1.5
XAN				pmax	pmax	
	comp=Z,6.0nm,1.0s					
XAN				pmax	pmax	
	comp=Z,100nm,6.2s					
XAN				LR	LR	
	comp=Z,340nm,15.2s					
XAN				LR	LR	
	comp=Z,160nm,15.7s					
XAN				LR	LR	
	comp=Z,360nm,18.2s					
CD2	Chengdu	41.67	326	P	P	15 49 35.3 +1.2
CD2				pP	sP	15 49 43.6 -3.0
CD2				S	S	15 55 45.2 -4.0
CD2				sS	sS	15 56 06.6 +3.4
CD2				pmax	pmax	
	comp=Z,30nm,0.4s					
CD2				LR	LR	
	comp=Z,400nm,24.4s					
CD2				LR	LR	
	comp=Z,370nm,17.2s					
CD2				LR	LR	
	comp=Z,370nm,18.7s					
JMM	Marumori	41.94	13	P	P	15 49 35.9 -0.3
JMM				IAmb	IAmb	15 49 51.0
	comp=Z,24nm,0.8s					
BJI	Beijing	44.50	345	P	P	15 49 57.1 +0.3
BJI				S	S	15 56 33.2 +3.0
BJI				pmax	pmax	
	comp=Z,10.0nm,0.4s					
BJI				LR	LR	
	comp=Z,140nm,10.8s					
BJI				LR	LR	
	comp=Z,93nm,11.8s					
BJI				LR	LR	
	comp=Z,260nm,36.4s					
LZH	Lanzhou	45.64	331	*e*P	P	15 50 07.0 +0.8
LZH				pP	sP	15 50 20.9 +2.2
LZH				sP	pP	15 50 26.0 +11
LZH				*e*PP	PP	15 51 55.1 +1.7
LZH				pmax	pmax	
	comp=Z,14nm,1.0s					
LZH				pmax	pmax	
	comp=Z,160nm,4.9s					
SHL	Shillong	46.17	310	*e*P	P	15 50 10.1 -0.5
SHL				IAmb	IAmb	15 50 11.6
	comp=Z,33nm,0.7s					
SHL	Shillong	46.17	310	P	P	15 50 09.9 -0.7
SHL				pmax	pmax	
	comp=Z,57nm,0.8s					
SHL	Shillong	46.17	310	P	P	15 50 09.9 -0.7
HHC	Hu-ho-hao-te	46.57	341	*e*P	P	15 50 13.9 +0.5
HHC				PP	PP	15 52 08.2 +4.9
HHC				S	S	15 56 55.5 -4.9
HHC				pmax	pmax	
	comp=Z,18nm,1.0s					
HHC				pmax	pmax	
	comp=Z,110nm,4.8s					
HHC				LR	LR	
	comp=Z,250nm,15.5s					
HHC				LR	LR	
	comp=Z,230nm,16.8s					
HHC				LR	LR	
	comp=Z,250nm,15.5s					
USA0B	Ussuriysk Arra	46.99	2	P	P	15 50 16.6 +0.2
USA0B				pmax	pmax	
	comp=Z,13nm,1.0s					
USA0B	Ussuriysk Arra	46.99	2	P	P	15 50 16.6 +0.2
USRK	Ussuriysk Ar.	46.99	2	P	P	15 50 15.7 -0.8
	comp=Z,3.4nm,0.7s,baz=190,slow=8.0,SNR=9.3					
USRK	Ussuriysk Ar.	46.99	2	P	P	15 50 16.7 +0.2
USRK	Ussuriysk Ar.	46.99	2	P	P	15 50 16.7 +0.2
MDJ	Mudanjiang	47.36	0	P	P	15 50 21.8 +2.5
MDJ				pP	sP	15 50 30.8 -0.9
MDJ				sP	pP	15 50 35.0 +6.9
MDJ				S	S	15 57 14.3 +3.0
MDJ				pmax	pmax	
	comp=Z,7.0nm,0.6s					
MDJ				pmax	pmax	
	comp=Z,150nm,5.0s					
MDJ				LR	LR	
	comp=Z,340nm,21.4s					
MDJ				LR	LR	
	comp=Z,190nm,18.5s					
MDJ				LR	LR	
	comp=Z,480nm,19.2s					
ASAJ	Asahikawa	48.31	13	P	P	15 50 25.6 -1.0
	comp=Z,5.7nm,1.1s,baz=216,slow=8.7,SNR=1.4					
LSA	Lhasa	48.99	314	P	P	15 50 33.0 +0.2
LSA	Lhasa	48.99	314	P	P	15 50 32.1 -0.7
LSA				pmax	pmax	
	comp=Z,25nm,0.8s					
LSA	Lhasa	48.99	314	P	P	15 50 32.1 -0.7
LSA				IAmb	IAmb	15 50 34.5
	comp=Z,25nm,0.8s					
GTA	Gaotai	50.22	330	⇑P	P	15 50 41.2 -0.4
GTA				pP	pP	15 50 50.0 -0.6
GTA				sP	sP	15 50 55.0 +0.9
GTA				PcP	PcP	15 52 01.8 +1.3
GTA				pmax	pmax	
	comp=Z,14nm,0.8s					
GTA				pmax	pmax	
	comp=Z,45nm,4.3s					
GTA				LR	LR	
	comp=Z,120nm,18.7s					
GTA				LR	LR	
	comp=Z,170nm,21.4s					
GTA				LR	LR	
	comp=Z,210nm,21.9s					
TAPN	Taplejung	50.29	310	*e*P	P	15 50 42.3 -0.2
	comp=Z,88nm,1.0s					
TAPN	Taplejung	50.29	310	*e*P	P	15 50 42.3 -0.2
	comp=Z,88nm,1.0s					
ODAN	Odare	50.29	309	*e*P	P	15 50 42.1 -0.4
	comp=Z,95nm,0.8s					
ODAN	Odare	50.29	309	*e*P	P	15 50 42.1 -0.4
	comp=Z,95nm,0.8s					
KUR	Kuril'sk	50.69	17	*d i*P	P	15 50 48.5 +3.7
KUR				MLR	MLR	
	comp=Z,256nm,19.0s					
RAMN	Ramite	50.95	309	*e*P	P	15 50 47.6 +0.1
	comp=Z,84nm,0.7s					
RAMN	Ramite	50.95	309	*e*P	P	15 50 47.6 +0.1
	comp=Z,84nm,0.7s					
YSS	Yuzh-Sakhalins	51.05	12	*e*P	P	15 50 48.4 +0.9
YSS				*e*		15 51 02.2
YSS				*e*S	S	15 58 01.0 -2.0
YSS				pmax	pmax	
	comp=Z,20nm,1.3s					
YSS				smax	smax	
	comp=E,100nm,7.2s					
JIRN	Jiri	51.62	309	*e*P	P	15 50 52.3 -0.3
	comp=E,97nm,0.9s					
JIRN	Jiri	51.62	309	*e*P	P	15 50 52.3 -0.3
	comp=E,97nm,0.9s					
PKI	Pulchoki	52.18	309	*e*P	P	15 50 55.9 -0.8
	comp=E,134nm,1.5s					
PKI	Pulchoki	52.18	309	*e*P	P	15 50 55.9 -0.8
	comp=E,134nm,1.5s					
PKIN	Phulchoki	52.19	309	*e*P	P	15 50 55.9 -0.9
	comp=E,99nm,1.5s					
PKIN	Phulchoki	52.19	309	*e*P	P	15 50 55.9 -0.9
	comp=E,99nm,1.5s					
KKN	Kakani	52.38	309	*e*P	P	15 50 57.4 -0.7
	comp=E,54nm,0.8s					
KKN	Kakani	52.38	309	*e*P	P	15 50 57.4 -0.7
	comp=E,54nm,0.8s					
DMN	Daman	52.44	308	*e*P	P	15 50 58.1 -0.5
	comp=E,63nm,0.8s					
DMN	Daman	52.44	308	*e*P	P	15 50 58.1 -0.5
	comp=E,63nm,0.8s					
GKN	Gorkha	52.99	309	*e*P	P	15 51 02.1 -0.4
	comp=E,84nm,0.9s					
GKN	Gorkha	52.99	309	*e*P	P	15 51 02.1 -0.4
	comp=E,84nm,0.9s					
DCZ	Deep Cove	53.65	148	P	P	15 51 06.2 -0.6
KOLN	Koldanda	53.69	308	*e*P	P	15 51 07.7 -0.1
	comp=E,188nm,0.8s					
KOLN	Koldanda	53.69	308	*e*P	P	15 51 07.7 -0.1
	comp=E,188nm,0.8s					
HYB	Hyderabad	54.16	294	*i* P	P	15 51 10.0 -1.2
HYB	Hyderabad	54.16	294	*e*P	P	15 51 10.0 -1.2
HYB				IAmb	IAmb	15 51 11.0
	comp=Z,15nm,0.8s					
PYUN	Piuthan	54.32	308	*e*P	P	15 51 12.2 -0.2
	comp=Z,172nm,1.0s					
PYUN	Piuthan	54.32	308	*e*P	P	15 51 12.2 -0.2
	comp=Z,172nm,1.0s					
WHZ	Wether Hill Ro	54.35	148	P	P	15 51 12.9 +1.0
SONM	Songino Array	54.47	341	P	P	15 51 12.6 -0.4
	comp=Z,5.1nm,0.7s,baz=142,slow=6.4,SNR=7.1					
SONM				PcP	PcP	15 52 17.2 +0.9
	comp=Z,0.7nm,0.4s,baz=150,slow=3.2,SNR=2.0					
RPZ	Rata Peaks	54.75	144	P	P	15 51 16.7 +1.7
ZEA	Zeya	56.52	358	*e*P	P	15 51 26.4 -1.0
ZEA				pmax	pmax	
	comp=Z,14nm,1.2s					
BHPL	Bhopal	57.01	300	*e*P	P	15 51 30.7 -0.9
BHPL				IAmb	IAmb	15 51 31.4
	comp=Z,11nm,0.7s					
ZAK	Zakamensk	57.70	340	*e*P	P	15 51 35.1 -0.9
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.4s					
SKR	Severo-Kuril's	58.09	20	*e*P	P	15 51 33.0 -5.5
SKR				*e*S	S	15 59 37.5 -0.1
SKR				pmax	pmax	
	comp=Z,200nm,5.8s					
SKR				pmax	pmax	
	comp=Z,100nm,5.9s					
SKR				MLR	MLR	
	comp=Z,200nm,16.0s					
SKR				MLR	MLR	
	comp=Z,100nm,18.0s					
TLY	Talaya	58.70	341	*e*P	P	15 51 43.9 +1.0
TLY				pmax	pmax	
	comp=Z,7.0nm,0.6s					
MOY	Mondy	59.57	340	*e*P	P	15 51 49.8 +0.8
MOY				pmax	pmax	
	comp=Z,30nm,2.2s					
WMQ	Urumqi	59.77	326	*e*P	P	15 51 50.9 +0.5
WMQ				pP	pP	15 51 58.8 -0.8
WMQ				sP	sP	15 52 05.9 +2.8
WMQ				pmax	pmax	
	comp=Z,26nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,93nm,5.5s					
WMQ				LR	LR	
	comp=Z,30nm,26.3s					
WMQ				LR	LR	
	comp=Z,73nm,22.5s					
SMLA	Simla	60.20	309	*e*P	P	15 51 53.3 -0.3
SMLA				IAmb	IAmb	15 51 55.7
	comp=Z,29nm,0.7s					
PEA0B	Petropavlovsk-	60.67	19	P	P	15 51 57.4 +1.1
PEA0B				pmax	pmax	
	comp=Z,37nm,1.0s					
PEA0B	Petropavlovsk-	60.67	19	P	P	15 51 57.4 +1.1
PETK	Petropavlovsk-	60.67	19	P	P	15 51 55.7 -0.7
	comp=Z,28nm,0.7s,baz=191,slow=5.9,SNR=98					
PETK				LR	LR	16 14 22.3
	comp=Z,239nm,21.8s,baz=205,slow=32					
PETK	Petropavlovsk-	60.67	19	P	P	15 51 57.2 +0.8
PETK	Petropavlovsk-	60.67	19	P	P	15 51 57.2 +0.8
PET	Petropavlovsk	60.91	20	*d i*P	P	15 51 59.3 +1.3
PET				*e**SP	sP	15 52 14.0 +3.4
PET				*e*S	S	16 00 15.8 +1.8
PET				pmax	pmax	
	comp=Z,82nm,0.7s					
PET				pmax	pmax	
	comp=Z,100nm,16.3s					
DHRM	DHARAMSHALA	61.33	309	*e*P	P	15 52 00.7 -0.9
DHRM				IAmb	IAmb	15 52 03.1
	comp=Z,33nm,0.8s					
BOD	Bodaibo	61.85	351	*e*P	P	15 52 04.3 +0.1
BOD				pmax	pmax	
	comp=Z,13nm,1.4s					
ZSN	Zaisan	63.59	328	*e*P	P	15 52 15.8 -0.4
	comp=Z,4.4nm,0.8s,baz=328					
ZSN	Zaisan	63.59	328	*e*P	P	15 52 15.7 -0.4
ZSN				pmax	pmax	
	comp=Z,4.0nm,0.8s					
DGZ	Jazzator, Alta	63.74	331	*c i*P	P	15 52 17.0 -0.2
DGZ				pmax	pmax	
	comp=Z,19nm,1.0s					
NIL	Nilore	64.24	310	P	P	15 52 17.8 -2.9
NIL				pmax	pmax	
	comp=Z,10.0nm,0.8s					
NIL	Nilore	64.24	310	P	P	15 52 17.8 -2.9
NIL				IAmb	IAmb	15 52 33.4
	comp=Z,9.6nm,0.8s					
SHLS	Shalkode	64.25	321	*e*P	P	15 52 18.7 -1.9
	comp=Z,11nm,0.7s,baz=322					
SHLS	Shalkode	64.25	321	*e*P	P	15 52 18.7 -1.9
SHLS				pmax	pmax	
	comp=Z,11nm,0.7s					
PDGK	Podgornoye	64.32	322	P	P	15 52 20.2 -0.9
UZB	Uzynbulak	64.52	321	⇑*i*P	P	15 52 22.0 -0.5
	comp=Z,9.3nm,1.0s,baz=321					
UZB	Uzynbulak	64.52	321	*c i*P	P	15 52 21.9 -0.5
UZB				pmax	pmax	
	comp=Z,9.0nm,1.0s					
MK31	Makanchi Array	64.60	326	P	P	15 52 22.7 0.0
MK31				pmax	pmax	
	comp=Z,16nm,0.9s					
MK31	Makanchi Array	64.60	326	P	P	15 52 22.7 0.0
MK31				IAmb	IAmb	15 52 23.5
	comp=Z,16nm,0.8s					
MKAR	Makanchi Array	64.60	326	P	P	15 52 22.1 -0.7
	comp=Z,19nm,0.7s,baz=125,slow=7.7,SNR=186					
MKAR	Makanchi Array	64.60	326	P	P	15 52 22.3 -0.5
MKAR	Makanchi Array	64.60	326	P	P	15 52 22.2 -0.5
CASY	Casey	64.61	188	P	P	15 52 21.4 -1.0
CASY				IAmb	IAmb	15 52 22.9
	comp=Z,26nm,1.2s					
KSH	Kashi	64.74	317	P	P	15 52 25.0 +1.1
KSH				S	S	16 01 04.6 +1.8
KSH				SS	SS	16 05 17.3 +2.9
KSH				pmax	pmax	
	comp=Z,19nm,0.5s					
KSH				pmax	pmax	
	comp=Z,110nm,5.4s					
KSH				LR	LR	
	comp=Z,120nm,6.0s					
KSH				LR	LR	
	comp=Z,110nm,5.1s					
KSH				LR	LR	
	comp=Z,150nm,9.7s					
MAKZ	Makanchi	64.78	326	P	P	15 52 23.7 -0.2
MAKZ				pmax	pmax	
	comp=Z,17nm,0.9s					
MAKZ	Makanchi	64.78	326	P	P	15 52 23.7 -0.2
MAKZ				IAmb	IAmb	15 52 24.6
	comp=Z,17nm,0.8s					
YAK	Yakutsk	64.80	0	*c i*P	P	15 52 23.8 +0.1
YAK				*e**PP	sP	15 52 36.1 -0.3
YAK				*e*		15 52 52.5
YAK				*e*		15 54 46.2
YAK				*e*PPP	PPP	15 56 15.8
YAK				*e*S	S	16 01 02.5 +0.1
YAK				*e**SS	sS	16 01 23.2 +5.9
YAK				*e*		16 02 16.1
YAK				*e*SS	SS	16 05 15.0 +0.8
YAK				pmax	pmax	
	comp=Z,14nm,0.6s					
YAK				pmax	pmax	
	comp=N,2.0nm,0.6s					
YAK				pmax	pmax	
	comp=E,1.0nm,0.8s					
YAK				pmax	pmax	
	comp=Z,22nm,2.5s					
YAK				pmax	pmax	
	comp=N,6.0nm,2.0s					
YAK				pmax	pmax	
	comp=E,24nm,2.5s					
YAK				smax	smax	
	comp=N,47nm,2.5s					
YAK				smax	smax	
	comp=E,17nm,2.3s					
YAK	Yakutsk	64.80	0	P	P	15 52 23.5 -0.2
SATY	Saty	64.86	321	⇑*i*P	P	15 52 24.2 -0.5
	comp=E,12nm,0.8s,baz=321					
SATY	Saty	64.86	321	*c i*P	P	15 52 24.1 -0.5
SATY				pmax	pmax	
	comp=Z,12nm,0.8s					
MDOK	Medeo	65.77	320	*i* P	P	15 52 29.8 -0.8
	baz=320					
MDOK	Medeo	65.77	320	*i* P	P	15 52 29.7 -0.8
TNSS	Tian-Shan	65.77	320	*e*P	P	15 52 30.9 -0.1
	baz=320					
TNSS	Tian-Shan	65.77	320	*e*P	P	15 52 30.8 -0.1
TDK	Taldyqorghan	65.86	323	*e*P	P	15 52 30.7 -0.3
	comp=Z,14nm,1.0s,baz=323					
TDK	Taldyqorghan	65.86	323	*e*P	P	15 52 30.6 -0.3
TDK				pmax	pmax	
	comp=Z,15nm,1.0s					
AAA	Alma-Ata	65.88	320	*e*P	P	15 52 31.1 0.0
	baz=320					
AAA	Alma-Ata	65.88	320	*e*P	P	15 52 31.1 0.0
MTBS	Maitube	66.15	320	*e*P	P	15 52 32.6 -0.3
	baz=320					
MTBS	Maitube	66.15	320	*e*P	P	15 52 32.6 -0.3
CHKK	Chushkaly	66.15	321	*e*P	P	15 52 32.1 -0.7
	baz=321					
CHKK	Chushkaly	66.15	321	*e*P	P	15 52 32.1 -0.7
KZA	Kyzart	66.41	319	P	P	15 52 35.5 +0.4
	SNR=9.9					
KUU	Kurty	66.58	321	*i* P	P	15 52 35.3 -0.3
	comp=Z,51nm,1.2s,baz=321					
KUU	Kurty	66.58	321	*i* P	P	15 52 35.3 -0.3
KUU				pmax	pmax	
	comp=Z,51nm,1.2s					
TKM2	Tokmak 2	66.58	320	P	P	15 52 35.8 0.0
	SNR=14					
TKM2	Tokmak 2	66.58	320	P	P	15 52 35.4 -0.5
AAK	Ala-Archa	67.16	319	P	P	15 52 40.2 +0.6
	SNR=5.4					
AAK	Ala-Archa	67.16	319	*i* P	P	15 52 39.6 +0.1
AAK				pmax	pmax	
	comp=Z,22nm,1.0s					
USP	Ospenovka	67.45	320	P	P	15 52 41.1 -0.1
	SNR=15					
SGDS	Sogindy	67.45	320	*e*P	P	15 52 40.9 -0.3
	comp=Z,6.9nm,1.1s,baz=320					
SGDS	Sogindy	67.45	320	*e*P	P	15 52 40.9 -0.3
SGDS				pmax	pmax	
	comp=Z,7.0nm,1.1s					
AML	Almayashu	67.46	318	P	P	15 52 41.9 +0.2
	SNR=16					
EKS2	Erkin-Say	67.65	319	P	P	15 52 42.9 +0.3
	SNR=11					
ZAA0	Zalesovo Array	67.76	333	P	P	15 52 42.0 -0.8
ZALV	Zalesovo Beam	67.76	333	P	P	15 52 41.6 -1.3
	comp=Z,26nm,0.8s,baz=110,slow=5.2,SNR=110					
ZALV				PKPPKP	P'P'df	16 21 03.5 -0.5
	comp=Z,1.2nm,0.8s,baz=251,slow=4.5,SNR=4.9					
ZALV				LR	LR	16 24 01.9
	comp=Z,94nm,20.1s,baz=125,slow=38					
ZALV	Zalesovo Beam	67.76	333	P	P	15 52 41.9 -1.0
ZALV	Zalesovo Beam	67.76	333	P	P	15 52 41.9 -1.0
SEY	Seymchan	67.95	11	*c i*P	P	15 52 44.9 +1.1
BTLS	Baital	68.57	321	⇑*i*P	P	15 52 47.6 -0.5
	comp=Z,5.0nm,1.1s,baz=321					
BTLS	Baital	68.57	321	*c i*P	P	15 52 47.6 -0.5
BTLS				pmax	pmax	
	comp=Z,5.0nm,1.1s					
KURBB	Kurchatov Arra	68.83	328	P	P	15 52 48.7 -0.9
KURK	Kurchatov	68.83	328	*c i*P	P	15 52 49.1 -0.5
KURK				pmax	pmax	
	comp=Z,94nm,1.3s					
KURK	Kurchatov	68.83	328	P	P	15 52 49.4 -0.3
DZA	Taraz	69.37	318	*e*P	P	15 52 52.4 -0.8
	baz=318					
DZA	Taraz	69.37	318	*e*P	P	15 52 52.4 -0.8
IUG	Iuzhnay	69.94	317	*e*P	P	15 52 55.8 -1.1
	comp=Z,12nm,1.3s,baz=317					
IUG	Iuzhnay	69.94	317	*e*P	P	15 52 55.7 -1.1
IUG				pmax	pmax	
	comp=Z,12nm,1.3s					
KK31	Karatay Array	70.00	318	*i* P	P	15 52 56.6 -0.5
KKAR	Karatay Array	70.00	318	P	P	15 52 56.3 -0.8
KKAR	Karatay Array	70.00	318	P	P	15 52 56.3 -0.8
ADK	Adak	71.01	32	P	P	15 53 02.5 -0.5
ADK				pmax	pmax	
	comp=Z,52nm,1.0s					
ADK	Adak	71.01	32	P	P	15 53 02.5 -0.5
BRZS	Berezniki	71.72	325	⇑*i*P	P	15 53 07.1 -0.3
	comp=Z,22nm,1.3s,baz=325					
BRZS	Berezniki	71.72	325	*c i*P	P	15 53 07.0 -0.3
BRZS				pmax	pmax	
	comp=Z,22nm,1.3s					
ATKA	Atka Island	72.50	32	P	P	15 53 11.6 -0.3
TIXI	Tiksi	74.47	360	*c e*P	P	15 53 23.5 +0.4
TIXI				pmax	pmax	
	comp=Z,7.0nm,0.8s					
TIXI	Tiksi	74.47	360	P	P	15 53 22.3 -0.8
BRVK	Borovoye	74.47	327	P	P	15 53 23.8 +0.2
BRVK				pmax	pmax	
	comp=Z,22nm,1.1s					
BRVK	Borovoye	74.47	327	P	P	15 53 23.8 +0.2
BRVK				IAmb	IAmb	15 53 33.2
	comp=Z,22nm,1.1s					
VNDA	Vanda	76.50	173	P	P	15 53 33.9 -0.8
	comp=Z,3.0nm,0.6s,baz=308,slow=6.2,SNR=14					
VNDA				LR	LR	16 26 22.2
	comp=Z,286nm,20.9s,baz=353,slow=35					
VNDA	Vanda	76.50	173	P	P	15 53 34.2 -0.5
VNDA				pmax	pmax	
	comp=Z,8.0nm,1.1s					
VNDA	Vanda	76.50	173	P	P	15 53 34.2 -0.5
GEYT	Alibeck	77.25	310	P	P	15 53 38.2 -1.5
	comp=Z,6.6nm,1.0s,baz=160,slow=4.7,SNR=11					
NRIK	Noril'sk	77.54	346	P	P	15 53 40.0 -0.7
	comp=Z,14nm,0.9s,baz=126,slow=3.1,SNR=9.0					
NRIK				LR	LR	16 28 32.9
	comp=Z,181nm,21.7s,baz=197,slow=36					
MAW	Mawson	78.52	201	P	P	15 53 45.7 -0.4
	comp=Z,12nm,0.8s,baz=58,slow=6.6,SNR=28					
MAW				LR	LR	16 28 15.6
	comp=Z,259nm,18.2s,baz=60,slow=36					
MAW	Mawson	78.52	201	P	P	15 53 46.2 0.0

baz=78,SNR=15
MAW Mawson 78.52 201 P P 15 53 46.0 -0.1
MAW pmax pmax
comp=Z,6.0nm,1.2s
MAW Mawson 78.52 201 P P 15 53 46.0 -0.1
ABKAR Akbulak array 79.05 321 P P 15 53 49.3 -0.2
PPT Papeete 80.46 107 LR LR 16 29 47.8
comp=Z,135nm,18.3s,baz=354,slow=36
AKTO Aktyubinsk 80.59 322 P P 15 53 57.1 -0.7
SVE Sverdlovsk 81.07 329 *eP* **P 15 54 00.1 -0.1**
SVE pmax pmax
comp=Z,19nm,0.8s
ARU Arti 82.03 328 P P 15 54 05.0 -0.3
ARU 15 57 12.3
ARU S **S 16 04 20.8 +3.2**
ARU SS **SS 16 09 37.0 -0.1**
AKT Akhty 85.78 312 *eP* **P 15 54 25.7 +0.8**
AKT pmax pmax
comp=Z,15nm,0.7s
QSPA South Pole Qui 87.00 180 P P 15 54 30.1 -0.3
QSPA IAmb IAmb 15 54 31.1
comp=Z,13nm,1.0s
SYO Syowa Base 87.23 201⇑ *eP* **P 15 54 29.1 -2.2**
SYO Syowa Base 87.23 201⇑ *e*PcP **PcP 15 54 33.6 +0.2**
IMAR Indian Mountai 87.30 24 P P 15 54 31.0 -0.7
KIRV Kirov 87.34 329 P P 15 54 31.4 -0.5
comp=Z,24nm,0.7s,baz=6.6,slow=1.0,SNR=8.7
SKT Skwentna 87.41 28 P P 15 54 31.8 -0.5
SKT IAmb IAmb 15 54 39.7
comp=Z,7.9nm,0.9s
BPAW Bear Paw Mtn. 88.06 26 P P 15 54 36.9 +1.5
ZEI Tsey 88.75 313 *eP* **P 15 54 39.3 -0.1**
ZEI pmax pmax
comp=Z,22nm,1.4s
RND Reindeer 88.87 26 P P 15 54 38.3 -1.0
RND pmax pmax
comp=Z,16nm,0.9s
RND Reindeer 88.87 26 P P 15 54 38.3 -1.0
RND IAmb IAmb 15 54 41.0
comp=Z,16nm,0.9s
COLD Coldfoot 88.94 23 P P 15 54 40.1 +0.6
baz=260
TOLK Toolik Lake Re 89.42 21 P P 15 54 42.6 +0.8
baz=260
CCB Clear Creek Bu 89.51 25 P P 15 54 40.4 -1.8
CCB IAmb IAmb 15 54 50.6
comp=Z,22nm,1.3s
KBZ Khabaz 89.56 314 P P 15 54 42.5 -0.4
comp=Z,4.8nm,0.9s,baz=151,slow=4.5,SNR=9.5
KIV Kislovodsk 89.73 314 *eP* **P 15 54 45.0 +1.2**
KIV pmax pmax
comp=Z,19nm,1.0s
HDA Harding Lake 89.85 26 P P 15 54 42.8 -1.0
baz=263
ILAR Eielson Array 89.92 25 P P 15 54 42.6 -1.5
comp=Z,3.4nm,0.8s,baz=268,slow=4.1,SNR=27
ILAR LR LR 16 31 51.5
comp=Z,103nm,19.4s,baz=260,slow=34
ILAR Eielson Array 89.92 25 P P 15 54 43.0 -1.1
ILAR Eielson Array 89.92 25 P P 15 54 43.0 -1.1
K27K Chicken 91.94 26 P P 15 54 55.1 +1.6
baz=267
BCAR Beaver Creek A 92.02 27 P P 15 54 53.7 -0.3
KMBO Kilima Mbogo 92.19 269 LR LR 16 33 02.7
comp=Z,253nm,20.9s,baz=94,slow=33
KLMR Klimovskoe 92.55 331 *eP* **P 15 54 53.4 -2.9**
KLMR pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 92.55 331 *eP* **P 15 54 53.5 -2.9**
KLMR AMP 15 55 04.2
comp=Z,13nm,1.0s
ANN Anapa 93.53 315 *eP* **P 15 55 01.3 +0.1**
ANN pmax pmax
comp=Z,70nm,1.1s
ASF Jabal al Asfar 93.76 302 P P 15 55 02.2 -0.6
comp=Z,2.4nm,0.8s,baz=349,slow=1.7,SNR=6.9
OBN Obninsk 94.08 325⇑ *eP* **P 15 55 02.6 -0.9**
OBN *PP **pP** 15 55 10.0 -3.1
OBN pmax pmax
comp=Z,11nm,0.6s
EPYK Eagle Plains 94.20 24 P P 15 55 05.0 +1.1
baz=272
APA Apatity 95.05 337⇓ *iP* P 15 55 15.4 +7.7
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,600nm,20.0s
BRTR Keskin Array B 96.39 309 P P 15 55 13.4 -1.3
comp=Z,1.5nm,0.8s,baz=81,slow=8.9,SNR=4.2
BRTR LR LR 16 45 20.6
comp=Z,32nm,20.6s,baz=91,slow=40
ARCES ARCESS Array B 97.63 340 P Pdif 15 55 19.6 +0.1
comp=Z,11nm,1.1s,baz=69,slow=8.3,SNR=5.0
AKASG Malin Array Be 98.79 321 P P 15 55 24.9 -0.1
comp=Z,0.4nm,0.4s,baz=66,slow=4.4,SNR=1.7
AKASG LR LR 16 45 37.4
comp=Z,26nm,18.5s,baz=65,slow=39
FINES FINESS Array B 98.99 332 P P 15 55 23.2 -2.4
comp=Z,2.1nm,0.8s,baz=108,slow=4.5,SNR=4.5
FINES FINESS Array B 98.99 332 P P 15 55 22.6 -3.0
SNAA Sanae 99.46 194 Pdiff **Pdif 15 55 27.3 -0.4**
VNA2 Neumayer--Watz 101.04 193 Pdiff **Pdif 15 55 36.4 +1.8**
BOSA Boshof 101.05 240 P Pdif 15 55 35.0 -0.8
comp=Z,4.0nm,0.9s,baz=83,slow=12,SNR=3.8
VNA3 Neumayer Olymp 101.31 192 Pdiff **Pdif 15 55 39.5 +3.6**
MLR Muntele Rosu 101.60 316 P Pdif 15 55 36.9 -0.9
comp=Z,1.7nm,0.5s,baz=170,slow=0.9,SNR=4.4
HFS Hagfors 105.18 332 Pdiff **Pdif 15 55 52.1 -1.1**
comp=Z,2.3nm,0.8s,baz=107,slow=5.0,SNR=2.9
NB2 NORSAR Subarra 105.96 334 P Pdif 15 55 55.2 -1.6
comp=Z,2.2nm,1.0s,baz=69,slow=4.4
NB2 NORSAR Subarra 105.96 334 P Pdif 15 55 55.2 -1.6
baz=69,slow=4.4
NOA NORSAR Array B 105.96 334 Pdiff **Pdif 15 55 55.5 -1.3**
comp=Z,1.0nm,0.8s,baz=68,slow=4.6,SNR=5.5
CLL Collm 108.63 324 *e*PKiKP **PKiKP 16 00 12.0 -2.1**
CLL LmV 16 59 00.0
comp=Z,200nm,18.6s
GERES GERESS Array B 109.00 321 PKiKP **PKiKP 16 00 15.8 +0.7**
comp=Z,0.3nm,0.4s,baz=118,slow=2.0,SNR=4.1
NVAR Mina Array Bea 109.14 50 PKKPbc PKKPbc 16 11 22.8 -0.7
comp=Z,0.5nm,0.7s,baz=91,slow=5.9,SNR=4.2
NVAR PKKP **PKKPdf 16 11 36.2 -2.7**
comp=Z,0.4nm,0.6s,baz=106,slow=5.1,SNR=4.0
PDAR Pinedale Array 114.38 44 PKiKP **PKiKP 16 00 25.9 +0.3**
comp=Z,0.7nm,0.8s,baz=21,slow=2.1,SNR=5.0
PDAR PKKPbc **PKKPbc 16 11 04.5 -1.9**
comp=Z,0.5nm,0.7s,baz=113,slow=2.3,SNR=4.1
MNTX Cornudas Mount 121.09 55 P PKiKP 16 00 39.3 +0.6
baz=288
ECSD EROS Data Cent 122.48 38 P PKPdf 16 00 40.8 -0.1
baz=302
TXAR Lajitas Array 123.21 57 PKP **PKPdf 16 00 42.9 +0.1**
comp=Z,1.4nm,0.9s,baz=265,slow=1.3,SNR=11
TXAR PKKPab **PKKPab 16 10 32.5 -0.8**
comp=Z,0.4nm,0.7s,baz=103,slow=4.0,SNR=5.8
TORD Torodi Ar. Bea 127.44 284 PKP **PKPdf 16 00 50.9 -0.2**
comp=Z,4.4nm,0.9s,baz=30,slow=1.9,SNR=18
U40A Yellville 128.75 44 P PKiKP 16 00 53.8 0.0
baz=300
CHGQ Chibougamau 129.01 20 P PKiKP 16 00 53.7 -0.2
baz=329
PLCA Paso Flores 132.82 159 PKP **PKPdf 16 01 01.1 +0.3**
comp=Z,6.3nm,0.8s,baz=179,slow=4.4,SNR=12
KIC Kosan Boka 134.28 276 *e*PKiKP **PKiKP 16 01 05.2 -0.3**
comp=Z,35nm,1.4s
G62A West of Eustis 134.37 20 P PKiKP 16 01 05.1 +0.2
baz=332
DBIC Dimbokro 134.38 276 PKP **PKPdf 16 01 04.2 -0.1**
comp=Z,7.0nm,1.0s,baz=358,slow=0.2,SNR=5.1
N55A Marion Center 134.41 30 P PKiKP 16 01 04.9 -0.2
baz=318
K58A Earlville 134.46 26 P PKiKP 16 01 04.5 -0.6
baz=324
TIC Toumodi 134.55 276 *e*PKiKP **PKiKP 16 01 05.9 -0.2**
LIC Lamto 134.57 276 *e*PKiKP **PKiKP 16 01 05.6 -0.5**
comp=Z,34nm,1.1s
LRAL Lakeview Retre 134.60 45 P PKPdf 16 01 04.9 +0.7
baz=304
AC05 El Transito 143.13 150 PKPdf PKPbc 16 01 18.4 +1.4
JTS Las Juntas de 145.03 76 PKiKP **PKPdf 16 01 24.6 +0.9**
JTS Las Juntas de 145.03 76 PKPdf 16 01 24.6 +0.9
CPUP Villa Florida 150.15 168 PKP **PKPdf 16 01 32.4 +0.6**
comp=Z,7.7nm,1.1s,baz=138,slow=0.8,SNR=8.4
CPUP PKPbc **PKiKP 16 01 37.5 -0.2**
comp=Z,27nm,0.9s,baz=217,slow=2.4,SNR=40
CPUP Villa Florida 150.15 168 PKiKP 16 01 38.0 +0.3
LPAZ La Paz 154.13 138 PKP **PKPdf 16 01 38.7 -0.1**
comp=Z,1.9nm,0.9s,baz=304,slow=5.5,SNR=4.5
LPAZ PKPbc **pPKPdf 16 01 47.7 -0.9**
comp=Z,5.5nm,0.8s,baz=179,slow=2.1,SNR=12

IDC 12 15:54:02.0±3.9, 4.72N×123.99E, h430km±48km, mb3.2/4, mb1 3.4/4, mb1mx2.8/48, mbtmp4.1/4, Error ellipse: s-maj=227.1km s-min=13.1km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.53**	**158**	P	P	15 59 03.2	-0.2
1.5nm,0.3s,baz=335,slow=9.8,SNR=42							
WRA				S	S	16 03 06.9	+0.6
0.2nm,0.4s,baz=340,slow=14,SNR=1.6							
ASAR	**Alice Springs**	**29.82**	**161**	P	P	15 59 32.1	-0.2
0.6nm,0.4s,baz=340,slow=7.1,SNR=34							
STKA	**Stephens Creek**	**40.07**	**156**	P	P	16 00 58.8	+0.4
0.8nm,0.3s,baz=319,slow=8.5,SNR=4.6							
MKAR	**Makanchi Array**	**55.21**	**326**	P	P	16 02 52.6	-0.1
0.8nm,0.3s,baz=123,slow=7.9,SNR=20							

IDC 12 15:57:16.3±3.2, 32.76S×178.34W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=75.2km s-min=48.2km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.62**	**213**	Pn	Pn	15 58 54.1	-0.8
0.4nm,0.3s,baz=79,slow=14,SNR=1.5							
URZ				Sn	Sn	16 00 06.9	-4.2
3.0nm,0.3s,baz=154,slow=20,SNR=15							
ASAR	**Alice Springs**	**42.75**	**270**	P	P	16 05 15.8	+0.1
0.2nm,0.5s,baz=107,slow=7.6,SNR=7.2							
WRA	**Warramunga Arr**	**43.95**	**275**	P	P	16 05 25.2	-0.2
0.5nm,0.3s,baz=115,slow=7.8,SNR=14							
FINES	**FINESS Array B**	**147.24**	**338**	PKPbc	PKPbc	16 17 00.1	-0.8
1.7nm,1.0s,baz=48,slow=2.1,SNR=4.4							

*IDC **12** 16:30:37.7±1.6, 28.56S×178.37W, h283km±16km, mb2.9/2, mb1 3.3/3, mb1mx2.9/25, mbtmp3.8/3, Error ellipse: s-maj=55.0km s-min=43.4km az=119.0*
ISC 12 16:30:37.2±1.6, 28.9S±0.2×177.9W±0.3, h300km, n19, σ1°44/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.37**	**177**	P	**Pn**	**16 31 16.0**	**+0.5**
48nm,0.3s,baz=83,slow=22,SNR=1.7							
RAO				S	**S**	**16 31 45.4**	**-0.5**
130nm,0.3s,baz=113,slow=21,SNR=2.6							
URZ	**Urewera**	**10.22**	**203**	P	**Pn**	**16 32 59.9**	**+2.0**
1.9nm,0.3s,baz=53,slow=17,SNR=10							
URZ				S	S	16 34 47.5	-5.5
0.5nm,0.3s,baz=46,slow=18,SNR=1.4							
BKZ	**Black Stump Fm**	**11.25**	**203**	P	**Pn**	**16 33 11.7**	**+1.1**
HIZ	**Hauiti**	**11.32**	**210**	P	**P**	**16 33 16.7**	**+3.2**
KWHZ	**Kaweka Forest**	**11.51**	**202**	P	**Pn**	**16 33 14.5**	**+0.8**
BHHZ	**Black Hill Sta**	**11.69**	**204**	P	**Pn**	**16 33 15.9**	**0.0**
KRHZ	**Kereru**	**11.72**	**202**	P	**Pn**	**16 33 15.4**	**-0.9**
VRZ	**Vera Road**	**11.88**	**209**	P	**P**	**16 33 20.6**	**+1.0**
PNHZ	**Pukenui**	**12.02**	**202**	P	**Pn**	**16 33 19.6**	**-0.3**
PRHZ	**Porangahau**	**12.21**	**200**	P	**Pn**	**16 33 22.7**	**+0.6**
TSZ	**Takapari Road**	**12.23**	**203**	P	**Pn**	**16 33 21.1**	**-1.4**
MRZ	**Mangatainoka R**	**12.90**	**203**	P	Pn	16 33 26.0	-4.5
OGWZ	**Otaki Gorge**	**13.18**	**204**	P	**Pn**	**16 33 32.6**	**-1.2**
CAW	**Cannon Point**	**13.47**	**203**	P	**P**	**16 33 34.8**	**-2.5**
MSWZ	**Moikau Station**	**13.69**	**202**	P	**P**	**16 33 38.5**	**-1.2**
TUWZ	**Tuamarina**	**14.16**	**206**	P	**P**	**16 33 44.3**	**-0.6**
ASAR	**Alice Springs**	**43.27**	**265**	P	**P**	**16 38 09.3**	**-0.7**
0.3nm,0.6s,baz=96,slow=6.7,SNR=8.9							
WRA	**Warramunga Arr**	**44.12**	**271**	P	**P**	**16 38 15.6**	**-1.2**
0.7nm,0.6s,baz=108,slow=7.6,SNR=12							
FINES	**FINESS Array B**	**143.74**	**341**	PKP	**PKPdf**	**16 49 37.0**	**+1.1**
0.8nm,0.7s,baz=28,slow=6.3,SNR=3.5							

*SKHL **12** 16:32:01.0±0.3, 45.01N×150.53E, h72km±6km, mb4.5/3*
*JMA **12** 16:32:03.7±0.6, 44.96N×150.13E, h117km, M3.6*
ISC 12 16:31:59.3±1.9, 44.78N±0.09×150.6E±0.1, h39km, n29, σ2°04/42, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.01**	**284**	*i* P	**Pn**	**16 32 30.8**	**+0.2**
KUR				AMB	AMB	16 32 31.7	
90nm,0.3s							
KUR				*i* S	**Sn**	**16 32 53.4**	**-1.1**
KUR				A	A	16 32 56.9	
720nm,0.5s							
KUR				A	A	16 32 56.9	
520nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.49**	**259**	*i* P	**Pn**	**16 32 53.3**	**+2.2**
YUK				AMB	AMB	16 32 55.2	
90nm,0.4s							
YUK				*e*S	**Sn**	**16 33 32.4**	**+1.3**
YUK				A	A	16 33 37.0	
140nm,0.4s							
YUK				A	A	16 33 37.0	
240nm,0.4s							
GRPR	**Tuman**	**3.57**	**259**	*e*P	**Pn**	**16 32 54.0**	**+1.9**
GRPR				AMB	AMB	16 32 56.0	
90nm,0.4s							
GRPR				*e*S	**Sn**	**16 33 33.6**	**+0.7**
GRPR				A	A	16 33 37.0	
170nm,0.4s							
GRPR				A	A	16 33 37.0	
200nm,0.4s							
NEM2	**Nemuro 2**	**3.79**	**250**	P	**Pn**	**16 32 57.6**	**+2.4**
NEM2				*e*S	**Sn**	**16 33 39.5**	**+1.0**
NMR	**Nemuro--Hokkai**	**3.80**	**250**	*e*P	**Pn**	**16 32 57.8**	**+2.5**
NMR				*e*S	**Sn**	**16 33 39.7**	**+1.0**
GLVR	**Golovnino**	**3.81**	**256**	*e*P	**Pn**	**16 32 57.3**	**+1.9**
GLVR				*e*S	**Sn**	**16 33 39.8**	**+0.8**
GLVR				A	A	16 33 45.0	
320nm,0.5s							
GLVR				A	A	16 33 45.0	
210nm,0.5s							
JRA	**Rausu**	**4.04**	**260**	P	**Pn**	**16 33 00.9**	**+2.4**
JNK	**Nakash**	**4.41**	**256**	P	**Pn**	**16 33 06.0**	**+2.3**
JAK	**Akkeshi**	**4.64**	**249**	P	**Pn**	**16 33 08.7**	**+1.9**
JAK				*e*S	**Sn**	**16 33 59.4**	**0.0**
JTKR	**Abashiri--Toko**	**4.88**	**263**	P	**Pn**	**16 33 11.4**	**+1.3**
JAR	**Ashorobuto**	**5.16**	**256**	P	**Pn**	**16 33 16.3**	**+2.3**
JOB	**Onbets**	**5.26**	**251**	P	**Pn**	**16 33 17.5**	**+2.2**
JOB				*e*S	**Sn**	**16 34 14.6**	**0.0**
JMP	**Maruseppu**	**5.26**	**264**	P	**Pn**	**16 33 16.5**	**+1.1**
JCH	**Churui**	**5.69**	**250**	P	**Pn**	**16 33 23.1**	**+1.8**
JCH				*e*S	**Sn**	**16 34 24.9**	**-0.4**
JKK2	**Kamakawa 2**	**5.72**	**264**	P	**Pn**	**16 33 23.0**	**+1.3**
ASAJ	**Asahikawa**	**5.79**	**266**	P	**Pn**	**16 33 23.6**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.91**	**294**	*e*P	**Pn**	**16 33 24.5**	**+0.3**
YSS				*e*rx	rx	16 33 29.5	
JFR	**Furan**	**6.02**	**257**	P	**Pn**	**16 33 28.3**	**+2.5**
JNBK	**Urakawa-nobuka**	**6.24**	**249**	P	**Pn**	**16 33 30.0**	**+1.2**
JNBK				*e*S	**Sn**	**16 34 36.7**	**-2.2**
JBT2	**Biratori 2**	**6.31**	**254**	P	**Pn**	**16 33 31.7**	**+2.0**
SKR	**Severo-Kuril's**	**6.97**	**30**	*e*P	**Pn**	**16 33 38.8**	**+0.1**
JNB	**Noboribetsu**	**7.33**	**255**	P	**Pn**	**16 33 45.4**	**+1.7**
JNB				*e*S	**Sn**	**16 35 02.7**	**-2.9**
JKB	**Kayabe**	**7.57**	**251**	P	**Pn**	**16 33 47.6**	**+0.6**
JKB				*e*S	**Sn**	**16 35 06.9**	**-4.5**
JANG	**Nango**	**8.03**	**240**	P	**Pn**	**16 33 54.4**	**+1.0**
JANG				*e*S	**Sn**	**16 35 18.6**	**-4.4**
JTH	**Tanohata**	**8.09**	**236**	*e*S	**Sn**	**16 35 20.0**	**-4.3**
JOSM	**Okushiri--Mats**	**8.55**	**256**	P	**Pn**	**16 33 59.9**	**-0.6**
OFUJ	**Ofunato**	**8.77**	**233**	*e*S	**Sn**	**16 35 39.5**	**-1.5**
JRG	**Rokugo**	**9.17**	**238**	P	**Pn**	**16 34 11.0**	**+2.0**
JIO	**Ouri**	**9.39**	**231**	*e*S	**Sn**	**16 35 54.0**	**-2.1**

*IDC **12** 17:03:39.5±0.5, 44.40N×141.59E, h252km±5km, mb3.1/10, mb1 3.3/17, mb1mx3.1/57, mbtmp3.9/17, Error ellipse: s-maj=14.8km s-min=10.9km az=106.0*
*NIED **12** 17:03:39.3, 44.46N×141.58E, h258km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; M_{rr}=0.34; $M_{\theta\theta}$=0.53; $M_{\phi\phi}$=-0.19; $M_{r\theta}$=0.37; $M_{\theta\phi}$=-0.85; $M_{\phi r}$=0.20; Fault plane solution: M_0=1.05000×10^15 NP1: ϕ_s=263.00000°, δ=75.00000°, λ=-151.00000°. NP2: ϕ_s=165.00000°, δ=62.00000°, λ=-18.00000°.*
*NEIC **12** 17:03:39.9±1.9, 44.39N±0.06×141.5E±0.1, h251km±6km, mb4.5/14 Error ellipse: s-maj=13.5km s-min=5.2km az=127.0*
*JMA **12** 17:03:39.3±0.2, 44.46N×141.58E, h258km±2km, M3.9*
ISC 12 17:03:39.6±0.5, 44.36N±0.05×141.59E±0.05, h253km±5km, n91, σ1°25/105, mb3.8/19, 4C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.13**	**299**	⇓P	**Pn**	**17 04 12.4**	**+0.4**
JYG				*e*S	**S**	**17 04 37.5**	**0.0**
JSS	**Shosan**	**0.19**	**79**	⇓P	**Pn**	**17 04 12.9**	**+0.8**
JSS				*e*S	**S**	**17 04 38.8**	**+1.2**
JHR	**Hokuryu**	**0.63**	**171**	⇓P	**Pn**	**17 04 14.4**	**+1.2**
JHR				*e*S	**S**	**17 04 41.3**	**+1.7**
ASAJ	**Asahikawa**	**0.77**	**108**	P	**Pn**	**17 04 14.2**	**+0.5**
67nm,0.3s,baz=263,slow=8.8,SNR=1103							
ASAJ				S	**S**	**17 04 40.9**	**+0.3**
4.7nm,0.3s,baz=223,slow=19,SNR=6.9							
ASAJ	**Asahikawa**	**0.77**	**108**	⇓P	**Pn**	**17 04 14.1**	**+0.4**
ASAJ				*e*S	**S**	**17 04 40.8**	**+0.3**
JKA	**Kamikawa-asahi**	**0.77**	**108**		**Pn**	**17 04 14.1**	**+0.4**
JKA	**Kamikawa-asahi**	**0.77**	**108**		**S**	**17 04 40.9**	**+0.3**
JRR	**Rishiri**	**0.80**	**346**	⇓P	**Pn**	**17 04 14.1**	**+0.3**
JSE	**Soyaes**	**0.93**	**50**	⇓P	**Pn**	**17 04 14.3**	**-0.1**
JKK2	**Kamakawa 2**	**0.97**	**120**	⇓P	**Pn**	**17 04 15.6**	**+0.9**
JWK2	**Keihoku**	**0.98**	**13**	⇓P	**Pn**	**17 04 14.5**	**-0.1**
JWK2				*e*S	**S**	**17 04 41.5**	**-0.9**
JRBN	**Rebuntou**	**1.12**	**341**	⇓P	**Pn**	**17 04 14.9**	**-0.6**
JSK	**Shakotan**	**1.29**	**219**	*e*S	**S**	**17 04 46.0**	**+0.2**
JFR	**Furan**	**1.40**	**148**	P	**Pn**	**17 04 18.2**	**+0.7**
JFR				*e*S	**S**	**17 04 48.2**	**+0.9**
JEW	**Eniwo**	**1.52**	**184**	⇑P	**Pn**	**17 04 19.6**	**+1.2**
JEW				*e*S	**S**	**17 04 50.8**	**+1.9**
JEW	**Eniwo**	**1.52**	**184**		**Pn**	**17 04 19.6**	**+1.2**
JTKR	**Abashiri--Toko**	**1.71**	**102**	⇓P	**Pn**	**17 04 21.0**	**+1.2**
JTKR				*e*S	**S**	**17 04 52.6**	**+1.2**
JAR	**Ashorobuto**	**1.90**	**123**	⇓P	**Pn**	**17 04 22.6**	**+1.2**
JAR				*e*S	**S**	**17 04 55.8**	**+1.4**
JCH	**Churui**	**2.17**	**143**	P	**Pn**	**17 04 23.5**	**-0.3**
JCH				*e*S	**S**	**17 04 57.3**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.25**	**157**	P	**Pn**	**17 04 25.8**	**+1.2**
JNBK				*e*S	**S**	**17 05 01.2**	**+1.1**
JKB	**Kayabe**	**2.51**	**190**	⇑P	**Pn**	**17 04 27.5**	**+0.4**
JKB				*e*S	**S**	**17 05 03.7**	**-0.9**
ERM	**Erimo**	**2.61**	**153**	Pn	**Pn**	**17 04 29.7**	**+1.6**
JAK	**Akkeshi**	**2.63**	**120**	P	**Pn**	**17 04 28.0**	**-0.3**
JAK				*e*S	**S**	**17 05 05.5**	**-1.4**
YSS	**Yuzh-Sakhalins**	**2.72**	**17**	Pn	**Pn**	**17 04 28.2**	**-0.9**
JOSM	**Okushiri--Mats**	**2.75**	**215**	⇑P	**Pn**	**17 04 30.0**	**+0.4**
JOT	**Ohata**	**3.00**	**188**	P	**Pn**	**17 04 32.4**	**+0.1**
JOT				*e*S	**S**	**17 05 14.0**	**0.0**
JOMM	**Oshimamatsumae**	**3.06**	**203**	⇑P	**Pn**	**17 04 33.4**	**+0.5**
NEM2	**Nemuro 2**	**3.17**	**107**	*e*S	**S**	**17 05 14.3**	**-2.7**
JTM	**Tenmabayashi**	**3.59**	**186**		**Pn**	**17 04 38.7**	**-0.1**
JMM	**Marumori**	**6.52**	**186**		**Pn**	**17 05 13.1**	**-1.1**
JSD	**Sado**	**6.80**	**203**	Pn	**Pn**	**17 05 17.9**	**+0.1**
USA0B	**Ussuriysk Arra**	**6.89**	**272**		**Pn**	**17 05 18.2**	**-0.7**
USRK	**Ussuriysk Ar.**	**6.89**	**272**	P	**Pn**	**17 05 18.7**	**-0.1**
baz=90,slow=12,SNR=17							
USRK	**Ussuriysk Ar.**	**6.89**	**272**		**Pn**	**17 05 18.4**	**-0.5**
JYT	**Yasato**	**8.19**	**188**		**Pn**	**17 05 32.3**	**-3.0**
MAJO	**Matsushiro**	**8.22**	**199**		**Pn**	**17 05 34.8**	**-0.9**
MJAR	**Matsushiro Arr**	**8.22**	**199**	P	**Pn**	**17 05 35.6**	**-0.2**
0.3nm,0.3s,baz=3.9,slow=14,SNR=15							
MJAR	**Matsushiro Arr**	**8.22**	**199**		**Pn**	**17 05 35.1**	**-0.7**
MDJ	**Mudanjiang**	**8.58**	**276**	P	**Pn**	**17 05 39.5**	**-0.7**
MDJ				pmax	pmax		
comp=Z,8.0nm,0.6s							
MDJ				pmax	pmax		
comp=Z,130nm,5.5s							
JGF	**Kuroka**	**9.33**	**202**	Pn	**Pn**	**17 05 49.8**	**+0.1**
INU	**Inuyama**	**9.66**	**203**	Pn	**Pn**	**17 05 54.1**	**+0.2**
JWT	**Wachi**	**10.24**	**210**	Pn	**Pn**	**17 06 01.4**	**+0.3**
JHJ	**Hachijo jima 2**	**11.31**	**188**	P	**Pn**	**17 06 14.0**	**-0.6**
comp=Z,13nm,0.3s,baz=336,slow=20,SNR=12							
JHJ				S	**S**	**17 08 13.1**	**-8.0**
comp=Z,4.0nm,0.3s,baz=33,slow=19,SNR=2.1							
JHJ2	**Mitsune**	**11.32**	**188**	Pn	**Pn**	**17 06 13.4**	**-1.2**
JHS	**Saijyo**	**11.40**	**218**	Pn	**Pn**	**17 06 16.6**	**+1.0**
JMN	**Monobe**	**12.19**	**212**	Pn	**Pn**	**17 06 24.9**	**-0.5**
KSRS	**Korea Array**	**12.42**	**241**	P	**Pn**	**17 06 28.6**	**+0.3**
comp=Z,0.1nm,0.3s,baz=71,slow=9.4,SNR=4.3							
PEA0B	**Petropavlovsk-**	**13.74**	**45**		**Pn**	**17 06 44.3**	**0.0**
PETK	**Petropavlovsk-**	**13.74**	**45**	P	**Pn**	**17 06 44.3**	**0.0**
comp=Z,0.5nm,0.3s,baz=228,slow=8.3,SNR=25							
PETK	**Petropavlovsk-**	**13.74**	**45**		**Pn**	**17 06 44.0**	**-0.3**
JNU	**Nakatsue**	**13.98**	**220**		**Pn**	**17 06 46.1**	**-1.3**
PET	**Petropavlovsk**	**14.19**	**46**		**P**	**17 06 50.5**	**+0.5**
YAK	**Yakutsk**	**19.03**	**343**	P	**P**	**17 07 40.2**	**-2.5**
comp=Z,0.0nm,0.3s,baz=168,slow=5.1,SNR=5.6							
YAK	**Yakutsk**	**19.03**	**343**	P	**P**	**17 07 40.5**	**-2.2**
SEY	**Seymchan**	**19.62**	**15**	P	**P**	**17 07 47.9**	**-1.2**
comp=Z,1.7nm,0.3s,baz=197,slow=7.5,SNR=29							
JMZ	**Minamidaito 2**	**20.32**	**208**	P	**P**	**17 07 57.6**	**+0.8**
JMZ				IAmb	IAmb	17 08 15.7	
comp=Z,21nm,1.1s							
NJ2	**Nanjing**	**21.60**	**243**	*e*P	**P**	**17 08 10.3**	**+0.7**
NJ2				pmax	pmax		
comp=Z,4.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**22.32**	**271**	*e*P	**P**	**17 08 14.8**	**-1.4**
HHC				pmax	pmax		
comp=Z,25nm,0.8s							
HHC				pmax	pmax		
comp=Z,120nm,4.2s							
SONM	**Songino Array**	**24.52**	**291**	P	**P**	**17 08 36.8**	**+0.6**
comp=Z,1.0nm,0.5s,baz=78,slow=7.5,SNR=2.8							
SONM	**Songino Array**	**24.52**	**291**	IAmb	IAmb	17 08 37.6	
comp=Z,1.2nm,0.7s							
XAN	**Xi'an**	**27.17**	**259**	P	P	17 09 08.6	+8.6
XAN				pmax	pmax		
comp=Z,7.0nm,1.1s							
XAN				pmax	pmax		
comp=Z,130nm,4.1s							
ZALV	**Zalesovo Beam**	**37.41**	**306**	PcP	**PcP**	**17 12 42.0**	**+0.9**
comp=Z,0.9nm,0.6s,baz=56,slow=3.7,SNR=4.8							
ZALV	**Z

comp=Z,0.9nm,0.7s,baz=9.6,slow=7.1,SNR=6.7
WRA Warramunga Arr 64.33 188 IAmb IAmb 17 13 50.8
comp=Z,0.2nm,1.1s
NOA NORSAR Array B 67.51 336 P **P 17 14 07.4 -0.8**
comp=Z,0.2nm,0.6s,baz=19,slow=3.4,SNR=1.3
ASAR Alice Springs 68.06 188 P **P 17 14 11.3 -0.7**
comp=Z,1.7nm,0.8s,baz=12,slow=6.5,SNR=15
PDAR Pinedale Array 72.50 47 P **P 17 14 39.9 +0.9**
comp=Z,0.4nm,0.7s,baz=180,slow=0.1,SNR=3.1
CLL Collm 74.83 329 *e*P **Pg 17 14 52.0 0.0**
TXAR Lajitas Array 85.56 53 P **P 17 15 49.2 -0.4**
comp=Z,0.2nm,0.7s,baz=344,slow=0.7,SNR=3.6
SNAA Sanae 147.73 200 PKPbc **PKPbc 17 22 53.8 +0.6**
VNA2 Neumayer--Watz 149.33 199 PKPbc **PKiKP 17 22 58.0 -0.1**
VNA3 Neumayer Olymp 149.63 198 PKPbc **PKPbc 17 22 58.3 +0.4**
VNA1 Neumayer--Stat 149.73 199 PKPbc **PKiKP 17 22 59.1 +0.2**

IDC 12 17:07:13.7±3.8, 11°.52N×142°.96E, h48km±44km, mb3.4/4, mb1 3.7/5, mb1mx3.3/48, mbtmp3.7/5, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=53.2km s-min=22.8km az=105.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.78**	**42**	P	Pn	17 07 55.4	-0.3
	24nm,0.3s,baz=211,slow=5.9,SNR=17						
GUMO				S	Sn	17 08 28.8	+0.8
	17nm,0.3s,baz=0.0,slow=20,SNR=2.7						
JNU	**Nakatsue**		**24.19**	**335**	LR	17 21 44.0	
	comp=Z,66nm,18.1s,baz=258,slow=36						
WRA	**Warramunga Arr**	**32.39**	**195**	P	P	17 13 39.0	0.0
	1.2nm,0.7s,baz=16,slow=9.6,SNR=12						
MKAR	**Makanchi Array**	**61.70**	**317**	P	P	17 17 27.3	+0.3
	0.2nm,0.6s,baz=99,slow=6.9,SNR=2.3						
BVAR	**Borovoye Array**	**70.40**	**322**	P	P	17 18 22.8	+0.1
	0.6nm,0.4s,baz=96,slow=7.2,SNR=5.4						
ILAR	**Eielson Array**	**71.23**	**25**	P	P	17 18 27.2	-0.3
	0.3nm,0.8s,baz=248,slow=5.7,SNR=4.3						

*SOME **12** 17:40:48.5, 39°.43N×77°.13E, h5km*
*KRNET **12** 17:40:50.3±0.1, 39°.03N×77°.61E, mb3.1*
*NNC **12** 17:40:50.8±1.7, 39°.52N×77°.08E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=11.5km s-min=8.6km az=174.0*
ISC 12 17:40:48.1±2.8, 39°.4N±0°.1×77°.10E±0°.04, h10km, n39, σ2§06/61, 18C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**2.36**	**13**	⇑*i*P	**Pg**	**17 41 33.4**	**-0.1**
	baz=3.0						
TARG				⇑*i*S	**Sg**	**17 42 04.9**	**+0.8**
	baz=3.0						
KDJ	**Kajisay**	**2.70**	**1**	⇑*e*P	**Pg**	**17 41 38.9**	**-1.0**
	baz=54						
KDJ				⇑*i*S	**Sg**	**17 42 14.6**	**-0.4**
	baz=54						
ULHL	**Ulahol**	**2.89**	**347**	⇓*i*P	**Pg**	**17 41 43.0**	**-0.5**
	baz=42						
ULHL				⇓*i*S	**Sg**	**17 42 21.1**	**+0.1**
	baz=42						
KZA	**Kyzart**	**3.00**	**333**	⇓*i*P	**Pg**	**17 41 45.4**	**-0.2**
	baz=30						
KZA				⇓*i*S	**Sg**	**17 42 25.6**	**+1.1**
	baz=30						
BOOM	**Boomskoye usch**	**3.19**	**344**	⇑*i*P	**Pg**	**17 41 47.4**	**-1.7**
	baz=40						
BOOM				⇑*i*S	**Sg**	**17 42 28.6**	**-1.8**
	baz=40						
PRZ	**Przheval'sk**	**3.21**	**17**	⇑*i*P	**Pb**	**17 41 44.1**	**-1.2**
	baz=10.0						
PRZ				⇑*i*S	**Sb**	**17 42 23.8**	**-0.8**
	baz=10.0						
ARLS	**Aral**	**3.22**	**320**	⇑*i*P	**Pg**	**17 41 48.5**	**-1.3**
	baz=20						
ARLS				⇑*i*S	**Sg**	**17 42 31.4**	**-0.2**
	baz=20						
ANVS	**Anan'yevo**	**3.38**	**7**	⇑*i*P	**Pb**	**17 41 48.2**	**-0.1**
	baz=1.0						
ANVS				⇑*i*S	**Sb**	**17 42 30.1**	**+0.6**
	baz=1.0						
KBK	**Karagaybulak**	**3.62**	**334**	⇑*i*P	**Pb**	**17 41 53.6**	**+1.4**
	baz=32						
KBK				⇑*i*S	**Sb**	**17 42 39.9**	**+3.7**
	baz=32						
TKM2	**Tokmak 2**	**3.67**	**343**	⇓Pg	**Pb**	**17 41 54.8**	**+1.6**
	1.3nm,0.5s						
TKM2				⇓Lg	Lg	17 42 39.1	
	3.2nm,0.6s						
KST	**Kastek**	**3.71**	**347**	⇑*i*P	**Pg**	**17 41 57.6**	**-1.6**
	2.8nm,0.6s						
KST				⇑*i*S	**Sg**	**17 42 47.9**	**+0.5**
	5.2nm,0.6s						
KST	**Kastek**	**3.71**	**347**	Pg	**Pg**	**17 41 57.6**	**-1.6**
	5.7nm,0.8s						
KST				Lg	Lg	17 42 47.9	
	6.6nm,1.1s						
MDOK	**Medeo**	**3.73**	**359**	*e*P	**Pb**	**17 41 56.8**	**+2.6**
	2.9nm,0.6s						
MDOK				*e*S	**Sg**	**17 42 46.4**	**-1.6**
	7.4nm,0.4s						
MDOK	**Medeo**	**3.73**	**359**	Pg	**Pb**	**17 41 56.8**	**+2.6**
	2.9nm,0.6s						
MDOK				Lg	Lg	17 42 46.4	
	7.4nm,0.4s						
SATY	**Saty**	**3.76**	**15**	*e*P	**Pg**	**17 41 58.3**	**-1.9**
	2.4nm,0.5s						
SATY				*e*S	**Sg**	**17 42 49.0**	**+0.1**
	8.3nm,0.3s						
SATY	**Saty**	**3.76**	**15**	Pg	**Pg**	**17 41 58.3**	**-1.9**
	2.4nm,0.5s						
SATY				Lg	Lg	17 42 49.0	
	8.3nm,0.3s						
AAK	**Ala-Archa**	**3.77**	**329**	⇓Pg	**Pg**	**17 41 57.9**	**-2.3**
	2.3nm,0.6s						
AAK				⇓Lg	Lg	17 42 45.6	
	7.6nm,0.6s						
KOTS	**Kotyrbulak**	**3.81**	**0**	*e*P	**Pg**	**17 41 59.4**	**-1.6**
	9.0nm,0.4s						
KOTS				*e*S	**Sg**	**17 42 51.1**	**+0.7**
	39nm,0.3s						
KOTS	**Kotyrbulak**	**3.81**	**0**	Pg	**Pg**	**17 41 59.4**	**-1.6**
	9.0nm,0.4s						
KOTS				Lg	Lg	17 42 51.1	
	39nm,0.3s						
DGS	**Degeres**	**3.94**	**346**	*e*P	**Pg**	**17 42 01.1**	**-2.6**
	2.8nm,0.3s						
DGS				*e*S	**Sg**	**17 42 53.9**	**-0.8**
	4.2nm,0.4s						
DGS	**Degeres**	**3.94**	**346**	Pg	**Pg**	**17 42 01.0**	**-2.6**
	2.8nm,0.3s						
DGS				Lg	Lg	17 42 53.9	
	4.2nm,0.4s						
UZB	**Uzynbulak**	**3.99**	**21**	*e*P	**Pb**	**17 42 00.9**	**+2.3**
	2.0nm,0.4s						
UZB				*e*S	**Sg**	**17 42 53.4**	**-2.9**
	4.4nm,0.3s						
UZB	**Uzynbulak**	**3.99**	**21**	Pg	**Pb**	**17 42 00.9**	**+2.3**
	2.0nm,0.4s						
UZB				Lg	Lg	17 42 53.4	
	4.4nm,0.3s						
SHLS	**Shalkode**	**4.13**	**25**	*e*P	**Pg**	**17 42 06.3**	**-0.9**
	3.9nm,0.5s						
SHLS				*e*S	**Sg**	**17 43 02.8**	**+2.0**
	10nm,0.5s						
SHLS	**Shalkode**	**4.13**	**25**	Pg	**Pg**	**17 42 06.3**	**-0.9**
	3.9nm,0.5s						
SHLS				Lg	Lg	17 43 02.8	
	10nm,0.5s						
KTBS	**Karatobe**	**4.29**	**356**	*e*P	**Pg**	**17 42 07.8**	**-2.5**
	2.4nm,0.6s						
KTBS				*e*S	**Sg**	**17 43 05.4**	**-0.6**
	5.4nm,0.4s						
KTBS	**Karatobe**	**4.29**	**356**	Pg	**Pg**	**17 42 07.8**	**-2.5**
	2.4nm,0.6s						
KTBS				Lg	Lg	17 43 05.4	
	5.4nm,0.4s						
PDGK	**Podgornoye**	**4.29**	**24**	Pg	**Pb**	**17 42 06.6**	**+2.9**
	1.0nm,0.4s						
PDGK				Lg	Lg	17 43 03.4	
	2.8nm,0.6s						
PDGK	**Podgornoye**	**4.29**	**24**	⇓Pg	**Pg**	**17 42 09.1**	**-1.3**
	1.9nm,0.7s						
PDGK				⇑Lg	Lg	17 43 02.5	
	5.3nm,0.7s						
MRKS	**Merke**	**4.42**	**320**	*e*P	**Pg**	**17 42 09.7**	**-3.1**
	2.6nm,0.2s						
MRKS				*e*S	**Sg**	**17 43 08.7**	**-1.4**
	6.4nm,0.4s						
MRKS	**Merke**	**4.42**	**320**	Pg	**Pg**	**17 42 09.7**	**-3.1**
	2.6nm,0.2s						
MRKS				Lg	Lg	17 43 08.7	
	6.4nm,0.4s						
CHKK	**Chushkaly**	**4.43**	**359**	*e*P	**Pg**	**17 42 09.9**	**-3.0**
CHKK				*e*S	**Sg**	**17 43 08.9**	**-1.3**
	5.2nm,0.1s						
CHKK	**Chushkaly**	**4.43**	**359**	Pg	**Pg**	**17 42 09.9**	**-3.0**
CHKK				Lg	Lg	17 43 08.9	
	5.2nm,0.1s						
KUU	**Kurty**	**4.50**	**353**	⇑*i*P	**Pg**	**17 42 11.9**	**-2.4**
	1.9nm,0.4s						
KUU				*e*S	**Sg**	**17 43 12.5**	**0.0**
	3.1nm,0.3s						
KUU	**Kurty**	**4.50**	**353**	Pg	**Pg**	**17 42 11.9**	**-2.4**
	1.9nm,0.4s						
KUU				Lg	Lg	17 43 12.5	
	3.1nm,0.3s						
MNBS	**Baschi**	**4.75**	**11**	*e*P	**Pb**	**17 42 15.2**	**+3.7**
	1.7nm,0.4s						
MNBS				*e*S	**Sg**	**17 43 18.3**	**-2.3**
	4.0nm,0.5s						
MNBS	**Baschi**	**4.75**	**11**	Pg	**Pb**	**17 42 15.3**	**+3.7**
	1.7nm,0.4s						
MNBS				Lg	Lg	17 43 18.3	
	4.0nm,0.5s						
DJR	**Jarkent**	**5.30**	**21**	*e*P	**Pg**	**17 42 25.9**	**-3.6**
	1.3nm,0.6s						
DJR				*e*S	**Sg**	**17 43 36.8**	**-1.4**
	3.3nm,0.6s						
DJR	**Jarkent**	**5.30**	**21**	Pg	**Pg**	**17 42 25.9**	**-3.6**
	1.3nm,0.6s						
DJR				Lg	Lg	17 43 36.8	
	3.3nm,0.6s						

*SOF **12** 17:42:47.9, 40°.90N×22°.76E, h16km, MD3.6*
*ISK **12** 17:42:47.3, 40°.86N×22°.74E, h11km, ML3.5/18*
*SKO **12** 17:42:47.2, 40°.84N×22°.78E, h15km*
*THE **12** 17:42:48.4, 40°.87N×22°.79E, h9km±1km, ML3.3/15, Error ellipse: s-maj=1.3km s-min=0.6km az=41.0*
*IDC **12** 17:42:48.9±1.5, 40°.88N×22°.81E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.4/29, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=27.5km s-min=23.2km az=5.0*
*BEO **12** 17:42:48.2±0.5, 40°.90N×22°.80E, h10km±2km, ML3.5/10*
*ATH **12** 17:42:48.2, 40°.86N×22°.82E, h22km±1km, ML3.3/8, Error ellipse: s-maj=2.1km s-min=1.0km az=120.0*
ISC 12 17:42:48.7±1.0, 40°.87N±0°.02×22°.78E±0°.02, h7km±7km, n125, σ0§99/158, mb3.4/4, 11C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.28**	**148**	P	**Pg**	**17 42 54.0**	**-0.1**
THE				S	**Sg**	**17 42 57.7**	**-0.1**
	12μm,0.2s						
THE	**Thessaloniki**	**0.28**	**148**	P	**Pg**	**17 42 54.0**	**-0.1**
THE				S	**Sg**	**17 42 57.8**	**+0.1**
THE				AML	AML	17 42 58.0	
	comp=E,24331μm,0.2s						
THE				AML	AML	17 42 59.3	
	comp=N,22514μm,0.3s						
KNT	**Kendrikon**	**0.31**	**18**	P	**Pg**	**17 42 54.7**	**-0.1**
KNT				S	**Sg**	**17 42 58.8**	**-0.1**
	comp=N,9μm,0.2s						
KNT	**Kendrikon**	**0.31**	**18**	P	**Pg**	**17 42 54.7**	**-0.1**
KNT				S	**Sg**	**17 42 59.3**	**+0.4**
KNT				AML	AML	17 42 60.0	
	comp=E,22344μm,0.3s						
KNT				AML	AML	17 43 00.2	
	comp=N,17844μm,0.2s						
KNT	**Kendrikon**	**0.31**	**18**	PG	**Pg**	**17 42 54.7**	**-0.1**
KNT				SG	**Sg**	**17 42 58.9**	**0.0**
HORT	**Hortiatis**	**0.36**	**137**	P	**Pg**	**17 42 55.4**	**-0.4**
HORT				S	**Sg**	**17 43 01.0**	**+0.4**
	comp=N,3μm,0.1s						
HORT	**Hortiatis**	**0.36**	**137**	P	**Pg**	**17 42 55.5**	**-0.4**
HORT				S	**Sg**	**17 43 00.7**	**0.0**
HORT				AML	AML	17 43 01.8	
	comp=E,7588μm,0.1s						
HORT				AML	AML	17 43 03.3	
	comp=N,7498μm,0.4s						
HORT	**Hortiatis**	**0.36**	**137**	PG	**Pg**	**17 42 55.5**	**-0.4**
HORT				SG	**Sg**	**17 43 01.0**	**+0.4**
SOH	**Sokhos**	**0.44**	**96**	P	**Pg**	**17 42 57.3**	**0.0**
SOH				S	**Sg**	**17 43 03.5**	**+0.5**
	comp=N,7μm,0.4s						
SOH	**Sokhos**	**0.44**	**96**	P	**Pg**	**17 42 57.2**	**-0.1**
SOH				S	**Sg**	**17 43 03.6**	**+0.5**
SOH				AML	AML	17 43 04.9	
	comp=E,13105μm,0.5s						
SOH				AML	AML	17 43 06.0	
	comp=N,15267μm,0.5s						
VAY	**Valandovo**	**0.48**	**341**	*e*Pg	**Pg**	**17 42 57.7**	**-0.3**
VAY				*e*Sg	**Sg**	**17 43 04.0**	**-0.2**
VAY	**Valandovo**	**0.48**	**341**	*i* Pg	**Pg**	**17 42 57.6**	**-0.3**
VAY				*i* Sg	**Sg**	**17 43 04.2**	**-0.1**
VAY				*e*Lg	Lg	17 43 04.3	
	comp=N,14μm,0.4s						
VAY				*e*Lg	Lg	17 43 04.7	
	comp=E,9μm,0.3s						
SRS	**Serrai**	**0.67**	**68**	P	**Pg**	**17 43 00.1**	**-1.4**
SRS				S	**Sg**	**17 43 09.4**	**-0.8**
	comp=E,3μm,0.4s						
SRS	**Serrai**	**0.67**	**68**	*e*Pg	**Pg**	**17 43 00.3**	**-1.2**
SRS				*e*Sg	**Sg**	**17 43 09.5**	**-0.8**
SRS	**Serrai**	**0.67**	**68**	P	**Pg**	**17 43 00.1**	**-1.4**
SRS				S	**Sg**	**17 43 09.2**	**-1.0**
SRS				AML	AML	17 43 13.6	
	comp=E,6757μm,0.4s						
SRS				AML	AML	17 43 13.8	
	comp=N,4673μm,0.5s						
KTI	**Kastanea**	**0.69**	**227**	P	**Pg**	**17 43 01.4**	**-0.6**
LIT	**Litokhoron**	**0.80**	**196**	P	**Pg**	**17 43 03.4**	**-0.6**
LIT				S	**Sg**	**17 43 14.5**	**+0.2**
	comp=N,992nm,0.4s						
LIT	**Litokhoron**	**0.80**	**196**	P	**Pg**	**17 43 03.5**	**-0.5**
LIT				S	**Sg**	**17 43 14.9**	**+0.6**
LIT				AML	AML	17 43 20.2	
	comp=N,2223μm,0.3s						
LIT				AML	AML	17 43 20.5	
	comp=E,2558μm,0.3s						
STIP	**Stip**	**0.94**	**332**	*i* Pg	**Pg**	**17 43 04.9**	**-1.8**
KZN	**Kozani**	**0.95**	**234**	P	**Pg**	**17 43 06.3**	**-0.6**
KZN				S	**Sg**	**17 43 19.3**	**+0.1**
	comp=E,2μm,0.6s						
KZN	**Kozani**	**0.95**	**234**	P	**Pg**	**17 43 06.9**	**0.0**
KZN				S	**Sb**	**17 43 20.7**	**+0.4**
KZN				AML	AML	17 43 23.0	
	comp=E,4590μm,0.6s						
KZN				AML	AML	17 43 23.3	
	comp=N,3096μm,0.6s						
NVR	**Nevrokopi**	**0.95**	**59**	P	**Pg**	**17 43 06.3**	**-0.7**
NVR				S	**Sb**	**17 43 20.1**	**-0.3**
	comp=N,3μm,0.6s						
NVR	**Nevrokopi**	**0.95**	**59**	P	**Pg**	**17 43 06.6**	**-0.4**
NVR				S	**Sb**	**17 43 19.9**	**-0.5**
NVR				AML	AML	17 43 22.6	
	comp=N,5256μm,0.6s						
NVR				AML	AML	17 43 23.3	
	comp=E,5806μm,0.5s						
MMB	**Musomiste**	**1.02**	**45**	P	**Pg**	**17 43 07.2**	**-1.0**
KKB	**Krupnik**	**1.02**	**13**	*i* P	**Pg**	**17 43 07.2**	**-1.2**
KKB	**Krupnik**	**1.02**	**13**	P	**Pg**	**17 43 07.0**	**-1.4**
OUR	**Ouranopolis**	**1.06**	**120**	P	**Pg**	**17 43 08.1**	**-1.0**
OUR				S	**Sn**	**17 43 24.8**	**-0.2**
	comp=E,3μm,0.7s						
OUR	**Ouranopolis**	**1.06**	**120**	PN	**Pg**	**17 43 08.3**	**-0.8**
OUR				SN	**Sn**	**17 43 24.2**	**-0.8**
PAIG	**Paliouri**	**1.17**	**143**	P	**Pg**	**17 43 09.6**	**-1.4**
PAIG				S	**Sb**	**17 43 26.3**	**-0.1**
	comp=E,2μm,0.7s						
PAIG	**Paliouri**	**1.17**	**143**	P	**Pg**	**17 43 09.6**	**-1.4**
KVLA	**Kavala**	**1.22**	**86**	P	**Pb**	**17 43 11.3**	**-0.8**
NEST	**Nestorio**	**1.39**	**252**	P	**Pn**	**17 43 14.7**	**+0.1**
NEST	**Nestorio**	**1.39**	**252**	P	**Pn**	**17 43 14.7**	**+0.1**
KPRO	**Kipourio**	**1.41**	**230**	P	**Pn**	**17 43 14.7**	**-0.1**
KPRO				S	**Sg**	**17 43 34.0**	**0.0**
	comp=E,618nm,1.0s						
KPRO	**Kipourio**	**1.41**	**230**	P	**Pg**	**17 43 15.5**	**-0.3**
THL	**Klokotos Trika**	**1.43**	**204**	P	**Pn**	**17 43 13.9**	**-1.0**
THL				S	**Sb**	**17 43 32.8**	**-1.1**
SKO	**Skopje**	**1.49**	**318**	*e*Pg	**Pn**	**17 43 14.8**	**-1.1**
SKO				*e*Sg	**Sn**	**17 43 35.0**	**-0.6**
SKO	**Skopje**	**1.49**	**318**	*i* Pg	**Pn**	**17 43 15.9**	**0.0**
THAS	**Thassos island**	**1.50**	**99**	P	**Pn**	**17 43 14.6**	**-1.4**
THAS	**Thassos island**	**1.50**	**99**	P	**Pn**	**17 43 14.9**	**-1.1**
OHR	**Ohrid**	**1.52**	**280**	*i* Pg	**Pn**	**17 43 15.9**	**-0.4**
OHR				*i* Sg	**Sg**	**17 43 37.2**	**-0.1**
OHR				*e*Lg	Lg	17 43 37.3	
	comp=N,272nm,0.5s						
OHR				*e*Lg	Lg	17 43 37.5	
	comp=E,226nm,0.6s						
XOR	**Xorichti**	**1.53**	**168**	P	**Pn**	**17 43 15.0**	**-1.5**
XOR				S	**Sn**	**17 43 35.5**	**-1.2**
	comp=E,1μm,0.5s						
XOR	**Xorichti**	**1.53**	**168**	P	**Pn**	**17 43 15.2**	**-1.3**
NEO	**Neokhori**	**1.60**	**167**	P	**Pn**	**17 43 16.1**	**-1.2**
NEO				S	**Sn**	**17 43 36.8**	**-1.4**
	comp=E,1μm,0.5s						
BOSS	**Bosilegrad**	**1.64**	**352**	*e*Pn	**Pn**	**17 43 17.1**	**-0.9**
BOSS				*e*Sn	**Sn**	**17 43 37.9**	**-1.5**
RZN	**Rozhen**	**1.68**	**60**	*i* P	**Pn**	**17 43 18.5**	**-0.1**
RZN	**Rozhen**	**1.68**	**60**	P	**Pn**	**17 43 18.3**	**-0.3**
VTS	**Vitosha**	**1.78**	**11**	*i* P	**Pb**	**17 43 21.2**	**-0.6**
VTS	**Vitosha**	**1.78**	**11**	P	**Pn**	**17 43 19.4**	**-0.7**
AGG	**Agios Georgios**	**1.87**	**191**	P	**Pn**	**17 43 20.1**	**-1.1**
AGG				S	**Sn**	**17 43 43.4**	**-1.7**
	comp=E,210nm,0.6s						
AGG	**Agios Georgios**	**1.87**	**191**	PN	**Pn**	**17 43 20.1**	**-1.1**
AGG				SN	**Sn**	**17 43 44.3**	**-0.8**
PLD	**Plovdiv**	**1.91**	**49**	*i* P	**Pn**	**17 43 21.9**	**+0.4**
PLD	**Plovdiv**	**1.91**	**49**	P	**Pn**	**17 43 22.0**	**+0.4**
PLD	**Plovdiv**	**1.91**	**49**	PN	**Pn**	**17 43 21.5**	**-0.1**
PGB	**Panagyurishte**	**1.98**	**31**	*i* P	**Pb**	**17 43 25.1**	**+0.1**
BARS	**Barje**	**2.08**	**340**	*e*Pn	**Pn**	**17 43 23.2**	**-0.7**
AXAR	**Agios Charalam**	**2.10**	**182**	P	**Pn**	**17 43 23.4**	**-0.9**
RDO	**Rodhopi**	**2.11**	**82**	PN	**Pn**	**17 43 24.2**	**-0.2**
KDZ	**Kurdzhali**	**2.14**	**68**	PN	**Pn**	**17 43 23.4**	**-1.4**
TIR	**Tirane**	**2.25**	**283**	⇓P	**Pb**	**17 43 29.1**	**-0.6**
IGT	**Igoumenitsa**	**2.30**	**235**	*e*Pg	**Pb**	**17 43 29.5**	**-0.9**
ANX	**Ano Chora**	**2.36**	**196**	P	**Pn**	**17 43 27.5**	**-0.5**
ANX				S	**Sn**	**17 43 56.6**	**-0.7**
	comp=E,488nm,0.4s						
ZAPS	**Zavoj**	**2.41**	**358**	*e*Pg	**Pb**	**17 43 31.6**	**-0.7**
GADA	**Gvkgeada**	**2.48**	**105**	PN	**Pn**	**17 43 29.2**	**-0.2**
ALN	**Alexandroupoli**	**2.48**	**88**	PN	**Pn**	**17 43 29.1**	**-0.4**
ENEZ	**Enez**	**2.57**	**92**	PN	**Pn**	**17 43 30.5**	**-0.2**
MPEP	**Malo Peshtene**	**2.59**	**16**	*i* P	**Pg**	**17 43 38.6**	**+0.3**
SELS	**Selova**	**2.65**	**333**	*e*Pn	**Pn**	**17 43 30.3**	**-1.6**
BOZC	**Bozcaada**	**2.71**	**111**	PN	**Pn**	**17 43 32.5**	**-0.1**
ERIK	**Erikli-Kesan**	**2.85**	**93**	PN	**Pn**	**17 43 34.5**	**0.0**
GELI	**Tayfur-Gelibol**	**2.85**	**98**	PN	**Pn**	**17 43 34.6**	**0.0**
BOVS	**Bovan**	**2.88**	**344**	*e*Pn	**Pn**	**17 43 33.6**	**-1.3**
SIGR	**SIGRI**	**2.89**	**124**	PN	**Pn**	**17 43 34.7**	**-0.3**
EZN	**Ezine**	**2.91**	**110**	PN	**Pn**	**17 43 35.7**	**+0.4**
UKOP	**Uzunkopru-Edir**	**2.93**	**84**	PN	**Pn**	**17 43 35.7**	**0.0**
ZAGS	**Zajecar**	**2.97**	**352**	*e*Pn	**Pn**	**17 43 34.7**	**-1.5**
PDG	**Podgorica**	**3.06**	**302**	⇑P	**Pn**	**17 43 38.8**	**+1.3**
LPK	**Lapseki**	**3.07**	**98**	PN	**Pn**	**17 43 37.6**	**0.0**
EDRB	**Edirne**	**3.14**	**71**	PN	**Pn**	**17 43 38.3**	**-0.3**
SJES	**Sjenica**	**3.17**	**320**	*e*Pn	**Pn**	**17 43 38.5**	**-0.6**
GRUS	**Gruza**	**3.38**	**334**	*e*Pn	**Pn**	**17 43 40.6**	**-1.3**
MAR6	**Marsite Statio**	**3.41**	**91**	PN	**Pn**	**17 43 42.5**	**+0.2**
MAR3	**Marsite Statio**	**3.43**	**91**	PN	**Pn**	**17 43 42.8**	**+0.2**
MAR4	**Marsite Statio**	**3.44**	**90**	PN	**Pn**	**17 43 42.9**	**+0.2**
MAR2	**Marsite Statio**	**3.45**	**91**	PN	**Pn**	**17 43 43.1**	**+0.3**
CHOS	**Chios island**	**3.54**	**133**	PN	**Pn**	**17 43 44.1**	**-0.1**
PHSR	**Pinarhisar**	**3.66**	**76**	PN	**Pn**	**17 43 46.0**	**+0.3**
MRMT	**Marmara Adasi**	**3.67**	**93**	PN	**Pn**	**17 43 45.9**	**0.0**
ITM	**Ithomi**	**3.74**	**190**	PN	**Pn**	**17 43 46.7**	**-0.1**
MAR9	**Marsite Statio**	**3.75**	**92**	PN	**Pn**	**17 43 47.1**	**+0.2**
CRLT	**Corlu**	**3.76**	**84**	PN	**Pn**	**17 43 47.7**	**+0.6**
TRUS	**Trudelj**	**3.78**	**333**	*e*Pn	**Pn**	**17 43 45.4**	**-2.0**
SRE	**Strehaia**	**3.81**	**5**	⇓P	**Pb**	**17 43 58.5**	**+2.4**
DIVS	**Divibare**	**3.83**	**328**	*e*Pn	**Pn**	**17 43 46.8**	**-1.3**
RAZG	**Razgrad**	**3.87**	**45**	⇑P	**Pb**	**17 43 58.1**	**+0.9**
BBLS	**Lazići**	**3.90**	**321**	*e*Pn	**Pn**	**17 43 48.3**	**-0.8**
MDVR	**Moldovita**	**3.99**	**349**	⇓P	**Pn**	**17 43 47.8**	**-2.5**
HUMR	**Humele**	**4.00**	**23**	⇑P	**Pg**	**17 44 04.4**	**-1.0**
HERR	**Herculane**	**4.02**	**356**	⇑P	**Pn**	**17 43 49.0**	**-1.6**
SGRR	**Singureni**	**4.10**	**34**	⇓P	**Pg**	**17 44 06.8**	**-0.4**
APE	**Apeiranthos**	**4.36**	**150**	⇓P	**Pn**	**17 43 55.2**	**-0.1**
APE	**Apeiranthos**	**4.36**	**150**	PN	**Pn**	**17 43 55.3**	**0.0**
FRGS	**Fruska Gora**	**4.81**	**334**	*e*Pn	**Pn**	**17 43 59.1**	**-2.4**
BZS	**Buzias**	**4.82**	**350**	*e*Pn	**Pn**	**17 43 59.2**	**-2.5**
BZS	**Buzias**	**4.82**	**350**	⇑P	**Pn**	**17 43 59.6**	**-2.0**
VOIR		**4.86**	**19**	⇓P	**Pn**	**17 44 01.2**	**-1.1**
MLR	**Muntele Rosu**	**5.17**	**26**	⇑P	**Pn**	**17 44 08.0**	**+1.4**
NEHR	**Nehoiu**	**5.24**	**28**	⇓P	**Pn**	**17 44 09.0**	**+1.6**
HARR	**Harsova**	**5.38**	**43**	⇑P	**Pn**	**17 44 08.5**	**-0.9**
DOPR	**Dopca**	**5.44**	**20**	⇑P	**Pn**	**17 44 11.7**	**+1.5**
TIRR	**Tirgusor**	**5.49**	**47**	⇑P	**Pn**	**17 44 10.0**	**-0.8**
OZUR		**5.67**	**22**	⇓P	**Pn**	**17 44 16.6**	**+3.3**
PLOR	**Plostina**	**5.73**	**28**	⇑P	**Pn**	**17 44 14.8**	**+0.7**
VRI	**Vrincioaia

JYT	Yasato	5.62 347	P	Pn	18 06 18.8	+0.3
JYT	Yasato	5.62 347		Pn	18 06 17.3	-1.2
JNY	Yasuok	5.66 325	P	Pn	18 06 20.5	+1.4
JRY	Ryogami san	5.78 336	P	Pn	18 06 21.7	+0.9
JRY			eS	Sn	18 07 24.7	-1.7
JHO	Hitachi	5.94 350	P	Pn	18 06 22.1	-0.7
JAG	Ashikaga	5.99 342	P	Pn	18 06 23.5	-0.1
INU	Inuyama	6.09 320	Pn	Pn	18 06 25.7	+0.7
JGF	Kuroka	6.10 324	Pn	Pn	18 06 27.0	+1.9
MJAR	Matsushiro Arr	6.50 334	Pn	Pn	18 06 31.1	+0.5
	0.4nm,0.3s,baz=307,slow=16,SNR=20					
MJAR			Sn	Sn	18 07 45.6	+1.4
	0.1nm,0.3s,baz=156,slow=16,SNR=2.0					
MJAR	Matsushiro Arr	6.50 334		Pn	18 06 31.6	+1.0
MAJO	Matsushiro	6.51 334		Pn	18 06 31.8	+1.2
MAT	Matsushiro	6.51 334	P	Pn	18 06 31.6	+0.9
MAT			S	Sn	18 07 41.8	-2.4
JFK	Kawauchi	6.64 354	P	Pn	18 06 31.2	-1.4
JWT	Wachi	7.02 312	Pn	Pn	18 06 38.6	+0.9
JMM	Marumori	7.15 354		Pn	18 06 39.1	-0.4
JMM				Sn	18 07 55.0	-4.9
JSD	Sado	7.83 339	Pn	Pn	18 06 49.9	+1.0
JHS	Saijyo	8.44 302	Pn	Pn	18 06 57.0	-0.3
JNU	Nakatsue	9.57 287	LR	LR	18 10 04.9	
	comp=Z,68nm,18.9s,baz=51,slow=33					
JTM	Tenmabayashi	10.03 357	Pn	Pn	18 07 19.2	+0.1
ERM	Erimo	11.30 5	Pn	Pn	18 07 35.6	-0.7
KSRS	Korea Array	13.29 304	Pn	Pn	18 08 05.3	+1.7
	0.1nm,0.3s,baz=112,slow=15,SNR=2.3					
KSRS			LR	LR	18 13 11.4	
	comp=Z,31nm,18.6s,baz=70,slow=38					
JKA	Kamikawa-asahi	13.36 3		Pn	18 08 03.7	-0.7
ASAJ	Asahikawa	13.36 2	Pn	Pn	18 08 03.7	-0.8
	0.4nm,0.3s,baz=192,slow=14,SNR=5.5					
MDJ	Mudanjiang	16.85 329	Pn	Pn	18 08 50.7	+0.1
YOJ	Yonaguni jima	17.78 254	P	P	18 09 04.2	+1.2
YOJ			IAmb	IAmb	18 09 12.7	
	comp=Z,20nm,1.1s					
YULB	Yu-li	19.65 253	P	P	18 09 24.2	+0.6
SSLB	Suanglung	19.77 255	P	Pn	18 09 26.8	+0.3
SSLB			IAmb	IAmb	18 09 28.6	
	comp=Z,20nm,1.4s					
TWG	Pinlang	20.10 252	P	P	18 09 27.1	-1.4
TWG			IAmb	IAmb	18 10 00.5	
	comp=Z,33nm,1.1s					
TPUB	Ta-pu	20.24 254	P	P	18 09 27.8	-2.3
TPUB			IAmb	IAmb	18 10 04.7	
	comp=Z,29nm,1.6s					
H11N2	WAKE ISLAND Hy	25.16 110	T	T	18 36 36.3	
	baz=306					
H11N1	WAKE ISLAND Hy	25.16 110	T	T	18 36 41.6	
	baz=306					
H11N3	WAKE ISLAND Hy	25.18 110	T	T	18 36 36.7	
	baz=306					
H11S3	WAKE ISLAND Hy	25.64 113	T	T	18 37 02.2	
	baz=304,slow=75,SNR=3.8					
H11S1	WAKE ISLAND Hy	25.64 113	T	T	18 37 03.2	
	baz=304,slow=75,SNR=5.6					
H11S2	WAKE ISLAND Hy	25.66 113	T	T	18 37 01.9	
	baz=304,slow=75,SNR=3.4					
KIWB	Kanaga Island	36.70 43	P	P	18 12 02.7	+1.2
CMAR	Chiang Mai Arr	40.61 263	LR	LR	18 29 20.0	
	comp=Z,31nm,19.9s,baz=205,slow=36					
MTN	Manton Dam	44.54 195	P	P	18 13 05.7	-0.7
MK31	Makanchi Array	47.95 307	P	P	18 13 33.2	+0.2
MKAR	Makanchi Array	47.95 307	P	P	18 13 32.8	-0.3
	comp=Z,0.7nm,0.5s,baz=88,slow=9.1,SNR=9.4					
MKAR	Makanchi Array	47.95 307	P	P	18 13 33.1	+0.1
MAKZ	Makanchi	48.16 307	P	P	18 13 33.8	-0.9
KURK	Kurchatov	50.23 312	P	P	18 13 49.9	-0.5
KURK			IAmb	IAmb	18 13 50.8	
	comp=Z,2.3nm,0.8s					
WB0	Warramunga Arr	50.73 189	P	P	18 13 54.2	-0.3
WR0	Warramunga Arr	50.90 189	P	P	18 13 55.5	-0.2
WR0			IAmb	IAmb	18 14 22.1	
	comp=Z,11nm,1.6s					
WB2	Warramunga Arr	50.91 189	P	P	18 13 55.2	-0.6
WB2			IAmb	IAmb	18 14 29.3	
	comp=Z,7.8nm,1.6s					
WRA	Warramunga Arr	50.91 189	P	P	18 13 55.4	-0.4
	comp=Z,1.5nm,0.6s,baz=7.1,slow=7.7,SNR=33					
WRA	Warramunga Arr	50.91 189	P	P	18 13 54.7	-1.1
GSI	Gunungsitoli	51.07 244	P	P	18 13 57.4	+0.1
AS31	Alice Springs	54.63 189	P	P	18 14 22.9	-0.4
ASAR	Alice Springs	54.63 189	P	P	18 14 23.0	-0.3
	comp=Z,0.6nm,0.5s,baz=7.3,slow=6.5,SNR=31					
ILAR	Eielson Array	54.70 30	P	P	18 14 24.5	+1.1
	comp=Z,0.3nm,0.7s,baz=269,slow=5.4,SNR=2.7					
ILAR	Eielson Array	54.70 30	P	P	18 14 24.1	+0.7
KK31	Karatay Array	56.72 304	P	P	18 14 38.3	+0.1
KK31			IAmb	IAmb	18 14 39.1	
	comp=Z,2.0nm,0.7s					
KKAR	Karatay Array	56.72 304	P	P	18 14 38.6	+0.3
KKAR	Karatay Array	56.72 304	P	P	18 14 38.5	+0.3
KKAR			IAmb	IAmb	18 14 39.1	
	comp=Z,2.0nm,0.7s					
DZM	Mont Dzumac	57.60 153	LR	LR	18 39 26.6	
	comp=Z,112nm,19.5s,baz=211,slow=36					
CHGR	Chuyangaron	58.83 299	P	P	18 14 53.3	+0.1
ABKAR	Akbulak array	62.34 313	P	P	18 15 17.4	+0.6
FIA1	FINESS Array S	74.53 333	P	P	18 16 33.4	+0.5
FIA1			IAmb	IAmb	18 16 42.3	
	comp=Z,11nm,1.5s					
FINES	FINESS Array B	74.53 333	P	P	18 16 33.4	+0.5
	comp=Z,0.9nm,0.4s,baz=65,slow=5.2,SNR=14					
AKASG	Malin Array Be	79.48 323	P	P	18 17 00.9	0.0
	comp=Z,0.4nm,0.3s,baz=46,slow=5.5,SNR=2.5					
NOA	NORSAR Array B	80.10 338	P	P	18 17 04.0	-0.2
	comp=Z,0.8nm,1.0s,baz=42,slow=5.4,SNR=3.4					
ULM	Lac du Bonnet	84.58 33	P	P	18 17 29.1	+1.4
	comp=Z,2.9nm,0.5s,baz=315,slow=2.9,SNR=3.4					
H03N2	Juan Fernandez	145.54 105	T	T	21 05 55.6	
	baz=277,slow=75,SNR=3.3					
H03N3	Juan Fernandez	145.55 105	T	T	21 05 57.1	
	baz=277,slow=75,SNR=5.0					
H03N1	Juan Fernandez	145.56 105	T	T	21 05 56.9	
	baz=277,slow=75,SNR=4.7					

*IDC **12** 18:26:12.9±2.0, 18°.64S×177°.90W, h562km±21km, mb2.8/4, mb1 3.1/5, mb1mx2.8/23, mbtmp3.9/5, Error ellipse: s-maj=95.3km s-min=16.0km az=153.0*
*NEIC **12** 18:26:12.3±1.0, 19°.1S±0°.1×177°.6W±0°.1, h570km±9km, mb4.3/12, Error ellipse: s-maj=20.0km s-min=18.3km az=150.0*

ISC 12 18:26:12.6±0.7, 19°.1S±0°.2×177°.5W±0°.1, h570km, n22, σ0.98/26, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.42	288	P	P	18 27 41.4	+2.3
AFI	Afiamalu	7.57	48	P	P	18 28 06.0	-0.9
	3.7nm,0.3s,baz=234,slow=19,SNR=1.9						
AFI				S	S	18 29 39.8	-0.7
	2.7nm,0.3s,baz=45,slow=20,SNR=2.2						
WHZ	Wether Hill Ro	29.27	201	P	P	18 31 29.6	+0.2
ARMA	Armidale	30.08	242	P	P	18 31 37.9	+1.1
ARMA				IAmb	IAmb	18 31 41.3	
	comp=Z,17nm,1.4s						
STKA	Stephens Creek	38.80	243	P	P	18 32 49.3	0.0
	comp=Z,1.9nm,0.9s,baz=88,slow=9.0,SNR=3.7						
BBOO	Buckleboo	43.56	242	P	P	18 33 26.2	-0.7
WR0	Warramunga Arr	45.06	261	P	P	18 33 38.1	-0.5
WR0				IAmb	IAmb	18 33 39.1	
	comp=Z,11nm,1.5s						
WB0	Warramunga Arr	45.22	261	P	P	18 33 39.1	-0.8
WB0				IAmb	IAmb	18 34 02.9	
	comp=Z,6.5nm,1.3s						
WB2	Warramunga Arr	45.23	261	P	P	18 33 39.2	-0.8
WB2				IAmb	IAmb	18 33 54.1	
	comp=Z,7.3nm,1.4s						
WB2				PcP	PcP	18 35 07.7	-0.2
WRA	Warramunga Arr	45.25	261	P	P	18 33 39.1	-1.0
	comp=Z,0.4nm,0.5s,baz=97,slow=7.2,SNR=9.9						
WRA				PcP	PcP	18 35 07.7	-0.2
	comp=Z,0.2nm,0.4s,baz=97,slow=3.4,SNR=2.1						
AS31	Alice Springs	45.28	255	P	P	18 33 41.2	+0.9
ASAR	Alice Springs	45.28	255	P	P	18 33 39.7	-0.6
	comp=Z,1.3nm,0.7s,baz=91,slow=7.4,SNR=16						
ASAR				PcP	PcP	18 35 07.5	-0.5
	comp=Z,0.6nm,0.7s,baz=102,slow=4.0,SNR=8.4						
ASAR				S	S	18 39 37.9	-2.1
	comp=Z,0.5nm,0.8s,baz=87,slow=17,SNR=5.2						
FORT	Forrest	50.25	246	P	P	18 34 16.4	-0.9
FORT				IAmb	IAmb	18 34 43.3	
	comp=Z,25nm,1.1s						
KNRA	Kununurra	51.21	265	P	P	18 34 23.6	-0.8
KNRA				IAmb	IAmb	18 34 44.4	
	comp=Z,29nm,1.5s						
FITZ	Fitzroy Crossi	53.66	261	P	P	18 34 41.5	-0.4
QSPA	South Pole Qui	70.93	180	P	P	18 36 32.9	+0.1
QSPA				IAmb	IAmb	18 36 52.8	
	comp=Z,10nm,1.6s						
TXAR	Lajitas Array	85.94	57	P	P	18 37 55.0	+1.6
	comp=Z,0.3nm,0.7s,baz=202,slow=4.5,SNR=3.9						
TXAR	Lajitas Array	85.94	57	P	P	18 37 54.2	+0.9
PB06	IPOC Station P	98.28	117		pP	18 40 51.7	-2.9
ARCES	ARCESS Array B	127.66	350	PKP	PKPdf	18 44 12.7	-0.2
	comp=Z,2.8nm,0.8s,baz=1.9,slow=2.7,SNR=3.6						
CLL	Collm	146.83	348	*i* PKPbc	PKPbc	18 44 51.2	0.0
GERES	GERESS Array B	149.00	346	PKPbc	PKPbc	18 44 56.5	-0.4
	comp=Z,0.6nm,0.6s,baz=28,slow=3.2,SNR=5.4						

*KRNET **12** 18:33:58.8±0.1, 42°.69N×79°.14E, h14km, mb2.4*
*NNC **12** 18:33:59.7±1.1, 42°.76N×79°.19E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=8.3km s-min=3.1km az=149.0*
*SOME **12** 18:33:59.1, 42°.72N×79°.13E, h15km*

ISC 12 18:33:58.4±1.3, 42°.70N±0°.04×79°.15E±0°.04, h10km±11km, n34, σ0.71/62, 12C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	Uzynbulak	0.46	348	*e*P	Pg	18 34 07.8	+0.3
	baz=49						
UZB				*e*S	Sg	18 34 14.2	+0.6
	baz=49						
UZB	Uzynbulak	0.46	348	*e*P	Pg	18 34 07.8	+0.3
	3.3nm,0.1s						
UZB				*e*S	Sg	18 34 14.2	+0.6
	7.8nm,0.1s						
UZB	Uzynbulak	0.46	348	P	Pg	18 34 07.9	+0.4
	3.3nm,0.1s						
UZB				S	Sg	18 34 13.1	-0.5
	7.8nm,0.1s						
PRZ	Przheval'sk	0.59	249	⇓*i*P	Pg	18 34 10.0	+0.1
	baz=49						
PRZ				⇓*i*S	Sg	18 34 17.6	-0.2
	baz=49						
SATY	Saty	0.66	304	*e*P	Pb	18 34 12.2	+0.1
	1.4nm,0.2s						
SATY				*e*S	Sb	18 34 20.9	-0.4
	25nm,0.1s						
SATY	Saty	0.66	304	P	Pn	18 34 13.0	-0.9
	0.8nm,0.1s						
SATY				S	Sb	18 34 21.4	+0.1
	25nm,0.1s						
PDGK	Podgornoye	0.68	21	P	Pg	18 34 11.5	-0.1
	0.7nm,0.2s						
PDGK				S	Sg	18 34 18.9	-1.6
	2.5nm,0.3s						
PDGK	Podgornoye	0.68	21	⇓P	Pg	18 34 11.4	-0.3
	1.3nm,0.6s						
PDGK				⇓S	Sg	18 34 20.2	-0.4
	4.8nm,0.8s						
ANVS	Anan'yevo	1.10	275	⇑*i*P	Pb	18 34 19.5	-0.1
	baz=76						
ANVS				⇑*i*S	Sg	18 34 34.5	+0.8
	baz=76						
TARG	Taragay, Kyrgy	1.39	226	⇑*i*P	Pn	18 34 24.5	+0.2
	baz=26						
TARG				⇑*i*S	Sb	18 34 43.4	+0.7
	baz=26						
MNBS	Baschi	1.49	339	*e*P	Pb	18 34 26.7	+0.5
	2.0nm,0.1s						
MNBS				*e*S	Sg	18 34 46.7	+0.4
	13nm,0.3s						
MNBS	Baschi	1.49	339	P	Pg	18 34 26.9	-0.1
	2.0nm,0.1s						
MNBS				S	Sg	18 34 45.5	-0.7
	13nm,0.3s						
KDJ	Kajisay	1.56	249	⇑*i*P	Pb	18 34 27.4	-0.2
	baz=49						
KDJ				⇑*i*S	Sg	18 34 48.6	-0.1
	baz=49						
KOTS	Kotyrbulak	1.59	290	P	Pg	18 34 29.6	+0.7
	3.3nm,0.2s						
KOTS				S	Sg	18 34 50.1	+0.6
	9.7nm,0.3s						
DJR	Jarkent	1.70	16	*e*P	Pb	18 34 30.1	+0.2
	1.3nm,0.2s						
DJR				*e*S	Sg	18 34 52.5	-0.6
	3.5nm,0.3s						
DJR	Jarkent	1.70	16	P	Pb	18 34 30.1	+0.2
	1.3nm,0.2s						
DJR				S	Sb	18 34 50.7	-0.7
	3.5nm,0.3s						
ARXS	Arharly	1.80	328	*e*P	Pb	18 34 32.1	+0.6
	2.9nm,0.2s						
ARXS				*e*S	Sg	18 34 55.4	-0.8
	7.9nm,0.1s						
ARXS	Arharly	1.80	328	P	Pb	18 34 32.1	+0.6
	2.9nm,0.2s						
ARXS				S	Sb	18 34 54.3	+0.1
	7.9nm,0.1s						
CHKK	Chushkaly	1.96	307	*e*P	Pb	18 34 34.7	+0.5
	baz=7.0						
CHKK				*e*S	Sg	18 35 00.5	-0.9
	baz=7.0						
CHKK	Chushkaly	1.96	307	*e*P	Pb	18 34 34.7	+0.5
	0.9nm,0.3s						
CHKK				*e*S	Sg	18 35 00.5	-0.9
	9.3nm,0.3s						
CHKK	Chushkaly	1.96	307	P	Pb	18 34 35.2	+1.0
	1.6nm,0.2s						
CHKK				S	Sb	18 34 59.5	+0.8
	9.3nm,0.3s						
KTBS	Karatobe	2.07	300	*e*P	Pb	18 34 36.6	+0.5
	1.1nm,0.2s						
KTBS				*e*S	Sg	18 35 04.1	-0.9
	7.3nm,0.3s						
KTBS	Karatobe	2.07	300	Pg	Pg	18 34 37.8	-0.3
	1.1nm,0.2s						
KTBS				Lg	Lg	18 35 04.1	
	7.3nm,0.3s						
ULHL	Ulahol	2.20	259	⇑*i*P	Pb	18 34 38.6	+0.2
	baz=59						
ULHL				⇑*i*S	Sb	18 35 06.5	+0.7
	baz=59						
KST	Kastek	2.37	280	*e*P	Pg	18 34 43.0	-0.8
	3.7nm,0.4s						
KST				*e*S	Sg	18 35 14.1	-0.4
	4.3nm,0.5s						
KST	Kastek	2.37	280	Pg	Pg	18 34 43.9	+0.1
	3.7nm,0.4s						
KST				Lg	Lg	18 35 14.1	
	5.4nm,0.5s						
KUU	Kurty	2.38	301	*e*P	Pb	18 34 42.4	+1.1
	0.6nm,0.3s						
KUU				⇑*i*S	Sg	18 35 13.2	-1.5
	3.0nm,0.2s						
KUU	Kurty	2.38	301	Pg	Pg	18 34 43.2	-0.8
	1.1nm,0.1s						
KUU				Lg	Lg	18 35 13.2	
	3.0nm,0.2s						
BOOM	Boomskoye usch	2.38	266	⇑*i*P	Pb	18 34 41.6	+0.1
	baz=66						
BOOM				⇑*i*S	Sb	18 35 11.4	+0.5
	baz=66						
DGS	Degeres	2.54	284	*e*P	Pb	18 34 45.2	+1.0
	2.5nm,0.5s						
DGS				*e*S	Sg	18 35 18.6	-1.4
	6.6nm,0.4s						
DGS	Degeres	2.54	284	Pg	Pg	18 34 46.7	-0.3
	1.4nm,0.4s						
DGS				Lg	Lg	18 35 19.4	
	6.6nm,0.4s						
KAPS	Kapalarasan	2.59	3	*e*P	Pb	18 34 45.7	+0.6
	0.3nm,0.1s						
KAPS				*e*S	Sb	18 35 19.1	+2.0
	1.2nm,0.3s						
KAPS	Kapalarasan	2.59	3	Pg	Pb	18 34 45.7	+0.6
	0.8nm,0.5s						
KAPS				Lg	Lg	18 35 17.4	
	2.1nm,0.4s						
TKM2	Tokmak 2	2.62	276	⇑Pg	Pb	18 34 45.4	-0.3
	0.2nm,0.2s						
TKM2				⇓Lg	Lg	18 35 21.6	
	1.3nm,0.4s						

ANF 12 18:37:40.9±0.5, 45°.85N×106°.56W, h0km, ML3.5/8, ML3.5/9, Error ellipse: s-maj=5.3km s-min=4.5km az=90.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	LASA Array	0.87	15	P	Pg	18 37 56.7	-0.9
	baz=196,SNR=33						
LAO				S	Sb	18 38 10.1	-1.1
	baz=196						
LAO				S	Sb	18 38 10.1	-1.1
	baz=196						
RLMT	Red Lodge	2.04	250	P	Pn	18 38 16.1	-0.6
	baz=68,SNR=74						
RLMT				S	Sn	18 38 43.4	+0.5
	baz=68						
RLMT				S	Sn	18 38 43.4	+0.5
	baz=68						
RSSD	Black Hills	2.49	133	Pb	Pb	18 38 25.9	-0.6
	baz=315						
RSSD				Sb	Sg	18 39 00.0	-0.8
	baz=315						
RSSD				Sb	Sg	18 39 00.0	-0.8
	baz=315						
DGMT	Dagmar	3.08	31	P	Pn	18 38 31.9	+1.1
	baz=212,SNR=8.4						
EGMT	Eagleton	3.09	316	P	Pn	18 38 31.4	+0.5
	baz=134,SNR=14						
K22A	Casper	3.20	180	P	Pn	18 38 33.3	+0.8
	baz=360,SNR=11						
BOZ	Bozeman (W)	3.56	268	P	Pn	18 38 37.5	+0.1
	baz=84,SNR=15						
BW06	Boulder Array	3.76	216	P	Pn	18 38 40.8	+0.5
	baz=34,SNR=10.0						
N23A	Red Feather La	4.97	175	P	Pn	18 38 57.5	+0.5
	baz=355						
O20A	White River Ci	5.84	193	S	Sn	18 40 17.9	+1.2
	baz=12						

*MAN **12** 18:44:26.6, 13°.74N×120°.49E, h121km, MS3.1*
*IDC **12** 18:44:27.2±0.6, 13°.88N×121°.02E, h139km±4km, mb3.5/7, mb1 3.7/7, mb1mx3.2/47, mbtmp3.9/7, MS2.6/1, Ms1 2.6/1, ms1mx2.4/32, Error ellipse: s-maj=44.6km s-min=14.4km az=61.0*
*NEIC **12** 18:44:27.4±0.9, 13°.9N±0°.1×121°.1E±0°.2, h144km±5km, mb4.4/15, Error ellipse: s-maj=27.4km s-min=14.1km az=69.0*

ISC 12 18:44:27.5±0.7, 13°.73N±0°.04×120°.61E±0°.06, h133km±5km, n42, σ1.52/48, mb4.3/14, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.36	270	*e*P	Pn	18 44 45.0	-1.3
LUBP				*e*S	Sn	18 44 57.8	-2.5
PGP	Puerto Galera	0.40	125	⇑*e*P	Pn	18 44 46.5	0.0
PGP				*e*S	Sn	18 44 59.7	-1.1
TGY	Tagaytay City	0.48	40	P	Pn	18 44 47.4	+0.4
	204nm,0.3s,baz=184,slow=2.4,SNR=18						
TGY				S	Sn	18 45 02.1	+0.5
	766nm,0.3s,baz=344,slow=22,SNR=14						
TGY	Tagaytay City	0.48	40	⇑*e*P	Pn	18 44 42.3	-4.6
TGY				*i* S	Sn	18 45 02.4	+0.7
LQP	Lukban	0.98	67	⇓*i*P	Pn	18 44 51.3	+0.7
LQP				*i* S	Sn	18 45 09.0	+0.8
BOAC	Boac	1.23	103	*e*P	Pn	18 44 53.1	+0.3
BOAC				*e*S	Sn	18 45 12.9	+0.7
POLP	Polilio Island	1.62	52	*e*P	Pn	18 44 57.5	+0.4
BUSP	Coron	1.77	193	*e*P	Pn	18 44 57.7	-1.2
OTRP	Odiongan	1.93	135	*e*P	Pn	18 45 01.4	+0.6
OTRP				*e*S	Sn	18 45 26.5	+0.1
BALP	Baler	2.21	25	*e*P	Pn	18 45 03.8	-0.4
BALP				*e*S	Sn	18 45 32.0	-0.3
BOLP	Bolinao	2.72	346	*e*P	Pn	18 45 09.6	-1.0
ENPP	El Nido	2.77	205	*e*P	Pn	18 45 14.1	+2.9
ENPP				*e*S	Sn	18 45 44.0	-0.9
CUYO	Cuyo Island	2.89	172	*e*P	Pn	18 45 13.6	+0.7
CUYO				*e*S	Sn	18 45 42.6	-5.2
CAUP	Cauayan	3.40	20	*e*P	Pn	18 45 19.2	-0.2
PVCP	Virac	3.44	92	*e*P	Pn	18 45 20.8	+0.8
MYLDM	Lahad Datu	8.75	194	Pn	Pn	18 46 39.0	+8.0
SBUM	Sibu	13.95	217	P	P	18 47 47.1	+3.9
CMAR	Chiang Mai Arr	21.34	286	P	P	18 49 06.8	+2.5
	2.0nm,0.8s,baz=95,slow=7.8,SNR=22						
CMAR	Chiang Mai Arr	21.34	286	P		18 49 07.1	+2.9
JNU	Nakatsue	21.45	24	LR	LR	18 55 38.3	
	comp=Z,18nm,21.4s,baz=228,slow=32						
SOEI	Soe	23.61	171	P	P	18 49 27.4	+0.8
SOEI				IAmb	IAmb	18 49 48.6	
	comp=Z,26nm,1.3s						
BATI	Baumata	23.97	173	P	P	18 49 30.1	+0.3
	comp=Z,8.5nm,0.5s,baz=355,slow=1.0,SNR=6.3						
MTN	Manton Dam	28.39	158	P	P	18 50 07.9	-1.5
MTN				IAmb	IAmb	18 50 29.8	
	comp=Z,20nm,1.4s						
FITZ	Fitzroy Crossi	32.01	171	P	P	18 50 41.2	-0.2
FITZ				IAmb	IAmb	18 51 02.3	
	comp=Z,9.5nm,1.6s						
SONM	Songino Array	36.00	344	P	P	18 51 15.1	-0.6
WRAB	Tennant Creek	36.08	158	P	P	18 51 16.6	0.0
WRA	Warramunga Arr	36.09	158	P	P	18 51 15.5	-1.2
	comp=Z,0.9nm,0.6s,baz=337,slow=9.6,SNR=21						
WB2	Warramunga Arr	36.09	158	P	P	18 51 15.5	-1.1
WB2				IAmb	IAmb	18 51 21.1	
	comp=Z,11nm,1.6s						
WR0	Warramunga Arr	36.18	157	P	P	18 51 16.0	-1.3
AS31	Alice Springs	39.38	161	P	P	18 51 43.1	-1.2
ASAR	Alice Springs	39.38	161	P	P	18 51 43.4	-0.8
	comp=Z,0.5nm,0.4s,baz=334,slow=6.9,SNR=32						
CTAO	Charters Tower	42.02	143	P	P	18 52 05.3	-0.7
CTAO				IAmb	IAmb	18 52 41.5	
	comp=Z,9.4nm,1.2s						
MORW	Morawa	42.78	186	P	P	18 52 12.3	+0.3
FORT	Forrest	44.83	171	P	P	18 52 28.2	-0.2
FORT				IAmb	IAmb	18 52 40.4	
	comp=Z,14nm,0.8s						
MKAR	Makanchi Array	45.96	324	P	P	18 52 38.1	+1.0
	comp=Z,0.3nm,0.5s,baz=134,slow=9.6,SNR=4.1						
MKAR	Makanchi Array	45.96	324	P	P	18 52 36.6	-0.5
BBOO	Buckleboo	48.58	163	P	P	18 52 56.5	-1.0
ZALV	Zalesovo Beam	48.99	333	P	P	18 53 00.1	-0.3
	comp=Z,0.6nm,0.4s,baz=145,slow=5.3,SNR=2.9						
STKA	Stephens Creek	49.61	156	P	P	18 53 03.8	-1.6
KURK	Kurchatov	50.12	326	P	P	18 53 09.7	+0.7
KURK				IAmb	IAmb	18 53 10.4	
	comp=Z,3.9nm,0.8s						
ABKAR	Akbulak array	60.65	319	P	P	18 54 24.6	+0.2
ARCES	ARCESS Array B	79.03	339	P	P	18 56 14.3	-2.1
	comp=Z,3.2nm,0.9s,baz=83,slow=7.4,SNR=3.7						

*KRNET **12** 18:58:05.9±0.1, 41°.11N×72°.74E, h17km, mb2.5*
*SOME **12** 18:58:06.0, 41°.20N×72°.68E, h10km*
*NNC **12** 18:58:07.5±3.0, 41°.24N×72°.60E, h0km, mb2.9, mpv2.6, Error

baz=35
BTK ⇓iS Sg 18 59 02.9 -0.7
baz=35
AAK Ala-Archa 2.00 40 ⇑iP Pb 18 58 41.7 -0.2
baz=40
AAK ⇑iS Sb 18 59 08.2 +1.3
baz=40
AAK Ala-Archa 2.00 40 ⇑Pn Pb 18 58 42.7 +0.7
2.0nm,0.4s
AAK ⇑Sn Sg 18 59 10.6 +0.6
3.8nm,0.4s
KZA Kyzart 2.11 62 ⇑iP Pb 18 58 43.5 -0.3
baz=62
KZA ⇑iS Sb 18 59 11.1 +1.0
baz=62
IUG luzhnay 2.29 298 eP Pb 18 58 47.7 +1.0
7.5nm,0.2s
IUG eS Sg 18 59 17.2 -1.8
14nm,0.4s
KK31 Karatay Array 2.60 321 Pg Pb 18 58 51.6 -0.3
0.3nm,0.2s,baz=142,slow=14,SNR=12
KK31 ⇑Lg Lg 18 59 23.2
0.4nm,0.2s,baz=141,slow=29,SNR=7.5
SGDS Sogindy 2.72 30 Pg Pb 18 58 56.3 +2.2
2.1nm,0.4s
SGDS Lg Lg 18 59 30.5
2.8nm,0.6s
BOOM Boomskoye usch 2.75 59 ⇓iP Pb 18 58 52.5 -2.2
baz=59
BOOM ⇓iS Sb 18 59 26.4 -2.0
baz=59
TKM2 Tokmak 2 2.79 49 ⇑Pg Pb 18 58 55.3 0.0
0.4nm,0.5s
TKM2 ⇑Lg Lg 18 59 33.3
4.2nm,0.6s
KST Kastek 3.07 50 eP Pb 18 59 02.4 +2.3
1.0nm,0.2s
KST eS Sg 18 59 42.3 -1.8
3.3nm,0.6s
KST Kastek 3.07 50 Pg Pg 18 59 02.7 -1.6
1.2nm,0.3s
KST Lg Lg 18 59 41.6
3.5nm,0.5s

*ANF **12** 19:04:33.6±0.2, 43°.80N×105°.25W, h0km, ML3.9/12, ML3.8/13, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0*
*NEIC **12** 19:04:34.0±1.1, 43°.82N±0°.04×105°.24W±0°.06, h0km±1km, ML3.6/71, Error ellipse: s-maj=7.9km s-min=6.1km az=310.0*
*IDC **12** 19:04:34.5±0.8, 44°.17N×105°.80W, h0km, mb4.0/4, mb1 4.0/8, mb1mx3.7/43, mbtmp3.8/8, ML3.3/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/47, Error ellipse: s-maj=27.2km s-min=7.8km az=144.0*
ISC 12 19:04:34.1±0.6, 43°.80N±0°.03×105°.25W±0°.04, h0km, n116, σ0=99/131, mb4.0/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**70**	P	**Pg**	**19 04 51.4**	**-0.6**
baz=250							
RSSD	**Black Hills**	**0.93**	**70**	Pg	**Pg**	**19 04 51.6**	**-0.3**
K22A	**Casper**	**1.48**	**219**	P	**Pn**	**19 05 00.6**	**-1.5**
baz=38,SNR=817							
K22A				S	**Sg**	**19 05 21.7**	**+0.1**
baz=38							
K22A				S	**Sg**	**19 05 21.7**	**+0.1**
baz=38							
K22A	**Casper**	**1.48**	**219**		**Pn**	**19 05 00.6**	**-1.5**
K22A				IAML		19 05 23.5	
comp=N,1μm,0.3s							
K22A				IAML		19 05 25.3	
comp=E,1μm,0.3s							
PHWY	**Pilot Hill**	**2.50**	**184**	Pn	**Pn**	**19 05 16.1**	**-0.2**
PHWY				IAML		19 05 56.2	
comp=E,180nm,0.4s							
RWWY	**Rawlins**	**2.56**	**215**		**Pn**	**19 05 17.8**	**+0.8**
RWWY				IAML		19 05 56.2	
comp=E,385nm,0.7s							
RWWY				IAML		19 05 56.2	
comp=E,348nm,0.7s							
N23A	**Red Feather La**	**2.95**	**190**	P	**Pn**	**19 05 23.0**	**+0.5**
baz=9.7,SNR=98							
N23A				S	**Sn**	**19 06 00.1**	**+1.3**
baz=9.7							
N23A				S	**Sn**	**19 06 00.1**	**+1.3**
baz=9.7							
N23A	**Red Feather La**	**2.95**	**190**	Pn	**Pn**	**19 05 22.9**	**+0.5**
N23A				IAML		19 06 09.2	
comp=N,190nm,0.6s							
N23A				IAML		19 06 14.0	
comp=E,124nm,0.6s							
LAO	**LASA Array**	**2.96**	**347**	P	**Pn**	**19 05 22.2**	**-0.3**
baz=166							
LAO				S	**Sn**	**19 05 59.6**	**+0.8**
baz=166							
LAO				S	**Sn**	**19 05 59.6**	**+0.8**
baz=166							
LAO	**LASA Array**	**2.96**	**347**		**Pn**	**19 05 22.3**	**-0.2**
RLMT	**Red Lodge**	**3.16**	**296**	P	**Pn**	**19 05 25.4**	**+0.1**
baz=113,SNR=38							
RLMT	**Red Lodge**	**3.16**	**296**	Pn	**Pn**	**19 05 25.6**	**+0.3**
RLMT				IAML		19 06 20.6	
comp=E,94nm,0.5s							
RLMT				IAML		19 06 22.1	
comp=E,163nm,0.3s							
PD31	**Pinedale Array**	**3.31**	**253**		**Pn**	**19 05 27.2**	**-0.1**
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 05 27.6**	**+0.3**
comp=E,17nm,0.3s,baz=67,slow=16,SNR=112							
PDAR				Pg	**Pb**	**19 05 33.1**	**-0.7**
comp=E,48nm,0.3s,baz=68,slow=18,SNR=75							
PDAR				Lg	Lg	19 06 10.0	
comp=E,5.0nm,0.3s,baz=65,slow=30,SNR=2.0							
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 05 27.2**	**-0.1**
BW06	**Boulder Array**	**3.31**	**253**	P	**Pn**	**19 05 27.1**	**-0.3**
baz=70,SNR=122							
BW06				Sb	**Sb**	**19 06 15.1**	**+0.4**
baz=70							
BW06	**Boulder Array**	**3.31**	**253**		**Pn**	**19 05 27.2**	**-0.1**
BW06				IAML		19 06 23.5	
comp=E,81nm,0.4s							
BW06				IAML		19 06 24.8	
comp=E,87nm,0.7s							
YMP	**Mirror Lake Pl**	**3.65**	**287**		**Pn**	**19 05 31.8**	**-0.2**
OGNE	**Ogallala**	**3.72**	**139**	Pn	**Pn**	**19 05 32.4**	**-0.5**
LKWY	**Lake**	**3.78**	**283**		**Pn**	**19 05 34.0**	**+0.1**
LKWY				IAML		19 05 59.7	
comp=E,61nm,0.7s							
LKWY				IAML		19 06 06.3	
comp=E,81nm,0.6s							
H17A	**Grant Village**	**3.88**	**281**		**Pn**	**19 05 34.4**	**-0.9**
H17A				IAML		19 06 26.5	
comp=E,55nm,0.1s							
H17A				IAML		19 06 41.2	
comp=N,54nm,0.4s							
LOHW	**Long Hollow**	**3.88**	**269**		**Pn**	**19 05 35.8**	**+0.6**
FLWY	**Flagg Ranch**	**3.94**	**276**		**Pn**	**19 05 36.4**	**+0.4**
SNOW	**Snow King Moun**	**4.01**	**267**		**Pn**	**19 05 35.2**	**-1.8**
SNOW				IAML		19 06 43.9	
comp=N,59nm,1.0s							
SNOW				IAML		19 06 49.1	
comp=N,52nm,1.0s							
ISCO	**Idaho Springs**	**4.01**	**184**	P	**Pn**	**19 05 37.1**	**0.0**
baz=3.7,SNR=13							
ISCO				Sb	**Sb**	**19 06 37.0**	**+2.1**
baz=3.7							
ISCO				Sb	**Sb**	**19 06 37.0**	**+2.1**
baz=3.7							
ISCO	**Idaho Springs**	**4.01**	**184**	Pn	**Pn**	**19 05 37.4**	**+0.3**
YPP	**Pitchstone Pla**	**4.03**	**279**		**Pn**	**19 05 37.1**	**-0.2**
REDW	**Red Top Meadow**	**4.09**	**266**		**Pn**	**19 05 37.4**	**-0.7**
REDW				IAML		19 06 58.4	
comp=N,74nm,0.8s							
REDW				IAML		19 06 60.0	
comp=N,91nm,0.8s							
IMW	**Indian Meadow**	**4.12**	**273**	Pn	**Pn**	**19 05 38.0**	**-0.5**
IMW				IAML		19 06 08.3	
comp=N,62nm,0.5s							
YHH	**Holmes Hill**	**4.14**	**286**		**Pn**	**19 05 38.5**	**-0.2**
TPAW	**Teton Pass**	**4.15**	**268**		**Pn**	**19 05 38.8**	**-0.1**
TPAW				IAML		19 07 00.2	
comp=N,77nm,0.7s							
FXWY	**Fox Creek**	**4.19**	**270**	Pn	**Pn**	**19 05 39.7**	**+0.3**
YMR	**Madison River**	**4.20**	**284**		**Pn**	**19 05 38.6**	**-0.9**
E28A	**Huff**	**4.25**	**48**	Pn	**Pn**	**19 05 40.1**	**+0.1**
O20A	**White River Ci**	**4.29**	**212**	P	**Pn**	**19 05 41.1**	**+0.4**
baz=30							
O20A	**White River Ci**	**4.29**	**212**		**Pn**	**19 05 41.2**	**+0.4**
O20A				IAML		19 06 50.2	
comp=E,77nm,0.9s							
O20A				IAML		19 06 54.5	
comp=N,75nm,0.9s							
YHB	**Horse Butte**	**4.37**	**285**		**Pn**	**19 05 41.7**	**-0.2**
YHL	**Hebgen Lake**	**4.38**	**286**		**Pn**	**19 05 41.5**	**-0.6**
AHID	**Auburn Hatcher**	**4.39**	**258**		**Pn**	**19 05 43.7**	**+1.5**
AHID				IAML		19 06 56.8	
comp=N,70nm,0.7s							
AHID				IAML		19 07 09.2	
comp=E,50nm,0.7s							
QLMT	**Earthquake Lak**	**4.55**	**285**		**Pn**	**19 05 44.1**	**-0.3**
RDMU	**Red Mountain**	**4.55**	**226**		**Pn**	**19 05 44.5**	**+0.1**
DGMT	**Dagmar**	**4.72**	**9**	P	**Pn**	**19 05 47.5**	**+0.9**
baz=189							
DGMT				Sb	**Sb**	**19 06 58.5**	**+3.3**
baz=189							
DGMT				Sb	**Sb**	**19 06 58.5**	**+3.3**
baz=189							
DGMT	**Dagmar**	**4.72**	**9**	Pn	**Pn**	**19 05 47.4**	**+0.8**
Q24A	**Divide**	**4.84**	**179**	P	**Pn**	**19 05 47.0**	**-1.4**
baz=359							
Q24A				Sb	**Sb**	**19 07 01.4**	**+2.7**
baz=359							
Q24A				Sb	**Sb**	**19 07 01.4**	**+2.7**
baz=359							
BOZ	**Bozeman (W)**	**4.89**	**294**	P	**Pn**	**19 05 48.5**	**-0.4**
baz=109							
BOZ				Sb	**Sb**	**19 07 02.8**	**+2.8**
baz=109							
BOZ				Sb	**Sb**	**19 07 02.8**	**+2.8**
baz=109							
BOZ	**Bozeman (W)**	**4.89**	**294**		**Pn**	**19 05 48.4**	**-0.6**
BOZ				IAML		19 07 07.1	
comp=E,27nm,0.8s							
K31A	**O'Neill**	**4.89**	**102**		**Pn**	**19 05 46.6**	**-2.3**
HWUT	**Hardware Ranch**	**5.14**	**247**	Pn	**Pn**	**19 05 52.9**	**+0.4**
HWUT				IAML		19 07 29.0	
comp=E,49nm,0.8s							
HWUT				IAML		19 07 34.0	
comp=E,36nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.18**	**157**	P	**Pn**	**19 05 52.3**	**-0.7**
baz=338,SNR=7.6							
KSCO	**Kaye Shedlock'**	**5.18**	**157**	Pn	**Pn**	**19 05 52.5**	**-0.5**
EGMT	**Eagleton**	**5.26**	**325**	P	**Pn**	**19 05 53.5**	**-0.6**
baz=142							
EGMT	**Eagleton**	**5.26**	**325**	Pn	**Pn**	**19 05 53.4**	**-0.6**
EGMT				IAML		19 07 26.8	
comp=E,54nm,1.1s							
TCUT	**Toone Canyon**	**5.29**	**242**		**Pn**	**19 05 54.7**	**+0.2**
DLMT	**Dillon**	**5.47**	**289**	Pn	**Pn**	**19 05 57.9**	**+0.9**
HRY	**Holter Researc**	**5.48**	**304**		**Pn**	**19 05 57.1**	**+0.1**
LRM	**Limekiln Ridge**	**5.50**	**294**	Pn	**Pn**	**19 05 56.9**	**-0.6**
MCMT	**McKenzie Canyo**	**5.55**	**283**		**Pn**	**19 05 58.9**	**+0.8**
JLU	**Jordanelle**	**5.61**	**237**		**Pn**	**19 05 57.6**	**-1.3**
MDND	**Maddock**	**5.65**	**42**	P	**Pn**	**19 05 58.6**	**-0.7**
baz=226							
MDND	**Maddock**	**5.65**	**42**		**Pn**	**19 05 58.4**	**-0.9**
CTU	**Camp Tracy**	**5.74**	**239**	Pn	**Pn**	**19 06 00.7**	**0.0**
BGNE	**Belgrade**	**5.76**	**112**	P	**Pn**	**19 06 00.4**	**-0.4**
baz=297							
BGNE	**Belgrade**	**5.76**	**112**		**Pn**	**19 05 58.6**	**-2.2**
SPUT	**South Promonto**	**5.87**	**247**		**Pn**	**19 06 03.1**	**+0.6**
PV22	**Blue Mesa, Par**	**5.90**	**208**	Pn	**Pn**	**19 06 03.4**	**+0.5**
PV07	**Paradox Valley**	**5.94**	**207**	Pn	**Pn**	**19 06 03.5**	**0.0**
PV21	**Cone Mtn., Par**	**5.94**	**209**		**Pn**	**19 06 03.9**	**+0.3**
P17A	**Butcher Ranch,**	**5.97**	**225**		**Pn**	**19 06 03.7**	**-0.1**
PV15	**Paradox Valley**	**5.98**	**205**		**Pn**	**19 06 04.5**	**+0.5**
PV23	**Carpenter Ridg**	**6.05**	**209**		**Pn**	**19 06 05.5**	**+0.4**
SDCO	**Great Sand Dun**	**6.05**	**182**	P	**Pn**	**19 06 04.9**	**-0.2**
baz=1.7							
SDCO	**Great Sand Dun**	**6.05**	**182**		**Pn**	**19 06 05.2**	**+0.1**
PV04	**Paradox Valley**	**6.07**	**208**		**Pn**	**19 06 05.7**	**+0.5**
PV12	**Saucer Basin,**	**6.10**	**207**		**Pn**	**19 06 06.3**	**+0.6**
PV14	**Lion Creek, Pa**	**6.13**	**209**		**Pn**	**19 06 06.1**	**+0.1**
PV20	**West Nyswonger**	**6.14**	**208**		**Pn**	**19 06 06.2**	**+0.1**
SRU	**San Rafael Swe**	**6.14**	**222**		**Pn**	**19 06 05.5**	**-0.7**
PV11	**David Mesa, Pa**	**6.14**	**208**		**Pn**	**19 06 06.6**	**+0.4**
PV16	**Nyswonger Mesa**	**6.15**	**208**		**Pn**	**19 06 06.4**	**+0.1**
S22A	**4UR Ranch, Cre**	**6.17**	**192**		**Pn**	**19 06 07.0**	**+0.4**
PV19	**Morning Glory**	**6.17**	**208**		**Pn**	**19 06 07.2**	**+0.5**
PV03	**Paradox Valley**	**6.17**	**207**		**Pn**	**19 06 06.8**	**+0.2**
PV02	**Paradox Valley**	**6.18**	**206**		**Pn**	**19 06 07.3**	**+0.5**
PV17	**East Wray Mesa**	**6.19**	**208**		**Pn**	**19 06 07.7**	**+0.8**
PV01	**Paradox Valley**	**6.20**	**205**		**Pn**	**19 06 07.8**	**+0.8**
PV18	**Skein Mesa, Pa**	**6.20**	**208**		**Pn**	**19 06 07.3**	**+0.2**
PV13	**Radium Mtn., P**	**6.25**	**207**		**Pn**	**19 06 08.2**	**+0.4**
ECSD	**EROS Data Cent**	**6.25**	**88**	P	**Pn**	**19 06 07.3**	**-0.3**
baz=274							
ECSD	**EROS Data Cent**	**6.25**	**88**		**Pn**	**19 06 07.1**	**-0.5**
TMUT	**Trail Mountain**	**6.34**	**227**		**Pn**	**19 06 09.0**	**-0.1**
PV05	**Paradox Valley**	**6.42**	**208**		**Pn**	**19 06 08.9**	**-1.1**
BGU	**Big Grassy Mou**	**6.44**	**246**		**Pn**	**19 06 10.6**	**+0.3**
CBKS	**Cedar Bluff**	**6.49**	**138**	P	**Pn**	**19 06 10.3**	**-0.5**
baz=322							
Q16A	**Castle Valley**	**6.61**	**224**		**Pn**	**19 06 12.8**	**+0.2**
HLID	**Hailey**	**6.65**	**271**	Pn	**Pn**	**19 06 13.5**	**+0.4**
DUG	**Dugway, Tooele**	**6.69**	**240**	P	**Pn**	**19 06 13.2**	**-0.4**
baz=55,SNR=8.4							
DUG	**Dugway, Tooele**	**6.69**	**240**	Pn	**Pn**	**19 06 13.3**	**-0.3**
F33A	**5 Mile Ranch,**	**6.69**	**69**	Pn	**Pn**	**19 06 12.4**	**-1.1**
T25A	**Trinidad**	**6.69**	**174**	P	**Pn**	**19 06 13.3**	**-0.4**
baz=355							
T25A	**Trinidad**	**6.69**	**174**	Pn	**Pn**	**19 06 13.3**	**-0.4**
MSO	**Missoula**	**6.83**	**299**	P	**Pn**	**19 06 15.2**	**-0.4**
baz=113							
MSO	**Missoula**	**6.83**	**299**	Pn	**Pn**	**19 06 15.4**	**-0.2**
MVCO	**Mesa Verde**	**7.04**	**202**	Pn	**Pn**	**19 06 18.9**	**+0.4**
MSU	**Marysvale**	**7.43**	**227**	Pn	**Pn**	**19 06 24.2**	**+0.3**
MVU	**Marysvale**	**7.46**	**227**		**Pn**	**19 06 23.9**	**-0.4**
MTPU	**Mount Pierson**	**7.79**	**225**	Pn	**Pn**	**19 06 28.9**	**0.0**
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**19 06 44.5**	**-1.8**
comp=E,2.9nm,0.3s,baz=229,slow=13,SNR=9.1							
ULM	**Lac du Bonnet**	**9.08**	**41**		**Pn**	**19 06 44.9**	**-1.5**
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn	**Pn**	**19 07 16.9**	**+1.2**
comp=E,0.2nm,0.3s,baz=49,slow=11,SNR=7.5							
NVAR	**Mina Array Bea**	**11.21**	**246**		**Pn**	**19 07 16.3**	**+0.6**
TXAR	**Lajitas Array**	**14.50**	**174**	Pn	**P**	**19 08 07.7**	**+0.1**
comp=E,0.1nm,0.3s,baz=344,slow=7.9,SNR=4.1							
TXAR				Lg	Lg	19 12 11.0	
comp=E,0.1nm,0.3s,baz=5.7,slow=28,SNR=3.8							
TEIG	**Tepich**	**27.46**	**144**	LR	LR	19 23 55.8	
comp=E,74nm,20.7s,baz=357,slow=42							
ARCES	**ARCESS Array B**	**61.35**	**18**	P	**P**	**19 14 49.5**	**-1.6**
comp=E,2.3nm,0.9s,baz=339,slow=6.5,SNR=5.7							
FINES	**FINESS Array B**	**67.97**	**23**	P	**P**	**19 15 33.3**	**-1.1**
comp=E,0.6nm,0.7s,baz=280,slow=8.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**82.24**	**354**	P	**P**	**19 16 55.6**	**-1.2**
comp=E,0.9nm,0.6s,baz=2.8,slow=7.4,SNR=4.1							
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**19 17 32.3**	**-0.9**
comp=E,0.6nm,0.7s,baz=7.6,slow=4.9,SNR=6.8							

IDC 12 19:28:25.8±62.0, 18°.32S×178°.06W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/30, mbtmp3.9/3, Error ellipse: s-maj=1142.0km s-min=163.8km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.73**	**242**	P	P	19 35 52.1	+0.2
1.4nm,0.6s,baz=90,slow=10,SNR=4.6							
WRA	**Warramunga Arr**	**44.88**	**260**	P	P	19 36 42.2	-0.3
0.9nm,0.7s,baz=97,slow=7.6,SNR=15							
ASAR	**Alice Springs**	**45.00**	**255**	P	P	19 36 43.2	-0.2
0.7nm,0.4s,baz=89,slow=8.3,SNR=27							

*IDC **12** 19:32:05.6±1.2, 27°.97N×62°.28E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.4/43, mbtmp3.7/9, ML3.2/1, Error ellipse: s-maj=32.1km s-min=22.1km az=126.0*
*TEH **12** 19:32:09.5, 27°.88N×62°.42E, h15km, ML3.8*
*THR **12** 19:32:09.1±0.7, 27°.89N×62°.45E, h16km, ML3.9*
*DSN **12** 19:32:17.7±1.6, 27°.22N×61°.81E, h10km, ML4.3/6, Error ellipse: s-maj=28.1km s-min=13.8km az=154.0*
ISC 12 19:32:04.4±1.3, 27°.59N±0°.10×62°.8E±0°.2, h10km, n49, σ1=65/49, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZD1	**Zahaedan-tmp**	**2.52**	**319**	*e*Pn	**Pn**	**19 32 46.3**	**+0.7**
ZHSF	**Zahedan**	**2.66**	**320**	*e*P	**Pn**	**19 32 48.6**	**+1.0**
ZHSF	**Zahedan**	**2.66**	**320**	*e*Pn	**Pn**	**19 32 48.6**	**+1.0**
CHBR	**Chabahar**	**2.85**	**226**	*e*Pn	**Pb**	**19 32 56.5**	**+1.1**
CHBR				IAML		19 33 29.0	
comp=E,334nm,0.2s							
CHBR				IAML		19 33 30.5	
comp=N,378nm,0.3s							
CHBR	**Chabahar**	**2.85**	**226**	*e*Pn	**Pb**	**19 32 56.5**	**+1.1**
NHDN	**Nehbandan**	**4.46**	**329**	*e*Pn	**Pn**	**19 33 13.0**	**+0.7**
NHDN				*e*		19 33 15.3	
KHNJ	**Kahnooj**	**4.49**	**276**	*e*Pn	**Pn**	**19 33 14.7**	**+2.1**
CHMN	**Cheshme madani**	**5.11**	**297**	*e*Pn	**Pn**	**19 33 22.0**	**+0.6**
CHMN				*e*		19 33 23.5	
BSRN	**Basiran**	**5.38**	**325**	*e*Pn	**Pn**	**19 33 25.0**	**+0.1**
BSRN	**Basiran**	**5.38**	**325**	*e*Pn	**Pn**	**19 33 25.0**	**+0.1**
NGRK	**Negar Kerman**	**5.68**	**293**	*e*Pn	**Pn**	**19 33 31.4**	**+2.1**
IDAH	**Dahanechah**	**5.71**	**335**	*e*Pn	**Pn**	**19 33 30.7**	**+1.2**
IDAH				*e*		19 33 33.2	
WSAR	**Wadi Sarin**	**5.72**	**222**	Pn	**Pn**	**19 33 33.9**	**+4.4**
comp=N,0.7nm,0.3s,baz=58,slow=8.3,SNR=17							
WSAR				Sn	**Sn**	**19 34 31.3**	**-3.9**
comp=N,7.2nm,0.3s,baz=263,slow=19,SNR=26							
KRBR	**Kerman**	**5.78**	**296**	*e*Pn	**Pn**	**19 33 31.5**	**+0.9**
KRBR	**Kerman**	**5.78**	**296**	*e*Pn	**Pn**	**19 33 31.5**	**+0.9**
TVBK	**TV Kerman**	**5.78**	**296**	*e*Pn	**Pn**	**19 33 32.1**	**+1.5**
GENO	**Geno**	**5.86**	**270**	*e*Pn	**Pn**	**19 33 34.1**	**+2.6**
GENO				*e*		19 34 36.1	
BNDS	**Bandar-Abbas**	**5.86**	**270**	*e*Pn	**Pn**	**19 33 33.9**	**+2.4**
BNDS	**Bandar-Abbas**	**5.86**	**270**	*e*Pn	**Pn**	**19 33 33.9**	**+2.4**
BANOM	**Banah**	**6.01**	**255**	*i* P	**Pn**	**19 33 35.0**	**+1.6**
SNR=18							
BANOM				S	Sn	19 34 33.5	-8.9
SHME	**Shamm**	**6.11**	**257**	*i* P	**Pn**	**19 33 36.3**	**+1.5**
SNR=10							
IMON	**Monand**	**6.19**	**335**	*e*Pn	**Pn**	**19 33 37.1**	**+1.0**
MDH	**Madha**	**6.23**	**250**	*i* P	**Pn**	**19 33 37.2**	**+0.8**
SNR=7.3							
MSFE	**Esma-Masafi**	**6.32**	**251**	P	**Pn**	**19 33 39.5**	**+1.7**
ITEG	**Tejag**	**6.32**	**328**	*e*Pn	**Pn**	**19 33 38.3**	**+0.4**
ITEG				*e*		19 33 39.4	
SHRT	**Shahrakht**	**6.40**	**341**	*e*Pn	**Pn**	**19 33 39.8**	**+1.0**
SHRT	**Shahrakht**	**6.40**	**341**	*e*Pn	**Pn**	**19 33 39.8**	**+1.0**
UOSS	**Minazif**	**6.45**	**247**	P	**Pn**	**19 33 38.6**	**-0.9**
SOHO	**SOHO**	**6.58**	**240**	*i* P	**Pn**	**19 33 42.1**	**+0.8**
SNR=26							
SOHO				S	Sn	19 34 48.5	-7.9
ASHO	**Ashiyiah**	**6.68**	**246**	P	**Pn**	**19 33 42.0**	**-0.7**
LAR1	**LAR**	**7.44**	**273**	*e*Pn	**Pn**	**19 33 54.7**	**+1.5**
TPRV	**Parvadeh(Tabas**	**7.54**	**317**	*e*Pn	**Pn**	**19 33 55.4**	**+0.8**
TKDS	**Koohdasht(Taba**	**7.72**	**322**	*e*Pn	**Pn**	**19 33 58.1**	**+1.0**
TABS	**Tabas**	**7.75**	**323**	*e*Pn	**Pn**	**19 33 58.1**	**+0.7**
TABS	**Tabas**	**7.75**	**323**	*e*Pn	**Pn**	**19 33 58.1**	**+0.7**
LMD1	**Lamerd**	**8.53**	**271**	*e*Pn	**Pn**	**19 34 09.5**	**+1.4**
YZKH	**Yazd**	**8.55**	**306**	*e*Pn	**Pn**	**19 34 09.1**	**+0.8**
YZKH	**Yazd**	**8.55**	**306**	*e*Pn	**Pn**	**19 34 09.1**	**+0.8**
IPAY	**Payeh**	**9.39**	**341**	*e*Pn	**Pn**	**19 34 22.8**	**+2.7**
IAKL	**Akhelmad**	**9.60**	**340**	*e*Pn	**Pn**	**19 34 25.2**	**+2.2**
KLNJ	**Kolanjah**	**10.33**	**292**	*e*Pn	**Pn**	**19 34 34.1**	**+1.1**
MKAR	**Makanchi Array**	**24.57**	**34**	P	**P**	**19 37 27.4**	**+3.0**
comp=N,0.5nm,0.5s,baz=214,slow=8.9,SNR=9.1							
BVAR	**Borovoye Array**	**26.03**	**11**	P	**P**	**19 37 37.8**	**+0.2**
comp=N,0.5nm,0.4s,baz=181,slow=8.9,SNR=6.9							
ZALV	**Zalesovo Beam**	**30.93**	**26**	P	**P**	**19 38 22.3**	**+1.1**
comp=N,0.3nm,0.3s,baz=219,slow=9.8,SNR=2.4							
FINES	**FINESS Array B**	**41.75**	**334**	P	**P**	**19 39 52.0**	**-1.5**
comp=N,1.6nm,0.9s,baz=128,slow=9.0,SNR=5.6							
ARCES	**ARCESS Array B**	**47.18**	**343**	P	**P**	**19 40 35.7**	**-1.1**
comp=N,4.9nm,1.1s,baz=144,slow=9.0,SNR=4.6							
NOA	**NORSAR Array B**	**47.85**	**329**	P	**P**	**19 40 40.2**	**-2.0**
comp=N,0.3nm,0.6s,baz=110,slow=7.6,SNR=2.5							
TORD	**Torodi Ar. Bea**	**58.51**	**269**	P	**P**	**19 42 00.9**	**-0.4**
comp=N,0.5nm,0.4s,baz=61,slow=6.6,SNR=12							
ASAR	**Alice Springs**	**85.46**	**119**	P	P	19 44 47.7	+4.9
comp=N,0.2nm,0.6s,baz=302,slow=4.2,SNR=4.3							

*NEIC **12** 19:41:40.6±2.9, 29°.7S±0°.1×178°.8W±0°.2, h376km±6km, mb4.2/9, Error ellipse: s-maj=23.7km s-min=17.4km az=67.0*
*IDC **12** 19:41:48.0±1.5, 30°.14S×178°.86W, h466km±17km, mb2.9/4, mb1 3.0/5, mb1mx2.9/20, mbtmp3.8/5, Error ellipse: s-maj=39.0km s-min=22.0km az=132.0*
ISC 12 19:41:47.8±0.9, 29°.89S±0°.08×179°.0W±0°.1, h450km, n57, σ2=90/54, mb3.8/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.13**	**56**	P	**P**	**19 42 47.0**	**+2.5**
31nm,0.3s,baz=140,slow=18,SNR=1.3							
URZ	**Urewera**	**8.96**	**200**	P	**P**	**19 43 50.8**	**-2.6**
1.4nm,0.3s,baz=269,slow=3.9,SNR=16							
URZ				S	**S**	**19 45 33.5**	**-3.2**
1.5nm,0.3s,baz=352,slow=22,SNR=10							
MUGZ	**Murupara**	**9.26**	**201**	P	**P**	**19 43 54.3**	**-2.5**
RAHZ	**Arahi**	**9.57**	**199**	P	**P**	**19 43 58.5**	**-1.6**
NMHZ	**Naumai**	**9.82**	**200**	P	**P**	**19 44 01.6**	**-1.4**
ARHZ	**Aropaoanui**	**9.92**	**198**	P	**P**	**19 44 01.1**	**-2.8**
BKZ	**Black Stump Fm**	**9.98**	**201**	P	**P**	**19 44 02.9**	**-1.7**
BKZ	**Black Stump Fm**

NB2 NORSAR Subarra148.11 351 PKP **PKPbc 20 00 41.4 +0.1**
comp=Z,0.3nm,0.5s,baz=16,slow=2.9
NOA NORSAR Array B148.11 351 PKPbc **PKPbc 20 00 40.4 -0.9**
comp=Z,0.7nm,0.8s,baz=17,slow=4.3,SNR=3.8

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*UNK **12** 19:55:58.6, 22°.16S×179°.53W, h579km*
*INMG **12** 19:55:58.6, 22°.16S×179°.53W, h579km, Mb5.0*
*NEIC **12** 19:55:58.9±1.8, 22°.18S±0°.08×179°.52W±0°.09, h582km±2km, mb4.8/159, Error ellipse: s-maj=12.3km s-min=11.2km az=87.0*
*IDC **12** 19:55:58.8±0.4, 22°.20S×179°.61W, h574km±4km, mb4.0/23, mb1 4.2/24, mb1mx4.1/29, mbtmp5.0/24, Error ellipse: s-maj=9.0km s-min=7.9km az=148.0*
*BGR **12** 19:55:58.9±0.0, 22°.79S×179°.60W, h593km*
*GCMT **12** 19:55:59.9±0.6, 22°.40S±0°.05×179°.31W±0°.06, h589km±5km, MW5.1/44, Moment Tensor Solution. s44,c53; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.71±.31; Mθθ0.53±.58; Mφφ4.18±.54; Mrθ4.15±.72; Mθφ-0.31±.52; Mφr-0.89±.73; Best double couple: M0=5.77000×10^16 NP1:φs=191.00000°, δ39.00000°, λ-47.00000°. NP2:φs=321.00000°, δ63.00000°, λ-118.00000°. Principal axes: T 4.5050, Plg13.0000°, Azm71.0000°; N 2.5270, Plg25.0000°, Azm335.0000°; P -7.0340, Plg61.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 12 19:55:58.8±0.3, 22°.26S±0°.04×179°.53W±0°.05, h582km±3km, h583km: pP-P, n560, σ1§61/664, mb4.7/104, 28C-27D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.05**	**333**	P	**P**	**19 57 31.2**	**0.0**
RIZ	**Raoul Island**	**7.10**	**169**	P	**P**	**19 57 48.4**	**-0.4**
RAO	**Raoul Island**	**7.11**	**169**	P	**P**	**19 57 48.6**	**-0.4**
	231nm,0.3s,baz=59,slow=18,SNR=7.4						
RAO				S	**S**	**19 59 17.8**	**-1.4**
	59nm,0.3s,baz=90,slow=20,SNR=1.5						
RAO	**Raoul Island**	**7.11**	**169**	P	**P**	**19 57 48.4**	**-0.6**
GLKZ	**Green Lake**	**7.12**	**169**	P	**P**	**19 57 49.1**	**+0.1**
GLKZ				S	**S**	**19 59 18.5**	**-0.8**
NIUE	**Niue**	**9.53**	**72**	P	**P**	**19 58 11.3**	**-1.3**
AFI	**Afiamalu**	**11.10**	**43**	P	**P**	**19 58 24.5**	**-4.0**
	5.5nm,0.3s,baz=359,slow=2.8,SNR=9.7						
AFI				S	S	20 00 21.7	-10
	4.5nm,0.3s,baz=204,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**13.00**	**268**	P	**P**	**19 58 47.2**	**-0.7**
	3.6nm,0.3s,baz=69,slow=20,SNR=27						
DZM				S	**S**	**20 01 06.8**	**-0.1**
	0.1nm,0.3s,baz=336,slow=18,SNR=1.2						
DZM	**Mont Dzumac**	**13.00**	**268**	P	**P**	**19 58 47.0**	**-0.9**
FUNA	**Funafuti**	**13.71**	**355**	P	**P**	**19 58 54.2**	**-0.9**
OUZ	**Omahuta**	**14.24**	**203**	P	**P**	**19 59 01.2**	**+1.1**
OUZ	**Omahuta**	**14.24**	**203**	P	**P**	**19 59 01.6**	**+1.5**
SANVU	**Saraoutou**	**14.27**	**296**	P	**P**	**19 58 58.6**	**-2.0**
GRZ	**Great Barrier**	**14.61**	**196**	P	**P**	**19 59 04.4**	**+0.9**
WCZ	**Waipu Caves**	**14.64**	**200**	P	**P**	**19 59 05.5**	**+1.6**
KUZ	**Kuaotunu**	**15.01**	**195**	P	**P**	**19 59 08.2**	**+0.8**
WIAZ	**Waiheke Island**	**15.20**	**197**	P	**P**	**19 59 11.5**	**+2.3**
WTAZ	**Waiatarua**	**15.49**	**198**	P	**P**	**19 59 13.3**	**+1.4**
HAZ	**Te Kaha**	**15.62**	**188**	P	**P**	**19 59 12.6**	**-0.6**
HAZ				S	**S**	**20 01 45.9**	**-5.9**
RUGZ	**Raukumara Rang**	**15.83**	**188**	P	**P**	**19 59 14.9**	**-0.4**
PUZ	**Puketiti**	**15.87**	**186**	P	**P**	**19 59 15.4**	**-0.2**
TOZ	**Tahuroa Road**	**16.00**	**194**	P	**P**	**19 59 18.4**	**+1.6**
OMRZ	**Omania**	**16.18**	**192**	P	**P**	**19 59 18.7**	**+0.3**
URZ	**Urewera**	**16.20**	**190**	P	**P**	**19 59 15.8**	**-2.8**
	14nm,0.3s,baz=246,slow=2.5,SNR=41						
URZ				S	**S**	**20 01 55.2**	**-6.2**
	7.6nm,0.3s,baz=52,slow=23,SNR=13						
URZ	**Urewera**	**16.20**	**190**	P	**P**	**19 59 15.5**	**-3.1**
URZ				S	**S**	**20 01 54.0**	**-7.4**
URZ	**Urewera**	**16.20**	**190**	P	**P**	**19 59 16.8**	**-1.8**
URZ					**S**	**20 01 56.2**	**-5.3**
MWZ	**Matawai**	**16.22**	**188**	P	**P**	**19 59 17.2**	**-1.6**
MWZ				S	**S**	**20 01 54.4**	**-7.4**
TARZ	**Mount Tarawera**	**16.28**	**191**	P	**P**	**19 59 19.8**	**+0.3**
RRRZ	**Republican Roa**	**16.38**	**191**	P	**P**	**19 59 21.0**	**+0.7**
MUGZ	**Murupara**	**16.47**	**190**	P	**P**	**19 59 19.9**	**-1.1**
MUGZ				S	**S**	**20 01 59.7**	**-6.2**
HRRZ	**Handcock Road**	**16.47**	**192**	P	**P**	**19 59 21.4**	**+0.2**
RIGZ	**Rimuhau**	**16.55**	**187**	P	**P**	**19 59 21.2**	**-0.7**
RIGZ				S	**S**	**20 02 03.9**	**-3.3**
TLZ	**Tolley Road**	**16.57**	**194**	P	**P**	**19 59 23.7**	**+1.7**
ALRZ	**Allen Road**	**16.63**	**191**	P	**P**	**19 59 23.3**	**+0.8**
ALRZ				S	**S**	**20 02 10.3**	**+1.9**
KUTZ	**Kaahu Road**	**16.66**	**193**	P	**P**	**19 59 23.6**	**+0.8**
WHTZ	**Whakaora**	**16.80**	**192**	P	**P**	**19 59 26.8**	**+2.6**
MRHZ	**Matea Rd**	**16.88**	**191**	P	**P**	**19 59 23.6**	**-1.2**
MRHZ				S	**S**	**20 02 08.0**	**-4.5**
HIZ	**Hauiti**	**16.90**	**195**	P	**P**	**19 59 27.1**	**+2.2**
HIZ	**Hauiti**	**16.90**	**195**	P	**P**	**19 59 26.7**	**+1.8**
HIZ				IAmb	IAmb	19 59 40.9	
	comp=Z,71nm,0.8s						
WHHZ	**Waihua**	**16.99**	**189**	P	**P**	**19 59 25.6**	**-0.2**
WHHZ				S	**S**	**20 02 10.9**	**-3.4**
RATZ	**Rangitukua**	**17.03**	**193**	P	**P**	**19 59 26.2**	**-0.1**
NMHZ	**Naumai**	**17.07**	**190**	P	**P**	**19 59 25.5**	**-1.1**
NMHZ				S	**S**	**20 02 09.9**	**-5.8**
RITZ	**Rihia Road**	**17.12**	**192**	P	**P**	**19 59 27.2**	**+0.2**
RITZ				S	**S**	**20 02 17.6**	**+1.1**
KATZ	**Kakaramea**	**17.15**	**193**	P	**P**	**19 59 27.0**	**-0.4**
BKZ	**Black Stump Fm**	**17.19**	**191**	P	**P**	**19 59 25.8**	**-1.8**
BKZ				S	**S**	**20 02 12.0**	**-5.6**
BKZ	**Black Stump Fm**	**17.19**	**191**	P	**P**	**19 59 25.4**	**-2.3**
BKZ				IAmb	IAmb	19 59 26.9	
	comp=Z,35nm,0.6s						
ARHZ	**Aropaoanui**	**17.20**	**189**	P	**P**	**19 59 27.7**	**0.0**
ARHZ				S	**S**	**20 02 13.0**	**-4.8**
KRVZ	**Karewarewa**	**17.28**	**193**	P	**P**	**19 59 28.3**	**-0.3**
KRVZ				S	**S**	**20 02 21.2**	**+2.0**
WTVZ	**West Tongariro**	**17.31**	**193**	P	**P**	**19 59 28.6**	**-0.2**
OTVZ	**Oturere**	**17.34**	**193**	P	**P**	**19 59 28.1**	**-1.0**
OTVZ				S	**S**	**20 02 16.8**	**-3.5**
NGZ	**Ngauruhoe**	**17.36**	**193**	P	**P**	**19 59 30.3**	**+0.9**
MCHZ	**McNeill Hill**	**17.43**	**190**	P	**P**	**19 59 28.0**	**-1.8**
MCHZ				S	**S**	**20 02 19.2**	**-2.2**
TUVZ	**Tukino**	**17.44**	**193**	P	**P**	**19 59 29.9**	**-0.1**
KWHZ	**Kaweka Forest**	**17.45**	**191**	P	**P**	**19 59 28.7**	**-1.3**
KWHZ				S	**S**	**20 02 14.9**	**-7.0**
VRZ	**Vera Road**	**17.50**	**195**	P	**P**	**19 59 32.9**	**+2.4**
VRZ				S	**S**	**20 02 25.8**	**+3.2**
WNVZ	**Wahianoa**	**17.51**	**193**	P	**P**	**19 59 29.8**	**-0.9**
WNVZ				S	**S**	**20 02 17.7**	**-5.4**
MOVZ	**Moawhango**	**17.56**	**192**	P	**P**	**19 59 30.1**	**-0.9**
MOVZ				S	**S**	**20 02 14.5**	**-9.1**
BHHZ	**Black Hill Sta**	**17.58**	**191**	P	**P**	**19 59 28.6**	**-2.6**
BHHZ				S	**S**	**20 02 16.4**	**-7.6**
CKHZ	**Cape Kidnapper**	**17.58**	**189**	P	**P**	**19 59 30.1**	**-1.0**
KRHZ	**Kereru**	**17.68**	**190**	P	**P**	**19 59 30.4**	**-1.6**
KRHZ				S	**S**	**20 02 21.7**	**-3.8**
KAHZ	**Kahuranaki**	**17.74**	**189**	P	**P**	**19 59 32.1**	**-0.6**
KAHZ				S	**S**	**20 02 23.4**	**-3.2**
PKE	**Pukeiti**	**17.76**	**197**	P	**P**	**19 59 34.8**	**+1.9**
NEZ	**North Egmont**	**17.81**	**196**	P	**P**	**19 59 37.8**	**+4.4**
LREZ	**Lake Rotokare**	**17.91**	**195**	P	**P**	**19 59 37.6**	**+3.5**
PNHZ	**Pukenui**	**17.97**	**191**	P	**P**	**19 59 32.3**	**-2.4**
PNHZ				S	**S**	**20 02 23.1**	**-7.1**
PXZ	**Pawanui**	**17.98**	**189**	P	**P**	**19 59 34.2**	**-0.5**
PXZ				S	**S**	**20 02 26.3**	**-3.9**
WAZ	**Wanganui**	**18.05**	**194**	P	**P**	**19 59 33.9**	**-1.6**
WAZ				S	**S**	**20 02 35.3**	**+3.8**
WPHZ	**Waipukurau**	**18.07**	**190**	P	**P**	**19 59 35.8**	**+0.1**
WPHZ				S	**S**	**20 02 31.3**	**-0.6**
TSZ	**Takapari Road**	**18.15**	**191**	P	**P**	**19 59 33.8**	**-2.6**
TSZ				S	**S**	**20 02 33.1**	**0.0**
DVHZ	**Dannevirke**	**18.35**	**191**	P	**P**	**19 59 38.2**	**0.0**
ANWZ	**Angora Road**	**18.45**	**190**	P	**P**	**19 59 39.3**	**+0.2**
ANWZ				S	**S**	**20 02 39.1**	**+1.1**
BFZ	**Birch Farm**	**18.71**	**190**	P	**P**	**19 59 40.0**	**-1.4**
BFZ				IAmb	IAmb	19 59 41.6	
	comp=Z,59nm,0.8s						
MSWZ	**Moikau Station**	**19.60**	**192**	P	**P**	**19 59 48.2**	**-1.3**
MSWZ					**S**	**20 02 56.3**	**0.0**
SNZO	**South Karori**	**19.60**	**193**	P	**P**	**19 59 48.1**	**-1.3**
SNZO					**S**	**20 02 58.5**	**+2.1**
BHW	**Baring Head**	**19.66**	**193**	P	**P**	**19 59 48.6**	**-1.4**
BHW					**S**	**20 02 59.4**	**+2.1**
QRZ	**Quartz Range**	**19.69**	**198**	P	**P**	**19 59 50.9**	**+0.6**
PLWZ	**Palliser**	**19.74**	**192**	P	**P**	**19 59 49.1**	**-1.7**
PLWZ					**S**	**20 02 58.8**	**+0.1**
NNZ	**Nelson**	**19.82**	**196**	P	**P**	**19 59 50.6**	**-0.9**
TUWZ	**Tuamarina**	**19.89**	**195**	P	**P**	**19 59 50.7**	**-1.4**
TUWZ					**S**	**20 02 58.9**	**-1.9**
CMWZ	**Cape Campbell**	**20.13**	**194**	P	**P**	**19 59 53.5**	**-0.8**
BSWZ	**Blackbirch Sta**	**20.17**	**194**	P	**P**	**19 59 53.7**	**-1.0**
THZ	**Tophouse**	**20.46**	**196**	P	**P**	**19 59 56.9**	**-0.4**
THZ					**S**	**20 03 06.8**	**-3.2**
KNTN	**Kanton**	**20.80**	**22**	P	**P**	**19 59 58.8**	**-1.9**
KHZ	**Kahutara**	**20.92**	**195**	P	**P**	**20 00 00.2**	**-1.1**
LTZ	**Lake Taylor**	**21.58**	**197**	P	**P**	**20 00 05.6**	**-1.7**
LTZ					**S**	**20 03 26.9**	**-0.8**
OXZ	**Oxford**	**22.14**	**196**	P	**P**	**20 00 11.1**	**-1.3**
MOZ	**McQueen's Vall**	**22.35**	**195**	P	**P**	**20 00 12.7**	**-1.4**
RPZ	**Rata Peaks**	**22.77**	**198**	P	**P**	**20 00 18.4**	**+0.5**
	comp=Z,14nm,0.4s,baz=34,slow=5.1,SNR=12						
RPZ	**Rata Peaks**	**22.77**	**198**	P	**P**	**20 00 17.3**	**-0.7**
FOZ	**Fox Glacier**	**22.98**	**200**	P	**P**	**20 00 19.3**	**-0.5**
FOZ				IAmb	IAmb	20 01 02.2	
	comp=Z,75nm,1.2s						
TARA	**Tarawa**	**24.60**	**342**	P	**P**	**20 00 33.8**	**-0.8**
MLZ	**Mavora Lakes**	**25.17**	**201**	P	**P**	**20 00 38.7**	**-0.4**
MLZ				IAmb	IAmb	20 00 40.9	
	comp=Z,72nm,1.5s						
WHZ	**Wether Hill Ro**	**25.69**	**200**	P	**P**	**20 00 43.6**	**-0.1**
ARMA	**Armidale**	**27.04**	**246**	P	**P**	**20 00 57.7**	**+1.8**
ARMA				IAmb	IAmb	20 00 58.5	
	comp=Z,21nm,0.5s						
EIDS	**Eidsvold**	**27.04**	**258**	P	**P**	**20 00 56.5**	**+0.7**
EIDS				IAmb	IAmb	20 00 57.2	
	comp=Z,15nm,0.8s						
PPT	**Papeete**	**28.52**	**86**	P	**P**	**20 01 10.6**	**+1.8**
	comp=Z,55nm,0.6s,baz=88,slow=11,SNR=4.2						
CAN	**Canberra**	**30.36**	**238**	P	**P**	**20 01 25.9**	**+1.3**
CAN				IAmb	IAmb	20 01 27.1	
	comp=Z,23nm,0.7s						
CTA	**Charters Tower**	**31.95**	**267**	P	**P**	**20 01 38.9**	**+0.6**
	comp=Z,16nm,0.3s,baz=91,slow=11,SNR=75						
CTA				PcP	**PcP**	**20 04 10.9**	**+0.5**
	comp=Z,10nm,0.6s,baz=86,slow=4.6,SNR=6.2						
CTA				ScP	**ScP**	**20 07 01.8**	**+2.5**
	comp=Z,6.0nm,0.9s,baz=103,slow=1.4,SNR=4.4						
CTAO	**Charters Tower**	**31.95**	**267**	P	**P**	**20 01 38.9**	**+0.6**
CTAO				IAmb	IAmb	20 01 39.6	
	comp=Z,32nm,1.1s						
XMAS	**Kiritimati**	**32.38**	**45**	P	**P**	**20 01 41.9**	**0.0**
KWAJ	**Kwajalein Atol**	**33.35**	**336**	P	**P**	**20 01 49.6**	**-0.4**
TOO	**Toolangi**	**33.72**	**235**	P	**P**	**20 01 54.1**	**+1.2**
TOO				IAmb	IAmb	20 01 54.8	
	comp=Z,46nm,0.7s						
TAU	**Tasmania Unive**	**34.38**	**225**	P	**P**	**20 01 59.3**	**+1.0**
PMG	**Port Moresby**	**34.41**	**286**	P	**P**	**20 01 59.1**	**+0.1**
	comp=Z,17nm,0.7s,baz=94,slow=6.6,SNR=6.1						
PMG	**Port Moresby**	**34.41**	**286**	P	**P**	**20 01 59.1**	**+0.1**
PMG				IAmb	IAmb	20 02 00.1	
	comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**35.76**	**246**	P	**P**	**20 02 10.8**	**+0.8**
	comp=Z,23nm,0.5s,baz=93,slow=11,SNR=109						
STKA				PcP	**PcP**	**20 04 22.1**	**+0.7**
	comp=Z,4.6nm,0.5s,baz=88,slow=3.9,SNR=3.5						
STKA				S	**S**	**20 07 06.1**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=257,slow=18,SNR=5.4						
STKA	**Stephens Creek**	**35.76**	**246**	P	**P**	**20 02 10.9**	**+1.0**
PATS	**Pohnpei**	**36.16**	**321**	P	**P**	**20 02 13.4**	**0.0**
COEN	**Coen**	**36.32**	**277**	P	**P**	**20 02 15.3**	**+0.4**
COEN				IAmb	IAmb	20 03 18.6	
	comp=Z,14nm,1.3s						
JOHN	**Johnston Islan**	**39.97**	**15**	P	**P**	**20 02 43.7**	**-0.5**
BBOO	**Buckleboo**	**40.51**	**245**	P	**P**	**20 02 48.5**	**+0.1**
BBOO				IAmb	IAmb	20 02 49.1	
	comp=Z,40nm,0.8s						
AS31	**Alice Springs**	**42.76**	**259**	P	**P**	**20 03 06.4**	**+0.1**
AS31				PcP	**PcP**	**20 04 45.0**	**+0.7**
ASAR	**Alice Springs**	**42.76**	**259**	P	**P**	**20 03 06.3**	**+0.1**
	comp=Z,23nm,0.7s,baz=98,slow=7.6,SNR=316						
ASAR				PcP	**PcP**	**20 04 44.6**	**+0.4**
	comp=Z,11nm,0.7s,baz=107,slow=3.9,SNR=16						
ASAR				ScP	**ScP**	**20 07 43.2**	**+3.0**
	comp=Z,1.4nm,0.6s,baz=114,slow=4.5,SNR=4.0						
ASAR				S	**S**	**20 08 46.9**	**-2.2**
	comp=Z,6.9nm,0.9s,baz=94,slow=15,SNR=24						
ASAR				PKiKP	**PKiKP**	**20 11 45.0**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=104,slow=1.9,SNR=4.6						
ASAR	**Alice Springs**	**42.76**	**259**	P	**P**	**20 03 06.1**	**-0.2**
ASAR				PcP	**PcP**	**20 04 44.3**	**+0.1**
WR0	**Warramunga Arr**	**42.79**	**264**	P	**P**	**20 03 06.0**	**-0.6**
WR0				IAmb	IAmb	20 03 07.4	
	comp=Z,14nm,0.4s						
WB0	**Warramunga Arr**	**42.96**	**264**	P	**P**	**20 03 07.4**	**-0.5**
WB0				IAmb	IAmb	20 03 08.0	
	comp=Z,27nm,0.4s						
WB2	**Warramunga Arr**	**42.97**	**264**	P	**P**	**20 03 07.3**	**-0.7**
WB2				IAmb	IAmb	20 03 09.6	
	comp=Z,15nm,0.5s						
WRAB	**Tennant Creek**	**42.97**	**264**	P	**P**	**20 03 07.3**	**-0.7**
WRA	**Warramunga Arr**	**42.98**	**264**	P	**P**	**20 03 07.5**	**-0.6**
	comp=Z,6.4nm,0.3s,baz=95,slow=8.0,SNR=468						
WRA				PcP	**PcP**	**20 04 45.6**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=103,slow=3.6,SNR=8.8						
WRA				ScP	**ScP**	**20 07 43.8**	**+2.6**
	comp=Z,4.2nm,0.8s,baz=97,slow=4.0,SNR=9.2						
WRA				S	**S**	**20 08 45.1**	**-7.1**
	comp=Z,3.7nm,0.9s,baz=99,slow=14,SNR=8.5						
WRA	**Warramunga Arr**	**42.98**	**264**	P	**P**	**20 03 06.3**	**-1.7**
WRA	**Warramunga Arr**	**42.98**	**264**		**ScP**	**20 07 44.5**	**+3.3**
JAY	**Jayapura**	**43.30**	**291**	P	**P**	**20 03 10.3**	**-0.3**
	comp=Z,13nm,0.6s,baz=175,slow=4.5,SNR=19						
WAKE	**Wake Island**	**43.45**	**341**	P	**P**	**20 03 11.2**	**-0.3**
FORT	**Forrest**	**47.31**	**248**	P	**P**	**20 03 40.8**	**-0.1**
FORT				PcP	**PcP**	**20 05 00.9**	**+0.8**
KHU	**Kahuku**	**47.42**	**31**	P	**P**	**20 03 41.2**	**-0.8**
KHLU	**Kahalu`u**	**47.58**	**31**	P	**P**	**20 03 42.9**	**-0.2**
MLOA	**Mauna Loa Obse**	**47.68**	**31**	P	**P**	**20 03 44.0**	**-0.3**
HUH	**Hualalai**	**47.69**	**31**	P	**P**	**20 03 44.2**	**+0.2**
HMH	**Humu`ula Sheep**	**47.78**	**31**	P	**P**	**20 03 45.1**	**+0.2**
MTN	**Manton Dam**	**47.79**	**273**	P	**P**	**20 03 44.2**	**-0.5**
MTN				IAmb	IAmb	20 03 44.5	
	comp=Z,12nm,0.6s						
POHA	**Pohakuloa**	**47.89**	**31**	P	**P**	**20 03 42.8**	**-2.7**
HON	**Honolulu**	**48.14**	**27**	P	**P**	**20 03 47.3**	**+0.2**
KIP	**Kipapa**	**48.23**	**27**	P	**P**	**20 03 48.2**	**+0.5**
HLK	**Haleakala**	**48.42**	**30**	P	**P**	**20 03 48.9**	**-0.6**
KNRA	**Kununurra**	**49.15**	**268**	P	**P**	**20 03 54.6**	**-0.1**
KNRA				IAmb	IAmb	20 03 55.4	
	comp=Z,24nm,0.7s						
FAKI	**Fak Fak**	**50.55**	**285**	P	**P**	**20 04 05.1**	**+0.1**
FAKI				IAmb	IAmb	20 05 19.0	
	comp=Z,85nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.41**	**264**	S	**S**	**20 10 48.7**	**+0.3**
	comp=Z,4.0nm,1.0s,baz=180,slow=20,SNR=8.0						
FITZ	**Fitzroy Crossi**	**51.41**	**264**	P	**P**	**20 04 11.4**	**+0.2**
FITZ				IAmb	IAmb	20 04 12.4	
	comp=Z,37nm,1.4s						
SOEI	**Soe**	**55.16**	**274**	P	PcP	20 04 38.6	-52
	comp=Z,92nm,0.7s						
SOEI				S	**P**	**20 04 37.7**	**-0.2**
	comp=Z,92nm,0.7s						
SOEI	**Soe**	**55.16**	**274**	P	**P**	**20 04 39.3**	**+1.4**
SOEI				IAmb	IAmb	20 04 40.2	
	comp=Z,79nm,0.8s						
BATI	**Baumata**	**55.56**	**273**	P	**P**	**20 04 40.9**	**+0.3**
	comp=Z,30nm,0.6s						
PSA00	**Pilbara Seismi**	**55.90**	**258**	P	**P**	**20 04 42.5**	**-0.3**
PSA00				IAmb	IAmb	20 04 43.3	
	comp=Z,53nm,1.0s						
PSA00	**Pilbara Seismi**	**55.90**	**258**	P	**P**	**20 04 40.5**	**-2.3**
PSA00				IAmb	IAmb	20 04 42.0	
	comp=Z,15nm,0.7s						
VNDA	**Vanda**	**56.04**	**185**	P	**P**	**20 04 45.1**	**+2.3**
	comp=Z,20nm,0.7s,baz=358,slow=7.9,SNR=108						
VNDA				PcP	**PcP**	**20 05 33.1**	**+0.8**
	comp=Z,8.7nm,0.7s,baz=161,slow=2.0,SNR=5.6						
VNDA	**Vanda**	**56.04**	**185**	P	**P**	**20 04 45.1**	**+2.3**
VNDA				IAmb	IAmb	20 04 46.0	
	comp=Z,26nm,0.8s						
NWAO	**Narrogin (SRO)**	**56.32**	**244**	P	**P**	**20 04 45.6**	**+0.1**
NWAO				IAmb	IAmb	20 06 47.0	
	comp=Z,82nm,1.6s						
NWAO	**Narrogin (SRO)**	**56.32**	**244**	P	**P**	**20 04 45.6**	**+0.1**
NWAO				IAmb	IAmb	20 06 47.0	
	comp=Z,66nm,1.6s						
TNTI	**Ternate**	**56.56**	**287**	P	**P**	**20 04 47.1**	**-0.3**
TNTI				IAmb	IAmb	20 05 41.4	
	comp=Z,25nm,0.8s						
MMRI	**Maumere**	**57.43**	**274**	P	**P**	**20 04 52.4**	**-0.9**
	comp=Z,60nm,0.5s						
MMRI	**Maumere**	**57.43**	**274**	P	**P**	**20 04 53.0**	**-0.3**
MMRI				IAmb	IAmb	20 04 53.3	
	comp=Z,39nm,0.5s						
MORW	**Morawa**	**57.86**	**249**	P	**P**	**20 04 55.8**	**-0.2**
MORW				IAmb	IAmb	20 04 56.8	
	comp=Z,40nm,1.1s						
EDFI	**Ende, Flores**	**57.89**	**274**	P	**P**	**20 04 56.0**	**-0.6**
	comp=Z,30nm,0.8s						
LUWI	**Luwuk**	**59.89**	**282**	P	**P**	**20 05 10.2**	**+0.4**
LUWI				IAmb	IAmb	20 05 10.8	
	comp=Z,56nm,0.9s						
BKSI	**Bulukumba**	**60.59**	**277**	P	**P**	**20 05 14.3**	**-0.2**
	comp=Z,33nm,0.8s						
GIRL	**Giralia**	**60.73**	**256**	P	**P**	**20 05 16.3**	**+1.1**
PLAI	**Plampang**	**61.49**	**272**	P	**P**	**20 05 20.4**	**+0.1**
	comp=Z,107nm,1.1s						
PLAI				pP	**pP**	**20 07 11.1**	**-2.0**
	comp=Z,107nm,1.1s						
CASY	**Casey**	**61.77**	**206**	P	**P**	**20 05 21.9**	**+0.7**
CASY				IAmb	IAmb	20 05 22.8	
	comp=Z,42nm,0.9s						
TWSI	**Taliwang, Sumb**	**62.35**	**272**	P	**P**	**20 05 26.3**	**+0.4**
	comp=Z,32nm,0.7s						
MPSI	**Mapaga**	**63.07**	**282**	P	**P**	**20 05 29.3**	**-1.3**
JAGI	**Jajag, Banyuwa**	**64.97**	**271**	P	**P**	**20 05 41.6**	**-1.0**
JAGI				IAmb	IAmb	20 05 42.3	
	comp=Z,42nm,0.9s						
PWJI	**Pagerwojo**	**67.30**	**270**	P	**P**	**20 05 57.1**	**+0.1**
	comp=Z,89nm,1.3s						
QSPA	**South Pole Qui**	**67.81**	**180**	P	**P**	**20 06 01.1**	**+1.8**
UGM	**Wanagama**	**68.53**	**270**	P	**P**	**20 06 04.4**	**-0.1**
KKM	**Kota Kinabalu**	**68.86**	**286**	P	**P**	**20 06 06.5**	**0.0**
KKM				IAmb	IAmb	20 06 07.1	
	comp=Z,19nm,0.5s						
KPJI	**Karang Pucung**	**70.20**	**270**	P	**P**	**20 06 14.5**	**0.0**
	comp=Z,79nm,1.6s						
KPJI				pP	**pP**	**20 08 07.9**	**-3.8**
	comp=Z,79nm,1.6s						
MJAR	**Matsushiro Arr**	**70.81**	**325**	P	**P**	**20 06 17.4**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=136,slow=6.0,SNR=7.1						
MJAR				pP	**pP**	**20 08 15.8**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=172,slow=3.8,SNR=1.7						
SBUM	**Sibu**	**70.92**	**281**	P	**P**	**20 06 18.6**	**0.0**
SBUM	**Sibu**	**70.92**	**281**	P	**P**	**20 06 19.0**	**+0.3**
KSM	**Kuching**	**72.27**	**279**	IAmb	IAmb	20 06 27.6	
	comp=Z,37nm,0.7s						
KSM	**Kuching**	**72.27**	**279**	P	**P**	**20 06 27.0**	**+0.5**
TPUB	**Ta-pu**	**73.76**	**304**	IAmb	IAmb	20 06 35.6	
	comp=Z,46nm,1.4s						
SSLB	**Suanglung**	**73.78**	**305**	P	**P**	**20 06 34.1**	**-0.9**
SSLB				IAmb	IAmb	20 06 34.6	
	comp=Z,11nm,0.6s						
JKA	**Kamikawa-asahi**	**74.61**	**333**	IAmb	IAmb	20 08 35.0	
	comp=Z,51nm,1.5s						
ASAJ	**Asahikawa**	**74.61**	**333**	P	**P**	**20 06 40.7**	**+1.6**
	comp=Z,6.9nm,0.8s,baz=279,slow=1.9,SNR=5.1						
MDSI	**Maura Dua**	**75.64**	**271**	P	**P**	**20 06 44.7**	**-0.9**
	comp=Z,20nm,1.0s						
KSRS	**Korea Array**	**77.28**	**320**	P	**P**	**20 06 55.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=117,slow=4.4,SNR=3.0						
PEA0B	**Petropavlovsk-**	**77.62**	**346**	P	**P**	**20 06 55.5**	**+0.1**
PEA0B				IAmb	IAmb	20 09 03.5	
	comp=Z,108nm,1.9s						
PETK	**Petropavlovsk-**	**77.62**	**346**	P	**P**	**20 06 55.4**	**-0.1**
	comp=Z,11nm,0.7s,baz=128,slow=6.9,SNR=25						
PETK				pP	**pP**	**20 08 56.0**	**-0.3**

baz=237
YERR Yerington 83.00 43 IAmb IAmb 20 07 25.6
comp=Z,10nm,0.6s
IRM Iron Mountain 83.02 49 P **P** **20 07 25.2 +1.2**
baz=237
GRAC Grapevine Rang 83.07 45 P **P** **20 07 25.2 +1.0**
baz=236
L04D Klamath Falls 83.09 39 P **P** **20 07 25.3 +1.1**
baz=232,SNR=5.5
M04C Macdoel 83.09 40 P **P** **20 07 25.3 +1.0**
baz=232
FURC Furnace Creek, 83.11 46 P **P** **20 07 25.6 +1.3**
baz=236
TUQ Turquoise Moun 83.17 47 P **P** **20 07 25.8 +0.9**
baz=237
RPSI Rantau Prapat 83.20 276 IAmb IAmb 20 07 25.7
comp=Z,20nm,0.9s
RYN Ryan 83.25 44 P **P** **20 07 26.0 +0.8**
NVAR Mina Array Bea 83.28 44 P **P** **20 07 26.3 +0.9**
comp=Z,5.2nm,0.9s,baz=224,slow=8.9,SNR=32
NVAR pP **pP** **20 09 28.2 -0.5**
comp=Z,0.5nm,0.8s,baz=224,slow=6.2,SNR=1.9
NVAR PKKPbc **PKKPbc** **20 25 42.9 +0.9**
comp=Z,0.3nm,0.6s,baz=121,slow=4.0,SNR=4.0
NVAR PKPPKP **P'P'df** **20 33 48.2 +2.9**
comp=Z,0.9nm,0.8s,baz=62,slow=2.5,SNR=5.4
NVAR Mina Array Bea 83.28 44 P **P** **20 07 25.8 +0.4**
I03D Drain, OR 83.42 37 P **P** **20 07 26.7 +1.1**
baz=231
HSIG 83.42 55 P **P** **20 07 27.0 +0.9**
HSIG IAmb IAmb 20 07 27.9
comp=Z,9.5nm,0.6s
214A Organ Pipe Nat 83.52 52 P **P** **20 07 27.8 +1.2**
baz=239
KVN Kaiserville 83.76 43 P **P** **20 07 28.2 +0.5**
TPNV Topopah Spring 83.78 46 P **P** **20 07 28.5 +0.6**
baz=236
PDMCI Parker Dam,Lak 83.80 49 P **P** **20 07 28.7 +0.9**
baz=238
J04D Umpqua Nationa 83.83 38 P **P** **20 07 29.0 +1.0**
baz=232,SNR=6.1
MOD Modoc Plateau 84.08 40 P **P** **20 07 29.5 +0.3**
MOD IAmb IAmb 20 07 30.9
comp=Z,17nm,1.5s
K05A Summer Lake 84.22 39 P **P** **20 07 31.4 +1.4**
K05A IAmb IAmb 20 07 32.1
comp=Z,16nm,1.2s
H04D Lebanon 84.28 37 P **P** **20 07 31.0 +1.1**
baz=231
J05D Fort Rock, OR 84.36 39 P **P** **20 07 31.7 +1.1**
baz=232,SNR=8.8
SYO Syowa Base 84.70 193⇑ *i*P **P** **20 07 30.0 -1.6**
SYO Syowa Base 84.70 193⇓ *i*PcP **PcP** **20 07 34.4 +0.6**
SYO Syowa Base 84.70 193⇓ *i*pP pP 20 09 36.2 +0.8
PINE Pine Mountain 84.84 38 IAmb IAmb 20 07 35.2
comp=Z,34nm,1.6s
R11A Troy Canyon, C 85.00 45 P **P** **20 07 34.5 +0.7**
baz=237
TUC Tucson 85.18 52 P **P** **20 07 36.2 +1.5**
baz=240
WVOR Wild Horse Val 85.39 40 P **P** **20 07 36.6 +1.1**
E04D Cinebar 85.65 35 P **P** **20 07 37.6 +1.2**
baz=231
I07A Izee 85.85 39 P **P** **20 07 38.7 +1.1**
ENH Enshi 85.86 305 IAmb IAmb 20 07 39.8
comp=Z,16nm,0.9s
D03D Eldon 85.99 34 P **P** **20 07 39.3 +1.3**
baz=231
BJI Beijing 86.16 316 P **P** **20 07 40.1 +1.1**
BJI sP **sP** **20 10 41.7 +0.5**
BJI S **S** **20 17 27.6 +1.9**
BJI pmax pmax
comp=Z,3.0nm,0.6s
U15A North Rim 86.19 48 IAmb IAmb 20 07 41.8
comp=Z,6.8nm,0.7s
SNAA Sanae 86.29 179 P **P** **20 07 38.8 -0.5**
SNAA Sanae 86.29 179 P **P** **20 07 39.0 -0.3**
SNAA IAmb IAmb 20 07 39.4
comp=Z,11nm,0.6s
GYA Guiyang 86.30 300⇑P **P** **20 07 41.2 +1.0**
GYA pP pP 20 09 45.1 +0.8
GYA PP **PP** **20 11 14.0 +1.5**
GYA S **S** **20 17 26.9 -1.0**
GYA sS sS 20 21 12.9 +3.2
GYA pmax pmax
comp=Z,5.0nm,0.7s
GYA pmax pmax
comp=Z,63nm,3.7s
WUAZ Wupatki 86.37 49 P **P** **20 07 41.2 +0.8**
baz=240
VNA3 Neumayer Olymp 86.48 177 P **P** **20 07 39.8 -0.4**
PBKT Sadao Pong 86.84 289 P **P** **20 07 44.2 +1.4**
PBKT IAmb IAmb 20 07 45.5
comp=Z,12nm,1.0s
G08A Pilot Rock 86.88 38 P **P** **20 07 43.3 +0.9**
G08A IAmb IAmb 20 07 44.2
comp=Z,7.1nm,0.7s
VNA2 Neumayer--Watz 86.90 177 P **P** **20 07 42.0 -0.1**
A04D Lummi Island 86.93 34 P **P** **20 07 44.3 +1.9**
baz=231
B05A Bryant 86.97 34 P **P** **20 07 43.5 +0.9**
baz=231
LTY Liberty 87.10 36 P **P** **20 07 43.9 +0.5**
LTY IAmb IAmb 20 07 44.8
comp=Z,7.1nm,0.8s
E07A Sunnyside 87.13 37 IAmb IAmb 20 07 45.5
comp=Z,11nm,0.8s
VNA1 Neumayer--Stat 87.14 177 P **P** **20 07 43.2 0.0**
HAWA Hanford 87.20 37 IAmb IAmb 20 07 45.7
comp=Z,11nm,0.8s
GHO Glory Hole Cre 87.27 14 P **P** **20 07 43.9 0.0**
BMO Blue Mountains 87.57 39 P **P** **20 07 46.6 +0.9**
MFID Camas Ranch 87.64 41 IAmb IAmb 20 07 48.3
comp=Z,7.4nm,0.9s
SCM Sheep Creek Mo 87.69 15 P **P** **20 07 46.0 +0.2**
SEY Seymchan 87.77 348 P **P** **20 07 46.4 +0.3**
comp=Z,3.8nm,0.7s,baz=113,slow=6.2,SNR=9.2
WRAK Wrangell Islan 87.90 24 IAmb IAmb 20 07 49.0
comp=Z,8.3nm,0.8s
D08A Wollman Farm, 87.94 37 IAmb IAmb 20 07 49.1
comp=Z,7.9nm,0.8s
XAN Xi'an 88.08 308 P **P** **20 07 49.6 +1.3**
XAN pmax pmax
comp=Z,13nm,0.9s
XAN pmax pmax
comp=Z,100nm,6.0s
XAN Xi'an 88.08 308 IAmb IAmb 20 07 50.2
comp=Z,9.4nm,0.9s
F10A Beach Ranch, E 88.26 38 P **P** **20 07 49.7 +0.8**
F10A IAmb IAmb 20 07 50.0
comp=Z,6.6nm,0.8s
B08A Colville Reser 88.48 35 P **P** **20 07 50.4 +0.6**
HLID Hailey 88.58 41 P **P** **20 07 51.0 +0.5**
C09A Chrisman Ranch 88.73 36 IAmb IAmb 20 11 17.9
comp=Z,12nm,0.3s
KMI Kunming 88.89 298⇑P **P** **20 07 54.2 +1.7**
KMI pmax pmax
comp=Z,9.0nm,0.9s
MNTX Cornudas Mount 88.92 55 P **P** **20 07 53.1 +0.8**
baz=243
MNTX Cornudas Mount 88.92 55 P **P** **20 07 52.8 +0.5**
MNTX IAmb IAmb 20 07 54.5
comp=Z,6.6nm,0.8s
LC01 Cunco 89.06 132 IAmb IAmb 20 07 54.8
comp=Z,28nm,0.9s
PLCA Paso Flores 89.08 134 P **P** **20 07 54.5 +1.4**
comp=Z,11nm,0.8s,baz=240,slow=4.8,SNR=33
PLCA Paso Flores 89.08 134 P **P** **20 07 54.4 +1.4**
PLCA IAmb IAmb 20 07 55.0
comp=Z,12nm,0.8s
TX31 Lajitas Ar. Si 89.20 58 P **P** **20 07 55.2 +1.5**
TX31 IAmb IAmb 20 07 56.4
comp=Z,29nm,1.2s
TX32 Lajitas Array 89.20 58 IAmb IAmb 20 07 56.4
comp=Z,9.8nm,1.2s
TXAR Lajitas Array 89.20 58 P **P** **20 07 55.0 +1.4**
comp=Z,3.4nm,0.8s,baz=214,slow=5.8,SNR=20
TXAR pP **pP** **20 09 59.6 +0.3**
comp=Z,2.1nm,1.1s,baz=224,slow=5.0,SNR=4.1
TXAR PKKPbc **PKKPbc** **20 25 28.2 +0.9**
comp=Z,0.3nm,0.3s,baz=111,slow=5.1,SNR=4.2
TXAR Lajitas Array 89.20 58 P **P** **20 07 55.1 +1.4**
HWUT Hardware Ranch 89.34 44 IAmb IAmb 20 07 55.3
comp=Z,4.5nm,0.8s
CM31 Chiang Mai Arr 89.37 290 IAmb IAmb 20 07 57.4
comp=Z,20nm,0.9s
CMAR Chiang Mai Arr 89.37 290 P **P** **20 07 56.6 +2.1**
comp=Z,12nm,0.8s,baz=133,slow=3.2,SNR=62
CMAR pP **pP** **20 09 59.8 +0.1**
comp=Z,0.5nm,0.4s,baz=114,slow=3.5,SNR=2.7
CMAR PKKPbc **PKKPbc** **20 25 27.0 +0.7**
comp=Z,1.4nm,0.5s,baz=285,slow=4.7,SNR=8.8
CHTO Chiang Mai 89.51 290 P **P** **20 07 56.4 +1.2**
HHC Hu-ho-hao-te 89.57 315 *e*P **P** **20 07 53.3 -1.8**
HHC S **S** **20 18 02.4 +4.9**
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,77nm,6.2s
ANMO Albuquerque 89.61 52 P **P** **20 07 56.1 +0.6**
baz=242
ANMO Albuquerque 89.61 52 P **P** **20 07 56.5 +0.9**
HDA Harding Lake 90.02 14 P **P** **20 07 56.5 0.0**
HDA IAmb IAmb 20 07 57.1
comp=Z,7.1nm,0.7s
CCB Clear Creek Bu 90.04 13 P **P** **20 07 55.7 -0.9**
CCB IAmb IAmb 20 07 56.4
comp=Z,7.3nm,0.5s
SCRK Sand Creek 90.32 15 P **P** **20 07 58.6 +0.6**
baz=213
IL31 90.34 13 IAmb IAmb 20 11 01.3
comp=Z,16nm,1.6s
ILAR Eielson Array 90.34 13 P **P** **20 07 57.1 -0.8**
comp=Z,1.7nm,0.6s,baz=220,slow=4.3,SNR=19
ILAR pP **pP** **20 10 04.0 -0.2**
comp=Z,1.3nm,0.8s,baz=230,slow=6.1,SNR=6.1
ILAR PP **PP** **20 11 39.6 -3.8**
comp=Z,1.0nm,1.0s,baz=233,slow=5.7,SNR=4.7
BI02 San Fabin de 90.53 130 P **P** **20 08 00.7 +0.9**
BI02 IAmb IAmb 20 08 01.6
comp=Z,18nm,0.9s
S22A 4UR Ranch, Cre 90.64 49 P **P** **20 08 01.2 +0.8**
baz=242
O20A White River Ci 90.80 47 P **P** **20 08 01.1 +0.2**
baz=241
BW06 Boulder Array 91.21 44 P **P** **20 08 03.1 +0.3**
baz=240
PDAR Pinedale Array 91.21 44 P **P** **20 08 03.3 +0.5**
comp=Z,1.5nm,0.8s,baz=217,slow=3.7,SNR=13
PDAR pP **pP** **20 10 09.1 +0.3**
comp=Z,0.7nm,1.0s,baz=248,slow=6.5,SNR=2.3
PDAR PP **PP** **20 11 50.8 -0.2**
comp=Z,0.3nm,0.6s,baz=240,slow=8.0,SNR=3.9
PDAR PKKPbc **PKKPbc** **20 25 22.4 -0.6**
comp=Z,0.6nm,0.7s,baz=71,slow=3.9,SNR=3.8
PDAR Pinedale Array 91.21 44 P **P** **20 08 03.1 +0.3**
BOZ Bozeman (W) 91.35 41 P **P** **20 08 04.2 +0.9**
baz=239
SDCO Great Sand Dun 91.58 50 P **P** **20 08 05.5 +0.8**
baz=243
SDCO Great Sand Dun 91.58 50 P **P** **20 08 05.4 +0.7**
COLD Coldfoot 91.87 11 P **P** **20 08 05.7 +0.8**
baz=207
MSTX Muleshoe 91.90 54 P **P** **20 08 06.4 +0.3**
baz=244
T25A Trinidad 92.08 51 P **P** **20 08 07.0 +0.1**
baz=244
ISCO Idaho Springs 92.43 48 P **P** **20 08 08.4 -0.2**
baz=243
LZH Lanzhou 92.72 308 *e*P **P** **20 08 11.6 +1.8**
LZH pP pP 20 10 12.0 -3.3
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,94nm,4.9s
JCT Junction City 92.72 58 P **P** **20 08 09.9 +0.1**
baz=246
CO02 Combarbal 93.33 126 P **P** **20 08 12.6 -0.2**
CO03 El Pedregal 93.73 125 IAmb IAmb 20 08 15.9
comp=Z,12nm,0.9s
EPYK Eagle Plains 94.06 16 P **P** **20 08 14.9 -0.1**
baz=219
SONM Songino Array 96.15 319 PKKPbc PKKPbc 20 25 09.2 -1.0
comp=Z,0.6nm,0.4s,baz=242,slow=3.2,SNR=4.1
GTA Gaotai 96.99 310 *e*P **P** **20 08 30.6 +1.6**
ZSN Zaisan 109.76 314 *e*PKiKP **PKiKP** **20 13 24.1 -0.1**
baz=314
ZALV Zalesovo Beam 110.97 321 PKiKP **PKiKP** **20 13 25.0 -1.2**
comp=Z,2.2nm,0.6s,baz=169,slow=0.3,SNR=14
ZALV SKP 20 16 07.2
comp=Z,0.4nm,0.4s,baz=42,slow=2.3,SNR=2.7
MKAR Makanchi Array 111.36 313 PKiKP **PKiKP** **20 13 26.3 -1.0**
comp=Z,1.8nm,0.5s,baz=199,slow=1.0,SNR=26
MKAR PKKPbc **PKKPbc** **20 24 24.6 -0.4**
comp=Z,1.9nm,0.7s,baz=278,slow=3.7,SNR=17
MKAR Makanchi Array 111.36 313 PKKPbc PKKPbc 20 24 24.1 -1.0
SATY Saty 113.47 309 *e*PKiKP **PKiKP** **20 13 30.7 -0.8**
baz=309
MDOK Medeo 114.47 309 *e*PKP PKPdf 20 13 33.1 -0.4
baz=309
SGDS Sogindy 116.25 309 *e*PKP **PKPdf** **20 13 35.9 -0.9**
baz=309
BTLS Baital 116.83 310 *i* PKP **PKPdf** **20 13 37.0 -0.8**
comp=Z,1.8nm,0.5s,baz=310
D58A Chemin du LacG 117.15 47 P **PKPdf** **20 13 37.2 -1.1**
baz=266
I61A Oroboro, Fairl 117.36 51 P **PKPdf** **20 13 38.2 -0.7**
baz=265
I62A Tamworth 117.99 51 P **PKPdf** **20 13 39.5 -0.5**
baz=265
BRZS Berezniki 118.06 316 *e*PKP **PKPdf** **20 13 38.6 -1.4**
comp=Z,3.7nm,0.5s,baz=316
E60A Ste Agathe de 118.09 48 P **PKPdf** **20 13 39.6 -0.5**
baz=267
DZA Taraz 118.60 308 *e*PKP **PKPdf** **20 13 40.5 -0.8**
baz=308
E61A Lac Etchemin 118.75 48 P **PKPdf** **20 13 41.1 -0.4**
baz=267
KK31 Karatay Array 119.22 308 PKPdf **PKPdf** **20 13 42.1 -0.3**
KKAR Karatay Array 119.22 308 **PKPdf** **20 13 41.7 -0.7**
I64A Boothbay 119.22 51 P **PKPdf** **20 13 41.9 -0.4**
baz=266
G63A Kingsbury 119.30 50 P **PKPdf** **20 13 41.7 -0.8**
baz=267
BDFB Brasilia 119.38 124 PKP **PKPdf** **20 13 42.8 -0.9**
comp=Z,3.8nm,0.6s,baz=141,slow=2.4,SNR=5.4
KBL Kabul 119.47 298 PKPdf **PKiKP** **20 13 43.4 -0.1**
BVAR Borovoye Array 119.50 319 PKP **PKPdf** **20 13 42.0 -0.7**
comp=Z,5.6nm,0.4s,baz=159,slow=3.7,SNR=36
BVAR PKKPbc **PKKPbc** **20 23 56.9 -0.6**
comp=Z,0.9nm,0.7s,baz=318,slow=1.9,SNR=4.8
IUG Iuzhnay 119.50 307 *e*PKP **PKPdf** **20 13 42.9 -0.3**
comp=Z,4.1nm,0.5s,baz=307
PKME Peaks-Kenny Pk 119.53 50 P **PKPdf** **20 13 42.4 -0.6**
baz=268
H64A Troy 119.56 50 P **PKPdf** **20 13 42.3 -0.7**
baz=267
D62A Allapoint, All 119.77 48 P **PKPdf** **20 13 42.4 -0.9**
baz=269
G64A Maxfield 119.91 50 P **PKPdf** **20 13 42.7 -1.0**
baz=268
G65A Princeton 120.75 50 P **PKPdf** **20 13 44.3 -1.0**
baz=269
BOSA Boshof 124.06 206 PKP **PKiKP** **20 13 52.6 -0.1**
comp=Z,7.1nm,0.8s,baz=138,slow=3.2,SNR=10
ARU Arti 125.82 324 PKKPbc PKKPbc 20 23 33.4 -0.2
comp=Z,1.4nm,0.6s,baz=230,slow=4.7,SNR=7.8
ARU Arti 125.82 324 PKPdf **PKPdf** **20 13 54.4 -0.2**
ABKAR Akbulak array 126.36 316 PKPdf **PKPdf** **20 13 55.5 -0.4**
GEYT Alibeck 128.51 301 PKP **PKiKP** **20 14 00.8 -0.4**
comp=Z,5.2nm,0.7s,baz=214,slow=0.5,SNR=12
GEYT SKPbc SKiKP 20 16 27.8 -15
comp=Z,0.9nm,0.6s,baz=178,slow=4.5,SNR=5.3
GEYT Alibeck 128.51 301 PKPdf **PKPdf** **20 14 00.6 +0.1**
ARCES ARCESS Array B 130.38 349 PKP **PKPdf** **20 14 02.5 -0.5**
comp=Z,6.6nm,0.6s,baz=0.9,slow=1.5,SNR=21
ARCES SKPbc **SKPab** **20 16 33.5 +0.4**
comp=Z,18nm,0.8s,baz=28,slow=4.1,SNR=19
KLMR Klimovskoe 132.90 335 *e*PKPdf **PKPdf** **20 14 07.7 -0.2**
KLMR AMP 20 14 10.4
comp=Z,17nm,1.4s
KLMR *ep*PKPdf **pPKPdf** **20 16 24.5 +2.4**
KLMR *e*PP **PP** **20 16 40.5 -1.7**
LSZ Lusaka 133.85 218 PKPdf **PKPdf** **20 14 11.0 -0.3**
FINES FINESS Array B 137.03 342 PKhKP PKPpre 20 14 04.0
comp=Z,1.2nm,0.5s,baz=37,slow=2.8,SNR=12
FINES PKP **PKPdf** **20 14 15.1 -0.5**
comp=Z,3.7nm,0.6s,baz=62,slow=4.5,SNR=9.6
FINES SKPbc **SKPbc** **20 16 54.8 +0.3**
comp=Z,3.3nm,0.8s,baz=63,slow=5.1,SNR=7.1
KMBO Kilima Mbogo 137.26 242 PKP **PKiKP** **20 14 19.6 -0.3**
comp=Z,3.1nm,0.6s,baz=70,slow=4.4,SNR=10
KMBO SKPbc **SKiKP** **20 17 00.3 -1.0**
comp=Z,2.0nm,0.9s,baz=32,slow=2.7,SNR=5.3
KBZ Khabaz 139.04 312 PKP **PKiKP** **20 14 21.4 -0.9**
comp=Z,1.7nm,0.7s,baz=313,slow=1.3,SNR=4.1
NC303 NORSAR Array S 140.34 352 PKPpre 20 14 15.0
NB2 NORSAR Subarra140.53 352 PKP **PKPdf** **20 14 15.1 -7.0**
comp=Z,14nm,2.0s,baz=17,slow=2.6
NOA NORSAR Array B 140.53 352 PKhKP PKPpre 20 14 15.4
comp=Z,1.0nm,0.6s,baz=2.3,slow=2.2,SNR=9.8
NOA SKPbc **SKPbc** **20 17 04.6 +0.4**
comp=Z,6.6nm,0.9s,baz=14,slow=4.3,SNR=19
BCA Borcka 140.61 309⇑P **PKPdf** **20 14 17.4 -5.4**
LEWI Lewis, Hebride 143.76 7 *e*P PKPbc 20 14 26.6 -0.5
AKASG Malin Array Be 143.82 329 PKP PKPbc 20 14 26.6 -0.8
comp=Z,14nm,0.6s,baz=41,slow=4.4,SNR=60
AKASG SKPbc **SKiKP** **20 17 13.1 -0.2**
comp=Z,6.4nm,0.9s,baz=46,slow=2.6,SNR=15
AKBB Malin Array Si 143.82 329 PKPbc 20 14 26.7 -0.7
SUW Suwalki 143.94 337 *e*PKP PKPbc 20 14 27.7 0.0
KAC Achnashellach 144.55 5 *e*P **PKPdf** **20 14 28.6 -0.6**
MCD Coleburn Disti 144.62 3 *e*P **PKPdf** **20 14 29.1 -0.2**
KPL Plockton 144.68 6 *e*P **PKPdf** **20 14 28.4 -1.0**
DIKM Dikmen 145.04 312⇓P **PKPab** **20 14 32.1 -0.5**
MUD Monsted U'grnd 145.25 352 *i* P **PKPbc** **20 14 31.4 -0.1**
comp=Z,2.8nm,0.5s
COP Copenhagen 145.46 348 *i* P **PKPbc** **20 14 31.5 -0.7**
comp=Z,7.7nm,0.4s
INVG Invergeldie, C 145.72 4 *e*P **PKPbc** **20 14 32.2 -0.7**
LAWE Loch Awe, Argy 145.77 6 *e*P **PKPbc** **20 14 32.3 -0.7**
BZK Bozkurt 145.78 313⇑P **PKPbc** **20 14 33.2 -0.4**
SORM Soroca 145.91 326⇓P **PKPbc** **20 14 33.3 -0.4**
EAB Aberfoyle 145.93 5 *e*P **PKPbc** **20 14 32.6 -1.0**
ESY Stoneypath 146.31 3 *e*P **PKPbc** **20 14 33.6 -1.0**
MILM Milestii Mici 146.42 324⇓P **PKPbc** **20 14 34.1 -1.1**
EBL Broad Law 146.43 4 *e*P **PKPdf** **20 14 34.1 -0.8**
GKP Gorka Klasztor 146.50 342 *e*PKP **PKPbc** **20 14 35.5 +0.3**
BEL Belsk 146.56 337 *e*PKP **PKPbc** **20 14 36.1 +0.8**
ESK Eskdalemuir 146.88 4 PKPdf **PKPdf** **20 14 33.0 -0.2**
SKMB Sankelmark Bun 146.90 350 *e*PKPbc **PKPbc** **20 14 36.8 +0.6**
baz=19,slow=2.3
BR131 Keskin Array S 146.91 309 **PKPbc** **20 14 36.7 -0.3**
BRTR Keskin Array B 146.91 309 PKPbc **PKPbc** **20 14 36.6 -0.3**
comp=Z,10nm,0.7s,baz=138,slow=4.5,SNR=56
BRTR pPKPbc **pPKPdf** **20 16 48.0 -0.4**
comp=Z,0.5nm,0.8s,baz=84,slow=1.1,SNR=2.2
BRTR Keskin Array B 146.91 309 **PKPdf** **20 14 32.7 -1.3**
BRTR PKPbc **PKPbc** **20 14 36.2 -0.8**
NEWG New Galloway 147.00 5 *e*P **PKPbc** **20 14 35.5 -0.9**
VASR Vaslui 147.15 324⇑P **PKPbc** **20 14 37.4 +0.3**
GAL1 Galloway 147.21 6 *e*P **PKPbc** **20 14 36.4 -0.6**
TLCR 147.45 321⇑P **PKPbc** **20 14 37.8 -0.1**
BR231 Keskin MP Arra 147.48 310 **PKPbc** **20 14 38.8 +0.4**
BSEG Bad Segeberg 147.51 349 *e*PKPbc **PKPbc** **20 14 38.1 +0.3**
baz=19,slow=2.3
KWP Kalwaria Pacla 147.54 333 *e*PKP **PKPbc** **20 14 38.4 +0.3**
VARL Varlezi 147.57 323⇑P **PKiKP** **20 14 39.0 -0.7**
JURR Jurilovca 147.65 321⇓P **PKiKP** **20 14 40.0 +0.1**
BURAR Bucovina Array 147.84 328⇑P **PKPbc** **20 14 39.3 +0.3**
BURAR Bucovina Array 147.84 328 PKPdf **PKPdf** **20 14 36.2 +1.0**
BURAR PKPbc **PKPbc** **20 14 39.3 +0.3**
TESR Tescani 147.84 325⇓P **PKPbc** **20 14 38.7 -0.3**
CFR Carcaliu 147.84 322⇓P **PKPbc** **20 14 38.8 -0.2**
TOPG Topolog 147.88 321⇓P **PKPbc** **20 14 39.2 +0.1**
TIRR Tirgusor 148.10 321⇓P **PKPbc** **20 14 39.7 +0.1**
RUE Ruedersdorf 148.14 345 *e*PKPbc **PKPbc** **20 14 39.7 +0.2**
baz=19,slow=2.3
VRI Vrincioaia 148.21 324⇓P **PKPbc** **20 14 39.6 -0.4**
OJC Ojcow 148.24 336 *e*PKP **PKPbc** **20 14 40.1 +0.2**
OJC Ojcow 148.24 336 **PKPbc** **20 14 40.0 +0.2**
HARR Harsova 148.25 321⇑P **PKPbc** **20 14 40.1 +0.1**
KOLS Kolonicke sedl 148.25 332 *e*PKP **PKPbc** **20 14 39.3 -0.6**
KOLS *e* 20 14 45.9
PLOR Plostina 148.26 324⇓P **PKPbc** **20 14 39.6 -0.4**
HPK Haverah Park 148.31 2 *e*P **PKPbc** **20 14 39.6 -0.2**
MANR Mangalia 148.36 319⇓P **PKPbc** **20 14 40.7 +0.5**
BISRR Bisoca 148.42 324⇓P **PKiKP** **20 14 41.2 -0.4**
OZUR 148.57 325⇑P **PKPbc** **20 14 41.2 +0.4**
CSS Mathiatis 148.65 301 **PKPbc** **20 14 41.3 0.0**
WPS Cemaes, Angles 148.68 6 *e*P **PKPbc** **20 14 40.2 -0.5**
NIE Niedzica 148.69 335 *e*PKP **PKiKP** **20 14 41.5 -0.5**
WLF1 Llynfaes 148.80 6 *e*P **PKPbc** **20 14 40.6 -0.4**
DOPR Dopca 148.86 325⇓P **PKiKP** **20 14 42.0 -0.5**
MLR Muntele Rosu 148.87 324⇓P **PKPbc** **20 14 41.2 -0.5**
MLR Muntele Rosu 148.87 324 **PKPbc** **20 14 41.6 -0.1**
KSP Ksiaz 148.91 340 *e*PKP **PKPbc** **20 14 41.0 -0.5**
NRDL Niedersach Rie 148.92 349 *e*PKPbc **PKPbc** **20 14 41.6 +0.3**
baz=19,slow=2.3
LEF Lefka 148.96 302⇓P **PKPbc** **20 14 41.8 -0.3**
YLL Llanberis 148.97 5 *e*P **PKPbc** **20 14 41.1 -0.4**
LEHL Lehliu 149.01 322⇓P **PKPbc** **20 14 42.1 +0.3**
OKC Ostrava-Krasne 149.15 337⇑*e*PKP **PKPbc** **20 14 41.8 -0.2**
ASSE Asse, Remlinge 149.16 348 *e*PKPbc **PKiKP** **20 14 42.3 -0.5**
baz=19,slow=2.3
OSTC Ostas 149.19 340⇑*e*PKP **PKiKP** **20 14 42.8 -0.2**
OSTC *ep*PKP **pPKPab** **20 16 59.2 +2.1**
CHVC Chvalec 149.21 340⇑*e*PKP **PKiKP** **20 14 42.6 -0.4**
LANS Liptovska Anna 149.23 335 *e*PKP **PKiKP** **20 14 43.5 +0.4**
CJR Cluj-Napoca 149.26 328⇑P **PKPbc** **20 14 42.7 +0.2**
UPC Upice 149.29 340⇑*e*PKP **PKiKP** **20 14 42.8 -0.4**
LLW Llanuwychllyn 149.30 5 *e*P **PKPbc** **20 14 41.2 -1.1**
DPC Dobruska-Polom 149.33 340⇑*e*PKP **PKiKP** **20 14 43.1 -0.2**
DPC *ep*PKP **pPKPab** **20 17 02.6 +4.9**
KECS Kecovo 149.35 333 *e*PKP **PKiKP** **20 14 43.6 +0.2**
VOIR 149.39 325⇓P **PKPbc** **20 14 42.6 -0.3**
CLL Collm 149.41 344⇓*i*PKPbc **PKPbc** **20 14 42.7 +0.1**
comp=Z,58nm,0.8s
CLL *i* PKPab **PKPab** **20 14 49.9 0.0**
comp=Z,9.0nm,0.6s
CLL *i* pPKPbc **pPKPbc** **20 16 57.0 +1.5**
comp=Z,24nm,1.9s
CLL *i* pPKPab **pPKPab** **20 16 59.9 +2.0**
comp=Z,16nm,1.2s
CLL Collm 149.41 344 *e*PKPbc **PKPbc** **20 14 42.7 +0.1**
baz=19,slow=2.3
MORC Moravsky Berou 149.42 338⇓P **PKPbc** **20 14 42.4 -0.3**
MORC Moravsky Berou 149.42 338 *e*PKP **PKPbc** **20 14 42.8 0.0**
MORC *e* 20 17 00.7
MORC Moravsky Berou 149.42 338 **PKPbc** **20 14 42.5 -0.3**
KRLC Kraliky 149.42 339 *e*PKPDF **PKPdf** **20 14 37.9 +0.3**
KRLC ⇑*e*PKP **PKiKP** **20 14 43.1 -0.4**
IBBN Ibbenburen 149.49 351 *e*PKPbc **PKPbc** **20 14 43.0 +0.3**
baz=19,slow=2.3
CLZ Clausthal 149.49 348 *e*PKPbc **PKiKP** **20 14 43.3 -0.3**
baz=19,slow=2.3
BRG Berggiesshubel 149.57 343 *e*PKP **PKPdf** **20 14 37.3 -0.4**
comp=Z,4.9nm,1.1s
BRG Berggiesshubel 149.57 343 *i* PKP **PKPbc** **20 14 43.1 +0.1**
comp=Z,45nm,0.8s
BRG *ep*PKP **pPKPbc** **20 16 56.4 +0.4**
comp=Z,14nm,1.3s
BRG Berggiesshubel 149.57 343 *e*PKPbc **PKPbc** **20 14 43.3 +0.3**
baz=19,slow=2.3
WACR West Acre 149.59 360 *e*P **PKPbc** **20 14 42.1 -0.8**
ARR Arges 149.65 325⇑P **PKiKP** **20 14 44.7 +0.5**
FBE Freiberg 149.68 344 *e*PKPbc **PKiKP** **20 14 43.8 -0.1**
baz=19,slow=2.3
HLM1 Long Mynd 149.69 4 *e*P **PKPbc** **20 14 42.0 -1.2**
PVCC Panska Ves 149.70 342⇑*e*PKP **PKiKP** **20 14 44.0 0.0**
NEUB Neuenburg 149.80 346 *e*PKPbc **PKPbc** **20 14 43.7 +0.2**
baz=19,slow=2.3
GTTG Gottingen 149.85 348 *e*PKPbc **PKiKP** **20 14 43.9 -0.4**
baz=19,slow=2.3
VYHS Vyhne 150.01 335 *e*PKP **PKPbc** **20 14 44.1 0.0**
VYHS *e* 20 14 53.3
PSZ Piszkesteto 150.04 333⇓P **PKPbc** **20 14 44.1 -0.3**
LOT Lotru 150.05 326⇓P **PKPbc** **20 14 43.9 -0.5**
VRAC Vranov 150.14 339⇓P **PKPbc** **20 14 44.5 0.0**
VRAC Vranov 150.14 339 *e*PKP **PKPbc** **20 14 44.6 +0.2**
VRAC *e* 20 17 02.9
JAVC Velka Javorina 150.14 337 *e*PKP **PKiKP** **20 14 45.6 +0.5**
JAVC *e* 20 17 02.6
PRA Prague 150.15 342⇑*e*PKP **PKiKP** **20 14 44.6 -0.3**
GOPC GO Pecny, Ondr 150.19 341⇑*e*PKP **PKPbc** **20 14 44.7 +0.2**
GOPC *ep*PKP **pPKPab** **20 17 01.5 +0.4**
PRU Pruhonice 150.19 342⇑*e*PKP **PKPbc** **20 14 44.6 +0.1**
PRU *ep*PKP **pPKPab** **20 17 03.4 +2.4**
MCH1 Michaelchurch 150.20 4 *e*P **PKPbc** **20 14 43.0 -1.4**
MOX Moxa 150.36 346 *e*PKPbc **PKPbc** **20 14 45.0 +0.1**
baz=19,slow=2.3
MONM Monmouth 150.37 4 *e*P **PKPbc** **20 14 44.2 -0.6**
TANN Tannenbergstha 150.37 344 *e*PKPbc **PKPbc** **20 14 45.1 +0.1**
baz=19,slow=2.3
WERD Werda 150.38 345 *e*PKPbc **PKPbc** **20 14 45.0 +0.1**
baz=19,slow=2.3

PLN	**Plauen**	150.38	345	*e*PKPbc	PKPbc	20 14 45.1	+0.1
	baz=19,slow=2.3						
BUG	**Bochum--Univer**	150.40	351	*e*PKPbc	PKPbc	20 14 48.4	-0.1
	baz=19,slow=2.3						
KRUC	**Moravsky**	150.42	339	*e*PKP	PKPbc	20 14 45.0	-0.1
KRUC				*e*		20 17 02.9	
GUNZ	**Gunzen**	150.45	345	*e*PKPbc	PKiKP	20 14 45.5	-0.2
	baz=19,slow=2.3						
STRD	**Stroud**	150.47	3	*e*P	PKPbc	20 14 44.3	-0.8
WERN	**Wernitzgruen**	150.51	344	*e*PKPbc	PKiKP	20 14 45.8	0.0
	baz=19,slow=2.3						
SIRR	**Siria**	150.52	329	⇑P	PKiKP	20 14 45.7	-0.1
TREC	**Trest**	150.52	340	⇑*e*PKP	PKPbc	20 14 45.2	-0.1
SMOL	**Smolenice**	150.52	337	*e*PKP	PKiKP	20 14 46.0	+0.2
SMOL				*e*		20 14 56.0	
NKC	**Novy Kostel**	150.54	344	⇑*e*PKP	PKiKP	20 14 45.6	-0.2
UBBA	**Unterbreizbach**	150.54	348	*e*PKPbc	PKiKP	20 14 45.6	0.0
	baz=19,slow=2.3						
GZR	**Gura Zlata**	150.60	327	⇓P	PKPbc	20 14 45.0	-0.6
MODS	**Modra-Piesok**	150.69	337	*e*PKP	PKPbc	20 14 45.2	-0.5
SWN1	**Swindon**	150.75	3	*e*P	PKPbc	20 14 45.1	-0.6
SRO	**Srobarova**	150.76	335	*e*PKP	PKiKP	20 14 46.0	-0.3
MANZ	**Manzenberg**	150.85	344	*e*PKPbc	PKiKP	20 14 46.3	-0.1
	baz=19,slow=2.3						
BZS	**Buzias**	151.01	329	⇑P	PKPbc	20 14 46.2	-0.3
ROTZ	**Rotzenmuhle**	151.03	344	*e*PKPbc	PKPbc	20 14 46.3	-0.1
	baz=19,slow=2.3						
HERR	**Herculane**	151.14	327	⇓P	PKPbc	20 14 46.5	-0.3
AKAS	**Kas**	151.15	305		PKPbc	20 14 46.7	-0.6
KHC	**Kasperske Hory**	151.24	342	*e*PKPDF	PKPdf	20 14 40.2	-0.2
KHC				⇑*e*PKP	PKiKP	20 14 47.1	-0.2
KHC				*e*PKPAB	PKPab	20 14 57.9	+0.2
KHC				*e*pPKP	pPKPbc	20 17 00.3	+0.1
KHC	**Kasperske Hory**	151.24	342	PKPdf	PKPdf	20 14 40.2	-0.2
KHC				PKPbc	PKiKP	20 14 47.2	-0.1
KHC				PKPab	PKPab	20 14 58.1	+0.4
AHRW	**Bad Neuenahr-A**	151.31	351	*e*PKPbc	PKiKP	20 14 47.2	-0.1
	baz=19,slow=2.3						
GRF	**Grafenberg Arr**	151.34	345	*e*PKPbc	PKiKP	20 14 47.3	-0.2
	baz=19,slow=2.3						
GRF				*e*pPKPbc	pPKPbc	20 17 03.4	+2.7
MEM	**Membach**	151.38	353	PKiKP	PKPbc	20 14 46.4	-0.7
TNS	**Taunus Mts**	151.40	349	*e*PKPbc	PKPbc	20 14 47.3	0.0
	baz=19,slow=2.3						
WET	**Wettzell**	151.43	343	*e*PKPbc	PKiKP	20 14 47.6	-0.1
	baz=19,slow=2.3						
BSTI	**Sart Tilman**	151.45	353	PKiKP	PKPbc	20 14 47.2	-0.1
GEC2	**GERESS Array S**	151.46	342	*e*PKPbc	PKPbc	20 14 47.5	-0.1
	baz=19,slow=2.3						
GEC2	**GERESS Array S**	151.46	342	PKPdf	PKPdf	20 14 41.2	+0.4
GERES	**GERESS Array B**	151.46	342	PKP	PKPdf	20 14 40.9	+0.1
	comp=Z,1.0nm,0.7s,baz=277,slow=1.1,SNR=8.9						
GERES				PKPbc	PKPbc	20 14 47.5	-0.1
	comp=Z,8.3nm,0.8s,baz=32,slow=2.1,SNR=45						
GERES				PKPab	PKPab	20 14 58.6	-0.2
	comp=Z,1.1nm,0.6s,baz=32,slow=5.2,SNR=3.8						
GERES				pPKPbc	pPKPbc	20 16 59.7	-1.1
	comp=Z,1.3nm,0.9s,baz=35,slow=3.3,SNR=3.6						
GERES	**GERESS Array B**	151.46	342		PKPdf	20 14 40.7	-0.1
GERES					PKPbc	20 14 47.4	-0.1
GERES				PKPab	PKPab	20 14 59.0	+0.3
ALN	**Alexandroupoli**	151.53	317		PKPbc	20 14 46.9	-0.9
MDVR	**Moldovita**	151.56	327	⇓P	PKPdf	20 14 41.2	+0.2
CONA	**Conrad Observa**	151.57	338	*e*PKiKP	PKiKP	20 14 47.9	-0.2
	comp=Z,12nm,0.7s,SNR=6.1						
CONA				*i* pPKPab	pPKPab	20 17 05.4	-1.5
	comp=Z,14nm,1.2s						
BMRD	**Maredsous**	151.81	354	PKiKP	PKiKP	20 14 48.3	0.0
MOA	**Molln**	152.18	340	*i* PKPbc	PKPbc	20 14 48.7	-0.4
	comp=Z,3.8nm,0.6s						
ARSA	**Arzberg**	152.27	338	*i* PKPbc	PKPbc	20 14 48.8	-0.6
	comp=Z,4.0nm,1.0s						
WLF	**Walferdange**	152.29	352	PKiKP	PKiKP	20 14 49.6	+0.3
WLF	**Walferdange**	152.29	352	*e*PKPbc	PKiKP	20 14 49.8	+0.4
	baz=19,slow=2.3						
STU	**Stuttgart**	152.65	347	*e*PKPbc	PKiKP	20 14 50.1	-0.1
	baz=19,slow=2.3						
FUR	**Furstenfeldbru**	152.75	344	*e*PKPbc	PKPbc	20 14 50.1	-0.2
	baz=19,slow=2.3						
SOKA	**Soboth**	152.94	338	*e*PKPbc	PKPbc	20 14 50.3	-0.6
	comp=Z,7.1nm,1.0s						
SOKA				*e*pPKiKP	pPKiKP	20 17 08.8	+4.1
	comp=Z,9.4nm,1.6s						
BFO	**Black Forest**	153.24	348	*e*PKPbc	PKPbc	20 14 51.1	-0.3
	baz=19,slow=2.3						
WATA	**Walderalm**	153.43	343	*i* PKPdf	PKPdf	20 14 43.1	-0.6
	comp=Z,4.7nm,1.0s						
WATA				*i* PKPbc	PKPbc	20 14 51.6	-0.4
	comp=Z,3.8nm,0.5s						
WATA				*i* PKPab	PKPab	20 15 07.6	+0.4
	comp=Z,3.9nm,0.5s						
WATA				*i* pPKiKP	pPKiKP	20 17 09.7	+3.8
	comp=Z,13nm,1.2s						
MYKA	**Terra Mystica**	153.45	339	*i* PKPbc	PKPbc	20 14 51.2	-0.8
	comp=Z,3.3nm,0.5s						
MYKA				*e*pPKiKP	pPKiKP	20 17 09.3	+3.5
	comp=Z,8.1nm,1.0s						
WTTA	**Wattenberg**	153.48	343	*i* PKPdf	PKPdf	20 14 43.1	-0.8
	comp=Z,6.2nm,1.0s						
WTTA				*i* PKiKP	PKPbc	20 14 52.1	-0.1
	comp=Z,7.7nm,0.5s						
WTTA				*i* PKPab	PKPab	20 15 08.2	+0.7
	comp=Z,7.8nm,0.8s						
WTTA				*e*pPKiKP	pPKiKP	20 17 10.2	+4.2
	comp=Z,9.6nm,1.3s						
UBR	**Ueberruh**	153.48	345	*e*PKPbc	PKPbc	20 14 51.5	-0.5
	baz=19,slow=2.3						
RETA	**Reutte**	153.50	344	*e*PKPdf	PKPdf	20 14 42.8	-1.0
	comp=Z,5.3nm,1.1s						
RETA				*e*PKPbc	PKPbc	20 14 51.7	-0.4
	comp=Z,4.5nm,0.8s						
RETA				*i* PKPab	PKPab	20 15 07.8	+0.4
	comp=Z,3.5nm,0.7s						
RETA				*e*pPKPab	pPKPab	20 17 11.2	-3.7
	comp=Z,3.5nm,1.0s						
MOTA	**Moosalm**	153.55	344	*i* PKPdf	PKPdf	20 14 43.3	-0.7
	comp=Z,7.7nm,1.1s						
MOTA				*i* PKPbc	PKPbc	20 14 51.9	-0.3
	comp=Z,7.5nm,1.0s						
MOTA				*i* PKPab	PKPab	20 15 08.1	+0.4
	comp=Z,2.3nm,0.5s						
MOTA				*e*pPKiKP	pPKiKP	20 17 09.7	+3.6
	comp=Z,11nm,1.2s						
SQTA	**Sankt Quirin**	153.64	343	*i* PKPdf	PKPdf	20 14 43.6	-0.4
	comp=Z,7.4nm,1.1s						
SQTA				*i* PKiKP	PKPbc	20 14 52.3	-0.1
	comp=Z,4.9nm,0.5s						
SQTA				*e*pPKiKP	pPKiKP	20 17 10.6	+4.4
	comp=Z,7.6nm,1.0s						
ABTA	**Abfaltersbach**	153.70	341	*i* PKPdf	PKPdf	20 14 43.3	-0.8
	comp=Z,9.0nm,1.0s						
ABTA				*i* PKPbc	PKPbc	20 14 51.8	-0.7
	comp=Z,7.2nm,0.6s						
ABTA				*e*pPKiKP	pPKiKP	20 17 09.9	+3.7
	comp=Z,10nm,1.0s						
DAVA	**Damuels**	153.91	345	*i* PKPdf	PKPdf	20 14 44.1	-0.4
	comp=Z,5.7nm,0.9s						
DAVA				*i* pPKPab	pPKPab	20 17 12.4	-4.3
	comp=Z,18nm,1.7s						
FETA	**Feichten**	153.95	344	*i* PKPdf	PKPdf	20 14 43.5	-1.1
	comp=Z,7.7nm,0.8s						
FETA				*e*pPKPbc	pPKPbc	20 17 06.0	-0.9
	comp=Z,7.2nm,1.1s						
DAVOX	**Davos/Dischmat**	154.38	345	PKP	PKPdf	20 14 45.1	-0.1
	comp=Z,5.1nm,0.9s,baz=157,slow=1.6,SNR=5.2						
DAVOX				PKPbc	PKPbc	20 14 54.1	+0.1
	baz=0.0,slow=1.0,SNR=2.0						
FUORN	**Ofenpass-Fuorn**	154.44	344		PKPab	20 15 12.0	+0.3
MVO	**Moncorvo**	160.12	17	*e*P	PKPdf	20 14 51.9	-0.4
PCAS	**Casmilo, Conde**	160.70	21	*e*P	PKPdf	20 14 55.9	+3.0
PCBR	**Castelo Branco**	161.22	19	*e*P	PKPdf	20 14 53.8	+0.4
ESDC	**Sonseca Array**	162.24	11	PKP	PKPdf	20 14 54.8	+0.3
	comp=Z,0.2nm,0.3s,baz=281,slow=3.6,SNR=2.4						
ESDC				PKPab	PKPab	20 15 45.2	-0.3
	comp=Z,0.9nm,0.6s,baz=337,slow=4.0,SNR=6.4						
PNCL	**Nicolau / Gran**	162.41	24	*e*P	PKPdf	20 14 55.8	+1.2
PBEJ	**Beja**	162.73	23	*e*P	PKPdf	20 14 56.4	+1.4
PTEO	**Sao Teotonio**	162.82	25	*e*P	PKPdf	20 14 56.1	+1.1
PCVE	**Castro Verde**	163.01	24	*e*P	PKPdf	20 14 57.0	+1.8
MORF	**Marmelete**	163.06	26	*e*P	PKPdf	20 14 55.3	-0.1
LIC	**Lamto**	163.19	161	*e*PKP1	PKPdf	20 14 54.8	-1.3
	comp=Z,18nm,0.4s						
LIC	**Lamto**	163.19	161	*e*PKP2	PKPab	20 15 51.2	+1.0
	comp=Z,110nm,0.9s						
PBDV	**Barranco-do-Ve**	163.40	24	*e*P	PKPdf	20 14 56.8	+1.1
KIC	**Kosan Boka**	163.41	162	*e*PKP1	PKPdf	20 14 55.3	-1.0
	comp=Z,46nm,1.1s						
KIC	**Kosan Boka**	163.41	162	*e*PKP2	PKPab	20 15 52.2	+1.0
	comp=Z,97nm,0.9s						
TIC	**Toumodi**	163.59	160	*e*PKP1	PKPdf	20 14 55.7	-0.8
TIC	**Toumodi**	163.59	160	*e*PKP2	PKPab	20 15 53.0	+1.0
DBIC	**Dimbokro**	163.67	161	PKP	PKPdf	20 14 56.2	-0.3
	comp=Z,12nm,0.9s,baz=151,slow=2.0,SNR=15						
DBIC				PKPab	PKPab	20 15 53.2	+0.9
	comp=Z,20nm,0.8s,baz=180,slow=5.7,SNR=17						
DBIC	**Dimbokro**	163.67	161		PKPdf	20 14 56.1	-0.5
DBIC				PKPab	PKPab	20 15 53.1	+0.8
TOA0	**Torodi Ar. Sit**	170.86	188		PKPdf	20 15 00.5	-1.1
TOA0				PKPab	PKPab	20 16 24.3	+0.3
TORD	**Torodi Ar. Bea**	170.86	188	PKP	PKPdf	20 15 00.6	-1.0
	comp=Z,6.5nm,0.8s,baz=328,slow=0.9,SNR=36						
TORD				PKPab	PKPab	20 16 24.2	+0.2
	comp=Z,12nm,0.8s,baz=184,slow=3.5,SNR=35						
TORD				PP	PP	20 20 14.1	0.0
	comp=Z,3.5nm,0.9s,baz=174,slow=4.1,SNR=8.8						

ISK ***12*** *20:50:05.8, 35°.99N×30°.00E, h23km, ML2.9/27*
ATH ***12*** *20:50:06.5, 35°.91N×29°.97E, h30km±3km, ML2.5/1, Error ellipse: s-maj=7.5km s-min=1.3km az=322.0*
NIC ***12*** *20:50:07.8±0.0, 36°.06N×30°.01E, h33km±21km, Ml2.9/3*
DDA ***12*** *20:50:07.2, 36°.06N×30°.01E, h21km±1km, ML2.7*
THE ***12*** *20:50:08.5, 35°.92N×29°.90E, h18km±1km, ML2.4/3, Error ellipse: s-maj=3.5km s-min=1.8km az=69.0*
ISC 12 20:50:07.0±1.0, 36°.02N±0°.03×29°.99E±0°.02, h26km±7km, n71, σ0.96/116, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMR	**Demre-Antalya**	0.23	342	PG	Pb	20 50 12.4	-0.8
DEMR				SG	Sb	20 50 17.2	-0.2
KSL	**Kastellorizon**	0.35	292	P	Pb	20 50 15.5	+0.5
KSL				S	Sn	20 50 21.7	-0.9
	848nm,0.6s						
KSL	**Kastellorizon**	0.35	292	P	Pb	20 50 15.3	+0.4
KSL				S	Sn	20 50 22.1	-0.6
KSL				AML	AML	20 50 23.5	
	comp=E,1865μm,0.7s						
KSL				AML	AML	20 50 24.6	
	comp=N,1525μm,0.6s						
KSL	**Kastellorizon**	0.35	292	P	Pb	20 50 15.3	+0.4
KSL				S	Sb	20 50 20.0	-0.4
KSL				AML	AML	20 50 24.9	
	comp=N,991μm,0.6s						
KSL				AML	AML	20 50 25.0	
	comp=E,1221μm,0.7s						
KSL	**Kastellorizon**	0.35	292	P	Pb	20 50 15.6	+0.7
KSL				S	Sn	20 50 22.2	-0.4
AKAS	**Kas**	0.38	305	PG	Pb	20 50 15.2	-0.2
AKAS				SG	Sb	20 50 21.6	+0.4
AKAS	**Kas**	0.38	305	*i* P	Pb	20 50 15.3	-0.1
AKAS				*i* S	Sb	20 50 21.3	+0.1
AKUM	**Antalya-Kumluc**	0.42	43	*i* P	Pb	20 50 15.2	-0.7
AKUM				*i* S	Sb	20 50 21.1	-0.8
AKUM				IAML		20 50 23.0	
	comp=E,920nm,0.5s						
ELL	**Elmali**	0.73	355	PG	Pb	20 50 20.7	-0.5
ELL	**Elmali**	0.73	355	P	Pb	20 50 20.9	-0.3
KEMT	**Kemer-ANTALYA**	0.74	38	PG	Pb	20 50 21.1	-0.2
FETY	**Fethiye**	0.96	310	P	Pb	20 50 25.1	+0.1
FETY				S	Sn	20 50 38.6	+1.0
FETY	**Fethiye**	0.96	310	PG	Pn	20 50 24.8	0.0
FETY				SG	Sn	20 50 38.6	+1.0
FETY	**Fethiye**	0.96	310	*i* P	Pb	20 50 25.0	0.0
FETY				*i* S	Sb	20 50 37.2	-0.1
KORT	**Korkueli**	1.02	16	PG	Pn	20 50 25.3	-0.5
KORT	**Korkueli**	1.02	16	*i* P	Pb	20 50 26.8	+0.6
KORT				*i* S	Sn	20 50 39.9	+0.6
KORT				IAML		20 50 50.0	
	comp=E,246nm,0.5s						
ANTB	**Antalya**	1.03	31	PG	Pn	20 50 25.0	-0.7
GOLH	**Golhisar**	1.26	344	*i* P	Pb	20 50 30.6	+0.3
GOLH				*i* S	Sb	20 50 46.4	+0.2
DALY	**Dalyan (Mula)**	1.34	307	PN	Pn	20 50 30.1	+0.1
DALY				SN	Sb	20 50 47.7	-0.5
DALY	**Dalyan (Mula)**	1.34	307	*i* P	Pn	20 50 30.7	+0.7
DALY				*i* S	Sn	20 50 46.1	-0.8
DALY				IAML		20 50 57.0	
	comp=N,125nm,0.3s						
ARG	**Arkhangelos**	1.52	278	P	Pn	20 50 31.7	-0.8
ARG				S	Sn	20 50 51.0	-0.5
	comp=N,70nm,0.6s						
ARG	**Arkhangelos**	1.52	278	P	Pn	20 50 33.3	+0.8
ARG	**Arkhangelos**	1.52	278	P	Pn	20 50 33.0	+0.5
ARG				S	Sn	20 50 49.7	-1.7
ARG				AML	AML	20 50 58.8	
	comp=E,213μm,0.3s						
ARG				AML	AML	20 50 59.5	
	comp=N,154μm,0.2s						
ARG	**Arkhangelos**	1.52	278	PN	Pn	20 50 32.3	-0.2
ARG	**Arkhangelos**	1.52	278	P	Pn	20 50 33.0	+0.5
ARG				S	Sn	20 50 52.5	+1.0
KEPZ	**Antalya-Kepez**	1.57	55	*i* P	Pn	20 50 34.0	+0.8
KEPZ				*i* S	Sn	20 50 52.8	+0.1
TURN	**Turunc**	1.60	299	PN	Pn	20 50 33.2	-0.3
BRDR	**BURDUR-Merkez**	1.68	2	*i* P	Pb	20 50 36.4	-0.8
BRDR				*i* S	Sb	20 50 57.1	-0.8
TAVA	**DENIZLI_Tavas**	1.68	329	*i* P	Pb	20 50 37.2	-0.2
TAVA				*i* S	Sn	20 50 56.6	+1.0
TAVA				IAML		20 51 01.0	
	comp=E,114nm,0.3s						
TAVA				IAML		20 51 02.0	
	comp=N,122nm,0.7s						
YER	**Yerkesik**	1.77	310	P	Pb	20 50 38.0	-0.8
YER				S	Sn	20 50 58.6	+0.9
YER	**Yerkesik**	1.77	310	PN	Pn	20 50 36.2	+0.2
ISP	**Isparta**	1.85	13	P	Pb	20 50 39.8	-0.4
ISP	**Isparta**	1.85	13	PN	Pn	20 50 37.1	0.0
GAZI	**Gazipasa**	1.90	83	PN	Pn	20 50 37.5	-0.1
GAZI				SN	Sn	20 51 00.8	+0.1
GAZI	**Gazipasa**	1.90	83	*i* P	Pn	20 50 37.6	-0.1
GAZI				*i* S	Sn	20 50 56.5	-4.2
BASM	**Basmaki-Afyon**	1.90	1	PN	Pn	20 50 37.9	+0.1
SEYD	**Seydisehir-KON**	2.03	46	PN	Pn	20 50 39.5	-0.1
BAGO	**Egridir - ISPA**	2.07	18	*i* P	Pb	20 50 42.4	-1.6
BAGO				*i* S	Sb	20 51 07.6	-1.7
DAT	**Datca**	2.07	291	P	Pn	20 50 40.1	-0.1
DAT	**Datca**	2.07	291	PN	Pn	20 50 40.5	+0.3
DAT				SN	Sn	20 51 05.5	+0.3
DAT	**Datca**	2.07	291	*i* P	Pn	20 50 40.9	+0.7
DAT				*i* S	Sn	20 51 02.9	-2.3
AKMS	**Akamas**	2.16	117	P	Pn	20 50 41.8	+0.6
AKMS				AML	AML	20 51 04.7	
	comp=N,0.2nm,1.0s						
AKMS				AML	AML	20 51 04.7	
	comp=N,0.2nm,1.0s						
AKMS				S	Sn	20 51 07.6	+0.5
AKMS				AML	AML	20 51 17.5	
	comp=N,0.2nm,0.7s						
AKMS				AML	AML	20 51 17.5	
	comp=N,0.2nm,0.7s						
KZIL	**AFYON_Kizioren**	2.24	3	*i* P	Pn	20 50 42.6	+0.2
KZIL				*i* S	Sn	20 51 11.1	+1.8
ALFC	**Alefka**	2.29	111	P	Pn	20 50 43.2	+0.1
ALFC				AML	AML	20 51 07.4	
	comp=N,0.2nm,0.8s						
ALFC				AML	AML	20 51 12.8	
	comp=N,0.2nm,0.9s						
KARP	**Karpathos**	2.35	259	P	Pn	20 50 44.7	+0.8
KARP				S	Sn	20 51 10.2	-1.7
	comp=N,55nm,0.3s						
KARP	**Karpathos**	2.35	259	P	Pn	20 50 45.1	+1.2
KARP	**Karpathos**	2.35	259	P	Pn	20 50 44.9	+1.0
KARP				S	Sn	20 51 10.1	-1.8
KARP				AML	AML	20 51 14.6	
	comp=E,119μm,0.3s						
KARP				AML	AML	20 51 15.2	
	comp=N,120μm,0.3s						
KARP	**Karpathos**	2.35	259	PN	Pn	20 50 44.5	+0.6
KARP				SN	Sn	20 51 11.7	-0.2
KARP	**Karpathos**	2.35	259	P	Pn	20 50 44.8	+0.8
KARP				S	Sn	20 51 13.0	+1.1
KARP				AML	AML	20 51 14.2	
	comp=N,0.1nm,0.3s						
KARP				AML	AML	20 51 14.2	
	comp=N,0.1nm,0.3s						
KARP				AML	AML	20 51 14.8	
	comp=N,0.1nm,0.3s						
KARP				AML	AML	20 51 14.8	
	comp=N,0.1nm,0.3s						
BODT	**Bodrum**	2.40	297	P	Pn	20 50 45.1	+0.6
BODT				S	Sn	20 51 12.9	-0.2
BODT	**Bodrum**	2.40	297	PN	Pn	20 50 44.9	+0.4
BODT				SN	Sn	20 51 12.9	-0.2
DOGA	**KONYA_Doganhis**	2.48	32	*i* P	Pn	20 50 48.2	+2.4
DOGA				*i* S	Sn	20 51 17.2	+1.9
DOGA				IAML		20 51 24.0	
	comp=N,40nm,0.4s						
TEKE	**Tekeli-Mersin**	2.53	86	PN	Pn	20 50 46.8	+0.4
SHUT	**Suhut-Afyon**	2.57	10	PN	Pn	20 50 47.4	+0.4
BERE	**Bereket-Mersin**	2.63	82	PN	Pn	20 50 48.1	+0.1
SZAC	**Souni**	2.68	117	P	Pn	20 50 49.4	+0.9
SZAC				S	Sn	20 51 20.8	+0.8
KONT	**Konya--Tatoy**	2.70	44	PN	Pn	20 50 49.8	+1.0
KONT	**Konya--Tatoy**	2.70	44	*i* P	Pn	20 50 49.7	+1.0
KONT				*i* S	Sn	20 51 21.9	+1.3
GCAM	**G?zelcaml?**	2.78	308	PN	Pn	20 50 50.5	+0.8
TEVE	**Tevekalti-Mers**	2.82	81	PN	Pn	20 50 51.1	+0.6
AKKU	**Akkuyu-Mersin**	2.89	86	PN	Pn	20 50 52.1	+0.8
AKKU				SN	Sn	20 51 25.7	+0.6
IKL	**Isikli**	3.00	85	PN	Pn	20 50 53.1	+0.3
IKL				SN	Sn	20 51 28.2	+0.3
KDHN	**Kadinhani**	3.02	34	*i* P	Pn	20 50 54.8	+1.6
KDHN				*i* S	Sn	20 51 28.6	0.0
MVOU	**Mavrovouni**	3.13	108	P	Pn	20 50 55.5	+0.8
MVOU				S	Sn	20 51 32.2	+1.0
ZKR	**Zakros**	3.21	255	P	Pn	20 50 56.8	+1.1
ZKR	**Zakros**	3.21	255	P	Pn	20 50 56.7	+1.0
ZKR				S	Sn	20 51 31.5	-1.5
ZKR				AML	AML	20 51 36.4	
	comp=N,38μm,0.6s						
ZKR				AML	AML	20 51 38.4	
	comp=E,58μm,0.3s						
KIZT	**Kizilcal**	3.23	27	PN	Pn	20 50 56.8	+0.7
NPS	**Neapolis**	3.65	259	P	Pn	20 51 02.7	+1.0
NPS	**Neapolis**	3.65	259	P	Pn	20 51 02.7	+1.0
NPS				S	Sn	20 51 42.8	-1.1
NPS				AML	AML	20 51 46.2	
	comp=N,87μm,0.3s						
NPS				AML	AML	20 51 47.2	
	comp=E,86μm,0.5s						
LAST	**Lasithi**	3.77	258	P	Pn	20 51 04.9	+1.4
LAST	**Lasithi**	3.77	258	P	Pn	20 51 05.0	+1.4
LAST				S	Sn	20 51 45.5	-1.7

SKO ***12*** *21:15:01.7, 40°.83N×22°.74E, h15km*
BEO ***12*** *21:15:02.9±0.4, 40°.83N×22°.73E, h8km±3km, ML2.3/5*
ATH ***12*** *21:15:02.6, 40°.86N×22°.80E, h23km±1km, ML2.5/7, Error ellipse: s-maj=1.8km s-min=1.0km az=96.0*
THE ***12*** *21:15:03.2, 40°.87N×22°.78E, h11km±1km, ML2.4/9, Error ellipse: s-maj=1.4km s-min=0.7km az=351.0*
ISC 12 21:15:03.0±0.8, 40°.86N±0°.02×22°.79E±0°.02, h16km±6km, n52, σ0.69/77, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	0.27	149	P	Pg	21 15 08.8	+0.1
THE				S	Sg	21 15 12.6	0.0
	1μm,0.2s						
THE	**Thessaloniki**	0.27	149	P	Pg	21 15 08.8	+0.1
THE				S	Sg	21 15 12.6	0.0
THE				AML	AML	21 15 14.5	
	comp=N,2368μm,0.1s						
THE				AML	AML	21 15 14.6	
	comp=E,2453μm,0.3s						
KNT	**Kendrikon**	0.31	16	P	Pg	21 15 09.7	+0.1
KNT				S	Sg	21 15 13.6	-0.5
KNT	**Kendrikon**	0.31	16	P	Pg	21 15 09.7	+0.1
KNT				S	Sg	21 15 14.0	-0.1
KNT				AML	AML	21 15 14.2	
	comp=E,2718μm,0.2s						
KNT				AML	AML	21 15 14.8	
	comp=N,2794μm,0.1s						
HORT	**Hortiatis**	0.35	138	P	Pg	21 15 10.3	0.0
HORT				S	Sb	21 15 15.8	-0.6
HORT	**Hortiatis**	0.35	138	P	Pg	21 15 10.4	+0.1
HORT				S	Sb	21 15 15.8	-0.6
HORT				AML	AML	21 15 17.5	
	comp=E,1337μm,0.1s						
HORT				AML	AML	21 15 18.0	
	comp=N,1173μm,0.2s						
SOH	**Sokhos**	0.43	95	P	Pb	21 15 12.2	-0.1
SOH				S	Sb	21 15 18.5	-0.2
	comp=N,1μm,0.2s						
SOH	**Sokhos**	0.43	95	P	Pb	21 15 12.2	-0.1
SOH				S	Sg	21 15 18.1	+0.4
SOH				AML	AML	21 15 20.8	
	comp=N,2558μm,0.2s						
SOH				AML	AML	21 15 21.0	
	comp=E,1710μm,0

BOSS			eSg	Sg	21 15 56.2	0.0
AGG	Agios Georgios	1.87 191	P	Pn	21 15 35.1	+0.7
LIA	Limnos Island	2.07 117	P	Pn	21 15 37.7	+0.6
BARS	Barje	2.08 340	ePn	Pn	21 15 38.0	+0.6
RDO	Rodhopi	2.10 81	P	Pn	21 15 38.0	+0.4
SMTH	Samothraki Isl	2.12 100	P	Pn	21 15 38.9	+1.0
IGT	Igoumenitsa	2.30 236	ePg	Pb	21 15 45.4	+1.2
IGT			eSg	Sb	21 16 12.9	+0.5
ANX	Ano Chora	2.36 197	P	Pn	21 15 42.4	+1.2
ZAPS	Zavoj	2.41 357	ePn	Pn	21 15 43.4	+1.5
ALN	Alexandroupoli	2.47 88	P	Pn	21 15 43.8	+1.1
SELS	Selova	2.66 333	ePn	Pn	21 15 46.0	+0.6
BOVS	Bovan	2.89 344	ePn	Pn	21 15 50.1	+1.7
ZAGS	Zajecar	2.98 352	ePn	Pn	21 15 50.1	+0.5
DIVS	Divibare	3.84 328	ePn	Pn	21 16 01.8	+0.2

STR **12** *21:26:36.7±0.2, 44°.5N±0°.9×°.±°, h9km±1km, MLv3.3/15, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
GEN **12** *21:26:36.4, 44°.48N×6°.66E, h6km±2km, Ml3.1*
LDG **12** *21:26:36.8±0.0, 44°.50N×6°.71E, h5km, Md3.3/3, Ml3.4/67, Error ellipse: s-maj=0.8km s-min=0.7km az=59.0*
PRU **12** *21:26:36.9±0.0, 44°.46N×6°.64E, h0km, M3.5*
ROM **12** *21:26:36.5±0.1, 44°.497N±0°.003×6°.701E±0°.004, h11km, ML3.1/24, Error ellipse: s-maj=0.3km s-min=0.2km az=256.0, hypocenter*
IDC **12** *21:26:37.5±1.8, 44°.70N×6°.53E, h0km, mb3.1/2, mb1 3.5/7, mb1mx3.3/48, mbtmp3.4/7, ML3.9/6, Error ellipse: s-maj=30.8km s-min=18.4km az=133.0*
ISC 12 21:26:37.1±0.7, 44°.50N±0°.01×6°.71E±0°.01, h16km±4km, n201, σ2.36/320, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.07	104	Pg	Pg	21 26 39.3	-1.3
SURF				Sg	Sg	21 26 40.8	-2.1
OGAG	Argentiere	0.13	250	Pg	Pb	21 26 42.8	+1.5
OGAG				Sg	Sg	21 26 47.4	+3.7
MBDF	Montbardon	0.23	10	ePg	Pg	21 26 41.6	-0.9
MBDF				eSg	Sg	21 26 45.0	-1.2
	2μm,0.2s						
PZZ	Stroppo	0.29	88	P	Pg	21 26 42.9	-0.5
PZZ				S	Sg	21 26 47.3	-0.4
PZZ	Stroppo	0.29	88	P	Pg	21 26 42.9	-0.5
PZZ				S	Sg	21 26 47.4	-0.3
PZZ				AML	AML		
	comp=E,18700μm,0.8s						
PZZ				AML	AML		
	comp=N,13950μm,0.2s						
DOI	San Damiano	0.38	89	P	Pg	21 26 44.4	-0.6
DOI				S	Sg	21 26 50.2	-0.1
DOI				AML	AML		
	comp=E,5950μm,0.2s						
DOI				AML	AML		
	comp=N,6990μm,0.4s						
ISO	Isola	0.40	143	Pg	Pg	21 26 44.3	-1.0
ISO				Sg	Sg	21 26 49.5	-1.2
RRL	Rocca Remolon	0.42	7	P	Pg	21 26 45.1	-0.8
RRL				S	Sg	21 26 51.6	-0.2
RRL	Rocca Remolon	0.42	7	P	Pg	21 26 45.1	-0.8
RRL				S	Sg	21 26 51.6	-0.2
RRL				AML	AML		
	comp=N,5755μm,0.1s						
RRL				AML	AML		
	comp=E,3715μm,0.3s						
OGDI	Digne	0.49	218	Pg	Pg	21 26 47.3	+0.4
OGDI				Sg	Sg	21 26 54.6	+1.0
STV	Sant Anna di V	0.51	120	P	Pg	21 26 46.6	-0.7
STV				S	Sg	21 26 53.3	-0.8
STV	Sant Anna di V	0.51	120	P	Pg	21 26 46.6	-0.7
STV				S	Sg	21 26 53.6	-0.5
STV				AML	AML		
	comp=N,2340μm,0.2s						
STV				AML	AML		
	comp=E,1625μm,1.5s						
BHB	Bricherasio	0.52	49	P	Pg	21 26 46.9	-0.6
BHB				S	Sg	21 26 53.8	-0.7
BHB	Bricherasio	0.52	49	P	Pg	21 26 47.0	-0.6
BHB				S	Sg	21 26 54.1	-0.4
BHB				AML	AML		
	comp=E,2730μm,0.5s						
BHB				AML	AML		
	comp=N,3435μm,0.4s						
BNI	Bardonecchia	0.55	357	P	Pg	21 26 47.2	-1.0
BNI				S	Sg	21 26 55.1	-0.5
BNI				AML	AML		
	comp=E,644μm,0.2s						
BNI				AML	AML		
	comp=N,926μm,0.6s						
BNI				AML	AML		
	comp=E,644μm,0.2s						
BNI				AML	AML		
	comp=E,876μm,0.7s						
BNI				AML	AML		
	comp=N,754μm,0.6s						
ENR	Entracque	0.57	118	P	Pg	21 26 47.7	-0.9
ENR				S	Sg	21 26 55.5	-0.8
ENR	Entracque	0.57	118	P	Pg	21 26 47.7	-0.9
TURF	col de Turini	0.72	137	Pg	Pg	21 26 50.4	-0.8
TURF				Sg	Sg	21 27 00.0	-0.6
ORIF	Oris-en-Rattie	0.73	305	ePg	Pg	21 26 50.0	-1.4
ORIF	Oris-en-Rattie	0.73	305	eP	Pg	21 26 51.8	+0.4
ORIF				eSg	Sg	21 26 59.3	-1.8
	comp=N,1μm,0.3s						
ORIF	Oris-en-Rattie	0.73	305	Pg	Pg	21 26 50.0	-1.4
ORIF				Sg	Sg	21 26 59.4	-1.6
ORIF	Oris-en-Rattie	0.73	305	P	Pg	21 26 50.0	-1.4
BLAF	les Blancs	0.73	222	Pg	Pg	21 26 50.9	-0.5
BLAF				Sg	Sg	21 27 01.0	0.0
RSP	Reno Superiore	0.76	31	P	Pg	21 26 51.4	-0.6
RSP				S	Sg	21 27 01.9	-0.1
RSP	Reno Superiore	0.76	31	P	Pg	21 26 51.4	-0.6
RSP				S	Sg	21 27 01.9	-0.1
RSP				AML	AML		
	comp=E,2220μm,1.4s						
RSP				AML	AML		
	comp=E,2340μm,1.4s						
RSP				AML	AML		
	comp=E,2225μm,1.4s						
RSP				AML	AML		
	comp=N,2305μm,0.4s						
RSP				AML	AML		
	comp=N,2160μm,0.4s						
CALF	Calern	0.76	169	Pg	Pg	21 26 51.4	-0.6
SAOF	Saorge	0.79	130	Pg	Pg	21 26 51.8	-0.7
SAOF				Sg	Sg	21 27 02.4	-0.7
SAOF	Saorge	0.79	130	P	Pg	21 26 51.9	-0.7
SAOF				S	Sg	21 27 02.3	-0.7
SAOF	Saorge	0.79	130	AML	AML		
	comp=E,1040μm,0.4s						
SAOF				AML	AML		
	comp=N,1205μm,0.6s						
ESCA	l'Escarene	0.82	144	Pg	Pg	21 26 52.3	-0.7
ESCA				Sg	Sg	21 27 03.5	-0.4
SBF	Sospel	0.82	141	ePg	Pg	21 26 52.2	-0.9
SBF	Sospel	0.82	141	ePn	Pb	21 26 53.4	+0.4
SBF				eSg	Sg	21 27 03.4	-0.6
	comp=N,709nm,0.3s						
GDM	Grand'Maison	0.82	329	Pg	Pg	21 26 52.0	-1.2
GDM				Sg	Sg	21 27 02.6	-1.5
GBOS	Grotte di Boss	0.85	107	P	Pg	21 26 52.7	-0.9
GBOS				S	Sg	21 27 03.8	-1.0
GBOS	Grotte di Boss	0.85	107	P	Pg	21 26 52.5	-1.1
GBOS				S	Sg	21 27 03.9	-1.0
GBOS				AML	AML		
	comp=E,2530μm,0.4s						
GBOS				AML	AML		
	comp=N,1715μm,0.4s						
MLYF	Mely	0.85	233	Pg	Pg	21 26 53.1	-0.6
MGRO	Montegrosso	0.91	120	P	Pg	21 26 53.8	-1.0
MGRO				S	Sb	21 27 06.9	+0.4
MGRO	Montegrosso	0.91	120	P	Pg	21 26 53.8	-1.0
MGRO				AML	AML		
	comp=E,975μm,0.6s						
MGRO				AML	AML		
	comp=N,1230μm,0.4s						
MGRO				AML	AML		
	comp=E,979μm,0.6s						
MON	Monaco	0.92	146	Pg	Pg	21 26 54.4	-0.6
MON				Sg	Sb	21 27 07.4	+0.7
FRF	La Foret Royal	0.94	183	ePg	Pg	21 26 54.2	-1.1
FRF	La Foret Royal	0.94	183	ePn	Pg	21 26 55.0	-0.3
FRF	La Foret Royal	0.94	183	eP	Pb	21 26 56.1	+1.1
FRF				eSg	Sg	21 27 06.8	-0.9
	comp=E,516nm,0.2s						
SMRF	Simiane la Rot	0.97	238	ePg	Pg	21 26 55.3	-0.7
SMRF	Simiane la Rot	0.97	238	eP	Pg	21 26 56.5	+0.5
SMRF				eSg	Sg	21 27 07.4	-1.3
	comp=E,597nm,0.3s						
BSTF	la Bastide-des	0.99	232	Pg	Pb	21 26 56.9	+1.1
BSTF				Sg	Sb	21 27 10.7	+2.1
EILF	Villa Eilenroc	1.00	162	Pg	Pg	21 26 55.7	-0.8
EILF				Sg	Sb	21 27 09.3	+0.5
LPG	La Plagne	1.00	2	ePg	Pg	21 26 55.5	-1.1
LPG	La Plagne	1.00	2	ePn	Pg	21 26 56.1	-0.5
LPG	La Plagne	1.00	2	eP	Pb	21 26 57.6	+1.4
LPG				eSg	Sg	21 27 08.9	-0.8
	comp=E,178nm,0.2s						
LSD	Lago del Serru	1.01	17	P	Pg	21 26 55.5	-1.2
LSD				S	Sg	21 27 09.1	-0.8
LSD				AML	AML		
	comp=N,1136μm,0.3s						
LSD				AML	AML		
	comp=E,1830μm,0.2s						
GRN	Grenoble	1.01	318	Pg	Pb	21 26 55.7	-0.6
GRN				Sg	Sb	21 27 09.7	+0.2
LPL	La Plagne	1.02	1	ePg	Pg	21 26 56.0	-0.9
LPL	La Plagne	1.02	1	ePn	Pg	21 26 56.4	-0.5
LPL	La Plagne	1.02	1	eP	Pb	21 26 57.9	+1.4
LPL				eSg	Sg	21 27 09.2	-1.1
	comp=E,440nm,0.3s						
IMI	Imperia	1.03	124	P	Pg	21 26 56.1	-1.0
MONC	Moncucco Torin	1.04	56	P	Pb	21 26 56.2	-0.5
MONC				AML	AML		
	comp=E,2390μm,0.3s						
MONC				AML	AML		
	comp=N,2170μm,0.3s						
RORO	Rocca Rossa	1.04	111	P	Pb	21 26 56.1	-0.7
RUSF	Rustrel	1.05	238	Pg	Pb	21 26 57.3	+0.4
RUSF				Sg	Sb	21 27 11.8	+1.5
ARTF	Artigues	1.12	216	Pg	Pb	21 26 58.2	0.0
ARTF				Sg	Sb	21 27 13.4	+0.9
LMR	La Mourre	1.17	187	ePn	Pb	21 26 58.1	-0.9
LMR	La Mourre	1.17	187	ePg	Pb	21 26 58.7	-0.3
LMR	La Mourre	1.17	187	eP	Pb	21 26 59.8	+0.8
LMR				eSg	Sb	21 27 13.7	-0.2
	comp=N,425nm,0.2s						
QLNO	Quiliano	1.18	98	P	Pb	21 26 58.6	-0.6
RSL	Roselend	1.19	357	Pg	Pn	21 26 59.2	-0.1
RSL				Pn	Pb	21 26 59.4	0.0
RSL				Sn	Sb	21 27 16.0	+1.4
FINB	Finale Ligure	1.20	105	P	Pb	21 26 59.0	-0.4
FINB				AML	AML		
	comp=E,910μm,0.3s						
FINB				AML	AML		
	comp=N,930μm,0.4s						
FINB				AML	AML		
	comp=N,925μm,0.4s						
FINB				AML	AML		
	comp=E,910μm,0.3s						
ROTM	Rocchetta Tana	1.22	73	P	Pn	21 26 59.0	-0.4
TRAV	Traversella	1.25	36	P	Pn	21 26 59.4	-0.6
TRAV				S	Sb	21 27 16.5	+0.2
TRAV				AML	AML		
	comp=E,1175μm,0.3s						
TRAV				AML	AML		
	comp=N,917μm,0.4s						
CIRO	Champorcher	1.26	28	P	Pn	21 27 00.0	-0.2
CIRO				S	Sb	21 27 16.4	-0.2
CIRO				AML	AML		
	comp=N,570μm,1.1s						
CIRO				AML	AML		
	comp=E,628μm,0.4s						
CIRO				AML	AML		
	comp=N,571μm,1.1s						
MRGE	Morge	1.29	11	P	Pn	21 27 00.6	0.0
MRGE				AML	AML		
	comp=E,369μm,0.5s						
MRGE				AML	AML		
	comp=N,572μm,1.1s						
MRGE				AML	AML		
	comp=E,368μm,0.5s						
PCP	Piancastagn	1.31	88	P	Pn	21 27 00.8	+0.1
PCP				S	Sb	21 27 18.0	+0.1
PCP				AML	AML		
	comp=E,728μm,0.7s						
PCP				AML	AML		
	comp=N,821μm,0.7s						
OGSM	Saint Maurice	1.32	327	Pn	Pn	21 27 01.7	+0.7
OGSM				Sn	Sb	21 27 18.6	+0.3
REMY	Saint-Rhmy-en	1.38	13	P	Pn	21 27 01.8	-0.1
ARBF	Arbois	1.42	225	Pn	Pn	21 27 03.3	+1.1
ARBF				Sn	Sn	21 27 20.8	+0.4
VIVF	Saint-Julien-l	1.50	284	ePn	Pn	21 27 03.5	+0.1
VIVF	Saint-Julien-l	1.50	284	ePg	Pn	21 27 04.3	+0.9
VIVF				eSn	Sn	21 27 21.0	-1.6
	comp=N,70nm,0.2s						
VIVF				eSg	Sb	21 27 24.1	+0.7
	comp=N,235nm,0.3s						
SATI	Passo dei Sala	1.60	30	P	Pn	21 27 04.9	-0.1
SATI				AML	AML		
	comp=N,235μm,1.6s						
SATI				AML	AML		
	comp=E,250μm,0.9s						
DIX	Grande Dixence	1.66	17	AML	AML		
	comp=N,222μm,0.8s						
DIX				AML	AML		
	comp=E,250μm,0.9s						
OG35	Corcelles	1.74	333	Pg	Pb	21 27 09.8	+1.1
ASEAF	Site Antares,	1.75	193	Pn	Pn	21 27 08.0	+1.6
ASEAF				Sn	Sn	21 27 29.5	+1.3
MMK	Mattmark	1.79	29	P	Pn	21 27 08.2	+0.7
MMK				AML	AML		
	comp=E,266μm,0.5s						
MMK				AML	AML		
	comp=N,312μm,0.6s						
GORR	Gorreto	1.85	86	P	Pn	21 27 09.2	+1.0
GORR				AML	AML		
	comp=N,404μm,0.4s						
GORR				AML	AML		
	comp=E,312μm,0.4s						
MSSA	Maissana	2.02	94	P	Pn	21 27 10.5	0.0
TRBF	Trabuc cave	2.02	260	Pn	Pn	21 27 10.0	-0.4
TRBF				Sn	Sn	21 27 34.0	-1.3
GIMEL	St. Georges /	2.06	351	AML	AML		
	comp=N,168μm,1.4s						
GIMEL				AML	AML		
	comp=E,211μm,0.3s						
LASF	Ste Croix	2.10	259	ePn	Pn	21 27 10.9	-0.6
LASF	Ste Croix	2.10	259	eP	Pn	21 27 13.0	+1.5
LASF	Ste Croix	2.10	259	ePg	Pb	21 27 15.5	+0.8
LASF				eSn	Sn	21 27 35.4	-1.9
	comp=E,50nm,0.3s						
LASF				eSg	Sb	21 27 42.4	+1.9
	comp=E,30nm,0.3s						
CABF	La Chapelle	2.16	348	eP	Pn	21 27 14.3	+1.8
CABF	La Chapelle	2.16	348	ePg	Pb	21 27 16.9	+1.1
CABF				eSn	Sn	21 27 36.9	-2.0
	comp=E,31nm,0.3s						
CABF				eSg	Sb	21 27 44.5	+2.1
	comp=E,109nm,0.4s						
GRAM	Graiana	2.40	89	AML	AML		
	comp=N,208μm,0.3s						
GRAM				AML	AML		
	comp=E,328μm,0.3s						
GROG	Isola di Gorgo	2.53	114	P	Pn	21 27 17.9	+0.4
GROG				AML	AML		
	comp=N,76μm,0.3s						
GROG				AML	AML		
	comp=E,116μm,0.9s						
PGF	Pioggiola	2.56	139	ePn	Pn	21 27 18.0	0.0
PGF	Pioggiola	2.56	139	eP	Pn	21 27 20.2	+2.2
PGF				eSn	Sn	21 27 47.9	-1.0
	comp=E,53nm,0.3s						
PGF	Pioggiola	2.56	139	Pn	Pn	21 27 18.1	+0.1
PGF				Sn	Sn	21 27 48.3	-0.6
PGF	Pioggiola	2.56	139	AML	AML		
	comp=E,126μm,0.5s						
PGF				AML	AML		
	comp=N,116μm,0.5s						
LBL	Lubilhac	2.57	288	Pn	Pn	21 27 18.6	+0.4
BNALP	Bannalp	2.66	26	AML	AML		
	comp=E,182μm,0.7s						
BNALP				AML	AML		
	comp=N,190μm,0.7s						
TUE	Stuetta	2.71	42	P	Pn	21 27 20.9	+0.8
TUE				AML	AML		
	comp=N,131μm,0.3s						
TUE				AML	AML		
	comp=E,184μm,0.3s						
CHMF	Charmoille	2.75	359	Pn	Pn	21 27 21.6	+1.0
MAIM	Mastiano	2.78	101	AML	AML		
	comp=E,95μm,0.9s						
MAIM				AML	AML		
	comp=N,98μm,0.9s						
CORF	Corte	2.83	140	Pn	Pn	21 27 22.1	+0.5
CORF				Sn	Sn	21 27 54.9	-0.5
LOMF	Lomont	2.85	2	Pn	Pn	21 27 22.7	+0.7
LOMF				Sn	Sn	21 27 55.2	-0.8
PII	Pisa	2.85	104	AML	AML		
	comp=N,70μm,1.0s						
PII				AML	AML		
	comp=E,98μm,0.8s						
PYM	Petit Puy Mans	2.91	297	Pn	Pn	21 27 22.8	+0.1
POPM	Popiglio	2.94	97	P	Pn	21 27 23.7	+0.6
POPM				AML	AML		
	comp=E,160μm,0.4s						
POPM				AML	AML		
	comp=N,79μm,0.5s						
SMF	Signal de Mont	2.95	318	eP	Pn	21 27 24.1	+0.9
SMF	Signal de Mont	2.95	318	ePg	Pb	21 27 31.6	+2.4
SMF				eSn	Sn	21 27 55.3	-2.9
	comp=N,18nm,0.2s						
SMF				eSg	Sb	21 28 09.3	+4.3
	comp=N,112nm,0.5s						
AGO	Saint Agoulin	2.97	303	Pn	Pn	21 27 23.9	+0.3
AJAC	Base Areonaval	2.97	149	Pn	Pn	21 27 24.3	+0.8
AJAC				Sn	Sn	21 27 58.2	-0.6
MAGA	Magasa	3.05	64	P	Pn	21 27 25.1	+0.4
SMPL	Sampolo	3.05	141	Pn	Pn	21 27 25.4	+0.8
SMPL	Sampolo	3.05	141	AML	AML		
	comp=N,4830μm,1.5s						
SMPL				AML	AML		
	comp=E,4970μm,1.1s						
DAVOX	Davos/Dischmat	3.18	43	Pn	Pn	21 27 28.8	+2.1
	comp=E,3.1nm,0.3s,baz=224,slow=11,SNR=14						
DAVOX				Sn	Sn	21 28 06.9	+2.6
	comp=E,1.9nm,0.3s,baz=183,slow=21,SNR=4.7						
AVF	Avril sur Loir	3.29	315	ePn	Pn	21 27 27.4	-0.5
AVF	Avril sur Loir	3.29	315	eP	Pn	21 27 30.0	+2.1
AVF	Avril sur Loir	3.29	315	ePg	Pb	21 27 38.4	+3.4
AVF				eSn	Sn	21 28 03.7	-2.9
	comp=E,5.8nm,0.2s						
AVF				eSg	Sg	21 28 20.7	-2.0
	comp=E,59nm,0.5s						
HINF	Hinteralfeld	3.32	2	eP	Pn	21 27 28.9	+0.5
HINF				eSn	Sn	21 28 05.5	-2.0
HINF				eSg	Sg	21 28 21.9	-1.8
	comp=E,51nm,0.6s						
CAF	Calviac	3.34	279	ePn	Pn	21 27 29.1	+0.4
CAF				eSn	Sn	21 28 04.8	-3.2
	comp=E,20nm,0.2s						
MOF	Molkenrain	3.37	5	Pn	Pn	21 27 29.4	+0.3
SSF	Saint Saulge	3.41	320	eP	Pn	21 27 30.7	+1.2
SSF	Saint Saulge	3.41	320	ePg	Pb	21 27 40.0	+2.9
SSF				eSn	Sn	21 28 07.0	-2.6
	comp=E,15nm,0.2s						
SSF				eSg	Sb	21 28 23.4	+5.2
	comp=E,137nm,0.8s						
BGF	Bois d'Agland	3.41	308	eP	Pn	21 27 30.9	+1.3
BGF	Bois d'Agland	3.41	308	ePg	Pb	21 27 40.4	+3.3
BGF				eSn	Sn	21 28 06.4	-3.3
	comp=E,28nm,0.3s						
BGF				eSg	Sb	21 28 24.2	+5.9
	comp=E,133nm,0.4s						
LOR	Lormes	3.41	325	eP	Pn	21 27 30.7	+1.1
	baz=144						
LOR	Lormes	3.41	325	ePg	Pb	21 27 39.5	+2.3
	baz=145						
LOR				eSn	Sn	21 28 08.4	-1.3
	comp=E,47nm,0.3s,baz=145						
LOR				eSg	Sb	21 28 23.6	+5.2
	comp=E,50nm,0.3s,baz=145						
LOR	Lormes	3.41	325	Pn	Pn	21 27 30.5	+0.9
LOR				Sn	Sn	21 28 07.4	-2.3
SJAF	Saint Jean de	3.44	235	Pn	Pn	21 27 29.5	-0.5
SJAF				Sn	Sn	21 28 08.8	-1.6
MTLF	Montolieu	3.45	252	ePn	Pn	21 27 30.1	0.0
MTLF	Montolieu	3.45	252	eP	Pn	21 27 32.9	+2.8
MTLF	Montolieu	3.45	252	ePg	Pb	21 27 40.3	+2.5
MTLF				eSn	Sn	21 28 07.6	-3.0
	comp=E,21nm,0.3s						
MTLF				eSg	Sb	21 28 25.3	+5.9
	comp=E,19nm,0.3s						
MTLF	Montolieu	3.45	252	Pn	Pn	21 27 30.1	0.0
MTLF				Sn	Sn	21 28 09.1	-1.6
MTLF	Montolieu	3.45	252	P	Pn	21 27 30.1	0.0
MTLF				AML	AML		
	comp=E,41μm,0.6s						
MTLF				AML	AML		
	comp=N,49μm,0.4s						
CASP	Castiglione de	3.46	118	AML	AML		
	comp=N,61μm,0.6s						
CASP				AML	AML		
	comp=E,75μm,0.5s						
HAU	Haudompre	3.52	356	eP	Pn	21 27 31.9	+0.8
HAU	Haudompre	3.52	356	ePg	Pb	21 27 42.2	+3.3
HAU				eSn	Sn	21 28 09.6	-2.7
	comp=E,92nm,0.3s						
HAU				eSg	Sg	21 28 27.3	-2.7
	comp=E,28nm,0.3s						
KIZ	Kirchzarten	3.56	13	Pn	Pn	21 27 32.0	+0.4
KIZ				Sn	Sn	21 28 14.2	+0.9
DAVA	Damuels	3.56	37	ePn	Pn	21 27 35.6	+3.9
	comp=E,3.9nm,0.2s,SNR=8.6						
DAVA				eSn	Sn	21 28 18.2	+4.7
	comp=E,15nm,0.3s						
TCF	Toulx Ste Croi	3.64	301	ePn	Pn	21 27 33.0	+0.2
TCF	Toulx Ste Croi	3.64	301	eP	Pn	21 27 34.6	+1.8
TCF	Toulx Ste Croi	3.64	301	ePg	Pb	21 27 44.2	+3.1
TCF				eSn	Sn	21 28 13.4	-2.0
	comp=E,10nm,0.2s						
TCF				eSg	Sb	21 28 30.9	+5.9
	comp=E,26nm,0.5s						
FETA	Feichten	3.78	47	i Pn	Pn	21 27 38.2	+3.4
	comp=E,3.3nm,0.3s						
FETA				eSn	Sn	21 28 24.2	+5.3
	comp=E,9.8nm,0.5s						
RJF	Les Rejaudoux	3.78	284	eP	Pn	21 27 35.6	+0.9
RJF	Les Rejaudoux	3.78	284	ePg	Pb	21 27 46.4	+3.0
RJF				eSn	Sn	21 28 15.5	-3.3
	comp=E,4.8nm,0.2s						
RJF				eSg	Sb	21 28 34.9	+6.0
	comp=E,43nm,0.5s						
SFTF	Sexfontaines	3.88	343	eP	Pn	21 27 37.8	+1.7
	baz=161						
SFTF	Sexfontaines	3.88	343	ePg	Pb	21 27 48.6	+3.4
	baz=154						
SFTF				eSn	Sn	21 28 18.4	-2.9
	comp=E,20nm,0.3s,baz=166						
SFTF				eSg	Sb	21 28 38.2	+6.3
	comp=E,39nm,0.4s,baz=161						
CDF	Champ du Feu	3.93	5	ePn	Pn	21 27 36.4	-0.5
CDF	Champ du Feu	3.93	5	eP	Pn	21 27 38.9	+2.0
CDF	Champ du Feu	3.93	5	ePg	Pb	21 27 49.9	+3.8
CDF				eSn	Sn	21 28 19.7	-3.0
	comp=E,9.6nm,0.3s						
CDF				eSg	Sg	21 28 39.7	-3.7
	comp=E,9.0nm,0.3s						
HYF	Humbligny	3.97	316	eP	Pn	21 27 39.1	+1.8
HYF	Humbligny	3.97	316	ePg	Pb	21 27 50.9	+4.2
HYF				eSg	Sg	21 28 41.6	-3.0
PAGF	Fort de Pagny	4.11	351	eP	Pn	21 27 40.8	+1.5
	baz=170						
PAGF				eSn	Sn	21 28 23.7	-3.3
	comp=E,39nm,0.4s						
PAGF				eSg	Sg	21 28 46.1	-3.1
	comp=E,44nm,0.5s,baz=170						
SQTA	Sankt Quirin	4.16	47	ePn	Pn	21 27 44.5	+4.6
	comp=E,4.9nm,0.2s,SNR=14						
SQTA				eSn	Sn	21 28 33.5	+5.3
	comp=E,20nm,0.5s						
MEZF	Maizieres J'vi	4.17	345	eP	Pn	21 27 42.0	+2.1
	baz=164						
MEZF	Maizieres J'vi	4.17	345	ePg	Pb	21 27 53.3	+3.3
	baz=163						
MEZF				eSn	Sn	21 28 25.1	-3.1
	comp=E,20nm,0.2s,baz=165						
MEZF				eSg	Sb	21 28 46.8	+6.8

MOTA Moosalm 4.18 46 *e*Pn **Pn 21 27 42.9 +2.6**
comp=E,5.0nm,0.2s,SNR=15
MOTA *e*Sn **Sn 21 28 32.4 +3.6**
comp=E,9.0nm,0.3s
LFF La Frestale 4.28 278 *e*Pn **Pn 21 27 42.2 +0.7**
LFF La Frestale 4.28 278 *e*Pg **Pb 21 27 55.5 +3.6**
LFF *e*Sn **Sn 21 28 27.0 -4.1**
comp=E,18nm,0.4s
LFF *e*Sg **Sb 21 28 50.6 +7.3**
comp=E,37nm,0.5s
WTTA Wattenberg 4.41 49 *e*Pn **Pn 21 27 46.8 +3.3**
comp=E,7.9nm,0.2s,SNR=19
WTTA *e*Sn **Sn 21 28 39.7 +5.1**
comp=E,19nm,0.7s
WATA Walderalm 4.42 48 *e*Pn Pn 21 27 48.5 +4.8
comp=E,5.1nm,0.2s,SNR=16
WATA *e*Sn **Sn 21 28 38.2 +3.4**
comp=E,6.9nm,0.4s
ABTA Abfaltersbach 4.65 59 Pn **Pn 21 27 49.5 +2.9**
comp=E,7.8nm,0.4s,SNR=15
ABTA *i* Sn **Sn 21 28 45.3 +5.0**
comp=E,6.8nm,0.4s
EPF Esparros 4.84 255 *e*Pn **Pn 21 27 48.7 -0.6**
EPF Esparros 4.84 255 *e*Pg **Pg 21 28 07.9 -2.0**
EPF *e*Sn **Sn 21 28 40.7 -4.4**
comp=E,6.3nm,0.4s
EPF *e*Sg **Sb 21 29 07.8 +8.2**
comp=E,7.8nm,0.3s
ROBS Robic 5.10 68 *i* Pn **Pn 21 27 53.0 +0.3**
CADS Cadrg 5.24 68 *i* Pn **Pn 21 27 54.3 -0.5**
MFF Saint Martin d 5.26 296 *e*P **Pn 21 27 56.0 +1.1**
MFF *e*Sn **Sn 21 28 50.7 -4.5**
comp=E,2.5nm,0.2s
MFF *e*Sg **Sg 21 29 20.8 -5.0**
comp=E,18nm,0.6s
VOJS Vojsko 5.29 71 *i* Pn **Pn 21 27 56.0 +0.5**
KBA Koelnbreinsper 5.31 59 *e*Pn **Pn 21 28 00.3 +4.5**
comp=E,5.2nm,0.4s
ETSF Etsaut 5.51 256 *e*Pn **Pn 21 27 58.7 +0.2**
ETSF Etsaut 5.51 256 *e*P **Pn 21 28 01.9 +3.4**
ETSF *e*Sn **Sn 21 28 58.0 -3.5**
comp=E,7.9nm,0.3s
ETSF *e*Sg Sb 21 29 28.0 +9.2
comp=E,3.2nm,0.3s
GIVF Givet 5.75 348 *e*P **Pn 21 28 03.9 +2.2**
GIVF *e*Sn **Sn 21 29 02.8 -4.5**
comp=E,12nm,0.3s
BAIF Baives 5.82 344 *e*P **Pn 21 28 04.4 +1.8**
BAIF *e*Sn **Sn 21 29 04.3 -4.6**
comp=E,9.0nm,0.3s
OBKA Obir 5.86 67 *e*Pn **Pn 21 28 07.7 +4.4**
comp=E,1.8nm,0.3s
OBKA *e*Sn **Sn 21 29 12.8 +2.6**
comp=E,2.3nm,0.3s
SJPF Ste Jean 5.91 259 *e*Pn **Pn 21 28 03.4 -0.5**
SJPF *e*Sn **Sn 21 29 06.6 -4.7**
comp=E,1.4nm,0.3s
SJPF *e*Sg **Sg 21 29 41.5 -5.2**
comp=E,2.1nm,0.3s
MOA Molln 6.22 55 *e*Pn **Pn 21 28 11.4 +3.2**
comp=E,2.4nm,0.3s,SNR=7.3
MOA *e*Sn **Sn 21 29 21.7 +2.7**
comp=E,2.3nm,0.4s
SOKA Soboth 6.23 67 *e*Pn **Pn 21 28 09.9 +1.4**
comp=E,1.2nm,0.3s
SOKA *e*Sn **Sn 21 29 22.0 +2.7**
comp=E,1.5nm,0.4s
LDF La Druitiere 6.24 313 *e*Pn **Pn 21 28 07.7 -0.8**
LDF La Druitiere 6.24 313 *e*P **Pn 21 28 09.9 +1.4**
LDF *e*Sn **Sn 21 29 14.2 -5.3**
comp=E,1.6nm,0.2s
LDF *e*Sg **Sg 21 29 52.9 -4.5**
comp=E,18nm,0.6s
GERES GERESS Array B 6.48 45 Pn **Pn 21 28 13.1 +1.3**
comp=E,6.7nm,0.3s,baz=233,slow=13,SNR=83
GERES Sn **Sn 21 29 25.1 -0.3**
comp=E,1.9nm,0.3s,baz=239,slow=23,SNR=8.2
GRR Gorron 6.52 309 *e*Pn **Pn 21 28 10.9 -1.4**
GRR Gorron 6.52 309 *e*P **Pn 21 28 13.4 +1.1**
GRR *e*Sn **Sn 21 29 22.0 -4.2**
comp=E,3.0nm,0.3s
GRR *e*Sg **Sg 21 30 00.6 -5.6**
comp=E,1.3nm,0.2s
FLN La Foliniere 6.54 313 *e*P **Pn 21 28 13.7 +1.2**
baz=132
FLN *e*Sn **Sn 21 29 21.9 -4.7**
comp=E,3.2nm,0.3s
FLN *e*Sg **Sg 21 30 01.0 -5.7**
comp=E,7.0nm,0.4s,baz=130
KHC Kasperske Hory 6.61 43 *e*PN **Pn 21 28 14.8 +1.3**
KHC *e*SN **Sn 21 29 29.4 +1.0**
ARSA Arzberg 6.74 63 *e*Pn **Pn 21 28 18.4 +3.1**
comp=E,3.1nm,0.3s
PBCC Pribram 7.18 41 *e*PN **Pn 21 28 22.7 +1.3**
PBCC *e*SN **Sn 21 29 43.1 +0.5**
CONA Conrad Observa 7.21 58 *i* Pn **Pn 21 28 25.5 +3.6**
comp=E,0.5nm,0.2s
CONA *e*Sn **Sn 21 29 45.6 +2.2**
comp=E,1.0nm,0.3s
SGMF Saint Gilles 7.43 304 *e*Pn **Pn 21 28 24.2 -0.6**
QUIF Quistinic 7.66 300 *e*Pn **Pn 21 28 28.3 +0.4**
QUIF *e*Sn **Sn 21 29 49.3 -4.9**
QUIF *e*Sg 21 30 37.2
comp=E,7.2nm,0.6s
GOPC GO Pecny, Ondr 7.71 43 *e*PN **Pn 21 28 30.4 +1.7**
GOPC *e*SN **Sn 21 29 55.8 +0.1**
ROSF Rostrenen 7.90 303 *e*PN **Pn 21 28 31.6 +0.5**
ROSF *e*Sn **Sn 21 29 54.9 -5.2**
comp=E,1.3nm,0.4s
CLL Collm 8.01 30 *i* (Pn) Pn 21 28 28.1 -4.6
comp=Z,3.0nm,0.4s
CLL *e*Sn Sn 21 29 52.0 -11
CLL *e*Sg 21 30 54.0
KRUC Moravsky 8.06 52 *e*PN **Pn 21 28 35.0 +1.6**
VRAC Vranov 8.30 51 Pn **Pn 21 28 38.5 +1.8**
comp=Z,0.6nm,0.3s,baz=245,slow=17,SNR=2.2
VRAC Sn **Sn 21 30 10.9 +0.9**
comp=Z,0.8nm,0.3s,baz=345,slow=16,SNR=2.6
VRAC Vranov 8.30 51 *e*PN **Pn 21 28 39.1 +2.4**
KRLC Kraliky 8.82 47 *e*PN **Pn 21 28 45.3 +1.4**
KEST Kesra 8.98 166 Pn Pn 21 28 52.0 +5.8
comp=Z,0.2nm,0.3s,baz=356,slow=6.9,SNR=4.8
MORC Moravsky Berou 9.07 51 *e*PN **Pn 21 28 47.9 +0.6**
VYHS Vyhne 9.27 60 *e*PN **Pn 21 28 52.7 +2.8**
ESDC Sonseca Array 9.29 242 Pn **Pn 21 28 51.5 +1.2**
comp=Z,0.1nm,0.3s,baz=53,slow=14,SNR=7.1
EKA Eskdalemuir Ar 12.56 333 Pn **Pn 21 29 35.4 +0.5**
baz=145,slow=9.4,SNR=13
EKA Sn **Sn 21 31 48.6 -5.7**
baz=142,slow=25,SNR=3.7
FINES FINESS Array B 20.45 27 P **P 21 31 15.1 +1.6**
comp=Z,1.5nm,0.8s,baz=226,slow=11,SNR=7.6
BRTR Keskin Array B 20.49 94 P Pn 21 31 18.1 +1.5
comp=Z,0.4nm,0.6s,baz=287,slow=8.6,SNR=2.9

IDC ***12*** *21:35:16.5±1.1,3.°19S×142.°82E,h0km,mb4.0/10, mb1 4.1/12,mb1mx3.8/39,mbtmp4.0/12,ML3.7/2,MS3.5/6, Ms1 3.5/6,ms1mx3.2/27,Error ellipse: s-maj=26.5km s-min=18.1km az=94.0*
NEIC ***12*** *21:35:20.9±1.6,3.°13S±0.°06×142.°88E±0.°07,h35km±1km, mb4.3/12,Error ellipse: s-maj=14.4km s-min=7.1km az=48.0*
ISC 12 21:35:19.3±0.6,**3.°11S**±0.°08×**142.°89E**±0.°08,**h23**km,**n43,** σ1º**00/35,mb4.0/**11,**MS3.4/3,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.26**	**285**	Pn	**Pn**	**21 35 53.8**	**-1.5**
	7.4nm,0.3s,baz=133,slow=18,SNR=32						
JAY				Sn	**Sn**	**21 36 23.9**	**+1.5**
	12nm,0.3s,baz=337,slow=21,SNR=6.0						
PMG	**Port Moresby**	**7.56**	**146**	Pn	**Pn**	**21 37 08.7**	**+0.6**
KRVT	**Keravat (AS076**	**9.20**	**98**	LR	LR	21 40 23.8	
	comp=Z,208nm,19.2s,baz=282,slow=33						
RABL	**Rabaul**	**9.32**	**97**	Pn	**Pn**	**21 37 32.6**	**+0.3**
FAKI	**Fak Fak**	**10.62**	**271**	Pn	**Pn**	**21 37 52.0**	**+1.8**
COEN	**Coen**	**10.78**	**178**	Pn	**Pn**	**21 37 53.2**	**+0.9**
SAUI	**Saumlaki**	**12.50**	**247**	Pn	**Pn**	**21 38 15.3**	**-0.6**
HNR	**Honiara**	**18.08**	**111**	LR	LR	21 46 18.3	
	comp=Z,66nm,18.9s,baz=5.0,slow=36						
WR0	**Warramunga Arr**	**18.62**	**205**	P	**P**	**21 39 34.8**	**-0.6**
WR0				IAmb	IAmb	21 39 53.5	
	comp=Z,16nm,0.9s						
WB2	**Warramunga Arr**	**18.69**	**206**	P	**P**	**21 39 35.5**	**-0.6**
KNRA	**Kununurra**	**18.69**	**227**	P	**Pn**	**21 39 35.7**	**-0.9**
KNRA				IAmb	IAmb	21 39 44.7	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**18.69**	**206**	P	**P**	**21 39 34.3**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=27,slow=13,SNR=33						
WRA				LR	LR	21 47 41.4	
	comp=Z,152nm,20.4s,baz=250,slow=40						
WRA	**Warramunga Arr**	**18.69**	**206**	P	**Pn**	**21 39 36.1**	**-0.5**
SOEI	**Soe**	**19.63**	**249**	P	**P**	**21 39 46.7**	**+0.1**
SOEI				IAmb	IAmb	21 40 04.0	
	comp=Z,43nm,0.9s						
BATI	**Baumata**	**20.34**	**249**	P	**P**	**21 39 54.5**	**+0.2**
	comp=Z,24nm,0.6s,baz=155,slow=3.9,SNR=6.2						
ASAR	**Alice Springs**	**22.20**	**202**	P	**P**	**21 40 13.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=29,slow=11,SNR=15						
ASAR				LR	LR	21 49 34.7	
	comp=Z,225nm,21.9s,baz=356,slow=39						
FITZ	**Fitzroy Crossi**	**22.52**	**227**	P	**P**	**21 40 16.1**	**-1.6**
	comp=Z,4.0nm,0.5s,baz=358,slow=5.5,SNR=18						
FITZ				LR	LR	21 51 03.4	
	comp=Z,129nm,18.4s,baz=274,slow=42						
FITZ	**Fitzroy Crossi**	**22.52**	**227**	P	**P**	**21 40 16.8**	**-0.9**
FITZ				IAmb	IAmb	21 40 21.2	
	comp=Z,9.9nm,1.1s						
KAPI	**Kappang**	**23.15**	**265**	LR	LR	21 50 06.0	
	comp=Z,116nm,18.3s,baz=90,slow=38						
STKA	**Stephens Creek**	**28.64**	**182**	P	**P**	**21 41 14.8**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=1.7,slow=9.2,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**31.79**	**47**	T	T	22 15 11.3	
	baz=229,slow=76,SNR=97						
H11S2	**WAKE ISLAND Hy**	**31.80**	**47**	T	T	22 15 15.8	
	baz=229,slow=76,SNR=77						
H11S1	**WAKE ISLAND Hy**	**31.81**	**47**	T	T	22 15 13.5	
	baz=229,slow=76,SNR=81						
H11N1	**WAKE ISLAND Hy**	**32.72**	**45**	T	T	22 16 36.0	
	baz=229						
H11N2	**WAKE ISLAND Hy**	**32.74**	**45**	T	T	22 16 35.4	
	baz=229						
H11N3	**WAKE ISLAND Hy**	**32.74**	**45**	T	T	22 16 35.4	
	baz=229						
NACB	**Ninganchiao**	**34.13**	**324**	P	**P**	**21 42 00.4**	**-2.2**
TOO	**Toolangi**	**34.38**	**176**	P	**P**	**21 42 04.3**	**-0.3**
CMWZ	**Cape Campbell**	**47.62**	**148**	P	**P**	**21 43 53.9**	**+0.3**
BHW	**Baring Head**	**47.73**	**147**	P	**P**	**21 43 54.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**48.28**	**298**	P	**P**	**21 43 59.9**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=123,slow=6.6,SNR=4.3						
SONM	**Songino Array**	**59.93**	**332**	P	**P**	**21 45 23.5**	**-0.3**
MKAR	**Makanchi Array**	**72.68**	**321**	P	**P**	**21 46 46.8**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=112,slow=7.1,SNR=5.8						
MKAR	**Makanchi Array**	**72.68**	**321**	P	**P**	**21 46 46.0**	**+0.5**
MAKZ	**Makanchi**	**72.89**	**321**	P	**P**	**21 46 47.0**	**+0.4**
MAKZ				IAmb	IAmb	21 46 54.3	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**74.41**	**329**	P	**P**	**21 46 56.1**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=90,slow=6.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**74.41**	**329**	P	**P**	**21 46 55.1**	**-0.2**
KURK	**Kurchatov**	**76.47**	**324**	P	**P**	**21 47 07.3**	**+0.1**
KURK				IAmb	IAmb	21 47 19.4	
	comp=Z,3.3nm,1.3s						
KURBB	**Kurchatov Arra**	**76.48**	**324**	P	**P**	**21 47 08.4**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=111,slow=5.1,SNR=3.6						
BVAR	**Borovoye Array**	**82.04**	**324**	P	**P**	**21 47 39.1**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=124,slow=7.2,SNR=6.5						
IMAR	**Indian Mountai**	**82.30**	**22**	P	**P**	**21 47 39.2**	**+0.5**
ILAR	**Eielson Array**	**84.49**	**24**	P	**P**	**21 47 50.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=254,slow=4.8,SNR=7.2						
DBIC	**Dimbokro**	**147.67**	**278**	PKPbc	**PKiKP**	**21 55 04.1**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=113,slow=4.1,SNR=2.9						

BEO ***12*** *21:56:45.9±0.9,34.°53N×22.°79E,h0km±4km,ML4.2/2*
THE ***12*** *21:56:46.1,34.°45N×23.°23E,h0km±1km,ML4.0/7,Error ellipse: s-maj=3.0km s-min=1.2km az=215.0*
ATH ***12*** *21:56:47.7,34.°59N×23.°27E,h26km±1km,ML3.9/11,Error ellipse: s-maj=4.7km s-min=1.9km az=26.0*
MED_RC ***12*** *21:56:49.0±1.1,34.°70N×23.°49E,h39km±2km,MW4.4/8, Moment Tensor Solution.Mantle waves: s8,c12; Duration: 1º0 Moment tensor: Scale* 10^{15}*Nm; Mrr5.03±.73; Mθθ-4.92±.47; Mφφ-0.11±.38; Mrθ0.91±.31; Mθφ-1.03±.40; Mφr-1.48±.28; Best double couple: M*$_0$*5.36000×*10^{15} *NP1:*ϕ_s*243.00000°,δ44.00000°,λ66.00000°. NP2:* ϕ_s*95.00000°,δ51.00000°,λ112.00000°. Principal axes: T 5.5500, Plg73.0000°, Azm68.0000°; N -0.3900, Plg17.0000°, Azm261.0000°; P -5.1700, Plg3.0000°, Azm169.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***12*** *21:56:49.8±1.9,34.°59N±0.°07×23.°33E±0.°06,h40km±6km, mb4.4/71,ML4.2(THE) Error ellipse: s-maj=10.5km s-min=7.0km az=180.0*
DDA ***12*** *21:56:51.5,34.°97N×23.°46E,h9km±3km,MW4.2*
HLW ***12*** *21:56:51.3,34.°27N×23.°87E,h10km±18km,Md4.4,Ml4.3*
IDC ***12*** *21:56:52.0±1.2,34.°72N×23.°34E,h59km±10km,mb4.2/25, mb1 4.2/34,mb1mx4.1/54,mbtmp4.4/34,MS3.5/14, Ms1 3.5/14,ms1mx3.2/43,Error ellipse: s-maj=12.4km s-min=8.8km az=165.0*
GII ***12*** *21:56:55.8±0.0,34.°28N×24.°23E,h20km,mb4.6/4, MD4.5/4*
ISC 12 21:56:49.7±0.7,**34.°57N**±0.°05×**23.°29E**±0.°03,**h43**km±**6**km, **n451,**σ1º**73/**452,**mb4.5/**52,**MS3.5/**8,**13C-7D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.71**	**67**	P	**Pn**	**21 57 01.8**	**-1.6**
GVD				S	**Sn**	**21 57 14.7**	**+1.5**
	27μm,0.4s						
GVD	**Gavdhos**	**0.71**	**67**	P	**Pn**	**21 57 01.9**	**-1.6**
GVD				AML	AML	21 57 17.4	
	comp=E,54905μm,0.4s						
GVD				AML	AML	21 57 19.8	
	comp=N,54779μm,0.4s						
GVD	**Gavdhos**	**0.71**	**67**	*e*P	**Pn**	**21 57 02.2**	**-1.2**
KNDR	**Palaiochora Ch**	**0.74**	**26**	P	**Pn**	**21 57 02.1**	**-1.7**
KNDR	**Palaiochora Ch**	**0.74**	**26**	*e*P	**Pn**	**21 57 02.0**	**-1.7**
IMMV	**Iera Moni Meta**	**1.05**	**32**	P	**Pn**	**21 57 07.4**	**-0.7**
IMMV				S	**Sn**	**21 57 26.4**	**+4.8**
	comp=N,9μm,0.6s						
IMMV	**Iera Moni Meta**	**1.05**	**32**	P	**Pn**	**21 57 07.4**	**-0.7**
IMMV				AML	AML	21 57 33.5	
	comp=E,21360μm,0.8s						
IMMV				AML	AML	21 57 40.5	
	comp=N,15974μm,1.0s						
IMMV	**Iera Moni Meta**	**1.05**	**32**	*e*P	**Pn**	**21 57 08.1**	**0.0**
RODP	**Rodopos**	**1.06**	**21**	P	**Pn**	**21 57 08.3**	**+0.1**
RODP	**Rodopos**	**1.06**	**21**	*e*P	**Pn**	**21 57 08.3**	**+0.1**
VAM	**Vamos**	**1.12**	**42**	P	**Pn**	**21 57 08.8**	**-0.2**
VAM				S	**Sn**	**21 57 26.7**	**+3.5**
VAM	**Vamos**	**1.12**	**42**	P	**Pn**	**21 57 08.8**	**-0.2**
VAM				S	**Sn**	**21 57 25.1**	**+1.9**
VAM				AML	AML	21 57 36.0	
	comp=E,19170μm,0.8s						
VAM				AML	AML	21 57 37.6	
	comp=N,14213μm,0.6s						
CHAN	**Chania**	**1.13**	**33**	P	**Pn**	**21 57 09.4**	**+0.3**
PRNS	**Prines Rethymn**	**1.27**	**51**	P	**Pn**	**21 57 10.8**	**-0.2**
ANKY	**Antikythira Is**	**1.29**	**0**	P	**Pn**	**21 57 12.6**	**+1.2**
ANKY				S	**Sn**	**21 57 32.3**	**+4.8**
	comp=N,3μm,0.9s						
ANKY	**Antikythira Is**	**1.29**	**0**	P	**Pn**	**21 57 12.6**	**+1.2**
ANKY				AML	AML	21 57 46.1	
	comp=E,7904μm,0.7s						
ANKY				AML	AML	21 57 46.7	
	comp=N,5887μm,1.1s						
SIVA	**Sivas**	**1.33**	**70**	P	**Pn**	**21 57 12.3**	**+0.5**
SIVA				S	**Sn**	**21 57 31.6**	**+3.3**
	comp=N,18μm,0.8s						
SIVA	**Sivas**	**1.33**	**70**	P	**Pn**	**21 57 12.4**	**+0.5**
SIVA				S	**Sn**	**21 57 31.0**	**+2.7**
SIVA				AML	AML	21 57 43.1	
	comp=E,40396μm,0.8s						
SIVA				AML	AML	21 57 47.3	
	comp=N,31124μm,0.7s						
IDI	**Anoyia**	**1.50**	**61**	P	**Pn**	**21 57 14.9**	**+0.7**
	comp=N,191nm,0.3s,baz=247,slow=9.0,SNR=1378						
IDI				S	**Sn**	**21 57 32.8**	**+0.3**
	comp=N,166nm,0.3s,baz=51,slow=20,SNR=8.4						
IDI				LR	LR	21 58 09.7	
	comp=N,2μm,19.6s,baz=230,slow=56						
IDI	**Anoyia**	**1.50**	**61**	P	**Pn**	**21 57 14.9**	**+0.7**
IDI				S	**Sn**	**21 57 37.3**	**+4.7**
	comp=N,3μm,0.7s						
IDI	**Anoyia**	**1.50**	**61**	P	**Pn**	**21 57 15.0**	**+0.7**
IDI				AML	AML	21 57 36.7	
	comp=E,5404μm,0.6s						
IDI				AML	AML	21 57 48.5	
	comp=N,5250μm,0.8s						
IDI	**Anoyia**	**1.50**	**61**	*e*P	**Pn**	**21 57 14.6**	**+0.4**
IDI	**Anoyia**	**1.50**	**61**	Pn	**Pn**	**21 57 14.6**	**+0.4**
IACM	**Heraklion**	**1.64**	**63**	P	**Pn**	**21 57 17.6**	**+1.6**
HRKL	**Herakleio**	**1.66**	**63**	*e*P	**Pn**	**21 57 17.2**	**+0.8**
KTHA	**Kythira Island**	**1.69**	**354**	P	**Pn**	**21 57 18.4**	**+1.6**
KTHA	**Kythira Island**	**1.69**	**354**	P	**Pn**	**21 57 18.5**	**+1.6**
KTHA				AML	AML	21 58 05.1	
	comp=E,7290μm,0.8s						
KTHA				AML	AML	21 58 16.5	
	comp=N,2642μm,0.9s						
KTHA	**Kythira Island**	**1.69**	**354**	*e*P	**Pn**	**21 57 16.9**	**0.0**
LAST	**Lasithi**	**1.89**	**71**	P	**Pn**	**21 57 20.7**	**+1.0**
LAST				S	**Sn**	**21 57 45.0**	**+2.6**
	comp=N,1μm,1.1s						
LAST	**Lasithi**	**1.89**	**71**	P	**Pn**	**21 57 21.1**	**+1.4**
LAST				AML	AML	21 58 12.3	
	comp=N,2374μm,0.9s						
LAST				AML	AML	21 58 25.0	
	comp=E,2696μm,1.1s						
NPS	**Neapolis**	**2.03**	**69**	P	**Pn**	**21 57 22.8**	**+1.3**
NPS	**Neapolis**	**2.03**	**69**	P	**Pn**	**21 57 22.8**	**+1.3**
NPS				AML	AML	21 58 11.5	
	comp=N,3288μm,0.7s						
NPS				AML	AML	21 58 12.1	
	comp=E,4592μm,0.9s						
VLI	**Veliai**	**2.16**	**352**	P	**Pn**	**21 57 24.6**	**+1.3**
VLI	**Veliai**	**2.16**	**352**	P	**Pn**	**21 57 24.8**	**+1.5**
VLI				AML	AML	21 58 17.3	
	comp=N,2216μm,1.8s						
VLI				AML	AML	21 58 19.0	
	comp=E,3295μm,0.9s						
MHLO	**Agia Marina, M**	**2.30**	**23**	P	**Pn**	**21 57 25.2**	**0.0**
MHLO	**Agia Marina, M**	**2.30**	**23**	P	**Pn**	**21 57 25.5**	**+0.3**
MHLA	**Plaka, Milos I**	**2.36**	**23**	P	**Pn**	**21 57 26.0**	**+0.1**
STIA	**Sitia Lasithi**	**2.39**	**74**	P	**Pn**	**21 57 28.1**	**+1.8**
ZKR	**Zakros**	**2.47**	**76**	P	**Pn**	**21 57 28.5**	**+1.0**
ZKR	**Zakros**	**2.47**	**76**	P	**Pn**	**21 57 28.9**	**+1.4**
ZKR	**Zakros**	**2.47**	**76**	*e*P	**Pn**	**21 57 27.9**	**+0.4**
SAP3	**Santorini-Thir**	**2.51**	**41**	P	**Pn**	**21 57 27.6**	**-0.4**
SANT	**Santorini**	**2.52**	**44**	P	**Pn**	**21 57 27.8**	**-0.5**
SANT	**Santorini**	**2.52**	**44**	P	**Pn**	**21 57 27.8**	**-0.5**
SANT	**Santorini**	**2.52**	**44**	*e*P	**Pn**	**21 57 27.3**	**-1.0**
SANT	**Santorini**	**2.52**	**44**	*i* P	**Pn**	**21 57 27.7**	**-0.6**
SANT				*i* S	**Sn**	**21 57 57.6**	**-0.2**
SANT	**Santorini**	**2.52**	**44**		**Pn**	**21 57 27.7**	**-0.6**
SNT1	**Gialos, Santor**	**2.54**	**43**	P	**Pn**	**21 57 28.0**	**-0.4**
THT2	**Imerovigli**	**2.55**	**42**	*e*P	**Pn**	**21 57 27.9**	**-0.7**
CMBO	**Columbo, Santo**	**2.56**	**42**	P	**Pn**	**21 57 28.7**	**0.0**
CMBO	**Columbo, Santo**	**2.56**	**42**	P	**Pn**	**21 57 28.8**	**0.0**
PYL	**PYLOS**	**2.64**	**332**	P	**Pn**	**21 57 30.2**	**+0.4**
PYL	**PYLOS**	**2.64**	**332**	P	**Pn**	**21 57 30.0**	**+0.2**
ANAF	**Anafi Island**	**2.70**	**48**	P	**Pn**	**21 57 30.2**	**-0.5**
ANAF	**Anafi Island**	**2.70**	**48**	P	**Pn**	**21 57 30.3**	**-0.3**
SERI	**Serifos**	**2.76**	**20**	P	**Pn**	**21 57 31.1**	**-0.4**
KRND	**KRANIDI**	**2.81**	**358**	P	**Pn**	**21 57 33.2**	**+1.0**
KRND				S	**Sn**	**21 58 08.4**	**+3.6**
	comp=E,562nm,0.8s						
ITM	**Ithomi**	**2.83**	**337**	P	**Pn**	**21 57 33.3**	**+0.9**
ITM				AML	AML	21 58 52.8	
	comp=N,637μm,0.8s						
ITM				AML	AML	21 58 57.2	
	comp=E,775μm,1.0s						
ITM	**Ithomi**	**2.83**	**337**	*e*P	**Pn**	**21 57 33.3**	**+0.9**
ITM	**Ithomi**	**2.83**	**337**		**Pn**	**21 57 33.7**	**+1.2**
DID	**Didima**	**2.93**	**359**	P	**Pn**	**21 57 34.2**	**+0.3**
TRIP	**Tripoli**	**3.07**	**345**	P	**Pn**	**21 57 37.6**	**+1.8**
APE	**Apeiranthos**	**3.09**	**35**	*e*P	**Pn**	**21 57 35.3**	**-0.7**
APE	**Apeiranthos**	**3.09**	**35**	*i* P	**Pn**	**21 57 34.6**	**-1.4**
APE				*i* S	**Sn**	**21 58 19.2**	**+7.5**
AMGA	**Amorgos Island**	**3.10**	**42**	P	**Pn**	**21 57 35.5**	**-0.6**
KARP	**Karpathos**	**3.32**	**72**	P	**Pn**	**21 57 39.6**	**+0.4**
KARP	**Karpathos**	**3.32**	**72**	*e*P	**Pn**	**21 57 39.4**	**+0.2**
KARP	**Karpathos**	**3.32**	**72**	Pn	**Pn**	**21 57 39.3**	**0.0**
DION	**Dionisos Attik**	**3.54**	**8**	P	**Pn**	**21 57 42.3**	**+0.1**
KLV	**Kalavryta, Ach**	**3.59**	**345**	P	**Pn**	**21 57 44.3**	**+1.4**
VIL2	**Platees**	**3.63**	**360**	P	**Pn**	**21 57 43.2**	**-0.3**
KOSK	**Kos Island**	**3.71**	**53**	*e*P	**Pn**	**21 57 43.9**	**-0.6**
DAT	**Datca**	**4.10**	**57**	*e*P	**Pn**	**21 57 49.3**	**-0.7**
BODT	**Bodrum**	**4.11**	**52**	*e*P	**Pn**	**21 57 49.2**	**-0.8**
ARG	**Arkhangelos**	**4.28**	**66**	P	**Pn**	**21 57 52.2**	**-0.1**
ARG	**Arkhangelos**	**4.28**	**66**	*e*P	**Pn**	**21 57 52.2**	**-0.1**
CHOS	**Chios island**	**4.41**	**30**	*e*P	**Pn**	**21 57 53.0**	**-1.2**
GCAM	**G?zelcaml?**	**4.47**	**44**	*e*P	**Pn**	**21 57 54.2**	**-0.6**
GCAM	**G?zelcaml?**	**4.47**	**44**	*i* P	**Pn**	**21 57 54.3**	**-0.6**
GCAM				*i* S	Sn	21 59 18.4	+33
GCAM				IAML		21 59 21.0	
	comp=N,47nm,0.8s						
GCAM				IAML		21 59 34.0	
	comp=E,71nm,1.0s						
AGG	**Agios Georgios**	**4.51**	**350**	*e*P	**Pn**	**21 57 55.5**	**0.0**
AGG	**Agios Georgios**	**4.51**	**350**		**Pn**	**21 57 56.3**	**+0.8**
DGB	**zmir**	**4.53**	**39**	*i* P	**Pn**	**21 57 53.9**	**-1.8**
DGB				*i* S	Sn	21 59 08.8	+22
DGB				IAML		21 59 34.0	
	comp=E,29nm,1.4s						
DGB				IAML		21 59 35.0	
	comp=N,25nm,0.7s						
TURN	**Turunc**	**4.59**	**60**	*e*P	**Pn**	**21 57 56.3**	**-0.3**
TURN	**Turunc**	**4.59**	**60**	*i* P	**Pn**	**21 57 56.5**	**-0.2**
TURN				*i* S	**Sn**	**21 58 42.4**	**-6.3**
TURN				IAML		21 58 55.0	
	comp=N,94nm,0.5s						
TURN				IAML		21 58 57.0	
	comp=E,82nm,0.4s						
MATC	**Matruh**	**4.62**	**133**	AMP		21 58 00.0	
	baz=134						
URLA	**Izmir**	**4.63**	**34**	*e*P	**Pn**	**21 57 55.9**	**-1.2**
URLA	**Izmir**	**4.63**	**34**	*i* P	**Pn**	**21 57 55.6**	**-1.5**
URL

BAYC CANAKKALE_Bayr 5.78 26 *i* P **Pn 21 58 10.0 -2.9**
BAYC IAML 21 59 11.0
comp=N,10nm,1.4s
BAYC IAML 21 59 12.0
comp=E,10nm,0.8s
OUR Ouranopolis 5.78 5 *e*P **Pn 21 58 11.9 -1.0**
ELL Elmali 5.81 66 *e*P **Pn 21 58 12.5 -1.0**
ELL Elmali 5.81 66 Pn **Pn 21 58 13.2 -0.2**
KULA Kula-Manisa 5.85 46 *e*P **Pn 21 58 12.2 -1.7**
STEP BALIKESIR_Sava 5.96 35 *i* P **Pn 21 58 16.6 +1.1**
STEP IAML 21 59 36.0
comp=E,29nm,0.7s
STEP IAML 21 59 41.0
comp=N,42nm,1.2s
GOKA anakkale-Gk 5.99 20 *i* P **Pn 21 58 14.7 -1.0**
GOKA IAML 21 59 29.0
comp=N,29nm,1.1s
GOKA IAML 22 00 46.0
comp=E,27nm,1.7s
AKUM Antalya-Kumluc 6.02 71 *i* P **Pn 21 58 15.7 -0.5**
AKUM *i* S **Sn 21 59 17.9 -5.9**
AKUM IAML 21 59 22.0
comp=E,104nm,0.4s
AKUM IAML 21 59 26.0
comp=N,86nm,0.4s
USAK Uak-Merkez 6.19 46 *i* P **Pn 21 58 18.5 -0.1**
USAK IAML 21 59 34.0
comp=E,7.8nm,0.7s
BALY Balya 6.21 33 *i* P **Pn 21 58 19.6 +0.7**
BALY *i* S Sn 21 59 53.7 +25
BALY IAML 22 00 37.0
comp=N,19nm,1.2s
BALY IAML 22 00 43.0
comp=E,14nm,1.6s
KORT Korkueli 6.23 65 *i* P **Pn 21 58 18.7 -0.5**
KORT *i* S **Sn 21 59 26.9 -2.4**
KORT IAML 21 59 32.0
comp=E,140nm,0.5s
KORT IAML 21 59 33.0
comp=N,51nm,0.5s
BRDR BURDUR-Merkez 6.30 58 *i* P **Pn 21 58 19.7 -0.5**
BRDR *i* S **Sn 21 59 26.5 -4.5**
BRDR IAML 21 59 36.0
comp=E,22nm,0.6s
BRDR IAML 21 59 37.0
comp=N,25nm,0.8s
BASM Basmaki-Afyon 6.40 57 *e*P **Pn 21 58 20.4 -1.2**
ANTB Antalya 6.42 67 *e*P **Pn 21 58 21.0 -0.8**
DURS Dursunbey 6.51 38 *i* P **Pn 21 58 22.9 -0.1**
DURS IAML 21 59 31.0
comp=E,7.6nm,0.6s
DURS IAML 21 59 41.0
comp=N,9.0nm,0.8s
SRS Serrai 6.54 2 *e*Pn **Pn 21 58 21.8 -1.6**
KZIL AFYON_Kizioren 6.64 54 *i* P **Pn 21 58 24.4 -0.4**
KZIL IAML 21 59 37.0
comp=N,7.8nm,0.6s
KZIL IAML 21 59 40.0
comp=E,15nm,1.0s
ALN Alexandroupoli 6.68 18 Pn **Pn 21 58 25.5 +0.2**
ISP Isparta 6.69 59 Pn **Pn 21 58 26.1 +0.6**
SCTE Santa Cesarea 6.70 326 Pn **Pn 21 58 25.2 -0.4**
GDZ Gediz 6.71 46 *i* P **Pn 21 58 26.0 +0.2**
GDZ IAML 22 00 56.0
comp=N,7.2nm,1.4s
VAY Valandovo 6.76 355 *e*Pn **Pn 21 58 26.2 -0.2**
VAY Valandovo 6.76 355 *e*Pn **Pn 21 58 27.1 +0.7**
RDO Rodhopi 6.80 14 *e*P **Pn 21 58 25.1 -1.8**
TIP Timpagrande 6.97 313 Pn **Pn 21 58 29.0 -0.3**
CEL Celeste 7.01 304 **Pn 21 58 29.5 -0.4**
CEL **Sn 21 59 45.9 -2.4**
MMB Musomiste 7.02 3 *i* P **Pn 21 58 29.2 -0.7**
KEPZ Antalya-Kepez 7.15 69 *i* P **Pn 21 58 31.4 -0.3**
KEPZ *i* S **Sn 21 59 45.2 -6.5**
KEPZ IAML 22 00 06.0
comp=N,32nm,0.8s
KEPZ IAML 22 00 08.0
comp=E,30nm,0.6s
STIP Stip 7.17 353 *i* Pn **Pn 21 58 31.6 -0.3**
RZN Rozhen 7.20 9 *i* P **Pn 21 58 32.3 -0.2**
KDZ Kurdzhali 7.26 13 *i* P **Pn 21 58 33.4 +0.1**
TIR Tirane 7.29 339 *e*Sn **Sn 21 59 51.3 -3.7**
TIR Tirane 7.29 339 Pn **Pn 21 58 34.1 +0.5**
KKB Krupnik 7.29 359 *i* P **Pn 21 58 33.6 0.0**
BOLV Bolvadin 7.42 54 **Pn 21 58 35.6 0.0**
SKO Skopje 7.53 349 *e*Pn **Pn 21 58 35.4 -1.6**
PLD Plovdiv 7.61 8 *i* P **Pn 21 58 38.7 +0.8**
RAFF Raffo Rosso 7.71 293 **Pn 21 58 39.2 -0.2**
VAE Valguarnera 7.76 295 P Pn 21 58 44.5 +4.4
comp=E,1.6nm,0.3s,baz=92,slow=18,SNR=3.8
VAE S **Sn 22 00 02.5 -4.1**
comp=E,3.2nm,0.3s,baz=240,slow=14,SNR=2.7
HNAT Natroun 7.93 126 S Sn 21 59 59.5 -11
baz=127
BOSS Bosilegrad 7.94 356 *e*Pn **Pn 21 58 41.6 -1.0**
VTS Vitosha 8.04 360 *i* P **Pn 21 58 44.1 +0.1**
ERMK Ermenek 8.11 72 *i* P **Pn 21 58 43.7 -1.3**
ERMK *i* S Sn 22 00 04.4 -11
ERMK IAML 22 00 26.0
comp=N,78nm,1.0s
DRME Dracevica, Mon 8.26 338 *e*Pn **Pn 21 58 44.4 -2.5**
CSS Mathiatis 8.27 84 Pn **Pn 21 58 43.6 -3.5**
CSS Mathiatis 8.27 84 Pn Pn 21 58 43.2 -4.0
BARS Barje 8.31 352 *e*Pn **Pn 21 58 46.8 -0.9**
PDG Podgorica 8.46 339 *e*Pn **Pn 21 58 47.7 -2.0**
PDG Podgorica 8.46 339 Pn **Pn 21 58 48.8 -0.9**
HFRF Wahat Farafira 8.56 148 P **Pn 21 58 49.7 -1.4**
baz=150
HFRF S Sn 22 00 16.7 -10
baz=150
HSAF As Saff 8.57 123 P **Pn 21 58 49.7 -1.6**
baz=123
KOT Kottamia 8.58 120 P **Pn 21 58 49.3 -2.2**
baz=120
GLL Jalalah 8.70 123 P **Pn 21 58 51.0 -2.1**
baz=123
ZAPS Zavoj 8.71 357 *e*Pn **Pn 21 58 53.3 +0.2**
CORL Corleone 8.72 295 **Pn 21 58 55.4 +2.1**
HHAG Hagoal 8.76 119 AMP 22 00 00.0
baz=119
MPEP Malo Peshtene 8.78 2 *i* P **Pn 21 58 55.5 +1.4**
SELS Selova 8.80 350 *e*Pn **Pn 21 58 52.3 -2.1**
NBNS Bani Suef 9.04 129 P **Pn 21 58 56.2 -1.5**
baz=129
SJES Sjenica 9.05 344 *e*Pn **Pn 21 58 55.9 -2.0**
BOVS Bovan 9.14 353 *e*Pn **Pn 21 58 56.9 -2.0**
BR231 Keskin MP Arra 9.21 52 **Pn 21 59 00.5 +0.4**
ZAGS Zajecar 9.27 355 *e*Pn **Pn 21 58 59.7 -1.0**
SGRT San Giovanni R 9.31 323 Pn **Pn 21 58 60.0 -1.4**
TAMRE El Minia 9.48 134 P **Pn 21 59 02.5 -1.2**
baz=135
GRUS Gruza 9.52 349 *e*Pn Pn 21 59 00.9 -3.2
RUDO Rudo 9.53 343 *e*Pn Pn 21 59 01.0 -3.4
BRTR Keskin Array B 9.73 55 P **Pn 21 59 07.2 0.0**
comp=N,0.8nm,0.3s,baz=230,slow=15,SNR=60
BRTR S **Sn 22 00 54.3 -0.8**
comp=N,0.1nm,0.3s,baz=217,slow=21,SNR=1.2
BRTR Keskin Array B 9.73 55 **Pn 21 59 06.5 -0.7**
BBLS Lazići 9.76 343 *e*Pn **Pn 21 59 04.8 -2.7**
BBLS Lazići 9.76 343 *e*Pn Pn 21 59 03.9 -3.6
DIVS Divibare 9.85 346 *e*Pn **Pn 21 59 05.9 -2.9**
DIVS Divibare 9.85 346 *e*Pn **Pn 21 59 06.2 -2.6**
TRUS Trudelj 9.89 348 *e*Pn **Pn 21 59 07.1 -2.2**
OFRI `Ofer 9.95 98 Pn **Pn 21 59 06.8 -3.3**
HNTI Hanita 10.00 95 Pn **Pn 21 59 08.2 -2.6**
KZIT Kziot 10.04 108 Pn **Pn 21 59 07.9 -3.5**
KZIT Sn Sn 22 00 50.9 -12
BLGI Bet Lehem HaGe 10.09 97 Pn **Pn 21 59 09.0 -3.0**
SLTI Sal'it 10.09 100 Pn **Pn 21 59 08.4 -3.7**
SLTI Sn Sn 22 00 53.2 -11
MMA0B Mount Meron ar 10.20 95 Pn **Pn 21 59 10.5 -3.1**
MMAI Mount Meron Ar 10.20 95 P Pn 21 59 09.3 -4.3
comp=N,4.8nm,0.3s,baz=308,slow=12,SNR=42
MMAI S **Sn 22 00 58.8 -7.8**
comp=N,13nm,0.3s,baz=260,slow=17,SNR=7.2
AMAZ Amatzia 10.21 104 Pn **Pn 21 59 10.5 -3.3**
DQRL Deir Qamar 10.21 91 *e*P Pn 21 59 08.9 -5.0
QRWL Qaraoun 10.33 92 *e*P Pn 21 59 11.0 -4.4
MMLI Mount Malkishu 10.35 98 Pn **Pn 21 59 12.6 -3.0**
MMLI Sn Sn 22 00 59.3 -11
GEM Giv'at Ha'Em 10.37 94 Pn Pn 21 59 12.1 -3.8
GEM Sn Sn 22 01 01.1 -10
TEKS Tekeris 10.38 345 *e*Pn **Pn 21 59 13.2 -2.8**
TEKS Tekeris 10.38 345 *e*Pn Pn 21 59 12.5 -3.5
SHBL Chebaa 10.42 93 *e*P Pn 21 59 11.8 -4.8
NATI Neve Ativ 10.43 94 Pn **Pn 21 59 12.9 -3.7**
HDK1 Dakhla 10.44 148 P **Pn 21 59 15.6 -1.2**
baz=149
YTIR Yattir 10.44 105 Pn **Pn 21 59 13.7 -3.2**
YTIR Sn Sn 22 01 01.4 -11
INTR Introdacqua 10.46 318 Pn **Pn 21 59 18.0 +0.8**
RCY Rachaya 10.47 92 *e*P Pn 21 59 13.2 -4.1
HMDT Nahal Hemdat 10.48 99 Pn **Pn 21 59 13.7 -3.7**
HMDT Sn Sn 22 01 02.6 -11
UJAP Al Uja 10.52 101 Pn **Pn 21 59 14.6 -3.3**
DSI Dead Sea 10.57 103 Pn **Pn 21 59 15.1 -3.6**
TIRR Tirgusor 10.64 20 Pn **Pn 21 59 18.6 -0.8**
KRMI Paran Flat 10.64 112 Pn **Pn 21 59 16.5 -3.1**
KRMI Sn Sn 22 01 05.7 -12
PRNI Paran 10.75 110 Pn **Pn 21 59 18.2 -2.9**
PRNI Sn Sn 22 01 08.5 -12
ZFRI Zfri 10.80 108 Pn **Pn 21 59 18.3 -3.4**
ZFRI Sn Sn 22 01 09.5 -12
GHAJ Ghor Haditha 10.82 104 Pn **Pn 21 59 19.2 -2.8**
FRGS Fruska Gora 10.91 347 *e*Pn Pn 21 59 19.7 -3.5
FRGS Fruska Gora 10.91 347 *e*Pn Pn 21 59 19.7 -3.5
HRFI Mount Harif 10.92 111 Pn **Pn 21 59 20.0 -3.4**
HRFI Sn Sn 22 01 12.3 -12
MBRI Mt Berech 10.94 113 Pn **Pn 21 59 20.5 -3.2**
VOIR 10.94 7 ⇑P **Pn 21 59 23.6 -0.1**
KARJ KARJ 10.95 105 Pn Pn 21 59 15.5 -8.3
AQU L'Aquila 10.97 318 Pn **Pn 21 59 25.2 +1.1**
GTR Jabal at Tayr 11.00 143 P **Pn 21 59 23.4 -1.2**
baz=144
TOPG Topolog 11.01 19 ⇑P Pn 21 59 30.2 +5.7
EIL Elat 11.03 113 P **Pn 21 59 21.6 -3.2**
comp=N,2.5nm,0.3s,baz=318,slow=5.2,SNR=28
EIL S Sn 22 01 16.6 -10
comp=N,3.0nm,0.3s,baz=278,slow=10,SNR=3.6
EIL Elat 11.03 113 Pn **Pn 21 59 21.2 -3.6**
EIL Sn Sn 22 01 15.1 -12
NEHR Nehoiu 11.09 11 ⇑P **Pn 21 59 24.5 -1.1**
MLR Muntele Rosu 11.10 10 P **Pn 21 59 26.0 +0.2**
comp=N,0.8nm,0.3s,baz=303,slow=16,SNR=7.0
MLR LR LR 22 04 38.5
comp=N,230nm,18.7s,baz=117,slow=43
MLR Muntele Rosu 11.10 10 ⇑P **Pn 21 59 28.8 +2.9**
MLR Muntele Rosu 11.10 10 **Pn 21 59 25.8 -0.1**
BZS Buzias 11.11 354 ⇑P **Pn 21 59 23.4 -2.5**
BLY Banja Luka 11.20 337 *e*Pn Pn 21 59 22.2 -4.9
CFR Carcaliu 11.23 18 ⇑P Pn 21 59 34.0 +6.5
BISRR Bisoca 11.27 12 ⇑P **Pn 21 59 30.9 +2.7**
NRCA Norcia 11.45 319 **Pn 21 59 31.9 +1.3**
KEST Kesra 11.48 280 P **Pn 21 59 31.7 +0.7**
comp=N,0.1nm,0.3s,baz=59,slow=5.9,SNR=2.5
KEST S **Sn 22 01 33.2 -4.7**
comp=N,0.3nm,0.3s,baz=72,slow=22,SNR=7.3
KEST LR LR 22 04 57.1
comp=N,76nm,19.5s,baz=1.5,slow=42
KEST Kesra 11.48 280 Pn **Pn 21 59 31.4 +0.3**
PLOR Plostina 11.56 12 ⇑P Pn 21 59 36.3 +4.3
VRI Vrincioaia 11.58 12 ⇓P **Pn 21 59 34.7 +2.3**
GAZ Gaziantep 11.59 73 Pn **Pn 21 59 31.3 -1.3**
ASF Jabal al Asfar 11.62 98 P **Pn 21 59 29.9 -3.3**
comp=N,1.6nm,0.3s,baz=218,slow=2.7,SNR=16
ASF S Sn 22 01 32.5 -9.1
comp=N,0.7nm,0.3s,baz=210,slow=20,SNR=2.3
MURB Monte Urbino 12.06 319 Pn **Pn 21 59 40.3 +1.3**
VSL Villasalto 12.15 298 Pn **Pn 21 59 41.4 +1.2**
TESR Tescani 12.20 11 ⇑P **Pn 21 59 41.5 +0.8**
BOJS Bojanci 12.53 333 *i* Pn **Pn 21 59 43.0 -2.3**
GCIS Gornji Cirnik 12.71 335 *i* Pn **Pn 21 59 45.3 -2.4**
GBRS Gornja Briga 12.72 332 *i* Pn **Pn 21 59 46.2 -1.7**
CRES Cresnjev 12.73 334 *e*Pn Pn 21 59 44.7 -3.4
MILM Milestii Mici 13.02 17 ⇓P **Pn 21 59 53.7 +1.7**
CEY Cerknica 13.04 331 *e*Pn **Pn 21 59 49.8 -2.6**
BURAR Bucovina Array 13.11 6 ⇓P **P 22 00 02.1 -0.5**
BURAR Bucovina Array 13.11 6 Pn **Pn 21 59 55.7 +2.3**
BUR08 Bucovina Ar. S 13.14 6 Pn **Pn 21 59 54.2 +0.5**
TRI Trieste 13.29 330 Pn **Pn 21 59 56.5 +0.9**
PSZ Piszkesteto 13.58 350 ⇑P **Pn 21 59 58.9 -0.8**
PSZ Piszkesteto 13.58 350 Pn **Pn 21 59 59.1 -0.6**
SOKA Soboth 13.61 335 *e*Pn **Pn 21 59 58.5 -1.7**
comp=N,5.1nm,0.6s,SNR=6.4
OBKA Obir 13.64 334 *e*Pn **Pn 21 59 58.9 -1.7**
comp=N,1.8nm,0.4s
ARSA Arzberg 13.95 338 *e*Pn **Pn 22 00 03.1 -1.6**
comp=N,4.7nm,0.5s
PRED Cave del Predi 13.96 331 **Pn 22 00 04.4 -0.5**
TEOL Teolo 13.97 324 Pn **Pn 22 00 05.0 0.0**
SORM Soroca 14.07 14 ⇑P **Pn 22 00 05.1 -1.2**
ZOU Zoufplan 14.30 330 Pn **Pn 22 00 09.5 0.0**
VYHS Vyhne 14.30 348 *e*PN **Pn 22 00 09.8 +0.3**
CIMO Cimolais 14.33 328 Pn **Pn 22 00 08.3 -1.5**
KOLS Kolonicke sedl 14.37 357 *e*PN **Pn 22 00 10.6 +0.2**
MARD Mardin 14.43 74 Pn **Pn 22 00 12.6 +1.2**
CONA Conrad Observa 14.46 340 *e*Pn **Pn 22 00 10.6 -1.0**
comp=N,0.7nm,0.4s
CTI Castel Tesino 14.48 326 Pn **Pn 22 00 12.3 +0.3**
MODS Modra-Piesok 14.50 344 *e*PN **Pn 22 00 14.0 +1.9**
SMOL Smolenice 14.60 344 *e*PN **P 22 00 19.7 +0.7**
ABTA Abfaltersbach 14.64 329 *e*Pn **Pn 22 00 12.6 -1.4**
comp=N,1.3nm,0.4s
SALO Salr 14.72 322 Pn **Pn 22 00 17.0 +2.0**
MOA Molln 14.89 336 *e*Pn **Pn 22 00 15.9 -1.4**
comp=N,15nm,0.5s,SNR=4.5
NIE Niedzica 15.00 352 *e*P **P 22 00 24.5 +1.0**
KWP Kalwaria Pacla 15.06 359 Pn **Pn 22 00 20.3 +0.9**
KRUC Moravsky 15.36 343 *e*P **P 22 00 27.9 +0.5**
WTTA Wattenberg 15.42 329 *e*Pn **Pn 22 00 23.9 -0.4**
comp=N,1.7nm,0.4s
WATA Walderalm 15.50 329 *e*Pn **Pn 22 00 25.9 +0.6**
comp=N,2.3nm,0.5s
VRAC Vranov 15.54 343 P **Pn 22 00 25.9 +0.2**
comp=N,0.4nm,0.3s,baz=157,slow=13,SNR=3.7
VRAC LR LR 22 08 01.6
comp=N,200nm,20.2s,baz=168,slow=44
VRAC Vranov 15.54 343 ⇑P **P 22 00 30.1 +0.7**
VRAC Vranov 15.54 343 *e*P **P 22 00 29.9 +0.5**
FUORN Ofenpass-Fuorn 15.56 325 Pn **Pn 22 00 27.1 +0.9**
SQTA Sankt Quirin 15.57 328 *e*Pn **Pn 22 00 26.8 +0.6**
comp=N,5.6nm,0.7s
FETA Feichten 15.63 326 *e*Pn **Pn 22 00 27.9 +0.8**
comp=N,2.8nm,0.7s
MOTA Moosalm 15.71 328 *e*Pn **Pn 22 00 27.9 -0.2**
comp=N,2.1nm,0.4s
OKC Ostrava-Krasne 15.72 348 *e*P **P 22 00 32.2 +0.8**
MORC Moravsky Berou 15.78 346 ⇓P **Pn 22 00 31.5 +2.7**
MORC Moravsky Berou 15.78 346 *e*P **P 22 00 32.8 +0.7**
MORC Moravsky Berou 15.78 346 **Pn 22 00 29.6 +0.9**
TREC Trest 15.80 341 *e*P **P 22 00 33.8 +1.4**
OJC Ojcow 15.85 352 *e*P **P 22 00 33.0 +0.1**
OJC Ojcow 15.85 352 **Pn 22 00 29.7 0.0**
DAVOX Davos/Dischmat 15.86 324 P **Pn 22 00 32.9 +2.9**
comp=N,0.2nm,0.3s,baz=180,slow=20,SNR=2.5
DAVOX S **Sn 22 03 18.1 -6.5**
comp=N,0.2nm,0.3s,baz=331,slow=19,SNR=1.9
DAVOX LR LR 22 09 31.8
comp=N,99nm,18.0s,baz=106,slow=48
TUE Stuetta 15.90 323 P **Pn 22 00 31.7 +1.1**
GERES GERESS Array B 15.94 336 P **Pn 22 00 29.8 -1.2**
comp=N,0.5nm,0.3s,baz=150,slow=14,SNR=17
GERES LR LR 22 08 36.6
comp=N,168nm,20.7s,baz=146,slow=44
GERES GERESS Array B 15.94 336 Pn **Pn 22 00 31.8 +0.8**
BCA Borcka 15.98 59 ⇓P **Pn 22 00 30.5 -0.9**
KRLC Kraliky 16.21 345 *e*P **P 22 00 38.4 +1.4**
KRLC AMS AMS 22 08 50.0
comp=N,200nm,13.2s
DAVA Damuels 16.22 326 *e*Pn **Pn 22 00 35.4 +0.8**
comp=N,4.8nm,0.5s
KHC Kasperske Hory 16.23 337 *e*P **P 22 00 38.9 +1.8**
KHC Kasperske Hory 16.23 337 IAmb IAmb 22 00 40.1
comp=Z,11nm,0.6s
GEVA Gevas 16.34 71 **Pn 22 00 32.8 -3.3**
GEVA IAmb IAmb 22 00 45.3
comp=Z,14nm,0.9s
BNI Bardonecchia 16.48 314 Pn **Pn 22 00 37.7 -0.1**
GOPC GO Pecny, Ondr 16.56 340 *e*P **P 22 00 41.6 +0.9**
DPC Dobruska-Polom 16.57 344 *e*P **P 22 00 42.1 +1.2**
PBCC Pribram 16.58 338 *e*P **P 22 00 42.2 +1.2**
AKASG Malin Array Be 16.69 13 P **Pn 22 00 40.2 -0.1**
comp=Z,5.3nm,0.3s,baz=204,slow=10.0,SNR=52
AKASG Malin Array Be 16.69 13 **Pn 22 00 40.0 -0.4**
AKBB Malin Array Si 16.69 13 P **Pn 22 00 40.8 +0.4**
AKBB IAmb IAmb 22 00 48.1
comp=Z,11nm,0.6s
PRU Pruhonice 16.69 340 *e*P **P 22 00 42.8 +0.6**
PRU AMS AMS 22 08 30.0
comp=Z,200nm,19.5s
CHVG Ch'k'valeri 16.76 55 ⇓P **P 22 00 43.8 +0.7**
OSTC Ostas 16.79 344 *e*P **P 22 00 45.1 +1.8**
UPC Upice 16.79 344 *e*P **P 22 00 44.7 +1.4**
CHVC Chvalec 16.86 344 *e*P **Pn 22 00 43.7 +1.2**
SENIN Lac Senin/Sane 16.90 319 P **Pn 22 00 44.3 +1.1**
KSP Ksiaz 17.04 345 *e*P **P 22 00 46.9 +0.9**
PVCC Panska Ves 17.17 341 *e*P **P 22 00 48.5 +1.0**
AKH Akhalkalaki 17.31 61 **Pn 22 00 48.6 +0.3**
GRA1 Grafenberg Arr 17.53 333 P **Pn 22 00 52.1 +1.3**
GRA1 IAmb IAmb 22 00 54.9
comp=Z,16nm,1.1s
NKC Novy Kostel 17.55 336 *e*P **P 22 00 54.0 +2.3**
BRG Berggiesshubel 17.66 340 *e*P **P 22 00 54.2 +1.4**
comp=Z,3.9nm,0.6s
KIV Kislovodsk 17.67 52 ⇓P **Pn 22 00 50.8 -1.8**
KIV Kislovodsk 17.67 52 **Pn 22 00 53.0 +0.3**
KIV IAmb IAmb 22 01 05.3
comp=Z,20nm,0.7s
KVAR Kislovodsk Arr 17.68 52 P **Pn 22 00 53.2 +0.5**
baz=270,slow=20,SNR=4.2
BFO Black Forest 17.70 325 **Pn 22 00 54.6 +1.7**
KBZ Khabaz 17.71 53 P **Pn 22 00 53.1 +0.1**
comp=Z,1.0nm,0.3s,baz=232,slow=12,SNR=21
KBZ LR LR 22 09 32.5
comp=Z,95nm,20.4s,baz=262,slow=43
SSB Saint Sauveur 17.88 312 **Pn 22 00 54.8 -0.4**
ECH Echery 18.18 323 **P 22 00 58.8 +0.1**
CLL Collm 18.32 339 *i* P **P 22 01 01.0 +0.9**
comp=Z,10.0nm,0.7s
CLL *i* sP **sP 22 01 18.7 +4.0**
comp=Z,9.0nm,1.1s
CLL L L 22 09 00.0
comp=Z,100nm,21.5s
SUW Suwalki 19.44 360 *e*P **P 22 01 10.5 -1.9**
WLF Walferdange 19.66 325 P **P 22 01 13.9 -0.8**
WLF IAmb IAmb 22 01 26.7
comp=Z,14nm,1.1s
MEM Membach 20.39 327 Pn **P 22 01 24.4 +1.7**
NACGM Naroch 20.48 6 *e* **P 22 01 22.0 -1.6**
CLF Chambon-Foret 20.66 317 P **P 22 01 26.3 +0.6**
CLF IAmb IAmb 22 01 35.1
comp=Z,6.7nm,0.7s
DOU Dourbes 20.69 324 Pn **P 22 01 27.4 +1.4**
BMRD Maredsous 20.75 325 Pn **P 22 01 28.4 +1.9**
IIGN Ignalina 20.88 5 *e*P **P 22 01 26.1 -1.9**
IIGN IAmb IAmb 22 01 28.7
comp=Z,17nm,0.5s
IDID Didziasalis 20.88 6 *e*P **P 22 01 26.2 -1.8**
IDID IAmb IAmb 22 01 27.4
comp=Z,6.7nm,0.5s
PABE Paberze 20.94 1 *e*P **P 22 01 26.3 -2.3**
PABE IAmb IAmb 22 01 28.1
comp=Z,74nm,0.5s
ISAL Salakas 21.09 4 *e*P **P 22 01 27.9 -2.3**
RGN Rugen 21.16 344 P **P 22 01 29.9 -1.1**
IZAR Zarasai 21.28 5 *e*P **P 22 01 29.2 -3.1**
IZAR IAmb IAmb 22 01 31.1
comp=Z,9.3nm,0.4s
PBUR Paburge 21.48 358 *e*P **P 22 01 32.1 -2.2**
ESBB Sonseca Array 22.28 291 P **P 22 01 44.1 +0.9**
ESDC Sonseca Array 22.28 291 P **P 22 01 44.9 +1.7**
comp=Z,1.4nm,1.0s,baz=94,slow=11,SNR=6.9
COP Copenhagen 22.41 344 *i* P **P 22 01 45.1 +0.8**
OBN Obninsk 22.52 20 P **P 22 01 45.4 -0.2**
comp=Z,3.1nm,0.4s,baz=181,slow=16,SNR=3.1
PAB San Pablo 22.57 291 P **P 22 01 47.0 +0.7**
MDT Midelt 23.25 274 P **P 22 01 54.9 +1.4**
comp=Z,1.4nm,0.9s,baz=54,slow=8.7,SNR=2.0
MDT LR LR 22 13 33.6
comp=Z,92nm,18.4s,baz=86,slow=43
VSU Vasula 24.01 4 *e*P **P 22 01 58.3 -1.9**
SNART Snartemo 26.09 341 *e*P **P 22 02 21.2 +2.1**
HFS Hagfors 26.33 349 P **P 22 02 20.9 -0.4**
comp=Z,8.1nm,0.5s,baz=146,slow=11,SNR=27
HFS LR LR 22 13 55.5
comp=Z,93nm,20.4s,baz=176,slow=39
KONO Kongsberg 26.66 344 P **P 22 02 25.1 +0.9**
KONO IAmb IAmb 22 02 37.4
comp=Z,5.7nm,0.9s
OSL Oslo 26.68 346 *e*P **P 22 02 24.2 -0.2**
FINES FINESS Array B 26.95 3 P **P 22 02 25.4 -1.5**
comp=Z,1.3nm,0.4s,baz=161,slow=10,SNR=15
FINES PcP **PcP 22 05 47.7 +0.1**
comp=Z,0.4nm,0.4s,baz=145,slow=3.4,SNR=1.4
FINES LR LR 22 14 33.0
comp=Z,164nm,18.1s,baz=192,slow=40
FIA1 FINESS Array S 26.95 3 P **P 22 02 26.7 -0.1**
FIA1 IAmb IAmb 22 02 39.8
comp=Z,5.5nm,1.0s
BLS5 Blasjo 27.22 341 *e*P **P 22 02 29.0 -0.4**
NC602 NORSAR Array S 27.26 347 P **P 22 02 31.8 +2.2**
NC602 NORSAR Array S 27.26 347 *e*P **P 22 02 31.4 +1.7**
NAO01 NORSAR Array S 27.49 347 P **P 22 02 32.0 +0.3**
NAO01 IAmb IAmb 22 02 37.7
comp=Z,13nm,0.8s
NC405 NORSAR Array S 27.59 348 P **P 22 02 32.3 -0.3**
NC405 IAmb IAmb 22 02 51.8
comp=Z,8.7nm,1.1s
NB201 NORSAR Array S 27.60 347 P **P 22 02 33.4 +0.7**
NB201 IAmb IAmb 22 02 36.9
comp=Z,13nm,0.7s
NB2 NORSAR Subarra 27.61 347 P **P 22 02 32.0 -0.8**
comp=Z,0.7nm,0.4s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.61 347 P **P 22 02 32.0 -0.8**
baz=156,slow=9.3
NOA NORSAR Array B 27.61 347 P **P 22 02 32.6 -0.2**
comp=Z,0.9nm,0.6s,baz=148,slow=9.6,SNR=32
NOA LR LR 22 16 12.2
comp=Z,60nm,18.2s,baz=165,slow=42
EKA Eskdalemuir Ar 27.66 327 P **P 22 02 33.9 +0.6**
comp=Z,8.5nm,0.4s,baz=123,slow=8.4,SNR=89
ESK Eskdalemuir 27.67 327 P **P 22 02 34.4 +1.1**
ESK IAmb IAmb 22 02 48.3
comp=Z,9.9nm,0.8s
NBO00 NORSAR Array S 27.68 347 IAmb IAmb 22 02 46.0
comp=Z,10nm,1.0s
NC303 NORSAR Array S 27.75 348 P **P 22 02 35.2 +1.2**
NC303 IAmb IAmb 22 02 53.7
comp=Z,10.0nm,0.8s
SKAR Skarslia 27.87 344 *e*P **P 22 02 36.1 +1.0**
NC204 NORSAR Array S 27.91 347 P **P 22 02 36.2 +0.7**
NC204 IAmb IAmb 22 02 47.2
comp=Z,6.6nm,0.8s
GEYT Alibeck 28.19 73 P **P 22 02 38.2 0.0**
comp=Z,1.2nm,0.4s,baz=273,slow=8.4,SNR=3.0
DOMB Dombas 28.94 346 *e*P **P 22 02 44.7 +0.1**
TOA0 Torodi Ar. Sit 28.94 228 P **P 22 02 46.5 +1.4**
TOA0 IAmb IAmb 22 02 48.2
comp=Z,3.5nm,0.7s
TORD Torodi Ar. Bea 28.94 228 P **P 22 02 46.4 +1.3**
comp=Z,3.1nm,0.5s,baz=33,slow=8.9,SNR=37
TORD Torodi Ar. Bea 28.94 228 P **P 22 02 46.4 +1.3**
AKN Aaknes 29.49 344 *e*P **P 22 02 49.0 -0.4**
KIRV Kirov 29.63 28 P **P 22 02 49.2 -1.4**
comp=Z,12nm,0.5s,baz=223,slow=10.0,SNR=11
KIRV LR LR 22 14 57.8
comp=Z,59nm,20.1s,baz=267,slow=37
AKTO Aktyubinsk 29.78 47 P **P 22 02 51.2 -0.9**
comp=Z,4.2nm,0.5s,baz=252,slow=8.4,SNR=15
UOSS Minazif 30.03 100 P **P 22 02 53.9 -0.7**
UOSS IAmb IAmb 22 03 01.6
comp=Z,16nm,1.1s
ABKAR Abkulak array 30.63 50 P **P 22 02 58.6 -1.0**
ABKAR Abkulak array 30.63 50 **PcP 22 05 58.5 +1.4**
NSS Namsos 30.78 350 *e*P **P 22 03 01.1 +0.3**
HRA Herat 31.98 79 P **P 22 03 11.8 -0.2**
HRA IAmb IAmb 22 03 12.5
comp=Z,2.2nm,0.6s
MOR8 Moi Rana 32.07 353 *e*P **P 22 03 12.6 +0.4**
ARU Arti 32.44 37 P **P 22 03 14.3 -1.2**
KONS Konsvik 32.53 352 *e*P **P 22 03 15.7 -0.4**
FAUS Fauske 33.18 354 *e*P **P 22 03 21.3 -0.5**
STEI Steigen 33.72 355 *e*P **P 22 03 26.3 -0.3**
ARCES ARCESS Array B 35.04 1 P **P 22 03 36.8 -1.1**
comp=Z,3.2nm,0.6s,baz=177,slow=8.5,SNR=22
ARCES LR LR 22 19 15.8
comp=Z,135nm,19.1s,baz=172,slow=38
ARE0 ARCESS Array S 35.04 1 P **P 22 03 36.4 -1.6**
ARE0 ARCESS Array S 35.04 1 *e*P **P 22 03 37.0 -1.0**
KEV Kevo 35.30 2 P **P 22 03 39.5 -0.7**
KEV IAmb IAmb 22 03 41.2

comp=Z,8.5nm,1.0s
KK31 Karatay Array 37.34 62 P **P 22 03 58.5 +0.6**
KK31 IAmb IAmb 22 03 59.8
comp=Z,5.5nm,0.7s
KKAR Karatay Array 37.34 62 P **P 22 03 57.6 -0.4**
KKAR Karatay Array 37.34 62 IAmb IAmb 22 03 59.8
comp=Z,5.5nm,0.7s
GAR Garm 37.60 69 P **P 22 04 01.0 +0.7**
DBIC Dimbokro 38.01 230 P **P 22 04 04.7 +0.9**
comp=Z,1.6nm,0.5s,baz=13,slow=11,SNR=5.1
DBIC Dimbokro 38.01 230 P **P 22 04 04.1 +0.4**
DBIC IAmb IAmb 22 04 21.6
comp=Z,8.7nm,1.1s
FRU1 Bishkek 40.38 63 P **P 22 04 22.9 -0.5**
NIL Nilore 41.03 77 P **P 22 04 29.2 +0.3**
NIL IAmb IAmb 22 04 30.6
comp=Z,10nm,0.9s
BOOM Boomskoye usch 41.37 63 P **P 22 04 33.0 +1.2**
KDJ Kajisay 42.33 63 P **P 22 04 40.3 +0.7**
KURBB Kurchatov Arra 42.68 51 P **P 22 04 41.7 -0.4**
comp=Z,6.9nm,0.4s,baz=275,slow=8.7,SNR=131
KURK Kurchatov 42.74 50 P **P 22 04 42.0 -0.5**
KURK IAmb IAmb 22 04 42.3
comp=Z,5.4nm,0.5s
TARG Taragay, Kyrgy 42.85 64 P **P 22 04 44.6 +0.5**
SPA0 Spitsbergen Ar 43.81 358 P **P 22 04 51.5 +0.6**
SPA0 Spitsbergen Ar 43.81 358 *eP* **P 22 04 50.6 -0.3**
SPITS Spitsbergen Ar 43.81 358 P **P 22 04 50.7 -0.2**
comp=Z,15nm,1.0s,baz=193,slow=5.9,SNR=6.9
MAKZ Makanchi 45.16 56 P **P 22 05 02.1 -0.1**
MKAR Makanchi Array 45.38 56 P **P 22 05 03.8 -0.1**
comp=Z,19nm,0.4s,baz=268,slow=7.4,SNR=377
MKAR Makanchi Array 45.38 56 P **P 22 05 03.5 -0.4**
ZALV Zalesovo Beam 46.52 46 P **P 22 05 11.8 -0.9**
comp=Z,8.2nm,0.4s,baz=268,slow=8.3,SNR=48
ZALV Zalesovo Beam 46.52 46 P **P 22 05 11.3 -1.4**
SUMG Summit 48.98 339 P **P 22 05 32.3 +0.3**
SUMG IAmb IAmb 22 05 37.1
comp=Z,5.1nm,1.0s
NRIK Noril'sk 49.06 25 P **P 22 05 31.9 -0.3**
comp=Z,2.1nm,0.4s,baz=208,slow=5.3,SNR=4.5
WMQ Urumqi 49.63 59 *eP* **P 22 05 39.1 +2.2**
LSZ Lusaka 49.79 174 P **P 22 05 41.1 +2.8**
comp=Z,0.9nm,0.6s,baz=14,slow=9.5,SNR=3.6
LSZ Lusaka 49.79 174 IAmb IAmb 22 05 42.4
comp=Z,4.1nm,1.1s
PYUN Piuthan 50.77 80 *eP* **P 22 05 46.3 +0.4**
comp=Z,51nm,0.6s
PYUN Piuthan 50.77 80 *eP* **P 22 05 46.3 +0.4**
comp=Z,51nm,0.6s
KOLN Koldanda 51.39 80 *eP* **P 22 05 50.2 -0.4**
comp=Z,9.6nm,0.6s
KOLN Koldanda 51.39 80 *eP* **P 22 05 50.2 -0.4**
comp=Z,9.6nm,0.6s
GKN Gorkha 52.14 79 *eP* **P 22 05 56.0 -0.1**
comp=Z,29nm,0.6s
GKN Gorkha 52.14 79 *eP* **P 22 05 56.0 -0.1**
comp=Z,29nm,0.6s
SFJD Kangerlussuaq 52.47 332 P **P 22 05 57.0 -0.7**
SFJD IAmb IAmb 22 06 07.0
comp=Z,9.4nm,1.1s
DMN Daman 52.68 80 *eP* **P 22 06 00.4 +0.1**
comp=Z,26nm,0.6s
DMN Daman 52.68 80 *eP* **P 22 06 00.4 +0.1**
comp=Z,26nm,0.6s
PKIN Phulchoki 52.93 79 *eP* **P 22 06 01.7 -0.4**
comp=Z,22nm,0.7s
PKIN Phulchoki 52.93 79 *eP* **P 22 06 01.7 -0.4**
comp=Z,22nm,0.7s
PKI Pulchoki 52.94 79 *eP* **P 22 06 01.9 -0.4**
comp=Z,17nm,0.6s
PKI Pulchoki 52.94 79 *eP* **P 22 06 01.9 -0.4**
comp=Z,17nm,0.6s
JIRN Jiri 53.54 79 *eP* **P 22 06 06.8 +0.1**
comp=Z,10.0nm,0.3s
JIRN Jiri 53.54 79 *eP* **P 22 06 06.8 +0.1**
comp=Z,10.0nm,0.3s
TSUM Tsumeb 53.75 187 P **P 22 06 07.5 -0.3**
TSUM IAmb IAmb 22 06 25.0
comp=Z,2.3nm,1.0s
RAMN Ramite 54.16 80 *eP* **P 22 06 10.4 -0.7**
RAMN Ramite 54.16 80 *eP* **P 22 06 10.4 -0.7**
ODAN Odare 54.84 79 *eP* **P 22 06 15.9 -0.1**
ODAN Odare 54.84 79 *eP* **P 22 06 15.9 -0.1**
TAPN Taplejung 54.90 79 *eP* **P 22 06 16.8 +0.3**
TAPN Taplejung 54.90 79 *eP* **P 22 06 16.8 +0.3**
SHL Shillong 59.04 79 IAmb IAmb 22 07 01.9
comp=Z,4.1nm,0.8s
EUNU Eureka 59.48 349 P **P 22 06 47.8 0.0**
SONM Songino Array 61.04 50 P **P 22 06 59.3 +0.3**
comp=Z,3.6nm,0.5s,baz=285,slow=7.7,SNR=28
SONM Songino Array 61.04 50 P **P 22 06 59.1 0.0**
TIXI Tiksi 62.25 20 P **P 22 07 07.3 +0.7**
TIXI IAmb IAmb 22 07 24.4
comp=Z,4.0nm,1.1s
SCHQ Schefferville 62.63 319 P **P 22 07 10.0 +0.5**
comp=Z,3.4nm,0.6s,baz=48,slow=6.6,SNR=2.2
SCHQ Schefferville 62.63 319 P **P 22 07 09.2 -0.3**
BOSA Boshof 62.87 178 P **P 22 07 13.3 +2.0**
comp=Z,2.0nm,0.7s,baz=2.4,slow=6.3,SNR=8.1
BOSA LR LR 22 37 46.1
comp=Z,79nm,19.4s,baz=32,slow=39
BOSA Boshof 62.87 178 P **P 22 07 12.1 +0.8**
BOSA IAmb IAmb 22 07 17.4
comp=Z,4.3nm,1.1s
HHC Hu-ho-hao-te 67.24 55 *eP* **P 22 07 40.0 +0.2**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,110nm,6.5s
KMI Kunming 67.95 74 ⇑P **P 22 07 44.6 0.0**
KMI pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 68.17 82 P **P 22 07 46.0 +0.1**
comp=Z,1.1nm,0.3s,baz=300,slow=8.5,SNR=6.2
USRK Ussuriysk Ar. 78.34 44 P **P 22 08 45.3 -0.1**
comp=Z,5.3nm,0.5s,baz=281,slow=5.1,SNR=16
KSRS Korea Array 79.86 51 P **P 22 08 53.7 -0.1**
comp=Z,2.3nm,0.6s,baz=308,slow=4.7,SNR=11
KSRS LR LR 22 49 42.5
comp=Z,34nm,18.9s,baz=220,slow=40
ILAR Eielson Array 80.69 356 P **P 22 08 58.3 +0.5**
comp=Z,0.4nm,0.5s,baz=347,slow=4.4,SNR=5.8
ILAR Eielson Array 80.69 356 P **P 22 09 01.9 +4.1**
MJAR Matsushiro Arr 86.86 47 P **P 22 09 30.1 +0.2**
comp=Z,0.9nm,0.6s,baz=295,slow=4.1,SNR=3.1
WRA Warramunga Arr 118.06 96 PKP **PKPdf 22 15 31.8 -0.4**
comp=Z,0.2nm,0.6s,baz=313,slow=2.0,SNR=1.6
ASAR Alice Springs 119.46 100 PKP **PKPdf 22 15 34.8 -0.1**
comp=Z,0.1nm,0.3s,baz=289,slow=1.8,SNR=4.6

*IDC **12** 22:03:15.8±1.9, 16°.20S×178°.34E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/30, mbtmp3.9/6, MS3.5/7, Ms1 3.5/7, ms1mx3.3/26, Error ellipse: s-maj=117.7km s-min=22.1km az=147.0*
*NEIC **12** 22:03:17.8±1.9, 16°.40S±0°.06×178°.36E±0°.09, h23km±6km, mb4.5/20, Error ellipse: s-maj=12.7km s-min=9.0km az=107.0*
ISC 12 22:03:17.8±0.5, 16°.41S±0°.07×178°.37E±0°.08, h22km, n52, σ1§28/43, mb4.4/14, MS3.6/7, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.35**	**193**		**Pn**	**22 03 42.2**	**+0.8**
FUNA	**Funafuti**	**7.88**	**6**	Pn	**Pn**	**22 05 12.4**	**+1.3**
AFI	**Afiamalu**	**9.83**	**77**	LR	LR	22 08 27.1	
	comp=Z,174nm,20.4s,baz=258,slow=32						
AFI	**Afiamalu**	**9.83**	**77**	Pn	**Pn**	**22 05 38.1**	**+0.1**
SANVU	**Saraoutou**	**10.79**	**274**	Pn	**Pn**	**22 05 50.8**	**-0.2**
NIUE	**Niue**	**11.46**	**105**	Pn	**Pn**	**22 06 01.1**	**+0.9**
DZM	**Mont Dzumac**	**12.59**	**242**	LR	LR	22 10 07.3	
	comp=Z,226nm,21.1s,baz=112,slow=32						
DZM	**Mont Dzumac**	**12.59**	**242**	eLR	LR	22 09 27.3	
	comp=Z,293nm,25.1s						
DZM	**Mont Dzumac**	**12.59**	**242**	Pn	**Pn**	**22 06 15.0**	**-0.7**
RAO	**Raoul Island**	**13.23**	**166**	Pn	**Pn**	**22 06 21.9**	**-2.5**
TARA	**Tarawa**	**18.45**	**343**	P	**P**	**22 07 29.3**	**-2.8**
RAR	**Rarotonga**	**21.23**	**106**	LR	LR	22 14 23.8	
	comp=Z,90nm,19.0s,baz=258,slow=31						
BFZ	**Birch Farm**	**24.25**	**184**	P	**P**	**22 08 34.9**	**+1.7**
QRZ	**Quartz Range**	**24.85**	**191**	P	**P**	**22 08 40.0**	**+1.4**
PLWZ	**Palliser**	**25.21**	**185**	P	**P**	**22 08 41.8**	**-0.2**
KHZ	**Kahutara**	**26.25**	**188**	P	**P**	**22 08 52.0**	**+0.8**
KRVT	**Keravat (AS076**	**28.52**	**292**	LR	LR	22 19 46.2	
	comp=Z,84nm,18.7s,baz=104,slow=35						
PPT2	**Papeete2**	**30.66**	**97**	*e*LR	LR	22 17 32.1	
	comp=Z,226nm,27.5s						
PPT	**Papeete**	**30.66**	**97**	LR	LR	22 19 52.3	
	comp=Z,123nm,18.0s,baz=322,slow=32						
TBI	**Tubuai**	**30.98**	**108**	*e*LR	LR	22 17 52.0	
	comp=Z,246nm,30.5s						
STKA	**Stephens Creek**	**36.72**	**238**	P	**P**	**22 10 26.0**	**+2.5**
	0.5nm,0.4s,baz=86,slow=14,SNR=2.1						
STKA				LR	LR	22 24 29.7	
	comp=Z,73nm,20.0s,baz=60,slow=35						
WRA	**Warramunga Arr**	**41.90**	**258**	P	**P**	**22 11 08.8**	**+1.9**
	1.9nm,1.0s,baz=92,slow=8.5,SNR=6.1						
WRA	**Warramunga Arr**	**41.90**	**258**	P	**P**	**22 11 06.4**	**-0.5**
AS31	**Alice Springs**	**42.26**	**253**	P	**P**	**22 11 09.8**	**-0.1**
ASAR	**Alice Springs**	**42.26**	**253**	P	**P**	**22 11 10.4**	**+0.6**
	1.1nm,0.8s,baz=84,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**42.26**	**253**	P	**P**	**22 11 08.4**	**-1.5**
MTN	**Manton Dam**	**45.77**	**268**	P	**P**	**22 11 37.0**	**-1.1**
MTN				IAmb	IAmb	22 11 42.6	
	comp=Z,13nm,1.1s						
MBWA	**Marble Bar**	**55.46**	**255**	P	**P**	**22 12 50.9**	**-0.4**
MJAR	**Matsushiro Arr**	**64.90**	**325**	P	**P**	**22 13 56.3**	**+0.7**
MAJO	**Matsushiro**	**64.90**	**325**	P	**P**	**22 13 56.4**	**+0.8**
MAJO				IAmb	IAmb	22 14 12.1	
	comp=Z,3.8nm,1.0s						
PEA0B	**Petropavlovsk-**	**71.50**	**347**	P	**P**	**22 14 36.6**	**+0.1**
PEA0B				IAmb	IAmb	22 14 56.4	
	comp=Z,5.7nm,1.1s						
KSRS	**Korea Array**	**71.56**	**320**	LR	LR	22 40 16.4	
	comp=Z,36nm,21.7s,baz=204,slow=31						
KSAR	**Wonju Array Be**	**71.58**	**320**	P	**P**	**22 14 36.5**	**-0.9**
KS19	**Wonju Array Si**	**71.62**	**320**	P	**P**	**22 14 36.9**	**-0.8**
KS19				IAmb	IAmb	22 14 44.4	
	comp=Z,5.9nm,0.9s						
WDC	**Whiskeytown Da**	**78.84**	**42**	P	**P**	**22 15 19.7**	**+0.5**
WDC				IAmb	IAmb	22 15 23.2	
	comp=Z,5.8nm,1.1s						
CMB	**Columbia Colle**	**78.91**	**45**	P	**P**	**22 15 19.7**	**0.0**
PNTR	**Pine Nut**	**79.98**	**44**	P	**P**	**22 15 25.4**	**-0.4**
NVAR	**Mina Array Bea**	**80.53**	**45**	P	**P**	**22 15 29.5**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=228,slow=8.2,SNR=7.0						
NVAR	**Mina Array Bea**	**80.53**	**45**	P	**P**	**22 15 28.9**	**+0.2**
NV11	**Mina Array Sit**	**80.63**	**45**	P	**P**	**22 15 28.4**	**-0.7**
U15A	**North Rim**	**83.85**	**49**	P	**P**	**22 15 48.9**	**+2.7**
U15A				IAmb	IAmb	22 15 49.2	
	comp=Z,3.2nm,1.1s						
ILAR	**Eielson Array**	**85.16**	**14**	P	**P**	**22 15 52.3**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=232,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**85.16**	**14**	P	**P**	**22 15 52.0**	**+0.1**
NLU	**North Lily Min**	**85.52**	**46**	P	**P**	**22 15 54.3**	**-0.2**
HLID	**Hailey**	**85.56**	**42**	P	**P**	**22 15 55.3**	**+0.8**
HLID				IAmb	IAmb	22 15 57.9	
	comp=Z,1.8nm,0.6s						
SPUT	**South Promonto**	**85.85**	**45**	P	**P**	**22 15 55.8**	**-0.3**
DAWY	**Dawson**	**86.54**	**17**	P	**P**	**22 15 59.9**	**+1.1**
MCMT	**McKenzie Canyo**	**87.14**	**42**	P	**P**	**22 16 01.8**	**-0.6**
PV02	**Paradox Valley**	**87.16**	**49**	P	**P**	**22 16 00.8**	**-1.9**
PV02				IAmb	IAmb	22 16 11.2	
	comp=Z,1.8nm,0.7s						
PDAR	**Pinedale Array**	**88.42**	**44**	P	**P**	**22 16 09.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=258,slow=4.4,SNR=3.8						
PDAR	**Pinedale Array**	**88.42**	**44**	P	**P**	**22 16 07.9**	**-0.6**
GERES	**GERESS Array B**	**145.31**	**342**	PKPbc	**PKiKP**	**22 22 54.8**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=38,slow=3.7,SNR=1.6						

*JMA **12** 22:08:53.5±0.4, 33°.18N×141°.89E, h15km, M3.4*
*IDC **12** 22:09:00.3±1.2, 32°.44N×138°.66E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=28.5km s-min=17.6km az=120.0*
ISC 12 22:08:51.4±1.0, 33°.14N±0°.05×141°.91E±0°.07, h10km, n18, σ2§00/28, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.70**	**333**	P	**Pb**	**22 09 22.5**	**+0.1**
BSO1				S	**Sg**	**22 09 43.8**	**-2.2**
JHJ2	**Mitsune**	**1.75**	**270**	P	**Pb**	**22 09 24.0**	**+0.3**
JHCJ	**Hachijojimakas**	**1.77**	**269**	P	**Pb**	**22 09 24.1**	**+0.1**
JHCJ				S	**Sb**	**22 09 46.2**	**-0.1**
JHJ	**Hachijo jima 2**	**1.78**	**270**	Pn	**Pb**	**22 09 23.9**	**-0.2**
	27nm,0.3s,baz=198,slow=17,SNR=18						
JHJ				Sn	**Sn**	**22 09 43.5**	**-1.4**
	43nm,0.3s,baz=256,slow=18,SNR=6.4						
BSO3	**Boso 3**	**2.03**	**325**	P	**Pb**	**22 09 27.4**	**-0.8**
BSO3				S	**Sb**	**22 09 52.7**	**-0.7**
JMKN	**Mikurajimanish**	**2.08**	**292**	P	**Pb**	**22 09 28.5**	**-0.7**
JMKN				S	**Sb**	**22 09 54.2**	**-0.9**
BSO4	**Boso 4**	**2.26**	**325**	P	**Pb**	**22 09 31.5**	**-0.8**
JOD2	**Odawara 2**	**3.16**	**313**	P	**Pn**	**22 09 42.4**	**+1.2**
JOD2				S	**Sn**	**22 10 18.6**	**-0.3**
JHU	**Hanno**	**3.47**	**322**	S	**Sn**	**22 10 26.8**	**+0.2**
JHO	**Hitachi**	**3.64**	**343**	P	**Pn**	**22 09 49.0**	**+1.2**
JRY	**Ryogami san**	**3.79**	**320**	P	**Pn**	**22 09 52.8**	**+2.8**
JRY				S	**Sn**	**22 10 36.9**	**+2.2**
JAG	**Ashikaga**	**3.85**	**329**	P	**Pn**	**22 09 52.9**	**+2.2**
MJAR	**Matsushiro Arr**	**4.56**	**319**	Pn	**Pn**	**22 10 02.9**	**+2.5**
	0.3nm,0.3s,baz=148,slow=12,SNR=17						
MJAR				Sn	**Sn**	**22 10 52.9**	**-0.6**
	0.2nm,0.3s,baz=184,slow=7.2,SNR=5.4						
MAT	**Matsushiro**	**4.56**	**319**	P	**Pn**	**22 10 03.2**	**+2.7**
MAT				S	**Sn**	**22 10 54.3**	**+0.7**
JCJ	**Chichijima**	**6.03**	**178**	Pn	**Pn**	**22 10 21.7**	**+1.1**
	2.5nm,0.3s,baz=297,slow=21,SNR=1.5						
JCJ				Sn	**Sn**	**22 11 24.8**	**-4.8**
	3.7nm,0.3s,baz=287,slow=19,SNR=1.6						
MKAR	**Makanchi Array**	**46.62**	**305**	P	**P**	**22 17 16.3**	**-3.4**
	0.3nm,0.7s,baz=90,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**53.27**	**189**	P	**P**	**22 18 12.6**	**+2.2**
	0.6nm,0.5s,baz=5.8,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**57.00**	**189**	P	**P**	**22 18 41.2**	**+3.9**
	0.3nm,0.5s,baz=18,slow=13,SNR=4.7						

*NEIC **12** 22:20:43.7±2.9, 30°.90S±0°.08×178°.4W±0°.2, h35km±2km, mb4.1/11, Error ellipse: s-maj=26.7km s-min=10.2km az=111.0*
*IDC **12** 22:20:44.5±3.0, 30°.93S×177°.99W, h78km±21km, mb3.8/3, mb1 4.0/4, mb1mx3.6/23, mbtmp4.2/4, Error ellipse: s-maj=54.6km s-min=18.8km az=108.0*
ISC 12 22:20:41.8±1.1, 30°.98S±0°.08×177°.4W±0°.1, h100km, n37, σ1§33/31, mb4.1/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.77**	**346**	P	**Pn**	**22 21 11.8**	**+0.4**
	65nm,0.3s,baz=270,slow=20,SNR=1.6						
RAO				S	**Sn**	**22 21 33.1**	**-0.8**
	362nm,0.3s,baz=231,slow=19,SNR=7.7						
URZ	**Urewera**	**8.54**	**210**	P	**Pn**	**22 22 42.1**	**-0.4**
	1.1nm,0.3s,baz=318,slow=11,SNR=7.6						
URZ				S	Sn	22 24 00.3	-17
	0.9nm,0.3s,baz=47,slow=18,SNR=0.9						
OUZ	**Omahuta**	**8.63**	**238**	Pn	**Pn**	**22 22 42.0**	**-1.7**
BKZ	**Black Stump Fm**	**9.56**	**210**	Pn	**Pn**	**22 22 56.4**	**-0.1**
HIZ	**Hauiti**	**9.83**	**218**	Pn	**Pn**	**22 22 58.9**	**-1.2**
MSWZ	**Moikau Station**	**11.97**	**207**	Pn	**Pn**	**22 23 27.6**	**-1.3**
BHW	**Baring Head**	**12.12**	**209**	Pn	**Pn**	**22 23 29.6**	**-1.2**
TUWZ	**Tuamarina**	**12.53**	**211**	Pn	**Pn**	**22 23 34.8**	**-1.5**
QRZ	**Quartz Range**	**12.75**	**217**	Pn	**Pn**	**22 23 38.5**	**-0.7**
BSWZ	**Blackbirch Sta**	**12.79**	**211**	Pn	**Pn**	**22 23 40.8**	**+1.0**
THZ	**Tophouse**	**13.27**	**213**	Pn	**Pn**	**22 23 44.5**	**-1.7**
KHZ	**Kahutara**	**13.51**	**210**	Pn	**Pn**	**22 23 48.6**	**-0.5**
NIUE	**Niue**	**13.66**	**32**		**P**	**22 23 55.9**	**-0.7**
LTZ	**Lake Taylor**	**14.36**	**212**	Pn	**Pn**	**22 23 59.3**	**-1.0**
OXZ	**Oxford**	**14.89**	**211**	Pn	**Pn**	**22 24 04.7**	**-2.3**
MQZ	**McQueen's Vall**	**14.94**	**209**	Pn	**Pn**	**22 24 06.5**	**-1.0**
RPZ	**Rata Peaks**	**15.64**	**212**	Pn	**P**	**22 24 16.9**	**-1.6**
RPZ				IAmb	IAmb	22 24 21.9	
	comp=Z,21nm,1.1s						
DZM	**Mont Dzumac**	**16.92**	**298**		**Pn**	**22 24 30.5**	**-2.0**
CTAO	**Charters Tower**	**34.37**	**280**	P	**P**	**22 27 20.1**	**+0.7**
STKA	**Stephens Creek**	**34.82**	**258**	P	**P**	**22 27 25.4**	**+2.3**
	comp=Z,4.6nm,0.8s,baz=89,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**34.82**	**258**	P	**P**	**22 27 25.8**	**+2.7**
BBOO	**Buckleboo**	**39.28**	**255**	P	**P**	**22 28 02.0**	**+1.2**
BBOO				IAmb	IAmb	22 28 05.7	
	comp=Z,2.7nm,0.8s						
ASAR	**Alice Springs**	**43.56**	**267**	P	**P**	**22 28 36.9**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=101,slow=7.6,SNR=12						
WR0	**Warramunga Arr**	**44.42**	**273**	P	**P**	**22 28 44.3**	**+1.5**
WR0				IAmb	IAmb	22 28 59.6	
	comp=Z,1.8nm,1.1s						
WB2	**Warramunga Arr**	**44.59**	**272**	P	**P**	**22 28 44.8**	**+0.6**
WB2				IAmb	IAmb	22 28 45.8	
	comp=Z,2.6nm,0.5s						
WRAB	**Tennant Creek**	**44.60**	**272**	P	**P**	**22 28 45.0**	**+0.7**
WRAB				IAmb	IAmb	22 28 47.6	
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	**44.60**	**272**	P	**P**	**22 28 44.4**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=110,slow=8.1,SNR=22						
WRA	**Warramunga Arr**	**44.60**	**272**	IAmb	IAmb	22 28 45.9	
	comp=Z,0.2nm,0.6s						
WB0	**Warramunga Arr**	**44.63**	**273**	P	**P**	**22 28 44.9**	**+0.4**
WB0				IAmb	IAmb	22 28 53.4	
	comp=Z,3.3nm,1.1s						
KNRA	**Kununurra**	**51.23**	**274**	P	**P**	**22 29 36.3**	**+0.9**
H03S2	**Juan Fernandez**	**79.74**	**123**	T	T	00 02 01.6	
	baz=238,slow=74,SNR=5.4						
H03S1	**Juan Fernandez**	**79.75**	**123**	T	T	00 01 59.9	
	baz=238,slow=74,SNR=5.8						
H03S3	**Juan Fernandez**	**79.76**	**123**	T	T	00 02 00.5	
	baz=238,slow=74,SNR=7.5						
H03N3	**Juan Fernandez**	**79.94**	**123**	T	T	00 02 10.7	
	baz=244						
H03N2	**Juan Fernandez**	**79.94**	**123**	T	T	00 02 12.4	
	baz=244						
H03N1	**Juan Fernandez**	**79.95**	**123**	T	T	00 02 09.5	
	baz=244						
FINES	**FINESS Array B**	**145.85**	**340**	PKPbc	**PKiKP**	**22 40 12.6**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=58,slow=3.7,SNR=9.6						

*ISK **12** 22:21:05.2, 35°.99N×31°.41E, h24km, ML3.3/48*
*DDA **12** 22:21:06.9, 36°.09N×31°.51E, h34km±2km, ML3.0*
*NIC **12** 22:21:06.6±0.0, 36°.03N×31°.46E, h32km±99km, Ml3.7/8*
*GII **12** 22:21:11.5±0.0, 35°.73N×31°.67E, h18km, MD2.9/2*
ISC 12 22:21:07.0±4.7, 36°.02N±0°.02×31°.43E±0°.02, h39km±11km, n120, σ1§77/175, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.75**	**73**	PG	**Pn**	**22 21 21.1**	**0.0**
GAZI				SG	**Sn**	**22 21 31.6**	**+0.4**
GAZI	**Gazipasa**	**0.75**	**73**	*i* P	**Pn**	**22 21 20.8**	**-0.3**
GAZI				*i* S	**Sn**	**22 21 29.5**	**-1.7**
GAZI				IAML		22 21 31.0	
	comp=E,640nm,0.2s						
GAZI				IAML		22 21 32.0	
	comp=N,480nm,0.2s						
MNVG	**Manavgat-Antal**	**0.77**	**359**	PG	**Pn**	**22 21 21.4**	**0.0**
MNVG				SG	**Sn**	**22 21 32.9**	**+1.1**
KEPZ	**Antalya-Kepez**	**0.89**	**9**	*i* P	**Pn**	**22 21 23.3**	**+0.2**
KEPZ				*i* S	**Sn**	**22 21 34.2**	**-0.7**
KEPZ				IAML		22 21 36.0	
	comp=E,384nm,0.4s						
KEPZ				IAML		22 21 37.0	
	comp=N,499nm,1.2s						
KEMT	**Kemer-ANTALYA**	**0.92**	**310**	PG	**Pn**	**22 21 23.2**	**-0.1**
KEMT				SG	**Sn**	**22 21 36.3**	**+1.0**
AKUM	**Antalya-Kumluc**	**0.93**	**289**	*i* P	**Pn**	**22 21 24.4**	**+0.9**
AKUM				*i* S	**Sn**	**22 21 40.0**	**+4.3**
AKUM				IAML		22 21 45.0	
	comp=N,498nm,0.3s						
AKUM				IAML		22 21 47.0	
	comp=E,482nm,0.3s						
ANTB	**Antalya**	**1.08**	**325**	PN	**Pn**	**22 21 25.5**	**-0.1**
ANTB				SN	**Sn**	**22 21 39.9**	**+0.6**
AKMS	**Akamas**	**1.24**	**143**	P	**Pn**	**22 21 27.6**	**-0.2**
AKMS				S	**Sn**	**22 21 43.9**	**+0.5**
AKMS				AML	AML	22 21 50.1	
	comp=E,3.9nm,0.2s						
AKMS				AML	AML	22 21 50.1	
	comp=E,3.9nm,0.2s						
AKMS				AML	AML	22 21 52.2	
	comp=E,5.9nm,0.3s						
AKMS				AML	AML	22 21 52.2	
	comp=E,5.9nm,0.3s						
DEMR	**Demre-Antalya**	**1.25**	**280**	PN	**Pn**	**22 21 27.5**	**-0.5**
BOZY	**Bozyazi-Mersin**	**1.26**	**86**	PN	**Pn**	**22 21 27.6**	**-0.4**
ALFC	**Alefka**	**1.28**	**132**	P	**Pn**	**22 21 27.6**	**-0.8**
ALFC				S	**Sn**	**22 21 43.3**	**-1.1**
ALFC				AML	AML	22 21 51.5	
	comp=E,4.6nm,0.3s						
ALFC				AML	AML	22 21 51.5	
	comp=E,4.6nm,0.3s						
ALFC				AML	AML	22 21 52.9	
	comp=E,3.8nm,0.3s						
ALFC				AML	AML	22 21 52.9	
	comp=E,3.8nm,0.3s						
KORT	**Korkueli**	**1.31**	**319**	PN	**Pn**	**22 21 28.8**	**-0.1**
KORT	**Korkueli**	**1.31**	**319**	*i* P	Pn	22 21 33.7	+4.8
KORT				*i* S	**Sn**	**22 21 49.9**	**+4.6**
KORT				IAML		22 21 54.0	
	comp=E,283nm,0.9s						
KORT				IAML		22 21 56.0	
	comp=N,257nm,0.8s						
ERMK	**Ermenek**	**1.35**	**62**	*i* P	**Pn**	**22 21 30.4**	**+0.8**
ERMK				*i* S	**Sn**	**22 21 48.3**	**+2.0**
ERMK				IAML		22 21 52.0	
	comp=E,289nm,0.5s						
ERMK				IAML		22 21 53.0	
	comp=N,538nm,0.5s						
TEKE	**Tekeli-Mersin**	**1.37**	**84**	PN	**Pn**	**22 21 29.9**	**+0.3**
TEKE				SN	**Sn**	**22 21 47.3**	**+0.8**
SEYD	**Seydisehir-KON**	**1.42**	**13**	PN	**Pn**	**22 21 31.1**	**+0.7**
SEYD				SN	**Sn**	**22 21 49.4**	**+1.4**
ELL	**Elmali**	**1.43**	**301**	PN	**Pn**	**22 21 30.3**	**-0.2**
AKDN	**Akdeniz- Kıbrı**	**1.45**	**119**	PN	**Pn**	**22 21 30.7**	**+0.1**
BERE	**Bereket-Mersin**	**1.49**	**77**	PN	**Pn**	**22 21 31.9**	**+0.6**
BERE				SN	**Sn**	**22 21 50.1**	**+0.5**
LEF	**Lefka**	**1.49**	**127**	PN	**Pn**	**22 21 30.5**	**-0.7**
LEF				SN	**Sn**	**22

comp=N,2.1nm,0.4s
TISA Tisan-Mersin 1.83 85 PN **Pn 22 21 36.7 +0.8**
IKL Isikli 1.84 82 PN **Pn 22 21 36.9 +0.9**
KARG Kargicak-Mersi 1.85 84 PN **Pn 22 21 36.8 +0.5**
KRMN Karaman 1.87 51 PN **Pn 22 21 37.5 +0.9**
CSS Mathiatis 1.88 124 PN **Pn 22 21 36.2 -0.4**
CSS Mathiatis 1.88 124 Pn **Pn 22 21 35.8 -0.8**
CSS Mathiatis 1.88 124 P **Pn 22 21 35.7 -0.8**
CSS S **Sn 22 21 57.0 -2.0**
KEBE Keben-Mersin 1.90 76 PN **Pn 22 21 39.0 +2.1**
KMER Konya-Meram 1.90 23 *i* P **Pn 22 21 39.3 +2.3**
KMER *i* S **Sn 22 22 01.4 +1.6**
KMER IAML 22 22 05.0
comp=N,120nm,0.3s
KMER IAML 22 22 10.0
comp=E,148nm,0.4s
ASGA Asgata 1.93 129 P **Pn 22 21 37.8 +0.5**
ASGA S **Sn 22 22 02.2 +2.0**
ASGA AML AML 22 22 14.5
comp=E,1.5nm,0.4s
ASGA AML AML 22 22 14.5
comp=E,1.5nm,0.4s
ASGA AML AML 22 22 16.3
comp=E,1.3nm,0.5s
ASGA AML AML 22 22 16.3
comp=E,1.3nm,0.5s
GOLH Golhisar 1.93 310 *i* P **Pn 22 21 39.9 +2.5**
GOLH *i* S **Sn 22 22 01.0 +0.4**
GOLH IAML 22 22 17.0
comp=N,143nm,0.4s
AKIN Akıncılar- Kıb 1.94 120 PN **Pn 22 21 37.6 +0.2**
ISP Isparta 1.94 338 PN **Pn 22 21 38.4 +0.8**
FETY Fethiye 1.99 289 PN **Pn 22 21 38.1 -0.1**
FETY Fethiye 1.99 289 *i* P **Pn 22 21 38.6 +0.5**
FETY *i* S **Sn 22 21 58.8 -3.1**
BRDR BURDUR-Merkez 2.00 327 *i* P **Pn 22 21 40.2 +1.9**
BRDR *i* S **Sn 22 22 02.0 -0.2**
BAGO Egridir - ISPA 2.03 346 *i* P **Pn 22 21 41.3 +2.5**
BAGO *i* S **Sn 22 22 02.1 -0.9**
SILI Silifke-Mersin 2.05 79 PN **Pn 22 21 39.8 +0.9**
MVOU Mavrovouni 2.06 118 P **Pn 22 21 37.7 -1.3**
MVOU S **Sn 22 22 00.8 -2.6**
MVOU AML AML 22 22 02.6
comp=N,1.2nm,0.6s
MVOU AML AML 22 22 02.6
comp=N,1.2nm,0.6s
MVOU AML AML 22 22 16.2
comp=N,1.4nm,0.6s
MVOU AML AML 22 22 16.2
comp=N,1.4nm,0.6s
KONT Konya--Tatoy 2.06 21 PN **Pn 22 21 40.6 +1.5**
KONT Konya--Tatoy 2.06 21 *i* P **Pn 22 21 41.2 +2.1**
KONT *i* S **Sn 22 22 02.2 -1.4**
SLFK Silifke-Mersin 2.07 79 PN **Pn 22 21 40.1 +0.9**
DOGA KONYA_Doganhis 2.09 5 *i* P **Pn 22 21 41.4 +1.7**
DOGA *i* S **Sn 22 22 04.7 +0.2**
DOGA IAML 22 22 08.0
comp=N,124nm,0.6s
DOGA IAML 22 22 10.0
comp=E,133nm,0.4s
KIZK Mersin 2.24 77 PN **Pn 22 21 42.4 +0.8**
KIZK Mersin 2.24 77 *i* P **Pn 22 21 43.1 +1.6**
KIZK *i* S **Sn 22 22 09.9 +1.9**
KIZK IAML 22 22 13.0
comp=E,78nm,0.3s
EREN Erenkoy 2.28 102 PN **Pn 22 21 42.6 +0.5**
EREN Erenkoy 2.28 102 *i* P **Pn 22 21 42.7 +0.6**
EREN *i* S **Sn 22 22 08.4 -0.5**
EREN IAML 22 22 14.0
comp=N,168nm,0.8s
EREN IAML 22 22 14.0
comp=E,130nm,0.7s
LADK Ladik-KONYA 2.30 19 PN **Pn 22 21 43.9 +1.4**
PARAL Paralimni 2.36 115 P Pn 22 21 47.9 +4.7
PARAL S Sn 22 22 20.4 +9.5
PARAL AML AML 22 22 25.3
comp=E,1.2nm,0.7s
PARAL AML AML 22 22 25.3
comp=E,1.2nm,0.7s
PARAL AML AML 22 22 28.8
comp=E,1.2nm,1.1s
PARAL AML AML 22 22 28.8
comp=E,1.2nm,1.1s
DALY Dalyan (Mula) 2.38 290 PN **Pn 22 21 43.6 +0.2**
DALY Dalyan (Mula) 2.38 290 *i* P **Pn 22 21 43.4 +0.1**
DALY *i* S **Sn 22 22 07.5 -3.8**
DALY IAML 22 22 12.0
comp=N,57nm,0.2s
DALY IAML 22 22 37.0
comp=E,58nm,1.0s
KZIL AFYON_Kizioren 2.46 336 *i* P **Pn 22 21 45.7 +1.1**
KZIL *i* S **Sn 22 22 13.8 +0.2**
KZIL IAML 22 22 20.0
comp=E,72nm,0.6s
TAVA DENIZLI_Tavas 2.48 306 *i* P **Pn 22 21 46.0 +1.0**
TAVA *i* S **Sn 22 22 14.2 +0.1**
TAVA IAML 22 22 26.0
comp=N,156nm,0.4s
TAVA IAML 22 22 26.0
comp=E,120nm,0.4s
OSC1 CSNet OBS 1 2.52 183 P **Pn 22 21 45.7 +0.4**
OSC1 S **Sn 22 22 14.7 -0.1**
KDHN Kadinhani 2.56 12 *i* P **Pn 22 21 47.0 +1.0**
KDHN *i* S **Sn 22 22 13.4 -2.5**
YESY Yesilyurt 2.56 46 PN **Pn 22 21 47.0 +1.0**
KERG Konya-Eregli 2.58 56 *i* P **Pn 22 21 48.5 +2.2**
KERG *i* S **Sn 22 22 18.3 +1.9**
KERG IAML 22 22 21.0
comp=E,105nm,0.5s
SHUT Suhut-Afyon 2.62 345 PN **Pn 22 21 47.6 +0.6**
TURN Turunc 2.68 287 *i* P **Pn 22 21 47.6 0.0**
TURN *i* S **Sn 22 22 15.3 -3.5**
TURN IAML 22 22 20.0
comp=N,73nm,0.3s
TURN IAML 22 22 21.0
comp=E,54nm,0.2s
BOLV Bolvadin 2.72 352 *i* P **Pn 22 21 49.7 +1.4**
BOLV *i* S **Sn 22 22 20.9 +0.9**
SULT Sultanhani-AKS 2.74 37 PN **Pn 22 21 49.6 +1.1**
CHBY Cihanbeyli 2.81 24 PN **Pn 22 21 50.9 +1.4**
DED Mersin 2.87 70 *i* P **Pn 22 21 52.4 +2.2**
DED *i* S **Sn 22 22 24.7 +1.0**
DED IAML 22 22 43.0
comp=E,41nm,0.6s
KIZT Kizilcal 2.88 7 PN **Pn 22 21 51.4 +1.0**
GULE Gulek 2.97 64 *i* P **Pn 22 21 55.3 +3.5**
GULE *i* S **Sn 22 22 27.8 +1.5**
GULE IAML 22 22 37.0
comp=N,104nm,0.4s
GULE IAML 22 22 47.0
comp=E,131nm,0.8s
KARA Karaisali 3.17 66 PN **Pn 22 21 55.8 +1.5**
DAT Datca 3.19 284 *i* P Pn 22 21 50.1 -4.6
AKSY AKSARAY - Alti 3.22 35 *i* P **Pn 22 21 56.4 +1.3**
AKSY *i* S Sn 22 22 19.8 -12
KRTS Karatas 3.23 79 PN **Pn 22 21 56.3 +1.1**
KULU Kulu 3.27 22 PN **Pn 22 21 56.7 +0.9**
CMRD Camardi-Nigde 3.29 59 PN **Pn 22 21 57.8 +1.7**
USAK Uak-Merkez 3.31 325 *i* P **Pn 22 21 57.3 +1.1**
USAK *i* S **Sn 22 22 31.9 -2.4**
USAK IAML 22 22 42.0
comp=E,38nm,0.4s
CIFT Cifteler, Eski 3.35 355 PN **Pn 22 21 57.8 +0.9**
KKUL Konya-Kulu 3.36 20 *i* P **Pn 22 21 57.7 +0.7**
KKUL *i* S **Sn 22 22 34.0 -1.8**
AUSIV SIVRIHISAR 3.42 1 PN **Pn 22 21 58.6 +0.8**
SVRH Sivrihisar-ESK 3.42 1 PN **Pn 22 21 58.7 +0.8**
GDZ Gediz 3.43 334 *i* P **Pn 22 21 58.7 +0.6**
GDZ *i* S **Sn 22 22 35.9 -1.7**
YAYX Yaylak 3.48 32 PN **Pn 22 22 00.2 +1.6**
YURE YUREGIR 3.48 75 PN **Pn 22 22 00.4 +1.7**
YURE YUREGIR 3.48 75 *i* P **Pn 22 22 01.1 +2.5**
YURE *i* S **Sn 22 22 32.7 -6.0**
CEYT Ceyhan 3.62 73 PN **Pn 22 22 02.0 +1.6**
AFSR Afar-Bala (An 3.66 20 PN **Pn 22 22 02.4 +1.2**
KIRS Kırehir-Merke 3.68 32 *i* P **Pn 22 22 02.5 +1.0**
KIRS *i* S **Sn 22 22 37.6 -6.0**
YAYL Yayladag 3.79 88 PN **Pn 22 22 03.9 +0.9**
KOZT Kozan 3.82 66 PN **Pn 22 22 04.5 +1.2**
TAHT Tahtakopru-Hat 3.86 83 PN **Pn 22 22 05.3 +1.4**
SAIM ADANA 4.21 61 *i* P **Pn 22 22 10.3 +1.6**
SAIM *i* S **Sn 22 22 56.3 -0.3**
SAIM IAML 22 23 06.0
comp=N,19nm,0.4s
SAIM IAML 22 23 08.0
comp=E,22nm,0.4s
ANDN Andirin 4.24 67 *i* P **Pn 22 22 10.8 +1.6**
ANDN *i* S **Sn 22 22 52.2 -5.3**
ANDN IAML 22 23 00.0
comp=N,18nm,0.3s
HNTI Hanita 4.26 132 Pn **Pn 22 22 10.9 +1.6**
HNTI Sn **Sn 22 22 56.9 -0.8**
QRWL Qaraoun 4.28 124 *e*P **Pn 22 22 11.9 +2.3**
KAMA Osmaniye 4.37 73 *i* P **Pn 22 22 12.1 +1.2**
KAMA *i* S **Sn 22 22 57.2 -3.4**
KAMA IAML 22 23 46.0
comp=N,18nm,0.1s
KAMA IAML 22 23 47.0
comp=E,13nm,0.1s
SHBL Chebaa 4.44 126 *e*P **Pn 22 22 14.6 +2.6**
MMA0B Mount Meron ar 4.44 131 Pn **Pn 22 22 13.8 +1.9**
MMA0B Sn **Sn 22 23 01.1 -1.3**
GEM Giv'at Ha'Em 4.48 128 Pn **Pn 22 22 14.3 +2.0**
NATI Neve Ativ 4.49 127 Pn **Pn 22 22 14.3 +1.8**
NATI Sn **Sn 22 23 03.2 -0.2**
CMDR Camlidere-ANKA 4.54 10 *i* P **Pn 22 22 13.9 +0.6**
SLTI Sal'it 4.81 140 Pn **Pn 22 22 18.4 +1.5**
MMLI Mount Malkishu 4.87 136 Pn **Pn 22 22 18.8 +1.1**
MMLI Sn **Sn 22 23 12.4 -0.4**
HMDT Nahal Hemdat 5.06 137 Pn **Pn 22 22 22.6 +2.2**
HMDT Sn **Sn 22 23 16.7 -0.9**
AMAZ Amatzia 5.33 146 Pn **Pn 22 22 26.0 +1.9**
DSI Dead Sea 5.52 142 Pn **Pn 22 22 28.3 +1.6**
YTIR Yattir 5.57 145 Pn **Pn 22 22 29.5 +2.1**
YTIR Sn **Sn 22 23 28.9 -1.2**
KZIT Kziot 5.67 153 Pn **Pn 22 22 29.6 +0.9**

SOME ***12*** *22:33:45.7, 41°.70N×73°.15E, h15km*
NNC ***12*** *22:33:46.1±1.0, 41°.73N×73°.07E, h0km, mb2.7, mpv2.7, Error ellipse: s-maj=6.9km s-min=4.7km az=7.0*
KRNET ***12*** *22:33:46.0±0.1, 41°.71N×73°.18E, h30km, mb2.2*
ISC 12 22:33:45.7±1.1,**41°.69N**±0°.03×**73°.17E**±0°.03,**h14**km±9km,
n30,σ1º**09**/53,**27C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** baz=42	**0.59**	**41**	⇑*i*P	**Pg**	**22 33 57.9**	**+0.5**
AML	baz=42			⇑*i*S	**Sg**	**22 34 06.0**	**+0.8**
ARLS	**Aral** baz=79	**0.88**	**78**	⇑*i*P	**Pb**	**22 34 02.6**	**-0.2**
ARLS	baz=79			⇑*i*S	**Sb**	**22 34 14.2**	**-0.3**
MRKS	**Merke** 18nm,0.1s	**1.05**	**2**	⇓*i*P	**Pg**	**22 34 06.1**	**0.0**
MRKS	15nm,0.2s			⇑*i*S	**Sg**	**22 34 19.7**	**-0.1**
MRKS	**Merke** 18nm,0.1s	**1.05**	**2**	P	**Pg**	**22 34 06.1**	**0.0**
MRKS	15nm,0.2s			S	**Sg**	**22 34 19.7**	**-0.1**
EKS2	**Erkin-Say** baz=25	**1.07**	**25**	⇑*i*P	**Pb**	**22 34 05.6**	**-0.5**
EKS2	baz=25			⇑*i*S	**Sb**	**22 34 19.9**	**-0.1**
OHH	**Osh** baz=94	**1.20**	**194**	⇑*i*P	**Pn**	**22 34 08.5**	**+0.4**
OHH	baz=94			⇑*i*S	**Sg**	**22 34 25.0**	**+0.5**
AAK	**Ala-Archa** baz=46	**1.36**	**46**	⇓*i*P	**Pn**	**22 34 10.5**	**0.0**
AAK	baz=46			⇓*i*S	**Sn**	**22 34 28.5**	**0.0**
AAK	**Ala-Archa** 1.0nm,0.5s	**1.36**	**46**	⇓P	**Pg**	**22 34 12.1**	**+0.1**
AAK	3.1nm,0.5s			⇓S	**Sg**	**22 34 31.5**	**+1.7**
KZA	**Kyzart** baz=76	**1.60**	**75**	⇑*i*P	**Pn**	**22 34 14.5**	**+0.6**
KZA	baz=76			⇑*i*S	**Sn**	**22 34 35.0**	**+0.4**
KBK	**Karagaybulak** baz=54	**1.64**	**53**	⇓*e*P	**Pn**	**22 34 15.0**	**+0.8**
KBK	baz=54			⇓*i*S	**Sn**	**22 34 35.6**	**+0.4**
CHMS	**Chumysh** baz=42	**1.75**	**41**	⇓*i*P	**Pn**	**22 34 16.3**	**+0.6**
CHMS	baz=42			⇓*i*S	**Sn**	**22 34 38.3**	**+0.4**
USP	**Ospenovka** baz=32	**1.86**	**31**	⇑*i*P	**Pn**	**22 34 17.9**	**+0.8**
USP	baz=32			⇑*i*S	**Sn**	**22 34 40.5**	**+0.1**
TKM2	**Tokmak 2** baz=55	**2.18**	**55**	⇑*i*P	**Pn**	**22 34 22.6**	**+0.9**
TKM2	baz=55			⇑*i*S	**Sn**	**22 34 48.7**	**+0.1**
TKM2	**Tokmak 2** 0.7nm,0.5s	**2.18**	**55**	⇑Pg	**Pb**	**22 34 25.3**	**+0.3**
TKM2	2.9nm,0.5s			⇑Lg	Lg	22 34 55.7	
BOOM	**Boomskoye usch** baz=68	**2.21**	**68**	⇑*i*P	**Pn**	**22 34 22.9**	**+0.8**
BOOM	baz=68			⇑*i*S	**Sn**	**22 34 49.5**	**+0.2**
ULHL	**Ulahol** baz=76	**2.35**	**75**	⇑*i*P	**Pn**	**22 34 24.9**	**+0.8**
ULHL	baz=76			⇑*i*S	**Sn**	**22 34 52.9**	**-0.1**
IUG	**Iuzhnay** 4.9nm,0.2s	**2.39**	**282**	*e*P	**Pb**	**22 34 28.3**	**-0.2**
IUG	8.6nm,0.4s			*e*S	**Sb**	**22 34 57.9**	**+0.1**
BTK	**Batken** baz=28	**2.42**	**228**	⇑*i*P	**Pn**	**22 34 25.7**	**+0.8**
BTK	baz=28			⇑*i*S	**Sn**	**22 34 54.4**	**+0.1**
KK31	**Karatay Array** 0.2nm,0.3s,baz=130,slow=16,SNR=5.7	**2.42**	**307**	⇑Pg	**Pb**	**22 34 27.9**	**-1.2**
KK31	0.9nm,0.3s,baz=126,slow=27,SNR=9.5			⇑Lg	Lg	22 35 00.3	
DGS	**Degeres** 1.6nm,0.4s	**2.47**	**50**	*e*P	**Pg**	**22 34 32.3**	**-0.7**
DGS	5.4nm,0.5s			*e*S	**Sg**	**22 35 05.0**	**-0.1**
DGS	**Degeres** 1.6nm,0.4s	**2.47**	**50**	Pg	**Pg**	**22 34 32.3**	**-0.7**
DGS	5.4nm,0.5s			Lg	Lg	22 35 05.0	
KST	**Kastek** 2.6nm,0.2s	**2.47**	**56**	*e*P	**Pg**	**22 34 32.5**	**-0.5**
KST	7.6nm,0.7s			⇓*i*S	**Sg**	**22 35 05.3**	**+0.2**
KST	**Kastek** 2.6nm,0.2s	**2.47**	**56**	Pg	**Pg**	**22 34 32.5**	**-0.5**
KST	7.6nm,0.7s			Lg	Lg	22 35 05.3	
KDJ	**Kajisay** baz=81	**3.02**	**80**	⇑*i*P	**Pn**	**22 34 33.9**	**+0.6**
KDJ	baz=81			⇑*i*S	**Sn**	**22 35 09.0**	**-0.4**
KUU	**Kurty** 0.2nm,0.3s	**3.21**	**46**	*e*P	**Pg**	**22 34 45.1**	**-2.0**
KUU	3.7nm,0.4s			*e*S	**Sg**	**22 35 26.2**	**-2.4**
KUU	**Kurty** 0.8nm,0.4s	**3.21**	**46**	Pg	**Pg**	**22 34 45.0**	**-2.0**
KUU	2.8nm,0.2s			Lg	Lg	22 35 26.9	
KTBS	**Karatobe** 1.0nm,0.5s	**3.28**	**51**	*e*P	**Pg**	**22 34 46.7**	**-1.9**
KTBS	9.2nm,0.4s			*e*S	**Sg**	**22 35 29.4**	**-1.7**
KTBS	**Karatobe** 1.0nm,0.5s	**3.28**	**51**	Pg	**Pg**	**22 34 46.7**	**-1.9**
KTBS	9.2nm,0.4s			Lg	Lg	22 35 29.4	
BTLS	**Baital** 1.0nm,0.3s	**3.41**	**10**	*e*P	**Pb**	**22 34 48.4**	**+2.6**
BTLS	2.4nm,0.3s			*e*S	**Sg**	**22 35 32.4**	**-2.8**
BTLS	**Baital** 1.0nm,0.3s	**3.41**	**10**	Pg	**Pb**	**22 34 48.4**	**+2.6**
BTLS	2.4nm,0.3s			Lg	Lg	22 35 32.4	

DDA ***12*** *22:55:36.9, 36°.28N×31°.03E, h40km±1km, MW4.4*
HLW ***12*** *22:55:37.7, 36°.02N×30°.81E, h10km±18km, Md4.3*
IDC ***12*** *22:55:37.0±0.9, 36°.28N×30°.95E, h52km±8km, mb4.0/23, mb1 4.0/34, mb1mx3.9/49, mbtmp4.2/34, MS3.2/11, Ms1 3.2/11, ms1mx2.9/44, Error ellipse: s-maj=8.6km s-min=7.7km az=155.0*
ISK ***12*** *22:55:37.1, 36°.24N×30°.91E, h55km±2km, ML4.4/47*
NEIC ***12*** *22:55:38.0±2.0, 36°.22N±0°.05×30°.93E±0°.05, h57km±7km, Error ellipse: s-maj=7.4km s-min=6.2km az=196.0*
MED_RC ***12*** *22:55:38.0±0.6, 36°.21N×30°.92E, h50km±5km, MW4.4/11, Moment Tensor Solution.Mantle waves: s11,c11; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr-3.80±.49; Mθθ5.93±1.26; Mφφ-2.13±.93; Mrθ1.95±.24; Mrφ-0.14±.73; Mθφ-1.36±.12; Best double couple: M0 5.57000×1015 NP1:φs65.00000°, δ40.00000°, λ-131.00000°. NP2:φs293.00000°, δ61.00000°, λ-61.00000°. Principal axes: T 6.3200, Plg11.0000°, Azm3.0000°; N -1.5100, Plg25.0000°, Azm98.0000°; P -4.8200, Plg62.0000°, Azm251.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GII ***12*** *22:55:38.7±0.3, 36°.08N×30°.99E, h40km, mb4.5/5, MD4.4/5*
THE ***12*** *22:55:38.2, 36°.21N×30°.87E, h8km±12km, ML4.4/6, Error ellipse: s-maj=16.9km s-min=1.4km az=109.0*
NIC ***12*** *22:55:38.1±0.0, 36°.15N×30°.97E, h32km±44km, Ml4.7/3*
ISC 12 22:55:38.1±0.4,**36°.19N**±0°.02×**30°.95E**±0°.02,**h59**km±4km,
n356,σ1º**77**/452,**mb4.3**/33,**MS3.7**/5,**19C-16D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.51**	**285**	*i* P	**Pn**	**22 55 48.9**	**-1.2**
AKUM				*i* S	**Sn**	**22 55 58.7**	**-0.1**
AKUM				IAML		22 56 03.0	
	comp=E,16μm,0.4s						
AKUM				IAML		22 56 05.0	
	comp=N,21μm,0.4s						
KEMT	**Kemer-ANTALYA**	**0.52**	**322**	PG	**Pn**	**22 55 48.2**	**-2.0**
MNVG	**Manavgat-Antal**	**0.71**	**32**	PG	**Pn**	**22 55 51.1**	**-1.3**
ANTB	**Antalya**	**0.75**	**341**	PG	**Pn**	**22 55 51.5**	**-1.4**
ANTB				SG	**Sn**	**22 56 02.2**	**-1.5**
DEMR	**Demre-Antalya**	**0.85**	**273**	PG	**Pn**	**22 55 53.2**	**-1.0**
KEPZ	**Antalya-Kepez**	**0.88**	**36**	*i* P	**Pn**	**22 55 53.4**	**-1.3**
KEPZ				*i* S	**Sn**	**22 56 04.0**	**-2.8**
KEPZ				IAML		22 56 06.0	
	comp=N,15μm,0.6s						
KEPZ				IAML		22 56 06.0	
	comp=E,8μm,0.3s						
KORT	**Korkueli**	**0.94**	**329**	PG	**Pn**	**22 55 54.2**	**-1.3**
KORT	**Korkueli**	**0.94**	**329**	*i* P	**Pn**	**22 55 54.2**	**-1.3**
KORT				*i* S	**Sn**	**22 56 05.9**	**-2.4**
KORT				IAML		22 56 12.0	
	comp=N,3μm,0.8s						
KORT				IAML		22 56 14.0	
	comp=E,4μm,1.1s						
ELL	**Elmali**	**1.01**	**304**	PG	**Pn**	**22 55 55.1**	**-1.3**
ELL	**Elmali**	**1.01**	**304**	P	**Pn**	**22 55 56.1**	**-0.3**
ELL				S	**Sn**	**22 56 11.0**	**+1.1**
ELL	**Elmali**	**1.01**	**304**	Pn	**Pn**	**22 55 55.8**	**-0.6**
AKAS	**Kas**	**1.09**	**273**	PG	**Pn**	**22 55 56.9**	**-0.6**
AKAS	**Kas**	**1.09**	**273**	*i* P	**Pn**	**22 55 56.7**	**-0.8**
AKAS				*i* S	**Sn**	**22 56 12.2**	**+0.4**
AKAS				IAML		22 56 24.0	
	comp=E,3μm,0.4s						
AKAS				IAML		22 56 26.0	
	comp=N,4μm,1.0s						
AKAS	**Kas**	**1.09**	**273**	Pn	**Pn**	**22 55 56.8**	**-0.6**
GAZI	**Gazipasa**	**1.10**	**87**	PN	**Pn**	**22 55 57.4**	**-0.1**
GAZI	**Gazipasa**	**1.10**	**87**	*i* P	**Pn**	**22 55 56.6**	**-0.9**
GAZI				*i* S	**Sn**	**22 56 11.2**	**-0.7**
GAZI				IAML		22 56 19.0	
	comp=N,6μm,0.3s						
GAZI				IAML		22 56 19.0	
	comp=E,6μm,0.3s						
KSL	**Kastellorizon**	**1.11**	**268**	P	**Pn**	**22 55 57.1**	**-0.5**
KSL				S	**Sn**	**22 56 11.7**	**-0.3**
	comp=E,5μm,0.6s						
KSL	**Kastellorizon**	**1.11**	**268**	P	**Pn**	**22 55 57.0**	**-0.5**
KSL				S	**Sn**	**22 56 12.8**	**+0.8**
BCK	**Bucak**	**1.30**	**347**	PN	**Pn**	**22 55 59.1**	**-1.1**
SEYD	**Seydisehir-KON**	**1.40**	**30**	PN	**Pn**	**22 56 01.2**	**-0.4**
GOLH	**Golhisar**	**1.53**	**313**	*i* P	**Pn**	**22 56 04.7**	**+1.4**
GOLH				*i* S	**Sn**	**22 56 24.3**	**+2.0**
GOLH				IAML		22 56 39.0	
	comp=N,1μm,0.5s						
FETY	**Fethiye**	**1.57**	**287**	P	**Pn**	**22 56 03.9**	**+0.2**
FETY				S	**Sn**	**22 56 23.7**	**+0.6**
FETY	**Fethiye**	**1.57**	**287**	PN	**Pn**	**22 56 03.3**	**-0.5**
FETY	**Fethiye**	**1.57**	**287**	*i* P	**Pn**	**22 56 04.0**	**+0.2**
FETY				*i* S	**Sn**	**22 56 21.3**	**-1.8**
FETY				IAML		22 56 24.0	
	comp=N,913nm,0.3s						
FETY				IAML		22 56 28.0	
	comp=E,835nm,0.6s						
AKMS	**Akamas**	**1.62**	**136**	P	**Pn**	**22 56 04.3**	**-0.1**
AKMS				AML	AML	22 56 32.4	
	comp=E,28nm,0.3s						
AKMS				AML	AML	22 56 33.4	
	comp=E,20nm,0.5s						
BOZY	**Bozyazi-Mersin**	**1.64**	**92**	PN	**Pn**	**22 56 05.2**	**+0.6**
ERMK	**Ermenek**	**1.64**	**74**	*i* P	**Pn**	**22 56 05.4**	**+0.5**
ERMK				*i* S	**Sn**	**22 56 28.2**	**+3.1**
ERMK				IAML		22 56 34.0	
	comp=E,12μm,0.4s						
ERMK				IAML		22 56 37.0	
	comp=N,13μm,0.6s						
BRDR	**BURDUR-Merkez**	**1.66**	**335**	*i* P	**Pn**	**22 56 05.5**	**+0.5**
BRDR				*i* S	**Sn**	**22 56 26.6**	**+1.2**
BRDR				IAML		22 56 32.0	
	comp=E,1μm,0.7s						
BRDR				IAML		22 56 36.0	
	comp=N,1μm,0.7s						
ISP	**Isparta**	**1.66**	**348**	PN	**Pn**	**22 56 04.5**	**-0.6**
ISP	**Isparta**	**1.66**	**348**	Pn	**Pn**	**22 56 05.3**	**+0.2**
ISP	**Isparta**	**1.66**	**348**	Pn	**Pn**	**22 56 04.8**	**-0.3**
ALFC	**Alefka**	**1.69**	**127**	⇑P	**Pn**	**22 56 04.8**	**-0.7**
ALFC				S	**Sn**	**22 56 25.7**	**-0.4**
ALFC				AML	AML	22 56 30.7	
	comp=N,23nm,0.4s						
ALFC				AML	AML	22 56 30.7	
	comp=N,23nm,0.4s						
ALFC				AML	AML	22 56 32.6	
	comp=N,31nm,0.4s						
ALFC				AML	AML	22 56 32.6	
	comp=N,31nm,0.4s						
TEKE	**Tekeli-Mersin**	**1.75**	**91**	PN	**Pn**	**22 56 06.8**	**+0.7**
BAGO	**Egridir - ISPA**	**1.80**	**356**	*i* P	**Pn**	**22 56 06.1**	**-0.8**
BAGO				*i* S	**Sn**	**22 56 28.1**	**-0.7**
BAGO				IAML		22 56 35.0	
	comp=E,646nm,1.0s						
BERE	**Bereket-Mersin**	**1.84**	**84**	PN	**Pn**	**22 56 07.9**	**+0.4**
AKDN	**Akdeniz- Kıbrı**	**1.86**	**118**	PN	**Pn**	**22 56 08.4**	**+0.7**
BASM	**Basmaki-Afyon**	**1.87**	**338**	PN	**Pn**	**22 56 06.9**	**-1.0**
LEF	**Lefka**	**1.91**	**124**	PN	**Pn**	**22 56 07.8**	**-0.5**
LEF	**Lefka**	**1.91**	**124**	*i* P	**Pn**	**22 56 07.6**	**-0.7**
LEF				*i* S	**Sn**	**22 56 26.6**	**-4.6**
LEF				IAML		22 56 31.0	
	comp=N,2μm,0.4s						
LEF				IAML		22 56 44.0	
	comp=E,2μm,0.3s						
NATA	**Nata**	**1.93**	**136**	P	**Pn**	**22 56 08.6**	**-0.1**
KMER	**Konya-Meram**	**1.94**	**35**	*i* P	**Pn**	**22 56 09.1**	**+0.3**
KMER				*i* S	**Sn**	**22 56 32.0**	**-0.2**
KMER				IAML		22 56 36.0	
	comp=N,6μm,0.6s						
KMER				IAML		22 56 36.0	
	comp=E,3μm,0.7s						
DALY	**Dalyan (Mula)**	**1.96**	**289**	PN	**Pn**	**22 56 08.3**	**-0.6**
DALY	**Dalyan (Mula)**	**1.96**	**289**	*i* P	**Pn**	**22 56 09.0**	**+0.1**
DALY				*i* S	**Sn**	**22 56 32.0**	**-0.3**
DALY				IAML		22 56 53.0	
	comp=E,1μm,1.2s						
DALY				IAML		22 56 59.0	
	comp=N,1μm,0.7s						
YORU	**Yoruktepe-Mers**	**1.98**	**90**	PN	**Pn**	**22 56 09.9**	**+0.5**
DOGA	**KONYA_Doganhis**	**1.99**	**16**	*i* P	**Pn**	**22 56 09.9**	**+0.3**
DOGA				*i* S	**Sn**	**22 56 31.8**	**-1.7**
DOGA				IAML		22 56 35.0	
	comp=N,3μm,0.5s						
DOGA				IAML		22 56 41.0	
	comp=E,2μm,0.6s						
TEVE	**Tevekalti-Mers**	**2.02**	**82**	PN	**Pn**	**22 56 10.5**	**+0.5**

OREN	Orenkoy-Mersin	2.03	89	PN	Pn	22 56 10.6	+0.7
TAVA	DENIZLI_Tavas	2.07	308	*i* P	Pn	22 56 11.0	+0.4
TAVA				*i* S	Sn	22 56 39.3	+3.9
TAVA				IAML		22 56 45.0	
	comp=E,1µm,0.7s						
TAVA				IAML		22 56 51.0	
	comp=N,1µm,0.5s						
KONT	Konya--Tatoy	2.08	32	PN	Pn	22 56 10.6	-0.1
KONT	Konya--Tatoy	2.08	32	*i* P	Pn	22 56 11.0	+0.3
KONT				*i* S	Sn	22 56 35.3	-0.2
KONT				IAML		22 56 40.0	
	comp=E,1µm,0.6s						
KONT				IAML		22 56 44.0	
	comp=N,1µm,0.5s						
AKK1	Akkuyu-Mersin	2.09	91	PN	Pn	22 56 11.9	+1.1
GULN	MERSIN_Gulnar	2.10	89	*i* P	Pn	22 56 12.4	+1.6
GULN				*i* S	Sn	22 56 37.2	+1.4
GULN				IAML		22 56 44.0	
	comp=N,2µm,0.5s						
GULN				IAML		22 56 45.0	
	comp=E,2µm,0.5s						
TEPK	Tepekoy-MERSIN	2.10	88	PN	Pn	22 56 11.6	+0.7
AKK2	Akkuyu-Mersin	2.10	91	PN	Pn	22 56 11.7	+0.8
KRMN	Karaman	2.10	61	PN	Pn	22 56 11.2	+0.2
AKKU	Akkuyu-Mersin	2.10	90	PN	Pn	22 56 11.7	+0.8
SZAC	Souni	2.13	132	⇑P	Pn	22 56 11.2	-0.1
SZAC				AML	AML	22 56 52.7	
	comp=E,16nm,0.8s						
SZAC				AML	AML	22 56 54.2	
	comp=E,20nm,0.7s						
KZIL	AFYON_Kizioren	2.16	343	*i* P	Pn	22 56 11.7	-0.1
KZIL				*i* S	Sn	22 56 33.9	-3.7
KZIL				IAML		22 56 40.0	
	comp=E,856nm,0.5s						
KZIL				IAML		22 56 43.0	
	comp=N,518nm,0.9s						
YESI	Yesilovacik-Me	2.17	89	PN	Pn	22 56 12.7	+0.8
TISA	Tisan-Mersin	2.21	90	PN	Pn	22 56 13.1	+0.8
IKL	Isikli	2.21	88	PN	Pn	22 56 13.5	+1.1
KARG	Kargicak-Mersi	2.23	89	PN	Pn	22 56 13.8	+1.1
KEBE	Keben-Mersin	2.24	83	PN	Pn	22 56 14.0	+1.1
ATHAL	Athalassa	2.25	117	P	Pn	22 56 12.6	-0.3
TURN	Turunc	2.26	286	PN	Pn	22 56 12.3	-0.8
TURN	Turunc	2.26	286	*i* P	Pn	22 56 13.2	+0.2
TURN				*i* S	Sn	22 56 38.7	-1.0
TURN				IAML		22 56 44.0	
	comp=E,600nm,0.3s						
TURN				IAML		22 56 51.0	
	comp=N,747nm,0.5s						
ARG	Arkhangelos	2.29	271	P	Pn	22 56 12.8	-0.6
ARG				S	Sn	22 56 40.4	-0.1
	comp=N,2µm,0.6s						
ARG	Arkhangelos	2.29	271	PN	Pn	22 56 12.9	-0.5
ARG	Arkhangelos	2.29	271	⇑P	Pn	22 56 12.3	-1.2
ARG				S	Sn	22 56 41.7	+1.2
CSS	Mathiatis	2.29	122	PN	Pn	22 56 13.1	-0.5
CSS	Mathiatis	2.29	122	Pn	Pn	22 56 13.1	-0.5
CSS	Mathiatis	2.29	122	⇓P	Pn	22 56 12.6	-1.0
CSS	Mathiatis	2.29	122	Pn	Pn	22 56 13.0	-0.6
LADK	Ladik-KONYA	2.30	29	PN	Pn	22 56 13.5	-0.2
ASGA	Asgata	2.34	126	P	Pn	22 56 14.4	+0.2
YER	Yerkesik	2.34	294	P	Pn	22 56 14.1	-0.2
YER	Yerkesik	2.34	294	PN	Pn	22 56 13.5	-0.8
AKIN	Akıncılar- Kıb	2.36	119	PN	Pn	22 56 14.5	0.0
SHUT	Suhut-Afyon	2.38	352	PN	Pn	22 56 14.3	-0.5
SILI	Silifke-Mersin	2.41	85	PN	Pn	22 56 15.9	+0.8
SLFK	Silifke-Mersin	2.43	84	PN	Pn	22 56 16.1	+0.8
MVOU	Mavrovouni	2.48	117	P	Pn	22 56 14.9	-1.1
MVOU				S	Sn	22 56 44.7	-0.4
KDHN	Kadinhani	2.50	21	*i* P	Pn	22 56 16.0	-0.5
KDHN				*i* S	Sn	22 56 41.6	-4.4
KDHN				IAML		22 56 51.0	
	comp=N,443nm,0.9s						
KDHN				IAML		22 56 59.0	
	comp=E,520nm,0.5s						
BOLV	Bolvadin	2.52	360	*i* P	Pn	22 56 16.8	0.0
BOLV				*i* S	Sn	22 56 45.1	-1.3
BOLV				IAML		22 56 48.0	
	comp=E,768nm,1.0s						
BOLV				IAML		22 56 51.0	
	comp=N,561nm,0.8s						
BOLV	Bolvadin	2.52	360	Pn	Pn	22 56 16.8	0.0
KIZK	Mersin	2.59	83	PN	Pn	22 56 18.7	+1.1
KIZK	Mersin	2.59	83	*i* P	Pn	22 56 19.2	+1.6
KIZK				*i* S	Sn	22 56 50.8	+2.9
KIZK				IAML		22 56 57.0	
	comp=E,2µm,0.5s						
KIZK				IAML		22 56 59.0	
	comp=N,2µm,1.1s						
AFYO	Afyonkarahisar	2.64	349	*i* P	Pn	22 56 18.8	+0.4
AFYO				*i* S	Sn	22 56 47.2	-2.2
AFYO				IAML		22 56 53.0	
	comp=E,1µm,0.6s						
AFYO				IAML		22 56 56.0	
	comp=N,2µm,0.8s						
EREN	Erenkoy	2.69	103	PN	Pn	22 56 20.2	+1.2
EREN	Erenkoy	2.69	103	*i* P	Pn	22 56 19.6	+0.5
EREN				*i* S	Sn	22 56 50.1	-0.3
EREN				IAML		22 56 58.0	
	comp=N,2µm,0.3s						
EREN				IAML		22 56 59.0	
	comp=E,3µm,0.5s						
OSC1	CSNet OBS 1	2.70	174	P	Pn	22 56 19.5	+0.4
OSC1				S	Sn	22 56 50.1	-0.4
YESY	Yesilyurt	2.74	54	PN	Pn	22 56 20.1	+0.3
DAT	Datca	2.77	282	P	Pn	22 56 19.6	-0.6
DAT				S	Sn	22 56 52.4	-0.2
DAT	Datca	2.77	282	PN	Pn	22 56 20.1	-0.1
DAT	Datca	2.77	282	*i* P	Pn	22 56 19.7	-0.5
DAT				*i* S	Sn	22 56 48.3	-4.3
DAT				IAML		22 56 53.0	
	comp=E,339nm,1.2s						
DAT				IAML		22 56 58.0	
	comp=N,282nm,0.8s						
KIZT	Kizilcal	2.78	15	PN	Pn	22 56 20.2	-0.1
PARAL	Paralimni	2.79	115	P	Pn	22 56 20.8	+0.6
KERG	Konya-Eregli	2.82	63	*i* P	Pn	22 56 22.1	+1.2
KERG				*i* S	Sn	22 56 54.3	+0.5
KERG				IAML		22 56 58.0	
	comp=E,2µm,0.6s						
CHBY	Cihanbeyli	2.84	32	PN	Pn	22 56 21.1	0.0
SULT	Sultanhani-AKS	2.86	45	PN	Pn	22 56 21.9	+0.5
KULA	Kula-Manisa	2.95	322	P	Pn	22 56 21.9	-0.7
KULA				S	Sn	22 56 55.5	-1.4
KULA	Kula-Manisa	2.95	322	PN	Pn	22 56 22.3	-0.3
USAK	Uak-Merkez	2.95	329	*i* P	Pn	22 56 22.1	-0.5
USAK				*i* S	Sn	22 56 55.7	-1.1
USAK				IAML		22 56 57.0	
	comp=E,714nm,0.6s						
BDRM	Kayabasi	2.96	288	*i* P	Pn	22 56 22.2	-0.4
BDRM				*i* S	Sn	22 56 55.0	-1.8
BDRM				IAML		22 56 58.0	
	comp=E,576nm,0.5s						
MANT	Manisa	2.98	321	*i* P	Pn	22 56 22.0	-1.2
MANT				*i* S	Sn	22 56 54.2	-3.7
MANT				IAML		22 57 03.0	
	comp=N,293nm,0.5s						
MANT				IAML		22 57 06.0	
	comp=E,358nm,0.5s						
MANT	Manisa	2.98	321	Pn	Pn	22 56 22.5	-0.7
BODT	Bodrum	3.06	288	P	Pn	22 56 24.0	0.0
BODT				S	Sn	22 56 57.8	-1.6
BODT	Bodrum	3.06	288	PN	Pn	22 56 23.8	-0.2
YKAV	Yalikavak-Bodr	3.10	289	PN	Pn	22 56 24.1	-0.4
AUKIR	Kırka- Seyitga	3.10	354	*i* P	Pn	22 56 24.7	0.0
AUKIR				*i* S	Sn	22 56 55.2	-5.3
AUKIR				IAML		22 57 02.0	
	comp=E,604nm,0.4s						
AUKIR				IAML		22 57 04.0	
	comp=N,343nm,0.5s						
GEDZ	Gediz	3.10	337	PN	Pn	22 56 24.2	-0.4
GDZ	Gediz	3.12	338	*i* P	Pn	22 56 24.8	-0.1
GDZ				*i* S	Sn	22 56 57.4	-3.6
KARP	Karpathos	3.15	259	P	Pn	22 56 25.2	0.0
KARP				S	Sn	22 57 00.3	-1.3
	comp=N,3µm,0.5s						
KARP	Karpathos	3.15	259	PN	Pn	22 56 25.5	+0.3
KARP	Karpathos	3.15	259	⇑P	Pn	22 56 25.2	0.0
KARP	Karpathos	3.15	259	Pn	Pn	22 56 25.3	+0.1
CIFT	Cifteler, Eski	3.17	2	PN	Pn	22 56 25.2	-0.3
DED	Mersin	3.19	75	*i* P	Pn	22 56 28.2	+2.4
DED				*i* S	Sn	22 57 05.3	+2.7
DED				IAML		22 57 11.0	
	comp=N,730nm,0.4s						
DED				IAML		22 57 25.0	
	comp=E,556nm,0.8s						
KOSK	Kos Island	3.25	281	PN	Pn	22 56 26.8	+0.2
AUSIV	SIVRIHISAR	3.28	8	PN	Pn	22 56 26.1	-1.0
AUSIV	SIVRIHISAR	3.28	8	*i* P	Pn	22 56 26.4	-0.6
AUSIV				*i* S	Sn	22 56 58.3	-6.5
AUSIV				IAML		22 57 04.0	
	comp=N,136nm,0.3s						
AUSIV				IAML		22 57 04.0	
	comp=E,191nm,0.3s						
KULU	Kulu	3.28	29	PN	Pn	22 56 26.9	-0.2
SVRH	Sivrihisar-ESK	3.28	8	PN	Pn	22 56 25.9	-1.2
SIMA	Simav-Kutahya	3.28	332	PN	Pn	22 56 27.0	-0.2
OSC2	CSNet OBS 4	3.29	160	P	Pn	22 56 27.9	+0.7
AKSY	AKSARAY - Alti	3.32	41	*i* P	Pn	22 56 27.6	-0.1
AKSY				*i* S	Sn	22 57 02.0	-3.9
GCAM	G?zelcaml?	3.34	298	PN	Pn	22 56 27.3	-0.5
GCAM	G?zelcaml?	3.34	298	*i* P	Pn	22 56 27.2	-0.5
GCAM				*i* S	Sn	22 57 01.2	-5.0
GCAM				IAML		22 57 06.0	
	comp=N,480nm,0.4s						
GCAM				IAML		22 57 09.0	
	comp=E,182nm,0.3s						
KKUL	Konya-Kulu	3.36	27	*i* P	Pn	22 56 28.2	0.0
KKUL				*i* S	Sn	22 57 04.6	-2.3
KKUL				IAML		22 57 10.0	
	comp=E,276nm,0.5s						
KKUL				IAML		22 57 31.0	
	comp=N,245nm,1.0s						
TVSB	Tavsanli	3.46	340	PN	Pn	22 56 29.5	-0.1
SMG	Samos	3.63	296	P	Pn	22 56 30.9	-0.9
SMG				S	Sn	22 57 10.8	-2.6
AKHS	Akhisar	3.66	318	*i* P	Pn	22 56 31.1	-1.1
AKHS				*i* S	Sn	22 57 09.8	-4.5
AUMIH	MIHALICIK	3.69	6	*i* P	Pn	22 56 30.9	-1.9
AUMIH				*i* S	Sn	22 57 10.3	-4.8
AUMIH				IAML		22 57 16.0	
	comp=N,238nm,1.0s						
AUMIH				IAML		22 57 17.0	
	comp=E,179nm,0.4s						
DGB	zmir	3.75	301	*i* P	Pn	22 56 32.5	-0.9
DGB				*i* S	Sn	22 57 10.0	-6.2
DGB				IAML		22 57 15.0	
	comp=E,114nm,0.6s						
DGB				IAML		22 57 58.0	
	comp=N,133nm,1.4s						
BBAL	Bala	3.76	27	*i* P	Pn	22 56 34.3	+0.6
BBAL				*i* S	Sn	22 57 12.0	-4.8
BBAL				IAML		22 57 20.0	
	comp=E,312nm,0.4s						
BBAL				IAML		22 57 21.0	
	comp=N,257nm,0.7s						
KIRS	Kırehir-Merke	3.76	38	*i* P	Pn	22 56 33.5	-0.2
KIRS				*i* S	Sn	22 57 10.1	-6.6
AUBOZ	BOZOYUK	3.78	349	*i* P	Pn	22 56 33.8	-0.2
AUBOZ				*i* S	Sn	22 57 13.0	-4.3
AUBOZ				IAML		22 57 19.0	
	comp=N,370nm,0.4s						
AUBOZ				IAML		22 57 20.0	
	comp=E,267nm,0.4s						
BLCB	Balcova	3.81	306	P	Pn	22 56 33.7	-0.6
BLCB				S	Sn	22 57 15.6	-2.2
YURE	YUREGIR	3.82	79	*i* P	Pn	22 56 35.9	+1.4
YURE				*i* S	Sn	22 57 23.4	+5.2
BR231	Keskin MP Arra	3.92	21	Pn	Pn	22 56 35.8	0.0
DURS	Dursunbey	3.93	331	*i* P	Pn	22 56 36.0	0.0
DURS				*i* S	Sn	22 57 16.6	-4.2
DURS				IAML		22 57 22.0	
	comp=N,208nm,0.9s						
DURS				IAML		22 57 24.0	
	comp=E,258nm,0.6s						
ZKR	Zakros	4.00	256	P	Pn	22 56 36.9	0.0
ZKR				S	Sn	22 57 20.8	-1.8
	comp=E,1µm,0.4s						
AVNS	Nevsehir-Avano	4.05	49	*i* P	Pn	22 56 38.5	+0.8
AVNS				*i* S	Sn	22 57 46.5	+23
AVNS				IAML		22 58 03.0	
	comp=N,240nm,0.7s						
AVNS				IAML		22 58 09.0	
	comp=E,272nm,0.6s						
STIA	Sitia Lasithi	4.08	257	P	Pn	22 56 38.5	+0.5
STEP	BALIKESIR_Sava	4.08	322	*i* P	Pn	22 56 37.4	-0.6
STEP				*i* S	Sn	22 57 22.0	-2.6
STEP				IAML		22 57 25.0	
	comp=N,612nm,0.6s						
STEP				IAML		22 57 33.0	
	comp=E,359nm,0.6s						
URLA	Izmir	4.09	303	*i* P	Pn	22 56 36.8	-1.4
URLA				*i* S	Sn	22 57 18.1	-6.7
URLA				IAML		22 57 26.0	
	comp=E,124nm,0.8s						
BRTR	Keskin Array B	4.12	30	P	Pn	22 56 37.9	-0.8
	comp=E,24nm,0.3s,baz=208,slow=16,SNR=651						
BRTR				S	Sn	22 57 22.8	-2.7
	comp=E,35nm,0.3s,baz=202,slow=25,SNR=17						
BRTR				LR	LR	22 58 44.9	
	comp=E,240nm,20.5s,baz=176,slow=46						
BRTR	Keskin Array B	4.12	30		Pn	22 56 37.4	-1.2
BR131	Keskin Array S	4.12	30	Pn	Pn	22 56 37.8	-0.8
ZEDA	zmir-Bergama	4.14	313	*i* P	Pn	22 56 37.9	-0.9
ZEDA				*i* S	Sn	22 57 21.6	-4.4
ZEDA				IAML		22 57 30.0	
	comp=N,343nm,0.6s						
ZEDA				IAML		22 57 31.0	
	comp=E,174nm,0.5s						
YAYL	Yayladag	4.17	91	*i* P	Pn	22 56 40.6	+1.2
YAYL				*i* S	Sn	22 57 27.3	+0.4
YAYL				IAML		22 57 33.0	
	comp=N,777nm,0.8s						
YAYL				IAML		22 57 39.0	
	comp=E,878nm,0.5s						
ANAF	Anafi Island	4.19	274	P	Pn	22 56 38.7	-0.8
ANAF				S	Sn	22 57 25.5	-1.7
	comp=E,3µm,0.5s						
ULDT	Uludag	4.20	341	*i* P	Pn	22 56 39.6	-0.1
ULDT				*i* S	Sn	22 57 25.5	-2.0
ULDT				IAML		22 57 31.0	
	comp=N,266nm,0.4s						
ULDT				IAML		22 57 31.0	
	comp=E,334nm,0.6s						
MDUB	Mudurnu	4.28	2	Pn	Pn	22 56 40.8	0.0
KIBS	BOLU	4.28	9	*i* P	Pn	22 56 40.6	-0.2
KIBS				*i* S	Sn	22 57 25.2	-4.3
KIBS				IAML		22 57 58.0	
	comp=N,96nm,0.9s						
KIBS				IAML		22 58 06.0	
	comp=E,106nm,1.0s						
IGD	Bursa	4.29	342	*i* P	Pn	22 56 40.7	-0.2
IGD				*i* S	Sn	22 57 27.1	-2.6
IGD				IAML		22 57 33.0	
	comp=N,179nm,0.7s						
GEYV	SAKARYA_Geyve	4.32	353	*i* P	Pn	22 56 41.0	-0.2
GEYV				*i* S	Sn	22 57 20.9	-9.4
GEYV				IAML		22 57 30.0	
	comp=N,118nm,0.6s						
GEYV				IAML		22 57 34.0	
	comp=E,99nm,0.5s						
CDAG	Cicekdag	4.36	37	*i* P	Pn	22 56 42.0	0.0
CDAG				*i* S	Sn	22 57 25.4	-6.1
CDAG				IAML		22 57 39.0	
	comp=E,144nm,1.1s						
CDAG				IAML		22 58 13.0	
	comp=N,119nm,0.8s						
BALY	Balya	4.42	324	*i* P	Pn	22 56 42.6	0.0
BALY				*i* S	Sn	22 57 27.4	-5.3
BALY				IAML		22 57 37.0	
	comp=N,182nm,0.5s						
BALY				IAML		22 57 38.0	
	comp=E,132nm,0.6s						
NPS	Neapolis	4.44	260	P	Pn	22 56 42.3	-0.7
NPS				S	Sn	22 57 29.4	-4.0
	comp=E,2µm,0.4s						
SANT	Santorini	4.44	274	⇓P	Pn	22 56 41.6	-1.4
SANT	Santorini	4.44	274	Pn	Pn	22 56 41.8	-1.2
APE	Apeiranthos	4.45	283	⇓P	Pn	22 56 41.4	-1.7
APE	Apeiranthos	4.45	283	⇓S	Sn	22 57 31.9	-1.7
CMDR	Camlidere-ANKA	4.46	15	*i* P	Pn	22 56 42.8	-0.5
CMDR				*i* S	Sn	22 57 27.6	-6.3
CMDR				IAML		22 57 35.0	
	comp=N,214nm,0.5s						
CMDR				IAML		22 57 37.0	
	comp=E,188nm,0.4s						
DELI	KIRIKKALE	4.46	31	*i* P	Pn	22 56 42.4	-0.9
DELI				*i* S	Sn	22 57 28.4	-5.6
DELI				IAML		22 57 34.0	
	comp=N,131nm,0.6s						
DELI				IAML		22 57 35.0	
	comp=E,125nm,0.6s						
SNT1	Gialos, Santor	4.47	274	P	Pn	22 56 42.5	-0.8
BHL	Bhannes	4.48	119	*e*P	Pn	22 56 42.5	-1.0
DQRL	Deir Qamar	4.53	122	*e*P	Pn	22 56 43.1	-1.1
SAHE	Sakarya_HENDEK	4.65	359	*i* P	Pn	22 56 45.0	-0.9
HNTI	Hanita	4.66	130	Pn	Pn	22 56 45.6	-0.4
HNTI				Sn	Sn	22 57 37.4	-1.3
QRWL	Qaraoun	4.70	123	*e*P	Pn	22 56 46.0	-0.6
BCAM	Yenicaga	4.70	10	*i* P	Pn	22 56 45.9	-0.6
BCAM				*i* S	Sn	22 57 35.8	-3.9
BCAM				IAML		22 57 40.0	
	comp=N,104nm,0.4s						
BCAM				IAML		22 57 40.0	
	comp=E,120nm,0.5s						
YIGI	Dzce	4.78	5	*i* P	Pn	22 56 47.1	-0.5
YIGI				*i* S	Sn	22 57 35.7	-5.9
YIGI				IAML		22 57 42.0	
	comp=E,64nm,1.1s						
PRK	Paraskevi	4.80	311	P	Pn	22 56 48.9	+1.0
RCY	Rachaya	4.83	122	*e*P	Pn	22 56 48.1	-0.3
MMA0B	Mount Meron ar	4.85	130	Pn	Pn	22 56 48.4	-0.2
MMA0B				Sn	Sn	22 57 42.1	-1.3
MMAI	Mount Meron Ar	4.85	130	P	Pn	22 56 48.4	-0.2
	comp=E,32nm,0.3s,baz=307,slow=12,SNR=368						
MMAI				S	Sn	22 57 41.5	-2.0
	comp=E,61nm,0.3s,baz=317,slow=23,SNR=8.6						
SHBL	Chebaa	4.86	124	*e*P	Pn	22 56 48.3	-0.4
BUY	Buyukada	4.87	343	*i* P	Pn	22 56 48.6	-0.2
BUY				*i* S	Sn	22 57 39.6	-4.2
BUY				IAML		22 57 47.0	
	comp=N,157nm,0.5s						
BUY				IAML		22 57 49.0	
	comp=E,131nm,0.6s						
OFRI	`Ofer	4.88	136	Pn	Pn	22 56 48.6	-0.4
OFRI				Sn	Sn	22 57 42.6	-1.5
KNL	Balıkesir	4.88	328	*i* P	Pn	22 56 49.0	0.0
KNL				*i* S	Sn	22 57 36.6	-7.6
KNL				IAML		22 57 43.0	
	comp=N,188nm,0.6s						
KNL				IAML		22 57 49.0	
	comp=E,285nm,0.5s						
GEM	Giv'at Ha'Em	4.89	126	Pn	Pn	22 56 49.0	-0.1
GEM				Sn	Sn	22 57 43.5	-0.8
NATI	Neve Ativ	4.90	125	Pn	Pn	22 56 49.3	0.0
NATI				Sn	Sn	22 57 43.5	-1.2
BLGI	Bet Lehem HaGe	4.91	133	Pn	Pn	22 56 49.4	0.0
BAYC	CANAKKALE_Bayr	4.97	317	*i* P	Pn	22 56 49.7	-0.4
BAYC				*i* S	Sn	22 57 37.4	-8.8
BAYC				IAML		22 57 53.0	
	comp=N,112nm,0.7s						
BAYC				IAML		22 57 53.0	
	comp=E,78nm,0.5s						
IDI	Anoyia	5.01	261	P	Pn	22 56 49.9	-0.9
	comp=E,14nm,0.3s,baz=43,slow=2.3,SNR=122						
IDI				S	Sn	22 57 43.4	-4.1
	comp=E,42nm,0.3s,baz=140,slow=11,SNR=14						
IDI	Anoyia	5.01	261	⇓P	Pn	22 56 49.1	-1.7
IDI	Anoyia	5.01	261	⇑S	Sn	22 57 43.5	-3.9
IDI	Anoyia	5.01	261	Pn	Pn	22 56 49.8	-1.1
GAZ	Gaziantep	5.12	77	Pn	Pn	22 56 52.8	+0.5
SIVA	Sivas	5.14	259	P	Pn	22 56 52.4	-0.1
SIVA				S	Sn	22 57 49.2	-1.3
SLTI	Sal'it	5.20	138	Pn	Pn	22 56 52.8	-0.5
SLTI				Sn	Sn	22 57 50.6	-1.3
MMLI	Mount Malkishu	5.26	134	Pn	Pn	22 56 54.3	+0.1
MMLI				Sn	Sn	22 57 53.2	-0.4
SHMJ	Saham	5.27	130	Pn	Pn	22 56 54.4	+0.1
ILGA	Ilgaz	5.31	23	Pn	Pn	22 56 54.2	-0.8
HMDT	Nahal Hemdat	5.46	135	Pn	Pn	22 56 57.0	+0.2
HMDT				Sn	Sn	22 57 58.1	-0.2
UJAP	Al Uja	5.65	137	Pn	Pn	22 56 59.6	+0.2
UJAP				Sn	Sn	22 58 02.4	-0.5
AMAZ	Amatzia	5.70	144	Pn	Pn	22 57 00.4	+0.2
MATC	Matruh	5.74	214	S	Sn	22 58 00.1	-5.2
	baz=214						
DSI	Dead Sea	5.90	140	Pn	Pn	22 57 02.9	0.0
DSI				Sn	Sn	22 58 07.8	-1.3
YTIR	Yattir	5.93	143	Pn	Pn	22 57 03.0	-0.5
YTIR				Sn	Sn	22 58 08.5	-1.6
TOKA	Tokat	5.99	45	Pn	Pn	22 57 07.3	+3.1
KZIT	Kziot	6.00	150	Pn	Pn	22 57 04.2	-0.2
KZIT				Sn	Sn	22 58 10.2	-1.5
ALN	Alexandroupoli	6.07	322	Pn	Pn	22 57 05.3	+0.1
GHAJ	Ghor Haditha	6.21	140	Pn	Pn	22 57 06.6	-0.5
KOT	Kottamia	6.29	173	P	Pn	22 57 08.4	+0.1
	baz=171						
KOT				S	Sn	22 58 14.6	-4.2
	baz=171						
HHAG	Hagoal	6.29	171	P	Pn	22 57 08.1	-0.3
	baz=169						
HLW	Helwan	6.32	177	P	Pn	22 57 09.4	+0.6
	baz=175						
ASF	Jabal al Asfar	6.35	127	P	Pn	22 57 10.0	+0.9
	comp=E,1.7nm,0.3s,baz=274,slow=6.7,SNR=13						
ASF				S	Sn	22 58 21.4	+1.1
	comp=E,1.1nm,0.3s,baz=342,slow=9.6,SNR=1.1						
HMYD	Mayadein	6.38	181	P	Pn	22 57 10.7	+1.1
	baz=181						
KARJ	KARJ	6.40	141	Pn	Pn	22 57 00.1	-10
SUZ	Suez	6.53	165	P	Pn	22 57 11.6	+0.1
	baz=164						
HNAT	Natroun	6.55	183	P	Pn	22 57 12.8	+1.0
	baz=182						
HNAT				S	Sn	22 58 20.6	-4.5
	baz=182						
HSAF	As Saff	6.57	175	P	Pn	22 57 12.3	+0.1
	baz=174						
GLL	Jalalah	6.63	174	P	Pn	22 57 12.9	-0.1
	baz=173						
ZFRI	Zfri	6.64	147	Pn	Pn	22 57 12.2	-0.8
PRNI	Paran	6.74	149	Pn	Pn	22 57 13.7	-0.8
PRNI				Sn	Sn	22 58 28.1	-1.7
KRMI	Paran Flat	6.83	151	Pn	Pn	22 57 15.1	-0.6
KDZ	Kurdzhali	6.95	323	*i* P	Pn	22 57 19.2	+1.9
HRFI	Mount Harif	7.03	150	Pn	Pn	22 57 18.1	-0.3
HRFI				Sn	Sn	22 58 34.7	-2.2
JMB	Yambol	7.12	333	*i* P	Pn	22 57 21.7	+2.1
MBRI	Mt Berech	7.19	151	Pn	Pn	22 57 20.2

AKH	Akhalkalaki	11.08	58	Pn		Pn	22 58 16.8 +2.8
MDB	Medias	11.10	336	⇑P		Pn	22 58 15.2 +1.2
BZS	Buzias	11.76	326	⇓P		Pn	22 58 24.3 +1.3
KBZ	Khabaz	11.85	47	P		Pn	22 58 23.8 -0.5
	comp=E,0.1nm,0.3s,baz=237,slow=12,SNR=11						
KBZ				LR		LR	23 04 05.8
	comp=E,30nm,20.1s,baz=222,slow=43						
KIV	Kislovodsk	11.86	46	⇓P		Pn	22 58 27.8 +3.3
KIV	Kislovodsk	11.86	46	Pn		Pn	22 58 25.7 +1.2
CJR	Cluj-Napoca	11.87	335	⇓P		Pn	22 58 25.4 +0.9
KVAR	Kislovodsk Arr	11.87	46	P		Pn	22 58 28.6 +4.0
	baz=263,slow=17,SNR=2.7						
ARCR	ARCALIA	11.95	338	⇓P		Pn	22 58 27.1 +1.5
BURAR	Bucovina Array	12.18	341	⇓P		Pn	22 58 30.8 +2.0
BURAR	Bucovina Array	12.18	341	Pn		Pn	22 58 30.0 +1.2
VAE	Valguarnera	13.32	280	S		Sn	23 00 58.5 -12
	comp=E,1.4nm,0.3s,baz=18,slow=20,SNR=3.0						
KOLS	Kolonicke sedl	14.24	336	*e*P		P	22 59 02.1 -0.1
CLTB	Caltabellotta	14.27	281	P		P	22 59 02.4 -0.3
AKASG	Malin Array Be	14.56	356	P		Pn	22 58 58.4 -2.2
	comp=E,0.7nm,0.3s,baz=177,slow=9.3,SNR=11						
AKASG	Malin Array Be	14.56	356	P		Pn	22 59 03.5 +2.8
AKBB	Malin Array Si	14.56	356	P		P	22 59 04.7 -1.0
VYHS	Vyhne	15.19	328	*e*P		P	22 59 12.5 -0.2
NRCA	Norcia	15.27	301	P		P	22 59 14.1 +0.3
NRCA				IAmb		IAmb	22 59 16.1
	comp=Z,18nm,1.2s						
LANS	Liptovska Anna	15.44	331	*e*P		P	22 59 16.7 +1.2
OJC	Ojcow	16.18	334	P		P	22 59 24.5 +0.8
VRAC	Vranov	16.79	326	LR		LR	23 08 05.8
	comp=Z,18nm,18.9s,baz=136,slow=45						
KRLC	Kraliky	17.26	328	*e*P		P	22 59 37.1 +1.3
KEST	Kesra	17.50	275	P		Pn	22 59 37.7 -0.4
	comp=Z,0.1nm,0.3s,baz=36,slow=2.8,SNR=4.0						
KEST				S		Sn	23 02 36.6 -16
	comp=Z,0.1nm,0.3s,baz=30,slow=20,SNR=1.9						
VLC	Villacollemand	17.59	303	P		Pn	22 59 39.5 +0.5
DPC	Dobruska-Polom	17.67	328	*e*P		P	22 59 41.1 +0.9
OSTC	Ostas	17.86	328	*e*P		P	22 59 43.7 +1.3
GERES	GERESS Array B	17.88	320	P		Pn	22 59 42.1 -0.6
	comp=Z,0.1nm,0.3s,baz=119,slow=11,SNR=7.6						
GERES				LR		LR	23 07 13.8
	comp=Z,47nm,21.5s,baz=133,slow=39						
GERES				ScP		ScP	23 07 45.4 -0.8
	comp=Z,0.1nm,0.3s,baz=165,slow=2.1,SNR=9.0						
WTTA	Wattenberg	18.12	314	*e*Pn		Pn	22 59 45.7 0.0
	comp=Z,8.9nm,1.1s						
KHC	Kasperske Hory	18.12	321	*e*P		Pn	22 59 44.5 -1.0
KHC				*ex*		x	22 59 51.1
WATA	Walderalm	18.19	314	*e*Pn		P	22 59 46.2 0.0
	comp=Z,4.0nm,0.7s						
SQTA	Sankt Quirin	18.35	313	*e*P		P	22 59 48.1 +0.3
	comp=Z,4.8nm,0.6s						
FETA	Feichten	18.54	312	*e*P		P	22 59 50.5 +0.5
	comp=Z,11nm,1.1s						
NACGM	Naroch	18.93	353	*e*		P	22 59 54.0 0.0
DAVOX	Davos/Dischmat	18.95	310	P		P	22 59 54.1 -0.3
	comp=Z,0.2nm,0.3s,baz=152,slow=21,SNR=3.7						
DAVOX				LR		LR	23 09 15.2
	comp=Z,36nm,18.3s,baz=92,slow=43						
BRG	Berggiesshubel	19.10	325	*e*P		Pn	22 59 57.4 +0.2
	comp=Z,4.5nm,1.1s						
BRG				*e*			23 00 12.4
	comp=Z,4.6nm,0.9s						
DAVA	Damuels	19.18	312	*e*P		P	22 59 57.6 +0.7
	comp=Z,8.6nm,0.8s						
OBN	Obninsk	19.32	10	P		P	22 59 58.3 +0.2
	baz=162,slow=20,SNR=1.0						
OBN	Obninsk	19.32	10	IAmb		IAmb	23 00 01.1
	comp=Z,12nm,0.6s						
CLL	Collm	19.83	325	*e*(P)		Pn	23 00 08.0 +2.2
CLL				*e*S		S	23 03 46.0 +2.2
BNI	Bardonecchia	20.38	303	P		P	23 00 09.3 -0.8
SENIN	Lac Senin/Sane	20.41	307	P		P	23 00 10.2 -0.2
SENIN				IAmb		IAmb	23 00 25.2
	comp=Z,9.1nm,0.8s						
BFO	Black Forest	20.59	313	P		Pn	23 00 14.9 +0.1
GEYT	Alibeck	21.72	77	P		P	23 00 24.5 +0.2
	comp=Z,3.6nm,0.5s,baz=305,slow=10,SNR=11						
GEYT	Alibeck	21.72	77	P		P	23 00 24.9 +0.5
GYA0B	ALIBECK ARRAY	21.72	77	P		P	23 00 24.1 -0.2
GYA0B				IAmb		IAmb	23 00 33.4
	comp=Z,7.0nm,0.8s						
AKTO	Aktyubinsk	24.13	45	P		P	23 00 47.2 -1.1
	comp=Z,3.8nm,0.3s,baz=242,slow=8.0,SNR=24						
AKTO				ScP		ScP	23 07 59.7 -1.5
	comp=Z,1.0nm,0.6s,baz=226,slow=2.5,SNR=5.5						
UOSS	Minazif	24.39	110	P		P	23 00 51.7 +0.8
UOSS				IAmb		IAmb	23 00 59.5
	comp=Z,8.2nm,0.7s						
ABKAR	Akbulak array	24.80	49	P		P	23 00 53.9 -0.6
KLMR	Klimovskoe	25.28	10	*e*		P	23 00 55.9 -2.7
KLMR				AMP			23 00 58.2
	comp=Z,11nm,0.7s						
FIA1	FINESS Array S	25.46	355	P		P	23 01 01.4 +1.1
FIA1				IAmb		IAmb	23 01 14.6
	comp=Z,13nm,1.4s						
FINES	FINESS Array B	25.46	355	P		P	23 00 58.2 -2.1
	comp=Z,3.9nm,0.5s,baz=158,slow=11,SNR=24						
FINES				PcP		PcP	23 04 29.5 -1.0
	comp=Z,4.8nm,1.2s,baz=155,slow=4.6,SNR=1.4						
FINES				ScP		ScP	23 08 02.5 -2.2
	comp=Z,1.2nm,0.7s,baz=151,slow=3.2,SNR=4.2						
KIRV	Kirov	25.48	23	P		P	23 00 59.0 -1.4
	comp=Z,14nm,0.5s,baz=243,slow=3.3,SNR=11						
TAM	Tamanrasset	25.76	246	P		P	23 01 05.7 +2.2
TAM				IAmb		IAmb	23 01 08.6
	comp=Z,6.7nm,0.8s						
HFS	Hagfors	26.41	340	P		P	23 01 08.1 -0.8
	comp=Z,1.1nm,0.4s,baz=126,slow=7.5,SNR=8.9						
ARU	Arti	27.49	34	P		P	23 01 17.3 -1.4
	comp=Z,1.7nm,0.3s,baz=237,slow=12,SNR=11						
ARU				ScP		ScP	23 08 09.8 -1.1
	comp=Z,0.3nm,0.3s,baz=293,slow=22,SNR=3.7						
ARU	Arti	27.49	34	P		P	23 01 17.2 -1.4
ARU				IAmb		IAmb	23 01 24.0
	comp=Z,11nm,0.7s						
NC602	NORSAR Array S	27.51	339	P		P	23 01 20.8 +2.1
ESDC	Sonseca Array	27.65	288	P		P	23 01 20.4 +0.1
	comp=Z,1.1nm,0.8s,baz=78,slow=9.6,SNR=12						
ESDC	Sonseca Array	27.65	288	IAmb		IAmb	23 01 21.3
	comp=Z,6.9nm,1.2s						
NAO01	NORSAR Array S	27.79	339	P		P	23 01 23.1 +1.9
NB2	NORSAR Subarra	27.85	339	P		P	23 01 23.0 +1.2
	comp=Z,2.9nm,0.9s,baz=143,slow=10						
NOA	NORSAR Array B	27.85	339	P		P	23 01 20.1 -1.7
	comp=Z,0.8nm,0.8s,baz=146,slow=11,SNR=3.4						
NOA				LR		LR	23 14 04.7
	comp=Z,23nm,18.8s,baz=140,slow=40						
EKA	Eskdalemuir Ar	30.10	320	P		P	23 01 41.1 -0.7
	comp=Z,0.3nm,0.4s,baz=121,slow=8.1,SNR=3.8						
CHGR	Chuyangaron	30.30	74	P		P	23 01 44.6 +0.8
KKAR	Karatay Array	31.01	65	P		P	23 01 51.2 +1.2
GAR	Garm	31.15	73	P		P	23 01 52.7 +1.3
BRVK	Borovoye	32.18	46	P		P	23 01 59.7 -0.4
BRVK				IAmb		IAmb	23 02 01.7
	comp=Z,2.8nm,0.8s						
BVAR	Borovoye Array	32.23	46	P		P	23 02 00.3 -0.3
	comp=Z,0.8nm,0.3s,baz=226,slow=9.0,SNR=12						
ARCES	ARCESS Array B	33.53	357	P		P	23 02 09.8 -1.9
	comp=Z,3.8nm,0.6s,baz=166,slow=7.9,SNR=23						
TOA0	Torodi Ar. Sit	34.88	236	P		P	23 02 24.6 +0.7
TOA0				IAmb		IAmb	23 02 25.6
	comp=Z,5.7nm,0.8s						
TORD	Torodi Ar. Bea	34.88	236	P		P	23 02 24.6 +0.7
	comp=Z,5.4nm,0.7s,baz=28,slow=9.5,SNR=56						
TORD				PcP		PcP	23 04 55.7 -0.1
	comp=Z,0.9nm,0.6s,baz=40,slow=2.6,SNR=5.8						
TORD				ScP		ScP	23 08 35.7 -0.5
	comp=Z,0.5nm,0.8s,baz=32,slow=4.1,SNR=2.9						
KURBB	Kurchatov Arra	36.79	52	P		P	23 02 39.1 -0.8
	comp=Z,3.0nm,0.7s,baz=274,slow=8.8,SNR=15						
KURBB				PcP		PcP	23 05 01.0 +0.1
	comp=Z,0.8nm,0.6s,baz=272,slow=3.8,SNR=3.4						
KURK	Kurchatov	36.86	52	P		P	23 02 39.9 -0.6
KURK				IAmb		IAmb	23 02 44.5
	comp=Z,3.7nm,0.6s						
MAKZ	Makanchi	39.03	58	P		P	23 02 58.4 -0.6
MK31	Makanchi Array	39.25	58	P		P	23 03 01.3 +0.6
MKAR	Makanchi Array	39.25	58	P		P	23 02 59.9 -0.9
	comp=Z,1.4nm,0.5s,baz=268,slow=9.3,SNR=17						
MKAR				ScP		ScP	23 08 50.1 -1.9
	comp=Z,1.3nm,0.5s,baz=259,slow=3.9,SNR=14						
MKAR	Makanchi Array	39.25	58	P		P	23 03 00.0 -0.8
ZAA0	Zalesovo Array	40.87	47	P		P	23 03 12.8 -1.3
ZAA0				IAmb		IAmb	23 03 13.1
	comp=Z,3.9nm,0.5s						
ZALV	Zalesovo Beam	40.87	47	P		P	23 03 12.5 -1.5
	comp=Z,3.9nm,0.4s,baz=271,slow=8.6,SNR=19						
WMQ	Urumqi	43.38	62	*e*P		P	23 03 37.3 +2.6
DBIC	Dimbokro	43.99	237	P		P	23 03 39.8 0.0
	comp=Z,4.2nm,0.4s,baz=27,slow=9.1,SNR=20						
DBIC	Dimbokro	43.99	237	P		P	23 03 40.0 +0.2
DBIC				IAmb		IAmb	23 03 40.8
	comp=Z,13nm,1.1s						
TIC	Toumodi	44.12	237	*e*P		P	23 03 40.7 -0.2
KIC	Kosan Boka	44.14	236	*e*P		P	23 03 40.9 -0.1
	comp=Z,22nm,0.6s						
LIC	Lamto	44.43	237	*e*P		P	23 03 43.2 -0.1
	comp=Z,20nm,0.6s						
NRIK	Noril'sk	44.95	25	P		P	23 03 46.2 -0.6
	comp=Z,2.2nm,0.5s,baz=270,slow=2.0,SNR=2.2						
LSZ	Lusaka	51.25	183	LR		LR	23 27 53.7
	comp=Z,63nm,18.7s,baz=64,slow=38						
SONM	Songino Array	55.15	53	P		P	23 05 03.6 -0.9
	comp=Z,0.8nm,0.4s,baz=289,slow=7.7,SNR=4.7						
SONM				LR		LR	23 33 45.2
	comp=Z,55nm,18.0s,baz=216,slow=42						
SONM	Songino Array	55.15	53	IAmb		IAmb	23 05 04.4
	comp=Z,0.8nm,0.5s						
TSUM	Tsumeb	56.53	195	LR		LR	23 32 10.8
	comp=Z,58nm,18.8s,baz=141,slow=39						
LBTB	Lobatse	61.09	186	P		P	23 05 49.2 +3.1
CMAR	Chiang Mai Arr	61.78	87	P		P	23 05 50.2 -0.8
	comp=Z,0.9nm,0.4s,baz=301,slow=10.0,SNR=6.5						
BOSA	Boshof	64.68	186	P		P	23 06 12.2 +2.3
	comp=Z,8.5nm,0.6s,baz=360,slow=7.5,SNR=32						
BOSA	Boshof	64.68	186	P		P	23 06 12.2 +2.3
SUR	Sutherland	68.87	189	P		P	23 06 39.1 +2.5
USRK	Ussuriysk Ar.	72.72	48	P		P	23 06 59.0 -0.8
	comp=Z,0.8nm,0.5s,baz=21,slow=12,SNR=4.0						
KSRS	Korea Array	73.86	55	P		P	23 07 05.3 -1.4
	comp=Z,1.4nm,0.8s,baz=297,slow=4.3,SNR=2.9						
ILAR	Eielson Array	79.36	359	P		P	23 07 36.9 -0.3
	comp=Z,0.8nm,1.0s,baz=292,slow=1.5,SNR=5.0						
PETK	Petropavlovsk-	79.79	29	LR		LR	23 46 58.1
	comp=Z,55nm,18.3s,baz=199,slow=39						

IDC ***12*** *23:20:46.2±0.9, 2°.47S×12°.14W, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/36, mbtmp4.1/10, ML3.2/1, MS4.1/27, Ms1 4.0/27, ms1mx4.0/35, Error ellipse: s-maj=44.8km s-min=18.9km az=114.0*

NEIC ***12*** *23:20:47.8±1.7, 2°.28S±0°.06×12°.3W±0°.1, h10km±1km, mb4.7/25, Error ellipse: s-maj=18.5km s-min=9.9km az=103.0*

GCMT ***12*** *23:20:48.8±0.2, 2°.34S±0°.02×12°.29W±0°.01, h12km, MW4.9/118, Moment Tensor Solution. s35,c43; s118,c181; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=-3.32±.08; Mθθ0.47±.07; Mφφ2.85±.07; Mrθ0.69±.38; Mθφ-0.72±.07; Mrf0.48±.25; Best double couple: M0=3.28200×10^16 NP1φs=333.00000°, δ=44.00000°, λ=-107.00000°. NP2φs=176.00000°, δ=49.00000°, λ=-74.00000°. Principal axes: T 3.0650, Plg3.0000°, Azm255.0000°; N 0.4320, Plg12.0000°, Azm346.0000°; P -3.4990, Plg78.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 23:20:47.8±0.5, 2°.32S±0°.08×12°.3W±0°.1, h11km, n65, σ1°31/40, mb4.5/17, MS4.1/27, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	5.88	201	T	T	23 28 02.6	
	baz=25,slow=74,SNR=645						
H10N1	ASCENSION HYDR	5.89	201	T	T	23 28 00.5	
	baz=25,slow=74,SNR=411						
H10N3	ASCENSION HYDR	5.90	201	T	T	23 28 02.6	
	baz=25,slow=74,SNR=471						
ASCN	Ascension	5.93	200	Pn	Pn	23 22 16.3	+0.6
H10S3	ASCENSION HYDR	6.99	199	T	T	23 29 28.5	
	baz=198,slow=74,SNR=50						
H10S2	ASCENSION HYDR	6.99	199	T	T	23 29 27.9	
	baz=22,slow=74,SNR=29						
DBIC	Dimbokro	11.64	40	Pn	Pn	23 23 33.6	-0.3
	0.1nm,0.3s,baz=279,slow=18,SNR=2.7						
DBIC				LR	LR	23 27 17.8	
	comp=Z,1μm,20.6s,baz=200,slow=34						
MBO	M'Bour	17.22	345	Pn	Pn	23 24 48.3	-0.2
MBO				IAmb	IAmb	23 25 05.3	
	comp=Z,139nm,1.4s						
TOA0	Torodi Ar. Sit	20.74	42	P	P	23 25 28.0	-0.6
TORD	Torodi Ar. Bea	20.74	42	P	P	23 25 26.8	-1.9
	comp=Z,3.5nm,0.8s,baz=224,slow=9.7,SNR=18						
TORD				LR	LR	23 32 42.3	
	comp=Z,917nm,19.0s,baz=230,slow=35						
TORD	Torodi Ar. Bea	20.74	42	P	P	23 25 26.9	-1.7
MACI	Morro de la Ar	30.66	353	P	P	23 27 02.6	0.0
PMOZ	Porto Moniz, M	35.25	353	P	P	23 27 37.9	-4.7
BDFB	Brasilia	37.56	247	LR	LR	23 40 31.5	
	comp=Z,502nm,19.6s,baz=98,slow=32						
LSZ	Lusaka	41.97	110	P	P	23 28 38.2	-1.2
ESDC	Sonseca Array	42.49	10	LR	LR	23 45 42.7	
	comp=Z,137nm,22.0s,baz=185,slow=35						
KEST	Kesra	42.94	26	LR	LR	23 47 30.8	
	comp=Z,458nm,18.8s,baz=210,slow=37						
MBAR	Mbarara	43.09	88	P	P	23 28 48.7	0.0
MBAR				IAmb	IAmb	23 28 57.9	
	comp=Z,11nm,1.3s						
BOSA	Boshof	44.34	130	LR	LR	23 44 21.6	
	comp=Z,177nm,20.0s,baz=297,slow=32						
PTGA	Pitinga	47.64	271	P	P	23 29 23.6	-0.9
PTGA				IAmb	IAmb	23 29 23.8	
	comp=Z,3.2nm,1.1s						
CPUP	Villa Florida	49.32	237	LR	LR	23 47 34.5	
	comp=Z,337nm,21.6s,baz=75,slow=33						
KMBO	Kilima Mbogo	49.58	90	LR	LR	23 48 48.1	
	comp=Z,894nm,20.3s,baz=242,slow=34						
VLC	Villacollemand	50.55	21	P	P	23 29 46.8	+0.4
VLC				IAmb	IAmb	23 29 57.1	
	comp=Z,7.7nm,1.0s						
MCLT	Moule a Chique	50.75	290	P	P	23 29 44.8	-3.6
SAML	Samuel	50.99	260	P	P	23 29 51.4	+1.3
GRGR	Grenville	51.05	288	P	P	23 29 51.2	+0.6
FDF	Fort de France	51.21	291	P	P	23 29 50.6	-1.2
GEC2	GERESS Array S	55.74	21	P	P	23 30 24.2	-0.4
GEC2				IAmb	IAmb	23 30 27.8	
	comp=Z,6.6nm,1.3s						
GERES	GERESS Array B	55.74	21	P	P	23 30 25.5	+0.9
	comp=Z,2.0nm,0.8s,baz=191,slow=6.4,SNR=17						
GERES				LR	LR	23 56 17.7	
	comp=Z,119nm,18.7s,baz=221,slow=38						
GERES	GERESS Array B	55.74	21	P	P	23 30 25.2	+0.5
LPAZ	La Paz	56.59	252	P	P	23 30 33.2	+1.3
	comp=Z,0.6nm,0.7s,baz=120,slow=8.1,SNR=1.9						
LPAZ				LR	LR	23 52 45.8	
	comp=Z,305nm,21.9s,baz=86,slow=34						
PSZ	Piszkesteto	57.40	25	P	P	23 30 36.7	+0.3
PSZ				IAmb	IAmb	23 30 45.8	
	comp=Z,4.0nm,0.9s						
CLL	Collm	57.62	19	*e*S	S	23 38 40.0	+4.2
CLL				Lm	MLR	23 56 00.0	
	comp=Z,200nm,19.6s						
MDUB	Mudurnu	58.22	38	P	P	23 30 41.6	-0.8
MDUB				IAmb	IAmb	23 30 51.1	
	comp=Z,15nm,0.8s						
MLR	Muntele Rosu	58.45	31	P	P	23 30 43.7	-0.3
MLR				IAmb	IAmb	23 30 47.3	
	comp=Z,19nm,1.5s						
BRTR	Keskin Array B	59.34	40	P	P	23 30 52.0	+1.8
	comp=Z,1.8nm,1.0s,baz=207,slow=7.8,SNR=8.6						
BRTR				LR	LR	23 58 48.4	
	comp=Z,92nm,20.3s,baz=210,slow=38						
BRTR	Keskin Array B	59.34	40	P	P	23 30 50.9	+0.7
BR131	Keskin Array S	59.34	40	P	P	23 30 49.5	-0.7
BR131				IAmb	IAmb	23 31 00.1	
	comp=Z,2.2nm,0.9s						
BURAR	Bucovina Array	59.58	29	P	P	23 30 51.9	+0.2
KWP	Kalwaria Pacla	59.91	26	P	P	23 30 54.9	+1.1
KWP				IAmb	IAmb	23 30 57.1	
	comp=Z,11nm,1.2s						
ROSC	El Rosal	62.33	277	LR	LR	23 56 10.0	
	comp=Z,371nm,20.1s,baz=102,slow=34						
AKASG	Malin Array Be	63.61	28	P	P	23 31 19.3	+0.6
	comp=Z,0.9nm,0.7s,baz=232,slow=4.6,SNR=2.4						
AKASG				LR	LR	00 00 35.6	
	comp=Z,69nm,21.8s,baz=185,slow=38						
PLCA	Paso Flores	64.78	226	LR	LR	23 56 10.0	
	comp=Z,228nm,19.6s,baz=158,slow=33						
KBZ	Khabaz	67.33	40	P	P	23 31 43.2	+0.3
	comp=Z,2.3nm,1.0s,baz=231,slow=4.9,SNR=3.8						
KBZ				LR	LR	00 03 57.1	
	comp=Z,40nm,19.6s,baz=231,slow=38						
VNA2	Neumayer--Watz	68.58	178	P	P	23 31 49.8	-0.5
VNA3	Neumayer Olymp	68.84	179	P	P	23 31 54.1	+2.1
SNAA	Sanae	69.52	177	P	P	23 31 55.2	-1.0
SNAA	Sanae	69.52	177	P	P	23 31 54.8	-1.4
	comp=Z,1.2nm,0.8s,baz=290,slow=6.0,SNR=7.2						
SNAA	Sanae	69.52	177	IAmb	IAmb	23 31 57.0	
	comp=Z,9.6nm,1.5s						
FINES	FINESS Array B	70.06	19	P	P	23 31 59.1	-0.5
	comp=Z,5.2nm,1.1s,baz=186,slow=3.8,SNR=7.0						
FINES				LR	LR	00 03 29.2	
	comp=Z,64nm,18.3s,baz=242,slow=36						
FIA1	FINESS Array S	70.06	19	P	P	23 32 00.1	+0.5
FIA1				IAmb	IAmb	23 32 16.5	
	comp=Z,20nm,1.5s						
ANGG	Ammassalik, Gr	70.22	349	P	P	23 31 59.7	-0.7
ARCES	ARCESS Array B	76.12	13	LR	LR	00 10 14.4	
	comp=Z,49nm,18.1s,baz=225,slow=39						
GEYT	Alibeck	76.13	50	LR	LR	00 08 04.5	
	comp=Z,84nm,19.2s,baz=225,slow=37						
AKTO	Aktyubinsk	79.40	38	LR	LR	00 10 41.7	
	comp=Z,43nm,21.8s,baz=284,slow=38						
MAW	Mawson	82.25	158	P	P	23 33 08.3	-0.6
	comp=Z,2.7nm,0.7s,baz=304,slow=6.0,SNR=10						
MAW				LR	LR	00 03 18.8	
	comp=Z,49nm,18.1s,baz=246,slow=31						
MAW	Mawson	82.25	158	P	P	23 33 09.5	+0.6
ULM	Lac du Bonnet	87.63	320	LR	LR	00 07 38.0	
	comp=Z,83nm,20.2s,baz=128,slow=32						
QSPA	South Pole Qui	87.77	180	P	P	23 33 37.5	+0.7
QSPA				IAmb	IAmb	23 33 48.7	
	comp=Z,11nm,1.3s						
TXAR	Lajitas Array	92.28	299	LR	LR	00 12 23.0	
	comp=Z,46nm,19.4s,baz=0.0,slow=34						
MKAR	Makanchi Array	94.85	43	LR	LR	00 22 10.8	
	comp=Z,58nm,18.3s,baz=227,slow=39						
NRIK	Noril'sk	95.65	21	LR	LR	00 20 02.6	
	comp=Z,78nm,21.2s,baz=193,slow=37						
ZALV	Zalesovo Beam	96.08	36	LR	LR	00 21 46.9	
	comp=Z,67nm,19.4s,baz=274,slow=38						
PDAR	Pinedale Array	96.87	313	LR	LR	00 13 20.8	
	comp=Z,79nm,20.1s,baz=126,slow=32						
YKA	Yellowknife Ar	97.71	333	LR	LR	00 12 58.0	
	comp=Z,61nm,21.6s,baz=0.0,slow=32						

BGR ***12*** *23:29:42.4±0.0, 21°.08S×178°.76W, h33km*

IDC ***12*** *23:30:47.0±1.3, 18°.49S×177°.67W, h560km±14km, mb3.7/22, mb1 3.8/24, mb1mx3.8/38, mbtmp4.6/24, Error ellipse: s-maj=13.2km s-min=9.8km az=141.0*

NEIC ***12*** *23:30:48.1±1.6, 18°.6S±0°.1×177°.7W±0°.1, h577km±6km, mb4.3/79, Error ellipse: s-maj=15.4km s-min=14.5km az=106.0*

ISC 12 23:30:45.9±0.3, 18°.61S±0°.07×177°.62W±0°.07, h550km, n234, σ1°16/225, mb4.2/56, 11C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.21	281		P	23 32 14.1	+4.6
NIUE	Niue	7.30	95	P	P	23 32 40.6	+3.9
AFI	Afiamalu	7.30	51	P	P	23 32 38.0	+1.0
	31nm,0.3s,baz=192,slow=1.8,SNR=26						
AFI				S	S	23 34 06.4	-1.3
	8.6nm,0.3s,baz=207,slow=16,SNR=6.3						
AFI	Afiamalu	7.30	51	P	P	23 32 37.9	+1.0
FUNA	Funafuti	10.49	342	P	P	23 33 10.5	+1.5
SANVU	Saraoutou	14.85	280	P	P	23 33 53.6	-0.3
DZM	Mont Dzumac	15.34	254	P	P	23 33 58.6	-0.4
	0.9nm,0.3s,baz=137,slow=23,SNR=8.6						
RAR	Rarotonga	16.98	102	P	P	23 34 15.1	+0.6
OUZ	Omahuta	18.29	203	P	P	23 34 29.0	+2.7
URZ	Urewera	20.11	192	P	P	23 34 41.1	-1.7
	17nm,0.6s,baz=328,slow=2.5,SNR=6.1						
URZ				S	S	23 37 47.2	-7.7
	8.8nm,0.8s,baz=353,slow=3.4,SNR=1.2						
KHZ	Kahutara	24.90	196	P	P	23 35 24.9	-0.6
LTZ	Lake Taylor	25.58	197	P	P	23 35 31.1	-0.5
RPZ	Rata Peaks	26.79	198	P	P	23 35 43.6	+1.3
	8.4nm,0.8s,baz=18,slow=20,SNR=1.6						
RPZ	Rata Peaks	26.79	198	IAmb	IAmb	23 35 44.0	
	comp=Z,19nm,1.2s						
FOZ	Fox Glacier	27.02	200	P	P	23 35 44.6	+0.4
MLZ	Mavora Lakes	29.20	201	P	P	23 36 03.5	+0.2
DCZ	Deep Cove	29.62	202	P	P	23 36 08.2	+1.3
DCZ				IAmb	IAmb	23 36

WAKR IAmb IAmb 23 41 54.0
comp=Z,9.2nm,1.1s
PNTR Pine Nut 78.94 42 P **P 23 41 53.8 +0.6**
PNTR IAmb IAmb 23 41 55.0
comp=Z,14nm,0.9s
HUMO Hull Mountain 78.98 38 P **P 23 41 54.1 +1.0**
YERR Yerington 79.11 43 P **P 23 41 54.7 +0.7**
YERR IAmb IAmb 23 41 55.2
comp=Z,7.6nm,0.6s
LHV Little Huntoon 79.18 43 P **P 23 41 55.4 +1.3**
LHV IAmb IAmb 23 41 56.4
comp=Z,8.1nm,1.1s
NVAR Mina Array Bea 79.41 43 P **P 23 41 56.3 +0.7**
comp=Z,3.5nm,0.8s,baz=224,slow=8.9,SNR=28
NVAR Mina Array Bea 79.41 43 P **P 23 41 56.1 +0.5**
PAHR Pah Rah Range 79.43 42 P **P 23 41 56.6 +1.0**
KVN Kaiserville 79.89 43 P **P 23 41 58.7 +0.6**
MOD Modoc Plateau 80.14 40 P **P 23 41 59.6 +0.4**
MOD IAmb IAmb 23 42 00.5
comp=Z,5.1nm,0.8s
K05A Summer Lake 80.27 39 P **P 23 42 00.8 +0.8**
K05A IAmb IAmb 23 42 01.5
comp=Z,9.2nm,0.9s
H04A Detroit Lake 80.70 37 P **P 23 42 02.1 +0.1**
H04A IAmb IAmb 23 42 02.6
comp=Z,5.3nm,0.7s
PINE Pine Mountain 80.88 38 IAmb IAmb 23 42 05.2
comp=Z,20nm,1.1s
PRN Pahroc Range 81.02 46 P **P 23 42 04.9 +1.0**
PRN IAmb IAmb 23 42 06.2
comp=Z,11nm,1.1s
I07A Izee 81.88 38 IAmb IAmb 23 42 09.5
comp=Z,6.2nm,0.8s
WUAZ Wupatki 82.63 49 P **P 23 42 12.8 +0.6**
ELK Elko 82.65 43 P **P 23 42 11.5 -0.9**
ELK IAmb IAmb 23 42 13.8
comp=Z,8.0nm,1.1s
G08A Pilot Rock 82.90 37 P **P 23 42 13.8 +0.5**
G08A IAmb IAmb 23 42 14.3
comp=Z,5.3nm,0.9s
PKCU Pink Cliffs 82.92 47 P **P 23 42 13.0 -0.8**
EYAK Cordova Ski Ar 82.97 15 P **P 23 42 11.9 -1.2**
E07A Sunnyside 83.13 36 P **P 23 42 13.8 -0.5**
E07A IAmb IAmb 23 42 15.5
comp=Z,5.4nm,0.8s
HAWA Hanford 83.22 36 P **P 23 42 14.7 0.0**
HAWA IAmb IAmb 23 42 15.8
comp=Z,7.9nm,1.0s
MTPU Mount Pierson 83.30 46 P **P 23 42 14.7 -1.0**
GHO Glory Hole Cre 83.31 13 P **P 23 42 13.1 -1.8**
MAW Mawson 83.46 200 P **P 23 42 15.5 -0.1**
comp=Z,3.2nm,0.6s,baz=138,slow=4.8,SNR=14
MAW Mawson 83.46 200 P **P 23 42 16.1 +0.6**
MSU Marysvale 83.54 46 P **P 23 42 17.1 +0.3**
MFID Camas Ranch 83.71 40 P **P 23 42 17.0 -0.4**
F10A Beach Ranch, E 84.29 38 IAmb IAmb 23 42 21.2
comp=Z,11nm,0.9s
B08A Colville Reser 84.48 35 P **P 23 42 17.8 -3.1**
B08A IAmb IAmb 23 42 21.1
comp=Z,3.8nm,0.7s
RPSI Rantau Prapat 84.66 275 P **P 23 42 22.3 -0.2**
HLID Hailey 84.66 41 P **P 23 42 21.4 -0.8**
PSI Prapat 84.69 275 P **P 23 42 22.3 -0.6**
comp=Z,3.3nm,0.4s,baz=181,slow=4.7,SNR=3.7
C09A Chrisman Ranch 84.73 36 P **P 23 42 21.7 -0.5**
C09A IAmb IAmb 23 42 24.0
comp=Z,4.8nm,1.0s
RND Reindeer 84.78 13 P **P 23 42 20.8 -1.3**
MNTX Cornudas Mount 85.36 55 P **P 23 42 25.3 -0.3**
MNTX IAmb IAmb 23 42 28.0
comp=Z,5.9nm,1.1s
TXAR Lajitas Array 85.73 57 P **P 23 42 29.1 +1.6**
comp=Z,6.9nm,0.8s,baz=224,slow=5.2,SNR=48
TXAR Lajitas Array 85.73 57 P **P 23 42 29.0 +1.4**
PV21 Cone Mtn., Par 85.76 47 IAmb IAmb 23 42 40.3
comp=Z,7.1nm,0.9s
HDA Harding Lake 86.07 13 IAmb IAmb 23 42 27.7
comp=Z,5.7nm,0.7s
BCAR Beaver Creek A 86.11 15 P **P 23 42 27.9 -0.5**
IMAR Indian Mountai 86.24 10 P **P 23 42 28.6 -0.3**
MDM Murphy Dome 86.29 12 IAmb IAmb 23 42 29.0
comp=Z,10nm,1.0s
ILAR Eielson Array 86.40 13 P **P 23 42 28.5 -1.2**
comp=Z,2.2nm,0.5s,baz=216,slow=4.9,SNR=25
ILAR Eielson Array 86.40 13 P **P 23 42 28.7 -1.0**
SYO Syowa Base 88.64 193⇑ *eP* **P 23 42 38.1 -2.2**
BMAR Burnt Mountain 89.18 12 P **P 23 42 42.7 0.0**
CMAR Chiang Mai Arr 89.83 289 P **P 23 42 47.6 +0.9**
comp=Z,3.2nm,0.8s,baz=119,slow=2.9,SNR=17
SNAA Sanae 89.88 178 P **P 23 42 45.5 -0.6**
SNAA Sanae 89.88 178 P **P 23 42 45.7 -0.5**
SNAA IAmb IAmb 23 42 46.7
comp=Z,6.5nm,0.9s
VNA3 Neumayer Olymp 90.00 176 P **P 23 42 46.5 -0.2**
PLCA Paso Flores 90.31 133 P **P 23 42 49.8 +1.0**
comp=Z,2.0nm,0.7s,baz=224,slow=6.9,SNR=7.3
PLCA Paso Flores 90.31 133 IAmb IAmb 23 42 52.5
comp=Z,1.2nm,0.8s
VNA2 Neumayer--Watz 90.44 177 P **P 23 42 48.9 +0.2**
VNA1 Neumayer--Stat 90.67 176 P **P 23 42 49.7 +0.1**
SONM Songino Array 94.57 319 P **P 23 43 08.0 -0.1**
comp=Z,0.3nm,0.3s,baz=104,slow=3.0,SNR=2.1
SONM Songino Array 94.57 319 IAmb IAmb 23 43 08.3
comp=Z,0.8nm,1.0s
ZALV Zalesovo Beam 109.25 322 PKiKP **PKiKP 23 48 11.6 -1.8**
comp=Z,1.1nm,0.5s,baz=269,slow=1.2,SNR=5.3
MKAR Makanchi Array 110.16 314 PKiKP **PKiKP 23 48 13.6 -1.9**
comp=Z,0.9nm,0.5s,baz=204,slow=0.6,SNR=16
BVAR Borovoye Array 117.86 321 PKP **PKPdf 23 48 28.5 -1.5**
comp=Z,2.4nm,0.6s,baz=157,slow=3.2,SNR=10
KKAR Karatay Array 118.34 309 PKPdf **PKPdf 23 48 29.5 -1.7**
KBL Kabul 119.29 300 PKPdf **PKPdf 23 48 32.9 -0.6**
ARU Arti 123.85 326 PKPdf **PKPdf 23 48 40.4 -0.9**
ABKAR Akbulak array 124.95 318 PKPdf **PKPdf 23 48 42.5 -1.1**
AKTO Aktyubinsk 125.89 319 PKP **PKPdf 23 48 43.5 -1.9**
comp=Z,1.3nm,0.7s,baz=359,slow=1.1,SNR=3.7
ARCES ARCESS Array B 127.13 350 PKP **PKPdf 23 48 46.2 -1.0**
comp=Z,3.1nm,0.5s,baz=76,slow=2.0,SNR=12
GEYT Alibeck 128.05 304 PKP **PKPdf 23 48 49.5 -0.5**
comp=Z,2.5nm,0.8s,baz=255,slow=2.9,SNR=5.9
FINES FINESS Array B 134.06 344 PKP **PKPdf 23 48 59.8 -0.7**
comp=Z,2.4nm,0.6s,baz=188,slow=3.9,SNR=15
NB2 NORSAR Subarra137.15 354 PKPdf PKPdf 23 48 55.7 -11
comp=Z,1.0nm,0.8s,baz=31,slow=1.9
NOA NORSAR Array B 137.15 354 PKP **PKPdf 23 49 06.5 +0.1**
comp=Z,0.3nm,0.6s,baz=8.1,slow=3.1,SNR=7.7
KMBO Kilima Mbogo 140.51 244 PKhKP PKPpre 23 49 10.1
comp=Z,1.1nm,0.7s,baz=88,slow=5.4,SNR=4.3
AKASG Malin Array Be 141.53 333 PKhKP PKPpre 23 49 08.7
comp=Z,4.1nm,0.5s,baz=43,slow=4.3,SNR=23
GKP Gorka Klasztor 143.53 345 *e*PKP PKPab 23 49 16.5 -0.1
SORM Soroca 143.77 330 ⇓P PKPbc 23 49 16.6 -1.0
BEL Belsk 143.81 341 *e*PKP PKPbc 23 49 17.8 +0.1
PURM Purcari 144.12 327 ⇑P **PKPdf 23 49 20.5 +1.3**
BSEG Bad Segeberg 144.21 352 *e*PKPbc PKPbc 23 49 18.3 -0.5
baz=18,slow=2.6
MILM Milestii Mici 144.40 328 ⇓P PKPbc 23 49 18.7 -1.0
KWP Kalwaria Pacla 145.01 337 *e*PKP **PKPdf 23 49 21.0 +0.3**
RUE Ruedersdorf 145.04 348 *e*PKPbc **PKPdf 23 49 20.8 +0.3**
baz=18,slow=2.6
VASR Vaslui 145.09 329 ⇓P **PKPdf 23 49 21.9 +1.0**
OJC Ojcow 145.52 340 *e*PKP **PKPdf 23 49 22.7 +1.2**
BURAR Bucovina Array 145.58 332 ⇑P **PKPbc 23 49 23.4 +0.1**
BURAR Bucovina Array 145.58 332 **PKPdf 23 49 22.7 +0.8**
NRDL Niedersach Rie 145.65 352 *e*PKPbc **PKPdf 23 49 22.7 +1.2**
baz=18,slow=2.6
TESR Tescani 145.74 330 ⇓P **PKPdf 23 49 23.3 +1.3**
BR131 Keskin Array S 145.81 315 **PKPdf 23 49 21.7 -0.9**
BRTR Keskin Array B 145.81 315 PKPbc **PKPdf 23 49 23.4 +0.8**
comp=Z,6.8nm,0.8s,baz=139,slow=4.1,SNR=35
BRTR Keskin Array B 145.81 315 **PKPdf 23 49 20.5 -2.0**
ASSE Asse, Remlinge 145.92 351 *e*PKPbc **PKPbc 23 49 23.6 -0.2**
baz=18,slow=2.6
KSP Ksiaz 145.99 344 *e*PKP **PKPbc 23 49 24.5 +0.2**
NIE Niedzica 146.05 339 *e*PKP **PKPbc 23 49 24.9 +0.4**
IBBN Ibbenburen 146.11 354 *e*PKPbc **PKPbc 23 49 25.5 +1.0**
baz=18,slow=2.6
CLZ Clausthal 146.24 351 *e*PKPbc **PKPbc 23 49 24.7 -0.2**
baz=18,slow=2.6
TIRR Tirgusor 146.27 326 ⇓P **PKPbc 23 49 24.7 -0.4**
OSTC Ostas 146.27 344 *e*PKP **PKPbc 23 49 25.1 0.0**
CHVC Chvalec 146.28 344 *e*PKP **PKPbc 23 49 24.9 -0.2**
CLL Collm 146.30 348 *i* PKPbc **PKPbc 23 49 24.7 -0.4**
comp=Z,39nm,0.9s
CLL Collm 146.30 348 *e*PKPbc **PKPdf 23 49 24.5 +1.7**
baz=18,slow=2.6
ARCR ARCALIA 146.36 333 ⇑P **PKPbc 23 49 25.3 -0.2**
UPC Upice 146.37 344 *e*PKP **PKPbc 23 49 25.1 -0.2**
HARR Harsova 146.37 326 ⇓P **PKPbc 23 49 25.0 -0.5**
TLBR Topalu 146.40 326 ⇑P **PKPbc 23 49 25.3 -0.2**
DPC Dobruska-Polom 146.43 344 *e*PKP **PKPbc 23 49 25.6 +0.1**
BRG Berggiesshubel 146.52 347 *i* PKP **PKPdf 23 49 25.0 +1.8**
comp=Z,16nm,0.7s
BRG Berggiesshubel 146.52 347 *e*PKPbc **PKPbc 23 49 25.3 -0.3**
baz=18,slow=2.6
KRLC Kraliky 146.55 343 *e*PKP **PKPbc 23 49 25.7 -0.2**
GTTG Gottingen 146.59 351 *e*PKPbc **PKPbc 23 49 25.6 -0.3**
baz=18,slow=2.6
FBE Freiberg 146.60 347 *e*PKPbc **PKPbc 23 49 25.8 0.0**
baz=18,slow=2.6
MORC Moravsky Berou 146.61 342 ⇓P **PKPbc 23 49 25.6 -0.4**
MORC Moravsky Berou 146.61 342 *e*PKP **PKPbc 23 49 25.5 -0.5**
NEUB Neuenburg 146.63 349 *e*PKPbc **PKPbc 23 49 25.5 -0.4**
baz=18,slow=2.6
NEHR Nehoiu 146.69 329 ⇑P **PKPbc 23 49 25.7 -0.7**
PVCC Panska Ves 146.70 346 *e*PKP **PKPbc 23 49 26.1 -0.1**
MLR Muntele Rosu 146.82 329 ⇓P **PKPbc 23 49 26.5 -0.4**
BUG Bochum--Univer 147.01 354 *e*PKPbc **PKPbc 23 49 27.5 +0.6**
baz=18,slow=2.6
MDUB Mudurnu 147.03 317 **PKPbc 23 49 27.0 -0.6**
SECR 147.08 328 ⇓P **PKPbc 23 49 27.1 -0.4**
PRA Prague 147.16 346 *e*PKP **PKPbc 23 49 27.1 -0.3**
MOX Moxa 147.20 349 *e*PKPbc **PKPbc 23 49 27.1 -0.4**
baz=18,slow=2.6
PRU Pruhonice 147.21 345 *e*PKP **PKPbc 23 49 27.0 -0.6**
GOPC GO Pecny, Ondr 147.22 345 *e*PKP **PKPbc 23 49 27.6 0.0**
PLN Plauen 147.25 348 *e*PKPbc **PKPbc 23 49 27.3 -0.4**
baz=18,slow=2.6
WERD Werda 147.26 348 *e*PKPbc **PKPbc 23 49 27.2 -0.5**
baz=18,slow=2.6
TANN Tannenbergstha 147.26 348 *e*PKPbc **PKPbc 23 49 27.4 -0.4**
baz=18,slow=2.6
VOIR 147.29 330 ⇑P **PKPbc 23 49 27.2 -0.8**
VRAC Vranov 147.30 343 ⇓P **PKPbc 23 49 27.5 -0.4**
VRAC Vranov 147.30 343 *e*PKP **PKPbc 23 49 27.6 -0.3**
GUNZ Gunzen 147.33 348 *e*PKPbc **PKPbc 23 49 27.7 -0.2**
baz=18,slow=2.6
JAVC Velka Javorina 147.38 341 *e*PKP **PKPbc 23 49 28.8 +0.7**
WERN Wernitzgruen 147.40 348 *e*PKPbc **PKPbc 23 49 27.7 -0.4**
baz=18,slow=2.6
NKC Novy Kostel 147.44 348 *e*PKP **PKPbc 23 49 27.7 -0.5**
PSZ Piszkesteto 147.46 338 ⇑P **PKPbc 23 49 28.2 -0.2**
PSZ Piszkesteto 147.46 338 **PKPbc 23 49 27.9 -0.5**
ARR Arges 147.53 330 ⇑P **PKPbc 23 49 29.1 +0.5**
KRUC Moravsky 147.58 343 *e*PKP **PKPbc 23 49 28.1 -0.5**
TREC Trest 147.61 344 *e*PKP **PKPbc 23 49 28.4 -0.3**
PBCC Pribram 147.62 346 *e*PKP **PKPbc 23 49 28.3 -0.4**
PBCC *ex* x 23 49 32.2
MANZ Manzenberg 147.74 348 *e*PKPbc **PKPbc 23 49 28.8 -0.2**
baz=18,slow=2.6
LOT Lotru 147.88 331 ⇓P **PKPbc 23 49 28.5 -1.1**
AHRW Bad Neuenahr-A 147.92 354 *e*PKPbc **PKPbc 23 49 29.1 -0.2**
baz=18,slow=2.6
ROTZ Rotzenmuhle 147.93 348 *e*PKPbc **PKPbc 23 49 29.2 -0.2**
baz=18,slow=2.6
TNS Taunus Mts 148.09 353 *e*PKPbc **PKPbc 23 49 29.4 -0.4**
baz=18,slow=2.6
GRF Grafenberg Arr 148.19 349 *e*PKPbc **PKPbc 23 49 30.0 -0.1**
baz=18,slow=2.6
KHC Kasperske Hory 148.24 346 *e*PKP **PKPbc 23 49 29.9 -0.4**
KHC *ex* x 23 49 35.0
GEC2 GERESS Array S 148.47 346 *e*PKPbc **PKPbc 23 49 30.5 -0.4**
baz=18,slow=2.6
GEC2 GERESS Array S 148.47 346 **PKPbc 23 49 30.9 0.0**
GERES GERESS Array B 148.47 346 PKPbc **PKPbc 23 49 30.5 -0.4**
comp=Z,8.3nm,0.8s,baz=27,slow=2.6,SNR=55
VLAD Vladila 148.65 329 ⇑P **PKPbc 23 49 31.5 +0.1**
BZS Buzias 148.69 334 ⇑P **PKPdf 23 49 26.8 -0.1**
CONA Conrad Observa 148.76 342 *i* PKiKP **PKPbc 23 49 32.0 +0.3**
comp=Z,31nm,1.3s,SNR=11
WLF Walferdange 148.87 355 *e*PKPbc **PKPbc 23 49 31.9 +0.1**
baz=18,slow=2.6
WLF Walferdange 148.87 355 **PKPbc 23 49 31.6 -0.1**
HERR Herculane 148.92 332 ⇓P **PKPbc 23 49 31.2 -0.8**
MOA Molln 149.26 344 *e*PKiKP **PKPbc 23 49 32.5 -0.3**
comp=Z,16nm,1.5s
STU Stuttgart 149.41 351 *e*PKPbc **PKPbc 23 49 32.8 -0.2**
baz=18,slow=2.6
FUR Furstenfeldbru 149.64 348 *e*PKPbc **PKPbc 23 49 33.2 -0.5**
baz=18,slow=2.6
RJOB Jochberg 149.72 346 *e*PKPbc **PKPbc 23 49 32.2 -1.7**
baz=18,slow=2.6
ALN Alexandroupoli 149.92 323 **PKPbc 23 49 33.5 -1.1**
BFO Black Forest 149.96 352 *e*PKPbc **PKPbc 23 49 33.9 -0.5**
baz=18,slow=2.6
BFO Black Forest 149.96 352 **PKPbc 23 49 33.4 -1.0**
SOKA Soboth 150.13 342 *i* PKPbc **PKPbc 23 49 33.7 -1.3**
comp=Z,15nm,1.1s,SNR=5.9
KBA Koelnbreinsper 150.21 345 *i* PKPbc **PKPbc 23 49 34.3 -1.0**
comp=Z,15nm,0.8s
UBR Ueberruh 150.32 349 *e*PKPbc **PKPbc 23 49 34.7 -0.7**
baz=18,slow=2.6
WATA Walderalm 150.37 347 *i* PKPbc **PKPbc 23 49 34.6 -1.0**
comp=Z,11nm,0.6s,SNR=6.9
RETA Reutte 150.39 348 *i* PKPbc **PKPbc 23 49 34.6 -0.9**
comp=Z,12nm,1.2s
OBKA Obir 150.42 343 *e*PKPbc **PKPbc 23 49 34.6 -1.1**
comp=Z,7.2nm,0.9s
WTTA Wattenberg 150.43 347 *i* PKiKP **PKPbc 23 49 35.0 -0.7**
comp=Z,24nm,0.6s,SNR=9.0
MOTA Moosalm 150.46 348 *i* PKPbc **PKPbc 23 49 34.9 -1.0**
comp=Z,22nm,1.2s,SNR=5.5
MYKA Terra Mystica 150.55 344 *e*PKPbc **PKPbc 23 49 34.4 -1.5**
comp=Z,14nm,0.7s
SQTA Samkt Quirin 150.56 348 *i* PKiKP **PKPbc 23 49 35.3 -0.7**
comp=Z,15nm,0.7s,SNR=7.8
CLF Chambon-Foret 150.66 0 **PKPbc 23 49 36.3 +0.3**
ABTA Abfaltersbach 150.72 346 *i* PKPbc **PKPbc 23 49 35.1 -1.3**
comp=Z,22nm,0.6s,SNR=8.3
DAVA Damuels 150.74 350 *i* PKiKP **PKPbc 23 49 35.8 -0.7**
comp=Z,26nm,1.2s,SNR=6.4
PRED Cave del Predi 150.75 344 **PKPbc 23 49 35.6 -0.8**
PRED PKPab **PKPab 23 49 44.9 -1.0**
FETA Feichten 150.84 348 *i* PKiKP **PKPbc 23 49 36.1 -0.6**
comp=Z,15nm,0.8s,SNR=6.0
TUE Stuetta 151.62 350 **PKPbc 23 49 38.2 -0.4**
ESDC Sonseca Array 158.30 13 PKPab **PKPab 23 50 18.1 -0.3**
comp=Z,1.3nm,1.0s,baz=342,slow=5.1,SNR=7.0
KEST Kesra 161.86 342 PKPab **PKPab 23 50 33.4 -0.8**
comp=Z,4.0nm,0.9s,baz=300,slow=1.6,SNR=3.7
DBIC Dimbokro 166.20 148 PKP **PKPdf 23 49 48.1 -1.0**
comp=Z,2.4nm,0.7s,baz=159,slow=0.4,SNR=4.2
TORD Torodi Ar. Bea 174.53 173 PKP **PKPdf 23 49 51.6 -2.0**
comp=Z,2.9nm,1.0s,baz=11,slow=0.9,SNR=11
TORD PKPab **PKPab 23 51 30.3 -0.2**
comp=Z,1.1nm,0.7s,baz=177,slow=3.7,SNR=7.5
TORD Torodi Ar. Bea 174.53 173 **PKPdf 23 49 51.8 -1.8**
TORD **PKPab 23 51 30.6 +0.1**

IDC 12 23:38:26.8±10.0, 13.16N×92.57E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/41, mbtmp3.5/3, ML4.1/1, Error ellipse: s-maj=178.3km s-min=60.3km az=4.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.09**	**49**	Pn	Pn	23 40 25.7	0.0
	0.7nm,0.3s,baz=239,slow=16,SNR=4.2						
H08S3	**Diego Garcia H**	**28.71**	**225**	T	T	00 14 04.8	
	baz=44,slow=75,SNR=32						
H08S2	**Diego Garcia H**	**28.72**	**225**	T	T	00 14 06.1	
	baz=44,slow=75,SNR=30						
H08S1	**Diego Carcia H**	**28.73**	**225**	T	T	00 14 04.2	
	baz=44,slow=75,SNR=31						
MKAR	**Makanchi Array**	**34.62**	**348**	P	P	23 45 17.7	0.0
	0.4nm,0.6s,baz=171,slow=9.8,SNR=4.7						
SONM	**Songino Array**	**36.44**	**16**	P	P	23 45 33.4	-0.2
	0.7nm,0.9s,baz=203,slow=7.7,SNR=2.3						

BJI ***12*** *23:38:50.0±0.0, 5.70S×147.50E, h161km, mB4.8/23, mb4.8/31*
DJA ***12*** *23:38:51.7±0.7, 6.3S±5.3×14.7E±.4, h160km±8km, M5.1/21, mb4.6/21, mB5.0/2, MLv5.3/1, Mw(mB)4.3/2*
IDC ***12*** *23:38:52.3±1.3, 5.56S×147.57E, h167km±12km, mb4.1/17, mb1 4.2/23, mb1mx4.1/34, mbtmp4.6/23, Error ellipse: s-maj=14.0km s-min=8.8km az=97.0*
NEIC ***12*** *23:38:52.1±1.6, 5.66S±0.08×147.52E±0.09, h161km±6km, mb4.7/43, Error ellipse: s-maj=14.1km s-min=9.6km az=127.0*

ISC 12 23:38:52.5±0.4, 5.61S±0.04×147.45E±0.05, h170km, n91, σ1971/99, mb4.6/43, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**184**	P	**Pn**	**23 39 49.6**	**-1.0**
	25nm,0.3s,baz=320,slow=7.8,SNR=24						
PMG				S	**Sn**	**23 40 31.1**	**-4.8**
	115nm,0.3s,baz=95,slow=14,SNR=21						
KRVT	**Keravat (AS076**	**4.74**	**74**	P	**Pn**	**23 40 02.0**	**-0.9**
	14nm,0.3s,baz=40,slow=1.2,SNR=33						
KRVT				S	**Sn**	**23 40 56.8**	**-1.1**
	11nm,0.3s,baz=209,slow=23,SNR=1.3						
RABL	**Rabaul**	**4.90**	**74**	P	**Pn**	**23 40 04.4**	**-0.6**
JAY	**Jayapura**	**7.40**	**294**	P	**Pn**	**23 40 38.7**	**+0.8**
	1.7nm,0.3s,baz=140,slow=5.9,SNR=5.1						
JAY				S	**Sn**	**23 41 55.2**	**-5.9**
	0.6nm,0.3s,baz=60,slow=20,SNR=1.6						
JAY	**Jayapura**	**7.40**	**294**	P	**Pn**	**23 40 38.7**	**+0.8**
COEN	**Coen**	**9.30**	**207**	Pn	**Pn**	**23 41 04.3**	**+1.2**
COEN					**Sn**	**23 42 44.4**	**-2.3**
HNR	**Honiara**	**12.96**	**108**	P	**Pn**	**23 41 49.7**	**-0.8**
	16nm,0.3s,baz=200,slow=12,SNR=4.3						
CTA	**Charters Tower**	**14.44**	**185**	P	**P**	**23 42 11.1**	**-0.1**
	0.3nm,0.3s,baz=10,slow=16,SNR=4.6						
CTAO	**Charters Tower**	**14.44**	**185**	P	**Pn**	**23 42 09.1**	**-0.1**
MTN	**Manton Dam**	**17.63**	**245**	P	**Pn**	**23 42 48.3**	**+0.4**
WB0	**Warramunga Arr**	**18.96**	**221**	P	**P**	**23 43 01.3**	**+0.4**
WB0				IAmb	IAmb	23 43 03.3	
	comp=Z,60nm,0.9s						
WR0	**Warramunga Arr**	**19.00**	**220**	P	**P**	**23 43 02.7**	**+1.3**
WRAB	**Tennant Creek**	**19.11**	**221**	P	**P**	**23 43 04.0**	**+1.5**
WB2	**Warramunga Arr**	**19.11**	**221**	P	**P**	**23 43 04.0**	**+1.4**
WB2					**S**	**23 46 31.9**	**+1.5**
WRA	**Warramunga Arr**	**19.12**	**221**	P	**Pn**	**23 43 04.2**	**-1.3**
	comp=Z,5.1nm,0.3s,baz=47,slow=12,SNR=146						
WRA				S	**S**	**23 46 28.8**	**-1.8**
	baz=41,slow=20,SNR=19						
EIDS	**Eidsvold**	**19.95**	**170**	P	**P**	**23 43 11.7**	**+0.1**
KNRA	**Kununurra**	**20.89**	**240**		**P**	**23 43 22.3**	**+0.6**
AS31	**Alice Springs**	**22.19**	**215**	P	**P**	**23 43 36.5**	**+1.3**
AS31				IAmb	IAmb	23 43 37.2	
	comp=Z,14nm,0.6s						
AS31					**S**	**23 47 33.5**	**+6.3**
ASAR	**Alice Springs**	**22.19**	**215**	P	**P**	**23 43 36.5**	**+1.4**
	comp=Z,30nm,0.5s,baz=48,slow=8.6,SNR=502						
ASAR				PcP	**PcP**	**23 47 25.9**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=44,slow=4.5,SNR=4.8						
ASAR				S	**S**	**23 47 30.9**	**+3.6**
	comp=Z,17nm,0.9s,baz=31,slow=22,SNR=33						
ASAR	**Alice Springs**	**22.19**	**215**	P	**P**	**23 43 36.1**	**+0.9**
ASAR					**S**	**23 47 31.8**	**+4.6**
SOEI	**Soe**	**23.34**	**258**	P	**P**	**23 43 41.9**	**-4.0**
BATI	**Baumata**	**23.99**	**258**	P	**P**	**23 43 51.8**	**0.0**
	comp=Z,69nm,0.7s,baz=173,slow=1.7,SNR=14						
BATI	**Baumata**	**23.99**	**258**	P	**P**	**23 43 48.6**	**-3.2**
DZM	**Mont Dzumac**	**24.60**	**134**	P	**P**	**23 43 56.3**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=353,slow=8.1,SNR=1.7						
FITZ	**Fitzroy Crossi**	**24.65**	**238**	P	**P**	**23 43 58.9**	**+1.2**
	comp=Z,34nm,0.6s,baz=0.4,slow=4.4,SNR=143						
FITZ	**Fitzroy Crossi**	**24.65**	**238**	P	**P**	**23 43 58.8**	**+1.2**
ARMA	**Armidale**	**24.99**	**171**	P	**P**	**23 44 01.4**	**+0.6**
ARMA				IAmb	IAmb	23 44 04.3	
	comp=Z,15nm,0.8s						
EDFI	**Ende, Flores**	**25.75**	**262**	P	**P**	**23 44 05.7**	**-2.0**
	comp=Z,19nm,0.8s						
STKA	**Stephens Creek**	**26.70**	**191**	P	**P**	**23 44 16.7**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=360,slow=11,SNR=7.6						
STKA	**Stephens Creek**	**26.70**	**191**	P	**P**	**23 44 15.0**	**-1.0**
BBOO	**Buckleboo**	**29.07**	**200**	P	**P**	**23 44 37.7**	**+0.6**
BBOO				IAmb	IAmb	23 44 38.4	
	comp=Z,9.2nm,0.9s						
CAN	**Canberra**	**29.60**	**177**	P	**P**	**23 44 42.1**	**+0.3**
CAN				IAmb	IAmb	23 44 43.8	
	comp=Z,9.4nm,0.7s						
FORT	**Forrest**	**30.97**	**214**	P	**P**	**23 44 53.6**	**-0.2**
PSA00	**Pilbara Seismi**	**31.08**	**237**	P	**P**	**23 44 55.8**	**+0.9**
JCJ	**Chichijima**	**32.91**	**351**	P	**P**	**23 45 11.6**	**+0.9**
GIRL	**Giralia**	**36.26**	**239**	P	**P**	**23 45 39.9**	**+0.3**
MORW	**Morawa**	**37.77**	**228**	P	**P**	**23 45 52.8**	**+0.6**
MORW				IAmb	IAmb	23 45 55.7	
	comp=Z,9.4nm,0.9s						
YULB	**Yu-li**	**38.51**	**319**	P	**P**	**23 45 59.3**	**+0.7**
YULB				IAmb	IAmb	23 46 01.3	
	comp=Z,9.3nm,0.7s						
NACB	**Ninganchiao**	**38.88**	**321**	P	**P**	**23 46 02.9**	**+1.3**
NACB				IAmb	IAmb	23 46 05.1	
	comp=Z,19nm,0.8s						
TPUB	**Ta-pu**	**38.88**	**319**	P	**P**	**23 46 01.8**	**+0.1**
TPUB				IAmb	IAmb	23 46 03.7	
	comp=Z,22nm,0.9s						
SSLB	**Suanglung**	**39.01**	**320**	P	**P**	**23 46 03.3**	**+0.6**
SSLB				IAmb	IAmb	23 46 10.1	
	comp=Z,6.9nm,0.8s						
NWAO	**Narrogin (SRO)**	**39.12**	**222**	P	**P**	**23 46 03.5**	**0.0**
NWAO	**Narrogin (SRO)**	**39.12**	**222**	P	**P**	**23 46 03.6**	**+0.1**
NWAO				IAmb	IAmb	23 46 08.3	
	comp=Z,10nm,0.9s						
YHNB	**Yeheng**	**39.37**	**321**	P	**P**	**23 46 07.6**	**+1.8**
YHNB				IAmb	IAmb	23 46 08.8	
	comp=Z,23nm,0.8s						
JNU	**Nakatsue**	**41.61**	**339**	P	**P**	**23 46 24.6**	**+0.7**
	comp=Z,10nm,0.9s,baz=165,slow=12,SNR=3.8						
JNU	**Nakatsue**	**41.61**	**339**	P	**P**	**23 46 24.3**	**+0.4**
JNU				IAmb	IAmb	23 46 25.3	
	comp=Z,10nm,0.9s						
JGF	**Kuroka**	**42.08**	**348**	P	**P**	**23 46 28.1**	**+0.4**
URZ	**Urewera**	**42.21**	**145**	P	**P**	**23 46 28.0**	**-0.7**
URZ				IAmb	IAmb	23 46 28.1	
	comp=Z,31nm,1.1s						
JWT	**Wachi**	**42.23**	**345**	P	**P**	**23 46 29.6**	**+0.8**
JWT				IAmb	IAmb	23 46 31.1	
	comp=Z,12nm,1.0s						
NNZ	**Nelson**	**42.35**	**151**	P	**P**	**23 46 29.9**	**0.0**
NNZ				IAmb	IAmb	23 46 35.5	
	comp=Z,48nm,1.2s						
MJAR	**Matsushiro Arr**	**42.81**	**349**	P	**P**	**23 46 33.6**	**0.0**
	comp=Z,3.9nm,0.8s,baz=168,slow=8.4,SNR=9.7						
MAT	**Matsushiro**	**42.81**	**349**	P	**P**	**23 46 34.2**	**+0.6**
BFZ	**Birch Farm**	**43.42**	**148**	P	**P**	**23 46 37.4**	**-1.0**
BFZ				IAmb	IAmb	23 46 51.3	
	comp=Z,42nm,1.2s						
KSRS	**Korea Array**	**46.55**	**339**	P	**P**	**23 47 02.4**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=151,slow

VNDA Vanda 72.27 177 P **P 23 49 59.8 +1.0**
comp=Z,3.3nm,0.6s,baz=325,slow=6.9,SNR=20
VNDA Vanda 72.27 177 P **P 23 49 59.8 +1.0**
WMQ Urumqi 72.79 319 *e*P **P 23 50 05.2 +2.7**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,32nm,5.1s
WMQ LR LR
comp=Z,190nm,28.9s
WMQ LR LR
comp=Z,230nm,29.0s
WMQ LR LR
comp=Z,36nm,28.8s
MK31 Makanchi Array 77.48 320 P **P 23 50 29.9 +0.6**
MKAR Makanchi Array 77.48 320 P **P 23 50 29.8 +0.5**
comp=Z,3.0nm,0.6s,baz=102,slow=6.9,SNR=28
MKAR Makanchi Array 77.48 320 P **P 23 50 29.5 +0.2**
MAKZ Makanchi 77.69 320 P **P 23 50 30.8 +0.4**
MAKZ IAmb IAmb 23 50 31.6
comp=Z,5.9nm,0.7s
ZAA0 Zalesovo Array 78.92 328 P **P 23 50 36.7 -0.2**
ZALV Zalesovo Beam 78.92 328 P **P 23 50 36.6 -0.3**
comp=Z,5.5nm,0.7s,baz=107,slow=5.6,SNR=20
NIL Nilore 80.07 305 P **P 23 50 44.6 +0.9**
NIL IAmb IAmb 23 50 45.3
comp=Z,8.0nm,0.7s
MAW Mawson 82.78 203 P **P 23 50 57.3 +0.2**
comp=Z,1.0nm,0.6s,baz=106,slow=7.5,SNR=6.4
KK31 Karatay Array 84.34 314 P **P 23 51 05.9 +0.2**
KKAR Karatay Array 84.34 314 P **P 23 51 05.4 -0.2**
KKAR Karatay Array 84.34 314 IAmb IAmb 23 51 08.0
comp=Z,3.5nm,1.1s
QSPA South Pole Qui 84.36 180 P **P 23 51 05.5 +0.1**
QSPA IAmb IAmb 23 51 06.4
comp=Z,6.1nm,0.8s
CHGR Chuyangaron 84.39 310 P **P 23 51 06.7 +0.6**
CHGR IAmb IAmb 23 51 07.3
comp=Z,11nm,0.7s
ILAR Eielson Array 84.95 23 P **P 23 51 07.2 -1.0**
comp=Z,0.6nm,0.8s,baz=258,slow=5.4,SNR=4.4
NRIK Noril'sk 85.04 342 P **P 23 51 07.2 -1.3**
comp=Z,4.2nm,0.8s,baz=177,slow=9.7,SNR=3.7
DOT Dot Lake 85.64 25 P **P 23 51 12.5 +0.8**
TOLK Toolik Lake Re 85.68 19 P **P 23 51 12.7 +0.9**
SYO Syowa Base 91.11 200⇑*e*pP pP 23 52 22.2 +1.6
SYO Syowa Base 91.11 200⇑*e*sP sP 23 52 35.4 -3.2
ABKAR Akbulak array 92.58 319 P **P 23 51 42.9 -1.8**
GERES GERESS Array B 121.84 326 PKP **PKPdf 23 57 25.7 -0.9**
comp=Z,0.5nm,0.5s,baz=48,slow=2.0,SNR=5.8
EKA Eskdalemuir Ar 125.11 340 PKP **PKPdf 23 57 31.9 -0.6**
comp=Z,0.6nm,0.6s,baz=37,slow=3.6,SNR=4.8
TORD Torodi Ar. Bea 145.43 285 PKPbc **PKPdf 23 58 11.0 -0.3**
comp=Z,6.2nm,0.7s,baz=52,slow=3.3,SNR=73
BDFB Brasilia 153.92 144 PKPbc **PKPbc 23 58 31.9 -1.0**
comp=Z,1.4nm,0.5s,baz=177,slow=11,SNR=3.7

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*BGR **12** 23:58:52.4±0.0, 65°.49N×18°.62W, h33km, mb4.4*
*IDC **12** 23:58:55.9±0.6, 64°.64N×17°.72W, h0km, mb4.0/18, mb1 4.1/23, mb1mx3.9/56, mbtmp4.0/23, ML2.6/4, MS3.3/6, Ms1 3.3/6, ms1mx2.9/47, Error ellipse: s-maj=17.9km s-min=10.9km az=10.0*
*REY **12** 23:58:55.5, 64°.67N×17°.49W, h7km*
*MOS **12** 23:58:56.3±1.0, 64°.61N×17°.62W, h10km, mb4.7/30, Error ellipse: s-maj=12.4km s-min=8.0km az=120.3*
*NEIC **12** 23:58:58.1±1.6, 64°.62N±0°.09×17°.7W±0°.1, h9km±4km, mb4.6/99, Error ellipse: s-maj=12.6km s-min=7.9km az=186.0*
ISC 12 23:58:57.4±0.7, 64°.64N±0°.03×17°.57W±0°.02, h4km±4km, n261, σ1°16/245, mb4.5/102, MS3.7/11, 6C, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.09**	**292**	P	**Pg**	**23 58 58.0**	**-1.2**
	baz=271						
IVON				S	**Sg**	**23 59 00.3**	**-0.2**
	baz=271						
IDYN	**Dyngjuhals**	**0.17**	**30**	P	**Pg**	**23 58 58.4**	**-2.4**
	baz=23						
IURH	**Urdarhals**	**0.25**	**45**	P	**Pg**	**23 58 59.6**	**-2.7**
	baz=44						
IGRF	**Grimsfjall**	**0.27**	**151**	P	**Pg**	**23 59 01.0**	**-1.6**
	baz=160						
ISKR	**Skrokkalda**	**0.36**	**257**	P	**Pg**	**23 59 03.0**	**-1.3**
	baz=254						
ISKR				S	**Sg**	**23 59 09.8**	**+0.7**
	baz=254						
IKVE	**Kverkfjoll**	**0.38**	**84**	P	**Pg**	**23 59 02.6**	**-2.2**
	baz=89						
IBJK	**Bruarjokull**	**0.39**	**116**	P	**Pg**	**23 59 02.5**	**-2.4**
	baz=122						
IVOT	**Vottur**	**0.41**	**156**	P	**Pg**	**23 59 03.3**	**-2.0**
	baz=162						
IJOK	**Jokulheimar**	**0.43**	**221**	P	**Pg**	**23 59 04.4**	**-1.4**
	baz=222						
IKRE	**Kreppuhraun**	**0.53**	**74**	P	Pg	23 59 04.0	-3.5
	baz=76						
IIEY	**Innrieyrar**	**0.60**	**204**	P	**Pg**	**23 59 06.7**	**-2.1**
	baz=206						
IIEY				S	**Sg**	**23 59 15.7**	**-0.9**
	baz=206						
IMKO	**Mokollar**	**0.62**	**57**	P	Pg	23 59 05.7	-3.6
	baz=57						
IMKO				S	**Sg**	**23 59 14.4**	**-3.0**
	baz=57						
IKSK	**Karasker**	**0.68**	**135**	P	**Pg**	**23 59 06.9**	**-3.4**
	baz=139						
ISVA	**Svartarkot**	**0.71**	**11**	P	Pg	23 59 07.5	-3.5
	baz=8.2						
IVAT	**Vatnsfell**	**0.74**	**233**	P	**Pg**	**23 59 09.5**	**-2.1**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.81**	**77**	P	Pg	23 59 08.6	-4.2
	baz=79						
IHVE	**Hveravellir**	**0.89**	**286**	P	**Pg**	**23 59 11.1**	**-3.3**
	baz=284						
IADA	**Aoalbol**	**0.93**	**65**	P	Pg	23 59 10.6	-4.6
	baz=66						
IMEL	**Melhnausar**	**1.01**	**22**	P	Pg	23 59 12.2	-4.5
	baz=21						
ISNB	**Snabyli**	**1.02**	**208**	P	**Pg**	**23 59 14.2**	**-2.7**
	baz=209						
IREN	**Reynihlio**	**1.05**	**15**	P	Pg	23 59 13.0	-4.5
	baz=14						
IKVO	**Krokottuvotn**	**1.11**	**15**	P	Pb	23 59 14.1	-5.1
	baz=13						
IGRS	**Grimsstaoir**	**1.17**	**31**	P	Pb	23 59 14.9	-5.2
	baz=30						
BORG	**Borgarnes**	**1.62**	**275**	Pn	**Pn**	**23 59 23.2**	**-3.4**
	18nm,0.3s,baz=93,slow=8.1,SNR=80						
BORG				Sn	**Sn**	**23 59 46.2**	**-1.7**
	25nm,0.3s,baz=160,slow=21,SNR=13						
SCO	**Scoresbysund**	**6.10**	**346**	P	**Pn**	**00 00 29.2**	**+1.0**
SCO	**Scoresbysund**	**6.10**	**346**	Pn	**Pn**	**00 00 29.1**	**+1.0**
ANGG	**Ammassalik, Gr**	**8.51**	**286**	Pn	**Pn**	**00 01 01.5**	**+0.4**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**00 01 45.1**	**-0.6**
	baz=332,slow=13,SNR=26						
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**	**00 01 45.8**	**+0.1**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**00 01 45.8**	**+0.1**
DSB	**Dublin**	**12.78**	**148**	Pn	**Pn**	**00 01 59.9**	**+0.3**
NRS	**Narsarsuaq**	**13.11**	**267**	P	**Pn**	**00 02 04.8**	**+0.8**
NRS	**Narsarsuaq**	**13.11**	**267**	Pn	**Pn**	**00 02 04.8**	**+0.8**
NC204	**NORSAR Array S**	**13.26**	**92**	Pn	**Pn**	**00 02 05.3**	**-0.9**
NC303	**NORSAR Array S**	**13.54**	**91**	Pn	**Pn**	**00 02 10.3**	**+0.3**
NOA	**NORSAR Array B**	**13.56**	**92**	Pn	**Pn**	**00 02 10.0**	**-0.3**
	0.0nm,0.3s,baz=297,slow=12,SNR=3.7						
NB201	**NORSAR Array S**	**13.59**	**92**	Pn	**Pn**	**00 02 11.8**	**+1.2**
SFJD	**Kangerlussuaq**	**13.65**	**295**	LR	LR	00 06 44.0	
	comp=Z,113nm,20.2s,baz=87,slow=34						
HFS	**Hagfors**	**15.07**	**93**	Pn	**Pn**	**00 02 30.6**	**-0.2**
	0.1nm,0.3s,baz=301,slow=12,SNR=2.1						
HFS				LR	LR	00 07 48.5	
	comp=Z,75nm,18.3s,baz=224,slow=35						
ARCES	**ARCESS Array B**	**17.16**	**55**	P	**Pn**	**00 02 56.9**	**-0.7**
	0.1nm,0.3s,baz=294,slow=8.8,SNR=3.2						
BUG	**Bochum-Univer**	**18.47**	**124**	*e*P	**Pn**	**00 03 14.1**	**+0.2**
	34nm,1.5s,baz=327,slow=11						
NRDL	**Niedersach Rie**	**18.67**	**118**	*e*P	**P**	**00 03 15.9**	**-0.1**
	25nm,1.5s,baz=327,slow=11						
AHRW	**Bad Neuenahr-A**	**19.15**	**126**	*e*P	**Pn**	**00 03 22.2**	**+0.1**
	14nm,1.1s,baz=327,slow=11						
ASSE	**Asse, Remlinge**	**19.18**	**117**	*e*P	**P**	**00 03 21.1**	**-0.4**
	13nm,1.0s,baz=327,slow=11						
CLZ	**Clausthal**	**19.29**	**118**	*e*P	**P**	**00 03 22.3**	**-0.6**
	23nm,1.2s,baz=327,slow=11						
GTTG	**Gottingen**	**19.37**	**120**	*e*P	**P**	**00 03 24.1**	**+0.3**
	18nm,1.1s,baz=327,slow=11						
FINES	**FINESS Array B**	**19.74**	**79**	P	**P**	**00 03 26.8**	**-0.8**
	0.0nm,0.3s,baz=296,slow=9.8,SNR=5.5						
NEUB	**Neuenburg**	**20.33**	**117**	*e*P	**P**	**00 03 34.0**	**-0.2**
	24nm,1.1s,baz=327,slow=11						
MOX	**Moxa**	**20.72**	**119**	*e*P	**P**	**00 03 38.1**	**-0.3**
	28nm,1.6s,baz=327,slow=11						
CLL	**Collm**	**20.72**	**116**	*i* P	**P**	**00 03 37.8**	**-0.6**
	comp=Z,39nm,1.8s						
CLL				*i* sP	**sP**	**00 03 44.0**	**+3.2**
CLL				*e*		00 03 52.0	
CLL	**Collm**	**20.72**	**116**	P	**P**	**00 03 38.3**	**-0.1**
CLL				pmax	pmax		
	comp=Z,20nm,1.3s						
CLL	**Collm**	**20.72**	**116**	*e*P	**P**	**00 03 37.7**	**-0.6**
	comp=Z,39nm,1.8s,baz=327,slow=11						
CLL	**Collm**	**20.72**	**116**	P	**P**	**00 03 38.3**	**-0.1**
PLN	**Plauen**	**21.05**	**118**	*e*P	**P**	**00 03 41.3**	**-0.7**
	comp=Z,32nm,1.4s,baz=327,slow=11						
WERD	**Werda**	**21.14**	**118**	*e*P	**P**	**00 03 42.2**	**-0.8**
	comp=Z,20nm,1.4s,baz=327,slow=11						
ECH	**Echery**	**21.16**	**129**	P	**P**	**00 03 43.9**	**+0.7**
ECH				pmax	pmax		
	comp=Z,12nm,1.0s						
ECH	**Echery**	**21.16**	**129**	P	**P**	**00 03 43.9**	**+0.7**
FBE	**Freiberg**	**21.16**	**116**	*e*P	**P**	**00 03 42.7**	**-0.4**
	comp=Z,67nm,1.8s,baz=327,slow=11						
GUNZ	**Gunzen**	**21.21**	**118**	*e*P	**P**	**00 03 43.2**	**-0.6**
	comp=Z,44nm,1.7s,baz=327,slow=11						
TANN	**Tannenbergstha**	**21.22**	**118**	*e*P	**P**	**00 03 43.4**	**-0.5**
	comp=Z,64nm,1.4s,baz=327,slow=11						
WERN	**Wernitzgruen**	**21.29**	**118**	*e*P	**P**	**00 03 44.0**	**-0.7**
	comp=Z,27nm,1.3s,baz=327,slow=11						
GRA1	**Grafenberg Arr**	**21.34**	**121**	P	**P**	**00 03 45.7**	**+0.5**
GRA1				IAmb	IAmb	00 04 05.0	
	comp=Z,24nm,1.3s						
GRF	**Grafenberg Arr**	**21.34**	**121**	P	**P**	**00 03 45.7**	**+0.5**
GRF				pmax	pmax		
	comp=Z,24nm,1.3s						
GRF	**Grafenberg Arr**	**21.34**	**121**	*e*P	**P**	**00 03 45.2**	**0.0**
	comp=Z,44nm,1.7s,baz=327,slow=11						
NKC	**Novy Kostel**	**21.36**	**118**	*e*P	**P**	**00 03 48.6**	**+3.2**
NKC				*e*S	Sn	00 07 49.9	-0.2
NKC	**Novy Kostel**	**21.36**	**118**	*e*P	**P**	**00 03 48.6**	**+3.2**
NKC				*e*S	Sn	00 07 49.9	-0.2
STU	**Stuttgart**	**21.38**	**125**	P	**P**	**00 03 46.1**	**+0.5**
STU				pmax	pmax		
	comp=Z,22nm,1.0s						
STU	**Stuttgart**	**21.38**	**125**	*e*P	**P**	**00 03 46.0**	**+0.4**
	comp=Z,16nm,0.9s,baz=327,slow=11						
STU	**Stuttgart**	**21.38**	**125**	P	**P**	**00 03 46.1**	**+0.5**
STU				IAmb	IAmb	00 03 48.8	
	comp=Z,22nm,1.0s						
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**00 03 45.4**	**-0.6**
	comp=Z,61nm,2.0s						
BRG				S	Sn	00 07 55.0	+3.4
	comp=N,105nm,13.3s						
	comp=E,125nm,14.3s						
	comp=Z,107nm,17.5s						
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**00 03 45.4**	**-0.6**
BRG				S	Sn	00 07 55.0	+3.4
BRG				pmax	pmax		
	comp=Z,61nm,2.0s						
BRG				MLR	MLR		
	comp=N,105nm,13.3s						
BRG				MLR	MLR		
	comp=E,125nm,14.3s						
BRG				MLR	MLR		
	comp=Z,107nm,17.5s						
BRG	**Berggiesshubel**	**21.43**	**115**	*e*P	**P**	**00 03 45.2**	**-0.9**
	comp=Z,37nm,1.7s,baz=327,slow=11						
MANZ	**Manzenberg**	**21.43**	**119**	*e*P	**P**	**00 03 45.5**	**-0.7**
	comp=Z,53nm,2.3s,baz=327,slow=11						
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**00 03 46.9**	**+0.5**
BFO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BFO	**Black Forest**	**21.46**	**127**	*e*P	**P**	**00 03 46.3**	**-0.1**
	comp=Z,12nm,1.0s,baz=327,slow=11						
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**00 03 46.9**	**+0.5**
VSU	**Vasula**	**21.60**	**86**	*i* P	**P**	**00 03 48.9**	**+1.1**
ROTZ	**Rotzenmuhle**	**21.65**	**119**	*e*P	**P**	**00 03 47.7**	**-0.7**
	comp=Z,10nm,1.1s,baz=327,slow=11						
SLE	**Schleitheim**	**22.00**	**128**	*e*P	**P**	**00 03 51.7**	**-0.5**
	baz=327,slow=11						
BALST	**Balsthal**	**22.10**	**130**	*e*P	**P**	**00 03 52.8**	**-0.6**
	baz=327,slow=11						
PABE	**Paberze**	**22.24**	**95**	*e*P	**P**	**00 03 54.8**	**+0.1**
PRU	**Pruhonice**	**22.36**	**116**	*e*P	**P**	**00 03 57.5**	**+1.4**
PRU				AMS	AMS	00 16 30.0	
	comp=Z,200nm,10.5s						
PRU	**Pruhonice**	**22.36**	**116**	*e*P	**P**	**00 03 57.5**	**+1.4**
PRU				MLR	MLR		
	comp=Z,200nm,10.5s						
WET	**Wettzell**	**22.41**	**119**	*e*P	**P**	**00 03 56.2**	**-0.5**
	comp=Z,13nm,1.4s,baz=327,slow=11						
CHVC	**Chvalec**	**22.48**	**113**	*e*P	**P**	**00 03 58.7**	**+1.3**
CHVC				*e*P	**P**	**00 03 58.8**	**+1.3**
GOPC	**GO Pecny, Ondr**	**22.52**	**115**	AMS	AMS	00 16 40.0	
	comp=Z,200nm,6.2s						
OSTC	**Ostas**	**22.57**	**112**	*e*P	**P**	**00 03 59.5**	**+1.1**
OSTC				*e*S	Sn	00 08 13.8	-5.3
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P	**P**	**00 03 59.3**	**-0.3**
KHC				*e*S	**S**	**00 08 11.7**	**+3.5**
KHC	**Kasperske Hory**	**22.69**	**118**	*ce*P	**P**	**00 03 58.8**	**-0.8**
KHC				pmax	pmax		
	comp=Z,25nm,1.7s						
KHC	**Kasperske Hory**	**22.69**	**118**	P	**P**	**00 04 00.5**	**+0.9**
DPC	**Dobruska-Polom**	**22.78**	**113**	*e*P	**P**	**00 04 00.8**	**+0.3**
DPC	**Dobruska-Polom**	**22.78**	**113**	*e*P	**P**	**00 04 00.8**	**+0.3**
SENIN	**Lac Senin/Sane**	**22.83**	**131**	P	**P**	**00 04 01.1**	**-0.2**
DAVA	**Damuels**	**22.89**	**126**	P	**P**	**00 04 01.9**	**0.0**
	comp=Z,15nm,1.1s						
SSB	**Saint Sauveur**	**22.95**	**137**	P	**P**	**00 04 01.9**	**-0.5**
SSB				pmax	pmax		
	comp=Z,19nm,1.5s						
SSB	**Saint Sauveur**	**22.95**	**137**	P	**P**	**00 04 01.9**	**-0.5**
GEC2	**GERESS Array S**	**22.97**	**119**	P	**P**	**00 04 03.2**	**+0.6**
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**00 04 01.8**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=330,slow=7.7,SNR=14						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**00 04 01.3**	**-1.3**
RETA	**Reutte**	**23.03**	**125**	P	**P**	**00 04 02.9**	**-0.3**
	comp=Z,13nm,1.8s						
ISAL	**Salakas**	**23.12**	**92**	*e*P	**P**	**00 04 03.9**	**-0.1**
KRLC	**Kraliky**	**23.18**	**113**	*e*P	**P**	**00 04 04.5**	**-0.2**
KRLC	**Kraliky**	**23.18**	**113**	*e*P	**P**	**00 04 04.5**	**-0.2**
MOTA	**Moosalm**	**23.27**	**124**	*e*P	**P**	**00 04 05.5**	**-0.3**
	comp=Z,16nm,1.4s						
IIGN	**Ignalina**	**23.31**	**93**	*e*P	**P**	**00 04 06.1**	**+0.2**
TUE	**Stuetta**	**23.41**	**128**	P	**P**	**00 04 07.5**	**+0.2**
TUE				IAmb	IAmb	00 04 17.3	
	comp=Z,14nm,1.1s						
SQTA	**Sankt Quirin**	**23.41**	**124**	*e*pP	pP	00 04 09.1	+0.2
	comp=Z,13nm,1.3s						
FETA	**Feichten**	**23.41**	**125**	P	**P**	**00 04 07.9**	**+0.7**
	comp=Z,12nm,1.6s						
WATA	**Walderalm**	**23.45**	**124**	pP	**P**	**00 04 08.7**	**+1.1**
	comp=Z,6.0nm,1.0s						
WTTA	**Wattenberg**	**23.53**	**124**	*e*pP	**P**	**00 04 09.6**	**+1.2**
	comp=Z,7.2nm,1.1s						
IDID	**Didziasalis**	**23.55**	**92**	*e*P	**P**	**00 04 07.7**	**-0.6**
VRAC	**Vranov**	**23.71**	**114**	LR	LR	00 13 31.0	
	comp=Z,44nm,18.1s,baz=330,slow=37						
VRAC	**Vranov**	**23.71**	**114**	*e*P	**P**	**00 04 10.0**	**0.0**
MORC	**Moravsky Berou**	**23.71**	**112**	*e*P	**P**	**00 04 09.7**	**-0.4**
MORC	**Moravsky Berou**	**23.71**	**112**	P	**P**	**00 04 10.3**	**+0.2**
MORC				pmax	pmax		
	comp=Z,14nm,1.5s						
MORC	**Moravsky Berou**	**23.71**	**112**	P	**P**	**00 04 10.3**	**+0.2**
KRUC	**Moravsky**	**23.83**	**115**	*e*P	**P**	**00 04 10.5**	**-0.6**
MOA	**Molln**	**24.00**	**119**	*e*P	**P**	**00 04 14.0**	**+1.2**
	comp=Z,8.8nm,1.8s						
OJC	**Ojcow**	**24.28**	**109**	P	**P**	**00 04 15.2**	**-0.2**
OJC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OJC	**Ojcow**	**24.28**	**109**	P	**P**	**00 04 15.2**	**-0.2**
JAVC	**Velka Javorina**	**24.50**	**113**	*e*P	**P**	**00 04 18.3**	**+0.9**
CONA	**Conrad Observa**	**24.55**	**117**	*e*P	**P**	**00 04 18.4**	**+0.5**
	comp=Z,7.7nm,1.1s						
MYKA	**Terra Mystica**	**24.79**	**122**	pP	pP	00 04 23.1	+1.2
	comp=Z,14nm,1.8s						
SOKA	**Soboth**	**25.27**	**120**	P	**P**	**00 04 25.9**	**+1.5**
	comp=Z,10.0nm,1.6s						
KLMR	**Klimovskoe**	**25.64**	**72**	*e*P	**P**	**00 04 26.0**	**-1.6**
	comp=Z,17nm,1.6s						
KLMR	**Klimovskoe**	**25.64**	**72**	*e*P	**P**	**00 04 25.9**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,14nm,1.5s						
KLMR	**Klimovskoe**	**25.64**	**72**	*e*P	**P**	**00 04 26.0**	**-1.6**
KLMR				AMP		00 04 32.1	
	comp=Z,14nm,1.5s						
KWP	**Kalwaria Pacla**	**25.93**	**106**	P	**P**	**00 04 31.0**	**+0.7**
KWP				pmax	pmax		
	comp=Z,21nm,1.1s						
KWP	**Kalwaria Pacla**	**25.93**	**106**	P	**P**	**00 04 31.0**	**+0.7**
KWP				IAmb	IAmb	00 04 35.0	
	comp=Z,21nm,1.1s						
SCHQ	**Schefferville**	**26.01**	**271**	P	**P**	**00 04 30.2**	**-0.8**
	comp=Z,4.7nm,0.8s,baz=132,slow=13,SNR=3.7						
SCHQ				LR	LR	00 13 01.4	
	comp=Z,46nm,19.9s,baz=111,slow=33						
PSZ	**Piszkesteto**	**26.14**	**112**	P	**P**	**00 04 33.3**	**+1.1**
PSZ				pmax	pmax		
	comp=Z,15nm,1.2s						
PSZ	**Piszkesteto**	**26.14**	**112**	P	**P**	**00 04 33.3**	**+1.1**
PSZ				IAmb	IAmb	00 04 37.0	
	comp=Z,15nm,1.2s						
ESDC	**Sonseca Array**	**26.24**	**156**	P	**P**	**00 04 32.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=348,slow=9.7,SNR=7.3						
ESDC	**Sonseca Array**	**26.24**	**156**	P	**P**	**00 04 34.1**	**+0.8**
LVV	**L'vov**	**26.34**	**104**	*e*P	**P**	**00 04 35.0**	**+1.0**
LVV				*e*S	**S**	**00 09 12.0**	**+4.8**
LVV				MLR	MLR		
	comp=Z,260nm,13.0s						
UZH	**Uzhgorod**	**26.54**	**108**	*e*P	**P**	**00 04 35.3**	**-0.5**
UZH				*e*		00 04 41.7	
AKASG	**Malin Array Be**	**27.87**	**97**	P	**P**	**00 04 46.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=322,slow=10.0,SNR=6.2						
AKASG	**Malin Array Be**	**27.87**	**97**	P	**P**	**00 04 46.4**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OBN	**Obninsk**	**27.91**	**84**	P	**P**	**00 04 47.6**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=37,slow=20,SNR=1.9						
OBN	**Obninsk**	**27.91**	**84**	*e*P	**P**	**00 04 47.6**	**-0.4**
OBN				*e*		00 05 35.9	
OBN				*e*		00 08 04.0	
OBN				pmax	pmax		
	comp=Z,26nm,1.7s						
OBN				MLR	MLR		
	comp=Z,41nm,14.0s						
OBN	**Obninsk**	**27.91**	**84**	P	**P**	**00 04 47.4**	**-0.6**
BUR08	**Bucovina Ar. S**	**28.52**	**106**	P	**P**	**00 04 54.4**	**+0.8**
BURAR	**Bucovina Array**	**28.55**	**106**	P	**P**	**00 04 55.2**	**+1.3**
MDT	**Midelt**	**32.84**	**160**	P	**P**	**00 05 31.9**	**0.0**
	comp=Z,6.1nm,1.2s,baz=340,slow=9.6,SNR=5.7						
ALN	**Alexandroupoli**	**34.41**	**112**	P	**P**	**00 05 44.9**	**-0.5**
ALN				pmax	pmax		
	comp=Z,12nm,1.4s						
ALN	**Alexandroupoli**	**34.41**	**112**	P	**P**	**00 05 44.9**	**-0.5**
ALN				IAmb	IAmb	00 05 51.8	
	comp=Z,12nm,1.4s						
AGG	**Agios Georgios**	**34.58**	**118**	P	**P**	**00 05 45.7**	**-1.2**
AGG				pmax	pmax		
	comp=Z,20nm,1.2s						
AGG	**Agios Georgios**	**34.58**	**118**	P	**P**	**00 05 45.7**	**-1.2**
FCC	**Fort Churchill**	**34.66**	**297**	P	**P**	**00 05 47.3**	**0.0**
FCC				pmax	pmax		
	comp=Z,32nm,1.4s						
FCC	**Fort Churchill**	**34.66**	**297**	P	**P**	**00 05 47.3**	**0.0**
ITM	**Ithomi**	**36.05**	**120**	P	**P**	**00 06 00.2**	**+0.6**
ARU	**Arti**	**36.12**	**66**	P	**P**	**00 06 00.2**	**+0.3**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ARU	**Arti**	**36.12**	**66**	P	**P**	**00 06 00.2**	**+0.3**
ARU				IAmb	IAmb	00 06 09.1	
	comp=Z,9.4nm,1.5s						
FRNY	**Flat Rock**	**36.35**	**265**	P	**P**	**00 06 01.0**	**-1.0**
FRNY				IAmb	IAmb	00 06 03.3	
	comp=Z,14nm,1.4s						
SANT	**Santorini**	**38.10**	**117**	P	**P**	**00 06 18.2**	**+1.2**
GOF	**Gofitskoye**	**38.14**	**91**⇑*e*P	**P**	**00 06 17.8**	**+0.6**
BRTR	**Keskin Array B**	**38.50**	**105**	P	**P**	**00 06 21.1**	**+0.6**
	comp=Z,1.9nm,1.0s,baz=326,slow=6.4,SNR=6.3						
KIV	**Kislovodsk**	**38.87**	**92**	*e*P	**P**	**00 06 25.4**	**+1.9**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KBZ	**Khabaz**	**39.14**	**92**	P	**P**	**00 06 26.9**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=311,slow=11,SNR=2.7						
KBZ	**Khabaz**	**39.14**	**92**	P	**P**	**00 06 27.0**	**+1.4**
AKTO	**Aktyubinsk**	**40.32**	**73**	P	**P**	**00 06 34.9**	**-0.5**
	comp=Z,2.5nm,1.1s,baz=354,slow=5.8,SNR=5.3						
ZEI	**Tsey**	**40.34**	**92**	*e*P	**P**	**00 06 37.5**	**+1.7**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
D41A	**Chassel**	**41.02**	**280**	P	**P**	**00 06 41.3**	**+1.1**
P61A	**Hammonton**	**41.08**	**261**	P	**P**	**00 06 41.4**	**-0.3**
KOPT	**Kop Dagi**	**41.15**	**98**	P	**P**	**00 06 43.5**	**+0.9**
AKH	**Akhalkalaki**	**41.28**	**94**	P	**P**	**00 06 43.8**	**+0.2**
AKH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKH	**Akhalkalaki**	**41.28**	**94**	P	**P**	**00 06 43.8**	**+0.2**
MVL	**Millersville**	**41.47**	**263**	P	**P**	**00 06 44.7**	**-0.3**
MVL				IAmb	IAmb	00 06 47.0	
	comp=Z,11nm,1.2s						
TBLG	**Delisi**	**41.56**	**92**	pmax	pmax		
	comp=Z,13nm,1.3s						
EYMN	**

KURBB	**Kurchatov Arra**	48.19	58	P	P	00 07 37.0	-1.4
	comp=Z,2.6nm,0.8s,baz=321,slow=7.5,SNR=8.9						
JSC	**Jenkinsville**	48.39	263	P	P	00 07 40.0	-0.1
JSC				pmax	pmax		
	comp=Z,6.0nm,1.4s						
JSC	**Jenkinsville**	48.39	263	P	P	00 07 40.0	-0.1
JSC				IAmb	IAmb	00 07 43.1	
	comp=Z,6.4nm,1.4s						
T47A	**Sharon Grove**	48.61	270	P	P	00 07 42.0	+0.3
EGMT	**Eagleton**	48.86	297	P	P	00 07 43.5	-0.1
NHSC	**New Hope**	48.94	261	P	P	00 07 43.6	-0.6
HMT	**Hamilton**	49.08	328	P	P	00 07 43.9	-1.2
W50A	**Signal Mountai**	49.35	268	P	P	00 07 46.6	-0.8
W50A				IAmb	IAmb	00 07 48.6	
	comp=Z,10nm,1.1s						
SWET	**Sewanee**	49.60	268	P	P	00 07 49.7	+0.3
GEYT	**Alibeck**	50.46	84	P	P	00 07 56.8	+1.0
GYA0B	**ALIBECK ARRAY**	50.46	84	P	P	00 07 56.4	+0.5
GCMT	**Greycliff**	50.67	295	P	P	00 07 57.6	0.0
RLMT	**Red Lodge**	51.07	295	P	P	00 08 01.0	+0.4
BOZ	**Bozeman (W)**	51.59	297	IAmb	IAmb	00 08 05.8	
	comp=Z,9.8nm,1.2s						
IMW	**Indian Meadow**	52.75	295	IAmb	IAmb	00 08 14.8	
	comp=Z,9.4nm,1.5s						
MKAR	**Makanchi Array**	52.76	58	P	P	00 08 12.2	-0.7
	comp=Z,0.9nm,0.9s,baz=270,slow=3.6,SNR=6.6						
MKAR	**Makanchi Array**	52.76	58	P	P	00 08 11.9	-1.1
TORD	**Torodi Ar. Bea**	53.13	156	P	P	00 08 14.9	-1.1
	comp=Z,2.9nm,1.1s,baz=340,slow=7.3,SNR=10						
TORD	**Torodi Ar. Bea**	53.13	156	P	P	00 08 15.1	-0.9
BW06	**Boulder Array**	53.16	293	IAmb	IAmb	00 08 18.8	
	comp=Z,12nm,1.4s						
PD31	**Pinedale Array**	53.16	293	IAmb	IAmb	00 08 18.8	
	comp=Z,12nm,1.4s						
PDAR	**Pinedale Array**	53.16	293	P	P	00 08 15.2	-1.1
	comp=Z,2.9nm,1.0s,baz=54,slow=7.5,SNR=14						
PDAR	**Pinedale Array**	53.16	293	P	P	00 08 14.6	-1.6
N23A	**Red Feather La**	53.28	289	P	P	00 08 17.5	+0.2
N23A				IAmb	IAmb	00 08 18.6	
	comp=Z,11nm,1.2s						
AAK	**Ala-Archa**	53.30	67	*ce*P	P	00 08 17.1	-0.1
AAK				pmax	pmax		
	comp=Z,40nm,2.5s						
344A	**Westbrook Farm**	54.88	270	P	P	00 08 30.9	+2.3
HWUT	**Hardware Ranch**	54.93	294	IAmb	IAmb	00 08 30.1	
	comp=Z,9.6nm,1.1s						
HRA	**Herat**	55.22	82	P	P	00 08 33.2	+1.9
WMOK	**Wichita Mounta**	55.52	279	P	P	00 08 32.9	-0.3
WMOK				pmax	pmax		
	comp=Z,12nm,1.4s						
WMOK	**Wichita Mounta**	55.52	279	P	P	00 08 32.9	-0.3
WMOK				IAmb	IAmb	00 08 35.8	
	comp=Z,12nm,1.4s						
PV01	**Paradox Valley**	56.70	289	IAmb	IAmb	00 08 42.9	
	comp=Z,6.7nm,1.1s						
PV02	**Paradox Valley**	56.70	290	IAmb	IAmb	00 08 42.8	
	comp=Z,7.3nm,1.0s						
PV03	**Paradox Valley**	56.71	290	IAmb	IAmb	00 08 42.8	
	comp=Z,5.9nm,1.1s						
PV13	**Radium Mtn., P**	56.78	290	IAmb	IAmb	00 08 43.4	
	comp=Z,10nm,1.0s						
WMQ	**Urumqi**	57.27	56	*e*P	P	00 08 48.6	+2.9
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,48nm,3.7s						
WMQ				LR	LR		
	comp=N,170nm,29.3s						
WMQ				LR	LR		
	comp=E,250nm,28.9s						
WMQ				LR	LR		
	comp=Z,59nm,28.8s						
ANMO	**Albuquerque**	58.57	286	*ce*P	P	00 08 55.7	+0.7
ANMO				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIC	**Toumodi**	58.58	165	*e*P	P	00 08 55.6	+0.6
KIC	**Kosan Boka**	58.89	165	*e*P	P	00 08 57.7	+0.5
	comp=Z,22nm,1.1s						
LIC	**Lamto**	58.99	165	*e*P	P	00 08 57.4	-0.5
	comp=Z,2.5nm,0.2s						
R11A	**Troy Canyon, C**	59.31	295	IAmb	IAmb	00 09 01.4	
	comp=Z,4.9nm,1.4s						
KVN	**Kaiserville**	59.67	298	P	P	00 09 03.2	+0.6
KVN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KVN	**Kaiserville**	59.67	298	P	P	00 09 03.2	+0.6
KVN				IAmb	IAmb	00 09 03.5	
	comp=Z,7.6nm,1.4s						
U15A	**North Rim**	59.67	291	IAmb	IAmb	00 09 03.5	
	comp=Z,4.2nm,1.2s						
PRN	**Pahroc Range**	59.92	294	P	P	00 09 03.8	-0.4
PRN				IAmb	IAmb	00 09 15.1	
	comp=Z,4.4nm,1.3s						
WUAZ	**Wupatki**	60.09	290	P	P	00 09 05.0	-0.5
WUAZ				IAmb	IAmb	00 09 06.6	
	comp=Z,6.7nm,1.1s						
YERR	**Yerington**	60.16	298	P	P	00 09 06.9	+0.9
RYN	**Ryan**	60.20	298	P	P	00 09 05.4	-0.9
NIL	**Nilore**	60.48	73	P	P	00 09 08.5	+0.4
NIL				pmax	pmax		
	comp=Z,12nm,1.2s						
NIL	**Nilore**	60.48	73	P	P	00 09 08.5	+0.4
LHV	**Little Huntoon**	60.52	297	P	P	00 09 09.0	+0.8
LHV				IAmb	IAmb	00 09 12.5	
	comp=Z,4.6nm,1.3s						
WAKR	**Walker**	60.66	298	P	P	00 09 09.5	+0.1
WAKR				IAmb	IAmb	00 09 10.7	
	comp=Z,8.0nm,1.5s						
SHPR	**Sheep Range**	60.74	294	P	P	00 09 10.3	+0.4
SHPR				IAmb	IAmb	00 09 11.6	
	comp=Z,4.2nm,1.2s						
AFDM	**Forest Hills D**	60.84	300	P	P	00 09 09.1	-1.4
AFDM				IAmb	IAmb	00 09 12.2	
	comp=Z,4.6nm,1.5s						
X16A	**Lo Mia Camp, P**	61.07	290	P	P	00 09 12.1	-0.1
X16A				IAmb	IAmb	00 09 13.7	
	comp=Z,5.2nm,1.2s						
TXAR	**Lajitas Array**	62.26	280	P	P	00 09 18.4	-1.9
	comp=Z,0.5nm,0.7s,baz=57,slow=4.6,SNR=3.8						
TXAR				LR	LR	00 34 16.7	
	comp=Z,40nm,19.4s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	62.26	280	P	P	00 09 19.1	-1.1
TXAR	**Lajitas Array**	62.26	280	P	P	00 09 19.1	-1.1
TUC	**Tucson**	62.64	288	P	P	00 09 22.4	-0.3
TUC				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TUC	**Tucson**	62.64	288	P	P	00 09 22.4	-0.3
TUC				IAmb	IAmb	00 09 27.0	
	comp=Z,6.5nm,1.4s						
GTA	**Gaotai**	65.34	49	*e*P	P	00 09 42.2	+1.8
GTA				pP	sP	00 09 46.2	+3.2
GTA				sP	pP	00 09 48.8	+6.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,93nm,7.8s						
GTA				LR	LR		
	comp=N,95nm,18.2s						
GTA				LR	LR		
	comp=E,140nm,19.8s						
GTA				LR	LR		
	comp=Z,77nm,18.2s						
HHC	**Hu-ho-hao-te**	67.55	40	*e*P	P	00 09 54.4	-0.1
HHC				pmax	pmax		
	comp=Z,27nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.8s						
HHC				LR	LR		
	comp=N,190nm,14.5s						
HHC				LR	LR		
	comp=E,150nm,15.6s						
HHC				LR	LR		
	comp=Z,180nm,17.5s						
ASAJ	**Asahikawa**	70.47	15	LR	LR	00 41 08.0	
	comp=Z,37nm,18.6s,baz=4.5,slow=36						
CMAR	**Chiang Mai Arr**	84.17	59	P	P	00 11 28.0	-1.6
	comp=Z,1.0nm,0.3s,baz=315,slow=3.4,SNR=5.1						

*IDC **13** 00:00:22.5±3.9, 37°.05N×71°.94E, h81km±34km, mb3.4/6, mb1 3.5/11, mb1mx3.2/57, mbtmp3.7/11, MS3.8/1, Ms1 3.8/1, ms1mx2.6/32, Error ellipse: s-maj=29.8km s-min=20.1km az=173.0*
*NNC **13** 00:00:28.4±2.5, 37°.50N×71°.94E, h112km±47km, mb2.9, mpv3.5, Error ellipse: s-maj=22.3km s-min=18.3km az=153.0*
*SOME **13** 00:00:30.9, 38°.87N×71°.68E, h0km*
ISC 13 00:00:28.2±0.9, 37°.47N±0°.09×71°.78E±0°.07, h130km, n27, σ1§81/33, mb3.7/6, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	4.89	17	P	Pn	00 01 40.0	-0.2
SNR=24							
KZA	**Kyzart**	5.33	29	P	Pn	00 01 44.4	-1.6
SNR=10							
MRKS	**Merke**	5.39	11	*e*P	Pn	00 01 46.2	-0.3
5.7nm,0.3s							
MRKS				*e*S	Sn	00 02 46.4	-1.2
29nm,0.3s							
EKS2	**Erkin-Say**	5.41	16	P	Pn	00 01 47.2	+0.4
SNR=9.2							
DZA	**Taraz**	5.43	357	*e*P	Pn	00 01 47.6	+0.5
14nm,0.1s							
DZA				*e*S	Sn	00 02 48.8	+0.3
56nm,0.3s							
AAK	**Ala-Archa**	5.57	21	P	Pn	00 01 48.5	-0.5
SNR=7.0							
AAK	**Ala-Archa**	5.57	21	⇑P	Pn	00 01 48.1	-1.0
3.8nm,0.5s							
AAK				⇓S	Sn	00 02 50.3	-1.7
14nm,0.6s							
KK31	**Karatay Array**	5.71	351	P	Pn	00 01 51.2	+0.3
2.0nm,0.3s,baz=162,slow=10,SNR=40							
KK31				⇑S	Sn	00 02 55.3	0.0
2.5nm,0.3s,baz=173,slow=23,SNR=9.8							
BRLS	**Borolday**	5.75	346	*e*P	Pn	00 01 48.3	-3.0
18nm,0.6s							
BRLS				*e*S	Sn	00 02 50.5	-5.8
21nm,0.6s							
ULHL	**Ulahol**	5.88	34	P	Pn	00 01 51.9	-1.4
SNR=6.5							
CHMS	**Chumysh**	5.97	21	P	Pn	00 01 53.6	-0.7
SNR=10							
TKM2	**Tokmak 2**	6.18	27	⇓P	Pn	00 01 55.7	-1.6
1.1nm,0.5s							
TKM2				⇑S	Sn	00 03 05.6	-1.2
3.7nm,0.7s							
DGS	**Degeres**	6.53	27	*e*P	Pn	00 02 01.4	-0.5
GEYT	**Alibeck**	10.84	277	P	Pn	00 02 57.3	-2.5
0.6nm,0.3s,baz=92,slow=15,SNR=4.0							
GEYT				S	Sn	00 04 58.6	-0.6
0.5nm,0.3s,baz=138,slow=37,SNR=2.3							
MKAR	**Makanchi Array**	12.14	37	P	Pn	00 03 15.5	-1.4
0.0nm,0.3s,baz=223,slow=15,SNR=3.4							
AB31	**Akbulak array**	14.57	328	⇑P	Pn	00 03 48.2	+0.2
0.2nm,0.5s							
BVAR	**Borovoye Array**	15.59	357	P	P	00 04 03.5	+1.4
0.4nm,0.3s,baz=168,slow=14,SNR=6.2							
AKTO	**Aktyubinsk**	16.28	327	P	P	00 04 11.5	+1.7
0.4nm,0.3s,baz=131,slow=8.1,SNR=7.0							
AKTO	**Aktyubinsk**	16.28	327	⇑P	P	00 04 12.0	+2.2
2.0nm,0.8s							
ZALV	**Zalesovo Beam**	18.78	24	P	P	00 04 37.6	+0.4
0.2nm,0.3s,baz=219,slow=11,SNR=3.0							
FINES	**FINESS Array B**	37.04	325	P	P	00 07 28.0	+2.9
0.6nm,0.3s,baz=125,slow=10,SNR=8.6							
ARCES	**ARCESS Array B**	40.49	337	P	P	00 07 56.6	+2.8
1.5nm,0.7s,baz=120,slow=8.9,SNR=9.4							
MJAR	**Matsushiro Arr**	52.02	69	P	P	00 09 25.1	+0.7
1.1nm,0.5s,baz=286,slow=9.6,SNR=2.5							
DAV	**Davao City (W)**	57.28	108	LR	LR	00 37 07.1	
comp=Z,77nm,19.4s,baz=230,slow=39							
TORD	**Torodi Ar. Bea**	66.36	269	P	P	00 11 03.6	+0.2
0.4nm,0.6s,baz=53,slow=5.9,SNR=4.8							
ILAR	**Eielson Array**	73.68	16	P	P	00 11 48.2	+1.0
0.4nm,0.9s,baz=305,slow=5.4,SNR=2.2							
WRA	**Warramunga Arr**	81.98	123	P	P	00 12 31.9	-1.9
0.4nm,0.9s,baz=326,slow=5.3,SNR=4.9							

*IDC **13** 00:02:33.8±0.8, 34°.20N×25°.10E, h0km, mb3.9/17, mb1 4.0/26, mb1mx3.9/49, mbtmp3.9/26, ML4.1/8, Error ellipse: s-maj=14.3km s-min=11.8km az=66.0*
*ISK **13** 00:02:36.4, 34°.25N×25°.04E, h14km, ML3.7/26*
*ATH **13** 00:02:36.2, 34°.24N×25°.05E, h24km±1km, ML3.5/8, Error ellipse: s-maj=4.7km s-min=1.7km az=358.0*
*THE **13** 00:02:36.8, 34°.24N×25°.06E, h0km±1km, ML3.4/10, Error ellipse: s-maj=2.4km s-min=0.7km az=175.0*
*NEIC **13** 00:02:37.8±1.6, 34°.17N±0°.07×25°.03E±0°.07, h30km±5km, mb4.0/39, ML3.7(THE), Error ellipse: s-maj=11.1km s-min=6.3km az=212.0*
*HLW **13** 00:02:38.4, 34°.11N×25°.36E, h10km±11km, Md3.9, Ml3.9*
*NIC **13** 00:02:40.8±0.0, 33°.93N×25°.82E, h0km±10km, Ml4.2/4*
*GII **13** 00:02:42.6±0.0, 34°.06N×25°.64E, h20km, mb4.1/2, MD3.8/3*
ISC 13 00:02:35.6±1.3, 34°.13N±0°.04×25°.08E±0°.03, h16km±8km, n248, σ1§66/292, mb4.0/24, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	0.91	346	P	Pg	00 02 52.0	-1.4
SIVA				S	Sg	00 03 04.4	-0.9
9μm,0.6s							
SIVA	**Sivas**	0.91	346	P	Pg	00 02 51.9	-1.4
SIVA				S	Sg	00 03 03.4	-1.9
SIVA				AML	AML	00 03 12.9	
comp=N,14579μm,0.6s							
SIVA				AML	AML	00 03 13.5	
comp=E,18615μm,0.6s							
TMBK	**Timbaki Herakl**	0.98	345	P	Pb	00 02 53.4	-0.7
TMBK				S	Sg	00 03 08.1	+0.8
comp=E,2μm,0.7s							
FRMA	**Ierapetra Chan**	1.03	31	P	Pb	00 02 55.8	+0.7
FRMA				S	Sn	00 03 10.9	+1.4
LAST	**Lasithi**	1.08	17	P	Pb	00 02 55.2	-0.8
LAST				S	Sg	00 03 10.5	-0.1
comp=E,1μm,0.8s							
LAST	**Lasithi**	1.08	17	P	Pb	00 02 55.1	-0.8
LAST				AML	AML	00 03 17.6	
comp=E,2317μm,0.6s							
LAST				AML	AML	00 03 27.4	
comp=N,1948μm,0.6s							
GVD	**Gavdhos**	1.08	311	P	Pb	00 02 55.5	-0.5
GVD				S	Sb	00 03 11.4	+1.5
comp=N,8μm,0.5s							
GVD	**Gavdhos**	1.08	311	P	Pb	00 02 55.5	-0.5
GVD				S	Sb	00 03 09.0	-0.9
GVD				AML	AML	00 03 12.1	
comp=E,16040μm,0.5s							
GVD				AML	AML	00 03 12.3	
comp=N,17208μm,0.5s							
GVD	**Gavdhos**	1.08	311	PG	Pb	00 02 55.5	-0.5
GVD				SG	Sb	00 03 09.8	-0.1
IDI	**Anoyia**	1.17	352	Pg	Pb	00 02 56.0	-1.3
comp=N,31nm,0.3s,baz=168,slow=12,SNR=370							
IDI				Lg	Lg	00 03 11.4	
comp=N,97nm,0.3s,baz=355,slow=20,SNR=11							
IDI				LR	LR	00 03 22.3	
comp=N,162nm,18.9s,baz=198,slow=44							
IDI	**Anoyia**	1.17	352	P	Pb	00 02 56.1	-1.3
IDI				S	Sb	00 03 12.9	+0.6
comp=N,1μm,0.6s							
IDI	**Anoyia**	1.17	352	P	Pb	00 02 56.2	-1.2
IDI				AML	AML	00 03 19.7	
comp=E,2829μm,0.6s							
IDI				AML	AML	00 03 25.0	
comp=N,2147μm,0.5s							
IDI	**Anoyia**	1.17	352	PG	Pb	00 02 55.9	-1.5
IDI				SG	Sb	00 03 12.0	-0.3
KSTL	**Kastelli Herak**	1.17	360	P	Pb	00 02 55.6	-1.8
KSTL				S	Sb	00 03 10.9	-1.5
HRKL	**Herakleio**	1.18	1	P	Pb	00 02 57.6	0.0
HRKL	**Herakleio**	1.18	1	PG	Pb	00 02 57.7	+0.1
HRKL				SG	Sb	00 03 12.5	-0.1
NPS	**Neapolis**	1.21	21	P	Pb	00 02 57.3	-0.8
NPS				S	Sg	00 03 14.3	-0.5
comp=N,1μm,0.6s							
NPS	**Neapolis**	1.21	21	P	Pb	00 02 57.4	-0.8
NPS				AML	AML	00 03 24.5	
comp=N,2229μm,0.5s							
NPS				AML	AML	00 03 28.2	
comp=E,2631μm,0.6s							
PRNS	**Prines Rethymn**	1.32	339	P	Pn	00 02 59.1	-0.3
PRNS				S	Sb	00 03 16.5	-0.2
STIA	**Sitia Lasithi**	1.35	38	P	Pn	00 03 00.8	+1.0
STIA				S	Sg	00 03 19.5	+0.2

ZKR	**Zakros**	1.36	43	P	Pn	00 03 00.6	+0.7
ZKR				S	Sg	00 03 20.4	+1.0
comp=E,1μm,0.7s							
ZKR	**Zakros**	1.36	43	P	Pn	00 03 00.7	+0.9
ZKR				AML	AML	00 03 22.9	
comp=E,3574μm,0.6s							
ZKR				AML	AML	00 03 25.9	
comp=N,1300μm,0.5s							
ZKR	**Zakros**	1.36	43	PN	Pn	00 03 01.1	+1.2
ZKR				SN	Sb	00 03 18.4	+0.7
VAM	**Vamos**	1.47	331	P	Pn	00 03 01.4	+0.1
VAM				S	Sn	00 03 21.0	+0.7
comp=N,2μm,0.6s							
VAM	**Vamos**	1.47	331	P	Pn	00 03 01.5	+0.1
VAM				AML	AML	00 03 30.8	
comp=E,3346μm,0.6s							
VAM				AML	AML	00 03 33.6	
comp=N,4440μm,0.8s							
KNDR	**Palaiochora Ch**	1.59	314	P	Pn	00 03 04.6	+1.5
KNDR				S	Sb	00 03 26.6	+2.1
comp=N,440nm,0.5s							
KNDR	**Palaiochora Ch**	1.59	314	PN	Pn	00 03 04.2	+1.1
KNDR				SN	Sn	00 03 23.9	+0.6
IMMV	**Iera Moni Meta**	1.61	326	P	Pn	00 03 03.9	+0.6
IMMV				S	Sb	00 03 25.8	+0.8
comp=N,2μm,0.6s							
IMMV	**Iera Moni Meta**	1.61	326	P	Pn	00 03 03.5	+0.3
IMMV				AML	AML	00 03 37.4	
comp=E,4526μm,0.7s							
IMMV				AML	AML	00 03 41.6	
comp=N,3931μm,0.6s							
IMMV	**Iera Moni Meta**	1.61	326	PN	Pn	00 03 03.6	+0.3
IMMV				SN	Sn	00 03 23.3	-0.4
CHAN	**Chania**	1.63	329	P	Pn	00 03 04.2	+0.6
RODP	**Rodopos**	1.80	323	P	Pn	00 03 07.3	+1.4
RODP				S	Sn	00 03 28.9	+0.5
RODP	**Rodopos**	1.80	323	PN	Pn	00 03 06.2	+0.3
RODP				SN	Sn	00 03 27.9	-0.5
KARP	**Karpathos**	2.22	50	P	Pb	00 03 15.6	+0.3
KARP				S	Sb	00 03 42.8	+0.2
KARP				AML	AML	00 03 59.2	
comp=N,0.9nm,0.8s							
KARP				AML	AML	00 03 59.2	
comp=N,0.9nm,0.8s							
KARP				AML	AML	00 04 12.7	
comp=N,1.0nm,1.3s							
KARP				AML	AML	00 04 12.7	
comp=N,1.0nm,1.3s							
KARP	**Karpathos**	2.22	50		Pn	00 03 14.9	+3.2
SANT	**Santorini**	2.26	8	PN	Pn	00 03 12.8	+0.5
SANT	**Santorini**	2.26	8	Pn	Pn	00 03 13.0	+0.7
ANKY	**Antikythira Is**	2.27	320	P	Pn	00 03 14.1	+1.7
ANKY	**Antikythira Is**	2.27	320	P	Pn	00 03 14.0	+1.7
ANAF	**Anafi Island**	2.29	14	P	Pn	00 03 13.9	+1.2
ANAF	**Anafi Island**	2.29	14	P	Pn	00 03 14.4	+1.7
SAP3	**Santorini-Thir**	2.31	5	P	Pn	00 03 14.5	+1.5
THT2	**Imerovigli**	2.32	7	PN	Pn	00 03 13.4	+0.3
CMBO	**Columbo, Santo**	2.35	6	P	Pn	00 03 14.0	+0.5
MHLO	**Agia Marina, M**	2.61	348	P	Pn	00 03 17.7	+0.5
MHLO				S	Sn	00 03 48.7	+0.1
MHLO	**Agia Marina, M**	2.61	348	P	Pn	00 03 17.7	+0.5
SLUM	**Salum**	2.63	178	P	Pn	00 03 20.3	+2.9
baz=183							
SLUM				AMP		00 03 00.0	
baz=183							
SLUM				S	Sn	00 03 51.3	+2.3
baz=183							
MHLA	**Plaka, Milos I**	2.67	348	P	Pn	00 03 18.6	+0.7
KTHA	**Kythira Island**	2.69	323	P	Pn	00 03 20.0	+1.8
KTHA	**Kythira Island**	2.69	323	P	Pn	00 03 19.6	+1.3
KTHA	**Kythira Island**	2.69	323	PN	Pn	00 03 19.3	+1.1
AMGA	**Amorgos Island**	2.78	14	P	Pn	00 03 19.8	+0.5
AMGA	**Amorgos Island**	2.78	14	P	Pn	00 03 19.9	+0.5
APE	**Apeiranthos**	2.96	7	P	Pn	00 03 22.4	+0.6
APE	**Apeiranthos**	2.96	7	P	Pn	00 03 22.2	+0.3
APE	**Apeiranthos**	2.96	7	PN	Pn	00 03 22.5	+0.6
KOSK	**Kos Island**	3.04	30	PN	Pn	00 03 24.3	+1.3
SERI	**Serifos**	3.06	351	P	Pn	00 03 23.4	0.0
SERI	**Serifos**	3.06	351	P	Pn	00 03 23.6	+0.2
VLI	**Veliai**	3.12	326	P	Pn	00 03 24.9	+0.8
ARG	**Arkhangelos**	3.25	49	P	Pn	00 03 28.1	+2.3
ARG	**Arkhangelos**	3.25	49	PN	Pn	00 03 28.2	+2.4
ARG	**Arkhangelos**	3.25	49	P	Pn	00 03 28.7	+2.9
ARG				S	Sn	00 04 06.6	+2.4
DAT	**Datca**	3.30	37	P	Pn	00 03 28.5	+1.9
DAT	**Datca**	3.30	37	PN	Pn	00 03 28.2	+1.6
BODT	**Bodrum**	3.44	31	PN	Pn	00 03 30.1	+1.5
KRND	**KRANIDI**	3.61	335	P	Pn	00 03 32.0	+1.2
KRND				S	Sn	00 04 13.5	+0.5
DID	**Didima**	3.69	337	P	Pn	00 03 31.8	-0.1
TURN	**Turunc**	3.69	43	PN	Pn	00 03 34.0	+2.1
SMG	**Samos**	3.84	21	P	Pn	00 03 34.9	+0.8
VLY	**Voula,Athens**	3.86	345	P	Pn	00 03 34.7	+0.4
PYL	**PYLOS**	3.88	316	P	Pn	00 03 35.8	+1.3
VLX	**Vlachokerasia**	3.91	327	P	Pn	00 03 35.6	+0.5
DALY	**Dalyan (Mula)**	3.96	46	PN	Pn	00 03 38.1	+2.5
GCAM	**G?zelcaml?**	3.97	25	PN	Pn	00 03 37.6	+1.9
YER	**Yerkesik**	3.97	40	P	Pn	00 03 38.3	+2.4
YER	**Yerkesik**	3.97	40	PN	Pn	00 03 37.7	+1.8
ITM	**Ithomi**	3.98	321	PN	Pn	00 03 37.2	+1.2
ITM	**Ithomi**	3.98	321	Pn	Pn	00 03 36.3	+0.3
PTL	**Penteli**	4.03	346	P	Pn	00 03 37.1	+0.4
DION	**Dionisos Attik**	4.05	347	P	Pn	00 03 37.4	+0.5
FETY	**Fethiye**	4.12	51	P	Pn	00 03 39.5	+1.7
FETY	**Fethiye**	4.12	51	PN	Pn	00 03 40.2	+2.4
KSL	**Kastellorizon**	4.20	60	P	Pn	00 03 40.5	+1.6
KSL	**Kastellorizon**	4.20	60	P	Pn	00 03 48.6	+1.6
KSL				S	Sn	00 04 28.0	+0.3
AKAS	**Kas**	4.26	59	PN	Pn	00 03 42.3	+2.5
AKAS	**Kas**	4.26	59	Pn	Pn	00 03 41.3	+1.5
VILL	**Villia**	4.27	341	P	Pn	00 03 40.3	+0.3
CHOS	**Chios island**	4.32	10	PN	Pn	00 03 41.6	+0.9
URLA	**Izmir**	4.39	16	PN	Pn	00 03 42.8	+1.1
BLCB	**Balcova**	4.53	20	PN	Pn	00 03 44.6	+1.1
KYMI	**Kymi, Euboea I**	4.56	350	P	Pn	00 03 44.4	+0.5
KLV	**Kalavryta, Ach**	4.57	330	P	Pn	00 03 45.1	+1.0
DRO	**Drossia**	4.69	325	P	Pn	00 03 47.4	+1.7
ELL	**Elmali**	4.73

SZAC				AML	AML	00 05 26.7
	comp=N,0.5nm,0.5s					
SZAC				AML	AML	00 05 26.7
	comp=N,0.5nm,0.5s					
BOLV	**Bolvadin**	**6.58**	**44**	Pn	**Pn**	**00 04 11.7 -0.1**
HORT	**Hortiatis**	**6.65**	**347**	PN	**Pn**	**00 04 14.8 +2.2**
ASGA	**Asgata**	**6.78**	**82**	P	**Pn**	**00 04 15.0 +0.6**
ALN	**Alexandroupoli**	**6.80**	**6**	Pn	**Pn**	**00 04 14.7 +0.1**
CSS	**Mathiatis**	**6.86**	**81**	Pn	**Pn**	**00 04 17.1 +1.6**
CSS				Sn	**Sn**	**00 05 27.6 -5.6**
CSS	**Mathiatis**	**6.86**	**81**	P	**Pn**	**00 04 15.6 +0.1**
CSS	**Mathiatis**	**6.86**	**81**	Pn	**Pn**	**00 04 17.1 +1.6**
MVOU	**Mavrovouni**	**7.11**	**80**	P	**Pn**	**00 04 20.1 +1.2**
GLL	**Jalalah**	**7.24**	**127**	P	**Pn**	**00 04 22.0 +1.3**
	baz=128					
HFRF	**Wahat Farafira**	**7.49**	**157**	AMP		00 05 00.0
	baz=159					
NBNS	**Bani Suef**	**7.64**	**134**	P	**Pn**	**00 04 28.0 +1.8**
	baz=135					
SUZ	**Suez**	**7.85**	**121**	P	**Pn**	**00 04 30.2 +1.1**
	baz=121					
SCTE	**Santa Cesarea**	**7.94**	**320**	Pn	**Pn**	**00 04 30.6 +0.3**
TAMRE	**El Minia**	**8.15**	**141**	P	**Pn**	**00 04 34.5 +1.3**
	baz=141					
TIP	**Timpagrande**	**8.37**	**309**	Pn	**Pn**	**00 04 37.0 +0.7**
OFRI	**`Ofer**	**8.42**	**98**	Pn	**Pn**	**00 04 37.6 +0.7**
CEL	**Celeste**	**8.49**	**302**	Pn	**Pn**	**00 04 37.7 -0.2**
KZIT	**Kziot**	**8.50**	**110**	Pn	**Pn**	**00 04 38.4 +0.4**
KZIT				Sn	**Sn**	**00 06 09.2 -4.3**
SLTI	**Sal'it**	**8.56**	**100**	Pn	**Pn**	**00 04 38.9 +0.1**
SLTI				Sn	**Sn**	**00 06 10.9 -4.1**
AMAZ	**Amatzia**	**8.67**	**105**	Pn	**Pn**	**00 04 41.4 +1.0**
AMAZ				Sn	**Sn**	**00 06 14.2 -3.6**
MMA0B	**Mount Meron ar**	**8.68**	**94**	Pn	**Pn**	**00 04 41.9 +1.3**
MMA0B				Sn	**Sn**	**00 06 14.4 -3.8**
MMAI	**Mount Meron Ar**	**8.68**	**94**	Pn	**Pn**	**00 04 40.2 -0.4**
	comp=N,2.3nm,0.3s,baz=276,slow=11,SNR=29					
MMAI				Sn	**Sn**	**00 06 15.4 -2.8**
	comp=N,3.5nm,0.3s,baz=276,slow=23,SNR=7.4					
MMLI	**Mount Malkishu**	**8.82**	**98**	Pn	**Pn**	**00 04 43.1 +0.7**
MMLI				Sn	**Sn**	**00 06 16.9 -4.6**
BRTR	**Keskin Array B**	**8.84**	**48**	Pn	**Pn**	**00 04 44.7 +2.0**
	comp=N,0.1nm,0.3s,baz=223,slow=12,SNR=4.7					
BR131	**Keskin Array S**	**8.84**	**48**		**Pn**	**00 04 43.8 +1.1**
GEM	**Giv'at Ha'Em**	**8.87**	**93**	Pn	**Pn**	**00 04 43.3 +0.3**
GEM				Sn	**Sn**	**00 06 17.2 -5.4**
YTIR	**Yattir**	**8.89**	**105**	Pn	**Pn**	**00 04 44.3 +0.9**
YTIR				Sn	**Sn**	**00 06 18.4 -4.9**
NATI	**Neve Ativ**	**8.92**	**93**	Pn	**Pn**	**00 04 46.6 +2.9**
HMDT	**Nahal Hemdat**	**8.95**	**99**	Pn	**Pn**	**00 04 45.5 +1.3**
UJAP	**Al Uja**	**8.98**	**101**	Pn	**Pn**	**00 04 45.1 +0.5**
DSI	**Dead Sea**	**9.03**	**104**	Pn	**Pn**	**00 04 46.2 +0.9**
KRMI	**Paran Flat**	**9.10**	**113**	Pn	**Pn**	**00 04 46.6 +0.3**
PRNI	**Paran**	**9.21**	**111**	Pn	**Pn**	**00 04 48.8 +1.1**
PRNI				Sn	**Sn**	**00 06 26.9 -4.1**
RAFF	**Raffo Rosso**	**9.25**	**293**	Pn	**Pn**	**00 04 48.9 +0.6**
ZFRI	**Zfri**	**9.25**	**110**	Pn	**Pn**	**00 04 48.3 0.0**
ZFRI				Sn	**Sn**	**00 06 26.7 -5.4**
GHAJ	**Ghor Haditha**	**9.27**	**105**	Pn	**Pn**	**00 04 49.0 +0.5**
VAE	**Valguarnera**	**9.29**	**294**	Sn	**Sn**	**00 06 26.6 -6.5**
	comp=N,0.6nm,0.3s,baz=308,slow=19,SNR=1.3					
HRFI	**Mount Harif**	**9.38**	**113**	Pn	**Pn**	**00 04 51.3 +1.2**
HRFI				Sn	**Sn**	**00 06 31.2 -4.0**
MBRI	**Mt Berech**	**9.40**	**115**	Pn	**Pn**	**00 04 50.8 +0.3**
PDG	**Podgorica**	**9.47**	**333**	Pn	**Pn**	**00 04 51.0 -0.2**
EIL	**Elat**	**9.49**	**115**	Pn	**Pn**	**00 04 52.1 +0.5**
	comp=N,2.8nm,0.3s,baz=248,slow=6,3,SNR=24					
EIL				Sn	**Sn**	**00 06 33.2 -4.8**
	comp=N,0.3nm,0.3s,baz=199,slow=19,SNR=2.2					
EIL	**Elat**	**9.49**	**115**	Pn	**Pn**	**00 04 52.1 +0.5**
AQBJ	**Aqaba**	**9.54**	**115**	Pn	**Pn**	**00 04 53.2 +1.0**
ASF	**Jabal al Asfar**	**10.10**	**98**	Pn	**Pn**	**00 04 59.7 -0.3**
	comp=N,0.3nm,0.3s,baz=268,slow=7.4,SNR=2.4					
ASF				Sn	**Sn**	**00 06 48.3 -4.6**
	comp=N,0.3nm,0.3s,baz=102,slow=18,SNR=1.6					
CLTB	**Caltabellotta**	**10.23**	**293**	Pn	**Pn**	**00 05 01.7 -0.1**
CORL	**Corleone**	**10.25**	**295**	Pn	**Pn**	**00 05 02.7 +0.7**
GAZ	**Gaziantep**	**10.32**	**69**	Pn	**Pn**	**00 05 03.6 +0.6**
SGRT	**San Giovanni R**	**10.59**	**319**	Pn	**Pn**	**00 05 05.3 -1.5**
PAOL	**Paolisi**	**10.81**	**313**	Pn	**Pn**	**00 05 10.2 +0.4**
MLR	**Muntele Rosu**	**11.37**	**3**	P	P	00 05 18.0 +6.3
MLR	**Muntele Rosu**	**11.37**	**3**	Pn	**Pn**	**00 05 18.0 +0.7**
INTR	**Introdacqua**	**11.80**	**315**	Pn	**Pn**	**00 05 23.7 +0.4**
AQU	**L'Aquila**	**12.31**	**315**	Pn	**Pn**	**00 05 29.9 -0.3**
NRCA	**Norcia**	**12.77**	**316**	Pn	**Pn**	**00 05 37.4 +0.8**
KEST	**Kesra**	**13.02**	**282**	Pn	**Pn**	**00 05 40.5 +0.6**
MURB	**Monte Urbino**	**13.38**	**317**	Pn	**Pn**	**00 05 44.4 -0.4**
VSL	**Villasalto**	**13.67**	**298**	Pn	**Pn**	**00 05 49.3 +0.6**
PRED	**Cave del Predi**	**15.10**	**328**	Pn	**Pn**	**00 06 08.7 +0.5**
PRED				IAmb	IAmb	00 06 16.4
	comp=Z,8.2nm,1.4s					
ZOU	**Zoufplan**	**15.45**	**327**	Pn	**Pn**	**00 06 12.8 0.0**
ZOU				IAmb	IAmb	00 06 20.1
	comp=Z,9.6nm,1.0s					
CIMO	**Cimolais**	**15.51**	**325**	Pn	**Pn**	**00 06 14.0 +0.5**
KWP	**Kalwaria Pacla**	**15.59**	**354**	Pn	**Pn**	**00 06 14.9 +0.3**
KWP				IAmb	IAmb	00 06 18.4
	comp=Z,15nm,1.5s					
KBA	**Koelnbreinsper**	**15.68**	**329**	*i* P	**P**	**00 06 20.4 +0.4**
	comp=Z,4.4nm,0.6s					
CTI	**Castel Tesino**	**15.70**	**323**	Pn	**Pn**	**00 06 15.8 -0.3**
CTI				IAmb	IAmb	00 06 30.2
	comp=Z,3.2nm,0.8s					
ABTA	**Abfaltersbach**	**15.80**	**327**	*e*P	**P**	**00 06 21.9 +0.8**
	comp=Z,6.3nm,0.7s					
MOA	**Molln**	**15.93**	**333**	*e*P	**P**	**00 06 23.1 +0.6**
	comp=Z,3.5nm,0.8s					
VRAC	**Vranov**	**16.42**	**340**	Pn	**Pn**	**00 06 26.2 +1.0**
	comp=Z,0.3nm,0.3s,baz=126,slow=11,SNR=4.5					
WTTA	**Wattenberg**	**16.58**	**326**	*e*P	**P**	**00 06 32.5 +2.5**
	comp=Z,7.4nm,1.0s					
MORC	**Moravsky Berou**	**16.60**	**343**		**Pn**	**00 06 28.5 +1.0**
FUORN	**Ofenpass-Fuorn**	**16.79**	**322**	Pn	**Pn**	**00 06 28.4 -1.8**
KIV	**Kislovodsk**	**16.80**	**49**		**Pn**	**00 06 31.3 +1.1**
KIV				IAmb	IAmb	00 06 49.1
	comp=Z,7.7nm,0.8s					
KVAR	**Kislovodsk Arr**	**16.81**	**49**	Pn	**P**	**00 06 33.1 +0.8**
	baz=270,slow=20,SNR=1.9					
KBZ	**Khabaz**	**16.82**	**50**	Pn	**Pn**	**00 06 33.0 +2.7**
	comp=Z,0.2nm,0.3s,baz=246,slow=8.8,SNR=6.1					
AKASG	**Malin Array Be**	**16.84**	**9**	Pn	**Pn**	**00 06 29.8 -0.7**
	comp=Z,1.7nm,0.3s,baz=199,slow=11,SNR=18					
AKASG	**Malin Array Be**	**16.84**	**9**	Pn	**Pn**	**00 06 30.1 -0.3**
AKBB	**Malin Array Si**	**16.84**	**9**	Pn	**Pn**	**00 06 30.4 -0.1**
AKBB				IAmb	IAmb	00 06 32.0
	comp=Z,10nm,0.8s					
FETA	**Feichten**	**16.84**	**324**	*e*P	**Pn**	**00 06 32.7 +2.0**
	comp=Z,6.9nm,1.5s					
GEC2	**GERESS Array S**	**16.97**	**333**		**Pn**	**00 06 31.7 -0.5**
GEC2				IAmb	IAmb	00 06 35.1
	comp=Z,6.5nm,0.7s					
GERES	**GERESS Array B**	**16.97**	**333**	Pn	**Pn**	**00 06 33.5 +1.3**
	comp=Z,0.9nm,0.3s,baz=144,slow=12,SNR=43					
GERES	**GERESS Array B**	**16.97**	**333**		**Pn**	**00 06 32.6 +0.4**
KRLC	**Kraliky**	**17.06**	**342**	*e*P	**Pn**	**00 06 35.1 +1.7**
DAVOX	**Davos/Dischmat**	**17.09**	**322**	Pn	**Pn**	**00 06 36.0 +2.1**
	comp=Z,0.1nm,0.3s,baz=12,slow=20,SNR=1.7					
TUE	**Stuetta**	**17.17**	**321**		**Pn**	**00 06 35.7 +0.8**
TUE				IAmb	IAmb	00 06 36.2
	comp=Z,4.3nm,0.9s					
TBLG	**Delisi**	**17.24**	**58**	P	**Pn**	**00 06 36.5 +0.9**
TBLG				IAmb	IAmb	00 06 49.5
	comp=Z,13nm,1.3s					
TBLG	**Delisi**	**17.24**	**58**	P	P	00 06 36.5 -9.1
KHC	**Kasperske Hory**	**17.25**	**334**	*e*P	**Pn**	**00 06 36.9 +1.2**
KHC	**Kasperske Hory**	**17.25**	**334**		**Pn**	**00 06 35.6 -0.1**
DPC	**Dobruska-Polom**	**17.44**	**341**	*e*P	**Pn**	**00 06 40.0 +1.9**
PBCC	**Pribram**	**17.57**	**336**	*e*P	**Pn**	**00 06 40.8 +1.2**
BNI	**Bardonecchia**	**17.85**	**313**		**Pn**	**00 06 44.0 +0.7**
SENIN	**Lac Senin/Sane**	**18.21**	**317**		**Pn**	**00 06 47.9 0.0**
GRA1	**Grafenberg Arr**	**18.61**	**331**	P	**P**	**00 06 51.7 -0.4**
GRA1				IAmb	IAmb	00 06 54.4
	comp=Z,8.5nm,1.1s					
BFO	**Black Forest**	**18.91**	**324**	P	**P**	**00 06 55.5 0.0**
CLL	**Collm**	**19.28**	**337**	P	**P**	**00 06 58.1 -1.4**
CLL				IAmb	IAmb	00 07 10.4
	comp=Z,3.0nm,0.7s					
OBN	**Obninsk**	**22.46**	**17**	P	**P**	**00 07 32.3 -1.4**
	comp=Z,2.0nm,0.5s,baz=270,slow=19,SNR=1.7					
OBN	**Obninsk**	**22.46**	**17**	P	**P**	**00 07 34.6 +0.8**
OBN				IAmb	IAmb	00 07 37.1
	comp=Z,10nm,0.9s					
ESBB	**Sonseca Array**	**23.82**	**292**	P	**P**	**00 07 47.8 -0.1**
ESBB				IAmb	IAmb	00 07 52.1
	comp=Z,7.5nm,1.2s					
ESDC	**Sonseca Array**	**23.82**	**292**	P	**P**	**00 07 49.1 +1.2**
	comp=Z,0.7nm,0.7s,baz=80,slow=7.9,SNR=9.0					
PAB	**San Pablo**	**24.11**	**292**	P	**P**	**00 07 50.0 -0.6**
PAB				IAmb	IAmb	00 08 02.2
	comp=Z,3.7nm,1.4s					
MDT	**Midelt**	**24.77**	**275**	P	**P**	**00 07 58.1 +1.5**
	comp=Z,0.5nm,0.4s,baz=293,slow=14,SNR=1.6					
SFS	**San Fernando**	**25.59**	**284**	P	**P**	**00 08 03.8 -0.1**
HFS	**Hagfors**	**27.06**	**347**	P	**P**	**00 08 15.2 -1.8**
	comp=Z,1.0nm,0.5s,baz=128,slow=11,SNR=2.4					
FINES	**FINESS Array B**	**27.34**	**1**	P	**P**	**00 08 17.8 -1.6**
	comp=Z,1.4nm,0.7s,baz=168,slow=10,SNR=5.9					
NC602	**NORSAR Array S**	**28.03**	**346**	P	**P**	**00 08 24.2 -1.5**
NAO01	**NORSAR Array S**	**28.27**	**345**	P	**P**	**00 08 26.3 -1.5**
NAO01				IAmb	IAmb	00 08 37.6
	comp=Z,8.0nm,0.9s					
NC405	**NORSAR Array S**	**28.34**	**346**	P	**P**	**00 08 27.7 -0.8**
NC405				IAmb	IAmb	00 08 32.1
	comp=Z,5.6nm,1.0s					
NB201	**NORSAR Array S**	**28.37**	**346**	P	**P**	**00 08 27.9 -0.8**
NB2	**NORSAR Subarra**	**28.38**	**346**	P	**P**	**00 08 27.8 -1.1**
	comp=Z,3.6nm,1.4s,baz=156,slow=9.3					
NOA	**NORSAR Array B**	**28.38**	**346**	P	**P**	**00 08 27.8 -1.1**
	comp=Z,0.3nm,0.5s,baz=142,slow=9.2,SNR=3.4					
NBO00	**NORSAR Array S**	**28.46**	**345**	P	**P**	**00 08 27.4 -2.1**
UOSS	**Minazif**	**28.49**	**100**	P	**P**	**00 08 31.2 +1.0**
UOSS				IAmb	IAmb	00 08 31.3
	comp=Z,15nm,1.3s					
NC303	**NORSAR Array S**	**28.52**	**346**	P	**P**	**00 08 28.2 -1.8**
NC204	**NORSAR Array S**	**28.69**	**346**	P	**P**	**00 08 30.0 -1.6**
EKA	**Eskdalemuir Ar**	**28.85**	**326**	P	**P**	**00 08 32.2 -0.8**
	comp=Z,0.6nm,0.6s,baz=141,slow=9.1,SNR=4.7					
ESK	**Eskdalemuir**	**28.86**	**326**	P	**P**	**00 08 33.3 +0.2**
ESK				IAmb	IAmb	00 08 48.3
	comp=Z,3.2nm,0.8s					
AKTO	**Aktyubinsk**	**29.00**	**46**	P	**P**	**00 08 35.2 +0.8**
	comp=Z,0.6nm,0.4s,baz=225,slow=11,SNR=1.7					
TOA0	**Torodi Ar. Sit**	**29.79**	**231**	P	**P**	**00 08 43.4 +1.6**
TOA0				IAmb	IAmb	00 08 54.7
	comp=Z,2.0nm,0.8s					
TORD	**Torodi Ar. Bea**	**29.79**	**231**	P	**P**	**00 08 44.0 +2.2**
	comp=Z,1.4nm,0.5s,baz=31,slow=8.4,SNR=32					
TORD	**Torodi Ar. Bea**	**29.79**	**231**	P	**P**	**00 08 42.9 +1.2**
ARCES	**ARCESS Array B**	**35.46**	**0**	P	**P**	**00 09 29.0 -1.8**
	comp=Z,1.3nm,0.8s,baz=182,slow=8.4,SNR=6.6					
SPITS	**Spitsbergen Ar**	**44.31**	**357**	P	**P**	**00 10 44.6 +0.4**
	comp=Z,4.8nm,0.8s,baz=165,slow=17,SNR=1.3					
MKAR	**Makanchi Array**	**44.40**	**56**	P	**P**	**00 10 46.6 +1.2**
	comp=Z,0.6nm,0.3s,baz=269,slow=7.0,SNR=13					
MKAR	**Makanchi Array**	**44.40**	**56**	P	**P**	**00 10 46.8 +1.5**
ZALV	**Zalesovo Beam**	**45.77**	**45**	P	**P**	**00 10 56.4 +0.3**
	comp=Z,2.6nm,0.4s,baz=271,slow=8.8,SNR=8.7					
SONM	**Songino Array**	**60.19**	**50**	P	**P**	**00 12 44.6 +1.8**
	comp=Z,0.7nm,0.7s,baz=274,slow=8.4,SNR=3.6					
SONM	**Songino Array**	**60.19**	**50**	P	**P**	**00 12 42.9 +0.1**
BOSA	**Boshof**	**62.40**	**180**	P	**P**	**00 12 58.5 +0.7**
SCHQ	**Schefferville**	**63.93**	**320**	P	**P**	**00 13 07.9 +0.3**
	comp=Z,7.2nm,1.0s,baz=60,slow=9.0,SNR=2.1					
SCHQ	**Schefferville**	**63.93**	**320**	P	**P**	**00 13 07.2 -0.4**
USRK	**Ussuriysk Ar.**	**77.61**	**45**	P	**P**	**00 14 32.0 +1.0**
	comp=Z,1.0nm,0.5s,baz=255,slow=3.9,SNR=2.5					
PETK	**Petropavlovsk-**	**83.86**	**27**	P	**P**	**00 15 03.9 -0.4**
	comp=Z,0.7nm,0.7s,baz=284,slow=5.8,SNR=2.3					

TEH ***13*** *00:29:10.8,27°.22N×53°.01E, h5km, ML3.3*
THR ***13*** *00:29:12.9±0.8, 27°.21N×53°.06E, h18km±5km, ML3.1*
OMAN ***13*** *00:29:18.8±1.1, 26°.99N×52°.82E, h73km, ml3.3/8, Error ellipse: s-maj=45.8km s-min=17.8km az=230.0*
ISC 13 00:29:13.3±2.2, 27°.29N±0°.05×53°.05E±0°.08, h1km±13km, n22, σ1s52/32, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.11**	**65**	*e*Pg	**Pg**	**00 29 15.1**	**-0.3**
LMD1				*e*Sg	**Sg**	**00 29 17.7**	**+0.8**
LAR1	**LAR**	**1.23**	**72**	*e*Sg	**Sn**	**00 29 58.2**	**+3.0**
LAR1				*e*		00 30 02.7	
JHRM	**Jahrom**	**1.30**	**21**	*e*Pg	**Pb**	**00 29 38.1**	**-0.4**
JHRM				*e*		00 30 03.0	
BNDS	**Bandar-Abbas**	**2.78**	**87**	*e*Pn	**Pn**	**00 29 58.8**	**-0.3**
BNDS				*e*Sg	**Sb**	**00 30 39.8**	**+1.3**
BNDS	**Bandar-Abbas**	**2.78**	**87**	*e*Pn	**Pn**	**00 29 58.8**	**-0.3**
GENO	**Geno**	**2.78**	**87**	*e*Pn	**Pn**	**00 29 58.5**	**-0.6**
GENO				*e*		00 31 03.6	
BANOM	**Banah**	**3.21**	**114**	P	**Pn**	**00 30 07.2**	**+2.3**
BANOM				S	**Sb**	**00 30 46.9**	**-4.0**
NAZ	**Nazwa, Dubai**	**3.28**	**134**	P	**Pn**	**00 30 07.8**	**+1.9**
NAZ				S	**Sn**	**00 30 47.0**	**+1.4**
MDH	**Madha**	**3.53**	**124**	P	**Pn**	**00 30 10.4**	**+1.2**
MDH				S	**Sn**	**00 30 52.8**	**+1.2**
UOSS	**Minazif**	**3.67**	**129**	P	**Pn**	**00 30 11.4**	**+0.2**
UOSS				S	**Sn**	**00 30 54.8**	**-0.5**
HATD	**Hatta, Dubai**	**3.70**	**131**	P	**Pn**	**00 30 13.3**	**+1.6**
HATD				S	**Sn**	**00 30 56.4**	**+0.4**
ASHO	**Ashiyiah**	**3.75**	**133**	P	**Pn**	**00 30 13.9**	**+1.5**
ASHO				S	**Sn**	**00 30 57.0**	**-0.2**
KLNJ	**Kolanjah**	**3.92**	**341**	*e*Pn	**Pn**	**00 30 15.8**	**+0.8**
NGRK	**Negar Kerman**	**4.00**	**53**	*e*Pn	**Pn**	**00 30 16.3**	**+0.2**
NGRK				*e*		00 31 37.1	
KRBR	**Kerman**	**4.22**	**50**	*e*Pn	**Pn**	**00 30 20.2**	**+1.1**
KRBR				Sn	**Sn**	**00 31 07.8**	**-1.4**
KRBR	**Kerman**	**4.22**	**50**	*e*Pn	**Pn**	**00 30 20.2**	**+1.1**
TVBK	**TV Kerman**	**4.22**	**50**	*e*Pn	**Pn**	**00 30 19.8**	**+0.6**
TVBK				*e*		00 31 15.1	
IMEH	**Mehriz**	**4.31**	**18**	*e*Pn	**Pn**	**00 30 20.2**	**0.0**
IBAF	**Bafgh**	**4.81**	**27**	*e*Pn	**Pn**	**00 30 27.2**	**+0.1**
ARQ	**Araqi**	**5.04**	**141**	P	**Pn**	**00 30 30.5**	**+0.5**
	SNR=8.7						
ARQ				S	**Sn**	**00 31 25.8**	**-3.2**
YZKH	**Yazd**	**5.25**	**14**	*e*Pn	**Pn**	**00 30 33.9**	**+0.8**
YZKH	**Yazd**	**5.25**	**14**	*e*Pn	**Pn**	**00 30 33.9**	**+0.8**

JMA 13 00:32:21.3, 34°.79N×136°.98E, h38km±1km, M3.0, 5C-1D
Broadband fault plane solution: P waves. NP1: ϕ_s=31.00000°, δ34.00000°, λ-74.00000°. **NP2:** ϕ_s193.00000°, δ58.00000°, λ-100.00000°. **Principal axes:** T Plg12.0000°, Azm290.0000°; N Plg9.0000°, Azm198.0000°; P Plg75.0000°, Azm73.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.21**	**140**	⇑P	Pn	00 32 28.3	-1.8
JAA				S	Sn	00 32 33.2	-5.1
JIE	**Ise**	**0.46**	**210**	⇓P	Pn	00 32 31.3	+0.1
JIE				*e*S	Sn	00 32 38.0	-0.3
TSUJ	**Tsu 2**	**0.47**	**260**	⇑P	Pn	00 32 31.2	-0.2
TSUJ				*e*S	Sn	00 32 38.4	-0.2
JKN2	**Miekihoku**	**0.80**	**227**	⇑P	Pn	00 32 35.8	-0.3
JYTA	**Yamagatataniai**	**0.83**	**346**	⇑P	Pn	00 32 36.6	+0.2
JYTA				*e*S	Sn	00 32 47.5	+0.1
TK04	**Tokai 4**	**0.84**	**118**	P	Pn	00 32 36.5	0.0
SHZ3	**Shizuoka 3**	**1.05**	**74**	P	Pn	00 32 38.9	-0.6
TTO2	**TONANKAI O.B.S**	**1.05**	**178**	*e*S	Sn	00 32 54.1	+1.6
TK02	**Tokai 2**	**1.06**	**142**	⇑P	Pn	00 32 38.6	-0.8
JHE	**Heguri**	**1.07**	**263**	P	Pn	00 32 39.7	-0.1
JHE				*e*S	Sn	00 32 53.8	+0.3
MAT	**Matsushiro**	**2.01**	**29**	P	Pn	00 32 54.7	+1.9
MAT				S	Sn	00 33 19.2	+2.5

NDI ***13*** *00:32:39.2±1.7, 34°.88N×69°.76E, h87km±46km, MD4.2, ML4.3*
IDC ***13*** *00:32:39.9±0.6, 34°.68N×70°.46E, h0km, mb4.2/29, mb1 4.3/33, mb1mx4.2/59, mbtmp4.2/33, ML4.1/4, MS3.4/11, Ms1 3.5/11, ms1mx3.2/36, Error ellipse: s-maj=15.0km s-min=11.4km az=15.0*
BJI ***13*** *00:32:41.7±0.0, 34°.80N×70°.27E, h25km, mB4.8/24, mb4.7/32, ML4.4/1, Ms3.9/6, Ms7 3.9/3*
NNC ***13*** *00:32:48.9±3.4, 34°.81N×70°.14E, h121km±31km, mb3.9, mpv4.5, Error ellipse: s-maj=32.6km s-min=25.2km az=140.0*
ISC 13 00:32:45.8±0.4, 34°.67N±0°.04×70°.44E±0°.04, h42km, n114, σ2s62/133, mb4.3/38, MS3.3/9, 7C-7D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**1.48**	**125**	P	**Pn**	**00 33 12.6**	**+2.5**
CEP				S	**Sn**	**00 33 32.0**	**+3.7**
THW	**Thamme Wali**	**2.16**	**150**	P	**Pn**	**00 33 21.0**	**+1.6**
SARP	**Sargodha**	**3.32**	**145**	P	**Pn**	**00 33 36.6**	**+1.4**
THN	**Thein Dam**	**4.94**	**115**	*e*P	**Pn**	**00 33 59.0**	**+1.6**
THN				*e*S	**Sn**	**00 34 56.0**	**+2.7**
DHRM	**DHARAMSHALA**	**5.46**	**115**	*e*P	**Pn**	**00 34 06.2**	**+1.3**
DHRM				*e*S	**Sn**	**00 35 09.8**	**+3.3**
DHRM				IAML		00 35 11.9	
	comp=N,1μm,0.3s						
DHRM				IAML		00 35 12.8	
	comp=E,1μm,0.2s						
BHK	**Bhakra**	**5.97**	**121**	*e*P	**Pn**	**00 34 13.8**	**+2.1**
BHK				*ex*	x	00 35 24.4	
KSH	**Kashi**	**6.55**	**41**	Pn	**Pn**	**00 34 16.9**	**-2.8**
KSH				Sn	**Sn**	**00 35 26.7**	**-6.4**
KSH				smax	smax		
	comp=N,230nm,0.4s						
KSH				smax	smax		
	comp=E,210nm,0.6s						
SMLA	**Simla**	**6.67**	**120**	*e*P	**Pn**	**00 34 21.4**	**+0.2**
SMLA				*e*S	**Sn**	**00 35 37.6**	**+1.7**
IUG	**Iuzhnay**	**7.47**	**358**	*e*P	**Pn**	**00 34 33.5**	**+1.2**
	comp=E,7.2nm,0.8s,baz=357						
IUG				*i* S	**Sn**	**00 35 59.7**	**+4.0**
	baz=357						
DDI	**Dehra Dun**	**7.75**	**122**	*e*S	**Sn**	**00 36 02.9**	**+0.2**
AML	**Almayashu**	**7.87**	**18**	P	**Pn**	**00 34 39.6**	**+1.6**
	SNR=48						
DZA	**Taraz**	**8.24**	**5**	*e*P	**Pn**	**00 34 44.5**	**+1.7**
	comp=E,32nm,1.2s,baz=3.7						
DZA				*e*S	**Sn**	**00 36 18.9**	**+4.5**
	baz=3.7						
DZA				*i* S		00 36 19.1	
	baz=3.7						
KZA	**Kyzart**	**8.30**	**26**	P	**Pn**	**00 34 45.0**	**+1.0**
	SNR=7.2						
NDI	**New Delhi**	**8.30**	**134**	*e*P	**Pn**	**00 34 44.0**	**+0.3**
NDI				*e*S	**Sn**	**00 36 14.0**	**-2.1**
EKS2	**Erkin-Say**	**8.39**	**17**	P	**Pn**	**00 34 46.6**	**+1.7**
	SNR=13						
KK31	**Karatay Array**	**8.42**	**0**	P	**Pn**	**00 34 45.9**	**+0.7**
	comp=E,6.2nm,0.3s,baz=176,slow=13,SNR=76						
KK31				⇓S	**Sn**	**00 36 20.6**	**+1.7**
	comp=E,7.2nm,0.5s,baz=178,slow=21,SNR=5.1						
SONA	**Sohna**	**8.55**	**137**	*e*P	**Pn**	**00 34 47.1**	**+0.1**
SONA				*e*S	**Sn**	**00 36 18.9**	**-3.3**
SONA				IAML		00 36 24.9	
	comp=E,144nm,0.3s						
SONA				IAML		00 36 25.6	
	comp=N,55nm,0.8s						
AAK	**Ala-Archa**	**8.56**	**20**	P	**Pn**	**00 34 48.7**	**+1.4**
	SNR=24						
AAK	**Ala-Archa**	**8.56**	**20**	⇓P	**Pn**	**00 34 48.5**	**+1.2**
	comp=N,18nm,0.6s						
AAK				⇓S	**Sn**	**00 36 24.8**	**+2.2**
	comp=N,27nm,0.7s						
CHMS	**Chumysh**	**8.96**	**21**	P	**Pn**	**00 34 54.0**	**+1.2**
	SNR=27						
USP	**Ospenovka**	**9.14**	**19**	P	**Pn**	**00 34 56.3**	**+1.2**
	SNR=9.0						
TKM2	**Tokmak 2**	**9.16**	**24**	P	**Pn**	**00 34 56.7**	**+1.1**
	SNR=14						
TKM2	**Tokmak 2**	**9.16**	**24**	⇑P	**Pn**	**00 34 56.3**	**+0.8**
	comp=N,6.3nm,0.5s						
TKM2				⇑S	**Sn**	**00 36 41.4**	**+4.0**
	comp=N,9.2nm,0.7s		

comp=N,4.6nm,1.3s,baz=21
AKTO Aktyubinsk 18.18 334 P P 00 36 53.7 -1.1
comp=N,0.5nm,0.3s,baz=159,slow=8.9,SNR=12
AKTO S Sn 00 40 11.0 -5.7
comp=N,0.4nm,0.3s,baz=185,slow=20,SNR=2.2
AKTO LR LR 00 44 42.8
comp=N,117nm,18.8s,baz=132,slow=40
AKTO Aktyubinsk 18.18 334 ⇑P P 00 36 52.8 -2.0
comp=N,7.5nm,0.8s
AKTO ⇓S Sn 00 40 09.6 -7.1
comp=N,6.2nm,0.9s
BVAR Borovoye Array 18.35 360 P P 00 36 56.1 -0.5
comp=N,1.0nm,0.3s,baz=164,slow=13,SNR=18
ZALV Zalesovo Beam 21.77 23 P P 00 37 32.3 -1.4
comp=N,7.1nm,0.3s,baz=221,slow=11,SNR=39
ZALV LR LR 00 46 28.5
comp=N,46nm,19.8s,baz=188,slow=38
KBZ Khabaz 23.10 301 P P 00 37 47.6 -0.2
comp=N,1.9nm,0.8s,baz=107,slow=11,SNR=3.2
KBZ LR LR 00 49 47.3
comp=N,99nm,18.1s,baz=67,slow=44
ARU Arti 23.23 343 P P 00 37 48.6 -0.4
comp=N,1.1nm,0.5s,baz=171,slow=10,SNR=8.9
ARU S S 00 42 06.3 +8.5
comp=N,0.4nm,0.2s,baz=323,slow=20,SNR=1.4
ARU LR LR 00 47 56.2
comp=N,134nm,18.3s,baz=144,slow=40
GTA Gaotai 23.86 70 eP P 00 37 57.4 +2.0
GTA pP pP 00 38 03.0 -4.6
GTA sP sP 00 38 07.2 -5.9
GTA S S 00 42 13.1 +4.4
GTA pmax pmax
comp=N,19nm,1.0s
GTA pmax pmax
comp=N,78nm,8.8s
KIRV Kirov 27.70 336 LR LR 00 50 22.8
comp=N,78nm,18.5s,baz=192,slow=38
KMI Kunming 29.46 100⇓eP P 00 38 48.2 +2.1
KMI pmax pmax
comp=N,15nm,0.6s
BRTR Keskin Array B 29.61 291 P P 00 38 48.7 +1.6
comp=N,2.9nm,1.0s,baz=108,slow=7.9,SNR=15
SONM Songino Array 29.77 53 P P 00 38 48.8 +0.4
comp=N,5.2nm,0.8s,baz=256,slow=9.7,SNR=21
CMAR Chiang Mai Arr 30.03 115 P P 00 38 51.3 +0.4
comp=N,1.2nm,0.4s,baz=306,slow=8.7,SNR=7.0
CMAR LR LR 00 53 42.3
comp=N,90nm,18.5s,baz=259,slow=42
OBN Obninsk 31.06 322 P P 00 38 59.7 +0.2
comp=N,1.6nm,0.4s,baz=243,slow=23,SNR=3.2
XAN Xi'an 31.64 80 P P 00 39 17.0 +12
XAN pmax pmax
comp=Z,5.0nm,1.2s
XAN pmax pmax
comp=Z,87nm,4.1s
GYA Guiyang 32.11 95 eP P 00 39 09.6 +0.3
GYA pmax pmax
comp=Z,6.0nm,1.0s
HHC Hu-ho-hao-te 32.86 67 eP P 00 39 19.0 +3.3
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,93nm,7.2s
KLMR Klimovskoe 32.87 332 eP P 00 39 11.5 -3.9
KLMR AMP 00 39 14.9
comp=Z,11nm,1.3s
AKASG Malin Array Be 33.77 311 P P 00 39 23.3 0.0
comp=Z,1.6nm,0.4s,baz=86,slow=7.2,SNR=11
AKASG LR LR 00 55 20.9
comp=Z,64nm,20.6s,baz=80,slow=40
MLR Muntele Rosu 35.31 301 P P 00 39 38.2 +1.3
comp=Z,5.3nm,0.9s,baz=120,slow=4.4,SNR=11
NRIK Noril'sk 36.00 10 P P 00 39 42.7 +0.3
comp=Z,7.0nm,0.6s,baz=204,slow=5.6,SNR=6.3
IDI Anoyia 37.08 284 P P 00 39 52.3 +0.3
comp=Z,3.7nm,0.8s,baz=96,slow=10,SNR=2.2
KOLS Kolonicke sedl 37.98 307 eP P 00 40 00.0 +0.5
FINES FINESS Array B 38.76 328 P P 00 40 05.4 -0.4
comp=Z,3.2nm,0.7s,baz=127,slow=7.1,SNR=24
FINES LR LR 00 56 21.6
comp=Z,44nm,19.3s,baz=114,slow=37
NJ2 Nanjing 40.21 80 eP P 00 40 19.0 +0.7
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
VRAC Vranov 41.72 307 P P 00 40 31.6 +1.0
comp=Z,1.8nm,0.8s,baz=100,slow=8.6,SNR=3.6
ARCES ARCESS Array B 42.67 338 P P 00 40 37.3 -0.7
comp=Z,4.4nm,0.8s,baz=112,slow=5.9,SNR=11
MNSI Mandailing Nat 43.31 135 P P 00 40 43.8 +0.1
comp=Z,11nm,0.7s
GERES GERESS Array B 43.64 307 P P 00 40 45.8 -0.4
comp=Z,0.9nm,0.9s,baz=111,slow=7.3,SNR=6.5
GERES PcP PcP 00 42 34.3 +1.4
comp=Z,0.6nm,0.8s,baz=100,slow=1.5,SNR=4.7
HFS Hagfors 44.24 323 P P 00 40 50.2 -0.5
comp=Z,5.2nm,0.6s,baz=99,slow=9.2,SNR=16
NB2 NORSAR Subarra 45.58 324 P P 00 41 00.3 -1.1
comp=Z,1.5nm,0.5s,baz=98,slow=7.9
NOA NORSAR Array B 45.58 324 P P 00 41 00.3 -1.1
comp=Z,1.7nm,0.5s,baz=98,slow=7.8,SNR=19
NOA LR LR 01 03 27.6
comp=Z,49nm,18.6s,baz=110,slow=40
RGRI Rengat 45.87 133 P P 00 41 03.5 -0.6
KSRS Korea Array 45.93 69 P P 00 41 05.2 +0.7
comp=Z,1.8nm,0.7s,baz=272,slow=5.5,SNR=5.5
KRJI Kerinci 46.74 135 P P 00 41 11.5 +0.4
KEST Kesra 49.20 290 P P 00 41 29.7 -0.3
comp=Z,3.9nm,1.0s,baz=52,slow=8.9,SNR=3.5
MJAR Matsushiro Arr 54.06 67 P P 00 42 06.7 +0.4
comp=Z,1.0nm,0.6s,baz=297,slow=11,SNR=4.6
ESDC Sonseca Array 57.92 299 P P 00 42 34.6 +0.8
comp=Z,2.4nm,0.8s,baz=59,slow=7.2,SNR=19
TORD Torodi Ar. Bea 65.23 269 P P 00 43 22.3 -1.0
comp=Z,6.1nm,1.1s,baz=46,slow=5.9,SNR=32
DBIC Dimbokro 74.15 267 P P 00 44 17.7 -0.6
comp=Z,2.2nm,0.6s,baz=329,slow=2.9,SNR=4.5
DBIC LR LR 01 20 22.9
comp=Z,64nm,20.5s,baz=99,slow=39
KIC Kosan Boka 74.23 267 eP P 00 44 17.8 -1.0
comp=Z,6.3nm,0.7s
TIC Toumodi 74.30 267 eP P 00 44 19.1 -0.1
LIC Lamto 74.54 267 eP P 00 44 20.4 -0.2
comp=Z,2.9nm,0.2s
BOSA Boshof 76.06 220 P P 00 44 29.4 +0.4
comp=Z,2.3nm,0.5s,baz=4.0,slow=4.2,SNR=15
ILAR Eielson Array 76.66 15 P P 00 44 30.7 -1.2
comp=Z,1.9nm,0.8s,baz=316,slow=4.6,SNR=16
WRA Warramunga Arr 81.42 121 P P 00 44 58.6 0.0
comp=Z,1.3nm,1.0s,baz=320,slow=5.3,SNR=14
YKA Yellowknife Ar 83.09 2 P P 00 45 06.2 -0.4
comp=Z,1.6nm,0.4s,baz=352,slow=5.7,SNR=22
ASAR Alice Springs 83.59 124 P P 00 45 10.2 +0.3
comp=Z,1.2nm,0.6s,baz=318,slow=5.2,SNR=11
SCHQ Schefferville 83.59 337 P P 00 45 09.3 -0.1
comp=Z,2.9nm,0.8s,baz=11,slow=16,SNR=1.3
PLCA Paso Flores 148.74 247 PKPbc PKiKP 00 52 30.6 +0.7
comp=Z,1.9nm,0.8s,baz=104,slow=4.2,SNR=3.6

*TEH **13** 01:04:38.7, 32.°66N×47.°72E, h8km, ML3.0*
*ISN **13** 01:04:39.1±0.8, 32.°65N×47.°81E, h14km±5km, ML2.9*
ISC 13 01:04:40.5±1.1, **32.°64N**±0.°04×**47.°79E**±0.°04, **h15**km, **n25,**
σ1§05/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.00**	**121**	*e*Pg		**Pn**		**01 05 00.5**	**+0.4**
IKMR	**Kamar-syah**	**1.01**	**29**	*e*Pg		**Pb**		**01 04 58.4**	**-1.3**
IKMR				*e*				01 05 17.8	
IDOB	**Doab**	**1.19**	**16**	*e*Pg		**Pn**		**01 05 01.8**	**-1.1**
BMDN	**Meydan**	**1.35**	**40**	*e*				01 03 00.3	
BMDN				*e*Pg		**Pn**		**01 05 04.4**	**-0.6**
AHWZ	**Ahwaz**	**1.49**	**151**	*e*Pg		**Pn**		**01 05 06.9**	**+0.2**
IKOM	**Komasi**	**1.55**	**351**	*e*				01 05 09.9	
IKOM				*e*Pg		**Pn**		**01 05 07.7**	**0.0**
IBDR	**Badra**	**1.64**	**287**	*e*Pg		**Pn**		**01 05 09.0**	**+0.3**
IBDR				*e*Sg		**Sb**		**01 05 31.0**	**+0.2**
IBDR				AML		AML		01 05 35.9	
	comp=N,136nm,0.4s								
IBDR				AML		AML		01 05 40.3	
	comp=E,94nm,0.5s								
HSAM	**Samen**	**1.71**	**23**	*e*Pg		**Pb**		**01 05 11.4**	**-0.4**
HSAM				*e*				01 05 38.8	
KCHF	**Cheshme Sefid,**	**1.75**	**339**	*e*Pg		**Pb**		**01 05 11.2**	**-1.2**
KCHF				*e*				01 05 20.1	
KER	**Kermanshah**	**1.83**	**343**	*e*Pn		**Pn**		**01 05 11.9**	**+0.4**
IBZA	**Bozab**	**1.83**	**2**	*e*Pg		**Pb**		**01 05 13.3**	**-0.5**
IBZA				*e*				01 05 44.3	
IGHG	**Ghaleghazi**	**1.97**	**329**	*e*Pg		**Pb**		**01 05 16.4**	**+0.1**
IGHG				*e*				01 05 53.8	
IVIS	**Veis**	**2.04**	**338**	*e*Pn		**Pb**		**01 05 16.1**	**-1.3**
IVIS				*e*				01 05 18.7	
KHMZ	**Khomeyn**	**2.12**	**58**	*e*Pn		**Pb**		**01 05 17.6**	**-1.2**
NSR	**Nassriya**	**2.15**	**221**	*e*Pn		**Pn**		**01 05 16.0**	**+0.3**
NSR				*e*Sn		**Sn**		**01 05 42.0**	**-0.1**
NSR				AML		AML		01 05 56.6	
	comp=E,149nm,0.2s								
IALM	**Almabolaq**	**2.24**	**8**	*e*Pn		**Pn**		**01 05 18.3**	**+1.0**
IDHR	**Dehrash**	**2.37**	**331**	*e*Pn		**Pn**		**01 05 18.7**	**-0.3**
IDHR				*e*				01 05 23.4	
ILIN	**Lien**	**2.38**	**343**	*e*Pn		**Pn**		**01 05 19.8**	**+0.6**
ILIN				*e*				01 05 25.2	
HAGD	**Aghdareh**	**2.45**	**27**	*e*Pn		**Pn**		**01 05 21.2**	**+1.0**
HAGD				*e*				01 06 01.2	
SNGE	**Sanandaj**	**2.48**	**352**	*e*Pn		**Pb**		**01 05 22.6**	**-2.2**
HSRG	**Sareghieh**	**2.63**	**9**	*e*Pn		**Pn**		**01 05 24.7**	**+2.0**
HSRG				*e*				01 06 05.8	
ASAO	**Ashtian**	**2.67**	**44**	*e*Pn		**Pn**		**01 05 24.5**	**+1.3**
BHD	**Baghdad**	**2.94**	**283**	*e*Pn		**Pn**		**01 05 27.0**	**+0.4**
BHD				*e*Sn		**Sn**		**01 06 03.0**	**+1.4**
BHD				AML		AML		01 06 19.1	
	comp=E,101nm,0.4s								
QABG	**Abgarm-Qazvin**	**3.40**	**25**	*e*Pn		**Pn**		**01 05 34.4**	**+1.1**
GHVR	**GHOM**	**3.46**	**57**	*e*Pn		**Pn**		**01 05 35.4**	**+1.5**

*DRS **13** 01:13:31.4±0.0, 43.°20N×45.°01E, h30km*
*TIF **13** 01:13:32.6, 42.°86N×45.°69E, h5km±2km*
*MOS **13** 01:13:32.8±0.0, 42.°93N×45.°87E, h76km±2km, MPVA4.1*
*NORS **13** 01:13:33.1±0.0, 42.°80N×45.°83E, h74km±3km, MPVA4.0*
ISC 13 01:13:35.1±0.8, **42.°94N**±0.°03×**45.°86E**±0.°02, **h75**km±6km,
n93,σ1§21/160, 6C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.27**	**350**	*e*Pg		**Pn**		**01 13 46.6**	**0.0**
GROC				*e*Sg		**Sn**		**01 13 56.8**	**+1.7**
GROC	**Groznyy**	**0.27**	**350**	*e*P		**Pn**		**01 13 46.6**	**0.0**
GROC				*e*				01 13 56.3	
GROC				pmax		pmax			
	comp=Z,398nm,0.2s								
GROC				smax		smax			
	comp=N,887nm,0.2s								
GROC				smax		smax			
	comp=N,1μm,0.4s								
GROC				smax		smax			
	comp=E,622nm,0.5s								
BTLR	**Botlikh**	**0.39**	**136**	*i* Pg		**Pn**		**01 13 46.2**	**-1.3**
BTLR				*e*Sg		**Sn**		**01 13 55.2**	**-1.4**
BTLR	**Botlikh**	**0.39**	**136**	⇑*i*P		**Pn**		**01 13 46.2**	**-1.3**
BTLR				*e*				01 13 55.2	
BTLR				pmax		pmax			
	comp=Z,328nm,0.5s								
BTLR				smax		smax			
	comp=N,849nm,0.4s								
DLMR	**Dylym**	**0.58**	**77**	*e*Pg		**Pn**		**01 13 47.5**	**-1.6**
DLMR				*i* Sg		**Sn**		**01 13 58.5**	**-1.0**
DLMR	**Dylym**	**0.58**	**77**	*e*P		**Pn**		**01 13 47.5**	**-1.6**
DLMR				*i* S		**Sn**		**01 13 58.5**	**-1.0**
DLMR				pmax		pmax			
	comp=Z,259nm,0.1s								
DBC	**Dubki**	**0.72**	**83**	*i* Pg		**Pn**		**01 13 49.7**	**-1.0**
DBC				*e*Sg		**Sn**		**01 14 01.5**	**-0.6**
DBC	**Dubki**	**0.72**	**83**	⇑*i*P		**Pn**		**01 13 49.6**	**-1.0**
DBC				*e*				01 14 01.7	
DBC				pmax		pmax			
	comp=Z,163nm,0.2s								
DBC				smax		smax			
	comp=N,621nm,0.5s								
UNCR	**Uncukul**	**0.72**	**108**	*e*Pg		**Pn**		**01 13 50.0**	**-0.7**
UNCR				*e*Sg		**Sn**		**01 14 03.0**	**+0.8**
UNCR	**Uncukul**	**0.72**	**108**	*e*P		**Pn**		**01 13 50.0**	**-0.7**
UNCR				*e*S		**Sn**		**01 14 03.0**	**+0.8**
UNCR				pmax		pmax			
	comp=Z,107nm,0.2s								
KMGR	**Komgaron**	**0.74**	**279**	*i* Pg		**Pn**		**01 13 50.8**	**0.0**
KMGR				*e*Sg		**Sn**		**01 14 04.0**	**+1.5**
KMGR	**Komgaron**	**0.74**	**279**	⇓*i*P		**Pn**		**01 13 50.8**	**0.0**
KMGR				*e*S		**Sn**		**01 14 04.0**	**+1.5**
XNZR	**Khunzakh**	**0.74**	**122**	*e*Pg		**Pn**		**01 13 50.0**	**-1.0**
XNZR				*e*Sg		**Sn**		**01 14 02.1**	**-0.7**
XNZR	**Khunzakh**	**0.74**	**122**	*e*P		**Pn**		**01 13 50.0**	**-1.0**
XNZR				*e*S		**Sn**		**01 14 01.8**	**-1.0**
KRNR	**Karanay**	**0.78**	**98**	*i* Pg		**Pn**		**01 13 50.0**	**-1.4**
KRNR				*i* Sg		**Sn**		**01 14 02.0**	**-1.4**
KRNR	**Karanay**	**0.78**	**98**	*i* P		**Pn**		**01 13 50.0**	**-1.4**
KRNR				*i* S		**Sn**		**01 14 02.0**	**-1.4**
KRNR				pmax		pmax			
	comp=Z,66nm,0.1s								
VLKR	**Vladikavkaz**	**0.87**	**277**	*e*Pg		**Pn**		**01 13 52.1**	**-0.2**
VLKR				*e*Sg		**Sn**		**01 14 06.2**	**+1.0**
VLKR	**Vladikavkaz**	**0.87**	**277**	⇑*i*P		**Pn**		**01 13 52.2**	**-0.2**
VLKR				*e*S		**Sn**		**01 14 06.7**	**+1.4**
ARKR	**Arakani**	**0.90**	**112**	*i* Pg		**Pn**		**01 13 52.0**	**-0.7**
ARKR				*i* Sg		**Sn**		**01 14 06.0**	**+0.2**
ARKR	**Arakani**	**0.90**	**112**	*i* P		**Pn**		**01 13 52.0**	**-0.7**
ARKR				*i* S		**Sn**		**01 14 06.0**	**+0.2**
ARKR				pmax		pmax			
	comp=Z,116nm,0.1s								
BUJR	**Buynaksk**	**0.93**	**97**	*e*Pg		**Pn**		**01 13 52.3**	**-0.7**
BUJR				*e*Sg		**Sn**		**01 14 06.1**	**-0.2**
BUJR	**Buynaksk**	**0.93**	**97**	⇑*i*P		**Pn**		**01 13 52.3**	**-0.7**
BUJR				*e*				01 14 06.7	
BUJR				pmax		pmax			
	comp=Z,116nm,0.3s								
BUJR				smax		smax			
	comp=N,642nm,0.4s								
GNBR	**Gunib**	**0.98**	**124**	*e*Pg		**Pn**		**01 13 52.9**	**-0.8**
GNBR				*e*Sg		**Sn**		**01 14 07.4**	**-0.2**
GNBR	**Gunib**	**0.98**	**124**	⇑*e*P		**Pn**		**01 13 53.0**	**-0.8**
GNBR				*e*				01 14 07.6	
GNBR				pmax		pmax			
	comp=Z,252nm,0.4s								
GNBR				smax		smax			
	comp=N,503nm,0.2s								
BTKR	**Batakoyurt**	**1.06**	**295**	*e*Pg		**Pn**		**01 13 54.7**	**+0.1**
BTKR				*e*Sg		**Sn**		**01 14 10.6**	**+1.5**
BTKR	**Batakoyurt**	**1.06**	**295**	*e*P		**Pn**		**01 13 54.7**	**+0.1**
BTKR				*e*S		**Sn**		**01 14 10.6**	**+1.5**
TRKR	**Terskaya**	**1.14**	**314**	*e*Pg		**Pn**		**01 13 55.6**	**+0.2**
TRKR				*e*Sg		**Sn**		**01 14 10.8**	**0.0**
TRKR	**Terskaya**	**1.14**	**314**	*e*P		**Pn**		**01 13 55.7**	**+0.2**
TRKR				*e*S		**Sn**		**01 14 10.8**	**0.0**
LGD	**Lagodekhi**	**1.14**	**165**	*e*Pg		**Pn**		**01 13 54.6**	**-1.1**
LGD				*e*Sg		**Sn**		**01 14 10.6**	**-0.4**
LGD	**Lagodekhi**	**1.14**	**165**	P		**Pn**		**01 13 54.5**	**-1.1**
LGD				S		**Sn**		**01 14 10.7**	**-0.3**
LGD	**Lagodekhi**	**1.14**	**165**	P		**Pn**		**01 13 54.5**	**-1.1**
LGD				S		**Sn**		**01 14 10.8**	**-0.3**
LACR	**Lac**	**1.15**	**265**	*i* Pg		**Pn**		**01 13 54.4**	**-1.5**
LACR				*e*Sg		**Sn**		**01 14 09.9**	**-1.6**
LACR	**Lac**	**1.15**	**265**	*i* P		**Pn**		**01 13 54.4**	**-1.5**
LACR				*e*S		**Sn**		**01 14 09.9**	**-1.6**
ARNR	**Ardon**	**1.18**	**282**	*e*Pg		**Pn**		**01 13 55.9**	**-0.2**
ARNR	**Ardon**	**1.18**	**282**	*e*P		**Pn**		**01 13 55.9**	**-0.2**
ARNR				pmax		pmax			
	comp=Z,62nm,0.2s								
MAK	**Makhachkala**	**1.21**	**89**	*e*Pg		**Pn**		**01 13 57.6**	**+1.2**
MAK				*e*Sg		**Sn**		**01 14 12.1**	**-0.4**
MAK	**Makhachkala**	**1.21**	**89**	*e*P		**Pn**		**01 13 55.2**	**-1.2**
MAK				*e*				01 14 12.3	
MAK				pmax		pmax			
	comp=Z,45nm,0.4s								
MAK				smax		smax			
	comp=E,708nm,0.4s								
MAK				smax		smax			
	comp=E,532nm,0.5s								
KMKR	**Kumukh**	**1.22**	**131**	*i* Pg		**Pn**		**01 13 56.5**	**-0.4**
KMKR				*i* Sg		**Sn**		**01 14 13.0**	**-0.1**
KMKR	**Kumukh**	**1.22**	**131**	*i* P		**Pn**		**01 13 56.5**	**-0.4**
KMKR				*i* S		**Sn**		**01 14 13.0**	**-0.1**
KMKR				pmax		pmax			
	comp=Z,116nm,0.1s								
KORR	**Kora**	**1.32**	**277**	*e*Pg		**Pn**		**01 13 57.5**	**-0.5**
KORR				*e*Sg		**Sn**		**01 14 15.6**	**+0.5**
KORR	**Kora**	**1.32**	**277**	*e*P		**Pn**		**01 13 57.5**	**-0.5**
KORR				pmax		pmax			
	comp=Z,17nm,0.2s								
STDR	**Stavd-Durt**	**1.38**	**289**	*e*Pg		**Pn**		**01 13 58.7**	**0.0**
STDR				*e*Sg		**Sn**		**01 14 16.0**	**-0.5**
STDR	**Stavd-Durt**	**1.38**	**289**	*e*P		**Pn**		**01 13 58.7**	**0.0**
STDR				*e*S		**Sn**		**01 14 16.0**	**-0.5**
PRTR	**Priterechnaya**	**1.41**	**306**	*e*Pg		**Pn**		**01 13 59.1**	**+0.1**
PRTR				*e*Sg		**Sn**		**01 14 16.6**	**-0.3**
PRTR	**Priterechnaya**	**1.41**	**306**	*e*P		**Pn**		**01 13 59.1**	**+0.1**
PRTR				*e*S		**Sn**		**01 14 16.7**	**-0.3**
ZEI	**Tsey**	**1.45**	**265**	*e*Pg		**Pn**		**01 13 58.1**	**-1.6**
ZEI	**Tsey**	**1.45**	**265**	*e*P		**Pn**		**01 13 58.5**	**-1.2**
ZEI				*e*S		**Sn**		**01 14 16.2**	**-2.1**
TBLG	**Delisi**	**1.47**	**215**	*e*Pg		**Pn**		**01 13 58.7**	**-1.1**
TBLG				*e*Sg		**Sn**		**01 14 17.6**	**-0.8**
TBLG	**Delisi**	**1.47**	**215**	P		**Pn**		**01 13 58.7**	**-1.1**
TBLG				S		**Sn**		**01 14 17.6**	**-0.8**
TBLG	**Delisi**	**1.47**	**215**	P		**Pn**		**01 13 58.7**	**-1.1**
TBLG				S		**Sn**		**01 14 17.6**	**-0.8**
DDFL	**Dedoflistskaro**	**1.51**	**173**	P		**Pn**		**01 14 01.0**	**+0.6**
DDFL				S		**Sn**		**01 14 23.7**	**+4.3**
DDFL	**Dedoflistskaro**	**1.51**	**173**	P		**Pn**		**01 14 01.1**	**+0.6**
DDFL				S		**Sn**		**01 14 23.8**	**+4.3**
URKR	**Urkarakh**	**1.52**	**120**	*e*Pg		**Pn**		**01 14 00.2**	**-0.5**
URKR				*e*Sg		**Sn**		**01 14 19.5**	**-0.4**
URKR	**Urkarakh**	**1.52**	**120**	⇑*e*P		**Pn**		**01 14 00.3**	**-0.3**
URKR				*e*				01 14 19.8	
URKR				pmax		pmax			
	comp=Z,33nm,0.3s								
URKR				smax		smax			
	comp=N,110nm,0.6s								
LSNR	**Lesken**	**1.53**	**283**	*i* Pg		**Pn**		**01 14 00.1**	**-0.5**
LSNR				*e*Sg		**Sn**		**01 14 19.1**	**-0.9**
LSNR	**Lesken**	**1.53**	**283**	⇓*i*P		**Pn**		**01 14 00.1**	**-0.5**
LSNR				*e*S		**Sn**		**01 14 19.0**	**-0.9**
DGRG	**David-gareji**	**1.53**	**194**	*e*Pg		**Pn**		**01 13 60.0**	**-0.7**
DGRG				*e*Sg		**Sn**		**01 14 20.6**	**+0.5**
DGRG	**David-gareji**	**1.53**	**194**	P		**Pn**		**01 14 00.0**	**-0.7**
DGRG				S		**Sn**		**01 14 20.5**	**+0.5**
DGRG	**David-gareji**	**1.53**	**194**	P		**Pn**		**01 14 00.0**	**-0.7**
DGRG				S		**Sn**		**01 14 20.5**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.68**	**269**	*e*Pg		**Pn**		**01 14 00.9**	**-1.8**
DIGR	**Digorskoe uzhe**	**1.68**	**269**	*e*P		**Pn**		**01 14 00.9**	**-1.8**
DIGR				*e*S		**Sn**		**01 14 20.9**	**-2.7**
ONI	**Oni**	**1.81**	**260**	*i* Pg		**Pn**		**01 14 04.7**	**+0.4**
ONI				*e*Sg		**Sn**		**01 14 27.4**	**+0.8**
ONI	**Oni**	**1.81**	**260**	P		**Pn**		**01 14 04.7**	**+0.4**
ONI				S		**Sn**		**01 14 27.6**	**+1.1**
ONI	**Oni**	**1.81**	**260**	P		**Pn**		**01 14 04.7**	**+0.4**
ONI				S		**Sn**		**01 14 27.6**	**+1.1**
AKT	**Akhty**	**2.02**	**136**	*e*Pg		**Pn**		**01 14 06.0**	**-1.2**
AKT				*e*Sg		**Sn**		**01 14 29.9**	**-1.6**
AKT	**Akhty**	**2.02**	**136**	*e*P		**Pn**		**01 14 05.9**	**-1.3**
AKT				*e*				01 14 29.9	
AKT				pmax		pmax			
	comp=Z,29nm,0.2s								
AKT				smax		smax			
	comp=N,162nm,0.2s								
AKT				smax		smax			
	comp=E,182nm,0.2s								
AKT				smax		smax			
	comp=E,176nm,0.2s								
AKT				MLR		MLR			
	comp=Z,90nm,2.0s								
DMNI	**Dmanisi**	**2.03**	**218**	P		**Pn**		**01 14 05.7**	**-1.7**
DMNI				S		**Sn**		**01 14 29.8**	**-2.2**
DMNI	**Dmanisi**	**2.03**	**218**	P		**Pn**		**01 14 05.7**	**-1.7**
DMNI				S		**Sn**		**01 14 29.8**	**-2.2**
DRN	**Derbent**	**2.04**	**116**	*e*Pg		**Pn**		**01 14 07.8**	**+0.4**
DRN				*e*Sg		**Sn**		**01 14 32.5**	**+0.6**
DRN	**Derbent**	**2.04**	**116**	*e*P		**Pn**		**01 14 07.8**	**+0.4**
DRN				*e*S		**Sn**		**01 14 32.5**	**+0.6**
BKRG	**Bakuriani**	**2.10**	**237**	*e*Pg		**Pn**		**01 14 07.5**	**-0.8**
BKRG				*e*Sg		**Sn**		**01 14 34.3**	**+0.7**
BKRG	**Bakuriani**	**2.10**	**237**	P		**Pn**		**01 14 07.5**	**-0.8**
BKRG				S		**Sn**		**01 14 34.3**	**+0.7**
BKRG	**Bakuriani**	**2.10**	**237**	P		**Pn**		**01 14 07.5**	**-0.8**
BKRG				S		**Sn**		**01 14 34.3**	**+0.7**
AKH	**Akhalkalaki**	**2.33**	**230**	*e*Pn		**Pn**		**01 14 10.8**	**-0.7**
AKH	**Akhalkalaki**	**2.33**	**230**	*e*P		**Pn**		**01 14 10.8**	**-0.7**
AKH				*e*S		**Sn**		**01 14 40.4**	**+1.1**
BEYR	**Belyy Ugol+**	**2.46**	**297**	*e*Pn		**Pn**		**01 14 11.9**	**-1.2**
BEYR				*e*Sn		**Sn**		**01 14 39.1**	**-3.0**
BEYR	**Belyy Ugol+**	**2.46**	**297**	*e*P		**Pn**		**01 14 11.9**	**-1.2**
BEYR				*e*S		**Sn**		**01 14 39.1**	**-3.0**
SHA1	**Shidzhatmaz**	**2.47**	**290**	*e*Pn		**Pn**		**01 14 11.9**	**-1.4**
SHA1	**Shidzhatmaz**	**2.47**	**290**	*e*P		**Pn**		**01 14 12.0**	**-1.4**
SHA1				*e*S		**Sn**		**01 14 40.3**	**-2.4**
KIV	**Kislovodsk**	**2.52**	**295**	*e*Pn		**Pn**		**01 14 13.0**	**-1.0**
KIV	**Kislovodsk**	**2.52**	**295**	*i* P		**Pn**		**01 14 13.0**	**-1.0**
GOF	**Gofitskoye**	**2.93**	**317**	*e*Pn		**Pn**		**01 14 18.8**	**-0.6**
GOF				*e*Sn		**Sn**		**01 14 52.5**	**-1.1**
GOF	**Gofitskoye**	**2.93**	**317**	*e*P		**Pn**		**01 14 18.8**	**-0.6**
GOF				*e*S		**Sn**		**01 14 52.5**	**-1.1**
ARXR	**Arkhyz**	**3.41**	**282**	*e*Pn		**Pn**		**01 14 23.7**	**-2.3**
ARXR				*e*Sn		**Sn**		**01 15 05.0**	**-0.4**
ARXR	**Arkhyz**	**3.41**	**282**	*e*P		**Pn**		**01 14 23.7**	**-2.3**
ARXR				*e*S		**Sn**		**01 15 07.0**	**+1.7**
GUZR	**Guzeripl'**	**4.31**	**286**	*e*P		Pn		01 14 42.0	+3.8
GUZR				*e*S		**Sn**		**01 15 26.2**	**-1.1**
ANN	**Anapa**	**6.37**	**290**	*e*Pn

TEIG LR LR 01 41 43.9
comp=Z,296nm,21.5s,baz=266,slow=41
TEIG Tepich 7.62 41 Pn **Pn 01 38 23.3 +0.8**
JTS Las Juntas de 9.36 115 Pn **Pn 01 38 45.9 -0.6**
0.4nm,0.3s,baz=12,slow=20,SNR=2.1
JTS Lg Lg 01 41 11.8
0.2nm,0.3s,baz=336,slow=20,SNR=1.3
833A Chaparral WMA, 14.82 339 Pn **Pn 01 39 59.1 -1.9**
TXAR Lajitas Array 17.50 329 P **Pn 01 40 35.4 -0.1**
0.1nm,0.3s,baz=157,slow=12,SNR=2.2
TXAR Lajitas Array 17.50 329 **P 01 40 37.4 +0.9**
TX31 Lajitas Ar. Si 17.51 329 **Pn 01 40 35.9 +0.3**
TX31 IAmb IAmb 01 40 51.6
comp=Z,20nm,1.5s
TX32 Lajitas Array 17.51 329 **Pn 01 40 35.9 +0.3**
LPIG La Paz 18.48 304 LR LR 01 48 12.0
comp=Z,54nm,18.1s,baz=235,slow=38
MIAR Mount Ida 19.99 360 P **P 01 41 02.8 -0.8**
MNTX Cornudas Mount 20.29 330 P **P 01 41 08.1 +1.2**
W35A Tecumseh 20.81 352 P **P 01 41 13.2 +0.7**
FNO Franklin 20.99 351 P **P 01 41 15.4 +1.0**
Y52A Lilburn 21.13 22 P **P 01 41 17.1 +1.0**
Y52A IAmb IAmb 01 41 31.3
comp=Z,8.1nm,0.9s
AMTX Amarillo 21.61 342 P **P 01 41 22.1 +0.9**
121A Cookes Peak, D 22.18 327 P **P 01 41 28.6 +1.1**
121A IAmb IAmb 01 41 29.9
comp=Z,7.6nm,0.8s
TKL Tuckaleechee C 22.85 21 LR LR 01 52 22.5
comp=Z,63nm,18.1s,baz=240,slow=42
ANMO Albuquerque 23.48 333 P **P 01 41 41.9 +1.0**
comp=Z,0.0nm,0.4s,baz=315,slow=8.6,SNR=2.3
TUC Tucson 23.72 321 P **P 01 41 43.9 +0.7**
TUC IAmb IAmb 01 41 45.2
comp=Z,5.2nm,1.1s
R32A Long Quarter, 24.29 350 P **P 01 41 47.7 -0.7**
T25A Trinidad 24.57 339 P **P 01 41 51.2 +0.1**
T25A IAmb IAmb 01 41 54.1
comp=Z,4.3nm,0.9s
ISCO Idaho Springs 27.37 339 P **P 01 42 16.0 -0.6**
ISCO IAmb IAmb 01 42 37.0
comp=Z,7.7nm,1.6s
PDAR Pinedale Array 31.39 337 P **P 01 42 52.8 +0.6**
comp=Z,0.5nm,0.7s,baz=140,slow=12,SNR=4.3
NVAR Mina Array Bea 32.38 322 P **P 01 43 02.1 +1.2**
comp=Z,1.0nm,0.8s,baz=138,slow=8.8,SNR=10
YKA Yellowknife Ar 50.24 347 P **P 01 45 26.1 -0.5**
comp=Z,1.2nm,0.8s,baz=156,slow=6.7,SNR=5.1
ILAR Eielson Array 61.82 337 P **P 01 46 49.7 +0.2**
comp=Z,0.9nm,0.9s,baz=151,slow=4.7,SNR=7.5
NB2 NORSAR Subarra 84.44 28 P **P 01 49 03.1 -0.2**
comp=Z,1.2nm,0.8s,baz=291,slow=4.8
NOA NORSAR Array B 84.44 28 P **P 01 49 03.7 +0.5**
comp=Z,1.0nm,0.7s,baz=292,slow=4.8,SNR=6.6
ARCES ARCESS Array B 86.16 18 P **P 01 49 10.7 -0.9**
comp=Z,2.0nm,0.7s,baz=277,slow=7.0,SNR=2.5

NEIC ***13*** *01:54:17.2s 1.8, 14°.32N±0°.08×93°.78W±0°.07, h1km±4km, Error ellipse: s-maj=11.9km s-min=8.4km az=214.0*
IDC ***13*** *01:54:18.2s 0.7, 14°.43N×93°.55W, h0km, mb4.3/19, mb1 4.5/23, mb1mx4.3/45, mbtmp4.3/23, ML3.8/4, MS4.0/21, Ms1 4.0/21, ms1mx3.9/37, Error ellipse: s-maj=26.3km s-min=10.8km az=48.0*
MEX ***13*** *01:54:19.4s 1.0, 14°.22N×93°.82W, h19km±9km, MD4.6*
GCMT ***13*** *01:54:24.0s 0.6, 14°.53N±0°.03×93°.83W±0°.04, h22km±1km, MW4.9/77, Moment Tensor Solution. s19,c23; s77,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r3.04±.24; $M_{\theta\theta}$-2.05±.14; $M_{\phi\phi}$-0.99±.14; $M_{r\theta}$0.92±.17; $M_{\theta\phi}$0.97±.07; $M_{\phi r}$-1.14±.22; Best double couple: $M_0$3.18300×10^{16} NP1:ϕ_s294.00000°, δ32.00000°, λ78.00000°. NP2: ϕ_s129.00000°, δ58.00000°, λ98.00000°. Principal axes: T 3.4190, Plg75.0000°, Azm61.0000°; N -0.4760, Plg7.0000°, Azm305.0000°; P -2.9460, Plg13.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
UNK ***13*** *01:54:26.4, 14°.56N×93°.45W, h59km*
ISC 13 01:54:18.9±0.4, 14°.37N±0°.05×93°.75W±0°.05, h10km, n385, σ1§47/367, mb4.6/79, MS4.0/19, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**21**	*eP*		**Pn**	**01 54 43.1**	**-1.7**
PCIG				*i* S		**Sb**	**01 55 02.0**	**-1.8**
THIG		**1.53**	**69**	*eP*		**Pn**	**01 54 44.7**	**-1.7**
RTAL	**Retalhuleu**	**1.99**	**85**	Pn		**Pn**	**01 54 52.3**	**-0.4**
HUEH	**Huehuetenango**	**2.37**	**66**			**Pn**	**01 54 58.4**	**+0.3**
CCIG	**Comitan**	**2.46**	**39**			**Pn**	**01 55 00.3**	**+1.1**
TGIG		**2.47**	**14**	*eP*		**Pn**	**01 54 59.6**	**+0.2**
TGIG				*i* S		**Sn**	**01 55 28.5**	**-1.2**
TGBT	**Tuxtla Gutierr**	**2.48**	**15**	*eP*		**Pn**	**01 54 57.9**	**-1.5**
TGBT				*e*S		**Sn**	**01 55 29.7**	**0.0**
HUIG	**Huatulco**	**2.67**	**302**	*eP*		**Pn**	**01 55 00.8**	**-1.3**
CMIG	**Matias Romero**	**2.92**	**338**	*eP*		**Pn**	**01 55 04.3**	**-1.2**
APG	**El Apazote**	**3.24**	**78**	Pn		**Pn**	**01 55 10.0**	**-0.1**
11nm,0.3s,baz=256,slow=8.4,SNR=133								
PEIG	**Puerto Escondi**	**3.66**	**297**	*eP*		Pn	01 55 09.0	-6.8
PEIG				*e*S		**Sn**	**01 55 53.2**	**-5.8**
TUIG	**Tuzandepetl**	**3.70**	**350**	*eP*		**Pn**	**01 55 15.8**	**-0.4**
VHO	**Vista Hermosa**	**3.94**	**313**	*eP*		**Pn**	**01 55 19.0**	**-0.7**
VHO				*e*S		**Sn**	**01 56 04.0**	**-2.0**
MTO3	**Montecristo**	**4.25**	**89**			**Pn**	**01 55 23.7**	**-0.3**
ESQI	**Esquipulas**	**4.27**	**87**			**Pn**	**01 55 25.0**	**+0.9**
YOIG	**Yosondua**	**4.42**	**305**	*e*S		**Sn**	**01 56 14.1**	**-4.0**
SNET	**Serv Nac Est T**	**4.43**	**98**			**Pn**	**01 55 26.2**	**-0.2**
PETF	**Flores**	**4.51**	**55**			**Pn**	**01 55 28.3**	**+0.9**
PNIG	**Pinotepa**	**4.68**	**296**	*eP*		**Pn**	**01 55 30.1**	**+0.4**
TXIG	**Tlaxiaco**	**4.82**	**307**	*eP*		**Pn**	**01 55 31.8**	**0.0**
TOIG	**Toxpalan**	**4.89**	**320**	*eP*		**Pn**	**01 55 28.6**	**-4.1**
TOIG				*i* S		**Sn**	**01 56 27.4**	**-2.0**
SCIG	**Sabancuy**	**5.19**	**28**	*eP*		**Pn**	**01 55 36.5**	**-0.1**
HLIG	**Huajuapan de L**	**5.20**	**312**	*eP*		**Pn**	**01 55 41.4**	**+4.3**
TPIG	**Tehuac#an**	**5.32**	**320**	*eP*		**Pn**	**01 55 38.4**	**-0.3**
TLIG	**Tlapa**	**5.62**	**305**	*eP*		**Pn**	**01 55 45.4**	**+2.7**
TLIG	**Tlapa**	**5.62**	**305**	Pn		**Pn**	**01 55 42.1**	**-0.6**
CRIG	**Cruz Grande**	**5.70**	**295**	*eP*		**Pn**	**01 55 45.6**	**+1.9**
TGUH	**Tegucigalpa,Un**	**6.28**	**92**	Pn		**Pn**	**01 55 50.8**	**-1.1**
MEIG	**Mezcala**	**6.66**	**303**	*eP*		**Pn**	**01 56 00.4**	**+3.4**
YAIG	**Yautepec**	**6.78**	**312**	*eP*		**Pn**	**01 56 02.9**	**+4.1**
PLIG	**Platanillo**	**6.82**	**307**	*eP*		**Pn**	**01 56 03.5**	**+4.3**
MYIG	**Mrida**	**7.58**	**30**	*eP*		**Pn**	**01 56 09.7**	**0.1**
MATN	**Matagalpa**	**7.73**	**100**	Pn		**Pn**	**01 56 11.4**	**-0.3**
TEIG	**Tepich**	**7.82**	**41**	Pn		**Pn**	**01 56 12.0**	**-0.9**
6.2nm,0.3s,baz=343,slow=1.0,SNR=32								
TEIG				Sn		**Sn**	**01 57 37.7**	**-3.9**
5.0nm,0.3s,baz=308,slow=19,SNR=1.5								
TEIG				LR		LR	01 59 33.1	
comp=Z,3μm,20.9s,baz=234,slow=41								
BOAB	**BOACO BROADBAN**	**8.09**	**103**			**Pn**	**01 56 15.7**	**-0.9**
ACON	**Acoyapa**	**8.68**	**105**	Pn		**Pn**	**01 56 25.4**	**+0.7**
MOIG	**Morelia**	**8.86**	**308**	Pn		**Pn**	**01 56 26.2**	**-1.1**
ESPN	**Las Esperanzas**	**9.45**	**102**	Pn		**Pn**	**01 56 34.1**	**-1.1**
JTS	**Las Juntas de**	**9.50**	**114**	Pn		**Pn**	**01 56 35.1**	**-0.8**
0.2nm,0.3s,baz=141,slow=18,SNR=1.4								
JTS	**Las Juntas de**	**9.50**	**114**			**Pn**	**01 56 34.1**	**-1.8**
HDC	**Heredia**	**10.37**	**114**	Pn		**Pn**	**01 56 46.6**	**-1.3**
ZAIG	**Zacatecas**	**11.82**	**316**	Pn		**Pn**	**01 57 06.7**	**-1.3**
833A	**Chaparral WMA,**	**14.85**	**340**	P		**Pn**	**01 57 51.5**	**+2.5**
baz=157								
833A	**Chaparral WMA,**	**14.85**	**340**	Pn		**Pn**	**01 57 50.2**	**+1.2**
735A	**Kenedy**	**14.90**	**346**	Pn		**Pn**	**01 57 49.7**	**-0.1**
PAYG	**Puerto Ayora**	**15.33**	**167**	Pn		**Pn**	**01 57 51.4**	**-4.2**
HKT	**Hockley**	**15.63**	**353**	Pn		**Pn**	**01 57 59.0**	**-0.3**
HKT				IAmb		IAmb	01 58 06.5	
comp=Z,70nm,1.8s								
441A	**DeRidder**	**16.31**	**2**	Pn		**Pn**	**01 58 06.2**	**-1.9**
441A				IAmb		IAmb	01 58 19.5	
comp=Z,42nm,0.9s								
435B	**Jarrell**	**16.71**	**348**	P		**P**	**01 58 16.5**	**+0.8**
baz=166								
435B	**Jarrell**	**16.71**	**348**	Pn		**Pn**	**01 58 13.0**	**-0.3**
JCT	**Junction City**	**16.98**	**342**	P		**P**	**01 58 18.6**	**0.0**
baz=158								
JCT	**Junction City**	**16.98**	**342**	Pn		**Pn**	**01 58 17.1**	**+0.4**
344A	**Westbrook Farm**	**17.23**	**9**			**Pn**	**01 58 18.6**	**-1.1**
344A				IAmb		IAmb	01 58 28.7	
comp=Z,86nm,1.1s								
TXAR	**Lajitas Array**	**17.49**	**330**	P		**P**	**01 58 25.7**	**+1.3**
comp=Z,0.1nm,0.3s,baz=155,slow=15,SNR=14								
TXAR				LR		LR	02 05 31.2	
comp=Z,282nm,18.2s,baz=0.0,slow=38								
TXAR Lajitas Array 17.49 330						**P**	**01 58 24.4**	**0.0**
TX31 Lajitas Ar. Si 17.50 330				Pn		**Pn**	**01 58 21.7**	**-1.5**
TX31				IAmb		IAmb	01 58 33.6	
comp=Z,108nm,1.4s								
LPIG La Paz 18.38 304				LR		LR	02 06 09.0	
comp=Z,631nm,18.3s,baz=120,slow=38								
143A Socs Landing, 18.38 6				P		**Pn**	**01 58 33.0**	**-1.0**
143A				IAmb		IAmb	01 58 38.5	
comp=Z,72nm,1.4s								
MOTC Monteria, Cord 18.56 105				*e*P		**P**	**01 58 33.4**	**-2.7**
146A Union 18.68 12				P		**Pn**	**01 58 38.2**	**+0.5**
146A				IAmb		IAmb	01 58 59.3	
comp=Z,44nm,1.2s								
250A Grady 18.82 20				P		**P**	**01 58 38.4**	**-0.4**
250A				IAmb		IAmb	01 59 14.4	
comp=Z,31nm,1.1s								
Z41A Richland Creek 18.82 2				P		**Pn**	**01 58 43.4**	**+4.0**
baz=182								
Z41A Richland Creek 18.82 2				P		**Pn**	**01 58 40.0**	**+0.7**
Z41A				IAmb		IAmb	01 58 53.0	
comp=Z,66nm,1.1s								
Z38A Mt. Pleasant 18.84 357				P		**Pn**	**01 58 39.9**	**+0.3**
Z38A				IAmb		IAmb	01 58 47.6	
comp=Z,55nm,1.3s								
352A Blakely 18.85 24				P		**Pn**	**01 58 39.7**	**0.0**
352A				IAmb		IAmb	01 58 51.2	
comp=Z,37nm,1.1s								
ABTX Abilene, Hawle 18.95 345				P		**Pn**	**01 58 41.8**	**+0.8**
baz=161								
ABTX Abilene, Hawle 18.95 345				P		**Pn**	**01 58 42.3**	**+1.3**
WLAR White Oak Lake 19.24 2				P		**P**	**01 58 43.4**	**-0.1**
TIGA Tifton 19.38 27				P		**P**	**01 58 44.3**	**-0.6**
TIGA				IAmb		IAmb	01 58 58.8	
comp=Z,60nm,1.1s								
CBOC Ciudad Bolivar 19.38 114				*e*P		**Pn**	**01 58 47.6**	**+1.2**
Z47A Carrollton 19.45 14				P		**P**	**01 58 45.9**	**+0.3**
Z47A				IAmb		IAmb	01 58 47.8	
comp=Z,33nm,0.8s								
LRAL Lakeview Retre 19.57 17				P		**Pn**	**01 58 47.8**	**-0.5**
baz=199								
LRAL Lakeview Retre 19.57 17				P		**Pn**	**01 58 47.9**	**-0.5**
ZARC Zaragoza, Cauc 19.75 108				*e*P		**P**	**01 58 49.7**	**+0.5**
152A Waverly Hall 19.99 23				P		**P**	**01 58 51.8**	**+0.1**
152A				IAmb		IAmb	01 59 12.8	
comp=Z,36nm,1.5s								
X40A Basin Creek Fa 20.05 2				P		**P**	**01 58 51.0**	**-1.3**
X40A				IAmb		IAmb	01 59 23.7	
comp=Z,70nm,2.0s								
MIAR Mount Ida 20.09 0				P		**P**	**01 58 52.0**	**-0.8**
baz=180								
MIAR Mount Ida 20.09 0				P		**P**	**01 58 52.7**	**-0.1**
MIAR				IAmb		IAmb	01 59 12.7	
comp=Z,24nm,1.1s								
X37A Clayton 20.19 356				P		Pn	01 58 58.2	+2.5
X37A				IAmb		IAmb	01 59 04.1	
comp=Z,72nm,1.6s								
GDL2 Guadalupe Moun 20.23 333						**P**	**01 58 52.8**	**-1.6**
X43A Marvell 20.23 7				P		Pn	01 58 55.1	-1.1
baz=187								
X43A Marvell 20.23 7				P		**P**	**01 58 52.4**	**-1.8**
GUY2C Guyana, Caldas 20.25 115				*e*P		Pn	01 58 56.3	-0.7
MNTX Cornudas Mount 20.28 330				P		Pn	01 58 56.7	-0.1
baz=145,SNR=17								
MNTX Cornudas Mount 20.28 330				P		**P**	**01 58 53.5**	**-1.3**
UALR University of 20.36 3				P		**P**	**01 58 53.0**	**-2.6**
UALR				IAmb		IAmb	01 59 15.3	
comp=Z,49nm,1.3s								
OXF Oxford 20.44 10				P		Pn	01 59 00.9	+2.3
baz=191								
OXF Oxford 20.44 10				P		**P**	**01 58 55.7**	**-0.8**
PTBC PUERTO BERRIO, 20.49 110				*e*P		**P**	**01 58 57.6**	**+0.4**
Y49A Blount Mountai 20.51 18				P		Pn	01 58 58.7	-0.8
NORC Norcasia 20.53 113				*e*P		Pn	01 59 00.0	+0.1
POPC Popayan, Colom 20.55 123				*e*P		Pn	01 58 59.6	-0.7
TOLC Tolima 20.59 116				*e*P		Pn	01 59 02.2	+1.3
154A Montrose 20.59 26				P		**P**	**01 58 56.5**	**-1.7**
W39A Magazine 20.74 360				P		Pn	01 59 02.4	+0.2
baz=179,SNR=7.7								
W39A Magazine 20.74 360				P		**P**	**01 59 00.2**	**+0.4**
W39A				IAmb		IAmb	01 59 04.7	
comp=Z,21nm,1.0s								
W41B Gary Mavity, V 20.76 3				P		Pn	01 59 02.0	-0.4
baz=183								
W41B Gary Mavity, V 20.76 3				P		**P**	**01 58 59.1**	**-0.9**
W41B				IAmb		IAmb	01 59 14.5	
comp=Z,29nm,1.1s								
WMOK Wichita Mounta 20.79 348				P		**P**	**01 59 00.4**	**+0.1**
baz=165,SNR=6.9								
WMOK Wichita Mounta 20.79 348				P		**P**	**01 59 01.1**	**+0.7**
WMOK				IAmb		IAmb	01 59 09.7	
comp=Z,45nm,1.8s								
WHAR Wooly Hollow 20.88 3				P		**P**	**01 58 59.9**	**-1.4**
WHAR				IAmb		IAmb	01 59 15.8	
comp=Z,34nm,1.1s								
W35A Tecumseh 20.89 353				P		**P**	**01 59 00.4**	**-1.0**
X48A Hartselle 20.89 16				P		**P**	**01 59 00.8**	**-0.6**
X48A				IAmb		IAmb	01 59 24.4	
comp=Z,48nm,1.4s								
MARP Paez Belalcaza 20.96 121				*e*P		**P**	**01 59 03.8**	**+1.1**
ORTC Ortega, Tolima 20.99 118				*e*P		**P**	**01 59 04.8**	**+2.1**
FNO Franklin 21.06 352				P		**P**	**01 59 03.0**	**-0.2**
W45A Hickory Valley 21.10 10				P		**P**	**01 59 02.6**	**-1.1**
GOGA Godfrey 21.13 24				P		**P**	**01 59 05.7**	**+1.6**
baz=208								
GOGA Godfrey 21.13 24				P		**P**	**01 59 03.9**	**-0.1**
PLAL Pickwick Lake 21.15 13				P		**P**	**01 59 04.7**	**+0.4**
PLAL				IAmb		IAmb	01 59 20.0	
comp=Z,25nm,1.1s								
MSTX Muleshoe 21.16 339				P		**P**	**01 59 07.0**	**+2.5**
baz=154,SNR=12								
MSTX Muleshoe 21.16 339				P		**P**	**01 59 04.5**	**0.0**
SPBC San Pablo de B 21.20 112				*e*P		**P**	**01 59 06.1**	**+1.0**
OKCFA Oklahoma City 21.22 352				P		**P**	**01 59 04.5**	**-0.5**
ROSC El Rosal 21.34 114				P		**P**	**01 59 06.8**	**-0.2**
comp=Z,13nm,0.8s,baz=33,slow=3.6,SNR=13								
ROSC El Rosal 21.34 114				P		**P**	**01 59 06.2**	**-0.7**
ROSC				IAmb		IAmb	01 59 11.4	
comp=Z,50nm,1.2s								
OK025 Westminster Rd 21.37 352				P		**P**	**01 59 06.1**	**-0.5**
FPAL Fort Paine 21.39 19				P		**P**	**01 59 07.5**	**+0.6**
FPAL				IAmb		IAmb	01 59 24.2	
comp=Z,24nm,1.0s								
PRAC Prado 21.40 118				*e*P		**P**	**01 59 10.1**	**+3.0**
FCAR Ozark Folk Cen 21.48 4				P		**P**	**01 59 07.4**	**-0.3**
BCOK Bluff Creek, N 21.48 351				P		**P**	**01 59 07.8**	**0.0**
TUL1 Leonard 21.53 355				P		**P**	**01 59 08.7**	**+0.4**
baz=174								
TUL1 Leonard 21.53 355				P		**P**	**01 59 08.4**	**+0.1**
TUL1				IAmb		IAmb	01 59 25.6	
comp=Z,26nm,1.0s								
HSIG 21.59 315				P		**P**	**01 59 08.7**	**-0.4**
OK029 Liberty Lake 21.60 352				P		**P**	**01 59 08.6**	**-0.5**
OK029				IAmb		IAmb	01 59 52.0	
comp=Z,28nm,1.1s								
AMTX Amarillo 21.65 342				P		**P**	**01 59 10.5**	**+0.8**
baz=158								
AMTX Amarillo 21.65 342				P		**P**	**01 59 09.2**	**-0.4**
LCAR Lake Charles 21.74 6				P		**P**	**01 59 10.9**	**+0.4**
LCAR				IAmb		IAmb	01 59 20.6	
comp=Z,40nm,1.2s								
GNAR Gosnell 21.77 8				P		**P**	**01 59 11.2**	**+0.4**
HHAR Hobbs 21.82 360				P		**P**	**01 59 13.0**	**+1.5**
QUOK Quay 21.87 354				P		**P**	**01 59 13.3**	**+1.3**
QUOK				IAmb		IAmb	01 59 14.3	
comp=Z,45nm,1.2s								
U40A Yellville 21.91 2				P		**P**	**01 59 13.5**	**+1.1**
baz=182								
U40A Yellville 21.91 2				P		**P**	**01 59 14.3**	**+1.9**
U40A				IAmb		IAmb	01 59 53.2	
comp=Z,28nm,1.2s								
SWET Sewanee 21.92 17				P		**P**	**01 59 12.3**	**-0.3**
CHIC Chingaza 21.96 114				*e*P		**P**	**01 59 16.3**	**+2.8**
U38A Gravette 21.99 359				P		**P**	**01 59 14.2**	**+0.9**
RUSC La Rusia 22.00 110				*e*P		**P**	**01 59 14.1**	**+0.1**
121A Cookes Peak, D 22.16 327				P		**P**	**01 59 18.7**	**+3.4**
baz=141,SNR=29								
121A Cookes Peak, D 22.16 327				P		**P**	**01 59 15.4**	**+0.1**
V48A Smith Brothers 22.17 15				P		**P**	**01 59 14.5**	**-0.7**
V48A				IAmb		IAmb	01 59 32.4	
comp=Z,22nm,1.1s								
Z57A Bowman 22.26 30				P		**P**	**01 59 18.1**	**+2.0**
baz=215								
WVT Waverly 22.31 13				P		**P**	**01 59 16.5**	**-0.2**
baz=195								
WVT Waverly 22.31 13				P		**P**	**01 59 16.5**	**-0.2**
WVT				IAmb		IAmb	01 59 56.2	
comp=Z,23nm,1.2s								
NHSC New Hope 22.37 31				P		**P**	**01 59 18.8**	**+1.5**
baz=216								
X54A Belton 22.57 25				P		**P**	**01 59 20.1**	**+0.7**
baz=209								
SC01 Santiago de lo 22.58 74				P		**P**	**01 59 19.1**	**-0.6**
T35A Sooner Cattle 22.59 354				P		**P**	**01 59 19.2**	**-0.5**
CLTN Cedars of Leba 22.63 16				P		**P**	**01 59 19.1**	**-1.0**
T42A Van Buren 22.69 6				P		**P**	**01 59 20.1**	**-0.7**
T42A				IAmb		IAmb	01 59 51.9	
comp=Z,47nm,1.6s								
MGMO Mountain Grove 22.73 3				P		**P**	**01 59 20.6**	**-0.5**
BG3 Lake Jocassee 22.73 23				P		**P**	**01 59 21.1**	**-0.1**
BG3				IAmb		IAmb	01 59 39.7	
comp=Z,21nm,1.1s								
Z58A St. Stephen 22.73 31				P		**P**	**01 59 22.0**	**+0.8**
baz=217								
X55A Gracelyn & Ava 22.81 27				P		**P**	**01 59 22.8**	**+0.8**
baz=211								
JSC Jenkinsville 22.82 27				P		**P**	**01 59 22.9**	**+0.9**
BNM Barren Site 22.89 332				P		**P**	**01 59 24.1**	**+1.0**
TKL Tuckaleechee C 23.02 21				P		**P**	**01 59 23.5**	**-0.6**
comp=Z,4.3nm,1.1s,baz=195,slow=8.5,SNR=4.3								
TKL				LR		LR	02 10 19.7	
comp=Z,626nm,18.3s,baz=195,slow=42								
TKL Tuckaleechee C 23.02 21				P		**P**	**01 59 24.1**	**0.0**
TKL				IAmb		IAmb	01 59 47.5	
comp=Z,19nm,1.2s								
W54A Cherokee Point 23.11 25				P		**P**	**01 59 25.6**	**+0.5**
baz=209								
U49A Red Boiling Sp 23.18 16				P		**P**	**01 59 24.7**	**-1.1**
U49A				IAmb		IAmb	01 59 43.8	
comp=Z,22nm,0.9s								
S39A Bolivar 23.23 1				P		**P**	**01 59 24.7**	**-1.7**
S39A				IAmb		IAmb	01 59 27.2	
comp=Z,24nm,1.1s								
SDV Santo Domingo 23.27 101				P		**P**	**01 59 26.5**	**-0.7**
comp=Z,11nm,0.6s,baz=344,slow=12,SNR=7.3								
SDV				LR		LR	02 10 09.1	
comp=Z,224nm,19.5s,baz=263,slow=41								
SDV Santo Domingo 23.27 101				P		**P**	**01 59 27.2**	**0.0**
SDV				IAmb		IAmb	01 59 29.2	
comp=Z,18nm,0.9s								
T47A Sharon Grove 23.29 14				P		**P**	**01 59 25.4**	**-1.5**
T47A				IAmb		IAmb	01 59 52.2	
comp=Z,19nm,1.1s								
V53A Saluda 23.38 23				P		**P**	**01 59 28.1**	**+0.3**
V53A				IAmb		IAmb	02 00 25.8	
comp=Z,20nm,1.1s								
ANMO Albuquerque 23.48 333				P		**P**	**01 59 30.9**	**+1.8**
comp=Z,0.2nm,0.9s,baz=319,slow=12,SNR=10								
ANMO				LR		LR	02 10 17.3	
comp=Z,15nm,19.1s,baz=323,slow=41								
ANMO Albuquerque 23.48 333				P		**P**	**01 59 30.7**	**+1.6**
baz=147								
ANMO Albuquerque 23.48 333				P		**P**	**01 59 30.9**	**+1.8**
KMSC Kings Mountain 23.51 26				P		**P**	**01 59 29.3**	**+0.2**
baz=211								
KMSC Kings Mountain 23.51 26				P		**P**	**01 59 29.1**	**-0.1**
KMSC				IAmb		IAmb	01 59 49.8	
comp=Z,24nm,1.1s								
S44A Carbondale 23.57 9				P		**P**	**01 59 28.6**	**-1.1**
S44A				IAmb		IAmb	02 00 00.7	
comp=Z,27nm,0.9s								
TUC Tucson 23.68 322				P		**P**	**01 59 34.1**	**+3.1**
baz=134								
TUC Tucson 23.68 322				P		**P**	**01 59 30.9**	**-0.1**
TUC				IAmb		IAmb	01 59 35.1	
comp=Z,24nm,1.0s								
CCM Cathedral Cave 23.70 5				P		**P**	**01 59 27.6**	**-3.4**
baz=185								
CCM Cathedral Cave 23.70 5				P		**P**	**01 59 29.7**	**-1.2**
V54A Nebo 23.80 24				P		**P**	**01 59 32.4**	**+0.3**
baz=209								
R40A Maddies Statio 23.86 3				P		**P**	**01 59 31.1**	**-1.4**
R32A Long Quarter, 24.36 351				P		**P**	**01 59 37.1**	**-0.2**
U54A Nelsons Funny 24.50 24				P		**P**	**01 59 38.5**	**-0.1**
baz=208								
T25A Trinidad 24.59 339				P		**P**	**01 59 42.0**	**+2.5**
baz=154,SNR=21								
T25A Trinidad 24.59 339				P		**P**	**01 59 42.2**	**+2.6**
WCI Wyandotte Cave 24.67 14				P		**P**	**01 59 39.1**	**-0.9**
baz=197								
WCI Wyandotte Cave 24.67 14				P		**P**	**01 59 39.3**	**-0.7**
WCI				IAmb		IAmb	01 59 40.7	
comp=Z,25nm,1.2s								
214A Organ Pipe Nat 24.70 318				P		**P**	**01 59 43.0**	**+2.6**
baz=130,SNR=6.0								
**214A Organ Pipe Nat 24.

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=128,SNR=7.9						
U15A	**North Rim**	**27.53**	**326**	P	**P**	**02 00 06.0**	**-0.2**
U15A				IAmb	IAmb	02 00 22.7	
	comp=Z,22nm,1.6s						
PV21	**Cone Mtn., Par**	**27.61**	**334**	P	**P**	**02 00 06.0**	**-0.8**
IRM	**Iron Mountain**	**27.62**	**319**	P	**P**	**02 00 09.7**	**+2.9**
	baz=130,SNR=5.1						
BELC	**Belle Mtn. Jos**	**28.07**	**318**	P	**P**	**02 00 13.6**	**+2.7**
	baz=128						
PFO	**Pinyon Flats O**	**28.13**	**317**	LR	LR	02 12 05.8	
	comp=Z,273nm,18.0s,baz=134,slow=38						
KNB	**Kanab**	**28.25**	**326**	P	**P**	**02 00 11.9**	**-0.6**
GMRC	**Granite Mounta**	**28.35**	**320**	P	**P**	**02 00 16.2**	**+2.9**
	baz=130						
N23A	**Red Feather La**	**28.49**	**340**	P	**P**	**02 00 14.0**	**-0.7**
N23A				IAmb	IAmb	02 00 43.7	
	comp=Z,14nm,1.4s						
O20A	**White River Ci**	**28.64**	**336**	P	**P**	**02 00 18.5**	**+2.6**
	baz=149						
O20A	**White River Ci**	**28.64**	**336**	P	**P**	**02 00 15.8**	**-0.2**
O20A				IAmb	IAmb	02 01 03.9	
	comp=Z,34nm,1.9s						
MTPU	**Mount Pierson**	**28.69**	**329**	P	**P**	**02 00 16.9**	**+0.3**
HEC	**Hector,Ludlow**	**28.80**	**319**	P	**P**	**02 00 20.6**	**+3.2**
	baz=129						
SZCU	**Shurtz Canyon**	**28.82**	**327**	P	**P**	**02 00 17.8**	**+0.1**
Q16A	**Castle Valley**	**28.89**	**331**	P	**P**	**02 00 18.7**	**+0.5**
CCUT	**Cedar City**	**28.93**	**327**	P	**P**	**02 00 19.6**	**+0.9**
TUQ	**Turquoise Moun**	**28.94**	**320**	P	**P**	**02 00 22.5**	**+3.9**
	baz=130						
MVU	**Marysvale**	**29.06**	**329**	P	**P**	**02 00 19.7**	**-0.1**
P17A	**Butcher Ranch,**	**29.13**	**332**	P	**P**	**02 00 20.1**	**-0.2**
SHPR	**Sheep Range**	**29.19**	**323**	P	**P**	**02 00 20.2**	**-0.7**
TMUT	**Trail Mountain**	**29.20**	**331**	P	**P**	**02 00 21.0**	**-0.1**
ECSD	**EROS Data Cent**	**29.37**	**356**	P	**P**	**02 00 21.2**	**-0.9**
	baz=174,SNR=8.1						
ECSD	**EROS Data Cent**	**29.37**	**356**	P	**P**	**02 00 20.9**	**-1.3**
ECSD				IAmb	IAmb	02 00 21.7	
	comp=Z,8.1nm,0.8s						
RDMU	**Red Mountain**	**29.54**	**335**	P	**P**	**02 00 24.0**	**0.0**
RWWY	**Rawlins**	**29.62**	**339**	P	**P**	**02 00 24.6**	**-0.2**
PSUT	**Pine Spring**	**29.92**	**327**	P	**P**	**02 00 27.3**	**-0.1**
TPNV	**Topopah Spring**	**30.14**	**322**	P	**P**	**02 00 32.3**	**+3.0**
	baz=132						
TPNV	**Topopah Spring**	**30.14**	**322**	P	**P**	**02 00 29.1**	**-0.1**
K22A	**Casper**	**30.26**	**341**	P	**P**	**02 00 31.8**	**+1.5**
	baz=154						
K22A	**Casper**	**30.26**	**341**	P	**P**	**02 00 29.7**	**-0.6**
K22A				IAmb	IAmb	02 00 42.9	
	comp=Z,19nm,1.4s						
SUSD	**Miller**	**30.30**	**353**	P	**P**	**02 00 30.2**	**-0.3**
	baz=169						
SUSD	**Miller**	**30.30**	**353**	P	**P**	**02 00 30.4**	**-0.1**
MPMC	**Manual Prospec**	**30.31**	**320**	P	**P**	**02 00 33.5**	**+2.7**
	baz=129						
DUG	**Dugway, Tooele**	**30.67**	**331**	P	**P**	**02 00 36.4**	**+2.5**
	baz=141						
DUG	**Dugway, Tooele**	**30.67**	**331**	P	**P**	**02 00 33.6**	**-0.4**
R11A	**Troy Canyon, C**	**30.72**	**325**	P	**P**	**02 00 37.3**	**+2.8**
	baz=135						
R11A	**Troy Canyon, C**	**30.72**	**325**	P	**P**	**02 00 34.3**	**-0.1**
R11A				IAmb	IAmb	02 00 53.4	
	comp=Z,16nm,2.0s						
SPMN	**Marine on St.**	**30.77**	**1**	P	**P**	**02 00 34.4**	**-0.1**
SPMN				IAmb	IAmb	02 00 35.0	
	comp=Z,11nm,1.0s						
TCUT	**Toone Canyon**	**30.77**	**333**	P	**P**	**02 00 34.1**	**-0.8**
GRAC	**Grapevine Rang**	**30.84**	**321**	P	**P**	**02 00 38.3**	**+3.0**
	baz=130						
CWC	**Cottonwood Cre**	**30.92**	**320**	P	**P**	**02 00 39.0**	**+2.7**
	baz=128						
RSSD	**Black Hills**	**30.93**	**346**	P	**P**	**02 00 37.8**	**+1.6**
	baz=160						
VES	**Vestal, Richgr**	**31.20**	**318**	P	**P**	**02 00 41.5**	**+3.1**
	baz=126						
HWUT	**Hardware Ranch**	**31.24**	**334**	P	**P**	**02 00 38.8**	**-0.2**
BGU	**Big Grassy Mou**	**31.35**	**331**	P	**P**	**02 00 40.4**	**+0.5**
SPUT	**South Promonto**	**31.38**	**332**	P	**P**	**02 00 40.3**	**+0.1**
BW06	**Boulder Array**	**31.41**	**337**	P	**P**	**02 00 41.7**	**+1.2**
	baz=149,SNR=6.7						
BW06	**Boulder Array**	**31.41**	**337**	P	**P**	**02 00 40.8**	**+0.3**
PD31	**Pinedale Array**	**31.41**	**337**	P	**P**	**02 00 40.3**	**-0.2**
PDAR	**Pinedale Array**	**31.41**	**337**	P	**P**	**02 00 41.8**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=139,slow=9.8,SNR=21						
PDAR				LR	LR	02 14 37.3	
	comp=Z,205nm,18.4s,baz=148,slow=39						
PDAR	**Pinedale Array**	**31.41**	**337**	P	**P**	**02 00 41.5**	**+1.0**
AHID	**Auburn Hatcher**	**32.01**	**336**	P	**P**	**02 00 45.5**	**-0.2**
AHID				IAmb	IAmb	02 00 49.4	
	comp=Z,11nm,1.1s						
OMMB	**Old Mammoth Mi**	**32.23**	**321**	P	**P**	**02 00 48.6**	**+0.7**
NV11	**Mina Array Sit**	**32.25**	**323**	P	**P**	**02 00 48.5**	**+0.6**
NV11				IAmb	IAmb	02 00 52.1	
	comp=Z,13nm,1.1s						
ELK	**Elko**	**32.28**	**329**	P	**P**	**02 00 49.1**	**+0.9**
ELK				IAmb	IAmb	02 00 51.9	
	comp=Z,6.8nm,1.1s						
MDPB	**Devils Postpil**	**32.29**	**321**	P	**P**	**02 00 48.3**	**-0.1**
NVAR	**Mina Array Bea**	**32.34**	**322**	P	**P**	**02 00 50.9**	**+2.2**
	comp=Z,6.3nm,0.8s,baz=142,slow=8.9,SNR=47						
NVAR				LR	LR	02 13 29.2	
	comp=Z,260nm,18.6s,baz=136,slow=36						
NVAR	**Mina Array Bea**	**32.34**	**322**	P	**P**	**02 00 49.3**	**+0.6**
LHV	**Little Huntoon**	**32.34**	**322**	P	**P**	**02 00 48.8**	**+0.3**
LHV				IAmb	IAmb	02 00 58.1	
	comp=Z,11nm,1.2s						
REDW	**Red Top Meadow**	**32.41**	**336**	P	**P**	**02 00 49.1**	**-0.2**
SNOW	**Snow King Moun**	**32.46**	**337**	P	**P**	**02 00 49.5**	**-0.2**
LOHW	**Long Hollow**	**32.53**	**337**	P	**P**	**02 00 49.9**	**-0.4**
TPAW	**Teton Pass**	**32.56**	**336**	P	**P**	**02 00 51.7**	**+1.1**
RYN	**Ryan**	**32.60**	**322**	P	**P**	**02 00 50.8**	**-0.1**
KVN	**Kaiserville**	**32.63**	**323**	P	**P**	**02 00 48.8**	**-2.5**
FXWY	**Fox Creek**	**32.71**	**336**	P	**P**	**02 00 51.7**	**-0.2**
FXWY				IAmb	IAmb	02 00 54.8	
	comp=Z,12nm,1.4s						
SADO	**Sadowa**	**32.75**	**19**	LR	LR	02 15 01.3	
	comp=Z,242nm,19.9s,baz=209,slow=38						
IMW	**Indian Meadow**	**32.90**	**337**	P	**P**	**02 00 53.6**	**0.0**
IMW				IAmb	IAmb	02 00 56.5	
	comp=Z,18nm,1.6s						
FLWY	**Flagg Ranch**	**32.96**	**337**	P	**P**	**02 00 54.2**	**+0.1**
FLWY				IAmb	IAmb	02 01 07.9	
	comp=Z,7.6nm,0.9s						
WAKR	**Walker**	**33.06**	**321**	P	**P**	**02 00 55.6**	**+0.6**
WAKR				IAmb	IAmb	02 01 04.4	
	comp=Z,11nm,1.6s						
H17A	**Grant Village**	**33.19**	**338**	P	**P**	**02 00 56.1**	**0.0**
H17A				IAmb	IAmb	02 01 01.4	
	comp=Z,12nm,1.2s						
YERR	**Yerington**	**33.25**	**322**	P	**P**	**02 00 57.0**	**+0.3**
CMB	**Columbia Colle**	**33.35**	**320**	P	**P**	**02 00 57.1**	**-0.3**
RLMT	**Red Lodge**	**33.36**	**340**	P	**P**	**02 00 59.2**	**+1.6**
	baz=151,SNR=5.9						
RLMT	**Red Lodge**	**33.36**	**340**	P	**P**	**02 00 57.2**	**-0.4**
YNE	**Yellowstone No**	**33.51**	**339**	P	**P**	**02 00 58.8**	**-0.2**
PNTR	**Pine Nut**	**33.53**	**322**	P	**P**	**02 00 60.0**	**+0.8**
PNTR				IAmb	IAmb	02 01 06.3	
	comp=Z,13nm,1.3s						
YHH	**Holmes Hill**	**33.62**	**338**	P	**P**	**02 01 02.4**	**+2.4**
MDND	**Maddock**	**33.73**	**353**	P	**P**	**02 01 00.3**	**-0.3**
	baz=169,SNR=5.7						
MDND	**Maddock**	**33.73**	**353**	P	**P**	**02 01 00.1**	**-0.4**
YHL	**Hebgen Lake**	**33.80**	**337**	P	**P**	**02 01 01.2**	**-0.3**
PAHR	**Pah Rah Range**	**33.81**	**323**	P	**P**	**02 01 00.6**	**-0.9**
AGMN	**Agassiz Nation**	**33.88**	**357**	P	**P**	**02 01 00.4**	**-1.3**
	baz=176						
LAO	**LASA Array**	**33.88**	**345**	P	**P**	**02 01 02.6**	**+0.8**
	baz=157,SNR=5.8						
LAO	**LASA Array**	**33.88**	**345**	P	**P**	**02 01 01.5**	**-0.4**
HLID	**Hailey**	**34.06**	**333**	P	**P**	**02 01 05.8**	**+2.2**
	baz=142,SNR=10						
HLID	**Hailey**	**34.06**	**333**	P	**P**	**02 01 04.6**	**+1.0**
HLID				IAmb	IAmb	02 01 06.7	
	comp=Z,5.7nm,0.9s						
GCMT	**Greycliff**	**34.08**	**340**	P	**P**	**02 01 03.5**	**-0.3**
MCMT	**McKenzie Canyo**	**34.42**	**336**	P	**P**	**02 01 07.1**	**+0.3**
MFID	**Camas Ranch**	**34.59**	**331**	P	**P**	**02 01 08.2**	**+0.1**
BOZ	**Bozeman (W)**	**34.60**	**338**	P	**P**	**02 01 10.2**	**+1.9**
	baz=148						
BOZ	**Bozeman (W)**	**34.60**	**338**	P	**P**	**02 01 09.2**	**+0.9**
LRM	**Limekiln Ridge**	**35.10**	**337**	P	**P**	**02 01 12.7**	**0.0**
WVOR	**Wild Horse Val**	**35.26**	**327**	P	**P**	**02 01 13.9**	**0.0**
WVOR				IAmb	IAmb	02 01 17.1	
	comp=Z,10nm,1.1s						
HRY	**Holter Researc**	**35.63**	**338**	P	**P**	**02 01 17.0**	**0.0**
MOD	**Modoc Plateau**	**35.79**	**325**	P	**P**	**02 01 19.0**	**+0.4**
MOD				IAmb	IAmb	02 01 31.3	
	comp=Z,8.1nm,1.1s						
ULM	**Lac du Bonnet**	**35.83**	**358**	LR	LR	02 18 40.8	
	comp=Z,182nm,19.0s,baz=157,slow=41						
J08A	**Circle Bar Ran**	**35.83**	**329**	P	**P**	**02 01 19.4**	**+0.5**
J08A				IAmb	IAmb	02 01 21.5	
	comp=Z,9.6nm,0.9s						
EGMT	**Eagleton**	**36.09**	**342**	P	**P**	**02 01 22.3**	**+1.4**
	baz=152						
EGMT	**Eagleton**	**36.09**	**342**	P	**P**	**02 01 21.3**	**+0.3**
BMO	**Blue Mountains**	**36.37**	**331**	P	**P**	**02 01 23.3**	**-0.2**
MSO	**Missoula**	**36.51**	**337**	P	**P**	**02 01 26.0**	**+1.4**
	baz=145,SNR=8.3						
MSO	**Missoula**	**36.51**	**337**	P	**P**	**02 01 24.8**	**+0.2**
MSO				IAmb	IAmb	02 01 27.0	
	comp=Z,9.9nm,0.9s						
PTGA	**Pitinga**	**36.65**	**111**	P	**P**	**02 01 24.9**	**-1.2**
YBH	**Yreka Blue Hor**	**37.05**	**323**	P	**P**	**02 01 29.7**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=72,slow=6.0,SNR=3.8						
F10A	**Beach Ranch, E**	**37.19**	**333**	P	**P**	**02 01 30.0**	**-0.4**
SAML	**Samuel**	**38.15**	**126**	P	**P**	**02 01 38.2**	**-0.6**
H04A	**Detroit Lake**	**38.67**	**327**	P	**P**	**02 01 43.8**	**+0.8**
H04A				IAmb	IAmb	02 01 45.4	
	comp=Z,17nm,1.2s						
NEW	**Newport**	**38.94**	**335**	P	**P**	**02 01 45.6**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=172,slow=8.2,SNR=6.0						
NEW	**Newport**	**38.94**	**335**	IAmb	IAmb	02 01 46.6	
	comp=Z,10nm,1.4s						
C09A	**Chrisman Ranch**	**39.06**	**334**	P	**P**	**02 01 47.2**	**+1.1**
C09A				IAmb	IAmb	02 01 48.4	
	comp=Z,7.8nm,0.8s						
F05D	**White Salmon**	**39.13**	**329**	P	**P**	**02 01 49.3**	**+2.6**
	baz=134						
LPAZ	**La Paz**	**39.60**	**139**	P	**P**	**02 01 52.0**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=295,slow=13,SNR=2.1						
LON	**Longmire**	**39.91**	**330**	P	**P**	**02 01 55.0**	**+1.8**
B08A	**Colville Reser**	**39.94**	**333**	P	**P**	**02 01 54.6**	**+1.1**
E03A	**Lebam**	**40.64**	**328**	P	**P**	**02 02 00.8**	**+1.7**
E03A				IAmb	IAmb	02 02 06.9	
	comp=Z,17nm,0.9s						
SIV	**San Ignacio**	**44.19**	**132**	P	**P**	**02 02 28.4**	**0.0**
	comp=Z,2.8nm,0.8s,baz=314,slow=8.4,SNR=17						
SCHQ	**Schefferville**	**45.48**	**22**	LR	LR	02 22 58.9	
	comp=Z,520nm,19.3s,baz=238,slow=38						
YKA	**Yellowknife Ar**	**50.29**	**348**	P	**P**	**02 03 15.8**	**+0.5**
	comp=Z,10.0nm,0.8s,baz=150,slow=6.9,SNR=18						
YKA				LR	LR	02 26 32.7	
	comp=Z,95nm,20.9s,baz=0.0,slow=38						
DLBC	**Dease Lake**	**51.64**	**337**	P	**P**	**02 03 27.5**	**+1.8**
	comp=Z,6.8nm,0.9s,baz=142,slow=5.8,SNR=12						
DLBC	**Dease Lake**	**51.64**	**337**	P	**P**	**02 03 27.1**	**+1.4**
DLBC				IAmb	IAmb	02 03 34.4	
	comp=Z,11nm,1.1s						
CPUP	**Villa Florida**	**53.77**	**139**	P	**P**	**02 03 41.5**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=321,slow=6.5,SNR=2.0						
CPUP				LR	LR	02 27 15.3	
	comp=Z,74nm,19.2s,baz=248,slow=37						
BDFB	**Brasilia**	**54.15**	**122**	P	**P**	**02 03 44.6**	**-0.3**
	comp=Z,6.7nm,0.8s,baz=281,slow=8.1,SNR=12						
BDFB	**Brasilia**	**54.15**	**122**	P	**P**	**02 03 45.0**	**+0.1**
PLCA	**Paso Flores**	**58.89**	**160**	P	**P**	**02 04 19.9**	**+1.7**
	comp=Z,2.8nm,1.1s,baz=322,slow=11,SNR=3.3						
PLCA	**Paso Flores**	**58.89**	**160**	P	**P**	**02 04 22.5**	**+4.3**
BCAR	**Beaver Creek A**	**59.03**	**337**	P	**P**	**02 04 19.5**	**+0.6**
K27K	**Chicken**	**59.66**	**338**	P	**P**	**02 04 25.0**	**+1.8**
	baz=123						
EGAK	**Eagle**	**59.75**	**339**	P	**P**	**02 04 24.1**	**+0.4**
DOT	**Dot Lake**	**60.21**	**337**	P	**P**	**02 04 28.6**	**+1.6**
SCRK	**Sand Creek**	**60.35**	**337**	P	**P**	**02 04 29.4**	**+1.4**
	baz=121						
RIDG	**Independent Ri**	**60.56**	**337**	P	**P**	**02 04 30.5**	**+1.1**
HDA	**Harding Lake**	**61.69**	**337**	P	**P**	**02 04 37.9**	**+0.9**
	baz=118						
HDA	**Harding Lake**	**61.69**	**337**	P	**P**	**02 04 37.9**	**+0.9**
IL31		**61.84**	**337**	P	**P**	**02 04 38.8**	**+0.8**
ILAR	**Eielson Array**	**61.84**	**337**	P	**P**	**02 04 38.5**	**+0.5**
	comp=Z,6.1nm,0.9s,baz=138,slow=4.4,SNR=39						
ILAR	**Eielson Array**	**61.84**	**337**	P	**P**	**02 04 38.4**	**+0.4**
RND	**Reindeer**	**61.98**	**335**	P	**P**	**02 04 40.7**	**+1.6**
BMAR	**Burnt Mountain**	**62.37**	**340**	P	**P**	**02 04 42.3**	**+0.7**
BWN	**Browne**	**62.56**	**336**	P	**P**	**02 04 43.6**	**+0.7**
BPAW	**Bear Paw Mtn.**	**63.14**	**336**	P	**P**	**02 04 47.4**	**+0.7**
PPT	**Papeete**	**63.56**	**242**	LR	LR	02 24 51.7	
	comp=Z,201nm,21.3s,baz=77,slow=29						
COLD	**Coldfoot**	**64.18**	**339**	P	**P**	**02 04 55.5**	**+2.0**
	baz=116						
COLD	**Coldfoot**	**64.18**	**339**	P	**P**	**02 04 54.8**	**+1.3**
COLD				IAmb	IAmb	02 05 01.1	
	comp=Z,6.1nm,0.9s						
TOLK	**Toolik Lake Re**	**64.61**	**340**	P	**P**	**02 04 57.6**	**+1.3**
	baz=117						
BILL	**Bilibino**	**80.49**	**338**	P	**P**	**02 06 32.2**	**+1.4**
ESDC	**Sonseca Array**	**80.81**	**51**	P	**P**	**02 06 31.6**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=290,slow=5.3,SNR=8.2						
NB2	**NORSAR Subarra**	**84.63**	**28**	P	**P**	**02 06 53.2**	**+0.5**
	comp=Z,17nm,1.0s,baz=290,slow=4.8						
NB2	**NORSAR Subarra**	**84.63**	**28**	P	**P**	**02 06 53.2**	**+0.5**
	baz=290,slow=4.8						
NOA	**NORSAR Array B**	**84.63**	**28**	P	**P**	**02 06 53.5**	**+0.9**
	comp=Z,7.2nm,0.9s,baz=291,slow=4.8,SNR=5.3						
NOA				LR	LR	02 43 13.4	
	comp=Z,115nm,20.4s,baz=280,slow=35						
ARCES	**ARCESS Array B**	**86.31**	**18**	LR	LR	02 46 01.8	
	comp=Z,155nm,19.5s,baz=314,slow=36						
TIC	**Toumodi**	**87.15**	**84**	*e*P	**P**	**02 07 05.3**	**-0.7**
LIC	**Lamto**	**87.24**	**84**	*e*P	**P**	**02 07 05.8**	**-0.7**
	comp=Z,48nm,1.3s						
DBIC	**Dimbokro**	**87.30**	**84**	P	**P**	**02 07 06.3**	**-0.5**
	comp=Z,4.7nm,0.9s,baz=270,slow=5.4,SNR=5.3						
KIC	**Kosan Boka**	**87.48**	**84**	*e*P	**P**	**02 07 06.9**	**-0.8**
	comp=Z,20nm,1.0s						
GERES	**GERESS Array B**	**90.39**	**39**	LR	LR	02 44 03.2	
	comp=Z,94nm,21.5s,baz=298,slow=33						
FINES	**FINESS Array B**	**90.88**	**25**	LR	LR	02 49 46.6	
	comp=Z,68nm,18.3s,baz=292,slow=37						
TORD	**Torodi Ar. Bea**	**91.94**	**76**	P	**P**	**02 07 27.0**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=295,slow=3.6,SNR=4.2						
NRIK	**Noril'sk**	**96.51**	**360**	LR	LR	02 54 05.8	
	comp=Z,51nm,20.2s,baz=21,slow=37						
AKASG	**Malin Array Be**	**98.34**	**33**	LR	LR	02 57 00.3	
	comp=Z,41nm,18.8s,baz=285,slow=38						
GEYT	**Alibeck**	**121.66**	**26**	PKP	**PKPdf**	**02 13 13.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=18,slow=14,SNR=2.3						
CM31	**Chiang Mai Arr**	**145.07**	**339**	PKPbc	**PKPbc**	**02 13 57.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**145.07**	**339**	PKPbc	**PKPbc**	**02 13 57.4**	**+0.5**
	comp=Z,6.2nm,0.8s,baz=341,slow=3.8,SNR=24						
CMAR	**Chiang Mai Arr**	**145.07**	**339**	PKPbc	**PKPbc**	**02 13 56.5**	**-0.4**
PBKT	**Sadao Pong**	**146.00**	**334**	PKPbc	**PKPab**	**02 14 00.8**	**+0.4**
GAR	**Garm**	**2.07**	**316**	Pn	**Pn**	**01 58 31.7**	**+0.2**
CHGR	**Chuyangaron**	**2.63**	**296**	Pn	**Pn**	**01 58 40.6**	**+1.5**
BTK	**Batken**	**2.74**	**338**	PN	**Pn**	**01 58 42.4**	**+1.8**
BTK	**Batken**	**2.74**	**338**	Pn	**Pn**	**01 58 42.4**	**+1.8**
KSH	**Kashi**	**3.59**	**55**	⇑*i*Pg	**Pn**	**01 58 49.9**	**-2.4**
KSH				Sn	**Sn**	**01 59 29.0**	**-5.8**
KSH				smax	smax		
	comp=N,5μm,0.8s						
KSH				smax	smax		
	comp=E,6μm,0.8s						
CEP	**Cherat**	**3.70**	**183**	P	**Pb**	**01 59 02.1**	**+0.1**
CEP				S	**Sg**	**01 59 52.0**	**-3.3**
KBL	**Kabul**	**3.91**	**221**	P	**Pb**	**01 59 04.0**	**-1.6**
	SNR=502						
KBL	**Kabul**	**3.91**	**221**	PN	**Pb**	**01 59 04.0**	**-1.6**
KBL	**Kabul**	**3.91**	**221**		**Pb**	**01 59 04.0**	**-1.6**
TAS	**Tashkent**	**4.40**	**331**	PN	**Pn**	**01 59 04.4**	**+1.1**
TAS	**Tashkent**	**4.40**	**331**	Pn	**Pn**	**01 59 04.4**	**+1.1**
THW	**Thamme Wali**	**4.73**	**184**	P	Pn	01 59 14.0	+6.1
AML	**Almayashu**	**4.75**	**14**	P	**Pn**	**01 59 10.2**	**+1.7**
	SNR=498						
UCH	**Uchtor**	**5.03**	**20**	P	**Pn**	**01 59 14.5**	**+2.0**
	SNR=38						
KZA	**Kyzart**	**5.13**	**27**	P	**Pn**	**01 59 15.9**	**+2.2**
	SNR=26						
EKS2	**Erkin-Say**	**5.28**	**13**	P	**Pn**	**01 59 17.4**	**+1.9**
	SNR=134						
MRKS	**Merke**	**5.28**	**9**	*e*P	**Pb**	**01 59 30.0**	**+1.1**
	580nm,0.8s						
MRKS				*e*S	**Sb**	**02 00 35.8**	**+3.4**
	341nm,0.9s						
MRKS	**Merke**	**5.28**	**9**	*e*PN	**Pb**	**01 59 30.0**	**+1.1**
MRKS				*e*S	**Sb**	**02 00 35.8**	**+3.4**
DZA	**Taraz**	**5.40**	**353**	*e*P	**Pb**	**01 59 33.4**	**+2.4**
	825nm,0.8s						
DZA				*e*S	**Sb**	**02 00 41.5**	**+5.7**
	1μm,0.8s						
DZA	**Taraz**	**5.40**	**353**	*e*PN	**Pb**	**01 59 33.4**	**+2.4**
DZA				*e*S	**Sb**	**02 00 41.5**	**+5.7**
AAK	**Ala-Archa**	**5.41**	**19**	P	**Pn**	**01 59 19.5**	**+2.1**
	SNR=184						
AAK	**Ala-Archa**	**5.41**	**19**	⇑P	**Pn**	**01 59 19.3**	**+1.9**
	169nm,0.8s						
AAK				⇑S	**Sn**	**02 00 23.3**	**+3.6**
	914nm,1.0s						
AAK	**Ala-Archa**	**5.41**	**19**	PN	**Pn**	**01 59 19.3**	**+1.9**
AAK				S	**Sn**	**02 00 19.2**	**-0.6**
KBK	**Karagaybulak**	**5.55**	**22**	P	**Pn**	**01 59 21.8**	**+2.5**
	SNR=69						
SARP	**Sargodha**	**5.60**	**176**	P	**Pn**	**01 59 24.1**	**+4.2**
FRU1	**Bishkek**	**5.61**	**19**	PN	**Pn**	**01 59 22.8**	**+2.8**
FRU1	**Bishkek**	**5.61**	**19**		**Pn**	**01 59 22.8**	**+2.8**
ULHL	**Ulahol**	**5.66**	**32**	P	**Pn**	**01 59 23.7**	**+2.8**
	SNR=19						
KK31	**Karatay Array**	**5.72**	**348**	Pn	**Pn**	**01 59 21.9**	**+0.4**
	77nm,0.6s,baz=174,slow=12,SNR=974						
KK31				⇑Pg	**Pb**	**01 59 39.2**	**+2.9**
	335nm,0.8s,baz=170,slow=16,SNR=20						
KK31				⇑Lg	Lg	02 00 50.4	
	333nm,0.8s,baz=165,slow=29,SNR=3.6						
KK31	**Karatay Array**	**5.72**	**348**	*i* PN	**Pn**	**01 59 21.8**	**+0.4**
KK31				S	**Sb**	**02 00 44.8**	**0.0**
KK31	**Karatay Array**	**5.72**	**348**	Pn	**Pn**	**01 59 22.1**	**+0.6**
KKAR	**Karatay Array**	**5.72**	**348**	PN	**Pn**	**01 59 22.1**	**+0.7**
KKAR	**Karatay Array**	**5.72**	**348**	Pn	**Pn**	**01 59 22.1**	**+0.7**
KKAR	**Karatay Array**	**5.72**	**348**	Pn	**Pn**	**01 59 20.8**	**-0.7**
BOOM	**Boomskoye usch**	**5.74**	**29**	PN	**Pn**	**01 59 24.4**	**+2.4**
BOOM	**Boomskoye usch**	**5.74**	**29**		**Pn**	**01 59 24.4**	**+2.4**
BRLS	**Borolday**	**5.78**	**343**	*e*P	**Pb**	**01 59 35.5**	**-1.9**
	135nm,0.9s						
BRLS				*e*S	**Sb**	**02 00 45.5**	**-1.3**
	1μm,1.1s						
BRLS	**Borolday**	**5.78**	**343**	*e*PN	**Pb**	**01 59 35.6**	**-1.9**
BRLS				*e*S	**Sb**	**02 00 45.5**	**-1.3**
CHMS	**Chumysh**	**5.81**	**19**	P	**Pn**	**01 59 25.4**	**+2.6**
	SNR=12						
THN	**Thein Dam**	**5.85**	**149**	*e*P	**Pn**	**01 59 27.5**	**+4.2**
TKM2	**Tokmak 2**	**6.00**	**25**	P	**Pn**	**01 59 28.1**	**+2.7**
	SNR=13						
TKM2	**Tokmak 2**	**6.00**	**25**	⇓Pn	**Pn**	**01 59 27.4**	**+1.9**
	237nm,0.9s						
TKM2				⇑Sn	**Sn**	**02 00 36.7**	**+2.5**
	874nm,1.3s						
TKM2	**Tokmak 2**	**6.00**	**25**	PN	**Pn**	**01 59 27.3**	**+1.9**
TKM2				S	**Sb**	**02 00 51.0**	**-2.1**
KDJ	**Kajisay**	**6.00**	**38**	PN	**Pn**	**01 59 28.4**	**+2.9**
KDJ	**Kajisay**	**6.00**	**38**	Pn	**Pn**	**01 59 28.4**	**+2.9**
USP	**Ospenovka**	**6.01**	**16**	P	**Pn**	**01 59 27.4**	**+2.0**
	SNR=12						
TARG	**Taragay, Kyrgy**	**6.05**	**44**	Pn	**Pn**	**01 59 27.8**	**+1.5**
DHRM	**DHARAMSHALA**	**6.26**	**146**	*e*P	**Pn**	**01 59 33.1**	**+4.0**
DHRM				*ex*	x	02 00 44.7	
AAA	**Alma-Ata**	**6.74**	**31**	*e*PN	**Pn**	**01 59 38.8**	**+3.3**
KNDC	**Almaty**	**6.76**	**31**	⇑Pn	**Pn**	**01 59 39.0**	**+3.1**
	211nm,0.8s						
KNDC				⇓Sn	**Sn**	**02 00 54.8**	**+1.8**
	363nm,0.

KOLN **Koldanda** **13.68 132** *e*P **Pn** **02 01 08.4 -2.3**
206nm,0.8s
KURBB **Kurchatov Arra** **13.86 17** Pn **Pn** **02 01 10.3 -2.6**
0.3nm,0.3s,baz=214,slow=13,SNR=192
KURBB Lg Lg 02 05 09.3
0.1nm,0.3s,baz=205,slow=29,SNR=8.4
KURBB **Kurchatov Arra** **13.86 17** ⇑P **Pn** **02 01 09.3 -3.7**
79nm,0.9s
KURBB **Kurchatov Arra** **13.86 17** P **Pn** **02 01 09.2 -3.7**
KURK **Kurchatov** **13.97 17**⇑ *i*P **Pn** **02 01 11.3 -3.1**
KURK **Kurchatov** **13.97 17** Pn **Pn** **02 01 11.4 -3.1**
GKN **Gorkha** **14.13 129** *e*P **Pn** **02 01 13.3 -3.6**
154nm,0.6s
GKN **Gorkha** **14.13 129** *e*P **Pn** **02 01 13.3 -3.6**
154nm,0.6s
BHUJ **Bhuj** **14.39 189** *e*P **Pn** **02 01 20.8 +0.6**
BHUJ *ex* x 02 03 59.0
KKN **Kakani** **14.69 128** *e*P **Pn** **02 01 20.4 -4.2**
122nm,0.6s
KKN **Kakani** **14.69 128** *e*P **Pn** **02 01 20.4 -4.2**
122nm,0.6s
AB31 **Akbulak array** **14.69 327** ⇑P **Pn** **02 01 20.5 -3.7**
9.6nm,0.5s
AB31 **Akbulak array** **14.69 327** *i* P Pn 02 01 19.6 -4.7
ABKAR **Akbulak array** **14.69 327** **Pn** **02 01 20.3 -4.0**
DMN **Daman** **14.71 128** *e*P **Pn** **02 01 21.1 -3.7**
153nm,0.8s
DMN **Daman** **14.71 128** *e*P **Pn** **02 01 21.1 -3.7**
153nm,0.8s
PKIN **Phulchoki** **14.91 128** *e*P **Pn** **02 01 23.5 -4.1**
PKIN **Phulchoki** **14.91 128** *e*P **Pn** **02 01 23.5 -4.1**
PKI **Pulchoki** **14.92 128** *e*P Pn 02 01 23.1 -4.7
PKI **Pulchoki** **14.92 128** *e*P Pn 02 01 23.1 -4.7
BHPL **Bhopal** **14.94 161** *e*P **Pn** **02 01 26.4 -1.3**
BHPL *ex* x 02 03 55.8
JIRN **Jiri** **15.36 126** *e*P **Pn** **02 01 29.1 -4.6**
JIRN **Jiri** **15.36 126** *e*P **Pn** **02 01 29.1 -4.6**
BVAR **Borovoye Array** **15.55 356** Pn **Pn** **02 01 32.7 -3.0**
0.6nm,0.3s,baz=166,slow=14,SNR=62
BVAR Lg Lg 02 06 05.9
0.5nm,0.3s,baz=208,slow=31,SNR=2.8
RAMN **Ramite** **16.11 127** *e*P **Pn** **02 01 38.1 -5.2**
105nm,0.6s
RAMN **Ramite** **16.11 127** *e*P **Pn** **02 01 38.1 -5.2**
105nm,0.6s
DGZ **Jazzator, Alta** **16.40 37**⇑ *e*P **Pn** **02 01 45.1 -1.7**
AKTO **Aktyubinsk** **16.40 326** Pn **Pn** **02 01 44.2 -2.5**
0.5nm,0.3s,baz=135,slow=14,SNR=27
AKTO Sn **Sn** **02 04 38.2 -10**
0.8nm,0.3s,baz=166,slow=17,SNR=4.9
AKTO Lg Lg 02 06 34.6
0.5nm,0.3s,baz=246,slow=23,SNR=1.3
AKTO LR LR 02 08 32.9
comp=Z,754nm,20.0s,baz=144,slow=39
AKTO **Aktyubinsk** **16.40 326** ⇑P **Pn** **02 01 46.5 -0.2**
178nm,0.8s
TAPN **Taplejung** **16.56 123** *e*P **Pn** **02 01 44.6 -4.6**
288nm,0.8s
TAPN **Taplejung** **16.56 123** *e*P **Pn** **02 01 44.6 -4.6**
288nm,0.8s
ODAN **Odare** **16.68 125** *e*P **Pn** **02 01 45.4 -5.2**
466nm,0.7s
ODAN **Odare** **16.68 125** *e*P **Pn** **02 01 45.4 -5.2**
466nm,0.7s
NGP **Nagpur** **17.37 158** *e*P **Pn** **02 01 56.7 -2.4**
NGP IAmb IAmb 02 02 06.8
comp=Z,28nm,0.8s
NGP *ex* x 02 05 06.2
LSA **Lhasa** **17.61 111** P **Pn** **02 01 60.0 -2.5**
BANOM **Banah** **17.75 234** *i* P **P** **02 02 04.9 +0.4**
SNR=9.4
SHME **Shamm** **17.76 235** *i* P **P** **02 02 06.4 +1.7**
SNR=29
BOK **Bokaro** **18.04 135** *e*P **Pn** **02 02 03.3 -4.0**
BOK IAmb IAmb 02 02 09.5
comp=Z,47nm,0.9s
MDH **Madha** **18.19 232** P **P** **02 02 10.1 +0.7**
MSFE **Esma-Masafi** **18.23 233** *i* P **P** **02 02 11.8 +1.8**
SNR=8.4
WSAR **Wadi Sarin** **18.38 223** P **Pn** **02 02 13.4 +1.9**
comp=Z,1.2nm,0.3s,baz=55,slow=11,SNR=11
WSAR LR LR 02 11 30.9
comp=Z,499nm,20.4s,baz=80,slow=44
BIDO **Bidbid** **18.44 225** P **Pn** **02 02 17.7 +5.5**
UOSS **Minazif** **18.50 232** *i* P **Pn** **02 02 14.8 +1.8**
SNR=15
UOSS **Minazif** **18.50 232** **Pn** **02 02 14.8 +1.8**
UOSS IAmb IAmb 02 02 31.0
comp=Z,74nm,1.0s
ZAA0 **Zalesovo Array** **18.60 24** IAmb IAmb 02 02 13.7
comp=Z,48nm,0.7s
ZALV **Zalesovo Beam** **18.60 24** P **P** **02 02 11.1 -2.6**
comp=Z,4.9nm,0.3s,baz=216,slow=11,SNR=163
ZALV LR LR 02 09 44.6
comp=Z,378nm,18.4s,baz=216,slow=38
HATD **Hatta, Dubai** **18.63 232** P **Pn** **02 02 16.8 +2.2**
WBK **Wadi Bani Khal** **18.71 221** P **Pn** **02 02 20.5 +4.9**
SNR=9.7
WBK P **Pn** **02 02 20.5 +4.9**
SNR=9.7
ASHO **Ashiyiah** **18.78 232** *i* P **Pn** **02 02 17.8 +1.4**
SNR=56
ASHO **Ashiyiah** **18.78 232** P **Pn** **02 02 20.0 +3.6**
SNR=36
NAZ **Nazwa, Dubai** **18.81 233** *i* P **Pn** **02 02 19.1 +2.4**
SNR=7.9
NAZ **Nazwa, Dubai** **18.81 233** P **Pn** **02 02 21.5 +4.8**
SNR=11
SMDO **Samad** **18.85 224** P **Pn** **02 02 21.0 +3.8**
SMDO P **Pn** **02 02 21.0 +3.8**
JLN **Jalan Bani Buh** **18.87 219** P **Pn** **02 02 22.7 +5.3**
SNR=5.5
JLN P **Pn** **02 02 22.7 +5.3**
SNR=5.5
SOHO **SOHO** **18.89 229** P **Pn** **02 02 18.4 +0.6**
AKT **Akhty** **19.25 289** *e*P **P** **02 02 20.7 -0.4**
AKT *e*S **Sn** **02 05 55.3 -2.5**
AKT pmax pmax
comp=Z,23nm,0.6s
AKT smax smax
comp=N,52nm,0.7s
AKT smax smax
comp=E,11nm,0.7s
ALNE **Al Ain** **19.43 231** *i* P **Pn** **02 02 25.2 +1.0**
SNR=9.7
ARQ **Araqi** **19.50 228** P **Pn** **02 02 29.4 +4.3**
SNR=8.2
ARQ P **Pn** **02 02 29.4 +4.3**
SNR=8.2
MAK **Makhachkala** **19.56 294** *e*P **P** **02 02 23.6 -0.8**
MAK *e*S **S** **02 06 04.0 -1.2**
MAK pmax pmax
comp=Z,129nm,1.0s
MAK MLR MLR
comp=Z,695nm,14.0s
BSY **Bisya** **19.57 225** P **Pn** **02 02 30.8 +4.9**
SNR=7.3
BSY P **Pn** **02 02 30.8 +4.9**
SNR=7.3
SEKA **Sheki** **19.63 289** P **P** **02 02 26.0 +0.8**
GNBR **Gunib** **19.89 292** *i* P **Pn** **02 02 30.1 +0.4**
GANJ **Ganja** **20.28 287** P **P** **02 02 33.2 +0.9**
SHL **Shillong** **20.55 120** *e*P **P** **02 02 31.6 -3.9**
SHL IAmb IAmb 02 02 37.9
comp=Z,20nm,0.9s
SHL **Shillong** **20.55 120** P **P** **02 02 35.7 +0.2**
SNR=15
SHL **Shillong** **20.55 120** P **P** **02 02 35.5 0.0**
SHL pmax pmax
comp=Z,79nm,1.1s
SHL **Shillong** **20.55 120** P **P** **02 02 35.5 0.0**
SHL IAmb IAmb 02 03 25.2
comp=Z,79nm,1.1s
MHTO **MHTO** **20.57 221** P Pn 02 02 41.7 +3.9
SNR=5.4
SVE **Sverdlovsk** **20.79 342** *c i*P **P** **02 02 36.0 -1.6**
SVE *e*S Sn 02 06 32.7 -1.8
SVE pmax pmax
comp=Z,63nm,1.5s
SVE MLR MLR
comp=Z,1μm,10.0s
HYB **Hyderabad** **20.80 163** *i* P **P** **02 02 39.0 +1.0**
HYB *e* 02 06 20.0
HYB *e*S Sn 02 06 35.0 -0.4
HYB **Hyderabad** **20.80 163** *ex* **P** **02 02 39.3 +1.2**
HYB IAmb IAmb 02 02 44.0
comp=Z,43nm,0.7s
GROC **Groznyy** **20.84 294** *e*P Pn 02 02 39.9 -0.8
GROC *e* 02 02 58.3
GROC *e*S **S** **02 06 30.7 +0.1**
GROC pmax pmax
comp=Z,174nm,1.0s
GROC MLR MLR
comp=Z,289nm,7.0s
NAX **Nakhchivan** **20.96 283** P **P** **02 02 40.4 +0.7**
ARU **Arti** **21.00 339** P **P** **02 02 38.6 -1.2**
comp=Z,11nm,0.7s,baz=160,slow=11,SNR=37
ARU S **S** **02 06 35.6 +2.1**
comp=Z,2.3nm,0.6s,baz=140,slow=22,SNR=1.9
ARU Lg Lg 02 08 58.9
comp=Z,6.3nm,0.8s,baz=186,slow=17,SNR=3.0
ARU LR LR 02 11 40.3
comp=Z,461nm,19.2s,baz=142,slow=39
ARU **Arti** **21.00 339** *d i*P **P** **02 02 38.1 -1.7**
ARU 02 02 58.3
ARU S **S** **02 06 29.8 -3.7**
ARU SS **SnSn** **02 06 52.4 -1.9**
ARU pmax pmax
comp=Z,60nm,1.1s
ARU MLR MLR
comp=Z,818nm,14.0s
ARU **Arti** **21.00 339** P **P** **02 02 38.1 -1.7**
ARU IAmb IAmb 02 03 00.5
comp=Z,42nm,0.8s
TBLG **Delisi** **21.50 290** P **P** **02 02 44.9 -0.6**
TBLG pmax pmax
comp=Z,65nm,0.9s
TBLG **Delisi** **21.50 290** P **P** **02 02 44.9 -0.6**
TBLG IAmb IAmb 02 03 02.3
comp=Z,65nm,0.9s
GTA **Gaotai** **21.70 76** ⇑P **P** **02 02 47.9 +0.2**
GTA pP pP 02 02 51.1 -0.8
GTA sP sP 02 02 54.1 +0.3
GTA PP **PnPn** **02 03 10.5 +2.1**
GTA S **S** **02 06 48.9 +1.0**
GTA pmax pmax
comp=Z,38nm,1.0s
GTA pmax pmax
comp=Z,280nm,5.1s
GTA LR LR
comp=Z,960nm,16.6s
GTA LR LR
comp=Z,750nm,16.6s
GTA LR LR
comp=Z,810nm,16.6s
KZRT **Kazreti** **21.75 289** P **P** **02 02 49.7 +1.6**
ZEI **Tsey** **22.18 293** *e*P **P** **02 02 54.0 +1.1**
ZEI pmax pmax
comp=Z,40nm,1.1s
KARS **Kars** **22.75 287** P **P** **02 03 01.9 +3.0**
GEVA **Gevas** **22.94 281** P **P** **02 03 01.1 +0.1**
GEVA IAmb IAmb 02 03 25.5
comp=Z,73nm,1.3s
KBZ **Khabaz** **22.99 295** P **P** **02 03 01.4 +0.2**
comp=Z,7.6nm,0.6s,baz=113,slow=8.3,SNR=17
KBZ S **S** **02 07 17.7 +6.1**
comp=Z,19nm,0.7s,baz=223,slow=1.9,SNR=12
GOF **Gofitskoye** **23.05 298**⇑ *e*P **P** **02 03 05.9 +4.0**
GOF *e*S **S** **02 07 13.7 +1.0**
GOF pmax pmax
comp=Z,68nm,0.8s
GOF smax smax
comp=N,137nm,1.8s
GOF smax smax
comp=E,129nm,1.2s
KVAR **Kislovodsk Arr** **23.16 295** P **P** **02 03 04.1 +0.9**
comp=E,18nm,0.6s,baz=90,slow=20,SNR=11
KVAR S **S** **02 07 16.6 +1.8**
comp=E,20nm,0.8s,baz=189,slow=21,SNR=3.7
KIV **Kislovodsk** **23.17 295** *e*P **P** **02 03 04.4 +1.2**
KIV *e*S **S** **02 07 13.5 -1.3**
KIV pmax pmax
comp=Z,175nm,1.0s
KIV pmax pmax
comp=Z,17nm,2.7s
KIV MLR MLR
comp=Z,636nm,14.0s
KIV **Kislovodsk** **23.17 295** P **P** **02 03 04.1 +0.9**
ARXR **Arkhyz** **24.15 294** *i* P **P** **02 03 16.7 +3.8**
KOPT **Kop Dagi** **24.75 286** P **P** **02 03 19.9 +1.3**
MARD **Mardin** **24.88 279** P **P** **02 03 20.8 +1.3**
MARD IAmb IAmb 02 03 43.1
comp=Z,21nm,0.7s
SOC **Sochi** **25.28 294** *e*P **P** **02 03 28.7 +5.8**
SOC *e**PP **sP** **02 03 33.5 +4.3**
SOC *e*PPP PPP 02 03 59.3
SOC *e*S **S** **02 07 45.8 -2.9**
SOC pmax pmax
comp=Z,33nm,0.8s
SOC MLR MLR
comp=Z,422nm,18.0s
LZH **Lanzhou** **25.34 84** *e*P **P** **02 03 24.7 +0.9**
LZH sP sP 02 03 31.5 +1.4
LZH S **S** **02 07 54.7 +4.6**
LZH SS **SnSn** **02 08 43.6 +2.2**
LZH pmax pmax
comp=Z,59nm,1.2s
LZH pmax pmax
comp=Z,150nm,5.4s
LZH LR LR
comp=Z,810nm,13.2s
LZH LR LR
comp=Z,700nm,12.5s
LZH LR LR
comp=Z,930nm,14.1s
VRH **Novokhopyorsk** **25.49 312** *e*P **P** **02 03 24.4 -0.3**
VRH *e*S **S** **02 07 56.2 +4.4**
VRH pmax pmax
comp=Z,50nm,0.7s
VRH smax smax
comp=N,570nm,6.3s
VRH MLR MLR
comp=Z,820nm,17.0s
ZAK **Zakamensk** **25.62 50** *e*P **P** **02 03 26.2 +0.2**
ZAK pmax pmax
comp=Z,25nm,1.0s
KIRV **Kirov** **25.75 332** P **P** **02 03 26.6 -0.4**
comp=Z,189nm,0.7s,baz=128,slow=4.8,SNR=77
KIRV LR LR 02 14 08.9
comp=Z,323nm,19.9s,baz=137,slow=38
TLY **Talaya** **26.26 47** LR LR 02 14 42.9
comp=Z,374nm,18.7s,baz=251,slow=39
TLY **Talaya** **26.26 47** *i* P **P** **02 03 30.7 -1.1**
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY **Talaya** **26.26 47** P **P** **02 03 33.8 +2.0**
TLY IAmb IAmb 02 04 32.1
comp=Z,14nm,0.7s
CD2 **Chengdu** **26.86 95** *e*P **P** **02 03 37.6 +0.2**
CD2 S **S** **02 08 14.8 +0.9**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,150nm,9.6s
CD2 LR LR
comp=Z,1μm,13.0s
CD2 LR LR
comp=Z,840nm,13.5s
CD2 LR LR
comp=Z,920nm,9.1s
VORD **Divnogorie** **26.86 311** *e*P **P** **02 03 37.3 +0.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
SONM **Songino Array** **26.99 57** P **P** **02 03 37.3 -1.2**
comp=Z,8.0nm,0.8s,baz=258,slow=10,SNR=15
SONM LR LR 02 14 25.7
comp=Z,813nm,19.1s,baz=264,slow=37
SONM **Songino Array** **26.99 57** P **P** **02 03 38.4 -0.1**
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM **Songino Array** **26.99 57** P **P** **02 03 38.4 -0.1**
VSR **Storozhevoye** **27.01 311** *e*P **P** **02 03 38.0 -0.5**
VSR pmax pmax
comp=Z,40nm,0.9s
VSR MLR MLR
comp=Z,520nm,15.0s
VORR **Voronezh** **27.13 312** *e*P **P** **02 03 39.0 -0.5**
VORR pmax pmax
comp=Z,250nm,1.2s
LPSR **Galich'ya Gora** **27.60 314** *e*P **P** **02 03 42.8 -0.9**
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,900nm,18.0s
GAZ **Gaziantep** **27.70 280** P **P** **02 03 46.5 +1.6**
GAZ IAmb IAmb 02 04 01.1
comp=Z,25nm,1.2s
TOKA **Tokat** **27.79 287** P **P** **02 03 45.8 +0.1**
TOKA IAmb IAmb 02 04 17.8
comp=Z,23nm,1.3s
KMI **Kunming** **28.76 107**⇑ *e*P **P** **02 03 57.5 +2.9**
KMI pmax pmax
comp=Z,23nm,0.5s
PRGR **Permogore** **29.24 334**⇓ *i*P **P** **02 03 57.3 -1.0**
PRGR pmax pmax
comp=Z,40nm,0.7s
ASF **Jabal al Asfar** **29.32 270** P **P** **02 04 01.4 +2.0**
comp=Z,1.7nm,0.9s,baz=294,slow=5.3,SNR=4.2
BTO **Baotou** **29.40 72** *e*P **P** **02 03 58.6 -1.5**
MOS **Moscow** **29.47 319** *e*P **P** **02 03 58.9 -1.5**
MOS *e* 02 05 03.6
MOS pmax pmax
comp=Z,55nm,1.2s
MOS pmax pmax
comp=Z,100nm,1.6s
MOS MLR MLR
comp=Z,400nm,14.0s
OBN **Obninsk** **29.79 318** P **P** **02 04 02.7 -0.5**
comp=Z,5.1nm,0.5s,baz=13,slow=5.4,SNR=8.5
OBN LR LR 02 17 28.6
comp=Z,59nm,19.4s,baz=134,slow=39
OBN **Obninsk** **29.79 318** *de*P **P** **02 04 02.7 -0.5**
OBN *e* 02 04 57.9
OBN *e* 02 07 06.6
OBN pmax pmax
comp=Z,53nm,1.4s
OBN MLR MLR
comp=Z,322nm,14.0s
OBN **Obninsk** **29.79 318** P **P** **02 04 01.4 -1.8**
ILGA **Ilgaz** **29.81 289** IAmb IAmb 02 04 36.7
comp=Z,23nm,1.1s
XAN **Xi'an** **29.90 85** P **P** **02 04 03.5 -1.0**
XAN pP sP 02 04 14.6 +3.8
XAN sP pP 02 04 20.8 +12
XAN PP **PnPn** **02 05 02.6 +2.2**
XAN S **S** **02 08 55.0 -6.7**
XAN sS sS 02 09 15.1 +6.0
XAN SS **SnSn** **02 10 31.8 -0.5**
XAN pmax pmax
comp=Z,20nm,1.1s
XAN pmax pmax
comp=Z,140nm,4.6s
XAN LR LR
comp=Z,910nm,15.7s
XAN LR LR
comp=Z,680nm,14.6s
XAN LR LR
comp=Z,1μm,14.9s
XAN **Xi'an** **29.90 85** P **P** **02 04 04.3 -0.2**
XAN pmax pmax
comp=Z,14nm,0.9s
XAN **Xi'an** **29.90 85** P **P** **02 04 04.3 -0.2**
XAN IAmb IAmb 02 04 04.8
comp=Z,14nm,0.9s
CHTO **Chiang Mai** **29.91 121** P **P** **02 04 05.4 +0.8**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO **Chiang Mai** **29.91 121** P **P** **02 04 05.4 +0.8**
BRTR **Keskin Array B** **30.03 286** P **P** **02 04 06.9 +1.2**
comp=Z,2.6nm,0.8s,baz=102,slow=7.8,SNR=17
BRTR LR LR 02 19 01.1
comp=Z,102nm,19.1s,baz=49,slow=42
BRTR **Keskin Array B** **30.03 286** P **P** **02 04 06.7 +1.0**
BRTR **Keskin Array B** **30.03 286** P **P** **02 04 06.7 +1.0**
CM31 **Chiang Mai Arr** **30.16 122** P **P** **02 04 08.4 +1.6**
CM31 IAmb IAmb 02 04 50.2
comp=Z,13nm,0.9s
CMAR **Chiang Mai Arr** **30.16 122** P **P** **02 04 06.9 0.0**
comp=Z,4.7nm,0.8s,baz=92,slow=4.3,SNR=4.1
CMAR LR LR 02 16 59.9
comp=Z,440nm,20.7s,baz=8.5,slow=38
CMAR **Chiang Mai Arr** **30.16 122** P **P** **02 04 07.3 +0.5**
HHC **Hu-ho-hao-te** **30.54 71** *e*P **P** **02 04 10.1 -0.1**
HHC PP **PnPn** **02 05 09.6 +0.6**
HHC S **S** **02 09 09.5 -2.3**
HHC SS **SnSn** **02 10 48.7 +0.8**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,130nm,6.6s
HHC LR LR
comp=Z,780nm,19.0s
HHC LR LR
comp=Z,580nm,14.0s
HHC LR LR
comp=Z,340nm,16.9s
KLMR **Klimovskoe** **31.07 329** *e*P **P** **02 04 11.4 -2.9**
KLMR pmax pmax
comp=Z,27nm,0.9s
KLMR **Klimovskoe** **31.07 329** *e*P **P** **02 04 11.5 -2.9**
KLMR AMP 02 04 14.3
comp=Z,27nm,0.9s
KLMR LR LR 02 14 37.7
GYA **Guiyang** **31.11 101** ⇑P **P** **02 04 15.4 +0.1**
GYA S **S** **02 09 14.5 -6.4**
GYA pmax pmax
comp=Z,32nm,0.8s
GYA pmax pmax
comp=Z,84nm,3.5s
GYA LR LR
comp=Z,210nm,9.1s
GYA LR LR
comp=Z,200nm,10.6s
GYA LR LR
comp=Z,410nm,15.5s
SLVN **Son La** **31.81 112** P **P** **02 04 22.5 +1.1**
EIL **Elat** **31.82 267** P **P** **02 04 23.5 +2.2**
comp=Z,14nm,1.0s,baz=130,slow=3.3,SNR=7.5
PURM **Purcari** **32.35 300** ⇑P **P** **02 04 28.5 +2.6**
PBKT **Sadao Pong** **32.85 122** P **P** **02 04 31.7 +1.2**
PBKT IAmb IAmb 02 04 32.3
comp=Z,18nm,1.0s
NRIK **Noril'sk** **32.96 10** P **P** **02 04 30.2 -0.7**
comp=Z,24nm,1.0s,baz=194,slow=6.0,SNR=12
NRIK LR LR 02 18 10.5
comp=Z,314nm,18.9s,baz=200,slow=37
AKASG **Malin Array Be** **33.05 307** P **P** **02 04 31.4 -0.6**
comp=Z,2.5nm,0.6s,baz=81,slow=7.0,SNR=19
AKASG LR LR 02 20 14.1
comp=Z,375nm,18.9s,baz=110,slow=40
AKASG **Malin Array Be** **33.05 307** P **P** **02 04 33.9 +1.9**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG **Malin Array Be** **33.05 307** P **P** **02 04 33.9 +1.9**
AKBB **Malin Array Si** **33.05 307** IAmb IAmb 02 04 48.9
comp=Z,9.2nm,0.7s
MILM **Milestii Mici** **33.08 300** ⇑P **P** **02 04 31.6 -0.6**
SORM **Soroca** **33.42 303** ⇓P **P** **02 04 35.3 +0.1**
SORM **Soroca** **33.42 303** ⇓P **P** **02 04 35.3 +0.1**
TMCR **Tamitsa** **33.53 334** *e*P **P** **02 04 35.0 -1.0**
TMCR pmax pmax
comp=Z,10.0nm,0.8s
CFR **Carcaliu** **33.59 297** ⇓P **P** **02 04 36.4 -0.3**
CFR **Carcaliu** **33.59 297** ⇓P **P** **02 04 36.4 -0.3**
VARL **Varlezi** **33.76 299** ⇓P **P** **02 04 39.8 +1.6**
BOD **Bodaibo** **33.97 40** *e*P **P** **02 04 40.4 +0.6**
BOD pmax pmax
comp=Z,17nm,1.3s
MANT **Manisa** **34.14 285** P **P** **02 04 42.6 +0.7**
BJI **Beijing** **34.14 72** P **P** **02 04 41.9 +0.4**
BJI S **S** **02 10 06.8 -0.8**
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJI LR LR
comp=Z,950nm,19.7s
BJI LR LR
comp=Z,370nm,20.4s
BJI LR LR
comp=Z,350nm,35.3s
VRI **Vrincioaia** **34.55 299** ⇑P **P** **02 04 46.9 +1.9**
VRI **Vrincioaia** **34.55 299** ⇑P **P** **02 04 46.9 +1.9**
TESR **Tescani** **34.58 300** ⇓P **P** **02 04 45.9 +0.6**
PLOR **Plostina** **34.60 299** ⇑P **P** **02 04 48.2 +2.7**
PLOR **Plostina** **34.60 299** ⇑P **P** **02 04 48.2 +2.7**
ISR **Istrita** **34.72 297** ⇓P **P** **02 04 50.1 +3.5**
ISR **Istrita** **34.72 297** ⇓P **P** **02 04 50.1 +3.5**
NEHR **Nehoiu** **34.87 298** ⇓P **P** **02 04 52.2 +4.3**

MLR	Muntele Rosu	35.11	298	⇑P	P	02 04 51.7 +1.6
MLR	Muntele Rosu	35.11	298	⇑P	P	02 04 51.7 +1.6
NACGM	Naroch	35.15	314	*e*	P	02 04 49.0 -1.1
NACGM				*e*LQ	LQ	02 17 36.0
NACGM				*e*LR	LR	02 19 35.0
IDID	Didziasalis	35.25	315	*e*P	P	02 04 51.3 +0.3
WHN	Wuhan	35.41	89	⇓P	P	02 04 53.1 +0.4
DOPR	Dopca	35.47	299	⇑P	P	02 04 55.6 +2.6
BURAR	Bucovina Array	35.53	302	⇓P	P	02 04 55.9 +2.3
BURAR	Bucovina Array	35.53	302	⇓P	P	02 04 55.9 +2.3
BURAR	Bucovina Array	35.53	302	P	P	02 04 54.4 +0.8
IIGN	Ignalina	35.55	315	*e*P	P	02 04 53.1 -0.5
IZAR	Zarasai	35.61	316	*e*P	P	02 04 54.2 +0.1
ISAL	Salakas	35.65	315	*e*P	P	02 04 54.6 +0.3
VOIR		35.74	298	⇑P	P	02 04 57.2 +1.7
VOIR		35.74	298	⇑P	P	02 04 57.2 +1.7
VSU	Vasula	35.98	320	*e*P	P	02 04 56.5 -0.6
VSU	Vasula	35.98	320	*i* P	P	02 04 56.6 -0.6
VSU				pmax	pmax	
	comp=Z,77nm,1.2s					
ARCR	ARCALIA	36.13	301	⇓P	P	02 05 09.9 +11
LVV	L'vov	36.32	305	*e*P	P	02 04 58.6 -1.6
LVV				*e*		02 06 24.4
LVV				*e*S	S	02 10 36.4 -4.5
LVV				MLR	MLR	
	comp=Z,300nm,14.0s					
LOT	Lotru	36.64	298	⇓P	P	02 05 06.2 +3.0
PABE	Paberze	36.84	315	*e*P	P	02 05 04.6 0.0
LVZ	Lovozero	36.87	337	*ce*P	P	02 05 03.3 -1.4
LVZ				pmax	pmax	
	comp=Z,76nm,1.3s					
LVZ	Lovozero	36.87	337	P	P	02 05 03.9 -0.8
APA	Apatity	37.06	337	⇓*i*P	P	02 05 04.5 -1.8
APA				pmax	pmax	
	comp=Z,14nm,0.8s					
APA				MLR	MLR	
	comp=Z,1μm,13.0s					
FIA1	FINESS Array S	37.17	325	IAmb	IAmb	02 05 07.7
	comp=Z,20nm,0.8s					
FINES	FINESS Array B	37.17	325	P	P	02 05 06.7 -0.6
	comp=Z,14nm,0.7s,baz=114,slow=9.8,SNR=44					
FINES				LR	LR	02 21 15.7
	comp=Z,361nm,18.6s,baz=106,slow=38					
KWP	Kalwaria Pacla	37.17	305	*e*P	P	02 05 10.1 +2.6
KWP	Kalwaria Pacla	37.17	305	P	P	02 05 07.7 +0.2
KWP				pmax	pmax	
	comp=Z,28nm,1.2s					
KWP	Kalwaria Pacla	37.17	305	P	P	02 05 07.7 +0.2
KWP				IAmb	IAmb	02 05 24.1
	comp=Z,28nm,1.2s					
UZH	Uzhgorod	37.46	303	*e*P	P	02 05 12.5 +2.6
UZH				*e*		02 05 18.0
UZH				*e*		02 05 25.2
UZH				*e*		02 06 43.2
UZH				*e*S	S	02 10 59.5 +1.1
UZH				MLR	MLR	
	comp=N,150nm,19.0s					
UZH				MLR	MLR	
	comp=E,50nm,19.0s					
UZH				MLR	MLR	
	comp=Z,60nm,19.0s					
KOLS	Kolonicke sedl	37.47	304	*e*P	P	02 05 09.4 -0.6
KOLS				pmax	pmax	
	comp=Z,8.0nm,1.0s					
KOLS	Kolonicke sedl	37.47	304	*e*P	P	02 05 09.4 -0.6
QIZ	Qiongzhong	37.64	109	P	P	02 05 11.1 -0.6
QIZ				PP	PP	02 06 35.5 -2.1
QIZ				S	S	02 11 03.0 +1.4
QIZ				LR	LR	
	comp=Z,700nm,20.0s					
QIZ				LR	LR	
	comp=Z,500nm,19.0s					
QIZ				LR	LR	
	comp=Z,250nm,16.9s					
PBUR	Paburge	38.06	316	*e*P	P	02 05 14.3 -0.5
BZS	Buzias	38.13	299	⇑P	P	02 05 17.2 +1.6
BZS	Buzias	38.13	299	⇑P	P	02 05 17.2 +1.6
STIP	Stip	38.30	292	*i* P	P	02 05 16.4 -0.7
NJ2	Nanjing	38.42	84	*e*P	P	02 05 17.0 -1.2
NJ2				pmax	pmax	
	comp=Z,9.0nm,0.6s					
NJ2				LR	LR	
	comp=Z,890nm,13.9s					
NJ2				LR	LR	
	comp=Z,610nm,16.3s					
NJ2				LR	LR	
	comp=Z,880nm,17.6s					
NIE	Niedzica	38.75	305	*e*P	P	02 05 22.4 +1.5
OJC	Ojcow	39.04	306	*e*P	P	02 05 23.7 +0.4
PSZ	Piszkesteto	39.10	302	P	P	02 05 25.3 +1.4
PSZ				pmax	pmax	
	comp=Z,7.0nm,0.9s					
PSZ	Piszkesteto	39.10	302	P	P	02 05 25.3 +1.4
ITM	Ithomi	39.55	285	P	P	02 05 26.5 -1.1
ITM				IAmb	IAmb	02 05 35.4
	comp=Z,80nm,2.0s					
VYHS	Vyhne	39.76	303	*e*P	P	02 05 30.1 +0.8
VYHS				pmax	pmax	
	comp=Z,6.0nm,1.1s					
VYHS	Vyhne	39.76	303	*e*P	P	02 05 30.1 +0.8
KEV	Kevo	40.21	338	P	P	02 05 31.4 -1.3
KEV				pmax	pmax	
	comp=Z,32nm,0.8s					
KEV	Kevo	40.21	338	P	P	02 05 31.4 -1.3
KEV				IAmb	IAmb	02 05 32.9
	comp=Z,32nm,0.8s					
CN2	Changchun	40.31	64	*e*P	P	02 05 35.4 +1.5
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
JAVC	Velka Javorina	40.50	304	*e*P	P	02 05 42.4 +6.9
MORC	Moravsky Berou	40.52	306	⇓P	P	02 05 35.4 -0.2
MORC	Moravsky Berou	40.52	306	*e*P	P	02 05 36.3 +0.7
MORC	Moravsky Berou	40.52	306	⇓P	P	02 05 35.4 -0.2
MORC	Moravsky Berou	40.52	306	P	P	02 05 35.3 -0.2
ARCES	ARCESS Array B	40.56	337	P	P	02 05 35.2 -0.5
	comp=Z,56nm,0.7s,baz=111,slow=8.1,SNR=129					
ARCES				LR	LR	02 23 26.9
	comp=Z,643nm,18.0s,baz=132,slow=38					
ARE0	ARCESS Array S	40.56	337	P	P	02 05 34.7 -1.0
ARE0	ARCESS Array S	40.56	337	*e*P	P	02 05 35.5 -0.2
GKP	Gorka Klasztor	40.60	311	*e*P	P	02 05 36.5 +0.3
KRLC	Kraliky	40.99	306	*e*P	P	02 05 39.3 -0.2
KRLC				AMS	AMS	02 24 50.0
	comp=Z,400nm,11.9s					
KRLC	Kraliky	40.99	306	*e*P	P	02 05 39.3 -0.2
KRLC				MLR	MLR	
	comp=Z,400nm,11.9s					
KTK1	Kautokeino	41.06	336	*e*P	P	02 05 39.2 -0.6
VRAC	Vranov	41.17	305	⇓P	P	02 05 42.0 +1.0
VRAC	Vranov	41.17	305	*e*P	P	02 05 41.9 +1.0
VRAC	Vranov	41.17	305	⇓P	P	02 05 42.0 +1.0
KSP	Ksiaz	41.25	307	*e*P	P	02 05 41.8 +0.2
DPC	Dobruska-Polom	41.27	307	*e*P	P	02 05 42.3 +0.6
DPC				AMS	AMS	02 25 00.0
	comp=Z,500nm,22.1s					
DPC	Dobruska-Polom	41.27	307	*e*P	P	02 05 42.3 +0.6
DPC				MLR	MLR	
	comp=Z,500nm,22.1s					
OSTC	Ostas	41.32	307	AMS	AMS	02 24 00.0
	comp=Z,500nm,14.8s					
KRUC	Moravsky	41.32	305	*e*P	P	02 05 43.0 +0.8
CHVC	Chvalec	41.42	307	*e*P	P	02 05 45.8 +2.8
CHVC				AMS	AMS	02 24 10.0
	comp=Z,500nm,17.6s					
UPC	Upice	41.45	307	AMS	AMS	02 24 00.0
	comp=Z,500nm,15.5s					
FURI	Furi	41.55	235	P	P	02 05 48.0 +3.3
HAMF	Hammerfest	41.62	338	*e*P	P	02 05 44.3 0.0
CONA	Conrad Observa	41.80	303	*ep*P	P	02 05 47.3 +1.1
	comp=Z,12nm,1.0s					
TREC	Trest	41.89	305	AMS	AMS	02 25 20.0
	comp=Z,300nm,19.4s					
TREC	Trest	41.89	305	*e*P	P	02 05 53.3 +6.4
TREC				MLR	MLR	
	comp=Z,300nm,19.4s					
GOPC	GO Pecny, Ondr	42.29	306	AMS	AMS	02 24 40.0
	comp=Z,500nm,13.4s					
GOPC	GO Pecny, Ondr	42.29	306	*e*P	P	02 05 58.1 +8.0
GOPC				MLR	MLR	
	comp=Z,500nm,13.4s					
PRU	Pruhonice	42.44	306	*e*P	P	02 05 51.5 +0.2
PRU				AMS	AMS	02 25 30.0
	comp=Z,400nm,14.2s					
PRU	Pruhonice	42.44	306	*e*P	P	02 05 51.5 +0.2
PRU				MLR	MLR	
	comp=Z,400nm,14.2s					
PRA	Prague	42.50	306	AMS	AMS	02 24 40.0
	comp=Z,300nm,13.5s					
SOKA	Soboth	42.53	301	*ep*P	P	02 05 52.9 +0.7
	comp=Z,11nm,1.0s					
YAK	Yakutsk	42.59	36	*e*P	P	02 05 52.3 0.0
YAK				*e**PP	sP	02 06 04.2 +5.5
YAK				*e*		02 07 28.4
YAK				*e*		02 07 44.7
YAK				*e*S	S	02 12 10.8 -3.9
YAK				*e*		02 15 54.5
YAK				pmax	pmax	
	comp=Z,17nm,0.9s					
YAK				pmax	pmax	
	comp=E,9.0nm,1.2s					
YAK				pmax	pmax	
	comp=N,5.0nm,1.0s					
YAK				pmax	pmax	
	comp=Z,36nm,1.3s					
YAK				pmax	pmax	
	comp=E,22nm,1.5s					
YAK				smax	smax	
	comp=N,124nm,3.2s					
YAK				smax	smax	
	comp=E,95nm,2.6s					
YAK				MLR	MLR	
	comp=Z,359nm,17.0s					
YAK				MLR	MLR	
	comp=E,187nm,16.0s					
TRO	Tromso	42.72	336	*e*P	P	02 05 52.8 -0.4
BRG	Berggiesshubel	42.73	307	*e*P	P	02 05 54.2 +0.5
	comp=E,18nm,1.6s					
BRG				S	S	02 12 25.0 +7.8
	comp=N,401nm,14.3s					
	comp=E,368nm,15.6s					
	comp=Z,454nm,13.2s					
BRG	Berggiesshubel	42.73	307	*e*P	P	02 05 54.2 +0.5
BRG				S	S	02 12 25.0 +7.8
BRG				pmax	pmax	
	comp=Z,18nm,1.6s					
BRG				MLR	MLR	
	comp=N,401nm,14.3s					
BRG				MLR	MLR	
	comp=E,368nm,15.6s					
BRG				MLR	MLR	
	comp=Z,454nm,13.2s					
MOA	Molln	42.87	303	*ep*P	P	02 05 55.5 +0.6
	comp=Z,13nm,1.5s					
OBKA	Obir	42.89	301	*e*P	P	02 05 54.8 -0.3
	comp=Z,14nm,1.7s					
GSI	Gunungsitoli	42.97	141	P	P	02 06 00.3 +4.4
GERES	GERESS Array B	43.11	305	P	P	02 05 57.0 +0.1
	comp=Z,1.4nm,0.6s,baz=76,slow=7.6,SNR=8.2					
GERES				PP	PcP	02 07 42.9 -3.7
	comp=Z,2.0nm,0.7s,baz=67,slow=10,SNR=4.5					
GERES	GERESS Array B	43.11	305	P	P	02 05 57.0 +0.1
KHC	Kasperske Hory	43.16	305	*e*P	P	02 05 57.9 +0.7
KHC				*ex*	x	02 06 03.3
KHC				AMS	AMS	02 26 10.0
	comp=Z,300nm,13.3s					
KHC	Kasperske Hory	43.16	305	*ce*P	P	02 05 57.0 -0.2
KHC				pmax	pmax	
	comp=Z,17nm,1.7s					
CLL	Collm	43.29	308	*e*P	P	02 05 58.0 -0.1
	comp=Z,5.0nm,0.7s					
CLL				*e*		02 06 12.0
CLL				*e*PP	PP	02 07 39.0 +0.5
CLL				*e*SS	SS	02 15 36.0 -2.2
CLL				LmV		02 25 00.0
	comp=Z,400nm,20.0s					
CLL	Collm	43.29	308	*e*P	P	02 05 58.0 -0.1
CLL				pmax	pmax	
	comp=Z,5.0nm,0.7s					
FAUS	Fauske	43.34	332	*e*P	P	02 05 57.9 -0.4
STEI	Steigen	43.49	333	*e*P	P	02 05 59.2 -0.3
PRED	Cave del Predi	43.57	301	IAmb	IAmb	02 06 15.7
	comp=Z,25nm,1.4s					
KSAR	Wonju Array Be	43.65	72	P	P	02 05 59.5 -1.7
KSAR	Wonju Array Be	43.65	72	P	P	02 05 59.5 -1.7
KSRS	Korea Array	43.67	72	P	P	02 06 00.6 -0.8
	comp=Z,8.5nm,1.0s,baz=280,slow=7.1,SNR=17					
KSRS				LR	LR	02 25 59.2
	comp=Z,185nm,20.1s,baz=294,slow=39					
NKC	Novy Kostel	43.75	307	AMS	AMS	02 25 30.0
	comp=Z,600nm,15.3s					
NC602	NORSAR Array S	43.96	322	*e*P	P	02 06 02.9 -0.5
KONS	Konsvik	43.98	330	*e*P	P	02 06 02.9 -0.5
NB201	NORSAR Array S	44.10	322	P	P	02 06 03.5 -1.1
NSS	Namsos	44.13	327	*e*P	P	02 06 04.0 -0.7
NB2	NORSAR Subarra	44.13	322	P	P	02 06 03.4 -1.5
	comp=Z,27nm,1.2s,baz=92,slow=7.9					
NB2	NORSAR Subarra	44.13	322	P	P	02 06 03.4 -1.5
	baz=92,slow=7.9					
NOA	NORSAR Array B	44.13	322	P	P	02 06 03.6 -1.2
	comp=Z,8.6nm,0.8s,baz=93,slow=7.9,SNR=35					
NOA				LR	LR	02 26 40.5
	comp=Z,214nm,19.7s,baz=125,slow=39					
ABTA	Abfaltersbach	44.23	302	*e*P	P	02 06 05.5 -0.4
	comp=Z,2.3nm,0.8s					
CIMO	Cimolais	44.36	301	P	P	02 06 06.5 -0.4
CIMO				IAmb	IAmb	02 06 25.4
	comp=Z,29nm,1.5s					
MNSI	Mandailing Nat	44.43	139	P	P	02 06 11.5 +3.8
TIXI	Tiksi	44.48	22	P	P	02 06 05.8 -1.6
	comp=Z,11nm,0.7s,baz=268,slow=4.9,SNR=11					
TIXI	Tiksi	44.48	22	*ce*P	P	02 06 06.0 -1.4
TIXI				pmax	pmax	
	comp=Z,20nm,1.0s					
TIXI	Tiksi	44.48	22	P	P	02 06 06.2 -1.2
TIXI				IAmb	IAmb	02 06 07.2
	comp=Z,14nm,0.8s					
BJO1	Bjornoya	44.58	342	*e*P	P	02 06 07.3 -0.8
GRF	Grafenberg Arr	44.61	306	*e*P	P	02 06 10.1 +1.3
	comp=Z,9.1nm,1.2s,baz=89,slow=6.8					
NRCA	Norcia	44.63	296	IAmb	IAmb	02 06 28.0
	comp=Z,20nm,1.0s					
WTTA	Wattenberg	44.73	303	*e*P	P	02 06 09.7 -0.3
	comp=Z,5.0nm,0.7s,SNR=4.7					
TBLU	Trondheim	44.74	325	*e*P	P	02 06 08.8 -0.9
WATA	Walderalm	44.75	303	*e*P	P	02 06 09.5 -0.7
	comp=Z,12nm,0.9s					
USRK	Ussuriysk Ar.	44.86	62	P	P	02 06 09.7 -1.2
	comp=Z,1.1nm,0.5s,baz=252,slow=5.5,SNR=2.2					
USRK				LR	LR	02 26 45.0
	comp=Z,325nm,18.1s,baz=273,slow=39					
KONO	Kongsberg	44.89	320	*ce*P	P	02 06 09.8 -1.1
KONO				pmax	pmax	
	comp=Z,9.0nm,0.8s					
KONO	Kongsberg	44.89	320	P	P	02 06 10.4 -0.4
KONO	Kongsberg	44.89	320	*e*P	P	02 06 10.3 -0.6
SQTA	Sankt Quirin	45.02	303	*e*P	P	02 06 11.9 -0.3
	comp=Z,3.1nm,0.6s					
MOTA	Moosalm	45.07	303	*e*P	P	02 06 12.3 -0.3
	comp=Z,8.2nm,1.0s,SNR=7.1					
TEOL	Teolo	45.08	300	P	P	02 06 13.2 +0.6
DOMB	Dombas	45.22	324	*e*P	P	02 06 12.8 -0.7
RETA	Reutte	45.27	303	*e*P	P	02 06 13.8 -0.4
	comp=Z,3.8nm,1.1s					
FETA	Feichten	45.38	302	*e*P	P	02 06 15.0 -0.2
	comp=Z,5.1nm,1.1s					
SKAR	Skarslia	45.55	322	*e*P	P	02 06 16.5 +0.4
FUORN	Ofenpass-Fuorn	45.77	302	IAmb	IAmb	02 06 32.9
	comp=Z,10nm,0.8s					
OSSC	Osservatorio P	45.79	298	IAmb	IAmb	02 06 35.2
	comp=Z,21nm,1.1s					
DAVA	Damuels	45.90	303	*ep*P	P	02 06 19.4 +0.2
	comp=Z,17nm,0.7s,SNR=9.0					
SNART	Snartemo	46.15	318	*e*P	P	02 06 21.1 +0.2
AKN	Aaknes	46.19	324	*e*P	P	02 06 20.2 -0.9
PDSI	Padang	46.34	139	P	P	02 06 24.8 +2.0
	comp=Z,9μmcomp=Z,20nm,0.8s					
BLS5	Blasjo	46.49	320	*e*P	P	02 06 24.2 +0.7
SDSI	Sungai Dareh	46.86	138	P	P	02 06 28.9 +2.0
	comp=Z,1μmcomp=Z,6.2nm,0.5s					
BER	Bergen	47.02	321	*e*P	P	02 06 27.3 -0.3
JNU	Nakatsue	47.44	77	P	P	02 06 30.4 -0.9
SENIN	Lac Senin/Sane	47.83	302	IAmb	IAmb	02 06 49.8
	comp=Z,11nm,0.8s					
WLF	Walferdange	47.85	307	⇑P	P	02 06 34.3 0.0
WLF	Walferdange	47.85	307	IAmb	IAmb	02 06 42.7
	comp=Z,13nm,0.8s					
KRJI	Kerinci	47.86	139	P	P	02 06 38.3 +3.5
BCLA	Clavier	48.24	308	P	P	02 06 36.9 -0.4
BNI	Bardonecchia	48.58	301	P	P	02 06 39.6 -0.5
BNI				pmax	pmax	
	comp=Z,18nm,1.2s					
BNI	Bardonecchia	48.58	301	P	P	02 06 39.6 -0.5
BNI				IAmb	IAmb	02 07 32.1
	comp=Z,18nm,1.2s					
BMRD	Maredsous	48.60	308	P	P	02 06 39.9 -0.2
DOU	Dourbes	48.75	308	P	P	02 06 42.5 +1.3
KEST	Kesra	49.60	288	P	P	02 06 49.5 +1.4
	comp=Z,4.5nm,0.6s,baz=319,slow=1.0,SNR=16					
KEST	Kesra	49.60	288	IAmb	IAmb	02 07 18.8
	comp=Z,20nm,1.2s					
KSI	Kapahiang	49.77	139	P	P	02 06 49.3 -0.1
SSB	Saint Sauveur	49.97	301	IAmb	IAmb	02 07 06.9
	comp=Z,10.0nm,1.0s					
JWT	Wachi	50.08	72	P	P	02 06 51.6 0.0
KMBO	Kilima Mbogo	50.21	228	P	P	02 06 55.0 +2.0
	comp=Z,1.1nm,0.3s,baz=39,slow=11,SNR=5.9					
KMBO				LR	LR	02 32 08.5
	comp=Z,73nm,18.5s,baz=44,slow=41					
SBUM	Sibu	50.67	124	P	P	02 06 56.6 +0.4
KKM	Kota Kinabalu	50.82	117	IAmb	IAmb	02 07 01.8
	comp=Z,17nm,0.8s					
YSS	Yuzh-Sakhalins	51.47	56	*e*P	P	02 07 01.8 -0.1
YSS				*e*		02 07 08.3
YSS				*e*S	S	02 14 19.9 -1.9
YSS				pmax	pmax	
	comp=Z,20nm,0.7s					
YSS				MLR	MLR	
	comp=Z,300nm,17.0s					
EDMD	Edmundbyers	51.65	315	*e*P	P	02 07 02.7 -0.4
EDMD				IAmb	IAmb	02 07 04.0
	comp=Z,11nm,0.8s					
HPK	Haverah Park	51.65	314	*e*P	P	02 07 02.7 -0.5
HPK				IAmb	IAmb	02 07 04.2
	comp=Z,14nm,0.7s					
MAT	Matsushiro	51.71	70	P	P	02 07 02.2 -1.7
MAT				*e*S	S	02 14 26.0 +0.5
MJAR	Matsushiro Arr	51.72	70	P	P	02 07 02.7 -1.2
	comp=Z,6.1nm,0.7s,baz=296,slow=9.1,SNR=16					
MJAR				LR	LR	02 28 51.5
	comp=Z,147nm,18.2s,baz=285,slow=36					
MJAR	Matsushiro Arr	51.72	70	P	P	02 07 03.6 -0.4
ESK	Eskdalemuir	52.23	316	IAmb	IAmb	02 07 06.7
	comp=Z,34nm,1.6s					
ESK				*e*P	P	02 07 06.8 -0.7
ESK	Eskdalemuir	52.23	316	P	P	02 07 07.4 -0.1
ESK				pmax	pmax	
	comp=Z,20nm,1.3s					
ESK	Eskdalemuir	52.23	316	P	P	02 07 07.4 -0.1
ESK				IAmb	IAmb	02 07 19.6
	comp=Z,20nm,1.3s					
INVG	Invergeldie, C	52.44	317	*e*P	P	02 07 08.2 -0.8
INVG				IAmb	IAmb	02 07 09.4
	comp=Z,23nm,1.4s					
NEWG	New Galloway	52.85	316	*e*P	P	02 07 11.0 -1.0
NEWG				IAmb	IAmb	02 07 12.4
	comp=Z,11nm,0.7s					
KAC	Achnashellach	52.87	319	*e*P	P	02 07 10.4 -1.7
MCH1	Michaelchurch	52.95	312	*e*P	P	02 07 11.5 -1.3
MCH1				IAmb	IAmb	02 07 13.3
	comp=Z,12nm,0.7s					
KPL	Plockton	53.09	318	*e*P	P	02 07 10.9 -2.8
KPL				IAmb	IAmb	02 07 13.8
	comp=Z,27nm,1.3s					
JMM	Marumori	53.12	67	P	P	02 07 13.7 -0.6
RSBS	Rosebush, Pemb	54.00	312	*e*P	P	02 07 19.2 -1.3
RSBS				IAmb	IAmb	02 07 21.0
	comp=Z,7.2nm,0.7s					
DAG	Danmarks Havn	54.02	343	*i* P	P	02 07 19.5 -0.8
	comp=Z,56nm,1.0s					
DAG	Danmarks Havn	54.02	343	*i* P	P	02 07 19.5 -0.8
DAG				pmax	pmax	
	comp=Z,56nm,1.0s					
YUK	Yuzh-Kuril'sk	54.47	58	*e*P	P	02 07 11.7 -12
YUK				SS	SS	02 17 03.9 -101
LEM	Lembang	55.14	135	LR	LR	02 34 37.9
	comp=Z,214nm,18.1s,baz=208,slow=40					
BILL	Bilibino	57.28	26	*e*P	P	02 07 43.3 -0.5
BILL				*e*		02 07 47.7
BILL				*e*		02 08 39.5
BILL				*e*		02 09 48.0
BILL				*e*PPP	PPP	02 11 11.6
BILL				pmax	pmax	
	comp=Z,7.0nm,0.9s					
BILL				MLR	MLR	
	comp=Z,232nm,16.0s					
ESBB	Sonseca Array	57.81	298	IAmb	IAmb	02 07 55.2
	comp=Z,7.0nm,0.8s					
ESDC	Sonseca Array	57.81	298	P	P	02 07 48.2 +0.1
	comp=Z,5.9nm,0.8s,baz=58,slow=7.2,SNR=42					
ESDC	Sonseca Array	57.81	298	IAmb	IAmb	02 07 57.6
	comp=Z,17nm,1.1s					
TAM	Tamanrasset	58.37	276	P	P	02 07 52.7 +0.4
TAM				pmax	pmax	
	comp=Z,5.0nm,1.0s					
TAM	Tamanrasset	58.37	276	P	P	02 07 52.7 +0.4
PETK	Petropavlovsk-	58.59	45	P	P	02 07 52.3 -1.0
	comp=Z,1.2nm,0.6s,baz=296,slow=2.7,SNR=5.7					
PETK				LR	LR	02 35 05.7
	comp=Z,187nm,18.3s,baz=294,slow=38					
MVO	Moncorvo	59.32	300	*e*P	P	02 08 01.7 +3.0
PCAB	Cabril	59.77	301	*e*P	P	02 08 02.8 +1.1
PVIS	Viseu	60.11	300	*e*P	P	02 08 04.7 +0.7
SUMG	Summit	60.40	341	⇓*i*P	P	02 08 06.0 +0.1
	comp=Z,50nm,0.8s					
SUMG	Summit	60.40	341	⇓*i*P	P	02 08 06.0 +0.1
SUMG				pmax	pmax	
	comp=Z,50nm,0.8s					
SUMG	Summit	60.40	341	P	P	02 08 05.7 -0.3
PVAQ	Vaqueiros	61.44	297	P	P	02 08 12.2 -0.9
PVAQ	Vaqueiros	61.44	297	*e*P	P	02 08 13.4 +0.3
PBDV	Barranco-do-Ve	61.67	297	*e*P	P	02 08 16.0 +1.3
TOA0	Torodi Ar. Sit	66.67	269	P	P	02 08 47.6 -0.1
TORD	Torodi Ar. Bea	66.67	269	P	P	02 08 47.2 -0.5
	comp=Z,7.9nm,0.8s,baz=40,slow=5.8,SNR=49					
TORD				LR	LR	02 41 57.5
	comp=Z,104nm,18.3s,baz=245,slow=40					
TORD	Torodi Ar. Bea	66.67	269	P	P	02 08 47.3 -0.5
TORD				IAmb	IAmb	02 08 52.6
	comp=Z,9.6nm,0.8s					
TOLK	Toolik Lake Re	69.70	15	P	P	02 09 05.8 -0.2
COLD	Coldfoot	70.73	16	P	P	02 09 11.7 -0.6
IMAR	Indian Mountai	70.91	18	P	P	02 09 11.8 -1.6
BMAR	Burnt Mountain	71.73	14	P	P	02 09 18.2 -0.2
MDM	Murphy Dome	73.08	17	P	P	02 09 26.3 -0.1
MDM				IAmb	IAmb	02 09 36.0
	comp=Z,17nm,1.1s					
BPAW	Bear Paw Mtn.	73.13	18	IAmb	IAmb	02 09 34.2
	comp=Z,12nm,1.0s					
IL31		73.54	16	IAmb	IAmb	02 09 49.1
	comp=Z,14nm,1.2s					
ILAR	Eielson Array	73.54	16	P	P	02 09 27.9 -1.3
	comp=Z,2.8nm,0.9s,baz=321,slow=4.2,SNR=20					
KNRA	Kununurra	75.00	124	P	P	02 09 38.1 -0.2
DBIC	Dimbokro	75.68	267	P	P	02 09 43.1 +0.8
	comp=Z,6.4nm,0.8s,baz=19,slow=8.6,SNR=6.6					
DBIC				LR	LR	02 47 01.5
	comp=Z,112nm,18.3s,baz=25,slow=39					
DBIC	Dimbokro	75.68	267	P	P	02 09 42.8 +0.5
DBIC				pmax	pmax	
	comp=Z,17nm,1.2s					
DBIC	Dimbokro	75.68	267	P	P	02 09 42.8 +0.5
DBIC		

comp=Z,13nm,1.1s
YKA Yellowknife Ar 80.18 3 P P 02 10 06.1 -0.5
comp=Z,0.8nm,0.6s,baz=275,slow=14,SNR=15
YKA LR LR 02 49 18.1
comp=Z,107nm,19.3s,baz=0.0,slow=38
SCHQ Schefferville 81.52 337 LR LR 02 46 18.5
comp=Z,133nm,18.8s,baz=47,slow=36
WRA Warramunga Arr 81.75 123 P P 02 10 14.8 -0.8
comp=Z,4.7nm,0.7s,baz=324,slow=5.0,SNR=61
WRA Warramunga Arr 81.75 123 P **P 02 10 14.9 -0.7**
WRA Warramunga Arr 81.75 123 P **P 02 10 14.9 -0.7**
WB2 Warramunga Arr 81.75 123 P **P 02 10 14.9 -0.7**
WB2 IAmb IAmb 02 10 28.0
comp=Z,8.6nm,0.9s
WR0 Warramunga Arr 81.89 123 P **P 02 10 15.4 -0.9**
DLBC Dease Lake 82.61 12 P **P 02 10 18.0 -1.7**
comp=Z,2.4nm,0.9s,baz=350,slow=6.6,SNR=5.6
DLBC Dease Lake 82.61 12 IAmb IAmb 02 10 27.5
comp=Z,7.3nm,1.1s
ASAR Alice Springs 84.08 126 P **P 02 10 26.4 -1.3**
comp=Z,1.5nm,0.7s,baz=310,slow=4.8,SNR=14
ASAR Alice Springs 84.08 126 P **P 02 10 26.0 -1.6**
WRAK Wrangell Islan 84.13 13 IAmb IAmb 02 10 35.4
comp=Z,11nm,1.0s
FFC Flin Flon 87.98 357 P **P 02 10 45.7 -0.8**
FFC pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon 87.98 357 P **P 02 10 45.7 -0.8**
ULM Lac du Bonnet 91.97 352 LR LR 02 55 01.3
comp=Z,147nm,19.4s,baz=344,slow=37
STKA Stephens Creek 94.65 127 LR LR 02 59 24.4
comp=Z,94nm,18.3s,baz=299,slow=39
PDAR Pinedale Array 100.07 1 LR LR 03 00 16.9
comp=Z,95nm,21.6s,baz=9.0,slow=37
AC02 Maricunga 145.77 277 PKPbc **PKPab 02 17 38.1 +1.2**
GO03 Copiap 146.99 276 PKPbc **PKPbc 02 17 40.2 +0.6**
AC05 El Transito 147.57 274 PKPbc **PKPbc 02 17 42.5 +1.1**
CO01 Juntas del Tor 147.90 272 PKPbc **PKPbc 02 17 43.3 +0.9**
GO04 Tololo Observa 148.53 272 PKPbc **PKPbc 02 17 44.6 +0.6**
CO03 El Pedregal 148.71 271 PKPbc **PKPbc 02 17 45.1 +0.9**
VA03 San Esteban 149.28 268 PKPbc **PKPbc 02 17 46.2 +0.6**

*ISK **13** 02:04:40.9, 35°.69N×30°.15E, h20km, ML2.9/26*
*NIC **13** 02:04:42.7±0.0, 35°.76N×30°.13E, h23km±1km, Ml3.0/3*
*ATH **13** 02:04:42.6, 35°.77N×30°.05E, h34km±7km, ML2.5/2, Error ellipse: s-maj=10.8km s-min=2.3km az=48.0*
*DDA **13** 02:04:42.4, 35°.92N×30°.30E, h23km±3km, ML2.6*
*THE **13** 02:04:44.9, 35°.93N×30°.03E, h6km±2km, ML2.5/1, Error ellipse: s-maj=4.6km s-min=2.5km az=37.0*
ISC 13 02:04:41.9±1.2, 35°.78N±0°.03×30°.15E±0°.02, h16km±8km, n67, σ1°13/102, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMR	**Demre-Antalya**	**0.50**	**336**	PG	**Pb**	**02 04 52.8**	**+0.4**
DEMR				SG	**Sn**	**02 05 01.6**	**-1.2**
AKUM	**Antalya-Kumluc**	**0.56**	**16**	*i* P	**Pg**	**02 04 51.8**	**-1.3**
AKUM				*i* S	**Sg**	**02 04 56.9**	**-3.7**
KSL	**Kastellorizon**	**0.59**	**309**	P	**Pg**	**02 04 53.6**	**0.0**
KSL				S	**Sg**	**02 05 00.1**	**-1.4**
KSL	**Kastellorizon**	**0.59**	**309**	P	**Pg**	**02 04 53.8**	**+0.2**
KSL				S	**Sb**	**02 05 02.9**	**+0.8**
KSL				AML	AML	02 05 08.0	
	comp=N,758μm,0.7s						
KSL				AML	AML	02 05 10.5	
	comp=E,1116μm,0.7s						
KSL	**Kastellorizon**	**0.59**	**309**	P	**Pg**	**02 04 54.2**	**+0.6**
KSL				S	**Sn**	**02 05 04.0**	**-1.1**
AKAS	**Kas**	**0.64**	**316**	PG	**Pg**	**02 04 55.0**	**+0.5**
AKAS				SG	**Sn**	**02 05 05.4**	**-0.9**
AKAS	**Kas**	**0.64**	**316**	*i* P	**Pg**	**02 04 54.4**	**-0.1**
AKAS				*i* S	**Sb**	**02 05 05.2**	**+1.7**
AKAS				IAML		02 05 18.0	
	comp=N,360nm,0.6s						
KEMT	**Kemer-ANTALYA**	**0.89**	**21**	PG	**Pg**	**02 04 59.7**	**+0.6**
ELL	**Elmali**	**0.99**	**349**	PG	**Pb**	**02 05 01.2**	**+0.4**
ELL				SG	**Sn**	**02 05 16.1**	**+1.1**
ANTB	**Antalya**	**1.19**	**20**	PN	**Pn**	**02 05 04.1**	**+0.2**
ANTB				SN	**Sg**	**02 05 21.2**	**+0.8**
FETY	**Fethiye**	**1.22**	**315**	P	**Pn**	**02 05 03.2**	**-1.1**
FETY				S	**Sb**	**02 05 19.1**	**-1.0**
FETY	**Fethiye**	**1.22**	**315**	PN	**Pn**	**02 05 04.2**	**-0.2**
FETY	**Fethiye**	**1.22**	**315**	*i* P	**Pn**	**02 05 03.3**	**-1.1**
FETY				*i* S	**Sb**	**02 05 20.3**	**+0.2**
KORT	**Korkueli**	**1.23**	**7**	PN	**Pn**	**02 05 04.6**	**-0.1**
KORT				SN	**Sg**	**02 05 22.1**	**+0.3**
KORT	**Korkueli**	**1.23**	**7**	*i* P	**Pn**	**02 05 02.4**	**-2.2**
KORT				*i* S	**Sg**	**02 05 22.6**	**+0.9**
GOLH	**Golhisar**	**1.53**	**342**	*i* P	**Pn**	**02 05 09.6**	**+0.8**
GOLH				*i* S	**Sg**	**02 05 35.0**	**+3.6**
GOLH				IAML		02 05 47.0	
	comp=N,94nm,1.1s						
DALY	**Dalyan (Mula)**	**1.59**	**311**	PN	**Pn**	**02 05 09.5**	**0.0**
DALY	**Dalyan (Mula)**	**1.59**	**311**	*i* P	**Pb**	**02 05 11.2**	**+0.2**
DALY				*i* S	**Sn**	**02 05 28.9**	**-0.9**
DALY				IAML		02 05 43.0	
	comp=N,56nm,1.0s						
KEPZ	**Antalya-Kepez**	**1.62**	**46**	*i* P	**Pn**	**02 05 09.3**	**-0.6**
KEPZ				*i* S	**Sn**	**02 05 29.9**	**-0.7**
ARG	**Arkhangelos**	**1.70**	**285**	P	**Pn**	**02 05 10.8**	**-0.2**
ARG				S	**Sn**	**02 05 32.1**	**-0.3**
	comp=N,122nm,1.0s						
ARG	**Arkhangelos**	**1.70**	**285**	P	**Pn**	**02 05 10.5**	**-0.4**
ARG				S	**Sn**	**02 05 31.8**	**-0.6**
ARG				AML	AML	02 05 53.4	
	comp=N,240μm,1.1s						
ARG				AML	AML	02 05 56.1	
	comp=E,230μm,0.9s						
ARG	**Arkhangelos**	**1.70**	**285**	PN	**Pn**	**02 05 10.6**	**-0.4**
ARG	**Arkhangelos**	**1.70**	**285**	P	**Pn**	**02 05 10.5**	**-0.4**
GAZI	**Gazipasa**	**1.81**	**75**	PN	**Pn**	**02 05 12.2**	**-0.3**
GAZI	**Gazipasa**	**1.81**	**75**	*i* P	**Pn**	**02 05 11.4**	**-1.1**
GAZI				*i* S	**Sn**	**02 05 32.5**	**-2.7**
GAZI				IAML		02 05 35.0	
	comp=E,125nm,0.5s						
GAZI				IAML		02 05 40.0	
	comp=N,74nm,0.6s						
TURN	**Turunc**	**1.84**	**303**	PN	**Pn**	**02 05 12.9**	**+0.1**
TURN	**Turunc**	**1.84**	**303**	*i* P	**Pb**	**02 05 15.3**	**+0.2**
TURN				*i* S	**Sg**	**02 05 41.1**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.92**	**358**	*i* P	**Pn**	**02 05 15.3**	**+1.3**
BRDR				*i* S	**Sg**	**02 05 44.1**	**+0.5**
AKMS	**Akamas**	**1.94**	**112**	P	**Pn**	**02 05 14.3**	**+0.1**
AKMS				AML	AML	02 05 37.2	
	comp=N,0.3nm,0.8s						
AKMS				AML	AML	02 05 37.2	
	comp=N,0.3nm,0.8s						
AKMS				S	**Sn**	**02 05 37.8**	**-0.5**
AKMS				AML	AML	02 05 59.9	
	comp=N,0.3nm,0.9s						
AKMS				AML	AML	02 05 59.9	
	comp=N,0.3nm,0.9s						
TAVA	**DENIZLI_Tavas**	**1.96**	**330**	*i* P	**Pn**	**02 05 16.0**	**+1.4**
TAVA				*i* S	**Sb**	**02 05 41.3**	**-0.2**
YER	**Yerkesik**	**2.03**	**312**	P	**Pn**	**02 05 16.4**	**+0.9**
YER				S	**Sn**	**02 05 38.6**	**-2.0**
YER	**Yerkesik**	**2.03**	**312**	PN	**Pn**	**02 05 15.7**	**+0.2**
ALFC	**Alefka**	**2.09**	**107**	P	**Pn**	**02 05 16.5**	**+0.1**
ALFC				S	**Sn**	**02 05 42.9**	**+0.8**
ALFC				AML	AML	02 05 47.8	
	comp=N,0.3nm,0.7s						
ALFC				AML	AML	02 05 47.8	
	comp=N,0.3nm,0.7s						
ALFC				AML	AML	02 05 53.5	
	comp=N,0.3nm,0.4s						
ALFC				AML	AML	02 05 53.5	
	comp=N,0.3nm,0.4s						
SEYD	**Seydisehir-KON**	**2.12**	**39**	PN	**Pn**	**02 05 17.3**	**+0.5**
BASM	**Basmaki-Afyon**	**2.14**	**358**	PN	**Pn**	**02 05 17.7**	**+0.6**
NATA	**Nata**	**2.21**	**116**	P	**Pn**	**02 05 19.0**	**+0.9**
DAT	**Datca**	**2.29**	**295**	P	**Pn**	**02 05 20.5**	**+1.3**
DAT				S	**Sn**	**02 05 46.1**	**-1.0**
DAT	**Datca**	**2.29**	**295**	PN	**Pn**	**02 05 19.2**	**0.0**
DAT	**Datca**	**2.29**	**295**	*i* P	**Pn**	**02 05 20.8**	**+1.6**
DAT				*i* S	**Sn**	**02 05 48.8**	**+1.7**
LEF	**Lefka**	**2.33**	**106**	PN	**Pn**	**02 05 18.6**	**-1.0**
ERMK	**Ermenek**	**2.39**	**68**	*i* P	**Pn**	**02 05 21.2**	**+0.6**
ERMK				*i* S	**Sn**	**02 05 50.2**	**+0.4**
ERMK				IAML		02 06 09.0	
	comp=N,34nm,0.6s						
TEKE	**Tekeli-Mersin**	**2.43**	**81**	PN	**Pn**	**02 05 20.9**	**-0.1**
KARP	**Karpathos**	**2.45**	**265**	P	**Pn**	**02 05 21.8**	**+0.6**
KARP				S	**Sn**	**02 05 48.5**	**-2.4**
KARP	**Karpathos**	**2.45**	**265**	PN	**Pn**	**02 05 20.8**	**-0.5**
KARP	**Karpathos**	**2.45**	**265**	S	**Sn**	**02 05 51.0**	**+0.1**
SZAC	**Souni**	**2.46**	**114**	P	**Pn**	**02 05 21.5**	**+0.1**
SZAC				S	**Sn**	**02 05 50.9**	**-0.2**
SZAC				AML	AML	02 06 01.0	
	comp=N,0.2nm,0.9s						
SZAC				AML	AML	02 06 01.0	
	comp=N,0.2nm,0.9s						
SZAC				AML	AML	02 06 10.8	
	comp=N,0.2nm,0.5s						
SZAC				AML	AML	02 06 10.8	
	comp=N,0.2nm,0.5s						
BERE	**Bereket-Mersin**	**2.55**	**76**	PN	**Pn**	**02 05 22.7**	**-0.1**
DOGA	**KONYA_Doganhis**	**2.62**	**27**	*i* P	**Pn**	**02 05 24.6**	**+0.8**
DOGA				*i* S	**Sn**	**02 05 54.7**	**-0.7**
BODT	**Bodrum**	**2.63**	**300**	P	**Pn**	**02 05 23.8**	**+0.1**
KMER	**Konya-Meram**	**2.67**	**41**	*i* P	**Pn**	**02 05 24.2**	**-0.1**
KMER				*i* S	**Sn**	**02 05 53.4**	**-3.0**
CSS	**Mathiatis**	**2.72**	**106**	PN	**Pn**	**02 05 24.5**	**-0.5**
CSS	**Mathiatis**	**2.72**	**106**	P	**Pn**	**02 05 25.2**	**+0.2**
TEVE	**Tevekalti-Mers**	**2.74**	**75**	PN	**Pn**	**02 05 25.5**	**+0.1**
AKKU	**Akkuyu-Mersin**	**2.78**	**81**	PN	**Pn**	**02 05 25.8**	**0.0**
SHUT	**Suhut-Afyon**	**2.79**	**6**	PN	**Pn**	**02 05 26.9**	**+0.9**
KONT	**Konya--Tatoy**	**2.79**	**39**	PN	**Pn**	**02 05 26.9**	**+0.8**
KONT	**Konya--Tatoy**	**2.79**	**39**	*i* P	**Pn**	**02 05 26.2**	**+0.1**
KONT				*i* S	**Sn**	**02 05 58.8**	**-0.7**
KRMN	**Karaman**	**2.87**	**60**	PN	**Pn**	**02 05 27.6**	**+0.5**
IKL	**Isikli**	**2.90**	**80**	PN	**Pn**	**02 05 27.5**	**0.0**
MVOU	**Mavrovouni**	**2.94**	**104**	P	**Pn**	**02 05 28.7**	**+0.7**
KEBE	**Keben-Mersin**	**2.96**	**76**	PN	**Pn**	**02 05 28.6**	**+0.3**
LADK	**Ladik-KONYA**	**3.00**	**36**	PN	**Pn**	**02 05 29.7**	**+0.8**
OSC2	**CSNet OBS 4**	**3.21**	**146**	S	**Sn**	**02 06 10.5**	**+0.8**
ZKR	**Zakros**	**3.28**	**260**	P	**Pn**	**02 05 33.0**	**+0.3**
ZKR				S	**Sn**	**02 06 08.6**	**-2.9**
SMG	**Samos**	**3.29**	**307**	P	**Pn**	**02 05 33.6**	**+0.8**
SMG				S	**Sn**	**02 06 08.1**	**-3.5**
SIMA	**Simav-Kutahya**	**3.43**	**345**	PN	**Pn**	**02 05 36.0**	**+1.2**
LAST	**Lasithi**	**3.87**	**262**	P	**Pn**	**02 05 40.7**	**-0.1**

*NORS **13** 02:06:48.6±0.0, 42°.36N×43°.01E, h9km, MPVA3.2*
*TIF **13** 02:06:48.9, 42°.31N×43°.08E, h0km±1km*
*DDA **13** 02:06:52.0, 42°.23N×42°.97E, h7km±2km, ML2.6*
ISC 13 02:06:49.9±0.9, 42°.31N±0°.02×43°.04E±0°.03, h6km±7km, n22, σ0°88/42, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.06**	**320**	P	**Pg**	**02 06 51.0**	**-0.4**
TKB				S	**Sg**	**02 06 52.1**	**-0.4**
ONI	**Oni**	**0.41**	**47**	*e*Pg	**Pg**	**02 06 58.2**	**+0.3**
ONI				*e*Sg	**Sb**	**02 07 05.6**	**-0.7**
ONI	**Oni**	**0.41**	**47**	P	**Pg**	**02 06 58.0**	**0.0**
ONI				S	**Sg**	**02 07 04.7**	**+1.3**
BKRG	**Bakuriani**	**0.65**	**147**	P	**Pb**	**02 07 03.9**	**0.0**
BKRG				S	**Sn**	**02 07 14.3**	**-2.3**
DIGR	**Digorskoe uzhe**	**0.71**	**34**	*e*Pg	**Pg**	**02 07 03.7**	**+0.1**
DIGR				*e*Sg	**Sb**	**02 07 15.4**	**+0.4**
ZEI	**Tsey**	**0.80**	**53**	*e*Pg	**Pg**	**02 07 05.9**	**+0.7**
ZEI				*e*Sg	**Sn**	**02 07 18.4**	**-1.9**
CHVG	**Ch'k'valeri**	**0.82**	**300**	P	**Pn**	**02 07 07.5**	**-0.5**
EPOS	**Posof**	**0.84**	**196**	*i* P	**Pb**	**02 07 07.1**	**+0.2**
EPOS				*i* S	**Sn**	**02 07 20.0**	**-1.1**
AKH	**Akhalkalaki**	**0.96**	**159**	P	**Pn**	**02 07 09.6**	**-0.5**
LACR	**Lac**	**1.06**	**60**	*e*Pg	**Pb**	**02 07 10.6**	**-0.2**
LACR				*e*Sg	**Sn**	**02 07 27.3**	**+0.6**
KORR	**Kora**	**1.08**	**44**	*e*Pg	**Pb**	**02 07 11.1**	**0.0**
KORR				*e*Sg	**Sn**	**02 07 27.3**	**+0.2**
DMNI	**Dmanisi**	**1.30**	**138**	P	**Pb**	**02 07 15.0**	**+0.1**
DMNI				S	**Sg**	**02 07 33.4**	**+1.7**
TBLG	**Delisi**	**1.39**	**114**	*i* P	**Pb**	**02 07 16.4**	**+0.1**
TBLG				*i* S	**Sg**	**02 07 35.4**	**+0.9**
TBLG	**Delisi**	**1.39**	**114**	P	**Pb**	**02 07 16.3**	**+0.1**
TBLG				S	**Sg**	**02 07 35.9**	**+1.4**
DBOC	**Borcka**	**1.41**	**227**	*i* P	**Pb**	**02 07 17.0**	**+0.4**
DBOC				*i* S	**Sg**	**02 07 36.0**	**+0.9**
DBOC				IAML		02 07 38.0	
	comp=E,82nm,0.3s						
SHA1	**Shidzhatmaz**	**1.46**	**349**	*e*Pg	**Pb**	**02 07 17.9**	**+0.3**
SHA1				*e*Sg	**Sg**	**02 07 37.7**	**+1.0**
DAGI	**Agillar**	**1.49**	**215**	*i* P	**Pg**	**02 07 18.7**	**+0.2**
DAGI				*i* S	**Sg**	**02 07 39.4**	**+1.6**
DBAD	**Bademkaya**	**1.64**	**219**	*i* P	**Pb**	**02 07 20.9**	**+0.4**
DBAD				*i* S	**Sg**	**02 07 42.7**	**+0.3**
DBAD				IAML		02 07 45.0	
	comp=E,80nm,0.4s						
DBAD				IAML		02 07 48.0	
	comp=N,94nm,0.6s						
EAK	**Akyaka**	**1.67**	**165**	*i* P	**Pg**	**02 07 21.9**	**0.0**
EAK				*i* S	**Sb**	**02 07 42.0**	**-0.7**
DDEM	**Demirkent**	**1.71**	**215**	*i* P	**Pg**	**02 07 22.5**	**-0.2**
DDEM				*i* S	**Sg**	**02 07 45.8**	**+0.8**
DDEM				IAML		02 07 51.0	
	comp=E,137nm,0.3s						
DDEM				IAML		02 07 52.0	
	comp=N,151nm,0.3s						
LGD	**Lagodekhi**	**2.43**	**100**	P	**Pb**	**02 07 34.2**	**+0.2**
LGD				S	**Sg**	**02 08 07.4**	**-0.5**
BAYB	**BAYBURT**	**2.93**	**227**	*i* P	**Pb**	**02 07 42.4**	**-0.3**
BAYB				*i* S	**Sb**	**02 08 20.6**	**+1.7**

*TIR **13** 02:11:42.2, 41°.38N×19°.28E, h5km±1km, Md2.5*
*THE **13** 02:11:44.0, 41°.38N×19°.29E, h1km±8km, ML2.2/2, Error ellipse: s-maj=15.3km s-min=1.9km az=311.0*
ISC 13 02:11:43.7±1.3, 41°.39N±0°.03×19°.32E±0°.04, h7km±10km, n18, σ0°83/33, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.41**	**96**	P	**Pg**	**02 11 52.4**	**+0.7**
TIR	**Tirane**	**0.41**	**96**	P	**Pg**	**02 11 51.1**	**-0.6**
	baz=94						
TIR				S	**Sg**	**02 11 58.0**	**+0.9**
	baz=94						
PUK	**Puka**	**0.78**	**33**	P	**Pg**	**02 11 58.1**	**-0.6**
	baz=34						
PUK				S	**Sb**	**02 12 10.3**	**-0.2**
	baz=34						
PHP	**Peshkopia**	**0.89**	**71**	P	**Pg**	**02 12 00.4**	**-0.4**
PHP				S	**Sb**	**02 12 13.9**	**+0.2**
PHP	**Peshkopia**	**0.89**	**71**	P	**Pg**	**02 12 00.4**	**-0.4**
	baz=70						
PHP				S	**Sb**	**02 12 14.3**	**+0.6**
	baz=70						
BCI	**Bajram Curri**	**1.12**	**30**	P	**Pg**	**02 12 04.8**	**-0.4**
	baz=30						
BCI				S	**Sn**	**02 12 21.5**	**-0.2**
	baz=30						
DBRK	**Dubrovnik**	**1.54**	**326**	*e*Pg	**Pg**	**02 12 13.5**	**+0.2**
DBRK				Sg	**Sn**	**02 12 31.6**	**-0.4**
SRN	**Sarande**	**1.60**	**161**	P	**Pb**	**02 12 13.2**	**-0.4**
SRN				S	**Sg**	**02 12 34.2**	**-0.8**
SRN	**Sarande**	**1.60**	**161**	P	**Pb**	**02 12 13.1**	**-0.4**
	baz=159						
SRN				S	**Sg**	**02 12 36.0**	**+1.0**
	baz=159						
NEST	**Nestorio**	**1.64**	**126**	P	**Pb**	**02 12 14.2**	**-0.1**
NEST				S	**Sg**	**02 12 36.5**	**+0.2**
STON	**Ston**	**1.91**	**321**	*e*Pn	**Pb**	**02 12 17.9**	**-0.9**
STON				Sn	**Sn**	**02 12 40.0**	**-0.9**
IGT	**Igoumenitsa**	**2.01**	**157**	P	**Pn**	**02 12 17.1**	**-1.0**
IGT				S	**Sn**	**02 12 43.3**	**-0.3**
	18nm,1.0s						
IGT	**Igoumenitsa**	**2.01**	**157**	P	**Pb**	**02 12 20.5**	**-0.2**
	baz=156						
RICI	**Ricice**	**2.65**	**323**	*e*Pn	**Pn**	**02 12 27.9**	**+1.0**
RICI				Sn	**Sn**	**02 12 59.5**	**+0.1**
LKD2	**Lefkada island**	**2.80**	**158**	P	**Pn**	**02 12 27.9**	**-1.0**
LKD2				S	**Sn**	**02 13 05.4**	**+2.5**
	35nm,1.4s						
KIJV	**Kijevo**	**3.38**	**322**	*e*Pn	**Pn**	**02 12 38.5**	**+1.6**
KIJV				Sn	**Sn**	**02 13 17.4**	**+0.1**
MORI	**Morici**	**3.63**	**314**	*e*Pn	**Pn**	**02 12 41.2**	**+0.8**
MORI				Sn	**Sn**	**02 13 23.2**	**-0.3**
DUGI	**Dugi Otok**	**4.08**	**311**	Sn	**Sn**	**02 13 33.6**	**-0.8**

*TIR **13** 02:13:48.6, 41°.44N×19°.35E, h14km±2km, Md2.7*
*BEO **13** 02:13:48.3±0.8, 41°.29N×19°.26E, h11km±3km, ML2.5/5*

*PDG **13** 02:13:49.5±0.2, 41°.43N×19°.39E, h16km, ML2.5/12, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*THE **13** 02:13:50.4, 41°.40N×19°.41E, h18km±2km, ML1.9/4, Error ellipse: s-maj=4.0km s-min=1.4km az=124.0*
ISC 13 02:13:49.3±1.0, 41°.40N±0°.02×19°.35E±0°.02, h16km±8km, n50, σ0°77/91, 5C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.39**	**98**	P	**Pg**	**02 13 56.8**	**-0.6**
TIR				S	**Sb**	**02 14 03.6**	**-0.1**
	255nm,0.3s						
TIR	**Tirane**	**0.39**	**98**	*e*Pg	**Pg**	**02 13 56.6**	**-0.7**
TIR				*e*Sg	**Sb**	**02 14 05.0**	**+1.3**
TIR	**Tirane**	**0.39**	**98**	P	**Pg**	**02 13 56.7**	**-0.6**
	baz=102						
TIR				S	**Sb**	**02 14 03.4**	**-0.3**
	baz=102						
ULC	**Ulcinj**	**0.57**	**352**	⇓*i*Pg	**Pg**	**02 13 59.8**	**-0.7**
ULC				*i* Sg	**Sb**	**02 14 08.7**	**0.0**
PUK	**Puka**	**0.76**	**32**	P	**Pg**	**02 14 03.4**	**-0.7**
	baz=33						
PUK				S	**Sg**	**02 14 13.8**	**-0.3**
	baz=33						
DRME	**Dracevica, Mon**	**0.79**	**351**	⇑*i*Pg	**Pb**	**02 14 04.2**	**-0.5**
DRME				*i* Sg	**Sg**	**02 14 16.3**	**+1.1**
PHP	**Peshkopia**	**0.87**	**71**	P	**Pb**	**02 14 04.8**	**-1.2**
PHP				S	**Sg**	**02 14 18.3**	**+0.7**
PHP	**Peshkopia**	**0.87**	**71**	P	**Pb**	**02 14 05.2**	**-0.8**
	baz=72						
PHP				S	**Sn**	**02 14 18.8**	**-0.5**
	baz=72						
VLO	**Vlora**	**0.94**	**173**	P	**Pn**	**02 14 08.0**	**+0.2**
VLO				S	**Sn**	**02 14 20.6**	**-0.3**
VLO	**Vlora**	**0.94**	**173**	P	**Pn**	**02 14 08.1**	**+0.3**
	baz=173						
VLO				S	**Sn**	**02 14 22.2**	**+1.3**
	baz=173						
BUM	**Brajici-Budva**	**0.96**	**339**	*e*Pg	**Pb**	**02 14 07.4**	**-0.2**
BUM				*i* Sg	**Sn**	**02 14 22.1**	**+0.6**
PDG	**Podgorica**	**1.03**	**356**	*e*Pg	**Pn**	**02 14 09.0**	**-0.1**
PDG				*e*Sg	**Sn**	**02 14 25.0**	**+1.9**
TTG	**Podgorica**	**1.03**	**356**	⇑*i*Pg	**Pb**	**02 14 08.4**	**-0.3**
TTG				*i* Sg	**Sn**	**02 14 24.2**	**+1.1**
BCI	**Bajram Curri**	**1.10**	**29**	P	**Pb**	**02 14 09.5**	**-0.6**
	baz=29						
BCI				S	**Sn**	**02 14 25.2**	**+0.2**
	baz=29						
OHR	**Ohrid**	**1.13**	**104**	*i* Pn	**Pn**	**02 14 09.0**	**-1.5**
CEME	**Cevo**	**1.19**	**344**	⇓*i*Pg	**Pb**	**02 14 11.5**	**0.0**
CEME				*i* Sg	**Sg**	**02 14 29.0**	**+1.2**
HCY	**Herceg Novi**	**1.22**	**329**	⇓*i*Pg	**Pn**	**02 14 11.7**	**0.0**
HCY				*i* Sg	**Sg**	**02 14 30.8**	**+1.9**
PVY	**Plav**	**1.27**	**21**	⇓*i*Pg	**Pn**	**02 14 12.6**	**0.0**
PVY				*i* Sg	**Sg**	**02 14 32.2**	**+1.6**
NKME	**Niksic**	**1.40**	**348**	⇑*i*Pg	**Pb**	**02 14 14.9**	**-0.1**
NKME				*i* Sg	**Sg**	**02 14 35.3**	**+0.9**
NKY	**Niksic**	**1.43**	**350**	*e*Pg	**Pb**	**02 14 15.4**	**-0.3**
NKY				*i* Sg	**Sg**	**02 14 36.2**	**+0.6**
SCTE	**Santa Cesarea**	**1.49**	**207**	P	**Pg**	**02 14 17.1**	**-0.8**
	baz=207						
IVA	**Berane**	**1.52**	**15**	⇓*i*Pg	**Pb**	**02 14 16.8**	**-0.4**
IVA				*i* Sg	**Sg**	**02 14 38.0**	**-0.5**
DBRK	**Dubrovnik**	**1.55**	**325**	*e*Pn	**Pn**	**02 14 16.2**	**0.0**
DBRK				Sn	**Sb**	**02 14 36.7**	**-0.3**
LSK	**Leskovik**	**1.57**	**142**	P	**Pb**	**02 14 18.3**	**+0.3**
	baz=143						
LSK				S	**Sg**	**02 14 41.2**	**+1.2**
	baz=143						
SRN	**Sarande**	**1.60**	**162**	P	**Pn**	**02 14 17.4**	**+0.5**
SRN				S	**Sn**	**02 14 37.0**	**-0.2**
	35nm,0.5s						
SRN	**Sarande**	**1.60**	**162**	P	**Pg**	**02 14 20.0**	**-0.1**
	baz=162						
SRN				S	**Sg**	**02 14 42.5**	**+1.7**
	baz=162						
BRY	**Bratogost**	**1.61**	**338**	⇓*i*Pn	**Pb**	**02 14 18.3**	**-0.5**
BRY				*i* Sn	**Sg**	**02 14 40.8**	**-0.6**
NEST	**Nestorio**	**1.62**	**127**	P	**Pb**	**02 14 18.5**	**-0.4**
NEST				S	**Sn**	**02 14 36.7**	**-1.3**
	30nm,0.4s						
SKO	**Skopje**	**1.67**	**69**	*e*Pg	**Pb**	**02 14 20.0**	**+0.4**
SKO				*e*Sg	**Sg**	**02 14 42.7**	**-0.3**
UPM	**Unac-Piva**	**1.83**	**350**	⇑*i*Pn	**Pn**	**02 14 21.0**	**+0.7**
UPM				*i* Sn	**Sb**	**02 14 46.1**	**+0.9**
STON	**Ston**	**1.91**	**321**	*e*Pn	**Pn**	**02 14 20.6**	**-0.6**
STON				Sn	**Sn**	**02 14 44.5**	**-0.4**
SJES	**Sjenica**	**1.92**	**14**	*e*Pn	**Pb**	**02 14 23.3**	**-0.6**
SJES				*e*Sn	**Sb**	**02 14 48.1**	**+0.5**
PLE	**Pljevlja**	**1.93**	**1**	⇑*i*Pn	**Pn**	**02 14 22.1**	**+0.6**
PLE				*i* Sn	**Sb**	**02 14 48.3**	**+0.3**
IGT	**Igoumenitsa**	**2.01**	**158**	P	**Pn**	**02 14 22.1**	**-0.5**
IGT				S	**Sn**	**02 14 48.2**	**+0.8**
	35nm,0.5s						
JAN	**Janina**	**2.09**	**146**	P	**Pn**	**02 14 23.5**	**-0.1**
STIP	**Stip**	**2.15**	**81**	*i* Pn	**Pb**	**02 14 27.9**	**0.0**
LSTV	**Lastovo**	**2

VWDT	**VWDT** baz=325	**0.57**	**329**	P		**Pb**	**02 18 06.9 -0.8**
VWDT	baz=325			*e*S		**Sb**	**02 18 14.7 -1.0**
LDUT	**Ludao** baz=183	**0.59**	**179**	*e*P		**Pb**	**02 18 07.5 -0.5**
LDUT	baz=183			*e*S		**Sb**	**02 18 16.3 +0.1**
ALS	**Alishan** baz=290	**0.65**	**292**	*e*P		**Pb**	**02 18 08.6 -0.7**
STYT	**Tauyuan** baz=261	**0.66**	**261**	*e*S		**Sb**	**02 18 16.9 -1.3**
SSLB	**Suanglung** baz=315	**0.70**	**318**	*e*P		**Pb**	**02 18 08.0 -2.0**
SSLB	baz=315			*e*S		**Sb**	**02 18 18.0 -1.3**
TPUB	**Ta-pu** baz=272	**0.77**	**273**	*e*P		**Pb**	**02 18 10.1 -1.0**
TPUB	baz=272			*e*S		**Sb**	**02 18 22.1 +0.9**
WTP	**Ta-pu** baz=268	**0.78**	**269**	P		**Pb**	**02 18 11.0 -0.3**
WTP	baz=268			S		**Sb**	**02 18 21.8 +0.2**
CHN5	**Tsauling** baz=293	**0.79**	**295**	*e*S		**Sn**	**02 18 23.1 +1.1**
SLGT	**Liugui** baz=251	**0.80**	**250**	*e*P		**Pn**	**02 18 10.9 -0.3**
SLGT	baz=251			*e*S		**Sb**	**02 18 22.6 +0.5**
CHN4	**Tsaushan** baz=275	**0.80**	**276**	P		**Pn**	**02 18 10.9 -0.3**
CHN4	baz=275			S		**Sn**	**02 18 23.8 +1.6**
SMLT	**Sun Moon Lake** baz=318	**0.80**	**320**	P		**Pn**	**02 18 10.9 -0.4**
CHGB	**Renai** baz=339	**0.83**	**342**	*e*P		**Pn**	**02 18 11.7 -0.1**
CHGB	baz=339			*e*S		**Sb**	**02 18 21.6 -1.7**
TYC	**Yuchr** baz=317	**0.84**	**319**	P		**Pn**	**02 18 12.0 +0.2**
TYC	baz=317			*e*S		**Sn**	**02 18 25.1 +2.1**
CHN1	**Nanshi** baz=264	**0.86**	**265**	P		**Pn**	**02 18 12.3 +0.2**
CHN1	baz=264			S		**Sn**	**02 18 25.6 +2.0**
SNST	**Tainan City** baz=267	**0.89**	**267**	*e*P		**Pn**	**02 18 12.8 +0.4**
SNST	baz=267			*e*S		**Sn**	**02 18 25.9 +1.6**
TWK	**Hsinying** baz=270	**0.90**	**270**	P		**Pn**	**02 18 13.1 +0.6**
TWK	baz=270			S		**Sb**	**02 18 25.7 +0.8**
NACB	**Ninganchiao** baz=5.0	**0.91**	**8**	*e*P		**Pn**	**02 18 12.3 -0.4**
MASBT	**Mashibuluo** baz=231	**1.00**	**230**	*e*P		**Pn**	**02 18 12.8 -1.1**
MASBT	baz=231			*e*S		**Sb**	**02 18 28.8 +0.9**
YOJ	**Yonaguni jima**	**1.85**	**50**	P		**Pn**	**02 18 25.8 +0.2**
YOJ				*e*S		**Sn**	**02 18 48.7 +0.8**
HATJ	**Hateruma jima**	**2.29**	**69**	S		**Sn**	**02 18 58.7 0.0**
IRIF	**Iriomote-Funau**	**2.33**	**62**	P		**Pn**	**02 18 32.6 +0.3**
IRIF				S		**Sn**	**02 19 00.8 +1.0**
JKRS	**Kuro-shima**	**2.53**	**67**	P		**Pn**	**02 18 35.9 +1.0**
JKRS				S		**Sn**	**02 19 05.6 +1.0**
JIJ	**Ishigaki jima**	**2.69**	**65**	S		**Sn**	**02 19 08.9 +0.3**
JISG	**Ishigakijimahi**	**2.92**	**63**	P		**Pn**	**02 18 40.5 +0.2**
JISG				S		**Sn**	**02 19 13.5 -0.8**

*JMA **13** 02:27:56.9±0.1,24°.36N×121°.98E,h34km,M2.0*
*TAP **13** 02:27:57.0,24°.42N×121°.96E,h26km,ML2.5,D*
ISC 13 02:27:57.2±0.9,24°.40N±0°.03×121°.97E±0°.02,h28km±6km,
n37,σ0ˢ.55/59,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao** baz=281	**0.15**	**289**	P		**Pb**	**02 28 02.4 -0.2**
ENAH	baz=281			S		**Sb**	**02 28 06.6 +0.3**
ENA	**Nanau** baz=271	**0.21**	**278**	*i* P		**Pb**	**02 28 03.0 -0.3**
ENA	baz=271			S		**Sb**	**02 28 07.9 +0.6**
TWC	**Suao** baz=333	**0.23**	**333**	*i* P		**Pb**	**02 28 03.2 -0.3**
TWC	baz=333			*i* S		**Sb**	**02 28 07.7 -0.2**
NACB	**Ninganchiao** baz=233	**0.41**	**236**	*e*P		**Pb**	**02 28 06.0 -0.1**
NACB	baz=233			*e*S		**Sn**	**02 28 13.9 0.0**
TWE	**Neicheng** baz=319	**0.42**	**320**	*e*S		**Sb**	**02 28 12.7 +0.3**
ENTT	**Nioudou** baz=301	**0.43**	**303**	*i* P		**Pb**	**02 28 06.5 0.0**
EGS	baz=357	**0.44**	**356**	*e*S		**Sn**	**02 28 14.3 -0.5**
NDT	**Datong Townshi** baz=293	**0.46**	**296**	*i* P		**Pb**	**02 28 06.9 0.0**
NDT	baz=293			S		**Sb**	**02 28 14.1 +0.6**
NTC	**Toucheng** baz=344	**0.47**	**345**	*e*S		**Sb**	**02 28 14.3 +0.6**
ETLH	**Xiulin Townshi** baz=244	**0.48**	**246**	P		**Pb**	**02 28 06.8 -0.5**
ETLH	baz=244			S		**Sn**	**02 28 15.5 -0.4**
NNSB	**Datong** baz=270	**0.53**	**273**	P		**Pb**	**02 28 08.1 -0.1**
NNSB	baz=270			S		**Sn**	**02 28 16.5 -0.7**
NNSH	**Datong** baz=270	**0.53**	**273**	*i* P		**Pb**	**02 28 08.2 0.0**
NNSH	baz=270			*e*S		**Sb**	**02 28 16.0 +0.4**
NNS	**Nan Shan** baz=271	**0.54**	**274**	P		**Pb**	**02 28 08.4 +0.1**
NNS	baz=271			S		**Sn**	**02 28 16.6 -0.9**
NWLT	**Wulai** baz=310	**0.56**	**312**	P		**Pn**	**02 28 09.0 -0.4**
NWLT	baz=310			S		**Sb**	**02 28 16.6 +0.2**
TIPB	**Shuangxi** baz=347	**0.58**	**347**	P		**Pb**	**02 28 09.0 +0.1**
YHNB	**Yeheng** baz=294	**0.60**	**297**	P		**Pb**	**02 28 08.8 -0.5**
YHNB	baz=294			S		**Sn**	**02 28 18.4 -0.5**
TWB1	**Santiao Chiao** baz=3.0	**0.60**	**2**	*e*S		**Sb**	**02 28 17.9 +0.4**
NSK	**Sanguang** baz=294	**0.62**	**296**	*i* P		**Pb**	**02 28 09.4 -0.2**
FUSS	**Fushou** baz=255	**0.68**	**257**	P		**Pb**	**02 28 10.6 -0.1**
FUSS	baz=255			*e*S		**Sn**	**02 28 20.6 -0.3**
NWF	**Wu-fen Shan** baz=345	**0.69**	**346**	*e*P		**Pn**	**02 28 11.3 +0.1**
WHF	**Hehuan Shan** baz=246	**0.69**	**248**	*i* P		**Pb**	**02 28 10.7 -0.3**
WHF	baz=246			S		**Sn**	**02 28 21.7 +0.2**
TWT	**Tachien** baz=256	**0.74**	**259**	*e*S		**Sn**	**02 28 22.6 +0.3**
CHGB	**Renai** baz=243	**0.80**	**245**	*e*P		**Pn**	**02 28 12.4 -0.5**
CHGB	baz=243			*e*S		**Sn**	**02 28 24.1 +0.2**
YM10	**YM10** baz=333	**0.84**	**334**	*e*S		**Sn**	**02 28 24.6 -0.1**
YM04	**YM04** baz=332	**0.84**	**333**	*e*P		**Pn**	**02 28 13.0 -0.4**
YM04	baz=332			*e*S		**Sn**	**02 28 25.0 +0.2**
WHP	**Taichung City** baz=261	**0.94**	**263**	*e*P		**Pb**	**02 28 15.5 +0.6**
WHP	baz=261			*e*S		**Sb**	**02 28 27.9 +0.8**
YOJ	**Yonaguni jima**	**0.95**	**86**	P		**Pn**	**02 28 14.1 -0.7**
YOJ				*e*S		**Sb**	**02 28 27.1 -0.3**
VWDT	**VWDT** baz=228	**0.99**	**230**	*e*P		**Pb**	**02 28 15.2 -0.6**
VWDT	baz=228			*e*S		**Sb**	**02 28 29.5 +1.1**
HGSD	**Ruisui** baz=208	**1.03**	**209**	*e*P		**Pb**	**02 28 16.9 +0.4**
SMLT	**Sun Moon Lake** baz=240	**1.10**	**242**	*e*P		**Pb**	**02 28 19.1 +1.4**
SSLB	**Suanglung** baz=235	**1.11**	**237**	*e*P		**Pb**	**02 28 17.6 -0.2**
SSLB	baz=235			*e*S		**Sb**	**02 28 32.6 +0.7**
TYC	**Yuchr** baz=242	**1.13**	**244**	*e*P		**Pb**	**02 28 17.9 -0.1**
YULB	**Yu-li** baz=210	**1.18**	**211**	*e*P		**Pb**	**02 28 18.2 -0.7**
YULB	baz=210			*e*S		**Sb**	**02 28 32.8 -0.9**
IRIF	**Iriomote-Funau**	**1.61**	**92**	P		**Pn**	**02 28 24.4 +0.6**
IRIF				S		**Sn**	**02 28 43.9 +0.2**
HATJ	**Hateruma jima**	**1.71**	**101**	S		**Sb**	**02 28 47.7 -1.5**
JKRS	**Kuro-shima**	**1.87**	**95**	P		**Pn**	**02 28 28.4 +1.0**
JKRS				S		**Sn**	**02 28 50.9 +0.8**
JISG	**Ishigakijimahi**	**2.14**	**85**	S		**Sn**	**02 28 57.3 +0.4**

*NNC **13** 02:41:23.6±0.3,43°.32N×78°.01E,h0km,mb3.4,mpv3.7,*
Error ellipse: s-maj=3.1km s-min=1.6km az=167.0
*KRNET **13** 02:41:24.2±0.1,43°.34N×78°.01E,h22km,mb3.5*
*SOME **13** 02:41:24.3,43°.35N×78°.00E,h20km*
ISC 13 02:41:24.9±0.9,43°.33N±0°.02×77°.97E±0°.01,h7km±8km,
n74,σ1ˢ.20/138,54C-40D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram** baz=39	**0.21**	**44**	⇓*i*P		**Pg**	**02 41 29.3 +0.1**
KURS	baz=39			⇓*e*S		**Sg**	**02 41 32.2 0.0**
KURS	**Kuram** 41nm,0.1s	**0.21**	**44**	⇓*i*P		**Pg**	**02 41 29.3 +0.1**
KURS	645nm,0.2s			⇓*e*S		**Sg**	**02 41 32.1 0.0**
KURS	**Kuram** 41nm,0.1s	**0.21**	**44**	P		**Pg**	**02 41 29.2 +0.1**
KURS	605nm,0.2s			S		**Sg**	**02 41 32.1 0.0**
SATY	**Saty** 81nm,0.1s	**0.42**	**131**	⇑*i*P		**Pg**	**02 41 32.7 -0.4**
SATY	5μm,0.1s			⇑*i*S		**Sg**	**02 41 38.6 -0.1**
ANVS	**Anan'yevo** baz=4.0	**0.59**	**202**	⇓*i*P		**Pg**	**02 41 36.1 -0.3**
ANVS	baz=4.0			⇓*i*S		**Sg**	**02 41 44.1 0.0**
KOTS	**Kotyrbulak** baz=61	**0.63**	**261**	⇑*i*P		**Pg**	**02 41 37.2 +0.1**
KOTS	baz=61			⇓*i*S		**Sg**	**02 41 46.2 +0.8**
KOTS	**Kotyrbulak** 318nm,0.2s	**0.63**	**261**	⇑*i*P		**Pg**	**02 41 37.2 +0.1**
KOTS	580nm,0.4s			⇓*i*S		**Sg**	**02 41 46.3 +0.8**
KOTS	**Kotyrbulak** 318nm,0.2s	**0.63**	**261**	P		**Pg**	**02 41 37.2 +0.1**
KOTS	580nm,0.4s			S		**Sg**	**02 41 46.6 +1.2**
MDOK	**Medeo** baz=56	**0.69**	**256**	⇓*i*P		**Pg**	**02 41 37.8 -0.4**
MDOK	baz=56			⇑*i*S		**Sg**	**02 41 47.4 +0.1**
MDOK	**Medeo** 46nm,0.2s	**0.69**	**256**	⇓*i*P		**Pg**	**02 41 37.8 -0.4**
MDOK	43nm,0.2s			⇑*i*S		**Sg**	**02 41 47.4 +0.1**
MDOK	**Medeo** 46nm,0.2s	**0.69**	**256**	Pg		**Pg**	**02 41 37.8 -0.4**
MDOK	43nm,0.2s			Lg		Lg	02 41 47.4
KNDC	**Almaty**	**0.74**	**261**	⇑P		**Pg**	**02 41 39.2 +0.1**
KNDC				⇑S		**Sg**	**02 41 49.8 +1.0**
AAA	**Alma-Ata** baz=61	**0.78**	**261**	⇑*i*P		**Pg**	**02 41 40.0 +0.1**
AAA	baz=61			⇓*i*S		**Sb**	**02 41 51.2 -0.3**
AAA	**Alma-Ata** 145nm,0.2s	**0.78**	**261**	⇑*i*P		**Pg**	**02 41 40.0 +0.1**
AAA	127nm,0.1s			⇓*i*S		**Sb**	**02 41 51.2 -0.3**
AAA	**Alma-Ata** 149nm,0.1s	**0.78**	**261**	P		**Pg**	**02 41 40.0 +0.1**
AAA	127nm,0.2s			S		**Sb**	**02 41 51.3 -0.3**
UZB	**Uzynbulak** baz=4.0	**0.79**	**103**	⇑*i*P		**Pg**	**02 41 38.7 -1.4**
UZB	baz=4.0			⇓*i*S		**Sg**	**02 41 49.0 -1.5**
UZB	**Uzynbulak** 57nm,0.1s	**0.79**	**103**	⇑*i*P		**Pg**	**02 41 38.7 -1.4**
UZB	222nm,0.1s			⇓*i*S		**Sg**	**02 41 48.9 -1.5**
UZB	**Uzynbulak** 47nm,0.2s	**0.79**	**103**	P		**Pg**	**02 41 38.8 -1.4**
UZB	220nm,0.1s			S		**Sg**	**02 41 49.0 -1.5**
TNSS	**Tian-Shan** baz=49	**0.80**	**249**	⇑*i*P		**Pg**	**02 41 39.8 -0.6**
TNSS	baz=49			⇓*e*S		**Sg**	**02 41 50.7 -0.2**
TNSS	**Tian-Shan** 26nm,0.1s	**0.80**	**249**	⇑*i*P		**Pg**	**02 41 39.8 -0.6**
TNSS	64nm,0.1s			⇓*e*S		**Sg**	**02 41 50.6 -0.2**
MNBS	**Baschi** 33nm,0.1s	**0.81**	**23**	⇑*i*P		**Pg**	**02 41 39.7 -0.8**
MNBS	115nm,0.1s			⇑*e*S		**Sg**	**02 41 50.6 -0.4**
MNBS	**Baschi** 31nm,0.2s	**0.81**	**23**	P		**Pg**	**02 41 39.7 -0.8**
MNBS	103nm,0.1s			S		**Sg**	**02 41 50.6 -0.4**
CHKK	**Chushkaly** baz=5.0	**0.88**	**306**	⇑*i*P		**Pg**	**02 41 40.9 -0.9**
CHKK	baz=5.0			⇓*e*S		**Sg**	**02 41 52.7 -0.6**
CHKK	**Chushkaly** 8.5nm,0.1s	**0.88**	**306**	⇑*i*P		**Pg**	**02 41 40.9 -0.9**
CHKK	267nm,0.2s			⇓*e*S		**Sg**	**02 41 52.7 -0.6**
CHKK	**Chushkaly** 8.5nm,0.1s	**0.88**	**306**	P		**Pg**	**02 41 40.9 -0.9**
CHKK	267nm,0.2s			S		**Sg**	**02 41 52.7 -0.6**
ARXS	**Arharly** 81nm,0.2s	**0.89**	**353**	⇑*i*P		**Pg**	**02 41 40.8 -1.1**
ARXS	71nm,0.2s			⇓*i*S		**Sg**	**02 41 52.8 -0.6**
ARXS	**Arharly** 81nm,0.2s	**0.89**	**353**	P		**Pg**	**02 41 40.8 -1.1**
ARXS	71nm,0.2s			S		**Sg**	**02 41 52.8 -0.6**
PRZ	**Przheval'sk** baz=61	**0.91**	**159**	⇑*i*P		**Pg**	**02 41 41.3 -1.0**
PRZ	baz=61			⇑*i*S		**Sg**	**02 41 53.3 -0.8**
KTBS	**Karatobe** 39nm,0.2s	**1.01**	**292**	⇑*i*P		**Pg**	**02 41 43.4 -0.9**
KTBS	552nm,0.2s			⇑*e*S		**Sg**	**02 41 57.0 -0.4**
KTBS	**Karatobe** 39nm,0.2s	**1.01**	**292**	P		**Pg**	**02 41 43.4 -0.9**
KTBS	552nm,0.3s			S		**Sg**	**02 41 57.2 -0.1**
IZV	**Izvestkoviy** baz=54	**1.03**	**254**	⇑*i*P		**Pg**	**02 41 43.9 -0.8**
IZV	baz=54			⇓*i*S		**Sg**	**02 41 58.2 0.0**
IZV	**Izvestkoviy** 36nm,0.1s	**1.03**	**254**	⇑*i*P		**Pg**	**02 41 43.9 -0.8**
IZV	96nm,0.2s			⇓*i*S		**Sg**	**02 41 58.2 0.0**
IZV	**Izvestkoviy** 36nm,0.1s	**1.03**	**254**	P		**Pg**	**02 41 43.9 -0.8**
IZV	96nm,0.2s			S		**Sg**	**02 41 58.3 0.0**
SHLS	**Shalkode** baz=97	**1.11**	**99**	*e*P		Pn	02 41 49.4 +2.5
SHLS	baz=97			*e*S		**Sn**	**02 42 07.5 +5.1**
SHLS	**Shalkode** 31nm,0.2s	**1.11**	**99**	*e*P		Pn	02 41 49.4 +2.5
SHLS	47nm,0.4s			*e*S		**Sn**	**02 42 07.5 +5.1**
SHLS	**Shalkode** 31nm,0.2s	**1.11**	**99**	P		Pn	02 41 49.4 +2.5
SHLS	47nm,0.4s			S		**Sn**	**02 42 07.5 +5.1**
PDGK	**Podgornoye** 14nm,0.3s	**1.11**	**90**	P		**Pg**	**02 41 44.0 -2.2**
PDGK	15nm,0.3s			S		**Sg**	**02 41 58.2 -2.5**
PDGK	**Podgornoye** 5.0nm,0.2s	**1.11**	**90**	⇑P		**Pg**	**02 41 43.8 -2.4**
PDGK	12nm,0.4s			⇓S		**Sg**	**02 41 58.3 -2.3**
MTBS	**Maitube** baz=60	**1.14**	**260**	⇑*i*P		**Pg**	**02 41 45.8 -1.0**
MTBS	baz=60			⇓*i*S		**Sg**	**02 42 01.2 -0.4**
MTBS	**Maitube** 59nm,0.2s	**1.14**	**260**	⇑*i*P		**Pg**	**02 41 45.8 -1.0**
MTBS	43nm,0.2s			⇓*i*S		**Sg**	**02 42 01.2 -0.4**
MTBS	**Maitube** 59nm,0.2s	**1.14**	**260**	P		**Pg**	**02 41 45.8 -1.0**
MTBS	43nm,0.2s			S		**Sg**	**02 42 01.2 -0.4**
KUU	**Kurty** baz=95	**1.31**	**296**	⇑*i*P		**Pn**	**02 41 48.4 -1.2**
KUU	baz=95			⇓*i*S		**Sb**	**02 42 05.7 -1.1**
KUU	**Kurty** 21nm,0.2s	**1.31**	**296**	⇑*i*P		**Pn**	**02 41 48.4 -1.2**
KUU	230nm,0.3s			⇓*i*S		**Sb**	**02 42 05.6 -1.1**
KUU	**Kurty** 21nm,0.2s	**1.31**	**296**	P		**Pn**	**02 41 48.3 -1.2**
KUU	230nm,0.3s			S		**Sb**	**02 42 05.5 -1.2**
KDJ	**Kajisay** baz=7.0	**1.34**	**206**	⇓*i*P		**Pn**	**02 41 49.2 -0.9**
KDJ	baz=7.0			⇓*i*S		**Sb**	**02 42 06.6 -1.1**
KST	**Kastek** baz=59	**1.50**	**259**	⇑*i*P		**Pn**	**02 41 51.7 -0.5**
KST	baz=59			⇓*e*S		**Sn**	**02 42 11.5 -0.5**
KST	**Kastek** 33nm,0.2s	**1.50**	**259**	⇑*i*P		**Pn**	**02 41 51.7 -0.5**
KST	35nm,0.2s			⇓*e*S		**Sn**	**02 42 11.5 -0.5**
KST	**Kastek** 42nm,0.3s	**1.50**	**259**	P		**Pn**	**02 41 51.6 -0.7**
KST	35nm,0.2s			S		**Sn**	**02 42 11.4 -0.7**
DGS	**Degeres** baz=67	**1.61**	**267**	*e*P		**Pn**	**02 41 53.7 0.0**
DGS	baz=67			*e*S		**Sn**	**02 42 15.1 +0.3**
DGS	**Degeres** 20nm,0.2s	**1.61**	**267**	*e*P		**Pn**	**02 41 53.7 0.0**
DGS	67nm,0.5s			*e*S		**Sn**	**02 42 15.1 +0.3**
DGS	**Degeres** 20nm,0.2s	**1.61**	**267**	P		**Pn**	**02 41 53.4 -0.3**
DGS				S		**Sn**	**02 42 14.6 -0.1**
TARG	**Taragay, Kyrgy** baz=86	**1.61**	**184**	⇑*i*P		**Pn**	**02 41 53.2 -0.8**
TARG	baz=86			⇑*i*S		**Sn**	**02 42 14.3 -0.9**
DJR	**Jarkent** 10nm,0.2s	**1.65**	**52**	⇑*i*P		**Pn**	**02 41 53.9 -0.5**
DJR	71nm,0.4s			⇓*e*S		**Sn**	**02 42 15.0 -0.9**
DJR	**Jarkent** 10nm,0.2s	**1.65**	**52**	P		**Pn**	**02 41 53.9 -0.5**
DJR	71nm,0.4s			S		**Sn**	**02 42 15.0 -0.9**
ULHL	**Ulahol** baz=30	**1.67**	**230**	⇑*i*P		**Pn**	**02 41 55.2 +0.5**
ULHL	baz=30			⇑*i*S		**Sb**	**02 42 17.3 -0.1**
TDK	**Taldyqorghan** 54nm,0.2s	**1.70**	**11**	⇑*i*P		**Pn**	**02 41 54.9 0.0**
TDK	211nm,0.6s			⇓*i*S		**Sn**	**02 42 16.6 -0.3**
TDK	**Taldyqorghan** 54nm,0.2s	**1.70**	**11**	P		**Pn**	**02 41 54.9 0.0**
TDK	202nm,0.4s			S		**Sn**	**02 42 16.8 -0.1**
BOOM	**Boomskoye usch** baz=41	**1.71**	**241**	⇑*i*P		**Pn**	**02 41 55.8 +0.6**
BOOM	baz=41			⇑*i*S		**Sb**	**02 42 18.5 0.0**
TKM2	**Tokmak 2** baz=57	**1.79**	**257**	⇓*i*P		**Pn**	**02 41 56.8 +0.5**
TKM2	baz=57			⇓*i*S		**Sb**	**02 42 20.8 +0.2**
TKM2	**Tokmak 2** 3.7nm,0.2s	**1.79**	**257**	⇑P		**Pn**	**02 41 56.5 +0.2**
TKM2	11nm,0.2s			⇑S		**Sb**	**02 42 21.3 +0.7**
KAPS	**Kapalarasan** 5.9nm,0.3s	**2.19**	**27**	*e*P		**Pn**	**02 42 03.0 +1.3**
KAPS	26nm,0.2s			*e*S		**Sn**	**02 42 31.3 +2.2**
KAPS	**Kapalarasan** 5.9nm,0.3s	**2.19**	**27**	Pg		**Pn**	**02 42 03.0 +1.3**
KAPS	26nm,0.2s			Lg		Lg	02 42 31.3
KBK	**Karagaybulak** baz=54	**2.32**	**254**	⇑*i*P		**Pn**	**02 42 04.7 +1.1**
KBK	baz=54			⇑*i*S		**Sn**	**02 42 33.7 +1.3**
KZA	**Kyzart** baz=39	**2.37**	**239**	⇑*i*P		**Pn**	**02 42 05.3 +0.9**
KZA	baz=39			⇑*i*S		**Sn**	**02 42 34.6 +0.7**
CHMS	**Chumysh** baz=63	**2.38**	**263**	⇑*i*P		**Pn**	**02 42 05.5 +1.2**
CHMS	baz=63			⇑*i*S		**Sn**	**02 42 34.9 +1.2**
AAK	**Ala-Archa** baz=56	**2.64**	**256**	⇑*i*P		**Pn**	**02 42 09.1 +1.1**
AAK	baz=56			⇑*i*S		**Sn**	**02 42 41.3 +0.9**
AAK	**Ala-Archa** 2.0nm,0.3s	**2.64**	**256**	⇑Pg		**Pb**	**02 42 11.7 -0.9**
AAK	7.9nm,0.5s			⇓Lg		Lg	02 42 47.8
ARLS	**Aral** baz=43	**3.07**	**243**	⇑*i*P		**Pn**	**02 42 14.8 +0.9**
ARLS	baz=43			⇑*i*S		**Sn**	**02 42 50.8 -0.1**
BTLS	**Baital** 1.0nm,0.2s	**3.30**	**303**	*e*P		**Pb**	**02 42 22.9 -0.7**
BTLS	4.0nm,0.5s			*e*S		**Sb**	**02 43 04.5 +0.6**
AML	**Almayashu** baz=51	**3.37**	**251**	⇓*i*P		**Pn**	**02 42 19.4 +1.2**
AML	baz=51			⇓*i*S		**Sn**	**02 42 58.9 +0.2**
MRKS	**Merke** 6.2nm,0.3s	**3.53**	**262**	*e*P		**Pb**	**02 42 28.9 +1.3**
MRKS	5.4nm,0.2s			*e*S		**Sg**	**02 43 15.3 -2.8**
MRKS	**Merke** 6.2nm,0.4s	**3.53**	**262**	Pg		**Pb**	**02 42 29.0 +1.4**
MRKS	5.4nm,0.2s			Lg		Lg	02 43 15.3
MK31	**Makanchi Array** 0.2nm,0.3s,baz=218,slow=13,SNR=3.1	**4.62**	**40**	⇑Pg		**Pb**	**02 42 48.7 +2.5**
MK31	0.4nm,0.3s,baz=215,slow=26,SNR=10			⇓Lg		Lg	02 43 45.0
KK31	**Karatay Array** 0.7nm,0.5s,baz=78,slow=16,SNR=6.6	**5.45**	**270**	⇓Pg		Pb	02 43 04.5 +4.1
KK31	1.2nm,0.5s,baz=43,slow=82,SNR=5.2			⇓Lg		Lg	02 44 13.2

IDC 13 02:43:59.5±1.1,9°.50S×159°.35E,h0km,mb3.7/5,
mb1 3.9/5,mb1mx3.6/32,mbtmp3.7/5,Error ellipse:
s-maj=35.6km s-min=8.7km az=175.0,
Bougainville-Solomon Islands region

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

HNR	Honiara	0.59	84	Pg	Pg	02 44 11.5	+0.6
	1μm,0.3s,baz=196,slow=6.5,SNR=133						
HNR				Lg	Lg	02 44 18.7	
	8μm,0.3s,baz=185,slow=23,SNR=44						
HNR				LR	LR	02 44 25.3	
	comp=Z,175nm,20.9s,baz=155,slow=44						
WRA	Warramunga Arr	26.29	244	P	P	02 49 37.8	+0.8
	0.8nm,0.6s,baz=73,slow=9.6,SNR=6.3						
ASAR	Alice Springs	28.09	237	P	P	02 49 52.1	-1.1
	0.3nm,0.7s,baz=65,slow=9.9,SNR=2.7						
PETK	Petropavlovsk-	62.38	359	P	P	02 54 24.1	+0.3
	1.1nm,0.5s,baz=146,slow=7.4,SNR=4.4						
ILAR	Eielson Array	84.16	20	P	P	02 56 31.4	-0.9
	0.8nm,0.5s,baz=241,slow=5.0,SNR=14						
MKAR	Makanchi Array	88.13	318	P	P	02 56 52.7	+0.4
	0.4nm,0.7s,baz=103,slow=5.3,SNR=2.5						

*IDC **13** 02:45:01.2±0.9, 36°82N×21°15E, h0km, mb3.9/11, mb1 3.9/22, mb1mx3.8/59, mbtmp3.8/22, ML3.8/11, Error ellipse: s-maj=17.5km s-min=13.5km az=20.0*
*BEO **13** 02:45:01.9±0.8, 36°58N×20°98E, h15km, ML4.2/6*
*THE **13** 02:45:02.6, 36°67N×21°15E, h0km±2km, ML3.7/11, Error ellipse: s-maj=2.5km s-min=1.0km az=198.0*
*ATH **13** 02:45:02.5, 36°71N×21°12E, h20km±1km, ML3.8/6, Error ellipse: s-maj=3.5km s-min=1.3km az=36.0*
*PDG **13** 02:45:02.4±0.5, 36°72N×21°06E, h15km±2km, ML4.1/12, Error ellipse: s-maj=1.3km s-min=1.4km az=0.0*
*NEIC **13** 02:45:05.8±2.2, 36°77N±0°05×21°12E±0°06, h31km±5km, mb4.1/8, ML3.7(THE), Error ellipse: s-maj=8.7km s-min=5.3km az=132.0*

ISC 13 02:45:04.0±0.9, 36°71N±0°04×21°12E±0°03, h22km±7km, n264, σ1°55/298, mb3.9/12, 18C-11D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.54	69	P	Pb	02 45 13.1	-1.6
PYL				S	Sb	02 45 20.0	-2.1
	8μm,0.6s						
PYL	PYLOS	0.54	69	P	Pb	02 45 13.2	-1.6
PYL				S	Sb	02 45 21.0	-1.1
PYL				AML	AML	02 45 32.3	
	comp=N,17564μm,0.7s						
PYL				AML	AML	02 45 35.0	
	comp=E,16014μm,0.5s						
ITM	Ithomi	0.80	54	P	Pb	02 45 18.1	-1.2
ITM				S	Sb	02 45 29.5	-0.2
	comp=E,7μm,0.6s						
ITM	Ithomi	0.80	54	P	Pb	02 45 17.8	-1.5
ITM				S	Sb	02 45 28.7	-1.0
ITM				AML	AML	02 45 35.2	
	comp=E,13421μm,0.5s						
ITM				AML	AML	02 45 36.1	
	comp=N,14508μm,0.7s						
ITM	Ithomi	0.80	54		Pb	02 45 17.7	-1.5
KRI1	kERI	0.98	346	P	Pb	02 45 21.8	-0.5
KRI1				S	Sn	02 45 36.6	+0.9
	comp=N,9μm,0.3s						
ZAK2	Zakynthos	1.09	351	P	Pn	02 45 22.9	-1.0
ZAK2				S	Sn	02 45 40.2	+1.8
	comp=N,13μm,0.5s						
VLX	Vlachokerasia	1.21	56	P	Pn	02 45 25.7	0.0
VLX				S	Sb	02 45 43.9	+2.4
	comp=N,5μm,0.8s						
VLX	Vlachokerasia	1.21	56	P	Pn	02 45 25.4	-0.3
VLX				S	Sn	02 45 41.0	-0.4
VLX				AML	AML	02 45 53.9	
	comp=N,7602μm,0.4s						
VLX				AML	AML	02 45 57.3	
	comp=E,8446μm,0.8s						
VTN	Vitineika	1.21	3	P	Pn	02 45 25.7	+0.2
VTN	Vitineika	1.21	3	P	Pn	02 45 25.7	+0.2
VLMS	Volimes, Zakyn	1.22	343	P	Pn	02 45 25.0	-0.8
VLMS				S	Sb	02 45 44.0	+2.2
VLMS				AML	AML	02 45 50.1	
	comp=E,7229μm,0.3s						
VLMS				AML	AML	02 45 53.2	
	comp=N,10195μm,0.4s						
TRIP	Tripoli	1.23	48	P	Pn	02 45 25.8	-0.2
TRIP				S	Sb	02 45 45.4	+3.2
	comp=N,4μm,0.6s						
TRIP	Tripoli	1.23	48	P	Pn	02 45 25.9	-0.2
TRIP				S	Sb	02 45 44.0	+1.8
TRIP				AML	AML	02 45 50.2	
	comp=N,7608μm,0.6s						
TRIP				AML	AML	02 45 53.3	
	comp=E,5442μm,0.6s						
DRO	Drossia	1.33	21	P	Pb	02 45 27.8	-0.5
DRO				S	Sb	02 45 49.4	+4.5
	comp=E,3μm,0.4s						
DRO	Drossia	1.33	21	P	Pn	02 45 27.3	0.0
DRO				S	Sb	02 45 45.9	+1.0
DRO				AML	AML	02 45 58.3	
	comp=E,7225μm,0.5s						
DRO				AML	AML	02 45 59.3	
	comp=N,6921μm,0.3s						
RLS	Riolos of Patr	1.38	12	P	Pn	02 45 28.4	+0.5
RLS				S	Sb	02 45 48.2	+2.0
RLS	Riolos of Patr	1.38	12	P	Pn	02 45 28.0	+0.2
VLI	Veliai	1.46	89	P	Pb	02 45 30.4	-0.1
VLI	Veliai	1.46	89	P	Pb	02 45 30.2	-0.3
VLS	Valsamata	1.52	344	P	Pn	02 45 30.3	+0.3
VLS				S	Sb	02 45 53.7	+3.2
	comp=N,1μm,0.3s						
VLS	Valsamata	1.52	344	P	Pn	02 45 30.3	+0.3
ARGA	Argostoli. Kep	1.55	341	P	Pb	02 45 31.5	-0.6
ARGA				S	Sb	02 45 51.3	+0.1
KLV	Kalavryta, Ach	1.57	31	P	Pn	02 45 31.2	+0.7
KLV	Kalavryta, Ach	1.57	31	P	Pn	02 45 31.3	+0.7
GUR	Goura	1.57	38	P	Pn	02 45 31.0	+0.4
GUR	Goura	1.57	38	P	Pn	02 45 31.1	+0.4
KTHA	Kythira Island	1.63	105	P	Pb	02 45 32.8	-0.6
KTHA	Kythira Island	1.63	105	P	Pb	02 45 32.9	-0.6
KEF5	Kardakata, Kep	1.65	342	P	Pn	02 45 32.1	+0.4
KEF5				S	Sb	02 45 54.3	+0.2
ALIK	Aliki, Aigiali	1.74	27	P	Pb	02 45 34.9	-0.4
KRND	KRANIDI	1.76	67	P	Pn	02 45 34.1	+1.0
KRND	KRANIDI	1.76	67	P	Pn	02 45 34.2	+1.0
FSK	Fiskardo	1.80	346	P	Pn	02 45 34.9	+1.2
FSK				S	Sn	02 45 57.2	+1.3
	comp=N,865nm,0.6s						
FSK	Fiskardo	1.80	346	P	Pn	02 45 34.8	+1.0
EFP	Efpalio	1.83	20	P	Pb	02 45 36.6	-0.1
EFP				S	Sb	02 46 02.0	+2.8
	comp=N,1μm,0.8s						
EFP	Efpalio	1.83	20	P	Pb	02 45 35.9	-0.8
AST1	Astakos	1.83	359	P	Pn	02 45 35.2	+1.1
DID	Didima	1.87	64	P	Pb	02 45 36.5	-1.1
DID	Didima	1.87	64	P	Pn	02 45 35.5	+0.7
PVO	Paravola	1.93	10	P	Pb	02 45 38.2	-0.3
PVO	Paravola	1.93	10	P	Pb	02 45 37.3	-1.2
ANKY	Antikythira Is	1.96	115	P	Pn	02 45 36.9	+1.1
ANKY	Antikythira Is	1.96	115	P	Pn	02 45 36.7	+0.8
LTK	Loutraki	1.98	48	P	Pn	02 45 36.8	+0.7
LTK	Loutraki	1.98	48	P	Pb	02 45 37.2	+1.1
ANX	Ano Chora	1.99	19	P	Pb	02 45 39.4	-0.1
ANX	Ano Chora	1.99	19	P	Pb	02 45 38.3	-1.3
DSF	Desfina	2.04	33	P	Pn	02 45 38.4	+1.4
DSF	Desfina	2.04	33	P	Pn	02 45 38.5	+1.5
LKD2	Lefkada island	2.11	350	P	Pb	02 45 40.0	-1.6
LKD2	Lefkada island	2.11	350	P	Pn	02 45 39.7	+1.7
TSLK	Tsoukalades, L	2.15	350	P	Pb	02 45 40.9	-1.3
EVR	Evrytania	2.27	14	P	Pb	02 45 43.6	-0.8
VILL	Villia	2.27	50	P	Pn	02 45 40.6	+0.3
VIL2	Platees	2.28	48	P	Pn	02 45 40.5	+0.3
AXAR	Agios Charalam	2.39	30	P	Pn	02 45 42.9	+1.1
VLY	Voula,Athens	2.42	61	P	Pn	02 45 42.5	+0.2
VLY				S	Sn	02 46 12.6	+1.4
	comp=N,468nm,0.6s						
VLY	Voula,Athens	2.42	61	P	Pn	02 45 42.3	+0.1
RODP	Rodopos	2.43	117	P	Pn	02 45 43.4	+1.1
ATH	Athens Observa	2.43	58	P	Pn	02 45 41.6	-0.7
LKR	Lokris	2.45	37	P	Pn	02 45 43.7	+1.1
ATHU	Athens Univers	2.47	59	P	Pn	02 45 43.1	+0.2
AGG	Agios Georgios	2.50	22	P	Pn	02 45 45.6	+2.2
AGG	Agios Georgios	2.50	22		Pn	02 45 45.1	+1.7
KNDR	Palaiochora Ch	2.55	124	P	Pn	02 45 43.5	-0.5
PTL	Penteli	2.57	58	P	Pn	02 45 44.5	+0.2
DION	Dionisos Attik	2.63	58	P	Pn	02 45 45.6	+0.5
DION	Dionisos Attik	2.63	58	P	Pn	02 45 45.6	+0.5
IMMV	Iera Moni Meta	2.63	117	P	Pn	02 45 45.6	+0.4
MHLO	Agia Marina, M	2.64	89	P	Pn	02 45 45.3	0.0
CHAN	Chania	2.65	116	P	Pn	02 45 45.4	0.0
SERI	Serifos	2.74	79	P	Pn	02 45 46.2	-0.4
SERI	Serifos	2.74	79	P	Pn	02 45 46.3	-0.3
VAM	Vamos	2.82	117	P	Pn	02 45 48.3	+0.6
IGT	Igoumenitsa	2.89	348	P	Pn	02 45 49.4	+0.8
IGT	Igoumenitsa	2.89	348	*e*Pn	Pn	02 45 49.5	+0.8
IGT	Igoumenitsa	2.89	348	P	Pn	02 45 49.6	+0.9
THL	Klokotos Trika	2.94	14	P	Pn	02 45 51.1	+1.8
JAN	Janina	2.95	356	P	Pn	02 45 51.4	+1.8
KARY	Karystos	2.96	62	P	Pn	02 45 49.3	-0.3
KARY	Karystos	2.96	62	P	Pn	02 45 50.4	+0.8
KYMI	Kymi, Euboea I	3.05	50	P	Pn	02 45 51.0	+0.1
GVD	Gavdhos	3.05	127	P	Pn	02 45 51.0	+0.1
PRNS	Prines Rethymn	3.05	115	P	Pn	02 45 51.9	+1.0
MEV	Metsovon	3.07	2	P	Pn	02 45 54.1	+2.7
NEO	Neokhori	3.08	32	P	Pn	02 45 52.5	+1.1
XOR	Xorichti	3.12	31	P	Pn	02 45 52.8	+0.9
KPRO	Kipourio	3.25	3	P	Pn	02 45 56.2	+2.5
SRN	Sarande	3.29	345	P	Pn	02 45 54.9	+0.8
IDI	Anoyia	3.37	114	Pn	Pn	02 45 55.8	+0.4
	comp=N,1.9nm,0.3s,baz=278,slow=6.7,SNR=19						
IDI				Sn	Sn	02 46 37.1	+2.3
	comp=N,4.3nm,0.3s,baz=135,slow=21,SNR=5.8						
IDI	Anoyia	3.37	114	P	Pn	02 45 55.7	+0.4
IDI	Anoyia	3.37	114	⇓P	Pb	02 46 12.1	+9.0
SIVA	Sivas	3.44	118	P	Pn	02 45 58.2	+1.9
CMBO	Columbo, Santo	3.46	93	P	Pn	02 45 55.7	-0.8
PENT	Pentalofos	3.48	0	P	Pn	02 45 59.5	+2.6
LIT	Litokhoron	3.56	17	P	Pn	02 45 58.5	+1.0
APE	Apeiranthos	3.56	83	⇑P	Pb	02 46 13.6	+7.3
KZN	Kozani	3.63	8	P	Pn	02 46 00.6	+1.7
NEST	Nestorio	3.70	359	P	Pn	02 46 02.7	+2.8
KTI	Kastanea	3.76	12	P	Pn	02 46 02.4	+1.6
ANAF	Anafi Island	3.77	94	P	Pn	02 46 00.5	-0.3
PAIG	Paliouri	3.79	31	P	Pn	02 46 01.6	+0.5
LAST	Lasithi	3.86	112	P	Pn	02 46 02.2	+0.1
SCTE	Santa Cesarea	3.95	329		Pn	02 46 03.4	+0.1
PLG	Polygyros	4.09	26	P	Pn	02 46 05.5	+0.3
THE	Thessaloniki	4.18	20	P	Pn	02 46 06.6	+0.2
HORT	Hortiatis	4.18	21	P	Pn	02 46 06.8	+0.3
TIP	Timpagrande	4.24	307	⇑P	Pn	02 46 06.8	-0.4
TIP	Timpagrande	4.24	307		Pn	02 46 07.5	+0.2
OUR	Ouranopolis	4.26	31	P	Pn	02 46 08.0	+0.5
CHOS	Chios island	4.27	65	P	Pn	02 46 07.5	-0.2
OHR	Ohrid	4.40	357	*i* Pn	Pn	02 46 11.1	+1.5
CEL	Celeste	4.43	292		Pn	02 46 10.4	+0.4
SOH	Sokhos	4.46	22	P	Pn	02 46 11.5	+1.1
LIA	Limnos Island	4.51	44	P	Pn	02 46 11.1	+0.1
KNT	Kendrikon	4.66	17	P	Pn	02 46 14.1	+1.1
TIR	Tirane	4.73	349	P	Pn	02 46 14.6	+0.6
TIR	Tirane	4.73	349	*e*Pn	Pn	02 46 15.0	+1.0
TIR				*e*Sn	Sn	02 47 08.9	+0.7
TIR	Tirane	4.73	349	⇓P	Pn	02 46 16.5	+2.4
TIR	Tirane	4.73	349		Pn	02 46 14.5	+0.4
VAY	Valandovo	4.74	13	*e*Pn	Pn	02 46 15.0	+0.8
VAY	Valandovo	4.74	13	*i* Pn	Pn	02 46 15.4	+1.2
THAS	Thassos island	4.81	35	P	Pn	02 46 15.1	+0.1
SRS	Serrai	4.81	23	P	Pn	02 46 14.6	-0.5
SRS	Serrai	4.81	23	*e*Pn	Pn	02 46 14.6	-0.5
TAR1	Taranto	4.85	323	⇓*i*Pn	Pn	02 46 15.9	+0.3
CGL1	Ceglie Messapi	4.86	325	⇑*i*Pn	Pn	02 46 16.0	+0.2
PHP	Peshkopia	5.00	354	P	Pn	02 46 18.3	+0.6
KARP	Karpathos	5.03	102	P	Pn	02 46 17.8	-0.3
STIP	Stip	5.05	9	*i* Pn	Pn	02 46 19.9	+1.6
NVR	Nevrokopi	5.11	24	P	Pn	02 46 19.5	+0.3
MATE	Matera	5.23	320	⇑P	Pn	02 46 21.8	+0.9
SKO	Skopje	5.26	3	*e*Pn	Pn	02 46 21.8	+0.5
SKO	Skopje	5.26	3	*i* Pn	Pn	02 46 21.9	+0.6
MMB	Musomiste	5.28	22	*i* P	Pn	02 46 21.9	+0.3
KKB	Krupnik	5.37	16	*i* P	Pn	02 46 23.4	+0.6
VAE	Valguarrena	5.41	280	Pn	Pn	02 46 25.2	+1.8
	comp=N,3.8nm,0.3s,baz=150,slow=9.2,SNR=28						
VAE				Sn	Sn	02 47 27.1	+2.1
	comp=N,9.3nm,0.3s,baz=122,slow=13,SNR=3.6						
RAFF	Raffo Rosso	5.43	277		Pn	02 46 23.8	+0.1
ULC	Ulcinj	5.45	345	⇑*i*Pn	Pn	02 46 23.3	-0.5
ULC				*i* Sn	Sn	02 47 23.7	-2.1
BAI	Bari	5.50	324	⇑*i*Pn	Pn	02 46 24.5	0.0
DRME	Dracevica, Mon	5.67	345	⇑*i*Pn	Pn	02 46 26.7	-0.2
DRME				*i* Sn	Sn	02 47 28.8	-2.5
RZN	Rozhen	5.71	28	*i* P	Pn	02 46 28.3	+0.8
BUM	Brajici-Budva	5.84	344	⇑*i*Pn	Pn	02 46 28.5	-0.8
BUM				*i* Sn	Sn	02 47 33.0	-2.7
BOSS	Bosilegrad	5.88	10	*e*Pn	Pn	02 46 30.4	+0.7
PDG	Podgorica	5.89	346	*e*Pn	Pn	02 46 29.7	-0.2
PDG				*e*Sn	Sn	02 47 35.3	-1.4
PDG	Podgorica	5.89	346	⇓P	Pn	02 46 30.0	0.0
PDG	Podgorica	5.89	346	Pn	Pn	02 46 29.1	-0.8
TTG	Podgorica	5.89	346	⇑*i*Pn	Pn	02 46 29.4	-0.5
TTG				*i* Sn	Sn	02 47 34.4	-2.3
PVY	Plav	5.95	352	⇑*i*Pn	Pn	02 46 31.3	+0.5
PVY				*i* Sn	Sn	02 47 35.5	-2.8
KDZ	Kurdzhali	5.96	33	*i* P	Pn	02 46 30.6	-0.3
CEME	Cevo	6.07	344	⇑*i*Pn	Pn	02 46 31.5	-1.0
CEME				*i* Sn	Sn	02 47 38.6	-2.7
HCY	Herceg Novi	6.08	341	⇑*i*Pn	Pn	02 46 31.7	-1.4
HCY				*i* Sn	Sn	02 47 38.5	-2.9
BARS	Barje	6.12	5	*e*Pn	Pn	02 46 33.7	+0.6
VTS	Vitosha	6.12	15	*i* P	Pn	02 46 33.8	+0.5
IVA	Berane	6.23	352	⇑*i*Pn	Pn	02 46 35.1	+0.5
IVA				*i* Sn	Sn	02 47 42.0	-3.1
KOME	Kolasin	6.26	349	*e*Pn	Pn	02 46 35.3	+0.3
NKME	Niksic	6.28	345	⇑*i*Pn	Pn	02 46 34.2	-1.1
NKME				*i* Sn	Sn	02 47 43.4	-2.9
NKY	Niksic	6.31	346	*e*Pn	Pn	02 46 35.0	-0.8
NKY				*i* Sn	Sn	02 47 44.2	-3.1
CORL	Corleone	6.34	283	Pn	Pn	02 46 38.1	+2.0
CLTB	Caltabellotta	6.37	280	Pn	Pn	02 46 37.8	+1.2
BRY	Bratogost	6.50	343	*e*Pn	Pn	02 46 37.0	-1.4
BRY				*i* Sn	Sn	02 47 48.2	-3.6
SELS	Selova	6.50	0	*e*Pn	Pn	02 46 37.6	-0.8
SGRT	San Giovanni R	6.54	322	Pn	Pn	02 46 38.8	-0.1
SJES	Sjenica	6.60	353	*e*Pn	Pn	02 46 40.1	+0.3
SJES				*e*Sn	Sn	02 47 52.8	-1.6
ZAPS	Zavoj	6.66	10	*e*Pn	Pn	02 46 41.4	+0.9
PAOL	Paolisi	6.69	312		Pn	02 46 42.1	+1.2
UPM	Unac-Piva	6.71	346	⇑*i*Pn	Pn	02 46 41.0	-0.3
UPM				*i* Sn	Sn	02 47 53.3	-3.8
PLE	Pljevlja	6.75	349	⇑*i*Pn	Pn	02 46 41.7	-0.1
PLE				*i* Sn	Sn	02 47 54.8	-3.1
KSL	Kastellorizon	6.85	92	P	Pn	02 46 43.6	+0.5
BOVS	Bovan	6.93	4	*e*Pn	Pn	02 46 44.0	-0.2
MPEP	Malo Peshtene	6.94	16	*i* P	Pn	02 46 45.7	+1.4
ELL	Elmali	7.06	87	Pn	Pn	02 46 47.1	+1.0
GRUS	Gruza	7.18	358	*e*Pn	Pn	02 46 46.8	-0.8
BBLS	Lazići	7.27	350	*e*Pn	Pn	02 46 47.7	-1.2
BBLS				*e*Sn	Sn	02 48 07.4	-3.3
DIVS	Divibare	7.43	354	*e*Pn	Pn	02 46 49.4	-1.7
DIVS	Divibare	7.43	354	Pn	Pn	02 46 49.2	-1.9
TRUS	Trudelj	7.53	356	*e*Pn	Pn	02 46 51.7	-0.7
INTR	Introdacqua	7.70	316	Pn	Pn	02 46 56.2	+1.4
TEKS	Tekeris	7.92	352	*e*Pn	Pn	02 46 56.7	-1.2
ORH	Orhaniye	8.13	57	P	Pn	02 46 51.6	-9.0
AQU	L'Aquila	8.20	316		Pn	02 47 02.6	+0.9
HERR	Herculane	8.22	6	⇓P	Pn	02 46 59.8	-2.1
FRGS	Fruska Gora	8.50	354	*e*Pn	Pn	02 47 04.4	-1.3
BLY	Banja Luka	8.57	341	*e*Pn	Pn	02 47 05.8	-0.8
NRCA	Norcia	8.68	317		Pn	02 47 09.1	+0.8
BZS	Buzias	8.91	2	*e*Pn	Pn	02 47 09.6	-1.7
BZS				*e*Sn	Sn	02 48 47.6	-3.3
BZS	Buzias	8.91	2	⇓P	Pn	02 47 10.4	-0.9
VOIR		9.21	18	⇓P	Pn	02 47 15.7	+0.2
MLR	Muntele Rosu	9.50	21	Pn	Pn	02 47 20.5	+1.0
	comp=N,0.2nm,0.3s,baz=102,slow=21,SNR=2.4						
MLR	Muntele Rosu	9.50	21	⇑P	Pn	02 47 16.7	-2.8
MLR	Muntele Rosu	9.50	21	Pn	Pn	02 47 20.7	+1.1
KEST	Kesra	9.56	268	Pn	Pn	02 47 21.6	+1.2
	comp=N,0.3nm,0.3s,baz=51,slow=23,SNR=5.6						
KEST				Sn	Sn	02 49 05.0	-2.2
	comp=N,0.3nm,0.3s,baz=282,slow=19,SNR=5.7						
DOPR	Dopca	9.79	18	⇑P	Pn	02 47 26.3	+2.9
OZUR		10.01	19	⇓P	Pn	02 47 29.7	+3.2
PLOR	Plostina	10.04	23	⇓P	Pn	02 47 27.8	+1.0
VRI	Vrincioaia	10.07	23	⇓P	Pn	02 47 28.7	+1.4
BRTR	Keskin Array B	10.30	69	Pn	Pn	02 47 31.0	+0.4
	comp=N,0.0nm,0.3s,baz=253,slow=11,SNR=2.1						
ZCCA	Zocca	10.85	318		Pn	02 47 37.0	-0.9
SOKA	Soboth	10.95	337	*e*Pn	Pn	02 47 38.2	-1.1
	comp=N,8.3nm,0.6s,SNR=8.1						
OBKA	Obir	10.95	335	Pn	Pn	02 47 39.5	+0.1
	comp=N,5.1nm,0.4s,SNR=7.3						
TEOL	Teolo	11.20	323	Pn	Pn	02 47 41.4	-1.2
PSZ	Piszkesteto	11.24	356	⇓P	Pn	02 47 45.1	+1.8
ARSA	Arzberg	11.32	340	Pn	Pn	02 47 43.0	-1.4
	comp=N,3.4nm,0.4s,SNR=6.2						
MYKA	Terra Mystica	11.37	333	*e*Pn	Pn	02 47 45.3	+0.2
	comp=N,2.5nm,0.4s,SNR=4.5						
ZOU	Zoufplan	11.57	331		Pn	02 47 48.1	+0.2
CTI	Castel Tesino	11.72	326	Pn	Pn	02 47 48.8	-1.1
CONA	Conrad Observa	11.86	343	*e*Pn	Pn	02 47 51.7	-0.1
	comp=N,5.5nm,0.9s						
VYHS	Vyhne	11.90	353	*e*PN	Pn	02 47 51.5	-0.7
ABTA	Abfaltersbach	11.90	330	Pn	Pn	02 47 52.0	-0.4
	comp=N,4.7nm,0.6s,SNR=6.2						
MOA	Molln	12.23	338	Pn	Pn	02 47 57.1	+0.3
	comp=N,8.9nm,0.4s,SNR=7.6						
KOLS	Kolonicke sedl	12.25	4	*e*PN	Pn	02 47 56.7	-0.3
MMAI	Mount Meron Ar	12.30	103	Pn	Pn	02 47 59.0	+1.1
	comp=N,0.8nm,0.3s,baz=306,slow=12,SNR=8.0						
WTTA	Wattenberg	12.68	329	*i* Pn	Pn	02 48 03.6	+0.6
	comp=N,2.5nm,0.3s,SNR=8.2						
WATA	Walderalm	12.76	329	*e*Pn	Pn	02 48 05.2	+1.1
	comp=N,2.6nm,0.4s						
FUORN	Ofenpass-Fuorn	12.79	324	Pn	Pn	02 48 05.7	+1.1
SQTA	Sankt Quirin	12.82	328	*e*Pn	Pn	02 48 05.2	+0.2
	comp=N,2.4nm,0.4s						
FETA	Feichten	12.88	326	*e*Pn	Pn	02 48 06.8	+1.1
	comp=N,2.3nm,0.7s						
MOTA	Moosalm	12.96	328	*e*Pn	Pn	02 48 08.3	+1.4
	comp=N,3.5nm,0.6s,SNR=6.5						
VRAC	Vranov	13.02	347	Pn	Pn	02 48 05.8	-1.8
	comp=N,0.1nm,0.3s,baz=155,slow=13,SNR=4.4						
DAVOX	Davos/Dischmat	13.09	324	Pn	Pn	02 48 08.3	-0.3
	comp=N,0.8nm,0.3s,baz=336,slow=9.7,SNR=5.7						
DAVOX				Sn	Sn	02 50 25.6	-8.0
	comp=N,0.2nm,0.3s,baz=354,slow=22,SNR=2.1						
TUE	Stuetta	13.13	322	Pn	Pn	02 48 09.5	+0.3
RETA	Reutte	13.22	328	*e*Pn	Pn	02 48 11.7	+1.4
	comp=N,1.2nm,0.4s						
GERES	GERESS Array B	13.29	338	Pn	Pn	02 48 09.5	-1.8
	comp=N,1.5nm,0.3s,baz=158,slow=14,SNR=43						
GERES				Sn	Sn	02 50 29.5	-8.8
	comp=N,0.2nm,0.3s,baz=150,slow=22,SNR=2.7						
GERES	GERESS Array B	13.29	338	Pn	Pn	02 48 09.9	-1.4
DAVA	Damuels	13.46	325	*e*Pn	Pn	02 48 14.6	+0.9
	comp=N,1.9nm,0.5s						
EIL	Elat	13.54	117	Pn	Pn	02 48 12.8	-1.9
	comp=N,0.4nm,0.3s,baz=342,slow=5.1,SNR=7.0						
EIL				Sn	Sn	02 50 33.3	-11
	comp=N,0.3nm,0.3s,baz=219,slow=3.3,SNR=1.8						
KHC	Kasperske Hory	13.58	338	*e*P	Pn	02 48 11.2	-4.0
KHC				*ex*	x	02 48 25.0	
KRLC	Kraliky	13.72	348	*e*P	Pn	02 48 16.7	-0.5
DPC	Dobruska-Polom	14.07	347	AMS	AMS	02 54 50.0	
	comp=N,300nm,10.6s						
UPC	Upice	14.28	347	AMS	AMS	02 55 00.0	
	comp=N,300nm,13.9s						
OSTC	Ostas	14.29	347	AMS	AMS	02 54 50.0	
	comp=N,300nm,13.5s						
GRF	Grafenberg Arr	14.83	334	*e*Pn	P	02 48 40.6	+2.6
NKC	Novy Kostel	14.90	338	AMS	AMS	02 55 30.0	
	comp=N,200nm,13.4s						
BRG	Berggiesshubel	15.07	342	*e*P	P	02 48 41.1	+0.6
	comp=N,2.3nm,0.9s						
AKASG	Malin Array Be	15.15	20	Pn	Pn	02 48 34.0	-2.5
	comp=N,0.7nm,

THIG *e*S **Sn** **02 56 35.5 -0.4**
RTAL Retalhuleu 1.93 85 Pn **Pn** **02 56 22.8 -1.4**
HUEH Huehuetenango 2.31 65 **Pn** **02 56 29.9 +0.2**
CCIG Comitan 2.42 38 *e*P **Pn** **02 56 30.4 -0.8**
CCIG *i* S **Sn** **02 56 59.6 -0.1**
CCIG Comitan 2.42 38 **Pn** **02 56 31.5 +0.3**
TGIG 2.46 12 *e*P **Pn** **02 56 30.7 -0.9**
TGIG *i* S **Sn** **02 56 59.4 -1.1**
HUIG Huatulco 2.73 301 *e*P **Pn** **02 56 32.6 -2.7**
HUIG *i* S **Sn** **02 57 04.6 -2.6**
CMIG Matias Romero 2.95 337 *i* P **Pn** **02 56 36.5 -1.9**
CMIG *i* S **Sn** **02 57 11.1 -1.5**
APG El Apazote 3.17 78 P **Pn** **02 56 41.4 -0.2**
7.3nm,0.3s,baz=253,slow=7.0,SNR=70
APG S **Sn** **02 57 11.8 -6.6**
11nm,0.3s,baz=180,slow=24,SNR=7.2
PEIG Puerto Escondi 3.73 296 *i* P **Pn** **02 56 46.9 -2.1**
PEIG *i* S **Sn** **02 57 28.0 -3.7**
VHO Vista Hermosa 3.99 313 *i* P **Pn** **02 56 51.0 -1.9**
VHO *i* S **Sn** **02 57 35.6 -2.9**
MTO3 Montecristo 4.18 89 **Pn** **02 56 55.3 -0.2**
ESQI Esquipulas 4.20 87 **Pn** **02 56 56.7 +1.0**
SNET Serv Nac Est T 4.37 98 Pn **Pn** **02 56 59.6 +1.7**
PETF Flores 4.46 55 **Pn** **02 56 59.2 0.0**
YOIG Yosondua 4.48 304 *e*P **Pn** **02 57 01.1 +1.5**
PNIG Pinotepa 4.74 296 *i* P **Pn** **02 57 00.6 -2.5**
PNIG *i* S **Sn** **02 57 53.9 -3.0**
TXIG Tlaxiaco 4.88 307 *e*P **Pn** **02 57 06.4 +1.3**
TOIG Toxpalan 4.94 319 *e*P **Pn** **02 57 09.2 +3.4**
HLIG Huajuapan de L 5.26 312 *e*P Pn 02 57 15.1 +4.9
TPIG Tehuac#an 5.37 319 *e*P Pn 02 57 18.4 +6.7
TLIG Tlapa 5.68 305 **Pn** **02 57 15.6 -0.4**
CRIG Cruz Grande 5.76 295 *e*P **Pn** **02 57 18.3 +1.2**
TGUH Tegucigalpa,Un 6.22 92 Pn **Pn** **02 57 24.3 +0.9**
CRIN San Cristobal 6.65 104 Pn **Pn** **02 57 28.7 -0.6**
MATN Matagalpa 7.67 100 Pn **Pn** **02 57 43.1 -0.2**
TEIG Tepich 7.78 41 P **Pn** **02 57 43.4 -1.3**
7.0nm,0.3s,baz=257,slow=1.5,SNR=21
TEIG S **Sn** **02 59 08.5 -3.1**
7.1nm,0.3s,baz=117,slow=23,SNR=3.1
TEIG LR LR 03 01 04.7
comp=Z,1μm,21.1s,baz=219,slow=42
TEIG Tepich 7.78 41 Pn **Pn** **02 57 44.3 -0.5**
ACON Acoyapa 8.62 105 Pn **Pn** **02 57 55.6 -0.6**
MOIG Morelia 8.92 307 Pn **Pn** **02 58 01.2 +0.6**
JTS Las Juntas de 9.43 114 P **Pn** **02 58 08.8 +1.3**
0.3nm,0.3s,baz=14,slow=20,SNR=1.9
ZAIG Zacatecas 11.87 316 **Pn** **02 58 40.9 -0.1**
833A Chaparral WMA, 14.87 340 Pn **Pn** **02 59 22.1 +0.3**
HKT Hockley 15.64 353 Pn **Pn** **02 59 31.1 -0.6**
HKT IAmb IAmb 02 59 40.0
comp=Z,50nm,1.9s
441A DeRidder 16.32 1 Pn **Pn** **02 59 41.4 +1.0**
435B Jarrell 16.73 348 Pn **Pn** **02 59 45.2 -0.5**
435B IAmb IAmb 02 59 58.8
comp=Z,26nm,1.1s
JCT Junction City 17.00 342 Pn **Pn** **02 59 49.0 -0.2**
JCT IAmb IAmb 03 00 02.1
comp=Z,30nm,1.4s
344A Westbrook Farm 17.22 9 Pn **P** **02 59 52.7 -0.4**
344A IAmb IAmb 03 00 04.7
comp=Z,21nm,0.9s
TX32 Lajitas Array 17.53 330 Pn **Pn** **02 59 54.4 -1.4**
TXAR Lajitas Array 17.53 330 P **P** **02 59 58.4 +1.8**
comp=Z,0.1nm,0.3s,baz=146,slow=12,SNR=7.8
TXAR Lajitas Array 17.53 330 Pn **Pn** **02 59 55.2 -0.6**
TX31 Lajitas Ar. Si 17.53 330 P **P** **02 59 57.9 +1.3**
TX31 IAmb IAmb 03 00 04.8
comp=Z,56nm,1.4s
ABTX Abilene, Hawle 18.98 344 P **Pn** **03 00 14.1 +0.8**
Z47A Carrollton 19.43 14 P **Pn** **03 00 18.2 -0.5**
Z47A IAmb IAmb 03 00 19.5
comp=Z,26nm,0.9s
MIAR Mount Ida 20.10 0 **P** **03 00 25.0 +0.4**
MIAR IAmb IAmb 03 00 43.4
comp=Z,29nm,1.2s
X37A Clayton 20.20 356 P **P** **03 00 25.9 +0.3**
X37A IAmb IAmb 03 00 41.1
comp=Z,27nm,1.2s
GDL2 Guadalupe Moun 20.26 333 P **P** **03 00 27.8 +1.2**
MNTX Cornudas Mount 20.31 330 P **P** **03 00 28.1 +1.1**
UALR University of 20.36 3 P **P** **03 00 27.1 -0.4**
UALR IAmb IAmb 03 00 46.0
comp=Z,22nm,1.1s
OXF Oxford 20.43 10 P **P** **03 00 29.0 +0.9**
W41B Gary Mavity, V 20.76 3 P **P** **03 00 31.7 -0.1**
W41B IAmb IAmb 03 00 46.4
comp=Z,25nm,1.2s
WMOK Wichita Mounta 20.80 348 P **P** **03 00 31.8 -0.5**
W35A Tecumseh 20.90 353 P **P** **03 00 33.2 -0.1**
FNO Franklin 21.07 351 **P** **03 00 36.9 +1.7**
PLAL Pickwick Lake 21.14 13 P **P** **03 00 35.1 -0.8**
MSTX Muleshoe 21.19 339 P **P** **03 00 39.6 +3.0**
OKCFA Oklahoma City 21.24 351 P **P** **03 00 37.1 +0.2**
OKCFA IAmb IAmb 03 00 40.3
comp=Z,22nm,0.8s
ROSC El Rosal 21.28 115 P **P** **03 00 37.7 -0.3**
FPAL Fort Paine 21.37 19 P **P** **03 00 39.2 +0.8**
OK025 Westminster Rd 21.38 352 P **P** **03 00 39.4 +0.9**
FCAR Ozark Folk Cen 21.48 3 P **P** **03 00 41.1 +1.6**
BCOK Bluff Creek, N 21.50 351 P **P** **03 00 40.1 +0.5**
HSIG 21.64 315 P **P** **03 00 40.8 -0.5**
HSIG IAmb IAmb 03 00 57.1
comp=Z,21nm,1.6s
AMTX Amarillo 21.67 342 P **P** **03 00 41.9 +0.2**
LCAR Lake Charles 21.73 6 P **P** **03 00 42.3 +0.1**
LCAR IAmb IAmb 03 00 51.9
comp=Z,16nm,1.2s
HHAR Hobbs 21.83 359 P **P** **03 00 44.5 +1.3**
HHAR IAmb IAmb 03 00 45.1
comp=Z,10nm,0.9s
U40A Yellville 21.91 2 P **P** **03 00 45.5 +1.3**
U38A Gravette 22.00 358 P **P** **03 00 45.5 +0.5**
121A Cookes Peak, D 22.20 327 P **P** **03 00 48.3 +0.8**
MGMO Mountain Grove 22.73 3 P **P** **03 00 52.6 -0.4**
MGMO IAmb IAmb 03 01 21.0
comp=Z,18nm,1.4s
BNM Barren Site 22.93 331 P **P** **03 00 56.1 +0.8**
Y22D IRIS PASSCAL I 23.00 331 P **P** **03 00 54.8 -1.1**
U49A Red Boiling Sp 23.16 16 P **P** **03 00 56.5 -0.8**
U49A IAmb IAmb 03 01 15.0
comp=Z,12nm,0.9s
S39A Bolivar 23.24 1 P **P** **03 00 57.0 -1.1**
S39A IAmb IAmb 03 00 58.4
comp=Z,16nm,1.0s
ANMO Albuquerque 23.51 333 P **P** **03 01 02.4 +1.4**
comp=Z,0.2nm,0.9s,baz=317,slow=12,SNR=7.2
ANMO Albuquerque 23.51 333 P **P** **03 01 02.3 +1.2**
S44A Carbondale 23.57 9 P **P** **03 01 00.4 -0.9**
TUC Tucson 23.73 322 P **P** **03 01 04.8 +1.9**
TUC IAmb IAmb 03 01 06.4
comp=Z,13nm,1.0s
R32A Long Quarter, 24.38 350 P **P** **03 01 08.3 -0.5**
T25A Trinidad 24.62 339 P **P** **03 01 13.5 +2.2**
WCI Wyandotte Cave 24.66 14 P **P** **03 01 10.0 -1.3**
SDCO Great Sand Dun 25.55 338 P **P** **03 01 21.3 +1.5**
SDCO IAmb IAmb 03 01 22.5
comp=Z,6.0nm,0.9s
X16A Lo Mia Camp, P 25.62 324 P **P** **03 01 22.6 +2.3**
P46A Rosedale 25.79 12 P **P** **03 01 21.1 -0.5**
113A Mohawk Valley, 25.89 318 P **P** **03 01 22.8 +0.2**
S22A 4UR Ranch, Cre 26.06 336 P **P** **03 01 25.9 +1.5**
MVCO Mesa Verde 26.31 333 P **P** **03 01 28.6 +2.0**
MVCO IAmb IAmb 03 01 29.4
comp=Z,7.0nm,1.0s
WUAZ Wupatki 26.39 326 P **P** **03 01 29.6 +2.2**
WUAZ IAmb IAmb 03 01 33.3
comp=Z,7.4nm,0.9s
ISCO Idaho Springs 27.42 340 P **P** **03 01 36.9 +0.2**
ISCO IAmb IAmb 03 01 39.0
comp=Z,6.3nm,0.9s
U15A North Rim 27.57 326 P **P** **03 01 40.4 +2.3**
KNB Kanab 28.29 326 P **P** **03 01 46.8 +2.4**
O20A White River Ci 28.67 336 P **P** **03 01 49.6 +1.9**
O20A IAmb IAmb 03 01 52.7
comp=Z,4.8nm,1.0s
CCUT Cedar City 28.98 326 P **P** **03 01 53.5 +3.0**
ECSD EROS Data Cent 29.38 356 P **P** **03 01 52.3 -1.4**
ECSD IAmb IAmb 03 01 52.9
comp=Z,5.9nm,0.9s
RWWY Rawlins 29.65 339 P **P** **03 01 58.6 +2.1**
PSUT Pine Spring 29.96 327 P **P** **03 02 01.8 +2.6**
SUSD Miller 30.32 352 P **P** **03 02 00.9 -1.1**
TCUT Toone Canyon 30.80 333 P **P** **03 02 09.1 +2.5**
BW06 Boulder Array 31.44 337 P **P** **03 02 13.2 +0.9**
BW06 IAmb IAmb 03 02 20.2
comp=Z,4.6nm,1.2s
PD31 Pinedale Array 31.44 337 P **P** **03 02 13.1 +0.9**
PDAR Pinedale Array 31.44 337 P **P** **03 02 12.4 +0.2**
comp=Z,2.0nm,0.9s,baz=140,slow=8.3,SNR=16
PDAR LR LR 03 16 24.5
comp=Z,75nm,18.4s,baz=134,slow=39
PDAR Pinedale Array 31.44 337 P **P** **03 02 11.9 -0.3**
NV11 Mina Array Sit 32.30 322 P **P** **03 02 20.9 +1.2**
NV11 IAmb IAmb 03 02 23.4
comp=Z,5.4nm,1.0s
ELK Elko 32.32 329 P **P** **03 02 22.4 +2.4**
NVAR Mina Array Bea 32.38 322 P **P** **03 02 23.4 +2.8**
comp=Z,3.2nm,0.8s,baz=141,slow=8.8,SNR=28
NVAR PcP **PcP** **03 05 09.2 +1.5**
comp=Z,0.6nm,0.8s,baz=100,slow=4.8,SNR=4.0
NVAR Mina Array Bea 32.38 322 P **P** **03 02 21.7 +1.1**
REDW Red Top Meadow 32.44 336 P **P** **03 02 22.3 +1.3**
SNOW Snow King Moun 32.49 337 P **P** **03 02 23.4 +1.9**
LOHW Long Hollow 32.56 337 P **P** **03 02 23.7 +1.6**
LOHW IAmb IAmb 03 02 24.5
comp=Z,6.3nm,0.9s
TPAW Teton Pass 32.59 336 P **P** **03 02 23.1 +0.8**
E28A Huff 32.65 351 P **P** **03 02 22.2 -0.3**
FXWY Fox Creek 32.74 336 P **P** **03 02 25.2 +1.5**
H17A Grant Village 33.22 338 P **P** **03 02 30.2 +2.4**
H17A IAmb IAmb 03 02 32.7
comp=Z,5.2nm,1.0s
YNE Yellowstone No 33.54 339 P **P** **03 02 31.9 +1.2**
YHH Holmes Hill 33.65 338 P **P** **03 02 33.8 +2.1**
MDND Maddock 33.75 353 P **P** **03 02 31.5 -0.6**
YHL Hebgen Lake 33.83 337 P **P** **03 02 35.5 +2.3**
LAO LASA Array 33.90 344 P **P** **03 02 33.9 +0.4**
HLID Hailey 34.09 333 P **P** **03 02 37.1 +1.7**
HLID IAmb IAmb 03 02 40.7
comp=Z,3.7nm,0.9s
BOZ Bozeman (W) 34.63 338 P **P** **03 02 41.6 +1.7**
BOZ IAmb IAmb 03 02 41.9
comp=Z,11nm,1.6s
DLMT Dillon 34.80 336 P **P** **03 02 43.8 +2.4**
DLMT IAmb IAmb 03 02 44.3
comp=Z,8.3nm,1.1s
HRY Holter Researc 35.66 338 P **P** **03 02 50.2 +1.4**
ULM Lac du Bonnet 35.84 358 LR LR 03 18 52.4
comp=Z,67nm,21.9s,baz=162,slow=39
J08A Circle Bar Ran 35.87 329 P **P** **03 02 52.5 +1.9**
J08A IAmb IAmb 03 02 52.8
comp=Z,6.2nm,0.9s
MSO Missoula 36.54 336 P **P** **03 02 57.1 +0.8**
MSO IAmb IAmb 03 02 58.2
comp=Z,7.1nm,1.0s
PTGA Pitinga 36.58 111 P **P** **03 02 57.1 +0.2**
PTGA IAmb IAmb 03 02 59.6
comp=Z,9.4nm,1.1s
F10A Beach Ranch, E 37.23 333 P **P** **03 03 03.0 +0.8**
F10A IAmb IAmb 03 03 03.8
comp=Z,9.6nm,0.9s
NEW Newport 38.97 335 P **P** **03 03 18.4 +1.7**
LON Longmire 39.95 330 P **P** **03 03 25.0 +0.1**
SIV San Ignacio 44.13 132 P **P** **03 03 59.4 0.0**
comp=Z,2.1nm,1.1s,baz=293,slow=14,SNR=4.8
SCHQ Schefferville 45.47 21 LR LR 03 24 30.1
comp=Z,209nm,19.4s,baz=123,slow=38
YKA Yellowknife Ar 50.31 348 P **P** **03 04 47.2 +0.3**
comp=Z,5.7nm,0.8s,baz=152,slow=6.7,SNR=12
YKA LR LR 03 28 04.2
comp=Z,58nm,20.2s,baz=0.0,slow=38
BDFB Brasilia 54.09 122 P **P** **03 05 16.0 +0.3**
comp=Z,3.7nm,0.8s,baz=239,slow=8.2,SNR=5.4
BCAR Beaver Creek A 59.06 337 P **P** **03 05 51.2 +0.8**
IL31 61.87 337 P **P** **03 06 09.2 -0.1**
ILAR Eielson Array 61.87 337 P **P** **03 06 10.0 +0.6**
comp=Z,3.3nm,0.9s,baz=142,slow=5.0,SNR=32
ILAR Eielson Array 61.87 337 P **P** **03 06 09.6 +0.2**
BMAR Burnt Mountain 62.40 340 P **P** **03 06 13.7 +0.7**
ESDC Sonseca Array 80.77 51 P **P** **03 08 02.7 -1.4**
comp=Z,0.7nm,0.9s,baz=284,slow=5.2,SNR=4.5
ESDC LR LR 03 38 06.8
comp=Z,37nm,22.0s,baz=275,slow=32
BGES Gesves 84.56 39 P **P** 03 08 16.6 -7.0
NB2 NORSAR Subarra 84.60 28 P **P** **03 08 24.3 +0.7**
comp=Z,2.0nm,0.8s,baz=291,slow=5.1
NOA NORSAR Array B 84.60 28 P **P** **03 08 24.6 +1.0**
comp=Z,4.3nm,0.9s,baz=292,slow=4.8,SNR=17
NOA LR LR 03 44 54.4
comp=Z,41nm,19.8s,baz=290,slow=35
MEM Membach 85.06 39 P **P** **03 08 24.4 -1.7**
ARCES ARCESS Array B 86.30 18 P **P** **03 08 32.2 +0.4**
comp=Z,3.4nm,1.0s,baz=297,slow=6.0,SNR=2.1
ARCES LR LR 03 46 40.3
comp=Z,64nm,21.3s,baz=286,slow=35
FINES FINESS Array B 90.86 25 LR LR 03 50 00.4
comp=Z,43nm,19.1s,baz=280,slow=36
WRA Warramunga Arr 133.91 256 PKP **PKPdf** **03 15 08.7 +0.5**
comp=Z,0.3nm,0.8s,baz=84,slow=1.9,SNR=2.2
CMAR Chiang Mai Arr 145.10 339 PKPbc **PKPbc** **03 15 28.1 +0.2**
comp=Z,1.4nm,0.3s,baz=341,slow=3.6,SNR=11
CMAR Chiang Mai Arr 145.10 339 **PKPbc** **03 15 28.4 +0.4**

IDC 13 03:06:03.8±1.8, 9°.97S×160°.26E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/32, mbtmp3.5/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/26, Error ellipse: s-maj=36.3km s-min=11.5km az=71.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.62**	**330**	Pg	Pg	03 06 16.5	+0.9
	274nm,0.3s,baz=129,slow=9.8,SNR=79						
HNR				Lg	Lg	03 06 23.5	
	1μm,0.3s,baz=112,slow=19,SNR=27						
WRA	**Warramunga Arr**	**26.89**	**245**	P	P	03 11 47.0	+0.2
	0.4nm,0.5s,baz=76,slow=9.7,SNR=5.4						
RAO	**Raoul Island**	**28.02**	**136**	LR	LR	03 20 15.7	
	comp=Z,180nm,19.5s,baz=62,slow=30						
ASAR	**Alice Springs**	**28.59**	**238**	P	P	03 12 01.4	-0.5
	0.2nm,0.5s,baz=62,slow=10,SNR=2.5						
ILAR	**Eielson Array**	**84.29**	**20**	P	P	03 18 36.7	-0.5
	0.2nm,0.4s,baz=244,slow=4.9,SNR=4.7						

*NEIC **13** 03:13:01.2±1.1, 33°.63N±0°.08×137°.07E±0°.09, h362km±6km, mb4.0/19, Error ellipse: s-maj=11.5km s-min=11.1km az=118.0*
*JMA **13** 03:13:01.2±0.3, 33°.68N×137°.10E, h368km±3km, M3.2*
*IDC **13** 03:13:01.2±0.6, 33°.62N×137°.13E, h359km±6km, mb3.5/18, mb1 3.6/25, mb1mx3.4/53, mbtmp4.2/25, Error ellipse: s-maj=14.0km s-min=8.4km az=76.0*
ISC 13 03:13:01.2±0.6, 33°.64N±0°.06×137°.10E±0°.05, h362km±5km, n90, σ0°72/99, mb3.9/25, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.11**	**327**	P	**Pn**	**03 13 47.3**	**+1.5**
TTO1	**TONANKAI O.B.S**	**0.26**	**266**	P	**Pn**	**03 13 47.2**	**+1.2**
TTO4	**TONANKAI O.B.S**	**0.52**	**45**	P	**Pn**	**03 13 47.8**	**+1.5**
TK02	**Tokai 2**	**0.63**	**61**	P	**Pn**	**03 13 48.1**	**+1.4**
JIE	**Ise**	**0.82**	**337**	P	**Pn**	**03 13 48.6**	**+1.1**
JIE				S	**S**	**03 14 24.8**	**+0.1**
JTNC	**Tanabenakahech**	**1.25**	**279**	P	**Pn**	**03 13 49.9**	**+0.7**
JTNC				S	**S**	**03 14 27.7**	**-0.2**
JWY	**Kouya**	**1.38**	**295**	P	**Pn**	**03 13 50.9**	**+1.0**
JWY				S	**S**	**03 14 28.8**	**-0.3**
INU	**Inuyama**	**1.71**	**358**	Pn	**Pn**	**03 13 52.2**	**+0.6**
JGF	**Kuroka**	**1.97**	**6**	Pn	**Pn**	**03 13 53.6**	**+0.3**
JYTA	**Yamagatataniai**	**1.97**	**351**	P	**Pn**	**03 13 54.2**	**+0.9**
JWT	**Wachi**	**2.16**	**320**	P	**Pn**	**03 13 55.4**	**+0.8**
JWT				S	**S**	**03 14 37.0**	**-0.6**
JWT	**Wachi**	**2.16**	**320**		**Pn**	**03 13 55.0**	**+0.4**
JAI	**Aioi**	**2.21**	**275**	P	**Pn**	**03 13 55.7**	**+0.7**
JAI				S	**S**	**03 14 37.6**	**-0.8**
JHJ	**Hachijo jima 2**	**2.30**	**102**	P	**Pn**	**03 13 56.7**	**+1.0**
	12nm,0.3s,baz=60,slow=23,SNR=5.5						
JHJ				S	**S**	**03 14 39.5**	**-0.2**
	16nm,0.3s,baz=74,slow=23,SNR=1.9						
JOD2	**Odawara 2**	**2.31**	**45**	P	**Pn**	**03 13 56.4**	**+0.7**
JHJ2	**Mitsune**	**2.33**	**102**	Pn	**Pn**	**03 13 55.4**	**-0.5**
JMN	**Monobe**	**2.69**	**273**	P	**Pn**	**03 13 59.6**	**+0.8**
JMN	**Monobe**	**2.69**	**273**	Pn	**Pn**	**03 13 59.0**	**+0.3**
JKG	**Kaga**	**2.71**	**347**	P	**Pn**	**03 13 59.4**	**+0.6**
JRY	**Ryogami san**	**2.79**	**32**	P	**Pn**	**03 14 00.8**	**+1.2**
JRY				S	**S**	**03 14 46.8**	**+0.1**
MAJO	**Matsushiro**	**3.03**	**17**	Pn	**Pn**	**03 14 01.8**	**+0.1**
MAT	**Matsushiro**	**3.03**	**17**	P	**Pn**	**03 14 02.0**	**+0.4**
MAT				S	**S**	**03 14 48.6**	**-1.8**
MAT	**Matsushiro**	**3.03**	**17**	P	**Pn**	**03 14 02.1**	**+0.4**
MAT				S	**S**	**03 14 48.9**	**-1.5**
MJAR	**Matsushiro Arr**	**3.03**	**17**	P	**Pn**	**03 14 02.1**	**+0.5**
	0.4nm,0.3s,baz=192,slow=9.1,SNR=44						
MJAR				S	**S**	**03 14 48.8**	**-1.6**
	baz=180,slow=15,SNR=3.6						
MJAR	**Matsushiro Arr**	**3.03**	**17**	Pn	**Pn**	**03 14 01.5**	**-0.1**
BSO1	**Boso 1**	**3.37**	**71**	P	**Pn**	**03 14 02.9**	**-1.2**
JAG	**Ashikaga**	**3.38**	**34**	P	**Pn**	**03 14 04.4**	**-0.4**
JHS	**Saijyo**	**3.56**	**293**	P	**Pn**	**03 14 07.4**	**+0.8**
JHS	**Saijyo**	**3.56**	**293**		**Pn**	**03 14 06.2**	**-0.3**
JYT	**Yasato**	**3.62**	**44**	Pn	**Pn**	**03 14 07.2**	**+0.1**
JTO	**Tosashimizu**	**3.69**	**259**	P	**Pn**	**03 14 08.2**	**+0.4**
JNA	**Nagahama**	**3.86**	**270**	P	**Pn**	**03 14 09.9**	**+0.5**
JOI	**OKI**	**4.12**	**311**	P	**Pn**	**03 14 12.5**	**+0.5**
JSD	**Sado**	**4.49**	**12**	Pn	**Pn**	**03 14 16.7**	**+1.0**
JMM	**Marumori**	**5.17**	**34**		**Pn**	**03 14 22.6**	**-0.5**
JNU	**Nakatsue**	**5.23**	**266**	P	**Pn**	**03 14 24.7**	**+0.8**
7.4nm,0.3s,baz=103,slow=2.6,SNR=43							
JNU	**Nakatsue**	**5.23**	**266**	Pn	**Pn**	**03 14 23.8**	**-0.1**
JSU	**Suzuyama**	**6.00**	**251**	Pn	**Pn**	**03 14 33.2**	**+0.8**
JCJ	**Chichijima**	**7.86**	**145**	P	**P**	**03 14 54.6**	**-0.4**
6.0nm,0.3s,baz=285,slow=22,SNR=6.0							
JCJ				S	S	03 16 16.3	-10
29nm,0.3s,baz=296,slow=22,SNR=14							
JCJ	**Chichijima**	**7.86**	**145**		**Pn**	**03 14 52.7**	**-1.2**
KSRS	**Korea Array**	**8.39**	**300**	P	**P**	**03 15 01.4**	**-0.6**
1.5nm,0.3s,baz=112,slow=12,SNR=43							
KSAR	**Wonju Array Be**	**8.41**	**299**		**Pn**	**03 15 00.5**	**+0.2**
KS19	**Wonju Array Si**	**8.45**	**300**	Pn	**Pn**	**03 15 00.7**	**0.0**
INCN	**Inchon**	**9.35**	**297**		**Pn**	**03 15 11.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.27**	**341**	P	**P**	**03 15 34.5**	**+0.6**
baz=150,slow=11,SNR=31							
ASAJ	**Asahikawa**	**11.30**	**21**	P	**Pn**	**03 15 34.9**	**+0.6**
1.5nm,0.3s,baz=243,slow=10,SNR=10							
JKA	**Kamikawa-asahi**	**11.30**	**21**	P	**Pn**	**03 15 34.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**13.97**	**16**	P	**Pn**	**03 16 05.1**	**-0.5**
XAN	**Xi'an**	**23.38**	**279**	P	**P**	**03 17 38.4**	**-0.7**
XAN				IAmb	IAmb	03 17 50.5	
comp=Z,4.6nm,0.8s							
ENH	**Enshi**	**23.64**	**269**	P	**P**	**03 17 40.6**	**-0.8**
ENH				IAmb	IAmb	03 17 42.4	
comp=Z,9.2nm,0.6s							
SONM	**Songino Array**	**27.03**	**311**	P	**P**	**03 18 13.6**	**+1.9**
comp=Z,2.3nm,0.6s,baz=91,slow=7.4,SNR=6.0							
SONM	**Songino Array**	**27.03**	**311**	P	**P**	**03 18 11.9**	**+0.3**
SEY	**Seymchan**	**30.86**	**14**	P	**P**	**03 18 45.0**	**+0.3**
comp=Z,2.3nm,0.2s,baz=0.0,slow=20,SNR=1.2							
TIXI	**Tiksi**	**38.32**	**356**	P	**P**	**03 19 47.0**	**-1.0**
TIXI				IAmb	IAmb	03 19 48.6	
comp=Z,4.5nm,0.8s							
ZAA0	**Zalesovo Array**	**41.72**	**315**	P	**P**	**03 20 15.6**	**-0.2**
ZALV	**Zalesovo Beam**	**41.72**	**315**	P	**P**	**03 20 16.1**	**+0.4**
comp=Z,1.3nm,0.5s,baz=98,slow=8.6,SNR=5.9							
ZALV				PcP	**PcP**	**03 22 04.5**	**+0.1**
comp=Z,1.7nm,0.7s,baz=50,slow=1.9,SNR=3.3							
ZALV	**Zalesovo Beam**	**41.72**	**315**	P	**P**	**03 20 16.1**	**+0.3**
MKAR	**Makanchi Array**	**43.03**	**305**	P	**P**	**03 20 26.9**	**+0.4**
comp=Z,1.0nm,0.4s,baz=87,slow=9.6,SNR=13							
MKAR				PcP	**PcP**	**03 22 09.4**	**+0.3**
comp=Z,0.2nm,0.4s,baz=66,slow=3.5,SNR=2.9							
KURK	**Kurchatov**	**45.34**	**310**	P	**P**	**03 20 43.6**	**-0.8**
KURK				IAmb	IAmb	03 20 45.2	
comp=Z,5.4nm,0.8s							
BRVK	**Borovoye**	**50.37**	**314**	P	**P**	**03 21 22.8**	**+0.3**
KK31	**Karatay Array**	**51.81**	**301**	P	**P**	**03 21 33.1**	**-0.2**
KKAR	**Karatay Array**	**51.81**	**301**	P	**P**	**03 21 32.9**	**-0.5**
KDAK	**Kodiak Island**	**51.97**	**40**	P	**P**	**03 21 34.8**	**+0.7**
comp=Z,15nm,1.1s,baz=232,slow=5.2,SNR=4.2							
FITZ	**Fitzroy Crossi**	**52.60**	**194**	P	**P**	**03 21 39.3**	**+0.1**
comp=Z,1.8nm,0.7s,baz=5.8,slow=6.6,SNR=5.8							
FITZ	**Fitzroy Crossi**	**52.60**	**194**	IAmb	IAmb	03 23 18.4	
comp=Z,12nm,1.6s							
WRAB	**Tennant Creek**	**53.34**	**183**	P	**P**	**03 21 44.3**	**-0.2**
WRA	**Warramunga Arr**	**53.35**	**183**	P	**P**	**03 21 44.3**	**-0.4**
comp=Z,2.3nm,0.4s,baz=359,slow=7.7,SNR=72							
CHGR	**Chuyangaron**	**53.96**	**296**	P	**P**	**03 21 48.6**	**-0.4**
CHGR				IAmb	IAmb	03 21 49.8	
comp=Z,12nm,0.7s							
ILAR	**Eielson Array**	**54.22**	**31**	P	**P**	**03 21 51.0**	**+0.7**
comp=Z,0.5nm,0.8s,baz=257,slow=6.0,SNR=5.1							
DOT	**Dot Lake**	**55.56**	**32**	P	**P**	**03 21 59.8**	**-0.1**
DOT				IAmb	IAmb	03 22 25.1	
comp=Z,8.9nm,1.0s							
AS31	**Alice Springs**	**57.07**	**183**	P	**P**	**03 22 10.4**	**-0.5**
ASAR	**Alice Springs**	**57.07**	**183**	P	**P**	**03 22 10.8**	**-0.1**
comp=Z,0.9nm,0.4s,baz=355,slow=4.8,SNR=40							
ABKAR	**Akbulak array**	**57.45**	**311**	P	**P**	**03 22 13.1**	**-0.1**
STKA	**Stephens Creek**	**65.31**	**176**	P	**P**	**03 23 05.3**	**-0.1**
comp=Z,0.9nm,0.5s,baz=343,slow=6.4,SNR=5.0							
STKA	**Stephens Creek**	**65.31**	**176**	IAmb	IAmb	03 24 03.6	
comp=Z,2.9nm,1.8s							
ARCES	**ARCESS Array B**	**65.91**	**339**	P	**P**	**03 23 09.2**	**+0.4**
comp=Z,2.0nm,0.5s,baz=62,slow=8.8,SNR=11							
ARE0	**ARCESS Array S**	**65.91**	**339**	P	**P**	**03 23 08.1**	**-0.7**
ARE0				IAmb	IAmb	03 24 16.1	
comp=Z,5.9nm,2.0s							
FIA1	**FINESS Array S**	**70.14**	**332**	P	**P**	**03 23 34.6**	**-0.3**
FINES	**FINESS Array B**	**70.14**	**332**	P	**P**	**03 23 35.0**	**+0.1**
comp=Z,3.4nm,0.4s,baz=54,slow=6.4,SNR=62							
KBZ	**Khabaz**	**70.40**	**310**	P	**P**	**03 23 37.5**	**+0.6**
comp=Z,2.4nm,0.7s,baz=349,slow=1.4,SNR=5.7							
AKASG	**Malin Array Be**	**74.77**	**321**	P	**P**	**03 24 02.2**	**0.0**
comp=Z,0.9nm,0.4s,baz=50,slow=6.2,SNR=4.3							
NB2	**NORSAR Subarra**	**75.89**	**336**	P	**P**	**03 24 08.6**	**+0.1**
comp=Z,1.3nm,0.8s,baz=44,slow=5.6							
NOA	**NORSAR Array B**	**75.89**	**336**	P	**P**	**03 24 08.5**	**+0.1**
comp=Z,1.3nm,0.7s,baz=45,slow=5.6,SNR=9.9							
BR131	**Keskin Array S**	**78.39**	**310**	P	**P**	**03 24 22.5**	**-0.2**
BR131				IAmb	IAmb	03 25 52.9	
comp=Z,4.1nm,1.6s							
BRTR	**Keskin Array B**	**78.39**	**310**	P	**P**	**03 24 23.4**	**+0.7**
comp=Z,1.0nm,0.7s,baz=110,slow=4.5,SNR=7.4							
BURAR	**Bucovina Array**	**78.72**	**320**	P	**P**	**03 24 24.3**	**0.0**
PDAR	**Pinedale Array**	**82.55**	**43**	P	**P**	**03 24 46.2**	**+1.5**
comp=Z,0.4nm,0.8s,baz=293,slow=1.1,

SHL	**Shillong**	**2.37**	**201**	*e*P	**Pn**	**03 32 02.9**	**+1.3**
SHL				*i* x	x	03 32 06.9	
SHL				*e*S	**Sn**	**03 32 30.3**	**+0.8**
SHL	**Shillong**	**2.37**	**201**	Pn	**Pn**	**03 32 02.8**	**+1.3**
LSA	**Lhasa**	**2.41**	**323**		**Pn**	**03 32 06.8**	**+4.4**
LKP	**Lekhapani**	**2.71**	**99**	*e*P	Pn	03 32 17.0	+11
LKP				*e*S	**Sn**	**03 32 45.7**	**+8.0**
LKP	comp=E,2μm,0.3s			IAML		03 32 46.8	
LKP	comp=N,2μm,0.2s			IAML		03 32 47.9	
SILR	**SILCHAR**	**2.99**	**181**	*e*P	**Pn**	**03 32 12.8**	**+2.8**
SILR				*e*x	x	03 32 52.1	
SILR	comp=N,2μm,0.4s			IAML		03 33 05.8	
SILR	comp=E,2μm,0.9s			IAML		03 33 06.6	
SILR	comp=E,3μm,0.9s			IAML		03 33 07.9	
SILR	comp=N,2μm,0.4s			IAML		03 33 12.9	
GTK	**Tadong**	**3.78**	**264**	*e*P	**Pn**	**03 32 24.0**	**+3.1**
GTK				*i* x	x	03 32 35.0	
GTK				*e*S	**Sn**	**03 33 02.1**	**-2.3**
TAPN	**Taplejung**	**4.57**	**266**	*e*Pn	**Pn**	**03 32 34.8**	**+2.9**
TAPN	**Taplejung**	**4.57**	**266**	*e*Pn	**Pn**	**03 32 34.8**	**+2.9**
ODAN	**Odare**	**4.93**	**260**	*e*Pn	**Pn**	**03 32 38.7**	**+1.9**
ODAN	**Odare**	**4.93**	**260**	*e*Pn	**Pn**	**03 32 38.7**	**+1.9**
SAIH	**SAIHA**	**5.28**	**178**	*e*P	**Pn**	**03 32 42.4**	**+0.9**
SAIH	comp=E,57nm,0.1s			IAML		03 32 44.0	
SAIH				*e*x	**Sn**	**03 33 43.8**	**+2.6**
RAMN	**Ramite**	**5.60**	**263**	*e*Pn	**Pn**	**03 32 48.3**	**+2.2**
RAMN	**Ramite**	**5.60**	**263**	*e*Pn	**Pn**	**03 32 48.3**	**+2.2**
JIRN	**Jiri**	**5.89**	**270**	*e*Pn	**Pn**	**03 32 52.7**	**+2.6**
JIRN				*e*Sn	**Sn**	**03 33 59.5**	**+2.9**
JIRN	**Jiri**	**5.89**	**270**	*e*Pn	**Pn**	**03 32 52.7**	**+2.6**
JIRN	comp=E,240nm,0.3s			*e*Sn	**Sn**	**03 33 59.5**	**+2.9**
PKI	**Pulchoki**	**6.58**	**270**	*e*Pn	**Pn**	**03 33 01.3**	**+1.6**
PKI				*e*Sn	**Sn**	**03 34 14.9**	**+1.2**
PKI	**Pulchoki**	**6.58**	**270**	*e*Pn	**Pn**	**03 33 01.3**	**+1.6**
PKI	comp=E,140nm,0.5s			*e*Sn	**Sn**	**03 34 14.9**	**+1.2**
PKIN	**Phulchoki**	**6.60**	**270**	*e*Pn	**Pn**	**03 33 01.3**	**+1.6**
PKIN	comp=E,115nm,0.4s			*e*Sn	**Sn**	**03 34 15.0**	**+1.1**
PKIN	**Phulchoki**	**6.60**	**270**	*e*Pn	**Pn**	**03 33 01.3**	**+1.6**
PKIN	comp=E,115nm,0.4s			*e*Sn	**Sn**	**03 34 15.0**	**+1.1**
KKN	**Kakani**	**6.69**	**272**	*e*Pn	**Pn**	**03 33 03.1**	**+2.1**
KKN	comp=E,144nm,0.6s			*e*Sn	**Sn**	**03 34 17.1**	**+1.0**
KKN	**Kakani**	**6.69**	**272**	*e*Pn	**Pn**	**03 33 03.1**	**+2.1**
KKN	comp=E,144nm,0.6s			*e*Sn	**Sn**	**03 34 17.1**	**+1.0**
DMN	**Daman**	**6.85**	**270**	*e*Pn	**Pn**	**03 33 04.6**	**+1.4**
DMN	**Daman**	**6.85**	**270**	*e*Pn	**Pn**	**03 33 04.6**	**+1.4**
GKN	**Gorkha**	**7.25**	**274**	*e*Pn	**Pn**	**03 33 09.9**	**+1.2**
GKN	**Gorkha**	**7.25**	**274**	*e*Pn	**Pn**	**03 33 09.9**	**+1.2**
BOK	**Bokaro**	**7.42**	**239**	*e*x	**Pn**	**03 33 10.0**	**-0.8**
BOK				*e*x	x	03 34 30.4	
BOK				*e*x	x	03 34 34.0	
KOLN	**Koldanda**	**8.18**	**272**	*e*Pn	**Pn**	**03 33 21.4**	**0.0**
KOLN	comp=E,114nm,0.5s			*e*Sn	**Sn**	**03 34 51.5**	**-1.2**
KOLN	**Koldanda**	**8.18**	**272**	*e*Pn	**Pn**	**03 33 21.4**	**0.0**
KOLN	comp=E,114nm,0.5s			*e*Sn	**Sn**	**03 34 51.5**	**-1.2**
PYUN	**Piuthan**	**8.71**	**274**	*e*Pn	**Pn**	**03 33 28.7**	**0.0**
PYUN	comp=E,182nm,0.5s			*e*Sn	**Sn**	**03 35 04.8**	**-1.0**
PYUN	**Piuthan**	**8.71**	**274**	*e*Pn	**Pn**	**03 33 28.7**	**0.0**
PYUN	comp=E,182nm,0.5s			*e*Sn	**Sn**	**03 35 04.8**	**-1.0**
BWNR	**Bhubaneshwar**	**9.84**	**222**	*e*x	Pn	03 33 35.6	-8.3
CHTO	**Chiang Mai**	**10.55**	**147**	Pn	**Pn**	**03 33 53.4**	**-0.3**
CM31	**Chiang Mai Arr**	**10.85**	**148**	Pn	**Pn**	**03 33 58.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**10.85**	**148**	Pn	**Pn**	**03 33 58.2**	**+0.3**
ENH	**Enshi**	**14.78**	**76**	Pn	**Pn**	**03 34 50.6**	**-0.9**
MK31	**Makanchi Array**	**20.71**	**339**	P	Pn	03 36 03.8	-0.9
MKAR	**Makanchi Array**	**20.71**	**339**	P	**P**	**03 36 01.5**	**-0.7**
MKAR	**Makanchi Array**	**20.71**	**339**	P	**P**	**03 36 02.5**	**+0.3**
MAKZ	**Makanchi**	**20.82**	**339**	P	**P**	**03 36 03.2**	**-0.2**
MAKZ	comp=Z,7.3nm,1.1s			IAmb	IAmb	03 36 15.3	
KBL	**Kabul**	**21.41**	**294**	P	**P**	**03 36 10.8**	**+0.7**
GAR	**Garm**	**21.82**	**307**	P	**P**	**03 36 15.9**	**+1.6**
BTK	**Batken**	**21.92**	**310**	P	**P**	**03 36 16.0**	**+0.7**
CHGR	**Chuyangaron**	**22.52**	**305**	P	**P**	**03 36 22.3**	**+0.5**
CHGR	comp=Z,8.0nm,0.7s			IAmb	IAmb	03 37 12.7	
SONM	**Songino Array**	**22.64**	**24**	P	**P**	**03 36 22.3**	**-0.7**
SONM	comp=Z,2.0nm,0.7s,baz=220,slow=13,SNR=5.3			LR	LR	03 46 17.3	
SONM	**Songino Array**	**22.64**	**24**	P	**P**	**03 36 22.8**	**-0.2**
TLY	**Talaya**	**25.22**	**16**	LR	LR	03 47 24.9	
KURBB	**Kurchatov Arra**	**25.27**	**338**	P	**P**	**03 36 47.3**	**-0.4**
KURK	**Kurchatov**	**25.32**	**339**	P	**P**	**03 36 48.8**	**+0.6**
KURK	comp=Z,7.2nm,1.2s			IAmb	IAmb	03 37 01.8	
PSI	**Prapat**	**25.52**	**166**	P	**P**	**03 36 50.8**	**+0.3**
RPSI	**Rantau Prapat**	**25.62**	**166**	P	**P**	**03 36 50.8**	**-0.5**
ZAA0	**Zalesovo Array**	**26.79**	**349**	P	**P**	**03 37 01.3**	**-0.2**
ZALV	**Zalesovo Beam**	**26.79**	**349**	P	**P**	**03 37 01.1**	**-0.4**
MMAI	**Mount Meron Ar**	**49.29**	**291**	LR	LR	04 02 44.3	
BRTR	**Keskin Array B**	**49.82**	**300**	P	**P**	**03 40 14.5**	**-0.2**
WB0	**Warramunga Arr**	**62.07**	**135**	P	**P**	**03 41 41.0**	**-1.4**
NOA	**NORSAR Array B**	**62.10**	**327**	P	**P**	**03 41 41.0**	**-1.1**
NOA	comp=Z,29nm,19.2s,baz=110,slow=40			LR	LR	04 12 18.2	
WRA	**Warramunga Arr**	**62.16**	**135**	P	**P**	**03 41 42.7**	**-0.3**
GERES	**GERESS Array B**	**62.71**	**313**	P	**P**	**03 41 45.5**	**-0.9**
AS31	**Alice Springs**	**64.70**	**138**	P	**P**	**03 41 57.7**	**-2.1**
ASAR	**Alice Springs**	**64.70**	**138**	P	**P**	**03 41 59.6**	**-0.2**
ILAR	**Eielson Array**	**76.85**	**22**	P	**P**	**03 43 12.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**84.97**	**282**	P	**P**	**03 43 57.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**84.97**	**282**	P	**P**	**03 43 57.8**	**+0.5**
BOSA	**Boshof**	**85.63**	**235**	P	**P**	**03 43 58.9**	**-1.4**

comp=Z,1.7nm,0.5s,baz=30,slow=1.6,SNR=5.1

INMG ***13*** *03:34:08.8±1.7, 35°.88N×4°.90W, h57km±7km, ML2.3, Error ellipse: s-maj=3.6km s-min=3.2km az=140.0*
SFS ***13*** *03:34:08.0, 35°.80N×4°.89W, h72km, ML3.1, ALBORAN W.*
MDD ***13*** *03:34:08.8±0.9, 35°.84N×4°.86W, h61km±9km, mb3.5/14, Error ellipse: s-maj=9.2km s-min=5.1km az=175.0, PRXIMO*
IGIL ***13*** *03:34:08.4, 35°.83N×4°.90W, h71km, ML2.4*
ISC 13 03:34:06.9±1.3, 35°.82N±0°.04×4°.87W±0°.03, h35km, n57, σ1°.89/104, 3C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEU	**Ceuta**	**0.42**	**281**	P	**Pn**	**03 34 18.6**	**+2.3**
CEU				S	**Sn**	**03 34 26.1**	**+3.2**
CEU	**Ceuta**	**0.42**	**281**	*e*Pn	**Pn**	**03 34 18.6**	**+2.3**
CEU	**Ceuta**	**0.42**	**281**	*i* Pg	**Pn**	**03 34 19.1**	**+2.7**
CEU				*e*S	**Sn**	**03 34 26.1**	**+3.2**
ECEU	**Ceuta**	**0.42**	**281**	P	**Pn**	**03 34 20.9**	**+4.4**
ECEU	31nm,0.2s,SNR=16			S	**Sn**	**03 34 27.1**	**+4.1**
EMAL	**Malaga-Limoner**	**1.00**	**21**	P	**Pn**	**03 34 25.2**	**+0.8**
EMAL	13nm,0.2s,SNR=5.0			S	**Sn**	**03 34 38.8**	**+1.4**
EMAL	**Malaga-Limoner**	**1.00**	**21**	⇓*i*P	**Pn**	**03 34 25.2**	**+0.8**
EMAL				*i* S	**Sn**	**03 34 38.8**	**+1.4**
ESPR	**Espera**	**1.31**	**323**	P	**Pn**	**03 34 29.8**	**+1.1**
ESPR	1.4nm,0.2s,SNR=5.8			S	**Sn**	**03 34 46.5**	**+1.5**
EGOR	**Sierra Gorda,**	**1.42**	**25**	P	**Pn**	**03 34 32.0**	**+1.6**
EGOR	3.5nm,0.3s,SNR=7.9			S	**Sn**	**03 34 50.4**	**+2.4**
ELGU	**Los Guajares,**	**1.45**	**43**	P	**Pn**	**03 34 30.5**	**-0.2**
ELGU	3.9nm,0.1s,SNR=7.9			S	**Sn**	**03 34 48.3**	**-0.2**
EALB	**Alboran**	**1.49**	**85**	S	**Sn**	**03 34 49.1**	**-0.3**
EBER	6.1nm,0.2s,SNR=7.9			P	**Pn**	**03 34 38.0**	**+0.7**
EBER	3.0nm,0.2s,SNR=18			S	**Sn**	**03 35 00.1**	**-0.3**
ECAB	**El Cabril**	**2.29**	**349**	P	**Pn**	**03 34 43.2**	**+0.9**
ECAB	0.3nm,0.1s,SNR=14			S	**Sn**	**03 35 09.1**	**-0.2**
IFR	**Ifrane**	**2.31**	**185**	*e*P	**Pn**	**03 34 41.6**	**-1.0**
IFR				*i* S	**Sn**	**03 35 06.1**	**-3.7**
EADA	**Adamuz**	**2.35**	**6**	P	**Pn**	**03 34 44.7**	**+1.6**
EADA	1.3nm,0.1s,SNR=24			S	**Sn**	**03 35 11.2**	**+0.4**
EMIN	**Mina Concepcio**	**2.42**	**324**	⇑P	**Pn**	**03 34 44.7**	**+0.7**
EMIN	1.6nm,0.1s,SNR=18			S	**Sn**	**03 35 11.5**	**-0.9**
ENIJ	**Nijar**	**2.44**	**61**	P	**Pn**	**03 34 44.4**	**+0.2**
ENIJ	2.1nm,0.2s,SNR=7.9			S	**Sn**	**03 35 12.2**	**-0.5**
EQES	**Quesada**	**2.45**	**36**	P	**Pn**	**03 34 46.6**	**+2.2**
EQES	0.9nm,0.1s,SNR=14			S	**Sn**	**03 35 14.2**	**+1.0**
EGRO	**El Granado**	**2.71**	**310**	⇑P	**Pn**	**03 34 48.5**	**+0.6**
EGRO	2.6nm,0.3s,SNR=7.9			S	**Sn**	**03 35 18.4**	**-1.1**
PVAQ	**Vaqueiros**	**2.78**	**305**	*e*P	**Pn**	**03 34 49.3**	**+0.4**
PVAQ	1.4nm,0.0s,SNR=12			*e*S	**Sn**	**03 35 20.2**	**-1.1**
PVAQ	7.7nm,0.1s,SNR=13			A	A	03 35 26.2	
PBDV	**Barranco-do-Ve**	**2.84**	**301**	*e*P	**Pn**	**03 34 50.2**	**+0.4**
PBDV	6.7nm,0.1s			*e*S	**Sn**	**03 35 21.7**	**-1.2**
PBDV	4.4nm,0.1s			A	A	03 35 23.5	
PBAR	**Barrancos**	**2.92**	**324**	*e*S	**Sn**	**03 35 23.6**	**-1.1**
SESP	**Santiago Espad**	**2.95**	**38**	P	**Pn**	**03 34 53.2**	**+1.8**
SESP	0.5nm,0.1s,SNR=7.9			S	**Sn**	**03 35 27.5**	**+1.8**
PCVE	**Castro Verde**	**3.12**	**306**	*e*P	**Pn**	**03 34 54.0**	**+0.4**
PCVE	1.0nm,0.1s,SNR=7.9			*e*S	**Sn**	**03 35 28.6**	**-1.1**
PCVE	5.2nm,0.3s			A	A	03 35 33.1	
PBEJ	**Beja**	**3.26**	**313**	*e*S	**Sn**	**03 35 31.3**	**-1.7**
PBEJ	5.1nm,0.1s			A	A	03 35 32.4	
MORF	**Marmelete**	**3.39**	**297**	*e*P	**Pn**	**03 34 57.2**	**0.0**
MORF				*e*S	**Sn**	**03 35 32.7**	**-3.6**
MORF	comp=E,11nm,0.2s			AML	AML	03 35 35.5	
MORF	**Marmelete**	**3.39**	**297**	P	**Pn**	**03 34 57.2**	**0.0**
MORF	comp=E,11nm,0.2s			S	**Sn**	**03 35 32.7**	**-3.6**
MORF	**Marmelete**	**3.39**	**297**	*e*P	**Pn**	**03 34 57.3**	**0.0**
MORF				*e*S	**Sn**	**03 35 34.6**	**-1.6**
MORF	comp=E,6.3nm,0.4s			A	A	03 35 38.9	
PFVI	**Vila Bisbo**	**3.45**	**293**	P	**Pn**	**03 34 58.4**	**+0.3**
PFVI	comp=E,1.4nm,0.1s,SNR=5.8			S	**Sn**	**03 35 35.2**	**-2.5**
PFVI	**Vila Bisbo**	**3.45**	**293**	*e*P	**Pn**	**03 34 58.6**	**+0.5**
PFVI	comp=E,7.2nm,0.1s,SNR=7.9			*e*S	**Sn**	**03 35 35.2**	**-2.5**
PTEO	**Sao Teotonio**	**3.54**	**300**	*e*P	**Pn**	**03 35 00.1**	**+0.7**
PTEO				*e*S	**Sn**	**03 35 38.7**	**-1.4**
PTEO	comp=E,7.2nm,0.6s			A	A	03 35 40.0	
EVO	**Evora**	**3.69**	**318**	P	**Pn**	**03 35 03.2**	**+1.8**
EVO				S	**Sn**	**03 35 41.1**	**-2.6**
EVO	**Evora**	**3.69**	**318**	*e*P	**Pn**	**03 35 03.2**	**+1.8**
EVO				*e*S	**Sn**	**03 35 41.1**	**-2.6**
EVO	**Evora**	**3.69**	**318**	*e*P	**Pn**	**03 35 02.3**	**+0.9**
EVO				*e*S	**Sn**	**03 35 41.8**	**-1.9**
EVO	comp=E,21nm,0.1s			A	A	03 35 43.6	
PNCL	**Nicolau / Gran**	**3.72**	**309**	⇑*e*P	**Pn**	**03 35 02.5**	**+0.7**
PNCL				*e*S	**Sn**	**03 35 42.6**	**-1.7**
PNCL	comp=E,5.0nm,0.3s			A	A	03 35 45.2	
PAB	**San Pablo**	**3.74**	**6**	P	**Pn**	**03 35 03.1**	**+0.9**
PAB	comp=E,0.5nm,0.2s,SNR=7.9			S	**Sn**	**03 35 43.0**	**-2.0**
ETOB	**Tobarra**	**3.87**	**42**	P	**Pn**	**03 35 05.5**	**+1.5**
ETOB	comp=E,0.6nm,0.2s,SNR=11			S	**Sn**	**03 35 48.6**	**+0.5**
ESDC	**Sonseca Array**	**3.91**	**10**	P	**Pn**	**03 35 05.6**	**+1.1**
ESDC	comp=E,0.2nm,0.3s,baz=192,slow=14,SNR=13			S	**Sn**	**03 35 47.3**	**-1.9**
PMRV	**Marv??o**	**4.12**	**332**	*e*P	**Pn**	**03 35 08.6**	**+1.3**
PMRV				*e*S	**Sn**	**03 35 52.8**	**-1.5**
PMRV	comp=E,3.0nm,0.1s			A	A	03 35 54.4	
PMTG	**Montargil**	**4.20**	**322**	*e*P	**Pn**	**03 35 09.7**	**+1.3**
PMTG				*e*S	**Sn**	**03 35 54.5**	**-1.7**
PMTG	comp=E,2.1nm,0.1s			A	A	03 35 59.2	
EPLA	**Plasencia**	**4.34**	**348**	P	**Pn**	**03 35 11.5**	**+1.0**
EPLA	comp=E,1.1nm,0.2s,SNR=16			S	**Sn**	**03 35 58.0**	**-1.8**
PCBR	**Castelo Branco**	**4.51**	**334**	*e*P	**Pn**	**03 35 14.2**	**+1.5**
PCBR	comp=E,3.0nm,0.1s,SNR=7.9			*e*S	**Sn**	**03 36 01.5**	**-2.4**
UCM	**Universidad Co**	**4.66**	**15**	P	**Pn**	**03 35 15.4**	**+0.6**
UCM	**Universidad Co**	**4.66**	**15**	*e*P	**Pn**	**03 35 15.4**	**+0.6**
PMAFR	**Mafra**	**4.71**	**313**	*e*S	**Sn**	**03 36 06.3**	**-2.4**
PSBE	**So Bento**	**4.83**	**321**	*e*P	**Pn**	**03 35 18.5**	**+1.5**
PSBE				*e*S	**Sn**	**03 36 11.1**	**-0.6**
PCAS	**Casmilo, Conde**	**5.11**	**327**	*e*P	**Pn**	**03 35 22.5**	**+1.6**
PCAS				*e*S	**Sn**	**03 36 16.1**	**-2.5**
PVIS	**Viseu**	**5.43**	**335**	*e*P	**Pn**	**03 35 27.0**	**+1.6**
PVIS				*e*S	**Sn**	**03 36 24.3**	**-2.5**
PVIS	comp=E,3.2nm,0.1s			A	A	03 36 26.8	
ETOR	**Torete**	**5.46**	**23**	P	**Pn**	**03 35 26.8**	**+1.1**
ETOR	comp=E,13nm,0.2s,SNR=31			S	**Sn**	**03 36 23.9**	**-3.5**
MVO	**Moncorvo**	**5.60**	**343**	P	**Pn**	**03 35 28.7**	**+1.1**
MVO	comp=E,0.7nm,0.1s,SNR=6.7			S	**Sn**	**03 36 27.5**	**-3.2**
MVO	**Moncorvo**	**5.60**	**343**	*e*P	**Pn**	**03 35 28.8**	**+1.1**
MVO	comp=E,1.9nm,0.2s,SNR=7.9			*e*S	**Sn**	**03 36 28.1**	**-2.7**
MVO	comp=E,2.0nm,0.2s			A	A	03 36 30.3	
PVRL	**Vila Real**	**5.88**	**339**	*e*P	**Pn**	**03 35 32.9**	**+1.3**
PBRG	**Braganca**	**6.15**	**347**	*e*P	**Pn**	**03 35 36.6**	**+1.4**
PBRG				*e*S	**Sn**	**03 36 41.8**	**-2.6**
PBRG	comp=E,1.5nm,0.1s			A	A	03 36 44.2	
ECAL	**Calabor**	**6.28**	**347**	P	**Pn**	**03 35 38.5**	**+1.4**
ECAL	comp=E,1.0nm,0.1s,SNR=7.7			S	**Sn**	**03 36 45.2**	**-2.5**
ELOB	**Lobios**	**6.53**	**339**	P	**Pn**	**03 35 41.8**	**+1.3**
ELOB	comp=E,1.3nm,0.2s,SNR=7.9			S	**Sn**	**03 36 49.8**	**-4.0**
PGAV	**Gavieira, Arco**	**6.68**	**338**	*e*P	**Pn**	**03 35 44.0**	**+1.4**
PGAV				*e*S	**Sn**	**03 36 53.6**	**-3.9**
ELAN	**Lanestosa**	**7.48**	**8**	P	**Pn**	**03 35 55.4**	**+1.8**
ELAN	comp=E,0.4nm,0.2s,SNR=7.9			S	**Sn**	**03 36 55.9**	**-1.3**
ATE	**Arette**	**7.94**	**23**	P	**Pn**	**03 36 02.2**	**+2.5**
ATE	comp=E,0.3nm,0.1s,SNR=7.9			S	**Sn**	**03 36 57.1**	**-1.3**

IDC ***13*** *03:41:53.1±0.6, 38°.88N×70°.99E, h0km, mb4.0/21, mb1 4.3/26, mb1mx4.1/51, mbtmp4.1/26, ML4.0/5, MS3.5/12, Ms1 3.5/12, ms1mx3.3/48, Error ellipse: s-maj=14.1km s-min=11.4km az=167.0*
KRNET ***13*** *03:41:53.7±0.1, 39°.01N×70°.89E, h19km, mb4.8*
BJI ***13*** *03:41:54.3±0.0, 39°.21N×70°.66E, h17km, mB4.6/18, mb4.5/21, ML4.5/3, Ms4.1/8, Ms7 4.0/7*
NEIC ***13*** *03:41:55.9±2.5, 39°.04N±0°.04×70°.76E±0°.06, h10km±1km, mb4.4/23, Error ellipse: s-maj=8.8km s-min=6.4km az=59.0*
NNC ***13*** *03:41:55.0±3.3, 39°.07N×70°.77E, h0km, mb4.9, mpv4.8, Error ellipse: s-maj=35.6km s-min=18.6km az=165.0*
MOS ***13*** *03:41:56.7±1.4, 39°.09N×70°.87E, h27km, mb4.5/18, Error ellipse: s-maj=6.9km s-min=4.8km az=83.7*
SOME ***13*** *03:42:05.0, 39°.65N×71°.10E, h5km, MS3.5*
ISC 13 03:41:55.2±0.3, 39°.07N±0°.03×70°.88E±0°.02, h10km, n228, σ2°.51/268, mb4.2/39, MS3.5/11, 36C-27D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.44**	**261**	⇑*i*P	**Pg**	**03 42 02.5**	**-1.3**
GAR	baz=68			⇑*i*S	**Sg**	**03 42 09.5**	**-0.2**
GAR	**Garm**	**0.44**	**261**		**Pg**	**03 42 02.5**	**-1.3**
BTK	**Batken**	**0.99**	**357**	⇓*i*P	**Pg**	**03 42 13.2**	**-1.0**
BTK	baz=57			⇓*i*S	**Sg**	**03 42 27.3**	**+0.3**
BTK	**Batken**	**0.99**	**357**	PG	**Pg**	**03 42 13.2**	**-1.0**
BTK	**Batken**	**0.99**	**357**	Pg	**Pg**	**03 42 13.2**	**-1.0**
CHGR	**Chuyangaron**	**1.40**	**253**	⇑*i*P	**Pn**	**03 42 19.4**	**-1.5**
CHGR	baz=56			⇑*i*S	**Sb**	**03 42 38.1**	**-1.4**
CHGR	**Chuyangaron**	**1.40**	**253**		**Pn**	**03 42 19.5**	**-1.4**
OHH	**Osh**	**2.07**	**45**	⇑*e*P	**Pn**	**03 42 30.6**	**+0.6**
OHH	baz=43			⇑*i*S	**Sn**	**03 42 57.8**	**+1.9**
IUG	**Iuzhnay**	**3.14**	**348**	*e*P	**Pg**	**03 42 54.4**	**-0.9**
IUG	517nm,0.3s			*e*S	**Sb**	**03 43 29.1**	**-0.4**
IUG	**Iuzhnay**	**3.14**	**348**	*e*PN	**Pg**	**03 42 54.4**	**-0.9**
IUG				*e*S	**Sb**	**03 43 29.1**	**-0.4**
CHM	**Chimkent**	**3.39**	**344**	*e*P	**Pg**	**03 42 59.5**	**-0.5**
CHM	318nm,0.3s			*e*S	**Sb**	**03 43 38.3**	**+1.8**
CHM	**Chimkent**	**3.39**	**344**	*e*PN	**Pg**	**03 42 59.5**	**-0.5**
CHM				*e*S	**Sb**	**03 43 38.3**	**+1.8**
AML	**Almayashu**	**3.73**	**34**	⇓*i*P	**Pn**	**03 42 53.9**	**+0.7**
AML	baz=34			⇓*i*S	**Sn**	**03 43 37.7**	**+0.2**
AML	**Almayashu**	**3.73**	**34**	P	**Pn**	**03 42 56.0**	**+2.8**
ARLS	**Aral**	**3.83**	**42**	⇑*i*P	**Pn**	**03 42 55.4**	**+1.1**
ARLS	baz=41			⇑*i*S	**Sn**	**03 43 40.1**	**+0.6**
DZA	**Taraz**	**3.83**	**5**	*e*P	**Pb**	**03 43 05.3**	**+2.5**
DZA	690nm,0.6s			*e*S	**Sb**	**03 43 48.6**	**-0.8**
DZA	**Taraz**	**3.83**	**5**	*e*PN	**Pb**	**03 43 05.4**	**+2.5**
DZA				*e*S	**Sb**	**03 43 48.6**	**-0.8**
KSH	**Kashi**	**3.98**	**82**	Pn	**Pn**	**03 42 55.3**	**-1.1**
KSH				Sn	**Sn**	**03 43 48.0**	**+4.9**
KSH	comp=N,1μm,0.9s			smax	smax		
KSH	comp=E,1μm,1.1s			smax	smax		
BRLS	**Borolday**	**4.03**	**349**	*e*P	**Pb**	**03 43 06.7**	**+0.4**
BRLS	112nm,0.7s			*e*S	**Sb**	**03 43 51.0**	**-4.1**
BRLS	**Borolday**	**4.03**	**349**	*e*PN	**Pb**	**03 43 06.7**	**+0.4**
BRLS	424nm,0.6s			*e*S	**Sb**	**03 43 51.0**	**-4.1**
KK31	**Karatay Array**	**4.04**	**356**	Pn	**Pn**	**03 43 00.3**	**+3.3**
KK31	74nm,0.3s,baz=178,slow=14,SNR=2187			⇑Lg	Lg	03 44 01.8	
KK31	**Karatay Array**	**4.04**	**356**	PN	**Pn**	**03 43 00.3**	**+3.3**
KK31	155nm,0.6s,baz=178,slow=28,SNR=4.2			S	**Sb**	**03 43 52.9**	**-2.4**
KK31	**Karatay Array**	**4.04**	**356**	Pn	**Pn**	**03 42 59.5**	**+2.5**
KKAR	**Karatay Array**	**4.04**	**356**	PN	**Pn**	**03 43 00.0**	**+3.0**
KKAR	**Karatay Array**	**4.04**	**356**	Pn	**Pn**	**03 43 00.0**	**+3.0**
KKAR	**Karatay Array**	**4.04**	**356**	Pn	**Pb**	**03 42 59.3**	**+2.3**
MRKS	**Merke**	**4.08**	**25**	*e*P	**Pb**	**03 43 08.6**	**+1.5**
MRKS	393nm,0.6s			*e*S	**Sb**	**03 43 54.2**	**-2.3**
MRKS	**Merke**	**4.08**	**25**	*e*PN	**Pb**	**03 43 08.6**	**+1.5**
MRKS				*e*S	**Sb**	**03 43 54.2**	**-2.3**
UCH	**Uchtor**	**4.20**	**40**	P	**Pn**	**03 43 03.2**	**+3.6**
EKS2	**Erkin-Say**	**4.21**	**31**	⇓*i*P	**Pn**	**03 42 59.6**	**+0.1**
EKS2	baz=30			⇓*i*S	**Sn**	**03 43 47.5**	**-1.2**
EKS2	**Erkin-Say**	**4.21**	**31**	P	**Pn**	**03 43 02.9**	**+3.4**
KZA	**Kyzart**	**4.49**	**47**	⇓*i*P	**Pn**	**03 43 03.5**	**0.0**
KZA	baz=46			⇓*i*S	**Sn**	**03 43 54.4**	**-1.6**
KZA	**Kyzart**	**4.49**	**47**	P	**Pn**	**03 43 07.2**	**+3.7**
AAK	**Ala-Archa**	**4.50**	**36**	⇑*i*P	**Pn**	**03 43 03.6**	**+0.1**
AAK	baz=36			⇑*i*S	**Sn**	**03 43 54.8**	**-1.1**
AAK	**Ala-Archa**	**4.50**	**36**	P	**Pn**	**03 43 07.1**	**+3.6**
AAK	**Ala-Archa**	**4.50**	**36**	⇓Pn	**Pn**	**03 43 06.7**	**+3.2**
AAK	102nm,0.5s			⇓Sn	**Sn**	**03 44 01.7**	**+5.8**
AAK	**Ala-Archa**	**4.50**	**36**	*ce*PN	**Pn**	**03 43 06.8**	**+3.3**
AAK	comp=Z,393nm,0.7s			pmax	pmax		
FRU1	**Bishkek**	**4.69**	**36**	⇑*i*P	**Pn**	**03 43 07.5**	**+1.4**
FRU1	baz=36			⇑*i*S	**Sn**	**03 44 00.9**	**+0.2**
FRU1	**Bishkek**	**4.69**	**36**	PN	**Pn**	**03 43 09.7**	**+3.6**
FRU1	**Bishkek**	**4.69**	**36**		**Pn**	**03 43 09.7**	**+3.6**
KBK	**Karagaybulak**	**4.73**	**39**	⇓*e*P	**Pn**	**03 43 07.7**	**+1.0**
KBK	baz=39			⇓*i*S	**Sn**	**03 44 01.1**	**-0.6**
KBK	**Karagaybulak**	**4.73**	**39**	P	**Pn**	**03 43 10.8**	**+4.1**
KBL	**Kabul**	**4.75**	**199**	PN	**Pn**	**03 43 10.2**	**+3.1**
KBL	**Kabul**	**4.75**	**199**		**Pn**	**03 43 10.2**	**+3.1**
CHMS	**Chumysh**	**4.90**	**36**	⇑*i*P	**Pn**	**03 43 08.9**	**0.0**
CHMS	baz=35			⇑*i*S	**Sn**	**03 44 04.0**	**-1.6**
CHMS	**Chumysh**	**4.90**	**36**	P	**Pn**	**03 43 12.3**	**+3.4**
USP	**Ospenovka**	**5.00**	**32**	⇑*i*P	**Pn**	**03 43 10.4**	**0.0**
USP	baz=31			⇑*i*S	**

SNR=76
TKM2 Tokmak 2 5.25 41 ⇑Pn **Pn 03 43 16.6 +2.7**
comp=Z,121nm,0.7s
TKM2 ⇓Sn **Sn 03 44 17.0 +2.4**
comp=Z,138nm,0.8s
TKM2 Tokmak 2 5.25 41 PN **Pn 03 43 16.5 +2.7**
CEP Cherat 5.30 171 P **Pn 03 43 17.6 +3.1**
CEP S **Sn 03 44 22.0 +6.2**
KST Kastek 5.53 42 *e*P **Pb 03 43 36.2 +4.4**
comp=Z,83nm,0.7s
KST *e*S **Sb 03 44 40.8 +2.6**
comp=Z,141nm,0.9s
DGS Degeres 5.57 40 *e*P Pb 03 43 37.6 +5.1
comp=Z,75nm,0.5s
DGS *e*S **Sb 03 44 43.3 +3.9**
comp=Z,108nm,0.6s
KDJ Kajisay 5.69 56 PN **Pn 03 43 24.3 +4.4**
KDJ Kajisay 5.69 56 Pn **Pn 03 43 24.3 +4.4**
NIL Nilore 5.74 160 PN **Pn 03 43 22.9 +2.5**
NIL Nilore 5.74 160 Pn **Pn 03 43 22.9 +2.5**
MTBS Maitube 5.83 44 *e*P **Pg 03 43 45.1 -1.7**
comp=Z,34nm,0.5s
MTBS *e*S **Sg 03 44 56.4 -6.0**
comp=Z,73nm,0.6s
TARG Taragay, Kyrgy 5.92 61⇑*i*P **Pn 03 43 23.0 -0.2**
baz=61
TARG ⇑*i*S **Sn 03 44 27.7 -3.6**
baz=61
TARG Taragay, Kyrgy 5.92 61 Pn **Pn 03 43 26.1 +2.9**
AAA Alma-Ata 6.15 46 *e*P **Pg 03 43 51.2 -1.8**
comp=Z,66nm,0.3s
AAA *e*S **Sg 03 45 07.1 -5.6**
comp=Z,93nm,0.5s
AAA Alma-Ata 6.15 46 *e*PN **Pb 03 43 38.8 -3.6**
KNDC Almaty 6.19 46⇓Pn **Pn 03 43 26.7 +0.1**
comp=Z,33nm,0.5s
KNDC ⇓Lg Lg 03 45 07.4
comp=Z,384nm,0.9s
KNDC Almaty 6.19 46 PN **Pn 03 43 30.0 +3.4**
KNDC S **Sg 03 45 07.4 -6.3**
MDOK Medeo 6.20 47 *e*P **Pg 03 43 51.9 -2.0**
comp=Z,57nm,1.0s
MDOK *e*S **Sg 03 45 07.9 -6.2**
comp=Z,108nm,0.7s
THW Thamme Wali 6.30 173 P **Pn 03 43 30.6 +2.4**
CHKK Chushkaly 6.63 42 *e*P Pb 03 43 56.2 +5.7
comp=Z,22nm,0.8s
CHKK *e*S **Sb 03 45 15.9 +6.2**
comp=Z,81nm,0.7s
PRZ Przheval'sk 6.65 57 PN **Pn 03 43 35.7 +2.6**
PRZ Przheval'sk 6.65 57 Pn **Pn 03 43 35.7 +2.6**
THN Thein Dam 7.70 148 *e*P **Pn 03 43 49.0 +1.7**
THN *e*S **Sn 03 45 14.5 -0.1**
PDGK Podgornoye 7.76 54⇑Pn **Pn 03 43 50.3 +2.0**
comp=Z,19nm,0.8s
PDGK ⇑Lg Lg 03 45 57.5
comp=Z,112nm,0.9s
PDGK Podgornoye 7.76 54 P **Pn 03 43 50.3 +2.0**
DHRM DHARAMSHALA 8.11 145 *e*P **Pn 03 43 54.1 +0.9**
DHRM *e*S **Sn 03 45 22.6 -2.4**
DHRM IAML 03 45 29.5
comp=N,524nm,0.3s
DHRM IAML 03 45 30.1
comp=E,435nm,0.5s
HRA Herat 8.36 239 Pn **Pn 03 43 56.1 -0.5**
BHK Bhakra 8.88 148 *e*S **Sn 03 45 49.0 +5.4**
SMLA Simla 9.45 145 *e*P **Pn 03 44 10.2 -1.1**
SMLA *e*S **Sn 03 45 53.3 -4.3**
SMLA IAML 03 45 56.0
comp=N,83nm,0.8s
SMLA IAML 03 45 59.5
comp=E,206nm,0.7s
SMLA IAML 03 46 28.9
comp=N,46nm,0.7s
SMLA IAML 03 46 30.0
comp=N,32nm,0.0s
SMLA IAML 03 46 31.7
comp=E,30nm,0.2s
GEYT Alibeck 10.07 267 Pn **Pn 03 44 17.4 -2.4**
comp=E,2.2nm,0.3s,baz=104,slow=9.1,SNR=11
GEYT Sn **Sn 03 46 07.5 -5.3**
comp=E,0.3nm,0.3s,baz=109,slow=16,SNR=1.6
GEYT LR LR 03 49 04.3
comp=E,280nm,18.7s,baz=150,slow=42
GEYT Alibeck 10.07 267 Pn **Pn 03 44 19.6 -0.2**
GYA0B ALIBECK ARRAY 10.07 267 **Pn 03 44 19.1 -0.7**
MAKZ Makanchi 11.22 43⇑P **Pn 03 44 37.7 +2.2**
comp=E,10nm,1.3s
MAKZ Makanchi 11.22 43 P **Pn 03 44 38.3 +2.8**
MAKZ Makanchi 11.22 43 **Pn 03 44 38.3 +2.8**
MK31 Makanchi Array 11.38 44⇑P **Pn 03 44 38.9 +1.3**
comp=E,7.8nm,0.8s,baz=231,slow=11,SNR=34
MK31 Makanchi Array 11.38 44 *i*P **Pn 03 44 38.9 +1.3**
MK31 Makanchi Array 11.38 44 **Pn 03 44 38.9 +1.3**
MKAR Makanchi Array 11.38 44 Pn **Pn 03 44 39.5 +1.8**
comp=E,0.4nm,0.3s,baz=233,slow=13,SNR=34
MKAR Lg Lg 03 47 51.8
comp=E,0.3nm,0.3s,baz=244,slow=27,SNR=2.4
MKAR LR LR 03 49 43.0
comp=E,69nm,20.4s,baz=228,slow=41
MKAR Makanchi Array 11.38 44 Pn **Pn 03 44 38.8 +1.1**
KURBB Kurchatov Arra 12.75 23 Pn **Pn 03 44 54.4 -2.0**
comp=E,0.3nm,0.3s,baz=213,slow=13,SNR=17
KURBB Sn **Sn 03 47 17.6 -0.8**
baz=215,slow=31,SNR=4.9
KURBB Lg Lg 03 48 38.9
comp=E,0.2nm,0.3s,baz=215,slow=38,SNR=3.8
AB08 Akbulak array 12.83 326⇑P **Pn 03 44 56.1 -1.5**
comp=E,15nm,0.4s
ABKAR Akbulak array 12.84 326 Pn **Pn 03 44 56.2 -1.4**
KURK Kurchatov 12.86 23*ce*P **Pn 03 44 57.1 -0.8**
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 12.86 23 Pn **Pn 03 44 56.5 -1.5**
WMQ Urumqi 13.48 64 *e*P **Pn 03 45 10.3 +3.9**
WMQ sP P 03 45 17.9 +2.1
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,59nm,4.9s
WMQ LR LR
comp=Z,190nm,6.1s
WMQ LR LR
comp=Z,130nm,6.5s
BVAR Borovoye Array 13.96 359 Pn **Pn 03 45 12.3 -0.6**
comp=Z,1.7nm,0.3s,baz=166,slow=15,SNR=14
BVAR Sn **Sn 03 47 46.8 -1.1**
comp=Z,0.7nm,0.3s,baz=177,slow=27,SNR=2.4
BVB5 Borovoye Array 13.96 359⇓P **Pn 03 45 10.7 -2.2**
comp=Z,6.4nm,0.5s
BRVK Borovoye 14.00 359 P **Pn 03 45 13.2 -0.2**
BRVK Borovoye 14.00 359 **Pn 03 45 13.2 -0.2**
AKTO Aktyubinsk 14.55 326 Pn **Pn 03 45 21.6 +0.5**
comp=Z,1.8nm,0.3s,baz=138,slow=8.3,SNR=13
AKTO Sn **Sn 03 47 59.1 -3.2**
comp=Z,0.8nm,0.3s,baz=13,slow=22,SNR=6.6
AKTO Aktyubinsk 14.55 326⇑P **Pn 03 45 21.0 0.0**
comp=Z,22nm,0.8s
PYUN Piuthan 14.87 134 *e*P Pn 03 45 20.5 -5.2
comp=Z,43nm,0.4s
PYUN Piuthan 14.87 134 *e*P Pn 03 45 20.5 -5.2
comp=Z,43nm,0.4s
KOLN Koldanda 15.47 133 *e*P **Pn 03 45 28.9 -4.7**
comp=Z,29nm,0.5s
KOLN Koldanda 15.47 133 *e*P **Pn 03 45 28.9 -4.7**
comp=Z,29nm,0.5s
DGZ Jazzator, Alta 15.87 43 *i*P **Pn 03 45 37.6 -1.1**
GKN Gorkha 15.90 130 *e*P **Pn 03 45 34.8 -4.4**
GKN Gorkha 15.90 130 *e*P **Pn 03 45 34.8 -4.4**
KKN Kakani 16.44 129 *e*P **Pn 03 45 42.1 -4.1**
KKN Kakani 16.44 129 *e*P **Pn 03 45 42.1 -4.1**
PKIN Phulchoki 16.67 129 *e*P **Pn 03 45 44.5 -4.6**
comp=Z,45nm,0.8s
PKIN Phulchoki 16.67 129 *e*P **Pn 03 45 44.5 -4.6**
comp=Z,45nm,0.8s
PKI Pulchoki 16.68 129 *e*P **Pn 03 45 44.7 -4.6**
comp=Z,20nm,0.5s
PKI Pulchoki 16.68 129 *e*P **Pn 03 45 44.7 -4.6**
comp=Z,20nm,0.5s
BHPL Bhopal 16.74 159 *e*P **Pn 03 45 51.3 +1.5**
BHPL *e*S **Sn 03 48 48.4 -7.4**
JIRN Jiri 17.09 127 *e*P **Pn 03 45 50.6 -4.0**
comp=Z,58nm,0.5s
JIRN Jiri 17.09 127 *e*P **Pn 03 45 50.6 -4.0**
comp=Z,58nm,0.5s
ZAA0 Zalesovo Array 17.66 28⇑P **Pn 03 45 59.7 -1.4**
comp=Z,2.7nm,0.8s
ZAA0 Zalesovo Array 17.66 28 Pn **Pn 03 46 00.3 -0.8**
ZALV Zalesovo Beam 17.66 28 P **Pn 03 46 00.7 -0.3**
comp=Z,2.6nm,0.3s,baz=223,slow=12,SNR=23
ZALV S **S 03 49 28.4 +3.3**
comp=Z,0.5nm,0.3s,baz=228,slow=19,SNR=1.5
ZALV LR LR 03 53 09.7
comp=Z,135nm,18.5s,baz=204,slow=38
ZALV Zalesovo Beam 17.66 28 *e*P **Pn 03 46 01.3 +0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 17.66 28 P **Pn 03 46 00.2 -0.9**
RAMN Ramite 17.86 128 *e*P **Pn 03 45 59.0 -5.0**
comp=Z,35nm,0.6s
RAMN Ramite 17.86 128 *e*P **Pn 03 45 59.0 -5.0**
comp=Z,35nm,0.6s
MAK Makhachkala 18.04 290 *e*P **Pn 03 46 01.9 -4.0**
MAK *e*S **Sn 03 49 22.5 -4.6**
MAK pmax pmax
comp=Z,379nm,1.5s
MAK MLR MLR
comp=Z,336nm,15.0s
TAPN Taplejung 18.27 125 *e*P **Pn 03 46 05.9 -3.2**
comp=Z,25nm,0.6s
TAPN Taplejung 18.27 125 *e*P **Pn 03 46 05.9 -3.2**
comp=Z,25nm,0.6s
ODAN Odare 18.41 126 *e*P **P 03 46 07.6 -3.2**
comp=Z,28nm,0.6s
ODAN Odare 18.41 126 *e*P **P 03 46 07.6 -3.2**
comp=Z,28nm,0.6s
SVE Sverdlovsk 19.01 343 *e*P **Pn 03 46 18.9 +1.4**
SVE *e*S **Sn 03 49 50.8 +0.6**
ARU Arti 19.19 339 P **P 03 46 18.3 -0.5**
comp=Z,0.0nm,0.3s,baz=163,slow=16,SNR=5.9
ARU S **Sn 03 49 48.9 -5.6**
comp=Z,0.0nm,0.3s,baz=154,slow=24,SNR=1.5
ARU Arti 19.19 339*d i*P **P 03 46 19.1 +0.3**
ARU S **Sn 03 49 55.1 +0.5**
ARU pmax pmax
comp=Z,12nm,1.3s
ARU Arti 19.19 339 P **P 03 46 18.3 -0.5**
ARU IAmb IAmb 03 46 26.4
comp=Z,9.7nm,0.6s
ZEI Tsey 20.68 289 *e*P **P 03 46 37.2 +1.8**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
AKH Akhalkalaki 21.00 285 P **P 03 46 39.7 +0.8**
AKH pmax pmax
comp=Z,35nm,1.4s
AKH Akhalkalaki 21.00 285 P **P 03 46 39.7 +0.8**
AKH IAmb IAmb 03 47 00.5
comp=Z,35nm,1.4s
KBZ Khabaz 21.45 292 P **P 03 46 42.1 -1.3**
comp=Z,5.1nm,0.8s,baz=127,slow=8.7,SNR=6.5
KBZ LR LR 03 57 10.9
comp=Z,156nm,18.9s,baz=73,slow=42
KBZ Khabaz 21.45 292 *e*P **P 03 46 43.5 +0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
GOF Gofitskoye 21.45 295⇑*e*P P 03 46 51.5 +8.0
GOF pmax pmax
comp=Z,72nm,0.9s
KVAR Kislovodsk Arr 21.61 292 P **P 03 46 45.5 +0.2**
comp=Z,4.5nm,0.5s,baz=75,slow=20,SNR=1.6
KIV Kislovodsk 21.61 292 *e*P **P 03 46 47.2 +1.9**
KIV pmax pmax
comp=Z,81nm,1.0s
KIV MLR MLR
comp=Z,227nm,14.0s
KIV Kislovodsk 21.61 292 P **P 03 46 45.0 -0.3**
SHL Shillong 22.21 121 P **P 03 46 52.8 +0.8**
SHL pmax pmax
comp=Z,25nm,0.2s
SHL Shillong 22.21 121 P **P 03 46 52.8 +0.8**
GTA Gaotai 22.38 80 *e*P **P 03 46 55.3 +1.6**
GTA pP sP 03 46 59.1 -0.1
GTA sP pP 03 47 01.9 +4.4
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,83nm,7.5s
GTA LR LR
comp=Z,140nm,16.0s
GTA LR LR
comp=Z,160nm,15.0s
GTA LR LR
comp=Z,140nm,15.0s
VRH Novokhopyorsk 23.70 310 *e*P **P 03 47 07.9 +0.9**
VRH pmax pmax
comp=Z,40nm,1.7s
VSR Storozhevoye 25.24 309 *e*P **P 03 47 22.2 +1.1**
VSR pmax pmax
comp=Z,7.0nm,0.5s
ZAK Zakamensk 25.45 53 *e*P **P 03 47 22.5 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 25.80 312 *e*P **P 03 47 26.2 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
TLY Talaya 26.01 50 P **P 03 47 28.9 +0.8**
comp=Z,3.7nm,0.6s,baz=233,slow=10,SNR=3.9
TLY Talaya 26.01 50 P **P 03 47 28.9 +0.8**
TLY pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 27.03 59 P **P 03 47 38.1 +0.6**
comp=Z,1.5nm,0.8s,baz=284,slow=5.8,SNR=4.3
SONM Songino Array 27.03 59 *e*P **P 03 47 40.4 +2.8**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 27.03 59 P **P 03 47 39.1 +1.5**
OBN Obninsk 27.97 316 *e*P **P 03 47 46.2 +0.6**
OBN *e*PPP PPP 03 48 38.6
OBN pmax pmax
comp=Z,5.0nm,0.7s
BR131 Keskin Array S 28.65 283 P **P 03 47 52.7 +0.6**
BR131 pmax pmax
comp=Z,2.0nm,0.7s
BR131 Keskin Array S 28.65 283 P **P 03 47 52.7 +0.6**
BRTR Keskin Array B 28.65 283 P **P 03 47 53.5 +1.3**
comp=Z,1.5nm,0.7s,baz=82,slow=7.6,SNR=8.6
BRTR LR LR 04 01 15.9
comp=Z,34nm,18.4s,baz=19,slow=40
BRTR Keskin Array B 28.65 283 *e*P **P 03 47 56.0 +3.9**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 28.65 283 P **P 03 47 53.0 +0.9**
KLMR Klimovskoe 29.22 329 *e*P **P 03 47 58.6 +1.9**
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 29.22 329 *e*P **P 03 47 58.6 +1.9**
KLMR AMP 03 48 07.4
comp=Z,9.0nm,1.1s
HHC Hu-ho-hao-te 31.04 74 *e*P **P 03 48 16.3 +3.1**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,71nm,6.6s
AKASG Malin Array Be 31.31 306 P **P 03 48 16.3 +1.0**
comp=Z,0.6nm,0.5s,baz=79,slow=7.1,SNR=2.6
AKASG LR LR 04 03 23.0
comp=Z,105nm,18.8s,baz=40,slow=41
NRIK Noril'sk 31.62 11 LR LR 04 02 16.9
comp=Z,104nm,18.2s,baz=201,slow=38
VRI Vrincioaia 32.93 296⇓P **P 03 48 30.3 +0.7**
VRI Vrincioaia 32.93 296⇓P **P 03 48 30.3 +0.7**
PLOR Plostina 32.98 296⇓P **P 03 48 32.5 +2.4**
PLOR Plostina 32.98 296⇓P **P 03 48 32.5 +2.4**
BOD Bodaibo 33.46 42 *e*P **P 03 48 33.6 -0.4**
BOD pmax pmax
comp=Z,11nm,0.9s
MLR Muntele Rosu 33.51 296⇑P **P 03 48 37.1 +2.3**
MLR Muntele Rosu 33.51 296⇑P **P 03 48 37.1 +2.3**
MLR Muntele Rosu 33.51 296 P **P 03 48 35.6 +0.8**
DOPR Dopca 33.85 297⇑P **P 03 48 41.7 +4.0**
BURAR Bucovina Array 33.87 300⇑P **P 03 48 39.2 +1.3**
BURAR Bucovina Array 33.87 300⇑P **P 03 48 39.2 +1.3**
BUR08 Bucovina Ar. S 33.88 300 P **P 03 48 39.1 +1.1**
BUR08 IAmb IAmb 03 49 36.9
comp=Z,4.7nm,1.2s
VOIR 34.14 296⇓P **P 03 48 41.4 +1.2**
VOIR 34.14 296⇓P **P 03 48 41.4 +1.2**
FINES FINESS Array B 35.32 324 P **P 03 48 50.4 +0.3**
comp=Z,1.7nm,0.5s,baz=116,slow=7.6,SNR=14
KOLS Kolonicke sedl 35.77 302 *e*P **P 03 48 55.8 +1.6**
KOLS Kolonicke sedl 35.77 302 *e*P **P 03 48 55.8 +1.6**
ARCES ARCESS Array B 38.74 336 P **P 03 49 19.8 +0.6**
comp=Z,1.9nm,0.5s,baz=108,slow=7.6,SNR=14
GERES GERESS Array B 41.41 303 P **P 03 49 42.5 +0.8**
comp=Z,0.6nm,0.6s,baz=69,slow=7.4,SNR=8.3
GERES LR LR 04 08 00.3
comp=Z,56nm,18.5s,baz=92,slow=38
GERES GERESS Array B 41.41 303 *e*P **P 03 49 43.7 +2.1**
GERES pmax pmax
comp=Z,1.0nm,0.5s
KHC Kasperske Hory 41.45 303 *e*P **P 03 49 42.0 +0.1**
KHC Kasperske Hory 41.45 303 *e*P **P 03 49 42.0 +0.1**
CLL Collm 41.54 307 *e*(P) **P 03 49 46.0 +3.5**
CLL *e* 03 49 52.0
CLL *e*PP **PP 03 51 20.0 +1.7**
comp=Z,5.0nm,1.0s
CLL Collm 41.54 307 *e*P **P 03 49 46.0 +3.5**
CLL *e* 03 49 52.0
NB2 NORSAR Subarra 42.29 321 P **P 03 49 48.1 -0.5**
comp=Z,2.8nm,0.9s,baz=93,slow=8.6
NOA NORSAR Array B 42.29 321 P **P 03 49 48.4 -0.3**
comp=Z,0.9nm,0.6s,baz=94,slow=8.1,SNR=10
NOA NORSAR Array B 42.29 321 *e*P **P 03 49 48.8 +0.2**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NC204 NORSAR Array S 42.52 322 P **P 03 49 50.7 +0.1**
CTI Castel Tesino 43.29 299 P **P 03 49 58.6 +1.5**
CTI pmax pmax
comp=Z,11nm,1.6s
CTI Castel Tesino 43.29 299 P **P 03 49 58.6 +1.5**
CTI IAmb IAmb 03 50 56.0
comp=Z,11nm,1.6s
TIXI Tiksi 43.44 23*ce*P **P 03 49 57.5 -0.2**
TIXI pmax pmax
comp=Z,13nm,1.3s
TIXI Tiksi 43.44 23 P **P 03 49 59.2 +1.5**
TIXI IAmb IAmb 03 50 01.6
comp=Z,7.4nm,0.8s
KSRS Korea Array 44.19 73 LR LR 04 09 36.0
comp=Z,51nm,19.4s,baz=285,slow=38
SENIN Lac Senin/Sane 46.15 301 P **P 03 50 21.2 +1.2**
KEST Kesra 48.17 286 P **P 03 50 37.2 +1.5**
comp=Z,2.1nm,0.7s,baz=268,slow=6.3,SNR=4.5
KMBO Kilima Mbogo 50.52 226 P **P 03 50 54.2 +0.2**
comp=Z,0.4nm,0.4s,baz=20,slow=9.4,SNR=1.4
KMBO Kilima Mbogo 50.52 226 P **P 03 50 54.2 +0.2**
KMBO pmax pmax
comp=Z,11nm,1.7s
KMBO Kilima Mbogo 50.52 226 IAmb IAmb 03 52 41.3
comp=Z,11nm,1.7s
MJAR Matsushiro Arr 52.14 70 P **P 03 51 06.2 +0.5**
comp=Z,1.4nm,0.6s,baz=294,slow=8.6,SNR=4.5
MJAR Matsushiro Arr 52.14 70 P **P 03 51 06.2 +0.5**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 52.14 70 IAmb IAmb 03 51 10.3
comp=Z,1.6nm,0.9s
MJA0 Matsu Arr-Jizo 52.17 70 *e*P **P 03 51 08.3 +2.3**
MJA0 pmax pmax
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 56.20 296 P **P 03 51 36.9 +1.6**
comp=Z,0.8nm,0.6s,baz=57,slow=7.5,SNR=13
ESDC Sonseca Array 56.20 296 IAmb IAmb 03 51 38.2
comp=Z,5.4nm,1.4s
BILL Bilibino 56.35 27 *e*P **P 03 51 37.7 +1.8**
BILL *e* 03 52 38.1
BILL pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 58.21 45 P **P 03 51 48.1 -1.2**
comp=Z,0.4nm,0.4s,baz=281,slow=2.2,SNR=1.3
SUMG Summit 58.60 341 P **P 03 51 53.2 +1.0**
SUMG pmax pmax
comp=Z,46nm,1.7s
SUMG Summit 58.60 341 P **P 03 51 53.2 +1.0**
TORD Torodi Ar. Bea 65.71 267 P **P 03 52 39.2 -1.0**
comp=Z,1.1nm,0.6s,baz=49,slow=5.9,SNR=15
TORD Torodi Ar. Bea 65.71 267 P **P 03 52 39.3 -1.0**
IMAR Indian Mountai 69.76 18 P **P 03 53 05.7 +0.7**
ILAR Eielson Array 72.34 16 P **P 03 53 20.6 -0.1**
comp=Z,1.0nm,0.8s,baz=318,slow=4.0,SNR=8.1
DBIC Dimbokro 74.75 266 LR LR 04 31 43.6
comp=Z,72nm,18.9s,baz=152,slow=40
BCAR Beaver Creek A 74.91 15 P **P 03 53 37.4 +1.6**
FITZ Fitzroy Crossi 76.51 127 P **P 03 53 44.1 -1.3**
comp=Z,1.6nm,0.9s,baz=11,slow=5.2,SNR=2.1
YKA Yellowknife Ar 78.69 3 P **P 03 53 57.2 +0.1**
comp=Z,1.6nm,0.7s,baz=338,slow=8.0,SNR=12
YKA LR LR 04 34 44.5
comp=Z,34nm,18.1s,baz=0.0,slow=40
SCHQ Schefferville 79.70 337 P **P 03 54 04.6 +1.8**
comp=Z,5.7nm,0.8s,baz=101,slow=3.2,SNR=3.5
WRA Warramunga Arr 83.43 122 P **P 03 54 21.2 -1.7**
comp=Z,2.0nm,0.7s,baz=325,slow=5.0,SNR=23
WRA Warramunga Arr 83.43 122 P **P 03 54 23.6 +0.7**
ASAR Alice Springs 85.81 125 P **P 03 54 33.5 -1.5**
comp=Z,1.3nm,0.8s,baz=320,slow=4.8,SNR=10
PDAR Pinedale Array 98.54 0 LR LR 04 45 50.5
comp=Z,43nm,18.2s,baz=303,slow=39

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*IDC **13** 03:46:04.4±2.1,23°.97S×66°.70W,h192km±27km,mb3.2/1, mb1 3.2/6,mb1mx3.0/22,mbtmp3.7/6,Error ellipse: s-maj=37.4km s-min=24.2km az=141.0*
ISC 13 03:46:04.3±1.1,23°.9S±0°.1×66°.7W±0°.1,h200km,n7, σ1°51/9,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**300**	P	**Pn**	**03 46 48.6**	**+0.8**
	4.0nm,0.3s,baz=137,slow=6.5,SNR=85						
LVC				S	**Sn**	**03 47 20.8**	**-0.7**
	15nm,0.3s,baz=292,slow=20,SNR=13						
LPAZ	**La Paz**	**7.66**	**349**	P	**Pn**	**03 47 55.7**	**+1.9**
	1.0nm,0.3s,baz=157,slow=8.9,SNR=28						
LPAZ				S	**Sn**	**03 49 18.6**	**-2.2**
	0.1nm,0.3s,baz=57,slow=7.2,SNR=1.5						
SIV	**San Ignacio**	**9.42**	**35**	P	**Pn**	**03 48 17.4**	**+1.3**
	0.6nm,0.3s,baz=226,slow=12,SNR=12						
PLCA	**Paso Flores**	**17.14**	**190**	P	**P**	**03 49 50.2**	**-0.4**
	0.1nm,0.3s,baz=19,slow=11,SNR=4.4						
BDFB	**Brasilia**	**19.34**	**68**	P	**Pn**	**03 50 17.1**	**-1.2**
	0.3nm,0.3s,baz=226,slow=15,SNR=6.0						
TORD	**Torodi Ar. Bea**	**76.22**	**69**	P	**P**	**03 57 31.6**	**+0.6**
	0.4nm,0.6s,baz=257,slow=5.3,SNR=10						
MKAR	**Makanchi Array**	**146.21**	**40**	PKPbc	**PKiKP**	**04 05 23.1**	**-0.8**
	0.3nm,0.5s,baz=302,slow=3.4,SNR=2.6						

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*SJA **13** 03:56:02.9±0.3,21°.76S×67°.76W,h201km±9km,ML4.1, MW3.7*
*VAO **13** 03:56:07.6±0.3,21°.97S×67°.43W,h193km±4km,mb4.6*
*NEIC **13** 03:56:07.0±2.0,22°.04S±0°.06×67°.27W±0°.09,h175km±6km, mb4.4/29,Error ellipse: s-maj=11.8km s-min=9.4km az=93.0*
*IDC **13** 03:56:07.5±0.7,22°.02S×67°.21W,h167km±8km,mb3.8/10, mb1 4.0/14,mb1mx3.9/22,mbtmp4.3/14,Error ellipse: s-maj=13.8km s-min=11.0km az=123.0*
*GUC **13** 03:56:08.7±0.6,22°.04S×67°.60W,h203km±5km,ML4.9*
*SCB **13** 03:56:13.7±2.0,21°.94S×67°.51W,h127km±24km,ML4.9/5, Error ellipse: s-maj=9.7km s-min=6.3km az=1.0*
ISC 13 03:56:07.0±0.6,22°.05S±0°.04×67°.37W±0°.05,h174km±6km, n190,σ1°49/224,mb4.3/21,18C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.53**	**248**	P	**Pn**	**03 56 41.3**	**+2.2**
	493nm,0.3s,baz=54,slow=6.2,SNR=3201						
LVC				S	**Sn**	**03 57 06.0**	**+2.1**
	109nm,0.3s,baz=251,slow=20,SNR=15						
LVC	**Limon Verde**	**1.53**	**248**	⇑*i*P	**Pn**	**03 56 41.1**	**+2.0**
LVC				*i* S	**Sn**	**03 57 06.3**	**+2.3**
LVC	**Limon Verde**	**1.53**	**248**	Pn	**Pn**	**03 56 41.1**	**+2.0**
LVC	**Limon Verde**	**1.53**	**248**	*e*P	**Pn**	**03 56 41.3**	**+2.2**
LVC				*e*S	**Sn**	**03 57 06.7**	**+2.8**
YJA	**Yavi**	**1.73**	**94**	P	**Pn**	**03 56 44.0**	**+2.7**
PB09	**IPOC Station P**	**1.75**	**278**	⇑*i*P	**Pn**	**03 56 43.2**	**+2.0**
PB09				*i* S	**Sn**	**03 57 09.9**	**+2.2**
PB09	**IPOC Station P**	**1.75**	**278**		**Pn**	**03 56 42.9**	**+1.7**
PB09	**IPOC Station P**	**1.75**	**278**	P	**Pn**	**03 56 42.0**	**+0.8**
PB06	**IPOC Station P**	**2.13**	**252**	⇑*i*P	**Pn**	**03 56 46.6**	**+1.2**
PB06				*e*S	**Sn**	**03 57 15.7**	**+0.6**
PB06	**IPOC Station P**	**2.13**	**252**		**Pn**	**03 56 46.1**	**+0.7**
PB06	**IPOC Station P**	**2.13**	**252**	P	**Pn**	**03 56 46.6**	**+1.2**
PB01	**IPOC Station P**	**2.21**	**297**	⇑*i*P	**Pn**	**03 56 47.3**	**+1.2**

PB01 *i* S **Sn** **03 57 16.7 +0.3**
PB01 IAML 03 57 17.7
comp=N,8μm,0.4s
PB01 IPOC Station P 2.21 297 Pn 03 56 47.3 +1.2
PB01 IPOC Station P 2.21 297 P **Pn 03 56 47.4 +1.3**
PB01 S **Sn** **03 57 12.1 -4.3**
PB01 IAML 03 57 17.7
comp=N,7μm,0.3s
PB15 IPOC Station P 2.25 239⇑ *i*P **Pn 03 56 48.3 +1.6**
PB15 *i* S **Sn** **03 57 19.0 +1.4**
PB15 IPOC Station P 2.25 239 **Pn 03 56 48.1 +1.4**
PB07 IPOC Station P 2.36 277⇑ *i*P **Pn 03 56 48.9 +1.0**
PB07 *i* S **Sn** **03 57 19.4 -0.1**
PB07 IAML 03 57 20.4
comp=N,4μm,0.2s
PB07 IPOC Station P 2.36 277 **Pn 03 56 48.9 +1.0**
PB02 IPOC Station P 2.46 287⇑ *i*P **Pn 03 56 49.8 +0.9**
PB02 *i* S **Sn** **03 57 21.1 -0.4**
PB02 IAML 03 57 22.1
comp=E,6μm,0.2s
PB02 IPOC Station P 2.46 287 P **Pn 03 56 49.9 +0.9**
PB02 S **Sn** **03 57 16.9 -4.6**
PB02 IAML 03 57 23.4
comp=E,4μm,0.2s
PB08 IPOC Station P 2.53 319⇑ *i*P **Pn 03 56 52.2 +2.1**
PB08 *e*S **Sn** **03 57 24.7 +1.2**
PB08 IAML 03 57 28.7
comp=E,2μm,0.3s
PB08 IPOC Station P 2.53 319 **Pn 03 56 51.6 +1.5**
PB08 IPOC Station P 2.53 319 P **Pn 03 56 51.6 +1.5**
PB08 S **Sn** **03 57 19.3 -4.2**
PB08 IAML 03 57 26.1
comp=E,2μm,0.2s
PB04 IPOC Station P 2.59 263⇑ *i*P **Pn 03 56 51.4 +0.8**
PB04 *i* S **Sn** **03 57 24.2 -0.2**
PB04 IAML 03 57 26.7
comp=E,2μm,0.4s
PB04 IPOC Station P 2.59 263 Pn **Pn 03 56 50.9 +0.3**
PB04 IPOC Station P 2.59 263 P **Pn 03 56 51.4 +0.8**
PB05 IPOC Station P 2.73 253⇑ *i*P **Pn 03 56 53.0 +0.7**
PB05 *i* S **Sn** **03 57 26.4 -1.1**
PB05 IAML 03 57 30.6
comp=E,1μm,0.3s
PATCX Punta Patache 2.87 295⇑ *i*P **Pn 03 56 54.3 +0.4**
PATCX *i* S **Sn** **03 57 29.3 -1.0**
PATCX IAML 03 57 31.8
comp=N,4μm,0.3s
PATCX Punta Patache 2.87 295 Pn **Pn 03 56 53.9 0.0**
GO01 Chusmiza 2.92 324⇑ *i*P **Pn 03 56 56.5 +1.5**
GO01 *e*S **Sn** **03 57 34.2 +2.1**
GO01 Chusmiza 2.92 324 **Pn 03 56 55.8 +0.9**
TA01 Diego Aracena 3.01 299⇑ *i*P **Pn 03 56 55.6 +0.1**
TA01 *e*S **Sn** **03 57 31.4 -1.8**
TA01 Diego Aracena 3.01 299 **Pn 03 56 55.6 +0.1**
PB11 IPOC Station P 3.12 317⇑ *i*P **Pn 03 56 57.5 +0.3**
PB11 *e*S **Sn** **03 57 34.9 -1.2**
PB11 IPOC Station P 3.12 317 Pn **Pn 03 56 57.3 +0.2**
PB11 IPOC Station P 3.12 317 P **Pn 03 56 58.4 +1.3**
PB11 S **Sn** **03 57 31.0 -5.1**
PB11 IAML 03 57 37.7
comp=N,4μm,0.8s
TA02 Huaiquique 3.13 304 *e*P **Pn 03 56 56.8 -0.1**
TA02 *e*S **Sn** **03 57 34.1 -1.8**
PB10 IPOC Station P 3.27 243⇑ *i*P **Pn 03 56 59.2 +0.4**
PB10 *i* S **Sn** **03 57 36.9 -2.2**
PB10 IAML 03 57 39.0
comp=E,925nm,0.3s
PB10 IPOC Station P 3.27 243 **Pn 03 56 59.3 +0.6**
PB10 IPOC Station P 3.27 243 P **Pn 03 56 59.2 +0.4**
PSGC Pisagua 3.55 313⇑ *i*P **Pn 03 57 01.6 -0.7**
PSGC *i* S **Sn** **03 57 42.9 -2.6**
PSGC IAML 03 57 49.9
comp=E,1μm,0.5s
PSGC Pisagua 3.55 313 P **Pn 03 57 02.8 +0.5**
PSGCX Pisagua 3.55 313 Pn **Pn 03 57 01.7 -0.7**
MNMC Minye Minye 3.58 324⇑ *i*P **Pn 03 57 03.8 +0.9**
MNMC *e*S **Sn** **03 57 45.8 -0.6**
MNMC Minye Minye 3.58 324 **Pn 03 57 03.7 +0.9**
MNMC Minye Minye 3.58 324 P **Pn 03 57 03.8 +0.9**
MNMC S **Sn** **03 57 41.0 -5.4**
MNMC IAML 03 57 48.8
comp=E,4μm,0.3s
GO02 Mina Guanaco 3.70 213⇑ *i*P **Pn 03 57 05.6 +1.2**
GO02 *e*S **Sn** **03 57 48.7 -0.6**
GO02 Mina Guanaco 3.70 213 Pn **Pn 03 57 05.7 +1.2**
PB14 IPOC Station P 3.78 227 Pn **Pn 03 57 06.1 +0.6**
PB12 IPOC Station P 4.40 320 **Pn 03 57 11.4 -1.8**
AC02 Maricunga 5.02 198 Pn **Pn 03 57 22.0 +0.4**
AC01 Pan de Azucar 5.03 215 Pn **Pn 03 57 20.5 -0.8**
AHML Horco Molle 5.06 159 *e*P **Pn 03 57 24.2 +2.5**
AHML IAML 03 58 30.3
comp=Z,11nm,2.6s
BBOJ La Paz, Jacaqu 5.11 351 P **Pn 03 57 25.1 +2.2**
BBOE La Paz, Chanca 5.25 354 P **Pn 03 57 26.9 +2.2**
BBOD La Paz, Gloria 5.51 348 P **Pn 03 57 29.4 +1.3**
LPAZ La Paz 5.78 353 P **Pn 03 57 33.4 +1.7**
comp=Z,16nm,0.3s,baz=141,slow=5.8,SNR=356
LPAZ S **Sn** **03 58 37.9 -0.3**
baz=245,slow=24,SNR=1.0
LPAZ La Paz 5.78 353 Pn **Pn 03 57 32.5 +0.7**
LPAZ La Paz 5.78 353 P **Pn 03 57 33.3 +1.6**
LPAZ La Paz 5.78 353 *e*P **Pn 03 57 30.5 -1.2**
BBOB La Paz, Bander 5.92 353 P **Pn 03 57 34.9 +1.4**
GO03 Copiap 6.10 205 *e*P **Pn 03 57 34.0 -1.2**
GO03 *e*S **Sn** **03 58 41.0 -3.7**
CYA Choya 6.52 168 *e*P **Pn 03 57 42.3 +1.5**
CYA IAML 03 59 11.7
comp=Z,7.6nm,4.1s
AC05 El Transito 7.24 201 Pn **Pn 03 57 49.5 -0.9**
ACLC CERRO LA CRUZ 7.35 177 *e*P **Pn 03 57 52.6 +0.7**
ACLC IAML 03 59 27.0
comp=Z,9.0nm,0.5s
AGUA GUANDACOL 7.47 188 *e*P **Pn 03 57 52.9 -0.5**
AGUA *e*S **Sn** **03 59 14.8 -2.6**
AGUA IAML 03 59 18.7
comp=Z,13nm,0.6s
CO01 Juntas del Tor 8.26 197 **Pn 03 58 04.3 +0.3**
AROD Rodeo 8.30 193 *e*P **Pn 03 58 04.5 0.0**
AROD *e*S **Sn** **03 59 36.4 -1.1**
SIV San Ignacio 8.48 46 P **Pn 03 58 05.0 -1.8**
comp=Z,100nm,0.3s,baz=236,slow=11,SNR=523
SIV S Sn 03 59 26.0 -16
comp=Z,6.6nm,0.3s,baz=245,slow=16,SNR=6.0
ACCO Cerro Coronel 8.63 190 *e*P **Pn 03 58 08.5 -0.5**
ACCO *e*S **Sn** **03 59 42.2 -3.3**
ACCO IAML 03 59 44.3
comp=Z,30nm,0.4s
GO04 Tololo Observa 8.65 200 Pn **Pn 03 58 07.8 -1.3**
CO03 El Pedregal 9.24 198 **Pn 03 58 14.9 -1.8**
ZON Zonda 9.53 187 *e*P **Pn 03 58 21.4 +1.0**
ZON IAML 04 00 11.9
comp=Z,14nm,3.4s
CO02 Combarbal 9.67 199 **Pn 03 58 23.4 +0.9**
RTLS Leoncito 9.86 190 *e*P **Pn 03 58 23.9 -1.2**
RTLS *e*S **Sn** **04 00 09.4 -5.4**
RTLS IAML 04 01 11.3
comp=Z,5.2nm,1.2s
CPUP Villa Florida 10.11 117 P **Pn 03 58 27.4 -0.7**
comp=Z,0.2nm,0.3s,baz=275,slow=11,SNR=5.8
CPUP Villa Florida 10.11 117 *e*P **Pn 03 58 27.7 -0.4**
PTLB Pontes e Lacer 10.20 51 *e*P **Pn 03 58 29.6 +0.3**
AUSP Uspallata 10.29 190 *e*P **Pn 03 58 29.6 -1.1**
AUSP *e*S **Sn** **04 00 23.0 -2.1**
ASAL Salagasta 10.58 187 *e*P **Pn 03 58 33.4 -0.8**
ASAL *e*S **Sn** **04 00 28.2 -3.5**
ASAL IAML 04 01 42.4
comp=Z,8.6nm,1.2s
ARCO CERRO ARCO 10.83 187 *e*P **Pn 03 58 37.8 +0.1**
ARCO IAML 04 01 21.9
comp=Z,7.4nm,1.4s
VA03 San Esteban 11.03 194 **Pn 03 58 40.0 -0.2**
AAGR Agrelo 11.06 186 *e*P **Pn 03 58 40.8 +0.2**
VILB Vilhena 11.34 38 *e*P **Pn 03 58 44.0 -0.3**
ROC1 El Roble 11.35 196 **Pn 03 58 43.2 -1.2**
MT02 Curacav 11.65 196 **Pn 03 58 47.0 -1.0**
ETMB Extrema 12.22 5 *e*P **Pn 03 58 55.1 -0.4**
RFA San Rafael 12.71 184 *e*P **Pn 03 59 00.5 -1.2**
RFA *e*S Sn 04 01 13.7 -9.1
COIS El Sosneado 13.15 188 *e*P **Pn 03 59 07.6 +0.3**
COIS *e*S Sn 04 01 19.9 -13
NNA Nana 13.49 316 P **P 03 59 17.0 +2.0**
comp=Z,1.5nm,0.3s,baz=142,slow=13,SNR=7.0

SAML Samuel 13.64 18 **Pn 03 59 12.7 -0.8**
SAML Samuel 13.64 18 *e*P **Pn 03 59 11.8 -1.7**
TRCB Terra Rica 13.65 96 *e*P **P 03 59 15.6 -1.1**
PTGB Pitanga 14.30 104 *e*P **P 03 59 23.6 -0.5**
ITAB Concordia 14.78 113 *e*P **P 03 59 29.9 +0.7**
PCMB Pacaembu 14.97 91 *e*P **Pn 03 59 30.2 +0.1**
CZSB Cruzeiro do Su 15.14 339 *e*P **Pn 03 59 32.0 -0.1**
PLTB Pedras Altas 15.62 131 *e*P **Pn 03 59 37.1 -0.8**
CLDB Colider 15.70 47 *e*P **Pn 03 59 38.5 -0.5**
ARAG Araguaiana, MT 16.02 69 *e*P **Pn 03 59 42.6 -0.3**
ITRB Iturama 16.07 85 *e*P **P 03 59 43.7 +0.1**
FRTB Fartura 16.49 98 *e*P **Pn 03 59 48.6 0.0**
CNLB Canela 16.54 119 *e*P **Pn 03 59 49.2 0.0**
TIJ01 Guaruva-PR 17.14 105 *e*P **P 03 59 55.8 +0.5**
ATAH Atahualpa 18.25 323 P **Pn 04 00 12.1 +2.1**
comp=Z,0.1nm,0.3s,baz=117,slow=4.5,SNR=2.9
SPB Sao Paulo 18.45 99 P **P 04 00 10.0 +0.5**
SPB Sao Paulo 18.45 99 *e*P **P 04 00 10.2 +0.7**
IPMB Ipameri, GO 18.45 81 *e*P **P 04 00 09.5 -0.2**
PET01 Itanhaem-SP 18.61 101 *e*P **P 04 00 11.4 +0.1**
PLCA Paso Flores 18.82 188 P **P 04 00 14.4 +1.0**
comp=Z,0.9nm,0.3s,baz=3.3,slow=12,SNR=37
PLCA Paso Flores 18.82 188 P **P 04 00 11.2 -2.3**
PLCA IAmb IAmb 04 00 15.3
comp=Z,11nm,0.8s
PLCA Paso Flores 18.82 188 *e*P **P 04 00 13.8 +0.4**
VAO Valinhos 18.88 97 *e*P **P 04 00 14.2 -0.1**
NPGB Novo Progresso 18.90 40 *e*P **P 04 00 13.0 -1.5**
BDFB Brasilia 19.39 74 P **P 04 00 19.8 -0.1**
comp=Z,2.9nm,0.3s,baz=256,slow=12,SNR=35
BDFB Brasilia 19.39 74 P **P 04 00 19.5 -0.5**
MACA Manacapuru-AM 19.87 20 *e*P **P 04 00 23.7 -1.2**
PARB Paraibuna 20.11 98 *e*P **P 04 00 27.5 -0.1**
LL01 San Ignacio de 20.70 191 P **P 04 00 32.6 -1.0**
LL01 IAmb IAmb 04 00 36.2
comp=Z,21nm,0.9s
PEXB Peixe 20.72 65 *e*P **P 04 00 33.2 -0.8**
ITTB Itaituba 20.89 34 *e*P **P 04 00 34.0 -1.8**
BSCB Bom Sucesso 21.05 91 *e*P **P 04 00 37.3 -0.3**
MAN01 Angra dos Reis 21.65 97 *e*P **P 04 00 42.4 -1.5**
VAS01 Vassouras-RJ 22.16 95 *e*P **P 04 00 48.7 -0.3**
PTGA Pitinga 22.39 20 P **P 04 00 49.1 -2.1**
PTGA IAmb IAmb 04 00 52.5
comp=Z,6.4nm,0.6s
PTGA Pitinga 22.39 20 *e*P **P 04 00 48.9 -2.3**
MC01 Montes Claros 22.72 81 *e*P **P 04 00 52.6 -1.8**
JANB Januaria 22.93 76 *e*P **P 04 00 54.6 -1.5**
SMTB Santa Maria do 23.11 58 *e*P **P 04 00 56.9 -0.8**
PRPB Parauapebas 23.18 50 *e*P **P 04 00 56.9 -1.5**
SDBA SAO DESIDERIO 23.48 70 *e*P **P 04 00 59.9 -1.3**
MALB Monte Alegre 23.79 34 *e*P **P 04 01 01.0 -2.9**
SJMB Sao Joao De Ma 24.76 87 *e*P **P 04 01 12.1 -0.7**
BSFB Barra de Sao F 25.05 87 *e*P **P 04 01 14.3 -1.1**
RIB01 Linhares ES 25.38 89 *e*P **P 04 01 17.3 -1.0**
NAN01 Guarapari, ES 25.94 86 *e*P **P 04 01 22.1 -1.3**
MCPB Macapa, AP 26.23 37 *e*P **P 04 01 24.8 -1.2**
TMAB Tom-Àu,PA,Br 27.09 46 *e*P **P 04 01 33.1 -0.6**
GDU01 Guandu, BA 27.69 77 *e*P **P 04 01 37.3 -1.8**
RCBR Riachuelo 34.43 67 P **P 04 02 37.8 -0.4**
comp=Z,7.8nm,0.8s,baz=230,slow=10,SNR=1.6
RCBR Riachuelo 34.43 67 *e*P **P 04 02 38.0 -0.2**
BIM Bigot 36.87 10 *e*P **P 04 03 00.3 +1.5**
ZAM Aeronautique 36.93 10 *e*P **P 04 03 00.1 +0.8**
MVM Montagne Vaucl 36.93 10 *e*P **P 04 03 00.5 +1.1**
LPMF Morne Lapointe 36.94 10 *e*P **P 04 03 00.2 +0.8**
FDF Fort de France 37.06 10 *e*P **P 04 03 00.8 +0.3**
PML Morne Lenard 37.11 10 *e*P **P 04 03 01.2 +0.4**
GBMF Grand Be 37.12 10 *e*P **P 04 03 01.3 +0.2**
PCM Pelee Case Pet 37.14 10 *e*P **P 04 03 01.2 +0.2**
CXM Morne La Croix 37.14 10 *e*P **P 04 03 01.5 +0.3**
BAMF Morne Balai 37.15 10 *e*P **P 04 03 01.3 +0.1**
ILAM Ilet Lapin Mar 37.15 10 *e*P **P 04 03 01.0 -0.1**
SVN Savane Anatole 37.17 10 *e*P **P 04 03 01.6 +0.2**
V55A Taylorsville 59.06 347 P **P 04 05 49.1 +0.3**
V55A IAmb IAmb 04 05 54.6
comp=Z,4.8nm,0.7s
VNA3 Neumayer Olymp 59.10 161 P **P 04 05 50.2 +1.6**
VNA2 Neumayer--Watz 59.66 161 P **P 04 05 54.1 +1.6**
SNAA Sanae 61.29 161 P **P 04 06 04.8 +1.2**
SNAA Sanae 61.29 161 P **P 04 06 03.7 +0.1**
SNAA IAmb IAmb 04 07 02.9
comp=Z,14nm,1.8s
LIC Lamto 67.18 73 *e*P **P 04 06 41.8 -0.9**
comp=Z,14nm,0.8s
TIC Toumodi 67.38 72 *e*P **P 04 06 43.2 -0.8**
KIC Kosan Boka 67.49 73 *e*P **P 04 06 43.9 -0.8**
comp=Z,40nm,1.0s
DBIC Dimbokro 67.53 72 P **P 04 06 44.6 -0.4**
comp=Z,10nm,0.7s,baz=216,slow=5.8,SNR=17
DBIC Dimbokro 67.53 72 P **P 04 06 43.7 -1.2**
QSPA South Pole Qui 68.14 180 P **P 04 06 50.0 +1.9**
QSPA IAmb IAmb 04 06 50.7
comp=Z,6.2nm,0.8s
SDCO Great Sand Dun 69.46 328 P **P 04 06 57.5 +0.8**
PDAR Pinedale Array 75.31 329 P **P 04 07 32.2 +1.1**
comp=Z,0.6nm,0.7s,baz=135,slow=8.0,SNR=6.9
SYO Syowa Base 75.48 159‖ *e*P **P 04 07 31.7 +0.2**
SPUT South Promonto 75.64 327 P **P 04 07 33.0 0.0**
TOA0 Torodi Ar. Sit 76.20 70 P **P 04 07 36.0 -0.6**
TORD Torodi Ar. Bea 76.20 70 P **P 04 07 36.4 -0.2**
comp=Z,42nm,0.6s,baz=256,slow=5.4,SNR=604
TORD Torodi Ar. Bea 76.20 70 **P 04 07 36.3 -0.3**
ULM Lac du Bonnet 76.28 342 P **P 04 07 37.6 +1.4**
comp=Z,2.4nm,0.6s,baz=337,slow=6.0,SNR=2.3
VNDA Vanda 76.55 190 P **P 04 07 40.0 +2.5**
comp=Z,0.7nm,0.7s,baz=130,slow=5.5,SNR=4.9
NVAR Mina Array Bea 76.81 321 P **P 04 07 41.7 +1.9**
comp=Z,0.7nm,0.8s,baz=140,slow=5.1,SNR=6.6
NVAR Mina Array Bea 76.81 321 P **P 04 07 39.4 -0.4**
KVN Kaiserville 77.11 322 **P 04 07 42.1 +0.7**
YERR Yerington 77.73 321 P **P 04 07 45.0 +0.1**
YERR IAmb IAmb 04 08 11.3
comp=Z,10nm,1.7s
HLID Hailey 78.28 327 P **P 04 07 48.7 +1.0**
PAHR Pah Rah Range 78.29 322 P **P 04 07 47.8 -0.1**
PAHR IAmb IAmb 04 07 50.9
comp=Z,4.1nm,0.8s
TSUM Tsumeb 78.52 106 P **P 04 07 48.7 -0.9**
TSUM IAmb IAmb 04 07 51.4
comp=Z,9.9nm,0.8s
EGMT Eagleton 79.44 333 P **P 04 07 53.4 -0.5**
EGMT IAmb IAmb 04 10 39.4
comp=Z,12nm,0.9s
BOSA Boshof 81.93 117 P **P 04 08 08.4 +0.7**
comp=Z,2.6nm,0.4s,baz=245,slow=4.0,SNR=18
MAW Mawson 83.39 163 P **P 04 08 15.9 +1.6**
comp=Z,1.1nm,0.6s,baz=295,slow=7.1,SNR=3.7
ESDC Sonseca Array 85.23 44 P **P 04 08 24.9 +0.8**
comp=Z,1.2nm,1.0s,baz=228,slow=3.8,SNR=5.1
ESDC Sonseca Array 85.23 44 P **P 04 08 21.7 -2.3**
YKA Yellowknife Ar 92.19 340 P **P 04 08 57.4 +1.1**
comp=Z,0.7nm,0.6s,baz=133,slow=5.6,SNR=5.2
ASAR Alice Springs 130.06 206 PKP **PKiKP 04 14 57.5 -0.2**
comp=Z,1.0nm,0.8s,baz=178,slow=2.9,SNR=8.5
WRA Warramunga Arr 133.18 209 PKP **PKiKP 04 15 03.8 -0.3**
comp=Z,0.8nm,0.6s,baz=161,slow=1.7,SNR=20
MKAR Makanchi Array 145.22 37 PKPbc **PKPab 04 15 24.7 +0.5**
comp=Z,2.1nm,0.5s,baz=316,slow=4.0,SNR=18
MKAR Makanchi Array 145.22 37 **PKPab 04 15 24.5 +0.3**

IDC 13 04:11:42.8±1.6, 1°.40N×124°.73E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/53, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=123.1km s-min=22.7km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.39**	**177**	P	P	04 16 09.6	-1.0
	0.2nm,0.3s,baz=1,0,slow=9.6,SNR=3.0						
WRA	**Warramunga Arr**	**23.21**	**157**	P	P	04 16 52.7	+1.1
	2.1nm,0.3s,baz=337,slow=10,SNR=48						
ASAR	**Alice Springs**	**26.46**	**161**	P	P	04 17 21.4	-0.4
	0.4nm,0.5s,baz=342,slow=8.3,SNR=8.1						
STKA	**Stephens Creek**	**36.75**	**156**	P	P	04 18 51.8	-0.4
	3.7nm,1.1s,baz=316,slow=10.0,SNR=3.3						
MKAR	**Makanchi Array**	**58.37**	**327**	P	P	04 21 40.1	+0.1
	0.8nm,0.5s,baz=127,slow=8.3,SNR=7.5						

*DDA **13** 04:23:04.9, 35°.67N×30°.25E, h16km±1km, MW3.9*
*ISK **13** 04:23:06.9, 35°.79N×30°.17E, h17km, ML3.8/37*
*ATH **13** 04:23:08.0, 35°.90N×30°.15E, h38km±2km, ML3.6/6, Error ellipse: s-maj=4.1km s-min=1.5km az=17.0*
*THE **13** 04:23:07.0, 35°.81N×30°.52E, h25km±34km, ML3.8/4, Error ellipse: s-maj=37.4km s-min=1.9km az=113.0*
*NIC **13** 04:23:09.2±0.0, 35°.83N×30°.20E, h28km±1km, Ml3.8/3*
*NEIC **13** 04:23:09.3±1.9, 35°.84N±0°.05×30°.18E±0°.06, h39km±3km, Error ellipse: s-maj=8.5km s-min=6.9km az=216.0*
*IDC **13** 04:23:10.0±1.2, 35°.82N×30°.29E, h46km±13km, mb3.7/16, mb1 3.8/25, mb1mx3.7/48, mbtmp3.9/25, ML3.8/10, MS3.1/7, Ms1 3.1/7, ms1mx2.7/49, Error ellipse: s-maj=11.7km s-min=10.1km az=23.0*
*GII **13** 04:23:11.3±0.0, 35°.53N×30°.25E, h20km, MD3.6/2*
*HLW **13** 04:23:13.6, 35°.34N×29°.96E, h13km±9km, Md3.9, Ml4.0*
ISC 13 04:23:07.8±1.1, 35°.79N±0°.03×30°.21E±0°.02, h26km±8km, n220, σ1§61/278, mb4.0/20, MS2.9/3, 16C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMR	**Demre-Antalya**	**0.51**	**331**	PG	**Pb**	**04 23 17.2**	**-1.1**
DEMR				SG	**Sb**	**04 23 24.7**	**-0.7**
AKUM	**Antalya-Kumluc**	**0.54**	**11**	*i* P	**Pb**	**04 23 17.1**	**-1.7**
AKUM				*i* S	**Sb**	**04 23 23.5**	**-2.8**
AKUM				IAML		04 23 28.0	
	comp=N,2μm,0.2s						
AKUM				IAML		04 23 29.0	
	comp=E,2μm,0.2s						
KSL	**Kastellorizon**	**0.62**	**306**	P	**Pb**	**04 23 20.9**	**+0.7**
KSL				S	**Sn**	**04 23 33.0**	**+2.8**
	comp=E,11μm,0.8s						
KSL	**Kastellorizon**	**0.62**	**306**	P	**Pb**	**04 23 19.2**	**-1.0**
KSL				S	**Sb**	**04 23 28.4**	**-0.1**
KSL				AML	AML	04 23 33.1	
	comp=E,17101μm,1.0s						
KSL				AML	AML	04 23 34.1	
	comp=N,11304μm,0.6s						
KSL	**Kastellorizon**	**0.62**	**306**	⇑P	**Pb**	**04 23 20.2**	**0.0**
KSL				S	**Sn**	**04 23 30.8**	**+0.6**
AKAS	**Kas**	**0.66**	**312**	PG	**Pb**	**04 23 19.8**	**-1.1**
AKAS				SG	**Sb**	**04 23 29.3**	**-0.5**
AKAS	**Kas**	**0.66**	**312**	*i* P	**Pb**	**04 23 19.9**	**-0.9**
AKAS				*i* S	**Sb**	**04 23 30.9**	**+1.2**
AKAS				IAML		04 23 38.0	
	comp=N,5μm,0.6s						
AKAS				IAML		04 23 42.0	
	comp=E,3μm,0.8s						
AKAS	**Kas**	**0.66**	**312**		**Pb**	**04 23 19.7**	**-1.2**
KEMT	**Kemer-ANTALYA**	**0.86**	**19**	PG	**Pb**	**04 23 24.1**	**0.0**
ELL	**Elmali**	**0.99**	**346**	PG	**Pn**	**04 23 26.1**	**-0.1**
ELL				SG	**Sn**	**04 23 40.2**	**+0.8**
ELL	**Elmali**	**0.99**	**346**		**Pn**	**04 23 25.5**	**-0.7**
ANTB	**Antalya**	**1.17**	**18**	PN	**Pn**	**04 23 29.1**	**+0.6**
ANTB				SN	**Sb**	**04 23 45.2**	**+1.2**
KORT	**Korkueli**	**1.22**	**5**	PN	**Pn**	**04 23 29.6**	**+0.3**
KORT				SN	**Sb**	**04 23 46.3**	**+0.7**
KORT	**Korkueli**	**1.22**	**5**	*i* P	**Pn**	**04 23 29.8**	**+0.5**
KORT				*i* S	**Sb**	**04 23 48.5**	**+2.9**
KORT				IAML		04 24 05.0	
	comp=E,918nm,0.6s						
KORT				IAML		04 24 05.0	
	comp=N,606nm,0.7s						
FETY	**Fethiye**	**1.24**	**313**	P	**Pn**	**04 23 30.0**	**+0.4**
FETY				S	**Sb**	**04 23 47.0**	**+0.7**
FETY	**Fethiye**	**1.24**	**313**	PN	**Pn**	**04 23 29.8**	**+0.2**
FETY				SN	**Sn**	**04 23 46.3**	**+0.7**
FETY	**Fethiye**	**1.24**	**313**	*i* P	**Pn**	**04 23 30.0**	**+0.4**
FETY				*i* S	**Sn**	**04 23 46.7**	**+1.1**
FETY				IAML		04 23 56.0	
	comp=E,586nm,1.0s						
FETY				IAML		04 23 58.0	
	comp=N,773nm,0.6s						
MNVG	**Manavgat-Antal**	**1.40**	**44**	PN	**Pn**	**04 23 32.5**	**+0.8**
MNVG				SN	**Sb**	**04 23 51.4**	**+0.7**
GOLH	**Golhisar**	**1.54**	**340**	*i* P	**Pn**	**04 23 35.6**	**+1.9**
GOLH				*i* S	**Sb**	**04 23 59.6**	**+4.8**
GOLH				IAML		04 24 14.0	
	comp=N,1μm,1.0s						
KEPZ	**Antalya-Kepez**	**1.58**	**45**	*i* P	**Pn**	**04 23 35.9**	**+1.6**
KEPZ				*i* S	**Sb**	**04 23 56.8**	**+0.8**
KEPZ				IAML		04 24 04.0	
	comp=N,517nm,0.8s						
KEPZ				IAML		04 24 16.0	
	comp=E,266nm,0.7s						
DALY	**Dalyan (Mula)**	**1.62**	**310**	PN	**Pn**	**04 23 35.1**	**+0.3**
DALY				SN	**Sn**	**04 23 55.7**	**+0.8**
DALY	**Dalyan (Mula)**	**1.62**	**310**	*i* P	**Pn**	**04 23 35.5**	**+0.7**
DALY				*i* S	**Sb**	**04 23 58.5**	**+1.3**
DALY				IAML		04 24 09.0	
	comp=N,596nm,0.7s						
DALY				IAML		04 24 16.0	
	comp=E,602nm,1.1s						
BCK	**Bucak**	**1.70**	**10**	PN	**Pn**	**04 23 37.2**	**+1.3**
BCK				SN	**Sn**	**04 23 58.1**	**+1.3**
ARG	**Arkhangelos**	**1.74**	**285**	P	**Pn**	**04 23 37.0**	**+0.6**
ARG				S	**Sb**	**04 24 01.5**	**+0.9**
	comp=E,1μm,1.0s						
ARG	**Arkhangelos**	**1.74**	**285**	P	**Pn**	**04 23 36.7**	**+0.2**
ARG				S	**Sn**	**04 23 57.4**	**-0.5**
ARG				AML	AML	04 24 19.4	
	comp=N,2338μm,0.9s						
ARG				AML	AML	04 24 23.3	
	comp=E,3093μm,1.3s						
ARG	**Arkhangelos**	**1.74**	**285**	PN	**Pn**	**04 23 36.8**	**+0.3**
ARG				SN	**Sn**	**04 23 58.6**	**+0.7**
ARG	**Arkhangelos**	**1.74**	**285**	⇑P	**Pn**	**04 23 37.0**	**+0.6**
ARG				S	**Sn**	**04 23 59.9**	**+2.1**
GAZI	**Gazipasa**	**1.76**	**75**	PN	**Pn**	**04 23 37.9**	**+1.1**
GAZI				SN	**Sn**	**04 24 00.5**	**+2.1**
GAZI	**Gazipasa**	**1.76**	**75**	*i* P	**Pn**	**04 23 37.6**	**+0.8**
GAZI				*i* S	**Sn**	**04 23 55.8**	**-2.6**
GAZI				IAML		04 24 04.0	
	comp=N,667nm,0.7s						
GAZI				IAML		04 24 07.0	
	comp=E,528nm,0.8s						
TURN	**Turunc**	**1.87**	**302**	PN	**Pn**	**04 23 38.5**	**+0.3**
TURN	**Turunc**	**1.87**	**302**	*i* P	**Pn**	**04 23 38.5**	**+0.3**
TURN				*i* S	**Sb**	**04 24 06.6**	**+2.3**
TURN				IAML		04 24 16.0	
	comp=E,187nm,0.6s						
TURN				IAML		04 24 21.0	
	comp=N,249nm,0.5s						
AKMS	**Akamas**	**1.90**	**113**	P	**Pn**	**04 23 40.3**	**+1.7**
AKMS				AML	AML	04 24 02.9	
	comp=N,1.7nm,0.8s						
AKMS				AML	AML	04 24 02.9	
	comp=N,1.7nm,0.8s						
AKMS				S	**Sn**	**04 24 03.5**	**+1.8**
AKMS				AML	AML	04 24 20.1	
	comp=N,1.9nm,0.7s						
AKMS				AML	AML	04 24 20.1	
	comp=N,1.9nm,0.7s						
BRDR	**BURDUR-Merkez**	**1.91**	**356**	*i* P	**Pn**	**04 23 40.9**	**+2.1**
BRDR				*i* S	**Sb**	**04 24 10.3**	**+4.9**
BRDR				IAML		04 24 22.0	
	comp=N,248nm,1.0s						
BRDR				IAML		04 24 23.0	
	comp=E,500nm,0.9s						
TAVA	**DENIZLI_Tavas**	**1.97**	**328**	*i* P	**Pn**	**04 23 40.8**	**+1.1**
TAVA				*i* S	**Sb**	**04 24 10.0**	**+2.7**
TAVA				IAML		04 24 14.0	
	comp=N,404nm,0.7s						
TAVA				IAML		04 24 22.0	
	comp=E,383nm,0.6s						
ISP	**Isparta**	**2.05**	**7**	PN	**Pn**	**04 23 41.5**	**+0.8**
ISP	**Isparta**	**2.05**	**7**	Pn	**Pn**	**04 23 42.1**	**+1.4**
ALFC	**Alefka**	**2.05**	**107**	⇓P	**Pn**	**04 23 41.7**	**+1.0**
ALFC				AML	AML	04 24 08.0	
	comp=E,1.6nm,0.5s						
ALFC				AML	AML	04 24 08.0	
	comp=E,1.6nm,0.5s						
ALFC				S	**Sn**	**04 24 08.1**	**+2.6**
ALFC				AML	AML	04 24 26.8	
	comp=E,1.8nm,0.7s						
ALFC				AML	AML	04 24 26.8	
	comp=E,1.8nm,0.7

LEF	**Lefka**	**2.29 106**	PN	**Pn**	**04 23 44.9 +1.0**
LEF	**Lefka**	**2.29 106**	*i* P	**Pn**	**04 23 44.8 +0.8**
LEF			*i* S	Sn	04 24 03.8 -7.5
LEF			IAML		04 24 45.0
	comp=E,174nm,1.3s				
LEF			IAML		04 24 50.0
	comp=N,184nm,0.7s				
AKDN	**Akdeniz- Kıbrı**	**2.30 101**	PN	**Pn**	**04 23 45.6 +1.5**
DAT	**Datca**	**2.33 295**	P	**Pn**	**04 23 45.0 +0.5**
DAT	**Datca**	**2.33 295**	PN	**Pn**	**04 23 45.1 +0.5**
DAT	**Datca**	**2.33 295**	*i* P	**Pn**	**04 23 44.6 0.0**
DAT			*i* S	**Sn**	**04 24 14.5 +2.1**
DAT			IAML		04 24 34.0
	comp=N,114nm,0.8s				
DAT			IAML		04 24 39.0
	comp=E,138nm,1.0s				
ERMK	**Ermenek**	**2.34 68**	*i* P	**Pn**	**04 23 47.4 +2.4**
ERMK			*i* S	**Sb**	**04 24 17.4 -0.8**
ERMK			IAML		04 24 35.0
	comp=E,299nm,1.1s				
ERMK			IAML		04 24 37.0
	comp=N,414nm,0.8s				
TEKE	**Tekeli-Mersin**	**2.38 81**	PN	**Pn**	**04 23 46.7 +1.5**
SZAC	**Souni**	**2.42 114**	⇑P	**Pn**	**04 23 47.2 +1.5**
SZAC			AML	AML	04 24 42.4
	comp=N,1.6nm,0.9s				
SZAC			AML	AML	04 24 48.0
	comp=N,1.6nm,0.7s				
OSC1	**CSNet OBS 1**	**2.45 159**	P	**Pn**	**04 23 48.8 +2.7**
OSC1			S	**Sn**	**04 24 18.2 +3.0**
KZIL	**AFYON_Kizioren**	**2.46 359**	*i* P	**Pn**	**04 23 47.8 +1.3**
KZIL			*i* S	**Sb**	**04 24 22.8 +1.3**
KZIL			IAML		04 24 41.0
	comp=N,144nm,1.6s				
KZIL			IAML		04 24 47.0
	comp=E,184nm,1.1s				
KARP	**Karpathos**	**2.49 265**	P	**Pn**	**04 23 48.2 +1.4**
KARP			S	**Sn**	**04 24 18.5 +2.0**
	comp=E,548nm,0.5s				
KARP	**Karpathos**	**2.49 265**	P	**Pn**	**04 23 47.9 +1.1**
KARP			S	**Sn**	**04 24 15.8 -0.7**
KARP			AML	AML	04 24 21.2
	comp=N,1390µm,0.5s				
KARP			AML	AML	04 24 21.4
	comp=E,836µm,0.4s				
KARP	**Karpathos**	**2.49 265**	PN	**Pn**	**04 23 47.5 +0.7**
KARP	**Karpathos**	**2.49 265**	⇑P	**Pn**	**04 23 47.7 +0.9**
KARP			S	**Sn**	**04 24 17.9 +1.5**
KARP	**Karpathos**	**2.49 265**		**Pn**	**04 23 46.5 -0.3**
BERE	**Bereket-Mersin**	**2.50 76**	PN	**Pn**	**04 23 48.5 +1.4**
DOGA	**KONYA_Doganhis**	**2.59 26**	*i* P	**Pn**	**04 23 51.0 +2.8**
DOGA			*i* S	**Sn**	**04 24 20.4 +1.3**
DOGA			IAML		04 24 29.0
	comp=N,209nm,1.0s				
DOGA			IAML		04 24 30.0
	comp=E,234nm,1.2s				
YORU	**Yoruktepe-Mers**	**2.62 81**	PN	**Pn**	**04 23 50.2 +1.7**
KMER	**Konya-Meram**	**2.63 41**	*i* P	**Pn**	**04 23 51.0 +2.3**
KMER			*i* S	**Sn**	**04 24 19.5 -0.4**
KMER			IAML		04 24 25.0
	comp=N,108nm,0.6s				
KMER			IAML		04 24 37.0
	comp=E,140nm,1.0s				
BODT	**Bodrum**	**2.66 299**	P	**Pn**	**04 23 49.5 +0.4**
BODT	**Bodrum**	**2.66 299**	PN	**Pn**	**04 23 49.7 +0.6**
ASGA	**Asgata**	**2.68 111**	P	**Pn**	**04 23 50.9 +1.5**
CSS	**Mathiatis**	**2.68 107**	PN	**Pn**	**04 23 50.9 +1.5**
CSS	**Mathiatis**	**2.68 107**	Pn	**Pn**	**04 23 51.5 +2.1**
CSS	**Mathiatis**	**2.68 107**	⇑P	**Pn**	**04 23 51.5 +2.1**
CSS	**Mathiatis**	**2.68 107**	Pn	**Pn**	**04 23 50.1 +0.8**
TEVE	**Tevekalti-Mers**	**2.70 75**	PN	**Pn**	**04 23 51.3 +1.7**
KONT	**Konya--Tatoy**	**2.76 38**	PN	**Pn**	**04 23 52.1 +1.6**
KONT	**Konya--Tatoy**	**2.76 38**	*i* P	**Pn**	**04 23 53.0 +2.6**
KONT			*i* S	**Sn**	**04 24 26.7 +3.7**
KONT			IAML		04 24 41.0
	comp=E,136nm,0.8s				
KONT			IAML		04 24 42.0
	comp=N,124nm,1.0s				
SHUT	**Suhut-Afyon**	**2.77 6**	PN	**Pn**	**04 23 51.9 +1.2**
KOSK	**Kos Island**	**2.78 291**	PN	**Pn**	**04 23 51.6 +0.9**
KRMN	**Karaman**	**2.82 60**	PN	**Pn**	**04 23 52.9 +1.5**
TISA	**Tisan-Mersin**	**2.84 81**	PN	**Pn**	**04 23 53.3 +1.8**
IKL	**Isikli**	**2.85 80**	PN	**Pn**	**04 23 53.5 +1.8**
KARG	**Kargicak-Mersi**	**2.87 81**	PN	**Pn**	**04 23 53.7 +1.8**
MVOU	**Mavrovouni**	**2.90 104**	⇑P	**Pn**	**04 23 53.2 +0.9**
KEBE	**Keben-Mersin**	**2.91 76**	PN	**Pn**	**04 23 54.4 +1.8**
LADK	**Ladik-KONYA**	**2.96 35**	PN	**Pn**	**04 23 54.8 +1.5**
BOLV	**Bolvadin**	**2.98 11**		**Pn**	**04 23 55.4 +1.7**
KULA	**Kula-Manisa**	**2.99 336**	P	**Pn**	**04 23 53.3 -0.4**
KULA	**Kula-Manisa**	**2.99 336**	PN	**Pn**	**04 23 53.8 +0.1**
MANT	**Manisa**	**3.00 334**	Pn	**Pn**	**04 23 53.5 -0.5**
GCAM	**G?zelcaml?**	**3.06 309**	PN	**Pn**	**04 23 55.6 +1.1**
OSC2	**CSNet OBS 4**	**3.20 147**	P	**Pn**	**04 23 58.5 +2.1**
OSC2			S	**Sn**	**04 24 36.8 +3.1**
GEDZ	**Gediz**	**3.31 349**	PN	**Pn**	**04 23 59.4 +1.3**
SMG	**Samos**	**3.32 306**	P	**Pn**	**04 23 58.5 +0.4**
SMG	**Samos**	**3.32 306**	P	**Pn**	**04 23 58.1 -0.1**
SHAP	**Saphane-Kutahy**	**3.32 347**	PN	**Pn**	**04 23 59.6 +1.3**
ZKR	**Zakros**	**3.33 260**	P	**Pn**	**04 23 59.9 +1.6**
ZKR			S	**Sn**	**04 24 40.0 +3.0**
	comp=N,238nm,0.4s				
ZKR	**Zakros**	**3.33 260**	P	**Pn**	**04 23 59.3 +1.0**
ZKR			S	**Sn**	**04 24 37.0 0.0**
ZKR			AML	AML	04 24 45.9
	comp=E,735µm,0.5s				
ZKR			AML	AML	04 24 46.3
	comp=N,234µm,0.6s				
KIZT	**Kizilcal**	**3.36 23**	PN	**Pn**	**04 24 00.6 +1.8**
STIA	**Sitia Lasithi**	**3.41 261**	P	**Pn**	**04 24 01.7 +2.3**
STIA			S	**Sn**	**04 24 41.7 +2.7**
SIMA	**Simav-Kutahya**	**3.43 344**	PN	**Pn**	**04 24 00.9 +1.1**
DGB	**zmir**	**3.50 311**	*i* P	**Pn**	**04 24 01.0 +0.4**
DGB			IAML		04 25 03.0
	comp=N,69nm,0.8s				
DGB			IAML		04 25 20.0
	comp=E,50nm,0.9s				
BLCB	**Balcova**	**3.62 317**	P	**Pn**	**04 24 01.5 -0.8**
BLCB	**Balcova**	**3.62 317**	PN	**Pn**	**04 24 03.4 +1.1**
AMGA	**Amorgos Island**	**3.64 288**	P	**Pn**	**04 24 03.0 +0.4**
NPS	**Neapolis**	**3.79 263**	P	**Pn**	**04 24 06.0 +1.4**
NPS	**Neapolis**	**3.79 263**	P	**Pn**	**04 24 05.8 +1.3**
NPS			S	**Sn**	**04 24 47.2 -1.1**
NPS			AML	AML	04 24 50.5
	comp=E,661µm,0.5s				
NPS			AML	AML	04 24 52.2
	comp=N,419µm,0.3s				
SANT	**Santorini**	**3.89 280**	⇑P	**Pn**	**04 24 07.4 +1.4**
SANT	**Santorini**	**3.89 280**	⇑S	**Sn**	**04 24 50.4 -0.5**
SANT	**Santorini**	**3.89 280**	Pn	**Pn**	**04 24 06.4 +0.4**
LAST	**Lasithi**	**3.91 262**	P	**Pn**	**04 24 08.3 +1.9**
LAST	**Lasithi**	**3.91 262**	P	**Pn**	**04 24 08.0 +1.6**
LAST			AML	AML	04 24 57.9
	comp=E,243µm,0.8s				
LAST			AML	AML	04 25 00.0
	comp=N,296µm,0.7s				
APE	**Apeiranthos**	**3.98 290**	P	**Pn**	**04 24 07.7 +0.4**
APE	**Apeiranthos**	**3.98 290**	⇑P	**Pn**	**04 24 10.6 +3.3**
APE	**Apeiranthos**	**3.98 290**	⇑S	**Sn**	**04 24 54.1 +0.9**
APE	**Apeiranthos**	**3.98 290**	P	**Pn**	**04 24 08.5 +1.2**
CHOS	**Chios island**	**4.21 309**	P	**Pn**	**04 24 10.9 +0.4**
CHOS	**Chios island**	**4.21 309**	P	**Pn**	**04 24 11.1 +0.6**
IDI	**Anoyia**	**4.37 265**	P	**Pn**	**04 24 13.7 +1.1**
	comp=N,47nm,0.3s,baz=69,slow=12,SNR=133				
IDI			S	**Sn**	**04 25 01.5 -1.2**
	comp=N,5.0nm,0.3s,baz=149,slow=22,SNR=1.3				
IDI	**Anoyia**	**4.37 265**	P	**Pn**	**04 24 13.7 +1.1**
IDI	**Anoyia**	**4.37 265**	⇑P	**Pn**	**04 24 13.6 +1.1**
IDI	**Anoyia**	**4.37 265**	⇓S	**Sn**	**04 24 59.1 -3.6**
IDI	**Anoyia**	**4.37 265**	Pn	**Pn**	**04 24 12.5 -0.1**
SIVA	**Sivas**	**4.48 262**	P	**Pn**	**04 24 15.6 +1.6**
BR231	**Keskin MP Arra**	**4.53 26**	Pn	**Pn**	**04 24 14.6 -0.2**
PRK	**Paraskevi**	**4.66 319**	P	**Pn**	**04 24 15.4 -1.1**
MDUB	**Mudurnu**	**4.74 9**	Pn	**Pn**	**04 24 19.5 +1.8**
BR131	**Keskin Array S**	**4.78 34**		**Pn**	**04 24 18.6 +0.3**
BRTR	**Keskin Array B**	**4.78 34**	P	**Pn**	**04 24 19.2 +0.9**
	comp=N,2.8nm,0.3s,baz=188,slow=16,SNR=69				
BRTR			S	**Sn**	**04 25 12.6 -0.3**
	comp=N,0.8nm,0.3s,baz=29,slow=14,SNR=5.4				
BRTR	**Keskin Array B**	**4.78 34**		**Pn**	**04 24 18.3 0.0**
MHLO	**Agia Marina, M**	**4.78 283**	P	**Pn**	**04 24 20.2 +2.0**
VAM	**Vamos**	**4.91 267**	P	**Pn**	**04 24 21.0 +1.0**
VAM	**Vamos**	**4.91 267**	P	**Pn**	**04 24 20.9 +0.8**
OFRI	**`Ofer**	**5.06 127**	Pn	**Pn**	**04 24 24.0 +1.9**
OFRI			Sn	**Sn**	**04 25 20.2 +0.4**
IMMV	**Iera Moni Meta**	**5.08 268**	P	**Pn**	**04 24 24.2 +1.8**
GVD	**Gavdhos**	**5.09 261**	P	**Pn**	**04 24 24.0 +1.4**
MMA0B	**Mount Meron ar**	**5.11 121**	Pn	**Pn**	**04 24 24.8 +2.0**
MMA0B			Sn	**Sn**	**04 25 21.7 +0.7**
MMAI	**Mount Meron Ar**	**5.11 121**	P	**Pn**	**04 24 23.9 +1.1**
	comp=N,9.5nm,0.3s,baz=307,slow=11,SNR=80				
MMAI			S	**Sn**	**04 25 19.4 -1.5**
	comp=N,14nm,0.3s,baz=310,slow=25,SNR=12				
MMAI			LR	LR	04 27 19.4
	comp=N,180nm,21.1s,baz=310,slow=49				
BLGI	**Bet Lehem HaGe**	**5.13 125**	Pn	**Pn**	**04 24 25.9 +2.9**
GEM	**Giv'at Ha'Em**	**5.18 118**	Pn	**Pn**	**04 24 25.6 +1.8**
GEM			Sn	**Sn**	**04 25 22.7 -0.1**
NATI	**Neve Ativ**	**5.21 117**	Pn	**Pn**	**04 24 26.0 +1.9**
NATI			Sn	**Sn**	**04 25 24.2 +0.8**
RODP	**Rodopos**	**5.26 269**	P	**Pn**	**04 24 26.8 +2.0**
MMLI	**Mount Malkishu**	**5.46 126**	Pn	**Pn**	**04 24 29.4 +1.7**
MMLI			Sn	**Sn**	**04 25 29.4 -0.3**
SHMJ	**Saham**	**5.52 122**	Pn	**Pn**	**04 24 30.9 +2.5**
VLY	**Voula,Athens**	**5.54 294**	P	**Pn**	**04 24 31.0 +2.3**
ANKY	**Antikythira Is**	**5.61 273**	P	**Pn**	**04 24 30.5 +0.8**
HMDT	**Nahal Hemdat**	**5.65 127**	Pn	**Pn**	**04 24 32.8 +2.6**
HMDT			Sn	**Sn**	**04 25 34.9 +0.7**
AMAZ	**Amatzia**	**5.78 136**	Pn	**Pn**	**04 24 33.9 +1.9**
AMAZ			Sn	**Sn**	**04 25 37.2 -0.3**
GAZ	**Gaziantep**	**5.81 74**	Pn	**Pn**	**04 24 32.4 0.0**
KTHA	**Kythira Island**	**5.81 277**	P	**Pn**	**04 24 33.5 +1.1**
DID	**Didima**	**5.86 289**	P	**Pn**	**04 24 34.9 +1.8**
ILGA	**Ilgaz**	**5.93 27**	Pn	**Pn**	**04 24 35.0 +0.7**
VLI	**Veliai**	**5.95 281**	P	**Pn**	**04 24 35.8 +1.5**
SLUM	**Salum**	**5.98 226**	P	**Pn**	**04 24 35.4 +0.7**
	baz=228				
SLUM			AMP		04 25 00.0
	baz=228				
SLUM			S	**Sn**	**04 25 35.4 -6.9**
	baz=228				
KZIT	**Kziot**	**6.00 143**	Pn	**Pn**	**04 24 36.4 +1.4**
KZIT			Sn	**Sn**	**04 25 41.7 -1.1**
YTIR	**Yattir**	**6.02 136**	Pn	**Pn**	**04 24 37.9 +2.6**
YTIR			Sn	**Sn**	**04 25 43.7 +0.2**
DSI	**Dead Sea**	**6.02 133**	Pn	**Pn**	**04 24 36.6 +1.3**
ALN	**Alexandroupoli**	**6.06 329**	Pn	**Pn**	**04 24 36.7 +1.0**
HSAF	**As Saff**	**6.26 169**	P	**Pn**	**04 24 40.8 +2.3**
	baz=166				
GLL	**Jalalah**	**6.32 168**	P	**Pn**	**04 24 40.9 +1.4**
	baz=165				
GLL			S	**Sn**	**04 25 45.1 -5.8**
	baz=165				
SUZ	**Suez**	**6.33 159**	P	**Pn**	**04 24 42.1 +2.6**
	baz=155				
ASF	**Jabal al Asfar**	**6.62 121**	P	**Pn**	**04 24 46.1 +2.4**
	comp=N,0.6nm,0.3s,baz=256,slow=6.5,SNR=4.0				
ASF			S	**Sn**	**04 25 59.8 +1.5**
	comp=N,0.6nm,0.3s,baz=48,slow=0.4,SNR=1.9				
ZFRI	**Zfri**	**6.68 140**	Pn	**Pn**	**04 24 46.4 +2.1**
TOKA	**Tokat**	**6.70 46**	Pn	**Pn**	**04 24 45.6 +0.9**
PRNI	**Paran**	**6.75 142**	Pn	**Pn**	**04 24 46.1 +0.8**
KRMI	**Paran Flat**	**6.81 145**	Pn	**Pn**	**04 24 46.9 +0.8**
KRMI			Sn	**Sn**	**04 26 01.5 -1.4**
ITM	**Ithomi**	**6.82 284**	Pn	**Pn**	**04 24 46.6 +0.4**
KLV	**Kalavryta, Ach**	**6.84 292**	P	**Pn**	**04 24 48.9 +2.4**
HRFI	**Mount Harif**	**7.03 143**	Pn	**Pn**	**04 24 50.3 +1.2**
HRFI			Sn	**Sn**	**04 26 07.2 -1.0**
AGG	**Agios Georgios**	**7.05 300**	Pn	**Pn**	**04 24 49.0 -0.5**
MBRI	**Mt Berech**	**7.17 145**	Pn	**Pn**	**04 24 52.3 +1.2**
EIL	**Elat**	**7.29 145**	P	**Pn**	**04 24 53.3 +0.6**
	comp=N,3.4nm,0.3s,baz=326,slow=5.3,SNR=26				
EIL			S	**Sn**	**04 26 09.1 -5.6**
	comp=N,0.6nm,0.3s,baz=329,slow=12,SNR=1.9				
EIL	**Elat**	**7.29 145**	Pn	**Pn**	**04 24 53.6 +0.9**
EIL			Sn	**Sn**	**04 26 12.7 -2.0**
SWA2		**7.66 213**	P	**Pn**	**04 24 58.4 +0.6**
	baz=214				
SWA2			AMP		04 26 00.0
	baz=214				
MARD	**Mardin**	**8.64 77**	Pn	**Pn**	**04 25 10.7 -0.6**
HFRF	**Wahat Farafira**	**8.77 191**	P	**Pn**	**04 25 14.0 +1.0**
	baz=191				
TIRR	**Tirgusor**	**8.77 352**	⇑P	Pn	04 25 27.4 +14
CFR	**Carcaliu**	**9.51 351**	⇑P	Pn	04 25 36.8 +14
TIR	**Tirane**	**9.82 308**	⇑P	Pn	04 25 33.7 +6.4
MLR	**Muntele Rosu**	**10.22 343**	P	**Pn**	**04 25 35.4 +2.5**
	comp=N,0.1nm,0.3s,baz=286,slow=21,SNR=1.6				
MLR			LR	LR	04 29 33.8
	comp=N,28nm,18.9s,baz=135,slow=38				
MLR	**Muntele Rosu**	**10.22 343**	⇑P	Pn	04 25 45.7 +13
MLR	**Muntele Rosu**	**10.22 343**		**Pn**	**04 25 33.4 +0.5**
VOIR		**10.40 339**	⇑P	Pn	04 25 46.6 +11
VRI	**Vrincioaia**	**10.41 346**	⇓P	Pn	04 25 48.8 +13
PLOR	**Plostina**	**10.41 346**	⇓P	Pn	04 25 48.4 +13
TIP	**Timpagrande**	**11.21 292**	Pn	**Pn**	**04 25 45.4 -1.1**
VAE	**Valguarnera**	**12.80 282**	P	**Pn**	**04 26 09.8 +1.6**
	comp=N,2.1nm,0.3s,baz=6.5,slow=23,SNR=3.5				
RAFF	**Raffo Rosso**	**12.83 281**		**Pn**	**04 26 06.7 -1.9**
AKASG	**Malin Array Be**	**14.92 358**	P	**Pn**	**04 26 39.4 +2.4**
	comp=N,0.8nm,0.3s,baz=167,slow=8.1,SNR=10.0				
AKBB	**Malin Array Si**	**14.92 358**	Pn	**Pn**	**04 26 38.3 +1.3**
VRAC	**Vranov**	**16.79 328**	LR	LR	04 35 34.7
	comp=N,44nm,18.1s,baz=124,slow=44				
KEST	**Kesra**	**16.94 276**	P	**P**	**04 27 05.7 +0.8**
	comp=N,0.4nm,0.3s,baz=6.5,slow=3.2,SNR=14				
GERES	**GERESS Array B**	**17.82 322**	P	**P**	**04 27 15.7 +1.2**
	comp=N,0.1nm,0.3s,baz=134,slow=9.5,SNR=10				
GERES	**GERESS Array B**	**17.82 322**		**Pn**	**04 27 13.9 -0.1**
DAVOX	**Davos/Dischmat**	**18.76 312**	LR	LR	04 36 35.4
	comp=N,74nm,18.9s,baz=99,slow=43				
CLL	**Collm**	**19.83 327**	P	**P**	**04 27 35.0 -1.5**
GEYT	**Alibeck**	**22.40 76**	P	**P**	**04 28 04.7 +0.3**
	comp=N,1.9nm,0.4s,baz=260,slow=13,SNR=4.0				
GYA0B	**ALIBECK ARRAY**	**22.40 76**	P	**P**	**04 28 02.8 -1.6**
GYA0B			IAmb	IAmb	04 28 23.4
	comp=Z,11nm,1.3s				
AKTO	**Aktyubinsk**	**24.84 45**	P	**P**	**04 28 27.4 -0.6**
	comp=Z,6.9nm,0.6s,baz=247,slow=9.0,SNR=19				
TAM	**Tamanrasset**	**25.04 246**	P	**P**	**04 28 31.0 +0.7**
TAM			IAmb	IAmb	04 28 46.2
	comp=Z,7.5nm,1.5s				
ABKAR	**Akbulak array**	**25.52 49**	P	**P**	**04 28 33.2 -1.0**
KLMR	**Klimovskoe**	**25.78 10**	*e*	**P**	**04 28 34.4 -2.0**
KLMR			AMP		04 28 37.1
	comp=Z,15nm,1.0s				
FINES	**FINESS Array B**	**25.81 355**	P	**P**	**04 28 35.4 -1.2**
	comp=Z,1.2nm,0.6s,baz=142,slow=9.6,SNR=6.8				
HFS	**Hagfors**	**26.60 341**	P	**P**	**04 28 43.2 -0.6**
	comp=Z,2.4nm,0.7s,baz=156,slow=8.1,SNR=4.3				
HFS			LR	LR	04 40 27.1
	comp=Z,34nm,20.3s,baz=170,slow=39				
ESDC	**Sonseca Array**	**27.21 289**	P	**P**	**04 28 49.6 0.0**
	comp=Z,0.7nm,0.8s,baz=85,slow=9.6,SNR=4.7				
NOA	**NORSAR Array B**	**28.02 340**	P	**P**	**04 28 54.6 -2.0**
	comp=Z,0.9nm,0.8s,baz=144,slow=8.7,SNR=3.6				
NOA			LR	LR	04 43 04.5
	comp=Z,18nm,18.9s,baz=260,slow=43				
KK31	**Karatay Array**	**31.73 64**	P	**P**	**04 29 30.2 +0.6**
KKAR	**Karatay Array**	**31.73 64**	P	**P**	**04 29 30.2 +0.6**
BRVK	**Borovoye**	**32.89 46**	P	**P**	**04 29 39.9 +0.3**
BRVK			IAmb	IAmb	04 29 41.3
	comp=Z,2.6nm,0.8s				
ARCES	**ARCESS Array B**	**33.90 357**	P	**P**	**04 29 47.5 -0.8**
	comp=Z,4.2nm,1.2s,baz=156,slow=6.1,SNR=6.3				
TOA0	**Torodi Ar. Sit**	**34.16 236**	P	**P**	**04 29 50.6 -0.4**
TORD	**Torodi Ar. Bea**	**34.16 236**	P	**P**	**04 29 52.0 +1.0**
	comp=Z,2.1nm,0.9s,baz=31,slow=11,SNR=12				
TORD	**Torodi Ar. Bea**	**34.16 236**	P	**P**	**04 29 52.9 +1.9**
MK31	**Makanchi Array**	**39.98 58**	P	**P**	**04 30 39.6 -0.6**
MKAR	**Makanchi Array**	**39.98 58**	P	**P**	**04 30 39.0 -1.2**
	comp=Z,1.2nm,0.6s,baz=266,slow=9.4,SNR=13				
MKAR	**Makanchi Array**	**39.98 58**	P	**P**	**04 30 39.4 -0.8**
ZAA0	**Zalesovo Array**	**41.59 47**	P	**P**	**04 30 54.2 +0.9**
ZAA0			IAmb	IAmb	04 31 07.4
	comp=Z,2.0nm,0.8s				
ZALV	**Zalesovo Beam**	**41.59 47**	P	**P**	**04 30 52.0 -1.3**
	comp=Z,1.5nm,0.5s,baz=270,slow=9.2,SNR=6.6				
DBIC	**Dimbokro**	**43.27 236**	P	**P**	**04 31 07.7 +0.3**
	comp=Z,2.3nm,0.8s,baz=82,slow=7.1,SNR=2.0				
SONM	**Songino Array**	**55.87 52**	P	**P**	**04 32 43.2 -0.2**
	comp=Z,0.6nm,0.5s,baz=227,slow=20,SNR=2.8				
SONM			LR	LR	04 59 30.8
	comp=Z,87nm,18.4s,baz=30,slow=39				
CMAR	**Chiang Mai Arr**	**62.41 86**	P	**P**	**04 33 27.9 -1.0**
	comp=Z,1.3nm,0.3s,baz=307,slow=8.5,SNR=5.3				
KSRS	**Korea Array**	**74.59 55**	P	**P**	**04 34 44.1 -0.6**
	comp=Z,0.6nm,0.4s,baz=342,slow=31,SNR=2.7				
YKA	**Yellowknife Ar**	**78.05 344**	P	**P**	**04 35 03.2 -0.6**
	comp=Z,0.5nm,0.9s,baz=344,slow=5.3,SNR=2.3				
ILAR	**Eielson Array**	**79.75 359**	P	**P**	**04 35 13.2 +0.1**
	comp=Z,0.2nm,0.6s,baz=120,slow=8.8,SNR=2.6				

WEL 13 04:42:41.0, 39°0S±0°.6×177°5E±0°.9, h23km±1km, M2.4/17, ML2.6/15, MLv2.4/17, Error ellipse: s-maj=0.0km s-min=0.0km az=107.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.14**	**85**	P	Pb	04 42 46.2	+0.4
WHHZ	**Waihua**	**0.20**	**258**	P	Pb	04 42 47.1	+0.6
SNGZ	**Shannon Statio**	**0.28**	**335**	P	Pb	04 42 48.0	+0.4
PRGZ	**Paritu Road**	**0.33**	**70**	P	Pb	04 42 49.0	+0.7
RAHZ	**Arahi**	**0.34**	**291**	P	Pb	04 42 47.5	-1.0
MHGZ	**Mahia Peninsul**	**0.35**	**110**	P	Pb	04 42 49.3	+0.7
RIGZ	**Rimuhau**	**0.39**	**33**	P	Pb	04 42 49.9	+0.5
ARHZ	**Aropaoanui**	**0.45**	**239**	P	Pb	04 42 51.0	+0.7
NMHZ	**Naumai**	**0.53**	**263**	P	Pb	04 42 52.2	+0.5
MTHZ	**Maungataniwha**	**0.54**	**290**	P	Pb	04 42 51.9	+0.1
RTZ	**Ruatahuna**	**0.58**	**316**	P	Pb	04 42 52.5	0.0
CKHZ	**Cape Kidnapper**	**0.70**	**207**	P	Pb	04 42 54.7	+0.1
MWZ	**Matawai**	**0.70**	**3**	P	Pb	04 42 54.6	0.0
MCHZ	**McNeill Hill**	**0.74**	**236**	P	Pn	04 42 55.8	-0.2
BKZ	**Black Stump Fm**	**0.79**	**260**	P	Pb	04 42 55.9	-0.1
MUGZ	**Murupara**	**0.79**	**315**	P	Pb	04 42 55.9	-0.2
URZ	**Urewera**	**0.83**	**339**	P	Pb	04 42 56.3	-0.4
KAHZ	**Kahuranaki**	**0.90**	**212**	P	Pb	04 42 57.3	-0.6
KWHZ	**Kaweka Forest**	**0.91**	**244**	P	Pb	04 42 58.0	-0.2
RUGZ	**Raukumara Rang**	**1.08**	**8**	P	Pn	04 42 52.6	-8.2
BHHZ	**Black Hill Sta**	**1.20**	**247**	P	Pn	04 43 01.7	-0.7
TMVZ	**Te Maari**	**1.39**	**266**	P	Pb	04 43 06.9	+0.6
OTVZ	**Oturere**	**1.42**	**264**	P	Pb	04 43 06.4	-0.5
NGZ	**Ngauruhoe**	**1.48**	**264**	P	Pb	04 43 10.5	+2.7
WNVZ	**Wahianoa**	**1.50**	**258**	P	Pb	04 43 09.2	+1.0
MTVZ	**Mangateitei**	**1.61**	**257**	P	Pn	04 43 06.6	-1.4

WEL 13 04:43:23.4, 41°S±4°×17°3E±°, h116km±8km, M2.7/13, ML2.7/1, MLv2.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=102.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.33**	**93**	P	Pn	04 43 40.3	+0.3
NNZ	**Nelson**	**0.44**	**191**	P	Pn	04 43 40.9	+0.4
TUWZ	**Tuamarina**	**0.73**	**152**	P	Pn	04 43 43.5	+0.9
TCW	**Tory Channel**	**0.73**	**126**	P	Pn	04 43 43.8	+1.2
QRZ	**Quartz Range**	**0.73**	**266**	P	Pn	04 43 42.3	-0.3
BSWZ	**Blackbirch Sta**	**0.97**	**163**	P	Pn	04 43 46.2	+1.4
THZ	**Tophouse**	**1.07**	**204**	P	Pn	04 43 46.6	+0.7
KIW	**Kapiti Island**	**1.08**	**95**	P	Pn	04 43 46.3	+0.4
CAW	**Cannon Point**	**1.23**	**106**	P	Pn	04 43 48.1	+0.5
OGWZ	**Otaki Gorge**	**1.27**	**92**	P	Pn	04 43 48.4	+0.4
WAZ	**Wanganui**	**1.54**	**48**	P	Pn	04 43 52.0	+0.9
HOWZ	**Holdsworth Sta**	**1.54**	**95**	P	Pn	04 43 45.0	-6.1
KHEZ	**Kahui Hut**	**1.54**	**15**	P	Pn	04 43 51.4	+0.3
PLWZ	**Palliser**	**1.54**	**121**	P	Pn	04 43 51.7	+0.6
MTW	**Mount Morrison**	**1.57**	**104**	P	Pn	04 43 51.5	+0.2
DSZ	**Denniston Nort**	**1.59**	**232**	P	Pn	04 43 52.1	+0.4
KHZ	**Kahutara**	**1.63**	**179**	P	Pn	04 43 53.0	+1.0
PKE	**Pukeiti**	**1.63**	**14**	P	Pn	04 43 53.2	+1.0
TIWZ	**Tintock**	**1.82**	**91**	P	Pn	04 43 54.2	-0.2
TMWZ	**Te Maipa**	**1.84**	**101**	P	Pn	04 43 54.9	+0.2
TSZ	**Takapari Road**	**2.02**	**70**	P	Pn	04 43 56.3	-0.6
GVZ	**Greta Valley S**	**2.21**	**189**	P	Pn

CISI	Cisompet, Garu	1.66 116		Pn	05 13 23.9	-0.5
CISI			Sn	Sn	05 13 45.4	-0.6
BLSI	Bandar Lampung	1.79 324	P	Pg	05 13 30.7	+1.5
JCJI	Jatiwangi	1.98 80	P	Pn	05 13 28.8	+0.1
CMJI	Cimerak	2.33 114	P	Pn	05 13 34.4	+0.9
KLSI		2.64 323	P	Pb	05 13 42.5	+0.1
KPJI	Karang Pucung	2.65 101	P	Pn	05 13 38.5	+0.6
LWLI	Liwa	2.87 309	P	Pb	05 13 45.5	-0.9
MDSI	Maura Dua	3.15 317	P	Pb	05 13 49.2	-1.9
LHSI	Lahat	4.07 317	P	Pb	05 14 03.5	-3.3
MNAI	Manna	4.14 306	Pn	Pn	05 13 59.6	+1.2
TPI	Tanjungpandan	4.26 18	P	Pn	05 14 01.9	+1.8
UGM	Wanagama	4.32 105	Pn	Pn	05 14 01.4	+0.5
PWJI	Pagerwojo	5.58 103	P	Pn	05 14 18.6	+0.4
	0.3nm49nm,2.0s					
FITZ	Fitzroy Crossi	21.92 123	P	P	05 17 49.0	0.0
KNRA	Kununurra	23.69 114	P	P	05 18 06.1	-1.3
CMAR	Chiang Mai Arr	26.15 344	P	P	05 18 29.9	0.0
	0.5nm,0.3s,baz=167,slow=8.2,SNR=1.4					
CMAR	Chiang Mai Arr	26.15 344	P	P	05 18 29.2	-0.7
H01W3	Cape Leeuwin H	28.84 167	T	T	05 49 30.1	
	baz=344,slow=76,SNR=16					
H01W1	Cape Leeuwin H	28.85 167	T	T	05 49 31.5	
	baz=344,slow=76,SNR=13					
H01W2	Cape Leeuwin H	28.86 167	T	T	05 49 25.9	
	baz=344,slow=76,SNR=18					
WB0	Warramunga Arr	30.14 118	P	P	05 19 05.4	-0.3
WB0			IAmb	IAmb	05 19 24.8	
	comp=Z,8.0nm,1.4s					
WRA	Warramunga Arr	30.16 118	P	P	05 19 05.3	-0.4
	comp=Z,1.3nm,0.8s,baz=304,slow=8.9,SNR=18					
WRA	Warramunga Arr	30.16 118	P	P	05 19 05.5	-0.3
WB2	Warramunga Arr	30.17 118	P	P	05 19 05.9	0.0
WB2			IAmb	IAmb	05 19 24.9	
	comp=Z,6.4nm,1.3s					
WR0	Warramunga Arr	30.34 118	P	P	05 19 06.9	-0.5
WR0			IAmb	IAmb	05 19 25.7	
	comp=Z,3.7nm,1.1s					
ASAR	Alice Springs	31.35 125	P	P	05 19 16.4	+0.2
	comp=Z,1.1nm,0.8s,baz=308,slow=8.2,SNR=10					
H08S2	Diego Garcia H	33.55 266	T	T	05 55 12.9	
	baz=91,slow=75,SNR=11					
H08S3	Diego Garcia H	33.56 267	T	T	05 55 10.8	
	baz=91,slow=75,SNR=5.5					
H08S1	Diego Carcia H	33.57 266	T	T	05 55 14.3	
	baz=91,slow=75,SNR=3.8					
STKA	Stephens Creek	41.27 132	P	P	05 20 41.6	+0.7
	comp=Z,2.0nm,0.4s,baz=289,slow=6.9,SNR=8.8					
STKA	Stephens Creek	41.27 132	P	P	05 20 41.3	+0.4
SONM	Songino Array	54.42 0	P	P	05 22 25.3	+2.6
	comp=Z,0.3nm,0.4s,baz=176,slow=8.1,SNR=2.0					
SONM	Songino Array	54.42 0	P	P	05 22 22.8	+0.1
MK31	Makanchi Array	57.49 341	P	P	05 22 43.8	-0.8
MK31			IAmb	IAmb	05 23 09.2	
	comp=Z,2.5nm,1.3s					
MKAR	Makanchi Array	57.49 341	P	P	05 22 44.1	-0.6
	comp=Z,0.3nm,0.5s,baz=131,slow=6.8,SNR=2.3					
MKAR	Makanchi Array	57.49 341	P	P	05 22 43.8	-0.8

*JMA **13** 05:16:20.1,24°.39N×121°.90E,h26km±4km,M2.2*
*TAP **13** 05:16:20.6,24°.48N×121°.87E,h16km,ML2.9,B*
ISC 13 05:16:19.3±0.9,24°.44N±0°.02×122°.00E±0°.02,h16km±6km, n57,σ0°.79/109,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	Nanao	0.17	273	P	Pg	05 16 24.1	+0.5
ENAH	baz=243			S	Sg	05 16 26.6	+0.2
TWC	Suao	0.22	321	P	Pg	05 16 24.7	+0.5
TWC	baz=356			S	Sg	05 16 27.3	-0.3
ENA	Nanau	0.23	267	P	Pb	05 16 24.8	-0.4
ENA	baz=245			S	Sg	05 16 27.6	-0.5
ILA	Ilan	0.40	325	P	Pb	05 16 28.0	+0.1
ILA	baz=340			S	Sb	05 16 33.1	-0.7
EGS		0.41	351	P	Pb	05 16 28.6	+0.4
EGS	baz=10.0			eS	Sb	05 16 33.8	-0.3
TWE	Neicheng	0.41	313	P	Pb	05 16 27.7	-0.5
TWE	baz=324			S	Sg	05 16 32.4	-0.8
NTC	Toucheng	0.44	340	eP	Pb	05 16 28.8	+0.1
NTC	baz=354			eS	Sb	05 16 34.0	-1.0
ENTT	Nioudou	0.44	297	P	Pb	05 16 28.4	-0.4
ENTT	baz=300			S	Sg	05 16 33.2	-1.0
NACB	Ninganchiao	0.45	234	P	Pb	05 16 28.3	-0.6
NACB	baz=219			S	Sg	05 16 34.0	-0.5
NDT	Datong Townshi	0.47	290	P	Pb	05 16 28.9	-0.3
NDT	baz=291			S	Sg	05 16 34.1	-1.0
ETLH	Xiulin Townshi	0.53	244	eP	Pb	05 16 29.8	-0.4
ETLH	baz=232			eS	Sb	05 16 36.7	-0.9
TIPB	Shuangxi	0.55	344	P	Pb	05 16 30.7	+0.1
TIPB	baz=355			eS	Sb	05 16 37.5	-0.8
NNSB	Datong	0.56	269	P	Pb	05 16 30.2	-0.6
NNSB	baz=263			S	Sg	05 16 36.7	-1.3
NNSH	Datong	0.56	269	P	Pb	05 16 30.3	-0.5
NNSH	baz=263			S	Sg	05 16 36.9	-1.0
NWLT	Wulai	0.56	307	eP	Pb	05 16 30.9	+0.1
NWLT	baz=311			eS	Sg	05 16 36.6	-1.4
TWB1	Santiao Chiao	0.57	359	P	Pb	05 16 31.4	+0.5
TWB1	baz=12			S	Sb	05 16 38.4	-0.4
NNS	Nan Shan	0.57	270	P	Pb	05 16 30.6	-0.4
NNS	baz=265			S	Sg	05 16 37.0	-1.3
YHNB	Yeheng	0.61	292	P	Pb	05 16 31.2	-0.4
YHNB	baz=293			S	Sg	05 16 38.0	-1.5
NWF	Wu-fen Shan	0.66	343	P	Pb	05 16 33.0	+0.5
NWF	baz=352			eS	Sb	05 16 41.9	+0.4
WFSB	Wu-fen Shan	0.66	343	P	Pb	05 16 33.0	+0.6
WFSB	baz=352			eS	Sb	05 16 41.5	+0.1
TATO	Taipei	0.71	319	eP	Pb	05 16 33.1	-0.1
TATO	baz=325			eS	Sg	05 16 41.3	-1.1
FUSS	Fushou	0.71	255	eP	Pb	05 16 33.2	-0.3
FUSS	baz=248			eS	Sg	05 16 41.7	-1.1
WHF	Hehuan Shan	0.73	246	eP	Pb	05 16 33.6	-0.2
WHF	baz=238			eS	Sg	05 16 42.8	-0.6
TDCB	Techi	0.79	257	eP	Pb	05 16 34.7	0.0
TDCB	baz=250			eS	Sg	05 16 44.1	-1.0
YM01	YM01	0.80	331	eP	Pn	05 16 35.9	-0.1
YM01	baz=337			eS	Sb	05 16 45.8	+0.1
ESL	Shilin	0.81	220	eP	Pn	05 16 36.1	+0.1
ESL	baz=210			eS	Sn	05 16 48.0	+0.3
YM10	YM10	0.82	331	eP	Pn	05 16 36.2	-0.1
YM10	baz=337			eS	Sb	05 16 46.6	+0.6
YM11	YM11	0.82	332	eP	Pn	05 16 36.5	+0.2
YM11	baz=338			eS	Sn	05 16 48.0	-0.1
YM05	YM05	0.82	331	eP	Pn	05 16 36.3	0.0
YM05	baz=338			eS	Sb	05 16 46.9	+0.7
YM04	YM04	0.83	330	eP	Pn	05 16 35.9	-0.4
YM04	baz=335			eS	Sb	05 16 46.0	-0.2
YM08	YM08	0.83	334	eP	Pb	05 16 35.8	+0.4
YM08	baz=340			eS	Sb	05 16 47.0	+0.6
CHGB	Renai	0.84	244	eP	Pb	05 16 35.6	-0.1
CHGB	baz=236			eS	Sb	05 16 46.4	-0.5
TWS1	Kuangyinshan	0.84	321	eP	Pn	05 16 36.3	-0.3
TWS1	baz=326			eS	Sb	05 16 47.5	+0.9
JYNG	Yonagunijimaku	0.86	89	P	Pn	05 16 37.6	+0.8
JYNG				eS	Sn	05 16 49.6	+0.5
NTST	Danshui	0.88	325	eP	Pn	05 16 37.6	+0.6
NTST	baz=330			eS	Sb	05 16 48.5	+0.9
NCUH	Zhongli	0.91	306	eP	Pn	05 16 37.5	+0.1
NCUH	baz=308			eS	Sb	05 16 49.5	+1.0
TWY	Chenhua	0.91	337	eP	Pn	05 16 37.9	+0.5
TWY	baz=343			eS	Sb	05 16 49.6	+1.1
LIOB	Emei	0.92	283	eP	Pn	05 16 37.8	+0.3
LIOB	baz=282			eS	Sg	05 16 48.5	-0.7
YOJ	Yonaguni jima	0.92	88	eP	Pn	05 16 38.5	+0.9
YOJ	baz=90			eS	Sn	05 16 52.1	+1.6
YOJ	Yonaguni jima	0.92	88	P	Pn	05 16 38.5	+0.9
YOJ				eS	Sn	05 16 51.6	+1.1
NSTT	Nanjuang	0.93	282	eP	Pn	05 16 37.6	0.0
NSTT	baz=281			eS	Sg	05 16 48.9	-0.6
WHP	Taichung City	0.97	261	eP	Pn	05 16 38.3	-0.1
WHP	baz=256			eS	Sg	05 16 50.2	-0.7
VWDT	VWDT	1.04	229	eP	Pn	05 16 40.0	+0.8
VWDT	baz=222			eS	Sn	05 16 54.0	+0.6
HGSD	Ruisui	1.08	209	eP	Pn	05 16 42.2	+2.4
HGSD	baz=202			eS	Sn	05 16 56.3	+1.8
EHY	Hungye	1.12	214	eP	Pn	05 16 41.1	+0.8
EHY	baz=206			eS	Sn	05 16 56.5	+1.1
SMLT	Sun Moon Lake	1.15	241	eP	Pn	05 16 41.5	+0.7
SSLB	baz=235			eS	Sb	05 16 41.2	+0.4
SSLB	Suanglung	1.15	236	eP	Pn	05 16 41.2	+0.4
SSLB	baz=230			eS	Sb	05 16 56.4	+0.8
TYC	Yuchr	1.17	243	eP	Pn	05 16 41.4	+0.4
TYC	baz=238						
PCYT	Pengchaiyu	1.19	3	eP	Pn	05 16 41.3	+0.1
PCYT	baz=9.0						
YULB	Yu-li	1.22	212	eP	Pn	05 16 42.4	+0.6
YULB	baz=205			eS	Sn	05 16 58.8	+0.8
TWF1	Yuli	1.26	211	eP	Pn	05 16 43.5	+1.3
TWF1	baz=204			eS	Sn	05 17 00.1	+1.2
IRIF	Iriomote-Funau	1.58	93	P	Pg	05 16 47.7	-2.0
IRIF				eS	Sb	05 17 07.9	0.0
CHN4	Tsaushan	1.68	230	eP	Pg	05 16 51.3	-0.3
TPUB	baz=226						
	Ta-pu	1.69	228	eP	Pg	05 16 51.1	-0.6
JKRS	baz=224						
JKRS	Kuro-shima	1.84	96	P	Pb	05 16 52.1	-0.5
JKRS				S	Sb	05 17 15.4	-0.1
JIJ	Ishigaki jima	1.96	92	P	Pb	05 16 53.2	-1.3
JIJ				eS	Sn	05 17 16.9	+0.8
JISG	Ishigakijimahi	2.11	86	P	Pn	05 16 54.8	+0.8
JISG				S	Sn	05 17 21.4	+1.5

*IDC **13** 05:32:03.5±2.4,23°.86S×179°.94W,h500km±24km,mb3.3/9, mb1 3.6/9,mb1mx3.3/25,mbtmp4.1/9,Error ellipse: s-maj=36.5km s-min=16.5km az=155.0*
*NEIC **13** 05:32:05.0±1.2,23°.9S±0°.1×180°.0E±0°.1,h515km±11km, mb4.2/29,Error ellipse: s-maj=18.1km s-min=14.8km az=156.0*
ISC 13 05:32:03.8±0.5,23°.93S±0°.07×179°.98E±0°.06,h500km,n57, σ1°.08/65,mb4.1/23,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.42	343	P	P	05 33 46.6	+2.1
MSVF				S	S	05 35 07.2	+0.5
NIUE	Niue	10.56	65	P	P	05 34 26.9	-0.3
NIUE				S	S	05 36 26.6	+1.3
DZM	Mont Dzumac	12.60	276	P	P	05 34 50.4	+1.4
DZM				S	S	05 37 06.0	+0.9
URZ	Urewera	14.49	189	P	P	05 35 09.6	+1.0
URZ				S	S	05 37 42.4	+1.5
QRZ	Quartz Range	17.97	199	P	P	05 35 44.2	+0.5
LTZ	Lake Taylor	19.86	197	P	P	05 36 01.4	+0.4
ARMA	Armidale	25.99	249	P	P	05 36 56.5	+0.2
ARMA	comp=Z,10nm,1.2s			IAmb	IAmb	05 37 01.0	
EIDS	Eidsvold	26.28	261	P	P	05 36 59.4	+0.7
EIDS	comp=Z,12nm,1.4s			IAmb	IAmb	05 37 07.0	
CTAO	Charters Tower	31.46	270	P	P	05 37 45.6	+1.7
STKA	Stephens Creek	34.69	248	P	P	05 38 11.3	+0.1
	comp=Z,0.5nm,0.3s,baz=95,slow=12,SNR=3.4						
STKA	Stephens Creek	34.69	248	P	P	05 38 11.0	-0.2
BBOO	Buckleboo	39.41	247	P	P	05 38 49.9	-0.1
AS31	Alice Springs	42.01	261	P	P	05 39 10.7	-0.3
ASAR	Alice Springs	42.01	261	P	P	05 39 11.4	+0.5
	comp=Z,2.7nm,0.8s,baz=99,slow=6.8,SNR=26						
ASAR				ScP	ScP	05 43 57.2	-0.1
	comp=Z,1.5nm,0.8s,baz=109,slow=4.4,SNR=11						
ASAR				S	S	05 44 50.8	-2.7
	comp=Z,0.3nm,0.7s,baz=102,slow=12,SNR=3.0						
WR0	Warramunga Arr	42.20	266	P	P	05 39 11.4	-1.0
WR0	comp=Z,2.9nm,0.5s			IAmb	IAmb	05 39 14.4	
WB2	Warramunga Arr	42.37	266	P	P	05 39 13.8	-0.1
WB0	Warramunga Arr	42.38	266	P	P	05 39 14.4	+0.5
WRAB	Tennant Creek	42.38	266	P	P	05 39 13.9	+0.1
WRAB	comp=Z,4.8nm,0.5s			IAmb	IAmb	05 39 14.6	
WRA	Warramunga Arr	42.38	266	P	P	05 39 14.3	+0.3
	comp=Z,6.2nm,0.6s,baz=103,slow=8.2,SNR=80						
WRA				ScP	ScP	05 43 59.8	+0.9
	comp=Z,1.4nm,0.9s,baz=100,slow=3.9,SNR=7.6						
WRA				S	S	05 44 54.8	-4.1
	comp=Z,0.9nm,1.2s,baz=103,slow=14,SNR=3.6						
WRA	Warramunga Arr	42.38	266	P	P	05 39 13.6	-0.4
FORT	Forrest	46.28	250	P	P	05 39 43.5	-0.4
MTN	Manton Dam	47.44	274	P	P	05 39 52.8	-0.1
MTN				IAmb	IAmb	05 40 02.7	
	comp=Z,16nm,1.4s						
KNRA	Kununurra	48.67	270	P	P	05 40 02.0	-0.1
KNRA				IAmb	IAmb	05 40 03.7	
	comp=Z,13nm,0.9s						
FITZ	Fitzroy Crossi	50.81	266	P	P	05 40 18.6	+0.7
	comp=Z,2.3nm,0.6s,baz=182,slow=4.7,SNR=13						
FITZ	Fitzroy Crossi	50.81	266	IAmb	IAmb	05 40 20.1	
	comp=Z,2.4nm,0.7s						
MORW	Morawa	56.85	250	P	P	05 41 00.2	-0.4
MORW				IAmb	IAmb	05 41 24.2	
	comp=Z,21nm,1.5s						
QSPA	South Pole Qui	66.15	180	P	P	05 42 02.0	+1.0
QSPA				IAmb	IAmb	05 42 03.8	
	comp=Z,3.5nm,0.8s						
BELA	Belgrano 2	76.41	173	P	P	05 43 00.6	-0.2
MAW	Mawson	77.72	200	P	P	05 43 08.5	+0.4
	comp=Z,1.1nm,0.5s,baz=144,slow=8.7,SNR=2.7						
SNAA	Sanae	84.64	179	P	P	05 43 42.5	-1.3
NVAR	Mina Array Bea	84.79	44	P	P	05 43 45.6	+0.4
	comp=Z,0.8nm,0.7s,baz=225,slow=7.7,SNR=7.3						
NVAR	Mina Array Bea	84.79	44	P	P	05 43 44.9	-0.4
VNA3	Neumayer Olymp	84.85	177	P	P	05 43 44.1	-0.8
TPNV	Topopah Spring	85.26	46	P	P	05 43 47.7	+0.1
VNA2	Neumayer--Watz	85.26	178	P	P	05 43 46.4	-0.4
KVN	Kaiserville	85.28	44	P	P	05 43 47.3	-0.3
VNA1	Neumayer--Stat	85.50	177	P	P	05 43 47.4	-0.5
K05A	Summer Lake	85.80	39	P	P	05 43 50.0	0.0
K05A				IAmb	IAmb	05 43 52.0	
	comp=Z,4.6nm,1.1s						
H04A	Detroit Lake	86.28	37	P	P	05 43 50.4	-1.7
H04A				IAmb	IAmb	05 43 55.9	
	comp=Z,6.6nm,1.3s						
PINE	Pine Mountain	86.42	38	P	P	05 43 52.0	-1.0
PINE				IAmb	IAmb	05 43 55.5	
	comp=Z,8.0nm,1.1s						
I07A	Izee	87.42	39	P	P	05 43 58.4	+0.8
I07A				IAmb	IAmb	05 43 60.0	
	comp=Z,3.6nm,1.0s						
TMUT	Trail Mountain	89.87	46	P	P	05 44 10.7	+1.3
TX31	Lajitas Ar. Si	90.46	58	P	P	05 44 11.8	-0.2
TX31				IAmb	IAmb	05 44 14.2	
	comp=Z,2.9nm,0.8s						
TX32	Lajitas Array	90.46	58	P	P	05 44 13.0	+0.9
TX32				IAmb	IAmb	05 44 40.6	
	comp=Z,3.4nm,1.3s						
TXAR	Lajitas Array	90.46	58	P	P	05 44 12.7	+0.7
	comp=Z,1.8nm,0.8s,baz=198,slow=7.8,SNR=5.8						
TXAR	Lajitas Array	90.46	58	P	P	05 44 11.1	-0.9
ILAR	Eielson Array	92.06	14	P	P	05 44 16.2	-2.3
	comp=Z,0.6nm,0.5s,baz=292,slow=28,SNR=7.3						
PDAR	Pinedale Array	92.72	44	P	P	05 44 21.8	-0.6
	comp=Z,0.4nm,0.7s,baz=174,slow=1.5,SNR=5.4						
MKAR	Makanchi Array	112.16	313	PKiKP	PKiKP	05 49 41.2	-0.9
	comp=Z,0.2nm,0.5s,baz=104,slow=3.6,SNR=2.5						
ARCES	ARCESS Array B	131.91	348	PKP	PKPdf	05 50 18.4	-0.7
	comp=Z,5.0nm,1.1s,baz=70,slow=1.4,SNR=6.0						
FINES	FINESS Array B	138.47	341	PKhKP	PKPpre	05 50 21.5	
	comp=Z,2.6nm,0.9s,baz=134,slow=21,SNR=2.1						
FINES				PKP	PKPdf	05 50 31.9	+0.4
	comp=Z,1.0nm,0.7s,baz=180,slow=1.5,SNR=5.2						
AKASG	Malin Array Be	144.99	327	PKP	PKPdf	05 50 42.8	-0.7
	comp=Z,2.4nm,0.6s,baz=44,slow=4.0,SNR=8.3						
BRTR	Keskin Array B	147.58	307	PKPbc	PKPdf	05 50 49.6	+1.3
	comp=Z,0.8nm,0.6s,baz=110,slow=2.5,SNR=3.9						
CLL	Collm	150.88	343	i PKPbc	PKPbc	05 50 59.3	+0.1
	comp=Z,5.0nm,0.7s						
BRG	Berggiesshubel	151.01	342	i PKP	PKPbc	05 50 59.3	-0.2
	comp=Z,4.1nm,0.5s						
GERES	GERESS Array B	152.88	340	PKPbc	PKPbc	05 51 02.4	-1.5
	comp=Z,0.3nm,0.5s,baz=90,slow=0.1,SNR=3.4						
TORD	Torodi Ar. Bea	169.15	189	PKP	PKPdf	05 51 12.6	-1.5
	comp=Z,0.9nm,1.0s,baz=352,slow=2.5,SNR=3.5						
TORD				PKPab	PKPab	05 52 27.8	-1.3
	comp=Z,0.4nm,0.7s,baz=184,slow=1.5,SNR=2.9						

*NIED **13** 05:46:29.6,38°.45N×142°.14E,h40km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.81; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-1.27; $M_{r\theta}$1.60; $M_{\theta\phi}$-0.61; $M_{\phi r}$1.11; Fault plane solution: $M_0$2.58000×10^{14} NP1:ϕ_s48.00000°, δ70.00000°,λ101.00000°. NP2:ϕ_s199.00000°,δ23.00000°, λ63.00000°.*
JMA 13 05:46:29.6±0.1,38°.45N×142°.14E,h40km±1km,M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.55	256	P	Pn	05 46 40.8	-0.2
JIKH				S	Sn	05 46 48.5	-0.5
JIO	Ouri	0.62	271	P	Pn	05 46 41.9	-0.1
JIO				S	Sn	05 46 50.5	-0.3
JKMT	Kesennumamotoy	0.63	305	P	Pn	05 46 42.2	+0.1
JKMT				S	Sn	05 46 51.0	-0.1
OFUJ	Ofunato	0.73	330	P	Pn	05 46 43.4	-0.1
OFUJ				eS	Sn	05 46 53.3	-0.1
JMK	Ichinoseki	0.88	305	P	Pn	05 46 45.7	+0.2
JMK				eS	Sn	05 46 57.2	+0.2
JOU	Okura	1.16	266	P	Pn	05 46 49.8	+0.4
JOU				eS	Sn	05 47 04.7	+0.6
JMM	Marumori	1.21	242	P	Pn	05 46 50.1	+0.1
JMM				eS	Sn	05 47 05.3	+0.1
JOM	Ohasama	1.22	327	P	Pn	05 46 50.7	+0.6
JYK	Kaneyama	1.47	289	P	Pn	05 46 54.3	+0.7
JYK				eS	Sn	05 47 13.1	+1.5
JFK	Kawauchi	1.47	223	P	Pn	05 46 53.3	-0.4
JFK				eS	Sn	05 47 11.0	-0.8

*ISK **13** 05:54:42.9,37°.22N×28°.39E,h7km,ML2.3/10*
*DDA **13** 05:54:43.1,37°.21N×28°.36E,h7km±4km,ML2.5*
ISC 13 05:54:43.4±1.0,37°.23N±0°.03×28°.36E±0°.02,h7km±8km, n19,σ0°.98/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.11	215	PG	Pg	05 54 46.3	+0.4
YER				SG	Sg	05 54 48.1	+0.5
DALY	Dalyan (Mula)	0.47	150	PG	Pg	05 54 52.3	-0.2
DALY				SG	Sb	05 54 59.1	-2.1
DALY	Dalyan (Mula)	0.47	150	i P	Pg	05 54 52.1	-0.3
DALY				i S	Sg	05 54 57.9	-0.7
TAVA	DENIZLI_Tavas	0.50	61	i P	Pg	05 54 52.8	-0.3
TAVA				i S	Sg	05 54 59.1	-0.5
AYDN	Tasoluk	0.58	318	i P	Pb	05 54 55.9	-0.1
AYDN				i S	Sg	05 55 01.4	-0.8
DAT	Datca	0.80	232	PG	Pb	05 54 59.1	-0.7
DAT	Datca	0.80	232	i P	Pg	05 54 57.8	-1.1
DAT				i S	Sb	05 55 10.9	+0.1
FETY	Fethiye	0.82	135	PG	Pg	05 54 58.7	-0.5
FETY	Fethiye	0.82	135	i P	Pg	05 54 58.8	-0.5
FETY				i S	Sn	05 55 15.5	+1.5
BODT	Bodrum	0.86	259	PG	Pb	05 55 00.2	-0.5
BODT				SG	Sb	05 55 13.0	+0.6
GOLH	Golhisar	0.95	89	i P	Pb	05 55 02.1	-0.2
GOLH				i S	Sb	05 55 15.4	+0.1
GOLH				IAML		05 55 46.0	
	comp=E,110nm,2.3s						
GCAM	G?zelcaml?	1.02	298	PG	Pb	05 55 03.5	+0.1
GCAM	G?zelcaml?	1.02	298	i P	Pn	05 55 04.7	+0.6
GCAM				i S	Sb	05 55 16.7	-0.3
ARG	Arkhangelos	1.03	191	PG	Pb	05 55 02.8	-0.7
KOSK	Kos Island	1.21	247	PN	Pn	05 55 06.9	+0.2
KULA	Kula-Manisa	1.31	10	PN	Pb	05 55 08.1	-0.3
AKAS	Kas	1.41	135	PN	Pb	05 55 09.5	-0.6
AKAS	Kas	1.41	135	i P	Pg	05 55 10.9	+0.5
AKAS				i S	Sg	05 55 32.1	+3.4
KORT	Korkueli	1.60	98	PN	Pn	05 55 11.9	-0.4

IDC 13 06:24:30.1±3.0,19°.48S×175°.57W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.8/23,mbtmp4.2/3,Error ellipse: s-maj=175.3km s-min=38.1km az=147.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.28	243	P	P	06 32 08.0	-1.2
	0.7nm,0.3s,baz=115,slow=14,SNR=2.9						
ASAR	Alice Springs	46.98	255	P	P	06 33 04.7	+1.3
	9.7nm,0.6s,baz=89,slow=8.2,SNR=201						
ASAR				PcP	PcP	06 34 35.7	-0.2
	0.3nm,0.4s,baz=107,slow=4.1,SNR=2.0						
WRA	Warramunga Arr	47.01	261	P	P	06 33 03.0	-0.6
	0.8nm,0.5s,baz=96,slow=6.9,SNR=30						
WRA				PcP	PcP	06 34 35.3	-0.7

0.2nm,0.6s,baz=100,slow=3.3,SNR=2.1
FINES FINESS Array B 135.41 345 PKP PKiKP 06 43 52.8 -0.3
1.1nm,0.8s,baz=124,slow=28,SNR=1.6
BRTR Keskin Array B 147.79 315 PKPbc PKPdf 06 44 14.3 -0.3
0.5nm,0.6s,baz=133,slow=2.2,SNR=2.5
GERES GERESS Array B 149.77 348 PKPbc PKPbc 06 44 22.5 +0.4
0.6nm,0.5s,baz=1.9,slow=4.0,SNR=6.6

ATH 13 06:55:19.2, 38.39N×21.90E, h24km±5km, ML1.5/1, Error ellipse: s-maj=6.0km s-min=1.2km az=45.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.16**	**159**	P	Pb	06 55 23.9	-0.3
ANX	**Ano Chora**	**0.20**	**4**	P	Pb	06 55 24.8	0.0
ANX				S	Sb	06 55 28.4	-0.2
ANX				AML	AML	06 55 28.9	
	comp=N,301μm,0.2s						
ANX				AML	AML	06 55 30.7	
	comp=E,273μm,0.3s						
PVO	**Paravola**	**0.37**	**307**	P	Pb	06 55 27.3	+0.1
PVO				S	Sb	06 55 33.6	+1.0
KLV	**Kalavryta, Ach**	**0.40**	**151**	P	Pb	06 55 27.5	-0.2
KLV				S	Sb	06 55 34.4	+0.9
DRO	**Drossia**	**0.47**	**199**	P	Pb	06 55 28.7	-0.1
RLS	**Riolos of Patr**	**0.48**	**226**	P	Pb	06 55 28.9	-0.1
GUR	**Goura**	**0.57**	**143**	P	Pb	06 55 30.8	+0.1

THE 13 06:55:24.6, 38.75N×22.75E, h5km±4km, ML1.9/4, Error ellipse: s-maj=4.3km s-min=0.8km az=261.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.08**	**285**	P	Pg	06 55 26.0	-0.3
AXAR				S	Sg	06 55 27.7	+0.2
	3μm,0.4s						
LKR	**Lokris**	**0.22**	**116**	P	Pg	06 55 28.6	-0.2
LKR				S	Sg	06 55 32.5	+0.9
	475nm,0.1s						
DSF	**Desfina**	**0.38**	**208**	P	Pg	06 55 31.3	-0.6
DSF				S	Sg	06 55 37.7	+0.8
	370nm,0.2s						
AGG	**Agios Georgios**	**0.43**	**310**	P	Pg	06 55 32.6	-0.3
AGG				S	Sg	06 55 39.5	+1.0
	68nm,0.4s						
XOR	**Xorichti**	**0.71**	**29**	P	Pg	06 55 38.6	+0.4
XOR				S	Sg	06 55 47.7	+0.3

*ISK **13** 07:09:15.7, 35.65N×30.19E, h11km, ML2.8/10*
*ATH **13** 07:09:15.8, 35.73N×30.30E, h42km±4km, ML2.5/3, Error ellipse: s-maj=6.8km s-min=1.4km az=29.0*
*DDA **13** 07:09:18.1, 35.88N×30.28E, h14km±1km, ML2.5*
*NIC **13** 07:09:19.0±0.0, 35.83N×30.23E, h27km±1km, Ml2.9/2*
*THE **13** 07:09:19.1, 35.78N×30.23E, h23km±38km, ML2.6/2, Error ellipse: s-maj=45.4km s-min=3.9km az=113.0*

ISC 13 07:09:17.4±1.2, 35.79N±0.03×30.18E±0.02, h15km±9km, n50, σ1.9 06/78, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.55**	**14**	*i* P	**Pg**	**07 09 27.1**	**-1.1**
AKUM				*i* S	**Sg**	**07 09 33.5**	**-2.1**
AKUM				IAML		07 09 36.0	
	comp=E,368nm,0.2s						
KSL	**Kastellorizon**	**0.60**	**307**	P	**Pg**	**07 09 29.9**	**+0.6**
KSL				S	**Sn**	**07 09 41.1**	**+0.1**
	comp=E,948nm,0.6s						
KSL	**Kastellorizon**	**0.60**	**307**	P	**Pb**	**07 09 30.4**	**+0.7**
KSL				S	**Sn**	**07 09 40.7**	**-0.3**
KSL				AML	AML	07 09 42.1	
	comp=E,1637μm,0.6s						
KSL				AML	AML	07 09 43.9	
	comp=N,825μm,0.6s						
KSL	**Kastellorizon**	**0.60**	**307**	P	**Pb**	**07 09 30.5**	**+0.8**
KSL				S	**Sn**	**07 09 40.8**	**-0.2**
AKAS	**Kas**	**0.64**	**314**	PG	**Pg**	**07 09 30.7**	**+0.6**
AKAS				SG	**Sn**	**07 09 41.5**	**-0.7**
AKAS	**Kas**	**0.64**	**314**	*i* P	**Pg**	**07 09 30.6**	**+0.5**
AKAS				*i* S	**Sb**	**07 09 40.3**	**+1.0**
AKAS				IAML		07 09 49.0	
	comp=E,246nm,0.7s						
AKAS				IAML		07 09 54.0	
	comp=N,398nm,0.5s						
ELL	**Elmali**	**0.98**	**347**	PN	**Pn**	**07 09 37.5**	**+0.7**
ELL				SN	**Sn**	**07 09 53.7**	**+3.1**
ELL	**Elmali**	**0.98**	**347**	P	**Pb**	**07 09 36.0**	**-0.3**
KORT	**Korkueli**	**1.22**	**6**	PN	**Pg**	**07 09 40.9**	**-0.1**
KORT	**Korkueli**	**1.22**	**6**	*i* P	**Pn**	**07 09 40.0**	**-0.1**
KORT				*i* S	**Sb**	**07 09 55.6**	**-0.3**
KORT				IAML		07 10 14.0	
	comp=E,113nm,0.5s						
FETY	**Fethiye**	**1.23**	**314**	P	**Pn**	**07 09 40.0**	**-0.1**
FETY				S	**Sb**	**07 09 55.1**	**-0.9**
FETY	**Fethiye**	**1.23**	**314**	PN	**Pn**	**07 09 40.3**	**+0.2**
FETY				SN	**Sg**	**07 09 59.2**	**+2.2**
FETY	**Fethiye**	**1.23**	**314**	*i* P	**Pn**	**07 09 40.2**	**+0.1**
FETY				*i* S	**Sb**	**07 09 51.9**	**-4.1**
GOLH	**Golhisar**	**1.53**	**341**	*i* P	**Pn**	**07 09 45.1**	**+0.8**
GOLH				*i* S	**Sb**	**07 10 05.5**	**+0.6**
GOLH				IAML		07 10 22.0	
	comp=N,118nm,0.9s						
KEPZ	**Antalya-Kepez**	**1.60**	**46**	*i* P	**Pn**	**07 09 45.8**	**+0.5**
KEPZ				*i* S	**Sb**	**07 10 06.5**	**-0.3**
DALY	**Dalyan (Mula)**	**1.60**	**310**	PN	**Pn**	**07 09 46.1**	**+0.9**
DALY	**Dalyan (Mula)**	**1.60**	**310**	*i* P	**Pb**	**07 09 47.9**	**+1.1**
DALY				*i* S	**Sb**	**07 10 07.6**	**+0.7**
DALY				IAML		07 10 18.0	
	comp=E,64nm,0.8s						
DALY				IAML		07 10 19.0	
	comp=N,60nm,0.4s						
ARG	**Arkhangelos**	**1.72**	**285**	P	**Pn**	**07 09 46.8**	**0.0**
ARG				S	**Sn**	**07 10 07.1**	**-1.4**
	comp=N,72nm,0.5s						
ARG	**Arkhangelos**	**1.72**	**285**	P	**Pn**	**07 09 46.6**	**-0.2**
ARG				S	**Sn**	**07 10 08.7**	**+0.2**
ARG				AML	AML	07 10 33.4	
	comp=N,116μm,0.6s						
ARG				AML	AML	07 10 34.4	
	comp=E,164μm,0.7s						
ARG	**Arkhangelos**	**1.72**	**285**	PN	**Pn**	**07 09 46.9**	**+0.1**
ARG	**Arkhangelos**	**1.72**	**285**	P	**Pn**	**07 09 47.1**	**+0.3**
ARG				S	**Sb**	**07 10 09.9**	**-0.2**
GAZI	**Gazipasa**	**1.79**	**75**	PN	**Pn**	**07 09 47.8**	**0.0**
GAZI	**Gazipasa**	**1.79**	**75**	*i* P	**Pn**	**07 09 47.6**	**-0.2**
GAZI				*i* S	**Sn**	**07 10 08.8**	**-1.5**
GAZI				IAML		07 10 11.0	
	comp=E,90nm,0.4s						
GAZI				IAML		07 10 14.0	
	comp=N,82nm,0.6s						
TURN	**Turunc**	**1.85**	**303**	PN	**Pn**	**07 09 49.4**	**+0.8**
BRDR	**BURDUR-Merkez**	**1.91**	**357**	*i* P	**Pn**	**07 09 50.9**	**+1.3**
BRDR				*i* S	**Sn**	**07 10 11.8**	**-1.5**
AKMS	**Akamas**	**1.92**	**113**	P	**Pn**	**07 09 50.0**	**+0.3**
AKMS				S	**Sn**	**07 10 13.5**	**-0.1**
AKMS				AML	AML	07 10 14.7	
	comp=N,0.3nm,0.9s						
AKMS				AML	AML	07 10 14.7	
	comp=N,0.3nm,0.9s						
AKMS				AML	AML	07 10 29.8	
	comp=N,0.3nm,0.8s						
AKMS				AML	AML	07 10 29.8	
	comp=N,0.3nm,0.8s						
TAVA	**DENIZLI_Tavas**	**1.96**	**329**	*i* P	**Pb**	**07 09 53.4**	**+0.5**
TAVA				*i* S	**Sg**	**07 10 19.6**	**-0.9**
TAVA				IAML		07 10 25.0	
	comp=N,45nm,0.8s						
YER	**Yerkesik**	**2.04**	**312**	P	**Pn**	**07 09 51.6**	**+0.4**
YER	**Yerkesik**	**2.04**	**312**	PN	**Pn**	**07 09 52.3**	**+1.1**
ALFC	**Alefka**	**2.07**	**107**	P	**Pn**	**07 09 51.8**	**+0.1**
ALFC				S	**Sn**	**07 10 16.9**	**-0.5**
ALFC				AML	AML	07 10 29.3	
	comp=N,0.2nm,0.7s						
ALFC				AML	AML	07 10 29.3	
	comp=N,0.2nm,0.7s						
ALFC				AML	AML	07 10 32.5	
	comp=N,0.3nm,0.9s						
ALFC				AML	AML	07 10 32.5	
	comp=N,0.3nm,0.9s						
SEYD	**Seydisehir-KON**	**2.10**	**39**	PN	**Pn**	**07 09 53.6**	**+1.5**
BAGO	**Egridir - ISPA**	**2.25**	**12**	*i* P	**Pn**	**07 09 55.5**	**+1.3**
BAGO				*i* S	**Sb**	**07 10 24.9**	**-0.7**
DAT	**Datca**	**2.30**	**295**	P	**Pn**	**07 09 55.4**	**+0.4**
DAT	**Datca**	**2.30**	**295**	PN	**Pn**	**07 09 55.7**	**+0.7**
SZAC	**Souni**	**2.44**	**114**	P	**Pn**	**07 09 57.4**	**+0.6**
SZAC				S	**Sn**	**07 10 26.7**	**+0.3**
OSC1	**CSNet OBS 1**	**2.46**	**158**	S	**Sn**	**07 10 27.6**	**+1.0**
KARP	**Karpathos**	**2.47**	**265**	P	**Pn**	**07 09 57.6**	**+0.4**
KARP				S	**Sn**	**07 10 27.5**	**+0.4**
KARP	**Karpathos**	**2.47**	**265**	P	**Pn**	**07 09 56.5**	**-0.7**
KARP				S	**Sn**	**07 10 26.5**	**-0.6**
KARP	**Karpathos**	**2.47**	**265**	PN	**Pn**	**07 09 57.2**	**0.0**
KARP	**Karpathos**	**2.47**	**265**	P	**Pn**	**07 09 58.3**	**+1.1**
DOGA	**KONYA_Doganhis**	**2.60**	**27**	*i* P	**Pn**	**07 10 01.0**	**+1.8**
BODT	**Bodrum**	**2.64**	**300**	P	**Pn**	**07 09 59.5**	**0.0**
BODT	**Bodrum**	**2.64**	**300**	PN	**Pn**	**07 09 59.8**	**+0.3**
ASGA	**Asgata**	**2.70**	**111**	S	**Sn**	**07 10 32.6**	**-0.2**
OSC2	**CSNet OBS 4**	**3.21**	**147**	S	**Sn**	**07 10 46.1**	**+0.9**
SMG	**Samos**	**3.30**	**307**	P	**Pn**	**07 10 07.5**	**-1.0**
SMG				S	**Sn**	**07 10 45.2**	**-2.3**
ZKR	**Zakros**	**3.30**	**259**	P	**Pn**	**07 10 07.7**	**-0.9**
ZKR				S	**Sn**	**07 10 45.8**	**-1.8**
ZKR				AML	AML	07 10 55.7	
	comp=N,24μm,0.4s						
ZKR				AML	AML	07 10 55.8	
	comp=E,88μm,0.5s						
NPS	**Neapolis**	**3.76**	**263**	P	**Pn**	**07 10 14.7**	**-0.2**
LAST	**Lasithi**	**3.89**	**262**	P	**Pn**	**07 10 15.7**	**-1.0**
SIVA	**Sivas**	**4.45**	**262**	P	**Pn**	**07 10 24.0**	**-0.4**

*IDC **13** 07:45:57.9±0.5, 56.09S×26.68W, h0km, mb4.4/12, mb1 4.4/13, mb1mx4.3/22, mbtmp4.4/13, ML3.9/1, MS3.5/5, Ms1 3.5/5, ms1mx3.3/18, Error ellipse: s-maj=24.4km s-min=14.7km az=69.0*
*NEIC **13** 07:46:03.5±1.2, 56.05S±0.1×26.7W±0.2, h35km±1km, mb4.7/49, Error ellipse: s-maj=21.4km s-min=12.3km az=39.0*

ISC 13 07:46:03.5±0.4, 56.09S±0.08×26.75W±0.08, h35km, n128, σ0.9 78/129, mb4.7/31, MS3.5/5, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.87**	**284**	Pn	**Pn**	**07 47 28.7**	**+0.9**
HOPE				Sn	**Sn**	**07 48 34.6**	**+0.8**
VNA1	**Neumayer--Stat**	**16.66**	**158**	P	**P**	**07 49 56.9**	**+0.9**
VNA3	**Neumayer Olymp**	**16.87**	**161**	P	**P**	**07 49 59.0**	**+0.7**
VNA2	**Neumayer--Watz**	**17.06**	**158**	P	**P**	**07 50 00.8**	**+0.4**
SNAA	**Sanae**	**18.60**	**156**	P	**P**	**07 50 17.7**	**+0.2**
SNAA	**Sanae**	**18.60**	**156**	P	**P**	**07 50 17.6**	**+0.2**
	0.4nm,0.3s,baz=287,slow=13,SNR=21						
SNAA				S	Sn	07 53 33.1	-11
	0.0nm,0.3s,baz=89,slow=24,SNR=1.5						
SNAA				PcP	**PcP**	**07 54 44.1**	**-0.7**
	0.2nm,0.3s,baz=261,slow=4.6,SNR=6.9						
SNAA	**Sanae**	**18.60**	**156**	P	**P**	**07 50 18.0**	**+0.5**
EFI	**East Falkland**	**18.88**	**270**		**P**	**07 50 20.6**	**0.0**
EFI				IAmb	IAmb	07 50 34.1	
	comp=Z,110nm,1.4s						
PMSA	**Palmer Station**	**20.06**	**229**	P	**P**	**07 50 33.0**	**-0.2**
	comp=Z,9.7nm,0.7s,baz=113,slow=7.7,SNR=2.1						
PMSA	**Palmer Station**	**20.06**	**229**		**P**	**07 50 33.9**	**+0.6**
PMSA				IAmb	IAmb	07 50 47.6	
	comp=Z,45nm,1.1s						
BELA	**Belgrano 2**	**22.05**	**184**		**P**	**07 50 54.1**	**-0.6**
PLTB	**Pedras Altas**	**30.71**	**311**	*eP*	**P**	**07 52 15.8**	**+0.9**
SYO	**Syowa Base**	**31.39**	**141**	*ep*P	**P**	**07 52 25.0**	**+4.5**
PLCA	**Paso Flores**	**32.25**	**280**	PcP	**PcP**	**07 55 15.6**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=126,slow=4.7,SNR=3.4						
PLCA				LR	LR	08 04 19.9	
	comp=Z,155nm,18.9s,baz=168,slow=34						
QSPA	**South Pole Qui**	**34.16**	**180**	P	**P**	**07 52 44.8**	**-0.2**
	comp=Z,5.4nm,0.6s,baz=350,slow=0.4,SNR=87						
QSPA				PcP	**PcP**	**07 55 20.3**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=240,slow=0.9,SNR=3.5						
QSPA	**South Pole Qui**	**34.16**	**180**	P	**P**	**07 52 44.6**	**-0.4**
QSPA				IAmb	IAmb	07 52 46.3	
	comp=Z,6.3nm,0.7s						
CPUP	**Villa Florida**	**37.03**	**311**	P	**P**	**07 53 09.0**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=156,slow=8.0,SNR=14						
CPUP				PcP	**PcP**	**07 55 29.2**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=30,slow=12,SNR=2.5						
CPUP				LR	LR	08 06 54.6	
	comp=Z,29nm,21.2s,baz=202,slow=34						
CPUP	**Villa Florida**	**37.03**	**311**	P	**P**	**07 53 09.2**	**-0.5**
GO05	**Huala**	**37.13**	**285**	P	**P**	**07 53 09.1**	**-1.5**
PEL	**Peldehue**	**37.88**	**289**	P	**P**	**07 53 16.6**	**-0.4**
PEL				IAmb	IAmb	07 53 26.9	
	comp=Z,14nm,1.2s						
MT02	**Curacav**	**38.03**	**288**	P	**P**	**07 53 16.7**	**-1.5**
MT02				IAmb	IAmb	07 53 26.9	
	comp=Z,12nm,1.2s						
ZON	**Zonda**	**38.08**	**292**	P	**P**	**07 53 19.0**	**+0.3**
ZON				IAmb	IAmb	07 53 19.6	
	comp=Z,6.1nm,0.6s						
VA03	**San Esteban**	**38.11**	**289**	P	**P**	**07 53 18.4**	**-0.6**
VA03				IAmb	IAmb	07 53 26.5	
	comp=Z,20nm,1.4s						
ROC1	**El Roble**	**38.19**	**288**	P	**P**	**07 53 19.4**	**-0.4**
CO02	**Combarbal**	**39.56**	**290**	P	**P**	**07 53 30.6**	**-0.6**
CO02				IAmb	IAmb	07 53 31.3	
	comp=Z,33nm,1.4s						
CO03	**El Pedregal**	**39.69**	**291**	P	**P**	**07 53 31.3**	**-0.9**
MAW	**Mawson**	**39.97**	**143**	P	**P**	**07 53 33.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=302,slow=10.0,SNR=2.6						
MAW				LR	LR	08 08 19.1	
	comp=Z,64nm,19.5s,baz=250,slow=34						
MAW	**Mawson**	**39.97**	**143**	P	**P**	**07 53 34.1**	**+0.2**
CO01	**Juntas del Tor**	**40.06**	**292**	P	**P**	**07 53 35.5**	**0.0**
GO04	**Tololo Observa**	**40.27**	**291**	P	**P**	**07 53 37.0**	**-0.2**
GO04				IAmb	IAmb	07 53 45.6	
	comp=Z,14nm,1.2s						
AC05	**El Transito**	**41.07**	**293**	P	**P**	**07 53 43.2**	**-0.5**
AC04	**Llanos de Chal**	**41.99**	**293**	P	**P**	**07 53 51.5**	**+0.4**
AC04				IAmb	IAmb	07 53 51.6	
	comp=Z,13nm,0.9s						
AC01	**Pan de Azucar**	**43.42**	**295**	P	**P**	**07 54 02.7**	**-0.1**
AC01				IAmb	IAmb	07 54 10.1	
	comp=Z,38nm,1.5s						
BDFB	**Brasilia**	**43.52**	**330**	P	**P**	**07 54 04.3**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=148,slow=9.4,SNR=2.5						
BDFB				LR	LR	08 09 30.2	
	comp=Z,70nm,21.8s,baz=158,slow=32						
BDFB	**Brasilia**	**43.52**	**330**	P	**P**	**07 54 04.0**	**+0.3**
GO02	**Mina Guanaco**	**43.73**	**297**	P	**P**	**07 54 05.9**	**+0.3**
ARAG	**Araguaiana, MT**	**44.62**	**324**	*eP*	**P**	**07 54 13.7**	**+1.3**
PB15	**IPOC Station P**	**45.31**	**299**	P	**P**	**07 54 17.0**	**-1.1**
PB15				IAmb	IAmb	07 54 22.2	
	comp=Z,13nm,1.0s						
LVC	**Limon Verde**	**45.54**	**300**	P	**P**	**07 54 20.4**	**+0.3**
LVC				IAmb	IAmb	07 54 22.6	
	comp=Z,10nm,0.7s						
LVC	**Limon Verde**	**45.54**	**300**	*eP*	**P**	**07 54 21.0**	**+1.0**
PB10	**IPOC Station P**	**45.59**	**297**	P	**P**	**07 54 20.0**	**0.0**
BOSA	**Boshof**	**45.74**	**75**	LR	LR	08 09 33.2	
	comp=Z,91nm,20.6s,baz=220,slow=31						
PB06	**IPOC Station P**	**45.78**	**299**	P	**P**	**07 54 21.5**	**-0.2**
PB06				IAmb	IAmb	07 54 27.4	
	comp=Z,10nm,0.8s						
PB04	**IPOC Station P**	**46.38**	**298**	P	**P**	**07 54 26.6**	**+0.1**
PB09	**IPOC Station P**	**46.39**	**300**	P	**P**	**07 54 27.4**	**+0.9**
VNDA	**Vanda**	**46.54**	**183**	P	**P**	**07 54 27.3**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=181,slow=5.2,SNR=9.2						
VNDA	**Vanda**	**46.54**	**183**	P	**P**	**07 54 27.3**	**+0.4**
VNDA				IAmb	IAmb	07 54 29.8	
	comp=Z,5.5nm,0.8s						
PB07	**IPOC Station P**	**46.76**	**299**	P	**P**	**07 54 29.2**	**-0.2**
PB07				IAmb	IAmb	07 54 30.6	
	comp=Z,15nm,0.9s						
PB01	**IPOC Station P**	**47.15**	**300**	P	**P**	**07 54 32.7**	**+0.3**
PTLB	**Pontes e Lacer**	**47.50**	**316**	*eP*	**P**	**07 54 35.2**	**+0.2**
PB08	**IPOC Station P**	**47.75**	**301**	P	**P**	**07 54 38.5**	**+1.0**
PB08				IAmb	IAmb	07 54 41.1	
	comp=Z,7.1nm,0.9s						
H10S2	**ASCENSION HYDR**	**47.97**	**16**	T	T	08 46 41.9	
	SNR=35						
H10S3	**ASCENSION HYDR**	**47.97**	**16**	T	T	08 46 43.6	
	SNR=93						
GO01	**Chusmiza**	**48.18**	**301**	P	**P**	**07 54 41.4**	**+0.6**
PB11	**IPOC Station P**	**48.32**	**301**	P	**P**	**07 54 42.0**	**+0.5**
PB11				IAmb	IAmb	07 54 45.1	
	comp=Z,12nm,0.9s						
PSGCX	**Pisagua**	**48.69**	**300**	P	**P**	**07 54 44.3**	**0.0**
PSGCX				IAmb	IAmb	07 55 03.1	
	comp=Z,8.0nm,1.1s						
MNMC	**Minye Minye**	**48.83**	**301**	P	**P**	**07 54 46.4**	**+0.8**
PB16	**IPOC Station P**	**49.47**	**302**	P	**P**	**07 54 51.4**	**+0.4**
PB16				IAmb	IAmb	07 54 51.8	
	comp=Z,3.4nm,0.6s						
VILB	**Vilhena**	**50.19**	**316**	*eP*	**P**	**07 54 55.7**	**0.0**
CLDB	**Colider**	**50.47**	**322**	*eP*	**P**	**07 54 57.0**	**-0.8**
LPAZ	**La Paz**	**50.60**	**305**	P	**P**	**07 55 00.0**	**+0.4**
	comp=Z,12nm,0.5s,baz=124,slow=5.3,SNR=98						
LPAZ	**La Paz**	**50.60**	**305**	P	**P**	**07 55 00.2**	**+0.7**
LPAZ	**La Paz**	**50.60**	**305**	*eP*	**P**	**07 54 60.0**	**+0.4**
CASY	**Casey**	**53.78**	**160**	P	**P**	**07 55 22.0**	**+0.2**
NPGB	**Novo Progresso**	**53.90**	**324**	*eP*	**P**	**07 55 23.4**	**+0.2**
SAML	**Samuel**	**55.01**	**314**	P	**P**	**07 55 30.5**	**-0.9**
SAML				IAmb	IAmb	07 55 32.0	
	comp=Z,8.2nm,1.0s						
SAML	**Samuel**	**55.01**	**314**	*eP*	**P**	**07 55 31.2**	**-0.1**
ITTB	**Itaituba**	**56.53**	**325**	*eP*	**P**	**07 55 42.1**	**-0.1**
MALB	**Monte Alegre**	**58.44**	**327**	*eP*	**P**	**07 55 56.8**	**+1.1**
MCPB	**Macapa, AP**	**59.22**	**330**	*eP*	**P**	**07 56 02.6**	**+1.6**
PTGA	**Pitinga**	**61.36**	**321**	P	**P**	**07 56 14.4**	**-1.3**
PTGA				IAmb	IAmb	07 56 16.0	
	comp=Z,4.4nm,0.9s						
DBIC	**Dimbokro**	**65.10**	**24**	P	**P**	**07 56 41.0**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=183,slow=8.1,SNR=3.8						
DBIC	**Dimbokro**	**65.10**	**24**	P	**P**	**07 56 40.3**	**-0.1**
OTAV	**Otavalo**	**69.89**	**303**	P	**P**	**07 57 10.5**	**-0.8**
OTAV				IAmb	IAmb	07 57 14.5	
	comp=Z,10nm,1.5s						
ROSC	**El Rosal**	**72.10**	**309**	P	**P**	**07 57 25.1**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=179,slow=16,SNR=3.6						
ROSC	**El Rosal**	**72.10**	**309**	P	**P**	**07 57 24.2**	**-0.5**
ROSC				IAmb	IAmb	07 57 26.0	
	comp=Z,11nm,1.2s						
TOA0	**Torodi Ar. Sit**	**72.97**	**29**	P	**P**	**07 57 30.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**72.97**	**29**	P	**P**	**07 57 29.8**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=203,slow=6.3,SNR=43						
TORD	**Torodi Ar. Bea**	**72.97**	**29**	P	**P**	**07 57 30.0**	**+0.7**
ESPN	**Las Esperanzas**	**83.10**	**304**	P	**P**	**07 58 25.1**	**-0.3**
ESPN				IAmb	IAmb	07 58 25.5	
	comp=Z,8.5nm,0.7s						
ACON	**Acoyapa**	**83.31**	**303**	P	**P**	**07 58 26.1**	**-0.5**
STKA	**Stephens Creek**	**91.82**	**170**	P	**P**	**07 59 09.4**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=147,slow=5.1,SNR=3.1						
STKA	**Stephens Creek**	**91.82**	**170**	P	**P**	**07 59 07.2**	**-0.5**
TEIG	**Tepich**	**91.93**	**304**	P	**P**	**07 59 07.2**	**-0.8**
ASAR	**Alice Springs**	**98.87**	**162**	P	**P**	**07 59 38.3**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=180,slow=4.2,SNR=10						
ASAR	**Alice Springs**	**98.87**	**162**	P	**P**	**07 59 39.3**	**-0.6**
WRA	**Warramunga Arr**	**102.59**	**162**	P	**Pdif**	**07 59 55.4**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=197,slow=4.6,SNR=2.1						
SHPR	**Sheep Range**	**118.56**	**294**	PKPdf	**PKPdf**	**08 04 46.8**	**-0.3**
MSU	**Marysvale**	**118.59**	**297**	PKPdf	**PKiKP**	**08 04 47.5**	**+0.3**
MVU	**Marysvale**	**118.60**	**297**	PKPdf	**PKiKP**	**08 04 47.9**	**+0.6**
TPNV	**Topopah Spring**	**119.46**	**293**	PKPdf	**PKiKP**	**08 04 49.3**	**+0.4**
DUG	**Dugway, Tooele**	**120.20**	**298**	PKPdf	**PKPdf**	**08 04 49.8**	**-0.2**
ULM	**Lac du Bonnet**	**120.45**	**316**	PKPdf	**PKPdf**	**08 04 49.4**	**-0.6**
	comp=Z,6.4nm,0.9s,baz=302,slow=7.8,SNR=3.4						
PDAR	**Pinedale Array**	**120.58**	**302**	PKP	**PKPdf**	**08 04 49.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=124,slow=4.8,SNR=5.9						
HWUT	**Hardware Ranch**	**120.66**	**300**	PKPdf	**PKPdf**	**08 04 50.7**	**-0.2**
NV11	**Mina Array Sit**	**121.57**	**293**	PKPdf	**PKiKP**	**08 04 53.0**	**+0.1**
NVAR	**Mina Array Bea**	**121.64**	**293**	PKP	**PKPdf**	**08 04 52.8**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=132,slow=2.4,SNR=7.0						
NVAR	**Mina Array Bea**	**121.64**	**293**	PKPdf	**PKiKP**	**08 04 53.1**	**0.0**
FXWY	**Fox Creek**	**121.94**	**302**	PKPdf	**PKPdf**	**08 04 53.1**	**-0.3**
LAO	**LASA Array**	**122.02**	**307**	PKPdf	**PKPdf**	**08 04 52.6**	**-0.7**
YERR	**Yerington**	**122.54**	**293**	PKPdf	**PKiKP**	**08 04 55.3**	**+0.5**
FINES	**FINESS Array B**	**124.31**	**28**	PKP	**PKPdf**	**08 04 56.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=167,slow=2.0,SNR=14						
FINES	**FINESS Array B**	**124.31**	**28**	PKPdf	**PKPdf**	**08 04 56.4**	**-0.6**
BMO	**Blue Mountains**	**125.88**	**299**	PKPdf	**PKPdf**	**08 05 00.7**	**-0.1**
K05A	**Summer Lake**	**126.14**	**294**	PKPdf	**PKiKP**	**08 05 02.1**	**+0.2**
I07A	**Izee**	**126.41**	**297**	PKPdf	**PKiKP**	**08 05 02.2**	**-0.1**
G08A	**Pilot Rock**	**127.01**	**298**	PKPdf	**PKiKP**	**08 05 03.6**	**+0.2**
ABKAR	**Akbulak array**	**127.19**	**55**	PKPdf	**PKPdf**	**08 05 02.8**	**-0.2**
KKAR	**Karatay Array**	**128.01**	**67**	PKPdf	**PKPdf**	**08 05 04.8**	**+0.1**
ARCES	**ARCESS Array B**	**130.89**	**22**	PKP	**PKPdf**	**08 05 08.8**	**-0.6**
	comp=Z,1.6nm,0

IVOT Vottur 0.44 161 P **Pg 07 58 23.5 -3.2**
baz=164
IVOT S **Sg 07 58 29.5 -3.0**
baz=164
IJOK Jokulheimar 0.48 220 P **Pg 07 58 24.6 -2.9**
baz=224
IKRE Kreppuhraun 0.49 78 P **Pg 07 58 24.3 -3.4**
baz=75
IKRE S **Sg 07 58 31.2 -3.1**
baz=75
IASK Askja 0.52 45 P **Pg 07 58 25.1 -3.1**
baz=41
IASK S **Sg 07 58 32.3 -2.8**
baz=41
IMKO Mokollar 0.58 59 P **Pg 07 58 26.1 -3.3**
baz=56
IMKO S **Sg 07 58 34.2 -2.8**
baz=56
IIEY Innrieyrar 0.65 204 P **Pg 07 58 27.3 -3.4**
baz=208
IIEY S **Sg 07 58 37.3 -1.8**
baz=208
ISVA Svartarkot 0.66 9 P **Pg 07 58 27.8 -3.1**
baz=6.8
ISVA S **Sg 07 58 37.6 -2.0**
baz=6.8
IKSK Karasker 0.69 139 P **Pg 07 58 27.1 -4.4**
baz=140
IVSH V-Sauoahnukur 0.78 80 P **Pg 07 58 28.9 -4.1**
baz=78
IVSH S **Sg 07 58 39.5 -3.7**
baz=78
IVAT Vatnsfell 0.79 231 P **Pg 07 58 29.9 -3.3**
baz=234
IADA Aoalbol 0.89 67 P **Pg 07 58 30.9 -4.3**
baz=65
IADA S **Sg 07 58 43.3 -3.6**
baz=65
IHVE Hveravellir 0.90 283 P **Pg 07 58 31.6 -3.8**
baz=284
IHVE S **Sg 07 58 44.8 -2.3**
baz=284
IMEL Melhnausar 0.96 22 P **Pg 07 58 32.5 -4.0**
baz=20
IMEL S **Sg 07 58 46.5 -2.5**
baz=20
IREN Reynihlio 1.00 15 P **Pg 07 58 33.3 -4.0**
baz=13
IKVO Krokottuvotn 1.07 14 P **Pg 07 58 34.4 -4.2**
baz=12
ISNB Snabyli 1.07 208 P **Pg 07 58 34.4 -4.2**
baz=210
ISLY Slysaalda 1.11 220 P **Pb 07 58 35.2 -4.2**
baz=222
IGRS Grimsstaoir 1.12 31 P **Pb 07 58 35.2 -4.3**
baz=29
IGRS S **Sg 07 58 51.2 -3.0**
baz=29
IFED Fedgar 1.16 236 P **Pb 07 58 36.2 -3.9**
baz=238
IRJU Rjupnafell 1.19 206 P **Pb 07 58 36.4 -4.2**
baz=208
IMJO Mjoaskard 1.21 232 P **Pb 07 58 36.8 -4.2**
baz=234
ISKI Skildingahlsh 1.21 10 P **Pb 07 58 36.8 -4.2**
baz=8.1
IGHA Grjothals 1.22 17 P **Pn 07 58 36.6 -4.5**
baz=15
IGRA Granastaoir 1.24 359 P **Pn 07 58 37.1 -4.2**
baz=358
IGRA S **Sb 07 58 54.4 -3.1**
baz=358
IGYG Gygjarholskot 1.24 252 P **Pn 07 58 37.2 -4.2**
baz=253
IHAU Haukadalur 1.29 237 P **Pn 07 58 38.2 -3.9**
baz=239
IGOD Go??abunga 1.30 218 S **Sb 07 58 55.0 -4.3**
baz=220
IGOD P **Pn 07 58 38.5 -3.9**
baz=220
IDIM Dimmadalss 1.30 11 P **Pn 07 58 38.2 -4.1**
baz=9.2
IHVO Lagu-Hvolar 1.30 207 P **Pn 07 58 38.5 -3.8**
baz=209
IHLA Hella 1.32 344 S **Sb 07 58 56.9 -2.8**
baz=343
IHLA P **Pn 07 58 38.8 -3.6**
baz=343
ISMJ Smjorgil 1.38 224 P **Pn 07 58 39.9 -3.4**
baz=225
IHED Heoinshofoi 1.40 3 P **Pn 07 58 39.7 -4.0**
baz=2.3
IALF Alftagrof 1.41 212 P **Pn 07 58 40.1 -3.6**
baz=214
IESK Eystri-Skogar 1.44 217 P **Pn 07 58 40.5 -3.7**
baz=218
ISAU Saurbar 1.44 242 P **Pn 07 58 40.2 -4.0**
baz=244
IBRE Brettingsstaoi 1.45 354 P **Pn 07 58 40.7 -3.6**
baz=353
IMID Miomork 1.46 226 P **Pn 07 58 41.3 -3.2**
baz=228
IGIL Gilhagi 1.48 19 P **Pn 07 58 40.6 -4.1**
baz=18
ISIG Siglufjorour 1.57 339 P **Pn 07 58 42.6 -3.3**
baz=338
BORG Borgarnes 1.64 274 Pg **Pn 07 58 43.5 -3.3**
56nm,0.3s,baz=97,slow=9.9,SNR=123
BORG Lg Lg 07 59 06.8
42nm,0.3s,baz=340,slow=24,SNR=7.6
BORG Borgarnes 1.64 274 Pn **Pn 07 58 43.3 -3.5**
BORG Sn **Sn 07 59 08.0 0.0**
IASB `sbjarnarst 1.64 274 P **Pn 07 58 43.6 -3.3**
baz=275
IKRO Krokur 1.67 251 P **Pn 07 58 43.9 -3.5**
baz=252
ISOL Solvholt 1.68 245 P **Pn 07 58 44.1 -3.3**
baz=246
IHEI Heioarbar 1.69 255 P **Pn 07 58 44.1 -3.5**
baz=256
SCO Scoresbysund 6.06 346 *i* P **Pn 07 59 46.6 -1.0**
SCO Scoresbysund 6.06 346 P **Pn 07 59 47.3 -0.3**
SCO 08 00 57.9
SCO Scoresbysund 6.06 346 Pn **Pn 07 59 47.3 -0.3**
SCO Sn **Sn 08 00 57.9 +0.9**
JMIC Jan Mayen 7.18 24 LR LR 08 02 23.7
comp=Z,2μm,20.9s,baz=250,slow=34
LEWI Lewis, Hebride 8.30 137 *eP* **Pn 08 00 15.6 -2.7**
ANGG Ammassalik, Gr 8.52 285 Pn **Pn 08 00 23.1 +1.8**
ANGG Sn **Sn 08 01 58.7 +1.4**
KAC Achnashellach 9.31 135 *eP* **Pn 08 00 29.4 -2.7**
KPL Plockton 9.34 137 *eP* **Pn 08 00 29.9 -2.6**
MCD Coleburn Disti 9.89 129 *eP* **Pn 08 00 38.4 -1.7**
INVG Invergeldie, C 10.58 135 *eP* **Pn 08 00 46.2 -3.4**
INVG IAMs_20 IAMs_20 08 05 26.0
comp=Z,8μm,10.3s
ELO Logie Almond 10.65 134 *eP* **Pn 08 00 48.7 -1.8**
EAB Aberfoyle 10.70 137 *eP* **Pn 08 00 48.9 -2.2**
SUMG Summit 10.92 325 *i* P **Pn 08 00 59.0 +4.5**
SUMG Summit 10.92 325 *i* P **Pn 08 00 59.0 +4.5**
SUMG Summit 10.92 325 Pn 08 00 53.9 -0.6
SUMG Sn **Sn 08 02 55.5 -1.2**
PGBU Glenifferbraes 10.98 138 *eP* **Pn 08 00 51.9 -3.0**
CLGH Cloghs, Cushen 11.18 144 *eP* **Pn 08 00 55.0 -2.8**
CLGH IAMs_20 IAMs_20 08 06 51.8
comp=Z,11μm,11.0s
EDI Edinburgh 11.27 135 *eP* **Pn 08 00 55.4 -3.5**
EDI IAMs_20 IAMs_20 08 05 42.7
comp=Z,6μm,10.6s
NEWG New Galloway 11.65 139 *eP* **Pn 08 01 01.1 -3.1**
NEWG IAMs_20 IAMs_20 08 06 41.6
comp=Z,8μm,12.2s
EKA Eskdalemuir Ar 11.78 136 Pn **Pn 08 01 03.9 -2.1**
baz=324,slow=12,SNR=34
EKA Sn **Sn 08 03 11.6 -5.7**
baz=73,slow=17,SNR=2.5
ESK Eskdalemuir 11.78 136 *eP* **Pn 08 01 04.2 -1.6**
ESK IAMs_20 IAMs_20 08 06 12.0
comp=Z,6μm,10.1s
ESK Eskdalemuir 11.78 136 P **Pn 08 01 04.3 -1.6**
ESK 08 03 18.0
ESK Eskdalemuir 11.78 136 Pn **Pn 08 01 04.3 -1.6**
ESK Sn **Sn 08 03 18.0 +0.8**
DAG Danmarks Havn 12.15 359 *i* P **Pn 08 01 14.3 +3.4**
DAG Danmarks Havn 12.15 359 *eP* **Pn 08 01 14.3 +3.4**
KESW Keswick, Cumbr 12.44 138 *eP* **Pn 08 01 11.4 -3.5**
KESW IAMs_20 IAMs_20 08 06 56.6
comp=Z,7μm,10.2s
DSB Dublin 12.80 148 Pn **Pn 08 01 20.0 +0.1**
NC204 NORSAR Array S 13.24 92 Pn **Pn 08 01 23.2 -2.7**
NBO00 NORSAR Array S 13.36 93 Pn **Pn 08 01 25.2 -2.3**
NAO01 NORSAR Array S 13.49 93 Pn **Pn 08 01 28.6 -0.7**
NC303 NORSAR Array S 13.52 92 Pn **Pn 08 01 28.3 -1.4**
NOA NORSAR Array B 13.54 92 Pn **Pn 08 01 26.5 -3.5**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=10.0
NOA LR LR 08 06 28.9
comp=Z,737nm,21.9s,baz=295,slow=36
NB201 NORSAR Array S 13.57 92 Pn **Pn 08 01 29.6 -0.7**
SFJD Kangerlussuaq 13.65 295 Pn **Pn 08 01 30.6 -0.8**
comp=Z,0.2nm,0.3s,baz=46,slow=11,SNR=2.1
SFJD Lg Lg 08 05 08.4
comp=Z,0.2nm,0.3s,baz=225,slow=10,SNR=3.1
SFJD Kangerlussuaq 13.65 295 *i* P **Pn 08 01 32.5 +1.1**
NC405 NORSAR Array S 13.72 92 Pn **Pn 08 01 31.2 -1.2**
ILULI Ilulissat 13.78 304 *i* P **Pn 08 01 32.7 -0.4**
ILULI Ilulissat 13.78 304 *i* P **Pn 08 01 32.7 -0.4**
NC602 NORSAR Array S 13.83 93 Pn **Pn 08 01 33.9 0.0**
HFS Hagfors 15.05 93 Pn **Pn 08 01 49.6 -1.0**
comp=Z,0.1nm,0.3s,baz=319,slow=18,SNR=3.1
HFS LR LR 08 07 14.7
comp=Z,1μm,21.7s,baz=300,slow=36
MUD Monsted U'grnd 15.38 110 *i* P **Pn 08 01 55.9 +1.1**
MUD Monsted U'grnd 15.38 110 *eP* **Pn 08 01 55.9 +1.1**
HSPB Hornsund (broa 16.05 27 *eP* **P 08 02 06.3 -0.6**
HSPB Hornsund (broa 16.05 27 *eP* **Pn 08 02 03.0 -0.4**
HSPB *eS* **Sn 08 05 02.6 +1.5**
KBS Kingsbay 16.62 19 ⇓*iP* **P 08 02 13.2 0.0**
KBS *eS* **S 08 05 21.6 -4.8**
SKMB Sankelmark Bun 16.72 114 *eP* **P 08 02 14.5 +0.1**
comp=Z,200nm,1.4s,baz=328,slow=11
SPA0 Spitsbergen Ar 16.85 23 P **Pn 08 02 13.8 +0.1**
SPITS Spitsbergen Ar 16.85 23 Pn **Pn 08 02 13.4 -0.3**
baz=89,slow=12,SNR=1.4
SPITS LR LR 08 06 58.7
comp=Z,1μm,21.8s,baz=230,slow=31
NOR Nord 17.01 0 ⇓*iP* **Pn 08 02 16.2 +0.6**
NOR Nord 17.01 0 ⇓*iP* **Pn 08 02 16.2 +0.6**
ARCES ARCESS Array B 17.11 55 P **Pn 08 02 16.3 -0.7**
comp=Z,0.1nm,0.3s,baz=270,slow=11,SNR=9.0
ARCES LR LR 08 07 28.5
comp=Z,2μm,21.9s,baz=280,slow=32
ARCES ARCESS Array B 17.11 55 P **Pn 08 02 16.7 -0.3**
COP Copenhagen 17.23 107 *i* P **Pn 08 02 17.9 -0.6**
COP Copenhagen 17.23 107 *eP* **Pn 08 02 17.9 -0.6**
BSEG Bad Segeberg 17.65 114 *eP* **Pn 08 02 24.0 +0.3**
comp=Z,76nm,1.6s,baz=328,slow=11
HOPEN Hopen 17.82 31 *eP* **Pn 08 02 25.1 -0.6**
HOPEN *eS* **Sn 08 05 44.2 +0.2**
IBBN Ibbenburen 17.95 122 *eP* **P 08 02 28.1 +0.2**
comp=Z,60nm,1.3s,baz=328,slow=11
UCC Uccle 18.02 130 P **Pn 08 02 27.1 -1.2**
UCC pmax pmax
comp=Z,54nm,1.5s
UCC Uccle 18.02 130 P **Pn 08 02 27.1 -1.2**
SNF Seneffe 18.24 131 pP **P 08 02 32.2 +1.0**
RGN Rugen 18.40 109 *eP* **P 08 02 32.5 -0.4**
BUG Bochum--Univer 18.48 124 *eP* **P 08 02 33.2 -0.5**
comp=Z,55nm,1.4s,baz=328,slow=11
BMRD Maredsous 18.58 130 P **P 08 02 33.1 -1.8**
BGES Gesves 18.61 130 P **P 08 02 34.0 -1.3**
BCLA Clavier 18.65 129 P **P 08 02 33.1 -2.7**
NRDL Niedersach Rie 18.68 118 *eP* **P 08 02 34.2 -1.7**
comp=Z,36nm,1.2s,baz=328,slow=11
DOU Dourbes 18.70 131 P **P 08 02 33.1 -3.2**
MEM Membach 18.73 128 P **P 08 02 35.0 -1.6**
BHOU Houvegnez 18.95 128 P **P 08 02 37.2 -1.7**
AHRW Bad Neuenahr-A 19.16 126 *eP* **Pn 08 02 43.5 +1.4**
comp=Z,84nm,1.4s,baz=328,slow=11
ASSE Asse, Remlinge 19.18 118 *eP* **P 08 02 41.3 -0.1**
comp=Z,106nm,1.8s,baz=328,slow=11
CLZ Clausthal 19.29 119 *eP* **P 08 02 43.0 +0.2**
comp=Z,75nm,1.3s,baz=328,slow=11
GTTG Gottingen 19.37 120 *eP* **Pn 08 02 44.2 -0.6**
comp=Z,98nm,1.4s,baz=328,slow=11
WLF Walferdange 19.58 129 Pn **P 08 02 45.9 0.0**
WLF Walferdange 19.58 129 P **Pn 08 02 47.4 +0.1**
WLF pmax pmax
comp=Z,59nm,1.5s
WLF Walferdange 19.58 129 *eP* **Pn 08 02 47.7 +0.4**
comp=Z,55nm,1.5s,baz=328,slow=11
WLF Walferdange 19.58 129 P **Pn 08 02 47.4 +0.1**
FINES FINESS Array B 19.71 79 P **P 08 02 46.9 -0.3**
comp=Z,0.1nm,0.3s,baz=316,slow=11,SNR=12
FINES LR LR 08 10 09.3
comp=Z,683nm,20.0s,baz=291,slow=36
FINES FINESS Array B 19.71 79 P **P 08 02 46.3 -0.9**
FIA1 FINESS Array S 19.71 79 P **P 08 02 47.2 0.0**
CLF Chambon-Foret 19.82 138 P **P 08 02 47.5 -0.9**
CLF IAmb IAmb 08 02 51.7
comp=Z,93nm,1.2s
TNS Taunus Mts 19.90 124 *eP* **Pn 08 02 50.7 -0.4**
comp=Z,30nm,1.3s,baz=328,slow=11
UBBA Unterbreizbach 19.98 121 *eP* **P 08 02 50.4 +0.3**
comp=Z,79nm,1.6s,baz=328,slow=11
RUE Ruedersdorf 20.11 113 *eP* **P 08 02 51.3 -0.4**
SLIT Slitere, Latvi 20.16 92 *eP* **P 08 02 50.9 -1.2**
APA Apatity 20.32 59 ⇓*iP* **P 08 02 52.0 -1.9**
APA *i* 08 03 00.4
APA *i* S **S 08 06 32.0 -9.2**
APA pmax pmax
comp=Z,13nm,0.8s
APA MLR MLR
comp=Z,2μm,22.0s
NEUB Neuenburg 20.33 118 *eP* **P 08 02 54.1 +0.1**
comp=Z,158nm,1.3s,baz=328,slow=11
MOX Moxa 20.72 119 *eP* **P 08 02 58.0 -0.3**
comp=Z,78nm,1.3s,baz=328,slow=11
MOX *eL* L 08 11 32.2
comp=Z,1μm,19.3s
CLL Collm 20.72 116 ⇓*iP* **P 08 02 57.8 -0.5**
comp=Z,80nm,1.3s
CLL *e*Pmax 08 03 02.0
CLL *e* 08 03 07.0
CLL *eS* **S 08 06 51.0 +1.7**
CLL *eSS* **SnSn 08 07 15.0 +6.5**
CLL *eSSS* SSS 08 07 24.0
CLL LmH 08 11 00.0
comp=N,700nm,21.1s
CLL LmH 08 11 00.0
comp=E,2μm,18.8s
CLL Lmax 08 14 00.0
CLL Collm 20.72 116 ⇓*iP* **P 08 02 57.8 -0.5**
CLL *eS* **S 08 06 51.0 +1.7**
CLL pmax pmax
comp=Z,80nm,1.3s
CLL Collm 20.72 116 *eP* **P 08 02 57.7 -0.6**
comp=Z,80nm,1.3s,baz=328,slow=11
CLL Collm 20.72 116 P **P 08 02 57.6 -0.6**
CLL IAmb IAmb 08 03 00.3
comp=Z,75nm,1.3s
GKP Gorka Klasztor 20.93 107 *eP* Pn 08 03 02.3 -0.7
GKP *eS* Sn 08 07 05.1 +6.0
PBUR Paburge 21.01 96 *eP* **P 08 03 01.0 -0.3**
PLN Plauen 21.05 118 *eP* **P 08 03 01.3 -0.6**
comp=Z,76nm,1.3s,baz=328,slow=11
WERD Werda 21.14 118 *eP* **P 08 03 02.0 -0.8**
comp=Z,40nm,1.3s,baz=328,slow=11
FBE Freiberg 21.16 116 *eP* **P 08 03 02.6 -0.5**
comp=Z,75nm,1.5s,baz=328,slow=11
ECH Echery 21.17 129 P **P 08 03 03.4 +0.2**
ECH pmax pmax
comp=Z,44nm,1.3s
ECH Echery 21.17 129 P **P 08 03 03.4 +0.2**
GUNZ Gunzen 21.21 118 *eP* **P 08 03 03.1 -0.6**
comp=Z,69nm,1.4s,baz=328,slow=11
TANN Tannenbergstha 21.22 118 *eP* **P 08 03 03.2 -0.6**
comp=Z,557nm,2.0s,baz=328,slow=11
KLNR Kaliningrad 21.22 100⇑*eP* **P 08 03 04.7 +1.1**
KLNR pmax pmax
comp=Z,133nm,1.3s
WERN Wernitzgruen 21.29 118 *eP* **P 08 03 04.0 -0.5**
comp=Z,87nm,1.3s,baz=328,slow=11
GRA1 Grafenberg Arr 21.35 121 P **P 08 03 04.8 -0.3**
GRF Grafenberg Arr 21.35 121 P **P 08 03 04.8 -0.3**
GRF pmax pmax
comp=Z,173nm,1.5s
GRF Grafenberg Arr 21.35 121 *eP* **P 08 03 04.9 -0.2**
comp=Z,305nm,1.8s,baz=328,slow=11
GRF *eL* L 08 12 25.2
comp=Z,812nm,20.8s
NKC Novy Kostel 21.36 118 *eP* **P 08 03 04.7 -0.6**
NKC *eS* Sn 08 07 08.3 -1.4
NKC AMS AMS 08 15 20.0
comp=Z,2μm,9.8s
NKC Novy Kostel 21.36 118 *eP* **P 08 03 04.7 -0.6**
NKC *eS* Sn 08 07 08.3 -1.4
NKC MLR MLR
comp=Z,2μm,9.8s
STU Stuttgart 21.39 125 P **P 08 03 05.9 +0.4**
STU pmax pmax
comp=Z,82nm,1.3s
STU Stuttgart 21.39 125 *eP* **P 08 03 05.6 +0.1**
comp=Z,94nm,1.4s,baz=328,slow=11
STU Stuttgart 21.39 125 P **P 08 03 05.9 +0.4**
STU IAmb IAmb 08 03 10.2
comp=Z,82nm,1.3s
BRG Berggiesshubel 21.43 115 *i* P **P 08 03 05.5 -0.4**
comp=Z,84nm,1.4s
BRG S **S 08 07 06.0 +2.7**
comp=N,1μm,11.2s
comp=E,2μm,14.4s
comp=Z,1μm,12.6s
BRG Berggiesshubel 21.43 115 *i* P **P 08 03 05.5 -0.4**
BRG S **S 08 07 06.0 +2.7**
BRG pmax pmax
comp=Z,84nm,1.4s
BRG MLR MLR
comp=N,1μm,11.2s
BRG MLR MLR
comp=E,2μm,14.4s
BRG MLR MLR
comp=Z,1μm,12.6s
BRG smax smax
comp=N,2.0nm,0.3s
BRG Berggiesshubel 21.43 115 *eP* **P 08 03 05.2 -0.7**
comp=N,84nm,1.4s,baz=328,slow=11
MANZ Manzenberg 21.44 119 *eP* **P 08 03 05.4 -0.6**
comp=N,155nm,2.1s,baz=328,slow=11
BFO Black Forest 21.47 127 P **P 08 03 06.3 -0.1**
BFO pmax pmax
comp=Z,91nm,1.4s
BFO Black Forest 21.47 127 *eP* **P 08 03 06.3 -0.1**
comp=Z,132nm,1.6s,baz=328,slow=11
BFO Black Forest 21.47 127 P **P 08 03 06.3 -0.1**
BFO IAmb IAmb 08 03 18.8
comp=Z,91nm,1.4s
VSU Vasula 21.57 86 *eP* **P 08 03 06.5 -0.8**
VSU Vasula 21.57 86⇑*eP* **P 08 03 05.6 -1.8**
VSU pmax pmax
comp=Z,159nm,1.1s
ROTZ Rotzenmuhle 21.65 119 *eP* **P 08 03 07.9 -0.5**
comp=Z,206nm,2.2s,baz=328,slow=11
FRB Frobisher Bay 21.73 291 LR LR 08 10 56.3
comp=Z,926nm,19.7s,baz=58,slow=35
PVCC Panska Ves 21.94 115 AMS AMS 08 15 50.0
comp=Z,1μm,11.3s
SLVR Solovky 22.07 65 *eP* **P 08 03 11.4 -1.2**
comp=Z,161nm,2.2s
SLVR *eS* **S 08 07 15.4 -0.1**
PABE Paberze 22.22 95 *eP* **P 08 03 14.3 0.0**
PRA Prague 22.26 116 AMS AMS 08 15 10.0
comp=Z,800nm,11.6s
PRU Pruhonice 22.36 116 *eP* **P 08 03 15.6 -0.3**
PRU *eS* **S 08 07 26.5 +5.1**
PRU AMS AMS 08 15 10.0
comp=Z,2μm,9.4s
PRU Pruhonice 22.36 116 *eP* **P 08 03 15.6 -0.3**
PRU MLR MLR
comp=Z,2μm,9.4s
PUL Pulkovo 22.36 80 *eP* **P 08 03 15.7 -0.1**
KSP Ksiaz 22.38 112 *eP* **P 08 03 16.8 +0.7**
KSP *eS* Sn 08 07 28.4 -5.5
WET Wettzell 22.41 119 *eP* **P 08 03 15.2 -1.4**
comp=Z,220nm,2.0s,baz=328,slow=11
CHVC Chvalec 22.48 113 *eP* **P 08 03 16.4 -0.8**
CHVC AMS AMS 08 15 30.0
comp=Z,900nm,14.1s
GOPC GO Pecny, Ondr 22.52 116 *eP* **P 08 03 18.1 +0.5**
GOPC *eS* **S 08 07 28.9 +4.6**
GOPC AMS AMS 08 16 30.0
comp=Z,2μm,10.4s
GOPC GO Pecny, Ondr 22.52 116 *eP* **P 08 03 18.1 +0.5**
GOPC MLR MLR
comp=Z,2μm,10.4s
UPC Upice 22.53 113 *eP* **P 08 03 16.7 -1.0**
UPC *eS* **S 08 07 29.6 +5.1**
UPC AMS AMS 08 16 50.0
comp=Z,2μm,10.3s
UPC Upice 22.53 113 *eP* **P 08 03 16.7 -1.0**
UPC MLR MLR
comp=Z,2μm,10.3s
OSTC Ostas 22.57 113 *eP* **P 08 03 18.4 +0.2**
OSTC *eS* Sn 08 07 32.1 -6.5
OSTC AMS AMS 08 17 10.0
comp=Z,1μm,10.0s
UBR Ueberruh 22.64 126 *eP* **P 08 03 18.4 -0.6**
comp=Z,270nm,2.0s,baz=328,slow=11
FUR Furstenfeldbru 22.64 123 *eP* **P 08 03 18.1 -0.9**
comp=Z,624nm,2.4s,baz=328,slow=11
KHC Kasperske Hory 22.69 118 *eP* **P 08 03 19.0 -0.5**
KHC *eS* **S 08 07 32.5 +5.0**
KHC AMS AMS 08 15 30.0
comp=Z,2μm,10.8s
KHC Kasperske Hory 22.69 118*deP* **P 08 03 18.8 -0.7**
KHC pmax pmax
comp=Z,63nm,1.2s
KHC Kasperske Hory 22.69 118 P **P 08 03 18.9 -0.5**
DPC Dobruska-Polom 22.77 113 *eP* **P 08 03 19.4 -1.0**
DPC *eS* **S 08 07 33.8 +4.8**
DPC AMS AMS 08 16 50.0
comp=Z,1μm,11.2s
DPC Dobruska-Polom 22.77 113 *eP* **P 08 03 19.4 -1.0**
DPC MLR MLR
comp=Z,1μm,11.2s
SENIN Lac Senin/Sane 22.84 132 P **P 08 03 21.6 +0.3**
SUW Suwalki 22.89 98 *eP* **P 08 03 21.3 -0.2**
SUW *eS* **S 08 07 32.8 +1.8**
SUW Suwalki 22.89 98 P **P 08 03 20.6 -0.9**
SUW pmax pmax
comp=Z,240nm,1.6s
SUW Suwalki 22.89 98 P **P 08 03 20.6 -0.9**
DAVA Damuels 22.90 126 *ep*P **P 08 03 22.6 +0.7**
comp=Z,35nm,1.1s,SNR=6.5
SSB Saint Sauveur 22.97 137 P **P 08 03 21.7 -0.7**
SSB pmax pmax
comp=Z,26nm,1.1s
SSB Saint Sauveur 22.97 137 P **P 08 03 21.7 -0.7**
GEC2 GERESS Array S 22.97 119 *eP* **P 08 03 22.1 -0.4**
comp=Z,299nm,2.4s,baz=328,slow=11
GEC2 GERESS Array S 22.97 119 P **P 08 03 21.6 -0.9**
GEC2 IAmb IAmb 08 03 43.0
comp=Z,102nm,1.6s
GERES GERESS Array B 22.97 119 P **P 08 03 21.4 -1.0**
comp=Z,11nm,1.1s,baz=324,slow=6.6,SNR=30
GERES LR LR 08 12 38.6
comp=Z,928nm,20.2s,baz=330,slow=38
GERES GERESS Array B 22.97 119 P **P 08 03 21.2 -1.3**
RETA Reutte 23.03 125 *eP* **P 08 03 23.1 -0.1**
comp=Z,38nm,1.3s
IZAR Zarasai 23.04 92 *eP* **P 08 03 22.1 -0.9**
ISAL Salakas 23.10 93 *eP* **P 08 03 22.9 -0.7**
KRLC Kraliky 23.17 113 *eP* **P 08 03 23.8 -0.7**
KRLC *eS* **S 08 07 41.0 +5.1**
KRLC AMS AMS 08 17 10.0
comp=Z,1μm,9.8s
KRLC Kraliky 23.17 113 *eP* **P 08 03 23.8 -0.7**
KRLC MLR MLR
comp=Z,1μm,9.8s
MOTA Moosalm 23.28 124 *eP* **P 08 03 25.6 -0.1**
comp=Z,30nm,1.4s,SNR=7.0
IIGN Ignalina 23.29 93 *eP* **P 08 03 24.6 -0.9**
TREC Trest 23.29 116 AMS AMS 08 15 40.0
comp=Z,2μm,10.0s
DAVOX Davos/Dischmat 23.34 127 P **P 08 03 26.1 -0.3**
comp=Z,6.0nm,0.9s,baz=336,slow=11,SNR=11
DAVOX LR LR 08 13 18.6
comp=Z,510nm,18.8s,baz=332,slow=39
TMCR Tamitsa 23.34 66 *eP* **P 08 03 25.0 -1.0**
TMCR *eS* **S 08 07 37.5 -0.8**
TMCR pmax pmax
comp=Z,187nm,0.4s
PGAV Gavieira, Arco 23.37 162 *eP* **P 08 03 29.1 +2.5**
comp=Z,74nm,2.1s
PGAV *eS* **S 08 07 44.1 +4.7**
PGAV A A 08 13 12.4
comp=Z,601nm,16.0s
SQTA Sankt Quirin 23.42 124 *eP* **P 08 03 27.1 0.0**
comp=Z,57nm,1.7s,SNR=6.5

FETA	**Feichten**	**23.42 125**	pP	**P**	**08 03 27.4 +0.3**
	comp=Z,41nm,1.8s				
TUE	**Stuetta**	**23.42 128**	P	**P**	**08 03 27.1 -0.1**
TUE			IAmb	IAmb	08 03 48.4
	comp=Z,81nm,1.4s				
BEL	**Belsk**	**23.45 105**	*e*P	**P**	**08 03 28.3 +1.1**
BEL			*e*S	**S**	**08 07 49.8 +9.4**
WATA	**Walderalm**	**23.45 124**	*e*P	**P**	**08 03 27.3 -0.1**
	comp=Z,26nm,1.2s,SNR=7.6				
IDID	**Didziasalis**	**23.53 92**	*e*P	**P**	**08 03 27.4 -0.6**
WTTA	**Wattenberg**	**23.54 124**	*e*P	**P**	**08 03 28.3 0.0**
	comp=Z,32nm,1.2s,SNR=10				
RJOB	**Jochberg**	**23.55 122**	*e*P	**P**	**08 03 28.0 -0.4**
	comp=Z,40nm,1.7s,baz=328,slow=11				
PCAB	**Cabril**	**23.66 162**	*e*P	**P**	**08 03 31.6 +2.3**
	comp=Z,61nm,1.5s				
VRAC	**Vranov**	**23.71 114**	P	**P**	**08 03 29.5 -0.3**
	comp=Z,2.7nm,0.5s,baz=332,slow=11,SNR=13				
VRAC			LR	LR	08 13 15.2
	comp=Z,691nm,18.7s,baz=333,slow=38				
VRAC	**Vranov**	**23.71 114**	⇓P	**P**	**08 03 30.4 +0.6**
VRAC	**Vranov**	**23.71 114**	*e*P	**P**	**08 03 29.2 -0.6**
VRAC			*e*S	**S**	**08 07 52.4 +7.9**
VRAC	**Vranov**	**23.71 114**	⇓P	**P**	**08 03 30.4 +0.6**
MORC	**Moravsky Berou**	**23.71 112**	⇑P	**P**	**08 03 31.4 +1.6**
MORC	**Moravsky Berou**	**23.71 112**	*e*P	**P**	**08 03 29.0 -0.8**
MORC			*e*S	**S**	**08 07 51.8 +7.2**
MORC	**Moravsky Berou**	**23.71 112**	⇑P	**P**	**08 03 31.4 +1.6**
MORC	**Moravsky Berou**	**23.71 112**	P	**P**	**08 03 28.8 -1.1**
MORC			IAmb	IAmb	08 03 53.1
	comp=Z,79nm,1.7s				
PBRG	**Braganca**	**23.74 160**	*e*P	**P**	**08 03 31.4 +1.2**
BNI	**Bardonecchia**	**23.82 134**	P	**P**	**08 03 32.1 +1.1**
BNI			pmax	pmax	
	comp=Z,85nm,1.6s				
BNI	**Bardonecchia**	**23.82 134**	P	**P**	**08 03 32.1 +1.1**
BNI			IAmb	IAmb	08 03 53.7
	comp=Z,85nm,1.6s				
NACGM	**Naroch**	**23.82 93**	*e*P	P	08 03 40.0 +9.2
NACGM			*e*P	P	08 03 40.0 +9.2
NACGM			*e*PP	**PnPn**	**08 04 06.0 +7.6**
NACGM			*e*S	Sn	08 08 00.0 -8.4
NACGM			*e*SS	SnSn	08 08 42.0 +18
NACGM			*e*SSS	SSS	08 09 20.0
NACGM			*e*LQ	LQ	08 12 16.0
NACGM			*e*LR	LR	08 13 26.0
KRUC	**Moravsky**	**23.83 115**	*e*P	**P**	**08 03 29.9 -1.0**
KRUC			*e*S	**S**	**08 07 53.5 +7.1**
OKC	**Ostrava-Krasne**	**23.90 111**	AMS	AMS	08 16 10.0
	comp=Z,1μm,11.6s				
MOA	**Molln**	**24.01 119**	*e*P	**P**	**08 03 32.2 -0.5**
	comp=Z,16nm,1.6s,SNR=6.4				
MOA	**Molln**	**24.01 119**	*e*P	**P**	**08 03 32.1 -0.5**
	comp=Z,54nm,1.7s,baz=328,slow=11				
PVRL	**Vila Real**	**24.12 162**	*e*P	**P**	**08 03 36.1 +2.3**
	comp=Z,84nm,1.8s				
OJC	**Ojcow**	**24.27 109**	*e*P	**P**	**08 03 35.7 +0.6**
OJC			*e*S	S	08 08 06.3 +13
OJC	**Ojcow**	**24.27 109**	P	**P**	**08 03 33.9 -1.2**
OJC			pmax	pmax	
	comp=Z,140nm,1.9s				
OJC	**Ojcow**	**24.27 109**	P	**P**	**08 03 33.9 -1.2**
ABTA	**Abfaltersbach**	**24.29 123**	*e*pP	**P**	**08 03 37.1 +1.8**
	comp=Z,21nm,1.3s				
KBA	**Koelnbreinsper**	**24.31 122**	*e*pP	**P**	**08 03 37.6 +1.9**
	comp=Z,38nm,1.8s				
KBA	**Koelnbreinsper**	**24.31 122**	*e*P	**P**	**08 03 37.1 +1.5**
	comp=Z,159nm,2.0s,baz=328,slow=11				
MVO	**Moncorvo**	**24.33 161**	*e*P	**P**	**08 03 38.5 +2.8**
	comp=Z,78nm,2.2s				
MVO			*e*S	**S**	**08 08 00.9 +6.3**
MVO			A	A	08 13 14.7
	comp=Z,506nm,16.0s				
JAVC	**Velka Javorina**	**24.49 113**	*e*P	**P**	**08 03 37.1 -0.1**
JAVC			*e*S	**S**	**08 08 06.7 +10**
CONA	**Conrad Observa**	**24.55 117**	*e*P	**P**	**08 03 37.4 -0.2**
	comp=Z,16nm,1.0s,SNR=9.9				
MICGM	**Minsk**	**24.57 93**	*e*P	**P**	**08 03 36.0 -1.7**
MICGM			*e*PP	**PnPn**	**08 04 15.0 +6.4**
MICGM			*e*S	**S**	**08 07 53.0 -5.2**
MICGM			*e*SS	SnSn	08 08 10.0 -33
MICGM			*e*LR	LR	08 14 05.0
MNK	**Minsk**	**24.57 93**	*e*P	**P**	**08 03 36.0 -1.7**
MNK			*e*		08 04 15.0
MNK			*e*S	**S**	**08 07 53.0 -5.2**
CTI	**Castel Tesino**	**24.58 125**	P	**P**	**08 03 37.9 -0.2**
CTI			pmax	pmax	
	comp=Z,122nm,1.8s				
CTI	**Castel Tesino**	**24.58 125**	P	**P**	**08 03 37.9 -0.2**
ZOU	**Zoufplan**	**24.62 123**	P	**P**	**08 03 39.6 +1.1**
CIMO	**Cimolais**	**24.64 124**	P	**P**	**08 03 38.2 -0.3**
CIMO			IAmb	IAmb	08 03 57.2
	comp=Z,49nm,1.5s				
PVIS	**Viseu**	**24.65 162**	*e*P	**P**	**08 03 41.3 +2.7**
	comp=Z,71nm,2.1s				
SMOL	**Smolenice**	**24.68 114**	*e*P	**P**	**08 03 39.0 +0.2**
SMOL			pmax	pmax	
	comp=Z,19nm,1.3s				
SMOL	**Smolenice**	**24.68 114**	*e*P	**P**	**08 03 39.0 +0.2**
MODS	**Modra-Piesok**	**24.73 115**	*e*P	**P**	**08 03 38.4 -0.9**
MODS			pmax	pmax	
	comp=Z,42nm,1.3s				
MODS	**Modra-Piesok**	**24.73 115**	*e*P	**P**	**08 03 38.4 -0.9**
MYKA	**Terra Mystica**	**24.80 122**	*e*P	**P**	**08 03 39.4 -0.6**
	comp=Z,23nm,2.0s				
PRED	**Cave del Predi**	**24.93 122**	P	**P**	**08 03 40.6 -0.5**
LANS	**Liptovska Anna**	**24.98 111**	*e*P	**P**	**08 03 41.9 +0.4**
LANS			pmax	pmax	
	comp=Z,8.0nm,0.9s				
LANS	**Liptovska Anna**	**24.98 111**	*e*P	**P**	**08 03 41.9 +0.4**
ARSA	**Arzberg**	**24.98 118**	P	**P**	**08 03 41.6 +0.1**
	comp=Z,11nm,1.1s				
ARSA	**Arzberg**	**24.98 118**	*e*P	**P**	**08 03 40.7 -0.8**
	comp=Z,37nm,1.6s,baz=328,slow=11				
NIE	**Niedzica**	**25.10 109**	*e*P	**P**	**08 03 44.0 +1.4**
NIE			*e*S	S	08 08 18.3 +11
TEOL	**Teolo**	**25.19 126**	P	**P**	**08 03 42.5 -0.9**
TEOL			IAmb	IAmb	08 04 20.6
	comp=Z,75nm,1.6s				
PCAS	**Casmilo, Conde**	**25.23 164**	*e*P	**P**	**08 03 43.8 0.0**
	comp=Z,69nm,1.9s				
OBKA	**Obir**	**25.23 121**	*e*P	**P**	**08 03 43.7 -0.2**
	comp=Z,18nm,1.3s				
VYHS	**Vyhne**	**25.25 112**	*e*P	**P**	**08 03 43.8 -0.1**
VYHS			pmax	pmax	
	comp=Z,45nm,1.4s				
VYHS	**Vyhne**	**25.25 112**	*e*P	**P**	**08 03 43.8 -0.1**
SOKA	**Soboth**	**25.27 120**	*e*P	**P**	**08 03 44.2 0.0**
	comp=Z,17nm,1.4s				
PCBR	**Castelo Branco**	**25.57 162**	*e*P	**P**	**08 03 49.5 +2.7**
	comp=Z,40nm,1.6s				
SRO	**Srobarova**	**25.59 114**	*e*P	**P**	**08 03 47.5 +0.5**
SRO			pmax	pmax	
	comp=Z,54nm,1.6s				
SRO	**Srobarova**	**25.59 114**	*e*P	**P**	**08 03 47.5 +0.5**
KLMR	**Klimovskoe**	**25.60 72**	⇓*i*P	**P**	**08 03 45.8 -1.2**
	comp=Z,70nm,1.3s				
KLMR			*e*S	**S**	**08 08 14.4 -0.2**
KLMR	**Klimovskoe**	**25.60 72**	*e*P	**P**	**08 03 45.6 -1.4**
KLMR			*e*		08 07 14.8
KLMR			*e*S	**S**	**08 08 14.5 -0.1**
KLMR			pmax	pmax	
	comp=Z,76nm,1.4s				
KLMR	**Klimovskoe**	**25.60 72**	*e*P	**P**	**08 03 45.6 -1.4**
KLMR			AMP		08 03 48.6
	comp=Z,76nm,1.4s				
KLMR			*e*PcP	**PcP**	**08 07 14.9 -2.4**
KLMR			*e*S	**S**	**08 08 14.5 -0.1**
KLMR			*e*S	**S**	**08 08 14.5 -0.1**
KLMR			LQ	LQ	08 10 47.5
KLMR			LQ	LQ	08 10 47.5
KLMR			LR	LR	08 12 08.1
SRO2	**Moca**	**25.66 114**	*e*P	**P**	**08 03 47.3 -0.3**
SRO2	**Moca**	**25.66 114**	*e*P	**P**	**08 03 47.3 -0.3**
PSBE	**So Bento**	**25.72 164**	*e*P	**P**	**08 03 52.0 +3.7**
UCM	**Universidad Co**	**25.79 154**	*e*P	**P**	**08 03 48.3 -0.6**
UCM			*e*S	**S**	**08 08 20.4 +2.5**
ZCCA	**Zocca**	**25.83 128**	P	**P**	**08 03 50.5 +1.1**
KWP	**Kalwaria Pacla**	**25.92 106**	*e*P	**P**	**08 03 53.5 +3.5**
KWP	**Kalwaria Pacla**	**25.92 106**	P	**P**	**08 03 49.6 -0.4**
KWP			pmax	pmax	
	comp=Z,366nm,1.9s				
KWP	**Kalwaria Pacla**	**25.92 106**	P	**P**	**08 03 49.6 -0.4**
LSH	**Leshukonskoye**	**25.96 61**	*e*P	**P**	**08 03 48.3 -1.9**
	comp=Z,49nm,1.1s				
LSH			*e*S	**S**	**08 08 19.1 -1.1**
PMRV	**Marv??o**	**25.98 162**	*e*P	**P**	**08 03 54.4 +3.7**
	comp=Z,61nm,2.4s				
PMRV			*e*S	**S**	**08 08 27.6 +6.6**
PMRV			A	A	08 14 00.8
	comp=Z,435nm,16.0s				
SCHQ	**Schefferville**	**26.03 271**	P	**P**	**08 03 49.9 -1.1**
	comp=Z,17nm,0.9s,baz=52,slow=6.8,SNR=8.5				
SCHQ			LR	LR	08 12 50.7
	comp=Z,552nm,20.4s,slow=34				
PSZ	**Piszkesteto**	**26.13 112**	⇑P	**P**	**08 03 52.5 +0.5**
PSZ	**Piszkesteto**	**26.13 112**	⇑P	**P**	**08 03 52.5 +0.5**
PSZ	**Piszkesteto**	**26.13 112**	P	**P**	**08 03 51.5 -0.5**
PMTG	**Montargil**	**26.23 163**	*e*P	**P**	**08 03 55.3 +2.4**
	comp=Z,59nm,2.1s				
ESBB	**Sonseca Array**	**26.27 156**	P	**P**	**08 03 53.4 0.0**
ESDC	**Sonseca Array**	**26.27 156**	P	**P**	**08 03 52.5 -0.8**
	comp=Z,5.6nm,0.9s,baz=349,slow=9.1,SNR=23				
ESDC			LR	LR	08 13 27.7
	comp=Z,275nm,19.1s,baz=330,slow=35				
ESDC	**Sonseca Array**	**26.27 156**	P	**P**	**08 03 52.5 -0.8**
KOLS	**Kolonicke sedl**	**26.29 108**	*e*P	**P**	**08 03 52.2 -1.1**
KOLS			pmax	pmax	
	comp=Z,49nm,1.4s				
KOLS	**Kolonicke sedl**	**26.29 108**	*e*P	**P**	**08 03 52.2 -1.1**
LVV	**L'vov**	**26.33 104**	*e*P	**P**	**08 03 53.2 -0.5**
LVV			*e*S	**S**	**08 08 21.6 -4.6**
LVV			pmax	pmax	
	comp=Z,260nm,1.4s				
LVV			smax	smax	
	comp=N,3μm,6.0s				
LVV			MLR	MLR	
	comp=Z,800nm,13.0s				
RES	**Resolute Bay**	**26.45 324**	LR	LR	08 14 16.3
	comp=Z,389nm,18.1s,baz=48,slow=36				
UZH	**Uzhgorod**	**26.53 108**	⇓*e*P	**P**	**08 03 54.9 -0.6**
UZH			*i*		08 04 00.8
UZH			*e*		08 04 40.8
UZH			*e*PPP	PPP	08 04 54.8
UZH			*e*		08 07 25.1
UZH			*e*S	**S**	**08 08 23.5 -5.9**
UZH			*e*SS	**SnSn**	**08 09 42.6 +12**
UZH			MLR	MLR	
	comp=N,250nm,13.0s				
UZH			MLR	MLR	
	comp=E,200nm,13.0s				
UZH			MLR	MLR	
	comp=Z,120nm,13.0s				
OSSC	**Osservatorio P**	**26.66 129**	P	**P**	**08 03 56.7 0.0**
OSSC			IAmb	IAmb	08 04 07.7
	comp=Z,34nm,1.1s				
EVO	**Evora**	**26.79 163**	*e*S	**S**	**08 08 38.5 +4.8**
MURB	**Monte Urbino**	**27.32 127**	P	**P**	**08 04 02.0 -0.7**
MURB			IAmb	IAmb	08 04 14.6
	comp=Z,57nm,1.3s				
PRGR	**Permogore**	**27.62 67**	*e*P	**P**	**08 04 04.3 -0.9**
	comp=Z,14nm,0.8s				
PRGR			*e*S	**S**	**08 08 47.4 +1.0**
PRGR	**Permogore**	**27.62 67**	*e*P	**P**	**08 04 04.3 -0.9**
PRGR			pmax	pmax	
	comp=Z,14nm,0.9s				
AKASG	**Malin Array Be**	**27.85 98**	P	**P**	**08 04 05.9 -1.4**
	comp=Z,3.2nm,0.8s,baz=323,slow=9.5,SNR=15				
AKASG			LR	LR	08 15 31.5
	comp=Z,443nm,18.4s,baz=320,slow=37				
AKBB	**Malin Array Si**	**27.85 98**	P	**P**	**08 04 05.9 -1.5**
AKBB			pmax	pmax	
	comp=Z,42nm,1.5s				
AKBB	**Malin Array Si**	**27.85 98**	P	**P**	**08 04 05.8 -1.5**
AKBB			IAmb	IAmb	08 04 20.7
	comp=Z,42nm,1.4s				
MAHO	**Mahon**	**27.88 142**	*e*P	**P**	**08 04 10.4 +2.8**
MAHO			*e*S	**S**	**08 08 58.5 +7.8**
OBN	**Obninsk**	**27.89 84**	P	**P**	**08 04 07.1 -0.5**
	comp=Z,8.2nm,0.4s,baz=246,slow=4.2,SNR=7.4				
OBN			LR	LR	08 15 30.3
	comp=Z,115nm,18.4s,baz=338,slow=37				
OBN	**Obninsk**	**27.89 84**	*ce*P	**P**	**08 04 08.1 +0.5**
OBN			*e*		08 04 53.8
OBN			*e*PPP	PPP	08 05 02.8
OBN			*e*		08 07 23.9
OBN			pmax	pmax	
	comp=Z,63nm,1.2s				
OBN	**Obninsk**	**27.89 84**	P	**P**	**08 04 06.6 -1.0**
MOS	**Moscow**	**27.92 82**	*e*P	**P**	**08 04 07.3 -0.6**
MOS			*e*		08 04 52.9
MOS			*e*		08 05 07.0
MOS			*e*S	**S**	**08 08 51.6 +0.4**
MOS			pmax	pmax	
	comp=Z,32nm,0.7s				
MOS			MLR	MLR	
	comp=Z,400nm,15.0s				
PVAQ	**Vaqueiros**	**27.94 163**	*e*S	**S**	**08 09 00.6 +8.9**
PVAQ			A	A	08 15 56.2
	comp=Z,367nm,16.0s				
BUR08	**Bucovina Ar. S**	**28.51 106**	P	**P**	**08 04 13.7 +0.4**
BURAR	**Bucovina Array**	**28.54 106**	⇑P	**P**	**08 04 15.0 +1.4**
BURAR	**Bucovina Array**	**28.54 106**	⇑P	**P**	**08 04 15.0 +1.4**
BURAR	**Bucovina Array**	**28.54 106**	P	**P**	**08 04 13.2 -0.4**
CART	**Cartagena**	**28.86 152**	*e*P	**P**	**08 04 18.2 +1.9**
CART			*e*S	**S**	**08 09 11.4 +5.3**
EMAL	**Malaga-Limoner**	**29.04 158**	*e*S	S	08 09 19.0 +10
HERR	**Herculane**	**29.62 113**	⇑P	**P**	**08 04 23.5 +0.3**
TESR	**Tescani**	**30.01 106**	⇓P	**P**	**08 04 27.4 +0.8**
VOIR		**30.22 109**	⇓P	**P**	**08 04 29.3 +0.8**
VOIR		**30.22 109**	⇓P	**P**	**08 04 29.3 +0.8**
KIS	**Kishinev**	**30.52 103**	*e*P	**P**	**08 04 31.0 -0.1**
	comp=Z,160nm,5.7s				
KIS			*e*S	**S**	**08 09 28.0 -4.2**
KIS			*e*LQ	LQ	08 17 44.0
	comp=Z,360nm,12.0s				
KIS			LRM	MLR	08 19 16.0
	comp=Z,2μm,10.5s				
KIS	**Kishinev**	**30.52 103**	*e*P	**P**	**08 04 31.0 -0.1**
KIS			*e*S	**S**	**08 09 28.0 -4.2**
KIS			*e*		08 09 36.0
KIS			pmax	pmax	
	comp=Z,160nm,5.7s				
KIS			MLR	MLR	
	comp=N,460nm,14.0s				
KIS			MLR	MLR	
	comp=E,360nm,12.0s				
PLOR	**Plostina**	**30.54 107**	⇑P	**P**	**08 04 32.6 +1.3**
PLOR	**Plostina**	**30.54 107**	⇑P	**P**	**08 04 32.6 +1.3**
MLR	**Muntele Rosu**	**30.54 108**	⇓P	**P**	**08 04 32.7 +1.3**
MLR	**Muntele Rosu**	**30.54 108**	⇓P	**P**	**08 04 32.7 +1.3**
MLR	**Muntele Rosu**	**30.54 108**	P	**P**	**08 04 30.9 -0.6**
MLR			IAmb	IAmb	08 04 47.2
	comp=Z,45nm,1.5s				
VRI	**Vrincioaia**	**30.56 106**	⇑P	**P**	**08 04 31.9 +0.4**
VRI	**Vrincioaia**	**30.56 106**	⇑P	**P**	**08 04 31.9 +0.4**
LPSR	**Galich'ya Gora**	**30.64 86**	*e*P	**P**	**08 04 31.2 -0.8**
LPSR			*e*S	**S**	**08 09 38.4 +4.5**
LPSR			pmax	pmax	
	comp=Z,10.0nm,0.6s				
LPSR			smax	smax	
	comp=E,450nm,11.6s				
LPSR			MLR	MLR	
	comp=Z,600nm,10.0s				
MELI	**Melilla**	**30.72 156**	*e*S	**S**	**08 09 37.8 +2.4**
BISRR	**Bisoca**	**30.81 107**	⇑P	**P**	**08 04 34.7 +0.9**
CFR	**Carcaliu**	**31.70 106**	⇑P	**P**	**08 04 40.7 -0.7**
CFR	**Carcaliu**	**31.70 106**	⇑P	**P**	**08 04 40.7 -0.7**
VSR	**Storozhevoye**	**31.74 88**	*e*P	**P**	**08 04 40.7 -1.0**
VSR			*e*S	**S**	**08 09 51.8 +0.7**
VSR			pmax	pmax	
	comp=Z,20nm,1.0s				
VSR			smax	smax	
	comp=N,230nm,6.9s				
VSR			MLR	MLR	
	comp=Z,960nm,13.0s				
PMOZ	**Porto Moniz, M**	**31.89 179**	*e*S	**S**	**08 10 01.3 +7.3**
PMOZ			A	A	08 16 25.2
	comp=Z,296nm,16.0s				
VORD	**Divnogorie**	**31.98 88**	*e*P	P	08 04 37.9 -5.9
VORD			pmax	pmax	
	comp=Z,10.0nm,0.9s				
AVE	**Averroes**	**32.02 164**	*e*S	**S**	**08 10 01.7 +5.8**
IFR	**Ifrane**	**32.11 160**	*e*S	**S**	**08 10 01.2 +3.7**
CORL	**Corleone**	**32.40 131**	P	**P**	**08 04 47.9 +0.2**
CLTB	**Caltabellotta**	**32.66 131**	P	**P**	**08 04 50.0 -0.1**
CLTB			IAmb	IAmb	08 04 51.5
	comp=Z,35nm,1.1s				
CHGQ	**Chibougamau**	**32.78 271**	P	**P**	**08 04 50.5 -0.4**
	baz=42				
VRH	**Novokhopyorsk**	**32.84 85**	*e*P	**P**	**08 04 49.6 -1.8**
VRH			*e*S	**S**	**08 10 09.8 +1.5**
VRH			pmax	pmax	
	comp=Z,30nm,1.2s				
VRH			smax	smax	
	comp=N,2μm,11.6s				
VRH			MLR	MLR	
	comp=Z,2μm,14.0s				
KEST	**Kesra**	**33.18 138**	P	**P**	**08 04 54.1 -0.5**
	comp=Z,4.3nm,1.0s,baz=336,slow=13,SNR=4.2				
KEST			LR	LR	08 17 03.9
	comp=Z,373nm,19.6s,baz=320,slow=34				
KEST	**Kesra**	**33.18 138**	P	**P**	**08 04 55.0 +0.4**
E61A	**Lac Etchemin**	**33.78 263**	P	**P**	**08 04 59.4 -0.4**
	baz=38				
D59A	**Saint-Raymond**	**33.91 265**	P	**P**	**08 05 00.4 -0.4**
	baz=39				
G64A	**Maxfield**	**33.98 260**	P	**P**	**08 05 01.6 +0.2**
	baz=37				
F62A	**Pittston Farm,**	**33.98 262**	P	**P**	**08 05 01.4 -0.1**
	baz=38				
LATQ	**La Tuque**	**34.02 267**	P	**P**	**08 05 01.8 0.0**
	baz=39				
E60A	**Ste Agathe de**	**34.24 264**	P	**P**	**08 05 03.6 0.0**
	baz=38				
D58A	**Chemin du LacG**	**34.29 266**	P	**P**	**08 05 02.3 -1.8**
	baz=39				
MATQ	**Matagami**	**34.30 274**	P	**P**	**08 05 05.7 +1.6**
	baz=41				
LSQQ	**Lebel-sur-Quev**	**34.54 272**	P	**P**	**08 05 06.3 0.0**
	baz=41				
AGG	**Agios Georgios**	**34.59 118**	P	**P**	**08 05 06.1 -0.7**
AGG			pmax	pmax	
	comp=Z,56nm,1.3s				
AGG	**Agios Georgios**	**34.59 118**	P	**P**	**08 05 06.1 -0.7**
G62A	**West of Eustis**	**34.76 262**	P	**P**	**08 05 08.7 +0.5**
	baz=37				
F60A	**Warwick**	**34.77 264**	P	**P**	**08 05 07.2 -1.1**
	baz=38				
D57A	**Chemin Vers le**	**34.78 267**	P	**P**	**08 05 08.6 +0.3**
	baz=39,SNR=6.4				
D56A	**ZEC Mazanza, M**	**35.13 268**	P	**P**	**08 05 11.9 +0.6**
	baz=39				
G61A	**St-Isidore-de-**	**35.14 263**	P	**P**	**08 05 10.5 -0.9**
	baz=37				
E57A	**Chemin Saint G**	**35.37 267**	P	**P**	**08 05 12.7 -0.7**
	baz=38				
MOQ	**Mont Orford**	**35.42 264**	P	**P**	**08 05 13.9 -0.1**
D55A	**Sainte-Anne-du**	**35.46 269**	P	**P**	**08 05 14.3 +0.1**
	baz=39				
G60A	**Masonville**	**35.63 264**	P	**P**	**08 05 16.3 +0.6**
	baz=37				
E56A	**St. Veronique**	**35.64 268**	P	**P**	**08 05 15.4 -0.4**
	baz=38				
TRQ	**Mont Tremblant**	**35.69 267**	P	**P**	**08 05 15.7 -0.5**
D54A	**Lac Fusel, La**	**35.87 270**	P	**P**	**08 05 16.9 -0.8**
	baz=39				
ANN	**Anapa**	**35.92 97**	*e*P	**P**	**08 05 14.1 -4.0**
ANN			*e**PP	**pP**	**08 05 19.5 -2.1**
ANN			*e*S	**S**	**08 10 51.5 -4.4**
ANN			pmax	pmax	
	comp=Z,17nm,0.8s				
ANN			MLR	MLR	
	comp=Z,881nm,17.0s				
G59A	**Clarenceville**	**36.01 264**	P	**P**	**08 05 18.9 0.0**
	baz=37				
ITM	**Ithomi**	**36.05 120**	P	**P**	**08 05 19.4 0.0**
ITM			IAmb	IAmb	08 05 21.5
	comp=Z,26nm,1.3s				
ARU	**Arti**	**36.08 66**	*c i*P	**P**	**08 05 16.6 -2.8**
ARU			S	**S**	**08 10 56.6 -1.6**
ARU			pmax	pmax	
	comp=Z,11nm,1.5s				
ARU			MLR	MLR	
	comp=Z,956nm,20.0s				
ARU	**Arti**	**36.08 66**	P	**P**	**08 05 19.1 -0.3**
E55A	**Montcerf-Lytto**	**36.15 269**	P	**P**	**08 05 20.7 +0.6**
	baz=38				
H60A	**Morristown**	**36.21 263**	P	**P**	**08 05 20.7 0.0**
	baz=37				
G58A	**Ormstown**	**36.32 265**	P	**P**	**08 05 22.2 +0.7**
	baz=37				
D53A	**Lac Vacive, Po**	**36.37 271**	P	**P**	**08 05 22.6 +0.6**
	baz=39,SNR=6.2				
D53A	**Lac Vacive, Po**	**36.37 271**	P	**P**	**08 05 22.0 0.0**
D53A			IAmb	IAmb	08 05 24.2
	comp=Z,23nm,1.1s				
FRNY	**Flat Rock**	**36.38 265**	P	**P**	**08 05 22.0 0.0**
FRNY			IAmb	IAmb	08 05 27.8
	comp=Z,39nm,1.4s				
NRIK	**Noril'sk**	**36.45 35**	P	**P**	**08 05 23.0 +0.6**
	comp=Z,14nm,1.2s,baz=292,slow=7.5,SNR=7.6				
NRIK			LR	LR	08 22 17.6
	comp=Z,292nm,18.2s,baz=8.5,slow=40				
H59A	**Cadyville**	**36.57 264**	P	**P**	**08 05 24.3 +0.6**
	baz=37				
SVE	**Sverdlovsk**	**36.61 64**	*e*P	**P**	**08 05 23.7 -0.2**
SVE			*e*S	**S**	**08 11 11.5 +5.3**
SVE			pmax	pmax	
	comp=Z,32nm,1.4s				
SVE			MLR	MLR	
	comp=Z,767nm,15.0s				
E54A	**Lac Daplat, Po**	**36.66 270**	P	**P**	**08 05 24.7 +0.3**
	baz=38				
ORIO	**Orleans, Innes**	**36.71 267**	P	**P**	**08 05 24.1 -0.7**
	baz=38				
G57A	**Newington**	**36.76 266**	P	**P**	**08 05 26.0 +0.7**
	baz=37				
C36M	**Paulatuk**	**36.81 325**	P	**P**	**08 05 24.3 -1.1**
	baz=43				
MDUB	**Mudurnu**	**36.85 107**	P	**P**	**08 05 26.0 -0.3**
H58A	**Gabriels**	**36.96 265**	P	**P**	**08 05 27.1 0.0**
	baz=37				
LONY	**Lake Ozonia**	**36.97 265**	P	**P**	**08 05 27.3 +0.2**
	baz=37				
LONY	**Lake Ozonia**	**36.97 265**	P	**P**	**08 05 26.9 -0.3**
G55A	**Calabogie**	**37.38 268**	P	**P**	**08 05 31.4 +0.8**
	baz=37				
ILGA	**Ilgaz**	**37.41 104**	P	**P**	**08 05 31.2 0.0**
ILGA			IAmb	IAmb	08 05 47.4
	comp=Z,65nm,1.6s				
H57A	**Richville**	**37.45 266**	P	**P**	**08 05 32.2 +1.1**
	baz=37				
H56A	**Elgin**	**37.71 267**	P	**P**	**08 05 33.5 +0.1**
	baz=37				
G54A	**Lake Saint Pet**	**37.86 269**	P	**P**	**08 05 35.3 +0.6**
	baz=38				
J59A	**Piesco**	**37.87 264**	P	**P**	**08 05 35.6 +0.9**
	baz=36				
SOC	**Sochi**	**37.88 96**	*e*P	**P**	**08 05 33.8 -1.0**
SOC			*e**PP	**pP**	**08 05 36.6 -1.7**
SOC			*e*S	**S**	**08 11 25.3 -0.4**
SOC			*e*SS	**SnSn**	**08 14 03.1 -3.2**
SOC			*e*SSS	SSS	08 14 30.3
SOC			pmax	pmax	
	comp=Z,5.0nm,0.4s				
SOC			MLR	MLR	
	comp=Z,514nm,16.0s				
I57A	**Carthage**	**37.98 266**	P	**P**	**08 05 36.5 +0.8**
	baz=36				
GOF	**Gofitskoye**	**38.12 91**	*e*P	**P**	**08 05 39.6 +2.8**
H55A	**Tweed**	**38.14 268**	P	**P**	**08 05 38.1 +1.1**
	baz=37				
J58A	**Remsen**	**38.29 265**	P	**P**	**08 05 39.3 +1.1**
	baz=36				
BR131	**Keskin Array S**	**38.49 105**	P	**P**	**08 05 39.4 -0.8**
BR131			pmax	pmax	

KIV pmax pmax
comp=Z,262nm,4.5s
KIV MLR MLR
comp=Z,1μm,16.0s
KIV Kislovodsk 38.85 92 P P 08 05 42.1 -0.9
KIV IAmb IAmb 08 05 59.5
comp=Z,111nm,2.0s
KBZ Khabaz 39.12 92 P P 08 05 45.5 +0.3
comp=Z,15nm,1.0s,baz=320,slow=11,SNR=15
KBZ LR LR 08 22 01.9
comp=Z,460nm,20.4s,baz=322,slow=36
YKA Yellowknife Ar 39.20 313 P P 08 05 44.5 -1.2
comp=Z,7.1nm,1.0s,baz=38,slow=8.8,SNR=9.9
YKA LR LR 08 21 32.9
comp=Z,393nm,18.8s,baz=0.0,slow=36
ELL Elmali 39.51 112 P P 08 05 48.2 -0.6
ELL pmax pmax
comp=Z,206nm,1.6s
ELL Elmali 39.51 112 P P 08 05 48.1 -0.6
M59A Waymart 39.83 263 P P 08 05 51.0 -0.3
baz=35
L57A Andrews Acres 40.06 265 P P 08 05 54.2 +1.1
baz=35
L56A Greenwood 40.26 266 P P 08 05 55.5 +0.8
baz=35
L56A Greenwood 40.26 266 P P 08 05 55.1 +0.3
AKTO Aktyubinsk 40.29 73 LR LR 08 22 18.9
comp=Z,807nm,20.9s,baz=332,slow=36
AKTO Aktyubinsk 40.29 73 P P 08 05 53.2 -1.7
ZEI Tsey 40.31 92 *e*P P 08 05 54.8 -0.6
ZEI pmax pmax
comp=Z,12nm,1.2s
WVNY West Valley, N 40.48 267 P P 08 05 56.6 0.0
WVNY IAmb IAmb 08 06 02.0
comp=Z,42nm,1.2s
FFC Flin Flon 40.58 297 P P 08 05 56.9 -0.3
FFC pmax pmax
comp=Z,39nm,1.5s
FFC Flin Flon 40.58 297 P P 08 05 56.9 -0.3
FFC IAmb IAmb 08 06 01.0
comp=Z,39nm,1.5s
L55A Hinsdale 40.59 267 P P 08 05 58.2 +0.7
baz=35
M57A Sunshine Farm, 40.73 265 P P 08 05 59.6 +1.0
baz=35
M57A Sunshine Farm, 40.73 265 P P 08 05 58.6 0.0
M57A IAmb IAmb 08 06 04.0
comp=Z,38nm,1.3s
GROC Groznyy 40.79 90 *e*P P 08 06 00.2 +1.1
GROC *e*S S **08 12 12.4 +2.8**
GROC pmax pmax
comp=Z,59nm,1.0s
L54A Sinclairville 40.93 267 P P 08 06 01.4 +1.1
baz=35
N58A Sunbury 40.96 264 P P 08 06 01.3 +0.8
baz=34
N58A Sunbury 40.96 264 P P 08 06 00.7 +0.2
D41A Chassel 41.03 280 P P 08 06 00.9 -0.2
D41A IAmb IAmb 08 06 06.4
comp=Z,31nm,1.1s
M56A Emporium 41.06 266 P P 08 06 01.9 +0.5
baz=35
KOPT Kop Dagi 41.13 98 P P 08 06 02.3 0.0
KOPT IAmb IAmb 08 06 27.4
comp=Z,82nm,1.8s
O59A Robesonia 41.17 263 P P 08 06 02.7 +0.4
baz=34
AKH Akhalkalaki 41.26 94 P P 08 06 03.4 +0.1
AKH pmax pmax
comp=Z,27nm,1.1s
AKH Akhalkalaki 41.26 94 P P 08 06 03.4 +0.1
AKH IAmb IAmb 08 06 07.3
comp=Z,27nm,1.1s
M55A Ridgway 41.32 266 P P 08 06 04.0 +0.5
baz=35
N57A Milroy 41.39 265 P P 08 06 04.4 +0.4
baz=34
TBLG Delisi 41.53 93 P P 08 06 05.1 -0.2
TBLG pmax pmax
comp=Z,76nm,1.5s
TBLG Delisi 41.53 93 P P 08 06 05.1 -0.2
EYMN Ely 41.57 283 P P 08 06 05.1 -0.4
baz=38
N56A West Decatur 41.57 265 P P 08 06 05.8 +0.2
baz=34
ULM Lac du Bonnet 41.59 289 LR LR 08 24 31.9
comp=Z,102nm,20.0s,baz=75,slow=38
SSPA Standing Stone 41.63 265 P P 08 06 06.3 +0.2
baz=34
O58A Lewisberry 41.64 263 P P 08 06 06.5 +0.4
baz=34
M54A Oil Creek Stat 41.67 267 P P 08 06 07.0 +0.5
baz=35,SNR=7.1
MAK Makhachkala 41.72 89 *e*P P 08 06 02.0 -4.7
MAK *e*S S **08 12 15.4 -7.9**
MAK *e*SS SS **08 15 23.8 -4.7**
MAK pmax pmax
comp=Z,263nm,1.4s
P59A Jarrettsville 41.86 263 P P 08 06 07.9 0.0
baz=33
O57A Amberson 41.87 264 P P 08 06 07.7 -0.3
baz=34
N55A Marion Center 41.98 266 P P 08 06 08.2 -0.8
baz=34
AB31 Akbulak array 41.99 73 *i*P P 08 06 07.2 -1.7
ABKAR Akbulak array 41.99 73 P P 08 06 08.4 -0.5
TIXI Tiksi 42.02 15*d i*P P 08 06 10.0 +1.2
TIXI pmax pmax
comp=Z,33nm,1.3s
TIXI Tiksi 42.02 15 P P 08 06 09.2 +0.4
TIXI IAmb IAmb 08 06 13.6
comp=Z,45nm,1.4s
GAZ Gaziantep 42.14 104 P P 08 06 09.6 -0.7
GAZ IAmb IAmb 08 06 27.9
comp=Z,90nm,1.9s
B35A Bob, Littlefor 42.18 285 P P 08 06 09.7 -0.8
O56A Blue Knob Stat 42.22 265 P P 08 06 12.0 +1.0
baz=34
N54A Moraine State 42.26 267 P P 08 06 12.2 +1.0
baz=34,SNR=6.5
N54A Moraine State 42.26 267 P P 08 06 11.4 +0.2
N54A IAmb IAmb 08 06 16.7
comp=Z,31nm,1.1s
P58A Pank, Wackersv 42.33 263 P P 08 06 10.9 -0.8
baz=33
O55A Ligonier 42.59 266 P P 08 06 14.4 +0.5
baz=34
TOLK Toolik Lake Re 42.73 336 P P 08 06 16.4 +1.7
baz=28,SNR=5.4
TOLK Toolik Lake Re 42.73 336 P P 08 06 14.6 -0.1
TOLK IAmb IAmb 08 06 21.3
comp=Z,41nm,1.2s
AAM Ann Arbor 42.74 271 P P 08 06 15.3 +0.2
AAM pmax pmax
comp=Z,83nm,1.8s
AAM Ann Arbor 42.74 271 P P 08 06 15.3 +0.2
AAM IAmb IAmb 08 06 21.3
comp=Z,83nm,1.8s
N53A Lisbon 42.75 268 P P 08 06 16.1 +0.9
baz=34
BMAR Burnt Mountain 42.88 333 P P 08 06 16.1 +0.1
Q58A Fox Den Farm, 42.95 263 P P 08 06 16.9 +0.1
baz=33
O54A Avella 43.07 267 P P 08 06 18.2 +0.4
baz=34
O54A Avella 43.07 267 P P 08 06 17.5 -0.3
AGMN Agassiz Nation 43.11 287 P P 08 06 18.8 +0.9
baz=38
AGMN Agassiz Nation 43.11 287 P P 08 06 18.3 +0.3
AGMN IAmb IAmb 08 06 23.6
comp=Z,48nm,1.9s
BRVK Borovoye 43.13 62 P P 08 06 17.7 -0.4
BRVK pmax pmax
comp=Z,16nm,1.2s
BRVK Borovoye 43.13 62 P P 08 06 17.7 -0.4
Q57A Strasburg 43.18 264 P P 08 06 19.8 +1.1
baz=33
MCWV Mont Chateau 43.28 266 P P 08 06 20.1 +0.7
baz=34
MCWV Mont Chateau 43.28 266 P P 08 06 18.5 -1.0
N51A Ashland 43.32 269 P P 08 06 20.1 +0.3
baz=34
O53A New Philadelph 43.38 268 P P 08 06 20.6 +0.3
baz=34
P55A Reedsville 43.40 266 P P 08 06 20.4 -0.1
baz=34

MARD Mardin 43.52 100 P P 08 06 21.5 -0.1
MARD IAmb IAmb 08 06 35.8
comp=Z,51nm,1.3s
P54A Burton 43.60 266 P P 08 06 22.4 +0.4
baz=34
R58A Rapidan 43.62 263 P P 08 06 22.7 +0.5
baz=33
GEVA Gevas 43.65 97 P P 08 06 22.1 -0.6
O52A Adamsville 43.75 268 P P 08 06 24.4 +1.1
baz=34
R58B Mineral 43.85 263 P P 08 06 24.9 +0.8
baz=32
Q55A Buckhannon 43.93 265 P P 08 06 26.3 +1.6
baz=33
O51A Pataskala 44.06 269 P P 08 06 26.6 +0.9
baz=34,SNR=6.6
P53A Whipple 44.08 267 P P 08 06 26.7 +0.8
baz=34,SNR=8.3
P53A Whipple 44.08 267 P P 08 06 26.1 +0.2
P53A IAmb IAmb 08 06 28.2
comp=Z,34nm,1.1s
COLD Coldfoot 44.10 336 P P 08 06 26.8 +1.1
baz=27
COLD Coldfoot 44.10 336 P P 08 06 26.8 +1.1
COLD IAmb IAmb 08 06 43.3
comp=Z,45nm,1.8s
N49A Columbus Grove 44.10 271 P P 08 06 26.2 +0.2
R56A Bull Pasture M 44.13 264 P P 08 06 27.4 +0.9
baz=33
ACSO Alum Creek Sta 44.15 269 P P 08 06 27.2 +0.7
baz=34
Q54A Coxs Mills 44.26 266 P P 08 06 27.8 +0.4
baz=33
Q54A Coxs Mills 44.26 266 P P 08 06 27.8 +0.4
Q54A IAmb IAmb 08 06 32.7
comp=Z,43nm,1.4s
P52A Corning 44.28 268 P P 08 06 28.1 +0.6
baz=34,SNR=5.6
P52A Corning 44.28 268 P P 08 06 27.5 0.0
P52A IAmb IAmb 08 06 32.1
comp=Z,44nm,1.4s
SPMN Marine on St. 44.28 282 P P 08 06 27.5 0.0
SPMN IAmb IAmb 08 06 33.5
comp=Z,52nm,1.7s
I40A Norwalk 44.43 279 P P 08 06 28.9 +0.2
I40A IAmb IAmb 08 06 46.8
comp=Z,28nm,1.4s
EGAK Eagle 44.46 329 P P 08 06 28.3 -0.4
S57A Dark Hollow, R 44.48 263 P P 08 06 30.5 +1.4
baz=32
S57A Dark Hollow, R 44.48 263 P P 08 06 29.3 +0.2
TAM Tamanrasset 44.53 149 P P 08 06 29.5 -0.3
TAM pmax pmax
comp=Z,7.0nm,1.1s
TAM Tamanrasset 44.53 149 P P 08 06 29.5 -0.3
T59A Double "B" Far 44.55 262 P P 08 06 29.2 -0.5
T59A IAmb IAmb 08 06 35.8
comp=Z,51nm,1.9s
Q53A Leroy 44.66 267 P P 08 06 31.6 +1.0
baz=33,SNR=8.4
O49A Covington 44.77 270 P P 08 06 31.6 +0.2
O49A IAmb IAmb 08 06 33.0
comp=Z,28nm,1.1s
P51A Williamsport 44.80 269 P P 08 06 32.1 +0.4
baz=34,SNR=6.0
Q52A Bidwell 44.90 267 P P 08 06 32.7 +0.3
baz=33
R54A Victor 45.00 266 P P 08 06 33.8 +0.5
baz=33
S55A Lewisburg 45.13 265 P P 08 06 34.9 +0.5
baz=33
F33A 5 Mile Ranch, 45.24 285 P P 08 06 34.9 -0.2
F33A IAmb IAmb 08 06 41.2
comp=Z,35nm,1.5s
T57A Hurt 45.25 263 P P 08 06 35.5 +0.2
baz=32
T57A Hurt 45.25 263 P P 08 06 35.0 -0.3
T57A IAmb IAmb 08 06 41.5
comp=Z,37nm,1.6s
R53A Hurricane 45.29 267 P P 08 06 36.5 +0.9
baz=33
R53A Hurricane 45.29 267 P P 08 06 35.0 -0.5
Q51A Peebles 45.31 269 P P 08 06 35.7 0.0
K27K Chicken 45.31 329 P P 08 06 36.2 +0.7
baz=30
S54A Dingess, Beckl 45.46 266 P P 08 06 37.0 0.0
baz=33
S54A Dingess, Beckl 45.46 266 P P 08 06 36.2 -0.8
U58A Oxford 45.46 262 P P 08 06 36.2 -0.7
baz=32
P49A Miami Univ. Ec 45.47 270 P P 08 06 37.3 +0.3
baz=34
P49A Miami Univ. Ec 45.47 270 P P 08 06 36.8 -0.3
P49A IAmb IAmb 08 06 41.7
comp=Z,32nm,1.2s
BLA Blacksburg 45.57 264 P P 08 06 38.5 +0.6
BLA pmax pmax
comp=Z,16nm,1.3s
BLA Blacksburg 45.57 264 P P 08 06 38.4 +0.6
baz=32
BLA Blacksburg 45.57 264 P P 08 06 38.5 +0.6
IL31 45.66 332 P P 08 06 39.1 +0.9
IL31 IAmb IAmb 08 06 41.8
comp=Z,21nm,1.3s
ILAR Eielson Array 45.66 332 P P 08 06 38.8 +0.6
comp=Z,10.0nm,1.1s,baz=25,slow=6.0,SNR=20
ILAR PcP **PcP 08 08 15.4 -0.6**
comp=Z,3.9nm,1.1s,baz=354,slow=2.8,SNR=6.4
ILAR LR LR 08 27 53.4
comp=Z,221nm,19.1s,baz=27,slow=39
ILAR Eielson Array 45.66 332 P P 08 06 38.5 +0.2
MDM Murphy Dome 45.76 333 P P 08 06 38.9 -0.1
MDM IAmb IAmb 08 06 42.9
comp=Z,28nm,1.2s
COLA College 45.76 333*d i*P P 08 06 40.0 +1.0
COLA pmax pmax
comp=Z,28nm,1.4s
COLA College 45.76 333 P P 08 06 39.9 +0.9
COLA IAmb IAmb 08 06 40.9
comp=Z,37nm,1.4s
TCOL CIGO, UAF Yank 45.77 333 P P 08 06 40.4 +1.4
baz=27
U57A Blanch 45.77 263 P P 08 06 40.1 +0.8
baz=32
T55A Pulaski 45.81 265 P P 08 06 40.3 +0.6
baz=32
IMAR Indian Mountai 45.84 337 P P 08 06 39.9 +0.3
P48A Milroy 45.84 271 P P 08 06 39.9 0.0
P48A IAmb IAmb 08 06 44.6
comp=Z,21nm,0.9s
CCB Clear Creek Bu 45.96 333 P P 08 06 41.4 +0.9
CCB IAmb IAmb 08 06 42.0
comp=Z,32nm,1.6s
HDA Harding Lake 46.00 332 P P 08 06 41.6 +0.7
baz=27
BCAR Beaver Creek A 46.09 329 P P 08 06 42.6 +0.9
WRH Wood River Hil 46.17 333 P P 08 06 41.9 -0.3
WRH IAmb IAmb 08 06 49.0
comp=Z,39nm,1.7s
T54A Tazewell 46.19 265 P P 08 06 43.4 +0.6
baz=32,SNR=8.8
V58A Windy Hill, Pi 46.21 262 P P 08 06 43.3 +0.4
baz=32
NEA2 Nenana 46.25 333 P P 08 06 44.1 +1.2
baz=26,SNR=8.0
U56A King 46.29 264 P P 08 06 44.3 +0.8
baz=32
U56A King 46.29 264 P P 08 06 44.6 +1.1
U56A IAmb IAmb 08 06 47.1
comp=Z,29nm,1.4s
ASF Jabal al Asfar 46.32 108 P P 08 06 44.2 +0.3
comp=Z,4.2nm,1.1s,baz=18,slow=2.3,SNR=4.3
DGMT Dagmar 46.33 293 P P 08 06 45.1 +1.3
baz=36
DGMT Dagmar 46.33 293 P P 08 06 44.5 +0.7
R50A Paris 46.35 269 P P 08 06 43.7 -0.3
R50A IAmb IAmb 08 06 49.0
comp=Z,14nm,1.1s
V57A Coltrane Farms 46.42 263 P P 08 06 44.7 +0.3
baz=32
U55A TA2, Sparta 46.44 264 P P 08 06 45.5 +0.8
baz=32,SNR=12
BRZS Berezniki 46.48 63↓*i*P P 08 06 44.3 -0.5
comp=Z,162nm,3.6s,baz=63
BRZS *i* PP **PP 08 08 33.3 -0.4**
baz=63

BRZS Berezniki 46.48 63*d i*P P 08 06 44.3 -0.5
BRZS *i* 08 08 33.2
BRZS pmax pmax
comp=Z,162nm,3.6s
O44A Mansfield 46.57 274 P P 08 06 46.1 +0.5
S51A Beattyville 46.57 268 P P 08 06 46.1 +0.4
S51A IAmb IAmb 08 06 48.3
comp=Z,17nm,1.1s
HDIL Hopedale 46.59 275 P P 08 06 46.2 +0.4
baz=34
HDIL Hopedale 46.59 275 P P 08 06 46.8 +0.9
T53A Wise 46.67 266 P P 08 06 47.3 +0.7
baz=32,SNR=7.6
U54A Nelsons Funny 46.75 265 P P 08 06 46.8 -0.4
V56A Mocksville 46.79 263 P P 08 06 48.4 +1.0
baz=32,SNR=10
W58A Raeford 46.92 262 P P 08 06 49.4 +0.9
baz=31
HYT Haines Junctio 47.02 325 P P 08 06 49.6 +0.5
V55A Taylorsville 47.06 264 P P 08 06 49.8 +0.3
baz=32
V55A Taylorsville 47.06 264 P P 08 06 49.5 -0.1
ECSD EROS Data Cent 47.09 284 P P 08 06 50.0 +0.3
baz=35,SNR=7.9
ECSD EROS Data Cent 47.09 284 P P 08 06 50.1 +0.5
ECSD IAmb IAmb 08 06 55.0
comp=Z,24nm,1.5s
W57A Gilead 47.13 263 P P 08 06 50.5 +0.4
baz=31
SCIA State Center 47.15 279 P P 08 06 51.0 +0.9
baz=34
SCIA State Center 47.15 279 P P 08 06 50.4 +0.3
WCI Wyandotte Cave 47.24 271 P P 08 06 50.6 -0.3
WCI pmax pmax
comp=Z,24nm,1.0s
WCI Wyandotte Cave 47.24 271 P P 08 06 51.4 +0.5
baz=33
WCI Wyandotte Cave 47.24 271 P P 08 06 50.6 -0.3
X58A Rowland 47.37 261 P P 08 06 52.5 +0.6
baz=31
W56A Indian Trail 47.40 263 P P 08 06 52.7 +0.5
baz=31,SNR=7.2
V54A Nebo 47.44 265 P P 08 06 53.0 +0.5
baz=32,SNR=6.8
P43A Skaggs, Pawnee 47.45 275 P P 08 06 52.0 -0.5
TZTN Tazewell 47.48 267 P P 08 06 54.0 +1.3
baz=32
TZTN Tazewell 47.48 267 P P 08 06 52.2 -0.5
BILL Bilibino 47.53 358*ce*P P 08 06 54.3 +1.5
BILL *e* 08 08 22.5
BILL *e* 08 08 46.6
BILL *e*PPP PPP 08 09 30.5
BILL pmax pmax
comp=Z,22nm,1.3s
OLIL Olney 47.59 273 P P 08 06 54.2 +0.5
ZAA0 Zalesovo Array 47.63 51 P P 08 06 53.5 -0.2
ZAA0 IAmb IAmb 08 06 56.1
comp=Z,16nm,1.2s
ZALV Zalesovo Beam 47.63 51 P P 08 06 53.9 +0.2
comp=Z,2.7nm,0.7s,baz=335,slow=6.6,SNR=12
ZALV LR LR 08 29 44.6
comp=Z,205nm,18.6s,baz=322,slow=40
ZALV Zalesovo Beam 47.63 51 P P 08 06 53.4 -0.3
ZALV Zalesovo Beam 47.63 51 P P 08 06 53.4 -0.3
T50A Nancy 47.63 268 P P 08 06 54.5 +0.5
KMSC Kings Mountain 47.72 264 P P 08 06 55.3 +0.6
baz=31,SNR=7.2
KMSC Kings Mountain 47.72 264 P P 08 06 55.4 +0.8
KMSC IAmb IAmb 08 06 58.0
comp=Z,28nm,1.4s
BIRD Birdtown, Kers 47.77 263 P P 08 06 56.2 +1.2
BIRD IAmb IAmb 08 08 07.6
comp=Z,40nm,1.9s
Q44A Meyer Farm, Va 47.85 274 P P 08 06 55.8 +0.2
Q44A IAmb IAmb 08 06 58.1
comp=Z,20nm,1.1s
V53A Saluda 47.90 266 P P 08 06 56.5 +0.3
V53A IAmb IAmb 08 07 13.0
comp=Z,28nm,1.6s
KURK Kurchatov 48.11 58*d i*P P 08 06 56.9 -0.6
KURK pmax pmax
comp=Z,27nm,1.3s
KURK Kurchatov 48.11 58 P P 08 06 56.3 -1.1
KURK IAmb IAmb 08 07 02.0
comp=Z,17nm,0.9s
W54A Cherokee Point 48.13 265 P P 08 06 58.4 +0.5
baz=31,SNR=8.4
X56A White Oak 48.14 263 P P 08 06 58.6 +0.7
baz=31,SNR=7.9
PAULI Pauline 48.20 264 P P 08 06 59.0 +0.6
TKL Tuckaleechee C 48.32 266 P P 08 07 00.2 +0.8
comp=Z,8.7nm,1.1s,baz=19,slow=10,SNR=5.9
TKL Tuckaleechee C 48.32 266 P P 08 06 59.7 +0.4
TKL IAmb IAmb 08 07 02.7
comp=Z,23nm,1.4s
X55A Gracelyn & Ava 48.42 264 P P 08 07 00.4 +0.3
baz=31
JSC Jenkinsville 48.42 263 P P 08 06 59.7 -0.3
JSC pmax pmax
comp=Z,11nm,1.2s
JSC Jenkinsville 48.42 263 P P 08 06 59.7 -0.3
V51A Loudon 48.45 267 P P 08 06 60.0 -0.3
V51A IAmb IAmb 08 07 03.1
comp=Z,13nm,1.1s
U49A Red Boiling Sp 48.46 269 P P 08 07 01.0 +0.6
U49A IAmb IAmb 08 07 05.3
comp=Z,12nm,1.1s
BG3 Lake Jocassee 48.53 265 P P 08 07 01.3 +0.4
LAO LASA Array 48.58 293 P P 08 07 02.7 +1.4
baz=35,SNR=7.4
LAO LASA Array 48.58 293 P P 08 07 02.0 +0.7
Z58A St. Stephen 48.61 261 P P 08 07 02.3 +0.8
baz=30
T47A Sharon Grove 48.63 270 P P 08 07 01.4 -0.3
X54A Belton 48.67 264 P P 08 07 02.1 +0.1
baz=31
CPCT Cooper Cave 48.82 267 P P 08 07 04.2 +1.1
EGMT Eagleton 48.86 297 P P 08 07 04.4 +1.0
baz=35,SNR=16
EGMT Eagleton 48.86 297 P P 08 07 04.6 +1.2
K31A O'Neill 48.89 284 P P 08 07 04.6 +0.9
SEM Semipalatinsk 48.95 57 *i*P P 08 07 03.5 -0.8
comp=Z,5.7nm,1.3s,baz=57
SEM LR LR 08 27 24.6
comp=Z,143nm,15.7s,baz=57
SEM Semipalatinsk 48.95 57 *i*P P 08 07 03.4 -0.8
SEM pmax pmax
comp=Z,6.0nm,1.3s
SEM MLR MLR
comp=Z,143nm,16.0s
NHSC New Hope 48.97 261 P P 08 07 05.3 +1.0
baz=30
NHSC New Hope 48.97 261 P P 08 07 04.6 +0.4
Y55A Saluda 48.97 263 P P 08 07 04.6 +0.3
baz=31
PMR Palmer 48.98 332 P P 08 07 05.4 +1.4
PMR pmax pmax
comp=Z,30nm,1.4s
PMR Palmer 48.98 332 P P 08 07 05.4 +1.4
PMR IAmb IAmb 08 07 07.3
comp=Z,30nm,1.4s
Z57A Bowman 49.02 262 P P 08 07 04.8 +0.1
baz=30
CLTN Cedars of Leba 49.05 269 P P 08 07 05.3 +0.4
CLTN IAmb IAmb 08 07 07.3
comp=Z,15nm,1.1s
FVM French Village 49.22 274 P P 08 07 06.1 -0.1
FVM French Village 49.22 274 P P 08 07 06.1 -0.1
FVM IAmb IAmb 08 07 10.8
comp=Z,14nm,1.0s
Z56A Williston 49.28 263 P P 08 07 07.5 +0.8
baz=30
Z56A Williston 49.28 263 P P 08 07 07.1 +0.4
Z56A IAmb IAmb 08 07 11.8
comp=Z,23nm,0.9s
W50A Signal Mountai 49.37 268 P P 08 07 07.8 +0.3
W50A IAmb IAmb 08 07 12.6
comp=Z,21nm,1.0s
CCM Cathedral Cave 49.51 275 P P 08 07 09.3 +0.9
CCM pmax pmax
comp=Z,10.0nm,1.1s
CCM Cathedral Cave 49.51 275 P P 08 07 07.4 -1.0
baz=33
CCM Cathedral Cave 49.51 275 P P 08 07 09.3 +0.9
V48A Smith Brothers 49.56 269 P P 08 07 08.8 -0.1

X51A Calhoun 49.72 267 P P 08 07 10.4 +0.4
X51A IAmb IAmb 08 07 15.2
comp=Z,30nm,1.2s
RSSD Black Hills 49.82 290 P P 08 07 11.0 0.0
RSSD pmax pmax
comp=Z,9.0nm,1.2s
RSSD Black Hills 49.82 290 P P 08 07 11.5 +0.5
baz=34
RSSD Black Hills 49.82 290 P P 08 07 11.0 0.0
N33A J Bar K, Exete 49.91 282 P P 08 07 11.7 +0.2
HICK Hickman 49.92 272 P P 08 07 11.0 -0.5
UTMT University of 49.93 272 P P 08 07 11.8 +0.2
Y52A Lilburn 49.97 265 P P 08 07 11.4 -0.6
Y52A IAmb IAmb 08 07 17.0
comp=Z,15nm,1.0s
GOGA Godfrey 50.11 265 P P 08 07 13.1 +0.1
GOGA pmax pmax
comp=Z,11nm,1.0s
GOGA Godfrey 50.11 265 P P 08 07 13.2 +0.2
baz=31,SNR=6.5
GOGA Godfrey 50.11 265 P P 08 07 13.1 +0.2
GEYT Alibeck 50.43 84 P P 08 07 15.5 +0.1
comp=Z,3.0nm,0.7s,baz=291,slow=9.4,SNR=8.2
GEYT LR LR 08 31 09.5
comp=Z,385nm,18.8s,baz=45,slow=39
GEYT Alibeck 50.43 84 P P 08 07 15.5 +0.1
GYA0B ALIBECK ARRAY 50.43 84 P P 08 07 15.2 -0.2
154A Montrose 50.64 264 P P 08 07 16.9 -0.1
GCMT Greycliff 50.67 295 P P 08 07 17.7 +0.4
HRY Holter Researc 50.74 298 P P 08 07 17.2 -0.5
Z51A Franklin 50.92 266 P P 08 07 19.0 -0.1
Z51A IAmb IAmb 08 07 21.4
comp=Z,20nm,1.2s
KSU1 Kansas State U 50.92 280 P P 08 07 18.8 -0.3
baz=33
255A Hazlehurst 50.96 263 P P 08 07 18.9 -0.6
BTLS Baital 51.06 66⇓*i*P P 08 07 20.4 +0.3
comp=Z,78nm,3.6s,baz=66
BTLS *e*S S 08 14 38.3 +1.1
baz=66
BTLS Baital 51.06 66*d i*P P 08 07 20.4 +0.3
BTLS *e*S S 08 14 38.2 +1.1
BTLS pmax pmax
comp=Z,79nm,3.6s
RLMT Red Lodge 51.07 295 P P 08 07 21.3 +0.9
baz=33,SNR=9.8
RLMT Red Lodge 51.07 295 P P 08 07 20.7 +0.3
RLMT IAmb IAmb 08 07 39.0
comp=Z,46nm,1.7s
KK31 Karatay Array 51.27 70 P P 08 07 21.4 -0.3
KK31 pmax pmax
comp=Z,24nm,1.3s
KK31 Karatay Array 51.27 70 P P 08 07 21.4 -0.3
KK31 IAmb IAmb 08 07 24.8
comp=Z,24nm,1.3s
KKAR Karatay Array 51.27 70 P P 08 07 21.4 -0.3
KKAR pmax pmax
comp=Z,24nm,1.3s
KKAR Karatay Array 51.27 70 P P 08 07 21.4 -0.3
KKAR IAmb IAmb 08 07 24.8
comp=Z,24nm,1.3s
KKAR Karatay Array 51.27 70 P P 08 07 21.4 -0.3
NEW Newport 51.41 303 P P 08 07 21.7 -1.0
comp=Z,0.7nm,0.6s,baz=19,slow=10,SNR=3.1
MSO Missoula 51.44 299 P P 08 07 20.7 -2.4
baz=33
YNE Yellowstone No 51.46 295 P P 08 07 23.6 +0.2
BOZ Bozeman (W) 51.59 297 P P 08 07 23.9 -0.3
BOZ pmax pmax
comp=Z,24nm,1.1s
BOZ Bozeman (W) 51.59 297 P P 08 07 25.0 +0.7
baz=33,SNR=26
BOZ Bozeman (W) 51.59 297 P P 08 07 23.9 -0.3
BOZ IAmb IAmb 08 07 30.3
comp=Z,24nm,1.1s
U40A Yellville 51.63 275 P P 08 07 24.2 -0.2
baz=32
U40A Yellville 51.63 275 P P 08 07 23.7 -0.8
LRM Limekiln Ridge 51.72 297 P P 08 07 24.8 -0.5
YMP Mirror Lake Pl 51.74 295 P P 08 07 25.7 +0.1
DZA Taraz 51.78 69 *i* P P 08 07 25.9 +0.4
comp=Z,18nm,1.3s,baz=69
DZA Taraz 51.78 69 *i* P P 08 07 25.9 +0.4
DZA pmax pmax
comp=Z,18nm,1.3s
IUG Iuzhnay 51.88 71 *e*P P 08 07 26.9 +0.5
comp=Z,73nm,2.6s,baz=71
IUG *e*S S 08 14 50.0 +1.2
baz=71
IUG Iuzhnay 51.88 71 *e*P P 08 07 26.8 +0.5
IUG *e*S S 08 14 49.9 +1.2
IUG pmax pmax
comp=Z,73nm,2.6s
LRAL Lakeview Retre 51.94 268 P P 08 07 25.6 -1.2
baz=31,SNR=5.6
YHH Holmes Hill 51.97 296 P P 08 07 27.4 +0.2
YHL Hebgen Lake 52.05 296 P P 08 07 27.5 -0.3
K22A Casper 52.05 291 P P 08 07 27.4 -0.4
baz=33,SNR=8.3
DGZ Jazzator, Alta 52.07 53*d i*P P 08 07 28.5 +0.7
DGZ pmax pmax
comp=Z,23nm,1.4s
YMR Madison River 52.11 296 P P 08 07 28.5 +0.2
YHB Horse Butte 52.13 296 P P 08 07 28.6 +0.3
QLMT Earthquake Lak 52.16 296 P P 08 07 29.3 +0.7
H17A Grant Village 52.19 295 P P 08 07 30.8 +1.9
baz=33,SNR=12
H17A Grant Village 52.19 295 P P 08 07 29.1 +0.2
H17A IAmb IAmb 08 07 36.1
comp=Z,23nm,1.2s
WHAR Wooly Hollow 52.29 274 P P 08 07 29.3 0.0
WHAR IAmb IAmb 08 07 34.8
comp=Z,43nm,1.5s
YPP Pitchstone Pla 52.39 295 P P 08 07 31.4 +1.1
BOD Bodaibo 52.40 30 *e*P P 08 07 26.7 -3.1
BOD pmax pmax
comp=Z,12nm,1.3s
SEY Seymchan 52.47 6⇓*i*P P 08 07 31.7 +1.4
CBKS Cedar Bluff 52.48 283 P P 08 07 29.4 -1.4
baz=32
MAKZ Makanchi 52.59 59 P P 08 07 30.5 -1.0
MAKZ pmax pmax
comp=Z,15nm,1.2s
MAKZ Makanchi 52.59 59 P P 08 07 30.5 -1.0
SGDS Sogindy 52.62 66⇓*i*P P 08 07 31.9 +0.1
comp=Z,109nm,3.7s,baz=66
SGDS Sogindy 52.62 66*d i*P P 08 07 31.9 +0.1
SGDS pmax pmax
comp=Z,109nm,3.7s
MCMT McKenzie Canyo 52.71 297 P P 08 07 33.1 +0.5
MK31 Makanchi Array 52.72 58 P P 08 07 31.6 -0.9
MK31 pmax pmax
comp=Z,14nm,1.3s
MK31 Makanchi Array 52.72 58 P P 08 07 31.6 -0.9
MKAR Makanchi Array 52.72 58 P P 08 07 31.9 -0.5
comp=Z,4.0nm,0.9s,baz=336,slow=5.6,SNR=17
MKAR LR LR 08 30 12.7
comp=Z,224nm,19.1s,baz=314,slow=36
MKAR Makanchi Array 52.72 58 P P 08 07 31.5 -1.0
MKAR Makanchi Array 52.72 58 P P 08 07 31.5 -1.0
PHWY Pilot Hill 52.75 289 P P 08 07 33.2 +0.1
IMW Indian Meadow 52.75 295 P P 08 07 33.2 +0.2
TDK Taldyqorghan 52.78 62 *i* P P 08 07 33.0 +0.1
baz=62
TDK *e*S S 08 15 01.6 +0.8
baz=62
TDK Taldyqorghan 52.78 62 *i* P P 08 07 33.0 +0.1
TDK *e*S S 08 15 01.6 +0.8
LOHW Long Hollow 52.86 295 P P 08 07 34.0 +0.2
KUU Kurty 52.92 65⇓*i*P P 08 07 33.9 -0.1
comp=Z,188nm,3.7s,baz=65
KUU *e*S S 08 15 03.4 +0.6
baz=65
KUU LR LR 08 29 03.5
comp=Z,238nm,11.8s,baz=65
KUU Kurty 52.92 65*d i*P P 08 07 33.9 -0.1
KUU *e*S S 08 15 03.3 +0.6
KUU pmax pmax
comp=Z,188nm,3.7s
KUU MLR MLR
comp=Z,238nm,12.0s
FXWY Fox Creek 53.01 295 P P 08 07 35.1 +0.2
W39A Magazine 53.01 275 P P 08 07 34.2 -0.5
baz=31
KAN12 Harper NE Stat 53.03 280 P P 08 07 35.2 +0.4

SNOW Snow King Moun 53.05 295 P P 08 07 35.1 0.0
ZSN Zaisan 53.09 56 *e*P P 08 07 34.0 -1.2
comp=Z,96nm,3.0s,baz=56
ZSN LR LR 08 29 44.9
baz=56
ZSN Zaisan 53.09 56 *e*P P 08 07 34.0 -1.2
ZSN pmax pmax
comp=Z,96nm,3.0s
TPAW Teton Pass 53.10 295 P P 08 07 35.3 -0.3
TOA0 Torodi Ar. Sit 53.16 156 P P 08 07 33.9 -2.1
TORD Torodi Ar. Bea 53.16 156 P P 08 07 34.4 -1.5
comp=Z,7.1nm,0.9s,baz=346,slow=6.3,SNR=21
BW06 Boulder Array 53.16 293 P P 08 07 35.6 -0.4
baz=32,SNR=23
BW06 Boulder Array 53.16 293 P P 08 07 35.8 -0.3
BW06 IAmb IAmb 08 07 41.0
comp=Z,18nm,1.0s
PD31 Pinedale Array 53.16 293 P P 08 07 35.6 -0.4
PD31 IAmb IAmb 08 07 41.0
comp=Z,16nm,1.0s
PDAR Pinedale Array 53.16 293 P P 08 07 34.8 -1.3
comp=Z,10nm,0.8s,baz=59,slow=7.1,SNR=40
PDAR LR LR 08 29 44.3
comp=Z,380nm,19.8s,baz=32,slow=36
PDAR Pinedale Array 53.16 293 P P 08 07 35.5 -0.6
REDW Red Top Meadow 53.17 295 P P 08 07 37.1 +1.0
REDW IAmb IAmb 08 07 42.2
comp=Z,22nm,1.4s
CHKK Chushkaly 53.21 64 *e*P P 08 07 35.6 -0.5
baz=64
CHKK Chushkaly 53.21 64 *e*P P 08 07 35.6 -0.5
X40A Basin Creek Fa 53.21 274 P P 08 07 36.1 0.0
baz=31
X40A Basin Creek Fa 53.21 274 P P 08 07 36.1 0.0
AAK Ala-Archa 53.26 67*d i*P P 08 07 36.9 +0.3
AAK pmax pmax
comp=Z,63nm,1.3s
N23A Red Feather La 53.29 289 P P 08 07 37.8 +0.7
baz=32,SNR=13
N23A Red Feather La 53.29 289 P P 08 07 37.2 +0.1
MIAR Mount Ida 53.48 275 P P 08 07 37.6 -0.5
baz=31
KSCO Kaye Shedlock' 53.52 285 P P 08 07 38.9 +0.3
baz=32
KSCO Kaye Shedlock' 53.52 285 P P 08 07 38.9 +0.3
MTBS Maitube 53.60 65 *e*P P 08 07 39.5 +0.4
baz=65
MTBS Maitube 53.60 65 *e*P P 08 07 39.4 +0.4
AAA Alma-Ata 53.72 65 *e*P P 08 07 40.6 +0.6
baz=65
AAA LR LR 08 29 40.5
comp=Z,343nm,14.1s,baz=65
AAA Alma-Ata 53.72 65 *e*P P 08 07 40.5 +0.6
AAA MLR MLR
comp=Z,343nm,14.0s
MDOK Medeo 53.81 65 *e*P P 08 07 41.1 +0.4
baz=65
MDOK LR LR 08 29 38.4
comp=Z,408nm,15.6s,baz=65
MDOK Medeo 53.81 65 *e*P P 08 07 41.1 +0.4
MDOK MLR MLR
comp=Z,408nm,16.0s
TNSS Tian-Shan 53.88 65 *i* P P 08 07 42.0 +0.4
baz=65
TNSS Tian-Shan 53.88 65 *i* P P 08 07 41.9 +0.4
BOOM Boomskoye usch 53.95 66 P P 08 07 41.8 0.0
BOOM pmax pmax
comp=Z,22nm,1.3s
BOOM Boomskoye usch 53.95 66 P P 08 07 41.8 0.0
BOOM IAmb IAmb 08 07 48.3
comp=Z,22nm,1.2s
BTK Batken 53.96 72 P P 08 07 41.3 -0.4
BTK pmax pmax
comp=Z,47nm,1.2s
BTK Batken 53.96 72 P P 08 07 41.3 -0.4
ISCO Idaho Springs 54.08 288 P P 08 07 43.5 +0.6
baz=32
143A Socs Landing, 54.12 271 P P 08 07 43.2 +0.4
KPKS Kokpek 54.19 63⇓*i*P P 08 07 43.6 +0.2
comp=Z,85nm,2.6s,baz=63
KPKS Kokpek 54.19 63*d i*P P 08 07 43.6 +0.2
KPKS pmax pmax
comp=Z,85nm,2.6s
OK025 Westminster Rd 54.20 278 P P 08 07 42.7 -0.8
OK025 IAmb IAmb 08 07 47.5
comp=Z,32nm,1.4s
BCOK Bluff Creek, N 54.25 279 P P 08 07 43.5 -0.3
HLID Hailey 54.38 297 P P 08 07 45.1 +0.3
baz=32
SATY Saty 54.43 64⇓*i*P P 08 07 45.2 +0.1
comp=Z,81nm,3.8s,baz=64
SATY *e*S S 08 15 24.1 +0.7
baz=64
SATY LR LR 08 30 03.7
comp=Z,115nm,13.4s,baz=64
SATY Saty 54.43 64*d i*P P 08 07 45.2 +0.1
SATY *e*S S 08 15 24.1 +0.7
SATY pmax pmax
comp=Z,81nm,3.8s
SATY MLR MLR
comp=Z,115nm,13.0s
CHGR Chuyangaron 54.47 74 P P 08 07 44.3 -1.1
UZB Uzynbulak 54.59 63 *e*P P 08 07 46.6 +0.2
comp=Z,93nm,3.5s,baz=63
UZB *e*S S 08 15 26.7 +1.1
baz=63
UZB Uzynbulak 54.59 63 *e*P P 08 07 46.5 +0.2
UZB *e*S S 08 15 26.7 +1.1
UZB pmax pmax
comp=Z,93nm,3.5s
PDGK Podgornoye 54.62 63 P P 08 07 43.8 -2.7
MOY Mondy 54.65 42 *e*P P 08 07 47.8 +1.2
MOY pmax pmax
comp=Z,103nm,2.4s
GAR Garm 54.65 73 P P 08 07 47.0 +0.2
KDJ Kajisay 54.74 65 P P 08 07 46.7 -0.8
KDJ pmax pmax
comp=Z,15nm,1.0s
KDJ Kajisay 54.74 65 P P 08 07 46.6 -0.8
KDJ IAmb IAmb 08 07 53.0
comp=Z,15nm,1.0s
SHLS Shalkode 54.75 63 *e*P P 08 07 49.1 +1.6
comp=Z,12nm,1.4s,baz=62
SHLS Shalkode 54.75 63 *e*P P 08 07 49.1 +1.6
SHLS pmax pmax
comp=Z,12nm,1.4s
O20A White River Ci 54.87 290 P P 08 07 48.5 +0.1
baz=32,SNR=9.4
HWUT Hardware Ranch 54.94 294 P P 08 07 49.2 +0.3
HWUT IAmb IAmb 08 07 54.7
comp=Z,25nm,1.1s
RDMU Red Mountain 55.03 292 P P 08 07 49.1 -0.5
HRA Herat 55.19 82 P P 08 07 50.7 -0.2
HRA IAmb IAmb 08 07 53.6
comp=Z,16nm,1.3s
HVU Hansel Valley 55.26 295 P P 08 07 51.5 +0.3
HVU pmax pmax
comp=Z,46nm,1.8s
HVU Hansel Valley 55.26 295 P P 08 07 51.5 +0.3
TCUT Toone Canyon 55.29 294 P P 08 07 51.7 +0.2
TARG Taragay, Kyrgy 55.33 65 P P 08 07 52.0 0.0
TLY Talaya 55.39 40 *e*P P 08 07 52.3 +0.5
TLY *e* 08 09 57.5
TLY *e*PPP PPP 08 11 18.7
TLY *e*S S 08 15 43.0 +7.2
TLY pmax pmax
comp=Z,20nm,1.4s
TLY MLR MLR
comp=Z,639nm,14.0s
WMOK Wichita Mounta 55.53 279 P P 08 07 52.8 -0.3
WMOK pmax pmax
comp=Z,19nm,1.3s
WMOK Wichita Mounta 55.53 279 P P 08 07 53.4 +0.3
baz=31,SNR=11
WMOK Wichita Mounta 55.53 279 P P 08 07 52.8 -0.3
WMOK IAmb IAmb 08 07 57.9
comp=Z,19nm,1.2s
SPUT South Promonto 55.54 294 P P 08 07 53.3 0.0
JLU Jordanelle 55.75 293 P P 08 07 54.8 -0.1
SDCO Great Sand Dun 55.78 287 P P 08 07 55.2 +0.1
baz=31
SDCO Great Sand Dun 55.78 287 P P 08 07 55.3 +0.1
SDCO IAmb IAmb 08 08 01.3
comp=Z,31nm,2.0s
CTU Camp Tracy 55.79 294 P P 08 07 55.3 +0.3

T25A Trinidad 55.85 285 P P 08 07 56.8 +1.2
baz=31
T25A Trinidad 55.85 285 P P 08 07 55.7 +0.1
T25A IAmb IAmb 08 08 01.0
comp=Z,26nm,1.6s
Z35A Perchaven, San 56.09 277 P P 08 07 56.8 -0.3
BGU Big Grassy Mou 56.09 295 P P 08 07 57.3 +0.1
S22A 4UR Ranch, Cre 56.33 288 P P 08 07 59.6 +0.5
baz=31,SNR=8.0
S22A 4UR Ranch, Cre 56.33 288 P P 08 07 58.9 -0.2
S22A IAmb IAmb 08 08 05.5
comp=Z,23nm,1.8s
P17A Butcher Ranch, 56.43 292 P P 08 07 59.2 -0.5
PV22 Blue Mesa, Par 56.45 290 P P 08 08 00.3 +0.4
ZAK Zakamensk 56.45 41 *e*P P 08 08 00.0 +0.4
ZAK pmax pmax
comp=Z,12nm,1.3s
PV07 Paradox Valley 56.48 290 P P 08 07 60.0 -0.1
KSH Kashi 56.50 68 P P 08 08 02.6 +2.5
KSH PP PP 08 10 08.5 +3.1
KSH S S 08 15 50.8 -0.3
KSH pmax pmax
comp=Z,31nm,0.6s
KSH pmax pmax
comp=Z,450nm,6.7s
KSH LR LR
comp=Z,1μm,15.6s
KSH LR LR
comp=Z,440nm,11.2s
KSH LR LR
comp=Z,440nm,15.0s
PV21 Cone Mtn., Par 56.50 290 P P 08 08 00.2 -0.1
PV21 IAmb IAmb 08 08 05.0
comp=Z,16nm,1.0s
PV23 Carpenter Ridg 56.61 290 P P 08 08 00.9 -0.1
PV23 IAmb IAmb 08 08 06.4
comp=Z,14nm,0.9s
PV04 Paradox Valley 56.62 290 P P 08 08 01.6 +0.6
PV04 IAmb IAmb 08 08 07.7
comp=Z,19nm,1.1s
DUG Dugway, Tooele 56.63 294 P P 08 08 01.3 +0.3
DUG pmax pmax
comp=Z,41nm,1.9s
DUG Dugway, Tooele 56.63 294 P P 08 08 02.1 +1.0
baz=31,SNR=8.4
DUG Dugway, Tooele 56.63 294 P P 08 08 01.3 +0.3
DUG IAmb IAmb 08 08 07.5
comp=Z,41nm,1.9s
PV12 Saucer Basin, 56.64 290 P P 08 08 01.2 -0.1
PV12 IAmb IAmb 08 08 06.2
comp=Z,16nm,1.1s
SRU San Rafael Swe 56.66 292 P P 08 08 01.3 0.0
SRU pmax pmax
comp=Z,13nm,1.1s
SRU San Rafael Swe 56.66 292 P P 08 08 01.3 0.0
PV14 Lion Creek, Pa 56.68 290 P P 08 08 01.5 -0.1
PV14 IAmb IAmb 08 08 06.9
comp=Z,13nm,0.8s
PV11 David Mesa, Pa 56.69 290 P P 08 08 01.0 -0.5
PV11 IAmb IAmb 08 08 08.3
comp=Z,16nm,1.0s
PV10 Paradox Valley 56.69 290 P P 08 08 01.6 0.0
PV10 IAmb IAmb 08 08 07.6
comp=Z,16nm,0.9s
PV16 Nyswonger Mesa 56.69 290 P P 08 08 01.8 +0.2
PV16 IAmb IAmb 08 08 06.6
comp=Z,15nm,1.2s
PV01 Paradox Valley 56.70 289 P P 08 08 02.1 +0.4
PV01 IAmb IAmb 08 08 07.4
comp=Z,15nm,1.1s
PV02 Paradox Valley 56.71 290 P P 08 08 01.6 -0.1
PV02 IAmb IAmb 08 08 07.4
comp=Z,18nm,0.9s
PV03 Paradox Valley 56.71 290 P P 08 08 01.7 -0.1
PV03 IAmb IAmb 08 08 06.7
comp=Z,16nm,1.0s
PV19 Morning Glory 56.72 290 P P 08 08 01.7 -0.1
PV17 East Wray Mesa 56.74 290 P P 08 08 01.4 -0.5
PV17 IAmb IAmb 08 08 06.8
comp=Z,18nm,1.0s
PV18 Skein Mesa, Pa 56.75 290 P P 08 08 02.5 +0.6
PV18 IAmb IAmb 08 08 07.0
comp=Z,16nm,1.0s
TMUT Trail Mountain 56.77 292 P P 08 08 02.3 +0.1
PV13 Radium Mtn., P 56.78 290 P P 08 08 02.2 -0.1
PV05 Paradox Valley 56.97 290 P P 08 08 03.1 -0.4
Q16A Castle Valley 57.08 292 P P 08 08 04.3 0.0
ELK Elko 57.10 296 P P 08 08 04.7 +0.2
ELK pmax pmax
comp=Z,8.0nm,1.2s
ELK Elko 57.10 296 P P 08 08 04.7 +0.2
J05D Fort Rock, OR 57.16 302 P P 08 08 06.0 +1.3
baz=30
WMQ Urumqi 57.23 56 *e*P P 08 08 07.5 +2.4
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,290nm,3.8s
WMQ LR LR
comp=Z,770nm,29.2s
WMQ LR LR
comp=Z,540nm,28.9s
WMQ LR LR
comp=Z,96nm,25.1s
MVCO Mesa Verde 57.47 289 P P 08 08 07.5 +0.3
baz=31
MVCO Mesa Verde 57.47 289 P P 08 08 07.0 -0.1
K05A Summer Lake 57.52 302 P P 08 08 06.7 -0.7
K05A IAmb IAmb 08 08 13.2
comp=Z,32nm,1.5s
ABTX Abilene, Hawle 57.72 279 P P 08 08 08.7 0.0
baz=30
ABTX Abilene, Hawle 57.72 279 P P 08 08 08.8 0.0
MSU Marysvale 57.83 293 P P 08 08 09.6 0.0
MSU Marysvale 57.83 293 P P 08 08 09.6 0.0
MVU Marysvale 57.85 293 P P 08 08 09.7 -0.1
TCRU Three Creeks R 57.85 293 P P 08 08 10.4 +0.6
MSTX Muleshoe 57.88 282 P P 08 08 09.8 -0.1
baz=30
MSTX Muleshoe 57.88 282 P P 08 08 09.4 -0.5
MSTX IAmb IAmb 08 08 14.3
comp=Z,25nm,1.6s
MOD Modoc Plateau 58.02 301 P P 08 08 10.4 -0.4
MOD IAmb IAmb 08 08 26.5
comp=Z,30nm,2.0s
MTPU Mount Pierson 58.24 292 P P 08 08 13.1 +0.5
PSUT Pine Spring 58.47 294 P P 08 08 14.3 +0.2
ANMO Albuquerque 58.58 286⇓*e*P P 08 08 15.4 +0.5
ANMO pmax pmax
comp=Z,16nm,2.5s
ANMO Albuquerque 58.58 286 P P 08 08 15.2 +0.3
baz=30
ANMO Albuquerque 58.58 286 P P 08 08 14.2 -0.6
DBIC Dimbokro 58.61 165 P P 08 08 13.2 -1.8
comp=Z,12nm,0.9s,baz=335,slow=9.0,SNR=6.2
DBIC LR LR 08 32 55.0
comp=Z,103nm,18.4s,baz=348,slow=36
TIC Toumodi 58.62 165 *e*P P 08 08 13.8 -1.3
PKCU Pink Cliffs 58.80 292 P P 08 08 16.6 0.0
ZEA Zeya 58.82 24 *e*P P 08 08 16.8 +0.7
ZEA *e*PPP PPP 08 11 52.0
ZEA *e*S S 08 16 38.0 +17
ZEA *e*SS SS 08 20 22.0 +8.8
ZEA pmax pmax
comp=Z,23nm,1.4s
ZEA MLR MLR
comp=Z,600nm,15.0s
KIC Kosan Boka 58.93 165 *e*P P 08 08 15.8 -1.4
comp=Z,63nm,1.3s
SZCU Shurtz Canyon 58.98 293 P P 08 08 17.8 +0.2
LIC Lamto 59.03 165 *e*P P 08 08 16.7 -1.2
comp=Z,79nm,1.5s
CCUT Cedar City 59.13 293 P P 08 08 19.3 +0.6
R11A Troy Canyon, C 59.31 295 P P 08 08 20.5 +0.6
baz=30,SNR=12
R11A Troy Canyon, C 59.31 295 P P 08 08 19.4 -0.5
R11A IAmb IAmb 08 08 21.3
comp=Z,14nm,1.4s
BNM Barren Site 59.34 285 P P 08 08 20.5 +0.3
KNB Kanab 59.38 292 P P 08 08 20.3 -0.1
KNB pmax pmax
comp=Z,22nm,1.5s
KNB Kanab 59.38 292 P P 08 08 20.3 -0.1
Y22D IRIS PASSCAL I 59.52 286 P P 08 08 21.8 +0.4
LCMT Little Creek M 59.55 292 P P 08 08 21.8 +0.2

PAHR	**Pah Rah Range**	**59.58**	**299**	P	**P**	**08 08 22.0**	**+0.3**
SONM	**Songino Array**	**59.63**	**40**	P	**P**	**08 08 21.6**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=324,slow=4.8,SNR=7.7						
SONM				LR	LR	08 36 29.6	
	comp=Z,277nm,20.1s,baz=326,slow=38						
SONM	**Songino Array**	**59.63**	**40**	P	**P**	**08 08 21.1**	**-0.8**
JCT	**Junction City**	**59.64**	**277**	P	**P**	**08 08 21.4**	**-0.7**
JCT				pmax	pmax		
	comp=Z,26nm,1.1s						
JCT	**Junction City**	**59.64**	**277**	P	**P**	**08 08 22.4**	**+0.3**
	baz=30,SNR=14						
JCT	**Junction City**	**59.64**	**277**	P	**P**	**08 08 21.4**	**-0.7**
KVN	**Kaiserville**	**59.67**	**298**	P	**P**	**08 08 22.4**	**0.0**
KVN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KVN	**Kaiserville**	**59.67**	**298**	P	**P**	**08 08 22.4**	**0.0**
U15A	**North Rim**	**59.67**	**291**	P	**P**	**08 08 21.9**	**-0.6**
U15A				IAmb	IAmb	08 08 23.5	
	comp=Z,14nm,1.1s						
PRN	**Pahroc Range**	**59.92**	**294**	P	**P**	**08 08 24.3**	**+0.3**
PRN				IAmb	IAmb	08 08 32.0	
	comp=Z,24nm,1.5s						
VCNR	**Virginia City**	**60.04**	**299**	P	**P**	**08 08 25.1**	**+0.2**
WUAZ	**Wupatki**	**60.09**	**290**	P	**P**	**08 08 25.8**	**+0.5**
	baz=30,SNR=12						
WUAZ	**Wupatki**	**60.09**	**290**	P	**P**	**08 08 24.8**	**-0.5**
WUAZ				IAmb	IAmb	08 08 30.6	
	comp=Z,19nm,1.1s						
YERR	**Yerington**	**60.16**	**298**	P	**P**	**08 08 25.7**	**0.0**
YERR				IAmb	IAmb	08 08 28.6	
	comp=Z,17nm,1.2s						
TPH	**Tonopah**	**60.18**	**296**	P	**P**	**08 08 25.9**	**0.0**
TPH				pmax	pmax		
	comp=Z,73nm,1.8s						
TPH	**Tonopah**	**60.18**	**296**	P	**P**	**08 08 25.9**	**0.0**
PNTR	**Pine Nut**	**60.20**	**299**	P	**P**	**08 08 26.9**	**+0.9**
PNTR				IAmb	IAmb	08 08 31.6	
	comp=Z,14nm,1.4s						
NV11	**Mina Array Sit**	**60.23**	**297**	P	**P**	**08 08 26.9**	**+0.7**
NVAR	**Mina Array Bea**	**60.29**	**297**	P	**P**	**08 08 26.6**	**0.0**
	comp=Z,1.8nm,1.0s,baz=51,slow=3.1,SNR=11						
NVAR				LR	LR	08 34 06.2	
	comp=Z,538nm,20.1s,baz=26,slow=36						
NVAR	**Mina Array Bea**	**60.29**	**297**	P	**P**	**08 08 25.3**	**-1.4**
NIL	**Nilore**	**60.45**	**73**	P	**P**	**08 08 26.9**	**-0.7**
NIL				pmax	pmax		
	comp=Z,63nm,1.5s						
NIL	**Nilore**	**60.45**	**73**	P	**P**	**08 08 26.9**	**-0.7**
WAKR	**Walker**	**60.65**	**298**	P	**P**	**08 08 29.3**	**+0.2**
SHPR	**Sheep Range**	**60.74**	**294**	P	**P**	**08 08 30.4**	**+0.7**
SHPR				IAmb	IAmb	08 08 37.4	
	comp=Z,20nm,1.4s						
TPNV	**Topopah Spring**	**60.79**	**295**	P	**P**	**08 08 29.5**	**-0.5**
TPNV				pmax	pmax		
	comp=Z,14nm,1.3s						
TPNV	**Topopah Spring**	**60.79**	**295**	P	**P**	**08 08 30.4**	**+0.4**
	baz=29						
TPNV	**Topopah Spring**	**60.79**	**295**	P	**P**	**08 08 29.5**	**-0.5**
TPNV				IAmb	IAmb	08 08 37.0	
	comp=Z,14nm,1.3s						
MNTX	**Cornudas Mount**	**60.94**	**283**	P	**P**	**08 08 30.9**	**0.0**
	baz=29,SNR=5.9						
MNTX	**Cornudas Mount**	**60.94**	**283**	P	**P**	**08 08 30.7**	**-0.2**
X16A	**Lo Mia Camp, P**	**61.08**	**290**	P	**P**	**08 08 32.4**	**+0.4**
X16A				IAmb	IAmb	08 08 37.7	
	comp=Z,14nm,1.1s						
121A	**Cookes Peak, D**	**61.22**	**285**	P	**P**	**08 08 33.9**	**+0.9**
	baz=29						
121A	**Cookes Peak, D**	**61.22**	**285**	P	**P**	**08 08 33.6**	**+0.6**
OMMB	**Old Mammoth Mi**	**61.27**	**297**	P	**P**	**08 08 33.7**	**+0.3**
OMMB				IAmb	IAmb	08 08 39.3	
	comp=Z,16nm,1.5s						
MDPB	**Devils Postpil**	**61.28**	**298**	P	**P**	**08 08 33.4**	**-0.1**
833A	**Chaparral WMA,**	**61.34**	**276**	P	**P**	**08 08 34.5**	**+0.8**
	baz=29						
833A	**Chaparral WMA,**	**61.34**	**276**	P	**P**	**08 08 34.0**	**+0.3**
833A				IAmb	IAmb	08 08 38.6	
	comp=Z,16nm,1.1s						
W13A	**Hualapai Mount**	**61.47**	**292**	P	**P**	**08 08 34.8**	**+0.1**
GDXM	**Geysers**	**61.64**	**301**	P	**P**	**08 08 35.6**	**-0.1**
SHOC	**Shoshone, Teco**	**61.71**	**294**	P	**P**	**08 08 37.0**	**+0.8**
	baz=29						
CWC	**Cottonwood Cre**	**61.94**	**296**	P	**P**	**08 08 38.2**	**+0.3**
	baz=28						
MPMC	**Manual Prospec**	**62.05**	**295**	P	**P**	**08 08 39.9**	**+1.3**
	baz=29						
PDMCI	**Parker Dam,Lak**	**62.26**	**292**	P	**P**	**08 08 40.6**	**+0.8**
	baz=29						
TX31	**Lajitas Ar. Si**	**62.27**	**280**	P	**P**	**08 08 39.6**	**-0.5**
TX32	**Lajitas Array**	**62.27**	**280**	P	**P**	**08 08 39.8**	**-0.3**
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**08 08 39.8**	**-0.3**
	comp=Z,3.9nm,1.0s,baz=38,slow=4.7,SNR=12						
TXAR				LR	LR	08 34 40.0	
	comp=Z,462nm,20.3s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**08 08 39.3**	**-0.7**
GSC	**Goldstone, Bar**	**62.44**	**294**	P	**P**	**08 08 42.2**	**+1.1**
	baz=28						
GMRC	**Granite Mounta**	**62.45**	**293**	P	**P**	**08 08 42.1**	**+0.9**
	baz=29						
PEA0B	**Petropavlovsk-**	**62.48**	**3**	P	**P**	**08 08 41.1**	**+0.1**
PEA0B				pmax	pmax		
	comp=Z,29nm,1.5s						
PEA0B	**Petropavlovsk-**	**62.48**	**3**	P	**P**	**08 08 41.1**	**+0.1**
PETK	**Petropavlovsk-**	**62.48**	**3**	P	**P**	**08 08 41.4**	**+0.4**
	comp=Z,3.8nm,1.1s,baz=14,slow=8.1,SNR=6.2						
PETK				LR	LR	08 37 17.9	
	comp=Z,53nm,18.1s,baz=358,slow=37						
PETK	**Petropavlovsk-**	**62.48**	**3**	P	**P**	**08 08 40.7**	**-0.3**
PET	**Petropavlovsk**	**62.59**	**3**	*c iP*	**P**	**08 08 43.8**	**+2.1**
PET				*e*S	**S**	**08 17 11.6**	**+2.6**
PET				pmax	pmax		
	comp=Z,200nm,12.1s						
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
LRMC	**Laurel Mtn Rad**	**62.63**	**295**	P	**P**	**08 08 43.2**	**+0.8**
	baz=28						
TUC	**Tucson**	**62.65**	**288**	P	**P**	**08 08 42.3**	**-0.2**
TUC				pmax	pmax		
	comp=Z,13nm,1.3s						
TUC	**Tucson**	**62.65**	**288**	P	**P**	**08 08 42.9**	**+0.4**
	baz=29						
TUC	**Tucson**	**62.65**	**288**	P	**P**	**08 08 42.3**	**-0.2**
TUC				IAmb	IAmb	08 08 48.4	
	comp=Z,13nm,1.2s						
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 08 42.9**	**-0.4**
ISA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 08 44.3**	**+1.0**
	baz=28						
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 08 42.9**	**-0.4**
ISA				IAmb	IAmb	08 08 48.9	
	comp=Z,10nm,1.1s						
IRM	**Iron Mountain**	**62.79**	**292**	P	**P**	**08 08 43.8**	**+0.4**
	baz=28						
BELC	**Belle Mtn. Jos**	**63.27**	**293**	P	**P**	**08 08 48.0**	**+1.3**
	baz=28,SNR=7.7						
EDW2	**Edwards Air Fo**	**63.28**	**295**	P	**P**	**08 08 47.5**	**+0.9**
	baz=28						
BC3	**Big Chuckawall**	**63.35**	**292**	P	**P**	**08 08 48.2**	**+1.0**
	baz=28						
GTA	**Gaotai**	**65.29**	**49**	*e*P	**P**	**08 08 59.8**	**-0.1**
GTA				pP	sP	08 09 08.8	+3.8
GTA				sP	pP	08 09 13.5	+10
GTA				S	**S**	**08 17 48.8**	**+5.5**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,320nm,5.3s						
GTA				LR	LR		
	comp=Z,240nm,17.6s						
GTA				LR	LR		
	comp=Z,300nm,16.6s						
GTA				LR	LR		
	comp=Z,360nm,17.6s						
HSIG		**65.59**	**286**	P	**P**	**08 09 01.4**	**-0.4**
HSIG				IAmb	IAmb	08 09 08.5	
	comp=Z,12nm,1.1s						
SDV	**Santo Domingo**	**66.83**	**239**	P	**P**	**08 09 09.9**	**-0.1**
BTO	**Baotou**	**67.30**	**41**	P	P	08 09 07.1	-5.6
HHC	**Hu-ho-hao-te**	**67.50**	**40**	*e*P	**P**	**08 09 15.3**	**+1.3**
HHC				PP	**PP**	**08 11 46.1**	**+4.0**
HHC				S	**S**	**08 18 10.3**	**+0.3**
HHC				SS	**SS**	**08 22 32.3**	**+3.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,7.5s						
HHC				LR	LR		
	comp=Z,180nm,16.8s						
HHC				LR	LR		
	comp=Z,220nm,16.7s						
HHC				LR	LR		
	comp=Z,180nm,14.6s						
ZAIG	**Zacatecas**	**67.56**	**276**	P	**P**	**08 09 14.6**	**-0.2**
ZAIG				IAmb	IAmb	08 09 18.4	
	comp=Z,12nm,1.2s						
YSS	**Yuzh-Sakhalins**	**67.63**	**14**	*d iP*	**P**	**08 09 15.4**	**+0.9**
YSS				*e*		08 11 41.6	
YSS				*e*S	**S**	**08 18 11.0**	**-0.1**
YSS				pmax	pmax		
	comp=Z,200nm,8.6s						
YSS				MLR	MLR		
	comp=Z,800nm,14.0s						
CN2	**Changchun**	**68.02**	**28**	*e*P	P	08 09 09.3	-7.7
CN2				*e*S	S	08 18 01.8	-14
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,470nm,5.6s						
CN2				LR	LR		
	comp=N,180nm,17.0s						
CN2				LR	LR		
	comp=E,190nm,17.0s						
CN2				LR	LR		
	comp=Z,310nm,15.0s						
BJI	**Beijing**	**69.48**	**36**	P	**P**	**08 09 26.3**	**+0.1**
BJI				S	**S**	**08 18 36.9**	**+3.7**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.9s						
BJI				pmax	pmax		
	comp=Z,280nm,4.1s						
BJI				LR	LR		
	comp=Z,300nm,19.7s						
BJI				LR	LR		
	comp=Z,170nm,12.7s						
BJI				LR	LR		
	comp=Z,360nm,21.6s						
BJT	**Baijiatuau**	**69.50**	**36**	P	**P**	**08 09 26.6**	**+0.3**
BJT				pmax	pmax		
	comp=Z,29nm,1.7s						
BJT	**Baijiatuau**	**69.50**	**36**	P	**P**	**08 09 26.6**	**+0.3**
BJT				IAmb	IAmb	08 09 42.3	
	comp=Z,28nm,1.7s						
LZH	**Lanzhou**	**69.62**	**48**	*e*P	**P**	**08 09 29.5**	**+2.2**
LZH				S	**S**	**08 18 41.8**	**+6.4**
LZH				SS	**SS**	**08 22 58.3**	**-4.0**
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,340nm,4.3s						
LZH				LR	LR		
	comp=Z,290nm,13.0s						
LZH				LR	LR		
	comp=Z,270nm,14.6s						
LZH				LR	LR		
	comp=Z,280nm,15.7s						
TIY	**Taiyuan**	**70.67**	**40**	P	**P**	**08 09 34.3**	**+0.7**
TIY				S	**S**	**08 18 51.3**	**+3.8**
TIY				pmax	pmax		
	comp=Z,310nm,6.4s						
TIY				LR	LR		
	comp=Z,270nm,12.6s						
TIY				LR	LR		
	comp=Z,110nm,9.0s						
TIY				LR	LR		
	comp=Z,260nm,13.4s						
JTS	**Las Juntas de**	**71.18**	**254**	⇓*e*P	**P**	**08 09 39.7**	**+2.8**
JTS				pmax	pmax		
	comp=Z,19nm,1.5s						
DL2	**Dalian**	**71.88**	**32**	P	**P**	**08 09 42.5**	**+1.7**
DL2				pmax	pmax		
	comp=Z,13nm,1.1s						
DL2				pmax	pmax		
	comp=Z,420nm,5.0s						
DL2				LR	LR		
	comp=Z,340nm,16.1s						
DL2				LR	LR		
	comp=Z,130nm,18.5s						
DL2				LR	LR		
	comp=Z,350nm,14.2s						
ROSC	**El Rosal**	**71.93**	**241**	P	**P**	**08 09 41.9**	**+0.1**
	comp=Z,3.7nm,0.3s,baz=36,slow=7.9,SNR=4.1						
ROSC				LR	LR	08 40 09.3	
	comp=Z,95nm,18.7s,baz=18,slow=35						
ROSC	**El Rosal**	**71.93**	**241**	P	**P**	**08 09 41.9**	**+0.1**
XAN	**Xi'an**	**73.08**	**44**	P	**P**	**08 09 48.0**	**-0.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,340nm,7.3s						
XAN				LR	LR		
	comp=Z,380nm,17.9s						
XAN				LR	LR		
	comp=Z,280nm,17.1s						
XAN				LR	LR		
	comp=Z,530nm,23.9s						
CD2	**Chengdu**	**74.36**	**50**	*e*P	**P**	**08 09 56.3**	**+0.7**
CD2				S	**S**	**08 19 30.4**	**+0.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,390nm,7.1s						
CD2				LR	LR		
	comp=Z,340nm,16.2s						
CD2				LR	LR		
	comp=Z,320nm,14.2s						
CD2				LR	LR		
	comp=Z,180nm,13.2s						
KSRS	**Korea Array**	**74.64**	**28**	P	**P**	**08 09 56.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=10,slow=7.6,SNR=4.6						
KSRS				LR	LR	08 47 47.1	
	comp=Z,124nm,18.0s,baz=338,slow=40						
KSAR	**Wonju Array Be**	**74.64**	**28**	P	**P**	**08 09 56.3**	**-0.8**
KSAR	**Wonju Array Be**	**74.64**	**28**	P	**P**	**08 09 56.3**	**-0.8**
SHL	**Shillong**	**75.02**	**62**	P	**P**	**08 09 58.8**	**-0.9**
SHL				pmax	pmax		
	comp=Z,15nm,0.4s						
SHL	**Shillong**	**75.02**	**62**	P	**P**	**08 09 58.8**	**-0.9**
ENH	**Enshi**	**76.76**	**45**	P	**P**	**08 10 09.1**	**-0.3**
MAJO	**Matsushiro**	**77.31**	**20**	⇑*e*P	**P**	**08 10 12.9**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,17nm,3.0s						
MAT	**Matsushiro**	**77.31**	**20**	P	**P**	**08 10 12.3**	**-0.1**
MAT				*e*S	**S**	**08 20 01.6**	**-0.5**
MJAR	**Matsushiro Arr**	**77.31**	**20**	P	**P**	**08 10 11.5**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=327,slow=6.9,SNR=4.5						
NJ2	**Nanjing**	**77.73**	**37**	*e*P	**P**	**08 10 16.4**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OTAV	**Otavalo**	**77.73**	**243**	P	**P**	**08 10 15.3**	**-0.2**
OTAV				pmax	pmax		
	comp=Z,13nm,1.5s						
OTAV	**Otavalo**	**77.73**	**243**	P	**P**	**08 10 15.3**	**-0.2**
GYA	**Guiyang**	**79.42**	**49**	⇓P	**P**	**08 10 26.0**	**+1.7**
GYA				PP	**PP**	**08 13 28.3**	**+4.4**
GYA				S	**S**	**08 20 30.1**	**+4.9**
GYA				pmax	pmax		
	comp=Z,14nm,2.5s						
GYA				pmax	pmax		
	comp=Z,270nm,4.7s						
GYA				LR	LR		
	comp=Z,140nm,10.8s						
GYA				LR	LR		
	comp=Z,210nm,14.3s						
GYA				LR	LR		
	comp=Z,150nm,14.9s						
SAML	**Samuel**	**80.95**	**226**	P	**P**	**08 10 31.4**	**-1.0**
SAML				pmax	pmax		
	comp=Z,11nm,1.4s						
SAML	**Samuel**	**80.95**	**226**	P	**P**	**08 10 31.4**	**-1.0**
CHTO	**Chiang Mai**	**83.80**	**59**	P	**P**	**08 10 46.7**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,15nm,1.4s						
CHTO	**Chiang Mai**	**83.80**	**59**	P	**P**	**08 10 46.7**	**-0.8**
CHTO				IAmb	IAmb	08 10 49.2	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**84.13**	**59**	P	**P**	**08 10 47.1**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=317,slow=5.5,SNR=9.9						
CMAR				LR	LR	08 51 09.8	
	comp=Z,179nm,18.6s,baz=292,slow=38						
CMAR	**Chiang Mai Arr**	**84.13**	**59**	P	**P**	**08 10 48.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**84.13**	**59**	P	**P**	**08 10 48.2**	**-0.9**
PBKT	**Sadao Pong**	**86.60**	**58**	P	**P**	**08 11 01.1**	**-0.3**
PBKT				IAmb	IAmb	08 11 03.4	
	comp=Z,15nm,1.5s						
QIZ	**Qiongzhong**	**87.37**	**49**	P	**P**	**08 11 05.3**	**+0.1**
QIZ				PP	**PP**	**08 14 29.3**	**+0.4**
QIZ				S	**S**	**08 21 47.3**	**+1.7**
QIZ				LR	LR		
	comp=Z,190nm,13.5s						
QIZ				LR	LR		
	comp=Z,220nm,15.7s						
QIZ				LR	LR		
	comp=Z,180nm,8.2s						
LPAZ	**La Paz**	**89.41**	**228**	LR	LR	08 50 34.4	
	comp=Z,70nm,18.0s,baz=251,slow=35						
TGY	**Tagaytay City**	**95.37**	**40**	LR	LR	08 57 41.5	
	comp=Z,187nm,21.1s,baz=241,slow=37						
CPUP	**Villa Florida**	**95.85**	**215**	LR	LR	08 52 34.1	
	comp=Z,134nm,19.2s,baz=312,slow=34						
BOSA	**Boshof**	**98.78**	**143**	LR	LR	08 58 36.8	
	comp=Z,148nm,19.2s,baz=352,slow=37						
WRA	**Warramunga Arr**	**131.51**	**36**	PKP	**PKPdf**	**08 17 30.3**	**-0.1**
	comp=Z,2.1nm,1.1s,baz=0.4,slow=2.3,SNR=6.9						
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKPdf**	**08 17 35.0**	**-1.9**
	comp=Z,1.2nm,1.0s,baz=296,slow=1.6,SNR=4.9						
ASAR	**Alice Springs**	**134.95**	**38**	PKIKP	**PKPdf**	**08 17 35.0**	**-1.9**
STKA	**Stephens Creek**	**144.71**	**32**	PKP	**PKPab**	**08 17 51.2**	**-1.8**
	comp=Z,4.2nm,1.1s,baz=0.9,slow=9.5,SNR=4.6						
QSPA	**South Pole Qui**	**154.61**	**180**	PKP	**PKPdf**	**08 18 05.7**	**-3.1**
	comp=Z,3.1nm,1.1s,baz=228,slow=2.5,SNR=4.3						
QSPA				PKPbc	**PKiKP**	**08 18 17.5**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=234,slow=2.7,SNR=5.2						
VNDA	**Vanda**	**167.10**	**179**	PKPab	**PKPab**	**08 19 24.6**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=88,slow=4.7,SNR=2.5						

JMA ***13*** *08:05:10.9±0.1,29°.74N×131°.03E,h31km±2km,M3.6*
NIED ***13*** *08:05:11.0,29°.74N×131°.03E,h31km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.05; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-0.18; $M_{r\theta}$0.29; $M_{\theta\phi}$-0.47; $M_{\phi r}$0.90; Fault plane solution: $M_0$1.02000×10¹⁵ NP1:ϕ_s9.00000°, δ86.00000°, λ68.00000°. NP2:ϕ_s268.00000°, δ22.00000°, λ168.00000°.*
IDC ***13*** *08:05:13.4±3.8,29°.85N×131°.11E,h51km±43km,mb3.3/7, mb1 3.5/11,mb1mx3.4/49,mbtmp3.6/11,ML3.0/3,MS3.6/2, Ms1 3.6/2,ms1mx2.8/30 Error ellipse: s-maj=49.2km s-min=16.2km az=64.0*
ISC 13 08:05:11.2±1.5,29.77N±0°.05×131°.01E±0°.06,h28km±11km, n27,σ0°91/36,mb3.5/7,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.64**	**351**	P	**Pb**	**08 05 23.6**	**-0.2**
JMTN				*e*S	**Sn**	**08 05 33.1**	**-0.5**
JYAK	**Yakushimahirau**	**0.64**	**317**	P	**Pb**	**08 05 23.5**	**-0.3**
JYAK				*e*S	**Sb**	**08 05 32.5**	**0.0**
JTN	**Tanegashima 3**	**0.89**	**358**	P	**Pb**	**08 05 27.6**	**-0.4**
JTN				*e*S	**Sn**	**08 05 40.4**	**+0.6**
JKC	**Kuchinoerabu**	**0.99**	**315**	P	**Pn**	**08 05 29.2**	**0.0**
JKC				*e*S	**Sn**	**08 05 43.0**	**+0.7**
JNN	**Nakanoshima**	**0.99**	**275**	P	**Pn**	**08 05 29.1**	**-0.1**
JNN				*e*S	**Sn**	**08 05 42.4**	**+0.1**
JTSR	**Tashiro 2**	**1.40**	**357**	P	**Pn**	**08 05 35.3**	**+0.4**
JTSR				*e*S	**Sb**	**08 05 53.8**	**-0.3**
JTAJ	**Takarajima**	**1.69**	**249**	P	**Pn**	**08 05 39.4**	**+0.6**
JTAJ				*e*S	**Sn**	**08 06 00.6**	**+1.0**
JZK	**Kikaishima**	**1.71**	**212**	P	**Pn**	**08 05 40.0**	**+0.9**
JZK				*e*S	**Sn**	**08 06 01.1**	**+1.1**
JNAR	**Kushima--Naru**	**1.77**	**7**	P	**Pn**	**08 05 40.5**	**+0.5**
JNAR				*e*S	**Sn**	**08 06 02.7**	**+1.1**
JSU	**Suzuyama**	**1.80**	**345**	P	**Pn**	**08 05 40.6**	**+0.2**
JSU				*e*S	**Sn**	**08 06 03.3**	**+0.9**
JAM	**Amami Oshima**	**1.83**	**223**	P	**Pn**	**08 05 41.0**	**+0.3**
JAM				*e*S	**Sn**	**08 06 03.2**	**+0.3**
JNKG	**Nichinankitago**	**1.92**	**9**	P	**Pn**	**08 05 42.6**	**+0.6**
JNKG				*e*S	**Sn**	**08 06 05.9**	**+0.7**
JNU	**Nakatsue**	**3.35**	**358**	P	**Pn**	**08 06 02.4**	**+0.7**
	2.8nm,0.3s,baz=197,slow=12,SNR=41						
JNU				S	**Sn**	**08 06 39.3**	**-1.3**
	4.4nm,0.3s,baz=197,slow=7.2,SNR=5.5						
KSRS	**Korea Array**	**8.09**	**342**	P	**Pn**	**08 07 09.1**	**+2.3**
	0.2nm,0.3s,baz=158,slow=14,SNR=2.0						
KSRS				LR	LR	08 10 26.1	
	comp=Z,106nm,21.7s,baz=172,slow=39						
JHJ	**Hachijo jima 2**	**8.21**	**64**	P	**Pn**	**08 07 09.8**	**+1.4**
	17nm,0.3s,baz=67,slow=8.8,SNR=6.7						
MJAR	**Matsushiro Arr**	**9.06**	**40**	P	**Pn**	**08 07 21.1**	**+1.0**
	0.1nm,0.3s,baz=249,slow=14,SNR=4.4						
SONM	**Songino Array**	**26.16**	**320**	P	**P**	**08 10 43.7**	**+0.5**
	0.6nm,0.4s,baz=134,slow=9.8,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**33.97**	**99**	T	T	08 48 10.2	
	baz=296,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**33.97**	**99**	T	T	08 48 06.0	
	baz=296,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**33.98**	**99**	T	T	08 48 08.5	
	baz=296,slow=75,SNR=8.7						
BATI	**Baumata**	**40.37**	**191**	LR	LR	08 32 13.9	
	comp=Z,278nm,19.3s,baz=288,slow=40						
MKAR	**Makanchi Array**	**41.15**	**308**	P	**P**	**08 12 53.6**	**+0.6**
	0.2nm,0.5s,baz=94,slow=9.3,SNR=2.1						
FITZ	**Fitzroy Crossi**	**47.87**	**187**	P	**P**	**08 13 45.0**	**-1.7**
	0.8nm,0.7s,baz=3.5,slow=10,SNR=1.6						
WRA	**Warramunga Arr**	**49.52**	**176**	P	**P**	**08 13 59.1**	**-0.4**
	0.3nm,0.7s,baz=354,slow=8.6,SNR=5.8						
ASAR	**Alice Springs**	**53.20**	**177**	P	**P**	**08 14 27.7**	**+0.7**
	0.3nm,0.8s,baz=7.0,slow=15,SNR=5.4						
FINES	**FINESS Array B**	**71.00**	**331**	P	**P**	**08 16 24.3**	**-1.8**
	0.8nm,0.7s,baz=67,slow=4.7,SNR=1.2						
BRTR	**Keskin Array B**	**76.80**	**308**	P	**P**	**08 17 00.9**	**+0.3**
	0.3nm,0.4s,baz=74,slow=6.4,SNR=1.8						

IDC ***13*** *08:11:08.6±1.3,45°.50S×166°.19E,h0km,mb3.7/4, mb1 4.0/6,mb1mx3.8/35,mbtmp4.0/6,ML3.8/2,MS3.4/2, Ms1 3.4/2,ms1mx3.0/30,Error ellipse: s-maj=47.8km s-min=24.8km az=180.0*
WEL ***13*** *08:11:10.8±1.3,46°.S±4°×16°.6E±°,h5km,M4.5/24,ML4.4/7, MLv4.5/24,Error ellipse: s-maj=0.0km s-min=0.0km az=106.2*
NEIC ***13*** *08:11:14.0±1.9,45°.76S±0°.07×166°.77E±0°.09,h19km±6km, Error ellipse: s-maj=10.0km s-min=9.2km az=202.0*
ISC 13 08:11:10.7±1.5,45°.58S±0°.04×166°.53E±0°.05,h7km±9km, n84,σ1°77/91,mb4.0/8,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.59**	**169**	P	**Pg**	**08 11 22.7**	**+0.5**
PYZ				S	**Sg**	**08 11 31.5**	**+1.6**
PYZ	**Puysegur Point**	**0.59**	**169**	Pg	**Pg**	**08 11

RPZ	Rata Peaks	3.73	62	P	Pn	08 12 07.6	-1.3
RPZ				S	Sn	08 12 54.2	+1.2
WVZ	Waitaha Valley	3.93	52	P	Pn	08 12 11.5	0.0
WACZ	Wakanui South	4.12	68	P	Pn	08 12 14.0	-0.1
OXZ	Oxford	4.55	62	Pn	Pn	08 12 19.4	-0.6
INZ	Inchbonnie	4.55	53	P	Pn	08 12 19.6	-0.4
MQZ	McQueen's Vall	4.76	69	P	Pn	08 12 22.2	-0.7
MQZ	McQueen's Vall	4.76	69	Pn	Pn	08 12 23.2	+0.3
AKCZ	Akaroa Harbour	4.86	72	P	Pn	08 12 25.7	+1.4
LTZ	Lake Taylor	4.99	58	P	Pn	08 12 24.9	-1.3
LTZ	Lake Taylor	4.99	58	Pn	Pn	08 12 27.4	+1.2
AMCZ	Amberley	5.01	63	P	Pn	08 12 25.7	-0.6
OKCZ	Okains Bay	5.02	71	P	Pn	08 12 27.1	+0.6
GVZ	Greta Valley S	5.36	63	P	Pn	08 12 30.4	-0.7
DSZ	Denniston Nort	5.42	47	P	Pn	08 12 32.4	+0.4
KHZ	Kahutara	5.97	60	P	Pn	08 12 39.9	+0.5
KHZ	Kahutara	5.97	60	Pn	Pn	08 12 40.4	+0.9
THZ	Tophouse	6.00	53	P	Pn	08 12 39.4	-0.6
THZ	Tophouse	6.00	53	Pn	Pn	08 12 41.7	+1.7
QRZ	Quartz Range	6.47	45	P	Pn	08 12 44.9	-1.5
QRZ	Quartz Range	6.47	45	Pn	Pn	08 12 47.3	+0.9
BSWZ	Blackbirch Sta	6.59	57	Pn	Pn	08 12 49.5	+1.5
NNZ	Nelson	6.63	51	P	Pn	08 12 50.9	+2.3
NNZ	Nelson	6.63	51	Pn	Pn	08 12 50.0	+1.4
TUWZ	Tuamarina	6.80	55	P	Pn	08 12 52.2	+1.3
TUWZ	Tuamarina	6.80	55	Pn	Pn	08 12 51.9	+0.9
TUWZ				Sn	Sn	08 14 10.2	+1.5
DUWZ	D'Urville Isla	7.21	51	P	Pn	08 12 59.8	+3.2
SNZO	South Karori	7.33	57	Pn	Pn	08 13 01.2	+3.1
MSWZ	Moikau Station	7.59	60	Pn	Pn	08 13 01.9	+0.2
MSWZ				Sn	Sn	08 14 27.8	-0.2
KHEZ	Kahui Hut	8.37	44	P	Pn	08 13 12.4	-0.2
NEZ	North Egmont	8.43	44	P	Pn	08 13 13.9	+0.5
PKE	Pukeiti	8.44	43	P	Pn	08 13 14.8	+1.4
BFZ	Birch Farm	8.63	59	Pn	Pn	08 13 16.6	+0.5
VRZ	Vera Road	8.87	46	P	Pn	08 13 20.6	+1.2
MTVZ	Mangateitei	9.05	50	P	Pn	08 13 25.9	+4.0
OTVZ	Oturere	9.32	50	P	Pn	08 13 32.0	+6.3
HIZ	Hauiti	9.39	44	P	Pn	08 13 32.9	+6.4
HIZ	Hauiti	9.39	44	Pn	Pn	08 13 28.7	+2.2
BKZ	Black Stump Fm	9.77	52	Pn	Pn	08 13 34.3	+2.6
TLZ	Tolley Road	9.87	46	P	Pn	08 13 33.3	+0.2
URZ	Urewera	10.75	51	Pn	Pn	08 13 46.3	+1.2
0.2nm,0.3s,baz=24,slow=5.2,SNR=2.3							
URZ				LR	LR	08 18 14.2	
comp=Z,242nm,21.5s,baz=214,slow=39							
URZ	Urewera	10.75	51		Pn	08 13 46.0	+0.9
WCZ	Waipu Caves	11.31	34	P	Pn	08 13 54.0	+1.3
OUZ	Omahuta	11.66	30	Pn	Pn	08 13 58.9	+1.3
STKA	Stephens Creek	23.66	297	P	P	08 16 17.5	-5.3
1.1nm,0.9s,baz=304,slow=19,SNR=2.1							
STKA	Stephens Creek	23.66	297	P	P	08 16 24.4	+1.6
EIDS	Eidsvold	23.69	323	P	P	08 16 27.0	+3.9
EIDS				IAmb	IAmb	08 16 28.3	
comp=Z,15nm,1.5s							
ASAR	Alice Springs	34.26	299	P	P	08 17 54.0	-3.5
comp=Z,1.7nm,1.2s,baz=135,slow=8.0,SNR=4.4							
WB2	Warramunga Arr	36.81	303	P	P	08 18 23.9	+4.5
WB2				IAmb	IAmb	08 18 43.8	
comp=Z,6.6nm,1.2s							
WRA	Warramunga Arr	36.82	303	P	P	08 18 16.6	-2.8
comp=Z,1.4nm,0.9s,baz=140,slow=7.7,SNR=7.5							
H01W1	Cape Leeuwin H	40.72	266	T	T	09 02 05.0	
baz=121,slow=75,SNR=260							
H01W2	Cape Leeuwin H	40.73	266	T	T	09 02 17.0	
baz=121,slow=75,SNR=209							
H01W3	Cape Leeuwin H	40.74	266	T	T	09 02 04.7	
baz=121,slow=75,SNR=238							
FITZ	Fitzroy Crossi	43.55	295	P	P	08 19 12.5	-2.7
comp=Z,1.2nm,0.7s,baz=180,slow=5.0,SNR=3.3							
QSPA	South Pole Qui	44.54	180	P	P	08 19 23.9	+1.0
QSPA				IAmb	IAmb	08 19 47.2	
comp=Z,5.4nm,1.3s							
PATS	Pohnpei	52.70	350	P	P	08 20 29.1	+3.1
SNAA	Sanae	62.81	184	P	P	08 21 36.1	-0.3
SNAA				IAmb	IAmb	08 21 36.7	
comp=Z,3.4nm,1.2s							
H08S2	Diego Garcia H	87.41	262	T	T	10 00 27.0	
baz=136,slow=76,SNR=81							
H08S1	Diego Carcia H	87.42	262	T	T	10 00 28.5	
baz=136,slow=76,SNR=55							
H08S3	Diego Garcia H	87.43	262	T	T	10 00 31.5	
baz=136,slow=76,SNR=91							
TORD	Torodi Ar. Bea	145.20	207	PKPbc	PKPbc	08 30 46.9	-2.1
comp=Z,1.1nm,0.6s,baz=155,slow=2.4,SNR=6.5							
BRTR	Keskin Array B	145.26	277	PKPbc	PKPbc	08 30 45.8	-3.0
comp=Z,0.3nm,0.4s,baz=258,slow=27,SNR=1.9							
ARCES	ARCESS Array B	149.14	334	PKPbc	PKPbc	08 30 57.0	-1.5
comp=Z,2.3nm,0.7s,baz=336,slow=2.7,SNR=4.7							
AKASG	Malin Array Be	151.36	296	PKPbc	PKPbc	08 31 02.1	-2.3
comp=Z,0.5nm,0.4s,baz=66,slow=2.3,SNR=1.7							
FINES	FINESS Array B	152.19	319	PKPbc	PKPbc	08 31 05.1	-0.8
comp=Z,5.1nm,1.0s,baz=138,slow=18,SNR=4.3							

*IDC **13** 08:22:11.6±0.6, 0.°36S×124.°84E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.1/41, mbtmp4.2/16, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/35, Error ellipse: s-maj=28.6km s-min=12.8km az=81.0*

*DJA **13** 08:22:17.9±1.1, 0.°S±3.3×12.°5E±.°, h20km±9km, M4.6/8, mB5.0/2, mb4.7/5, MLv4.6/8, Mw(mB)4.3/2*

*NEIC **13** 08:22:17.3±1.9, 0.°27S±0.°08×125.°29E±0.°05, h35km±1km, mb4.3/29, Error ellipse: s-maj=13.4km s-min=8.6km az=162.0*

ISC 13 08:22:17.3±0.4, **0.°28**S±0.°04×**125.°23**E±0.°05, **h35**km, **n73,** σ1§**90**/79, **mb4.3**/26, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.50	304	P	Pn	08 22 41.9	+0.1
KMSI				S	Sn	08 23 02.3	+2.1
SANI	Sanana	1.92	157	P	Pn	08 22 50.3	+2.8
SANI				S	Sn	08 23 16.5	+6.0
TNTI	Ternate	2.38	64	Pn	Pn	08 22 55.7	+1.7
GTOI	Gorontalo	2.39	292	P	Pn	08 22 56.8	+2.7
GTOI				S	Sn	08 23 28.2	+6.0
LUWI	Luwuk	2.57	253	P	Pn	08 22 59.7	+3.2
LUWI				S	Sn	08 23 30.1	+3.6
LUWI	Luwuk	2.57	253	Pn	Pn	08 23 00.3	+3.8
MSAI	Masohi	4.79	130	P	Pn	08 23 31.4	+4.3
MPSI	Mapaga	5.36	277	P	Pn	08 23 37.6	+2.7
0.4nm886nm47nm,0.8s							
BNSI	Bone	6.55	231	P	Pn	08 23 52.1	+0.8
0.3nm42nm,0.6s							
SPSI	Sidrap Palu	6.57	236	P	Pn	08 23 52.5	+1.0
0.2nm2μm63nm,0.6s							
KAPI	Kappang	7.21	229	Pn	Pn	08 23 53.2	-7.2
3.6nm,0.3s,baz=238,slow=18,SNR=3.0							
KAPI				Sn	Sn	08 25 13.9	-7.2
2.1nm,0.3s,baz=263,slow=19,SNR=1.7							
KAPI	Kappang	7.21	229	Pn	Pn	08 24 02.7	+2.3
KAPI				Sn	Sn	08 25 21.6	+0.5
DAV	Davao City (W)	7.31	3	LR	LR	08 26 50.8	
comp=Z,222nm,19.1s,baz=171,slow=38							
FAKI	Fak Fak	7.50	111	Pn	Pn	08 24 04.7	+0.5
FAKI				Sn	Sn	08 25 27.2	-0.9
MTKI	Muara Teweh, K	10.35	266	P	Pn	08 24 56.9	+13
KSM	Kuching	15.02	277	P	P	08 25 52.3	+0.2
KSM				IAmb	IAmb	08 25 53.6	
comp=Z,10nm,0.6s							
KNRA	Kununurra	15.70	167	P	P	08 25 59.4	-0.3
KNRA				IAmb	IAmb	08 25 59.5	
comp=Z,9.0nm,0.8s							
FITZ	Fitzroy Crossi	17.71	179	P	Pn	08 26 20.6	-0.8
comp=Z,0.4nm,0.3s,baz=2.2,slow=8.3,SNR=14							
FITZ	Fitzroy Crossi	17.71	179	P	P	08 26 22.1	+0.1
WB0	Warramunga Arr	21.35	156	P	P	08 27 00.3	-1.4
WRA	Warramunga Arr	21.49	156	P	P	08 27 01.6	-1.6
comp=Z,2.2nm,0.5s,baz=331,slow=11,SNR=50							
WRA				PcP	PcP	08 31 05.3	-0.1
comp=Z,0.2nm,0.5s,baz=320,slow=2.3,SNR=4.7							
WRA	Warramunga Arr	21.49	156	P	P	08 27 01.0	-2.2
WB2	Warramunga Arr	21.49	156	P	P	08 27 02.1	-1.1
WR0	Warramunga Arr	21.58	156	P	P	08 27 02.9	-1.3
PSA00	Pilbara Seismi	21.81	194	P	P	08 27 06.6	0.0
PSA00				IAmb	IAmb	08 27 15.9	
comp=Z,9.8nm,1.3s							
COEN	Coen	22.37	128	P	P	08 27 13.2	+0.5
COEN				IAmb	IAmb	08 27 28.4	
comp=Z,17nm,1.5s							
YULB	Yu-li	23.84	351	P	P	08 27 27.2	-0.2
YULB				IAmb	IAmb	08 27 29.7	
comp=Z,4.0nm,0.7s							
TPUB	Ta-pu	23.86	350	P	P	08 27 27.9	+0.3
TPUB				IAmb	IAmb	08 27 30.2	
comp=Z,12nm,0.8s							
AS31	Alice Springs	24.73	161	P	P	08 27 35.1	-0.5
ASAR	Alice Springs	24.73	161	P	P	08 27 35.1	-0.5
comp=Z,1.9nm,0.6s,baz=343,slow=9.3,SNR=42							
ASAR				PcP	PcP	08 31 12.3	+0.1
comp=Z,1.5nm,0.6s,baz=348,slow=2.1,SNR=20							
ASAR	Alice Springs	24.73	161	P	P	08 27 35.4	-0.2
BBOO	Buckleboo	33.93	164	P	P	08 28 56.9	-0.5
STKA	Stephens Creek	35.03	155	P	P	08 29 07.6	+0.7
comp=Z,6.5nm,0.8s,baz=324,slow=7.4,SNR=14							
STKA	Stephens Creek	35.03	155	P	P	08 29 07.4	+0.5
JHS	Saijyo	35.86	11	P	P	08 29 14.2	+0.2
JWT	Wachi	36.63	14	P	P	08 29 21.4	+0.9
KSRS	Korea Array	37.63	4	P	P	08 29 28.7	-0.2
comp=Z,1.3nm,0.6s,baz=181,slow=9.6,SNR=6.0							
MJAR	Matsushiro Arr	38.57	17	P	P	08 29 36.8	-0.1
comp=Z,1.6nm,0.7s,baz=194,slow=8.4,SNR=5.6							
MJAR	Matsushiro Arr	38.57	17	P	P	08 29 36.1	-0.8
ARMA	Armidale	39.09	142	P	P	08 29 41.1	-0.4
ARMA				IAmb	IAmb	08 29 41.7	
comp=Z,19nm,1.5s							
JMM	Marumori	40.58	19	P	P	08 29 53.8	+0.1
JMM				IAmb	IAmb	08 30 01.2	
comp=Z,18nm,1.2s							
CAN	Canberra	41.31	150	P	P	08 30 00.0	+0.2
CAN				IAmb	IAmb	08 30 08.5	
comp=Z,7.8nm,1.1s							
TOO	Toolangi	41.56	155	P	P	08 30 02.5	+0.8
TOO				IAmb	IAmb	08 30 20.6	
comp=Z,9.2nm,1.2s							
HHC	Hu-ho-hao-te	42.78	345	eP	P	08 30 14.3	+2.6
HHC				pmax	pmax		
comp=Z,15nm,0.8s							
HHC				pmax	pmax		
comp=Z,99nm,7.6s							
SANVU	Saraoutou	44.10	112	P	P	08 30 22.6	0.0
USRK	Ussuriysk Ar.	44.69	7	P	P	08 30 27.7	+0.8
comp=Z,1.9nm,0.4s,baz=196,slow=5.8,SNR=6.7							
SONM	Songino Array	50.65	344	P	P	08 31 13.9	+0.7
comp=Z,1.0nm,0.5s,baz=153,slow=9.7,SNR=4.5							
SONM	Songino Array	50.65	344	P	P	08 31 12.6	-0.6
WMQ	Urumqi	55.20	328	eP	P	08 31 49.6	+2.7
PETK	Petropavlovsk-	59.68	22	P	P	08 32 19.5	+1.3
comp=Z,1.5nm,0.7s,baz=188,slow=4.5,SNR=4.2							
PETK	Petropavlovsk-	59.68	22	P	P	08 32 18.0	-0.1
MK31	Makanchi Array	60.03	327	P	P	08 32 20.0	-0.7
MK31				IAmb	IAmb	08 32 21.8	
comp=Z,1.7nm,0.4s							
MKAR	Makanchi Array	60.03	327	P	P	08 32 18.8	-1.9
comp=Z,2.0nm,0.3s,baz=125,slow=8.5,SNR=36							
MKAR	Makanchi Array	60.03	327	P	P	08 32 19.7	-1.0
KDJ	Kajisay	60.39	320	P	P	08 32 23.1	-0.4
KDJ				IAmb	IAmb	08 32 38.6	
comp=Z,4.2nm,0.8s							
BKZ	Black Stump Fm	60.70	136	P	P	08 32 25.2	-0.2
KURK	Kurchatov	64.34	329		P	08 32 48.5	-0.9
TIXI	Tiksi	71.85	1	P	P	08 33 35.6	-0.6
TIXI				IAmb	IAmb	08 33 43.4	
comp=Z,3.2nm,1.1s							
NRIK	Noril'sk	73.95	347	P	P	08 33 48.5	-0.2
comp=Z,2.5nm,0.5s,baz=41,slow=3.8,SNR=4.2							
ABKAR	Akbulak array	74.32	322	P	P	08 33 50.4	-0.9
AKTO	Aktyubinsk	75.88	323	P	P	08 33 59.6	-0.6
comp=Z,4.7nm,0.4s,baz=115,slow=8.9,SNR=14							
VNDA	Vanda	79.67	172	P	P	08 34 20.4	-0.5
comp=Z,0.5nm,0.7s,baz=312,slow=6.6,SNR=4.0							
VNDA	Vanda	79.67	172	P	P	08 34 20.8	-0.1
VNDA				IAmb	IAmb	08 34 32.5	
comp=Z,2.7nm,1.4s							
AKASG	Malin Array Be	94.03	321	P	P	08 35 29.6	-2.3
comp=Z,0.8nm,0.6s,baz=69,slow=5.0,SNR=2.7							
FINES	FINESS Array B	94.62	332	P	P	08 35 32.3	-2.1
comp=Z,1.4nm,0.8s,baz=72,slow=4.5,SNR=2.0							
FINES	FINESS Array B	94.62	332	P	P	08 35 33.4	-1.1
TORD	Torodi Ar. Bea	122.63	285	PKP	PKPdf	08 41 09.2	-1.3
comp=Z,0.8nm,0.6s,baz=61,slow=1.4,SNR=5.4							
CO02	Combarbal	145.11	155		PKPdf	08 41 52.1	+0.1
CO03	El Pedregal	145.56	155	PKPdf	PKPab	08 41 53.1	0.0
AC05	El Transito	147.47	154	PKPbc	PKPbc	08 41 59.2	+0.6
ESPN	Las Esperanzas	148.40	67	PKPbc	PKiKP	08 42 02.1	-0.8
AC01	Pan de Azucar	149.62	151	PKPbc	PKiKP	08 42 05.1	0.0
CPUP	Villa Florida	153.43	175	PKPbc	PKiKP	08 42 13.0	0.0
comp=Z,0.9nm,0.6s,baz=243,slow=2.3,SNR=1.7							

*UNK **13** 08:22:30.6, 36.°62N×97.°69W, h5km*

*TUL **13** 08:22:30.6±1.0, 36.°62N±0.°02×97.°69W±0.°07, h5km±7km, ML3.4, Error ellipse: s-maj=7.5km s-min=2.3km az=78.0*

*NEIC **13** 08:22:31.7±0.9, 36.°62N±0.°02×97.°69W±0.°06, h3km±7km, Error ellipse: s-maj=7.4km s-min=2.6km az=77.0*

*ANF **13** 08:22:33.4±0.5, 36.°65N×97.°69W, h26km±5km, ML4.3/17, Error ellipse: s-maj=2.9km s-min=2.6km az=21.0*

ISC 13 08:22:30.2±1.0, **36.°62N**±0.°02×**97.°74W**±0.°02, **h9**km±8km, **n133,** σ1§**57**/167, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.23	239	Pg	Pg	08 22 36.1	+1.2
CROK				Sg	Sg	08 22 40.0	+1.9
KAN13	South Haven SW	0.44	28	Pg	Pb	08 22 39.4	-0.8
KAN13				Sg	Sg	08 22 45.2	+0.5
KAN10	Anthony SW Sta	0.57	330	Pg	Pb	08 22 42.4	-0.1
KAN10				Sg	Sb	08 22 50.7	-0.1
KAN12	Harper NE Stat	0.70	343	Pg	Pb	08 22 44.6	-0.1
KAN12				Sg	Sb	08 22 54.3	-0.1
OK029	Liberty Lake	0.86	164	Pg	Pb	08 22 46.8	-0.5
OK029				Sg	Sb	08 22 58.2	-0.6
QUOK	Quay	0.95	118	Pg	Pb	08 22 48.1	-0.7
QUOK				Sg	Sg	08 23 00.0	-0.7
BCOK	Bluff Creek, N	0.97	174	Pg	Pb	08 22 48.9	-0.3
BCOK				Sg	Sb	08 23 02.1	0.0
T35A	Sooner Cattle	1.03	73	Pg	Pb	08 22 49.6	-0.6
T35A				Sg	Sg	08 23 02.6	-0.8
U32A	Winter Ranch,	1.05	257	Pg	Pn	08 22 50.9	-0.2
OK025	Westminster Rd	1.09	163	Pg	Pn	08 22 51.0	-0.7
OKCFA	Oklahoma City	1.23	169	Pg	Pn	08 22 53.4	-0.2
OKCSW	OKLAHOMA CITY	1.24	169	Pg	Pg	08 22 53.7	-0.3
FNO	Franklin	1.39	169		Pg	08 22 56.7	-0.2
W35A	Tecumseh	1.63	154		Pb	08 22 59.8	-0.6
TUL1	Leonard	1.73	114	P	Pb	08 23 01.3	-0.9
baz=296,SNR=181							
TUL1				S	Sb	08 23 24.0	+0.1
baz=296							
TUL1	Leonard	1.73	114	Pn	Pb	08 23 01.3	-0.9
R32A	Long Quarter,	1.96	337	Pn	Pb	08 23 05.5	-0.5
WMOK	Wichita Mounta	2.06	205	P	Pb	08 23 06.5	-1.4
baz=25							
WMOK				S	Sb	08 23 34.1	+0.5
baz=25							
WMOK	Wichita Mounta	2.06	205	Pn	Pb	08 23 06.6	-1.2
KSU1	Kansas State U	2.63	20	Pn	Pn	08 23 14.3	+1.5
baz=199,SNR=163							
KSU1				Pb	Pg	08 23 19.7	-0.9
baz=199							
KSU1	Kansas State U	2.63	20		Pn	08 23 14.3	+1.5
KSU1	Kansas State U	2.63	20	Pn	Pn	08 23 14.2	+1.4
CBKS	Cedar Bluff	2.70	325	P	Pn	08 23 15.9	+2.0
baz=143,SNR=13							
CBKS				Sb	Sg	08 23 54.9	-2.1
baz=143							
CBKS	Cedar Bluff	2.70	325	Pn	Pb	08 23 16.1	-2.7
U38A	Gravette	2.71	93	Pn	Pn	08 23 14.9	+1.0
X37A	Clayton	2.80	136	Pn	Pn	08 23 16.4	+1.2
HHAR	Hobbs	3.08	95	Pn	Pn	08 23 19.9	+0.8
Z35A	Perchaven, San	3.31	173	Pn	Pn	08 23 23.3	+1.1
W39A	Magazine	3.51	113	Pn	Pn	08 23 27.4	+2.4
baz=295,SNR=61							
W39A				Pb	Pb	08 23 33.8	+1.3
baz=295							
W39A				Sb	Sg	08 24 19.9	-3.1
baz=295							
AMTX	Amarillo	3.65	243	Pn	Pn	08 23 29.5	+2.6
baz=61							
AMTX				Pb	Pb	08 23 36.9	+2.0
baz=61							
AMTX				Sb	Sg	08 24 25.3	-2.0
baz=61							
AMTX	Amarillo	3.65	243	Pn	Pn	08 23 28.7	+1.8
S39A	Bolivar	3.69	72	Pn	Pn	08 23 28.0	+0.7
U40A	Yellville	3.95	92	Pn	Pn	08 23 31.5	+0.6
baz=275,SNR=29							
U40A				Pb	Pb	08 23 41.0	+1.0
baz=275							
U40A	Yellville	3.95	92	Pn	Pn	08 23 31.5	+0.6
MIAR	Mount Ida	3.98	120	Pn	Pn	08 23 32.3	+1.0
baz=303,SNR=13							
MIAR				Pb	Pb	08 23 41.6	+1.2
baz=303							
MIAR				S	Sn	08 24 19.0	+0.9
baz=303							
MIAR				Sb	Sg	08 24 35.3	-2.6
baz=303							
MIAR	Mount Ida	3.98	120	Pn	Pn	08 23 32.4	+1.0
Z38A	Mt. Pleasant	4.05	145	Pn	Pn	08 23 31.9	-0.4
N33A	J Bar K, Exete	4.12	3	Pn	Pn	08 23 33.4	+0.2
ABTX	Abilene, Hawle	4.29	202	P	Pn	08 23 37.5	+1.8
baz=21							
ABTX				Sb	Sg	08 24 42.7	-5.2
baz=21							
ABTX	Abilene, Hawle	4.29	202	Pn	Pn	08 23 37.1	+1.5
MGMO	Mountain Grove	4.42	81	Pn	Pn	08 23 38.1	+0.6
P38A	Dawn	4.47	47	Pn	Pn	08 23 38.9	+0.8
X40A	Basin Creek Fa	4.53	117	Pn	Pn	08 23 40.2	+1.3
baz=300							
X40A				Pb	Pb	08 23 50.7	+0.8
baz=300,SNR=18							
X40A				Sn	Sn	08 24 34.1	+2.4
baz=300							
X40A				Sb	Sg	08 24 51.0	-4.7
baz=300							
X40A	Basin Creek Fa	4.53	117	Pn	Pn	08 23 40.3	+1.3
N35A	Tabor	4.54	21	Pn	Pn	08 23 40.4	+1.3
KSCO	Kaye Shedlock'	4.54	303	Pn	Pn	08 23 40.2	+0.9
FCAR	Ozark Folk Cen	4.60	98	Pn	Pn	08 23 40.7	+0.8
WHAR	Wooly Hollow	4.62	105	Pn	Pn	08 23 40.8	+0.7
WHTX	Lake Whitney,	4.63	177	P	Pn	08 23 41.4	+1.1
baz=358							
WHTX				Sb	Sb	08 24 52.1	+4.8
baz=358							
WHTX	Lake Whitney,	4.63	177	Pn	Pn	08 23 41.4	+1.1
R40A	Maddies Statio	4.66	67	Pn	Pn	08 23 41.7	+0.9
W41B	Gary Mavity, V	4.69	106	P	Pn	08 23 41.6	+0.5
baz=290,SNR=9.2							
W41B				Sb	Sg	08 24 54.4	-6.3
baz=290							
W41B	Gary Mavity, V	4.69	106	Pn	Pn	08 23 41.2	+0.1
BGNE	Belgrade	4.79	356	P	Pn	08 23 43.5	+0.9
baz=176,SNR=8.4							
BGNE				S	Sn	08 24 38.3	+0.2
baz=176							
BGNE	Belgrade	4.79	356	Pn	Pn	08 23 43.5	+0.9
WLAR	White Oak Lake	4.79	126	Pn	Pn	08 23 42.7	+0.2
237A	Washetta, Mont	4.88	160	Pn	Pn	08 23 44.3	+0.5
MSTX	Muleshoe	4.89	239	P	Pn	08 23 46.4	+2.3
baz=56							
MSTX				Sb	Sg	08 25 01.5	-5.9
baz=56							
MSTX	Muleshoe	4.89	239	Pn	Pn	08 23 45.7	+1.6
Z41A	Richland Creek	5.26	128	S	Sn	08 24 48.8	-1.1
baz=311							
LCAR	Lake Charles	5.34	94	Pn	Pn	08 23 50.4	+0.3
P40A	Paris	5.34	55	Pn	Pn	08 23 50.4	+0.2
T42A	Van Buren	5.35	84	Pn	Pn	08 23 51.0	+0.9
CCM	Cathedral Cave	5.37	73	P	Pn	08 23 50.9	+0.4
baz=256							
CCM				Sb	Sb	08 25 13.3	+4.6
baz=256							
CCM	Cathedral Cave	5.37	73	Pn	Pn	08 23 50.2	-0.3
T25A	Trinidad	5.37	277	P	Pn	08 23 52.7	+1.9
baz=94,SNR=6.6							
T25A				Sb	Sg	08 25 19.5	-3.3
baz=94							
T25A	Trinidad	5.37	277	Pn	Pn	08 23 51.7	+0.9
L34A	Svendsen Farm,	5.44	11	Pn	Pn	08 23 51.8	+0.3
N38A	Joes South For	5.45	39	Pn	Pn	08 23 52.6	+1.0
FVM	French Village	5.99	75	Pn	Pn	08 23 59.8	+0.8
K31A	O'Neill	6.04	353	Pn	Pn	08 24 01.0	+1.3
SDCO	Great Sand Dun	6.30	283	P	Pn	08 24 06.7	+3.2
baz=98							
SDCO	Great Sand Dun	6.30	283	Pn	Pn	08 24 05.0	+1.4
Q24A	Divide	6.32	294	P	Pn	08 24 05.8	+2.0
baz=109							
Q24A				S	Sn	08 25 17.0	+0.8
baz=109							
Q24A	Divide	6.32	294	Pn	Pn	08 24 05.3	+1.5
SCIA	State Center	6.34	32	P	Pn	08 24 04.7	+0.9
baz=215							
SCIA				S	Sn	08 25 16.5	+0.3
baz=215							
SCIA	State Center	6.34	32	Pn	Pn	08 24 04.7	+0.9
JCT	Junction City	6.37	196	P	Pn	08 24 04.6	+0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.42**	**328**	⇑*i*P	**Pn**	**08 24 02.2**	**-2.5**
TARG	baz=21			⇑*i*S	**Sb**	**08 24 24.9**	**+1.4**
PRZ	**Przheval'sk**	**1.97**	**351**	⇓*e*P	**Pn**	**08 24 10.2**	**-1.9**
PRZ	baz=45			⇓*i*S	**Sn**	**08 24 38.1**	**+1.1**
KDJ	**Kajisay**	**2.02**	**323**	⇑*i*P	**Pn**	**08 24 12.1**	**-0.6**
KDJ	baz=19			⇑*i*S	**Sb**	**08 24 41.1**	**+0.6**
ANVS	**Anan'yevo**	**2.41**	**339**	⇓*e*P	**Pn**	**08 24 16.8**	**-1.2**
ANVS	baz=35			⇓*i*S	**Sn**	**08 24 49.5**	**+1.8**
SATY	**Saty**	**2.54**	**353**	*e*P	**Pb**	**08 24 22.0**	**-2.2**
SATY	10nm,0.5s			*e*S	**Sg**	**08 25 01.1**	**+1.1**
SATY	**Saty**	**2.54**	**353**	Pg	**Pb**	**08 24 22.0**	**-2.2**
SATY	22nm,0.8s			Lg	Lg	08 25 01.2	
ULHL	**Ulahol**	**2.58**	**312**	⇑*i*P	**Pn**	**08 24 20.2**	**-0.3**
ULHL	baz=10.0			⇑*i*S	**Sb**	**08 24 55.5**	**-1.4**
UZB	**Uzynbulak**	**2.61**	**3**	*e*P	**Pn**	**08 24 21.8**	**+0.9**
UZB	4.2nm,0.6s			*e*S	**Sg**	**08 25 00.4**	**-2.0**
UZB	**Uzynbulak**	**2.61**	**3**	Pg	**Pn**	**08 24 21.0**	**+0.2**
UZB	4.2nm,0.6s			Lg	Lg	08 24 59.8	
PDGK	**Podgornoye**	**2.84**	**10**	Pg	**Pn**	**08 24 23.7**	**-0.2**
PDGK	2.0nm,0.3s			Lg	Lg	08 25 04.0	
PDGK	**Podgornoye**	**2.84**	**10**	Pg	**Pb**	**08 24 28.2**	**-1.0**
PDGK	2.9nm,0.5s			Lg	Lg	08 25 05.2	
TNSS	**Tian-Shan**	**2.86**	**331**	*e*P	**Pb**	**08 24 28.1**	**-1.7**
TNSS	4.5nm,0.5s			*e*S	**Sg**	**08 25 10.9**	**+0.4**
BOOM	**Boomskoye usch**	**2.91**	**313**	⇑*i*P	**Pn**	**08 24 24.7**	**-0.3**
BOOM	baz=11			⇑*i*S	**Sn**	**08 25 03.6**	**+3.5**
KPKS	**Kokpek**	**2.93**	**358**	*e*P	**Pb**	**08 24 27.3**	**-3.5**
KPKS	7.1nm,0.5s			*e*S	**Sb**	**08 25 09.9**	**+3.1**
MDOK	**Medeo**	**2.94**	**334**	*e*P	**Pb**	**08 24 28.8**	**-2.2**
MDOK	4.6nm,0.3s			*e*S	**Sg**	**08 25 11.5**	**-1.4**
KOTS	**Kotyrbulak**	**2.98**	**335**	*e*P	**Pb**	**08 24 30.3**	**-1.5**
KOTS	7.5nm,0.4s			*e*S	**Sg**	**08 25 14.9**	**+0.6**
KOTS	**Kotyrbulak**	**2.98**	**335**	Pg	**Pb**	**08 24 30.3**	**-1.5**
KOTS	7.5nm,0.4s			Lg	Lg	08 25 14.9	
KURS	**Kuram**	**2.99**	**351**	*e*P	**Pb**	**08 24 29.3**	**-2.5**
KURS	5.6nm,0.8s			*e*S	**Sg**	**08 25 13.2**	**-1.2**
KURS	**Kuram**	**2.99**	**351**	Pg	**Pb**	**08 24 29.3**	**-2.5**
KURS	5.6nm,0.8s			Lg	Lg	08 25 13.2	
IZV	**Izvestkoviy**	**2.99**	**327**	*e*P	**Pb**	**08 24 29.6**	**-2.3**
IZV	3.0nm,0.2s			*e*S	**Sg**	**08 25 13.7**	**-0.8**
IZV	**Izvestkoviy**	**2.99**	**327**	Pg	**Pb**	**08 24 29.6**	**-2.3**
IZV	3.0nm,0.2s			Lg	Lg	08 25 13.7	
KZA	**Kyzart**	**3.10**	**301**	⇑*e*P	**Pn**	**08 24 27.7**	**-0.1**
KZA	baz=0.0			⇑*i*S	**Sn**	**08 25 08.5**	**+3.5**
KST	**Kastek**	**3.29**	**321**	*e*P	**Pb**	**08 24 34.8**	**-2.2**
KST	7.0nm,0.7s			*e*S	**Sg**	**08 25 22.6**	**-1.5**
KST	**Kastek**	**3.29**	**321**	Pg	**Pb**	**08 24 34.8**	**-2.2**
KST	7.0nm,0.7s			Lg	Lg	08 25 22.6	
TKM2	**Tokmak 2**	**3.39**	**316**	⇑Pg	**Pb**	**08 24 36.4**	**-2.3**
TKM2	1.7nm,0.6s			⇓Lg	Lg	08 25 25.3	
DGS	**Degeres**	**3.53**	**321**	*e*P	**Pb**	**08 24 39.2**	**-1.9**
DGS	2.1nm,0.7s			*e*S	**Sg**	**08 25 30.0**	**-1.9**
DGS	**Degeres**	**3.53**	**321**	Pg	**Pb**	**08 24 39.2**	**-1.9**
DGS	2.1nm,0.7s			Lg	Lg	08 25 30.0	
KTBS	**Karatobe**	**3.55**	**334**	*e*P	**Pb**	**08 24 40.3**	**-1.0**
KTBS	2.9nm,1.3s			*e*S	**Sg**	**08 25 32.1**	**-0.3**
KTBS	**Karatobe**	**3.55**	**334**	Pg	**Pb**	**08 24 40.3**	**-1.0**
KTBS	2.9nm,1.3s			Lg	Lg	08 25 32.1	
MNBS	**Baschi**	**3.56**	**355**	*e*P	**Pb**	**08 24 40.3**	**-1.2**
MNBS	3.2nm,0.6s			*e*S	**Sg**	**08 25 32.4**	**-0.1**
MNBS	**Baschi**	**3.56**	**355**	Pg	**Pb**	**08 24 40.3**	**-1.2**
MNBS	3.2nm,0.6s			Lg	Lg	08 25 32.4	
CHKK	**Chushkaly**	**3.58**	**338**	*e*P	**Pb**	**08 24 41.0**	**-0.9**
CHKK	3.1nm,0.5s			*e*S	**Sg**	**08 25 33.0**	**-0.5**
CHKK	**Chushkaly**	**3.58**	**338**	Pg	**Pb**	**08 24 41.0**	**-0.9**
CHKK	3.1nm,0.5s			Lg	Lg	08 25 33.0	
ARXS	**Arharly**	**3.75**	**349**	*e*P	**Pb**	**08 24 44.0**	**-0.7**
ARXS	6.4nm,0.5s			*e*S	**Sg**	**08 25 38.2**	**-0.6**
ARXS	**Arharly**	**3.75**	**349**	Pg	**Pb**	**08 24 44.0**	**-0.7**
ARXS	6.4nm,0.5s			Lg	Lg	08 25 38.2	
DJR	**Jarkent**	**3.86**	**10**	*e*P	**Pb**	**08 24 45.0**	**-1.7**
DJR	2.0nm,0.4s			*e*S	**Sg**	**08 25 40.2**	**-2.2**
DJR	**Jarkent**	**3.86**	**10**	Pg	**Pb**	**08 24 45.3**	**-1.4**
DJR	5.1nm,0.6s			Lg	Lg	08 25 40.6	
AML	**Almayashu**	**4.17**	**294**	⇑*i*P	**Pn**	**08 24 43.0**	**+0.5**
AML	baz=94			⇑*i*S	**Sn**	**08 25 34.6**	**+3.0**
EKS2	**Erkin-Say**	**4.33**	**301**	⇑*e*P	**Pn**	**08 24 44.7**	**+0.2**
EKS2	baz=0.0			⇑*i*S	**Pb**	**08 25 37.8**	**+2.6**
KAPS	**Kapalarasan**	**4.76**	**5**	*e*P	**Pb**	**08 25 02.8**	**+0.7**
KAPS	1.1nm,0.6s			*e*S	**Sg**	**08 26 10.6**	**-0.8**
KAPS	**Kapalarasan**	**4.76**	**5**	Pg	**Pb**	**08 25 02.8**	**+0.7**
KAPS	1.1nm,0.6s			Lg	Lg	08 26 10.6	
	3.8nm,0.9s						

*ISK **13** 08:27:00.2, 37°.44N×42°.31E, h1km, ML2.2/4*

DDA 13 08:27:01.8, 37°.42N×42°.31E, h6km±4km, ML2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**Sirnak**	**0.11**	**47**	*i*P	Pg	08 27 02.4	-1.5
SIRN				*i*S	Sg	08 27 05.1	-0.3
SIRN				IAML		08 27 06.0	
	comp=E,5μm,0.4s						
SIRN				IAML		08 27 08.0	
	comp=N,5μm,0.6s						
SIRT	**Sirnak**	**0.13**	**51**	PG	Pg	08 27 02.9	-1.4
SIRT				SG	Sg	08 27 05.3	-0.7
SRTM	**Siirt_Merkez**	**0.65**	**332**	*i*P	Pg	08 27 13.0	-1.3
SRTM				*i*S	Sg	08 27 22.5	-0.1
BTMN	**Batman**	**0.95**	**300**	*i*P	Pg	08 27 19.4	-0.6
BTMN				*i*S	Sb	08 27 34.0	-0.3
BLIS	**Bitlis-Merkez**	**1.00**	**351**	*i*P	Pg	08 27 20.7	-0.4
BLIS				*i*S	Sg	08 27 34.9	+0.7
CUKT	**Cukurca**	**1.05**	**99**	PG	Pg	08 27 21.5	-0.4
AKDM	**Akdamar-Van**	**1.05**	**30**	PG	Pg	08 27 21.1	-0.8
AKDM				SG	Sg	08 27 36.0	+0.4
GEVA	**Gevas**	**1.07**	**33**	*i*P	Pg	08 27 22.6	+0.2
GEVA				*i*S	Sg	08 27 35.7	-0.4
HAKT	**HAKKARI**	**1.12**	**83**	*i*P	Pg	08 27 23.6	+0.4
HAKT				*i*S	Sb	08 27 39.0	-0.3
SVAN	**Silvan-Diyarba**	**1.15**	**310**	PN	Pg	08 27 22.8	-1.0
SVAN				SN	Sb	08 27 39.5	-0.4
SVAN	**Silvan-Diyarba**	**1.15**	**310**	*i*P	Pg	08 27 22.5	-1.2
SVAN				*i*S	Sg	08 27 38.6	0.0
GURO	**Guroymak-BITLI**	**1.15**	**349**	PN	Pg	08 27 23.1	-0.8
GURO				SN	Sg	08 27 39.4	+0.6
MARD	**Mardin**	**1.23**	**266**	*i*P	Pg	08 27 24.0	-1.3
MARD				*i*S	Sg	08 27 39.7	-1.5
MARD				IAML		08 27 44.0	
	comp=E,115nm,0.3s						
MARD				IAML		08 27 50.0	
	comp=N,68nm,0.4s						
VRTB	**Varto-Mus**	**1.86**	**339**	PN	Pn	08 27 34.4	-0.7

*DDA **13** 08:27:23.3, 39°.94N×41°.80E, h14km±1km, ML2.5*

ISK 13 08:27:23.5, 39°.90N×41°.79E, h6km, ML2.2/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPR	**Koprukoy-ERZUR**	**0.10**	**30**	PG	Pg	08 27 26.2	+0.4
KOPR				SG	Sg	08 27 28.1	+0.7
HOMI	**Horasan**	**0.17**	**33**	*i*P	Pg	08 27 27.0	0.0
HOMI				*i*S	Sg	08 27 29.7	+0.4
HOMI				IAML		08 27 34.0	
	comp=E,2μm,0.6s						
HOMI				IAML		08 27 39.0	
	comp=N,2μm,0.3s						
ERZM	**Erzurum**	**0.33**	**270**	*i*P	Pg	08 27 30.7	+0.8
ERZM				*i*S	Sb	08 27 36.2	-1.3
EJDE	**Erzurum, Palan**	**0.38**	**260**	*i*P	Pg	08 27 31.6	+0.6
EJDE				*i*S	Sg	08 27 37.4	+1.3
EJDE				IAML		08 27 40.0	
	comp=N,452nm,0.3s						
EJDE				IAML		08 27 40.0	
	comp=E,877nm,0.3s						
AKDA	**Akdag**	**0.38**	**302**	*i*P	Pg	08 27 30.8	-0.2
ATA5	**Erzurum, Merke**	**0.42**	**270**	*i*P	Pb	08 27 32.6	-0.8
ATA5				*i*S	Sg	08 27 38.4	+1.2
ATA5				IAML		08 27 40.0	
	comp=E,452nm,0.3s						
EATA	**Eleskirt**	**0.54**	**94**	*i*P	Pg	08 27 33.9	-0.1
EATA				*i*S	Sg	08 27 41.7	+0.6
EMRE	**Erzurum,Aziziy**	**0.64**	**282**	*i*P	Pg	08 27 36.2	+0.4
EMRE				*i*S	Sb	08 27 45.7	-0.7
EMRE				IAML		08 27 47.0	
	comp=E,203nm,0.7s						
EMRE				IAML		08 27 52.0	
	comp=N,220nm,0.3s						
EKAR	**Karacoban**	**0.68**	**162**	*i*P	Pb	08 27 37.4	-0.5
EKAR				*i*S	Sb	08 27 48.4	+0.7
EKAR				IAML		08 28 39.0	
	comp=E,232nm,1.3s						
EKAR				IAML		08 28 43.0	
	comp=N,77nm,0.5s						
EKAR	**Karacoban**	**0.68**	**162**	*i*P	Pb	08 27 37.4	-0.5
EKAR				IAML		08 27 47.0	
	comp=N,231nm,1.2s						
EKAR				*i*S	Sb	08 27 48.5	+0.8
EKAR				IAML		08 27 58.0	
	comp=E,273nm,0.9s						
VRTB	**Varto-Mus**	**0.79**	**199**	PG	Pg	08 27 38.9	+0.3
VRTB				SG	Sb	08 27 50.4	-0.2
SENK	**Senkaya-Erzuru**	**0.79**	**33**	PG	Pg	08 27 39.0	+0.4
TUTA	**Tutak**	**0.94**	**122**	*i*P	Pg	08 27 41.3	-0.2
TUTA				*i*S	Sg	08 27 53.3	-0.4
TUTA				IAML		08 28 13.0	
	comp=N,42nm,0.5s						
TUTA	**Tutak**	**0.94**	**122**	*i*P	Pg	08 27 41.3	-0.2
TUTA				*i*S	Sg	08 27 53.5	-0.2
TUTA				IAML		08 27 57.0	
	comp=N,164nm,0.4s						
MLAZ	**Malazgirt-MUS**	**0.96**	**142**	PG	Pg	08 27 42.3	+0.3
MLAZ				SG	Sb	08 27 56.2	+0.4
AGRB	**Hanur-Agry**	**0.98**	**109**	PG	Pb	08 27 42.8	-0.3
AGRB				SG	Sb	08 27 56.9	+0.5
DDEM	**Demirkent**	**0.99**	**358**	*i*P	Pg	08 27 41.8	-0.7
DDEM				*i*S	Sb	08 27 55.9	-0.5
DDEM				IAML		08 28 01.0	
	comp=E,118nm,0.4s						
DDEM				IAML		08 28 03.0	
	comp=N,141nm,0.3s						
KOPT	**Kop Dagi**	**1.00**	**277**	*i*P	Pg	08 27 42.7	0.0
KOPT				*i*S	Sg	08 27 55.3	-0.4
YEDI	**Yedisu-Bingol**	**1.07**	**245**	PG	Pb	08 27 44.3	-0.2
YEDI				SG	Sb	08 27 59.5	+0.8
DBAD	**Bademkaya**	**1.12**	**356**	*i*P	Pg	08 27 44.1	-0.8
DBAD				*i*S	Sg	08 27 57.4	-2.0
MUSM	**Mu-Merkez**	**1.20**	**190**	*i*P	Pg	08 27 45.6	-0.8
MUSM				*i*S	Sg	08 28 01.0	-1.0
BAYB	**BAYBURT**	**1.23**	**287**	*i*P	Pn	08 27 48.1	+0.7
BAYB				*i*S	Sg	08 28 01.8	-1.2
BNGB	**Bingl**	**1.25**	**224**	PN	Pn	08 27 47.8	+0.1
BNGB				SN	Sn	08 28 05.6	+0.7
BAYT	**Aydıntepe-Bayb**	**1.35**	**292**	PN	Pg	08 27 49.5	0.0
DBOC	**Borcka**	**1.44**	**356**	*i*P	Pn	08 27 50.0	-0.2
DBOC				*i*S	Sb	08 28 05.8	-3.7
BCA	**Borcka**	**1.54**	**355**	PN	Pn	08 27 51.6	0.0

*ATH **13** 08:30:57.9, 40°.36N×21°.84E, h4km±35km, ML0.0, Error ellipse: s-maj=35.5km s-min=2.1km az=207.0, Suspected Mining explosion.*

THE 13 08:30:58.0, 40°.36N×21°.83E, h9km±2km, ML2.0/1, Error ellipse: s-maj=2.9km s-min=1.0km az=163.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.07**	**220**	P	Pg	08 30 59.5	-0.7
KZN				S	Sg	08 31 01.8	0.0
	1μm,0.6s						
KZN	**Kozani**	**0.07**	**220**	P	Pg	08 30 59.5	-0.7
KTI	**Kastanea**	**0.22**	**82**	P	Pg	08 31 01.8	-0.8
KTI				S	Sg	08 31 06.4	+0.7
KPRO	**Kipourio**	**0.54**	**222**	P	Pg	08 31 08.7	+0.1
KPRO	**Kipourio**	**0.54**	**222**	P	Pg	08 31 08.7	+0.1
PENT	**Pentalofos**	**0.56**	**253**	P	Pg	08 31 08.9	+0.1
PENT	**Pentalofos**	**0.56**	**253**	P	Pg	08 31 09.0	+0.2
NEST	**Nestorio**	**0.60**	**275**	P	Pg	08 31 09.1	-0.5
NEST	**Nestorio**	**0.60**	**275**	P	Pg	08 31 09.2	-0.4
THL	**Klokotos Trika**	**0.81**	**170**	P	Pg	08 31 12.9	-0.7
THL	**Klokotos Trika**	**0.81**	**170**	P	Pg	08 31 13.1	-0.5
XOR	**Xorichti**	**1.45**	**133**	P	Pb	08 31 25.1	+0.1

SKO 13 08:31:56.8, 40°.73N×22°.66E, h15km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.59**	**353**	*i*Pg	Pb	08 32 09.1	+0.1
VAY				*i*Sg	Sg	08 32 15.4	-1.1
VAY				*e*Lg	Lg	08 32 15.5	
	comp=N,21nm,0.3s						
VAY				*e*Lg	Lg	08 32 15.8	
	comp=E,16nm,0.5s						

*IDC **13** 08:33:50.4±2.6, 0°.43N×24°.21W, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.5/27, mbtmp3.8/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/31, Error ellipse: s-maj=124.2km s-min=42.2km az=136.0*

*NEIC **13** 08:33:51.7±1.3, 1°.0S±0°.2×23°.6W±0°.1, h10km±2km, mb4.3/5, Error ellipse: s-maj=29.6km s-min=19.7km az=160.0*

ISC 13 08:33:51.4±0.8, 0°.9S±0°.1×23°.59W±0°.10, h10km, n21, σ1§22/15, mb4.0/4, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**11.36**	**127**	T	T	08 48 08.4	
	baz=306,slow=73,SNR=105						
H10N2	**ASCENSION HYDR**	**11.37**	**127**	T	T	08 48 09.0	
	baz=306,slow=73,SNR=73						
H10N1	**ASCENSION HYDR**	**11.38**	**127**	T	T	08 48 07.6	
	baz=306,slow=73,SNR=60						
ASCN	**Ascension**	**11.53**	**127**	Pn	**Pn**	**08 36 36.0**	**-0.2**
H10S3	**ASCENSION HYDR**	**11.94**	**132**	T	T	08 48 43.0	
	baz=311,slow=74,SNR=9.2						
H10S2	**ASCENSION HYDR**	**11.95**	**132**	T	T	08 48 46.6	
	baz=269,slow=74,SNR=4.3						
RCBR	**Riachuelo**	**13.21**	**248**	Pn	**Pn**	**08 36 59.5**	**+0.3**
SACV	**Santiago Islan**	**15.80**	**360**	P	**P**	**08 37 38.6**	**+0.5**
LIC	**Lamto**	**19.85**	**69**	*e*P	**Pn**	**08 38 25.1**	**+0.8**
	5.3nm,0.5s						
TIC	**Toumodi**	**20.01**	**68**	*e*P	**P**	**08 38 24.9**	**+0.4**
KIC	**Kosan Boka**	**20.16**	**69**	*e*P	**P**	**08 38 26.9**	**+0.7**
	46nm,1.5s						
DBIC	**Dimbokro**	**20.17**	**68**	P	**P**	**08 38 27.0**	**+0.8**
	5.6nm,0.9s,baz=218,slow=13,SNR=4.3						
DBIC	**Dimbokro**	**20.17**	**68**	P	**P**	**08 38 27.2**	**+1.0**
BDFB	**Brasilia**	**28.18**	**238**	P	**P**	**08 39 44.7**	**+0.2**
BDFB				IAmb	IAmb	08 40 12.8	
	comp=Z,7.6nm,1.2s						
TOA0	**Torodi Ar. Sit**	**28.72**	**60**	P	**P**	**08 39 51.0**	**+1.8**
TOA0				IAmb	IAmb	08 40 11.0	
	comp=Z,6.2nm,1.4s						
TORD	**Torodi Ar. Bea**	**28.72**	**60**	P	**P**	**08 39 49.7**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=244,slow=9.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**28.72**	**60**	P	**P**	**08 39 48.9**	**-0.3**
SUR	**Sutherland**	**52.19**	**131**	LR	LR	09 02 26.2	
	comp=Z,118nm,20.6s,baz=3.0,slow=32						
BRTR	**Keskin Array B**	**65.98**	**45**	P	**P**	**08 44 35.3**	**-3.1**
	comp=Z,0.4nm,0.7s,baz=279,slow=10,SNR=1.5						
ASAR	**Alice Springs**	**147.19**	**140**	PKPbc	**PKiKP**	**08 53 39.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=216,slow=2.3,SNR=6.5						
WRA	**Warramunga Arr**	**150.02**	**135**	PKPbc	**PKPab**	**08 53 48.2**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=228,slow=2.6,SNR=2.5						

*NEIC **13** 08:36:12.5±1.1, 17°.04N±0°.06×145°.8E±0°.1, h56km±10km, mb4.5/15, Error ellipse: s-maj=15.7km s-min=6.0km az=61.0*

*IDC **13** 08:36:13.6±4.8, 16°.75N×146°.28E, h55km±42km, mb3.4/4, mb1 3.7/5, mb1mx3.3/41, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=104.4km s-min=26.9km az=107.0*

ISC 13 08:36:12.7±1.0, 17°.01N±0°.06×145°.7E±0°.2, h50km, n27, σ0§91/23, mb4.3/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.49**	**193**	P	**Pn**	**08 37 06.1**	**+1.5**
	14nm,0.3s,baz=289,slow=2.4,SNR=8.1						
GUMO				S	**Sn**	**08 37 43.4**	**-1.3**
	7.1nm,0.3s,baz=351,slow=22,SNR=1.4						
GUMO	**Guam**	**3.49**	**193**		**Pn**	**08 37 04.7**	**+0.1**
GUMO				Sn	**Sn**	**08 37 44.9**	**+0.2**
JCJ	**Chichijima**	**10.55**	**343**	Pn	**Pn**	**08 38 41.0**	**-0.4**
JMZ	**Minamidaito 2**	**16.07**	**306**		**Pn**	**08 39 57.5**	**+2.1**
JMZ				IAmb	IAmb	08 40 04.6	
	comp=Z,41nm,1.2s						
INU	**Inuyama**	**19.84**	**339**	P	**P**	**08 40 38.9**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**20.29**	**79**	T	T	09 01 42.5	
	baz=264,slow=74,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**20.30**	**79**	T	T	09 01 42.1	
	baz=264,slow=74,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**20.31**	**79**	T	T	09 01 39.9	
	baz=264,slow=74,SNR=7.1						
JMM	**Marumori**	**21.22**	**349**	P	**P**	**08 40 52.9**	**-1.5**
INCN	**Inchon**	**26.42**	**324**	P	**P**	**08 41 45.0**	**+0.2**
TARA	**Tarawa**	**30.97**	**117**	P	P	08 42 23.8	-1.7
PET	**Petropavlovsk**	**37.35**	**13**	P	P	08 43 16.8	-3.5
PET				IAmb	IAmb	08 43 44.1	
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**38.20**	**197**	P	**P**	**08 43 28.0**	**+0.2**
WB0				IAmb	IAmb	08 43 28.4	
	comp=Z,5.2nm,1.5s						
WR0	**Warramunga Arr**	**38.34**	**197**	P	**P**	**08 43 28.9**	**-0.1**
WR0				IAmb	IAmb	08 43 47.1	
	comp=Z,5.1nm,1.2s						
WRAB	**Tennant Creek**	**38.37**	**197**	P	**P**	**08 43 28.6**	**-0.7**
WRAB				IAmb	IAmb	08 43 36.7	
	comp=Z,6.3nm,1.3s						
WB2	**Warramunga Arr**	**38.38**	**197**	P	**P**	**08 43 29.5**	**+0.2**
WB2				IAmb	IAmb	08 43 44.4	
	comp=Z,4.8nm,1.2s						
WRA	**Warramunga Arr**	**38.38**	**197**	P	**P**	**08 43 28.6**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=27,slow=8.6,SNR=16						
WRA	**Warramunga Arr**	**38.38**	**197**	P	**P**	**08 43 29.2**	**-0.1**
HIA	**Hailar**	**38.45**	**333**	P	**P**	**08 43 29.0**	**-0.6**
AS31	**Alice Springs**	**42.03**	**196**	P	**P**	**08 43 59.0**	**-0.6**
ASAR	**Alice Springs**	**42.04**	**196**	P	**P**	**08 44 00.3**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=19,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**42.04**	**196**	P	**P**	**08 44 00.1**	**+0.4**
KIWB	**Kanaga Island**	**45.49**	**32**	P	P	08 44 26.0	-1.0
IPM	**Ipoh**	**45.50**	**259**	P	**P**	**08 44 26.3**	**-1.3**
IPM				IAmb	IAmb	08 44 40.9	
	comp=Z,9.6nm,1.0s						
BBOO	**Buckleboo**	**50.39**	**191**	P	**P**	**08 45 04.8**	**-0.2**
BBOO				IAmb	IAmb	08 45 17.1	
	comp=Z,18nm,1.4s						
ILAR	**Eielson Array**	**65.16**	**26**	P	**P**	**08 46 48.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=253,slow=5.6,SNR=2.4						
FINES	**FINESS Array B**	**88.41**	**335**	P	**P**	**08 49 00.2**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=42,slow=17,SNR=2.3						

NNC 13 09:28:30.2±3.6, 37°.70N×72°.00E, h0km, mb3.8, mpv3.5, 7C-2D, Error ellipse: s-maj=27.7km s-min=26.1km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.29**	**20**	⇑Pn	Pn	09 29 51.8	+1.2
	4.2nm,0.7s						
AAK				⇑Sn	Sn	09 30 53.9	+1.5
	15nm,1.0s						
KK31	**Karatay Array**	**5.51**	**349**	⇓Pn	Pn	09 29 54.7	+1.1
	1.1nm,0.3s,baz=166,slow=11,SNR=15						
KK31				⇑Pg	Pb	09 30 10.6	+3.2
	6.4nm,0.8s,baz=164,slow=15,SNR=9.4						
KK31				⇑Sn	Sn	09 30 59.6	+1.9
	2.1nm,0.4s						
KK31				⇑Lg	Lg	09 31 20.2	
	7.1nm,0.7s,baz=171,slow=29,SNR=4.2						
TKM2	**Tokmak 2**	**5.89**	**27**	⇓Pn	Pn	09 29 57.4	-1.6
	2.5nm,0.5s						
TKM2				⇑Lg	Lg	09 31 34.2	
	2.1nm,0.6s						
AB31	**Akbulak array**	**14.47**	**327**	⇑P	Pn	09 31 53.4	-2.7
	0.2nm,0.3s						

*ARE **13** 09:28:32±3.0, 16°.96S±0°.07×71°.74W±0°.07, h26km±3km, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0*

*NEIC **13** 09:28:34.8±1.8, 17°.07S±0°.07×71°.77W±0°.10, h61km±8km, mb4.6/28, ML4.4(ARE), Error ellipse: s-maj=13.7km s-min=9.5km az=72.0*

*IDC **13** 09:28:37.1±2.0, 17°.11S×71°.66W, h84km±18km, mb3.4/4, mb1 3.8/8, mb1mx3.6/28, mbtmp3.9/8, MS3.5/2, Ms1 3.5/2, ms1mx2.9/18, Error ellipse: s-maj=18.7km s-min=17.4km az=71.0*

ISC 13 09:28:32.4±0.5, 17°.00S±0°.05×71°.79W±0°.07, h35km, n71, σ1§89/75, mb4.5/17, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.94**	**135**	Pn	**Pn**	**09 29 04.6**	**+1.7**
PB12	**IPOC Station P**	**2.13**	**139**		**Pn**	**09 29 08.4**	**+2.9**
PB16	**IPOC Station P**	**2.55**	**122**		**Pn**	**09 29 14.1**	**+2.3**
MNMC	**Minye Minye**	**2.98**	**136**		**Pn**	**09 29 20.4**	**

PSGCX			Sn	Sn	09 29 56.2	+3.1
PB11	IPOC Station P	3.42 144	Pn	Pn	09 29 25.5	+2.2
PB11			Sn	Sn	09 30 04.8	+2.2
LPAZ	La Paz	3.58 79	P	Pn	09 29 30.5	+4.5
	16nm,0.3s,baz=283,slow=7.8,SNR=329					
LPAZ			S	Sn	09 30 10.9	+3.6
	baz=242,slow=20,SNR=1.1					
LPAZ	La Paz	3.58 79	Pn	Pn	09 29 30.3	+4.3
GO01	Chusmiza	3.62 138		Pn	09 29 29.5	+3.0
TA01	Diego Aracena	3.86 157		Pn	09 29 31.2	+2.0
PB08	IPOC Station P	4.00 142		Pn	09 29 34.4	+2.8
PB08			Sn	Sn	09 30 19.7	+2.2
PATCX	Punta Patache	4.11 158		Pn	09 29 34.9	+2.1
PB01	IPOC Station P	4.58 152		Pn	09 29 41.0	+1.8
PB01			Sn	Sn	09 30 32.1	+0.9
PB07	IPOC Station P	5.04 159		Pn	09 29 47.8	+2.2
PB07			Sn	Sn	09 30 42.0	-0.7
PB09	IPOC Station P	5.34 154		Pn	09 29 52.4	+2.5
PB09			Sn	Sn	09 30 50.5	+0.2
PB04	IPOC Station P	5.53 164	Pn	Pn	09 29 53.9	+1.5
PB04			Sn	Sn	09 30 55.7	+0.9
PB06	IPOC Station P	6.05 160		Pn	09 30 00.3	+0.8
PB06			Sn	Sn	09 31 07.8	+0.1
LVC	Limon Verde	6.21 155	P	Pn	09 30 04.5	+2.6
	6.5nm,0.3s,baz=350,slow=8.7,SNR=69					
LVC			S	Sn	09 31 12.7	+0.9
	7.5nm,0.3s,baz=156,slow=18,SNR=7.4					
LVC	Limon Verde	6.21 155	Pn	Pn	09 30 04.2	+2.3
PB15	IPOC Station P	6.55 161		Pn	09 30 07.6	+1.1
PB10	IPOC Station P	6.58 170	Pn	Pn	09 30 08.1	+1.4
NNA	Nana	6.98 315	P	Pn	09 30 18.6	+6.3
	1.7nm,0.3s,baz=170,slow=11,SNR=5.4					
NNA			S	Sn	09 31 35.0	+4.6
	1.4nm,0.3s,baz=206,slow=12,SNR=1.6					
NNA	Nana	6.98 315		Pn	09 30 16.6	+4.4
GO02	Mina Guanaco	8.38 166	Pn	Pn	09 30 33.1	+1.5
AC01	Pan de Azucar	9.17 173	Pn	Pn	09 30 42.9	0.7
SIV	San Ignacio	10.33 86	P	Pn	09 30 57.7	-0.5
	1.9nm,0.3s,baz=286,slow=10,SNR=39					
AC04	Llanos de Chal	11.17 177	Pn	Pn	09 31 08.7	-0.9
SAML	Samuel	11.59 47	Pn	Pn	09 31 14.1	-1.3
AC05	El Transito	11.87 174	Pn	Pn	09 31 19.3	0.0
CPUP	Villa Florida	16.32 127	P	Pn	09 32 17.3	-1.7
	0.1nm,0.3s,baz=315,slow=13,SNR=1.8					
H03N1	Juan Fernandez	17.58 200	T	T	09 50 38.3	
	baz=23,slow=73,SNR=931					
H03N2	Juan Fernandez	17.59 200	T	T	09 50 33.7	
	baz=23,slow=73,SNR=790					
H03N3	Juan Fernandez	17.60 200	T	T	09 50 37.1	
	baz=23,slow=73,SNR=967					
PTGA	Pitinga	19.92 37	P	P	09 32 59.1	-2.1
PLCA	Paso Flores	23.68 178	P	P	09 33 49.0	+8.1
	1.4nm,0.8s,baz=275,slow=22,SNR=1.7					
PCRV	Puerto La Cruz	27.91 15	LR	LR	09 46 48.5	
	comp=Z,235nm,18.6s,slow=39					
JTS	Las Juntas de	30.08 333	LR	LR	09 46 14.0	
	comp=Z,34nm,19.1s,baz=235,slow=35					
PDPR	Patillas Dam,	35.26 10	P	P	09 35 21.9	-1.9
CBYP	Canovanas	35.53 10	P	P	09 35 23.4	-2.9
V58A	Windy Hill, Pi	52.96 353	P	P	09 37 44.8	-0.5
V58A			IAmb	IAmb	09 37 45.5	
	comp=Z,8.6nm,0.9s					
V55A	Taylorsville	53.31 350	P	P	09 37 48.1	+0.1
T59A	Double "B" Far	53.95 354	P	P	09 37 52.2	-0.4
T59A			IAmb	IAmb	09 38 15.2	
	comp=Z,5.1nm,1.1s					
T57A	Hurt	54.16 353	P	P	09 37 54.0	-0.2
T57A			IAmb	IAmb	09 37 54.5	
	comp=Z,9.7nm,0.9s					
U49A	Red Boiling Sp	54.84 346	P	P	09 37 58.0	-1.1
U49A			IAmb	IAmb	09 38 18.2	
	comp=Z,6.5nm,1.4s					
S54A	Dingess, Beckl	55.24 351	P	P	09 38 01.1	-0.9
S54A			IAmb	IAmb	09 38 03.8	
	comp=Z,3.5nm,0.8s					
MIAR	Mount Ida	55.29 338	P	P	09 38 02.2	-0.2
MIAR			IAmb	IAmb	09 38 03.0	
	comp=Z,2.9nm,0.7s					
Q56A	Snyder Ridge,	56.17 353	P	P	09 38 09.0	+0.3
Q56A			IAmb	IAmb	09 38 09.6	
	comp=Z,7.5nm,0.8s					
P53A	Whipple	56.90 351	P	P	09 38 14.3	+0.5
P53A			IAmb	IAmb	09 38 37.6	
	comp=Z,15nm,1.4s					
O56A	Blue Knob Stat	57.32 354	P	P	09 38 17.5	+0.7
S39A	Bolivar	58.05 340	P	P	09 38 21.4	-0.5
S39A			IAmb	IAmb	09 38 21.7	
	comp=Z,3.9nm,0.8s					
R40A	Maddies Statio	58.26 341	P	P	09 38 22.6	-0.8
R40A			IAmb	IAmb	09 38 22.8	
	comp=Z,2.5nm,0.6s					
M56A	Emporium	58.48 354	P	P	09 38 24.4	-0.5
M55A	Ridgway	58.53 354	P	P	09 38 25.1	-0.1
L56A	Greenwood	59.08 355	P	P	09 38 28.8	-0.2
L56A			IAmb	IAmb	09 38 47.6	
	comp=Z,13nm,1.2s					
K58A	Earlville	59.57 357	P	P	09 38 32.1	-0.4
SDCO	Great Sand Dun	63.01 330	P	P	09 38 57.2	+1.0
BATG	Bathurst New B	64.18 4	P	P	09 39 03.4	0.0
BATG			IAmb	IAmb	09 39 16.5	
	comp=Z,11nm,1.2s					
ECSD	EROS Data Cent	64.57 340	P	P	09 39 05.6	-0.4
SNAA	Sanae	67.40 161	P	P	09 39 25.4	+1.5
B35A	Bob, Littlefor	67.95 344	P	P	09 39 27.0	-0.5
PDAR	Pinedale Array	68.87 331	P	P	09 39 33.6	-0.1
	comp=Z,0.2nm,0.5s,baz=122,slow=6.8,SNR=2.3					
PDAR	Pinedale Array	68.87 331	P	P	09 39 34.3	+0.5
NVAR	Mina Array Bea	70.28 323	P	P	09 39 42.5	0.0
	comp=Z,1.0nm,1.0s,baz=138,slow=7.3,SNR=5.1					
YNE	Yellowstone No	70.82 332	P	P	09 39 46.6	+0.9
TORD	Torodi Ar. Bea	78.51 72	P	P	09 40 28.1	-2.4
	comp=Z,1.1nm,0.7s,baz=254,slow=4.8,SNR=6.6					
TORD	Torodi Ar. Bea	78.51 72	P	P	09 40 28.3	-2.2
ESDC	Sonseca Array	84.61 46	P	P	09 41 01.2	-1.2
	comp=Z,0.4nm,0.8s,baz=262,slow=5.3,SNR=5.9					
ESDC	Sonseca Array	84.61 46	P	P	09 41 02.1	-0.3
ASAR	Alice Springs	132.42 213	PKP	PKPdf	09 47 43.4	-0.5
	comp=Z,0.3nm,0.8s,baz=135,slow=3.0,SNR=2.2					
WRA	Warramunga Arr	135.21 216	PKP	PKPdf	09 47 48.9	-0.2
	comp=Z,0.2nm,0.4s,baz=145,slow=1.7,SNR=9.9					
SONM	Songino Array	149.21 2	PKPbc	PKPbc	09 48 17.6	+0.2
	comp=Z,0.8nm,0.6s,baz=282,slow=1.5,SNR=3.0					

*IDC **13** 09:34:11.3±1.3, 12°.27N×143°.69E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.4/39, mbtmp3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/38, Error ellipse: s-maj=41.7km s-min=22.8km az=131.0*

ISC 13 09:34:15.2±1.0, 12°.2N±0°.2×143°.7E±0°.2, h25km, n14, σ0.97/8, mb3.8/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.75	40	Pn	Pn	09 34 44.0	0.0
	32nm,0.3s,baz=30,slow=3.0,SNR=29						
GUMO				LR	LR	09 34 55.0	
	comp=Z,23nm,18.6s,baz=210,slow=25						
GUMO				Sn	Sn	09 35 05.2	-0.4
	52nm,0.3s,baz=192,slow=23,SNR=15						
H11S3	WAKE ISLAND Hy	23.00	71	T	T	10 03 13.2	
H11S1	WAKE ISLAND Hy	23.02	71	T	T	10 03 13.2	
H11S2	WAKE ISLAND Hy	23.02	71	T	T	10 03 13.2	
H11N1	WAKE ISLAND Hy	23.48	69	T	T	10 03 46.1	
	baz=254,slow=74,SNR=3.9						
H11N2	WAKE ISLAND Hy	23.48	69	T	T	10 03 58.4	
	baz=140,slow=74,SNR=3.2						
H11N3	WAKE ISLAND Hy	23.49	69	T	T	10 03 48.2	
ASAJ	Asahikawa	31.77	358	LR	LR	09 52 53.1	
	comp=Z,29nm,20.1s,baz=328,slow=35						
WRA	Warramunga Arr	33.29	196	P	P	09 40 50.4	-0.5
	0.4nm,0.8s,baz=23,slow=7.7,SNR=2.9						
KURBB	Kurchatov Arra	64.92	320	P	P	09 44 53.1	+0.5
	0.3nm,0.4s,baz=105,slow=7.0,SNR=1.9						
ILAR	Eielson Array	70.26	25	P	P	09 45 24.9	-1.1
	0.3nm,0.4s,baz=251,slow=5.8,SNR=7.2						
BVAR	Borovoye Array	70.28	322	P	P	09 45 26.3	-0.1
	0.4nm,0.3s,baz=137,slow=7.7,SNR=2.5						
NVAR	Mina Array Bea	88.64	51	P	P	09 47 08.5	+1.7
	0.3nm,0.7s,baz=256,slow=4.9,SNR=3.8						
FINES	FINESS Array B	91.89	335	P	P	09 47 21.0	-0.1
	0.5nm,0.4s,baz=69,slow=6.3,SNR=5.8						

*IDC **13** 09:41:00.8±2.0, 39°.00N×105°.91E, h0km, mb3.6/5, mb1 3.6/8, mb1mx3.3/50, mbtmp3.5/8, ML3.4/2, Error ellipse: s-maj=32.9km s-min=29.7km az=102.0*

ISC 13 09:41:02.6±1.3, 39°.00N±0°.1×105°.9E±0°.1, h10km, n9, σ0.96/10, mb3.7/4, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	8.80	2	Pn	Pn	09 43 09.2	-0.7
	0.6nm,0.3s,baz=184,slow=14,SNR=3.9						
SONM				Pg	Pg	09 43 43.6	-7.5
	0.9nm,0.3s,baz=192,slow=16,SNR=3.1						
SONM				Sn	Sn	09 44 50.1	+0.8
	0.3nm,0.3s,baz=191,slow=20,SNR=2.6						
SONM				Lg	Lg	09 45 40.8	
	0.4nm,0.3s,baz=174,slow=29,SNR=2.3						
KSRS	Korea Array	17.38	88	P	Pn	09 45 05.2	+0.1
	baz=280,slow=12,SNR=2.4						
MKAR	Makanchi Array	18.90	302	P	P	09 45 23.8	+0.6
	0.1nm,0.3s,baz=116,slow=41,SNR=2.7						
ZALV	Zalesovo Beam	20.69	323	P	P	09 45 42.5	-0.1
	1.1nm,0.6s,baz=123,slow=11,SNR=4.1						
KURBB	Kurchatov Arra	22.46	310	P	P	09 46 02.7	+1.0
	1.3nm,0.6s,baz=109,slow=12,SNR=8.3						
BVAR	Borovoye Array	28.01	312	P	P	09 46 54.2	+0.7
	1.1nm,0.5s,baz=108,slow=13,SNR=6.2						
BRTR	Keskin Array B	54.38	295	P	P	09 50 28.5	-1.2
	0.2nm,0.3s,baz=64,slow=6.6,SNR=2.6						
NOA	NORSAR Array B	58.87	325	P	P	09 51 00.7	-0.4
	0.6nm,0.7s,baz=63,slow=7.0,SNR=2.5						
BDFB	Brasilia	147.34	308	PKPbc	PKPdf	10 00 45.9	+1.3
	1.4nm,0.4s,baz=62,slow=5.6,SNR=3.3						

*IDC **13** 09:42:22.1±0.6, 31°.28N×140°.94E, h0km, mb3.9/17, mb1 4.1/18, mb1mx3.9/42, mbtmp3.9/18, ML3.6/1, MS2.6/4, Ms1 2.6/4, ms1mx2.5/42, Error ellipse: s-maj=27.5km s-min=14.9km az=69.0*

*NEIC **13** 09:42:28.4±1.6, 31°.43N±0°.06×141°.0E±0°.1, h40km±4km, mb4.3/14, Error ellipse: s-maj=17.5km s-min=7.1km az=73.0*

*JMA **13** 09:42:29.2±0.2, 31°.84N×141°.06E, h3km, M4.3*

*NIED **13** 09:42:29.2, 31°.84N×141°.06E, h3km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}1.06; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-1.23; $M_{r\theta}$0.38; $M_{\theta\phi}$0.21; $M_{\phi r}$-0.75; Fault plane solution: $M_0$1.44000×1015 NP1: ϕ_s160.00000°, δ63.00000°, λ78.00000°. NP2:ϕ_s6.00000°, δ29.00000°, λ113.00000°.*

ISC 13 09:42:28.5±1.1, 31°.44N±0°.05×141°.04E±0°.08, h41km±11km, n86, σ1.57/85, mb4.0/23, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.49	314	P	Pn	09 42 53.0	+0.2
JHCJ	Hachijojimakas	1.94	328	P	Pn	09 42 58.7	-0.3
JHCJ				S	Sn	09 43 19.8	-2.3
JHJ2	Mitsune	1.96	329	P	Pn	09 42 59.3	0.0
JHJ2				S	Sn	09 43 20.4	-2.3
JHJ2	Mitsune	1.96	329		Pn	09 42 59.5	+0.2
JHJ2				Sn	Sn	09 43 20.3	-2.3
JHJ	Hachijo jima 2	1.99	328	Pn	Pn	09 42 59.4	-0.2
	51nm,0.3s,baz=104,slow=23,SNR=35						
JHJ				Sn	Sn	09 43 19.4	-3.8
	161nm,0.3s,baz=259,slow=23,SNR=16						
JHJ				LR	LR	09 43 48.9	
	comp=Z,104nm,21.8s,baz=164,slow=42						
JMKN	Mikurajimanish	2.74	334	P	Pn	09 43 10.0	+0.1
JMKN				eS	Sn	09 43 38.7	-3.0
JKO	Kozu shima	3.17	330	P	Pn	09 43 17.3	+1.4
JOD2	Odawara 2	4.15	337	P	Pn	09 43 29.7	+0.4
CBIJ	Chichi jima	4.44	167	P	Pn	09 43 33.8	+0.5
CBIJ				eS	Sn	09 44 21.5	-2.3
JCJ	Chichijima	4.44	167	Pn	Pn	09 43 33.1	-0.3
	8.6nm,0.3s,baz=90,slow=23,SNR=10						
JCJ				Sn	Sn	09 44 21.7	-2.1
	22nm,0.3s,baz=102,slow=24,SNR=7.3						
JCJ	Chichijima	4.44	167		Pn	09 43 33.3	-0.1
JCJ					Sn	09 44 22.5	-1.3
JYN	Shimob	4.55	333	P	Pn	09 43 36.1	+1.2
JIE	Ise	4.69	310	P	Pn	09 43 38.7	+2.0
JYT	Yasato	4.83	352	Pn	Pn	09 43 39.2	+0.6
JRY	Ryogami san	4.90	339	P	Pn	09 43 40.8	+1.1
JTNC	Tanabenakahech	5.16	299	P	Pn	09 43 44.8	+1.6
JGF	Kuroka	5.17	324		Pn	09 43 46.6	+3.3
MJAR	Matsushiro Arr	5.61	336	Pn	Pn	09 43 51.5	+2.1
	0.3nm,0.3s,baz=169,slow=15,SNR=32						
MJAR				LR	LR	09 46 14.7	
	comp=Z,36nm,21.1s,baz=225,slow=41						
MJAR	Matsushiro Arr	5.61	336	Pn	Pn	09 43 51.8	+2.4
MAJO	Matsushiro	5.61	336	Pn	Pn	09 43 52.7	+3.3
MAT	Matsushiro	5.61	336	P	Pn	09 43 52.1	+2.7
MAT				eS	Sn	09 44 53.1	+0.6
JMM	Marumori	6.42	358		Pn	09 44 00.1	-0.3
JMM				Sn	Sn	09 45 11.1	-1.2
JSD	Sado	6.97	342	Pn	Pn	09 44 12.5	+4.5
JMK	Ichinoseki	7.50	1	P	Pn	09 44 14.4	-0.9
JNU	Nakatsue	8.77	284	LR	LR	09 47 50.5	
	comp=Z,74nm,18.7s,baz=193,slow=38						
JTM	Tenmabayashi	9.33	0	Pn	Pn	09 44 41.9	+1.6
ERM	Erimo	10.69	9	Pn	Pn	09 44 59.0	0.0
KSRS	Korea Array	12.37	303	Pn	Pn	09 45 24.5	+2.5
	0.2nm,0.3s,baz=113,slow=13,SNR=2.6						
KSRS				LR	LR	09 50 03.0	
	comp=Z,42nm,18.2s,baz=215,slow=37						
GUMO	Guam	18.11	168	P	P	09 46 38.0	+1.1
	6.0nm,0.3s,baz=185,slow=8.7,SNR=4.9						
GUMO	Guam	18.11	168	P	P	09 46 38.5	+1.6
YULB	Yu-li	19.25	250	P	P	09 46 48.6	-0.9
YULB				IAmb	IAmb	09 46 58.3	
	comp=Z,7.5nm,0.6s						
SSLB	Suanglung	19.34	252		Pn	09 46 51.5	-0.3
H11N2	WAKE ISLAND Hy	26.00	110	T	T	10 15 07.5	
	SNR=11						
H11N1	WAKE ISLAND Hy	26.01	110	T	T	10 15 07.5	
	baz=209,slow=74,SNR=10						
H11N3	WAKE ISLAND Hy	26.02	110	T	T	10 15 07.5	
	baz=304,slow=74,SNR=9.6						
H11S3	WAKE ISLAND Hy	26.51	113	T	T	10 15 43.3	
	baz=304,slow=76,SNR=5.7						
H11S1	WAKE ISLAND Hy	26.51	113	T	T	10 15 43.3	
	baz=304,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	26.52	113	T	T	10 15 43.3	
	baz=304,slow=76,SNR=23						
SONM	Songino Array	30.98	312	P	P	09 48 41.1	-0.8
	comp=Z,0.8nm,0.6s,baz=120,slow=8.8,SNR=3.8						
ZALV	Zalesovo Beam	45.61	317	P	P	09 50 43.8	-0.7
	comp=Z,0.7nm,0.5s,baz=111,slow=8.1,SNR=3.6						
ZALV				PcP	PcP	09 52 21.2	-1.0
	comp=Z,0.6nm,0.3s,baz=131,slow=4.5,SNR=3.6						
ZALV	Zalesovo Beam	45.61	317	P	P	09 50 44.0	-0.4
MK31	Makanchi Array	47.02	307	P	P	09 50 55.6	-0.1
MK31				IAmb	IAmb	09 50 57.4	
	comp=Z,1.4nm,0.8s						
MKAR	Makanchi Array	47.02	307	P	P	09 50 55.0	-0.7
	comp=Z,1.2nm,0.7s,baz=88,slow=9.5,SNR=12						
MKAR				PcP	PcP	09 52 26.7	-0.7
	comp=Z,0.5nm,0.6s,baz=96,slow=3.9,SNR=2.4						
MKAR	Makanchi Array	47.02	307	P	P	09 50 55.3	-0.3
KURK	Kurchatov	49.29	312	P	P	09 51 12.8	-0.3
KURK	Kurchatov	49.29	312	IAmb	IAmb	09 51 13.1	
	comp=Z,3.6nm,1.2s						
KURBB	Kurchatov Arra	49.35	312	P	P	09 51 12.8	-0.7
	comp=Z,1.5nm,0.2s,baz=88,slow=7.7,SNR=7.7						
CTAO	Charters Tower	51.47	174	P	P	09 51 30.3	+0.5
WR0	Warramunga Arr	51.48	188	P	P	09 51 28.6	-1.4
WR0				IAmb	IAmb	09 51 31.6	
	comp=Z,2.8nm,0.9s						
WB2	Warramunga Arr	51.49	188	P	P	09 51 28.4	-1.5
WB2				IAmb	IAmb	09 51 36.2	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	51.49	188	P	P	09 51 28.4	-1.6
	comp=Z,1.2nm,0.6s,baz=4.7,slow=7.7,SNR=19						
WRA	Warramunga Arr	51.49	188	P	P	09 51 28.3	-1.6
BOOM	Boomskoye usch	52.01	302	P	P	09 51 33.1	-0.8
BOOM				IAmb	IAmb	09 51 39.5	
	comp=Z,13nm,1.2s						
BVAR	Borovoye Array	54.22	315	P	P	09 51 50.7	+0.9
	comp=Z,1.3nm,0.4s,baz=232,slow=42,SNR=3.9						
ILAR	Eielson Array	54.43	30	P	P	09 51 55.0	+3.8
	comp=Z,0.2nm,0.5s,baz=254,slow=6.2,SNR=2.0						
AS31	Alice Springs	55.21	188	P	P	09 51 56.6	-0.7
ASAR	Alice Springs	55.22	188	P	P	09 51 55.8	-1.6
	comp=Z,0.9nm,0.5s,baz=340,slow=6.9,SNR=21						
ASAR				PcP	PcP	09 52 58.0	+0.1
	comp=Z,0.4nm,0.8s,baz=8.4,slow=5.7,SNR=1.7						
ASAR	Alice Springs	55.22	188	P	P	09 51 56.2	-1.1
BMAR	Burnt Mountain	55.42	27	P	P	09 52 00.9	+2.6
KKAR	Karatay Array	55.80	303	P	P	09 52 01.9	+0.5
CRQM	Cirque	56.29	35	P	P	09 52 04.5	-0.4
BCAR	Beaver Creek A	56.74	32	P	P	09 52 07.2	-0.6
PCA	Pinnacle	57.79	36	P	P	09 52 12.5	-2.9
ABKAR	Akbulak array	61.39	312	P	P	09 52 40.8	+0.6
STKA	Stephens Creek	62.97	179	P	P	09 52 49.0	-1.8
	comp=Z,1.4nm,0.7s,baz=350,slow=9.0,SNR=4.7						
STKA	Stephens Creek	62.97	179	P	P	09 52 51.1	+0.3
ARCES	ARCESS Array B	69.13	340	P	P	09 53 30.6	+0.6
	comp=Z,2.8nm,1.1s,baz=60,slow=12,SNR=1.5						
FINES	FINESS Array B	73.63	333	P	P	09 53 58.1	+0.9
	comp=Z,0.6nm,0.4s,baz=86,slow=5.7,SNR=9.2						
FINES	FINESS Array B	73.63	333	P	P	09 53 57.6	+0.4
KBZ	Khabaz	74.35	312	P	P	09 54 02.3	+0.5
	comp=Z,1.9nm,0.7s,baz=117,slow=10.0,SNR=3.0						
AKASG	Malin Array Be	78.55	323	P	P	09 54 25.6	+0.2
	comp=Z,0.3nm,0.3s,baz=51,slow=5.1,SNR=2.7						
NVAR	Mina Array Bea	78.63	52	P	P	09 54 27.4	+0.9
	comp=Z,0.3nm,0.5s,baz=285,slow=6.4,SNR=2.7						
NVAR	Mina Array Bea	78.63	52	P	P	09 54 27.2	+0.8
NB2	NORSAR Subarra	79.22	338	P	P	09 54 28.7	-0.3
	comp=Z,4.6nm,1.1s,baz=42,slow=5.3						
NOA	NORSAR Array B	79.22	338	P	P	09 54 28.6	-0.3
	comp=Z,1.4nm,0.8s,baz=42,slow=5.4,SNR=6.9						
PDAR	Pinedale Array	81.83	45	P	P	09 54 44.5	+0.9
	comp=Z,0.1nm,0.4s,baz=11,slow=1.8,SNR=4.0						
BRTR	Keskin Array B	82.34	312	P	P	09 54 46.7	+0.5
	comp=Z,0.4nm,0.7s,baz=77,slow=3.1,SNR=2.5						
BURAR	Bucovina Array	82.51	322	P	P	09 54 46.7	-0.2
TXAR	Lajitas Array	93.78	52	P	P	09 55 42.3	+0.7
	comp=Z,0.2nm,0.4s,baz=97,slow=20,SNR=2.9						
H03N2	Juan Fernandez	146.35	104	T	T	12 44 46.4	
	baz=271,slow=74,SNR=3.9						
H03N3	Juan Fernandez	146.36	104	T	T	12 44 49.6	
	baz=236,slow=74,SNR=3.6						
H03N1	Juan Fernandez	146.37	104	T	T	12 44 45.5	
H03S2	Juan Fernandez	146.40	105	T	T	12 44 46.2	
	baz=248,slow=75,SNR=8.9						
H03S3	Juan Fernandez	146.42	105	T	T	12 44 45.9	
	baz=248,slow=75,SNR=11						
H03S1	Juan Fernandez	146.42	105	T	T	12 44 47.1	
	baz=248,slow=75,SNR=9.6						
LPAZ	La Paz	149.48	67	PKPbc	PKiKP	10 02 14.2	-1.4
	comp=Z,1.6nm,0.8s,baz=9.1,slow=1.9,SNR=8.3						

*IDC **13** 09:49:49.2±1.3, 31°.22N×140°.69E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/42, mbtmp3.5/6, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/36, Error ellipse: s-maj=69.4km s-min=20.5km az=78.0*

*JMA **13** 09:49:55.5±0.3, 31°.82N×141°.07E, h4km, M4.0*

ISC 13 09:49:50.3±1.0, 31°.4N±0°.1×141°.0E±0°.2, h10km, n19, σ2.30/21, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.49	318	P	Pg	09 50 19.6	+0.7
JHCJ	Hachijojimakas	1.96	331	P	Pn	09 50 25.2	+1.5
JHCJ				S	Sn	09 50 46.7	-1.7
JHJ2	Mitsune	1.99	332	P	Pn	09 50 25.9	+1.9
JHJ2				S	Sn	09 50 47.1	-1.9
JHJ	Hachijo jima 2	2.01	331	Pn	Pn	09 50 25.8	+1.5
	28nm,0.3s,baz=47,slow=23,SNR=36						
JHJ				Sn	Sn	09 50 45.2	-4.3
	29nm,0.3s,baz=71,slow=24,SNR=6.5						
JOD2	Odawara 2	4.19	339	P	Pn	09 50 55.8	+1.5
JCJ	Chichijima	4.39	165	Pn	Pn	09 51 00.5	+3.5
	7.0nm,0.3s,baz=341,slow=22,SNR=7.3						
JCJ				Sn	Sn	09 51 45.9	-2.3
	6.7nm,0.3s,baz=284,slow=23,SNR=1.4						
JHU	Hanno	4.69	343	P	Pn	09 51 03.5	+2.3
JHU				S	Sn	09 51 51.8	-3.8
MJAR	Matsushiro Arr	5.64	337	Pn	Pn	09 51 18.3	+4.0
	0.2nm,0.3s,baz=91,slow=15,SNR=7.1						
MAT	Matsushiro	5.65	337	P	Pn	09 51 16.2	+1.9
MAT				eS	Sn	09 52 18.5	-0.8
H11S3	WAKE ISLAND Hy	26.55	113	T	T	10 24 05.7	
	baz=304,slow=75,SNR=8.6						
H11S1	WAKE ISLAND Hy	26.55	113	T	T	10 24 05.7	
	baz=304,slow=75,SNR=8.5						
H11S2	WAKE ISLAND Hy	26.57	113	T	T	10 24 05.7	
	baz=304,slow=75,SNR=7.8						
SONM	Songino Array	30.97	312	LR	LR	10 09 11.5	
	comp=Z,54nm,18.1s,baz=195,slow=38						
MKAR	Makanchi Array	47.00	307	P	P	09 58

*IDC **13** 10:04:07.6±7.4, 30°.35S×178°.26W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/28, mbtmp3.4/2, Error ellipse: s-maj=303.8km s-min=60.0km az=155.0*
*WEL **13** 10:06:21.7, 38°S±105°×17°7E±5°6, h66km±58km, M2.2/7, ML2.3/6, MLv2.2/7, Error ellipse: s-maj=0.2km s-min=0.1km az=167.4*

ISC 13 10:04:35.0±2.3, 30°.2S±0°.1×178°.1E±0°.2, h10km, n33, σ2°78/45, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**7.54**	**182**	P	**Pn**	**10 06 27.2**	**+2.2**
HAZ	**Te Kaha**	**7.54**	**182**	P	**Pn**	**10 06 23.8**	**-1.2**
HAZ				S	**Sn**	**10 07 53.0**	**+2.5**
RUGZ	**Raukumara Rang**	**7.75**	**182**	P	**Pn**	**10 06 32.2**	**+4.2**
RUGZ	**Raukumara Rang**	**7.75**	**182**	P	**Pn**	**10 06 28.8**	**+0.8**
RUGZ				S	**Sn**	**10 07 59.7**	**+3.9**
PUZ	**Puketiti**	**7.85**	**179**	P	**Pn**	**10 06 28.2**	**-1.1**
PUZ	**Puketiti**	**7.85**	**179**	P	**Pn**	**10 06 27.0**	**-2.3**
PUZ				S	**Sn**	**10 07 55.8**	**-2.4**
URZ	**Urewera**	**8.07**	**185**	P	**Pn**	**10 06 35.1**	**+2.7**
URZ	**Urewera**	**8.07**	**185**	P	**Pn**	**10 06 33.1**	**+0.8**
URZ				S	**Sn**	**10 08 11.0**	**+7.2**
MWZ	**Matawai**	**8.12**	**183**	P	**Pn**	**10 06 36.1**	**+3.1**
CNGZ	**Carnagh Statio**	**8.26**	**179**	P	**Pn**	**10 06 34.0**	**-0.9**
MUGZ	**Murupara**	**8.32**	**187**	P	**Pn**	**10 06 38.9**	**+3.1**
TLZ	**Tolley Road**	**8.37**	**194**	P	Pn	10 06 48.9	+12
TLZ	**Tolley Road**	**8.37**	**194**	P	Pb	10 06 49.5	-11
RIGZ	**Rimuhau**	**8.48**	**182**	P	**Pn**	**10 06 39.4**	**+1.4**
SNGZ	**Shannon Statio**	**8.58**	**184**	P	**Pn**	**10 06 37.5**	**-1.9**
SNGZ				S	**Sn**	**10 08 17.0**	**+0.8**
HIZ	**Hauiti**	**8.71**	**197**	P	Pn	10 06 56.4	+15
NMHZ	**Naumai**	**8.93**	**186**	P	**Pn**	**10 06 45.5**	**+1.3**
ARHZ	**Aropaoanui**	**9.08**	**185**	P	**Pn**	**10 06 45.4**	**-0.8**
ARHZ				S	**Sn**	**10 08 28.4**	**-0.1**
KWHZ	**Kaweka Forest**	**9.30**	**188**	P	**Pn**	**10 06 52.5**	**+3.3**
MRZ	**Mangatainoka R**	**10.63**	**190**	P	**Pn**	**10 07 04.4**	**-3.0**
MRZ				S	**Sn**	**10 09 03.4**	**-3.1**
OGWZ	**Otaki Gorge**	**10.85**	**192**	P	**Pn**	**10 07 08.6**	**-1.8**
OGWZ				S	**Sn**	**10 09 11.0**	**-0.9**
HOWZ	**Holdsworth Sta**	**10.87**	**190**	P	**Pn**	**10 07 08.8**	**-1.9**
HOWZ				S	**Sn**	**10 09 08.6**	**-3.8**
MTW	**Mount Morrison**	**11.13**	**190**	P	**Pn**	**10 07 14.5**	**+0.2**
MTW				S	**Sn**	**10 09 13.8**	**-4.9**
CAW	**Cannon Point**	**11.15**	**192**	P	Pn	10 07 09.9	-4.6
CAW				S	**Sn**	**10 09 17.8**	**-1.5**
NNZ	**Nelson**	**11.63**	**198**	P	**Pn**	**10 07 23.9**	**+2.8**
NNZ				S	**Sn**	**10 09 36.4**	**+5.4**
TUWZ	**Tuamarina**	**11.69**	**196**	P	**Pn**	**10 07 23.0**	**+1.0**
TUWZ				S	**Sn**	**10 09 32.5**	**0.0**
THZ	**Tophouse**	**12.27**	**199**	P	**Pn**	**10 07 31.9**	**+2.0**
THZ				S	**Sn**	**10 09 49.9**	**+3.2**
KHZ	**Kahutara**	**12.72**	**195**	P	**Pn**	**10 07 34.7**	**-1.3**
KHZ				S	**Sn**	**10 09 52.8**	**-4.9**
LTZ	**Lake Taylor**	**13.39**	**199**	P	**Pn**	**10 07 44.7**	**-0.5**
LTZ				S	**Sn**	**10 10 11.2**	**-2.8**
OXZ	**Oxford**	**13.96**	**199**	P	**Pn**	**10 07 52.5**	**-0.3**
OXZ				S	**Sn**	**10 10 24.2**	**-3.7**
ASAR	**Alice Springs**	**39.73**	**269**	P	**P**	**10 12 08.0**	**0.0**
	0.3nm,0.5s,baz=106,slow=7.4,SNR=7.3						
WRA	**Warramunga Arr**	**40.71**	**274**	P	**P**	**10 12 15.8**	**-0.3**
	0.2nm,0.3s,baz=110,slow=8.1,SNR=26						
FINES	**FINESS Array B**	**143.74**	**338**	PKPbc	PKPab	10 23 44.8	-22
	2.5nm,0.5s,baz=66,slow=4.6,SNR=4.1						

*JMA **13** 10:11:49.9±0.2, 27°.76N×140°.50E, h509km±3km, M4.3*
*IDC **13** 10:11:49.9±0.5, 27°.54N×139°.98E, h488km±5km, mb3.6/25, mb1 3.7/30, mb1mx3.7/46, mbtmp4.4/30, Error ellipse: s-maj=10.8km s-min=6.7km az=82.0*
*NEIC **13** 10:11:50.8±1.4, 27°.62N±0°.08×139°.9E±0°.1, h490km±2km, mb4.3/92, Error ellipse: s-maj=13.7km s-min=12.1km az=108.0*

ISC 13 10:11:51.2±0.3, 27°.62N±0°.05×140°.03E±0°.05, h500km, n221, σ1°40/251, mb4.3/71, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.99**	**105**	P	**P**	**10 12 54.6**	**-1.6**
CBIJ				*eS*	**S**	**10 13 45.4**	**-3.6**
JCJ	**Chichijima**	**1.99**	**105**	P	**P**	**10 12 54.8**	**-1.4**
	431nm,0.3s,baz=276,slow=4.4,SNR=118						
JCJ				S	**S**	**10 13 45.9**	**-3.2**
	186nm,0.3s,baz=283,slow=23,SNR=12						
JHH2	**Haha-jima-NKT2**	**2.15**	**117**	P	**P**	**10 12 55.9**	**-1.2**
JHH2				*eS*	**S**	**10 13 48.0**	**-2.6**
JAOM	**Aogashimamukai**	**4.83**	**357**	*eS*	**S**	**10 14 23.5**	**-2.9**
JHCJ	**Hachijojimakas**	**5.44**	**358**	*eS*	**S**	**10 14 32.5**	**-3.9**
JHJ2	**Mitsune**	**5.48**	**358**	*eS*	**S**	**10 14 33.5**	**-3.6**
JHJ2	**Mitsune**	**5.48**	**358**	P	**P**	**10 13 21.8**	**-0.6**
JHJ2				S	**S**	**10 14 36.0**	**-1.0**
JHJ	**Hachijo jima 2**	**5.49**	**358**	P	**P**	**10 13 21.3**	**-1.2**
	16nm,0.3s,baz=274,slow=24,SNR=13						
JHJ				S	**S**	**10 14 33.4**	**-3.8**
	19nm,0.3s,baz=73,slow=23,SNR=3.0						
BSO1	**Boso 1**	**7.06**	**6**	P	**P**	**10 13 37.1**	**-0.1**
BSO1				*eS*	**S**	**10 15 02.1**	**-2.2**
BSO3	**Boso 3**	**7.17**	**3**	S	**S**	**10 15 03.3**	**-3.6**
JIE	**Ise**	**7.33**	**338**	P	**P**	**10 13 41.7**	**+1.1**
BSO4	**Boso 4**	**7.35**	**2**	*eS*	**S**	**10 15 07.1**	**-3.4**
JOD2	**Odawara 2**	**7.66**	**354**	P	**P**	**10 13 43.3**	**-0.7**
JOD2				*eS*	**S**	**10 15 13.2**	**-3.4**
JNY	**Yasuok**	**7.94**	**347**	P	**P**	**10 13 46.7**	**-0.2**
JMN	**Monobe**	**8.07**	**320**	P	**P**	**10 13 48.0**	**-0.2**
JMZ	**Minamidaito 2**	**8.08**	**259**	P	**P**	**10 13 48.0**	**-0.4**
JMZ	**Minamidaito 2**	**8.08**	**259**	P	**P**	**10 13 48.2**	**-0.2**
INU	**Inuyama**	**8.12**	**342**	P	**P**	**10 13 50.9**	**+2.2**
JHU	**Hanno**	**8.23**	**356**	P	**P**	**10 13 49.2**	**-0.7**
JHU				*eS*	**S**	**10 15 21.2**	**-6.1**
JGF	**Kuroka**	**8.28**	**345**	P	**P**	**10 13 50.1**	**-0.2**
JRY	**Ryogami san**	**8.43**	**354**	P	**P**	**10 13 50.8**	**-1.1**
JRY				*eS*	**S**	**10 15 27.0**	**-4.1**
JYT	**Yasato**	**8.59**	**1**	P	**P**	**10 13 51.9**	**-1.6**
JYT	**Yasato**	**8.59**	**1**	P	**P**	**10 13 52.9**	**-0.6**
JYT				S	**S**	**10 15 32.7**	**-1.3**
JWT	**Wachi**	**8.60**	**334**	P	**P**	**10 13 53.4**	**-0.2**
JAG	**Ashikaga**	**8.79**	**357**	P	**P**	**10 13 53.9**	**-1.8**
JAG				S	**S**	**10 15 32.1**	**-5.9**
JHO	**Hitachi**	**8.98**	**3**	P	**P**	**10 13 56.9**	**-0.7**
JHO				S	**S**	**10 15 36.8**	**-4.8**
MJAR	**Matsushiro Arr**	**9.03**	**351**	P	**P**	**10 13 57.0**	**-1.2**
	0.2nm,0.3s,baz=190,slow=22,SNR=4.0						
MJAR				S	**S**	**10 15 39.1**	**-3.5**
	0.1nm,0.3s,baz=224,slow=33,SNR=5.0						
MJAR	**Matsushiro Arr**	**9.03**	**351**	P	**P**	**10 13 57.2**	**-1.0**
MAJO	**Matsushiro**	**9.03**	**351**	P	**P**	**10 13 57.9**	**-0.3**
MAT	**Matsushiro**	**9.03**	**351**	P	**P**	**10 13 58.0**	**-0.2**
MAT				S	**S**	**10 15 38.9**	**-3.7**
JSU	**Suzuyama**	**9.19**	**297**	P	**P**	**10 13 59.3**	**-0.7**
JHS	**Saijyo**	**9.44**	**323**	P	**P**	**10 14 02.3**	**-0.2**
JNU	**Nakatsue**	**9.62**	**307**	P	**P**	**10 14 05.7**	**+1.2**
	0.9nm,0.3s,baz=33,slow=4.7,SNR=9.7						
JNU	**Nakatsue**	**9.62**	**307**	P	**P**	**10 14 06.5**	**+2.0**
JAMN	**Amaminishikomi**	**9.62**	**276**	P	**P**	**10 14 06.0**	**+1.5**
JAMN				*eS*	**S**	**10 15 55.6**	**+1.4**
JMM	**Marumori**	**10.24**	**3**	P	**P**	**10 14 11.1**	**+0.2**
JMM				S	**S**	**10 16 04.9**	**-1.0**
JOW	**Kunigami**	**10.49**	**268**	P	**P**	**10 14 15.1**	**+1.3**
JSD	**Sado**	**10.49**	**352**	P	**P**	**10 14 12.9**	**-0.7**
JMK	**Ichinoseki**	**11.35**	**5**	P	**P**	**10 14 23.1**	**+0.5**
JTU	**Tsushima**	**11.42**	**310**	P	**P**	**10 14 24.2**	**+0.8**
JTM	**Tenmabayashi**	**13.16**	**3**	P	**P**	**10 14 42.1**	**+0.2**
JOT	**Ohata**	**13.76**	**3**	P	**P**	**10 14 48.4**	**+0.3**
KSRS	**Korea Array**	**14.14**	**317**	P	**P**	**10 14 51.2**	**-1.0**
	0.4nm,0.3s,baz=126,slow=11,SNR=10						
KSRS				S	**S**	**10 17 28.1**	**+6.6**
	0.0nm,0.3s,baz=146,slow=15,SNR=8.6						
KSAR	**Wonju Array Be**	**14.16**	**317**	P	**P**	**10 14 51.3**	**-1.1**
KS19	**Wonju Array Si**	**14.21**	**317**	P	**P**	**10 14 52.5**	**-0.5**
ERM	**Erimo**	**14.59**	**9**	P	**P**	**10 14 57.5**	**+0.6**
INCN	**Inchon**	**14.96**	**314**	P	**P**	**10 15 00.6**	**-0.4**
JEW	**Eniwo**	**15.23**	**4**	P	**P**	**10 15 04.2**	**+0.6**
YOJ	**Yonaguni jima**	**15.62**	**262**	P	**P**	**10 15 05.6**	**-2.3**
YOJ				IAmb	IAmb	10 15 27.2	
	comp=Z,16nm,1.2s						
SSLB	**Suanglung**	**17.61**	**262**	P	**P**	**10 15 28.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**17.77**	**341**	P	**P**	**10 15 28.9**	**-0.3**
	baz=161,slow=10,SNR=10.0						
DL2	**Dalian**	**19.03**	**311**	P	**P**	**10 15 40.8**	**0.0**
DL2				pmax	pmax		
	comp=Z,24nm,0.5s						
WHN	**Wuhan**	**22.62**	**284**	↑*iP*	**P**	**10 16 13.9**	**+0.4**
WHN				pmax	pmax		
	comp=Z,36nm,0.6s						
ENH	**Enshi**	**26.82**	**283**	P	**P**	**10 16 48.9**	**-1.9**
ENH				IAmb	IAmb	10 16 51.2	
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**26.85**	**307**	*eP*	**P**	**10 16 50.3**	**-0.7**
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,74nm,6.8s						
XAN	**Xi'an**	**27.40**	**291**	P	**P**	**10 16 55.5**	**-0.4**
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
XAN				pmax	pmax		
	comp=Z,120nm,7.9s						
XAN	**Xi'an**	**27.40**	**291**	P	**P**	**10 16 55.0**	**-1.0**
PEA0B	**Petropavlovsk-**	**28.64**	**22**	P	**P**	**10 17 06.0**	**-0.4**
PETK	**Petropavlovsk-**	**28.64**	**22**	P	**P**	**10 17 07.0**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=168,slow=9.1,SNR=12						
PETK	**Petropavlovsk-**	**28.64**	**22**	P	**P**	**10 17 06.9**	**+0.4**
QIZ	**Qiongzhong**	**28.95**	**259**	P	**P**	**10 17 07.8**	**-1.8**
QIZ				S	**S**	**10 21 24.8**	**0.0**
QIZ				sS	**sS**	**10 24 00.8**	**-0.3**
QIZ				pmax	pmax		
	comp=Z,71nm,4.9s						
GYA	**Guiyang**	**29.69**	**276**	*eP*	**P**	**10 17 15.9**	**-0.2**
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
CD2	**Chengdu**	**31.73**	**285**	P	**P**	**10 17 33.4**	**-0.1**
CD2				pmax	pmax		
	comp=Z,90nm,0.4s						
ULN	**Ulaanbaatar**	**32.63**	**317**	P	**P**	**10 17 40.7**	**-0.4**
ULN				IAmb	IAmb	10 17 42.2	
	comp=Z,5.1nm,0.8s						
SONM	**Songino Array**	**33.02**	**317**	P	**P**	**10 17 44.3**	**0.0**
	comp=Z,2.5nm,0.5s,baz=127,slow=8.7,SNR=12						
SONM				PcP	**PcP**	**10 20 14.0**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=145,slow=3.9,SNR=6.0						
SONM				ScP	**ScP**	**10 23 10.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=126,slow=3.5,SNR=3.6						
SONM	**Songino Array**	**33.02**	**317**	P	**P**	**10 17 44.1**	**-0.2**
SLVN	**Son La**	**33.38**	**267**	P	**P**	**10 17 45.0**	**-2.7**
GTA	**Gaotai**	**35.26**	**300**	*eP*	**P**	**10 18 03.4**	**0.0**
GTA				pP	PP	10 19 37.0	-1.1
GTA				sP	sP	10 20 28.4	+1.9
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
GTA				pmax	pmax		
	comp=Z,56nm,4.7s						
GTA				LR	LR		
	comp=N,63nm,17.4s						
GTA				LR	LR		
	comp=E,68nm,17.9s						
GTA				LR	LR		
	comp=Z,75nm,16.2s						
SEY	**Seymchan**	**36.24**	**10**	P	**P**	**10 18 11.5**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=187,slow=8.9,SNR=14						
TLY	**Talaya**	**36.33**	**321**	P	**P**	**10 18 12.2**	**+0.3**
TLY				IAmb	IAmb	10 18 13.2	
	comp=Z,5.3nm,0.7s						
PMG	**Port Moresby**	**37.45**	**168**	P	**P**	**10 18 21.7**	**+0.2**
PMG				IAmb	IAmb	10 18 48.3	
	comp=Z,16nm,1.0s						
PBKT	**Sadao Pong**	**37.68**	**261**	P	**P**	**10 18 24.0**	**+0.6**
PBKT				IAmb	IAmb	10 18 24.8	
	comp=Z,7.5nm,0.6s						
CM31	**Chiang Mai Arr**	**38.74**	**265**	P	**P**	**10 18 32.3**	**+0.2**
CM31				IAmb	IAmb	10 18 33.2	
	comp=Z,4.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.74**	**265**	P	**P**	**10 18 31.8**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=54,slow=8.8,SNR=8.7						
CMAR				PcP	**PcP**	**10 20 32.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=23,slow=3.1,SNR=5.0						
COEN	**Coen**	**41.44**	**175**	P	**P**	**10 18 54.4**	**+0.6**
COEN				IAmb	IAmb	10 19 22.2	
	comp=Z,14nm,1.4s						
ATKA	**Atka Island**	**41.90**	**41**	P	**P**	**10 18 57.2**	**+0.4**
KNRA	**Kununurra**	**44.40**	**196**	P	**P**	**10 19 16.6**	**-0.3**
KNRA				IAmb	IAmb	10 19 17.9	
	comp=Z,13nm,1.2s						
WMQ	**Urumqi**	**44.71**	**305**	*eP*	**P**	**10 19 20.8**	**+1.6**
TAPN	**Taplejung**	**46.12**	**282**	*eP*	**P**	**10 19 31.1**	**+0.6**
	comp=Z,33nm,0.6s						
TAPN	**Taplejung**	**46.12**	**282**	*eP*	**P**	**10 19 31.1**	**+0.6**
	comp=Z,33nm,0.6s						
RPSI	**Rantau Prapat**	**46.42**	**245**	P	**P**	**10 19 32.6**	**+0.1**
RPSI				IAmb	IAmb	10 19 33.5	
	comp=Z,8.2nm,0.7s						
ODAN	**Odare**	**46.51**	**282**	*eP*	**P**	**10 19 33.9**	**+0.5**
	comp=Z,48nm,0.6s						
ODAN	**Odare**	**46.51**	**282**	*eP*	**P**	**10 19 33.9**	**+0.5**
	comp=Z,48nm,0.6s						
UNV	**Unalaska Valle**	**46.81**	**41**	P	**P**	**10 19 35.2**	**+0.3**
RAMN	**Ramite**	**47.17**	**282**	*eP*	**P**	**10 19 38.9**	**+0.5**
	comp=Z,48nm,0.7s						
RAMN	**Ramite**	**47.17**	**282**	*eP*	**P**	**10 19 38.9**	**+0.5**
	comp=Z,48nm,0.7s						
AKUT	**Akutan**	**47.29**	**41**	P	**P**	**10 19 39.0**	**+0.5**
JIRN	**Jiri**	**47.36**	**283**	*eP*	**P**	**10 19 40.9**	**+0.9**
	comp=Z,160nm,0.6s						
JIRN	**Jiri**	**47.36**	**283**	*eP*	**P**	**10 19 40.9**	**+0.9**
	comp=Z,160nm,0.6s						
WB0	**Warramunga Arr**	**47.42**	**187**	P	**P**	**10 19 39.4**	**-0.6**
WB0				IAmb	IAmb	10 19 40.0	
	comp=Z,12nm,0.6s						
FITZ	**Fitzroy Crossi**	**47.54**	**199**	P	**P**	**10 19 41.0**	**+0.1**
WRAB	**Tennant Creek**	**47.59**	**187**	P	**P**	**10 19 40.8**	**-0.4**
WRAB				IAmb	IAmb	10 19 41.5	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**47.59**	**187**	P	**P**	**10 19 40.8**	**-0.4**
WB2	**Warramunga Arr**	**47.60**	**187**	P	**P**	**10 19 40.7**	**-0.6**
WB2				IAmb	IAmb	10 19 41.4	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**47.60**	**187**	P	**P**	**10 19 40.7**	**-0.6**
	comp=Z,8.6nm,0.4s,baz=3.7,slow=7.7,SNR=137						
WRA				PcP	**PcP**	**10 21 01.9**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=0.2,slow=3.8,SNR=6.3						
WRA				ScP	**ScP**	**10 24 06.5**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=358,slow=4.1,SNR=6.7						
WRA				S	**S**	**10 25 55.6**	**-3.9**
	comp=Z,1.1nm,0.9s,baz=8.0,slow=14,SNR=6.7						
WRA	**Warramunga Arr**	**47.60**	**187**	P	**P**	**10 19 39.9**	**-1.4**
CTAO	**Charters Tower**	**47.81**	**172**	P	**P**	**10 19 43.0**	**+0.2**
CTAO				IAmb	IAmb	10 20 04.6	
	comp=Z,13nm,1.2s						
ZAA0	**Zalesovo Array**	**47.84**	**319**	P	**P**	**10 19 42.3**	**-0.3**
ZAA0				IAmb	IAmb	10 19 43.0	
	comp=Z,7.2nm,0.9s						
ZALV	**Zalesovo Beam**	**47.84**	**319**	P	**P**	**10 19 42.4**	**-0.3**
	comp=Z,4.2nm,0.3s,baz=105,slow=8.3,SNR=21						
ZALV				PcP	**PcP**	**10 21 01.2**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=119,slow=3.5,SNR=8.4						
PKI	**Pulchoki**	**48.06**	**283**	*eP*	**P**	**10 19 45.3**	**+0.1**
	comp=Z,18nm,0.5s						
PKI	**Pulchoki**	**48.06**	**283**	*eP*	**P**	**10 19 45.3**	**+0.1**
	comp=Z,18nm,0.5s						
PKIN	**Phulchoki**	**48.07**	**283**	*eP*	**P**	**10 19 45.1**	**-0.1**
	comp=Z,16nm,0.4s						
PKIN	**Phulchoki**	**48.07**	**283**	*eP*	**P**	**10 19 45.1**	**-0.1**
	comp=Z,16nm,0.4s						
KKN	**Kakani**	**48.12**	**284**	*eP*	**P**	**10 19 45.5**	**0.0**
	comp=Z,12nm,0.4s						
KKN	**Kakani**	**48.12**	**284**	*eP*	**P**	**10 19 45.5**	**0.0**
	comp=Z,12nm,0.4s						
DMN	**Daman**	**48.31**	**283**	*eP*	**P**	**10 19 47.3**	**+0.3**
	comp=Z,22nm,0.4s						
DMN	**Daman**	**48.31**	**283**	*eP*	**P**	**10 19 47.3**	**+0.3**
	comp=Z,22nm,0.4s						
GSI	**Gunungsitoli**	**48.32**	**245**	P	**P**	**10 19 47.1**	**+0.2**
GKN	**Gorkha**	**48.62**	**284**	*eP*	**P**	**10 19 49.8**	**+0.6**
	comp=Z,18nm,0.2s						
GKN	**Gorkha**	**48.62**	**284**	*eP*	**P**	**10 19 49.8**	**+0.6**
	comp=Z,18nm,0.2s						
MK31	**Makanchi Array**	**48.66**	**309**	P	**P**	**10 19 49.2**	**+0.2**
MK31				IAmb	IAmb	10 19 50.0	
	comp=Z,8.2nm,1.1s						
MKAR	**Makanchi Array**	**48.66**	**309**	P	**P**	**10 19 49.1**	**+0.1**
	comp=Z,4.9nm,0.4s,baz=85,slow=10,SNR=45						
MKAR				PcP	**PcP**	**10 21 04.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=91,slow=6.1,SNR=5.3						
MKAR				ScP	**ScP**	**10 24 11.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=72,slow=5.2,SNR=3.6						
MAKZ	**Makanchi**	**48.88**	**309**	P	**P**	**10 19 51.0**	**+0.4**
MAKZ				IAmb	IAmb	10 19 52.3	
	comp=Z,9.3nm,1.0s						
KOLN	**Koldanda**	**49.57**	**284**	*eP*	**P**	**10 19 56.7**	**+0.4**
	comp=Z,14nm,0.3s						
KOLN	**Koldanda**	**49.57**	**284**	*eP*	**P**	**10 19 56.7**	**+0.4**
	comp=Z,14nm,0.3s						
PYUN	**Piuthan**	**50.02**	**285**	*eP*	**P**	**10 20 00.2**	**+0.6**
	comp=Z,127nm,0.3s						
PYUN	**Piuthan**	**50.02**	**285**	*eP*	**P**	**10 20 00.2**	**+0.6**
	comp=Z,127nm,0.3s						
SDPT	**Sand Point**	**50.52**	**40**	P	**P**	**10 20 02.3**	**-0.2**
KURK	**Kurchatov**	**51.25**	**314**	P	**P**	**10 20 07.8**	**-0.1**
AS31	**Alice Springs**	**51.33**	**187**	P	**P**	**10 20 08.3**	**-0.5**
AS31				IAmb	IAmb	10 20 09.4	
	comp=Z,4.6nm,0.5s						
ASAR	**Alice Springs**	**51.33**	**187**	P	**P**	**10 20 08.2**	**-0.6**
	comp=Z,5.7nm,0.4s,baz=360,slow=5.0,SNR=214						
ASAR				PcP	**PcP**	**10 21 15.5**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=15,slow=4.1,SNR=5.8						
ASAR				S	**S**	**10 26 47.2**	**-3.1**
	comp=Z,0.9nm,1.0s,baz=4.8,slow=11,SNR=4.9						
NRIK	**Noril'sk**	**51.47**	**339**	P	**P**	**10 20 09.1**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=121,slow=6.4,SNR=8.7						
KDJ	**Kajisay**	**52.45**	**303**	P	**P**	**10 20 17.7**	**+0.7**
KDJ				IAmb	IAmb	10 20 18.1	
	comp=Z,5.7nm,0.5s						
PSA00	**Pilbara Seismi**	**52.65**	**204**	P	**P**	**10 20 18.1**	**-0.3**
ULHL	**Ulahol**	**53.14**	**304**	P	**P**	**10 20 22.8**	**+0.8**
	SNR=5.4						
BOOM	**Boomskoye usch**	**53.34**	**304**	P	**P**	**10 20 24.4**	**+1.1**
BOOM				IAmb	IAmb	10 20 24.7	
	comp=Z,13nm,0.6s						
TKM2	**Tokmak 2**	**53.54**	**305**	P	**P**	**10 20 25.0**	**+0.2**
	SNR=9.3						
EIDS	**Eidsvold**	**53.75**	**168**	P	**P**	**10 20 26.5**	**+0.4**
EIDS				IAmb	IAmb	10 20 45.2	
	comp=Z,14nm,1.3s						
SVW2	**Sparrevohn**	**53.89**	**33**	P	**P**	**10 20 27.9**	**+1.3**
SVW2				IAmb	IAmb	10 20 29.5	
	comp=Z,13nm,1.4s						
KZA	**Kyzart**	**53.89**	**304**	P	**P**	**10 20 29.0**	**+1.5**
	SNR=9.9						
AAK	**Ala-Archa**	**54.38**	**304**	P	**P**	**10 20 31.2**	**+0.5**
	SNR=6.6						
OHAK	**Old Harbor**	**54.69**	**38**	P	**P**	**10 20 32.6**	**+0.2**
AML	**Almayashu**	**55.03**	**304**	P	**P**	**10 20 36.7**	**+1.1**
	SNR=6.1						
KDAK	**Kodiak Island**	**55.10**	**37**	P	**P**	**10 20 35.5**	**+0.3**
	comp=Z,4.5nm,0.3s,baz=104,slow=2.5,SNR=22						
KDAK	**Kodiak Island**	**55.10**	**37**	P	**P**	**10 20 35.6**	**+0.4**
CNPM	**China Poot**	**55.89**	**35**	P	**P**	**10 20 40.8**	**+0.1**
SKT	**Skwentna**	**55.91**	**32**	P	**P**	**10 20 41.2**	**+0.4**
SKT				IAmb	IAmb	10 20 55.0	
	comp=Z,20nm,1.4s						
BPAW	**Bear Paw Mtn.**	**56.35**	**30**	P	**P**	**10 20 45.1**	**+1.2**
BRVK	**Borovoye**	**56.42**	**317**	P	**P**	**10 20 44.9**	**+0.3**
BRVK				IAmb	IAmb	10 20 45.4	
	comp=Z,16nm,0.7s						
NIL	**Nilore**	**56.89**	**294**	P	**P**	**10 20 49.1**	**+0.9**
NIL				IAmb	IAmb	10 20 50.4	
	comp=Z,15nm,0.7s						
PMR	**Palmer**	**57.03**	**33**	P	**P**	**10 20 48.4**	**0.0**
COLD	**Coldfoot**	**57.03**	**26**	P	**P**	**10 20 50.0**	**+1.6**
GHO	**Glory Hole Cre**	**57.13**	**32**	P	**P**	**10 20 49.8**	**+0.4**
GHO				IAmb	IAmb	10 20 58.3	
	comp=Z,38nm,1.4s						
KK31	**Karatay Array**	**57.22**	**305**	P	**P**	**10 20 50.7**	**+0.4**
KK31				IAmb	IAmb	10 20 51.4	
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**57.22**	**305**	P	**P**	**10 20 50.7**	**+0.4**
KKAR				IAmb	IAmb	10 20 51.4	
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**57.22**	**305**	P	**P**	**10 20 50.5**	**+0.3**
GAR	**Garm**	**58.08**	**301**	P	**P**	**10 20 56.9**	**+0.6**
IL31		**58.18**	**29**	P	**P**	**10 20 56.1**	**-0.2

BR131	Keskin Array S	84.23 312	P		P	10 23 29.7	-0.3
BRTR	Keskin Array B	84.23 312	P		P	10 23 29.4	-0.6
	comp=Z,1.7nm,0.6s,baz=79,slow=3.7,SNR=9.2						
BUR08	Bucovina Ar. S	84.96 322	P		P	10 23 33.7	+0.4
BURAR	Bucovina Array	84.97 322	P		P	10 23 33.3	0.0
PDAR	Pinedale Array	85.18 44	P		P	10 23 35.1	+0.5
	comp=Z,0.1nm,0.3s,baz=253,slow=1.5,SNR=3.2						
PFO	Pinyon Flats O	85.35 54	P		P	10 23 36.1	+0.6
	comp=Z,0.7nm,0.6s,baz=292,slow=2.6,SNR=4.5						
VYHS	Vyhne	87.79 325	eP		P	10 23 45.9	-0.7
GERES	GERESS Array B	90.06 328	P		P	10 23 56.2	-1.1
	comp=Z,0.6nm,0.5s,baz=38,slow=6.8,SNR=7.1						
GERES	GERESS Array B	90.06 328	P		P	10 23 56.6	-0.7
TORD	Torodi Ar. Bea	122.78 310	PKP		PKPdf	10 29 49.9	-0.8
	comp=Z,1.1nm,0.6s,baz=9.4,slow=2.4,SNR=6.3						
TORD	Torodi Ar. Bea	122.78 310			PKPdf	10 29 50.3	-0.4
SNAA	Sanae	131.40 195	PKiKP		PKPdf	10 30 05.2	-0.3
DBIC	Dimbokro	131.90 310	SKPbc		SKPbc	10 32 47.5	+0.2
	comp=Z,1.9nm,0.5s,baz=73,slow=3.9,SNR=5.2						
VNA2	Neumayer--Watz	132.95 194	PKiKP		PKPdf	10 30 09.0	+0.6
VNA3	Neumayer Olymp	133.17 193	PKiKP		PKiKP	10 30 09.7	-0.4
LPAZ	La Paz	151.62 72	PKPbc		PKPbc	10 30 50.4	+0.3
	comp=Z,1.2nm,0.7s,baz=269,slow=5.3,SNR=6.1						
LPAZ	La Paz	151.62 72			PKiKP	10 30 51.3	+1.0
PLCA	Paso Flores	151.67 125	PKPbc		PKiKP	10 30 49.3	+0.3
	comp=Z,1.5nm,0.4s,baz=243,slow=2.7,SNR=12						
PLCA	Paso Flores	151.67 125			PKiKP	10 30 49.5	+0.4

*JMA **13** 10:36:00.1±0.1,24°.22N×121°.82E,h0km,M2.6*
*TAP **13** 10:36:01.0,24°.25N×121°.82E,h13km,ML3.3,C*
ISC 13 10:36:00.9±0.9,24°.23N±0°.01×121°.83E±0°.02,h9km±7km,
n116,σ0s86/211,8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.21	337	⇓iP	Pg	10 36 05.3	0.0
	baz=339						
ENA				i S	Sg	10 36 08.4	+0.2
	baz=339						
ENAH	Nanao	0.22	355	⇓iP	Pg	10 36 05.5	+0.1
	baz=355						
ENAH				i S	Sg	10 36 09.0	+0.6
	baz=355						
NACB	Ninganchiao	0.22	255	P	Pg	10 36 05.4	-0.1
	baz=245						
NACB				S	Sg	10 36 09.1	+0.5
	baz=245						
ETLH	Xiulin Townshi	0.32	265	P	Pg	10 36 07.2	-0.2
	baz=262						
ETLH				S	Sg	10 36 12.2	+0.6
	baz=262						
HWA	Hwalien	0.33	219	P	Pb	10 36 08.8	-0.2
	baz=226						
HWA				S	Sb	10 36 14.3	0.0
	baz=226						
TWC	Suao	0.37	3	⇓iP	Pg	10 36 08.3	0.0
	baz=5.0						
TWC				S	Sg	10 36 13.7	+0.4
	baz=5.0						
NNSB	Datong	0.45	296	P	Pg	10 36 09.8	0.0
	baz=294						
NNSB				S	Sg	10 36 15.4	-0.3
	baz=294						
NNSH	Datong	0.45	296	i P	Pg	10 36 09.8	0.0
	baz=294						
NNSH				i S	Sg	10 36 15.9	+0.1
	baz=294						
NNS	Nan Shan	0.47	296	⇓iP	Pg	10 36 10.0	0.0
	baz=295						
NNS				i S	Sg	10 36 16.4	+0.2
	baz=295						
NDT	Datong Townshi	0.47	322	⇓iP	Pb	10 36 10.3	-1.1
	baz=321						
NDT				i S	Sb	10 36 17.0	-1.4
	baz=321						
ENTT	Nioudou	0.47	329	⇓iP	Pg	10 36 10.3	+0.1
	baz=330						
ENTT				i S	Sg	10 36 16.7	+0.3
	baz=330						
TWE	Neicheng	0.51	343	⇓iP	Pg	10 36 11.0	+0.2
	baz=344						
TWE				i S	Sb	10 36 18.3	-1.3
	baz=344						
WHF	Hehuan Shan	0.52	260	i P	Pg	10 36 11.2	0.0
	baz=259						
WHF				S	Sg	10 36 18.6	+0.4
	baz=259						
ILA	Ilan	0.54	352	i P	Pb	10 36 11.7	-0.8
	baz=347						
ILA				eS	Sb	10 36 19.1	-1.2
	baz=347						
TWT	Tachien	0.60	272	i P	Pb	10 36 13.3	-0.4
	baz=270						
TWT				S	Sb	10 36 21.4	-0.9
	baz=270						
YHNB	Yeheng	0.60	316	P	Pb	10 36 12.8	-0.9
	baz=316						
YHNB				S	Sb	10 36 21.6	-0.7
	baz=316						
TDCB	Techi	0.61	272	P	Pb	10 36 13.2	-0.8
	baz=271						
TDCB				S	Sg	10 36 21.1	+0.1
	baz=271						
EGS		0.62	9	i P	Pb	10 36 13.1	-0.8
	baz=9.0						
NTC	Toucheng	0.62	0	i P	Pg	10 36 13.0	0.0
	baz=360						
NTC				eS	Sb	10 36 22.1	-0.6
	baz=360						
NWLT	Wulai	0.62	331	⇓iP	Pb	10 36 13.0	-0.9
	baz=331						
NWLT				i S	Sg	10 36 20.9	-0.2
	baz=331						
CHGB	Renai	0.62	254	P	Pb	10 36 13.3	-0.9
	baz=246						
CHGB				S	Sb	10 36 21.7	-1.4
	baz=246						
OWD	Renai	0.66	245	P	Pb	10 36 14.3	-0.4
	baz=244						
OWD				eS	Sb	10 36 22.9	-1.1
	baz=244						
EGFH	Guangfu	0.67	213	i P	Pb	10 36 14.5	-0.4
	baz=229						
EGFH				S	Sn	10 36 25.9	-1.4
	baz=229						
TIPB	Shuangxi	0.73	360	P	Pg	10 36 14.8	-0.3
	baz=359						
TIPB				S	Sg	10 36 24.7	-0.1
	baz=359						
TWA	Mucha	0.78	343	i P	Pb	10 36 16.3	-0.3
	baz=343						
TWA				eS	Sb	10 36 27.2	-0.1
	baz=343						
TWB1	Santiao Chiao	0.79	11	i P	Pg	10 36 15.8	-0.3
	baz=10.0						
TWB1				S	Sg	10 36 26.1	-0.3
	baz=10.0						
VWDT	VWDT	0.79	233	P	Pb	10 36 16.7	-0.1
	baz=238						
VWDT				eS	Sb	10 36 27.2	-0.5
	baz=238						
TATO	Taipei	0.80	337	P	Pb	10 36 16.7	-0.4
	baz=337						
TATO				eS	Sb	10 36 27.1	-0.9
	baz=337						
WHP	Taichung City	0.81	273	i P	Pb	10 36 17.3	+0.1
	baz=272						
WHP				i S	Sb	10 36 27.5	-0.8
	baz=272						
HGSD	Ruisui	0.83	207	P	Pb	10 36 17.4	-0.1
	baz=197						
HGSD				eS	Sn	10 36 30.9	-0.2
	baz=197						
NWF	Wu-fen Shan	0.83	357	P	Pg	10 36 17.0	-0.1
	baz=349						
NWF				eS	Sb	10 36 28.3	-0.7
	baz=349						
WFSB	Wu-fen Shan	0.83	357	eP	Pg	10 36 16.2	-0.9
	baz=356						
LIOB	Emei	0.85	299	i P	Pb	10 36 18.0	+0.1
	baz=299						
LIOB				S	Sb	10 36 28.6	-0.7
	baz=299						
NSTT	Nanjuang	0.85	298	i P	Pb	10 36 17.8	-0.1
	baz=297						
NSTT				S	Sb	10 36 28.6	-0.8
	baz=297						
TAP	Taipei	0.85	340	eS	Sb	10 36 29.5	-0.1
	baz=331						
EHY	Hungye	0.86	213	i P	Pg	10 36 17.0	-0.6
	baz=225						
EHY				eS	Sn	10 36 31.1	-0.9
	baz=225						
SSLB	Suanglung	0.92	241	P	Pg	10 36 18.3	-0.3
	baz=249						
SSLB				S	Sb	10 36 31.1	-0.2
	baz=249						
SMLT	Sun Moon Lake	0.92	248	i P	Pb	10 36 19.1	0.0
	baz=247						
SMLT				S	Sb	10 36 32.0	+0.5
	baz=247						
NCU	National Centr	0.94	322	i P	Pn	10 36 21.0	+0.7
	baz=321						
NCU				eS	Sn	10 36 34.6	+0.8
	baz=321						
NCUH	Zhongli	0.94	321	P	Pn	10 36 20.7	+0.4
	baz=321						
NCUH				S	Sn	10 36 33.9	+0.1
	baz=321						
YM01	YM01	0.94	345	P	Pb	10 36 19.5	+0.1
	baz=345						
YM01				eS	Sb	10 36 31.7	-0.3
	baz=345						
TWS1	Kuangyinshan	0.94	337	i P	Pn	10 36 20.0	-0.4
	baz=336						
TWS1				eS	Sb	10 36 32.1	+0.1
	baz=336						
TYC	Yuchr	0.95	250	i P	Pb	10 36 19.6	0.0
	baz=243						
TYC				eS	Sb	10 36 32.1	-0.1
	baz=243						
SBCB	Hsinchu	0.95	306	P	Pn	10 36 20.5	0.0
	baz=306						
SBCB				eS	Sn	10 36 33.2	-0.9
	baz=306						
YM10	YM10	0.95	345	P	Pb	10 36 19.8	+0.2
	baz=344						
YM10				S	Sb	10 36 32.0	-0.4
	baz=344						
YM11	YM11	0.96	346	P	Pn	10 36 20.2	-0.5
	baz=345						
YM11				eS	Sb	10 36 32.4	-0.2
	baz=345						
HSN	Hsinchu	0.97	306	eP	Pn	10 36 20.5	-0.2
	baz=299						
HSN				eS	Sb	10 36 33.0	+0.3
	baz=299						
YULB	Yu-li	0.97	210	P	Pg	10 36 18.4	-1.2
	baz=213						
YULB				eS	Sb	10 36 32.8	0.0
	baz=213						
TWQ1	Liyutan	0.97	277	i P	Pn	10 36 20.9	+0.1
	baz=276						
TWQ1				S	Sb	10 36 33.3	+0.4
	baz=276						
YM08	YM08	0.97	347	P	Pb	10 36 19.9	-0.2
	baz=339						
YM08				eS	Sb	10 36 33.2	+0.2
	baz=339						
YM03	YM03	0.98	344	eP	Pb	10 36 20.0	-0.1
	baz=344						
YM03				eS	Sb	10 36 32.9	-0.3
	baz=344						
NTST	Danshui	0.99	340	P	Pg	10 36 19.5	-0.5
	baz=339						
ANP	Anpu	0.99	344	eP	Pn	10 36 20.5	-0.6
	baz=343						
NSY	Sanyi	0.99	281	P	Pn	10 36 21.3	+0.2
	baz=280						
NSY				S	Sn	10 36 34.4	-0.8
	baz=280						
NMLH	Miaoli	0.99	288	eP	Pn	10 36 21.4	+0.4
	baz=295						
NMLH				S	Sn	10 36 34.7	-0.5
	baz=295						
TWF1	Yuli	1.00	209	P	Pg	10 36 19.8	-0.5
	baz=211						
TWF1				eS	Sn	10 36 34.7	-0.8
	baz=211						
JYNG	Yonagunijimaku	1.04	78	P	Pb	10 36 21.1	0.0
WHYT	Xinyi Township	1.04	239	i P	Pb	10 36 21.1	-0.1
	baz=245						
WHYT				S	Sb	10 36 34.8	-0.1
	baz=245						
PTSB	Yuanli	1.05	282	eP	Pn	10 36 22.3	+0.5
	baz=282						
PTSB				S	Sn	10 36 36.3	-0.3
	baz=282						
TCU	Taichung	1.06	266	eP	Pn	10 36 22.1	+0.2
	baz=266						
TCU				eS	Sn	10 36 38.5	+1.7
	baz=266						
TWY	Chenhua	1.06	349	i P	Pn	10 36 21.6	-0.3
	baz=341						
TWY				eS	Sb	10 36 35.5	+0.1
	baz=341						
WJS	Zhushan	1.09	248	i P	Pn	10 36 23.4	+1.1
	baz=243						
WJS				eS	Sn	10 36 37.4	-0.1
	baz=243						
WDJ	Dajia District	1.09	276	P	Pn	10 36 23.6	+1.1
	baz=277						
WDJ				S	Sn	10 36 38.3	+0.7
	baz=277						
YOJ	Yonaguni jima	1.10	78	P	Pb	10 36 22.2	+0.1
	baz=67						
YOJ				S	Sn	10 36 38.0	+0.2
	baz=67						
YOJ	Yonaguni jima	1.10	78	P	Pb	10 36 22.0	-0.2
WNT	Mingjian	1.11	252	i P	Pn	10 36 23.6	+1.0
	baz=248						
WNT				S	Sn	10 36 38.8	+0.9
	baz=248						
FULB	Fuli	1.14	206	i P	Pg	10 36 22.2	-0.6
	baz=226						
FULB				eS	Sn	10 36 39.9	+1.0
	baz=226						
WCHH	Zhanghua	1.17	263	i P	Pn	10 36 24.8	+1.3
	baz=263						
WCHH				S	Sn	10 36 41.6	+2.0
	baz=263						
ALS	Alishan	1.18	233	i P	Pb	10 36 23.6	-0.1
	baz=233						
ALS				S	Sn	10 36 41.8	+1.5
	baz=233						
CHKT	Chengkung	1.21	201	P	Pg	10 36 22.7	-1.5
	baz=184						
CHKT				eS	Sb	10 36 40.0	+0.4
	baz=184						
CHN5	Tsauling	1.23	239	i P	Pn	10 36 25.2	+0.8
	baz=241						
CHN5				S	Sn	10 36 43.0	+1.8
	baz=241						
ELDTW	Lidau	1.28	216	i P	Pn	10 36 24.0	-1.1
	baz=203						
ELDTW				S	Sn	10 36 42.2	-0.2
	baz=203						
WGK	Gukeng	1.28	245	P	Pg	10 36 27.1	+1.5
	baz=247						
WGK				S	Sn	10 36 45.5	+3.2
	baz=247						
WDLH	Douliu	1.30	246	i P	Pg	10 36 26.3	+0.4
	baz=248						
WDLH				S	Sn	10 36 45.8	+3.0
	baz=248						
EDH	Donghe	1.34	201	P	Pn	10 36 25.0	-0.9
	baz=186						
EDH				S	Sg	10 36 43.8	-0.5
	baz=186						
RLNB	Erlin	1.39	256	eP	Pg	10 36 27.5	-0.1
	baz=272						
RLNB				S	Sg	10 36 47.5	+1.9
	baz=272						
CHN4	Tsaushan	1.43	232	i P	Pg	10 36 28.5	0.0
	baz=234						
CHN4				S	Sg	10 36 49.2	+2.1
	baz=234						
TPUB	Ta-pu	1.44	230	P	Pg	10 36 28.1	-0.5
	baz=232						
TPUB				S	Sg	10 36 49.7	+2.4
	baz=232						
STYT	Tauyuan	1.45	223	i P	Pb	10 36 27.7	-0.4
	baz=225						
STYT				S	Sg	10 36 48.6	+1.0
	baz=225						
WTCT	Ta-ch'eng	1.46	256	S	Sg	10 36 48.9	+0.9
	baz=271						
CHY	Chiayi	1.48	241	P	Pg	10 36 29.6	+0.2
	baz=243						
CHY				S	Sg	10 36 50.2	+1.6
	baz=243						
WTP	Ta-pu	1.49	229	i P	Pg	10 36 28.9	-0.5
	baz=231						
WTP				S	Sg	10 36 50.0	+1.2
	baz=231						
TWK	Hsinying	1.56	232	i P	Pg	10 36 30.5	-0.4
	baz=235						
TWK				S	Sg	10 36 52.1	+0.9
	baz=235						
TWG	Pinlang	1.57	206	P	Pn	10 36 28.5	-0.5
	baz=210						
TWGBT	Beinan	1.57	206	P	Pn	10 36 28.6	-0.4
	baz=210						
SNST	Tainan City	1.58	231	i P	Pg	10 36 30.8	-0.6
	baz=234						
SNST				i S	Sg	10 36 53.4	+1.5
	baz=234						
CHN1	Nanshi	1.58	229	i P	Pg	10 36 30.5	-0.8
	baz=232						
CHN1				S	Sg	10 36 52.9	+1.0
	baz=232						
WSF	Szhu	1.59	248	i S	Sg	10 36 54.6	+2.6
	baz=251						
LDUT	Ludao	1.59	192	eS	Sn	10 36 48.2	-1.7
	baz=182						
SGST	Jiashian	1.62	225	i P	Pn	10 36 29.7	0.0
	baz=228						
SGST				i S	Sg	10 36 53.8	+0.7
	baz=228						
SLGT	Liugui	1.64	222	i P	Pb	10 36 31.4	0.0
	baz=225						
SLGT				S	Sg	10 36 54.8	+0.9
	baz=225						
CHN8	Yiju	1.73	240	S	Sg	10 36 57.1	+0.6
	baz=227						
IRIF	Iriomote-Funau	1.74	86	P	Pn	10 36 31.5	+0.2
IRIF				eS	Sn	10 36 54.3	+0.8
CHN3	Shinhua	1.77	230	eS	Sg	10 36 58.7	+0.8
	baz=235						
HATJ	Hateruma jima	1.81	95	eS	Sb	10 36 57.4	+0.3
ECL	Taimali	1.82	206	eP	Pn	10 36 31.5	-0.9
	baz=210						
ECL				eS	Sb	10 36 56.4	-0.8
	baz=210						
SSD	Sandimen	1.84	217	i P	Pb	10 36 34.6	-0.2
	baz=231						
SSD				i S	Sg	10 36 59.9	-0.4
	baz=231						
TWM1	Shoushan	1.91	223	P	Pb	10 36 35.9	0.0
	baz=227						
TWM1				eS	Sg	10 37 01.9	-0.4
	baz=227						
MASBT	Mashibuluo	1.95	214	P	Pn	10 36 34.9	+0.7
	baz=220						
MASBT				S	Sg	10 37 02.7	-1.1
	baz=220						
JKRS	Kuro-shima	1.99	89	P	Pn	10 36 36.0	+1.2
JIJ	Ishigaki jima	2.12	86	P	Pn	10 36 37.6	+1.1
JIJ				eS	Sn	10 37 03.7	+0.8
SCZT	Fangliau	2.16	211	P	Pb	10 36 38.6	-1.6
	baz=217						
SCZT				eS	Sb	10 37 08.4	+1.2
	baz=217						
PNG	Penghu	2.19	253	i P	Pb	10 36 38.8	-1.8
	baz=258						
PNG				i S	Sb	10 37 06.5	-1.4
	baz=258						
PHUB	P'eng-hu	2.19	251	P	Pn	10 36 38.0	+0.5
	baz=257						
PHUB				S	Sb	10 37 06.4	-1.5
	baz=257						
LAY	Lan-yu	2.20	187	P	Pn	10 36 36.0	-1.7
	baz=191						
WDGT	Dungji	2.21	244	i P	Pn	10 36 38.8	+1.0
	baz=251						
WDGT				S	Sb	10 37 06.9	-1.7
	baz=251						
PTTC	Pingtan	2.26	304	eP	Pn	10 36 38.2	-0.2
	baz=303						
PTTC				eS	Sn	10 37 06.5	+0.1
	baz=303						
JISG	Ishigakijimahi	2.29	81	P	Pn	10 36 40.1	+1.2
JISG				eS	Sn	10 37 08.2	+1.0
VWUC	VWUC	2.29	290	P	Pn	10 36 38.8	-0.2
	baz=290						
VWUC				S	Sn	10 37 07.2	-0.1
	baz=290						
MATB	Ma-tsu	2.56	319	eP	Pn	10 36 42.7	+0.1
	baz=316						
MATB				eS	Sn	10 37 15.3	+1.4
	baz=316						
PTMZ	Houxiangcun	2.59	289	eP	Pn	10 36 43.1	+0.1
	baz=289						
PTMZ				eS	Sn	10 37 14.2	-0.5
	baz=289						
JTJ	Tarama	2.65	81	P	Pn	10 36 44.4	+0.6
JTJ				eS	Sn	10 37 17.6	+1.5
LYJJ	Jianjiangzhen	2.97	321	eS	Sn	10 37 24.6	+0.6
	baz=318						
XPSS	Dashiqiu	3.07	331	P	Pn	10 36 49.4	-0.2
	baz=330						
MHZQ	Yeshan	3.15	307	eP	Pn	10 36 51.1	+0.5
	baz=306						
KNMB	Chin-men Tao	3.15	275	eP	Pn	10 36 50.3	-0.4
	baz=276						

*NEIC **13** 10:48:20.3±2.3,5°.77S±0°.07×103°.95E±0°.09,h101km±5km,*
mb4.1/15,Error ellipse: s-maj=15.4km s-min=6.2km
az=52.0
*DJA **13** 10:48:22.5±0.3,5°.5S±6°.×10°.4E±°,h78km±7km,M4.1/17,*
mb4.0/2,MLv4.1/17
*IDC **13** 10:48:22.9±4.8,5°.23S×104°.39E,h106km±38km,mb3.4/6,*
mb1 3.7/7,mb1mx3.3/45,mbtmp3.8/7,Error ellipse:
s-maj=64.9km s-min=22.4km az=58.0
ISC 13 10:48:20.9±0.8,5°.48S±0°.09×104°.12E±0°.07,h102km±8km,
n53,σ1s21/61,mb4.0/13,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	0.46	352	P	Pn	10 48 35.9	-0.9
LWLI				S	Sn	10 48 48.4	-0.3
MDSI	Maura Dua	0.99	3	P	Pn	10 48 41.1	-0.3
MDSI				S	Sn	10 48 55.3	-1.4
KLSI		0.99	38	P	Pn	10 48 41.2	-0.2
KLSI				S	Sn	10 48 56.0	-0.8
BLSI	Bandar Lampung	1.12	84	P	Pn	10 48 42.6	-0.2
BLSI				S	Sn	10 48 58.8	-0.6
MNAI	Manna	1.61	314	P	Pn	10 48 49.3	+0.7
MNAI				S	Sn	10 49 11.1	+1.4
MNAI	Manna	1.61	314	Pn	Pn	10 48 50.3	+1.7
MNAI					Sn	10 49 11.4	+1.8
LHSI	Lahat	1.75	340	P	Pn	10 48 50.7	+0.4
CGJI	Cibinong	1.93	126	P	Pn	10 48 53.3	+0.7
KSI	Kapahiang	2.37	320	P	Pn	10 48 59.4	+1.0
SKJI	Sukabumi	2.85	122	P	Pn	10 49 05.7	+0.9
CBJI	Citeko	2.87	109	P	Pn	10 49 08.7	+3.8
CNJI	Cibinong	3.50	121	P	Pn	10 49 14.2	+0.8
LEM	Lembang	3.72	111	P	Pn	10 49 16.6	0.0
	12nm,0.3s,baz=212,slow=6.4,SNR=4.0						
LEM	Lembang	3.72	111	P	Pn	10 49 17.5	+1.0
CISI	Cisompet, Garu	4.21	120	P	Pn	10 49 24.2	+1.2
CISI	Cisompet, Garu	4.21	120		Pn	10 49 23.4	+0.4
CISI					Sn	10 50 10.9	-0.3
KRJI	Kerinci	4.29	322	P	Pn	10 49 25.2	+1.1
CMJI	Cimerak	4.87	118	P	Pn	10 49 33.2	+1.3
PPSI	Pulau Pagai	4.91	303	P	Pn	10 49 34.2	+1.8
KPJI	Karang Pucung	5.12	111	P	Pn	10 49 36.1	+0.8
	0.2nm23nm,1.6s						
XMIS	Christmas Isla	5.20	163	Pn	Pn	10 49 32.8	-3.5
XMIS				Sn	Sn	10 50 26.5	-8.5
UGM	Wanagama	6.80	111	Pn	Pn	10 49 59.1	+1.0
PWJI	Pagerwojo	8.04	109	P	Pn	10 50 17.2	+2.3
GSI	Gunungsitoli	9.39	316	Pn	Pn	10 50 30.7	-2.6
RPSI	Rantau Prapat	9.64	327	Pn	Pn	10 50 37.1	+0.4
JAGI	Jajag, Banyuwa	10.39	107	Pn	Pn	10 50 46.6	-0.3
GIRL	Giralia	19.66	151	P	P	10 52 40.1	-1.8
CM31	Chiang Mai Arr	24.33	348	P	P	10 53 29.1	-0.1
CM31				IAmb	IAmb	10 53 32.9	
	comp=Z,3.0nm,0.8s						

CMAR	Chiang Mai Arr	24.33 348	P	P	10 53 29.3	+0.1
	comp=Z,0.3nm,0.4s,baz=179,slow=10,SNR=5.4					
CMAR	Chiang Mai Arr	24.33 348	P	P	10 53 28.6	-0.6
FITZ	Fitzroy Crossi	24.48 123	P	P	10 53 31.8	+1.2
	comp=Z,1.2nm,0.9s,baz=181,slow=11,SNR=1.7					
FITZ	Fitzroy Crossi	24.48 123	P	P	10 53 30.0	-0.6
KNRA	Kununurra	26.22 115	P	P	10 53 45.9	-0.5
KNRA			IAmb	IAmb	10 53 52.3	
	comp=Z,19nm,1.4s					
SAUI	Saumlaki	27.10 97	P	P	10 53 54.7	+0.3
WB0	Warramunga Arr	32.69 118	P	P	10 54 44.2	+0.4
WB0			IAmb	IAmb	10 54 45.2	
	comp=Z,3.6nm,1.2s					
WRA	Warramunga Arr	32.71 119	P	P	10 54 44.0	+0.1
	comp=Z,0.3nm,0.4s,baz=305,slow=8.9,SNR=18					
WRA			PcP	PcP	10 57 28.7	+1.2
	comp=Z,0.1nm,0.4s,baz=308,slow=2.2,SNR=4.6					
WRA	Warramunga Arr	32.71 119	P	P	10 54 44.0	+0.1
WRAB	Tennant Creek	32.71 119	P	P	10 54 44.5	+0.5
WRAB			IAmb	IAmb	10 55 01.9	
	comp=Z,9.7nm,1.4s					
WB2	Warramunga Arr	32.72 119	P	P	10 54 44.5	+0.5
WB2			IAmb	IAmb	10 55 08.2	
	comp=Z,6.2nm,1.4s					
WR0	Warramunga Arr	32.89 119	P	P	10 54 46.0	+0.5
WR0			IAmb	IAmb	10 55 09.7	
	comp=Z,5.7nm,1.3s					
ASAR	Alice Springs	33.90 125	P	P	10 54 55.5	+1.2
	comp=Z,0.6nm,0.3s,baz=297,slow=8.0,SNR=20					
ASAR			PcP	PcP	10 57 31.6	+0.8
	comp=Z,0.2nm,0.4s,baz=322,slow=2.8,SNR=5.5					
AS31	Alice Springs	33.90 125	P	P	10 54 55.6	+1.3
CTAO	Charters Tower	43.42 113	P	P	10 56 13.9	0.0
STKA	Stephens Creek	43.78 132	P	P	10 56 17.8	+1.2
	comp=Z,1.3nm,0.3s,baz=338,slow=12,SNR=3.1					
STKA	Stephens Creek	43.78 132	P	P	10 56 16.0	-0.6
STKA			IAmb	IAmb	10 56 43.2	
	comp=Z,2.6nm,1.5s					
ABKAR	Akbulak array	66.67 330	P	P	10 59 00.2	-0.4
VNDA	Vanda	77.98 169	P	P	11 00 10.1	+2.6
	comp=Z,0.7nm,0.7s,baz=313,slow=4.8,SNR=6.8					
VNDA	Vanda	77.98 169	P	P	11 00 05.6	-1.9
BRTR	Keskin Array B	78.69 312	P	P	11 00 12.6	+0.3
ANTO	Ankara	79.36 312	P	P	11 00 14.3	-1.5
QSPA	South Pole Qui	84.50 180	P	P	11 00 40.2	-2.1
QSPA			IAmb	IAmb	11 00 48.3	
	comp=Z,4.5nm,1.4s					
TXAR	Lajitas Array	144.61 45	PKP	PKPdf	11 07 46.4	+0.1
	comp=Z,0.3nm,0.4s,baz=174,slow=1.8,SNR=2.0					
TXAR	Lajitas Array	144.61 45		PKPdf	11 07 46.7	+0.3

WEL 13 10:51:34.4±0.7, 35°S±6°×17°8E±°, h259km±9km, M4.3/26, MLv4.3/26, Error ellipse: s-maj=0.0km s-min=0.0km az=113.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.14	183	P	Pn	10 52 19.9	+1.1
MXZ				S	S	10 52 53.4	-0.6
HAZ	Te Kaha	2.40	193	P	Pn	10 52 21.7	+0.6
HAZ				S	S	10 52 58.3	+0.2
WMGZ	Waiomatatini S	2.40	181	P	Pn	10 52 22.6	+1.4
WMGZ				S	S	10 52 59.0	+0.8
KUZ	Kuaotunu	2.58	238	P	Pn	10 52 22.3	-0.5
RUGZ	Raukumara Rang	2.62	193	P	Pn	10 52 23.7	+0.2
PUZ	Puketiti	2.65	183	P	Pn	10 52 24.1	+0.4
PUZ				S	S	10 53 02.4	-0.5
URZ	Urewera	3.03	200	P	Pn	10 52 28.2	+0.6
URZ				S	S	10 53 09.8	-0.1
TOZ	Tahuroa Road	3.31	225	P	Pn	10 52 32.0	+1.4
WCZ	Waipu Caves	3.38	260	P	Pn	10 52 29.8	-1.7
SNGZ	Shannon Statio	3.47	194	P	Pn	10 52 32.9	+0.4
PRRZ	Plateau Road	3.49	208	P	Pn	10 52 33.4	+0.7
PRRZ				S	S	10 53 19.7	+0.7
TLZ	Tolley Road	3.73	218	P	Pn	10 52 37.6	+2.3
OUZ	Omahuta	3.97	271	P	Pn	10 52 35.2	-3.0
BKZ	Black Stump Fm	4.05	202	P	Pn	10 52 38.5	-0.6
RITZ	Rihia Road	4.11	209	P	Pn	10 52 40.5	+0.7
RITZ				S	S	10 53 35.9	+4.0
KATZ	Kakaramea	4.18	211	P	Pn	10 52 41.5	+0.9
KATZ				S	S	10 53 35.9	+2.5
HIZ	Hauiti	4.22	222	P	Pn	10 52 42.9	+1.9
MCHZ	McNeill Hill	4.25	199	P	Pn	10 52 41.5	+0.1
MCHZ				S	S	10 53 34.6	-0.3
KRVZ	Karewarewa	4.30	211	P	Pn	10 52 42.3	+0.3
KRVZ				S	S	10 53 38.6	+2.5
KWHZ	Kaweka Forest	4.31	201	P	Pn	10 52 41.8	-0.4
KWHZ				S	S	10 53 35.8	-0.4
WTVZ	West Tongariro	4.34	211	P	Pn	10 52 42.7	+0.2
OTVZ	Oturere	4.35	210	P	Pn	10 52 42.9	+0.2
OTVZ				S	S	10 53 36.0	-1.2
TWVZ	Taurewa	4.37	212	P	Pn	10 52 43.2	+0.4
CKHZ	Cape Kidnapper	4.37	194	P	Pn	10 52 42.8	0.0
CKHZ				S	S	10 53 37.7	+0.3
TUVZ	Tukino	4.44	209	P	Pn	10 52 43.6	-0.2
TUVZ				S	S	10 53 39.4	+0.3
FWVZ	Far West T-bar	4.47	210	P	Pn	10 52 44.1	-0.1
FWVZ				S	S	10 53 40.8	+0.9
WNVZ	Wahianoa	4.51	209	P	Pn	10 52 44.2	-0.5
WNVZ				S	S	10 53 40.4	-0.3
MOVZ	Moawhango	4.52	207	P	Pn	10 52 43.7	-1.0
MOVZ				S	S	10 53 37.3	-3.5
KRHZ	Kereru	4.53	201	P	Pn	10 52 44.0	-0.7
KRHZ				S	S	10 53 39.4	-1.5
KAHZ	Kahuranaki	4.54	195	P	Pn	10 52 44.6	-0.2
KAHZ				S	S	10 53 42.7	+1.5
MTVZ	Mangateitei	4.62	210	P	Pn	10 52 45.9	+0.2
MTVZ				S	S	10 53 44.0	+1.2
PXZ	Pawanui	4.77	195	P	Pn	10 52 46.7	-0.8
PXZ				S	S	10 53 44.3	-1.7
PNHZ	Pukenui	4.83	201	P	Pn	10 52 47.1	-1.2
PNHZ				S	S	10 53 46.0	-1.3
WPHZ	Waipukurau	4.90	198	P	Pn	10 52 48.0	-1.1
WPHZ				S	S	10 53 49.2	+0.3
TSZ	Takapari Road	5.04	202	P	Pn	10 52 49.3	-1.5
TSZ				S	S	10 53 50.5	-1.4
PRHZ	Porangahau	5.05	196	P	Pn	10 52 50.1	-0.8
PRHZ				S	S	10 53 51.3	-0.8
NEZ	North Egmont	5.18	221	P	Pn	10 52 54.3	+1.8
DVHZ	Dannevirke	5.20	200	P	Pn	10 52 51.0	-1.7
DVHZ				S	S	10 53 53.1	-2.3
ANWZ	Angora Road	5.27	197	P	Pn	10 52 52.5	-1.1
ANWZ				S	S	10 53 55.5	-1.4
POWZ	Post Office Ro	5.40	202	P	Pn	10 52 53.7	-1.5
POWZ				S	S	10 53 56.7	-3.1
BFZ	Birch Farm	5.54	198	P	Pn	10 52 55.2	-1.6
BFZ				S	S	10 54 00.0	-2.8
MRZ	Mangatainoka R	5.70	203	P	Pn	10 52 56.8	-2.1
MRZ				S	S	10 54 02.9	-3.7
CPWZ	Castlepoint	5.76	197	P	Pn	10 52 58.9	-0.7
CPWZ				S	S	10 54 08.6	+0.7
HOWZ	Holdsworth Sta	5.94	202	P	Pn	10 52 59.4	-2.4
HOWZ				S	S	10 54 05.6	-6.3
OGWZ	Otaki Gorge	5.98	205	P	Pn	10 53 00.0	-2.2
OGWZ				S	S	10 54 08.4	-4.3
TMWZ	Te Maipa	6.03	199	P	Pn	10 53 01.1	-1.8
TMWZ				S	S	10 54 08.1	-5.7
KIW	Kapiti Island	6.11	206	P	Pn	10 53 01.5	-2.4
KIW				S	S	10 54 10.8	-4.9
CAW	Cannon Point	6.27	204	P	Pn	10 53 03.2	-2.7
CAW				S	S	10 54 14.8	-4.6
TRWZ	Traveller	6.35	199	P	Pn	10 53 05.0	-1.9
DUWZ	D'Urville Isla	6.45	212	P	Pn	10 53 05.3	-2.9
MSWZ	Moikau Station	6.49	202	P	Pn	10 53 05.9	-2.8
WEL	Wellington	6.53	205	P	Pn	10 53 06.6	-2.6
BHW	Baring Head	6.61	204	P	Pn	10 53 07.1	-3.0
PLWZ	Palliser	6.63	201	P	Pn	10 53 07.4	-3.0
TCW	Tory Channel	6.65	208	P	Pn	10 53 07.8	-2.8
GLKZ	Green Lake	6.86	28	S	S	10 54 18.5	-15
TUWZ	Tuamarina	6.96	209	P	Pn	10 53 11.4	-3.1
NNZ	Nelson	7.03	213	P	Pn	10 53 11.7	-3.7
QRZ	Quartz Range	7.13	219	P	Pn	10 53 13.2	-3.4
BSWZ	Blackbirch Sta	7.24	208	P	Pn	10 53 15.2	-2.7
THZ	Tophouse	7.68	213	P	Pn	10 53 20.2	-3.4
KHZ	Kahutara	7.96	207	P	Pn	10 53 23.9	-3.2
DSZ	Denniston Nort	8.18	217	P	Pn	10 53 25.6	-4.3
GVZ	Greta Valley S	8.63	207	P	Pn	10 53 32.1	-3.4
LTZ	Lake Taylor	8.78	211	P	Pn	10 53 33.6	-3.8
AMCZ	Amberley	8.95	208	P	Pn	10 53 36.3	-3.2
INZ	Inchbonnie	9.10	215	P	Pn	10 53 37.5	-3.9
OKCZ	Okains Bay	9.28	205	P	Pn	10 53 40.9	-2.7
OXZ	Oxford	9.32	210	P	Pn	10 53 39.9	-4.3
MQZ	McQueen's Vall	9.41	207	P	Pn	10 53 41.1	-4.1
AKCZ	Akaroa Harbour	9.46	205	P	Pn	10 53 43.2	-2.7
WVZ	Waitaha Valley	9.70	216	P	Pn	10 53 45.3	-3.6
WACZ	Wakanui South	9.92	209	P	Pn	10 53 48.5	-3.1
RPZ	Rata Peaks	10.06	212	P	Pn	10 53 49.8	-3.6

*NEIC **13** 10:59:47.7±1.2, 20°.07S±0°.07×175°.8W±0°.1, h164km±5km, mb4.2/25, Error ellipse: s-maj=15.6km s-min=10.5km az=100.0*
*IDC **13** 10:59:47.4±2.7, 19°.98S×175°.76W, h161km±25km, mb3.7/13, mb1 3.9/15, mb1mx3.7/27, mbtmp4.1/15, Error ellipse: s-maj=21.9km s-min=12.9km az=129.0*
ISC 13 10:59:45.9±0.5, 20°.04S±0°.07×175°.74W±0°.08, h150km, n53, σ1§66/60, mb4.1/25, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.57	81	Pn	Pn	11 01 10.3	+3.4
NIUE					Sn	11 02 07.8	-2.3
AFI	Afiamalu	7.18	33	P	Pn	11 01 29.0	+0.5
	3.2nm,0.3s,baz=192,slow=2.0,SNR=10						
AFI				S	Sn	11 02 43.3	-5.6
	6.6nm,0.3s,baz=59,slow=21,SNR=3.9						
AFI	Afiamalu	7.18	33		Pn	11 01 30.0	+1.6
AFI					Sn	11 02 46.5	-2.4
URZ	Urewera	19.19	197	P	P	11 03 58.2	+0.2
	2.4nm,0.3s,baz=11,slow=4.4,SNR=8.9						
URZ				S	S	11 07 19.1	-8.2
	0.4nm,0.3s,baz=316,slow=13,SNR=1.3						
URZ	Urewera	19.19	197	P	P	11 03 58.6	+0.6
BKZ	Black Stump Fm	20.20	198	P	P	11 04 08.6	-0.4
RPZ	Rata Peaks	26.07	202	P	P	11 05 08.2	+2.8
	5.1nm,0.6s,baz=224,slow=14,SNR=1.8						
CTA	Charters Tower	35.65	263	P	P	11 06 30.9	+1.2
	5.2nm,0.5s,baz=93,slow=10,SNR=23						
CTAO	Charters Tower	35.65	263	P	P	11 06 31.1	+1.4
STKA	Stephens Creek	39.89	244	P	P	11 07 05.0	-0.3
	1.2nm,0.5s,baz=79,slow=8.5,SNR=4.2						
STKA	Stephens Creek	39.89	244	P	P	11 07 05.7	+0.4
BBOO	Buckleboo	44.65	243	P	P	11 07 42.8	-0.9
BBOO				IAmb	IAmb	11 08 11.7	
	comp=Z,11nm,1.3s						
WR0	Warramunga Arr	46.57	261	P	P	11 07 59.2	+0.2
WR0				IAmb	IAmb	11 08 18.2	
	comp=Z,8.4nm,1.4s						
AS31	Alice Springs	46.68	256	P	P	11 08 00.3	+0.5
ASAR	Alice Springs	46.69	256	P	P	11 07 59.9	0.0
	comp=Z,2.9nm,0.7s,baz=87,slow=8.1,SNR=62						
ASAR				PcP	PcP	11 09 30.4	-0.7
	comp=Z,1.7nm,0.7s,baz=105,slow=3.7,SNR=13						
ASAR	Alice Springs	46.69	256	P	P	11 08 00.1	+0.2
ASAR					PcP	11 09 30.9	-0.2
WB0	Warramunga Arr	46.74	261	P	P	11 08 00.3	0.0
WB0				IAmb	IAmb	11 08 00.8	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	46.75	261	P	P	11 08 00.6	+0.2
WB2				IAmb	IAmb	11 08 01.0	
	comp=Z,9.7nm,1.5s						
WRAB	Tennant Creek	46.75	261	P	P	11 08 00.5	+0.1
WRA	Warramunga Arr	46.76	261	P	P	11 08 00.6	+0.1
	comp=Z,2.1nm,0.3s,baz=96,slow=7.4,SNR=231						
WRA				PcP	PcP	11 09 30.9	-0.6
	comp=Z,1.0nm,0.7s,baz=93,slow=3.7,SNR=6.2						
WRA	Warramunga Arr	46.76	261	P	P	11 08 00.4	-0.1
KNRA	Kununurra	52.80	265	P	P	11 08 46.4	+0.2
FITZ	Fitzroy Crossi	55.19	261	P	P	11 09 03.5	+0.1
FITZ				IAmb	IAmb	11 09 07.9	
	comp=Z,6.0nm,1.3s						
VNDA	Vanda	58.56	186	P	P	11 09 28.1	+1.8
	comp=Z,0.4nm,0.8s,baz=297,slow=4.1,SNR=4.0						
VNDA	Vanda	58.56	186	P	P	11 09 26.8	+0.6
CASY	Casey	65.28	205	P	P	11 10 10.6	-0.7
QSPA	South Pole Qui	70.03	180	P	P	11 10 41.5	+0.2
QSPA				IAmb	IAmb	11 10 42.1	
	comp=Z,2.9nm,0.9s						
MJAR	Matsushiro Arr	71.12	322	P	P	11 10 48.3	+0.3
	comp=Z,0.9nm,0.6s,baz=144,slow=6.2,SNR=4.2						
PEA0B	Petropavlovsk-	76.39	344	P	P	11 11 19.1	+0.7
PEA0B				IAmb	IAmb	11 11 19.8	
	comp=Z,5.8nm,0.8s						
PETK	Petropavlovsk-	76.39	344	P	P	11 11 18.9	+0.5
	comp=Z,1.8nm,0.6s,baz=133,slow=8.3,SNR=6.5						
PETK	Petropavlovsk-	76.39	344	P	P	11 11 19.1	+0.7
KMRM	Mail Ridge	77.07	38	P	P	11 11 23.9	+1.3
KMRM				IAmb	IAmb	11 11 24.7	
	comp=Z,5.1nm,0.8s						
YERR	Yerington	78.99	41	P	P	11 11 34.2	+0.8
YERR				IAmb	IAmb	11 11 34.7	
	comp=Z,2.5nm,0.7s						
NVAR	Mina Array Bea	79.25	42	P	P	11 11 35.6	+0.8
	comp=Z,1.0nm,0.6s,baz=223,slow=8.5,SNR=10						
NVAR	Mina Array Bea	79.25	42	P	P	11 11 35.9	+1.0
K05A	Summer Lake	80.29	38	P	P	11 11 41.2	+0.9
K05A				IAmb	IAmb	11 11 44.9	
	comp=Z,7.0nm,1.4s						
PINE	Pine Mountain	80.94	37	P	P	11 11 45.2	+1.5
PINE				IAmb	IAmb	11 11 45.6	
	comp=Z,3.7nm,0.9s						
MAW	Mawson	82.70	199	P	P	11 11 51.9	-0.5
	comp=Z,1.1nm,0.6s,baz=122,slow=10,SNR=4.7						
MAW	Mawson	82.70	199	P	P	11 11 52.4	0.0
GLB	Gilahina Butte	85.14	15	P	P	11 12 04.8	0.0
CCB	Clear Creek Bu	87.12	12	P	P	11 12 13.9	-0.3
PDAR	Pinedale Array	87.19	42	P	P	11 12 14.9	-0.5
	comp=Z,0.2nm,0.6s,baz=251,slow=5.6,SNR=2.5						
ILAR	Eielson Array	87.41	12	P	P	11 12 14.8	-0.9
	comp=Z,0.4nm,0.5s,baz=208,slow=5.2,SNR=6.7						
ILAR	Eielson Array	87.41	12	P	P	11 12 15.7	+0.1
SNAA	Sanae	88.40	178	P	P	11 12 19.6	-0.9
SNAA				IAmb	IAmb	11 12 46.4	
	comp=Z,4.7nm,1.5s						
CMAR	Chiang Mai Arr	91.96	289	P	P	11 12 39.2	+1.2
	comp=Z,0.4nm,0.4s,baz=241,slow=23,SNR=2.0						
AKASG	Malin Array Be	143.60	333	PKP	PKPdf	11 19 02.1	-0.6
	comp=Z,0.5nm,0.3s,baz=53,slow=3.8,SNR=4.3						
CLL	Collm	148.04	350	ePKPbc	PKPbc	11 19 13.0	-0.5
BRTR	Keskin Array B	148.07	314	PKPbc	PKPbc	11 19 13.4	-0.8
	comp=Z,0.8nm,0.6s,baz=134,slow=5.3,SNR=3.6						
BRTR	Keskin Array B	148.07	314		PKPbc	11 19 13.9	-0.3
KHC	Kasperske Hory	150.03	348	ePKP	PKPbc	11 19 18.5	-0.2
GERES	GERESS Array B	150.27	347	PKPbc	PKPbc	11 19 18.9	-0.5
	comp=Z,1.1nm,0.7s,baz=38,slow=2.4,SNR=9.7						
GERES	GERESS Array B	150.27	347		PKPbc	11 19 19.0	-0.4

TAP 13 11:05:27.6, 21°.66N×121°.35E, h34km, ML2.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.42	27	P	Pb	11 05 36.8	-0.3
	baz=27						
LAY				eS	Sb	11 05 43.6	-0.1
	baz=27						
TSEB	Hengchuen, Pin	0.48	300	P	Pn	11 05 38.6	+0.5
	baz=297						
TSEB				S	Sn	11 05 45.9	+0.6
	baz=297						
TWKBT	Hengchun	0.57	300	eP	Pn	11 05 38.8	-0.5
	baz=299						
TWKBT				eS	Sb	11 05 47.1	-0.3
	baz=299						
TWK1	Hengchun	0.57	299	P	Pn	11 05 39.0	-0.4
	baz=299						
TWK1				eS	Sb	11 05 47.6	0.0
	baz=299						
HEN	Hengchun	0.66	301	eP	Pn	11 05 40.2	-0.4
	baz=301						
HEN				eS	Sn	11 05 49.6	-0.2
	baz=301						
SLIU	Shizi	0.75	318	eP	Pn	11 05 41.7	-0.2
	baz=317						
SLIU				eS	Sn	11 05 51.6	-0.5
	baz=317						
TAW	Tawu	0.81	329	eP	Pn	11 05 42.5	-0.2
	baz=329						
TAW				eS	Sn	11 05 53.0	-0.5
	baz=329						
EAST	Anshuo	0.85	327	eP	Pn	11 05 43.2	-0.2
	baz=327						
EAST				eS	Sn	11 05 54.7	+0.1
	baz=327						
SCZT	Fangliau	0.98	317	P	Pn	11 05 43.9	-1.0
	baz=316						
SCZT				eS	Sb	11 05 58.3	-0.5
	baz=316						
ECL	Taimali	1.00	339	eP	Pn	11 05 44.9	-0.4
	baz=339						
ECL				eS	Sn	11 05 57.5	-0.8
	baz=339						
LDUT	Ludao	1.01	6	eP	Pb	11 05 46.1	-0.6
	baz=6.0						
MASBT	Mashibuluo	1.16	325	eP	Pn	11 05 46.5	-0.9
	baz=325						
MASBT				eS	Sn	11 06 01.9	-0.1
	baz=325						
TWGBT	Beinan	1.18	348	eP	Pn	11 05 48.0	+0.2
	baz=347						
TWGBT				eS	Sn	11 06 02.6	-0.1
	baz=347						
TWG	Pinlang	1.18	348	eP	Pn	11 05 48.0	+0.2
	baz=347						
TWG				eS	Sn	11 06 02.9	+0.1
	baz=347						
EDH	Donghe	1.31	358	eP	Pn	11 05 49.8	+0.3
	baz=358						
EDH				eS	Sn	11 06 06.8	+1.0
	baz=358						
FULB	Fuli	1.53	358	eP	Pn	11 05 52.0	-0.7
	baz=358						
YULB	Yu-li	1.73	359	eP	Pn	11 05 56.4	+1.1
	baz=358						
YULB				eS	Sn	11 06 16.1	-0.1
	baz=358						

IDC 13 11:07:30.2±1.7, 12°.06N×123°.37E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/31, mbtmp3.3/3, Error ellipse: s-maj=330.4km s-min=28.6km az=72.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.58	161	P	P	11 14 12.8	+0.5
	0.4nm,0.8s,baz=342,slow=9.6,SNR=2.4						
ASAR	Alice Springs	36.97	164	P	P	11 14 41.0	-0.5
	0.1nm,0.5s,baz=340,slow=7.0,SNR=5.1						
SONM	Songino Array	38.40	342	P	P	11 14 53.3	-0.1
	0.3nm,0.4s,baz=170,slow=10,SNR=1.9						

*IDC **13** 11:16:33.6±5.0, 6°.78N×72°.81W, h166km±34km, mb3.0/3, mb1 3.5/5, mb1mx3.1/31, mbtmp3.7/5, Error ellipse: s-maj=83.4km s-min=27.0km az=74.0*
*RSNC **13** 11:16:34.6±0.9, 6°.83N×73°.14W, h154km±3km, ML3.8, Mw4.0, Fault plane solution: NP1:φs60.00000°, δ69.00000°, λ-180.00000°.*
ISC 13 11:16:33.6±0.8, 6°.86N±0°.03×73°.12W±0°.04, h155km±6km, n47, σ1§46/84, mb3.4/3, 4C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	192	⇑iP	Pn	11 16 55.2	+0.2
BARC				eS	Sn	11 17 11.1	-0.2
BARC				i		11 17 11.5	
	comp=Z,2μm,0.2s						
BRRC	Barranca, Sant	0.63	293	⇓eP	Pn	11 16 57.0	+0.8
BRRC				eS	Sn	11 17 14.3	+0.8
BRRC				i		11 17 17.3	
	comp=Z,836nm,0.3s						
PAMC	Pamplona, Colo	0.64	41	⇓iP	Pn	11 16 58.1	+1.3
PAMC				eS	Sn	11 17 15.0	+0.4
PAMC				i		11 17 17.4	
	comp=Z,2μm,0.5s						
RUSC	La Rusia	0.96	178	eP	Pn	11 16 59.2	+0.1
RUSC				eS	Sn	11 17 18.6	0.0
RUSC				i		11 17 19.2	
	comp=Z,921nm,0.3s						
PTBC	PUERTO BERRIO,	1.36	257	⇑eP	Pn	11 17 01.6	-0.6
PTBC				eS	Sn	11 17 23.9	-0.1
PTBC				i		11 17 30.6	
	comp=Z,549nm,0.3s						
OCAC	Ocana	1.39	352	⇑eP	Pn	11 17 03.3	+0.7
OCAC				eS	Sn	11 17 25.3	+0.4
OCAC				i		11 17 30.1	
	comp=Z,673nm,0.5s						
TAMC	Tame, Arauca	1.39	107	⇓iP	Pn	11 17 03.6	+1.1
TAMC				eS	Sn	11 17 25.4	+0.8
SPBC	San Pablo de B	1.52	218	⇑eP	Pn	11 17 03.9	0.0
SPBC				eS	Sn	11 17 26.6	-0.6
SPBC				i		11 17 28.9	
	comp=Z,1μm,0.3s						
ZARC	Zaragoza, Cauc	1.83	290	eP	Pn	11 17 07.3	+0.1
ZARC				eS	Sn	11 17 33.4	+0.4
ZARC				i		11 17 40.8	
	comp=Z,349nm,0.2s						
SMLC	San Martn de	2.15	334	eP	Pn	11 17 11.2	+0.5
SMLC				eS	Sn	11 17 40.1	+0.7
SMLC				i		11 17 43.8	
	comp=Z,646nm,0.3s						
NORC	Norcasia	2.16	234	eP	Pn	11 17 10.9	0.0
NORC				eS	Sn	11 17 39.8	0.0
NORC				i		11 17 44.5	
	comp=Z,510nm,0.5s						
CHIC	Chingaza	2.29	195	eP	Pn	11 17 13.2	+0.2
CHIC				eS	Sn	11 17 42.6	-0.6
CHIC				i		11 17 46.3	
	comp=Z,395nm,0.5s						
ROSC	El Rosal	2.33	211	P	Pn	11 17 15.3	+2.0
	comp=Z,178nm,0.3s,baz=333,slow=3.8,SNR=178						
ROSC				S	Sn	11 17 41.6	-2.3
	comp=Z,74nm,0.3s,baz=132,slow=19,SNR=10						
ROSC	El Rosal	2.33	211	eP	Pn	11 17 14.8	+1.4
ROSC				eS	Sn	11 17 45.7	+1.8
ROSC				i		11 17 49.1	
	comp=Z,652nm,0.4s						
HELC	Santa Helena	2.48	255	eP	Pn	11 17 16.3	+1.2
HELC				eS	Sn	11 17 47.7	+0.7
HELC				i		11 17 54.3	
	comp=Z,310nm,0.5s						
CVER	Cruz Verde, Cu	2.51	202	eP	Pn	11 17 18.5	+3.0
UREC	San Jos de Ur	2.55	291	eP	Pn	11 17 15.7	+0.2
UREC				eS	Sn	11 17 47.8

PLMC	**San Jos del P**	**3.69**	**238**	*e*P	**Pn**	**11 17 30.9**	**+0.8**
PLMC				*e*S	**Sn**	**11 18 15.7**	**+1.7**
PLMC				*i*		11 18 17.5	
	comp=Z,212nm,0.2s						
YOTC	**Yotoco, Valle**	**4.29**	**228**	*e*P	**Pn**	**11 17 37.7**	**-0.3**
YOTC				*e*S	**Sn**	**11 18 32.0**	**+3.9**
GUVC	**San Jose del G**	**4.31**	**173**	*e*P	**Pn**	**11 17 37.9**	**-0.2**
GUVC				*e*S	**Sn**	**11 18 27.1**	**-1.3**
GUVC				*i*		11 18 32.4	
	comp=Z,193nm,0.3s						
SMRC	**Santa Marta, M**	**4.42**	**346**	*e*P	**Pn**	**11 17 39.7**	**+0.3**
SMRC				*e*S	**Sn**	**11 18 28.4**	**-2.3**
SMRC				*i*		11 18 31.7	
	comp=Z,93nm,0.2s						
MACC	**Macarena, Meta**	**4.74**	**189**	*e*P	**Pn**	**11 17 42.0**	**-1.7**
MACC				*e*S	**Sn**	**11 18 34.7**	**-3.6**
BETC	**Betania**	**4.75**	**209**	*e*P	**Pn**	**11 17 43.4**	**-0.5**
MARP	**Paez Belalcaza**	**4.88**	**215**	*e*P	**Pn**	**11 17 45.8**	**0.0**
MARP				*e*S	**Sn**	**11 18 39.7**	**-2.5**
URIC	**Uribia, Colomb**	**4.94**	**13**	*e*P	**Pn**	**11 17 45.5**	**-0.8**
URIC				*e*S	**Sn**	**11 18 40.4**	**-2.8**
URIC				*i*		11 18 49.9	
	comp=Z,17nm,0.4s						
GARC	**Garzon, Huila**	**5.21**	**207**	*e*P	**Pn**	**11 17 49.1**	**-0.9**
GARC				*e*S	**Sn**	**11 18 47.1**	**-2.7**
GARC				*i*		11 18 51.6	
	comp=Z,73nm,0.2s						
PCON	**Cinco Dias**	**5.56**	**216**	*e*P	**Pn**	**11 17 56.1**	**+1.0**
FLOC	**Florencia**	**5.81**	**206**	*e*P	**Pn**	**11 17 57.2**	**-0.8**
BBAC	**Balboa, Cauca**	**6.32**	**221**	*e*P	**Pn**	**11 18 05.5**	**+0.7**
BBAC				*e*S	**Sn**	**11 19 15.4**	**-1.0**
BBAC				*i*		11 19 22.2	
	comp=Z,12nm,0.3s						
JTS	**Las Juntas de**	**12.18**	**287**	P	**P**	**11 19 26.2**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=170,slow=24,SNR=2.1						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**11 23 25.0**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=134,slow=9.0,SNR=3.8						
PDAR	**Pinedale Array**	**48.05**	**324**	P	**P**	**11 24 58.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=130,slow=9.8,SNR=2.6						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**11 26 45.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=135,slow=6.8,SNR=4.1						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**11 36 03.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=112,slow=3.7,SNR=10						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**11 36 06.3**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=106,slow=2.8,SNR=20						

*JMA **13** 11:21:37.3±0.1, 23°.53N×121°.68E, h19km±4km, M2.8*
*TAP **13** 11:21:38.2, 23°.58N×121°.54E, h31km, ML3.2, B*
ISC 13 11:21:38.3±0.9, **23°.57N**±0°.02×**121°.60E**±0°.02, **h32**km±5km,
n90, σ0**.84**/168, **1C-6D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.17**	**245**	⇑*i*P	**Pn**	**11 21 44.6**	**-0.1**
	baz=231						
HGSD				*e*S	**Sb**	**11 21 50.1**	**+1.3**
	baz=231						
EGFH	**Guangfu**	**0.18**	**303**	*i* P	**Pn**	**11 21 44.6**	**-0.2**
	baz=309						
EGFH				S	**Sb**	**11 21 49.9**	**+0.9**
	baz=309						
EHY	**Hungye**	**0.26**	**256**	⇓*i*P	**Pb**	**11 21 44.9**	**-0.6**
	baz=248						
EHY				S	**Sb**	**11 21 49.8**	**-0.6**
	baz=248						
ESL	**Shilin**	**0.29**	**329**	⇓*i*P	**Pb**	**11 21 45.4**	**-0.5**
	baz=338						
ESL				S	**Sb**	**11 21 50.8**	**-0.2**
	baz=338						
YULB	**Yu-li**	**0.33**	**238**	⇓*i*P	**Pb**	**11 21 45.8**	**-0.5**
	baz=230						
YULB				S	**Sb**	**11 21 51.0**	**-0.8**
	baz=230						
EYUL	**Yuli**	**0.34**	**229**	*i* P	**Pn**	**11 21 46.4**	**-0.5**
	baz=221						
EYUL				S	**Sn**	**11 21 52.4**	**-0.2**
	baz=221						
TWF1	**Yuli**	**0.35**	**232**	⇓*i*P	**Pb**	**11 21 46.2**	**-0.4**
	baz=223						
TWF1				S	**Sb**	**11 21 51.8**	**-0.6**
	baz=223						
HWA	**Hwalien**	**0.41**	**1**	*e*P	**Pn**	**11 21 48.0**	**+0.2**
	baz=9.0						
HWA				*e*S	**Sn**	**11 21 54.9**	**+0.5**
	baz=9.0						
VWDT	**VWDT**	**0.46**	**294**	⇓*i*P	**Pb**	**11 21 48.0**	**-0.2**
	baz=295						
VWDT				*e*S	**Sb**	**11 21 54.5**	**-0.5**
	baz=295						
FULB	**Fuli**	**0.46**	**217**	P	**Pn**	**11 21 48.6**	**-0.1**
	baz=211						
FULB				*e*S	**Sn**	**11 21 56.5**	**+0.7**
	baz=211						
CHKT	**Chengkung**	**0.51**	**205**	*e*P	**Pb**	**11 21 48.6**	**-0.4**
	baz=198						
CHKT				*e*S	**Sn**	**11 21 57.6**	**+0.6**
	baz=198						
OWD	**Renai**	**0.55**	**315**	P	**Pb**	**11 21 49.1**	**-0.5**
	baz=317						
OWD				*e*S	**Sb**	**11 21 56.9**	**-0.6**
	baz=317						
NACB	**Ninganchiao**	**0.60**	**360**	*e*P	**Pb**	**11 21 49.7**	**-0.8**
	baz=4.0						
NACB				*e*S	**Sn**	**11 21 59.9**	**+0.6**
	baz=4.0						
CHGB	**Renai**	**0.62**	**322**	⇓P	**Pb**	**11 21 50.6**	**-0.4**
	baz=324						
CHGB				*e*S	**Sb**	**11 21 59.1**	**-0.6**
	baz=324						
SSLB	**Suanglung**	**0.63**	**291**	*e*P	**Pb**	**11 21 50.1**	**-0.9**
	baz=290						
SSLB				*e*S	**Sb**	**11 21 58.5**	**-1.1**
	baz=290						
ETLH	**Xiulin Townshi**	**0.65**	**351**	*e*P	**Pb**	**11 21 50.4**	**-0.9**
	baz=354						
ETLH				*e*S	**Sb**	**11 21 59.2**	**-1.0**
	baz=354						
WHF	**Hehuan Shan**	**0.65**	**332**	*e*P	**Pb**	**11 21 50.7**	**-0.9**
	baz=336						
WHF				*e*S	**Sb**	**11 22 00.2**	**-0.5**
	baz=336						
EDH	**Donghe**	**0.65**	**205**	*e*P	**Pn**	**11 21 51.2**	**0.0**
	baz=199						
EDH				*e*S	**Sn**	**11 22 01.6**	**+1.2**
	baz=199						
ELDTW	**Lidau**	**0.65**	**235**	*e*P	**Pb**	**11 21 50.2**	**-1.2**
	baz=230						
ELDTW				*e*S	**Sb**	**11 21 59.6**	**-0.8**
	baz=230						
WHYT	**Xinyi Township**	**0.69**	**281**	*e*P	**Pb**	**11 21 51.9**	**-0.2**
	baz=280						
WHYT				*e*S	**Sb**	**11 22 00.2**	**-1.2**
	baz=280						
SMLT	**Sun Moon Lake**	**0.71**	**296**	*e*P	**Pb**	**11 21 51.7**	**-0.6**
	baz=297						
SMLT				*e*S	**Sn**	**11 22 02.5**	**+0.4**
	baz=297						
ALS	**Alishan**	**0.73**	**266**	*e*P	**Pb**	**11 21 52.4**	**-0.3**
	baz=263						
ALS				*e*S	**Sb**	**11 22 02.4**	**-0.2**
	baz=263						
FUSS	**Fushou**	**0.75**	**335**	*e*P	**Pb**	**11 21 52.6**	**-0.5**
	baz=337						
FUSS				*e*S	**Sb**	**11 22 02.4**	**-0.8**
	baz=337						
TYC	**Yuchr**	**0.76**	**296**	*e*P	**Pb**	**11 21 52.4**	**-0.6**
	baz=297						
TYC				*e*S	**Sb**	**11 22 03.1**	**0.0**
	baz=297						
TWT	**Tachien**	**0.78**	**331**	*e*P	**Pn**	**11 21 53.5**	**+0.3**
	baz=332						
TWT				*e*S	**Sb**	**11 22 03.4**	**-0.7**
	baz=332						
LONT	**Longtian**	**0.79**	**213**	*e*P	**Pb**	**11 21 51.7**	**-1.9**
	baz=209						
LONT				*e*S	**Sb**	**11 22 02.7**	**-1.2**
	baz=209						
TDCB	**Techi**	**0.79**	**330**	*e*P	**Pb**	**11 21 53.3**	**-0.4**
	baz=332						
TDCB				*e*S	**Sb**	**11 22 02.9**	**-1.4**
	baz=332						
WJS	**Zhushan**	**0.84**	**288**	*e*P	**Pn**	**11 21 54.6**	**+0.8**
	baz=287						
WJS				*e*S	**Sn**	**11 22 06.0**	**+1.0**
	baz=287						
CHN5	**Tsauling**	**0.84**	**272**	*e*P	**Pn**	**11 21 54.4**	**+0.5**
	baz=271						
ENA	**Nanau**	**0.87**	**9**	*e*P	**Pn**	**11 21 54.5**	**+0.3**
	baz=12						
ENA				*e*S	**Sn**	**11 22 06.4**	**+0.6**
	baz=12						
STYT	**Tauyuan**	**0.87**	**243**	*e*P	**Pb**	**11 21 54.3**	**-0.7**
	baz=239						
STYT				*e*S	**Sb**	**11 22 05.3**	**-1.0**
	baz=239						
NNSB	**Datong**	**0.88**	**347**	*e*P	**Pb**	**11 21 54.3**	**-0.9**
	baz=350						
NNSB				*e*S	**Sb**	**11 22 05.6**	**-1.1**
	baz=350						
NNSH	**Datong**	**0.88**	**347**	*e*P	**Pb**	**11 21 54.2**	**-1.0**
	baz=350						
NNSH				*e*S	**Sb**	**11 22 05.5**	**-1.1**
	baz=350						
TWGBT	**Beinan**	**0.89**	**213**	*e*P	**Pb**	**11 21 52.9**	**-2.3**
	baz=209						
TWGBT				*e*S	**Sb**	**11 22 06.1**	**-0.6**
	baz=209						
TWG	**Pinlang**	**0.89**	**213**	*e*P	**Pb**	**11 21 52.9**	**-2.3**
	baz=209						
TWG				*e*S	**Sb**	**11 22 06.1**	**-0.7**
	baz=209						
NNS	**Nan Shan**	**0.89**	**347**	*e*P	**Pb**	**11 21 54.6**	**-0.8**
	baz=350						
NNS				*e*S	**Sb**	**11 22 06.3**	**-0.8**
	baz=350						
WNT	**Mingjian**	**0.89**	**290**	*e*P	**Pn**	**11 21 55.6**	**+1.1**
	baz=290						
WNT				*e*S	**Sn**	**11 22 07.2**	**+0.9**
	baz=290						
LDUT	**Ludao**	**0.90**	**188**	*e*P	**Pb**	**11 21 53.9**	**-1.5**
	baz=184						
LDUT				*e*S	**Sn**	**11 22 07.5**	**+1.0**
	baz=184						
ENAH	**Nanao**	**0.90**	**12**	*e*P	**Pn**	**11 21 55.1**	**+0.4**
	baz=15						
ENAH				*e*S	**Sn**	**11 22 07.3**	**+0.8**
	baz=15						
TTN	**Taitung**	**0.91**	**207**	*e*P	**Pb**	**11 21 54.8**	**-0.8**
	baz=203						
TTN				*e*S	**Sn**	**11 22 06.8**	**+0.1**
	baz=203						
WHP	**Taichung City**	**0.92**	**320**	*e*P	**Pn**	**11 21 55.3**	**+0.2**
	baz=321						
WHP				*e*S	**Sn**	**11 22 08.1**	**+0.8**
	baz=321						
TPUB	**Ta-pu**	**0.93**	**254**	*e*P	**Pb**	**11 21 56.0**	**+0.1**
	baz=251						
TPUB				*e*S	**Sn**	**11 22 08.0**	**+0.7**
	baz=251						
CHN4	**Tsaushan**	**0.95**	**257**	*e*P	**Pb**	**11 21 56.4**	**+0.2**
	baz=255						
CHN4				*e*S	**Sn**	**11 22 09.6**	**+1.9**
	baz=255						
WGK	**Gukeng**	**0.96**	**277**	*e*P	**Pn**	**11 21 54.8**	**-0.7**
	baz=276						
WGK				*e*S	**Sb**	**11 22 06.8**	**-1.9**
	baz=276						
WTP	**Ta-pu**	**0.96**	**251**	*e*P	**Pb**	**11 21 56.2**	**-0.2**
	baz=248						
WTP				*e*S	**Sn**	**11 22 09.8**	**+1.7**
	baz=248						
WDLH	**Douliu**	**0.98**	**277**	*e*P	**Pb**	**11 21 56.8**	**+0.1**
	baz=276						
WDLH				*e*S	**Sn**	**11 22 09.8**	**+1.4**
	baz=276						
NDT	**Datong Townshi**	**1.03**	**356**	*e*P	**Pn**	**11 21 56.7**	**+0.1**
	baz=358						
NDT				*e*S	**Sb**	**11 22 10.6**	**-0.4**
	baz=358						
SLGT	**Liugui**	**1.04**	**237**	*e*P	**Pb**	**11 21 57.2**	**-0.7**
	baz=234						
SLGT				*e*S	**Sn**	**11 22 10.8**	**+0.7**
	baz=234						
SGST	**Jiashian**	**1.05**	**243**	*e*P	**Pb**	**11 21 57.5**	**-0.4**
	baz=240						
SGST				*e*S	**Sn**	**11 22 11.8**	**+1.5**
	baz=240						
CHN1	**Nanshi**	**1.05**	**249**	*e*P	**Pb**	**11 21 58.2**	**+0.2**
	baz=247						
CHN1				*e*S	**Sn**	**11 22 12.5**	**+2.2**
	baz=247						
TWC	**Suao**	**1.06**	**12**	*e*P	**Pb**	**11 21 57.7**	**-0.5**
	baz=15						
TWC				*e*S	**Sn**	**11 22 11.7**	**+1.1**
	baz=15						
TWK	**Hsinying**	**1.06**	**254**	*e*P	**Pb**	**11 21 58.0**	**-0.2**
	baz=251						
TWK				*e*S	**Sn**	**11 22 12.5**	**+1.8**
	baz=251						
ENTT	**Nioudou**	**1.07**	**359**	*e*P	**Pn**	**11 21 57.0**	**0.0**
	baz=1.0						
ENTT				*e*S	**Sn**	**11 22 10.7**	**0.0**
	baz=1.0						
SNST	**Tainan City**	**1.07**	**251**	*e*P	**Pb**	**11 21 58.6**	**+0.3**
	baz=249						
SNST				*e*S	**Sb**	**11 22 12.5**	**+0.6**
	baz=249						
WCHH	**Zhanghua**	**1.08**	**298**	*e*P	**Pb**	**11 21 58.8**	**+0.4**
	baz=298						
TWQ1	**Liyutan**	**1.08**	**316**	*e*P	**Pb**	**11 21 58.9**	**+0.3**
	baz=317						
TWQ1				*e*S	**Sb**	**11 22 13.6**	**+1.2**
	baz=317						
WTK	**Tuku**	**1.11**	**276**	*e*P	**Pb**	**11 21 59.1**	**+0.1**
	baz=275						
WTK				*e*S	**Sn**	**11 22 11.1**	**-0.8**
	baz=275						
YHNB	**Yeheng**	**1.12**	**350**	*e*P	**Pn**	**11 21 58.0**	**+0.3**
	baz=351						
YHNB				*e*S	**Sn**	**11 22 12.0**	**0.0**
	baz=351						
ECL	**Taimali**	**1.13**	**212**	*e*P	**Pn**	**11 21 58.2**	**+0.3**
	baz=208						
ECL				*e*S	**Sn**	**11 22 12.0**	**-0.2**
	baz=208						
NSY	**Sanyi**	**1.14**	**318**	*e*P	**Pb**	**11 21 59.8**	**+0.4**
	baz=319						
WDJ	**Dajia District**	**1.17**	**312**	*e*P	**Pb**	**11 22 00.1**	**+0.2**
	baz=312						
NSTT	**Nanjuang**	**1.19**	**333**	*e*P	**Pb**	**11 22 00.2**	**-0.1**
	baz=334						
NSTT				*e*S	**Sn**	**11 22 14.8**	**+1.0**
	baz=334						
LIOB	**Emei**	**1.20**	**334**	*e*P	**Pb**	**11 22 00.5**	**0.0**
	baz=335						
LIOB				*e*S	**Sb**	**11 22 15.6**	**0.0**
	baz=335						
PTSB	**Yuanli**	**1.20**	**317**	*e*P	**Pn**	**11 21 58.9**	**+0.1**
	baz=318						
NWLT	**Wulai**	**1.21**	**356**	*e*P	**Pn**	**11 21 59.4**	**+0.4**
	baz=358						
NWLT				*e*S	**Sn**	**11 22 14.2**	**0.0**
	baz=358						
SSD	**Sandimen**	**1.21**	**228**	*e*P	**Pb**	**11 22 01.1**	**+0.5**
	baz=224						
SSD				*e*S	**Sb**	**11 22 16.2**	**+0.3**
	baz=224						
NMLH	**Miaoli**	**1.21**	**323**	*e*P	**Pb**	**11 22 00.4**	**-0.4**
	baz=324						
SCST	**Cishan**	**1.22**	**236**	*e*P	**Pb**	**11 22 01.7**	**+0.9**
	baz=234						
ICHU	**Yijhu**	**1.23**	**261**	*e*P	**Pb**	**11 22 00.4**	**-0.6**
	baz=259						
ICHU				*e*S	**Sb**	**11 22 16.3**	**-0.1**
	baz=259						
WTCT	**Ta-ch'eng**	**1.24**	**284**	*e*P	**Pn**	**11 21 59.7**	**+0.4**
	baz=283						
CHN8	**Yiju**	**1.29**	**260**	*e*P	**Pb**	**11 22 01.2**	**-0.8**
	baz=259						
CHN8				*e*S	**Sb**	**11 22 18.2**	**0.0**
	baz=259						
MASBT	**Mashibuluo**	**1.30**	**223**	*e*P	**Pn**	**11 22 00.3**	**+0.1**
	baz=220						
MASBT				*e*S	**Sb**	**11 22 19.2**	**+0.7**
	baz=220						
EAST	**Anshuo**	**1.37**	**210**	*e*P	**Pb**	**11 22 04.4**	**+1.1**
	baz=207						
EAST				*e*S	**Sn**	**11 22 18.4**	**+0.3**
	baz=207						
TIPB	**Shuangxi**	**1.41**	**8**	*e*P	**Pn**	**11 22 02.6**	**+0.8**
	baz=10.0						
TIPB				*e*S	**Sn**	**11 22 20.0**	**+0.7**
	baz=10.0						
TWB1	**Santiao Chiao**	**1.48**	**14**	*e*P	**Pn**	**11 22 03.6**	**+1.0**
	baz=16						
TWB1				*e*S	**Sn**	**11 22 22.3**	**+1.4**
	baz=16						
SCZT	**Fangliau**	**1.49**	**217**	*e*P	**Pb**	**11 22 04.1**	**-1.3**
	baz=214						
SCZT				*e*S	**Sb**	**11 22 24.2**	**+0.2**
	baz=214						
JYNG	**Yonagunijimaku**	**1.52**	**54**	P	**Pn**	**11 22 03.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.57**	**55**	*e*P	**Pb**	**11 22 05.2**	**-1.6**
	baz=56						
YOJ				*e*S	**Sn**	**11 22 23.5**	**+0.4**
	baz=56						
YOJ	**Yonaguni jima**	**1.57**	**55**	P	**Pn**	**11 22 04.9**	**+1.0**
YOJ				*e*S	**Sn**	**11 22 23.9**	**+0.8**
WDGT	**Dungji**	**1.81**	**261**	*e*P	**Pn**	**11 22 07.7**	**+0.6**
	baz=259						
WDGT				*e*S	**Sn**	**11 22 28.0**	**-0.9**
	baz=259						
PHUB	**P'eng-hu**	**1.86**	**269**	*e*P	**Pn**	**11 22 08.4**	**+0.5**
	baz=267						
PHUB				*e*S	**Sn**	**11 22 30.2**	**0.0**
	baz=267						
HATJ	**Hateruma jima**	**2.08**	**76**	S	**Sn**	**11 22 36.2**	**+0.5**
IRIF	**Iriomote-Funau**	**2.10**	**68**	P	**Pn**	**11 22 12.1**	**+1.0**
IRIF				*e*S	**Sn**	**11 22 37.6**	**+1.5**
JKRS	**Kuro-shima**	**2.31**	**73**	P	**Pn**	**11 22 15.3**	**+1.3**
JKRS				S	**Sn**	**11 22 42.5**	**+1.2**
VWUC	**VWUC**	**2.42**	**306**	*e*P	**Pn**	**11 22 15.6**	**+0.1**
	baz=306						
VWUC				*e*S	**Sn**	**11 22 43.1**	**-0.9**
	baz=306						
JJJ	**Ishigaki jima**	**2.46**	**71**	P	**Pn**	**11 22 16.9**	**+0.8**
PTTC	**Pingtan**	**2.54**	**320**	*e*P	**Pn**	**11 22 16.8**	**-0.5**
	baz=319						
PTTC				*e*S	**Sn**	**11 22 46.0**	**-1.2**
	baz=319						
JISG	**Ishigakijimahi**	**2.68**	**67**	P	**Pn**	**11 22 19.4**	**+0.3**
JISG				S	**Sn**	**11 22 50.2**	**-0.3**
PTMZ	**Houxiangcun**	**2.69**	**303**	*e*P	**Pn**	**11 22 19.7**	**+0.4**
	baz=303						
PTMZ				*e*S	**Sn**	**11 22 49.7**	**-1.2**
	baz=303						
JTJ	**Tarama**	**3.03**	**69**	P	**Pn**	**11 22 25.2**	**+1.2**

*IDC **13** 11:27:12.9±0.5, 14°.79N×93°.28W, h0km, mb4.6/27, mb1 4.8/29, mb1mx4.7/40, mbtmp4.6/29, ML4.6/2, MS4.6/24, Ms1 4.6/24, ms1mx4.5/27, Error ellipse: s-maj=23.4km s-min=10.6km az=53.0*
*MEX **13** 11:27:12.3±0.5, 14°.22N×93°.78W, h10km, MD5.1*
*GCMT **13** 11:27:16.4±0.2, 14°.52N±0°.01×93°.82W±0°.01, h12km, MW5.3/130, Moment Tensor Solution. s108,c167; s130,c221; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.66±.01; $M_{\theta\theta}$-0.46±.01; $M_{\phi\phi}$-0.19±.01; $M_{r\theta}$0.59±.03; $M_{\theta\phi}$0.23±.01; $M_{\phi r}$-0.63±.03; Best double couple: $M_0$1.06900×10^{17} NP1:ϕ_s291.00000°, δ19.00000°, λ69.00000°. NP2:ϕ_s133.00000°, δ72.00000°, λ97.00000°. Principal axes: T 1.1130, Plg62.0000°, Azm54.0000°; N -0.0890, Plg7.0000°, Azm311.0000°; P -1.0240, Plg27.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **13** 11:27:17.4±1.6, 14°.60N±0°.06×93°.59W±0°.05, h35km±1km, mb4.9/370, Md5.1(MEX) Error ellipse: s-maj=11.1km s-min=7.9km az=206.0*
*BGR **13** 11:27:18.6±0.0, 14°.15N×92°.60W, h33km, mb5.1, Ms5.1*
*UNK **13** 11:27:19.1, 14°.65N×93°.58W, h42km*
*BJI **13** 11:27:20.0±0.0, 14°.70N×93°.60W, h40km, mB5.6/3, Ms5.5/5, Ms7 5.1/5*
ISC 13 11:27:16.2±0.9, **14°.53N**±0°.04×**93°.64W**±0°.03, **h27**km±5km,
n732, σ1§**24**/701, **mb4.9**/187, **MS4.6**/30, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.23**	**19**	*e*P	**Pn**	**11 27 36.2**	**-1.5**
PCIG				*e*S	**Sb**	**11 27 56.0**	**+1.6**
THIG		**1.38**	**74**	*e*P	**Pn**	**11 27 37.7**	**-2.0**
THIG				*i* S	**Sn**	**11 27 56.4**	**-0.7**
RTAL	**Retalhuleu**	**1.88**	**90**	Pn	**Pn**	**11 27 45.5**	**-1.1**
RTAL				Sn	**Sn**	**11 28 08.4**	**-1.2**
HUEH	**Huehuetenango**	**2.21**	**69**		**Pn**	**11 27 52.1**	**+0.8**
CCIG	**Comitan**	**2.26**	**40**	*e*P	**Pn**	**11 27 53.1**	**+1.0**
CCIG				*i* S	**Sb**	**11 28 21.9**	**-2.2**
CCIG	**Comitan**	**2.26**	**40**		**Pn**	**11 27 53.1**	**+1.0**
CCIG				Sn	**Sn**	**11 28 17.0**	**-2.2**
TGIG		**2.29**	**12**	*e*P	**Pn**	**11 27 52.7**	**+0.4**
TGIG				*i* S	**Sb**	**11 28 22.8**	**-2.0**
TGBT	**Tuxtla Gutierr**	**2.29**	**13**	*e*P	**Pn**	**11 27 51.4**	**-0.9**
TGBT				*i* S	**Sb**	**11 28 22.8**	**-2.0**
CMIG	**Matias Romero**	**2.81**	**335**	*e*P	**Pn**	**11 27 57.9**	**-1.5**
CMIG				*i* S	**Sn**	**11 28 33.1**	**+0.5**
APG	**El Apazote**	**3.10**	**81**	Pn	**Pn**	**11 28 02.1**	**-1.6**
	15nm,0.3s,baz=250,slow=6.5,SNR=84						
APG				Sn	**Sn**	**11 28 42.4**	**+2.3**
	70nm,0.3s,baz=356,slow=21,SNR=4.1						
TUIG	**Tuzandepetl**	**3.56**	**348**	*i* P	**Pn**	**11 28 08.9**	**-0.9**
TUIG				*i* S	**Sn**	**11 28 53.9**	**+2.9**
PEIG	**Puerto Escondi**	**3.69**	**294**	*e*P	**Pn**	**11 28 07.9**	**-3.6**
PEIG				*i* S	**Sn**	**11 28 50.5**	**-3.7**
VHO	**Vista Hermosa**	**3.91**	**311**	*e*P	**Pn**	**11 28 12.3**	**-2.4**
VHO				*i* S	**Sn**	**11 28 58.0**	**-1.8**
MTO3	**Montecristo**	**4.14**	**91**		**Pn**	**11 28 19.1**	**+1.1**
ESQI	**Esquipulas**	**4.16**	**89**		**Pn**	**11 28 17.9**	**-0.3**
ESQI				Sn	**Sn**	**11 29 05.1**	**-0.9**
PETF	**Flores**	**4.33**	**56**		**Pn**	**11 28 21.0**	**+0.6**
SNET	**Serv Nac Est T**	**4.36**	**101**		**Pn**	**11 28 22.2**	**+1.4**
YOIG	**Yosondua**	**4.42**	**302**	*e*P	**Pn**	**11 28 18.4**	**-3.3**
YOIG				*i* S	**Sn**	**11 29 09.2**	**-3.3**
TXIG	**Tlaxiaco**	**4.81**	**305**	*e*P	**Pn**	**11 28 26.8**	**-0.4**
TOIG	**Toxpalan**	**4.83**	**318**	*i* P	**Pn**	**11 28 25.8**	**-1.6**
SCIG	**Sabancuy**	**5.00**	**28**	*e*P	**Pn**	**11 28 29.1**	**-0.4**
HLIG	**Huajuapan de L**	**5.17**	**310**	*e*P	**Pn**	**11 28 29.4**	**-2.8**
HLIG				*i* S	**Sn**	**11 29 30.1**	**-1.0**
TPIG	**Tehuac#an**	**5.26**	**318**	*e*P	**Pn**	**11 28 35.6**	**+2.3**
TLIG	**Tlapa**	**5.62**	**303**	*e*P	**Pn**	**11 28 38.3**	**+0.2**
TLIG	**Tlapa**	**5.62**	**303**	Pn	**Pn**	**11 28 38.9**	**+0.8**
CRIG	**Cruz Grande**	**5.73**	**293**	*e*P	**Pn**	**11 28 38.4**	**-1.1**
LVIG	**Laguna Verde**	**5.80**	**333**	*e*P	**Pn**	**11 28 44.8**	**+4.2**
TGUH	**Tegucigalpa,Un**	**6.19**	**94**	*e*P	**Pn**	**11 28 43.2**	**-2.8**
TGUH	**Tegucigalpa,Un**	**6.19**	**94**	Pn	**Pn**	**11 28 47.5**	**+1.4**
PPM	**Popocatepetl**	**6.57**	**314**	*e*P	**Pn**	**11 28 54.1**	**+2.5**
CRIN	**San Cristobal**	**6.66**	**105**		**Pn**	**11 28 55.3**	**+2.8**
YAIG	**Yautepec**	**6.75**	**310**	*e*P	**Pn**	**11 28 54.8**	**+1.0**
PLIG	**Platanillo**	**6.81**	**305**	*e*P	**Pn**	**11 28 54.1**	**-0.4**
CAIG	**El Cayaco**	**6.85**	**292**	*e*P	**Pn**	**11 28 53.9**	**-1.2**
UNM	**Universidad Na**	**7.13**

ARE1 Arenal 1 9.60 114 eP Pn 11 29 33.4 +0.6
CEDE Laguna Cedeo 9.61 114 eP Pn 11 29 33.3 +0.4
LCR2 La Lucha 2 10.55 116 eP Pn 11 29 45.7 -0.3
RIMA Rio Macho 10.66 115 eP Pn 11 29 48.3 +0.8
CDM Cerro de Muert 10.85 116 eP Pn 11 29 50.1 -0.2
DRK0 Durika 11.44 116 eP Pn 11 29 58.2 +0.1
ZAIG Zacatecas 11.77 315 Pn 11 30 03.3 +0.6
BRU2 Volcan 12.14 117 eP Pn 11 30 10.9 +3.1
FSCY Frank Sound, G 12.83 67 Pn Pn 11 30 15.1 -1.8
LCCY Blossom Villag 13.93 67 Pn Pn 11 30 31.4 -0.5
CBCY The Bluff, Cay 14.24 67 Pn Pn 11 30 33.9 -2.2
833A Chaparral WMA, 14.73 340 P Pn 11 30 44.1 +1.3
baz=157,SNR=9.0
833A Chaparral WMA, 14.73 340 Pn 11 30 43.8 +0.9
735A Kenedy 14.77 346 Pn Pn 11 30 43.3 -0.1
HKT Hockley 15.48 353 Pn Pn 11 30 52.6 -0.1
MTDJ Mount Denham 15.88 74 Pn Pn 11 30 57.8 -0.4
MTDJ IAmb IAmb 11 31 10.3
comp=Z,55nm,0.9s
441A DeRidder 16.15 1 Pn 11 31 00.3 -1.0
435B Jarrell 16.57 348 P Pn 11 31 07.7 +0.9
baz=166,SNR=9.7
435B Jarrell 16.57 348 P P 11 31 08.0 -1.1
435B IAmb IAmb 11 31 23.9
comp=Z,81nm,0.9s
342A Flagon Creek P 16.81 4 Pn 11 31 08.7 -1.0
342A IAmb IAmb 11 31 20.3
comp=Z,166nm,1.3s
JCT Junction City 16.85 341 P P 11 31 12.0 -0.3
baz=159,SNR=31
JCT Junction City 16.85 341 Pn 11 31 11.3 +0.9
JCT IAmb IAmb 11 31 21.5
comp=Z,101nm,0.9s
344A Westbrook Farm 17.05 8 Pn 11 31 12.2 -0.6
344A IAmb IAmb 11 31 27.9
comp=Z,83nm,0.9s
NATX Nacogdoches 17.17 357 P P 11 31 16.9 +1.1
baz=176
NATX Nacogdoches 17.17 357 Pn 11 31 13.0 -1.4
NATX IAmb IAmb 11 31 32.0
comp=Z,92nm,1.4s
346A Big Creek Wild 17.21 12 P Pn 11 31 15.2 +0.5
346A IAmb IAmb 11 31 23.4
comp=Z,82nm,1.0s
TX32 Lajitas Array 17.41 329 P P 11 31 18.9 +0.4
TXAR Lajitas Array 17.41 329 P P 11 31 18.8 +0.3
comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=33
TXAR PcP PcP 11 35 58.1 -0.2
comp=Z,0.1nm,0.3s,baz=98,slow=27,SNR=3.5
TXAR LR LR 11 38 49.8
comp=Z,1µm,19.6s,baz=0.0,slow=40
TXAR Lajitas Array 17.41 329 P P 11 31 19.0 +0.5
237A Washetta, Mont 17.50 354 Pn 11 31 16.2 -2.2
237A IAmb IAmb 11 31 30.9
comp=Z,198nm,1.4s
060A Indiantown 17.55 43 Pn Pn 11 31 16.6 -2.4
060A IAmb IAmb 11 31 33.2
comp=Z,120nm,1.0s
451A Vernon 17.57 23 Pn 11 31 18.4 -1.0
451A IAmb IAmb 11 31 31.1
comp=Z,96nm,1.1s
BRAL Brewton 17.63 19 P P 11 31 23.5 +2.7
baz=201
BRAL Brewton 17.63 19 P Pn 11 31 20.3 +0.3
WHTX Lake Whitney, 17.73 349 P P 11 31 23.7 +1.8
baz=168,SNR=6.6
WHTX Lake Whitney, 17.73 349 P P 11 31 22.3 +0.4
WHTX IAmb IAmb 11 31 37.6
comp=Z,137nm,1.2s
VBMS Vicksburg 17.83 9 P P 11 31 25.2 +2.1
baz=190,SNR=5.1
VBMS Vicksburg 17.83 9 P Pn 11 31 22.5 0.0
VBMS IAmb IAmb 11 31 37.8
comp=Z,133nm,1.1s
SLBS Sierra La Lagu 17.88 303 P P 11 31 25.0 +1.2
143A Socs Landing, 18.20 6 P Pn 11 31 26.2 -0.9
143A IAmb IAmb 11 31 43.2
comp=Z,129nm,1.0s
LPIG La Paz 18.37 304 P Pn 11 31 32.0 +2.8
comp=Z,14nm,0.3s,baz=146,slow=3.1,SNR=5.3
146A Union 18.50 12 P P 11 31 30.1 -0.3
146A IAmb IAmb 11 31 46.3
comp=Z,120nm,1.2s
MOTC Monteria, Cord 18.50 106 eP P 11 31 30.6 0.0
250A Grady 18.63 20 P P 11 31 30.6 -1.2
250A IAmb IAmb 11 31 41.0
comp=Z,69nm,1.1s
Z41A Richland Creek 18.66 2 P Pn 11 31 35.1 +2.5
baz=182
Z41A Richland Creek 18.66 2 P Pn 11 31 32.7 +0.1
Z41A IAmb IAmb 11 31 43.9
comp=Z,98nm,0.9s
352A Blakely 18.66 24 P P 11 31 32.3 +0.1
352A IAmb IAmb 11 31 44.7
comp=Z,66nm,0.9s
DBBC Dabeiba 18.67 112 eP Pn 11 31 35.2 +2.3
Z38A Mt. Pleasant 18.68 356 P P 11 31 32.5 +0.1
Z38A IAmb IAmb 11 31 46.3
comp=Z,102nm,1.1s
ABTX Abilene, Hawle 18.82 344 P Pn 11 31 34.7 0.0
baz=162,SNR=40
ABTX Abilene, Hawle 18.82 344 IAmb IAmb 11 31 42.5
comp=Z,98nm,0.9s
Z35A Perchaven, San 19.00 351 P Pn 11 31 37.4 +0.7
Z35A IAmb IAmb 11 31 51.0
comp=Z,119nm,1.1s
WLAR White Oak Lake 19.08 1 P P 11 31 36.9 +0.2
TIGA Tifton 19.18 27 P Pn 11 31 39.4 +0.4
baz=211
TIGA Tifton 19.18 27 P P 11 31 38.0 +0.1
TIGA IAmb IAmb 11 31 52.7
comp=Z,115nm,1.0s
Z47A Carrollton 19.26 14 P P 11 31 37.7 -1.0
Z47A IAmb IAmb 11 31 42.2
comp=Z,91nm,0.8s
CBOC Ciudad Bolivar 19.35 115 eP Pn 11 31 41.3 0.0
LRAL Lakeview Retre 19.38 17 P Pn 11 31 42.1 +0.8
baz=200,SNR=6.3
LRAL Lakeview Retre 19.38 17 P P 11 31 39.6 -0.5
Y45A Yeager Farm, C 19.60 10 P P 11 31 42.6 +0.1
HELC Santa Helena 19.63 113 eP Pn 11 31 48.0 +3.2
ZARC Zaragoza, Cauc 19.71 109 eP P 11 31 43.1 -0.7
152A Waverly Hall 19.80 23 P P 11 31 44.3 -0.4
X40A Basin Creek Fa 19.88 2 P Pn 11 31 47.9 +0.6
baz=182
X40A Basin Creek Fa 19.88 2 P P 11 31 45.1 -0.4
MIAR Mount Ida 19.93 0 P P 11 31 45.5 -0.5
baz=180,SNR=40
MIAR Mount Ida 19.93 0 P P 11 31 46.2 +0.2
MIAR IAmb IAmb 11 31 56.0
comp=Z,78nm,1.1s
CLNB Carlsbad 19.97 334 P P 11 31 47.1 +0.4
SMLC San Martn de 19.98 104 eP P 11 31 45.7 -1.1
YOTC Yotoco, Valle 20.01 120 eP P 11 31 47.9 +0.7
X37A Clayton 20.03 356 P Pn 11 31 48.6 -0.4
X43A Marvell 20.05 7 P Pn 11 31 49.8 +0.5
baz=188,SNR=8.4
X43A Marvell 20.05 7 P P 11 31 47.0 -0.4
255A Hazlehurst 20.10 29 P Pn 11 31 48.8 -1.0
255A IAmb IAmb 11 31 56.7
comp=Z,136nm,1.5s
GDL2 Guadalupe Moun 20.13 333 P P 11 31 48.0 -0.4
MNTX Cornudas Mount 20.18 330 P P 11 31 49.3 +0.4
baz=145,SNR=30
MNTX Cornudas Mount 20.18 330 P P 11 31 48.5 -0.4
MNTX IAmb IAmb 11 31 57.0
comp=Z,63nm,1.4s
UALR University of 20.19 3 P P 11 31 48.6 -0.3
UALR IAmb IAmb 11 32 07.3
comp=Z,83nm,1.1s
Z51A Franklin 20.22 21 P P 11 31 48.8 -0.4
GUY2C Guyana, Caldas 20.22 115 eP Pn 11 31 51.0 -0.9
OXF Oxford 20.25 10 P Pn 11 31 53.8 +2.2
baz=192
OXF Oxford 20.25 10 P P 11 31 47.9 -1.7
Y49A Blount Mountai 20.32 18 Pn 11 31 52.6 +0.1
154A Montrose 20.40 26 P P 11 31 51.6 +0.5
BBAC Balboa, Cauca 20.41 126 eP P 11 31 51.9 +0.2
PTBC PUERTO BERRIO, 20.45 111 eP P 11 31 51.1 -0.8
NORC Norcasia 20.50 114 eP P 11 31 53.0 +0.5
POPC Popayan, Colom 20.55 124 eP P 11 31 54.1 +0.9
TOLC Tolima 20.57 117 eP Pn 11 31 58.8 +2.9
W39A Magazine 20.57 360 P P 11 31 53.9 +0.9
baz=179,SNR=20
W39A Magazine 20.57 360 IAmb IAmb 11 32 10.6
comp=Z,88nm,1.2s
W41B Gary Mavity, V 20.59 3 P P 11 31 52.0 -1.2
baz=184,SNR=14
W41B Gary Mavity, V 20.59 3 IAmb IAmb 11 32 07.7
comp=Z,103nm,1.1s
WMOK Wichita Mounta 20.65 348 P P 11 31 53.5 -0.4
baz=166,SNR=24
OTAV Otavalo 20.67 132 eP Pn 11 31 59.9 +2.7
OTAV Otavalo 20.67 132 P 11 31 55.4 +0.6
OTAV Otavalo 20.67 132 eP P 11 31 55.1 +0.3
WHAR Wooly Hollow 20.70 3 P P 11 31 55.0 +0.6
X48A Hartselle 20.71 16 P P 11 31 53.7 -0.8
X48A IAmb IAmb 11 32 11.8
comp=Z,58nm,0.9s
W35A Tecumseh 20.74 352 P P 11 31 54.1 -0.7
PCON Cinco Dias 20.90 124 eP P 11 31 58.5 +1.1
FNO Franklin 20.91 351 P 11 31 57.8 +1.1
GOGA Godfrey 20.94 24 P Pn 11 31 58.6 -1.0
baz=208
GOGA Godfrey 20.94 24 P 11 31 56.8 -0.2
MARP Paez Belalcaza 20.96 122 eP P 11 31 58.9 +1.2
PLAL Pickwick Lake 20.97 13 P P 11 31 56.4 -0.9
PLAL IAmb IAmb 11 32 10.7
comp=Z,67nm,1.2s
ORTC Ortega, Tolima 20.98 118 eP P 11 31 58.4 +0.8
MSTX Muleshoe 21.05 338 P P 11 31 58.5 +0.3
baz=154,SNR=87
OKCSW OKLAHOMA CITY 21.06 351 P P 11 31 59.0 +0.7
OKCFA Oklahoma City 21.07 351 P P 11 31 57.9 -0.6
Y52A Lilburn 21.11 23 P P 11 31 58.6 -0.3
SPBC San Pablo de B 21.17 113 eP P 11 32 00.1 +0.3
FPAL Fort Paine 21.20 19 IAmb IAmb 11 32 17.1
comp=Z,35nm,0.9s
OK025 Westminster Rd 21.22 352 P P 11 31 59.8 -0.3
FCAR Ozark Folk Cen 21.31 3 P P 11 32 00.0 -0.9
FCAR IAmb IAmb 11 32 15.4
comp=Z,56nm,1.3s
ROSC El Rosal 21.32 115 P P 11 32 01.6 -0.1
comp=Z,11nm,0.6s,baz=316,slow=11,SNR=18
ROSC LR LR 11 41 38.1
comp=Z,1µm,18.2s,baz=328,slow=41
ROSC El Rosal 21.32 115 eP P 11 32 07.7 +6.0
ROSC El Rosal 21.32 115 P P 11 32 02.2 +0.6
ROSC IAmb IAmb 11 32 13.1
comp=Z,84nm,1.1s
BCOK Bluff Creek, N 21.34 351 P P 11 32 00.4 -0.8
TUL1 Leonard 21.38 355 P P 11 32 03.1 +1.5
baz=174,SNR=11
TUL1 Leonard 21.38 355 P P 11 32 00.8 -0.9
TUL1 IAmb IAmb 11 32 16.7
comp=Z,85nm,1.1s
PRAC Prado 21.39 118 eP P 11 32 03.3 +1.3
157A Early Branch 21.42 30 P P 11 32 05.1 +2.9
baz=215
OK029 Liberty Lake 21.45 351 P P 11 32 03.2 +0.7
OK029 IAmb IAmb 11 32 21.5
comp=Z,52nm,0.8s
X51A Calhoun 21.46 20 P P 11 32 02.8 +0.2
X51A IAmb IAmb 11 32 21.0
comp=Z,36nm,1.0s
AMTX Amarillo 21.52 342 P P 11 32 03.1 -0.2
baz=158
AMTX Amarillo 21.52 342 P P 11 32 03.0 -0.4
HSIG 21.55 315 P P 11 32 04.2 +0.5
LCAR Lake Charles 21.56 5 P P 11 32 04.4 +0.7
LCAR IAmb IAmb 11 32 18.6
comp=Z,94nm,1.1s
BARC Barichara 21.59 109 eP P 11 32 06.5 +2.1
GNAR Gosnell 21.59 8 P P 11 32 04.1 +0.1
HHAR Hobbs 21.66 359 P P 11 32 05.6 +0.9
HHAR IAmb IAmb 11 32 20.0
comp=Z,66nm,1.0s
QUOK Quay 21.72 353 P P 11 32 05.0 -0.4
SWET Sewanee 21.73 17 P P 11 32 05.0 -0.5
U40A Yellville 21.74 2 P P 11 32 07.5 +1.8
baz=182,SNR=16
U40A Yellville 21.74 2 IAmb IAmb 11 32 20.9
comp=Z,66nm,1.2s
PEBM Pemiscott Bayo 21.75 8 P P 11 32 05.6 -0.1
LNXT Lenox 21.80 9 P P 11 32 04.2 -1.9
U38A Gravette 21.83 358 P P 11 32 06.6 0.0
U38A IAmb IAmb 11 32 08.9
comp=Z,33nm,0.9s
SDDR Presa de Saban 21.85 75 P P 11 32 06.1 -0.9
SDDR IAmb IAmb 11 32 20.8
comp=Z,38nm,1.1s
W50A Signal Mountai 21.90 19 P P 11 32 05.5 -1.9
CHIC Chingaza 21.93 115 eP P 11 32 10.3 +2.0
FLOC Florencia 21.94 124 eP P 11 32 09.2 +1.2
RUSC La Rusia 21.96 111 eP P 11 32 09.2 +0.5
V48A Smith Brothers 21.99 15 P P 11 32 07.6 -0.6
V48A IAmb IAmb 11 32 26.3
comp=Z,44nm,1.1s
Z57A Bowman 22.07 30 P P 11 32 10.4 +1.3
baz=215
Y55A Saluda 22.07 27 P P 11 32 09.7 +0.5
baz=212
121A Cookes Peak, D 22.08 327 P P 11 32 11.5 +2.0
baz=141,SNR=85
WVT Waverly 22.13 13 P P 11 32 09.9 +0.2
baz=195
WVT Waverly 22.13 13 P P 11 32 08.4 -1.4
CSU Charleston Sou 22.13 32 P P 11 32 07.3 -2.5
UTMT University of 22.14 10 P P 11 32 08.9 -0.9
HODGE Hodges 22.15 26 P P 11 32 09.2 -0.8
HODGE IAmb IAmb 11 32 25.1
comp=Z,48nm,1.3s
NHSC New Hope 22.17 31 P P 11 32 12.4 +2.2
baz=217
NHSC New Hope 22.17 31 P P 11 32 08.6 -1.7
CROK Carrier 22.22 351 P P 11 32 10.0 -0.8
U32A Winter Ranch, 22.28 349 P P 11 32 11.3 -0.1
U32A IAmb IAmb 11 32 14.2
comp=Z,61nm,1.1s
X54A Belton 22.37 25 P P 11 32 14.4 +2.0
baz=210
CPCT Cooper Cave 22.38 20 P P 11 32 12.2 -0.3
HENM Henderson Moun 22.40 9 P P 11 32 12.0 -0.7
SC01 Santiago de lo 22.44 74 P P 11 32 13.1 -0.2
T35A Sooner Cattle 22.44 354 P P 11 32 11.6 -1.5
T35A IAmb IAmb 11 32 28.7
comp=Z,50nm,1.0s
T42A Van Buren 22.52 5 P P 11 32 12.3 -1.7
Z58A St. Stephen 22.54 31 P P 11 32 15.0 +0.8
baz=217,SNR=5.9
BG3 Lake Jocassee 22.54 23 P P 11 32 14.0 -0.2
BG3 IAmb IAmb 11 32 33.3
comp=Z,29nm,0.9s
X55A Gracelyn & Ava 22.62 27 P P 11 32 16.0 +0.9
baz=212
KAN13 South Haven SW 22.65 352 P P 11 32 14.5 -0.8
TKL Tuckaleechee C 22.82 21 P P 11 32 15.5 -1.7
comp=Z,9.1nm,0.9s,baz=186,slow=11,SNR=10
TKL Tuckaleechee C 22.82 21 IAmb IAmb 11 32 36.3
comp=Z,48nm,1.1s
T45A Paducah 22.83 10 P P 11 32 15.0 -2.3
PAULI Pauline 22.84 26 P P 11 32 16.2 -1.1
KAN10 Anthony SW Sta 22.85 351 P P 11 32 15.5 -1.9
Y22D IRIS PASSCAL I 22.87 331 P P 11 32 20.5 +2.7
baz=145,SNR=7.9
X56A White Oak 22.90 28 P P 11 32 17.7 -0.3
baz=213
W54A Cherokee Point 22.92 25 P P 11 32 19.0 +0.8
baz=210,SNR=7.4
U49A Red Boiling Sp 22.99 16 IAmb IAmb 11 32 34.8
comp=Z,41nm,1.1s
KAN12 Harper NE Stat 23.00 351 P P 11 32 18.3 -0.8
V52A Sevierville 23.05 21 P P 11 32 18.8 -0.8
S39A Bolivar 23.07 1 P P 11 32 18.8 -0.9
S39A IAmb IAmb 11 32 21.1
comp=Z,57nm,0.9s
T47A Sharon Grove 23.11 13 P P 11 32 18.4 -1.7
T47A IAmb IAmb 11 32 21.0
comp=Z,21nm,0.8s
V53A Saluda 23.18 23 P P 11 32 20.2 -0.7
SDV Santo Domingo 23.20 101 P P 11 32 20.6 -0.9
comp=Z,12nm,0.5s,baz=289,slow=6.7,SNR=6.6
SDV Santo Domingo 23.20 101 P P 11 32 20.5 -1.0
SDV IAmb IAmb 11 32 35.9
comp=Z,20nm,0.7s
SDV Santo Domingo 23.20 101 eP P 11 32 19.5 -2.0
BIRD Birdtown, Kers 23.29 28 P P 11 32 22.4 +0.5
KMSC Kings Mountain 23.32 26 P P 11 32 22.2 0.0
baz=211,SNR=11
KMSC Kings Mountain 23.32 26 IAmb IAmb 11 32 23.8
comp=Z,34nm,1.2s
ANMO Albuquerque 23.38 333 P P 11 32 23.1 +0.1
comp=Z,0.6nm,0.8s,baz=318,slow=11,SNR=19
ANMO Albuquerque 23.38 333 P P 11 32 24.2 +1.1
baz=147
ANMO Albuquerque 23.38 333 P P 11 32 23.5 +0.4
CCM Cathedral Cave 23.52 5 P P 11 32 22.0 -2.2
baz=186
CCM Cathedral Cave 23.52 5 P P 11 32 22.5 -1.7
V54A Nebo 23.61 24 P P 11 32 25.9 +0.8
baz=209
TUC Tucson 23.62 321 P P 11 32 26.7 +1.4
baz=134
TUC Tucson 23.62 321 P P 11 32 26.1 +0.8
TUC IAmb IAmb 11 32 29.0
comp=Z,44nm,1.1s
W56A Indian Trail 23.64 27 P P 11 32 25.6 +0.2
baz=213
TZTN Tazewell 23.70 21 P P 11 32 25.8 -0.2
baz=205
TZTN Tazewell 23.70 21 P P 11 32 25.1 -0.9
W57A Gilead 23.92 28 P P 11 32 28.5 +0.4
baz=214
W57A Gilead 23.92 28 P P 11 32 27.8 -0.3
W57A IAmb IAmb 11 32 47.1
comp=Z,33nm,1.3s
V55A Taylorsville 23.98 25 P P 11 32 28.4 -0.1
baz=211
V55A Taylorsville 23.98 25 IAmb IAmb 11 32 44.4
comp=Z,35nm,1.1s
W58A Raeford 24.18 30 P P 11 32 29.3 -1.1
baz=216
SLM Saint Louis 24.20 7 P P 11 32 28.6 -1.9
SLM IAmb IAmb 11 32 31.6
comp=Z,42nm,0.9s
V56A Mocksville 24.25 27 P P 11 32 31.5 +0.5
baz=212
U54A Nelsons Funny 24.31 24 P P 11 32 30.6 -1.2
baz=209
U54A Nelsons Funny 24.31 24 P P 11 32 30.5 -1.2
T25A Trinidad 24.47 339 P P 11 32 34.9 +1.5
baz=154,SNR=57
WCI Wyandotte Cave 24.48 14 P P 11 32 32.5 -0.8
baz=197
WCI Wyandotte Cave 24.48 14 P P 11 32 32.4 -0.8
WCI IAmb IAmb 11 32 34.2
comp=Z,36nm,0.8s
U55A TA2, Sparta 24.60 25 P P 11 32 34.4 +0.1
baz=210
KSU1 Kansas State U 24.61 354 P P 11 32 33.6 -0.7
baz=173,SNR=8.2
KSU1 Kansas State U 24.61 354 IAmb IAmb 11 32 34.4
comp=Z,34nm,0.8s
Q44A Meyer Farm, Va 24.61 9 P P 11 32 32.9 -1.4
Q44A IAmb IAmb 11 32 35.1
comp=Z,35nm,0.9s
V57A Coltrane Farms 24.63 28 P P 11 32 33.2 -1.4
baz=214
214A Organ Pipe Nat 24.65 318 P P 11 32 35.7 +0.9
baz=130,SNR=7.7
214A Organ Pipe Nat 24.65 318 P P 11 32 35.3 +0.5
U56A King 24.75 26 P P 11 32 36.1 +0.4
baz=212,SNR=5.3
CBKS Cedar Bluff 24.78 349 P P 11 32 35.6 -0.3
baz=166,SNR=16
CBKS Cedar Bluff 24.78 349 P P 11 32 35.1 -0.8
CBKS IAmb IAmb 11 32 37.2
comp=Z,45nm,0.8s
R49A Shelbyville 24.82 16 P P 11 32 35.3 -0.9
V58A Windy Hill, Pi 24.86 29 P P 11 32 35.6 -1.0
baz=215
ELOV Elorza 24.86 105 eP P 11 32 36.1 -0.8
T54A Tazewell 24.88 23 P P 11 32 36.8 0.0
baz=209
P40A Paris 24.94 3 P P 11 32 35.3 -2.0
P40A IAmb IAmb 11 32 47.2
comp=Z,22nm,0.8s
P38A Dawn 25.00 0 IAmb IAmb 11 32 38.6
comp=Z,27nm,0.8s
W18A Petrified Fore 25.10 328 P P 11 32 41.1 +2.1
baz=141
W18A Petrified Fore 25.10 328 P P 11 32 40.1 +1.0
W18A IAmb IAmb 11 32 58.3
comp=Z,28nm,1.1s
T55A Pulaski 25.24 25 P P 11 32 39.5 -0.6
baz=210
V59A Middlesex 25.25 30 P P 11 32 38.7 -1.4
baz=217
P43A Skaggs, Pawnee 25.27 7 IAmb IAmb 11 32 43.3
comp=Z,24nm,0.9s
U57A Blanch 25.28 28 P P 11 32 39.9 -0.5
baz=214
BLO Bloomington 25.33 13 IAmb IAmb 11 32 41.1
comp=Z,21nm,0.9s
SDCO Great Sand Dun 25.41 338 P P 11 32 42.8 +0.9
baz=152,SNR=44
SDCO Great Sand Dun 25.41 338 IAmb IAmb 11 32 45.1
comp=Z,34nm,1.1s
BLA Blacksburg 25.47 25 P P 11 32 42.2 0.0
baz=211
T56A Rocky Mt 25.48 26 P P 11 32 42.2 -0.1
baz=212
X16A Lo Mia Camp, P 25.50 324 IAmb IAmb 11 33 01.3
comp=Z,33nm,1.4s
P46A Rosedale 25.62 12 P P 11 32 41.8 -1.7
S54A Dingess, Beckl 25.63 23 P P 11 32 43.4 -0.2
baz=208
S54A Dingess, Beckl 25.63 23 P P 11 32 43.1 -0.5
KSCO Kaye Shedlock' 25.64 344 P P 11 32 45.3 +1.5
baz=159,SNR=8.7
KSCO Kaye Shedlock' 25.64 344 P P 11 32 44.8 +0.9
113A Mohawk Valley, 25.79 318 P P 11 32 45.2 +0.1
R53A Hurricane 25.86 21 P P 11 32 45.5 -0.2
baz=207
SPX San Pedro Mart 25.90 313 P P 11 32 46.6 +0.1
S22A 4UR Ranch, Cre 25.92 336 P P 11 32 47.2 +0.6
baz=150,SNR=16
S22A 4UR Ranch, Cre 25.92 336 P P 11 32 47.0 +0.4
S55A Lewisburg 25.92 24 P P 11 32 46.1 -0.2
baz=210
O44A Mansfield 25.92 9 P P 11 32 44.9 -1.3
O44A IAmb IAmb 11 32 45.9
comp=Z,24nm,0.8s
N38A Joes South For 26.16 1 P P 11 32 47.7 -0.7
MVCO Mesa Verde 26.18 332 P P 11 32 49.5 +0.7
baz=146,SNR=20
MVCO Mesa Verde 26.18 332 IAmb IAmb 11 33 01.1
comp=Z,32nm,1.1s
HDIL Hopedale 26.20 8 P P 11 32 47.7 -1.0
baz=189,SNR=6.9
HDIL Hopedale 26.20 8 P P 11 32 47.4 -1.4
HDIL IAmb IAmb 11 32 49.1
comp=Z,27nm,0.8s
S56A Natural Bridge 26.22 26 P P 11 32 49.5 +0.5
baz=212
WUAZ Wupatki 26.27 326 P P 11 32 50.9 +1.2
baz=138,SNR=19
WUAZ Wupatki 26.27 326 IAmb IAmb 11 33 07.8
comp=Z,32nm,1.0s
N35A Tabor 26.29 357 IAmb IAmb 11 32 58.8
comp=Z,35nm,0.9s
ATAH Atahualpa 26.31 144 P P 11 32 51.5 +1.1
comp=Z,9.7nm,0.9s,baz=12,slow=13,SNR=4.3
N33A J Bar K, Exete 26.32 353 P P 11 32 48.8 -1.0
Q52A Bidwell 26.32 20 P P 11 32 49.1 -0.8
baz=205
U60A Pendleton 26.35 31 P P 11 32 48.9 -1.2
baz=218
Q24A Divide 26.37 339 P P 11 32 51.1 +0.5
baz=154,SNR=10
SFIN Lafayette 26.38 11 P P 11 32 49.4 -0.9
baz=194
Q53A Leroy 26.48 22 P P 11 32 51.3 0.0
baz=207
R55A Marlinton 26.51 24 P P 11 32 51.9 +0.2
baz=210
T59A Double "B" Far 26.55 30 P P 11 32 51.1 -0.8
baz=217
GLA Glamis 26.66 317 P P 11 32 53.7 +0.7
baz=129,SNR=5.8
GLA Glamis 26.66 317 P P 11 32 53.4 +0.3
Q54A Coxs Mills 26.84 22 P P 11 32 54.1 -0.5
baz=208
Q54A Coxs Mills 26.84 22 P P 11 32 54.4 -0.1
PV01 Paradox Valley 26.97 333 IAmb IAmb 11 33 05.5
comp=Z,43nm,1.1s

PDMCI	Parker Dam,Lak	27.03 320	P	P	11 32 57.2	+0.9
	baz=132,SNR=9.4					
BGNE	Belgrade	27.06 353	P	P	11 32 56.0	-0.6
BGNE			IAmb	IAmb	11 32 57.2	
	comp=Z,20nm,0.7s					
PV13	Radium Mtn., P	27.10 333	P	P	11 32 57.7	+0.6
PV13			IAmb	IAmb	11 33 09.5	
	comp=Z,36nm,1.1s					
PV02	Paradox Valley	27.11 333	P	P	11 32 58.0	+0.8
PV02			IAmb	IAmb	11 33 15.3	
	comp=Z,33nm,1.0s					
PV15	Paradox Valley	27.11 334	P	P	11 32 58.5	+1.2
PV15			IAmb	IAmb	11 33 08.9	
	comp=Z,32nm,1.1s					
PV05	Paradox Valley	27.16 333	P	P	11 32 58.4	+0.7
PV05			IAmb	IAmb	11 33 00.7	
	comp=Z,24nm,1.0s					
PV03	Paradox Valley	27.19 333	P	P	11 32 58.7	+0.7
PV03			IAmb	IAmb	11 33 07.1	
	comp=Z,40nm,1.1s					
PV18	Skein Mesa, Pa	27.21 333	P	P	11 32 58.9	+0.7
PV18			IAmb	IAmb	11 33 10.0	
	comp=Z,32nm,1.0s					
SWSC	Sam W. Stewart	27.24 316	P	P	11 33 00.2	+2.0
	baz=127					
PV11	David Mesa, Pa	27.24 333	IAmb	IAmb	11 33 11.6	
	comp=Z,46nm,1.0s					
PV07	Paradox Valley	27.26 334	IAmb	IAmb	11 33 02.1	
	comp=Z,27nm,1.0s					
PV17	East Wray Mesa	27.26 333	IAmb	IAmb	11 33 11.0	
	comp=Z,33nm,1.0s					
PV16	Nyswonger Mesa	27.27 333	IAmb	IAmb	11 33 11.1	
	comp=Z,28nm,1.0s					
IKP	In-Ko-Pah, Jac	27.27 315	P	P	11 32 58.8	+0.2
	baz=126					
ISCO	Idaho Springs	27.28 340	P	P	11 32 59.5	+0.7
	baz=154,SNR=30					
ISCO	Idaho Springs	27.28 340	IAmb	IAmb	11 33 01.6	
	comp=Z,31nm,1.0s					
SCIA	State Center	27.28 1	P	P	11 32 57.8	-0.6
	baz=181					
SCIA	State Center	27.28 1	IAmb	IAmb	11 32 58.5	
	comp=Z,27nm,0.8s					
PV19	Morning Glory	27.30 333	P	P	11 32 59.2	+0.3
PV19			IAmb	IAmb	11 33 17.6	
	comp=Z,30nm,1.2s					
PV20	West Nyswonger	27.32 333	P	P	11 32 59.8	+0.7
PV20			IAmb	IAmb	11 33 11.4	
	comp=Z,27nm,1.0s					
PV04	Paradox Valley	27.33 333	P	P	11 33 00.1	+0.9
PV14	Lion Creek, Pa	27.37 333	IAmb	IAmb	11 33 18.4	
	comp=Z,52nm,1.4s					
PV10	Paradox Valley	27.38 333	P	P	11 32 59.9	+0.2
PV10			IAmb	IAmb	11 33 17.0	
	comp=Z,40nm,1.1s					
PV22	Blue Mesa, Par	27.40 334	P	P	11 33 01.2	+1.4
PV22			IAmb	IAmb	11 33 19.8	
	comp=Z,28nm,1.1s					
W13A	Hualapai Mount	27.41 322	P	P	11 33 00.4	+0.5
PV23	Carpenter Ridg	27.43 333	P	P	11 33 00.8	+0.6
PV23			IAmb	IAmb	11 33 08.7	
	comp=Z,32nm,0.9s					
L34A	Svendsen Farm,	27.44 356	IAmb	IAmb	11 33 18.2	
	comp=Z,37nm,0.9s					
BC3	Big Chuckawall	27.45 318	P	P	11 33 01.3	+1.1
	baz=128,SNR=18					
U15A	North Rim	27.45 326	IAmb	IAmb	11 33 17.6	
	comp=Z,23nm,1.2s					
PV21	Cone Mtn., Par	27.50 333	P	P	11 33 01.1	+0.3
L40A	Anamosa	27.51 4	P	P	11 32 58.5	-2.0
L40A			IAmb	IAmb	11 33 06.1	
	comp=Z,16nm,0.6s					
Q56A	Snyder Ridge,	27.53 25	P	P	11 33 01.4	+0.6
	baz=211					
IRM	Iron Mountain	27.56 319	P	P	11 33 02.3	+1.1
	baz=130,SNR=8.8					
CBN	Corbin Frederi	27.63 28	P	P	11 32 59.9	-1.6
CBN			IAmb	IAmb	11 33 02.2	
	comp=Z,41nm,1.4s					
BELC	Belle Mtn. Jos	28.01 318	P	P	11 33 06.3	+1.0
	baz=128,SNR=5.5					
K38A	Parkersburg	28.02 1	P	P	11 33 03.8	-1.3
K38A			IAmb	IAmb	11 33 11.0	
	comp=Z,14nm,0.8s					
PFO	Pinyon Flats O	28.08 317	P	P	11 33 05.9	+0.1
	comp=Z,4.2nm,0.9s,baz=84,slow=3.4,SNR=5.2					
PFO	Pinyon Flats O	28.08 317	P	P	11 33 07.3	+1.4
	baz=127					
KNB	Kanab	28.17 326	P	P	11 33 06.7	0.0
PKCU	Pink Cliffs	28.22 327	P	P	11 33 07.1	-0.2
GMRC	Granite Mounta	28.29 319	P	P	11 33 09.4	+1.6
	baz=130,SNR=6.9					
K31A	O'Neill	28.34 352	P	P	11 33 08.1	+0.1
N23A	Red Feather La	28.37 340	P	P	11 33 09.8	+1.2
	baz=154					
N23A	Red Feather La	28.37 340	P	P	11 33 09.2	+0.7
LCMT	Little Creek M	28.39 326	P	P	11 33 08.2	-0.5
JFWS	Jewell Farm	28.43 5	P	P	11 33 07.7	-1.0
	baz=187					
JFWS	Jewell Farm	28.43 5	P	P	11 33 07.9	-0.8
JFWS			IAmb	IAmb	11 33 22.2	
	comp=Z,36nm,1.3s					
O20A	White River Ci	28.53 336	P	P	11 33 11.5	+1.6
	baz=149,SNR=11					
O20A	White River Ci	28.53 336	P	P	11 33 09.9	0.0
O20A			IAmb	IAmb	11 33 14.2	
	comp=Z,23nm,1.1s					
PHWY	Pilot Hill	28.58 341	P	P	11 33 09.0	-1.4
SRU	San Rafael Swe	28.64 332	P	P	11 33 11.0	+0.1
SZCU	Shurtz Canyon	28.74 327	P	P	11 33 12.5	+0.7
HEC	Hector,Ludlow	28.75 319	P	P	11 33 13.2	+1.5
	baz=129,SNR=5.4					
BBRC	Big Bear Solar	28.78 317	P	P	11 33 14.3	+2.1
	baz=127					
Q16A	Castle Valley	28.79 331	P	P	11 33 12.3	+0.1
CCUT	Cedar City	28.85 326	P	P	11 33 13.8	+0.9
TUQ	Turquoise Moun	28.88 320	P	P	11 33 14.8	+1.8
	baz=130					
MSU	Marysvale	28.96 329	P	P	11 33 15.2	+1.4
MVU	Marysvale	28.97 329	P	P	11 33 14.5	+0.6
P17A	Butcher Ranch,	29.04 332	P	P	11 33 14.3	0.0
TMUT	Trail Mountain	29.11 331	P	P	11 33 15.7	+0.5
SHPR	Sheep Range	29.13 323	P	P	11 33 16.0	+0.8
ECSD	EROS Data Cent	29.21 356	P	P	11 33 13.8	-1.8
	baz=174,SNR=19					
ECSD	EROS Data Cent	29.21 356	P	P	11 33 14.0	-1.7
ECSD			IAmb	IAmb	11 33 16.1	
	comp=Z,20nm,0.8s					
BFSC	Mount Baldy Ra	29.25 316	P	P	11 33 17.6	+1.3
	baz=126					
SHOC	Shoshone, Teco	29.39 320	P	P	11 33 19.9	+2.5
	baz=130					
RDMU	Red Mountain	29.43 335	P	P	11 33 17.8	-0.1
RWWY	Rawlins	29.51 339	P	P	11 33 18.0	-0.7
PSUT	Pine Spring	29.84 327	P	P	11 33 21.1	-0.4
LRMC	Laurel Mtn Rad	30.02 318	P	P	11 33 24.5	+1.5
	baz=128					
NLU	North Lily Min	30.04 331	P	P	11 33 24.3	+1.0
TPNV	Topopah Spring	30.07 322	P	P	11 33 25.2	+1.7
	baz=132,SNR=7.2					
TPNV	Topopah Spring	30.07 322	P	P	11 33 23.7	+0.1
FURC	Furnace Creek,	30.12 321	P	P	11 33 25.1	+1.3
	baz=130					
K22A	Casper	30.14 341	P	P	11 33 25.1	+0.9
	baz=154,SNR=7.7					
K22A	Casper	30.14 341	P	P	11 33 23.9	-0.2
K22A			IAmb	IAmb	11 33 26.7	
	comp=Z,18nm,1.1s					
SUSD	Miller	30.15 352	P	P	11 33 23.9	-0.1
	baz=170					
SUSD	Miller	30.15 352	P	P	11 33 22.9	-1.1
MPMC	Manual Prospec	30.25 319	P	P	11 33 25.9	+0.7
	baz=129,SNR=7.9					
JLU	Jordanelle	30.27 332	P	P	11 33 25.2	-0.1
CTU	Camp Tracy	30.48 332	P	P	11 33 25.8	-1.3
DUG	Dugway, Tooele	30.58 330	P	P	11 33 29.0	+1.1
	baz=141					
DUG	Dugway, Tooele	30.58 330	P	P	11 33 28.4	+0.4
SPMN	Marine on St.	30.60 1	P	P	11 33 26.7	-1.2
	baz=182,SNR=5.8					
SPMN	Marine on St.	30.60 1	IAmb	IAmb	11 33 30.5	
	comp=Z,20nm,1.1s					
R11A	Troy Canyon, C	30.65 325	P	P	11 33 30.0	+1.3
	baz=135					
R11A	Troy Canyon, C	30.65 325	P	P	11 33 29.1	+0.5
GRAC	Grapevine Rang	30.77 321	P	P	11 33 32.2	+2.6
	baz=130,SNR=5.3					
RSSD	Black Hills	30.80 345	P	P	11 33 31.0	+1.0
	baz=160					
RSSD	Black Hills	30.80 345	P	P	11 33 29.0	-1.0
CWC	Cottonwood Cre	30.86 319	P	P	11 33 32.3	+1.7
	baz=128					
HWUT	Hardware Ranch	31.14 333	P	P	11 33 32.3	-0.6
VES	Vestal, Richgr	31.14 318	P	P	11 33 34.8	+1.9
	baz=126,SNR=6.7					
F36A	Milaca	31.23 0	P	P	11 33 31.8	-1.7
BGU	Big Grassy Mou	31.25 331	P	P	11 33 34.6	+0.6
F33A	5 Mile Ranch,	31.29 356	P	P	11 33 33.2	-0.8
SPUT	South Promonto	31.29 332	P	P	11 33 33.7	-0.6
BW06	Boulder Array	31.30 337	P	P	11 33 34.6	+0.2
	baz=149,SNR=16					
BW06	Boulder Array	31.30 337	P	P	11 33 34.2	-0.2
PD31	Pinedale Array	31.30 337	P	P	11 33 34.2	-0.2
PDAR	Pinedale Array	31.30 337	P	P	11 33 34.6	+0.2
	comp=Z,7.5nm,0.9s,baz=139,slow=6.1,SNR=42					
PDAR			PcP	PcP	11 36 31.1	+2.8
	comp=Z,1.2nm,0.8s,baz=121,slow=7.1,SNR=3.5					
PDAR			LR	LR	11 47 29.8	
	comp=Z,893nm,18.6s,baz=151,slow=39					
PDAR	Pinedale Array	31.30 337	P	P	11 33 33.2	-1.1
TPH	Tonopah	31.40 323	P	P	11 33 35.4	+0.1
SMMC	Simmler	31.44 316	P	P	11 33 38.0	+2.5
	baz=124					
COWI	Conover	31.70 6	P	P	11 33 36.2	-1.3
HVU	Hansel Valley	31.81 332	P	P	11 33 38.1	-0.7
AHID	Auburn Hatcher	31.90 335	P	P	11 33 40.2	+0.6
AHID			IAmb	IAmb	11 33 57.8	
	comp=Z,28nm,1.1s					
MLAC	Mammoth, Mammo	32.08 320	P	P	11 33 43.5	+2.1
	baz=129					
OMMB	Old Mammoth Mi	32.17 320	P	P	11 33 42.9	+0.6
OMMB			IAmb	IAmb	11 33 55.1	
	comp=Z,15nm,1.3s					
NV11	Mina Array Sit	32.18 322	IAmb	IAmb	11 33 46.0	
	comp=Z,20nm,1.1s					
ELK	Elko	32.20 328	P	P	11 33 43.2	+0.9
NVAR	Mina Array Bea	32.27 322	P	P	11 33 44.4	+1.4
	comp=Z,12nm,0.8s,baz=137,slow=7.8,SNR=70					
NVAR			LR	LR	11 46 40.7	
	comp=Z,1μm,18.0s,baz=135,slow=36					
NVAR	Mina Array Bea	32.27 322	P	P	11 33 42.9	-0.1
LHV	Little Huntoon	32.27 322	IAmb	IAmb	11 33 49.2	
	comp=Z,15nm,1.1s					
LOHW	Long Hollow	32.42 337	IAmb	IAmb	11 33 47.1	
	comp=Z,29nm,1.1s					
FXWY	Fox Creek	32.60 336	IAmb	IAmb	11 34 00.7	
	comp=Z,18nm,1.1s					
IMW	Indian Meadow	32.79 337	IAmb	IAmb	11 33 57.0	
	comp=Z,14nm,1.0s					
FLWY	Flagg Ranch	32.85 337	IAmb	IAmb	11 33 52.3	
	comp=Z,24nm,1.1s					
WAKR	Walker	33.00 321	P	P	11 33 50.1	+0.8
WAKR			IAmb	IAmb	11 34 07.5	
	comp=Z,16nm,1.4s					
YPP	Pitchstone Pla	33.05 337	P	P	11 33 49.3	-0.6
H17A	Grant Village	33.07 337	P	P	11 33 52.1	+2.1
	baz=149					
H17A	Grant Village	33.07 337	IAmb	IAmb	11 34 04.4	
	comp=Z,26nm,1.2s					
LKWY	Lake	33.15 338	P	P	11 33 50.2	-0.5
LKWY			IAmb	IAmb	11 34 03.5	
	comp=Z,22nm,1.0s					
YERR	Yerington	33.19 322	P	P	11 33 52.0	+1.0
YERR			IAmb	IAmb	11 33 56.7	
	comp=Z,12nm,0.9s					
YMP	Mirror Lake Pl	33.22 338	P	P	11 33 52.0	+0.7
RLMT	Red Lodge	33.24 340	P	P	11 33 51.6	+0.2
	baz=152,SNR=10					
RLMT	Red Lodge	33.24 340	P	P	11 33 50.5	-0.9
RLMT			IAmb	IAmb	11 33 56.9	
	comp=Z,17nm,1.1s					
CMB	Columbia Colle	33.29 320	P	P	11 33 52.0	+0.3
PNTR	Pine Nut	33.47 322	P	P	11 33 53.8	+0.3
PNTR			IAmb	IAmb	11 33 57.1	
	comp=Z,12nm,0.9s					
MDND	Maddock	33.58 353	P	P	11 33 53.8	-0.3
	baz=169,SNR=9.3					
AGMN	Agassiz Nation	33.72 357	P	P	11 33 53.9	-1.3
	baz=176,SNR=6.0					
AGMN	Agassiz Nation	33.72 357	IAmb	IAmb	11 34 03.4	
	comp=Z,18nm,0.9s					
B35A	Bob, Littlefor	33.73 360	P	P	11 33 54.0	-1.4
B35A			IAmb	IAmb	11 33 58.2	
	comp=Z,16nm,1.2s					
PAHR	Pah Rah Range	33.74 323	P	P	11 33 56.9	+1.1
QLMT	Earthquake Lak	33.76 337	P	P	11 33 57.3	+1.3
RUBR	Rubicon Trail	33.78 321	P	P	11 33 57.5	+1.3
RUBR			IAmb	IAmb	11 34 15.1	
	comp=Z,20nm,1.0s					
HLID	Hailey	33.96 333	P	P	11 33 58.3	+0.6
	baz=142,SNR=18					
HLID	Hailey	33.96 333	P	P	11 33 57.8	+0.2
HLID			IAmb	IAmb	11 34 00.5	
	comp=Z,13nm,0.9s					
GCMT	Greycliff	33.96 340	P	P	11 33 57.6	0.0
BOZ	Bozeman (W)	34.49 337	P	P	11 34 03.0	+0.9
	baz=148,SNR=12					
BOZ	Bozeman (W)	34.49 337	IAmb	IAmb	11 34 08.3	
	comp=Z,16nm,1.1s					
MFID	Camas Ranch	34.49 331	P	P	11 34 02.2	0.0
ORV	Oroville	34.91 321	P	P	11 34 06.9	+1.2
ORV			IAmb	IAmb	11 34 09.2	
	comp=Z,14nm,1.4s					
DGMT	Dagmar	34.95 348	P	P	11 34 06.2	+0.2
	baz=162,SNR=9.7					
WVOR	Wild Horse Val	35.17 327	P	P	11 34 08.3	+0.2
O03E	Paynes Creek	35.55 322	P	P	11 34 12.4	+1.1
	baz=128					
ULM	Lac du Bonnet	35.67 358	P	P	11 34 09.3	-2.8
	comp=Z,6.5nm,0.7s,baz=178,slow=11,SNR=5.7					
ULM			PcP	PcP	11 36 42.5	+2.4
	comp=Z,3.6nm,0.6s,baz=194,slow=2.2,SNR=4.3					
ULM			LR	LR	11 51 34.0	
	comp=Z,1μm,18.3s,baz=170,slow=41					
ULM	Lac du Bonnet	35.67 358	P	P	11 34 09.2	-2.8
ULM			IAmb	IAmb	11 34 14.7	
	comp=Z,22nm,1.2s					
MOD	Modoc Plateau	35.71 325	P	P	11 34 12.6	-0.2
MOD			IAmb	IAmb	11 34 27.4	
	comp=Z,15nm,1.1s					
J08A	Circle Bar Ran	35.75 328	P	P	11 34 13.6	+0.6
EGMT	Eagleton	35.97 342	P	P	11 34 14.4	-0.3
	baz=153,SNR=5.6					
O02D	Mt. Diablo Mer	36.07 321	P	P	11 34 16.0	+0.2
	baz=127					
WDC	Whiskeytown Da	36.17 321	P	P	11 34 16.3	-0.2
BMO	Blue Mountains	36.28 331	IAmb	IAmb	11 34 29.4	
	comp=Z,14nm,1.3s					
KCPM	Cahto Peak	36.28 319	P	P	11 34 15.2	-2.4
MSO	Missoula	36.40 336	P	P	11 34 18.9	+0.4
	baz=145,SNR=13					
MSO	Missoula	36.40 336	P	P	11 34 17.2	-1.3
MSO			IAmb	IAmb	11 34 20.8	
	comp=Z,21nm,1.0s					
PTGA	Pitinga	36.61 112	P	P	11 34 19.7	-0.9
PTGA			IAmb	IAmb	11 34 22.2	
	comp=Z,18nm,0.8s					
PTGA	Pitinga	36.61 112	eP	P	11 34 19.2	-1.4
KMRM	Mail Ridge	36.67 320	P	P	11 34 22.4	+1.5
KMRM			IAmb	IAmb	11 34 24.1	
	comp=Z,17nm,1.1s					
I07A	Izee	36.79 328	P	P	11 34 22.0	+0.1
L04D	Klamath Falls	37.05 324	P	P	11 34 25.1	+0.9
	baz=130					
KHMM	Horse Mountain	37.07 321	P	P	11 34 23.3	-1.1
KHMM			IAmb	IAmb	11 34 39.5	
	comp=Z,14nm,1.0s					
MACA	Manacapuru-AM	37.09 116	eP	P	11 34 24.3	-0.4
J05D	Fort Rock, OR	37.15 326	P	P	11 34 26.0	+1.0
	baz=132					
JCC	Jacoby Creek,	37.22 321	P	P	11 34 25.1	-0.3
JCC			IAmb	IAmb	11 34 28.7	
	comp=Z,36nm,1.4s					
JTMT	Jette	37.29 337	P	P	11 34 26.4	+0.3
JTMT			IAmb	IAmb	11 34 28.3	
	comp=Z,22nm,0.9s					
G08A	Pilot Rock	37.39 330	P	P	11 34 26.3	-0.6
I05D	Terrebonne, OR	37.91 327	P	P	11 34 32.6	+1.3
	baz=133					
I04A	Tendick Farm,	38.12 326	P	P	11 34 33.3	+0.2
	baz=131					
KBO	Bosley Butte	38.16 322	P	P	11 34 35.7	+2.1
KBO			IAmb	IAmb	11 34 38.9	
	comp=Z,31nm,1.1s					
SAML	Samuel	38.16 126	P	P	11 34 32.7	-1.1
WALA	Waterton Lakes	38.24 338	P	P	11 34 34.9	+0.7
HAWA	Hanford	38.47 331	P	P	11 34 36.9	+1.0
G05D	Wamic, OR	38.52 328	P	P	11 34 37.9	+1.4
	baz=134					
J01E	Myrtle Point	38.57 324	P	P	11 34 38.4	+1.5
	baz=128					
H04A	Detroit Lake	38.59 327	P	P	11 34 37.6	+0.5
H04A			IAmb	IAmb	11 34 41.5	
	comp=Z,27nm,1.1s					
KEBM	Edson Butte	38.63 323	P	P	11 34 38.5	+1.1
D08A	Wollman Farm,	38.68 332	P	P	11 34 37.9	+0.2
E07A	Sunnyside	38.74 331	P	P	11 34 39.3	+1.1
H04D	Lebanon	38.78 326	P	P	11 34 38.5	-0.1
	baz=131					
NEW	Newport	38.83 335	P	P	11 34 39.2	+0.2
	baz=142					
NEW	Newport	38.83 335	P	P	11 34 39.8	+0.8
C09A	Chrisman Ranch	38.96 333	P	P	11 34 40.3	+0.3
C09A			IAmb	IAmb	11 34 47.8	
	comp=Z,17nm,0.8s					
F05D	White Salmon	39.04 329	P	P	11 34 41.8	+1.0
	baz=134,SNR=6.6					
G03D	McMinnville, O	39.52 327	P	P	11 34 46.4	+1.7
	baz=131					
LTY	Liberty	39.63 331	P	P	11 34 45.4	-0.3
LPAZ	La Paz	39.66 140	P	P	11 34 45.7	-1.2
	comp=Z,1.3nm,0.8s,baz=328,slow=9.6,SNR=3.7					
LPAZ			PcP	PcP	11 36 55.6	+1.9
	comp=Z,1.6nm,0.9s,baz=323,slow=5.1,SNR=2.6					
LPAZ			LR	LR	11 51 58.8	
	comp=Z,539nm,18.9s,baz=330,slow=38					
LPAZ	La Paz	39.66 140	P	P	11 34 46.0	-0.9
LPAZ	La Paz	39.66 140	eP	P	11 34 46.0	-0.9
LON	Longmire	39.82 330	P	P	11 34 47.6	+0.3
B08A	Colville Reser	39.84 333	P	P	11 34 46.9	-0.6
F03A	Seaside	40.15 327	P	P	11 34 49.8	-0.1
D05A	Enumclaw	40.21 330	P	P	11 34 50.3	-0.1
D05A			IAmb	IAmb	11 34 52.8	
	comp=Z,19nm,1.1s					
E03A	Lebam	40.56 328	P	P	11 34 52.2	-1.1
E03A			IAmb	IAmb	11 34 55.9	
	comp=Z,37nm,1.1s					
B06A	Marblemount	40.92 332	P	P	11 34 55.7	-0.6
MNMC	Minye Minye	40.98 144	P	P	11 34 58.1	+0.7
MNMC			IAmb	IAmb	11 35 07.1	
	comp=Z,26nm,1.1s					
D03D	Eldon	40.99 329	P	P	11 34 57.1	+0.2
	baz=133					
B05A	Bryant	41.03 331	P	P	11 34 56.8	-0.3
	baz=135					
NLWA	Neilton Lookou	41.28 329	P	P	11 34 60.0	+0.6
NLWA			IAmb	IAmb	11 35 11.3	
	comp=Z,25nm,1.2s					
A04D	Lummi Island	41.64 331	P	P	11 35 02.1	0.0
	baz=135,SNR=8.6					
GO01	Chusmiza	41.64 144	P	P	11 35 02.8	-0.2
PGC	Sidney	41.94 330	P	P	11 35 03.8	-0.8
PGC			IAmb	IAmb	11 35 16.3	
	comp=Z,32nm,1.4s					
ITTB	Itaituba	42.01 114	eP	P	11 35 04.9	-0.8
MALB	Monte Alegre	42.25 109	eP	P	11 35 07.0	-0.6
VILB	Vilhena	42.92 128	eP	P	11 35 13.2	+0.1
MCPB	Macapa, AP	43.71 106	eP	P	11 35 18.0	-1.5
LVC	Limon Verde	44.15 146	P	P	11 35 24.1	+0.8
CLDB	Colider	45.21 122	eP	P	11 35 31.3	-0.2
GO02	Mina Guanaco	45.90 149	P	P	11 35 37.1	+0.1
GO02			IAmb	IAmb	11 35 47.4	
	comp=Z,11nm,0.7s					
TMAB	Tom-Au,PA,Br	48.13 107	eP	P	11 35 54.2	-0.2
CO01	Juntas del Tor	49.73 153	P	P	11 36 06.1	-0.6
CO01			IAmb	IAmb	11 36 07.3	
	comp=Z,16nm,1.5s					
YKA	Yellowknife Ar	50.16 348	P	P	11 36 08.3	-0.8
	comp=Z,23nm,0.8s,baz=153,slow=6.7,SNR=39					
YKA			LR	LR	11 59 27.2	
	comp=Z,446nm,21.3s,baz=0.0,slow=39					
CO03	El Pedregal	50.22 154	P	P	11 36 09.5	-0.7
CO03			IAmb	IAmb	11 36 20.6	
	comp=Z,13nm,0.9s					
CRAG	Craig	50.91 332	P	P	11 36 14.5	-0.4
CRAG			IAmb	IAmb	11 36 24.3	
	comp=Z,18nm,1.0s					
ARAG	Araguaiana, MT	51.10 124	eP	P	11 36 15.9	-1.0
SMTB	Santa Maria do	51.24 114	eP	P	11 36 19.3	+1.2
DLBC	Dease Lake	51.53 337	P	P	11 36 20.4	+0.8
	comp=Z,14nm,0.9s,baz=147,slow=5.3,SNR=29					
DLBC	Dease Lake	51.53 337	P	P	11 36 19.5	-0.2
DLBC			IAmb	IAmb	11 36 23.3	
	comp=Z,20nm,1.0s					
TAOE	Nuku Hiva Isla	51.65 246	eS	S	11 43 42.0	+0.8
	comp=Z,375nm,24.4s					
TAOE			eLR	LR	11 51 01.5	
	comp=Z,766nm,25.7s					
TAOE	Nuku Hiva Isla	51.65 246	eT	T	12 31 50.6	
	comp=Z,101nm,0.3s					
CPUP	Villa Florida	53.82 139	P	P	11 36 36.9	-0.1
	comp=Z,4.7nm,1.0s,baz=334,slow=12,SNR=4.6					
CPUP			LR	LR	12 00 19.1	
	comp=Z,283nm,19.3s,baz=332,slow=37					
CPUP	Villa Florida	53.82 139	P	P	11 36 37.0	+0.1
CPUP			IAmb	IAmb	11 36 42.0	
	comp=Z,11nm,1.2s					
CPUP	Villa Florida	53.82 139	eP	P	11 36 37.3	+0.3
BDFB	Brasilia	54.15 122	P	P	11 36 38.3	-1.3
	comp=Z,4.0nm,0.6s,baz=287,slow=7.1,SNR=7.4					
BDFB	Brasilia	54.15 122	P	P	11 36 38.5	-1.1
ITRB	Iturama	54.50 128	eP	P	11 36 45.0	+2.9
TRCB	Terra Rica	54.66 132	eP	P	11 36 43.9	+0.6
PCMB	Pacaembu	54.94 130	eP	P	11 36 45.9	+0.6
SDBA	SAO DESIDERIO	55.20 117	eP	P	11 36 48.2	+0.9
HYT	Haines Junctio	55.98 336	P	P	11 36 51.7	-0.6
HYT			IAmb	IAmb	11 37 04.9	
	comp=Z,21nm,1.4s					
PTGB	Pitanga	56.28 133	eP	P	11 36 56.1	+1.3
FRTB	Fartura	57.23 131	eP	P	11 37 02.7	+1.1
ITAB	Concordia	57.84 136	eP	P	11 37 07.0	+1.2
BCAR	Beaver Creek A	58.92 337	P	P	11 37 13.1	+0.2
PLCA	Paso Flores	59.01 160	P	P	11 37 15.3	+1.5
	comp=Z,11nm,1.1s,baz=336,slow=7.6,SNR=8.5					
PLCA			LR	LR	11 56 29.5	
	comp=Z,171nm,21.9s,baz=336,slow=30					
PLCA	Paso Flores	59.01 160	P	P	11 37 14.6	+0.9
PLCA	Paso Flores	59.01 160	eP	P	11 37 15.7	+2.0
K27K	Chicken	59.55 338	P	P	11 37 17.6	+0.4
	baz=123					
BSCB	Bom Sucesso	59.57 125	eP	P	11 37 18.5	+0.5
EGAK	Eagle	59.63 339	P	P	11 37 16.0	-1.6
EGAK			IAmb	IAmb	11 37 27.7	
	comp=Z,14nm,1.1s					
KLU	Klutina	59.80 334	P	P	11 37 18.8	-0.2
LL01	San Ignacio de	59.91 162	P	P	11 37 20.0	+0.2
DOT	Dot Lake	60.10 337	P	P	11 37 20.9	0.0
SCRK	Sand Creek	60.24 337	P	P	11 37 22.4	+0.4

BWN	Browne	62.45	336	P		P	11 37 36.3	-0.6
NEA2	Nenana	62.48	336	P		P	11 37 36.9	-0.1
	baz=116							
TRF	Thorofare Moun	62.48	335	P		P	11 37 36.3	-1.0
KTH	Kantishna Hill	62.78	335	P		P	11 37 38.8	-0.3
PPT	Papeete	63.73	242	LR		LR	11 58 57.8	
	comp=Z,285nm,20.9s,baz=78,slow=30							
PPT2	Papeete2	63.74	242	eS		S	11 46 21.3	+1.6
	comp=Z,314nm,25.5s							
PPT2	Papeete2	63.74	242	eLR		LR	11 56 23.7	
	comp=Z,745nm,27.5s,baz=57							
COLD	Coldfoot	64.06	339	P		P	11 37 48.4	+0.9
	baz=116,SNR=5.3							
COLD	Coldfoot	64.06	339	P		P	11 37 47.7	+0.3
COLD				IAmb		IAmb	11 37 50.0	
	comp=Z,19nm,1.3s							
TOLK	Toolik Lake Re	64.48	340	P		P	11 37 50.9	+0.6
	baz=117							
TOLK	Toolik Lake Re	64.48	340	P		P	11 37 50.2	-0.1
TOLK				IAmb		IAmb	11 38 01.5	
	comp=Z,17nm,1.0s							
IMAR	Indian Mountai	64.85	337	P		P	11 37 52.0	-0.7
SUMG	Summit	66.15	16	i P		P	11 38 01.2	-0.2
	comp=Z,31nm,0.8s							
SUMG	Summit	66.15	16	P		P	11 38 00.5	-0.9
SUMG				IAmb		IAmb	11 38 02.6	
	comp=Z,15nm,0.9s							
TBI	Tubuai	66.32	236	eS		S	11 46 49.4	-1.6
	comp=Z,146nm,27.5s							
TBI	Tubuai	66.32	236	eLR		LR	11 57 49.4	
	comp=Z,593nm,29.8s,baz=58							
TBI	Tubuai	66.32	236	eT		T	12 50 10.5	
	comp=Z,2.7nm,0.2s							
DAG	Danmarks Havn	72.52	13	i P		P	11 38 39.8	-0.4
	comp=Z,51nm,0.9s							
MORF	Marmelete	77.41	54	eP		P	11 39 08.6	-0.7
ESK	Eskdalemuir	78.44	36	P		P	11 39 12.8	-1.8
ESK				IAmb		IAmb	11 39 19.4	
	comp=Z,10.0nm,0.9s							
BILL	Bilibino	80.37	338	P		P	11 39 24.0	-0.9
ESDC	Sonseca Array	80.63	51	P		P	11 39 25.3	-1.7
	comp=Z,2.5nm,0.8s,baz=293,slow=5.3,SNR=15							
ESDC				LR		LR	12 11 20.7	
	comp=Z,345nm,19.7s,baz=255,slow=33							
ESDC	Sonseca Array	80.63	51	P		P	11 39 25.0	-1.9
KONO	Kongsberg	84.13	30	P		P	11 39 45.2	+0.5
NC204	NORSAR Array S	84.15	28	P		P	11 39 44.8	-0.1
NC204				IAmb		IAmb	11 40 01.9	
	comp=Z,12nm,1.0s							
NBO00	NORSAR Array S	84.23	28	P		P	11 39 45.8	+0.5
NAO01	NORSAR Array S	84.35	28	P		P	11 39 44.5	-1.3
NB2	NORSAR Subarra	84.43	28	P		P	11 39 46.1	-0.2
	comp=Z,319nm,3.3s,baz=291,slow=5.1							
NB2	NORSAR Subarra	84.43	28	P		P	11 39 46.1	-0.2
	baz=291,slow=5.1							
NOA	NORSAR Array B	84.43	28	P		P	11 39 45.6	-0.7
	comp=Z,14nm,0.8s,baz=291,slow=4.8,SNR=41							
NOA				LR		LR	12 16 07.3	
	comp=Z,604nm,20.3s,baz=290,slow=35							
NC303	NORSAR Array S	84.44	28	P		P	11 39 46.1	-0.2
BUG	Bochum--Univer	85.42	38	eP		P	11 39 52.0	+0.7
	comp=Z,15nm,1.0s,baz=289,slow=4.8							
IBBN	Ibbenburen	85.45	37	eP		P	11 39 52.3	+0.8
	comp=Z,24nm,1.0s,baz=289,slow=4.8							
AHRW	Bad Neuenahr-A	85.58	39	eP		P	11 39 52.8	+0.6
	comp=Z,25nm,1.0s,baz=289,slow=4.8							
ARCES	ARCESS Array B	86.12	18	P		P	11 39 53.2	-1.3
	comp=Z,4.6nm,0.7s,baz=307,slow=4.4,SNR=8.7							
ARCES				LR		LR	12 18 55.4	
	comp=Z,727nm,19.5s,baz=292,slow=36							
ARCES	ARCESS Array B	86.12	18	P		P	11 39 53.5	-1.1
ECH	Echery	86.33	41	P		P	11 39 55.1	-0.9
BSEG	Bad Segeberg	86.39	35	eP		P	11 39 57.0	+0.9
	comp=Z,26nm,1.2s,baz=289,slow=4.8							
TNS	Taunus Mts	86.51	39	eP		P	11 39 57.0	+0.1
	comp=Z,26nm,0.9s,baz=289,slow=4.8							
NRDL	Niedersach Rie	86.75	37	eP		P	11 39 58.8	+0.9
	comp=Z,23nm,1.3s,baz=289,slow=4.8							
BNI	Bardonecchia	86.96	44	P		P	11 39 58.2	-1.1
BNI				IAmb		IAmb	11 40 01.0	
	comp=Z,12nm,1.1s							
SENIN	Lac Senin/Sane	86.98	43	P		P	11 39 59.7	+0.2
SENIN				IAmb		IAmb	11 40 06.4	
	comp=Z,13nm,1.1s							
TIC	Toumodi	87.03	84	eP		P	11 39 59.0	-1.1
BFO	Black Forest	87.03	41	eP		P	11 39 59.2	-0.3
	comp=Z,14nm,1.3s,baz=289,slow=4.8							
BFO	Black Forest	87.03	41	P		P	11 39 58.3	-1.2
BFO				IAmb		IAmb	11 40 00.2	
	comp=Z,8.5nm,1.0s							
LIC	Lamto	87.12	84	eP		P	11 39 59.7	-0.8
	comp=Z,44nm,1.1s							
CLZ	Clausthal	87.13	37	eP		P	11 40 00.9	+1.1
	comp=Z,4.4nm,0.8s,baz=289,slow=4.8							
DBIC	Dimbokro	87.18	84	P		P	11 39 59.4	-1.4
	comp=Z,5.6nm,0.8s,baz=254,slow=3.3,SNR=6.9							
DBIC				LR		LR	12 16 10.0	
	comp=Z,192nm,20.8s,baz=266,slow=34							
DBIC	Dimbokro	87.18	84	P		P	11 39 59.5	-1.2
ASSE	Asse, Remlinge	87.20	37	eP		P	11 40 00.8	+0.7
	comp=Z,47nm,1.9s,baz=289,slow=4.8							
UBBA	Unterbreizbach	87.25	38	eP		P	11 40 01.1	+0.8
	comp=Z,21nm,1.6s,baz=289,slow=4.8							
KIC	Kosan Boka	87.36	84	eP		P	11 40 01.0	-0.7
	comp=Z,35nm,1.0s							
STU	Stuttgart	87.44	40	eP		P	11 40 01.8	+0.4
	comp=Z,13nm,0.7s,baz=289,slow=4.8							
STU	Stuttgart	87.44	40	P		P	11 39 59.6	-1.8
SEY	Seymchan	87.61	335	P		P	11 40 01.4	-0.5
	comp=Z,2.6nm,0.7s,baz=75,slow=4.3,SNR=6.1							
MOX	Moxa	88.28	38	eP		P	11 40 06.1	+0.7
	comp=Z,66nm,2.6s,baz=289,slow=4.8							
MOX				eL		L	12 20 10.1	
	comp=Z,820nm,20.6s							
TUE	Stuetta	88.29	42	P		P	11 40 04.2	-1.6
DAVA	Damuels	88.36	41	ePcP		P	11 40 06.4	+0.3
	comp=Z,9.3nm,0.9s							
GRF	Grafenberg Arr	88.38	39	eL		L	12 22 40.1	
	comp=Z,784nm,18.1s							
PLN	Plauen	88.66	38	eP		P	11 40 07.7	+0.5
	comp=Z,49nm,2.2s,baz=289,slow=4.8							
GUNZ	Gunzen	88.80	38	eP		P	11 40 08.4	+0.5
	comp=Z,10nm,1.2s,baz=289,slow=4.8							
MANZ	Manzenberg	88.81	38	eP		P	11 40 08.3	+0.4
	comp=Z,2.4nm,0.8s,baz=289,slow=4.8							
FUORN	Ofenpass-Fuorn	88.84	42	P		P	11 40 07.9	-0.5
FUORN				IAmb		IAmb	11 40 09.8	
	comp=Z,7.1nm,1.0s							
CLL	Collm	88.85	37	i P		P	11 40 08.5	+0.5
	comp=Z,9.0nm,1.1s							
CLL				eSKSac		SKSac	11 50 36.0	+0.2
CLL				eSKKSac		SKKSac	11 50 45.0	-2.3
CLL				eSS		sS	11 51 09.0	+0.9
CLL				ePS		PnS	11 52 00.0	+0.1
CLL				eSS		SS	11 56 54.0	+8.3
CLL				eSSS		SSS	12 00 36.0	
CLL				Lm		MLR	12 20 00.0	
	comp=N,400nm,20.2s							
CLL				Lm		MLR	12 20 00.0	
	comp=E,400nm,20.5s							
CLL				Lm		MLR	12 20 00.0	
	comp=Z,600nm,20.6s							
CLL	Collm	88.85	37	eP		P	11 40 08.4	+0.5
	comp=Z,4.3nm,0.9s,baz=289,slow=4.8							
CLL	Collm	88.85	37	P		P	11 40 07.4	-0.6
CLL				IAmb		IAmb	11 40 09.2	
	comp=Z,7.6nm,1.0s							
WERN	Wernitzgruen	88.86	38	eP		P	11 40 09.1	+0.9
	comp=Z,71nm,2.3s,baz=289,slow=4.8							
RETA	Reutte	88.86	41	eP		P	11 40 07.4	-0.8
	comp=Z,7.0nm,1.0s							
TANN	Tannenbergstha	88.86	38	eP		P	11 40 08.8	+0.6
	comp=Z,14nm,1.1s,baz=289,slow=4.8							
NKC	Novy Kostel	88.92	38	eP		P	11 40 09.0	+0.6
ROTZ	Rotzenmuhle	88.95	39	eP		P	11 40 09.3	+0.8
	comp=Z,27nm,2.1s,baz=289,slow=4.8							
FETA	Feichten	89.00	42	ePcP		P	11 40 09.4	+0.4
	comp=Z,5.0nm,0.8s							
MOTA	Moosalm	89.13	41	ePcP		P	11 40 09.8	+0.2
	comp=Z,6.5nm,1.0s							
FBE	Freiberg	89.20	37	eP		P	11 40 10.2	+0.6
	comp=Z,9.9nm,1.3s,baz=289,slow=4.8							
SQTA	Sankt Quirin	89.24	41	i PcP		P	11 40 10.1	0.0
	comp=Z,2.1nm,0.6s							
PETK	Petropavlovsk-	89.31	325	P		P	11 40 09.7	-0.5
	comp=Z,1.3nm,0.8s,baz=98,slow=2.1,SNR=4.9							
PETK	Petropavlovsk-	89.31	325	P		P	11 40 08.0	-2.2
TIXI	Tiksi	89.41	348	P		P	11 40 09.5	-0.7
	comp=Z,2.9nm,0.7s,baz=34,slow=5.2,SNR=4.8							
TIXI	Tiksi	89.41	348	P		P	11 40 08.8	-1.4
TIXI				IAmb		IAmb	11 40 17.5	
	comp=Z,8.6nm,1.0s							
BRG	Berggiesshubel	89.56	37	i P		P	11 40 12.0	+0.6
	comp=Z,12nm,1.0s							
BRG				SKS		SKSac	11 50 43.0	+2.9
BRG				S		ScS	11 51 03.0	-2.2
	comp=N,426nm,19.8s							
	comp=E,261nm,18.9s							
	comp=Z,717nm,23.9s							
BRG	Berggiesshubel	89.56	37	eP		P	11 40 11.8	+0.4
	comp=Z,12nm,1.1s,baz=289,slow=4.8							
WET	Wettzell	89.58	39	eP		P	11 40 12.2	+0.7
	comp=Z,96nm,3.1s,baz=289,slow=4.8							
KHC	Kasperske Hory	90.01	39	eP		P	11 40 14.2	+0.6
RJOB	Jochberg	90.05	40	eP		P	11 40 13.2	-0.7
	comp=Z,6.4nm,1.3s,baz=289,slow=4.8							
GEC2	GERESS Array S	90.20	39	P		P	11 40 12.9	-1.7
GEC2				IAmb		IAmb	11 40 15.7	
	comp=Z,5.1nm,1.0s							
GERES	GERESS Array B	90.20	39	P		P	11 40 13.2	-1.4
	comp=Z,1.7nm,0.8s,baz=298,slow=2.9,SNR=12							
GERES				LR		LR	12 23 03.7	
	comp=Z,458nm,18.1s,baz=290,slow=37							
GERES	GERESS Array B	90.20	39	P		P	11 40 14.0	-0.5
ABTA	Abfaltersbach	90.24	41	ePcP		P	11 40 15.1	+0.4
	comp=Z,5.9nm,0.8s							
CIMO	Cimolais	90.35	42	IAmb		IAmb	11 40 21.1	
	comp=Z,4.9nm,0.9s							
KBA	Koelnbreinsper	90.65	41	eP		P	11 40 17.4	+0.6
	comp=Z,6.5nm,0.8s,baz=289,slow=4.8							
FINES	FINESS Array B	90.69	25	P		P	11 40 15.4	-1.0
	comp=Z,3.3nm,0.8s,baz=274,slow=7.3,SNR=6.4							
FINES				LR		LR	12 19 09.6	
	comp=Z,461nm,22.0s,baz=298,slow=34							
CHVC	Chvalec	90.91	37	eP		P	11 40 18.5	+0.8
MOA	Molln	90.93	40	i PcP		P	11 40 18.0	+0.1
	comp=Z,3.6nm,0.9s							
MOA	Molln	90.93	40	eP		P	11 40 18.1	+0.3
	comp=Z,8.2nm,1.3s,baz=289,slow=4.8							
OSTC	Ostas	91.02	37	eP		P	11 40 18.9	+0.7
PRED	Cave del Predi	91.03	41	P		P	11 40 17.3	-1.1
PRED				IAmb		IAmb	11 40 19.3	
	comp=Z,6.8nm,0.9s							
DPC	Dobruska-Polom	91.16	37	eP		P	11 40 20.0	+1.1
KRLC	Kraliky	91.55	37	eP		P	11 40 21.5	+0.8
KRUC	Moravsky	91.74	38	eP		P	11 40 20.8	-0.8
VRAC	Vranov	91.76	38	eP		P	11 40 21.1	-0.6
TORD	Torodi Ar. Bea	91.79	76	P		P	11 40 20.2	-2.2
	comp=Z,1.0nm,0.7s,baz=290,slow=5.1,SNR=6.0							
TORD				LR		LR	12 23 47.0	
	comp=Z,137nm,18.8s,baz=270,slow=37							
TORD	Torodi Ar. Bea	91.79	76	IAmb		IAmb	11 40 21.3	
	comp=Z,1.1nm,0.8s							
KEST	Kesra	91.84	52	P		P	11 40 20.6	-1.8
	comp=Z,2.7nm,0.7s,baz=332,slow=9.7,SNR=3.5							
KEST				LR		LR	12 16 45.3	
	comp=Z,260nm,21.8s,baz=266,slow=32							
KEST	Kesra	91.84	52	P		P	11 40 21.2	-1.2
KEST				IAmb		IAmb	11 40 38.8	
	comp=Z,8.0nm,1.2s							
CONA	Conrad Observa	91.88	39	i PcP		P	11 40 22.4	+0.1
	comp=Z,5.8nm,2.0s							
ARSA	Arzberg	91.95	40	ePcP		P	11 40 23.1	+0.5
	comp=Z,3.2nm,0.9s							
RAO	Raoul Island	92.11	240	LR		LR	12 12 10.1	
	comp=Z,133nm,19.1s,baz=104,slow=29							
MORC	Moravsky Berou	92.12	37	eP		P	11 40 23.0	-0.4
OJC	Ojcow	93.23	36	eP		P	11 40 29.6	+1.2
VYHS	Vyhne	93.44	38	eP		P	11 40 29.5	0.0
NIE	Niedzica	93.88	37	eP		P	11 40 33.1	+1.6
NRIK	Noril'sk	96.34	360	LR		LR	12 28 58.7	
	comp=Z,239nm,18.3s,baz=18,slow=39							
AKASG	Malin Array Be	98.15	33	P		P	11 40 49.5	-1.2
	comp=Z,0.4nm,0.3s,baz=306,slow=3.4,SNR=4.6							
AKASG				LR		LR	12 25 52.1	
	comp=Z,217nm,20.1s,baz=310,slow=36							
AKASG	Malin Array Be	98.15	33	IAmb		IAmb	11 40 50.4	
	comp=Z,0.9nm,0.8s							
URZ	Urewera	98.27	233	LR		LR	12 20 14.7	
	comp=Z,131nm,18.3s,baz=36,slow=32							
DZM	Mont Dzumac	104.35	251	eLR		LR	12 15 39.9	
	comp=Z,338nm,22.0s							
KSRS	Korea Array	115.19	324	PKP		PKPdf	11 45 57.9	+2.3
	comp=Z,0.9nm,0.7s,baz=352,slow=1.2,SNR=3.3							
SONM	Songino Array	115.39	345	PKP		PKPdf	11 45 56.3	+0.4
	comp=Z,0.5nm,0.5s,baz=323,slow=0.7,SNR=1.6							
HHC	Hu-ho-hao-te	120.15	338	ePKP		PKiKP	11 46 06.6	+1.3
WMQ	Urumqi	121.92	359	ePKP		PKiKP	11 46 08.6	0.0
BOSA	Boshof	122.02	115	PKP		PKiKP	11 46 11.8	+2.5
	comp=Z,4.5nm,0.8s,baz=281,slow=3.2,SNR=7.6							
BOSA	Boshof	122.02	115			PKPdf	11 46 08.1	-1.0
NJ2	Nanjing	124.19	327	ePKP		PKiKP	11 46 13.3	0.0
MAW	Mawson	124.80	169	PKP		PKiKP	11 46 14.2	+0.9
	comp=Z,1.2nm,0.9s,baz=58,slow=4.1,SNR=3.0							
MAW	Mawson	124.80	169			PKPdf	11 46 12.2	-0.8
GTA	Gaotai	124.89	347	ePKP		PKiKP	11 46 26.8	+12
GTA				pPKP		sPKPdf	11 46 31.9	+6.1
GTA				LR		LR		
	comp=N,93nm,20.7s							
GTA				LR		LR		
	comp=E,180nm,19.6s							
GTA				LR		LR		
	comp=Z,180nm,20.7s							
KSH	Kashi	125.36	10	PKP		PKiKP	11 46 15.8	+0.1
KSH				sPKP			11 46 32.8	
KSH				PP		PP	11 48 10.1	+5.8
KSH				SKS		SKSdf	11 53 24.4	-1.4
KSH				AMB		AMB		
	comp=Z,210nm,6.0s							
KSH				LR		LR		
	comp=Z,380nm,12.2s							
KSH				LR		LR		
	comp=Z,210nm,10.8s							
KSH				LR		LR		
	comp=Z,240nm,10.3s							
STKA	Stephens Creek	126.93	241	PKP		PKiKP	11 46 20.4	+1.7
	comp=Z,2.1nm,0.9s,baz=24,slow=9.1,SNR=3.0							
STKA	Stephens Creek	126.93	241			PKPdf	11 46 17.9	-0.4
LZH	Lanzhou	127.01	342	ePKP		PKiKP	11 46 21.1	+2.0
LZH				sPKP			11 46 39.3	
WRA	Warramunga Arr	133.98	256	PKhKP		PKPdf	11 46 29.4	-2.6
	comp=Z,0.6nm,0.8s,baz=88,slow=2.1,SNR=8.4							
WRA	Warramunga Arr	133.98	256			PKPdf	11 46 31.0	-0.9
ASAR	Alice Springs	134.34	251	PKhKP		PKPdf	11 46 32.5	0.0
	comp=Z,0.4nm,0.7s,baz=105,slow=1.9,SNR=7.2							
ASAR	Alice Springs	134.34	251			PKPdf	11 46 31.3	-1.3
QIZ	Qiongzhong	139.42	325	PKP		PKPdf	11 46 41.8	-0.3
QIZ				SS		SS	12 07 50.9	-1.1
QIZ				AMB		AMB		
	comp=Z,94nm,5.9s							
QIZ				LR		LR		
	comp=Z,220nm,17.5s							
QIZ				LR		LR		
	comp=Z,230nm,10.2s							
QIZ				LR		LR		
	comp=Z,350nm,16.1s							
FITZ	Fitzroy Crossi	142.19	259	PKP		PKPdf	11 46 47.1	0.0
	comp=Z,1.5nm,1.1s,baz=359,slow=17,SNR=2.0							
FITZ	Fitzroy Crossi	142.19	259			PKPdf	11 46 46.3	-0.7
CMAR	Chiang Mai Arr	144.95	339	PKP		PKPab	11 46 50.0	-1.0
	comp=Z,10nm,0.9s,baz=344,slow=3.6,SNR=41							
CMAR	Chiang Mai Arr	144.95	339	PKPdf		PKPab	11 46 49.9	-1.2
HYB	Hyderabad	147.33	14	i PKP		PKPbc	11 46 57.5	-0.9

WEL 13 11:27:55.3,44°S±24°×17°2E±°,h6km±9km,M2.2/7,ML2.2/7, MLv2.2/7,Error ellipse: s-maj=0.0km s-min=0.0km az=162.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	Oxford	0.24	334	P	Pg	11 28 01.9	+1.8
MQZ	McQueen's Vall	0.38	115	P	Pb	11 28 04.5	+0.1
WACZ	Wakanui South	0.47	212	P	Pb	11 28 06.9	+0.8
AKCZ	Akaroa Harbour	0.62	122	P	Pb	11 28 09.3	+0.7
OKCZ	Okains Bay	0.66	106	P	Pb	11 28 10.1	+0.9
LTZ	Lake Taylor	0.77	5	P	Pn	11 28 12.0	-0.8
ARCZ	Arundel	0.83	241	P	Pn	11 28 13.1	-0.6
RPZ	Rata Peaks	0.84	258	P	Pn	11 28 13.6	-0.2
ODZ	Otahua Downs	1.86	216	P	Pg	11 28 31.5	+0.5

WEL 13 11:39:09.4,39°S±2°×17°6E±°,h178km±4km,M2.9/64, ML2.2/6,MLv2.9/64,Error ellipse: s-maj=0.0km s-min=0.0km az=94.2,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	Wairara	0.09	102	P	Pn	11 39 32.7	-0.2
RATZ	Rangitukua	0.21	147	P	Pn	11 39 32.6	-0.5
KUTZ	Kaahu Road	0.25	38	P	Pn	11 39 33.1	-0.1
KATZ	Kakaramea	0.29	169	P	Pn	11 39 33.0	-0.3
RITZ	Rihia Road	0.34	147	P	Pn	11 39 33.2	-0.1
TLZ	Tolley Road	0.37	349	P	Pn	11 39 33.7	+0.1
KRVZ	Karewarewa	0.40	178	P	Pn	11 39 33.6	-0.1
TWVZ	Taurewa	0.41	201	P	Pn	11 39 33.6	0.0
HATZ	Hinemaiaia	0.42	119	P	Pn	11 39 32.4	-1.2
WTVZ	West Tongariro	0.43	184	P	Pn	11 39 33.7	0.0
TMVZ	Te Maari	0.43	172	P	Pn	11 39 33.6	-0.1
ETVZ	East Tongariro	0.45	171	P	Pn	11 39 33.8	0.0
WPRZ	Whakapapatarin	0.46	68	P	Pn	11 39 33.4	-0.4
OTVZ	Oturere	0.47	176	P	Pn	11 39 33.9	-0.1
NGZ	Ngauruhoe	0.48	182	P	Pn	11 39 34.0	-0.1
FWVZ	Far West T-bar	0.57	186	P	Pn	11 39 34.4	-0.1
TUVZ	Tukino	0.58	178	P	Pn	11 39 34.6	+0.1
HIZ	Hauiti	0.63	286	P	Pn	11 39 35.3	+0.8
PKVZ	Pokaka	0.64	200	P	Pn	11 39 34.9	+0.3
MRHZ	Matea Rd	0.64	103	P	Pn	11 39 33.9	-0.7
WNVZ	Wahianoa	0.64	182	P	Pn	11 39 34.9	+0.1
MTVZ	Mangateitei	0.70	190	P	Pn	11 39 35.3	+0.3
MOVZ	Moawhango	0.72	172	P	Pn	11 39 34.9	-0.1
RRRZ	Republican Roa	0.78	64	P	Pn	11 39 35.1	-0.3
VRZ	Vera Road	0.80	237	P	Pn	11 39 32.6	-2.8
BKZ	Black Stump Fm	0.83	125	P	Pn	11 39 34.9	-0.8
OMRZ	Omania	0.83	46	P	Pn	11 39 32.3	-3.4
TARZ	Mount Tarawera	0.83	57	P	Pn	11 39 35.8	0.0
BHHZ	Black Hill Sta	0.87	157	P	Pn	11 39 35.8	-0.2
MUGZ	Murupara	0.92	77	P	Pn	11 39 35.6	-0.7
KWHZ	Kaweka Forest	0.96	140	P	Pn	11 39 36.7	+0.1
TOZ	Tahuroa Road	0.96	354	P	Pn	11 39 37.7	+1.1
MTHZ	Maungataniwha	0.97	100	P	Pn	11 39 36.6	0.0
NMHZ	Naumai	1.01	114	P	Pn	11 39 37.8	+0.8
RTZ	Ruatahuna	1.06	86	P	Pn	11 39 37.1	-0.3
TGRZ	Tauranga	1.08	28	P	Pn	11 39 38.0	+0.5
KRHZ	Kereru	1.11	149	P	Pn	11 39 38.1	+0.4
OPRZ	Ohinepanea	1.12	41	P	Pn	11 39 38.0	+0.2
MCHZ	McNeill Hill	1.12	132	P	Pn	11 39 38.8	+1.0
RAHZ	Arahi	1.17	102	P	Pn	11 39 38.7	+0.5
WAZ	Wanganui	1.17	205	P	Pn	11 39 39.3	+1.1
ARHZ	Aropaoanui	1.21	119	P	Pn	11 39 39.2	+0.7
LREZ	Lake Rotokare	1.22	231	P	Pn	11 39 40.6	+2.1
URZ	Urewera	1.24	70	P	Pn	11 39 38.2	-0.6
PNHZ	Pukenui	1.30	160	P	Pn	11 39 39.7	+0.4
WHHZ	Waihua	1.32	108	P	Pn	11 39 39.9	+0.5
NEZ	North Egmont	1.32	244	P	Pn	11 39 41.9	+2.3
SNGZ	Shannon Statio	1.35	94	P	Pn	11 39 40.2	+0.5
TSZ	Takapari Road	1.39	169	P	Pn	11 39 40.7	+0.6
KAHZ	Kahuranaki	1.47	139	P	Pn	11 39 41.6	+0.8
WPHZ	Waipukurau	1.51	155	P	Pn	11 39 41.8	+0.6
MWZ	Matawai	1.54	77	P	Pn	11 39 41.6	+0.1
KNZ	Kokohu	1.64	102	P	Pn	11 39 42.8	+0.4
PXZ	Pawanui	1.65	145	P	Pn	11 39 43.1	+0.6
DVHZ	Dannevirke	1.66	166	P	Pn	11 39 43.1	+0.4
RIGZ	Rimuhau	1.67	91	P	Pn	11 39 43.3	+0.4
POWZ	Post Office Ro	1.70	176	P	Pn	11 39 43.7	+0.6
PRHZ	Porangahau	1.76	154	P	Pn	11 39 44.3	+0.7
TKGZ	Te Karaka	1.76	83	P	Pn	11 39 44.5	+0.8
RUGZ	Raukumara Rang	1.77	67	P	Pn	11 39 43.5	-0.4
PRGZ	Paritu Road	1.78	98	P	Pn	11 39 44.5	+0.6
MHGZ	Mahia Peninsul	1.84	105	P	Pn	11 39 45.2	+0.6
PRWZ	Pori Road	1.88	172	P	Pn	11 39 45.7	+0.8
ANWZ	Angora Road	1.89	160	P	Pn	11 39 45.8	+0.8
HAZ	Te Kaha	1.94	62	P	Pn	11 39 45.5	-0.1
MRZ	Mangatainoka R	1.97	181	P	Pn	11 39 46.4	+0.5
CNGZ	Carnagh Statio	2.04	85	P	Pn	11 39 47.5	+0.9
BFZ	Birch Farm	2.05	167	P	Pn	11 39 47.2	+0.5
TIWZ	Tintock	2.09	175	P	Pn	11 39 47.8	+0.6
OGWZ	Ota

WRAB	**Tennant Creek**	**42.25 268**	P	**P**	**12 21 30.1**	**-1.0**
WRAB			IAmb	IAmb	12 21 31.5	
	comp=Z,6.2nm,0.9s					
WRA	**Warramunga Arr**	**42.26 268**	P	**P**	**12 21 30.1**	**-1.1**
	comp=Z,2.3nm,0.4s,baz=103,slow=7.7,SNR=65					
WRA			PcP	**PcP**	**12 23 14.7**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=107,slow=2.9,SNR=4.0					
WRA			S	**S**	**12 27 15.3**	**+0.1**
	comp=Z,1.1nm,1.0s,baz=94,slow=14,SNR=5.0					
WRA	**Warramunga Arr**	**42.26 268**	P	**P**	**12 21 30.3**	**-0.9**
WB0	**Warramunga Arr**	**42.26 269**	P	**P**	**12 21 30.2**	**-1.1**
WB0			IAmb	IAmb	12 21 30.6	
	comp=Z,5.8nm,0.8s					
FORT	**Forrest**	**45.57 251**	P	**P**	**12 21 55.6**	**-1.2**
MTN	**Manton Dam**	**47.59 276**		**P**	**12 22 11.6**	**-0.7**
MTN			IAmb	IAmb	12 22 14.8	
	comp=Z,12nm,0.9s					
KNRA	**Kununurra**	**48.66 272**	P	**P**	**12 22 20.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.65 267**	P	**P**	**12 22 34.4**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=167,slow=1.3,SNR=15					
FITZ	**Fitzroy Crossi**	**50.65 267**	P	**P**	**12 22 34.9**	**-0.1**
FITZ			IAmb	IAmb	12 22 35.1	
	comp=Z,7.5nm,1.2s					
VNDA	**Vanda**	**52.32 185**	P	**P**	**12 22 47.6**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=32,slow=6.1,SNR=2.8					
VNDA	**Vanda**	**52.32 185**	P	**P**	**12 22 47.5**	**+1.4**
MORW	**Morawa**	**56.14 251**	P	**P**	**12 23 13.1**	**-0.8**
MORW			IAmb	IAmb	12 23 26.0	
	comp=Z,20nm,1.4s					
CASY	**Casey**	**58.24 206**	P	**P**	**12 23 27.2**	**-0.4**
CASY			IAmb	IAmb	12 23 27.3	
	comp=Z,4.8nm,0.8s					
QSPA	**South Pole Qui**	**64.12 180**	P	**P**	**12 24 07.7**	**+1.2**
QSPA			IAmb	IAmb	12 24 07.9	
	comp=Z,3.6nm,0.8s					
JGF	**Kuroka**	**73.28 325**	P	**P**	**12 25 02.5**	**+0.3**
MJAR	**Matsushiro Arr**	**73.57 326**	P	**P**	**12 25 04.1**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=164,slow=4.8,SNR=7.9					
MJAR	**Matsushiro Arr**	**73.57 326**	P	**P**	**12 25 03.9**	**+0.1**
MAW	**Mawson**	**75.80 201**	P	**P**	**12 25 16.3**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=132,slow=6.2,SNR=9.7					
MAW	**Mawson**	**75.80 201**	P	**P**	**12 25 16.7**	**+0.9**
KSRS	**Korea Array**	**79.80 320**	P	**P**	**12 25 39.2**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=135,slow=6.2,SNR=11					
PETK	**Petropavlovsk-**	**81.09 347**	P	**P**	**12 25 44.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=115,slow=7.0,SNR=4.6					
PETK	**Petropavlovsk-**	**81.09 347**	P	**P**	**12 25 45.4**	**+1.1**
SNAA	**Sanae**	**82.61 179**	P	**P**	**12 25 52.0**	**0.0**
VNA3	**Neumayer Olymp**	**82.82 177**	P	**P**	**12 25 53.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**90.19 290**	P	**P**	**12 26 31.5**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=101,slow=2.8,SNR=1.6					
CMAR	**Chiang Mai Arr**	**90.19 290**	P	**P**	**12 26 27.8**	**-1.4**
FINES	**FINESS Array B**	**140.38 341**	PKhKP	PKPpre	12 32 46.9	
	comp=Z,0.7nm,0.7s,baz=60,slow=5.0,SNR=3.5					
MARD	**Mardin**	**143.70 298**		**PKPdf**	**12 32 59.5**	**-0.6**
NB2	**NORSAR Subarra**	**144.11 351**	PKP	**PKPab**	**12 32 59.4**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=14,slow=4.0					
NOA	**NORSAR Array B**	**144.11 351**	PKP	**PKPdf**	**12 32 59.5**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=21,slow=2.5,SNR=12					
AKASG	**Malin Array Be**	**146.66 326**	PKPbc	**PKPbc**	**12 33 07.0**	**0.0**
	comp=Z,1.8nm,0.5s,baz=46,slow=4.3,SNR=5.6					
AKASG	**Malin Array Be**	**146.66 326**		**PKPbc**	**12 33 07.2**	**+0.1**
BRTR	**Keskin Array B**	**148.74 304**	PKPbc	**PKiKP**	**12 33 13.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=131,slow=4.0,SNR=2.4					
BRTR	**Keskin Array B**	**148.74 304**		**PKPbc**	**12 33 13.2**	**+0.1**
BRTR				**PKPab**	**12 33 19.3**	**+0.6**
KWP	**Kalwaria Pacla**	**150.53 329**		**PKPdf**	**12 33 11.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**167.14 188**	PKPab	**PKPab**	**12 34 38.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=189,slow=3.7,SNR=3.0					
TORD	**Torodi Ar. Bea**	**167.14 188**		**PKPab**	**12 34 37.8**	**-0.6**

*IDC **13** 12:18:51.2±0.6,0°.34S×125°.06E, $h0^{km}$, mb4.3/19, mb1 4.3/20, mb1mx4.2/38, mbtmp4.3/20, ML3.9/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/34, Error ellipse: s-maj=25.9km s-min=13.4km az=79.0*

*NEIC **13** 12:18:55.2±1.5, 0°.34S±0°.06×125°.29E±0°.05, $h35^{km}\pm2^{km}$, mb4.6/43, Error ellipse: s-maj=10.9km s-min=8.6km az=169.0*

*DJA **13** 12:18:56.1±0.2, 0°S±2°×12°5E±°, $h10^{km}$, M4.3/7, mB4.8/1, mb4.6/7, MLv4.2/6, Mw(mB)4.1/1*

ISC 13 12:18:57.6±0.3, 0°.37S±0°.04×125°.20E±0°.04, $h52^{km}$, n106, σ1§98/116, mb4.5/42, 1C, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.54**	**307**	P	**Pn**	**12 19 21.0**	**-1.7**
KMSI				S	**Sn**	**12 19 40.2**	**-1.4**
SANI	**Sanana**	**1.84**	**155**	P	**Pn**	**12 19 26.3**	**-0.5**
GTOI	**Gorontalo**	**2.41**	**294**	P	**Pn**	**12 19 37.4**	**+2.8**
TNTI	**Ternate**	**2.44**	**62**	P	**Pn**	**12 19 36.2**	**+1.2**
TNTI	**Ternate**	**2.44**	**62**		**Pn**	**12 19 37.1**	**+2.1**
TNTI				Sn	**Sn**	**12 20 07.2**	**+3.5**
LUWI	**Luwuk**	**2.52**	**255**	P	Pn	12 19 41.5	+5.4
LUWI	**Luwuk**	**2.52**	**255**		Pn	12 19 41.6	+5.6
LUWI				Sn	**Sn**	**12 20 13.6**	**+7.9**
NLAI	**Namlea**	**3.42**	**146**	P	**Pn**	**12 19 49.1**	**+0.6**
MSAI	**Masohi**	**4.75**	**128**	P	**Pn**	**12 20 10.1**	**+3.4**
MPSI	**Mapaga**	**5.35**	**278**	P	**Pn**	**12 20 17.1**	**+2.2**
	918nm63nm,0.9s						
SIJI	**Sorong**	**6.08**	**95**	Pn	Pn	12 20 29.9	+4.9
	2.3nm,0.3s,baz=235,slow=22,SNR=2.0						
SIJI				Sn	**Sn**	**12 21 38.4**	**+5.1**
	1.4nm,0.3s,baz=247,slow=23,SNR=1.7						
BNDI	**Bandanaira**	**6.25**	**131**	P	**Pn**	**12 20 28.9**	**+1.6**
	153nm,0.7s						
BNSI	**Bone**	**6.48**	**232**	P	**Pn**	**12 20 32.2**	**+1.8**
	28nm,0.5s						
SPSI	**Sidrap Palu**	**6.50**	**237**	P	**Pn**	**12 20 32.8**	**+2.1**
	44nm,0.5s						
BKSI	**Bulukumba**	**7.07**	**226**	P	**Pn**	**12 20 41.3**	**+2.8**
	23nm,0.6s						
KAPI	**Kappang**	**7.14**	**230**	Pn	**Pn**	**12 20 41.5**	**+2.1**
	3.3nm,0.3s,baz=62,slow=8.4,SNR=4.7						
KAPI				Sn	**Sn**	**12 21 58.7**	**-0.5**
	0.9nm,0.3s,baz=334,slow=21,SNR=1.3						
KAPI	**Kappang**	**7.14**	**230**	Pn	**Pn**	**12 20 43.0**	**+3.6**
KAPI				Sn	**Sn**	**12 22 02.7**	**+3.5**
KCP	**Kidapawan**	**7.33**	**359**	⇑iP	**Pn**	**12 20 46.6**	**+4.5**
DAV	**Davao City (W)**	**7.40**	**3**	LR	LR	12 23 35.9	
	comp=Z,323nm,18.8s,baz=204,slow=39						
FAKI	**Fak Fak**	**7.48**	**110**	Pn	**Pn**	**12 20 45.5**	**+1.3**
FAKI				Sn	**Sn**	**12 22 06.8**	**-1.0**
MYLDM	**Lahad Datu**	**8.67**	**310**	Pn	**Pn**	**12 20 59.6**	**-0.9**
SOEI	**Soe**	**9.37**	**186**	Pn	**Pn**	**12 21 06.5**	**-3.7**
SAUI	**Saumlaki**	**9.70**	**141**	Pn	**Pn**	**12 21 11.3**	**-3.3**
KKM	**Kota Kinabalu**	**11.01**	**306**	Pn	**Pn**	**12 21 30.8**	**-1.7**
KSM	**Kuching**	**15.01**	**277**	Pn	**Pn**	**12 22 25.6**	**-0.9**
KNRA	**Kununurra**	**15.61**	**167**	Pn	**Pn**	**12 22 31.9**	**-2.4**
KNRA				IAmb	IAmb	12 22 36.5	
	comp=Z,29nm,1.0s						
FITZ	**Fitzroy Crossi**	**17.62**	**179**	P	**P**	**12 23 00.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=1.5,slow=8.8,SNR=9.2						
FITZ	**Fitzroy Crossi**	**17.62**	**179**	P	**P**	**12 23 00.9**	**+1.0**
CISI	**Cisompet, Garu**	**18.75**	**247**	P	**P**	**12 23 10.2**	**-2.3**
WB0	**Warramunga Arr**	**21.28**	**156**	P	**P**	**12 23 37.0**	**-2.8**
MBWA	**Marble Bar**	**21.34**	**194**	P	**P**	**12 23 39.0**	**-1.5**
WRAB	**Tennant Creek**	**21.41**	**156**	P	**P**	**12 23 40.1**	**-1.1**
WRA	**Warramunga Arr**	**21.41**	**156**	P	**P**	**12 23 41.4**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=333,slow=11,SNR=20						
WRA				PcP	**PcP**	**12 27 45.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=320,slow=2.2,SNR=2.4						
WRA	**Warramunga Arr**	**21.41**	**156**	P	**P**	**12 23 40.3**	**-1.0**
WB2	**Warramunga Arr**	**21.42**	**156**	P	**P**	**12 23 40.2**	**-1.1**
MYKOM	**Kota Tinggi**	**21.46**	**276**	P	**P**	**12 23 41.4**	**-0.5**
MYKOM				IAmb	IAmb	12 23 44.5	
	comp=Z,8.8nm,0.6s						
WR0	**Warramunga Arr**	**21.51**	**155**	P	**P**	**12 23 41.3**	**-1.0**
PSA00	**Pilbara Seismi**	**21.71**	**194**	P	**P**	**12 23 44.0**	**-0.4**
COEN	**Coen**	**22.33**	**128**	P	**P**	**12 23 47.9**	**-3.3**
COEN				IAmb	IAmb	12 23 59.4	
	comp=Z,16nm,1.1s						
TPUB	**Ta-pu**	**23.95**	**350**	P	**P**	**12 24 04.6**	**-2.5**
TPUB				IAmb	IAmb	12 24 08.1	
	comp=Z,25nm,1.0s						
ASAR	**Alice Springs**	**24.65**	**161**	P	**P**	**12 24 13.8**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=345,slow=12,SNR=18						
ASAR				PcP	**PcP**	**12 27 52.0**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=346,slow=2.0,SNR=6.6						
ASAR				LR	LR	12 35 26.6	
	comp=Z,195nm,19.1s,baz=114,slow=40						
ASAR	**Alice Springs**	**24.65**	**161**	P	**P**	**12 24 13.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.88**	**307**	P	**P**	**12 25 18.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=144,slow=6.8,SNR=5.4						
CMAR				PcP	**PcP**	**12 28 09.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=218,slow=0.5,SNR=4.2						
CMAR	**Chiang Mai Arr**	**31.88**	**307**	P	**P**	**12 25 17.9**	**-0.3**
CHTO	**Chiang Mai**	**32.07**	**308**	P	**P**	**12 25 19.4**	**-0.4**
NJ2	**Nanjing**	**32.80**	**350**	*e*P	**P**	**12 25 28.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
JMN	**Monobe**	**34.88**	**13**	P	**P**	**12 25 45.6**	**+1.5**
STKA	**Stephens Creek**	**34.96**	**155**	P	**P**	**12 25 46.0**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=319,slow=9.1,SNR=4.1						
STKA	**Stephens Creek**	**34.96**	**155**	P	**P**	**12 25 44.5**	**-0.3**
KSAR	**Wonju Array Be**	**37.70**	**3**	P	**P**	**12 26 07.2**	**-0.9**
KSRS	**Korea Array**	**37.72**	**4**	P	**P**	**12 26 09.4**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=177,slow=9.6,SNR=7.1						
KS19	**Wonju Array Si**	**37.76**	**3**	P	**P**	**12 26 08.9**	**+0.3**
KS19				IAmb	IAmb	12 26 10.6	
	comp=Z,25nm,1.5s						
MAJO	**Matsushiro**	**38.66**	**17**	P	**P**	**12 26 14.6**	**-1.6**
MAJO				IAmb	IAmb	12 26 16.7	
	comp=Z,5.9nm,0.7s						
MAT	**Matsushiro**	**38.66**	**17**	P	**P**	**12 26 15.3**	**-0.9**
MJAR	**Matsushiro Arr**	**38.66**	**17**	P	**P**	**12 26 15.7**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=199,slow=8.2,SNR=11						
MJAR	**Matsushiro Arr**	**38.66**	**17**	P	**P**	**12 26 15.3**	**-0.9**
ARMA	**Armidale**	**39.03**	**142**	P	**P**	**12 26 19.0**	**-0.5**
ARMA				IAmb	IAmb	12 26 29.6	
	comp=Z,6.5nm,1.1s						
JMM	**Marumori**	**40.68**	**19**	P	**P**	**12 26 30.4**	**-2.5**
JMM				IAmb	IAmb	12 26 35.8	
	comp=Z,13nm,0.6s						
SHL	**Shillong**	**41.24**	**311**	P	**P**	**12 26 36.5**	**-1.5**
SHL				IAmb	IAmb	12 26 39.2	
	comp=Z,6.1nm,0.5s						
CAN	**Canberra**	**41.24**	**150**	P	**P**	**12 26 36.8**	**-0.9**
CAN				IAmb	IAmb	12 26 43.4	
	comp=Z,25nm,1.5s						
HHC	**Hu-ho-hao-te**	**42.86**	**345**	*e*P	**P**	**12 26 52.8**	**+1.9**
HHC				PP	**PP**	**12 28 35.8**	**+4.6**
HHC				S	**S**	**12 33 11.3**	**-0.6**
HHC				SS	**SS**	**12 36 18.3**	**-6.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,94nm,7.4s						
HHC				LR	LR		
	comp=N,250nm,15.3s						
HHC				LR	LR		
	comp=E,240nm,17.6s						
HHC				LR	LR		
	comp=Z,200nm,20.0s						
JTM	**Tenmabayashi**	**43.43**	**18**	P	**P**	**12 26 57.1**	**+1.8**
USRK	**Ussuriysk Ar.**	**44.79**	**7**	P	**P**	**12 27 06.6**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=180,slow=8.0,SNR=5.2						
MDJ	**Mudanjiang**	**44.96**	**4**	P	**P**	**12 27 08.8**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,47nm,4.3s						
GTA	**Gaotai**	**45.91**	**332**	*e*P	**P**	**12 27 16.3**	**+1.0**
GTA				pP	sP	12 27 38.6	+4.7
GTA				sP	pwP	12 27 51.4	+19
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,65nm,5.3s						
GTA				LR	LR		
	comp=N,370nm,19.6s						
GTA				LR	LR		
	comp=E,250nm,17.9s						
GTA				LR	LR		
	comp=Z,470nm,20.0s						
ASAJ	**Asahikawa**	**46.93**	**17**	P	**P**	**12 27 23.8**	**+0.7**
	comp=Z,2.9nm,0.4s,baz=229,slow=9.0,SNR=12						
SONM	**Songino Array**	**50.73**	**344**	P	**P**	**12 27 52.2**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=156,slow=8.8,SNR=9.7						
SONM	**Songino Array**	**50.73**	**344**	P	**P**	**12 27 52.1**	**-0.2**
WMQ	**Urumqi**	**55.27**	**328**	*e*P	**P**	**12 28 27.3**	**+1.6**
PEA0B	**Petropavlovsk-**	**59.78**	**22**	P	**P**	**12 28 56.6**	**-0.6**
PETK	**Petropavlovsk-**	**59.78**	**22**	P	**P**	**12 28 59.4**	**+2.2**
	comp=Z,5.8nm,0.8s,baz=186,slow=4.5,SNR=13						
PETK	**Petropavlovsk-**	**59.78**	**22**	P	**P**	**12 28 56.4**	**-0.8**
MK31	**Makanchi Array**	**60.10**	**327**	P	**P**	**12 28 58.3**	**-1.2**
MK31				IAmb	IAmb	12 29 01.5	
	comp=Z,3.9nm,0.6s						
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**12 28 59.0**	**-0.5**
	comp=Z,4.6nm,0.4s,baz=123,slow=8.5,SNR=23						
MKAR				PcP	**PcP**	**12 29 45.6**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=128,slow=6.0,SNR=1.9						
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**12 28 59.3**	**-0.3**
MAKZ	**Makanchi**	**60.27**	**327**	P	**P**	**12 29 00.2**	**-0.6**
MAKZ				IAmb	IAmb	12 29 02.6	
	comp=Z,4.7nm,0.5s						
KDJ	**Kajisay**	**60.45**	**321**	P	**P**	**12 29 02.3**	**0.0**
YAK	**Yakutsk**	**62.33**	**2**	P	**P**	**12 29 14.6**	**+0.3**
KNTN	**Kanton**	**63.09**	**93**	P	**P**	**12 29 16.9**	**-3.4**
ZAA0	**Zalesovo Array**	**63.57**	**335**	P	**P**	**12 29 21.8**	**-1.0**
ZAA0				IAmb	IAmb	12 29 23.7	
	comp=Z,3.4nm,1.0s						
ZALV	**Zalesovo Beam**	**63.57**	**335**	P	**P**	**12 29 22.9**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=124,slow=7.4,SNR=9.5						
ZALV	**Zalesovo Beam**	**63.57**	**335**	P	**P**	**12 29 21.8**	**-0.9**
GAR	**Garm**	**63.63**	**315**	P	**P**	**12 29 22.1**	**-1.5**
KURK	**Kurchatov**	**64.41**	**329**	P	**P**	**12 29 27.7**	**-0.6**
KK31	**Karatay Array**	**65.23**	**319**	P	**P**	**12 29 34.0**	**+0.2**
KK31				IAmb	IAmb	12 29 36.4	
	comp=Z,3.0nm,0.9s						
KKAR	**Karatay Array**	**65.23**	**319**	P	**P**	**12 29 33.8**	**0.0**
KKAR	**Karatay Array**	**65.23**	**319**	P	**P**	**12 29 33.9**	**0.0**
KKAR				IAmb	IAmb	12 29 36.4	
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**70.02**	**328**	P	**P**	**12 30 01.6**	**-2.2**
BRVK				IAmb	IAmb	12 30 06.2	
	comp=Z,3.6nm,0.9s						
GSTR	**Great Sitkin T**	**71.63**	**34**	P	**P**	**12 30 12.4**	**-1.2**
TIXI	**Tiksi**	**71.94**	**1**	P	**P**	**12 30 15.2**	**+0.2**
TIXI				IAmb	IAmb	12 30 15.7	
	comp=Z,3.1nm,0.5s						
NRIK	**Noril'sk**	**74.04**	**347**	P	**P**	**12 30 28.0**	**+0.5**
	comp=Z,7.3nm,0.6s,baz=128,slow=5.9,SNR=8.8						
ABKAR	**Akbulak array**	**74.37**	**322**	P	**P**	**12 30 28.8**	**-1.1**
ARU	**Arti**	**77.59**	**329**	P	**P**	**12 30 47.6**	**-0.5**
ARU				IAmb	IAmb	12 30 48.4	
	comp=Z,4.3nm,0.7s						
OPO	**Ambohidratompo**	**78.52**	**251**	P	**P**	**12 30 55.1**	**+0.8**
	comp=Z,2.1nm,0.3s,baz=78,slow=15,SNR=2.3						
KBZ	**Khabaz**	**84.68**	**314**	P	**P**	**12 31 26.8**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=145,slow=1.8,SNR=4.9						
TTA	**Tatalina**	**85.22**	**27**	P	**P**	**12 31 27.2**	**-1.2**
TTA				IAmb	IAmb	12 31 41.5	
	comp=Z,5.8nm,1.0s						
IMAR	**Indian Mountai**	**86.68**	**24**	P	**P**	**12 31 37.3**	**+1.8**
ILAR	**Eielson Array**	**89.44**	**25**	P	**P**	**12 31 48.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=225,slow=5.2,SNR=6.1						
ILAR	**Eielson Array**	**89.44**	**25**	P	**P**	**12 31 48.2**	**-0.4**
QSPA	**South Pole Qui**	**89.56**	**180**	P	**P**	**12 31 52.0**	**+2.7**
QSPA				IAmb	IAmb	12 31 56.1	
	comp=Z,4.1nm,1.4s						
BRTR	**Keskin Array B**	**91.44**	**310**	P	**P**	**12 31 58.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=190,slow=4.9,SNR=2.7						
BRTR	**Keskin Array B**	**91.44**	**310**	P	**P**	**12 31 58.0**	**-0.7**
AKASG	**Malin Array Be**	**94.08**	**321**	P	**P**	**12 32 09.1**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=72,slow=4.3,SNR=1.4						
AKASG	**Malin Array Be**	**94.08**	**321**	P	**P**	**12 32 09.2**	**-1.3**
FINES	**FINESS Array B**	**94.69**	**332**	P	**P**	**12 32 14.6**	**+1.7**
	comp=Z,2.0nm,1.0s,baz=101,slow=8.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.63**	**285**	PKP	**PKiKP**	**12 37 49.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=77,slow=1.7,SNR=4.8						

WEL 13 12:19:15.9, 44°S±8°×17°2E±°, $h5^{km}\pm8^{km}$, M2.2/6, ML2.2/6, MLv2.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=167.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.24**	**112**	P	Pg	12 19 22.2	+1.7
OXZ	**Oxford**	**0.37**	**322**	P	Pb	12 19 25.2	+0.2
AKCZ	**Akaroa Harbour**	**0.48**	**122**	P	Pb	12 19 27.8	+1.0
WACZ	**Wakanui South**	**0.49**	**229**	P	Pb	12 19 28.0	+1.0
AMCZ	**Amberley**	**0.49**	**27**	P	Pn	12 19 28.5	-1.0
OKCZ	**Okains Bay**	**0.53**	**102**	P	Pb	12 19 27.8	+0.2
GVZ	**Greta Valley S**	**0.82**	**38**	P	Pn	12 19 34.0	-0.1
LTZ	**Lake Taylor**	**0.84**	**356**	P	Pn	12 19 34.0	-0.3
ARCZ	**Arundel**	**0.91**	**248**	P	Pn	12 19 35.3	0.0
RPZ	**Rata Peaks**	**0.95**	**264**	P	Pn	12 19 36.0	+0.2
ODZ	**Otahua Downs**	**1.88**	**220**	P	Pg	12 19 52.4	+0.6

*BJI **13** 13:02:58.0±0.0, 4°.50S×102°.60E, $h60^{km}$, mB5.0/43, mb4.9/58, Ms4.4/13, Ms7 4.1/12*

*NEIC **13** 13:02:59.9±1.7, 4°.40S±0°.09×102°.61E±0°.08, $h61^{km}\pm4^{km}$, mb4.9/57, Error ellipse: s-maj=14.6km s-min=9.4km az=223.0*

*DJA **13** 13:02:59.9±0.2, 5°S±2°×10°3E±°, $h58^{km}\pm2^{km}$, M4.8/37, mb4.8/37, mB5.1/8, MLv5.0/24, Mw(mB)4.5/8*

*UNK **13** 13:02:59.9, 4°.39S×102°.65E, $h60^{km}$*

*IDC **13** 13:03:02.2±1.4, 4°.34S×102°.70E, $h75^{km}\pm11^{km}$, mb4.6/27, mb1 4.6/30, mb1mx4.5/37, mbtmp4.8/30, MS3.7/11, Ms1 3.7/11, ms1mx3.3/47, Error ellipse: s-maj=17.3km s-min=7.3km az=44.0*

*KLM **13** 13:03:02.0, 4°.54S×102°.55E, $h63^{km}$, mb5.0*

ISC 13 13:03:00.7±0.8, 4°.47S±0°.06×102°.60E±0°.05, $h69^{km}\pm6^{km}$, n397, σ1§13/402, mb4.9/77, 10C-11D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.38**	**73**	P	**Pn**	**13 03 11.2**	**-1.2**
MNAI				S	**Sn**	**13 03 19.6**	**-1.3**
MNAI	**Manna**	**0.38**	**73**		**Pn**	**13 03 10.9**	**-1.5**
KSI	**Kapahiang**	**0.82**	**360**	P	**Pn**	**13 03 16.5**	**-0.5**
LHSI	**Lahat**	**1.12**	**55**	P	**Pn**	**13 03 21.3**	**+0.5**
MASI	**Maura Aman, Be**	**1.37**	**345**	P	**Pn**	**13 03 24.2**	**+0.2**
MASI				S	**Sn**	**13 03 42.4**	**+0.9**
LWLI	**Liwa**	**1.55**	**110**	P	**Pn**	**13 03 26.7**	**+0.2**
LWLI				S	**Sn**	**13 03 45.9**	**-0.1**
MDSI	**Maura Dua**	**1.58**	**91**	P	**Pn**	**13 03 27.1**	**+0.4**
MDSI				S	**Sn**	**13 03 47.2**	**+0.9**
KLSI		**2.14**	**96**	P	**Pn**	**13 03 34.9**	**+0.7**
KASI	**Kota Agung**	**2.16**	**119**	P	**Pn**	**13 03 34.5**	**-0.1**
KASI				S	**Sn**	**13 03 59.3**	**-1.1**
KRJI	**Kerinci**	**2.62**	**334**	P	**Pn**	**13 03 42.4**	**+1.4**
PMBI	**Palembang**	**2.66**	**55**		**Pn**	**13 03 39.8**	**-1.5**
BLSI	**Bandar Lampung**	**2.78**	**109**	P	**Pn**	**13 03 43.8**	**+0.8**
PPSI	**Pulau Pagai**	**3.09**	**303**	P	**Pn**	**13 03 47.8**	**+0.6**
SDSI	**Sungai Dareh**	**3.71**	**342**	P	**Pn**	**13 03 56.6**	**+1.0**
CGJI	**Cibinong**	**3.74**	**125**	P	**Pn**	**13 03 56.2**	**+0.1**
PDSI	**Padang**	**4.13**	**329**	P	**Pn**	**13 04 01.4**	**-0.1**
DSRI	**Dabo**	**4.43**	**27**	P	**Pn**	**13 04 06.8**	**+1.2**
SISI	**Saibi**	**4.70**	**312**	P	**Pn**	**13 04 09.1**	**0.0**
BKNI	**Bangkinang**	**5.01**	**342**	P	**Pn**	**13 04 14.9**	**+1.4**
	2.5nm16μm299nm,0.9s						
BKNI	**Bangkinang**	**5.01**	**342**	Pn	**Pn**	**13 04 11.9**	**-1.7**
CNJI	**Cibinong**	**5.32**	**122**	P	**Pn**	**13 04 17.8**	**+0.2**
	1.7nm5μm146nm,1.5s						
TPI	**Tanjungpandan**	**5.33**	**71**	P	**Pn**	**13 04 18.4**	**+0.6**
	0.5nm41nm,0.6s						
LEM	**Lembang**	**5.52**	**115**	P	**Pn**	**13 04 22.2**	**+1.7**
	6.2nm,0.3s,baz=315,slow=20,SNR=3.2						
LEM				S	**Sn**	**13 05 26.1**	**+3.3**
	6.7nm,0.3s,baz=311,slow=19,SNR=1.8						
LEM				LR	LR	13 07 01.4	
	comp=Z,262nm,21.6s,baz=265,slow=44						
CISI	**Cisompet, Garu**	**6.03**	**121**	P	**Pn**	**13 04 27.4**	**0.0**
	2.0nm5μm189nm,0.6s						
CISI	**Cisompet,

baz=28,SNR=8.0
KNRA Kununurra 28.02 115 P P 13 08 45.2 -0.4
SIJI Sorong 28.86 84 P P 13 08 53.5 +0.4
comp=Z,9.3nm,0.7s,baz=270,slow=19,SNR=2.5
MTN Manton Dam 29.38 108 P P 13 08 56.7 -1.1
baz=29,SNR=12
MTN Manton Dam 29.38 108 P P 13 08 56.5 -1.2
MTN IAmb IAmb 13 09 11.9
comp=Z,34nm,1.4s
KMI Kunming 29.42 0⇑eP P 13 08 59.3 +1.2
KMI pmax pmax
comp=Z,9.0nm,0.6s
FAKI Fak Fak 29.63 88 P P 13 08 59.1 -0.8
FAKI IAmb IAmb 13 09 01.4
comp=Z,31nm,1.1s
H08S2 Diego Garcia H 30.09 263 T T 13 40 18.6
baz=86,slow=76,SNR=27
H08S3 Diego Garcia H 30.10 263 T T 13 40 18.1
baz=86,slow=76,SNR=25
H08S1 Diego Garcia H 30.11 263 T T 13 40 18.1
baz=86,slow=76,SNR=22
KDU Kakadu 30.62 107 P P 13 09 06.6 -2.0
baz=31,SNR=8.5
GYA Guiyang 31.00 7 ⇑P P 13 09 13.0 +1.0
GYA pmax pmax
comp=Z,9.0nm,0.9s
GYA pmax pmax
comp=Z,88nm,3.5s
GYA LR LR
comp=Z,69nm,4.5s
GYA LR LR
comp=Z,82nm,4.0s
GYA LR LR
comp=Z,180nm,5.9s
WRKA Warakurna 32.05 132 P P 13 09 22.5 +1.3
baz=32,SNR=22
H01W3 Cape Leeuwin H 32.09 162 T T 13 43 10.9
baz=338,slow=76,SNR=184
H01W2 Cape Leeuwin H 32.11 162 T T 13 43 10.7
baz=338,slow=76,SNR=185
H01W1 Cape Leeuwin H 32.11 162 T T 13 43 10.4
baz=338,slow=76,SNR=203
ODAN Odare 34.45 336 eP P 13 09 42.5 +0.3
comp=Z,109nm,0.7s
ODAN Odare 34.45 336 eP P 13 09 42.5 +0.3
comp=Z,109nm,0.7s
WB0 Warramunga Arr 34.50 119 P P 13 09 42.6 0.0
WRA Warramunga Arr 34.52 119 P P 13 09 42.9 +0.2
comp=Z,8.6nm,0.3s,baz=305,slow=9.2,SNR=162
WRA PcP PcP 13 12 17.3 +0.7
comp=Z,2.0nm,0.6s,baz=306,slow=2.1,SNR=5.8
WRA S S 13 15 05.0 -1.8
comp=Z,0.7nm,0.8s,baz=293,slow=15,SNR=3.7
WRA ScP ScP 13 15 55.2 -0.7
comp=Z,0.8nm,0.8s,baz=305,slow=2.3,SNR=3.7
WRA P3KPbc 13 40 42.5
comp=Z,0.8nm,0.9s,baz=107,slow=4.2,SNR=8.8
WRA Warramunga Arr 34.52 119 P P 13 09 42.9 +0.2
WRA PcP 13 12 17.6 +1.0
WRAB Tennant Creek 34.53 119 P P 13 09 43.4 +0.6
WRAB IAmb IAmb 13 09 44.2
comp=Z,12nm,0.7s
WB2 Warramunga Arr 34.53 119 P P 13 09 43.0 +0.2
WB2 IAmb IAmb 13 09 44.2
comp=Z,11nm,0.6s
WR0 Warramunga Arr 34.70 119 P P 13 09 44.5 +0.2
WR0 IAmb IAmb 13 09 45.0
comp=Z,9.6nm,0.6s
TAPN Taplejung 34.75 336 eP P 13 09 45.5 +0.6
comp=Z,128nm,0.9s
TAPN Taplejung 34.75 336 eP P 13 09 45.5 +0.6
comp=Z,128nm,0.9s
RAMN Ramite 34.86 335 eP P 13 09 46.4 +0.6
comp=Z,35nm,0.4s
RAMN Ramite 34.86 335 eP P 13 09 46.4 +0.6
comp=Z,35nm,0.4s
ENH Enshi 35.17 10 P P 13 09 47.9 -0.3
CD2 Chengdu 35.20 2 eP P 13 09 48.5 0.0
JIRN Jiri 35.66 335 eP P 13 09 53.4 +0.6
JIRN Jiri 35.66 335 eP P 13 09 53.4 +0.6
AS31 Alice Springs 35.71 125 P P 13 09 53.7 +0.7
AS31 IAmb IAmb 13 10 00.2
comp=Z,8.0nm,0.3s
ASAR Alice Springs 35.71 125 P P 13 09 53.8 +0.8
comp=Z,9.4nm,0.6s,baz=298,slow=7.9,SNR=219
ASAR PcP PcP 13 12 21.1 +1.1
comp=Z,2.9nm,0.4s,baz=307,slow=2.8,SNR=11
ASAR S S 13 15 24.3 -0.8
comp=Z,1.1nm,0.7s,baz=296,slow=15,SNR=7.2
ASAR ScP ScP 13 16 01.2 +1.0
comp=Z,1.9nm,0.8s,baz=310,slow=3.1,SNR=8.9
ASAR Alice Springs 35.71 125 P P 13 09 53.9 +0.8
ASAR PcP 13 12 21.4 +1.4
ASAR ScP 13 16 01.7 +1.4
PKI Pulchoki 35.92 333 eP P 13 09 55.2 +0.2
comp=Z,42nm,0.6s
PKI Pulchoki 35.92 333 eP P 13 09 55.2 +0.2
comp=Z,42nm,0.6s
PKIN Phulchoki 35.93 333 eP P 13 09 55.1 +0.1
comp=Z,36nm,0.5s
PKIN Phulchoki 35.93 333 eP P 13 09 55.1 +0.1
comp=Z,36nm,0.5s
DMN Daman 36.09 333 eP P 13 09 56.8 +0.4
comp=Z,22nm,0.3s
DMN Daman 36.09 333 eP P 13 09 56.8 +0.4
comp=Z,22nm,0.3s
KKN Kakani 36.17 333 eP P 13 09 57.3 +0.3
comp=Z,91nm,0.6s
KKN Kakani 36.17 333 eP P 13 09 57.3 +0.3
comp=Z,91nm,0.6s
WHN Wuhan 36.59 17 ⇑P P 13 10 01.9 +1.6
GKN Gorkha 36.64 333 eP P 13 10 01.3 +0.4
comp=Z,51nm,0.2s
GKN Gorkha 36.64 333 eP P 13 10 01.3 +0.4
comp=Z,51nm,0.2s
KOLN Koldanda 36.92 331 eP P 13 10 04.2 +0.8
comp=Z,156nm,0.9s
KOLN Koldanda 36.92 331 eP P 13 10 04.2 +0.8
comp=Z,156nm,0.9s
PYUN Piuthan 37.49 331 eP P 13 10 08.9 +0.6
comp=Z,151nm,0.7s
PYUN Piuthan 37.49 331 eP P 13 10 08.9 +0.6
comp=Z,151nm,0.7s
JAY Jayapura 38.08 88 P P 13 10 12.5 -0.8
comp=Z,7.4nm,0.7s,baz=207,slow=4.5,SNR=1.3
XAN Xi'an 38.77 8 P P 13 10 18.3 -0.3
XAN pmax pmax
comp=Z,54nm,0.7s
XAN pmax pmax
comp=Z,60nm,4.6s
XAN Xi'an 38.77 8 P P 13 10 18.4 -0.3
QIS Mount Isa 39.37 117 P P 13 10 24.3 +0.4
baz=39,SNR=19
NJ2 Nanjing 39.48 22 eP P 13 10 25.4 +0.8
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
LZH Lanzhou 40.36 2 eP P 13 10 32.5 +0.4
LZH pP pP 13 10 50.1 +0.9
LZH sP sP 13 10 56.3 -0.9
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,140nm,6.0s
LZH LR LR
comp=Z,150nm,10.8s
LZH LR LR
comp=Z,160nm,13.3s
LZH LR LR
comp=Z,180nm,12.5s
NDI New Delhi 41.02 325 eP P 13 10 33.0 -4.4
COEN Coen 41.09 106 P P 13 10 37.3 -0.9
baz=41,SNR=8.8
COEN Coen 41.09 106 P P 13 10 35.9 -2.2
BBOO Buckleboo 42.08 136 P P 13 10 47.0 +1.0
baz=42,SNR=13
BBOO Buckleboo 42.08 136 P P 13 10 46.1 +0.1
TIY Taiyuan 42.96 11 eP P 13 10 53.3 +0.2
TIY pmax pmax
comp=Z,29nm,0.9s
MTSU Mount Surprise 42.98 112 P P 13 10 54.1 +0.5
baz=43,SNR=30
GTA Gaotai 43.74 357 eP P 13 10 59.6 +0.1
GTA pP pP 13 11 13.3 -3.4
GTA sP sP 13 11 20.5 -4.1
GTA PcP PcP 13 12 45.8 +0.5
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,82nm,8.1s
GTA LR LR
comp=Z,120nm,18.3s
GTA LR LR
comp=Z,140nm,20.8s
GTA LR LR
comp=Z,150nm,21.7s
HTT Hallett 44.42 135 P P 13 11 06.5 +1.5
baz=44,SNR=16
PMG Port Moresby 44.48 99 P P 13 11 05.0 -0.7
comp=Z,7.4nm,0.5s,baz=282,slow=14,SNR=2.0
PMG Port Moresby 44.48 99 P P 13 11 05.3 -0.4
CTA Charters Tower 45.22 114 P P 13 11 12.2 +0.8
comp=Z,28nm,0.8s,baz=284,slow=10,SNR=25
CTAO Charters Tower 45.22 114 P P 13 11 12.4 +0.9
STKA Stephens Creek 45.58 131 P P 13 11 15.6 +1.4
comp=Z,23nm,0.6s,baz=307,slow=7.9,SNR=86
STKA PcP PcP 13 12 52.8 +1.1
comp=Z,3.7nm,0.4s,baz=326,slow=7.3,SNR=2.8
STKA Stephens Creek 45.58 131 P P 13 11 14.1 0.0
baz=46,SNR=36
STKA Stephens Creek 45.58 131 P P 13 11 15.6 +1.4
STKA PcP 13 12 53.0 +1.2
HHC Hu-ho-hao-te 45.85 9 eP P 13 11 16.8 +0.6
HHC pmax pmax
comp=Z,33nm,1.2s
HHC pmax pmax
comp=Z,86nm,7.1s
JNU Nakatsue 46.00 34 P P 13 11 15.8 -1.7
BJI Beijing 46.02 15 P P 13 11 17.8 +0.4
BJI pmax pmax
comp=Z,12nm,0.8s
NIL Nilore 46.98 326 P P 13 11 24.5 -0.6
KSAR Wonju Array Be 47.89 27 P P 13 11 31.3 -0.7
KSRS Korea Array 47.91 27 P P 13 11 32.3 +0.1
comp=Z,4.4nm,0.6s,baz=221,slow=6.9,SNR=20
KSRS PcP PcP 13 12 58.9 -0.8
comp=Z,1.7nm,0.8s,baz=210,slow=4.3,SNR=4.4
ARPS Mount Arapiles 48.23 137 P P 13 11 34.0 -0.7
baz=48,SNR=7.1
CMSA Cobar Meteorol 48.55 129 P P 13 11 35.7 -1.6
baz=49,SNR=16
JHS Saijyo 48.63 34 P P 13 11 37.9 0.0
JHS IAmb IAmb 13 11 56.1
comp=Z,30nm,1.4s
WMQ Urumqi 49.92 346 eP P 13 11 48.1 +0.6
WMQ sP pP 13 12 07.3 +2.2
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,21nm,3.7s
WMQ LR LR
comp=Z,110nm,28.9s
WMQ LR LR
comp=Z,180nm,28.8s
TARG Taragay, Kyrgy 51.24 336 IAmb IAmb 13 11 58.6
comp=Z,9.2nm,0.8s
JGF Kuroka 51.49 36 P P 13 11 58.9 -0.6
JGF IAmb IAmb 13 12 00.4
comp=Z,14nm,1.1s
SHLS Shalkode 51.82 339⇑iP P 13 12 01.5 -0.5
comp=Z,19nm,0.5s,baz=339
UZB Uzynbulak 51.98 338⇑iP P 13 12 03.6 +0.5
comp=Z,14nm,0.6s,baz=338
UZB eS S 13 19 22.1 +0.7
baz=338
SATY Saty 52.13 338⇑iP P 13 12 04.7 +0.4
comp=Z,8.9nm,0.6s,baz=338
SONM Songino Array 52.19 3 P P 13 12 05.4 +0.8
comp=Z,34nm,0.8s,baz=182,slow=9.0,SNR=144
SONM PcP PcP 13 13 15.6 +0.2
comp=Z,3.3nm,0.4s,baz=192,slow=4.4,SNR=11
SONM LR LR 13 36 47.0
comp=Z,63nm,19.1s,baz=192,slow=39
SONM Songino Array 52.19 3 P P 13 12 05.4 +0.8
SONM PcP 13 13 15.9 +0.4
ULN Ulaanbaatar 52.27 4 P P 13 12 02.2 -2.9
ULN IAmb IAmb 13 12 06.7
comp=Z,21nm,1.0s
CN2 Changchun 52.28 21 eP P 13 12 04.1 -1.1
CN2 pmax pmax
comp=Z,20nm,0.9s
KPKS Kokpek 52.38 338⇑iP P 13 12 06.1 +0.1
comp=Z,9.5nm,0.7s,baz=338
KZA Kyzart 52.59 334 P P 13 12 08.7 +0.7
SNR=7.3
MAJO Matsushiro 52.64 36 P P 13 12 06.1 -1.9
MAJO IAmb IAmb 13 12 07.0
comp=Z,5.5nm,0.7s
MAT Matsushiro 52.64 36 P P 13 12 06.2 -1.8
MJAR Matsushiro Arr 52.64 36 P P 13 12 06.8 -1.2
comp=Z,7.7nm,0.8s,baz=220,slow=7.0,SNR=16
MJAR Matsushiro Arr 52.64 36 P P 13 12 06.5 -1.5
MDOK Medeo 52.75 337 eP P 13 12 09.1 +0.3
baz=337
AAA Alma-Ata 52.84 337 eP P 13 12 10.0 +0.6
baz=337
MTBS Maitube 52.97 336 eP P 13 12 10.4 0.0
baz=336
BTK Batken 53.07 330 P P 13 12 10.9 -0.3
BTK IAmb IAmb 13 12 14.9
comp=Z,8.9nm,0.6s
TKM2 Tokmak 2 53.13 335 P P 13 12 11.9 +0.1
SNR=37
KBK Karagaybulak 53.19 335 P P 13 12 12.9 +0.8
SNR=9.1
AML Almayashu 53.31 333 P P 13 12 13.9 +0.5
SNR=6.2
KUU Kurty 53.64 337⇑iP P 13 12 14.8 -0.5
comp=Z,23nm,0.7s,baz=337
EKS2 Erkin-Say 53.70 334 P P 13 12 16.4 +0.6
SNR=32
TDK Taldyqorghan 53.80 339 eP P 13 12 15.9 -0.4
comp=Z,14nm,0.7s,baz=339
USP Ospenovka 53.88 335 P P 13 12 16.9 -0.1
SNR=8.6
SGDS Sogindy 53.97 335 eP P 13 12 17.4 -0.3
comp=Z,2.6nm,0.8s,baz=335
MK31 Makanchi Array 54.12 343 P P 13 12 18.6 0.0
MK31 IAmb IAmb 13 12 19.2
comp=Z,15nm,0.7s
MKAR Makanchi Array 54.12 343 P P 13 12 18.6 0.0
comp=Z,21nm,0.6s,baz=150,slow=8.5,SNR=196
MKAR LR LR 13 37 43.5
comp=Z,44nm,20.3s,baz=165,slow=38
MKAR Makanchi Array 54.12 343 P P 13 12 18.3 -0.4
MAKZ Makanchi 54.22 343 P P 13 12 18.6 -0.8
MAKZ IAmb IAmb 13 12 21.1
comp=Z,13nm,1.1s
MDJ Mudanjiang 54.53 23 P P 13 12 21.4 -0.3
MDJ sP sP 13 12 43.6 -3.6
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,150nm,4.5s
DZA Taraz 54.99 332 eP P 13 12 24.4 -0.7
baz=332
IUG Iuzhnay 55.04 331 eP P 13 12 25.5 0.0
comp=Z,8.6nm,0.6s,baz=331
JMM Marumori 55.06 37 P P 13 12 24.4 -1.2
JMM IAmb IAmb 13 12 25.3
comp=Z,16nm,1.0s
USRK Ussuriysk Ar. 55.18 25 P P 13 12 26.1 -0.2
comp=Z,23nm,0.7s,baz=218,slow=5.9,SNR=58
BTLS Baital 55.51 336 eP P 13 12 27.9 -0.8
comp=Z,2.4nm,0.7s,baz=336
KKAR Karatay Array 55.53 332 P P 13 12 28.0 -1.0
SEM Semipalatinsk 57.96 343 eP P 13 12 45.5 -0.8
comp=Z,7.3nm,0.6s,baz=343
KURK Kurchatov 58.71 342 P P 13 12 51.0 -0.2
GEYT Alibeck 59.00 320 P P 13 12 53.8 +0.2
comp=Z,10nm,0.8s,baz=140,slow=7.2,SNR=16
GEYT Alibeck 59.00 320 P P 13 12 52.4 -1.1
ZAA0 Zalesovo Array 60.09 348 P P 13 13 00.3 -0.3
ZALV Zalesovo Beam 60.09 348 P P 13 13 00.4 -0.2
comp=Z,52nm,0.5s,baz=166,slow=5.5,SNR=216
ZALV LR LR 13 41 57.8
comp=Z,66nm,20.2s,baz=146,slow=39
BRZS Berezniki 60.09 338 eP P 13 13 00.1 -0.6
comp=Z,3.9nm,0.8s,baz=338
YSS Yuzh-Sakhalins 62.26 30 P P 13 13 13.8 -1.6
BRVK Borovoye 63.46 339 P P 13 13 22.6 -0.8
BRVK IAmb IAmb 13 13 23.9
comp=Z,13nm,0.8s
ABKAR Akbulak array 65.05 331 P P 13 13 33.3 -0.4
MAW Mawson 68.57 195 LR LR 13 37 53.0
comp=Z,81nm,21.8s,baz=56,slow=30
ARU Arti 70.50 336 P P 13 14 07.1 -0.9
ARU IAmb IAmb 13 14 09.2
comp=Z,17nm,1.0s
RPZ Rata Peaks 71.41 135 P P 13 14 13.9 +0.1
KBZ Khabaz 71.86 319 P P 13 14 17.0 +0.6
comp=Z,10.0nm,0.8s,baz=121,slow=5.0,SNR=21
PETK Petropavlovsk- 73.62 31 P P 13 14 26.4 -0.2
comp=Z,3.6nm,0.8s,baz=228,slow=1.8,SNR=5.8
PETK LR LR 13 48 28.9
comp=Z,33nm,19.1s,baz=220,slow=37
PKVZ Pokaka 73.84 130 P P 13 14 30.1 +1.7
FWVZ Far West T-bar 74.00 129 P P 13 14 31.0 +1.5
WTVZ West Tongariro 74.01 129 P P 13 14 31.2 +1.8
NGZ Ngauruhoe 74.02 129 P P 13 14 31.0 +1.4
WNVZ Wahianoa 74.04 130 P P 13 14 31.0 +1.4
PET Petropavlovsk 74.07 31 P P 13 14 28.5 -0.7
OTVZ Oturere 74.07 129 P P 13 14 31.5 +1.7
TUVZ Tukino 74.08 129 P P 13 14 31.5 +1.7
KMRZ Kaimai 74.12 128 P P 13 14 38.3 +8.3
MOVZ Moawhango 74.17 130 P P 13 14 31.2 +0.9
NRIK Noril'sk 74.38 355 P P 13 14 30.0 -0.8
comp=Z,9.5nm,0.3s,baz=136,slow=3.7,SNR=23
NRIK LR LR 13 48 13.6
comp=Z,57nm,18.4s,baz=200,slow=36
TSZ Takapari Road 74.41 130 P P 13 14 31.7 +0.1
BHHZ Black Hill Sta 74.42 130 P P 13 14 32.5 +0.8
PNHZ Pukenui 74.57 130 P P 13 14 34.0 +1.4
DVHZ Dannevirke 74.60 130 P P 13 14 34.2 +1.4
KRHZ Kereru 74.67 130 P P 13 14 34.4 +1.3
KWHZ Kaweka Forest 74.69 130 P P 13 14 34.4 +1.1
BFZ Birch Farm 74.71 131 P P 13 14 34.5 +1.2
BKZ Black Stump Fm 74.71 129 P P 13 14 34.3 +0.9
BKZ Black Stump Fm 74.71 129 P P 13 14 34.3 +0.9
WPHZ Waipukurau 74.78 130 P P 13 14 35.3 +1.6
MCHZ McNeill Hill 74.90 130 P P 13 14 36.1 +1.6
NMHZ Naumai 74.94 129 P P 13 14 34.8 0.0
PRHZ Porangahau 74.95 130 P P 13 14 35.8 +1.1
RTZ Ruatahuna 75.02 129 P P 13 14 35.8 +0.5
KAHZ Kahuranaki 75.08 130 P P 13 14 37.2 +1.7
URZ Urewera 75.09 128 P P 13 14 37.2 +1.6
PXZ Pawanui 75.09 130 P P 13 14 37.0 +1.4
ARHZ Aropaoanui 75.11 129 P P 13 14 31.4 -4.3
RAGZ Rawiri 75.35 128 P P 13 14 34.0 -3.2
MWZ Matawai 75.42 128 P P 13 14 38.0 +0.5
HAZ Te Kaha 75.56 128 P P 13 14 38.3 0.0
PUZ Puketiti 75.97 128 P P 13 14 41.0 +0.4
BOSA Boshof 76.76 242 P P 13 14 47.2 +1.8
comp=Z,1.5nm,0.9s,baz=90,slow=2.0,SNR=1.5
BOSA LR LR 13 41 51.5
comp=Z,67nm,18.3s,baz=59,slow=30
BOSA Boshof 76.76 242 P P 13 14 45.0 -0.5
BR131 Keskin Array S 76.89 312 P P 13 14 44.7 -1.3
BRTR Keskin Array B 76.89 312 P P 13 14 45.8 -0.2
comp=Z,5.0nm,0.6s,baz=130,slow=7.0,SNR=22
TIXI Tiksi 77.90 8 P P 13 14 48.7 -2.0
TIXI IAmb IAmb 13 14 50.0
comp=Z,20nm,1.4s
VNDA Vanda 79.25 169 P P 13 15 00.0 +1.9
comp=Z,0.6nm,0.6s,baz=324,slow=6.5,SNR=7.7
KLMR Klimovskoe 81.17 334 eP P 13 15 08.4 -0.3
KLMR AMP 13 15 09.8
comp=Z,20nm,1.1s
IDI Anoyia 82.58 306 ⇓P P 13 15 18.0 +1.3
SORM Soroca 82.89 319 ⇓P P 13 15 17.9 0.0
AKASG Malin Array Be 83.02 322 P P 13 15 18.3 -0.2
comp=Z,1.0nm,0.3s,baz=84,slow=5.0,SNR=14
AKASG Malin Array Be 83.02 322 P P 13 15 18.1 -0.4
AKBB Malin Array Si 83.02 322 P P 13 15 18.1 -0.4
VRI Vrincioaia 83.42 317 ⇓P P 13 15 21.7 +1.0
PLOR Plostina 83.47 317 ⇓P P 13 15 22.2 +1.2
NEHR Nehoiu 83.61 316 ⇓P P 13 15 22.6 +0.8
TESR Tescani 83.62 318 ⇓P P 13 15 23.0 +1.2
MLR Muntele Rosu 83.87 316 ⇓P P 13 15 24.5 +1.3
VOIR 84.47 316 ⇓P P 13 15 27.3 +1.1
BURAR Bucovina Array 84.82 318 ⇑P P 13 15 29.1 +1.2
BURAR Bucovina Array 84.82 318 P P 13 15 29.6 +1.7
BUR08 Bucovina Ar. S 84.83 319 P P 13 15 28.7 +0.6
BUR08 IAmb IAmb 13 15 30.5
comp=Z,7.5nm,0.8s
DEV Deva 86.03 316 ⇓P P 13 15 35.3 +1.4
HERR Herculane 86.19 315 ⇓P P 13 15 34.8 0.0
BZS Buzias 86.88 316 ⇑P P 13 15 39.2 +1.2
KOLS Kolonicke sedl 87.00 319 eP P 13 15 39.2 +0.6
FINES FINESS Array B 87.49 332 P P 13 15 41.1 +0.4
comp=Z,6.1nm,0.5s,baz=106,slow=4.5,SNR=54
FINES FINESS Array B 87.49 332 P P 13 15 41.0 +0.3
VYHS Vyhne 89.19 319 eP P 13 15 49.1 +0.1
ARCES ARCESS Array B 89.67 340 P P 13 15 51.0 +0.2
comp=Z,1.9nm,0.4s,baz=102,slow=5.0,SNR=15
JAVC Velka Javorina 90.00 319 eP P 13 15 54.5 +1.7
MORC Moravsky Berou 90.19 320 ⇓P P 13 15 55.2 +1.5
MORC Moravsky Berou 90.19 320 eP P 13 15 54.7 +1.0
MORC Moravsky Berou 90.19 320 IAmb IAmb 13 15 55.9
comp=Z,5.2nm,0.8s
PRED Cave del Predi 92.54 316 IAmb IAmb 13 16 06.4
comp=Z,5.4nm,0.8s
GERES GERESS Array B 92.61 319 P P 13 16 05.7 +0.7
comp=Z,0.7nm,0.6s,baz=104,slow=5.6,SNR=7.9
GERES GERESS Array B 92.61 319 P P 13 16 04.3 -0.7
CIMO Cimolais 93.31 316 P P 13 16 08.3 +0.1
CIMO IAmb IAmb 13 16 09.8
comp=Z,7.1nm,0.8s
NB2 NORSAR Subarra 94.55 331 P P 13 16 13.2 -0.4
comp=Z,0.6nm,0.6s,baz=90,slow=4.6
NOA NORSAR Array B 94.55 331 P P 13 16 13.8 +0.2
comp=Z,0.7nm,0.6s,baz=118,slow=3.8,SNR=4.0
B05A Bryant 122.09 34 P PKiKP 13 21 48.4 +0.6
baz=304
L04D Klamath Falls 125.20 40 P PKiKP 13 21 54.7 +0.3
baz=301
M02C Callahan 125.26 41 P PKiKP 13 21 55.0 +0.6
baz=300
J05D Fort Rock, OR 125.32 38 P PKiKP 13 21 55.5 +0.9
baz=302
BOZ Bozeman (W) 129.34 31 P PKiKP 13 22 03.0 +0.5
baz=314
NVAR Mina Array Bea 129.78 42 PKP PKiKP 13 22 03.9 +0.2
comp=Z,0.4nm,0.5s,baz=286,slow=2.8,SNR=5.3
MPMC Manual Prospec 131.57 44 P PKiKP 13 22 07.6 +0.2
baz=301
R11A Troy Canyon, C 131.61 41 P PKiKP 13 22 09.1 +1.7
baz=305
PDAR Pinedale Array 132.38 32 PKP PKPdf 13 22 08.0 +0.2
comp=Z,0.3nm,0.5s,baz=219,slow=1.9,SNR=4.0
PDAR SKPbc SKPab 13 25 30.1 +0.2
comp=Z,0.5nm,0.7s,baz=64,slow=2.1,SNR=4.4
GMRC Granite Mounta 133.50 45 P PKiKP 13 22 12.7 +1.5
baz=302
N57A Milroy 143.88 0 P PKPbc 13 22 26.3 -0.1
baz=360
WMOK Wichita Mounta 143.95 31 P PKPbc 13 22 26.7 -0.2
baz=322
ACSO Alum Creek Sta 144.05 7 P PKPbc 13 22 26.8 -0.2
baz=350
O51A Pataskala 144.18 7 P PKPbc 13 22 27.2 -0.1
baz=351
O53A New Philadelph 144.22 5 P PKPab 13 22 27.2 +0.1
baz=353
CCM Cathedral Cave 144.27 19 P PKPab 13 22 27.1 -0.2
baz=336
O52A Adamsville 144.29 6 P PKPab 13 22 27.2 -0.1
baz=352
O59A Robesonia 144.31 358 P PKPbc 13 22 27.7 -0.1
baz=2.0
O54A Avella 144.35 4 P PKPbc 13 22 27.9 0.0
baz=355
O56A Blue Knob Stat 144.35 2 P PKPbc 13 22 27.9 -0.1
baz=358
TUL1 Leonard 144.42 26 P PKPbc 13 22 28.2 0.0
baz=327
P49A Miami Univ. Ec 144.47 10 P PKPab 13 22 28.0 0.0
baz=347
BDFB Brasilia 144.70 235 PKP PKPdf 13 22 31.0 +0.2
comp=Z,5.0nm,0.5s,baz=160,slow=4.6,SNR=6.9
P52A Corning 144.74 6 P PKPab 13 22 28.5 -0.5
baz=352
P51A Williamsport 144.78 8 P PKPab 13 22 28.5 -0.6
baz=350
MCWV Mont Chateau 144.91 3 P PKPab 13 22 29.6 0.0
baz=356,SNR=9.1
P54A Burton 144.92 4 P PKPab 13 22 29.5 -0.2
baz=355
TX31 Lajitas Ar. Si 144.93 42 PKPdf 13 22 31.1 +0.2

TX32	Lajitas Array	144.93	42			PKPdf	13 22 31.1	+0.2
TXAR	Lajitas Array	144.93	42	PKP		PKPdf	13 22 30.9	0.0
	comp=Z,12nm,0.7s,baz=273,slow=1.3,SNR=56							
TXAR	Lajitas Array	144.93	42			PKPdf	13 22 31.2	+0.3
P53A	Whipple	144.96	5	P		PKPab	13 22 29.6	-0.2
	baz=353							
P53A	Whipple	144.96	5			PKPab	13 22 29.7	-0.1
P59A	Jarrettsville	145.01	359	P		PKPbc	13 22 29.8	-0.2
	baz=1.6							
P55A	Reedsville	145.06	3	P		PKPbc	13 22 30.0	-0.2
	baz=356,SNR=6.2							
P56A	Dayton Farm, R	145.10	2	P		PKPbc	13 22 30.2	-0.1
	baz=357,SNR=8.6							
ABTX	Abilene, Hawle	145.12	34	P		PKPdf	13 22 31.0	0.0
	baz=319							
P58A	Pank, Wackersv	145.14	360	P		PKPbc	13 22 30.2	-0.3
	baz=0.1,SNR=8.9							
P57A	Homestead Farm	145.15	1	P		PKPbc	13 22 30.2	-0.2
	baz=359,SNR=10							
U40A	Yellville	145.23	22	P		PKPbc	13 22 30.5	-0.3
	baz=332							
Q52A	Bidwell	145.39	7	P		PKPbc	13 22 30.7	-0.5
	baz=351							
WCI	Wyandotte Cave	145.44	12	P		PKPdf	13 22 31.4	0.0
	baz=344							
Q54A	Coxs Mills	145.51	5	P		PKPdf	13 22 31.5	0.0
	baz=354							
Q55A	Buckhannon	145.55	4	P		PKPbc	13 22 31.8	-0.1
	baz=355,SNR=16							
Q56A	Snyder Ridge,	145.55	2	P		PKPdf	13 22 31.5	-0.1
	baz=357,SNR=6.5							
Q53A	Leroy	145.57	6	P		PKPdf	13 22 31.7	+0.1
	baz=353							
Q57A	Strasburg	145.58	1	P		PKPbc	13 22 31.8	-0.1
	baz=358,SNR=21							
Q58A	Fox Den Farm,	145.69	0	P		PKPbc	13 22 32.0	-0.1
	baz=359							
W39A	Magazine	145.88	24	P		PKPab	13 22 33.3	-0.1
	baz=330							
R53A	Hurricane	146.05	6	P		PKPbc	13 22 33.2	-0.1
	baz=352							
R56A	Bull Pasture M	146.18	3	P		PKPbc	13 22 33.8	0.0
	baz=356							
R55A	Marlinton	146.26	4	P		PKPbc	13 22 33.9	-0.2
	baz=355							
R54A	Victor	146.29	5	P		PKPbc	13 22 33.6	-0.5
	baz=354							
R57A	Stanardsville	146.32	2	P		PKPbc	13 22 34.2	+0.1
	baz=358,SNR=6.6							
R58A	Rapidan	146.33	1	P		PKPbc	13 22 34.0	-0.1
	baz=359,SNR=7.3							
W41B	Gary Mavity, V	146.50	22	P		PKPbc	13 22 34.1	-0.6
	baz=332							
MIAR	Mount Ida	146.53	25	P		PKPbc	13 22 35.3	+0.5
	baz=330							
MIAR	Mount Ida	146.53	25			PKPab	13 22 36.0	+0.2
JCT	Junction City	146.60	37	P		PKPab	13 22 35.9	-0.5
	baz=316							
S54A	Dingess, Beckl	146.64	6	P		PKPbc	13 22 34.7	-0.4
	baz=353							
R58B	Mineral	146.66	1	P		PKPbc	13 22 35.0	-0.1
	baz=359							
S53A	Williamson	146.67	7	P		PKPbc	13 22 34.8	-0.4
	baz=351							
S55A	Lewisburg	146.74	4	P		PKPbc	13 22 34.8	-0.6
	baz=354							
S57A	Dark Hollow, R	146.84	2	P		PKPbc	13 22 35.6	0.0
	baz=357,SNR=9.6							
S59A	Mechanicsville	146.87	360	P		PKPbc	13 22 35.4	-0.3
	baz=0.1							
X40A	Basin Creek Fa	146.88	24	P		PKPbc	13 22 36.2	+0.4
	baz=331							
S56A	Natural Bridge	146.89	3	P		PKPbc	13 22 35.7	-0.2
	baz=356,SNR=5.8							
S58A	Poland Farm, P	147.01	1	P		PKPbc	13 22 36.0	-0.1
	baz=359,SNR=6.6							
WVT	Waverly	147.06	16	P		PKPbc	13 22 36.2	-0.1
	baz=341							
BLA	Blacksburg	147.30	4	P		PKPbc	13 22 36.5	-0.5
	baz=354							
T53A	Wise	147.31	8	P		PKPbc	13 22 36.8	-0.3
	baz=350							
T54A	Tazewell	147.34	6	P		PKPbc	13 22 36.8	-0.4
	baz=352,SNR=8.8							
T55A	Pulaski	147.36	5	P		PKPbc	13 22 36.9	-0.3
	baz=354,SNR=6.7							
T56A	Rocky Mt	147.51	4	P		PKPbc	13 22 37.3	-0.3
	baz=355,SNR=11							
T57A	Hurt	147.59	3	P		PKPbc	13 22 37.7	-0.1
	baz=356							
TZTN	Tazewell	147.59	9	P		PKPbc	13 22 37.6	-0.2
	baz=348							
T59A	Double "B" Far	147.66	0	P		PKPbc	13 22 38.1	+0.2
	baz=360							
T58A	Grand View Acr	147.67	2	P		PKPbc	13 22 38.1	+0.2
	baz=358							
U54A	Nelsons Funny	147.85	7	P		PKPbc	13 22 38.1	-0.4
	baz=352							
U55A	TA2, Sparta	147.95	6	P		PKPbc	13 22 38.6	-0.2
	baz=353,SNR=8.0							
U57A	Blanch	148.15	3	P		PKPbc	13 22 39.3	0.0
	baz=356,SNR=10							
U60A	Pendleton	148.16	360	P		PKPbc	13 22 39.6	+0.3
	baz=0.4							
U56A	King	148.16	5	P		PKPbc	13 22 39.2	-0.1
	baz=354,SNR=5.3							
U58A	Oxford	148.22	2	P		PKPbc	13 22 39.8	+0.3
	baz=358,SNR=9.1							
V54A	Nebo	148.57	7	P		PKPbc	13 22 40.1	-0.3
	baz=351,SNR=5.9							
V55A	Taylorsville	148.58	6	P		PKPbc	13 22 40.2	-0.2
	baz=353,SNR=6.2							
V57A	Coltrane Farms	148.66	4	P		PKPbc	13 22 40.2	-0.4
	baz=355,SNR=5.9							
V56A	Mocksville	148.69	5	P		PKPbc	13 22 40.5	-0.1
	baz=354,SNR=5.9							
V58A	Windy Hill, Pi	148.79	3	P		PKPbc	13 22 41.0	+0.1
	baz=357,SNR=5.7							
V59A	Middlesex	148.85	1	P		PKPbc	13 22 41.6	+0.5
	baz=358							
W54A	Cherokee Point	149.22	8	P		PKPbc	13 22 41.9	-0.1
	baz=351,SNR=5.3							
KMSC	Kings Mountain	149.27	6	P		PKPbc	13 22 42.0	-0.2
	baz=352,SNR=9.7							
W56A	Indian Trail	149.35	5	P		PKPbc	13 22 42.1	-0.3
	baz=354							
W57A	Gilead	149.38	4	P		PKPbc	13 22 42.4	-0.1
	baz=355,SNR=5.3							
W61A	Ground Anchor	149.44	359	P		PKiKP	13 22 43.3	-0.4
	baz=0.7							
W58A	Raeford	149.56	3	P		PKPbc	13 22 42.8	0.0
	baz=356							
W60A	Pink Hill	149.57	1	P		PKPbc	13 22 43.4	+0.5
	baz=359							
X54A	Belton	149.72	8	P		PKPbc	13 22 43.5	+0.2
	baz=350,SNR=9.1							
X55A	Gracelyn & Ava	149.90	7	P		PKPbc	13 22 43.7	0.0
	baz=352,SNR=7.6							
X56A	White Oak	149.94	6	P		PKPbc	13 22 43.8	0.0
	baz=353,SNR=5.4							
X58A	Rowland	150.01	3	P		PKPbc	13 22 43.7	-0.3
	baz=356							
X59A	McDuffie Farm,	150.03	2	P		PKPbc	13 22 44.2	+0.2
	baz=358							
X60A	Albert Glenn T	150.04	1	P		PKiKP	13 22 44.5	-0.4
	baz=359							
X57A	Johnson Farm,	150.05	4	P		PKPbc	13 22 44.3	+0.2
	baz=355							
LRAL	Lakeview Retre	150.21	16	P		PKPbc	13 22 44.3	-0.2
	baz=340							
Y55A	Saluda	150.39	8	P		PKPbc	13 22 45.0	0.0
	baz=351,SNR=7.0							
Y57A	Sumter	150.47	5	P		PKPbc	13 22 45.1	0.0
	baz=354							
GOGA	Godfrey	150.66	10	P		PKPbc	13 22 45.8	+0.2
	baz=348,SNR=6.3							
Z57A	Bowman	151.16	6	P		PKPbc	13 22 47.0	+0.3
	baz=353							
Z58A	St. Stephen	151.20	4	P		PKiKP	13 22 47.2	-0.1
	baz=355							

*IDC **13** 13:33:50.5±4.1,38°.72N×71°.00E,h0km,mb3.7/1,*
mb1 3.5/6,mb1mx3.2/53,mbtmp3.5/6,ML3.1/5,Error
ellipse: s-maj=49.4km s-min=22.5km az=2.0
*KRNET **13** 13:33:52.6±0.1,39°.03N×70°.92E,h9km,mb3.9*
*SOME **13** 13:33:52.3,39°.30N×71°.75E,h0km*

ISC 13 13:33:55.9±0.9,39°.20N±0°.05×70°.70E±0°.06,h10km,n37,
σ1°78/59,30C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	0.36	236	⇑iP	Pg	13 34 01.5	-1.5
	baz=66						
GAR				⇑iS	Sg	13 34 08.8	+1.0
	baz=66						
BTK	Batken	0.86	6	⇑iP	Pg	13 34 12.3	-0.3
	baz=56						
BTK				⇑iS	Sn	13 34 26.6	-0.4
	baz=56						
CHGR	Chuyangaron	1.32	246	⇑iP	Pn	13 34 19.5	-1.0
	baz=55						
CHGR				⇑iS	Sg	13 34 39.3	+1.0
	baz=55						
OHH	Osh	2.08	50	⇑iP	Pn	13 34 30.7	-0.3
	baz=43						
OHH				⇑iS	Sn	13 34 58.4	+1.4
	baz=43						
IUG	Iuzhnay	2.99	350	eP	Pb	13 34 49.9	+0.6
	54nm,0.5s						
IUG				eS	Sg	13 35 31.6	-0.2
	233nm,0.6s						
CHM	Chimkent	3.22	345	eP	Pb	13 34 54.3	+1.0
	2.9nm,0.4s						
CHM				eS	Sg	13 35 38.5	-1.0
	210nm,0.4s						
AML	Almayashu	3.71	37	⇑iP	Pn	13 34 54.2	+0.5
	baz=33						
AML				⇑iS	Sn	13 35 38.9	+1.2
	baz=33						
AML	Almayashu	3.71	37	P	Pn	13 34 53.4	-0.3
	SNR=20						
ARLS	Aral	3.83	45	⇑iP	Pn	13 34 55.6	+0.4
	baz=41						
ARLS				⇑iS	Sn	13 35 40.9	+0.5
	baz=41						
BRLS	Borolday	3.88	351	eP	Pb	13 35 05.8	+1.3
	9.6nm,0.4s						
BRLS				eS	Sg	13 35 58.7	-1.8
	29nm,0.8s						
MRKS	Merke	4.03	28	eP	Pn	13 35 02.4	+4.7
	9.6nm,0.6s						
MRKS				eS	Sb	13 35 52.5	-3.2
	25nm,0.8s						
EKS2	Erkin-Say	4.17	33	⇑iP	Pn	13 35 00.6	+0.8
	baz=30						
EKS2				⇑iS	Sn	13 35 50.3	+1.7
	baz=30						
EKS2	Erkin-Say	4.17	33	P	Pn	13 35 02.1	+2.3
	SNR=13						
UCH	Uchtor	4.19	43	P	Pn	13 35 03.0	+2.6
	SNR=8.8						
AAK	Ala-Archa	4.48	39	⇑iP	Pn	13 35 04.6	+0.6
	baz=36						
AAK				⇑iS	Sn	13 35 57.1	+0.8
	baz=36						
AAK	Ala-Archa	4.48	39	P	Pn	13 35 06.2	+2.2
	SNR=22						
KZA	Kyzart	4.50	49	⇑iP	Pn	13 35 04.5	-0.1
	baz=46						
KZA				⇑iS	Sn	13 35 56.9	-0.3
	baz=46						
KZA	Kyzart	4.50	49	P	Pn	13 35 07.7	+3.1
	SNR=38						
FRU1	Bishkek	4.68	38	⇑iP	Pn	13 35 07.4	+0.8
	baz=35						
FRU1				⇑iS	Sn	13 36 02.0	+1.0
	baz=35						
KBK	Karagaybulak	4.72	42	⇑iP	Pn	13 35 07.6	+0.2
	baz=39						
KBK				⇑iS	Sn	13 36 02.4	+0.1
	baz=39						
KBK	Karagaybulak	4.72	42	P	Pn	13 35 10.8	+3.4
	SNR=11						
CHMS	Chumysh	4.88	38	⇑iP	Pn	13 35 10.0	+0.6
	baz=35						
CHMS				⇑iS	Sn	13 36 06.5	+0.6
	baz=35						
CHMS	Chumysh	4.88	38	P	Pn	13 35 11.7	+2.3
	SNR=15						
USP	Ospenovka	4.97	34	⇑eP	Pn	13 35 11.7	+1.0
	baz=31						
USP				⇑iS	Sn	13 36 09.0	+0.7
	baz=31						
USP	Ospenovka	4.97	34	P	Pn	13 35 12.8	+2.1
	SNR=7.8						
BOOM	Boomskoye usch	5.16	49	⇓iP	Pn	13 35 13.0	-0.4
	baz=46						
BOOM				⇓iS	Sn	13 36 12.3	-0.7
	baz=46						
ULHL	Ulahol	5.20	52	⇑eP	Pn	13 35 13.7	-0.2
	baz=50						
ULHL				⇑iS	Sn	13 36 12.6	-1.4
	baz=50						
TKM2	Tokmak 2	5.25	43	⇑iP	Pn	13 35 14.6	0.0
	baz=41						
TKM2				⇑iS	Sn	13 36 14.9	-0.4
	baz=41						
TKM2	Tokmak 2	5.25	43	P	Pn	13 35 16.8	+2.1
	SNR=18						
KST	Kastek	5.53	44	eP	Pn	13 35 22.8	+4.4
	2.7nm,0.3s						
KST				eS	Sn	13 36 27.8	+5.7
	9.8nm,0.8s						
DGS	Degeres	5.56	42	eP	Pn	13 35 20.8	+1.9
MKAR	Makanchi Array	11.38	44	Pn	Pn	13 36 38.5	0.0
	0.1nm,0.3s,baz=234,slow=14,SNR=4.5						
MKAR				Lg	Lg	13 39 55.5	
	0.1nm,0.3s,baz=231,slow=30,SNR=2.3						
KURBB	Kurchatov Arra	12.69	23	Pn	Pn	13 36 54.5	-1.9
	0.0nm,0.3s,baz=210,slow=12,SNR=4.3						
KURBB				Lg	Lg	13 40 36.0	
	0.0nm,0.3s,baz=201,slow=28,SNR=3.2						
BVAR	Borovoye Array	13.83	359	Pn	Pn	13 37 11.6	-0.3
	0.2nm,0.3s,baz=173,slow=16,SNR=2.8						
AKTO	Aktyubinsk	14.37	326	Pn	Pn	13 37 19.9	+0.6
	0.2nm,0.3s,baz=138,slow=14,SNR=1.6						
AKTO				Sn	Sn	13 39 58.6	0.0
	0.1nm,0.3s,baz=162,slow=20,SNR=3.5						
ZALV	Zalesovo Beam	17.61	28	P	Pn	13 37 59.3	-1.9
	0.2nm,0.3s,baz=216,slow=12,SNR=5.5						
FINES	FINESS Array B	35.13	324	P	P	13 40 49.0	-0.3
	1.0nm,0.8s,baz=110,slow=12,SNR=1.7						

*SKO **13** 14:04:27.0,41°.53N×23°.47E,h1km*
*BEO **13** 14:04:27.2±0.3,41°.52N×23°.46E,h0km,ML2.4/6*
*THE **13** 14:04:27.1,41°.49N×23°.46E,h5km±1km,ML2.5/8,Error*
ellipse: s-maj=1.5km s-min=0.7km az=180.0
ISC 13 14:04:25.9±1.1,41°.54N±0°.03×23°.50E±0°.03,h8km±10km,
n21,σ0°59/36,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	Nevrokopi	0.34	125	P	Pg	14 04 33.2	+0.7
NVR				S	Sb	14 04 38.4	-1.4
	825nm,0.1s						
SRS	Serrai	0.43	170	P	Pg	14 04 33.9	-0.4
SRS				S	Sg	14 04 40.5	+0.5
	762nm,0.2s						
SRS	Serrai	0.43	170	ePg	Pg	14 04 33.8	-0.5
SRS				eSg	Sg	14 04 40.4	+0.5
KNT	Kendrikon	0.59	230	P	Pg	14 04 37.1	-0.2
KNT				S	Sg	14 04 44.9	-0.1
	1μm,0.2s						
SOH	Sokhos	0.73	188	P	Pg	14 04 40.1	+0.2
SOH				S	Sg	14 04 48.6	-0.8
	338nm,0.3s						
VAY	Valandovo	0.73	253	ePg	Pb	14 04 40.7	-0.2
VAY				eSg	Sg	14 04 49.7	+0.2
VAY	Valandovo	0.73	253	i Pg	Pg	14 04 40.5	+0.6
VAY				i Sg	Sg	14 04 49.4	0.0
VAY				eLg	Lg	14 04 50.4	
	comp=N,111nm,0.2s						
VAY				eLg	Lg	14 04 51.0	
	comp=E,52nm,0.3s						
HORT	Hortiatis	0.99	198	P	Pg	14 04 44.6	-0.3
HORT				S	Sb	14 04 58.6	0.0
THE	Thessaloniki	0.99	204	P	Pg	14 04 44.8	-0.2
THE				S	Sb	14 04 58.5	-0.1
	comp=E,175nm,0.3s						
PLD	Plovdiv	1.06	58	ePg	Pn	14 04 46.9	-0.3
PLD				eSg	Sn	14 05 02.3	+0.2
BOSS	Bosilegrad	1.22	322	ePg	Pn	14 04 49.1	-0.2
BOSS				eSg	Sb	14 05 04.7	-0.4
OUR	Ouranopolis	1.26	163	P	Pb	14 04 49.8	-0.1
OUR				S	Sn	14 05 07.8	+0.8
	comp=E,360nm,0.2s						
THAS	Thassos island	1.32	135	P	Pg	14 04 51.4	+0.2
THAS				S	Sg	14 05 09.2	+1.0
	comp=E,158nm,0.2s						
RDO	Rodhopi	1.59	104	P	Pb	14 04 55.5	0.0
RDO				S	Sg	14 05 17.1	+0.1
	comp=E,188nm,0.2s						
BARS	Barje	1.78	316	ePn	Pg	14 04 59.9	-0.2
BARS				eSn	Sb	14 05 21.6	+0.2
ZAPS	Zavoj	1.84	340	ePn	Pg	14 05 00.9	-0.4
ALN	Alexandroupoli	2.03	108	P	Pn	14 05 00.9	+0.5
LIA	Limnos Island	2.08	141	P	Pn	14 05 00.5	-0.7
XOR	Xorichti	2.19	186	P	Pn	14 05 02.5	-0.1
SELS	Selova	2.43	314	ePn	Pn	14 05 07.7	+1.7
ZAGS	Zajecar	2.45	338	ePn	Pb	14 05 09.4	-0.9

DJA 13 14:06:30.6±0.4,11°S±3°×12°4E±°,h10km,M3.8/7,mb3.9/5,
MLv3.8/7,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	0.78	346	P	Pg	14 06 45.2	-0.5
BATI				S	Sb	14 06 57.0	0.0
SOEI	Soe	1.27	18	P	Pn	14 06 53.8	-0.8
EDFI	Ende, Flores	3.07	316	P	Pn	14 07 19.0	-0.3
PLAI	Plampang	6.36	289	P	Pn	14 08 04.5	0.0
	0.2nm32nm,0.8s						
TWSI	Taliwang, Sumb	7.22	287	P	Pn	14 08 16.5	+0.1
	0.1nm15nm,0.7s						

*IDC **13** 14:07:23.8±1.1,30°.77N×140°.82E,h57km±11km,mb3.5/9,*
mb1 3.7/13,mb1mx3.5/48,mbtmp3.7/13,MS3.4/1,
Ms1 3.4/1,ms1mx2.5/24,Error ellipse: s-maj=27.2km
s-min=7.4km az=74.0
*JMA **13** 14:07:25.0±0.2,31°.25N×141°.26E,h0km,M4.3*
ISC 13 14:07:25.2±1.1,30°.91N±0°.06×141°.2E±0°.1,h62km±12km,
n36,σ1°51/36,mb3.8/9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.98	322	P	Pn	14 07 57.1	+0.6
JAOM				S	Sn	14 08 20.4	+0.1
JHCJ	Hachijojimakas	2.47	331	P	Pn	14 08 03.4	+0.3
JHCJ				S	Sn	14 08 31.1	-1.0
JHJ2	Mitsune	2.50	332	P	Pn	14 08 03.9	+0.5
JHJ2				eS	Sn	14 08 32.2	-0.5
JHJ	Hachijo jima 2	2.52	331	P	Pn	14 08 03.9	+0.2
	48nm,0.3s,baz=87,slow=22,SNR=38						
JHJ				S	Sn	14 08 31.1	-2.1
	136nm,0.3s,baz=81,slow=20,SNR=13						
JMKN	Mikurajimanish	3.28	336	P	Pn	14 08 15.3	+1.2
JMKN				S	Sn	14 08 51.9	+0.1
JKO	Kozu shima	3.71	332	P	Pn	14 08 21.4	+1.4
JKO				S	Sn	14 09 04.1	+1.7
BSO1	Boso 1	3.74	357	P	Pn	14 08 21.4	+1.5
BSO1				S	Sn	14 09 02.7	+0.3
CBIJ	Chichi jima	3.89	167	P	Pn	14 08 23.5	+1.0
CBIJ				eS	Sn	14 09 05.0	-2.0
JCJ	Chichijima	3.89	167	P	Pn	14 08 22.6	+0.1
	6.4nm,0.3s,baz=351,slow=20,SNR=16						
JCJ				S	Sn	14 09 04.3	-2.7
	31nm,0.3s,baz=276,slow=23,SNR=10						
BSO3	Boso 3	3.93	351	P	Pn	14 08 23.8	+1.1
BSO4	Boso 4	4.14	350	P	Pn	14 08 27.7	+2.0
TTO1	TONANKAI O.B.S	4.63	307	P	Pn	14 08 34.0	+1.7
JOD2	Odawara 2	4.70	338	P	Pn	14 08 35.0	+1.5
JOD2				eS	Sn	14 09 27.7	+1.1
MJAR	Matsushiro Arr	6.15	337	P	Pn	14 08 53.3	-0.1
	0.3nm,0.3s,baz=165,slow=10,SNR=22						
MAT	Matsushiro	6.15	337	P	Pn	14 08 54.5	+1.1
MAT				eS	Sn	14 09 58.9	-3.5
JNU	Nakatsue	9.05	287	P	Pn	14 09 35.4	+2.3
	0.5nm,0.3s,baz=165,slow=7.2,SNR=7.3						
KSRS	Korea Array	12.79	304	P	Pn	14 10 21.2	-2.9
	0.0nm,0.3s,baz=110,slow=13,SNR=1.9						
ASAJ	Asahikawa	13.23	4	P	Pn	14 10 28.5	-1.5
	0.3nm,0.3s,baz=144,slow=19,SNR=0.9						
TGY	Tagaytay City	25.04	233	LR	LR	14 20 13.9	
	comp=Z,95nm,20.2s,baz=272,slow=31						
H11N2	WAKE ISLAND Hy	25.68	110	T	T	14 40 43.4	
	baz=298,slow=74,SNR=4.1						
H11N1	WAKE ISLAND Hy	25.69	110	T	T	14 40 44.6	
	baz=298						
H11N3	WAKE ISLAND Hy	25.70	110	T	T	14 40 44.4	
	baz=298,slow=74,SNR=4.0						
H11S3	WAKE ISLAND Hy	26.16	112	T	T	14 41 53.1	
	baz=303,slow=74,SNR=4.1						
H11S1	WAKE ISLAND Hy	26.17	112	T	T	14 41 50.2	
	baz=303,slow=74,SNR=6.8						
H11S2	WAKE ISLAND Hy	26.18	112	T	T	14 41 53.1	
	baz=303						
ZALV	Zalesovo Beam	46.10	317	PcP	PcP	14 17 16.3	-1.8
	0.9nm,0.4s,baz=108,slow=3.4,SNR=4.6						
MKAR	Makanchi Array	47.45	307	P	P	14 15 50.4	-3.2
	0.2nm,0.4s,baz=97,slow=8.9,SNR=4.3						
MKAR				PcP	PcP	14 17 22.1	-1.0
	0.4nm,0.5s,baz=93,slow=4.7,SNR=4.1						
FITZ	Fitzroy Crossi	50.98	199	P	P	14 16 17.3	-3.4
	1.0nm,0.9s,baz=360,slow=11,SNR=1.6						
WRA	Warramunga Arr	50.99	188	P	P	14 16 18.6	-2.2
	0.8nm,0.3s,baz=5.7,slow=7.7,SNR=36						
WRA				PcP	PcP	14 17 34.7	-1.5
	0.4nm,0.6s,baz=0.9,slow=4.0,SNR=2.7						
ASAR	Alice Springs	54.72	188	P	P	14 16 46.3	-1.9
	0.5nm,0.5s,baz=360,slow=5.7,SNR=12						
ASAR				PcP	PcP	14 17 48.4	-1.8
	0.3nm,0.8s,baz=4.2,slow=5.0,SNR=1.9						
ILAR	Eielson Array	54.81	30	P	P	14 16 49.1	+0.6
	0.4nm,0.8s,baz=268,slow=5.9,SNR=3.5						
FINES	FINESS Array B	74.17	333	P	P	14 18 54.2	-0.5
	0.9nm,0.4s,baz=74,slow=4.4,SNR=11						
NVAR	Mina Array Bea	78.84	52	P	P	14 19 23.3	+1.4
	0.2nm,0.6s,baz=287,slow=6.2,SNR=3.0						
AKASG	Malin Array Be	79.06	323	P	P	14 19 20.8	-1.8
	0.3nm,0.3s,baz=49,slow=4.7,SNR=2.3						
TXAR	Lajitas Array	93.98	52	P	P	14 20 37.6	+0.9
	0.4nm,0.6s,baz=287,slow=3.7,SNR=2.0						
LPAZ	La Paz	149.54	68	PKPbc	PKPbc	14 27 08.5	-0.4
	0.8nm,0.4s,baz=342,slow=6.4,SNR=5.2						

*IDC **13** 14:11:55.8±1.9,64°.76S×176°.71E,h0km,mb3.8/3,*
mb1 4.0/4,mb1mx3.8/27,mbtmp3.9/4,ML3.8/1,MS3.6/8,
Ms1 3.6/8,ms1mx3.5/16,Error ellipse: s-maj=79.8km
s-min=26.7km az=71.0
*NEIC **13** 14:11:56.0±0.3,64°.8S±0°.1×176°.7E±0°.6,h10km±2km,*
mb4.4/5,Error ellipse: s-maj=45.1km s-min=9.7km
az=68.0
ISC 13 14:11:56.4±1.4,64°.8S±0°.1×176°.6E±0°.3,h10km,n31,
**σ0°87/16,mb4.2/5,MS3.5/7,Balleny

baz=148,slow=76,SNR=7.2
H01W3 Cape Leeuwin H 47.38 278 T T 15 12 06.2
baz=148,slow=76,SNR=8.4
ASAR Alice Springs 49.52 305 P **P** **14 20 48.7 +1.7**
comp=Z,0.7nm,1.1s,baz=156,slow=7.0,SNR=4.9
ASAR Alice Springs 49.52 305 P **P** **14 20 46.2 -0.8**
PPT Papeete 52.36 42 LR LR 14 37 02.4
comp=Z,42nm,19.1s,baz=166,slow=29
WRA Warramunga Arr 52.81 307 P **P** **14 21 12.3 +0.7**
comp=Z,0.9nm,0.8s,baz=160,slow=6.6,SNR=5.0
WB0 Warramunga Arr 52.95 308 P **P** **14 21 12.5 -0.2**
WB0 IAmb IAmb 14 21 14.7
comp=Z,4.0nm,1.2s
FITZ Fitzroy Crossi 57.62 299 P **P** **14 21 46.1 -0.3**
H03S2 Juan Fernandez 65.68 118 T T 15 34 17.8
baz=206,slow=74,SNR=11
H03S1 Juan Fernandez 65.68 118 T T 15 34 19.1
baz=206,slow=74,SNR=9.1
H03S3 Juan Fernandez 65.69 118 T T 15 34 19.4
baz=206,slow=74,SNR=8.1
BOSA Boshof 84.27 205 LR LR 15 01 03.1
comp=Z,48nm,18.1s,baz=102,slow=35
LPAZ La Paz 85.61 119 LR LR 14 54 19.8
comp=Z,42nm,20.4s,baz=159,slow=30
H08S2 Diego Garcia H 89.10 254 T T 16 04 29.9
baz=155,slow=76,SNR=8.7
H08S1 Diego Carcia H 89.11 254 T T 16 04 33.9
baz=155,slow=76,SNR=6.1
H08S3 Diego Garcia H 89.12 254 T T 16 04 30.5
baz=155,slow=76,SNR=7.5
ILAR Eielson Array 131.98 20 PKP **PKiKP** **14 31 08.8 -0.4**
comp=Z,0.8nm,1.0s,baz=225,slow=3.2,SNR=4.8
MKAR Makanchi Array 132.75 291 PKP **PKPdf** **14 31 10.7 +0.5**
comp=Z,0.2nm,0.7s,baz=184,slow=3.9,SNR=2.4
KBZ Khabaz 146.83 253 PKPbc **PKPbc** **14 31 38.4 +0.8**
comp=Z,3.1nm,1.0s,baz=56,slow=3.2,SNR=4.3
BRTR Keskin Array B 147.03 239 PKPbc **PKPbc** **14 31 38.2 -0.3**
comp=Z,1.2nm,0.7s,baz=186,slow=6.2,SNR=5.7

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*NEIC **13** 14:51:32.0±2.6,26°.40N±0°.05×127°.84E±0°.06,h59km±8km, mb4.3/11,Error ellipse: s-maj=9.1km s-min=5.7km az=222.0*
*JMA **13** 14:51:32.9±0.2,26°.54N×127°.65E,h47km±3km,M3.8*
JMA Felt I J1.
*NIED **13** 14:51:33.0,26°.54N×127°.65E,h47km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}0.69; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-0.50; $M_{r\theta}$0.73; $M_{\theta\phi}$-0.51; $M_{\phi r}$0.68; Fault plane solution: $M_0$1.27000×10^15^ NP1:ϕ_s46.00000°, δ71.00000°,λ97.00000°. NP2:ϕ_s204.00000°,δ20.00000°, λ70.00000°.*
*IDC **13** 14:51:35.8±3.1,26°.57N×127°.66E,h75km±29km,mb3.5/14, mb1 3.7/17,mb1mx3.6/40,mbtmp3.8/17,MS2.6/2, Ms1 2.6/2,ms1mx2.4/27 Error ellipse: s-maj=24.2km s-min=18.2km az=76.0*

ISC 13 14:51:32.7±0.7,26°.47N±0°.05×127°.73E±0°.04,h56km±6km, n53,σ1°44/64,mb3.9/19,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.27**	**80**	P	**Pn**	**14 51 41.9**	**-0.2**
JNTH				S	**Sn**	**14 51 47.9**	**-1.0**
JJT3	**Tamagusuku3**	**0.33**	**171**	P	**Pn**	**14 51 43.2**	**+0.5**
JJT3				S	**Sn**	**14 51 50.8**	**+1.0**
JAGN	**Aguni-jima**	**0.45**	**285**	P	**Pn**	**14 51 42.6**	**-1.2**
JAGN				S	**Sn**	**14 51 49.6**	**-2.2**
JIH	**Iheya**	**0.60**	**21**	P	**Pn**	**14 51 45.0**	**-0.5**
JIH				S	**Sn**	**14 51 53.4**	**-1.4**
JOW	**Kunigami**	**0.61**	**54**	P	**Pn**	**14 51 45.5**	**-0.1**
JOW				eS	**Sn**	**14 51 55.1**	**+0.1**
JOW	**Kunigami**	**0.61**	**54**	Pn	**Pn**	**14 51 45.3**	**-0.3**
JYRO	**Yoronjima**	**0.85**	**49**	P	**Pn**	**14 51 48.6**	**0.0**
JYRO				S	**Sn**	**14 52 00.2**	**-0.1**
JKE	**Kume jima 2**	**0.85**	**260**	P	**Pn**	**14 51 47.5**	**-1.2**
JKE				S	**Sn**	**14 51 58.1**	**-2.3**
JOKE	**Okinoerabujima**	**1.16**	**40**	P	**Pn**	**14 51 52.6**	**-0.2**
JOKE				eS	**Sn**	**14 52 07.2**	**-0.5**
JMZ	**Minamidaito 2**	**3.21**	**101**		**Pn**	**14 52 19.3**	**-1.3**
JMZ				Sn	**Sn**	**14 52 53.4**	**-4.2**
YOJ	**Yonaguni jima**	**4.71**	**246**		**Pn**	**14 52 43.1**	**+2.0**
JSU	**Suzuyama**	**5.56**	**25**	Pn	**Pn**	**14 52 54.2**	**+1.4**
YHNB	**Yeheng**	**6.01**	**254**		**Pn**	**14 53 00.3**	**+1.3**
YULB	**Yu-li**	**6.59**	**244**	Pn	**Pn**	**14 53 05.5**	**-1.5**
SSLB	**Suanglung**	**6.69**	**248**	Pn	**Pn**	**14 53 07.1**	**-1.4**
JNU	**Nakatsue**	**7.17**	**22**	P	**Pn**	**14 53 17.2**	**+2.3**
	3.7nm,0.3s,baz=330,slow=3.0,SNR=32						
JNU				LR	LR	14 55 38.0	
	comp=Z,53nm,19.0s,baz=218,slow=34						
JNU	**Nakatsue**	**7.17**	**22**	Pn	**Pn**	**14 53 17.1**	**+2.1**
TPUB	**Ta-pu**	**7.17**	**245**	Pn	**Pn**	**14 53 15.2**	**+0.2**
JMN	**Monobe**	**8.98**	**35**	Pn	**Pn**	**14 53 37.9**	**-1.8**
KSRS	**Korea Array**	**10.95**	**1**	P	**Pn**	**14 54 08.0**	**+1.4**
	0.1nm,0.3s,baz=178,slow=12,SNR=5.7						
KSRS				LR	LR	14 58 33.5	
	comp=Z,22nm,20.8s,baz=216,slow=38						
JWT	**Wachi**	**10.98**	**35**	Pn	**Pn**	**14 54 07.1**	**+0.1**
MJAR	**Matsushiro Arr**	**13.43**	**39**	P	**Pn**	**14 54 42.9**	**+2.3**
	0.0nm,0.3s,baz=233,slow=11,SNR=2.0						
GUMO	**Guam**	**20.55**	**125**	P	**P**	**14 56 03.7**	**-3.1**
SONM	**Songino Array**	**27.11**	**327**	P	**P**	**14 57 12.5**	**+2.1**
	1.7nm,0.6s,baz=137,slow=10.0,SNR=8.2						
SONM	**Songino Array**	**27.11**	**327**	P	**P**	**14 57 11.1**	**+0.7**
CHTO	**Chiang Mai**	**27.59**	**260**	P	**P**	**14 57 14.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**27.72**	**259**	P	**P**	**14 57 17.8**	**+1.8**
	0.5nm,0.5s,baz=55,slow=7.1,SNR=4.9						
KAPI	**Kappang**	**32.24**	**195**	P	**P**	**14 57 54.5**	**-1.3**
PETK	**Petropavlovsk-**	**34.73**	**32**	P	**P**	**14 58 18.1**	**+0.9**
	1.9nm,0.9s,baz=262,slow=4.5,SNR=4.1						
MK31	**Makanchi Array**	**41.04**	**312**	P	**P**	**14 59 07.6**	**-2.9**
MKAR	**Makanchi Array**	**41.04**	**312**	P	**P**	**14 59 10.1**	**-0.4**
	0.8nm,0.4s,baz=88,slow=9.0,SNR=15						
MKAR				PcP	**PcP**	**15 01 10.9**	**+1.4**
	0.5nm,0.8s,baz=88,slow=5.5,SNR=3.8						
MKAR	**Makanchi Array**	**41.04**	**312**	P	**P**	**14 59 09.3**	**-1.2**
MKAR					**PcP**	**15 01 08.2**	**-1.3**
ZAA0	**Zalesovo Array**	**41.78**	**323**	P	**P**	**14 59 15.6**	**-0.8**
ZAA0				IAmb	IAmb	14 59 16.7	
	comp=Z,1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**41.78**	**323**	P	**P**	**14 59 15.8**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=117,slow=8.3,SNR=9.3						
ZALV	**Zalesovo Beam**	**41.78**	**323**	P	**P**	**14 59 15.4**	**-1.1**
KURK	**Kurchatov**	**44.33**	**317**	P	**P**	**14 59 37.0**	**-0.1**
KURK				IAmb	IAmb	14 59 37.4	
	comp=Z,3.2nm,0.5s						
TIXI	**Tiksi**	**45.22**	**1**	P	**P**	**14 59 41.8**	**-2.0**
TIXI				IAmb	IAmb	14 59 58.4	
	comp=Z,7.3nm,1.5s						
WRA	**Warramunga Arr**	**46.58**	**171**	P	**P**	**14 59 56.7**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=354,slow=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**46.58**	**171**	P	**P**	**14 59 53.5**	**-1.7**
KKAR	**Karatay Array**	**48.90**	**305**	P	**P**	**15 00 14.0**	**+1.0**
BRVK	**Borovoye**	**49.86**	**318**	P	**P**	**15 00 18.9**	**-1.2**
BRVK				IAmb	IAmb	15 00 21.6	
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**50.20**	**173**	P	**P**	**15 00 24.7**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=358,slow=7.4,SNR=1.3						
ABKAR	**Akbulak array**	**56.15**	**313**	P	**P**	**15 01 06.5**	**0.0**
ILAR	**Eielson Array**	**64.44**	**28**	P	**P**	**15 02 03.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=284,slow=7.3,SNR=2.3						
KBZ	**Khabaz**	**68.66**	**309**	P	**P**	**15 02 30.5**	**+0.4**
	comp=Z,3.4nm,1.0s,baz=104,slow=2.6,SNR=5.2						
FIA1	**FINESS Array S**	**72.43**	**330**	P	**P**	**15 02 52.0**	**-0.8**
FIA1				IAmb	IAmb	15 03 06.1	
	comp=Z,4.6nm,1.1s						
FINES	**FINESS Array B**	**72.43**	**330**	P	**P**	**15 02 52.6**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=65,slow=4.7,SNR=18						
FINES	**FINESS Array B**	**72.43**	**330**	P	**P**	**15 02 52.8**	**0.0**
AKASG	**Malin Array Be**	**75.06**	**319**	P	**P**	**15 03 08.1**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=53,slow=6.3,SNR=4.3						
BRTR	**Keskin Array B**	**76.53**	**308**	P	**P**	**15 03 17.9**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=103,slow=5.6,SNR=5.7						
NOA	**NORSAR Array B**	**78.90**	**334**	P	**P**	**15 03 29.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=52,slow=5.2,SNR=3.8						
CLL	**Collm**	**83.69**	**325**	*e*P	**P**	**15 03 56.0**	**+0.6**
GERES	**GERESS Array B**	**84.73**	**323**	P	**P**	**15 04 02.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=39,slow=6.3,SNR=1.9						

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*IDC **13** 15:07:12.9±3.8,38°.21N×25°.11W,h0km,mb3.8/4, mb1 3.8/5,mb1mx3.5/32,mbtmp3.7/5,ML3.5/1,MS3.5/10, Ms1 3.5/10,ms1mx3.2/33,Error ellipse: s-maj=91.5km s-min=38.1km az=76.0*

ISC 13 15:07:01.1±0.8,38°.02N±0°.07×26°.77W±0°.04,h10km,n34, σ1°02/36,mb4.0/4,MS3.5/9,1D,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.73**	**330**	*i*P	**Pn**	**15 07 17.0**	**-0.4**
ADH				*e*S	**Sb**	**15 07 26.0**	**+0.1**
PSCM	**Serra do Cume**	**0.73**	**338**	*i*,*i*P	**Pb**	**15 07 16.5**	**+0.6**
PSCM				*e*S	**Sg**	**15 07 25.2**	**+0.5**
PSCM				A	A	15 07 26.4	
	6μm,0.3s						
PSET	**Sete Cidades**	**0.85**	**103**	*e*P	**Pn**	**15 07 19.4**	**+0.2**
PSET				*e*S	**Sb**	**15 07 29.6**	**0.0**
PSET				A	A	15 07 31.1	
	4μm,0.2s						
PDA	**Ponta Delgada**	**0.92**	**107**	*e*P	**Pn**	**15 07 20.4**	**+0.3**
PDA				*e*S	**Sb**	**15 07 31.6**	**+0.2**
PDA				A	A	15 07 34.7	
	2μm,0.2s						
GRON	**Grota Negra**	**1.01**	**104**	*e*P	**Pn**	**15 07 23.4**	**+2.0**
GRON				*e*S	**Sn**	**15 07 36.2**	**+0.5**
GRON				A	A	15 07 41.9	
	2μm,0.2s						
CMLA	**Cha da Macela**	**1.02**	**104**	*e*P	**Pn**	**15 07 21.6**	**+0.1**
CMLA				*e*S	**Sg**	**15 07 34.1**	**+0.1**
CMLA				A	A	15 07 37.7	
	3μm,0.3s						
PCALD	**Caldeiras da R**	**1.04**	**102**	*e*P	**Pn**	**15 07 21.6**	**-0.1**
PCALD				*e*S	**Sg**	**15 07 33.6**	**-1.0**
PCALD				A	A	15 07 35.3	
	3μm,0.2s						
PMAN	**Manadas**	**1.20**	**301**	*e*P	**Pg**	**15 07 24.7**	**+0.5**
PMAN				*e*S	**Sb**	**15 07 39.4**	**-0.1**
PMAN				A	A	15 07 42.5	
	1μm,0.3s						
BART	**Pico Bartolome**	**1.29**	**100**	*e*P	**Pn**	**15 07 24.9**	**-0.4**
BART				*e*S	**Sb**	**15 07 39.9**	**-2.3**
BART				A	A	15 07 42.3	
	826nm,0.2s						
ROSA	**Rosais**	**1.35**	**302**	*e*P	**Pg**	**15 07 27.1**	**+0.1**
ROSA				*e*S	**Sb**	**15 07 43.5**	**-0.3**
ROSA				A	A	15 07 46.7	
	890nm,0.2s						
PGRA	**Graciosa**	**1.38**	**317**	*e*P	**Pn**	**15 07 26.6**	**+0.2**
PGRA				*e*S	**Sb**	**15 07 42.5**	**-2.2**
PGRA				A	A	15 07 43.8	
	2μm,0.4s						
PCAN	**Candelaria**	**1.42**	**289**	*e*P	**Pg**	**15 07 28.4**	**+0.1**
PCAN				*e*S	**Sb**	**15 07 45.8**	**0.0**
PCAN				A	A	15 07 48.8	
	404nm,0.2s						
SRBC	**Serra Branca**	**1.42**	**316**	*e*P	**Pn**	**15 07 27.1**	**+0.1**
SRBC				*e*S	**Sn**	**15 07 43.6**	**-2.1**
SRBC				A	A	15 07 49.7	
	2μm,0.3s						
HOR	**Horta**	**1.55**	**290**	*e*P	**Pb**	**15 07 30.2**	**+0.4**
HOR				*e*S	**Sn**	**15 07 48.6**	**-0.2**
HOR				A	A	15 07 51.5	
	434nm,0.2s						
PCED	**Cedros**	**1.63**	**292**	*e*P	**Pb**	**15 07 31.0**	**-0.3**
PCED				*e*S	**Sn**	**15 07 50.1**	**-0.9**
PCED				A	A	15 07 56.0	
	357nm,0.3s						
PSMA	**Santa Maria**	**1.66**	**128**	*e*P	**Pb**	**15 07 31.8**	**0.0**
PSMA				*e*S	**Sn**	**15 07 51.0**	**-0.6**
PSMA				A	A	15 07 54.0	
	231nm,0.2s						
PSMN	**Pico do Norte,**	**1.70**	**126**	*e*P	**Pb**	**15 07 32.2**	**-0.2**
PSMN				*e*S	**Sn**	**15 07 51.8**	**-0.7**
PSMN				A	A	15 07 53.9	
	248nm,0.3s						
ESDC	**Sonseca Array**	**17.84**	**78**	Pn	**Pn**	**15 11 07.4**	**-2.0**
	0.0nm,0.3s,baz=274,slow=12,SNR=2.4						
ESDC				LR	LR	15 16 34.9	
	comp=Z,184nm,21.3s,baz=275,slow=34						
GERES	**GERESS Array B**	**30.98**	**56**	LR	LR	15 25 33.0	
	comp=Z,30nm,18.3s,baz=280,slow=37						
NOA	**NORSAR Array B**	**32.99**	**33**	LR	LR	15 25 39.7	
	comp=Z,40nm,18.3s,baz=245,slow=34						
TORD	**Torodi Ar. Bea**	**35.42**	**127**	P	P	15 14 02.6	+5.2
	1.7nm,0.7s,baz=321,slow=10,SNR=9.6						
AKASG	**Malin Array Be**	**41.04**	**53**	P	**P**	**15 14 46.9**	**+2.5**
	0.3nm,0.5s,baz=273,slow=7.9,SNR=1.6						
AKASG				LR	LR	15 30 17.2	
	comp=Z,40nm,20.2s,baz=70,slow=35						
BRTR	**Keskin Array B**	**46.27**	**68**	LR	LR	15 34 10.4	
	comp=Z,25nm,20.9s,baz=263,slow=36						
H10N2	**ASCENSION HYDR**	**47.03**	**163**	T	T	16 05 49.3	
	baz=347,slow=75,SNR=26						
H10N3	**ASCENSION HYDR**	**47.04**	**163**	T	T	16 05 52.0	
	baz=347,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**47.05**	**163**	T	T	16 05 49.8	
	baz=347,slow=75,SNR=23						
H10S3	**ASCENSION HYDR**	**48.08**	**164**	T	T	16 07 07.7	
	baz=347,slow=74,SNR=35						
H10S2	**ASCENSION HYDR**	**48.09**	**164**	T	T	16 07 08.5	
	baz=233,slow=74,SNR=24						
ROSC	**El Rosal**	**54.37**	**245**	LR	LR	15 39 11.3	
	comp=Z,78nm,18.1s,baz=52,slow=34						
PDAR	**Pinedale Array**	**60.79**	**303**	LR	LR	15 43 38.8	
	comp=Z,63nm,18.1s,baz=75,slow=35						
TXAR	**Lajitas Array**	**62.91**	**287**	LR	LR	15 42 43.2	
	comp=Z,33nm,20.7s,baz=0.0,slow=33						
ZALV	**Zalesovo Beam**	**71.16**	**36**	P	P	15 18 27.1	+7.4
	0.7nm,0.6s,baz=319,slow=5.9,SNR=2.3						
ZALV				LR	LR	15 49 13.7	
	comp=Z,46nm,19.9s,baz=152,slow=36						
LSZ	**Lusaka**	**73.92**	**125**	LR	LR	15 50 37.6	
	comp=Z,180nm,21.0s,baz=138,slow=36						
MKAR	**Makanchi Array**	**74.43**	**42**	P	P	15 18 47.5	+8.2
	1.1nm,0.8s,baz=323,slow=4.2,SNR=8.5						

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*NEIC **13** 15:26:33.7±0.4,3°.62S±0°.04×49°.5E±0°.1,h10km±1km, mb4.5/8,Error ellipse: s-maj=19.7km s-min=6.7km az=81.0*
*IDC **13** 15:26:33.5±0.7,3°.44S×49°.69E,h0km,mb4.0/18, mb1 4.1/18,mb1mx3.9/34,mbtmp4.0/18,MS3.6/2, Ms1 3.6/2,ms1mx2.8/45,Error ellipse: s-maj=20.6km s-min=18.2km az=78.0*

ISC 13 15:26:34.2±0.6,3°.54S±0°.10×49°.57E±0°.10,h10km,n37, σ1°14/35,mb4.1/20,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**12.54**	**281**	Pn	Pn	15 29 38.1	+5.0
	0.2nm,0.3s,baz=97,slow=9.8,SNR=4.1						
KMBO				Sn	Sn	15 31 42.8	-10
	0.5nm,0.3s,baz=59,slow=19,SNR=2.4						
KMBO	**Kilima Mbogo**	**12.54**	**281**		**Pn**	**15 29 32.0**	**-1.1**
OPO	**Ombohidrampo**	**15.12**	**189**	Sn	Sn	15 32 41.4	-15
	baz=105,slow=19,SNR=1.7						
FOMA	**Nahampoana Res**	**21.46**	**186**	P	**P**	**15 31 21.5**	**-1.4**
FOMA				IAmb	IAmb	15 31 28.0	
	comp=Z,26nm,1.1s						
DGAR	**Diego Garcia**	**23.10**	**101**	P	**P**	**15 31 39.9**	**-0.6**
MATP	**Matopo**	**26.52**	**229**	P	**P**	**15 32 13.8**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=48,slow=5.9,SNR=7.1						
MATP				LR	LR	15 40 51.2	
	comp=Z,52nm,20.1s,baz=30,slow=32						
WSAR	**Wadi Sarin**	**28.04**	**18**	P	**P**	**15 32 26.2**	**+0.4**
	comp=Z,6.1nm,0.8s,baz=203,slow=7.4,SNR=3.6						
BOSA	**Boshof**	**34.01**	**220**	P	**P**	**15 33 17.3**	**-1.4**
BOSA				IAmb	IAmb	15 33 20.6	
	comp=Z,7.0nm,1.1s						
BR131	**Keskin Array S**	**45.48**	**343**	P	**P**	**15 34 54.5**	**+0.6**
BRTR	**Keskin Array B**	**45.48**	**343**	P	**P**	**15 34 55.5**	**+1.6**
	comp=Z,4.5nm,0.9s,baz=158,slow=10,SNR=14						
BRTR	**Keskin Array B**	**45.48**	**343**	P	**P**	**15 34 55.1**	**+1.2**
KKAR	**Karatay Array**	**50.13**	**20**	P	**P**	**15 35 27.6**	**-2.2**
TORD	**Torodi Ar. Bea**	**50.33**	**290**	P	**P**	**15 35 33.7**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=102,slow=7.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**50.33**	**290**	P	**P**	**15 35 31.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**53.30**	**64**	P	**P**	**15 35 53.3**	**-0.6**
	comp=Z,1.6nm,1.0s,baz=256,slow=9.2,SNR=8.7						
ABKAR	**Akbulak array**	**53.34**	**8**	P	**P**	**15 35 53.9**	**+0.3**
AKASG	**Malin Array Be**	**56.78**	**345**	P	**P**	**15 36 18.9**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=169,slow=6.1,SNR=8.8						
MKAR	**Makanchi Array**	**57.83**	**26**	P	**P**	**15 36 26.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=213,slow=4.9,SNR=5.0						
MKAR				PcP	**PcP**	**15 37 20.2**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=224,slow=3.3,SNR=3.5						
MKAR	**Makanchi Array**	**57.83**	**26**	P	**P**	**15 36 25.9**	**-0.1**
GERES	**GERESS Array B**	**60.77**	**334**	P	**P**	**15 36 46.5**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=159,slow=4.1,SNR=7.2						
GERES	**GERESS Array B**	**60.77**	**334**	P	**P**	**15 36 46.3**	**-0.1**
CLL	**Collm**	**62.90**	**335**	*e*P	**P**	**15 36 58.0**	**-2.6**
ZALV	**Zalesovo Beam**	**64.38**	**22**	P	**P**	**15 37 09.1**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=226,slow=5.5,SNR=8.7						
MAW	**Mawson**	**64.61**	**174**	P	**P**	**15 37 14.0**	**+2.4**
	comp=Z,2.0nm,0.9s,baz=308,slow=7.3,SNR=4.5						
ESDC	**Sonseca Array**	**65.23**	**317**	P	**P**	**15 37 17.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=122,slow=5.7,SNR=3.5						
ESDC	**Sonseca Array**	**65.23**	**317**	P	**P**	**15 37 15.7**	**-0.6**
FINES	**FINESS Array B**	**67.29**	**348**	P	**P**	**15 37 28.8**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=160,slow=12,SNR=3.5						
NOA	**NORSAR Array B**	**70.89**	**341**	P	**P**	**15 37 52.2**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=145,slow=5.4,SNR=2.1						
SONM	**Songino Array**	**71.17**	**37**	P	**P**	**15 37 53.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=205,slow=6.6,SNR=4.6						
ARCES	**ARCESS Array B**	**74.74**	**351**	P	**P**	**15 38 13.8**	**-0.2**
	comp=Z,4.9nm,1.1s,baz=153,slow=6.7,SNR=2.0						
KSRS	**Korea Array**	**82.92**	**52**	P	**P**	**15 39 00.0**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=262,slow=6.0,SNR=2.2						
KSRS				LR	LR	16 14 09.5	
	comp=Z,91nm,21.2s,baz=206,slow=34						
ASAR	**Alice Springs**	**83.41**	**113**	P	**P**	**15 39 02.6**	**0.0**
	comp=Z,0.8nm,0.9s,baz=246,slow=5.1,SNR=5.4						
ASAR	**Alice Springs**	**83.41**	**113**	P	**P**	**15 39 01.9**	**-0.6**
WRA	**Warramunga Arr**	**83.89**	**110**	P	**P**	**15 39 05.6**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=278,slow=3.5,SNR=11						
WRA	**Warramunga Arr**	**83.89**	**110**	P	**P**	**15 39 04.5**	**-0.5**
NVAR	**Mina Array Bea**	**143.55**	**344**	PKhKP	PKPbc	15 46 07.1	-0.2
	comp=Z,0.2nm,0.6s,baz=56,slow=1.6,SNR=2.2						
TXAR	**Lajitas Array**	**143.30**	**318**	PKP	**PKPdf**	**15 46 10.0**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=99,slow=3.8,SNR=5.2						

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*BJI **13** 15:50:13.7±0.0,8°.80S×126°.91E,h5km,mB5.0/41, mb4.8/57,Ms4.5/11,Ms7 4.1/9*
*NEIC **13** 15:50:15.6±2.0,8°.76S±0°.08×126°.91E±0°.09,h10km±1km, mb4.9/24,Error ellipse: s-maj=15.8km s-min=11.5km az=53.0*
*IDC **13** 15:50:15.0±0.5,8°.74S×126°.74E,h0km,mb4.6/19, mb1 4.6/22,mb1mx4.6/36,mbtmp4.6/22,ML4.9/3,MS3.8/13, Ms1 3.8/13,ms1mx3.5/36,Error ellipse: s-maj=16.8km s-min=12.0km az=81.0*
*DJA **13** 15:50:22.0±0.2,9°S±2°×12°7E±°,h42km±4km,M4.6/40, mb4.9/40,mB5.1/18,MLv4.9/15,Mw(mB)4.5/18*

ISC 13 15:50:20.0±0.3,8°.87S±0°.04×126°.84E±0°.04,h35km,n163, σ1°94/168,mb4.8/46,MS3.9/14,2C-4D,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.69**	**251**	P	**Pn**	**15 51 02.5**	**+1.7**
SOEI				S	**Sn**	**15 51 31.2**	**-1.0**
SOEI	**Soe**	**2.69**	**251**	Pn	**Pn**	**15 51 02.2**	**+1.4**
BATI	**Baumata**	**3.40**	**247**	Pn	**Pn**	**15 51 09.0**	**-1.6**
	134nm,0.3s,baz=54,slow=3.4,SNR=101						
BATI				Sn	**Sn**	**15 51 51.9**	**+2.2**
	356nm,0.3s,baz=66,slow=18,SNR=8.1						
BATI	**Baumata**	**3.40**	**247**	P	**Pn**	**15 51 11.9**	**+1.3**
BATI				S	**Sn**	**15 51 49.4**	**-0.4**
MMRI	**Maumere**	**4.55**	**273**	P	**Pn**	**15 51 27.2**	**+0.8**
MMRI	**Maumere**	**4.55**	**273**		**Pn**	**15 51 27.0**	**+0.6**
EDFI	**Ende, Flores**	**5.09**	**271**	P	**Pn**	**15 51 35.6**	**+1.7**
	0.2nm777nm37nm,0.6s						
BNDI	**Bandanaira**	**5.28**	**35**	P	**Pn**	**15 51 39.4**	**+2.9**
	1.3nm5μm282nm,0.6s						
NLAI	**Namlea**	**5.60**	**3**	P	Pn	15 51 45.6	+4.8
	0.3nm3μm52nm,0.5s						
MTN	**Manton Dam**	**5.78**	**133**	P	**Pn**	**15 51 44.5**	**+1.3**
	baz=5.8,SNR=99						
MTN	**Manton Dam**	**5.78**	**133**	Pn	**Pn**	**15 51 45.8**	**+2.5**
MTN				Sn	**Sn**	**15 52 48.5**	**+0.1**
MSAI	**Masohi**	**5.87**	**21**	P	Pn	15 51 48.5	+4.0
	0.2nm566nm59nm,1.0s						
BASI	**Baing, Sumba**	**6.32**	**257**	P	**Pn**	**15 51 51.9**	**+1.2**
	0.9nm2μm130nm,1.0s						
WSI	**Waingapu**	**6.50**	**262**	P	**Pn**	**15 51 53.8**	**+0.6**
	2.8nm7μm252nm,0.6s						
KDU	**Kakadu**	**6.71**	**125**	P	**Pn**	**15 51 56.9**	**+0.8**
	baz=6.7,SNR=54						
SANI	**Sanana**	**6.83**	**353**	P	Pn	15 52 01.6	+3.9
	0.3nm1μm82nm,1.6s						
KNRA	**Kununurra**	**7.02**	**165**	P	**Pn**	**15 52 00.5**	**+0.1**
	baz=6.9,SNR=202						
KNRA	**Kununurra**	**7.02**	**165**

MORW				IAmb	IAmb	15 55 33.3
	comp=Z,32nm,0.7s					
BLDU	**Ballidu**	**23.61 202**		P	**P**	**15 55 28.2 +0.4**
	baz=24,SNR=16					
QLP	**Quilpie**	**24.13 139**		P	**P**	**15 55 35.0 +2.3**
	baz=24,SNR=29					
KLBR	**Kellerberrin**	**24.14 199**		P	**P**	**15 55 33.6 +0.9**
	baz=24,SNR=7.2					
MUN	**Mundaring**	**25.02 202**		P	**P**	**15 55 41.3 +0.5**
	baz=25,SNR=3.7					
BBOO	**Buckleboo**	**25.31 162**		P	**P**	**15 55 45.1 +1.7**
	baz=25,SNR=14					
BBOO	**Buckleboo**	**25.31 162**		P	**P**	**15 55 45.1 +1.7**
BBOO				IAmb	IAmb	15 55 59.8
	comp=Z,35nm,0.8s					
KRVT	**Keravat (AS076**	**25.42**	**81**	LR	LR	16 06 21.6
	comp=Z,179nm,22.0s,baz=274,slow=38					
NWAO	**Narrogin (SRO)**	**25.54 199**		P	**P**	**15 55 45.3 -0.2**
	comp=Z,11nm,1.0s,baz=22,slow=8.9,SNR=6.6					
NWAO	**Narrogin (SRO)**	**25.54 199**		P	**P**	**15 55 45.3 -0.2**
	baz=25,SNR=4.1					
NWAO	**Narrogin (SRO)**	**25.54 199**		P	**P**	**15 55 44.8 -0.7**
NWAO				IAmb	IAmb	15 55 55.3
	comp=Z,63nm,1.4s					
NWAO	**Narrogin (SRO)**	**25.54 199**		P	**P**	**15 55 45.7 +0.2**
NWAO				IAmb	IAmb	15 55 55.3
	comp=Z,51nm,1.4s					
STKA	**Stephens Creek**	**26.69 151**		P	**P**	**15 55 57.2 +1.4**
	comp=Z,16nm,0.9s,baz=326,slow=8.4,SNR=37					
STKA				LR	LR	16 08 44.0
	comp=Z,258nm,19.6s,baz=325,slow=41					
STKA	**Stephens Creek**	**26.69 151**		P	**P**	**15 55 57.5 +1.6**
	baz=27,SNR=32					
STKA	**Stephens Creek**	**26.69 151**		P	**P**	**15 55 57.7 +1.8**
HTT	**Hallett**	**26.87 157**		P	**P**	**15 55 59.7 +2.1**
	baz=27,SNR=9.5					
RMQ	**Roma**	**27.18 133**		P	**P**	**15 56 01.6 +1.2**
	baz=27,SNR=5.0					
CMSA	**Cobar Meteorol**	**28.57 145**		P	**P**	**15 56 13.8 +1.0**
	baz=29,SNR=10					
PSI	**Prapat**	**30.14 291**		LR	LR	16 08 38.4
	comp=Z,302nm,19.6s,baz=187,slow=37					
ARPS	**Mount Arapiles**	**30.94 156**		P	**P**	**15 56 36.6 +3.0**
	baz=31,SNR=6.2					
YULB	**Yu-li**	**32.52 351**		P	**P**	**15 56 43.3 -4.3**
YULB				IAmb	IAmb	15 56 50.4
	comp=Z,8.6nm,1.0s					
TPUB	**Ta-pu**	**32.54 349**		P	**P**	**15 56 46.0 -1.9**
HNR	**Honiara**	**32.69**	**94**	LR	LR	16 11 52.7
	comp=Z,133nm,19.1s,baz=260,slow=40					
YHNB	**Yeheng**	**33.76 351**		P	**P**	**15 56 56.9 -1.7**
YHNB				IAmb	IAmb	15 56 57.7
	comp=Z,33nm,1.2s					
CM31	**Chiang Mai Arr**	**38.66 315**		P	**P**	**15 57 36.8 -3.7**
CM31				IAmb	IAmb	15 57 41.0
	comp=Z,18nm,1.1s					
CMAR	**Chiang Mai Arr**	**38.66 315**		P	**P**	**15 57 40.0 -0.5**
	comp=Z,10nm,0.8s,baz=143,slow=6.7,SNR=58					
CMAR				PcP	**PcP**	**15 59 53.2 +0.9**
	comp=Z,1.6nm,0.6s,baz=178,slow=3.2,SNR=6.0					
CMAR				LR	LR	16 15 26.8
	comp=Z,156nm,18.2s,baz=213,slow=39					
CMAR	**Chiang Mai Arr**	**38.66 315**		P	**P**	**15 57 37.6 -2.9**
GYA	**Guiyang**	**40.21 331**	⇓	P	**P**	**15 57 53.3 -0.2**
GYA				S	**S**	**16 04 04.3 +5.9**
GYA				SS	**SS**	**16 06 51.6 -5.9**
GYA				pmax	pmax	
	comp=Z,26nm,0.8s					
GYA				pmax	pmax	
	comp=Z,96nm,3.5s					
GYA				LR	LR	
	comp=Z,120nm,9.4s					
GYA				LR	LR	
	comp=Z,110nm,5.1s					
GYA				LR	LR	
	comp=Z,130nm,10.2s					
WHN	**Wuhan**	**40.98 343**		P	**P**	**15 58 00.0 +0.4**
KMI	**Kunming**	**41.14 326**	⇓	*i* P	**P**	**15 58 02.3 +1.0**
KMI				pP	pP	15 58 05.4 -6.3
KMI				sP	sP	15 58 06.5 -9.4
KMI				pmax	pmax	
	comp=Z,38nm,1.1s					
NJ2	**Nanjing**	**41.40 350**	⇓	*i* P	**P**	**15 58 03.0 0.0**
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.7s					
CD2	**Chengdu**	**45.33 332**		P	**P**	**15 58 33.8 -1.0**
CD2				pmax	pmax	
	comp=Z,50nm,1.1s					
XAN	**Xi'an**	**45.94 339**		P	**P**	**15 58 37.9 -1.7**
XAN				pP	pP	15 58 43.5 -6.5
XAN				sP	sP	15 58 46.4 -7.8
XAN				pmax	pmax	
	comp=Z,16nm,1.2s					
XAN				pmax	pmax	
	comp=Z,72nm,3.5s					
KSRS	**Korea Array**	**46.09**	**1**	P	**P**	**15 58 40.1 -0.5**
	comp=Z,3.7nm,0.8s,baz=176,slow=10.0,SNR=16					
MJAR	**Matsushiro Arr**	**46.42**	**13**	P	**P**	**15 58 41.2 -2.0**
	comp=Z,3.0nm,0.8s,baz=189,slow=8.0,SNR=12					
MJAR				PcP	**PcP**	**16 00 18.1 +0.4**
	comp=Z,1.3nm,0.9s,baz=164,slow=4.9,SNR=2.2					
MJAR				LR	LR	16 16 47.9
	comp=Z,51nm,21.8s,baz=225,slow=34					
MJAR	**Matsushiro Arr**	**46.42**	**13**	P	**P**	**15 58 40.4 -2.9**
MAT	**Matsushiro**	**46.42**	**13**	P	**P**	**15 58 41.2 -2.1**
MAT				*e*S	**S**	**16 05 32.4 +3.6**
BJI	**Beijing**	**49.65 349**		P	**P**	**15 59 07.0 -1.2**
BJI				pmax	pmax	
	comp=Z,9.0nm,1.0s					
LZH	**Lanzhou**	**49.68 335**		*e*P	**P**	**15 59 08.5 -0.2**
LZH				pP	pP	15 59 18.3 -1.0
LZH				pmax	pmax	
	comp=Z,32nm,1.1s					
LZH				pmax	pmax	
	comp=Z,140nm,4.7s					
LZH				LR	LR	
	comp=Z,170nm,14.6s					
LZH				LR	LR	
	comp=Z,190nm,13.0s					
LZH				LR	LR	
	comp=Z,200nm,16.8s					
HHC	**Hu-ho-hao-te**	**51.44 345**		*e*P	**P**	**15 59 20.6 -1.2**
HHC				pmax	pmax	
	comp=Z,18nm,0.8s					
HHC				pmax	pmax	
	comp=Z,100nm,6.6s					
LSA	**Lhasa**	**51.48 320**		P	**P**	**15 59 22.8 +0.1**
LSA				pmax	pmax	
	comp=Z,75nm,1.1s					
ODAN	**Odare**	**52.20 314**		*e*P	**P**	**15 59 27.4 -0.5**
	comp=Z,45nm,0.8s					
ODAN	**Odare**	**52.20 314**		*e*P	**P**	**15 59 27.4 -0.5**
	comp=Z,45nm,0.8s					
TAPN	**Taplejung**	**52.27 315**		*e*P	**P**	**15 59 28.4 -0.1**
TAPN	**Taplejung**	**52.27 315**		*e*P	**P**	**15 59 28.4 -0.1**
CN2	**Changchun**	**52.43 359**		*e*P	**P**	**15 59 32.8 +3.8**
CN2				pmax	pmax	
	comp=Z,10.0nm,1.0s					
RAMN	**Ramite**	**52.82 314**		*e*P	**P**	**15 59 31.9 -0.6**
	comp=Z,36nm,0.6s					
RAMN	**Ramite**	**52.82 314**		*e*P	**P**	**15 59 31.9 -0.6**
	comp=Z,36nm,0.6s					
USRK	**Ussuriysk Ar.**	**53.02**	**5**	P	**P**	**15 59 32.9 -0.4**
	comp=Z,3.1nm,0.7s,baz=191,slow=6.6,SNR=9.0					
MDJ	**Mudanjiang**	**53.29**	**2**	P	**P**	**15 59 35.5 +0.2**
MDJ				pmax	pmax	
	comp=Z,9.0nm,0.9s					
MDJ				pmax	pmax	
	comp=Z,43nm,3.6s					
PKI	**Pulchoki**	**54.04 313**		*e*P	**P**	**15 59 40.9 -0.7**
	comp=Z,18nm,0.5s					
PKI	**Pulchoki**	**54.04 313**		*e*P	**P**	**15 59 40.9 -0.7**
	comp=Z,18nm,0.5s					
PKIN	**Phulchoki**	**54.05 313**		*e*P	**P**	**15 59 41.0 -0.6**
	comp=Z,23nm,0.7s					
PKIN	**Phulchoki**	**54.05 313**		*e*P	**P**	**15 59 41.0 -0.6**
	comp=Z,23nm,0.7s					
GTA	**Gaotai**	**54.19 334**	⇑	P	**P**	**15 59 41.4 -0.8**
GTA				pP	pP	15 59 46.5 -6.4
GTA				sP	sP	15 59 49.8 -7.2
GTA				SS	**SKiKP**	**16 10 59.8 +8.4**
GTA				pmax	pmax	
	comp=Z,3.0nm,0.9s					
GTA				pmax	pmax	
	comp=Z,110nm,4.9s					
GTA				LR	LR	
	comp=Z,100nm,18.7s					
GTA				LR	LR	
	comp=Z,92nm,18.7s					
GTA				LR	LR	
	comp=Z,110nm,18.7s					
KKN	**Kakani**	**54.26 314**		*e*P	**P**	**15 59 42.9 -0.2**
KKN	**Kakani**	**54.26 314**		*e*P	**P**	**15 59 42.9 -0.2**
DMN	**Daman**	**54.28 313**		*e*P	**P**	**15 59 42.9 -0.3**
	comp=Z,54nm,1.1s					
DMN	**Daman**	**54.28 313**		*e*P	**P**	**15 59 42.9 -0.3**
	comp=Z,54nm,1.1s					
GKN	**Gorkha**	**54.85 313**		*e*P	**P**	**15 59 46.4 -0.8**
	comp=Z,22nm,0.4s					
GKN	**Gorkha**	**54.85 313**		*e*P	**P**	**15 59 46.4 -0.8**
	comp=Z,22nm,0.4s					
KOLN	**Koldanda**	**55.46 313**		*e*P	**P**	**15 59 51.2 -0.5**
	comp=Z,77nm,0.9s					
KOLN	**Koldanda**	**55.46 313**		*e*P	**P**	**15 59 51.2 -0.5**
	comp=Z,77nm,0.9s					
PYUN	**Piuthan**	**56.09 312**		*e*P	**P**	**15 59 55.9 -0.4**
	comp=Z,127nm,0.9s					
PYUN	**Piuthan**	**56.09 312**		*e*P	**P**	**15 59 55.9 -0.4**
	comp=Z,127nm,0.9s					
SONM	**Songino Array**	**59.29 344**		P	**P**	**16 00 18.0 -0.2**
	comp=Z,7.4nm,0.9s,baz=162,slow=7.8,SNR=32					
SONM	**Songino Array**	**59.29 344**		P	**P**	**16 00 17.9 -0.4**
WMQ	**Urumqi**	**63.31 329**		*e*P	**P**	**16 00 45.8 +0.3**
WMQ				pP	pP	16 00 48.9 -7.2
WMQ				sP	sP	16 00 57.4 -2.7
WMQ				pmax	pmax	
	comp=Z,15nm,0.9s					
WMQ				pmax	pmax	
	comp=Z,44nm,3.6s					
WMQ				LR	LR	
	comp=Z,260nm,29.3s					
WMQ				LR	LR	
	comp=Z,380nm,29.0s					
PEA0B	**Petropavlovsk-**	**67.09**	**20**	P	**P**	**16 01 08.7 -1.1**
PETK	**Petropavlovsk-**	**67.09**	**20**	P	**P**	**16 01 10.2 +0.4**
	comp=Z,10nm,0.8s,baz=183,slow=3.8,SNR=29					
PETK				LR	LR	16 34 21.1
	comp=Z,28nm,19.0s,baz=205,slow=40					
PETK	**Petropavlovsk-**	**67.09**	**20**	P	**P**	**16 01 08.3 -1.4**
SHLS	**Shalkode**	**67.34 324**	⇑	*i* P	**P**	**16 01 09.8 -1.9**
	comp=Z,7.8nm,0.9s,baz=325					
UZB	**Uzynbulak**	**67.58 324**		*e*P	**P**	**16 01 12.6 -0.7**
	comp=Z,8.6nm,2.3s,baz=324					
UZB				*e*S	**S**	**16 10 09.5 +1.6**
	baz=324					
SATY	**Saty**	**67.89 324**		*e*P	**P**	**16 01 14.7 -0.5**
	comp=Z,4.9nm,0.9s,baz=324					
KPKS	**Kokpek**	**67.97 324**		*i* P	**P**	**16 01 14.8 -0.8**
	comp=Z,12nm,1.1s,baz=325					
MK31	**Makanchi Array**	**68.12 329**		P	**P**	**16 01 15.7 -0.7**
MKAR	**Makanchi Array**	**68.12 329**		P	**P**	**16 01 15.8 -0.6**
	comp=Z,12nm,0.8s,baz=127,slow=7.6,SNR=94					
MAKZ	**Makanchi**	**68.30 329**		P	**P**	**16 01 16.0 -1.5**
MAKZ				IAmb	IAmb	16 01 17.5
	comp=Z,12nm,1.1s					
TDK	**Taldyqorghan**	**69.07 325**		*e*P	**P**	**16 01 22.1 -0.3**
	baz=326					
CHKK	**Chushkaly**	**69.19 324**		*e*P	**P**	**16 01 22.2 -1.0**
	baz=324					
KUU	**Kurty**	**69.60 323**		*e*P	**P**	**16 01 25.3 -0.3**
	comp=Z,29nm,1.0s,baz=324					
VNDA	**Vanda**	**71.00 172**		P	**P**	**16 01 35.3 +1.6**
	comp=Z,1.0nm,0.7s,baz=315,slow=6.4,SNR=15					
VNDA				LR	LR	16 32 41.1
	comp=Z,106nm,18.6s,baz=339,slow=36					
VNDA	**Vanda**	**71.00 172**		P	**P**	**16 01 34.3 +0.6**
BTLS	**Baital**	**71.60 323**		*e*P	**P**	**16 01 37.0 -0.8**
	baz=324					
ZAA0	**Zalesovo Array**	**71.92 335**		P	**P**	**16 01 38.0 -1.5**
ZALV	**Zalesovo Beam**	**71.92 335**		P	**P**	**16 01 38.1 -1.3**
	comp=Z,13nm,0.6s,baz=127,slow=4.7,SNR=60					
ZALV	**Zalesovo Beam**	**71.92 335**		P	**P**	**16 01 38.5 -1.0**
MAW	**Mawson**	**72.08 201**		P	**P**	**16 01 40.8 +0.6**
	comp=Z,1.1nm,0.5s,baz=92,slow=7.6,SNR=6.7					
MAW				LR	LR	16 31 00.2
	comp=Z,110nm,20.6s,baz=57,slow=34					
MAW	**Mawson**	**72.08 201**		P	**P**	**16 01 40.9 +0.6**
DZA	**Taraz**	**72.10 320**		*i* P	**P**	**16 01 39.7 -1.2**
	baz=321					
KURK	**Kurchatov**	**72.52 330**		P	**P**	**16 01 42.0 -1.1**
KURK				IAmb	IAmb	16 01 45.1
	comp=Z,13nm,0.8s					
IUG	**Iuzhnay**	**72.55 319**		*e*P	**P**	**16 01 43.0 -0.7**
	baz=320					
BRZS	**Berezniki**	**75.13 327**		*e*P	**P**	**16 01 58.0 -0.6**
	comp=Z,12nm,1.1s,baz=328					
BRVK	**Borovoye**	**78.08 329**		P	**P**	**16 02 14.2 -0.8**
GEYT	**Alibeck**	**79.06 311**		P	**P**	**16 02 20.8 -0.1**
	comp=Z,9.9nm,1.0s,baz=187,slow=2.5,SNR=16					
TIXI	**Tiksi**	**80.36**	**1**	P	**P**	**16 02 25.8 -1.3**
SYO	**Syowa Base**	**80.79 201**	⇓	*e*P	**P**	**16 02 30.3 +0.7**
ABKAR	**Akbulak array**	**82.05 323**		P	**P**	**16 02 35.4 -1.2**
NRIK	**Noril'sk**	**82.63 347**		P	**P**	**16 02 38.9 -0.3**
	comp=Z,10nm,0.9s,baz=138,slow=6.4,SNR=10					
KMBO	**Kilima Mbogo**	**89.42 269**		P	**P**	**16 03 16.3 +2.0**
	comp=Z,2.0nm,0.8s,baz=99,slow=6.8,SNR=3.3					
SNAA	**Sanae**	**93.11 194**		P	**P**	**16 03 32.0 +2.0**
SNAA				IAmb	IAmb	16 03 39.4
	comp=Z,3.3nm,0.9s					
ILAR	**Eielson Array**	**96.36**	**25**	P	**P**	**16 03 43.1 -1.8**
	comp=Z,0.4nm,0.6s,baz=219,slow=4.2,SNR=2.8					
BRTR	**Keskin Array B**	**98.05 309**		P	**P**	**16 03 51.2 -2.0**
	comp=Z,1.5nm,0.9s,baz=145,slow=4.5,SNR=5.0					
NVAR	**Mina Array Bea**	**114.90**	**52**	PKP	**PKiKP**	**16 08 58.7 +0.9**
	comp=Z,0.2nm,0.5s,baz=241,slow=2.5,SNR=4.2					
TORD	**Torodi Ar. Bea**	**126.07 280**		PKP	**PKiKP**	**16 09 20.6 +0.6**
	comp=Z,5.0nm,1.1s,baz=44,slow=1.0,SNR=13					
ESDC	**Sonseca Array**	**126.57 313**		PKP	**PKPdf**	**16 09 18.7 -1.2**
	comp=Z,0.6nm,0.9s,baz=31,slow=5.2,SNR=3.6					
TXAR	**Lajitas Array**	**128.57**	**60**	PKP	**PKiKP**	**16 09 24.4 -0.4**
	comp=Z,0.5nm,0.8s,baz=270,slow=1.8,SNR=2.5					
CPUP	**Villa Florida**	**144.78 174**		PKP	**PKPdf**	**16 09 54.2 +0.2**
	comp=Z,2.4nm,0.5s,baz=170,slow=2.4,SNR=7.6					
LPAZ	**La Paz**	**150.94 149**		PKPbc	**PKiKP**	**16 10 11.8 +0.4**
	comp=Z,8.2nm,1.1s,baz=252,slow=0.6,SNR=14					

WEL 13 16:01:12.1,38°S±3°×17°6E±°,h165km±4km,M2.5/34, MLv2.5/34,Error ellipse: s-maj=0.0km s-min=0.0km az=136.2,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSRZ	**Hossack Road**	**0.19**	**124**	P	Pn	16 01 34.5	+0.3
WPRZ	**Whakapapatarin**	**0.33**	**164**	P	Pn	16 01 34.7	+0.2
PRRZ	**Plateau Road**	**0.40**	**137**	P	Pn	16 01 34.8	+0.1
TLZ	**Tolley Road**	**0.42**	**253**	P	Pn	16 01 35.2	+0.4
MUGZ	**Murupara**	**0.63**	**116**	P	Pn	16 01 35.6	-0.2
MUGZ				S	Sn	16 01 53.9	-0.2
TOZ	**Tahuroa Road**	**0.64**	**318**	P	Pn	16 01 36.0	+0.2
MRHZ	**Matea Rd**	**0.69**	**155**	P	Pn	16 01 36.1	-0.1
MRHZ				S	Sn	16 01 53.7	-1.1
RATZ	**Rangitukua**	**0.69**	**198**	P	Pn	16 01 36.3	+0.1
RITZ	**Rihia Road**	**0.79**	**191**	P	Pn	16 01 37.2	+0.5
URZ	**Urewera**	**0.84**	**94**	P	Pn	16 01 36.5	-0.5
URZ				S	Sn	16 01 55.3	-0.9
MTHZ	**Maungataniwha**	**0.90**	**136**	P	Pn	16 01 37.6	+0.1
MTHZ				S	Sn	16 01 56.4	-0.8
KRVZ	**Karewarewa**	**0.94**	**199**	P	Pn	16 01 38.0	+0.1
WTVZ	**West Tongariro**	**0.98**	**201**	P	Pn	16 01 38.4	+0.2
HIZ	**Hauiti**	**0.98**	**251**	P	Pn	16 01 38.4	+0.3
TWVZ	**Taurewa**	**0.99**	**209**	P	Pn	16 01 38.4	+0.2
OTVZ	**Oturere**	**1.00**	**197**	P	Pn	16 01 38.8	+0.4
BKZ	**Black Stump Fm**	**1.02**	**160**	P	Pn	16 01 38.3	-0.1
BKZ				S	Sn	16 01 58.0	-0.9
NMHZ	**Naumai**	**1.07**	**146**	P	Pn	16 01 39.8	+0.9
RAHZ	**Arahi**	**1.08**	**131**	P	Pn	16 01 39.5	+0.6
TUVZ	**Tukino**	**1.10**	**196**	P	Pn	16 01 39.5	+0.2
FWVZ	**Far West T-bar**	**1.12**	**200**	P	Pn	16 01 39.6	+0.2
RAGZ	**Rawiri**	**1.12**	**105**	P	Pn	16 01 35.5	-3.8
RAGZ				S	Sn	16 01 56.1	-4.2
SNGZ	**Shannon Statio**	**1.17**	**120**	P	Pn	16 01 40.0	+0.3
WNVZ	**Wahianoa**	**1.17**	**197**	P	Pn	16 01 39.9	0.0
MWZ	**Matawai**	**1.18**	**97**	P	Pn	16 01 39.6	-0.1
PKVZ	**Pokaka**	**1.21**	**207**	P	Pn	16 01 40.1	0.0
MOVZ	**Moawhango**	**1.22**	**191**	P	Pn	16 01 39.9	-0.3
KWHZ	**Kaweka Forest**	**1.25**	**166**	P	Pn	16 01 40.6	+0.1
MTVZ	**Mangateitei**	**1.26**	**201**	P	Pn	16 01 40.6	0.0
WHHZ	**Waihua**	**1.27**	**133**	P	Pn	16 01 41.3	+0.7
ARHZ	**Aropaoanui**	**1.29**	**145**	P	Pn	16 01 41.2	+0.5
RUGZ	**Raukumara Rang**	**1.31**	**80**	P	Pn	16 01 39.8	-1.3
MCHZ	**McNeill Hill**	**1.34**	**158**	P	Pn	16 01 41.8	+0.6
VRZ	**Vera Road**	**1.36**	**227**	P	Pn	16 01 41.8	+0.4
RIGZ	**Rimuhau**	**1.44**	**111**	P	Pn	16 01 42.2	+0.1
HAZ	**Te Kaha**	**1.45**	**72**	P	Pn	16 01 41.9	-0.3
KRHZ	**Kereru**	**1.46**	**170**	P	Pn	16 01 42.3	-0.1
KUZ	**Kuaotunu**	**1.48**	**350**	P	Pn	16 01 42.4	-0.2
KNZ	**Kokohu**	**1.52**	**123**	P	Pn	16 01 42.8	-0.1
PNHZ	**Pukenui**	**1.71**	**176**	P	Pn	16 01 44.4	-0.5
KAHZ	**Kahuranaki**	**1.71**	**158**	P	Pn	16 01 45.1	+0.1
MHGZ	**Mahia Peninsul**	**1.74**	**124**	P	Pn	16 01 45.4	+0.2
TSZ	**Takapari Road**	**1.85**	**182**	P	Pn	16 01 45.8	-0.7
NEZ	**North Egmont**	**1.86**	**234**	P	Pn	16 01 47.3	+0.7
WPHZ	**Waipukurau**	**1.88**	**171**	P	Pn	16 01 46.3	-0.4
PKE	**Pukeiti**	**1.89**	**238**	P	Pn	16 01 47.3	+0.5
WMGZ	**Waiomatatini S**	**1.91**	**79**	P	Pn	16 01 46.7	-0.4
PXZ	**Pawanui**	**1.93**	**161**	P	Pn	16 01 47.0	-0.3
DVHZ	**Dannevirke**	**2.09**	**177**	P	Pn	16 01 48.1	-1.0
PRHZ	**Porangahau**	**2.11**	**168**	P	Pn	16 01 48.8	-0.5
POWZ	**Post Office Ro**	**2.19**	**186**	P	Pn	16 01 49.2	-1.1
ANWZ	**Angora Road**	**2.28**	**172**	P	Pn	16 01 50.6	-0.6
PRWZ	**Pori Road**	**2.35**	**181**	P	Pn	16 01 51.1	-1.0
BFZ	**Birch Farm**	**2.48**	**176**	P	Pn	16 01 52.2	-1.4
MRZ	**Mangatainoka R**	**2.48**	**188**	P	Pn	16 01 52.0	-1.6
TIWZ	**Tintock**	**2.57**	**183**	P	Pn	16 01 53.4	-1.4
OGWZ	**Otaki Gorge**	**2.69**	**194**	P	Pn	16 01 54.6	-1.6
HOWZ	**Holdsworth Sta**	**2.72**	**188**	P	Pn	16 01 54.6	-1.9
KIW	**Kapiti Island**	**2.79**	**198**	P	Pn	16 01 55.2	-2.3
TMWZ	**Te Maipa**	**2.90**	**182**	P	Pn	16 01 56.9	-1.9
MTW	**Mount Morrison**	**2.98**	**188**	P	Pn	16 01 57.3	-2.4
CAW	**Cannon Point**	**3.00**	**194**	P	Pn	16 01 57.8	-2.1
DUWZ	**D'Urville Isla**	**3.07**	**212**	P	Pn	16 01 58.6	-2.3
TRWZ	**Traveller**	**3.20**	**185**	P	Pn	16 02 00.2	-2.2
WEL	**Wellington**	**3.23**	**197**	P	Pn	16 02 00.2	-2.6
MSWZ	**Moikau Station**	**3.27**	**191**	P	Pn	16 02 00.6	-2.6
TCW	**Tory Channel**	**3.30**	**204**	P	Pn	16 02 01.1	-2.6
BHW	**Baring Head**	**3.32**	**195**	P	Pn	16 02 01.2	-2.8
PLWZ	**Palliser**	**3.41**	**190**	P	Pn	16 02 02.3	-2.9
TUWZ	**Tuamarina**	**3.60**	**206**	P	Pn	16 02 04.8	-2.7
NNZ	**Nelson**	**3.64**	**214**	P	Pn	16 02 05.1	-3.0
QRZ	**Quartz Range**	**3.77**	**225**	P	Pn	16 02 06.4	-3.3
BSWZ	**Blackbirch Sta**	**3.88**	**205**	P	Pn	16 02 08.4	-2.7
THZ	**Tophouse**	**4.29**	**213**	P	Pn	16 02 13.1	-3.4
KHZ	**Kahutara**	**4.62**	**204**	P	Pn	16 02 17.4	-3.3
GVZ	**Greta Valley S**	**5.28**	**205**	P	Pn	16 02 25.5	-3.8
LTZ	**Lake Taylor**	**5.40**	**211**	P	Pn	16 02 27.3	-3.7
MQZ	**McQueen's Vall**	**6.07**	**204**	P	Pn	16 02 34.3	-5.3

TAP 13 16:37:17.3,24°32N×121°79E,h14km±1km,ML1.8,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.11**	**337**	*i* P	Pb	16 37 21.1	-0.2
	baz=339						
ENA				*i* S	Sb	16 37 23.8	-0.2
	baz=339						
ENAH	**Nanao**	**0.13**	**8**	*i* P	Pb	16 37 21.2	-0.3
	baz=8.0						
ENAH				S	Sb	16 37 24.1	-0.2
	baz=8.0						
NACB	**Ninganchiao**	**0.23**	**230**	*e*P	Pg	16 37 22.3	0.0
	baz=229						
NACB				*e*S	Sg	16 37 26.1	+0.4
	baz=229						
TWC	**Suao**	**0.29**	**11**	*e*P	Pb	16 37 23.9	-0.3
	baz=12						
TWC				*e*S	Sg	16 37 28.0	+0.6
	baz=12						
ETLH	**Xiulin Townshi**	**0.30**	**248**	*e*P	Pg	16 37 23.7	+0.1
	baz=247						
ENTT	**Nioudou**	**0.38**	**327**	*i* P	Pb	16 37 25.9	+0.1
	baz=327						
NDT	**Datong Townshi**	**0.38**	**318**	P	Pb	16 37 26.0	+0.3
	baz=317						
NNSB	**Datong**	**0.39**	**286**	P	Pb	16 37 26.0	0.0
	baz=285						
NNSB				*e*S	Sg	16 37 29.9	-0.6
	baz=285						
NNSH	**Datong**	**0.39**	**286**	*e*P	Pb	16 37 26.1	+0.1
	baz=285						
NNSH				*e*S	Sg	16 37 29.9	-0.5
	baz=285						
NNS	**Nan Shan**	**0.40**	**287**	*e*P	Pb	16 37 26.1	-0.1
	baz=286						
NNS				*e*S	Sg	16 37 30.1	-0.7
	baz=286						
TWE	**Neicheng**	**0.41**	**344**	*e*P	Pb	16 37 26.4	+0.1
	baz=346						
FUSS	**Fushou**	**0.50**	**261**	*e*P	Pb	16 37 28.0	-0.1
	baz=261						
WHF	**Hehuan Shan**	**0.51**	**250**	*e*P	Pg	16 37 27.9	+0.3
	baz=249						
YHNB	**Yeheng**	**0.51**	**312**	*e*P	Pb	16 37 28.6	+0.4
	baz=312						
NWLT	**Wulai**	**0.52**	**330**	*e*P	Pb	16 37 28.3	+0.1
	baz=329						
TDCB	**Techi**	**0.58**	**263**	*e*P	Pb	16 37 29.5	+0.1
	baz=262						
TDCB				*e*S	Sb	16 37 37.6	+0.1
	baz=262						
CHGB	**Renai**	**0

TDCB	**Techi**	**0.57**	**263**	*e*P	Pb	16 37 36.9 +0.6
	baz=263					
TDCB				*e*S	Sb	16 37 44.7 +0.3
	baz=263					

TAP 13 16:39:11.6, 24.°31N×121.°76E, h10km±1km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.12**	**351**	*i* P	Pg	16 39 15.1	+0.7
	baz=355						
ENA				S	Sg	16 39 17.8	+1.3
	baz=355						
ENAH	**Nanao**	**0.14**	**19**	P	Pg	16 39 15.3	+0.4
	baz=18						
ENAH				S	Sg	16 39 18.2	+1.1
	baz=18						
NACB	**Ninganchiao**	**0.20**	**227**	*e*P	Pg	16 39 16.5	+0.6
	baz=227						
NACB				*e*S	Sg	16 39 20.1	+1.3
	baz=227						
ETLH	**Xiulin Townshi**	**0.28**	**247**	*e*P	Pb	16 39 18.0	-0.6
	baz=247						
ETLH				*e*S	Sb	16 39 22.3	-1.1
	baz=247						
TWC	**Suao**	**0.31**	**15**	*e*P	Pg	16 39 18.3	+0.6
	baz=17						
NNSB	**Datong**	**0.36**	**289**	*e*P	Pb	16 39 20.0	-0.1
	baz=288						
NNSB				*e*S	Sb	16 39 25.3	-0.6
	baz=288						
NNSH	**Datong**	**0.36**	**289**	P	Pb	16 39 20.0	-0.1
	baz=288						
NNSH				S	Sb	16 39 25.7	-0.3
	baz=288						
NDT	**Datong Townshi**	**0.37**	**322**	P	Pb	16 39 20.0	-0.2
	baz=322						
NDT				*e*S	Sb	16 39 25.5	-0.5
	baz=322						
ENTT	**Nioudou**	**0.37**	**332**	*i* P	Pb	16 39 19.9	-0.3
	baz=332						
ENTT				S	Sb	16 39 25.7	-0.4
	baz=332						
NNS	**Nan Shan**	**0.38**	**290**	*e*P	Pb	16 39 20.3	-0.1
	baz=289						
NNS				*e*S	Sb	16 39 25.7	-0.6
	baz=289						
YHNB	**Yeheng**	**0.50**	**315**	*e*P	Pb	16 39 22.6	+0.1
	baz=315						
YHNB				*e*S	Sb	16 39 29.5	-0.3
	baz=315						
TDCB	**Techi**	**0.55**	**264**	*e*P	Pb	16 39 23.5	+0.1
	baz=263						
TDCB				*e*S	Sb	16 39 31.3	-0.1
	baz=263						

JMA 13 16:39:48.0±0.3, 24.°86N×123.°33E, h25km, M1.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.49**	**216**	P	Pb	16 39 57.7	-0.4
YOJ				S	Sb	16 40 04.0	-0.9
JYNG	**Yonagunijimaku**	**0.54**	**221**	P	Pb	16 39 58.6	-0.2
JYNG				S	Sb	16 40 06.1	-0.1
IRIF	**Iriomote-Funau**	**0.64**	**145**	P	Pb	16 40 00.4	-0.1
IRIF				*e*S	Sb	16 40 08.6	-0.4
JKRS	**Kuro-shima**	**0.88**	**135**	P	Pb	16 40 04.3	-0.2
JKRS				S	Sb	16 40 16.0	+0.2
JIJ	**Ishigaki jima**	**0.89**	**124**	P	Pb	16 40 03.6	-1.2
JIJ				S	Sb	16 40 14.9	-1.4
HATJ	**Hateruma jima**	**0.91**	**151**	P	Pb	16 40 05.0	-0.1
JISG	**Ishigakijimahi**	**0.93**	**107**	P	Pn	16 40 04.8	-0.7
JISG				*e*S	Sb	16 40 15.7	-1.8

IDC 13 16:51:08.6±4.6, 23.°55N×94.°24E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/29, mbtmp3.3/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/34, Error ellipse: s-maj=379.7km s-min=30.4km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.11**	**340**	P	P	16 56 35.1	0.0
	0.3nm,0.7s,baz=155,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**58.28**	**135**	P	P	17 01 05.3	-0.2
	0.3nm,0.7s,baz=324,slow=7.4,SNR=6.3						
WRA				LR	LR	17 30 40.2	
	comp=Z,88nm,18.4s,baz=245,slow=41						
ASAR	**Alice Springs**	**60.71**	**138**	P	P	17 01 22.3	+0.1
	0.3nm,0.6s,baz=314,slow=6.5,SNR=7.2						

*TUL **13** 16:58:10.1±0.9, 36.°22N±0.°01×97.°56W±0.°03, h3km±7km, ML3.2, Error ellipse: s-maj=3.2km s-min=1.6km az=75.0*
*NEIC **13** 16:58:10.6±0.9, 36.°21N±0.°01×97.°58W±0.°03, h5km±2km, Error ellipse: s-maj=4.0km s-min=3.0km az=81.0*
*UNK **13** 16:58:10.6, 36.°21N×97.°57W, h5km*
*ANF **13** 16:58:12.6±1.3, 36.°19N×97.°53W, h19km±10km, ML4.2/11, Error ellipse: s-maj=5.7km s-min=3.6km az=158.0*

ISC 13 16:58:10.8±0.8, 36.°22N±0.°02×97.°54W±0.°03, h10km, n43, σ0.°93/47, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.42**	**171**	Pg	**Pg**	**16 58 19.0**	**-0.1**
CROK	**Carrier**	**0.46**	**309**	Pg	**Pg**	**16 58 19.2**	**-0.6**
BCOK	**Bluff Creek, N**	**0.56**	**186**	Pg	**Pg**	**16 58 21.3**	**-0.4**
OK025	**Westminster Rd**	**0.66**	**166**	Pg	**Pg**	**16 58 23.2**	**-0.2**
QUOK	**Quay**	**0.67**	**94**		**Pg**	**16 58 23.6**	**-0.1**
KAN13	**South Haven SW**	**0.80**	**3**		**Pg**	**16 58 25.4**	**-0.7**
KAN13				Sg	**Sg**	**16 58 36.6**	**+0.1**
OKCFA	**Oklahoma City**	**0.80**	**175**	Pg	**Pg**	**16 58 25.8**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**0.81**	**174**	Pg	**Pg**	**16 58 25.9**	**-0.5**
FNO	**Franklin**	**0.96**	**173**	Pg	**Pg**	**16 58 29.1**	**-0.3**
KAN10	**Anthony SW Sta**	**1.01**	**334**	Pg	**Pg**	**16 58 29.1**	**-1.1**
T35A	**Sooner Cattle**	**1.08**	**49**		**Pb**	**16 58 30.8**	**-0.8**
KAN12	**Harper NE Stat**	**1.14**	**341**	Pg	**Pb**	**16 58 31.6**	**-1.0**
W35A	**Tecumseh**	**1.19**	**153**	Pg	**Pb**	**16 58 32.4**	**-1.0**
U32A	**Winter Ranch,**	**1.19**	**278**		**Pb**	**16 58 32.0**	**-1.5**
TUL1	**Leonard**	**1.45**	**102**	P	**Pn**	**16 58 36.7**	**-0.3**
	baz=282						
TUL1				S	**Sb**	**16 58 56.9**	**+0.7**
	baz=282						
TUL1	**Leonard**	**1.45**	**102**		**Pn**	**16 58 36.7**	**-0.3**
WMOK	**Wichita Mounta**	**1.79**	**215**	P	**Pn**	**16 58 41.9**	**+0.1**
	baz=33						
WMOK				S	**Sb**	**16 59 05.9**	**-0.3**
	baz=33						
WMOK	**Wichita Mounta**	**1.79**	**215**		**Pn**	**16 58 42.1**	**+0.3**
R32A	**Long Quarter,**	**2.39**	**337**		**Pn**	**16 58 51.5**	**+1.4**
X37A	**Clayton**	**2.40**	**132**		**Pn**	**16 58 51.5**	**+1.4**
Z35A	**Perchaven, San**	**2.89**	**175**		**Pn**	**16 58 58.0**	**+1.1**
KSU1	**Kansas State U**	**2.97**	**14**	P	**Pn**	**16 58 59.2**	**+1.2**
	baz=195						
KSU1	**Kansas State U**	**2.97**	**14**	Pn	**Pn**	**16 58 59.1**	**+1.2**
CBKS	**Cedar Bluff**	**3.13**	**327**	Pb	**Pb**	**16 59 07.5**	**+1.0**
	baz=146						
W39A	**Magazine**	**3.22**	**107**	P	**Pn**	**16 59 02.2**	**+0.8**
	baz=289						
W39A	**Magazine**	**3.22**	**107**		**Pn**	**16 59 02.4**	**+1.0**
Z38A	**Mt. Pleasant**	**3.62**	**144**		**Pn**	**16 59 07.8**	**+0.9**
AMTX	**Amarillo**	**3.63**	**250**		**Pn**	**16 59 09.6**	**+2.4**
MIAR	**Mount Ida**	**3.64**	**116**	P	**Pn**	**16 59 08.3**	**+1.1**
	baz=298						
MIAR	**Mount Ida**	**3.64**	**116**	Pn	**Pn**	**16 59 08.5**	**+1.3**
S39A	**Bolivar**	**3.68**	**65**		**Pn**	**16 59 08.5**	**+0.8**
U40A	**Yellville**	**3.79**	**87**	P	**Pn**	**16 59 10.8**	**+1.6**
	baz=269						
U40A	**Yellville**	**3.79**	**87**	Pn	**Pn**	**16 59 09.3**	**+0.1**
X40A	**Basin Creek Fa**	**4.21**	**113**		**Pn**	**16 59 16.5**	**+1.5**
WHTX	**Lake Whitney,**	**4.21**	**179**	P	**Pn**	**16 59 15.9**	**+0.8**
	baz=359						
WHAR	**Wooly Hollow**	**4.37**	**101**		**Pn**	**16 59 18.5**	**+1.3**
W41B	**Gary Mavity, V**	**4.43**	**102**	P	**Pn**	**16 59 18.7**	**+0.7**
	baz=285						
W41B				S	**Sn**	**17 00 09.8**	**+0.2**
	baz=285						
W41B	**Gary Mavity, V**	**4.43**	**102**		**Pn**	**16 59 18.6**	**+0.7**
237A	**Washetta, Mont**	**4.44**	**161**		**Pn**	**16 59 18.2**	**0.0**
R40A	**Maddies Statio**	**4.69**	**62**		**Pn**	**16 59 22.0**	**+0.5**
Z41A	**Richland Creek**	**4.89**	**126**	S	**Sn**	**17 00 20.4**	**-0.5**
	baz=308						
NATX	**Nacogdoches**	**5.05**	**151**	S	**Sn**	**17 00 24.7**	**-0.2**
	baz=332						
BGNE	**Belgrade**	**5.21**	**355**		**Pn**	**16 59 28.1**	**-0.6**

*KRNET **13** 17:15:60.0±0.1, 42.°34N×78.°36E, h18km, mb4.2*
*NNC **13** 17:16:01.2±0.7, 42.°45N×78.°38E, h0km, mb4.4, mpv4.4, Error ellipse: s-maj=5.4km s-min=2.2km az=168.0*
*SOME **13** 17:16:01.0, 42.°40N×78.°32E, h10km, MS2.9*

ISC 13 17:16:00.8±0.9, 42.°35N±0.°03×78.°30E±0.°02, h13km±6km, n93, σ1.°54/162, 42C-46D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.15**	**30**	⇓*i*P	**Pg**	**17 16 04.4**	**-0.3**
	baz=17						
PRZ				⇓*i*S	**Sg**	**17 16 07.3**	**-0.1**
	baz=17						
ANVS	**Anan'yevo**	**0.63**	**313**	⇑*i*P	**Pb**	**17 16 13.1**	**-0.8**
	baz=11						
ANVS				⇑*i*S	**Sg**	**17 16 22.2**	**+0.6**
	baz=11						
SATY	**Saty**	**0.71**	**7**	⇓*i*P	**Pb**	**17 16 13.6**	**-1.6**
	226nm,0.4s						
SATY				⇑*i*S	**Sb**	**17 16 22.5**	**-2.4**
	2μm,0.3s						
SATY	**Saty**	**0.71**	**7**	P	**Pb**	**17 16 13.6**	**-1.6**
	118nm,0.1s						
SATY				S	**Sb**	**17 16 22.5**	**-2.4**
	2μm,0.3s						
TARG	**Taragay, Kyrgy**	**0.72**	**211**	⇓*i*P	**Pb**	**17 16 13.8**	**-1.7**
	baz=14						
TARG				⇓*i*S	**Sg**	**17 16 23.5**	**-1.0**
	baz=14						
KDJ	**Kajisay**	**0.86**	**255**	⇑*i*P	**Pb**	**17 16 16.4**	**-1.3**
	baz=56						
KDJ				⇑*i*S	**Sb**	**17 16 28.2**	**-0.9**
	baz=56						
UZB	**Uzynbulak**	**0.96**	**34**	⇓*i*P	**Pb**	**17 16 17.5**	**-1.8**
	baz=31						
UZB				⇓*e*S	**Sb**	**17 16 29.2**	**-2.8**
	baz=31						
UZB	**Uzynbulak**	**0.96**	**34**	⇓*i*P	**Pb**	**17 16 17.5**	**-1.8**
	179nm,0.4s						
UZB				*e*S	**Sb**	**17 16 29.2**	**-2.8**
	899nm,0.1s						
UZB	**Uzynbulak**	**0.96**	**34**	P	**Pb**	**17 16 17.5**	**-1.8**
	51nm,0.1s						
UZB				S	**Sb**	**17 16 29.2**	**-2.8**
	899nm,0.1s						
KURS	**Kuram**	**1.14**	**355**	⇓*i*P	**Pn**	**17 16 21.4**	**-1.1**
	baz=53						
KURS				⇓*e*S	**Sb**	**17 16 35.8**	**-1.3**
	baz=53						
KURS	**Kuram**	**1.14**	**355**	⇓*i*P	**Pn**	**17 16 21.4**	**-1.1**
	58nm,0.2s						
KURS				*e*S	**Sb**	**17 16 35.8**	**-1.3**
	423nm,0.6s						
KURS	**Kuram**	**1.14**	**355**	P	**Pn**	**17 16 21.5**	**-1.1**
	58nm,0.2s						
KURS				S	**Sb**	**17 16 35.8**	**-1.3**
	423nm,0.6s						
KPKS	**Kokpek**	**1.15**	**14**	⇓*i*P	**Pn**	**17 16 21.3**	**-1.4**
	baz=12						
KPKS				⇑*i*S	**Sb**	**17 16 35.6**	**-1.9**
	baz=12						
KPKS	**Kokpek**	**1.15**	**14**	⇓*i*P	**Pn**	**17 16 21.3**	**-1.4**
	809nm,0.2s						
KPKS				⇑*i*S	**Sb**	**17 16 35.6**	**-1.9**
	2μm,0.2s						
SHLS	**Shalkode**	**1.18**	**46**	⇓*i*P	**Pg**	**17 16 26.2**	**+2.7**
	baz=54						
SHLS				⇓*i*S	**Sg**	**17 16 44.7**	**+5.8**
	baz=54						
SHLS	**Shalkode**	**1.18**	**46**	⇓*i*P	**Pg**	**17 16 26.2**	**+2.7**
	263nm,0.2s						
SHLS				⇓*i*S	**Sg**	**17 16 44.6**	**+5.8**
	1μm,0.4s						
SHLS	**Shalkode**	**1.18**	**46**	P	**Pg**	**17 16 26.2**	**+2.7**
	263nm,0.2s						
SHLS				S	**Sg**	**17 16 44.7**	**+5.8**
	1μm,0.4s						
TNSS	**Tian-Shan**	**1.21**	**305**	⇓*i*P	**Pb**	**17 16 23.6**	**-0.2**
	baz=4.0						
TNSS				⇓*e*S	**Sn**	**17 16 39.5**	**-0.7**
	baz=4.0						
TNSS	**Tian-Shan**	**1.21**	**305**	⇓*i*P	**Pb**	**17 16 23.6**	**-0.2**
	119nm,0.3s						
TNSS				⇓*e*S	**Sn**	**17 16 39.5**	**-0.7**
	385nm,0.4s						
MDOK	**Medeo**	**1.23**	**312**	⇑*i*P	**Pb**	**17 16 23.7**	**-0.2**
	baz=11						
MDOK				⇑*i*S	**Sn**	**17 16 39.8**	**-0.5**
	baz=11						
MDOK	**Medeo**	**1.23**	**312**	⇑*i*P	**Pb**	**17 16 23.7**	**-0.2**
	241nm,0.2s						
MDOK				⇑*i*S	**Sn**	**17 16 39.8**	**-0.5**
	666nm,0.5s						
MDOK	**Medeo**	**1.23**	**312**	Pg	**Pb**	**17 16 23.7**	**-0.2**
	241nm,0.2s						
MDOK				Lg	Lg	17 16 39.6	
	666nm,0.5s						
KOTS	**Kotyrbulak**	**1.24**	**316**	⇓*i*P	**Pb**	**17 16 24.1**	**-0.1**
	baz=15						
KOTS				⇓*i*S	**Sg**	**17 16 41.0**	**+0.1**
	baz=15						
KOTS	**Kotyrbulak**	**1.24**	**316**	⇓*i*P	**Pb**	**17 16 24.1**	**-0.1**
	800nm,0.2s						
KOTS				⇓*i*S	**Sg**	**17 16 41.0**	**+0.1**
	2μm,0.3s						
KOTS	**Kotyrbulak**	**1.24**	**316**	P	**Pb**	**17 16 24.1**	**-0.1**
	800nm,0.2s						
KOTS				S	**Sg**	**17 16 40.9**	**+0.1**
	2μm,0.3s						
KNDC	**Almaty**	**1.31**	**312**	⇑P	**Pb**	**17 16 25.0**	**-0.3**
	76nm,0.4s						
KNDC				⇑S	**Sg**	**17 16 43.1**	**+0.2**
	369nm,0.5s						
PDGK	**Podgornoye**	**1.31**	**42**	P	**Pb**	**17 16 23.7**	**-1.7**
	33nm,0.2s						
PDGK				S	**Sb**	**17 16 39.6**	**-2.6**
	304nm,0.5s						
PDGK	**Podgornoye**	**1.31**	**42**	⇑P	**Pb**	**17 16 23.6**	**-1.8**
	38nm,0.3s						
PDGK				⇑S	**Sb**	**17 16 39.7**	**-2.6**
	414nm,0.6s						
AAA	**Alma-Ata**	**1.33**	**311**	⇓*i*P	**Pg**	**17 16 26.0**	**-0.4**
	baz=10.0						
AAA				⇓*i*S	**Sg**	**17 16 44.2**	**+0.5**
	baz=10.0						
AAA	**Alma-Ata**	**1.33**	**311**	⇓*i*P	**Pg**	**17 16 26.0**	**-0.4**
	474nm,0.2s						
AAA				⇓*i*S	**Sg**	**17 16 44.2**	**+0.5**
	1μm,0.3s						
AAA	**Alma-Ata**	**1.33**	**311**	P	**Pg**	**17 16 26.1**	**-0.4**
	474nm,0.2s						
AAA				S	**Sg**	**17 16 43.8**	**+0.1**
	1μm,0.3s						
IZV	**Izvestkoviy**	**1.42**	**299**	⇓*i*P	**Pb**	**17 16 27.4**	**+0.2**
	baz=99						
IZV				⇓*i*S	**Sg**	**17 16 46.8**	**+0.3**
	baz=99						
IZV	**Izvestkoviy**	**1.42**	**299**	⇓*i*P	**Pb**	**17 16 27.4**	**+0.2**
	341nm,0.3s						
IZV				⇓*i*S	**Sg**	**17 16 46.7**	**+0.3**
	1μm,0.6s						
IZV	**Izvestkoviy**	**1.42**	**299**	P	**Pb**	**17 16 27.4**	**+0.2**
	341nm,0.3s						
IZV				S	**Sg**	**17 16 46.7**	**+0.3**
	1μm,0.6s						
ULHL	**Ulahol**	**1.53**	**267**	⇑*i*P	**Pb**	**17 16 28.6**	**-0.5**
	baz=67						
ULHL				⇑*i*S	**Sb**	**17 16 49.1**	**+0.6**
	baz=67						
ULHL	**Ulahol**	**1.53**	**267**	P	**Pg**	**17 16 29.5**	**-0.6**
	SNR=119						
MTBS	**Maitube**	**1.58**	**300**	⇓*i*P	**Pb**	**17 16 30.1**	**+0.2**
	baz=0.0						
MTBS				⇓*e*S	**Sb**	**17 16 50.6**	**+0.7**
	baz=0.0						
MTBS	**Maitube**	**1.58**	**300**	⇓*i*P	**Pb**	**17 16 30.1**	**+0.2**
	180nm,0.2s						
MTBS				*e*S	**Sb**	**17 16 50.5**	**+0.7**
	689nm,0.5s						
MTBS	**Maitube**	**1.58**	**300**	P	**Pb**	**17 16 30.1**	**+0.2**
	180nm,0.2s						
MTBS				S	**Sb**	**17 16 50.5**	**+0.7**
	689nm,0.5s						
MNBS	**Baschi**	**1.73**	**3**	*e*P	**Pb**	**17 16 32.1**	**-0.3**
	447nm,0.1s						
MNBS				*e*S	**Sg**	**17 16 54.6**	**-1.8**
	2μm,0.4s						
MNBS	**Baschi**	**1.73**	**3**	P	**Pb**	**17 16 32.2**	**-0.3**
	447nm,0.1s						
MNBS				S	**Sg**	**17 16 54.6**	**-1.8**
	2μm,0.4s						
BOOM	**Boomskoye usch**	**1.75**	**275**	⇑*i*P	**Pb**	**17 16 32.3**	**-0.6**
	baz=76						
BOOM				⇑*i*S	**Sb**	**17 16 55.8**	**+1.0**
	baz=76						
CHKK	**Chushkaly**	**1.78**	**328**	*e*P	**Pb**	**17 16 33.4**	**+0.1**
	baz=27						
CHKK				*e*S	**Sb**	**17 16 56.4**	**+0.8**
	baz=27						
CHKK	**Chushkaly**	**1.78**	**328**	*e*P	**Pb**	**17 16 33.4**	**+0.1**
	736nm,0.3s						
CHKK				*e*S	**Sb**	**17 16 56.4**	**+0.8**
	1μm,0.4s						
CHKK	**Chushkaly**	**1.78**	**328**	P	**Pb**	**17 16 33.4**	**+0.1**
	736nm,0.3s						
CHKK				S	**Sb**	**17 16 56.4**	**+0.8**
	1μm,0.4s						
KTBS	**Karatobe**	**1.80**	**320**	*e*P	**Pb**	**17 16 34.0**	**+0.3**
	300nm,0.4s						
KTBS				*e*S	**Sb**	**17 16 57.2**	**+1.0**
	1μm,0.5s						
KTBS	**Karatobe**	**1.80**	**320**	P	**Pb**	**17 16 34.0**	**+0.3**
	300nm,0.4s						
KTBS				S	**Sb**	**17 16 57.2**	**+1.0**
	1μm,0.5s						
KST	**Kastek**	**1.85**	**293**	*e*P	**Pb**	**17 16 35.0**	**+0.4**
	baz=93						
KST				*e*S	**Sg**	**17 17 00.0**	**-0.5**
	baz=93						
KST	**Kastek**	**1.85**	**293**	*e*P	**Pb**	**17 16 35.0**	**+0.4**
	86nm,0.2s						
KST				*e*S	**Sg**	**17 16 59.9**	**-0.5**
	640nm,0.6s						
KST	**Kastek**	**1.85**	**293**	P	**Pb**	**17 16 35.0**	**+0.4**
	86nm,0.2s						
KST				S	**Sg**	**17 16 59.9**	**-0.5**
	640nm,0.6s						
KTMS	**Ketmen**	**1.86**	**53**	*e*P	**Pb**	**17 16 33.4**	**-1.4**
	baz=52						
KTMS				*e*S	**Sb**	**17 16 56.2**	**-1.9**
	baz=52						
KTMS	**Ketmen**	**1.86**	**53**	*e*P	**Pb**	**17 16 33.4**	**-1.4**
	68nm,0.5s						
KTMS				*e*S	**Sb**	**17 16 56.2**	**-1.9**
	542nm,0.4s						
KTMS	**Ketmen**	**1.86**	**53**	P	**Pb**	**17 16 33.4**	**-1.4**
	68nm,0.5s						
KTMS				S	**Sb**	**17 16 56.2**	**-1.9**
	542nm,0.4s						
ARXS	**Arharly**	**1.89**	**350**	*e*P	**Pb**	**17 16 34.7**	**-0.5**
	1μm,0.7s						
ARXS				*e*S	**Sb**	**17 16 58.6**	**-0.2**
	497nm,0.3s						
ARXS	**Arharly**	**1.89**	**350**	P	**Pb**	**17 16 34.7**	**-0.5**
	1μm,0.7s						
ARXS				S	**Sb**	**17 16 58.6**	**-0.2**
	497nm,0.3s						
DGS	**Degeres**	**2.06**	**296**	*e*P	**Pg**	**17 16 39.2**	**-1.1**
	116nm,0.5s						
DGS				*e*S	**Sg**	**17 17 06.3**	**-0.7**
	520nm,0.5s						
DGS	**Degeres**	**2.06**	**296**	Pg	**Pg**	**17 16 39.2**	**-1.1**
	116nm,0.5s						
DGS				Lg	Lg	17 17 06.3	
	520nm,0.5s						
TKM2	**Tokmak 2**	**2.07**	**287**	⇑*i*P	**Pb**	**17 16 37.2**	**-1.2**
	baz=87						
TKM2				⇑*i*S	**Sb**	**17 17 04.1**	**0.0**
	baz=87						
TKM2	**Tokmak 2**	**2.07**	**287**	P	**Pb**	**17 16 38.9**	**+0.5**
	SNR=51						
TKM2	**Tokmak 2**	**2.07**	**287**	⇓Pn	**Pb**	**17 16 38.6**	**+0.3**
	31nm,0.6s						
TKM2				⇑Sn	**Sg**	**17 17 06.6**	**-0.9**
	226nm,0.5s						
KUU	**Kurty**	**2.10**	**318**	*e*P	**Pb**	**17 16 38.5**	**-0.3**
	baz=17						
KUU				*e*S	**Sb**	**17 17 05.6**	**+0.7**
	baz=17						
KUU	**Kurty**	**2.10**	**318**	*e*P	**Pb**	**17 16 38.5**	**-0.3**
	166nm,0.7s						
KUU				*e*S	**Sb**	**17 17 05.5**	**+0.7**
	570nm,0.6s						
KUU	**Kurty**	**2.10**	**318**	Pg	**Pb**	**17 16 38.5**	**-0.3**
	166nm,0.7s						
KUU				Lg	Lg	17 17 05.5	
	570nm,0.6s						
DJR	**Jarkent**	**2.26**	**28**	*e*P	**Pb**	**17 16 39.5**	**-2.0**
	169nm,0.2s						
DJR				*e*S	**Sb**	**17 17 07.9**	**-1.5**
	664nm,0.6s						
DJR	**Jarkent**	**2.26**	**28**	Pg	**Pb**	**17 16 39.5**	**-2.0**
	169nm,0.2s						
DJR				Lg	Lg	17 17 07.9	
	664nm,0.6s						
KZA	**Kyzart**	**2.28**	**264**	⇑*i*P	**Pb**	**17 16 40.1**	**-1.9**
	baz=65						
KZA				⇑*i*S	**Sb**	**17 17 09.1**	**-1.2**
	baz=65						
KZA	**Kyzart**	**2.28**	**264**	P	**Pb**	**17 16 42.3**	**+0.2**
	SNR=17						
KBK	**Karagaybulak**	**2.49**	**278**	⇓*i*P	**Pb**	**17 16 43.0**	**-2.6**
	baz=78						
KBK				⇓*i*S	**Sb**	**17 17 13.9**	**-2.3**
	baz=78						
KBK	**Karagaybulak**	**2.49**	**278**	P	**Pb**	**17 16 44.8**	**-0.8**
	SNR=14						
TDK	**Taldyqorghan**	**2.65**	**2**	*e*P	**Pb**	**17 16 47.6**	**-0.5**
	224nm,0.4s						
TDK				*e*S	**Sb**	**17 17 21.1**	**+0.5**
	1μm,0.4s						
CHMS	**Chumysh**	**2.69**	**285**	⇓*i*P	**Pn**	**17 16 45.6**	**+1.8**
	baz=85						
CHMS				⇓*i*S	**Sn**	**17 17 18.6**	**+2.3**
	baz=85						
CHMS	**Chumysh**	**2.69**	**285**	P	**Pb**	**17 16 47.6**	**-1.3**
	SNR=8.5						
FRU1	**Bishkek**	**2.75**	**281**	⇑*i*P	**Pn**	**17 16 46.5**	**+1.9**
	baz=81						
FRU1				⇑*i*S	**Sn**	**17 17 20.1**	**+2.4**
	baz=81						
AAK	**Ala-Archa**	**2.83**	**277**	⇑*i*P	**Pn**	**17 16 47.5**	**+1.7**
	baz=77						
AAK				⇑*i*S	**Sn**	**17 17 22.0**	**+2.2**
	baz=77						
AAK	**Ala-Archa**	**2.83**	**277**	⇓Pn	**Pb**	**17 16 49.3**	**-1.9**
	8.8nm,0.5s						
AAK				⇑Lg	Lg	17 17 27.5	
	121nm,0.8s						
SGDS	**Sogindy**	**2.91**	**293**	Pg	**Pg**	**17 16 54.5**	**-2.0**
SGDS				Lg	Lg	17 17 31.7	
	169nm,0.7s						
USP	**Ospenovka**	**2.94**	**289**	⇑*i*P	**Pn**	**17 16 48.4**	**+1.2**
	baz=89						
USP				⇑*i*S	**Sn**	**17 17 24.6**	**+2.2**
	baz=89						
USP	**Ospenovka**	**2.94**	**289**	P	**Pb**	**17 16 53.6**	**+0.5**
	SNR=12						
ARLS	**Aral**	**3.00**	**262**	⇓*i*P	**Pn**	**17 16 49.6**	**+1.5**
	baz=62						

AML	**Almayashu**	**3.42 268**	P		**Pg**	**17 17 07.2 +0.8**
	SNR=11					
MRKS	**Merke**	**3.77 278**	*e*P		**Pg**	**17 17 10.3 -2.6**
	19nm,0.4s					
MRKS			*e*S		**Sg**	**17 17 59.7 -2.0**
	43nm,0.3s					
MAKZ	**Makanchi**	**5.17 29**	⇑Pn		**Pn**	**17 17 19.5 +1.6**
	2.5nm,0.3s					
MAKZ			⇓Lg		Lg	17 18 36.1
	17nm,0.5s					
MK31	**Makanchi Array**	**5.28 31**	Pn		**Pn**	**17 17 20.6 +1.2**
	1.1nm,0.2s,baz=215,slow=11,SNR=71					
MK31			⇑Lg		Lg	17 18 40.3
	18nm,0.7s,baz=212,slow=31,SNR=5.8					
KK31	**Karatay Array**	**5.78 280**	⇑Pg		**Pg**	**17 17 53.6 +2.1**
	4.5nm,0.5s,baz=87,slow=15,SNR=17					
KK31			⇓Lg		Lg	17 19 00.6
	29nm,0.8s,baz=84,slow=29,SNR=6.1					
KURBB	**Kurchatov Arra**	**8.28 1**	⇑Lg		Lg	17 20 17.0
	112nm,0.8s					
KURK	**Kurchatov**	**8.37 1**	⇑Lg		Lg	17 20 20.2
	54nm,0.8s					
AB31	**Akbulak array**	**14.52 305**	⇑P		**P**	**17 19 30.6 -1.9**
	1.4nm,0.8s					
AKTO	**Aktyubinsk**	**16.12 307**	⇑P		**P**	**17 19 49.9 -0.3**
	1.1nm,0.7s					

JMA 13 17:16:43.1,33°.66N×133°.39E,h14km,M0.1,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHR	**Kochiharuno**	**0.17**	**149**	P	Pg	17 16 47.1	-0.1
JKHR				S	Sg	17 16 50.1	+0.1
JET	**Tanbara**	**0.31**	**293**	S	Sg	17 16 53.7	-0.2
JMN	**Monobe**	**0.41**	**80**	P	Pg	17 16 51.4	0.0
JKU	**Kubokawa**	**0.44**	**218**	P	Pg	17 16 51.9	0.0
JKU				S	Sg	17 16 57.8	-0.1

IDC 13 17:17:01.6±537.0,31°.60N×131°.67E,h0km,Error ellipse: s-maj=246.4km s-min=142.3km az=33.0,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**8.12**	**61**	*i*		18 05 20.0	
	baz=246,slow=334,SNR=4.0						
I45RU	**USSURIYSK INFR**	**12.58**	**1**	*i*		18 37 40.0	
	baz=184,slow=316,SNR=2.3						
I34MN	**SONGINO INFRAS**	**25.12**	**317**	*i*		19 51 30.0	
	baz=121,slow=332,SNR=0.9						

*NEIC **13** 17:17:44.5±2.6,3°.47S±0°.08×135°.28E±0°.07,h47km±6km, mb4.4/20,Error ellipse: s-maj=11.4km s-min=9.9km az=192.0*
*DJA **13** 17:17:44.8±0.2,3°S±3°×13°5E±°,h67km±8km,M4.6/13, mb4.8/13,mB5.2/4,MLv4.6/12,Mw(mB)4.5/4*
*IDC **13** 17:17:44.3±2.6,3°.50S×135°.25E,h39km±23km,mb3.8/5, mb1 4.2/10,mb1mx3.8/31,mbtmp4.3/10,ML4.4/4,MS3.3/6, Ms1 3.3/6,ms1mx3.0/33,Error ellipse: s-maj=24.5km s-min=17.1km az=61.0*

ISC 13 17:17:43.3±0.5,3°.45S±0°.05×135°.36E±0°.04,h35km,n65, σ2§13/71,mb4.1/10,MS3.3/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.67**	**263**	P	**Pn**	**17 18 13.4**	**+3.4**
KMPI				S	**Sn**	**17 18 33.3**	**+3.1**
SRPI	**Serui, Papua**	**1.80**	**29**	P	**Pn**	**17 18 11.7**	**-0.1**
SRPI				S	**Sn**	**17 18 32.9**	**-0.6**
RKPI	**Ransiki, Papua**	**2.26**	**328**	P	**Pn**	**17 18 19.7**	**+1.5**
RKPI				S	**Sn**	**17 18 42.2**	**-2.7**
SMPI	**Sarmi**	**3.65**	**67**	P	**Pn**	**17 18 38.6**	**+1.4**
SIJI	**Sorong**	**4.83**	**302**	Pn	**Pn**	**17 18 54.0**	**+0.4**
	12nm,0.3s,baz=90,slow=23,SNR=179						
SIJI				Sn	**Sn**	**17 19 44.8**	**-3.5**
	22nm,0.3s,baz=224,slow=22,SNR=12						
GENI	**Genyem**	**4.88**	**80**	P	**Pn**	**17 18 57.6**	**+3.4**
JAY	**Jayapura**	**5.42**	**80**	Pn	**Pn**	**17 19 03.2**	**+1.6**
	3.7nm,0.3s,baz=235,slow=12,SNR=22						
JAY				Sn	**Sn**	**17 20 02.8**	**-0.1**
	2.4nm,0.3s,baz=91,slow=14,SNR=1.4						
JAY	**Jayapura**	**5.42**	**80**	P	**Pn**	**17 19 03.3**	**+1.6**
	0.1nm25nm,0.9s						
BNDI	**Bandanaira**	**5.55**	**259**	P	**Pn**	**17 19 07.0**	**+3.6**
	1.7nm238nm,1.2s						
BNDI				S	**Sn**	**17 20 08.2**	**+2.2**
	1.7nm238nm,1.2s						
SAUI	**Saumlaki**	**6.05**	**222**	P	**Pn**	**17 19 13.8**	**+3.5**
	1.8nm347nm,0.8s						
SAUI	**Saumlaki**	**6.05**	**222**	Pn	**Pn**	**17 19 12.8**	**+2.5**
MTN	**Manton Dam**	**10.23**	**204**	Pn	**Pn**	**17 20 08.8**	**+1.1**
MTN				Sn	**Sn**	**17 21 56.5**	**-4.6**
SOEI	**Soe**	**12.67**	**240**	P	**Pn**	**17 20 42.3**	**+1.1**
	58nm,0.8s						
SOEI	**Soe**	**12.67**	**240**	Pn	**Pn**	**17 20 41.9**	**+0.7**
LUWI	**Luwuk**	**12.80**	**280**	Pn	**Pn**	**17 20 43.9**	**+1.0**
COEN	**Coen**	**12.98**	**144**	Pn	**Pn**	**17 20 44.3**	**-1.1**
PMG	**Port Moresby**	**13.13**	**117**	Pn	**Pn**	**17 20 50.2**	**+2.9**
	0.9nm,0.3s,baz=315,slow=15,SNR=2.0						
PMG	**Port Moresby**	**13.13**	**117**	Pn	**Pn**	**17 20 50.4**	**+3.0**
BATI	**Baumata**	**13.41**	**239**	Pn	**Pn**	**17 20 51.2**	**0.0**
	17nm,0.3s,baz=108,slow=4.7,SNR=21						
BATI				Sn	**Sn**	**17 23 16.1**	**-3.1**
	2.0nm,0.3s,baz=265,slow=21,SNR=1.7						
BATI	**Baumata**	**13.41**	**239**	P	**Pn**	**17 20 52.4**	**+1.2**
	26nm,0.4s						
KNRA	**Kununurra**	**13.78**	**208**	Pn	**Pn**	**17 20 55.4**	**-0.8**
MMRI	**Maumere**	**14.03**	**248**	Pn	**Pn**	**17 21 01.9**	**+2.3**
DAV	**Davao City (W)**	**14.30**	**317**	LR	LR	17 26 42.0	
	comp=Z,48nm,21.4s,baz=180,slow=38						
KAPI	**Kappang**	**15.64**	**264**	Pn	**Pn**	**17 21 20.9**	**-0.4**
KAPI				IAmb	IAmb	17 22 09.1	
	comp=Z,30nm,1.2s						
WB0	**Warramunga Arr**	**16.24**	**183**	Pn	**Pn**	**17 21 26.0**	**-3.0**
WRAB	**Tennant Creek**	**16.41**	**183**		**Pn**	**17 21 27.9**	**-3.1**
WRAB				IAmb	IAmb	17 21 53.5	
	comp=Z,18nm,0.7s						
WB2	**Warramunga Arr**	**16.42**	**183**	Pn	**Pn**	**17 21 28.5**	**-2.7**
WB2				IAmb	IAmb	17 21 36.2	
	comp=Z,23nm,0.9s						
WRA	**Warramunga Arr**	**16.42**	**183**	Pn	**Pn**	**17 21 28.6**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=6.2,slow=13,SNR=96						
WRA				Sn	Sn	17 24 18.5	-14
	comp=Z,1.4nm,0.3s,baz=9.0,slow=23,SNR=6.8						
WRA	**Warramunga Arr**	**16.42**	**183**		**Pn**	**17 21 26.9**	**-4.2**
WRA					Sn	17 24 18.6	-14
WR0	**Warramunga Arr**	**16.43**	**183**	Pn	**Pn**	**17 21 28.1**	**-3.1**
KRVT	**Keravat (AS076**	**16.65**	**93**	LR	LR	17 29 13.1	
	comp=Z,79nm,19.3s,baz=274,slow=41						
FITZ	**Fitzroy Crossi**	**17.39**	**212**	P	**Pn**	**17 21 42.6**	**-0.8**
	comp=Z,3.6nm,0.3s,baz=0.6,slow=9.7,SNR=75						
FITZ				S	Sn	17 24 43.9	-12
	comp=Z,1.7nm,0.3s,baz=180,slow=16,SNR=4.8						
FITZ				LR	LR	17 29 17.7	
	comp=Z,110nm,21.7s,baz=86,slow=40						
FITZ	**Fitzroy Crossi**	**17.39**	**212**		**Pn**	**17 21 42.6**	**-0.8**
FITZ				IAmb	IAmb	17 21 45.7	
	comp=Z,17nm,0.7s						
CTA	**Charters Tower**	**19.65**	**148**	P	**P**	**17 22 10.4**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=323,slow=11,SNR=10						
CTAO	**Charters Tower**	**19.65**	**148**	P	**P**	**17 22 10.7**	**+1.4**
CTAO				IAmb	IAmb	17 22 52.4	
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**20.14**	**184**		**P**	**17 22 16.1**	**+1.5**
AS31				IAmb	IAmb	17 22 34.8	
	comp=Z,9.3nm,0.7s						
ASAR	**Alice Springs**	**20.15**	**184**	P	**P**	**17 22 16.1**	**+1.4**
	comp=Z,12nm,0.4s,baz=6.6,slow=12,SNR=171						
ASAR				S	**S**	**17 25 51.9**	**-7.2**
	comp=Z,2.7nm,0.5s,baz=2.4,slow=28,SNR=6.8						
ASAR	**Alice Springs**	**20.15**	**184**		**P**	**17 22 15.6**	**+1.0**
PSA00	**Pilbara Seismi**	**23.49**	**219**	P	**P**	**17 22 49.5**	**-0.6**
PSA00				IAmb	IAmb	17 23 11.3	
	comp=Z,7.9nm,0.8s						
HNR	**Honiara**	**25.13**	**105**	LR	LR	17 34 15.0	
	comp=Z,66nm,18.1s,baz=216,slow=39						
KSM	**Kuching**	**25.52**	**281**		**P**	**17 23 09.8**	**+1.0**
KSM				IAmb	IAmb	17 23 30.6	
	comp=Z,26nm,1.5s						
FORT	**Forrest**	**28.04**	**193**	P	**P**	**17 23 31.7**	**+0.4**
STKA	**Stephens Creek**	**28.88**	**169**	P	**P**	**17 23 38.4**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=353,slow=10.0,SNR=9.1						
STKA				LR	LR	17 36 10.7	
	comp=Z,148nm,20.8s,baz=222,slow=38						
STKA	**Stephens Creek**	**28.88**	**169**	P	**P**	**17 23 38.0**	**-0.8**
BBOO	**Buckleboo**	**29.21**	**179**	P	**P**	**17 23 42.8**	**+1.0**
TOO	**Toolangi**	**35.20**	**166**	P	**P**	**17 24 35.3**	**+1.0**
TOO				IAmb	IAmb	17 25 17.2	
	comp=Z,9.2nm,1.1s						
JHJ2	**Mitsune**	**36.61**	**6**	P	**P**	**17 24 46.7**	**+0.5**
JWT	**Wachi**	**38.53**	**0**	P	**P**	**17 25 01.5**	**-0.9**
BKZ	**Black Stump Fm**	**51.53**	**139**	P	**P**	**17 26 46.4**	**+0.5**
SONM	**Songino Array**	**57.03**	**337**	P	**P**	**17 27 26.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=160,slow=5.8,SNR=2.9						
SONM				LR	LR	17 54 03.4	
	comp=Z,23nm,18.5s,baz=186,slow=38						
PETK	**Petropavlovsk-**	**59.41**	**15**	P	**P**	**17 27 43.5**	**+1.4**
MK31	**Makanchi Array**	**68.37**	**324**	P	**P**	**17 28 41.2**	**-0.1**
MKAR	**Makanchi Array**	**68.37**	**324**	P	**P**	**17 28 41.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=114,slow=9.8,SNR=9.3						
MKAR	**Makanchi Array**	**68.37**	**324**	P	**P**	**17 28 41.1**	**-0.2**
MAKZ	**Makanchi**	**68.56**	**324**	P	**P**	**17 28 42.2**	**-0.4**
MAKZ				IAmb	IAmb	17 28 57.1	
	comp=Z,3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**70.93**	**331**	P	**P**	**17 29 00.1**	**+3.2**
	comp=Z,0.3nm,0.4s,baz=116,slow=6.6,SNR=1.5						
ZALV	**Zalesovo Beam**	**70.93**	**331**	P	**P**	**17 28 55.3**	**-1.6**
VNDA	**Vanda**	**75.36**	**174**	P	**P**	**17 29 22.3**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=328,slow=7.2,SNR=8.7						
ILAR	**Eielson Array**	**87.90**	**25**	P	**P**	**17 30 27.1**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=267,slow=4.5,SNR=6.4						
TORD	**Torodi Ar. Bea**	**133.23**	**285**	PKP	**PKPdf**	**17 36 57.2**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=91,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**133.23**	**285**		**PKPdf**	**17 36 55.8**	**-0.8**
CPUP	**Villa Florida**	**147.95**	**158**	PKPbc	**PKPbc**	**17 37 25.9**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=297,slow=0.8,SNR=7.7						
CPUP	**Villa Florida**	**147.95**	**158**		**PKPbc**	**17 37 25.3**	**-0.4**
LPAZ	**La Paz**	**149.60**	**131**	PKPbc	**PKPbc**	**17 37 32.1**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=302,slow=1.8,SNR=13						
LPAZ	**La Paz**	**149.60**	**131**		**PKPbc**	**17 37 31.5**	**+0.6**

WEL 13 17:21:50.9,44°S±3°×17°2E±°,h10km±3km,M2.3/6,ML2.4/7, MLv2.3/6,Error ellipse: s-maj=0.0km s-min=0.0km az=12.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.23**	**107**	P	Pb	17 21 57.1	0.0
OXZ	**Oxford**	**0.39**	**324**	P	Pg	17 21 58.6	+0.1
AKCZ	**Akaroa Harbour**	**0.47**	**120**	P	Pb	17 22 01.6	+0.4
WACZ	**Wakanui South**	**0.48**	**230**	P	Pb	17 22 02.3	+0.9
AMCZ	**Amberley**	**0.51**	**25**	P	Pb	17 22 02.1	+0.2
OKCZ	**Okains Bay**	**0.52**	**100**	P	Pb	17 22 01.8	-0.3
GVZ	**Greta Valley S**	**0.84**	**37**	P	Pn	17 22 08.1	-0.6
LTZ	**Lake Taylor**	**0.86**	**356**	P	Pg	17 22 07.5	+0.1
ARCZ	**Arundel**	**0.90**	**250**	P	Pb	17 22 08.9	+0.2
INZ	**Inchbonnie**	**1.13**	**324**	P	Pn	17 22 12.7	0.0
ODZ	**Otahua Downs**	**1.86**	**220**	P	Pg	17 22 27.4	+0.8
MTVZ	**Mangateitei**	**4.85**	**30**	P	Pn	17 23 09.3	+5.3
CKHZ	**Cape Kidnapper**	**5.33**	**43**	P	Pn	17 23 10.4	+0.1

*DJA **13** 17:23:07.5±0.3,7°S±3°×11°7E±°,h10km,M4.1/12,mb3.9/1, MLv4.3/12*
*NEIC **13** 17:23:10.4±2.8,6°.71S±0°.09×116°.79E±0°.02,h49km±10km, mb4.4/13,Error ellipse: s-maj=13.3km s-min=3.0km az=182.0*
*IDC **13** 17:23:14.1±5.0,6°.83S×117°.04E,h62km±47km,mb3.4/6, mb1 3.7/8,mb1mx3.4/42,mbtmp3.8/8,ML3.9/2,MS2.9/1, Ms1 2.9/1,ms1mx2.5/22,Error ellipse: s-maj=38.6km s-min=18.9km az=73.0*

ISC 13 17:23:07.8±0.6,6°.92S±0°.05×116°.87E±0°.06,h10km,n44, σ1§46/40,mb3.9/11,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.81**	**180**	P	Pn	17 23 37.7	-1.4
TWSI				S	**Sn**	**17 24 01.6**	**-0.6**
PLAI	**Plampang**	**2.10**	**155**	P	**Pn**	**17 23 42.7**	**-0.4**
ABJI	**Asem Bagus**	**2.75**	**251**	P	**Pn**	**17 23 52.1**	**0.0**
KMMI	**Kalianget**	**2.88**	**267**	P	**Pg**	**17 24 06.8**	**+3.7**
JAGI	**Jajag, Banyuwa**	**3.10**	**240**	P	**Pn**	**17 23 54.9**	**-2.0**
JAGI	**Jajag, Banyuwa**	**3.10**	**240**		**Pn**	**17 23 55.4**	**-1.5**
KAPI	**Kappang**	**3.44**	**57**	P	**Pn**	**17 24 01.8**	**+0.4**
	9.1nm,0.3s,baz=216,slow=2.8,SNR=16						
KAPI				S	**Sn**	**17 24 40.8**	**-1.5**
	20nm,0.3s,baz=170,slow=21,SNR=5.7						
KAPI				LR	LR	17 25 49.5	
	comp=Z,195nm,18.9s,baz=262,slow=48						
KAPI	**Kappang**	**3.44**	**57**		**Pn**	**17 24 01.7**	**+0.2**
BKSI	**Bulukumba**	**3.60**	**64**	P	**Pn**	**17 24 03.8**	**0.0**
KBKI	**Kotabaru**	**3.66**	**349**	P	**Pn**	**17 24 03.1**	**-1.5**
WBSI	**Waikabubak, Su**	**3.68**	**137**	P	**Pn**	**17 24 05.5**	**+0.6**
BBKI	**Banjar Baru**	**3.98**	**329**	P	**Pn**	**17 24 08.9**	**-0.1**
BNSI	**Bone**	**4.08**	**52**	P	**Pn**	**17 24 12.1**	**+1.8**
GRJI	**Gresik**	**4.36**	**270**	P	**Pn**	**17 24 13.2**	**-0.9**
TBJI	**Tambak Boyo**	**4.98**	**271**	P	**Pn**	**17 24 22.0**	**-0.8**
EDFI	**Ende, Flores**	**5.12**	**111**	P	**Pn**	**17 24 25.3**	**+0.6**
MMRI	**Maumere**	**5.59**	**108**	Pn	Pn	17 24 30.0	-1.2
UGM	**Wanagama**	**6.37**	**261**	Pn	**Pn**	**17 24 39.3**	**-2.5**
SMRI	**Semarang**	**6.38**	**268**	Pn	**Pn**	**17 24 41.0**	**-1.0**
BATI	**Baumata**	**7.47**	**116**	P	**Pn**	**17 24 59.8**	**+2.7**
	3.1nm,0.3s,baz=296,slow=12,SNR=2.4						
SOEI	**Soe**	**7.85**	**112**	Pn	**Pn**	**17 25 04.7**	**+2.5**
CISI	**Cisompet, Garu**	**9.00**	**265**	Pn	**Pn**	**17 25 18.4**	**+0.4**
MTN	**Manton Dam**	**15.23**	**114**	Pn	**Pn**	**17 26 44.0**	**+0.8**
MTN				IAmb	IAmb	17 26 46.0	
	comp=Z,22nm,1.3s						
GSI	**Gunungsitoli**	**20.91**	**292**	P	**P**	**17 27 47.7**	**-3.1**
WB0	**Warramunga Arr**	**21.28**	**129**	P	**P**	**17 27 55.7**	**+1.0**
WB0				IAmb	IAmb	17 27 59.1	
	comp=Z,7.2nm,0.8s						
WRA	**Warramunga Arr**	**21.33**	**129**	P	**P**	**17 27 54.7**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=301,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	**21.33**	**129**	IAmb	IAmb	17 27 54.9	
	comp=Z,0.2nm,0.8s						
WB2	**Warramunga Arr**	**21.34**	**129**	P	**P**	**17 27 54.8**	**-0.6**
WR0	**Warramunga Arr**	**21.50**	**129**	P	**P**	**17 27 56.9**	**-0.1**
WR0				IAmb	IAmb	17 27 57.6	
	comp=Z,8.5nm,0.9s						
AS31	**Alice Springs**	**23.35**	**137**	P	**P**	**17 28 17.2**	**+0.6**
ASAR	**Alice Springs**	**23.35**	**137**	P	**P**	**17 28 17.4**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=312,slow=9.3,SNR=3.4						
ASAR				PcP	**PcP**	**17 32 02.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=308,slow=1.6,SNR=4.7						
ASAR	**Alice Springs**	**23.35**	**137**	P	**P**	**17 28 16.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**25.88**	**179**	P	**P**	**17 28 40.8**	**+0.8**
NWAO				IAmb	IAmb	17 29 19.6	
	comp=Z,21nm,1.2s						
FORT	**Forrest**	**25.96**	**158**	P	**P**	**17 28 38.6**	**-2.0**
CMAR	**Chiang Mai Arr**	**30.80**	**325**	P	**P**	**17 29 24.6**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=153,slow=8.1,SNR=4.1						
ARMA	**Armidale**	**40.11**	**130**	P	**P**	**17 30 45.4**	**+1.3**
ARMA				IAmb	IAmb	17 31 09.4	
	comp=Z,20nm,1.6s						
KSAR	**Wonju Array Be**	**45.31**	**12**	P	P	17 31 18.9	-7.1
KS19	**Wonju Array Si**	**45.37**	**12**	P	P	17 31 20.0	-6.5
KS19				IAmb	IAmb	17 31 20.2	
	comp=Z,8.7nm,0.8s						
MJAR	**Matsushiro Arr**	**47.64**	**23**	P	P	17 31 38.3	-6.0
SONM	**Songino Array**	**55.29**	**351**	P	**P**	**17 32 40.7**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=161,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**55.29**	**351**	P	P	17 32 37.5	-4.1
MKAR	**Makanchi Array**	**61.66**	**334**	P	**P**	**17 33 24.8**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=144,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**61.66**	**334**	P	**P**	**17 33 24.1**	**-1.8**
ZALV	**Zalesovo Beam**	**66.36**	**340**	P	**P**	**17 33 56.7**	**0.0**
	comp=Z,0.3nm,0.4s,baz=123,slow=5.3,SNR=2.0						

*IDC **13** 17:30:36.3±1.5,45°.49S×166°.34E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/38,mbtmp3.6/3,Error ellipse: s-maj=101.1km s-min=39.0km az=38.0*
*NEIC **13** 17:30:36.4±2.0,45°.52S±0°.06×166°.3E±0°.1,h5km±4km, mb4.2/10,ML4.6(WEL),Error ellipse: s-maj=11.9km s-min=6.9km az=60.0*
*WEL **13** 17:30:37.4±1.2,46°S±6°×16°6E±°,h5km,M4.6/27,ML4.5/6, MLv4.6/27,Error ellipse: s-maj=0.0km s-min=0.0km az=97.7*

ISC 13 17:30:37.4±0.5,45°.55S±0°.06×166°.33E±0°.05,h15km,n97, σ1§57/94,mb3.9/5,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.66**	**158**	P	**Pg**	**17 30 50.0**	**-0.3**
PYZ	**Puysegur Point**	**0.66**	**158**		**Pg**	**17 30 50.1**	**-0.3**
WHZ	**Wether Hill Ro**	**1.18**	**107**	P	**Pn**	**17 30 58.3**	**-1.1**
WHZ				S	**Sb**	**17 31 13.6**	**-1.1**
WHZ	**Wether Hill Ro**	**1.18**	**107**	Pn	**Pn**	**17 30 58.4**	**-1.0**
MLZ	**Mavora Lakes**	**1.27**	**82**	P	**Pn**	**17 30 59.5**	**-1.1**
MLZ				S	**Sb**	**17 31 16.4**	**-0.9**
MLZ	**Mavora Lakes**	**1.27**	**82**		**Pn**	**17 30 59.5**	**-1.1**
MSZ	**Milford Sound**	**1.43**	**53**	P	**Pn**	**17 31 01.2**	**-1.6**
APZ	**The Paps**	**1.72**	**139**	P	**Pn**	**17 31 06.5**	**-0.3**
APZ				S	**Sn**	**17 31 28.8**	**+0.2**
WKZ	**Wanaka**	**2.03**	**70**	P	**Pn**	**17 31 11.9**	**+0.8**
WKZ	**Wanaka**	**2.03**	**70**	Pn	**Pn**	**17 31 12.2**	**+1.1**
SYZ	**Scrubby Hill**	**2.19**	**118**	P	**Pn**	**17 31 14.6**	**+1.4**
JCZ	**Jackson Bay**	**2.29**	**51**	P	**Pn**	**17 31 15.3**	**+0.7**
TUZ	**Tuapeka**	**2.35**	**101**	P	**Pb**	**17 31 17.7**	**-1.6**
TUZ				S	**Sn**	**17 31 45.6**	**+1.7**
LBZ	**Lake Benmore**	**2.97**	**68**	P	**Pn**	**17 31 23.8**	**-0.2**
HHSZ	**Highcliff Hill**	**3.01**	**98**	P	**Pn**	**17 31 26.2**	**+1.7**
ODZ	**Otahua Downs**	**3.09**	**82**	P	**Pn**	**17 31 25.3**	**-0.3**
ODZ	**Otahua Downs**	**3.09**	**82**		**Pn**	**17 31 25.5**	**-0.1**
FOZ	**Fox Glacier**	**3.21**	**52**	P	**Pn**	**17 31 27.9**	**+0.7**
FOZ	**Fox Glacier**	**3.21**	**52**	Pn	**Pn**	**17 31 29.5**	**+2.3**
GCSZ	**Gaunt Creek Bo**	**3.63**	**53**	P	**Pn**	**17 31 32.8**	**-0.2**
ARCZ	**Arundel**	**3.81**	**67**	P	**Pn**	**17 31 34.5**	**-1.0**
WVZ	**Waitaha Valley**	**4.01**	**54**	P	**Pn**	**17 31 38.2**	**-0.1**
WACZ	**Wakanui South**	**4.24**	**70**	P	**Pn**	**17 31 41.4**	**0.0**
INZ	**Inchbonnie**	**4.64**	**54**	P	**Pn**	**17 31 46.9**	**0.0**
OXZ	**Oxford**	**4.65**	**63**	P	**Pn**	**17 31 46.1**	**-1.0**
OXZ	**Oxford**	**4.65**	**63**		**Pn**	**17 31 46.0**	**-1.0**
MQZ	**McQueen's Vall**	**4.88**	**70**	P	**Pn**	**17 31 48.7**	**-1.4**
MQZ	**McQueen's Vall**	**4.88**	**70**		**Pn**	**17 31 50.3**	**+0.2**
AKCZ	**Akaroa Harbour**	**4.98**	**73**	P	**Pn**	**17 31 51.6**	**0.0**
LTZ	**Lake Taylor**	**5.09**	**59**	P	**Pn**	**17 31 52.1**	**-1.0**
LTZ	**Lake Taylor**	**5.09**	**59**	Pn	**Pn**	**17 31 52.4**	**-0.8**
AMCZ	**Amberley**	**5.12**	**65**	P	**Pn**	**17 31 52.9**	**-0.5**
OKCZ	**Okains Bay**	**5.14**	**72**	P	**Pn**	**17 31 54.5**	**+0.7**
GVZ	**Greta Valley S**	**5.46**	**64**	P	**Pn**	**17 31 57.3**	**-1.0**
DSZ	**Denniston Nort**	**5.50**	**48**	P	**Pn**	**17 31 58.2**	**-0.6**
KHZ	**Kahutara**	**6.07**	**61**	P	**Pn**	**17 32 08.7**	**+2.2**
KHZ	**Kahutara**	**6.07**	**61**	Pn	**Pn**	**17 32 07.5**	**+1.0**
THZ	**Tophouse**	**6.09**	**54**	P	**Pn**	**17 32 06.0**	**-0.8**
THZ	**Tophouse**	**6.09**	**54**		**Pn**	**17 32 09.8**	**+2.9**
QRZ	**Quartz Range**	**6.54**	**46**	P	**Pn**	**17 32 12.4**	**-0.7**
QRZ	**Quartz Range**	**6.54**	**46**	Pn	**Pn**	**17 32 12.1**	**-0.9**
BSWZ	**Blackbirch Sta**	**6.68**	**58**	Pn	**Pn**	**17 32 15.6**	**+0.7**
NNZ	**Nelson**	**6.72**	**52**	P	**Pn**	**17 32 16.1**	**+0.6**
NNZ	**Nelson**	**6.72**	**52**	Pn	**Pn**	**17 32 15.3**	**-0.1**
TUWZ	**Tuamarina**	**6.90**	**56**	P	**Pn**	**17 32 20.8**	**+2.9**
TUWZ	**Tuamarina**	**6.90**	**56**	Pn	**Pn**	**17 32 18.2**	**+0.2**
DUWZ	**D'Urville Isla**	**7.30**	**52**	P	**Pn**	**17 32 26.0**	**+2.6**
SNZO	**South Karori**	**7.42**	**58**	Pn	**Pn**	**17 32 27.0**	**+1.9**
BHW	**Baring Head**	**7.46**	**59**	Pn	**Pn**	**17 32 27.1**	**+1.4**
MSWZ	**Moikau Station**	**7.69**	**61**	Pn	**Pn**	**17 32 30.5**	**+1.8**
MRZ	**Mangatainoka R**	**8.34**	**57**	P	**Pn**	**17 32 38.0**	**+0.2**
NEZ	**North Egmont**	**8.50**	**45**	P	**Pn**	**17 32 41.8**	**+1.8**
PKE	**Pukeiti**	**8.51**	**44**	P	**Pn**	**17 32 42.2**	**+2.2**
LREZ	**Lake Rotokare**	**8.52**	**47**	P	Pn	17 32 44.7	+4.6
VRZ	**Vera Road**	**8.95**	**47

0.7nm,0.7s,baz=273,slow=17,SNR=1.1
SNAA LR LR 17 48 35.5
comp=Z,196nm,19.3s,baz=283,slow=33
SNAA Sanae 22.90 137 P P 17 41 03.3 -3.4
SNAA IAmb IAmb 17 41 09.0
comp=Z,39nm,1.6s
LC01 Cunco 24.90 337 P 17 41 25.3 -0.6
BI02 San Fabin de 26.97 339 P P 17 41 44.4 -0.4
BI02 IAmb IAmb 17 41 48.2
comp=Z,20nm,1.2s
QSPA South Pole Qui 27.58 180 P P 17 41 50.6 +0.5
comp=Z,6.8nm,0.9s,baz=164,slow=7.9,SNR=17
QSPA LR LR 17 54 24.0
comp=Z,144nm,18.7s,baz=178,slow=40
QSPA South Pole Qui 27.58 180 P P 17 41 50.1 0.0
QSPA IAmb IAmb 17 42 16.3
comp=Z,17nm,1.1s
GO05 Huala 28.70 339 P P 17 41 59.8 -0.3
BO02 Sierra Bellavi 28.73 341 P 17 42 01.2 +0.8
BO02 IAmb IAmb 17 42 07.4
comp=Z,13nm,1.0s
MT02 Curacav 30.28 341 P 17 42 13.5 -0.6
MT02 IAmb IAmb 17 42 24.3
comp=Z,31nm,1.1s
ROC1 El Roble 30.54 341 P 17 42 17.3 +0.6
VA03 San Esteban 30.68 342 P 17 42 19.6 +1.9
ZON Zonda 31.64 345 P P 17 42 25.4 -0.8
CO02 Combarbal 32.28 342 P P 17 42 32.6 +0.7
CO03 El Pedregal 32.59 342 P P 17 42 35.3 +0.7
CO03 IAmb IAmb 17 42 36.4
comp=Z,16nm,0.8s
GO04 Tololo Observa 33.27 342 P P 17 42 40.7 0.0
CO01 Juntas del Tor 33.36 344 P P 17 42 42.5 +1.0
CO01 IAmb IAmb 17 42 50.5
comp=Z,12nm,0.9s
AC05 El Transito 34.51 344 P P 17 42 51.9 +0.5
AC05 IAmb IAmb 17 43 05.1
comp=Z,7.4nm,0.8s
AC04 Llanos de Chal 35.24 342 P P 17 42 58.1 +0.6
GO03 Copiap 35.73 344 P P 17 43 01.6 -0.2
GO03 IAmb IAmb 17 43 14.3
comp=Z,14nm,1.2s
CPUP Villa Florida 36.34 4 P P 17 43 06.2 -0.7
comp=Z,1.1nm,0.6s,baz=180,slow=5.1,SNR=1.8
CPUP LR LR 17 57 45.0
comp=Z,92nm,20.0s,baz=208,slow=36
CPUP Villa Florida 36.34 4 P P 17 43 08.1 +1.2
CPUP IAmb IAmb 17 43 44.8
comp=Z,19nm,1.7s
SYO Syowa Base 36.84 144⇑ *e*P P 17 43 07.8 -2.9
SYO Syowa Base 36.84 144⇑ *p*P **P 17 43 10.0 -0.7**
AC01 Pan de Azucar 37.20 344 P P 17 43 15.4 +1.1
AC01 IAmb IAmb 17 43 17.1
comp=Z,43nm,1.6s
VNDA Vanda 37.77 194 P P 17 43 19.2 +0.6
comp=Z,0.3nm,0.8s,baz=134,slow=6.1,SNR=2.0
VNDA LR LR 17 58 38.1
comp=Z,127nm,19.0s,baz=162,slow=36
VNDA Vanda 37.77 194 P P 17 43 19.8 +1.2
PB09 IPOC Station P 41.34 347 P P 17 43 51.3 +2.3
PB09 IAmb IAmb 17 43 51.6
comp=Z,52nm,1.7s
PB07 IPOC Station P 41.48 346 P P 17 43 51.0 +0.8
PB07 IAmb IAmb 17 44 07.2
comp=Z,58nm,1.7s
PB11 IPOC Station P 43.39 346 P P 17 44 07.0 +1.2
PB11 IAmb IAmb 17 44 33.1
comp=Z,42nm,1.5s
GO01 Chusmiza 43.43 347 P P 17 44 07.4 +0.9
MAW Mawson 43.63 152 P P 17 44 07.9 +0.9
comp=Z,4.8nm,1.0s,baz=228,slow=8.3,SNR=7.8
MAW Mawson 43.63 152 P P 17 44 07.3 +0.3
PB16 IPOC Station P 44.78 347 P P 17 44 19.0 +1.6
PB16 IAmb IAmb 17 44 26.6
comp=Z,9.4nm,1.2s
LPAZ La Paz 46.68 349 LR LR 18 04 43.2
comp=Z,89nm,19.0s,baz=151,slow=37
BDFB Brasilia 47.67 15 P P 17 44 39.2 -0.4
comp=Z,2.3nm,0.4s,baz=171,slow=9.9,SNR=3.5
BDFB LR LR 18 04 15.6
comp=Z,45nm,21.5s,baz=104,slow=36
BDFB Brasilia 47.67 15 P P 17 44 39.2 -0.4
BDFB IAmb IAmb 17 45 04.2
comp=Z,6.3nm,1.1s
SAML Samuel 53.65 356 P P 17 45 24.3 -0.3
BOSA Boshof 62.74 100 P P 17 46 27.6 -0.6
comp=Z,2.4nm,0.9s,baz=184,slow=4.6,SNR=2.4
H10N3 ASCENSION HYDR 63.73 52 T T 18 55 15.4
baz=201,slow=74,SNR=19
H10N1 ASCENSION HYDR 63.73 52 T T 18 55 15.0
baz=201,slow=74,SNR=16
H10N2 ASCENSION HYDR 63.75 52 T T 18 55 16.0
baz=201,slow=74,SNR=23
LBTB Lobatse 65.98 98 P P 17 46 49.4 -0.1
STKA Stephens Creek 84.26 198 P P 17 48 35.8 +1.1
comp=Z,2.0nm,0.8s,baz=160,slow=5.7,SNR=4.9
TORD Torodi Ar. Bea 89.15 59 P P 17 48 59.7 +1.1
comp=Z,0.4nm,0.9s,baz=192,slow=4.1,SNR=2.0
ASAR Alice Springs 93.31 192 P P 17 49 18.4 +0.3
comp=Z,1.0nm,0.8s,baz=168,slow=4.6,SNR=9.8
WRA Warramunga Arr 96.94 193 P P 17 49 32.9 -1.8
comp=Z,0.5nm,0.6s,baz=178,slow=4.0,SNR=8.4
ILAR Eielson Array 142.32 316 PKP PKPdf 17 55 32.2 -1.9
comp=Z,0.4nm,0.8s,baz=132,slow=1.3,SNR=4.2
ARCES ARCESS Array B 144.76 37 PKP PKPab 17 55 36.3 -0.9
comp=Z,2.0nm,0.7s,baz=224,slow=3.3,SNR=6.8
MJAR Matsushiro Arr 151.61 211 PKPab PKPab 17 56 06.7 +1.3
comp=Z,1.0nm,0.9s,baz=186,slow=3.2,SNR=3.1
MKAR Makanchi Array 153.46 109 PKPbc PKPbc 17 55 59.3 -1.3
comp=Z,0.2nm,0.5s,baz=214,slow=1.6,SNR=3.1
MKAR PKPab **PKPab 17 56 11.4 -1.5**
comp=Z,1.8nm,0.9s,baz=238,slow=4.1,SNR=7.6

IDC 13 18:17:01.3±1.6, 2°.15S×124°.28E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.3/38, mbtmp3.7/3, Error ellipse: s-maj=110.9km s-min=27.1km az=60.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.23**	**152**	P	P	18 21 37.7	-0.6
	3.1nm,0.6s,baz=330,slow=11,SNR=29						
ASAR	**Alice Springs**	**23.33**	**157**	P	P	18 22 11.2	-0.2
	2.4nm,0.9s,baz=338,slow=10.0,SNR=13						
URZ	**Urewera**	**60.11**	**134**	P	P	18 27 11.1	+0.3
	106nm,0.6s,baz=296,slow=3.3,SNR=37						
MKAR	**Makanchi Array**	**61.10**	**328**	P	P	18 27 17.2	-0.2
	0.1nm,0.4s,baz=136,slow=7.7,SNR=1.7						

BJI ***13*** *18:22:12.7±0.0, 17°.72S×173°.32W, h8km, mB5.6/53, mb5.4/57, Ms5.2/52, Ms7 5.0/51*
NEIC ***13*** *18:22:12.9, 17°.74S×173°.19W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.27; Mθθ0.04; Mφφ-1.31; Mrθ-0.14; Mφθ-0.83; Mφr0.53; Fault plane solution: Mo1.63000×10^17^ NP1:φ224.62000°, δ40.34000°, λ119.33000°. NP2:φ8.22000°, δ55.64000°, λ67.41000°. Principal axes: T 1.4457, Plg70.0000°, Azm227.0000°; N 0.3145, Plg18.0000°, Azm21.0000°; P -1.7603, Plg8.0000°, Azm114.0000°;*
IDC ***13*** *18:22:13.5±0.4, 17°.59S×173°.21W, h0km, mb5.1/27, mb1 5.2/28, mb1mx5.1/34, mbtmp5.1/28, ML4.3/1, MS4.6/32, Ms1 4.6/32, ms1mx4.6/34 Error ellipse: s-maj=15.9km s-min=13.1km az=166.0*
UNK ***13*** *18:22:14.1, 17°.74S×173°.27W, h10km*
NEIC ***13*** *18:22:14.0±2.0, 17°.71S±0°.09×173°.13W±0°.09, h11km±1km, mb5.4/315, Mwb5.4/35, Error ellipse: s-maj=15.3km s-min=14.5km az=202.0*
MOS ***13*** *18:22:16.7±1.1, 17°.70S×173°.29W, h33km, mb5.5/26, MS5.0/17, Error ellipse: s-maj=8.9km s-min=8.5km az=140.4*
BGR ***13*** *18:22:18.4±0.0, 17°.87S×173°.17W, h33km, Ms5.0*
GCMT ***13*** *18:22:20.0±0.1, 17°.77S±0°.01×172°.74W±0°.01, h21km, MW5.3/129, Moment Tensor Solution. s99,c174; s129,c237; Duration: 1§1 Moment tensor: Scale 10^17^ Nm; Mrr0.87±.02; Mθθ-0.10±.01; Mφφ-0.76±.01; Mrθ0.63±.03; Mφφ-0.49±.01; Mφr0.29±.02; Best double couple: Mo1.18000×10^17^ NP1:φ186.00000°, δ34.00000°, λ53.00000°. NP2:φ49.00000°, δ64.00000°, λ112.00000°. Principal axes: T 1.1770, Plg64.0000°, Azm356.0000°; N 0.0070, Plg20.0000°, Azm219.0000°; P -1.1830,*

Plg16.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 13 18:22:14.0±0.6, 17°.81S±0°.04×173°.18W±0°.05, h12km±3km, n856,σ1§61/790, mb5.3/207, MS4.8/67, 44C-23D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.33**	**113**	P	Pn	18 22 59.8	-6.3
	baz=3.1,SNR=90						
NIUE	**Niue**	**3.33**	**113**		Pn	18 22 59.5	-6.6
NIUE				Sn	Sn	18 23 33.0	-13
AFI	**Afiamalu**	**4.11**	**19**	Pn	Pn	18 23 09.6	-7.2
	15nm,0.3s,baz=216,slow=2.1,SNR=27						
AFI				Sn	Sn	18 23 51.5	-13
	83nm,0.3s,baz=259,slow=23,SNR=8.3						
AFI				LR	LR	18 24 48.1	
	comp=Z,9μm,19.6s,baz=168,slow=40						
AFI	**Afiamalu**	**4.11**	**19**		Pn	18 23 09.2	-7.6
AFI				Sn	Sn	18 23 51.0	-14
MSVF	**Nonsavu**	**8.36**	**269**		Pn	18 24 24.0	+8.8
RAO	**Raoul Island**	**12.19**	**200**	Sn	Sn	18 27 15.4	-8.0
	36nm,0.3s,baz=83,slow=23,SNR=2.3						
RAO				LR	LR	18 29 24.1	
	comp=Z,3μm,22.0s,baz=9.0,slow=35						
GLKZ	**Green Lake**	**12.20**	**200**	P	**Pn**	**18 25 08.1**	**+0.4**
GLKZ				S	Sn	18 27 15.0	-8.6
RAR	**Rarotonga**	**13.09**	**107**	Pn	Pn	18 25 12.9	-7.0
	5.2nm,0.3s,baz=256,slow=9.0,SNR=14						
RAR				Sn	Sn	18 27 28.3	-17
	2.1nm,0.3s,baz=177,slow=23,SNR=1.9						
RAR				LR	LR	18 29 16.7	
	comp=Z,2μm,19.5s,baz=254,slow=32						
RAR	**Rarotonga**	**13.09**	**107**	P	Pn	18 25 12.4	-7.5
RAR	**Rarotonga**	**13.09**	**107**	Pn	Pn	18 25 12.4	-7.5
KNTN	**Kanton**	**15.01**	**6**		**Pn**	**18 25 45.3**	**-0.9**
SANVU	**Saraoutou**	**18.94**	**274**	P	**Pn**	**18 26 38.2**	**+2.4**
SANVU				IAmb	IAmb	18 26 54.6	
	comp=Z,279nm,1.3s						
DZM	**Mont Dzumac**	**19.61**	**254**	P	**Pn**	**18 26 44.7**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=80,slow=17,SNR=8.7						
DZM				LR	LR	18 33 08.9	
	comp=Z,3μm,18.9s,baz=86,slow=33						
DZM	**Mont Dzumac**	**19.61**	**254**	*e*Pn	**Pn**	**18 26 45.0**	**+1.0**
	comp=Z,70nm,0.8s						
DZM				*e*LR	LR	18 31 17.5	
	comp=Z,2μm,21.8s						
DZM	**Mont Dzumac**	**19.61**	**254**	P	**P**	**18 26 41.8**	**-0.8**
OUZ	**Omahuta**	**20.95**	**212**	P	**P**	**18 26 57.4**	**+0.5**
OUZ	**Omahuta**	**20.95**	**212**	P	**P**	**18 26 58.2**	**+1.3**
MXZ	**Matakaoa Point**	**21.05**	**199**	P	**P**	**18 26 58.2**	**+0.2**
WCZ	**Waipu Caves**	**21.17**	**209**	P	**P**	**18 27 02.6**	**+3.3**
KUZ	**Kuaotunu**	**21.25**	**205**	P	**P**	**18 27 03.4**	**+3.3**
HAZ	**Te Kaha**	**21.39**	**200**	P	**P**	**18 27 04.4**	**+2.7**
OPRZ	**Ohinepanea**	**21.89**	**202**	P	**P**	**18 27 09.7**	**+2.7**
CNGZ	**Carnagh Statio**	**21.93**	**198**	P	**P**	**18 27 10.7**	**+3.3**
MWZ	**Matawai**	**22.00**	**200**	P	**P**	**18 27 10.9**	**+2.7**
MWZ				S	**S**	**18 31 02.9**	**-8.1**
EDRZ	**Edgecumbe**	**22.06**	**202**	P	**P**	**18 27 12.8**	**+3.9**
URZ	**Urewera**	**22.07**	**201**	S	**S**	**18 31 10.4**	**-1.8**
	comp=Z,39nm,0.9s,baz=253,slow=22,SNR=5.5						
URZ				LR	LR	18 35 07.3	
	comp=Z,1μm,19.7s,baz=14,slow=35						
URZ	**Urewera**	**22.07**	**201**	P	**P**	**18 27 09.4**	**+0.4**
URZ				S	**S**	**18 31 04.1**	**-8.1**
URZ	**Urewera**	**22.07**	**201**	P	**P**	**18 27 09.9**	**+1.0**
URZ				IAmb	IAmb	18 27 24.9	
	comp=Z,146nm,0.7s						
RAGZ	**Rawiri**	**22.19**	**200**	P	**P**	**18 27 08.3**	**-2.0**
RAGZ				S	S	18 31 05.2	-9.3
OMRZ	**Omania**	**22.19**	**202**	P	**P**	**18 27 13.8**	**+3.5**
TARZ	**Mount Tarawera**	**22.26**	**202**	P	**P**	**18 27 13.9**	**+2.8**
RIGZ	**Rimuhau**	**22.27**	**199**	P	**P**	**18 27 15.4**	**+4.3**
HLRZ	**Highlands Stat**	**22.33**	**202**	P	**P**	**18 27 15.7**	**+3.9**
HSRZ	**Hossack Road**	**22.42**	**202**	P	**P**	**18 27 17.1**	**+4.3**
PRGZ	**Paritu Road**	**22.43**	**199**	P	**P**	**18 27 16.3**	**+3.4**
RTZ	**Ruatahuna**	**22.44**	**201**	P	**P**	**18 27 14.3**	**+1.3**
SNGZ	**Shannon Statio**	**22.47**	**200**	P	**P**	**18 27 15.4**	**+2.2**
PAE	**Paea**	**22.48**	**93**	*e*P	**P**	**18 27 13.0**	**-0.5**
	comp=Z,11nm,1.0s						
PAE	**Paea**	**22.48**	**93**	*e*T	T	18 50 16.8	
	comp=Z,4.5nm,0.2s						
PPT2	**Papeete2**	**22.49**	**93**	*e*P	**P**	**18 27 13.7**	**0.0**
	comp=Z,74nm,1.1s						
PPT2				*e*S	**S**	**18 31 14.4**	**-6.1**
	comp=Z,6μm,26.2s						
PPT2				*e*S	Sn	18 31 15.8	-18
	comp=Z,687nm,22.8s						
PPT2				*e*LR	LR	18 32 30.0	
	comp=Z,3μm,26.2s,baz=264						
PPT2	**Papeete2**	**22.49**	**93**	*e*T	T	18 50 18.0	
	comp=Z,8.2nm,0.3s						
PPT	**Papeete**	**22.49**	**93**	P	**P**	**18 27 14.5**	**+0.8**
	comp=Z,75nm,1.0s,baz=2.8,slow=6.5,SNR=4.9						
PPT				LR	LR	18 33 33.9	
	comp=Z,958nm,19.6s,baz=254,slow=30						
GRRZ	**Galatos Road**	**22.50**	**202**	P	**P**	**18 27 17.6**	**+4.0**
PRRZ	**Plateau Road**	**22.54**	**202**	P	**P**	**18 27 15.1**	**+1.2**
ALRZ	**Allen Road**	**22.61**	**202**	P	**P**	**18 27 17.3**	**+2.6**
MHGZ	**Mahia Peninsul**	**22.64**	**198**	P	**P**	**18 27 15.2**	**+0.2**
WPRZ	**Whakapapatarin**	**22.64**	**202**	P	**P**	**18 27 18.3**	**+3.3**
RAHZ	**Arahi**	**22.68**	**200**	P	**P**	**18 27 17.7**	**+2.2**
TLZ	**Tolley Road**	**22.70**	**203**	P	**P**	**18 27 19.4**	**+3.7**
TIAR	**Tiarei**	**22.71**	**93**	*e*P	**P**	**18 27 15.8**	**-0.2**
	comp=Z,21nm,1.0s						
TIAR	**Tiarei**	**22.71**	**93**	*e*T	T	18 50 33.9	
	comp=Z,2.3nm,0.3s						
WHHZ	**Waihua**	**22.77**	**200**	P	**P**	**18 27 19.1**	**+2.7**
TVO	**Taravao**	**22.78**	**94**	*e*P	**P**	**18 27 16.5**	**-0.3**
	comp=Z,32nm,1.0s						
TVO	**Taravao**	**22.78**	**94**	*e*T	T	18 50 39.6	
	comp=Z,2.3nm,0.3s						
MRHZ	**Matea Rd**	**22.83**	**201**	P	**P**	**18 27 17.8**	**+0.7**
TBI	**Tubuai**	**22.87**	**108**	*e*P	**P**	**18 27 17.3**	**-0.3**
	comp=Z,218nm,1.1s						
TBI				*e*S	**S**	**18 31 23.0**	**-4.1**
	comp=Z,764nm,24.0s						
TBI				*e*LR	LR	18 32 32.0	
	comp=Z,4μm,30.2s,baz=286						
TBI	**Tubuai**	**22.87**	**108**	*e*T	T	18 50 37.8	
	comp=Z,9.5nm,0.3s						
BKZ	**Black Stump Fm**	**23.10**	**201**	P	**P**	**18 27 20.8**	**+0.9**
BKZ	**Black Stump Fm**	**23.10**	**201**	P	**P**	**18 27 20.3**	**+0.4**
BKZ				IAmb	IAmb	18 27 33.9	
	comp=Z,96nm,0.9s						
HIZ	**Hauiti**	**23.12**	**204**	P	**P**	**18 27 23.8**	**+3.8**
HIZ	**Hauiti**	**23.12**	**204**	P	**P**	**18 27 23.2**	**+3.1**
MCHZ	**McNeill Hill**	**23.28**	**200**	P	**P**	**18 27 24.3**	**+2.6**
ETVZ	**East Tongariro**	**23.34**	**202**	P	**P**	**18 27 24.2**	**+1.8**
CKHZ	**Cape Kidnapper**	**23.35**	**199**	P	**P**	**18 27 28.6**	**+6.2**
KWHZ	**Kaweka Forest**	**23.35**	**201**	P	**P**	**18 27 24.6**	**+2.1**
WTVZ	**West Tongariro**	**23.37**	**202**	P	**P**	**18 27 23.8**	**+1.1**
OTVZ	**Oturere**	**23.39**	**202**	P	**P**	**18 27 23.3**	**+0.4**
TWVZ	**Taurewa**	**23.39**	**203**	P	**P**	**18 27 26.0**	**+3.1**
NGZ	**Ngauruhoe**	**23.42**	**202**	P	**P**	**18 27 24.9**	**+1.7**
TARA	**Tarawa**	**23.45**	**323**	P	**P**	**18 27 21.6**	**-2.0**
TARA				IAmb	IAmb	18 27 37.2	
	comp=Z,97nm,0.8s						
TUVZ	**Tukino**	**23.48**	**202**	P	**P**	**18 27 25.1**	**+1.3**
BHHZ	**Black Hill Sta**	**23.54**	**201**	P	**P**	**18 27 25.2**	**+0.9**
KAHZ	**Kahuranaki**	**23.54**	**199**	P	**P**	**18 27 27.2**	**+2.9**
WNVZ	**Wahianoa**	**23.55**	**202**	P	**P**	**18 27 25.4**	**+0.8**
KRHZ	**Kereru**	**23.57**	**201**	P	**P**	**18 27 26.1**	**+1.5**
MOVZ	**Moawhango**	**23.57**	**202**	P	**P**	**18 27 25.9**	**+1.2**
PKVZ	**Pokaka**	**23.61**	**203**	P	**P**	**18 27 26.8**	**+1.8**
VRZ	**Vera Road**	**23.69**	**204**	P	**P**	**18 27 28.2**	**+2.5**
PXZ	**Pawanui**	**23.76**	**199**	P	**P**	**18 27 29.2**	**+2.8**
PNHZ	**Pukenui**	**23.87**	**201**	P	**P**	**18 27 29.0**	**+1.5**
NEZ	**North Egmont**	**24.07**	**205**	P	**P**	**18 27 33.1**	**+3.6**
TSZ	**Takapari Road**	**24.08**	**201**	P	**P**	**18 27 31.0**	**+1.5**
DVHZ	**Dannevirke**	**24.23**	**200**	P	**P**	**18 27 27.2**	**-3.6**
POWZ	**Post Office Ro**	**24.44**	**201**	P	**P**	**18 27 35.2**	**+2.4**
BFZ	**Birch Farm**	**24.55**	**200**	P	**P**	**18 27 36.2**	**+2.5**
BFZ	**Birch Farm**	**24.55**	**200**	P	**P**	**18 27 36.2**	**+2.5**
XMAS	**Kiritimati**	**25.09**	**40**	P	**P**	**18 27 33.3**	**-5.5**
XMAS				IAmb	IAmb	18 28 19.6	
	comp=Z,105nm,1.1s						
MSWZ	**Moikau Station**	**25.54**	**200**	P	**P**	**18 27 45.6**	**+3.0**
SNZO	**South Karori**	**25.63**	**201**	P	**P**	**18 27 43.6**	**+0.2**
PLWZ	**Palliser**	**25.67**	**200**	P	**P**	**18 27 46.3**	**+2.4**
TUWZ	**Tuamarina**	**26.00**	**202**	P	**P**	**18 27 46.2**	**-0.6**
QRZ	**Quartz Range**	**26.03**	**205**	P	**P**	**18 27 49.9**	**+2.7**
THZ	**Tophouse**	**26.68**	**204**	P	**P**	**18 27 54.8**	**+1.8**
THZ				IAmb	IAmb	18 28 08.0	
	comp=Z,46nm,0.7s						
KHZ	**Kahutara**	**27.01**	**202**	P	**P**	**18 27 58.2**	**+2.3**
KHZ				IAmb	IAmb	18 28 07.7	
	comp=Z,56nm,0.8s						
HNR	**Honiara**	**27.38**	**284**	P	**P**	**18 27 59.3**	**-0.3**
	comp=Z,51nm,0.8s,baz=270,slow=5.4,SNR=2.9						
HNR				LR	LR	18 37 17.8	
	comp=Z,3μm,18.4s,baz=110,slow=33						
HNR	**Honiara**	**27.38**	**284**	P	**P**	**18 28 00.2**	**+0.6**
HNR				pmax	pmax		
	comp=Z,126nm,1.0s						
HNR	**Honiara**	**27.38**	**284**	P	**P**	**18 28 00.2**	**+0.6**
LTZ	**Lake Taylor**	**27.79**	**203**	P	**P**	**18 28 03.1**	**+0.1**
LTZ				IAmb	IAmb	18 28 13.4	
	comp=Z,73nm,0.9s						
RPZ	**Rata Peaks**	**29.05**	**204**	P	**P**	**18 28 18.5**	**+4.3**
	comp=Z,27nm,0.5s,baz=13,slow=2.2,SNR=32						
RPZ				LR	LR	18 39 26.4	
	comp=Z,2μm,20.7s,baz=28,slow=35						
WHZ	**Wether Hill Ro**	**32.09**	**205**	P	**P**	**18 28 43.0**	**+2.0**
WHZ				IAmb	IAmb	18 28 52.0	
	comp=Z,49nm,0.8s						
TAOE	**Nuku Hiva Isla**	**33.30**	**79**	*e*P	**P**	**18 28 52.3**	**+0.2**
	comp=Z,264nm,1.3s						
TAOE				*e*LR	LR	18 37 21.5	
	comp=Z,1μm,27.8s,baz=251						
TAOE	**Nuku Hiva Isla**	**33.30**	**79**	*e*T	T	19 03 45.5	
	comp=Z,45nm,0.3s						
EIDS	**Eidsvold**	**33.99**	**251**	P	**P**	**18 28 56.9**	**-1.0**
ARMA	**Armidale**	**34.34**	**242**	P	**P**	**18 29 00.3**	**-0.7**
	baz=35,SNR=5.6						
ARMA	**Armidale**	**34.34**	**242**	P	**P**	**18 29 00.3**	**-0.7**
RMQ	**Roma**	**36.19**	**249**	P	**P**	**18 29 16.2**	**-0.6**
	baz=36,SNR=8.9						
KRVT	**Keravat (AS076**	**36.60**	**287**	LR	LR	18 42 48.9	
	comp=Z,3μm,19.9s,baz=126,slow=34						
CNB	**Canberra Magne**	**37.49**	**235**	P	**P**	**18 29 27.7**	**-0.3**
	baz=38,SNR=20						
CAN	**Canberra**	**37.78**	**235**	P	**P**	**18 29 30.2**	**-0.2**
CAN				pmax	pmax		
	comp=Z,18nm,1.1s						
CAN	**Canberra**	**37.78**	**235**	P	**P**	**18 29 30.2**	**-0.2**
CTA	**Charters Tower**	**38.37**	**260**	LR	LR	18 43 11.5	
	comp=Z,1μm,21.2s,baz=94,slow=33						
CTAO	**Charters Tower**	**38.37**	**260**	P	**P**	**18 29 34.3**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,36nm,0.9s						
CTAO	**Charters Tower**	**38.37**	**260**	P	**P**	**18 29 34.3**	**-1.2**
PMG	**Port Moresby**	**39.37**	**277**	LR	LR	18 45 25.4	
	comp=Z,954nm,18.0s,baz=78,slow=35						
PMG	**Port Moresby**	**39.37**	**277**	*e*P	**P**	**18 29 43.2**	**-0.7**
PMG				pmax	pmax		
	comp=Z,27nm,0.8s						
PMG	**Port Moresby**	**39.37**	**277**	P	**P**	**18 29 43.6**	**-0.3**
CMSA	**Cobar Meteorol**	**39.56**	**242**	P	**P**	**18 29 44.2**	**-1.1**
	baz=40,SNR=14						
MTSU	**Mount Surprise**	**40.36**	**263**	P	**P**	**18 29 51.5**	**-0.7**
	baz=41,SNR=9.6						
TOO	**Toolangi**	**41.15**	**233**	P	**P**	**18 29 58.0**	**-0.4**
	baz=41,SNR=6.5						
TOO	**Toolangi**	**41.15**	**233**	P	**P**	**18 29 57.8**	**-0.6**
TOO				pmax	pmax		
	comp=Z,30nm,1.1s						
TOO	**Toolangi**	**41.15**	**233**	P	**P**	**18 29 57.8**	**-0.6**
TAU	**Tasmania Unive**	**41.73**	**225**	P	**P**	**18 30 03.4**	**+0.4**
TAU				pmax	pmax		
	comp=Z,93nm,1.3s						
TAU	**Tasmania Unive**	**41.73**	**225**	P	**P**	**18 30 03.4**	**+0.4**
TAU				IAmb	IAmb	18 30 41.2	
	comp=Z,93nm,1.3s						
KIP	**Kipapa**	**41.73**	**21⇑**	*e*P	**P**	**18 30 03.1**	**-0.1**
KIP				pmax	pmax		
	comp=Z,74nm,1.1s						
WAKE	**Wake Island**	**41.85**	**331**	P	**P**	**18 30 03.7**	**-0.5**
COEN	**Coen**	**42.09**	**269**	P	**P**	**18 30 06.1**	**-0.2**
	baz=42,SNR=9.7						
COEN	**Coen**	**42.09**	**269**	P	**P**	**18 30 05.7**	**-0.6**
H11N3	**WAKE ISLAND Hy**	**42.11**	**331**	T	T	19 14 57.0	
	baz=151						
H11N1	**WAKE ISLAND Hy**	**42.11**	**331**	T	T	19 14 27.7	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**42.13**	**331**	T	T	19 15 17.3	
	baz=151						
STKA	**Stephens Creek**	**43.06**	**242**	P	**P**	**18 30 13.2**	**-0.9**
	comp=Z,5.7nm,0.7s,baz=80,slow=9.8,SNR=8.1						
STKA				PcP	**PcP**	**18 32 06.3**	**+2.1**
	comp=Z,4.0nm,0.8s,baz=71,slow=3.8,SNR=2.0						
STKA				LR	LR	18 44 50.0	
	comp=Z,539nm,21.8s,baz=78,slow=31						
STKA	**Stephens Creek**	**43.06**	**242**	P	**P**	**18 30 13.3**	**-0.7**
	baz=43,SNR=8.7						
STKA	**Stephens Creek**	**43.06**	**242**	P	**P**	**18 30 13.2**	**-0.9**
ARPS	**Mount Arapiles**	**43.76**	**235**	P	**P**	**18 30 18.9**	**-0.7**
	baz=44,SNR=6.2						
QIS	**Mount Isa**	**44.56**	**259**	P	**P**	**18 30 27.1**	**+0.8**
	baz=45,SNR=3.4						
HTT	**Hallett**	**45.51**	**240**	P	**P**	**18 30 33.6**	**-0.1**
	baz=46,SNR=5.2						
JAY	**Jayapura**	**47.70**	**283**	P	**P**	**18 30 50.9**	**-0.2**
	comp=Z,12nm,0.7s,baz=154,slow=6.0,SNR=8.3						
JAY				LR	LR	18 49 19.6	
	comp=Z,1μm,20.2s,baz=58,slow=34						
BBOO	**Buckleboo**	**47.82**	**242**	P	**P**	**18 30 50.6**	**-1.2**
	baz=48,SNR=8.1						
BBOO	**Buckleboo**	**47.82**	**242**	P	**P**	**18 30 50.3**	**-1.5**
BBOO				IAmb	IAmb	18 31 07.3	
	comp=Z,22nm,0.8s						
GENI	**Genyem**	**48.17**	**283**	P	**P**	**18 30 55.1**	**+0.4**
	comp=Z,50nm,0.8s						
WR0	**Warramunga Arr**	**49.35**	**259**	P	**P**	**18 31 02.0**	**-1.7**
WR0				PcP	**PcP**	**18 32 27.6**	**+1.2**
WB0	**Warramunga Arr**	**49.51**	**259**	P	**P**	**18 31 03.6**	**-1.4**
WB0				IAmb	IAmb	18 31 07.2	
	comp=Z,35nm,0.9s						
WB2	**Warramunga Arr**	**49.53**	**259**	P	**P**	**18 31 03

baz=56,SNR=21
KNRA Kununurra 55.45 263 P P 18 31 48.1 -1.0
KNRA IAmb IAmb 18 31 50.9
comp=Z,41nm,0.8s
SIJI Sorong 57.09 281 P P 18 32 00.7 -0.1
comp=Z,29nm,0.6s,baz=84,slow=7.9,SNR=12
FITZ Fitzroy Crossi 57.95 259 P P 18 32 06.2 -0.6
comp=Z,5.8nm,0.8s,baz=343,slow=4.3,SNR=16
FITZ Fitzroy Crossi 57.95 259 P P 18 32 06.4 -0.5
baz=58,SNR=14
FITZ Fitzroy Crossi 57.95 259 P P 18 32 05.9 -0.9
VNDA Vanda 61.01 186 P P 18 32 29.8 +2.7
comp=Z,6.3nm,0.8s,baz=9.7,slow=6.4,SNR=53
VNDA LR LR 18 58 07.4
comp=Z,211nm,18.0s,baz=15,slow=35
VNDA Vanda 61.01 186 P P 18 32 29.9 +2.9
VNDA pmax pmax
comp=Z,13nm,1.1s
VNDA Vanda 61.01 186 P P 18 32 29.9 +2.9
SOEI Soe 61.05 269 P P 18 32 26.9 -1.6
comp=Z,98nm,0.9s
SOEI Soe 61.05 269 P P 18 32 28.0 -0.5
TNTI Ternate 61.31 281 P P 18 32 28.6 -1.5
TNTI IAmb IAmb 18 32 44.8
comp=Z,38nm,1.0s
BATI Baumata 61.51 268 P P 18 32 33.1 +1.6
comp=Z,33nm,0.7s,baz=218,slow=3.3,SNR=5.3
PSA00 Pilbara Seismi 62.74 255 P P 18 32 39.2 -0.4
MEEK Meekatharra 63.12 249 P P 18 32 41.8 -0.3
baz=63,SNR=7.5
MMRI Maumere 63.28 269 P P 18 32 42.6 -0.6
KLBR Kellerberrin 63.32 243 P P 18 32 44.0 +0.6
baz=64,SNR=16
NWAO Narrogin (SRO) 63.64 242 P P 18 32 46.5 +1.0
baz=64,SNR=3.7
NWAO Narrogin (SRO) 63.64 242 P P 18 32 45.9 +0.5
NWAO pmax pmax
comp=Z,36nm,1.1s
NWAO Narrogin (SRO) 63.64 242 P P 18 32 45.9 +0.5
NWAO IAmb IAmb 18 32 47.2
comp=Z,36nm,1.1s
NWAO Narrogin (SRO) 63.64 242 P P 18 32 44.7 -0.8
NWAO IAmb IAmb 18 32 47.2
comp=Z,29nm,1.1s
RKGY Rocky Gully 63.73 240 P P 18 32 47.7 +1.8
baz=64,SNR=5.4
BLDU Ballidu 64.31 244 P P 18 32 50.0 +0.2
baz=65,SNR=12
MUN Mundaring 64.60 243 P P 18 32 52.6 +0.9
baz=65,SNR=14
LUWI Luwuk 65.02 277 P P 18 32 54.8 +0.1
MORW Morawa 65.07 246 P P 18 32 55.4 +0.5
baz=65,SNR=9.1
MORW Morawa 65.07 246 P P 18 32 55.5 +0.7
KAPI Kappang 66.66 272 P P 18 33 06.4 +1.2
comp=Z,8.0nm,0.5s,baz=178,slow=5.3,SNR=4.2
KAPI Kappang 66.66 272 P P 18 33 06.5 +1.2
KAPI pmax pmax
comp=Z,26nm,1.1s
KAPI Kappang 66.66 272 IAmb IAmb 18 33 27.4
comp=Z,26nm,1.1s
GIRL Giralia 67.68 252 P P 18 33 13.1 +1.4
CASY Casey 68.32 205 P P 18 33 16.1 +1.2
CASY IAmb IAmb 18 33 27.9
comp=Z,17nm,0.9s
KIWB Kanaga Island 69.45 357 P P 18 33 24.4 +2.5
JYT Yasato 69.51 321 P P 18 33 23.1 +0.5
JMM Marumori 70.27 323 P P 18 33 27.2 0.0
JGF Kuroka 70.83 319 P P 18 33 29.3 -1.5
JGF IAmb IAmb 18 33 32.1
comp=Z,24nm,0.9s
INU Inuyama 70.88 319 P P 18 33 30.6 -0.6
INU IAmb IAmb 18 33 32.6
comp=Z,32nm,1.2s
MJAR Matsushiro Arr 70.91 320 P P 18 33 31.2 -0.1
comp=Z,22nm,0.8s,baz=158,slow=5.4,SNR=72
MJAR LR LR 18 59 08.9
comp=Z,798nm,21.8s,baz=105,slow=31
MJAR Matsushiro Arr 70.91 320 P P 18 33 31.1 -0.2
MJAR pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 70.91 320 P P 18 33 31.1 -0.2
MAJO Matsushiro 70.91 320 P P 18 33 31.3 0.0
MAJO pmax pmax
comp=Z,26nm,0.9s
MAJO Matsushiro 70.91 320 P P 18 33 31.3 0.0
MAJO IAmb IAmb 18 33 32.6
comp=Z,26nm,0.9s
MAT Matsushiro 70.91 320 P P 18 33 30.7 -0.6
MAT S S 18 42 56.0 +9.2
JAGI Jajag, Banyuwa 71.02 267 P P 18 33 31.3 -1.2
JSD Sado 71.86 321 P P 18 33 37.9 +0.9
JWT Wachi 71.87 318 P P 18 33 37.8 +0.7
ERM Erimo 71.89 327 P P 18 33 37.2 +0.1
ERM pmax pmax
comp=Z,59nm,1.3s
ERM Erimo 71.89 327 P P 18 33 37.2 +0.1
ERM IAmb IAmb 18 35 08.4
comp=Z,59nm,1.2s
JMN Monobe 71.91 316 P P 18 33 36.7 -0.8
YUK Yuzh-Kuril'sk 72.04 330 *e*P P 18 33 32.8 -5.1
YUK *i* S **S 18 42 51.8 -7.7**
JOW Kunigami 72.08 307 P P 18 33 38.8 +0.2
JTM Tenmabayashi 72.13 325 P P 18 33 38.5 0.0
JTM IAmb IAmb 18 33 40.4
comp=Z,47nm,1.1s
QSPA South Pole Qui 72.25 180 P P 18 33 40.1 +1.0
QSPA IAmb IAmb 18 33 53.4
comp=Z,32nm,1.0s
PKM Mcpherson Peak 72.89 44 P P 18 33 43.3 -0.2
baz=233
SAO San Andreas Ge 72.99 41 P P 18 33 43.7 0.0
SAO pmax pmax
comp=Z,25nm,1.1s
SAO San Andreas Ge 72.99 41 P P 18 33 43.7 0.0
SAO IAmb IAmb 18 33 45.3
comp=Z,25nm,1.1s
SMMC Simmler 73.03 43 P P 18 33 44.8 +0.7
baz=233
PMPB Monarch Peak 73.06 42 P P 18 33 44.9 +0.6
PMPB IAmb IAmb 18 34 00.0
comp=Z,39nm,1.2s
PAGB Antelope Grade 73.11 43 P P 18 33 44.5 0.0
PAGB IAmb IAmb 18 33 46.4
comp=Z,56nm,1.7s
JHS Saijyo 73.18 316 P P 18 33 45.4 +0.4
SKR Severo-Kuril's 73.35 340 *e*P P 18 33 40.1 -5.4
SKR *e*S **S 18 43 06.8 -7.3**
SKR *e* 18 44 02.3
SKR *e*SS **SS 18 48 02.0 +5.2**
SKR pmax pmax
comp=Z,45nm,1.0s
SKR pmax pmax
comp=Z,100nm,4.3s
SKR pmax pmax
comp=Z,300nm,3.4s
SKR MLR MLR
comp=Z,300nm,20.0s
SKR MLR MLR
comp=Z,200nm,20.0s
JEW Eniwo 73.36 327 P P 18 33 46.1 +0.3
HOPS Hopland Field 73.41 39 P P 18 33 46.5 +0.4
GDXM Geysers 73.45 39 P P 18 33 46.0 -0.6
OSI Osito Audit: C 73.45 44 P P 18 33 45.2 -1.4
OSI IAmb IAmb 18 34 21.1
comp=Z,44nm,1.5s
KCPM Cahto Peak 73.56 38 P P 18 33 47.3 +0.1
109C Camp Elliot, M 73.56 47 P P 18 33 46.7 -0.5
JNU Nakatsue 73.60 314 P P 18 33 47.2 -0.3
comp=Z,30nm,0.8s,baz=143,slow=4.6,SNR=15
JNU Nakatsue 73.60 314 P P 18 33 46.9 -0.6
JNU IAmb IAmb 18 33 48.9
comp=Z,37nm,0.9s
JKA Kamikawa-asahi 73.69 328 P P 18 33 48.3 +0.6
JKA IAmb IAmb 18 33 51.1
comp=Z,31nm,0.9s
ASAJ Asahikawa 73.69 328 P P 18 33 48.3 +0.6
ASAJ pmax pmax
comp=Z,31nm,0.9s
KMRM Mail Ridge 73.83 37 P P 18 33 49.2 +0.5
KMRM IAmb IAmb 18 33 50.6
comp=Z,36nm,0.9s
ESJX Sierra Juarez 73.88 48 P P 18 33 48.6 -0.7
VES Vestal, Richgr 73.94 43 P P 18 33 49.5 +0.1
baz=233,SNR=8.0

MONP2 Monument Peak 74.03 47 P P 18 33 50.4 +0.1
baz=236
EDW2 Edwards Air Fo 74.09 45 P P 18 33 50.4 0.0
baz=234,SNR=6.5
IKP In-Ko-Pah, Jac 74.12 47 P P 18 33 50.4 -0.3
baz=236
ISA Isabella, Lake 74.23 44 P P 18 33 50.8 -0.4
ISA pmax pmax
comp=Z,61nm,1.8s
ISA Isabella, Lake 74.23 44 P P 18 33 51.1 -0.1
baz=234,SNR=9.5
ISA Isabella, Lake 74.23 44 P P 18 33 50.8 -0.4
ISA IAmb IAmb 18 33 52.8
comp=Z,61nm,1.8s
KHMM Horse Mountain 74.25 37 P P 18 33 51.7 +0.4
O02D Mt. Diablo Mer 74.34 38 P P 18 33 52.6 +0.9
baz=230,SNR=12
PFO Pinyon Flats O 74.41 46 P P 18 33 52.5 +0.1
PFO pmax pmax
comp=Z,22nm,1.4s
PFO Pinyon Flats O 74.41 46 P P 18 33 52.3 -0.1
baz=236
PFO Pinyon Flats O 74.41 46 P P 18 33 52.5 +0.1
CMB Columbia Colle 74.44 41 P P 18 33 52.1 -0.2
CMB pmax pmax
comp=Z,20nm,1.1s
CMB Columbia Colle 74.44 41 P P 18 33 52.1 -0.2
SWSC Sam W. Stewart 74.50 47 P P 18 33 52.8 +0.1
baz=236
KRMB Red Mountain 74.58 36 P P 18 33 54.0 +0.9
KRMB IAmb IAmb 18 33 55.4
comp=Z,65nm,1.7s
PET Petropavlovsk 74.63 343 *e*P **P 18 33 53.2 +0.2**
PET *e*S **S 18 43 31.9 +3.5**
PET *e*SS **SS 18 48 15.1 -1.1**
PET pmax pmax
comp=Z,300nm,12.5s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,400nm,19.0s
AFDM Forest Hills D 74.64 40 P P 18 33 53.1 -0.3
ORV Oroville 74.70 39 P P 18 33 53.2 -0.6
ORV pmax pmax
comp=Z,16nm,1.2s
ORV Oroville 74.70 39 P P 18 33 53.2 -0.6
WDC Whiskeytown Da 74.74 38 P P 18 33 54.2 +0.2
WDC pmax pmax
comp=Z,18nm,1.1s
WDC Whiskeytown Da 74.74 38 P P 18 33 54.2 +0.2
N02D Trinity Center 74.90 37 P P 18 33 55.6 +0.6
baz=230,SNR=12
CWC Cottonwood Cre 74.95 43 P P 18 33 55.4 0.0
baz=234
BELC Belle Mtn. Jos 74.95 46 P P 18 33 55.5 0.0
baz=236
PEA0B Petropavlovsk- 74.98 342 IAmb IAmb 18 33 56.7
comp=Z,38nm,0.8s
PETK Petropavlovsk- 74.98 342 P P 18 33 55.3 +0.3
comp=Z,32nm,0.8s,baz=130,slow=8.1,SNR=66
PETK LR LR 19 03 36.3
comp=Z,245nm,19.8s,baz=161,slow=33
PETK Petropavlovsk- 74.98 342 P P 18 33 54.8 -0.2
PETK Petropavlovsk- 74.98 342 P P 18 33 54.8 -0.2
O03E Paynes Creek 74.99 38 P P 18 33 55.3 -0.3
baz=230,SNR=12
MDPB Devils Postpil 75.01 42 P P 18 33 55.5 -0.4
OMMB Old Mammoth Mi 75.05 42 P P 18 33 55.8 -0.4
YOJ Yonaguni jima 75.05 302 P P 18 33 54.7 -1.4
YOJ pmax pmax
comp=Z,34nm,0.7s
YOJ Yonaguni jima 75.05 302 P P 18 33 54.7 -1.4
YOJ IAmb IAmb 18 33 57.8
comp=Z,34nm,0.7s
M02C Callahan 75.09 37 P P 18 33 56.8 +0.7
baz=229,SNR=12
MPMC Manual Prospec 75.11 44 P P 18 33 56.6 +0.2
baz=234,SNR=23
GSC Goldstone, Bar 75.13 45 P P 18 33 56.3 -0.1
baz=235,SNR=6.6
BC3 Big Chuckawall 75.13 47 P P 18 33 56.8 +0.2
baz=236,SNR=6.4
L02E Cane Junction 75.17 36 P P 18 33 57.0 +0.6
baz=229
HEC Hector,Ludlow 75.18 45 P P 18 33 56.5 -0.3
baz=236,SNR=9.0
TIN Tinemaha, Big 75.21 43 P P 18 33 57.8 +0.8
baz=234
GLA Glamis 75.24 48 P P 18 33 57.1 +0.1
baz=237
WAKR Walker 75.31 41 P P 18 33 57.6 0.0
WAKR IAmb IAmb 18 33 59.3
comp=Z,80nm,1.8s
K02D Willamette Mer 75.49 35 P P 18 33 58.9 +0.5
baz=228,SNR=5.5
PNTR Pine Nut 75.57 40 P P 18 33 59.0 0.0
PNTR IAmb IAmb 18 34 12.1
comp=Z,25nm,0.9s
GMRC Granite Mounta 75.62 46 P P 18 33 59.1 -0.2
baz=236
IRM Iron Mountain 75.62 47 P P 18 33 59.4 +0.2
baz=236,SNR=9.3
J01E Myrtle Point 75.65 35 P P 18 33 59.5 +0.3
baz=228
YSS Yuzh-Sakhalins 75.67 331 *e*P **P 18 34 00.0 +0.9**
YSS *e**PP **PcP 18 34 09.0 -2.9**
YSS *e*S **S 18 43 41.6 +1.3**
YSS *e*PS PnS 18 44 00.0 -17
YSS *e*SS **SS 18 48 36.2 +3.9**
YSS pmax pmax
comp=Z,70nm,0.9s
YSS smax smax
comp=N,100nm,5.5s
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS MLR MLR
comp=E,300nm,18.0s
YSS Yuzh-Sakhalins 75.67 331 P P 18 33 59.2 +0.1
YERR Yerington 75.73 41 P P 18 33 60.0 0.0
YERR IAmb IAmb 18 34 01.2
comp=Z,69nm,1.7s
GRAC Grapevine Rang 75.74 43 P P 18 34 00.4 +0.5
baz=234
LHV Little Huntoon 75.75 42 IAmb IAmb 18 34 20.2
comp=Z,33nm,1.1s
FURC Furnace Creek, 75.76 44 P P 18 34 00.1 +0.2
baz=235
TUQ Turquoise Moun 75.80 45 P P 18 34 00.4 +0.1
baz=236,SNR=6.6
HUMO Hull Mountain 75.82 36 P P 18 33 59.8 -0.4
SHOC Shoshone, Teco 75.83 45 P P 18 34 00.0 -0.3
baz=235
113A Mohawk Valley, 75.84 48 P P 18 33 59.6 -0.9
M04C Macdoel 75.92 37 P P 18 34 01.2 +0.3
baz=230,SNR=10
L04D Klamath Falls 75.94 36 P P 18 34 01.2 +0.3
baz=230,SNR=8.6
YULB Yu-li 75.96 300 P P 18 34 00.6 -0.8
NVAR Mina Array Bea 75.98 41 P P 18 34 01.5 +0.1
comp=Z,8.5nm,0.8s,baz=227,slow=8.9,SNR=70
NVAR LR LR 19 00 05.9
comp=Z,356nm,20.1s,baz=240,slow=30
NVAR Mina Array Bea 75.98 41 P P 18 34 00.5 -0.9
NACB Ninganchiao 76.06 301 P P 18 34 01.1 -0.8
NV11 Mina Array Sit 76.07 42 IAmb IAmb 18 34 03.3
comp=Z,50nm,1.4s
PAHR Pah Rah Range 76.08 40 P P 18 34 01.8 -0.1
PAHR IAmb IAmb 18 34 17.2
comp=Z,28nm,1.2s
214A Organ Pipe Nat 76.10 50 P P 18 34 02.1 +0.1
baz=238,SNR=7.5
I03D Drain, OR 76.33 35 P P 18 34 03.4 +0.4
baz=228
PDMCI Parker Dam,Lak 76.40 47 P P 18 34 03.9 +0.3
baz=237
SSLB Suanglung 76.42 301 IAmb IAmb 18 34 11.2
comp=Z,20nm,0.9s
TPNV Topopah Spring 76.44 44 P P 18 34 03.5 -0.5
TPNV pmax pmax
comp=Z,19nm,1.2s
TPNV Topopah Spring 76.44 44 P P 18 34 04.2 +0.2
baz=235,SNR=11
TPNV Topopah Spring 76.44 44 P P 18 34 03.5 -0.5
TATO Taipei 76.51 302 P P 18 34 04.5 0.0

J04D Umpqua Nationa 76.71 36 P P 18 34 06.0 +0.6
baz=230
MOD Modoc Plateau 76.89 38 IAmb IAmb 18 34 07.8
comp=Z,53nm,1.5s
I04A Tendick Farm, 76.90 35 P P 18 34 06.2 -0.1
baz=229
SHPR Sheep Range 76.91 45 P P 18 34 06.5 -0.2
W13A Hualapai Mount 77.01 46 P P 18 34 07.5 +0.2
K05A Summer Lake 77.06 37 IAmb IAmb 18 34 09.2
comp=Z,66nm,1.3s
H04D Lebanon 77.20 34 P P 18 34 08.2 +0.3
baz=229
J05D Fort Rock, OR 77.22 36 P P 18 34 08.7 +0.4
baz=230,SNR=22
G03D McMinnville, O 77.38 34 P P 18 34 09.3 +0.4
baz=228
PRN Pahroc Range 77.49 44 P P 18 34 09.7 -0.1
PRN IAmb IAmb 18 34 29.9
comp=Z,29nm,1.1s
KSM Kuching 77.62 276 P P 18 34 13.0 +2.0
R11A Troy Canyon, C 77.67 43 P P 18 34 10.9 0.0
baz=235,SNR=20
LEM Lembang 77.69 267 P P 18 34 12.7 +1.1
comp=Z,118nm,0.8s,baz=105,slow=4.9,SNR=30
PINE Pine Mountain 77.71 36 P P 18 34 11.2 +0.2
PINE IAmb IAmb 18 34 12.8
comp=Z,45nm,1.1s
TUC Tucson 77.76 50 P P 18 34 11.4 0.0
TUC pmax pmax
comp=Z,21nm,1.1s
TUC Tucson 77.76 50 P P 18 34 12.0 +0.6
baz=240
TUC Tucson 77.76 50 P P 18 34 11.4 0.0
TJN Taejon 77.81 315‖*e*P **P 18 34 12.4 +0.9**
I05D Terrebonne, OR 77.84 35 P P 18 34 11.9 +0.3
baz=230,SNR=6.3
KSRS Korea Array 78.02 316 P P 18 34 14.6 +1.9
comp=Z,20nm,0.9s,baz=129,slow=6.1,SNR=72
KSRS LR LR 19 05 39.9
comp=Z,327nm,19.1s,baz=120,slow=34
KSAR Wonju Array Be 78.04 316 P P 18 34 14.1 +1.4
KSAR Wonju Array Be 78.04 316 P P 18 34 14.1 +1.4
KS19 Wonju Array Si 78.08 316 P P 18 34 14.1 +1.1
KS19 IAmb IAmb 18 34 15.8
comp=Z,37nm,1.1s
E03A Lebam 78.11 32 IAmb IAmb 18 34 26.2
comp=Z,33nm,0.9s
WVOR Wild Horse Val 78.19 38 IAmb IAmb 18 34 15.0
comp=Z,40nm,1.4s
G05D Wamic, OR 78.44 35 P P 18 34 15.3 +0.5
baz=230
LCMT Little Creek M 78.48 45 P P 18 34 15.5 +0.1
TYV Tymovskoe 78.58 333 *e*P **P 18 34 16.1 +0.7**
TYV *e*S **S 18 44 14.1 +2.2**
TYV pmax pmax
comp=Z,300nm,3.6s
TYV pmax pmax
comp=Z,37nm,1.1s
TYV smax smax
comp=E,8.0nm,1.6s
TYV smax smax
comp=E,100nm,3.4s
E04D Cinebar 78.63 33 P P 18 34 16.4 +0.6
baz=229,SNR=6.5
I07A Izee 78.70 36 P P 18 34 15.9 -0.5
U15A North Rim 78.81 46 IAmb IAmb 18 34 33.4
comp=Z,25nm,1.1s
VLA Vladivostok 78.83 322*ce*P **P 18 34 17.8 +0.8**
VLA pmax pmax
comp=Z,26nm,0.9s
J08A Circle Bar Ran 78.84 37 IAmb IAmb 18 34 18.6
comp=Z,37nm,1.2s
QZH Quanzhou 78.86 301⇑*i*P **P 18 34 18.9 +1.4**
QZH LR LR
comp=Z,470nm,19.7s
QZH LR LR
comp=Z,450nm,21.3s
INCN Inchon 78.90 315 P P 18 34 19.0 +1.5
INCN pmax pmax
comp=Z,70nm,0.9s
INCN Inchon 78.90 315 P P 18 34 19.0 +1.5
WUAZ Wupatki 78.97 47 P P 18 34 18.8 +0.7
baz=239
WUAZ Wupatki 78.97 47 P P 18 34 18.5 +0.3
D03D Eldon 79.01 32 P P 18 34 18.4 +0.5
baz=228,SNR=6.2
PKCU Pink Cliffs 79.34 45 P P 18 34 21.6 +1.2
USRK Ussuriysk Ar. 79.43 323 P P 18 34 21.8 +1.6
comp=Z,12nm,0.9s,baz=118,slow=2.7,SNR=28
USRK LR LR 19 04 24.2
comp=Z,955nm,20.1s,baz=125,slow=32
G08A Pilot Rock 79.76 36 IAmb IAmb 18 34 23.5
comp=Z,33nm,1.1s
A04D Lummi Island 80.00 31 P P 18 34 23.7 +0.6
baz=228
B05A Bryant 80.00 32 P P 18 34 23.4 +0.2
baz=229,SNR=6.9
121A Cookes Peak, D 80.08 51 P P 18 34 24.9 +0.6
baz=242,SNR=9.8
121A Cookes Peak, D 80.08 51 P P 18 34 23.5 -0.8
MFID Camas Ranch 80.43 38 P P 18 34 25.0 -0.8
E08A Dider Farm, El 80.45 35 IAmb IAmb 18 34 27.0
comp=Z,60nm,1.6s
DUG Dugway, Tooele 80.48 42 P P 18 34 26.2 -0.1
baz=237,SNR=11
CRAG Craig 80.49 22 P P 18 34 25.3 -0.3
D08A Wollman Farm, 80.87 34 IAmb IAmb 18 34 29.4
comp=Z,30nm,1.0s
Q16A Castle Valley 80.88 44 P P 18 34 28.0 -0.5
SUA Susitna One 81.02 11 P P 18 34 27.8 -0.7
SUA IAmb IAmb 18 34 42.2
comp=Z,23nm,0.7s
MDJ Mudanjiang 81.06 323 P P 18 34 30.3 +1.3
MDJ pP sP 18 34 33.8 +0.5
MDJ sP pwP 18 34 34.8 -0.3
MDJ S **S 18 44 45.0 +6.7**
MDJ sS SKKSac 18 44 51.3 +1.0
MDJ pmax pmax
comp=Z,34nm,1.1s
MDJ pmax pmax
comp=Z,350nm,4.3s
MDJ LR LR
comp=Z,470nm,22.4s
MDJ LR LR
comp=Z,670nm,22.5s
MDJ LR LR
comp=Z,1μm,21.8s
GRNR Gornyy 81.33 330⇑*i*P **P 18 34 31.0 +0.7**
GRNR pmax pmax
comp=Z,20nm,1.0s
HLID Hailey 81.36 39 P P 18 34 31.2 +0.4
baz=236,SNR=32
PMR Palmer 81.43 11 P P 18 34 29.5 -1.1
PMR pmax pmax
comp=Z,35nm,1.2s
PMR Palmer 81.43 11 P P 18 34 29.5 -1.1
PMR IAmb IAmb 18 34 41.0
comp=Z,35nm,1.2s
CTU Camp Tracy 81.43 42 P P 18 34 31.3 0.0
B08A Colville Reser 81.47 33 IAmb IAmb 18 34 31.8
comp=Z,24nm,1.0s
MNTX Cornudas Mount 81.50 53 P P 18 34 32.2 +0.5
baz=243,SNR=12
MNTX Cornudas Mount 81.50 53 P P 18 34 30.9 -0.8
MNTX IAmb IAmb 18 34 33.4
comp=Z,56nm,1.8s
WRAK Wrangell Islan 81.50 22 IAmb IAmb 18 34 32.6
comp=Z,35nm,1.4s
BELA Belgrano 2 81.59 172 P P 18 34 34.4 +2.9
TTA Tatalina 81.60 8 P P 18 34 31.4 -0.2
TTA pmax pmax
comp=Z,37nm,1.4s
TTA Tatalina 81.60 8 P P 18 34 31.4 -0.2
TTA IAmb IAmb 18 34 43.7
comp=Z,37nm,1.4s
GHO Glory Hole Cre 81.63 11 IAmb IAmb 18 34 45.3
comp=Z,52nm,1.1s
BNM Barren Site 81.69 50 P P 18 34 31.6 -1.4
TX32 Lajitas Array 81.78 56 IAmb IAmb 18 34 39.8
comp=Z,34nm,1.4s
TXAR Lajitas Array 81.78 56 P P 18 34 34.3 +1.0
comp=Z,4.9nm,0.9s,baz=211,slow=7.0,SNR=18
TXAR LR LR 19 02 35.2
comp=Z,66nm,21.5s,baz=0.0,slow=30
TXAR Lajitas Array 81.78 56 P P 18 34 33.6 +0.2
TXAR Lajitas Array 81.78 56 P P 18 34 33.6 +0.2

NJ2	Nanjing	81.78	307	*e*P	P	18 34 33.1	0.0
NJ2				S	S	18 44 46.0	-0.3
NJ2				pmax	pmax		
	comp=Z,18nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,440nm,4.9s						
NJ2				LR	LR		
	comp=Z,290nm,14.0s						
NJ2				LR	LR		
	comp=Z,540nm,15.9s						
NJ2				LR	LR		
	comp=Z,730nm,18.6s						
MVCO	Mesa Verde	81.83	47	P	P	18 34 33.9	+0.3
	baz=240						
TGL	Tana Glacier	82.02	15	P	P	18 34 33.3	-0.6
PV10	Paradox Valley	82.03	46	IAmb	IAmb	18 34 36.1	
	comp=Z,51nm,1.4s						
HWUT	Hardware Ranch	82.04	42	IAmb	IAmb	18 34 35.8	
	comp=Z,50nm,1.9s						
PV19	Morning Glory	82.04	46	P	P	18 34 34.1	-0.5
PV19				IAmb	IAmb	18 34 36.3	
	comp=Z,44nm,1.2s						
PV17	East Wray Mesa	82.04	46	IAmb	IAmb	18 34 36.3	
	comp=Z,41nm,1.2s						
PV14	Lion Creek, Pa	82.04	46	IAmb	IAmb	18 34 36.3	
	comp=Z,43nm,1.2s						
PV18	Skein Mesa, Pa	82.06	46	IAmb	IAmb	18 34 36.4	
	comp=Z,41nm,1.3s						
PV20	West Nyswonger	82.06	46	IAmb	IAmb	18 34 36.4	
	comp=Z,38nm,1.2s						
PV13	Radium Mtn., P	82.07	46	IAmb	IAmb	18 34 36.5	
	comp=Z,38nm,1.3s						
PV16	Nyswonger Mesa	82.08	46	IAmb	IAmb	18 34 36.6	
	comp=Z,43nm,1.3s						
PV23	Carpenter Ridg	82.09	46	IAmb	IAmb	18 34 39.3	
	comp=Z,34nm,1.0s						
PV03	Paradox Valley	82.10	46	IAmb	IAmb	18 34 36.6	
	comp=Z,49nm,1.4s						
PV11	David Mesa, Pa	82.11	46	IAmb	IAmb	18 34 37.4	
	comp=Z,53nm,1.3s						
PV04	Paradox Valley	82.13	46	IAmb	IAmb	18 34 36.9	
	comp=Z,35nm,1.2s						
PV02	Paradox Valley	82.15	46	IAmb	IAmb	18 34 36.9	
	comp=Z,41nm,1.2s						
PV21	Cone Mtn., Par	82.17	45	IAmb	IAmb	18 34 37.2	
	comp=Z,35nm,1.1s						
ANMO	Albuquerque	82.19	50	*ce*P	P	18 34 35.9	+0.4
ANMO				pmax	pmax		
	comp=Z,19nm,1.7s						
ANMO	Albuquerque	82.19	50	P	P	18 34 35.9	+0.4
	baz=242						
ANMO	Albuquerque	82.19	50	P	P	18 34 35.5	0.0
PV01	Paradox Valley	82.23	46	IAmb	IAmb	18 34 37.2	
	comp=Z,29nm,1.0s						
PV22	Blue Mesa, Par	82.28	46	P	P	18 34 36.4	+0.5
JIS	Juneau Island	82.29	20	P	P	18 34 33.9	-1.2
PV07	Paradox Valley	82.33	46	IAmb	IAmb	18 34 37.8	
	comp=Z,23nm,1.1s						
BALM	Baldy	82.38	15	IAmb	IAmb	18 34 49.6	
	comp=Z,21nm,1.0s						
GLB	Gilahina Butte	82.40	14	P	P	18 34 34.3	-1.4
GLB				IAmb	IAmb	18 34 38.2	
	comp=Z,25nm,1.0s						
PV15	Paradox Valley	82.40	46	IAmb	IAmb	18 34 38.1	
	comp=Z,25nm,1.0s						
M24K	Tolsona, Glenn	82.48	12	P	P	18 34 36.1	-0.1
	baz=206						
CTGM	Chitina Glacie	82.57	15	IAmb	IAmb	18 34 46.4	
	comp=Z,25nm,1.0s						
BARN	Barnard Glacie	82.57	15	P	P	18 34 35.7	-1.1
NEW	Newport	82.58	34	P	P	18 34 36.6	-0.4
	baz=233,SNR=5.3						
DLV	T Lat	82.76	285	IAmb	IAmb	18 34 41.8	
	comp=Z,27nm,0.9s						
KTH	Kantishna Hill	82.94	10	P	P	18 34 37.3	-1.2
AHID	Auburn Hatcher	82.95	41	IAmb	IAmb	18 34 40.6	
	comp=Z,41nm,1.3s						
TRF	Thorofare Moun	82.95	10	P	P	18 34 36.8	-1.9
SKAG	Skagway	82.95	18	P	P	18 34 39.3	+0.7
SKAG				IAmb	IAmb	18 34 40.7	
	comp=Z,33nm,1.2s						
DL2	Dalian	83.01	314	P	P	18 34 41.1	+1.7
DL2				S	S	18 45 03.8	+5.2
DL2				pmax	pmax		
	comp=Z,45nm,0.9s						
DL2				pmax	pmax		
	comp=Z,310nm,3.8s						
DL2				LR	LR		
	comp=Z,310nm,17.2s						
DL2				LR	LR		
	comp=Z,310nm,17.7s						
DL2				LR	LR		
	comp=Z,380nm,18.9s						
CN2	Changchun	83.06	320	*e*P	P	18 34 40.6	+1.0
CN2				*e*S	S	18 45 00.3	+1.4
CN2				pmax	pmax		
	comp=Z,40nm,1.1s						
CN2				pmax	pmax		
	comp=Z,310nm,7.3s						
CN2				LR	LR		
	comp=Z,320nm,20.0s						
CN2				LR	LR		
	comp=Z,370nm,20.0s						
CN2				LR	LR		
	comp=Z,440nm,23.0s						
RND	Reindeer	83.15	11	P	P	18 34 39.4	-0.3
RND				pmax	pmax		
	comp=Z,77nm,1.4s						
RND	Reindeer	83.15	11	P	P	18 34 39.4	-0.3
SNY	Shenyang	83.19	318	⇑P	P	18 34 41.6	+1.4
SNY				pmax	pmax		
	comp=Z,33nm,1.0s						
SNY				pmax	pmax		
	comp=Z,280nm,3.5s						
SNY				LR	LR		
	comp=Z,280nm,17.1s						
SNY				LR	LR		
	comp=Z,130nm,18.2s						
SNY				LR	LR		
	comp=Z,370nm,22.3s						
S22A	4UR Ranch, Cre	83.25	47	P	P	18 34 41.9	+0.8
	baz=242,SNR=48						
TPAW	Teton Pass	83.42	40	IAmb	IAmb	18 34 42.3	
	comp=Z,31nm,0.9s						
BPAW	Bear Paw Mtn.	83.44	10	P	P	18 34 39.1	-2.0
BPAW				IAmb	IAmb	18 34 49.9	
	comp=Z,26nm,1.4s						
DLMT	Dillon	83.44	38	IAmb	IAmb	18 34 43.2	
	comp=Z,28nm,0.9s						
O20A	White River Ci	83.44	44	P	P	18 34 42.1	+0.2
	baz=240,SNR=9.5						
O20A	White River Ci	83.44	44	IAmb	IAmb	18 34 42.7	
	comp=Z,22nm,1.0s						
HYT	Haines Junctio	83.44	17	IAmb	IAmb	18 34 43.1	
	comp=Z,26nm,1.2s						
FXWY	Fox Creek	83.45	40	IAmb	IAmb	18 34 43.5	
	comp=Z,48nm,1.4s						
MSO	Missoula	83.48	36	P	P	18 34 41.1	-0.7
	baz=236,SNR=12						
MSO	Missoula	83.48	36	P	P	18 34 40.7	-1.1
MSO				IAmb	IAmb	18 34 42.5	
	comp=Z,45nm,1.5s						
IMW	Indian Meadow	83.64	40	IAmb	IAmb	18 34 44.5	
	comp=Z,30nm,0.9s						
LOHW	Long Hollow	83.70	40	IAmb	IAmb	18 34 44.5	
	comp=Z,39nm,1.4s						
MENT	Mentasta	83.74	13	P	P	18 34 41.8	-0.9
MENT				IAmb	IAmb	18 34 56.9	
	comp=Z,20nm,1.0s						
BWN	Browne	83.76	10	P	P	18 34 41.8	-0.8
MYKOM	Kota Tinggi	83.85	274	P	P	18 34 44.0	-0.3
DLBC	Dease Lake	83.86	21	IAmb	IAmb	18 34 45.0	
	comp=Z,23nm,1.2s						
BW06	Boulder Array	83.92	42	P	P	18 34 43.9	-0.4
	baz=239,SNR=29						
BW06	Boulder Array	83.92	42	IAmb	IAmb	18 34 45.1	
	comp=Z,23nm,0.9s						
PD31	Pinedale Array	83.92	42	IAmb	IAmb	18 34 45.1	
	comp=Z,20nm,0.9s						
PDAR	Pinedale Array	83.92	42	P	P	18 34 44.0	-0.4
	comp=Z,15nm,0.8s,baz=214,slow=3.3,SNR=93						
PDAR				LR	LR	19 05 09.6	
	comp=Z,193nm,20.4s,baz=265,slow=31						
PDAR	Pinedale Array	83.92	42	P	P	18 34 43.5	-0.9
QIZ	Qiongzhong	84.00	292	P	P	18 34 45.1	+0.2
QIZ				sP	PcP	18 34 49.8	+0.9
QIZ				PP	PP	18 37 56.4	-2.6
QIZ				S	S	18 45 08.1	-1.3
QIZ				SS	SS	18 50 38.1	0.0
QIZ				pmax	pmax		
	comp=Z,200nm,3.7s						
QIZ				LR	LR		
	comp=Z,300nm,15.5s						
QIZ				LR	LR		
	comp=Z,360nm,15.3s						
QIZ				LR	LR		
	comp=Z,480nm,21.6s						
H17A	Grant Village	84.13	40	P	P	18 34 46.8	+1.4
	baz=238,SNR=15						
H17A	Grant Village	84.13	40	P	P	18 34 46.7	+1.4
H17A				IAmb	IAmb	18 34 47.9	
	comp=Z,24nm,0.8s						
BOZ	Bozeman (W)	84.14	38	P	P	18 34 44.6	-0.7
BOZ				pmax	pmax		
	comp=Z,32nm,0.9s						
BOZ	Bozeman (W)	84.14	38	P	P	18 34 45.4	+0.2
	baz=237,SNR=42						
BOZ	Bozeman (W)	84.14	38	P	P	18 34 44.6	-0.7
BOZ				IAmb	IAmb	18 34 46.7	
	comp=Z,32nm,0.9s						
SDCO	Great Sand Dun	84.17	47	P	P	18 34 45.9	+0.1
	baz=242,SNR=14						
NEA2	Nenana	84.21	10	P	P	18 34 43.9	-1.1
	baz=203						
WRH	Wood River Hil	84.27	11	P	P	18 34 44.2	-1.1
DOT	Dot Lake	84.30	13	IAmb	IAmb	18 34 59.0	
	comp=Z,34nm,1.0s						
LKWY	Lake	84.33	40	P	P	18 34 48.3	+1.9
LKWY				pmax	pmax		
	comp=Z,34nm,0.9s						
LKWY	Lake	84.33	40	P	P	18 34 48.3	+1.9
HDA	Harding Lake	84.42	11	P	P	18 34 45.5	-0.6
	baz=205						
MSTX	Muleshoe	84.47	52	P	P	18 34 47.6	+0.4
	baz=244,SNR=10						
SCRK	Sand Creek	84.61	12	P	P	18 34 47.0	-0.2
	baz=208						
WHN	Wuhan	84.62	304	P	P	18 34 49.5	+1.7
T25A	Trinidad	84.67	48	P	P	18 34 48.4	+0.1
	baz=243,SNR=6.0						
TCOL	CIGO, UAF Yank	84.68	11	P	P	18 34 47.2	-0.1
	baz=204						
COLA	College	84.68	11	*c iP*	P	18 34 46.5	-0.8
COLA				pmax	pmax		
	comp=Z,81nm,1.0s						
COLA	College	84.68	11	P	P	18 34 46.9	-0.4
IL31		84.76	11	P	P	18 34 46.6	-1.1
ILAR	Eielson Array	84.76	11	P	P	18 34 47.0	-0.7
	comp=Z,9.5nm,1.0s,baz=226,slow=5.9,SNR=45						
ILAR				LR	LR	19 09 44.8	
	comp=Z,292nm,18.0s,baz=208,slow=34						
ILAR	Eielson Array	84.76	11	P	P	18 34 46.8	-1.0
ILAR	Eielson Array	84.76	11	P	P	18 34 46.8	-1.0
SEY	Seymchan	84.89	345	*c iP*	P	18 34 48.2	-0.2
TIA	Tai'an	84.92	310	P	P	18 34 50.5	+1.2
TIA				pmax	pmax		
	comp=Z,21nm,1.0s						
TIA				pmax	pmax		
	comp=Z,270nm,4.1s						
POKR	Poker Plat Res	84.98	11	P	P	18 34 48.5	-0.3
	baz=205						
Q24A	Divide	84.98	47	P	P	18 34 50.4	+0.5
	baz=242						
ISCO	Idaho Springs	85.05	46	P	P	18 34 50.6	+0.3
	baz=242,SNR=6.1						
K27K	Chicken	85.06	13	P	P	18 34 49.8	+0.5
	baz=210						
RLMT	Red Lodge	85.30	40	P	P	18 34 51.7	+0.5
	baz=239,SNR=11						
RLMT	Red Lodge	85.30	40	IAmb	IAmb	18 34 52.7	
	comp=Z,20nm,0.9s						
N23A	Red Feather La	85.34	45	P	P	18 34 51.8	+0.2
	baz=242,SNR=5.4						
MAW	Mawson	85.59	199	P	P	18 34 53.7	+1.7
	comp=Z,7.0nm,0.8s,baz=113,slow=5.4,SNR=21						
MAW				LR	LR	19 09 54.5	
	comp=Z,676nm,21.3s,baz=94,slow=33						
MAW	Mawson	85.59	199	P	P	18 34 53.4	+1.4
MAW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAW	Mawson	85.59	199	P	P	18 34 53.4	+1.4
AMTX	Amarillo	85.67	51	P	P	18 34 53.1	-0.1
	baz=245						
AMTX	Amarillo	85.67	51	P	P	18 34 52.7	-0.5
K22A	Casper	85.80	43	P	P	18 34 53.7	0.0
	baz=241						
EGAK	Eagle	85.91	13	IAmb	IAmb	18 35 08.3	
	comp=Z,30nm,1.0s						
ABTX	Abilene, Hawle	86.29	54	P	P	18 34 56.4	+0.2
	baz=246,SNR=14						
ABTX	Abilene, Hawle	86.29	54	IAmb	IAmb	18 34 57.7	
	comp=Z,43nm,1.1s						
COLD	Coldfoot	86.48	9	P	P	18 34 57.0	+0.7
	baz=202						
COLD	Coldfoot	86.48	9	P	P	18 34 56.8	+0.6
COLD				IAmb	IAmb	18 35 11.9	
	comp=Z,21nm,1.1s						
EGMT	Eagleton	86.52	37	P	P	18 34 56.6	-0.4
	baz=239						
UBPT	Khong Chiam	86.64	287	IAmb	IAmb	18 35 00.9	
	comp=Z,27nm,1.1s						
BILL	Bilibino	86.91	352	*e*P	P	18 34 58.5	+0.1
BILL				*e*		18 35 08.7	
BILL				*e*		18 38 20.1	
BILL				pmax	pmax		
	comp=Z,33nm,1.3s						
BILL	Bilibino	86.91	352	P	P	18 34 58.7	+0.3
BILL				IAmb	IAmb	18 35 11.9	
	comp=Z,26nm,1.0s						
435B	Jarrell	87.18	57	P	P	18 35 01.6	+1.1
	baz=248						
435B	Jarrell	87.18	57	IAmb	IAmb	18 35 14.4	
	comp=Z,19nm,0.8s						
BJI	Beijing	87.27	314	P	P	18 35 02.1	+1.4
BJI				PP	PP	18 38 25.6	+0.5
BJI				S	SKKSac	18 45 36.4	-0.9
BJI				pmax	pmax		
	comp=Z,25nm,1.3s						
BJI				pmax	pmax		
	comp=Z,260nm,4.3s						
BJI				LR	LR		
	comp=Z,130nm,17.4s						
BJI				LR	LR		
	comp=Z,280nm,21.0s						
BJI				LR	LR		
	comp=Z,400nm,22.8s						
IPM	Ipoh	87.36	276	P	P	18 35 04.0	+2.2
ZEA	Zeya	87.59	329	*e*P	P	18 35 02.7	+0.8
ZEA				pmax	pmax		
	comp=N,56nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,69nm,1.4s						
ZEA				MLR	MLR		
	comp=Z,600nm,21.0s						
PLCA	Paso Flores	87.75	132	P	P	18 35 06.3	+3.0
	comp=Z,3.0nm,0.8s,baz=280,slow=5.7,SNR=5.2						
PLCA				LR	LR	19 06 24.3	
	comp=Z,485nm,21.0s,baz=310,slow=30						
PLCA	Paso Flores	87.75	132	P	P	18 35 05.4	+2.1
PLCA				pmax	pmax		
	comp=Z,13nm,1.4s						
PLCA	Paso Flores	87.75	132	P	P	18 35 05.4	+2.1
WHTX	Lake Whitney,	87.75	55	P	P	18 35 03.5	+0.3
	baz=248						
WMOK	Wichita Mounta	87.79	53	P	P	18 35 03.1	-0.4
	baz=247						
TOLK	Toolik Lake Re	87.89	8	P	P	18 35 03.3	+0.2
	baz=202						
TOLK	Toolik Lake Re	87.89	8	P	P	18 35 01.7	-1.5
LAO	LASA Array	87.93	39	P	P	18 35 01.9	-1.9
	baz=241						
LAO	LASA Array	87.93	39	P	P	18 35 01.4	-2.4
LAO				IAmb	IAmb	18 35 20.2	
	comp=Z,19nm,0.9s						
RSSD	Black Hills	88.09	42	P	P	18 35 04.1	-0.8
RSSD				pmax	pmax		
	comp=Z,13nm,0.9s						
RSSD	Black Hills	88.09	42	P	P	18 35 04.3	-0.6
	baz=243						
RSSD	Black Hills	88.09	42	P	P	18 35 04.1	-0.8
RSSD				IAmb	IAmb	18 35 05.1	
	comp=Z,13nm,0.9s						
RPSI	Rantau Prapat	88.81	273	P	P	18 35 08.7	0.0
PSI	Prapat	88.84	273	P	P	18 35 09.7	+0.7
	comp=Z,54nm,1.0s,baz=180,slow=2.4,SNR=17						
PSI	Prapat	88.84	273	P	P	18 35 08.7	-0.3
PSI				pmax	pmax		
	comp=Z,87nm,1.1s						
TIY	Taiyuan	88.96	310	*e*P	P	18 35 11.6	+2.6
TIY				S	SKKSac	18 45 43.8	-6.5
TIY				pmax	pmax		
	comp=Z,240nm,5.7s						
TIY				LR	LR		
	comp=Z,170nm,5.6s						
TIY				LR	LR		
	comp=Z,280nm,13.8s						
TIY				LR	LR		
	comp=Z,510nm,18.5s						
GYA	Guiyang	89.35	298	⇑P	P	18 35 13.3	+2.2
GYA				S	SKKSac	18 45 56.5	+2.7
GYA				pmax	pmax		
	comp=Z,35nm,1.2s						
GYA				pmax	pmax		
	comp=Z,230nm,4.7s						
GYA				LR	LR		
	comp=Z,340nm,22.5s						
GYA				LR	LR		
	comp=Z,210nm,12.4s						
GYA				LR	LR		
	comp=Z,290nm,19.3s						
DGMT	Dagmar	89.97	38	P	P	18 35 13.7	+0.3
	baz=243						
SLVN	Son La	90.02	292	IAmb	IAmb	18 35 18.0	
	comp=Z,26nm,1.2s						
XAN	Xi'an	90.20	306	P	P	18 35 16.3	+1.5
XAN				SKS	SKSac	18 45 48.4	+2.3
XAN				pmax	pmax		
	comp=Z,30nm,1.3s						
XAN				pmax	pmax		
	comp=Z,330nm,8.7s						
XAN				LR	LR		
	comp=Z,340nm,19.5s						
XAN				LR	LR		
	comp=Z,340nm,18.7s						
XAN				LR	LR		
	comp=Z,550nm,20.9s						
SYO	Syowa Base	90.29	191	⇑*e*X	P	18 35 11.8	-2.7
SYO	Syowa Base	90.29	191	⇑*es*P	sP	18 35 19.8	+0.9
VNA3	Neumayer Olymp	90.45	175	P	P	18 35 17.2	+1.9
SNAA	Sanae	90.50	177	P	P	18 35 16.8	+1.1
SNAA	Sanae	90.50	177	*de*P	P	18 35 16.3	+0.7
SNAA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SNAA	Sanae	90.50	177	P	P	18 35 16.0	+0.4
HHC	Hu-ho-hao-te	90.81	313	*e*P	P	18 35 16.8	-0.8
HHC				PP	PP	18 38 57.8	+4.2
HHC				S	SKKSac	18 46 09.9	+5.8
HHC				SS	SS	18 52 15.6	-1.6
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,7.5s						
HHC				LR	LR		
	comp=Z,300nm,15.8s						
HHC				LR	LR		
	comp=Z,300nm,17.6s						
HHC				LR	LR		
	comp=Z,290nm,21.0s						
VNA2	Neumayer--Watz	90.94	175	P	P	18 35 19.6	+1.9
VNA1	Neumayer--Stat	91.14	175	P	P	18 35 20.5	+2.0
YAK	Yakutsk	91.40	337	*e*P	P	18 35 18.4	-1.2
YAK				*e*		18 39 00.8	
YAK				*e*S	SKSac	18 45 50.4	-1.1
YAK				*e*		18 46 22.4	
YAK				*e*SS	SS	18 52 26.8	+2.3
YAK				pmax	pmax		
	comp=Z,17nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,116nm,5.5s						
YAK				pmax	pmax		
	comp=N,104nm,4.6s						
YAK				pmax	pmax		
	comp=E,31nm,2.3s						
YAK				smax	smax		
	comp=N,36nm,1.9s						
YAK				smax	smax		
	comp=E,32nm,2.4s						
YAK	Yakutsk	91.40	337	P	P	18 35 18.9	-0.7
YAK				IAmb	IAmb	18 35 20.2	
	comp=Z,15nm,1.0s						
JTS	Las Juntas de	91.43	80	P	P	18 35 22.4	+1.5
	comp=Z,5.2nm,0.5s,baz=21,slow=11,SNR=3.7						
JTS	Las Juntas de	91.43	80	⇑*e*P	P	18 35 22.3	+1.4
JTS				pmax	pmax		
	comp=Z,48nm,2.1s						
JTS	Las Juntas de	91.43	80	P	P	18 35 20.0	-0.9
JTS				IAmb	IAmb	18 35 31.0	
	comp=Z,27nm,1.3s						
NVL	N'lazarevskaya	91.58	182	*e*P	P	18 35 16.7	-3.9
NVL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MIAR	Mount Ida	91.70	54	P	P	18 35 21.7	0.0
	baz=250						
W39A	Magazine	91.77	54	P	P	18 35 22.8	+0.8
	baz=250						
W39A	Magazine	91.77	54	IAmb	IAmb	18 35 23.8	
	comp=Z,15nm,1.1s						
BTO	Baotou	91.80	312	*e*P	P	18 35 23.8	+1.6
YKA	Yellowknife Ar	92.22	23	P	P	18 35 24.2	+0.8
	comp=Z,4.3nm,1.0s,baz=243,slow=4.2,SNR=7.2						
YKA				LR	LR	19 09 39.8	
	comp=Z,400nm,21.7s,baz=0.0,slow=31						
KMI	Kunming	92.25	296	⇑*e*P	P	18 35 27.4	+2.6
KMI				pP	sP	18 35 29.0	-0.1
KMI				sP	pwP	18 35 30.0	-0.9
KMI				pmax	pmax		
	comp=Z,44nm,1.1s						
KMI				pmax	pmax		
	comp=Z,210nm,3.5s						
KMI				LR	LR		
	comp=Z,240nm,10.3s						
KMI				LR	LR		
	comp=Z,260nm,22.6s						
KMI				LR	LR		
	comp=Z,400nm,16.1s						
UALR	University of	92.74	54	IAmb	IAmb	18 35 40.9	
	comp=Z,15nm,0.9s						
ECSD	EROS Data Cent	92.81	45	P	P	18 35 26.2	-0.5
	baz=248						
ECSD	EROS Data Cent	92.81	45	IAmb	IAmb	18 35 40.1	
	comp=Z,11nm,1.0s						
U40A	Yellville	92.88	53	P	P	18 35 27.1	0.0
	baz=250						
U40A	Yellville	92.88	53	IAmb	IAmb	18 35 28.3	
	comp=Z,25nm,1.4s						
W41B	Gary Mavity, V	92.94	54	P	P	18 35 28.0	+0.6
	baz=250						
W41B	Gary Mavity, V	92.94	54	IAmb	IAmb	18 35 29.3	
	comp=Z,24nm,1.2s						
WHAR	Wooly Hollow	92.95	54	IAmb	IAmb	18 35 29.0	
	comp=Z,17nm,0.9s						
S39A	Bolivar	92.98	51	IAmb	IAmb	18 35 29.4	
	comp=Z,38nm,1.8s						
CD2	Chengdu	93.24	301	*e*P	P	18 35 30.6	+1.6
CD2				pmax	pmax		
	comp=Z,370nm,10.0s						
FCAR	Ozark Folk Cen	93.28	53	IAmb	IAmb	18 35 30.2	
	comp=Z,28nm,1.4s						
P38A	Dawn	93.49	50	IAmb	IAmb	18 35 30.5	
	comp=Z,15nm,1.3s						
CMAR	Chiang Mai Arr	93.56	288	P	P	18 35 32.9	+2.2
	comp=Z,14nm,0.9s,baz=96,slow=2.7,SNR=82						
CMAR				LR	LR	19 14 20.4	
	comp=Z,278nm,20.5s,baz=182,slow=34						
CMAR	Chiang Mai Arr	93.56	288	P	P	18 35 32.4	+1.7
CMAR	Chiang Mai Arr	93.56	288	P	P	18 35 32.4	+1.7
CHTO	Chiang Mai	93.67	288	P	P	18 35 31.8	+0.6
CHTO				pmax	pmax		
	comp=Z,21nm,0.9s						
CHTO	Chiang Mai	93.67	288	P	P	18 35 31.8	+0.6
CHTO				IAmb	IAmb	18 35 34.2	
	comp=Z,21nm,0.9s						
R40A	Maddies Statio	93.97	51	IAmb	IAmb	18 35 33.0	
	comp=Z,16nm,1.0s						
LCAR	Lake Charles	94.08	54	IAmb	IAmb	18 35 33.7	

comp=Z,18nm,1.3s
N38A Joes South For 94.11 49 IAmb IAmb 18 35 45.4
comp=Z,16nm,0.8s
T42A Van Buren 94.44 53 IAmb IAmb 18 35 34.9
comp=Z,9.4nm,0.9s
CCM Cathedral Cave 94.65 52 P **P** **18 35 33.7 -1.5**
CCM pmax pmax
comp=Z,7.0nm,1.0s
CCM Cathedral Cave 94.65 52 P **P** **18 35 34.6 -0.6**
baz=251
CCM Cathedral Cave 94.65 52 P **P** **18 35 33.7 -1.5**
LZH Lanzhou 94.81 306 *e*P **P** **18 35 38.3 +2.0**
LZH pP sP 18 35 41.1 +0.5
LZH S **S** **18 46 55.1 +4.8**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,230nm,17.4s
LZH LR LR
comp=Z,350nm,13.0s
LZH LR LR
comp=Z,330nm,15.7s
F36A Milaca 95.62 44 IAmb IAmb 18 35 40.2
comp=Z,12nm,1.1s
ULM Lac du Bonnet 95.67 39 P **P** **18 35 38.0 -1.5**
comp=Z,7.4nm,0.9s,baz=277,slow=7.9,SNR=5.4
ULM LR LR 19 15 01.5
comp=Z,457nm,18.2s,baz=272,slow=33
ULM Lac du Bonnet 95.67 39 IAmb IAmb 18 35 38.8
comp=Z,9.4nm,0.8s
SPMN Marine on St. 95.89 44 P **P** **18 35 40.8 +0.1**
baz=251
SPMN Marine on St. 95.89 44 IAmb IAmb 18 35 41.4
comp=Z,17nm,0.9s
B35A Bob, Littlefor 96.33 41 IAmb IAmb 18 35 42.4
comp=Z,13nm,1.1s
ULN Ulaanbaatar 96.36 318*c i*P **P** **18 35 43.5 +0.5**
ULN pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 96.36 318 P **P** **18 35 42.9 -0.1**
ULN IAmb IAmb 18 35 47.1
comp=Z,7.7nm,0.9s
SONM Songino Array 96.77 318 P **P** **18 35 45.5 +0.6**
comp=Z,2.2nm,0.9s,baz=130,slow=3.5,SNR=13
SONM PP **PP** **18 39 36.3 -3.8**
comp=Z,0.6nm,1.0s,baz=116,slow=6.6,SNR=3.8
SONM LR LR 19 17 12.2
comp=Z,256nm,19.1s,baz=120,slow=34
SONM Songino Array 96.77 318 P **P** **18 35 45.2 +0.3**
SONM 18 39 35.6
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 96.77 318 P **P** **18 35 45.2 +0.3**
SONM **PP** **18 39 35.5 -4.5**
TIXI Tiksi 97.37 344⇑*e*P **P** **18 35 46.4 -0.4**
TIXI pmax pmax
comp=Z,13nm,1.4s
TIXI Tiksi 97.37 344 P Pdif 18 35 47.2 +0.3
TIXI IAmb IAmb 18 35 50.0
comp=Z,11nm,1.2s
LPAZ La Paz 98.79 110 LR LR 19 10 32.6
comp=Z,378nm,22.0s,baz=254,slow=29
GTA Gaotai 98.84 308 *e*P Pdif 18 35 55.3 +0.9
GTA pP pwP 18 36 00.3 -0.2
GTA sP sP 18 36 05.0 +6.3
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,57nm,4.9s
GTA LR LR
comp=Z,190nm,21.7s
GTA LR LR
comp=Z,400nm,22.1s
GTA LR LR
comp=Z,600nm,22.1s
T50A Nancy 99.22 54 IAmb IAmb 18 36 00.8
comp=Z,11nm,1.1s
ZAK Zakamensk 99.49 320 *e*P **Pdif** **18 35 47.1 -10**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 99.64 321 P **Pdif** **18 35 59.2 +1.7**
comp=Z,4.2nm,0.7s,baz=77,slow=3.1,SNR=3.3
ROSC El Rosal 99.89 88 LR LR 19 12 08.0
comp=Z,82nm,20.2s,baz=216,slow=30
ZAA0 Zalesovo Array 111.24 322 PKiKP **PKiKP** **18 40 47.2 -0.4**
ZALV Zalesovo Beam 111.24 322 PKiKP **PKiKP** **18 40 47.9 +0.2**
comp=Z,1.5nm,0.6s,baz=71,slow=1.1,SNR=7.5
ZALV Zalesovo Beam 111.24 322 *i* PKIKP **PKiKP** **18 40 47.0 -0.6**
ZALV Zalesovo Beam 111.24 322 **PKiKP** **18 40 47.0 -0.6**
MK31 Makanchi Array 112.65 314 *i* PKIKP **PKiKP** **18 40 50.5 -0.1**
MK31 Makanchi Array 112.65 314 PKiKP **PKiKP** **18 40 50.5 -0.1**
MKAR Makanchi Array 112.65 314 Pdiff **Pdif** **18 36 57.8 +2.3**
comp=Z,0.5nm,0.9s,baz=67,slow=4.8,SNR=4.1
MKAR PKiKP **PKiKP** **18 40 50.6 0.0**
comp=Z,3.7nm,0.9s,baz=70,slow=1.6,SNR=20
MKAR Makanchi Array 112.65 314 P **Pdif** **18 36 56.5 +1.0**
MKAR Makanchi Array 112.65 314 **Pdif** **18 36 56.5 +1.0**
MAKZ Makanchi 112.87 314 *i* PKIKP **PKiKP** **18 40 49.8 -1.2**
MAKZ Makanchi 112.87 314 PKiKP **PKiKP** **18 40 49.8 -1.2**
SEM Semipalatinsk 114.05 318 *e*PKiKP PKPdf 18 40 52.5 -0.9
baz=318
SEM LR LR 19 25 25.5
comp=Z,152nm,19.2s,baz=318
SEM Semipalatinsk 114.05 318 *i* PKIKP PKPdf 18 40 52.5 -0.9
SEM MLR MLR
comp=Z,151nm,19.0s
SHLS Shalkode 114.53 310 *e*PKiKP PKPdf 18 40 53.6 -0.9
baz=310
SHLS Shalkode 114.53 310 *i* PKIKP PKPdf 18 40 53.5 -1.0
UZB Uzynbulak 114.85 310 *e*PKP PKPdf 18 40 54.4 -0.7
baz=310
UZB Uzynbulak 114.85 310 *e*PKIKP PKPdf 18 40 54.4 -0.7
KURK Kurchatov 115.08 318⇓*i*PKIKP **PKPdf** **18 40 55.4 +0.3**
KURK pmax pmax
comp=Z,11nm,1.7s
SATY Saty 115.30 310 *e*PKP **PKPdf** **18 40 55.5 -0.4**
baz=310
SATY Saty 115.30 310 *e*PKIKP **PKPdf** **18 40 55.5 -0.4**
TDK Taldyqorghan 115.33 312 *e*PKP **PKiKP** **18 40 55.6 -0.2**
baz=312
TDK LR LR 19 27 17.1
comp=Z,280nm,16.2s,baz=312
TDK Taldyqorghan 115.33 312 *e*PKIKP **PKiKP** **18 40 55.6 -0.2**
TDK MLR MLR
comp=Z,280nm,16.0s
KSH Kashi 117.06 306 PKP **PKiKP** **18 41 03.0 +3.5**
KSH PP PP 18 42 18.8 +9.4
KSH PKS **PKSdf** **18 44 37.0 +0.8**
KSH AMB AMB
comp=Z,150nm,5.8s
KSH LR LR
comp=Z,140nm,5.2s
KSH LR LR
comp=Z,160nm,6.0s
KSH LR LR
comp=Z,170nm,8.1s
BTLS Baital 118.42 312 *e*PKP **PKPdf** **18 41 01.5 -0.2**
baz=312
BTLS Baital 118.42 312 *e*PKIKP **PKPdf** **18 41 01.5 -0.2**
BRZS Berezniki 118.93 318 *e*PKP **PKPdf** **18 41 01.9 -0.6**
baz=318
BRZS Berezniki 118.93 318 *e*PKIKP **PKPdf** **18 41 01.9 -0.6**
DZA Taraz 120.50 310 *e*PKP **PKiKP** **18 41 05.9 0.0**
baz=310
DZA Taraz 120.50 310 *e*PKIKP **PKiKP** **18 41 05.9 0.0**
KK31 Karatay Array 121.08 310 PKIKP **PKPdf** **18 41 07.0 +0.1**
KK31 Karatay Array 121.08 310 PKPdf **PKPdf** **18 41 07.0 +0.1**
KKAR Karatay Array 121.08 310 PKIKP **PKPdf** **18 41 05.6 -1.3**
KKAR Karatay Array 121.08 310 PKPdf **PKPdf** **18 41 05.6 -1.3**
GAR Garm 121.45 305 PKPdf **PKiKP** **18 41 08.1 0.0**
IUG Iuzhnay 121.50 309 *e*PKP **PKPdf** **18 41 07.2 -0.7**
baz=309
IUG Iuzhnay 121.50 309 *e*PKIKP **PKPdf** **18 41 07.2 -0.7**
KBL Kabul 122.55 300 PKIKP **PKPdf** **18 41 10.3 0.0**
KBL Kabul 122.55 300 PKPdf **PKPdf** **18 41 10.3 0.0**
SVE Sverdlovsk 124.27 328 *i* PKIKP **PKPdf** **18 41 12.7 +0.1**
SVE pmax pmax
comp=Z,10.0nm,0.9s
SVE MLR MLR
comp=Z,422nm,20.0s
ARU Arti 125.49 328 PKP **PKiKP** **18 41 15.8 +0.5**
comp=Z,2.7nm,0.6s,baz=112,slow=2.1,SNR=12
ARU Arti 125.49 328 *i* PKIKP **PKiKP** **18 41 15.2 -0.1**
ARU 18 43 04.8
ARU 18 48 26.6
ARU SS SS 18 59 57.6 -6.7
ARU MLR MLR
comp=Z,440nm,20.0s
ARU Arti 125.49 328 PKPdf **PKPdf** **18 41 14.9 0.0**
ARCES ARCESS Array B 127.01 352 PKP **PKiKP** **18 41 18.4 +0.4**
comp=Z,4.9nm,0.7s,baz=321,slow=1.3,SNR=7.6
ARCES ARCESS Array B 127.01 352 PKIKP **PKiKP** **18 41 17.9 -0.1**
ARCES ARCESS Array B 127.01 352 **PKiKP** **18 41 17.9 -0.1**
ABKAR Akbulak array 127.17 319 PKPdf **PKiKP** **18 41 18.8 -0.1**
AKTO Aktyubinsk 127.99 321 PKP **PKiKP** **18 41 20.9 +0.5**
comp=Z,2.7nm,0.7s,baz=57,slow=2.3,SNR=5.8
PRGR Permogore 128.44 338 *e*PKIKP **PKPdf** **18 41 18.3 -2.1**
PRGR pmax pmax
comp=Z,9.0nm,1.0s
KIRV Kirov 128.78 333 PKP **PKiKP** **18 41 23.1 +1.3**
comp=Z,12nm,0.5s,baz=91,slow=3.0,SNR=3.7
BOSA Boshof 130.52 201 PKP **PKiKP** **18 41 28.2 +1.6**
comp=Z,5.8nm,1.0s,baz=193,slow=5.5,SNR=4.4
GEYT Alibeck 131.08 305 PKP **PKiKP** **18 41 27.4 +0.2**
comp=Z,2.7nm,0.8s,baz=222,slow=2.0,SNR=5.6
GEYT PP **PP** **18 43 41.6 -1.9**
comp=Z,0.9nm,0.4s,baz=294,slow=4.7,SNR=4.1
GEYT Alibeck 131.08 305 PKPdf **PKPdf** **18 41 23.9 -2.3**
GEYT **PP** **18 43 41.1 -2.4**
KLMR Klimovskoe 131.11 339 *e*PKIKP **PKPdf** **18 41 25.3 -0.2**
KLMR pmax pmax
comp=Z,18nm,1.3s
KLMR Klimovskoe 131.11 339 *e*PKPdf **PKPdf** **18 41 25.4 -0.1**
KLMR AMP 18 41 39.1
comp=Z,18nm,1.3s
FINES FINESS Array B 134.33 347 PKP **PKiKP** **18 41 32.3 -0.6**
comp=Z,5.9nm,0.8s,baz=180,slow=0.2,SNR=10.0
OBN Obninsk 136.39 336*d i*PKIKP **PKiKP** **18 41 37.9 +0.7**
OBN *i* 18 41 46.6
OBN *e* 18 44 16.4
OBN *e*PPP PPP 18 47 15.2
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,197nm,20.0s
NB2 NORSAR Subarra136.71 357 PKPdf **PKPdf** **18 41 29.7 -6.4**
comp=Z,4.4nm,1.4s,baz=14,slow=1.8
NOA NORSAR Array B 136.71 357 PKP **PKiKP** **18 41 37.0 -0.8**
comp=Z,0.9nm,0.8s,baz=13,slow=4.0,SNR=4.3
LPSR Galich'ya Gora 137.15 332 *e*PKIKP **PKPdf** **18 41 37.6 +0.6**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
MAK Makhachkala 137.46 315 *e*P **Pdif** **18 38 42.8 -3.0**
MAK *i* 18 41 34.8
MAK pmax pmax
comp=Z,140nm,1.1s
VSR Storozhevoye 137.95 330 *e*PKIKP **PKPdf** **18 41 39.3 +0.7**
VSR pmax pmax
comp=Z,10.0nm,1.1s
ZEI Tsey 139.93 316 *i* PKIKP **PKPdf** **18 41 38.1 -4.7**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 140.16 319 *i* PKIKP **PKiKP** **18 41 46.0 +0.5**
KIV pmax pmax
comp=Z,19nm,1.1s
KLNR Kaliningrad 141.86 347*de*PKIKP **PKPdf** **18 41 43.5 -2.0**
BCA Borcka 142.05 316 ⇑P **PKPdf** **18 41 43.4 -3.0**
SOC Sochi 142.20 320 *e*PKHKP PKPpre 18 41 40.1
SOC *e*PPP PPP 18 47 57.7
SOC *e*SS SS 19 03 20.0 -6.5
SOC *e*SSS SSS 19 08 38.2
AKASG Malin Array Be 142.63 336 PKhKP **PKPdf** **18 41 43.2 -3.9**
comp=Z,1.3nm,0.5s,baz=39,slow=4.0,SNR=9.7
AKASG Malin Array Be 142.63 336 PKIKP **PKPdf** **18 41 42.8 -4.3**
AKASG Malin Array Be 142.63 336 PKPdf **PKPdf** **18 41 42.8 -4.3**
BEL Belsk 144.30 345 *e*PKP **PKPdf** **18 41 49.8 -0.2**
MARD Mardin 144.44 310 PKPdf **PKPdf** **18 41 50.5 -0.4**
KMBO Kilima Mbogo 144.62 241 PKP **PKiKP** **18 41 54.4 -1.3**
comp=Z,31nm,0.9s,baz=79,slow=4.4,SNR=48
KMBO Kilima Mbogo 144.62 241 PKIKP **PKPdf** **18 41 52.7 +0.6**
KMBO Kilima Mbogo 144.62 241 PKPdf **PKPdf** **18 41 52.6 +0.6**
RUE Ruedersdorf 144.97 353 *e*PKPbc **PKPdf** **18 41 50.8 -0.3**
baz=6.6,slow=2.8
SORM Soroca 145.02 335 ⇑P PKPbc 18 41 50.9 +0.3
SORM Soroca 145.02 335 ⇑PKIKP PKPbc 18 41 50.9 +0.3
LVV L'vov 145.19 340 *e*PKIKP **PKPdf** **18 41 51.4 -0.2**
NRDL Niedersach Rie 145.29 356 *e*PKPbc **PKPdf** **18 41 51.9 +0.3**
baz=6.6,slow=2.8
IBBN Ibbenburen 145.57 359 *e*PKPbc **PKPab** **18 41 53.0 +0.4**
baz=6.6,slow=2.8
ASSE Asse, Remlinge 145.62 356 *e*PKPbc **PKPab** **18 41 53.2 +0.5**
baz=6.6,slow=2.8
KWP Kalwaria Pacla 145.77 342 *e*PKP **PKPab** **18 41 53.8 +0.4**
KWP Kalwaria Pacla 145.77 342 PKIKP **PKPdf** **18 41 51.6 -1.0**
KWP Kalwaria Pacla 145.77 342 **PKPdf** **18 41 51.6 -1.0**
MILM Milestii Mici 145.78 333 ⇑P **PKPab** **18 41 53.5 0.0**
CLZ Clausthal 145.93 356 *e*PKPbc **PKPab** **18 41 54.4 +0.4**
baz=6.6,slow=2.8
OJC Ojcow 146.03 345 *e*PKP **PKPab** **18 41 54.7 +0.3**
KSP Ksiaz 146.19 349 *e*PKP **PKPab** **18 41 55.5 +0.6**
CLL Collm 146.22 353⇑*i*PKPbc **PKPab** **18 41 54.8 -0.2**
comp=Z,110nm,1.1s
CLL *e*PKPlp 18 41 58.0
comp=Z,200nm,18.2s
CLL *e*PP **PP** **18 45 14.0 -1.7**
CLL *e*PSKS 18 55 33.0
CLL *e*SS SS 19 04 24.0 +13
CLL *e*SSS SSS 19 09 42.0
CLL LmH 19 49 00.0
comp=N,200nm,20.3s
CLL LmH 19 49 00.0
comp=E,200nm,18.6s
CLL LmV 19 57 00.0
comp=Z,200nm,18.9s
CLL Collm 146.22 353⇑*i*PKP2 **PKPab** **18 41 54.8 -0.2**
CLL *e* 18 45 14.0
CLL pmax pmax
comp=Z,110nm,1.1s
CLL Collm 146.22 353 *e*PKPbc **PKPab** **18 41 54.9 -0.2**
baz=6.6,slow=2.8
GTTG Gottingen 146.25 356 *e*PKPbc **PKPab** **18 41 55.4 +0.3**
baz=6.6,slow=2.8
BUG Bochum--Univer 146.44 359 *e*PKPbc **PKPab** **18 41 55.6 -0.3**
baz=6.6,slow=2.8
NEUB Neuenburg 146.45 354 *e*PKPbc **PKPab** **18 41 55.8 0.0**
baz=6.6,slow=2.8
CHVC Chvalec 146.47 349 *e*PKP **PKPab** **18 41 56.4 +0.3**
OSTC Ostas 146.48 349 *e*PKP **PKPbc** **18 41 55.4 +0.2**
OSTC AMS AMS 19 46 20.0
comp=Z,400nm,18.9s
BRG Berggiesshubel 146.53 352 *i* PKP **PKPab** **18 41 55.9 -0.3**
comp=Z,71nm,1.3s
comp=N,326nm,22.9s
comp=E,139nm,17.3s
comp=Z,335nm,17.7s
BRG Berggiesshubel 146.53 352 *i* PKP2 **PKPab** **18 41 55.9 -0.3**
BRG pmax pmax
comp=Z,71nm,1.3s
BRG MLR MLR
comp=N,326nm,22.9s
BRG MLR MLR
comp=E,139nm,17.3s
BRG MLR MLR
comp=Z,335nm,17.7s
BRG Berggiesshubel 146.53 352 *e*PKPbc **PKPab** **18 41 56.2 0.0**
baz=6.6,slow=2.8
FBE Freiberg 146.56 352 *e*PKPbc **PKPab** **18 41 56.6 +0.3**
baz=6.6,slow=2.8
UPC Upice 146.56 349 *e*PKP **PKPab** **18 41 56.5 +0.1**
UPC AMS AMS 19 46 00.0
comp=Z,400nm,20.7s
UPC Upice 146.56 349 *e*PKP2 **PKPab** **18 41 56.5 +0.1**
UPC MLR MLR
comp=Z,400nm,20.7s
NIE Niedzica 146.64 344 *e*PKP **PKPab** **18 41 56.9 +0.2**
DPC Dobruska-Polom 146.66 349 *e*PKP **PKPdf** **18 41 54.6 +0.4**
DPC *ex* x 18 42 09.4
DPC AMS AMS 19 46 10.0
comp=Z,400nm,22.9s
DPC Dobruska-Polom 146.66 349 *e*PKP2 **PKPdf** **18 41 54.6 +0.4**
DPC MLR MLR
comp=Z,400nm,22.9s
BURAR Bucovina Array 146.67 337 ⇑P **PKPab** **18 41 56.8 -0.2**
BURAR Bucovina Array 146.67 337 ⇑PKP2 **PKPab** **18 41 56.8 -0.2**
BURAR Bucovina Array 146.67 337 **PKPab** **18 41 56.4 -0.6**
OKC Ostrava-Krasne 146.77 347 *e*PKP **PKPab** **18 41 56.6 -0.6**
OKC Ostrava-Krasne 146.77 347 *e*PKP2 **PKPab** **18 41 56.6 -0.6**
PVCC Panska Ves 146.78 351 *e*PKP **PKPdf** **18 41 54.8 +0.5**
PVCC AMS AMS 19 46 00.0
comp=Z,400nm,15.8s
PVCC Panska Ves 146.78 351 *e*PKP2 **PKPdf** **18 41 54.8 +0.5**
PVCC MLR MLR
comp=Z,400nm,15.8s
UZH Uzhgorod 146.78 341 *e*PKP2 **PKPbc** **18 41 56.2 +0.1**
CRVS Cervenica-Dubn 146.79 342 *e*PKP2 **PKiKP** **18 41 58.0 -0.8**
CRVS Cervenica-Dubn 146.79 342 *e*PKP **PKiKP** **18 41 58.0 -0.8**
KRLC Kraliky 146.83 348 *e*PKP **PKPab** **18 41 57.1 -0.4**
KRLC *ex* x 18 42 09.9
KRLC AMS AMS 19 47 10.0
comp=Z,400nm,22.5s
KRLC Kraliky 146.83 348 *e*PKP2 **PKPab** **18 41 57.1 -0.4**
KRLC MLR MLR
comp=Z,400nm,22.5s
MORC Moravsky Berou 146.96 347 ⇓P **PKPbc** **18 41 56.9 +0.2**
MORC Moravsky Berou 146.96 347 *e*PKP **PKPbc** **18 41 55.9 -0.7**
MORC Moravsky Berou 146.96 347 ⇓PKP2 **PKPbc** **18 41 56.9 +0.2**
UBBA Unterbreizbach 146.97 356 *e*PKPbc **PKPab** **18 41 57.6 -0.2**
baz=6.6,slow=2.8
TESR Tescani 147.01 335 ⇓P **PKPab** **18 41 58.0 -0.3**
MOX Moxa 147.02 354 *e*PKPbc **PKPab** **18 41 57.7 -0.4**
baz=6.6,slow=2.8
MOX *e*L L 19 49 54.1
comp=Z,274nm,20.7s
GHRR 147.06 333 ⇑P **PKiKP** **18 41 59.1 -0.4**
BEBN Eben Emael 147.08 1 pPKP pPKPdf 18 41 57.6 -0.5
TLCR 147.10 331 ⇑P **PKPab** **18 41 58.1 -0.5**
TLCR 147.10 331 ⇑PKP2 **PKPab** **18 41 58.1 -0.5**
LANS Liptovska Anna 147.10 345 *e*PKP2 **PKiKP** **18 41 59.2 -0.3**
LANS Liptovska Anna 147.10 345 *e*PKP **PKiKP** **18 41 59.2 -0.3**
PLN Plauen 147.12 354 *e*PKPbc **PKPab** **18 41 58.1 -0.5**
baz=6.6,slow=2.8
WERD Werda 147.15 354 *e*PKPbc **PKPab** **18 41 58.0 -0.7**
baz=6.6,slow=2.8
TANN Tannenbergstha 147.16 353 *e*PKPbc **PKPab** **18 41 58.2 -0.6**
baz=6.6,slow=2.8
GUNZ Gunzen 147.22 353 *e*PKPbc **PKPab** **18 41 58.5 -0.5**
baz=6.6,slow=2.8
PRA Prague 147.24 351 AMS AMS 19 46 20.0
comp=Z,300nm,21.7s
MEM Membach 147.27 1 pPKP pPKPdf 18 41 58.1 -0.3
MEM Membach 147.27 1 pPKP pPKPdf 18 41 58.2 -0.2
BSTI Sart Tilman 147.29 1 pPKP pPKPdf 18 41 58.3 -0.1
ILGA Ilgaz 147.29 321 PKPdf **PKPdf** **18 41 55.1 -0.7**
ILGA **sPKPdf** **18 41 59.4 -0.7**
WERN Wernitzgruen 147.30 353 *e*PKPbc **PKPab** **18 41 58.9 -0.4**
baz=6.6,slow=2.8
PRU Pruhonice 147.30 351 *e*PKP **PKPab** **18 41 58.4 -0.9**
PRU AMS AMS 19 46 20.0
comp=Z,500nm,16.4s
PRU Pruhonice 147.30 351 *e*PKP2 **PKPab** **18 41 58.4 -0.9**
PRU MLR MLR
comp=Z,500nm,16.4s
SNF Seneffe 147.32 3 pPKP pPKPdf 18 41 58.2 -0.3
GOPC GO Pecny, Ondr 147.34 350 *e*PKP **PKPab** **18 41 58.4 -1.1**
GOPC AMS AMS 19 46 40.0
comp=Z,500nm,20.5s
GOPC GO Pecny, Ondr 147.34 350 *e*PKP2 **PKPab** **18 41 58.4 -1.1**
GOPC MLR MLR
comp=Z,500nm,20.5s
NKC Novy Kostel 147.34 353 *e*PKP **PKPab** **18 41 58.6 -0.9**
NKC AMS AMS 19 48 40.0
comp=Z,300nm,16.8s
NKC Novy Kostel 147.34 353 *e*PKP2 **PKPab** **18 41 58.6 -0.9**
NKC MLR MLR
comp=Z,300nm,16.8s
AHRW Bad Neuenahr-A 147.35 360 *e*PKPbc **PKPab** **18 41 58.7 -0.7**
baz=6.6,slow=2.8
JURR Jurilovca 147.39 330 ⇑P **PKiKP** **18 42 00.6 +0.4**
CFR Carcaliu 147.42 331 ⇓P **PKPdf** **18 41 56.3 +0.8**
CFR Carcaliu 147.42 331 ⇓PKP2 **PKPdf** **18 41 56.3 +0.8**
ARCR ARCALIA 147.43 338 ⇑P **PKPbc** **18 41 58.5 +0.6**
BCLA Clavier 147.45 2 pPKP pPKPdf 18 41 58.2 -0.5
BGES Gesves 147.47 2 pPKP pPKPdf 18 41 58.1 -0.7
VRI Vrincioaia 147.50 334 ⇓P **PKPab** **18 41 59.3 -0.9**
VRI Vrincioaia 147.50 334 ⇓PKP2 **PKPab** **18 41 59.3 -0.9**
BHOU Houvegnez 147.53 1 pPKP **PKPab** **18 41 59.1 -1.0**
TOPG Topolog 147.54 331 ⇓P **PKPab** **18 41 59.5 -0.9**
PLOR Plostina 147.54 334 ⇓P **PKPab** **18 41 59.5 -1.0**
PLOR Plostina 147.54 334 ⇓PKP2 **PKPab** **18 41 59.5 -1.0**
BMRD Maredsous 147.54 2 pPKP pPKPdf 18 41 58.7 -0.1
VRAC Vranov 147.60 348 ⇑P **PKPab** **18 41 59.3 -1.2**
VRAC Vranov 147.60 348 *e*PKP **PKPdf** **18 41 56.5 +0.8**
VRAC Vranov 147.60 348 ⇑PKP2 **PKPab** **18 41 59.3 -1.2**
MANZ Manzenberg 147.62 354 *e*PKPbc **PKPab** **18 41 59.5 -1.1**
baz=6.6,slow=2.8
TNS Taunus Mts 147.64 358 *e*PKPbc **PKPbc** **18 41 59.3 +0.8**
baz=6.6,slow=2.8
PBCC Pribram 147.68 351 *e*PKP **PKPab** **18 41 59.8 -1.0**
OZUR 147.70 335 ⇑P **PKiKP** **18 42 00.3 -0.5**
DOU Dourbes 147.74 3 PKPdf **PKPdf** **18 41 56.5 +0.6**
DOU pPKP **pPKPdf** **18 41 58.9 -0.3**
JAVC Velka Javorina 147.80 347 *e*PKP **PKPbc** **18 41 58.3 -0.7**
TREC Trest 147.82 349 *e*PKP **PKiKP** **18 41 59.9 -1.1**
TREC AMS AMS 19 45 40.0
comp=Z,400nm,20.3s
TREC Trest 147.82 349 *e*PKP2 **PKiKP** **18 41 59.9 -1.1**
TREC MLR MLR
comp=Z,400nm,20.3s
ROTZ Rotzenmuhle 147.83 353 *e*PKPbc **PKiKP** **18 42 00.1 -0.9**
baz=6.6,slow=2.8
TIRR Tirgusor 147.84 330 ⇓P **PKPbc** **18 41 58.7 -0.4**
TIRR Tirgusor 147.84 330 ⇓PKP2 **PKPbc** **18 41 58.7 -0.4**
TIRR Tirgusor 147.84 330 *e*P **PKPab** **18 42 02.6 +1.0**
VYHS Vyhne 147.87 345 *e*PKP2 **PKiKP** **18 42 00.4 -0.7**
VYHS Vyhne 147.87 345 *e*PKP **PKiKP** **18 42 00.4 -0.7**
KRUC Moravsky 147.88 348 *e*PKP **PKPdf** **18 41 57.2 +1.0**
HARR Harsova 147.89 331 ⇑P **PKPbc** **18 41 59.8 +0.5**
HARR Harsova 147.89 331 ⇑PKP2 **PKPbc** **18 41 59.8 +0.5**
DOPR Dopca 147.97 335 ⇑P **PKiKP** **18 42 00.9 -0.5**
GRF Grafenberg Arr 148.00 355 *e*PKPbc **PKiKP** **18 42 00.8 -0.5**
baz=6.6,slow=2.8
GRF *e*L L 19 51 33.4
comp=Z,229nm,21.3s
CJR Cluj-Napoca 148.02 338 ⇑P **PKiKP** **18 42 01.1 -0.4**
CJR Cluj-Napoca 148.02 338 ⇑PKP2 **PKiKP** **18 42 01.1 -0.4**
PSZ Piszkesteto 148.12 343 ⇑P **PKiKP** **18 42 00.7 -1.0**
PSZ Piszkesteto 148.12 343 ⇑PKP2 **PKiKP** **18 42 00.7 -1.0**
BRTR Keskin Array B 148.13 319 PKPbc **PKiKP** **18 42 01.2 -0.8**
comp=Z,21nm,0.9s,baz=147,slow=2.4,SNR=37
BRTR Keskin Array B 148.13 319 PKIKP **PKPdf** **18 41 56.6 -0.5**
BRTR Keskin Array B 148.13 319 PKPdf **PKPdf** **18 41 56.6 -0.5**
MLR Muntele Rosu 148.13 334 ⇓P **PKPbc** **18 42 00.9 +0.8**
MLR Muntele Rosu 148.13 334 ⇓PKP2 **PKPbc** **18 42 00.9 +0.8**
MLR Muntele Rosu 148.13 334 PKPdf **PKPdf** **18 41 56.0 -0.9**
MLR PKPbc **PKPbc** **18 42 00.8 +0.8**
SMOL Smolenice 148.18 347 *e*PKP2 **PKiKP** **18 42 01.8 +0.1**
SMOL Smolenice 148.18 347 *e*PKP **PKiKP** **18 42 01.8 +0.1**
WLF Walferdange 148.22 1 pPKP **PKiKP** **18 42 01.2 -0.5**
WLF Walferdange 148.22 1 PKP2 **PKPbc** **18 42 00.7 +0.7**
WLF Walferdange 148.22 1 *e*PKPbc **PKiKP** **18 42 01.2 -0.5**
baz=6.6,slow=2.8
WLF Walferdange 148.22 1 **PKPbc** **18 42 00.7 +0.7**
KHC Kasperske Hory 148.28 352 *e*PKP **PKPdf** **18 41 57.9 +1.0**
KHC *ep*PKP **PKiKP** **18 42 01.3 -0.6**
KHC AMS AMS 19 47 00.0
comp=Z,400nm,17.4s
KHC Kasperske Hory 148.28 352⇓*e*PKIKP **PKPdf** **18 41 57.8 +0.9**
KHC Kasperske Hory 148.28 352 PKPdf **PKPdf** **18 41 56.8 -0.1**
KHC PKPbc **PKiKP** **18 42 01.3 -0.6**
MODS Modra-Piesok 148.35 347 *e*PKP2 **PKPbc** **18 42 01.0 +0.6**
MODS Modra-Piesok 148.35 347 *e*PKP **PKPbc** **18 42 01.0 +0.6**
WET Wettzell 148.36 352 *e*PKPbc **PKiKP** **18 42 01.9 -0.2**
baz=6.6,slow=2.8
GEC2 GERESS Array S 148.54 351 *e*PKPbc **PKiKP** **18 42 01.8 -0.8**
baz=6.6,slow=2.8
GEC2 GERESS Array S 148.54 351 PKPdf **PKPdf** **18 41 57.0 -0.5**
GEC2 PKPbc **sPKPdf** **18 42 01.5 -0.4**
GERES GERESS Array B 148.54 351 PKPbc **PKPbc** **18 42 01.6 +0.6**
comp=Z,8.3nm,0.8s,baz=29,slow=3.0,SNR=70
GERES GERESS Array B 148.54 351 PKIKP **PKPdf** **18 41 57.1 -0.3**
GERES 18 42 01.2
GERES GERESS Array B 148.54 351 **PKPdf** **18 41 57.1 -0.3**
GERES PKPbc **sPKPdf** **18 42 01.2 -0.6**
SRO Srobarova 148.63 345 *e*PKP2 **PKiKP** **18 42 02.8 +0.2**
SRO Srobarova 148.63 345 *e*PKP **PKiKP** **18 42 02.8 +0.2**
SRO *e* 18 42 06.5
ARR Arges 148.76 335 ⇑P **PKPbc** **18 41 59.9 -1.7**
STU Stuttgart 149.06 357 PKP2 **PKPbc** **18 42 01.5 -0.7**
STU Stuttgart 149.06 357 *e*PKPbc **PKiKP** **18 42 03.2 -0.3**
baz=6.6,slow=2.8
STU Stuttgart 149.06 357 **PKPbc** **18 42 01.5 -0.7**
CONA Conrad Observa 149.06 348 *i* PKiKP **PKiKP** **18 42 03.5 -0.1**

comp=Z,34nm,1.1s,SNR=11
SIRR Siria 149.07 340 ⇓P **PKiKP 18 42 03.7 +0.1**
PRD Provadia 149.27 330 *e*P **PKiKP 18 42 03.6 -0.5**
NEF NEVSHA 149.28 330 *e*P **PKiKP 18 42 04.0 -0.1**
MOA Molln 149.43 350 *i* PKiKP **PKiKP 18 42 03.9 -0.4**
comp=Z,13nm,1.3s,SNR=6.9
FUR Furstenfeldbru 149.51 354 *e*PKPbc **PKiKP 18 42 04.2 -0.2**
baz=6.6,slow=2.8
BFO Black Forest 149.54 358 PKP2 **PKPbc 18 42 03.8 +0.3**
BFO Black Forest 149.54 358 *e*PKPbc **PKiKP 18 42 03.9 -0.6**
baz=6.6,slow=2.8
BFO Black Forest 149.54 358 PKPbc 18 42 03.8 +0.3
ORH Orhaniye 149.54 324 P **PKPdf 18 42 01.3 +2.1**
BZS Buzias 149.66 339 ⇑P **PKiKP 18 42 04.3 -0.5**
BZS Buzias 149.66 339 ⇑PKP2 **PKiKP 18 42 04.3 -0.5**
RJOB Jochberg 149.75 352 *e*PKPbc **PKiKP 18 42 03.7 -0.4**
baz=6.6,slow=2.8
ARSA Arzberg 149.78 348 *i* PKiKP **PKiKP 18 42 04.6 -0.5**
comp=Z,10.0nm,1.0s,SNR=5.8
HERR Herculane 150.01 338 ⇓P **PKPbc 18 42 03.6 -1.1**
UBR Ueberruh 150.09 356 *e*PKPbc **PKiKP 18 42 05.6 -0.2**
baz=6.6,slow=2.8
MBAR Mbarara 150.18 235 *c i*PKiKP **PKiKP 18 42 08.1 +1.0**
MBAR pmax pmax
comp=Z,17nm,1.3s
MBAR Mbarara 150.18 235 PKiKP 18 42 07.6 +0.5
JMB Yambol 150.21 330 *e*P **PKiKP 18 42 06.3 +0.2**
RETA Reutte 150.23 355 *e*PKiKP **PKiKP 18 42 05.9 -0.1**
comp=Z,22nm,0.9s,SNR=8.4
WATA Walderalm 150.30 353 *e*PKiKP **PKiKP 18 42 06.0 -0.3**
comp=Z,28nm,1.0s,SNR=8.5
KBA Koelnbreinsper 150.32 351 *i* PKiKP **PKPbc 18 42 05.5 -0.1**
comp=Z,11nm,0.8s,SNR=5.2
MOTA Moosalm 150.34 354 *e*PKiKP **PKiKP 18 42 06.1 -0.3**
comp=Z,34nm,0.9s,SNR=16
MDVR Moldovita 150.35 338 ⇑P **PKiKP 18 42 06.5 +0.1**
WTTA Wattenberg 150.36 353 *e*PKiKP **PKiKP 18 42 06.4 -0.1**
comp=Z,35nm,0.7s,SNR=15
SOKA Soboth 150.42 349 *i* PKiKP **PKPbc 18 42 05.9 +0.2**
comp=Z,23nm,1.0s,SNR=7.9
SQTA Sankt Quirin 150.45 354 *i* PKiKP **PKiKP 18 42 06.4 -0.2**
comp=Z,31nm,0.9s,SNR=12
DAVA Damuels 150.50 356 *i* PKiKP **PKiKP 18 42 06.7 0.0**
comp=Z,42nm,1.0s,SNR=14
OBKA Obir 150.68 349 *e*PKiKP **PKPbc 18 42 06.2 -0.1**
comp=Z,7.8nm,0.8s
FETA Feichten 150.69 355 *i* PKiKP **PKiKP 18 42 07.1 0.0**
comp=Z,32nm,0.9s,SNR=14
MYKA Terra Mystica 150.71 350 *i* PKiKP **PKPbc 18 42 06.3 -0.1**
comp=Z,14nm,0.8s,SNR=6.0
ABTA Abfaltersbach 150.76 352 *i* PKiKP **PKPbc 18 42 06.7 +0.1**
comp=Z,55nm,0.9s,SNR=21
PRED Cave del Predi 150.91 350 PKPdf **PKPdf 18 42 00.7 -0.5**
PRED PKPbc **PKPbc 18 42 06.3 -0.6**
DIM Dimitrovgrad 151.03 330 *e*P **PKiKP 18 42 08.0 +0.2**
FUORN Ofenpass-Fuorn 151.13 355 PKPdf **PKPdf 18 42 00.4 -1.4**
FUORN PKPbc **PKiKP 18 42 08.2 0.0**
PGB Panagyurishte 151.26 333 *e*P **PKiKP 18 42 08.5 +0.2**
TUE Stuetta 151.34 356 PKPdf **PKPdf 18 42 01.4 -0.7**
TUE PKPbc **PKiKP 18 42 08.8 +0.2**
TRI Trieste 151.59 350 PKiKP **PKPbc 18 42 08.3 0.0**
TRI Trieste 151.59 350 PKPbc 18 42 08.3 0.0
VTS Vitosha 151.60 334 *e*P **PKPbc 18 42 08.2 -0.5**
MMB Musomiste 152.22 332 *e*P **PKiKP 18 42 10.2 -0.1**
TEOL Teolo 152.24 353 PKPbc 18 42 09.7 -0.2
KKB Krupnik 152.28 333 *e*P **PKPbc 18 42 10.2 +0.1**
PGAV Gavieira, Arco 152.69 25 *e*PKPbc **PKiKP 18 42 11.5 +0.2**
PGAV Gavieira, Arco 152.69 25 A A 19 44 09.1
comp=Z,303nm,20.0s
PCAB Cabril 153.00 25 *e*PKPbc **PKiKP 18 42 12.5 +0.6**
PBRG Braganca 153.42 23 *e*PKPbc **PKiKP 18 42 13.3 +0.5**
PVRL Vila Real 153.49 25 *e*PKPbc **PKiKP 18 42 13.9 +0.9**
PMOZ Porto Moniz, M 153.73 51 *e*PKPbc **PKiKP 18 42 14.2 +0.4**
PMOZ Porto Moniz, M 153.73 51 A A 19 46 05.8
comp=Z,144nm,20.0s
MVO Moncorvo 153.86 24 *e*PKPbc **PKiKP 18 42 14.5 +0.8**
MVO Moncorvo 153.86 24 A A 19 45 57.4
comp=Z,200nm,20.0s
PVIS Viseu 153.89 26 *e*PKPbc **PKiKP 18 42 14.6 +0.8**
PCAS Casmilo, Conde 154.18 28 *e*PKPbc **PKiKP 18 42 14.9 +0.5**
PCBR Castelo Branco 154.79 27 *e*PKPbc **PKiKP 18 42 16.8 +1.2**
PMTG Montargil 155.10 29 *e*PKPbc PKPbc 18 42 16.8
PMRV Marv??o 155.17 27 *e*PKPbc PKPbc 18 42 17.4
PMRV Marv??o 155.17 27 A A 19 45 14.1
comp=Z,205nm,20.0s
ESDC Sonseca Array 156.29 21 PKP **PKPdf 18 42 10.4 +1.3**
comp=Z,0.5nm,0.7s,baz=11,slow=3.0,SNR=5.0
ESDC PKPab **PKPab 18 42 37.0 0.0**
comp=Z,1.3nm,0.8s,baz=324,slow=3.3,SNR=5.1
ESDC Sonseca Array 156.29 21 PKPdf 18 42 08.9 -0.2
TORD Torodi Ar. Bea 173.22 132 PKP **PKPdf 18 42 24.0 -0.3**
comp=Z,2.8nm,1.0s,baz=314,slow=2.6,SNR=9.1
TORD PKPab **PKPab 18 43 53.2 +1.3**
comp=Z,2.6nm,0.7s,baz=263,slow=4.3,SNR=7.5
TORD Torodi Ar. Bea 173.22 132 PKPdf 18 42 22.7 -1.6
TORD PKPab **PKPab 18 43 52.3 +0.4**

DJA 13 18:28:56.8±1.5,3°S±7°×10°1E±°, h15km±9km, M3.5/7, MLv3.5/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.09**	**87**	P	Pb	18 29 17.0	-0.4
MASI				S	Sn	18 29 32.4	0.0
KRJI	**Kerinci**	**1.15**	**16**	P	Pb	18 29 17.7	-0.7
KSI	**Kapahiang**	**1.51**	**107**	P	Pg	18 29 38.5	+13
MNAI	**Manna**	**2.14**	**123**	P	Pn	18 29 31.8	-0.2
SDSI	**Sungai Dareh**	**2.27**	**7**	P	Pn	18 29 34.1	+0.3
PDSI	**Padang**	**2.38**	**343**	P	Pn	18 29 35.3	0.0

*IDC **13** 18:36:27.4±50.0, 18°.21N×122°.88E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/44, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/35, Error ellipse: s-maj=916.1km s-min=54.8km az=136.0*
*MAN **13** 18:36:31.9, 18°.72N×122°.09E, h4km, MS3.2*
ISC 13 18:36:31.7±2.9, 18°.51N±0°.05×122°.46E±0°.09, h16km±18km, n12, σ2s15/18, mb3.6/4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.48**	**235**	*e*P	**Pb**	**18 36 41.5**	**-0.3**
SGCP				*e*S	**Sb**	**18 36 48.0**	**-0.6**
APYP	**Conner**	**1.33**	**241**	*e*P	**Pb**	**18 36 55.1**	**-1.2**
APYP				*e*S	**Sb**	**18 37 11.3**	**-1.8**
ABRA	**Dolores**	**1.87**	**243**	*e*P	**Pn**	**18 37 02.5**	**-0.6**
ABRA				*e*S	**Sn**	**18 37 24.1**	**-2.3**
BBP	**Basco**	**1.97**	**346**	*e*P	**Pn**	**18 37 02.9**	**-1.6**
BBP				*e*S	**Sn**	**18 37 24.6**	**-4.4**
SIPP	**Brgy, Tapao**	**1.99**	**253**	⇓*e*P	**Pb**	**18 37 07.0**	**-0.6**
SIPP				*e*S	**Sg**	**18 37 36.7**	**+0.9**
BALP	**Baler**	**2.88**	**197**	*e*P	**Pb**	**18 37 21.1**	**-1.8**
BALP				*e*S	**Sb**	**18 37 55.5**	**-2.5**
SMPP	**San Manuel, Pa**	**2.90**	**216**	*e*P	**Pn**	**18 37 18.5**	**+1.2**
SMPP				*e*S	**Sb**	**18 37 56.6**	**-1.9**
DAV	**Davao City (W)**	**11.77**	**165**	LR	LR	18 43 34.1	
	comp=Z,179nm,18.7s,baz=194,slow=38						
CMAR	**Chiang Mai Arr**	**22.30**	**274**	P	**P**	**18 41 31.3**	**+2.6**
	0.4nm,0.6s,baz=82,slow=9.5,SNR=4.1						
SONM	**Songino Array**	**32.05**	**339**	P	**P**	**18 43 00.2**	**+2.3**
	0.4nm,0.7s,baz=153,slow=9.7,SNR=1.8						
MKAR	**Makanchi Array**	**43.32**	**320**	P	**P**	**18 44 34.9**	**+1.9**
	1.6nm,0.7s,baz=112,slow=9.4,SNR=11						
ZALV	**Zalesovo Beam**	**45.67**	**330**	P	**P**	**18 44 53.0**	**+1.3**
	0.3nm,0.3s,baz=113,slow=7.0,SNR=2.1						

*MAN **13** 18:39:44.6, 9°.28N×126°.46E, h54km, MS3.6*
*IDC **13** 18:39:53.0±2.2, 9°.11N×126°.16E, h107km±21km, mb3.5/8, mb1 3.6/9, mb1mx3.3/39, mbtmp3.9/9, Error ellipse: s-maj=41.2km s-min=16.0km az=83.0*
*NEIC **13** 18:39:52.9±1.6, 9°.11N±0°.09×126°.2E±0°.1, h107km±9km, mb4.6/15, Error ellipse: s-maj=18.6km s-min=10.0km az=121.0*
ISC 13 18:39:46.5±1.2, 9°.25N±0°.04×126°.50E±0°.09, h47km±12km, n43, σ1s36/43, mb4.4/16, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.64**	**326**	*e*P	**Pn**	**18 39 59.0**	**-0.4**
GLSP				*e*S	**Sn**	**18 40 09.8**	**+1.1**
BIP	**Bislig**	**1.05**	**193**	⇑*e*P	**Pn**	**18 40 03.5**	**-1.4**
BIP				*e*S	**Sn**	**18 40 15.8**	**-2.5**
MSLP	**Maasin**	**1.84**	**299**	*e*P	**Pn**	**18 40 13.2**	**-2.4**
MSLP				*e*S	**Sn**	**18 40 41.2**	**+3.6**
BUKP	**Musuan**	**1.96**	**226**	*e*P	**Pn**	**18 40 16.7**	**-0.7**
BUKP				*e*S	**Sn**	**18 40 40.2**	**-0.7**
MATI	**Mati**	**2.30**	**186**	*e*P	**Pn**	**18 40 22.0**	**0.0**
MATI				*e*S	**Sn**	**18 40 51.4**	**+2.3**
DAV	**Davao City (W)**	**2.35**	**203**	P	Pn	18 40 27.9	+5.3
	30nm,0.3s,baz=55,slow=3.4,SNR=2.2						
DAV				S	**Sn**	**18 40 53.8**	**+3.5**
	38nm,0.3s,baz=341,slow=14,SNR=7.7						
KCP	**Kidapawan**	**2.62**	**212**	⇑*e*P	**Pn**	**18 40 26.0**	**-0.5**
KCP				*i* S	**Sn**	**18 40 56.9**	**-0.3**
TBP	**Tagbilaran**	**2.63**	**280**	⇑*e*P	Pn	18 40 29.0	+2.4
LLP	**Lapu-Lapu**	**2.71**	**293**	⇓*e*P	**Pn**	**18 40 29.2**	**+1.6**
LLP				*e*S	**Sn**	**18 41 00.6**	**+1.4**
DDMP	**Don Marcelino,**	**3.22**	**194**	*e*P	**Pn**	**18 40 35.2**	**+0.6**
DDMP				*e*S	**Sn**	**18 41 12.4**	**+0.7**
SKMP	**Bagumbayan, Su**	**3.33**	**216**	*e*P	**Pn**	**18 40 34.9**	**-1.2**
PAGZ	**Pagadian**	**3.38**	**246**	*e*P	**Pn**	**18 40 36.1**	**-0.7**
CNP	**Cataman**	**3.71**	**331**	*e*P	**Pn**	**18 40 40.6**	**-0.7**
CNP				*e*S	**Sn**	**18 41 22.5**	**-1.3**
MTN	**Manton Dam**	**22.43**	**168**	P	**P**	**18 44 41.8**	**+0.4**
KNRA	**Kununurra**	**24.87**	**175**	P	**P**	**18 45 04.7**	**-0.2**
KNRA				IAmb	IAmb	18 45 11.7	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.19**	**182**	P	**P**	**18 45 25.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=356,slow=14,SNR=1.9						
WRAB	**Tennant Creek**	**30.01**	**165**	P	**P**	**18 45 51.1**	**+0.1**
WRAB				IAmb	IAmb	18 46 01.1	
	comp=Z,25nm,1.9s						
WRA	**Warramunga Arr**	**30.02**	**165**	P	**P**	**18 45 49.7**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=346,slow=9.4,SNR=6.3						
WB2	**Warramunga Arr**	**30.02**	**165**	P	**P**	**18 45 51.2**	**+0.2**
WR0	**Warramunga Arr**	**30.09**	**165**	P	**P**	**18 45 51.2**	**-0.4**
WR0				IAmb	IAmb	18 46 13.8	
	comp=Z,14nm,1.6s						
ASAR	**Alice Springs**	**33.51**	**168**	P	**P**	**18 46 21.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=346,slow=7.4,SNR=8.0						
ASAR	**Alice Springs**	**33.51**	**168**	P	**P**	**18 46 21.7**	**0.0**
USRK	**Ussuriysk Ar.**	**35.15**	**7**	P	P	18 46 37.9	+2.3
	comp=Z,1.1nm,0.6s,baz=193,slow=7.2,SNR=4.6						
FORT	**Forrest**	**39.83**	**178**	P	**P**	**18 47 16.0**	**+0.7**
FORT				IAmb	IAmb	18 48 41.8	
	comp=Z,51nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**40.01**	**72**	T	T	19 30 17.8	
	baz=265,slow=75						
H11S1	**WAKE ISLAND Hy**	**40.02**	**72**	T	T	19 30 12.9	
	baz=265,slow=75						
H11S2	**WAKE ISLAND Hy**	**40.02**	**72**	T	T	19 30 13.1	
	baz=265,slow=75						
H11N1	**WAKE ISLAND Hy**	**40.38**	**70**	T	T	19 30 46.7	
	baz=265,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**40.38**	**70**	T	T	19 30 48.9	
	baz=265,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**40.39**	**70**	T	T	19 30 48.0	
	baz=265,slow=75,SNR=17						
BBOO	**Buckleboo**	**42.81**	**168**	P	**P**	**18 47 41.0**	**+1.2**
NWAO	**Narrogin (SRO)**	**42.86**	**191**	P	**P**	**18 47 40.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**42.86**	**191**	P	**P**	**18 47 40.4**	**+0.2**
NWAO				IAmb	IAmb	18 49 16.6	
	comp=Z,106nm,2.0s						
STKA	**Stephens Creek**	**43.37**	**161**	P	**P**	**18 47 42.9**	**-1.4**
TARA	**Tarawa**	**46.84**	**97**	P	**P**	**18 48 14.3**	**+2.0**
PETK	**Petropavlovsk-**	**50.47**	**24**	P	P	18 48 42.0	+2.4
	comp=Z,1.2nm,0.7s,baz=212,slow=4.4,SNR=5.9						
MK31	**Makanchi Array**	**52.97**	**323**	P	**P**	**18 48 58.3**	**0.0**
MK31				IAmb	IAmb	18 48 58.9	
	comp=Z,6.5nm,1.9s						
MKAR	**Makanchi Array**	**52.97**	**323**	P	**P**	**18 48 57.5**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=117,slow=8.6,SNR=9.0						
MAKZ	**Makanchi**	**53.16**	**323**	P	**P**	**18 48 59.0**	**-0.8**
MAKZ				IAmb	IAmb	18 50 10.2	
	comp=Z,13nm,2.0s						
KURK	**Kurchatov**	**57.03**	**326**	P	**P**	**18 49 26.9**	**-0.6**
KURK				IAmb	IAmb	18 49 45.1	
	comp=Z,8.3nm,1.6s						
FINES	**FINESS Array B**	**86.89**	**332**	P	**P**	**18 52 24.6**	**-1.4**
	comp=Z,4.9nm,1.1s,baz=349,slow=3.9,SNR=5.0						
VNDA	**Vanda**	**88.89**	**173**	P	**P**	**18 52 36.0**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=305,slow=6.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**120.84**	**291**	PKP	**PKiKP**	**18 58 33.8**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=64,slow=3.4,SNR=2.7						

*IDC **13** 18:56:35.6±1.8, 18°.31S×168°.23E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=56.9km s-min=31.7km az=136.0*
*NEIC **13** 18:56:43.6±1.4, 18°.47S±0°.06×168°.1E±0°.1, h65km±10km, mb4.7/8, Error ellipse: s-maj=19.3km s-min=3.0km az=113.0*
ISC 13 18:56:41.3±0.7, 18°.47S±0°.06×168°.16E±0°.10, h35km, n16, σ1s56/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.14**	**343**		**Pn**	**18 57 28.4**	**0.0**
DZM	**Mont Dzumac**	**3.93**	**204**	Pn	**Pn**	**18 57 39.9**	**+0.7**
	5.4nm,0.3s,baz=67,slow=12,SNR=97						
DZM				Sn	**Sn**	**18 58 25.6**	**+1.5**
	8.0nm,0.3s,baz=138,slow=18,SNR=9.0						
DZM	**Mont Dzumac**	**3.93**	**204**		**Pn**	**18 57 40.4**	**+1.2**
MSVF	**Nonsavu**	**9.43**	**87**	Pn	**Pn**	**18 58 56.4**	**+1.5**
HNR	**Honiara**	**12.01**	**317**	Pn	**Pn**	**18 59 33.2**	**+3.1**
LTZ	**Lake Taylor**	**24.48**	**173**	P	**P**	**19 01 56.9**	**-0.2**
LTZ				IAmb	IAmb	19 02 26.0	
	comp=Z,73nm,1.5s						
STKA	**Stephens Creek**	**27.41**	**236**	P	**P**	**19 02 20.9**	**-2.8**
WRA	**Warramunga Arr**	**31.94**	**262**	P	**P**	**19 03 03.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=92,slow=9.2,SNR=1.5						
ASAR	**Alice Springs**	**32.33**	**255**	P	**P**	**19 03 08.0**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=84,slow=8.6,SNR=30						
KNRA	**Kununurra**	**37.71**	**268**	P	**P**	**19 03 53.4**	**-0.5**
KNRA				IAmb	IAmb	19 03 58.3	
	comp=Z,27nm,1.6s						
FITZ	**Fitzroy Crossi**	**40.31**	**264**	P	**P**	**19 04 16.9**	**+1.3**
FITZ				IAmb	IAmb	19 04 54.6	
	comp=Z,8.0nm,1.3s						
XMIS	**Christmas Isla**	**60.80**	**268**	P	**P**	**19 06 49.1**	**-1.4**
QSPA	**South Pole Qui**	**71.58**	**180**	P	**P**	**19 07 57.5**	**-1.3**
QSPA				IAmb	IAmb	19 08 15.4	
	comp=Z,14nm,1.8s						
SONM	**Songino Array**	**86.00**	**323**	P	**P**	**19 09 17.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=134,slow=4.2,SNR=3.0						
NVAR	**Mina Array Bea**	**89.06**	**49**	P	**P**	**19 09 32.3**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=218,slow=5.7,SNR=2.3						
DUG	**Dugway, Tooele**	**93.67**	**49**		pwP	19 10 13.0	+5.0

*OTT **13** 19:08:36.9±1.4, 55°.84N±0°.01×130°.09W±0°.08, h1km±1km, ML2.9, Error ellipse: s-maj=7.3km s-min=2.9km az=91.0*
*PGC **13** 19:08:36.9±0.0, 55°.84N×130°.09W, h1km, ML2.9/5, 12km southwest of Stewart, Bc Southeastern Alaska*
*NEIC **13** 19:08:37.2±2.9, 55°.85N±0°.02×130°.25W±0°.05, h2km±1km, Error ellipse: s-maj=4.1km s-min=2.1km az=83.0*
ISC 13 19:08:37.2±0.9, 55°.81N±0°.03×130°.08W±0°.04, h10km, n20, σ0s89/33, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAK	**Wrangell Islan**	**1.41**	**297**	Pn	**Pn**	**19 09 02.1**	**-0.7**
WRAK				Sn	**Sg**	**19 09 22.4**	**-0.1**
RUBB	**Prince Rupert**	**1.49**	**184**	P	**Pb**	**19 09 04.1**	**-0.8**
RUBB				S	**Sg**	**19 09 25.0**	**-0.1**
RUBB	**Prince Rupert**	**1.49**	**184**		**Pb**	**19 09 04.1**	**-0.8**
RUBB					**Sg**	**19 09 25.0**	**-0.1**
CRAG	**Craig**	**1.76**	**260**	Pn	**Pn**	**19 09 07.7**	**0.0**
KITB	**Kitimat**	**1.93**	**154**	Pn	**Pn**	**19 09 09.8**	**-0.2**
KITB				Pg	**Pb**	**19 09 12.1**	**-0.2**
KITB				S	**Sb**	**19 09 36.6**	**+0.2**
BNAB	**Bonilla**	**2.35**	**188**	Pg	**Pb**	**19 09 19.7**	**+0.2**
BNAB				Sg	**Sg**	**19 09 50.8**	**-1.7**
BNAB	**Bonilla**	**2.35**	**188**	Pg	**Pb**	**19 09 19.7**	**+0.2**
BNAB				Sg	**Sg**	**19 09 50.8**	**-1.7**
NDB	**Naden**	**2.49**	**223**	Pn	**Pn**	**19 09 18.3**	**+0.5**
NDB	**Naden**	**2.49**	**223**	Pn	**Pn**	**19 09 18.3**	**+0.5**
DLBC	**Dease Lake**	**2.63**	**1**	Pn	**Pn**	**19 09 19.7**	**-0.1**
DLBC				Pg	**Pb**	**19 09 23.9**	**-0.6**
DLBC				Sg	**Sb**	**19 09 57.3**	**+0.4**
DLBC	**Dease Lake**	**2.63**	**1**	Pn	**Pn**	**19 09 19.9**	**+0.1**
DIB	**Dawson Inlet,**	**2.97**	**209**	Pn	**Pn**	**19 09 25.0**	**+0.8**
DIB	**Dawson Inlet,**	**2.97**	**209**	Pn	**Pn**	**19 09 25.9**	**+1.7**
SIT	**Sitka**	**3.17**	**295**	Pn	**Pn**	**19 09 26.7**	**-0.3**
JIS	**Juneau Island**	**3.41**	**318**	Pn	**Pn**	**19 09 31.8**	**+1.4**
FSB	**Fort Saint Jam**	**3.56**	**110**	Pn	**Pn**	**19 09 32.8**	**+0.4**
FSB				Pg	**Pb**	**19 09 40.9**	**+0.7**
FSB				Sg	**Sg**	**19 10 29.4**	**-2.0**
FSB	**Fort Saint Jam**	**3.56**	**110**	Pn	**Pn**	**19 09 32.8**	**+0.4**
FSB				Pg	**Pb**	**19 09 40.9**	**+0.7**
FSB				LR	LR	19 10 29.4	
BESE	**Bessie Mountai**	**3.80**	**319**	Pn	**Pn**	**19 09 37.1**	**+1.3**
BBB	**Bella Bella**	**3.81**	**162**	Pn	**Pn**	**19 09 36.5**	**+0.6**
BBB				Pg	**Pb**	**19 09 45.7**	**+1.2**
BBB	**Bella Bella**	**3.81**	**162**	Pn	**Pn**	**19 09 36.5**	**+0.6**

*IDC **13** 19:30:26.0±4.6, 20°.45N×122°.36E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/55, mbtmp3.2/3, Error ellipse: s-maj=345.5km s-min=29.5km az=61.0*
*JMA **13** 19:30:34.1±0.6, 20°.36N×121°.99E, h0km, M3.7*
ISC 13 19:30:29.3±1.3, 20°.1N±0°.1×121°.6E±0°.2, h10km, n16, σ1s74/17, mb3.2/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**4.49**	**27**	P	**Pn**	**19 31 39.8**	**+2.5**
HATJ				S	**Sn**	**19 32 28.3**	**-1.3**
JYNG	**Yonagunijimaku**	**4.55**	**16**	P	**Pn**	**19 31 39.2**	**+1.0**
JYNG				S	**Sn**	**19 32 30.2**	**-1.0**
IRIF	**Iriomote-Funau**	**4.70**	**25**	P	**Pn**	**19 31 41.6**	**+1.3**
IRIF				S	**Sn**	**19 32 34.2**	**-0.8**
JKRS	**Kuro-shima**	**4.74**	**28**	P	**Pn**	**19 31 41.4**	**+0.7**
JKRS				S	**Sn**	**19 32 34.4**	**-1.3**
JIJ	**Ishigaki jima**	**4.91**	**29**	P	**Pn**	**19 31 45.8**	**+2.7**
JIJ				S	**Sn**	**19 32 38.2**	**-1.7**
JISG	**Ishigakijimahi**	**5.17**	**29**	P	**Pn**	**19 31 48.5**	**+1.7**
JISG				S	**Sn**	**19 32 44.2**	**-2.4**
JTJ	**Tarama**	**5.41**	**32**	P	**Pn**	**19 31 52.6**	**+2.6**
JTJ				S	**Sn**	**19 32 51.3**	**-1.0**
MKAR	**Makanchi Array**	**41.59**	**319**	P	**P**	**19 38 17.3**	**-0.1**
	0.2nm,0.5s,baz=122,slow=8.1,SNR=2.1						
WRA	**Warramunga Arr**	**41.69**	**162**	P	**P**	**19 38 17.1**	**-1.2**
	0.4nm,0.8s,baz=344,slow=8.8,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**42.53**	**82**	T	T	20 23 55.4	
	baz=279						
H11S3	**WAKE ISLAND Hy**	**42.54**	**84**	T	T	20 23 46.8	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**42.54**	**82**	T	T	20 23 50.5	
	baz=279						
H11S1	**WAKE ISLAND Hy**	**42.55**	**84**	T	T	20 23 42.4	
	baz=280						
H11N3	**WAKE ISLAND Hy**	**42.55**	**82**	T	T	20 23 52.5	
	baz=279						
H11S2	**WAKE ISLAND Hy**	**42.55**	**84**	T	T	20 23 42.4	
	baz=280						
ASAR	**Alice Springs**	**45.10**	**164**	P	**P**	**19 38 45.7**	**-0.2**
	0.3nm,0.8s,baz=348,slow=7.1,SNR=11						

*IDC **13** 19:38:36.9±0.6, 55°.32S×1°.60W, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.1/34, mbtmp4.2/14, ML4.1/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/18, Error ellipse: s-maj=19.6km s-min=16.7km az=73.0*
*NEIC **13** 19:38:38.5±1.2, 55°.24S±0°.04×1°.7W±0°.2, h10km±1km, mb4.7/16, Error ellipse: s-maj=20.4km s-min=4.4km az=102.0*
ISC 13 19:38:38.4±0.5, 55°.26S±0°.08×1°.6W±0°.1, h10km, n48, σ0s82/42, mb4.4/17, MS3.6/5, 2C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.73**	**188**	P	**Pn**	**19 42 20.6**	**+0.9**
VNA2	**Neumayer--Watz**	**15.93**	**187**	P	**Pn**	**19 42 23.4**	**+1.0**
VNA3	**Neumayer Olymp**	**16.42**	**189**	P	**Pn**	**19 42 29.5**	**+0.8**
SNAA	**Sanae**	**16.48**	**181**	P	**Pn**	**19 42 30.3**	**+0.8**
SNAA	**Sanae**	**16.48**	**181**	Pn	**Pn**	**19 42 29.2**	**-0.3**
	0.7nm,0.3s,baz=349,slow=16,SNR=51						
SNAA				Sn	Sn	19 45 18.2	-14
	0.1nm,0.3s,baz=60,slow=20,SNR=1.8						
SNAA	**Sanae**	**16.48**	**181**		**Pn**	**19 42 29.8**	**+0.3**
SYO	**Syowa Base**	**23.05**	**143**	⇑*e*P	**P**	**19 43 40.5**	**-2.9**
SYO	**Syowa Base**	**23.05**	**143**	⇑*es*P	sP	19 43 45.6	-0.6
BELA	**Belgrano 2**	**25.46**	**196**	P	**P**	**19 44 06.7**	**+0.6**
SUR	**Sutherland**	**27.76**	**44**	LR	LR	19 52 04.9	
	comp=Z,148nm,19.4s,baz=164,slow=29						
MAW	**Mawson**	**31.57**	**139**	P	**P**	**19 45 00.5**	**0.0**
	1.6nm,0.8s,baz=268,slow=14,SNR=4.3						
MAW	**Mawson**	**31.57**	**139**	P	**P**	**19 45 00.4**	**-0.1**
BOSA	**Boshof**	**32.88**	**47**	P	**P**	**19 45 12.3**	**-0.3**
	2.8nm,0.9s,baz=255,slow=15,SNR=3.4						
BOSA				LR	LR	19 55 41.3	
	comp=Z,96nm,18.2s,baz=164,slow=31						
BOSA	**Boshof**

*TEH **13** 19:42:44.1, 32.°31N×55.°83E, h5km, ML4.2*
*IDC **13** 19:42:44.6±1.3, 32.°17N×55.°82E, h0km, mb3.9/12, mb1 4.0/17, mb1mx3.7/51, mbtmp3.9/17, ML3.6/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/40, Error ellipse: s-maj=27.3km s-min=16.7km az=160.0*
*THR **13** 19:42:45.6±0.3, 32.°33N×55.°79E, h14km±3km, ML4.0*
*NEIC **13** 19:42:49.0±2.5, 32.°24N±0.°05×55.°84E±0.°06, h39km±7km, Error ellipse: s-maj=8.3km s-min=6.4km az=132.0*

ISC 13 19:42:45.9±0.5, 32.°27N±0.°04×55.°85E±0.°03, h10km, n116, σ1§43/117, mb4.0/18, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.72**	**200**	*e*Pg	**Pg**	**19 42 58.5**	**-1.4**
IBAF				*e*		19 43 09.8	
IBAF	**Bafgh**	**0.72**	**200**	Pg	**Pg**	**19 42 58.5**	**-1.4**
TPRV	**Parvadeh(Tabas**	**1.03**	**43**	*e*		19 43 26.6	
TPRV				*e*Pg	**Pg**	**19 43 04.3**	**-1.5**
YZKH	**Yazd**	**1.07**	**277**	*e*Pg	**Pb**	**19 43 04.8**	**-1.9**
YZKH				IAML		19 43 22.9	
	comp=E,2μm,0.5s						
ICHK	**Chekchek**	**1.23**	**269**	*e*		19 43 32.8	
ICHK				*e*Pg	**Pn**	**19 43 07.1**	**-2.2**
IMEH	**Mehriz**	**1.37**	**231**	*e*Pg	**Pn**	**19 43 10.2**	**-1.2**
IMEH	**Mehriz**	**1.37**	**231**		**Pn**	**19 43 10.2**	**-1.2**
TKDS	**Koohdasht(Taba**	**1.71**	**38**	*e*Pg	**Pn**	**19 43 16.3**	**+0.3**
TKDS				*e*		19 43 51.7	
TKDS	**Koohdasht(Taba**	**1.71**	**38**		**Pn**	**19 43 16.2**	**+0.3**
TABS	**Tabas**	**1.74**	**37**	*e*Pg	**Pn**	**19 43 17.1**	**+0.8**
TABS				IAML		19 43 47.7	
	comp=N,2μm,0.5s						
TABS	**Tabas**	**1.74**	**37**	*e*Pg	**Pn**	**19 43 17.1**	**+0.8**
TABS	**Tabas**	**1.74**	**37**		**Pn**	**19 43 17.0**	**+0.8**
TNSJ	**Nastanj**	**1.80**	**20**	*e*Pn	**Pn**	**19 43 17.3**	**+0.1**
TNSJ	**Nastanj**	**1.80**	**20**	Pn	**Pn**	**19 43 17.3**	**+0.1**
ISAD	**Sadrabad**	**1.87**	**260**	*e*Pn	**Pn**	**19 43 19.0**	**+0.6**
ISAD				*e*		19 43 47.5	
ISAD	**Sadrabad**	**1.87**	**260**	Pn	**Pn**	**19 43 18.9**	**+0.6**
KHGB	**Koh Gabri**	**1.96**	**164**	*e*Pn	**Pb**	**19 43 21.3**	**-0.6**
KHGB				*e*		19 43 55.8	
KHGB	**Koh Gabri**	**1.96**	**164**	Pn	**Pb**	**19 43 21.3**	**-0.6**
ANAR	**Anarak**	**2.01**	**298**	*e*Pn	**Pn**	**19 43 21.1**	**+1.0**
TVBK	**TV Kerman**	**2.41**	**161**	*e*Pn	**Pb**	**19 43 27.9**	**-1.6**
TVBK				*e*		19 44 12.9	
KRBR	**Kerman**	**2.41**	**161**	*e*Pn	**Pb**	**19 43 27.9**	**-1.7**
KRBR				IAML		19 44 09.9	
	comp=N,636nm,0.4s						
KRBR				IAML		19 44 11.6	
	comp=E,838nm,0.6s						
KRBR	**Kerman**	**2.41**	**161**	*e*Pn	**Pb**	**19 43 27.9**	**-1.7**
KRBR	**Kerman**	**2.41**	**161**	Pn	**Pb**	**19 43 27.9**	**-1.7**
ITEG	**Tejag**	**2.52**	**75**	*e*Pn	**Pn**	**19 43 28.3**	**+1.2**
ITEG				*e*		19 44 10.9	
NGRK	**Negar Kerman**	**2.73**	**164**	*e*Pn	**Pn**	**19 43 31.9**	**+1.8**
NGRK				*e*		19 44 19.2	
CHMN	**Cheshme madani**	**2.81**	**149**	*e*Pn	**Pn**	**19 43 32.8**	**+1.6**
CHMN				*e*		19 44 28.6	
AFRZ	**Afriz**	**2.90**	**66**	*e*Pn	**Pn**	**19 43 33.2**	**+0.9**
IRAM	**Ramesheh**	**2.98**	**262**	*e*Pn	**Pn**	**19 43 35.0**	**+1.5**
IZEF	**Zefreh**	**3.04**	**283**	*e*Pn	**Pn**	**19 43 35.6**	**+1.3**
IZEF				*e*		19 44 27.3	
IGAR	**Gharneh**	**3.23**	**273**	*e*Pn	**Pn**	**19 43 37.9**	**+1.0**
IMON	**Monand**	**3.34**	**73**	*e*Pn	**Pn**	**19 43 40.3**	**+1.8**
IMON				*e*		19 44 23.0	
IDAH	**Dahanechah**	**3.42**	**81**	*e*Pn	**Pn**	**19 43 41.4**	**+1.8**
IDAH				*e*		19 44 47.6	
KRSH	**Karshahi**	**3.55**	**299**	*e*Pn	**Pn**	**19 43 42.4**	**+1.1**
IANJ	**Anjilo**	**3.57**	**334**	*e*Pn	**Pn**	**19 43 42.2**	**+0.6**
NHDN	**Nehbandan**	**3.68**	**103**	*e*Pn	**Pn**	**19 43 44.7**	**+1.7**
SHRO	**Shahrood**	**3.71**	**2**	*e*Pn	**Pn**	**19 43 44.1**	**+0.7**
SHRO				IAML		19 44 48.8	
	comp=E,253nm,0.5s						
SHRO	**Shahrood**	**3.71**	**2**	*e*Pn	**Pn**	**19 43 44.1**	**+0.7**
IKLH	**Kolahrood**	**3.75**	**287**	*e*Pn	**Pn**	**19 43 46.1**	**+2.0**
KLNJ	**Kolanjah**	**3.85**	**252**	*e*Pn	**Pn**	**19 43 48.4**	**+2.9**
ILAS	**Lasjerd**	**3.93**	**323**	*e*Pn	**Pn**	**19 43 47.8**	**+1.3**
SHRT	**Shahrakht**	**3.97**	**69**	*e*Pn	**Pn**	**19 43 48.7**	**+1.7**
SHRT	**Shahrakht**	**3.97**	**69**	*e*Pn	**Pn**	**19 43 48.7**	**+1.7**
QAM	**Ghamsar**	**3.99**	**293**	*e*Pn	**Pn**	**19 43 49.0**	**+1.6**
ISHM	**Shahmirzad**	**4.12**	**330**	*e*Pn	**Pn**	**19 43 50.3**	**+1.1**
IFIR	**Firoozkooh**	**4.24**	**323**	*e*Pn	**Pn**	**19 43 51.6**	**+0.8**
SBZV	**Sabzevar**	**4.36**	**19**	*e*Pn	**Pn**	**19 43 53.6**	**+1.2**
JHBN	**Jahan bin**	**4.39**	**271**	*e*Pn	**Pn**	**19 43 55.5**	**+2.5**
IGLO	**Ghaloghah**	**4.54**	**339**	*e*Pn	**Pn**	**19 43 56.8**	**+1.9**
IALA	**Alasht**	**4.56**	**327**	*e*Pn	**Pn**	**19 43 57.2**	**+1.9**
IDMV	**Damavand**	**4.58**	**317**	*e*Pn	**Pn**	**19 43 56.9**	**+1.4**
GENO	**Geno**	**4.86**	**177**	*e*Pn	**Pn**	**19 43 59.7**	**+0.4**
IPAY	**Payeh**	**4.91**	**31**	*e*Pn	**Pn**	**19 44 01.7**	**+1.7**
IPRN	**Peran**	**4.92**	**325**	*e*Pn	**Pn**	**19 44 02.7**	**+2.7**
IAKL	**Akhelmad**	**4.94**	**28**	*e*Pn	**Pn**	**19 44 02.0**	**+1.5**
IMND	**Minoodasht**	**4.99**	**356**	*e*Pn	**Pn**	**19 44 01.6**	**+0.8**
IKRD	**Kardeh**	**5.00**	**25**	*e*Pn	Pb	19 44 08.8	-4.9
ISFR	**Sfrayin**	**5.09**	**20**	*e*Pn	**Pn**	**19 44 04.1**	**+1.6**
IMYA	**Miami**	**5.37**	**40**	*e*Pn	**Pn**	**19 44 07.6**	**+1.3**
IEMG	**Emamgholi**	**5.62**	**23**	*e*Pn	**Pn**	**19 44 11.4**	**+1.5**
HRA	**Herat**	**5.75**	**67**	Pn	**Pn**	**19 44 12.3**	**+0.8**
GEYT	**Alibeck**	**5.94**	**18**	Pn	**Pn**	**19 44 15.6**	**+1.6**
	comp=E,5.1nm,0.3s,baz=198,slow=13,SNR=114						
GEYT				Sn	**Sn**	**19 45 17.3**	**-4.9**
	baz=187,slow=22,SNR=1.1						
GEYT				Lg	Lg	19 45 51.6	
	baz=213,slow=36,SNR=2.1						
GEYT	**Alibeck**	**5.94**	**18**	Pn	**Pn**	**19 44 15.3**	**+1.3**
GYA0B	**ALIBECK ARRAY**	**5.94**	**18**	Pn	**Pn**	**19 44 15.3**	**+1.4**
QALM	**Alamut, Qazvin**	**5.98**	**315**	*e*Pn	**Pn**	**19 44 17.3**	**+2.6**
BMDN	**Meydan**	**6.07**	**285**	*e*Pn	**Pn**	**19 44 18.2**	**+2.3**
BMDN	**Meydan**	**6.07**	**285**	Pn	**Pn**	**19 44 18.1**	**+2.2**
QABG	**Abgarm-Qazvin**	**6.24**	**305**	*e*Pn	**Pn**	**19 44 18.9**	**+0.7**
IDOB	**Doab**	**6.62**	**285**	*e*Pn	**Pn**	**19 44 25.0**	**+1.5**
IKFM	**Kafar-mosalman**	**6.85**	**283**	*e*Pn	**Pn**	**19 44 27.6**	**+1.2**
QSDN	**Sirdan**	**6.95**	**309**	*e*Pn	**Pn**	**19 44 29.4**	**+1.4**
HSRG	**Sareghieh**	**6.97**	**297**	*e*Pn	**Pn**	**19 44 30.5**	**+2.2**
UOSS	**Minazif**	**7.30**	**177**	Pn	**Pn**	**19 44 33.0**	**+0.3**
WSAR	**Wadi Sarin**	**9.33**	**164**	Pn	**Pn**	**19 44 59.9**	**-0.6**
	comp=E,0.1nm,0.3s,baz=345,slow=10,SNR=2.2						
KBL	**Kabul**	**11.25**	**75**	Pn	**Pn**	**19 45 26.9**	**-0.1**
CHGR	**Chuyangaron**	**12.57**	**56**	Pn	**Pn**	**19 45 44.1**	**-0.8**
GAR	**Garm**	**13.54**	**56**	Pn	**Pn**	**19 45 57.5**	**-0.6**
BTK	**Batken**	**14.36**	**53**	Pn	**Pn**	**19 46 09.3**	**0.0**
KK31	**Karatay Array**	**15.84**	**43**		**Pn**	**19 46 28.3**	**-0.6**
KKAR	**Karatay Array**	**15.84**	**43**		**Pn**	**19 46 28.0**	**-1.0**
KKAR	**Karatay Array**	**15.84**	**43**	Pn	**Pn**	**19 46 27.5**	**-1.4**
ASF	**Jabal al Asfar**	**16.05**	**275**	Pn	**Pn**	**19 46 31.4**	**-0.4**
	comp=E,0.3nm,0.3s,baz=31,slow=5.3,SNR=4.0						
ABKAR	**Akbulak array**	**17.24**	**9**	Pn	**Pn**	**19 46 45.2**	**-1.5**
AKTO	**Aktyubinsk**	**18.22**	**4**	P	**Pn**	**19 46 58.8**	**0.0**
	comp=E,0.6nm,0.3s,baz=179,slow=15,SNR=13						
BRTR	**Keskin Array B**	**19.42**	**299**	P	**P**	**19 47 13.9**	**+1.5**
	comp=E,0.1nm,0.3s,baz=124,slow=10,SNR=6.8						
BRTR	**Keskin Array B**	**19.42**	**299**	P	**P**	**19 47 12.7**	**+0.2**
ELL	**Elmali**	**21.82**	**289**	P	**P**	**19 47 39.7**	**+1.3**
BRVK	**Borovoye**	**23.24**	**22**	P	**P**	**19 47 54.0**	**+0.8**
BRVK				IAmb	IAmb	19 48 03.1	
	comp=Z,7.1nm,1.4s						
BVAR	**Borovoye Array**	**23.25**	**23**	P	**P**	**19 47 53.6**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=198,slow=9.0,SNR=13						
MAKZ	**Makanchi**	**24.68**	**46**	P	**P**	**19 48 06.9**	**-0.1**
MAKZ				IAmb	IAmb	19 48 10.5	
	comp=Z,4.9nm,1.1s						
KURBB	**Kurchatov Arra**	**24.84**	**36**	P	**P**	**19 48 10.2**	**+1.9**
	comp=Z,4.2nm,0.8s,baz=236,slow=9.7,SNR=21						
MK31	**Makanchi Array**	**24.87**	**47**	P	**P**	**19 48 09.1**	**+0.4**
MKAR	**Makanchi Array**	**24.87**	**47**	P	**P**	**19 48 09.5**	**+0.8**
	comp=Z,1.8nm,1.0s,baz=240,slow=9.6,SNR=8.5						
MKAR				LR	LR	19 59 26.2	
	comp=Z,111nm,18.9s,baz=160,slow=40						
MKAR	**Makanchi Array**	**24.87**	**47**	P	**P**	**19 48 08.9**	**+0.2**
KURK	**Kurchatov**	**24.94**	**36**	P	**P**	**19 48 10.6**	**+1.4**
MLR	**Muntele Rosu**	**26.59**	**308**	P	**P**	**19 48 26.7**	**+2.3**
	comp=Z,4.4nm,1.0s,baz=141,slow=7.2,SNR=5.7						
MLR	**Muntele Rosu**	**26.59**	**308**	P	**P**	**19 48 23.1**	**-1.3**
MLR				IAmb	IAmb	19 48 29.6	
	comp=Z,8.0nm,1.1s						
AKASG	**Malin Array Be**	**26.92**	**321**	P	**P**	**19 48 27.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=130,slow=9.2,SNR=4.3						
BURAR	**Bucovina Array**	**27.82**	**312**	P	**P**	**19 48 34.6**	**-0.7**
BUR08	**Bucovina Ar. S**	**27.84**	**312**	P	**P**	**19 48 33.5**	**-2.0**
BUR08				IAmb	IAmb	19 48 39.3	
	comp=Z,6.9nm,1.2s						
ZALV	**Zalesovo Beam**	**29.92**	**35**	P	**P**	**19 48 55.1**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=239,slow=9.2,SNR=12						
ZALV	**Zalesovo Beam**	**29.92**	**35**	P	**P**	**19 48 53.2**	**-0.6**
FIA1	**FINESS Array S**	**34.98**	**335**	P	**P**	**19 49 37.8**	**-0.2**
FINES	**FINESS Array B**	**34.98**	**335**	P	**P**	**19 49 38.6**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=126,slow=9.7,SNR=5.0						
FINES	**FINESS Array B**	**34.98**	**335**	P	**P**	**19 49 38.8**	**+0.7**
GERES	**GERESS Array B**	**35.53**	**310**	P	**P**	**19 49 44.4**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=105,slow=9.8,SNR=9.1						
GERES	**GERESS Array B**	**35.53**	**310**	P	**P**	**19 49 42.5**	**-0.5**
GTA	**Gaotai**	**36.06**	**66**	*e*P	**P**	**19 49 50.6**	**+2.8**
GTA				pP	sP	19 49 56.5	+3.9
GTA				sP	pP	19 50 00.4	+9.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CLL	**Collm**	**36.54**	**314**	*i* P	**P**	**19 49 53.7**	**+2.2**
	comp=Z,9.0nm,1.2s						
CLL				*e*PP	**PnPn**	**19 51 12.0**	**-2.1**
CLL	**Collm**	**36.54**	**314**	P	**P**	**19 49 52.2**	**+0.7**
CLL				IAmb	IAmb	19 49 55.4	
	comp=Z,5.6nm,0.9s						
NB2	**NORSAR Subarra**	**40.75**	**328**	P	**P**	**19 50 27.7**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=115,slow=8.6						
NOA	**NORSAR Array B**	**40.75**	**328**	P	**P**	**19 50 27.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=100,slow=7.2,SNR=4.5						
EKA	**Eskdalemuir Ar**	**46.74**	**318**	P	**P**	**19 51 15.6**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=106,slow=8.8,SNR=7.4						
ESDC	**Sonseca Array**	**48.20**	**296**	P	**P**	**19 51 26.7**	**0.0**
	comp=Z,0.5nm,0.7s,baz=63,slow=7.4,SNR=5.2						
TOA0	**Torodi Ar. Sit**	**52.89**	**262**	P	**P**	**19 52 01.8**	**-0.6**
TOA0				IAmb	IAmb	19 52 11.9	
	comp=Z,3.6nm,1.3s						
TORD	**Torodi Ar. Bea**	**52.89**	**262**	P	**P**	**19 52 01.2**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=59,slow=7.4,SNR=6.2						
TORD	**Torodi Ar. Bea**	**52.89**	**262**	P	**P**	**19 52 01.6**	**-0.7**

*JMA **13** 19:55:23.8±0.3, 22.°79N×122.°63E, h47km, M2.1*
*TAP **13** 19:55:25.1, 22.°80N×122.°52E, h81km±1km, ML2.6, D*

ISC 13 19:55:22.0±1.4, 22.°90N±0.°04×122.°61E±0.°03, h12km±10km, n63, σ0§68/111, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.08**	**258**	*e*P	**Pb**	**19 55 42.9**	**+0.3**
LDUT				S	**Sb**	**19 55 55.7**	**-1.0**
	baz=262						
CHKT	**Chengkung**	**1.17**	**280**	P	**Pb**	**19 55 44.5**	**+0.3**
CHKT				*e*S	**Sb**	**19 55 58.5**	**-0.7**
	baz=283						
EDH	**Donghe**	**1.21**	**273**	*e*P	**Pb**	**19 55 45.3**	**+0.4**
EDH				*e*S	**Sb**	**19 55 59.4**	**-1.0**
	baz=275						
HGSD	**Ruisui**	**1.24**	**298**	*e*P	**Pb**	**19 55 45.6**	**+0.2**
HGSD				*e*S	**Sb**	**19 56 01.6**	**+0.2**
	baz=300						
FULB	**Fuli**	**1.25**	**284**	*i* P	**Pn**	**19 55 45.7**	**+0.4**
FULB				*i* S	**Sb**	**19 56 01.2**	**-0.4**
	baz=295						
EYUL	**Yuli**	**1.27**	**291**	*e*P	**Pb**	**19 55 46.5**	**+0.6**
EYUL				*e*S	**Sb**	**19 56 02.4**	**+0.3**
	baz=296						
TWF1	**Yuli**	**1.29**	**290**	*i* P	**Pb**	**19 55 46.8**	**+0.6**
TWF1				*e*S	**Sb**	**19 56 03.0**	**+0.2**
	baz=295						
YULB	**Yu-li**	**1.30**	**292**	P	**Pg**	**19 55 47.3**	**+0.1**
YULB				*e*S	**Sn**	**19 56 03.9**	**+0.4**
	baz=297						
EGFH	**Guangfu**	**1.33**	**305**	P	**Pg**	**19 55 47.7**	**+0.1**
EGFH				*e*S	**Sg**	**19 56 04.5**	**-0.4**
	baz=310						
EHY	**Hungye**	**1.33**	**297**	P	**Pb**	**19 55 47.3**	**+0.4**
EHY				S	**Sg**	**19 56 04.8**	**-0.1**
	baz=302						
TTN	**Taitung**	**1.36**	**264**	*e*S	**Sn**	**19 56 04.9**	**+0.1**
	baz=266						
LONT	**Longtian**	**1.37**	**270**	*e*P	**Pn**	**19 55 45.4**	**-1.5**
LONT				*e*S	**Sn**	**19 56 04.7**	**-0.3**
	baz=271						
ESL	**Shilin**	**1.41**	**310**	*e*P	**Pn**	**19 55 47.6**	**+0.1**
ESL				*e*S	**Sg**	**19 56 08.1**	**+0.5**
	baz=318						
TWGBT	**Beinan**	**1.42**	**267**	P	**Pb**	**19 55 49.0**	**+0.6**
TWGBT				S	**Sn**	**19 56 05.9**	**-0.3**
	baz=271						
TWG	**Pinlang**	**1.42**	**267**	P	**Pb**	**19 55 49.1**	**+0.6**
TWG				S	**Sn**	**19 56 05.8**	**-0.6**
	baz=271						
ELDTW	**Lidau**	**1.50**	**281**	*i* P	**Pb**	**19 55 49.8**	**-0.1**
ELDTW				*e*S	**Sn**	**19 56 06.4**	**-1.9**
	baz=293						
ECL	**Taimali**	**1.56**	**259**	*e*P	**Pn**	**19 55 50.1**	**+0.5**
ECL				*e*S	**Sn**	**19 56 08.3**	**-1.4**
	baz=261						
JYNG	**Yonagunijimaku**	**1.57**	**11**	P	**Pg**	**19 55 52.3**	**+0.1**
JYNG				S	**Sg**	**19 56 12.4**	**-0.2**
NACB	**Ninganchiao**	**1.57**	**324**	*e*P	**Pb**	**19 55 51.1**	**0.0**
NACB				*e*S	**Sn**	**19 56 09.5**	**-0.5**
	baz=331						
HATJ	**Hateruma jima**	**1.59**	**43**	P	**Pb**	**19 55 51.1**	**-0.2**
HATJ				S	**Sn**	**19 56 10.4**	**0.0**
YOJ	**Yonaguni jima**	**1.59**	**13**	*e*S	**Sg**	**19 56 13.2**	**-0.1**
	baz=9.0						
YOJ	**Yonaguni jima**	**1.59**	**13**	P	**Pg**	**19 55 52.8**	**+0.1**
YOJ				S	**Sg**	**19 56 12.5**	**-0.9**
VWDT	**VWDT**	**1.59**	**302**	*e*P	**Pb**	**19 55 51.9**	**+0.5**
	baz=306						
ETLH	**Xiulin Townshi**	**1.66**	**322**	*e*P	**Pb**	**19 55 52.6**	**0.0**
ETLH				*e*S	**Sb**	**19 56 13.6**	**+0.1**
	baz=330						
EAST	**Anshuo**	**1.71**	**253**	P	**Pb**	**19 55 53.3**	**-0.2**
EAST				*e*S	**Sn**	**19 56 14.2**	**+0.7**
	baz=260						
ENA	**Nanau**	**1.71**	**332**	P	**Pb**	**19 55 53.7**	**+0.2**
ENA				*e*S	**Sb**	**19 56 15.4**	**+0.4**
	baz=332						
WHF	**Hehuan Shan**	**1.75**	**315**	P	**Pb**	**19 55 54.4**	**+0.1**
WHF				*e*S	**Sb**	**19 56 15.9**	**-0.5**
	baz=325						
CHGB	**Renai**	**1.75**	**311**	*e*P	**Pb**	**19 55 54.6**	**+0.3**
CHGB				*e*S	**Sb**	**19 56 16.4**	**+0.1**
	baz=315						
IRIF	**Iriomote-Funau**	**1.75**	**36**	P	**Pb**	**19 55 53.8**	**-0.4**
IRIF				*e*S	**Sn**	**19 56 14.6**	**+0.1**
SSLB	**Suanglung**	**1.76**	**300**	P	**Pb**	**19 55 54.0**	**-0.3**
	baz=308						
SLGT	**Liugui**	**1.81**	**273**	*e*P	**Pb**	**19 55 55.4**	**+0.2**
SLGT				*e*S	**Sb**	**19 56 17.4**	**-0.4**
	baz=275						
FUSS	**Fushou**	**1.83**	**317**	*e*P	**Pb**	**19 55 55.7**	**+0.1**
FUSS				*e*S	**Sb**	**19 56 17.9**	**-0.8**
	baz=327						
SSD	**Sandimen**	**1.83**	**265**	*e*P	**Pb**	**19 55 55.6**	**+0.1**
SSD				*e*S	**Sn**	**19 56 15.7**	**-0.8**
	baz=267						
TWC	**Suao**	**1.84**	**338**	P	**Pb**	**19 55 56.4**	**+0.9**
TWC				*e*S	**Sb**	**19 56 19.4**	**+0.9**
	baz=346						
JKRS	**Kuro-shima**	**1.84**	**44**	P	**Pb**	**19 55 55.1**	**-0.6**
JKRS				S	**Sn**	**19 56 16.8**	**0.0**
MASBT	**Mashibuluo**	**1.85**	**261**	P	**Pn**	**19 55 55.0**	**+1.5**
	baz=262						
TPUB	**Ta-pu**	**1.87**	**283**	P	**Pb**	**19 55 57.0**	**+0.8**
TPUB				*e*S	**Sb**	**19 56 20.7**	**+1.3**
	baz=285						
WTP	**Ta-pu**	**1.87**	**281**	*e*P	**Pb**	**19 55 57.1**	**+0.9**
	baz=290						
TWT	**Tachien**	**1.88**	**316**	P	**Pb**	**19 55 57.3**	**+0.8**
TWT				*e*S	**Sb**	**19 56 19.5**	**-0.5**
	baz=323						
NNSB	**Datong**	**1.89**	**324**	P	**Pb**	**19 55 56.6**	**+0.1**
NNSB				*e*S	**Sb**	**19 56 19.3**	**-0.9**
	baz=327						
NNSH	**Datong**	**1.89**	**324**	*e*P	**Pb**	**19 55 56.4**	**-0.2**
NNSH				*e*S	**Sb**	**19 56 19.1**	**-1.0**
	baz=326						
TDCB	**Techi**	**1.89**	**315**	P	**Pb**	**19 55 57.0**	**+0.4**
TDCB				*e*S	**Sn**	**19 56 19.0**	**+0.9**
	baz=322						
TYC	**Yuchr**	**1.90**	**302**	*e*P	**Pb**	**19 55 57.1**	**+0.6**
	baz=309						
NNS	**Nan Shan**	**1.91**	**324**	P	**Pb**	**19 55 56.8**	**0.0**
NNS				*e*S	**Sb**	**19 56 19.6**	**-1.0**
	baz=327						
CHN5	**Tsauling**	**1.91**	**292**	*e*P	**Pb**	**19 55 58.0**	**+1.1**
	baz=294						
CHN4	**Tsaushan**	**1.91**	**284**	*e*P	**Pb**	**19 55 57.7**	**+0.8**
	baz=286						
SCZT	**Fangliau**	**1.92**	**254**	*e*P	**Pb**	**19 55 57.8**	**+0.9**
SCZT				*e*S	**Sn**	**19 56 19.9**	**+1.4**
	baz=258						
TWKBT	**Hengchun**	**1.92**	**240**	*e*S	**Sn**	**19 56 17.6**	**-1.1**
	baz=241						
TWK1	**Hengchun**	**1.93**	**241**	*e*S	**Sn**	**19 56 18.1**	**-0.7**
	baz=241						
CHN1	**Nanshi**	**1.94**	**279**	*e*P	**Pg**	**19 55 58.7**	**-0.6**
	baz=288						
NDT	**Datong Townshi**	**1.97**	**329**	P	**Pb**	**19 55 58.1**	**+0.3**
NDT				*e*S	**Sb**	**19 56 21.2**	**-1.1**
	baz=336						
SNST	**Tainan City**	**1.97**	**280**	P	**Pb**	**19 55 58.1**	**+0.3**
	baz=291						
ENTT	**Nioudou**	**1.98**	**331**	P	**Pb**	**19 55 58.4**	**+0.4**
ENTT				*e*S	**Sb**	**19 56 22.1**	**-0.5**
	baz=334						
TWK	**Hsinying**	**1.99**	**281**	*e*P	**Pb**	**19 55 59.2**	**+1.0**
	baz=283						
TWE	**Neicheng**	**2.00**	**335**	*e*S	**Sb**	**19 56 22.9**	**-0.4**
	baz=337						
JIJ	**Ishigaki jima**	**2.02**	**44**	P	**Pn**	**19 55 56.9**	**+1.0**
JIJ				S	**Sn**	**19 56 20.3**	**-0.8**
WHP	**Taichung City**	**2.05**	**312**	*e*P	**Pg**	**19 56 00.7**	**-0.7**
	baz=315						
WHP				*e*S	**Sb**	**19 56 25.2**	**+0.4**
	baz=315						
NSK	**Sanguang**	**2.10**	**327**	*e*P	**Pb**	**19 55 59.7**	**-0.5**
	baz=330						
NSK				*e*S	**Sb**	**19 56 24.8**	**-1.5**
	baz=330						
NWLT	**Wulai**	**2.12**	**332**	*e*P	**Pb**	**19 56 00.3**	**-0.2**
	baz=327						
NWLT				S	**Sb**	**19 56 26.2**	**-0.6**
	baz=327						
TIPB	**Shuangxi**	**2.18**	**341**	*e*P	**Pb**	**19 56 02.0**	**+0.6**
	baz=349						
TIPB				*e*S	**Sb**	**19 56 28.6**	**+0.1**
	baz=349						
LIOB	**Emei**	**2.27**	**320**	*e*P	**Pb**	**19 56 03.7**	**+0.7**
	baz=311						
LIOB				*e*S	**Sb**	**19 56 31.1**	**+0.1**
	baz=311						
JISG	**Ishigakijimahi**	**2.29**	**43**	P	**Pn**	**19 56 00.5**	**+0.9**
JISG				S	**Sn**	**19 56 27.1**	**-0.6**
JTJ	**Tarama**	**2.58**	**48**	P	**Pn**	**19 56 04.9**	**+1.3**
JTJ				S	**Sn**	**19 56 34.6**	**-0.3**

*TUL **13** 20:01:07.6±1.5, 36.°196N±0.°007×97.°42W±0.°02, h5km±2km, ML3.0, Error ellipse: s-maj=3.4km s-min=3.0km az=262.0*
*UNK **13** 20:01:07.8, 36.°20N×97.°40W, h4km*
*NEIC **13** 20:01:07.9±1.2, 36.°20N±0.°02×97.°39W±0.°02, h5km±7km, Error ellipse: s-maj=2.9km s-min=2.3km az=79.0*
*ANF **13** 20:01:10.0±1.1, 36.°18N×97.°35W, h17km±8km, ML4.0/10, Error ellipse: s-maj=5.3km s-min=3.4km az=169.0*

ISC 13 20:01:08.0±1.0, 36.°20N±0.°02×97.°39W±0.°03, h8km±9km, n86, σ0§93/99, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.41**	**187**		**Pg**	**20 01 15.6**	**-0.3**
OK029				Sg	**Sg**	**20 01 21.3**	**0.0**
QUOK	**Quay**	**0.56**	**93**		**Pg**	**20 01 18.8**	**+0.1**
QUOK				Sg	**Sg**	**20 01 26.7**	**+0.7**
CROK	**Carrier**	**0.57**	**303**		**Pg**	**20 01 18.6**	**-0.4**
CROK				Sg	**Sg**	**20 01 26.3**	**-0.1**
BCOK	**Bluff Creek, N**	**0.57**	**198**		**Pg**	**20 01 18.6**	**-0.4**
BCOK				Sg	**Sg**	**20 01 26.5**

W41B	Gary Mavity, V	4.31 102			Pn	20 02 14.1 +0.3
UALR	University of	4.36 108	Pn		Pn	20 02 14.2 -0.4
237A	Washetta, Mont	4.39 162	Pn		Pn	20 02 15.1 +0.2
P38A	Dawn	4.58 41			Pn	20 02 18.8 +1.1
R40A	Maddies Statio	4.59 61			Pn	20 02 18.1 +0.4
Z41A	Richland Creek	4.79 126	S		Sn	20 03 15.2 -0.8
	baz=309					
Z41A	Richland Creek	4.79 126	Pn		Pn	20 02 21.3 +1.0
N35A	Tabor	4.85 16			Pn	20 02 22.9 +1.6
MSTX	Muleshoe	4.94 245			Pn	20 02 22.9 +0.3
KSCO	Kaye Shedlock'	5.01 306			Pn	20 02 25.4 +1.7
LCAR	Lake Charles	5.05 90	Pn		Pn	20 02 24.5 +0.5
T42A	Van Buren	5.14 79			Pn	20 02 24.4 -0.8
CCM	Cathedral Cave	5.25 68			Pn	20 02 25.9 -0.9
P40A	Paris	5.38 50			Pn	20 02 29.4 +0.9
435B	Jarrell	5.40 182			Pn	20 02 29.6 +0.7
HBAR	Harrisburg	5.51 95	Pn		Pn	20 02 30.3 0.0
X43A	Marvell	5.58 106	Pn		Pn	20 02 31.0 -0.3
N38A	Joes South For	5.63 34	Pn		Pn	20 02 32.1 +0.1
T25A	Trinidad	5.72 282			Pn	20 02 32.1 -1.3
L34A	Svendsen Farm,	5.81 8	Pn		Pn	20 02 34.2 -0.3
OGNE	Ogallala	5.97 324			Pn	20 02 37.2 +0.4
JCT	Junction City	6.05 200			Pn	20 02 34.8 -3.0
PEBM	Pemiscott Bayo	6.09 89	Pn		Pn	20 02 37.3 -1.1
SCIA	State Center	6.56 28	Pn		Pn	20 02 44.9 +0.2
SDCO	Great Sand Dun	6.67 286	Pn		Pn	20 02 47.1 +0.6
S44A	Carbondale	6.69 75	Pn		Pn	20 02 45.7 -0.8
OXF	Oxford	6.74 102	Pn		Pn	20 02 46.1 -1.1
N41A	Harden Midland	6.82 47	Pn		Pn	20 02 49.0 +0.6
P43A	Skaggs, Pawnee	7.11 59	Pn		Pn	20 02 52.4 +0.1
ISCO	Idaho Springs	7.42 301	Pn		Pn	20 02 56.8 -0.1
ANMO	Albuquerque	7.49 263	Pn		Pn	20 02 57.9 +0.1
ECSD	EROS Data Cent	7.55 4	Pn		Pn	20 02 57.2 -1.2
L40A	Anamosa	7.57 37	Pn		Pn	20 02 58.8 +0.2
PLAL	Pickwick Lake	7.69 96	Pn		Pn	20 02 59.0 -1.3
HDIL	Hopedale	7.71 53	Pn		Pn	20 03 00.1 -0.4
BNM	Barren Site	7.83 258	Pn		Pn	20 03 02.8 +0.3
MNTX	Cornudas Mount	8.01 238	Pn		Pn	20 03 05.5 +0.8
833A	Chaparral WMA,	8.03 193	Pn		Pn	20 03 04.2 -0.8
N23A	Red Feather La	8.18 308	Pn		Pn	20 03 06.8 -0.4
Z47A	Carrollton	8.24 109	Pn		Pn	20 03 09.5 +1.7
TX31	Lajitas Ar. Si	8.64 219	Pn		Pn	20 03 11.0 -2.5
TX32	Lajitas Array	8.64 219	Pn		Pn	20 03 14.2 +0.7
TXAR	Lajitas Array	8.64 219	Pn		Pn	20 03 15.1 +1.6
WCI	Wyandotte Cave	9.08 74	Pn		Pn	20 03 19.9 +0.5

MAN **13** *20:48:30.5, 5".23N×126".12E, h62km, MS4.2*
IDC **13** *20:48:33.2±1.2, 5".42N×126".04E, h87km±10km, mb4.1/21, mb1 4.3/23, mb1mx4.1/38, mbtmp4.5/23, MS3.2/6, Ms1 3.2/6, ms1mx3.0/32, Error ellipse: s-maj=21.3km s-min=9.0km az=81.0*
NEIC **13** *20:48:33.8±2.0, 5".47N±0".06×126".20E±0".09, h91km±6km, mb4.7/74, Error ellipse: s-maj=13.8km s-min=7.3km az=69.0*
DJA **13** *20:48:33.4±0.4, 6"N±3"×12"6E±", h83km±4km, M4.7/35, mb4.7/35, mB5.1/9, MLv4.9/10, Mw(mB)4.5/9*
KLM **13** *20:48:35.0, 5".45N×126".27E, h109km, mb4.8*
ISC 13 20:48:34.0±0.7, 5".42N±0".04×126".11E±0".06, h93km±6km, n197, σ1s47/207, mb4.7/74, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.79**	**330**	*e*P	**Pn**	**20 48 50.0**	**-1.6**
DDMP				*e*S	**Sn**	**20 49 02.5**	**-2.2**
MATI	**Mati**	**1.52**	**5**	*e*P	**Pn**	**20 48 58.0**	**-2.1**
MATI				*e*S	**Sn**	**20 49 20.4**	**+0.5**
DAV	**Davao City (W)**	**1.72**	**342**	P	**Pn**	**20 49 02.5**	**-0.2**
	215nm,0.3s,baz=138,slow=2.2,SNR=13						
DAV				S	**Sn**	**20 49 24.2**	**-0.3**
	288nm,0.3s,baz=220,slow=19,SNR=9.5						
DAV				LR	LR	20 49 57.0	
	comp=Z,1μm,21.8s,baz=100,slow=49						
DAV	**Davao City (W)**	**1.72**	**342**		**Pn**	**20 49 02.1**	**-0.6**
DAV				Sn	**Sn**	**20 49 23.3**	**-1.2**
KCP	**Kidapawan**	**1.87**	**327⇑**	*i*P	**Pn**	**20 49 04.8**	**0.0**
KCP				*i* S	**Sn**	**20 49 29.1**	**+1.0**
SKMP	**Bagumbayan, Su**	**1.90**	**305**	*e*P	**Pn**	**20 49 02.9**	**-2.2**
SKMP				*e*S	**Sn**	**20 49 27.8**	**-0.9**
BUKP	**Musuan**	**2.65**	**337**	*e*P	**Pn**	**20 49 14.3**	**-0.7**
BUKP				*e*S	**Sn**	**20 49 44.1**	**-2.3**
BIP	**Bislig**	**2.79**	**3⇓**	*i*P	**Pn**	**20 49 16.9**	**+0.2**
BIP				*i* S	**Sn**	**20 49 57.4**	**+7.8**
PAGZ	**Pagadian**	**3.63**	**312**	*e*P	**Pn**	**20 49 26.6**	**-1.5**
TNTI	**Ternate**	**4.79**	**165**	P	**Pn**	**20 49 43.7**	**-0.1**
TNTI	**Ternate**	**4.79**	**165**	Pn	**Pn**	**20 49 43.6**	**-0.2**
TBP	**Tagbilaran**	**4.79**	**332⇑**	*e*P	**Pn**	**20 49 46.8**	**+3.0**
KMSI	**Cibinong**	**5.26**	**204**	P	**Pn**	**20 49 51.0**	**+0.7**
	1.8nm2μm234nm,0.8s						
LLP	**Lapu-Lapu**	**5.31**	**337⇓**	*e*P	**Pn**	**20 49 51.6**	**+0.8**
LLP				*e*S	**Sn**	**20 50 53.4**	**+2.7**
GTOI	**Gorontalo**	**5.67**	**213**	P	**Pn**	**20 49 54.8**	**-1.1**
	0.7nm2μm130nm,0.6s						
LUWI	**Luwuk**	**7.24**	**208**	P	**Pn**	**20 50 20.7**	**+3.6**
	1.5nm3μm196nm,0.7s						
LUWI	**Luwuk**	**7.24**	**208**	Pn	**Pn**	**20 50 19.0**	**+1.9**
SANI	**Sanana**	**7.42**	**181**	P	**Pn**	**20 50 18.1**	**-1.6**
	0.7nm3μm172nm,1.0s						
MYLDM	**Lahad Datu**	**7.58**	**269**		**Pn**	**20 50 22.2**	**+0.3**
MPSI	**Mapaga**	**8.00**	**231**	P	**Pn**	**20 50 26.9**	**-0.6**
	612nm20nm,0.7s						
SIJI	**Sorong**	**8.10**	**140**	P	**Pn**	**20 50 28.4**	**-0.6**
	4.5nm,0.3s,baz=349,slow=9.4,SNR=14						
SIJI				S	**Sn**	**20 51 57.2**	**-1.6**
	1.5nm,0.3s,baz=233,slow=20,SNR=2.3						
NLAI	**Namlea**	**8.66**	**173**	P	**Pn**	**20 50 34.9**	**-1.7**
	2μm86nm,0.7s						
LQP	**Lukban**	**9.74**	**333⇑**	*e*P	Pn	20 50 57.3	+5.9
KKM	**Kota Kinabalu**	**9.87**	**274**	Pn	**Pn**	**20 50 54.4**	**+1.3**
SPSI	**Sidrap Palu**	**11.27**	**214**	P	**Pn**	**20 51 15.8**	**+3.7**
	19nm,1.4s						
BNSI	**Bone**	**11.45**	**212**	P	**Pn**	**20 51 18.8**	**+4.2**
	29nm,1.0s						
KAPI	**Kappang**	**12.16**	**212**	P	**Pn**	**20 51 27.3**	**+3.3**
	1.1nm,0.3s,baz=339,slow=3.8,SNR=8.7						
KAPI				LR	LR	20 56 06.6	
	comp=Z,182nm,21.2s,baz=2.0,slow=37						
KAPI	**Kappang**	**12.16**	**212**	Pn	**Pn**	**20 51 26.7**	**+2.7**
BBKI	**Banjar Baru**	**14.30**	**232**	P	**P**	**20 51 56.6**	**0.0**
	3μm65nm,1.2s						
EDFI	**Ende, Flores**	**14.75**	**197**	P	**P**	**20 52 00.7**	**-1.0**
	9.6nm,0.9s						
SOEI	**Soe**	**15.19**	**187**	P	**P**	**20 52 06.0**	**-0.6**
	27nm,0.8s						
SOEI	**Soe**	**15.19**	**187**		**Pn**	**20 52 05.1**	**+1.4**
BATI	**Baumata**	**15.72**	**189**	P	**Pn**	**20 52 11.1**	**+0.8**
	5.8nm,0.3s,baz=69,slow=3.9,SNR=8.6						
BATI	**Baumata**	**15.72**	**189**	P	**P**	**20 52 11.7**	**-0.6**
	27nm,1.0s						
WBSI	**Waikabubak, Su**	**16.39**	**204**	P	**Pn**	**20 52 19.1**	**+0.4**
	62nm,0.9s						
TWSI	**Taliwang, Sumb**	**16.81**	**213**	P	**P**	**20 52 25.9**	**+1.5**
	39nm,1.2s						
JAGI	**Jajag, Banyuwa**	**18.24**	**221**	P	**Pn**	**20 52 41.3**	**+0.2**
JAGI				IAmb	IAmb	20 52 44.4	
	comp=Z,36nm,1.1s						
YULB	**Yu-li**	**18.46**	**346**	P	**P**	**20 52 42.5**	**-0.1**
TPUB	**Ta-pu**	**18.54**	**344**	P	**P**	**20 52 42.9**	**-0.5**
DLV	**T Lat**	**18.58**	**292**	P	**Pn**	**20 52 44.9**	**-0.6**
MTN	**Manton Dam**	**18.82**	**165**	P	**P**	**20 52 46.6**	**+0.1**
SSLB	**Suanglung**	**18.92**	**345**	P	**P**	**20 52 47.3**	**-0.3**
NGJI	**Ngawi**	**19.37**	**229**	P	**Pn**	**20 52 59.6**	**+5.1**
	comp=Z,49nm,1.0s						
YHNB	**Yeheng**	**19.67**	**347**	P	**P**	**20 52 55.3**	**-0.5**
YHNB				IAmb	IAmb	20 53 04.0	
	comp=Z,37nm,1.2s						
TPI	**Tanjungpandan**	**20.15**	**247**	P	Pn	20 53 03.0	-0.7
	comp=Z,39nm,1.1s						
QIZ	**Qiongzhong**	**20.84**	**312**	P	**P**	**20 53 08.8**	**+0.3**
KNRA	**Kununurra**	**21.13**	**173**	P	**P**	**20 53 11.8**	**+0.3**
KNRA				IAmb	IAmb	20 53 19.5	
	comp=Z,27nm,0.6s						
PPBI	**Pangkal Pinang**	**21.33**	**250**	P	**P**	**20 53 14.8**	**+1.1**
	comp=Z,28nm,0.7s						
LEM	**Lembang**	**22.11**	**237**	P	**P**	**20 53 24.2**	**+2.1**
	comp=Z,36nm,0.9s,baz=50,slow=4.9,SNR=6.8						
MYKOM	**Kota Tinggi**	**22.50**	**262**	P	**P**	**20 53 26.9**	**+0.7**
MYKOM				IAmb	IAmb	20 53 30.3	
	comp=Z,40nm,1.0s						
MYKOM	**Kota Tinggi**	**22.50**	**262**	P	**P**	**20 53 28.0**	**+1.8**
PMBI	**Palembang**	**22.87**	**249**	P	**P**	**20 53 32.2**	**+2.3**
FITZ	**Fitzroy Crossi**	**23.38**	**181**	P	**P**	**20 53 34.1**	**-0.5**
	comp=Z,5.1nm,0.5s,baz=359,slow=6.8,SNR=28						
FITZ	**Fitzroy Crossi**	**23.38**	**181**	P	**P**	**20 53 34.5**	**-0.1**
KLSI		**23.60**	**245**	P	**P**	**20 53 38.5**	**+1.8**
	comp=Z,24nm,1.2s						
MDSI	**Maura Dua**	**24.02**	**246**	P	**P**	**20 53 42.9**	**+2.5**
	comp=Z,54nm,1.1s						
LHSI	**Lahat**	**24.36**	**248**	P	**P**	**20 53 45.8**	**+2.2**
	comp=Z,132nm,1.1s						
IPM	**Ipoh**	**25.01**	**269**	P	**P**	**20 53 47.0**	**-2.5**
SDSI	**Sungai Dareh**	**25.45**	**256**	P	**P**	**20 53 54.7**	**+1.2**
	comp=Z,30nm,1.8s						
JCJ	**Chichijima**	**26.44**	**34**	P	**P**	**20 54 00.6**	**-1.7**
	comp=Z,59nm,0.6s,baz=193,slow=18,SNR=2.8						
JCJ	**Chichijima**	**26.44**	**34**	P	**P**	**20 54 00.3**	**-2.1**
WRAB	**Tennant Creek**	**26.47**	**162**	P	**P**	**20 54 04.2**	**+1.5**
WRAB				IAmb	IAmb	20 54 17.2	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**26.47**	**162**	P	**P**	**20 54 01.5**	**-1.1**
	comp=Z,2.6nm,0.4s,baz=339,slow=10,SNR=59						
WRA	**Warramunga Arr**	**26.47**	**162**	P	**P**	**20 54 03.2**	**+0.5**
WB2	**Warramunga Arr**	**26.48**	**162**	P	**P**	**20 54 02.9**	**+0.2**
PBKT	**Sadao Pong**	**27.01**	**296**	P	**P**	**20 54 08.4**	**+0.9**
NJ2	**Nanjing**	**27.35**	**346**	*e*P	**P**	**20 54 16.3**	**+5.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PSA00	**Pilbara Seismi**	**27.52**	**193**	P	**P**	**20 54 11.8**	**-0.2**
PSA00				IAmb	IAmb	20 54 12.6	
	comp=Z,18nm,0.8s						
JNU	**Nakatsue**	**27.91**	**9**	P	**P**	**20 54 15.8**	**+0.3**
	comp=Z,22nm,0.9s,baz=243,slow=6.1,SNR=8.8						
JNU	**Nakatsue**	**27.91**	**9**	P	**P**	**20 54 15.0**	**-0.5**
JNU				IAmb	IAmb	20 54 17.6	
	comp=Z,36nm,1.1s						
ENH	**Enshi**	**29.26**	**330**	P	**P**	**20 54 26.3**	**-1.2**
ENH				IAmb	IAmb	20 54 35.4	
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.51**	**298**	P	**P**	**20 54 30.2**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=110,slow=7.8,SNR=2.9						
CMAR				ScP	**ScP**	**21 01 07.8**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=122,slow=2.0,SNR=8.5						
CMAR	**Chiang Mai Arr**	**29.51**	**298**	P	**P**	**20 54 29.6**	**-0.2**
CHTO	**Chiang Mai**	**29.64**	**299**	P	**P**	**20 54 32.4**	**+1.4**
AS31	**Alice Springs**	**29.89**	**166**	P	**P**	**20 54 32.8**	**-0.4**
ASAR	**Alice Springs**	**29.90**	**166**	P	**P**	**20 54 32.5**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=340,slow=6.9,SNR=32						
ASAR				PcP	**PcP**	**20 57 34.5**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=344,slow=2.1,SNR=4.5						
ASAR				ScP	**ScP**	**21 01 08.9**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=346,slow=3.0,SNR=8.7						
ASAR	**Alice Springs**	**29.90**	**166**	P	**P**	**20 54 32.9**	**-0.2**
JHS	**Saijyo**	**30.14**	**12**	P	**P**	**20 54 34.6**	**-0.5**
JHS				IAmb	IAmb	20 54 52.0	
	comp=Z,24nm,1.2s						
JWT	**Wachi**	**30.93**	**15**	P	**P**	**20 54 41.6**	**-0.5**
JWT				IAmb	IAmb	20 54 43.5	
	comp=Z,18nm,0.9s						
INU	**Inuyama**	**31.43**	**17**	P	**P**	**20 54 46.0**	**-0.5**
INU				IAmb	IAmb	20 54 48.8	
	comp=Z,15nm,0.8s						
KSAR	**Wonju Array Be**	**31.91**	**3**	P	**P**	**20 54 50.7**	**+0.1**
KSRS	**Korea Array**	**31.92**	**3**	P	**P**	**20 54 51.0**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=180,slow=11,SNR=22						
KSRS				PcP	**PcP**	**20 57 40.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=181,slow=3.7,SNR=2.7						
KSRS				LR	LR	21 10 15.3	
	comp=Z,16nm,18.1s,baz=185,slow=41						
KS19	**Wonju Array Si**	**31.97**	**3**	P	**P**	**20 54 50.5**	**-0.7**
KS19				IAmb	IAmb	20 55 09.3	
	comp=Z,19nm,1.3s						
XAN	**Xi'an**	**32.64**	**333**	P	**P**	**20 54 55.8**	**-1.4**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				pmax	pmax		
	comp=Z,150nm,6.0s						
XAN	**Xi'an**	**32.64**	**333**	P	**P**	**20 54 55.6**	**-1.5**
XAN				IAmb	IAmb	20 55 05.1	
	comp=Z,9.0nm,0.7s						
MAJO	**Matsushiro**	**32.90**	**18**	P	**P**	**20 54 57.5**	**-1.9**
MAJO				IAmb	IAmb	20 55 02.2	
	comp=Z,17nm,1.5s						
MAT	**Matsushiro**	**32.90**	**18**	P	**P**	**20 54 58.0**	**-1.4**
MAT				*e*S	S	21 00 28.8	+18
MJAR	**Matsushiro Arr**	**32.90**	**18**	P	**P**	**20 54 58.3**	**-1.1**
	comp=Z,4.4nm,0.8s,baz=192,slow=9.2,SNR=12						
MJAR				LR	LR	21 06 20.9	
	comp=Z,31nm,21.6s,baz=230,slow=32						
MJAR	**Matsushiro Arr**	**32.90**	**18**	P	**P**	**20 54 57.1**	**-2.3**
JMM	**Marumori**	**34.95**	**20**	P	**P**	**20 55 16.6**	**-0.6**
BJT	**Baijiatuau**	**35.59**	**347**	P	**P**	**20 55 22.4**	**-0.1**
BJT				IAmb	IAmb	20 55 23.8	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**35.63**	**195**	P	**P**	**20 55 22.5**	**-0.6**
MORW				IAmb	IAmb	20 55 24.2	
	comp=Z,22nm,1.3s						
LZH	**Lanzhou**	**36.74**	**329**	*e*P	**P**	**20 55 33.3**	**+0.6**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
CN2	**Changchun**	**38.23**	**359**	*e*P	**P**	**20 55 45.3**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SHL	**Shillong**	**38.39**	**305**	P	**P**	**20 55 46.0**	**-0.7**
SHL				IAmb	IAmb	20 55 47.8	
	comp=Z,13nm,0.7s						
USRK	**Ussuriysk Ar.**	**38.97**	**7**	P	**P**	**20 55 52.1**	**+1.1**
	comp=Z,25nm,0.9s,baz=196,slow=7.6,SNR=36						
USRK				LR	LR	21 11 52.6	
	comp=Z,29nm,19.4s,baz=243,slow=36						
EIDS	**Eidsvold**	**39.06**	**143**	P	**P**	**20 55 51.2**	**-0.9**
EIDS				IAmb	IAmb	20 56 02.9	
	comp=Z,25nm,1.5s						
NWAO	**Narrogin (SRO)**	**39.06**	**192**	P	**P**	**20 55 52.2**	**+0.2**
MDJ	**Mudanjiang**	**39.16**	**4**	P	**P**	**20 55 53.3**	**+0.7**
BBOO	**Buckleboo**	**39.18**	**167**	P	**P**	**20 55 53.0**	**0.0**
STKA	**Stephens Creek**	**39.92**	**159**	P	**P**	**20 55 59.8**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=342,slow=9.5,SNR=19						
STKA	**Stephens Creek**	**39.92**	**159**	P	**P**	**20 55 59.5**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**41.65**	**68**	T	T	21 41 42.8	
	baz=258,slow=70,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**41.67**	**68**	T	T	21 41 41.8	
	baz=258,slow=70,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**41.67**	**68**	T	T	21 41 40.6	
	baz=258,slow=70,SNR=13						
H11N1	**WAKE ISLAND Hy**	**42.12**	**67**	T	T	21 42 31.4	
	baz=254,slow=75,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**42.13**	**67**	T	T	21 42 31.7	
	baz=254,slow=75,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**42.14**	**67**	T	T	21 42 33.2	
	baz=254,slow=75,SNR=11						
ODAN	**Odare**	**42.60**	**304**	*e*P	**P**	**20 56 21.7**	**+0.2**
	comp=Z,19nm,0.7s						
ODAN	**Odare**	**42.60**	**304**	*e*P	**P**	**20 56 21.7**	**+0.2**
	comp=Z,19nm,0.7s						
ARMA	**Armidale**	**43.21**	**147**	P	**P**	**20 56 26.8**	**+0.6**
ARMA				IAmb	IAmb	20 56 46.4	
	comp=Z,6.6nm,1.0s						
RAMN	**Ramite**	**43.28**	**304**	*e*P	**P**	**20 56 27.6**	**+0.5**
	comp=Z,14nm,0.7s						
RAMN	**Ramite**	**43.28**	**304**	*e*P	**P**	**20 56 27.6**	**+0.5**
	comp=Z,14nm,0.7s						
JIRN	**Jiri**	**43.90**	**305**	*e*P	**P**	**20 56 32.5**	**+0.4**
JIRN	**Jiri**	**43.90**	**305**	*e*P	**P**	**20 56 32.5**	**+0.4**
HIA	**Hailar**	**44.02**	**354**	P	**P**	**20 56 32.4**	**+0.1**
HIA				IAmb	IAmb	20 56 34.0	
	comp=Z,12nm,0.9s						
PKI	**Pulchoki**	**44.50**	**304**	*e*P	**P**	**20 56 36.4**	**-0.5**
PKI	**Pulchoki**	**44.50**	**304**	*e*P	**P**	**20 56 36.4**	**-0.5**
PKIN	**Phulchoki**	**44.51**	**304**	*e*P	**P**	**20 56 36.6**	**-0.3**
PKIN	**Phulchoki**	**44.51**	**304**	*e*P	**P**	**20 56 36.6**	**-0.3**
DMN	**Daman**	**44.77**	**304**	*e*P	**P**	**20 56 39.6**	**+0.7**
DMN	**Daman**	**44.77**	**304**	*e*P	**P**	**20 56 39.6**	**+0.7**
ULN	**Ulaanbaatar**	**45.33**	**342**	P	**P**	**20 56 42.4**	**-0.5**
SONM	**Songino Array**	**45.51**	**341**	P	**P**	**20 56 43.6**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=157,slow=8.5,SNR=12						
SONM				ScP	**ScP**	**21 02 06.1**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=159,slow=4.3,SNR=3.5						
SONM	**Songino Array**	**45.51**	**341**	P	**P**	**20 56 43.6**	**-0.7**
KOLN	**Koldanda**	**46.07**	**304**	*e*P	**P**	**20 56 49.4**	**+0.3**
	comp=Z,13nm,0.3s						
KOLN	**Koldanda**	**46.07**	**304**	*e*P	**P**	**20 56 49.4**	**+0.3**
	comp=Z,13nm,0.3s						
TOO	**Toolangi**	**46.43**	**159**	P	**P**	**20 56 53.2**	**+1.7**
TOO				IAmb	IAmb	20 57 06.5	
	comp=Z,18nm,1.4s						
PYUN	**Piuthan**	**46.69**	**304**	*e*P	**P**	**20 56 54.2**	**+0.2**
	comp=Z,22nm,0.6s						
PYUN	**Piuthan**	**46.69**	**304**	*e*P	**P**	**20 56 54.2**	**+0.2**
	comp=Z,22nm,0.6s						
WMQ	**Urumqi**	**50.99**	**325**	P	**P**	**20 57 26.9**	**+0.4**
PETK	**Petropavlovsk-**	**54.11**	**23**	P	**P**	**20 57 51.0**	**+1.7**
	comp=Z,3.6nm,0.6s,baz=190,slow=5.0,SNR=13						
PETK				LR	LR	21 25 07.8	
	comp=Z,28nm,18.6s,baz=185,slow=40						
PETK	**Petropavlovsk-**	**54.11**	**23**	P	**P**	**20 57 49.5**	**+0.2**
SHLS	**Shalkode**	**55.66**	**320**	*e*P	**P**	**20 57 58.3**	**-2.5**
	comp=Z,7.0nm,1.0s,baz=320						
SHLS				*e*S	**S**	**21 05 39.3**	**-0.7**
	baz=320						
MK31	**Makanchi Array**	**55.82**	**325**	P	**P**	**20 58 00.8**	**-0.9**
MK31				IAmb	IAmb	20 58 01.7	
	comp=Z,6.7nm,0.8s						
MKAR	**Makanchi Array**	**55.82**	**325**	P	**P**	**20 58 00.9**	**-0.8**
	comp=Z,7.2nm,0.7s,baz=128,slow=8.1,SNR=69						
MKAR				ScP	**ScP**	**21 02 49.4**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=123,slow=5.2,SNR=8.4						
UZB	**Uzynbulak**	**55.94**	**320**	*e*P	**P**	**20 58 02.1**	**-0.7**
	comp=Z,5.5nm,1.0s,baz=320						
MAKZ	**Makanchi**	**56.01**	**325**	P	**P**	**20 58 02.2**	**-0.8**
MAKZ				IAmb	IAmb	20 58 03.5	
	comp=Z,11nm,0.9s						
PRZ	**Przheval'sk**	**56.03**	**319**	P	**P**	**20 58 03.0**	**-0.5**
SATY	**Saty**	**56.30**	**319**	*e*P	**P**	**20 58 04.7**	**-0.6**
	comp=Z,7.7nm,1.0s,baz=320						
KPKS	**Kokpek**	**56.31**	**320**	*e*P	**P**	**20 58 04.6**	**-0.8**
	comp=Z,6.9nm,0.8s,baz=320						
NIL	**Nilore**	**56.41**	**307**	P	**P**	**20 58 06.1**	**-0.1**
NIL				IAmb	IAmb	20 58 06.9	
	comp=Z,5.8nm,0.8s						
YAK	**Yakutsk**	**56.55**	**2**	P	**P**	**20 58 06.6**	**+0.1**
KDJ	**Kajisay**	**56.68**	**318**	P	**P**	**20 58 07.7**	**-0.5**
TDK	**Taldyqorghan**	**57.22**	**321**	*e*P	**P**	**20 58 10.8**	**-0.8**
	comp=Z,8.3nm,0.8s,baz=322						
MDOK	**Medeo**	**57.23**	**319**	*e*P	**P**	**20 58 11.1**	**-0.8**
	baz=319						
AAA	**Alma-Ata**	**57.34**	**319**	*e*P	**P**	**20 58 11.6**	**-1.0**
	baz=319						
CHKK	**Chushkaly**	**57.58**	**320**	*e*P	**P**	**20 58 12.9**	**-1.3**
	baz=320						
KUU	**Kurty**	**58.01**	**319**	*e*P	**P**	**20 58 16.5**	**-0.8**
	comp=Z,14nm,1.0s,baz=320						
ZAA0	**Zalesovo Array**	**58.81**	**333**	P	**P**	**20 58 20.6**	**-1.9**
ZAA0				IAmb	IAmb	20 58 21.6	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**58.81**	**333**	P	**P**	**20 58 20.8**	**-1.8**
	comp=Z,3.4nm,0.6s,baz=130,slow=6.8,SNR=13						
BTLS	**Baital**	**59.99**	**320**	*e*P	**P**	**20 58 29.7**	**-1.2**
	comp=Z,3.3nm,1.1s,baz=320						
KURK	**Kurchatov**	**59.99**	**327**	P	**P**	**20 58 29.6**	**-1.1**
BTK	**Batken**	**60.31**	**313**	P	**P**	**20 58 32.2**	**-1.0**
BTK				IAmb	IAmb	20 58 33.5	
	comp=Z,3.2nm,0.7s						
GAR	**Garm**	**60.33**	**312**	P	**P**	**20 58 32.5**	**-1.0**
IUG	**Iuzhnay**	**61.58**	**315**	*e*P	**P**	**20 58 41.0**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=316						
KK31	**Karatay Array**	**61.58**	**317**	P	**P**	**20 58 40.5**	**-1.2**
KK31				IAmb	IAmb	20 58 42.0	
	comp=Z,4.0nm,0.9s						
KKAR	**Karatay Array**	**61.58**	**317**	P	**P**	**20 58 40.5**	**-1.3**
KKAR				IAmb	IAmb	20 58 42.0	
	comp=Z,4.0nm,0.9s						
KKAR	**Karatay Array**	**61.58**	**317**	P	**P**	**20 58 40.6**	**-1.1**
BRZS	**Berezniki**	**62.96**	**324**	*e*P	**P**	**20 58 49.8**	**-1.0**

*IDC **13** 21:11:14.1±2.1, 6.°84S×129.°73E, h149km±27km, mb3.4/1, mb1 3.2/6, mb1mx3.0/36, mbtmp3.7/6, MS3.6/1, Ms1 3.6/1, ms1mx2.7/18, Error ellipse: s-maj=38.5km s-min=20.0km az=95.0*

ISC 13 21:11:12.6±0.9, **6.°89S**±0.°06×**129.°9E**±0.°1, **h150**km, **n7**, σ2♀**50**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.13**	**13**	P	**Pn**	**21 12 42.5**	**+1.4**
	1.0nm,0.3s,baz=217,slow=20,SNR=15						
SIJI				S	**Sn**	**21 13 46.5**	**-3.9**
	0.9nm,0.3s,baz=226,slow=22,SNR=1.9						
BATI	**Baumata**	**7.02**	**242**	P	**Pn**	**21 12 53.0**	**-0.1**
	1.0nm,0.3s,baz=322,slow=19,SNR=1.6						
BATI				S	**Sn**	**21 14 11.1**	**-0.7**
	1.3nm,0.3s,baz=90,slow=21,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.90**	**200**	P	**Pn**	**21 13 58.3**	**+0.6**
	0.2nm,0.3s,baz=5.8,slow=10,SNR=9.1						
FITZ				S	**Sn**	**21 16 06.6**	**-2.6**
	0.2nm,0.3s,baz=0.0,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**13.66**	**162**	P	**Pn**	**21 14 22.5**	**+2.2**
	0.2nm,0.3s,baz=344,slow=12,SNR=9.2						
WRA				S	**Sn**	**21 16 48.3**	**-3.5**
	0.3nm,0.3s,baz=343,slow=20,SNR=8.1						
ASAR	**Alice Springs**	**17.11**	**168**	P	**Pn**	**21 15 05.9**	**+2.9**
	0.2nm,0.3s,baz=347,slow=11,SNR=16						
ASAR				S	**S**	**21 18 12.9**	**-0.2**
	0.1nm,0.3s,baz=333,slow=20,SNR=1.6						
NWAO	**Narrogin (SRO)**	**28.47**	**203**	LR	LR	21 29 03.5	
	comp=Z,122nm,19.5s,baz=80,slow=38						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**21 21 56.8**	**+0.5**
	0.4nm,0.3s,baz=119,slow=8.2,SNR=4.7						

ASRS 13 21:17:16.2±0.4, **49.°N**±2.°×**9.°5E**±.°, **h5**km, **MLh3.7**/15, **smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERNS	**Erzin**	**0.87**	**21**	Pg	Pn	21 17 35.4	+0.2
ERNS				Sg	Sn	21 17 52.0	+3.7
KNGR	**Kungurtug, Tuv**	**2.17**	**57**	Pg	Pn	21 17 53.5	+0.6
KNGR				Sg	Sb	21 18 23.8	+0.8
TDJR	**Todzha**	**3.09**	**16**	Pn	Pb	21 18 10.2	-1.4
TDJR				Pg	Pg	21 18 15.9	+0.6
TDJR				Sg	Sg	21 19 00.6	+5.3
ARDR	**Aradan**	**3.23**	**346**	Pn	Pb	21 18 13.1	-0.9
ARDR				Pg	Pg	21 18 18.4	+0.4
ARDR				Sg	Sg	21 19 05.9	+6.0
TEL	**Teeli**	**3.28**	**300**	Pn	Pb	21 18 12.2	-2.6
TEL				Pg	Pg	21 18 19.5	+0.6
TEL				Sg	Sg	21 19 06.2	+4.9
DJOS	**Djoyskaya Sosn**	**3.94**	**330**	Pg	Pg	21 18 34.7	+3.2
DJOS				Sg	Sg	21 19 26.0	+3.5
CERR	**Cheremushki**	**3.98**	**330**	Pn	Pn	21 18 20.0	+2.2
CERR				Pg	Pg	21 18 35.9	+3.6
CERR				Sg	Sg	21 19 27.4	+3.6
DJO	**Djoy, Khakassi**	**3.98**	**328**	Pn	Pn	21 18 21.0	+3.1
DJO				Pg	Pg	21 18 32.6	+0.1
DJO				Sg	Sg	21 19 28.0	+4.0
CUR	**Chagan-Uzun**	**4.15**	**281**	Pn	Pn	21 18 22.5	+2.2
CUR				Pg	Pg	21 18 34.1	-1.6
CUR				Sg	Sg	21 19 32.5	+3.1
TBTR	**Tabat**	**4.28**	**326**	Pg	Pg	21 18 39.2	+1.0
TBTR				Sg	Sg	21 19 37.0	+3.4
ULGR	**Ulagan, Altay**	**4.49**	**288**	Pn	Pn	21 18 29.5	+4.6
ULGR				Pg	Pg	21 18 42.3	+0.2
ULGR				Sg	Sg	21 19 44.3	+4.1
MOY	**Mondy**	**4.60**	**59**	Pg	Pb	21 18 36.5	-0.8
MOY				Sg	Sb	21 19 37.0	+4.0
CHBI	**Chibit, Altay**	**4.72**	**283**	Pg	Pg	21 18 46.2	-0.3
CHBI				Sg	Sg	21 19 52.9	+5.3
DGZ	**Jazzator, Alta**	**4.72**	**276**	Pn	Pn	21 18 31.0	+2.8
DGZ				Pg	Pg	21 18 43.7	-2.9
DGZ				Sg	Sg	21 19 50.5	+2.8
ARTR	**Artybash**	**5.26**	**299**	Pg	Pg	21 18 57.0	+0.1
ARTR				Sg	Sg	21 20 07.3	+2.2
TASR	**Tashtagol**	**5.41**	**310**	Pg	Pg	21 18 58.4	-1.4
TASR				Sg	Sg	21 20 12.7	+2.8
TUNR	**Tungur**	**5.45**	**281**	Pg	Pg	21 18 59.0	-1.6
TUNR				Sg	Sg	21 20 15.2	+4.0
ORY	**Orie**	**5.57**	**3**	Sg	Sg	21 20 16.3	+1.5
ZAK	**Zakamensk**	**5.63**	**77**	Pg	Pb	21 18 51.4	-3.6
ZAK				Sg	Sb	21 20 08.6	+5.7
SHRR	**Shira**	**5.77**	**333**	Pg	Pg	21 19 07.2	+0.6
SHRR				Sg	Sg	21 20 26.9	+5.6
GALT	**Gorno-Altaysk,**	**6.09**	**298**	Pg	Pg	21 19 13.4	+0.6
GALT				Sg	Sg	21 20 36.7	+5.2
TLY	**Talaya**	**6.13**	**65**	Sg	Sb	21 20 24.4	+7.3
UKR	**Ust'-Kan**	**6.53**	**287**	Pg	Pg	21 19 19.3	-1.9
UKR				Sg	Sg	21 20 50.9	+5.1
SHTK	**Zheleznogorsk-**	**6.93**	**355**	Sg	Sg	21 21 01.0	+2.7
SALR	**Pechorkino, Sa**	**7.45**	**315**	Sg	Sg	21 21 16.3	+1.3
ULN	**Ulaanbaatar**	**8.35**	**96**	Sg	Sb	21 21 26.6	+5.8
MKAR	**Makanchi Array**	**8.70**	**257**	Sg	Sg	21 21 51.6	-3.8

KRSC 13 21:43:33.1±1.3, **50.°41N**×**156.°71E**, **h121**km±12km, **ML3.5**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.47**	**306**	*e*P	Pn	21 43 51.5	+0.6
SKR				*e*S	Sn	21 44 04.8	+0.4
ALID	**Alaid**	**0.87**	**302**	*e*P	Pn	21 43 55.9	+1.8
PAU	**Pauzhetka**	**1.06**	**3**	*e*P	Pn	21 43 56.3	+0.6
PAU				*e*S	Sn	21 44 14.1	+1.2
KDTR	**Khodutka, Kamc**	**1.64**	**31**	*e*P	Pn	21 44 03.6	+1.4
KDTR				*e*S	Sn	21 44 26.3	+1.9
MIPR	**Malaya Ipel'ka**	**1.87**	**1**	*e*P	Pn	21 44 05.2	+0.3
MIPR				*e*S	Sn	21 44 29.4	+0.1
ASAK	**Asacha**	**2.11**	**20**	*e*P	Pn	21 44 09.6	+1.6
MTVR	**Mutnovka**	**2.27**	**23**	*e*P	Pn	21 44 11.7	+1.6
MTVR				*e*S	Sn	21 44 41.5	+3.1
GRL	**Gorelyy**	**2.31**	**21**	*e*P	Pn	21 44 12.0	+1.5
GRL				*e*S	Sn	21 44 41.5	+2.3
RUS	**Russkaya**	**2.32**	**28**	*e*P	Pn	21 44 12.0	+1.5
RUS				*e*S	Sn	21 44 41.1	+1.9
KRMR	**Karymshinskiy**	**2.58**	**20**	*e*P	Pn	21 44 15.9	+2.1
KRMR				*e*S	Sn	21 44 48.1	+2.9
PET	**Petropavlovsk**	**2.88**	**24**	*e*P	Pn	21 44 19.2	+1.4
DALK	**Dalny**	**2.91**	**25**	*e*P	Pn	21 44 19.8	+1.6
UGLR	**Uglovaya**	**3.09**	**24**	*e*P	Pn	21 44 23.0	+2.3
AVH	**Avacha**	**3.12**	**23**	*e*P	Pn	21 44 23.5	+2.5
KOK	**Koryaka**	**3.12**	**22**	*e*P	Pn	21 44 23.4	+2.4
SMAR	**Somma**	**3.13**	**24**	*e*P	Pn	21 44 23.7	+2.4
KRER	**Koryakskii**	**3.16**	**23**	*e*P	Pn	21 44 24.1	+2.5
SDLR	**Sedlovina**	**3.17**	**24**	*e*P	Pn	21 44 23.0	+1.3
KRX	**Arik**	**3.19**	**21**	*e*P	Pn	21 44 23.7	+1.8
NLC	**Nalytchevo**	**3.21**	**30**	*e*P	Pn	21 44 22.4	+0.3
NLC				*e*S	Sn	21 44 59.7	-0.2
SPN	**Mys Shipunski**	**3.38**	**36**	*e*P	Pn	21 44 26.3	+1.9
SPN				*e*S	Sn	21 45 04.7	+0.6
KZV	**Kizimen**	**5.18**	**23**	*e*P	Pn	21 44 50.1	+1.5
TUMR	**Tumrok**	**5.30**	**22**	*e*P	Pn	21 44 52.0	+1.9

IDC 13 21:47:43.6±1.9, **0.°08N**×**125.°91E**, **h0**km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.2**/38, **mbtmp3.3**/3, **Error ellipse: s-maj=179.0km s-min=26.0km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**158**	P	P	21 52 34.1	-0.6
	0.3nm,0.5s,baz=336,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**24.85**	**162**	P	P	21 53 08.5	+0.5
	0.4nm,0.9s,baz=341,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**60.11**	**327**	P	P	21 57 52.8	-0.1
	0.5nm,0.5s,baz=119,slow=8.3,SNR=9.9						

*IDC **13** 21:52:53.1±1.4, 43.°75N×151.°28E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/39, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=39.5km s-min=29.7km az=13.0*
*MOS **13** 21:52:55.2±1.1, 43.°81N×151.°14E, h30km, mb4.3/1, Error ellipse: s-maj=46.0km s-min=19.9km az=17.9*

*SKHL **13** 21:52:56.1±0.1, 43.°78N×151.°14E, h40km±5km, mb4.3/2*
ISC 13 21:52:58.2±1.2, **43.°70N**±0.°08×**150.°96E**±0.°08, **h35**km, **n24**, σ1♀**43**/34, **mb3.6**/4, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.69**	**306**	*e*P	**Pn**	**21 53 37.5**	**-1.6**
KUR				AMB	AMB	21 53 39.0	
	30nm,0.2s						
KUR				A	A	21 54 08.5	
	250nm,0.3s						
KUR				A	A	21 54 08.5	
	110nm,0.3s						
KUR				*i* S	**S**	**21 54 08.5**	**-1.9**
KUR	**Kuril'sk**	**2.69**	**306**	*e*PN	**Pn**	**21 53 37.4**	**-1.6**
KUR				*i* S	**Sn**	**21 54 08.8**	**-1.6**
KUR				pmax	pmax		
	comp=Z,25nm,0.1s						
KUR				smax	smax		
	comp=N,246nm,0.3s						
KUR				smax	smax		
	comp=E,109nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.70**	**277**	*e*P	**Pn**	**21 53 53.0**	**+0.1**
YUK				AMB	AMB	21 53 55.9	
	comp=E,40nm,0.4s						
YUK				*e*S	**Sn**	**21 54 34.9**	**-0.4**
YUK				A	A	21 54 44.4	
	comp=E,250nm,0.7s						
YUK				A	A	21 54 44.4	
	comp=E,100nm,0.7s						
GRPR	**Tuman**	**3.77**	**276**	*e*S	**Sn**	**21 54 37.3**	**+0.5**
NEM2	**Nemuro 2**	**3.81**	**267**	P	**Pn**	**21 53 53.9**	**-0.4**
NEM2				*e*S	**Sn**	**21 54 36.8**	**-1.1**
NMR	**Nemuro--Hokkai**	**3.82**	**267**	*e*P	**Pn**	**21 53 54.2**	**-0.3**
NMR				*i* S	**Sn**	**21 54 37.9**	**-0.2**
NMR	**Nemuro--Hokkai**	**3.82**	**267**	*e*PN	**Pn**	**21 53 54.0**	**-0.5**
GLVR	**Golovnino**	**3.95**	**272**	*e*S	**Sn**	**21 54 41.8**	**+0.6**
RUSJ	**Misakicho**	**4.15**	**278**	*e*PN	**Pn**	**21 54 00.1**	**+1.1**
JRA	**Rausu**	**4.23**	**275**	P	**Pn**	**21 54 01.1**	**+0.9**
JAK	**Akkeshi**	**4.62**	**263**	P	**Pn**	**21 54 05.7**	**+0.2**
JAK				*e*S	**Sn**	**21 54 57.2**	**-0.7**
JAR	**Ashorobuto**	**5.25**	**268**	P	**Pn**	**21 54 14.5**	**+0.4**
JOB	**Onbets**	**5.26**	**264**	P	**Pn**	**21 54 14.6**	**+0.3**
JOB				*e*S	**Sn**	**21 55 13.3**	**-0.4**
JCH	**Churui**	**5.66**	**262**	P	**Pn**	**21 54 20.3**	**+0.5**
JCH				*e*S	**Sn**	**21 55 24.1**	**+0.5**
JKA	**Kamikawa-asahi**	**6.06**	**277**	*e*P	**Pn**	**21 54 28.2**	**+3.0**
ASAJ	**Asahikawa**	**6.06**	**277**	Pn	**Pn**	**21 54 28.2**	**+3.0**
	comp=E,1.0nm,0.3s,baz=96,slow=7.2,SNR=8.2						
JNBK	**Urakawa-nobuka**	**6.19**	**260**	P	**Pn**	**21 54 27.4**	**+0.4**
JNBK				*e*S	**Sn**	**21 55 35.3**	**-1.2**
JBT2	**Biratori 2**	**6.35**	**265**	P	**Pn**	**21 54 29.6**	**+0.4**
JNB	**Noboribetsu**	**7.37**	**264**	P	**Pn**	**21 54 44.1**	**+0.9**
JTH	**Tanohata**	**7.76**	**244**	P	**Pn**	**21 54 47.4**	**-1.3**
JTH				*e*S	**Sn**	**21 56 10.9**	**-4.4**
SONM	**Songino Array**	**31.03**	**293**	P	**P**	**21 59 13.5**	**+0.9**
	comp=E,0.3nm,0.6s,baz=72,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**47.04**	**299**	P	**P**	**22 01 27.5**	**+1.4**
	comp=E,0.6nm,0.8s,baz=77,slow=9.5,SNR=4.9						
WRA	**Warramunga Arr**	**65.14**	**197**	P	**P**	**22 03 36.5**	**+1.0**
	comp=E,0.6nm,0.7s,baz=15,slow=7.0,SNR=6.2						
NVAR	**Mina Array Bea**	**65.24**	**60**	P	**P**	**22 03 35.3**	**-1.1**
	comp=E,0.3nm,0.6s,baz=302,slow=5.2,SNR=2.4						

*JMA **13** 21:55:33.3±0.2, 22.°30N×121.°57E, h1km±4km, M3.6*
*TAP **13** 21:55:35.2, 22.°27N×121.°43E, h22km, ML3.0, C*
ISC 13 21:55:34.4±1.0, **22.°27N**±0.°03×**121.°47E**±0.°03, **h17**km±8km, **n87**, σ1♀**00**/126, **2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.24**	**163**	*i* P	**Pb**	**21 55 41.1**	**+0.7**
	baz=153						
LAY				*e*S	**Sg**	**21 55 45.2**	**+1.4**
	baz=153						
LDUT	**Ludao**	**0.40**	**359**	P	**Pb**	**21 55 43.7**	**+0.7**
	baz=15						
LDUT				*e*S	**Sb**	**21 55 50.2**	**+1.3**
	baz=15						
TAW	**Tawu**	**0.54**	**279**	*i* P	**Pg**	**21 55 45.1**	**-0.1**
	baz=279						
TAW				S	**Sg**	**21 55 51.5**	**-1.0**
	baz=279						
TTN	**Taitung**	**0.57**	**328**	*e*P	**Pn**	**21 55 47.7**	**0.0**
	baz=340						
ECL	**Taimali**	**0.58**	**304**	||*i*P	**Pg**	**21 55 45.8**	**-0.2**
	baz=293						
ECL				*e*S	**Sg**	**21 55 53.2**	**-0.6**
	baz=293						
EAST	**Anshuo**	**0.59**	**281**	||*i*P	**Pg**	**21 55 45.9**	**-0.3**
	baz=282						
EAST				*e*S	**Sg**	**21 55 53.7**	**-0.4**
	baz=282						
SLIU	**Shizi**	**0.63**	**265**	P	**Pg**	**21 55 46.4**	**-0.5**
	baz=264						
SLIU				*e*S	**Sg**	**21 55 53.8**	**-1.5**
	baz=264						
TWGBT	**Beinan**	**0.66**	**326**	*e*P	**Pg**	**21 55 47.4**	**0.0**
	baz=315						
TWGBT				*e*S	**Sb**	**21 55 56.6**	**+0.4**
	baz=315						
TWKBT	**Hengchun**	**0.70**	**242**	P	**Pg**	**21 55 47.6**	**-0.5**
	baz=248						
TWKBT				*e*S	**Sg**	**21 55 57.3**	**-0.1**
	baz=248						
TWK1	**Hengchun**	**0.70**	**242**	*e*P	**Pg**	**21 55 47.5**	**-0.7**
	baz=248						
TWK1				*e*S	**Sg**	**21 55 56.0**	**-1.5**
	baz=248						
LONT	**Longtian**	**0.71**	**333**	P	**Pb**	**21 55 48.5**	**+0.2**
	baz=321						
LONT				*e*S	**Sb**	**21 55 58.9**	**+1.1**
	baz=321						
EDH	**Donghe**	**0.72**	**347**	*e*P	**Pn**	**21 55 49.5**	**-0.3**
	baz=359						
EDH				*e*S	**Sb**	**21 55 58.8**	**+0.8**
	baz=359						
HEN	**Hengchun**	**0.73**	**249**	P	**Pg**	**21 55 48.3**	**-0.5**
	baz=247						
HEN				*e*S	**Sg**	**21 55 57.5**	**-1.1**
	baz=247						
SNW	**Nanwan**	**0.74**	**245**	*e*S	**Sg**	**21 55 59.0**	**+0.3**
	baz=243						
SCZT	**Fangliau**	**0.80**	**277**	*e*P	**Pg**	**21 55 49.1**	**-0.9**
	baz=277						
SCZT				*e*S	**Sg**	**21 55 58.8**	**-1.8**
	baz=277						
CHKT	**Chengkung**	**0.83**	**353**	*e*P	**Pb**	**21 55 50.6**	**+0.2**
	baz=4.0						
CHKT				*e*S	**Sg**	**21 56 01.2**	**-0.5**
	baz=4.0						
MASBT	**Mashibuluo**	**0.85**	**294**	*i* P	**Pg**	**21 55 50.1**	**-1.0**
	baz=295						
SSPT	**Xinbi**	**0.86**	**284**	*e*P	**Pg**	**21 55 51.1**	**-0.2**
	baz=292						
SSPT				*e*S	**Sg**	**21 56 01.2**	**-1.6**
	baz=292						
SSD	**Sandimen**	**0.91**	**301**	P	**Pg**	**21 55 51.1**	**-1.1**
	baz=310						
FULB	**Fuli**	**0.94**	**350**	*e*P	**Pg**	**21 55 52.2**	**-0.5**
	baz=337						
FULB				*e*S	**Sb**	**21 56 05.3**	**+0.9**
	baz=337						
ELDTW	**Lidau**	**1.01**	**335**	*e*P	**Pg**	**21 55 53.5**	**-0.5**
	baz=338						
SGLT	**Jiouru**	**1.01**	**297**	*e*P	**Pn**	**21 55 54.9**	**+1.0**
	baz=298						
WLCH	**Liuqiu**	**1.02**	**275**	*e*P	**Pn**	**21 55 55.6**	**+1.7**
	baz=263						
WLCH				*e*S	**Sb**	**21 56 08.2**	**+1.6**
	baz=263						
SLGT	**Liugui**	**1.05**	**313**	*e*P	**Pb**	**21 55 54.4**	**+0.2**
	baz=315						
EYUL	**Yuli**	**1.08**	**352**	*e*P	**Pn**	**21 55 55.6**	**+0.8**
	baz=341						
EYUL				*e*S	**Sn**	**21 56 09.7**	**+0.3**
	baz=341						
TWF1	**Yuli**	**1.09**	**351**	*e*P	**Pb**	**21 55 54.5**	**-0.3**
	baz=341						
TWF1				*e*S	**Sb**	**21 56 07.7**	**-1.1**
	baz=341						
SCST	**Cishan**	**1.09**	**304**	*e*P	**Pn**	**21 55 56.0**	**+1.1**
	baz=310						
STYT	**Tauyuan**	**1.11**	**323**	*e*P	**Pb**	**21 55 54.6**	**-0.6**
	baz=334						
TWM1	**Shoushan**	**1.12**	**300**	*e*P	**Pg**	**21 55 57.4**	**+1.3**
	baz=301						
YULB	**Yu-li**	**1.13**	**352**	*e*P	**Pb**	**21 55 55.0**	**-0.5**
	baz=341						
SGST	**Jiashian**	**1.15**	**315**	*e*P	**Pb**	**21 55 55.7**	**-0.2**
	baz=321						
SNJT	**Kaohsiung City**	**1.16**	**295**	*e*P	**Pg**	**21 55 58.6**	**+1.8**
	baz=295						
HGSD	**Ruisui**	**1.22**	**358**	*e*P	**Pb**	**21 55 57.1**	**+0.1**
	baz=11						
EHY	**Hungye**	**1.24**	**354**	*e*P	**Pb**	**21 55 57.6**	**+0.2**
	baz=344						
WTP	**Ta-pu**	**1.25**	**321**	*e*P	**Pb**	**21 55 58.2**	**+0.6**
	baz=332						
CHN1	**Nanshi**	**1.26**	**316**	*e*P	**Pg**	**21 55 58.5**	**-0.3**
	baz=330						
CHN1				*e*S	**Sg**	**21 56 16.7**	**+1.4**
	baz=330						
TPUB	**Ta-pu**	**1.29**	**323**	*e*P	**Pb**	**21 55 58.4**	**+0.2**
	baz=324						
TPUB				*e*S	**Sg**	**21 56 16.5**	**+0.3**
	baz=324						
SNST	**Tainan City**	**1.31**	**317**	*e*P	**Pg**	**21 55 59.7**	**0.0**
	baz=318						
TWK	**Hsinying**	**1.35**	**318**	*e*P	**Pb**	**21 55 59.5**	**+0.2**
	baz=319						
TWK				*e*S	**Sg**	**21 56 19.5**	**+1.5**
	baz=319						
ALS	**Alishan**	**1.38**	**334**	*e*P	**Pn**	**21 55 59.3**	**+0.1**
	baz=336						
ALS				*e*S	**Sb**	**21 56 16.8**	**-0.6**
	baz=336						
VWDT	**VWDT**	**1.51**	**348**	*e*P	**Pb**	**21 56 02.5**	**+0.5**
	baz=345						
CHN5	**Tsauling**	**1.51**	**331**	*e*P	**Pb**	**21 56 02.4**	**+0.3**
	baz=333						
CHN5				*e*S	**Sg**	**21 56 23.6**	**+0.3**
	baz=333						
WHYT	**Xinyi Township**	**1.53**	**338**	*e*P	**Pg**	**21 56 03.3**	**-0.7**
	baz=340						
ESL	**Shilin**	**1.54**	**359**	*e*P	**Pn**	**21 56 01.5**	**+0.4**
	baz=349						
ICHU	**Yijhu**	**1.55**	**315**	*e*P	**Pn**	**21 56 02.3**	**+1.1**
	baz=315						
CHY	**Chiayi**	**1.56**	**322**	*e*P	**Pb**	**21 56 03.0**	**+0.1**
	baz=306						
SSLB	**Suanglung**	**1.58**	**343**	*e*P	**Pb**	**21 56 03.2**	**-0.1**
	baz=354						
SSLB				*e*S	**Sn**	**21 56 22.8**	**+0.9**
	baz=354						
WDLH	**Douliu**	**1.65**	**329**	*e*P	**Pb**	**21 56 04.6**	**+0.1**
	baz=330						
SMLT	**Sun Moon Lake**	**1.69**	**342**	*e*P	**Pb**	**21 56 05.4**	**+0.3**
	baz=353						
WJS	**Zhushan**	**1.69**	**336**	*e*P	**Pg**	**21 56 06.2**	**-0.8**
	baz=322						
TYC	**Yuchr**	**1.72**	**341**	*e*P	**Pb**	**21 56 05.5**	**-0.1**
	baz=353						
WTK	**Tuku**	**1.73**	**325**	*e*P	**Pn**	**21 56 04.8**	**+1.1**
	baz=326						
WTK				*e*S	**Sb**	**21 56 27.3**	**+0.1**
	baz=326						
WNT	**Mingjian**	**1.76**	**336**	*e*P	**Pb**	**21 56 06.5**	**+0.3**
	baz=337						
WNT				*e*S	**Sb**	**21 56 28.5**	**+0.5**
	baz=337						
CHGB	**Renai**	**1.80**	**351**	*e*P	**Pn**	**21 56 06.0**	**+1.0**
	baz=5.0						
WHF	**Hehuan Shan**	**1.88**	**354**	*e*P	**Pb**	**21 56 07.6**	**-0.9**
	baz=357						
WHF				*e*S	**Sn**	**21 56 31.1**	**+1.5**
	baz=357						
NACB	**Ninganchiao**	**1.90**	**3**	*e*P	**Pn**	**21 56 06.6**	**+0.5**
	baz=16						
ETLH	**Xiulin Townshi**	**1.93**	**0**	*e*P	**Pn**	**21 56 07.0**	**+0.5**
	baz=3.0						
WDGT	**Dungji**	**1.94**	**301**	*e*P	**Pn**	**21 56 06.2**	**-0.5**
	baz=300						
FUSS	**Fushou**	**1.98**	**354**	*e*P	**Pb**	**21 56 09.1**	**-1.0**
	baz=6.0						
TWT	**Tachien**	**1.99**	**352**	*e*P	**Pb**	**21 56 09.5**	**-0.8**
	baz=5.0						
TDCB	**Techi**	**2.00**	**352**	*e*P	**Pb**	**21 56 09.4**	**-1.0**
	baz=5.0						
WHP	**Taichung City**	**2.06**	**346**	*e*P	**Pb**	**21 56 11.1**	**-0.3**
	baz=359						
PHUB	**P'eng-hu**	**2.15**	**306**	*e*P	**Pn**	**21 56 09.1**	**-0.3**
	baz=305						
PHUB				*e*S	**Sn**	**21 56 34.3**	**-1.3**
	baz=305						
NNSB	**Datong**	**2.15**	**358**	*e*P	**Pn**	**21 56 11.4**	**+1.8**
	baz=7.0						
NNSH	**Datong**	**2.15**	**358**	*e*P	**Pn**	**21 56 11.3**	**+1.7**
	baz=12						
ENA	**Nanau**	**2.16**	**6**	*e*P	**Pn**	**21 56 10.9**	**+1.2**
	baz=357						
NNS	**Nan Shan**	**2.16**	**358**	*e*P	**Pn**	**21 56 11.0**	**+1.2**
PNG	**Penghu**	**2.19**	**306**	*e*P	**Pn**	**21 56 09.7**	**-0.3**
	baz=306						
NDT	**Datong Townshi**	**2.32**	**1**	*e*P	**Pn**	**21 56 13.3**	**+1.4**
	baz=3.0						
TWC	**Suao**	**2.35**	**8**	*e*P	**Pn**	**21 56 13.3**	**+1.0**
	baz=11						
ENTT	**Nioudou**	**2.36**	**2**	*e*P	**Pn**	**21 56 13.8**	**+1.4**
	baz=5.0						
NSTT	**Nanjuang**	**2.39**	**350**	*e*P	**Pb**	**21 56 15.9**	**-1.1**
	baz=335						
YHNB	**Yeheng**	**2.39**	**358**	*e*P	**Pn**	**21 56 15.1**	**+2.2**
YHNB				*e*S	**Sb**	**21 56 44.8**	**-1.5**
LIOB	**Emei**	**2.40**	**350**	*e*P	**Pb**	**21 56 17.0**	**-0.2**
	baz=335						
NWLT	**Wulai**	**2.50**	**1**	*e*P	**Pn**	**21 56 16.6**	**+2.3**
	baz=3.0						
JYNG	**Yonaguni jima**	**2.56**	**32**	P	**Pn**	**21 56 16.3**	**+1.2**
JYNG				*e*S	**Sn**	**21 56 45.4**	**-0.4**
YOJ	**Yonaguni jima**	**2.60**	**33**	*e*P	**Pn**	**21 56 17.1**	**+1.5**
	baz=35						
YOJ	**Yonaguni jima**	**2.60**	**33**	P	**Pn**	**21 56 17.1**	**+1.5**
YOJ				*e*S	**Sn**	**

baz=284,slow=75,SNR=5.5
H11S2 **WAKE ISLAND Hy 38.55 92** T T 22 48 46.8
baz=284,slow=75,SNR=3.7
MKAR **Makanchi Array 40.12 313** P **P** **22 06 02.2 -0.6**
0.4nm,0.8s,baz=104,slow=8.4,SNR=2.6
WRA **Warramunga Arr 46.28 169** P P 22 07 00.5 +7.6
0.5nm,0.9s,baz=350,slow=8.1,SNR=2.7

WEL 13 22:09:26.9,39°S±3°×17°6E±°,h196km±6km,M3.0/47,
MLv3.0/47,Error ellipse: s-maj=0.0km s-min=0.0km
az=101.9,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.40**	**149**	P	Pn	22 09 52.9	-0.4
RITZ	**Rihia Road**	**0.53**	**149**	P	Pn	22 09 53.7	0.0
TWVZ	**Taurewa**	**0.55**	**186**	P	Pn	22 09 53.9	0.0
KRVZ	**Karewarewa**	**0.58**	**170**	P	Pn	22 09 54.0	0.0
WTVZ	**West Tongariro**	**0.59**	**174**	P	Pn	22 09 54.1	0.0
TMVZ	**Te Maari**	**0.61**	**166**	P	Pn	22 09 54.1	-0.1
OTVZ	**Oturere**	**0.65**	**169**	P	Pn	22 09 54.7	+0.3
ALRZ	**Allen Road**	**0.65**	**94**	P	Pn	22 09 53.4	-0.9
NGZ	**Ngauruhoe**	**0.66**	**174**	P	Pn	22 09 54.4	0.0
FWVZ	**Far West T-bar**	**0.73**	**177**	P	Pn	22 09 54.9	+0.1
TUVZ	**Tukino**	**0.75**	**171**	P	Pn	22 09 55.0	+0.1
MRHZ	**Matea Rd**	**0.77**	**114**	P	Pn	22 09 54.2	-0.7
WNVZ	**Wahianoa**	**0.81**	**175**	P	Pn	22 09 55.4	+0.2
MTVZ	**Mangateitei**	**0.86**	**182**	P	Pn	22 09 55.8	+0.3
MOVZ	**Moawhango**	**0.90**	**168**	P	Pn	22 09 55.5	-0.2
BKZ	**Black Stump Fm**	**1.00**	**130**	P	Pn	22 09 53.8	-2.5
BHHZ	**Black Hill Sta**	**1.06**	**156**	P	Pn	22 09 56.4	-0.3
MTHZ	**Maungataniwha**	**1.09**	**108**	P	Pn	22 09 56.6	-0.3
KWHZ	**Kaweka Forest**	**1.15**	**142**	P	Pn	22 09 57.3	-0.1
NMHZ	**Naumai**	**1.16**	**120**	P	Pn	22 09 58.2	+0.7
WAZ	**Wanganui**	**1.29**	**198**	P	Pn	22 09 59.5	+1.1
KRHZ	**Kereru**	**1.30**	**149**	P	Pn	22 09 58.7	+0.2
SNGZ	**Shannon Statio**	**1.46**	**101**	P	Pn	22 10 00.0	+0.2
PNHZ	**Pukenui**	**1.49**	**159**	P	Pn	22 10 00.4	+0.3
RAGZ	**Rawiri**	**1.49**	**90**	P	Pn	22 09 56.1	-4.2
TSZ	**Takapari Road**	**1.57**	**167**	P	Pn	22 10 01.3	+0.4
KAHZ	**Kahuranaki**	**1.65**	**141**	P	Pn	22 10 02.2	+0.5
WPHZ	**Waipukurau**	**1.70**	**155**	P	Pn	22 10 02.4	+0.3
PXZ	**Pawanui**	**1.83**	**146**	P	Pn	22 10 03.6	+0.2
TKGZ	**Te Karaka**	**1.84**	**88**	P	Pn	22 10 03.9	+0.5
DVHZ	**Dannevirke**	**1.84**	**164**	P	Pn	22 10 03.6	+0.1
POWZ	**Post Office Ro**	**1.88**	**174**	P	Pn	22 10 04.1	+0.3
PRGZ	**Paritu Road**	**1.90**	**103**	P	Pn	22 10 04.2	+0.1
PRHZ	**Porangahau**	**1.95**	**154**	P	Pn	22 10 04.9	+0.4
HAZ	**Te Kaha**	**1.95**	**68**	P	Pn	22 10 04.3	-0.3
MHGZ	**Mahia Peninsul**	**1.97**	**109**	P	Pn	22 10 05.3	+0.5
PRWZ	**Pori Road**	**2.06**	**170**	P	Pn	22 10 06.3	+0.6
ANWZ	**Angora Road**	**2.07**	**159**	P	Pn	22 10 06.4	+0.6
CNGZ	**Carnagh Statio**	**2.12**	**90**	P	Pn	22 10 07.0	+0.7
MRZ	**Mangatainoka R**	**2.13**	**179**	P	Pn	22 10 06.7	+0.3
PUZ	**Puketiti**	**2.21**	**79**	P	Pn	22 10 07.4	+0.1
BFZ	**Birch Farm**	**2.23**	**165**	P	Pn	22 10 07.8	+0.3
TIWZ	**Tintock**	**2.27**	**173**	P	Pn	22 10 08.4	+0.4
OGWZ	**Otaki Gorge**	**2.31**	**186**	P	Pn	22 10 08.9	+0.6
HOWZ	**Holdsworth Sta**	**2.37**	**180**	P	Pn	22 10 09.2	+0.1
KIW	**Kapiti Island**	**2.38**	**191**	P	Pn	22 10 09.7	+0.5
WMGZ	**Waiomatatini S**	**2.39**	**74**	P	Pn	22 10 09.7	+0.3
CPWZ	**Castlepoint**	**2.44**	**168**	P	Pn	22 10 10.6	+0.8
DUWZ	**D'Urville Isla**	**2.58**	**208**	P	Pn	22 10 12.4	+0.9
TMWZ	**Te Maipa**	**2.60**	**174**	P	Pn	22 10 11.7	+0.1
CAW	**Cannon Point**	**2.60**	**187**	P	Pn	22 10 12.0	+0.4
WEL	**Wellington**	**2.82**	**191**	P	Pn	22 10 14.5	+0.4
TCW	**Tory Channel**	**2.85**	**199**	P	Pn	22 10 15.2	+0.7
TRWZ	**Traveller**	**2.87**	**177**	P	Pn	22 10 14.8	0.0
MSWZ	**Moikau Station**	**2.90**	**184**	P	Pn	22 10 15.0	0.0
PLWZ	**Palliser**	**3.05**	**184**	P	Pn	22 10 16.7	-0.2
NNZ	**Nelson**	**3.15**	**211**	P	Pn	22 10 18.9	+0.8
BSWZ	**Blackbirch Sta**	**3.42**	**201**	P	Pn	22 10 22.0	+0.6
THZ	**Tophouse**	**3.80**	**211**	P	Pn	22 10 28.2	+2.2
GVZ	**Greta Valley S**	**4.82**	**202**	P	Pn	22 10 39.3	+0.5
OKCZ	**Okains Bay**	**5.51**	**199**	P	Pn	22 10 47.7	0.0
MQZ	**McQueen's Vall**	**5.61**	**202**	P	Pn	22 10 48.2	-0.7

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*IDC **13** 22:24:03.9±15.0,2°.76N×124°.78E,h199km±151km,*
mb3.3/5,mb1 3.5/6,mb1mx3.0/46,mbtmp3.9/6,Error
ellipse: s-maj=154.0km s-min=17.4km az=58.0
*NEIC **13** 22:24:04.2±1.3,2°.8N±0°.1×124°.78E±0°.09,h211km±12km,*
mb4.1/15,Error ellipse: s-maj=15.8km s-min=12.8km
az=187.0
ISC 13 22:24:03.9±1.0,2°.8N±0°.1×124°.74E±0°.10,h200km,n24,
σ0°95/24,mb4.0/10,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.29**	**127**	**Pn**	**Pn**	**22 24 57.7**	**+0.7**
LUWI	**Luwuk**	**4.26**	**208**	Pn	**Pn**	**22 25 10.2**	**+1.3**
KKM	**Kota Kinabalu**	**9.10**	**291**	Pn	**Pn**	**22 26 12.6**	**+1.0**
KAPI	**Kappang**	**9.20**	**213**	P	**Pn**	**22 26 13.7**	**+0.9**
	1.5nm,0.3s,baz=85,slow=15,SNR=1.9						
KSM	**Kuching**	**14.48**	**265**		**P**	**22 27 20.8**	**-0.3**
MTN	**Manton Dam**	**16.76**	**158**		**Pn**	**22 27 49.0**	**+1.6**
MTN				IAmb	IAmb	22 27 51.5	
	comp=Z,3.7nm,0.7s						
KNRA	**Kununurra**	**18.75**	**168**	P	**P**	**22 28 08.8**	**+0.9**
KNRA				IAmb	IAmb	22 28 11.3	
	comp=Z,7.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.75**	**178**	P	**P**	**22 28 28.6**	**-0.7**
	comp=Z,2.8nm,0.4s,baz=0.9,slow=8.8,SNR=27						
WB0	**Warramunga Arr**	**24.32**	**157**	P	**P**	**22 29 03.4**	**+0.1**
WB0				IAmb	IAmb	22 29 08.7	
	comp=Z,3.3nm,0.8s						
WRAB	**Tennant Creek**	**24.45**	**158**	P	**P**	**22 29 03.7**	**-0.8**
WRA	**Warramunga Arr**	**24.46**	**158**	P	**P**	**22 29 04.5**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=337,slow=10.0,SNR=54						
WB2	**Warramunga Arr**	**24.46**	**158**	P	**P**	**22 29 04.2**	**-0.5**
WB2				IAmb	IAmb	22 29 10.5	
	comp=Z,6.3nm,1.1s						
WR0	**Warramunga Arr**	**24.55**	**157**	P	**P**	**22 29 05.1**	**-0.3**
COEN	**Coen**	**24.70**	**133**	P	**P**	**22 29 06.7**	**-0.2**
COEN				IAmb	IAmb	22 29 14.9	
	comp=Z,6.5nm,1.0s						
ASAR	**Alice Springs**	**27.75**	**162**	P	**P**	**22 29 34.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=341,slow=7.3,SNR=11						
MORW	**Morawa**	**32.73**	**194**	P	**P**	**22 30 17.4**	**-0.4**
MORW				IAmb	IAmb	22 30 19.7	
	comp=Z,6.6nm,0.9s						
FORT	**Forrest**	**33.51**	**175**	P	**P**	**22 30 22.4**	**-2.2**
NWAO	**Narrogin (SRO)**	**36.20**	**191**	P	**P**	**22 30 45.7**	**-1.9**
BBOO	**Buckleboo**	**36.97**	**164**	P	**P**	**22 30 54.4**	**+0.4**
STKA	**Stephens Creek**	**37.99**	**156**	P	**P**	**22 31 03.3**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=338,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**37.99**	**156**	P	**P**	**22 31 02.4**	**-0.2**
PALK	**Pallekele**	**44.08**	**278**	P	**P**	**22 31 51.6**	**-1.0**
PALK				IAmb	IAmb	22 32 11.2	
	comp=Z,12nm,1.0s						
TOO	**Toolangi**	**44.52**	**156**	P	**P**	**22 31 55.8**	**+0.2**
TOO				IAmb	IAmb	22 32 06.1	
	comp=Z,7.1nm,1.1s						
MKAR	**Makanchi Array**	**57.23**	**327**	P	**P**	**22 33 30.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=124,slow=7.9,SNR=10						

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*SOME **13** 22:31:54.5,37°.47N×72°.03E,h10km*
*MOS **13** 22:31:57.7±0.9,35°.99N×70°.74E,h99km,mb5.5/43,*
MS4.1/9,Error ellipse: s-maj=4.9km s-min=3.5km
az=105.3
*IDC **13** 22:31:58.7±0.6,35°.92N×70°.74E,h96km±5km,mb5.0/39,*
mb1 5.1/41,mb1mx5.0/43,mbtmp5.3/41,MS3.9/28,
Ms1 4.0/28,ms1mx3.8/43,Error ellipse: s-maj=10.1km
s-min=7.3km az=4.0
*NEIC **13** 22:31:58.8±1.9,36°.00N±0°.05×70°.70E±0°.03,h95km±4km,*
mb5.3/232,Mwr5.3/12,Mww5.2,Error ellipse: s-maj=8.0km
s-min=3.6km az=173.0
*BGR **13** 22:31:58.2±0.0,35°.82N×70°.98E,h106km,mb5.2*
*GCMT **13** 22:31:59.8±0.1,35°.84N±0°.01×70°.50E±0°.01,h97km±1km,*
MW5.2/129,Moment Tensor Solution. s86,c126;
s129,c228; Duration: 1s0 Moment tensor: Scale 10^16
Nm; Mrr6.11±.12; Mθθ-6.03±.14; Mϕϕ-0.07±.13;
Mrθ3.17±.11; Mrϕ-2.25±.14; Mθr1.96±.09; Best double
couple: M0=7.45300×10^16 NP1:ϕs=259.00000°,δ31.00000°,
λ103.00000°. NP2:ϕs=64.00000°,δ60.00000°,λ82.00000°.
Principal axes: T 7.1650, Plg74.0000°, Azm315.0000°; N
0.5820, Plg7.0000°, Azm68.0000°; P -7.7410, Plg15.0000°,
Azm160.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*NEIC **13** 22:31:59,36°.00N×70°.70E,h97km,Moment Tensor*
Solution. Moment tensor: Scale 10^16Nm; Mrr4.02;
Mθθ-5.07; Mϕϕ 1.05; Mrθ6.46; Mrϕ-0.44; Mθr5.66; Fault
plane solution: M0=9.77000×10^16 NP1:ϕs290.74000°,
δ20.74000°,λ144.34000°. NP2:ϕs54.61000°,δ78.09000°,
λ72.90000°. Principal axes: T 10.0881, Plg54.0000°,
Azm304.0000°; N -0.6735, Plg17.0000°, Azm58.0000°; P
-9.4146, Plg31.0000°, Azm159.0000°;
*BJI **13** 22:31:59.6±0.0,36°.13N×70°.95E,h95km,mB5.0/58,*
mb5.1/74
*NNC **13** 22:31:59.5±4.6,36°.60N×70°.40E,h0km,mb6.2,mpv5.8,*
Error ellipse: s-maj=54.8km s-min=28.8km az=147.0
*UNK **13** 22:31:59.1,36°.00N×70°.69E,h97km*
*NEIC **13** 22:32:00,35°.90N×70°.69E,h100km,Moment Tensor*
Solution. Moment tensor: Scale 10^16Nm; Mrr7.05;
Mθθ-5.88; Mϕϕ-1.17; Mrθ2.28; Mϕϕ-2.55; Mθr1.47; Fault
plane solution: M0=7.53000×10^16 NP1:ϕs250.00000°,
δ35.00000°,λ95.00000°. NP2:ϕs63.00000°,δ55.00000°,
λ86.00000°. Principal axes: T 7.5665, Plg79.0000°,
Azm319.0000°; N -0.0772, Plg3.0000°, Azm65.0000°; P
-7.4893, Plg10.0000°, Azm156.0000°;
ISC 13 22:31:58.2±0.2,35°.97N±0°.03×70°.75E±0°.03,h92km±2km,
h92km:pP-P,n947,σ1°61/1000,mb5.3/323,117C-38D,
Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.99**	**225**	P	**Pn**	**22 32 32.2**	**+1.6**
	SNR=1331						
KBL	**Kabul**	**1.99**	**225**	PN	**Pn**	**22 32 31.7**	**+1.1**
KBL	**Kabul**	**1.99**	**225**		**Pn**	**22 32 31.7**	**+1.1**
CEP	**Cherat**	**2.34**	**156**	P	**Pn**	**22 32 36.7**	**+1.6**
CEP				S	**Sn**	**22 33 07.0**	**+3.6**
CHGR	**Chuyangaron**	**2.97**	**335**	Pn	**Pn**	**22 32 43.4**	**0.0**
GAR	**Garm**	**3.05**	**354**	Pn	**Pn**	**22 32 45.6**	**+1.1**
NIL	**Nilore**	**3.10**	**138**	P	**Pn**	**22 32 47.1**	**+2.0**
NIL	**Nilore**	**3.10**	**138**	PN	**Pn**	**22 32 47.0**	**+1.9**
NIL	**Nilore**	**3.10**	**138**	Pn	**Pn**	**22 32 47.0**	**+1.9**
THW	**Thamme Wali**	**3.27**	**165**	P	**Pn**	**22 32 48.3**	**+0.8**
BTK	**Batken**	**4.08**	**1**	PN	**Pn**	**22 33 00.6**	**+2.1**
BTK	**Batken**	**4.08**	**1**	Pn	**Pn**	**22 33 00.6**	**+2.1**
SARP	**Sargodha**	**4.34**	**158**	P	**Pn**	**22 33 01.7**	**-0.2**
THN	**Thein Dam**	**5.42**	**129**	*e*P	**Pn**	**22 33 16.5**	**0.0**
THN				*e*S	**Sn**	**22 34 16.5**	**-1.1**
KSH	**Kashi**	**5.45**	**48**	P	**Pn**	**22 33 15.0**	**-2.1**
KSH				S	**Sn**	**22 34 12.1**	**-6.4**
KSH				LR	LR		
	comp=N,6μm,5.4s						
KSH				LR	LR		
	comp=E,6μm,5.6s						
KSH				LR	LR		
	comp=Z,6μm,6.1s						
DHRM	**DHARAMSHALA**	**5.91**	**127**	*e*P	**Pn**	**22 33 23.5**	**+0.1**
DHRM				*e*S	**Sn**	**22 34 28.1**	**-1.8**
IUG	**Iuzhnay**	**6.20**	**355**	*e*P	**Pn**	**22 33 27.8**	**+0.6**
	1μm,0.6s						
IUG				*e*S	**Sn**	**22 34 33.9**	**-2.7**
	7μm,0.7s						
IUG	**Iuzhnay**	**6.20**	**355**	*e*PN	**Pn**	**22 33 27.8**	**+0.6**
CHM	**Chimkent**	**6.41**	**352**	*e*P	**Pn**	**22 33 30.6**	**+0.6**
	6.0nm,0.3s						
CHM				*e*S	**Sn**	**22 34 38.7**	**-2.9**
	8μm,0.6s						
CHM	**Chimkent**	**6.41**	**352**	*e*PN	**Pn**	**22 33 30.6**	**+0.6**
BHK	**Bhakra**	**6.55**	**132**	*e*x	**Pn**	**22 33 32.8**	**+0.8**
BHK				*e*x	x	22 35 39.4	
AML	**Almayashu**	**6.57**	**20**	P	**Pn**	**22 33 33.5**	**+0.9**
	SNR=1497						
UCH	**Uchtor**	**6.90**	**24**	P	**Pn**	**22 33 38.3**	**+1.2**
	SNR=88						
DZA	**Taraz**	**6.93**	**4**	*e*P	**Pn**	**22 33 38.0**	**+0.9**
	4μm,0.9s						
DZA				*e*S	**Sn**	**22 34 51.5**	**-2.9**
	11μm,1.0s						
DZA	**Taraz**	**6.93**	**4**	*e*PN	**Pn**	**22 33 38.0**	**+0.9**
KZA	**Kyzart**	**7.04**	**29**	P	**Pn**	**22 33 39.7**	**+0.8**
	SNR=401						
MRKS	**Merke**	**7.04**	**15**	*e*P	**Pn**	**22 33 39.5**	**+0.9**
	1μm,0.7s						
MRKS				*e*S	**Sn**	**22 34 54.0**	**-3.0**
	2μm,0.8s						
MRKS	**Merke**	**7.04**	**15**	*e*PN	**Pn**	**22 33 39.5**	**+0.9**
EKS2	**Erkin-Say**	**7.09**	**18**	P	**Pn**	**22 33 40.5**	**+1.2**
	SNR=535						
BRLS	**Borolday**	**7.09**	**355**	*e*P	**Pn**	**22 33 36.1**	**-3.1**
	281nm,0.9s						
BRLS				*e*S	Sn	22 34 48.5	-10
	1μm,0.8s						
BRLS	**Borolday**	**7.09**	**355**	*e*PN	**Pn**	**22 33 36.1**	**-3.1**
KK31	**Karatay Array**	**7.13**	**359**	P	**Pn**	**22 33 40.0**	**+0.2**
	384nm,0.5s,baz=184,slow=14,SNR=5118						
KK31				⇑S	**Sn**	**22 34 52.4**	**-6.8**
	623nm,0.6s,baz=192,slow=24,SNR=11						
KK31	**Karatay Array**	**7.13**	**359**	PN	**Pn**	**22 33 40.0**	**+0.2**
KK31	**Karatay Array**	**7.13**	**359**	Pn	**Pn**	**22 33 40.0**	**+0.2**
KKAR	**Karatay Array**	**7.13**	**359**	PN	Pn	22 33 44.7	+4.9
KKAR	**Karatay Array**	**7.13**	**359**	Pn	**Pn**	**22 33 40.0**	**+0.2**
KKAR	**Karatay Array**	**7.13**	**359**	Pn	Pn	22 33 44.7	+4.9
KKAR					**Sn**	**22 34 56.8**	**-2.5**
HRA	**Herat**	**7.14**	**260**	Pn	**Pn**	**22 33 40.4**	**+0.2**
SMLA	**Simla**	**7.21**	**130**	*e*P	**Pn**	**22 33 40.5**	**-0.4**
SMLA				*e*x	x	22 34 58.5	
AAK	**Ala-Archa**	**7.27**	**22**	P	**Pn**	**22 33 43.1**	**+1.2**
	SNR=821						
AAK	**Ala-Archa**	**7.27**	**22**	*i* P	**Pn**	**22 33 43.0**	**+1.2**
	SNR=1026						
AAK	**Ala-Archa**	**7.27**	**22**	P	**Pn**	**22 33 45.2**	**+3.4**
	465nm,0.7s						
AAK				⇑S	**Sn**	**22 34 58.4**	**-4.4**
	600nm,0.7s						
AAK	**Ala-Archa**	**7.27**	**22**	P	**Pn**	**22 33 42.8**	**+1.0**
AAK	**Ala-Archa**	**7.27**	**22**	*c i* PN	**Pn**	**22 33 43.0**	**+1.2**
AAK				pmax	pmax		
	comp=Z,3μm,0.8s						
KBK	**Karagaybulak**	**7.43**	**25**	P	**Pn**	**22 33 45.5**	**+1.5**
	SNR=315						
ULHL	**Ulahol**	**7.58**	**33**	P	**Pn**	**22 33 47.3**	**+1.1**
	SNR=42						
BOOM	**Boomskoye usch**	**7.66**	**30**	PN	**Pn**	**22 33 48.2**	**+1.1**
BOOM	**Boomskoye usch**	**7.66**	**30**		**Pn**	**22 33 48.2**	**+1.1**
CHMS	**Chumysh**	**7.67**	**23**	P	**Pn**	**22 33 48.1**	**+0.8**
	SNR=888						
USP	**Ospenovka**	**7.84**	**21**	P	**Pn**	**22 33 50.1**	**+0.6**
	SNR=26						
TKM2	**Tokmak 2**	**7.89**	**27**	P	**Pn**	**22 33 51.3**	**+1.0**
	SNR=946						
TKM2	**Tokmak 2**	**7.89**	**27**	⇑P	**Pn**	**22 33 50.7**	**+0.3**
	comp=Z,445nm,0.7s						
TKM2				⇑S	**Sn**	**22 35 15.7**	**-2.4**
	comp=Z,341nm,0.8s						
TKM2	**Tokmak 2**	**7.89**	**27**	*i* PN	**Pn**	**22 33 50.7**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,445nm,0.6s						
TARG	**Taragay, Kyrgy**	**7.96**	**42**	Pn	**Pn**	**22 33 51.5**	**0.0**
KST	**Kastek**	**8.13**	**28**	*e*P	**Pn**	**22 33 54.7**	**+1.1**
	comp=Z,361nm,0.9s						
KST				*e*S	**Sn**	**22 35 20.5**	**-3.4**
	comp=Z,438nm,1.0s						
KST	**Kastek**	**8.13**	**28**	*e*PN	**Pn**	**22 33 54.7**	**+1.1**
DDI	**Dehra Dun**	**8.32**	**131**	*e*P	**Pn**	**22 33 55.5**	**-0.6**
DDI				*e*x	x	22 35 24.2	
AAA	**Alma-Ata**	**8.66**	**31**	*e*P	**Pn**	**22 34 01.8**	**+1.2**
	comp=Z,180nm,0.5s						
AAA				*e*S	**Sn**	**22 35 30.9**	**-5.6**
	comp=Z,104nm,1.1s						
AAA	**Alma-Ata**	**8.66**	**31**	*e*PN	**Pn**	**22 34 02.3**	**+1.7**
KNDC	**Almaty**	**8.69**	**32**	⇓P	**Pn**	**22 34 01.9**	**+0.9**
	comp=Z,280nm,0.6s						
KNDC	**Almaty**	**8.69**	**32**	PN	**Pn**	**22 34 01.0**	**0.0**
PRZ	**Przheval'sk**	**8.81**	**40**	PN	**Pn**	**22 34 04.7**	**+1.9**
PRZ	**Przheval'sk**	**8.81**	**40**	Pn	**Pn**	**22 34 04.7**	**+1.9**
KUU	**Kurty**	**9.00**	**27**	*e*P	**Pn**	**22 34 05.0**	**-0.3**
	comp=Z,92nm,0.7s						
KUU				*e*S	**Sn**	**22 35 38.2**	**-6.7**
	comp=Z,215nm,0.9s						
KUU	**Kurty**	**9.00**	**27**	*e*PN	**Pn**	**22 34 05.0**	**-0.3**
NDI	**New Delhi**	**9.09**	**141**	*e*P	Pn	22 34 01.5	-5.1
PDGK	**Podgornoye**	**9.97**	**40**	⇓P	**Pn**	**22 34 18.5**	**0.0**
	comp=Z,370nm,0.9s						
AJM	**Ajmer**	**10.03**	**160**	⇓*i* x	**Pn**	**22 34 17.0**	**-2.4**
ASHT	**Ashkhabad**	**10.09**	**285**	P	**Pn**	**22 34 21.1**	**+1.0**
ASHT	**Ashkhabad**	**10.09**	**285**	Pn	**Pn**	**22 34 21.1**	**+1.0**
GEYT	**Alibeck**	**10.30**	**285**	P	**Pn**	**22 34 19.6**	**-3.4**
	comp=Z,28nm,0.3s,baz=119,slow=12,SNR=221						
GEYT				S	Sn	22 36 06.4	-10
	comp=Z,2.5nm,0.3s,baz=109,slow=17,SNR=2.2						
GEYT				LR	LR	22 39 20.8	
	comp=Z,379nm,18.6s,baz=85,slow=43						
GEYT	**Alibeck**	**10.30**	**285**	Pn	**Pn**	**22 34 19.8**	**-3.1**
GYA0B	**ALIBECK ARRAY**	**10.30**	**285**	⇑P	**Pn**	**22 34 20.3**	**-2.7**
GYA0B	**ALIBECK ARRAY**	**10.30**	**285**	Pn	**Pn**	**22 34 19.9**	**-3.0**
BHUJ	**Bhuj**	**12.70**	**185**	*e*P	**Pn**	**22 34 51.7**	**-3.8**
PYUN	**Piuthan**	**13.01**	**124**	*e*P	**Pn**	**22 34 55.5**	**-4.2**
	comp=Z,619nm,0.3s						
PYUN	**Piuthan**	**13.01**	**124**	*e*P	**Pn**	**22 34 55.5**	**-4.2**
	comp=Z,619nm,0.3s						
KOLN	**Koldanda**	**13.63**	**123**	*e*P	**Pn**	**22 35 03.7**	**-4.1**
	comp=Z,195nm,0.2s						
KOLN	**Koldanda**	**13.63**	**123**	*e*P	**Pn**	**22 35 03.7**	**-4.1**
	comp=Z,195nm,0.2s						
MAKZ	**Makanchi**	**13.71**	**34**	⇑P	**Pn**	**22 35 06.6**	**-1.9**
	comp=Z,174nm,1.1s						
MAKZ	**Makanchi**	**13.71**	**34**	P	**Pn**	**22 35 07.3**	**-1.2**
MAKZ	**Makanchi**	**13.71**	**34**	Pn	**Pn**	**22 35 07.3**	**-1.2**
MK31	**Makanchi Array**	**13.84**	**35**	P	**Pn**	**22 35 09.2**	**-1.1**
MK31	**Makanchi Array**	**13.84**	**35**	Pn	**Pn**	**22 35 09.2**	**-1.1**
MKAR	**Makanchi Array**	**13.84**	**35**	P	**Pn**	**22 35 08.2**	**-2.1**
	comp=Z,2.5nm,0.3s,baz=223,slow=14,SNR=138						
MKAR				LR	LR	22 39 43.5	
	comp=Z,143nm,20.1s,baz=220,slow=34						
BHPL	**Bhopal**	**13.94**	**154**	*e*P	**Pn**	**22 35 07.8**	**-3.9**
BHPL				*i* x	x	22 35 18.7	
GKN	**Gorkha**	**14.20**	**120**	*e*P	**Pn**	**22 35 11.1**	**-4.1**
	comp=Z,574nm,0.3s						
GKN	**Gorkha**	**14.20**	**120**	*e*P	**Pn**	**22 35 11.1**	**-4.1**
	comp=Z,574nm,0.3s						
DMN	**Daman**	**14.77**	**120**	*e*P	**Pn**	**22 35 18.1**	**-4.5**
	comp=Z,1μm,1.1s						
DMN	**Daman**	**14.77**	**120**	*e*P	**Pn**	**22 35 18.1**	**-4.5**
	comp=Z,1μm,1.1s						
KKN	**Kakani**	**14.78**	**119**	*e*P	**Pn**	**22 35 18.0**	**-4.7**
	comp=Z,404nm,0.6s						
KKN	**Kakani**	**14.78**	**119**	*e*P	**Pn**	**22 35 18.0**	**-4.7**
	comp=Z,404nm,0.6s						
PKIN	**Phulchoki**	**14.99**	**120**	*e*P	**Pn**	**22 35 20.8**	**-4.7**
	comp=Z,608nm,0.4s						
PKIN	**Phulchoki**	**14.99**	**120**	*e*P	**Pn**	**22 35 20.8**	**-4.7**
	comp=Z,608nm,0.4s						
PKI	**Pulchoki**	**15.01**	**120**	*e*P	**Pn**	**22 35 21.0**	**-4.7**
	comp=Z,590nm,0.5s						
PKI	**Pulchoki**	**15.01**	**120**	*e*P	**Pn**	**22 35 21.0**	**-4.7**
	comp=Z,590nm,0.5s						
WMQ	**Urumqi**	**15.17**	**54**	*e*P	**Pn**	**22 35 26.0**	**-1.4**
WMQ				pP	pP	22 35 41.8	-7.3
WMQ				PP	sP	22 35 47.0	-14
WMQ				sP	P	22 35 58.1	+28
WMQ				S	**Sn**	**22 38 15.3**	**+0.5**
WMQ				sS	S	22 38 27.9	+2.1
WMQ				pmax	pmax		
	comp=Z,53nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,220nm,3.9s						
WMQ				LR	LR		
	comp=Z,210nm,4.5s						
WMQ				LR	LR		
	comp=Z,590nm,4.5s						
WMQ				LR	LR		
	comp=Z,58nm,19.9s						
AB31	**Akbulak array**	**15.46**	**333**	⇓P	**Pn**	**22 35 29.1**	**-1.8**
	comp=Z,615nm,0.5s,baz=144,slow=11,SNR=9008						
ABKAR	**Akbulak array**	**15.46**	**333**		**Pn**	**22 35 27.6**	**-3.3**
ABKAR	**Akbulak array**	**15.46**	**333**	Pn	**Pn**	**22 35 27.6**	**-3.3**
JIRN	**Jiri**	**15.51**	**118**	*e*P	**Pn**	**22 35 27.9**	**-4.2**
	comp=Z,666nm,0.3s						
JIRN	**Jiri**	**15.51**	**118**	*e*P	**Pn**	**22 35 27.9**	**-4.2**
	comp=Z,666nm,0.3s						
KURBB	**Kurchatov Arra**	**15.69**	**19**	P	**Pn**	**22 35 30.0**	**-3.8**
	comp=Z,0.8nm,0.3s,baz=212,slow=12,SNR=81						
**K

comp=Z,2μm,10.0s
LSA Lhasa 18.24 104 *i* P **P 22 36 03.7 -1.0**
SNR=46
SRSP Sriramsagar 18.25 156 *e*P **P 22 36 04.3 -0.1**
SRSP IVmB_BB 22 36 05.9
comp=Z,3μm,1.0s
DGZ Jazzator, Alta 18.33 36*c i*P **P 22 36 05.3 0.0**
DGZ pmax pmax
comp=Z,133nm,0.6s
KLRI Killari 18.57 162 *e*P **Pn 22 36 09.4 +0.2**
KLRI IVmB_BB 22 36 19.3
comp=Z,1μm,0.6s
MHTO MHTO 18.65 220 P **Pn 22 36 11.5 +1.3**
SNR=9.1
AKT Akhty 18.76 294 *e*P **P 22 36 10.6 +0.6**
AKT *e*S **S 22 39 38.7 +0.1**
AKT pmax pmax
comp=Z,28nm,1.4s
AKT smax smax
comp=E,29nm,0.5s
AKT smax smax
comp=N,140nm,0.7s
SEKA Sheki 19.12 293 P **P 22 36 13.8 0.0**
MNGR Mingechevir, A 19.14 292 P **P 22 36 14.7 +0.7**
MAK Makhachkala 19.22 298 *e*P **P 22 36 14.2 -0.7**
MAK *e*S **S 22 39 44.5 -3.1**
MAK pmax pmax
comp=Z,218nm,0.8s
MAK MLR MLR
comp=Z,335nm,14.0s
GANJ Ganja 19.71 291 P **P 22 36 20.9 +0.7**
HYBB Hyderabad (bro 19.73 157 *e*P **P 22 36 21.8 +1.1**
HYBB IVmBBB 22 36 22.9
comp=Z,1μm,1.1s
HYB Hyderabad 19.73 157 *i* P **P 22 36 21.0 +0.3**
comp=Z,250nm,1.0s
HYB *e*PP **sP 22 36 51.0 0.0**
HYB *e*S **S 22 39 49.0 -9.2**
CUPL Choutuppal 19.96 157 *e*P **P 22 36 24.3 +1.2**
NAX Nakhchivan 20.25 287 P Pn 22 36 27.9 -1.0
GUWA GUWAHATI 20.38 113 *e*P **P 22 36 28.5 +1.0**
BWNR Bhubaneshwar 20.45 136 *ex* P 22 36 20.4 -8.0
BWNR IAmb IAmb 22 36 28.0
comp=Z,649nm,0.2s
ZAA0 Zalesovo Array 20.48 24 P **P 22 36 28.7 +0.3**
ZALV Zalesovo Beam 20.48 24 P **P 22 36 28.8 +0.3**
comp=Z,266nm,0.5s,baz=219,slow=11,SNR=591
ZALV S **S 22 40 16.7 +4.3**
comp=Z,30nm,1.0s,baz=204,slow=16,SNR=3.6
ZALV Zalesovo Beam 20.48 24 P **P 22 36 27.7 -0.7**
GROC Groznyy 20.50 298 *e*P Pn 22 36 30.2 -1.5
GROC *e**PP pP 22 36 51.1 +3.6
GROC *e**SP sP 22 37 04.6 +5.1
GROC *e*S **S 22 40 16.2 +3.4**
GROC pmax pmax
comp=Z,700nm,1.5s
NJS Nagarjunasagar 20.78 156 *e*P **P 22 36 33.2 +1.2**
NJS IVmB_BB 22 36 36.6
comp=Z,3μm,1.1s
SHL Shillong 20.87 114 P **P 22 36 33.9 +0.8**
SNR=132
TEZP TEZPUR 20.99 110 *e*P **P 22 36 34.6 +0.6**
TEZP IAmb IAmb 22 36 37.8
comp=Z,61nm,0.8s
PVM Polavaram 21.00 150 *e*P **P 22 36 35.8 +1.6**
PVM IVmB_BB 22 36 40.0
comp=Z,2μm,1.3s
CHLP Challavanipeta 21.00 142 *e*P **P 22 36 35.3 +1.1**
CHLP IVmB_BB 22 36 39.7
comp=Z,1μm,1.1s
TBLG Delisi 21.02 294 IAmb IAmb 22 36 37.6
comp=Z,128nm,0.8s
MYLAV Mylavaram 21.07 153 *e*P **P 22 36 37.0 +2.0**
MYLAV IVmB_BB 22 36 38.2
comp=Z,2μm,0.7s
SRLM Srisailam 21.08 158 *e*P **P 22 36 35.9 +0.7**
SRLM IVmB_BB 22 36 39.6
comp=Z,2μm,0.7s
KZRT Kazreti 21.23 293 P **P 22 36 37.6 +0.9**
ZIRO ZIRO 21.34 107 *e*P **P 22 36 38.9 +0.9**
ZIRO IAmb IAmb 22 36 41.9
comp=Z,87nm,0.5s
AGT Agartala 21.42 119 *e*P **P 22 36 40.4 +1.7**
ADKI Addanki 21.66 155 *e*P **P 22 36 42.5 +1.1**
ADKI IVmB_BB 22 37 15.8
comp=Z,763nm,2.1s
URV Uravakonda 21.73 163 *e*P **P 22 36 43.1 +1.0**
URV IVmB_BB 22 36 47.2
comp=Z,2μm,1.1s
ZEI Tsey 21.79 296 *e*P **P 22 36 42.3 -0.4**
ZEI pmax pmax
comp=Z,218nm,1.5s
SVE Sverdlovsk 21.95 345*d i*P **P 22 36 45.2 +1.1**
SVE *e*S **S 22 40 42.6 +1.8**
SVE pmax pmax
comp=Z,410nm,1.1s
BELO BELONIA 21.96 120 *e*P **P 22 36 46.3 +1.8**
SILR SILCHAR 22.00 114 *e*P **P 22 36 47.0 +2.1**
JORH JORHAT 22.04 108 *e*P **P 22 36 46.4 +1.1**
ARU Arti 22.07 342 P **P 22 36 46.2 +0.8**
comp=Z,118nm,0.8s,baz=160,slow=8.9,SNR=93
ARU S **S 22 40 42.0 -1.0**
comp=Z,4.2nm,0.4s,baz=162,slow=20,SNR=1.5
ARU LR LR 22 46 19.1
comp=Z,956nm,20.7s,baz=146,slow=39
ARU Arti 22.07 342*c i*P **P 22 36 46.1 +0.7**
ARU *PP **pP 22 37 02.3 -2.0**
ARU 22 37 12.9
ARU S **S 22 40 45.5 +2.6**
ARU SS **SnSn 22 41 24.8 +7.1**
ARU pmax pmax
comp=Z,432nm,1.0s
ARU Arti 22.07 342 P **P 22 36 46.2 +0.8**
KARS Kars 22.16 290 P **P 22 36 49.0 +2.3**
DIBR DIBRUGARH 22.19 106 *e*P **P 22 36 47.9 +0.9**
KBZ Khabaz 22.67 299 P **P 22 36 50.4 -1.4**
comp=Z,92nm,0.9s,baz=111,slow=8.3,SNR=103
KBZ S **S 22 40 54.8 +1.8**
comp=Z,18nm,0.9s,baz=110,slow=16,SNR=2.2
KBZ LR LR 22 47 31.9
comp=Z,342nm,21.5s,baz=80,slow=41
GOF Gofitskoye 22.85 302⇑ *e*P **P 22 36 54.5 +0.9**
KVAR Kislovodsk Arr 22.85 299 P **P 22 36 52.5 -1.3**
comp=Z,27nm,1.0s,baz=90,slow=20,SNR=19
KVAR S **S 22 40 58.2 +2.0**
comp=Z,38nm,0.9s,baz=109,slow=18,SNR=2.1
KVAR LR LR 22 47 18.2
comp=Z,306nm,20.6s,baz=301,slow=40
KIV Kislovodsk 22.86 299 *i* P **P 22 36 53.3 -0.6**
SNR=69
KIV Kislovodsk 22.86 299 *e*P **P 22 36 53.4 -0.4**
KIV *e*S **S 22 40 56.3 0.0**
KIV pmax pmax
comp=Z,368nm,1.0s
KIV pmax pmax
comp=Z,323nm,4.7s
KIV MLR MLR
comp=Z,673nm,14.0s
KIV Kislovodsk 22.86 299 P **P 22 36 53.4 -0.4**
KIV IAmb IAmb 22 37 10.1
comp=Z,129nm,0.9s
LKP Lekhapani 22.99 105 *e*P **P 22 36 55.6 +0.5**
GTA Gaotai 23.21 73 *e*P **P 22 36 59.4 +2.1**
GTA pP pP 22 37 22.3 +4.8
GTA sP sP 22 37 30.8 +1.6
GTA PcP **PcP 22 40 42.3 0.0**
GTA S **S 22 41 05.8 +3.7**
GTA ScS **ScS 22 47 55.5 -2.8**
GTA pmax pmax
comp=Z,60nm,1.5s
GTA pmax pmax
comp=Z,480nm,4.7s
GTA LR LR
comp=Z,370nm,13.2s
GTA LR LR
comp=Z,410nm,12.3s
GTA LR LR
comp=Z,200nm,13.2s
SAIH SAIHA 23.53 119 *e*P **P 22 37 02.2 +1.9**
SKHT Srikalahasti 23.55 158 *e*P **P 22 37 01.1 +0.7**
SKHT IVmB_BB 22 37 40.2
comp=Z,1μm,0.9s
KOPT Kop Dagi 24.12 289 IAmb IAmb 22 37 10.9
comp=Z,100nm,1.1s
ABTO Aybut 24.15 224 P **P 22 37 06.5 +0.7**
SNR=5.6
SOC Sochi 24.93 297 *e*P **P 22 37 12.2 -0.4**
SOC *e**PP **pP 22 37 33.9 -0.1**
SOC *e**SP **sP 22 37 46.7 +1.6**
SOC *e*S **S 22 41 29.0 -0.3**
SOC pmax pmax
comp=Z,58nm,0.8s
VRH Novokhopyorsk 25.74 315 *e*P **P 22 37 20.2 +0.3**
VRH *e*S **S 22 41 45.0 +3.1**
VRH pmax pmax
comp=Z,350nm,1.7s
VRH smax smax
comp=E,820nm,16.6s
MOY Mondy 26.63 44 *e*P **P 22 37 29.6 +1.5**
MOY pmax pmax
comp=Z,60nm,1.6s
KIRV Kirov 26.63 335 P **P 22 37 28.6 +0.8**
comp=Z,173nm,0.6s,baz=134,slow=4.1,SNR=81
LZH Lanzhou 26.70 80 *e*P **P 22 37 30.9 +2.0**
LZH pP pP 22 37 50.9 +0.4
LZH sP sP 22 38 03.3 +1.6
LZH PP **PnPn 22 38 14.6 -0.7**
LZH SS SS 22 43 16.1 -37
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,230nm,5.4s
LZH LR LR
comp=Z,330nm,14.2s
LZH LR LR
comp=Z,430nm,14.8s
LZH LR LR
comp=Z,560nm,15.0s
ANN Anapa 26.71 300*c i*P **P 22 37 28.8 +0.1**
ANN *e**PP **pP 22 37 52.7 +2.5**
ANN *e*S **S 22 41 56.3 -1.1**
ANN pmax pmax
comp=Z,148nm,0.7s
ANN pmax pmax
comp=Z,140nm,0.7s
VORD Divnogorie 27.05 313 *e*P **P 22 37 31.3 -0.4**
VORD *e**PP **pP 22 37 53.4 -0.3**
VORD pmax pmax
comp=Z,30nm,0.7s
TOKA Tokat 27.20 290 P **P 22 37 35.2 +2.0**
TOKA IAmb IAmb 22 37 36.8
comp=Z,68nm,1.0s
VSR Storozhevoye 27.22 314 *e*P **P 22 37 33.2 0.0**
VSR *e**PP **pP 22 37 54.5 -0.7**
VSR *e*S **S 22 42 10.7 +5.4**
VSR pmax pmax
comp=Z,100nm,0.7s
VSR smax smax
comp=N,110nm,6.1s
VORR Voronezh 27.37 315 *e*P **P 22 37 35.0 +0.5**
VORR pmax pmax
comp=Z,250nm,1.2s
ZAK Zakamensk 27.50 48 *e*P **P 22 37 36.7 +0.9**
ZAK pmax pmax
comp=Z,39nm,1.1s
LPSR Galich'ya Gora 27.89 317 *e*P **P 22 37 39.2 0.0**
LPSR *e**PP **pP 22 38 00.7 -0.1**
LPSR *e*S **S 22 42 20.2 +4.3**
LPSR pmax pmax
comp=Z,110nm,1.0s
LPSR smax smax
comp=E,280nm,10.8s
CD2 Chengdu 27.93 91 P **P 22 37 42.5 +2.7**
CD2 S **S 22 42 17.8 +0.9**
CD2 pmax pmax
comp=E,30nm,0.8s
CD2 pmax pmax
comp=E,120nm,6.9s
DIKM Dikmen 28.10 293 ⇓P **P 22 37 42.3 +1.2**
TLY Talaya 28.16 46 P **P 22 37 43.3 +1.6**
comp=E,8.3nm,0.7s,baz=258,slow=15,SNR=3.3
TLY LR LR 22 50 49.1
comp=E,145nm,18.8s,baz=224,slow=40
TLY Talaya 28.16 46 *e*P **P 22 37 44.5 +2.9**
TLY pmax pmax
comp=Z,26nm,0.7s
TLY MLR MLR
comp=Z,711nm,17.0s
TLY Talaya 28.16 46 P **P 22 37 43.9 +2.2**
ASF Jabal al Asfar 28.21 272 P **P 22 37 43.6 +1.2**
comp=Z,3.0nm,0.8s,baz=29,slow=2.4,SNR=14
SONM Songino Array 28.81 55 P **P 22 37 48.8 +1.2**
comp=Z,11nm,0.8s,baz=258,slow=9.1,SNR=60
SONM PcP **PcP 22 40 54.7 -0.4**
comp=Z,4.7nm,0.9s,baz=230,slow=3.9,SNR=2.2
SONM LR LR 22 51 12.0
comp=Z,351nm,18.8s,baz=256,slow=40
SONM P3KPbc 23 09 59.1
comp=Z,0.8nm,0.7s,baz=94,slow=4.3,SNR=4.6
SONM Songino Array 28.81 55 P **P 22 37 48.5 +0.9**
BZK Bozkurt 29.03 293 ⇑P **P 22 37 50.3 +0.9**
MMAI Mount Meron Ar 29.18 275 P **P 22 37 52.5 +1.6**
comp=Z,7.8nm,0.7s,baz=70,slow=11,SNR=21
MMAI PcP **PcP 22 40 56.9 +0.7**
comp=Z,5.7nm,0.7s,baz=96,slow=4.4,SNR=6.0
ULN Ulaanbaatar 29.25 55*c i*P **P 22 37 52.6 +1.1**
ULN pmax pmax
comp=Z,46nm,2.5s
ULN Ulaanbaatar 29.25 55 P **P 22 37 52.7 +1.1**
ILGA Ilgaz 29.27 291 P **P 22 37 52.5 +0.7**
ILGA IAmb IAmb 22 37 54.6
comp=Z,119nm,1.1s
BR131 Keskin Array S 29.41 289 P **P 22 37 51.3 -1.7**
SNR=45
BR131 Keskin Array S 29.41 289 IAmb IAmb 22 37 54.8
comp=Z,48nm,0.8s
BRTR Keskin Array B 29.41 289 P **P 22 37 53.8 +0.8**
comp=Z,54nm,0.8s,baz=96,slow=8.6,SNR=284
BRTR Keskin Array B 29.41 289 P **P 22 37 52.4 -0.6**
KMI Kunming 29.48 103 P **P 22 37 55.6 +1.8**
KMI pP pP 22 38 18.3 +2.4
KMI sP sP 22 38 30.5 +3.4
KMI S **S 22 42 41.0 -0.7**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,200nm,9.9s
KMI LR LR
comp=Z,210nm,15.4s
KMI LR LR
comp=Z,390nm,18.6s
KMI LR LR
comp=Z,620nm,24.1s
MOS Moscow 29.95 322 *e*P **P 22 37 56.6 -0.8**
MOS *e* 22 38 28.8
MOS pmax pmax
comp=Z,300nm,1.3s
MOS pmax pmax
comp=Z,213nm,1.1s
PALK Pallekele 29.98 160 P **P 22 37 59.3 +1.2**
PALK pmax pmax
comp=Z,43nm,0.9s
PALK Pallekele 29.98 160 P **P 22 37 59.2 +1.2**
PALK IAmb IAmb 22 38 00.8
comp=Z,43nm,0.9s
BR231 Keskin MP Arra 30.06 289 IAmb IAmb 22 38 01.0
comp=Z,36nm,0.8s
CHTO Chiang Mai 30.16 117 P **P 22 38 00.6 +1.0**
CHTO pmax pmax
comp=Z,13nm,0.7s
CHTO Chiang Mai 30.16 117 P **P 22 38 00.6 +1.0**
PRGR Permogore 30.17 336⇑*i*P **P 22 38 00.0 +0.7**
PRGR pmax pmax
comp=Z,302nm,0.8s
OBN Obninsk 30.21 320 ⇓P **P 22 38 00.9 +1.2**
OBN Obninsk 30.21 320*c e*P **P 22 38 00.0 +0.4**
OBN *e**PP **pP 22 38 22.8 +1.2**
OBN *e**SP **sP 22 38 32.7 0.0**
OBN *e* 22 38 56.9
OBN *e* 22 40 58.1
OBN pmax pmax
comp=Z,234nm,1.1s
OBN Obninsk 30.21 320 P **P 22 38 00.1 +0.4**
CSS Mathiatis 30.37 279 P **P 22 38 00.9 -0.5**
CM31 Chiang Mai Arr 30.39 118 IAmb IAmb 22 38 05.0
comp=Z,42nm,1.1s
CMAR Chiang Mai Arr 30.39 118 P **P 22 38 02.6 +1.0**
comp=Z,23nm,1.0s,baz=299,slow=8.1,SNR=81
CMAR LR LR 22 53 36.3
comp=Z,184nm,19.3s,baz=305,slow=43
CMAR Chiang Mai Arr 30.39 118 P **P 22 38 02.4 +0.8**
EIL Elat 30.61 269 P **P 22 38 04.5 +1.0**
comp=Z,48nm,0.9s,baz=56,slow=3.7,SNR=21
LEF Lefka 30.69 280 ⇓P **P 22 38 03.8 -0.4**
BTO Baotou 30.99 69 *e*P **P 22 38 07.1 +0.2**
XAN Xi'an 31.20 82 P **P 22 38 10.0 +1.2**
XAN pP pP 22 38 32.1 +1.2
XAN PP **PP 22 39 20.0 -0.7**
XAN S **S 22 43 09.6 +1.3**
XAN sS sS 22 43 50.8 +4.4
XAN SS **SnSn 22 44 59.9 -0.1**
XAN pmax pmax
comp=Z,38nm,1.0s
XAN pmax pmax
comp=Z,160nm,6.2s
XAN LR LR
comp=Z,340nm,13.0s
XAN LR LR
comp=Z,380nm,13.8s
XAN LR LR
comp=Z,450nm,15.7s
MDUB Mudurnu 31.21 290 P **P 22 38 09.0 +0.1**
BOLV Bolvadin 31.59 287 P **P 22 38 12.9 +0.6**
BOLV IAmb IAmb 22 38 14.2
comp=Z,94nm,0.8s
KLMR Klimovskoe 31.85 331*c i*P **P 22 38 14.5 +0.5**
KLMR *e**PP **pP 22 38 34.7 -1.0**
KLMR pmax pmax
comp=Z,237nm,1.0s
KLMR Klimovskoe 31.85 331 *i* P **P 22 38 14.5 +0.5**
KLMR ⇑*i*P **P 22 38 14.5 +0.5**
KLMR *i* P **P 22 38 14.5 +0.5**
KLMR AMP 22 38 15.6
comp=Z,237nm,1.0s
KLMR *e*pP **pP 22 38 34.8 -1.0**
KLMR *e*sS **sS 22 43 55.0 -0.8**
KLMR *e*sS **sS 22 43 55.0 -0.8**
GYA Guiyang 32.00 97 ⇑P **P 22 38 17.5 +1.6**
GYA pP pP 22 38 39.3 +1.2
GYA sP sP 22 38 54.8 +5.5
GYA PcP **PcP 22 41 02.9 -0.9**
GYA S **S 22 43 22.3 +1.3**
GYA sS sS 22 44 03.3 +4.2
GYA ScP **ScP 22 44 37.3 -1.6**
GYA pmax pmax
comp=Z,18nm,1.0s
GYA pmax pmax
comp=Z,84nm,3.5s
GYA LR LR
comp=Z,290nm,14.7s
GYA LR LR
comp=Z,280nm,19.4s
GYA LR LR
comp=Z,350nm,12.9s
ISP Isparta 32.05 286 P **P 22 38 15.8 -0.5**
ISP pmax pmax
comp=Z,39nm,0.9s
ISP Isparta 32.05 286 P **P 22 38 15.8 -0.5**
ISP IAmb IAmb 22 38 17.7
comp=Z,39nm,0.9s
HHC Hu-ho-hao-te 32.14 69 *e*P **P 22 38 19.8 +2.8**
HHC pmax pmax
comp=Z,30nm,0.7s
HHC pmax pmax
comp=Z,79nm,6.5s
HHC LR LR
comp=Z,560nm,18.6s
HHC LR LR
comp=Z,220nm,16.1s
HHC LR LR
comp=Z,310nm,16.7s
PURM Purcari 32.17 302 ⇑P **P 22 38 18.9 +1.9**
SLVN Son La 32.37 108 P **P 22 38 21.2 +2.1**
TLCR 32.84 299 ⇑P **P 22 38 23.6 +0.8**
MILM Milestii Mici 32.92 303 ⇓P **P 22 38 24.3 +0.7**
KIS Kishinev 32.92 303⇑*i*P **P 22 38 23.6 0.0**
comp=Z,140nm,1.4s
KIS *i* pP **pP 22 38 45.0 -0.7**
KIS Kishinev 32.92 303 *e*PP PP 22 39 42.0 +2.4
KIS *e*S **S 22 43 29.0 -5.7**
KIS Kishinev 32.92 303*c i*P **P 22 38 23.6 0.0**
KIS *e**PP **pP 22 38 45.0 -0.7**
KIS *e* 22 39 42.0
KIS *e*S **S 22 43 29.0 -5.7**
KIS pmax pmax
comp=Z,140nm,1.4s
MANR Mangalia 32.99 297 ⇑P **P 22 38 25.4 +1.2**
PBKT Sadao Pong 33.08 118 P **P 22 38 27.0 +1.8**
PBKT IAmb IAmb 22 38 30.8
comp=Z,24nm,0.7s
MFTR Murfatlar 33.11 298 ⇑P **P 22 38 26.5 +1.3**
TIRR Tirgusor 33.12 298 P **P 22 38 25.2 -0.1**
TIRR pmax pmax
comp=Z,42nm,0.8s
TIRR Tirgusor 33.12 298 P **P 22 38 25.2 -0.1**
TIRR IAmb IAmb 22 38 40.0
comp=Z,42nm,0.8s
AKASG Malin Array Be 33.12 310 P **P 22 38 25.3 0.0**
comp=Z,32nm,0.6s,baz=83,slow=7.0,SNR=229
AKASG pP **pP 22 38 46.8 -0.7**
comp=Z,16nm,0.6s,baz=84,slow=6.9,SNR=4.9
AKASG LR LR 22 55 30.8
comp=Z,183nm,18.5s,baz=80,slow=43
AKASG Malin Array Be 33.12 310 P **P 22 38 25.2 0.0**
AKBB Malin Array Si 33.12 310 IAmb IAmb 22 38 25.9
comp=Z,40nm,0.7s
TOPG Topolog 33.14 299 ⇑P **P 22 38 26.3 +0.7**
TIY Taiyuan 33.21 74 *e*P **P 22 38 28.8 +2.4**
TIY pP **pP 22 38 52.6 +3.9**
TIY sP **sP 22 38 59.8 -0.2**
TIY LR LR
comp=Z,300nm,6.0s
TIY LR LR
comp=Z,190nm,10.8s
TIY LR LR
comp=Z,230nm,8.0s
PSN Preselentsi 33.29 297 *e*P **P 22 38 28.0 +1.2**
CFR Carcaliu 33.32 299 ⇑P **P 22 38 28.0 +1.0**
TLBR Topalu 33.38 298 ⇓P **P 22 38 28.6 +1.0**
HARR Harsova 33.46 298 ⇑P **P 22 38 29.1 +0.8**
VARL Varlezi 33.54 301 ⇓P **P 22 38 30.5 +1.5**
SCHL Schela 33.54 300 ⇓P **P 22 38 30.0 +1.0**
ICOR Ion Corvin 33.56 297 ⇓P **P 22 38 30.7 +1.6**
VASR Vaslui 33.61 302 ⇑P **P 22 38 30.3 +0.8**
TUDR 33.65 300 ⇓P **P 22 38 31.6 +1.6**
PRD Provadia 33.88 296 *e*P **P 22 38 32.9 +1.0**
PETR Petresti 33.96 300 ⇑P **P 22 38 34.8 +2.1**
NEF NEVSHA 33.97 296 *e*P **P 22 38 33.8 +1.1**
ODBI Odobesti 34.09 300 ⇓P **P 22 38 35.7 +2.0**
PGOR Pogoanele 34.13 299 ⇑P **P 22 38 35.5 +1.3**
GRER 34.14 300 ⇑P **P 22 38 35.3 +1.1**
CIT Chita 34.16 48 *e*P **P 22 38 34.9 +0.6**
CIT *e* 22 38 56.8
CIT *e* 22 39 11.2
CIT *e* 22 39 49.0
CIT pmax pmax
comp=Z,96nm,1.5s
LEHL Lehliu 34.26 298 ⇓P **P 22 38 36.7 +1.5**
VRI Vrincioaia 34.32 301 ⇑P **P 22 38 37.1 +1.3**
VRI ⇓P **P 22 38 37.2 +1.5**
BISRR Bisoca 34.33 300 ⇑P **P 22 38 37.3 +1.4**
PLOR Plostina 34.37 301 ⇑P **P 22 38 38.0 +1.8**
TMCR Tamitsa 34.44 335 *e*P **P 22 38 35.9 -0.6**
TMCR pmax pmax
comp=Z,193nm,0.6s
ISR Istrita 34.44 299 ⇑P **P 22 38 38.5 +1.6**
RAZG Razgrad 34.51 296 ⇑P **P 22 38 38.6 +1.1**
JMB Yambol 34.52 295 *e*P **P 22 38 39.0 +1.5**
NEHR Nehoiu 34.62 300 ⇑P **P 22 38 39.8 +1.4**
NRIK Noril'sk 34.69 10 P **P 22 38 40.2 +1.6**
comp=Z,184nm,0.9s,baz=198,slow=5.9,SNR=203
NRIK LR LR 22 54 23.3
comp=Z,251nm,21.1s,baz=201,slow=39
PRAR RASCA 34.71 303 ⇓P **P 22 38 39.9 +0.8**
MICGM Minsk 34.74 316 *e* **P 22 38 39.0 -0.2**
MNK Minsk 34.74 316 *e*P **P 22 38 39.0 -0.2**
SECR 34.78 299 ⇓P **P 22 38 41.5 +1.7**
MLR Muntele Rosu 34.86 300 ⇑P **P 22 38 42.2 +1.6**
SGRR Singureni 34.87 298 ⇓P **P 22 38 41.8 +1.4**
SZH Strazhica 34.94 296 *e*P **P 22 38 41.9 +0.7**
OZUR 34.98 301 ⇓P **P 22 38 42.9 +1.4**
ALN Alexandroupoli 35.07 292 IAmb IAmb 22 38 44.3
comp=Z,60nm,0.9s

PUL Pulkovo 35.23 325 *eP* **P 22 38 44.6 +1.2**
PUL Pulkovo 35.23 325⇓*iP* **P 22 38 44.6 +1.2**
PUL pmax pmax
comp=Z,247nm,0.7s
DOPR Dopca 35.25 301⇑P **P 22 38 45.2 +1.4**
BURAR Bucovina Array 35.41 304⇑P **P 22 38 46.0 +0.8**
BUR08 Bucovina Ar. S 35.42 304 IAmb IAmb 22 38 47.1
comp=Z,29nm,0.8s
NACGM Naroch 35.45 316 *e* **P 22 38 45.0 -0.4**
MTUR Matau 35.49 299⇑P **P 22 38 47.1 +1.2**
VOIR 35.49 300⇑P **P 22 38 47.0 +1.0**
HUMR Humele 35.57 298⇑P **P 22 38 47.7 +1.1**
IDID Didziasalis 35.58 317 *eP* **P 22 38 47.2 +0.8**
BJI Beijing 35.73 69 P **P 22 38 49.3 +1.4**
BJI pP **pP 22 39 09.6 -0.9**
BJI sP **sP 22 39 18.9 -2.7**
BJI PcP **PcP 22 41 14.3 +0.3**
BJI S **S 22 44 18.5 +0.4**
BJI ScP **ScP 22 44 50.8 -0.9**
BJI PcS **PcS 22 45 01.3 -0.1**
BJI ScS **ScS 22 48 56.1 -0.8**
BJI pmax pmax
comp=Z,18nm,1.3s
BJI LR LR
comp=Z,310nm,20.3s
BJI LR LR
comp=Z,120nm,14.9s
BJI LR LR
comp=Z,220nm,38.7s
ARR Arges 35.79 300⇓P **P 22 38 49.6 +1.1**
IIGN Ignalina 35.87 317 *eP* **P 22 38 49.6 +0.6**
BOD Bodaibo 35.89 39 *eP* **P 22 38 49.5 +0.4**
BOD pmax pmax
comp=Z,34nm,1.7s
IZAR Zarasai 35.96 318 *eP* **P 22 38 50.4 +0.7**
RZN Rozhen 35.98 293 *eP* **P 22 38 51.1 +0.9**
ARCR ARCALIA 35.98 303⇓P **P 22 38 51.8 +1.8**
ISAL Salakas 35.98 317 *eP* **P 22 38 50.2 +0.3**
APE Apeiranthos 36.09 286⇑P **P 22 38 51.5 +0.3**
PGB Panagyurishte 36.29 295 *eP* **P 22 38 54.2 +1.4**
SANT Santorini 36.30 284⇓P **P 22 38 53.0 0.0**
LVV L'vov 36.32 307 *eP* **P 22 38 53.0 +0.2**
LVV *eS* **S 22 44 24.6 -2.2**
LVV pmax pmax
comp=Z,90nm,1.5s
LVV MLR MLR
comp=Z,200nm,17.0s
LOT Lotru 36.40 300⇑P **P 22 38 54.5 +0.8**
VSU Vasula 36.48 322 *eP* **P 22 38 54.6 +0.6**
VSU Vasula 36.48 322*c iP* **P 22 38 54.4 +0.4**
VSU pmax pmax
comp=Z,404nm,0.9s
CJR Cluj-Napoca 36.49 302⇓P **P 22 38 56.1 +1.7**
WHN Wuhan 36.63 86⇓P **P 22 38 57.9 +2.2**
WHN pP **pP 22 39 21.0 +2.7**
WHN S **S 22 44 36.6 +4.6**
WHN pmax pmax
comp=Z,130nm,1.1s
WHN LR LR
comp=Z,1μm,30.5s
MMB Musomiste 36.72 293 *eP* **P 22 38 57.1 +0.7**
SRE Strehaia 36.83 299⇓P **P 22 38 58.3 +1.0**
VTS Vitosha 36.97 295 *eP* **P 22 38 59.6 +0.9**
DEV Deva 36.99 301⇑P **P 22 39 00.1 +1.5**
IDI Anoyia 37.01 283 P **P 22 38 58.4 -0.6**
comp=Z,43nm,0.7s,baz=47,slow=12,SNR=43
IDI Anoyia 37.01 283⇑P **P 22 38 58.4 -0.6**
IDI Anoyia 37.01 283 IAmb IAmb 22 39 00.4
comp=Z,49nm,0.7s
GZR Gura Zlata 37.10 300⇓P **P 22 39 00.4 +0.8**
PABE Paberze 37.16 317 *eP* **P 22 39 00.4 +0.5**
KWP Kalwaria Zeda 37.16 307 *eP* **P 22 39 01.1 +1.0**
KKB Krupnik 37.17 294 *eP* **P 22 39 00.7 +0.5**
UBPT Khong Chiam 37.19 115 IAmb IAmb 22 39 02.0
comp=Z,19nm,0.7s
TIA Tai'an 37.20 76 P **P 22 39 02.3 +1.8**
TIA pmax pmax
comp=Z,27nm,0.9s
SUW Suwalki 37.34 314 *eP* **P 22 39 01.4 0.0**
SUW Suwalki 37.34 314 IAmb IAmb 22 39 02.4
comp=Z,52nm,0.8s
HERR Herculane 37.38 299⇑P **P 22 39 02.5 +0.6**
UZH Uzhgorod 37.40 305 *eP* **P 22 39 00.0 -2.0**
UZH *eS* **S 22 44 35.8 -7.4**
UZH *e* 22 45 10.3
UZH pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 37.42 306 *eP* **P 22 39 02.3 +0.1**
KOLS pmax pmax
comp=Z,22nm,0.8s
KOLS Kolonicke sedl 37.42 306 *eP* **P 22 39 02.2 +0.1**
VAY Valandovo 37.62 293 *i P* **P 22 39 04.2 +0.3**
FINES FINESS Array B 37.81 327 P **P 22 39 05.8 +0.5**
comp=Z,139nm,0.7s,baz=108,slow=10,SNR=440
FINES LR LR 22 55 49.4
comp=Z,415nm,20.4s,baz=107,slow=38
FINES FINESS Array B 37.81 327 P **P 22 39 05.0 -0.4**
SIRR Siria 37.84 301⇑P **P 22 39 07.4 +1.6**
LVZ Lovozero 37.88 339*c iP* **P 22 39 06.5 +0.6**
LVZ pmax pmax
comp=Z,176nm,0.7s
LVZ Lovozero 37.88 339 P **P 22 39 06.7 +0.8**
MDVR Moldovita 37.88 299⇓P **P 22 39 07.3 +1.0**
BZS Buzias 37.90 300⇓P **P 22 39 07.4 +1.1**
CRVS Cervenica-Dubn 37.95 306 *eP* **P 22 39 07.7 +1.0**
CRVS pmax pmax
comp=Z,21nm,0.9s
CRVS Cervenica-Dubn 37.95 306 *eP* **P 22 39 07.7 +1.0**
APA Apatity 38.05 338⇑*iP* **P 22 39 07.1 -0.1**
APA pmax pmax
comp=Z,74nm,0.8s
APA MLR MLR
comp=Z,700nm,16.0s
BANR Banloc 38.25 300⇓P **P 22 39 10.4 +1.2**
QIZ Qiongzhong 38.27 106 P **P 22 39 10.3 +0.6**
QIZ pP **pP 22 39 32.3 -0.1**
QIZ S **S 22 44 54.1 -2.9**
QIZ LR LR
comp=Z,160nm,8.6s
QIZ LR LR
comp=Z,280nm,12.0s
QIZ LR LR
comp=Z,340nm,18.6s
PBUR Paburge 38.39 317 *eP* **P 22 39 10.6 +0.3**
BEL Belsk 38.52 310 *eP* **P 22 39 11.9 +0.5**
SLIT Slitere, Latvi 38.52 320 *eP* **P 22 39 11.5 +0.2**
KECS Kecovo 38.59 305 *eP* **P 22 39 12.7 +0.6**
KECS pmax pmax
comp=Z,13nm,0.8s
KECS Kecovo 38.59 305 *eP* **P 22 39 12.7 +0.6**
NIE Niedzica 38.72 306 *eP* **P 22 39 14.9 +1.8**
ITM Ithomi 38.88 287 IAmb IAmb 22 39 15.7
comp=Z,46nm,0.8s
OHR Ohrid 38.97 293 *i P* **P 22 39 14.7 -0.7**
PSZ Piszkesteto 39.00 304⇑P **P 22 39 16.3 +0.7**
OJC Ojcow 39.06 308 *eP* **P 22 39 16.5 +0.5**
OJC Ojcow 39.06 308 IAmb IAmb 22 39 17.6
comp=Z,43nm,1.0s
KLNR Kaliningrad 39.15 315⇓*eP* **P 22 39 16.1 -0.4**
KLNR pmax pmax
comp=Z,102nm,0.8s
DIVS Divibare 39.17 298⇑*iP* **P 22 39 17.7 +0.6**
DIVS Divibare 39.17 298 IAmb IAmb 22 39 19.0
comp=Z,51nm,0.8s
FRGS Fruska Gora 39.20 300⇑*iP* **P 22 39 18.0 +0.8**
LANS Liptovska Anna 39.27 306 *eP* **P 22 39 19.1 +1.4**
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 39.27 306 *eP* **P 22 39 19.1 +1.4**
MLSI Meulaboh, Aceh 39.42 137 P **P 22 39 19.7 +0.4**
comp=Z,112nm,0.9s
TEKS Tekeris 39.46 299⇑*iP* **P 22 39 20.5 +1.2**
BBLS Lazići 39.62 298⇑*iP* **P 22 39 21.4 +0.6**
TIR Tirane 39.63 294 IAmb IAmb 22 39 24.4
comp=Z,43nm,0.7s
VYHS Vyhne 39.69 305 *eP* **P 22 39 22.1 +0.9**
VYHS pmax pmax
comp=Z,32nm,1.3s
VYHS Vyhne 39.69 305 *eP* **P 22 39 22.1 +0.9**
FURI Furi 39.72 235 P **P 22 39 23.8 +1.6**
PDG Podgorica 39.91 295⇓P **P 22 39 23.4 +0.3**
PDG Podgorica 39.91 295⇑*iP* **P 22 39 22.8 -0.3**
PDG Podgorica 39.91 295 IAmb IAmb 22 39 24.0
comp=Z,48nm,0.8s
DRME Dracevica, Mon 40.00 295⇑*iP* **P 22 39 23.5 -0.4**
SRO2 Moca 40.01 304 *eP* **P 22 39 24.2 +0.4**
SRO2 pmax pmax
comp=Z,93nm,0.9s
SRO2 Moca 40.01 304 *eP* **P 22 39 24.2 +0.4**
UPM Unac-Piva 40.06 297 *eP* **P 22 39 25.4 +0.8**
SRO Srobarova 40.06 304 *eP* **P 22 39 26.0 +1.7**
SRO pmax pmax
comp=Z,91nm,0.9s
SRO Srobarova 40.06 304 *eP* **P 22 39 26.0 +1.7**
DL2 Dalian 40.09 70 P **P 22 39 26.4 +1.8**
DL2 pP **pP 22 39 50.9 +3.6**
DL2 S **S 22 45 26.4 +2.5**
DL2 sS **sS 22 46 04.4 +1.6**
DL2 pmax pmax
comp=Z,97nm,0.7s
DL2 pmax pmax
comp=Z,110nm,4.5s
DL2 LR LR
comp=Z,140nm,16.2s
DL2 LR LR
comp=Z,190nm,14.8s
DL2 LR LR
comp=Z,280nm,19.6s
BRY Bratogost 40.37 296⇑*iP* **P 22 39 27.1 0.0**
JAVC Velka Javorina 40.45 306⇑*iP* **P 22 39 29.1 +1.5**
HCY Herceg Novi 40.47 296 *eP* **P 22 39 26.9 -0.8**
MORC Moravsky Berou 40.52 307⇑P **P 22 39 29.0 +0.9**
MORC Moravsky Berou 40.52 307⇑*iP* **P 22 39 28.9 +0.9**
MORC Moravsky Berou 40.52 307 IAmb IAmb 22 39 29.6
comp=Z,24nm,0.8s
SMOL Smolenice 40.63 305 *eP* **P 22 39 29.7 +0.8**
SMOL pmax pmax
comp=Z,9.0nm,0.8s
SMOL Smolenice 40.63 305 *eP* **P 22 39 29.7 +0.8**
MODS Modra-Piesok 40.73 305 *eP* **P 22 39 29.7 -0.1**
MODS pmax pmax
comp=Z,38nm,1.3s
MODS Modra-Piesok 40.73 305 *eP* **P 22 39 29.7 -0.1**
GKP Gorka Klasztor 40.78 312 *eP* **P 22 39 30.5 +0.4**
SNY Shenyang 40.99 65⇑P **P 22 39 32.6 +0.6**
SNY pP **pP 22 39 54.9 -0.1**
SNY sP **sP 22 40 06.8 +0.6**
SNY S **S 22 45 35.3 -2.0**
SNY pmax pmax
comp=Z,38nm,0.7s
SNY pmax pmax
comp=Z,120nm,3.5s
SNY LR LR
comp=Z,180nm,9.6s
SNY LR LR
comp=Z,250nm,11.8s
SNY LR LR
comp=Z,230nm,11.5s
KRLC Kraliky 41.00 307 *eP* **P 22 39 32.8 +0.7**
KRLC *es*P **sP 22 40 06.1 +0.2**
KRLC Kraliky 41.00 307 *eP* **P 22 39 32.8 +0.7**
KRLC *e* 22 40 06.1
BLY Banja Luka 41.10 299⇑*iP* **P 22 39 33.5 +0.6**
VRAC Vranov 41.15 306⇑P **P 22 39 34.4 +1.2**
VRAC Vranov 41.15 306⇑*iP* **P 22 39 34.3 +1.1**
KEV Kevo 41.22 339 P **P 22 39 33.8 +0.3**
KEV pmax pmax
comp=Z,152nm,0.8s
KEV Kevo 41.22 339 P **P 22 39 33.8 +0.3**
KRUC Moravsky 41.29 306⇑*iP* **P 22 39 35.0 +0.7**
DPC Dobruska-Polom 41.29 308 *eP* **P 22 39 35.6 +1.2**
DPC *es*P **sP 22 40 05.8 -2.5**
DPC Dobruska-Polom 41.29 308 *eP* **P 22 39 35.6 +1.2**
DPC *e* 22 40 05.8
KSP Ksiaz 41.31 309 *eP* **P 22 39 34.8 +0.3**
OSTC Ostas 41.36 308 *eP* **P 22 39 35.8 +0.9**
CHVC Chvalec 41.46 308 *eP* **P 22 39 36.7 +0.9**
UPC Upice 41.49 308 *eP* **P 22 39 36.9 +0.9**
UPC Upice 41.49 308 *eP* **P 22 39 36.9 +0.9**
ARCES ARCESS Array B 41.56 338 P **P 22 39 37.4 +1.0**
comp=Z,192nm,0.7s,baz=110,slow=8.3,SNR=385
ARCES LR LR 22 58 14.5
comp=Z,514nm,18.4s,baz=154,slow=38
ARCES ARCESS Array B 41.56 338 P **P 22 39 36.8 +0.5**
ARE0 ARCESS Array S 41.56 338 P **P 22 39 37.4 +1.2**
ARE0 ARCESS Array S 41.56 338 *eP* **P 22 39 37.5 +1.2**
KOGS Kog 41.57 302⇑*iP* **P 22 39 37.3 +0.6**
CONA Conrad Observa 41.71 304 *i P* **P 22 39 38.7 +0.8**
comp=Z,47nm,0.9s,SNR=32
CONA sP **sP 22 40 11.6 -0.2**
comp=Z,31nm,1.4s
TREC Trest 41.87 306 *eP* **P 22 39 40.1 +1.0**
TREC Trest 41.87 306 *eP* **P 22 39 40.1 +1.0**
ARSA Arzberg 41.99 303 *i P* **P 22 39 40.6 +0.5**
comp=Z,20nm,1.2s,SNR=12
ARSA *es*P **sP 22 40 13.9 -0.3**
comp=Z,6.3nm,1.0s
CN2 Changchun 42.04 62 *eP* **P 22 39 41.1 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
PSI Prapat 42.04 135 P **P 22 39 41.2 +0.3**
comp=Z,18nm,0.8s,baz=0.5,slow=5.3,SNR=11
PSI Prapat 42.04 135 P **P 22 39 41.3 +0.3**
PSI pmax pmax
comp=Z,31nm,1.0s
MATE Matera 42.11 293⇓P **P 22 39 41.2 0.0**
RPSI Rantau Prapat 42.13 135 P **P 22 39 41.3 -0.2**
RPSI IAmb IAmb 22 39 42.0
comp=Z,31nm,1.0s
CRES Cresnjev 42.18 301⇑*iP* **P 22 39 42.3 +0.6**
GOPC GO Pecny, Ondr 42.30 307 *eP* **P 22 39 43.5 +0.9**
GOPC GO Pecny, Ondr 42.30 307 *eP* **P 22 39 43.5 +0.9**
BOJS Bojanci 42.36 301⇑*iP* **P 22 39 43.5 +0.4**
SOKA Soboth 42.38 302 *eP* **P 22 39 44.2 +0.9**
comp=Z,52nm,0.8s,SNR=34
SOKA *es*P **sP 22 40 17.3 -0.1**
comp=Z,32nm,1.1s
TIP Timpagrande 42.38 291⇑P **P 22 39 43.3 -0.2**
TIP Timpagrande 42.38 291 IAmb IAmb 22 39 44.5
comp=Z,39nm,0.8s
PVCC Panska Ves 42.41 308 *eP* **P 22 39 44.2 +0.7**
PVCC AMS AMS 23 00 50.0
comp=Z,200nm,21.5s
PVCC Panska Ves 42.41 308 *eP* **P 22 39 44.2 +0.7**
PVCC MLR MLR
comp=Z,200nm,21.5s
PRU Pruhonice 42.45 307 *eP* **P 22 39 44.5 +0.7**
PRU *ep*P **pP 22 40 07.3 +0.6**
PRU AMS AMS 23 00 50.0
comp=Z,200nm,13.2s
PRU Pruhonice 42.45 307 *eP* **P 22 39 44.5 +0.7**
PRU *e* 22 40 07.3
PRU MLR MLR
comp=Z,200nm,13.2s
PRA Prague 42.52 307 *eP* **P 22 39 45.5 +1.2**
PRA Prague 42.52 307 *eP* **P 22 39 45.5 +1.2**
GSI Gunungsitoli 42.53 138 P **P 22 39 46.7 +1.9**
comp=Z,105nm,1.1s
ZEA Zeya 42.58 47 *eP* **P 22 39 46.2 +1.4**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,52nm,1.0s
HAMF Hammerfest 42.65 339 *i P* **P 22 39 46.5 +1.4**
OBKA Obir 42.73 302 *eP* **P 22 39 47.2 +0.9**
comp=Z,19nm,0.9s,SNR=12
OBKA *es*P **sP 22 40 19.3 -1.0**
comp=Z,22nm,1.5s
MOA Molln 42.78 304 *i P* **P 22 39 46.8 +0.2**
comp=Z,58nm,1.5s,SNR=20
BRG Berggiesshubel 42.79 309⇑*iP* **P 22 39 49.0 +2.5**
comp=Z,33nm,0.9s
BRG *i* pP **pP 22 40 11.6 +2.1**
comp=Z,31nm,1.2s
BRG *i* sP **sP 22 40 23.3 +2.9**
comp=Z,24nm,1.2s
BRG PP **PP 22 41 26.0 -1.4**
BRG S **S 22 45 58.0 -5.7**
BRG SS **SS 22 49 17.0 -0.6**
BRG Berggiesshubel 42.79 309⇑*iP* **P 22 39 49.0 +2.5**
BRG *i* *PP **pP 22 40 11.6 +2.1**
BRG *i* *SP **sP 22 40 23.3 +2.9**
BRG 22 41 26.0
BRG S **S 22 45 58.0 -5.7**
BRG SS **SS 22 49 17.0 -0.6**
BRG pmax pmax
comp=Z,33nm,0.9s
BRG Berggiesshubel 42.79 309 *eP* **P 22 39 47.1 +0.5**
comp=Z,73nm,1.5s,baz=86,slow=7.9
LJU Ljubljana 42.80 302⇑*iP* **P 22 39 47.6 +0.9**
LJU *e* 22 40 12.7
LJU *e* 22 40 18.4
LJU *i* 22 40 25.4
LJU *eP*P **PP 22 41 30.1 +2.5**
LJU Ljubljana 42.80 302⇑*iP* **P 22 39 47.6 +0.9**
PBCC Pribram 42.82 307 *eP* **P 22 39 47.3 +0.5**
RUE Ruedersdorf 42.85 311 *eP* **P 22 39 47.5 +0.5**
RUE Ruedersdorf 42.85 311 *eP* **P 22 39 47.0 0.0**
comp=Z,45nm,1.1s,baz=86,slow=7.9
CEY Cerknica 42.91 301⇑*iP* **P 22 39 48.2 +0.6**
GEC2 GERESS Array S 43.07 306 *eP* **P 22 39 49.3 +0.3**
comp=Z,18nm,1.1s,baz=86,slow=7.9
GERES GERESS Array B 43.07 306 P **P 22 39 49.1 +0.2**
comp=Z,5.7nm,0.8s,baz=90,slow=8.0,SNR=57
GERES LR LR 23 01 33.9
comp=Z,129nm,18.8s,baz=94,slow=41
GERES GERESS Array B 43.07 306 P **P 22 39 48.6 -0.4**
KHC Kasperske Hory 43.13 306 *eP* **P 22 39 49.7 +0.3**
KHC *es*P **sP 22 40 20.0 -3.3**
KHC *eP*P **PP 22 41 30.0 -1.0**
KHC *eS* **S 22 46 07.1 -1.6**
KHC AMS AMS 22 57 00.0
comp=Z,200nm,22.7s
KHC Kasperske Hory 43.13 306*c iP* **P 22 39 49.0 -0.4**
KHC pmax pmax
comp=Z,54nm,1.7s
FBE Freiberg 43.16 309 *eP* **P 22 39 50.3 +0.8**
comp=Z,39nm,1.0s,baz=86,slow=7.9
CEL Celeste 43.26 290 IAmb IAmb 22 39 52.1
comp=Z,77nm,1.1s
MYKA Terra Mystica 43.34 303 *eP* **P 22 39 51.6 +0.5**
comp=Z,30nm,1.8s,SNR=8.2
MYKA *es*P **sP 22 40 25.1 -0.1**
comp=Z,8.7nm,1.1s
CLL Collm 43.37 309⇑*iP* **P 22 39 51.3 +0.1**
comp=Z,46nm,1.5s
CLL *i* 22 39 55.9
CLL *i* pP **pP 22 40 14.6 +0.5**
CLL *es*P **sP 22 40 25.0 -0.1**
CLL *eP*P **PP 22 41 32.0 -1.5**
CLL *i* PcP **PcP 22 41 36.3 -1.8**
CLL *ep*PP 22 41 53.0
CLL *eP*PP PPP 22 42 10.0
CLL *i* sPPP 22 42 37.4
CLL *eS* **S 22 46 12.0 0.0**
CLL *es*S **sS 22 46 52.0 +0.6**
CLL *eS*S **SS 22 49 30.0 +1.2**
CLL *es*SS 22 50 00.0
CLL *eS*SS SSS 22 50 12.0
CLL Collm 43.37 309⇑*iP* **P 22 39 51.3 +0.1**
CLL *i* *PP **pP 22 40 14.6 +0.5**
CLL *i* 22 41 36.3
CLL *eS* **S 22 46 12.0 0.0**
CLL *e**SS **sS 22 46 52.0 +0.6**
CLL pmax pmax
comp=Z,46nm,1.5s
CLL Collm 43.37 309 *eP* **P 22 39 51.2 +0.1**
comp=Z,46nm,1.5s,baz=86,slow=7.9
TRI Trieste 43.37 301 IAmb IAmb 22 39 52.4
comp=Z,30nm,0.6s
PRED Cave del Predi 43.41 302 IAmb IAmb 22 39 53.4
comp=Z,53nm,1.2s
KBA Koelnbreinsper 43.48 303 *i* P **P 22 39 52.6 +0.2**
comp=Z,37nm,1.3s,SNR=12
WET Wettzell 43.59 306 *eP* **P 22 39 53.5 +0.5**
comp=Z,26nm,1.7s,baz=86,slow=7.9
PAOL Paolisi 43.62 294 IAmb IAmb 22 39 54.8
comp=Z,80nm,0.9s
TRO Tromso 43.67 337 *eP* **P 22 39 54.0 +0.6**
COP Copenhagen 43.68 316 *i P* **P 22 39 55.0 +1.4**
comp=Z,56nm,0.9s
COP Copenhagen 43.68 316 *i P* **P 22 39 55.0 +1.4**
COP pmax pmax
comp=Z,56nm,0.9s
TANN Tannenbergstha 43.76 308 *eP* **P 22 39 55.0 +0.6**
comp=Z,80nm,1.4s,baz=86,slow=7.9
RJOB Jochberg 43.78 304 *eP* **P 22 39 53.9 -0.8**
comp=Z,20nm,1.1s,baz=86,slow=7.9
NKC Novy Kostel 43.78 308 *eP* **P 22 39 55.9 +1.3**
NKC AMS AMS 23 01 40.0
comp=Z,300nm,14.3s
NKC Novy Kostel 43.78 308 *eP* **P 22 39 55.9 +1.3**
NKC MLR MLR
comp=Z,300nm,14.3s
WERN Wernitzgruen 43.82 308 *eP* **P 22 39 55.7 +0.8**
comp=Z,34nm,1.6s,baz=86,slow=7.9
GUNZ Gunzen 43.85 308 *eP* **P 22 39 55.7 +0.6**
comp=Z,44nm,1.4s,baz=86,slow=7.9
WERD Werda 43.86 308 *eP* **P 22 39 55.9 +0.7**
comp=Z,19nm,1.2s,baz=86,slow=7.9
INTR Introdacqua 43.90 296 IAmb IAmb 22 39 56.8
comp=Z,50nm,0.8s
PLN Plauen 43.95 308 *eP* **P 22 39 56.4 +0.5**
comp=Z,30nm,1.3s,baz=86,slow=7.9
ROTZ Rotzenmuhle 43.97 307 *eP* **P 22 39 57.2 +1.1**
comp=Z,58nm,1.3s,baz=86,slow=7.9
MANZ Manzenberg 44.02 308 *eP* **P 22 39 57.4 +1.0**
comp=Z,45nm,1.3s,baz=86,slow=7.9
STAL STALIGIAL 44.02 302 IAmb IAmb 22 39 57.6
comp=Z,69nm,1.1s
MNSI Mandailing Nat 44.06 136 P **P 22 39 58.3 +1.2**
comp=Z,57nm,1.2s
ABTA Abfaltersbach 44.09 303 *i* P **P 22 39 56.8 -0.4**
comp=Z,21nm,1.3s,SNR=10
ABTA *es*P **sP 22 40 29.7 -1.6**
comp=Z,11nm,1.0s
N2IH Innhavet 44.12 334⇑*iP* **P 22 39 57.8 +0.9**
NEUB Neuenburg 44.14 309 *eP* **P 22 39 57.7 +0.3**
comp=Z,73nm,1.2s,baz=86,slow=7.9
FAUS Fauske 44.18 333⇑*iP* **P 22 39 58.0 +0.6**
AQU L'Aquila 44.20 296⇑*iP* **P 22 39 58.5 +0.5**
AQU L'Aquila 44.20 296 IAmb IAmb 22 40 00.7
comp=Z,51nm,0.9s
CIMO Cimolais 44.20 302 IAmb IAmb 22 39 59.1
comp=Z,65nm,1.1s
MOX Moxa 44.28 308 *eP* **P 22 39 59.1 +0.6**
comp=Z,38nm,1.2s,baz=86,slow=7.9
N2TV Tørnvik 44.30 333 *eP* **P 22 39 59.1 +0.8**
NRCA Norcia 44.31 297 IAmb IAmb 22 40 00.6
comp=Z,53nm,1.1s
STEI Steigen 44.36 334 *eP* **P 22 39 59.5 +0.7**
NBB08 Skaug oppvekst 44.42 333 *eP* **P 22 40 00.4 +1.1**
NC602 NORSAR Array S 44.49 323 IAmb IAmb 22 40 00.4
comp=Z,69nm,1.0s
YAK Yakutsk 44.52 35 P **P 22 40 00.1 -0.1**
comp=Z,48nm,0.7s,baz=109,slow=0.4,SNR=31
YAK Yakutsk 44.52 35*c iP* **P 22 40 00.0 -0.2**
YAK *e* 22 41 43.1
YAK *eP*PP PPP 22 42 32.6
YAK *eS* **S 22 46 27.0 -1.4**
YAK pmax pmax
comp=Z,107nm,0.9s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,22nm,1.3s
YAK smax smax
comp=E,68nm,1.6s
YAK smax smax
comp=N,43nm,1.8s
YAK Yakutsk 44.52 35 P **P 22 39 59.8 -0.4**
NBB17 Glomfjord BØr 44.53 332 *eP* **P 22 40 01.3 +1.0**
NBB05 Inndyr 44.56 332 *eP* **P 22 40 01.3 +0.9**
VAE Valguarnera 44.60 289 P **P 22 40 03.4 +2.1**
comp=N,46nm,0.8s,baz=96,slow=2.0,SNR=25
GRF Grafenberg Arr 44.62 307 *eP* **P 22 40 02.6 +1.4**
comp=N,77nm,1.3s,baz=86,slow=7.9
GRF *ep*P **pP 22 40 27.4 +3.1**
GRF *es*P **sP 22 40 37.0 +1.8**
WTTA Wattenberg 44.62 304 *i P* **P 22 40 01.0 -0.4**
comp=N,42nm,1.2s,SNR=23
WTTA *i* sP **sP 22 40 33.9 -1.6**
comp=N,3.3nm,0.6s
NC303 NORSAR Array S 44.63 324 *eP* **P 22 40 01.4 +0.3**
WATA Walderalm 44.65 304 *i P* **P 22 40 01.0 -0.6**
comp=N,24nm,1.0s,SNR=15
WATA *i* sP **sP 22 40 33.9 -1.9**
comp=N,10nm,1.0s
NBB30 Finnes 44.66 332 *eP* **P 22 40 02.2 +1.0**
NB2 NORSAR Subarra 44.68 323 P **P 22 40 01.1 -0.5**

comp=Z,114nm,0.9s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.68 323 P **P 22 40 01.1 -0.5**
baz=96,slow=7.9
NOA NORSAR Array B 44.68 323 P **P 22 40 01.2 -0.4**
comp=Z,47nm,0.7s,baz=98,slow=7.9,SNR=267
NOA pP **pP 22 40 24.3 -0.5**
comp=Z,22nm,0.8s,baz=97,slow=8.0,SNR=5.0
NOA PP **PP 22 41 48.3 +1.0**
comp=Z,14nm,0.9s,baz=94,slow=9.6,SNR=6.0
NOA LR LR 23 02 02.9
comp=Z,219nm,19.0s,baz=95,slow=40
YHNB Yeheng 44.69 90 P **P 22 40 04.9 +2.7**
YHNB IAmb IAmb 22 40 05.6
comp=Z,35nm,1.0s
FUR Furstenfeldbru 44.74 305 *e*P **P 22 40 02.8 +0.6**
comp=Z,53nm,1.1s,baz=86,slow=7.9
SSLB Suanglung 44.76 91 P **P 22 40 05.2 +2.5**
SSLB IAmb IAmb 22 40 06.3
comp=Z,32nm,0.8s
ASSE Asse, Remlinge 44.77 311 *e*P **P 22 40 02.5 +0.2**
comp=Z,22nm,1.2s,baz=86,slow=7.9
KONS Konsvik 44.78 331 *e*P **P 22 40 03.0 +0.9**
NBB40 Tonnes 44.82 331 *e*P **P 22 40 03.1 +0.5**
OSL Oslo 44.82 322 *e*P **P 22 40 02.9 +0.3**
NSS Namsos 44.84 328 *e*P **P 22 40 02.8 +0.1**
MDJ Mudanjiang 44.84 60 P **P 22 40 03.8 +0.7**
MDJ pP pP 22 40 26.6 +0.2
MDJ sP sP 22 40 39.6 +2.2
MDJ pmax pmax
comp=Z,12nm,0.7s
MDJ pmax pmax
comp=Z,160nm,3.5s
N2VI Vinje 44.84 334 *e*P **P 22 40 03.6 +0.9**
TEOL Teolo 44.88 301 IAmb IAmb 22 40 04.6
comp=Z,82nm,1.1s
BSEG Bad Segeberg 44.91 313 *e*P **P 22 40 04.0 +0.7**
comp=Z,65nm,1.1s,baz=86,slow=7.9
SQTA Sankt Quirin 44.91 304 *i* P **P 22 40 03.2 -0.5**
comp=Z,35nm,1.4s,SNR=15
SQTA *es*P **sP 22 40 36.5 -1.4**
comp=Z,20nm,1.5s
MOTA Moosalm 44.97 304 *i* P **P 22 40 03.5 -0.7**
comp=Z,30nm,0.8s,SNR=21
MOTA *es*P **sP 22 40 36.8 -1.5**
comp=Z,7.7nm,0.7s
CLZ Clausthal 44.98 310 *e*P **P 22 40 04.6 +0.5**
comp=Z,60nm,1.2s,baz=86,slow=7.9
LOF Lofoten 45.03 334 *e*P **P 22 40 04.5 +0.4**
NRDL Niedersach Rie 45.10 311 *e*P **P 22 40 05.6 +0.8**
comp=Z,48nm,1.1s,baz=86,slow=7.9
TJN Taejon 45.13 72⇑*e*P **P 22 40 05.6 +0.2**
N2SV S rvÅgen 45.16 333 *e*P **P 22 40 05.2 +0.1**
RETA Reutte 45.18 304 *i* P **P 22 40 05.4 -0.4**
comp=Z,15nm,0.9s,SNR=12
RETA *i* sP **sP 22 40 38.6 -1.2**
comp=Z,11nm,1.4s
KS19 Wonju Array Si 45.19 70 IAmb IAmb 22 40 08.7
comp=Z,34nm,0.9s
YULB Yu-li 45.22 92 P **P 22 40 09.5 +3.2**
N2VA Vr y 45.22 333 *e*P **P 22 40 05.6 -0.1**
KSAR Wonju Array Be 45.22 70 P **P 22 40 05.1 -1.1**
KSAR Wonju Array Be 45.22 70 P **P 22 40 05.1 -1.1**
KSRS Korea Array 45.25 70 P **P 22 40 06.8 +0.5**
comp=Z,18nm,0.7s,baz=271,slow=7.1,SNR=61
KSRS ScP **ScP 22 45 26.3 -2.8**
comp=Z,3.0nm,0.8s,baz=293,slow=3.6,SNR=5.8
KSRS LR LR 23 01 04.6
comp=Z,197nm,21.5s,baz=253,slow=39
GTTG Gottingen 45.25 310 *e*P **P 22 40 06.7 +0.6**
comp=Z,93nm,1.1s,baz=86,slow=7.9
FETA Feichten 45.27 303 *i* P **P 22 40 06.0 -0.5**
comp=Z,25nm,0.9s,SNR=19
FETA *es*P **sP 22 40 39.2 -1.6**
comp=Z,8.9nm,0.9s
BKNI Bangkinang 45.27 135 P **P 22 40 07.4 +0.7**
comp=Z,98nm,0.6s
BKNI Bangkinang 45.27 135 P **P 22 40 08.0 +1.2**
UBBA Unterbreizbach 45.29 309 *e*P **P 22 40 06.9 +0.6**
comp=Z,47nm,1.5s,baz=86,slow=7.9
LATE Laterza 45.30 297 IAmb IAmb 22 40 08.3
comp=Z,65nm,1.1s
CORL Corleone 45.33 290 IAmb IAmb 22 40 11.2
comp=Z,89nm,0.9s
KONO Kongsberg 45.37 321*c i*P **P 22 40 06.7 -0.3**
KONO pmax pmax
comp=Z,40nm,0.7s
KONO Kongsberg 45.37 321 P **P 22 40 06.9 -0.1**
KONO IAmb IAmb 22 40 07.9
comp=Z,41nm,0.8s
KONO Kongsberg 45.37 321 *e*P **P 22 40 05.5 -1.5**
TBLU Trondheim 45.39 326 *e*P **P 22 40 07.1 0.0**
N2RO R st 45.40 333 *e*P **P 22 40 07.3 +0.2**
MUD Monsted U'grnd 45.51 317 *i* P **P 22 40 08.9 +0.8**
comp=Z,48nm,1.2s
MUD Monsted U'grnd 45.51 317 *i* P **P 22 40 08.9 +0.8**
MUD pmax pmax
comp=Z,48nm,1.2s
OSSC Osservatorio P 45.51 299 IAmb IAmb 22 40 10.3
comp=Z,74nm,1.1s
ZCCA Zocca 45.54 300 IAmb IAmb 22 40 11.0
comp=Z,32nm,0.9s
UBR Ueberruh 45.59 304 *e*P **P 22 40 08.8 -0.2**
comp=Z,54nm,1.2s,baz=86,slow=7.9
DAVA Damuels 45.80 304 *i* P **P 22 40 10.5 -0.3**
comp=Z,92nm,1.0s,SNR=32
DOMB Dombas 45.81 325⇑*i*P **P 22 40 10.4 -0.1**
HOMB Homborsund 45.89 319 *e*P **P 22 40 11.2 +0.1**
PRMA PARMA 45.93 300 IAmb IAmb 22 40 13.9
comp=Z,88nm,1.2s
PDSI Padang 45.95 136 P **P 22 40 10.2 -2.0**
comp=Z,46nm,1.6s
VLC Villacollemand 46.00 300 IAmb IAmb 22 40 14.0
comp=Z,39nm,0.9s
STU Stuttgart 46.04 306 *e*P **P 22 40 12.9 +0.4**
comp=Z,34nm,0.9s,baz=86,slow=7.9
STU Stuttgart 46.04 306 IAmb IAmb 22 40 14.2
comp=Z,44nm,1.1s
SKAR Skarslia 46.07 323 *e*P **P 22 40 13.7 +1.1**
TNS Taunus Mts 46.34 308 *e*P **P 22 40 15.4 +0.5**
comp=Z,31nm,1.1s,baz=86,slow=7.9
TIXI Tiksi 46.34 22 P **P 22 40 14.8 +0.4**
comp=Z,54nm,0.7s,baz=266,slow=4.7,SNR=74
TIXI Tiksi 46.34 22*c i*P **P 22 40 14.8 +0.4**
TIXI pmax pmax
comp=Z,103nm,1.3s
TIXI Tiksi 46.34 22 P **P 22 40 14.9 +0.4**
TIXI IAmb IAmb 22 40 15.9
comp=Z,62nm,0.8s
SDSI Sungai Dareh 46.52 135 P **P 22 40 16.7 +0.2**
comp=Z,18nm,2.1s
IBBN Ibbenburen 46.55 311 *e*P **P 22 40 16.7 +0.4**
comp=Z,86nm,0.9s,baz=86,slow=7.9
MOL Molde 46.56 325 *e*P **P 22 40 16.9 +0.7**
SNART Snartemo 46.57 319 *e*P **P 22 40 17.3 +0.8**
MSSA Maissana 46.58 300 IAmb IAmb 22 40 17.7
comp=Z,54nm,1.0s
USRK Ussuriysk Ar. 46.61 60 P **P 22 40 17.1 +0.1**
comp=Z,8.4nm,0.8s,baz=278,slow=6.8,SNR=22
USRK LR LR 23 02 21.2
comp=Z,302nm,20.0s,baz=267,slow=39
BFO Black Forest 46.67 306 P **P 22 40 17.4 -0.1**
BFO pmax pmax
comp=Z,25nm,1.1s
BFO Black Forest 46.67 306 *e*P **P 22 40 17.2 -0.3**
comp=Z,33nm,1.2s,baz=86,slow=7.9
BFO Black Forest 46.67 306 P **P 22 40 17.4 -0.1**
VLA Vladivostok 46.77 62*c i*P **P 22 40 18.8 +0.6**
VLA pmax pmax
comp=Z,81nm,0.8s
AKN Aaknes 46.79 325 *e*P **P 22 40 18.6 +0.5**
ODD1 Odda 46.88 322 *e*P **P 22 40 23.4 +4.5**
BUG Bochum--Univer 46.94 310 *e*P **P 22 40 19.7 +0.3**
comp=Z,61nm,1.0s,baz=86,slow=7.9
BLS5 Blasjo 46.96 321⇑*e*P **P 22 40 20.2 +0.7**
HYA Hoyanger 47.13 323 *e*P **P 22 40 21.4 +0.7**
AHRW Bad Neuenahr-A 47.17 309 *e*P **P 22 40 21.8 +0.6**
comp=Z,43nm,1.0s,baz=86,slow=7.9
KRJI Kerinci 47.49 136 P **P 22 40 25.9 +1.7**
comp=Z,229nm,0.8s
BER Bergen 47.53 322 *e*P **P 22 40 24.2 +0.3**
HSPB Hornsund (broa 47.60 345 *e*P **P 22 40 26.2 +2.0**
ASK Askoy 47.60 322 *e*P **P 22 40 24.6 +0.2**
FOO Floro 47.69 324 *e*P **P 22 40 25.6 +0.6**
SENIN Lac Senin/Sane 47.70 303 P **P 22 40 25.4 -0.3**
SENIN IAmb IAmb 22 40 26.6
comp=Z,39nm,0.9s

SUE Sulen 47.82 323 *e*P **P 22 40 26.5 +0.4**
MEM Membach 47.84 309 P **P 22 40 26.9 +0.6**
comp=Z,32nm,0.9s
VSL Villasalto 47.84 294 IAmb IAmb 22 40 26.9
comp=Z,30nm,0.8s
WLF Walferdange 47.88 308 P **P 22 40 27.1 +0.3**
comp=Z,58nm,1.1s
WLF Walferdange 47.88 308 *e*P **P 22 40 27.5 +0.8**
comp=Z,85nm,1.0s,baz=86,slow=7.9
WLF Walferdange 47.88 308 IAmb IAmb 22 40 29.5
comp=Z,76nm,1.0s
SPA0 Spitsbergen Ar 47.96 347 *e*P **P 22 40 28.8 +1.8**
SPITS Spitsbergen Ar 47.96 347 P **P 22 40 28.6 +1.5**
comp=Z,92nm,0.8s,baz=132,slow=15,SNR=31
DSRI Dabo 48.01 131 P **P 22 40 29.4 +1.3**
comp=Z,29nm,0.9s
BSTI Sart Tilman 48.12 309 P **P 22 40 29.4 +0.9**
BCLA Clavier 48.31 309 P **P 22 40 29.9 -0.2**
KMBO Kilima Mbogo 48.32 228 P **P 22 40 33.0 +2.1**
comp=Z,11nm,0.7s,baz=33,slow=11,SNR=37
KMBO LR LR 23 00 26.0
comp=Z,84nm,20.8s,baz=81,slow=35
KMBO Kilima Mbogo 48.32 228 *i* P **P 22 40 31.6 +0.8**
SNR=11
KMBO Kilima Mbogo 48.32 228 P **P 22 40 31.8 +1.0**
KMBO pmax pmax
comp=Z,12nm,0.6s
KMBO Kilima Mbogo 48.32 228 P **P 22 40 31.8 +1.0**
GRNR Gornyy 48.40 51⇑*i*P **P 22 40 31.8 +1.0**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,340nm,15.0s
GRNR MLR MLR
comp=N,240nm,13.0s
GRNR MLR MLR
comp=Z,130nm,17.0s
BGES Gesves 48.45 309 P **P 22 40 31.3 +0.2**
comp=Z,14nm,1.2s
BMRD Maredsous 48.67 309 P **P 22 40 33.0 +0.2**
comp=Z,40nm,1.2s
MASI Maura Aman, Be 48.78 136 P **P 22 40 35.2 +1.1**
comp=Z,309nm,0.9s
DOU Dourbes 48.81 308 P **P 22 40 34.4 +0.6**
comp=Z,28nm,1.2s
JNU Nakatsue 48.93 75 P **P 22 40 36.2 +1.1**
SNF Seneffe 48.94 309 P **P 22 40 35.4 +0.6**
comp=Z,50nm,1.3s
KEST Kesra 49.01 289 P **P 22 40 36.7 +1.0**
comp=Z,80nm,0.9s,baz=353,slow=1.6,SNR=101
KBS Kingsbay 49.09 347*c i*P **P 22 40 36.9 +1.3**
KBS pmax pmax
comp=Z,174nm,1.3s
KBS Kingsbay 49.09 347 P **P 22 40 37.5 +1.8**
KBS Kingsbay 49.09 347 *e*P **P 22 40 37.4 +1.8**
KSI Kapahiang 49.40 136 P **P 22 40 39.8 +0.9**
comp=Z,320nm,1.0s
SSB Saint Sauveur 49.82 302 IAmb IAmb 22 40 43.0
comp=Z,38nm,0.9s
JHS Saijyo 50.01 72 IAmb IAmb 22 40 44.9
comp=Z,21nm,0.8s
LHSI Lahat 50.07 135 P **P 22 40 44.5 +0.6**
comp=Z,108nm,0.9s
CMAH Djebel Manchou 50.19 291 P **P 22 40 45.2 +0.6**
PPBI Pangkal Pinang 50.28 131 P **P 22 40 46.3 +0.8**
comp=Z,2μmcomp=Z,78nm,1.1s
CLF Chambon-Foret 50.72 306 IAmb IAmb 22 40 49.5
comp=Z,49nm,0.9s
CLF pP 22 41 14.2 +2.1
LRW Lerwick 50.79 322⇑*e*P **P 22 40 48.5 -0.2**
LRW IAmb IAmb 22 40 50.4
comp=Z,39nm,0.8s
CKFL Kef-Lekhel 50.79 291 P **P 22 40 49.3 0.0**
WACR West Acre 50.81 312 *e*P **P 22 40 48.8 -0.1**
MDSI Maura Dua 50.98 135 P **P 22 40 49.0 -1.7**
comp=Z,25nm,1.0s
CASM Ain Smara 51.02 291 P **P 22 40 51.0 +0.1**
JMN Monobe 51.05 73 IAmb IAmb 22 40 53.3
comp=Z,40nm,1.0s
CTEI Djebel Teioual 51.15 290 P **P 22 40 52.4 +0.5**
KKM Kota Kinabalu 51.17 114 pP 22 41 18.4 +2.6
DFRA Djebel Bou Aff 51.38 291 P **P 22 40 53.9 +0.2**
KLSI 51.47 135 P **P 22 40 52.2 -2.1**
comp=Z,17nm,0.9s
SET Setif 51.86 291 P **P 22 40 58.0 +0.8**
HPK Haverah Park 51.91 314⇑*e*P **P 22 40 56.7 -0.5**
EDMD Edmundbyers 51.95 315 *e*P **P 22 40 57.1 -0.4**
EDMD IAmb IAmb 22 40 57.9
comp=Z,36nm,0.7s
MBAR Mbarara 52.03 235*ce*P **P 22 40 59.3 +0.5**
MBAR pmax pmax
comp=Z,17nm,0.7s
MBAR Mbarara 52.03 235 P **P 22 40 58.8 0.0**
MBAR IAmb IAmb 22 41 00.1
comp=Z,22nm,0.6s
LBWR Ladybower, Pea 52.08 314 *e*P **P 22 40 57.8 -0.6**
LBWR IAmb IAmb 22 40 58.7
comp=Z,51nm,1.4s
ESY Stoneypath 52.12 317⇑*e*P **P 22 40 58.2 -0.5**
SPMM Sapulut 52.25 116 P **P 22 41 02.0 +1.7**
TYV Tymovskoe 52.27 50 *e*P **P 22 41 00.6 +0.7**
TYV pmax pmax
comp=Z,7.0nm,0.7s
TYV pmax pmax
comp=Z,100nm,3.4s
EBL Broad Law 52.38 317 *e*P **P 22 41 00.0 -0.7**
EDI Edinburgh 52.43 317⇑*e*P **P 22 41 00.6 -0.4**
EDI IAmb IAmb 22 41 01.0
comp=Z,24nm,0.8s
SWN1 Swindon 52.52 311 *e*P **P 22 41 01.6 -0.1**
SWN1 IAmb IAmb 22 41 02.5
comp=Z,154nm,1.1s
ESK Eskdalemuir 52.56 316⇑*e*P **P 22 41 01.4 -0.5**
ESK IAmb IAmb 22 41 05.2
comp=Z,26nm,1.0s
ESK Eskdalemuir 52.56 316 P **P 22 41 01.4 -0.5**
ESK pmax pmax
comp=Z,27nm,1.0s
ESK Eskdalemuir 52.56 316 P **P 22 41 01.4 -0.5**
ESK IAmb IAmb 22 41 05.4
comp=Z,27nm,1.0s
KESW Keswick, Cumbr 52.64 315⇑*e*P **P 22 41 02.5 -0.1**
KESW IAmb IAmb 22 41 02.8
comp=Z,25nm,0.7s
INVG Invergeldie, C 52.81 318⇑*e*P **P 22 41 03.0 -0.8**
INVG IAmb IAmb 22 41 04.1
comp=Z,33nm,1.4s
JSD Sado 52.86 66 IAmb IAmb 22 41 05.6
comp=Z,30nm,0.8s
INU Inuyama 52.87 70 IAmb IAmb 22 41 06.0
comp=Z,27nm,1.1s
HLM1 Long Mynd 52.94 313 *e*P **P 22 41 04.4 -0.5**
EAB Aberfoyle 53.02 317⇑*e*P **P 22 41 04.8 -0.5**
MONM Monmouth 53.05 312 *e*P **P 22 41 05.0 -0.7**
MONM IAmb IAmb 22 41 06.5
comp=Z,77nm,1.2s
MCH1 Michaelchurch 53.13 312⇑*e*P **P 22 41 05.7 -0.5**
MCH1 IAmb IAmb 22 41 06.6
comp=Z,118nm,1.2s
NEWG New Galloway 53.17 316⇑*e*P **P 22 41 06.2 -0.3**
NEWG IAmb IAmb 22 41 06.8
comp=Z,33nm,0.7s
PGBU Glenifferbraes 53.17 317 *e*P **P 22 41 06.0 -0.5**
PGBU IAmb IAmb 22 41 06.7
comp=Z,25nm,0.7s
KAC Achnashellach 53.29 319⇑*e*P **P 22 41 06.7 -0.6**
YSS Yuzh-Sakhalins 53.30 54⇓*i*P **P 22 41 08.2 +0.7**
YSS *e* 22 41 34.1
YSS *e* 22 41 43.2
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,200nm,16.0s
YSS Yuzh-Sakhalins 53.30 54 P **P 22 41 07.6 +0.1**
YSS IAmb IAmb 22 41 09.6
comp=Z,56nm,1.1s
LLW Llanuwychllyn 53.34 313 *e*P **P 22 41 07.4 -0.3**
MAJO Matsushiro 53.34 68⇓*i*P **P 22 41 07.1 -0.9**
MAJO pmax pmax
comp=Z,43nm,0.9s
MAJO Matsushiro 53.34 68 P **P 22 41 08.3 +0.3**
MAJO IAmb IAmb 22 41 09.0
comp=Z,36nm,0.8s
MAT Matsushiro 53.34 68 P **P 22 41 07.8 -0.2**
MAT *e*S **S 22 48 32.8 -0.1**

MJAR Matsushiro Arr 53.34 68 P **P 22 41 08.2 +0.1**
comp=Z,26nm,0.9s,baz=292,slow=10,SNR=71
MJAR ScP **ScP 22 46 00.9 -2.7**
comp=Z,3.6nm,0.8s,baz=273,slow=4.7,SNR=6.4
MJAR Matsushiro Arr 53.34 68 P **P 22 41 08.8 +0.7**
GAL1 Galloway 53.50 316⇑*e*P **P 22 41 08.7 -0.2**
GAL1 IAmb IAmb 22 41 09.6
comp=Z,74nm,1.6s
KPL Plockton 53.51 319⇑*e*P **P 22 41 08.4 -0.4**
KPL IAmb IAmb 22 41 09.3
comp=Z,23nm,0.7s
IOMK Kirk Michael 53.55 315 *e*P **P 22 41 08.9 -0.3**
IOMK IAmb IAmb 22 41 09.8
comp=Z,60nm,0.6s
LAWE Loch Awe, Argy 53.59 318⇑*e*P **P 22 41 09.1 -0.3**
LAWE IAmb IAmb 22 41 10.1
comp=Z,21nm,0.9s
WIM Isle of Man 53.63 315⇑*e*P **P 22 41 09.8 -0.1**
WLF1 Llynfaes 53.66 314 *e*P **P 22 41 09.7 -0.4**
WLF1 IAmb IAmb 22 41 10.1
comp=Z,40nm,0.8s
YRC Rhoscolyn 53.78 314⇑*e*P **P 22 41 10.6 -0.3**
LEWI Lewis, Hebride 53.98 320⇑*e*P **P 22 41 12.3 0.0**
LEWI IAmb IAmb 22 41 14.8
comp=Z,34nm,1.2s
ASAJ Asahikawa 54.01 58 LR LR 23 05 42.5
comp=Z,131nm,20.2s,baz=288,slow=38
CLGH Cloghs, Cushen 54.23 316 *e*P **P 22 41 13.6 -0.6**
NOR Nord 54.29 350 *i* P **P 22 41 14.7 +0.5**
comp=Z,86nm,1.4s
NOR Nord 54.29 350 *i* P **P 22 41 14.7 +0.5**
NOR pmax pmax
comp=Z,86nm,1.4s
JYT Yasato 54.95 68 pP 22 41 46.6 +3.0
SEY Seymchan 54.98 34 P **P 22 41 19.9 +0.5**
comp=Z,42nm,0.9s,baz=272,slow=8.8,SNR=67
SEY LR LR 23 06 46.4
comp=Z,134nm,18.1s,baz=300,slow=38
SEY Seymchan 54.98 34*c i*P **P 22 41 20.3 +0.9**
DAG Danmarks Havn 55.18 344 *i* P **P 22 41 21.1 +0.4**
comp=Z,91nm,0.9s
DAG Danmarks Havn 55.18 344 *i* P **P 22 41 21.1 +0.4**
DAG pmax pmax
comp=Z,91nm,0.9s
TAM Tamanrasset 57.39 276 P **P 22 41 37.1 -0.3**
TAM pmax pmax
comp=Z,11nm,0.9s
TAM Tamanrasset 57.39 276 P **P 22 41 37.1 -0.3**
ESBB Sonseca Array 57.52 298 IAmb IAmb 22 41 39.0
comp=Z,48nm,0.8s
ESDC Sonseca Array 57.52 298 P **P 22 41 37.9 -0.1**
comp=Z,41nm,0.8s,baz=61,slow=7.3,SNR=395
ESDC LR LR 23 12 18.4
comp=Z,48nm,18.7s,baz=20,slow=42
ESDC Sonseca Array 57.52 298 IAmb IAmb 22 41 38.7
comp=Z,99nm,1.0s
MPSI Mapaga 57.72 117 P **P 22 41 41.9 +2.3**
comp=Z,636nmcomp=Z,56nm,1.1s
PAB San Pablo 57.85 298 P **P 22 41 40.3 -0.1**
PAB pmax pmax
comp=Z,59nm,1.2s
PAB San Pablo 57.85 298 P **P 22 41 40.3 -0.1**
PAB IAmb IAmb 22 41 42.1
comp=Z,59nm,1.1s
TAF Taforalt 58.29 292 P **P 22 41 44.0 +0.6**
SNR=9.7
GOG Mont Gurugu 58.55 293 P **P 22 41 45.0 -0.3**
SNR=9.3
JBK JBK 58.60 292 P **P 22 41 46.2 +0.5**
SNR=61
PBRG Braganca 58.69 301 *e*P **P 22 41 46.4 +0.3**
comp=Z,46nm,1.6s
TDRA Tendrara 58.73 290 P **P 22 41 47.0 +0.3**
SNR=52
ABPO Ambohimpanom 59.05 206 P **P 22 41 50.4 +1.5**
ABPO pmax pmax
comp=Z,17nm,0.8s
ABPO Ambohimpanom 59.05 206 P **P 22 41 50.4 +1.5**
ABPO IAmb IAmb 22 41 51.0
comp=Z,17nm,0.8s
MVO Moncorvo 59.13 301 *e*P **P 22 41 48.9 -0.3**
comp=Z,100nm,1.1s
BILL Bilibino 59.18 26*c i*P **P 22 41 49.8 +0.8**
BILL *e**PP **pP 22 42 14.5 +1.3**
BILL *e**SP **sP 22 42 26.5 +2.5**
BILL *e* 22 42 37.5
BILL *e* 22 44 00.0
BILL pmax pmax
comp=Z,73nm,1.0s
BILL Bilibino 59.18 26 P **P 22 41 49.8 +0.8**
PALE Palemas 59.26 293 P **P 22 41 50.0 -0.2**
SNR=28
PCAB Cabril 59.61 302 *e*P **P 22 41 52.6 +0.1**
comp=Z,136nm,1.6s
PGAV Gavieira, Arco 59.68 302 *e*P **P 22 41 53.8 +0.8**
comp=Z,95nm,1.4s
PVIS Viseu 59.91 301 *e*P **P 22 41 55.4 +0.9**
comp=Z,156nm,1.1s
PCBR Castelo Branco 59.96 299 *e*P **P 22 41 55.1 +0.3**
comp=Z,62nm,1.2s
PMRV Marv??o 60.06 299 *e*P **P 22 41 55.7 +0.1**
comp=Z,74nm,1.1s
COI Coimbra 60.47 300 P **P 22 41 59.0 +0.7**
COI pmax pmax
comp=Z,141nm,0.9s
COI Coimbra 60.47 300 P **P 22 41 59.0 +0.7**
COI Coimbra 60.47 300 *e*P **P 22 41 59.1 +0.7**
comp=Z,195nm,1.0s
SKR Severo-Kuril's 60.48 47 *e*P P 22 42 07.9 +10
SKR *e*S S 22 50 27.3 +21
SKR pmax pmax
comp=Z,100nm,5.7s
SKR MLR MLR
comp=Z,100nm,17.0s
PETK Petropavlovsk- 60.49 44 P **P 22 41 58.0 -0.3**
comp=Z,2.9nm,0.7s,baz=277,slow=1.2,SNR=5.7
PETK LR LR 23 10 20.6
comp=Z,89nm,18.1s,baz=290,slow=38
PETK Petropavlovsk- 60.49 44 P **P 22 41 57.7 -0.6**
PETK pP **pP 22 42 15.7 -7.0**
PCAS Casmilo, Conde 60.59 300 *e*P **P 22 41 58.8 -0.4**
comp=Z,55nm,1.1s
SICH Sidi Chahed 60.76 293 P **P 22 42 00.1 -0.2**
SNR=24
MDT Midelt 60.78 291 P **P 22 42 01.0 +0.3**
SNR=42
PMTG Montargil 60.80 299 *e*P **P 22 42 00.4 -0.2**
comp=Z,45nm,1.3s
RSA Sarsar 60.80 294 P **P 22 42 00.0 -0.7**
SNR=27
EVO Evora 60.87 298 *e*P **P 22 42 01.0 -0.1**
comp=Z,110nm,1.0s
PBEJ Beja 60.98 298 *e*P **P 22 42 01.0 -0.8**
comp=Z,57nm,0.9s
CZD Col de Zad 61.02 291 P **P 22 42 03.3 +0.8**
SNR=22
PSBE So Bento 61.02 300 *e*P **P 22 42 03.2 +1.1**
comp=Z,150nm,0.9s
ARF Arif 61.10 289 P **P 22 42 04.0 +1.1**
SNR=5.9
PVAQ Vaqueiros 61.13 297 P **P 22 42 03.0 +0.2**
SNR=22
PVAQ Vaqueiros 61.13 297 *e*P **P 22 42 01.6 -1.2**
comp=Z,130nm,1.4s
PCVE Castro Verde 61.26 297 *e*P **P 22 42 03.2 -0.5**
comp=Z,85nm,2.1s
PBDV Barranco-do-Ve 61.35 297 *e*P **P 22 42 04.7 +0.3**
comp=Z,139nm,1.1s
PNCL Nicolau / Gran 61.41 298 *e*P **P 22 42 05.6 +0.9**
comp=Z,82nm,1.4s
SUMG Summit 61.50 341 *i* P **P 22 42 06.2 +1.0**
comp=Z,157nm,0.8s
SUMG Summit 61.50 341 *i* P **P 22 42 06.2 +1.0**
SUMG pmax pmax
comp=Z,160nm,0.8s
SUMG Summit 61.50 341 P **P 22 42 06.3 +1.0**
GOLM Goulmima 61.54 290 P **P 22 42 06.4 +0.6**
SNR=59
PMAFR Mafra 61.60 299 *e*P **P 22 42 06.3 +0.3**
comp=Z,166nm,0.9s
LIS Lisbon 61.60 299 *e*P **P 22 42 06.0 0.0**
LIS AMb AMB 22 42 07.8
comp=Z,188nm,1.6s
LIS Lisbon 61.60 299 *e*P **P 22 42 05.9 0.0**
LIS pmax pmax
comp=Z,188nm,1.6s

LIS	Lisbon	61.60	299	eP	P	22 42 06.3	+0.3
	comp=Z,187nm,1.2s						
PTEO	Sao Teotonio	61.79	298	eP	P	22 42 06.9	-0.4
	comp=Z,89nm,1.0s						
MORF	Marmelete	61.84	297	eP	P	22 42 07.5	-0.3
MORF				AMb	AMB	22 42 10.0	
	comp=Z,70nm,1.9s						
MORF	Marmelete	61.84	297	eP	P	22 42 07.4	-0.3
MORF				pmax	pmax		
	comp=Z,70nm,1.9s						
PFVI	Vila Bisbo	62.04	297	P	P	22 42 09.4	+0.4
PFVI	Vila Bisbo	62.04	297	eP	P	22 42 09.4	+0.4
ZGR	Zagora	62.77	289	P	P	22 42 14.0	0.0
	SNR=29						
OUK	Oukaimeden	63.98	291	P	P	22 42 23.0	+0.7
	SNR=28						
TTIG	Tnine Tigouga,	64.72	290	P	P	22 42 27.4	+0.4
	SNR=20						
EAH	EAH	65.07	292	P	P	22 42 30.0	+1.0
	SNR=7.3						
TOA0	Torodi Ar. Sit	65.50	269	P	P	22 42 30.7	-1.3
	SNR=7.4						
TOA0	Torodi Ar. Sit	65.50	269	P	P	22 42 30.3	-1.6
TOA0				IAmb	IAmb	22 42 32.0	
	comp=Z,44nm,0.8s						
TORD	Torodi Ar. Bea	65.50	269	P	P	22 42 30.3	-1.7
	comp=Z,43nm,0.7s,baz=43,slow=5.8,SNR=192						
TORD	Torodi Ar. Bea	65.50	269	P	P	22 42 30.2	-1.7
ILULI	Ilulissat	66.84	341	IAmb	IAmb	22 42 42.0	
	comp=Z,34nm,0.9s						
BLWY	Bulawayo	68.59	223	i P	P	22 42 51.8	+0.4
BLWY	Bulawayo	68.59	223	i P	P	22 42 51.8	+0.4
RDOG	Red Dog Mine	68.83	19	IAmb	IAmb	22 42 53.8	
	comp=Z,44nm,1.2s						
PMOZ	Porto Moniz, M	70.13	297	P	P	22 43 01.7	+0.8
PMOZ	Porto Moniz, M	70.13	297	eP	P	22 43 00.9	0.0
	comp=Z,223nm,1.1s						
TOLK	Toolik Lake Re	71.49	14	P	P	22 43 09.4	+0.9
	baz=326						
A36M	Sachs Harbour	71.75	5	P	P	22 43 10.7	+0.8
	baz=346						
COLD	Coldfoot	72.54	16	P	P	22 43 15.5	+0.8
	baz=326,SNR=40						
COLD	Coldfoot	72.54	16	IAmb	IAmb	22 43 17.3	
	comp=Z,72nm,1.0s						
PSA00	Pilbara Seismi	73.70	133	P	P	22 43 22.6	+0.5
LBTB	Lobatse	74.14	222	i P	P	22 43 25.9	+1.1
LBTB	Lobatse	74.14	222	i P	P	22 43 25.9	+1.1
TSUM	Tsumeb	74.43	232	i P	P	22 43 26.5	-0.1
TSUM	Tsumeb	74.43	232	P	P	22 43 27.2	+0.6
TSUM	Tsumeb	74.43	232	i P	P	22 43 26.5	-0.1
C36M	Paulatuk	74.43	5	P	P	22 43 25.7	0.0
	baz=348						
DBIC	Dimbokro	74.47	267	P	P	22 43 25.4	-1.4
	comp=Z,16nm,0.8s,baz=42,slow=8.5,SNR=14						
DBIC				LR	LR	23 21 16.3	
	comp=Z,76nm,18.2s,baz=33,slow=40						
DBIC	Dimbokro	74.47	267	P	P	22 43 26.0	-0.8
DBIC				pmax	pmax		
	comp=Z,15nm,0.8s						
DBIC	Dimbokro	74.47	267	P	P	22 43 26.0	-0.8
KIC	Kosan Boka	74.55	267	eP	P	22 43 26.0	-1.4
	comp=Z,66nm,0.9s						
TTA	Tatalina	74.59	20	IAmb	IAmb	22 43 28.8	
	comp=Z,37nm,1.0s						
TIC	Toumodi	74.61	267	eP	P	22 43 26.3	-1.4
FITZ	Fitzroy Crossi	74.74	126	IAmb	IAmb	22 43 30.8	
	comp=Z,32nm,1.0s						
MTN	Manton Dam	74.82	119	P	P	22 43 29.1	+0.3
LIC	Lamto	74.86	267	eP	P	22 43 27.5	-1.6
	comp=Z,94nm,1.0s						
MDM	Murphy Dome	74.89	16	IAmb	IAmb	22 43 30.9	
	comp=Z,84nm,1.0s						
POKR	Poker Plat Res	74.93	16	P	P	22 43 29.8	+1.1
	baz=329,SNR=15						
BPAW	Bear Paw Mtn.	74.96	18	IAmb	IAmb	22 43 30.8	
	comp=Z,58nm,1.1s						
NEA2	Nenana	75.01	17	P	P	22 43 29.5	+0.3
	baz=328,SNR=50						
TCOL	CIGO, UAF Yank	75.04	16	P	P	22 43 30.2	+0.8
	baz=328,SNR=9.2						
COLA	College	75.05	16c	i P	P	22 43 29.5	+0.2
COLA				pmax	pmax		
	comp=Z,104nm,1.0s						
COLA	College	75.05	16	P	P	22 43 30.2	+0.9
WRH	Wood River Hil	75.33	16	IAmb	IAmb	22 43 32.0	
	comp=Z,33nm,1.1s						
IL31		75.35	16	IAmb	IAmb	22 43 32.6	
	comp=Z,46nm,1.1s						
ILAR	Eielson Array	75.35	16	P	P	22 43 30.5	-0.6
	comp=Z,25nm,0.9s,baz=323,slow=4.0,SNR=103						
ILAR				PP	PP	22 46 21.7	+1.4
	comp=Z,6.5nm,1.0s,baz=321,slow=8.1,SNR=4.3						
ILAR				LR	LR	23 19 59.9	
	comp=Z,60nm,18.5s,baz=320,slow=38						
ILAR	Eielson Array	75.35	16	P	P	22 43 29.3	-1.8
HDA	Harding Lake	75.65	16	P	P	22 43 32.2	-0.7
	baz=329,SNR=10						
PPLA	Purkeypile	75.66	19	IAmb	IAmb	22 43 37.5	
	comp=Z,56nm,1.0s						
RND	Reindeer	76.06	17	IAmb	IAmb	22 43 35.9	
	comp=Z,64nm,1.2s						
SVW2	Sparrevohn	76.18	21	IAmb	IAmb	22 43 38.1	
	comp=Z,34nm,1.0s						
EGAK	Eagle	76.51	13	IAmb	IAmb	22 43 43.0	
	comp=Z,30nm,0.9s						
CUT	Chulitna	76.56	18	P	P	22 43 38.3	+0.3
	baz=327						
SCRK	Sand Creek	76.66	15	P	P	22 43 39.1	+0.3
	baz=332,SNR=34						
RIDG	Independent Ri	76.69	15	IAmb	IAmb	22 43 39.8	
	comp=Z,39nm,1.0s						
K27K	Chicken	77.01	14	P	P	22 43 41.3	+0.8
	baz=333						
BOSA	Boshof	77.21	220	P	P	22 43 42.8	+0.6
	comp=Z,107nm,0.8s,baz=30,slow=5.0,SNR=196						
BOSA				LR	LR	23 22 34.8	
	comp=Z,59nm,18.2s,baz=56,slow=39						
BOSA	Boshof	77.21	220	i P	P	22 43 43.2	+1.0
BOSA	Boshof	77.21	220	P	P	22 43 43.0	+0.8
BOSA				pmax	pmax		
	comp=Z,122nm,0.8s						
BOSA	Boshof	77.21	220	P	P	22 43 43.0	+0.8
BOSA	Boshof	77.21	220	i P	P	22 43 43.2	+1.0
SUA	Susitna One	77.23	19	IAmb	IAmb	22 43 42.8	
	comp=Z,71nm,1.1s						
GHO	Glory Hole Cre	77.44	18	IAmb	IAmb	22 43 48.1	
	comp=Z,68nm,0.9s						
PMR	Palmer	77.54	18	IAmb	IAmb	22 43 44.5	
	comp=Z,43nm,1.0s						
SCM	Sheep Creek Mo	77.78	17	IAmb	IAmb	22 43 46.7	
	comp=Z,50nm,0.7s						
M24K	Tolsona, Glenn	77.82	17	P	P	22 43 46.2	+1.0
	baz=330,SNR=16						
KNK	Knik Glacier	77.86	18	IAmb	IAmb	22 43 47.4	
	comp=Z,81nm,1.0s						
KLU	Klutina	78.41	17	IAmb	IAmb	22 43 50.3	
	comp=Z,62nm,1.1s						
BRLK	Bradley Lake	78.61	20	IAmb	IAmb	22 43 50.4	
	comp=Z,55nm,0.8s						
MCARA	McCarthy VSAT	79.17	16	IAmb	IAmb	22 44 00.0	
	comp=Z,23nm,0.8s						
VRDI	Verde Repeater	79.22	16	IAmb	IAmb	22 43 55.2	
	comp=Z,62nm,1.2s						
EYAK	Cordova Ski Ar	79.28	17	IAmb	IAmb	22 43 58.7	
	comp=Z,61nm,0.9s						
CRQM	Cirque	79.70	16	IAmb	IAmb	22 43 57.9	
	comp=Z,35nm,0.8s						
BARN	Barnard Glacie	79.76	15	IAmb	IAmb	22 43 57.9	
	comp=Z,56nm,1.2s						
KDAK	Kodiak Island	79.77	22	P	P	22 43 56.4	+0.6
KDAK				pmax	pmax		
	comp=Z,108nm,0.9s						
KDAK	Kodiak Island	79.77	22	P	P	22 43 56.4	+0.6
TGL	Tana Glacier	79.78	16	IAmb	IAmb	22 43 58.2	
	comp=Z,71nm,1.2s						
CTGM	Chitina Glacie	79.92	15	IAmb	IAmb	22 44 02.4	
	comp=Z,38nm,0.9s						
SII	Sitkinak Islan	80.27	23	P	P	22 43 58.4	-0.2
YAH	Yahtse	80.37	16	P	P	22 43 59.5	+0.2
YAH				IAmb	IAmb	22 44 05.4	
	comp=Z,30nm,0.8s						
HYT	Haines Junctio	80.82	14	P	P	22 44 01.6	0.0
HYT				IAmb	IAmb	22 44 07.5	
	comp=Z,26nm,0.8s						
PCA	Pinnacle	80.93	15	P	P	22 44 02.7	+0.5
PCA				IAmb	IAmb	22 44 04.8	
	comp=Z,44nm,1.0s						
NWAO	Narrogin (SRO)	81.18	142	P	P	22 44 01.8	-1.8
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NWAO	Narrogin (SRO)	81.18	142	P	P	22 44 01.8	-1.8
BCPM	Bancas Point	81.19	15	P	P	22 44 03.8	+0.3
YKA	Yellowknife Ar	81.79	3	P	P	22 44 06.4	-0.1
	comp=Z,14nm,0.6s,baz=352,slow=5.7,SNR=31						
YKA				pP	pP	22 44 31.9	+0.1
	comp=Z,47nm,1.1s,baz=347,slow=5.6,SNR=5.5						
YKA				PP	PP	22 47 14.7	+0.9
	comp=Z,4.8nm,0.9s,baz=354,slow=8.3,SNR=4.3						
YKA				LR	LR	23 26 30.5	
	comp=Z,78nm,18.1s,baz=0.0,slow=40						
WB0	Warramunga Arr	81.80	122	IAmb	IAmb	22 44 08.0	
	comp=Z,29nm,0.9s						
WRA	Warramunga Arr	81.89	122	P	P	22 44 07.3	-0.3
	comp=Z,24nm,0.8s,baz=322,slow=5.1,SNR=69						
WRA	Warramunga Arr	81.89	122	P	P	22 44 07.1	-0.6
WRA	Warramunga Arr	81.89	122	P	P	22 44 07.1	-0.6
WRAB	Tennant Creek	81.89	122c	i P	P	22 44 07.5	-0.1
WRAB				pmax	pmax		
	comp=Z,39nm,0.8s						
WRAB	Tennant Creek	81.89	122	P	P	22 44 07.1	-0.5
WRAB				IAmb	IAmb	22 44 08.5	
	comp=Z,52nm,1.1s						
WB2	Warramunga Arr	81.89	122	IAmb	IAmb	22 44 08.5	
	comp=Z,53nm,1.1s						
SKAG	Skagway	82.49	13	IAmb	IAmb	22 44 16.8	
	comp=Z,40nm,1.0s						
SCHQ	Schefferville	82.50	337	P	P	22 44 10.8	+0.3
	comp=Z,6.6nm,0.7s,baz=29,slow=10,SNR=7.7						
SCHQ				PP	PP	22 47 20.6	+0.7
	comp=Z,5.6nm,0.7s,baz=26,slow=9.9,SNR=4.0						
SCHQ				LR	LR	23 20 11.8	
	comp=Z,90nm,19.4s,baz=35,slow=35						
SUR	Sutherland	82.52	221	i P	P	22 44 12.2	+1.3
SUR	Sutherland	82.52	221	P	P	22 44 11.8	+0.9
SUR				IAmb	IAmb	22 44 13.6	
	comp=Z,62nm,0.8s						
SUR	Sutherland	82.52	221	i P	P	22 44 12.2	+1.3
BESE	Bessie Mountai	83.41	13	P	P	22 44 15.2	+0.1
JIS	Juneau Island	83.78	13	P	P	22 44 17.2	+0.4
ASAR	Alice Springs	84.12	125	P	P	22 44 19.0	-0.1
	comp=Z,24nm,0.8s,baz=321,slow=5.4,SNR=72						
ASAR				pP	pP	22 44 44.2	-0.7
	comp=Z,16nm,0.9s,baz=319,slow=5.0,SNR=4.7						
ASAR				S	S	22 54 30.4	-6.1
	comp=Z,0.8nm,0.9s,baz=329,slow=8.8,SNR=4.5						
ASAR	Alice Springs	84.12	125	P	P	22 44 18.7	-0.4
COEN	Coen	84.40	112	P	P	22 44 19.8	-0.8
SIT	Sitka	84.75	14	P	P	22 44 22.1	+0.4
SIT				pmax	pmax		
	comp=Z,19nm,1.0s						
SIT	Sitka	84.75	14	P	P	22 44 22.1	+0.4
WRAK	Wrangell Islan	85.90	13	IAmb	IAmb	22 44 29.3	
	comp=Z,22nm,0.9s						
DIB	Dawson Inlet,	88.93	14	P	P	22 44 41.4	-0.7
FFC	Flin Flon	89.46	356	P	P	22 44 44.8	+0.2
FFC				pmax	pmax		
	comp=Z,13nm,0.9s						
FFC	Flin Flon	89.46	356	P	P	22 44 44.8	+0.2
FFC				IAmb	IAmb	22 44 46.3	
	comp=Z,13nm,0.8s						
MATQ	Matagami	90.17	340	P	P	22 44 48.8	+0.8
	baz=25						
CTAO	Charters Tower	90.51	114	P	P	22 44 50.0	0.0
CTAO				pmax	pmax		
	comp=Z,39nm,1.0s						
CTAO	Charters Tower	90.51	114	P	P	22 44 50.0	0.0
CTAO				IAmb	IAmb	22 44 51.2	
	comp=Z,39nm,1.0s						
VLDQ	Val d'Or	91.61	339	P	P	22 44 56.1	+1.4
VLDQ				IAmb	IAmb	22 44 56.8	
	comp=Z,11nm,0.9s						
TRQ	Mont Tremblant	92.42	337	P	P	22 44 58.5	-0.2
E55A	Montcerf-Lytto	92.69	338	P	P	22 45 00.8	+1.1
	baz=26						
I63A	Otisfield	92.95	333	P	P	22 45 00.6	-0.4
I63A				IAmb	IAmb	22 45 14.4	
	comp=Z,10.0nm,1.1s						
E54A	Lac Daplat, Po	93.05	338	P	P	22 45 02.2	+0.8
	baz=26						
ULM	Lac du Bonnet	93.34	351	P	P	22 45 02.9	+0.2
	comp=Z,6.4nm,0.8s,baz=351,slow=7.7,SNR=4.6						
ULM				pP	pP	22 45 27.4	-1.1
	comp=Z,6.9nm,0.9s,baz=351,slow=5.3,SNR=3.2						
ULM				LR	LR	23 31 53.1	
	comp=Z,88nm,18.9s,baz=356,slow=38						
ULM	Lac du Bonnet	93.34	351	IAmb	IAmb	22 45 03.5	
	comp=Z,9.6nm,0.9s						
STKA	Stephens Creek	94.64	126	P	P	22 45 07.4	-1.4
	comp=Z,2.6nm,0.7s,baz=213,slow=3.7,SNR=4.7						
EYMN	Ely	94.97	348		pP	22 45 37.2	+1.2
WALA	Waterton Lakes	95.25	3	IAmb	IAmb	22 45 13.1	
	comp=Z,15nm,1.1s						
B05A	Bryant	95.36	9	P	P	22 45 12.3	+0.3
	baz=350,SNR=6.1						
B08A	Colville Reser	95.57	7	pP	pP	22 45 40.2	+1.4
NEW	Newport	95.85	5	P	P	22 45 14.6	+0.3
	baz=354,SNR=6.2						
NEW	Newport	95.85	5	IAmb	IAmb	22 45 15.5	
	comp=Z,6.4nm,0.9s						
D03D	Eldon	95.95	9	P	P	22 45 16.1	+1.4
	baz=349						
EGMT	Eagleton	96.38	0	P	P	22 45 17.7	+0.9
	baz=360						
E04D	Cinebar	96.98	9	P	P	22 45 20.7	+1.3
	baz=349						
LAO	LASA Array	97.67	358		pP	22 45 48.8	+0.1
PDAR	Pinedale Array	101.64	0	PP	PP	22 49 50.7	+0.1
	comp=Z,0.4nm,0.3s,baz=355,slow=4.1,SNR=4.6						
MAW	Mawson	103.42	183	Pdiff	Pdiff	22 45 49.4	+2.1
	comp=Z,2.4nm,0.8s,baz=315,slow=10,SNR=5.5						
NVAR	Mina Array Bea	105.50	7	Pdiff	Pdiff	22 45 59.7	+1.9
	comp=Z,0.3nm,0.5s,baz=45,slow=2.8,SNR=3.1						
NVAR				PKiKP	PKiKP	22 50 11.1	+0.3
	comp=Z,1.0nm,0.8s,baz=347,slow=1.9,SNR=4.7						
NVAR				PKKPab	PKKPab	23 01 55.1	-1.7
	comp=Z,0.4nm,0.7s,baz=192,slow=7.2,SNR=5.3						
NVL	N'lazarevskaya	114.39	198	ePKiKP	PKPdf	22 50 25.0	-1.0
NVL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TXAR	Lajitas Array	114.83	355	PKP	PKPdf	22 50 30.0	+1.5
	comp=Z,0.6nm,0.7s,baz=68,slow=1.9,SNR=2.7						
TXAR				PKKPbc	PKKPbc	23 01 04.7	-0.4
	comp=Z,1.0nm,0.8s,baz=194,slow=5.6,SNR=3.6						
SNAA	Sanae	118.83	200	PKiKP	PKPdf	22 50 34.2	-0.5
SNAA	Sanae	118.83	200	PKIKP	PKPdf	22 50 33.5	-1.2
SNAA	Sanae	118.83	200	PKPdf	PKPdf	22 50 33.5	-1.2
VNA2	Neumayer--Watz	119.83	202	PKiKP	PKPdf	22 50 36.4	-0.1
VNA1	Neumayer--Stat	119.98	202	PKiKP	PKPdf	22 50 36.8	0.0
PEXB	Peixe	120.47	277	eP	PKPdf	22 50 39.4	-0.1
VNA3	Neumayer Olymp	120.64	202	PKiKP	PKPdf	22 50 37.5	-0.6
ITTB	Itaituba	121.68	290	eP	PKiKP	22 50 42.8	+0.8
BSCB	Bom Sucesso	122.33	266	eP	PKiKP	22 50 44.9	+1.8
PTGA	Pitinga	122.45	296	eP	PKiKP	22 50 44.4	+0.8
NPGB	Novo Progresso	123.07	287	eP	PKiKP	22 50 45.2	+0.4
IPMB	Ipameri, GO	123.59	271	eP	PKPdf	22 50 45.2	-0.2
VNDA	Vanda	125.04	165	PKP	PKPdf	22 50 45.1	-1.3
	comp=Z,3.0nm,0.8s,baz=285,slow=4.6,SNR=24						
VNDA	Vanda	125.04	165	PKIKP	PKPdf	22 50 45.8	-0.6
VNDA	Vanda	125.04	165	PKPdf	PKPdf	22 50 45.8	-0.6
VAO	Valinhos	125.08	265	eP	PKiKP	22 50 48.7	+0.1
ARAG	Araguaiana, MT	125.29	276	eP	PKPdf	22 50 48.4	-0.3
CLDB	Colider	125.74	284	eP	PKPdf	22 50 48.9	-0.7
SPB	Sao Paulo	125.74	265	eP	PKiKP	22 50 50.7	+1.0
QSPA	South Pole Qui	125.76	180	PKPdf	PKPdf	22 50 46.3	-1.9
ITRB	Iturama	126.22	271	eP	PKiKP	22 50 51.0	+0.2
FRTB	Fartura	127.35	267	eP	PKiKP	22 50 53.6	+0.6
ROSC	El Rosal	127.86	314	PKP	PKPdf	22 50 54.1	-0.1
	comp=Z,18nm,0.9s,baz=134,slow=6.3,SNR=5.0						
PCMB	Pacaembu	127.89	269	eP	PKiKP	22 50 54.0	-0.1
BELA	Belgrano 2	128.10	195	PKPdf	PKPdf	22 50 51.4	-0.9
TRCB	Terra Rica	129.58	269	eP	PKiKP	22 50 57.7	+0.2
PTGB	Pitanga	130.01	266	eP	PKiKP	22 50 58.1	-0.2
SAML	Samuel	130.27	291	eP	PKPdf	22 50 58.1	-0.1
VILB	Vilhena	130.43	285	eP	PKPdf	22 50 59.0	+0.4
CNLB	Canela	131.00	260	eP	PKiKP	22 51 01.0	+0.8
PTLB	Pontes e Lacer	131.03	281	eP	PKPdf	22 50 59.3	-0.3
ITAB	Concordia	131.17	263	eP	PKiKP	22 51 01.7	+1.2
ETMB	Extrema	133.11	293	eP	PKiKP	22 51 04.4	-0.4
OTAV	Otavalo	133.98	315	eP	PKPdf	22 51 06.1	+0.2
PLTB	Pedras Altas	134.12	258	eP	PKPdf	22 51 05.1	+0.1
CPUP	Villa Florida	134.99	267	PKP	PKPdf	22 51 05.9	-0.8
	comp=Z,6.5nm,0.7s,baz=65,slow=2.7,SNR=19						
CPUP	Villa Florida	134.99	267	PKIKP	PKPdf	22 51 06.5	-0.3
CPUP	Villa Florida	134.99	267	PKPdf	PKPdf	22 51 06.5	-0.3
CPUP	Villa Florida	134.99	267	eP	PKPdf	22 51 06.5	-0.3
LPAZ	La Paz	138.58	287	PKP	PKPdf	22 51 14.2	-0.3
	comp=Z,3.0nm,1.1s,baz=353,slow=4.9,SNR=4.9						
LPAZ	La Paz	138.58	287	eP	PKPdf	22 51 14.3	-0.2
TCA	Tanti	142.78	264	i P	PKPdf	22 51 16.3	-4.7
ACLC	CERRO LA CRUZ	144.02	268	i P	PKPab	22 51 20.7	-0.3
APLL	PUNTA DE LOS L	144.03	266	i P	PKPdf	22 51 23.9	+0.8
ACUV	Cuesta del Vie	146.05	268	i P	PKPdf	22 51 26.9	+0.1
RTCV	Cerro Valdivia	146.14	265	i P	PKPbc	22 51 27.4	-0.5
ACCO	Cerro Coronel	146.15	267	i P	PKPdf	22 51 27.4	+0.2
AROD	Rodeo	146.33	268	i P	PKPbc	22 51 28.6	-0.3
ASAL	Salagasta	146.60	264	i P	PKPdf	22 51 28.3	+0.7
RTLS	Leoncito	146.73	265	i P	PKPbc	22 51 29.2	-0.8
AAGR	Agrelo	146.74	263	i P	PKPdf	22 51 28.6	+0.8
RFA	San Rafael	146.89	260	i P	PKPdf	22 51 28.7	+0.7
LCO	Las Campanas	146.91	271	PKP2	PKPdf	22 51 29.2	+0.8
LCO	Las Campanas	146.91	271	PKPdf	PKPdf	22 51 29.2	+0.8
AUSP	Uspallata	146.93	265	i P	PKPbc	22 51 29.5	-1.0
PEL	Peldehue	148.25	264	i P	PKPbc	22 51 33.5	-0.2
PLCA	Paso Flores	149.45	249	PKP	PKPdf	22 51 32.0	0.0
	comp=Z,11nm,1.0s,baz=131,slow=2.5,SNR=32						
PLCA				PKPbc	PKPbc	22 51 36.7	+0.2
	comp=Z,23nm,1.0s,baz=106,slow=3.4,SNR=29						
PLCA	Paso Flores	149.45	249	eP	PKPdf	22 51 32.0	0.0
BI02	San Fabin de	149.52	257		PKPbc	22 51 37.0	+0.2
LC01	Cunco	150.31	253		PKPbc	22 51 38.3	-0.3

IDC ***13*** *22:32:54.6±3.5, 4°.33S×135°.59E, h0km, mb4.3/1, mb1 4.2/3, mb1mx3.6/34, mbtmp4.0/3, ML3.8/2, Error ellipse: s-maj=150.6km s-min=33.2km az=80.0*

DJA ***13*** *22:32:56.7±1.6, 4°.5±4°×13°.6E±°, h26km±15km, M4.2/6, mB4.7/1, mb4.8/3, MLv3.9/6, Mw(mB)3.9/1*

NEIC ***13*** *22:33:03.0±1.8, 4°.45S±0°.08×136°.2E±0°.1, h88km±2km, mb4.5/13, Error ellipse: s-maj=18.6km s-min=11.9km az=93.0*

ISC 13 22:32:53.6±0.6, **4°.35**S±0°.05×**136°.54E**±0°.07, **h10**km, **n29,** σ2°.**30**/33, **mb4.6/5, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	2.48	353	P	Pn	22 33 32.4	-1.7
SRPI				S	Sn	22 34 02.0	-2.5
SMPI	Sarmi	3.19	43	P	Pn	22 33 44.4	+0.5
SMPI				S	Sn	22 34 20.5	-1.5
GENI	Genyem	4.02	64	P	Pg	22 34 09.4	-1.3
JAY	Jayapura	4.54	66	P	Pn	22 34 02.8	+0.4
SAUI	Saumlaki	6.34	235	Pn	Pn	22 34 28.9	+1.9
MTN	Manton Dam	9.99	212		Pn	22 35 22.1	+4.9
TNTI	Ternate	10.48	299	Pn	Pn	22 35 27.3	+3.2
SOEI	Soe	13.31	246	Pn	Pn	22 36 03.7	+0.9
KNRA	Kununurra	13.61	214		Pn	22 36 09.8	+3.1
WB0	Warramunga Arr	15.46	188		P	22 36 36.9	+0.4
WB0				IAmb	IAmb	22 36 51.7	
	comp=Z,11nm,1.0s						
WR0	Warramunga Arr	15.64	187		Pn	22 36 38.0	+3.8
WB2	Warramunga Arr	15.64	188	P	Pn	22 36 38.1	+3.9
WB2				IAmb	IAmb	22 36 53.9	
	comp=Z,12nm,1.1s						
WRA	Warramunga Arr	15.64	188	Pn	Pn	22 36 33.7	-0.6
	comp=Z,0.3nm,0.3s,baz=3.5,slow=13,SNR=18						
WRA				Sn	Sn	22 39 24.3	-3.5
	comp=Z,0.3nm,0.3s,baz=16,slow=22,SNR=3.7						
WRA				Lg	Lg	22 41 04.4	
	baz=10,slow=28,SNR=3.2						
WRA	Warramunga Arr	15.64	188		Pn	22 36 37.0	+2.6
FITZ	Fitzroy Crossi	17.33	217	P	Pn	22 36 56.4	+0.7
FITZ					Sn	22 40 05.4	-3.4
AS31	Alice Springs	19.37	187	P	Pn	22 37 22.7	+2.0
ASAR	Alice Springs	19.37	187	P	Pn	22 37 21.9	+1.2
	comp=Z,0.6nm,0.3s,baz=8.3,slow=10,SNR=31						
ASAR				S	Sn	22 40 53.8	-4.3
	comp=Z,0.1nm,0.3s,baz=8.6,slow=25,SNR=2.5						
ASAR	Alice Springs	19.37	187	P	Pn	22 37 22.6	+1.8
MORW	Morawa	31.34	216	P	P	22 39 12.6	-1.8
JTU	Tsushima	39.25	351	P	P	22 40 22.9	+0.6
JTM	Tenmabayashi	45.11	5	P	P	22 41 12.0	+2.0
ERM	Erimo	46.54	7	P	P	22 41 21.0	-0.3
JKA	Kamikawa-asahi	48.55	6	P	P	22 41 38.4	+1.4
JKA				IAmb	IAmb	22 41 53.0	
	comp=Z,18nm,1.0s						
QRZ	Quartz Range	48.60	144	P	P	22 41 38.2	+0.8
QRZ				IAmb	IAmb	22 41 40.1	
	comp=Z,2.8n

NWAO	Narrogin (SRO)	24.21 189	P	P	22 52 56.7	-0.9
NWAO			IAmb	IAmb	22 53 16.0	
	comp=Z,11nm,1.1s					
BBOO	Buckleboo	27.35 152	P	P	22 53 22.3	-3.7
MKAR	Makanchi Array	65.51 332	P	P	22 58 22.2	-0.7
	comp=Z,0.4nm,0.5s,baz=141,slow=7.9,SNR=7.8					
MKAR	Makanchi Array	65.51 332	P	P	22 58 21.9	-1.0
VNDA	Vanda	71.70 171	P	P	22 59 02.5	+1.6
	comp=Z,0.3nm,0.7s,baz=310,slow=8.0,SNR=2.2					

*JMA **13** 23:03:48.2±0.2, 41.°93N×142.°34E, h67km±3km, M3.4*
*IDC **13** 23:03:49.7±2.3, 42.°05N×142.°61E, h83km±15km, mb3.3/6, mb1 3.3/10, mb1mx3.2/40, mbtmp3.5/10, Error ellipse: s-maj=35.2km s-min=15.1km az=106.0*
ISC 13 23:03:49.4±0.8, 41.°96N±0.°03×142.°31E±0.°03, h66km±7km, n37, σ1§33/53, mb3.5/6, 3C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.46	45	⇑P	Pn	23 03 59.9	-1.6
JNBK				eS	Sn	23 04 08.9	-1.4
JSHD	Hidakashinhida	0.47	14	P	Pn	23 04 00.6	-1.0
JEM	Erimo	0.63	84	⇑P	Pn	23 04 02.2	-1.1
JEM				eS	Sn	23 04 12.0	-1.4
JIAM	Iburiatsuma	0.72	337	⇓P	Pn	23 04 04.3	0.0
JIAM				eS	Sn	23 04 16.1	+0.8
JBT2	Biratori 2	0.82	3	⇓P	Pn	23 04 04.4	-1.1
JBT2				eS	Sn	23 04 16.8	-0.5
JKB	Kayabe	0.96	266	⇓P	Pn	23 04 05.9	-1.2
JKB				eS	Sn	23 04 19.1	-1.2
JCH	Churui	1.02	50	⇑P	Pn	23 04 07.1	-0.8
JCH				eS	Sn	23 04 22.1	+0.4
JNB	Noboribetsu	1.07	299	⇓P	Pn	23 04 07.2	-1.4
JNB				eS	Sn	23 04 21.4	-1.6
JEW	Eniwo	1.09	324	⇓P	Pn	23 04 08.0	-0.8
JEW				eS	Sn	23 04 22.8	-0.5
JOT	Ohata	1.11	239	⇓P	Pn	23 04 08.0	-1.1
JOT				eS	Sn	23 04 22.6	-1.1
JFR	Furan	1.22	10	P	Pn	23 04 09.5	-1.1
JFR				eS	Sn	23 04 25.6	-0.9
JYM2	Yakumo 2	1.46	277	P	Pn	23 04 12.5	-1.1
JYM2				eS	Sn	23 04 30.1	-1.8
JOB	Onbets	1.47	50	P	Pn	23 04 14.0	+0.2
JOB				eS	Sn	23 04 32.8	+0.6
JISS	Ishikarishitsu	1.47	334	⇓P	Pn	23 04 13.2	-0.7
JISS				eS	Sn	23 04 31.9	-0.4
JSR	Shiriuchi	1.48	254	P	Pn	23 04 13.1	-0.9
JSR				eS	Sn	23 04 32.0	-0.4
JTM	Tenmabayashi	1.50	219	P	Pn	23 04 13.6	-0.6
JTM				eS	Sn	23 04 32.8	-0.1
JAB	Ashibetsu	1.55	358	P	Pn	23 04 14.9	0.0
JAB				eS	Sn	23 04 34.7	+0.6
JANG	Nango	1.69	201	P	Pn	23 04 16.2	-0.6
JANG				eS	Sn	23 04 36.9	-0.7
JAR	Ashorobuto	1.72	38	P	Pn	23 04 16.3	-0.8
JAR				eS	Sn	23 04 37.6	-0.6
JOMM	Oshimamatsumae	1.78	257	P	Pn	23 04 17.1	-0.8
JOMM				eS	Sn	23 04 38.0	-1.6
JHR	Hokuryu	1.84	347	⇓P	Pn	23 04 18.9	+0.2
JHR				eS	Sn	23 04 42.1	+1.1
ASAJ	Asahikawa	2.17	5	P	Pn	23 04 22.4	-0.8
	9.3nm,0.3s,baz=211,slow=11,SNR=45						
ASAJ				S	Sn	23 04 48.2	-0.9
	8.5nm,0.3s,baz=206,slow=17,SNR=5.0						
MJAR	Matsushiro Arr	6.28	212	P	Pn	23 05 22.8	+3.4
	0.1nm,0.3s,baz=25,slow=15,SNR=2.6						
USRK	Ussuriysk Ar.	7.88	290	P	Pn	23 05 43.4	+2.2
	baz=92,slow=13,SNR=5.8						
KSRS	Korea Array	11.96	253	P	Pn	23 06 41.7	+4.7
	0.2nm,0.3s,baz=58,slow=14,SNR=2.6						
SONM	Songino Array	25.95	295	P	P	23 09 15.6	0.0
	0.5nm,0.6s,baz=86,slow=9.4,SNR=2.9						
H11N2	WAKE ISLAND Hy 30.41	129		T	T	23 42 30.7	
	baz=322,slow=76,SNR=4.5						
H11N1	WAKE ISLAND Hy 30.42	129		T	T	23 42 31.6	
	baz=322,slow=76,SNR=25						
H11N3	WAKE ISLAND Hy 30.42	129		T	T	23 42 32.1	
	baz=322,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy 31.26	131		T	T	23 42 38.4	
	baz=325,slow=75,SNR=28						
H11S3	WAKE ISLAND Hy 31.27	131		T	T	23 42 45.9	
	baz=325,slow=75,SNR=18						
H11S2	WAKE ISLAND Hy 31.28	131		T	T	23 42 45.4	
	baz=325,slow=75,SNR=17						
ZALV	Zalesovo Beam	39.27	308	P	P	23 11 10.8	-0.5
	0.7nm,0.5s,baz=90,slow=6.8,SNR=3.0						
MKAR	Makanchi Array	42.27	298	P	P	23 11 35.4	-0.7
	0.7nm,0.7s,baz=82,slow=8.1,SNR=6.3						
WRA	Warramunga Arr	62.03	188	P	P	23 14 01.7	-1.1
	0.1nm,0.4s,baz=7.0,slow=7.2,SNR=1.5						
WRA				pP	pP	23 14 21.7	+1.8
	0.2nm,0.5s,baz=5.3,slow=6.9,SNR=1.9						
FINES	FINESS Array B	64.80	332	P	P	23 14 19.4	-1.2
	0.8nm,0.4s,baz=57,slow=6.0,SNR=20						
NOA	NORSAR Array B	69.92	337	P	P	23 14 51.8	-1.3
	0.1nm,0.3s,baz=33,slow=7.3,SNR=4.4						

*JMA **13** 23:18:00.8±0.1, 29.°36N×130.°54E, h65km±4km, M3.4*
*IDC **13** 23:18:03.5±3.0, 29.°43N×130.°50E, h54km±27km, mb3.4/11, mb1 3.6/14, mb1mx3.5/33, mbtmp3.7/14, ML3.0/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/31, Error ellipse: s-maj=28.1km s-min=18.0km az=73.0*
ISC 13 23:18:02.5±0.9, 29.°37N±0.°04×130.°53E±0.°07, h47km±8km, n30, σ1§03/41, mb3.7/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.74	310	P	Pn	23 18 15.9	-0.8
JNN				eS	Sn	23 18 27.8	+0.8
JYAK	Yakushimahirau	0.87	359	P	Pn	23 18 17.5	-0.9
JYAK				eS	Sn	23 18 31.1	+1.1
JMTN	Minamitane	1.08	17	P	Pn	23 18 20.1	-1.1
JKC	Kuchinoerabu	1.13	345	P	Pn	23 18 21.4	-0.5
JKC				eS	Sn	23 18 36.4	+0.1
JZK	Kikaishima	1.16	205	P	Pn	23 18 21.6	-0.7
JTAJ	Takarajima	1.18	260	P	Pn	23 18 22.1	-0.5
JTAJ				eS	Sn	23 18 37.6	+0.1
JAM	Amami Oshima	1.25	221	P	Pn	23 18 22.7	-0.9
JAM				eS	Sn	23 18 41.8	+2.5
JTN	Tanegashima 3	1.34	17	P	Pn	23 18 23.9	-0.9
JTN				eS	Sn	23 18 43.3	+1.8
JAMN	Amaminishikomi	1.63	227	P	Pn	23 18 28.0	-0.8
JAMN				eS	Sn	23 18 50.5	+1.9
JTSR	Tashiro 2	1.82	11	P	Pn	23 18 29.9	-1.6
JTK	Tokunoshima	2.10	222	P	Pn	23 18 34.5	-0.7
JSU	Suzuyama	2.13	358	P	Pn	23 18 34.8	-0.9
JNAR	Kushima--Naru	2.25	16	P	Pn	23 18 37.1	-0.1
JOKE	Okinoerabujima	2.64	221	P	Pn	23 18 42.0	-0.7
JYRO	Yoronjima	2.97	219	P	Pn	23 18 45.9	-1.2
JYRO				eS	Sn	23 19 20.8	-0.7
JOW	Kunigami	3.22	219	P	Pn	23 18 49.1	-1.5
JNU	Nakatsue	3.75	4	P	Pn	23 18 58.0	+0.1
	2.1nm,0.3s,baz=194,slow=12,SNR=24						
JNU				S	Sn	23 19 41.0	+0.1
	1.2nm,0.3s,baz=259,slow=16,SNR=2.0						
JNU				LR	LR	23 20 46.4	
	comp=Z,205nm,20.9s,baz=164,slow=44						
KSRS	Korea Array	8.35	346	P	Pn	23 20 02.5	+1.6
	0.2nm,0.3s,baz=155,slow=13,SNR=2.9						
KSRS				LR	LR	23 23 36.6	
	comp=Z,158nm,18.1s,baz=198,slow=40						
MJAR	Matsushiro Arr	9.63	40	P	Pn	23 20 18.1	-0.4
	0.1nm,0.3s,baz=220,slow=13,SNR=5.3						
SONM	Songino Array	26.20	321	P	P	23 23 31.8	-1.1
	1.2nm,0.7s,baz=125,slow=9.0,SNR=2.0						
MKAR	Makanchi Array	41.07	309	P	P	23 25 41.8	+0.3
	0.5nm,0.5s,baz=88,slow=10,SNR=7.8						
ZALV	Zalesovo Beam	41.08	320	P	P	23 25 41.2	-0.2
	0.6nm,0.4s,baz=109,slow=7.9,SNR=2.5						
WRA	Warramunga Arr	49.16	175	P	P	23 26 45.5	-0.4
	0.8nm,0.9s,baz=352,slow=8.6,SNR=2.2						
WRA				pP	pwP	23 27 01.1	-0.4
	0.6nm,0.8s,baz=354,slow=8.2,SNR=2.3						
ASAR	Alice Springs	52.83	176	P	P	23 27 14.6	+1.2
	0.3nm,0.5s,baz=11,slow=12,SNR=6.4						
ASAR				pP	pwP	23 27 29.4	+0.2
	0.5nm,0.6s,baz=9.1,slow=14,SNR=3.0						
ILAR	Eielson Array	60.72	29	P	P	23 28 08.8	-0.1
	0.3nm,0.8s,baz=278,slow=6.8,SNR=5.0						
FINES	FINESS Array B	71.14	331	P	P	23 29 14.6	-1.4
	0.7nm,0.4s,baz=58,slow=4.7,SNR=6.5						
AKASG	Malin Array Be	74.47	320	P	P	23 29 36.0	+0.2
	0.7nm,0.5s,baz=63,slow=6.2,SNR=2.0						
BRTR	Keskin Array B	76.72	308	P	P	23 29 49.6	+0.5
	0.7nm,0.9s,baz=48,slow=2.1,SNR=4.1						
NOA	NORSAR Array B	77.40	334	P	P	23 29 51.7	-0.7
	0.3nm,0.6s,baz=51,slow=5.3,SNR=1.7						
NVAR	Mina Array Bea	86.88	47	P	P	23 30 43.9	+1.1
	0.6nm,0.6s,baz=295,slow=5.7,SNR=6.0						

*IDC **13** 23:29:31.0±1.4, 22.°27N×121.°67E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/37, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=46.1km s-min=23.1km az=65.0*
*JMA **13** 23:29:32.6±0.1, 22.°55N×122.°02E, h23km, M4.0*
*TAP **13** 23:29:33.0, 22.°40N×121.°96E, h31km, ML4.0, D*
ISC 13 23:29:31.0±1.2, 22.°43N±0.°03×122.°04E±0.°03, h12km±8km, n141, σ1§20/214, mb3.3/5, 1C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	Ludao	0.58	295	⇓P	Pb	23 29 43.1	+0.1
LDUT	baz=301			S	Sg	23 29 50.0	+0.1
LAY	Lan-yu	0.59	229	⇓iP	Pg	23 29 43.0	+0.4
LAY	baz=226			eS	Sg	23 29 50.4	0.0
EDH	Donghe	0.87	309	⇑iP	Pg	23 29 47.8	+0.1
EDH	baz=313			S	Sg	23 29 57.7	-1.4
TTN	Taitung	0.88	292	eP	Pg	23 29 47.8	-0.2
TTN	baz=304			eS	Sg	23 29 59.2	-0.3
CHKT	Chengkung	0.91	317	P	Pg	23 29 48.1	-0.4
CHKT	baz=322			eS	Sg	23 29 59.1	-1.4
LONT	Longtian	0.96	300	eP	Pg	23 29 50.1	+0.5
TWGBT	Beinan	0.96	294	P	Pb	23 29 49.8	+0.1
TWGBT	baz=305			S	Sg	23 30 02.2	0.0
TWG	Pinlang	0.97	294	eP	Pb	23 29 49.6	-0.2
TWG	baz=305			eS	Sb	23 30 02.1	-0.5
ECL	Taimali	1.01	280	iP	Pb	23 29 50.2	-0.2
ECL	baz=283			S	Sb	23 30 02.6	-1.2
FULB	Fuli	1.03	318	P	Pb	23 29 49.9	-0.8
FULB	baz=322			eS	Sb	23 30 02.5	-1.7
TAW	Tawu	1.06	266	P	Pb	23 29 50.6	-0.6
TAW	baz=268			eS	Sb	23 30 02.9	-2.1
EAST	Anshuo	1.10	268	P	Pb	23 29 51.3	-0.6
EAST	baz=260			eS	Sb	23 30 05.1	-1.2
EYUL	Yuli	1.13	324	P	Pb	23 29 52.0	-0.4
EYUL	baz=328			eS	Sb	23 30 06.5	-0.7
TWF1	Yuli	1.15	324	P	Pb	23 29 52.0	-0.8
TWF1	baz=328			eS	Sb	23 30 06.8	-0.8
SLIU	Shizi	1.16	260	⇓P	Pb	23 29 52.3	-0.8
SLIU	baz=251			eS	Sb	23 30 05.6	-2.5
TSEB	Hengchuen, Pin	1.18	244	eP	Pn	23 29 53.1	-0.1
TSEB	baz=254			eS	Sb	23 30 08.3	-0.1
YULB	Yu-li	1.18	325	iP	Pn	23 29 52.5	-0.8
YULB	baz=328			S	Sb	23 30 07.4	-1.2
HGSD	Ruisui	1.20	332	iP	Pn	23 29 52.3	-1.4
HGSD	baz=345			eS	Sb	23 30 07.0	-2.2
ELDTW	Lidau	1.21	309	P	Pn	23 29 52.7	-1.1
ELDTW	baz=313			eS	Sb	23 30 06.9	-2.6
TWKBT	Hengchun	1.23	247	eP	Pn	23 29 53.4	-0.7
TWKBT	baz=256			eS	Sb	23 30 08.1	-1.9
TWK1	Hengchun	1.24	247	P	Pn	23 29 53.5	-0.6
TWK1	baz=256			eS	Sb	23 30 09.2	-1.0
EHY	Hungye	1.26	329	eP	Pn	23 29 53.8	-0.7
EHY	baz=332			eS	Sb	23 30 09.5	-1.4
HEN	Hengchun	1.27	251	eP	Pn	23 29 54.3	-0.3
HEN	baz=251			eS	Sb	23 30 09.3	-2.0
MASBT	Mashibuluo	1.31	278	P	Pn	23 29 54.9	-0.2
MASBT	baz=280			eS	Sb	23 30 09.9	-2.4
SCZT	Fangliau	1.31	268	P	Pn	23 29 54.7	-0.4
TSMG	Majia	1.31	282	eP	Pn	23 29 54.2	-0.9
SSD	Sandimen	1.34	284	eP	Pn	23 29 55.5	0.0
SSD	baz=290			eS	Sb	23 30 09.0	-4.1
EGFH	Guangfu	1.36	336	eP	Pn	23 29 55.1	-0.7
EGFH	baz=347			eS	Sn	23 30 12.3	-1.4
SSPT	Xinbi	1.36	273	eP	Pb	23 29 56.4	0.0
STYT	Tauyuan	1.39	302	P	Pn	23 29 56.3	+0.1
STYT	baz=305			eS	Sn	23 30 11.9	-2.7
SLGT	Liugui	1.40	294	eP	Pn	23 29 56.7	+0.3
YUS	Yu-Shan	1.46	317	P	Pn	23 29 57.4	-0.1
YUS	baz=320			eS	Sn	23 30 14.2	-2.6
SGLT	Jiouru	1.46	282	eP	Pb	23 29 58.2	+0.2
ESL	Shilin	1.49	338	P	Pn	23 29 56.7	-0.9
ESL	baz=349			eS	Sn	23 30 14.3	-2.7
SGST	Jiashian	1.49	296	eP	Pn	23 29 57.9	+0.3
SGST	baz=302			eS	Sn	23 30 15.4	-1.7
SCST	Cishan	1.50	288	eP	Pb	23 29 59.0	+0.3
WLCH	Liuqiu	1.54	267	eP	Pg	23 30 01.9	+1.5
TWM1	Shoushan	1.54	285	eP	Pg	23 30 02.3	+1.7
WTP	Ta-pu	1.54	302	eP	Pb	23 29 59.9	+0.3
WTP	baz=314			eS	Sg	23 30 20.6	-0.1
TWP	Hsiaoliuchiu	1.55	267	eP	Pg	23 30 00.7	0.0
VWDT	VWDT	1.56	328	P	Pn	23 29 58.8	+0.3
VWDT	baz=340			eS	Sn	23 30 17.5	-1.1
TPUB	Ta-pu	1.56	304	P	Pb	23 30 00.2	+0.3
TPUB	baz=316			eS	Sn	23 30 19.0	+0.1
ALS	Alishan	1.56	314	P	Pn	23 29 59.6	+0.7
ALS	baz=324			eS	Sb	23 30 19.9	-0.1
CHN1	Nanshi	1.58	299	P	Pb	23 30 00.9	+0.7
CHN1	baz=304			eS	Sb	23 30 20.4	+0.2
HWA	Hwalien	1.59	346	eP	Pn	23 29 58.4	-0.7
CHN4	Tsaushan	1.62	305	P	Pb	23 30 01.1	+0.3
CHN4	baz=316			eS	Sb	23 30 21.4	+0.2
SNST	Tainan City	1.62	299	P	Pb	23 30 01.5	+0.6
SNST	baz=304			eS	Sg	23 30 22.8	-0.5
TWK	Hsinying	1.65	301	P	Pb	23 30 01.8	+0.3
TWK	baz=305			eS	Sb	23 30 22.9	+0.6
WHYT	Xinyi Township	1.67	319	eP	Pb	23 30 01.4	-0.3
WHYT	baz=332			eS	Sn	23 30 21.7	+0.2
SSLB	Suanglung	1.68	324	P	Pn	23 30 00.5	+0.2
CHN5	Tsauling	1.71	313	P	Pb	23 30 02.9	+0.5
OWD	Renai	1.71	333	eP	Pn	23 30 00.9	+0.1
NACB	Ninganchiao	1.79	347	P	Pn	23 30 00.9	-0.8
NACB	baz=358			eS	Sn	23 30 22.0	-2.3
SMLT	Sun Moon Lake	1.79	324	P	Pn	23 30 02.8	+1.0
SMLT	baz=334			eS	Sn	23 30 25.6	+1.1
CHGB	Renai	1.81	334	P	Pn	23 30 02.5	+0.3
CHGB	baz=346			eS	Sn	23 30 24.0	-1.2
TYC	Yuchr	1.83	324	eP	Pn	23 30 03.5	+1.2
TYC	baz=333			eS	Sb	23 30 27.0	-0.2
CHY	Chiayi	1.83	306	eP	Pb	23 30 04.5	+0.1
CHY	baz=295			eS	Sb	23 30 28.4	+1.1
WJS	Zhushan	1.84	319	eP	Pb	23 30 04.9	+0.4
WJS	baz=323			eS	Sb	23 30 29.0	+1.5
ETLH	Xiulin Townshi	1.84	344	P	Pn	23 30 02.1	-0.4
ETLH	baz=355			eS	Sn	23 30 23.4	-2.4
WHF	Hehuan Shan	1.85	338	P	Pn	23 30 02.8	-0.2
WHF	baz=352			eS	Sn	23 30 24.5	-2.1
WDLH	Douliu	1.87	313	eP	Pb	23 30 05.6	+0.5
WDLH	baz=317			eS	Sb	23 30 29.2	+0.9
ICHU	Yijhu	1.87	300	eP	Pb	23 30 05.0	0.0
ICHU	baz=289			eS	Sb	23 30 28.3	0.0
WNT	Mingjian	1.91	320	eP	Pb	23 30 05.8	0.0
WNT	baz=324			eS	Sb	23 30 30.2	+0.7
CHN8	Yiju	1.92	299	eS	Sb	23 30 29.7	0.0
FUSS	Fushou	1.95	338	eP	Pn	23 30 04.6	+0.4
FUSS	baz=351			eS	Sn	23 30 27.9	-0.9
WTK	Tuku	1.97	310	eP	Pb	23 30 06.4	-0.4
WTK	baz=300			S	Sb	23 30 30.7	-0.6
TWT	Tachien	1.98	337	eP	Pn	23 30 05.3	+0.8
TWT	baz=349			eS	Sn	23 30 28.2	-1.3
TDCB	Techi	1.99	336	eP	Pn	23 30 05.6	+1.0
ENA	Nanau	2.01	352	eP	Pn	23 30 04.8	+0.1
ENA	baz=354			eS	Sn	23 30 28.5	-1.3
ENAH	Nanao	2.02	354	eP	Pn	23 30 05.5	+0.5
ENAH	baz=356			eS	Sn	23 30 28.1	-2.1
WSF	Szhu	2.06	306	eS	Sb	23 30 33.1	-0.8
NNSB	Datong	2.08	343	eP	Pn	23 30 06.2	+0.4
NNSB	baz=346			eS	Sn	23 30 29.1	-2.7
NNSH	Datong	2.08	343	eP	Pn	23 30 06.2	+0.3
NNS	Nan Shan	2.09	343	eP	Pn	23 30 06.5	+0.5
WHP	Taichung City	2.10	332	eP	Pn	23 30 07.8	+1.7
WHP	baz=342			eS	Sn	23 30 33.8	+1.6
TCU	Taichung	2.12	324	eP	Pb	23 30 09.9	+0.5
RLNB	Erlin	2.12	314	eP	Pn	23 30 06.8	+0.6
RLNB	baz=318			eS	Sb	23 30 35.4	-0.3
WCHH	Zhanghua	2.13	321	eP	Pb	23 30 09.1	-0.5
WCHH	baz=324			eS	Sb	23 30 35.3	-0.7
WTCT	Ta-ch'eng	2.16	312	eS	Sb	23 30 36.1	-0.6
TWC	Suao	2.18	356	eP	Pn	23 30 08.1	+1.0
TWC	baz=357			eS	Sn	23 30 33.0	-1.0
JYNG	Yonagunijimaku	2.18	22	P	Pn	23 30 07.4	+0.3
JYNG				S	Sn	23 30 32.5	-1.6
YOJ	Yonaguni jima	2.21	24	eP	Pn	23 30 08.2	+0.7
YOJ	baz=23			eS	Sn	23 30 35.1	+0.2
YOJ	Yonaguni jima	2.21	24	P	Pn	23 30 07.7	+0.1
YOJ				eS	Sn	23 30 34.4	-0.5
NDT	Datong Townshi	2.22	348	eP	Pn	23 30 08.3	+0.6
ENTT	Nioudou	2.25	349	eP	Pn	23 30 08.9	+0.9
HATJ	Hateruma jima	2.30	45	P	Pn	23 30 09.3	+0.6
HATJ				S	Sn	23 30 35.4	-1.5
NSY	Sanyi	2.30	330	eP	Pb	23 30 11.9	-0.5
NSY	baz=343			eS	Sb	23 30 40.2	-0.7
WDJ	Dajia District	2.30	326	eP	Pb	23 30 11.3	-1.2
WDJ	baz=319			eS	Sb	23 30 39.8	-1.1
TWE	Neicheng	2.31	352	eP	Pn	23 30 09.1	+0.2
YHNB	Yeheng	2.31	345	eP	Pn	23 30 09.9	+0.9
NSK	Sanguang	2.32	345	eP	Pn	23 30 10.2	+1.0
WDGT	Dungji	2.34	291	eP	Pn	23 30 10.7	+1.4
WDGT	baz=295			eS	Sn	23 30 37.1	-1.0
PTSB	Yuanli	2.35	329	eP	Pn	23 30 11.7	+2.2
PTSB	baz=333			eS	Sb	23 30 41.1	-1.3
NWLT	Wulai	2.39	348	eP	Pn	23 30 11.0	+1.0
	baz=351						

Code	Station Name	Δ°	ΔZ°	Phase	Op	ISC	Time h m s	Res ISC
NMLH	**Miaoli** baz=347	2.39	332	eP		Pn	23 30 12.4	+2.4
NMLH	baz=347			eS		Sn	23 30 40.7	+1.4
NSTT	**Nanjuang** baz=348	2.39	337	eP		Pn	23 30 12.3	+2.3
LIOB	**Emei** baz=348	2.40	337	eP		Pb	23 30 12.8	-1.3
NTC	**Toucheng** baz=7.0	2.42	356	eP		Pn	23 30 11.8	+1.4
IRIF	**Iriomote-Funau**	2.46	39	P		Pn	23 30 11.8	+0.9
IRIF				eS		Sn	23 30 39.2	-1.6
PHUB	**P'eng-hu** baz=300	2.52	296	eP		Pn	23 30 10.9	-0.8
PHUB	baz=300			eS		Sn	23 30 41.7	-0.6
TIPB	**Shuangxi** baz=6.0	2.54	356	eP		Pn	23 30 13.8	+1.7
TIPB	baz=6.0			eS		Sn	23 30 43.5	+0.5
PNG	**Penghu** baz=301	2.55	297	eP		Pn	23 30 13.5	+1.3
PNG	baz=301			eS		Sn	23 30 42.5	-0.7
JKRS	**Kuro-shima**	2.56	45	P		Pn	23 30 13.2	+0.9
JKRS				S		Sn	23 30 42.7	-0.6
TWB1	**Santiao Chiao**	2.57	359	eP		Pn	23 30 13.7	+1.3
NWF	**Wu-fen Shan** baz=357	2.64	355	eP		Pn	23 30 15.8	+2.2
WFSB	**Wu-fen Shan** baz=357	2.64	355	eP		Pn	23 30 15.1	+1.6
JIJ	**Ishigaki jima**	2.73	45	P		Pn	23 30 15.0	+0.3
JIJ				S		Sn	23 30 45.6	-2.1
YM01	**YM01** baz=354	2.74	351	eP		Pn	23 30 16.3	+1.5
YM10	**YM10** baz=354	2.75	351	eP		Pn	23 30 16.2	+1.2
YM04	**YM04** baz=353	2.75	351	eP		Pn	23 30 17.5	+2.5
YM05	**YM05** baz=354	2.76	351	eP		Pn	23 30 16.2	+1.1
YM03	**YM03** baz=353	2.78	351	eP		Pn	23 30 17.8	+2.4
JISG	**Ishigakijimahi**	3.00	44	P		Pn	23 30 18.6	+0.3
JISG				S		Sn	23 30 53.1	-1.1
PCYT	**Pengchaiyu** baz=1.0	3.19	1	eP		Pn	23 30 22.1	+1.2
JTJ	**Tarama**	3.29	47	P		Pn	23 30 23.3	+0.9
JTJ				S		Sn	23 31 00.1	-1.4
VWUC	**VWUC** baz=322	3.48	318	eP		Pn	23 30 25.8	+0.8
PTTC	**Pingtan** baz=330	3.69	326	eP		Pn	23 30 28.1	+0.2
PTMZ	**Houxiangcun** baz=319	3.73	315	eP		Pn	23 30 29.6	+1.2
JIRB	**Irabujima**	3.74	50	P		Pn	23 30 28.7	+0.2
JIRB				eS		Sn	23 31 11.2	-1.3
JMJ2	**Miyako jima3**	3.80	52	P		Pn	23 30 30.0	+0.7
JMJ2				S		Sn	23 31 13.0	-1.0
JMJ	**Miyako jima 2** baz=49	3.82	51	eP		Pn	23 30 29.7	+0.1
JIKM	**Ikemajima**	3.85	49	P		Pn	23 30 29.4	-0.7
JIKM				S		Sn	23 31 14.2	-1.1
KNM	**Kinmen** baz=304	3.86	302	eP		Pn	23 30 34.0	+3.8
KNMB	**Chin-men Tao** baz=305	3.92	302	eP		Pn	23 30 32.1	+1.1
ZPLA	**Ao Xicun** baz=294	4.22	292	eP		Pn	23 30 36.5	+1.4
AXDP	**Jialang** baz=307	4.47	304	eP		Pn	23 30 39.8	+1.2
MHZQ	**Yeshan** baz=337	4.57	324	eP		Pn	23 30 40.5	+0.5
LYJJ	**Jianjiangzhen** baz=337	4.60	334	eP		Pn	23 30 40.9	+0.5
VDOS	**Pratas Island** baz=254	5.23	252	eP		Pn	23 30 50.8	+1.8
KSRS	**Korea Array** 0.2nm,0.3s,baz=198,slow=12,SNR=7.0	15.81	17	Pn		P	23 33 18.4	+1.1
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=64,slow=9.2,SNR=1.3	21.99	264	P		P	23 34 23.0	-2.2
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=107,slow=8.5,SNR=8.0	40.15	317	P		P	23 37 08.3	+1.4
H11N1	**WAKE ISLAND Hy 41.83** baz=282,slow=75,SNR=4.8	85		T		T	00 22 50.9	
H11N2	**WAKE ISLAND Hy 41.83** baz=282,slow=75,SNR=5.1	85		T		T	00 22 50.5	
H11N3	**WAKE ISLAND Hy 41.85** baz=282,slow=75,SNR=4.1	85		T		T	00 22 49.7	
H11S3	**WAKE ISLAND Hy 41.91** baz=284,slow=75,SNR=7.1	87		T		T	00 22 54.5	
H11S1	**WAKE ISLAND Hy 41.91** baz=284,slow=75,SNR=5.8	87		T		T	00 22 55.4	
H11S2	**WAKE ISLAND Hy 41.92** baz=284,slow=75,SNR=7.6	87		T		T	00 22 54.0	
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=125,slow=9.0,SNR=4.8	42.14	328	P		P	23 37 23.6	+0.5
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=344,slow=9.0,SNR=2.3	43.79	163	P		P	23 37 37.2	+0.4
ASAR	**Alice Springs** 0.2nm,0.8s,baz=347,slow=7.6,SNR=1.7	47.25	165	P		P	23 38 06.5	+2.3

IDC ***13*** *23:59:15.8±1.1,21°.35N×121°.93E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.5/34,mbtmp3.6/7,ML3.6/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/38,Error ellipse: s-maj=43.9km s-min=20.0km az=74.0*
JMA ***13*** *23:59:17.2±0.3,21°.86N×122°.12E,h10km,M4.4*
TAP ***13*** *23:59:18.9,21°.95N×122°.10E,h9km,ML4.0,D*
ISC 13 23:59:17.1±1.4,21°.88N±0'.04×122°.15E±0'.03,h7km±9km, n139,σ1§44/197,mb3.5/5,Taiwan region

Code	Station Name	Δ°	ΔZ°	Phase	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu** baz=279	0.58	286	i P		Pb	23 59 29.9	+0.4
LAY	baz=279			S		Sb	23 59 38.5	+0.6
LDUT	**Ludao** baz=320	1.01	321	P		Pb	23 59 37.0	+0.1
LDUT	baz=320			S		Sb	23 59 50.0	-0.3
TWKBT	**Hengchun** baz=269	1.24	273	eP		Pg	23 59 43.2	+2.2
TWKBT	baz=269			S		Sn	23 59 58.1	+0.2
TWK1	**Hengchun** baz=269	1.25	273	eP		Pg	23 59 43.5	+2.4
TWK1	baz=269			S		Sn	23 59 58.4	+0.3
TAW	**Tawu** baz=290	1.25	292	P		Pg	23 59 40.7	-0.5
TAW	baz=290			eS		Sg	23 59 56.5	-1.0
TTN	**Taitung** baz=312	1.27	313	eP		Pg	23 59 41.5	0.0
TTN	baz=312			eS		Sn	23 59 58.2	-0.3
SNW	**Nanwan** baz=270	1.30	274	P		Pg	23 59 43.0	+0.8
SNW	baz=270			eS		Sn	00 00 00.2	+0.9
EAST	**Anshuo** baz=290	1.30	293	eP		Pg	23 59 41.6	-0.6
EAST	baz=290			eS		Sb	23 59 57.4	-1.5
ECL	**Taimali** baz=301	1.31	303	eP		Pn	23 59 41.5	-0.4
ECL	baz=301			eS		Sb	23 59 57.9	-1.3
HEN	**Hengchun** baz=272	1.31	276	P		Pg	23 59 42.9	+0.5
HEN	baz=272			S		Sn	00 00 00.3	+0.6
EDH	**Donghe** baz=324	1.34	324	P		Pb	23 59 42.2	-0.3
EDH	baz=324			S		Sn	23 59 59.7	-0.5
TWGBT	**Beinan** baz=312	1.36	313	P		Pg	23 59 43.1	-0.1
TWGBT	baz=312			eS		Sg	00 00 01.1	+0.3
TWG	**Pinlang** baz=312	1.36	313	eP		Pg	23 59 43.1	-0.2
TWG	baz=312			S		Sn	00 00 00.5	-0.5
LONT	**Longtian** baz=316	1.39	317	P		Pg	23 59 43.8	0.0
LONT	baz=316			S		Sg	00 00 01.9	+0.1
CHKT	**Chengkung** baz=329	1.41	329	eP		Pn	23 59 43.1	-0.1
CHKT	baz=329			eS		Sn	00 00 01.2	-0.8
SCZT	**Fangliau** baz=287	1.50	289	P		Pb	23 59 44.9	-0.4
SCZT	baz=287			S		Sg	00 00 04.6	-0.8
FULB	**Fuli** baz=328	1.53	329	P		Pn	23 59 44.9	+0.1
FULB	baz=328			eS		Sg	00 00 05.9	-0.5
MASBT	**Mashibuluo** baz=295	1.58	298	eP		Pb	23 59 46.0	-0.7
MASBT	baz=295			eS		Sg	00 00 08.8	+0.9
SSPT	**Xinbi** baz=290	1.58	292	eP		Pg	23 59 48.6	+1.1
SSPT	baz=290			S		Sg	00 00 07.0	-1.0
TSMG	**Majia** baz=299	1.61	301	eP		Pb	23 59 47.0	-0.2
TSMG	baz=299			eS		Sg	00 00 08.3	-0.8
EYUL	**Yuli** baz=332	1.65	332	eP		Pb	23 59 47.3	-0.5
EYUL	baz=332			eS		Sb	00 00 08.2	-0.6
SSD	**Sandimen** baz=300	1.65	302	eP		Pb	23 59 47.0	-0.8
SSD	baz=300			eS		Sg	00 00 09.2	-0.9
TWF1	**Yuli** baz=332	1.66	332	eP		Pb	23 59 47.3	-0.8
TWF1	baz=332			eS		Sb	00 00 08.8	-0.3
ELDTW	**Lidau** baz=321	1.67	321	eP		Pn	23 59 47.2	+0.3
ELDTW	baz=321			eS		Sn	00 00 08.3	-0.3
YULB	**Yu-li** baz=332	1.69	333	P		Pb	23 59 47.8	-0.9
YULB	baz=332			S		Sb	00 00 09.7	-0.5
TWP	**Hsiaoliuchiu** baz=283	1.72	286	eP		Pb	23 59 48.8	-0.2
HGSD	**Ruisui** baz=337	1.73	337	P		Pn	23 59 47.7	0.0
HGSD	baz=337			eS		Sn	00 00 10.2	+0.2
SLGT	**Liugui** baz=307	1.77	309	eP		Pb	23 59 50.1	+0.1
EHY	**Hungye** baz=335	1.79	335	P		Pb	23 59 49.2	-1.0
EHY	baz=335			eS		Sn	00 00 11.4	+0.1
STYT	**Tauyuan** baz=314	1.81	315	eP		Pb	23 59 50.2	-0.4
STYT	baz=314			eS		Sn	00 00 11.8	-0.2
SCST	**Cishan** baz=302	1.83	303	eP		Pb	23 59 50.6	-0.2
KAU	**Kaohsiung** baz=290	1.84	292	eS		Sb	00 00 12.8	-1.4
TWM1	**Shoushan** baz=299	1.85	301	eP		Pb	23 59 50.4	-0.9
SGST	**Jiashian** baz=308	1.88	310	eP		Pb	23 59 50.9	-0.8
SNJT	**Kaohsiung City** baz=296	1.89	298	eP		Pb	23 59 51.3	-0.7
EGFH	**Guangfu** baz=339	1.90	340	P		Pn	23 59 50.8	+0.8
EGFH	baz=339			eS		Sn	00 00 14.8	+0.7
WTP	**Ta-pu** baz=313	1.96	314	eP		Pb	23 59 53.5	+0.3
CHN1	**Nanshi** baz=310	1.98	311	eP		Pb	23 59 53.6	+0.1
TPUB	**Ta-pu** baz=314	1.99	315	eP		Pb	23 59 53.7	0.0
SNST	**Tainan City** baz=310	2.02	311	eP		Pb	23 59 53.1	-1.2
ESL	**Shilin** baz=341	2.03	341	eP		Pn	23 59 52.6	+0.8
ESL	baz=341			S		Sn	00 00 18.1	+0.7
ALS	**Alishan** baz=322	2.04	323	eP		Pb	23 59 54.0	-0.7
CHN4	**Tsaushan** baz=315	2.05	316	eP		Pb	23 59 55.1	+0.5
TWK	**Hsinying** baz=311	2.06	312	eP		Pb	23 59 53.7	-1.2
VWDT	**VWDT** baz=333	2.08	334	P		Pb	23 59 54.1	-1.1
VWDT	baz=333			eS		Sb	00 00 19.8	-1.5
HWA	**Hwalien** baz=347	2.14	347	eS		Sn	00 00 21.4	+1.2
WHYT	**Xinyi Township** baz=326	2.16	327	eP		Pb	23 59 56.7	0.0
CHN5	**Tsauling** baz=321	2.18	322	eP		Pb	23 59 56.8	-0.1
SSLB	**Suanglung** baz=329	2.19	330	eP		Pb	23 59 55.5	-1.6
SSLB	baz=329			eS		Sn	00 00 21.7	+0.3
SCLT	**Jiali** baz=304	2.22	306	eS		Sn	00 00 22.1	+0.2
CHY	**Chiayi** baz=314	2.26	316	eP		Pn	23 59 56.1	+1.1
ICHU	**Yijhu** baz=309	2.27	311	eP		Pn	23 59 55.9	+0.9
SMLT	**Sun Moon Lake** baz=330	2.30	330	eP		Pn	23 59 56.8	+1.3
WGK	**Gukeng** baz=320	2.32	321	eP		Pn	23 59 57.0	+1.3
WDLH	**Douliu** baz=320	2.33	321	eP		Pn	23 59 57.2	+1.3
WDLH	baz=320			eS		Sn	00 00 25.7	+0.9
WJS	**Zhushan** baz=325	2.33	326	eP		Pn	23 59 57.4	+1.4
NACB	**Ninganchiao** baz=348	2.34	347	eP		Pn	23 59 56.7	+0.7
NACB	baz=348			S		Sn	00 00 25.4	+0.4
TYC	**Yuchr** baz=329	2.34	330	eP		Pb	23 59 58.9	-0.7
CHGB	**Renai** baz=337	2.34	338	P		Pn	23 59 57.5	+1.2
CHGB	baz=337			S		Sn	00 00 26.0	+0.5
ETLH	**Xiulin Townshi** baz=345	2.39	345	eP		Pn	23 59 58.2	+1.4
ETLH	baz=345			eS		Sn	00 00 27.4	+1.0
WHF	**Hehuan Shan** baz=340	2.39	340	P		Pn	23 59 58.6	+1.5
WHF	baz=340			S		Sn	00 00 27.0	+0.1
WNT	**Mingjian** baz=325	2.40	326	eP		Pb	23 59 59.8	-0.9
WTK	**Tuku** baz=317	2.42	318	eS		Sn	00 00 27.4	+0.4
WSF	**Szhu** baz=314	2.49	315	eS		Sb	00 00 30.4	-2.7
FUSS	**Fushou** baz=340	2.50	341	eP		Pn	23 59 59.9	+1.5
FUSS	baz=340			eS		Sn	00 00 30.3	+1.0
TWT	**Tachien** baz=339	2.52	339	eP		Pn	00 00 00.3	+1.6
TWT	baz=339			eS		Sn	00 00 30.3	+0.5
TDCB	**Techi** baz=339	2.53	339	eP		Pn	00 00 00.2	+1.4
TDCB	baz=339			eS		Sn	00 00 30.8	+0.9
ENA	**Nanau** baz=352	2.56	352	eP		Pn	00 00 00.2	+1.2
ENA	baz=352			S		Sn	00 00 31.7	+1.2
ENAH	**Nanao** baz=353	2.57	353	P		Pn	00 00 01.1	+1.9
ENAH	baz=353			S		Sn	00 00 31.7	+0.9
RLNB	**Erlin** baz=320	2.59	321	eP		Pn	00 00 01.1	+1.6
WHP	**Taichung City** baz=335	2.63	335	eP		Pb	00 00 03.3	-1.3
NNSB	**Datong** baz=344	2.63	345	eP		Pn	00 00 01.5	+1.4
NNSB	baz=344			eS		Sn	00 00 33.4	+1.0
NNSH	**Datong** baz=344	2.63	345	eP		Pn	00 00 01.2	+1.1
NNSH	baz=344			S		Sn	00 00 33.1	+0.8
WCHH	**Zhanghua** baz=326	2.63	326	eP		Pb	00 00 02.2	-2.4
NNS	**Nan Shan** baz=345	2.64	344	eP		Pn	00 00 01.7	+1.4
NNS	baz=345			eS		Sn	00 00 34.5	+1.8
HATJ	**Hateruma jima**	2.65	35	P		Pn	00 00 02.2	+2.0
HATJ				S		Sn	00 00 33.3	+0.7
JYNG	**Yonagunijimaku**	2.66	16	P		Pn	00 00 02.2	+1.8
JYNG				eS		Sn	00 00 34.7	+1.8
WDGT	**Dungji** baz=300	2.68	301	eP		Pn	00 00 01.4	+0.7
WDGT	baz=300			eS		Sn	00 00 33.6	+0.3
YOJ	**Yonaguni jima** baz=18	2.69	17	P		Pn	00 00 03.3	+2.5
YOJ	baz=18			S		Sn	00 00 36.2	+2.7
YOJ	**Yonaguni jima**	2.69	17	P		Pn	00 00 03.0	+2.2
YOJ				S		Sn	00 00 36.0	+2.5
TWC	**Suao** baz=355	2.73	354	eP		Pn	00 00 03.8	+2.5
TWC	baz=355			eS		Sn	00 00 35.8	+1.3
NDT	**Datong Townshi** baz=348	2.77	348	eP		Pn	00 00 03.7	+1.7
ENTT	**Nioudou** baz=349	2.79	349	eP		Pn	00 00 04.2	+1.9
ENTT	baz=349			eS		Sn	00 00 36.8	+0.5
WDJ	**Dajia District** baz=330	2.82	331	eP		Pn	00 00 04.2	+1.6
NSY	**Sanyi** baz=333	2.83	333	eP		Pn	00 00 04.8	+2.1
IRIF	**Iriomote-Funau**	2.84	31	P		Pn	00 00 05.0	+2.1
IRIF				S		Sn	00 00 38.8	+1.4
TWE	**Neicheng** baz=352	2.86	351	eP		Pn	00 00 05.6	+2.5
YHNB	**Yeheng** baz=346	2.86	346	eP		Pn	00 00 05.5	+2.2
YHNB	baz=346			eS		Sn	00 00 39.0	+1.0
NSK	**Sanguang** baz=345	2.87	345	eP		Pn	00 00 05.7	+2.3
NSK	baz=345			eS		Sn	00 00 39.0	+0.8
PTSB	**Yuanli** baz=332	2.88	333	eP		Pb	00 00 06.5	-2.3
PHUB	**P'eng-hu** baz=303	2.88	305	eP		Pn	00 00 04.8	+1.4
PHUB	baz=303			eS		Sn	00 00 38.8	+0.5
JKRS	**Kuro-shima**	2.90	36	P		Pn	00 00 05.9	+2.2
JKRS				S		Sn	00 00 39.2	+0.3
NMLH	**Miaoli** baz=334	2.92	335	eP		Pn	00 00 05.9	+1.8
PNG	**Penghu** baz=304	2.92	305	eS		Sn	00 00 39.8	+0.4
NSTT	**Nanjuang** baz=339	2.93	339	eP		Pb	00 00 07.5	-2.2
LIOB	**Emei** baz=339	2.94	339	eP		Pn	00 00 06.3	+2.0
NWLT	**Wulai** baz=348	2.94	348	eP		Pn	00 00 05.9	+1.6
NTC	**Toucheng** baz=355	2.97	354	eP		Pn	00 00 06.5	+1.8
NTC	baz=355			eS		Sn	00 00 42.1	+1.5
JIJ	**Ishigaki jima**	3.08	36	P		Pn	00 00 07.6	+1.5
JIJ				S		Sn	00 00 43.5	+0.3
TIPB	**Shuangxi** baz=355	3.09	355	eP		Pn	00 00 08.2	+1.9
TIPB	baz=355			eS		Sn	00 00 44.8	+1.3
TWB1	**Santiao Chiao** baz=358	3.11	357	eP		Pn	00 00 09.0	+2.3
TWA	**Mucha** baz=351	3.13	351	eP		Pn	00 00 08.8	+2.0
TWA	baz=351			eS		Sn	00 00 44.8	+0.4
TWS1	**Kuangyinshan** baz=348	3.27	348	eP		Pn	00 00 10.6	+1.8
YM01	**YM01** baz=351	3.29	351	eP		Pn	00 00 11.9	+2.8
YM10	**YM10** baz=351	3.30	351	eP		Pn	00 00 11.4	+2.1
YM04	**YM04** baz=350	3.30	350	eP		Pn	00 00 11.4	+2.1
YM05	**YM05** baz=351	3.31	351	eP		Pn	00 00 11.4	+2.0
YM03	**YM03** baz=350	3.33	350	eP		Pn	00 00 11.7	+2.0
YM08	**YM08** baz=351	3.33	351	eP		Pb	00 00 13.2	-3.3
JISG	**Ishigakijimahi**	3.35	36	P		Pn	00 00 11.3	+1.5
JISG				S		Sn	00 00 49.5	-0.3
JTJ	**Tarama**	3.61	40	P		Pn	00 00 15.4	+1.9
JTJ				S		Sn	00 00 56.6	+0.2
PCYT	**Pengchaiyu** baz=359	3.73	359	eP		Pn	00 00 17.5	+2.4
VWUC	**VWUC** baz=321	3.96	322	eP		Pn	00 00 20.4	+2.1
VWUC	baz=321			eS		Sn	00 01 04.7	-0.4
JIRB	**Irabujima**	4.04	43	P		Pn	00 00 21.8	+2.4
JIRB				S		Sn	00 01 06.4	-0.5
JMJ2	**Miyako jima3**	4.08	45	P		Pn	00 00 21.3	+1.4
JMJ2				S		Sn	00 01 08.1	+0.2
JIKM	**Ikemajima**	4.15	43	P		Pn	00 00 19.9	-1.1
JIKM				S		Sn	00 01 09.5	-0.3
KNM	**Kinmen** baz=304	4.25	307	eP		Pn	00 00 25.1	+2.8
KNMB	**Chin-men Tao** baz=306	4.31	307	eP		Pn	00 00 25.4	+2.3
ZPLA	**Ao Xicun** baz=296	4.54	298	eP		Pn	00 00 28.2	+2.0
MATB	**Ma-tsu** baz=334	4.70	335	eP		Pn	00 00 30.4	+1.9
AXDP	**Jialang** baz=307	4.87	309	eP		Pn	00 00 32.3	+1.5
MHZQ	**Yeshan** baz=325	5.07	326	eP		Pn	00 00 35.9	+2.3
LYJJ	**Jianjiangzhen** baz=334	5.13	335	eP		Pn	00 00 37.1	+2.7
VDOS	**Pratas Island** baz=256	5.19	258	eP		Pn	00 00 37.4	+2.2
XPSS	**Dashiqiu** baz=340	5.33	341	eP		Pn	00 00 39.4	+2.3
KSRS	**Korea Array** 0.2nm,0.3s,baz=197,slow=12,SNR=6.3	16.30	17	Pn		P	00 03 12.5	+3.0
MJAR	**Matsushiro Arr** 1.0nm,0.7s,baz=224,slow=8.5,SNR=3.4	20.20	40	P		Pn	00 03 58.2	+3.8
GUMO	**Guam** comp=Z,47nm,20.4s,baz=150,slow=30	23.14	107	LR		LR	00 10 49.4	
SONM	**Songino Array** 0.2nm,0.3s,baz=136,slow=7.9,SNR=2.2	26.82	338	P		P	00 05 21.0	+4.9
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=123,slow=9.0,SNR=4.5	40.61	317	P		P	00 06 59.6	+2.0
H11N1	**WAKE ISLAND Hy 41.77** baz=282	85		T		T	00 52 34.4	
H11N2	**WAKE ISLAND Hy 41.78** baz=282	85		T		T	00 52 28.4	
H11N3	**WAKE ISLAND Hy 41.79** baz=282	85		T		T	00 52 32.3	
H11S3	**WAKE ISLAND Hy 41.83** baz=283,slow=74	86		T		T	00 52 29.2	
H11S1	**WAKE ISLAND Hy 41.84** baz=283,slow=74	86		T		T	00 52 36.6	
H11S2	**WAKE ISLAND Hy 41.85** baz=283	86		T		T	00 52 30.7	
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=113,slow=9.3,SNR=1.5	42.65	328	P		P	00 07 14.9	+0.8
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=344,slow=9.1,SNR=6.8	43.24	163	P		P	00 07 15.1	-4.2
ASAR	**Alice Springs**	46.70	165	P		P	00 07 43.2	-3.6

0.3nm,0.6s,baz=346,slow=7.1,SNR=5.3

*DDA **14** 00:06:28.0,35°.32N×27°.51E,h14km±3km,ML2.7*
*NIC **14** 00:06:28.1±0.0,35°.47N×27°.76E,h0km±1km,Ml3.5/3*
*ISK **14** 00:06:29.5,35°.55N×27°.71E,h12km,ML2.9/25*
*ATH **14** 00:06:30.5,35°.62N×27°.67E,h20km±1km,ML2.6/7,Error ellipse: s-maj=2.7km s-min=1.0km az=143.0*
*THE **14** 00:06:31.1,35°.64N×27°.66E,h0km±1km,ML2.5/8,Error ellipse: s-maj=3.8km s-min=0.9km az=149.0*

ISC 14 00:06:30.5±1.2,35°.54N±0°.03×27°.72E±0°.02,h6km±9km, n96,σ0°98/128,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.45**	**271**	P	**Pg**	**00 06 38.8**	**-0.5**
KARP				S	**Sg**	**00 06 46.7**	**+1.4**
1μm,0.3s							
KARP	**Karpathos**	**0.45**	**271**	P	**Pg**	**00 06 38.8**	**-0.5**
KARP				S	**Sg**	**00 06 45.6**	**+0.4**
KARP				AML	AML	00 06 49.1	
comp=N,1682μm,0.2s							
KARP				AML	AML	00 06 49.7	
comp=E,1356μm,0.2s							
KARP	**Karpathos**	**0.45**	**271**	PG	**Pg**	**00 06 38.8**	**-0.5**
KARP				SG	**Sg**	**00 06 45.6**	**+0.4**
KARP	**Karpathos**	**0.45**	**271**	P	**Pg**	**00 06 38.6**	**-0.7**
KARP				S	**Sb**	**00 06 47.3**	**-0.6**
ARG	**Arkhangelos**	**0.75**	**26**	P	**Pg**	**00 06 44.4**	**-0.6**
ARG				S	**Sb**	**00 06 56.1**	**-0.4**
comp=E,380nm,0.3s							
ARG	**Arkhangelos**	**0.75**	**26**	P	**Pg**	**00 06 44.4**	**-0.6**
ARG				S	**Sg**	**00 06 54.6**	**-0.2**
ARG				AML	AML	00 07 05.4	
comp=N,647μm,0.3s							
ARG				AML	AML	00 07 05.5	
comp=E,861μm,0.3s							
ARG	**Arkhangelos**	**0.75**	**26**	PG	**Pg**	**00 06 44.4**	**-0.6**
ARG				SG	**Sg**	**00 06 55.3**	**+0.6**
ARG	**Arkhangelos**	**0.75**	**26**	P	**Pg**	**00 06 44.4**	**-0.6**
ARG				S	**Sb**	**00 06 57.1**	**+0.6**
DAT	**Datca**	**1.19**	**355**	PN	**Pg**	**00 06 52.5**	**-0.9**
DAT				SN	**Sb**	**00 07 09.2**	**0.0**
DAT	**Datca**	**1.19**	**355**	*i* P	**Pg**	**00 06 52.4**	**-0.9**
ZKR	**Zakros**	**1.30**	**251**	P	**Pn**	**00 06 53.9**	**-1.2**
ZKR				S	**Sn**	**00 07 13.9**	**+1.1**
comp=E,322nm,0.5s							
ZKR	**Zakros**	**1.30**	**251**	P	**Pn**	**00 06 54.1**	**-1.1**
ZKR				S	**Sn**	**00 07 13.4**	**+0.6**
ZKR				AML	AML	00 07 21.0	
comp=E,904μm,0.5s							
ZKR				AML	AML	00 07 21.6	
comp=N,380μm,0.5s							
ZKR	**Zakros**	**1.30**	**251**	PN	**Pn**	**00 06 54.0**	**-1.2**
TURN	**Turunc**	**1.30**	**19**	PN	**Pn**	**00 06 54.4**	**-0.8**
TURN	**Turunc**	**1.30**	**19**	*i* P	**Pn**	**00 06 54.4**	**-0.8**
TURN				*i* S	**Sn**	**00 07 14.9**	**+2.0**
TURN				IAML		00 07 19.0	
comp=E,224nm,0.5s							
TURN				IAML		00 07 20.0	
comp=N,154nm,0.5s							
KOSK	**Kos Island**	**1.35**	**334**	PN	**Pn**	**00 06 54.8**	**-1.0**
DALY	**Dalyan (Mula)**	**1.48**	**30**	PN	**Pn**	**00 06 56.5**	**-1.2**
DALY	**Dalyan (Mula)**	**1.48**	**30**	*i* P	**Pn**	**00 06 58.0**	**+0.4**
DALY				*i* S	**Sg**	**00 07 21.2**	**+3.0**
DALY				IAML		00 07 33.0	
comp=N,66nm,0.7s							
BDRM	**Kayabasi**	**1.54**	**352**	*i* P	**Pn**	**00 06 56.5**	**-2.0**
BDRM				IAML		00 07 27.0	
comp=E,89nm,0.8s							
BODT	**Bodrum**	**1.55**	**348**	PN	**Pn**	**00 06 57.5**	**-1.2**
FETY	**Fethiye**	**1.55**	**45**	PN	**Pn**	**00 06 57.9**	**-0.8**
FETY	**Fethiye**	**1.55**	**45**	*i* P	**Pn**	**00 06 58.9**	**+0.2**
FETY				*i* S	**Sg**	**00 07 21.9**	**+1.4**
KSL	**Kastellorizon**	**1.63**	**68**	P	**Pn**	**00 06 59.7**	**0.0**
KSL				S	**Sb**	**00 07 22.4**	**+0.5**
comp=E,58nm,0.8s							
KSL	**Kastellorizon**	**1.63**	**68**	P	**Pn**	**00 06 59.8**	**0.0**
KSL	**Kastellorizon**	**1.63**	**68**	P	**Pn**	**00 06 59.1**	**-0.6**
KSL				S	**Sn**	**00 07 21.7**	**+0.7**
YER	**Yerkesik**	**1.65**	**16**	PN	**Pn**	**00 06 58.9**	**-1.2**
AKAS	**Kas**	**1.68**	**65**	PN	**Pn**	**00 06 59.9**	**-0.6**
AKAS	**Kas**	**1.68**	**65**	*i* P	**Pn**	**00 06 60.0**	**-0.6**
NPS	**Neapolis**	**1.74**	**261**	P	**Pn**	**00 07 01.9**	**+0.6**
NPS				S	**Sn**	**00 07 24.5**	**+0.7**
comp=E,162nm,0.5s							
NPS	**Neapolis**	**1.74**	**261**	P	**Pn**	**00 07 01.9**	**+0.6**
NPS				S	**Sn**	**00 07 24.5**	**+0.7**
NPS				AML	AML	00 07 28.6	
comp=N,318μm,0.5s							
NPS				AML	AML	00 07 41.0	
comp=E,299μm,0.7s							
LAST	**Lasithi**	**1.87**	**259**	P	**Pn**	**00 07 03.9**	**+0.9**
LAST				S	**Sn**	**00 07 27.5**	**+0.5**
comp=E,85nm,0.6s							
LAST	**Lasithi**	**1.87**	**259**	P	**Pn**	**00 07 04.0**	**+0.9**
LAST				AML	AML	00 07 43.9	
comp=N,161μm,0.6s							
LAST				AML	AML	00 07 44.4	
comp=E,175μm,0.6s							
AMGA	**Amorgos Island**	**1.96**	**312**	P	**Pn**	**00 07 02.9**	**-1.4**
SANT	**Santorini**	**2.01**	**295**	P	**Pn**	**00 07 04.6**	**-0.4**
SANT	**Santorini**	**2.01**	**295**	PN	**Pn**	**00 07 04.3**	**-0.7**
THT2	**Imerovigli**	**2.06**	**296**	PN	**Pn**	**00 07 04.8**	**-0.9**
CMBO	**Columbo, Santo**	**2.09**	**297**	P	**Pn**	**00 07 05.4**	**-0.6**
AYDN	**Tasoluk**	**2.12**	**3**	*i* P	**Pn**	**00 07 06.0**	**-0.6**
AYDN				*i* S	**Sn**	**00 07 32.0**	**-1.2**
AYDN				IAML		00 07 40.0	
comp=N,38nm,0.5s							
ELL	**Elmali**	**2.14**	**55**	PN	**Pn**	**00 07 06.2**	**-0.7**
ELL	**Elmali**	**2.14**	**55**	P	**Pn**	**00 07 05.6**	**-1.3**
HRKL	**Herakleio**	**2.15**	**265**	PN	**Pn**	**00 07 06.0**	**-0.8**
TAVA	**DENIZLI_Tavas**	**2.15**	**26**	*i* P	**Pn**	**00 07 07.7**	**+0.8**
TAVA				*i* S	**Sb**	**00 07 36.4**	**-0.4**
TAVA				IAML		00 07 45.0	
comp=E,40nm,0.6s							
TAVA				IAML		00 07 45.0	
comp=N,51nm,0.5s							
GCAM	**G?zelcaml?**	**2.19**	**350**	PN	**Pn**	**00 07 06.9**	**-0.5**
GCAM	**G?zelcaml?**	**2.19**	**350**	*i* P	**Pn**	**00 07 07.0**	**-0.5**
GOLH	**Golhisar**	**2.25**	**41**	*i* P	**Pn**	**00 07 08.9**	**+0.5**
GOLH				*i* S	**Sb**	**00 07 38.4**	**-1.4**
GOLH				IAML		00 07 40.0	
comp=E,74nm,0.7s							
GOLH				IAML		00 07 51.0	
comp=N,35nm,0.7s							
AKUM	**Antalya-Kumluc**	**2.27**	**69**	*i* P	**Pn**	**00 07 08.7**	**+0.2**
SMG	**Samos**	**2.27**	**342**	P	**Pn**	**00 07 08.2**	**-0.4**
IDI	**Anoyia**	**2.32**	**265**	P	**Pn**	**00 07 09.2**	**-0.1**
IDI				S	**Sn**	**00 07 38.7**	**+0.5**
comp=N,38nm,0.5s							
IDI	**Anoyia**	**2.32**	**265**	P	**Pn**	**00 07 09.2**	**-0.1**
IDI				S	**Sn**	**00 07 38.6**	**+0.4**
IDI				AML	AML	00 07 46.6	
comp=E,85μm,0.4s							
IDI				AML	AML	00 07 54.0	
comp=N,74μm,0.7s							
IDI	**Anoyia**	**2.32**	**265**	PN	**Pn**	**00 07 08.6**	**-0.7**
APE	**Apeiranthos**	**2.33**	**311**	P	**Pn**	**00 07 08.8**	**-0.7**
APE				S	**Sn**	**00 07 36.6**	**-1.8**
APE	**Apeiranthos**	**2.33**	**311**	PN	**Pn**	**00 07 08.6**	**-0.8**
APE	**Apeiranthos**	**2.33**	**311**	P	**Pn**	**00 07 08.9**	**-0.5**
SIVA	**Sivas**	**2.44**	**258**	P	**Pn**	**00 07 12.1**	**+1.3**
SIVA				AML	AML	00 08 01.6	
comp=N,186μm,0.5s							
SIVA				AML	AML	00 08 08.0	
comp=E,221μm,0.7s							
KORT	**Korkueli**	**2.58**	**55**	PN	**Pn**	**00 07 12.1**	**-0.8**
KORT	**Korkueli**	**2.58**	**55**	*i* P	**Pn**	**00 07 13.0**	**+0.1**
KORT				*i* S	**Sn**	**00 07 47.1**	**+2.5**
KORT				IAML		00 07 52.0	
comp=E,29nm,0.6s							
DGB	**zmir**	**2.59**	**345**	*i* P	**Pn**	**00 07 11.8**	**-1.2**
ANTB	**Antalya**	**2.73**	**59**	PN	**Pn**	**00 07 14.7**	**-0.2**
BRDR	**BURDUR-Merkez**	**2.86**	**41**	*i* P	**Pn**	**00 07 17.3**	**+0.6**
VAM	**Vamos**	**2.87**	**268**	P	**Pn**	**00 07 17.9**	**+1.1**
BLCB	**Balcova**	**2.89**	**349**	PN	**Pn**	**00 07 16.5**	**-0.5**
URLA	**Izmir**	**2.95**	**343**	PN	**Pn**	**00 07 17.7**	**-0.3**
BCK	**Bucak**	**3.00**	**50**	PN	**Pn**	**00 07 18.3**	**-0.4**
MANT	**Manisa**	**3.02**	**13**	*i* P	**Pn**	**00 07 19.3**	**+0.3**
MANT				*i* S	**Sn**	**00 07 57.8**	**+2.2**
IMMV	**Iera Moni Meta**	**3.05**	**270**	P	**Pn**	**00 07 18.7**	**-0.5**
IMMV				S	**Sn**	**00 07 56.3**	**+0.3**
comp=E,40nm,0.5s							
IMMV	**Iera Moni Meta**	**3.05**	**270**	P	**Pn**	**00 07 19.0**	**-0.3**
IMMV	**Iera Moni Meta**	**3.05**	**270**	PN	**Pn**	**00 07 18.8**	**-0.5**
GVD	**Gavdhos**	**3.05**	**258**	P	**Pn**	**00 07 20.5**	**+1.2**
GVD	**Gavdhos**	**3.05**	**258**	PN	**Pn**	**00 07 18.9**	**-0.4**
KULA	**Kula-Manisa**	**3.06**	**14**	PN	**Pn**	**00 07 19.1**	**-0.4**
SERI	**Serifos**	**3.07**	**303**	P	**Pn**	**00 07 20.1**	**+0.5**
SERI				S	**Sn**	**00 07 54.5**	**-2.0**
CHOS	**Chios island**	**3.14**	**335**	P	**Pn**	**00 07 21.0**	**+0.5**
RODP	**Rodopos**	**3.23**	**271**	PN	**Pn**	**00 07 21.4**	**-0.3**
KNDR	**Palaiochora Ch**	**3.31**	**266**	PN	**Pn**	**00 07 23.2**	**+0.4**
USAK	**Uak-Merkez**	**3.33**	**18**	*i* P	**Pn**	**00 07 23.8**	**+0.6**
ANKY	**Antikythira Is**	**3.61**	**276**	P	**Pn**	**00 07 26.6**	**-0.3**
SIMA	**Simav-Kutahya**	**3.68**	**16**	PN	**Pn**	**00 07 27.9**	**-0.1**
GAZI	**Gazipasa**	**3.80**	**78**	PN	**Pn**	**00 07 28.2**	**-1.3**
GAZI	**Gazipasa**	**3.80**	**78**	*i* P	**Pn**	**00 07 27.1**	**-2.5**
GAZI				*i* S	Sn	00 08 03.8	-11
GAZI				IAML		00 08 16.0	
comp=N,14nm,0.7s							
GAZI				IAML		00 08 20.0	
comp=E,9.9nm,0.5s							
SEYD	**Seydisehir-KON**	**3.81**	**60**	PN	**Pn**	**00 07 29.9**	**+0.1**
AKMS	**Akamas**	**3.81**	**97**	P	**Pn**	**00 07 28.4**	**-1.4**
AKMS				S	**Sn**	**00 08 14.9**	**0.0**
AKMS				AML	AML	00 08 19.3	
comp=E,0.2nm,1.1s							
AKMS				AML	AML	00 08 19.3	
comp=E,0.2nm,1.1s							
AKMS				AML	AML	00 08 21.2	
comp=E,0.2nm,1.1s							
AKMS				AML	AML	00 08 21.2	
comp=E,0.2nm,1.1s							
KTHA	**Kythira Island**	**3.85**	**282**	P	**Pn**	**00 07 30.7**	**+0.5**
KTHA	**Kythira Island**	**3.85**	**282**	PN	**Pn**	**00 07 30.1**	**-0.1**
DION	**Dionisos Attik**	**3.95**	**311**	P	**Pn**	**00 07 32.8**	**+1.1**
ALFC	**Alefka**	**4.01**	**94**	P	**Pn**	**00 07 31.8**	**-0.7**
ALFC				AML	AML	00 08 20.8	
comp=E,0.1nm,0.3s							
ALFC				AML	AML	00 08 22.6	
comp=E,0.2nm,0.4s							
VLI	**Veliai**	**4.04**	**288**	P	**Pn**	**00 07 33.2**	**+0.3**
NATA	**Nata**	**4.05**	**99**	P	**Pn**	**00 07 31.5**	**-1.5**
DID	**Didima**	**4.11**	**300**	P	**Pn**	**00 07 33.9**	**+0.1**
SZAC	**Souni**	**4.30**	**99**	P	**Pn**	**00 07 34.7**	**-1.8**
SZAC				AML	AML	00 08 25.4	
comp=E,0.2nm,1.2s							
SZAC				AML	AML	00 08 25.4	
comp=E,0.2nm,1.2s							
SZAC				S	**Sn**	**00 08 26.6**	**-0.4**
ERMK	**Ermenek**	**4.35**	**74**	*i* P	**Pn**	**00 07 37.7**	**+0.4**
ERMK				*i* S	**Sn**	**00 08 27.5**	**-0.9**
ERMK				IAML		00 08 34.0	
comp=N,15nm,0.5s							
ERMK				IAML		00 08 35.0	
comp=E,16nm,0.6s							
CSS	**Mathiatis**	**4.63**	**96**	P	**Pn**	**00 07 39.8**	**-1.2**
VLX	**Vlachokerasia**	**4.67**	**295**	P	**Pn**	**00 07 43.2**	**+1.5**
MVOU	**Mavrovouni**	**4.87**	**94**	P	**Pn**	**00 07 42.4**	**-1.8**
GUR	**Goura**	**4.93**	**301**	P	**Pn**	**00 07 44.9**	**-0.3**
ITM	**Ithomi**	**4.95**	**291**	P	**Pn**	**00 07 46.8**	**+1.4**
KLV	**Kalavryta, Ach**	**5.12**	**301**	P	**Pn**	**00 07 49.2**	**+1.5**

*IDC **14** 00:45:09.3±3.8,36°.43N×71°.32E,h160km±35km,mb3.4/13, mb1 3.6/19,mb1mx3.3/44,mbtmp4.0/19,Error ellipse: s-maj=22.4km s-min=14.2km az=10.0*
*NEIC **14** 00:45:13.3±2.1,36°.69N±0°.06×71°.23E±0°.08,h195km±5km, mb4.1/29,Error ellipse: s-maj=9.5km s-min=7.6km az=126.0*
*NNC **14** 00:45:20.3±4.6,37°.66N×71°.19E,h350km±298km,mb2.9, mpv4.3,Error ellipse: s-maj=187.2km s-min=30.2km az=179.0*

ISC 14 00:45:12.8±0.4,36°.70N±0°.04×71°.34E±0°.04,h200km,n117, σ1°56/130,mb3.9/25,3C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.43**	**341**	Pn	**Pn**	**00 45 56.0**	**0.0**
GAR				Sn	**Sn**	**00 46 26.9**	**-3.0**
CHGR	**Chuyangaron**	**2.61**	**319**	Pn	**Pn**	**00 45 57.4**	**-0.6**
CHGR				Sn	**Sn**	**00 46 30.5**	**-2.8**
KBL	**Kabul**	**2.86**	**222**	Pn	**Pn**	**00 46 01.1**	**0.0**
KBL				Sn	**Sn**	**00 46 36.0**	**-2.6**
CEP	**Cherat**	**2.91**	**171**	P	**Pn**	**00 46 01.9**	**+0.3**
CEP				S	**Sn**	**00 46 39.0**	**-0.7**
BTK	**Batken**	**3.38**	**353**	Pn	**Pn**	**00 46 08.1**	**+1.1**
BTK				Sn	**Sn**	**00 46 48.4**	**-1.1**
NIL	**Nilore**	**3.42**	**152**	Pn	**Pn**	**00 46 08.6**	**+1.0**
THW	**Thamme Wali**	**3.91**	**175**	P	**Pn**	**00 46 13.8**	**+0.2**
TAS	**Tashkent**	**4.88**	**342**	Pn	**Pn**	**00 46 26.1**	**+0.4**
THN	**Thein Dam**	**5.58**	**138**	*e*P	**Pn**	**00 46 35.0**	**+0.3**
THN				*e*S	**Sn**	**00 47 37.0**	**-2.3**
AML	**Almayashu**	**5.72**	**18**	P	**Pn**	**00 46 37.1**	**+0.3**
SNR=251							
UCH	**Uchtor**	**6.04**	**23**	P	**Sn**	**00 47 47.9**	**-2.7**
SNR=15							
DHRM	**DHARAMSHALA**	**6.04**	**136**	*e*P	**Pn**	**00 46 41.6**	**+0.8**
DHRM				*e*S	**Sn**	**00 47 48.2**	**-2.3**
DHRM				IAML		00 47 50.0	
comp=E,547nm,0.2s							
DHRM				IAML		00 47 50.8	
comp=N,468nm,0.2s							
KZA	**Kyzart**	**6.16**	**28**	P	**Pn**	**00 46 42.4**	**-0.1**
SNR=12							
EKS2	**Erkin-Say**	**6.24**	**17**	P	**Pn**	**00 46 44.1**	**+0.9**
SNR=37							
AAK	**Ala-Archa**	**6.41**	**21**	P	**Pn**	**00 46 46.2**	**+0.8**
SNR=49							
AAK	**Ala-Archa**	**6.41**	**21**	⇓P	**Pn**	**00 46 45.8**	**+0.4**
AAK				S	**Sn**	**00 47 56.9**	**-1.9**
comp=N,22nm,0.4s							
KK31	**Karatay Array**	**6.42**	**355**	⇑P	**Pn**	**00 46 45.6**	**+0.2**
comp=N,10.0nm,0.3s,baz=177,slow=12,SNR=567							
KK31				⇑S	**Sn**	**00 47 53.8**	**-5.1**
comp=N,52nm,0.5s,baz=185,slow=24,SNR=17							
KK31	**Karatay Array**	**6.42**	**355**	Pn	**Pn**	**00 46 45.7**	**+0.2**
KKAR	**Karatay Array**	**6.42**	**355**	Pn	**Pn**	**00 46 45.7**	**+0.2**
KKAR	**Karatay Array**	**6.42**	**355**	Pn	**Pn**	**00 46 45.3**	**-0.1**
KBK	**Karagaybulak**	**6.56**	**24**	P	**Pn**	**00 46 49.0**	**+1.6**
SNR=9.9							
FRU1	**Bishkek**	**6.60**	**22**		**Pn**	**00 46 49.1**	**+1.3**
BHK	**Bhakra**	**6.75**	**140**	*e*P	**Pn**	**00 46 50.0**	**+0.2**
BHK				*e*S	**Sn**	**00 48 03.0**	**-3.7**
BOOM	**Boomskoye usch**	**6.78**	**30**		**Pn**	**00 46 51.7**	**+1.4**
CHMS	**Chumysh**	**6.81**	**22**	P	**Pn**	**00 46 51.1**	**+0.6**
SNR=20							
USP	**Ospenovka**	**6.99**	**19**	P	**Pn**	**00 46 52.8**	**0.0**
SNR=27							
TKM2	**Tokmak 2**	**7.02**	**26**	P	**Pn**	**00 46 54.4**	**+1.0**
SNR=29							
TKM2	**Tokmak 2**	**7.02**	**26**	⇓P	**Pn**	**00 46 54.1**	**+0.7**
comp=N,12nm,0.5s							
TKM2				⇑S	**Sn**	**00 48 10.2**	**-3.0**
comp=N,58nm,0.7s							
TARG	**Taragay, Kyrgy**	**7.10**	**43**	Pn	**Pn**	**00 46 54.2**	**-0.4**
SMLA	**Simla**	**7.37**	**137**	*e*P	**Pn**	**00 46 57.9**	**0.0**
SMLA				*e*S	**Sn**	**00 48 17.0**	**-4.4**
SMLA				IAML		00 48 19.6	
comp=N,193nm,0.2s							
SMLA				IAML		00 48 20.1	
comp=E,265nm,0.3s							
HRA	**Herat**	**7.77**	**255**	Pn	**Pn**	**00 47 03.6**	**+0.3**
DDI	**Dehra Dun**	**8.48**	**137**	*e*P	**Pn**	**00 47 12.9**	**+0.6**
DDI				*e*S	**Sn**	**00 48 43.8**	**-3.9**
NDI	**New Delhi**	**9.40**	**147**	*e*S	Sn	00 48 58.0	-12
GEYT	**Alibeck**	**10.60**	**281**	P	**Pn**	**00 47 37.6**	**-2.2**
comp=E,3.7nm,0.3s,baz=102,slow=18,SNR=57							
GEYT				S	**Sn**	**00 49 32.3**	**-5.9**
comp=E,3.1nm,0.3s,baz=113,slow=11,SNR=6.1							
GEYT	**Alibeck**	**10.60**	**281**	Pn	**Pn**	**00 47 37.3**	**-2.5**
GYA0B	**ALIBECK ARRAY**	**10.60**	**281**	Pn	**Pn**	**00 47 37.6**	**-2.2**
MAKZ	**Makanchi**	**12.83**	**35**	Pn	**Pn**	**00 48 08.6**	**+0.6**
MK31	**Makanchi Array**	**12.97**	**36**	Pn	**P**	**00 48 11.3**	**-1.7**
MKAR	**Makanchi Array**	**12.97**	**36**	P	**Pn**	**00 48 10.8**	**+1.0**
comp=E,0.9nm,0.3s,baz=210,slow=9.3,SNR=17							
MKAR	**Makanchi Array**	**12.97**	**36**	P	**P**	**00 48 12.9**	**-0.1**
PYUN	**Piuthan**	**13.05**	**128**	*e*P	**Pn**	**00 48 09.5**	**-1.6**
comp=E,102nm,0.3s							
PYUN	**Piuthan**	**13.05**	**128**	*e*P	**Pn**	**00 48 09.5**	**-1.6**
comp=E,102nm,0.3s							
KOLN	**Koldanda**	**13.66**	**127**	*e*P	**Pn**	**00 48 18.2**	**-0.6**
comp=E,40nm,0.4s							
KOLN	**Koldanda**	**13.66**	**127**	*e*P	**Pn**	**00 48 18.2**	**-0.6**
comp=E,40nm,0.4s							
GKN	**Gorkha**	**14.19**	**124**	*e*P	**Pn**	**00 48 25.5**	**+0.3**
comp=E,87nm,0.2s							
GKN	**Gorkha**	**14.19**	**124**	*e*P	**Pn**	**00 48 25.5**	**+0.3**
comp=E,87nm,0.2s							
BHPL	**Bhopal**	**14.41**	**157**	*e*P	**P**	**00 48 32.4**	**+3.2**
KKN	**Kakani**	**14.75**	**123**	*e*P	**P**	**00 48 33.0**	**-0.2**
comp=E,65nm,0.5s							
KKN	**Kakani**	**14.75**	**123**	*e*P	**P**	**00 48 33.0**	**-0.2**
comp=E,65nm,0.5s							
DMN	**Daman**	**14.76**	**124**	*e*P	**P**	**00 48 32.6**	**-0.7**
comp=E,50nm,0.3s							
DMN	**Daman**	**14.76**	**124**	*e*P	**P**	**00 48 32.6**	**-0.7**
comp=E,50nm,0.3s							
KURBB	**Kurchatov Arra**	**14.84**	**18**	P	**P**	**00 48 33.7**	**0.0**
comp=E,0.2nm,0.3s,baz=207,slow=9.9,SNR=14							
KURK	**Kurchatov**	**14.95**	**18**	P	**Pn**	**00 48 33.7**	**-0.5**
PKIN	**Phulchoki**	**14.97**	**123**	*e*P	**P**	**00 48 35.9**	**+0.2**
comp=E,87nm,0.4s							
PKIN	**Phulchoki**	**14.97**	**123**	*e*P	**P**	**00 48 35.9**	**+0.2**
comp=E,87nm,0.4s							
PKI	**Pulchoki**	**14.98**	**123**	*e*P	**P**	**00 48 35.7**	**-0.2**
comp=E,75nm,0.4s							
PKI	**Pulchoki**	**14.98**	**123**	*e*P	**P**	**00 48 35.7**	**-0.2**
comp=E,75nm,0.4s							
ABKAR	**Akbulak array**	**15.04**	**330**		**Pn**	**00 48 34.6**	**-0.7**
JIRN	**Jiri**	**15.46**	**121**	*e*P	**P**	**00 48 41.5**	**+0.4**
comp=E,269nm,0.4s							
JIRN	**Jiri**	**15.46**	**121**	*e*P	**P**	**00 48 41.5**	**+0.4**
comp=E,269nm,0.4s							
RAMN	**Ramite**	**16.19**	**123**	*e*P	**Pn**	**00 48 49.3**	**-0.4**
comp=E,27nm,0.2s							
RAMN	**Ramite**	**16.19**	**123**	*e*P	**Pn**	**00 48 49.3**	**-0.4**
comp=E,27nm,0.2s							
BVAR	**Borovoye Array**	**16.33**	**358**	P	**Pn**	**00 48 51.9**	**+0.9**
comp=E,0.7nm,0.3s,baz=171,slow=16,SNR=16							
BRVK	**Borovoye**	**16.37**	**358**		**Pn**	**00 48 51.6**	**+0.3**
TAPN	**Taplejung**	**16.70**	**119**	*e*P	**Pn**	**00 48 57.0**	**+1.1**
comp=E,53nm,0.4s							
TAPN	**Taplejung**	**16.70**	**119**	*e*P	**Pn**	**00 48 57.0**	**+1.1**
comp=E,53nm,0.4s							
AKTO	**Aktyubinsk**	**16.74**	**329**	P	**Pn**	**00 48 56.9**	**+1.1**
comp=E,5.3nm,0.3s,baz=138,slow=8.6,SNR=94							
AKTO				S	**S**	**00 51 56.6**	**-2.6**
comp=E,0.3nm,0.3s,baz=352,slow=21,SNR=7.0							
ODAN	**Odare**	**16.79**	**121**	*e*P	**Pn**	**00 48 56.0**	**-0.8**
comp=E,57nm,0.7s							
ODAN	**Odare**	**16.79**	**121**	*e*P	**Pn**	**00 48 56.0**	**-0.8**
comp=E,57nm,0.7s							
UOSS	**Minazif**	**17.48**	**232**	P	**Pn**	**00 49 04.1**	**-0.6**
UOSS				IAmb	IAmb	00 49 18.7	
comp=Z,8.4nm,1.0s							
ZALV	**Zalesovo Beam**	**19.62**	**24**	P	**Pn**	**00 49 27.8**	**-1.9**
comp=Z,0.9nm,0.3s,baz=216,slow=10.0,SNR=11							
ZALV	**Zalesovo Beam**	**19.62**	**24**	P	**Pn**	**00 49 27.4**	**-2.2**
TBLG	**Delisi**	**21.18**	**292**	P	**P**	**00 49 43.0**	**+0.4**
TBLG				IAmb	IAmb	00 49 50.9	
comp=Z,11nm,1.1s							
ARU	**Arti**	**21.53**	**340**	P	**P**	**00 49 47.8**	**+1.8**
comp=Z,0.7nm,0.4s,baz=149,slow=12,SNR=5.0							
ARU				S	S	00 53 46.4	+15
comp=Z,0.5nm,0.4s,baz=116,slow=22,SNR=3.5							
ARU	**Arti**	**21.53**	**340**	P	**P**	**00 49 46.3**	**+0.3**
ARU				IAmb	IAmb	00 49 48.6	
comp=Z,2.7nm,0.6s							
AKH	**Akhalkalaki**	**22.09**	**291**	P	**P**	**00 49 52.7**	**+0.8**
AKH				IAmb	IAmb	00 49 58.1	
comp=Z,3.8nm,0.8s							
KBZ	**Khabaz**	**22.75**	**297**	P	**P**	**00 49 58.8**	**+1.1**
comp=Z,0.9nm,0.7s,baz=135,slow=13,SNR=2.0							
KVAR	**Kislovodsk Arr**	**22.93**	**297**	P	**P**	**00 50 01.9**	**+2.4**
comp=Z,6.1nm,1.1s,baz=86,slow=19,SNR=1.9							
BRTR	**Keskin Array B**	**29.63**	**287**	P	**P**	**00 51 00.6**	**+0.9**
comp=Z,0.5nm,0.6s,baz=100,slow=9.8,SNR=4.1							
BRTR	**Keskin Array B**	**29.63**	**287**	P	**P**	**00 50 58.5**	**-1.2**
ELL	**Elmali**	**33.02**	**283**	P	**P**	**00 51 29.5**	**+0.2**
AKASG	**Malin Array Be**	**33.03**	**309**	P	**P**	**00 51 30.6**	**+1.6**
comp=Z,0.5nm,0.3s,baz=81,slow=7.4,SNR=4.6							
AKASG	**Malin Array Be**	**33.03**	**309**	P	**P**	**00 51 29.4**	**+0.4**
BURAR	**Bucovina Array**	**35.41**	**303**	P	**P**	**00 51 50.7**	**+

$M_0$3.03100×10^{16} NP1:ϕ_s311.00000°,δ50.00000°, λ-133.00000°. NP2:ϕ_s186.00000°,δ56.00000°, λ-51.00000°. Principal axes: T 2.7400, Plg4.0000°, Azm250.0000°; N 0.5790, Plg32.0000°, Azm342.0000°; P -3.3230, Plg58.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 14 01:08:57.4±0.3, 0°.02N±0°.06×16°.96W±0°.06, h13km, n189, σ1§31/161, mb4.6/65, MS4.1/26, 9C-1D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.17**	**163**	T	T	01 20 02.3	
	baz=341,slow=74,SNR=1611						
H10N3	**ASCENSION HYDR**	**8.18**	**163**	T	T	01 20 02.9	
	baz=341,slow=74,SNR=2161						
H10N1	**ASCENSION HYDR**	**8.19**	**163**	T	T	01 20 02.4	
	baz=341,slow=74,SNR=4017						
ASCN	**Ascension**	**8.31**	**162**	Pn	**Pn**	**01 10 57.8**	**0.0**
H10S3	**ASCENSION HYDR**	**9.20**	**166**	T	T	01 21 16.6	
	baz=344,slow=74,SNR=966						
H10S2	**ASCENSION HYDR**	**9.21**	**166**	T	T	01 21 18.5	
	baz=236,slow=74,SNR=392						
LIC	**Lamto**	**13.41**	**62**	*e*P	**Pn**	**01 12 06.6**	**-0.9**
	26nm,0.3s						
TIC	**Toumodi**	**13.61**	**61**	*e*P	**Pn**	**01 12 07.5**	**-2.8**
KIC	**Kosan Boka**	**13.72**	**62**	*e*P	**Pn**	**01 12 08.8**	**-3.1**
	17nm,0.3s						
DBIC	**Dimbokro**	**13.76**	**61**	Pn	**Pn**	**01 12 09.9**	**-2.4**
	4.3nm,0.3s,baz=230,slow=13,SNR=100						
DBIC				Sn	Sn	01 14 30.4	-15
	1.3nm,0.3s,baz=151,slow=19,SNR=1.5						
DBIC				LR	LR	01 16 27.6	
	comp=Z,834nm,21.8s,baz=222,slow=33						
DBIC	**Dimbokro**	**13.76**	**61**	Pn	**Pn**	**01 12 10.4**	**-2.0**
SHEL	**Horse Pasture**	**19.35**	**146**	P	**P**	**01 13 20.2**	**-2.7**
RCBR	**Riachuelo**	**19.78**	**253**	P	**P**	**01 13 27.3**	**-0.4**
	3.5nm,0.3s,baz=81,slow=14,SNR=39						
RCBR				LR	LR	01 19 01.2	
	comp=Z,543nm,20.6s,baz=40,slow=31						
RCBR	**Riachuelo**	**19.78**	**253**	P	**P**	**01 13 25.2**	**-2.5**
TOA0	**Torodi Ar. Sit**	**22.63**	**54**	P	**P**	**01 13 57.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**22.63**	**54**	P	**P**	**01 13 57.2**	**-1.1**
	66nm,1.0s,baz=245,slow=11,SNR=43						
TORD				S	**S**	**01 18 02.1**	**-4.0**
	4.2nm,0.8s,baz=227,slow=20,SNR=4.2						
TORD				LR	LR	01 21 46.7	
	comp=Z,557nm,20.5s,baz=225,slow=34						
TORD	**Torodi Ar. Bea**	**22.63**	**54**	P	**P**	**01 13 56.8**	**-1.5**
TTIG	**Tnine Tigouga,**	**31.42**	**14**	P	**P**	**01 15 20.3**	**+1.7**
TAM	**Tamanrasset**	**31.48**	**43**	P	**P**	**01 15 19.8**	**+0.5**
ZGR	**Zagora**	**31.82**	**19**	P	**P**	**01 15 20.3**	**-1.8**
OUK	**Oukaimeden**	**32.20**	**15**	P	**P**	**01 15 25.1**	**-0.6**
OUZM	**OUZ**	**32.21**	**17**	P	**P**	**01 15 22.3**	**-3.3**
PMOZ	**Porto Moniz, M**	**32.63**	**360**	P	**P**	**01 15 29.8**	**+0.6**
ARF	**Arif**	**33.50**	**20**	P	**P**	**01 15 36.2**	**-0.6**
BDFB	**Brasilia**	**34.39**	**242**	P	**P**	**01 15 44.5**	**-0.3**
	1.4nm,0.5s,baz=49,slow=11,SNR=2.5						
BDFB				LR	LR	01 27 34.9	
	comp=Z,173nm,21.0s,baz=92,slow=33						
BDFB	**Brasilia**	**34.39**	**242**	P	**P**	**01 15 44.2**	**-0.5**
BDFB				IAmb	IAmb	01 15 58.4	
	comp=Z,14nm,1.2s						
MDT	**Midelt**	**34.64**	**18**	P	**P**	**01 15 46.4**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=264,slow=4.8,SNR=6.8						
MDT	**Midelt**	**34.64**	**18**	P	**P**	**01 15 47.5**	**+0.8**
MD31	**MD31**	**34.64**	**18**	P	**P**	**01 15 47.0**	**+0.3**
PSMN	**Pico do Norte,**	**37.56**	**349**	*e*T	T	01 55 12.0	
PSMA	**Santa Maria**	**37.56**	**349**	*e*T	T	01 55 11.9	
PBDV	**Barranco-do-Ve**	**37.97**	**12**	*e*P	**P**	**01 16 16.5**	**+1.5**
BART	**Pico Bartolome**	**38.33**	**349**	*e*T	T	01 56 15.3	
CMLA	**Cha da Maela**	**38.38**	**349**	*e*T	T	01 56 17.5	
PDA	**Ponta Delgada**	**38.39**	**349**	*e*T	T	01 56 17.5	
TSUM	**Tsumeb**	**38.89**	**121**	P	**P**	**01 16 23.7**	**+0.5**
	comp=Z,9.4nm,1.0s,baz=284,slow=8.4,SNR=7.7						
TSUM				LR	LR	01 29 13.9	
	comp=Z,190nm,18.7s,baz=298,slow=31						
TSUM	**Tsumeb**	**38.89**	**121**	P	**P**	**01 16 23.6**	**+0.4**
EVO	**Evora**	**39.20**	**11**	*e*P	**P**	**01 16 26.7**	**+1.4**
PCAS	**Casmilo, Conde**	**40.59**	**10**	*e*P	**P**	**01 16 37.9**	**+1.1**
COI	**Coimbra**	**40.75**	**10**	P	**P**	**01 16 38.6**	**+0.5**
PAB	**San Pablo**	**41.00**	**15**	P	**P**	**01 16 41.0**	**+0.6**
PAB				IAmb	IAmb	01 16 52.4	
	comp=Z,21nm,1.2s						
ESDC	**Sonseca Array**	**41.22**	**15**	P	**P**	**01 16 41.4**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=192,slow=8.0,SNR=8.3						
ESDC				PP	**PnPn**	**01 18 21.9**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=194,slow=11,SNR=5.0						
ESDC				LR	LR	01 34 48.4	
	comp=Z,149nm,18.3s,baz=170,slow=38						
ESDC	**Sonseca Array**	**41.22**	**15**	P	**P**	**01 16 43.5**	**+1.5**
ESBB	**Sonseca Array**	**41.22**	**15**	P	**P**	**01 16 42.3**	**+0.2**
PTGA	**Pitinga**	**43.02**	**269**	P	**P**	**01 16 56.6**	**-0.5**
KEST	**Kesra**	**43.15**	**32**	P	**P**	**01 16 57.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=273,slow=7.2,SNR=1.6						
KEST				PP	**PP**	**01 18 42.7**	**+4.3**
	comp=Z,6.4nm,0.8s,baz=271,slow=1.9,SNR=4.9						
KEST				LR	LR	01 35 47.9	
	comp=Z,399nm,19.6s,baz=169,slow=37						
KEST	**Kesra**	**43.15**	**32**	P	**P**	**01 16 57.5**	**-0.4**
KEST				IAmb	IAmb	01 17 12.0	
	comp=Z,23nm,1.4s						
H05S1	**Guadeloupe/Mar**	**45.70**	**290**	T	T	02 05 38.2	
SIV	**San Ignacio**	**46.34**	**248**	P	**P**	**01 17 22.7**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=65,slow=6.2,SNR=6.0						
SIV				LR	LR	01 34 56.5	
	comp=Z,403nm,21.9s,baz=94,slow=34						
H05N1	**Guadeloupe/Mar**	**46.40**	**293**	T	T	02 06 31.5	
CPUP	**Villa Florida**	**46.88**	**233**	P	**P**	**01 17 27.3**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=77,slow=8.4,SNR=3.2						
CPUP				LR	LR	01 34 47.0	
	comp=Z,207nm,20.6s,baz=78,slow=33						
CPUP	**Villa Florida**	**46.88**	**233**	IAmb	IAmb	01 17 40.9	
	comp=Z,25nm,2.0s						
SAML	**Samuel**	**46.89**	**258**	P	**P**	**01 17 27.8**	**-0.1**
SAML				IAmb	IAmb	01 17 40.8	
	comp=Z,13nm,1.2s						
LSZ	**Lusaka**	**47.11**	**111**	P	**P**	**01 17 31.8**	**+2.0**
MBAR	**Mbarara**	**47.70**	**91**	P	**P**	**01 17 36.0**	**+1.5**
SUR	**Sutherland**	**48.03**	**136**	P	**P**	**01 17 36.8**	**0.0**
	comp=Z,27nm,0.9s,baz=268,slow=4.4,SNR=11						
SUR	**Sutherland**	**48.03**	**136**	P	**P**	**01 17 37.4**	**+0.5**
LBTB	**Lobatse**	**48.07**	**124**	P	**P**	**01 17 37.5**	**+0.4**
	comp=Z,9.9nm,0.9s,baz=301,slow=7.8,SNR=9.6						
LBTB	**Lobatse**	**48.07**	**124**	P	**P**	**01 17 37.8**	**+0.6**
BOSA	**Boshof**	**49.38**	**129**	P	**P**	**01 17 47.7**	**+0.5**
	comp=Z,19nm,0.9s,baz=302,slow=7.3,SNR=18						
BOSA				LR	LR	01 37 27.2	
	comp=Z,121nm,18.0s,baz=300,slow=35						
BOSA	**Boshof**	**49.38**	**129**	P	**P**	**01 17 46.2**	**-0.9**
BNI	**Bardonecchia**	**49.49**	**22**	P	**P**	**01 17 49.2**	**+1.5**
BNI				IAmb	IAmb	01 18 01.5	
	comp=Z,12nm,1.2s						
AQU	**L'Aquila**	**50.22**	**29**	P	**P**	**01 17 54.1**	**+0.9**
VLC	**Villacollemand**	**50.24**	**25**	P	**P**	**01 17 54.0**	**+0.6**
VLC				IAmb	IAmb	01 18 18.9	
	comp=Z,12nm,1.1s						
ZCCA	**Zocca**	**50.65**	**26**	P	**P**	**01 17 56.0**	**-0.4**
PRMA	**PARMA**	**50.70**	**25**	P	**P**	**01 17 58.2**	**+1.5**
TUE	**Stuetta**	**51.70**	**23**	P	**P**	**01 18 05.4**	**+0.9**
TUE				IAmb	IAmb	01 18 16.5	
	comp=Z,21nm,1.5s						
FUORN	**Ofenpass-Fuorn**	**52.18**	**24**	P	**P**	**01 18 09.0**	**+0.9**
FUORN				IAmb	IAmb	01 18 38.2	
	comp=Z,31nm,1.9s						
CTI	**Castel Tesino**	**52.29**	**25**	P	**P**	**01 18 10.3**	**+1.6**
ECH	**Echery**	**52.36**	**20**	P	**P**	**01 18 10.6**	**+1.4**
ECH				IAmb	IAmb	01 18 21.4	
	comp=Z,22nm,1.6s						
DAVA	**Damuels**	**52.58**	**23**	*e*P	**P**	**01 18 10.9**	**0.0**
	comp=Z,13nm,1.2s						
FETA	**Feichten**	**52.69**	**24**	*e*pP	**P**	**01 18 15.0**	**+3.2**
	comp=Z,7.6nm,1.3s						
CIMO	**Cimolais**	**52.83**	**25**	P	**P**	**01 18 13.1**	**+0.4**
BFO	**Black Forest**	**52.87**	**21**	P	**P**	**01 18 14.6**	**+1.7**
BFO				IAmb	IAmb	01 18 18.8	
	comp=Z,14nm,1.3s						
TRI	**Trieste**	**52.94**	**27**	P	**P**	**01 18 15.0**	**+1.5**
TRI				IAmb	IAmb	01 18 25.2	
	comp=Z,11nm,1.0s						
LPAZ	**La Paz**	**52.98**	**250**	P	**P**	**01 18 13.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=101,slow=4.9,SNR=9.0						
LPAZ				LR	LR	01 40 15.1	
	comp=Z,188nm,19.2s,baz=76,slow=36						
LPAZ	**La Paz**	**52.98**	**250**	P	**P**	**01 18 13.5**	**-1.5**
SQTA	**Sankt Quirin**	**53.05**	**24**	*e*P	**P**	**01 18 14.5**	**+0.1**
	comp=Z,8.7nm,1.0s						
RETA	**Reutte**	**53.09**	**23**	*e*P	**P**	**01 18 16.1**	**+1.5**
	comp=Z,6.4nm,1.2s						
MOTA	**Moosalm**	**53.11**	**24**	*e*P	**P**	**01 18 16.5**	**+1.7**
	comp=Z,3.8nm,1.1s						
ABTA	**Abfaltersbach**	**53.21**	**25**	*e*P	**P**	**01 18 17.3**	**+1.7**
	comp=Z,7.4nm,1.4s						
ZOU	**Zoufplan**	**53.26**	**25**	IAmb	IAmb	01 18 38.9	
	comp=Z,19nm,1.4s						
WTTA	**Wattenberg**	**53.26**	**24**	*e*P	**P**	**01 18 15.8**	**-0.2**
	comp=Z,5.6nm,1.4s						
WATA	**Walderalm**	**53.29**	**24**	*e*P	**P**	**01 18 16.9**	**+0.7**
	comp=Z,3.5nm,1.2s						
PRED	**Cave del Predi**	**53.42**	**26**	IAmb	IAmb	01 18 23.1	
	comp=Z,26nm,1.6s						
MYKA	**Terra Mystica**	**53.60**	**26**	*e*pP	**P**	**01 18 22.6**	**+4.2**
	comp=Z,6.5nm,1.4s						
KMBO	**Kilima Mbogo**	**54.22**	**91**	P	**P**	**01 18 26.6**	**+2.9**
	comp=Z,4.0nm,0.9s,baz=263,slow=9.2,SNR=9.5						
KMBO				LR	LR	01 39 02.4	
	comp=Z,187nm,21.5s,baz=264,slow=33						
KMBO	**Kilima Mbogo**	**54.22**	**91**	P	**P**	**01 18 24.2**	**+0.5**
KMBO				IAmb	IAmb	01 18 39.2	
	comp=Z,12nm,1.1s						
SOKA	**Soboth**	**54.25**	**27**	*e*P	**P**	**01 18 24.3**	**+1.1**
	comp=Z,3.1nm,0.8s						
DR12	**Loma Pena Alta**	**54.70**	**293**	P	**P**	**01 18 27.6**	**+0.7**
MOA	**Molln**	**54.81**	**25**	*e*P	**P**	**01 18 27.6**	**+0.4**
	comp=Z,5.2nm,1.2s						
ARSA	**Arzberg**	**54.91**	**27**	*e*P	**P**	**01 18 30.3**	**+2.4**
	comp=Z,4.7nm,1.0s						
GRF	**Grafenberg Arr**	**55.06**	**22**	*e*P	**P**	**01 18 31.9**	**+3.0**
	comp=Z,12nm,1.8s,baz=215,slow=7.7						
GEC2	**GERESS Array S**	**55.35**	**24**	IAmb	IAmb	01 18 46.9	
	comp=Z,12nm,1.4s						
GERES	**GERESS Array B**	**55.35**	**24**	P	**P**	**01 18 31.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=207,slow=6.8,SNR=10						
GERES				PP	**PP**	**01 20 38.3**	**+3.3**
	comp=Z,1.7nm,0.9s,baz=198,slow=8.4,SNR=4.3						
GERES	**GERESS Array B**	**55.35**	**24**	P	**P**	**01 18 30.8**	**-0.4**
KHC	**Kasperske Hory**	**55.53**	**24**	*e*P	**P**	**01 18 31.8**	**-0.5**
KHC				*e*x	x	01 18 39.5	
CONA	**Conrad Observa**	**55.57**	**26**	*e*P	**P**	**01 18 33.0**	**+0.3**
	comp=Z,2.8nm,1.0s						
PBCC	**Pribram**	**56.13**	**24**	*e*P	**P**	**01 18 37.3**	**+0.7**
HERR	**Herculane**	**56.65**	**33**	⇑P	**P**	**01 18 41.9**	**+1.6**
KRUC	**Moravsky**	**56.66**	**26**	*e*P	**P**	**01 18 39.6**	**-0.8**
BZS	**Buzias**	**56.71**	**32**	⇓P	**P**	**01 18 41.1**	**+0.4**
VRAC	**Vranov**	**56.93**	**26**	⇑P	**P**	**01 18 40.1**	**-2.2**
VRAC	**Vranov**	**56.93**	**26**	*e*P	**P**	**01 18 41.8**	**-0.5**
PVCC	**Panska Ves**	**57.02**	**23**	*e*P	**P**	**01 18 45.0**	**+2.1**
CLL	**Collm**	**57.04**	**22**	*i* P	**P**	**01 18 45.3**	**+2.3**
	comp=Z,12nm,1.6s						
CLL				*i*		01 18 53.3	
CLL				*e*S	**S**	**01 26 36.0**	**-1.3**
BRG	**Berggiesshubel**	**57.05**	**23**	*e*P	**P**	**01 18 43.3**	**+0.2**
	comp=Z,6.7nm,1.6s						
JAVC	**Velka Javorina**	**57.07**	**27**	*e*P	**P**	**01 18 43.7**	**+0.4**
VYHS	**Vyhne**	**57.33**	**28**	*e*P	**P**	**01 18 47.0**	**+1.8**
ROSC	**El Rosal**	**57.49**	**276**	P	**P**	**01 18 47.5**	**+0.2**
	comp=Z,7.9nm,0.7s,baz=203,slow=23,SNR=4.2						
ROSC				LR	LR	01 41 25.0	
	comp=Z,137nm,18.0s,baz=80,slow=34						
ROSC	**El Rosal**	**57.49**	**276**	IAmb	IAmb	01 18 49.6	
	comp=Z,9.3nm,0.8s						
KRLC	**Kraliky**	**57.59**	**25**	*e*P	**P**	**01 18 47.5**	**+0.5**
DPC	**Dobruska-Polom**	**57.60**	**25**	*e*P	**P**	**01 18 48.9**	**+1.8**
CHVC	**Chvalec**	**57.67**	**24**	*e*P	**P**	**01 18 49.5**	**+1.9**
MORC	**Moravsky Berou**	**57.69**	**26**	*e*P	**P**	**01 18 47.6**	**-0.1**
MORC	**Moravsky Berou**	**57.69**	**26**	IAmb	IAmb	01 18 59.2	
	comp=Z,13nm,1.5s						
VOIR		**58.44**	**34**	⇑P	**P**	**01 18 53.5**	**+0.4**
DOPR	**Dopca**	**58.95**	**33**	⇑P	**P**	**01 18 57.1**	**+0.5**
MLR	**Muntele Rosu**	**58.97**	**34**	⇑P	**P**	**01 18 56.4**	**-0.4**
OZUR		**59.25**	**33**	⇑P	**P**	**01 18 59.6**	**+0.9**
KOLS	**Kolonicke sedl**	**59.27**	**29**	*e*P	**P**	**01 18 59.5**	**+0.8**
MDUB	**Mudurnu**	**59.39**	**41**	P	**P**	**01 19 00.7**	**+0.8**
PLOR	**Plostina**	**59.58**	**34**	⇑P	**P**	**01 19 01.2**	**+0.2**
VRI	**Vrincioaia**	**59.63**	**34**	⇑P	**P**	**01 19 00.6**	**-0.7**
BURAR	**Bucovina Array**	**59.89**	**32**	P	**P**	**01 19 04.0**	**+0.8**
BUR08	**Bucovina Ar. S**	**59.90**	**32**	P	**P**	**01 19 04.1**	**+0.8**
BUR08				IAmb	IAmb	01 19 28.3	
	comp=Z,8.2nm,1.3s						
BR131	**Keskin Array S**	**60.67**	**43**	P	**P**	**01 19 08.5**	**-0.2**
BR131				IAmb	IAmb	01 19 20.7	
	comp=Z,14nm,1.8s						
BRTR	**Keskin Array B**	**60.67**	**43**	P	**P**	**01 19 08.5**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=234,slow=6.4,SNR=15						
BRTR				LR	LR	01 46 23.3	
	comp=Z,41nm,20.2s,baz=194,slow=37						
BRTR	**Keskin Array B**	**60.67**	**43**	P	**P**	**01 19 08.8**	**+0.1**
TOKA	**Tokat**	**62.89**	**44**	P	**P**	**01 19 24.2**	**+0.6**
PLCA	**Paso Flores**	**63.20**	**223**	LR	LR	01 45 01.0	
	comp=Z,76nm,19.2s,baz=97,slow=34						
AKASG	**Malin Array Be**	**63.86**	**31**	P	**P**	**01 19 28.5**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=236,slow=5.9,SNR=8.2						
AKASG				LR	LR	01 49 36.1	
	comp=Z,48nm,18.2s,baz=240,slow=38						
AKBB	**Malin Array Si**	**63.86**	**31**	P	**P**	**01 19 29.5**	**-0.1**
AKBB				IAmb	IAmb	01 19 43.8	
	comp=Z,7.1nm,1.1s						
NB2	**NORSAR Subarra**	**64.58**	**15**	P	**P**	**01 19 33.8**	**-0.4**
	comp=Z,8.5nm,1.2s,baz=212,slow=6.9						
NOA	**NORSAR Array B**	**64.58**	**15**	P	**P**	**01 19 34.3**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=210,slow=6.5,SNR=6.8						
KBZ	**Khabaz**	**68.64**	**42**	P	**P**	**01 19 59.6**	**-0.8**
	comp=Z,5.1nm,0.9s,baz=234,slow=4.8,SNR=10.0						
FINES	**FINESS Array B**	**69.42**	**21**	P	**P**	**01 20 04.7**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=194,slow=6.5,SNR=12						
VNA1	**Neumayer--Stat**	**70.78**	**177**	P	**P**	**01 20 14.3**	**+1.2**
VNA2	**Neumayer--Watz**	**71.10**	**177**	P	**P**	**01 20 15.7**	**+0.6**
VNA3	**Neumayer Olymp**	**71.30**	**178**	P	**P**	**01 20 16.6**	**+0.2**
SNAA	**Sanae**	**72.15**	**175**	P	**P**	**01 20 21.8**	**+0.3**
SNAA	**Sanae**	**72.15**	**175**	P	**P**	**01 20 21.9**	**+0.3**
	comp=Z,8.7nm,0.9s,baz=335,slow=5.9,SNR=38						
SNAA	**Sanae**	**72.15**	**175**	P	**P**	**01 20 21.8**	**+0.3**
SNAA				IAmb	IAmb	01 20 23.1	
	comp=Z,12nm,1.0s						
U49A	**Red Boiling Sp**	**73.07**	**308**	IAmb	IAmb	01 20 38.9	
	comp=Z,12nm,1.2s						
CLTN	**Cedars of Leba**	**73.41**	**308**	P	**P**	**01 20 29.0**	**-0.6**
SUMG	**Summit**	**73.70**	**353**	P	**P**	**01 20 30.9**	**-0.2**
KLMR	**Klimovskoe**	**74.30**	**25**	*e*P	**P**	**01 20 32.8**	**-1.5**
KLMR				AMP		01 20 44.9	
	comp=Z,15nm,1.2s						
KLMR				*e*PP	**PP**	**01 23 18.7**	**-1.6**
WVT	**Waverly**	**74.61**	**308**	P	**P**	**01 20 35.3**	**-1.3**
ARCES	**ARCESS Array B**	**74.94**	**14**	P	**P**	**01 20 37.3**	**-0.6**
	comp=Z,6.2nm,0.9s,baz=221,slow=4.8,SNR=3.8						
WSAR	**Wadi Sarin**	**76.76**	**66**	P	**P**	**01 20 48.3**	**-0.9**
	comp=Z,8.7nm,1.0s,baz=144,slow=4.5,SNR=4.1						
CCM	**Cathedral Cave**	**77.65**	**309**	P	**P**	**01 20 53.6**	**-0.3**
CCM				IAmb	IAmb	01 21 05.0	
	comp=Z,9.9nm,1.2s						
GEYT	**Alibeck**	**78.24**	**51**	P	**P**	**01 20 57.6**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=262,slow=6.8,SNR=1.7						
GEYT				LR	LR	01 58 30.9	
	comp=Z,81nm,18.5s,baz=195,slow=38						
BELA	**Belgrano 2**	**78.40**	**184**	P	**P**	**01 20 57.9**	**+0.6**
U40A	**Yellville**	**78.65**	**307**	IAmb	IAmb	01 21 09.5	
	comp=Z,14nm,1.4s						
AKTO	**Aktyubinsk**	**80.44**	**39**	P	**P**	**01 21 08.8**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=29,slow=0.7,SNR=4.0						
ABKAR	**Akbulak array**	**81.45**	**40**	P	**P**	**01 21 14.3**	**0.0**
ARU	**Arti**	**82.00**	**33**	P	**P**	**01 21 17.0**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=270,slow=2.0,SNR=4.9						
ARU	**Arti**	**82.00**	**33**	P	**P**	**01 21 17.2**	**+0.1**
ARU				IAmb	IAmb	01 21 18.1	
	comp=Z,8.0nm,1.1s						
ECSD	**EROS Data Cent**	**82.51**	**314**	P	**P**	**01 21 20.7**	**+0.6**
ECSD				IAmb	IAmb	01 21 24.0	
	comp=Z,17nm,1.6s						
AGMN	**Agassiz Nation**	**82.61**	**319**	IAmb	IAmb	01 21 20.8	
	comp=Z,12nm,1.2s						
ULM	**Lac du Bonnet**	**82.90**	**321**	LR	LR	01 56 03.9	
	comp=Z,57nm,18.2s,baz=336,slow=34						
MAW	**Mawson**	**86.14**	**158**	P	**P**	**01 21 38.5**	**+0.6**
	comp=Z,7.1nm,1.0s,baz=281,slow=6.2,SNR=11						
MAW				LR	LR	01 52 46.1	
	comp=Z,76nm,18.8s,baz=52,slow=30						
MAW	**Mawson**	**86.14**	**158**	P	**P**	**01 21 38.1**	**+0.3**
TXAR	**Lajitas Array**	**87.12**	**299**	P	**P**	**01 21 43.7**	**0.0**
	comp=Z,1.4nm,0.9s,baz=107,slow=6.8,SNR=11						
TXAR				LR	LR	01 59 30.1	
	comp=Z,18nm,19.4s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**87.12**	**299**	P	**P**	**01 21 43.4**	**-0.4**
SDCO	**Great Sand Dun**	**88.84**	**308**	P	**P**	**01 21 51.8**	**-0.2**
ISCO	**Idaho Springs**	**88.95**	**310**	IAmb	IAmb	01 22 04.5	
	comp=Z,8.7nm,1.4s						
QSPA	**South Pole Qui**	**90.09**	**180**	P	**P**	**01 21 57.2**	**+0.2**
PDAR	**Pinedale Array**	**91.90**	**313**	LR	LR	02 01 25.2	
	comp=Z,55nm,18.1s,baz=59,slow=34						
YKA	**Yellowknife Ar**	**93.53**	**333**	P	**P**	**01 22 12.2**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=90,slow=4.4,SNR=5.0						
YKA				LR	LR	02 00 12.5	
	comp=Z,85nm,19.7s,baz=0.0,slow=33						
NRIK	**Noril'sk**	**95.09**	**20**	LR	LR	02 09 19.4	
	comp=Z,77nm,18.7s,baz=203,slow=38						
MKAR	**Makanchi Array**	**96.33**	**43**	LR	LR	02 11 33.2	
	comp=Z,70nm,18.6s,baz=162,slow=39						
ZALV	**Zalesovo Beam**	**96.91**	**36**	LR	LR	02 09 43.4	
	comp=Z,56nm,20.6s,baz=190,slow=38						
NVAR	**Mina Array Bea**	**98.88**	**309**	LR	LR	02 01 23.6	
	comp=Z,37nm,21.7s,baz=142,slow=32						
WMQ	**Urumqi**	**100.54**	**45**	*e*P	**Pdif**	**01 22 46.5**	**+1.4**
GTA	**Gaotai**	**110.41**	**48**	PKP	**PKiKP**	**01 27 29.3**	**-0.8**
GTA				LR	LR		
	comp=Z,85nm,20.0s						
GTA				LR	LR		
	comp=Z,110nm,18.2s						
GTA				LR	LR		
	comp=Z,110nm,20.4s						
LZH	**Lanzhou**	**114.49**	**50**	⇑PKP	PKPdf	01 27 34.9	-3.1
LZH				LR	LR		
	comp=Z,110nm,18.0s						
LZH				LR	LR		
	comp=Z,170nm,20.1s						
HHC	**Hu-ho-hao-te**	**118.18**	**42**	*e*PKP	**PKiKP**	**01 27 47.1**	**+2.2**
NJ2	**Nanjing**	**127.50**	**48**	*e*PKP	**PKPdf**	**01 28 02.4**	**-0.5**
BATI	**Baumata**	**139.55**	**106**	PKhKP	PKPpre	01 28 22.9	
	comp=Z,9.1nm,0.4s,baz=225,slow=1.4,SNR=2.1						
STKA	**Stephens Creek**	**142.37**	**149**	PKhKP	PKPpre	01 28 26.2	
	comp=Z,1.1nm,0.7s,baz=130,slow=18,SNR=3.2						
ASAR	**Alice Springs**	**143.22**	**132**	PKhKP	PKPab	01 28 28.2	+0.2
	comp=Z,4.3nm,0.7s,baz=218,slow=3.0,SNR=38						
AS31	**Alice Springs**	**143.22**	**132**	PKPdf	PKPbc	01 28 29.5	+0.2
WRA	**Warramunga Arr**	**145.61**	**127**	PKPbc	**PKPdf**	**01 28 36.4**	**-0.2**
	comp=Z,13nm,0.9s,baz=247,slow=2.7,SNR=60						
WB2	**Warramunga Arr**	**145.62**	**127**		**PKPdf**	**01 28 36.5**	**-0.1**
WRAB	**Tennant Creek**	**145.63**	**127**		**PKPdf**	**01 28 36.0**	**-0.6**
WB0	**Warramunga Arr**	**145.75**	**127**		**PKPdf**	**01 28 36.9**	**+0.1**
WR0	**Warramunga Arr**	**145.77**	**127**		**PKPdf**	**01 28 36.7**	**-0.1**
MTN	**Manton Dam**	**145.89**	**113**		**PKPbc**	**01 28 38.0**	**+0.2**

*IDC **14** 01:21:00.6±2.7, 36°.66N×71°.49E, h46km±26km, mb4.3/28, mb1 4.4/34, mb1mx4.2/55, mbtmp4.6/34, ML4.6/6, MS3.7/13, Ms1 3.6/13, ms1mx3.3/53, Error ellipse: s-maj=15.5km s-min=10.2km az=7.0*

*BJI **14** 01:21:02.8±0.0,

TARG Taragay, Kyrgy 6.85 43 Pn **Pn 01 22 44.5 +1.8**
SGDS Sogindy 6.98 19 *i* P **Pn 01 22 46.5 +2.5**
comp=Z,86nm,0.7s,baz=19
SGDS Sogindy 6.98 19 *i* PN **Pn 01 22 46.5 +2.5**
SGDS pmax pmax
comp=Z,86nm,0.7s
MTBS Maitube 7.28 29 *e*P **Pn 01 22 51.2 +3.0**
baz=29
MTBS Maitube 7.28 29 *e*PN **Pn 01 22 51.2 +3.0**
SMLA Simla 7.39 139 *e*P **Pn 01 22 50.3 +0.6**
SMLA *e*S **Sn 01 24 08.4 -3.5**
SMLA IAML 01 24 14.0
comp=E,757nm,0.3s
SMLA IAML 01 24 14.3
comp=N,688nm,0.3s
TNSS Tian-Shan 7.42 32 *e*P **Pn 01 22 52.6 +2.3**
baz=32
TNSS Tian-Shan 7.42 32 *e*PN **Pn 01 22 52.6 +2.3**
AAA Alma-Ata 7.54 31 *e*P **Pn 01 22 54.2 +2.5**
baz=31
AAA Alma-Ata 7.54 31 *e*PN Pn 01 22 57.0 +5.2
MDOK Medeo 7.56 32 *e*P **Pn 01 22 54.6 +2.4**
baz=32
MDOK Medeo 7.56 32 *e*PN **Pn 01 22 54.5 +2.4**
KNDC Almaty 7.57 32 ⇑P **Pn 01 22 54.6 +2.4**
comp=N,427nm,0.8s
KNDC Almaty 7.57 32 PN **Pn 01 22 54.5 +2.4**
KUU Kurty 7.90 26 *e*P **Pn 01 22 58.1 +1.5**
comp=N,67nm,0.8s,baz=26
KUU Kurty 7.90 26 *e*PN **Pn 01 22 58.1 +1.5**
KUU pmax pmax
comp=Z,67nm,0.8s
HRA Herat 7.97 255 Pn **Pn 01 22 57.8 -0.1**
CHKK Chushkaly 8.11 29 *e*P **Pn 01 23 01.9 +2.5**
baz=29
CHKK Chushkaly 8.11 29 *e*PN **Pn 01 23 01.9 +2.5**
SATY Saty 8.11 38 *e*P **Pn 01 23 01.8 +2.2**
comp=Z,5.5nm,0.7s,baz=38
SATY Saty 8.11 38 *e*PN **Pn 01 23 01.7 +2.2**
SATY pmax pmax
comp=Z,6.0nm,0.7s
BTLS Baital 8.37 12 *e*P **Pn 01 23 04.4 +1.3**
comp=Z,14nm,0.4s,baz=12
BTLS Baital 8.37 12 *e*PN **Pn 01 23 04.3 +1.3**
BTLS pmax pmax
comp=Z,14nm,0.4s
UZB Uzynbulak 8.49 40 *e*P **Pn 01 23 06.8 +2.1**
comp=Z,40nm,1.3s,baz=40
UZB Uzynbulak 8.49 40 *e*PN **Pn 01 23 06.8 +2.1**
UZB pmax pmax
comp=Z,40nm,1.3s
DDI Dehra Dun 8.49 138 *e*P **Pn 01 23 06.1 +1.3**
DDI *e*S **Sn 01 24 34.3 -4.7**
DDI IAML 01 24 40.5
comp=E,737nm,0.4s
DDI IAML 01 24 40.6
comp=N,822nm,0.4s
KPKS Kokpek 8.55 37 *e*P **Pn 01 23 07.6 +2.1**
comp=N,52nm,1.2s,baz=37
KPKS Kokpek 8.55 37 *e*PN **Pn 01 23 07.6 +2.1**
KPKS pmax pmax
comp=Z,52nm,1.2s
SHLS Shalkode 8.72 42 *e*P **Pn 01 23 12.1 +4.1**
comp=Z,16nm,0.6s,baz=43
SHLS Shalkode 8.72 42 *e*P Pn 01 23 12.9 +4.9
SHLS pmax pmax
comp=Z,16nm,0.6s
PDGK Podgornoye 8.86 41 ⇑P **Pn 01 23 11.2 +1.4**
comp=Z,46nm,0.8s
PDGK Podgornoye 8.86 41 PN **Pn 01 23 11.2 +1.4**
NDI New Delhi 9.46 148 *e*P **Pn 01 23 14.0 -3.9**
NDI *e*S Sn 01 24 51.0 -12
TDK Taldyqorghan 9.63 30 *e*P **Pn 01 23 22.1 +1.9**
comp=Z,130nm,0.9s,baz=30
TDK Taldyqorghan 9.63 30 *e*P **Pn 01 23 22.0 +1.9**
TDK pmax pmax
comp=Z,130nm,0.9s
SONA Sohna 9.78 150 *e*P **Pn 01 23 20.8 -1.5**
SONA *e*S **Sn 01 25 03.1 -7.4**
ASHT Ashkhabad 10.53 280 P **Pn 01 23 28.5 -3.9**
ASHT Ashkhabad 10.53 280 Pn **Pn 01 23 28.5 -3.9**
AJM Ajmer 10.69 165 ⇑*i*P **Pn 01 23 33.0 -1.8**
AJM *i* S Sn 01 25 23.0 -10
GEYT Alibeck 10.74 280 P Pn 01 23 29.8 -5.6
comp=Z,14nm,0.3s,baz=117,slow=11,SNR=91
GEYT S Sn 01 25 21.8 -12
comp=Z,8.9nm,0.3s,baz=104,slow=16,SNR=4.6
GEYT LR LR 01 28 59.8
comp=Z,332nm,19.7s,baz=35,slow=45
GEYT Alibeck 10.74 280 Pn 01 23 30.1 -5.2
GYA0B ALIBECK ARRAY 10.74 280 Pn Pn 01 23 30.4 -5.0
MAKZ Makanchi 12.59 35 ⇑P **Pn 01 24 00.5 -0.1**
comp=Z,62nm,1.2s
MAKZ Makanchi 12.59 35 P **Pn 01 24 00.3 -0.2**
MAKZ Makanchi 12.59 35 **Pn 01 24 00.3 -0.2**
MK31 Makanchi Array 12.73 36 ⇓P **Pn 01 24 01.6 -0.7**
comp=Z,19nm,0.6s
MK31 Makanchi Array 12.73 36 P **Pn 01 24 03.0 +0.7**
MK31 Makanchi Array 12.73 36 Pn **Pn 01 24 03.0 +0.7**
MKAR Makanchi Array 12.73 36 P **Pn 01 24 02.4 +0.1**
comp=Z,1.2nm,0.3s,baz=229,slow=13,SNR=125
PYUN Piuthan 13.02 129 *e*P **Pn 01 24 02.5 -4.1**
PYUN Piuthan 13.02 129 *e*P **Pn 01 24 02.5 -4.1**
KOLN Koldanda 13.63 128 *e*P **Pn 01 24 11.4 -3.3**
KOLN Koldanda 13.63 128 *e*P **Pn 01 24 11.4 -3.3**
WMQ Urumqi 14.12 56 *e*P **Pn 01 24 20.8 0.0**
WMQ pP P 01 24 34.4 +8.3
WMQ sP 01 24 45.5
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,81nm,5.1s
WMQ LR LR
comp=Z,99nm,6.9s
WMQ LR LR
comp=Z,170nm,7.1s
WMQ LR LR
comp=Z,120nm,6.3s
GKN Gorkha 14.14 125 *e*P **Pn 01 24 17.0 -4.3**
comp=Z,95nm,0.3s
GKN Gorkha 14.14 125 *e*P **Pn 01 24 17.0 -4.3**
comp=Z,95nm,0.3s
BHPL Bhopal 14.50 158 *e*P **Pn 01 24 23.0 -2.9**
BHPL *e*S Sn 01 26 53.6 -12
KURBB Kurchatov Arra 14.63 18 P **Pn 01 24 25.5 -1.8**
comp=Z,0.3nm,0.3s,baz=208,slow=10,SNR=63
KKN Kakani 14.71 124 *e*P **Pn 01 24 24.9 -3.8**
comp=Z,53nm,0.5s
KKN Kakani 14.71 124 *e*P **Pn 01 24 24.9 -3.8**
comp=Z,53nm,0.5s
DMN Daman 14.71 125 *e*P **Pn 01 24 25.2 -3.6**
DMN Daman 14.71 125 *e*P **Pn 01 24 25.2 -3.6**
KURK Kurchatov 14.73 18 ⇑P **Pn 01 24 26.1 -2.6**
comp=Z,141nm,0.9s
KURK Kurchatov 14.73 18 *ce*P **Pn 01 24 26.2 -2.5**
KURK Kurchatov 14.73 18 Pn **Pn 01 24 26.8 -1.9**
PKIN Phulchoki 14.93 124 *e*P **Pn 01 24 27.7 -3.9**
comp=Z,55nm,0.4s
PKIN Phulchoki 14.93 124 *e*P **Pn 01 24 27.7 -3.9**
comp=Z,55nm,0.4s
PKI Pulchoki 14.94 124 *e*P **Pn 01 24 27.6 -4.2**
comp=Z,55nm,0.3s
PKI Pulchoki 14.94 124 *e*P **Pn 01 24 27.6 -4.2**
comp=Z,55nm,0.3s
ABKAR Akbulak array 14.98 329 Pn **Pn 01 24 28.2 -3.6**
JIRN Jiri 15.40 122 *e*P **Pn 01 24 33.8 -4.0**
comp=Z,150nm,0.3s
JIRN Jiri 15.40 122 *e*P **Pn 01 24 33.8 -4.0**
comp=Z,150nm,0.3s
RAMN Ramite 16.14 124 *e*P **Pn 01 24 43.0 -4.0**
comp=Z,31nm,0.3s
RAMN Ramite 16.14 124 *e*P **Pn 01 24 43.0 -4.0**
comp=Z,31nm,0.3s
BVAR Borovoye Array 16.17 357 P **Pn 01 24 46.5 -0.4**
comp=Z,2.5nm,0.3s,baz=168,slow=14,SNR=33
BVAR S **Sn 01 27 35.6 -10**
baz=172,slow=23,SNR=2.0
TAPN Taplejung 16.64 120 *e*P **Pn 01 24 49.3 -4.0**
comp=Z,22nm,0.3s
TAPN Taplejung 16.64 120 *e*P **Pn 01 24 49.3 -4.0**
comp=Z,22nm,0.3s
AKTO Aktyubinsk 16.68 329 P **Pn 01 24 51.2 -2.1**
comp=Z,13nm,0.3s,baz=137,slow=9.1,SNR=54
AKTO S Sn 01 27 42.8 -15
comp=Z,0.4nm,0.3s,baz=62,slow=22,SNR=1.9
AKTO LR LR 01 31 33.4
comp=Z,166nm,18.4s,baz=141,slow=38
ODAN Odare 16.73 122 *e*P **Pn 01 24 50.6 -3.7**
comp=Z,85nm,0.7s
ODAN Odare 16.73 122 *e*P **Pn 01 24 50.6 -3.7**
comp=Z,85nm,0.7s
BANOM Banah 16.97 234 P **Pn 01 24 56.3 -0.8**
NGP Nagpur 16.98 155 ⇓*e*P **Pn 01 24 53.9 -3.2**
NGP *e*S Sn 01 27 54.7 -11
SHME Shamm 16.99 235 P **P 01 24 58.5 +0.5**
DGZ Jazzator, Alta 17.21 37 ⇓*i*P **Pn 01 24 59.1 -0.9**
DGZ pmax pmax
comp=Z,25nm,0.5s
MDH Madha 17.41 233 P **Pn 01 25 00.4 -1.9**
MSFE Esma-Masafi 17.45 233 P **P 01 25 03.7 +0.5**
WSAR Wadi Sarin 17.58 223 P **P 01 25 04.2 -0.3**
comp=Z,0.2nm,0.3s,baz=170,slow=22,SNR=1.3
UOSS Minazif 17.72 232 P **P 01 25 05.8 -0.2**
UOSS Minazif 17.72 232 P **P 01 25 05.6 -0.5**
HATD Hatta, Dubai 17.85 232 P **Pn 01 25 08.3 +0.5**
BOK Bokaro 17.95 133 *e*P **P 01 25 05.2 -3.3**
BOK IAmb IAmb 01 25 12.3
comp=Z,16nm,0.4s
ASHO Ashiyiah 18.00 232 *i* P **P 01 25 08.3 -0.8**
SNR=9.6
SOHO SOHO 18.10 230 P **Pn 01 25 11.0 +0.2**
POO Poona 18.39 173 *ex* P **P 01 25 15.0 +1.5**
ALNE Al Ain 18.64 231 P **P 01 25 16.4 +0.2**
AKT Akhty 19.01 291 *e*P **P 01 25 19.4 -0.8**
AKT *e*S **S 01 28 47.9 -4.2**
AKT pmax pmax
comp=Z,26nm,0.5s
AKT smax smax
comp=N,34nm,0.6s
AKT smax smax
comp=E,8.0nm,0.4s
SEKA Sheki 19.38 290 P **P 01 25 23.9 -0.4**
MAK Makhachkala 19.39 296 *e*P **P 01 25 24.9 +0.7**
MAK *e*S **S 01 29 01.1 +1.7**
MAK pmax pmax
comp=Z,151nm,1.1s
MAK MLR MLR
comp=Z,168nm,16.0s
ZAA0 Zalesovo Array 19.39 24 P **P 01 25 24.4 +0.3**
ZALV Zalesovo Beam 19.39 24 P **Pn 01 25 25.1 -0.9**
comp=Z,11nm,0.3s,baz=222,slow=10,SNR=453
ZALV Zalesovo Beam 19.39 24 P **P 01 25 24.7 +0.6**
MNGR Mingechevir, A 19.44 289 P **P 01 25 24.1 -0.6**
ZKTA Zakatala 19.86 292 P **P 01 25 29.5 +0.2**
GANJ Ganja 20.01 289 P **P 01 25 30.5 -0.5**
HYB Hyderabad 20.35 160 *i* P **P 01 25 34.0 -0.8**
HYB *e* 01 25 56.0
HYB *e*S Sn 01 29 23.0 -3.5
HYB Hyderabad 20.35 160 *e*P **P 01 25 34.3 -0.5**
HYB IAmb IAmb 01 25 35.8
comp=Z,8.3nm,0.6s
NAX Nakhchivan 20.63 284 P **P 01 25 38.8 +1.0**
GROC Groznyy 20.66 296 *e*P **P 01 25 38.7 +0.7**
GROC *e**SP **sP 01 26 04.6 +0.6**
GROC *e*S **S 01 29 26.6 +2.1**
GROC *e**SS **sS 01 29 50.5 -1.1**
GROC pmax pmax
comp=Z,203nm,1.1s
SHL Shillong 20.68 117 *e*P **P 01 25 38.9 +0.4**
SHL IAmb IAmb 01 25 42.0
comp=Z,9.6nm,0.7s
SHL Shillong 20.68 117 P **P 01 25 39.2 +0.7**
SHL pmax pmax
comp=Z,26nm,0.8s
SHL Shillong 20.68 117 P **P 01 25 39.2 +0.7**
SHL IAmb IAmb 01 26 17.9
comp=Z,26nm,0.8s
TEZP TEZPUR 20.72 114 *e*P **P 01 25 40.1 +1.4**
TEZP IAmb IAmb 01 25 44.2
comp=Z,24nm,0.6s
SVE Sverdlovsk 21.26 343 *e*P **P 01 25 44.8 +0.6**
SVE *e*S **S 01 29 34.3 -1.8**
SVE pmax pmax
comp=Z,25nm,0.9s
ARU Arti 21.43 340 P **P 01 25 46.8 +0.8**
comp=Z,6.3nm,0.5s,baz=121,slow=15,SNR=18
ARU S **S 01 29 37.8 -1.7**
comp=Z,2.3nm,0.6s,baz=330,slow=23,SNR=7.1
ARU LR LR 01 34 51.1
comp=Z,172nm,19.9s,baz=143,slow=38
ARU Arti 21.43 340 *d i*P **P 01 25 46.5 +0.5**
ARU 01 26 14.7
ARU S **S 01 29 38.1 -1.3**
ARU SS **SnSn 01 30 11.2 +2.9**
ARU pmax pmax
comp=Z,20nm,0.7s
ARU Arti 21.43 340 P **P 01 25 46.1 +0.1**
ARU IAmb IAmb 01 26 18.1
comp=Z,45nm,1.0s
KZRT Kazreti 21.50 290 P **P 01 25 47.7 +0.7**
ZEI Tsey 21.98 294 *e*P **P 01 25 51.1 -1.3**
ZEI pmax pmax
comp=Z,21nm,0.7s
GTA Gaotai 22.34 75 *e*P **P 01 25 58.1 +2.0**
GTA pP pP 01 26 14.1 +1.3
GTA sP sP 01 26 23.9 +1.1
GTA S **S 01 29 57.6 +0.8**
GTA pmax pmax
comp=Z,60nm,1.5s
GTA pmax pmax
comp=Z,120nm,4.0s
GTA LR LR
comp=Z,180nm,15.6s
GTA LR LR
comp=Z,110nm,14.9s
GTA LR LR
comp=Z,150nm,17.4s
KARS Kars 22.48 288 P **P 01 26 00.3 +2.7**
KBZ Khabaz 22.83 296 P **P 01 25 59.9 -1.2**
comp=Z,14nm,0.8s,baz=121,slow=7.2,SNR=19
KBZ S **S 01 30 09.6 +5.2**
comp=Z,4.7nm,0.8s,baz=297,slow=16,SNR=1.6
KBZ LR LR 01 37 17.6
comp=Z,143nm,19.3s,baz=100,slow=43
GOF Gofitskoye 22.94 300 ⇑*e*P **P 01 26 03.1 +0.9**
KVAR Kislovodsk Arr 23.00 297 P **P 01 26 04.4 +1.4**
comp=Z,3.8nm,0.5s,baz=255,slow=20,SNR=3.3
KVAR S **S 01 30 04.6 -2.9**
comp=Z,1.8nm,0.2s,baz=293,slow=23,SNR=1.5
KVAR LR LR 01 36 59.6
comp=Z,60nm,20.1s,baz=248,slow=42
KIV Kislovodsk 23.01 297 ⇓P **P 01 26 04.1 +1.1**
KIV Kislovodsk 23.01 297 *i* P **P 01 26 03.3 +0.2**
SNR=8.5
KIV Kislovodsk 23.01 297 *e*P **P 01 26 03.4 +0.4**
KIV *e*S **S 01 30 06.8 -0.8**
KIV pmax pmax
comp=Z,79nm,1.0s
KIV MLR MLR
comp=Z,215nm,14.0s
KIV Kislovodsk 23.01 297 P **P 01 26 02.5 -0.5**
CHVG Ch'k'valeri 23.31 294 ⇑P **P 01 26 08.3 +2.4**
BCA Borcka 23.59 290 ⇑P **P 01 26 10.5 +2.1**
KOPT Kop Dagi 24.46 287 IAmb IAmb 01 26 22.6
comp=Z,27nm,1.1s
MARD Mardin 24.50 280 P **P 01 26 16.9 +0.1**
SOC Sochi 25.11 295 *e*P **P 01 26 23.0 +0.9**
SOC *e**PP **pP 01 26 42.1 +1.6**
SOC *e**SP **sP 01 26 54.3 +4.5**
SOC *e*S **S 01 30 40.9 -0.3**
SOC pmax pmax
comp=Z,39nm,0.7s
SOC MLR MLR
comp=Z,68nm,12.0s
MOY Mondy 25.53 45 *e*P **P 01 26 28.7 +2.8**
MOY pmax pmax
comp=Z,45nm,1.8s
VRH Novokhopyorsk 25.57 314 *e*P **P 01 26 26.6 +0.5**
VRH *e**PP **pP 01 26 41.2 -3.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 25.91 82 ⇑P **P 01 26 32.4 +2.7**
LZH pP pP 01 26 53.1 +4.7
LZH sP sP 01 26 57.8 0.0
LZH PP **PnPn 01 27 10.8 -0.3**
LZH pmax pmax
comp=Z,31nm,1.1s
LZH pmax pmax
comp=Z,69nm,4.9s
LZH LR LR
comp=Z,260nm,12.5s
LZH LR LR
comp=Z,270nm,14.1s
LZH LR LR
comp=Z,210nm,14.1s
KIRV Kirov 26.10 333 P **P 01 26 31.9 +1.2**
comp=Z,13nm,0.6s,baz=316,slow=22,SNR=6.2
KIRV LR LR 01 37 43.9
comp=Z,112nm,20.6s,baz=135,slow=38
KIRV Kirov 26.10 333 P **P 01 26 32.0 +1.2**
ZAK Zakamensk 26.41 49 *e*P **P 01 26 36.0 +2.1**
ZAK *e* 01 27 22.5
ZAK pmax pmax
comp=Z,16nm,1.2s
ZAK pmax pmax
comp=Z,9.0nm,1.1s
ANN Anapa 26.85 298 *e*P P 01 26 44.9 +7.2
ANN pmax pmax
comp=Z,292nm,2.7s
TLY Talaya 27.06 47 P **P 01 26 41.2 +1.6**
comp=Z,6.2nm,0.6s,baz=241,slow=11,SNR=8.7
TLY Talaya 27.06 47 *e*P **P 01 26 42.3 +2.7**
TLY pmax pmax
comp=Z,18nm,0.6s
TLY MLR MLR
comp=Z,108nm,9.0s
TLY Talaya 27.06 47 P **P 01 26 41.3 +1.6**
VSR Storozhevoye 27.07 312 *e*P **P 01 26 41.9 +2.2**
VSR *e**PP **pP 01 26 58.0 -0.3**
VSR pmax pmax
comp=Z,20nm,1.4s
VORR Voronezh 27.20 313 P **P 01 26 41.0 +0.1**
VORR pmax pmax
comp=Z,250nm,1.0s
GAZ Gaziantep 27.33 281 P **P 01 26 44.0 +1.7**
GAZ IAmb IAmb 01 27 26.2
comp=Z,16nm,1.1s
TOKA Tokat 27.52 288 P **P 01 26 44.6 +0.7**
LPSR Galich'ya Gora 27.70 315 *e*P **P 01 26 45.7 +0.4**
LPSR *e**PP **pP 01 27 05.4 +1.3**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
SONM Songino Array 27.76 56 P **P 01 26 46.9 +0.9**
comp=Z,8.6nm,0.8s,baz=258,slow=9.6,SNR=35
SONM LR LR 01 39 50.4
comp=Z,186nm,19.5s,baz=198,slow=40
SONM Songino Array 27.76 56 P **P 01 26 48.0 +2.0**
SONM pmax pmax
comp=Z,10.0nm,1.1s
SONM Songino Array 27.76 56 P **P 01 26 48.0 +2.0**
ULN Ulaanbaatar 28.20 56 *c i*P **P 01 26 52.1 +2.1**
ULN pmax pmax
comp=Z,28nm,2.5s
ULN Ulaanbaatar 28.20 56 P **P 01 26 51.6 +1.5**
ULN IAmb IAmb 01 26 53.1
comp=Z,8.6nm,0.7s
ILGA Ilgaz 29.56 290 IAmb IAmb 01 27 05.2
comp=Z,19nm,1.0s
PRGR Permogore 29.61 335 *e*P **P 01 27 01.3 -0.9**
PRGR pmax pmax
comp=Z,44nm,1.2s
BR131 Keskin Array S 29.74 287 IAmb IAmb 01 27 05.3
comp=Z,7.2nm,0.6s
BRTR Keskin Array B 29.74 287 P **P 01 27 04.0 +0.2**
comp=Z,7.8nm,0.6s,baz=104,slow=9.0,SNR=58
BRTR Keskin Array B 29.74 287 P **P 01 27 04.0 +0.2**
OBN Obninsk 29.94 319 LR LR 01 41 14.6
comp=Z,21nm,18.9s,baz=27,slow=40
OBN Obninsk 29.94 319 ⇑*e*P **P 01 27 05.6 +0.5**
OBN *e**PP **sP 01 27 31.4 -2.0**
OBN *e* 01 28 09.9
OBN *e*S **S 01 31 52.9 -4.1**
OBN *e*SS **SnSn 01 33 30.8 -4.8**
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN Obninsk 29.94 319 P **P 01 27 04.8 -0.3**
CHTO Chiang Mai 30.01 119 P **P 01 27 07.6 +1.5**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 30.01 119 P **P 01 27 07.6 +1.5**
CMAR Chiang Mai Arr 30.25 120 P **P 01 27 07.2 -1.1**
comp=Z,1.4nm,0.5s,baz=300,slow=9.2,SNR=1.5
CMAR Chiang Mai Arr 30.25 120 P **P 01 27 09.8 +1.5**
CMAR Chiang Mai Arr 30.25 120 P **P 01 27 09.8 +1.5**
XAN Xi'an 30.45 84 P **P 01 27 11.3 +1.4**
XAN pP pP 01 27 29.3 +0.1
XAN pmax pmax
comp=Z,17nm,1.0s
XAN pmax pmax
comp=Z,96nm,6.2s
HHC Hu-ho-hao-te 31.22 70 *e*P **P 01 27 20.0 +3.3**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,98nm,8.6s
KLMR Klimovskoe 31.37 330 *e*P **P 01 27 17.3 -0.4**
KLMR pmax pmax
comp=Z,18nm,1.3s
KLMR Klimovskoe 31.37 330 *e*P **P 01 27 17.4 -0.3**
KLMR AMP 01 27 24.3
comp=Z,18nm,1.3s
GYA Guiyang 31.48 99 ⇓P **P 01 27 21.3 +2.1**
GYA pP pP 01 27 40.3 +2.0
GYA PP **PnPn 01 28 24.3 -0.7**
GYA S **S 01 32 21.3 -0.7**
GYA pmax pmax
comp=Z,11nm,0.9s
GYA pmax pmax
comp=Z,170nm,9.8s
GYA LR LR
comp=Z,120nm,5.1s
GYA LR LR
comp=Z,150nm,3.8s
GYA LR LR
comp=Z,100nm,5.7s
PURM Purcari 32.25 301 ⇑P **P 01 27 26.8 +1.2**
PBKT Sadao Pong 32.95 120 P **P 01 27 33.4 +1.5**
PBKT IAmb IAmb 01 28 17.3
comp=Z,9.3nm,1.2s
MILM Milestii Mici 32.99 301 ⇑P **P 01 27 32.5 +0.5**
AKASG Malin Array Be 33.06 308 P **P 01 27 32.4 -0.2**
comp=Z,2.1nm,0.6s,baz=82,slow=7.2,SNR=14
AKASG Malin Array Be 33.06 308 P **P 01 27 32.9 +0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 33.06 308 P **P 01 27 32.9 +0.3**
AKBB Malin Array Si 33.06 308 IAmb IAmb 01 28 41.4
comp=Z,18nm,1.1s
SORM Soroca 33.36 304 ⇓P **P 01 27 35.3 0.0**
CFR Carcaliu 33.45 298 ⇑P **P 01 27 37.0 +0.9**
NRIK Noril'sk 33.68 10 P **P 01 27 39.0 +1.2**
comp=Z,17nm,0.8s,baz=196,slow=5.2,SNR=17
NRIK Noril'sk 33.68 10 P **P 01 27 39.0 +1.2**
VASR Vaslui 33.69 301 ⇓P **P 01 27 39.3 +1.2**
VRI Vrincioaia 34.43 299 ⇓P **P 01 27 46.9 +2.3**
PLOR Plostina 34.48 299 ⇓P **P 01 27 46.5 +1.5**
ISR Istrita 34.58 298 ⇑P **P 01 27 48.0 +2.1**
BOD Bodaibo 34.78 39 *e*P **P 01 27 48.7 +1.3**
BOD pmax pmax
comp=Z,20nm,1.0s
BJI Beijing 34.81 71 P **P 01 27 50.8 +2.9**
BJI pmax pmax
comp=Z,10.0nm,0.6s
PUL Pulkovo 34.86 324 ⇓*i*P **P 01 27 49.8 +1.7**
PUL pmax pmax
comp=Z,39nm,0.6s
MLR Muntele Rosu 34.99 299 ⇓P **P 01 27 51.8 +2.2**
MLR Muntele Rosu 34.99 299 IAmb IAmb 01 28 50.5
comp=Z,9.8nm,0.8s
BURAR Bucovina Array 35.45 302 P **P 01 27 53.4 0.0**
WHN Wuhan 35.93 87 P **P 01 28 00.6 +3.0**
ARCR ARCALIA 36.05 302 ⇑P **P 01 27 58.7 +0.3**
HIA Hailar 36.71 55 ⇓*e*P **P 01 28 06.6 +2.5**
HIA pmax pmax
comp=Z,5.0nm,0.8s
UZH Uzhgorod 37.41 304 *e*P **P 01 28 06.4 -3.6**
UZH *e* 01 28 31.0
FINES FINESS Array B 37.42 326 P **P 01 28 10.5 +0.7**
comp=Z,2.5nm,0.3s,baz=115,slow=8.6,SNR=37
FINES FINESS Array B 37.42 326 P **P 01 28 09.7 -0.2**
KOLS Kolonicke sedl 37.42 305 *e*P **P 01 28 10.0 -0.1**
KOLS *e* 01 29 35.8
KOLS Kolonicke sedl 37.42 305 *e*P **P 01 28 10.0 -0.1**
KOLS *e*PP **PP 01 29 35.8 -0.9**
BZS Buzias 38.01 299 ⇑P **P 01 28 16.9 +1.7**

MDVR	Moldovita	38.02	298	⇑P	P	01 28 16.8	+1.5
NJ2	Nanjing	38.99	83	eP	P	01 28 25.3	+1.9
NJ2				pmax	pmax		
comp=Z,9.0nm,0.5s							
PSZ	Piszkesteto	39.04	303	P	P	01 28 24.5	+0.8
PSZ				pmax	pmax		
comp=Z,6.0nm,1.0s							
PSZ	Piszkesteto	39.04	303	P	P	01 28 24.5	+0.8
DIVS	Divibare	39.33	297	IAmb	IAmb	01 28 52.2	
comp=Z,10nm,1.1s							
JAVC	Velka Javorina	40.46	305	eP	P	01 28 37.4	+1.9
MORC	Moravsky Berou	40.50	306	eP	P	01 28 36.9	+1.1
ARCES	ARCESS Array B	40.97	337	P	P	01 28 39.8	+0.4
comp=Z,13nm,0.8s,baz=111,slow=8.0,SNR=27							
ARCES				LR	LR	01 46 12.0	
comp=Z,146nm,18.2s,baz=166,slow=37							
ARCES	ARCESS Array B	40.97	337	P	P	01 28 40.4	+1.0
ARCES	ARCESS Array B	40.97	337	P	P	01 28 40.4	+1.0
KRLC	Kraliky	40.98	307	eP	P	01 28 40.5	+0.8
KRLC				esP	sP	01 29 05.5	-2.7
KRLC	Kraliky	40.98	307	eP	P	01 28 40.5	+0.8
KRLC				e		01 29 05.5	
CN2	Changchun	41.04	63	eP	P	01 28 37.3	-3.0
VRAC	Vranov	41.14	305	eP	P	01 28 42.2	+1.1
DPC	Dobruska-Polom	41.26	307	eP	P	01 28 43.0	+1.0
DPC				ex	x	01 29 06.4	
DPC	Dobruska-Polom	41.26	307	eP	P	01 28 43.0	+1.0
DPC				e		01 29 06.4	
KRUC	Moravsky	41.29	305	eP	P	01 28 43.3	+1.1
OSTC	Ostas	41.32	307	eP	P	01 28 43.6	+1.1
CHVC	Chvalec	41.42	307	eP	P	01 28 44.2	+0.9
ZEA	Zeya	41.49	48	eP	P	01 28 45.8	+2.0
ZEA				pmax	pmax		
comp=Z,26nm,1.0s							
CONA	Conrad Observa	41.74	303	eP	P	01 28 47.3	+1.2
comp=Z,5.3nm,1.0s,SNR=5.9							
PSI	Prapat	42.25	137	LR	LR	01 50 15.9	
comp=Z,509nm,18.6s,baz=269,slow=42							
PRU	Pruhonice	42.42	307	eP	P	01 28 52.5	+1.0
PRU	Pruhonice	42.42	307	eP	P	01 28 52.5	+1.0
SOKA	Soboth	42.45	302	eP	P	01 28 53.2	+1.4
comp=Z,2.0nm,0.6s							
BRG	Berggiesshubel	42.74	308	eP	P	01 28 54.7	+0.7
comp=Z,5.8nm,1.1s							
BRG	Berggiesshubel	42.74	308	eP	P	01 28 54.7	+0.7
BRG				pmax	pmax		
comp=Z,6.0nm,1.1s							
PBCC	Pribram	42.80	306	eP	P	01 28 55.7	+1.1
PBCC				ex	x	01 29 19.9	
MOA	Molln	42.82	304	eP	P	01 28 55.7	+0.9
comp=Z,4.2nm,1.0s							
GERES	GERESS Array B	43.08	305	P	P	01 28 56.9	0.0
comp=Z,0.5nm,0.7s,baz=60,slow=8.2,SNR=7.0							
GERES				PP	PP	01 30 36.5	-1.6
comp=Z,1.0nm,0.8s,baz=75,slow=10,SNR=4.2							
KHC	Kasperske Hory	43.13	305	eP	P	01 28 57.6	+0.4
KHC				epP	pP	01 29 17.5	+0.7
KHC	Kasperske Hory	43.13	305⇑	eP	P	01 28 58.3	+1.1
KHC				pmax	pmax		
comp=Z,9.0nm,1.3s							
CLL	Collm	43.30	309	eP	P	01 28 57.0	-1.5
CLL				i pP	pP	01 29 21.1	+3.1
CLL				esP	sP	01 29 32.0	+4.9
CLL				ePP	PP	01 30 40.0	-0.3
CLL				epPP		01 30 57.0	
CLL				esPP		01 31 12.0	
CLL				ePPP	PPP	01 31 18.0	
CLL	Collm	43.30	309	eP	P	01 28 57.0	-1.5
CLL				i *PP	pP	01 29 21.1	+3.1
YAK	Yakutsk	43.40	36	P	P	01 28 59.5	+0.3
comp=Z,22nm,0.5s,baz=215,slow=0.1,SNR=12							
YAK	Yakutsk	43.40	36	eP	P	01 28 59.5	+0.3
YAK				e*PP	pP	01 29 22.9	+4.0
YAK				e		01 30 38.0	
YAK				eS	S	01 35 19.8	-1.6
YAK				e*SS	sS	01 35 50.2	-4.5
YAK				e		01 38 32.4	
YAK				pmax	pmax		
comp=Z,54nm,0.9s							
YAK				pmax	pmax		
comp=N,10.0nm,0.9s							
YAK				pmax	pmax		
comp=E,7.0nm,1.0s							
YAK				pmax	pmax		
comp=Z,123nm,4.8s							
YAK				pmax	pmax		
comp=N,98nm,4.8s							
YAK				pmax	pmax		
comp=E,61nm,3.2s							
YAK				smax	smax		
comp=N,92nm,3.4s							
YAK				smax	smax		
comp=E,80nm,2.8s							
YAK	Yakutsk	43.40	36	P	P	01 29 00.1	+0.9
ABTA	Abfaltersbach	44.15	302	eP	P	01 29 05.7	+0.2
comp=E,1.9nm,0.9s							
CIMO	Cimolais	44.27	302	P	P	01 29 07.0	+0.6
NC303	NORSAR Array S	44.29	323	P	P	01 29 06.9	+0.6
KSAR	Wonju Array Be	44.31	71	P	P	01 29 07.4	+0.6
KSAR	Wonju Array Be	44.31	71	P	P	01 29 07.4	+0.6
KSRS	Korea Array	44.34	71	P	P	01 29 07.3	+0.3
comp=E,3.3nm,0.7s,baz=283,slow=6.8,SNR=11							
KSRS				LR	LR	01 50 43.7	
comp=E,48nm,18.7s,baz=265,slow=40							
NB2	NORSAR Subarra	44.35	323	P	P	01 29 06.6	-0.3
comp=Z,7.0nm,0.7s,baz=95,slow=7.9							
NOA	NORSAR Array B	44.35	323	P	P	01 29 06.8	-0.1
comp=Z,1.0nm,0.5s,baz=108,slow=7.1,SNR=27							
NBO00	NORSAR Array S	44.56	323	P	P	01 29 08.8	+0.3
GRF	Grafenberg Ar	44.59	307	eP	P	01 29 10.5	+1.6
comp=Z,6.6nm,1.1s,baz=92,slow=7.2							
WTTA	Wattenberg	44.66	303	eP	P	01 29 09.9	+0.2
comp=Z,3.6nm,0.9s							
TEOL	Teolo	44.97	300	P	P	01 29 12.6	+0.6
TEOL				IAmb	IAmb	01 29 44.0	
comp=Z,9.1nm,0.9s							
MOTA	Moosalm	45.01	303	eP	P	01 29 12.3	-0.2
comp=Z,3.5nm,1.0s							
TIXI	Tiksi	45.26	22	P	P	01 29 14.6	+0.7
comp=Z,17nm,0.3s,baz=277,slow=4.4,SNR=38							
TIXI	Tiksi	45.26	22	c i P	P	01 29 14.6	+0.7
TIXI				pmax	pmax		
comp=Z,25nm,0.7s							
TIXI	Tiksi	45.26	22	P	P	01 29 14.1	+0.2
FUORN	Ofenpass-Fuorn	45.70	302	P	P	01 29 17.9	-0.2
DAVA	Damuels	45.84	303	eP	P	01 29 19.3	+0.3
comp=Z,6.9nm,0.8s,SNR=5.5							
SENIN	Lac Senin/Sane	47.76	303	P	P	01 29 33.5	-0.6
SENIN				IAmb	IAmb	01 30 14.1	
comp=Z,5.4nm,0.8s							
BNI	Bardonecchia	48.48	301	P	P	01 29 40.1	+0.5
BNI				pmax	pmax		
comp=Z,8.0nm,1.1s							
BNI	Bardonecchia	48.48	301	P	P	01 29 40.1	+0.5
BNI				IAmb	IAmb	01 30 13.1	
comp=Z,7.7nm,1.1s							
KEST	Kesra	49.34	288	P	P	01 29 46.7	+0.5
comp=Z,4.0nm,0.6s,baz=329,slow=1.1,SNR=20							
KEST	Kesra	49.34	288	IAmb	IAmb	01 30 15.8	
comp=Z,15nm,1.4s							
KMBO	Kilima Mbogo	49.41	228	P	P	01 29 49.3	+2.2
comp=Z,0.9nm,0.6s,baz=51,slow=13,SNR=4.6							
KMBO	Kilima Mbogo	49.41	228	P	P	01 29 49.3	+2.2
KMBO				pmax	pmax		
comp=Z,9.0nm,1.6s							
KMBO	Kilima Mbogo	49.41	228	IAmb	IAmb	01 31 16.0	
comp=Z,9.1nm,1.6s							
YSS	Yuzh-Sakhalins	52.24	55	eP	P	01 30 08.4	+0.7
YSS				pmax	pmax		
comp=Z,20nm,0.7s							
MJB9	Matsu-Tunnel	52.40	69		pP	01 30 32.5	+3.0
MAJO	Matsushiro	52.40	69⇑	eP	P	01 30 11.5	+2.4
MAJO				pmax	pmax		
comp=Z,8.0nm,1.1s							
MJAR	Matsushiro Arr	52.40	69	P	P	01 30 08.9	-0.2
comp=Z,2.2nm,0.8s,baz=289,slow=12,SNR=7.2							
MJAR				LR	LR	01 53 42.5	
comp=Z,44nm,18.7s,baz=240,slow=37							
MJAR	Matsushiro Arr	52.40	69	IAmb	IAmb	01 30 13.3	
comp=Z,1.8nm,0.9s							
SEY	Seymchan	53.86	34⇓	eP	P	01 30 20.6	+1.3
LEM	Lembang	55.03	134	LR	LR	01 56 14.8	
comp=Z,286nm,18.4s,baz=167,slow=38							
ESBB	Sonseca Array	57.67	298	P	P	01 30 46.9	-0.2
ESBB				IAmb	IAmb	01 31 13.9	
comp=Z,6.7nm,0.9s							
ESDC	Sonseca Array	57.67	298	P	P	01 30 46.6	-0.5
comp=Z,3.9nm,0.9s,baz=60,slow=7.3,SNR=32							
ESDC	Sonseca Array	57.67	298	P	P	01 30 47.5	+0.4
TAM	Tamanrasset	57.94	276	P	P	01 30 48.9	-0.4
TAM				pmax	pmax		
comp=Z,10.0nm,1.8s							
TAM	Tamanrasset	57.94	276	P	P	01 30 48.9	-0.4
TAM				IAmb	IAmb	01 31 20.1	
comp=Z,9.6nm,1.8s							
PETK	Petropavlovsk-	59.39	44	P	P	01 30 58.4	-0.3
PETK	Petropavlovsk-	59.39	44	P	P	01 30 58.4	-0.3
SUMG	Summit	60.85	341	i P	P	01 31 10.2	+1.3
comp=Z,25nm,0.6s							
SUMG				i		01 31 31.2	
SUMG	Summit	60.85	341	i P	P	01 31 10.2	+1.3
SUMG				i		01 31 31.2	
SUMG				pmax	pmax		
comp=Z,25nm,0.6s							
SUMG	Summit	60.85	341	P	P	01 31 09.7	+0.8
TOA0	Torodi Ar. Sit	66.17	269	P	P	01 31 43.3	-1.0
TORD	Torodi Ar. Bea	66.17	269	P	P	01 31 42.5	-1.8
comp=Z,3.3nm,0.6s,baz=47,slow=5.9,SNR=49							
TORD	Torodi Ar. Bea	66.17	269	P	P	01 31 42.8	-1.5
BATI	Baumata	67.69	123	P	P	01 31 52.0	-1.9
comp=Z,5.2nm,0.3s,baz=284,slow=4.2,SNR=1.6							
SOEI	Soe	67.78	122	P	P	01 31 55.4	+0.8
COLD	Coldfoot	71.49	16	IAmb	IAmb	01 32 55.8	
comp=Z,8.1nm,0.9s							
MDM	Murphy Dome	73.83	16	IAmb	IAmb	01 32 32.5	
comp=Z,11nm,1.2s							
COLA	College	73.99	16	P	P	01 32 32.1	+0.8
COLA				pmax	pmax		
comp=Z,17nm,0.8s							
COLA	College	73.99	16	P	P	01 32 32.1	+0.8
ILAR	Eielson Array	74.30	16	P	P	01 32 32.5	-0.7
comp=Z,3.3nm,0.9s,baz=317,slow=4.6,SNR=23							
ILAR	Eielson Array	74.30	16	P	P	01 32 32.4	-0.8
FITZ	Fitzroy Crossi	74.76	127	P	P	01 32 36.5	0.0
comp=Z,1.1nm,0.6s,baz=352,slow=4.9,SNR=6.1							
KNRA	Kununurra	75.06	123	P	P	01 32 38.9	+0.7
KNRA				IAmb	IAmb	01 33 14.2	
comp=Z,13nm,0.9s							
LBTB	Lobatse	75.25	222	P	P	01 32 40.6	+1.3
LBTB				pmax	pmax		
comp=Z,48nm,1.9s							
LBTB	Lobatse	75.25	222	P	P	01 32 40.6	+1.3
SKT	Skwentna	75.52	19	P	P	01 32 40.7	+0.4
SKT				IAmb	IAmb	01 32 40.8	
comp=Z,14nm,0.9s							
BOSA	Boshof	78.32	220	P	P	01 32 54.6	-1.9
comp=Z,1.2nm,0.6s,baz=51,slow=3.4,SNR=1.8							
BOSA	Boshof	78.32	220	P	P	01 32 54.6	-1.9
BOSA				pmax	pmax		
comp=Z,60nm,2.0s							
HYT	Haines Junctio	79.78	14	P	P	01 33 04.7	+0.5
HYT				IAmb	IAmb	01 34 11.9	
comp=Z,14nm,1.3s							
YKA	Yellowknife Ar	80.85	3	P	P	01 33 10.0	+0.3
comp=Z,1.2nm,0.6s,baz=8.1,slow=2.1,SNR=9.6							
WRA	Warramunga Arr	81.81	122	P	P	01 33 14.4	-1.1
comp=Z,5.4nm,1.1s,baz=324,slow=4.9,SNR=40							
WRA	Warramunga Arr	81.81	122	P	P	01 33 14.3	-1.1
WRAB	Tennant Creek	81.82	122⇑	eP	P	01 33 14.2	-1.2
WRAB				pmax	pmax		
comp=Z,15nm,1.7s							
WRAB	Tennant Creek	81.82	122	P	P	01 33 14.9	-0.5
WRAB				IAmb	IAmb	01 35 13.8	
comp=Z,11nm,1.1s							
SCHQ	Schefferville	81.92	337	P	P	01 33 16.0	+0.5
comp=Z,2.6nm,0.8s,baz=342,slow=6.4,SNR=1.6							
ASAR	Alice Springs	84.11	125	P	P	01 33 26.1	-1.1
comp=Z,2.5nm,0.8s,baz=312,slow=4.8,SNR=21							

*IDC **14** 01:23:17.1±1.5,23°.78S×70°.36W,h0km,mb4.2/1,*
mb1 4.0/3,mb1mx3.6/23,mbtmp4.0/3,ML3.8/2,Error
ellipse: s-maj=66.8km s-min=22.3km az=132.0
*SJA **14** 01:23:20.3±0.7,23°.41S×70°.63W,h36km±2km,ML3.9,*
MW4.1
*NEIC **14** 01:23:21.3±2.0,23°.44S±0°.05×70°.65W±0°.09,h31km±7km,*
Error ellipse: s-maj=12.8km s-min=6.3km az=105.0
*GUC **14** 01:23:22.1±0.8,23°.45S×70°.47W,h35km±2km,ML3.8*
ISC 14 01:23:21.2±0.9,23°.42S±0°.03×70°.60W±0°.05,h33km±5km,
n78,σ1°52/88,11C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	IPOC Station P	0.10	155	⇑iP	Pb	01 23 27.4	+0.5
PB10				eS	Sb	01 23 30.7	-0.2
PB10				IAML		01 23 31.5	
comp=N,25μm,0.6s							
PB10	IPOC Station P	0.10	155		Pb	01 23 26.9	0.0
PB10	IPOC Station P	0.10	155	eP	Pb	01 23 27.3	+0.4
PB10				IAML		01 23 34.2	
comp=Z,7μm,0.5s							
PB05	IPOC Station P	0.68	33	eP	Pb	01 23 34.5	-0.3
PB05				eS	Sb	01 23 42.8	-1.1
PB05				IAML		01 23 44.7	
comp=E,10μm,0.3s							
PB05	IPOC Station P	0.68	33	eP	Pb	01 23 34.4	-0.3
PB05				eS	Sb	01 23 43.6	-0.3
PB05				IAML		01 23 44.2	
comp=Z,5μm,0.6s							
PB15	IPOC Station P	1.06	79⇑	iP	Pn	01 23 39.4	-0.6
PB15				eS	Sn	01 23 51.7	-2.0
PB15	IPOC Station P	1.06	79	Pn	Pn	01 23 39.2	-0.8
PB15	IPOC Station P	1.06	79	eP	Pn	01 23 39.8	-0.2
PB15				eS	Sb	01 23 56.1	+1.3
PB15				IAML		01 23 59.5	
comp=Z,6μm,0.3s							
PB04	IPOC Station P	1.16	21⇑	iP	Pn	01 23 42.0	+0.7
PB04				eS	Sn	01 23 57.4	+1.2
PB04				IAML		01 23 59.6	
comp=N,3μm,0.5s							
PB04	IPOC Station P	1.16	21		Pn	01 23 41.6	+0.2
PB04	IPOC Station P	1.16	21	eP	Pn	01 23 41.5	+0.2
PB04				eS	Sn	01 23 58.1	+1.9
PB04				IAML		01 24 03.9	
comp=Z,2μm,0.7s							
PB06	IPOC Station P	1.19	53⇓	eP	Pn	01 23 41.9	+0.3
PB06				eS	Sn	01 23 56.2	-0.5
PB06				IAML		01 23 58.7	
comp=N,3μm,0.5s							
PB06	IPOC Station P	1.19	53		Pn	01 23 41.8	+0.1
PB06	IPOC Station P	1.19	53	eP	Pn	01 23 42.0	+0.3
PB06				eS	Sn	01 23 58.7	+1.9
PB06				IAML		01 24 00.3	
comp=Z,2μm,0.5s							
PB14	IPOC Station P	1.21	172⇑	iP	Pn	01 23 42.9	+0.7
PB14				eS	Sn	01 23 58.8	+1.2
PB14				IAML		01 24 00.7	
comp=E,3μm,0.8s							
PB14	IPOC Station P	1.21	172		Pn	01 23 42.8	+0.6
PB14	IPOC Station P	1.21	172	eP	Pn	01 23 43.1	+0.9
PB14				eS	Sn	01 23 58.9	+1.3
PB14				IAML		01 23 59.3	
comp=Z,2μm,0.4s							
PB03	IPOC Station P	1.58	30⇑	iP	Pn	01 23 48.1	+1.0
PB03				eS	Sn	01 24 08.2	+1.8
PB03				IAML		01 24 13.3	
comp=E,2μm,0.6s							
PB03	IPOC Station P	1.58	30	eP	Pn	01 23 48.0	+1.0
PB03				eS	Sn	01 24 09.1	+2.7
PB03				IAML		01 24 15.5	
comp=Z,1μm,0.3s							
LVC	Limon Verde	1.75	63	Pn	Pn	01 23 51.4	+1.7
comp=Z,276nm,0.3s,baz=233,slow=10.0,SNR=2830							
LVC				Sn	Sn	01 24 13.1	+2.0
comp=Z,389nm,0.3s,baz=344,slow=8.3,SNR=14							
LVC				LR	LR	01 24 40.2	
comp=Z,374nm,20.9s,baz=210,slow=47							
LVC	Limon Verde	1.75	63	⇑iP	Pn	01 23 50.8	+1.1
LVC				eS	Sn	01 24 12.9	+1.8
LVC	Limon Verde	1.75	63		Pn	01 23 51.2	+1.5
LVC	Limon Verde	1.75	63	eP	Pn	01 23 51.6	+2.0
LVC				eS	Sn	01 24 13.7	+2.6
LVC				IAML		01 24 14.4	
comp=Z,781nm,0.5s							
PB07	IPOC Station P	1.81	21⇑	iP	Pn	01 23 51.3	+1.0
PB07	IPOC Station P	1.81	21		Pn	01 23 52.6	+2.2
PB07	IPOC Station P	1.81	21	eP	Pn	01 23 51.4	+1.0
PB07				eS	Sb	01 24 17.4	+1.1
PB07				IAML		01 24 23.0	
comp=Z,1μm,1.0s							
GO02	Mina Guanaco	1.96	152⇑	iP	Pn	01 23 54.5	+2.0
GO02				eS	Sn	01 24 19.5	+3.3
GO02				IAML		01 24 25.2	
comp=N,2μm,0.4s							
GO02	Mina Guanaco	1.96	152	Pn	Pn	01 23 54.0	+1.5
PB09	IPOC Station P	2.05	38⇑	iP	Pn	01 23 55.3	+1.8
PB09				eS	Sn	01 24 20.8	+2.7
PB09				IAML		01 24 28.7	
comp=E,1μm,0.8s							
PB09	IPOC Station P	2.05	38		Pn	01 23 55.4	+1.8
PB09	IPOC Station P	2.05	38	eP	Pn	01 23 55.4	+1.8
PB09				eS	Sn	01 24 21.7	+3.6
PB09				IAML		01 24 27.3	
comp=Z,1μm,0.6s							
PB02	IPOC Station P	2.19	17⇑	iP	Pn	01 23 56.2	+0.7
PB02				eS	Sn	01 24 24.7	+3.1
PB02				IAML		01 24 41.8	
comp=E,1μm,0.5s							
PB02	IPOC Station P	2.19	17	eP	Pn	01 23 56.4	+0.9
PB02				IAML		01 24 41.7	
comp=Z,1μm,0.4s							
PB01	IPOC Station P	2.58	24⇑	iP	Pn	01 24 02.0	+1.1
PB01				IAML		01 24 40.5	
comp=E,519nm,0.5s							
PB01	IPOC Station P	2.58	24		Pn	01 24 01.8	+0.9
PB01	IPOC Station P	2.58	24	eP	Pn	01 24 02.2	+1.3
PB01				IAML		01 24 48.9	
comp=Z,303nm,0.5s							
PATCX	Punta Patache	2.62	9	eP	Pn	01 24 01.6	+0.2
PATCX				IAML		01 24 46.9	
comp=E,441nm,0.2s							
PATCX	Punta Patache	2.62	9	Pn	Pn	01 24 02.0	+0.5
PATCX	Punta Patache	2.62	9	eP	Pn	01 24 01.9	+0.5
AC01	Pan de Azucar	2.71	180	Pn	Pn	01 24 02.7	+0.2
TA01	Diego Aracena	2.87	8	Pn	Pn	01 24 05.9	+1.2
PB08	IPOC Station P	3.53	23	eP	Pn	01 24 16.0	+1.8
PB08				IAML		01 25 14.3	
comp=N,261nm,0.5s							
PB08	IPOC Station P	3.53	23		Pn	01 24 15.9	+1.7
PB08	IPOC Station P	3.53	23	eP	Pn	01 24 00.3	-14
PB08				IAML		01 25 13.9	
comp=Z,282nm,0.6s							
PB11	IPOC Station P	3.75	14		Pn	01 24 17.1	+0.1
PSGCX	Pisagua	3.83	7		Pn	01 24 18.2	+0.1
PSGCX	Pisagua	3.83	7	eP	Pn	01 24 18.2	+0.1
GO01	Chusmiza	3.96	20		Pn	01 24 20.3	+0.1
GO03	Copiap	4.17	176		Pn	01 24 21.8	-0.8
MNMC	Minye Minye	4.37	13		Pn	01 24 25.2	-0.5
AC04	Llanos de Chal	4.78	185	Pn	Pn	01 24 29.8	-1.2
PB12	IPOC Station P	4.79	3	Pn	Pn	01 24 31.4	+0.2
SLA	San Lorenzo	4.83	107	eP	Pn	01 24 38.6	+6.7
YJA	Yavi	4.85	76	eP	Pn	01 24 39.3	+6.9
AZAP	Zapla	5.13	100	eP	Pn	01 24 42.0	+6.0
PB16	IPOC Station P	5.17	12	Pn	Pn	01 24 37.9	+1.0
AC05	El Transito	5.40	177	Pn	Pn	01 24 39.8	+0.2
LCO	Las Campanas	5.56	181	Pn	Pn	01 24 42.0	-0.1
ASTB	Santa Barbara	5.66	97	eP	Pn	01 24 48.7	+5.5
CO01	Juntas del Tor	6.54	176	Pn	Pn	01 24 55.5	+0.1
GO04	Tololo Observa	6.72	181	Pn	Pn	01 24 57.6	-0.3
CO03	El Pedregal	7.39	181	Pn	Pn	01 25 06.2	-0.7
LPAZ	La Paz	7.47	19	Pn	Pn	01 25 11.4	+2.9
comp=Z,0.3nm,0.3s,baz=207,slow=6.6,SNR=5.8							
LPAZ	La Paz	7.47	19	Pn	Pn	01 25 09.8	+1.3
SIV	San Ignacio	11.62	52	Pn	Pn	01 26 03.5	-1.5
comp=Z,1.2nm,0.3s,baz=255,slow=14,SNR=19							
SIV				Sn	Sn	01 28 08.6	-5.0
baz=242,slow=17,SNR=1.6							
H03N1	Juan Fernandez	12.37	214	Pn	Pn	01 26 13.0	-1.8
baz=359,slow=74							
H03N1				T	T	01 38 50.9	
baz=40,slow=72,SNR=145							
H03N2	Juan Fernandez	12.38	214	Pn	Pn	01 26 13.0	-1.9
baz=359							
H03N2				T	T	01 38 54.4	
baz=40,slow=72,SNR=176							
H03N3	Juan Fernandez	12.38	214	Pn	Pn	01 26 12.9	-2.1
baz=359,slow=74							
H03N3				T	T	01 38 48.8	
baz=40,slow=72,SNR=156							
TORD	Torodi Ar. Bea	79.47	71	P	P	01 35 24.9	-0.1
comp=Z,1.6nm,0.7s,baz=257,slow=5.2,SNR=14							
TORD	Torodi Ar. Bea	79.47	71	IAmb	IAmb	01 35 26.1	
comp=Z,1.5nm,0.8s							
H11S2	WAKE ISLAND Hyl26.55	276		T	T	04 01 43.5	
baz=106,slow=75,SNR=21							
H11S1	WAKE ISLAND Hyl26.56	276		T	T	04 01 37.2	
baz=106,slow=75,SNR=17							
H11S3	WAKE ISLAND Hyl26.57	276		T	T	04 01 39.9	
baz=106,slow=75,SNR=18							
H11N3	WAKE ISLAND Hyl26.69	278		T	T	04 01 49.0	
baz=105,slow=75,SNR=47							
H11N2	WAKE ISLAND Hyl26.70	278		T	T	04 01 55.5	
baz=105,slow=75,SNR=34							
H11N1	WAKE ISLAND Hyl26.70	278		T	T	04 01 54.6	
baz=105,slow=75,SNR=21							
WRA	Warramunga Arr	130.51	211	PKP	PKPdf	01 42 30.6	+1.1
comp=Z,0.2nm,0.7s,baz=151,slow=1.7,SNR=1.4							
MKAR	Makanchi Array	148.10	36	PKPbc	PKPbc	01 43 04.6	+1.1
comp=Z,0.4nm,0.7s,baz=306,slow=2.7,SNR=3.7							

IDC 14 01:31:55.3±2.1,6°.55S×129°.39E,h0km,mb3.9/1,
mb1 4.0/4,mb1mx3.5/37,mbtmp3.8/4,ML3.8/3,Error
ellipse: s-maj=95.7km s-min=27.0km az=76.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.05	197	Pn	Pn	01 34 49.7	+1.2
0.6nm,0.3s,baz=11,slow=10,SNR=16							
FITZ				Sn	Sn	01 36 50.6	-13
0.2nm,0.3s,baz=267,slow=0.2,SNR=2.6							
WRA	Warramunga Arr	14.16	161	Pn	Pn	01 35 16.7	-0.6
0.3nm,0.3s,baz=337,slow=13,SNR=7.6							
WRA				Sn	Sn	01 37 37.

BATI	**Baumata**	**23.85 172**	P	**P**	**01 53 25.3**	**0.0**
	11nm,0.4s,baz=0.0,slow=3.0,SNR=2.6					
SHL	**Shillong**	**29.42 298**	P	**P**	**01 54 15.3**	**-0.2**
WRA	**Warramunga Arr**	**35.99 158**	P	**P**	**01 55 10.5**	**-2.0**
	0.2nm,0.4s,baz=331,slow=10,SNR=7.3					
WRA			pP	**pP**	**01 55 36.8**	**+0.2**
	0.8nm,0.7s,baz=334,slow=9.9,SNR=8.5					
SONM	**Songino Array**	**36.11 344**	P	**P**	**01 55 12.7**	**-0.7**
	1.1nm,0.8s,baz=167,slow=8.9,SNR=4.7					
SONM	**Songino Array**	**36.11 344**	IAmb	IAmb	01 55 14.9	
	comp=Z,0.9nm,0.7s					
ASAR	**Alice Springs**	**39.28 160**	P	**P**	**01 55 39.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=338,slow=6.5,SNR=6.2					
ASAR			pP	**pP**	**01 56 06.1**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=338,slow=6.8,SNR=7.7					
MK31	**Makanchi Array**	**46.02 324**	P	**P**	**01 56 34.5**	**+0.1**
MK31			IAmb	IAmb	01 56 36.4	
	comp=Z,2.1nm,0.8s					
MKAR	**Makanchi Array**	**46.02 324**	P	**P**	**01 56 34.2**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=132,slow=9.1,SNR=18					
MKAR	**Makanchi Array**	**46.02 324**	P	**P**	**01 56 35.2**	**+0.8**
MAKZ	**Makanchi**	**46.20 324**	P	**P**	**01 56 36.2**	**+0.3**
MAKZ			IAmb	IAmb	01 56 37.7	
	comp=Z,2.4nm,0.7s					
ZALV	**Zalesovo Beam**	**49.07 333**	P	**P**	**01 56 57.5**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=124,slow=6.3,SNR=5.4					
KURBB	**Kurchatov Array**	**50.18 326**	P	**P**	**01 57 07.1**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=127,slow=7.7,SNR=26					
KURK	**Kurchatov**	**50.18 326**	P	**P**	**01 57 06.4**	**+0.1**
CHGR	**Chuyangaron**	**51.64 309**	P	**P**	**01 57 18.0**	**+0.3**
KK31	**Karatay Array**	**51.93 315**	P	**P**	**01 57 19.5**	**-0.1**
KK31			IAmb	IAmb	01 57 21.3	
	comp=Z,1.8nm,0.8s					
KKAR	**Karatay Array**	**51.93 315**	P	**P**	**01 57 19.2**	**-0.4**
BVAR	**Borovoye Array**	**55.76 326**	P	**P**	**01 57 47.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=128,slow=12,SNR=5.8					
BRVK	**Borovoye**	**55.84 326**	P	**P**	**01 57 48.4**	**+0.5**
GEYT	**Alibeck**	**60.06 306**	P	**P**	**01 58 17.8**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=190,slow=6.6,SNR=4.9					
GEYT	**Alibeck**	**60.06 306**	IAmb	IAmb	01 58 20.2	
	comp=Z,1.9nm,0.9s					
ABKAR	**Akbulak array**	**60.70 319**	P	**P**	**01 58 21.6**	**-0.2**
ARCES	**ARCESS Array B**	**79.12 339**	P	**P**	**02 00 13.6**	**-0.5**
	comp=Z,9.6nm,1.2s,baz=77,slow=9.3,SNR=3.7					
FINES	**FINESS Array B**	**80.29 331**	P	**P**	**02 00 19.7**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=76,slow=12,SNR=1.5					
NOA	**NORSAR Array B**	**87.27 333**	P	**P**	**02 00 55.3**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=54,slow=6.6,SNR=1.6					
MBAR	**Mbarara**	**89.93 269**	*eP*	**P**	**02 01 11.8**	**+1.9**

*IDC **14** 01:52:15.7±0.9, 2°.66N×125°.57E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/36, mbtmp3.7/8, MS3.9/1, Ms1 3.9/1, ms1mx2.9/36, Error ellipse: s-maj=83.7km s-min=17.8km az=74.0*

*NEIC **14** 01:52:26.1±2.2, 2°.57N±0°.07×125°.6E±0°.2, h86km±6km, mb4.2/3, Error ellipse: s-maj=23.6km s-min=9.4km az=97.0*

ISC 14 01:52:27.3±0.9, 2°.62N±0°.07×125°.6E±0°.2, h100km, n16, σ1§42/16, mb3.9/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**4.01**	**345**	*eP*	**Pn**	**01 53 24.8**	**-1.9**
DAV	**Davao City (W)**	**4.42**	**360**	Pn	**Pn**	**01 53 31.4**	**-0.9**
LUWI	**Luwuk**	**4.59**	**218**	Pn	**Pn**	**01 53 34.0**	**-0.6**
PAGZ	**Pagadian**	**5.64**	**337**	*eP*	**Pn**	**01 53 48.7**	**-0.1**
CISI	**Cisompet, Garu**	**20.40**	**240**	P	**P**	**01 56 55.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.59**	**180**	P	**P**	**01 56 58.5**	**+0.1**
	1.0nm,0.6s,baz=355,slow=10,SNR=1.9						
WRA	**Warramunga Arr**	**24.01**	**159**	P	**P**	**01 57 32.2**	**-0.9**
	0.4nm,0.4s,baz=334,slow=11,SNR=15						
WB2	**Warramunga Arr**	**24.02**	**159**	P	**P**	**01 57 30.2**	**-2.9**
WB2				IAmb	IAmb	01 57 37.0	
	comp=Z,17nm,1.6s						
WR0	**Warramunga Arr**	**24.10**	**159**	P	**P**	**01 57 34.5**	**+0.7**
PSI	**Prapat**	**26.63**	**271**	LR	LR	02 10 29.0	
	comp=Z,249nm,20.2s,baz=91,slow=41						
ASAR	**Alice Springs**	**27.35**	**163**	P	**P**	**01 58 02.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=348,slow=7.5,SNR=5.1						
KSRS	**Korea Array**	**34.73**	**3**	P	**P**	**01 59 07.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=192,slow=9.8,SNR=2.6						
MKAR	**Makanchi Array**	**57.82**	**326**	P	**P**	**02 02 08.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=115,slow=9.0,SNR=6.8						
MKAR				PcP	**PcP**	**02 03 02.4**	**+2.4**
	comp=Z,0.4nm,0.4s,baz=143,slow=4.1,SNR=5.4						
ZALV	**Zalesovo Beam**	**61.06**	**334**	P	**P**	**02 02 29.3**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=143,slow=5.6,SNR=1.7						
NRIK	**Noril'sk**	**71.23**	**347**	P	**P**	**02 03 36.3**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=120,slow=8.1,SNR=3.9						
FINES	**FINESS Array B**	**92.26**	**332**	P	**P**	**02 05 27.1**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=90,slow=6.9,SNR=3.7						

IDC 14 02:16:37.3±2.7, 6°.45S×146°.79E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/32, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=52.1km s-min=21.0km az=72.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.96**	**173**	Pn	Pn	02 17 26.0	+0.4
	2.4nm,0.3s,baz=145,slow=20,SNR=2.2						
PMG				Pg	Pb	02 17 31.0	0.0
	6.9nm,0.3s,baz=12,slow=17,SNR=8.1						
PMG				Sn	Sn	02 17 59.7	-2.2
	3.3nm,0.3s,baz=289,slow=12,SNR=3.5						
PMG				Lg	Lg	02 18 11.0	
	2.8nm,0.3s,baz=338,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**18.06**	**221**	P	P	02 20 50.3	-0.2
	0.1nm,0.3s,baz=44,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**21.13**	**215**	P	P	02 21 24.1	0.0
	0.5nm,0.9s,baz=43,slow=9.8,SNR=3.0						
FITZ	**Fitzroy Crossi**	**23.66**	**239**	P	P	02 21 50.1	-0.6
	1.4nm,0.6s,baz=358,slow=7.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**145.00**	**284**	PKPbc	PKPab	02 36 16.6	-0.4
	1.0nm,0.7s,baz=69,slow=3.7,SNR=8.0						

*BJI **14** 02:18:19.3±0.0, 29°.85N×131°.30E, h10km, mB4.8/43, mb4.6/60, Ms4.5/61, Ms7 4.4/57*

*JMA **14** 02:18:24.3±0.2, 29°.91N×131°.22E, h28km±2km, M4.6*

JMA Felt I J1.

*NIED **14** 02:18:24.4, 29°.91N×131°.23E, h28km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.75; $M_{\theta\theta}$0.32; $M_{\phi\phi}$-1.07; $M_{r\theta}$0.64; $M_{\theta\phi}$-0.48; $M_{\phi r}$0.38; Fault plane solution: $M_0$1.29000×10^{16} NP1:ϕ_s46.00000°, δ67.00000°, λ124.00000°. NP2:ϕ_s166.00000°, δ40.00000°, λ37.00000°.*

*NEIC **14** 02:18:24.7±1.4, 29°.95N±0°.05×131°.08E±0°.08, h23km±4km, mb4.8/131 Error ellipse: s-maj=9.9km s-min=7.5km az=85.0*

*BGR **14** 02:18:27.6±0.0, 30°.08N×131°.33E, h33km, mb4.7*

*IDC **14** 02:18:27.3±1.8, 30°.04N×130°.99E, h42km±16km, mb4.3/25, mb1 4.4/30, mb1mx4.3/44, mbtmp4.5/30, ML4.1/4, MS4.1/23, Ms1 4.1/23, ms1mx3.9/41, Error ellipse: s-maj=14.5km s-min=10.1km az=73.0*

ISC 14 02:18:25.2±0.7, 29°.96N±0°.04×131°.19E±0°.04, h29km±4km, n282, σ1§63/263, mb4.7/99, MS4.4/37, 10C-7D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.50**	**330**	P	**Pb**	**02 18 35.3**	**-0.3**
JMTN				*eS*	**Sb**	**02 18 43.1**	**+0.4**
JYAK	**Yakushimahirau**	**0.65**	**295**	P	**Pb**	**02 18 37.6**	**-0.5**
JYAK				*eS*	**Sb**	**02 18 46.9**	**0.0**
JTN	**Tanegashima 3**	**0.71**	**345**	P	**Pn**	**02 18 39.3**	**-0.1**
JTN				*eS*	**Sn**	**02 18 49.8**	**+0.4**
JKC	**Kuchinoerabu**	**1.00**	**300**	P	**Pb**	**02 18 43.5**	**-0.3**
JKC				*eS*	**Sb**	**02 18 57.2**	**+0.6**
JNN	**Nakanoshima**	**1.15**	**264**	P	**Pn**	**02 18 45.4**	**0.0**
JTSR	**Tashiro 2**	**1.22**	**349**	P	**Pn**	**02 18 46.7**	**+0.3**
JTSR				*eS*	**Sb**	**02 19 03.5**	**+0.4**
JNAR	**Kushima--Naru**	**1.56**	**3**	P	**Pn**	**02 18 51.4**	**+0.4**
JNAR				*eS*	**Sb**	**02 19 12.6**	**-0.2**
JSU	**Suzuyama**	**1.66**	**338**	P	**Pn**	**02 18 52.6**	**+0.1**
JSU	**Suzuyama**	**1.66**	**338**	Pn	**Pn**	**02 18 52.6**	**+0.1**
JNKG	**Nichinankitago**	**1.70**	**5**	P	**Pn**	**02 18 53.7**	**+0.7**
JNKG				*eS*	**Sb**	**02 19 15.3**	**-1.5**
JNU	**Nakatsue**	**3.16**	**355**	P	**Pn**	**02 19 13.9**	**+0.8**
	46nm,0.3s,baz=202,slow=8.4,SNR=114						
JNU				S	**Sn**	**02 19 49.2**	**-0.7**
	20nm,0.3s,baz=123,slow=23,SNR=4.8						
JMZ	**Minamidaito 2**	**4.13**	**180**	Pn	**Pn**	**02 19 24.7**	**-1.6**
JMN	**Monobe**	**4.40**	**31**	Pn	**Pn**	**02 19 29.7**	**-0.4**
JTU	**Tsushima**	**4.80**	**342**	Pn	**Pn**	**02 19 35.9**	**+0.4**
JHS	**Saijyo**	**5.28**	**17**	Pn	**Pn**	**02 19 42.8**	**+0.6**
JWT	**Wachi**	**6.38**	**33**		**Pn**	**02 19 58.0**	**+0.7**
INU	**Inuyama**	**7.28**	**41**	Pn	**Pn**	**02 20 10.4**	**+0.8**
JGF	**Kuroka**	**7.65**	**41**		**Pn**	**02 20 14.7**	**-0.1**
KSAR	**Wonju Array Be**	**7.95**	**341**		**Pn**	**02 20 18.6**	**-0.2**
KSRS	**Korea Array**	**7.95**	**341**	P	**Pn**	**02 20 20.4**	**+1.6**
	1.6nm,0.3s,baz=158,slow=14,SNR=55						
JHJ	**Hachijo jima 2**	**7.98**	**65**	P	**Pn**	**02 20 21.6**	**+2.3**
	14nm,0.3s,baz=259,slow=7.2,SNR=1.9						
JHJ				LR	LR	02 23 14.1	
	comp=Z,611nm,19.7s,baz=290,slow=35						
KS19	**Wonju Array Si**	**8.01**	**341**		**Pn**	**02 20 20.2**	**+0.5**
INCN	**Inchon**	**8.41**	**334**	Pn	**Pn**	**02 20 26.0**	**+0.9**
MAJO	**Matsushiro**	**8.80**	**40**	Pn	**Pn**	**02 20 31.3**	**+0.7**
MAT	**Matsushiro**	**8.80**	**40**	P	**Pn**	**02 20 31.6**	**+1.0**
MAT				S	**Sn**	**02 22 10.2**	**+1.4**
MJAR	**Matsushiro Arr**	**8.80**	**40**	P	**Pn**	**02 20 32.2**	**+1.7**
	0.7nm,0.3s,baz=224,slow=15,SNR=21						
MJAR	**Matsushiro Arr**	**8.80**	**40**		**Pn**	**02 20 31.5**	**+1.0**
JYT	**Yasato**	**9.80**	**48**	Pn	**Pn**	**02 20 44.9**	**+0.7**
JCJ	**Chichijima**	**10.08**	**104**	LR	LR	02 24 20.6	
	comp=Z,491nm,18.3s,baz=300,slow=34						
NJ2	**Nanjing**	**10.79**	**284**	*eP*	**Pn**	**02 20 55.6**	**-2.1**
NJ2				S	**Sn**	**02 22 55.5**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				LR	LR		
	comp=N,850nm,12.8s						
NJ2				LR	LR		
	comp=E,2μm,12.8s						
NJ2				LR	LR		
	comp=Z,3μm,11.8s						
SSLB	**Suanglung**	**11.01**	**238**	Pn	**Pn**	**02 21 00.3**	**-0.6**
JMM	**Marumori**	**11.21**	**43**		**Pn**	**02 21 03.0**	**-0.5**
DL2	**Dalian**	**11.90**	**321**	P	**Pn**	**02 21 13.6**	**+0.6**
DL2				*eS*	**Sn**	**02 23 29.3**	**+4.5**
DL2				pmax	pmax		
	comp=Z,240nm,3.9s						
DL2				LR	LR		
	comp=N,1μm,13.3s						
DL2				LR	LR		
	comp=E,1μm,12.8s						
DL2				LR	LR		
	comp=Z,2μm,14.7s						
QZH	**Quanzhou**	**12.25**	**249**	*eP*	**Pn**	**02 21 21.8**	**+4.0**
QZH				*eS*	**Sn**	**02 23 36.8**	**+3.4**
QZH				LR	LR		
	comp=N,1μm,10.1s						
QZH				LR	LR		
	comp=E,720nm,11.3s						
QZH				LR	LR		
	comp=Z,1μm,10.9s						
TIA	**Tai'an**	**13.33**	**302**	P	**Pn**	**02 21 34.6**	**+2.1**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIA				LR	LR		
	comp=N,780nm,12.9s						
TIA				LR	LR		
	comp=E,2μm,12.8s						
TIA				LR	LR		
	comp=Z,2μm,12.8s						
USRK	**Ussuriysk Ar.**	**14.23**	**2**	P	**Pn**	**02 21 45.9**	**+1.3**
	baz=148,slow=11,SNR=4.5						
USRK				LR	LR	02 27 16.1	
	comp=Z,575nm,21.2s,baz=169,slow=37						
CN2	**Changchun**	**14.55**	**343**	*eP*	**P**	**02 21 52.6**	**-2.7**
CN2				pP	Pn	02 21 56.3	+7.2
CN2				pmax	pmax		
	comp=Z,60nm,0.8s						
CN2				LR	LR		
	comp=N,180nm,11.7s						
CN2				LR	LR		
	comp=E,970nm,17.3s						
CN2				LR	LR		
	comp=Z,2μm,15.4s						
WHN	**Wuhan**	**14.57**	**277**	P	**P**	**02 21 58.5**	**+2.9**
WHN				S	**Sn**	**02 24 37.3**	**+7.3**
WHN				LR	LR		
	comp=N,2μm,16.3s						
WHN				LR	LR		
	comp=E,2μm,11.4s						
WHN				LR	LR		
	comp=Z,3μm,12.5s						
MDJ	**Mudanjiang**	**14.68**	**355**	P	**P**	**02 21 55.9**	**-0.9**
MDJ				S	S	02 25 44.8	+54
MDJ				pmax	pmax		
	comp=Z,11nm,0.4s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.5s						
MDJ				LR	LR		
	comp=N,840nm,17.6s						
MDJ				LR	LR		
	comp=E,580nm,13.0s						
MDJ				LR	LR		
	comp=Z,1μm,17.6s						
BJT	**Baijiatuan**	**15.86**	**313**	P	**P**	**02 22 11.7**	**+1.8**
BJT				IAmb	IAmb	02 22 20.3	
	comp=Z,80nm,1.5s						
BJI	**Beijing**	**15.87**	**313**	P	**P**	**02 22 10.8**	**+0.9**
BJI				S	**Sn**	**02 25 04.6**	**+3.2**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJI				LR	LR		
	comp=Z,1μm,13.9s						
BJI				LR	LR		
	comp=Z,1μm,13.7s						
BJI				LR	LR		
	comp=Z,980nm,16.1s						
ASAJ	**Asahikawa**	**16.78**	**30**	P	**Pn**	**02 22 15.3**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=196,slow=14,SNR=2.8						
ASAJ				LR	LR	02 29 24.3	
	comp=Z,547nm,18.8s,baz=277,slow=39						
ENH	**Enshi**	**18.78**	**276**		**Pn**	**02 22 43.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**19.19**	**25**	P	**P**	**02 22 45.3**	**-1.3**
HHC	**Hu-ho-hao-te**	**19.30**	**310**	*eP*	**Pn**	**02 22 50.8**	**+1.7**
HHC				S	**Sn**	**02 26 16.8**	**-7.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,6.9s						
HHC				LR	LR		
	comp=Z,1μm,13.6s						
HHC				LR	LR		
	comp=Z,1μm,12.3s						
HHC				LR	LR		
	comp=Z,2μm,11.5s						
XAN	**Xi'an**	**19.31**	**288**	P	**P**	**02 22 47.3**	**-0.8**
XAN				sS	sS	02 26 33.4	-3.5
XAN				pmax	pmax		
	comp=Z,16nm,1.1s						
XAN				pmax	pmax		
	comp=Z,120nm,4.6s						
XAN				LR	LR		
	comp=Z,970nm,15.7s						
XAN				LR	LR		
	comp=Z,1μm,11.9s						
XAN				LR	LR		
	comp=Z,1μm,12.2s						
XAN	**Xi'an**	**19.31**	**288**		**P**	**02 22 47.5**	**-0.5**
BTO	**Baotou**	**20.23**	**307**	P	Pn	02 23 00.8	+0.6
BTO				S	Sn	02 26 46.8	-0.5
GUMO	**Guam**	**20.62**	**139**	P	Pn	02 23 04.5	-0.2
	comp=Z,57nm,0.9s,baz=67,slow=12,SNR=1.1						
GUMO				LR	LR	02 29 44.1	
	comp=Z,216nm,18.9s,baz=172,slow=32						
GYA	**Guiyang**	**21.88**	**267**	⇑P	**P**	**02 23 16.9**	**+0.9**
GYA				S	**S**	**02 27 09.9**	**-6.6**
GYA				pmax	pmax		
	comp=Z,38nm,1.0s						
GYA				pmax	pmax		
	comp=Z,150nm,5.2s						
GYA				LR	LR		
	comp=Z,670nm,16.5s						
GYA				LR	LR		
	comp=Z,640nm,16.2s						
GYA				LR	LR		
	comp=Z,740nm,16.0s						
QIZ	**Qiongzhong**	**22.23**	**246**	P	**P**	**02 23 18.3**	**-1.4**
QIZ				S	**S**	**02 27 22.3**	**-0.6**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
QIZ				LR	LR		
	comp=Z,650nm,18.0s						
QIZ				LR	LR		
	comp=Z,370nm,17.0s						
QIZ				LR	LR		
	comp=Z,750nm,18.6s						
CD2	**Chengdu**	**23.65**	**279**	P	**P**	**02 23 33.6**	**-0.7**
CD2				S	**S**	**02 27 47.4**	**+0.1**
CD2				pmax	pmax		
	comp=Z,60nm,1.0s						
CD2				pmax	pmax		
	comp=Z,170nm,6.7s						
CD2				LR	LR		
	comp=Z,1μm,16.7s						
CD2				LR	LR		
	comp=Z,1μm,11.1s						
CD2				LR	LR		
	comp=Z,2μm,11.5s						
LZH	**Lanzhou**	**23.69**	**292**	⇑P	**P**	**02 23 33.8**	**-0.9**
LZH				sP	pP	02 23 41.8	-0.8
LZH				S	**S**	**02 27 51.8**	**+3.8**
LZH				SS	**SnSn**	**02 28 39.9**	**+13**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,5.4s						
LZH				LR	LR		
	comp=Z,1μm,15.4s						
LZH				LR	LR		
	comp=Z,2μm,14.1s						
LZH				LR	LR		
	comp=Z,2μm,13.6s						
KMI	**Kunming**	**25.65**	**266**	⇓*eP*	**P**	**02 23 53.4**	**+0.6**
KMI				pmax	pmax		
	comp=Z,32nm,0.7s						
ULN	**Ulaanbaatar**	**25.76**	**321**	P	**P**	**02 23 53.2**	**-0.3**
ULN				IAmb	IAmb	02 23 55.8	
	comp=Z,26nm,1.4s						
SLVN	**Son La**	**26.01**	**257**	P	**P**	**02 23 55.9**	**0.0**
SONM	**Songino Array**	**26.11**	**320**	P	**P**	**02 23 55.5**	**-1.1**
	comp=Z,5.7nm,0.5s,baz=133,slow=9.2,SNR=29						
SONM				LR	LR	02 35 28.3	
	comp=Z,658nm,20.1s,baz=121,slow=39						
SONM	**Songino Array**	**26.11**	**320**	P	**P**	**02 23 55.5**	**-1.1**
GTA	**Gaotai**	**27.35**	**299**	*eP*	**P**	**02 24 07.8**	**-0.2**
GTA				pP	pP	02 24 13.4	-2.6
GTA				sP	sP	02 24 17.0	-2.5
GTA				PcP	**PcP**	**02 27 26.9**	**+0.2**
GTA				sS	sS	02 28 59.1	-0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,65nm,3.8s						
GTA				LR	LR		
	comp=Z,340nm,16.0s						
GTA				LR	LR		
	comp=Z,590nm,15.6s						
GTA				LR	LR		
	comp=Z,740nm,15.6s						
TLY	**Talaya**	**29.79**	**325**	LR	LR	02 38 01.0	
	comp=Z,333nm,19.0s,baz=122,slow=40						
TLY	**Talaya**	**29.79**	**325**	P	**P**	**02 24 29.8**	**+0.5**
PETK	**Petropavlovsk-**	**30.16**	**32**	P	**P**	**02 24 33.8**	**+1.3**
	comp=Z,9.0nm,0.9s,baz=197,slow=4.5,SNR=9.2						
PETK				LR	LR	02 38 10.7	
	comp=Z,257nm,18.4s,baz=224,slow=39						
PETK	**Petropavlovsk-**	**30.16**	**32**	P	**P**	**02 24 33.2**	**+0.6**
PBKT	**Sadao Pong**	**30.69**	**251**	P	**P**	**02 24 37.0**	**-0.6**
PBKT				IAmb	IAmb	02 24 38.1	
	comp=Z,9.9nm,0.7s						
CHTO	**Chiang Mai**	**31.30**	**257**	P	**P**	**02 24 41.9**	**-1.1**
CHTO				IAmb	IAmb	02 24 43.2	
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.46**	**256**	P	**P**	**02 24 44.2**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=48,slow=7.6,SNR=11						
CMAR				PcP	**PcP**	**02 27 38.5**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=30,slow=0.5,SNR=8.4						
CMAR				LR	LR	02 39 05.8	
	comp=Z,469nm,18.1s,baz=106,slow=40						
CMAR	**Chiang Mai Arr**	**31.46**	**256**		**PcP**	**02 27 38.3**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**33.84**	**99**	T	T	03 01 09.7	
	baz=296,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**33.84**	**99**	T	T	03 01 09.4	
	baz=296,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**33.86**	**99**	T	T	03 01 17.2	
	baz=296,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy**	**34.19**	**101**	T	T	03 02 33.6	
	baz=302,slow=74						
H11S1	**WAKE ISLAND Hy**	**34.20**	**101**	T	T	03 02 20.1	
	baz=302,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.21**	**101**	T	T	03 02 31.3	
	baz=302						
SHL	**Shillong**	**34.94**	**273**	P	**P**	**02 25 13.6**	**-1.4**
SEY	**Seymchan**	**35.71**	**16**	P	**P**	**02 25 21.9**	**+1.0**
	comp=Z,5.6nm,0.8s,baz=201,slow=7.7,SNR=12						
WMQ	**Urumqi**	**37.01**	**304**	*eP*	**P**	**02 25 32.8**	**+0.4**
WMQ				pP	pP	02 25 39.1	-1.5
WMQ				sP	sP	02 25 43.4	-0.4
WMQ				pmax	pmax		
	comp=Z,13nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,80nm,4.9s						
WMQ				LR	LR		
	comp=Z,190nm,20.5s						
WMQ				LR	LR		
	comp=Z,270nm,14.7s						
WMQ				LR	LR		
	comp=Z,150nm,16.5s						
TAPN	**Taplejung**	**38.08**	**277**	*eP*	**P**	**02 25 41.3**	**-0.6**
TAPN	**Taplejung**	**38.08**	**277**	*eP*	**P**	**02 25 41.3**	**-0.6**
ODAN	**Odare**	**38.48**	**276**	*eP*	**P**	**02 25 44.3**	**-0.9**
	comp=Z,41nm,0.6s						
ODAN	**Odare**	**38.48**	**276**	*eP*	**P**	**02 25 44.3**	**-0.9**
	comp=Z,41nm,0.6s						
RAMN	**Ramite**	**39.14**	**277**	*eP*	**P**	**02 25 49.6**	**-1.1**
RAMN	**Ramite**	**39.14**	**277**	*eP*	**P**	**02 25 49.6**	**-1.1**
JIRN	**Jiri**	**39.31**	**278**	*eP*	**P**	**02 25 51.6**	**-0.7**
JIRN	**Jiri**	**39.31**	**278**	*eP*	**P**	**02 25 51.6**	**-0.7**
PKI	**Pulchoki**	**40.00**	**278**	*eP*	**P**	**02 25 57.0**	**-1.0**
PKI	**Pulchoki**	**40.00**	**278**	*eP*	**P**	**02 25 57.0**	**-1.0**
PKIN	**Phulchoki**	**40.01**	**278**	*eP*	**P**	**02 25 57.1**	**-0.9**
PKIN	**Phulchoki**	**40.01**	**278**	*eP*	**P**	**02 25 57.1**	**-0.9**
KKN	**Kakani**	**40.06**	**279**	*eP*	**P**	**02 25 57.5**	**-0.8**
	comp=Z,89nm,1.0s						
KKN	**Kakani**	**40.06**	**279**	*eP*	**P**	**02 25 57.5**	**-0.8**
	comp=Z,89nm,1.0s						
DMN	**Daman**	**40.25**	**278**	*eP*	**P**	**02 25 59.3**	**-0.7**
DMN	**Daman**	**40.25**	**278**	*eP*	**P**	**02 25 59.3**	**-0.7**
GKN	**Gorkha**	**40.56**	**279**	*eP*	**

comp=Z,182nm,14.9s,baz=313
UZB Uzynbulak 43.27 303 *e*P **P 02 26 23.4 -1.0**
comp=Z,7.9nm,0.8s,baz=302
KPKS Kokpek 43.52 303 *e*P **P 02 26 25.4 -0.8**
comp=Z,14nm,0.9s,baz=303
SATY Saty 43.72 302 *e*P **P 02 26 27.4 -0.5**
comp=Z,5.9nm,0.7s,baz=302
TDK Taldyqorghan 43.73 305 *e*P **P 02 26 27.1 -0.8**
comp=Z,16nm,0.8s,baz=305
TDK LR LR 02 44 29.2
comp=Z,251nm,16.6s,baz=305
KURK Kurchatov 44.04 313 P **P 02 26 29.3 -0.9**
KURK IAmb IAmb 02 26 30.2
comp=Z,13nm,1.0s
MDOK Medeo 44.71 303 *e*P **P 02 26 35.8 -0.2**
baz=302
MDOK LR LR 02 45 21.8
comp=Z,215nm,16.0s,baz=302
CHKK Chushkaly 44.74 304 *e*P **P 02 26 35.3 -0.7**
baz=303
TNSS Tian-Shan 44.79 302 *e*P **P 02 26 36.7 -0.1**
baz=302
AAA Alma-Ata 44.81 303 *e*P **P 02 26 36.6 0.0**
comp=Z,19nm,0.7s,baz=302
MTBS Maitube 45.17 303 *e*P **P 02 26 38.9 -0.6**
baz=302
KUU Kurty 45.21 304 *e*P **P 02 26 39.1 -0.6**
comp=Z,22nm,0.9s,baz=303
KNRA Kununurra 45.43 183 pP 02 26 47.9 -1.6
TKM2 Tokmak 2 45.78 302 P **P 02 26 44.9 +0.4**
SNR=43
KZA Kyzart 46.09 301 P **P 02 26 48.2 +1.0**
SNR=10
CHMS Chumysh 46.40 302 P **P 02 26 49.4 +0.3**
SNR=11
FRU1 Bishkek 46.50 302 P **P 02 26 49.7 -0.3**
NRIK Noril'sk 46.57 340 P **P 02 26 48.4 -1.7**
comp=Z,6.1nm,0.5s,baz=114,slow=9.3,SNR=7.8
NRIK PcP **PcP 02 28 24.3 +0.6**
comp=Z,3.6nm,0.5s,baz=153,slow=9.4,SNR=2.6
NRIK LR LR 02 48 10.1
comp=Z,494nm,18.5s,baz=188,slow=38
USP Ospenovka 46.57 303 P **P 02 26 50.5 0.0**
SNR=13
AAK Ala-Archa 46.61 302 P **P 02 26 51.1 +0.1**
SNR=12
UCH Uchtor 46.62 301 P **P 02 26 52.5 +1.0**
SNR=8.4
BTLS Baital 46.83 305 *e*P **P 02 26 51.6 -0.8**
comp=Z,7.0nm,0.5s,baz=305
EKS2 Erkin-Say 47.14 302 P **P 02 26 55.1 +0.1**
SNR=6.7
AML Almayashu 47.24 301 P **P 02 26 56.5 +0.3**
SNR=17
BRZS Berezniki 47.77 312 *e*P **P 02 26 58.7 -1.0**
comp=Z,7.6nm,0.6s,baz=312
BRZS LR LR 02 47 23.0
comp=Z,232nm,14.6s,baz=312
FITZ Fitzroy Crossi 48.08 187 P **P 02 27 02.7 +0.4**
comp=Z,3.6nm,0.7s,baz=0.2,slow=9.0,SNR=16
FITZ Fitzroy Crossi 48.08 187 P **pP 02 27 03.3 +1.0**
FITZ **pP 02 27 08.8 -1.4**
DZA Taraz 48.91 303 *e*P **P 02 27 08.3 -0.4**
baz=302
DZA LR LR 02 51 51.2
comp=Z,66nm,12.8s,baz=302
BRVK Borovoye 49.39 316 P **P 02 27 11.8 -0.3**
KK31 Karatay Array 49.49 303 P **P 02 27 13.1 0.0**
KKAR Karatay Array 49.49 303 P **P 02 27 13.1 0.0**
KKAR Karatay Array 49.49 303 P **P 02 27 11.0 -2.0**
BTK Batken 49.62 299 P **P 02 27 14.4 +0.1**
BTK IAmb IAmb 02 27 39.9
comp=Z,9.4nm,0.8s
WRAB Tennant Creek 49.70 176 P **P 02 27 15.4 +0.7**
WRAB IAmb IAmb 02 27 48.0
comp=Z,6.5nm,0.6s
WRA Warramunga Arr 49.71 176 P **P 02 27 15.3 +0.5**
comp=Z,2.1nm,0.9s,baz=356,slow=8.4,SNR=13
WR0 Warramunga Arr 49.74 176 P **P 02 27 15.1 0.0**
WR0 IAmb IAmb 02 27 28.2
comp=Z,15nm,1.1s
IUG Iuzhnay 49.95 302 *e*P **P 02 27 16.4 -0.2**
comp=Z,18nm,1.0s,baz=301
CHGR Chuyangaron 51.12 297 P **P 02 27 25.6 +0.1**
KBL Kabul 52.04 292 P **P 02 27 32.3 -0.3**
KBL IAmb IAmb 02 27 33.2
comp=Z,13nm,1.2s
AS31 Alice Springs 53.38 177 P **P 02 27 43.1 +0.8**
ASAR Alice Springs 53.38 177 P **P 02 27 43.2 +0.9**
comp=Z,1.1nm,0.5s,baz=11,slow=13,SNR=24
ASAR Alice Springs 53.38 177 P **P 02 27 42.6 +0.3**
ABKAR Akbulak array 56.07 312 P **P 02 28 00.4 -1.1**
ARU Arti 56.14 320 P **P 02 28 01.4 -0.6**
MCK McKinley 59.14 31 P **P 02 28 24.2 +1.3**
RND Reindeer 59.21 31 P **P 02 28 24.2 +0.7**
WRH Wood River Hil 59.44 30 P **P 02 28 25.5 +0.6**
GEYT Alibeck 59.74 299 P **P 02 28 27.2 -0.3**
comp=Z,12nm,0.7s,baz=60,slow=3.6,SNR=34
GEYT Alibeck 59.74 299 P **P 02 28 27.1 -0.5**
IL31 59.92 29 P **P 02 28 27.8 -0.4**
IL31 IAmb IAmb 02 29 17.6
comp=Z,14nm,1.6s
ILAR Eielson Array 59.92 29 P **P 02 28 28.6 +0.3**
comp=Z,1.6nm,0.9s,baz=274,slow=6.0,SNR=15
ILAR Eielson Array 59.92 29 P **P 02 28 28.3 0.0**
HDA Harding Lake 59.94 30 P **P 02 28 29.1 +0.8**
BMAR Burnt Mountain 60.52 26 P **P 02 28 34.7 +2.3**
DOT Dot Lake 61.30 30 P **P 02 28 37.7 0.0**
DOT IAmb IAmb 02 28 39.5
comp=Z,9.2nm,1.0s
MENT Mentasta 61.58 31 P **P 02 28 40.7 +1.0**
MENT IAmb IAmb 02 28 42.0
comp=Z,8.1nm,0.8s
DZM Mont Dzumac 61.85 143 P **P 02 28 43.5 +1.5**
comp=Z,2.6nm,0.5s,baz=270,slow=17,SNR=1.6
STKA Stephens Creek 62.29 170 P **P 02 28 45.6 +1.0**
comp=Z,1.6nm,0.6s,baz=338,slow=9.8,SNR=3.7
BCAR Beaver Creek A 62.42 31 P **P 02 28 46.7 +1.4**
PCA Pinnacle 63.83 34 P **P 02 28 56.4 +1.7**
KLMR Klimovskoe 65.11 327 *e*P **P 02 29 00.8 -2.1**
KLMR AMP 02 29 03.6
comp=Z,9.0nm,0.8s
KLMR LQ LQ 02 53 54.5
KLMR LQ LQ 02 53 54.5
KLMR LR LR 02 57 56.3
ARCES ARCESS Array B 67.50 338 P **P 02 29 17.9 -0.3**
comp=Z,9.9nm,0.9s,baz=48,slow=7.3,SNR=8.9
ARCES LR LR 03 04 35.9
comp=Z,454nm,18.5s,baz=18,slow=41
TBLG Delisi 68.30 306 P **P 02 29 22.9 -0.8**
OBN Obninsk 68.50 322 P **P 02 29 25.1 +0.5**
KBZ Khabaz 68.84 309 P **P 02 29 26.8 -0.1**
comp=Z,19nm,0.9s,baz=93,slow=2.2,SNR=40
KBZ LR LR 03 01 43.0
comp=Z,124nm,18.6s,baz=103,slow=38
KIV Kislovodsk 68.90 309 ⇓P **P 02 29 27.8 +0.3**
KIV Kislovodsk 68.90 309 P **P 02 29 27.8 +0.3**
AKH Akhalkalaki 69.29 307 ⇑P **P 02 29 31.5 +1.4**
AKH Akhalkalaki 69.29 307 P **P 02 29 30.1 0.0**
AKH IAmb IAmb 02 29 31.8
comp=Z,10nm,1.0s
DLBC Dease Lake 69.33 34 IAmb IAmb 02 29 33.3
comp=Z,14nm,1.2s
BCA Borcka 70.58 307 ⇓P **P 02 29 38.2 +0.4**
FIA1 FINESS Array S 70.91 331 P **P 02 29 39.6 +0.3**
FINES FINESS Array B 70.91 331 P **P 02 29 38.0 -1.3**
comp=Z,6.5nm,0.5s,baz=68,slow=5.4,SNR=40
FINES LR LR 03 03 33.0
comp=Z,182nm,18.9s,baz=68,slow=38
FINES FINESS Array B 70.91 331 P **P 02 29 39.3 0.0**
KOPT Kop Dagi 71.93 306 P **P 02 29 46.0 -0.4**
KOPT IAmb IAmb 02 30 05.5
comp=Z,7.1nm,0.8s
MARD Mardin 72.84 303 P **P 02 29 50.9 -0.7**
YKA Yellowknife Ar 74.04 26 P **P 02 29 58.7 +0.7**
comp=Z,2.8nm,0.8s,baz=308,slow=6.4,SNR=7.2
AKASG Malin Array Be 74.39 320 P **P 02 29 58.8 -1.5**
comp=Z,3.6nm,0.6s,baz=53,slow=6.3,SNR=21
AKASG LR LR 03 04 55.3
comp=Z,130nm,18.7s,baz=55,slow=38
AKASG Malin Array Be 74.39 320 P **P 02 30 00.4 +0.2**
AKBB Malin Array Si 74.39 320 IAmb IAmb 02 30 00.9
comp=Z,9.1nm,0.9s
GAZ Gaziantep 75.47 305 IAmb IAmb 02 30 21.1
comp=Z,7.1nm,0.7s
PURM Purcari 76.00 316 ⇑P **P 02 30 10.4 +0.8**
SORM Soroca 76.13 318 ⇓P **P 02 30 10.6 +0.3**
BRTR Keskin Array B 76.80 308 P **P 02 30 13.9 -0.6**
comp=Z,5.0nm,0.8s,baz=105,slow=5.1,SNR=29
BRTR LR LR 03 09 27.3
comp=Z,51nm,18.9s,baz=56,slow=40
BRTR Keskin Array B 76.80 308 P **P 02 30 14.3 -0.2**
NB2 NORSAR Subarra 77.11 334 P **P 02 30 13.8 -1.9**
comp=Z,3.5nm,0.6s,baz=50,slow=5.9
NOA NORSAR Array B 77.11 334 P **P 02 30 14.1 -1.6**
comp=Z,3.3nm,0.6s,baz=49,slow=5.6,SNR=27
NOA LR LR 03 07 32.1
comp=Z,91nm,19.6s,baz=50,slow=38
TOPG Topolog 77.73 315 ⇑P **P 02 30 20.5 +1.1**
TESR Tescani 77.94 317 ⇓P **P 02 30 21.7 +1.1**
BUR08 Bucovina Ar. S 78.20 318 P **P 02 30 22.0 -0.1**
BUR08 IAmb IAmb 02 30 24.9
comp=Z,6.3nm,1.0s
BURAR Bucovina Array 78.21 318 P **P 02 30 22.0 -0.2**
BURAR Bucovina Array 78.21 318 ⇓P Pn 02 30 22.4 +1.2
VRI Vrincioaia 78.23 316 ⇑P **P 02 30 22.7 +0.5**
PLOR Plostina 78.28 316 ⇓P **P 02 30 23.4 +0.9**
OZUR 78.67 317 ⇑P **P 02 30 25.2 +0.5**
MLR Muntele Rosu 78.89 316 ⇑P **P 02 30 28.1 +2.1**
DOPR Dopca 78.97 317 ⇑P **P 02 30 26.6 +0.3**
ARR Arges 79.74 317 ⇑P **P 02 30 31.0 +0.4**
OJC Ojcow 79.78 323 P **P 02 30 30.5 -0.1**
OJC IAmb IAmb 02 30 41.0
comp=Z,8.0nm,1.0s
B08A Colville Reser 79.79 40 P **P 02 30 31.4 +0.7**
B08A IAmb IAmb 02 30 33.7
comp=Z,9.7nm,1.2s
D08A Wollman Farm, 80.75 41 IAmb IAmb 02 30 38.2
comp=Z,9.0nm,1.2s
MORC Moravsky Berou 81.22 323 *e*P **P 02 30 39.0 +0.6**
MORC Moravsky Berou 81.22 323 P **P 02 30 37.4 -1.0**
VYHS Vyhne 81.29 322 *e*P **P 02 30 38.9 +0.2**
PINE Pine Mountain 81.38 44 IAmb IAmb 02 30 42.7
comp=Z,16nm,1.5s
YBH Yreka Blue Hor 81.41 47 P **P 02 30 40.1 +0.5**
YBH IAmb IAmb 02 30 43.1
comp=Z,9.7nm,1.4s
OSTC Ostas 81.43 324 AMS AMS 03 09 50.0
comp=Z,400nm,17.5s
KRLC Kraliky 81.43 324 AMS AMS 03 11 20.0
comp=Z,300nm,16.5s
CHVC Chvalec 81.50 324 *e*P **P 02 30 40.5 +0.7**
CHVC AMS AMS 03 10 00.0
comp=Z,400nm,16.8s
DPC Dobruska-Polom 81.50 324 AMS AMS 03 10 00.0
comp=Z,400nm,13.9s
UPC Upice 81.56 324 AMS AMS 03 10 00.0
comp=Z,400nm,16.2s
VRAC Vranov 81.99 323 *e*P **P 02 30 42.6 +0.1**
K05A Summer Lake 82.00 45 P **P 02 30 43.2 +0.4**
KRUC Moravsky 82.25 323 *e*P **P 02 30 44.6 +0.8**
PVCC Panska Ves 82.28 325 AMS AMS 03 11 50.0
comp=Z,400nm,15.2s
BRG Berggiesshubel 82.37 325 *e*P **P 02 30 43.8 -0.6**
comp=Z,2.5nm,0.8s
GOPC GO Pecny, Ondr 82.55 324 AMS AMS 03 10 50.0
comp=Z,400nm,16.1s
CLL Collm 82.56 326 *e*P **P 02 30 45.0 -0.3**
comp=Z,4.0nm,0.7s
CLL *i* PcP **PcP 02 30 50.5 +0.2**
CLL *i* sP **sP 02 30 57.0 -0.3**
CLL *e*PP **PP 02 33 52.0 -2.3**
CLL Collm 82.56 326 P **P 02 30 45.5 +0.1**
CLL IAmb IAmb 02 30 58.1
comp=Z,4.7nm,0.8s
TREC Trest 82.58 323 AMS AMS 03 12 10.0
comp=Z,400nm,15.4s
PRU Pruhonice 82.63 324 *e*P **P 02 30 46.3 +0.6**
PRU AMS AMS 03 10 50.0
comp=Z,500nm,16.0s
PRA Prague 82.63 325 AMS AMS 03 10 40.0
comp=Z,200nm,15.2s
HOPS Hopland Field 82.65 49 P **P 02 30 45.8 -0.2**
HOPS IAmb IAmb 02 30 47.7
comp=Z,10.0nm,1.1s
JTMT Jette 82.90 38 IAmb IAmb 02 30 49.9
comp=Z,5.9nm,1.2s
BMO Blue Mountains 82.93 42 IAmb IAmb 02 30 50.1
comp=Z,14nm,1.5s
J08A Circle Bar Ran 83.11 44 IAmb IAmb 02 30 51.3
comp=Z,19nm,1.6s
CONA Conrad Observa 83.22 322 *e*PcP **P 02 30 49.9 +1.0**
comp=Z,5.3nm,1.0s
NKC Novy Kostel 83.52 325 AMS AMS 03 12 30.0
comp=Z,500nm,15.1s
KHC Kasperske Hory 83.66 324 *e*P **P 02 30 51.9 +0.8**
KHC *ex* x 02 31 01.9
KHC AMS AMS 03 12 30.0
comp=Z,400nm,14.3s
GERES GERESS Array B 83.78 324 P **P 02 30 50.4 -1.4**
comp=Z,0.9nm,0.7s,baz=46,slow=5.8,SNR=12
GERES LR LR 03 10 40.4
comp=Z,158nm,21.2s,baz=48,slow=38
GERES GERESS Array B 83.78 324 P **P 02 30 51.2 -0.6**
ARSA Arzberg 83.82 322 *e*P **P 02 30 50.9 -1.0**
comp=Z,4.3nm,1.2s
MOA Molln 84.11 323 *e*PcP **P 02 30 54.3 +0.9**
comp=Z,3.8nm,1.0s
SOKA Soboth 84.44 322 *e*PcP **P 02 30 55.9 +0.7**
comp=Z,5.3nm,0.9s
GRF Grafenberg Arr 84.47 326 *e*P **P 02 30 56.0 +0.7**
comp=Z,5.1nm,1.0s,baz=58,slow=4.9
PAHR Pah Rah Range 84.63 47 IAmb IAmb 02 30 58.7
comp=Z,9.5nm,1.2s
MFID Camas Ranch 84.64 42 P **P 02 30 57.1 +0.7**
MFID IAmb IAmb 02 30 59.9
comp=Z,10.0nm,1.2s
OBKA Obir 84.80 322 *e*PcP **P 02 30 57.6 +0.5**
comp=Z,1.0nm,0.5s
YERR Yerington 85.13 47 P **P 02 31 00.3 +1.3**
YERR IAmb IAmb 02 31 11.2
comp=Z,4.9nm,0.9s
MYKA Terra Mystica 85.21 322 *e*P **P 02 30 59.1 0.0**
comp=Z,1.5nm,0.5s
WAKR Walker 85.28 48 IAmb IAmb 02 31 12.1
comp=Z,3.4nm,0.8s
DLMT Dillon 85.29 39 IAmb IAmb 02 31 02.2
comp=Z,11nm,1.1s
HLID Hailey 85.37 42 IAmb IAmb 02 31 03.1
comp=Z,6.1nm,1.1s
ABTA Abfaltersbach 85.73 323 *e*P **P 02 31 00.7 -1.0**
comp=Z,2.7nm,1.0s
RYN Ryan 85.80 47 IAmb IAmb 02 31 04.9
comp=Z,7.0nm,1.2s
KVN Kaiserville 85.82 47 IAmb IAmb 02 31 05.0
comp=Z,11nm,1.1s
LHV Little Huntoon 86.03 48 IAmb IAmb 02 31 06.4
comp=Z,13nm,1.3s
NVAR Mina Array Bea 86.05 48 P **P 02 31 04.7 +1.1**
comp=Z,4.3nm,1.0s,baz=306,slow=5.4,SNR=19
NVAR Mina Array Bea 86.05 48 P **P 02 31 04.2 +0.6**
MOTA Moosalm 86.07 324 *e*P **P 02 31 02.6 -0.8**
comp=Z,2.4nm,1.0s
ELK Elko 86.59 44 IAmb IAmb 02 31 09.2
comp=Z,5.3nm,1.2s
IMW Indian Meadow 87.13 40 P **P 02 31 10.0 +1.1**
IMW IAmb IAmb 02 31 12.3
comp=Z,9.7nm,1.2s
FLWY Flagg Ranch 87.14 40 IAmb IAmb 02 31 12.6
comp=Z,8.9nm,0.9s
TPAW Teton Pass 87.38 40 IAmb IAmb 02 31 12.2
comp=Z,5.8nm,1.0s
REDW Red Top Meadow 87.52 40 IAmb IAmb 02 31 15.9
comp=Z,15nm,1.7s
DUG Dugway, Tooele 88.39 44 IAmb IAmb 02 31 17.9
comp=Z,4.2nm,1.1s
BW06 Boulder Array 88.63 40 IAmb IAmb 02 31 18.1
comp=Z,3.9nm,0.8s
PD31 Pinedale Array 88.63 40 P **P 02 31 16.5 +0.5**
PD31 IAmb IAmb 02 31 18.1
comp=Z,4.1nm,1.0s
PDAR Pinedale Array 88.63 40 P **P 02 31 17.1 +1.1**
comp=Z,3.0nm,0.9s,baz=325,slow=1.8,SNR=13
PDAR Pinedale Array 88.63 40 P **P 02 31 16.9 +0.9**
PRN Pahroc Range 88.73 47 IAmb IAmb 02 31 19.5
comp=Z,5.6nm,1.3s
PPT Papeete 89.68 110 LR LR 03 08 53.7
comp=Z,41nm,19.0s,baz=296,slow=34
ULM Lac du Bonnet 89.91 28 LR LR 03 14 18.9
comp=Z,46nm,19.5s,baz=342,slow=37
O20A White River Ci 91.11 41 IAmb IAmb 02 31 30.1
comp=Z,4.7nm,0.9s
N23A Red Feather La 91.89 40 P **P 02 31 32.5 +1.2**
WUAZ Wupatki 92.22 46 IAmb IAmb 02 31 35.9
comp=Z,5.8nm,1.2s
X16A Lo Mia Camp, P 92.88 47 IAmb IAmb 02 31 39.1
comp=Z,3.1nm,1.1s
SCHQ Schefferville 94.14 10 LR LR 03 18 42.9
comp=Z,110nm,19.3s,baz=86,slow=38
ESDC Sonseca Array 99.14 327 LR LR 03 22 14.0
comp=Z,129nm,18.2s,baz=30,slow=39
TXAR Lajitas Array 101.18 47 P **Pdif 02 32 14.3 +0.9**
comp=Z,0.2nm,0.6s,baz=328,slow=3.2,SNR=2.6
TORD Torodi Ar. Bea 115.17 304 PKP **PKPdf 02 37 04.5 0.0**
comp=Z,0.3nm,0.8s,baz=30,slow=2.3,SNR=1.1
TORD PP **PP 02 38 01.8 -2.3**
comp=Z,1.1nm,1.0s,baz=39,slow=5.7,SNR=3.9
DBIC Dimbokro 124.28 303 PKP **PKPdf 02 37 21.6 -0.5**
comp=Z,2.8nm,0.9s,baz=288,slow=3.2,SNR=1.8
LPAZ La Paz 157.66 57 PKPab **PKPab 02 38 52.6 +0.2**
comp=Z,1.3nm,0.9s,baz=1.8,slow=3.7,SNR=3.7

ROM 14 02:27:58.7±0.2, 43°.307N±0°.004×12°.538E±0°.007, h8km, Md0.8/2, Error ellipse: s-maj=0.6km s-min=0.0km az=246.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.04**	**192**	P	Pg	02 28 00.4	0.0
MURB				S	Sg	02 28 01.8	+0.3
MURB				END			
ATFO	**Monte Foce - G**	**0.06**	**23**	P	Pg	02 28 00.7	+0.1
ATFO				S	Sg	02 28 02.3	+0.3
ATFO				END			
ATVO	**AVT- Monte Val**	**0.12**	**308**	P	Pg	02 28 01.8	+0.4
ATVO				S	Sg	02 28 04.1	+0.8
ATCC	**AVT- Casa Cast**	**0.14**	**148**	P	Pg	02 28 02.2	+0.5
ATCC				S	Sg	02 28 05.0	+1.2

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*NEIC **14** 03:35:12.8±2.1, 4°.56S±0°.09×144°.27E±0°.09, h98km±6km, mb4.2/17, Error ellipse: s-maj=15.7km s-min=8.3km az=46.0*
*IDC **14** 03:35:12.8±2.3, 4°.56S×144°.18E, h95km±21km, mb3.8/13, mb1 3.9/17, mb1mx3.8/32, mbtmp4.2/17, MS3.4/4, Ms1 3.4/4, ms1mx3.0/32, Error ellipse: s-maj=21.1km s-min=12.9km az=83.0*
*DJA **14** 03:35:15.9±0.8, 5°.S±12°.×14°.4E±1°.0, h90km±10km, M4.7/9, mb4.7/9, mB4.9/2, MLv4.7/4, Mw(mB)4.2/2*
ISC 14 03:35:13.0±0.6, 4°.51S±0°.07×144°.33E±0°.08, h100km, n43, σ1§42/43, mb4.1/17, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.12**	**299**	P	**Pn**	**03 36 12.6**	**-1.4**
	11nm,0.3s,baz=171,slow=8.0,SNR=36						
JAY				S	**Sn**	**03 37 01.3**	**+0.1**
	5.8nm,0.3s,baz=19,slow=16,SNR=4.6						
JAY	**Jayapura**	**4.12**	**299**	P	**Pn**	**03 36 15.5**	**+1.6**
GENI	**Genyem**	**4.57**	**295**	P	**Pn**	**03 36 20.1**	**+0.2**
PMG	**Port Moresby**	**5.62**	**150**	P	**Pn**	**03 36 34.3**	**+0.2**
	5.0nm,0.3s,baz=360,slow=7.0,SNR=5.9						
PMG				S	**Sn**	**03 37 35.6**	**-1.7**
	6.9nm,0.3s,baz=296,slow=23,SNR=2.5						
PMG				LR	LR	03 39 41.9	
	comp=Z,174nm,19.9s,baz=231,slow=48						
PMG	**Port Moresby**	**5.62**	**150**		**Pn**	**03 36 33.7**	**-0.4**
COEN	**Coen**	**9.45**	**187**		**Pn**	**03 37 26.5**	**+0.2**
MTN	**Manton Dam**	**15.44**	**237**		**Pn**	**03 38 42.9**	**-2.5**
CTA	**Charters Tower**	**15.59**	**173**	P	**Pn**	**03 38 46.8**	**-0.5**
	0.2nm,0.3s,baz=23,slow=18,SNR=1.8						
WB0	**Warramunga Arr**	**17.99**	**212**	P	**P**	**03 39 14.9**	**-0.9**
WB0				IAmb	IAmb	03 39 31.6	
	comp=Z,15nm,1.0s						
WR0	**Warramunga Arr**	**18.07**	**211**	P	**P**	**03 39 15.2**	**-1.6**
WRAB	**Tennant Creek**	**18.15**	**212**	P	**P**	**03 39 16.6**	**-1.0**
WRAB				IAmb	IAmb	03 39 33.5	
	comp=Z,10nm,0.8s						
WB2	**Warramunga Arr**	**18.16**	**212**	P	**P**	**03 39 16.4**	**-1.3**
WB2				IAmb	IAmb	03 39 33.7	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**18.16**	**212**	P	**P**	**03 39 16.5**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=26,slow=13,SNR=61						
WRA				S	S	03 42 25.2	-16
	comp=Z,0.1nm,0.3s,baz=41,slow=23,SNR=2.0						
WRA				LR	LR	03 45 51.2	
	comp=Z,67nm,21.7s,baz=250,slow=35						
KNRA	**Kununurra**	**18.90**	**233**	P	**P**	**03 39 25.6**	**-0.2**
SOEI	**Soe**	**20.57**	**254**	P	**P**	**03 39 44.6**	**+0.5**
	comp=Z,55nm,0.8s						
SOEI	**Soe**	**20.57**	**254**		**P**	**03 39 43.9**	**-0.2**
BATI	**Baumata**	**21.25**	**253**	P	**P**	**03 39 49.8**	**-1.6**
	comp=Z,7.1nm,0.3s,baz=74,slow=7.4,SNR=1.7						
AS31	**Alice Springs**	**21.53**	**207**		**P**	**03 39 54.0**	**-0.3**
AS31				IAmb	IAmb	03 40 00.3	
	comp=Z,5.5nm,0.4s						
ASAR	**Alice Springs**	**21.53**	**207**	P	**P**	**03 39 53.1**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=34,slow=9.3,SNR=47						
ASAR				S	**S**	**03 43 52.3**	**+4.8**
	comp=Z,0.6nm,0.8s,baz=30,slow=19,SNR=3.6						
ASAR	**Alice Springs**	**21.53**	**207**		**P**	**03 39 54.6**	**+0.3**
EIDS	**Eidsvold**	**21.73**	**163**	P	**P**	**03 39 58.0**	**+1.8**
EIDS				IAmb	IAmb	03 40 00.1	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.72**	**232**	P	**P**	**03 40 05.3**	**-1.4**
	comp=Z,18nm,0.6s,baz=360,slow=8.8,SNR=136						
FITZ	**Fitzroy Crossi**	**22.72**	**232**	P	**P**	**03 40 06.0**	**-0.7**
STKA	**Stephens Creek**	**27.34**	**185**	P	**P**	**03 40 48.5**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=7.1,slow=8.0,SNR=8.7						
STKA				LR	LR	03 51 29.0	
	comp=Z,104nm,21.6s,baz=234,slow=36						
DZM	**Mont Dzumac**	**27.64**	**131**	P	**P**	**03 40 52.8**	**+1.3**
	comp=Z,9.0nm,1.1s,baz=135,slow=22,SNR=3.5						
DZM	**Mont Dzumac**	**27.64**	**131**	IAmb	IAmb	03 40 56.4	
	comp=Z,50nm,1.5s						
MJAR	**Matsushiro Arr**	**41.24**	**353**	P	**P**	**03 42 48.7**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=176,slow=11,SNR=4.2						
KSRS	**Korea Array**	**44.46**	**341**	P	**P**	**03 43 14.1**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=159,slow=9.2,SNR=6.2						
PETK	**Petropavlovsk-**	**58.51**	**9**	P	**P**	**03 44 59.9**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=176,slow=7.8,SNR=2.1						
TLY	**Talaya**	**65.83**	**334**	LR	LR	04 14 52.6	
	comp=Z,94nm,18.2s,baz=175,slow=36						
VNDA	**Vanda**	**73.55**	**176**	P	**P**	**03 46 35.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=328,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**74.67**	**321**	P	**P**	**03 46 42.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=88,slow=7.5,SNR=6.1						
MAKZ	**Makanchi**	**74.87**	**321**	P	**P**	**03 46 43.7**	**+0.9**
MAKZ				IAmb	IAmb	03 47 37.7	
	comp=Z,7.8nm,1.5s						
ZAA0	**Zalesovo Array**	**76.35**	**328**	P	**P**	**03 46 48.4**	**-2.7**
ZAA0				IAmb	IAmb	03 48 07.8	
	comp=Z,12nm,1.9s						
ZALV	**Zalesovo Beam**	**76.35**	**328**	P	**P**	**03 46 51.4**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=108,slow=4.7,SNR=2.7						
MAW	**Mawson**	**82.59**	**202**	P	**P**	**03 47 24.6**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=96,slow=8.4,SNR=16						
MAW	**Mawson**	**82.59**	**202**		**P**	**03 47 25.4**	**+0.8**
ILAR	**Eielson Array**	**85.18**	**24**	P	**P**	**03 47 37.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=259,slow=4.8,SNR=9.0						
QSPA	**South Pole Qui**	**85.44**	**180**	P	**P**	**03 47 40.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**142.14**	**286**	PKhKP	PKPpre	03 54 29.5	
	comp=Z,0.2nm,0.4s,baz=61,slow=3.3,SNR=4.9						
CPUP	**Villa Florida**	**142.85**	**147**	PKP	**PKPdf**	**03 54 35.1**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=297,slow=2.3,SNR=1.9						
DBIC	**Dimbokro**	**149.26**	**275**	PKPbc	**PKPbc**	**03 54 50.8**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=127,slow=17,SNR=1.8						
SAML	**Samuel**	**149.49**	**116**	PKPdf	**PKPdf**	**03 54 43.9**	**-3.3**

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*IDC **14** 03:36:52.6±1.9, 37°.91N×3°.67W, h0km, mb3.4/1, mb1 3.5/2, mb1mx3.1/34, mbtmp3.5/2, ML3.0/1, Error ellipse: s-maj=21.2km s-min=15.0km az=70.0*
*CNRM **14** 03:36:53.1±1.4, 37°.85N×3°.61W, h4km±16km, Error ellipse: s-maj=15.0km s-min=6.4km az=13.0*
*SFS **14** 03:36:54.0, 37°.90N×3°.50W, h2km, ML3.5, BEGUAR (JAEN)*
*LDG **14** 03:36:54.5±0.1, 37°.93N×3°.54W, h2km, Ml3.6/10, Error ellipse: s-maj=2.5km s-min=2.4km az=137.0*
*MDD **14** 03:36:54.1±0.2, 37°.97N×3°.58W, h0km, mbLg3.7/56, Error ellipse: s-maj=2.0km s-min=2.0km az=139.0, PRXIMO*
MDD EMS: V INTENSIDAD MAXIMA.
*IGIL **14** 03:36:54.4, 37°.96N×3°.58W, h2km, ML3.7*

INMG 14 03:36:54.2±2.1, 37.98N×3.60W, h4km±3km, ML3.7, Error ellipse: s-maj=2.0km s-min=1.7km az=91.0

ISC 14 03:36:53.4±0.5,**38.02N**±0.01×**3.56W**±0.01,**h10**km±3km,
n158,σ1§99/256,**6C-8D, Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EQES	**Quesada**	**0.45**	**119**	⇓Pg	**Pg**	**03 37 01.7**	**-0.4**
	245nm,0.2s,SNR=18						
EQES				Lg	Lg	03 37 07.9	
	961nm,0.4s,SNR=7.9						
GORA	**Gorafe**	**0.68**	**142**	⇓Pg	**Pg**	**03 37 05.6**	**-1.0**
	112nm,0.2s,SNR=18						
GORA				Lg	Lg	03 37 15.6	
	1μm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**0.81**	**83**	⇑Pg	**Pg**	**03 37 09.4**	**+0.4**
	74nm,0.1s,SNR=18						
SESP				Lg	Lg	03 37 20.7	
	794nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**0.81**	**83**	P	**Pg**	**03 37 09.5**	**+0.4**
SESP				S	**Sg**	**03 37 20.1**	**+0.5**
EADA	**Adamuz**	**0.81**	**281**	⇓Pg	**Pg**	**03 37 09.1**	**0.0**
	108nm,0.1s,SNR=18						
EADA				Lg	Lg	03 37 21.0	
	1μm,0.1s,SNR=22						
EQUE	**Quentar**	**0.82**	**173**	⇑Pg	**Pg**	**03 37 07.6**	**-1.6**
	76nm,0.2s,SNR=18						
EQUE				Lg	Lg	03 37 18.2	
	289nm,0.2s,SNR=31						
EGOR	**Sierra Gorda,**	**1.01**	**206**	⇑Pg	**Pg**	**03 37 11.7**	**-1.0**
	90nm,0.2s,SNR=18						
EGOR				Lg	Lg	03 37 25.5	
	690nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**1.15**	**183**	⇑Pg	**Pg**	**03 37 14.5**	**-1.0**
	92nm,0.2s,SNR=18						
ELGU				Lg	Lg	03 37 29.9	
	981nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.24**	**154**	⇑Pn	**Pg**	**03 37 16.1**	**-1.1**
	97nm,0.3s,SNR=18						
EBER				Lg	Lg	03 37 32.9	
	902nm,0.3s,SNR=7.9						
HORN	**Hornachuelos**	**1.35**	**263**	P	**Pn**	**03 37 18.3**	**-0.1**
HORN				S	**Sg**	**03 37 35.9**	**-0.9**
EMAL	**Malaga-Limoner**	**1.43**	**209**	Pg	**Pn**	**03 37 19.6**	**+0.2**
EMAL				Lg	Lg	03 37 37.6	
EMAL	**Malaga-Limoner**	**1.43**	**209**	*e*P	**Pn**	**03 37 19.6**	**+0.2**
EMAL				*e*S	**Sg**	**03 37 37.6**	**-1.8**
ECAB	**El Cabril**	**1.47**	**273**	⇓Pn	**Pn**	**03 37 19.9**	**0.0**
	114nm,0.3s,SNR=18						
ECAB				Lg	Lg	03 37 40.2	
	864nm,0.2s,SNR=7.1						
ENIJ	**Nijar**	**1.50**	**134**	Pg	**Pn**	**03 37 20.7**	**+0.3**
	301nm,0.3s,SNR=7.9						
ENIJ				Lg	Lg	03 37 41.0	
	2μm,0.3s,SNR=7.9						
TLOR	**Lorca, Murcia**	**1.53**	**103**	Pn	**Pn**	**03 37 22.5**	**+1.6**
	360nm,0.2s,SNR=7.9						
TLOR				Lg	Lg	03 37 43.9	
	4μm,0.3s,SNR=7.9						
PAB	**San Pablo**	**1.64**	**338**	⇓Pn	**Pn**	**03 37 22.9**	**+0.4**
	1.3nm,0.1s,SNR=18						
PAB				Pg	**Pb**	**03 37 25.3**	**+1.4**
	27nm,0.2s,SNR=7.9						
PAB				Lg	Lg	03 37 47.6	
	192nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**1.68**	**349**	Pn	**Pn**	**03 37 25.6**	**+2.7**
	16nm,0.3s,baz=173,slow=17,SNR=122						
ESDC				Lg	Lg	03 37 48.0	
	203nm,0.3s,baz=172,slow=28,SNR=14						
ESDC	**Sonseca Array**	**1.68**	**349**	Pn	**Pn**	**03 37 23.3**	**+0.3**
	baz=169,slow=16,SNR=7.9						
ESDC				Pg	**Pb**	**03 37 26.5**	**+1.9**
	baz=172,slow=18,SNR=7.9						
ESDC				Lg	Lg	03 37 49.1	
	baz=172,slow=28,SNR=7.9						
ETOB	**Tobarra**	**1.70**	**68**	Pn	**Pn**	**03 37 23.7**	**+0.4**
	7.7nm,0.1s,SNR=193						
ETOB				Pg	**Pb**	**03 37 25.7**	**+0.8**
	97nm,0.3s,SNR=7.9						
ETOB				Lg	Lg	03 37 48.0	
	679nm,0.4s,SNR=21						
EMUR	**La Murta**	**1.84**	**95**	Pn	**Pn**	**03 37 26.0**	**+0.8**
	33nm,0.3s,SNR=124						
EMUR				Lg	Lg	03 37 50.0	
	814nm,0.5s,SNR=20						
REAL	**Reales**	**2.02**	**221**	Pg	**Pb**	**03 37 30.8**	**+0.5**
REAL				Sn	**Sn**	**03 37 52.0**	**-1.0**
REAL	**Reales**	**2.02**	**221**	*i* P	**Pb**	**03 37 30.8**	**+0.5**
REAL				*e*S	**Sn**	**03 37 52.0**	**-1.0**
CART	**Cartagena**	**2.08**	**101**	Pn	**Pn**	**03 37 28.4**	**+0.1**
CART				Sn	**Sn**	**03 37 55.1**	**+0.9**
CART	**Cartagena**	**2.08**	**101**	*e*P	**Pn**	**03 37 28.4**	**+0.1**
CART				*e*S	**Sn**	**03 37 55.1**	**+0.9**
EALB	**Alboran**	**2.12**	**168**	Pn	**Pn**	**03 37 29.1**	**+0.2**
	25nm,0.2s,SNR=12						
EALB				Sn	**Sn**	**03 37 55.6**	**+0.3**
	291nm,0.4s,SNR=5.7						
ESPR	**Espera**	**2.16**	**239**	Pn	**Pn**	**03 37 30.1**	**+0.7**
	7.3nm,0.2s,SNR=20						
ESPR				Pg	**Pb**	**03 37 34.4**	**+1.8**
	24nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**03 37 55.9**	**-0.3**
	69nm,0.5s,SNR=6.0						
ESPR				Lg	Lg	03 38 03.4	
	374nm,0.3s,SNR=7.9						
ETRV	**Los Montesinos**	**2.21**	**89**	Pn	**Pn**	**03 37 30.8**	**+0.6**
	5.2nm,0.1s,SNR=7.9						
ETRV				Pg	**Pg**	**03 37 36.6**	**+0.8**
	88nm,0.2s,SNR=7.9						
ETRV				Lg	Lg	03 38 05.7	
	1μm,0.8s,SNR=7.9						
UCM	**Universidad Co**	**2.30**	**6**	Pg	**Pb**	**03 37 37.6**	**+2.6**
UCM				Lg	Lg	03 38 07.1	
UCM	**Universidad Co**	**2.30**	**6**	*e*P	**Pb**	**03 37 37.6**	**+2.6**
UCM				*e*S	**Sb**	**03 38 07.1**	**+3.5**
AFON	**Font Roja**	**2.46**	**74**	Pn	**Pn**	**03 37 34.4**	**+0.7**
	9.4nm,0.3s,SNR=48						
AFON				Pg	**Pb**	**03 37 39.4**	**+1.6**
	41nm,0.2s,SNR=7.9						
AFON				Sn	**Sn**	**03 38 05.1**	**+1.1**
	87nm,0.3s,SNR=7.9						
AFON				Lg	Lg	03 38 13.7	
	939nm,0.5s,SNR=16						
EMIN	**Mina Concepcio**	**2.47**	**265**	⇓Pn	**Pn**	**03 37 33.4**	**-0.4**
	4.7nm,0.2s,SNR=18						
EMIN				Pg	**Pb**	**03 37 38.9**	**+1.0**
	21nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**03 38 01.1**	**-3.0**
	58nm,0.3s,SNR=7.9						
EMIN				Lg	Lg	03 38 09.3	
	600nm,0.5s,SNR=23						
ECHE	**Chera**	**2.56**	**51**	Pn	**Pn**	**03 37 35.7**	**+0.6**
	6.2nm,0.1s,SNR=7.9						
ECHE				Pg	**Pg**	**03 37 43.6**	**+1.0**
	76nm,0.2s,SNR=7.9						
ECHE				Lg	Lg	03 38 17.5	
	545nm,0.6s,SNR=7.9						
CEU	**Ceuta**	**2.56**	**215**	Pn	**Pn**	**03 37 36.1**	**+1.0**
CEU				Sn	**Sn**	**03 38 04.5**	**-1.8**
CEU	**Ceuta**	**2.56**	**215**	⇑*i*P	**Pn**	**03 37 36.1**	**+1.0**
CEU				*e*S	**Sn**	**03 38 04.5**	**-1.8**
SFS	**San Fernando**	**2.62**	**234**	Pn	**Pn**	**03 37 36.0**	**+0.3**
SFS				Sn	**Sn**	**03 38 06.0**	**-1.6**
SFS	**San Fernando**	**2.62**	**234**	*e*P	**Pn**	**03 37 36.0**	**+0.3**
SFS				*e*S	**Sn**	**03 38 06.0**	**-1.6**
EBEN2	**Beniarda presa**	**2.73**	**75**	Pn	**Pn**	**03 37 37.9**	**+0.5**
	5.3nm,0.2s,SNR=7.9						
EBEN2				Pg	**Pg**	**03 37 45.7**	**0.0**
	58nm,0.3s,SNR=7.9						
EBEN2				Sn	**Sn**	**03 38 12.0**	**+1.5**
	82nm,0.2s,SNR=7.9						
EBEN2				Lg	Lg	03 38 22.1	
	478nm,0.4s,SNR=7.9						
EMEL	**Melilla**	**2.76**	**170**	Pn	**Pn**	**03 37 38.7**	**+1.0**
	40nm,0.2s,SNR=6.5						
EMEL				Sn	**Sn**	**03 38 10.6**	**-0.5**
	55nm,0.2s,SNR=7.9						
MELI	**Melilla**	**2.77**	**169**	Sn	**Sn**	**03 38 09.9**	**-1.4**
	73nm,0.3s,SNR=7.9						
PALE	**Palemas**	**2.81**	**186**	P	**Pn**	**03 37 38.0**	**-0.5**
PALE				S	**Sn**	**03 38 11.4**	**-1.1**
GOG	**Mont Gurugu**	**2.83**	**171**	P	**Pn**	**03 37 38.3**	**-0.5**
GOG				S	**Sn**	**03 38 09.2**	**-3.8**
EPLA	**Plasencia**	**2.83**	**317**	⇓Pn	**Pn**	**03 37 39.1**	**+0.4**
	9.2nm,0.2s,SNR=18						
EPLA				Pg	**Pb**	**03 37 46.4**	**+2.3**
	45nm,0.3s,SNR=63						
EPLA				Lg	Lg	03 38 23.6	
	130nm,0.3s,SNR=15						
ETOR	**Torete**	**3.03**	**22**	Pn	**Pn**	**03 37 42.4**	**+0.8**
	43nm,0.1s,SNR=149						
ETOR				Pg	**Pb**	**03 37 51.9**	**+4.3**
	339nm,0.3s,SNR=68						
ETOR				Sn	**Sn**	**03 38 17.9**	**0.0**
	167nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	03 38 31.7	
	565nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.14**	**262**	⇓Pn	**Pn**	**03 37 42.4**	**-0.6**
	3.0nm,0.1s,SNR=18						
EGRO				Pg	**Pb**	**03 37 51.0**	**+1.7**
	8.7nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**03 38 18.3**	**-2.3**
	37nm,0.3s,SNR=7.9						
EGRO				Lg	Lg	03 38 30.6	
	170nm,0.3s,SNR=13						
PMRV	**Marv??o**	**3.31**	**296**	*e*Pn	**Pn**	**03 37 45.2**	**-0.1**
PMRV				*e*Sg	**Sg**	**03 38 39.8**	**+0.1**
PMRV				A	A	03 38 44.6	
	276nm,0.4s						
TAF	**Taforalt**	**3.33**	**163**	P	**Pn**	**03 37 45.8**	**+0.1**
TAF				S	**Sn**	**03 38 23.4**	**-1.9**
PVAQ	**Vaqueiros**	**3.35**	**261**	P	**Pn**	**03 37 45.2**	**-0.7**
	SNR=77						
PVAQ				S	**Sn**	**03 38 26.0**	**+0.2**
PVAQ	**Vaqueiros**	**3.35**	**261**	*e*Pn	**Pn**	**03 37 45.3**	**-0.6**
PVAQ				*e*Sg	**Sb**	**03 38 37.8**	**+4.0**
PVAQ				A	A	03 38 43.6	
	178nm,0.3s						
EMOS	**Mosqueruela**	**3.35**	**45**	Pn	**Pn**	**03 37 47.5**	**+1.4**
	1.8nm,0.2s,SNR=27						
EMOS				Pg	**Pg**	**03 37 58.3**	**+0.6**
	39nm,0.2s,SNR=15						
EMOS				Sn	**Sn**	**03 38 26.5**	**+0.5**
	17nm,0.3s,SNR=7.9						
EMOS				Lg	Lg	03 38 38.7	
	196nm,0.7s,SNR=7.9						
PBEJ	**Beja**	**3.40**	**271**	*e*Pn	**Pn**	**03 37 46.1**	**-0.4**
PBEJ				*e*Sg	**Sb**	**03 38 39.4**	**+4.3**
PBEJ				A	A	03 38 42.9	
	184nm,0.4s						
EVO	**Evora**	**3.54**	**280**	Pn	**Pn**	**03 37 47.5**	**-1.0**
EVO				Sn	**Sn**	**03 38 29.1**	**-1.3**
EVO	**Evora**	**3.54**	**280**	*e*P	**Pn**	**03 37 47.5**	**-1.0**
EVO				*e*S	**Sn**	**03 38 29.1**	**-1.3**
EVO	**Evora**	**3.54**	**280**	*e*Pn	**Pn**	**03 37 47.9**	**-0.6**
EVO				*e*Sg	**Sb**	**03 38 44.3**	**+5.1**
EVO				A	A	03 38 52.3	
	258nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.55**	**259**	*e*Pn	**Pn**	**03 37 48.4**	**-0.3**
PBDV				*e*Sg	**Sb**	**03 38 44.9**	**+5.3**
PBDV				A	A	03 38 57.3	
	117nm,0.6s						
PCBR	**Castelo Branco**	**3.55**	**302**	*e*Pn	**Pn**	**03 37 49.0**	**+0.4**
PCBR				*e*Sg	**Sg**	**03 38 48.9**	**+1.4**
PCBR				A	A	03 39 03.2	
	140nm,0.6s						
PCVE	**Castro Verde**	**3.56**	**265**	*e*Pn	**Pn**	**03 37 48.7**	**-0.1**
PCVE				*e*Sg	**Sb**	**03 38 44.8**	**+4.9**
PCVE				A	A	03 38 48.0	
	158nm,0.7s						
RSA	**Sarsar**	**3.62**	**211**	P	**Pn**	**03 37 49.6**	**0.0**
RSA				S	**Sn**	**03 38 26.9**	**-5.6**
JBK	**JBK**	**3.76**	**167**	P	**Pn**	**03 37 52.4**	**+0.7**
JBK				S	**Sn**	**03 38 35.5**	**-0.7**
PMTG	**Montargil**	**3.80**	**287**	*e*Pn	**Pn**	**03 37 51.4**	**-0.7**
PMTG				*e*Sg	**Sb**	**03 38 53.9**	**+7.2**
PMTG				A	A	03 38 59.4	
	172nm,0.4s						
OKGL	**Djebel Kef Gue**	**3.90**	**119**	Sn	**Sn**	**03 38 40.9**	**+1.5**
	22nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.92**	**273**	*e*Pn	**Pn**	**03 37 53.5**	**-0.2**
PNCL				*e*Sg	**Sb**	**03 38 56.1**	**+6.0**
PNCL				A	A	03 39 00.4	
	168nm,0.5s						
EIBI	**Ibiza**	**3.98**	**74**	Pn	**Pn**	**03 37 54.6**	**+0.1**
	2.2nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**03 38 40.7**	**-0.5**
	13nm,0.3s,SNR=7.9						
MORF	**Marmelete**	**4.10**	**262**	*e*P	**Pn**	**03 37 55.9**	**-0.3**
MORF				*e*S	**Sn**	**03 38 41.0**	**-3.3**
MORF				AML	AML	03 38 45.3	
	comp=N,180nm,0.4s						
MORF	**Marmelete**	**4.10**	**262**	Pn	**Pn**	**03 37 55.9**	**-0.3**
MORF				Sn	**Sn**	**03 38 41.0**	**-3.3**
	comp=N,180nm,0.4s						
MORF	**Marmelete**	**4.10**	**262**	*e*Pn	**Pn**	**03 37 56.1**	**-0.1**
MORF				*e*Sg	**Sg**	**03 39 03.2**	**-1.8**
MORF				A	A	03 39 10.0	
	comp=N,74nm,0.3s						
PTEO	**Sao Teotonio**	**4.12**	**265**	*e*Pn	**Pn**	**03 37 56.9**	**+0.5**
PTEO				*e*Sg	**Sb**	**03 39 01.7**	**+5.9**
PTEO				A	A	03 39 16.2	
	comp=N,155nm,0.5s						
MVO	**Moncorvo**	**4.13**	**321**	Pn	**Pn**	**03 37 57.1**	**+0.5**
	comp=N,6.1nm,0.2s,SNR=29						
MVO				Pg	Pb	03 38 11.5	+5.3
	comp=N,16nm,0.2s,SNR=14						
MVO				Sn	**Sn**	**03 38 45.6**	**+0.7**
	comp=N,37nm,0.5s,SNR=7.9						
MVO				Lg	Lg	03 39 06.8	
	comp=N,292nm,0.6s,SNR=14						
MVO	**Moncorvo**	**4.13**	**321**	*e*Pn	**Pn**	**03 37 57.2**	**+0.5**
MVO				*e*Sg	**Sg**	**03 39 06.5**	**+0.6**
MVO				A	A	03 39 18.6	
	comp=N,123nm,0.6s						
ERTA	**Horta de San J**	**4.21**	**45**	Pn	**Pn**	**03 37 58.8**	**+1.1**
	comp=N,0.6nm,0.1s,SNR=9.3						
ERTA				Pg	**Pg**	**03 38 13.9**	**-0.1**
	comp=N,19nm,0.4s,SNR=7.9						
ERTA				Lg	Lg	03 39 08.7	
	comp=N,58nm,0.4s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.27**	**260**	Pn	**Pn**	**03 37 58.2**	**-0.4**
	comp=N,2.1nm,0.1s,SNR=17						
PFVI				Sn	**Sn**	**03 38 46.8**	**-1.7**
	comp=N,23nm,0.2s,SNR=8.1						
PFVI				Lg	Lg	03 39 07.8	
	comp=N,118nm,0.4s,SNR=7.5						
PFVI	**Vila Bisbo**	**4.27**	**260**	P	**Pn**	**03 37 58.2**	**-0.4**
	SNR=18						
PFVI				S	**Sn**	**03 38 50.1**	**+1.6**
PFVI	**Vila Bisbo**	**4.27**	**260**	*e*Pn	**Pn**	**03 37 58.0**	**-0.6**
PFVI				*e*Sg	**Sg**	**03 39 08.0**	**-2.6**
PFVI				A	A	03 39 13.5	
	comp=N,81nm,0.5s						
PVIS	**Viseu**	**4.30**	**310**	*e*Pn	**Pn**	**03 37 58.9**	**-0.1**
PVIS				*e*Sg	**Sg**	**03 39 14.0**	**+2.4**
PVIS				A	A	03 39 18.3	
	comp=N,72nm,0.6s						
PCAS	**Casmilo, Conde**	**4.35**	**299**	*e*Pn	**Pn**	**03 37 59.8**	**+0.2**
PCAS				*e*Sg	**Sg**	**03 39 15.0**	**+2.1**
PCAS				A	A	03 39 23.8	
	comp=N,139nm,0.4s						
PSBE	**So Bento**	**4.35**	**292**	*e*Pn	**Pn**	**03 38 00.0**	**+0.3**
PSBE				*e*Sg	**Sg**	**03 39 14.7**	**+1.5**
PSBE				A	A	03 39 19.9	
	comp=N,131nm,0.7s						
ESAC	**San Caprasio**	**4.40**	**32**	Pn	**Pn**	**03 38 02.5**	**+2.2**
	comp=N,7.7nm,0.2s,SNR=4.0						
ESAC				Pg	**Pg**	**03 38 18.2**	**+0.5**
	comp=N,32nm,0.3s,SNR=13						
ESAC				Sn	**Sn**	**03 38 52.7**	**+1.1**
	comp=N,95nm,0.4s,SNR=7.9						
ESAC				Lg	Lg	03 39 16.1	
	comp=N,176nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**4.50**	**328**	*e*Pn	**Pn**	**03 38 02.2**	**+0.5**
PBRG				*e*Sg	**Sg**	**03 39 17.6**	**-0.3**
PBRG				A	A	03 39 23.7	
	comp=N,96nm,0.7s						
PVRL	**Vila Real**	**4.57**	**317**	*e*Pn	**Pn**	**03 38 03.2**	**+0.6**
PVRL				A	A	03 39 29.5	
	comp=N,73nm,0.6s						
PMAFR	**Mafra**	**4.58**	**284**	Pn	**Pn**	**03 38 02.9**	**+0.1**
	comp=N,26nm,0.4s,SNR=22						
PMAFR				Sn	**Sn**	**03 38 54.9**	**-1.3**
	comp=N,34nm,0.2s,SNR=5.9						
PMAFR				Lg	Lg	03 39 21.5	
	comp=N,369nm,0.4s,SNR=12						
PMAFR	**Mafra**	**4.58**	**284**	*e*Pn	**Pn**	**03 38 02.9**	**+0.1**
PMAFR				*e*Sg	**Sg**	**03 39 21.5**	**+0.9**
PMAFR				A	A	03 39 24.6	
	comp=N,156nm,0.6s						
ECAL	**Calabor**	**4.61**	**329**	Pn	**Pn**	**03 38 03.5**	**+0.2**
	comp=N,6.7nm,0.3s,SNR=23						
ECAL				Pg	Pb	03 38 20.8	+6.3
	comp=N,12nm,0.4s,SNR=9.8						
ECAL				Lg	Lg	03 39 20.9	
	comp=N,124nm,0.4s,SNR=9.3						
IFR	**Ifrane**	**4.67**	**196**	*e*P	**Pn**	**03 38 04.8**	**+0.6**
IFR				*e*S	**Sn**	**03 38 54.7**	**-3.8**
EPOB	**Poblet**	**4.89**	**46**	Pn	**Pn**	**03 38 07.8**	**+0.7**
	comp=N,5.1nm,0.1s,SNR=26						
EPOB				Pg	**Pg**	**03 38 26.1**	**-0.9**
	comp=N,6.7nm,0.3s,SNR=7.7						
EPOB				Lg	Lg	03 39 27.0	
	comp=N,27nm,0.5s,SNR=7.9						
EARA	**Aranguren**	**4.98**	**17**	Pn	**Pn**	**03 38 11.3**	**+2.9**
	comp=N,2.9nm,0.4s,SNR=7.9						
EARA				Pg	**Pg**	**03 38 28.2**	**-0.6**
	comp=N,10nm,0.3s,SNR=14						
EARA				Lg	Lg	03 39 34.2	
	comp=N,126nm,0.6s,SNR=7.9						
PCAB	**Cabril**	**5.04**	**318**	*e*Pn	**Pn**	**03 38 09.8**	**+0.7**
PCAB				A	A	03 39 41.8	
	comp=N,74nm,0.4s						
CZD	**Col de Zad**	**5.12**	**194**	P	**Pn**	**03 38 10.5**	**0.0**
CZD				S	**Sn**	**03 39 08.2**	**-1.5**
TDRA	**Tendrara**	**5.12**	**165**	P	**Pn**	**03 38 13.0**	**+2.6**
TDRA				S	**Sn**	**03 39 08.6**	**-1.2**
EORO	**Oroz-Betelu**	**5.16**	**19**	Pn	**Pn**	**03 38 13.3**	**+2.5**
	comp=N,1.9nm,0.3s,SNR=14						
EORO				Pg	**Pg**	**03 38 31.0**	**-1.3**
	comp=N,28nm,0.4s,SNR=26						
EORO				Lg	Lg	03 39 40.4	
	comp=N,166nm,0.8s,SNR=7.9						
ELOB	**Lobios**	**5.17**	**319**	Pn	**Pn**	**03 38 11.4**	**+0.5**
	comp=N,2.6nm,0.3s,SNR=18						
ELOB				Sn	**Sn**	**03 39 09.1**	**-1.5**
	comp=N,20nm,0.4s,SNR=7.9						
ELOB				Lg	Lg	03 39 40.0	
	comp=N,117nm,0.5s,SNR=7.3						
ELAN	**Lanestosa**	**5.21**	**1**	Pn	**Pn**	**03 38 13.8**	**+2.4**
	comp=N,1.8nm,0.2s,SNR=26						
ELAN				Pg	**Pg**	**03 38 33.2**	**+0.1**
	comp=N,3.7nm,0.2s,SNR=7.9						
ELAN				Lg	Lg	03 39 40.2	
	comp=N,95nm,0.7s,SNR=7.9						
MD31	**MD31**	**5.23**	**191**	P	**Pn**	**03 38 12.3**	**+0.5**
MD31				S	**Sn**	**03 39 07.9**	**-4.4**
MDT	**Midelt**	**5.26**	**190**	P	**Pn**	**03 38 12.7**	**+0.4**
	SNR=12						
MDT				S	**Sn**	**03 39 09.5**	**-3.5**
ETOS	**Mallorca**	**5.27**	**69**	Pn	**Pn**	**03 38 13.1**	**+0.7**
	comp=N,2.9nm,0.4s,SNR=7.4						
ETOS				Sn	**Sn**	**03 39 11.8**	**-1.4**
	comp=N,8.0nm,0.4s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.35**	**319**	*e*Pn	**Pn**	**03 38 13.8**	**+0.4**
PGAV				A	A	03 39 59.0	
	comp=N,66nm,0.6s						
ETSF	**Etsaut**	**5.38**	**24**	*e*Pn	**Pn**	**03 38 13.8**	**-0.1**
ETSF	**Etsaut**	**5.38**	**24**	*e*Pg	Pb	03 38 34.2	+6.6
ETSF				*e*Sn	**Sn**	**03 39 13.7**	**-2.3**
ETSF				*e*Sg	**Sg**	**03 39 43.7**	**-2.6**
	comp=N,22nm,0.4s						
ETSF	**Etsaut**	**5.38**	**24**	Pn	**Pn**	**03 38 13.8**	**-0.1**
ETSF				Pg	Pb	03 38 34.2	+6.6
ETSF				Sn	**Sn**	**03 39 13.7**	**-2.3**
ETSF				Lg	Lg	03 39 43.7	
	comp=N,11nm,0.4s						
SJPF	**Ste Jean**	**5.39**	**19**	*e*Pn	**Pn**	**03 38 15.0**	**+1.1**
SJPF	**Ste Jean**	**5.39**	**19**	*e*Pg	**Pg**	**03 38 35.0**	**-1.6**
SJPF				*e*Sn	**Sn**	**03 39 14.1**	**-2.0**
SJPF				*e*Sg	**Sg**	**03 39 44.0**	**-2.4**
	comp=N,51nm,0.5s						
SJPF	**Ste Jean**	**5.39**	**19**	Pn	**Pn**	**03 38 15.0**	**+1.1**
SJPF				Pg	**Pg**	**03 38 35.0**	**-1.6**
SJPF				Sn	**Sn**	**03 39 14.1**	**-2.0**
SJPF				Lg	Lg	03 39 44.0	
	comp=N,26nm,0.5s						
EARI	**Arriondas**	**5.42**	**347**	Pn	**Pn**	**03 38 16.3**	**+1.9**
	comp=N,4.8nm,0.5s,SNR=18						
EARI				Sn	**Sn**	**03 39 14.5**	**-2.3**
	comp=N,10.0nm,0.5s,SNR=7.9						
EARI				Lg	Lg	03 39 45.8	
	comp=N,110nm,0.7s,SNR=8.7						
EALK	**Alkurruntz**	**5.42**	**16**	Pn	**Pn**	**03 38 17.1**	**+2.6**
	SNR=7.9						
EALK				Sn	**Sn**	**03 39 17.2**	**+0.2**
	comp=N,53nm,0.4s,SNR=7.9						
EALK				Lg	Lg	03 39 44.9	
	comp=N,184nm,0.8s,SNR=7.9						
ECHI	**Chisagues Biel**	**5.46**	**31**	Pn	**Pn**	**03 38 16.9**	**+2.0**
	comp=N,3.0nm,0.3s,SNR=7.9						
ECHI				Sn	**Sn**	**03 39 17.1**	**-0.8**
	comp=N,4.5nm,0.2s,SNR=7.9						
ECHI				Lg	Lg	03 39 49.8	
	comp=N,7.7nm,0.3s,SNR=7.9						
ATE	**Arette**	**5.51**	**22**	Pn	**Pn**	**03 38 16.8**	**+1.2**
	comp=N,1.5nm,0.1s,SNR=7.9						
ATE				Sn	**Sn**	**03 39 19.4**	**+0.4**
	comp=N,8.9nm,0.3s,SNR=7.9						
ATE				Lg	Lg	03 39 52.0	
	comp=N,61nm,0.7s,SNR=7.9						
EMIR	**Miracle**	**5.51**	**44**	Pn	**Pn**	**03 38 17.5**	**+1.8**
	comp=N,5.7nm,0.2s,SNR=7.9						
EMIR				Lg	Lg	03 39 48.3	
	comp=N,65nm,0.6s,SNR=7.9						
CSOR	**Sort**	**5.64**	**38**	Pn	**Pn**	**03 38 18.1**	**+0.6**

LFF	**La Frestale**	**7.63**	**24**	*e*Pn	**Pn**	**03 38 44.9**	**+0.3**
LFF	**La Frestale**	**7.63**	**24**	*e*P	**Pn**	**03 38 49.3**	**+4.7**
LFF				*e*Sn	**Sn**	**03 40 08.1**	**-3.0**
	comp=N,7.5nm,0.5s						
LFF				*e*Sg	Sb	03 40 50.8	+14
	comp=N,13nm,0.5s						
LFF	**La Frestale**	**7.63**	**24**	Pn	**Pn**	**03 38 44.9**	**+0.3**
LFF				Sn	**Sn**	**03 40 08.1**	**-3.0**
	comp=N,3.8nm,0.5s						
LFF				Lg	Lg	03 40 50.8	
	comp=N,6.3nm,0.5s						
OUK	**Oukaimeden**	**7.66**	**209**	P	**Pn**	**03 38 42.0**	**-3.4**
CAF	**Calviac**	**8.09**	**30**	*e*Pn	**Pn**	**03 38 50.9**	**-0.1**
CAF	**Calviac**	**8.09**	**30**	*e*P	Pn	03 38 56.2	+5.2
CAF				*e*Sn	**Sn**	**03 40 18.8**	**-3.7**
CAF				*e*Sg	**Sg**	**03 41 09.1**	**-3.8**
	comp=N,6.9nm,0.6s						
CAF	**Calviac**	**8.09**	**30**	Pn	**Pn**	**03 38 50.9**	**-0.1**
CAF				Sn	**Sn**	**03 40 18.8**	**-3.7**
CAF				Lg	Lg	03 41 09.1	
	comp=N,3.5nm,0.6s						
RJF	**Les Rejaudoux**	**8.21**	**26**	*e*Pn	**Pn**	**03 38 53.0**	**+0.4**
RJF	**Les Rejaudoux**	**8.21**	**26**	*e*P	Pn	03 38 58.1	+5.5
RJF				*e*Sn	Sn	03 40 20.1	-5.3
	comp=N,2.7nm,0.4s						
RJF				*e*Sg	**Sg**	**03 41 13.0**	**-3.8**
RJF	**Les Rejaudoux**	**8.21**	**26**	Pn	**Pn**	**03 38 53.0**	**+0.4**
RJF				Sn	Sn	03 40 20.1	-5.3
	comp=N,1.4nm,0.4s						
RJF				Lg	Lg	03 41 13.0	
LASF	**Ste Croix**	**8.25**	**40**	*e*Pn	**Pn**	**03 38 51.2**	**-1.9**
LASF	**Ste Croix**	**8.25**	**40**	*e*Pg	Pg	03 39 27.6	-3.6
LASF				*e*Sn	Sn	03 40 21.1	-5.2
LASF				*e*Sg	**Sg**	**03 41 13.2**	**-4.7**
	comp=N,10nm,0.7s						
LASF	**Ste Croix**	**8.25**	**40**	Pn	**Pn**	**03 38 51.2**	**-1.9**
LASF				Pg	Pg	03 39 27.6	-3.6
LASF				Sn	Sn	03 40 21.1	-5.2
LASF				Lg	Lg	03 41 13.2	
	comp=N,5.1nm,0.7s						
MFF	**Saint Martin d**	**8.94**	**15**	*e*Pn	**Pn**	**03 39 02.8**	**+0.2**
MFF	**Saint Martin d**	**8.94**	**15**	*e*P	Pn	03 39 07.7	+5.1
MFF	**Saint Martin d**	**8.94**	**15**	Pn	**Pn**	**03 39 02.8**	**+0.2**
VIVF	**Saint-Julien-l**	**9.21**	**40**	*e*Sg	Sn	03 41 43.9	+54
	comp=N,18nm,1.0s						
VIVF	**Saint-Julien-l**	**9.21**	**40**	Lg	Lg	03 41 43.9	
	comp=N,9.1nm,1.0s						
TCF	**Toulx Ste Croi**	**9.31**	**26**	*e*Pn	**Pn**	**03 39 07.7**	**+0.1**
TCF	**Toulx Ste Croi**	**9.31**	**26**	*e*P	Pn	03 39 13.2	+5.6
TCF	**Toulx Ste Croi**	**9.31**	**26**	Pn	**Pn**	**03 39 07.7**	**+0.1**
BGF	**Bois d'Agland**	**9.76**	**27**	*e*Pn	**Pn**	**03 39 13.6**	**-0.2**
BGF	**Bois d'Agland**	**9.76**	**27**	*e*P	Pn	03 39 20.2	+6.4
BGF				*e*Sn	Sn	03 40 56.1	-7.4
BGF	**Bois d'Agland**	**9.76**	**27**	Pn	**Pn**	**03 39 13.6**	**-0.2**
BGF				Sn	Sn	03 40 56.1	-7.4
AVF	**Avril sur Loir**	**10.14**	**28**	*e*Pn	**Pn**	**03 39 19.0**	**-0.1**
AVF	**Avril sur Loir**	**10.14**	**28**	Pn	**Pn**	**03 39 19.0**	**-0.1**
SMF	**Signal de Mont**	**10.21**	**30**	*e*Pn	**Pn**	**03 39 19.5**	**-0.5**
SMF	**Signal de Mont**	**10.21**	**30**	Pn	**Pn**	**03 39 19.5**	**-0.5**
SSF	**Saint Saulge**	**10.43**	**28**	*e*Pn	**Pn**	**03 39 22.6**	**-0.4**
SSF	**Saint Saulge**	**10.43**	**28**	Pn	**Pn**	**03 39 22.6**	**-0.4**
KEST	**Kesra**	**10.59**	**99**	Pn	**Pn**	**03 39 27.6**	**+2.3**
	comp=N,0.1nm,0.3s,baz=279,slow=13,SNR=1.6						
KEST				Sn	**Sn**	**03 41 28.6**	**+4.5**
	comp=N,0.1nm,0.3s,baz=241,slow=18,SNR=2.3						
LOR	**Lormes**	**10.73**	**28**	*e*Pn	**Pn**	**03 39 27.2**	**0.0**
LOR	**Lormes**	**10.73**	**28**	*e*P	Pn	03 39 32.5	+5.3
	baz=206						
LOR	**Lormes**	**10.73**	**28**	*e*Pg	Pn	03 40 13.6	+46
	baz=208						
LOR	**Lormes**	**10.73**	**28**	Pn	**Pn**	**03 39 27.2**	**0.0**
LOR				Pg		03 40 13.6	
TORD	**Torodi Ar. Bea**	**25.21**	**168**	P	**P**	**03 42 18.6**	**-0.7**
	comp=N,0.7nm,0.8s,baz=343,slow=9.0,SNR=4.1						

*IDC **14** 03:40:14.6±7.1,27°.30N×57°.78E,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.2/40,mbtmp3.6/3,Error ellipse: s-maj=142.6km s-min=52.3km az=111.0*
*DSN **14** 03:40:18.8±2.2,27°.66N×57°.60E,h10km,ML4.2/5,Error ellipse: s-maj=55.8km s-min=12.1km az=136.0*
*OMAN **14** 03:40:20.8±1.2,27°.79N×57°.59E,h30km±45km,ml3.6/12, Error ellipse: s-maj=85.6km s-min=11.8km az=27.0*
*TEH **14** 03:40:21.2,27°.55N×57°.38E,h17km,ML3.7*
ISC 14 03:40:21.0±1.2,27°.54N±0°.04×57°.38E±0°.05,h14km±10km, n46,σ1$83/51,mb3.7/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.50**	**36**	*e*Pg	**Pg**	**03 40 30.2**	**-0.7**
GENO	**Geno**	**1.08**	**263**	*e*Pg	**Pg**	**03 40 42.7**	**+0.8**
GENO				*e*Sg	**Sn**	**03 40 57.7**	**+0.9**
GENO				*e*		03 41 02.3	
SHME	**Shamm**	**1.85**	**217**	*e*P	**Pb**	**03 40 54.3**	**-0.4**
	SNR=88						
SHME				S	**Sg**	**03 41 19.8**	**-0.8**
SHME	**Shamm**	**1.85**	**217**	*e*Pn	**Pb**	**03 40 54.4**	**-0.3**
BANOM	**Banah**	**1.88**	**211**	*e*P	**Pb**	**03 40 54.8**	**-0.4**
	SNR=355						
BANOM				S	**Sg**	**03 41 21.5**	**0.0**
BANOM	**Banah**	**1.88**	**211**	P	**Pb**	**03 40 55.2**	**0.0**
	SNR=356						
BANOM				S	**Sg**	**03 41 22.3**	**+0.8**
BANOM	**Banah**	**1.88**	**211**	*e*Pn	**Pb**	**03 40 55.1**	**0.0**
NGRK	**Negar Kerman**	**2.17**	**345**	*e*Pn	**Pn**	**03 40 58.4**	**+1.3**
NGRK				*e*		03 40 59.7	
CHMN	**Cheshme madani**	**2.31**	**4**	*e*Pn	**Pn**	**03 41 00.5**	**+1.5**
CHMN				*e*		03 41 05.4	
MSFE	**Esma-Masafi**	**2.43**	**207**	*e*P	**Pn**	**03 41 00.6**	**+0.2**
	SNR=12						
MDH	**Madha**	**2.44**	**204**	P	**Pn**	**03 41 01.8**	**+1.5**
MDH				S	**Sb**	**03 41 34.8**	**+0.3**
MDH	**Madha**	**2.44**	**204**	*e*Pn	**Pn**	**03 41 01.5**	**+1.1**
TVBK	**TV Kerman**	**2.49**	**348**	*e*Pn	**Pn**	**03 41 03.2**	**+1.7**
TVBK				*e*		03 41 47.5	
UMQ	**Umm Al-Quwin**	**2.53**	**218**	P	**Pn**	**03 41 03.1**	**+1.4**
LAR1	**LAR**	**2.67**	**273**	*e*Pn	**Pn**	**03 41 04.5**	**+0.9**
UOSS	**Minazif**	**2.79**	**202**	P	**Pn**	**03 41 05.1**	**-0.2**
UOSS	**Minazif**	**2.79**	**202**	P	**Pb**	**03 41 08.5**	**-2.2**
UOSS	**Minazif**	**2.79**	**202**	*e*Pn	**Pn**	**03 41 06.7**	**+1.4**
HATD	**Hatta, Dubai**	**2.93**	**203**	*i* P	**Pn**	**03 41 08.5**	**+1.4**
	SNR=9.1						
HATD	**Hatta, Dubai**	**2.93**	**203**	P	**Pb**	**03 41 10.5**	**-2.6**
HATD	**Hatta, Dubai**	**2.93**	**203**	*e*Pn	**Pn**	**03 41 09.0**	**+1.8**
KHGB	**Koh Gabri**	**2.93**	**345**	*e*Pn	**Pn**	**03 41 10.0**	**+2.6**
NAZ	**Nazwa, Dubai**	**2.97**	**212**	P	**Pn**	**03 41 10.8**	**+3.0**
NAZ	**Nazwa, Dubai**	**2.97**	**212**	*e*Pn	**Pn**	**03 41 10.6**	**+2.8**
ASHO	**Ashiyiah**	**3.08**	**203**	*i* P	**Pn**	**03 41 11.7**	**+2.4**
	SNR=11						
ASHO	**Ashiyiah**	**3.08**	**203**	P	**Pn**	**03 41 12.1**	**+2.8**
	SNR=11						
ASHO	**Ashiyiah**	**3.08**	**203**	*e*Pn	**Pn**	**03 41 12.4**	**+3.1**
FAQ	**Al Faqa, Dubai**	**3.21**	**210**	P	**Pn**	**03 41 13.3**	**+2.2**
FAQ	**Al Faqa, Dubai**	**3.21**	**210**	*e*Pn	**Pn**	**03 41 13.9**	**+2.8**
SZD1	**Zahaedan-tmp**	**3.63**	**57**	*e*Pn	**Pn**	**03 41 18.8**	**+1.9**
HOQ	**Hoqain**	**3.94**	**181**	P	**Pn**	**03 41 23.2**	**+2.1**
ARQ	**Araqi**	**4.26**	**191**	P	**Pn**	**03 41 27.5**	**+2.0**
	SNR=29						
IBAF	**Bafgh**	**4.33**	**339**	*e*Pn	**Pn**	**03 41 28.4**	**+1.8**
NHDN	**Nehbandan**	**4.49**	**31**	*e*Pn	**Pn**	**03 41 31.3**	**+2.6**
IMEH	**Mehriz**	**4.53**	**329**	*e*Pn	**Pn**	**03 41 30.9**	**+1.5**
BSY	**Bisya**	**4.78**	**182**	P	**Pn**	**03 41 34.8**	**+2.1**
ISAD	**Sadrabad**	**5.41**	**324**	*e*Pn	**Pn**	**03 41 43.1**	**+1.6**
TPRV	**Parvadeh(Tabas**	**5.50**	**354**	*e*Pn	**Pn**	**03 41 44.8**	**+2.2**
AFRZ	**Afriz**	**6.03**	**13**	*e*Pn	**Pn**	**03 41 53.6**	**+3.7**
IRAM	**Ramesheh**	**6.08**	**316**	*e*Pn	**Pn**	**03 41 51.2**	**+0.5**
KLNJ	**Kolanjah**	**6.12**	**306**	*e*Pn	**Pn**	**03 41 51.5**	**+0.2**
ANAR	**Anarak**	**6.45**	**332**	*e*Pn	**Pn**	**03 41 56.2**	**+0.5**
WHFO	**Wadi Hawf**	**10.14**	**200**	P	**Pn**	**03 42 49.0**	**+2.7**
	SNR=6.7						
BRTR	**Keskin Array B**	**23.12**	**308**	P	**P**	**03 45 27.0**	**+0.2**
	0.8nm,0.8s,baz=120,slow=11,SNR=4.9						
FINES	**FINESS Array B**	**39.83**	**337**	P	**P**	**03 47 52.1**	**-1.5**
	2.1nm,1.1s,baz=148,slow=8.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**53.73**	**266**	P	**P**	**03 49 41.2**	**-1.8**
	0.3nm,0.4s,baz=65,slow=7.3,SNR=14						

DJA 14 03:43:40.6±0.9,9°S±16°×11°5E±°,h69km±25km,M3.8/7, MLv3.8/7,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.95**	**306**	P	Pn	03 43 59.1	+0.7
SRBI	**Singaraja**	**0.98**	**17**	P	Pn	03 43 58.9	+0.1
ABJI	**Asem Bagus**	**1.41**	**331**	P	Pn	03 44 04.7	+0.4
BLJI	**Banyuglugur**	**1.84**	**314**	P	Pn	03 44 10.1	+0.1
TWSI	**Taliwang, Sumb**	**1.95**	**82**	P	Pn	03 44 11.6	0.0
PLAI	**Plampang**	**2.82**	**86**	P	Pn	03 44 23.8	+0.4
PWJI	**Pagerwojo**	**3.25**	**288**	P	Pn	03 44 28.8	-0.4

TRN 14 03:48:09.9,15°.42N×61°.01W,h154km,MD3.5,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSLB	**Salisbury**	**0.40**	**273**	*e*P	Pn	03 48 32.2	+1.0
MAGL	**Barre de l'ile**	**0.59**	**334**	*e*P	Pn	03 48 33.5	+1.3
MAGL				*e*S	Sn	03 48 49.6	+0.4
SVN	**Savane Anatole**	**0.59**	**195**	*e*P	Pn	03 48 33.2	+0.9
BAMF	**Morne Balai**	**0.61**	**192**	*e*P	Pn	03 48 33.3	+0.9
PCM	**Pelee Case Pet**	**0.63**	**198**	*e*P	Pn	03 48 33.2	+0.8
GBMF	**Grand Be**	**0.64**	**193**	*e*P	Pn	03 48 33.3	+0.7
ILAM	**Ilet Lapin Mar**	**0.65**	**168**	*e*P	Pn	03 48 33.7	+1.1
PML	**Morne Lenard**	**0.66**	**195**	*e*P	Pn	03 48 33.4	+0.8
FDF	**Fort de France**	**0.69**	**191**	*e*P	Pn	03 48 33.7	+0.9
TDBA	**Terre de Bas,**	**0.74**	**306**	*e*P	Pn	03 48 34.1	+1.0
LPMF	**Morne Lapointe**	**0.84**	**177**	*e*P	Pn	03 48 34.4	+0.6
ZAM	**Aeronautique**	**0.84**	**181**	*e*P	Pn	03 48 34.7	+0.9
CBE	**Ff, Capester**	**0.86**	**319**	*e*P	Pn	03 48 35.3	+1.3
CBE				*e*S	Sn	03 48 53.3	+0.8
MVM	**Montagne Vaucl**	**0.87**	**173**	*e*P	Pn	03 48 35.3	+1.2
TRMF	**Trois Ilets**	**0.88**	**182**	*e*P	Pn	03 48 35.0	+0.9
BIM	**Bigot**	**0.90**	**184**	*e*P	Pn	03 48 36.8	+2.5
BIM	**Bigot**	**0.90**	**184**	*e*S	Sn	03 48 54.7	+1.7
BIM				*e*		03 48 43.6	
MPOM	**Morne Pois Mar**	**0.98**	**171**	*e*P	Pn	03 48 35.8	+0.9
ABD	**La Joyeuse, An**	**1.15**	**336**	*e*P	Pn	03 48 37.6	+1.3
ABD				*e*S	Sn	03 48 57.1	+0.5
SLBI	**Saint Lucia, B**	**1.39**	**178**	*e*P	Pn	03 48 39.5	+0.8
SLBI	**Saint Lucia, B**	**1.39**	**178**	*e*S	Sn	03 49 00.2	-0.4
SLBI				*e*		03 48 46.9	
SLAC	**Saint Lucia, A**	**1.52**	**176**	*e*P	Pn	03 48 40.8	+0.8
SLAC				*e*S	Sn	03 49 03.6	+0.6
SLB	**Belfond**	**1.58**	**181**	*e*S	Sn	03 49 05.2	+0.8
MCLT	**Moule a Chique**	**1.70**	**178**	*e*S	Sn	03 49 07.4	+0.8
ANWB	**Willy Bob**	**2.36**	**342**	*e*P	Pn	03 48 50.0	+0.5
ANWB				*e*S	Sn	03 49 19.6	-0.4

*UNK **14** 04:10:05.1,36°.18N×97°.27W,h5km*
*ANF **14** 04:10:05.6±0.3,36°.12N×97°.23W,h0km,ML4.2/10,Error ellipse: s-maj=3.5km s-min=2.1km az=173.0*
*NEIC **14** 04:10:05.3±1.0,36°.19N±0°.02×97°.27W±0°.06,h5km±2km, Error ellipse: s-maj=8.1km s-min=3.1km az=79.0*
*TUL **14** 04:10:05.1±1.0,36°.18N±0°.02×97°.27W±0°.05,h5km±7km, ML3.3,Error ellipse: s-maj=5.2km s-min=2.2km az=90.0*
ISC 14 04:10:05.1±1.2,36°.19N±0°.02×97°.26W±0°.03,h2km±12km, n85,σ0$74/95,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.43**	**202**		**Pg**	**04 10 13.5**	**+0.2**
OK029				Sg	**Sg**	**04 10 19.1**	**+0.3**
QUOK	**Quay**	**0.44**	**93**		**Pg**	**04 10 14.3**	**+0.7**
QUOK				Sg	**Sg**	**04 10 20.0**	**+0.7**
ADOK	**Arcadia Dam**	**0.55**	**190**	Pg	Pn	**04 10 21.7**	**+1.7**
BCOK	**Bluff Creek, N**	**0.61**	**208**		**Pg**	**04 10 16.8**	**+0.1**
BCOK				Sg	**Sg**	**04 10 24.3**	**-0.3**
OK025	**Westminster Rd**	**0.61**	**186**		**Pg**	**04 10 16.9**	**0.0**
OK025				Sg	**Sg**	**04 10 24.5**	**-0.3**
CROK	**Carrier**	**0.67**	**298**		**Pg**	**04 10 18.1**	**+0.2**
CROK				Sg	**Sg**	**04 10 27.3**	**+0.8**
OKCFA	**Oklahoma City**	**0.79**	**192**		**Pg**	**04 10 20.2**	**-0.1**
OKCFA				Sg	**Sg**	**04 10 30.5**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.80**	**191**		**Pg**	**04 10 20.3**	**-0.2**
KAN13	**South Haven SW**	**0.84**	**348**		**Pg**	**04 10 21.4**	**+0.2**
T35A	**Sooner Cattle**	**0.94**	**39**		**Pg**	**04 10 23.5**	**+0.4**
FNO	**Franklin**	**0.94**	**187**		**Pg**	**04 10 23.3**	**+0.1**
W35A	**Tecumseh**	**1.08**	**163**		**Pg**	**04 10 24.7**	**-1.2**
KAN10	**Anthony SW Sta**	**1.15**	**324**		**Pg**	**04 10 27.0**	**-0.2**
TUL1	**Leonard**	**1.22**	**103**	P	**Pg**	**04 10 27.6**	**-0.9**
	baz=283						
TUL1				S	**Sg**	**04 10 44.2**	**-0.1**
	baz=283						
TUL1	**Leonard**	**1.22**	**103**		**Pg**	**04 10 27.6**	**-0.9**
KAN12	**Harper NE Stat**	**1.25**	**332**		**Pg**	**04 10 28.9**	**-0.2**
U32A	**Winter Ranch,**	**1.42**	**278**		**Pn**	**04 10 30.6**	**-1.4**
WMOK	**Wichita Mounta**	**1.91**	**221**	P	**Pn**	**04 10 39.1**	**+0.3**
	baz=40						
WMOK				S	**Sb**	**04 11 04.6**	**-0.5**
	baz=40						
WMOK	**Wichita Mounta**	**1.91**	**221**		**Pn**	**04 10 38.9**	**+0.2**
X37A	**Clayton**	**2.22**	**136**		**Pn**	**04 10 43.4**	**+0.5**
U38A	**Gravette**	**2.33**	**83**		**Pn**	**04 10 45.2**	**+0.7**
R32A	**Long Quarter,**	**2.51**	**333**		**Pn**	**04 10 47.4**	**+0.5**
HHAR	**Hobbs**	**2.68**	**87**		**Pn**	**04 10 49.9**	**+0.6**
Z35A	**Perchaven, San**	**2.86**	**180**		**Pn**	**04 10 51.7**	**+0.1**
KSU1	**Kansas State U**	**2.95**	**10**		**Pn**	**04 10 53.9**	**+1.0**
W39A	**Magazine**	**3.00**	**108**	P	**Pn**	**04 10 54.6**	**+1.0**
	baz=290						
W39A	**Magazine**	**3.00**	**108**		**Pn**	**04 10 53.9**	**+0.3**
CBKS	**Cedar Bluff**	**3.28**	**324**	P	**Pn**	**04 10 59.2**	**+1.7**
	baz=143						
CBKS				Sb	**Sg**	**04 11 49.8**	**-0.6**
	baz=143						
CBKS	**Cedar Bluff**	**3.28**	**324**	Pn	**Pn**	**04 10 57.5**	**0.0**
MIAR	**Mount Ida**	**3.43**	**118**	P	**Pn**	**04 11 00.5**	**+1.0**
	baz=300						
MIAR	**Mount Ida**	**3.43**	**118**		**Pn**	**04 11 00.5**	**+1.0**
Z38A	**Mt. Pleasant**	**3.47**	**147**	Pn	**Pn**	**04 11 00.4**	**+0.2**
S39A	**Bolivar**	**3.49**	**63**		**Pn**	**04 11 00.3**	**0.0**
U40A	**Yellville**	**3.56**	**86**		**Pn**	**04 11 01.8**	**+0.4**
AMTX	**Amarillo**	**3.84**	**251**	P	**Pn**	**04 11 05.8**	**+0.5**
	baz=69						
AMTX	**Amarillo**	**3.84**	**251**	Pn	**Pn**	**04 11 05.9**	**+0.5**
X40A	**Basin Creek Fa**	**3.99**	**114**		**Pn**	**04 11 08.1**	**+0.8**
ABTX	**Abilene, Hawle**	**4.07**	**210**	Pb	**Pb**	**04 11 17.3**	**-0.2**
	baz=28						
ABTX				Sb	**Sb**	**04 12 09.4**	**+2.2**
	baz=28						
ABTX	**Abilene, Hawle**	**4.07**	**210**	Pn	**Pn**	**04 11 08.8**	**+0.4**
WHAR	**Wooly Hollow**	**4.14**	**101**		**Pn**	**04 11 09.1**	**-0.2**
FCAR	**Ozark Folk Cen**	**4.17**	**93**		**Pn**	**04 11 10.3**	**+0.6**
WHTX	**Lake Whitney,**	**4.20**	**182**	Pn	**Pn**	**04 11 09.9**	**-0.2**
W41B	**Gary Mavity, V**	**4.20**	**103**	P	**Pn**	**04 11 10.8**	**+0.7**
	baz=285						
W41B	**Gary Mavity, V**	**4.20**	**103**		**Pn**	**04 11 11.1**	**+0.9**
UALR	**University of**	**4.25**	**108**	Pn	**Pn**	**04 11 11.0**	**+0.1**
237A	**Washetta, Mont**	**4.35**	**164**		**Pn**	**04 11 11.8**	**-0.4**
R40A	**Maddies Statio**	**4.50**	**61**		**Pn**	**04 11 14.2**	**0.0**
P38A	**Dawn**	**4.52**	**40**	Pn	**Pn**	**04 11 14.5**	**0.0**
N33A	**J Bar K, Exete**	**4.54**	**358**	Pn	**Pn**	**04 11 15.2**	**+0.4**
Z41A	**Richland Creek**	**4.69**	**127**	Pn	**Pn**	**04 11 16.9**	**0.0**
N35A	**Tabor**	**4.83**	**15**		**Pn**	**04 11 19.1**	**+0.3**
T42A	**Van Buren**	**5.03**	**79**	Pn	**Pn**	**04 11 21.9**	**+0.4**
CCAR	**Cane Creek**	**5.04**	**115**	Pn	**Pn**	**04 11 21.4**	**-0.3**
MSTX	**Muleshoe**	**5.04**	**245**	P	**Pn**	**04 11 21.9**	**+0.1**
	baz=62						
MSTX	**Muleshoe**	**5.04**	**245**	Pn	**Pn**	**04 11 20.9**	**-0.9**
KSCO	**Kaye Shedlock'**	**5.11**	**305**	Pn	**Pn**	**04 11 22.6**	**-0.2**
CCM	**Cathedral Cave**	**5.15**	**67**	P	**Pn**	**04 11 23.8**	**+0.6**
	baz=250						
CCM	**Cathedral Cave**	**5.15**	**67**		**Pn**	**04 11 23.4**	**+0.1**
BGNE	**Belgrade**	**5.25**	**353**	Pn	**Pn**	**04 11 22.7**	**-2.0**
P40A	**Paris**	**5.30**	**49**	Pn	**Pn**	**04 11 24.9**	**-0.3**
HBAR	**Harrisburg**	**5.39**	**95**	Pn	**Pn**	**04 11 25.9**	**-0.7**
435B	**Jarrell**	**5.40**	**183**		**Pn**	**04 11 26.4**	**-0.3**
N38A	**Joes South For**	**5.57**	**33**	Pn	**Pn**	**04 11 29.2**	**+0.2**
L34A	**Svendsen Farm,**	**5.81**	**6**	Pn	**Pn**	**04 11 32.4**	**+0.1**
T25A	**Trinidad**	**5.83**	**281**		**Pn**	**04 11 32.1**	**-0.6**
OGNE	**Ogallala**	**6.04**	**323**	Pn	**Pn**	**04 11 34.5**	**-1.1**
JCT	**Junction City**	**6.08**	**201**	Pn	**Pn**	**04 11 35.5**	**-0.6**
K31A	**O'Neill**	**6.53**	**350**	Pn	**Pn**	**04 11 40.9**	**-1.2**
S44A	**Carbondale**	**6.58**	**74**	Pn	**Pn**	**04 11 41.4**	**-1.4**
OXF	**Oxford**	**6.63**	**102**	Pn	**Pn**	**04 11 41.5**	**-2.0**
SDCO	**Great Sand Dun**	**6.78**	**286**	Pn	**Pn**	**04 11 45.7**	**-0.2**
P43A	**Skaggs, Pawnee**	**7.01**	**58**		**Pn**	**04 11 48.5**	**-0.3**
Q44A	**Meyer Farm, Va**	**7.08**	**65**	Pn	**Pn**	**04 11 49.1**	**-0.6**
L40A	**Anamosa**	**7.50**	**37**	Pn	**Pn**	**04 11 54.7**	**-0.8**
ISCO	**Idaho Springs**	**7.52**	**301**	Pn	**Pn**	**04 11 56.1**	**+0.1**
ECSD	**EROS Data Cent**	**7.55**	**4**		**Pn**	**04 11 55.5**	**-0.6**
PLAL	**Pickwick Lake**	**7.58**	**96**	Pn	**Pn**	**04 11 57.6**	**+1.1**
HDIL	**Hopedale**	**7.62**	**53**	Pn	**Pn**	**04 11 56.8**	**-0.3**
BNM	**Barren Site**	**7.94**	**258**	Pn	**Pn**	**04 12 00.0**	**-1.8**
O44A	**Mansfield**	**7.97**	**58**	Pn	**Pn**	**04 12 01.1**	**-0.8**
MNTX	**Cornudas Mount**	**8.10**	**239**		**Pn**	**04 12 03.0**	**-0.8**
L42A	**Oliver, Polo**	**8.27**	**43**	Pn	**Pn**	**04 12 06.0**	**-0.1**
TX31	**Lajitas Ar. Si**	**8.71**	**220**	Pn	**Pn**	**04 12 12.6**	**+0.3**
TX32	**Lajitas Array**	**8.71**	**220**	Pn	**Pn**	**04 12 12.3**	**+0.1**
TXAR	**Lajitas Array**	**8.71**	**220**	Pn	**Pn**	**04 12 12.1**	**-0.2**

IDC 14 04:10:11.7±6.7,27°.91S×178°.48W,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.5/46,mbtmp3.5/3,Error ellipse: s-maj=279.5km s-min=107.4km az=162.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.88**	**264**	P	P	04 18 12.8	+0.6
	0.2nm,0.5s,baz=101,slow=7.7,SNR=1.9						
WRA	**Warramunga Arr**	**43.64**	**270**	P	P	04 18 18.3	0.0
	0.4nm,0.8s,baz=110,slow=7.9,SNR=4.8						
FITZ	**Fitzroy Crossi**	**51.98**	**268**	P	P	04 19 22.1	-0.9
	2.2nm,1.1s,baz=90,slow=20,SNR=2.0						
FINES	**FINESS Array B**	**142.67**	**341**	PKP	PKPdf	04 29 45.7	-0.6
	2.1nm,1.0s,baz=63,slow=3.4,SNR=6.0						

*NEIC **14** 04:17:57.0±2.1,24°.42S±0°.06×67°.11W±0°.09,h162km±6km, mb4.3/9,ML4.3(GUC),Error ellipse: s-maj=12.3km s-min=9.3km az=95.0*
*IDC **14** 04:17:57.4±1.2,24°.33S×67°.02W,h163km±11km,mb3.4/8, mb1 3.5/14,mb1mx3.4/30,mbtmp3.9/14,MS4.0/1, Ms1 4.0/1,ms1mx3.1/10,Error ellipse: s-maj=19.0km s-min=14.1km az=27.0*
*SJA **14** 04:17:57.3±0.5,24°.39S×67°.24W,h188km±4km,ML3.9, MW4.1*
*GUC **14** 04:17:59.3±0.5,24°.34S×67°.53W,h209km±8km,ML4.3*
*VAO **14** 04:18:00.4±0.8,24°.11S×67°.20W,h196km±8km,mb4.0*
ISC 14 04:17:57.7±0.7,24°.35S±0°.04×67°.25W±0°.03,h176km±6km, n109,σ1$24/136,mb3.7/8,10C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.63**	**103**	*e*P	**Pn**	**04 18 31.9**	**+1.2**
SLA				*e*S	**Sn**	**04 18 57.3**	**+1.1**
SLA				IAML		04 18 57.8	
	comp=Z,350nm,0.8s						
AZAP	**Zapla**	**1.99**	**87**	*e*S	**Sn**	**04 19 04.4**	**+1.2**
AZAP				IAML		04 19 05.3	
	comp=Z,282nm,0.7s						
FSA	**Cafayete**	**2.09**	**147**	*e*P	**Pn**	**04 18 36.4**	**+0.8**
GO02	**Mina Guanaco**	**2.28**	**249**	⇑*i*P	**Pn**	**04 18 39.1**	**+1.2**
GO02				*i* S	**Sn**	**04 19 10.1**	**+1.0**
GO02	**Mina Guanaco**	**2.28**	**249**	Pn	**Pn**	**04 18 39.1**	**+1.2

RTCV *e*S **Sn** **04 21 08.3 -2.1**
RTCV IAML 04 21 35.9
comp=Z,22nm,4.8s
CO02 Combarbal 7.59 205 Pn **Pn** **04 19 43.7 -1.9**
LPAZ La Paz 8.07 354 P **Pn** **04 19 53.2 +0.7**
comp=Z,1.2nm,0.3s,baz=151,slow=6.3,SNR=43
LPAZ S **Sn** **04 21 17.9 -5.4**
comp=Z,0.1nm,0.3s,baz=191,slow=16,SNR=1.8
LPAZ La Paz 8.07 354 **Pn** **04 19 53.0 +0.4**
VA03 San Esteban 8.87 198 Pn **Pn** **04 20 00.7 -1.8**
CPUP Villa Florida 9.18 104 P **Pn** **04 20 04.3 -2.3**
comp=Z,0.2nm,0.3s,baz=280,slow=12,SNR=10
CPUP Villa Florida 9.18 104 **Pn** **04 20 06.0 -0.6**
ROC1 El Roble 9.21 200 Pn **Pn** **04 20 04.6 -2.5**
SIV San Ignacio 10.14 36 P **Pn** **04 20 16.9 -2.4**
comp=Z,1.1nm,0.3s,baz=223,slow=13,SNR=32
SIV S Sn 04 22 01.0 -11
comp=Z,0.1nm,0.3s,baz=240,slow=18,SNR=2.2
PTLB Pontes e Lacer 11.69 42 *e*P **Pn** **04 20 38.0 -1.3**
PTGB Pitanga 13.82 95 *e*P **P** **04 21 09.5 +0.2**
SAML Samuel 15.80 15 P **Pn** **04 21 30.2 -0.7**
SAML Samuel 15.80 15 *e*P **Pn** **04 21 30.3 -0.6**
FRTB Fartura 16.21 90 *e*P **Pn** **04 21 36.5 +0.6**
ITRB Iturama 16.32 77 *e*P **Pn** **04 21 38.0 +0.7**
PLCA Paso Flores 16.57 189 P **P** **04 21 40.3 +0.9**
comp=Z,0.1nm,0.3s,baz=360,slow=7.8,SNR=3.4
PLCA Paso Flores 16.57 189 IAmb IAmb 04 21 49.1
comp=Z,4.5nm,0.8s
ARAG Araguaiana, MT 16.85 62 *e*P **Pn** **04 21 43.9 +0.4**
CLDB Colider 17.27 41 *e*P **P** **04 21 45.5 -1.8**
LL01 San Ignacio de 18.48 192 P **P** **04 21 59.4 -0.8**
LL01 IAmb IAmb 04 22 06.5
comp=Z,12nm,0.6s
IPMB Ipameri, GO 18.84 74 *e*P **P** **04 22 04.5 0.0**
BDFB Brasilia 20.03 68 P **P** **04 22 15.8 -1.5**
comp=Z,0.8nm,0.3s,baz=230,slow=9.1,SNR=11
BDFB Brasilia 20.03 68 P **P** **04 22 15.1 -2.2**
BDFB IAmb IAmb 04 22 17.9
comp=Z,11nm,1.1s
NPGB Novo Progresso 20.64 35 *e*P **P** **04 22 21.6 -2.2**
PEXB Peixe 21.70 59 *e*P **P** **04 22 33.8 -1.2**
MACA Manacapuru-AM 22.00 18 *e*P **P** **04 22 36.9 -1.1**
ITTB Itaituba 22.76 31 *e*P **P** **04 22 44.0 -1.1**
MC01 Montes Claros 23.09 75 *e*P **P** **04 22 47.0 -1.3**
JANB Januaria 23.46 71 *e*P **P** **04 22 50.1 -1.5**
SDBA SAO DESIDERIO 24.26 65 *e*P **P** **04 22 58.1 -0.8**
SMTB Santa Maria do 24.28 54 *e*P **P** **04 22 58.5 -0.5**
PTGA Pitinga 24.52 18 *e*P **P** **04 23 00.8 -0.3**
APG El Apazote 45.21 328 LR LR 04 44 50.6
comp=Z,166nm,18.4s,baz=260,slow=36
SNAA Sanae 59.09 161 P **P** **04 27 39.6 +0.4**
comp=Z,0.9nm,0.6s,baz=289,slow=8.7,SNR=5.4
SNAA Sanae 59.09 161 IAmb IAmb 04 28 46.3
comp=Z,14nm,2.0s
TXAR Lajitas Array 63.84 325 P **P** **04 28 13.1 +1.5**
comp=Z,0.1nm,0.5s,baz=142,slow=7.7,SNR=2.2
DBIC Dimbokro 68.13 72 P **P** **04 28 38.6 -0.5**
comp=Z,4.3nm,1.1s,baz=260,slow=7.5,SNR=1.6
TORD Torodi Ar. Bea 76.91 69 P **P** **04 29 30.8 -0.2**
comp=Z,0.9nm,0.5s,baz=263,slow=6.0,SNR=21
TORD Torodi Ar. Bea 76.91 69 P **P** **04 29 31.2 +0.2**
PDAR Pinedale Array 77.34 329 P **P** **04 29 34.9 +1.8**
comp=Z,0.1nm,0.3s,baz=118,slow=9.3,SNR=2.3
NVAR Mina Array Bea 78.67 321 P **P** **04 29 42.9 +2.3**
comp=Z,0.3nm,0.6s,baz=129,slow=7.1,SNR=2.8
BOSA Boshof 80.77 117 P **P** **04 29 52.5 +0.4**
comp=Z,1.9nm,1.0s,baz=210,slow=16,SNR=1.8
MAW Mawson 81.17 163 P **P** **04 29 54.7 +1.4**
comp=Z,0.5nm,0.4s,baz=211,slow=5.8,SNR=4.1
ASAR Alice Springs 128.04 205 PKP **PKiKP** **04 36 44.3 +0.2**
comp=Z,0.5nm,0.6s,baz=153,slow=1.8,SNR=6.6
WRA Warramunga Arr 131.21 207 PKP **PKiKP** **04 36 50.6 +0.1**
comp=Z,0.4nm,0.4s,baz=159,slow=1.8,SNR=12
GEYT Alibeck 131.95 60 PKPdf **PKiKP** **04 36 51.7 +0.2**
ZAA0 Zalesovo Array 143.81 28 PKPdf **PKPdf** **04 37 11.5 0.0**
ZALV Zalesovo Beam 143.81 28 PKP **PKPdf** **04 37 11.2 -0.3**
comp=Z,1.0nm,0.7s,baz=241,slow=32,SNR=3.7
MK31 Makanchi Array 146.94 40 PKPbc **PKPab** **04 37 20.7 -0.6**
MKAR Makanchi Array 146.94 40 PKPbc **PKPbc** **04 37 19.4 -0.1**
comp=Z,1.1nm,0.5s,baz=328,slow=2.6,SNR=13
MKAR Makanchi Array 146.94 40 **PKPab** **04 37 21.0 -0.3**

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*IDC **14** 04:26:56.6±6.0, 4°.63S×153°.65E, h118km±38km, mb3.4/3, mb1 3.7/4, mb1mx3.2/38, mbtmp3.9/4, Error ellipse: s-maj=65.3km s-min=36.2km az=98.0*
ISC 14 04:26:53.2±2.4, 4°.6S±0°.2×153°.9E±0°.2, h100km, n6, σ0.56/7, mb3.5/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.90**	**279**	P	**Pn**	**04 27 25.0**	**+0.5**
	11nm,0.3s,baz=135,slow=1.4,SNR=1.7						
KRVT				S	**Sn**	**04 27 48.0**	**-0.3**
	26nm,0.3s,baz=22,slow=18,SNR=8.7						
PMG	**Port Moresby**	**8.23**	**234**	P	**Pn**	**04 28 50.4**	**+0.6**
	2.5nm,0.3s,baz=30,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**24.41**	**230**	P	**P**	**04 32 02.7**	**+0.2**
	1.1nm,0.6s,baz=53,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**27.05**	**224**	P	**P**	**04 32 25.9**	**-0.5**
	0.3nm,0.3s,baz=54,slow=9.0,SNR=7.0						
FITZ	**Fitzroy Crossi**	**30.73**	**242**	P	**P**	**04 32 58.5**	**-0.5**
	3.6nm,1.3s,baz=90,slow=20,SNR=2.4						
TORD	**Torodi Ar. Bea**	**151.29**	**289**	PKPbc	**PKiKP**	**04 46 36.9**	**+0.2**
	0.2nm,0.4s,baz=78,slow=1.8,SNR=7.9						

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*MEX **14** 04:42:18.3±0.6, 13°.98N×93°.33W, h20km±34km, MD4.1*
*NEIC **14** 04:42:21.2±2.5, 14°.58N±0°.09×93°.03W±0°.07, h10km±2km, mb4.1/27, Md4.1(MEX), Error ellipse: s-maj=15.9km s-min=10.6km az=207.0*
*IDC **14** 04:42:23.4±3.5, 14°.24N×92°.93W, h62km±29km, mb3.5/6, mb1 3.9/10, mb1mx3.6/35, mbtmp3.8/10, ML3.8/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/19, Error ellipse: s-maj=34.8km s-min=23.5km az=34.0*
ISC 14 04:42:22.1±1.8, 14°.26N±0°.10×93°.16W±0°.07, h47km±15km, n54, σ1.9±41/59, mb4.0/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**53**	*e*P	**Pn**	**04 42 39.4**	**-1.5**
THIG				*i* S	**Sn**	**04 42 55.6**	**+0.8**
PCIG		**1.44**	**358**	*e*P	**Pn**	**04 42 43.2**	**-2.5**
PCIG				*i* S	**Sn**	**04 43 04.1**	**+0.6**
RTAL	**Retalhuleu**	**1.45**	**79**	Pn	**Pn**	**04 42 44.1**	**-1.8**
HUEH	**Huehuetenango**	**1.92**	**56**		**Pn**	**04 42 51.8**	**-0.8**
CCIG	**Comitan**	**2.24**	**26**	*i* P	**Pn**	**04 42 56.8**	**-0.1**
CCIG				*e*S	**Sn**	**04 43 25.6**	**+2.0**
CCIG	**Comitan**	**2.24**	**26**	Pn	**Pn**	**04 42 54.8**	**-2.2**
TGIG		**2.51**	**1**	*e*P	**Pn**	**04 43 00.1**	**-0.4**
TGIG				*e*S	**Sn**	**04 43 31.1**	**+1.2**
APG	**El Apazote**	**2.72**	**74**	P	**Pn**	**04 43 03.4**	**-0.1**
	10nm,0.3s,baz=252,slow=6.7,SNR=67						
APG				S	**Sn**	**04 43 36.8**	**+1.5**
	6.6nm,0.3s,baz=299,slow=9.2,SNR=4.6						
CMIG	**Matias Romero**	**3.27**	**330**	*e*P	**Pn**	**04 43 08.6**	**-2.3**
CMIG				*i* S	**Sn**	**04 43 47.3**	**-1.3**
MTO3	**Montecristo**	**3.69**	**87**	Pn	**Pn**	**04 43 17.5**	**+0.7**
ESQI	**Esquipulas**	**3.71**	**85**	Pn	**Pn**	**04 43 18.8**	**+1.7**
SNET	**Serv Nac Est T**	**3.86**	**98**	Pn	**Pn**	**04 43 19.9**	**+0.8**
PETF	**Flores**	**4.13**	**50**	Pn	**Pn**	**04 43 20.7**	**-2.0**
TGUH	**Tegucigalpa,Un**	**5.72**	**91**	Pn	**Pn**	**04 43 46.6**	**+2.0**
TLIG	**Tlapa**	**6.15**	**303**	Pn	**Pn**	**04 43 53.4**	**+2.8**
TEIG	**Tepich**	**7.55**	**37**	P	**Pn**	**04 44 08.1**	**-1.5**
	12nm,0.3s,baz=231,slow=2.6,SNR=70						
TEIG				S	**Sn**	**04 45 32.9**	**-1.1**
	3.5nm,0.3s,baz=326,slow=21,SNR=7.5						
TEIG	**Tepich**	**7.55**	**37**	Pn	**Pn**	**04 44 08.6**	**-1.1**
JTS	**Las Juntas de**	**8.94**	**115**	P	**Pn**	**04 44 26.1**	**-2.6**
	0.5nm,0.3s,baz=0.0,slow=17,SNR=1.5						
435B	**Jarrell**	**16.95**	**347**	Pn	**Pn**	**04 46 15.7**	**-0.2**
435B				IAmb	IAmb	04 46 37.0	
	comp=Z,15nm,1.3s						
TX31	**Lajitas Ar. Si**	**17.88**	**329**		**Pn**	**04 46 27.5**	**-0.1**
TX31				IAmb	IAmb	04 47 19.0	
	comp=Z,36nm,1.6s						
TX32	**Lajitas Array**	**17.88**	**329**		**P**	**04 46 28.3**	**+0.6**
TXAR	**Lajitas Array**	**17.88**	**329**	P	**P**	**04 46 28.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=150,slow=10,SNR=14						
TXAR				LR	LR	04 53 29.6	
	comp=Z,58nm,18.0s,baz=0.0,slow=37						
WHTX	**Lake Whitney,**	**18.09**	**348**	Pn	**Pn**	**04 46 28.5**	**-1.4**
Z35A	**Perchaven, San**	**19.35**	**350**	P	**P**	**04 46 43.6**	**-0.1**
Z35A				IAmb	IAmb	04 46 50.5	
	comp=Z,9.4nm,0.7s						
MIAR	**Mount Ida**	**20.20**	**359**	P	**P**	**04 46 54.0**	**+1.0**
MIAR				IAmb	IAmb	04 47 02.2	
	comp=Z,12nm,1.1s						
MNTX	**Cornudas Mount**	**20.66**	**329**	P	**P**	**04 46 59.5**	**+1.5**
W35A	**Tecumseh**	**21.07**	**352**	P	**P**	**04 47 03.4**	**+0.9**
FNO	**Franklin**	**21.26**	**350**	P	**P**	**04 47 06.1**	**+1.7**
MSTX	**Muleshoe**	**21.47**	**338**	P	**P**	**04 47 07.3**	**+0.5**
MSTX				IAmb	IAmb	04 47 23.2	
	comp=Z,9.0nm,1.1s						
FCAR	**Ozark Folk Cen**	**21.56**	**2**	P	**P**	**04 47 09.0**	**+1.4**
FCAR				IAmb	IAmb	04 47 10.8	
	comp=Z,5.5nm,0.8s						
OK025	**Westminster Rd**	**21.56**	**351**	P	**P**	**04 47 08.6**	**+1.0**
AMTX	**Amarillo**	**21.93**	**341**	P	**P**	**04 47 12.9**	**+1.2**
U40A	**Yellville**	**22.01**	**1**	P	**P**	**04 47 12.3**	**-0.1**
QUOK	**Quay**	**22.05**	**352**	P	**P**	**04 47 12.8**	**-0.1**
QUOK				IAmb	IAmb	04 47 14.7	
	comp=Z,9.7nm,0.8s						
U38A	**Gravette**	**22.12**	**357**	P	**P**	**04 47 13.6**	**0.0**
U38A				IAmb	IAmb	04 47 21.8	
	comp=Z,5.2nm,1.0s						
121A	**Cookes Peak, D**	**22.56**	**326**	P	**P**	**04 47 20.1**	**+1.5**
TKL	**Tuckaleechee C**	**22.92**	**20**	LR	LR	04 57 50.1	
	comp=Z,56nm,18.3s,baz=254,slow=40						
KAN12	**Harper NE Stat**	**23.35**	**350**	P	**P**	**04 47 26.8**	**+0.4**
CCM	**Cathedral Cave**	**23.77**	**4**	P	**P**	**04 47 29.5**	**-0.7**
CCM				IAmb	IAmb	04 47 30.2	
	comp=Z,4.3nm,0.9s						
ANMO	**Albuquerque**	**23.84**	**332**	P	**P**	**04 47 31.7**	**+0.5**
	comp=Z,0.0nm,0.6s,baz=117,slow=16,SNR=3.5						
ANMO	**Albuquerque**	**23.84**	**332**	IAmb	IAmb	04 47 48.6	
	comp=Z,4.1nm,1.3s						
R32A	**Long Quarter,**	**24.57**	**349**	P	**P**	**04 47 37.4**	**-0.2**
R32A				IAmb	IAmb	04 47 39.5	
	comp=Z,6.1nm,0.8s						
P40A	**Paris**	**25.20**	**2**	P	**P**	**04 47 42.1**	**-1.2**
P40A				IAmb	IAmb	04 47 42.9	
	comp=Z,5.2nm,0.8s						
SDCO	**Great Sand Dun**	**25.84**	**337**	P	**P**	**04 47 51.7**	**+2.2**
PDAR	**Pinedale Array**	**31.73**	**337**	P	**P**	**04 48 41.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=141,slow=8.7,SNR=5.8						
REDW	**Red Top Meadow**	**32.74**	**336**	P	**P**	**04 48 52.7**	**+2.0**
NVAR	**Mina Array Bea**	**32.77**	**322**	P	**P**	**04 48 53.2**	**+2.2**
	comp=Z,1.2nm,0.8s,baz=130,slow=8.4,SNR=10.0						
SNOW	**Snow King Moun**	**32.78**	**336**	P	**P**	**04 48 53.3**	**+2.2**
YNE	**Yellowstone No**	**33.82**	**338**	P	**P**	**04 48 59.6**	**-0.5**
F10A	**Beach Ranch, E**	**37.55**	**332**	P	**P**	**04 49 32.4**	**+0.5**
F10A				IAmb	IAmb	04 49 34.2	
	comp=Z,3.5nm,0.9s						
YKA	**Yellowknife Ar**	**50.52**	**347**	P	**P**	**04 51 16.2**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=150,slow=6.8,SNR=8.5						
ILAR	**Eielson Array**	**62.16**	**337**	P	**P**	**04 52 38.1**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=117,slow=4.0,SNR=4.7						
ESDC	**Sonseca Array**	**80.44**	**51**	P	**P**	**04 54 26.9**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=288,slow=6.3,SNR=5.9						
GERES	**GERESS Array B**	**90.12**	**39**	P	**P**	**04 55 17.7**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=302,slow=5.6,SNR=2.4						

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*SOME **14** 04:49:47.7, 42°.32N×81°.12E, h15km*
*NNC **14** 04:49:49.0±1.7, 42°.41N×81°.11E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=12.7km s-min=8.8km az=165.0*
ISC 14 04:49:47.9±2.1, 42°.34N±0°.08×81°.03E±0°.06, h8km±12km, n38, σ2.9±38/61, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.42**	**306**	⇑*i*P	**Pn**	**04 50 11.2**	**-2.9**
	54nm,0.2s						
SHLS				⇓*i*S	**Sn**	**04 50 28.8**	**-4.2**
	94nm,0.3s						
SHLS	**Shalkode**	**1.42**	**306**	P	**Pn**	**04 50 11.2**	**-2.9**
	54nm,0.2s						
SHLS				S	**Sn**	**04 50 28.8**	**-4.2**
	94nm,0.3s						
UZB	**Uzynbulak**	**1.69**	**299**	*e*P	**Pb**	**04 50 20.4**	**+1.1**
	21nm,0.3s						
UZB				*e*S	**Sg**	**04 50 44.7**	**+2.6**
	53nm,0.3s						
UZB	**Uzynbulak**	**1.69**	**299**	P	**Pb**	**04 50 20.4**	**+1.1**
	21nm,0.3s						
UZB				S	**Sg**	**04 50 44.7**	**+2.6**
	53nm,0.3s						
KPKS	**Kokpek**	**2.06**	**304**	*e*P	**Pb**	**04 50 26.7**	**+1.1**
KPKS				*e*S	**Sg**	**04 50 55.2**	**+1.1**
	208nm,0.4s						
SATY	**Saty**	**2.07**	**291**	*e*P	**Pg**	**04 50 28.1**	**+0.6**
	23nm,0.3s						
SATY				*e*S	**Sg**	**04 50 57.3**	**+3.0**
	104nm,0.3s						
DJR	**Jarkent**	**2.19**	**336**	*e*P	**Pb**	**04 50 27.8**	**-0.1**
	26nm,0.4s						
DJR				*e*S	**Sg**	**04 50 57.5**	**-0.8**
	41nm,0.6s						
DJR	**Jarkent**	**2.19**	**336**	Pg	**Pb**	**04 50 27.8**	**-0.1**
	26nm,0.4s						
DJR				Lg	Lg	04 50 57.5	
	41nm,0.6s						
MNBS	**Baschi**	**2.59**	**313**	*e*P	**Pb**	**04 50 35.7**	**+1.0**
	15nm,0.3s						
MNBS				*e*S	**Sg**	**04 51 10.6**	**-0.7**
	95nm,0.3s						
MNBS	**Baschi**	**2.59**	**313**	Pg	**Pb**	**04 50 35.7**	**+1.0**
	15nm,0.3s						
MNBS				Lg	Lg	04 51 10.6	
	95nm,0.3s						
ARXS	**Arharly**	**3.00**	**310**	*e*P	**Pb**	**04 50 42.8**	**+1.2**
	9.5nm,0.3s						
ARXS				*e*S	**Sg**	**04 51 23.1**	**-1.1**
	24nm,0.4s						
KOTS	**Kotyrbulak**	**3.02**	**289**	*e*P	**Pb**	**04 50 43.3**	**+1.3**
	13nm,0.3s						
KOTS				*e*S	**Sg**	**04 51 23.8**	**-1.1**
	60nm,0.6s						
KOTS	**Kotyrbulak**	**3.02**	**289**	Pg	**Pb**	**04 50 43.3**	**+1.3**
	13nm,0.3s						
KOTS				Lg	Lg	04 51 23.8	
	60nm,0.6s						
MDOK	**Medeo**	**3.05**	**287**	*e*P	**Pb**	**04 50 44.4**	**+1.9**
	6.8nm,0.6s						
MDOK				*e*S	**Sg**	**04 51 25.4**	**-0.4**
	38nm,0.5s						
MDOK	**Medeo**	**3.05**	**287**	Pg	**Pb**	**04 50 44.4**	**+1.9**
	6.8nm,0.6s						
MDOK				Lg	Lg	04 51 25.4	
	38nm,0.5s						
TNSS	**Tian-Shan**	**3.09**	**284**	*e*P	**Pb**	**04 50 44.6**	**+1.3**
	6.5nm,0.3s						
TNSS				*e*S	**Sg**	**04 51 25.9**	**-1.3**
	27nm,0.7s						
KAPS	**Kapalarasan**	**3.19**	**338**	*e*P	**Pb**	**04 50 44.9**	**+0.1**
	7.5nm,0.3s						
KAPS				*e*S	**Sb**	**04 51 26.9**	**+3.1**
	17nm,0.4s						
KAPS	**Kapalarasan**	**3.19**	**338**	Pg	**Pb**	**04 50 44.9**	**+0.1**
	7.5nm,0.3s						
KAPS				Lg	Lg	04 51 26.9	
	14nm,0.4s						
CHKK	**Chushkaly**	**3.33**	**299**	*e*P	**Pb**	**04 50 48.4**	**+1.2**
	2.0nm,0.3s						
CHKK				*e*S	**Sb**	**04 51 32.6**	**+4.8**
	22nm,0.4s						
CHKK	**Chushkaly**	**3.33**	**299**	Pg	**Pb**	**04 50 48.4**	**+1.2**
	2.0nm,0.3s						
CHKK				Lg	Lg	04 51 32.6	
	22nm,0.4s						
IZV	**Izvestkoviy**	**3.33**	**284**	*e*P	**Pb**	**04 50 48.9**	**+1.5**
	10nm,0.4s						
IZV				*e*S	**Sg**	**04 51 33.9**	**-1.0**
	54nm,0.5s						
IZV	**Izvestkoviy**	**3.33**	**284**	Pg	**Pb**	**04 50 48.9**	**+1.5**
	10nm,0.4s						
IZV				Lg	Lg	04 51 33.9	
	54nm,0.5s						
KTBS	**Karatobe**	**3.47**	**295**	*e*P	**Pb**	**04 50 51.4**	**+1.7**
	4.9nm,0.4s						
KTBS				*e*S	**Sg**	**04 51 37.5**	**-1.9**
	40nm,0.4s						
KTBS	**Karatobe**	**3.47**	**295**	Pg	**Pb**	**04 50 51.4**	**+1.7**
	4.9nm,0.4s						
KTBS				Lg	Lg	04 51 37.5	
	40nm,0.4s						
MTBS	**Maitube**	**3.48**	**285**	*e*P	**Pb**	**04 50 51.0**	**+1.2**
	6.3nm,0.3s						
MTBS				*e*S	**Sb**	**04 51 36.8**	**+4.5**
	16nm,0.4s						
MTBS	**Maitube**	**3.48**	**285**	Pg	**Pb**	**04 50 51.0**	**+1.2**
	6.3nm,0.3s						
MTBS				Lg	Lg	04 51 36.7	
	16nm,0.4s						
KUU	**Kurty**	**3.77**	**296**	*e*P	**Pb**	**04 50 56.3**	**+1.6**
	2.7nm,0.3s						
KUU				*e*S	**Sb**	**04 51 45.9**	**+5.3**
	14nm,0.5s						
KUU	**Kurty**	**3.77**	**296**	Pg	**Pb**	**04 50 56.3**	**+1.6**
	2.7nm,0.3s						
KUU				Lg	Lg	04 51 45.9	
	14nm,0.5s						
KST	**Kastek**	**3.80**	**282**	*e*P	**Pb**	**04 50 58.0**	**+2.7**
	5.0nm,0.7s						
KST				*e*S	**Sg**	**04 51 48.9**	**-1.1**
	20nm,0.6s						
KST	**Kastek**	**3.80**	**282**	Pg	**Pb**	**04 50 58.0**	**+2.7**
	5.0nm,0.7s						
KST				Lg	Lg	04 51 48.9	
	20nm,0.6s						
DGS	**Degeres**	**3.98**	**285**	*e*P	**Pb**	**04 51 00.8**	**+2.6**
	1.6nm,0.4s						
DGS				*e*S	**Sg**	**04 51 53.9**	**-1.6**
	22nm,0.8s						
TKM2	**Tokmak 2**	**4.05**	**280**	⇑Pn	**Pb**	**04 50 56.7**	**-2.9**
	2.9nm,0.8s						
TKM2				⇓Lg	Lg	04 51 55.0	
	6.7nm,0.6s						
MAKZ	**Makanchi**	**4.52**	**8**	⇑Pn	**Pn**	**04 50 58.4**	**+1.7**
	0.9nm,0.3s						
MAKZ				⇓Lg	Lg	04 52 05.0	
	3.4nm,0.5s						
MK31	**Makanchi Array**	**4.55**	**11**	⇓Pn	**Pn**	**04 50 58.4**	**+1.4**
	0.3nm,0.3s,baz=205,slow=13,SNR=15						
MK31				⇑Pg	**Pb**	**04 51 09.4**	**+1.4**
	0.4nm,0.3s,baz=188,slow=15,SNR=4.8						
MK31				⇑Lg	Lg	04 52 03.9	
	6.7nm,0.6s,baz=187,slow=29,SNR=16						
AAK	**Ala-Archa**	**4.84**	**276**	Pg	**Pg**	**04 51 19.2**	**-1.5**
	0.8nm,0.3s						
AAK				Lg	Lg	04 52 21.7	
	2.1nm,0.5s						
MRKS	**Merke**	**5.78**	**277**	*e*P	**Pg**	**04 51 35.9**	**-2.7**
	1.1nm,0.3s						
MRKS				*e*S	**Sg**	**04 52 53.5**	**0.0**
	3.7nm,0.3s						
MRKS	**Merke**	**5.78**	**277**	Pg	**Pg**	**04 51 35.9**	**-2.7**
	1.1nm,0.3s						
MRKS				Lg	Lg	04 52 53.5	
	3.7nm,0.3s						
ZSN	**Zaisan**	**5.79**	**27**	*e*P	**Pb**	**04 51 32.0**	**+2.8**
	3.2nm,0.2s						
ZSN				*e*S	**Sg**	**04 52 46.8**	**-7.1**
	6.8nm,0.6s						

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*BJI **14** 04:52:23.6±0.0, 0°.93N×97°.37E, h33km, mB5.5/78, mb5.3/85, Ms5.7/93, Ms7 5.6/88*
*UNK **14** 04:52:25.4, 1°.11N×97°.22E, h26km*
*MOS **14** 04:52:25.1±0.9, 1°.16N×97°.28E, h34km, mb5.3/63, MS5.1/19, Error ellipse: s-maj=6.9km s-min=3.8km az=109.6*
*NEIC **14** 04:52:26.9±1.3, 1°.15N±0°.07×97°.26E±0°.07, h37km±4km, mb5.3/156, Error ellipse: s-maj=10.6km s-min=8.4km az=45.0*
*GCMT **14** 04:52:26.9±0.1, 0°.96N±0°.01×96°.98E±0°.01, h23km, MW5.4/117, Moment Tension Solution. s117,c187; s115,c195; Duration: 1±2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.09±.02; $M_{\theta\theta}$-0.40±.02; $M_{\phi\phi}$-0.69±.02; $M_{r\theta}$0.69±.03; $M_{\theta\phi}$0.53±.01; $M_{\phi r}$-0.85±.03; Best double couple: $M_0$1.54700×10^{17} NP1:ϕ_s324.00000°, δ22.00000°, λ93.00000°. NP2:ϕ_s141.00000°, δ68.00000°, λ89.00000°. Principal axes: T 1.5450, Plg67.0000°, Azm49.0000°; N 0.0040, Plg1.0000°, Azm142.0000°; P -1.5490, Plg23.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **14** 04:52:26.7±0.5, 1°N±2°×9°7E±°, h29km±3km, M5.4/22, mb5.3/22, mB5.8/12, MLv5.7/20, Mw(mB)5.4/12, Mwp5.5/5*
*IDC **14** 04:52:28.1±1.9, 1°.14N×97°.28E, h48km±17km, mb4.6/51, mb1 4.6/54, mb1mx4.5/65, mbtmp4.8/54, ML4.7/3, MS4.9/30, Ms1 5.0/30, ms1mx4.8/44, Error ellipse: s-maj=11.9km s-min=7.6km az=47.0*
*BGR **14** 04:52:29.5±0.0, 1°.54N×96°.91E, h26km, mb5.1, Ms4.9*
*KLM **14** 04:52:30.0, 1°.33N×97°.30E, h42km, mb5.3*
ISC 14 04:52:26.3±0.4, 1°.09N±0°.03×97°.24E±0°.03, h32km±2km, h32km:pP-P, n748, σ1.9±67/886, mb5.2/231, MS5.1/85, 58C-19D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.40**	**57**	P	**Pb**	**04 52 36.7**	**+1.3**
GSI				Pg	**Pn**	**04 52 36.4**	**+0.5**
GSI				Sg	**Sn**	**04 52 43.2**	**+0.9**
GSI				S	**Sb**	**04 52 44.1**	**+2.5**
GSI	**Gunungsitoli**	**0.40**	**57**		**Pn**	**04 52 36.0**	**+0.1**
PBSI	**Pulau Batu**	**1.54**	**137**	Pn	**Pb**	**04 52 53.4**	**-0.9**
TPTI		**2.16**	**358**	P	**Pn**	**04 52 58.9**	**-1.2**
TPTI				S	**Sn**	**04 53 27.0**	**+1.2**
RPSI	**Rantau Prapat**	**2.32**	**46**	Pn	**Pn**	**04 53 03.0**	**+0.7**
RPSI	**Rantau Prapat**	**2.32**	**46**		**Pn**	**04 53 03.4**	**+1.0**
MNSI	**Mandailing Nat**	**2.36**	**97**	P	**Pn**	**04 53 04.1**	**+1.3**
MNSI				S	**Sn**	**04 53 32.5**	**+1.8**
PSI	**Prapat**	**2.40**	**45**	P	**Pn**	**04 53 03.4**	**-0.1**
	38nm,0.3s,baz=180,slow=9.0,SNR=167						
PSI				S	**Sb**	**04 53 45.3**	**+7.2**
	195nm,0.3s,baz=0.1,slow=21,SNR=11						
PSI				LR	LR	04 53 53.7	
	comp=Z,25μm,21.3s,baz=270,slow=38						
TSI	**Tuntungan**	**2.74**	**29**	P	**Pn**	**04 53 08.4**	**+0.3**
SISI	**Saibi**	**3.03**	**

PATY	Pattaya	12.30	17	P	Pn	04 55 20.0	+0.7
LEM	Lembang	13.00	127	P	Pn	04 55 30.6	+1.5
	4.6nm,0.3s,baz=311,slow=20,SNR=1.3						
LEM	Lembang	13.00	127	P	Pn	04 55 31.9	+2.8
	41nm,1.1s						
KSM	Kuching	13.07	88		Pn	04 55 27.4	-2.6
KSM	Kuching	13.07	88	P	Pn	04 55 33.0	+3.1
SRAK	Srakaew	13.70	20	P	Pn	04 55 41.3	+2.8
KPJI	Karang Pucung	14.35	126	P	Pn	04 55 48.9	+1.5
	46nm,0.7s						
PBKI	Pangkalan Bun	14.91	105	P	Pn	04 55 56.0	+1.0
	232nm,1.2s						
CHAI	Chaiyaphum	15.45	17	P	Pn	04 56 01.1	-1.0
SMRI	Semarang	15.45	122	P	P	04 56 05.1	-1.2
	125nm,1.0s						
SMRI	Semarang	15.45	122	Pn	Pn	04 56 00.9	-1.3
DLV	T Lat	15.52	46	Pn	Pn	04 56 01.5	-1.7
PBKT	Sadao Pong	15.82	13	P	Pn	04 56 05.8	-1.1
PBKT	Sadao Pong	15.82	13	Pn	Pn	04 56 05.5	-1.3
PBKT				IAmb	IAmb	04 56 12.2	
	comp=Z,234nm,1.0s						
KHON	Khomkaen	16.12	20	P	Pn	04 56 12.2	+1.5
UBPT	Khong Chiam	16.28	30		Pn	04 56 12.4	-0.3
PHIT	Phitsanulok	16.31	11	P	Pn	04 56 14.0	+0.9
SUKH	Sukhothai	16.46	8	P	Pn	04 56 14.4	-0.7
NGJI	Ngawi	16.49	121	P	P	04 56 18.1	+0.3
CM05	Chiang Mai Arr	17.29	5	P	Pn	04 56 24.2	-1.2
CM04	Chiang Mai Arr	17.29	6	P	Pn	04 56 24.0	-1.5
CM01	Chiang Mai Arr	17.31	5	P	Pn	04 56 24.0	-1.7
CM02	Chiang Mai Arr	17.32	5	P	Pn	04 56 24.1	-1.8
CM09	Chiang Mai Arr	17.34	6	P	Pn	04 56 24.5	-1.6
CM31	Chiang Mai Arr	17.35	5	Pn	Pn	04 56 23.8	-2.3
CM31				IAmb	IAmb	04 56 30.9	
	comp=Z,184nm,1.2s						
CMAR	Chiang Mai Arr	17.35	5	P	Pn	04 56 24.9	-1.3
	comp=Z,2.7nm,0.3s,baz=192,slow=13,SNR=44						
CMAR				LR	LR	05 03 57.1	
	comp=Z,8μm,18.5s,baz=238,slow=40						
CMAR	Chiang Mai Arr	17.35	5	Pn	Pn	04 56 24.7	-1.4
CM36	Chiang Mai Arr	17.42	6	P	Pn	04 56 25.2	-1.8
PHRA	Phrae	17.55	9	P	Pn	04 56 27.7	-0.9
CM35	Chiang Mai Arr	17.59	6	P	Pn	04 56 26.6	-2.5
PALK	Pallekele	17.59	291	P	Pn	04 56 28.2	-1.1
PALK				pmax	pmax		
	comp=Z,75nm,1.2s						
PALK	Pallekele	17.59	291	Pn	Pn	04 56 28.2	-1.1
CHTO	Chiang Mai	17.70	5	P	Pn	04 56 27.3	-3.2
CHTO				pmax	pmax		
	comp=Z,50nm,1.1s						
CHTO	Chiang Mai	17.70	5	Pn	Pn	04 56 27.3	-3.2
CMMT	Chiang Mai	17.70	5	P	Pn	04 56 28.8	-1.7
CM34	Chiang Mai Arr	17.75	6	P	Pn	04 56 27.7	-3.5
NONG	Nongkai	17.84	19	P	Pn	04 56 29.6	-2.6
PAYA	Payao	18.34	8	P	P	04 56 38.1	-0.2
CRAI	Chiangrai	19.27	9	P	P	04 56 48.8	+0.4
JAGI	Jajag, Banyuwa	19.35	120	P	P	04 56 49.0	-0.3
SPMM	Sapulut	19.53	79	P	Pn	04 56 55.0	+2.1
KKM	Kota Kinabalu	19.56	75	P	P	04 56 51.6	-0.2
KKM				IAmb	IAmb	04 57 13.0	
	comp=Z,164nm,1.0s						
BKB	Balikpapan	19.79	97	P	P	04 56 54.9	+0.7
MDRS	Chennai	20.62	306	*e*P	Pn	04 57 06.0	+0.4
MDRS				IAmb	IAmb	04 57 14.6	
	comp=Z,33nm,1.0s						
SLVN	Son La	21.15	17	P	P	04 57 08.1	-0.9
SLVN				IAmb	IAmb	04 57 14.8	
	comp=Z,160nm,0.9s						
VIS	Vishakhapatnam	21.45	321	*e*P	P	04 57 16.7	+4.6
TRD	Trivandrum	21.50	291	*e*P	P	04 57 14.6	+1.9
TRD				IAmb	IAmb	04 57 20.0	
	comp=Z,412nm,1.7s						
MYLDM	Lahad Datu	21.61	79	P	P	04 57 14.8	+0.9
MYLDM				IAmb	IAmb	04 57 29.7	
	comp=Z,133nm,0.8s						
QIZ	Qiongzhong	21.70	34	P	P	04 57 13.8	-0.9
QIZ				S	S	05 01 14.9	+1.5
QIZ				pmax	pmax		
	comp=Z,64nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,690nm,10.4s						
QIZ				LR	LR		
	comp=Z,6μm,14.8s						
QIZ				LR	LR		
	comp=Z,8μm,12.3s						
QIZ				LR	LR		
	comp=Z,6μm,11.9s						
QIZ	Qiongzhong	21.70	34	P	P	04 57 14.7	-0.1
QIZ				IAmb	IAmb	04 57 17.4	
	comp=Z,114nm,1.2s						
KAPI	Kappang	23.29	105	P	P	04 57 30.9	-0.7
	comp=Z,48nm,0.9s,baz=298,slow=11,SNR=5.8						
KAPI	Kappang	23.29	105	P	P	04 57 31.2	-0.4
KAPI				pmax	pmax		
	comp=Z,90nm,1.2s						
KAPI	Kappang	23.29	105	P	P	04 57 31.2	-0.4
KAPI				IAmb	IAmb	04 57 52.4	
	comp=Z,90nm,1.1s						
KMI	Kunming	24.48	12⇑	*e*P	P	04 57 44.1	+1.2
KMI				pP	sP	04 57 54.8	-1.4
KMI				sP	pP	04 57 58.6	+6.3
KMI				S	S	05 01 58.8	-2.7
KMI				sS	pS	05 02 14.3	+2.5
KMI				pmax	pmax		
	comp=Z,350nm,1.1s						
KMI				pmax	pmax		
	comp=Z,2μm,4.4s						
KMI				LR	LR		
	comp=Z,16μm,16.8s						
KMI				LR	LR		
	comp=Z,7μm,13.6s						
KMI				LR	LR		
	comp=Z,18μm,15.6s						
HYB	Hyderabad	24.52	313	*i* P	P	04 57 44.0	+0.9
HYB				*e*S	S	05 02 12.0	+10
HYB	Hyderabad	24.52	313	*e*P	P	04 57 44.6	+1.5
HYB				IAmb	IAmb	04 57 54.8	
	comp=Z,179nm,1.7s						
SHL	Shillong	24.88	348	*e*P	P	04 57 46.4	-0.1
SHL				IAmb	IAmb	04 57 49.4	
	comp=Z,158nm,0.9s						
SHL	Shillong	24.88	348	P	P	04 57 45.9	-0.6
SHL				pmax	pmax		
	comp=Z,276nm,1.0s						
SHL	Shillong	24.88	348	P	P	04 57 45.9	-0.6
LUWI	Luwuk	25.62	95	P	P	04 57 53.5	+0.3
H08S2	Diego Garcia H	26.16	250	T	T	05 24 54.0	
	baz=71,slow=75						
H08S3	Diego Garcia H	26.16	250	T	T	05 24 57.6	
	baz=71,slow=75						
H08S1	Diego Carcia H	26.18	250	T	T	05 24 54.7	
	baz=71,slow=75						
NGP	Nagpur	26.70	320	*e*P	P	04 58 05.1	+2.2
NGP				*e*S	S	05 02 37.5	+1.2
NGP				*ex*	x	05 02 42.9	
MMRI	Maumere	26.72	112	P	P	04 58 02.2	-0.9
MMRI				IAmb	IAmb	04 58 15.0	
	comp=Z,54nm,0.8s						
HKPS	Hong Kong Po S	26.73	37	P	P	04 58 03.1	0.0
HKPS				IAmb	IAmb	04 58 06.6	
	comp=Z,67nm,1.0s						
GYA	Guiyang	26.81	19	⇑P	P	04 58 03.4	-0.5
GYA				pmax	pmax		
	comp=Z,37nm,1.2s						
GYA				pmax	pmax		
	comp=Z,590nm,4.1s						
GYA				LR	LR		
	comp=Z,6μm,12.9s						
GYA				LR	LR		
	comp=Z,7μm,14.5s						
GYA				LR	LR		
	comp=Z,7μm,13.8s						
ODAN	Odare	27.32	341	*e*P	P	04 58 09.6	+1.0
	comp=Z,273nm,1.1s						
ODAN	Odare	27.32	341	*e*P	P	04 58 09.6	+1.0
	comp=Z,273nm,1.1s						
TAPN	Taplejung	27.67	342	*e*P	P	04 58 13.2	+1.4
	comp=Z,253nm,0.9s						
TAPN	Taplejung	27.67	342	*e*P	P	04 58 13.2	+1.4
	comp=Z,253nm,0.9s						
RAMN	Ramite	27.67	339	*e*P	P	04 58 13.2	+1.4
	comp=Z,75nm,0.7s						
RAMN	Ramite	27.67	339	*e*P	P	04 58 13.2	+1.4
	comp=Z,75nm,0.7s						
JIRN	Jiri	28.47	339	*e*P	P	04 58 20.3	+1.3
	comp=Z,427nm,1.1s						
JIRN	Jiri	28.47	339	*e*P	P	04 58 20.3	+1.3
	comp=Z,427nm,1.1s						
BATI	Baumata	28.59	114	P	P	04 58 19.4	-0.5
	comp=Z,17nm,0.5s,baz=252,slow=13,SNR=2.0						
BATI				LR	LR	05 11 55.6	
	comp=Z,9μm,19.0s,baz=278,slow=41						
PKI	Pulchoki	28.68	338	*e*P	P	04 58 21.6	+0.8
	comp=Z,183nm,1.2s						
PKI	Pulchoki	28.68	338	*e*P	P	04 58 21.6	+0.8
	comp=Z,183nm,1.2s						
PKIN	Phulchoki	28.68	338	*e*P	P	04 58 21.6	+0.8
	comp=Z,235nm,1.4s						
PKIN	Phulchoki	28.68	338	*e*P	P	04 58 21.6	+0.8
	comp=Z,235nm,1.4s						
GUN	Gumba	28.81	339	*e*P	P	04 58 23.2	+1.2
	comp=Z,168nm,0.7s						
GUN	Gumba	28.81	339	*e*P	P	04 58 23.2	+1.2
	comp=Z,168nm,0.7s						
DMN	Daman	28.82	337	*e*P	P	04 58 22.8	+0.7
	comp=Z,182nm,1.3s						
DMN	Daman	28.82	337	*e*P	P	04 58 22.8	+0.7
	comp=Z,182nm,1.3s						
DAV	Davao City (W)	28.87	77	P	P	04 58 22.1	-0.3
KKN	Kakani	28.92	338	*e*P	P	04 58 23.8	+0.9
	comp=Z,101nm,0.9s						
KKN	Kakani	28.92	338	*e*P	P	04 58 23.8	+0.9
	comp=Z,101nm,0.9s						
SOEI	Soe	28.98	112	P	P	04 58 21.4	-2.1
SOEI				IAmb	IAmb	04 58 37.9	
	comp=Z,84nm,0.9s						
LSA	Lhasa	29.04	349	P	P	04 58 25.4	+1.2
LSA				S	S	05 03 15.0	+1.0
LSA				pmax	pmax		
	comp=Z,110nm,0.9s						
LSA				pmax	pmax		
	comp=Z,2μm,6.4s						
LSA				LR	LR		
	comp=Z,7μm,18.2s						
LSA				LR	LR		
	comp=Z,5μm,18.9s						
LSA				LR	LR		
	comp=Z,13μm,19.9s						
LSA	Lhasa	29.04	349	P	P	04 58 24.5	+0.3
LSA				pmax	pmax		
	comp=Z,48nm,1.0s						
LSA	Lhasa	29.04	349	P	P	04 58 24.5	+0.3
LSA				IAmb	IAmb	04 59 01.3	
	comp=Z,48nm,1.0s						
BHPL	Bhopal	29.24	320	*e*P	P	04 58 27.1	+1.6
BHPL				IAmb	IAmb	04 58 35.0	
	comp=Z,8.2nm,0.7s						
GKN	Gorkha	29.36	337	*e*P	P	04 58 27.9	+1.2
GKN	Gorkha	29.36	337	*e*P	P	04 58 27.9	+1.2
KOLN	Koldanda	29.58	335	*e*P	P	04 58 30.2	+1.5
	comp=Z,112nm,0.7s						
KOLN	Koldanda	29.58	335	*e*P	P	04 58 30.2	+1.5
	comp=Z,112nm,0.7s						
PYUN	Piuthan	30.13	334	*e*P	P	04 58 34.8	+1.2
PYUN	Piuthan	30.13	334	*e*P	P	04 58 34.8	+1.2
CD2	Chengdu	30.30	11	P	P	04 58 35.3	+0.4
CD2				S	S	05 03 35.1	+2.1
CD2				pmax	pmax		
	comp=Z,70nm,0.7s						
CD2				pmax	pmax		
	comp=Z,820nm,11.4s						
CD2				LR	LR		
	comp=Z,14μm,16.3s						
CD2				LR	LR		
	comp=Z,17μm,15.1s						
CD2				LR	LR		
	comp=Z,19μm,14.9s						
ENH	Enshi	31.27	21	P	P	04 58 42.6	-0.8
QZH	Quanzhou	31.44	39	P	P	04 58 45.3	+0.4
QZH				pP	pP	04 58 55.0	+0.7
QZH				S	S	05 03 52.8	+2.0
QZH				LR	LR		
	comp=Z,6μm,14.1s						
QZH				LR	LR		
	comp=Z,4μm,15.9s						
QZH				LR	LR		
	comp=Z,9μm,14.0s						
PSA00	Pilbara Seismi	31.54	137	IAmb	IAmb	04 59 08.6	
	comp=Z,101nm,1.6s						
TPUB	Ta-pu	31.67	44	P	P	04 58 46.8	-0.3
TPUB				IAmb	IAmb	04 58 48.6	
	comp=Z,63nm,1.1s						
YULB	Yu-li	32.20	45	P	P	04 58 51.9	+0.3
SSLB	Suanglung	32.21	44	P	P	04 58 51.8	0.0
SSLB				IAmb	IAmb	04 58 54.6	
	comp=Z,57nm,1.0s						
NACB	Ninganchiao	32.91	44	P	P	04 58 58.1	+0.3
NACB				IAmb	IAmb	04 59 00.1	
	comp=Z,44nm,1.1s						
YHNB	Yeheng	33.08	43	P	P	04 59 00.1	+0.7
YHNB				IAmb	IAmb	04 59 54.2	
	comp=Z,67nm,1.3s						
WHN	Wuhan	33.50	27	P	P	04 59 03.1	+0.2
WHN				S	S	05 04 25.0	+2.3
WHN				pmax	pmax		
	comp=Z,95nm,1.1s						
WHN				pmax	pmax		
	comp=Z,1μm,4.8s						
WHN				LR	LR		
	comp=Z,4μm,11.7s						
WHN				LR	LR		
	comp=Z,12μm,13.3s						
WHN				LR	LR		
	comp=Z,15μm,13.9s						
FITZ	Fitzroy Crossi	33.83	126	P	P	04 59 05.1	-0.9
	comp=Z,5.0nm,0.7s,baz=359,slow=3.7,SNR=29						
FITZ				LR	LR	05 15 05.4	
	comp=Z,2μm,20.4s,baz=271,slow=40						
FITZ	Fitzroy Crossi	33.83	126	P	P	04 59 05.3	-0.6
	baz=34						
FITZ	Fitzroy Crossi	33.83	126	P	P	04 59 05.4	-0.6
DDI	Dehra Dun	34.31	330	*e*P	P	04 59 11.1	+1.0
XAN	Xi'an	34.56	17	P	P	04 59 11.1	-1.1
XAN				S	S	05 04 37.4	-1.8
XAN				pmax	pmax		
	comp=Z,96nm,0.7s						
XAN				pmax	pmax		
	comp=Z,800nm,5.4s						
XAN				LR	LR		
	comp=Z,6μm,13.3s						
XAN				LR	LR		
	comp=Z,6μm,12.5s						
XAN				LR	LR		
	comp=Z,11μm,17.4s						
XAN	Xi'an	34.56	17	P	P	04 59 11.3	-0.9
XAN				pmax	pmax		
	comp=Z,155nm,1.1s						
XAN	Xi'an	34.56	17	P	P	04 59 11.3	-0.9
KNRA	Kununurra	35.32	119	P	P	04 59 17.7	-1.2
KNRA				IAmb	IAmb	04 59 36.6	
	comp=Z,23nm,0.9s						
LZH	Lanzhou	35.36	9	⇑P	P	04 59 19.0	-0.2
LZH				pP	pP	04 59 26.3	-2.3
LZH				sP	sP	04 59 32.6	+0.1
LZH				PP	PP	05 00 44.8	+4.9
LZH				S	S	05 04 48.4	-3.3
LZH				pmax	pmax		
	comp=Z,44nm,1.1s						
LZH				pmax	pmax		
	comp=Z,590nm,5.4s						
LZH				LR	LR		
	comp=Z,6μm,17.4s						
LZH				LR	LR		
	comp=Z,6μm,15.2s						
LZH				LR	LR		
	comp=Z,7μm,17.9s						
SMLA	Simla	35.41	329	*e*P	P	04 59 19.5	0.0
SMLA				IAmb	IAmb	04 59 23.0	
	comp=Z,31nm,0.8s						
BHK	Bhakra	36.03	329	*ex*	P	04 59 26.1	+1.3
DHRM	DHARAMSHALA	36.75	330	*e*P	P	04 59 31.4	+0.2
DHRM				IAmb	IAmb	04 59 41.0	
	comp=Z,51nm,0.8s						
NJ2	Nanjing	36.94	31	⇑P	P	04 59 32.8	+0.3
NJ2				pP	pP	04 59 41.5	-0.5
NJ2				sP	sP	04 59 44.5	-1.4
NJ2				PP	PnPn	05 01 01.5	+4.1
NJ2				S	S	05 05 17.6	+1.9
NJ2				pmax	pmax		
	comp=Z,36nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,750nm,5.5s						
NJ2				LR	LR		
	comp=Z,7μm,14.2s						
NJ2				LR	LR		
	comp=Z,6μm,13.7s						
NJ2				LR	LR		
	comp=Z,8μm,15.2s						
SSE	Sheshan	37.48	35	P	P	04 59 38.3	+1.1
SSE				S	S	05 05 21.8	-2.2
SSE				pmax	pmax		
	comp=Z,35nm,1.0s						
SSE				pmax	pmax		
	comp=Z,420nm,5.2s						
SSE				LR	LR		
	comp=Z,2μm,17.5s						
SSE				LR	LR		
	comp=Z,2μm,15.7s						
GTA	Gaotai	38.22	3	⇑P	P	04 59 43.5	+0.1
GTA				pP	pP	04 59 52.6	-0.3
GTA				sP	sP	04 59 57.0	+0.2
GTA				PP	PnPn	05 01 14.8	+1.9
GTA				S	S	05 05 33.3	-1.8
GTA				ScS	ScS	05 09 51.6	-1.2
GTA				pmax	pmax		
	comp=Z,53nm,1.0s						
GTA				pmax	pmax		
	comp=Z,710nm,5.1s						
GTA				LR	LR		
	comp=Z,3μm,17.4s						
GTA				LR	LR		
	comp=Z,3μm,15.3s						
GTA				LR	LR		
	comp=Z,4μm,17.8s						
NWAO	Narrogin (SRO)	38.74	153	P	P	04 59 45.5	-2.2
	comp=Z,7.4nm,0.9s,baz=3.6,slow=7.9,SNR=1.2						
NWAO	Narrogin (SRO)	38.74	153	P	P	04 59 45.5	-2.2
NWAO				pmax	pmax		
	comp=Z,34nm,1.0s						
NWAO	Narrogin (SRO)	38.74	153	IAmb	IAmb	05 00 10.5	
	comp=Z,34nm,1.0s						
TIY	Taiyuan	39.04	19	*e*P	P	04 59 50.5	+0.2
TIY				PP	PnPn	05 01 24.5	+1.7
TIY				S	S	05 05 38.6	-9.0
TIY				pmax	pmax		
	comp=Z,19nm,0.6s						
TIY				pmax	pmax		
	comp=Z,480nm,6.5s						
TIY				LR	LR		
	comp=Z,7μm,11.7s						
TIY				LR	LR		
	comp=Z,2μm,12.7s						
TIY				LR	LR		
	comp=Z,8μm,12.9s						
H01W3	Cape Leeuwin H	39.12	158	T	T	05 41 11.1	
	baz=332,slow=76,SNR=793						
H01W2	Cape Leeuwin H	39.14	158	T	T	05 41 11.9	
	baz=332,slow=76,SNR=257						
H01W1	Cape Leeuwin H	39.14	158	T	T	05 41 12.1	
	baz=332,slow=76,SNR=828						
NIL	Nilore	39.44	328	P	P	04 59 53.5	-0.1
NIL				pmax	pmax		
	comp=Z,38nm,0.7s						
NIL	Nilore	39.44	328	P	P	04 59 53.5	-0.1
NIL				IAmb	IAmb	05 00 02.9	
	comp=Z,38nm,0.7s						
WRKA	Warakurna	39.73	133	P	P	04 59 57.3	+1.1
	baz=40,SNR=22						
KMBL	Kambalda	39.86	146	P	P	05 00 00.2	+3.1
	baz=40,SNR=4.4						
JMZ	Minamidaito 2	40.94	50	P	P	05 00 05.4	-0.8
BTO	Baotou	41.01	15	*e*P	P	05 00 07.3	+0.7
BTO				S	S	05 06 15.3	-1.7
HHC	Hu-ho-hao-te	41.66	16	*e*P	P	05 00 13.3	+1.4
HHC				sP	pP	05 00 22.3	+0.8
HHC				PP	PnPn	05 01 51.8	-1.8
HHC				S	S	05 06 29.0	+2.4
HHC				sS	pS	05 06 39.3	+1.7
HHC				SS	SS	05 09 27.4	-5.3
HHC				ScS	ScS	05 10 12.6	-0.5
HHC				pmax	pmax		
	comp=Z,40nm,1.1s						
HHC				pmax	pmax		
	comp=Z,930nm,6.4s						
HHC				LR	LR		
	comp=Z,7μm,14.5s						
HHC				LR	LR		
	comp=Z,5μm,13.5s						
HHC				LR	LR		
	comp=Z,7μm,15.3s						
WB0	Warramunga Arr	41.91	122	IAmb	IAmb	05 00 32.1	
	comp=Z,42nm,0.9s						
WRA	Warramunga Arr	41.94	122	P	P	05 00 13.3	-1.1
	comp=Z,16nm,0.7s,baz=299,slow=9.0,SNR=172						
WRA				S	S	05 06 27.1	-4.1
	comp=Z,1.5nm,1.0s,baz=290,slow=20,SNR=4.9						
WRA				LR	LR	05 21 24.5	
	comp=Z,2μm,18.9s,baz=285,slow=41						
WRA	Warramunga Arr	41.94	122	P	P	05 00 14.1	-0.4
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	Warramunga Arr	41.94	122	P	P	05 00 14.1	-0.4
WRAB	Tennant Creek	41.95	122	*c i* P	P	05 00 14.3	-0.2
WRAB				pmax	pmax		
	comp=Z,26nm,1.0s						
WRAB	Tennant Creek	41.95	122	P	P	05 00 14.4	-0.2
WRAB				IAmb	IAmb	05 00 32.6	
	comp=Z,41nm,0.8s						
WB2	Warramunga Arr	41.95	122	P	P	05 00 14.0	-0.5
	baz=42						
WB2	Warramunga Arr	41.95	122	IAmb	IAmb	05 00 32.6	
	comp=Z,41nm,0.9s						
WC3	Warramunga Arr	41.98	122	P	P	05 00 14.9	+0.2
	baz=42						
WR0	Warramunga Arr	42.12	122	P	P	05 00 15.8	-0.1
WR0				IAmb	IAmb	05 00 34.1	
	comp=Z,49nm,0.8s						
BJT	Baijiatuau	42.41	22	P	P	05 00 18.3	+0.3
BJT				pmax	pmax		
	comp=Z,50nm,0.7s						
BJT	Baijiatuau	42.41	22	P	P	05 00 18.3	+0.3
BJT				IAmb	IAmb	05 00 21.3	
	comp=Z,50nm,0.7s						
BJI	Beijing	42.43	22	P	P	05 00 19.3	+1.2
BJI				pP	pP	05 00 28.0	+0.3
BJI				PcP	PcP	05 02 09.8	-1.0
BJI				S	S	05 06 39.8	+2.1
BJI				ScS	ScS	05 10 17.0	-0.6
BJI				pmax	pmax		
	comp=Z,68nm,0.7s						
BJI				LR	LR		
	comp=Z,2μm,16.7s						
BJI				LR	LR		
	comp=Z,2μm,14.0s						
BJI				LR	LR		
	comp=Z,1μm,16.1s						
KBL	Kabul	42.44	325	P	P	05 00 19.5	+0.9
KBL				pmax	pmax		
	comp=Z,11nm,0.9s						
KBL	Kabul	42.44	325	P	P	05 00 19.4	+0.9
KSH	Kashi	42.89	336	P	P	05 00 21.1	-0.9
KSH				S	S	05 06 43.3	-1.6
KSH				sS	sS	05 07 00.3	-0.2
KSH				pmax	pmax		
	comp=Z,26nm,1.0s						
KSH				pmax	pmax		
	comp=Z,330nm,5.0s						
KSH				LR	LR		
	comp=Z,3μm,19.2s						
KSH				LR	LR		
	comp=Z,2μm,16.3s						
KSH				LR	LR		
	comp=Z,4μm,20.1s						
FORT	Forrest	43.16	140	P	P	05 00 26.7	+2.5
	baz=43,SNR=16						
ASAR	Alice Springs	43.30	127	P	P	05 00 25.6	+0.1
	comp=Z,10nm,0.8s,baz=300,slow=7.5,SNR=86						
ASAR				PcP	PcP	05 02 15.3	+1.1
	comp=Z,1.6nm,0.7s,baz=324,slow=4.6,SNR=1.6						
ASAR				S	S	05 06 49.1	-2.0
	comp=Z,6.6nm,1.3s,baz=299,slow=13,SNR=7.4						
ASAR	Alice Springs	43.30	127	P	P	05 00 24.9	-0.6
AS31	Alice Springs	43.30	127	P	P	05 00 24.9	-0.6
WMQ	Urumqi	43.39	350	P	P	05 00 27.3	+1.3
WMQ				pP	pP	05 00 34.6	-0.9
WMQ				sP	sP	05 00 42.6	+3.2
WMQ				PcP	PcP	05 02 16.0	+1.9
WMQ				S	S	05 06 53.0	+1.0

WMQ ScS **ScS** **05 10 22.5 -1.1**
WMQ pmax pmax
comp=Z,40nm,1.1s
WMQ pmax pmax
comp=Z,310nm,5.3s
WMQ LR LR
comp=Z,850nm,14.5s
WMQ LR LR
comp=Z,1μm,21.5s
WSAR Wadi Sarin 43.45 303 P **P** **05 00 26.3 -0.3**
comp=Z,5.8nm,0.9s,baz=101,slow=10,SNR=2.2
WSAR LR LR 05 17 08.8
comp=Z,749nm,20.7s,baz=132,slow=34
JSU Suzuyama 43.59 43 P **P** **05 00 27.7 0.0**
JSU IAmb IAmb 05 00 29.5
comp=Z,110nm,1.4s
JAY Jayapura 43.60 95 P **P** **05 00 27.9 -0.2**
comp=Z,19nm,1.1s,baz=0.6,slow=18,SNR=2.3
DL2 Dalian 43.76 28 P **P** **05 00 29.6 +0.7**
DL2 S **S** **05 06 59.6 +2.3**
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 pmax pmax
comp=Z,580nm,5.1s
DL2 LR LR
comp=Z,1μm,15.2s
DL2 LR LR
comp=Z,900nm,14.2s
DL2 LR LR
comp=Z,3μm,15.1s
TARG Taragay, Kyrgy 44.09 339 P **P** **05 00 31.6 -0.4**
TARG IAmb IAmb 05 01 02.9
comp=Z,49nm,0.9s
PRZ Przheval'sk 44.55 340 P **P** **05 00 35.0 -0.4**
PRZ pmax pmax
comp=Z,104nm,1.6s
PRZ Przheval'sk 44.55 340 P **P** **05 00 35.0 -0.4**
SHLS Shalkode 44.80 342⇑ *i P* **P** **05 00 37.8 +0.5**
comp=Z,18nm,1.1s,baz=342
SHLS *e*PcP **PcP** **05 02 20.0 +1.0**
baz=342
SHLS *e*S **S** **05 07 12.4 -0.3**
baz=342
SHLS LR LR 05 22 16.7
comp=Z,289nm,13.2s,baz=342
SHLS Shalkode 44.80 342*c* *i P* **P** **05 00 37.8 +0.5**
SHLS *e* 05 02 20.0
SHLS *e*S **S** **05 07 12.3 -0.3**
SHLS pmax pmax
comp=Z,18nm,1.1s
TJN Taejon 44.85 35*c* *i P* **P** **05 00 37.6 0.0**
JNU Nakatsue 44.87 41 P **P** **05 00 37.6 -0.3**
comp=Z,39nm,0.9s,baz=232,slow=6.5,SNR=6.9
JNU LR LR 05 19 37.1
comp=Z,3μm,20.9s,baz=241,slow=36
JNU Nakatsue 44.87 41 P **P** **05 00 37.9 0.0**
JNU IAmb IAmb 05 00 45.7
comp=Z,59nm,1.0s
UZB Uzynbulak 44.94 341⇑ *i P* **P** **05 00 39.7 +1.3**
comp=Z,6.5nm,0.8s,baz=341
UZB *e*S **S** **05 07 15.8 +1.2**
baz=341
UZB Uzynbulak 44.94 341*c* *i P* **P** **05 00 39.7 +1.3**
UZB *e*S **S** **05 07 15.8 +1.2**
UZB pmax pmax
comp=Z,6.0nm,0.8s
PDGK Podgornoye 44.95 342 P **P** **05 00 38.4 -0.1**
GAR Garm 45.05 330 P **P** **05 00 39.5 +0.1**
SATY Saty 45.06 340⇑ *i P* **P** **05 00 40.7 +1.2**
comp=Z,13nm,0.8s,baz=340
SATY *e*PcP **PcP** **05 02 21.1 +1.2**
baz=340
SATY *e*S **S** **05 07 17.7 +1.2**
baz=340
SATY LR LR 05 21 06.8
comp=Z,116nm,11.4s,baz=340
SATY Saty 45.06 340*c* *i P* **P** **05 00 40.6 +1.2**
SATY *e* 05 02 21.0
SATY *e*S **S** **05 07 17.6 +1.2**
SATY pmax pmax
comp=Z,13nm,0.8s
ULHL Ulahol 45.12 338 P **P** **05 00 40.8 +0.8**
SNR=11
HJU Haeju 45.14 32 P **P** **05 00 40.0 +0.1**
INCN Inchon 45.22 33 P **P** **05 00 39.9 -0.8**
INCN pmax pmax
comp=Z,72nm,1.3s
INCN Inchon 45.22 33 P **P** **05 00 39.9 -0.8**
INCN IAmb IAmb 05 00 47.6
comp=Z,72nm,1.3s
KPKS Kokpek 45.33 341⇑ *i P* **P** **05 00 42.5 +0.9**
comp=Z,16nm,1.2s,baz=341
KPKS Kokpek 45.33 341*c* *i P* **P** **05 00 42.4 +0.9**
KPKS pmax pmax
comp=Z,16nm,1.2s
KZA Kyzart 45.35 337 P **P** **05 00 43.1 +1.0**
SNR=6.8
CHGR Chuyangaron 45.38 329 P **P** **05 00 41.6 -0.4**
BOOM Boomskoye usch 45.44 338 P **P** **05 00 43.1 +0.6**
BOOM pmax pmax
comp=Z,31nm,1.0s
BOOM Boomskoye usch 45.44 338 P **P** **05 00 43.1 +0.6**
BOOM IAmb IAmb 05 01 05.5
comp=Z,31nm,0.9s
TNSS Tian-Shan 45.54 339 *e P* **P** **05 00 44.5 +0.9**
baz=339
TNSS Tian-Shan 45.54 339 *e P* **P** **05 00 44.5 +0.9**
MDOK Medeo 45.62 339 *i P* **P** **05 00 45.2 +1.3**
baz=339
MDOK *e*S **S** **05 07 26.0 +1.4**
comp=Z,378nm,5.8s,baz=339
MDOK LR LR 05 21 26.3
comp=Z,903nm,15.8s,baz=339
MDOK Medeo 45.62 339 *i P* **P** **05 00 45.2 +1.3**
MDOK *e*S **S** **05 07 25.9 +1.4**
MDOK smax smax
comp=N,378nm,5.8s
AAA Alma-Ata 45.71 339 *e P* **P** **05 00 45.7 +1.3**
comp=N,17nm,0.7s,baz=339
AAA *e*S **S** **05 07 26.9 +1.3**
baz=339
AAA LR LR 05 21 22.2
comp=N,798nm,16.3s,baz=339
AAA Alma-Ata 45.71 339 *e P* **P** **05 00 45.7 +1.3**
AAA *e*S **S** **05 07 26.9 +1.3**
AAA pmax pmax
comp=Z,17nm,0.7s
MTBS Maitube 45.81 339⇑ *e P* **P** **05 00 45.9 +0.5**
baz=339
MTBS Maitube 45.81 339⇑ *e P* **P** **05 00 45.8 +0.5**
KSAR Wonju Array Be 45.89 34 P **P** **05 00 45.5 -0.4**
KSAR Wonju Array Be 45.89 34 P **P** **05 00 45.5 -0.4**
PYAG Pyongyang 45.91 31 P **P** **05 00 46.0 0.0**
PYAG pP **pP** **05 00 54.0 -1.6**
PYAG S S 05 07 38.0 +10
KSRS Korea Array 45.92 34 P **P** **05 00 46.1 0.0**
comp=Z,70nm,0.9s,baz=224,slow=8.9,SNR=155
KSRS LR LR 05 20 32.2
comp=Z,2μm,20.1s,baz=223,slow=37
KS19 Wonju Array Si 45.92 34 P **P** **05 00 46.0 -0.2**
TKM2 Tokmak 2 45.94 338 P **P** **05 00 47.5 +1.1**
SNR=27
KBK Karagaybulak 45.96 337 P **P** **05 00 48.4 +1.7**
SNR=9.3
AML Almayashu 46.02 336 P **P** **05 00 48.6 +1.2**
SNR=23
SUJ Sinuiju 46.07 29 P **P** **05 00 46.7 -0.5**
SUJ S **S** **05 07 27.4 -3.3**
PYS Pyongsong 46.10 31 P **P** **05 00 47.4 -0.1**
AAK Ala-Archa 46.12 337*c* *i P* **P** **05 00 49.4 +1.5**
AAK pmax pmax
comp=Z,42nm,1.3s
FRU1 Bishkek 46.22 337 P **P** **05 00 48.9 +0.4**
FRU1 pmax pmax
comp=Z,44nm,0.5s
FRU1 Bishkek 46.22 337 P **P** **05 00 48.9 +0.4**
CHKK Chushkaly 46.24 340 *e P* **P** **05 00 48.6 0.0**
baz=340
CHKK Chushkaly 46.24 340 *e P* **P** **05 00 48.6 0.0**
CHMS Chumysh 46.33 337 P **P** **05 00 50.6 +1.3**
SNR=5.3
EKS2 Erkin-Say 46.43 336 P **P** **05 00 51.7 +1.5**
SNR=20
KUU Kurty 46.51 339⇑ *i P* **P** **05 00 51.0 +0.3**
comp=Z,25nm,1.3s,baz=339
KUU *e*S **S** **05 07 37.5 +0.5**
baz=339
KUU LR LR 05 21 54.8
comp=Z,506nm,12.8s,baz=339
KUU Kurty 46.51 339*c* *i P* **P** **05 00 51.0 +0.3**
KUU *e*S **S** **05 07 37.5 +0.5**
KUU pmax pmax
comp=Z,25nm,1.3s
HRA Herat 46.53 319 P **P** **05 00 51.0 -0.3**
USP Ospenovka 46.65 337 P **P** **05 00 52.9 +1.0**
SNR=25
QIS Mount Isa 46.71 120 P **P** **05 00 53.0 +0.3**
baz=47,SNR=7.6
SGDS Sogindy 46.76 337 *e P* **P** **05 00 53.4 +0.7**
comp=Z,3.3nm,0.8s,baz=337
SGDS *i* S **S** **05 07 41.4 +0.7**
baz=337
SGDS Sogindy 46.76 337 *e P* **P** **05 00 53.4 +0.7**
SGDS *i* S **S** **05 07 41.4 +0.7**
SGDS pmax pmax
comp=Z,3.0nm,0.8s
TDK Taldyqorghan 46.80 342 *e P* **P** **05 00 53.2 +0.3**
comp=Z,8.3nm,0.5s,baz=342
TDK *i* S **S** **05 07 41.4 +0.3**
baz=342
TDK LR LR 05 22 12.7
comp=Z,942nm,18.4s,baz=342
TDK Taldyqorghan 46.80 342 *e P* **P** **05 00 53.2 +0.3**
TDK *i* S **S** **05 07 41.4 +0.3**
TDK pmax pmax
comp=Z,8.0nm,0.5s
TDK MLR MLR
comp=Z,943nm,18.0s
WOSN Wonsan 46.87 32 P **P** **05 00 53.8 +0.3**
SNY Shenyang 46.99 27⇑ P **P** **05 00 54.1 -0.3**
SNY S **S** **05 07 46.5 +2.7**
SNY pmax pmax
comp=Z,47nm,1.0s
SNY pmax pmax
comp=Z,490nm,3.8s
SNY LR LR
comp=Z,3μm,15.7s
SNY LR LR
comp=Z,2μm,14.9s
SNY LR LR
comp=Z,6μm,14.9s
JMN Monobe 47.23 43 P **P** **05 00 56.1 -0.5**
SONM Songino Array 47.24 8 P **P** **05 00 56.7 +0.2**
comp=Z,50nm,0.7s,baz=191,slow=8.9,SNR=46
SONM PcP **PcP** **05 02 27.8 +0.3**
comp=Z,11nm,0.7s,baz=196,slow=3.5,SNR=4.7
SONM LR LR 05 23 34.0
comp=Z,8μm,18.3s,baz=190,slow=40
SONM Songino Array 47.24 8 P **P** **05 00 56.2 -0.3**
TAS Tashkent 47.34 331 P **P** **05 00 57.6 +0.3**
TAS pmax pmax
comp=Z,63nm,0.5s
TAS Tashkent 47.34 331 P **P** **05 00 57.6 +0.3**
MK31 Makanchi Array 47.36 346 *i P* **P** **05 00 57.7 +0.4**
MK31 Makanchi Array 47.36 346 IAmb IAmb 05 01 21.3
comp=Z,44nm,1.0s
MKAR Makanchi Array 47.36 346 P **P** **05 00 57.8 +0.5**
comp=Z,20nm,0.6s,baz=159,slow=7.6,SNR=116
MKAR LR LR 05 24 51.1
comp=Z,1μm,21.0s,baz=153,slow=41
MKAR Makanchi Array 47.36 346 P **P** **05 00 57.0 -0.4**
ULN Ulaanbaatar 47.37 9*c* *i P* **P** **05 00 57.9 +0.4**
ULN pmax pmax
comp=Z,64nm,1.3s
ULN Ulaanbaatar 47.37 9 P **P** **05 00 56.9 -0.6**
MAKZ Makanchi 47.45 346 P **P** **05 00 57.9 -0.1**
MAKZ pmax pmax
comp=Z,33nm,0.9s
MAKZ Makanchi 47.45 346 P **P** **05 00 57.9 -0.1**
MAKZ IAmb IAmb 05 01 24.6
comp=Z,33nm,0.9s
HHU Hamhung 47.48 32 P **P** **05 00 58.3 0.0**
IUG Iuzhnay 47.64 333⇑ *i P* **P** **05 01 00.7 +1.1**
comp=Z,22nm,0.8s,baz=333
IUG *i* S **S** **05 07 54.3 +1.0**
comp=Z,232nm,4.6s,baz=333
IUG LR LR 05 22 19.2
comp=Z,274nm,14.8s,baz=333
IUG Iuzhnay 47.64 333*c* *i P* **P** **05 01 00.7 +1.1**
IUG *i* S **S** **05 07 54.3 +1.0**
IUG pmax pmax
comp=Z,22nm,0.8s
IUG smax smax
comp=E,232nm,4.6s
IUG MLR MLR
comp=Z,274nm,15.0s
DZA Taraz 47.65 334⇑ *i P* **P** **05 01 00.1 +0.4**
comp=Z,11nm,0.7s,baz=334
DZA *i* S **S** **05 07 53.9 +0.5**
baz=334
DZA LR LR 05 21 56.4
comp=Z,208nm,13.9s,baz=334
DZA Taraz 47.65 334*c* *i P* **P** **05 01 00.0 +0.4**
DZA *i* S **S** **05 07 53.8 +0.5**
DZA pmax pmax
comp=Z,11nm,0.7s
DZA MLR MLR
comp=Z,208nm,14.0s
COEN Coen 47.89 110 P **P** **05 01 01.8 -0.1**
baz=48,SNR=6.1
KK31 Karatay Array 48.18 334 *i P* **P** **05 01 04.2 +0.5**
KKAR Karatay Array 48.18 334 P **P** **05 01 03.5 -0.2**
KKAR Karatay Array 48.18 334 P **P** **05 01 03.5 -0.2**
BTLS Baital 48.33 338⇑ *i P* **P** **05 01 05.1 +0.3**
comp=Z,5.1nm,0.9s,baz=338
BTLS *e*PP **PP** **05 02 57.9 +0.3**
baz=338
BTLS *e*S **S** **05 08 03.3 +0.5**
baz=338
BTLS LR LR 05 23 01.5
comp=Z,337nm,15.9s,baz=338
BTLS Baital 48.33 338*c* *i P* **P** **05 01 05.1 +0.3**
BTLS *e* 05 02 57.8
BTLS *e*S **S** **05 08 03.3 +0.5**
BTLS pmax pmax
comp=Z,5.0nm,0.9s
DGZ Jazzator, Alta 49.16 352*c* *i P* **P** **05 01 12.4 +1.1**
DGZ pmax pmax
comp=Z,48nm,1.3s
JWT Wachi 49.16 42 IAmb IAmb 05 01 25.1
comp=Z,28nm,0.9s
ZAK Zakamensk 49.38 5 *e P* **P** **05 01 12.7 -0.2**
ZAK pmax pmax
comp=Z,17nm,1.0s
CN2 Changchun 49.39 27 *e P* **P** **05 01 12.3 -0.7**
CN2 PP **PP** **05 03 06.5 -0.8**
CN2 *e*S **S** **05 08 12.3 -5.5**
CN2 pmax pmax
comp=Z,80nm,1.3s
CN2 LR LR
comp=Z,280nm,15.1s
CN2 LR LR
comp=Z,2μm,17.3s
CN2 LR LR
comp=Z,4μm,16.4s
BBOO Buckleboo 49.77 136 P **P** **05 01 17.4 +1.3**
baz=50,SNR=9.2
MTSU Mount Surprise 50.08 115 P **P** **05 01 19.6 +0.9**
baz=50,SNR=5.7
INU Inuyama 50.28 43 P **P** **05 01 19.1 -0.8**
INU IAmb IAmb 05 01 37.2
comp=Z,59nm,1.4s
MOY Mondy 50.50 3 *e P* **P** **05 01 22.3 +0.9**
MOY pmax pmax
comp=Z,62nm,2.7s
JGF Kuroka 50.66 43 IAmb IAmb 05 01 36.3
comp=Z,26nm,0.8s
TLY Talaya 50.70 5 P **P** **05 01 23.0 +0.1**
comp=Z,14nm,0.6s,baz=236,slow=4.0,SNR=16
TLY Talaya 50.70 5 *e P* **P** **05 01 23.8 +1.0**
TLY *e*S S 05 08 46.3 +10
TLY pmax pmax
comp=Z,69nm,0.9s
TLY MLR MLR
comp=Z,9μm,16.0s
TLY Talaya 50.70 5 P **P** **05 01 23.0 +0.1**
TLY IAmb IAmb 05 01 29.0
comp=Z,22nm,0.8s
PMG Port Moresby 50.79 103⇓ *e P* **P** **05 01 24.0 -0.1**
PMG pmax pmax
comp=Z,13nm,0.7s
SEM Semipalatinsk 51.22 346⇑ *i P* **P** **05 01 27.0 0.0**
comp=Z,16nm,0.8s,baz=346
SEM LR LR 05 25 14.9
comp=Z,261nm,14.8s,baz=346
SEM Semipalatinsk 51.22 346*c* *i P* **P** **05 01 27.0 0.0**
SEM pmax pmax
comp=Z,15nm,0.8s
IRK Irkutsk 51.32 6 *e P* **P** **05 01 27.3 -0.1**
IRK *e* 05 03 23.4
IRK pmax pmax
comp=Z,73nm,2.6s
GEYT Alibeck 51.33 320 P **P** **05 01 27.5 -0.3**
comp=Z,9.4nm,0.8s,baz=159,slow=8.7,SNR=14
GEYT LR LR 05 26 57.5
comp=Z,792nm,18.4s,baz=145,slow=40
GEYT Alibeck 51.33 320 P **P** **05 01 27.5 -0.3**
GYA0B ALIBECK ARRAY 51.33 320 IAmb IAmb 05 01 51.8
comp=Z,26nm,0.9s
HIA Hailar 51.74 19 P **P** **05 01 30.3 -0.3**
HIA pmax pmax
comp=Z,36nm,0.8s
HIA Hailar 51.74 19 P **P** **05 01 30.3 -0.3**
HIA IAmb IAmb 05 01 33.2
comp=Z,36nm,0.8s
MAJO Matsushiro 51.75 42*c* *i P* **P** **05 01 30.3 -0.6**
MAJO pmax pmax
comp=Z,21nm,1.5s
MAJO Matsushiro 51.75 42 P **P** **05 01 29.8 -1.1**
MAT Matsushiro 51.75 42 P **P** **05 01 30.1 -0.8**
MAT S **S** **05 08 51.6 +0.8**
MJAR Matsushiro Arr 51.75 42 P **P** **05 01 30.2 -0.8**
comp=Z,3.7nm,0.6s,baz=226,slow=7.0,SNR=17
MJAR LR LR 05 23 39.5
comp=Z,932nm,21.6s,baz=215,slow=36
MJAR Matsushiro Arr 51.75 42 P **P** **05 01 29.6 -1.4**
KURBB Kurchatov Arra 51.85 345 P **P** **05 01 31.4 0.0**
comp=Z,25nm,0.8s,baz=167,slow=7.1,SNR=100
KURK Kurchatov 51.91 345*c* *i P* **P** **05 01 32.0 +0.1**
KURK pmax pmax
comp=Z,57nm,1.3s
KURK Kurchatov 51.91 345 P **P** **05 01 31.5 -0.3**
MDJ Mudanjiang 51.95 29 P **P** **05 01 32.9 +0.6**
MDJ PP **PP** **05 03 29.3 -1.2**
MDJ PcS **PcS** **05 06 37.3 -5.2**
MDJ S **S** **05 08 58.9 +5.6**
MDJ ScS **ScS** **05 11 11.5 -8.5**
MDJ pmax pmax
comp=Z,33nm,1.3s
MDJ pmax pmax
comp=Z,980nm,4.2s
MDJ LR LR
comp=Z,4μm,16.4s
MDJ LR LR
comp=Z,2μm,17.9s
MDJ LR LR
comp=Z,7μm,16.8s
MDJ Mudanjiang 51.95 29 P **P** **05 01 32.7 +0.4**
MDJ IAmb IAmb 05 01 36.9
comp=Z,37nm,0.9s
VLA Vladivostok 52.04 32*c* *i P* **P** **05 01 33.8 +0.8**
VLA pmax pmax
comp=Z,76nm,1.0s
HTT Hallett 52.11 135 P **P** **05 01 35.4 +1.6**
baz=52,SNR=6.8
USRK Ussuriysk Ar. 52.85 31 P **P** **05 01 39.5 +0.6**
comp=Z,46nm,0.9s,baz=230,slow=5.1,SNR=99
USRK LR LR 05 24 33.9
comp=Z,3μm,21.7s,baz=213,slow=36
OPO Ambohidratompo 52.91 246 P **P** **05 01 40.9 +0.8**
comp=Z,14nm,1.0s,baz=37,slow=7.8,SNR=9.0
QLP Quilpie 52.97 125 P **P** **05 01 41.6 +1.5**
baz=53,SNR=19
ABPO Ambohimpanom 53.00 245 P **P** **05 01 42.0 +1.3**
ABPO pmax pmax
comp=Z,18nm,1.2s
ABPO Ambohimpanom 53.00 245 P **P** **05 01 42.0 +1.3**
BRZS Berezniki 53.03 340⇑ *i P* **P** **05 01 40.5 +0.3**
comp=Z,13nm,1.4s,baz=340
BRZS LR LR 05 26 14.3
comp=Z,236nm,12.1s,baz=340
BRZS Berezniki 53.03 340*c* *i P* **P** **05 01 40.4 +0.3**
BRZS pmax pmax
comp=Z,13nm,1.4s
STKA Stephens Creek 53.25 132 P **P** **05 01 43.1 +1.0**
comp=Z,16nm,0.7s,baz=306,slow=7.7,SNR=39
STKA LR LR 05 26 34.7
comp=Z,3μm,21.6s,baz=295,slow=38
STKA Stephens Creek 53.25 132 P **P** **05 01 43.5 +1.4**
baz=53,SNR=16
STKA Stephens Creek 53.25 132 P **P** **05 01 42.6 +0.5**
ZAA0 Zalesovo Array 53.68 351 P **P** **05 01 44.5 -0.3**
ZALV Zalesovo Beam 53.68 351 P **P** **05 01 44.9 +0.1**
comp=Z,30nm,0.6s,baz=174,slow=6.2,SNR=126
ZALV LR LR 05 29 51.1
comp=Z,1μm,19.5s,baz=170,slow=42
ZALV Zalesovo Beam 53.68 351 P **P** **05 01 44.3 -0.5**
TEY Ternei 55.85 33⇓ *e P* **P** **05 01 59.7 -1.0**
TEY pmax pmax
comp=Z,10.0nm,1.1s
TEY MLR MLR
comp=Z,200nm,13.0s
CMSA Cobar Meteorol 56.19 130 P **P** **05 02 05.0 +1.6**
baz=56,SNR=27
BVAR Borovoye Array 56.37 341 P **P** **05 02 03.9 -0.4**
comp=Z,10.0nm,0.8s,baz=146,slow=11,SNR=42
BRVK Borovoye 56.43 341 P **P** **05 02 04.5 -0.3**
BRVK pmax pmax
comp=Z,37nm,1.1s
BRVK Borovoye 56.43 341 P **P** **05 02 04.5 -0.3**
BRVK IAmb IAmb 05 02 12.4
comp=Z,37nm,1.1s
RMQ Roma 56.69 123 P **P** **05 02 09.5 +2.4**
baz=57,SNR=6.1
AB31 Akbulak array 57.63 332 P **P** **05 02 11.9 -1.4**
ABKAR Akbulak array 57.63 332 P **P** **05 02 12.5 -0.8**
ZEA Zeya 58.03 21 *e P* **P** **05 02 16.9 +0.8**
ZEA *e* 05 02 26.5
ZEA *e*PPP PPP 05 05 50.0
ZEA *e*S **S** **05 10 22.0 +7.5**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA pmax pmax
comp=Z,500nm,6.0s
ZEA pmax pmax
comp=Z,300nm,11.0s
ZEA smax smax
comp=N,600nm,9.0s
ZEA MLR MLR
comp=E,2μm,15.0s
ZEA MLR MLR
comp=Z,4μm,15.0s
ZEA MLR MLR
comp=N,3μm,14.0s
BOD Bodaibo 58.12 10 *e P* **P** **05 02 16.6 0.0**
BOD pmax pmax
comp=Z,51nm,1.3s
EIDS Eidsvold 58.29 121 P **P** **05 02 19.8 +1.4**
baz=58,SNR=7.2
EIDS Eidsvold 58.29 121 P **P** **05 02 18.9 +0.5**
ASAJ Asahikawa 58.73 37 P **P** **05 02 21.0 -0.2**
comp=Z,26nm,1.0s,baz=229,slow=10.0,SNR=4.3
ASAJ Asahikawa 58.73 37 P **P** **05 02 21.7 +0.6**
ASAJ pmax pmax
comp=Z,36nm,1.0s
JKA Kamikawa-asahi 58.73 37 P **P** **05 02 21.7 +0.6**
FURI Furi 58.79 280 P **P** **05 02 23.4 +0.9**
FURI IAmb IAmb 05 03 34.9
comp=Z,19nm,0.8s
AKTO Aktyubinsk 59.35 332 P **P** **05 02 24.5 -0.8**
comp=Z,7.6nm,0.9s,baz=142,slow=5.7,SNR=12
GRNR Gornyy 59.56 28⇑ *i P* **P** **05 02 27.5 +0.7**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=N,1μm,14.0s
GRNR MLR MLR
comp=E,1μm,14.0s
GRNR MLR MLR
comp=Z,3μm,15.0s
AKT Akhty 59.98 319 *e P* P 05 02 37.7 +7.7
AKT *e* 05 03 19.8
AKT pmax pmax
comp=Z,39nm,1.3s
KMBO Kilima Mbogo 60.02 268 P **P** **05 02 31.1 +0.2**
comp=Z,0.7nm,0.5s,baz=79,slow=6.5,SNR=4.4

KMBO LR LR 05 27 11.5
comp=Z,1μm,18.5s,baz=89,slow=35
KMBO Kilima Mbogo 60.02 268 P **P** **05 02 31.5 +0.6**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 60.02 268 P **P** **05 02 31.5 +0.6**
YSS Yuzh-Sakhalins 60.42 34αeP **P** **05 02 33.1 +0.4**
YSS e 05 02 45.3
YSS eS **S** **05 10 46.7 +1.1**
YSS pmax pmax
comp=Z,500nm,6.0s
YSS pmax pmax
comp=Z,70nm,1.1s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,800nm,17.0s
YSS MLR MLR
comp=E,600nm,15.0s
ARMA Armidale 60.44 126 P **P** **05 02 35.9 +2.6**
baz=60,SNR=10
ARMA Armidale 60.44 126 P **P** **05 02 35.9 +2.6**
ARMA IAmb IAmb 05 02 54.5
comp=Z,25nm,0.9s
YUK Yuzh-Kuril'sk 60.68 38 eP P 05 02 29.6 -4.9
YUK eS **S** **05 10 42.4 -6.6**
YUK MLR MLR
comp=N,750nm,15.0s
YUK MLR MLR
comp=Z,2μm,15.0s
YUK MLR MLR
comp=E,2μm,14.0s
MAK Makhachkala 60.85 320 eP **P** **05 02 34.1 -1.6**
MAK e 05 04 48.5
MAK eS **S** **05 10 50.3 -0.9**
MAK pmax pmax
comp=Z,244nm,1.2s
GROC Groznyy 62.06 320 eP **P** **05 02 44.3 +0.4**
GROC e*PP **pP** **05 02 54.1 +0.3**
GROC e*SP **sP** **05 02 58.4 +0.8**
GROC eS **S** **05 11 06.2 -0.5**
GROC pmax pmax
comp=Z,97nm,1.3s
KUR Kuril'sk 62.52 38 P **P** **05 02 44.6 -2.3**
KUR 05 03 24.4
KUR MLR MLR
comp=Z,1μm,13.0s
AKH Akhalkalaki 62.80 317 P **P** **05 02 49.3 +0.2**
AKH pmax pmax
comp=Z,23nm,1.1s
AKH Akhalkalaki 62.80 317 P **P** **05 02 49.3 +0.2**
AKH IAmb IAmb 05 03 14.6
comp=Z,23nm,1.1s
SVE Sverdlovsk 62.81 338 eP **P** **05 02 48.8 +0.2**
SVE eS **S** **05 11 15.3 -0.3**
SVE pmax pmax
comp=Z,54nm,1.2s
SVE MLR MLR
comp=Z,1μm,17.0s
ZEI Tsey 63.12 319 eP **P** **05 02 50.7 -0.5**
ZEI pmax pmax
comp=Z,17nm,1.0s
MARD Mardin 63.14 312 IAmb IAmb 05 03 15.7
comp=Z,25nm,1.0s
ARU Arti 63.30 337 P **P** **05 02 50.7 -1.3**
comp=Z,2.5nm,0.4s,baz=167,slow=9.4,SNR=8.1
ARU Arti 63.30 337c iP **P** **05 02 51.4 -0.5**
ARU 05 03 28.2
ARU S **S** **05 11 23.1 +1.3**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 63.30 337 P **P** **05 02 50.6 -1.3**
ARU IAmb IAmb 05 03 01.9
comp=Z,32nm,1.0s
HNR Honiara 63.30 101 P **P** **05 02 51.9 -0.8**
comp=Z,74nm,0.7s,baz=256,slow=4.2
HNR Honiara 63.30 101 P **P** **05 02 52.1 -0.7**
HNR pmax pmax
comp=Z,107nm,0.9s
HNR Honiara 63.30 101 P **P** **05 02 52.0 -0.7**
KBZ Khabaz 64.18 319 P **P** **05 02 57.8 -0.2**
comp=Z,9.9nm,0.8s,baz=131,slow=6.3,SNR=24
KBZ LR LR 05 35 24.8
comp=Z,207nm,18.2s,baz=118,slow=40
KIV Kislovodsk 64.42 319 eP **P** **05 02 59.5 -0.2**
KIV eS **S** **05 11 36.2 -0.1**
KIV eSS **SS** **05 15 47.3 +0.4**
KIV pmax pmax
comp=Z,74nm,1.1s
KIV pmax pmax
comp=Z,48nm,4.8s
KIV Kislovodsk 64.42 319 P **P** **05 02 59.3 -0.4**
YAK Yakutsk 65.52 16 P **P** **05 03 05.5 -0.8**
comp=Z,23nm,0.5s,baz=231,slow=1.7,SNR=12
YAK Yakutsk 65.52 16c iP **P** **05 03 05.9 -0.4**
YAK e*PP **pP** **05 03 11.8 -4.5**
YAK eS **S** **05 11 48.3 -0.6**
YAK e*SS **pS** **05 12 02.9 +1.7**
YAK eSS **SS** **05 16 07.0 +4.0**
YAK pmax pmax
comp=Z,109nm,1.3s
YAK pmax pmax
comp=N,68nm,1.3s
YAK pmax pmax
comp=E,40nm,1.4s
YAK pmax pmax
comp=Z,114nm,3.7s
YAK pmax pmax
comp=N,141nm,3.4s
YAK pmax pmax
comp=E,126nm,3.6s
YAK smax smax
comp=N,347nm,4.1s
YAK smax smax
comp=E,120nm,3.6s
YAK MLR MLR
comp=Z,4μm,23.0s
YAK MLR MLR
comp=N,3μm,18.0s
YAK MLR MLR
comp=E,2μm,18.0s
YAK Yakutsk 65.52 16 P **P** **05 03 05.2 -1.1**
GAZ Gaziantep 65.78 311 IAmb IAmb 05 03 32.9
comp=Z,42nm,1.2s
SOC Sochi 66.23 318 eP **P** **05 03 09.7 -1.6**
SOC e 05 05 36.9
SOC ePPP PPP 05 07 11.9
SOC eS **S** **05 11 54.4 -3.9**
SOC eSS **SS** **05 16 11.9 -3.0**
SOC pmax pmax
comp=Z,23nm,0.8s
SOC MLR MLR
comp=Z,382nm,21.0s
MBAR Mbarara 66.52 269ceP **P** **05 03 16.6 +2.7**
MBAR pmax pmax
comp=Z,13nm,1.7s
MBAR Mbarara 66.52 269 P **P** **05 03 14.2 +0.3**
MBAR IAmb IAmb 05 03 23.6
comp=Z,27nm,1.4s
TOKA Tokat 67.32 314 P **P** **05 03 19.1 +0.7**
CSS Mathiatis 68.17 307 P **P** **05 03 24.9 +1.1**
CSS IAmb IAmb 05 03 48.4
comp=Z,29nm,1.1s
VRH Novokhopyorsk 68.24 326 eP **P** **05 03 22.4 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KIRV Kirov 68.43 335 P **P** **05 03 24.1 -0.7**
comp=Z,9.6nm,0.5s,baz=236,slow=4.6,SNR=4.6
NRIK Noril'sk 68.45 356 P **P** **05 03 24.2 -0.6**
comp=Z,18nm,0.8s,baz=126,slow=4.8,SNR=16
NRIK LR LR 05 37 53.9
comp=Z,1μm,18.4s,baz=178,slow=40
BRTR Keskin Array B 69.22 312 P **P** **05 03 29.2 -1.1**
comp=Z,3.5nm,0.8s,baz=131,slow=7.3,SNR=22
BRTR LR LR 05 34 28.6
comp=Z,163nm,21.4s,baz=97,slow=36
BRTR Keskin Array B 69.22 312 P **P** **05 03 29.4 -1.0**
BRTR Keskin Array B 69.22 312 P **P** **05 03 29.4 -1.0**
VORD Divnogorie 69.51 325 eP **P** **05 03 29.7 -2.0**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 69.69 325 eP **P** **05 03 31.0 -1.8**
VSR pmax pmax
comp=Z,20nm,1.2s
SKR Severo-Kuril's 69.92 35 eP **P** **05 03 34.8 +0.5**
SKR eS **S** **05 12 39.5 -2.6**
SKR pmax pmax
comp=Z,600nm,7.2s
SKR pmax pmax
comp=Z,200nm,5.0s
SKR MLR MLR
comp=Z,700nm,17.0s
SKR MLR MLR
comp=Z,700nm,19.0s
LSZ Lusaka 70.12 253 P **P** **05 03 36.6 +0.3**
LSZ pmax pmax
comp=Z,12nm,1.2s
LSZ Lusaka 70.12 253 P **P** **05 03 36.6 +0.3**
LPSR Galich'ya Gora 70.41 327 eP **P** **05 03 36.0 -1.2**
LPSR pmax pmax
comp=Z,20nm,1.1s
SIM Simferopol' 70.47 318 eP P 05 03 46.3 +8.5
SIM pmax pmax
comp=Z,24nm,0.3s
SANVU Saraoutou 71.01 107 P **P** **05 03 39.7 -1.9**
ISP Isparta 71.07 310 P **P** **05 03 42.1 +0.4**
ISP pmax pmax
comp=Z,41nm,0.6s
ISP Isparta 71.07 310 P **P** **05 03 42.1 +0.4**
DZM Mont Dzumac 71.20 114 P **P** **05 03 42.6 -0.2**
comp=Z,9.8nm,1.0s,baz=158,slow=16,SNR=3.6
DZM Mont Dzumac 71.20 114 eS **S** **05 12 55.5 -2.8**
comp=Z,1μm,25.1s
DZM Mont Dzumac 71.20 114 eLR LR 05 25 29.1
comp=Z,2μm,23.2s
DZM Mont Dzumac 71.20 114 IAmb IAmb 05 03 47.3
comp=Z,60nm,1.6s
MA2 Magadan 71.42 26 P **P** **05 03 43.7 +0.5**
MA2 pmax pmax
comp=Z,29nm,0.7s
MA2 Magadan 71.42 26 P **P** **05 03 43.7 +0.5**
MA2 IAmb IAmb 05 03 45.5
comp=Z,29nm,0.7s
PRGR Permogore 71.76 337 eP P 05 03 36.5 -8.7
PRGR pmax pmax
comp=Z,93nm,1.0s
PEA0B Petropavlovsk- 71.81 34 P **P** **05 03 45.2 -0.6**
PEA0B pmax pmax
comp=Z,18nm,1.0s
PEA0B Petropavlovsk- 71.81 34 P **P** **05 03 45.2 -0.6**
PETK Petropavlovsk- 71.81 34 P **P** **05 03 45.0 -0.7**
comp=Z,4.8nm,0.7s,baz=195,slow=4.2,SNR=11
PETK LR LR 05 39 09.2
comp=Z,1μm,18.5s,baz=243,slow=39
PETK Petropavlovsk- 71.81 34 P **P** **05 03 45.6 -0.2**
PETK Petropavlovsk- 71.81 34 P **P** **05 03 45.6 -0.2**
PET Petropavlovsk 72.30 34c iP **P** **05 03 48.3 -0.4**
PET eS **S** **05 13 13.4 +3.8**
PET e 05 13 56.2
PET eSS **SS** **05 17 52.0 +3.9**
PET pmax pmax
comp=Z,400nm,17.0s
PET pmax pmax
comp=Z,400nm,12.9s
PET MLR MLR
comp=Z,1μm,17.0s
PET MLR MLR
comp=Z,1μm,17.0s
MOS Moscow 72.45 329 eP **P** **05 03 53.5 +4.0**
MOS e 05 04 02.9
MOS e 05 06 37.8
MOS eS **SKiKP** **05 13 18.0 -4.5**
MOS pmax pmax
comp=Z,48nm,1.3s
MAW Mawson 72.61 193 P **P** **05 03 51.6 +1.4**
comp=Z,2.1nm,0.8s,baz=357,slow=3.0,SNR=5.0
MAW LR LR 05 31 37.6
comp=Z,1μm,18.2s,baz=44,slow=32
MAW Mawson 72.61 193 P **P** **05 03 52.4 +2.2**
baz=73,SNR=5.8
MAW Mawson 72.61 193 P **P** **05 03 50.5 +0.3**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 72.61 193 P **P** **05 03 50.5 +0.3**
MANT Manisa 72.73 310 P **P** **05 03 51.7 -0.1**
OBN Obninsk 72.74 328⇓eP **P** **05 03 51.1 -0.1**
OBN e 05 04 09.5
OBN e 05 06 38.6
OBN eS **S** **05 13 11.1 -3.4**
OBN eSS **SS** **05 17 58.7 +4.1**
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,695nm,19.0s
OBN Obninsk 72.74 328 P **P** **05 03 50.6 -0.6**
OBN IAmb IAmb 05 04 17.6
comp=Z,35nm,1.0s
TIXI Tiksi 73.29 10 P **P** **05 03 53.5 -0.6**
comp=Z,19nm,0.8s,baz=226,slow=2.6,SNR=16
TIXI Tiksi 73.29 10c iP **P** **05 03 53.4 -0.8**
TIXI pmax pmax
comp=Z,39nm,1.3s
TIXI Tiksi 73.29 10 P **P** **05 03 53.5 -0.6**
TIXI IAmb IAmb 05 03 55.9
comp=Z,24nm,0.9s
SEY Seymchan 73.85 23 P **P** **05 03 57.5 -0.1**
comp=Z,14nm,0.8s,baz=246,slow=4.9,SNR=25
SEY Seymchan 73.85 23c iP **P** **05 03 57.7 +0.1**
KLMR Klimovskoe 73.87 334 eP **P** **05 03 56.4 -1.3**
KLMR 05 06 43.5
KLMR eS **SKiKP** **05 13 25.6 +1.1**
KLMR eSS **SS** **05 18 11.3 -0.4**
KLMR pmax pmax
comp=Z,40nm,1.4s
KLMR Klimovskoe 73.87 334 eP **P** **05 03 56.5 -1.3**
KLMR AMP 05 04 12.6
comp=Z,40nm,1.4s
KLMR PP **PP** **05 06 43.6 +0.8**
KLMR eS **SKiKP** **05 13 25.6 +1.1**
KLMR eS **SKiKP** **05 13 25.6 +1.1**
KLMR eSS **SS** **05 18 11.4 -0.3**
KLMR eSS **SS** **05 18 11.4 -0.3**
KLMR LQ LQ 05 30 44.6
KLMR LQ LQ 05 30 44.6
KLMR LR LR 05 35 55.4
LBTB Lobatse 73.87 244 P **P** **05 03 58.5 -0.2**
LBTB pmax pmax
comp=Z,14nm,0.9s
LBTB Lobatse 73.87 244 P **P** **05 03 58.5 -0.2**
HARR Harsova 74.62 316⇑P **P** **05 04 01.2 -1.3**
HARR Harsova 74.62 316⇑P **P** **05 04 01.2 -1.3**
BOSA Boshof 74.75 240 P **P** **05 04 03.3 -0.5**
comp=Z,5.2nm,1.0s,baz=35,slow=3.2,SNR=5.3
BOSA LR LR 05 31 50.5
comp=Z,1μm,20.0s,baz=62,slow=32
BOSA Boshof 74.75 240 P **P** **05 04 04.4 +0.6**
BOSA pmax pmax
comp=Z,15nm,1.1s
BOSA Boshof 74.75 240 P **P** **05 04 04.4 +0.6**
IDI Anoyia 75.00 306 P **P** **05 04 05.0 0.0**
IDI IAmb IAmb 05 04 35.3
comp=Z,38nm,1.4s
SORM Soroca 75.21 320⇑P **P** **05 04 05.5 -0.4**
SORM Soroca 75.21 320⇑P **P** **05 04 05.5 -0.4**
AKASG Malin Array Be 75.37 322 P **P** **05 04 05.3 -1.4**
comp=Z,4.4nm,0.8s,baz=87,slow=4.8,SNR=17
AKASG Malin Array Be 75.37 322 P **P** **05 04 05.9 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 75.37 322 P **P** **05 04 05.9 -0.8**
AKBB Malin Array Si 75.37 322 P **P** **05 04 06.3 -0.4**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 75.37 322 P **P** **05 04 06.3 -0.4**
VRI Vrincioaia 75.73 317⇑P **P** **05 04 09.7 +0.8**
VRI Vrincioaia 75.73 317⇑P **P** **05 04 09.7 +0.8**
PLOR Plostina 75.78 317⇓P **P** **05 04 10.1 +0.9**
PLOR Plostina 75.78 317⇓P **P** **05 04 10.1 +0.9**
TESR Tescani 75.93 318⇓P **P** **05 04 10.2 +0.2**
TMCR Tamitsa 76.04 337 eP **P** **05 04 08.8 -1.4**
TMCR pmax pmax
comp=Z,16nm,0.9s
MLR Muntele Rosu 76.18 317 P **P** **05 04 11.0 -0.6**
comp=Z,8.4nm,0.9s,baz=182,slow=8.0,SNR=8.7
MLR Muntele Rosu 76.18 317⇓P **P** **05 04 12.2 +0.6**
MLR Muntele Rosu 76.18 317⇓P **P** **05 04 12.2 +0.6**
MLR Muntele Rosu 76.18 317 P **P** **05 04 11.3 -0.3**
MLR IAmb IAmb 05 04 39.9
comp=Z,27nm,1.1s
DOPR Dopca 76.66 317⇓P **P** **05 04 14.6 +0.4**
ARR Arges 77.05 316⇓P **P** **05 04 15.9 -0.6**
BURAR Bucovina Array 77.14 319⇓P **P** **05 04 18.0 +1.1**
BURAR Bucovina Array 77.14 319⇓P **P** **05 04 18.0 +1.1**
BURAR Bucovina Array 77.14 319 P **P** **05 04 16.6 -0.3**
ITM Ithomi 77.66 308 IAmb IAmb 05 04 39.6
comp=Z,18nm,1.0s
LOT Lotru 77.67 316⇑P **P** **05 04 19.3 -0.7**
IDID Didziasalis 78.10 327 eP **P** **05 04 23.4 +1.4**
DEV Deva 78.34 317⇓P **P** **05 04 24.7 +1.1**
DEV Deva 78.34 317⇓P **P** **05 04 24.7 +1.1**
LVV L'vov 78.38 321 eP **P** **05 04 24.4 +0.7**
IIGN Ignalina 78.39 327 eP **P** **05 04 25.0 +1.4**
IIGN epP **PcP** **05 04 31.4 -1.4**
IZAR Zarasai 78.48 327 eP **P** **05 04 26.1 +1.9**
IZAR epP **PcP** **05 04 32.1 -1.1**
HERR Herculane 78.50 316⇑P **P** **05 04 24.2 -0.3**
ISAL Salakas 78.50 327 eP **P** **05 04 25.8 +1.5**
ISAL epP **PcP** **05 04 32.3 -1.0**
RPZ Rata Peaks 79.10 135 P **P** **05 04 28.0 +0.2**
comp=Z,11nm,0.8s,baz=251,slow=3.3,SNR=7.2
RPZ Rata Peaks 79.10 135 IAmb IAmb 05 05 14.2
comp=Z,65nm,1.4s
BZS Buzias 79.18 316⇑P **P** **05 04 28.2 0.0**
BZS Buzias 79.18 316⇑P **P** **05 04 28.2 0.0**
APA Apatity 79.25 339⇓iP P 05 04 22.0 -6.1
APA pmax pmax
comp=Z,19nm,0.9s
APA MLR MLR
comp=Z,2μm,21.0s
UZH Uzhgorod 79.26 319 eP **P** **05 04 28.1 -0.4**
UZH e 05 04 33.1
UZH i 05 04 44.7
SIRR Siria 79.26 317⇓P **P** **05 04 28.8 +0.2**
KOLS Kolonicke sedl 79.33 320 eP **P** **05 04 29.0 0.0**
KOLS pmax pmax
comp=Z,26nm,1.3s
KOLS Kolonicke sedl 79.33 320 eP **P** **05 04 29.0 0.0**
PABE Paberze 79.68 326 eP **P** **05 04 30.6 0.0**
CRVS Cervenica-Dubn 79.85 319 eP **P** **05 04 33.6 +1.8**
CRVS pmax pmax
comp=Z,31nm,1.3s
CRVS Cervenica-Dubn 79.85 319 eP **P** **05 04 33.6 +1.8**
SYO Syowa Base 79.91 198⇑eP **P** **05 04 34.0 +2.4**
SYO Syowa Base 79.91 198⇓epP pP 05 04 43.5 +1.8
DIVS Divibare 80.09 314 P **P** **05 04 32.7 -0.6**
FINES FINESS Array B 80.12 333 P **P** **05 04 32.4 -0.5**
comp=Z,4.7nm,0.8s,baz=110,slow=5.0,SNR=23
FINES LR LR 05 43 06.6
comp=Z,484nm,20.9s,baz=104,slow=38
FINES FINESS Array B 80.12 333 P **P** **05 04 32.6 -0.3**
FINES FINESS Array B 80.12 333 P **P** **05 04 32.6 -0.3**
PDG Podgorica 80.40 313⇑P **P** **05 04 34.2 -0.6**
PDG Podgorica 80.40 313 IAmb IAmb 05 05 11.0
comp=Z,83nm,1.8s
TSUM Tsumeb 80.59 250 P **P** **05 04 36.8 +0.3**
PSZ Piszkesteto 80.72 318 P **P** **05 04 36.3 -0.3**
PSZ pmax pmax
comp=Z,20nm,1.2s
PSZ Piszkesteto 80.72 318 P **P** **05 04 36.3 -0.3**
PBUR Paburge 80.91 327 eP **P** **05 04 38.0 +0.7**
PBUR epP **PcP** **05 04 45.1 +1.3**
OJC Ojcow 81.14 321 P **P** **05 04 37.5 -1.2**
OJC pmax pmax
comp=Z,15nm,1.1s
OJC Ojcow 81.14 321 P **P** **05 04 37.5 -1.2**
BILL Bilibino 81.26 21⇓eP **P** **05 04 40.8 +1.9**
BILL pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 81.50 319 eP **P** **05 04 40.8 +0.1**
VYHS Vyhne 81.50 319 eP **P** **05 04 40.8 +0.1**
JAVC Velka Javorina 82.32 319 eP **P** **05 04 45.7 +0.7**
MORC Moravsky Berou 82.52 320 eP **P** **05 04 45.9 -0.1**
ARCES ARCESS Array B 82.66 340 P **P** **05 04 45.7 -0.6**
comp=Z,4.6nm,0.6s,baz=102,slow=4.9,SNR=19
ARCES LR LR 05 45 36.4
comp=Z,1μm,19.5s,baz=103,slow=39
URZ Urewera 82.72 129 P **P** **05 04 47.1 0.0**
comp=Z,19nm,0.7s,baz=141,slow=18,SNR=3.6
KRLC Kraliky 83.04 320 eP **P** **05 04 49.1 +0.4**
KRLC epP **pP** **05 04 56.8 -2.1**
KRLC eS **S** **05 15 05.3 -0.7**
KRLC AMS AMS 05 50 00.0
comp=Z,500nm,15.5s
KRLC Kraliky 83.04 320 eP **P** **05 04 49.1 +0.4**
KRLC e 05 04 56.8
KRLC eS **S** **05 15 05.3 -0.7**
KRLC MLR MLR
comp=Z,500nm,15.5s
VRAC Vranov 83.07 319 P **P** **05 04 48.6 -0.2**
comp=Z,1.0nm,0.5s,baz=256,slow=4.2,SNR=2.0
VRAC Vranov 83.07 319 eP **P** **05 04 48.8 -0.1**
KRUC Moravsky 83.18 319 eP **P** **05 04 49.1 -0.3**
DPC Dobruska-Polom 83.36 320 eP **P** **05 04 50.9 +0.5**
DPC ex x 05 04 58.1
DPC eS **S** **05 15 03.7 -5.6**
DPC AMS AMS 05 47 50.0
comp=Z,500nm,21.1s
DPC Dobruska-Polom 83.36 320 eP **P** **05 04 50.9 +0.5**
DPC e 05 04 58.1
DPC eS **S** **05 15 03.7 -5.6**
DPC MLR MLR
comp=Z,500nm,21.1s
GCIS Gornji Cirnik 83.38 316 eP **P** **05 04 50.9 +0.4**
GCIS i pP **pP** **05 04 58.5 -2.2**
GOLS Golise 83.39 316 eP **P** **05 04 51.1 +0.5**
GOLS i pP **pP** **05 04 58.7 -2.1**
CONA Conrad Observa 83.41 318 eP **P** **05 04 51.0 +0.3**
comp=Z,2.3nm,0.7s,SNR=4.4
OSTC Ostas 83.45 321 eP **P** **05 04 51.5 +0.7**
OSTC ex x 05 05 00.4
OSTC eS **S** **05 15 04.8 -5.3**
OSTC AMS AMS 05 48 30.0
comp=Z,600nm,18.6s
CHVC Chvalec 83.56 321 eP **P** **05 04 52.1 +0.7**
CHVC ex x 05 04 59.6
CHVC AMS AMS 05 48 30.0
comp=Z,500nm,19.0s
ARSA Arzberg 83.57 317 i P **P** **05 04 52.0 +0.5**
comp=Z,16nm,1.5s
UPC Upice 83.58 321 eP **P** **05 04 52.1 +0.7**
UPC epP **pP** **05 04 59.6 -2.0**
UPC eS **S** **05 15 12.3 +1.0**
UPC AMS AMS 05 48 00.0
comp=Z,600nm,25.2s
UPC Upice 83.58 321 eP **P** **05 04 52.1 +0.7**
UPC e 05 04 59.6
UPC eS **S** **05 15 12.3 +1.0**
UPC MLR MLR
comp=Z,600nm,25.2s
TREC Trest 83.79 319 AMS AMS 05 52 00.0
comp=Z,500nm,16.8s
SOKA Soboth 83.86 317 eP **P** **05 04 53.5 +0.5**
comp=Z,7.5nm,1.0s
LJU Ljubljana 84.15 316 eP **P** **05 04 55.1 +0.6**
LJU epP **pP** **05 05 02.6 -2.1**
OBKA Obir 84.18 316 eP **P** **05 04 55.2 +0.5**
comp=Z,2.2nm,0.6s
GOPC GO Pecny, Ondr 84.30 320 eP **P** **05 04 55.3 +0.1**
GOPC ex x 05 05 02.8
GOPC eS **SKSac** **05 15 13.9 -2.6**
GOPC AMS AMS 05 48 20.0
comp=Z,600nm,18.8s
GOPC GO Pecny, Ondr 84.30 320 eP **P** **05 04 55.3 +0.1**
GOPC e 05 05 02.8
GOPC eS **SKSac** **05 15 13.9 -2.6**
GOPC MLR MLR
comp=Z,600nm,18.8s
INTR Introdacqua 84.32 312 IAmb IAmb 05 05 41.4
comp=Z,37nm,1.5s
PRU Pruhonice 84.47 320 eP **P** **05 04 56.1 +0.1**
PRU epP **pP** **05 05 04.1 -2.1**
PRU eSKS **SKSac** **05 15 14.0 -3.5**
PRU AMS AMS 05 48 30.0
comp=Z,600nm,18.2s
PRU Pruhonice 84.47 320 eP **P** **05 04 56.1 +0.1**
PRU e 05 05 04.1
PRU eS **SKSac** **05 15 14.0 -3.5**
PRU MLR MLR
comp=Z,600nm,18.2s
MOA Molln 84.47 318 eP **P** **05 04 55.2 -0.9**

comp=Z,5.3nm,1.5s
PVCC Panska Ves 84.50 321 AMS AMS 05 48 20.0
comp=Z,500nm,17.5s
PRA Prague 84.55 320 *e*SKS **SKSac 05 15 14.3 -3.7**
PRA AMS AMS 05 48 30.0
comp=Z,400nm,17.0s
VOJS Vojsko 84.60 316 *e*P **P 05 04 56.5 -0.3**
VOJS *i* pP **pP 05 05 04.3 -2.8**
AQU L'Aquila 84.71 312 P **P 05 04 57.3 -0.1**
AQU pmax pmax
comp=Z,28nm,0.9s
AQU L'Aquila 84.71 312 P **P 05 04 57.3 -0.1**
MYKA Terra Mystica 84.81 317 *e*P **P 05 04 58.0 +0.1**
comp=Z,3.6nm,0.9s
PRED Cave del Predi 84.85 316 IAmb IAmb 05 05 13.9
comp=Z,24nm,1.0s
BRG Berggiesshubel 84.92 321 *e*P **P 05 04 58.2 0.0**
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 84.92 321 S **S 05 15 28.0 +3.2**
BRG SS **SS 05 20 50.0 -7.8**
comp=N,458nm,17.3s
comp=E,422nm,15.8s
comp=Z,527nm,20.3s
BRG Berggiesshubel 84.92 321 *e*P **P 05 04 58.2 0.0**
BRG S **S 05 15 28.0 +3.2**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,458nm,17.3s
BRG MLR MLR
comp=E,422nm,15.8s
BRG MLR MLR
comp=Z,527nm,20.3s
BRG Berggiesshubel 84.92 321 *e*P **P 05 04 58.6 +0.3**
comp=Z,20nm,1.5s,baz=92,slow=4.9
BRG *e*pP **pP 05 05 06.2 -2.2**
baz=92,slow=4.9
BRG *e*S **S 05 15 24.3 -0.4**
baz=90,slow=9.6
GEC2 GERESS Array S 84.92 319 *e*P **P 05 04 58.8 +0.3**
comp=Z,26nm,1.3s,baz=92,slow=4.9
GEC2 *e*pP **pP 05 05 06.4 -2.2**
baz=92,slow=4.9
GEC2 *e*S **SKSac 05 15 22.8 +2.0**
baz=90,slow=9.6
GEC2 GERESS Array S 84.92 319 IAmb IAmb 05 05 07.6
comp=Z,20nm,1.1s
GERES GERESS Array B 84.92 319 P **P 05 04 58.7 +0.3**
comp=Z,3.5nm,0.8s,baz=94,slow=5.4,SNR=38
GERES GERESS Array B 84.92 319 P **P 05 04 58.1 -0.3**
KHC Kasperske Hory 85.03 319 *e*P **P 05 04 59.2 +0.4**
KHC *ex* x 05 05 05.1
KHC *e*pP **pP 05 05 10.8 +1.7**
KHC *e*S **SKSac 05 15 21.9 +0.7**
KHC AMS AMS 05 49 00.0
comp=Z,600nm,17.0s
KHC Kasperske Hory 85.03 319⇑ *i*P **P 05 04 58.8 0.0**
KHC pmax pmax
comp=Z,10.0nm,0.7s
RUE Ruedersdorf 85.15 322 *e*P **P 05 04 59.6 +0.3**
RUE Ruedersdorf 85.15 322 *e*P **P 05 04 59.6 +0.3**
comp=Z,21nm,0.7s,baz=92,slow=4.9
RUE *e*pP **pP 05 05 07.3 -2.2**
baz=92,slow=4.9
RUE *e*S **S 05 15 24.2 -2.7**
baz=90,slow=9.6
ZOU Zoufplan 85.27 316 IAmb IAmb 05 05 25.5
comp=Z,33nm,1.5s
FBE Freiberg 85.30 321 *e*P **P 05 05 00.6 +0.5**
comp=Z,12nm,1.1s,baz=92,slow=4.9
FBE *e*pP **pP 05 05 08.3 -2.1**
baz=92,slow=4.9
WET Wettzell 85.49 319 *e*P **P 05 05 01.4 +0.2**
comp=Z,12nm,1.0s,baz=92,slow=4.9
WET *e*pP **pP 05 05 09.0 -2.4**
baz=92,slow=4.9
WET *e*S **S 05 15 29.4 -1.1**
baz=90,slow=9.6
CLL Collm 85.55 321 *e*P **P 05 05 01.0 -0.3**
comp=Z,8.0nm,1.3s
CLL *i* 05 05 08.5
comp=Z,7.0nm,1.1s
CLL *e*PP **PP 05 08 19.0 -1.1**
CLL *e*pPP 05 08 31.0
CLL *e*PPP PPP 05 10 06.0
CLL *e*S **S 05 15 28.0 -2.9**
CLL *e*PS **PnS 05 16 30.0 -0.1**
CLL *e*SS **SS 05 21 12.0 +5.1**
CLL *e*SSS SSS 05 24 30.0
CLL *e*SSSS 05 27 38.0
CLL LmV 05 51 00.0
comp=Z,500nm,19.8s
CLL Collm 85.55 321 *e*P **P 05 05 01.0 -0.3**
CLL *i* 05 05 08.5
CLL *e*S **S 05 15 28.0 -2.9**
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL MLR MLR
comp=Z,500nm,19.8s
CLL Collm 85.55 321 *e*P **P 05 05 01.2 -0.1**
comp=Z,6.7nm,1.1s,baz=92,slow=4.9
CLL *e*pP **pP 05 05 08.9 -2.7**
baz=92,slow=4.9
CLL *e*S **S 05 15 28.9 -2.0**
baz=90,slow=9.6
RGN Rugen 85.58 324 *e*P **P 05 05 00.4 -1.0**
ABTA Abfaltersbach 85.59 317 *e*P **P 05 05 01.1 -0.7**
comp=Z,3.7nm,1.1s
CIMO Cimolais 85.62 316 IAmb IAmb 05 05 19.0
comp=Z,22nm,1.0s
VNDA Vanda 85.70 169 P **P 05 05 01.5 -0.2**
comp=Z,1.2nm,0.9s,baz=304,slow=4.6,SNR=9.4
VNDA LR LR 05 41 06.8
comp=Z,706nm,18.0s,baz=314,slow=34
VNDA Vanda 85.70 169 P **P 05 05 01.4 -0.2**
VNDA pmax pmax
comp=Z,11nm,1.4s
VNDA Vanda 85.70 169 P **P 05 05 01.4 -0.2**
NKC Novy Kostel 85.83 320 *e*S **S 05 15 35.1 +1.3**
NKC AMS AMS 05 50 30.0
comp=Z,600nm,21.9s
TANN Tannenbergstha 85.83 320 *e*P **P 05 05 03.0 +0.2**
comp=Z,13nm,1.1s,baz=92,slow=4.9
TANN *e*pP **pP 05 05 10.7 -2.4**
baz=92,slow=4.9
TANN *e*S **S 05 15 33.8 -0.1**
baz=90,slow=9.6
HFS Hagfors 85.84 330 P **P 05 05 01.9 -0.7**
comp=Z,4.4nm,0.9s,baz=148,slow=8.7,SNR=4.4
WERN Wernitzgruen 85.88 320 *e*P **P 05 05 03.4 +0.3**
comp=Z,6.0nm,1.0s,baz=92,slow=4.9
WERN *e*pP **pP 05 05 11.0 -2.3**
baz=92,slow=4.9
GUNZ Gunzen 85.91 320 *e*P **P 05 05 03.5 +0.3**
comp=Z,7.8nm,1.0s,baz=92,slow=4.9
GUNZ *e*pP **pP 05 05 11.2 -2.3**
baz=92,slow=4.9
WERD Werda 85.93 320 *e*P **P 05 05 03.4 +0.1**
comp=Z,3.5nm,0.8s,baz=92,slow=4.9
WERD *e*pP **pP 05 05 11.0 -2.6**
baz=92,slow=4.9
ROTZ Rotzenmuhle 85.96 320 *e*P **P 05 05 04.0 +0.5**
comp=Z,8.4nm,1.0s,baz=92,slow=4.9
ROTZ *e*pP **pP 05 05 11.6 -2.1**
baz=92,slow=4.9
ROTZ *e*S **S 05 15 35.6 +0.5**
baz=90,slow=9.6
PLN Plauen 86.03 320 *e*P **P 05 05 03.9 +0.1**
comp=Z,5.2nm,0.9s,baz=92,slow=4.9
PLN *e*pP **pP 05 05 11.5 -2.5**
baz=92,slow=4.9
MANZ Manzenberg 86.03 320 *e*P **P 05 05 04.5 +0.7**
comp=Z,18nm,1.1s,baz=92,slow=4.9
MANZ *e*pP **pP 05 05 12.2 -1.9**
baz=92,slow=4.9
MANZ *e*S **S 05 15 36.3 +0.5**
baz=90,slow=9.6
CTI Castel Tesino 86.16 316 IAmb IAmb 05 05 40.3
comp=Z,18nm,1.1s
WTTA Wattenberg 86.22 317 *e*P **P 05 05 04.6 -0.4**
comp=Z,6.4nm,0.9s
WATA Walderalm 86.26 317 *e*P **P 05 05 04.6 -0.5**
comp=Z,3.3nm,0.8s
NEUB Neuenburg 86.31 321 *e*P **P 05 05 05.2 +0.1**
comp=Z,22nm,1.2s,baz=92,slow=4.9
NEUB *e*pP **pP 05 05 12.8 -2.5**
baz=92,slow=4.9
NEUB *e*S **S 05 15 36.9 -1.5**
baz=90,slow=9.6
MOX Moxa 86.38 320 *e*P **P 05 05 05.8 +0.3**
comp=Z,5.0nm,1.1s,baz=92,slow=4.9
MOX *e*pP **pP 05 05 13.4 -2.3**
baz=92,slow=4.9
MOX *e*S **S 05 15 38.7 -0.4**
baz=90,slow=9.6
MOX *e*L L 05 52 18.4
comp=Z,622nm,20.1s
SQTA Sankt Quirin 86.51 317 *e*P **P 05 05 05.7 -0.6**
comp=Z,5.6nm,0.8s
ZCCA Zocca 86.57 314 IAmb IAmb 05 05 35.6
comp=Z,23nm,1.1s
MOTA Moosalm 86.58 317 *e*P **P 05 05 06.1 -0.7**
comp=Z,5.8nm,0.9s
GRA1 Grafenberg Arr 86.59 320 IAmb IAmb 05 05 16.6
comp=Z,16nm,1.1s
GRF Grafenberg Arr 86.59 320 *e*P **P 05 05 07.2 +0.6**
comp=Z,16nm,1.1s,baz=92,slow=4.9
GRF *e*pP **pP 05 05 14.8 -2.1**
baz=92,slow=4.9
GRF *e*S **S 05 15 41.9 +0.6**
baz=90,slow=9.6
GRF *e*L L 05 50 15.7
comp=Z,526nm,21.9s
RETA Reutte 86.82 317 *e*P **P 05 05 07.6 -0.3**
comp=Z,5.3nm,0.8s
FETA Feichten 86.83 317 *e*P **P 05 05 07.8 -0.2**
comp=Z,2.8nm,0.9s
SALO Salr 86.93 315 IAmb IAmb 05 05 33.6
comp=Z,30nm,1.2s
ASSE Asse, Remlinge 87.03 322 *e*P **P 05 05 08.8 +0.3**
comp=Z,13nm,1.2s,baz=92,slow=4.9
ASSE *e*pP **pP 05 05 16.5 -2.3**
baz=92,slow=4.9
ASSE *e*S **SKKSac 05 15 42.1 -0.1**
baz=90,slow=9.6
NB2 NORSAR Subarra 87.12 331 P **P 05 05 08.5 -0.4**
comp=Z,18nm,1.1s,baz=96,slow=4.8
NB2 NORSAR Subarra 87.12 331 P **P 05 05 08.5 -0.4**
baz=96,slow=4.8
NOA NORSAR Array B 87.12 331 P **P 05 05 08.7 -0.3**
comp=Z,3.2nm,0.7s,baz=94,slow=4.9,SNR=20
NOA LR LR 05 49 02.0
comp=Z,526nm,19.9s,baz=100,slow=39
FUORN Ofenpass-Fuorn 87.13 316 P **P 05 05 10.0 +0.4**
FUORN IAmb IAmb 05 05 33.8
comp=Z,11nm,0.9s
CLZ Clausthal 87.21 322 *e*P **P 05 05 10.0 +0.4**
comp=Z,9.2nm,1.1s,baz=92,slow=4.9
CLZ *e*pP **pP 05 05 17.6 -2.2**
baz=92,slow=4.9
CLZ *e*S **SKKSac 05 15 44.8 +1.0**
baz=90,slow=9.6
UBR Ueberruh 87.27 317 *e*S **SKKSac 05 15 43.8 -0.7**
baz=90,slow=9.6
BSEG Bad Segeberg 87.31 324 *e*P **P 05 05 10.6 +0.7**
comp=Z,25nm,1.2s,baz=92,slow=4.9
BSEG *e*pP **pP 05 05 18.2 -1.9**
baz=92,slow=4.9
BSEG *e*S **SKKSac 05 15 44.8 +0.6**
baz=90,slow=9.6
NRDL Niedersach Rie 87.39 322 *e*P **P 05 05 11.3 +1.0**
comp=Z,27nm,1.3s,baz=92,slow=4.9
NRDL *e*pP **pP 05 05 18.9 -1.6**
baz=92,slow=4.9
NRDL *e*S **S 05 15 46.9 -1.8**
baz=90,slow=9.6
DAVA Damuels 87.41 317 *e*P **P 05 05 10.8 0.0**
comp=Z,7.4nm,1.0s,SNR=5.7
UBBA Unterbreizbach 87.42 321 *e*P **P 05 05 11.0 +0.6**
comp=Z,12nm,1.3s,baz=92,slow=4.9
UBBA *e*pP **pP 05 05 18.6 -2.0**
baz=92,slow=4.9
UBBA *e*S **S 05 15 47.7 -1.1**
baz=90,slow=9.6
GTTG Gottingen 87.46 321 *e*P **P 05 05 11.2 +0.5**
comp=Z,18nm,1.5s,baz=92,slow=4.9
GTTG *e*pP **pP 05 05 18.8 -2.1**
baz=92,slow=4.9
GTTG *e*S **S 05 15 47.6 -1.9**
baz=90,slow=9.6
KEST Kesra 87.66 306 P **P 05 05 12.9 +0.8**
comp=Z,6.7nm,0.8s,baz=301,slow=2.2,SNR=12
KEST LR LR 05 45 03.0
comp=Z,365nm,22.0s,baz=14,slow=36
KEST Kesra 87.66 306 IAmb IAmb 05 05 25.2
comp=Z,16nm,0.9s
STU Stuttgart 87.90 319 *e*S **S 05 15 52.7 -1.2**
baz=90,slow=9.6
MUD Monsted U'grnd 88.03 326 *i* P **P 05 05 12.6 -0.7**
MUD Monsted U'grnd 88.03 326 *e*P **P 05 05 12.6 -0.7**
TNS Taunus Mts 88.40 320 *e*P **P 05 05 15.8 +0.5**
comp=Z,13nm,1.2s,baz=92,slow=4.9
TNS *e*pP **pP 05 05 23.5 -2.1**
baz=92,slow=4.9
TNS *e*S **S 05 15 57.5 -1.1**
baz=90,slow=9.6
BFO Black Forest 88.47 318 P **P 05 05 15.3 -0.3**
BFO pmax pmax
comp=Z,14nm,1.5s
BFO Black Forest 88.47 318 *e*P **P 05 05 15.5 -0.2**
comp=Z,15nm,1.6s,baz=92,slow=4.9
BFO *e*pP **pP 05 05 23.4 -2.6**
baz=92,slow=4.9
BFO *e*S **S 05 15 57.3 -2.0**
baz=90,slow=9.6
BFO Black Forest 88.47 318 P **P 05 05 15.3 -0.3**
IBBN Ibbenburen 88.83 322 *e*P **P 05 05 17.9 +0.7**
comp=Z,40nm,1.3s,baz=92,slow=4.9
IBBN *e*pP **pP 05 05 25.5 -1.9**
baz=92,slow=4.9
IBBN *e*S **S 05 15 60.0 -2.5**
baz=90,slow=9.6
BUG Bochum--Univer 89.14 321 *e*P **P 05 05 19.2 +0.6**
comp=Z,34nm,1.3s,baz=92,slow=4.9
BUG *e*pP **pP 05 05 26.9 -2.0**
baz=92,slow=4.9
BUG *e*S **S 05 16 03.8 -1.6**
baz=90,slow=9.6
AHRW Bad Neuenahr-A 89.27 320 *e*P **P 05 05 20.2 +0.9**
comp=Z,18nm,1.2s,baz=92,slow=4.9
AHRW *e*pP **pP 05 05 27.9 -1.7**
baz=92,slow=4.9
AHRW *e*S **S 05 16 06.2 -0.5**
baz=90,slow=9.6
NVL N'lazarevskaya 89.50 199 *e*P **P 05 05 23.3 +3.4**
NVL *e* 05 08 55.2
NVL *e*PPP PPP 05 10 47.8
NVL *e*S **SKSac 05 15 51.2 +3.7**
NVL *e*SSS SSS 05 25 47.8
NVL pmax pmax
comp=Z,15nm,0.7s
WLF Walferdange 89.89 319 pP pP 05 05 30.6 -2.0
WLF Walferdange 89.89 319 *e*P **P 05 05 23.2 +0.9**
comp=Z,19nm,1.2s,baz=92,slow=4.9
WLF *e*pP **pP 05 05 30.9 -1.6**
baz=92,slow=4.9
WLF *e*S **S 05 16 12.3 -0.2**
baz=90,slow=9.6
MEM Membach 89.95 320 PcP **P 05 05 22.7 +0.2**
MEM pP **pP 05 05 30.3 -2.5**
BGES Gesves 90.55 320 PcP **P 05 05 25.6 +0.4**
BGES pP **pP 05 05 33.1 -2.5**
DOU Dourbes 90.88 320 pP **pP 05 05 34.9 -2.2**
DOU x x 05 05 42.2
QSPA South Pole Qui 91.03 180 P **P 05 05 27.3 0.0**
QSPA IAmb IAmb 05 05 46.8
comp=Z,20nm,1.4s
SNF Seneffe 91.06 320 pP pP 05 05 35.7 -2.2
SSB Saint Sauveur 91.14 315 P **P 05 05 27.3 -0.9**
SSB pmax pmax
comp=Z,12nm,1.1s
SSB Saint Sauveur 91.14 315 P **P 05 05 27.3 -0.9**
SSB IAmb IAmb 05 05 53.1
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 95.15 283 P **P 05 05 47.6 +0.4**
comp=Z,0.6nm,1.1s,baz=86,slow=5.8,SNR=3.6
TORD LR LR 05 47 15.9
comp=Z,647nm,19.1s,baz=120,slow=34
IMAR Indian Mountai 96.67 23 P **P 05 05 53.6 +0.5**
ESDC Sonseca Array 97.93 310 P **P 05 05 58.9 -0.5**
comp=Z,0.4nm,0.7s,baz=57,slow=4.1,SNR=2.3
ESDC LR LR 05 52 26.0
comp=Z,249nm,21.6s,baz=115,slow=37
ILAR Eielson Array 99.79 23 P **Pdif 05 06 05.0 -2.1**
comp=Z,0.4nm,0.9s,baz=282,slow=5.3,SNR=4.1
ILAR LR LR 05 57 07.0
comp=Z,400nm,19.0s,baz=318,slow=39
TBI Tubuai 111.77 115 *e*Sdif Sdif 05 19 14.0 -6.1
comp=Z,305nm,28.2s
TBI Tubuai 111.77 115 *e*PS PS 05 21 12.5 -2.2
comp=Z,118nm,27.0s
TBI *e*SS SS 05 27 17.4 +1.3
comp=Z,615nm,26.2s
TBI Tubuai 111.77 115 *e*LQ LQ 05 39 34.4
comp=Z,519nm,36.2s
TBI *e*LR LR 05 44 16.0
comp=Z,1μm,24.2s
YKA Yellowknife Ar 112.19 15 PP **PP 05 11 39.9 -2.7**
comp=Z,1.7nm,0.8s,baz=335,slow=7.8,SNR=5.0
PPT2 Papeete2 112.40 108 *e*PP **PP 05 11 42.3 -3.8**
comp=Z,86nm,25.0s
PPT2 *e*Sdif Sdif 05 19 19.9 -5.8
comp=Z,314nm,24.8s
PPT2 Papeete2 112.40 108 *e*PS PS 05 21 18.7 -2.2
comp=Z,222nm,26.0s
PPT2 Papeete2 112.40 108 *e*LQ LQ 05 39 50.0
comp=Z,1μm,38.0s
PPT2 *e*LR LR 05 44 33.7
comp=Z,818nm,24.2s
H04D Lebanon 122.34 33 P **PKiKP 05 11 19.7 +1.0**
baz=311
TAOE Nuku Hiva Isla 122.37 100 *e*LR LR 05 49 17.4
comp=Z,552nm,23.3s
I03D Drain, OR 122.53 34 P **PKiKP 05 11 19.7 +0.7**
baz=310
K02D Willamette Mer 122.98 35 P **PKiKP 05 11 20.5 +0.4**
baz=309
I04A Tendick Farm, 122.99 33 P **PKPdf 05 11 19.6 -0.3**
baz=311
L02E Cave Junction 123.36 36 P **PKiKP 05 11 21.8 +1.0**
baz=309
J04D Umpqua Nationa 123.52 34 P **PKiKP 05 11 21.9 +0.6**
baz=311
J05D Fort Rock, OR 123.97 33 P **PKiKP 05 11 22.8 +0.7**
baz=312
L04D Klamath Falls 124.07 35 P **PKiKP 05 11 22.6 +0.2**
baz=310
M02C Callahan 124.27 36 P **PKiKP 05 11 23.7 +1.0**
baz=309
M04C Macdoel 124.61 35 P **PKiKP 05 11 24.0 +0.5**
baz=310
N02D Trinity Center 124.62 36 P **PKiKP 05 11 24.3 +0.9**
baz=309
WDC Whiskeytown Da 124.96 36 PKIKP **PKPdf 05 11 23.5 -0.1**
WDC Whiskeytown Da 124.96 36 PKPdf **PKPdf 05 11 23.5 -0.1**
MSO Missoula 125.01 26 P **PKPdf 05 11 23.7 0.0**
baz=321,SNR=5.2
O02D Mt. Diablo Mer 125.07 37 P **PKiKP 05 11 25.1 +0.8**
baz=308
O03E Paynes Creek 125.58 36 P **PKiKP 05 11 25.3 0.0**
baz=309
EGMT Eagleton 125.74 22 P **PKiKP 05 11 25.7 +0.3**
baz=326
BOZ Bozeman (W) 126.97 25 P **PKiKP 05 11 28.1 +0.1**
baz=323
HLID Hailey 127.28 29 P **PKiKP 05 11 29.1 +0.3**
baz=319
ULM Lac du Bonnet 127.64 11 PKP **PKPdf 05 11 28.2 -0.2**
comp=Z,2.5nm,0.6s,baz=294,slow=19,SNR=2.0
ULM Lac du Bonnet 127.64 11 **PKPdf 05 11 28.0 -0.5**
LAO LASA Array 128.15 20 P **PKiKP 05 11 31.3 +1.1**
baz=330
CHGQ Chibougamau 128.69 353 P **PKPdf 05 11 29.8 -0.7**
baz=11
NVAR Mina Array Bea 128.85 36 PKP **PKiKP 05 11 32.1 0.0**
comp=Z,1.4nm,0.8s,baz=273,slow=1.7,SNR=13
NVAR Mina Array Bea 128.85 36 PKPdf **PKPdf 05 11 31.7 +0.3**
BW06 Boulder Array 130.13 26 P **PKPdf 05 11 34.1 +0.3**
baz=324
BW06 Boulder Array 130.13 26 **PKPdf 05 11 33.4 -0.4**
PDAR Pinedale Array 130.13 26 PKhKP PKPpre 05 11 27.5
comp=Z,0.3nm,0.5s,baz=247,slow=19,SNR=2.9
PDAR PKP **PKPdf 05 11 34.0 +0.2**
comp=Z,1.0nm,0.7s,baz=214,slow=1.8,SNR=8.7
PDAR PP **PP 05 13 42.4 -3.2**
comp=Z,4.4nm,1.3s,baz=336,slow=2.0,SNR=2.3
CWC Cottonwood Cre 130.29 38 P **PKiKP 05 11 35.0 0.0**
baz=311
R11A Troy Canyon, C 130.47 34 P **PKiKP 05 11 35.9 +0.5**
baz=315
DUG Dugway, Tooele 130.60 30 P **PKiKP 05 11 36.6 +1.1**
baz=319
MPMC Manual Prospec 130.91 38 P **PKiKP 05 11 37.5 +1.2**
baz=311
K22A Casper 131.48 23 P **PKiKP 05 11 36.8 -0.4**
baz=328
O20A White River Ci 132.84 27 P **PKPdf 05 11 39.3 +0.4**
baz=324,SNR=5.3
GMRC Granite Mounta 132.87 38 P **PKiKP 05 11 41.3 +1.1**
baz=312
RCBR Riachuelo 133.01 263 *e*P **PKiKP 05 11 47.1 +6.2**
BELC Belle Mtn. Jos 133.18 39 P **PKPdf 05 11 37.1 -2.5**
baz=312
ECSD EROS Data Cent 133.69 14 P **PKPdf 05 11 40.1 -0.1**
baz=341
ECSD EROS Data Cent 133.69 14 PKPdf **PKPdf 05 11 40.1 -0.1**
WUAZ Wupatki 134.84 33 P **PKiKP 05 11 44.4 +0.2**
baz=318
MVCO Mesa Verde 135.05 29 P **PKiKP 05 11 44.3 -0.4**
baz=322
T25A Trinidad 137.00 26 P **PKiKP 05 11 48.5 -0.1**
baz=327
TUC Tucson 137.51 36 P **PKiKP 05 11 49.5 -0.1**
baz=316
ANMO Albuquerque 137.85 29⇓ *i*PKIKP **PKPdf 05 11 48.2 -0.2**
ANMO pmax pmax
comp=Z,13nm,2.5s
ANMO Albuquerque 137.85 29 P **PKiKP 05 11 51.1 +0.7**
baz=323
ANMO Albuquerque 137.85 29 PKPdf **PKPdf 05 11 46.8 -1.6**
O54A Avella 138.87 357 P **PKPdf 05 11 50.9 +1.0**
baz=3.6
PLCA Paso Flores 139.01 194 PKP **PKPdf 05 11 48.2 -2.0**
comp=Z,1.5nm,0.9s,baz=95,slow=11,SNR=2.3
Q55A Buckhannon 140.04 357 P **PKPdf 05 11 52.5 +0.4**
baz=4.2
MSTX Muleshoe 140.38 26 P **PKPdf 05 11 48.6 -4.4**
baz=328
R56A Bull Pasture M 140.58 356 P **PKPdf 05 11 53.9 +0.7**
baz=5.3
R57A Stanardsville 140.62 355 P **PKPdf 05 11 53.6 +0.5**
baz=6.7
MNTX Cornudas Mount 140.97 31 P **PKPdf 05 11 54.8 +0.8**
baz=322
S57A Dark Hollow, R 141.19 355 P **PKiKP 05 11 55.8 -1.1**
baz=6.1
WMOK Wichita Mounta 141.33 21 P **PKPdf 05 11 47.9 -6.6**
baz=334
U40A Yellville 141.58 13 P **PKPdf 05 11 50.1 -4.8**
baz=344
T53A Wise 142.12 360 P **PKPdf 05 11 51.5 -4.5**
baz=0.4
U58A Oxford 142.51 354 P **PKPdf 05 11 57.5 +1.0**
baz=6.9
U55A TA2, Sparta 142.57 358 P **PKPdf 05 11 57.8 +1.1**
baz=2.8
WVT Waverly 142.68 7 P **PKPdf 05 11 54.2 -2.7**
baz=352
BDFB Brasilia 142.80 245 PKP **PKPdf 05 11 55.0 -2.7**
comp=Z,1.0nm,0.4s,baz=342,slow=9.6,SNR=2.1
W41B Gary Mavity, V 142.85 13 P **PKPdf 05 11 53.5 -3.7**
baz=344
ABTX Abilene, Hawle 142.87 24 P **PKPdf 05 11 54.1 -3.2**
baz=331
V57A Coltrane Farms 143.11 356 P **PKPdf 05 11 58.1 +0.5**
baz=5.0
MIAR Mount Ida 143.13 15 P PKPbc 05 11 54.6 +0.1
baz=342,SNR=13
V55A Taylorsville 143.22 358 P **PKPdf 05 11 57.2 -0.7**
baz=2.6
X40A Basin Creek Fa 143.37 14 P PKPbc 05 11 55.4 +0.2
baz=343
TXAR Lajitas Array 143.75 32 PKP PKPbc 05 11 57.2 +0.6
comp=Z,2.7nm,0.7s,baz=272,slow=0.1,SNR=28
TXAR Lajitas Array 143.75 32 PKPdf PKPbc 05 11 56.9 +0.3
X43A Marvell 143.77 11 P PKPbc 05 11 56.9 +0.6
baz=346
W57A Gilead 143.86 356 P PKPbc 05 11 56.6 0.0
baz=4.7
W56A Indian Trail 143.91 357 P PKPbc 05 11 56.6 -0.2
baz=3.7
KMSC Kings Mountain 143.94 358 P PKPbc 05 11 56.6 -0.2

	baz=2.5						
W54A	**Cherokee Point**	**144.01 359**	P		**PKPab**	**05 11 56.6**	**0.0**
	baz=1.0						
OXF	**Oxford**	**144.04 9**	P		**PKPab**	**05 11 56.1**	**-0.6**
	baz=349						
BG3	**Lake Jocassee**	**144.11 0**			PKPbc	05 11 57.3	-0.1
X54A	**Belton**	**144.55 359**	P		PKPbc	05 11 58.7	-0.1
	baz=0.7						
Z41A	**Richland Creek**	**144.55 15**	P		PKPbc	05 11 59.4	+0.6
	baz=343,SNR=6.3						
X56A	**White Oak**	**144.57 358**	P		PKPbc	05 11 58.8	0.0
	baz=3.0						
X55A	**Gracelyn & Ava**	**144.62 358**	P		**PKPab**	**05 11 58.7**	**-0.1**
	baz=2.0						
BO02	**Sierra Bellavi**	**144.65 197**	PKPdf		**PKPdf**	**05 12 01.3**	**+0.8**
JCT	**Junction City**	**144.66 26**	P		PKPbc	05 11 59.5	+0.1
	baz=330						
Y60A	**Bolivia**	**144.84 353**	P		PKPbc	05 12 00.1	+0.4
	baz=7.9						
CPUP	**Villa Florida**	**144.95 222**	PKPbc		**PKPdf**	**05 12 01.1**	**+0.1**
	comp=Z,11nm,0.9s,baz=123,slow=2.8,SNR=23						
CPUP	**Villa Florida**	**144.95 222**	*e*P		**PKiKP**	**05 12 07.1**	**+2.3**
Y57A	**Sumter**	**145.01 357**	P		**PKPdf**	**05 12 00.9**	**-0.1**
	baz=4.2						
Y55A	**Saluda**	**145.15 359**	P		**PKPab**	**05 12 00.8**	**+0.1**
	baz=1.6,SNR=7.0						
Y56A	**Pelion**	**145.28 358**	P		**PKPdf**	**05 12 01.9**	**+0.4**
	baz=2.6						
435B	**Jarrell**	**145.31 23**	P		**PKPab**	**05 12 01.5**	**+0.1**
	baz=334						
NATX	**Nacogdoches**	**145.44 18**	P		**PKPab**	**05 12 02.8**	**+0.9**
	baz=339						
Z58A	**St. Stephen**	**145.65 356**	P		**PKPab**	**05 12 03.0**	**+0.3**
	baz=5.2,SNR=13						
GOGA	**Godfrey**	**145.68 1**	P		**PKPab**	**05 12 02.8**	**+0.1**
	baz=359,SNR=27						
Z59A	**Georgetown, SC**	**145.70 355**	P		**PKPab**	**05 12 03.3**	**+0.5**
	baz=6.2,SNR=6.7						
Z57A	**Bowman**	**145.75 357**	P		**PKPab**	**05 12 02.8**	**-0.1**
	baz=3.7,SNR=13						
Z56A	**Williston**	**145.75 358**	P		**PKPab**	**05 12 03.0**	**0.0**
	baz=2.5						
LRAL	**Lakeview Retre**	**145.83 6**	P		**PKPbc**	**05 12 02.7**	**-0.2**
	baz=352,SNR=29						
NHSC	**New Hope**	**145.90 356**	P		**PKPab**	**05 12 03.5**	**0.0**
	baz=4.6,SNR=8.9						
146A	**Union**	**145.94 10**			**PKPbc**	**05 12 03.0**	**-0.3**
VBMS	**Vicksburg**	**146.07 12**	P		**PKPab**	**05 12 05.3**	**+1.0**
	baz=346						
ARAG	**Araguaiana, MT**	**146.19 243**	*e*P		**PKiKP**	**05 12 12.8**	**+5.1**
158A	**Hollywood**	**146.27 356**	P		**PKPbc**	**05 12 04.4**	**+0.2**
	baz=4.6						
157A	**Early Branch**	**146.38 357**	P		**PKPbc**	**05 12 04.9**	**+0.3**
	baz=3.2						
VA03	**San Esteban**	**146.46 199**			**PKPbc**	**05 12 04.9**	**-0.1**
HKT	**Hockley**	**146.71 21**	PKP2		**PKPbc**	**05 12 05.6**	**0.0**
HKT	**Hockley**	**146.71 21**			**PKPbc**	**05 12 05.6**	**0.0**
352A	**Blakely**	**147.55 3**			**PKPbc**	**05 12 08.8**	**+0.9**
ZAIG	**Zacatecas**	**149.43 38**			**PKiKP**	**05 12 15.0**	**+0.4**
LCO	**Las Campanas**	**149.94 201**	PKIKP		**PKPdf**	**05 12 09.6**	**-0.1**
LCO	**Las Campanas**	**149.94 201**	PKPdf		**PKPdf**	**05 12 09.6**	**-0.1**
NPGB	**Novo Progresso**	**152.04 257**	*e*P		**PKiKP**	**05 12 21.4**	**+1.5**
PTLB	**Pontes e Lacer**	**152.66 237**	*e*P		**PKiKP**	**05 12 21.1**	**+0.1**
ITTB	**Itaituba**	**152.81 263**	*e*P		**PKiKP**	**05 12 22.2**	**+0.7**
SIV	**San Ignacio**	**153.99 234**	PKP		**PKPdf**	**05 12 15.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=306,slow=6.5,SNR=3.9						
SIV			PKPbc		**PKiKP**	**05 12 24.2**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=141,slow=6.1,SNR=5.5						
LVC	**Limon Verde**	**154.72 211**	*e*P		**PKPbc**	**05 12 24.7**	**-0.9**
PTGA	**Pitinga**	**157.21 271**	*e*P		**PKPdf**	**05 12 27.4**	**+7.3**
SAML	**Samuel**	**159.00 248**	PKIKP		**PKPdf**	**05 12 21.6**	**-0.7**
SAML						05 12 59.1	
SAML	**Samuel**	**159.00 248**	PKPdf		**PKPdf**	**05 12 21.6**	**-0.7**
SAML					**PKPab**	**05 12 59.1**	**+0.4**
LPAZ	**La Paz**	**159.12 223**	PKP		**PKPdf**	**05 12 22.0**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=47,slow=8.5,SNR=4.3						
LPAZ	**La Paz**	**159.12 223**	*e*P		**PKPdf**	**05 12 30.2**	**+7.1**
ETMB	**Extrema**	**161.40 242**	*e*P		PKPdf	05 12 32.9	+8.0
OTAV	**Otavalo**	**175.49 287**	*e*P		**PKPdf**	**05 12 40.6**	**+5.7**

IDC 14 05:01:58.0±2.0, 33°.66S×179°.43W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/43, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=47.6km s-min=35.7km az=104.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.38**	**210**	Pn	Pn	05 03 19.2	-0.2
	2.0nm,0.3s,baz=241,slow=3.4,SNR=7.9						
URZ				Sn	Sn	05 04 20.5	-1.6
	0.7nm,0.3s,baz=81,slow=23,SNR=1.9						
ASAR	**Alice Springs**	**41.84**	**271**	P	P	05 09 49.7	-0.2
	0.3nm,0.6s,baz=109,slow=8.0,SNR=5.4						
WRA	**Warramunga Arr**	**43.12**	**276**	P	P	05 10 00.6	+0.3
	0.2nm,0.3s,baz=115,slow=7.9,SNR=9.8						
FINES	**FINESS Array B**	**147.73**	**337**	PKPbc	PKPbc	05 21 42.7	-1.1
	2.0nm,0.9s,baz=34,slow=3.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**159.56**	**183**	PKPab	PKPab	05 22 37.0	-0.1
	0.6nm,0.8s,baz=171,slow=3.5,SNR=3.3						

*NEIC **14** 05:03:35.7±0.9, 9°.03S±0°.04×108°.49E±0°.04, h10km±2km, mb4.2/4, Error ellipse: s-maj=9.1km s-min=3.7km az=140.0*

*DJA **14** 05:03:39.6±0.6, 9°.5±3°×10°.9E±°, h14km±3km, M4.1/14, mb4.4/1, MLv4.0/14*

*IDC **14** 05:03:43.7±2.6, 8°.67S×108°.72E, h75km±22km, mb3.6/5, mb1 3.7/7, mb1mx3.3/56, mbtmp3.8/7, Error ellipse: s-maj=81.7km s-min=15.3km az=50.0*

ISC 14 05:03:34.4±1.7, 8°.88S±0°.06×108°.57E±0°.04, h1km±11km, n31, σ1§40/40, mb3.9/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.09**	**354**	P	**Pn**	**05 03 56.4**	**-0.4**
CMJI				Pg	**Pb**	**05 03 56.6**	**+0.5**
CMJI				Pn	**Pg**	**05 03 59.0**	**+3.6**
CMJI				Sg	**Sg**	**05 04 08.6**	**-0.9**
CMJI				S	**Sb**	**05 04 09.2**	**-1.6**
CISI	**Cisompet, Garu**	**1.51**	**330**	P	**Pg**	**05 04 02.9**	**-0.5**
CISI				S	**Sg**	**05 04 20.1**	**-2.9**
CISI	**Cisompet, Garu**	**1.51**	**330**		**Pg**	**05 04 03.4**	**0.0**
CISI				Sn	**Sg**	**05 04 21.8**	**-1.2**
KPJI	**Karang Pucung**	**1.57**	**13**	P	**Pg**	**05 04 05.3**	**+0.7**
YOGI	**Yogyakarta**	**2.00**	**58**	P	**Pn**	**05 04 09.9**	**+0.5**
CNJI	**Cibinong**	**2.11**	**317**	P	**Pn**	**05 04 11.2**	**+0.4**
CNJI				S	**Sn**	**05 04 37.0**	**-0.7**
UGM	**Wanagama**	**2.15**	**64**	P	**Pn**	**05 04 12.3**	**+0.8**
UGM				S	**Sn**	**05 04 35.8**	**-3.0**
UGM	**Wanagama**	**2.15**	**64**		**Pb**	**05 04 12.7**	**-1.5**
LEM	**Lembang**	**2.25**	**335**	P	**Pb**	**05 04 15.8**	**0.0**
	54nm,0.3s,baz=145,slow=18,SNR=9.3						
LEM				S	**Sb**	**05 04 44.0**	**-0.1**
	88nm,0.3s,baz=204,slow=16,SNR=9.2						
LEM	**Lembang**	**2.25**	**335**	P	**Pb**	**05 04 15.4**	**-0.4**
WOJI	**Wonogiri, Jawa**	**2.55**	**66**	P	**Pb**	**05 04 19.6**	**-1.3**
SMRI	**Semarang**	**2.59**	**46**	P	**Pb**	**05 04 20.4**	**-1.3**
SMRI	**Semarang**	**2.59**	**46**		**Pb**	**05 04 20.4**	**-1.3**
SMRI				Sn	**Sb**	**05 04 52.0**	**-2.1**
SKJI	**Sukabumi**	**2.73**	**313**	P	**Pn**	**05 04 19.9**	**+0.6**
XMIS	**Christmas Isla**	**3.29**	**241**	Pn	**Pn**	**05 04 25.6**	**-1.5**
PWJI	**Pagerwojo**	**3.31**	**75**	P	**Pn**	**05 04 28.6**	**+1.3**
CGJI	**Cibinong**	**3.63**	**308**	P	**Pn**	**05 04 33.5**	**+1.7**
JAGI	**Jajag, Banyuwa**	**5.53**	**86**	P	Pn	05 05 03.4	+5.5
JAGI	**Jajag, Banyuwa**	**5.53**	**86**	Pn	**Pn**	**05 04 59.5**	**+1.5**
FITZ	**Fitzroy Crossi**	**18.95**	**121**	P	**Pn**	**05 07 57.6**	**0.0**
	0.1nm,0.3s,baz=270,slow=20,SNR=1.2						
FITZ	**Fitzroy Crossi**	**18.95**	**121**	P	**Pn**	**05 07 57.8**	**+0.2**
WRA	**Warramunga Arr**	**27.23**	**117**	P	**P**	**05 09 20.7**	**+0.6**
	1.2nm,0.9s,baz=289,slow=11,SNR=6.0						
WB2	**Warramunga Arr**	**27.24**	**117**	P	**P**	**05 09 20.5**	**+0.2**
WB2				IAmb	IAmb	05 09 48.5	
	comp=Z,9.5nm,1.4s						
ASAR	**Alice Springs**	**28.34**	**124**	P	**P**	**05 09 31.2**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=294,slow=9.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**28.77**	**341**	P	**P**	**05 09 35.0**	**+1.1**
HKPS	**Hong Kong Po S**	**31.44**	**10**	P	**P**	**05 09 58.8**	**+1.3**
STKA	**Stephens Creek**	**38.24**	**131**	P	**P**	**05 10 57.3**	**+1.2**
	comp=Z,5.0nm,0.6s,baz=316,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**38.24**	**131**	P	**P**	**05 10 56.1**	**-0.1**
XAN	**Xi'an**	**42.68**	**0**	P	**P**	**05 11 33.8**	**+0.9**
XAN				IAmb	IAmb	05 11 36.6	
	comp=Z,4.1nm,0.9s						
MKAR	**Makanchi Array**	**60.17**	**339**	P	**P**	**05 13 42.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=143,slow=8.1,SNR=7.2						
KURBB	**Kurchatov Arra**	**64.74**	**339**	P	**P**	**05 14 12.9**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=155,slow=5.6,SNR=3.2						

*IDC **14** 05:04:02.3±0.7, 14°.62N×146°.81E, h0km, mb4.2/20, mb1 4.3/21, mb1mx4.1/57, mbtmp4.2/21, ML4.4/1, Error ellipse: s-maj=19.9km s-min=14.1km az=103.0*

*NEIC **14** 05:04:03.2±1.3, 14°.70N±0°.05×146°.97E±0°.07, h10km±1km, mb4.6/20, Error ellipse: s-maj=11.4km s-min=8.6km az=75.0*

ISC 14 05:04:03.1±0.5, 14°.65N±0°.07×146°.98E±0°.07, h10km, n65, σ0§97/64, mb4.5/29, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.30**	**243**	Pn	**Pn**	**05 04 40.5**	**-0.7**
	110nm,0.3s,baz=91,slow=5.6,SNR=24						
GUMO				Sn	**Sn**	**05 05 10.9**	**+1.3**
	62nm,0.3s,baz=202,slow=22,SNR=5.8						
GUMO	**Guam**	**2.30**	**243**		**Pn**	**05 04 41.5**	**+0.3**
GUMO					**Sn**	**05 05 09.9**	**+0.4**
PATS	**Pohnpei**	**13.57**	**124**	Pn	**Pn**	**05 07 15.2**	**-0.7**
H11N1	**WAKE ISLAND Hy**	**19.67**	**72**	T	T	05 28 54.0	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**19.68**	**72**	T	T	05 28 53.7	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**19.69**	**72**	T	T	05 28 56.6	
	baz=257						
SIJI	**Sorong**	**21.90**	**227**	P	**P**	**05 08 58.5**	**+1.9**
	16nm,0.8s,baz=100,slow=3.8,SNR=6.9						
DAV	**Davao City (W)**	**22.31**	**253**	P	**P**	**05 08 58.1**	**-3.0**
	123nm,0.4s,baz=63,slow=11,SNR=1.4						
JMN	**Monobe**	**22.40**	**330**	P	**P**	**05 09 01.8**	**-0.1**
JMN				IAmb	IAmb	05 09 24.4	
	comp=Z,37nm,1.5s						
JGF	**Kuroka**	**22.58**	**339**	P	**P**	**05 09 02.6**	**-1.1**
FAKI	**Fak Fak**	**22.75**	**221**	P	**P**	**05 09 06.4**	**+0.7**
MJAR	**Matsushiro Arr**	**23.16**	**342**	P	**P**	**05 09 08.3**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=170,slow=8.2,SNR=7.0						
MJAR	**Matsushiro Arr**	**23.16**	**342**	P	**P**	**05 09 09.7**	**-0.2**
MAJO	**Matsushiro**	**23.17**	**342**	P	**P**	**05 09 10.1**	**+0.2**
JNU	**Nakatsue**	**23.50**	**324**	P	**P**	**05 09 14.3**	**+1.0**
	comp=Z,5.6nm,0.6s,baz=69,slow=6.4,SNR=5.6						
JNU	**Nakatsue**	**23.50**	**324**	P	**P**	**05 09 14.2**	**+1.0**
JNU				IAmb	IAmb	05 09 34.5	
	comp=Z,24nm,1.2s						
KSRS	**Korea Array**	**28.33**	**327**	P	**P**	**05 09 57.3**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=147,slow=9.8,SNR=8.6						
KSAR	**Wonju Array Be**	**28.34**	**327**	P	**P**	**05 09 56.4**	**-0.9**
JEW	**Eniwo**	**28.49**	**351**	P	**P**	**05 09 57.7**	**-0.8**
USRK	**Ussuriysk Ar.**	**32.10**	**340**	P	**P**	**05 10 30.6**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=111,slow=7.9,SNR=4.1						
WB2	**Warramunga Arr**	**36.55**	**200**	P	**P**	**05 11 09.6**	**+0.3**
WRA	**Warramunga Arr**	**36.56**	**200**	P	**P**	**05 11 08.8**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=23,slow=9.7,SNR=10						
WRA	**Warramunga Arr**	**36.56**	**200**	P	**P**	**05 11 09.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**38.75**	**214**	P	**P**	**05 11 27.1**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=1.7,slow=9.0,SNR=4.8						
FITZ	**Fitzroy Crossi**	**38.75**	**214**	P	**P**	**05 11 28.4**	**+0.5**
PETK	**Petropavlovsk-**	**39.30**	**10**	P	**P**	**05 11 32.2**	**+0.1**
ASAR	**Alice Springs**	**40.17**	**199**	P	**P**	**05 11 39.5**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=29,slow=9.6,SNR=5.8						
ASAR	**Alice Springs**	**40.17**	**199**	P	**P**	**05 11 40.3**	**+0.6**
MA2	**Magadan**	**44.94**	**3**	P	**P**	**05 12 18.9**	**+0.9**
ARMA	**Armidale**	**45.03**	**174**	P	**P**	**05 12 20.0**	**+0.8**
ARMA				IAmb	IAmb	05 12 24.9	
	comp=Z,16nm,1.4s						
CMAR	**Chiang Mai Arr**	**46.10**	**282**	P	**P**	**05 12 27.0**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=74,slow=7.6,SNR=8.7						
CMAR	**Chiang Mai Arr**	**46.10**	**282**	P	**P**	**05 12 27.2**	**-0.6**
ULN	**Ulaanbaatar**	**46.71**	**324**	P	**P**	**05 12 32.6**	**+0.2**
ULN				IAmb	IAmb	05 12 35.7	
	comp=Z,4.2nm,0.6s						
KIWB	**Kanaga Island**	**46.87**	**30**	P	**P**	**05 12 33.1**	**-0.3**
SONM	**Songino Array**	**47.08**	**323**	P	**P**	**05 12 36.2**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=134,slow=6.2,SNR=9.3						
SONM	**Songino Array**	**47.08**	**323**	P	**P**	**05 12 34.6**	**-0.6**
SEY	**Seymchan**	**48.37**	**3**	P	**P**	**05 12 47.2**	**+2.3**
	comp=Z,3.4nm,0.8s,baz=195,slow=8.5,SNR=4.5						
SHL	**Shillong**	**52.55**	**291**	P	**P**	**05 13 16.5**	**-0.8**
SHL				IAmb	IAmb	05 13 18.1	
	comp=Z,4.6nm,0.6s						
ZAA0	**Zalesovo Array**	**61.97**	**324**	P	**P**	**05 14 22.9**	**-0.3**
ZAA0				IAmb	IAmb	05 14 25.2	
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**61.97**	**324**	P	**P**	**05 14 23.6**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=108,slow=4.8,SNR=7.6						
ZALV	**Zalesovo Beam**	**61.97**	**324**	P	**P**	**05 14 22.5**	**-0.7**
MK31	**Makanchi Array**	**62.16**	**315**	P	**P**	**05 14 25.9**	**+1.2**
MK31				IAmb	IAmb	05 14 26.9	
	comp=Z,3.8nm,0.6s						
MKAR	**Makanchi Array**	**62.16**	**315**	P	**P**	**05 14 26.1**	**+1.4**
	comp=Z,5.8nm,0.5s,baz=89,slow=8.5,SNR=45						
MKAR	**Makanchi Array**	**62.16**	**315**	P	**P**	**05 14 25.5**	**+0.8**
KURK	**Kurchatov**	**65.10**	**319**	P	**P**	**05 14 43.5**	**-0.5**
KURBB	**Kurchatov Arra**	**65.15**	**319**	P	**P**	**05 14 45.1**	**+0.8**
	comp=Z,19nm,0.7s,baz=98,slow=6.7,SNR=182						
NRIK	**Noril'sk**	**65.81**	**340**	P	**P**	**05 14 47.6**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=25,slow=4.2,SNR=4.5						
ILAR	**Eielson Array**	**66.74**	**25**	P	**P**	**05 14 54.5**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=252,slow=5.3,SNR=8.4						
ILAR	**Eielson Array**	**66.74**	**25**	P	**P**	**05 14 54.6**	**+0.3**
BVAR	**Borovoye Array**	**70.37**	**321**	P	**P**	**05 15 17.3**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=113,slow=11,SNR=14						
ABKAR	**Akbulak array**	**77.13**	**318**	P	**P**	**05 15 56.8**	**-0.2**
YKA	**Yellowknife Ar**	**80.98**	**28**	P	**P**	**05 16 18.3**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=292,slow=6.2,SNR=3.8						
PINE	**Pine Mountain**	**81.50**	**47**	P	**P**	**05 16 21.1**	**-0.1**
PINE				IAmb	IAmb	05 16 35.8	
	comp=Z,7.2nm,1.2s						
NVAR	**Mina Array Bea**	**84.66**	**52**	P	**P**	**05 16 39.7**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=265,slow=5.2,SNR=5.7						
HRY	**Holter Researc**	**86.95**	**43**	P	**P**	**05 16 48.7**	**-0.1**
SPUT	**South Promonto**	**88.19**	**48**	P	**P**	**05 16 53.9**	**-1.1**
PDAR	**Pinedale Array**	**89.76**	**46**	P	**P**	**05 17 05.1**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=279,slow=6.0,SNR=1.9						
PDAR	**Pinedale Array**	**89.76**	**46**	P	**P**	**05 17 01.1**	**-1.3**
FINES	**FINESS Array B**	**91.05**	**336**	P	**P**	**05 17 07.2**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=67,slow=6.4,SNR=6.9						
FINES	**FINESS Array B**	**91.05**	**336**	P	**P**	**05 17 07.6**	**0.0**
DBIC	**Dimbokro**	**144.94**	**305**	PKP	**PKPdf**	**05 23 41.7**	**0.0**
	comp=Z,8.6nm,0.6s,baz=44,slow=3.9,SNR=17						
KIC	**Kosan Boka**	**145.04**	**305**	*e*PKP1	**PKPdf**	**05 23 41.8**	**-0.1**
	comp=Z,18nm,0.7s						
TIC	**Toumodi**	**145.09**	**305**	*e*PKP1	**PKPdf**	**05 23 41.9**	**-0.1**
LIC	**Lamto**	**145.35**	**305**	*e*PKP1	**PKPdf**	**05 23 42.8**	**+0.4**
	comp=Z,49nm,0.7s						
LPAZ	**La Paz**	**146.15**	**97**	PKPbc	**PKiKP**	**05 23 47.3**	**-1.4**
	comp=Z,3.2nm,0.9s,baz=321,slow=1.7,SNR=13						

*SKO **14** 05:14:12.7, 40°.79N×21°.23E, h15km*

*TIR **14** 05:14:14.3, 40°.79N×21°.42E, h3km±3km, Md3.0*

*ATH **14** 05:14:16.5, 40°.79N×21°.25E, h16km±1km, ML2.6/15, Error ellipse: s-maj=1.7km s-min=0.8km az=141.0*

*THE **14** 05:14:17.2, 40°.76N×21°.26E, h0km±2km, ML2.7/9, Error ellipse: s-maj=2.2km s-min=0.7km az=358.0*

*BEO **14** 05:14:18.8±0.4, 40°.83N×21°.35E, h5km±7km, ML2.5/2*

ISC 14 05:14:16.9±1.0, 40°.78N±0°.02×21°.27E±0°.02, h11km±9km, n80, σ1§57/110, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.40**	**204**	P	**Pg**	**05 14 24.3**	**-0.5**
NEST				S	**Sg**	**05 14 29.9**	**-0.3**
	4μm,0.5s						
NEST	**Nestorio**	**0.40**	**204**	P	**Pg**	**05 14 24.4**	**-0.5**
NEST				S	**Sg**	**05 14 30.5**	**+0.4**
NEST				AML	AML	05 14 30.9	
	comp=E,12116μm,0.5s						
NEST				AML	AML	05 14 31.0	
	comp=N,5942μm,0.3s						
OHR	**Ohrid**	**0.48**	**313**	*i*Pg	**Pb**	**05 14 26.7**	**-0.8**
OHR				*i* Sg	**Sb**	**05 14 34.5**	**-0.3**
OHR				*e*Lg	Lg	05 14 35.0	
	comp=E,225nm,0.3s						
OHR				*e*Lg	Lg	05 14 35.6	
	comp=N,280nm,0.3s						
PENT	**Pentalofos**	**0.59**	**190**	P	**Pg**	**05 14 28.0**	**-0.4**
PENT				S	**Sg**	**05 14 36.3**	**+0.1**
	comp=N,665nm,0.5s						
PENT	**Pentalofos**	**0.59**	**190**	P	**Pg**	**05 14 28.1**	**-0.3**
PENT				S	**Sb**	**05 14 36.6**	**-1.2**
PENT				AML	AML	05 14 39.0	
	comp=N,1570μm,0.6s						
PENT				AML	AML	05 14 39.4	
	comp=E,1170μm,0.3s						
KZN	**Kozani**	**0.61**	**141**	P	**Pg**	**05 14 28.7**	**0.0**
KZN				S	**Sb**	**05 14 37.4**	**-0.9**
	comp=E,1μm,0.2s						
KZN	**Kozani**	**0.61**	**141**	P	**Pg**	**05 14 28.7**	**0.0**
KZN				S	**Sg**	**05 14 37.1**	**+0.3**
KZN				AML	AML	05 14 40.4	
	comp=E,3088μm,0.3s						
KZN				AML	AML	05 14 41.5	
	comp=N,2499μm,0.2s						
KTI	**Kastanea**	**0.75**	**121**	P	**Pb**	**05 14 31.7**	**-0.5**
LSK	**Leskovik**	**0.81**	**219**	P	**Pb**	**05 14 31.8**	**-1.3**
	baz=225						
LSK				S	**Sn**	**05 14 45.2**	**-1.3**
	baz=225						
KPRO	**Kipourio**	**0.83**	**175**	P	**Pb**	**05 14 31.7**	**-1.7**
KPRO				S	**Sn**	**05 14 45.2**	**-1.7**
	comp=N,858nm,0.6s						
KPRO	**Kipourio**	**0.83**	**175**	P	**Pb**	**05 14 31.7**	**-1.7**
KPRO				S	**Sn**	**05 14 45.0**	**-1.8**
KPRO				AML	AML	05 14 48.9	
	comp=E,1247μm,0.4s						
KPRO				AML	AML	05 14 50.5	
	comp=N,1943μm,0.6s						
MEV	**Metsovon**	**0.99**	**182**	P	**Pn**	**05 14 36.0**	**-1.0**
MEV				S	**Sn**	**05 14 50.7**	**-0.4**
MEV	**Metsovon**	**0.99**	**182**	P	**Pb**	**05 14 34.7**	**-1.5**
PHP	**Peshkopia**	**1.10**	**326**	P	**Pn**	**05 14 36.9**	**-1.5**
PHP				S	**Sn**	**05 14 55.3**	**+1.7**
PHP	**Peshkopia**	**1.10**	**326**	P	**Pn**	**05 14 36.9**	**-1.5**
	baz=321						
PHP				S	**Sn**	**05 14 54.8**	**+1.2**
	baz=321						
VAY	**Valandovo**	**1.12**	**61**	*i* Pg	**Pg**	**05 14 38.9**	**+0.4**
VAY				*i* Sg	**Sg**	**05 14 55.1**	**+1.9**
VAY				*e*Lg	Lg	05 14 56.1	
	comp=N,40nm,0.5s						
VAY				*e*Lg	Lg	05 14 57.3	
	comp=E,23nm,0.4s						
LIT	**Litokhoron**	**1.15**	**126**	P	**Pg**	**05 14 39.3**	**+0.2**
LIT				S	**Sg**	**05 14 55.9**	**+1.8**
	comp=E,340nm,0.3s						
JAN	**Janina**	**1.17**	**196**	P	**Pg**	**05 14 38.9**	**-0.4**
JAN				S	**Sg**	**05 14 56.3**	**+1.8**
	comp=E,260nm,0.4s						
JAN	**Janina**	**1.17**	**196**	P	**Pg**	**05 14 38.8**	**-0.5**
JAN				S	**Sg**	**05 14 54.5**	**0.0**
JAN				AML	AML	05 15 04.1	
	comp=E,574μm,0.5s						
JAN				AML	AML	05 15 04.5	
	comp=N,455μm,0.4s						
TIR	**Tirane**	**1.20**	**299**	P	**Pg**	**05 14 40.0**	**0.0**
TIR	**Tirane**	**1.20**	**299**	P	**Pn**	**05 14 38.3**	**-1.4**
TIR	**Tirane**	**1.20**	**299**	P	**Pg**	**05 14 41.0**	**+0.9**
	baz=296						
TIR				S	**Sg**	**05 14 59.5**	**+3.8**
	baz=296						
KNT	**Kendrikon**	**1.29**	**72**	P	**Pg**	**05 14 42.1**	**+0.3**
KNT				S	**Sg**	**05 15 00.4**	**+1.8**
	comp=N,170nm,0.6s						
KNT	**Kendrikon**	**1.29**	**72**	P	**Pg**	**05 14 41.8**	**+0.1**
KNT				S	**Sg**	**05 14 59.4**	**+0.8**
KNT				AML	AML	05 15 04.0	
	comp=E,148μm,0.5s						
KNT				AML	AML	05 15 04.2	
	comp=N,545μm,0.7s						
SRN	**Sarande**	**1.32**	**228**	P	**Pg**	**05 14 43.5**	**+1.3**
	baz=231						
SRN				S	**Sg**	**05 15 03.9**	**+4.5**
	baz=231						
THL	**Klokotos Trika**	**1.34**	**154**	P	**Pb**	**05 14

SJES	Sjenica	2.66	339	ePn		Pb	05 15 02.2 -2.5
ZAPS	Zavoj	2.69	22	ePn		Pb	05 15 02.7 -2.5
RLS	Riolos of Patr	2.72	177	P		Pb	05 15 02.8 -2.8
KLV	Kalavryta, Ach	2.82	166	P		Pn	05 15 03.4 +1.4
KLV	Kalavryta, Ach	2.82	166	P		Pn	05 15 03.3 +1.3
DRO	Drossia	2.84	173	P		Pn	05 15 03.0 +0.7
DRO	Drossia	2.84	173	P		Pn	05 15 04.0 +1.7
BOVS	Bovan	2.87	6	ePn		Pb	05 15 04.3 -3.9
GUR	Goura	2.96	163	P		Pn	05 15 05.4 +1.5
VIL2	Platees	3.00	148	P		Pb	05 15 06.9 -3.5
ZAGS	Zajecar	3.12	13	ePn		Pn	05 15 07.5 +1.5
GRUS	Gruza	3.13	353	ePn		Pn	05 15 08.0 +1.7
TRIP	Tripoli	3.34	166	P		Pn	05 15 11.5 +2.3
DION	Dionisos Attik	3.40	142	P		Pn	05 15 11.3 +1.4
DION	Dionisos Attik	3.40	142	P		Pn	05 15 11.5 +1.6
TRUS	Trudelj	3.50	350	ePn		Pn	05 15 12.9 +1.6
DID	Didima	3.61	154	P		Pn	05 15 14.3 +1.5
FRGS	Fruska Gora	4.50	347	ePn		Pn	05 15 26.3 +1.2

VAO ***14*** *05:33:24.8±0.9, 28°.69S×69°.26W, h104km±10km, mb4.5*
SJA ***14*** *05:33:26.1±0.7, 28°.21S×69°.28W, h116km±4km, ML4.5, MW4.3*
NEIC ***14*** *05:33:26.7±1.5, 28°.25S±0°.04×69°.32W±0°.08, h111km±5km, Error ellipse: s-maj=10.8km s-min=6.2km az=81.0*
GUC ***14*** *05:33:27.1±0.8, 28°.26S×69°.41W, h111km±8km, ML4.3*
UNK ***14*** *05:33:27.4, 28°.25S×69°.15W, h94km*
IDC ***14*** *05:33:29.1±0.5, 28°.23S×69°.14W, h115km±4km, mb4.1/12, mb1 4.3/13, mb1mx4.1/26, mbtmp4.5/13, Error ellipse: s-maj=17.3km s-min=12.5km az=79.0*
ISC 14 05:33:27.2±0.4, 28°.26S±0°.03×69°.30W±0°.03, h107km±3km, h107km; pP-P, n362, q1956/394, mb4.6/61, 8C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC05	**El Transito**	**1.03**	**236**	⇑*i*P	**Pn**	**05 33 49.1**	**+0.5**
AC05				*i* S	**Sn**	**05 34 05.1**	**+0.3**
AC05				IAML		05 34 06.1	
	comp=N,10μm,0.3s						
AC05	**El Transito**	**1.03**	**236**	Pn	**Pn**	**05 33 49.1**	**+0.5**
AC05				Sn	**Sn**	**05 34 05.0**	**+0.2**
GO03	**Copiap**	**1.06**	**309**	⇑*i*P	**Pn**	**05 33 49.2**	**+0.3**
GO03				*i* S	**Sn**	**05 34 05.4**	**+0.1**
GO03				IAML		05 34 07.0	
	comp=N,9μm,0.7s						
GO03	**Copiap**	**1.06**	**309**		**Pn**	**05 33 49.2**	**+0.3**
GO03				Sn	**Sn**	**05 34 05.1**	**-0.2**
GO03	**Copiap**	**1.06**	**309**	*e*P	**Pn**	**05 33 49.2**	**+0.3**
GO03				*e*S	**Sn**	**05 34 05.8**	**+0.6**
AGUA	**GUANDACOL**	**1.41**	**150**	*e*P	**Pn**	**05 33 53.8**	**+0.9**
AGUA				*e*S	**Sn**	**05 34 14.2**	**+1.8**
AGUA				IAML		05 34 16.8	
	comp=Z,4μm,0.4s						
LCO	**Las Campanas**	**1.44**	**238**		**Pn**	**05 33 53.7**	**+0.2**
LCO				Sn	**Sn**	**05 34 13.2**	**-0.1**
AC04	**Llanos de Chal**	**1.57**	**272**	⇑*i*P	**Pn**	**05 33 54.6**	**-0.1**
AC04				*i* S	**Sn**	**05 34 15.0**	**-0.5**
AC04				IAML		05 34 16.8	
	comp=E,4μm,0.7s						
AC04	**Llanos de Chal**	**1.57**	**272**	Pn	**Pn**	**05 33 54.6**	**-0.1**
AC04				Sn	**Sn**	**05 34 14.7**	**-0.9**
CO01	**Juntas del Tor**	**1.84**	**202**	⇑*i*P	**Pn**	**05 33 59.5**	**+1.1**
CO01				*i* S	**Sn**	**05 34 24.0**	**+1.9**
CO01	**Juntas del Tor**	**1.84**	**202**		**Pn**	**05 33 59.5**	**+1.1**
CO01				Sn	**Sn**	**05 34 22.2**	**+0.1**
AROD	**Rodeo**	**1.91**	**184**	*e*P	**Pn**	**05 34 00.9**	**+1.7**
AROD				*e*S	**Sn**	**05 34 28.1**	**+4.5**
ACDV	**Cuesta del Vie**	**1.91**	**175**	*e*P	**Pn**	**05 34 00.6**	**+1.5**
ACDV				*e*S	**Sn**	**05 34 27.1**	**+3.7**
GO04	**Tololo Observa**	**2.31**	**214**	⇑*i*P	**Pn**	**05 34 04.1**	**-0.3**
GO04				*i* S	**Sn**	**05 34 31.9**	**-0.8**
GO04	**Tololo Observa**	**2.31**	**214**	Pn	**Pn**	**05 34 04.1**	**-0.3**
GO04				Sn	**Sn**	**05 34 31.9**	**-0.8**
ACLC	**CERRO LA CRUZ**	**2.36**	**120**	*e*P	**Pn**	**05 34 05.5**	**+0.6**
ACLC				*e*S	**Sn**	**05 34 34.4**	**+0.6**
ACLC				IAML		05 34 35.7	
	comp=Z,2μm,0.4s						
AC01	**Pan de Azucar**	**2.40**	**331**	⇑*i*P	**Pn**	**05 34 05.6**	**+0.3**
AC01				IAML		05 34 31.7	
	comp=N,2μm,0.4s						
AC01	**Pan de Azucar**	**2.40**	**331**	Pn	**Pn**	**05 34 05.9**	**+0.6**
CO03	**El Pedregal**	**2.84**	**205**	⇑*i*P	**Pn**	**05 34 11.0**	**-0.1**
CO03				IAML		05 34 46.1	
	comp=E,1μm,0.4s						
CO03	**El Pedregal**	**2.84**	**205**		**Pn**	**05 34 11.0**	**-0.1**
CO03				Sn	**Sn**	**05 34 43.2**	**-1.6**
AVFE	**Valle Fertil**	**2.88**	**146**	*e*P	**Pn**	**05 34 12.1**	**+0.4**
AVFE				*e*S	**Sn**	**05 34 45.8**	**-0.1**
CYA	**Choya**	**3.09**	**94**	*e*P	**Pn**	**05 34 14.8**	**+0.4**
CYA				*e*S	**Sn**	**05 34 50.1**	**-0.7**
CYA				IAML		05 34 51.1	
	comp=Z,935nm,0.5s						
GO02	**Mina Guanaco**	**3.10**	**355**	⇑*i*P	**Pn**	**05 34 16.0**	**+1.1**
GO02	**Mina Guanaco**	**3.10**	**355**	Pn	**Pn**	**05 34 15.9**	**+1.1**
RTLL	**Cerro Villicun**	**3.14**	**167**	*e*P	**Pn**	**05 34 15.8**	**+0.7**
RTLL				*e*S	**Sn**	**05 34 51.6**	**-0.4**
RTLL				IAML		05 34 53.2	
	comp=Z,550nm,0.8s						
APLL	**PUNTA DE LOS L**	**3.22**	**132**	*e*P	**Pn**	**05 34 16.3**	**+0.2**
CO02	**Combarbal**	**3.28**	**206**	*e*P	**Pn**	**05 34 16.1**	**-0.9**
CO02	**Combarbal**	**3.28**	**206**		**Pn**	**05 34 16.3**	**-0.8**
ZON	**Zonda**	**3.32**	**171**	Pn	**Pn**	**05 34 17.8**	**+0.4**
ZON	**Zonda**	**3.32**	**171**	*e*P	**Pn**	**05 34 18.1**	**+0.7**
ZON				*e*S	**Sn**	**05 34 56.6**	**+0.4**
RTLS	**Leoncito**	**3.53**	**180**	*e*P	**Pn**	**05 34 21.4**	**+0.9**
RTLS				*e*S	**Sn**	**05 35 01.8**	**+0.3**
PB14	**IPOC Station P**	**3.75**	**344**	Pn	**Pn**	**05 34 23.7**	**+0.1**
VA03	**San Esteban**	**4.62**	**193**		**Pn**	**05 34 34.4**	**-0.5**
PB10	**IPOC Station P**	**4.86**	**346**		**Pn**	**05 34 37.1**	**-1.0**
SLA	**San Lorenzo**	**4.90**	**45**	*e*P	Pn	05 34 23.9	-15
ROC1	**El Roble**	**4.93**	**197**		**Pn**	**05 34 37.0**	**-2.2**
PEL	**Peldehue**	**5.01**	**193**	Pn	**Pn**	**05 34 38.7**	**-1.5**
PEL	**Peldehue**	**5.01**	**193**	*e*P	**Pn**	**05 34 41.3**	**+1.1**
PB15	**IPOC Station P**	**5.03**	**358**		**Pn**	**05 34 40.8**	**+0.1**
PB15	**IPOC Station P**	**5.03**	**358**	*e*P	**Pn**	**05 34 40.9**	**+0.1**
PB15				*e*S	**Sn**	**05 35 42.1**	**+4.2**
PB15				IAML		05 36 13.6	
	comp=Z,776nm,0.3s						
MT02	**Curacav**	**5.23**	**197**		**Pn**	**05 34 40.5**	**-2.6**
MT05	**Renca**	**5.26**	**193**		**Pn**	**05 34 42.4**	**-1.2**
PB05	**IPOC Station P**	**5.45**	**351**	*e*P	**Pn**	**05 34 44.4**	**-1.8**
PB05				IAML		05 36 10.4	
	comp=Z,167nm,0.8s						
AZAP	**Zapla**	**5.53**	**44**	*e*P	Pn	05 34 48.8	+1.3
AZAP				IAML		05 36 50.6	
	comp=Z,94nm,1.1s						
PB06	**IPOC Station P**	**5.54**	**357**		**Pn**	**05 34 46.6**	**-0.9**
PB06	**IPOC Station P**	**5.54**	**357**	*e*P	**Pn**	**05 34 46.6**	**-0.9**
PB06				*e*S	**Sn**	**05 35 48.8**	**-1.2**
PB06				IAML		05 36 33.4	
	comp=Z,257nm,0.8s						
LVC	**Limon Verde**	**5.64**	**4**	P	**Pn**	**05 34 48.7**	**-0.3**
	comp=Z,7.3nm,0.3s,baz=153,slow=6.3,SNR=66						
LVC				S	**Sn**	**05 35 52.5**	**-0.2**
	comp=Z,13nm,0.3s,baz=215,slow=14,SNR=3.3						
LVC	**Limon Verde**	**5.64**	**4**		**Pn**	**05 34 49.4**	**+0.4**
PIL	**Pilar**	**5.80**	**127**	*e*P	**Pn**	**05 34 51.8**	**+0.9**
PIL				IAML		05 36 37.4	
	comp=Z,318nm,0.9s						
PB04	**IPOC Station P**	**5.95**	**352**		**Pn**	**05 34 51.2**	**-2.0**
PB04	**IPOC Station P**	**5.95**	**352**	*e*P	**Pn**	**05 34 51.5**	**-1.6**
PB04				IAML		05 36 44.1	
	comp=Z,266nm,0.6s						
ASTB	**Santa Barbara**	**6.12**	**47**	*e*P	**Pn**	**05 34 56.2**	**+0.9**
PB09	**IPOC Station P**	**6.44**	**0**		**Pn**	**05 34 59.9**	**+0.2**
PB09	**IPOC Station P**	**6.44**	**0**	*e*P	**Pn**	**05 34 59.1**	**-0.6**
PB09				IAML		05 37 05.8	
	comp=Z,239nm,0.8s						
PB07	**IPOC Station P**	**6.53**	**355**		**Pn**	**05 34 59.0**	**-2.0**
RFA	**San Rafael**	**6.53**	**174**	*e*P	**Pn**	**05 35 01.2**	**+0.4**
RFA				IAML		05 37 23.0	
	comp=Z,63nm,1.1s						
BO02	**Sierra Bellavi**	**6.63**	**191**		**Pn**	**05 35 00.4**	**-1.8**
LAMA	**Las Malvinas**	**6.65**	**179**	*e*P	**Pn**	**05 35 02.9**	**+0.5**
COIS	**El Sosneado**	**6.83**	**182**	*e*P	**Pn**	**05 35 05.6**	**+0.8**
GO05	**Huala**	**7.09**	**198**	Pn	**Pn**	**05 35 06.9**	**-1.5**
PB01	**IPOC Station P**	**7.19**	**359**		**Pn**	**05 35 09.4**	**-0.4**
EDS3	**Malargue**	**7.49**	**181**	*e*P	**Pn**	**05 35 14.8**	**+0.9**
EDS3				*e*S	Sn	05 36 18.0	-19
PB08	**IPOC Station P**	**8.09**	**1**		**Pn**	**05 35 21.1**	**-1.2**
PB11	**IPOC Station P**	**8.47**	**358**	Pn	**Pn**	**05 35 26.3**	**-0.9**
BI02	**San Fabin de**	**8.54**	**191**		**Pn**	**05 35 28.2**	**+0.1**
GO01	**Chusmiza**	**8.55**	**1**	Pn	**Pn**	**05 35 26.6**	**-2.2**
PSGCX	**Pisagua**	**8.66**	**355**	Pn	**Pn**	**05 35 28.3**	**-1.5**
MNMC	**Minye Minye**	**9.09**	**358**		**Pn**	**05 35 34.8**	**-1.0**
PB12	**IPOC Station P**	**9.65**	**354**	Pn	**Pn**	**05 35 40.8**	**-2.5**
PB16	**IPOC Station P**	**9.88**	**359**	Pn	**Pn**	**05 35 45.4**	**-1.4**
CPUP	**Villa Florida**	**10.82**	**83**	P	**Pn**	**05 35 55.6**	**-3.4**
	comp=Z,1.9nm,0.3s,baz=256,slow=12,SNR=29						
CPUP	**Villa Florida**	**10.82**	**83**	Pn	**Pn**	**05 35 55.7**	**-3.3**
CPUP	**Villa Florida**	**10.82**	**83**	*e*P	**Pn**	**05 35 54.7**	**-4.4**
LPAZ	**La Paz**	**11.97**	**5**	P	**Pn**	**05 36 13.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=199,slow=7.7,SNR=2.0						
LPAZ	**La Paz**	**11.97**	**5**		**Pn**	**05 36 14.0**	**-1.0**
PLCA	**Paso Flores**	**12.48**	**184**	*e*P	Pn	05 36 12.8	-8.3
PLTB	**Pedras Altas**	**14.04**	**108**	*e*P	**Pn**	**05 36 38.2**	**-3.3**
SIV	**San Ignacio**	**14.39**	**34**	P	**Pn**	**05 36 44.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=231,slow=9.3,SNR=5.0						
ITAB	**Concordia**	**15.24**	**90**	*e*P	**Pn**	**05 36 53.5**	**-3.2**
PTGB	**Pitanga**	**15.83**	**81**	*e*P	**P**	**05 37 02.7**	**-3.1**
PTLB	**Pontes e Lacer**	**15.85**	**39**	*e*P	**P**	**05 37 04.0**	**-1.9**
TRCB	**Terra Rica**	**15.99**	**74**	*e*P	**P**	**05 37 07.5**	**-0.1**
CNLB	**Canela**	**16.21**	**98**	*e*P	**Pn**	**05 37 05.6**	**-3.3**
VILB	**Vilhena**	**17.44**	**31**	*e*P	**P**	**05 37 26.9**	**+3.4**
PCMB	**Pacaembu**	**17.64**	**72**	*e*P	**Pn**	**05 37 25.6**	**-0.8**
FRTB	**Fartura**	**18.43**	**79**	*e*P	**Pn**	**05 37 33.7**	**-2.1**
ETMB	**Extrema**	**18.58**	**10**	*e*P	**Pn**	**05 37 39.2**	**+1.7**
ITRB	**Iturama**	**19.27**	**68**	*e*P	**Pn**	**05 37 43.6**	**-2.1**
SAML	**Samuel**	**20.06**	**18**	P	**P**	**05 37 51.1**	**-0.9**
SAML	**Samuel**	**20.06**	**18**	*e*P	**Pn**	**05 37 53.2**	**-1.6**
SPB	**Sao Paulo**	**20.20**	**82**	*e*P	**P**	**05 37 49.7**	**-3.9**
ARAG	**Araguaiana, MT**	**20.44**	**56**	*e*P	Pn	05 37 56.2	-3.1
CZSB	**Cruzeiro do Su**	**20.67**	**350**	*e*P	Pn	05 38 00.8	-1.2
VAO	**Valinhos**	**20.80**	**80**	*e*P	**P**	**05 37 58.5**	**-1.6**
PARB	**Paraibuna**	**21.86**	**82**	*e*P	**P**	**05 38 10.6**	**-0.9**
IPMB	**Ipameri, GO**	**21.89**	**67**	*e*P	**P**	**05 38 10.5**	**-1.3**
BDFB	**Brasilia**	**23.35**	**62**	P	**P**	**05 38 26.1**	**-0.3**
	comp=Z,9.1nm,0.8s,baz=229,slow=10,SNR=15						
BDFB	**Brasilia**	**23.35**	**62**	P	**P**	**05 38 25.1**	**-1.4**
BSCB	**Bom Sucesso**	**23.41**	**77**	*e*P	**P**	**05 38 23.1**	**-3.9**
EFI	**East Falkland**	**24.86**	**163**	P	**P**	**05 38 38.4**	**-1.2**
EFI				IAmb	IAmb	05 38 41.9	
	comp=Z,32nm,1.1s						
NPGB	**Novo Progresso**	**24.89**	**35**	*e*P	**P**	**05 38 40.2**	**0.0**
PEXB	**Peixe**	**25.36**	**55**	*e*P	**P**	**05 38 44.3**	**-0.3**
MC01	**Montes Claros**	**26.04**	**69**	*e*P	**P**	**05 38 49.3**	**-1.5**
MACA	**Manacapuru-AM**	**26.28**	**20**	*e*P	**P**	**05 38 54.6**	**+1.9**
JANB	**Januaria**	**26.61**	**66**	*e*P	**P**	**05 38 55.7**	**-0.2**
ITTB	**Itaituba**	**27.04**	**31**	*e*P	**P**	**05 39 00.3**	**+0.7**
SJMB	**Sao Joao De Ma**	**27.43**	**76**	*e*P	**P**	**05 39 01.4**	**-1.7**
BSFB	**Barra de Sao F**	**27.66**	**76**	*e*P	**P**	**05 39 03.3**	**-1.9**
SDBA	**SAO DESIDERIO**	**27.70**	**60**	*e*P	**P**	**05 39 04.4**	**-1.2**
SMTB	**Santa Maria do**	**28.12**	**51**	*e*P	**P**	**05 39 09.4**	**+0.1**
PRPB	**Parauapebas**	**28.70**	**44**	*e*P	**P**	**05 39 13.9**	**-0.5**
PTLC	**Puerto Leguiza**	**28.76**	**349**	*e*P	**P**	**05 39 12.4**	**-2.5**
PTGA	**Pitinga**	**28.80**	**20**	*e*P	**P**	**05 39 14.6**	**-0.7**
FLOC	**Florencia**	**30.29**	**347**	*e*P	**P**	**05 39 29.5**	**+0.9**
PRAC	**Prado**	**32.24**	**350**	*e*P	**P**	**05 39 47.5**	**+1.9**
ORTC	**Ortega, Tolima**	**32.49**	**349**	*e*P	**P**	**05 39 50.6**	**+2.7**
YOTC	**Yotoco, Valle**	**32.77**	**347**	*e*P	**P**	**05 39 51.5**	**+1.1**
TOLC	**Tolima**	**33.17**	**349**	*e*P	**P**	**05 39 55.8**	**+1.8**
GUY2C	**Guyana, Caldas**	**33.80**	**349**	*e*P	**P**	**05 40 02.1**	**+2.4**
NORC	**Norcasia**	**34.05**	**350**	*e*P	**P**	**05 40 03.0**	**+1.6**
RUSC	**La Rusia**	**34.15**	**353**	*e*P	**P**	**05 40 03.2**	**+0.5**
CBOC	**Ciudad Bolivar**	**34.54**	**348**	*e*P	**P**	**05 40 07.0**	**+1.2**
HELC	**Santa Helena**	**34.77**	**349**	*e*P	**P**	**05 40 09.7**	**+1.7**
PTBC	**PUERTO BERRIO,**	**34.95**	**351**	*e*P	**P**	**05 40 08.5**	**-0.6**
ZARC	**Zaragoza, Cauc**	**35.95**	**351**	*e*P	**P**	**05 40 16.8**	**-0.8**
SMLC	**San Martn de**	**37.13**	**352**	*e*P	**P**	**05 40 26.5**	**-1.2**
BANI	**BANI**	**46.39**	**359**	P	**P**	**05 41 41.2**	**-1.9**
TEIG	**Tepich**	**51.58**	**337**	P	**P**	**05 42 21.5**	**-1.1**
BELA	**Belgrano 2**	**52.14**	**171**	P	**P**	**05 42 26.3**	**+0.2**
BELA				PcP	**PcP**	**05 43 37.0**	**+0.6**
VNA3	**Neumayer Olymp**	**53.84**	**160**	P	**P**	**05 42 39.4**	**+0.6**
VNA1	**Neumayer--Stat**	**54.09**	**159**	P	**P**	**05 42 41.6**	**+1.1**
VNA2	**Neumayer--Watz**	**54.45**	**159**	P	**P**	**05 42 43.6**	**+0.5**
SNAA	**Sanae**	**56.06**	**160**	P	**P**	**05 42 55.2**	**+0.4**
SNAA	**Sanae**	**56.06**	**160**	P	**P**	**05 42 54.8**	**0.0**
SNAA				pP	**pP**	**05 43 22.7**	**+1.0**
NHSC	**New Hope**	**61.90**	**350**	P	**P**	**05 43 36.8**	**+1.5**
	baz=169						
NHSC	**New Hope**	**61.90**	**350**	P	**P**	**05 43 33.9**	**-1.4**
QSPA	**South Pole Qui**	**61.96**	**180**	P	**P**	**05 43 36.4**	**+0.7**
X58A	**Rowland**	**63.19**	**351**	P	**P**	**05 43 45.2**	**+1.3**
	baz=170						
833A	**Chaparral WMA,**	**63.22**	**330**	P	**P**	**05 43 46.8**	**+2.6**
	baz=150						
833A	**Chaparral WMA,**	**63.22**	**330**	P	**P**	**05 43 42.9**	**-1.3**
Y52A	**Lilburn**	**63.35**	**346**	P	**P**	**05 43 43.4**	**-1.6**
Y52A				IAmb	IAmb	05 43 45.5	
	comp=Z,9.4nm,1.3s						
X56A	**White Oak**	**63.39**	**349**	P	**P**	**05 43 46.1**	**+0.9**
	baz=168						
X55A	**Gracelyn & Ava**	**63.47**	**349**	P	**P**	**05 43 46.7**	**+1.0**
	baz=168						
W58A	**Raeford**	**63.64**	**351**	P	**P**	**05 43 48.4**	**+1.5**
	baz=170						
X54A	**Belton**	**63.68**	**348**	P	**P**	**05 43 47.9**	**+0.8**
	baz=167						
Y49A	**Blount Mountai**	**63.87**	**344**	P	**P**	**05 43 48.3**	**-0.1**
Y49A				IAmb	IAmb	05 44 02.5	
	comp=Z,7.8nm,1.3s						
W54A	**Cherokee Point**	**64.17**	**348**	P	**P**	**05 43 51.5**	**+1.1**
	baz=167						
V58A	**Windy Hill, Pi**	**64.38**	**351**	P	**P**	**05 43 52.7**	**+1.0**
	baz=170						
X48A	**Hartselle**	**64.59**	**344**	P	**P**	**05 43 51.5**	**-1.6**
X48A				IAmb	IAmb	05 43 54.6	
	comp=Z,8.6nm,1.0s						
V54A	**Nebo**	**64.80**	**349**	P	**P**	**05 43 55.5**	**+1.0**
	baz=168						
U58A	**Oxford**	**64.90**	**352**	P	**P**	**05 43 56.2**	**+1.2**
	baz=171						
U57A	**Blanch**	**65.04**	**351**	P	**P**	**05 43 57.2**	**+1.3**
	baz=170						
SWET	**Sewanee**	**65.06**	**345**	P	**P**	**05 43 54.8**	**-1.4**
SWET				IAmb	IAmb	05 43 57.6	
	comp=Z,9.1nm,0.8s						
V52A	**Sevierville**	**65.17**	**347**	P	**P**	**05 43 56.2**	**-0.6**
V52A				IAmb	IAmb	05 43 57.6	
	comp=Z,5.0nm,0.7s						
JCT	**Junction City**	**65.27**	**331**	P	**P**	**05 43 59.8**	**+2.1**
	baz=150						
JCT	**Junction City**	**65.27**	**331**	P	**P**	**05 43 58.1**	**+0.4**
OXF	**Oxford**	**65.27**	**342**	P	**P**	**05 43 56.5**	**-0.9**
PLAL	**Pickwick Lake**	**65.36**	**343**	P	**P**	**05 43 57.8**	**-0.2**
PLAL				IAmb	IAmb	05 43 59.1	
	comp=Z,9.8nm,1.3s						
T58A	**Grand View Acr**	**65.44**	**352**	P	**P**	**05 43 59.9**	**+1.3**
	baz=171						
U54A	**Nelsons Funny**	**65.51**	**349**	P	**P**	**05 43 59.7**	**+0.6**
	baz=168						
U54A	**Nelsons Funny**	**65.51**	**349**	P	**P**	**05 43 57.7**	**-1.4**
U54A				IAmb	IAmb	05 44 00.2	
	comp=Z,6.3nm,0.7s						
WHTX	**Lake Whitney,**	**65.64**	**334**	P	**P**	**05 44 01.7**	**+1.8**
	baz=153						
WHTX	**Lake Whitney,**	**65.64**	**334**	P	**P**	**05 43 59.5**	**-0.4**
X43A	**Marvell**	**65.69**	**341**	P	**P**	**05 44 01.9**	**+1.7**
	baz=159						
T56A	**Rocky Mt**	**65.72**	**351**	P	**P**	**05 44 02.0**	**+1.6**
	baz=170						
V48A	**Smith Brothers**	**65.77**	**344**	P	**P**	**05 44 00.1**	**-0.6**
V48A				IAmb	IAmb	05 44 02.2	
	comp=Z,18nm,1.4s						
TZTN	**Tazewell**	**65.84**	**347**	P	**P**	**05 44 00.4**	**-0.7**
TZTN				IAmb	IAmb	05 44 10.7	
	comp=Z,11nm,1.2s						
CLTN	**Cedars of Leba**	**65.99**	**345**	P	**P**	**05 44 02.2**	**+0.1**
CLTN				IAmb	IAmb	05 44 03.5	
	comp=Z,5.7nm,0.7s						
TX32	**Lajitas Array**	**66.03**	**327**	P	**P**	**05 44 01.4**	**-1.2**
TXAR	**Lajitas Array**	**66.03**	**327**	P	**P**	**05 44 04.7**	**+2.0**
	comp=Z,2.6nm,0.7s,baz=150,slow=8.1,SNR=33						
TXAR				pP	**PcP**	**05 44 33.7**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=150,slow=5.4,SNR=2.7						
TXAR				sP	**sP**	**05 44 45.5**	**+3.2**
	comp=Z,0.7nm,0.8s,baz=160,slow=4.0,SNR=2.5						
T53A	**Wise**	**66.08**	**348**	P	**P**	**05 44 03.1**	**+0.4**
	baz=167						
U49A	**Red Boiling Sp**	**66.27**	**346**	P	**P**	**05 44 03.3**	**-0.6**
U49A				IAmb	IAmb	05 44 04.6	
	comp=Z,4.1nm,0.5s						
S56A	**Natural Bridge**	**66.30**	**351**	P	**P**	**05 44 05.4**	**+1.4**
	baz=170						
S57A	**Dark Hollow, R**	**66.30**	**352**	P	**P**	**05 44 05.5**	**+1.5**
	baz=171						
WVT	**Waverly**	**66.38**	**344**	P	**P**	**05 44 05.0**	**+0.4**
	baz=162						
WVT	**Waverly**	**66.38**	**344**	P	**P**	**05 44 04.0**	**-0.6**
WVT				IAmb	IAmb	05 44 05.9	
	comp=Z,9.2nm,0.7s						
S55A	**Lewisburg**	**66.52**	**350**	P	**P**	**05 44 06.6**	**+1.1**
	baz=169						
MIAR	**Mount Ida**	**66.56**	**338**	P	**P**	**05 44 07.1**	**+1.4**
	baz=157,SNR=5.8						
MIAR	**Mount Ida**	**66.56**	**338**	P	**P**	**05 44 04.7**	**-1.0**
MIAR				IAmb	IAmb	05 44 08.5	
	comp=Z,6.3nm,0.8s						
S54A	**Dingess, Beckl**	**66.67**	**350**	P	**P**	**05 44 07.2**	**+0.7**
	baz=168						
R58A	**Rapidan**	**66.71**	**353**	P	**P**	**05 44 08.1**	**+1.4**
	baz=172						
W41B	**Gary Mavity, V**	**66.71**	**340**	P	**P**	**05 44 08.0**	**+1.3**
	baz=158						
W41B	**Gary Mavity, V**	**66.71**	**340**	P	**P**	**05 44 07.3**	**+0.6**
W41B				IAmb	IAmb	05 44 08.7	
	comp=Z,6.6nm,0.8s						
R57A	**Stanardsville**	**66.77**	**352**	P	**P**	**05 44 08.7**	**+1.6**
	baz=171						
T47A	**Sharon Grove**	**67.03**	**345**	P	**P**	**05 44 07.1**	**-1.6**
T47A				IAmb	IAmb	05 44 10.1	
	comp=Z,11nm,0.8s						
ABTX	**Abilene, Hawle**	**67.06**	**332**	P	**P**	**05 44 10.9**	**+1.9**
	baz=151						
ABTX	**Abilene, Hawle**	**67.06**	**332**	P	**P**	**05 44 06.8**	**-2.3**
ABTX				IAmb	IAmb	05 44 11.8	
	comp=Z,11nm,0.9s						
W39A	**Magazine**	**67.22**	**338**	P	**P**	**05 44 11.8**	**+1.9**
	baz=157,SNR=5.9						
LCAR	**Lake Charles**	**67.22**	**341**	P	**P**	**05 44 08.6**	**-1.3**
LCAR				IAmb	IAmb	05 44 11.7	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**67.34**	**340**	P	**P**	**05 44 09.3**	**-1.4**
FCAR				IAmb	IAmb	05 44 11.8	
	comp=Z,3.7nm,0.6s						
T45A	**Paducah**	**67.43**	**343**	P	**P**	**05 44 10.5**	**-0.8**
Q57A	**Strasburg**	**67.49**	**352**	P	**P**	**05 44 13.6**	**+2.0**
	baz=171						
Q55A	**Buckhannon**	**67.66**	**351**	P	**P**	**05 44 14.4**	**+1.7**
	baz=170						
Q54A	**Coxs Mills**	**67.76**	**350**	P	**P**	**05 44 13.8**	**+0.6**
	baz=169						
P57A	**Homestead Farm**	**67.88**	**353**	P	**P**	**05 44 16.1**	**+2.1**
	baz=172						
U40A	**Yellville**	**67.99**	**340**	P	**P**	**05 44 15.9**	**+1.2**
	baz=158,SNR=7.6						
U40A	**Yellville**	**67.99**	**340**	P	**P**	**05 44 14.2**	**-0.6**
U40A				IAmb	IAmb	05 44 16.8	
	comp=Z,9.2nm,0.8s						
T42A	**Van Buren**	**68.10**	**341**	P	**P**	**05 44 14.5**	**-0.9**
HHAR	**Hobbs**	**68.26**	**339**	P	**P**	**05 44 16.6**	**+0.1**
H

Q24A IAmb IAmb 05 44 59.3
comp=Z,13nm,0.8s
MVCO Mesa Verde 74.80 328 P P 05 44 58.5 +2.5
baz=145,SNR=7.0
MVCO Mesa Verde 74.80 328 P P 05 44 54.5 -1.5
MVCO IAmb IAmb 05 44 59.4
comp=Z,8.8nm,0.8s
WUAZ Wupatki 74.83 326 P P 05 44 59.1 +3.0
baz=142
WUAZ Wupatki 74.83 326 P P 05 44 55.8 -0.4
WUAZ IAmb IAmb 05 44 60.0
comp=Z,11nm,0.9s
I37A Lemond, Waseca 75.24 342 P P 05 44 56.9 -1.2
BC3 Big Chuckawall 75.53 322 P P 05 45 02.0 +1.9
baz=139
PV01 Paradox Valley 75.59 329 P P 05 44 59.0 -1.5
ISCO Idaho Springs 75.68 332 P P 05 45 03.2 +2.1
baz=147
PV15 Paradox Valley 75.72 329 P P 05 44 59.8 -1.5
PV15 IAmb IAmb 05 45 05.1
comp=Z,12nm,1.3s
PV13 Radium Mtn., P 75.72 329 P P 05 44 59.9 -1.3
PV13 IAmb IAmb 05 45 04.6
comp=Z,9.0nm,0.8s
IRM Iron Mountain 75.74 322 P P 05 45 03.6 +2.4
baz=139
PV05 Paradox Valley 75.78 329 P P 05 44 59.7 -1.9
PV05 IAmb IAmb 05 45 04.7
comp=Z,8.2nm,0.8s
W13A Hualapai Mount 75.79 324 P P 05 45 00.5 -1.2
PV03 Paradox Valley 75.81 329 P P 05 45 00.5 -1.3
PV07 Paradox Valley 75.87 329 P P 05 45 00.2 -1.9
PV16 Nyswonger Mesa 75.89 329 P P 05 44 59.8 -2.4
ECSD EROS Data Cent 75.90 340 P P 05 45 03.0 +1.2
baz=155,SNR=8.9
ECSD EROS Data Cent 75.90 340 P P 05 45 00.5 -1.4
ECSD IAmb IAmb 05 45 03.9
comp=Z,9.4nm,0.8s
U15A North Rim 76.00 325 P P 05 45 01.2 -1.7
U15A IAmb IAmb 05 45 06.8
comp=Z,7.6nm,0.9s
PV22 Blue Mesa, Par 76.02 329 P P 05 45 01.5 -1.4
PV22 IAmb IAmb 05 45 06.9
comp=Z,4.8nm,0.7s
SPMN Marine on St. 76.21 343 P P 05 45 04.4 +0.9
baz=159
MURC Murrieta 76.46 320 P P 05 45 07.6 +2.3
baz=138
GMRC Granite Mounta 76.49 322 P P 05 45 07.8 +2.2
baz=139,SNR=5.5
N23A Red Feather La 76.74 332 P P 05 45 09.7 +2.7
baz=147
O20A White River Ci 77.08 330 P P 05 45 11.5 +2.7
baz=145,SNR=9.5
TUQ Turquoise Moun 77.12 322 P P 05 45 11.9 +2.8
baz=139
GSC Goldstone, Bar 77.50 322 P P 05 45 14.0 +2.8
baz=138
MAW Mawson 77.99 163 P P 05 45 13.7 +0.4
comp=Z,5.4nm,0.8s,baz=198,slow=6.5,SNR=19
FURC Furnace Creek, 78.40 323 P P 05 45 18.8 +2.8
baz=138
TPNV Topopah Spring 78.44 323 P P 05 45 19.2 +2.8
baz=139,SNR=6.1
K22A Casper 78.45 333 P P 05 45 18.8 +2.4
baz=147
ISA Isabella, Lake 78.68 321 P P 05 45 19.9 +2.2
baz=137
RSSD Black Hills 78.74 335 P P 05 45 20.1 +2.1
baz=149
PKM Mcpherson Peak 78.88 320 P P 05 45 21.5 +2.6
baz=136
CWC Cottonwood Cre 79.04 322 P P 05 45 22.4 +2.6
baz=138
R11A Troy Canyon, C 79.15 325 P P 05 45 23.1 +2.8
baz=140,SNR=9.2
VES Vestal, Richgr 79.15 321 P P 05 45 22.7 +2.6
baz=137
DUG Dugway, Tooele 79.21 328 P P 05 45 23.0 +2.5
baz=142
SMMC Simmler 79.29 320 P P 05 45 23.3 +2.4
baz=136
BW06 Boulder Array 79.80 331 P P 05 45 25.2 +1.4
baz=145
BW06 Boulder Array 79.80 331 P P 05 45 21.6 -2.2
PD31 Pinedale Array 79.80 331 P P 05 45 22.2 -1.6
PDAR Pinedale Array 79.80 331 P P 05 45 25.2 +1.4
comp=Z,1.5nm,0.5s,baz=128,slow=8.1,SNR=24
PDAR pP **pP 05 45 53.1 +0.7**
comp=Z,0.4nm,0.6s,baz=146,slow=6.6,SNR=1.6
PDAR sP **sP 05 46 05.5 +1.2**
comp=Z,0.8nm,0.8s,baz=140,slow=7.4,SNR=2.0
PDAR Pinedale Array 79.80 331 P P 05 45 22.4 -1.4
BGU Big Grassy Mou 79.89 328 P P 05 45 22.2 -2.0
TORD Torodi Ar. Bea 80.02 69 P P 05 45 25.8 +0.5
comp=Z,4.9nm,0.7s,baz=263,slow=5.0,SNR=24
TORD pP **pP 05 45 56.0 +1.7**
comp=Z,5.7nm,0.8s,baz=261,slow=5.1,SNR=8.3
TORD Torodi Ar. Bea 80.02 69 P P 05 45 25.7 +0.5
OMMB Old Mammoth Mi 80.40 322 P P 05 45 25.7 -1.5
MDND Maddock 80.51 340 P P 05 45 29.1 +1.9
baz=153
NVAR Mina Array Bea 80.62 323 P P 05 45 30.0 +1.7
comp=Z,1.5nm,0.8s,baz=160,slow=6.4,SNR=11
NVAR Mina Array Bea 80.62 323 P P 05 45 26.8 -1.5
BOSA Boshof 80.63 117 P P 05 45 28.4 -0.2
comp=Z,3.8nm,0.8s,baz=257,slow=4.2,SNR=9.2
BOSA Boshof 80.63 117 P P 05 45 27.2 -1.5
BOSA IAmb IAmb 05 45 45.3
comp=Z,9.2nm,1.4s
REDW Red Top Meadow 80.84 331 P P 05 45 29.1 -0.2
LOHW Long Hollow 80.94 331 P P 05 45 27.5 -2.3
WAKR Walker 81.28 322 P P 05 45 29.5 -2.3
IMW Indian Meadow 81.31 331 P P 05 45 30.4 -1.5
FLWY Flagg Ranch 81.36 331 P P 05 45 30.2 -1.9
FLWY IAmb IAmb 05 45 35.3
comp=Z,11nm,1.3s
YERR Yerington 81.53 323 P P 05 45 31.6 -1.5
RLMT Red Lodge 81.61 333 P P 05 45 35.4 +2.1
baz=145,SNR=7.7
RLMT Red Lodge 81.61 333 P P 05 45 31.8 -1.5
RLMT IAmb IAmb 05 45 36.1
comp=Z,11nm,1.2s
ULM Lac du Bonnet 81.64 343 P P 05 45 33.9 +0.8
comp=Z,6.8nm,0.8s,baz=110,slow=4.1,SNR=4.6
LAO LASA Array 81.73 335 P P 05 45 35.2 +1.5
baz=148,SNR=5.2
AFDM Forest Hills D 82.43 322 P P 05 45 36.4 -1.1
DGMT Dagmar 82.53 337 P P 05 45 39.9 +2.1
baz=149
DGMT Dagmar 82.53 337 P P 05 45 36.7 -1.2
HLID Hailey 82.58 329 P P 05 45 40.6 +2.1
baz=141,SNR=6.7
HLID Hailey 82.58 329 P P 05 45 37.4 -1.0
SCHQ Schefferville 82.78 1 P P 05 45 39.4 +0.5
comp=Z,3.2nm,0.8s,baz=249,slow=14,SNR=2.2
SCHQ Schefferville 82.78 1 P P 05 45 37.9 -1.1
BOZ Bozeman (W) 82.97 332 P P 05 45 41.9 +1.5
baz=143
DLMT Dillon 83.19 331 P P 05 45 40.9 -0.6
LRM Limekiln Ridge 83.49 331 P P 05 45 42.8 -0.3
O03E Paynes Creek 83.84 322 P P 05 45 46.4 +1.5
baz=135
HRY Holter Researc 83.94 332 P P 05 45 44.3 -1.0
J08A Circle Bar Ran 84.35 326 P P 05 45 45.4 -2.0
J08A IAmb IAmb 05 45 50.3
comp=Z,6.1nm,1.1s
K05A Summer Lake 85.10 325 P P 05 45 49.9 -1.4
K05A IAmb IAmb 05 45 54.5
comp=Z,14nm,1.2s
I07A Izee 85.39 326 P P 05 45 50.7 -1.9
J05D Fort Rock, OR 85.68 325 P P 05 45 56.0 +2.0
baz=136
JTMT Jette 85.78 331 P P 05 45 53.4 -1.1
JTMT IAmb IAmb 05 45 57.1
comp=Z,4.7nm,0.7s
J04D Umpqua Nationa 86.09 324 P P 05 45 58.1 +1.9
baz=135
L02E Cave Junction 86.12 323 P P 05 45 58.2 +2.0
baz=134
I05D Terrebonne, OR 86.49 325 P P 05 46 00.1 +2.1
baz=136
K02D Willamette Mer 86.52 323 P P 05 46 00.5 +2.3
baz=134
WALA Waterton Lakes 86.66 332 P P 05 45 57.1 -1.6
WALA IAmb IAmb 05 46 01.2
comp=Z,9.2nm,0.8s
KEBM Edson Butte 87.00 323 P P 05 45 59.7 -0.8
H04A Detroit Lake 87.16 325 P P 05 46 00.1 -1.1
H04A IAmb IAmb 05 46 03.1
comp=Z,4.5nm,1.0s
YKA Yellowknife Ar 97.42 341 P P 05 46 48.4 +0.3
comp=Z,1.6nm,0.8s,baz=151,slow=10,SNR=4.0
AKASG Malin Array Be 116.53 45 PKP PKPdf 05 51 57.4 -0.8
comp=Z,0.5nm,0.5s,baz=264,slow=2.6,SNR=4.5
AKASG Malin Array Be 116.53 45 PKPdf 05 51 57.0 -1.2
BRTR Keskin Array B 116.88 57 PKP PKPdf 05 51 59.7 +0.3
comp=Z,0.7nm,0.6s,baz=250,slow=2.9,SNR=3.2
ASAR Alice Springs 123.73 206 PKP PKPdf 05 52 12.8 -0.2
comp=Z,2.0nm,0.6s,baz=133,slow=1.7,SNR=23
ASAR Alice Springs 123.73 206 PKPdf 05 52 12.6 -0.5
KBZ Khabaz 124.48 55 PKP PKiKP 05 52 14.4 +0.4
comp=Z,1.7nm,0.6s,baz=285,slow=3.2,SNR=2.3
WRA Warramunga Arr 126.91 208 PKP PKPdf 05 52 19.6 +0.4
comp=Z,2.8nm,0.5s,baz=160,slow=1.7,SNR=54
WRA pPKP **pPKPdf 05 52 49.8 0.0**
comp=Z,0.7nm,0.7s,baz=167,slow=1.7,SNR=2.6
FITZ Fitzroy Crossi 131.70 199 PKP PKPdf 05 52 29.0 +0.7
comp=Z,2.1nm,0.7s,baz=179,slow=9.2,SNR=9.3
LEM Lembang 144.99 175 PKP PKPdf 05 52 54.0 +1.1
comp=Z,45nm,0.7s,baz=31,slow=16,SNR=7.6
KAPI Kappang 145.79 196 PKPbc PKPbc 05 52 55.4 +0.8
comp=Z,21nm,0.5s,baz=266,slow=3.4,SNR=3.9
KURK Kurchatov 147.01 38 PKPbc PKPbc 05 52 57.1 0.0
FRU1 Bishkek 147.53 54 PKPab PKPab 05 53 00.5 -0.8
ZAA0 Zalesovo Array 148.11 29 PKPab PKiKP 05 53 01.3 -0.4
ZALV Zalesovo Beam 148.11 29 PKPbc PKiKP 05 53 01.2 -0.5
comp=Z,21nm,0.6s,baz=303,slow=3.4,SNR=65
ZALV pPKPbc **pPKPab 05 53 30.9 -2.1**
comp=Z,3.7nm,0.8s,baz=306,slow=2.7,SNR=2.0
ZALV Zalesovo Beam 148.11 29 PKPab PKiKP 05 53 01.4 -0.3
KSH Kashi 149.24 59 PKPbc PKiKP 05 53 04.8 +0.1
KSH PP **PP 05 56 40.3 +3.7**
MAKZ Makanchi 150.89 43 PKPbc PKiKP 05 53 07.8 +0.1
MK31 Makanchi Array 151.09 43 PKPbc PKPbc 05 53 07.8 +0.2
MKAR Makanchi Array 151.09 43 PKP PKPdf 05 53 02.6 +0.9
comp=Z,0.3nm,0.5s,baz=274,slow=0.9,SNR=3.7
MKAR PKPbc **PKiKP 05 53 08.5 +0.4**
comp=Z,16nm,0.6s,baz=298,slow=2.0,SNR=106
MKAR pPKPbc **sPKPdf 05 53 39.3 -4.6**
comp=Z,2.8nm,0.7s,baz=304,slow=3.2,SNR=3.1
MKAR Makanchi Array 151.09 43 PKPbc 05 53 07.8 +0.2
LZH Lanzhou 170.28 35 *e*PKP **PKPdf 05 53 22.4 -0.4**
LZH pPKP pPKPdf 05 53 49.0 -4.7
LZH sPKP 05 53 56.3

NEIC **14** *05:45:51.4±1.5,20°.30S±0°.08×178°.6W±0°.1, h583km±10km, mb4.3/12, Error ellipse: s-maj=18.1km s-min=11.4km az=93.0*
IDC **14** *05:45:52.2±11.0, 19°.96S×178°.85W, h568km±115km, mb3.0/5, mb1 3.3/5, mb1mx2.9/32, mbtmp3.9/5, Error ellipse: s-maj=144.0km s-min=41.2km az=144.0*
ISC 14 05:45:52.1±0.6,**20°.24S**±0°.10×**178°.65W**±0°.08,**h600**km,
n27,σ**1**§**52**/31,**mb4.0**/11,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.00**	**308**	P	**P**	**05 47 15.3**	**-2.5**
MSVF				S	**S**	**05 48 24.1**	**-3.4**
NIUE	**Niue**	**8.30**	**83**	P	**P**	**05 47 53.2**	**-1.2**
NIUE				S	**S**	**05 49 32.5**	**-1.9**
FUNA	**Funafuti**	**11.83**	**350**	P	**P**	**05 48 28.2**	**-1.1**
FUNA				S	**S**	**05 50 39.4**	**+1.0**
TUWZ	**Tuamarina**	**22.04**	**195**	P	**P**	**05 50 04.0**	**+0.1**
THZ	**Tophouse**	**22.62**	**197**	P	**P**	**05 50 08.0**	**-1.2**
EIDS	**Eidsvold**	**28.33**	**254**	P	**P**	**05 50 58.2**	**-1.3**
EIDS				IAmb	IAmb	05 51 05.1	
comp=Z,12nm,1.3s							
BBOO	**Buckleboo**	**42.12**	**243**	P	**P**	**05 52 52.8**	**-0.5**
BBOO				IAmb	IAmb	05 53 02.1	
comp=Z,31nm,1.4s							
WR0	**Warramunga Arr**	**43.85**	**262**	P	**P**	**05 53 07.3**	**+0.4**
AS31	**Alice Springs**	**43.99**	**257**	P	**P**	**05 53 08.5**	**+0.5**
ASAR	**Alice Springs**	**43.99**	**257**	P	**P**	**05 53 09.5**	**+1.5**
comp=Z,1.7nm,0.5s,baz=88,slow=8.5,SNR=24							
ASAR				PcP	**PcP**	**05 54 42.0**	**+1.8**
comp=Z,0.4nm,0.6s,baz=105,slow=4.2,SNR=5.0							
ASAR	**Alice Springs**	**43.99**	**257**	P	**P**	**05 53 08.9**	**+0.9**
WB0	**Warramunga Arr**	**44.01**	**262**	P	**P**	**05 53 09.4**	**+1.2**
WB0				IAmb	IAmb	05 53 24.9	
comp=Z,7.6nm,1.4s							
WB2	**Warramunga Arr**	**44.02**	**262**	P	**P**	**05 53 09.0**	**+0.6**
WB2				IAmb	IAmb	05 53 13.5	
comp=Z,9.4nm,1.3s							
WRAB	**Tennant Creek**	**44.03**	**262**	P	**P**	**05 53 09.1**	**+0.8**
WRAB				IAmb	IAmb	05 53 09.9	
comp=Z,7.2nm,1.2s							
WRA	**Warramunga Arr**	**44.04**	**262**	P	**P**	**05 53 08.8**	**+0.4**
comp=Z,0.9nm,0.3s,baz=96,slow=7.2,SNR=62							
WRA	**Warramunga Arr**	**44.04**	**262**	P	**P**	**05 53 09.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**52.46**	**262**	P	**P**	**05 54 12.8**	**+2.0**
comp=Z,0.7nm,0.5s,baz=181,slow=3.3,SNR=1.7							
FITZ	**Fitzroy Crossi**	**52.46**	**262**	P	**P**	**05 54 13.1**	**+2.3**
FITZ				IAmb	IAmb	05 54 33.7	
comp=Z,8.6nm,1.5s							
KAPI	**Kappang**	**61.66**	**275**	P	**P**	**05 55 13.8**	**+0.4**
MYLDM	**Lahad Datu**	**66.68**	**285**	P	**P**	**05 55 45.7**	**+0.5**
MYLDM				IAmb	IAmb	05 56 07.3	
comp=Z,29nm,1.4s							
PETK	**Petropavlovsk-**	**75.87**	**346**	P	**P**	**05 56 38.7**	**+0.9**
ILAR	**Eielson Array**	**88.20**	**13**	P	**P**	**05 57 42.1**	**+2.3**
comp=Z,0.3nm,0.8s,baz=222,slow=5.6,SNR=2.0							
ILAR	**Eielson Array**	**88.20**	**13**	P	**P**	**05 57 41.4**	**+1.5**
PDAR	**Pinedale Array**	**89.19**	**43**	P	**P**	**05 57 47.4**	**+2.1**
comp=Z,0.2nm,0.5s,baz=237,slow=3.1,SNR=2.5							
PDAR	**Pinedale Array**	**89.19**	**43**	P	**P**	**05 57 45.2**	**-0.1**
AKASG	**Malin Array Be**	**142.49**	**331**	PKhKP	**PKPdf**	**06 04 17.1**	**-0.3**
comp=Z,1.4nm,0.4s,baz=42,slow=4.0,SNR=10							
GERES	**GERESS Array B**	**149.78**	**344**	PKPbc	**PKiKP**	**06 04 38.0**	**+1.9**
comp=Z,0.2nm,0.5s,baz=20,slow=3.1,SNR=3.7							

IDC **14** *06:01:18.6±0.6, 34°.16N×25°.11E, h0km, mb4.2/25, mb1 4.3/38, mb1mx4.2/55, mbtmp4.2/38, ML4.0/12, MS3.6/2, Ms1 3.6/2, ms1mx3.0/49, Error ellipse: s-maj=11.0km s-min=9.9km az=74.0*
ISK **14** *06:01:19.5, 34°.04N×25°.06E, h20km, ML4.3/26*
HLW **14** *06:01:19.5, 34°.50N×25°.03E, h25km±27km, Md4.0, Ml4.5*
THE **14** *06:01:21.0, 34°.19N×25°.01E, h0km±1km, ML3.9/8, Error ellipse: s-maj=3.0km s-min=0.9km az=182.0*
MED_RC **14** *06:01:22.0±4.0, 33°.98N×25°.14E, h10km, MW4.5/13, Moment Tensor Solution. Mantle waves: s13,c14; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr=0.57±.85; Mθθ=3.42±.50; Mφφ=3.98±.58; Mrθ=6.03±2.38; Mθφ=1.47±.47; Mφr=4.74±1.70; Best double couple: M0=8.48000×10^15 NP1:φs=226.00000°, δ=27.00000°, λ=1.00000°. NP2:φs=318.00000°, δ=89.00000°, λ=117.00000°. Principal axes: T 7.4600, Plg38.0000°, Azm72.0000°; N 2.0200, Plg27.0000°, Azm318.0000°; P -9.4900, Plg40.0000°, Azm203.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NIC **14** *06:01:22.6±0.0, 33°.93N×25°.51E, h0km±11km, Ml4.6/3*
ATH **14** *06:01:23.0, 34°.33N×25°.05E, h29km, ML3.9/14, Error ellipse: s-maj=2.0km s-min=0.9km az=352.0*
NEIC **14** *06:01:22.4±2.1, 34°.29N±0°.06×25°.08E±0°.06, h29km±4km, Error ellipse: s-maj=8.8km s-min=7.4km az=184.0*
MOS **14** *06:01:22.8±1.5, 34°.33N×25°.01E, h39km, mb4.7/24, Error ellipse: s-maj=7.0km s-min=3.9km az=81.0*
GII **14** *06:01:27.3±0.0, 33°.94N×25°.74E, h1km, mb4.4/6, MD4.3/6*
BEO **14** *06:01:54.7±1.5, 36°.48N×23°.96E, h0km, ML3.4/1*
ISC 14 06:01:22.3±0.7,**34°.18N**±0°.03×**25°.08E**±0°.03,**h23**km±4km,
h24km:**pP-P**,**n466**,σ**1**§**58**/520,**mb4.4**/55,**23C-3D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.86**	**345**	P	**Pb**	**06 01 37.1**	**-1.5**
SIVA				S	**Sb**	**06 01 50.2**	**+0.4**
31μm,0.5s							
SIVA	**Sivas**	**0.86**	**345**	P	**Pb**	**06 01 37.2**	**-1.5**
SIVA				S	**Sb**	**06 01 47.9**	**-1.9**
SIVA				AML	AML	06 01 58.0	
comp=E,72100μm,0.6s							
SIVA				AML	AML	06 01 59.4	
comp=N,49489μm,0.6s							
TMBK	**Timbaki Herakl**	**0.93**	**344**	P	**Pb**	**06 01 38.6**	**-1.1**
TMBK				S	**Sb**	**06 01 51.8**	**+0.2**
comp=N,6μm,0.8s							
FRMA	**Ierapetra Chan**	**0.99**	**33**	P	**Pn**	**06 01 41.5**	**+0.8**
FRMA				S	**Sn**	**06 01 58.4**	**+4.4**
comp=N,2μm,0.8s							
LAST	**Lasithi**	**1.03**	**18**	P	**Pn**	**06 01 40.3**	**-1.1**
LAST				S	**Sn**	**06 01 56.1**	**+0.9**
comp=N,6μm,1.0s							
LAST	**Lasithi**	**1.03**	**18**	P	**Pn**	**06 01 40.4**	**-1.0**
LAST				S	**Sb**	**06 01 53.4**	**-1.3**
LAST				AML	AML	06 02 08.7	
comp=N,9600μm,0.9s							
LAST				AML	AML	06 02 08.9	
comp=E,15786μm,1.1s							
GVD	**Gavdhos**	**1.05**	**309**	P	**Pn**	**06 01 40.5**	**-1.1**
GVD				S	**Sn**	**06 01 56.0**	**+0.5**
comp=E,13μm,0.6s							
GVD	**Gavdhos**	**1.05**	**309**	P	**Pn**	**06 01 40.7**	**-0.9**
GVD				S	**Sb**	**06 01 54.8**	**-0.4**
GVD				AML	AML	06 02 00.2	
comp=E,24241μm,0.6s							
GVD				AML	AML	06 02 00.5	
comp=N,28742μm,0.6s							
GVD	**Gavdhos**	**1.05**	**309**	PN	**Pn**	**06 01 40.8**	**-0.8**
GVD				SN	**Sn**	**06 01 56.5**	**+1.0**
IDI	**Anoyia**	**1.12**	**352**	Pg	**Pn**	**06 01 41.2**	**-1.3**
comp=N,94nm,0.3s,baz=180,slow=17,SNR=245							
IDI				Lg	Lg	06 01 57.5	
comp=N,229nm,0.3s,baz=61,slow=19,SNR=11							
IDI				LR	LR	06 02 08.4	
comp=N,1μm,19.3s,baz=224,slow=44							
IDI	**Anoyia**	**1.12**	**352**	P	**Pn**	**06 01 41.2**	**-1.3**
IDI				S	**Sn**	**06 01 57.9**	**+0.7**
IDI	**Anoyia**	**1.12**	**352**	P	**Pn**	**06 01 41.3**	**-1.3**
IDI				S	**Sb**	**06 01 56.0**	**-1.1**
IDI				AML	AML	06 02 03.2	
comp=N,5881μm,0.5s							
IDI				AML	AML	06 02 04.6	
comp=E,9062μm,0.8s							
IDI	**Anoyia**	**1.12**	**352**	PN	**Pn**	**06 01 41.4**	**-1.1**
IDI				SN	**Sn**	**06 01 58.9**	**+1.7**
IDI	**Anoyia**	**1.12**	**352**	Pn	**Pn**	**06 01 41.2**	**-1.3**
IDI				Sn	**Sb**	**06 01 53.4**	**-3.7**
KSTL	**Kastelli Herak**	**1.12**	**360**	P	**Pn**	**06 01 40.9**	**-1.6**
KSTL				S	**Sb**	**06 01 57.3**	**+0.2**
IACM	**Heraklion**	**1.12**	**360**	P	**Pn**	**06 01 42.6**	**+0.1**
HRKL	**Herakleio**	**1.13**	**1**	P	**Pn**	**06 01 42.0**	**-0.6**
HRKL				S	**Sn**	**06 01 59.9**	**+2.5**
HRKL	**Herakleio**	**1.13**	**1**	PN	**Pn**	**06 01 42.5**	**-0.1**
HRKL				SN	**Sn**	**06 01 59.7**	**+2.3**
NPS	**Neapolis**	**1.17**	**22**	P	**Pn**	**06 01 42.6**	**-0.6**
NPS				S	**Sb**	**06 02 00.4**	**+1.9**
comp=E,5μm,1.0s							
NPS	**Neapolis**	**1.17**	**22**	P	**Pn**	**06 01 42.7**	**-0.5**
NPS				S	**Sn**	**06 01 57.8**	**-0.6**
NPS				AML	AML	06 02 13.1	
comp=N,9002μm,0.9s							
NPS				AML	AML	06 02 13.7	
comp=E,12157μm,0.9s							
PRNS	**Prines Rethymn**	**1.27**	**338**	P	**Pn**	**06 01 44.5**	**-0.1**
PRNS				S	**Sb**	**06 02 03.1**	**+1.5**
STIA	**Sitia Lasithi**	**1.32**	**39**	P	**Pn**	**06 01 45.9**	**+0.7**
STIA				S	**Sb**	**06 02 04.3**	**+1.6**
ZKR	**Zakros**	**1.32**	**45**	P	**Pn**	**06 01 45.9**	**+0.6**
ZKR				S	**Sb**	**06 02 06.0**	**+3.1**
comp=E,6μm,1.0s							
ZKR	**Zakros**	**1.32**	**45**	P	**Pn**	**06 01 46.1**	**+0.8**
ZKR				S	**Sn**	**06 02 02.2**	**0.0**
ZKR				AML	AML	06 02 10.8	
comp=N,6413μm,1.1s							
ZKR				AML	AML	06 02 18.1	
comp=E,17103μm,1.0s							
ZKR	**Zakros**	**1.32**	**45**	PN	**Pn**	**06 01 45.4**	**+0.1**
VAM	**Vamos**	**1.42**	**330**	P	**Pn**	**06 01 46.4**	**-0.3**
VAM	**Vamos**	**1.42**	**330**	P	**Pn**	**06 01 46.7**	**+0.1**
VAM				S	**Sn**	**06 02 03.7**	**-1.0**
VAM				AML	AML	06 02 17.1	
comp=E,12002μm,0.9s							
VAM				AML	AML	06 02 22.6	
comp=N,9568μm,0.9s							
KNDR	**Palaiochora Ch**	**1.56**	**313**	P	**Pb**	**06 01 50.7**	**+0.3**
KNDR				S	**Sb**	**06 02 11.9**	**+2.2**
comp=N,1μm,0.8s							
KNDR	**Palaiochora Ch**	**1.56**	**313**	PN	**Pn**	**06 01 48.6**	**+0.1**
IMMV	**Iera Moni Meta**	**1.57**	**325**	P	**Pn**	**06 01 49.2**	**+0.5**
IMMV	**Iera Moni Meta**	**1.57**	**325**	P	**Pn**	**06 01 49.2**	**+0.5**
IMMV				AML	AML	06 02 20.2	
comp=N,10048μm,0.7s							
IMMV				AML	AML	06 02 24.4	
comp=E,8968μm,0.9s							
IMMV	**Iera Moni Meta**	**1.57**	**325**	PN	**Pn**	**06 01 48.7**	**+0.1**
CHAN	**Chania**	**1.59**	**328**	P	**Pn**	**06 01 49.9**	**+1.0**
RODP	**Rodopos**	**1.75**	**322**	P	**Pb**	**06 01 53.1**	**-0.7**
RODP	**Rodopos**	**1.75**	**322**	PN	**Pb**	**06 01 51.2**	**-0.1**
KARP	**Karpathos**	**2.19**	**51**	P	**Pb**	**06 02 00.3**	**-0.9**
KARP	**Karpathos**	**2.19**	**51**	P	**Pn**	**06 01 59.4**	**+2.2**
KARP				AML	AML	06 02 43.3	
comp=N,3599μm,0.9s							
KARP				AML	AML	06 02 50.7	
comp=E,3921μm,0.9s							
KARP	**Karpathos**	**2.19**	**51**	PN	**Pn**	**06 01 57.4**	**+0.2**
KARP	**Karpathos**	**2.19**	**51**	⇑P	**Pb**	**06 02 00.0**	**-1.2**
KARP				S	**Sb**	**06 02 28.5**	**+0.6**
KARP				AML	AML	06 02 28.9	
comp=E,3.6nm,0.9s							
KARP				AML	AML	06 02 28.9	
comp=E,3.6nm,0.9s							
KARP				AML	AML	06 02 50.3	
comp=E,3.9nm,0.9s							
KARP				AML	AML	06 02 50.3	
comp=E,3.9nm,0.9s							
KARP	**Karpathos**	**2.19**	**51**		**Pn**	**06 01 59.6**	**+2.3**
SANT	**Santorini**	**2.21**	**8**	P	**Pn**	**06 01 58.2**	**+0.7**
SANT	**Santorini**	**2.21**	**8**	P	**Pn**	**06 01 58.0**	**+0.5**
SANT				AML	AML	06 02 47.9	
comp=N,1672μm,1.0s							
SANT				AML	AML	06 02 47.9	
comp=E,3263μm,1.0s							
SANT	**Santorini**	**2.21**	**8**	PN	**Pn**	**06 01 58.2**	**+0.7**
SANT	**Santorini**	**2.21**	**8**		**Pn**	**06 01 57.9**	**+0.5**
ANKY	**Antikythira Is**	**2.23**	**320**	P	**Pn**	**06 01 59.0**	**+1.2**
ANKY	**Antikythira Is**	**2.23**	**320**	P	**Pn**	**06 01 59.3**	**+1.6**
ANKY				AML	AML	06 02 53.2	
comp=N,2024μm,1.2s							
ANKY				AML	AML	06 02 56.4	
comp=E,4100μm,1.3s							
ANAF	**Anafi Island**	**2.24**	**14**	P	**Pn**	**06 01 59.8**	**+1.8**
ANAF	**Anafi Island**	**2.24**	**14**	P	**Pn**	**06 01 59.3**	**+1.3**
SAP3	**Santorini-Thir**	**2.26**	**5**	P	**Pn**	**06 01 59.8**	**+1.6**
THT2	**Imerovigli**	**2.27**	**7**	PN	**Pn**	**06 01 58.9**	**+0.6**
CMBO	**Columbo, Santo**	**2.30**	**7**	P	**Pn**	**06 01 60.0**	**+1.2**
MHLO	**Agia Marina, M**	**2.56**	**348**	P	**Pn**	**06 02 03.0**	**+0.6**
MHLO	**Agia Marina, M**	**2.56**	**348**	P	**Pn**	**06 02 02.8**	**+0.4**
MHLO				AML	AML	06 02 56.4	
comp=E,6961μm,1.0s							
MHLO				AML	AML	06 02 56.7	
comp=N,6470μm,1.0s							
MHLA	**Plaka, Milos I**	**2.62**	**348**	P	**Pn**	**06 02 03.6**	**+0.6**
KTHA	**Kythira Island**	**2.65**	**322**	P	**Pn**	**06 02 05.5**	**+1.9**
KTHA	**Kythira Island**	**2.65**	**322**	P	**Pn**	**06 02 04.7**	**+1.1**
KTHA				AML	AML	06 03 06.7	
comp=N,1677μm,0.8s							
KTHA				AML	AML	06 03 09.8	
comp=E,2372μm,0.9s							
KTHA	**Kythira Island**	**2.65**	**322**	PN	**Pn**	**06 02 03.8**	**+0.2**
SLUM	**Salum**	**2.68**	**178**	P	**Pn**	**06 02 05.6**	**+1.6**
baz=176							
SLUM				AMP		06 02 00.0	
baz=176							
SLUM				S	**Sn**	**06 02 37.8**	**+2.0**
baz=176							
APE	**Apeiranthos**	**2.91**	**7**	P	**Pn**	**06 02 07.6**	**+0.5**
APE	**Apeiranthos**	**2.91**	**7**	PN	**Pn**	**06 02 07.9**	**+0.8**
APE	**Apeiranthos**

ARG	Arkhangelos	3.22	50	PN	Pn	06 02 12.1	+0.8
ARG	Arkhangelos	3.22	50	⇑P	Pn	06 02 13.8	+2.5
ARG				S	Sn	06 02 51.3	+2.4
DAT	Datca	3.26	38	PN	Pn	06 02 13.1	+1.1
BODT	Bodrum	3.40	32	PN	Pn	06 02 15.3	+1.4
KRND	KRANIDI	3.56	334	P	Pn	06 02 17.0	+0.9
DID	Didima	3.64	336	P	Pn	06 02 17.9	+0.7
DID	Didima	3.64	336	P	Pn	06 02 17.3	0.0
TURN	Turunc	3.66	44	PN	Pn	06 02 18.7	+1.3
SMG	Samos	3.80	22	P	Pn	06 02 20.1	+0.8
VLY	Voula,Athens	3.81	344	P	Pn	06 02 20.3	+0.8
PYL	PYLOS	3.84	316	P	Pn	06 02 21.9	+2.0
VLX	Vlachokerasia	3.87	326	P	Pn	06 02 20.6	+0.2
GCAM	G?zelcaml?	3.92	26	PN	Pn	06 02 22.5	+1.5
DALY	Dalyan (Mula)	3.93	47	PN	Pn	06 02 22.2	+1.1
YER	Yerkesik	3.94	41	P	Pn	06 02 23.4	+2.1
YER	Yerkesik	3.94	41	PN	Pn	06 02 22.4	+1.1
ITM	Ithomi	3.94	320	P	Pn	06 02 22.3	+0.9
ITM	Ithomi	3.94	320	PN	Pn	06 02 22.2	+0.9
ITM	Ithomi	3.94	320	Pn	Pn	06 02 22.4	+0.9
PTL	Penteli	3.98	346	P	Pn	06 02 22.2	+0.3
DION	Dionisos Attik	4.00	347	P	Pn	06 02 23.1	+1.0
DION	Dionisos Attik	4.00	347	P	Pn	06 02 22.7	+0.6
TRIP	Tripoli	4.05	326	P	Pn	06 02 24.1	+1.3
FETY	Fethiye	4.08	52	P	Pn	06 02 24.7	+1.4
FETY	Fethiye	4.08	52	PN	Pn	06 02 24.0	+0.7
KSL	Kastellorizon	4.18	61	P	Pn	06 02 25.8	+1.2
KSL	Kastellorizon	4.18	61	P	Pn	06 02 26.1	+1.5
KSL	Kastellorizon	4.18	61	⇑P	Pn	06 02 25.8	+1.2
KSL				S	Sn	06 03 15.3	+2.7
LTK	Loutraki	4.20	337	P	Pn	06 02 25.3	+0.4
LTK	Loutraki	4.20	337	P	Pn	06 02 24.9	+0.1
AKAS	Kas	4.23	60	PN	Pn	06 02 26.3	+0.9
AKAS	Kas	4.23	60	Pn	Pn	06 02 26.8	+1.4
CHOS	Chios island	4.27	10	P	Pn	06 02 26.6	+0.7
CHOS	Chios island	4.27	10	PN	Pn	06 02 27.4	+1.5
VIL2	Platees	4.28	341	P	Pn	06 02 25.6	-0.4
URLA	Izmir	4.35	16	PN	Pn	06 02 28.1	+1.2
GUR	Goura	4.36	330	P	Pn	06 02 27.5	+0.4
GUR	Goura	4.36	330	P	Pn	06 02 27.5	+0.4
BLCB	Balcova	4.49	20	PN	Pn	06 02 30.4	+1.6
KLV	Kalavryta, Ach	4.53	329	P	Pn	06 02 29.9	+0.4
DSF	Desfina	4.70	335	P	Pn	06 02 32.3	+0.5
ELL	Elmali	4.70	56	PN	Pn	06 02 32.6	+0.7
ELL	Elmali	4.70	56	P	Pn	06 02 33.3	+1.4
ELL	Elmali	4.70	56	Pn	Pn	06 02 33.3	+1.4
SERG	Sergoula	4.88	331	P	Pn	06 02 35.5	+1.3
SWA2		4.93	176	P	Pn	06 02 35.9	+0.9
	baz=175						
SWA2				AMP		06 03 00.0	
	baz=175						
SWA2				S	Sn	06 03 30.7	-0.5
	baz=175						
EFP	Efpalio	4.95	330	P	Pn	06 02 36.7	+1.5
AXS	Araxos	5.00	324	P	Pn	06 02 37.4	+1.6
SIGR	SIGRI	5.06	7	PN	Pn	06 02 39.1	+2.4
ANX	Ano Chora	5.09	331	P	Pn	06 02 37.7	+0.6
KORT	Korkueli	5.13	55	PN	Pn	06 02 39.3	+1.5
KULA	Kula-Manisa	5.20	33	PN	Pn	06 02 40.3	+1.6
OSC1	CSNet OBS 1	5.20	96	P	Pn	06 02 38.0	-0.6
OSC1				S	Sn	06 03 36.1	-1.8
PVO	Paravola	5.28	328	P	Pn	06 02 40.5	+0.9
ANTB	Antalya	5.29	58	PN	Pn	06 02 41.3	+1.5
HBRG	Burj al `Arab	5.40	130	P	Pn	06 02 42.7	+1.4
	baz=132						
BASM	Basmaki-Afyon	5.49	46	PN	Pn	06 02 44.2	+1.6
BCK	Bucak	5.54	52	PN	Pn	06 02 45.2	+1.8
FSK	Fiskardo	5.62	321	P	Pn	06 02 46.3	+2.0
ISP	Isparta	5.71	49	PN	Pn	06 02 48.4	+2.6
ISP	Isparta	5.71	49	P	Pn	06 02 46.4	+0.6
ISP	Isparta	5.71	49	Pn	Pn	06 02 46.4	+0.6
AKMS	Akamas	6.04	80	P	Pn	06 02 49.6	-0.6
AKMS				AML	AML	06 04 01.4	
	comp=E,1.5nm,0.6s						
AKMS				AML	AML	06 04 05.9	
	comp=E,1.0nm,0.5s						
SHUT	Suhut-Afyon	6.21	44	PN	Pn	06 02 54.8	+2.3
NATA	Nata	6.21	82	P	Pn	06 02 52.3	-0.2
GAZI	Gazipasa	6.27	69	PN	Pn	06 02 55.4	+2.1
ALFC	Alefka	6.27	79	⇑P	Pn	06 02 52.7	-0.7
ALFC				AML	AML	06 04 02.0	
	comp=E,1.2nm,0.5s						
ALFC				AML	AML	06 04 05.5	
	comp=E,0.9nm,0.5s						
TVSB	Tavsanli	6.32	32	PN	Pn	06 02 56.3	+2.2
SEYD	Seydisehir-KON	6.36	58	PN	Pn	06 02 56.7	+2.0
SZAC	Souni	6.47	83	⇑P	Pn	06 02 55.7	-0.3
LEF	Lefka	6.50	80	PN	Pn	06 02 56.7	+0.2
HNAT	Natroun	6.53	132	P	Pn	06 02 58.2	+1.2
	baz=134						
HNAT				AMP		06 04 00.0	
	baz=134						
HMYD	Mayadein	6.54	130	P	Pn	06 02 58.0	+1.1
	baz=132						
BOLV	Bolvadin	6.55	45	Pn	Pn	06 02 55.7	-1.5
IGT	Igoumenitsa	6.56	326	*e*Pn	Pn	06 02 59.7	+2.4
IGT				*e*Sg	Sn	06 04 07.5	-3.8
ALN	Alexandroupoli	6.75	6	P	Pn	06 02 59.5	-0.4
ALN	Alexandroupoli	6.75	6	Pn	Pn	06 02 59.5	-0.4
ASGA	Asgata	6.77	83	P	Pn	06 03 00.2	0.0
CSS	Mathiatis	6.85	81	PN	Pn	06 03 02.2	+0.9
CSS	Mathiatis	6.85	81	Pn	Pn	06 03 02.1	+0.8
CSS				Sn	Sn	06 04 16.7	-1.8
CSS	Mathiatis	6.85	81	⇑P	Pn	06 03 00.7	-0.6
CSS	Mathiatis	6.85	81	Pn	Pn	06 03 00.0	-1.3
CSS				Sn	Sn	06 04 17.4	-1.1
TEKE	Tekeli-Mersin	6.87	71	PN	Pn	06 03 02.8	+1.3
KONT	Konya--Tatoy	6.99	55	PN	Pn	06 03 05.3	+2.1
SRS	Serrai	7.03	351	*e*Pn	Pn	06 03 03.7	0.0
MVOU	Mavrovouni	7.10	81	⇑P	Pn	06 03 05.1	+0.4
KOT	Kottamia	7.12	125	P	Pn	06 03 05.5	+0.4
	baz=126						
KOT				AMP		06 04 00.0	
	baz=126						
LADK	Ladik-KONYA	7.12	54	PN	Pn	06 03 06.5	+1.4
HSAF	As Saff	7.14	128	P	Pn	06 03 06.0	+0.7
	baz=129						
TEVE	Tevekalti-Mers	7.20	69	PN	Pn	06 03 07.1	+1.0
KIZT	Kizilcal	7.21	47	PN	Pn	06 03 07.9	+1.6
AKKU	Akkuyu-Mersin	7.21	72	PN	Pn	06 03 07.1	+0.9
GLL	Jalalah	7.27	127	P	Pn	06 03 07.1	0.0
	baz=129						
HHAG	Hagoal	7.29	123	P	Pn	06 03 08.4	+0.9
	baz=125						
IKL	Isikli	7.34	71	PN	Pn	06 03 08.9	+1.0
KEBE	Keben-Mersin	7.41	70	PN	Pn	06 03 10.2	+1.2
MMB	Musomiste	7.47	352	*i* P	Pn	06 03 10.1	+2.2
SILI	Silifke-Mersin	7.55	71	PN	Pn	06 03 11.9	+1.0
EREN	Erenkoy	7.59	77	PN	Pn	06 03 12.4	+1.0
NBNS	Bani Suef	7.67	135	P	Pn	06 03 13.2	+0.6
	baz=135						
KIZK	Mersin	7.75	70	PN	Pn	06 03 14.7	+1.0
KKB	Krupnik	7.83	349	*i* P	Pn	06 03 21.6	+6.8
SUZ	Suez	7.88	121	P	Pn	06 03 15.6	+0.2
	baz=123						
SCTE	Santa Cesarea	7.90	320	Pn	Pn	06 03 13.9	-1.8
SCTE				Sn	Sn	06 04 40.3	-4.1
TIR	Tirane	8.26	332	*e*Pn	Pn	06 03 20.5	-0.1
TIP	Timpagrande	8.34	309	⇑P	Pn	06 03 22.5	+0.7
TIP	Timpagrande	8.34	309	Pn	Pn	06 03 22.1	+0.3
BR231	Keskin MP Arra	8.35	45	Pn	Pn	06 03 21.2	-0.8
PGB	Panagyurishte	8.39	355	*i* P	Pn	06 03 30.5	+8.1
KZIT	Kziot	8.51	110	Pn	Pn	06 03 23.6	-0.5
KZIT				Sn	Sn	06 04 54.1	-5.4
VTS	Vitosha	8.55	351	*i* P	Pn	06 03 26.4	+1.7
BOSS	Bosilegrad	8.55	347	*e*Pn	Pn	06 03 26.4	+1.8
SLTI	Sal'it	8.57	100	Pn	Pn	06 03 24.9	+0.1
SLTI				Sn	Sn	06 04 56.1	-4.7
KARA	Karaisali	8.67	66	PN	Pn	06 03 27.3	+1.0
MMAI	Mount Meron Ar	8.69	95	Pn	Pn	06 03 25.2	-1.4
	comp=E,3.4nm,0.3s,baz=275,slow=12,SNR=9.8						
MMAI				Sn	Sn	06 05 01.0	-2.9
	comp=E,6.8nm,0.3s,baz=301,slow=27,SNR=7.2						
MMA0B	Mount Meron ar	8.69	95	Pn	Pn	06 03 28.8	+2.2
MMA0B				Sn	Sn	06 05 00.5	-3.4
CMRD	Camardi-Nigde	8.76	64	PN	Pn	06 03 28.4	+0.9
BRTR	Keskin Array B	8.80	49	Pn	Pn	06 03 28.2	0.0
	comp=E,0.2nm,0.3s,baz=229,slow=11,SNR=9.7						
BRTR				Sn	Sn	06 05 04.2	-2.5
	comp=E,0.5nm,0.3s,baz=9.8,slow=14,SNR=8.8						
BR131	Keskin Array S	8.80	49	P	Pn	06 03 27.2	-1.0
BR131	Keskin Array S	8.80	49		Pn	06 03 27.2	-1.0
MMLI	Mount Malkishu	8.83	98	Pn	Pn	06 03 28.5	0.0
GEM	Giv'at Ha'Em	8.87	93	Pn	Pn	06 03 28.4	-0.6
YTIR	Yattir	8.90	106	Pn	Pn	06 03 30.6	+1.0
YTIR				Sn	Sn	06 05 05.0	-4.2
NATI	Neve Ativ	8.92	93	Pn	Pn	06 03 29.7	0.0
HMDT	Nahal Hemdat	8.96	99	Pn	Pn	06 03 31.2	+1.0
HMDT				Sn	Sn	06 05 05.6	-4.8
RCY	Rachaya	8.97	91	*e*P	Pn	06 03 30.4	-0.2
BARS	Barje	8.99	344	*e*Pn	Pn	06 03 31.9	+1.2
HWQ	Hawqa	9.00	86	*e*P	Pn	06 03 32.0	+1.1
DSI	Dead Sea	9.04	104	Pn	Pn	06 03 31.3	-0.1
DSI				Sn	Sn	06 05 08.3	-4.2
KRMI	Paran Flat	9.12	114	Pn	Pn	06 03 32.2	-0.3
KRMI				Sn	Sn	06 05 09.0	-5.5
CEYT	Ceyhan	9.13	69	PN	Pn	06 03 33.4	+0.8
PRNI	Paran	9.23	112	Pn	Pn	06 03 34.1	+0.2
PRNI				Sn	Sn	06 05 11.8	-5.2
RAFF	Raffo Rosso	9.23	292		Pn	06 03 33.4	-0.6
VAE	Valguarnera	9.27	294	Pn	Pn	06 03 33.9	-0.6
	comp=E,0.7nm,0.3s,baz=174,slow=17,SNR=2.1						
VAE				Sn	Sn	06 05 12.4	-5.6
	comp=E,2.8nm,0.3s,baz=27,slow=2.3,SNR=1.5						
ZAPS	Zavoj	9.28	349	*e*Pn	Pn	06 03 36.1	+1.5
KOZT	Kozan	9.33	66	PN	Pn	06 03 35.7	+0.5
TAHT	Tahtakopru-Hat	9.34	73	PN	Pn	06 03 35.4	0.0
HRFI	Mount Harif	9.40	113	Pn	Pn	06 03 36.4	+0.1
HRFI				Sn	Sn	06 05 16.9	-4.4
PDG	Podgorica	9.42	333	Pn	Pn	06 03 34.3	-2.2
MBRI	Mt Berech	9.42	115	Pn	Pn	06 03 35.9	-0.8
EIL	Elat	9.52	116	Pn	Pn	06 03 37.0	-0.8
	comp=E,5.9nm,0.3s,baz=284,slow=6.1,SNR=23						
EIL				Sn	Sn	06 05 20.3	-3.8
	comp=E,2.1nm,0.3s,baz=84,slow=19,SNR=2.3						
EIL	Elat	9.52	116	Pn	Pn	06 03 37.5	-0.4
EIL				Sn	Sn	06 05 20.5	-3.6
SJES	Sjenica	9.90	338	*e*Pn	Pn	06 03 43.5	+0.3
ASF	Jabal al Asfar	10.10	98	Pn	Pn	06 03 45.5	-0.5
	comp=E,0.4nm,0.3s,baz=246,slow=16,SNR=6.9						
ASF				Sn	Sn	06 05 36.2	-2.4
	comp=E,0.8nm,0.3s,baz=253,slow=19,SNR=2.0						
SGRT	San Giovanni R	10.55	318	Pn	Pn	06 03 50.1	-2.0
BBLS	Lazići	10.63	337	*e*Pn	Pn	06 03 52.3	-0.8
DIVS	Divibare	10.66	340	*e*Pn	Pn	06 03 53.8	+0.2
MLR	Muntele Rosu	11.32	3	Pn	Pn	06 04 03.8	+1.2
	comp=E,0.1nm,0.3s,baz=107,slow=11,SNR=2.2						
MLR				LR	LR	06 09 26.0	
	comp=E,333nm,18.0s,baz=135,slow=43						
MLR	Muntele Rosu	11.32	3	⇑P	Pn	06 04 14.6	+12
MLR	Muntele Rosu	11.32	3	⇑P	Pn	06 04 14.6	+12
MLR	Muntele Rosu	11.32	3		Pn	06 04 00.8	-1.7
GZR	Gura Zlata	11.34	352	⇓P	Pn	06 04 04.7	+1.9
GZR	Gura Zlata	11.34	352	⇓P	Pn	06 04 04.7	+1.9
BZS	Buzias	11.73	348	⇑P	Pn	06 04 08.3	+0.2
BZS	Buzias	11.73	348	⇑P	Pn	06 04 08.3	+0.2
VRI	Vrincioaia	11.74	6	⇑P	Pn	06 04 14.6	+6.3
VRI	Vrincioaia	11.74	6	⇑P	Pn	06 04 14.6	+6.3
INTR	Introdacqua	11.77	315	Pn	Pn	06 04 05.9	-2.8
NRCA	Norcia	12.74	316		Pn	06 04 19.6	-2.4
SIM	Simferopol'	12.80	30	*e*P	Pn	06 04 19.4	-3.4
SIM				*e*S	Sn	06 06 42.6	-1.9
SIM				pmax	pmax		
	comp=Z,62nm,0.6s						
KEST	Kesra	13.00	281	Pn	Pn	06 04 26.9	+1.2
	comp=Z,0.2nm,0.3s,baz=45,slow=5.7,SNR=1.8						
KEST	Kesra	13.00	281		Pn	06 04 24.6	-1.0
MARD	Mardin	13.13	72	Pn	Pn	06 04 27.5	+0.1
BURAR	Bucovina Array	13.42	0	⇑P	P	06 04 44.8	+4.3
BURAR	Bucovina Array	13.42	0	⇑P	P	06 04 44.8	+4.3
UZH	Uzhgorod	14.59	353	*e*P	Pn	06 04 46.3	-0.8
SOKA	Soboth	14.62	332	*e*P	P	06 04 51.7	-2.1
	comp=Z,10nm,1.2s,SNR=5.3						
OBKA	Obir	14.68	330	*e*P	P	06 04 55.2	+0.6
	comp=Z,9.1nm,1.1s						
OBKA	Obir	14.68	330	*e*P	P	06 04 54.9	+0.4
	baz=141,slow=11						
SOC	Sochi	14.75	46	*e*P	Pn	06 04 47.9	-1.4
SOC				*e*		06 07 33.0	
SOC				pmax	pmax		
	comp=Z,11nm,0.5s						
SOC				MLR	MLR		
	comp=Z,164nm,15.0s						
KOLS	Kolonicke sedl	14.89	353	*e*P	P	06 04 54.8	-1.9
KOLS	Kolonicke sedl	14.89	353	*e*PN	P	06 04 54.8	-1.9
ARSA	Arzberg	14.92	334	*e*P	P	06 04 57.0	-0.1
	comp=Z,7.2nm,1.1s						
ARSA	Arzberg	14.92	334	*e*P	P	06 04 58.1	+1.1
	baz=141,slow=11						
VYHS	Vyhne	15.04	344	*e*P	P	06 04 59.4	+1.0
VYHS	Vyhne	15.04	344	*e*P	P	06 04 59.4	+1.0
PRED	Cave del Predi	15.05	328		Pn	06 04 51.4	-2.0
MODS	Modra-Piesok	15.33	340	*e*P	P	06 05 03.6	+1.9
MODS	Modra-Piesok	15.33	340	*e*P	P	06 05 03.6	+1.9
CONA	Conrad Observa	15.38	336	*e*P	P	06 05 02.1	-0.1
	comp=Z,5.4nm,1.6s						
ZOU	Zoufplan	15.40	327	Pn	Pn	06 04 55.0	-3.2
ZOU				IAmb	IAmb	06 05 16.4	
	comp=Z,25nm,1.1s						
CIMO	Cimolais	15.46	325	Pn	Pn	06 04 56.7	-2.1
KBA	Koelnbreinsper	15.64	329	*e*P	P	06 05 07.0	+1.7
	comp=Z,16nm,1.2s						
CTI	Castel Tesino	15.66	323	P	Pn	06 04 58.2	-3.2
CTI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CTI	Castel Tesino	15.66	323	Pn	Pn	06 04 58.2	-3.2
JAVC	Velka Javorina	15.67	342	*e*PN	P	06 05 04.3	-1.1
ABTA	Abfaltersbach	15.76	327	*e*P	P	06 05 06.6	+0.1
	comp=Z,7.6nm,0.5s,SNR=8.4						
MOA	Molln	15.89	333	*e*P	P	06 05 08.5	+0.7
	comp=Z,5.1nm,0.8s,SNR=5.6						
MOA	Molln	15.89	333	*e*P	P	06 05 06.6	-1.2
	comp=Z,10nm,0.9s,baz=141,slow=11						
SALO	Salr	15.95	320	Pn	Pn	06 05 02.2	-2.9
SALO				IAmb	IAmb	06 05 24.4	
	comp=Z,22nm,0.9s						
KRUC	Moravsky	16.21	339	*e*PN	P	06 05 10.3	-1.0
AKH	Akhalkalaki	16.23	58	P	Pn	06 05 07.9	-1.0
AKH				pmax	pmax		
	comp=Z,17nm,1.0s						
AKH	Akhalkalaki	16.23	58	Pn	Pn	06 05 07.9	-1.0
AKH				IAmb	IAmb	06 05 29.6	
	comp=Z,17nm,1.0s						
VRAC	Vranov	16.37	340	Pn	Pn	06 05 10.7	+0.2
	comp=Z,0.3nm,0.3s,baz=150,slow=11,SNR=5.2						
VRAC	Vranov	16.37	340	⇑P	P	06 05 12.8	-0.3
VRAC	Vranov	16.37	340	*e*PN	Pn	06 05 11.2	+0.7
VRAC	Vranov	16.37	340	⇑P	P	06 05 12.8	-0.3
RJOB	Jochberg	16.39	329	*e*P	P	06 05 12.7	-0.7
	comp=Z,25nm,2.0s,baz=141,slow=11						
WTTA	Wattenberg	16.54	326	*e*P	P	06 05 16.6	+1.4
	comp=Z,29nm,1.4s,SNR=15						
WTTA	Wattenberg	16.54	326	*e*P	P	06 05 16.0	+0.8
	comp=Z,24nm,1.2s,baz=141,slow=11						
MORC	Moravsky Berou	16.55	343	*e*PN	Pn	06 05 11.5	-1.2
MORC	Moravsky Berou	16.55	343	P	Pn	06 05 10.1	-2.6
MORC				pmax	pmax		
	comp=Z,13nm,1.4s						
MORC	Moravsky Berou	16.55	343	Pn	Pn	06 05 10.1	-2.6
WATA	Walderalm	16.62	326	*e*P	P	06 05 16.0	-0.1
	comp=Z,17nm,1.4s,SNR=9.3						
SQTA	Sankt Quirin	16.71	325	*e*P	P	06 05 18.2	+1.2
	comp=Z,3.6nm,0.8s						
FUORN	Ofenpass-Fuorn	16.75	322	Pn	Pn	06 05 13.1	-2.4
FUORN				IAmb	IAmb	06 05 26.9	
	comp=Z,23nm,1.0s						
KIV	Kislovodsk	16.77	49	*e*P	Pn	06 05 16.6	+1.0
KIV				pmax	pmax		
	comp=Z,80nm,1.0s						
KIV	Kislovodsk	16.77	49		Pn	06 05 15.3	-0.3
KIV				IAmb	IAmb	06 05 24.6	
	comp=Z,33nm,1.1s						
KVAR	Kislovodsk Arr	16.77	49	Pn	Pn	06 05 16.8	+1.1
	baz=258,slow=19,SNR=3.1						
KVAR				LR	LR	06 12 04.9	
	comp=Z,155nm,20.9s,baz=82,slow=38						
AKASG	Malin Array Be	16.79	9	Pn	Pn	06 05 15.2	-0.5
	comp=Z,2.3nm,0.3s,baz=200,slow=11,SNR=37						
AKASG				Sn	Sn	06 08 18.3	-3.1
	comp=Z,0.2nm,0.3s,baz=242,slow=36,SNR=1.8						
AKASG	Malin Array Be	16.79	9	P	Pn	06 05 15.2	-0.5
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	Malin Array Be	16.79	9		Pn	06 05 15.2	-0.5
AKBB	Malin Array Si	16.79	9	P	Pn	06 05 14.8	-0.9
AKBB				pmax	pmax		
	comp=Z,26nm,0.9s						
AKBB	Malin Array Si	16.79	9		Pn	06 05 14.8	-0.9
AKBB				IAmb	IAmb	06 05 17.3	
	comp=Z,26nm,0.8s						
KBZ	Khabaz	16.79	50	Pn	P	06 05 18.1	+0.3
	comp=Z,0.9nm,0.3s,baz=240,slow=9.2,SNR=21						
FETA	Feichten	16.80	324	*i* P	P	06 05 19.9	+1.9
	comp=Z,12nm,1.2s,SNR=8.9						
MOTA	Moosalm	16.85	325	*e*P	P	06 05 21.9	+3.3
	comp=Z,6.7nm,1.0s						
GEC2	GERESS Array S	16.92	333	*e*P	Pn	06 05 17.9	+0.4
	comp=Z,12nm,0.8s,baz=141,slow=11						
GEC2	GERESS Array S	16.92	333		Pn	06 05 17.2	-0.3
GEC2				IAmb	IAmb	06 05 21.7	
	comp=Z,11nm,0.8s						
GERES	GERESS Array B	16.92	333	Pn	Pn	06 05 18.1	+0.7
	comp=Z,0.7nm,0.3s,baz=152,slow=6.0,SNR=58						
GERES	GERESS Array B	16.92	333	P	Pn	06 05 16.5	-1.0
KRLC	Kraliky	17.02	341	*e*P	P	06 05 20.0	-0.3
KRLC				*e*pP	pP	06 05 25.3	-0.6
KRLC	Kraliky	17.02	341	*e*P	P	06 05 20.0	-0.3
ZEI	Tsey	17.03	54	*e*P	P	06 05 20.9	+0.2
ZEI				pmax	pmax		
	comp=Z,19nm,1.0s						
DAVOX	Davos/Dischmat	17.05	322	P	P	06 05 20.8	-0.1
	comp=Z,0.2nm,0.3s,baz=151,slow=16,SNR=5.4						
TUE	Stuetta	17.13	320	P	Pn	06 05 20.4	+0.1
KHC	Kasperske Hory	17.20	334	*e*P	Pn	06 05 21.0	0.0
KHC				*es*P	pwP	06 05 34.5	+2.4
KHC	Kasperske Hory	17.20	334	*ce*P	P	06 05 22.5	+0.1
KHC				pmax	pmax		
	comp=Z,36nm,1.3s						
KHC	Kasperske Hory	17.20	334		Pn	06 05 20.1	-0.9
FUR	Furstenfeldbru	17.37	328	*e*P	Pn	06 05 23.8	+0.7
	comp=Z,38nm,1.3s,baz=141,slow=11						
DPC	Dobruska-Polom	17.39	341	*e*P	Pn	06 05 22.6	-0.7
DPC				*e*pP	pP	06 05 30.2	+0.1
DPC	Dobruska-Polom	17.39	341	*e*P	Pn	06 05 22.6	-0.7
DAVA	Damuels	17.40	323	*e*P	P	06 05 26.4	+1.7
	comp=Z,3.1nm,0.6s						
DAVA	Damuels	17.40	323	*e*P	P	06 05 25.5	+0.9
	comp=Z,18nm,1.4s,baz=141,slow=11						
WET	Wettzell	17.48	332	*e*P	P	06 05 25.3	-0.1
	comp=Z,27nm,1.1s,baz=141,slow=11						
UBR	Ueberruh	17.56	325	*e*P	P	06 05 26.5	+0.1
	comp=Z,18nm,1.5s,baz=141,slow=11						
PRU	Pruhonice	17.60	337	*e*P	Pn	06 05 26.5	+0.7
PRU				*e*pP	pP	06 05 31.8	-0.5
PRU	Pruhonice	17.60	337	*e*P	Pn	06 05 26.5	+0.7
UPC	Upice	17.62	341	*e*P	P	06 05 28.5	+1.6
UPC	Upice	17.62	341	*e*P	P	06 05 28.5	+1.6
SENIN	Lac Senin/Sane	18.18	317	P	Pn	06 05 31.9	-1.3
ROTZ	Rotzenmuhle	18.24	333	*e*P	Pn	06 05 33.8	+0.1
	comp=Z,15nm,1.5s,baz=141,slow=11						
NKC	Novy Kostel	18.53	334	*e*P	P	06 05 37.5	+0.5
NKC	Novy Kostel	18.53	334	*e*P	P	06 05 37.5	+0.5
BRG	Berggiesshubel	18.56	337	*e*P	P	06 05 36.4	-0.8
	comp=Z,7.2nm,1.4s						
BRG	Berggiesshubel	18.56	337	*e*P	P	06 05 36.4	-0.8
BRG				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BRG	Berggiesshubel	18.56	337	*e*P	P	06 05 35.9	-1.3
	comp=Z,9.8nm,1.5s,baz=141,slow=11						
GRA1	Grafenberg Arr	18.57	331	P	P	06 05 35.1	-2.2
GRA1				IAmb	IAmb	06 05 52.0	
	comp=Z,42nm,1.1s						
GRF	Grafenberg Arr	18.57	331	P	P	06 05 35.2	-2.2
GRF				pmax	pmax		
	comp=Z,42nm,1.1s						
GRF	Graf

comp=Z,38nm,0.6s
IBBN Ibbenburen 21.98 331 *e*P **P 06 06 14.1 -0.2**
comp=Z,25nm,1.4s,baz=141,slow=11
SNF Seneffe 22.30 323 P **P 06 06 18.1 +0.3**
SNF PnPn **PnPn 06 06 40.4 -0.3**
BSEG Bad Segeberg 22.33 337 *e*P **P 06 06 16.1 -2.0**
comp=Z,38nm,1.3s,baz=141,slow=11
OBN Obninsk 22.41 17 P **P 06 06 20.4 +1.5**
comp=Z,4.9nm,0.5s,baz=24,slow=21,SNR=5.7
OBN Obninsk 22.41 17 *d i*P **P 06 06 20.5 +1.5**
OBN *e* 06 06 39.6
OBN *e*S S 06 10 11.1 -13
OBN pmax pmax
comp=Z,31nm,1.0s
OBN MLR MLR
comp=Z,125nm,17.0s
OBN Obninsk 22.41 17 P **P 06 06 16.4 -2.6**
ESBB Sonseca Array 23.80 292 P **P 06 06 31.5 -1.8**
ESBB IAmb IAmb 06 06 41.7
comp=Z,6.4nm,1.0s
ESDC Sonseca Array 23.80 292 P **P 06 06 33.1 -0.2**
comp=Z,3.1nm,0.9s,baz=82,slow=9.1,SNR=16
ESDC Sonseca Array 23.80 292 P **P 06 06 33.1 -0.2**
VSU Vasula 24.31 2 *e*P **P 06 06 39.7 +1.9**
VSU IAmb IAmb 06 06 48.6
comp=Z,33nm,0.6s
VSU Vasula 24.31 2 *i*P **P 06 06 40.0 +2.2**
VSU pmax pmax
comp=Z,29nm,0.9s
MDT Midelt 24.76 275 P **P 06 06 43.0 +0.8**
comp=Z,1.8nm,0.8s,baz=108,slow=14,SNR=5.9
PBRG Braganca 26.10 296 *e*P **P 06 06 55.7 +1.4**
MVO Moncorvo 26.25 295 *e*P **P 06 06 58.3 +2.6**
PCBR Castelo Branco 26.51 292 *e*P **P 06 06 59.6 +1.6**
GEYT Alibeck 26.89 72 P **P 06 07 02.3 +0.8**
comp=Z,0.9nm,0.3s,baz=288,slow=10,SNR=1.7
GEYT Alibeck 26.89 72 P **P 06 07 01.7 +0.3**
EVO Evora 26.92 289 *e*P **P 06 07 01.9 +0.3**
HFS Hagfors 27.02 347 P **P 06 07 01.7 -0.5**
comp=Z,1.2nm,0.3s,baz=163,slow=11,SNR=12
FINES FINESS Array B 27.29 1 P **P 06 07 02.2 -2.4**
comp=Z,6.0nm,1.0s,baz=156,slow=11,SNR=10
FINES FINESS Array B 27.29 1 P **P 06 07 01.7 -3.0**
FINES FINESS Array B 27.29 1 P **P 06 07 01.7 -3.0**
NC602 NORSAR Array S 27.98 346 P **P 06 07 08.0 -2.9**
KLMR Klimovskoe 28.28 15 *e*P **P 06 07 11.2 -2.3**
KLMR pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 28.28 15 *e*P **P 06 07 11.3 -2.3**
KLMR AMP 06 07 16.9
comp=Z,16nm,1.2s
NB2 NORSAR Subarra 28.33 346 P **P 06 07 12.8 -1.3**
comp=Z,12nm,1.4s,baz=156,slow=10
NOA NORSAR Array B 28.33 346 P **P 06 07 12.7 -1.3**
comp=Z,0.2nm,0.3s,baz=261,slow=14,SNR=6.8
UOSS Minazif 28.50 100 P **P 06 07 14.2 -1.8**
UOSS IAmb IAmb 06 07 42.6
comp=Z,21nm,1.3s
EKA Eskdalemuir Ar 28.81 326 P **P 06 07 17.6 -0.7**
comp=Z,0.4nm,0.4s,baz=121,slow=9.2,SNR=3.7
AKTO Aktyubinsk 28.97 46 P **P 06 07 19.2 -0.7**
comp=Z,1.1nm,0.5s,baz=243,slow=7.4,SNR=4.2
AB31 Akbulak array 29.75 49 P **P 06 07 27.2 +0.4**
ABKAR Akbulak array 29.75 49 P **P 06 07 26.2 -0.6**
TOA0 Torodi Ar. Sit 29.82 231 P **P 06 07 28.0 +0.3**
TORD Torodi Ar. Bea 29.82 231 P **P 06 07 28.4 +0.7**
comp=Z,4.6nm,0.7s,baz=33,slow=8.6,SNR=29
TORD Torodi Ar. Bea 29.82 231 P **P 06 07 27.4 -0.2**
PRGR Permogore 30.45 19 *e*P **P 06 07 30.7 -2.1**
PRGR pmax pmax
comp=Z,77nm,1.4s
ARU Arti 31.88 35 P **P 06 07 44.6 -0.9**
comp=Z,1.6nm,0.4s,baz=239,slow=8.7,SNR=8.1
ARU Arti 31.88 35 *c i*P **P 06 07 45.0 -0.5**
ARU 06 08 46.6
ARU S **S 06 12 55.7 +0.9**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 31.88 35 P **P 06 07 43.5 -2.0**
ARU IAmb IAmb 06 07 46.5
comp=Z,6.6nm,0.8s
SVE Sverdlovsk 33.08 36 *e*P **P 06 07 56.4 +0.4**
SVE pmax pmax
comp=Z,15nm,0.6s
LVZ Lovozero 34.21 6 P **P 06 08 03.8 -1.9**
LVZ pmax pmax
comp=Z,64nm,1.5s
LVZ Lovozero 34.21 6 P **P 06 08 03.8 -1.9**
ARCES ARCESS Array B 35.41 0 P **P 06 08 14.2 -1.8**
comp=Z,1.5nm,0.5s,baz=178,slow=9.0,SNR=3.6
ARCES ARCESS Array B 35.41 0 P **P 06 08 13.5 -2.5**
CHGR Chuyangaron 35.49 70 P **P 06 08 16.3 -0.9**
KK31 Karatay Array 36.21 62 *e*P **P 06 08 23.8 +0.6**
KK31 Karatay Array 36.21 62 P **P 06 08 23.1 -0.1**
KK31 IAmb IAmb 06 08 39.7
comp=Z,3.2nm,0.7s
KKAR Karatay Array 36.21 62 P **P 06 08 23.2 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 36.21 62 P **P 06 08 22.5 -0.7**
KKAR IAmb IAmb 06 08 39.7
comp=Z,3.2nm,0.7s
KKAR Karatay Array 36.21 62 P **P 06 08 23.2 0.0**
BVAR Borovoye Array 37.07 45 P **P 06 08 28.5 -2.0**
comp=Z,1.4nm,0.8s,baz=260,slow=4.5,SNR=6.0
DBIC Dimbokro 38.91 232 P **P 06 08 46.3 0.0**
comp=Z,4.3nm,0.9s,baz=348,slow=12,SNR=2.1
DBIC Dimbokro 38.91 232 P **P 06 08 46.8 +0.5**
DBIC pmax pmax
comp=Z,16nm,1.3s
DBIC Dimbokro 38.91 232 P **P 06 08 46.8 +0.5**
DBIC IAmb IAmb 06 08 48.6
comp=Z,16nm,1.2s
AAK Ala-Archa 39.16 63 *c e*P **P 06 08 50.2 +1.9**
AAK pmax pmax
comp=Z,10.0nm,1.0s
BOOM Boomskoye usch 40.23 63 P **P 06 08 57.4 +0.1**
BOOM pmax pmax
comp=Z,6.0nm,1.2s
BOOM Boomskoye usch 40.23 63 P **P 06 08 57.4 +0.1**
BOOM IAmb IAmb 06 09 15.5
comp=Z,5.5nm,1.1s
KURBB Kurchatov Arra 41.79 50 P **P 06 09 09.7 -0.1**
comp=Z,2.7nm,0.4s,baz=275,slow=8.7,SNR=37
KURK Kurchatov 41.85 50 *i*P **P 06 09 11.1 +0.8**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 41.85 50 P **P 06 09 09.9 -0.3**
KURK IAmb IAmb 06 09 23.5
comp=Z,4.2nm,0.8s
PDGK Podgornoye 42.74 61 P **P 06 09 16.4 -1.4**
MAKZ Makanchi 44.16 56 P **P 06 09 28.6 -0.5**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 44.16 56 P **P 06 09 28.6 -0.5**
MAKZ IAmb IAmb 06 09 53.1
comp=Z,2.6nm,0.7s
MK31 Makanchi Array 44.37 56 P **P 06 09 30.8 0.0**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 44.37 56 P **P 06 09 30.8 0.0**
MK31 IAmb IAmb 06 09 35.3
comp=Z,3.8nm,0.7s
MKAR Makanchi Array 44.37 56 P **P 06 09 31.9 +1.1**
comp=Z,5.4nm,0.5s,baz=275,slow=7.0,SNR=60
MKAR Makanchi Array 44.37 56 P **P 06 09 30.4 -0.4**
ZAA0 Zalesovo Array 45.73 45 P **P 06 09 40.6 -0.8**
ZALV Zalesovo Beam 45.73 45 P **P 06 09 41.3 -0.1**
comp=Z,8.0nm,0.4s,baz=269,slow=8.6,SNR=36
ZALV Zalesovo Beam 45.73 45 P **P 06 09 40.9 -0.5**
DGZ Jazzator, Alta 47.54 51 *i*P **P 06 09 56.6 +0.8**
DGZ pmax pmax
comp=Z,2.0nm,0.5s
WMQ Urumqi 48.56 59 *e*P **P 06 10 05.8 +2.1**
NRIK Noril'sk 48.79 25 P **P 06 10 05.0 0.0**
comp=Z,2.6nm,0.7s,baz=252,slow=3.2,SNR=3.9
TLY Talaya 57.32 46 *i*P **P 06 11 09.5 +1.3**
TLY pmax pmax
comp=Z,3.0nm,1.1s
ZAK Zakamensk 57.44 48 *e*P **P 06 11 10.2 +1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
GTA Gaotai 58.48 61 *e*P **P 06 11 18.8 +2.1**
GTA pP pP 06 11 23.3 +0.3
GTA sP sP 06 11 25.8 +0.2
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA pmax pmax
comp=Z,24nm,4.4s
GTA LR LR
comp=N,90nm,17.8s
GTA LR LR
comp=E,120nm,17.1s
GTA LR LR
comp=Z,120nm,18.2s
SONM Songino Array 60.16 50 P **P 06 11 29.1 +1.0**
comp=Z,2.3nm,0.5s,baz=288,slow=7.6,SNR=10
SONM Songino Array 60.16 50 P **P 06 11 27.6 -0.5**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 60.16 50 P **P 06 11 27.6 -0.5**
ULN Ulaanbaatar 60.57 50 *c e*P **P 06 11 33.8 +2.9**
ULN pmax pmax
comp=Z,3.0nm,0.6s
ULN Ulaanbaatar 60.57 50 P **P 06 11 29.8 -1.1**
ULN IAmb IAmb 06 11 51.4
comp=Z,4.8nm,0.9s
TIXI Tiksi 62.10 20 *i*P **P 06 11 43.2 +2.5**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
BOSA Boshof 62.45 180 P **P 06 11 44.2 +0.5**
comp=Z,2.2nm,0.8s,baz=0.4,slow=12,SNR=2.4
BOSA Boshof 62.45 180 P **P 06 11 44.2 +0.5**
BOSA pmax pmax
comp=Z,20nm,1.5s
BOSA Boshof 62.45 180 P **P 06 11 44.2 +0.5**
LZH Lanzhou 62.69 63 *e*P **P 06 11 45.9 +0.4**
LZH pP pP 06 11 51.6 -0.4
LZH sP pwP 06 11 55.9 +0.2
LZH PP **PP 06 14 10.3 +7.1**
LZH pmax pmax
comp=Z,10.0nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.3s
SCHQ Schefferville 63.89 320 P **P 06 11 52.4 -0.5**
comp=Z,3.4nm,0.6s,baz=76,slow=5.6,SNR=5.4
SCHQ Schefferville 63.89 320 P **P 06 11 51.8 -1.2**
HHC Hu-ho-hao-te 66.24 56 *e*P **P 06 12 10.1 +1.6**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,81nm,5.6s
CMAR Chiang Mai Arr 66.75 83 P **P 06 12 12.6 +0.5**
comp=Z,1.1nm,0.3s,baz=294,slow=8.8,SNR=4.3
CMAR Chiang Mai Arr 66.75 83 P **P 06 12 10.1 -1.9**
YAK Yakutsk 66.76 30 *i*P **P 06 12 13.7 +2.4**
YAK pmax pmax
comp=Z,8.0nm,0.6s
SEY Seymchan 74.49 22 *i*P **P 06 13 01.3 +2.9**
USRK Ussuriysk Ar. 77.58 45 P **P 06 13 15.9 -0.5**
comp=Z,1.6nm,0.5s,baz=260,slow=5.5,SNR=5.6
KSRS Korea Array 78.93 52 P **P 06 13 23.1 -0.8**
comp=Z,1.7nm,0.6s,baz=302,slow=4.0,SNR=7.0
ILAR Eielson Array 81.17 357 P **P 06 13 35.4 -0.2**
comp=Z,1.1nm,0.9s,baz=334,slow=3.8,SNR=4.4
ILAR Eielson Array 81.17 357 P **P 06 13 32.9 -2.7**
YSS Yuzh-Sakhalins 81.74 38 *e*P **P 06 13 42.0 +3.1**
MJAR Matsushiro Arr 86.03 48 P **P 06 14 02.0 +1.0**
comp=Z,2.5nm,1.0s,baz=344,slow=7.1,SNR=5.5
MJAR Matsushiro Arr 86.03 48 P **P 06 13 59.1 -1.9**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR Matsushiro Arr 86.03 48 P **P 06 13 59.1 -1.9**
WRA Warramunga Arr 116.54 97 PKP **PKPdf 06 20 04.4 -0.3**
comp=Z,0.3nm,0.6s,baz=311,slow=1.8,SNR=2.6
ASAR Alice Springs 117.93 101 PKP **PKPdf 06 20 06.9 -0.4**
comp=Z,0.2nm,0.7s,baz=322,slow=1.1,SNR=2.2
QSPA South Pole Qui 124.04 180 PKP **PKPdf 06 20 17.3 -0.4**
comp=Z,1.1nm,1.1s,baz=208,slow=3.5,SNR=1.7
KIP Kipapa 124.63 4 *c i*PKIKP **PKiKP 06 20 23.9 +3.3**
KIP pmax pmax
comp=Z,139nm,2.5s

NEIC ***14*** *06:20:41.7± 1.2, 2°.37N± 0°.08 × 128°.49E± 0°.06, h234km± 7km, mb4.6/73, Error ellipse: s-maj=12.1km s-min=7.6km az=203.0*
IDC ***14*** *06:20:42.2± 1.3, 2°.38N × 128°.54E, h237km± 13km, mb4.0/25, mb1 4.1/29, mb1mx4.0/49, mbtmp4.6/29, Error ellipse: s-maj=15.2km s-min=7.3km az=85.0*
DJA ***14*** *06:20:42.7± 0.2, 2°N± 3° × 12°8E± °, h218km± 3km, M4.5/13, mb4.7/13, mB5.2/4, MLv4.5/12, Mw(mB)4.6/4*
ISC 14 06:20:43.3± 0.3, 2°.33N± 0°.04 × 128°.42E± 0°.05, h250km, n166, σ1§26/177, mb4.5/63, 2C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.87**	**214**	P	Pn	**Pn**	**ISC**	**06 21 23.1**	**-1.5**
TNTI	**Ternate**	**1.87**	**214**	Pn	Pn	**Pn**	**ISC**	**06 21 23.1**	**-1.5**
LBMI	**Labuha**	**3.09**	**197**	P	Pn	**Pn**	**ISC**	**06 21 36.5**	**-0.3**
LBMI				S	S	**S**	**ISC**	**06 22 19.4**	**+0.3**
SIJI	**Sorong**	**4.27**	**138**	P	Pn	**Pn**	**ISC**	**06 21 48.5**	**-1.8**
	7.5nm,0.3s,baz=167,slow=23,SNR=12								
KMSI	**Cibinong**	**4.77**	**249**	P	Pn	**Pn**	**ISC**	**06 21 55.7**	**-0.5**
KMSI				S	S	**S**	**ISC**	**06 22 53.4**	**-1.0**
SANI	**Sanana**	**4.98**	**209**	P	Pn	**Pn**	**ISC**	**06 21 56.8**	**-2.1**
	1.0nm8μm156nm,0.5s								
SANI				S	S	**S**	**ISC**	**06 22 52.5**	**-6.7**
	1.0nm8μm156nm,0.5s								
MATI	**Mati**	**5.07**	**335**	*e*P	Pn	**Pn**	**ISC**	**06 21 57.9**	**-2.0**
MSAI	**Masohi**	**5.66**	**175**	P	Pn	**Pn**	**ISC**	**06 22 10.2**	**+3.0**
	0.1nm32nm,0.9s								
GTOI	**Gorontalo**	**5.66**	**253**	P	Pn	**Pn**	**ISC**	**06 22 08.2**	**+1.0**
	0.3nm1μm80nm,0.6s								
GTOI				S	S	**S**	**ISC**	**06 23 14.5**	**+0.2**
	0.3nm1μm80nm,0.6s								
SKMP	**Bagumbayan, Su**	**5.68**	**317**	*e*P	Pn	**Pn**	**ISC**	**06 22 04.5**	**-2.9**
NLAI	**Namlea**	**5.69**	**193**	P	Pn	**Pn**	**ISC**	**06 22 05.3**	**-2.3**
	0.3nm39nm,0.8s								
KCP	**Kidapawan**	**5.71**	**325**	‖ *i*P	Pn	**Pn**	**ISC**	**06 22 06.3**	**-1.6**
BUKP	**Musuan**	**6.45**	**329**	*e*P	Pn	**Pn**	**ISC**	**06 22 15.1**	**-2.0**
FAKI	**Fak Fak**	**6.47**	**144**	P	Pn	**Pn**	**ISC**	**06 22 17.0**	**-0.3**
	0.4nm99nm,0.8s								
FAKI	**Fak Fak**	**6.47**	**144**	Pn	Pn	**Pn**	**ISC**	**06 22 16.1**	**-1.2**
LUWI	**Luwuk**	**6.56**	**239**	P	Pn	**Pn**	**ISC**	**06 22 17.0**	**-1.5**
	1.1nm3μm138nm,0.7s								
LUWI				S	S	**S**	**ISC**	**06 23 31.8**	**-3.0**
	1.1nm3μm138nm,0.7s								
LUWI	**Luwuk**	**6.56**	**239**	Pn	Pn	**Pn**	**ISC**	**06 22 18.9**	**+0.4**
LUWI						**S**	**ISC**	**06 23 32.2**	**-2.6**
PAGZ	**Pagadian**	**7.43**	**318**	*e*P	Pn	**Pn**	**ISC**	**06 22 26.5**	**-2.9**
GLSP	**General Luna,**	**7.75**	**343**	*e*P	Pn	**Pn**	**ISC**	**06 22 28.2**	**-5.2**
BKSI	**Bulukumba**	**11.25**	**227**	P	P	**Pn**	**ISC**	**06 23 25.6**	**+4.0**
KAPI	**Kappang**	**11.32**	**230**	P	P	**Pn**	**ISC**	**06 23 20.4**	**-2.0**
	1.5nm,0.3s,baz=76,slow=19,SNR=2.6								
SOEI	**Soe**	**12.70**	**199**	P	P	**Pn**	**ISC**	**06 23 38.6**	**+0.8**
	72nm,0.9s								
SOEI	**Soe**	**12.70**	**199**	Pn	Pn	**Pn**	**ISC**	**06 23 35.4**	**-0.3**
SOEI				S	S	**S**	**ISC**	**06 25 56.6**	**-0.5**
GENI	**Genyem**	**12.72**	**113**	P	P	**Pn**	**ISC**	**06 23 39.4**	**+1.4**
	133nm,1.0s								
EDFI	**Ende, Flores**	**12.89**	**211**	P	P	**Pn**	**ISC**	**06 23 40.2**	**+0.3**
	26nm,1.0s								
JAY	**Jayapura**	**13.19**	**111**	P	Pn	**Pn**	**ISC**	**06 23 40.3**	**-1.4**
	0.9nm,0.3s,baz=281,slow=6.2,SNR=4.1								
BATI	**Baumata**	**13.32**	**201**	P	P	**Pn**	**ISC**	**06 23 45.0**	**+0.3**
	19nm,0.3s,baz=44,slow=2.4,SNR=8.9								
MTN	**Manton Dam**	**15.31**	**170**	P	P	**Pn**	**ISC**	**06 24 05.7**	**-1.0**
MTN						**S**	**ISC**	**06 26 56.0**	**+0.3**
SBUM	**Sibu**	**16.18**	**271**	P	P	**Pn**	**ISC**	**06 24 14.4**	**-1.9**
KNRA	**Kununurra**	**17.89**	**179**	P	P	**Pn**	**ISC**	**06 24 35.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.48**	**188**	P	P	**Pn**	**ISC**	**06 25 02.2**	**-0.4**
	5.0nm,0.6s,baz=1.1,slow=8.5,SNR=24								
FITZ	**Fitzroy Crossi**	**20.48**	**188**	P	P	**Pn**	**ISC**	**06 25 02.5**	**0.0**
YULB	**Yu-li**	**22.05**	**342**	P	P	**Pn**	**ISC**	**06 25 17.1**	**-0.7**
YULB				IAmb	IAmb	**Pn**	**ISC**	06 25 21.1	
	comp=Z,8.6nm,0.7s								
TPUB	**Ta-pu**	**22.17**	**341**	P	P	**Pn**	**ISC**	**06 25 18.2**	**-0.7**
TPUB				IAmb	IAmb	**Pn**	**ISC**	06 25 19.1	
	comp=Z,21nm,0.8s								
SSLB	**Suanglung**	**22.52**	**342**	P	P	**Pn**	**ISC**	**06 25 21.5**	**-0.6**
SSLB				IAmb	IAmb	**Pn**	**ISC**	06 25 27.0	
	comp=Z,15nm,0.9s								
NACB	**Ninganchiao**	**22.70**	**344**	P	P	**Pn**	**ISC**	**06 25 23.5**	**-0.2**
NACB				IAmb	IAmb	**Pn**	**ISC**	06 25 33.6	
	comp=Z,18nm,1.0s								
WB0	**Warramunga Arr**	**22.73**	**165**	P	P	**Pn**	**ISC**	**06 25 24.1**	**+0.1**
WRAB	**Tennant Creek**	**22.88**	**166**	P	P	**Pn**	**ISC**	**06 25 25.8**	**+0.4**
WRA	**Warramunga Arr**	**22.88**	**166**	P	P	**Pn**	**ISC**	**06 25 25.2**	**-0.3**
	comp=Z,12nm,0.4s,baz=345,slow=11,SNR=169								
WRA				ScP	ScP	**ScP**	**ISC**	**06 32 23.8**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=338,slow=3.0,SNR=11								
WRA	**Warramunga Arr**	**22.88**	**166**	P	P	**Pn**	**ISC**	**06 25 24.3**	**-1.2**
WB2	**Warramunga Arr**	**22.89**	**166**	P	P	**Pn**	**ISC**	**06 25 25.6**	**+0.1**
WR0	**Warramunga Arr**	**22.95**	**165**	P	P	**Pn**	**ISC**	**06 25 26.2**	**+0.1**
WR0				IAmb	IAmb	**Pn**	**ISC**	06 25 28.4	
	comp=Z,27nm,1.0s								
YHNB	**Yeheng**	**23.23**	**344**	P	P	**Pn**	**ISC**	**06 25 28.2**	**-0.4**
YHNB				IAmb	IAmb	**Pn**	**ISC**	06 25 30.8	
	comp=Z,36nm,1.2s								
PSA00	**Pilbara Seismi**	**25.19**	**199**	P	P	**Pn**	**ISC**	**06 25 46.7**	**+0.4**
PSA00				IAmb	IAmb	**Pn**	**ISC**	06 25 48.4	
	comp=Z,22nm,1.4s								
AS31	**Alice Springs**	**26.39**	**169**	P	P	**Pn**	**ISC**	**06 25 57.0**	**-0.1**
AS31				IAmb	IAmb	**Pn**	**ISC**	06 25 58.0	
	comp=Z,4.3nm,0.5s								
ASAR	**Alice Springs**	**26.39**	**169**	P	P	**Pn**	**ISC**	**06 25 57.4**	**+0.3**
	comp=Z,8.2nm,0.6s,baz=353,slow=7.7,SNR=214								
ASAR				PcP	PcP	**Pn**	**ISC**	**06 29 16.9**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=344,slow=2.9,SNR=2.6								
ASAR				ScP	ScP	**Pn**	**ISC**	**06 32 33.5**	**+1.7**
	comp=Z,2.0nm,0.8s,baz=341,slow=2.5,SNR=17								
ASAR	**Alice Springs**	**26.39**	**169**	P	P	**Pn**	**ISC**	**06 25 56.7**	**-0.3**
CTAO	**Charters Tower**	**28.33**	**143**	P	P	**Pn**	**ISC**	**06 26 13.8**	**-0.6**
CTAO				IAmb	IAmb	**Pn**	**ISC**	06 26 28.4	
	comp=Z,22nm,1.4s								
GIRL	**Giralia**	**28.42**	**208**	P	P	**Pn**	**ISC**	**06 26 16.3**	**+1.2**
SLVN	**Son La**	**30.44**	**310**	P	P	**Pn**	**ISC**	**06 26 32.6**	**-0.4**
JNU	**Nakatsue**	**30.72**	**4**	P	P	**Pn**	**ISC**	**06 26 34.2**	**-1.0**
	comp=Z,5.9nm,0.7s,baz=202,slow=5.4,SNR=1.9								
JNU	**Nakatsue**	**30.72**	**4**	P	P	**Pn**	**ISC**	**06 26 34.3**	**-1.0**
JNU				IAmb	IAmb	**Pn**	**ISC**	06 26 56.3	
	comp=Z,18nm,1.1s								
NJ2	**Nanjing**	**30.91**	**344**	*e*P	P	**Pn**	**ISC**	**06 26 37.4**	**+0.6**
NJ2				pmax	pmax	**Pn**	**ISC**		
	comp=Z,15nm,0.6s								
JMN	**Monobe**	**31.65**	**9**	P	P	**Pn**	**ISC**	**06 26 41.9**	**-1.5**
JMN				IAmb	IAmb	**Pn**	**ISC**	06 26 44.2	
	comp=Z,30nm,1.2s								
FORT	**Forrest**	**32.93**	**181**	P	P	**Pn**	**ISC**	**06 26 54.3**	**-0.2**
FORT				IAmb	IAmb	**Pn**	**ISC**	06 27 02.1	
	comp=Z,26nm,0.9s								
CMAR	**Chiang Mai Arr**	**33.03**	**301**	P	P	**Pn**	**ISC**	**06 26 57.1**	**+1.6**
	comp=Z,3.6nm,0.7s,baz=119,slow=7.2,SNR=20								
MORW	**Morawa**	**33.40**	**200**	P	P	**Pn**	**ISC**	**06 26 58.5**	**-0.1**
MORW				IAmb	IAmb	**Pn**	**ISC**	06 27 12.1	
	comp=Z,22nm,1.5s								
JWT	**Wachi**	**33.42**	**10**	P	P	**Pn**	**ISC**	**06 26 57.6**	**-1.1**
JWT				IAmb	IAmb	**Pn**	**ISC**	06 27 08.9	
	comp=Z,17nm,1.2s								
INU	**Inuyama**	**33.81**	**13**	P	P	**Pn**	**ISC**	**06 27 00.9**	**-1.1**
INU				IAmb	IAmb	**Pn**	**ISC**	06 27 02.1	
	comp=Z,8.8nm,1.0s								
JGF	**Kuroka**	**34.13**	**13**	P	P	**Pn**	**ISC**	**06 27 03.7**	**-1.1**
COCO	**West Island**	**34.54**	**245**	P	P	**Pn**	**ISC**	**06 27 08.4**	**-0.1**
KSAR	**Wonju Array Be**	**34.95**	**359**	P	P	**Pn**	**ISC**	**06 27 11.9**	**+0.2**
KSRS	**Korea Array**	**34.96**	**359**	P	P	**Pn**	**ISC**	**06 27 11.4**	**-0.3**
	comp=Z,5.5nm,0.5s,baz=175,slow=9.6,SNR=26								
KS19	**Wonju Array Si**	**35.01**	**359**	P	P	**Pn**	**ISC**	**06 27 11.1**	**-1.1**
KS19				IAmb	IAmb	**Pn**	**ISC**	06 27 12.1	
	comp=Z,7.8nm,0.6s								
MAJO	**Matsushiro**	**35.23**	**14**	P	P	**Pn**	**ISC**	**06 27 12.4**	**-1.8**
MAJO				IAmb	IAmb	**Pn**	**ISC**	06 27 14.1	
	comp=Z,14nm,0.7s								
MAT	**Matsushiro**	**35.23**	**14**	P	P	**Pn**	**ISC**	**06 27 12.1**	**-2.0**
MJAR	**Matsushiro Arr**	**35.23**	**14**	P	P	**Pn**	**ISC**	**06 27 12.2**	**-2.0**
	comp=Z,8.6nm,0.7s,baz=187,slow=9.3,SNR=37								
MJAR	**Matsushiro Arr**	**35.23**	**14**	P	P	**Pn**	**ISC**	**06 27 11.7**	**-2.4**
BBOO	**Buckleboo**	**35.69**	**169**	P	P	**Pn**	**ISC**	**06 27 18.2**	**+0.1**
STKA	**Stephens Creek**	**36.25**	**161**	P	P	**Pn**	**ISC**	**06 27 23.1**	**+0.2**
	comp=Z,5.4nm,0.4s,baz=328,slow=9.3,SNR=14								
STKA	**Stephens Creek**	**36.25**	**161**	P	P	**Pn**	**ISC**	**06 27 23.0**	**+0.2**
XAN	**Xi'an**	**36.42**	**332**	P	P	**Pn**	**ISC**	**06 27 24.1**	**-0.3**
XAN				pmax	pmax	**Pn**	**ISC**		
	comp=Z,10.0nm,0.8s								
XAN				pmax	pmax	**Pn**	**ISC**		
	comp=Z,110nm,5.7s								
XAN	**Xi'an**	**36.42**	**332**	P	P	**Pn**	**ISC**	**06 27 22.7**	**-1.7**
CD2	**Chengdu**	**36.76**	**323**	*e*P	P	**Pn**	**ISC**	**06 27 27.9**	**+0.6**
JMM	**Marumori**	**37.15**	**16**	P	P	**Pn**	**ISC**	**06 27 29.4**	**-0.8**
JMM				IAmb	IAmb	**Pn**	**ISC**	06 27 31.9	
	comp=Z,9.6nm,0.7s								
BJI	**Beijing**	**39.15**	**345**	P	P	**Pn**	**ISC**	**06 27 47.3**	**+0.4**
BJI				S	S	**Pn**	**ISC**	**06 33 30.4**	**+2.7**
BJI				pmax	pmax	**Pn**	**ISC**		
	comp=Z,13nm,0.7s								
ARMA	**Armidale**	**39.38**	**148**	P	P	**Pn**	**ISC**	**06 27 48.8**	**-0.4**
JTM	**Tenmabayashi**	**39.95**	**15**	P	P	**Pn**	**ISC**	**06 27 52.7**	**-0.9**
LZH	**Lanzhou**	**40.56**	**329**	⇑P	P	**Pn**	**ISC**	**06 28 01.0**	**+2.2**
LZH				pP	pP	**Pn**	**ISC**	06 28 41.9	-7.6
LZH				sP	sP	**Pn**	**ISC**	06 29 17.8	-0.3
LZH				PP	**PP**	**Pn**	**ISC**	**06 29 37.3**	**-0.7**
LZH				pmax	pmax	**Pn**	**ISC**		
	comp=Z,28nm,1.0s								
LZH				pmax	pmax	**Pn**	**ISC**		
	comp=Z,120nm,4.8s								
HHC	**Hu-ho-hao-te**	**41.26**	**341**	*e*P	P	**Pn**	**ISC**	**06 28 06.6**	**+2.2**
HHC				pmax	pmax	**Pn**	**ISC**		
	comp=Z,27nm,0.7s								
HHC				pmax	pmax	**Pn**	**ISC**		
	comp=Z,120nm,8.8s								
USRK	**Ussuriysk Ar.**	**41.81**	**4**	P	P	**Pn**	**ISC**	**06 28 08.7**	**0.0**
	comp=Z,4.8nm,0.7s,baz=182,slow=5.8,SNR=9.4								
SHL	**Shillong**	**42.06**	**307**	P	P	**Pn**	**ISC**	**06 28 11.7**	**+0.6**
ASAJ	**Asahikawa**	**43.47**	**15**	P	P	**Pn**	**ISC**	**06 28 21.7**	**-0.2**
	comp=Z,8.3nm,0.8s,baz=258,slow=7.9,SNR=6.3								
JKA	**Kamikawa-asahi**	**43.47**	**15**	P	P	**Pn**	**ISC**	**06 28 21.7**	**-0.2**
JKA				IAmb	IAmb	**Pn**	**ISC**	06 28 24.6	
	comp=Z,36nm,1.4s								
GTA	**Gaotai**	**45.16**	**328**	⇑P	P	**Pn**	**ISC**	**06 28 36.9**	**+1.4**
GTA				pP	pP	**Pn**	**ISC**	06 29 23.1	-4.4
GTA				sP	sP	**Pn**	**ISC**	06 29 56.8	+1.6
GTA				pmax	pmax	**Pn**	**ISC**		
	comp=Z,8.0nm,0.9s	

YAK	Yakutsk	59.56	1	P	P	06 30 19.6	-0.8
MK31	Makanchi Array	59.66	325	P	P	06 30 22.0	+0.5
MKAR	Makanchi Array	59.66	325	P	P	06 30 22.2	+0.7
	comp=Z,5.9nm,0.4s,baz=116,slow=8.2,SNR=91						
MKAR	Makanchi Array	59.66	325	P	P	06 30 21.7	+0.3
MAKZ	Makanchi	59.85	325	P	P	06 30 22.9	+0.1
MAKZ				IAmb	IAmb	06 30 23.8	
	comp=Z,8.3nm,0.5s						
TARG	Taragay, Kyrgy	59.91	318	P	P	06 30 23.8	0.0
KDJ	Kajisay	60.51	318	P	P	06 30 27.9	+0.4
ZAA0	Zalesovo Array	62.59	333	P	P	06 30 40.0	-0.8
ZALV	Zalesovo Beam	62.59	333	P	P	06 30 40.1	-0.8
	comp=Z,2.5nm,0.5s,baz=115,slow=6.9,SNR=9.7						
ZALV	Zalesovo Beam	62.59	333	P	P	06 30 40.3	-0.6
SEY	Seymchan	63.02	12	P	P	06 30 44.4	+0.8
	comp=Z,3.2nm,0.5s,baz=208,slow=5.3,SNR=9.5						
KURK	Kurchatov	63.82	327	P	P	06 30 49.1	+0.1
KK31	Karatay Array	65.40	317	P	P	06 30 59.6	+0.3
KKAR	Karatay Array	65.40	317	P	P	06 30 59.6	+0.3
KKAR	Karatay Array	65.40	317	P	P	06 30 59.9	+0.5
TIXI	Tiksi	69.22	0	P	P	06 31 21.9	-0.7
	comp=Z,4.3nm,0.5s,baz=155,slow=5.0,SNR=6.8						
TIXI	Tiksi	69.22	0	P	P	06 31 22.2	-0.5
TIXI				IAmb	IAmb	06 31 23.1	
	comp=Z,6.6nm,1.0s						
BRVK	Borovoye	69.48	327	P	P	06 31 24.8	+0.1
BRVK				IAmb	IAmb	06 31 25.8	
	comp=Z,9.3nm,1.0s						
NRIK	Noril'sk	72.19	346	P	P	06 31 40.6	0.0
	comp=Z,4.2nm,0.6s,baz=129,slow=5.6,SNR=8.1						
GEYT	Alibeck	73.08	309	P	P	06 31 47.4	+0.9
	comp=Z,2.0nm,0.6s,baz=114,slow=5.2,SNR=3.2						
UNV	Unalaska Valle	73.62	34	P	P	06 31 48.8	-0.5
ABKAR	Akbulak array	74.29	321	P	P	06 31 53.4	+0.1
SDPT	Sand Point	77.41	34	P	P	06 32 09.6	-1.1
RDOG	Red Dog Mine	79.98	21	P	P	06 32 24.6	+0.1
RDOG				IAmb	IAmb	06 32 44.9	
	comp=Z,14nm,1.1s						
TTA	Tatalina	81.38	27	P	P	06 32 32.8	+0.8
OHAK	Old Harbor	81.71	33	P	P	06 32 34.2	+0.4
VNDA	Vanda	81.84	173	P	P	06 32 35.2	+1.2
	comp=Z,1.7nm,0.5s,baz=320,slow=6.7,SNR=23						
VNDA	Vanda	81.84	173	P	P	06 32 34.9	+0.8
KDAK	Kodiak Island	82.17	32	P	P	06 32 36.7	+0.6
	comp=Z,13nm,0.5s,baz=237,slow=1.0,SNR=15						
KDAK	Kodiak Island	82.17	32	P	P	06 32 36.9	+0.8
KDAK				IAmb	IAmb	06 32 37.9	
	comp=Z,16nm,0.8s						
IMAR	Indian Mountai	82.93	24	P	P	06 32 40.3	+0.4
MAW	Mawson	83.04	201	P	P	06 32 41.4	+1.1
	comp=Z,1.2nm,0.6s,baz=22,slow=4.3,SNR=2.3						
MAW	Mawson	83.04	201	P	P	06 32 41.5	+1.1
CNPM	China Poot	83.10	30	P	P	06 32 40.0	-1.0
CNPM				IAmb	IAmb	06 33 00.3	
	comp=Z,28nm,1.5s						
SKT	Skwentna	83.27	28	P	P	06 32 41.6	-0.2
SKT				IAmb	IAmb	06 32 41.9	
	comp=Z,31nm,1.4s						
KTH	Kantishna Hill	83.76	26	P	P	06 32 43.8	-0.5
KTH				IAmb	IAmb	06 33 11.4	
	comp=Z,8.4nm,1.3s						
BPAW	Bear Paw Mtn.	83.80	26	P	P	06 32 44.7	+0.3
BPAW				IAmb	IAmb	06 32 50.7	
	comp=Z,12nm,1.4s						
SEW	Seward	84.06	30	P	P	06 32 45.4	-0.3
PMR	Palmer	84.36	28	P	P	06 32 46.8	-0.4
PMR				IAmb	IAmb	06 32 48.2	
	comp=Z,7.9nm,0.9s						
COLD	Coldfoot	84.52	23	P	P	06 32 48.3	+0.4
COLD				IAmb	IAmb	06 32 50.2	
	comp=Z,3.9nm,0.6s						
RND	Reindeer	84.66	27	P	P	06 32 48.2	-0.7
RND				IAmb	IAmb	06 32 50.6	
	comp=Z,9.9nm,1.3s						
SML	Sawmill	84.76	28	P	P	06 32 49.5	+0.2
SML				IAmb	IAmb	06 32 52.6	
	comp=Z,24nm,1.3s						
CCB	Clear Creek Bu	85.23	25	P	P	06 32 50.3	-1.2
ILAR	Eielson Array	85.64	25	P	P	06 32 52.7	-0.8
	comp=Z,0.7nm,0.5s,baz=249,slow=4.9,SNR=16						
ILAR	Eielson Array	85.64	25	P	P	06 32 52.6	-0.9
RIDG	Independent Ri	86.47	26	P	P	06 32 57.0	-0.7
RIDG				IAmb	IAmb	06 33 02.0	
	comp=Z,11nm,1.2s						
BMAR	Burnt Mountain	86.71	23	P	P	06 32 59.2	+0.5
BCAR	Beaver Creek A	87.85	27	P	P	06 33 04.5	+0.2
QSPA	South Pole Qui	92.25	180	P	P	06 33 25.0	+0.3
QSPA				IAmb	IAmb	06 33 34.4	
	comp=Z,6.6nm,1.4s						
ARCES	ARCESS Array B	92.33	340	P	P	06 33 24.3	-0.6
	comp=Z,5.4nm,0.8s,baz=87,slow=6.4,SNR=7.1						
FINES	FINESS Array B	93.85	332	P	P	06 33 30.5	-1.5
	comp=Z,1.3nm,0.8s,baz=56,slow=3.4,SNR=6.3						
FINES	FINESS Array B	93.85	332	P	P	06 33 31.5	-0.5
C36M	Paulatuk	93.95	20	P	P	06 33 31.6	-0.7
BURAR	Bucovina Array	97.16	318	P	Pdif	06 33 47.1	-0.4
TORD	Torodi Ar. Bea	124.95	288	PKP	PKiKP	06 39 14.6	-0.5
	comp=Z,0.1nm,0.3s,baz=102,slow=0.9,SNR=4.1						

*IDC **14** 06:27:06.3±0.7, 14°.56N×146°.90E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.1/41, mbtmp4.2/16, ML4.5/2, MS3.0/3, Ms1 3.0/3, ms1mx2.8/38, Error ellipse: s-maj=22.5km s-min=13.8km az=115.0*

*NEIC **14** 06:27:08.1±1.5, 14°.66N±0°.05×146°.85E±0°.06, h10km±1km, mb4.6/35, Error ellipse: s-maj=11.7km s-min=5.1km az=49.0*

ISC 14 06:27:08.1±0.6, 14°.63N±0°.07×146°.86E±0°.08, h10km, n76, σ1§02/77, mb4.5/33, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.19	242	Pn	Pn	06 27 44.8	+0.2
	108nm,0.3s,baz=93,slow=3.0,SNR=37						
GUMO				Sn	Sb	06 28 13.7	-1.3
	121nm,0.3s,baz=214,slow=23,SNR=9.7						
GUMO				LR	LR	06 28 44.5	
	comp=Z,143nm,21.7s,baz=77,slow=45						
GUMO	Guam	2.19	242	Pn	Pn	06 27 45.0	+0.4
GUMO					Sn	06 28 12.5	+0.7
JCJ	Chichijima	13.15	341	Pn	Pn	06 30 16.5	+1.5
	2.9nm,0.3s,baz=142,slow=19,SNR=1.2						
JCJ				LR	LR	06 34 46.9	
	comp=Z,85nm,19.3s,baz=115,slow=35						
JCJ	Chichijima	13.15	341		Pn	06 30 15.0	0.0
JAY	Jayapura	18.09	200	LR	LR	06 38 54.3	
	comp=Z,93nm,18.2s,baz=338,slow=39						
SIJI	Sorong	21.80	226	P	P	06 32 00.8	+0.3
	19nm,0.9s,baz=44,slow=12,SNR=7.6						
JSU	Suzuyama	22.53	321	P	P	06 32 10.4	+2.1
JGF	Kuroka	22.56	339	P	P	06 32 06.8	-1.7
FAKI	Fak Fak	22.66	221	P	P	06 32 10.5	+0.8
MJAR	Matsushiro Arr	23.15	342	P	P	06 32 12.4	-2.3
	1.4nm,0.6s,baz=170,slow=8.7,SNR=6.0						
MJAR	Matsushiro Arr	23.15	342	P	P	06 32 14.5	-0.2
MAJO	Matsushiro	23.15	342	P	P	06 32 12.8	-1.9
JNU	Nakatsue	23.45	325	P	P	06 32 14.7	-3.1
	3.0nm,0.6s,baz=116,slow=4.0,SNR=1.5						
JNU	Nakatsue	23.45	325	P	P	06 32 19.1	+1.4
JNU				IAmb	IAmb	06 32 32.3	
	comp=Z,16nm,1.0s						
JMM	Marumori	23.76	348	P	P	06 32 20.7	0.0
JMM				IAmb	IAmb	06 32 27.5	
	comp=Z,32nm,1.5s						
YHNB	Yeheng	25.95	297	P	P	06 32 40.7	-0.3
KSRS	Korea Array	28.28	327	P	P	06 32 59.2	-2.4
	comp=Z,1.1nm,0.6s,baz=155,slow=9.7,SNR=6.0						
KSAR	Wonju Array Be	28.30	327	P	P	06 33 00.3	-1.6
ASAJ	Asahikawa	29.61	354	P	P	06 33 13.2	-0.2
	comp=Z,6.0nm,0.8s,baz=187,slow=17,SNR=1.5						
JKA	Kamikawa-asahi	29.61	354	P	P	06 33 13.6	+0.1
JKA				IAmb	IAmb	06 33 36.2	
	comp=Z,16nm,1.1s						
KNRA	Kununurra	35.02	211	P	P	06 34 01.0	-0.1
KNRA				IAmb	IAmb	06 34 22.3	
	comp=Z,8.0nm,1.1s						
SANVU	Saraoutou	36.02	145	P	P	06 34 10.5	+0.8
WB0	Warramunga Arr	36.31	200	P	P	06 34 12.0	-0.2
WB0				IAmb	IAmb	06 34 12.3	
	comp=Z,10nm,1.4s						
WR0	Warramunga Arr	36.44	200	P	P	06 34 13.1	-0.2
WR0				IAmb	IAmb	06 34 17.9	
	comp=Z,9.1nm,1.1s						
WB2	Warramunga Arr	36.49	200	P	P	06 34 13.5	-0.2
WRA	Warramunga Arr	36.49	200	P	P	06 34 12.3	-1.4
	comp=Z,1.3nm,0.7s,baz=34,slow=8.0,SNR=12						
WRA				PcP	PcP	06 36 37.4	-0.2
	comp=Z,0.4nm,0.8s,baz=20,slow=3.8,SNR=1.9						
WRA	Warramunga Arr	36.49	200	P	P	06 34 12.1	-1.7
FITZ	Fitzroy Crossi	38.66	213	P	P	06 34 30.1	-2.0
	comp=Z,2.5nm,0.8s,baz=360,slow=5.7,SNR=4.3						
FITZ	Fitzroy Crossi	38.66	213	P	P	06 34 32.0	-0.1
ASAR	Alice Springs	40.11	199	P	P	06 34 43.2	-1.0
	comp=Z,0.7nm,0.7s,baz=24,slow=7.2,SNR=8.2						
ASAR	Alice Springs	40.11	199	P	P	06 34 44.0	-0.1
CMAR	Chiang Mai Arr	45.99	282	P	P	06 35 33.0	+1.0
	comp=Z,0.7nm,0.3s,baz=81,slow=5.7,SNR=7.0						
CMAR	Chiang Mai Arr	45.99	282	P	P	06 35 32.6	+0.6
SONM	Songino Array	47.03	323	P	P	06 35 39.7	-0.1
	comp=Z,1.1nm,0.6s,baz=134,slow=8.4,SNR=4.3						
SONM	Songino Array	47.03	323	IAmb	IAmb	06 35 46.4	
	comp=Z,2.6nm,1.0s						
SEY	Seymchan	48.40	3	P	P	06 35 50.5	+0.4
	comp=Z,2.4nm,0.8s,baz=154,slow=6.0,SNR=4.0						
ZAA0	Zalesovo Array	61.92	324	P	P	06 37 27.0	-0.9
ZAA0				IAmb	IAmb	06 37 55.7	
	comp=Z,3.6nm,1.1s						
ZALV	Zalesovo Beam	61.92	324	P	P	06 37 27.6	-0.3
	comp=Z,1.1nm,0.4s,baz=124,slow=7.7,SNR=5.7						
ZALV	Zalesovo Beam	61.92	324		P	06 37 27.1	-0.8
MK31	Makanchi Array	62.10	315	P	P	06 37 30.0	+0.7
MK31				IAmb	IAmb	06 37 30.6	
	comp=Z,3.8nm,0.6s						
MKAR	Makanchi Array	62.10	315	P	P	06 37 30.2	+0.9
	comp=Z,4.8nm,0.5s,baz=91,slow=7.9,SNR=56						
MKAR	Makanchi Array	62.10	315	P	P	06 37 28.8	-0.5
MAKZ	Makanchi	62.31	315	P	P	06 37 30.8	+0.1
KURK	Kurchatov	65.05	319		P	06 37 48.4	-0.2
ILAR	Eielson Array	66.81	25	P	P	06 37 58.6	-1.1
	comp=Z,0.9nm,0.7s,baz=265,slow=4.6,SNR=7.1						
ILAR	Eielson Array	66.81	25	P	P	06 37 59.2	-0.5
KK31	Karatay Array	70.23	311	P	P	06 38 21.0	-0.5
KK31				IAmb	IAmb	06 38 25.2	
	comp=Z,3.6nm,0.9s						
KKAR	Karatay Array	70.23	311	P	P	06 38 21.3	-0.3
KKAR				IAmb	IAmb	06 38 25.2	
	comp=Z,3.6nm,0.9s						
KKAR	Karatay Array	70.23	311	P	P	06 38 21.2	-0.4
BRVK	Borovoye	70.38	321	P	P	06 38 22.5	+0.2
BRVK				IAmb	IAmb	06 38 23.5	
	comp=Z,4.6nm,0.8s						
GAR	Garm	70.56	307	P	P	06 38 24.4	+0.6
DLBC	Dease Lake	74.07	33	P	P	06 38 44.8	+0.5
DLBC				IAmb	IAmb	06 39 10.3	
	comp=Z,9.3nm,1.5s						
ABKAR	Akbulak array	77.07	318		P	06 39 01.4	-0.2
YKA	Yellowknife Ar	81.05	28	P	P	06 39 23.8	+0.6
	comp=Z,1.5nm,0.7s,baz=291,slow=5.2,SNR=4.8						
PINE	Pine Mountain	81.60	47	P	P	06 39 26.8	+0.1
PINE				IAmb	IAmb	06 39 48.5	
	comp=Z,10nm,1.4s						
B08A	Colville Reser	81.72	42	P	P	06 39 26.3	-0.7
NVAR	Mina Array Bea	84.77	52	P	P	06 39 44.6	+1.4
	comp=Z,0.9nm,0.7s,baz=271,slow=4.1,SNR=7.6						
NVAR	Mina Array Bea	84.77	52	P	P	06 39 44.7	+1.5
MFID	Camas Ranch	85.29	46	P	P	06 39 46.3	+0.6
ELK	Elko	86.44	49	P	P	06 39 51.4	-0.1
LRM	Limekiln Ridge	86.92	43	P	P	06 39 54.4	+0.6
MCMT	McKenzie Canyo	86.95	45	P	P	06 39 55.1	+1.2
HRY	Holter Researc	87.05	43	P	P	06 39 54.4	+0.1
QLMT	Earthquake Lak	87.91	44	P	P	06 39 59.8	+1.2
BGU	Big Grassy Mou	88.00	48	P	P	06 39 57.5	-1.5
DUG	Dugway, Tooele	88.37	49	P	P	06 40 01.6	+0.8
DUG				IAmb	IAmb	06 40 03.9	
	comp=Z,2.2nm,0.8s						
IMW	Indian Meadow	88.54	45	P	P	06 40 00.8	-0.8
IMW				IAmb	IAmb	06 40 05.9	
	comp=Z,1.6nm,0.7s						
HWUT	Hardware Ranch	88.83	47	P	P	06 40 02.5	-0.5
HWUT				IAmb	IAmb	06 40 05.9	
	comp=Z,2.4nm,0.8s						
U15A	North Rim	89.92	52	P	P	06 40 07.7	-0.5
U15A				IAmb	IAmb	06 40 12.2	
	comp=Z,2.4nm,0.9s						
FINES	FINESS Array B	91.03	336	P	P	06 40 10.8	-1.7
	comp=Z,2.7nm,1.0s,baz=76,slow=7.3,SNR=6.4						
FINES	FINESS Array B	91.03	336	P	P	06 40 11.5	-1.0
DBIC	Dimbokro	144.86	305	PKP	PKPab	06 46 45.7	+0.2
	comp=Z,7.8nm,0.6s,baz=32,slow=4.0,SNR=19						
KIC	Kosan Boka	144.96	305	*e*PKP2	PKPab	06 46 45.8	0.0
	comp=Z,20nm,0.7s						
TIC	Toumodi	145.01	305	*e*PKP2	PKPab	06 46 45.9	-0.1
LIC	Lamto	145.26	305	*e*PKP2	PKPbc	06 46 47.0	+0.1
	comp=Z,57nm,0.7s						
LPAZ	La Paz	146.26	97	PKPbc	PKPbc	06 46 50.8	+0.1
	comp=Z,2.4nm,0.8s,baz=279,slow=3.3,SNR=11						

*NEIC **14** 06:54:03.9±1.2, 64°.35N±0°.09×18°.0W±0°.1, h8km±2km, mb4.1/19, Error ellipse: s-maj=13.4km s-min=8.2km az=204.0*

*IDC **14** 06:54:03.3±0.7, 64°.29N×17°.73W, h0km, mb3.6/12, mb1 3.9/14, mb1mx3.6/57, mbtmp3.6/14, ML3.3/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/44, Error ellipse: s-maj=25.6km s-min=10.1km az=22.0*

ISC 14 06:54:04.5±0.5, 64°.34N±0°.08×17°.90W±0°.06, h10km, n49, σ1§02/51, mb3.9/23, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	1.54	287	Pg	Pn	06 54 31.0	-0.9
	16nm,0.3s,baz=99,slow=6.9,SNR=54						
BORG				LR	LR	06 54 47.4	
	comp=Z,70nm,21.4s,baz=106,slow=27						
BORG				Lg	Lg	06 54 54.7	
	4.4nm,0.3s,baz=79,slow=12,SNR=3.4						
BORG	Borgarnes	1.54	287		Pn	06 54 31.2	-0.7
SCO	Scoresbysund	6.37	348		Pn	06 55 37.5	-0.7
SCO				Sn	Sn	06 56 51.1	+0.3
ANGG	Ammassalik, Gr	8.46	288	Pn	Pn	06 56 06.7	-0.1
ANGG				Sn	Sn	06 57 42.5	+0.4
EKA	Eskdalemuir Ar	11.65	134	Pn	Pn	06 56 50.6	+0.1
	baz=321,slow=13,SNR=14						
ESK	Eskdalemuir	11.65	134	Pn	Pn	06 56 50.8	+0.2
SFJD	Kangerlussuaq	13.65	296	LR	LR	07 01 51.1	
	comp=Z,159nm,18.4s,baz=274,slow=34						
WLF	Walferdange	19.50	127	P	Pn	06 58 31.6	-1.0
FINES	FINESS Array B	19.94	78	P	P	06 58 35.2	-0.9
	0.1nm,0.3s,baz=304,slow=8.2,SNR=1.4						
FINES	FINESS Array B	19.94	78	P	P	06 58 35.7	-0.4
CLL	Collm	20.72	114	*e*P	P	06 58 44.0	-0.7
	comp=Z,14nm,1.6s						
CLL	Collm	20.72	114	P	P	06 58 44.4	-0.3
ECH	Echery	21.08	128	P	P	06 58 49.0	+0.4
ECH				IAmb	IAmb	06 59 10.1	
	comp=Z,6.8nm,1.2s						
BFO	Black Forest	21.39	126	P	P	06 58 51.9	-0.1
BFO				IAmb	IAmb	06 58 56.7	
	comp=Z,5.1nm,0.9s						
BRG	Berggiesshubel	21.43	114	*e*P	P	06 58 54.5	+2.1
	comp=Z,5.5nm,1.0s						
KHC	Kasperske Hory	22.67	117	*e*P	P	06 59 07.7	+2.0
KHC	Kasperske Hory	22.67	117	P	P	06 59 05.3	-0.4
GERES	GERESS Array B	22.95	117	P	P	06 59 07.0	-1.7
	comp=Z,0.6nm,0.8s,baz=329,slow=7.4,SNR=6.2						
GERES	GERESS Array B	22.95	117	P	P	06 59 08.7	+0.1
DAVOX	Davos/Dischmat	23.26	126	P	P	06 59 10.9	-1.1
	comp=Z,0.4nm,0.3s,baz=329,slow=16,SNR=2.5						
VRAC	Vranov	23.72	113	P	P	06 59 14.9	-1.4
	comp=Z,0.8nm,0.4s,baz=263,slow=17,SNR=1.7						
MORC	Moravsky Berou	23.74	111	P	P	06 59 17.6	+1.1
CTI	Castel Tesino	24.52	124	P	P	06 59 24.6	+0.7
CTI				IAmb	IAmb	06 59 42.4	
	comp=Z,11nm,1.5s						
ZOU	Zoufplan	24.57	122	P	P	06 59 24.4	-0.1
ZOU				IAmb	IAmb	06 59 36.8	
	comp=Z,4.6nm,1.1s						
PRED	Cave del Predi	24.89	121	P	P	06 59 29.3	+2.2
PRED				IAmb	IAmb	06 59 44.0	
	comp=Z,4.4nm,1.3s						
ESDC	Sonseca Array	26.02	155	P	P	06 59 35.9	-1.6
	comp=Z,0.6nm,0.8s,baz=355,slow=11,SNR=2.5						
ESDC	Sonseca Array	26.02	155	P	P	06 59 37.5	0.0
PSZ	Piszkesteto	26.16	111	P	P	06 59 38.5	-0.2
PSZ				IAmb	IAmb	06 59 49.8	
	comp=Z,4.9nm,1.1s						
MURB	Monte Urbino	27.24	126	P	P	06 59 48.6	+0.1
LATQ	La Tuque	33.84	267	P	P	07 00 45.5	-1.0
LATQ				IAmb	IAmb	07 00 47.3	
	comp=Z,11nm,1.4s						
J58A	Remsen	38.09	265	P	P	07 01 22.4	-0.6
BRTR	Keskin Array B	38.56	104	P	P	07 01 27.9	+0.7
	comp=Z,0.8nm,0.8s,baz=341,slow=8.4,SNR=2.9						
BRTR	Keskin Array B	38.56	104	P	P	07 01 26.8	-0.4
ABKAR	Akbulak array	42.25	72	P	P	07 01 58.3	+0.9
P49A	Miami Univ. Ec	45.31	270	P	P	07 02 20.2	-1.9
P49A				IAmb	IAmb	07 02 32.5	
	comp=Z,7.8nm,1.2s						
ILAR	Eielson Array	45.90	332	P	P	07 02 27.8	+1.3
	comp=Z,1.5nm,1.1s,baz=21,slow=6.1,SNR=7.7						
ILAR				PcP	PcP	07 04 04.2	+0.9
	comp=Z,0.4nm,0.9s,baz=17,slow=4.1,SNR=3.3						
ILAR	Eielson Array	45.90	332	P	P	07 02 25.1	-1.4
IMAR	Indian Mountai	46.09	337	P	P	07 02 28.9	+0.9
DGMT	Dagmar	46.32	293	P	P	07 02 29.3	-0.7
KURBB	Kurchatov Arra	48.48	58	P	P	07 02 46.5	-0.2
	comp=Z,1.3nm,0.8s,baz=324,slow=7.3,SNR=8.9						
ANM	Nome	49.20	342	P	P	07 02 51.9	-0.2
KKAR	Karatay Array	51.55	69	P	P	07 03 09.8	-0.4
BOZ	Bozeman (W)	51.60	297	P	P	07 03 10.3	-0.4
BOZ				IAmb	IAmb	07 03 15.3	
	comp=Z,4.5nm,1.1s						
DLMT	Dillon	52.17	297	P	P	07 03 14.1	-0.8
DLMT				IAmb	IAmb	07 03 41.3	
	comp=Z,1.7nm,1.1s						
TORD	Torodi Ar. Bea	52.91	156	P	P	07 03 21.3	+0.8
	comp=Z,1.2nm,1.0s,baz=327,slow=8.4,SNR=4.5						
MKAR	Makanchi Array	53.05	58	P	P	07 03 20.8	-0.4
	comp=Z,0.4nm,0.7s,baz=298,slow=5.2,SNR=3.9						
PDAR	Pinedale Array	53.15	293	P	P	07 03 22.4	+0.1
	comp=Z,1.9nm,0.9s,baz=58,slow=6.8,SNR=11						
NVAR	Mina Array Bea	60.30	297	P	P	07 04 14.8	+1.6
	comp=Z,0.5nm,0.9s,baz=1.7,slow=3.0,SNR=2.4						
NVAR				LR	LR	07 30 42.6	
	comp=Z,87nm,18.6s,baz=28,slow=36						
TXAR	Lajitas Array	62.17	280	P	P	07 04 27.9	+2.1
	comp=Z,0.8nm,1.0s,baz=19,slow=5.7,SNR=5.9						

*IDC **14** 06:57:34.8±1.0, 35°.21N×136°.11E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.5/68, mbtmp3.5/9, ML2.5/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/42, Error ellipse: s-maj=20.7km s-min=14.9km az=140.0*

*JMA **14** 06:57:40.0, 35°.49N×136°.31E, h38km, M4.1 Broadband fault plane solution: P waves. NP1:ϕs198.00000°, δ63.00000°, λ-28.00000°. NP2:ϕs301.00000°, δ66.00000°, λ-150.00000°. Principal axes: T Plg2.0000°, Azm69.0000°; N Plg52.0000°, Azm336.0000°; P Plg38.0000°, Azm160.0000°;*

JMA Felt III J1.

*NIED **14** 06:57:40.0, 35°.49N×136°.31E, h38km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.70; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$0.81; $M_{r\theta}$0.43; $M_{\theta\phi}$-0.57; $M_{\phi r}$0.24; Fault plane solution: $M_0$1.07000×10^{15} NP1: ϕs185.00000°, δ56.00000°, λ-45.00000°. NP2: ϕs304.00000°, δ54.00000°, λ-137.00000°.*

ISC 14 06:57:39.7±0.9, 35°.45N±0°.04×136°.32E±0°.03, h35km±2km, n22, σ1§26/33, mb3.5/6, 4C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	Mihama	0.28	286	⇓P	Pn	06 57 47.6	0.0
JFM				S	Sn	06 57 52.9	-0.6
JEG	Eigenji	0.32	169	⇓P	Pn	06 57 48.7	+0.7
JEG				S	Sn	06 57 54.8	+0.8
JYTA	Yamagatataniai	0.37	67	⇑P	Pn	06 57 48.6	+0.1
JYTA				S	Sn	06 57 54.7	-0.1
JICN	Ichinomiyachia	0.46	109	P	Pn	06 57 50.2	+0.5
JICN				S	Sn	06 57 57.5	+0.9
TSUJ	Tsu 2	0.75	174	⇓P	Pn	06 57 54.4	+0.7
TSUJ				S	Sn	06 58 05.1	+1.3
JWT	Wachi	0.77	257	⇑P	Pn	06 57 54.6	+0.6
JWT				S	Sn	06 58 05.1	+0.7
JAO	Obara	0.79	103	⇑P	Pn	06 57 54.5	+0.1
JAO				S	Sn	06 58 05.6	+0.5
JKG	Kaga	0.82	1	P	Pn	06 57 55.0	+0.2
JKG				S	Sn	06 58 05.9	+0.1
JGF	Kuroka	0.86	80	⇑P	Pn	06 57 55.3	-0.1
JGF				S	Sn	06 58 06.9	+0.1
JHE	Heguri	0.95	213	P	Pn	06 57 57.5	+0.9
JHE				S	Sn	06 58 10.9	+2.0
MAT	Matsushiro	1.88	54	P	Pn	06 58 09.7	+0.3
MAT				*e*S	Sn	06 58 35.8	+3.9
MJAR	Matsushiro Arr	1.88	54	Pn	Pn	06 58 10.6	+1.2
	2.3nm,0.3s,baz=238,slow=14,SNR=159						
MJAR				Pg	Pn	06 58 16.1	+6.8
	17nm,0.3s,ba

IDI			Lg	Lg	07 03 12.4	
	comp=N,23nm,0.3s,baz=204,slow=19,SNR=8.9					
IDI	**Anoyia**	**1.07 352**	P	**Pg**	**07 02 55.6**	**0.0**
IDI	**Anoyia**	**1.07 352**	P	**Pg**	**07 02 55.5**	**0.0**
IDI			S	**Sb**	**07 03 09.9**	**-0.6**
IDI			AML	AML	07 03 17.9	
	comp=E,537μm,0.6s					
IDI			AML	AML	07 03 21.9	
	comp=N,448μm,0.8s					
KSTL	**Kastelli Herak**	**1.08 359**	P	**Pg**	**07 02 55.4**	**-0.2**
NPS	**Neapolis**	**1.12 23**	P	**Pg**	**07 02 56.0**	**-0.5**
NPS	**Neapolis**	**1.12 23**	P	**Pg**	**07 02 57.0**	**+0.5**
NPS			S	**Sb**	**07 03 11.4**	**-0.5**
NPS			AML	AML	07 03 23.6	
	comp=E,558μm,0.8s					
NPS			AML	AML	07 03 38.7	
	comp=N,355μm,0.7s					
ZKR	**Zakros**	**1.29 46**	P	**Pn**	**07 03 00.0**	**+0.3**
ZKR			S	**Sb**	**07 03 16.9**	**+0.2**
	comp=N,228nm,0.4s					
ZKR	**Zakros**	**1.29 46**	P	**Pn**	**07 02 59.6**	**-0.1**
ZKR			S	**Sb**	**07 03 16.8**	**+0.1**
ZKR			AML	AML	07 03 21.8	
	comp=E,638μm,0.5s					
ZKR			AML	AML	07 03 23.6	
	comp=N,267μm,0.4s					
VAM	**Vamos**	**1.39 329**	P	**Pn**	**07 03 01.0**	**-0.1**
VAM			S	**Sb**	**07 03 18.7**	**-0.7**
	comp=N,252nm,0.5s					
VAM	**Vamos**	**1.39 329**	P	**Pn**	**07 03 00.9**	**-0.1**
VAM			S	**Sn**	**07 03 20.5**	**+0.7**
VAM			AML	AML	07 03 30.9	
	comp=E,432μm,0.6s					
VAM			AML	AML	07 03 33.5	
	comp=N,540μm,0.5s					
IMMV	**Iera Moni Meta**	**1.53 324**	P	**Pn**	**07 03 03.4**	**+0.4**
IMMV	**Iera Moni Meta**	**1.53 324**	P	**Pn**	**07 03 03.3**	**+0.2**
IMMV			AML	AML	07 03 39.5	
	comp=N,439μm,0.5s					
IMMV			AML	AML	07 03 54.1	
	comp=E,593μm,0.7s					
RODP	**Rodopos**	**1.72 321**	P	**Pn**	**07 03 05.0**	**-0.7**
KARP	**Karpathos**	**2.16 52**	P	**Pn**	**07 03 13.1**	**+1.4**
KARP	**Karpathos**	**2.16 52**	P	**Pb**	**07 03 13.8**	**-0.8**
ANKY	**Antikythira Is**	**2.19 319**	P	**Pb**	**07 03 15.0**	**-0.3**
KTHA	**Kythira Island**	**2.62 321**	P	**Pn**	**07 03 20.5**	**+2.5**
AKASG	**Malin Array Be**	**16.74 9**	Pn	**Pn**	**07 06 29.9**	**-0.3**
	comp=E,0.1nm,0.3s,baz=201,slow=11,SNR=2.1					
GERES	**GERESS Array B**	**16.88 333**	Pn	**Pn**	**07 06 32.5**	**+0.4**
	comp=E,0.1nm,0.3s,baz=148,slow=13,SNR=7.5					
TORD	**Torodi Ar. Bea**	**29.85 231**	P	**P**	**07 08 43.2**	**-0.2**
	comp=E,0.5nm,0.6s,baz=32,slow=9.1,SNR=4.8					
KURBB	**Kurchatov Arra**	**41.76 50**	P	**P**	**07 10 24.5**	**-0.7**
	comp=E,0.2nm,0.4s,baz=280,slow=8.4,SNR=2.0					
MKAR	**Makanchi Array**	**44.35 56**	P	**P**	**07 10 45.9**	**-0.3**
	comp=E,0.4nm,0.5s,baz=277,slow=6.8,SNR=5.3					

*NEIC **14** 07:06:20.4±0.8, 2°.7N±0°.1×122°.4E±0°.1, h549km±10km, mb4.2/28, Error ellipse: s-maj=20.1km s-min=14.3km az=53.0*
*DJA **14** 07:06:21.6±0.6, 3°N±6°×122°E±°, h535km±6km, M4.6/11, mB5.1/6, mb4.9/6, MLv4.6/11, Mw(mB)4.5/6*
*IDC **14** 07:06:21.0±1.4, 2°.71N×122°.41E, h554km±18km, mb3.3/18, mb1 3.3/19, mb1mx3.2/41, mbtmp4.2/19, Error ellipse: s-maj=21.6km s-min=9.3km az=68.0*
ISC 14 07:06:20.5±0.4, **2°.68N**±0°.06×**122°.37E**±0°.07, **h550**km, **n66**, σ1°**06**/75, **mb4.1**/30, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.63**	**142**	P	**P**	**07 07 34.2**	**+0.8**
MPSI	**Mapaga**	**3.39**	**227**	P	**P**	**07 07 37.6**	**-0.5**
MPSI				S	**S**	**07 08 39.0**	**-2.2**
LUWI	**Luwuk**	**3.71**	**174**	P	**P**	**07 07 39.8**	**-0.6**
LUWI				S	**S**	**07 08 43.1**	**-2.2**
LUWI	**Luwuk**	**3.71**	**174**	P	**P**	**07 07 40.1**	**-0.3**
LUWI					**S**	**07 08 46.3**	**+1.0**
MYLDM	**Lahad Datu**	**4.60**	**303**	P	**P**	**07 07 47.2**	**+0.1**
TNTI	**Ternate**	**5.34**	**111**	P	**P**	**07 07 51.8**	**-1.5**
	0.7nm3μm65nm,0.6s						
TNTI				S	**S**	**07 09 06.0**	**-3.0**
	0.7nm3μm65nm,0.6s						
TNTI	**Ternate**	**5.34**	**111**	P	**P**	**07 07 53.2**	**-0.1**
TNTI					**S**	**07 09 08.9**	**-0.1**
SANI	**Sanana**	**5.92**	**142**	P	**P**	**07 07 57.2**	**-1.3**
	0.9nm5μm154nm,0.5s						
SANI				S	**S**	**07 09 15.6**	**-2.9**
	0.9nm5μm154nm,0.5s						
SMKI	**Samarinda**	**6.02**	**239**	P	**P**	**07 08 01.5**	**+2.1**
LBMI	**Labuha**	**6.09**	**123**	P	**P**	**07 08 00.5**	**+0.5**
	1.1nm4μm138nm,0.7s						
LBMI				S	**S**	**07 09 21.0**	**-0.3**
	1.1nm4μm138nm,0.7s						
BKB	**Balikpapan**	**6.73**	**235**	P	**P**	**07 08 04.4**	**-1.6**
KKM	**Kota Kinabalu**	**6.99**	**299**	P	**P**	**07 08 08.2**	**-0.4**
KAPI	**Kappang**	**8.07**	**199**	P	**P**	**07 08 18.2**	**-0.9**
MTKI	**Muara Teweh, K**	**8.29**	**244**	P	**P**	**07 08 17.0**	**-4.3**
SIJI	**Sorong**	**9.56**	**111**	P	**P**	**07 08 35.3**	**+1.2**
	2.9nm,0.3s,baz=323,slow=17,SNR=5.1						
SBUM	**Sibu**	**10.15**	**269**	P	**P**	**07 08 41.0**	**+1.0**
FAKI	**Fak Fak**	**11.33**	**119**	P	**P**	**07 08 53.0**	**+0.8**
MTN	**Manton Dam**	**17.70**	**151**	P	**P**	**07 09 56.6**	**+0.8**
KNRA	**Kununurra**	**19.30**	**161**	P	**P**	**07 10 10.9**	**+0.6**
KNRA				IAmb	IAmb	07 10 18.0	
	comp=Z,7.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.89**	**171**	P	**P**	**07 10 24.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=9.5,slow=6.1,SNR=1.6						
FITZ	**Fitzroy Crossi**	**20.89**	**171**	P	**P**	**07 10 24.6**	**-0.1**
WB0	**Warramunga Arr**	**25.23**	**153**	P	**P**	**07 11 02.7**	**-0.8**
WB0				IAmb	IAmb	07 11 25.3	
	comp=Z,9.0nm,1.4s						
WRA	**Warramunga Arr**	**25.36**	**153**	P	**P**	**07 11 04.0**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=336,slow=9.7,SNR=14						
WRA				ScP	**ScP**	**07 17 05.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=337,slow=3.0,SNR=10						
WB2	**Warramunga Arr**	**25.37**	**153**	P	**P**	**07 11 04.4**	**-0.2**
WB2				IAmb	IAmb	07 11 17.8	
	comp=Z,7.7nm,1.2s						
WR0	**Warramunga Arr**	**25.47**	**153**	P	**P**	**07 11 04.9**	**-0.6**
WR0				IAmb	IAmb	07 11 28.5	
	comp=Z,8.8nm,1.3s						
CMAR	**Chiang Mai Arr**	**27.80**	**306**	P	**P**	**07 11 26.8**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=133,slow=7.3,SNR=8.7						
CMAR	**Chiang Mai Arr**	**27.80**	**306**		**P**	**07 11 26.0**	**0.0**
CHTO	**Chiang Mai**	**27.99**	**307**	P	**P**	**07 11 27.5**	**-0.2**
CHTO				IAmb	IAmb	07 11 28.9	
	comp=Z,7.6nm,0.9s						
AS31	**Alice Springs**	**28.49**	**157**	P	**P**	**07 11 33.1**	**+1.0**
ASAR	**Alice Springs**	**28.49**	**157**	P	**P**	**07 11 32.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=331,slow=7.4,SNR=10.0						
ASAR				ScP	**ScP**	**07 17 15.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=342,slow=3.2,SNR=6.7						
ASAR	**Alice Springs**	**28.49**	**157**	P	**P**	**07 11 32.1**	**+0.1**
JMN	**Monobe**	**32.71 18**		P	**P**	**07 12 08.0**	**-0.1**
KSRS	**Korea Array**	**34.98 8**		P	**P**	**07 12 28.0**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=186,slow=9.8,SNR=5.2						
MJAR	**Matsushiro Arr**	**36.73 22**		P	**P**	**07 12 40.9**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=194,slow=9.8,SNR=6.3						
JMM	**Marumori**	**38.88 23**		P	**P**	**07 12 58.7**	**-0.3**
STKA	**Stephens Creek**	**38.91 154**		P	**P**	**07 13 00.8**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=345,slow=8.1,SNR=4.4						
STKA	**Stephens Creek**	**38.91 154**		P	**P**	**07 12 59.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**42.22 10**		P	**P**	**07 13 24.9**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=181,slow=4.7,SNR=5.2						
ULN	**Ulaanbaatar**	**46.92 346**		P	**P**	**07 14 01.7**	**-0.1**
ULN				IAmb	IAmb	07 14 02.7	
	comp=Z,5.5nm,0.6s						
SONM	**Songino Array**	**47.06 345**		P	**P**	**07 14 03.4**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=163,slow=8.6,SNR=16						
SONM	**Songino Array**	**47.06 345**		P	**P**	**07 14 02.8**	**0.0**
NIL	**Nilore**	**55.19 310**		P	**P**	**07 15 01.3**	**-0.6**
NIL				IAmb	IAmb	07 15 15.1	
	comp=Z,7.8nm,1.1s						
TARG	**Taragay, Kyrgy**	**55.71 321**		P	**P**	**07 15 05.6**	**-0.2**
MK31	**Makanchi Array**	**56.03 328**		P	**P**	**07 15 07.4**	**-0.1**
MK31				IAmb	IAmb	07 15 08.5	
	comp=Z,5.2nm,0.8s						
MKAR	**Makanchi Array**	**56.03 328**		P	**P**	**07 15 07.8**	**+0.3**
	comp=Z,5.5nm,0.4s,baz=124,slow=8.4,SNR=51						
MKAR	**Makanchi Array**	**56.03 328**		P	**P**	**07 15 07.6**	**+0.2**
MAKZ	**Makanchi**	**56.20 328**		P	**P**	**07 15 08.8**	**+0.1**
MAKZ				IAmb	IAmb	07 15 09.5	
	comp=Z,5.7nm,0.6s						
KDJ	**Kajisay**	**56.31 321**		P	**P**	**07 15 10.2**	**+0.4**
KDJ				IAmb	IAmb	07 15 11.4	
	comp=Z,5.7nm,0.6s						
KBL	**Kabul**	**58.76 309**		P	**P**	**07 15 26.3**	**-0.2**
KBL				IAmb	IAmb	07 15 27.1	
	comp=Z,7.1nm,0.6s						
GAR	**Garm**	**59.49 314**		P	**P**	**07 15 30.9**	**-0.3**
BTK	**Batken**	**59.58 316**		P	**P**	**07 15 31.7**	**0.0**
BTK				IAmb	IAmb	07 15 41.8	
	comp=Z,4.4nm,0.5s						
ZAA0	**Zalesovo Array**	**59.64 335**		P	**P**	**07 15 30.7**	**-1.0**
ZALV	**Zalesovo Beam**	**59.64 335**		P	**P**	**07 15 30.9**	**-0.8**
	comp=Z,3.3nm,0.4s,baz=134,slow=6.6,SNR=13						
CHGR	**Chuyangaron**	**60.19 314**		P	**P**	**07 15 35.5**	**-0.3**
CHGR				IAmb	IAmb	07 15 36.4	
	comp=Z,22nm,1.3s						
KURBB	**Kurchatov Arra**	**60.35 329**		P	**P**	**07 15 36.4**	**-0.1**
	comp=Z,6.4nm,0.5s,baz=130,slow=6.1,SNR=46						
KURK	**Kurchatov**	**60.36 330**		P	**P**	**07 15 36.6**	**+0.1**
BKZ	**Black Stump Fm**	**64.79 136**		P	**P**	**07 16 05.7**	**+0.2**
BRVK	**Borovoye**	**65.96 329**		P	**P**	**07 16 12.1**	**-0.4**
BRVK				IAmb	IAmb	07 16 13.0	
	comp=Z,7.6nm,1.1s						
GEYT	**Alibeck**	**68.19 310**		P	**P**	**07 16 26.0**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=159,slow=6.2,SNR=5.2						
NRIK	**Noril'sk**	**70.46 348**		P	**P**	**07 16 39.4**	**0.0**
	comp=Z,2.5nm,0.7s,baz=133,slow=6.1,SNR=4.1						
AKTO	**Aktyubinsk**	**71.81 323**		P	**P**	**07 16 47.5**	**-0.2**
	comp=Z,6.3nm,0.6s,baz=106,slow=8.2,SNR=25						
KVAR	**Kislovodsk Arr**	**80.72 314**		P	**P**	**07 17 37.7**	**+0.7**
	baz=124,slow=11						
KMBO	**Kilima Mbogo**	**85.18 269**		P	**P**	**07 18 02.2**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=346,slow=4.5,SNR=4.1						
BRTR	**Keskin Array B**	**87.33 309**		P	**P**	**07 18 09.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=147,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**90.69 331**		P	**P**	**07 18 23.4**	**-1.1**
	comp=Z,2.0nm,1.0s,baz=46,slow=6.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**119.08 287**		PKP	**PKPdf**	**07 24 07.8**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=116,slow=1.9,SNR=2.5						

*JMA **14** 07:32:40.1±0.1, 24°.65N×121°.52E, h66km±2km, M2.8*
*TAP **14** 07:32:40.5, 24°.68N×121°.53E, h64km, ML3.5, A*
ISC 14 07:32:40.7±1.2, **24°.69N**±0°.02×**121°.52E**±0°.02, **h66**km±4km, **n118**, σ0°**54**/198, **12C-19D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.06**	**142**	⇑P	**Pn**	**07 32 50.6**	**+0.2**
	baz=134						
ENTT				S	**Sn**	**07 32 57.5**	**0.0**
	baz=134						
NDT	**Datong Townshi**	**0.09**	**186**	⇑P	**Pn**	**07 32 50.5**	**0.0**
	baz=189						
NDT				S	**Sn**	**07 32 57.3**	**-0.3**
	baz=189						
NWLT	**Wulai**	**0.09**	**348**	⇑P	**Pn**	**07 32 50.3**	**-0.2**
	baz=346						
NWLT				eS	**Sn**	**07 32 56.9**	**-0.8**
	baz=346						
TWE	**Neicheng**	**0.13**	**76**	⇑P	**Pn**	**07 32 50.9**	**+0.3**
	baz=75						
TWE				S	**Sn**	**07 32 58.0**	**+0.2**
	baz=75						
YHNB	**Yeheng**	**0.14**	**262**	⇑P	**Pn**	**07 32 50.4**	**-0.3**
	baz=265						
YHNB				eS	**Sn**	**07 32 57.2**	**-0.8**
	baz=265						
ILA	**Ilan**	**0.22**	**70**	eP	**Pn**	**07 32 51.1**	**+0.2**
	baz=68						
ILA				S	**Sn**	**07 32 58.6**	**+0.2**
	baz=68						
NNS	**Nan Shan**	**0.28**	**209**	P	**Pn**	**07 32 51.6**	**+0.1**
	baz=208						
NNS				S	**Sn**	**07 32 59.2**	**-0.2**
	baz=208						
TATO	**Taipei**	**0.29**	**354**	P	**Pn**	**07 32 51.4**	**0.0**
	baz=354						
TATO				eS	**Sn**	**07 32 59.0**	**-0.1**
	baz=354						
NNSB	**Datong**	**0.29**	**206**	⇑P	**Pn**	**07 32 51.6**	**0.0**
	baz=207						
NNSB				S	**Sn**	**07 32 59.2**	**-0.2**
	baz=207						
NNSH	**Datong**	**0.29**	**206**	⇑P	**Pn**	**07 32 51.6**	**0.0**
	baz=207						
NNSH				S	**Sn**	**07 32 59.1**	**-0.3**
	baz=207						
TWA	**Mucha**	**0.29**	**11**	⇓P	**Pn**	**07 32 51.6**	**+0.2**
	baz=11						
TWA				S	**Sn**	**07 32 59.5**	**+0.2**
	baz=11						
TWC	**Suao**	**0.31**	**105**	⇑P	**Pn**	**07 32 51.5**	**+0.1**
	baz=103						
TWC				S	**Sn**	**07 32 59.4**	**0.0**
	baz=103						
NTC	**Toucheng**	**0.32**	**59**	P	**Pn**	**07 32 51.7**	**+0.1**
	baz=57						
NTC				eS	**Sn**	**07 32 59.3**	**-0.3**
	baz=57						
ENA	**Nanau**	**0.33**	**143**	⇓P	**Pn**	**07 32 51.4**	**-0.3**
	baz=141						
ENA				eS	**Sn**	**07 32 59.6**	**0.0**
	baz=141						
TAP1	**Taipei**	**0.35**	**360**	P	**Pn**	**07 32 51.9**	**+0.1**
	baz=358						
TAP1				eS	**Sn**	**07 32 60.0**	**+0.1**
	baz=358						
TAP	**Taipei**	**0.35**	**357**	P	**Pn**	**07 32 51.9**	**+0.1**
	baz=358						
TAP				S	**Sn**	**07 33 00.2**	**+0.3**
	baz=358						
ENAH	**Nanao**	**0.35**	**132**	eP	**Pn**	**07 32 51.6**	**-0.2**
	baz=131						
ENAH				eS	**Sn**	**07 33 00.1**	**+0.1**
	baz=131						
TIPB	**Shuangxi**	**0.39**	**44**	⇓P	**Pn**	**07 32 52.4**	**+0.2**
	baz=43						
TIPB				eS	**Sn**	**07 33 00.6**	**-0.1**
	baz=43						
EGS		**0.40**	**67**	eP	**Pn**	**07 32 52.9**	**+0.6**
	baz=66						
EGS				eS	**Sn**	**07 33 01.3**	**+0.6**
	baz=66						
NCU	**National Centr**	**0.41**	**312**	P	**Pn**	**07 32 52.6**	**+0.3**
	baz=313						
NCU				eS	**Sn**	**07 33 01.4**	**+0.5**
	baz=313						
NCUH	**Zhongli**	**0.41**	**312**	eP	**Pn**	**07 32 52.7**	**+0.4**
	baz=312						
NCUH				eS	**Sn**	**07 33 01.0**	**+0.1**
	baz=312						
TWS1	**Kuangyinshan**	**0.42**	**347**	P	**Pn**	**07 32 52.8**	**+0.3**
	baz=347						
TWS1				eS	**Sn**	**07 33 01.6**	**+0.6**
	baz=347						
NWF	**Wu-fen Shan**	**0.45**	**32**	⇓P	**Pn**	**07 32 52.9**	**+0.1**
	baz=30						
NWF				eS	**Sn**	**07 33 01.5**	**-0.1**
	baz=30						
WFSB	**Wu-fen Shan**	**0.45**	**32**	⇓P	**Pn**	**07 32 52.9**	**+0.2**
	baz=30						
WFSB				eS	**Sn**	**07 33 01.5**	**0.0**
	baz=30						
YM01	**YM01**	**0.46**	**5**	⇓P	**Pn**	**07 32 52.9**	**+0.1**
	baz=4.0						
YM01				S	**Sn**	**07 33 01.8**	**+0.1**
	baz=4.0						
YM04	**YM04**	**0.46**	**1**	⇓P	**Pn**	**07 32 52.9**	**+0.1**
	baz=1.0						
YM04				eS	**Sn**	**07 33 01.5**	**-0.2**
	baz=1.0						
LIOB	**Emei**	**0.46**	**265**	⇓P	**Pn**	**07 32 52.9**	**0.0**
	baz=265						
LIOB				S	**Sn**	**07 33 01.9**	**+0.2**
	baz=265						
YM10	**YM10**	**0.47**	**4**	⇓P	**Pn**	**07 32 53.1**	**+0.1**
	baz=3.0						
YM10				eS	**Sn**	**07 33 01.9**	**+0.1**
	baz=3.0						
YM05	**YM05**	**0.47**	**5**	⇑P	**Pn**	**07 32 53.2**	**+0.2**
	baz=4.0						
YM05				eS	**Sn**	**07 33 01.9**	**-0.1**
	baz=4.0						
YM11	**YM11**	**0.48**	**6**	P	**Pn**	**07 32 53.2**	**+0.1**
	baz=5.0						
YM11				eS	**Sn**	**07 33 02.1**	**0.0**
	baz=5.0						
NTST	**Danshui**	**0.48**	**352**	P	**Pn**	**07 32 53.2**	**+0.3**
	baz=351						
NTST				eS	**Sn**	**07 33 02.6**	**+0.7**
	baz=351						
NSTT	**Nanjuang**	**0.48**	**263**	⇓P	**Pn**	**07 32 52.9**	**-0.1**
	baz=263						
NSTT				eS	**Sn**	**07 33 01.9**	**0.0**
	baz=263						
ETLH	**Xiulin Townshi**	**0.48**	**185**	⇑P	**Pn**	**07 32 52.9**	**-0.2**
	baz=185						
ETLH				S	**Sn**	**07 33 02.0**	**-0.1**
	baz=185						
YM03	**YM03**	**0.49**	**2**	eP	**Pn**	**07 32 52.9**	**-0.2**
	baz=1.0						
YM03				eS	**Sn**	**07 33 02.1**	**-0.2**
	baz=1.0						
ANP	**Anpu**	**0.49**	**360**	P	**Pn**	**07 32 53.3**	**+0.1**
ANP				S	**Sn**	**07 33 02.6**	**+0.2**
SBCB	**Hsinchu**	**0.50**	**282**	P	**Pn**	**07 32 53.4**	**+0.3**
	baz=282						
SBCB				S	**Sn**	**07 33 02.8**	**+0.5**
	baz=282						
YM08	**YM08**	**0.50**	**7**	eP	**Pn**	**07 32 53.1**	**-0.1**
	baz=6.0						
YM08				eS	**Sn**	**07 33 01.9**	**-0.5**
	baz=6.0						
FUSS	**Fushou**	**0.51**	**210**	eP	**Pn**	**07 32 53.8**	**+0.3**
	baz=210						
FUSS				S	**Sn**	**07 33 02.7**	**-0.2**
	baz=210						
HSN	**Hsinchu**	**0.52**	**283**	S	**Sn**	**07 33 02.5**	**-0.1**
	baz=287						
NACB	**Ninganchiao**	**0.52**	**173**	⇑P	**Pn**	**07 32 52.3**	**-1.0**
	baz=173						
NACB				eS	**Sn**	**07 33 01.7**	**-0.9**
	baz=173						
NWRT	**Kuosheng**	**0.53**	**14**	P	**Pn**	**07 32 53.5**	**+0.1**
	baz=13						
TWB1	**Santiao Chiao**	**0.53**	**53**	⇓P	**Pn**	**07 32 53.7**	**+0.3**
	baz=52						
TWB1				eS	**Sn**	**07 33 02.6**	**-0.2**
	baz=52						
NHW	**Xinwu Township**	**0.54**	**306**	eP	**Pn**	**07 32 53.6**	**+0.1**
	baz=306						
NHW				eS	**Sn**	**07 33 03.7**	**+0.7**
	baz=306						
TWT	**Tachien**	**0.54**	**216**	eP	**Pn**	**07 32 54.2**	**+0.4**
	baz=217						
TWT				eS	**Sn**	**07 33 03.8**	**+0.5**
	baz=217						
TDCB	**Techi**	**0.55**	**218**	eP	**Pn**	**07 32 54.1**	**+0.3**
	baz=218						
TDCB				S	**Sn**	**07 33 03.4**	**0.0**
	baz=218						
TWY	**Chenhua**	**0.59**	**7**	P	**Pn**	**07 32 54.4**	**+0.3**
	baz=7.0						
TWY				S	**Sn**	**07 33 04.6**	**+0.7**
	baz=7.0						
WHF	**Hehuan Shan**	**0.59**	**204**	eP	**Pn**	**07 32 54.9**	**+0.3**
	baz=203						
WHF				eS	**Sn**	**07 33 04.9**	**+0.1**
	baz=203						
WHP	**Taichung City**	**0.67**	**232**	⇓P	**Pn**	**07 32 55.4**	**+0.3**
	baz=232						
WHP				eS	**Sn**	**07 33 05.4**	**-0.2**
	baz=232						
NMLH	**Miaoli**	**0.68**	**257**	eP	**Pn**	**07 32 55.3**	**+0.1**
	baz=258						
NMLH				eS	**Sn**	**07 33 05.9**	**+0.1**
	baz=258						
CHGB	**Renai**	**0.70**	**207**	eP	**Pn**	**07 32 56.0**	**+0.3**
	baz=207						
CHGB				S	**Sn**	**07 33 06.6**	**0.0**
	baz=207						
HWA	**Hwalien**	**0.71**	**174**	eP	**Pn**	**07 32 54.6**	**-0.8**
	baz=173						
NSY	**Sanyi**	**0.75**	**249**	⇓P	**Pn**	**07 32 56.2**	**+0.3**
	baz=249						
NSY				S	**Sn**	**07 33 07.5**	**+0.4**
	baz=249						
TWQ1	**Liyutan**	**0.76**	**244**	⇓P	**Pn**	**07 32 56.1**	**0.0**
	baz=244						
TWQ1				eS	**Sn**	**07 33 07.6**	**+0.1**
	baz=244						
PTSB	**Yuanli**	**0.78**	**252**	eP	**Pn**	**07 32 56.5**	**+0.2**
	baz=252						
WDJ	**Dajia District**	**0.87**	**247**	eP	**Pn**	**07 32 57.5**	**+0.1**
	baz=247						
WDJ				eS	**Sn**	**07 33 10.1**	**+0.3**
	baz=247						
ESL	**Shilin**	**0.88**	**185**	⇑eP	**Pn**	**07 32 55.9**	**-1.6**
	baz=185						
ESL				S	**Sn**	**07 33 10.3**	**+0.5**
	baz=185						
SMLT	**Sun Moon Lake**	**0.98**	**215**	⇓P	**Pn**	**07 32 59.1**	**+0.2**
	baz=215						
SMLT				S	**Sn**	**07 33 12.8**	**+0.4**
	baz=215						
TYC	**Yuchr**	**0.99**	**218**	⇓P	**Pn**	**07 32 58.9**	**0.0**
	baz=217						
TYC				S	**Sn**	**07 33 12.5**	**+0.1**
	baz=217						
VWDT	**VWDT**	**0.99**	**201**	P	**Pn**	**07 32 59.7**	**+0.8**
	baz=200						
VWDT				eS	**Sn**	**07 33 13.6**	**+1.1**
	baz=200						
EGFH	**Guangfu**	**1.02**	**185**	eP	**Pn**	**07 32 57.5**	**-1.7**
	baz=185						
SSLB	**Suanglung**	**1.04**	**210**	⇓eP	**Pn**	**07 32 59.6**	**+0.1**
	baz=210						
SSLB				eS	**Sn**	**07 33 13.8**	**+0.3**
	baz=210						
PCYT	**Pengchaiyu**	**1.06**	**28**	eP	**Pn**	**07 33 00.0**	**+0.2**
	baz=27						
WCHH	**Zhanghua**	**1.07**	**236**	eP	**Pn**	**07 32 59.8**	**-0.1**
	baz=235						
WNT	**Mingjian**	**1.11**	**224**	eP	**Pn**	**07 33 00.7**	**+0.2**
	baz=223						
WNT				S	**Sn**	**07 33 15.6**	**+0.4**
	baz=223						
WJS	**Zhushan**	**1.13**	**220**	eP	**Pn**	**07 33 00.8**	**+0.1**
	baz=220						
WJS				eS	**Sn**	**07 33 15.5**	**0.0**
	baz=220						
WHYT	**Xinyi Township**	**1.16**	**212**	eP	**Pn**	**07 33 01.6**	**+0.4**
	baz=212						
WHYT				eS	**Sn**	**07 33 17.1**	**+0.7**
	baz=212						
EHY	**Hungye**	**1.19**	**189**	eP	**Pn**	**07 32 59.5**	**-2.0**
	baz=188						
**HGSD

CHY			S		Sn	07 33 25.9 +0.4
	baz=220					
ELDTW	Lidau	1.56 197	P		Pn	07 33 06.7 +0.2
	baz=197					
CHN4	Tsaushan	1.58 213	*e*P		Pn	07 33 06.9 +0.3
	baz=212					
CHN4			*e*S		Sn	07 33 27.1 +0.9
	baz=212					
TPUB	Ta-pu	1.61 211	*e*P		Pn	07 33 07.5 +0.5
	baz=210					
TPUB			*e*S		Sn	07 33 27.6 +0.7
	baz=210					
WTP	Ta-pu	1.66 210	*e*P		Pn	07 33 07.9 +0.2
	baz=210					
WTP			S		Sn	07 33 28.7 +0.6
	baz=210					
TWK	Hsinying	1.70 214	*e*P		Pn	07 33 08.4 +0.1
	baz=213					
EDH	Donghe	1.72 187	*e*P		Pn	07 33 07.3 -1.1
	baz=186					
ICHU	Yijhu	1.75 221	*e*P		Pn	07 33 09.4 +0.6
	baz=220					
CHN1	Nanshi	1.75 212	*e*P		Pn	07 33 09.1 +0.2
	baz=211					
CHN1			S		Sn	07 33 30.8 +0.5
	baz=211					
PTTC	Pingtan	1.78 297	*e*P		Pn	07 33 08.7 -0.6
	baz=297					
LONT	Longtian	1.81 192	*e*P		Pn	07 33 11.6 +1.8
	baz=191					
SLGT	Liugui	1.87 206	*e*P		Pn	07 33 10.8 +0.3
	baz=205					
SLGT			*e*S		Sn	07 33 33.9 +0.8
	baz=205					
TWG	Pinlang	1.91 193	*e*P		Pn	07 33 11.4 +0.4
	baz=192					
TWGBT	Beinan	1.91 192	*e*P		Pn	07 33 10.9 -0.1
	baz=192					
VWUC	VWUC	1.91 279	*e*P		Pn	07 33 10.3 -0.6
	baz=279					
LDUT	Ludao	2.01 181	*e*P		Pn	07 33 11.5 -0.9
	baz=181					
MATB	Ma-tsu	2.04 316	*e*P		Pn	07 33 11.8 -1.0
	baz=315					
IRIF	Iriomote-Funau	2.04 100	P		Pn	07 33 12.5 -0.3
IRIF			S		Sn	07 33 36.6 -0.6
SSD	Sandimen	2.10 203	*e*P		Pn	07 33 14.0 +0.4
	baz=202					
PNG	Penghu	2.12 239	*e*P		Pn	07 33 12.8 -1.0
	baz=238					
PHUB	P'eng-hu	2.13 237	*e*P		Pn	07 33 12.9 -1.1
	baz=236					
ECL	Taimali	2.15 194	*e*P		Pn	07 33 14.6 +0.3
	baz=194					
HATJ	Hateruma jima	2.17 106	P		Pn	07 33 15.8 +1.2
HATJ			S		Sn	07 33 40.6 +0.1
PTMZ	Houxiangcun	2.21 280	*e*P		Pn	07 33 14.5 -0.5
	baz=279					
WDGT	Dungji	2.22 231	*e*P		Pn	07 33 14.8 -0.4
	baz=230					
MASBT	Mashibuluo	2.22 202	*e*P		Pn	07 33 15.9 +0.6
	baz=201					
MASBT			*e*S		Sn	07 33 41.7 0.0
	baz=201					
JKRS	Kuro-shima	2.31 101	P		Pn	07 33 16.7 +0.3
JKRS			S		Sn	07 33 43.4 -0.4
JIJ	Ishigaki jima	2.41 97	P		Pn	07 33 17.8 0.0
JIJ			*e*S		Sn	07 33 44.7 -1.5
LYJJ	Jianjiangzhen	2.44 320	*e*P		Pn	07 33 17.4 -0.9
	baz=319					
XPSS	Dashiqiu	2.53 332	*e*P		Pn	07 33 18.7 -0.8
	baz=331					
JISG	Ishigakijimahi	2.54 92	P		Pn	07 33 19.6 +0.1
JISG			S		Sn	07 33 49.1 -0.3
MHZQ	Yeshan	2.66 302	*e*P		Pn	07 33 20.2 -0.9
	baz=302					
KNM	Kinmen	2.83 265	*e*P		Pn	07 33 24.1 +0.6
	baz=264					
KNMB	Chin-men Tao	2.86 266	*e*P		Pn	07 33 23.0 -1.0
	baz=265					
JTJ	Tarama	2.89 90	P		Pn	07 33 25.9 +1.6
JTJ			*e*S		Sn	07 33 59.0 +1.0
AXDP	Jialang	3.24 274	*e*P		Pn	07 33 28.6 -0.5
	baz=273					
JIRB	Irabujima	3.32 87	P		Pn	07 33 30.3 +0.1
JIRB			S		Sn	07 34 09.0 +0.5
ZPLA	Ao Xicun	3.52 258	*e*P		Pn	07 33 32.4 -0.6
	baz=257					

SOME ***14*** *07:41:58.5, 40°.13N×79°.75E, h10km*
KRNET ***14*** *07:42:04.8±0.1, 39°.96N×79°.54E, mb3.0*
ISC 14 07:42:06.2±4.3, 40°.4N±0°.1×79°.56E±0°.07, h1km±21km, n19, σ1°46/36, 12C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	2.25 338		⇑*i*P	Pb	07 42 48.4	+0.5
	baz=42						
PRZ				⇑*i*S	Sg	07 43 20.3	+1.7
	baz=42						
KDJ	Kajisay	2.49 315		⇑*i*P	Pb	07 42 50.4	-1.4
	baz=21						
KDJ				⇑*i*S	Sb	07 43 23.6	+0.5
	baz=21						
SHLS	Shalkode	2.75 359		*e*P	Pb	07 42 55.3	-1.0
	29nm,0.4s						
SHLS				*e*S	Sg	07 43 36.4	+1.7
	60nm,0.5s						
ANVS	Anan'yevo	2.77 330		⇑*i*P	Pb	07 42 55.3	-1.3
	baz=34						
ANVS				⇑*i*S	Sb	07 43 32.2	+1.1
	baz=34						
UZB	Uzynbulak	2.77 352		*e*P	Pb	07 42 54.4	-2.3
	9.0nm,0.6s						
UZB				*e*S	Sg	07 43 34.8	-0.4
	52nm,1.0s						
KPKS	Kokpek	3.13 348		*e*P	Pb	07 43 01.2	-1.5
	15nm,0.3s						
KPKS				*e*S	Sg	07 43 46.2	-0.5
	45nm,0.5s						
MDOK	Medeo	3.34 327		*e*P	Pb	07 43 04.8	-1.5
	2.1nm,0.4s						
MDOK				*e*S	Sg	07 43 52.8	-0.6
	13nm,0.6s						
KOTS	Kotyrbulak	3.37 328		*e*P	Pb	07 43 06.7	-0.2
	7.6nm,0.2s						
KOTS				*e*S	Sg	07 43 55.3	+0.9
	19nm,0.6s						
BOOM	Boomskoye usch	3.43 309		⇑*e*P	Pn	07 43 03.1	+2.1
	baz=14						
BOOM				⇑*i*S	Sb	07 43 45.5	-4.6
	baz=14						
KST	Kastek	3.77 316		*e*P	Pb	07 43 13.2	-0.5
	4.4nm,0.5s						
KST				*e*S	Sg	07 44 06.6	-0.7
	4.3nm,0.6s						
MNBS	Baschi	3.77 347		*e*P	Pb	07 43 13.0	-0.7
	4.4nm,0.5s						
MNBS				*e*S	Sg	07 44 06.3	-1.1
	43nm,0.5s						
DJR	Jarkent	3.93 2		*e*P	Pb	07 43 15.6	-0.8
	2.5nm,0.3s						
DJR				*e*S	Sg	07 44 10.6	-1.9
	10nm,0.6s						
KTBS	Karatobe	3.94 328		*e*P	Pb	07 43 18.0	+1.5
	1.8nm,0.4s						
KTBS				*e*S	Sg	07 44 14.7	+2.0
	9.3nm,0.6s						
ARXS	Arharly	4.02 342		*e*P	Pb	07 43 18.8	+0.9
	4.8nm,0.4s						
ARXS				*e*S	Sg	07 44 16.1	+0.8
	8.3nm,0.4s						
ARLS	Aral	4.21 292		⇑*i*P	Pn	07 43 12.5	+0.7
	baz=98						
ARLS				⇑*i*S	Sn	07 44 01.8	+0.1
	baz=98						
KUU	Kurty	4.23 327		*e*P	Pb	07 43 21.3	-0.2
	0.8nm,0.1s						
KUU				*e*S	Sg	07 44 21.2	-0.8
	6.6nm,0.3s						
KAPS	Kapalarasan	4.88 358		*e*P	Pb	07 43 34.0	+1.5
	2.0nm,0.8s						
KAPS				*e*S	Sg	07 44 43.4	+0.4
	12nm,0.9s						
MAKZ	Makanchi	6.64 15		⇑Pn	Pn	07 43 44.7	-0.2
	2.4nm,1.0s						
MAKZ				⇓Lg	Lg	07 44 58.5	
	1.2nm,0.5s						
MK31	Makanchi Array	6.69 16		⇓Pn	Pn	07 43 46.5	+0.9
	0.2nm,0.3s,baz=201,slow=14,SNR=62						
MK31				⇑Lg	Lg	07 45 01.2	
	0.6nm,0.4s,baz=201,slow=24,SNR=5.0						

OMAN ***14*** *08:02:16.0±0.9, 26°.96N×62°.11E, h22km, mb5.0/7, ml3.7/4, Error ellipse: s-maj=68.0km s-min=15.4km az=321.0*
DSN ***14*** *08:02:25.2±1.0, 26°.61N×61°.29E, h10km, ML4.0/7, Error ellipse: s-maj=23.1km s-min=8.8km az=153.0*
ISC 14 08:02:15.4±4.9, 26°.5N±0°.2×61°.2E±0°.2, h10km, n20, σ0°90/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	3.99 216		P	Pb	08 03 28.2	+2.3
WBK	Wadi Bani Khal	4.37 208		P	Pb	08 03 32.6	+0.3
	SNR=11						
BANOM	Banah	4.43 264		*i* P	Pb	08 03 34.0	+0.6
	SNR=29						
BANOM	Banah	4.43 264		P	Pb	08 03 34.0	+0.6
	SNR=29						
SHME	Shamm	4.56 265		*i* P	Pb	08 03 36.1	+0.6
	SNR=12						
HOQ	Hoqain	4.56 231		P	Pb	08 03 37.0	+1.4
	SNR=6.2						
MDH	Madha	4.57 256		*i* P	Pb	08 03 35.7	+0.1
	SNR=12						
MDH	Madha	4.57 256		P	Pb	08 03 36.2	+0.5
	SNR=12						
JLN	Jalan Bani Buh	4.62 201		P	Pb	08 03 35.2	-1.4
	SNR=10						
MSFE	Esma-Masafi	4.67 257		P	Pb	08 03 37.1	-0.4
UOSS	Minazif	4.76 252		*i* P	Pb	08 03 38.2	-0.7
	SNR=11						
UOSS	Minazif	4.76 252		P	Pb	08 03 38.9	0.0
SOHO	SOHO	4.83 242		P	Pb	08 03 39.9	-0.3
SOHO	SOHO	4.83 242		P	Pb	08 03 40.5	+0.4
HATD	Hatta, Dubai	4.86 251		P	Pb	08 03 39.7	-1.0
HATD	Hatta, Dubai	4.86 251		P	Pb	08 03 41.1	+0.4
ASHO	Ashiyiah	4.97 250		*i* P	Pb	08 03 43.0	+0.3
	SNR=19						
ASHO				S	Sb	08 04 41.7	-0.9
ASHO	Ashiyiah	4.97 250		P	Pb	08 03 43.0	+0.3
	SNR=19						
JMDO	Jabal Madar	4.98 215		P	Pb	08 03 43.5	+0.8
	SNR=6.1						
ARQ	Araqi	5.28 234		P	Pb	08 03 47.4	-0.4
	SNR=12						

WEL 14 08:11:25.7, 38°.7S±0°.9×17°6E±°, h5km, M2.5/6, ML2.6/6, MLv2.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=63.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	Whakaora	0.07 284		P	Pg	08 11 29.0	+1.6
WHTZ				S	Sg	08 11 30.8	+2.2
WPRZ	Whakapapatarin	0.19 30		P	Pg	08 11 30.5	+1.1
WPRZ				S	Sg	08 11 32.7	+0.8
HATZ	Hinemaiaia	0.21 170		P	Pg	08 11 30.9	+1.0
BKZ	Black Stump Fm	0.60 144		P	Pb	08 11 38.3	-0.4
MKRZ	Makatiti	0.64 32		P	Pb	08 11 39.5	+0.1
KWHZ	Kaweka Forest	0.80 158		P	Pb	08 11 42.3	+0.2
BHHZ	Black Hill Sta	0.81 179		P	Pb	08 11 41.8	-0.4

WEL ***14*** *08:11:24.5, 37°S±5°×17°8E±°, h139km±5km, M3.9/53, ML3.8/2, MLv3.9/53, Error ellipse: s-maj=0.0km s-min=0.0km az=16.9*
NEIC ***14*** *08:11:26.8±2.4, 37°.41S±0°.10×178°.0E±0°.1, h137km±8km, mb4.0/8, Error ellipse: s-maj=16.0km s-min=11.2km az=222.0*
IDC ***14*** *08:11:29.8±1.6, 37°.38S×177°.51E, h131km±12km, mb3.4/2, mb1 3.7/3, mb1mx3.3/20, mbtmp3.9/3, Error ellipse: s-maj=36.9km s-min=30.0km az=127.0*
ISC 14 08:11:27.8±1.0, 37°.18S±0°.06×177°.67E±0°.06, h134km±6km, n166, σ2°07/181, mb3.9/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.52 227		P	Pn	08 11 47.4	+0.1
WIZ	White Island	0.52 227		P	Pn	08 11 47.4	+0.1
HAZ	Te Kaha	0.58 171		P	Pn	08 11 47.1	-0.6
HAZ				S	Sn	08 12 02.5	-0.4
MXZ	Matakaoa Point	0.64 127		P	Pn	08 11 45.8	-2.2
MXZ				S	Sn	08 12 02.6	-0.9
MXZ	Matakaoa Point	0.64 127		Pn	Pn	08 11 46.0	-2.1
MXZ				Sn	Sn	08 12 00.3	-3.2
RUGZ	Raukumara Rang	0.79 179		P	Pn	08 11 48.7	-0.6
RUGZ	Raukumara Rang	0.79 179		P	Pn	08 11 48.7	-0.6
RUGZ	Raukumara Rang	0.79 179		S	Sn	08 12 06.4	+0.7
WHRZ	Whale Island	0.87 219		P	Pn	08 11 50.9	+1.0
WMGZ	Waiomatatini S	0.88 137		P	Pn	08 11 49.4	-0.5
OPRZ	Ohinepanea	1.11 233		P	Pn	08 12 00.7	+8.7
OPRZ				S	Sn	08 12 04.8	-5.6
OPRZ	Ohinepanea	1.11 233		P	Pn	08 11 51.9	0.0
MARZ	Manawahe	1.13 224		P	Pn	08 11 57.7	+5.5
MARZ				S	Sn	08 11 59.5	-11
MWZ	Matawai	1.16 185		P	Pn	08 11 54.0	+1.5
MWZ				S	Sn	08 12 15.0	+3.5
URZ	Urewera	1.17 202		P	Pn	08 11 53.2	+0.6
	148nm,0.3s,baz=267,slow=3.7,SNR=517						
URZ				S	Sn	08 12 09.4	-2.1
	101nm,0.3s,baz=97,slow=11,SNR=8.5						
URZ	Urewera	1.17 202		S	Sn	08 12 09.0	-2.5
URZ	Urewera	1.17 202		P	Pn	08 11 53.2	+0.6
URZ				S	Sn	08 12 14.8	+3.3
URZ	Urewera	1.17 202			Pn	08 11 53.1	+0.6
URZ					Sn	08 12 09.2	-2.3
EDRZ	Edgecumbe	1.18 218		P	Pn	08 11 56.8	+4.0
EDRZ				S	Sn	08 11 58.0	-14
EDRZ	Edgecumbe	1.18 218		P	Pn	08 11 54.5	+1.6
TGRZ	Tauranga	1.25 243		P	Pn	08 11 53.2	-0.2
TKGZ	Te Karaka	1.27 174		P	Pn	08 11 54.3	+0.7
LIRZ	Lichensteins R	1.31 231		S	Sn	08 12 05.6	-8.5
LIRZ	Lichensteins R	1.31 231		P	Pn	08 11 54.0	-0.1
MKRZ	Makatiti	1.35 224		P	Pn	08 12 00.8	+6.2
MKRZ				S	Sn	08 12 04.8	-10
OMRZ	Omania	1.39 228		S	Sn	08 12 05.0	-11
OMRZ	Omania	1.39 228		P	Pn	08 11 56.1	+1.2
TARZ	Mount Tarawera	1.40 221		P	Pn	08 12 00.8	+5.7
TARZ				S	Sn	08 12 05.2	-11
TARZ	Mount Tarawera	1.40 221		P	Pn	08 11 56.8	+1.7
KARZ	Kaharoa	1.41 233		P	Pn	08 11 55.7	+0.6
RRRZ	Republican Roa	1.48 218		P	Pn	08 11 57.3	+1.5
MUGZ	Murupara	1.48 208		P	Pn	08 11 57.1	+1.2
NGRZ	Ngongotaha	1.49 231		S	Sn	08 12 09.0	-8.7
NGRZ	Ngongotaha	1.49 231		P	Pn	08 11 57.1	+1.0
HLRZ	Highlands Stat	1.50 224		P	Pn	08 12 03.3	+7.2
HLRZ	Highlands Stat	1.50 224		P	Pn	08 11 57.4	+1.3
RIGZ	Rimuhau	1.53 177		P	Pn	08 11 57.4	+0.9
RTZ	Ruatahuna	1.54 200		P	Pn	08 11 57.5	+0.9
KUZ	Kuaotunu	1.62 285		P	Pn	08 11 55.2	-2.2
SNGZ	Shannon Statio	1.62 189		P	Pn	08 11 58.8	+1.2
HRRZ	Handcock Road	1.63 222		S	Sn	08 12 12.5	-8.0
GRRZ	Galatos Road	1.70 226		P	Pn	08 12 00.1	+1.7
ALRZ	Allen Road	1.73 217		S	Sn	08 12 16.2	-6.3
ALRZ	Allen Road	1.73 217		P	Pn	08 12 00.4	+1.6
PRGZ	Paritu Road	1.75 174		P	Pn	08 11 59.9	+0.9
MTHZ	Maungataniwha	1.79 201		P	Pn	08 12 00.5	+0.9
RAHZ	Arahi	1.80 195		P	Pn	08 12 00.8	+1.3
RAHZ				S	Sn	08 12 28.1	+4.3
TOZ	Tahuroa Road	1.81 252		P	Pn	08 11 59.9	+0.3
KNZ	Kokohu	1.84 180		P	Pn	08 12 00.7	+0.7
MRHZ	Matea Rd	1.93 210		P	Pn	08 12 02.6	+1.6
WHHZ	Waihua	1.93 190		P	Pn	08 12 02.5	+1.5
KUTZ	Kaahu Road	1.96 228		P	Pn	08 12 03.5	+2.0
MHGZ	Mahia Peninsul	1.98 175		P	Pn	08 12 02.6	+0.9
GRZ	Great Barrier	2.00 297		P	Pn	08 11 59.3	-2.6
NMHZ	Naumai	2.03 199		P	Pn	08 12 04.1	+1.7
TLZ	Tolley Road	2.04 235		P	Pn	08 12 03.9	+1.4
WIAZ	Waiheke Island	2.06 280		P	Pn	08 12 01.5	-1.2
HATZ	Hinemaiaia	2.12 216		P	Pn	08 12 05.2	+1.8
ARHZ	Aropoanui	2.15 194		P	Pn	08 12 05.1	+1.3
WATZ	Wairara	2.16 224		P	Pn	08 12 06.2	+2.3
BKZ	Black Stump Fm	2.19 205		P	Pn	08 12 05.7	+1.4
BKZ	Black Stump Fm	2.19 205		Pn	Pn	08 12 05.7	+1.4
ETAZ	East Tamaki Re	2.20 275		P	Pn	08 12 03.9	-0.5
MBAZ	Motutapu North	2.25 280		P	Pn	08 12 04.1	-0.9
RATZ	Rangitukua	2.25 221		P	Pn	08 12 07.7	+2.7
RITZ	Rihia Road	2.29 218		P	Pn	08 12 08.1	+2.5
KATZ	Kakaramea	2.38 220		P	Pn	08 12 09.9	+3.3
MCHZ	McNeill Hill	2.39 198		P	Pn	08 12 08.3	+1.6
AWAZ	Awhitu Peninsu	2.42 272		P	Pn	08 12 09.8	+2.8
KWHZ	Kaweka Forest	2.45 203		P	Pn	08 12 08.8	+1.3
TMVZ	Te Maari	2.48 218		P	Pn	08 12 10.1	+2.1
ETVZ	East Tongariro	2.49 218		P	Pn	08 12 10.2	+2.1
KRVZ	Karewarewa	2.49 219		P	Pn	08 12 10.5	+2.4
CKHZ	Cape Kidnapper	2.52 190		P	Pn	08 12 09.1	+0.7
OTVZ	Oturere	2.53 218		P	Pn	08 12 10.7	+2.1
WTVZ	West Tongariro	2.54 220		P	Pn	08 12 10.9	+2.2
NGZ	Ngauruhoe	2.58 219		P	Pn	08 12 11.5	+2.3
TWVZ	Taurewa	2.58 222		P	Pn	08 12 11.7	+2.5
HIZ	Hauiti	2.59 238		P	Pn	08 12 11.5	+2.2
HIZ	Hauiti	2.59 238		Pn	Pn	08 12 11.5	+2.2
HIZ				Sn	Sn	08 12 42.0	+0.8
TUVZ	Tukino	2.62 217		P	Pn	08 12 11.9	+2.2
BHHZ	Black Hill Sta	2.63 208		P	Pn	08 12 11.0	+1.2
FWVZ	Far West T-bar	2.66 218		P	Pn	08 12 12.2	+1.9
KRHZ	Kereru	2.66 202		P	Pn	08 12 10.5	+0.3
DRZ	Dome Shelter	2.67 218		P	Pn	08 12 14.7	+4.1
KAHZ	Kahuranaki	2.69 193		P	Pn	08 12 11.2	+0.7
MOVZ	Moawhango	2.69 213		P	Pn	08 12 11.5	+1.0
WNVZ	Wahianoa	2.69 217		P	Pn	08 12 12.2	+1.5
PKVZ	Pokaka	2.79 220		P	Pn	08 12 13.8	+2.0
MTVZ	Mangateitei	2.80 217		P	Pn	08 12 13.9	+1.9
PXZ	Pawanui	2.92 192		P	Pn	08 12 13.1	-0.2
PNHZ	Pukenui	2.96 202		P	Pn	08 12 14.2	+0.2
VRZ	Vera Road	3.01 229		P	Pn	08 12 17.5	+3.0
WPHZ	Waipukurau	3.04 198		P	Pn	08 12 15.1	+0.1
TSZ	Takapari Road	3.17 204		P	Pn	08 12 16.6	-0.1
PRHZ	Porangahau	3.19 194		P	Pn	08 12 17.0	+0.1
MHEZ	Mangahewa	3.25 233		P	Pn	08 12 25.5	+7.9
WAZ	Wanganui	3.32 218		P	Pn	08 12 20.7	+2.0
DVHZ	Dannevirke	3.33 200		P	Pn	08 12 18.2	-0.5
DREZ	Durham Road	3.39 233		P	Pn	08 12 23.4	+3.8
ANWZ	Angora Road	3.41 195		P	Pn	08 12 19.6	-0.2
LREZ	Lake Rotokare	3.43 227		P	Pn	08 12 23.0	+2.9
NEZ	North Egmont	3.50 232		P	Pn	08 12 25.1	+4.0
PREZ	Palmer Road	3.51 231		P	Pn	08 12 27.3	+6.3
PKE	Pukeiti	3.53 234		P	Pn	08 12 26.7	+5.3
POWZ	Post Office Ro	3.54 204		P	Pn	08 12 21.1	-0.3
OHWZ	Ohakea	3.54 211		P	Pn	08 12 23.5	+2.1
KHEZ	Kahui Hut	3.57 233		P	Pn	08 12 26.2	+4.3
PRWZ	Pori Road	3.62 201		P	Pn	08 12 22.4	-0.2
BFZ	Birch Farm	3.67 197		P	Pn	08 12 22.3	-0.9
BFZ	Birch Farm	3.67 197		Pn	Pn	08 12 22.2	-1.0
BFZ				Sn	Sn	08 13 06.0	-0.2
MRZ	Mangatainoka R	3.84 204		P	Pn	08 12 24.5	-0.9
TIWZ	Tintock	3.85 201		P	Pn	08 12 25.1	-0.5
HOWZ	Holdsworth Sta	4.08 204		P	Pn	08 12 27.2	-1.4
OGWZ	Otaki Gorge	4.12 207		P	Pn	08 12 28.3	-0.9
TMWZ	Te Maipa	4.16 199		P	Pn	08 12 28.6	-1.1
KIW	Kapiti Island	4.26 209		P	Pn	08 12 30.0	-1.0
CAW	Cannon Point	4.41 206		P	Pn	08 12 31.7	-1.3
TRWZ	Traveller	4.49 199		P	Pn	08 12 32.3	-1.7
MSWZ	Moikau Station	4.63 203		P	Pn	08 12 33.8	-2.1
MSWZ	Moikau Station	4.63 203		Pn	Pn	08 12 33.1	-2.8
MSWZ				Sn	Sn	08 13 26.4	-2.6
DUWZ	D'Urville Isla	4.65 218		P	Pn	08 12 35.2	-1.0
WEL	Wellington	4.68 208		P	Pn	08 12 35.3	-1.2
SNZO	South Karori	4.72 208		Pn	Pn	08 12 35.5	-1.6
BHW	Baring Head	4.75 206		P	Pn	08 12 36.0	-1.5
BHW	Baring Head	4.75 206		Pn	Pn	08 12 35.9	-1.5
BHW				Sn	Sn	08 13 28.8	-3.3
PLWZ	Palliser	4.77 202		P	Pn	08 12 35.6	-2.2
PLWZ	Palliser	4.77 202		Pn	Pn	08 12 35.1	-2.7
PLWZ				Sn	Sn	08 13 31.2	-1.1
TCW	Tory Channel	4.81 212		P	Pn	08 12 36.5	-1.8
TUWZ	Tuamarina	5.13 213		Pn	Pn	08 12 40.6	-2.0
TUWZ					Sn	08 13 39.7	-1.3
NNZ	Nelson	5.23 218		P	Pn	08 12 42.9	-1.0
NNZ	Nelson	5.23 218		Pn	Pn	08 12 42.9	-1.0
NNZ				Sn	Sn	08 13 44.3	+1.0
CMWZ	Cape Campbell	5.29 209		Pn	Pn	08 12 44.3	-0.4
CMWZ				Sn	Sn	08 13 43.3	-1.4
BSWZ	Blackbirch Sta	5.40 212		P	Pn	08 12 44.2	-2.0
BSWZ	Blackbirch Sta	5.40 212		Pn	Pn	08 12 45.0	-1.2
BSWZ				Sn	Sn	08 13 46.9	-0.4
QRZ	Quartz Range	5.41 226		P	Pn	08 12 45.7	-0.6
QRZ	Quartz Range	5.41 226		Pn	Pn	08 12 46.0	-0.3
THZ	Tophouse	5.88 217		P	Pn	08 12 51.1	-1.5
THZ	Tophouse	5.88 217		Pn	Pn	08 12 51.2	-1.5
THZ					Sn	08 13 59.2	+0.4
KHZ	Kahutara	6.12 210		Pn	Pn	08 12 53.4	-2.4
KHZ					Sn	08 14 03.7	-0.9
DSZ	Denniston Nort	6.43 223		P	Pn	08 12 58.2	-1.9
LTZ	Lake Taylor	6.96 215		Pn	Pn	08 13 04.1	-3.1
LTZ				Sn	Sn	08 14 24.1	-0.9
INZ	Inchbonnie	7.32 219		P	Pn	08 13 10.3	-1.6
OKCZ	Okains Bay	7.42 207		P	Pn	08 13 10.4	-2.9
OXZ	Oxford	7.50 213		Pn	Pn	08 13 11.7	-2.7
OXZ					Sn	08 14 34.6	-3.3
MQZ	McQueen's Vall	7.56 209		Pn	Pn	08 13 12.2	-3.0
MQZ				Sn	Sn	08 14 35.1	-4.1
WACZ	Wakanui South	8.08 211		P	Pn	08 13 19.6	-2.6
RPZ	Rata Peaks	8.25 216		P	Pn	08 13 21.8	-2.6
	0.9nm,0.3s,baz=277,slow=1.2,SNR=6.6						
RPZ				S	Sn	08 14 52.2	-3.8
	2.0nm,0.3s,baz=129,slow=23,SNR=8.1						
RPZ	Rata Peaks	8.25 216		P	Pn	08 13 22.1	-2.4
RPZ	Rata Peaks	8.25 216			Pn	08 13 22.4	-2.1
RPZ					Sn	08 14 53.6	-2.4
ARCZ	Arundel	8.37 214		P	Pn	08 13 24.0	-2.1
ODZ	Otahua Downs	9.47 212		P	Pn	08 13 37.8	-3.1
ODZ	Otahua Downs	9.47 212		Pn	Pn	08 13 38.3	-2.6
ODZ				Sn	Sn	08 15 23.8	-1.8
AS31	Alice Springs	39.73 277		P	P	08 18 49.5	+2.1
ASAR	Alice Springs	39.73 277		P	P	08 18 49.2	+1.9
	0.7nm,0.5s,baz=124,slow=8.0,SNR

ellipse: s-maj=3.7km s-min=1.1km az=293.0

ISC 14 08:14:12.2±1.2,39°28N±0°04×18°86E±0°03,h13km±8km, n93,σ1§48/133,mb3.5/6,8C-6D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCTE	**Santa Cesarea**	**0.85**	**339**	P	**Pb**	**08 14 28.8**	**0.0**
	baz=348						
SCTE				S	**Sb**	08 14 41.3	+1.2
	baz=348						
SRN	**Sarande**	**1.07**	**56**	P	**Pg**	08 14 32.5	-0.4
SRN				S	**Sb**	08 14 48.0	+1.5
SRN	**Sarande**	**1.07**	**56**	P	**Pg**	08 14 32.5	-0.4
	baz=52						
SRN				S	**Sn**	08 14 49.0	+1.4
	baz=52						
SRN				AMP			
	comp=N,2.0nm,0.6s,baz=52						
IGT	**Igoumenitsa**	**1.17**	**77**	P	**Pg**	08 14 33.6	-1.2
IGT				S	**Sb**	08 14 51.2	+1.7
	comp=N,635nm,0.7s						
IGT	**Igoumenitsa**	**1.17**	**77**	*e*Pg	**Pg**	08 14 33.7	-1.1
IGT				*e*Sg	**Sb**	08 14 51.1	+1.6
IGT	**Igoumenitsa**	**1.17**	**77**	P	**Pg**	08 14 33.7	-1.1
	baz=72						
IGT				S	**Sb**	08 14 51.4	+1.9
	baz=72						
VLO	**Vlora**	**1.29**	**22**	P	**Pg**	08 14 36.0	-1.0
VLO	**Vlora**	**1.29**	**22**	P	**Pg**	08 14 36.0	-1.0
	baz=23						
VLO				S	**Sn**	08 14 55.8	+2.8
	baz=23						
VLO				AMP			
	comp=E,10.0nm,0.6s,baz=23						
TSLK	**Tsoukalades, L**	**1.47**	**107**	P	**Pn**	08 14 38.6	+0.1
TSLK				S	**Sn**	08 15 00.1	+2.5
	comp=E,865nm,0.4s						
LKD2	**Lefkada island**	**1.49**	**109**	P	**Pn**	08 14 38.6	-0.1
LKD2	**Lefkada island**	**1.49**	**109**	P	**Pn**	08 14 36.8	-1.9
	baz=102						
LKD2				S	**Sg**	08 14 58.4	-1.8
	baz=102						
EVGI	**Lefkada island**	**1.55**	**115**	P	**Pn**	08 14 39.5	-0.1
EVGI				S	**Sg**	08 15 02.4	+0.2
	comp=E,275nm,0.6s						
FSK	**Fiskardo**	**1.56**	**121**	P	**Pn**	08 14 39.3	-0.4
FSK				S	**Sg**	08 15 02.7	+0.1
	comp=E,708nm,0.5s						
JAN	**Janina**	**1.59**	**76**	P	**Pn**	08 14 39.8	-0.3
JAN				S	**Sn**	08 15 02.4	+1.8
	comp=E,772nm,0.5s						
LSK	**Leskovik**	**1.60**	**57**	P	**Pn**	08 14 40.5	+0.1
	baz=54						
LSK				S	**Sg**	08 15 04.6	+0.7
	baz=54						
LSK				AMP			
	comp=E,3.9nm,0.7s,baz=54						
CGL1	**Ceglie Messapi**	**1.73**	**323**	*e*Pn	**Pg**	08 14 45.5	-0.1
CGL1				Sn	**Sg**	08 15 09.7	+1.6
TAR1	**Taranto**	**1.73**	**316**	*e*Pn	**Pg**	08 14 45.9	+0.4
TAR1				Sn	**Sg**	08 15 09.8	+1.7
NEST	**Nestorio**	**2.03**	**55**	P	**Pn**	08 14 47.2	+0.9
TIR	**Tirane**	**2.21**	**20**	*e*Pn	**Pn**	08 14 49.4	+0.8
TIR	**Tirane**	**2.21**	**20**	P	**Pn**	08 14 49.3	+0.8
	baz=21						
TIR				S	**Sb**	08 15 19.7	+0.5
	baz=21						
TIR				AMP			
	comp=E,1.1nm,0.6s,baz=21						
EVR	**Evrytania**	**2.33**	**98**	P	**Pn**	08 14 51.7	+1.4
EVR				S	**Sn**	08 15 21.3	+2.4
	comp=E,402nm,1.2s						
OHR	**Ohrid**	**2.36**	**39**	*i* Pn	**Pn**	08 14 52.1	+1.3
BAI	**Bari**	**2.37**	**321**	*e*Pn	**Pg**	08 14 58.8	+1.1
BAI				Sn	**Sg**	08 15 30.0	+1.6
KZN	**Kozani**	**2.47**	**65**	P	**Pn**	08 14 52.7	+0.4
ANX	**Ano Chora**	**2.49**	**105**	P	**Pn**	08 14 53.9	+1.4
PHP	**Peshkopia**	**2.69**	**26**	P	**Pn**	08 14 55.7	+0.4
	baz=26						
PHP				S	**Sb**	08 15 34.2	+1.0
	baz=26						
PHP				AMP			
	comp=N,1.2nm,0.8s,baz=26						
ULC	**Ulcinj**	**2.70**	**6⇑**	*i*Pn	**Pn**	08 14 55.3	-0.1
ULC				*i* Sn	**Sn**	08 15 28.5	+0.6
PUK	**Puka**	**2.87**	**16**	P	**Pn**	08 14 58.8	+1.0
	baz=16						
PUK				S	**Sb**	08 15 37.1	-1.3
	baz=16						
PUK				AMP			
	comp=N,1.0nm,0.7s,baz=16						
DRME	**Dracevica, Mon**	**2.92**	**5⇑**	*i*Pn	**Pn**	08 14 58.2	-0.1
DRME				*i* Sn	**Sn**	08 15 33.9	+0.7
DRME	**Dracevica, Mon**	**2.92**	**5**	*e*Pn	**Pn**	08 14 58.1	-0.2
BUM	**Brajici-Budva**	**3.02**	**1⇑**	*i*Pn	**Pn**	08 14 59.6	-0.2
BUM				*i* Sn	**Sn**	08 15 36.3	+0.4
PDG	**Podgorica**	**3.16**	**5**	*e*Pn	**Pn**	08 15 00.0	-1.7
TTG	**Podgorica**	**3.16**	**5⇓**	*i*Pn	**Pn**	08 15 01.6	-0.1
TTG				*i* Sn	**Sn**	08 15 39.3	0.0
HCY	**Herceg Novi**	**3.18**	**355⇑**	*i*Pn	**Pn**	08 15 01.2	-0.7
HCY				*i* Sn	**Sn**	08 15 40.0	+0.3
HCY	**Herceg Novi**	**3.18**	**355**	*e*Pn	**Pn**	08 15 00.9	-1.0
BCI	**Bajram Curri**	**3.22**	**16**	P	**Pn**	08 15 03.9	+1.4
	baz=17						
BCI				S	**Sb**	08 15 47.6	-0.8
	baz=17						
CEME	**Cevo**	**3.26**	**1⇑**	*i*Pn	**Pn**	08 15 02.1	-1.1
CEME				*i* Sn	**Sn**	08 15 42.2	+0.3
SKO	**Skopje**	**3.33**	**35**	*i* Pn	**Pg**	08 15 14.6	-1.5
PVY	**Plav**	**3.42**	**14⇓**	*i*Pn	**Pn**	08 15 05.5	+0.2
PVY				*i* Sn	**Sn**	08 15 45.8	0.0
NKME	**Niksic**	**3.48**	**1⇑**	*i*Pn	**Pn**	08 15 06.3	+0.1
NKME				*i* Sn	**Sn**	08 15 47.0	-0.4
VAY	**Valandovo**	**3.50**	**53**	*i* Pn	**Pn**	08 15 06.7	+0.4
NKY	**Niksic**	**3.53**	**2⇓**	*i*Pn	**Pn**	08 15 06.9	0.0
NKY				*i* Sn	**Sn**	08 15 48.6	0.0
KOME	**Kolasin**	**3.60**	**8⇑**	*i*Pn	**Pn**	08 15 08.0	+0.1
KOME				*i* Sn	**Sn**	08 15 50.0	-0.3
BRY	**Bratogost**	**3.63**	**356⇓**	*i*Pn	**Pn**	08 15 07.5	-0.8
BRY				*i* Sn	**Sn**	08 15 50.5	-0.5
BRY	**Bratogost**	**3.63**	**356**	*e*Pn	**Pn**	08 15 07.2	-1.1
IVA	**Berane**	**3.67**	**12⇓**	*i*Pn	**Pn**	08 15 08.5	-0.3
IVA				*i* Sn	**Sn**	08 15 51.9	-0.2
DID	**Didima**	**3.87**	**116**	P	**Pn**	08 15 11.8	+0.3
UPM	**Unac-Piva**	**3.92**	**1⇓**	*i*Pn	**Pn**	08 15 12.3	-0.1
UPM				*i* Sn	**Sn**	08 15 58.0	-0.3
UPM	**Unac-Piva**	**3.92**	**1**	*e*Pn	**Pn**	08 15 12.2	-0.1
SJES	**Sjenica**	**4.07**	**12**	*e*Pn	**Pn**	08 15 14.6	+0.3
PLE	**Pljevlja**	**4.07**	**5⇑**	*i*Pn	**Pn**	08 15 14.2	-0.1
PLE				*i* Sn	**Sn**	08 16 01.8	0.0
BARS	**Barje**	**4.18**	**31**	*e*Pn	**Pn**	08 15 15.9	+0.1
BOSS	**Bosilegrad**	**4.23**	**39**	*e*Pn	**Pn**	08 15 16.5	+0.1
SELS	**Selova**	**4.29**	**23**	*e*Pn	**Pn**	08 15 16.4	-0.9
BBLS	**Lazići**	**4.60**	**5**	*e*Pn	**Pn**	08 15 21.1	-6.5
BBLS	**Lazići**	**4.60**	**5**	*e*Pn	**Pn**	08 15 21.6	0.0
GRUS	**Gruza**	**4.81**	**16**	*e*Pn	**Pn**	08 15 24.3	-0.1
BOVS	**Bovan**	**4.85**	**25**	*e*Pn	**Pn**	08 15 24.8	-0.1
DIVS	**Divibare**	**4.89**	**10**	*e*Pn	**Pn**	08 15 25.0	-0.5
DIVS	**Divibare**	**4.89**	**10**	*e*Pn	**Pn**	08 15 25.2	-0.3
ZAPS	**Zavoj**	**4.90**	**34**	*e*Pn	**Pn**	08 15 25.0	-0.7
TRUS	**Trudelj**	**5.07**	**13**	*e*Pn	**Pn**	08 15 27.4	-0.6
ZAGS	**Zajecar**	**5.19**	**28**	*e*Pn	**Pn**	08 15 29.0	-0.6
MGRS	**Mrkonjic Grad**	**5.30**	**346**	*e*Pn	**Pb**	08 15 42.1	-2.7
BLY	**Banja Luka**	**5.61**	**348**	*e*Pn	Pn	08 15 30.9	-4.4
FRGS	**Fruska Gora**	**5.92**	**7**	*e*Pn	**Pn**	08 15 38.0	-1.6
IDI	**Anoyia**	**6.25**	**128**	Pn	**Pn**	08 15 43.7	-0.5
	comp=N,0.7nm,0.3s,baz=306,slow=10,SNR=7.6						
IDI				Sn	**Sn**	08 16 50.4	-5.0
	comp=N,1.2nm,0.3s,baz=244,slow=18,SNR=2.3						
CRES	**Cresnjev**	**7.01**	**340**	*e*Pn	**Pn**	08 15 54.1	-0.4
CEY	**Cerknica**	**7.24**	**335**	*e*Pn	**Pn**	08 15 57.0	-0.7
LJU	**Ljubljana**	**7.47**	**336**	*e*Pn	**Pn**	08 15 59.9	-1.0
OBKA	**Obir**	**7.88**	**338**	*e*Pn	**Pn**	08 16 08.4	+1.7
	comp=N,3.3nm,0.4s						
OBKA				*e*Sn	**Sn**	08 17 33.2	-2.6
	comp=N,12nm,0.5s						
SOKA	**Soboth**	**7.91**	**341**	*e*Pn	**Pn**	08 16 06.8	-0.1
	comp=N,1.9nm,0.3s						
SOKA				*e*Sn	**Sn**	08 17 30.4	-5.9
	comp=N,5.3nm,0.6s						
MLR	**Muntele Rosu**	**8.12**	**38**	Pn	**Pn**	08 16 12.6	+2.6
	comp=N,0.2nm,0.3s,baz=209,slow=17,SNR=2.2						
ABTA	**Abfaltersbach**	**8.79**	**330**	*e*Pn	**Pn**	08 16 18.1	-0.9
	comp=N,2.9nm,0.5s,SNR=5.2						
ABTA				*e*Sn	**Sn**	08 17 53.5	-4.4
	comp=N,9.7nm,0.8s						
MOA	**Molln**	**9.19**	**340**	*i* Pn	**Pn**	08 16 24.8	+0.3
	comp=N,8.0nm,0.6s						
MOA				*e*Sn	**Sn**	08 18 03.4	-4.3
	comp=N,2.6nm,0.5s						
WTTA	**Wattenberg**	**9.56**	**329**	*e*Pn	**Pn**	08 16 29.8	+0.1
	comp=N,1.4nm,0.4s						
WATA	**Walderalm**	**9.64**	**329**	*e*Pn	**Pn**	08 16 30.9	+0.1
	comp=N,0.5nm,0.2s						
FETA	**Feichten**	**9.75**	**325**	*e*Pn	**Pn**	08 16 32.0	-0.3
	comp=N,0.1nm,0.2s						
DAVOX	**Davos/Dischmat**	**9.96**	**322**	Pn	**Pn**	08 16 36.9	+1.6
	comp=N,0.2nm,0.3s,baz=164,slow=14,SNR=7.1						
VRAC	**Vranov**	**10.16**	**352**	LR	LR	08 20 12.5	
	comp=N,35nm,21.0s,baz=72,slow=36						
GERES	**GERESS Array B**	**10.25**	**341**	Pn	**Pn**	08 16 38.9	-0.2
	comp=N,0.2nm,0.3s,baz=150,slow=14,SNR=6.6						
GERES				Sn	**Sn**	08 18 27.2	-6.7
	comp=N,0.2nm,0.3s,baz=153,slow=24,SNR=6.2						
KHC	**Kasperske Hory**	**10.55**	**341**	*e*PN	**Pn**	08 16 43.6	+0.5
KHC				*e*SN	**Sn**	08 18 38.5	-2.6
BRTR	**Keskin Array B**	**11.43**	**83**	Pn	**Pn**	08 16 57.9	+2.6
	comp=N,0.0nm,0.3s,baz=262,slow=11,SNR=2.4						
AKASG	**Malin Array Be**	**13.56**	**29**	Pn	**Pn**	08 17 23.7	-0.5
	comp=N,0.3nm,0.3s,baz=218,slow=10,SNR=4.5						
EIL	**Elat**	**16.35**	**121**	Pn	**Pn**	08 18 01.6	+0.1
	comp=N,0.6nm,0.3s,baz=330,slow=17,SNR=1.7						
ESDC	**Sonseca Array**	**17.62**	**279**	P	**Pn**	08 18 16.7	-0.7
	comp=N,0.0nm,0.3s,baz=69,slow=11,SNR=3.1						
KBZ	**Khabaz**	**18.53**	**68**	P	**P**	08 18 29.4	+1.1
	comp=N,0.1nm,0.3s,baz=304,slow=7.3,SNR=2.8						
HFS	**Hagfors**	**21.13**	**353**	P	**P**	08 18 57.5	+1.0
	comp=N,3.3nm,0.7s,baz=165,slow=12,SNR=4.0						
EKA	**Eskdalemuir Ar**	**21.78**	**325**	P	**P**	08 19 03.5	0.0
	comp=N,2.2nm,1.0s,baz=134,slow=11,SNR=3.9						
NOA	**NORSAR Array B**	**22.30**	**350**	P	**P**	08 19 09.0	-0.2
	comp=N,0.5nm,0.6s,baz=165,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**22.64**	**9**	P	**P**	08 19 13.8	+1.1
	comp=N,1.6nm,0.8s,baz=206,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**45.84**	**59**	P	**P**	08 22 34.1	+0.2
	comp=N,0.3nm,0.6s,baz=287,slow=7.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**45.94**	**49**	P	**P**	08 22 34.1	-0.4
	comp=N,1.0nm,0.6s,baz=309,slow=9.1,SNR=2.6						

*NEIC **14** 08:21:09.7±0.7,22°99S±0°05×172°2W±0°1,h10km±2km, mb4.6/18,Error ellipse: s-maj=18.3km s-min=8.7km az=91.0*

*IDC **14** 08:21:12.4±25.0,22°56S×172°85W,h0km,mb4.3/4, mb1 4.5/4,mb1mx3.8/38,mbtmp4.3/4,MS3.4/1,Ms1 3.4/1, ms1mx2.5/33,Error ellipse: s-maj=465.6km s-min=140.8km az=77.0*

ISC 14 08:21:09.7±0.9,23°1S±0°2×172°2W±0°1,h10km,n26, σ0§72/24,mb4.6/11,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.02**	**219**	Pn	**Pn**	**08 23 07.2**	**+1.0**
RAO				Sn	**Sn**	**08 24 35.7**	**-1.4**
RAR	**Rarotonga**	**11.67**	**83**	Pn	**Pn**	**08 23 56.2**	**-0.2**
DZM	**Mont Dzumac**	**19.74**	**269**	LR	LR	08 31 16.1	
	comp=Z,112nm,20.3s,baz=230,slow=32						
BFZ	**Birch Farm**	**20.08**	**206**	P	**P**	**08 25 44.1**	**+0.8**
ARMA	**Armidale**	**33.01**	**249**	P	**P**	**08 27 45.5**	**+0.2**
ARMA				IAmb	IAmb	08 27 56.1	
	comp=Z,8.0nm,1.1s						
EIDS	**Eidsvold**	**33.49**	**259**	P	**P**	**08 27 48.5**	**-0.9**
EIDS				IAmb	IAmb	08 27 58.8	
	comp=Z,10nm,1.2s						
CTA	**Charters Tower**	**38.65**	**266**	P	**P**	**08 28 33.9**	**+0.2**
	comp=Z,5.2nm,0.4s,baz=90,slow=9.5,SNR=16						
CTAO	**Charters Tower**	**38.65**	**266**	P	**P**	**08 28 33.7**	**0.0**
CTAO				IAmb	IAmb	08 28 59.4	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**41.66**	**247**	P	**P**	**08 28 58.9**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=90,slow=7.3,SNR=8.2						
STKA	**Stephens Creek**	**41.66**	**247**	P	**P**	**08 28 59.1**	**+0.5**
BBOO	**Buckleboo**	**46.34**	**246**	P	**P**	**08 29 36.6**	**+0.5**
AS31	**Alice Springs**	**49.22**	**258**	P	**P**	**08 29 59.1**	**+0.5**
ASAR	**Alice Springs**	**49.22**	**258**	P	**P**	**08 29 59.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=95,slow=7.1,SNR=19						
ASAR	**Alice Springs**	**49.22**	**258**	P	**P**	**08 29 58.1**	**-0.6**
WR0	**Warramunga Arr**	**49.42**	**263**	P	**P**	**08 30 00.4**	**+0.2**
WR0				IAmb	IAmb	08 30 02.4	
	comp=Z,9.4nm,1.4s						
WB2	**Warramunga Arr**	**49.59**	**263**	P	**P**	**08 30 02.0**	**+0.5**
WB2				IAmb	IAmb	08 30 02.2	
	comp=Z,3.8nm,0.6s						
WB0	**Warramunga Arr**	**49.60**	**263**	P	**P**	**08 30 01.9**	**+0.3**
WB0				IAmb	IAmb	08 30 02.7	
	comp=Z,3.1nm,0.6s						
WRAB	**Tennant Creek**	**49.60**	**263**	P	**P**	**08 30 01.9**	**+0.4**
WRAB				IAmb	IAmb	08 30 02.2	
	comp=Z,3.8nm,0.5s						
WRA	**Warramunga Arr**	**49.60**	**263**	P	**P**	**08 30 01.9**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=100,slow=8.4,SNR=79						
WRA	**Warramunga Arr**	**49.60**	**263**	P	**P**	**08 30 02.1**	**+0.5**
FORT	**Forrest**	**53.28**	**248**	P	**P**	**08 30 30.2**	**+1.3**
KNRA	**Kununurra**	**55.86**	**266**	P	**P**	**08 30 47.8**	**-0.1**
KNRA				IAmb	IAmb	08 30 55.0	
	comp=Z,18nm,1.5s						
SAUI	**Saumlaki**	**56.13**	**276**	P	P	08 30 46.5	-3.4
FITZ	**Fitzroy Crossi**	**58.03**	**262**	P	P	08 30 59.4	-3.8
NWAO	**Narrogin (SRO)**	**62.06**	**244**	P	**P**	**08 31 29.4**	**-1.4**
MORW	**Morawa**	**63.85**	**248**	P	**P**	**08 31 41.8**	**-0.9**

*JMA **14** 08:30:08.9±0.3,21°77N×121°46E,h59km*

*TAP **14** 08:30:08.3,21°79N×121°34E,h72km,ML3.0,D*

ISC 14 08:30:09.5±2.1,21°7N±0°1×121°38E±0°04,h60km±12km, n55,σ0§95/73,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.34**	**27**	P	**Pn**	**08 30 20.2**	**+0.2**
	baz=39						
LAY				S	**Sn**	08 30 28.9	+1.3
	baz=39						
TSEB	**Hengchuen, Pin**	**0.48**	**290**	*e*S	**Sn**	08 30 30.5	+0.8
	baz=284						
TWKBT	**Hengchun**	**0.57**	**291**	*i* P	**Pn**	08 30 21.8	-0.3
	baz=287						
TWKBT				*e*S	**Sn**	08 30 31.9	+0.5
	baz=287						
TWK1	**Hengchun**	**0.58**	**291**	*e*P	**Pn**	08 30 22.1	-0.2
	baz=287						
TWK1				S	**Sn**	08 30 31.6	+0.1
	baz=287						
HEN	**Hengchun**	**0.66**	**295**	*e*S	**Sn**	08 30 33.9	+0.7
	baz=291						
SLIU	**Shizi**	**0.72**	**312**	P	**Pn**	08 30 23.1	-0.9
	baz=310						
SLIU				S	**Sn**	08 30 34.4	-0.3
	baz=310						
TAW	**Tawu**	**0.77**	**324**	*e*P	**Pn**	08 30 23.5	-1.1
	baz=324						
TAW				*i* S	**Sn**	08 30 35.1	-0.5
	baz=324						
EAST	**Anshuo**	**0.81**	**323**	P	**Pn**	08 30 24.2	-1.0
	baz=323						
EAST				*i* S	**Sn**	08 30 36.1	-0.7
	baz=323						
LDUT	**Ludao**	**0.94**	**5**	*e*P	**Pn**	08 30 26.0	-0.8
	baz=8.0						
LDUT				*e*S	**Sn**	08 30 39.5	0.0
	baz=8.0						
ECL	**Taimali**	**0.95**	**335**	*i* P	**Pn**	08 30 25.9	-0.9
	baz=336						
ECL				S	**Sn**	08 30 38.9	-0.8
	baz=336						
SCZT	**Fangliau**	**0.95**	**312**	*e*P	**Pn**	08 30 26.8	-0.1
	baz=311						
SCZT				*e*S	**Sn**	08 30 39.1	-0.6
	baz=311						
TWGBT	**Beinan**	**1.12**	**346**	*e*P	**Pn**	08 30 28.8	-0.3
	baz=347						
TWGBT				S	**Sn**	08 30 42.9	-0.7
	baz=347						
MASBT	**Mashibuluo**	**1.12**	**322**	*e*P	**Pn**	08 30 28.9	-0.2
	baz=321						
MASBT				*e*S	**Sn**	08 30 43.3	-0.3
	baz=321						
TWG	**Pinlang**	**1.12**	**345**	*e*P	**Pn**	08 30 28.6	-0.5
	baz=347						
TWG				*e*S	**Sn**	08 30 43.2	-0.6
	baz=347						
LONT	**Longtian**	**1.19**	**349**	*e*P	**Pn**	**08 30 29.8**	**-0.3**
	baz=350						
LONT				*e*S	**Sn**	08 30 45.2	-0.2
	baz=350						
SSD	**Sandimen**	**1.23**	**326**	*e*P	**Pn**	08 30 29.5	-1.0
	baz=325						
EDH	**Donghe**	**1.24**	**357**	*e*P	**Pn**	08 30 29.8	-0.9
	baz=358						
EDH				*e*S	**Sn**	08 30 46.0	-0.4
	baz=358						
SLGT	**Liugui**	**1.43**	**332**	*e*P	**Pn**	08 30 33.5	+0.3
	baz=332						
FULB	**Fuli**	**1.46**	**357**	*e*P	**Pn**	08 30 34.0	+0.2
	baz=358						
EYUL	**Yuli**	**1.61**	**358**	*e*P	**Pn**	08 30 36.6	+0.9
	baz=359						
TWF1	**Yuli**	**1.61**	**357**	*e*P	**Pn**	08 30 36.0	+0.2
	baz=358						
CHN1	**Nanshi**	**1.65**	**331**	*e*P	**Pn**	08 30 36.4	+0.2
	baz=331						
YULB	**Yu-li**	**1.65**	**357**	*e*P	**Pn**	08 30 35.6	-0.7
	baz=358						
WTP	**Ta-pu**	**1.67**	**335**	*e*P	**Pn**	08 30 36.9	+0.4
	baz=335						
TPUB	**Ta-pu**	**1.71**	**336**	*e*P	**Pn**	08 30 36.7	-0.3
	baz=336						
TWK	**Hsinying**	**1.74**	**332**	*e*P	**Pn**	08 30 37.0	-0.5
	baz=332						
HGSD	**Ruisui**	**1.75**	**1**	*e*P	**Pn**	08 30 38.6	+1.0
	baz=2.0						
EHY	**Hungye**	**1.77**	**358**	*e*P	**Pn**	08 30 37.0	-0.8
	baz=359						
ALS	**Alishan**	**1.85**	**343**	*e*P	**Pn**	08 30 40.9	+1.8
	baz=344						
EGFH	**Guangfu**	**1.93**	**1**	*e*P	**Pn**	08 30 42.2	+2.3
	baz=2.0						
CHN5	**Tsauling**	**1.97**	**341**	*e*P	**Pn**	08 30 42.6	+2.0
	baz=341						
VWDT	**VWDT**	**2.02**	**354**	*e*P	**Pn**	08 30 42.0	+0.8
	baz=354						
ESL	**Shilin**	**2.07**	**1**	*e*P	**Pn**	08 30 42.7	+0.8
	baz=2.0						
SSLB	**Suanglung**	**2.08**	**349**	*e*P	**Pn**	08 30 43.3	+1.1
	baz=349						
SMLT	**Sun Moon Lake**	**2.19**	**348**	*e*P	**Pn**	08 30 44.6	+1.0
	baz=349						
TYC	**Yuchr**	**2.21**	**347**	*e*P	**Pn**	08 30 44.9	+1.0
	baz=348						
CHGB	**Renai**	**2.33**	**355**	*e*P	**Pn**	08 30 46.1	+0.5
	baz=356						
WHF	**Hehuan Shan**	**2.40**	**357**	*e*P	**Pn**	08 30 48.5	+1.6
	baz=358						
NACB	**Ninganchiao**	**2.44**	**5**	*e*P	**Pn**	08 30 45.8	-1.1
	baz=5.0						
ETLH	**Xiulin Townshi**	**2.46**	**2**	*e*P	**Pn**	08 30 48.4	+1.0
	baz=3.0						
FUSS	**Fushou**	**2.51**	**357**	*e*P	**Pn**	08 30 49.5	+1.4
	baz=358						
TWT	**Tachien**	**2.52**	**356**	*e*P	**Pn**	08 30 49.5	+1.3
	baz=356						
TDCB	**Techi**	**2.52**	**355**	*e*P	**Pn**	08 30 49.4	+1.2
	baz=356						
WHP	**Taichung City**	**2.56**	**351**	*e*P	**Pn**	08 30 49.7	+1.0
	baz=351						
NNSB	**Datong**	**2.68**	**0**	*e*P	**Pn**	08 30 51.8	+1.4
NNSH	**Datong**	**2.68**	**0**	*e*P	**Pn**	08 30 51.7	+1.3
NDT	**Datong Townshi**	**2.86**	**2**	*e*P	**Pn**	08 30 53.1	+0.4
	baz=3.0						
YHNB	**Yeheng**	**2.92**	**360**	*e*P	**Pn**	08 30 54.9	+1.3
NWLT	**Wulai**	**3.03**	**2**	*e*P	**Pn**	08 30 57.0	+1.9
	baz=2.0						
TIPB	**Shuangxi**	**3.25**	**7**	*e*P	**Pn**	08 30 59.5	+1.5
	baz=8.0						
IRIF	**Iriomote-Funau**	**3.37**	**39**	P	**Pn**	08 31 01.2	+1.5
IRIF				S	**Sn**	08 31 38.7	+0.2
JKRS	**Kuro-shima**	**3.48**	**44**	P	**Pn**	08 31 00.7	-0.4
JKRS				S	**Sn**	08 31 39.9	-1.1
JIJ	**Ishigaki jima**	**3.65**	**44**	P	**Pn**	08 31 03.4	-0.1
JIJ				*e*S	**Sn**	08 31 43.9	-1.4
JISG	**Ishigakijimahi**	**3.92**	**43**	P	**Pn**	08 31 06.7	-0.4
JISG				S	**Sn**	08 31 50.8	-1.0
JTJ	**Tarama**	**4.21**	**46**	*e*S	**Sn**	08 31 58.4	-0.6

*ECGS **14** 08:30:35.3,1°789S±0°010×28°30E±0°02,h4km±3km, ML3.5,Error ellipse: s-maj=2.7km s-min=1.5km az=107.3, smi:local/22ab1230-c81e-4f33-80da-2d6ea11dfe65 Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX -77.6624 Y -32.0907 Z 5.96425 CovXX 2.98957 XY -0.621086 XZ -0.568085 YY 1.19281 YZ 0.353021 ZZ 13.2437 EllAz1

comp=Z,18nm,1.3s
COEN Coen 26.86 281 P **P 08 56 46.6 -2.3**
COEN IAmb IAmb 08 57 11.9
comp=Z,22nm,1.4s
TOO Toolangi 26.93 227 P **P 08 56 49.5 +0.2**
TOO IAmb IAmb 08 56 56.8
comp=Z,22nm,1.3s
STKA Stephens Creek 27.70 242 P **P 08 56 57.5 +1.3**
comp=Z,2.9nm,0.4s,baz=67,slow=7.0,SNR=15
STKA Stephens Creek 27.70 242 P **P 08 56 57.6 +1.3**
BBOO Buckleboo 32.48 242 P **P 08 57 39.0 +0.6**
WR0 Warramunga Arr 33.48 266 P **P 08 57 46.8 -0.5**
WB0 Warramunga Arr 33.65 266 P **P 08 57 48.4 -0.4**
WB0 IAmb IAmb 08 57 58.8
comp=Z,4.7nm,1.1s
WB2 Warramunga Arr 33.66 266 P **P 08 57 47.8 -1.1**
WB2 IAmb IAmb 08 58 10.3
comp=Z,16nm,1.5s
WRAB Tennant Creek 33.66 266 P **P 08 57 46.7 -2.3**
WRA Warramunga Arr 33.67 266 P **P 08 57 48.4 -0.7**
comp=Z,0.8nm,0.3s,baz=98,slow=8.0,SNR=56
WRA Warramunga Arr 33.67 266 P **P 08 57 48.1 -0.9**
AS31 Alice Springs 33.69 259 P **P 08 57 49.4 +0.2**
ASAR Alice Springs 33.69 259 P **P 08 57 49.0 -0.1**
comp=Z,1.9nm,0.4s,baz=79,slow=8.1,SNR=63
ASAR Alice Springs 33.69 259 P **P 08 57 48.8 -0.4**
MTN Manton Dam 38.32 276 P **P 08 58 28.3 -0.3**
FORT Forrest 38.95 247 P **P 08 58 34.2 +0.3**
KNRA Kununurra 39.73 271 P **P 08 58 40.7 +0.2**
KNRA IAmb IAmb 08 59 03.5
comp=Z,17nm,1.5s
FITZ Fitzroy Crossi 42.09 266 P **P 08 59 00.7 +0.8**
FITZ IAmb IAmb 08 59 29.5
comp=Z,5.4nm,1.1s
MBWA Marble Bar 47.00 260 P **P 08 59 39.2 +0.3**
NWAO Narrogin (SRO) 48.23 244 P **P 08 59 47.4 -0.8**
NWAO Narrogin (SRO) 48.23 244 P **P 08 59 47.9 -0.3**
NWAO IAmb IAmb 08 59 49.9
comp=Z,19nm,1.3s
QSPA South Pole Qui 68.78 180 P **P 09 02 11.2 +0.7**
QSPA IAmb IAmb 09 02 12.3
comp=Z,5.3nm,1.0s
MAW Mawson 76.93 202 P **P 09 02 59.4 +1.0**
comp=Z,2.2nm,0.8s,baz=131,slow=6.5,SNR=8.1
MAW Mawson 76.93 202 P **P 09 02 59.9 +1.5**
BELA Belgrano 2 79.98 175 P **P 09 03 15.2 0.0**
PMSA Palmer Station 84.65 160 P **P 09 03 37.9 -1.7**
SNAA Sanae 87.17 182 P **P 09 03 51.6 -0.4**
SNAA Sanae 87.17 182 P **P 09 03 51.9 -0.2**
SNAA IAmb IAmb 09 03 52.2
comp=Z,2.3nm,0.6s
VNA3 Neumayer Olymp 87.72 180 P **P 09 03 54.2 -0.4**
VNA2 Neumayer--Watz 88.03 181 P **P 09 03 56.0 0.0**
VNA1 Neumayer--Stat 88.31 180 P **P 09 03 57.4 0.0**
SKT Skwentna 88.38 17 P **P 09 03 58.1 +0.4**
SKT IAmb IAmb 09 04 11.7
comp=Z,3.5nm,1.0s
ILAR Eielson Array 91.87 17 P **P 09 04 16.0 +2.1**
comp=Z,0.3nm,0.8s,baz=260,slow=5.4,SNR=2.3
ARCES ARCESS Array B 127.30 345 PKP **PKiKP 09 10 09.7 -0.4**
comp=Z,3.9nm,0.8s,baz=23,slow=4.0,SNR=4.3
FINES FINESS Array B 132.86 337 PKP **PKiKP 09 10 21.7 +0.2**
comp=Z,2.0nm,0.9s,baz=43,slow=2.5,SNR=5.3
NOA NORSAR Array B 137.67 345 PKP **PKiKP 09 10 31.8 +0.4**
comp=Z,0.4nm,0.6s,baz=30,slow=2.0,SNR=2.1
CLL Collm 145.19 335 *i* PKPbc **PKPdf 09 10 43.0 -0.1**
EKA Eskdalemuir Ar 145.65 353 PKPbc **PKPab 09 10 44.3 -0.3**
comp=Z,2.8nm,0.5s,baz=357,slow=2.7,SNR=10
CONA Conrad Observa 146.41 328 *i* PKiKP **PKiKP 09 10 48.3 -1.5**
comp=Z,3.3nm,0.9s,SNR=4.6
KHC Kasperske Hory 146.61 332 *e*PKP **PKPab 09 10 48.1 -0.5**
GERES GERESS Array B 146.77 331 PKPbc **PKPab 09 10 48.8 -0.5**
comp=Z,2.8nm,0.7s,baz=30,slow=2.8,SNR=26
GERES GERESS Array B 146.77 331 PKiKP 09 10 48.9 -1.6
MOA Molln 147.23 330 *i* PKPab **PKPab 09 10 49.9 -1.1**
comp=Z,1.0nm,0.5s
MYKA Terra Mystica 148.40 329 *i* PKPbc **PKiKP 09 10 52.2 -1.6**
comp=Z,1.5nm,0.4s
WTTA Wattenberg 148.87 331 *i* PKiKP **PKiKP 09 10 54.0 -1.0**
comp=Z,1.2nm,0.4s
MOTA Moosalm 149.04 332 *e*PKiKP **PKiKP 09 10 54.5 -0.8**
comp=Z,4.1nm,0.9s,SNR=4.4
SQTA Sankt Quirin 149.09 332 *i* PKiKP **PKiKP 09 10 54.7 -0.7**
comp=Z,4.0nm,0.6s
FETA Feichten 149.46 332 *e*PKiKP **PKiKP 09 10 55.8 -0.3**
comp=Z,4.1nm,0.8s,SNR=6.5
DAVOX Davos/Dischmat 150.01 333 PKPbc **PKiKP 09 10 57.1 -0.3**
comp=Z,8.8nm,0.8s,baz=285,slow=0.7,SNR=17
DBIC Dimbokro 164.74 198 PKPab **PKPab 09 12 07.1 +0.8**
comp=Z,3.0nm,0.7s,baz=153,slow=2.3,SNR=2.5
TORD Torodi Ar. Bea 166.47 235 PKPab **PKPab 09 12 14.2 +0.1**
comp=Z,0.4nm,0.6s,baz=94,slow=4.6,SNR=2.7

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*IDC **14** 08:54:59.6±1.2, 1°.95N×126°.48E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/33, mbtmp3.7/5, MS3.5/1, Ms1 3.7/1, ms1mx2.8/28, Error ellipse: s-maj=136.8km s-min=19.7km az=67.0*
ISC 14 08:55:04.6±1.1, 1°.9N±0°.3×126°.2E±0°.4, h35km, n7, σ1°25/7, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09 160**		P	**P**	**09 00 07.5**	**+0.1**
	1.0nm,0.4s,baz=339,slow=12,SNR=23						
ASAR	**Alice Springs**	**26.46 164**		P	**P**	**09 00 39.2**	**+0.7**
	0.3nm,0.6s,baz=343,slow=7.9,SNR=6.4						
ASAR				PcP	**PcP**	**09 04 01.6**	**-1.7**
	0.2nm,0.4s,baz=344,slow=2.6,SNR=4.4						
CMAR	**Chiang Mai Arr**	**31.42 303**		LR	LR	09 15 35.7	
	comp=Z,74nm,19.4s,baz=215,slow=39						
STKA	**Stephens Creek**	**36.59 158**		P	**P**	**09 02 07.7**	**+0.3**
	1.9nm,0.8s,baz=328,slow=14,SNR=3.8						
SONM	**Songino Array**	**48.90 342**		P	**P**	**09 03 46.6**	**-0.6**
	0.5nm,0.5s,baz=149,slow=6.1,SNR=2.3						
POO	**Poona**	**53.90 292**		*e*P	**P**	**09 04 24.5**	**-0.5**
MKAR	**Makanchi Array**	**58.80 326**		P	**P**	**09 05 00.9**	**+1.5**
	0.7nm,0.5s,baz=117,slow=8.8,SNR=9.3						

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*ATH **14** 09:09:32.5, 34°.19N×24°.99E, h7km±3km, ML2.8/8, Error ellipse: s-maj=4.0km s-min=1.3km az=359.0*
*IDC **14** 09:09:32.7±1.5, 34°.19N×25°.09E, h0km, mb3.8/3, mb1 3.7/6, mb1mx3.4/44, mbtmp3.6/6, ML3.7/3, MS3.7/1, Ms1 3.7/1, ms1mx2.5/50, Error ellipse: s-maj=24.2km s-min=14.2km az=79.0*
*THE **14** 09:09:34.6, 34°.24N×25°.02E, h1km±1km, ML2.8/7, Error ellipse: s-maj=3.2km s-min=1.1km az=183.0*
ISC 14 09:09:32.7±1.7, 34°.19N±0°.07×24°.99E±0°.03, h4km±10km, n36, σ0°81/50, mb3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.84 350**		P	**Pb**	**09 09 49.9**	**-0.1**
SIVA				S	**Sn**	**09 10 03.0**	**-1.3**
	2μm,0.6s						
SIVA	**Sivas**	**0.84 350**		P	**Pg**	**09 09 48.2**	**-0.7**
SIVA				S	**Sg**	**09 09 59.6**	**-0.3**
SIVA				AML	AML	09 10 09.2	
	comp=E,3995μm,0.5s						
SIVA				AML	AML	09 10 12.1	
	comp=N,3676μm,0.7s						
TMBK	**Timbaki Herakl**	**0.90 348**		P	**Pb**	**09 09 50.9**	**-0.1**
GVD	**Gavdhos**	**0.99 311**		P	**Pn**	**09 09 53.8**	**+0.3**
GVD				S	**Sn**	**09 10 08.1**	**+0.1**
	comp=N,1μm,0.4s						
GVD	**Gavdhos**	**0.99 311**		P	**Pg**	**09 09 51.4**	**-0.4**
GVD				S	**Sg**	**09 10 04.7**	**+0.1**
GVD				AML	AML	09 10 12.1	
	comp=N,2191μm,0.4s						
GVD				AML	AML	09 10 12.3	
	comp=E,2950μm,0.3s						
FRMA	**Ierapetra Chan**	**1.03 36**		P	**Pn**	**09 09 54.2**	**+0.2**
FRMA				S	**Sn**	**09 10 09.1**	**+0.2**
	comp=E,182nm,0.7s						
LAST	**Lasithi**	**1.05 22**		P	**Pb**	**09 09 53.0**	**-0.6**
LAST	**Lasithi**	**1.05 22**		P	**Pg**	**09 09 52.0**	**-1.0**
LAST				S	**Sb**	**09 10 07.0**	**-0.8**
LAST				AML	AML	09 10 13.6	
	comp=E,762μm,0.8s						
LAST				AML	AML	09 10 18.2	
	comp=N,533μm,0.6s						
IDI	**Anoyia**	**1.10 356**		Pg	**Pb**	**09 09 54.1**	**-0.4**
	comp=N,15nm,0.3s,baz=166,slow=17,SNR=68						
IDI				Lg	Lg	09 10 08.9	
	comp=N,27nm,0.3s,baz=340,slow=23,SNR=9.9						
IDI	**Anoyia**	**1.10 356**		P	**Pg**	**09 09 53.8**	**-0.1**
IDI				S	**Sn**	**09 10 09.5**	**-1.3**
	comp=N,300nm,0.5s						
IDI	**Anoyia**	**1.10 356**		P	**Pb**	**09 09 53.9**	**-0.5**
IDI				S	**Sb**	**09 10 09.3**	**0.0**
IDI				AML	AML	09 10 16.2	
	comp=E,611μm,0.5s						
IDI				AML	AML	09 10 20.2	
	comp=N,575μm,0.5s						
NPS	**Neapolis**	**1.19 25**		P	**Pn**	**09 09 56.3**	**+0.1**
NPS	**Neapolis**	**1.19 25**		P	**Pg**	**09 09 55.3**	**-0.3**
NPS				S	**Sb**	**09 10 11.3**	**-0.5**
NPS				AML	AML	09 10 22.5	
	comp=N,450μm,0.7s						
NPS				AML	AML	09 10 25.4	
	comp=E,784μm,0.4s						
PRNS	**Prines Rethymn**	**1.24 341**		P	**Pg**	**09 09 57.3**	**+0.7**
STIA	**Sitia Lasithi**	**1.36 41**		P	**Pg**	**09 09 59.5**	**+0.7**
STIA				S	**Sg**	**09 10 17.8**	**+1.3**
ZKR	**Zakros**	**1.37 47**		P	**Pb**	**09 09 58.6**	**-0.4**
ZKR				S	**Sg**	**09 10 17.3**	**+0.5**
	comp=E,258nm,0.4s						
ZKR	**Zakros**	**1.37 47**		P	**Pn**	**09 09 58.3**	**-0.4**
ZKR				S	**Sg**	**09 10 16.9**	**+0.1**
ZKR				AML	AML	09 10 25.2	
	comp=E,686μm,0.4s						
ZKR				AML	AML	09 10 27.9	
	comp=N,334μm,0.5s						
VAM	**Vamos**	**1.38 332**		P	**Pg**	**09 09 59.4**	**+0.2**
VAM				S	**Sg**	**09 10 18.6**	**+1.4**
	comp=N,252nm,0.5s						
VAM	**Vamos**	**1.38 332**		P	**Pb**	**09 09 58.8**	**-0.4**
VAM				S	**Sg**	**09 10 17.2**	**+0.1**
VAM				AML	AML	09 10 36.3	
	comp=E,449μm,0.6s						
VAM				AML	AML	09 10 37.7	
	comp=N,562μm,0.4s						
IMMV	**Iera Moni Meta**	**1.52 327**		P	**Pb**	**09 10 01.3**	**-0.2**
IMMV				S	**Sg**	**09 10 21.3**	**-0.3**
	comp=N,252nm,0.8s						
IMMV	**Iera Moni Meta**	**1.52 327**		P	**Pb**	**09 10 00.7**	**-0.8**
IMMV				AML	AML	09 10 43.1	
	comp=N,499μm,0.7s						
IMMV				AML	AML	09 10 52.5	
	comp=E,532μm,0.9s						
RODP	**Rodopos**	**1.71 324**		P	**Pn**	**09 10 03.2**	**-0.1**
ANKY	**Antikythira Is**	**2.18 321**		P	**Pn**	**09 10 09.2**	**-0.6**
ANKY	**Antikythira Is**	**2.18 321**		P	**Pb**	**09 10 11.8**	**-0.9**
KARP	**Karpathos**	**2.24 52**		P	**Pb**	**09 10 12.3**	**-1.6**
KTHA	**Kythira Island**	**2.60 323**		P	**Pn**	**09 10 17.0**	**+1.3**
APE	**Apeiranthos**	**2.91 9**		P	**Pn**	**09 10 21.4**	**+1.5**
SERI	**Serifos**	**3.00 352**		P	**Pn**	**09 10 23.2**	**+2.1**
VLI	**Veliai**	**3.03 327**		P	**Pn**	**09 10 23.3**	**+1.7**
MMAI	**Mount Meron Ar**	**8.76 95**		Pn	**Pn**	**09 11 40.3**	**-0.1**
	comp=E,1.3nm,0.3s,baz=270,slow=16,SNR=1.6						
AKASG	**Malin Array Be**	**16.79 9**		Pn	**Pn**	**09 13 28.7**	**0.0**
	comp=E,0.5nm,0.3s,baz=198,slow=10,SNR=2.3						
GERES	**GERESS Array B**	**16.88 334**		Pn	**P**	**09 13 32.4**	**+0.3**
	comp=E,0.1nm,0.3s,baz=145,slow=12,SNR=6.2						
TORD	**Torodi Ar. Bea**	**29.76 231**		P	**P**	**09 15 41.3**	**+0.7**
	comp=E,0.3nm,0.5s,baz=34,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**44.43 56**		P	**P**	**09 17 44.0**	**-0.7**
	comp=E,0.5nm,0.5s,baz=274,slow=7.1,SNR=6.2						
ZALV	**Zalesovo Beam**	**45.78 45**		P	**P**	**09 17 56.2**	**+0.9**
	comp=E,1.2nm,0.3s,baz=263,slow=8.6,SNR=2.1						
NRIK	**Noril'sk**	**48.82 25**		LR	LR	09 39 33.7	
	comp=E,68nm,18.4s,baz=200,slow=37						

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*IDC **14** 09:17:57.1±4.6, 21°.94S×69°.74W, h0km, mb3.6/1, mb1 3.5/2, mb1mx3.3/22, mbtmp3.5/2, ML3.1/1, Error ellipse: s-maj=154.5km s-min=61.5km az=88.0*
*GUC **14** 09:18:04.2±0.7, 21°.30S×70°.03W, h37km±1km, ML3.7*
ISC 14 09:18:04.0±1.7, 21°.31S±0°.02×70°.09W±0°.06, h39km±3km, n33, σ1°16/43, 3C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**IPOC Station P**	**0.46 156**		⇑*i*P	**Pn**	**09 18 13.7**	**-0.6**
PB07				*e*S	**Sn**	**09 18 20.9**	**-0.7**
PATCX	**Punta Patache**	**0.48 353**		⇓*e*P	**Pn**	**09 18 13.7**	**-0.9**
PATCX				*e*S	**Sn**	**09 18 21.5**	**-0.5**
PATCX				IAML		09 18 22.5	
	comp=N,7μm,0.2s						
PB01	**IPOC Station P**	**0.62 65**		⇑*i*P	**Pn**	**09 18 15.1**	**-1.4**
PB01				*e*S	**Sn**	**09 18 23.3**	**-2.0**
PB01				IAML		09 18 24.4	
	comp=E,4μm,0.2s						
TA01	**Diego Aracena**	**0.74 353**		⇓*e*P	**Pn**	**09 18 16.9**	**-1.1**
TA01				*e*S	**Sn**	**09 18 27.6**	**-0.5**
TA01				IAML		09 18 27.9	
	comp=E,2μm,0.2s						
PB03	**IPOC Station P**	**0.80 157**		*e*P	**Pn**	**09 18 18.4**	**-0.7**
PB03				*e*S	**Sn**	**09 18 28.8**	**-1.1**
PB03				IAML		09 18 29.3	
	comp=N,9μm,0.2s						
PB09	**IPOC Station P**	**0.93 122**		⇓*e*P	**Pn**	**09 18 20.5**	**-0.3**
PB09				*e*S	**Sn**	**09 18 32.3**	**-0.6**
PB09				IAML		09 18 33.5	
	comp=E,3μm,0.5s						
PB04	**IPOC Station P**	**1.02 183**		*e*P	**Pn**	**09 18 21.8**	**-0.3**
PB04				*e*S	**Sn**	**09 18 35.5**	**+0.2**
PB04				IAML		09 18 40.4	
	comp=N,6μm,0.2s						
TA02	**Huaiquique**	**1.03 358**		⇑*i*P	**Pn**	**09 18 21.0**	**-0.9**
TA02				*e*S	**Sn**	**09 18 34.7**	**-0.4**
TA02				IAML		09 18 36.1	
	comp=N,8μm,0.1s						
PB08	**IPOC Station P**	**1.45 37**		⇓*e*P	**Pn**	**09 18 28.3**	**+0.1**
PB08				*e*S	**Sn**	**09 18 46.5**	**+0.4**
PB08				IAML		09 18 48.1	
	comp=N,2μm,0.3s						
PB06	**IPOC Station P**	**1.48 161**		⇓*e*P	**Pn**	**09 18 28.1**	**-0.2**
PB06				*e*S	**Sn**	**09 18 47.5**	**+1.1**
PB06				IAML		09 18 50.7	
	comp=E,2μm,0.1s						
PB05	**IPOC Station P**	**1.54 184**		⇓*e*P	**Pn**	**09 18 29.2**	**+0.1**
PB05				*e*S	**Sn**	**09 18 49.4**	**+1.4**
PB11	**IPOC Station P**	**1.59 15**		*e*P	**Pn**	**09 18 29.8**	**0.0**
PB11				*e*S	**Sn**	**09 18 49.8**	**+0.6**
PB11				IAML		09 18 52.9	
	comp=N,3μm,0.3s						
PSGC	**Pisagua**	**1.70 359**		⇓*i*P	**Pn**	**09 18 31.1**	**-0.2**
PSGC				*e*S	**Sn**	**09 18 52.3**	**+0.5**
PSGC				IAML		09 18 54.2	
	comp=E,1μm,0.2s						
LVC	**Limon Verde**	**1.70 140**		*e*P	**Pn**	**09 18 32.6**	**+1.1**
LVC				*e*S	**Sn**	**09 18 53.2**	**+1.0**
GO01	**Chusmiza**	**1.83 27**		*e*P	**Pn**	**09 18 33.8**	**+0.4**
GO01				*e*S	**Sn**	**09 18 56.6**	**+0.9**
PB15	**IPOC Station P**	**1.98 163**		*e*P	**Pn**	**09 18 35.5**	**+0.3**
PB15				*e*S	**Sn**	**09 19 00.6**	**+1.7**
MNMC	**Minye Minye**	**2.21 12**		*e*P	**Pn**	**09 18 39.3**	**+0.8**
MNMC				*e*S	**Sn**	**09 19 06.1**	**+1.3**
MNMC				IAML		09 19 13.1	
	comp=E,1μm,0.1s						
PB10	**IPOC Station P**	**2.24 191**		*e*P	**Pn**	**09 18 38.5**	**-0.1**
PB12	**IPOC Station P**	**2.69 355**		*i* P	**Pn**	**09 18 45.1**	**+0.3**
PB12				*e*S	**Sn**	**09 19 14.5**	**-1.6**
PB12				IAML		09 19 33.9	
	comp=N,373nm,0.6s						
PB16	**IPOC Station P**	**3.00 11**		*e*P	**Pn**	**09 18 51.0**	**+1.4**
PB16				*e*S	**Sn**	**09 19 26.8**	**+2.1**
PB16				IAML		09 19 49.7	
	comp=E,154nm,0.4s						
GO02	**Mina Guanaco**	**3.87 173**		*e*P	**Pn**	**09 19 01.8**	**+0.6**
LPAZ	**La Paz**	**5.32 21**		Pn	**Pn**	**09 19 25.5**	**+3.9**
	comp=E,0.3nm,0.3s,baz=197,slow=7.6,SNR=16						
H03N1	**Juan Fernandez**	**14.40 211**		T	T	09 35 48.6	
	baz=36,slow=72,SNR=29						
H03N2	**Juan Fernandez**	**14.40 211**		T	T	09 35 53.5	
	baz=36,slow=72,SNR=24						
H03N3	**Juan Fernandez**	**14.41 211**		T	T	09 35 46.0	
	baz=36,slow=72,SNR=26						
TORD	**Torodi Ar. Bea**	**78.33 71**		P	**P**	**09 29 59.3**	**-1.4**
	comp=E,0.4nm,0.7s,baz=263,slow=5.7,SNR=2.3						
H11S2	**WAKE ISLAND Hyl**	**26.76 278**		T	T	11 56 28.0	
	baz=103,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hyl**	**26.77 278**		T	T	11 56 25.6	
	baz=103,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**26.78 278**		T	T	11 56 28.9	
	baz=103,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hyl**	**26.84 279**		T	T	11 56 32.7	
	baz=104						
H11N2	**WAKE ISLAND Hyl**	**26.86 279**		T	T	11 56 33.7	
	baz=104,slow=74						
H11N1	**WAKE ISLAND Hyl**	**26.86 279**		T	T	11 56 33.9	
	baz=104,slow=74						
MKAR	**Makanchi Array**	**146.11 35**		PKPbc	**PKPdf**	**09 37 39.4**	**+0.4**
	comp=E,0.3nm,0.6s,baz=316,slow=4.0,SNR=3.6						

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*UNK **14** 09:18:59.9, 32°.91N×100°.82W, h3km*
*NEIC **14** 09:18:59.9±1.6, 32°.91N±0°.05×100°.82W±0°.04, h3km±2km, mb_Lg3.2/83, Error ellipse: s-maj=7.9km s-min=4.9km az=192.0*
*ANF **14** 09:19:00.2±0.6, 32°.90N×100°.81W, h7km±4km, ML4.4/13, Error ellipse: s-maj=3.3km s-min=2.4km az=33.0*
ISC 14 09:19:00.9±1.4, 32°.92N±0°.03×100°.72W±0°.03, h10km±12km, n98, σ1°73/98, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTX	**Abilene, Hawle**	**0.95 108**		P	**Pb**	**09 19 19.5**	**0.0**
	baz=286,SNR=324						
ABTX				S	**Sn**	**09 19 33.6**	**-0.5**
	baz=286						
ABTX	**Abilene, Hawle**	**0.95 108**			**Pg**	**09 19 19.4**	**+0.2**
ABTX				Sg	**Sb**	**09 19 33.3**	**+1.0**
MSTX	**Muleshoe**	**2.01 302**		P	**Pn**	**09 19 33.5**	**-1.5**
	baz=122,SNR=405						
MSTX				S	**Sn**	**09 19 59.4**	**-0.9**
	baz=122						
MSTX	**Muleshoe**	**2.01 302**		Pn	**Pn**	**09 19 33.5**	**-1.5**
AMTX	**Amarillo**	**2.12 338**		P	**Pn**	**09 19 36.5**	**+0.1**
	baz=160						
AMTX				S	**Sb**	**09 20 04.7**	**-1.1**
	baz=160						
AMTX	**Amarillo**	**2.12 338**		Pn	**Pn**	**09 19 36.3**	**-0.1**
WMOK	**Wichita Mounta**	**2.43 41**		P	**Pn**	**09 19 41.7**	**+1.0**
	baz=223,SNR=40						
WMOK				S	**Sb**	**09 20 13.8**	**-1.0**
	baz=223						
WMOK	**Wichita Mounta**	**2.43 41**		Pn	**Pn**	**09 19 41.7**	**+1.0**
JCT	**Junction City**	**2.55 162**		P	**Pn**	**09 19 43.0**	**+0.6**
	baz=341,SNR=62						
JCT				Sb	**Sb**	**09 20 19.6**	**+1.3**
	baz=341						
JCT	**Junction City**	**2.55 162**		Pn	**Pn**	**09 19 43.3**	**+0.9**
CPRX	**Cap Rock**	**2.65 273**		Pn	**Pn**	**09 19 42.4**	**-1.4**
CLNB	**Carlsbad**	**2.74 257**		Pn	**Pn**	**09 19 44.8**	**-0.3**
WHTX	**Lake Whitney,**	**2.91 108**		Pn	**Pn**	**09 19 48.4**	**+1.1**
	baz=289,SNR=15						
WHTX				Pg	**Pg**	**09 19 57.5**	**+0.8**
	baz=289						
WHTX				Sb	**Sg**	**09 20 33.3**	**-1.2**
	baz=289						
WHTX	**Lake Whitney,**	**2.91 108**		Pn	**Pn**	**09 19 48.3**	**+1.1**
WHTX				IAmb_Lg		09 20 36.5	
	comp=Z,66nm,0.8s						
Z35A	**Perchaven, San**	**2.94 81**		Pn	**Pn**	**09 19 48.1**	**+0.5**
Z35A				IAmb_Lg		09 20 41.7	
	comp=Z,59nm,0.8s						
GDL2	**Guadalupe Moun**	**3.16 258**		Pn	**Pn**	**09 19 49.5**	**-1.3**
435B	**Jarrell**	**3.41 128**		P	**Pn**	**09 19 55.7**	**+1.5**
	baz=309,SNR=13						
435B	**Jarrell**	**3.41 128**		Pn	**Pn**	**09 19 55.4**	**+1.2**
FNO	**Franklin**	**3.61 49**		Pn	**Pn**	**09 19 58.1**	**+1.2**
OKCFA	**Oklahoma City**	**3.68 47**		IAmb_Lg		09 21 04.8	
	comp=Z,59nm,0.7s						
U32A	**Winter Ranch,**	**3.73 22**		Pn	**Pn**	**09 20 00.1**	**+1.5**
BCOK	**Bluff Creek, N**	**3.76 42**		Pn	**Pn**	**09 20 01.7**	**+2.8**
OK025	**Westminster Rd**	**3.86 46**		Pn	**Pn**	**09 20 01.5**	**+1.2**
W35A	**Tecumseh**	**3.90 54**		Pn	**Pn**	**09 20 01.6**	**+0.8**
MNTX	**Cornudas Mount**	**4.13 254**		Pn	**Pn**	**09 20 02.9**	**-1.1**
	baz=71,SNR=19						
MNTX				Pb	**Pb**	**09 20 11.2**	**-2.4**
	baz=71						
MNTX				Sb	**Sb**	**09 21 03.9**	**+0.3**
	baz=71						
MNTX	**Cornudas Mount**	**4.13 254**		Pn	**Pn**	**09 20 02.9**	**-1.1**
MNTX				IAmb_Lg		09 21 14.0	
	comp=Z,62nm,0.7s						
CROK	**Carrier**	**4.23 31**		Pn	**Pn**	**09 20 06.6**	**+1.2**
CROK				IAmb_Lg		09 21 14.4	
	comp=Z,67nm,0.8s						
237A	**Washetta, Mont**	**4.25 101**		Pn	**Pn**	**09 20 07.6**	**+1.8**
TX31	**Lajitas Ar. Si**	**4.37 216**		Pn	**Pn**	**09 20 06.5**	**-1.1**
TX32	**Lajitas Array**	**4.37 216**		Pn	**Pn**	**09 20 06.4**	**-1.1**
TXAR	**Lajitas Array**	**4.37 216**		Pn	**Pn**	**09 20 05.4**	**-2.1**
QUOK	**Quay**	**4.64 44**		Pn	**Pn**	**09 20 12.3**	**+1.3**
833A	**Chaparral WMA,**	**4.72 166**		P	**Pn**	**09 20 12.3**	**+0.2**
	baz=345						
833A				Sn	**Sn**	**09 21 07.4**	**+0.4**
	baz=345						
833A				Sb	**Sb**	**09 21 25.6**	**+4.9**
	baz=345						
833A	**Chaparral WMA,**	**4.72 166**		Pn	**Pn**	**09 20 12.4**	**+0.2**
833A				IAmb_Lg		09 21 30.9	
	comp=Z,68nm,0.8s						
X37A	**Clayton**	**4.76 68**		Pn	**Pn**	**09 20 13.5**	**+0.8**
X37A				IAmb_Lg		09 21 40.2	
	comp=Z,36nm,0.7s						
Z38A	**Mt. Pleasant**	**4.83 84**		Pn	**Pn**	**09 20 15.1**	**+1.5**
TUL1	**Leonard**	**5.05 52**		Pn	**Pn**	**09 20 16.6**	**-0.1**
BNM	**Barren Site**	**5.08 286**		Pn	**Pn**	**09 20 15.5**	**-1.9**
HKT	**Hockley**	**5.12 124**		Pn	**Pn**	**09 20 20.2**	**+2.6**
ANMO	**Albuquerque**	**5.18 295**		Sb	**Sb**	**09 21 34.5**	**+0.5**
	baz=112						
ANMO	**Albuquerque**	**5.18 295**		Pn	**Pn**	**09 20 17.7**	**-1.0**
ANMO				IAmb_Lg		09 21 39.3	
	comp=Z,62nm,1.0s						
T25A	**Trinidad**	**5.19 325**		Pn	**Pn**	**09 20 18.7**	**-0.1**
	baz=144,SNR=11						
T25A				Pb	**Pb**	**09 20 30.2**	**-1.6**
	baz=144						
T25A				Sb	**Sb**	**09 21 37.0**	**+2.7**
	baz=144						
T25A	**Trinidad**	**5.19 325**		Pn	**Pn**	**09 20 17.9**	**-0.9**
T25A				IAmb_Lg		09 21 45.8	
	comp=Z,59nm,0.9s					

Z41A	Richland Creek	6.66	85	P	Pn	09 20 39.8	+1.1
	baz=269						
Z41A	Richland Creek	6.66	85	Pn	Pn	09 20 39.4	+0.7
X40A	Basin Creek Fa	6.76	74	Pn	Pn	09 20 41.1	+1.0
S22A	4UR Ranch, Cre	6.94	316	Pn	Pn	09 20 43.9	+1.0
KSU1	Kansas State U	7.01	27	S	Sn	09 22 00.3	-3.2
	baz=210						
KSU1	Kansas State U	7.01	27	Pn	Pn	09 20 46.7	+3.1
KSU1				IAmb_Lg		09 22 54.2	
	comp=Z,26nm,0.8s						
UALR	University of	7.21	73	Pn	Pn	09 20 47.3	+0.9
U40A	Yellville	7.34	60	P	Pn	09 20 47.9	-0.2
	baz=245,SNR=5.3						
U40A	Yellville	7.34	60	Pn	Pn	09 20 47.6	-0.5
W41B	Gary Mavity, V	7.38	70	P	Pn	09 20 49.5	+0.8
	baz=255,SNR=7.3						
W41B	Gary Mavity, V	7.38	70	Pn	Pn	09 20 49.2	+0.5
WHAR	Wooly Hollow	7.38	69	Pn	Pn	09 20 49.4	+0.7
CCAR	Cane Creek	7.55	80	Pn	Pn	09 20 52.1	+1.1
MVCO	Mesa Verde	7.68	306	Sb	Sb	09 22 54.0	+8.0
	baz=122						
S39A	Bolivar	7.70	50	Pn	Pn	09 20 52.2	-0.8
S39A				IAmb_Lg		09 23 10.8	
	comp=Z,20nm,0.9s						
FCAR	Ozark Folk Cen	7.70	65	Pn	Pn	09 20 53.2	+0.2
FCAR				IAmb_Lg		09 23 12.3	
	comp=Z,18nm,1.1s						
143A	Socs Landing,	7.85	89	Pn	Pn	09 20 55.5	+0.4
OGNE	Ogallala	8.08	353	P	Pn	09 20 57.4	-1.0
	baz=173,SNR=5.6						
OGNE	Ogallala	8.08	353	Pn	Pn	09 20 57.3	-1.0
X43A	Marvell	8.35	76	IAmb_Lg		09 23 22.6	
	comp=Z,19nm,1.2s						
PV16	Nyswonger Mesa	8.57	311	IAmb_Lg		09 23 54.0	
	comp=Z,16nm,1.3s						
PV19	Morning Glory	8.61	311		Pg	09 21 38.2	-7.6
R40A	Maddies Statio	8.72	50	IAmb_Lg		09 23 37.9	
	comp=Z,17nm,0.9s						
P38A	Dawn	8.86	39	IAmb_Lg		09 23 55.9	
	comp=Z,23nm,1.0s						
T42A	Van Buren	8.90	60	Pn	Pn	09 21 09.0	-0.6
N23A	Red Feather La	8.99	334	IAmb_Lg		09 23 55.5	
	comp=Z,21nm,0.9s						
LPAR	Lepanto	9.03	70	IAmb_Lg		09 24 08.8	
	comp=Z,15nm,0.8s						
PHWY	Pilot Hill	9.18	337	IAmb_Lg		09 24 12.2	
	comp=Z,15nm,0.9s						
WUAZ	Wupatki	9.19	289	IAmb_Lg		09 23 58.5	
	comp=Z,16nm,1.1s						
CCM	Cathedral Cave	9.27	54	IAmb_Lg		09 24 04.0	
	comp=Z,15nm,0.8s						
P40A	Paris	9.62	44	Pn	Pn	09 21 19.4	0.0
P40A				IAmb_Lg		09 24 14.2	
	comp=Z,22nm,1.0s						
W45A	Hickory Valley	9.83	74	Pn	Pn	09 21 21.5	-0.8
HALT	Halls	9.87	69	IAmb_Lg		09 24 30.9	
	comp=Z,25nm,0.8s						
N38A	Joes South For	9.88	35	IAmb_Lg		09 24 27.0	
	comp=Z,22nm,0.8s						
Z47A	Carrollton	10.62	85	Pn	Pn	09 21 35.0	+1.9
PLAL	Pickwick Lake	10.71	75	Pn	Pn	09 21 33.4	-0.9
SWET	Sewanee	12.48	75	Pn	Pn	09 21 56.9	-1.7

*AEIC **14** 09:20:59.9±2.5, 51°.74N±0°.08×173°.23W±0°.07, h46km±6km, ML3.5, mb3.8/17(NEIC), Error ellipse: s-maj=11.3km s-min=6.1km az=187.0*
*NEIC **14** 09:20:59.9±1.7, 51°.72N±0°.09×173°.19W±0°.07, h55km±9km, Error ellipse: s-maj=12.5km s-min=6.5km az=183.0*
*IDC **14** 09:21:05.8±11.0, 51°.96N×173°.26W, h112km±104km, mb3.2/7, mb1 3.5/9, mb1mx3.2/44, mbtmp3.5/9, ML3.2/2, Error ellipse: s-maj=53.2km s-min=19.7km az=177.0*

ISC 14 09:20:58.0±0.7, 51°.59N±0°.08×173°.17W±0°.04, h35km, n65, σ1§32/58, mb3.7/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.88	314		Pn	09 21 13.5	-0.4
ATKA	Atka Island	0.88	314		Sn	09 21 25.0	-0.4
KOFP	Korovin Flat P	0.89	320		Pn	09 21 14.3	+0.2
KOSE	Korovin Southe	0.93	324		Pn	09 21 14.8	+0.1
KOKL	Mount Kliuchef	0.97	319		Pn	09 21 15.3	+0.1
KOKV	Korovin Volcan	0.99	322		Sn	09 21 29.5	+1.3
KONE	Korovin Northe	0.99	324		Pn	09 21 15.8	+0.4
GSMY	Great Sitkin M	1.85	285		Pn	09 21 28.3	+1.1
GSTR	Great Sitkin T	1.86	287		Pn	09 21 29.0	+1.6
GSTD	Great Sitkin T	1.91	285		Pn	09 21 29.3	+1.3
GSTD					Sn	09 21 52.3	+1.5
GSSP	Great Sitkin S	1.93	286		Pn	09 21 29.9	+1.6
ADAG	Mount Adagdak	2.17	282		Pn	09 21 33.5	+2.0
ADK	Adak	2.21	279		Pn	09 21 32.9	+0.9
ADK				Sn	Sn	09 21 59.0	+0.8
KIKV	Kanaga Island	2.51	278		Pn	09 21 38.0	+1.7
KIMD	Kanaga Island	2.54	275		Pn	09 21 38.4	+1.8
NIKH	Nikolski High	2.99	61		Sn	09 22 17.4	+0.1
NIKH	Nikolski High	2.99	61	Pn	Pn	09 21 43.6	+0.8
TASE	Tanaga Southea	3.04	276		Pn	09 21 45.6	+2.0
UNV	Unalaska Valle	4.64	58	Pn	Pn	09 22 07.2	+1.8
AMKA	Amchitka	4.71	270	Pn	Pn	09 22 02.2	-4.3
ANM	Nome	13.63	14		Pn	09 24 09.8	+1.3
CNPM	China Poot	14.68	49	Pn	Pn	09 24 23.2	+0.4
RND	Reindeer	17.48	38	P	Pn	09 24 59.3	+0.5
RND				IAmb	IAmb	09 25 04.9	
	comp=Z,8.8nm,1.5s						
PETK	Petropavlovsk-	17.81	286	P	P	09 25 04.2	+0.9
	comp=Z,0.1nm,0.3s,baz=95,slow=16,SNR=2.6						
RAGM	Ragged Mountai	18.07	50	P	P	09 25 07.5	+1.2
CCB	Clear Creek Bu	18.54	35	P	P	09 25 09.4	-1.8
HDA	Harding Lake	18.73	37	P	P	09 25 12.2	-1.1
HDA				IAmb	IAmb	09 25 17.2	
	comp=Z,4.8nm,1.2s						
IL31		18.94	36	P	P	09 25 13.8	-1.8
ILAR	Eielson Array	18.94	36	P	P	09 25 14.1	-1.5
	comp=Z,0.2nm,0.3s,baz=233,slow=8.7,SNR=13						
ILAR	Eielson Array	18.94	36	P	P	09 25 14.6	-1.1
RIDG	Independent Ri	19.22	40	P	P	09 25 17.7	-1.1
RIDG				IAmb	IAmb	09 25 26.2	
	comp=Z,8.8nm,1.2s						
YAH	Yahtse	19.48	51	P	P	09 25 22.2	+0.4
DOT	Dot Lake	19.50	41	P	P	09 25 20.2	-1.6
EGAK	Eagle	21.12	39	P	P	09 25 37.6	-1.6
EGAK				IAmb	IAmb	09 25 40.5	
	comp=Z,2.6nm,0.7s						
DLBC	Dease Lake	25.29	57	P	P	09 26 21.0	+0.1
	comp=Z,0.5nm,0.5s,baz=66,slow=13,SNR=1.4						
DLBC	Dease Lake	25.29	57	P	P	09 26 21.9	+1.0
DLBC				IAmb	IAmb	09 26 31.2	
	comp=Z,2.8nm,1.2s						
ERM	Erimo	30.97	269	P	P	09 27 13.6	+1.9
H11N2	WAKE ISLAND Hy	35.44	214	T	T	10 06 01.9	
	baz=21,slow=76,SNR=40						
H11N3	WAKE ISLAND Hy	35.45	214	T	T	10 06 01.8	
	baz=21,slow=76,SNR=41						
H11N1	WAKE ISLAND Hy	35.46	214	T	T	10 06 08.3	
	baz=21,slow=76,SNR=33						
H11S1	WAKE ISLAND Hy	36.64	213	T	T	10 07 15.2	
	baz=20,slow=76,SNR=35						
H11S2	WAKE ISLAND Hy	36.66	213	T	T	10 07 18.2	
	baz=20,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	36.66	213	T	T	10 07 16.4	
	baz=20,slow=76,SNR=12						
J08A	Circle Bar Ran	37.09	81	P	P	09 28 03.4	-1.5
J08A				IAmb	IAmb	09 28 21.1	
	comp=Z,1.7nm,0.9s						
MCMT	McKenzie Canyo	39.74	75	P	P	09 28 27.6	+0.4
NVAR	Mina Array Bea	40.02	87	P	P	09 28 30.0	+0.4
	comp=Z,0.2nm,0.6s,baz=289,slow=8.5,SNR=2.9						
R11A	Troy Canyon, C	41.77	85	P	P	09 28 44.6	+0.7
PRN	Pahroc Range	42.68	86	P	P	09 28 52.3	+0.9
PRN				IAmb	IAmb	09 28 53.4	
	comp=Z,1.6nm,1.0s						
PDAR	Pinedale Array	42.87	76	P	P	09 28 52.6	-0.3
	comp=Z,0.4nm,0.6s,baz=302,slow=3.3,SNR=3.8						
PDAR	Pinedale Array	42.87	76	P	P	09 28 52.4	-0.5
CCUT	Cedar City	43.64	84	P	P	09 28 59.2	0.0
121A	Cookes Peak, D	50.37	86	P	P	09 29 51.5	-0.2
121A				IAmb	IAmb	09 30 02.2	
	comp=Z,4.5nm,1.2s						
TX31	Lajitas Ar. Si	55.13	85	P	P	09 30 26.6	-0.2
TX32	Lajitas Array	55.13	85	P	P	09 30 26.6	-0.2
TX32				IAmb	IAmb	09 30 33.1	
	comp=Z,2.0nm,1.4s						
TXAR	Lajitas Array	55.13	85	P	P	09 30 26.4	-0.4
	comp=Z,0.3nm,0.4s,baz=298,slow=6.3,SNR=6.0						
TXAR	Lajitas Array	55.13	85	P	P	09 30 26.6	-0.3
MKAR	Makanchi Array	62.60	311	P	P	09 31 15.7	-2.6
	comp=Z,0.3nm,0.7s,baz=35,slow=5.3,SNR=2.4						
MKAR	Makanchi Array	62.60	311	P	P	09 31 15.9	-2.4
WRA	Warramunga Arr	84.70	229	P	P	09 33 27.3	-0.8
	comp=Z,0.4nm,0.6s,baz=34,slow=6.0,SNR=6.9						
WRA	Warramunga Arr	84.70	229	P	P	09 33 27.5	-0.6
ASAR	Alice Springs	88.12	227	P	P	09 33 45.2	+0.4
	comp=Z,0.8nm,0.7s,baz=30,slow=4.7,SNR=14						
ASAR	Alice Springs	88.12	227	P	P	09 33 44.8	0.0
H03N2	Juan Fernandez	117.85	109	T	T	11 48 45.5	
	baz=319						
H03N1	Juan Fernandez	117.87	109	T	T	11 48 40.6	
	baz=319						
H03N3	Juan Fernandez	117.87	109	T	T	11 48 37.8	
	baz=319						

*IDC **14** 09:26:40.5±4.0, 14°.05N×91°.25W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/31, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=148.6km s-min=65.8km az=43.0*
*MEX **14** 09:26:44.4±0.8, 14°.04N×91°.71W, h77km±20km, MD4.0*
*UCR **14** 09:26:47.7±1.2, 13°.88N×91°.77W, h20km±13km, MD3.6, ML3.3, mb4.1(NEIC)*
*SNET **14** 09:26:47.6±1.2, 13°.87N×91°.74W, h13km±82km, ML3.5*
*NEIC **14** 09:26:47.5±2.9, 13°.92N±0°.06×91°.94W±0°.04, h40km±10km, mb4.1/33, Error ellipse: s-maj=8.4km s-min=4.6km az=202.0*

ISC 14 09:26:43.9±3.4, 13°.89N±0°.07×92°.04W±0°.06, h15km±22km, n97, σ1§28/107, mb4.0/12, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.71	28	eP	Pn	09 26 58.9	-0.6
RTAL				eS	Sn	09 27 09.8	-0.5
RTAL	Retalhuleu	0.71	28		Pn	09 26 58.9	-0.6
RTAL				Sn	Sn	09 27 10.5	+0.2
THIG		1.04	348	eP	Pb	09 27 02.2	-1.4
THIG				eS	Sb	09 27 16.4	-0.6
HUEH	Huehuetenango	1.51	20	Pn	Pn	09 27 10.9	+0.2
PCIG		2.14	328	eP	Pn	09 27 17.2	-1.9
PCIG				i S	Sn	09 27 44.0	-1.4
NUBE	Las Nubes	2.19	89	eP	Pn	09 27 18.6	-1.4
NUBE				eS	Sn	09 27 44.4	-2.6
NUBE				IAML		09 27 54.5	
	comp=Z,281nm,0.3s						
NUBE	Las Nubes	2.19	89	eP	Pn	09 27 18.6	-1.4
NUBE				eS	Sn	09 27 44.4	-2.6
NUBE				IAML		09 27 54.5	
	comp=Z,281nm,0.3s						
RTR	El Retiro	2.32	89	eP	Pn	09 27 22.3	+0.4
RTR	El Retiro	2.32	89	eP	Pn	09 27 22.3	+0.4
CEVE	Cerro Verde	2.35	91	eP	Pn	09 27 22.2	0.0
CEVE				eS	Sn	09 27 48.8	-2.1
CEVE				IAML		09 28 03.8	
	comp=Z,1μm,0.3s						
CEVE	Cerro Verde	2.35	91	eP	Pn	09 27 22.2	0.0
CEVE				eS	Sn	09 27 48.8	-2.1
CEVE				IAML		09 28 03.8	
	comp=Z,1μm,0.3s						
SBLS	San Blas	2.35	91	eP	Pn	09 27 22.9	+0.7
SBLS	San Blas	2.35	91	eP	Pn	09 27 22.9	+0.7
CCIG	Comitan	2.38	358	eP	Pn	09 27 24.7	+2.0
CCIG				i S	Sn	09 27 50.9	-0.8
CCIG	Comitan	2.38	358	Pn	Pn	09 27 24.6	+1.9
UNIC	Universidad Ca	2.42	88	eP	Pn	09 27 22.9	-0.1
UNIC				IAML		09 27 25.1	
	comp=Z,128nm,0.2s						
UNIC	Universidad Ca	2.42	88	eP	Pn	09 27 22.9	-0.1
UNIC				IAML		09 27 25.1	
	comp=Z,128nm,0.2s						
MRL	Marmol	2.57	62	eP	Pn	09 27 25.8	+0.6
MRL	Marmol	2.57	62	eP	Pn	09 27 25.8	+0.6
TACO	Tacachico	2.61	88	eP	Pn	09 27 25.3	-0.3
TACO	Tacachico	2.61	88	eP	Pn	09 27 25.3	-0.3
MTO3	Montecristo	2.65	79	eP	Pn	09 27 26.1	-0.2
MTO3	Montecristo	2.65	79	eP	Pn	09 27 26.1	-0.2
MTO3	Montecristo	2.65	79	Pn	Pn	09 27 26.0	-0.2
MTO3				Sn	Sn	09 28 00.3	+2.0
ESQI	Esquipulas	2.70	75	eP	Pn	09 27 27.4	+0.5
ESQI	Esquipulas	2.70	75	Pn	Pn	09 27 27.2	+0.3
UEES	Universidad Ev	2.73	93	eP	Pn	09 27 27.2	0.0
UEES	Universidad Ev	2.73	93	eP	Pn	09 27 27.2	0.0
SNET	Serv Nac Est T	2.73	94	eP	Pn	09 27 27.4	+0.1
SNET	Serv Nac Est T	2.73	94	eP	Pn	09 27 27.4	+0.1
SNET	Serv Nac Est T	2.73	94	Pn	Pn	09 27 27.1	-0.3
SNET				Sn	Sn	09 28 00.8	+0.6
AEIL	Aeropuerto Ilo	2.85	93	eP	Pn	09 27 29.1	+0.2
AEIL	Aeropuerto Ilo	2.85	93	eP	Pn	09 27 29.1	+0.2
LFRS	El Faro	2.91	95	eP	Pn	09 27 29.5	-0.3
LFRS	El Faro	2.91	95	eP	Pn	09 27 29.5	-0.3
PAVA	Las Pavas	3.02	93	eP	Pn	09 27 31.1	-0.2
PAVA	Las Pavas	3.02	93	eP	Pn	09 27 31.1	-0.2
TGIG		3.06	340	eP	Pn	09 27 29.1	-2.7
TGIG				eS	Sn	09 28 05.0	-3.2
COEG	Centro de Oper	3.08	95	eP	Pn	09 27 32.2	0.0
COEG				IAML		09 28 32.4	
	comp=Z,237nm,0.4s						
COEG	Centro de Oper	3.08	95	eP	Pn	09 27 32.2	0.0
COEG				IAML		09 28 32.4	
	comp=Z,237nm,0.4s						
ALJI	Alcalda de J	3.42	99	eP	Pn	09 27 36.8	+0.1
ALJI	Alcalda de J	3.42	99	eP	Pn	09 27 36.8	+0.1
COEB	Comit de Eme	3.43	96	eP	Pn	09 27 36.8	-0.2
COEB				IAML		09 28 38.8	
	comp=Z,148nm,0.4s						
COEB	Comit de Eme	3.43	96	eP	Pn	09 27 36.8	-0.2
COEB				IAML		09 28 38.8	
	comp=Z,148nm,0.4s						
PETF	Flores	3.67	35	Pn	Pn	09 27 41.5	+1.3
LCND	La Caada	4.08	98	eP	Pn	09 27 45.3	-0.4
LCND	La Caada	4.08	98	eP	Pn	09 27 45.3	-0.4
CNCH	Conchagua	4.13	98	eP	Pn	09 27 45.9	-0.8
CNCH	Conchagua	4.13	98	eP	Pn	09 27 45.9	-0.8
TGUH	Tegucigalpa,Un	4.63	87	Pn	Pn	09 27 51.7	-1.8
MATN	Matagalpa	6.03	98	Pn	Pn	09 28 12.0	-0.6
BOAB	BOACO BROADBAN	6.37	102	Pn	Pn	09 28 16.9	-0.4
TEIG	Tepich	7.26	29	Pn	Pn	09 28 30.2	+0.7
TLIG	Tlapa	7.27	301	Pn	Pn	09 28 31.6	+1.8
JTS	Las Juntas de	7.80	117	Pn	Pn	09 28 39.5	+2.5
553A	Crawfordville	17.68	22		P	09 30 52.3	+1.8
TXAR	Lajitas Array	18.77	327	P	Pn	09 31 05.6	+2.4
	comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=9.0						
TXAR	Lajitas Array	18.77	327	P	Pn	09 31 05.3	+2.1
TX31	Lajitas Ar. Si	18.77	327	P	Pn	09 31 05.7	+2.5
TX31				IAmb	IAmb	09 31 07.4	
	comp=Z,7.7nm,1.1s						
TX32	Lajitas Array	18.77	327	P	Pn	09 31 05.4	+2.3
LGNH	Logne	19.22	74	P	P	09 31 07.7	+0.1
Z47A	Carrollton	19.56	10	P	P	09 31 11.9	+0.7
Z47A				IAmb	IAmb	09 31 12.5	
	comp=Z,9.0nm,0.8s						
WLAR	White Oak Lake	19.74	357	P	Pn	09 31 14.4	-0.2
WLAR				IAmb	IAmb	09 31 22.5	
	comp=Z,10nm,1.1s						
ABTX	Abilene, Hawle	19.90	341	P	P	09 31 15.3	+0.3
255A	Hazlehurst	19.98	24	P	P	09 31 11.9	-3.9
OXF	Oxford	20.67	6	P	Pn	09 31 25.6	0.0
OXF				IAmb	IAmb	09 31 35.4	
	comp=Z,10nm,1.1s						
GOGA	Godfrey	20.94	20	P	P	09 31 25.4	-0.9
GOGA				IAmb	IAmb	09 31 38.9	
	comp=Z,9.1nm,1.4s						
X48A	Hartselle	20.97	12	P	P	09 31 25.4	-1.1
FPAL	Fort Paine	21.37	15	P	P	09 31 30.8	-0.1
FPAL				IAmb	IAmb	09 31 32.1	
	comp=Z,4.0nm,0.6s						
MNTX	Cornudas Mount	21.54	328	P	P	09 31 32.7	-0.1
SWET	Sewanee	21.94	13	P	P	09 31 36.1	-0.9
SWET				IAmb	IAmb	09 31 37.6	
	comp=Z,3.3nm,0.7s						
MSTX	Muleshoe	22.24	336	P	P	09 31 39.7	-0.7
WVT	Waverly	22.47	9	P	P	09 31 41.7	-0.9
121A	Cookes Peak, D	23.48	325	P	P	09 31 54.9	+1.5
121A				IAmb	IAmb	09 31 56.5	
	comp=Z,5.8nm,1.0s						
V55A	Taylorsville	23.94	22	P	P	09 31 55.9	-1.6
V55A				IAmb	IAmb	09 31 57.1	
	comp=Z,6.3nm,1.1s						
BNM	Barren Site	24.12	329	P	P	09 32 01.5	+2.0
ANMO	Albuquerque	24.68	331	P	P	09 32 05.4	+0.8
OLIL	Olney	24.99	7	P	P	09 32 07.1	0.0
PV22	Blue Mesa, Par	28.68	332	P	P	09 32 43.0	+2.3
KNB	Kanab	29.58	325	P	P	09 32 50.0	+1.4
TRY	Troy	32.83	25	P	P	09 33 15.7	-1.2
SNOW	Snow King Moun	33.57	335	P	P	09 33 23.8	+0.1
SNOW				IAmb	IAmb	09 33 24.8	
	comp=Z,2.2nm,0.7s						
NV11	Mina Array Sit	33.65	321	P	P	09 33 25.6	+1.3
NV11				IAmb	IAmb	09 33 26.2	
	comp=Z,1.5nm,0.9s						
NVAR	Mina Array Bea	33.73	321	P	P	09 33 26.9	+1.7
	comp=Z,1.2nm,0.7s,baz=125,slow=7.8,SNR=9.7						
NVAR	Mina Array Bea	33.73	321	P	P	09 33 27.0	+1.9
LHV	Little Huntoon	33.74	321	P	P	09 33 27.5	+2.6
LHV				IAmb	IAmb	09 33 45.2	
	comp=Z,6.0nm,1.5s						
LAO	LASA Array	34.80	343	P	P	09 33 36.0	+1.9
LAO				IAmb	IAmb	09 33 44.3	
	comp=Z,5.8nm,1.4s						
EGMT	Eagleton	37.08	340	P	P	09 33 52.7	-1.0
F10A	Beach Ranch, E	38.39	331	P	P	09 34 05.0	+0.2
F10A				IAmb	IAmb	09 34 05.5	
	comp=Z,2.7nm,0.9s						
YKA	Yellowknife Ar	51.12	347	P	P	09 35 44.7	-1.1
	comp=Z,0.9nm,0.6s,baz=154,slow=6.1,SNR=4.2						
BESE	Bessie Mountai	54.80	334	P	P	09 36 13.2	0.0
BCAR	Beaver Creek A	60.12	336	P	P	09 36 51.7	+1.1
ILAR	Eielson Array	62.93	337	P	P	09 37 08.9	-0.6
	comp=Z,0.6nm,0.8s,baz=107,slow=5.8,SNR=4.9						
ILAR	Eielson Array	62.93	337	P	P	09 37 10.7	+1.3
TOLK	Toolik Lake Re	65.61	340	P	P	09 37 26.8	-0.3
IMAR	Indian Mountai	66.05	337	P	P	09 37 28.9	-0.9
CMAR	Chiang Mai Arr	146.08	341	PKPbc	PKPdf	09 46 23.6	0.0
	comp=Z,1.1nm,0.3s,baz=330,slow=2.9,SNR=7.2						

*IDC **14** 09:37:20.1±0.9, 37°.15N×32°.09W, h0km, mb3.7/10, mb1 4.0/10, mb1mx3.7/41, mbtmp3.7/10, MS3.6/14, Ms1 3.6/14, ms1mx3.4/38, Error ellipse: s-maj=28.0km s-min=19.6km az=174.0*
*NEIC **14** 09:37:22.0±2.8, 37°.0N±0°.2×31°.91W±0°.06, h10km±1km, mb4.3/15, Error ellipse: s-maj=27.0km s-min=6.4km az=190.0*

ISC 14 09:37:22.1±0.7, 37°.1N±0°.1×31°.90W±0°.08, h10km, n47, σ1§42/34, mb3.9/16, MS3.6/14, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	FLORES T-PHASE	2.36	13	Pn	Pn	09 37 49.8	-11
H07S1				T	T	09 39 45.9	
H07S1	FLORES T-PHASE	2.36	13	eP	Pn	09 37 49.3	-12
H07S1				eS	Sn	09 38 10.6	-19
H07N1	FLORES T-PHASE	2.68	13	Pn	Pn	09 37 54.8	-10
H07N1	FLORES T-PHASE	2.68	13	eP	Pn	09 37 55.2	-10
H07N1				eS	Sn	09 38 19.2	-19
ROSA	Rosais	3.32	59	Pn	Pn	09 38 14.0	-0.1
CMLA	Cha da Macela	5.12	80	Pn	Pn	09 38 36.3	-2.5
MACI	Morro de la Ar	15.65	120	P	P	09 41 06.9	-0.2
PFVI	Vila Bisbo	18.40	83	P	P	09 41 39.9	+2.7
PFVI				IAmb	IAmb	09 41 49.8	
	comp=Z,20nm,1.1s						
PAB	San Pablo	21.73	75	P	P	09 42 12.8	-0.7
ESDC	Sonseca Array	22.02	75	P	P	09 42 16.0	-0.6
	comp=Z,2.2nm,0.9s,baz=278,slow=10.0,SNR=12						
ESDC				LR	LR	09 48 38.6	
	comp=Z,45nm,18.8s,baz=160,slow=31						
ESDC	Sonseca Array	22.02	75	P	P	09 42 16.0	-0.6
ESBB	Sonseca Array	22.02	75	P	P	09 42 16.9	+0.2
MDT	Midelt	22.73	93	LR	LR	09 49 41.6	
	comp=Z,181nm,18.4s,baz=307,slow=32						
EKA	Eskdalemuir Ar	26.70	38	P	P	09 43 03.0	+1.8
	comp=Z,1.3nm,0.8s,baz=241,slow=7.2,SNR=3.6						
GGN	Saint George	27.37	298	P	P	09 43 07.1	-0.2
SCHQ	Schefferville	29.66	318	LR	LR	09 54 37.1	
	comp=Z,134nm,18.6s,baz=100,slow=35						
NOA	NORSAR Array B	36.04	34	LR	LR	09 56 43.1	
	comp=Z,27nm,19.2s,baz=95,slow=32						
TOA0	Torodi Ar. Sit	38.31	120	P	P	09 44 44.5	+1.5
TORD	Torodi Ar. Bea	38.31	120	P	P	09 44 44.6	+1.6
	comp=Z,1.3nm,0.7s,baz=313,slow=6.7,SNR=6.7						
TORD				LR	LR	09 59 17.7	
	comp=Z,84nm,20.0s,baz=245,slow=34						
TORD	Torodi Ar. Bea	38.31	120	P	P	09 44 44.5	+1.5
DBIC	Dimbokro	39.02	134	LR	LR	09 59 40.1	
	comp=Z,100nm,18.5s,baz=328,slow=34						
D41A	Chassel	42.39	302	P	P	09 45 17.9	+1.4
BLO	Bloomington	42.48	290	P	P	09 45 18.2	+0.9
BLO				IAmb	IAmb	09 45 29.6	
	comp=Z,5.8nm,1.2s						
FINES	FINESS Array B	43.09	37	LR	LR	10 00 51.6	
	comp=Z,57nm,18.6s,baz=10.0,slow=33						
ULM	Lac du Bonnet	46.73	308	LR	LR	10 05 09.7	
	comp=Z,42nm,18.4s,baz=148,slow=36						
YKA	Yellowknife Ar

MMRI	Maumere	0.51 181			Pb	09 55 09.4	-0.1
EDFI	Ende, Flores	0.83 221	P		Pb	09 55 14.6	-0.5
EDFI			Pg		Pg	09 55 14.8	+0.1
EDFI			Sg		Sg	09 55 25.5	-0.1
WSI	Waingapu	2.46 231	P		Pn	09 55 39.7	+1.0
WSI			S		Sn	09 56 10.0	+1.3
BATI	Baumata	2.50 146	Pn		Pb	09 55 42.4	-1.1
	37nm,0.3s,baz=21,slow=1.2,SNR=24						
BATI			Sn		Sg	09 56 17.7	-1.3
	64nm,0.3s,baz=350,slow=21,SNR=8.3						
BATI	Baumata	2.50 146	P		Pb	09 55 41.7	-1.8
SOEI	Soe	2.57 129	P		Pb	09 55 43.3	-1.5
SOEI	Soe	2.57 129			Pb	09 55 45.1	+0.2
BASI	Baing, Sumba	2.65 218	P		Pn	09 55 41.9	+0.6
BASI			S		Sn	09 56 14.1	+0.6
WBSI	Waikabubak, Su	3.20 242	P		Pn	09 55 48.4	-0.4
WBSI			S		Sn	09 56 30.0	+3.0
BKSI	Bulukumba	3.49 323	P		Pn	09 55 52.7	-0.2
BKSI			S		Sn	09 56 32.3	-1.9
KAPI	Kappang	3.96 321	Pn		Pn	09 55 58.5	-0.8
	18nm,0.3s,baz=173,slow=4.3,SNR=19						
KAPI			Sn		Sn	09 56 45.9	+0.1
	29nm,0.3s,baz=280,slow=17,SNR=14						
KAPI	Kappang	3.96 321			Pn	09 56 00.2	+0.9
KAPI			Sn		Sn	09 56 47.4	+1.6
BNSI	Bone	4.27 330	P		Pn	09 56 04.6	+1.1
BNSI			S		Sn	09 56 53.1	-0.2
PLAI	Plampang	4.47 261	P		Pn	09 56 06.7	+0.3
PLAI			S		Sn	09 56 56.5	-2.0
SPSI	Sidrap Palu	4.81 329	P		Pn	09 56 12.5	+1.5
TWSI	Taliwang, Sumb	5.34 263	P		Pn	09 56 17.2	-1.1
	0.5nm1μm149nm,0.6s						
NLAI	Namlea	6.85 45	P		Pn	09 56 39.5	+0.5
	0.2nm41nm,1.0s						
SRBI	Singaraja	6.96 270	P		Pn	09 56 38.8	-1.8
	0.2nm41nm,1.0s						
LUWI	Luwuk	7.06 4	P		Pn	09 56 40.6	-1.3
	0.5nm85nm,0.9s						
LUWI	Luwuk	7.06 4			Pn	09 56 43.8	+2.0
SANI	Sanana	7.09 32	P		Pn	09 56 42.7	+0.3
	0.2nm50nm,0.7s						
JAGI	Jajag, Banyuwa	8.02 267	P		Pn	09 56 52.8	-2.3
	0.2nm42nm,1.1s						
JAGI	Jajag, Banyuwa	8.02 267			Pn	09 56 54.0	-1.1
KMMI	Kalianget	8.28 277	P		Pn	09 56 59.0	+0.4
	59nm,1.3s						
BLJI	Banyuglugur	8.58 272	P		Pn	09 57 01.0	-1.8
BKB	Balikpapan	8.65 322	Pn		Pn	09 57 06.5	+2.6
GTOI	Gorontalo	8.74 5	P		Pn	09 57 07.3	+2.3
	16nm,0.6s						
GRJI	Gresik	9.76 276	P		Pn	09 57 17.2	-1.8
KNRA	Kununurra	9.85 140	Pn		Pn	09 57 19.6	-0.6
MTN	Manton Dam	9.92 119	Pn		Pn	09 57 22.3	+1.1
FITZ	Fitzroy Crossi	10.45 162	Pn		Pn	09 57 28.0	-0.5
	0.6nm,0.3s,baz=359,slow=9.1,SNR=18						
FITZ			Sn		Sn	09 59 20.9	-4.7
	1.6nm,0.3s,baz=180,slow=5.9,SNR=4.3						
FITZ	Fitzroy Crossi	10.45 162	Pn		Pn	09 57 28.4	-0.1
PSA00	Pilbara Seismi	13.57 190	Pn		Pn	09 58 10.0	-1.1
SBUM	Sibu	14.50 316	P		P	09 58 29.6	-1.0
LEM	Lembang	14.56 274	LR		LR	10 04 48.0	
	comp=Z,305nm,21.5s,baz=185,slow=41						
DAV	Davao City (W)	15.46 13	LR		LR	10 04 12.7	
	comp=Z,133nm,20.6s,baz=169,slow=36						
WB0	Warramunga Arr	16.51 136	P		Pn	09 58 48.9	-1.4
WRA	Warramunga Arr	16.59 136	Pn		Pn	09 58 48.0	-3.3
	0.4nm,0.3s,baz=311,slow=12,SNR=19						
WRA			Sn		Sn	10 01 43.7	-12
	0.0nm,0.3s,baz=312,slow=24,SNR=2.3						
WRA	Warramunga Arr	16.59 136	Pn		Pn	09 58 49.4	-1.9
WRAB	Tennant Creek	16.59 136	Pn		Pn	09 58 50.6	-0.7
WRAB			IAmb		IAmb	09 59 06.8	
	comp=Z,10nm,1.3s						
WB2	Warramunga Arr	16.60 136	Pn		Pn	09 58 51.0	-0.4
WR0	Warramunga Arr	16.74 136	Pn		Pn	09 58 51.6	-1.6
WR0			IAmb		IAmb	09 59 05.4	
	comp=Z,6.7nm,0.6s						
AS31	Alice Springs	19.07 145	P		Pn	09 59 22.3	+0.3
ASAR	Alice Springs	19.07 145	P		Pn	09 59 22.1	+0.1
	comp=Z,0.5nm,0.3s,baz=327,slow=11,SNR=28						
ASAR			S		Sn	10 02 45.7	-10
	comp=Z,0.1nm,0.3s,baz=327,slow=25,SNR=4.2						
ASAR	Alice Springs	19.07 145	P		P	09 59 21.2	0.0
COEN	Coen	21.34 108	P		P	09 59 47.3	+1.4
COEN			IAmb		IAmb	10 00 05.5	
	comp=Z,18nm,1.2s						
MORW	Morawa	21.64 195	P		P	09 59 47.9	-1.1
MORW			IAmb		IAmb	10 00 06.2	
	comp=Z,12nm,1.1s						
FORT	Forrest	23.18 167	P		P	10 00 05.2	-0.2
NWAO	Narrogin (SRO)	25.11 190	P		P	10 00 23.3	-0.2
STKA	Stephens Creek	29.71 145	P		P	10 01 05.7	+0.9
	comp=Z,2.4nm,0.6s,baz=313,slow=10,0,SNR=7.6						
STKA	Stephens Creek	29.71 145	P		P	10 01 05.7	+0.9
CMAR	Chiang Mai Arr	35.02 319	P		P	10 01 50.1	-1.4
	comp=Z,0.8nm,0.5s,baz=142,slow=7.7,SNR=1.5						
HNR	Honiara	37.27 95	LR		LR	10 18 10.6	
	comp=Z,72nm,18.4s,baz=244,slow=37						
USRK	Ussuriysk Ar.	52.82 9	P		P	10 04 14.7	+0.8
	comp=Z,1.2nm,0.5s,baz=194,slow=6.3,SNR=3.3						
BKZ	Black Stump Fm	57.45 132	P		P	10 04 49.4	+1.6
BKZ			IAmb		IAmb	10 04 52.1	
	comp=Z,3.6nm,0.9s						
SONM	Songino Array	57.46 347	P		P	10 04 47.9	+0.3
	comp=Z,0.5nm,0.5s,baz=172,slow=9.8,SNR=2.4						
MK31	Makanchi Array	65.20 331	P		P	10 05 38.9	-1.1
MK31			IAmb		IAmb	10 05 49.5	
	comp=Z,3.7nm,0.9s						
MKAR	Makanchi Array	65.20 331	P		P	10 05 39.8	-0.1
	comp=Z,2.1nm,0.5s,baz=137,slow=7.5,SNR=25						
MKAR	Makanchi Array	65.20 331	P		P	10 05 39.3	-0.6
MAKZ	Makanchi	65.36 331	P		P	10 05 40.4	-0.7
GAR	Garm	67.19 318	P		P	10 05 53.6	+0.6
ZALV	Zalesovo Beam	69.42 337	P		P	10 06 05.3	-1.2
	comp=Z,1.4nm,0.6s,baz=111,slow=4.7,SNR=5.2						
ZALV	Zalesovo Beam	69.42 337	P		P	10 06 03.8	-2.7
MAW	Mawson	71.16 200	P		P	10 06 16.9	0.0
	comp=Z,1.1nm,0.6s,baz=42,slow=5.0,SNR=6.1						
MAW	Mawson	71.16 200	P		P	10 06 15.9	-1.0
VNDA	Vanda	72.36 172	P		P	10 06 25.6	+1.5
	comp=Z,0.9nm,0.9s,baz=318,slow=7.6,SNR=7.4						
VNDA	Vanda	72.36 172	P		P	10 06 25.7	+1.6
VNDA			IAmb		IAmb	10 06 29.5	
	comp=Z,1.1nm,0.9s						
QSPA	South Pole Qui	81.86 180	P		P	10 07 18.4	+0.6
QSPA			IAmb		IAmb	10 07 18.5	
	comp=Z,5.2nm,1.2s						

*IDC **14** 10:31:55.1±7.4,51°.66N×176°.10W,h0km,mb3.4/3, mb1 3.9/5,mb1mx3.3/68,mbtmp3.6/5,ML4.0/2,Error ellipse: s-maj=139.2km s-min=58.0km az=99.0*

*AEIC **14** 10:32:26±1.8,52°.4N±0°.2×174°.2W±0°.1,h198km±5km, mb3.8/20(NEIC),Error ellipse: s-maj=26.0km s-min=9.5km az=163.0*

*NEIC **14** 10:32:26.2±1.6,52°.6N±0°.1×174°.29W±0°.09,h194km±4km, Error ellipse: s-maj=16.4km s-min=8.4km az=182.0*

ISC 14 10:32:25.8±0.7,52°.7N±0°.2×174°.32W±0°.06,h192km±8km, n53,σ1§10/58,mb3.6/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	Korovin West	0.36 174			Pn	10 32 52.1	+0.5
KOKV	Korovin Volcan	0.38 166			Pn	10 32 52.1	+0.4
KOKL	Mount Kliuchef	0.41 170			Pn	10 32 52.6	+0.8
KOSE	Korovin Southe	0.42 157			Pn	10 32 52.1	+0.3
ATKA	Atka Island	0.53 172			Pn	10 32 51.9	-0.2
ATKA				Sn	Sn	10 33 12.5	+0.1
GSTR	Great Sitkin T	1.24 240			Pn	10 32 57.0	+0.4
GSMY	Great Sitkin M	1.27 238			Pn	10 32 56.7	0.0
GSTD	Great Sitkin T	1.31 240			Pn	10 32 57.3	+0.2
GSTD					Sn	10 33 21.4	-0.1
ADAG	Mount Adagdak	1.59 243			Pn	10 33 00.1	+0.5
ADK	Adak	1.68 241			Pn	10 33 00.4	0.0
ADK				Sn	Sn	10 33 26.4	-1.0
KIMD	Kanaga Island	2.04 243			Pn	10 33 04.3	+0.3
KIMD					Sn	10 33 33.5	-0.3
TAFP	Tanaga Falls P	2.40 251			Pn	10 33 09.1	+1.1
TAFP					Sn	10 33 40.9	0.0
TASE	Tanaga Southea	2.46 250			Pn	10 33 09.5	+0.9
CESW	Semis' Southwe	3.85 260			Pn	10 33 25.9	+0.6
CESW					Sn	10 34 10.9	-1.1
AMKA	Amchitka	4.17 254			Pn	10 33 28.5	-0.7
AMKA					Sn	10 34 15.6	-3.4
UNV	Unalaska Valle	4.82 73			Pn	10 33 37.8	+0.3
OHAK	Old Harbor	12.87 61			Pn	10 35 24.1	-1.1
KDAK	Kodiak Island	13.36 59			Pn	10 35 26.9	-0.8
	1.2nm,0.3s,baz=161,slow=3.5,SNR=30						
KDAK					Sn	10 37 53.6	-2.9
	0.1nm,0.3s,baz=308,slow=7.4,SNR=1.8						
KDAK	Kodiak Island	13.36 59			Pn	10 35 27.6	-0.1
RSO	Redoubt South	14.12 48			Pn	10 35 37.6	+0.2
CNPM	China Poot	14.51 53			Pn	10 35 43.2	-0.1
SKT	Skwentna	15.31 44			Pn	10 35 54.9	+2.7
SKT					IAmb	10 35 57.6	
	comp=Z,12nm,1.4s						
SEW	Seward	15.54 52			Pn	10 35 54.5	-0.2
KTH	Kantishna Hill	16.32 39			Pn	10 36 06.3	+2.3
BPAW	Bear Paw Mtn.	16.58 38			Pn	10 36 08.7	+1.6
BPAW					IAmb	IAmb	10 36 11.3
	comp=Z,5.6nm,1.3s						
IMAR	Indian Mountai	16.80 30			Pn	10 36 12.0	+2.4
MCK	McKinley	17.18 40			Pn	10 36 14.7	+0.5
MCK					IAmb	IAmb	10 36 19.4
	comp=Z,3.7nm,1.2s						
BWN	Browne	17.19 39			Pn	10 36 15.7	+1.4
MDM	Murphy Dome	18.05 37			Pn	10 36 23.3	-1.1
MDM					IAmb	IAmb	10 36 29.0
	comp=Z,4.1nm,1.3s						
CCB	Clear Creek Bu	18.05 38			Pn	10 36 23.4	-1.0
HDA	Harding Lake	18.27 40			Pn	10 36 26.7	-0.2
HDA					IAmb	IAmb	10 36 27.5
	comp=Z,2.9nm,0.6s						
PAX	Paxson	18.29 45			Pn	10 36 27.9	+0.6
IL31		18.46 39			Pn	10 36 29.6	+0.6
ILAR	Eielson Array	18.46 39			Pn	10 36 28.8	-0.3
	comp=Z,0.2nm,0.3s,baz=229,slow=9.4,SNR=14						
ILAR	Eielson Array	18.46 39			Pn	10 36 29.3	+0.1
RIDG	Independent Ri	18.83 43			P	10 36 31.9	+1.1
DOT	Dot Lake	19.12 43			P	10 36 34.4	+0.5
DOT					IAmb	IAmb	10 36 48.5
	comp=Z,4.5nm,1.1s						
TOLK	Toolik Lake Re	19.79 27			Pn	10 36 43.7	-1.2
TOLK					IAmb	IAmb	10 36 53.5
	comp=Z,11nm,1.3s						
EGAK	Eagle	20.71 42			P	10 36 51.0	+0.3
EGAK					IAmb	IAmb	10 36 54.1
	comp=Z,2.8nm,1.1s						
B08A	Colville Reser	34.49 75			P	10 38 56.4	+1.2
B08A					IAmb	IAmb	10 38 58.8
	comp=Z,3.8nm,1.5s						
NEW	Newport	35.83 74			P	10 39 07.5	+0.8
NEW					IAmb	IAmb	10 39 08.4
	comp=Z,2.9nm,1.2s						
H11N2	WAKE ISLAND Hy	36.02 211			T	T	11 16 24.3
	baz=22						
H11N3	WAKE ISLAND Hy	36.03 211			T	T	11 16 36.2
	baz=22						
H11N1	WAKE ISLAND Hy	36.04 211			T	T	11 16 22.3
	baz=22						
WAKR	Walker	39.94 88			P	10 39 43.4	+2.1
WAKR					IAmb	IAmb	10 40 01.5
	comp=Z,3.5nm,1.4s						
MCMT	McKenzie Canyo	40.14 76			P	10 39 43.6	+0.7
NVAR	Mina Array Bea	40.68 88			P	10 39 46.9	-0.5
	comp=Z,0.3nm,0.7s,baz=290,slow=4.8,SNR=4.9						
YHH	Holmes Hill	41.34 75			P	10 39 53.2	+0.4
PDAR	Pinedale Array	43.28 76			P	10 40 08.6	+0.2
	comp=Z,0.8nm,0.7s,baz=310,slow=3.5,SNR=7.6						
PDAR	Pinedale Array	43.28 76			P	10 40 08.4	+0.1
PV13	Radium Mtn., P	46.59 81			P	10 40 34.8	+0.3
TXAR	Lajitas Array	55.75 85			P	10 41 42.5	+0.1
	comp=Z,0.3nm,0.7s,baz=316,slow=3.8,SNR=3.5						
TXAR	Lajitas Array	55.75 85			P	10 41 42.7	+0.2

IDC 14 10:33:11.3±2.4,31°.36N×140°.55E,h0km,mb3.6/2, mb1 3.7/4,mb1mx3.4/52,mbtmp3.6/4,ML3.0/2,Error ellipse: s-maj=133.8km s-min=21.6km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.87 340		Pn	Pn	10 33 43.0	-1.5
	7.2nm,0.3s,baz=77,slow=20,SNR=1.2						
JHJ				Sn	Sg	10 34 15.4	+4.0
	9.2nm,0.3s,baz=267,slow=23,SNR=1.2						
JCJ	Chichijima	4.48 161		Pn	Pn	10 34 19.8	-0.8
	5.5nm,0.3s,baz=313,slow=16,SNR=1.9						
MJAR	Matsushiro Arr	5.52 340		Pn	Pn	10 34 36.2	+1.4
	0.1nm,0.3s,baz=165,slow=12,SNR=4.3						
WRA	Warramunga Arr	51.35 187		P	P	10 42 17.5	-0.2
	0.7nm,0.8s,baz=5.9,slow=7.7,SNR=10						
ASAR	Alice Springs	55.08 187		P	P	10 42 45.4	+0.2
	0.4nm,0.5s,baz=359,slow=5.4,SNR=11						

WEL 14 10:37:31.4,39°.5±4°.×17°.5E±°,h209km±4km,M2.5/31, ML2.1/6,MLv2.5/31,Error ellipse: s-maj=0.0km s-min=0.0km az=145.8,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	Pokaka	0.45 111		P	Pn	10 37 59.3	-0.1
PKVZ				S	S	10 38 19.8	-1.4
LREZ	Lake Rotokare	0.46 224		S	S	10 38 20.8	-0.3
TWVZ	Taurewa	0.49 83		P	Pn	10 37 59.3	-0.3
NEZ	North Egmont	0.57 256		P	Pn	10 37 59.7	-0.1
NEZ				S	S	10 38 20.9	-1.1
MTVZ	Mangateitei	0.57 116		P	Pn	10 37 59.9	+0.1
MTVZ				S	S	10 38 20.2	-1.8
FWVZ	Far West T-bar	0.59 102		P	Pn	10 38 00.1	0.0
WTVZ	West Tongariro	0.61 89		P	Pn	10 38 00.1	+0.1
WTVZ				S	S	10 38 20.7	-1.6
NGZ	Ngauruhoe	0.62 94		P	Pn	10 38 00.3	+0.1
WAZ	Wanganui	0.64 168		P	Pn	10 38 00.5	+0.5
PKE	Pukeiti	0.64 264		P	Pn	10 37 59.7	-0.4
WNVZ	Wahianoa	0.65 108		P	Pn	10 38 00.5	+0.2
OTVZ	Oturere	0.67 93		P	Pn	10 38 00.7	+0.3
TUVZ	Tukino	0.67 102		P	Pn	10 38 00.7	+0.3
MOVZ	Moawhango	0.78 111		P	Pn	10 38 00.2	-0.6
MOVZ				S	S	10 38 21.1	-2.6
TLZ	Tolley Road	0.98 36		P	Pn	10 38 01.3	-0.7
BHHZ	Black Hill Sta	1.04 111		P	Pn	10 38 02.2	-0.1
BHHZ				S	S	10 38 23.6	-2.7
TSZ	Takapari Road	1.29 136		P	Pn	10 38 04.5	+0.4
TSZ				S	S	10 38 27.9	-1.5
MRHZ	Matea Rd	1.29 77		P	Pn	10 38 03.7	-0.5
BKZ	Black Stump Fm	1.31 92		P	Pn	10 38 04.2	-0.2
BKZ				S	S	10 38 27.3	-2.4
KRHZ	Kereru	1.31 113		P	Pn	10 38 04.6	+0.3
KRHZ				S	S	10 38 28.3	-1.4
PNHZ	Pukenui	1.33 126		P	Pn	10 38 04.7	+0.2
PNHZ				S	S	10 38 29.1	-0.9
MCHZ	McNeill Hill	1.50 103		P	Pn	10 38 06.8	+0.9
NMHZ	Naumai	1.56 89		P	Pn	10 38 07.3	+0.9
DVHZ	Dannevirke	1.57 138		P	Pn	10 38 06.5	+0.1
DVHZ				S	S	10 38 31.4	-2.1
WPHZ	Waipukurau	1.57 127		P	Pn	10 38 06.8	+0.4
WPHZ				S	S	10 38 32.3	-1.2
MTHZ	Maungataniwha	1.61 81		P	Pn	10 38 06.6	-0.2
MRZ	Mangatainoka R	1.64 159		P	Pn	10 38 07.0	-0.1
MUGZ	Murupara	1.67 68		P	Pn	10 38 06.6	-0.8
OGWZ	Otaki Gorge	1.71 171		P	Pn	10 38 07.6	0.0
KIW	Kapiti Island	1.73 177		P	Pn	10 38 07.4	-0.5
KAHZ	Kahuranaki	1.73 113		P	Pn	10 38 08.8	+0.8
RTZ	Ruatahuna	1.77 74		P	Pn	10 38 08.1	-0.3
DUWZ	D'Urville Isla	1.80 202		P	Pn	10 38 07.8	-0.7
PRHZ	Porangahau	1.81 129		P	Pn	10 38 08.7	0.0
PXZ	Pawanui	1.82 120		P	Pn	10 38 09.2	+0.5
ANWZ	Angora Road	1.85 136		P	Pn	10 38 09.4	+0.4
BFZ	Birch Farm	1.90 145		P	Pn	10 38 09.4	-0.1
CAW	Cannon Point	1.98 174		P	Pn	10 38 10.0	-0.3
URZ	Urewera	2.00 65		P	Pn	10 38 09.8	-0.7
TCW	Tory Channel	2.12 191		P	Pn	10 38 11.2	-0.4
MWZ	Matawai	2.27 70		P	Pn	10 38 12.8	-0.6
RIGZ	Rimuhau	2.34 80		P	Pn	10 38 14.2	0.0
NNZ	Nelson	2.35 207		P	Pn	10 38 12.8	-1.3
TUWZ	Tuamarina	2.39 196		P	Pn	10 38 13.6	-0.9
QRZ	Quartz Range	2.44 225		P	Pn	10 38 13.1	-2.0
TKGZ	Te Karaka	2.48 75		P	Pn	10 38 15.6	+0.1
RUGZ	Raukumara Rang	2.53 64		P	Pn	10 38 14.9	-1.5
BSWZ	Blackbirch Sta	2.68 195		P	Pn	10 38 17.1	-0.6
HAZ	Te Kaha	2.71 60		P	Pn	10 38 16.8	-1.3
THZ	Tophouse	3.00 208		P	Pn	10 38 19.8	-1.7
KHZ	Kahutara	3.42 196		P	Pn	10 38 25.4	-0.8
DSZ	Denniston Nort	3.47 220		P	Pn	10 38 24.8	-2.3
GVZ	Greta Valley S	4.06 199		P	Pn	10 38 32.3	-1.9
LTZ	Lake Taylor	4.12 207		P	Pn	10 38 32.8	-2.1
INZ	Inchbonnie	4.40 214		P	Pn	10 38 36.7	-1.6
OXZ	Oxford	4.68 206		P	Pn	10 38 38.9	-2.9
MQZ	McQueen's Vall	4.85 199		P	Pn	10 38 40.7	-3.2
ARCZ	Arundel	5.53 208		P	Pn	10 38 49.4	-3.3
ODZ	Otahua Downs	6.67 206		P	Pn	10 39 05.0	-2.3

*NEIC **14** 10:50:50.0±2.5,31°.65S±0°.09×179°.8W±0°.1,h356km±5km, mb4.4/26,Error ellipse: s-maj=19.1km s-min=12.1km az=106.0*

*IDC **14** 10:50:50.2±0.7,31°.43S×179°.78W,h356km±7km,mb3.8/15, mb1 4.0/16,mb1mx3.8/30,mbtmp4.5/16,Error ellipse: s-maj=12.9km s-min=10.9km az=88.0*

*WEL **14** 10:50:50.6±0.5,32°.5±6°.×17°.9W±1°.3,h360km±6km, M4.3/26,mB4.8/26,MLv5.5/26,Mw(mB)4.1/26,Error ellipse: s-maj=0.0km s-min=0.0km az=111.9*

ISC 14 10:50:49.8±0.4,31°.66S±0°.05×179°.79W±0°.07,h355km, n171,σ1§75/194,mb4.2/27,1C-1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.88 35		P	Pn	10 51 48.5	0.0
GLKZ				S	S	10 52 35.9	+0.1
RAO	Raoul Island	2.89 35		P	Pn	10 51 48.7	0.0
	2μm,0.3s,baz=112,slow=7.1,SNR=75						
RAO				S	S	10 52 33.1	-2.9
	946nm,0.3s,baz=268,slow=22,SNR=8.2						
RAO	Raoul Island	2.89 35		Pn	Pn	10 51 48.6	-0.1
RAO				S	S	10 52 36.9	+0.9
RIZ	Raoul Island	2.89 34		P	Pn	10 51 48.4	-0.3
RIZ				S	S	10 52 37.0	+1.0
MXZ	Matakaoa Point	6.10 194		P	Pn	10 52 24.5	+2.8
MXZ				S	S	10 53 34.6	-1.8
MXZ	Matakaoa Point	6.10 194			Pn	10 52 26.3	+4.5
KUZ	Kuaotunu	6.29 215		P	Pn	10 52 27.5	+3.6
WMGZ	Waiomatatini S	6.32 193		P	Pn	10 52 28.7	+4.4
WCZ	Waipu Caves	6.48 227		P	Pn	10 52 30.4	+4.2
OUZ	Omahuta	6.57 235		P	P	10 52 31.9	+3.4
OUZ	Omahuta	6.57 235			P	10 52 32.1	+3.6
PUZ	Puketiti	6.60 194		P	P	10 52 30.0	+1.1
PUZ				S	S	10 53 44.3	-2.6
ABAZ	Army Bay	6.64 221		P	P	10 52 32.5	+3.1
CNGZ	Carnagh Statio	7.00 193		P	P	10 52 34.4	+0.8
MWZ	Matawai	7.01 198		P	P	10 52 34.0	+0.3
MWZ				S	S	10 53 55.3	-0.6
URZ	Urewera	7.06 200		P	P	10 52 34.9	+0.7
	9.5nm,0.3s,baz=270,slow=4.4,SNR=92						
URZ				S	S	10 53 55.6	-1.1
	38nm,0.3s,baz=44,slow=22,SNR=18						
URZ	Urewera	7.06 200			P	10 52 34.4	+0.3
BKZ	Black Stump Fm	8.08 201			Pn	10 52 44.5	-0.4
RITZ	Rihia Road	8.12 205		P	P	10 52 47.9	-0.2
HIZ	Hauiti	8.12 211		P	P	10 52 49.8	+1.8
HIZ	Hauiti	8.12 211			P	10 52 50.0	+2.0
KATZ	Kakaramea	8.18 206		P	P	10 52 50.3	+1.5
TMVZ	Te Maari	8.30 205		P	P	10 52 49.1	-1.1
ETVZ	East Tongariro	8.31 205		P	Pn	10 52 49.0	+1.3
WTVZ	West Tongariro	8.34 206		P	Pn	10 52 49.3	+1.2
OTVZ	Oturere	8.36 205		P	Pn	10 52 47.5	-0.7
TWVZ	Taurewa	8.36 206		P	P	10 52 49.8	-0.9
CKHZ	Cape Kidnapper	8.38 197		P	P	10 52 50.6	-0.2
CKHZ				S	S	10 54 22.1	-3.1
NGZ	Ngauruhoe	8.39 205		P	P	10 52 50.2	-1.0
FWVZ	Far West T-bar	8.48 205		P	Pn	10 52 50.8	+1.0
BHHZ	Black Hill Sta	8.51 202		P	Pn	10 52 49.1	-0.9
BHHZ				S	S	10 54 24.5	-3.8
WNVZ	Wahianoa	8.52 205		P	Pn	10 52 48.9	-1.4
WNVZ				S	S	10 54 25.6	-3.1
KAHZ	Kahuranaki	8.56 198		P	P	10 52 52.4	-0.5
KRHZ	Kereru	8.56 200		P	Pn	10 52 50.1	-0.4
KRHZ				S	S	10 54 25.9	-3.3
PKVZ	Pokaka	8.58 206		P	Pn	10 52 51.9	+1.1
MTVZ	Mangateitei	8.62 205		P	Pn	10 52 52.5	+1.2
MTVZ				S	S	10 54 27.6	-3.1
VRZ	Vera Road	8.68 209		P	P	10 52 53.9	-0.2
PXZ	Pawanui	8.79 197		P	Pn	10 52 53.2	0.0
PNHZ	Pukenui	8.86 200		P	Pn	10 52 53.0	-1.1
WPHZ	Waipukurau	8.93 199		P	Pn	10 52 55.7	+0.8
TSZ	Takapari Road	9.06 201		P	Pn	10 52 55.1	-1.4
PRHZ	Porangahau	9.06 198		P	P	10 52 58.1	-0.4
PKE	Pukeiti	9.07 212		P	P	10 53 00.7	+2.1
NEZ	North Egmont	9.08 212		P	P	10 53 01.0	+2.3
LREZ	Lake Rotokare	9.11 210		P	P	10 52 58.9	0.0
WAZ	Wanganui	9.12 206		P	Pn	10 52 57.7	+0.4
DVHZ	Dannevirke	9.22 200		P	Pn	10 52 57.1	-1.3
ANWZ	Angora Road	9.29 198		P	P	10 53 00.8	-0.2
POWZ

ASAR	**Alice Springs**	**41.53 269**	P	**P**	**10 58 03.2**	**-0.8**
WR0	**Warramunga Arr**	**42.45 275**	P	**P**	**10 58 10.8**	**-0.6**
WB2	**Warramunga Arr**	**42.62 274**	P	**P**	**10 58 12.2**	**-0.5**
WB2			IAmb	IAmb	10 58 13.8	
	comp=Z,13nm,1.0s					
WRAB	**Tennant Creek**	**42.63 275**	P	**P**	**10 58 12.3**	**-0.5**
WRAB			IAmb	IAmb	10 58 13.8	
	comp=Z,15nm,1.0s					
WRA	**Warramunga Arr**	**42.63 274**	P	**P**	**10 58 12.2**	**-0.7**
	comp=Z,5.1nm,0.3s,baz=111,slow=8.1,SNR=204					
WRA			PcP	**PcP**	**10 59 57.1**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=116,slow=3.2,SNR=6.4					
WRA			ScP	**ScP**	**11 03 13.1**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=111,slow=4.1,SNR=6.9					
WRA			S	**S**	**11 04 04.9**	**-3.9**
	comp=Z,0.9nm,1.0s,baz=112,slow=14,SNR=3.7					
WRA	**Warramunga Arr**	**42.63 274**	P	**P**	**10 58 12.4**	**-0.5**
WB0	**Warramunga Arr**	**42.66 275**	P	**P**	**10 58 12.6**	**-0.5**
WB0			IAmb	IAmb	10 58 14.6	
	comp=Z,14nm,0.9s					
VNDA	**Vanda**	**46.70 185**	P	**P**	**10 58 46.4**	**+2.6**
	comp=Z,2.3nm,0.7s,baz=0.7,slow=6.9,SNR=27					
VNDA			ScP	**ScP**	**11 03 28.8**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=335,slow=5.6,SNR=6.6					
VNDA	**Vanda**	**46.70 185**	P	**P**	**10 58 46.6**	**+2.9**
CASY	**Casey**	**53.31 208**	P	**P**	**10 59 33.3**	**+0.3**
CASY			IAmb	IAmb	10 59 34.2	
	comp=Z,23nm,0.8s					
HPAH	**Hawaii Prepara**	**56.35 27**	P	**P**	**10 59 55.9**	**+0.6**
HPAH			IAmb	IAmb	11 00 09.2	
	comp=Z,60nm,1.5s					
QSPA	**South Pole Qui**	**58.46 180**	P	**P**	**11 00 12.0**	**+2.6**
	comp=Z,69nm,0.7s,baz=32,slow=3.4,SNR=171					
QSPA	**South Pole Qui**	**58.46 180**	P	**P**	**11 00 12.1**	**+2.8**
BELA	**Belgrano 2**	**68.75 173**	P	**P**	**11 01 17.0**	**+1.4**
MAW	**Mawson**	**70.59 201**	P	**P**	**11 01 27.4**	**+0.6**
	comp=Z,5.8nm,0.8s,baz=130,slow=8.1,SNR=19					
MAW	**Mawson**	**70.59 201**	P	**P**	**11 01 27.4**	**+0.6**
CISI	**Cisompet, Garu**	**71.10 273**	P	**P**	**11 01 31.2**	**+0.3**
SYO	**Syowa Base**	**75.54 194⇑**	*e*P	**P**	**11 01 52.8**	**-2.8**
SYO	**Syowa Base**	**75.54 194⇓**	*e*P	**P**	**11 01 54.0**	**-1.6**
SNAA	**Sanae**	**76.94 179**	P	**P**	**11 02 04.3**	**+0.9**
SNAA	**Sanae**	**76.94 179**	P	**P**	**11 02 04.0**	**+0.6**
VNA3	**Neumayer Olymp**	**77.15 177**	P	**P**	**11 02 05.0**	**+1.0**
VNA2	**Neumayer--Watz**	**77.56 177**	P	**P**	**11 02 08.0**	**+1.2**
VNA1	**Neumayer--Stat**	**77.80 177**	P	**P**	**11 02 09.4**	**+1.3**
MJAR	**Matsushiro Arr**	**78.42 327**	P	**P**	**11 02 10.5**	**-1.4**
	comp=Z,1.9nm,1.0s,baz=156,slow=6.6,SNR=4.6					
JHS	**Saijyo**	**79.72 322**	P	**P**	**11 02 20.2**	**+1.3**
PLCA	**Paso Flores**	**82.77 134**	P	**P**	**11 02 36.6**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=251,slow=5.1,SNR=9.0					
PLCA	**Paso Flores**	**82.77 134**	P	**P**	**11 02 37.2**	**+2.1**
PLCA			IAmb	IAmb	11 02 37.5	
	comp=Z,3.5nm,0.9s					
LC01	**Cunco**	**83.00 132**	P	**P**	**11 02 37.5**	**+1.4**
LC01			IAmb	IAmb	11 02 38.8	
	comp=Z,11nm,1.0s					
RPSI	**Rantau Prapat**	**83.99 277**	P	**P**	**11 02 41.8**	**+0.3**
PSI	**Prapat**	**84.05 277**	P	**P**	**11 02 41.8**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=180,slow=11,SNR=2.0					
SMY	**Shemya**	**84.20 356**	P	**P**	**11 02 45.2**	**+3.7**
KSRS	**Korea Array**	**84.33 321**	P	**P**	**11 02 43.0**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=146,slow=6.4,SNR=8.4					
PETK	**Petropavlovsk-**	**86.66 347**	P	**P**	**11 02 52.7**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=156,slow=7.6,SNR=3.9					
USRK	**Ussuriysk Ar.**	**87.37 328**	P	**P**	**11 02 57.4**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=146,slow=11,SNR=4.5					
PIX	**Pinacate**	**88.84 51**	P	**P**	**11 03 04.7**	**+0.3**
PIX			IAmb	IAmb	11 03 05.0	
	comp=Z,2.4nm,0.8s					
NVAR	**Mina Array Bea**	**90.20 44**	P	**P**	**11 03 11.6**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=221,slow=7.4,SNR=12					
NVAR	**Mina Array Bea**	**90.20 44**	P	**P**	**11 03 11.9**	**+1.0**
TPH	**Tonopah**	**90.61 44**	P	**P**	**11 03 13.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**92.37 290**	P	**P**	**11 03 21.6**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=147,slow=3.5,SNR=1.6					
CMAR	**Chiang Mai Arr**	**92.37 290**	P	**P**	**11 03 21.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**96.01 315**	*e*P	**P**	**11 03 39.0**	**+1.7**
HHC			pmax	pmax		
	comp=Z,19nm,0.8s					
HHC			pmax	pmax		
	comp=Z,120nm,7.9s					
LZH	**Lanzhou**	**98.25 307**	*e*P	**P**	**11 03 47.6**	**+0.1**
LZH			pP	pP	11 05 11.1	+1.0
LZH			sP	sP	11 05 48.5	+2.1
LZH			PP	**PP**	**11 07 51.0**	**-1.9**
LZH			pmax	pmax		
	comp=Z,18nm,1.0s					
LZH			pmax	pmax		
	comp=Z,73nm,4.9s					
MKAR	**Makanchi Array**	**117.40 310**	PKP	**PKPdf**	**11 08 52.2**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=77,slow=3.1,SNR=4.6					
MKAR	**Makanchi Array**	**117.40 310**		**PKPdf**	**11 08 51.9**	**-1.4**
KURK	**Kurchatov**	**120.80 314**	PKPdf	**PKPdf**	**11 08 58.0**	**-1.6**
KURBB	**Kurchatov Arra**	**120.83 313**	PKP	**PKPdf**	**11 08 58.6**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=101,slow=2.1,SNR=10					
GEYT	**Alibeck**	**132.68 294**	PKP	**PKiKP**	**11 09 23.5**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=79,slow=3.1,SNR=2.6					
GEYT	**Alibeck**	**132.68 294**	PKPdf	**PKPdf**	**11 09 22.8**	**-0.1**
AKTO	**Aktyubinsk**	**133.79 311**	PKP	**PKPdf**	**11 09 25.0**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=285,slow=0.5,SNR=3.6					
AKH	**Akhalkalaki**	**144.20 298**		PKPbc	11 09 43.1	0.0
KBZ	**Khabaz**	**144.50 302**	PKP	PKPbc	11 09 43.6	-0.1
	comp=Z,12nm,1.0s,baz=74,slow=0.5,SNR=15					
KIV	**Kislovodsk**	**144.63 303**		PKPbc	11 09 44.1	-0.1
OBN	**Obninsk**	**145.29 323**	PKPdf	**PKPdf**	**11 09 44.7**	**-0.4**
FINES	**FINESS Array B**	**145.76 338**	PKPbc	**PKPdf**	**11 09 45.8**	**+0.2**
	comp=Z,9.1nm,0.9s,baz=42,slow=4.2,SNR=23					
FINES	**FINESS Array B**	**145.76 338**	PKPdf	**PKPdf**	**11 09 45.4**	**-0.3**
MARD	**Mardin**	**146.27 291**	PKPdf	**PKPbc**	**11 09 49.1**	**-0.2**
KOPT	**Kop Dagi**	**146.52 296**		**PKPab**	**11 09 51.3**	**-0.8**
ASF	**Jabal al Asfar**	**148.95 281**	PKPbc	**PKPbc**	**11 09 56.5**	**0.0**
	comp=Z,5.2nm,0.8s,baz=91,slow=2.7,SNR=6.7					
GAZ	**Gaziantep**	**149.12 291**	PKPbc	**PKiKP**	**11 09 57.2**	**-0.5**
NB2	**NORSAR Subarra**	**149.73 349**	PKP	**PKPbc**	**11 09 56.4**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**149.73 349**	PKPbc	**PKPbc**	**11 09 56.5**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=16,slow=4.2,SNR=6.1					
EIL	**Elat**	**150.12 275**	PKPbc	**PKiKP**	**11 09 59.8**	**-0.1**
	comp=Z,6.5nm,0.6s,baz=18,slow=2.0,SNR=5.0					
AKASG	**Malin Array Be**	**151.32 320**	PKPbc	**PKPbc**	**11 10 00.4**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=66,slow=2.2,SNR=10					
AKASG	**Malin Array Be**	**151.32 320**	PKPbc	**PKPbc**	**11 09 59.5**	**-1.9**
ILGA	**Ilgaz**	**151.58 299**	PKPbc	**PKPbc**	**11 10 02.3**	**-0.3**
BR131	**Keskin Array S**	**151.80 296**	PKPbc	**PKPbc**	**11 10 01.9**	**-1.1**
BR131			PKPab	**PKPab**	**11 10 12.2**	**-1.5**
BRTR	**Keskin Array B**	**151.80 296**	PKPbc	**PKPbc**	**11 10 01.9**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=121,slow=3.7,SNR=9.3					
BRTR			PKPab	**PKPab**	**11 10 12.8**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=104,slow=5.2,SNR=13					
BRTR	**Keskin Array B**	**151.80 296**		**PKPbc**	**11 10 00.3**	**-2.7**
BRTR				**PKPab**	**11 10 12.0**	**-1.6**
BR231	**Keskin MP Arra**	**152.45 296**	PKPab	**PKPab**	**11 10 18.3**	**+2.0**
CLL	**Collm**	**158.21 338**	*e*PKPab	**PKPab**	**11 10 40.0**	**-0.4**
GERES	**GERESS Array B**	**160.03 333**	PKPab	**PKPab**	**11 10 47.2**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=32,slow=3.8,SNR=2.5					
GERES	**GERESS Array B**	**160.03 333**		**PKPab**	**11 10 47.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**161.53 185**	PKP	**PKPdf**	**11 10 08.8**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=8.5,slow=3.0,SNR=4.6					
TORD			PKPab	**PKPab**	**11 10 56.0**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=167,slow=3.9,SNR=20					
TORD	**Torodi Ar. Bea**	**161.53 185**	PKPdf	**PKPdf**	**11 10 08.0**	**-1.2**
TORD				**PKPab**	**11 10 55.0**	**-0.7**

*KNET **14** 10:56:53.8±0.2, 42°.23N×74°.89E, h18km±2km, ml2.3, Error ellipse: s-maj=2.3km s-min=1.8km az=6.0*
*KRNET **14** 10:56:54.4±0.1, 42°.23N×74°.90E, h17km, mb3.2*
*NNC **14** 10:56:55.2±0.8, 42°.30N×74°.91E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=6.6km s-min=2.9km az=0.0*
*SOME **14** 10:56:55.3, 42°.28N×74°.88E, h15km*
ISC 14 10:56:54.8±0.9, 42°.26N±0°.02×74°.89E±0°.01, h13km±7km, n79, σ1.9 37/141, 64C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.28**	**263**	⇑*i*P	**Pg**	**10 57 00.3**	**-0.5**
	baz=69						
UCH				⇑*i*S	**Sg**	**10 57 04.3**	**-0.6**
	baz=69						
UCH	**Uchtor**	**0.28**	**263**	⇑P	**Pg**	**10 57 00.4**	**-0.5**
	96nm,0.2s,SNR=84						
KZA	**Kyzart**	**0.33**	**124**	⇑*i*P	**Pg**	**10 57 00.9**	**-0.7**
	baz=21						
KZA				⇑*i*S	**Sg**	**10 57 05.7**	**-0.5**
	baz=21						
KZA	**Kyzart**	**0.33**	**124**	P	**Pg**	**10 57 01.0**	**-0.7**
	146nm,0.1s,SNR=119						
KZA				⇑S	**Sg**	**10 57 05.9**	**-0.3**
	3μm,0.3s						
KBK	**Karagaybulak**	**0.40**	**6**	⇑*i*P	**Pg**	**10 57 03.2**	**+0.5**
	baz=5.0						
KBK				⇑*i*S	**Sb**	**10 57 09.3**	**-0.5**
	baz=5.0						
KBK	**Karagaybulak**	**0.40**	**6**	⇓P	**Pb**	**10 57 03.3**	**-0.5**
	194nm,0.1s,SNR=147						
KBK				⇑S	**Sb**	**10 57 09.4**	**-0.5**
	1μm,0.2s						
AAK	**Ala-Archa**	**0.47**	**322**	⇑*i*P	**Pg**	**10 57 04.4**	**+0.2**
	baz=24						
AAK				⇑*i*S	**Sg**	**10 57 11.1**	**+0.5**
	baz=24						
AAK	**Ala-Archa**	**0.47**	**322**	⇓P	**Pg**	**10 57 04.5**	**+0.2**
	59nm,0.2s,SNR=35						
AAK				⇓S	**Sg**	**10 57 11.0**	**+0.5**
	128nm,0.2s						
AAK	**Ala-Archa**	**0.47**	**322**	⇓P	**Pg**	**10 57 04.3**	**+0.2**
	9.1nm,0.2s						
AAK				⇓S	**Sg**	**10 57 10.8**	**+0.3**
	61nm,0.5s						
FRU1	**Bishkek**	**0.58**	**341**	⇑*i*P	**Pg**	**10 57 06.3**	**+0.2**
	baz=41						
FRU1				⇑*i*S	**Sb**	**10 57 15.0**	**0.0**
	baz=41						
ARLS	**Aral**	**0.58**	**226**	⇑*i*P	**Pg**	**10 57 05.4**	**-0.8**
	baz=30						
ARLS				⇑*i*S	**Sg**	**10 57 13.0**	**-0.9**
	baz=30						
CHMS	**Chumysh**	**0.74**	**352**	⇓*i*P	**Pb**	**10 57 09.3**	**-0.3**
	baz=52						
CHMS				⇓*i*S	**Sb**	**10 57 19.7**	**0.0**
	baz=52						
CHMS	**Chumysh**	**0.74**	**352**	P	**Pb**	**10 57 09.4**	**-0.3**
	32nm,0.1s,SNR=87						
CHMS				⇑S	**Sb**	**10 57 19.6**	**-0.1**
	122nm,0.1s						
BOOM	**Boomskoye usch**	**0.81**	**73**	⇑*i*P	**Pb**	**10 57 09.7**	**-1.2**
	baz=71						
BOOM				⇑*i*S	**Sb**	**10 57 20.8**	**-1.0**
	baz=71						
TKM2	**Tokmak 2**	**0.84**	**38**	⇑*i*P	**Pb**	**10 57 10.7**	**-0.7**
	baz=37						
TKM2				⇑*i*S	**Sb**	**10 57 22.0**	**-0.7**
	baz=37						
TKM2	**Tokmak 2**	**0.84**	**38**	⇑P	**Pb**	**10 57 10.9**	**-0.5**
	21nm,0.1s,SNR=230						
TKM2				⇑S	**Sg**	**10 57 22.1**	**0.0**
	240nm,0.1s						
TKM2	**Tokmak 2**	**0.84**	**38**	⇑P	**Pb**	**10 57 10.6**	**-0.7**
	5.9nm,0.3s						
TKM2				⇑S	**Sb**	**10 57 21.6**	**-1.1**
	90nm,0.3s						
AML	**Almayashu**	**0.90**	**262**	⇑*i*P	**Pb**	**10 57 11.4**	**-1.0**
	baz=64						
AML				⇑*i*S	**Sb**	**10 57 23.5**	**-1.0**
	baz=64						
AML	**Almayashu**	**0.90**	**262**	⇑P	**Pb**	**10 57 11.5**	**-1.0**
	30nm,0.2s,SNR=53						
AML				⇓S	**Sb**	**10 57 23.7**	**-0.7**
	117nm,0.2s						
EKS2	**Erkin-Say**	**0.91**	**296**	⇑*i*P	**Pb**	**10 57 12.0**	**-0.6**
	baz=98						
EKS2				⇑*i*S	**Sb**	**10 57 24.7**	**0.0**
	baz=98						
EKS2	**Erkin-Say**	**0.91**	**296**	⇑P	**Pb**	**10 57 12.3**	**-0.3**
	14nm,0.1s,SNR=66						
ULHL	**Ulahol**	**1.01**	**91**	⇑*i*P	**Pb**	**10 57 12.9**	**-1.2**
	baz=89						
ULHL				⇑*i*S	**Sb**	**10 57 26.5**	**-0.9**
	baz=89						
ULHL	**Ulahol**	**1.01**	**91**	⇑P	**Pb**	**10 57 13.0**	**-1.2**
	26nm,0.1s,SNR=136						
ULHL				⇓S	**Sg**	**10 57 27.5**	**+0.2**
	44nm,0.1s						
USP	**Ospenovka**	**1.04**	**344**	⇑*i*P	**Pb**	**10 57 14.4**	**-0.3**
	baz=44						
USP				⇑*i*S	**Sn**	**10 57 28.8**	**-0.9**
	baz=44						
USP	**Ospenovka**	**1.04**	**344**	P	**Pn**	**10 57 14.8**	**-0.4**
	15nm,0.1s,SNR=22						
USP				⇓S	**Sn**	**10 57 29.0**	**-0.7**
	48nm,0.1s						
KST	**Kastek**	**1.11**	**45**	⇑*i*P	**Pb**	**10 57 15.7**	**-0.3**
	baz=44						
KST				⇓*i*S	**Sb**	**10 57 29.9**	**-0.5**
	baz=44						
KST	**Kastek**	**1.11**	**45**	⇑*i*P	**Pb**	**10 57 15.7**	**-0.3**
	15nm,0.3s						
KST				⇓*i*S	**Sb**	**10 57 29.9**	**-0.5**
	53nm,0.3s						
KST	**Kastek**	**1.11**	**45**	P	**Pb**	**10 57 15.2**	**-0.7**
	15nm,0.3s						
KST				S	**Sb**	**10 57 29.9**	**-0.5**
	53nm,0.3s						
DGS	**Degeres**	**1.18**	**33**	⇓*e*P	**Pg**	**10 57 17.3**	**-0.1**
	baz=32						
DGS				⇓*i*S	**Sg**	**10 57 32.7**	**-0.1**
	baz=32						
DGS	**Degeres**	**1.18**	**33**	⇓*e*P	**Pg**	**10 57 17.2**	**-0.1**
	5.1nm,0.1s						
DGS				⇓*i*S	**Sg**	**10 57 32.6**	**-0.1**
	90nm,0.1s						
DGS	**Degeres**	**1.18**	**33**	P	**Pb**	**10 57 16.9**	**-0.2**
	5.1nm,0.1s						
DGS				S	**Sg**	**10 57 32.6**	**-0.1**
	90nm,0.1s						
SGDS	**Sogindy**	**1.20**	**351**	P	**Pb**	**10 57 17.5**	**+0.1**
	8.5nm,0.2s						
SGDS				S	**Sg**	**10 57 33.5**	**-0.1**
	49nm,0.1s						
MRKS	**Merke**	**1.32**	**292**	⇑*i*P	**Pb**	**10 57 19.4**	**-0.1**
	baz=93						
MRKS				⇓*e*S	**Sb**	**10 57 36.8**	**+0.4**
	baz=93						
MRKS	**Merke**	**1.32**	**292**	⇑*i*P	**Pb**	**10 57 19.4**	**-0.1**
	17nm,0.1s						
MRKS				⇓*e*S	**Sb**	**10 57 36.8**	**+0.4**
	46nm,0.2s						
MRKS	**Merke**	**1.32**	**292**	P	**Pb**	**10 57 19.4**	**-0.1**
	13nm,0.2s						
MRKS				S	**Sg**	**10 57 37.2**	**-0.1**
	46nm,0.2s						
MTBS	**Maitube**	**1.43**	**52**	⇑*i*P	**Pb**	**10 57 21.4**	**+0.1**
	baz=51						
MTBS				⇑*i*S	**Sg**	**10 57 40.1**	**-0.7**
	baz=51						
MTBS	**Maitube**	**1.43**	**52**	⇑*i*P	**Pb**	**10 57 21.4**	**+0.1**
	16nm,0.1s						
MTBS				⇑*i*S	**Sg**	**10 57 40.1**	**-0.7**
	53nm,0.3s						
IZV	**Izvestkoviy**	**1.49**	**58**	⇑*e*P	**Pb**	**10 57 22.6**	**+0.2**
	baz=57						
IZV				⇑*i*S	**Sg**	**10 57 42.1**	**-0.6**
	baz=57						
IZV	**Izvestkoviy**	**1.49**	**58**	⇑*e*P	**Pb**	**10 57 22.6**	**+0.2**
	12nm,0.2s						
IZV				⇑*i*S	**Sg**	**10 57 42.1**	**-0.6**
	37nm,0.2s						
IZV	**Izvestkoviy**	**1.49**	**58**	P	**Pb**	**10 57 22.4**	**0.0**
	12nm,0.2s						
IZV				S	**Sg**	**10 57 42.1**	**-0.6**
	37nm,0.2s						
TNSS	**Tian-Shan**	**1.71**	**62**	⇑*i*P	**Pb**	**10 57 26.3**	**+0.1**
	baz=61						
TNSS				⇑*i*S	**Sg**	**10 57 48.7**	**-1.0**
	baz=61						
TNSS	**Tian-Shan**	**1.71**	**62**	⇑*i*P	**Pb**	**10 57 26.3**	**+0.1**
	17nm,0.3s						
TNSS				⇑*i*S	**Sg**	**10 57 48.7**	**-1.0**
	34nm,0.6s						
KDJ	**Kajisay**	**1.71**	**94**	⇑*i*P	**Pb**	**10 57 25.5**	**-0.7**
	baz=93						
KDJ				⇑*i*S	**Sb**	**10 57 48.3**	**+0.7**
	baz=93						
MDOK	**Medeo**	**1.83**	**60**	⇓*i*P	**Pb**	**10 57 28.6**	**+0.4**
	baz=59						
MDOK				⇑*i*S	**Sg**	**10 57 52.6**	**-1.0**
	baz=59						
MDOK	**Medeo**	**1.83**	**60**	⇓*i*P	**Pb**	**10 57 28.6**	**+0.4**
	9.7nm,0.2s						
MDOK				⇑*i*S	**Sg**	**10 57 52.6**	**-1.0**
	20nm,0.3s						
MDOK	**Medeo**	**1.83**	**60**	P	**Pb**	**10 57 28.6**	**+0.4**
	8.9nm,0.3s						
MDOK				Lg	Lg	10 57 52.7	
	43nm,0.6s						
KOTS	**Kotyrbulak**	**1.90**	**59**	⇓*i*P	**Pb**	**10 57 30.4**	**+0.9**
	43nm,0.2s						
KOTS				⇑*e*S	**Sg**	**10 57 55.4**	**-0.6**
	74nm,0.4s						
KOTS	**Kotyrbulak**	**1.90**	**59**	P	**Pb**	**10 57 30.4**	**+0.9**
	21nm,0.4s						
KOTS				S	**Sg**	**10 57 55.6**	**-0.5**
	258nm,0.5s						
KUU	**Kurty**	**1.94**	**33**	*e*P	**Pb**	**10 57 30.8**	**+0.7**
	12nm,0.2s						
KUU				⇓*i*S	**Sg**	**10 57 56.4**	**-0.9**
	90nm,0.2s						
KUU	**Kurty**	**1.94**	**33**	Pg	**Pb**	**10 57 30.7**	**+0.6**
	12nm,0.2s						
KUU				Lg	Lg	10 57 56.2	
	49nm,0.2s						
KTBS	**Karatobe**	**1.96**	**42**	*e*P	**Pb**	**10 57 31.1**	**+0.8**
	2.9nm,0.2s						
KTBS				*e*S	**Sg**	**10 57 57.0**	**-0.7**
	46nm,0.3s						
KTBS	**Karatobe**	**1.96**	**42**	P	**Pb**	**10 57 31.1**	**+0.8**
	2.9nm,0.2s						
KTBS				S	**Sg**	**10 57 57.0**	**-0.7**
	46nm,0.3s						
ANVS	**Anan'yevo**	**2.12**	**75**	⇑*i*P	**Pn**	**10 57 31.2**	**+1.1**
	baz=74						
ANVS				⇑*i*S	**Sb**	**10 57 58.1**	**-1.4**
	baz=74						
CHKK	**Chushkaly**	**2.21**	**43**	*e*P	**Pg**	**10 57 35.9**	**-1.3**
	4.1nm,0.1s						
CHKK				⇓*i*S	**Sg**	**10 58 05.1**	**-0.8**
	115nm,0.2s						
CHKK	**Chushkaly**	**2.21**	**43**	Pg	**Pg**	**10 57 35.9**	**-1.3**
	4.1nm,0.1s						
CHKK				Lg	Lg	10 58 05.1	
	115nm,0.2s						
OHH	**Osh**	**2.35**	**223**	⇑*i*P	**Pn**	**10 57 33.9**	**+0.7**
	baz=24						
OHH				⇑*i*S	**Sn**	**10 58 02.7**	**+0.8**
	baz=24						
SATY	**Saty**	**2.71**	**72**	*e*P	**Pb**	**10 57 42.7**	**-0.6**
	5.6nm,0.1s						
SATY				*e*S	**Sb**	**10 58 17.3**	**+0.8**
	33nm,0.3s						
SATY	**Saty**	**2.71**	**72**	Pg	**Pb**	**10 57 42.7**	**-0.6**
	5.6nm,0.1s						
SATY				Lg	Lg	10 58 17.3	
	33nm,0.3s						
BTLS	**Baital**	**2.84**	**348**	*e*P	**Pb**	**10 57 46.6**	**+1.2**
	2.3nm,0.6s						
BTLS				*e*S	**Sg**	**10 58 23.4**	**-2.7**
	34nm,0.6s						
BTLS	**Baital**	**2.84**	**348**	Pg	**Pb**	**10 57 46.6**	**+1.2**
	2.3nm,0.6s						
BTLS				Lg	Lg	10 58 23.4	
	34nm,0.6s						
ARXS	**Arharly**	**2.90**	**47**	*e*P	**Pb**	**10 57 48.0**	**+1.6**
	7.4nm,0.3s						
ARXS				*e*S	**Sg**	**10 58 25.2**	**-2.7**
	52nm,0.3s						
ARXS	**Arharly**	**2.90**	**47**	Pg	**Pb**	**10 57 47.6**	**+1.2**
	5.4nm,0.2s						
ARXS				Lg	Lg	10 58 25.2	
	52nm,0.3s						
KPKS	**Kokpek**	**3.04**	**65**	*e*P	**Pb**	**10 57 49.8**	**+1.0**
	26nm,0.3s						
KPKS				*e*S	**Sb**	**10 58 28.9**	**+3.0**
	47nm,0.6s						
MNBS	**Baschi**	**3.15**	**54**	*e*P	**Pb**	**10 57 51.9**	**+1.2**
	2.1nm,0.2s						
MNBS				*e*S	**Sg**	**10 58 32.3**	**-3.5**
	41nm,0.5s						
MNBS	**Baschi**	**3.15**	**54**	Pg	**Pb**	**10 57 51.9**	**+1.2**
	2.1nm,0.2s						
MNBS				Lg	Lg	10 58 32.3	
	41nm,0.5s						
UZB	**Uzynbulak**	**3.17**	**72**	*e*P	**Pb**	**10 57 52.5**	**+1.4**
	20nm,0.4s						
UZB				*e*S	**Sg**	**10 58 33.3**	**-3.3**
	18nm,0.4s						
UZB	**Uzynbulak**	**3.17**	**72**	Pg	**Pb**	**10 57 53.0**	**+1.9**
	20nm,0.4s						
UZB				Lg	Lg	10 58 34.1	
	18nm,0.4s						
KK31	**Karatay Array**	**3.33**	**286**	⇑Pn	**Pb**	**10 57 53.2**	**-0.5**
	0.5nm,0.3s,baz=105,slow=20,SNR=12						
KK31				⇑Lg	Lg	10 58 39.7	
	6.5nm,0.6s,baz=99,slow=29,SNR=4.1						
SHLS	**Shalkode**	**3.49**	**74**	*e*P	**Pg**	**10 58 03.2**	**+1.6**
	8.5nm,0.2s						
SHLS				*e*S	**Sg**	**10 58 52.0**	**+5.3**
	19nm,0.4s						
SHLS	**Shalkode**	**3.49**	**74**	Pg	**Pg**	**10 58 05.3**	**+3.7**
	8.5nm,0.2s						
SHLS				Lg	Lg	10 58 55.3	
	19nm,0.4s						
PDGK	**Podgornoye**	**3.55**	**71**	Pg	**Pb**	**10 57 58.5**	**+1.0**
	2.1nm,0.3s						
PDGK				Lg

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
	baz=14							
AAK				⇑*i*S		Sg	11 01 15.0	-0.1
	baz=14							
AAK	**Ala-Archa**	**2.00**	**15**	⇓Pn		**Pg**	**11 00 48.7**	**-0.5**
	1.9nm,0.3s							
AAK				Sn		**Sg**	**11 01 17.3**	**+2.2**
	14nm,0.8s							
MRKS	**Merke**	**2.08**	**348**	*e*P		**Pb**	**11 00 48.6**	**-0.2**
	12nm,0.4s							
MRKS				*e*S		**Sg**	**11 01 19.0**	**+1.2**
	35nm,0.5s							
MRKS	**Merke**	**2.08**	**348**	Pg		**Pb**	**11 00 48.6**	**-0.2**
	12nm,0.4s							
MRKS				Lg		Lg	11 01 19.0	
	35nm,0.5s							
KBK	**Karagaybulak**	**2.13**	**23**	⇑*i*P		**Pb**	**11 00 49.0**	**-0.6**
	baz=23							
KBK				⇑*i*S		**Sg**	**11 01 18.3**	**-1.0**
	baz=23							
FRU1	**Bishkek**	**2.19**	**16**	⇑*i*P		**Pb**	**11 00 50.5**	**-0.1**
	baz=15							
FRU1				⇑*i*S		**Sg**	**11 01 19.2**	**-2.1**
	baz=15							
ULHL	**Ulahol**	**2.39**	**49**	⇑*i*P		**Pb**	**11 00 52.1**	**-2.0**
	baz=49							
ULHL				⇑*i*S		**Sb**	**11 01 24.0**	**+0.3**
	baz=49							
BOOM	**Boomskoye usch**	**2.40**	**41**	⇑*i*P		**Pb**	**11 00 53.4**	**-0.8**
	baz=41							
BOOM				⇑*i*S		**Sb**	**11 01 24.6**	**+0.8**
	baz=41							
CHMS	**Chumysh**	**2.40**	**17**	⇑*e*P		**Pb**	**11 00 52.0**	**-2.1**
	baz=16							
CHMS				⇑*i*S		**Sb**	**11 01 24.5**	**+0.8**
	baz=16							
TKM2	**Tokmak 2**	**2.58**	**31**	⇓Pg		**Pg**	**11 00 58.6**	**-1.9**
	2.0nm,0.6s							
TKM2				⇓Lg		Lg	11 01 36.9	
	6.1nm,0.6s							
KST	**Kastek**	**2.83**	**34**	*e*P		**Pb**	**11 01 02.6**	**+1.0**
	2.4nm,0.2s							
KST				*e*S		**Sg**	**11 01 43.6**	**+1.6**
	6.8nm,0.4s							
KST	**Kastek**	**2.83**	**34**	Pg		**Pb**	**11 01 02.6**	**+1.0**
	2.4nm,0.2s							
KST				Lg		Lg	11 01 43.6	
	6.8nm,0.4s							
KDJ	**Kajisay**	**2.91**	**60**	⇑*i*P		**Pb**	**11 01 00.7**	**-2.2**
	baz=60							
KDJ				⇑*i*S		**Sb**	**11 01 36.2**	**-2.4**
	baz=60							
DGS	**Degeres**	**2.93**	**29**	*e*P		**Pb**	**11 01 04.6**	**+1.4**
	1.9nm,0.3s							
DGS				*e*S		**Sg**	**11 01 46.8**	**+1.9**
	11nm,0.4s							
DGS	**Degeres**	**2.93**	**29**	Pg		**Pb**	**11 01 04.6**	**+1.4**
	1.4nm,0.3s							
DGS				Lg		Lg	11 01 46.8	
	11nm,0.4s							
IZV	**Izvestkoviy**	**3.13**	**41**	*e*P		**Pb**	**11 01 08.0**	**+1.3**
	1.5nm,0.3s							
IZV				*e*S		**Sg**	**11 01 52.3**	**+0.8**
	10nm,0.5s							
IZV	**Izvestkoviy**	**3.13**	**41**	Pg		**Pb**	**11 01 08.1**	**+1.3**
	1.5nm,0.3s							
IZV				Lg		Lg	11 01 52.3	
	10nm,0.5s							
IUG	**Iuzhnay**	**3.18**	**298**	*e*P		**Pb**	**11 01 07.2**	**-0.3**
	9.1nm,0.4s							
IUG				*e*S		**Sg**	**11 01 50.9**	**-2.1**
	33nm,0.6s							
KK31	**Karatay Array**	**3.43**	**315**	⇑Pg		**Pb**	**11 01 11.0**	**-0.6**
	1.2nm,0.5s,baz=131,slow=16,SNR=8.4							
KK31				⇓Lg		Lg	11 01 59.3	
	2.6nm,0.5s,baz=135,slow=29,SNR=4.1							
KOTS	**Kotyrbulak**	**3.53**	**43**	*e*P		**Pb**	**11 01 14.9**	**+1.5**
	3.7nm,0.3s							
KOTS				*e*S		**Sg**	**11 02 04.2**	**0.0**
	7.0nm,0.5s							
KOTS	**Kotyrbulak**	**3.53**	**43**	Pg		**Pb**	**11 01 14.9**	**+1.5**
	3.7nm,0.3s							
KOTS				Lg		Lg	11 02 04.2	
	7.0nm,0.5s							
KTBS	**Karatobe**	**3.69**	**35**	*e*P		**Pb**	**11 01 18.0**	**+2.0**
	0.6nm,0.7s							
KTBS				*e*S		**Sg**	**11 02 09.6**	**+0.4**
	6.3nm,0.6s							
KTBS	**Karatobe**	**3.69**	**35**	Pg		**Pb**	**11 01 18.0**	**+2.0**
	0.6nm,0.7s							
KTBS				Lg		Lg	11 02 09.6	
	6.3nm,0.6s							
BRLS	**Borolday**	**3.76**	**309**	*e*P		**Pb**	**11 01 17.6**	**+0.3**
	2.8nm,0.3s							
BRLS				*e*S		**Sg**	**11 02 09.1**	**-2.6**
	6.8nm,0.6s							
BRLS	**Borolday**	**3.76**	**309**	Pg		**Pb**	**11 01 17.7**	**+0.3**
	2.8nm,0.3s							
BRLS				Lg		Lg	11 02 09.1	
	6.8nm,0.6s							

*IDC **14** 11:18:58.2±2.3, 0°.61N×126°.78E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/39, mbtmp3.1/3, Error ellipse: s-maj=187.9km s-min=29.2km az=66.0*
*DJA **14** 11:19:04.6±0.2, 0°.S±2°.×12°.5E±°, h10km, M3.6/9, mb3.8/1, MLv3.5/9*
ISC 14 11:19:04.1±1.2, **0°.08S**±0°.05×**125°.46E**±0°.04, **h22**km±13km, **n9**, σ1§**47**/14, **mb3.0**/3, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.62**	**294**		P	**Pn**	**11 19 31.2**	**-0.1**
KMSI					S	**Sb**	**11 19 54.3**	**+1.0**
SANI	**Sanana**	**2.02**	**165**		P	**Pb**	**11 19 39.2**	**-1.0**
SANI					S	**Sb**	**11 20 05.4**	**+0.4**
TNTI	**Ternate**	**2.08**	**66**		P	**Pb**	**11 19 40.8**	**-0.4**
TNTI					S	**Sb**	**11 20 08.7**	**+2.0**
GTOI	**Gorontalo**	**2.55**	**286**		P	**Pb**	**11 19 48.1**	**-1.1**
GTOI					S	**Sb**	**11 20 20.3**	**+0.1**
LUWI	**Luwuk**	**2.85**	**250**		P	**Pn**	**11 19 49.8**	**+1.5**
LUWI					S	**Sn**	**11 20 24.8**	**+2.8**
SPSI	**Sidrap Palu**	**6.87**	**236**		P	**Pn**	**11 20 44.1**	**+0.5**
WRA	**Warramunga Arr**	**21.57**	**157**		P	**P**	**11 23 50.9**	**-1.4**
	0.5nm,0.7s,baz=339,slow=12,SNR=5.3							
ASAR	**Alice Springs**	**24.84**	**161**		P	**P**	**11 24 25.1**	**+0.1**
	0.2nm,0.5s,baz=342,slow=11,SNR=4.1							
MKAR	**Makanchi Array**	**60.00**	**327**		P	**P**	**11 29 07.7**	**-1.3**
	0.2nm,0.4s,baz=122,slow=7.7,SNR=2.4							

*IDC **14** 11:24:34.2±2.0, 10°.41S×119°.14E, h0km, mb3.9/1, mb1 3.8/5, mb1mx3.4/43, mbtmp3.7/5, ML3.8/4, Error ellipse: s-maj=58.9km s-min=25.2km az=49.0*
*DJA **14** 11:24:40.1±0.6, 10°.S±4°.×12°.0E±°, h21km±5km, M4.1/13, mb4.2/5, MLv4.0/13*
ISC 14 11:24:39.1±0.9, **10°.29S**±0°.06×**119°.50E**±0°.05, **h35**km, **n19**, σ3§**12**/26, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.65**	**350**		P	**Pn**	**11 24 50.2**	**-1.7**
WSI	**Waingapu**	**1.00**	**52**		P	**Pn**	**11 24 56.4**	**-0.2**
BASI	**Baing, Sumba**	**1.06**	**86**		P	**Pn**	**11 24 59.4**	**+2.0**
PLAI	**Plampang**	**2.24**	**310**		P	**Pn**	**11 25 14.6**	**+0.9**
PLAI					S	**Sn**	**11 25 43.5**	**+3.4**
EDFI	**Ende, Flores**	**2.65**	**55**		P	**Pn**	**11 25 20.9**	**+1.5**
TWSI	**Taliwang, Sumb**	**3.01**	**301**		P	**Pn**	**11 25 25.3**	**+1.0**
TWSI					S	**Sn**	**11 26 01.5**	**+2.3**
BATI	**Baumata**	**4.09**	**89**		Pn	**Pn**	**11 25 43.2**	**+4.0**
	4.5nm,0.3s,baz=301,slow=4.1,SNR=2.3							
BATI					Sn	**Sn**	**11 26 31.5**	**+5.5**
	4.1nm,0.3s,baz=287,slow=17,SNR=1.7							
BATI	**Baumata**	**4.09**	**89**		P	**Pn**	**11 25 40.5**	**+1.3**
SOEI	**Soe**	**4.72**	**84**		P	**Pn**	**11 25 50.1**	**+2.1**
BKSI	**Bulukumba**	**4.97**	**7**		P	**Pn**	**11 25 52.1**	**+0.8**
BKSI					S	**Sn**	**11 26 45.3**	**-2.3**
KAPI	**Kappang**	**5.25**	**3**		Pn	**Pn**	**11 25 56.7**	**+1.7**
	2.7nm,0.3s,baz=180,slow=13,SNR=2.3							
KAPI					Sn	**Sn**	**11 26 54.3**	**-0.1**
	4.6nm,0.3s,baz=193,slow=19,SNR=2.3							
JAGI	**Jajag, Banyuwa**	**5.58**	**288**		P	**Pn**	**11 26 01.8**	**+2.1**
	0.2nm37nm,0.8s							
JAGI					S	**Sn**	**11 27 02.3**	**-0.3**
	0.2nm37nm,0.8s							
BNSI	**Bone**	**5.88**	**6**		P	**Pn**	**11 26 02.0**	**-1.8**
	0.1nm29nm,2.0s							
SPSI	**Sidrap Palu**	**6.29**	**2**		P	**Pn**	**11 26 10.3**	**+0.9**
BLJI	**Banyuglugur**	**6.36**	**293**		P	Pn	11 26 05.8	-4.6
FITZ	**Fitzroy Crossi**	**9.78**	**143**		Sn	**Sn**	**11 28 41.9**	**-4.0**
	1.1nm,0.3s,baz=180,slow=23,SNR=9.1							
WRA	**Warramunga Arr**	**17.23**	**126**		P	**Pn**	**11 28 37.7**	**+0.6**
	0.4nm,0.3s,baz=297,slow=13,SNR=6.7							
WRA					S	**Sn**	**11 31 39.8**	**-8.0**
	0.1nm,0.3s,baz=291,slow=26,SNR=2.0							
ASAR	**Alice Springs**	**19.12**	**136**		P	**P**	**11 29 01.9**	**+2.6**
	0.3nm,0.3s,baz=320,slow=15,SNR=13							
ASAR					S	**Sn**	**11 32 27.5**	**-6.2**
	0.1nm,0.3s,baz=310,slow=24,SNR=4.2							
MKAR	**Makanchi Array**	**65.82**	**333**		P	**P**	**11 35 20.9**	**0.0**
	0.7nm,0.5s,baz=138,slow=6.7,SNR=6.4							

*TUL **14** 12:01:02.5±2.0, 36°.63N±0°.02×97°.98W±0°.07, h5km±7km, ML3.6, Mwr3.5/35(NEIC), Error ellipse: s-maj=7.4km s-min=2.5km az=79.0*
*NEIC **14** 12:01:02.8, 36°.61N×97°.94W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.85; $M_{\theta\theta}$=2.07; $M_{\phi\phi}$=-1.21; $M_{r\theta}$=-0.09; $M_{\theta\phi}$=0.43; $M_{\phi r}$=0.63; Fault plane solution: M_0=1.96000×10^{14} NP1:ϕ_s=223.64000°, δ=65.37000°, λ=-152.97000°. NP2:ϕ_s=121.63000°, δ=65.60000°, λ=-27.24000°. Principal axes: T 2.1241, Plg=0.0000°, Azm=173.0000°; N -0.3932, Plg=54.0000°, Azm=263.0000°; P -1.7309, Plg=36.0000°, Azm=83.0000°;*
*NEIC **14** 12:01:02.8±2.0, 36°.61N±0°.02×97°.95W±0°.06, h5km±2km Error ellipse: s-maj=8.5km s-min=3.6km az=89.0*
*UNK **14** 12:01:02.5, 36°.63N×97°.98W, h5km*
*ANF **14** 12:01:04.5±0.9, 36°.60N×97°.93W, h13km±7km, ML4.6/15, Error ellipse: s-maj=3.0km s-min=2.4km az=6.0*
ISC 14 12:01:03.6±0.6, **36°.58N**±0°.02×**97°.89W**±0°.02, **h10**km, **n136**, σ1§**65**/158, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.11**	**225**			**Pg**	**12 01 05.5**	**-0.9**
CROK					Sg	**Sg**	**12 01 07.4**	**-0.8**
KAN13	**South Haven SW**	**0.55**	**37**		Pg	**Pg**	**12 01 13.6**	**-0.6**
KAN13					Sg	**Sg**	**12 01 21.3**	**-0.1**
KAN10	**Anthony SW Sta**	**0.57**	**343**		Pg	**Pg**	**12 01 12.7**	**-2.0**
KAN12	**Harper NE Stat**	**0.72**	**353**		Pg	**Pg**	**12 01 15.3**	**-2.3**
OK029	**Liberty Lake**	**0.86**	**156**		Pg	**Pg**	**12 01 20.2**	**0.0**
U32A	**Winter Ranch,**	**0.92**	**258**		Pg	**Pg**	**12 01 18.8**	**-2.5**
U32A						**Sg**	**12 01 30.6**	**-2.7**
BCOK	**Bluff Creek, N**	**0.95**	**166**		Pg	**Pg**	**12 01 21.5**	**-0.4**
BCOK					Sg	**Sb**	**12 01 35.3**	**+0.5**
QUOK	**Quay**	**1.04**	**113**		Pg	**Pg**	**12 01 23.6**	**0.0**
OK009	**Oakdale Elemen**	**1.07**	**159**		Pg	**Pg**	**12 01 24.1**	**-0.1**
OK025	**Westminster Rd**	**1.09**	**156**			**Pb**	**12 01 24.5**	**-0.1**
T35A	**Sooner Cattle**	**1.16**	**73**			**Pb**	**12 01 25.4**	**-0.3**
OKCFA	**Oklahoma City**	**1.22**	**163**			**Pn**	**12 01 26.2**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.23**	**162**			**Pn**	**12 01 26.4**	**-0.5**
FNO	**Franklin**	**1.38**	**163**		Pn	**Pn**	**12 01 29.4**	**+0.4**
TUL1	**Leonard**	**1.82**	**111**		P	**Pn**	**12 01 35.9**	**+0.8**
	baz=293							
TUL1					Sb	**Sg**	**12 02 02.5**	**+0.2**
	baz=293							
TUL1	**Leonard**	**1.82**	**111**			**Pn**	**12 01 35.9**	**+0.8**
R32A	**Long Quarter,**	**1.95**	**341**			**Pn**	**12 01 36.6**	**-0.3**
WMOK	**Wichita Mounta**	**1.98**	**202**		P	**Pn**	**12 01 37.0**	**-0.2**
	baz=19							
WMOK					S	**Sb**	**12 02 04.3**	**-0.1**
	baz=19							
WMOK	**Wichita Mounta**	**1.98**	**202**			**Pn**	**12 01 37.3**	**+0.1**
CBKS	**Cedar Bluff**	**2.67**	**327**		P	**Pn**	**12 01 46.0**	**-0.8**
	baz=147,SNR=30							
CBKS					S	**Sn**	**12 02 20.2**	**+1.1**
	baz=147							
CBKS	**Cedar Bluff**	**2.67**	**327**		Pn	**Pn**	**12 01 46.0**	**-0.8**
KSU1	**Kansas State U**	**2.71**	**22**		Pn	**Pn**	**12 01 47.5**	**+0.2**
	baz=204,SNR=43							
KSU1					Pb	**Pb**	**12 01 53.2**	**+0.9**
	baz=204							
KSU1	**Kansas State U**	**2.71**	**22**		Pn	**Pn**	**12 01 47.5**	**+0.2**
U38A	**Gravette**	**2.83**	**92**		Pn	**Pn**	**12 01 49.8**	**+0.9**
X37A	**Clayton**	**2.86**	**133**		Pn	**Pn**	**12 01 50.8**	**+1.5**
HHAR	**Hobbs**	**3.20**	**94**		Pn	**Pn**	**12 01 54.5**	**+0.4**
Z35A	**Perchaven, San**	**3.28**	**171**		Pn	**Pn**	**12 01 55.8**	**+0.6**
AMTX	**Amarillo**	**3.52**	**242**		Pn	**Pn**	**12 01 58.6**	**+0.2**
	baz=59							
AMTX					Pb	**Pb**	**12 02 05.5**	**-0.5**
	baz=59							
AMTX					Sb	**Sb**	**12 02 51.2**	**+2.4**
	baz=59							
AMTX	**Amarillo**	**3.52**	**242**		Pn	**Pn**	**12 01 58.8**	**+0.3**
W39A	**Magazine**	**3.61**	**111**		P	**Pn**	**12 02 01.4**	**+1.7**
	baz=294							
W39A					Pb	**Pb**	**12 02 09.1**	**+1.5**
	baz=294,SNR=23							
W39A	**Magazine**	**3.61**	**111**		Pn	**Pn**	**12 02 01.2**	**+1.6**
S39A	**Bolivar**	**3.81**	**72**		Pn	**Pn**	**12 02 02.9**	**+0.4**
MIAR	**Mount Ida**	**4.06**	**119**		P	**Pn**	**12 02 07.1**	**+1.3**
	baz=301							
MIAR					S	**Sn**	**12 02 56.9**	**+3.5**
	baz=301							
MIAR					Sb	**Sg**	**12 03 12.9**	**-1.2**
	baz=301							
MIAR	**Mount Ida**	**4.06**	**119**		Pn	**Pn**	**12 02 07.4**	**+1.6**
U40A	**Yellville**	**4.07**	**92**		Pn	**Pn**	**12 02 06.5**	**+0.6**
	baz=275,SNR=12							
U40A					Pb	**Pb**	**12 02 16.2**	**+0.8**
	baz=275							
U40A					S	**Sn**	**12 02 54.6**	**+1.0**
	baz=275							
U40A	**Yellville**	**4.07**	**92**		Pn	**Pn**	**12 02 06.3**	**+0.4**
Z38A	**Mt. Pleasant**	**4.08**	**143**		Pn	**Pn**	**12 02 08.2**	**+2.1**
N33A	**J Bar K, Exete**	**4.17**	**5**		Pn	**Pn**	**12 02 05.3**	**-2.0**
ABTX	**Abilene, Hawle**	**4.20**	**201**		Pn	**Pn**	**12 02 07.3**	**-0.6**
KSCO	**Kaye Shedlock'**	**4.47**	**304**		P	**Pn**	**12 02 11.7**	**+0.2**
	baz=122							
KSCO					Sb	**Sb**	**12 03 19.1**	**+2.9**
	baz=122							
KSCO	**Kaye Shedlock'**	**4.47**	**304**		Pn	**Pn**	**12 02 10.2**	**-1.3**
P38A	**Dawn**	**4.59**	**47**		Pn	**Pn**	**12 02 12.8**	**-0.3**
WHTX	**Lake Whitney,**	**4.59**	**175**		P	**Pn**	**12 02 13.3**	**+0.2**
	baz=355							
WHTX					Sb	**Sg**	**12 03 26.4**	**-4.7**
	baz=355							
WHTX	**Lake Whitney,**	**4.59**	**175**		Pn	**Pn**	**12 02 13.2**	**+0.1**
N35A	**Tabor**	**4.62**	**22**		Pn	**Pn**	**12 02 14.5**	**+1.0**
X40A	**Basin Creek Fa**	**4.62**	**115**		P	**Pn**	**12 02 14.8**	**+1.3**
	baz=299							
X40A					S	**Sn**	**12 03 10.7**	**+3.4**
	baz=299							
X40A	**Basin Creek Fa**	**4.62**	**115**		Pn	**Pn**	**12 02 14.5**	**+0.9**
FCAR	**Ozark Folk Cen**	**4.71**	**97**		Pn	**Pn**	**12 02 16.6**	**+1.8**
WHAR	**Wooly Hollow**	**4.72**	**104**		Pn	**Pn**	**12 02 16.7**	**+1.7**
MSTX	**Muleshoe**	**4.77**	**238**		Pn	**Pn**	**12 02 16.2**	**+0.5**
	baz=54							
MSTX					Pb	**Pb**	**12 02 27.9**	**+0.5**
	baz=54,SNR=18							
MSTX					Sb	**Sb**	**12 03 29.2**	**+4.4**
	baz=54							
MSTX	**Muleshoe**	**4.77**	**238**		Pn	**Pn**	**12 02 16.0**	**+0.4**
W41B	**Gary Mavity, V**	**4.79**	**105**		Pn	**Pn**	**12 02 15.7**	**-0.2**
BGNE	**Belgrade**	**4.83**	**358**		P	**Pn**	**12 02 15.7**	**-0.7**
	baz=178							
BGNE	**Belgrade**	**4.83**	**358**		Pn	**Pn**	**12 02 14.8**	**-1.6**
UALR	**University of**	**4.86**	**110**		Pn	**Pn**	**12 02 19.6**	**+2.7**
WLAR	**White Oak Lake**	**4.86**	**125**		Pn	**Pn**	**12 02 18.7**	**+1.9**
237A	**Washetta, Mont**	**4.88**	**159**		Pn	**Pn**	**12 02 17.3**	**+0.2**
T25A	**Trinidad**	**5.26**	**278**		P	**Pn**	**12 02 21.9**	**-0.6**
	baz=94,SNR=13							
T25A					Sb	**Sb**	**12 03 42.2**	**+3.2**
	baz=94							
T25A	**Trinidad**	**5.26**	**278**		Pn	**Pn**	**12 02 21.5**	**-1.0**
Z41A	**Richland Creek**	**5.33**	**127**		S	**Sn**	**12 03 24.6**	**-0.2**
	baz=310							
LCAR	**Lake Charles**	**5.46**	**93**		Pn	**Pn**	**12 02 26.1**	**+1.0**
P40A	**Paris**	**5.47**	**56**		Pn	**Pn**	**12 02 25.8**	**+0.6**
T42A	**Van Buren**	**5.47**	**83**		Pn	**Pn**	**12 02 26.3**	**+1.1**
CCM	**Cathedral Cave**	**5.50**	**72**		P	**Pn**	**12 02 25.3**	**-0.3**
	baz=257							
CCM	**Cathedral Cave**	**5.50**	**72**		Pn	**Pn**	**12 02 25.1**	**-0.5**
N38A	**Joes South For**	**5.56**	**39**		Pn	**Pn**	**12 02 25.8**	**-0.7**
435B	**Jarrell**	**5.79**	**177**		P	**Pn**	**12 02 29.5**	**0.0**
	baz=357							
435B	**Jarrell**	**5.79**	**177**		Pn	**Pn**	**12 02 29.1**	**-0.4**
CPRX	**Cap Rock**	**6.06**	**236**		Pn	**Pn**	**12 02 33.4**	**0.0**
K31A	**O'Neill**	**6.07**	**354**		Pn	**Pn**	**12 02 33.8**	**+0.3**
X43A	**Marvell**	**6.07**	**108**		Sb	**Sg**	**12 04 13.1**	**-5.6**
	baz=292							
SDCO	**Great Sand Dun**	**6.19**	**283**		P	**Pn**	**12 02 36.0**	**+0.7**
	baz=98,SNR=9.8							
SDCO					Sb	**Sb**	**12 04 12.4**	**+6.5**
	baz=98							
SDCO	**Great Sand Dun**	**6.19**	**283**		Pn	**Pn**	**12 02 35.7**	**+0.4**
Q24A	**Divide**	**6.22**	**295**		Sb	**Sb**	**12 04 12.0**	**+5.2**
	baz=110							
SCIA	**State Center**	**6.44**	**33**		Pn	**Pn**	**12 02 40.0**	**+1.5**
ISCO	**Idaho Springs**	**6.88**	**300**		P	**Pn**	**12 02 45.2**	**+0.4**
	baz=116							
ISCO	**Idaho Springs**	**6.88**	**300**		Pn	**Pn**	**12 02 44.7**	**-0.1**
ANMO	**Albuquerque**	**7.15**	**259**		Sb	**Sb**	**12 04 40.3**	**+6.8**
	baz=74							
ANMO	**Albuquerque**	**7.15**	**259**		Pn	**Pn**	**12 02 49.6**	**+1.1**
ECSD	**EROS Data Cent**	**7.21**	**7**		P	**Pn**	**12 02 48.4**	**-0.7**
	baz=189							
ECSD	**EROS Data Cent**	**7.21**	**7**			**Pn**	**12 02 47.1**	**-2.0**
OXF	**Oxford**	**7.21**	**104**			**Pn**	**12 02 49.7**	**+0.5**
S22A	**4UR Ranch, Cre**	**7.23**	**282**		Pn	**Pn**	**12 02 50.8**	**+1.2**
P43A	**Skaggs, Pawnee**	**7.27**	**63**			**Pn**	**12 02 49.7**	**-0.2**
Y45A	**Yeager Farm, C**	**7.35**	**109**		Pn	**Pn**	**12 02 51.4**	**+0.4**
Q44A	**Meyer Farm, Va**	**7.40**	**69**			**Pn**	**12 02 51.0**	**-0.7**
L40A	**Anamosa**	**7.53**	**41**		Pn	**Pn**	**12 02 52.5**	**-0.9**
BNM	**Barren Site**	**7.54**	**254**		Pn	**Pn**	**12 02 54.5**	**+0.7**
PHWY	**Pilot Hill**	**7.55**	**311**		Pn	**Pn**	**12 02 51.9**	**-2.1**
N23A	**Red Feather La**	**7.62**	**307**		Pn	**Pn**	**12 02 54.4**	**-0.7**
HDIL	**Hopedale**	**7.82**	**57**		P	**Pn**	**12 02 57.9**	**+0.5**
	baz=243,SNR=6.4							
HDIL	**Hopedale**	**7.82**	**57**		Pn	**Pn**	**12 02 57.9**	**+0.5**
MNTX	**Cornudas Mount**	**7.89**	**234**		P	**Pn**	**12 02 58.4**	**0.0**
	baz=49							
MNTX	**Cornudas Mount**	**7.89**	**234**		Pn	**Pn**	**12 02 58.0**	**-0.4**
WVT	**Waverly**	**8.13**	**90**		P	**Pn**	**12 03 02.2**	**+0.4**
	baz=276							
WVT	**Waverly**	**8.13**	**90**		Pn	**Pn**	**12 03 00.6**	**-1.1**
L42A	**Oliver, Polo**	**8.36**	**47**		Pn	**Pn**	**12 03 04.0**	**-0.9**
JFWS	**Jewell Farm**	**8.64**	**41**		P	**Pn**	**12 03 07.5**	**-1.2**
	baz=226							
JFWS	**Jewell Farm**	**8.64**	**41**		Pn	**Pn**	**12 03 07.6**	**-1.1**
T47A	**Sharon Grove**	**8.66**	**84**		Pn	**Pn**	**12 03 09.3**	**+0.2**
TX31	**Lajitas Ar. Si**	**8.70**	**216**		Pn	**Pn**	**12 03 08.7**	**-1.0**
TX32	**Lajitas Array**	**8.70**	**216**		Pn	**Pn**	**12 03 09.6**	**-0.1**
RSSD	**Black Hills**	**8.87**	**330**		P	**Pn**	**12 03 11.9**	**-0.1**
	baz=146							
RSSD	**Black Hills**	**8.87**	**330**		Pn	**Pn**	**12 03 12.0**	**-0.1**
K22A	**Casper**	**9.00**	**315**		Pn	**Pn**	**12 03 13.7**	**-0.1**
I40A	**Norwalk**	**9.18**	**35**		Pn	**Pn**	**12 03 15.5**	**-0.5**
BLO	**Bloomington**	**9.35**	**71**		Pn	**Pn**	**12 03 19.2**	**+0.7**
WCI	**Wyandotte Cave**	**9.37**	**76**		P	**Pn**	**12 03 19.2**	**+0.4**
	baz=264							
WCI	**Wyandotte Cave**	**9.37**	**76**		Pn	**Pn**	**12 03 18.8**	**0.0**
K43A	**Burlington**	**9.57**	**47**		Pn	**Pn**	**12 03 21.0**	**-0.5**
SWET	**Sewanee**	**9.80**	**94**		Pn	**Pn**	**12 03 26.2**	**+1.6**
I42A	**Draeger Farm,**	**10.02**	**40**		Pn	**Pn**	**12 03 25.9**	**-1.6**
FPAL	**Fort Paine**	**10.21**	**98**		Pn	**Pn**	**12 03 30.8**	**+0.5**
R49A	**Shelbyville**	**10.26**	**77**		Pn	**Pn**	**12 03 31.7**	**+0.8**
G40A	**Rib Lake**	**10.44**	**31**		Pn	**Pn**	**12 03 34.8**	**+1.3**
CPCT	**Cooper Cave**	**10.89**	**92**		Pn	**Pn**	**12 03 40.6**	**+1.0**
BW06	**Boulder Array**	**10.90**	**308**		Pn	**Pn**	**12 03 40.3**	**+0.4**
PD31	**Pinedale Array**	**10.90**	**308**		Pn	**Pn**	**12 03 40.4**	**+0.5**
V51A	**Loudon**	**10.97**	**90**		Pn	**Pn**	**12 03 41.8**	**+1.1**
O49A	**Covington**	**11.23**	**67**		Pn	**Pn**	**12 03 43.0**	**-1.2**
TKL	**Tuckaleechee C**	**11.46**	**90**		Pn	**Pn**	**12 03 47.2**	**-0.1**
S51A	**Beattyville**	**11.47**	**80**		Pn	**Pn**	**12 03 47.5**	**0.0**
N49A	**Columbus Grove**	**11.55**	**64**		Pn	**Pn**	**12 03 46.6**	**-1.9**
V52A	**Sevierville**	**11.57**	**89**		Pn	**Pn**	**12 03 49.0**	**+0.1**
LAO	**LASA Array**	**11.86**	**331**		Pn	**Pn**	**12 03 52.6**	**-0.2**
ACSO

ETLH				S	Sn	12 24 19.9	-0.3
	baz=313						
EHY	**Hungye**	**0.56 235**	*i*	P	Pn	12 24 12.9	-0.9
	baz=243						
EHY			*i*	S	Sn	12 24 21.0	-0.7
	baz=243						
WHF	**Hehuan Shan**	**0.60 302** ⇓	*i*	P	Pn	12 24 14.0	-0.8
	baz=304						
WHF				S	Sn	12 24 23.2	-0.2
	baz=304						
OWD	**Renai**	**0.60 283**	*i*	P	Pn	12 24 14.2	-0.4
	baz=283						
OWD			*i*	S	Sn	12 24 22.6	-0.5
	baz=283						
ENA	**Nanau**	**0.61 353**	*i*	P	Pn	12 24 14.0	-0.5
	baz=348						
ENA			*i*	S	Sn	12 24 23.3	+0.3
	baz=348						
ENAH	**Nanao**	**0.62 359**	*i*	P	Pn	12 24 14.5	-0.2
	baz=353						
ENAH			*i*	S	Sn	12 24 24.4	+1.0
	baz=353						
VWDT	**VWDT**	**0.62 264**		P	Pn	12 24 14.4	-0.3
	baz=259						
VWDT				S	Sn	12 24 23.3	-0.2
	baz=259						
CHGB	**Renai**	**0.64 292**		P	Pn	12 24 14.7	-0.4
	baz=292						
CHGB				S	Sn	12 24 24.1	+0.1
	baz=292						
YULB	**Yu-li**	**0.64 228**		P	Pn	12 24 14.1	-0.9
	baz=237						
YULB				S	Sn	12 24 23.0	-0.9
	baz=237						
TWF1	**Yuli**	**0.67 226**	*i*	P	Pn	12 24 14.6	-0.7
	baz=233						
TWF1			*i*	S	Sn	12 24 23.9	-0.6
	baz=233						
NNSH	**Datong**	**0.72 327**	*i*	P	Pn	12 24 15.8	-0.2
	baz=323						
NNSH			*i*	S	Sn	12 24 25.7	-0.2
	baz=323						
NNSB	**Datong**	**0.72 327**		P	Pn	12 24 15.7	-0.4
	baz=322						
NNSB				S	Sn	12 24 25.7	-0.2
	baz=322						
NNS	**Nan Shan**	**0.74 326** ⇓	*i*	P	Pn	12 24 15.9	-0.3
	baz=322						
NNS			*i*	S	Sn	12 24 26.0	-0.3
	baz=322						
TDCB	**Techi**	**0.74 305**		P	Pn	12 24 16.2	-0.1
	baz=310						
TDCB				S	Sn	12 24 25.8	-0.6
	baz=310						
TWC	**Suao**	**0.78 2**	*i*	P	Pn	12 24 16.9	+0.2
	baz=12						
TWC			*i*	S	Sn	12 24 27.9	+0.7
	baz=12						
FULB	**Fuli**	**0.79 218**	*i*	P	Pn	12 24 17.0	+0.1
	baz=229						
FULB			*i*	S	Sn	12 24 28.5	+1.0
	baz=229						
SSLB	**Suanglung**	**0.79 268**		P	Pn	12 24 16.5	-0.4
	baz=263						
SSLB				S	Sn	12 24 27.2	-0.4
	baz=263						
NDT	**Datong Townshi**	**0.82 340**	*i*	P	Pn	12 24 17.2	-0.1
	baz=341						
NDT			*i*	S	Sn	12 24 28.3	-0.1
	baz=341						
CHKT	**Chengkung**	**0.83 210**	*e*	S	Sn	12 24 27.8	-0.7
	baz=201						
SMLT	**Sun Moon Lake**	**0.84 274** ⇓	*i*	P	Pn	12 24 17.5	-0.2
	baz=276						
SMLT			*i*	S	Sn	12 24 28.6	-0.4
	baz=276						
ENTT	**Nioudou**	**0.84 344**	*i*	P	Pn	12 24 17.5	-0.2
	baz=345						
ENTT			*i*	S	Sn	12 24 28.6	-0.2
	baz=345						
TYC	**Yuchr**	**0.89 275**	*i*	P	Pn	12 24 18.0	-0.2
	baz=279						
TYC			*e*	S	Sn	12 24 29.6	-0.2
	baz=279						
WHYT	**Xinyi Township**	**0.89 262**	*i*	P	Pn	12 24 18.8	+0.4
	baz=258						
WHYT				S	Sn	12 24 31.2	+1.1
	baz=258						
TWE	**Neicheng**	**0.91 351**	*i*	P	Pn	12 24 18.5	0.0
	baz=344						
TWE			*i*	S	Sn	12 24 30.9	+0.6
	baz=344						
WHP	**Taichung City**	**0.92 300**	*i*	P	Pn	12 24 19.1	+0.4
	baz=303						
WHP			*i*	S	Sn	12 24 30.8	0.0
	baz=303						
YHNB	**Yeheng**	**0.94 334**		P	Pn	12 24 18.9	0.0
	baz=335						
YHNB				S	Sn	12 24 30.5	-0.7
	baz=335						
ILA	**Ilan**	**0.94 356**	*e*	P	Pn	12 24 19.4	+0.4
	baz=357						
ILA				S	Sn	12 24 32.3	+1.2
	baz=357						
NSK	**Sanguang**	**0.95 334**	*i*	P	Pn	12 24 19.1	0.0
	baz=335						
NSK			*i*	S	Sn	12 24 30.8	-0.6
	baz=335						
EDH	**Donghe**	**0.97 209**		P	Pn	12 24 18.9	-0.4
	baz=201						
EDH			*i*	S	Sn	12 24 30.8	-1.1
	baz=201						
ELDTW	**Lidau**	**0.97 230**	*i*	P	Pn	12 24 18.5	-0.9
	baz=225						
ELDTW				S	Sn	12 24 30.6	-1.4
	baz=225						
ALS	**Alishan**	**0.98 252**	*i*	P	Pn	12 24 20.1	+0.3
	baz=251						
ALS			*i*	S	Sn	12 24 32.9	+0.4
	baz=251						
NWLT	**Wulai**	**0.99 343**	*i*	P	Pn	12 24 19.6	-0.1
	baz=337						
NWLT			*i*	S	Sn	12 24 31.9	-0.6
	baz=337						
WJS	**Zhushan**	**1.00 270**	*i*	P	Pn	12 24 20.6	+0.9
	baz=270						
WJS				S	Sn	12 24 34.9	+2.3
	baz=270						
EGS		**1.02 6**	*i*	P	Pn	12 24 20.8	+0.7
	baz=19						
EGS				S	Sn	12 24 35.3	+2.2
	baz=19						
NTC	**Toucheng**	**1.03 1**	*i*	P	Pn	12 24 20.6	+0.5
	baz=13						
NTC				S	Sn	12 24 34.5	+1.3
	baz=13						
WNT	**Mingjian**	**1.04 273**	*i*	P	Pn	12 24 21.2	+0.9
	baz=273						
WNT			*i*	S	Sn	12 24 35.0	+1.4
	baz=273						
CHN5	**Tsauling**	**1.07 258**	*i*	P	Pn	12 24 21.2	+0.4
	baz=257						
CHN5				S	Sn	12 24 35.8	+1.3
	baz=257						
TCU	**Taichung**	**1.09 287**	*i*	P	Pn	12 24 22.2	+1.2
	baz=287						
TCU			*i*	S	Sn	12 24 37.3	+2.4
	baz=287						
NSTT	**Nanjuang**	**1.10 317**	*i*	P	Pn	12 24 22.0	+0.9
	baz=305						
NSTT			*i*	S	Sn	12 24 36.5	+1.5
	baz=305						
LIOB	**Emei**	**1.10 318**	*i*	P	Pn	12 24 22.2	+1.1
	baz=306						
LIOB				S	Sn	12 24 36.8	+1.7
	baz=306						
NSY	**Sanyi**	**1.13 302**	*i*	P	Pn	12 24 22.2	+0.7
	baz=302						
NSY				S	Sn	12 24 37.7	+1.7
	baz=302						
TIPB	**Shuangxi**	**1.14 0**	*i*	P	Pn	12 24 22.5	+0.8
	baz=351						
TIPB				S	Sn	12 24 37.4	+1.2
	baz=351						
WGK	**Gukeng**	**1.16 263**	*i*	P	Pn	12 24 22.8	+0.9
	baz=263						
WGK			*i*	S	Sn	12 24 39.3	+2.7
	baz=263						
TWA	**Mucha**	**1.17 349**	*i*	P	Pn	12 24 22.8	+0.6
	baz=340						
TWA			*i*	S	Sn	12 24 37.8	+1.0
	baz=340						
STYT	**Tauyuan**	**1.18 236**	*i*	P	Pn	12 24 22.4	+0.2
	baz=230						
STYT			*i*	S	Sn	12 24 38.0	+1.0
	baz=230						
NMLH	**Miaoli**	**1.18 307**	*i*	P	Pn	12 24 22.8	+0.6
	baz=307						
NMLH			*i*	S	Sn	12 24 38.0	+1.0
	baz=307						
WCHH	**Zhanghua**	**1.18 283**	*i*	P	Pn	12 24 23.0	+0.8
	baz=282						
WCHH			*i*	S	Sn	12 24 39.1	+2.0
	baz=282						
WDLH	**Douliu**	**1.18 264**	*i*	P	Pn	12 24 23.0	+0.8
	baz=263						
WDLH				S	Sn	12 24 38.8	+1.8
	baz=263						
TATO	**Taipei**	**1.19 345**		P	Pn	12 24 23.2	+0.9
	baz=346						
TATO				S	Sn	12 24 37.7	+0.5
	baz=346						
LDUT	**Ludao**	**1.19 196**		P	Pn	12 24 20.6	-1.8
	baz=188						
LDUT				S	Sn	12 24 34.9	-2.3
	baz=188						
TWB1	**Santiao Chiao**	**1.19 7**		P	Pn	12 24 22.7	+0.3
	baz=20						
TWB1				S	Sn	12 24 37.8	+0.5
	baz=20						
PTSB	**Yuanli**	**1.19 302**	*e*	S	Sn	12 24 38.7	+1.3
	baz=302						
WDJ	**Dajia District**	**1.20 296**	*i*	P	Pn	12 24 22.9	+0.5
	baz=296						
WDJ			*i*	S	Sn	12 24 38.5	+1.1
	baz=296						
JYNG	**Yonagunijimaku**	**1.20 58**		P	Pn	12 24 22.9	+0.4
JYNG				S	Sn	12 24 38.6	+1.0
TPUB	**Ta-pu**	**1.21 245**		P	Pn	12 24 23.3	+0.6
	baz=244						
TPUB			*e*	S	Sn	12 24 38.9	+1.1
	baz=244						
TWGBT	**Beinan**	**1.21 214**		P	Pn	12 24 22.4	-0.3
	baz=213						
TWGBT			*e*	S	Sn	12 24 36.2	-1.6
	baz=213						
TWG	**Pinlang**	**1.21 215**		P	Pn	12 24 21.7	-1.0
	baz=213						
TWG				S	Sn	12 24 37.4	-0.4
	baz=213						
CHN4	**Tsaushan**	**1.22 248**	*i*	P	Pn	12 24 23.8	+1.0
	baz=246						
CHN4			*i*	S	Sn	12 24 40.4	+2.4
	baz=246						
SBCB	**Hsinchu**	**1.23 322**		P	Pn	12 24 24.0	+1.1
	baz=335						
SBCB				S	Sn	12 24 40.2	+1.9
	baz=335						
NWF	**Wu-fen Shan**	**1.24 358**	*i*	P	Pn	12 24 24.2	+1.1
	baz=347						
NWF			*i*	S	Sn	12 24 40.2	+1.5
	baz=347						
WFSB	**Wu-fen Shan**	**1.24 358**		P	Pn	12 24 24.3	+1.3
	baz=347						
WFSB				S	Sn	12 24 40.3	+1.7
	baz=347						
TAP	**Taipei**	**1.24 347**	*e*	S	Sn	12 24 39.7	+1.1
	baz=348						
HSN	**Hsinchu**	**1.25 322**	*e*	P	Pn	12 24 24.6	+1.5
	baz=338						
HSN				S	Sn	12 24 40.9	+2.2
	baz=338						
WTP	**Ta-pu**	**1.25 243**	*i*	P	Pn	12 24 24.0	+0.8
	baz=241						
WTP			*i*	S	Sn	12 24 40.8	+2.0
	baz=241						
YOJ	**Yonaguni jima**	**1.26 59**		P	Pn	12 24 24.0	+0.7
	baz=59						
YOJ				S	Sn	12 24 39.9	+0.9
	baz=59						
YOJ	**Yonaguni jima**	**1.26 59**		P	Pn	12 24 23.7	+0.4
YOJ				S	Sn	12 24 39.8	+0.8
NCUH	**Zhongli**	**1.28 333**	*i*	P	Pn	12 24 24.2	+0.7
	baz=333						
NCUH				S	Sn	12 24 41.0	+1.6
	baz=333						
NCU	**National Centr**	**1.28 333**	*e*	P	Pn	12 24 23.9	+0.3
	baz=334						
NCU				S	Sn	12 24 41.1	+1.7
	baz=334						
CHY	**Chiayi**	**1.32 256**		P	Pn	12 24 24.7	+0.6
	baz=255						
CHY				S	Sn	12 24 41.9	+1.4
	baz=255						
TWS1	**Kuangyinshan**	**1.32 344**	*i*	P	Pn	12 24 24.7	+0.5
	baz=345						
TWS1			*i*	S	Sn	12 24 41.7	+1.1
	baz=345						
YM01	**YM01**	**1.34 350**	*i*	P	Pn	12 24 24.8	+0.4
	baz=339						
YM01				S	Sn	12 24 41.9	+0.9
	baz=339						
RLNB	**Erlin**	**1.34 273**		P	Pn	12 24 25.4	+1.0
	baz=273						
RLNB				S	Sn	12 24 43.5	+2.6
	baz=273						
TWK	**Hsinying**	**1.34 246**	*i*	P	Pn	12 24 24.9	+0.5
	baz=244						
TWK			*i*	S	Sn	12 24 42.7	+1.5
	baz=244						
CHN1	**Nanshi**	**1.34 242**	*i*	P	Pn	12 24 25.3	+0.8
	baz=241						
CHN1			*i*	S	Sn	12 24 43.0	+1.8
	baz=241						
YM10	**YM10**	**1.35 350**		P	Pn	12 24 25.0	+0.4
	baz=338						
YM10				S	Sn	12 24 41.7	+0.4
	baz=338						
SGST	**Jiashian**	**1.35 237**	*i*	P	Pn	12 24 24.8	+0.2
	baz=236						
SGST			*i*	S	Sn	12 24 43.0	+1.6
	baz=236						
SNST	**Tainan City**	**1.35 244**	*i*	P	Pn	12 24 25.8	+1.2
	baz=243						
SNST			*i*	S	Sn	12 24 43.0	+1.7
	baz=243						
YM11	**YM11**	**1.35 351**		P	Pn	12 24 24.9	+0.1
	baz=338						
SLGT	**Liugui**	**1.36 233**	*i*	P	Pn	12 24 25.7	+1.0
	baz=221						
SLGT			*i*	S	Sn	12 24 43.5	+2.1
	baz=221						
YM03	**YM03**	**1.37 349**	*e*	P	Pn	12 24 25.5	+0.6
	baz=348						
YM08	**YM08**	**1.38 351**		P	Pn	12 24 25.1	+0.2
	baz=340						
YM08			*e*	S	Sn	12 24 41.7	-0.2
	baz=340						
NTST	**Danshui**	**1.38 346**	*e*	P	Pn	12 24 25.1	+0.2
	baz=346						
NTST				S	Sn	12 24 42.6	+0.7
	baz=346						
ANP	**Anpu**	**1.38 349**	*e*	P	Pn	12 24 24.9	-0.2
	baz=349						
ANP			*e*	S	Sn	12 24 41.6	-0.6
	baz=349						
WTCT	**Ta-ch'eng**	**1.41 272**	*i*	P	Pn	12 24 26.0	+0.7
	baz=271						
WTCT			*i*	S	Sn	12 24 45.0	+2.3
	baz=271						
ECL	**Taimali**	**1.46 213**		P	Pn	12 24 25.6	-0.5
	baz=212						
ECL				S	Sn	12 24 42.7	-1.2
	baz=212						
TWY	**Chenhua**	**1.46 352**	*e*	P	Pn	12 24 26.9	+0.8
	baz=341						
TWY			*e*	S	Sn	12 24 45.2	+1.2
	baz=341						
WSF	**Szhu**	**1.48 263**		P	Pn	12 24 26.8	+0.6
	baz=262						
WSF				S	Sn	12 24 46.4	+2.1
	baz=262						
CHN3	**Shinhua**	**1.53 241**	*i*	S	Sn	12 24 48.9	+3.3
	baz=240						
SSD	**Sandimen**	**1.53 226**	*i*	P	Pn	12 24 28.3	+1.3
	baz=224						
SSD			*i*	S	Sn	12 24 48.3	+2.6
	baz=224						
CHN8	**Yiju**	**1.55 252**	*i*	P	Pn	12 24 27.1	-0.2
	baz=251						
CHN8			*i*	S	Sn	12 24 48.1	+1.9
	baz=251						
TWM1	**Shoushan**	**1.62 232**	*i*	P	Pn	12 24 30.7	+2.3
	baz=242						
TWM1				S	Sn	12 24 52.3	+4.2
	baz=242						
SCLT	**Jiali**	**1.63 247**	*i*	S	Sn	12 24 50.6	+2.5
	baz=245						
MASBT	**Mashibuluo**	**1.63 222**		P	Pn	12 24 29.3	+1.0
	baz=220						
MASBT				S	Sn	12 24 50.1	+2.0
	baz=220						
SGLT	**Jiouru**	**1.64 228**	*e*	S	Sn	12 24 51.7	+3.3
	baz=217						
EAST	**Anshuo**	**1.69 212**	*e*	P	Pn	12 24 29.7	+0.5
	baz=203						
EAST			*e*	S	Sn	12 24 48.5	-1.1
	baz=203						
SSPT	**Xinbi**	**1.76 221**		P	Pn	12 24 32.6	+2.4
	baz=219						
SSPT				S	Sn	12 24 53.2	+1.8
	baz=219						
LAY	**Lan-yu**	**1.79 188**	*e*	S	Sn	12 24 49.3	-2.9
	baz=183						
PCYT	**Pengchaiyu**	**1.81 7**	*e*	P	Pn	12 24 31.9	+1.0
	baz=7.0						
PCYT			*e*	S	Sn	12 24 53.5	+0.8
	baz=7.0						
SCZT	**Fangliau**	**1.82 218**		P	Pn	12 24 32.5	+1.5
	baz=224						
SCZT				S	Sn	12 24 54.1	+1.3
	baz=224						
IRIF	**Iriomote-Funau**	**1.82 73**		P	Pn	12 24 31.5	+0.5
IRIF			*e*	S	Sn	12 24 53.5	+0.7
HATJ	**Hateruma jima**	**1.83 82**		P	Pn	12 24 32.1	+0.9
HATJ				S	Sn	12 24 52.3	-0.8
WLCH	**Liuqiu**	**1.98 222**	*e*	P	Pn	12 24 35.0	+1.8
	baz=220						
WLCH			*e*	S	Sn	12 25 00.7	+4.0
	baz=220						
JKRS	**Kuro-shima**	**2.04 78**		P	Pn	12 24 35.2	+1.1
JKRS				S	Sn	12 24 59.4	+1.0
WDGT	**Dungji**	**2.06 255**	*i*	P	Pn	12 24 33.9	-0.4
	baz=253						
WDGT			*i*	S	Sn	12 24 58.6	-0.1
	baz=253						
PHUB	**P'eng-hu**	**2.08 262**		P	Pn	12 24 34.6	0.0
	baz=273						
PHUB				S	Sn	12 24 58.7	-0.6
	baz=273						
PNG	**Penghu**	**2.09 263**	*i*	P	Pn	12 24 34.7	-0.1
	baz=262						
PNG			*i*	S	Sn	12 24 59.7	+0.2
	baz=262						
JIJ	**Ishigaki jima**	**2.19 75**		P	Pn	12 24 36.2	+0.1
JIJ				S	Sn	12 25 01.0	-1.0
JISG	**Ishigakijimahi**	**2.40 71**		P	Pn	12 24 39.0	0.0
JISG				S	Sn	12 25 06.4	-0.7
VWUC	**VWUC**	**2.45 299**	*e*	P	Pn	12 24 38.8	-0.9
	baz=298						
VWUC			*e*	S	Sn	12 25 05.9	-2.6
	baz=298						
PTTC	**Pingtan**	**2.50 312**		P	Pn	12 24 39.9	-0.5
	baz=302						
PTTC			*e*	S	Sn	12 25 07.0	-2.7
	baz=302						
PTMZ	**Houxiangcun**	**2.74 297**		P	Pn	12 24 42.7	-1.0
	baz=296						
PTMZ			*e*	S	Sn	12 25 12.7	-2.9
	baz=296						
JTJ	**Tarama**	**2.75 72**		P	Pn	12 24 43.4	-0.5
JTJ			*e*	S	Sn	12 25 15.6	-0.3
MATB	**Ma-tsu**	**2.88 324**	*e*	P	Pn	12 24 44.5	-1.0
	baz=324						
MATB			*e*	S	Sn	12 25 16.5	-2.4
	baz=324						
KNM	**Kinmen**	**3.15 281**	*i*	P	Pn	12 24 50.2	+0.9
	baz=279						
KNM			*i*	S	Sn	12 25 26.5	+0.9
	baz=279						
KNMB	**Chin-men Tao**	**3.20 282**	*e*	P	Pn	12 24 49.1	-0.9
	baz=281						
KNMB			*e*	S	Sn	12 25 25.4	-1.4
	baz=281						
JIRB	**Irabujima**	**3.22 71**		P	Pn	12 24 50.6	+0.4
JIRB			*e*	S	Sn	12 25 27.8	+0.5
LYJJ	**Jianjiangzhen**	**3.29 326**	*e*	P	Pn	12 24 50.3	-1.0
	baz=336						
LYJJ			*e*	S	Sn	12 25 28.5	-0.7
	baz=336						
JIKM	**Ikemajima**	**3.31 70**		P	Pn	12 24 52.3	+0.8
JIKM				S	Sn	12 25 29.1	-0.6
JMJ2	**Miyako jima3**	**3.33 73**		P	Pn	12 24 52.3	+0.5
JMJ2			*e*	S	Sn	12 25 30.0	-0.1
MHZQ	**Yeshan**	**3.40 312**	*e*	P	Pn	12 24 51.4	-1.3
	baz=301						
MHZQ			*e*	S	Sn	12 25 29.5	-2.2
	baz=301						
XPSS	**Dashiqiu**	**3.43 335**	*e*	P	Pn	12 24 52.2	-0.9
	baz=335						
XPSS			*e*	S	Sn	12 25 29.3	-3.2
	baz=335						
AXDP	**Jialang**	**3.67 288**		P	Pn	12 24 55.6	-0.8
	baz=286						
AXDP				S	Sn	12 25 36.2	-2.2
	baz=286						
ZPLA	**Ao Xicun**	**3.73 272**		P	Pn	12 24 56.6	-0.7
	baz=281						
ZPLA			*e*	S	Sn	12 25 36.0	-3.9
	baz=281						
ZZJH	**Jiuhuzhen**	**3.88 280**	*e*	P	Pn	12 24 58.9	-0.4
	baz=279						

*MAN **14** 12:31:12.9, 13°.30N×120°.22E, h1km, MS3.1*
*IDC **14** 12:31:13.1±1.2, 13°.45N×120°.64E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/39, mbtmp3.8/5, Error ellipse: s-maj=60.4km s-min=19.3km az=61.0*
*NEIC **14** 12:31:14.1±1.0, 13°.58N±0°.06×120°.8E±0°.2, h10km±2km, mb4.3/6, Error ellipse: s-maj=34.5km s-min=6.2km az=102.0*

ISC 14 12:31:16.4±1.6, 13°.47N±0°.09×120°.36E±0°.05, h19km±6km, n20, σ1s95/24, mb3.9/7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.28**	**338**	*e*P	**Pg**	**12 31 21.1**	**-1.7**
LUBP				*e*S	**Sg**	**12 31 25.9**	**-1.3**
LQP	**Lukban**	**1.32**	**61** ⇓	*e*P	**Pg**	**12 31 41.3**	**-0.6**
LQP				*i*S	**Sg**	**12 32 01.8**	**+2.6**
BOAC	**Boac**	**1.45**	**90**	*e*P	**Pn**	**12 31 41.8**	**+0.2**
BOAC				*e*S	**Sg**	**12 32 05.8**	**+2.4**
OTRP	**Odiongan**	**1.96**	**124**	*e*P	**Pn**	**12 31 47.9**	**-0.8**
OTRP				*e*S	**Sn**	**12 32 08.3**	**-4.5**
MYLDM	**Lahad Datu**	**8.44**	**193**	Pn	**Pn**	**12 33 19.6**	**+1.9**
CMAR	**Chiang Mai Arr**	**21.17**	**286**	P	**P**	**12 36 03.1**	**+2.4**
	0.6nm,0.4s,baz=96,slow=9.4,SNR=6.4						
WB0	**Warramunga Arr**	**35.80**	**157**	P	**P**	**12 38 13.2**	**-1.6**
WRAB	**Tennant Creek**	**35.94**	**157**	P	**P**	**12 38 13.9**	**-2.0**
WRA	**Warramunga Arr**	**35.94**	**157**	P	**P**	**12 38 14.2**	**-1.8**
	1.0nm,0.6s,baz=335,slow=9.7,SNR=14						
WRA	**Warramunga Arr**	**35.94**	**157**	P	**P**	**12 38 13.6**	**-2.4**
WB2	**Warramunga Arr**	**35.95**	**157**	P	**P**	**12 38 14.3**	**-1.8**
WB2				IAmb	IAmb	12 38 22.6	
	comp=Z,4.2nm,1.2s						
WR0	**Warramunga Arr**	**36.03**	**157**	P	**P**	**12 38 15.2**	**-1.5**
WR0				IAmb	IAmb	12 38 30.0	
	comp=Z,11nm,1.5s						
SONM	**Songino Array**	**36.18**	**344**	P	**P**	**12 38 18.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=162,slow=8.7,SNR=5.7						
SONM	**Songino Array**	**36.18**	**344**	P	**P**	**12 38 17.9**	**0.0**
ASAR	**Alice Springs**	**39.22**	**160**	P	**P**	**12 38 42.5**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=338,slow=6.9,SNR=36						
ASAR	**Alice Springs**	**39.22**	**160**	P	**P**	**12 38 45.8**	**+2.1**
MKAR	**Makanchi Array**	**46.02**	**324**	P	**P**	**12 39 36.9**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=141,slow=7.8,SNR=5.1						
MKAR	**Makanchi Array**	**46.02**	**324**	P	**P**	**12 39 39.4**	**+0.7**
KKAR	**Karatay Array**	**51.90**	**315**	P	**P**	**12 40 24.5**	**+0.6**
ABKAR	**Akbulak array**	**60.69**	**319**	P	**P**	**12 41 26.7**	**+0.2**

*NNC **14** 12:39:55.6±0.7, 44°.61N×76°.76E, h2km±4km, mb3.6, mpv3.6, Error ellipse: s-maj=4.7km s-min=3.0km az=145.0*
*SOME **14** 12:39:55.5, 44°.65N×76°.72E, h20km*

ISC 14 12:39:55.4±1.2, 44°.64N±0°.03×76°.74E±0°.02, h8km±10km, n51, σ0.87/89, 23C-22D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUU	**Kurty** 103nm,0.2s	**0.80**	**201**	⇓*iP*	**Pg**	**12 40 10.6**	**-0.1**
KUU	352nm,0.1s			⇓*iS*	**Sg**	**12 40 21.1**	**-0.1**
KUU	**Kurty** 103nm,0.2s	**0.80**	**201**	P	**Pg**	**12 40 10.1**	**-0.7**
KUU	352nm,0.1s			S	**Sg**	**12 40 21.0**	**-0.1**
CHKK	**Chushkaly** 50nm,0.1s	**0.80**	**167**	⇓*iP*	**Pg**	**12 40 10.8**	**0.0**
CHKK	285nm,0.2s			⇑*iS*	**Sb**	**12 40 22.0**	**-0.7**
CHKK	**Chushkaly** 60nm,0.2s	**0.80**	**167**	P	**Pg**	**12 40 10.8**	**0.0**
CHKK	285nm,0.2s			S	**Sb**	**12 40 22.2**	**-0.5**
ARXS	**Arharly** 97nm,0.2s	**0.89**	**118**	⇑*iP*	**Pg**	**12 40 12.5**	**0.0**
ARXS	231nm,0.2s			⇓*iS*	**Sb**	**12 40 24.8**	**-0.4**
ARXS	**Arharly** 97nm,0.2s	**0.89**	**118**	P	**Pg**	**12 40 12.3**	**-0.2**
ARXS	218nm,0.1s			S	**Sb**	**12 40 24.8**	**-0.4**
KTBS	**Karatobe** 207nm,0.2s	**0.93**	**182**	⇓*iP*	**Pg**	**12 40 12.9**	**-0.3**
KTBS	207nm,0.2s			⇑*iS*	**Sg**	**12 40 25.4**	**+0.2**
KTBS	**Karatobe** 207nm,0.2s	**0.93**	**182**	P	**Pg**	**12 40 12.6**	**-0.6**
KTBS	207nm,0.2s			S	**Sg**	**12 40 25.3**	**+0.1**
TDK	**Taldyqorghan** 24nm,0.2s	**1.24**	**72**	⇑*eP*	**Pn**	**12 40 18.8**	**-0.3**
TDK	237nm,0.2s			*eS*	**Sn**	**12 40 36.0**	**-0.1**
TDK	**Taldyqorghan** 9.3nm,0.1s	**1.24**	**72**	P	**Pn**	**12 40 18.8**	**-0.3**
TDK	237nm,0.2s			S	**Sn**	**12 40 36.0**	**-0.1**
MNBS	**Baschi** 39nm,0.1s	**1.32**	**114**	⇑*iP*	**Pb**	**12 40 20.2**	**-0.3**
MNBS	300nm,0.4s			⇓*iS*	**Sg**	**12 40 38.1**	**+0.3**
MNBS	**Baschi** 31nm,0.2s	**1.32**	**114**	P	**Pn**	**12 40 20.0**	**-0.2**
MNBS	300nm,0.4s			S	**Sg**	**12 40 38.0**	**+0.3**
KNDC	**Almaty** 18nm,0.2s	**1.43**	**173**	⇑Pn	**Pb**	**12 40 21.8**	**-0.6**
KNDC	40nm,0.3s			⇑Sn	**Sg**	**12 40 42.3**	**+1.0**
KOTS	**Kotyrbulak** 215nm,0.2s	**1.43**	**169**	⇑*eP*	**Pb**	**12 40 21.8**	**-0.6**
KOTS	522nm,0.4s			⇑*eS*	**Sg**	**12 40 41.3**	**-0.1**
KOTS	**Kotyrbulak** 215nm,0.2s	**1.43**	**169**	P	**Pb**	**12 40 21.8**	**-0.6**
KOTS	522nm,0.4s			S	**Sg**	**12 40 41.5**	**+0.2**
AAA	**Alma-Ata** 104nm,0.2s	**1.43**	**175**	⇓*iP*	**Pb**	**12 40 22.1**	**-0.3**
AAA	242nm,0.3s			⇓*iS*	**Sg**	**12 40 41.5**	**0.0**
AAA	**Alma-Ata** 103nm,0.2s	**1.43**	**175**	P	**Pb**	**12 40 22.0**	**-0.4**
AAA	242nm,0.3s			S	**Sg**	**12 40 41.5**	**0.0**
MDOK	**Medeo** 33nm,0.2s	**1.49**	**171**	⇑*iP*	**Pn**	**12 40 22.7**	**0.0**
MDOK	70nm,0.1s			⇓*eS*	**Sb**	**12 40 42.6**	**0.0**
MDOK	**Medeo** 33nm,0.2s	**1.49**	**171**	Pg	**Pn**	**12 40 22.7**	**0.0**
MDOK	70nm,0.1s			Lg	Lg	12 40 42.6	
MTBS	**Maitube** 35nm,0.2s	**1.52**	**189**	⇓*iP*	**Pn**	**12 40 23.1**	**+0.1**
MTBS	151nm,0.4s			⇑*eS*	**Sb**	**12 40 43.3**	**-0.1**
MTBS	**Maitube** 32nm,0.2s	**1.52**	**189**	P	**Pn**	**12 40 23.1**	**+0.1**
MTBS	151nm,0.4s			S	**Sb**	**12 40 43.3**	**-0.1**
DGS	**Degeres** 61nm,0.1s	**1.56**	**207**	⇓*eP*	**Pn**	**12 40 23.8**	**+0.2**
DGS	483nm,0.4s			⇑*iS*	**Sb**	**12 40 44.4**	**-0.1**
DGS	**Degeres** 61nm,0.2s	**1.56**	**207**	P	**Pn**	**12 40 23.5**	**-0.1**
DGS	483nm,0.4s			S	**Sb**	**12 40 44.4**	**-0.1**
IZV	**Izvestkoviy** 35nm,0.1s	**1.60**	**183**	⇓*iP*	**Pb**	**12 40 24.7**	**-0.7**
IZV	101nm,0.2s			⇓*iS*	**Sg**	**12 40 46.3**	**-0.7**
IZV	**Izvestkoviy** 27nm,0.2s	**1.60**	**183**	P	**Pb**	**12 40 24.6**	**-0.8**
IZV	101nm,0.2s			S	**Sg**	**12 40 46.2**	**-0.7**
TNSS	**Tian-Shan** 67nm,0.2s	**1.61**	**174**	⇓*iP*	**Pb**	**12 40 24.8**	**-0.8**
TNSS	159nm,0.3s			⇓*iS*	**Sg**	**12 40 46.8**	**-0.3**
KST	**Kastek** 31nm,0.3s	**1.69**	**200**	⇓*iP*	**Pn**	**12 40 25.8**	**+0.4**
KST	78nm,0.2s			⇑*eS*	**Sb**	**12 40 48.3**	**0.0**
KST	**Kastek** 31nm,0.3s	**1.69**	**200**	P	**Pn**	**12 40 25.7**	**+0.4**
KST	78nm,0.2s			S	**Sb**	**12 40 48.4**	**+0.1**
KPKS	**Kokpek** 44nm,0.4s	**1.83**	**129**	*eP*	**Pb**	**12 40 28.2**	**-1.0**
KPKS	199nm,0.5s			*eS*	**Sb**	**12 40 52.0**	**-0.2**
TKM2	**Tokmak 2** 9.2nm,0.3s	**1.90**	**206**	⇑Pn	**Pn**	**12 40 29.0**	**+0.6**
TKM2	41nm,0.3s			⇑Sn	**Sb**	**12 40 54.9**	**+0.3**
SGDS	**Sogindy** 9.6nm,0.4s	**1.93**	**233**	P	**Pb**	**12 40 29.7**	**-1.1**
SGDS	63nm,0.3s			S	**Sb**	**12 40 54.6**	**-0.5**
BTLS	**Baital** 6.8nm,0.2s	**1.96**	**283**	⇑*eP*	**Pb**	**12 40 30.1**	**-1.3**
BTLS	25nm,0.3s			⇑*eS*	**Sb**	**12 40 55.1**	**-0.7**
BTLS	**Baital** 6.8nm,0.2s	**1.96**	**283**	Pg	**Pn**	**12 40 30.0**	**+1.0**
BTLS	25nm,0.3s			Lg	Lg	12 40 55.1	
KAPS	**Kapalarasan** 4.5nm,0.2s	**1.97**	**70**	*eP*	**Pb**	**12 40 30.2**	**-1.3**
KAPS	27nm,0.2s			*eS*	**Sb**	**12 40 55.7**	**-0.7**
KAPS	**Kapalarasan** 2.2nm,0.2s	**1.97**	**70**	P	**Pb**	**12 40 30.2**	**-1.3**
KAPS	27nm,0.2s			S	**Sb**	**12 40 55.7**	**-0.7**
SATY	**Saty** 20nm,0.2s	**1.99**	**142**	*eP*	**Pb**	**12 40 30.8**	**-1.1**
SATY	174nm,0.2s			*eS*	**Sb**	**12 40 56.2**	**-0.6**
SATY	**Saty** 20nm,0.2s	**1.99**	**142**	Pg	**Pb**	**12 40 30.7**	**-1.2**
SATY	174nm,0.2s			Lg	Lg	12 40 56.2	
DJR	**Jarkent** 1.9nm,0.1s	**2.21**	**97**	*eP*	**Pb**	**12 40 34.3**	**-1.3**
DJR	24nm,0.4s			*eS*	**Sb**	**12 41 02.4**	**-0.8**
DJR	**Jarkent** 1.9nm,0.1s	**2.21**	**97**	Pg	**Pb**	**12 40 34.1**	**-1.5**
DJR	24nm,0.4s			Lg	Lg	12 41 02.4	
UZB	**Uzynbulak** 8.5nm,0.2s	**2.22**	**131**	*eP*	**Pb**	**12 40 35.1**	**-0.8**
UZB	46nm,0.3s			*eS*	**Sb**	**12 41 04.2**	**+0.5**
UZB	**Uzynbulak** 8.5nm,0.2s	**2.22**	**131**	Pg	**Pb**	**12 40 35.1**	**-0.8**
UZB	46nm,0.3s			Lg	Lg	12 41 04.2	
PDGK	**Podgornoye** 1.3nm,0.2s	**2.38**	**122**	⇓Pg	**Pb**	**12 40 36.9**	**-1.6**
PDGK	16nm,0.5s			⇓Lg	Lg	12 41 08.6	
SHLS	**Shalkode** 8.0nm,0.1s	**2.46**	**126**	*eP*	**Pg**	**12 40 44.0**	**+1.3**
SHLS	44nm,0.3s			*eS*	**Sg**	**12 41 18.9**	**+4.3**
SHLS	**Shalkode** 9.0nm,0.1s	**2.46**	**126**	Pg	**Pg**	**12 40 43.9**	**+1.3**
SHLS	44nm,0.3s			Lg	Lg	12 41 18.9	
AAK	**Ala-Archa** 2.4nm,0.3s	**2.58**	**220**	⇑Pg	**Pg**	**12 40 47.3**	**+2.5**
AAK	15nm,0.6s			⇓Lg	Lg	12 41 16.9	
MRKS	**Merke** 5.5nm,0.3s	**3.17**	**235**	*eP*	**Pb**	**12 40 51.6**	**-0.5**
MRKS	15nm,0.3s			*eS*	**Sb**	**12 41 32.2**	**+1.2**
MRKS	**Merke** 5.5nm,0.3s	**3.17**	**235**	Pg	**Pb**	**12 40 51.6**	**-0.5**
MRKS	15nm,0.3s			Lg	Lg	12 41 32.2	
MAKZ	**Makanchi** 0.7nm,0.4s	**4.26**	**58**	⇓Pn	Pb	12 41 05.6	-5.0
MAKZ	1.4nm,0.5s			⇑Pg	**Pg**	**12 41 18.3**	**+1.2**
MAKZ	1.8nm,0.3s			⇓Lg	Lg	12 42 10.6	
MK31	**Makanchi Array** 0.1nm,0.2s,baz=235,slow=17,SNR=53	**4.45**	**59**	Pn	**Pn**	**12 41 04.1**	**+0.9**
MK31	0.4nm,0.2s,baz=97,slow=20,SNR=5.1			⇑Sn	**Sn**	**12 41 55.8**	**+0.6**
MK31	1.7nm,0.3s,baz=239,slow=28,SNR=3.5			⇑Lg	Lg	12 42 16.8	
KK31	**Karatay Array** 0.1nm,0.3s,baz=68,slow=11,SNR=6.5	**4.75**	**253**	Pn	Pb	12 41 13.4	-5.6
KK31	0.3nm,0.3s,baz=72,slow=15,SNR=4.0			⇑Pg	**Pg**	**12 41 25.9**	**-0.6**
KK31	3.4nm,0.4s,baz=63,slow=25,SNR=6.6			⇓Lg	Lg	12 42 30.0	
KURK	**Kurchatov** 15nm,1.0s	**6.21**	**11**	⇑Lg	Lg	12 43 17.2	

*IDC **14** 12:43:00.7±1.5, 4°.31S×100°.74E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/40, mbtmp3.8/10, ML4.2/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/41, Error ellipse: s-maj=53.2km s-min=17.7km az=54.0*
*DJA **14** 12:43:01.0±0.6, 4°.5S±5°.5×10°.1E±°, h10km, M4.2/16, mb4.2/2, MLv4.2/16*
*NEIC **14** 12:43:02.9±1.7, 4°.3S±0°.1×100°.8E±0°.1, h15km±5km, mb4.1/10, Error ellipse: s-maj=26.7km s-min=8.3km az=225.0*

ISC 14 12:43:02.5±0.9, 4°.21S±0°.09×100°.77E±0°.09, h10km, n52, σ1.14/47, mb4.0/14, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.62**	**332**	P	**Pn**	**12 43 30.1**	**-1.1**
MASI	**Maura Aman, Be**	**1.81**	**54**	P	**Pn**	**12 43 32.6**	**-1.2**
KSI	**Kapatiang**	**1.90**	**73**	P	**Pn**	**12 43 35.0**	**-0.1**
MNAI	**Manna**	**2.18**	**94**	P	**Pn**	**12 43 38.0**	**-0.9**
MNAI	**Manna**	**2.18**	**94**	Pn	**Pn**	**12 43 38.5**	**-0.4**
KRJI	**Kerinci**	**2.21**	**18**	P	**Pn**	**12 43 40.2**	**+0.8**
LHSI	**Lahat**	**2.77**	**82**	P	**Pn**	**12 43 46.6**	**-0.4**
PDSI	**Padang**	**3.29**	**355**	P	**Pn**	**12 43 54.2**	**+0.1**
PDSI				S	**Sn**	**12 44 30.0**	**-3.4**
SDSI	**Sungai Dareh**	**3.32**	**11**	P	**Pn**	**12 43 54.3**	**-0.2**
SISI	**Saibi**	**3.32**	**330**	P	**Pn**	**12 43 52.6**	**-1.9**
LWLI	**Liwa**	**3.38**	**104**	P	**Pn**	**12 43 54.4**	**-1.0**
MDSI	**Maura Dua**	**3.41**	**95**	P	**Pn**	**12 43 55.5**	**-0.3**
KASI	**Kota Agung**	**3.94**	**110**	P	**Pn**	**12 44 02.3**	**-0.7**
KLSI		**3.98**	**97**	P	**Pn**	**12 44 03.9**	**+0.3**
PBSI	**Pulau Batu**	**4.82**	**329**	P	**Pn**	**12 44 13.9**	**-1.3**
MNSI	**Mandailing Nat** 0.2nm26nm,1.0s	**5.11**	**346**	P	**Pn**	**12 44 18.4**	**-0.8**
DSRI	**Dabo**	**5.31**	**46**	P	**Pn**	**12 44 21.9**	**0.0**
GSI	**Gunungsitoli**	**6.34**	**330**	Pn	**Pn**	**12 44 36.6**	**+0.5**
RPSI	**Rantau Prapat**	**7.10**	**345**	Pn	**Pn**	**12 44 49.3**	**+2.8**
PSI	**Prapat** 3.6nm,0.3s,baz=181,slow=1.9,SNR=8.0	**7.20**	**345**	Pn	**Pn**	**12 44 48.1**	**+0.1**
CISI	**Cisompet, Garu**	**7.76**	**116**	Pn	**Pn**	**12 44 53.3**	**-2.3**
CMAR	**Chiang Mai Arr** 1.2nm,0.7s,baz=185,slow=8.0,SNR=7.0	**22.59**	**355**	P	**P**	**12 48 04.5**	**+1.0**
SLVN	**Son La**	**25.57**	**7**	P	**P**	**12 48 32.5**	**+0.6**
SLVN	comp=Z,3.1nm,0.8s			IAmb	IAmb	12 48 32.8	
FITZ	**Fitzroy Crossi** comp=Z,3.9nm,1.2s,baz=348,slow=6.2,SNR=2.5	**27.98**	**121**	P	**P**	**12 48 56.6**	**+3.0**
H08S2	**Diego Garcia H** baz=84,slow=75,SNR=475	**28.33**	**262**	T	T	13 18 41.6	
H08S3	**Diego Garcia H** baz=84,slow=75,SNR=550	**28.34**	**262**	T	T	13 18 41.3	
H08S1	**Diego Carcia H** baz=84,slow=75,SNR=324	**28.35**	**262**	T	T	13 18 46.4	
H01W3	**Cape Leeuwin H** baz=335,slow=76,SNR=37	**32.94**	**160**	T	T	13 24 22.1	
H01W2	**Cape Leeuwin H** baz=335,slow=76,SNR=32	**32.96**	**160**	T	T	13 24 20.6	
H01W1	**Cape Leeuwin H** baz=335,slow=76,SNR=27	**32.96**	**160**	T	T	13 24 20.8	
WB0	**Warramunga Arr**	**36.23**	**118**	P	**P**	**12 50 05.3**	**-0.7**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.6s,baz=302,slow=9.2,SNR=10.0	**36.24**	**118**	P	**P**	**12 50 05.5**	**-0.7**
WRA	**Warramunga Arr**	**36.24**	**118**	P	**P**	**12 50 06.5**	**+0.3**
WRAB	**Tennant Creek**	**36.25**	**118**	P	**P**	**12 50 06.3**	**+0.1**
WB2	**Warramunga Arr**	**36.26**	**118**	P	**P**	**12 50 05.4**	**-0.9**
WB2	comp=Z,2.9nm,1.1s			IAmb	IAmb	12 50 09.7	
WR0	**Warramunga Arr**	**36.43**	**118**	P	**P**	**12 50 06.2**	**-1.6**
AS31	**Alice Springs**	**37.36**	**124**	P	**P**	**12 50 15.3**	**-0.4**
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=299,slow=7.5,SNR=11	**37.36**	**124**	P	**P**	**12 50 15.0**	**-0.7**
ASAR	**Alice Springs**	**37.36**	**124**	P	**P**	**12 50 14.5**	**-1.1**
KSRS	**Korea Array** comp=Z,1.3nm,0.8s,baz=214,slow=7.7,SNR=6.2	**48.54**	**29**	P	**P**	**12 51 45.4**	**-0.6**
KSRS	comp=Z,124nm,18.6s,baz=222,slow=39			LR	LR	13 14 18.1	
SONM	**Songino Array** comp=Z,1.2nm,0.6s,baz=184,slow=9.6,SNR=7.3	**52.06**	**5**	P	**P**	**12 52 13.1**	**+0.5**
SONM	**Songino Array**	**52.06**	**5**	P	**P**	**12 52 13.9**	**+1.3**
MK31	**Makanchi Array**	**53.35**	**344**	P	**P**	**12 52 22.8**	**+0.7**
MK31	comp=Z,1.8nm,0.7s			IAmb	IAmb	12 52 23.1	
MKAR	**Makanchi Array** comp=Z,2.8nm,0.7s,baz=148,slow=8.1,SNR=24	**53.35**	**344**	P	**P**	**12 52 22.6**	**+0.5**
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.8s,baz=162,slow=7.1,SNR=8.6	**57.87**	**343**	P	**P**	**12 52 54.5**	**+0.1**
KURK	**Kurchatov**	**57.93**	**344**	P	**P**	**12 52 55.4**	**+0.5**
KURK	comp=Z,1.9nm,0.9s			IAmb	IAmb	12 52 56.1	
ZALV	**Zalesovo Beam** comp=Z,1.4nm,0.7s,baz=172,slow=4.4,SNR=7.5	**59.47**	**349**	P	**P**	**12 53 05.7**	**+0.2**
ZALV	**Zalesovo Beam**	**59.47**	**349**	P	**P**	**12 53 06.3**	**+0.9**
ABKAR	**Akbulak array**	**63.93**	**332**	P	**P**	**12 53 35.4**	**-0.4**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.6s,baz=143,slow=7.4,SNR=3.9	**75.37**	**313**	P	**P**	**12 54 46.4**	**-0.3**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=222,slow=1.7,SNR=4.3	**145.93**	**40**	PKPbc	**PKPab**	**13 02 43.8**	**+0.1**
TXAR	**Lajitas Array**	**145.93**	**40**	PKPbc	**PKPab**	**13 02 43.9**	**+0.2**

IDC 14 12:44:13.8±2.0, 23°.55N×94°.18E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.1/44, mbtmp3.1/4, ML3.3/1, Error ellipse: s-maj=116.3km s-min=23.1km az=56.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=313,slow=13,SNR=2.7	**6.74**	**138**	Pn	Pn	12 45 55.5	+1.5
CMAR	0.1nm,0.3s,baz=299,slow=28,SNR=4.9			Lg	Lg	12 47 48.6	
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=156,slow=9.9,SNR=2.3	**25.09**	**340**	P	P	12 49 40.5	+0.4
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=323,slow=7.6,SNR=2.1	**58.32**	**135**	P	P	12 54 10.2	-0.7
ASAR	**Alice Springs** 0.3nm,0.8s,baz=320,slow=6.5,SNR=6.8	**60.75**	**138**	P	P	12 54 27.4	-0.2

*IGIL **14** 12:51:27.2, 36°.62N×9°.73W, h32km, ML1.7*

INMG 14 12:51:27.2±1.3, 36°.62N×9°.73W, h31km±17km, ML1.6, 5C-1D, Error ellipse: s-maj=11.5km s-min=5.3km az=69.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.89**	**54**	⇑*eP*	Pn	12 51 42.1	-1.4
PFVI				*eS*	Sn	12 51 52.9	-2.4
PFVI				A	A	12 51 54.0	
MORF	**Marmelete** 13nm,0.3s	**1.10**	**51**	*eP*	Pn	12 51 45.2	-1.4
MORF				*eS*	Sn	12 51 58.3	-2.4
MORF				AML	AML	12 51 59.2	
MORF	**Marmelete** comp=N,14nm,0.2s	**1.10**	**51**	⇑*eP*	Pn	12 51 45.2	-1.3
MORF				*eS*	Sn	12 51 58.5	-2.2
MORF				A	A	12 51 59.6	
PTEO	**Sao Teotonio** comp=N,12nm,0.3s	**1.22**	**41**	*eP*	Pn	12 51 46.7	-1.5
PTEO				*eS*	Sn	12 52 01.8	-1.9
PTEO				A	A	12 52 12.1	
PBDV	**Barranco-do-Ve** comp=N,5.9nm,0.6s	**1.57**	**66**	⇑*iP*	Pn	12 51 51.9	-1.0
PBDV				*eS*	Sn	12 52 10.0	-2.2
PBDV				A	A	12 52 19.8	
PCVE	**Castro Verde** comp=N,2.3nm,0.3s	**1.69**	**53**	⇑*ePn*	Pn	12 51 53.4	-1.1
PNCL	**Nicolau / Gran**	**1.77**	**32**	*ePn*	Pn	12 51 53.9	-1.8
PNCL				*eSn*	Sn	12 52 14.1	-3.0
PNCL				A	A	12 52 16.5	
PVAQ	**Vaqueiros** comp=N,1.8nm,0.1s	**1.79**	**63**	⇑*ePn*	Pn	12 51 54.9	-1.0
PVAQ				*eSn*	Sn	12 52 14.9	-2.7
PVAQ				A	A	12 52 17.3	
PBEJ	**Beja** comp=N,4.0nm,0.3s	**2.04**	**46**	*eSn*	Sn	12 52 21.0	-2.9
PBEJ				A	A	12 52 33.4	
PMAFR	**Mafra** comp=N,2.2nm,0.3s	**2.36**	**8**	*ePn*	Pn	12 52 01.9	-1.9
PMAFR				*eSn*	Sn	12 52 28.1	-3.6
PMAFR				A	A	12 52 31.4	
PMTG	**Montargil** comp=N,7.7nm,0.2s	**2.72**	**25**	⇓*iPn*	Pn	12 52 07.4	-1.3
PMTG				*eSn*	Sn	12 52 37.4	-3.1
PMTG				A	A	12 52 39.2	
PSBE	**So Bento** comp=N,1.2nm,0.3s	**2.98**	**14**	*ePn*	Pn	12 52 10.6	-1.8
PSBE				*eSn*	Sn	12 52 44.7	-2.4
PSBE				A	A	12 52 45.5	
PMRV	**Marv??o** comp=N,2.7nm,0.5s	**3.36**	**33**	*ePn*	Pn	12 52 15.7	-1.8
PMRV				*eSn*	Sn	12 52 52.9	-3.4
PMRV				A	A	12 52 53.8	
PCAS	**Casmilo, Conde** comp=N,1.1nm,0.2s	**3.56**	**15**	*ePn*	Pn	12 52 18.4	-1.9
PCAS				*eSn*	Sn	12 52 58.7	-2.6
PVIS	**Viseu**	**4.33**	**19**	*ePn*	Pn	12 52 29.4	-1.6
MVO	**Moncorvo**	**5.00**	**24**	*ePn*	Pn	12 52 38.2	-2.0
PBRG	**Braganca**	**5.67**	**23**	*ePn*	Pn	12 52 47.7	-1.7

*INMG **14** 12:51:27.4±2.0, 37°.99N×3°.57W, h0km±8km, ML2.0, Error ellipse: s-maj=3.2km s-min=2.7km az=52.0*
*SFS **14** 12:51:27.0, 37°.97N×3°.59W, ML1.8, TORREBLASCOPEDRO (JAEN)*

MDD 14 12:51:27.2±0.3, 37°.98N×3°.59W, h0km, mbLg2.0/14, Error ellipse: s-maj=3.1km s-min=2.3km az=10.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada** 3.9nm,0.3s,SNR=63	**0.45**	**113**	Pg	Pg	12 51 34.8	-1.0
EQES	13nm,0.1s,SNR=13			Lg	Lg	12 51 41.2	
GORA	**Gorafe** 16nm,0.1s,SNR=7.9	**0.66**	**138**	Lg	Lg	12 51 49.1	
EQUE	**Quentar** 2.2nm,0.3s,SNR=7.1	**0.78**	**171**	Pg	Pg	12 51 42.3	+0.1
EQUE	6.0nm,0.2s,SNR=6.6			Lg	Lg	12 51 51.7	
EADA	**Adamuz** 5.4nm,0.3s,SNR=71	**0.80**	**284**	Pg	Pg	12 51 42.2	-0.3
EADA	43nm,0.1s,SNR=19			Lg	Lg	12 51 53.6	
SESP	**Santiago Espad** 1.2nm,0.2s,SNR=7.9	**0.84**	**80**	Pg	Pg	12 51 42.8	-0.5
SESP	29nm,0.2s,SNR=7.9			Lg	Lg	12 51 53.5	
EGOR	**Sierra Gorda,** 0.4nm,0.3s,SNR=7.9	**0.96**	**206**	Pg	Pg	12 51 45.2	-0.4
EGOR	5.1nm,0.2s,SNR=7.9			Lg	Lg	12 51 58.8	
ELGU	**Los Guajares,** 1.0nm,0.3s,SNR=7.9	**1.11**	**181**	Pg	Pg	12 51 47.6	-0.9
ELGU	14nm,0.3s,SNR=7.9			Lg	Lg	12 52 03.3	
EBER	**Berja** 5.5nm,0.3s,SNR=18	**1.21**	**152**	Pg	Pg	12 51 49.8	-0.7
EBER	12nm,0.3s,SNR=46			Lg	Lg	12 52 06.2	
EMAL	**Malaga-Limoner**	**1.38**	**209**	Pg	Pg	12 51 53.2	-0.6
EMAL				Lg	Lg	12 52 13.5	
EMAL	**Malaga-Limoner**	**1.38**	**209**	*eP*	Pg	12 51 53.2	-0.6
EMAL				*eS*	Sn	12 52 13.5	+0.8
ECAB	**El Cabril** 0.5nm,0.1s,SNR=49	**1.45**	**274**	Pn	Pn	12 51 53.0	-1.7
ECAB	4.6nm,0.2s,SNR=7.9			Pg	Pg	12 51 54.6	-0.3
ECAB	3.2nm,0.2s,SNR=7.9			Sn	Sg	12 52 12.0	-1.7
ECAB	6.5nm,0.1s,SNR=33			Lg	Lg	12 52 13.8	
ENIJ	**Nijar** 1.2nm,0.3s,SNR=7.9	**1.49**	**132**	Pg	Pn	12 51 54.9	-0.4
ENIJ	20nm,0.3s,SNR=7.9			Lg	Lg	12 52 14.5	
PAB	**San Pablo** 0.8nm,0.3s,SNR=7.9	**1.68**	**340**	Pg	Pn	12 51 58.3	+0.4
PAB	11nm,0.3s,SNR=7.9			Lg	Lg	12 52 20.5	
ESDC	**Sonseca Array** 0.5nm,0.4s,baz=173,slow=17,SNR=94	**1.72**	**350**	Pg	Pn	12 51 58.8	+0.3
ESDC	5.1nm,0.3s,baz=172,slow=28,SNR=52			Lg	Lg	12 52 21.7	
ETOB	**Tobarra** 2.7nm,0.6s,SNR=12	**1.74**	**67**	Pg	Pn	12 51 58.6	-0.2
ETOB	7.1nm,0.2s,SNR=14			Lg	Lg	12 52 21.2	
EMUR	**La Murta** 6.3nm,0.9s,SNR=7.9	**1.86**	**93**	Pg	Pn	12 52 01.3	+0.8
EMUR	4.5nm,0.3s,SNR=8.2			Lg	Lg	12 52 25.5	
UCM	**Universidad Co**	**2.34**	**7**	Pg	Pb	12 52 10.9	+0.5
UCM				Lg	Lg	12 52 40.3	
UCM	**Universidad Co**	**2.34**	**7**	*eP*	Pb	12 52 10.9	+0.5
UCM				*eS*	Sb	12 52 40.3	+0.4
EMIN	**Mina Concepcio** 0.5nm,0.2s,SNR=7.9	**2.45**	**266**	Pn	Pn	12 52 06.9	-1.5
EMIN	0.1nm,0.2s,SNR=7.9			Sn	Sn	12 52 35.9	-3.1
EMIN	3.3nm,0.2s,SNR=7.9			Lg	Lg	12 52 42.7	
PMRV	**Marv??o**	**3.31**	**297**	*ePg*	Pb	12 52 28.7	+1.9
PMRV				*eSg*	Sg	12 53 12.2	-1.3
PMRV				A	A	12 53 15.5	
PVAQ	**Vaqueiros** 3.6nm,0.2s	**3.32**	**261**	*eSg*	Sb	12 53 08.6	+0.6
PVAQ	2.1nm,0.4s			A	A	12 53 11.8	
EVO	**Evora**	**3.52**	**280**	*eP*	Pb	12 52 27.8	-2.7
EVO				*eS*	Sg	12 53 17.6	-2.8
EVO	**Evora**	**3.52**	**280**	*eSn*	Pb	12 52 27.8	-2.7
PCVE	**Castro Verde** 3.2nm,0.5s	**3.54**	**266**	*eSg*	Sg	12 53 21.2	+0.3
PCVE				A	A	12 53 27.9	
PMTG	**Montargil** 3.6nm,0.7s	**3.79**	**288**	*eSg*	Sg	12 53 29.1	0.0
PMTG				A	A	12 53 34.3	
PSBE	**So Bento**	**4.35**	**292**	*eSg*	Sg	12 53 44.0	-2.9
PCAB	**Cabril**	**5.05**	**319**	*eP*	Pn	12 52 41.3	-3.0
PCAB	**Cabril**	**5.05**	**319**	*ePn*	Pn	12 52 41.6	-2.7

WEL 14 13:07:35.6±1.0, 35°S±13°×17°9E±2°1, h295km±15km, M4.2/17, mB3.9/1, ML4.4/12, MLv4.2/17, Mw(mB)2.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=113.6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**3.26**	**198**	P	Pn	13 08 33.1	-0.5
HAZ				S	S	13 09 19.5	-0.4
KUZ	**Kuaotunu**	**3.42**	**232**	P	Pn	13 08 34.6	-0.7
PUZ	**Puketiti**	**3.47**	**190**	P	Pn	13 08 36.8	+0.9
PUZ				S	S	13 09 23.0	-1.0
MWZ	**Matawai**	**3.87**	**198**	P	Pn	13 08 39.1	-1.1
MWZ				S	S	13 09 31.9	+0.1
URZ	**Urewera**	**3.92**	**203**	P	Pn	13 08 40.6	-0.1
URZ				S	S	13 09 34.1	+1.3
MUGZ	**Murupara**	**4.24**	**205**	P	Pn	13 08 42.4	-1.7
RTZ	**Ruatahuna**	**4.29**	**202**	P	Pn	13 08 45.1	+0.3
SNGZ	**Shannon Statio**	**4.34**	**198**	P	Pn	13 08 46.4	+1.0
MTHZ	**Maungataniwha**	**4.55**	**202**	P	Pn	13 08 48.8	+1.0
MTHZ				S	S	13 09 47.8	+2.2
NMHZ	**Naumai**	**4.79**	**201**	P	Pn	13 08 51.4	+0.9
ARHZ	**Aropaoanui**	**4.89**	**199**	P	Pn	13 08 52.3	+0.7
ARHZ				S	S	13 09 54.7	+2.2
BKZ	**Black Stump Fm**	**4.95**	**204**	P	Pn	13 08 51.3	-1.0
BHHZ	**Black Hill Sta**	**5.39**	**206**	P	Pn	13 08 57.6	+0.1
BHHZ				S	S	13 10 04.3	+1.0
KAHZ	**Kahuranaki**	**5.42**	**198**	P	Pn	13 08 58.7	+0.9
KRHZ	**Kereru**	**5.42**	**203**	P	Pn	13 08 57.5	-0.4
KRHZ				S	S	13 10 04.5	+0.5
VRZ	**Vera Road**	**5.64**	**216**	P	Pn	13 09 01.9	+1.5
PXZ	**Pawanui**	**5.64**	**197**	P	Pn	13 09 01.1	+0.6
PNHZ	**Pukenui**	**5.72**	**203**	P	Pn	13 09 01.0	-0.4
PNHZ				S	S	13 10 10.1	-0.4
TSZ	**Takapari Road**	**5.93**	**204**	P	Pn	13 09 03.7	-0.3
BFZ	**Birch Farm**	**6.42**	**200**	P	Pn	13 09 09.5	-0.2
MRZ	**Mangatainoka R**	**6.60**	**204**	P	Pn	13 09 10.3	-1.7
MRZ				S	S	13 10 27.7	-2.0

*NNC **14** 13:20:20.7±0.7, 50°.02N×78°.68E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=6.1km s-min=3.0km az=65.0, Suspected Mining explosion.*
*ASRS **14** 13:20:27.2±0.7, 50°N±4°×7°9E±°, h10km, MLh3.6/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 14 13:20:22.0±1.1, 50°.04N±0°.05×78°.65E±0°.05, h0km, n16, σ1§09/27, 4C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**0.68**	**358**	⇑P	**Pg**	**13 20 34.4**	**-0.6**
	24nm,0.4s						
KURK				⇑S	**Sg**	**13 20 44.1**	**+0.4**
	53nm,0.6s						
SEM	**Semipalatinsk**	**1.09**	**70**	P	**Pg**	**13 20 41.3**	**-1.6**
	4.8nm,0.1s						
SEM				S	**Sg**	**13 20 56.4**	**-0.6**
	87nm,0.2s						
BRZS	**Berezniki**	**3.85**	**271**	Pg	**Pb**	**13 21 30.9**	**0.0**
	5.0nm,0.3s						
BRZS				Lg	Lg	13 22 21.4	
	14nm,0.6s						
MAKZ	**Makanchi**	**3.92**	**144**	P	**Pb**	**13 21 30.7**	**-1.2**
MAKZ	**Makanchi**	**3.92**	**144**	⇑Pg	**Pb**	**13 21 31.2**	**-0.7**
	3.7nm,0.5s						
MAKZ				⇑Lg	Lg	13 22 20.3	
	12nm,0.6s						
UKR	**Ust'-Kan**	**4.01**	**75**	S	**Sn**	**13 22 10.0**	**-2.4**
MK31	**Makanchi Array**	**4.05**	**142**	⇓Pn	**Pn**	**13 21 25.4**	**+0.2**
	0.3nm,0.2s,baz=322,slow=10.0,SNR=74						
MK31				⇓Pg	**Pb**	**13 21 34.5**	**+0.3**
	2.1nm,0.4s,baz=324,slow=14,SNR=16						
MK31				⇓Lg	Lg	13 22 28.1	
	7.3nm,0.5s,baz=329,slow=30,SNR=16						
ZSN	**Zaisan**	**4.86**	**120**	Pg	**Pb**	**13 21 48.9**	**+1.0**
	2.1nm,0.3s						
ZSN				Lg	Lg	13 22 52.2	
	15nm,0.6s						
TUNR	**Tungur**	**4.94**	**86**	P	**Pn**	**13 21 38.5**	**+1.0**
TUNR				S	**Sn**	**13 22 35.8**	**+0.4**
BSTK	**Bystrovka, Nov**	**5.16**	**27**	P	**Pn**	**13 21 40.8**	**+0.5**
BSTK				S	**Sn**	**13 22 39.7**	**-0.8**
DGZ	**Jazzator, Alta**	**5.69**	**90**	P	**Pn**	**13 21 49.6**	**+1.8**
DGZ				S	**Sn**	**13 22 54.7**	**+0.8**
CHBI	**Chibit, Altay**	**5.69**	**84**	P	**Pn**	**13 21 48.2**	**+0.4**
CHBI				S	**Sn**	**13 22 54.3**	**+0.3**
ARTR	**Artybash**	**5.73**	**69**	P	**Pn**	**13 21 49.2**	**+0.9**
ARTR				S	**Sn**	**13 22 54.5**	**-0.3**
ULGR	**Ulagan, Altay**	**5.99**	**81**	P	**Pn**	**13 21 52.5**	**+0.6**
ULGR				S	**Sn**	**13 23 02.8**	**+1.6**
CUR	**Chagan-Uzun**	**6.24**	**86**	P	**Pn**	**13 21 56.8**	**+1.3**
CUR				S	**Sn**	**13 23 09.4**	**+1.9**
TASR	**Tashtagol**	**6.38**	**61**	P	**Pn**	**13 21 58.1**	**+0.9**
TASR				S	**Sn**	**13 23 10.4**	**-0.4**

*DJA **14** 13:35:03.4±0.6, 2°S±4°×10°0E±°, h11km±9km, M4.0/6, MLv4.0/6*
*NEIC **14** 13:35:04.2±2.2, 1°.89S±0°.07×100°.40E±0°.10, h62km±6km, mb4.5/18, Error ellipse: s-maj=15.6km s-min=6.0km az=59.0*
*IDC **14** 13:35:07.0±3.7, 1°.82S×100°.58E, h79km±32km, mb3.7/14, mb1 3.8/15, mb1mx3.5/49, mbtmp4.0/15, Error ellipse: s-maj=41.0km s-min=12.3km az=56.0*

ISC 14 13:35:03.8±0.5, 1°.90S±0°.05×100°.40E±0°.06, h56km, n59, σ1§24/53, mb4.3/21, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.95**	**204**	P	**Pn**	**13 35 22.3**	**+1.3**
PDSI	**Padang**	**0.98**	**3**	P	**Pn**	**13 35 21.0**	**-0.5**
KRJI	**Kerinci**	**1.08**	**100**	P	**Pn**	**13 35 24.9**	**+2.1**
SDSI	**Sungai Dareh**	**1.40**	**47**	P	**Pn**	**13 35 28.4**	**+1.3**
SISI	**Saibi**	**1.43**	**293**	P	**Pn**	**13 35 28.4**	**+0.9**
BKNI	**Bangkinang**	**2.30**	**16**	P	Pn	13 35 48.5	+9.2
BKNI	**Bangkinang**	**2.30**	**16**		**Pn**	**13 35 40.3**	**+1.0**
MNSI	**Mandailing Nat**	**2.80**	**343**	P	**Pn**	**13 35 47.1**	**+1.0**
MNAI	**Manna**	**3.54**	**134**	Pn	**Pn**	**13 35 57.9**	**+1.7**
GSI	**Gunungsitoli**	**4.25**	**318**	Pn	**Pn**	**13 36 05.5**	**-0.6**
RPSI	**Rantau Prapat**	**4.79**	**342**		**Pn**	**13 36 17.6**	**+4.1**
PSI	**Prapat**	**4.89**	**342**	P	**Pn**	**13 36 17.6**	**+2.6**
	1.4nm,0.3s,baz=180,slow=10,SNR=4.9						
MYKOM	**Kota Tinggi**	**5.03**	**43**	Pn	**Pn**	**13 36 18.2**	**+1.5**
IPM	**Ipoh**	**6.36**	**6**	Pn	**Pn**	**13 36 37.8**	**+2.8**
KULM	**Kulim**	**7.14**	**2**	Pn	**Pn**	**13 36 47.5**	**+1.8**
CISI	**Cisompet, Garu**	**9.28**	**128**	Pn	**Pn**	**13 37 14.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**20.28**	**356**	P	**P**	**13 39 35.6**	**+0.7**
	1.1nm,0.8s,baz=188,slow=10,SNR=7.8						
SLVN	**Son La**	**23.34**	**8**	P	**P**	**13 40 05.1**	**-2.4**
H08S2	**Diego Garcia H**	**28.38**	**257**	T	T	14 10 04.8	
	baz=81,slow=75,SNR=65						
H08S3	**Diego Garcia H**	**28.39**	**257**	T	T	14 10 06.7	
	baz=81,slow=75,SNR=63						
H08S1	**Diego Carcia H**	**28.40**	**257**	T	T	14 09 59.5	
	baz=81,slow=75,SNR=52						
FITZ	**Fitzroy Crossi**	**29.54**	**125**	P	**P**	**13 41 03.2**	**-0.1**
	0.7nm,0.5s,baz=13,slow=6.4,SNR=6.6						
KNRA	**Kununurra**	**31.13**	**118**	P	**P**	**13 41 15.9**	**-1.5**
KNRA				IAmb	IAmb	13 41 41.2	
	comp=Z,22nm,1.4s						
H01W3	**Cape Leeuwin H**	**35.23**	**160**	T	T	14 19 05.6	
	baz=335						
H01W2	**Cape Leeuwin H**	**35.24**	**160**	T	T	14 19 08.0	
	baz=335						
H01W1	**Cape Leeuwin H**	**35.24**	**160**	T	T	14 18 57.6	
	baz=335						
XAN	**Xi'an**	**36.63**	**12**	P	**P**	**13 42 03.0**	**-2.0**
XAN				IAmb	IAmb	13 42 28.6	
	comp=Z,4.5nm,0.9s						
WB0	**Warramunga Arr**	**37.67**	**121**	P	**P**	**13 42 12.9**	**-1.1**
WB0				IAmb	IAmb	13 42 38.5	
	comp=Z,8.1nm,1.5s						
WRA	**Warramunga Arr**	**37.70**	**121**	P	**P**	**13 42 13.6**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=302,slow=9.4,SNR=31						
WRA				PcP	**PcP**	**13 44 31.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=314,slow=2.4,SNR=2.3						
WRA	**Warramunga Arr**	**37.70**	**121**	P	**P**	**13 42 13.4**	**-0.9**
WRAB	**Tennant Creek**	**37.70**	**121**	P	**P**	**13 42 13.5**	**-0.8**
WRAB				IAmb	IAmb	13 42 24.6	
	comp=Z,5.0nm,1.1s						
WB2	**Warramunga Arr**	**37.71**	**121**	P	**P**	**13 42 13.4**	**-1.0**
WB2				IAmb	IAmb	13 42 36.7	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**37.88**	**121**	P	**P**	**13 42 15.0**	**-0.8**
WR0				IAmb	IAmb	13 42 16.1	
	comp=Z,9.2nm,1.2s						
ASAR	**Alice Springs**	**38.99**	**126**	P	**P**	**13 42 25.2**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=305,slow=7.8,SNR=53						
ASAR				PcP	**PcP**	**13 44 35.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=307,slow=2.7,SNR=4.6						
AS31	**Alice Springs**	**38.99**	**126**	P	**P**	**13 42 24.4**	**-0.7**
NIL	**Nilore**	**43.64**	**327**	P	**P**	**13 43 03.0**	**0.0**
KSRS	**Korea Array**	**46.73**	**30**	P	**P**	**13 43 26.1**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=224,slow=8.5,SNR=3.3						
STKA	**Stephens Creek**	**48.92**	**132**	P	**P**	**13 43 44.6**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=276,slow=10,SNR=4.2						
SONM	**Songino Array**	**49.80**	**5**	P	**P**	**13 43 51.4**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=191,slow=8.6,SNR=4.8						
SONM	**Songino Array**	**49.80**	**5**	P	**P**	**13 43 50.7**	**-0.4**
FRU1	**Bishkek**	**50.20**	**335**	P	**P**	**13 43 52.7**	**-1.5**
MK31	**Makanchi Array**	**51.04**	**344**	P	**P**	**13 44 00.0**	**-0.3**
MK31				IAmb	IAmb	13 44 01.4	
	comp=Z,2.3nm,0.7s						
MKAR	**Makanchi Array**	**51.04**	**344**	P	**P**	**13 44 00.8**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=148,slow=7.9,SNR=32						
MKAR	**Makanchi Array**	**51.04**	**344**	P	**P**	**13 44 00.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**53.88**	**28**	P	**P**	**13 44 21.5**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=219,slow=6.8,SNR=6.9						
KURBB	**Kurchatov Arra**	**55.56**	**343**	P	**P**	**13 44 33.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=164,slow=7.2,SNR=8.7						
KURK	**Kurchatov**	**55.62**	**343**	P	**P**	**13 44 33.7**	**-0.2**
KURK				IAmb	IAmb	13 44 34.9	
	comp=Z,2.9nm,0.8s						
ZAA0	**Zalesovo Array**	**57.14**	**349**	P	**P**	**13 44 44.2**	**-0.4**
ZALV	**Zalesovo Beam**	**57.14**	**349**	P	**P**	**13 44 44.6**	**0.0**
	comp=Z,2.0nm,0.3s,baz=177,slow=5.4,SNR=20						
ZALV	**Zalesovo Beam**	**57.14**	**349**	P	**P**	**13 44 44.1**	**-0.5**
ABKAR	**Akbulak array**	**61.74**	**331**	P	**P**	**13 45 16.2**	**-0.3**
KBZ	**Khabaz**	**68.49**	**319**	P	**P**	**13 46 01.2**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=157,slow=6.3,SNR=3.8						
SEY	**Seymchan**	**75.38**	**22**	P	**P**	**13 46 41.6**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=266,slow=14,SNR=2.3						
BKZ	**Black Stump Fm**	**78.03**	**130**	P	**P**	**13 46 57.0**	**+0.3**
IDI	**Anoyia**	**79.30**	**306**	P	**P**	**13 47 03.8**	**0.0**
FINES	**FINESS Array B**	**84.21**	**332**	P	**P**	**13 47 29.6**	**+0.6**
	comp=Z,4.2nm,1.1s,baz=123,slow=7.0,SNR=5.9						
FINES	**FINESS Array B**	**84.21**	**332**	P	**P**	**13 47 28.7**	**-0.2**
TXAR	**Lajitas Array**	**144.37**	**38**	PKP	PKPbc	13 54 33.9	+0.9
	comp=Z,1.2nm,0.6s,baz=257,slow=0.9,SNR=14						
TXAR	**Lajitas Array**	**144.37**	**38**		**PKPab**	**13 54 33.5**	**+0.8**

*NEIC **14** 13:50:52.9±1.9, 8°.18S±0°.07×122°.85E±0°.10, h207km±7km, mb4.3/13, Error ellipse: s-maj=16.2km s-min=7.0km az=57.0*
*DJA **14** 13:50:53.0±0.7, 8°S±7°×12°3E±°, h192km±8km, M3.7/8, mb4.0/1, MLv3.6/8*
*IDC **14** 13:50:54.0±1.8, 8°.23S×122°.86E, h201km±11km, mb3.1/3, mb1 3.4/7, mb1mx3.1/24, mbtmp3.8/7, Error ellipse: s-maj=77.3km s-min=16.7km az=58.0*

ISC 14 13:50:53.4±0.6, 8°.24S±0°.06×122°.95E±0°.07, h200km, n37, σ1§38/44, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.81**	**241**	P	**Pn**	**13 51 21.7**	**-0.3**
MMRI	**Maumere**	**0.81**	**241**		**Pn**	**13 51 21.5**	**-0.5**
EDFI	**Ende, Flores**	**1.35**	**248**	P	**Pn**	**13 51 25.6**	**-0.3**
EDFI				S	**Sn**	**13 51 51.1**	**0.0**
SOEI	**Soe**	**1.99**	**139**	P	**Pn**	**13 51 32.6**	**+0.7**
SOEI	**Soe**	**1.99**	**139**		**Pn**	**13 51 32.7**	**+0.7**
BATI	**Baumata**	**2.08**	**160**	P	**Pn**	**13 51 34.1**	**+1.4**
	118nm,0.3s,baz=350,slow=3.3,SNR=100						
BATI				S	**Sn**	**13 52 05.5**	**+2.0**
	118nm,0.3s,baz=334,slow=7.5,SNR=16						
BATI	**Baumata**	**2.08**	**160**	P	**Pn**	**13 51 33.9**	**+1.2**
BATI				S	**Sn**	**13 52 04.1**	**+0.6**
WSI	**Waingapu**	**2.98**	**241**	P	**Pn**	**13 51 43.0**	**+0.2**
BASI	**Baing, Sumba**	**3.06**	**230**	P	**Pn**	**13 51 43.8**	**+0.1**
WBSI	**Waikabubak, Su**	**3.78**	**248**	P	**Pn**	**13 51 51.9**	**-0.6**
PLAI	**Plampang**	**5.15**	**263**	P	**Pn**	**13 52 09.4**	**-0.4**
MTN	**Manton Dam**	**9.25**	**120**		**Pn**	**13 53 02.5**	**-0.5**
KNRA	**Kununurra**	**9.32**	**143**		**Pn**	**13 53 03.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**10.14**	**165**	P	**Pn**	**13 53 14.0**	**-0.5**
	0.3nm,0.3s,baz=2.2,slow=10,SNR=22						
FITZ				S	**Sn**	**13 55 05.0**	**-2.8**
	1.7nm,0.3s,baz=180,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**10.14**	**165**		**Pn**	**13 53 13.3**	**-1.1**
FAKI	**Fak Fak**	**10.65**	**61**	Pn	**Pn**	**13 53 20.9**	**-0.3**
MYLDM	**Lahad Datu**	**14.05**	**341**	P	**Pn**	**13 54 04.6**	**+0.5**
WB0	**Warramunga Arr**	**15.94**	**137**	P	**P**	**13 54 26.9**	**+0.1**
WB0				IAmb	IAmb	13 54 50.0	
	comp=Z,7.8nm,1.2s						
WRA	**Warramunga Arr**	**16.03**	**138**	P	**P**	**13 54 28.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=313,slow=13,SNR=34						
WRA				S	**S**	**13 57 21.1**	**-4.6**
	comp=Z,0.5nm,0.3s,baz=314,slow=23,SNR=7.2						
WRA	**Warramunga Arr**	**16.03**	**138**	P	**P**	**13 54 25.5**	**-2.3**
WRAB	**Tennant Creek**	**16.03**	**138**	P	**P**	**13 54 28.1**	**+0.3**
WB2	**Warramunga Arr**	**16.04**	**138**	P	**Pn**	**13 54 28.2**	**-0.1**
WB2				IAmb	IAmb	13 54 33.0	
	comp=Z,16nm,1.5s						
WR0	**Warramunga Arr**	**16.18**	**137**	P	**P**	**13 54 29.7**	**+0.3**
WR0				IAmb	IAmb	13 54 32.4	
	comp=Z,6.9nm,1.1s						
AS31	**Alice Springs**	**18.59**	**147**	P	**Pn**	**13 54 57.5**	**-0.9**
ASAR	**Alice Springs**	**18.59**	**147**	P	**Pn**	**13 54 57.6**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=330,slow=13,SNR=61						
ASAR				S	**S**	**13 58 19.8**	**+2.7**
	comp=Z,0.0nm,0.3s,baz=318,slow=20,SNR=4.5						
ASAR				ScP	**ScP**	**14 02 30.4**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=338,slow=1.9,SNR=4.6						
ASAR	**Alice Springs**	**18.59**	**147**	P	**P**	**13 54 57.1**	**+1.4**
COEN	**Coen**	**20.64**	**108**	P	**P**	**13 55 17.7**	**0.0**
COEN				IAmb	IAmb	13 55 18.7	
	comp=Z,22nm,1.5s						
MORW	**Morawa**	**21.71**	**197**	P	**P**	**13 55 29.9**	**+1.0**
MORW				IAmb	IAmb	13 55 45.8	
	comp=Z,21nm,1.4s						
FORT	**Forrest**	**22.93**	**169**	P	**P**	**13 55 41.9**	**+1.8**
FORT				IAmb	IAmb	13 55 43.0	
	comp=Z,16nm,0.9s						
BBOO	**Buckleboo**	**27.30**	**155**	P	**P**	**13 56 20.5**	**+0.9**
STKA	**Stephens Creek**	**29.22**	**146**	P	**P**	**13 56 38.1**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=316,slow=10,SNR=5.6						
STKA	**Stephens Creek**	**29.22**	**146**	P	**P**	**13 56 37.9**	**+1.4**
YOJ	**Yonaguni jima**	**32.50**	**0**	P	**P**	**13 57 05.0**	**-0.4**
PAF	**Port-aux-Franc**	**60.02**	**217**	P	**P**	**14 00 37.3**	**-1.7**
MKAR	**Makanchi Array**	**65.64**	**331**	P	**P**	**14 01 16.2**	**0.0**
	comp=Z,0.2nm,0.5s,baz=130,slow=4.6,SNR=2.3						
MKAR	**Makanchi Array**	**65.64**	**331**	P	**P**	**14 01 15.8**	**-0.3**
VNDA	**Vanda**	**72.15**	**172**	P	**P**	**14 01 57.5**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=346,slow=7.3,SNR=1.5						

*BJI **14** 14:06:42.7±0.0, 64°.42N×16°.97W, h11km, mB5.2/23, mb4.8/34, Ms4.8/8, Ms7 4.5/7*
*REY **14** 14:06:42.6, 64°.67N×17°.42W, h3km*
*BGS **14** 14:06:42.8±2.0, 64°.57N×17°.65W, h5km, MS4.3*
*UNK **14** 14:06:44.5, 64°.48N×17°.82W, h8km*
*IDC **14** 14:06:44.3±0.4, 64°.59N×17°.45W, h0km, mb4.2/27, mb1 4.4/33, mb1mx4.3/46, mbtmp4.3/33, ML3.0/4, MS4.1/39, Ms1 4.1/39, ms1mx4.0/44, Error ellipse: s-maj=13.8km s-min=9.4km az=22.0*
*NEIC **14** 14:06:45.6±1.5, 64°.57N±0°.07×17°.7W±0°.1, h8km±3km, mb4.6/268, Error ellipse: s-maj=10.7km s-min=8.2km az=191.0*
*MOS **14** 14:06:45.8±1.1, 64°.71N×17°.41W, h22km, mb4.8/66, MS4.2/17, Error ellipse: s-maj=9.3km s-min=5.8km az=118.0*
*GCMT **14** 14:06:47.6±0.2, 64°.56N±0°.02×17°.03W±0°.04, h15km, MW5.0/125, Moment Tensor Solution. s39, c45; s125, c178; Duration: 0 Moment tensor: Scale 1016Nm; M_{rr}=4.11±.18; $M_{\theta\theta}$2.35±.12; $M_{\phi\phi}$1.76±.10; $M_{r\theta}$-0.72±.27; $M_{\theta\phi}$-0.53±.07; $M_{\phi r}$-2.07±.25; Best double couple: $M_0$3.79200×1016 NP1:ϕ_S114.00000°, δ41.00000°, λ-117.00000°. NP2:ϕ_S328.00000°, δ55.00000°, λ-69.00000°. Principal axes: T 2.7180, Plg7.0000°, Azm43.0000°; N 2.1480, Plg17.0000°, Azm136.0000°; P -4.8660, Plg71.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **14** 14:06:49.2±0.0, 65°.09N×15°.59W, h10km, mb5.2*
*DNK **14** 14:06:49.0±7.2, 64°.72N×17°.93W, h0km±364km, ML2.9, Hypocentre not reviewed by the ISC*

ISC 14 14:06:44.4±0.3, 64°.67N±0°.02×17°.42W±0°.02, h3km, n771, σ1§39/760, mb4.6/233, MS4.1/58, 12C-4D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.13**	**11**	P	**Pg**	**14 06 45.5**	**-1.5**
	baz=10						
IDYN				S	**Sg**	**14 06 49.9**	**+1.2**
	baz=10						
IVON	**Vonarskard**	**0.14**	**273**	P	**Pg**	**14 06 45.7**	**-1.5**
	baz=273						
IURH	**Urdarhals**	**0.20**	**37**	P	**Pg**	**14 06 46.7**	**-1.6**
	baz=37						
IGRF	**Grimsfjall**	**0.27**	**165**	P	**Pg**	**14 06 48.0**	**-1.6**
	baz=166						
IKVE	**Kverkfjoll**	**0.32**	**87**	P	**Pg**	**14 06 49.0**	**-1.6**
	baz=87						
IBJK	**Bruarjokull**	**0.35**	**124**	P	**Pg**	**14 06 49.2**	**-1.9**
	baz=124						
IBJK				S	**Sg**	**14 06 54.6**	**-1.1**
	baz=124						
IHUS	**Husbondi**	**0.39**	**195**	P	**Pg**	**14 06 50.1**	**-1.7**
	baz=196						
IHUS				S	**Sg**	**14 06 56.5**	**-0.3**
	baz=196						
IVOT	**Vottur**	**0.41**	**165**	P	**Pg**	**14 06 50.5**	**-1.8**
	baz=165						
ISKR	**Skrokkalda**	**0.43**	**256**	P	**Pg**	**14 06 50.6**	**-2.1**
	baz=256						
IKRE	**Kreppuhraun**	**0.46**	**75**	P	**Pg**	**14 06 51.1**	**-2.1**
	baz=75						
IJOK	**Jokulheimar**	**0.49**	**225**	P	**Pg**	**14 06 51.9**	**-2.0**
	baz=225						
IMKO	**Mokollar**	**0.56**	**55**	P	**Pg**	**14 06 52.9**	**-2.2**
	baz=55						
IMKO				S	**Sg**	**14 07 01.4**	**-1.0**
	baz=55						
IIEY	**Innrieyrar**	**0.65**	**208**	P	**Pg**	**14 06 54.5**	**-2.4**
	baz=208						
IKSK	**Karasker**	**0.65**	**140**	P	**Pg**	**14 06 54.0**	**-2.9**
	baz=140						
ISVA	**Svartarkot**	**0.68**	**6**	P	**Pg**	**14 06 54.8**	**-2.7**
	baz=5.9						
IVSH	**V-Sauoahnukur**	**0.74**	**78**	P	**Pg**	**14 06 55.8**	**-2.8**
	baz=78						
IVAT	**Vatnsfell**	**0.81**	**234**	P	**Pg**	**14 06 57.2**	**-2.6**
	baz=234						
IADA	**Aoalbol**	**0.87**	**65**	P	**Pg**	**14 06 57.8**	**-3.2**
	baz=65						
IMEL	**Melhnausar**	**0.96**	**19**	P	**Pg**	**14 06 59.3**	**-3.6**
	baz=19						
IREN	**Reynihlio**	**1.01**	**12**	P	**Pg**	**14 07 00.2**	**-3.6**
	baz=12						
IKVO	**Krokottuvotn**	**1.08**	**12**	P	**Pg**	**14 07 01.3**	**-3.7**
	baz=12						
BORG	**Borgarnes**	**1.68**	**275**	Pg	**Pn**	**14 07 11.2**	**-3.5**
	107nm,0.3s,baz=96,slow=7.4,SNR=89						
BORG				Lg	Lg	14 07 36.4	
	91nm,0.3s,baz=221,slow=22,SNR=11						
SCO	**Scoresbysund**	**6.09**	**346**	*i* P	**Pn**	**14 08 13.0**	**-2.2**
SCO	**Scoresbysund**	**6.09**	**346**	P	**Pn**	**14 08 14.4**	**-0.8**
SCO	**Scoresbysund**	**6.09**	**346**	Pn	**Pn**	**14 08 14.4**	**-0.8**
JMIC	**Jan Mayen**	**7.18**	**24**	Pn	**Pn**	**14 08 32.7**	**+2.6**
	baz=191,slow=5.2,SNR=2.2						
JMIC				LR	LR	14 10 49.5	
	comp=Z,2μm,18.3s,baz=248,slow=34						
LEWI	**Lewis, Hebride**	**8.26**	**137**	*eP*	**Pn**	**14 08 43.0**	**-1.9**
WAL1	**Walls**	**8.54**	**114**	*eP*	**Pn**	**14 08 47.1**	**-1.7**
LRW	**Lerwick**	**8.79**	**114**	*eP*	**Pn**	**14 08 50.9**	**-1.3**
LRW				IAMs_20	IAMs_20	14 12 52.5	
	comp=Z,4μm,12.1s						
KAC	**Achnashellach**	**9.27**	**135**	*eP*	**Pn**	**14 08 57.3**	**-1.5**
KPL	**Plockton**	**9.29**	**137**	*eP*	**Pn**	**14 08 57.6**	**-1.5**
MCD	**Coleburn Disti**	**9.85**	**130**	*eP*	**Pn**	**14 09 05.7**	**-1.0**
LAWE	**Loch Awe, Argy**	**10.29**	**139**	*eP*	**Pn**	**14 09 10.5**	**-2.2**
INVG	**Invergeldie, C**	**10.54**	**135**	*eP*	**Pn**	**14 09 14.3**	**-1.9**
INVG				IAMs_20	IAMs_20	14 14 06.6	
	comp=Z,2μm,12.0s						
EAB	**Aberfoyle**	**10.66**	**137**	*eP*	**Pn**	**14 09 16.5**	**-1.3**
PGBU	**Glenifferbraes**	**10.94**	**138**	*eP*	**Pn**	**14 09 20.2**	**-1.4**
SUMG	**Summit**	**10.96**	**325**	*i* P	**Pn**	**14 09 23.0**	**+0.8**
SUMG	**Summit**	**10.96**	**325**	*i* P	**Pn

WLF Walferdange 19.54 129 P **P 14 11 11.3 -1.5**
WLF pP **Pn 14 11 15.7 +1.7**
WLF Walferdange 19.54 129 *e*P **Pn 14 11 14.8 +0.8**
comp=Z,101nm,1.9s,baz=328,slow=11
FINES FINESS Array B 19.67 79 P **Pn 14 11 14.4 -1.1**
comp=Z,0.1nm,0.3s,baz=299,slow=9.4,SNR=7.5
FINES LR LR 14 18 37.2
comp=Z,471nm,20.4s,baz=294,slow=36
FINES FINESS Array B 19.67 79 P **Pn 14 11 15.0 -0.5**
FINES FINESS Array B 19.67 79 **Pn 14 11 15.0 -0.5**
CLF Chambon-Foret 19.77 138 P **Pn 14 11 15.1 -1.7**
TNS Taunus Mts 19.86 124 *e*P **Pn 14 11 17.4 -0.5**
comp=Z,149nm,2.1s,baz=328,slow=11
TULEG Thule 19.87 327 P **Pn 14 11 17.0 -0.8**
TULEG IAmb IAmb 14 11 33.2
comp=Z,30nm,1.1s
UBBA Unterbreizbach 19.93 121 *e*P **Pn 14 11 17.6 -0.9**
comp=Z,251nm,2.3s,baz=328,slow=11
RUE Ruedersdorf 20.07 113 *e*P Pn 14 11 19.9 -0.4
SLIT Slitere, Latvi 20.11 92 *e*P Pn 14 11 19.7 -1.1
NEUB Neuenburg 20.28 118 *e*P Pn 14 11 21.1 -1.7
comp=Z,162nm,1.6s,baz=328,slow=11
LVZ Lovozero 20.67 58 *i* P **P 14 11 22.0 -3.0**
LVZ pmax pmax
comp=Z,36nm,1.3s
MOX Moxa 20.67 119 *e*P Pn 14 11 25.5 -1.9
comp=Z,139nm,1.7s,baz=328,slow=11
CLL Collm 20.68 116⇑ *i*P Pn 14 11 25.4 -2.0
comp=Z,177nm,2.1s
CLL *e*Pmax 14 11 30.0
CLL *i* 14 11 39.0
comp=Z,149nm,1.9s
CLL *e*S Sn 14 15 24.0 +3.3
CLL LmH 14 19 00.0
comp=N,400nm,21.9s
CLL LmH 14 19 00.0
comp=E,800nm,19.0s
CLL LmV 14 20 00.0
comp=Z,700nm,18.5s
CLL Lmax 14 21 00.0
CLL Collm 20.68 116⇑ *i*P Pn 14 11 25.4 -2.0
CLL pmax pmax
comp=Z,177nm,2.1s
CLL MLR MLR
comp=Z,700nm,18.5s
CLL Collm 20.68 116 *e*P Pn 14 11 25.1 -2.3
comp=Z,177nm,2.1s,baz=328,slow=11
CLL Collm 20.68 116 P Pn 14 11 24.8 -2.6
GKP Gorka Klasztor 20.88 107 *e*P Pn 14 11 32.4 +2.6
PBUR Paburge 20.96 96 *e*P Pn 14 11 28.1 -2.6
PLN Plauen 21.01 118 *e*P **P 14 11 28.8 +0.1**
comp=Z,384nm,2.2s,baz=328,slow=11
WERD Werda 21.09 118 *e*P **P 14 11 29.7 0.0**
comp=Z,135nm,1.9s,baz=328,slow=11
FBE Freiberg 21.12 116 *e*P **P 14 11 30.1 +0.2**
comp=Z,317nm,2.2s,baz=328,slow=11
ECH Echery 21.13 129 P **P 14 11 30.7 +0.6**
ECH pmax pmax
comp=Z,9.0nm,1.0s
ECH Echery 21.13 129 P **P 14 11 30.7 +0.6**
GUNZ Gunzen 21.17 118 *e*P **P 14 11 30.7 +0.2**
comp=Z,246nm,2.0s,baz=328,slow=11
TANN Tannenbergstha 21.18 118 *e*P **P 14 11 30.8 +0.2**
comp=Z,570nm,2.2s,baz=328,slow=11
KLNR Kaliningrad 21.18 101 *i* P **P 14 11 33.4 +2.9**
KLNR pmax pmax
comp=Z,57nm,1.2s
WERN Wernitzgruen 21.25 118 *e*P **P 14 11 31.6 +0.3**
comp=Z,148nm,1.7s,baz=328,slow=11
GRA1 Grafenberg Arr 21.30 121 P **P 14 11 32.5 +0.6**
GRA1 IAmb IAmb 14 11 38.3
comp=Z,28nm,1.1s
GRF Grafenberg Arr 21.30 121 P **P 14 11 32.5 +0.6**
GRF pmax pmax
comp=Z,28nm,1.1s
GRF Grafenberg Arr 21.30 121 *e*P **P 14 11 32.6 +0.6**
comp=Z,76nm,0.5s,baz=328,slow=11
NKC Novy Kostel 21.32 118 *e*P **P 14 11 35.6 +3.5**
NKC *e*S Sn 14 15 36.5 +0.2
NKC AMS AMS 14 20 30.0
comp=Z,800nm,17.9s
NKC Novy Kostel 21.32 118 *e*P **P 14 11 35.6 +3.5**
NKC *e*S Sn 14 15 36.5 +0.2
NKC MLR MLR
comp=Z,800nm,17.9s
STU Stuttgart 21.34 125 P **P 14 11 33.2 +0.8**
STU pmax pmax
comp=Z,31nm,1.1s
STU Stuttgart 21.34 125 *e*P **P 14 11 33.2 +0.8**
comp=Z,51nm,0.5s,baz=328,slow=11
STU Stuttgart 21.34 125 P **P 14 11 33.2 +0.8**
STU IAmb IAmb 14 11 38.1
comp=Z,30nm,1.1s
BRG Berggiesshubel 21.38 115 *i* P **P 14 11 32.9 +0.1**
comp=Z,77nm,1.8s
BRG *i* 14 11 46.6
comp=Z,225nm,1.8s
BRG S Sn 14 15 41.0 +3.2
comp=N,977nm,14.5s
comp=E,899nm,14.1s
comp=Z,1μm,15.6s
BRG Berggiesshubel 21.38 115 *i* P **P 14 11 32.9 +0.1**
BRG S Sn 14 15 41.0 +3.2
BRG pmax pmax
comp=Z,77nm,1.8s
BRG pmax pmax
comp=Z,225nm,1.8s
BRG MLR MLR
comp=N,977nm,14.5s
BRG MLR MLR
comp=E,899nm,14.1s
BRG MLR MLR
comp=Z,1μm,15.6s
BRG Berggiesshubel 21.38 115 *e*P **P 14 11 32.8 +0.1**
comp=Z,223nm,1.8s,baz=328,slow=11
MANZ Manzenberg 21.39 119 *e*P **P 14 11 33.1 +0.2**
comp=Z,339nm,2.8s,baz=328,slow=11
BFO Black Forest 21.42 127 P **P 14 11 33.7 +0.5**
BFO pmax pmax
comp=Z,20nm,1.1s
BFO Black Forest 21.42 127 *e*P **P 14 11 33.9 +0.6**
comp=Z,123nm,1.8s,baz=328,slow=11
BFO Black Forest 21.42 127 P **P 14 11 33.7 +0.5**
BFO IAmb IAmb 14 11 41.5
comp=Z,20nm,1.1s
VSU Vasula 21.53 86 *e*P **P 14 11 34.5 +0.2**
VSU Vasula 21.53 86 *i* P **P 14 11 34.0 -0.3**
VSU pmax pmax
comp=Z,120nm,1.0s
ROTZ Rotzenmuhle 21.61 119 *e*P **P 14 11 35.3 +0.1**
comp=Z,136nm,1.8s,baz=328,slow=11
FRB Frobisher Bay 21.78 291 LR LR 14 19 25.2
comp=Z,576nm,18.9s,baz=60,slow=35
PVCC Panska Ves 21.90 115 *e*S Sn 14 15 50.6 +0.4
PVCC AMS AMS 14 21 40.0
comp=Z,800nm,14.6s
PVCC Panska Ves 21.90 115 *e*P P 14 11 48.5 +10
PVCC MLR MLR
comp=Z,800nm,14.6s
PRA Prague 22.21 116 *e*S Sn 14 15 52.4 -5.2
PRA AMS AMS 14 21 00.0
comp=Z,400nm,19.0s
PRU Pruhonice 22.32 116 *e*P **P 14 11 42.5 -0.3**
PRU *e*S **S 14 15 51.6 +3.0**
PRU AMS AMS 14 21 10.0
comp=Z,700nm,13.9s
PRU Pruhonice 22.32 116 *e*P **P 14 11 42.5 -0.3**
PRU *e*S **S 14 15 51.6 +3.0**
PRU MLR MLR
comp=Z,700nm,13.9s
PUL Pulkovo 22.33 80 *e*P **P 14 11 43.1 +0.3**
PBCC Pribram 22.35 117 *e*P **P 14 11 44.3 +1.1**
WET Wettzell 22.37 119 *e*P **P 14 11 43.4 -0.1**
comp=Z,186nm,2.0s,baz=328,slow=11
CHVC Chvalec 22.44 113 *e*P **P 14 11 45.0 +0.9**
CHVC AMS AMS 14 20 00.0
comp=Z,700nm,19.0s
GOPC GO Pecny, Ondr 22.47 116 *e*P **P 14 11 44.6 +0.1**
GOPC *e*S Sn 14 15 59.8 -4.2
GOPC AMS AMS 14 21 30.0
comp=Z,800nm,17.3s
GOPC GO Pecny, Ondr 22.47 116 *e*P **P 14 11 44.6 +0.1**
GOPC MLR MLR
comp=Z,800nm,17.3s
UPC Upice 22.48 113 *e*P **P 14 11 45.5 +0.9**
UPC *e*S Sn 14 15 56.8 -7.4
UPC AMS AMS 14 20 30.0
comp=Z,800nm,18.3s
UPC Upice 22.48 113 *e*P **P 14 11 45.5 +0.9**
UPC MLR MLR
comp=Z,800nm,18.3s
OSTC Ostas 22.53 113 *e*P **P 14 11 46.0 +1.0**
OSTC *ex* x 14 12 00.2
OSTC *e*S **S 14 15 55.6 +3.1**
OSTC AMS AMS 14 19 50.0
comp=Z,800nm,19.0s
UBR Ueberruh 22.59 126 *e*P **P 14 11 46.7 +0.9**
comp=Z,610nm,2.6s,baz=328,slow=11
KHC Kasperske Hory 22.64 119 *e*P **P 14 11 46.8 +0.4**
KHC *ex* x 14 12 00.0
KHC *e*S Sn 14 16 02.1 -6.0
KHC AMS AMS 14 20 20.0
comp=Z,900nm,24.3s
KHC Kasperske Hory 22.64 119 *ce*P **P 14 11 46.7 +0.4**
KHC pmax pmax
comp=Z,62nm,2.1s
KHC Kasperske Hory 22.64 119 P **P 14 11 46.4 0.0**
DPC Dobruska-Polom 22.73 113 *e*P **P 14 11 47.0 -0.2**
DPC *ex* x 14 11 58.7
DPC *e*S Sn 14 16 03.3 -6.8
DPC AMS AMS 14 21 40.0
comp=Z,800nm,20.7s
DPC Dobruska-Polom 22.73 113 *e*P **P 14 11 47.0 -0.2**
DPC *e* 14 11 58.7
DPC MLR MLR
comp=Z,800nm,20.7s
SENIN Lac Senin/Sane 22.80 132 P **P 14 11 49.0 +0.8**
SUW Suwalki 22.85 98 *e*P **P 14 11 48.3 -0.1**
SUW Suwalki 22.85 98 P **P 14 11 48.0 -0.4**
SUW pmax pmax
comp=Z,45nm,1.0s
SUW Suwalki 22.85 98 P **P 14 11 48.0 -0.4**
DAVA Damuels 22.85 126 pP **P 14 11 50.8 +2.1**
comp=Z,26nm,1.4s,SNR=6.7
GEC2 GERESS Array S 22.93 119 *e*P **P 14 11 50.5 +1.1**
comp=Z,184nm,1.8s,baz=328,slow=11
GEC2 GERESS Array S 22.93 119 P **P 14 11 48.7 -0.7**
GERES GERESS Array B 22.93 119 P **P 14 11 49.7 +0.3**
comp=Z,3.0nm,0.9s,baz=332,slow=8.2,SNR=13
GERES LR LR 14 21 07.1
comp=Z,832nm,20.9s,baz=326,slow=38
GERES GERESS Array B 22.93 119 P **P 14 11 48.7 -0.7**
GERES GERESS Array B 22.93 119 P **P 14 11 48.7 -0.7**
RETA Reutte 22.99 125 P **P 14 11 50.7 +0.7**
comp=Z,25nm,1.3s,SNR=11
IZAR Zarasai 23.00 92 *e*P **P 14 11 49.6 -0.3**
ISAL Salakas 23.06 93 *e*P **P 14 11 50.8 +0.3**
KRLC Kraliky 23.13 113 *e*P **P 14 11 53.4 +2.0**
KRLC *ex* x 14 12 01.5
KRLC *e*S **S 14 16 07.3 +4.0**
KRLC AMS AMS 14 21 20.0
comp=Z,800nm,17.5s
KRLC Kraliky 23.13 113 *e*P **P 14 11 53.4 +2.0**
KRLC *e* 14 12 01.5
KRLC MLR MLR
comp=Z,800nm,17.5s
MOTA Moosalm 23.23 125 *e*P **P 14 11 53.4 +0.8**
comp=Z,33nm,1.5s,SNR=20
TREC Trest 23.24 116 AMS AMS 14 21 40.0
comp=Z,700nm,18.0s
IIGN Ignalina 23.25 93 *e*P **P 14 11 53.1 +0.6**
DAVOX Davos/Dischmat 23.29 127 P **P 14 11 53.4 +0.2**
comp=Z,3.9nm,0.9s,baz=340,slow=13,SNR=8.4
DAVOX LR LR 14 21 45.6
comp=Z,582nm,19.1s,baz=14,slow=39
TMCR Tamitsa 23.32 66 *e*P **P 14 11 50.5 -2.6**
comp=Z,50nm,0.8s
TMCR Tamitsa 23.32 66 *e*P **P 14 11 50.5 -2.6**
TMCR *e*S **S 14 16 04.1 -1.9**
TMCR pmax pmax
comp=Z,50nm,0.9s
PGAV Gavieira, Arco 23.34 163 *e*P **P 14 11 56.6 +2.9**
comp=Z,98nm,1.8s
PGAV *e*LQ LQ 14 16 15.1
SQTA Sankt Quirin 23.38 125 *e*P **P 14 11 54.4 +0.4**
comp=Z,51nm,2.5s,SNR=13
FETA Feichten 23.38 126 *e*P **P 14 11 55.2 +1.2**
comp=Z,25nm,2.1s,SNR=5.8
TUE Stuetta 23.38 128 P **P 14 11 54.1 0.0**
WATA Walderalm 23.41 124 *e*P **P 14 11 54.2 -0.2**
comp=Z,26nm,1.7s,SNR=11
BEL Belsk 23.41 105 *e*P **P 14 11 55.9 +1.7**
WTTA Wattenberg 23.49 124 *e*P **P 14 11 55.6 +0.3**
comp=Z,30nm,1.6s,SNR=7.8
WTTA Wattenberg 23.49 124 *e*P **P 14 11 55.3 +0.1**
baz=328,slow=11
IDID Didziasalis 23.49 92 *e*P **P 14 11 54.7 -0.2**
RJOB Jochberg 23.51 122 *e*P **P 14 11 54.4 -0.9**
comp=Z,286nm,2.5s,baz=328,slow=11
FUORN Ofenpass-Fuorn 23.56 127 P **P 14 11 56.4 +0.4**
PCAB Cabril 23.62 162 *e*P **P 14 11 58.8 +2.4**
comp=Z,54nm,1.8s
VRAC Vranov 23.66 114 P **P 14 11 57.2 +0.5**
comp=Z,2.7nm,0.9s,baz=325,slow=12,SNR=14
VRAC LR LR 14 22 02.8
comp=Z,630nm,18.5s,baz=337,slow=39
VRAC Vranov 23.66 114 *e*P **P 14 11 56.7 0.0**
VRAC *e*S Sn 14 16 22.2 -10
MORC Moravsky Berou 23.67 112 *e*P **P 14 11 56.4 -0.4**
MORC *e*S Sn 14 16 20.5 -12
MORC Moravsky Berou 23.67 112 P **P 14 11 56.7 -0.1**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 23.67 112 P **P 14 11 56.6 -0.1**
EUNU Eureka 23.68 336 P **P 14 11 57.8 +1.1**
PBRG Braganca 23.71 160 *e*P **P 14 11 59.8 +2.5**
comp=Z,53nm,2.0s
BNI Bardonecchia 23.77 134 P **P 14 11 58.4 +0.4**
BNI pmax pmax
comp=Z,9.0nm,1.1s
BNI Bardonecchia 23.77 134 P **P 14 11 58.4 +0.4**
KRUC Moravsky 23.78 115 *e*P **P 14 11 57.3 -0.6**
KRUC *e*S Sn 14 16 23.3 -12
MOA Molln 23.96 119 P **P 14 11 59.5 -0.2**
comp=Z,18nm,1.8s
MOA Molln 23.96 119 *e*P **P 14 11 59.3 -0.4**
baz=328,slow=11
PVRL Vila Real 24.09 162 *e*P **P 14 12 05.2 +4.3**
comp=Z,45nm,1.7s
OJC Ojcow 24.23 109 *e*P **P 14 12 02.1 0.0**
OJC Ojcow 24.23 109 P **P 14 12 01.6 -0.5**
OJC pmax pmax
comp=Z,7.0nm,1.1s
OJC Ojcow 24.23 109 P **P 14 12 01.6 -0.5**
ABTA Abfaltersbach 24.25 123 *e*P **P 14 12 02.6 +0.2**
comp=Z,28nm,2.8s,SNR=10
KBA Koelnbreinsper 24.27 122 *e*P **P 14 12 03.0 +0.3**
comp=Z,53nm,2.1s
KBA Koelnbreinsper 24.27 122 *e*P **P 14 12 03.0 +0.3**
baz=328,slow=11
MVO Moncorvo 24.30 161 *e*P **P 14 12 05.9 +3.1**
comp=Z,67nm,2.0s
MVO *e*LQ LQ 14 16 28.5
JAVC Velka Javorina 24.45 113 *e*P **P 14 12 05.0 +0.8**
JAVC *e*S **S 14 16 28.9 +4.4**
CONA Conrad Observa 24.50 117 *e*P **P 14 12 05.0 +0.4**
comp=Z,17nm,1.6s
SALO Salr 24.52 128 P **P 14 12 05.7 +0.8**
SALO IAmb IAmb 14 12 22.4
comp=Z,23nm,1.1s
MICGM Minsk 24.53 93⇓ *e*P **P 14 12 04.0 -0.8**
MICGM PM 14 12 08.0
comp=Z,0.3nm,2.0s
MICGM PM 14 12 09.0
comp=N,0.2nm,2.0s
MICGM *e*LR LR 14 19 44.0
MNK Minsk 24.53 93⇓ *e*P **P 14 12 04.0 -0.8**
MNK pmax pmax
comp=N,210nm,2.0s
MNK pmax pmax
comp=Z,250nm,2.0s
CTI Castel Tesino 24.54 125 P **P 14 12 05.0 -0.1**
CTI pmax pmax
comp=Z,32nm,1.1s
CTI Castel Tesino 24.54 125 P **P 14 12 05.0 -0.1**
ZOU Zoufplan 24.57 123 P **P 14 12 05.8 +0.3**
CIMO Cimolais 24.59 124 P **P 14 12 05.8 +0.4**
CIMO IAmb IAmb 14 12 13.1
comp=Z,19nm,1.2s
PVIS Viseu 24.62 162 *e*P **P 14 12 09.4 +3.6**
comp=Z,49nm,1.6s
SMOL Smolenice 24.63 114 *e*P **P 14 12 07.1 +1.3**
SMOL Smolenice 24.63 114 *e*P **P 14 12 07.1 +1.3**
MODS Modra-Piesok 24.68 115 *e*P **P 14 12 06.3 0.0**
MODS Modra-Piesok 24.68 115 *e*P **P 14 12 06.3 0.0**
STAL STALIGIAL 24.73 124 P **P 14 12 06.7 0.0**
MYKA Terra Mystica 24.75 122 P **P 14 12 07.8 +0.9**
comp=Z,29nm,2.2s,SNR=8.7
PRED Cave del Predi 24.89 122 P **P 14 12 08.1 0.0**
PRED IAmb IAmb 14 12 20.6
comp=Z,10nm,1.1s
LANS Liptovska Anna 24.93 111 *e*P **P 14 12 09.7 +1.2**
LANS Liptovska Anna 24.93 111 *e*P **P 14 12 09.7 +1.2**
ARSA Arzberg 24.93 118 *e*P **P 14 12 09.3 +0.8**
comp=Z,12nm,1.5s
ARSA Arzberg 24.93 118 *e*P **P 14 12 08.8 +0.3**
baz=328,slow=11
COI Coimbra 25.05 164 *e*LQ LQ 14 16 43.3
NIE Niedzica 25.06 109 *e*P **P 14 12 12.2 +2.6**
TEOL Teolo 25.14 126 P **P 14 12 11.1 +0.8**
TEOL IAmb IAmb 14 12 17.8
comp=Z,14nm,0.8s
OBKA Obir 25.19 121 *e*P **P 14 12 11.5 +0.6**
comp=Z,15nm,1.2s
OBKA Obir 25.19 121 *e*P **P 14 12 13.0 +2.1**
baz=328,slow=11
PCAS Casmilo, Conde 25.20 164 *e*P **P 14 12 13.2 +2.3**
comp=Z,83nm,1.6s
PCAS *e*LQ LQ 14 16 55.1
VYHS Vyhne 25.20 112 *e*P **P 14 12 11.4 +0.5**
VYHS Vyhne 25.20 112 *e*P **P 14 12 11.4 +0.5**
SOKA Soboth 25.23 120 *e*P **P 14 12 11.1 -0.1**
comp=Z,16nm,1.7s,SNR=6.6
BISS Bistriski jare 25.29 120 *i* P **P 14 12 14.2 +2.5**
PCBR Castelo Branco 25.54 162 *e*P P 14 12 19.6 +5.7
comp=Z,46nm,1.6s
SRO Srobarova 25.55 114 *e*P **P 14 12 14.9 +0.9**
SRO Srobarova 25.55 114 *e*P **P 14 12 14.9 +0.9**
KLMR Klimovskoe 25.57 72 *e*P **P 14 12 11.7 -2.4**
KLMR *e*S **S 14 16 40.0 -2.2**
KLMR Klimovskoe 25.57 72 *e*P **P 14 12 11.7 -2.4**
KLMR *e*S **S 14 16 39.9 -2.3**
KLMR pmax pmax
comp=Z,52nm,1.3s
KLMR Klimovskoe 25.57 72 *e*P **P 14 12 11.7 -2.4**
KLMR AMP 14 12 18.1
comp=Z,52nm,1.3s
KLMR *e*S **S 14 16 39.9 -2.3**
KLMR *e*S **S 14 16 39.9 -2.3**
KLMR LQ LQ 14 19 02.4
KLMR LQ LQ 14 19 02.4
KLMR LR LR 14 20 28.8
LJU Ljubljana 25.58 121 *i* P **P 14 12 16.6 +2.3**
TRI Trieste 25.58 123 P **P 14 12 15.5 +1.2**
TRI pmax pmax
comp=Z,17nm,1.1s
TRI Trieste 25.58 123 P **P 14 12 15.5 +1.2**
TRI IAmb IAmb 14 12 26.2
comp=Z,17nm,1.1s
SRO2 Moca 25.62 114 *e*P **P 14 12 16.9 +2.3**
SRO2 Moca 25.62 114 *e*P **P 14 12 16.9 +2.3**
GBAS Gorenja Brezov 25.64 122 *e*P **P 14 12 15.0 +0.1**
PSBE So Bento 25.69 164 *e*P **P 14 12 20.5 +5.1**
comp=Z,52nm,1.8s
PSBE *e*LQ LQ 14 17 04.3
VLC Villacollemand 25.76 129 P **P 14 12 16.5 +0.4**
VLC IAmb IAmb 14 12 28.6
comp=Z,14nm,1.1s
ZCCA Zocca 25.79 128 P **P 14 12 15.7 -0.6**
KECS Kecovo 25.87 110 *e*P **P 14 12 18.4 +1.4**
KECS Kecovo 25.87 110 *e*P **P 14 12 18.4 +1.4**
KWP Kalwaria Pacla 25.88 106 *e*P **P 14 12 17.3 +0.3**
KWP Kalwaria Pacla 25.88 106 P **P 14 12 16.7 -0.4**
KWP pmax pmax
comp=Z,10.0nm,0.5s
KWP Kalwaria Pacla 25.88 106 P **P 14 12 16.7 -0.4**
KWP IAmb IAmb 14 12 31.3
comp=Z,10nm,0.5s
VISS Visnje 25.90 121 *e*P **P 14 12 17.4 +0.1**
CRVS Cervenica-Dubn 25.94 109 *e*P **P 14 12 17.9 +0.3**
CRVS Cervenica-Dubn 25.94 109 *e*P **P 14 12 17.8 +0.2**
LSH Leshukonskoye 25.94 61 *e*P **P 14 12 17.3 -0.1**
PMRV Marv??o 25.95 162 *e*P **P 14 12 21.4 +3.6**
comp=Z,53nm,2.0s
PMRV *e*LQ LQ 14 17 07.4
SCHQ Schefferville 26.07 271 P **P 14 12 18.8 0.0**
comp=Z,13nm,0.9s,baz=46,slow=8.4,SNR=7.0
SCHQ LR LR 14 21 27.7
comp=Z,356nm,18.9s,baz=86,slow=34
SCHQ Schefferville 26.07 271 P **P 14 12 17.4 -1.4**
PSZ Piszkesteto 26.09 112 P **P 14 12 18.8 -0.2**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 26.09 112 P **P 14 12 18.8 -0.2**
PMAFR Mafra 26.19 166 *e*LQ LQ 14 17 15.6
PMTG Montargil 26.20 164 *e*P **P 14 12 24.8 +4.8**
comp=Z,48nm,1.9s
PMTG *e*LQ LQ 14 17 11.5
ESBB Sonseca Array 26.24 156 P **P 14 12 20.4 0.0**
ESDC Sonseca Array 26.24 156 P **P 14 12 20.3 -0.1**
comp=Z,3.5nm,1.0s,baz=347,slow=8.5,SNR=16
ESDC LR LR 14 22 12.3
comp=Z,333nm,18.6s,baz=340,slow=36
ESDC Sonseca Array 26.24 156 P **P 14 12 20.4 -0.1**
KOLS Kolonicke sedl 26.24 108 *e*P **P 14 12 20.1 -0.2**
KOLS Kolonicke sedl 26.24 108 *e*P **P 14 12 20.1 -0.2**
LVV L'vov 26.28 104 *e*P **P 14 12 22.1 +1.4**
LVV *e* 14 13 06.6
LVV *e*S **S 14 16 50.8 -2.8**
LVV pmax pmax
comp=Z,170nm,1.6s
LVV smax smax
comp=N,2μm,6.4s
LVV MLR MLR
comp=Z,500nm,13.0s
PAB San Pablo 26.30 157 P **P 14 12 20.8 -0.2**
PAB San Pablo 26.30 157 P **P 14 12 20.8 -0.2**
RES Resolute Bay 26.49 324 LR LR 14 22 53.9
comp=Z,382nm,19.7s,baz=72,slow=36
UZH Uzhgorod 26.49 108⇓ *i*P **P 14 12 24.5 +2.0**
UZH *e* 14 12 29.9
UZH *i* 14 13 11.4
UZH *i* S **S 14 16 55.5 -1.4**
UZH MLR MLR
comp=N,160nm,12.0s
UZH MLR MLR
comp=E,150nm,12.0s
UZH MLR MLR
comp=Z,90nm,12.0s
OSSC Osservatorio P 26.61 129 P **P 14 12 25.4 +1.7**
PNCL Nicolau / Gran 27.11 164 *e*LQ LQ 14 17 15.1
MURB Monte Urbino 27.28 127 P **P 14 12 30.4 +0.7**
MURB IAmb IAmb 14 12 41.6
comp=Z,21nm,1.1s
LATE Laterza 27.61 129 P **P 14 12 32.1 -0.6**
PCVE Castro Verde 27.64 164 *e*P **P 14 12 36.5 +3.5**
PCVE *e*LQ LQ 14 17 25.9
AKASG Malin Array Be 27.81 98 P **P 14 12 34.4 0.0**
comp=Z,1.8nm,0.5s,baz=324,slow=9.8,SNR=7.0
AKASG LR LR 14 23 30.9
comp=Z,392nm,21.9s,baz=305,slow=36
AKBB Malin Array Si 27.81 98 P **P 14 12 33.5 -0.9**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 27.81 98 P **P 14 12 33.5 -0.9**
AKBB IAmb IAmb 14 12 41.2
comp=Z,6.2nm,0.9s
OBN Obninsk 27.85 84 P **P 14 12 35.0 +0.4**
comp=Z,4.5nm,0.4s,baz=228,slow=8.4,SNR=6.9
OBN LR LR 14 24 15.6
comp=Z,69nm,18.3s,baz=346,slow=38
OBN Obninsk 27.85 84⇓ *i*P **P 14 12 35.1 +0.4**
OBN *i* 14 13 18.3
OBN *i* S **S 14 17 25.2 +7.0**
OBN pmax pmax
comp=Z,33nm,1.2s
OBN MLR MLR
comp=Z,318nm,14.0s
OBN Obninsk 27.85 84 P **P 14 12 35.0 +0.4**
NRCA Norcia 27.86 127 P **P 14 12 35.9 +0.9**
NRCA IAmb IAmb 14 12 49.4
comp=Z,9.0nm,1.1s
MOS Moscow 27.89 82 *e*P **P 14 12 34.1 -0.9**
MOS *e* 14 13 20.5
MOS pmax pmax

comp=Z,47nm,1.8s
MORF Marmelete 27.89 165 *e*LQ LQ 14 17 22.8
PVAQ Vaqueiros 27.90 163 *e*P **P 14 12 38.7 +3.4**
PVAQ *e*LQ LQ 14 17 28.4
PBDV Barranco-do-Ve 28.04 164 *e*LQ LQ 14 17 30.5
PFVI Vila Bisbo 28.04 165 *e*LQ LQ 14 17 30.0
BUR08 Bucovina Ar. S 28.46 106 P **P 14 12 40.6 +0.2**
BURAR Bucovina Array 28.49 106 P **P 14 12 40.7 +0.1**
DIVS Divibare 29.28 116 P **P 14 12 47.5 -0.2**
MLR Muntele Rosu 30.50 108 P **P 14 12 58.8 +0.3**
MLR pmax pmax
comp=Z,4.0nm,1.0s
MLR Muntele Rosu 30.50 108 P **P 14 12 58.8 +0.3**
SKO Skopje 31.65 117 *i* P **P 14 13 09.5 +1.0**
VSR Storozhevoye 31.70 88 *e*P **P 14 13 10.0 +1.2**
VSR pmax pmax
comp=Z,40nm,1.7s
VTS Vitosha 31.80 114 *e*P **P 14 13 09.0 -0.9**
OHR Ohrid 32.15 119 *i* P **P 14 13 08.7 -4.2**
CORL Corleone 32.36 131 P **P 14 13 13.9 -0.9**
KKB Krupnik 32.37 115 *e*P **P 14 13 15.0 +0.1**
VAY Valandovo 32.64 116 *i* P **P 14 13 17.5 +0.3**
FNA Florina 32.65 118 P **P 14 13 16.7 -0.6**
FNA pmax pmax
comp=Z,13nm,1.2s
FNA Florina 32.65 118 P **P 14 13 16.6 -0.6**
FNA IAmb IAmb 14 13 29.1
comp=Z,13nm,1.2s
VRH Novokhopyorsk 32.81 85 *e*P **P 14 13 19.3 +0.8**
VRH pmax pmax
comp=Z,50nm,1.4s
CHGQ Chibougamau 32.82 271 P **P 14 13 18.6 -0.1**
baz=42
MMB Musomiste 32.86 115 *e*P **P 14 13 19.0 -0.2**
KEST Kesra 33.13 138 P **P 14 13 21.6 -0.1**
comp=Z,5.3nm,1.0s,baz=268,slow=9.6,SNR=7.2
KEST LR LR 14 25 41.5
comp=Z,314nm,21.0s,baz=322,slow=34
KEST Kesra 33.13 138 P **P 14 13 20.7 -0.9**
RZN Rozhen 33.17 113 *e*P **P 14 13 20.0 -2.0**
KDZ Kurdzhali 33.48 113 *e*P **P 14 13 24.0 -0.5**
LIT Litokhoron 33.66 117 P **P 14 13 26.7 +0.5**
LIT pmax pmax
comp=Z,4.0nm,0.9s
LIT Litokhoron 33.66 117 P **P 14 13 26.7 +0.5**
G64A Maxfield 34.02 260 P **P 14 13 31.7 +2.6**
baz=37
ALN Alexandroupoli 34.37 112 P **P 14 13 32.5 +0.3**
ALN pmax pmax
comp=Z,14nm,1.2s
ALN Alexandroupoli 34.37 112 P **P 14 13 32.5 +0.3**
ALN IAmb IAmb 14 13 35.5
comp=Z,14nm,1.2s
D57A Chemin Vers le 34.82 267 P **P 14 13 36.7 +0.6**
baz=39
D56A ZEC Mazanza, M 35.17 268 P **P 14 13 39.9 +0.8**
baz=39
E57A Chemin Saint G 35.40 267 P **P 14 13 42.4 +1.3**
baz=39
D55A Sainte-Anne-du 35.50 269 P **P 14 13 42.9 +1.0**
baz=39
E56A St. Veronique 35.68 268 P **P 14 13 44.0 +0.5**
baz=39
TRQ Mont Tremblant 35.73 267 P **P 14 13 43.7 -0.3**
ANN Anapa 35.88 97 *e*P **P 14 13 43.8 -1.4**
ANN pmax pmax
comp=Z,54nm,1.2s
ANN MLR MLR
comp=Z,695nm,16.0s
D54A Lac Fusel, La 35.91 270 P **P 14 13 45.6 +0.2**
baz=39
ARU Arti 36.05 66*c i*P **P 14 13 47.0 +0.4**
ARU 14 15 08.0
ARU PPP PPP 14 15 27.0
ARU 14 16 07.5
ARU S **S 14 19 29.4 +3.5**
ARU SS **SnSn 14 21 49.9 +0.3**
ARU pmax pmax
comp=Z,52nm,2.5s
ARU MLR MLR
comp=Z,568nm,19.0s
ARU Arti 36.05 66 P **P 14 13 48.0 +1.4**
D53A Lac Vacive, Po 36.41 271 P **P 14 13 50.5 +0.7**
baz=39
D53A Lac Vacive, Po 36.41 271 P **P 14 13 49.2 -0.6**
D53A IAmb IAmb 14 13 53.6
comp=Z,16nm,1.1s
NRIK Noril'sk 36.44 35 P **P 14 13 50.2 +0.5**
comp=Z,1.8nm,0.5s,baz=321,slow=8.3,SNR=10
NRIK LR LR 14 30 44.3
comp=Z,162nm,18.1s,baz=16,slow=39
SVE Sverdlovsk 36.58 64 *e*P **P 14 13 51.8 +0.7**
SVE pmax pmax
comp=Z,30nm,1.9s
SVE MLR MLR
comp=Z,574nm,20.0s
E54A Lac Daplat, Po 36.69 270 P **P 14 13 51.9 -0.3**
baz=39
G57A Newington 36.80 266 P **P 14 13 54.0 +1.0**
baz=38
C36M Paulatuk 36.84 325 P **P 14 13 54.2 +1.0**
C36M IAmb IAmb 14 14 01.9
comp=Z,18nm,1.1s
LONY Lake Ozonia 37.01 265 P **P 14 13 55.6 +0.7**
baz=37
SOC Sochi 37.84 96 *e*P **P 14 14 00.9 -0.9**
SOC *e*S **S 14 19 54.8 +1.6**
SOC MLR MLR
comp=Z,254nm,16.0s
GOF Gofitskoye 38.08 91⇑*e*P **P 14 14 04.7 +0.8**
GOF pmax pmax
comp=Z,61nm,1.5s
BR131 Keskin Array S 38.45 105 P **P 14 14 05.9 -1.3**
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BR131 Keskin Array S 38.45 105 P **P 14 14 05.9 -1.3**
BRTR Keskin Array B 38.45 105 P **P 14 14 08.2 +1.0**
comp=Z,2.3nm,0.7s,baz=332,slow=6.6,SNR=9.0
BRTR LR LR 14 31 16.5
comp=Z,56nm,21.0s,baz=277,slow=38
BRTR Keskin Array B 38.45 105 P **P 14 14 07.1 -0.2**
KIV Kislovodsk 38.81 92 *e*P **P 14 14 11.4 +1.2**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,718nm,16.0s
KBZ Khabaz 39.08 93 P **P 14 14 13.8 +1.5**
comp=Z,4.8nm,0.8s,baz=336,slow=9.6,SNR=7.8
KBZ LR LR 14 30 30.5
comp=Z,437nm,21.7s,baz=338,slow=36
YKA Yellowknife Ar 39.24 313 P **P 14 14 13.1 -0.3**
comp=Z,5.1nm,1.1s,baz=42,slow=8.6,SNR=5.9
YKA LR LR 14 30 02.1
comp=Z,284nm,18.7s,baz=0.0,slow=36
E46A Sault Ste Mari 39.80 276 P **P 14 14 19.2 +0.9**
E46A IAmb IAmb 14 14 20.6
comp=Z,16nm,1.0s
ZEI Tsey 40.27 92 *e*P **P 14 14 20.2 -2.3**
ZEI pmax pmax
comp=Z,23nm,2.0s
FFC Flin Flon 40.62 298 P **P 14 14 25.8 +0.8**
FFC pmax pmax
comp=Z,6.0nm,1.1s
FFC Flin Flon 40.62 298 P **P 14 14 25.8 +0.8**
AKH Akhalkalaki 41.22 94 P **P 14 14 31.5 +1.2**
AKH pmax pmax
comp=Z,8.0nm,1.1s
AKH Akhalkalaki 41.22 94 P **P 14 14 31.5 +1.2**
AKH IAmb IAmb 14 14 39.7
comp=Z,8.5nm,1.1s
N56A West Decatur 41.61 265 P **P 14 14 34.4 +1.1**
baz=35
ULM Lac du Bonnet 41.63 289 P **P 14 14 35.5 +2.1**
comp=Z,2.5nm,0.6s,baz=16,slow=15,SNR=4.4
MAK Makhachkala 41.68 89 *e*P **P 14 14 29.3 -4.5**
MAK *e*S **S 14 20 44.7 -6.2**
MAK pmax pmax
comp=Z,84nm,0.6s
MAK MLR MLR
comp=Z,245nm,16.0s
M54A Oil Creek Stat 41.71 267 P **P 14 14 35.2 +1.1**
baz=35
ABKAR Akbulak array 41.96 73 P **P 14 14 35.4 -0.7**
TIXI Tiksi 42.02 15*ce*P **P 14 14 32.8 -3.5**
TIXI pmax pmax
comp=Z,91nm,2.5s
TIXI Tiksi 42.02 15 P **P 14 14 37.7 +1.4**
TIXI IAmb IAmb 14 14 40.5
comp=Z,16nm,0.9s
O56A Blue Knob Stat 42.26 265 P **P 14 14 37.3 -1.4**
O56A IAmb IAmb 14 14 45.0
comp=Z,15nm,1.1s
N54A Moraine State 42.30 267 P **P 14 14 40.3 +1.3**
baz=35,SNR=5.5
N54A Moraine State 42.30 267 P **P 14 14 38.7 -0.2**
N54A IAmb IAmb 14 14 42.3
comp=Z,20nm,1.1s
TOLK Toolik Lake Re 42.76 336 P **P 14 14 44.2 +1.7**
baz=28,SNR=7.1
TOLK Toolik Lake Re 42.76 336 P **P 14 14 43.8 +1.4**
TOLK IAmb IAmb 14 14 45.6
comp=Z,19nm,1.1s
BMAR Burnt Mountain 42.91 333 P **P 14 14 44.2 +0.6**
AKT Akhty 42.99 90 *e*P P 14 14 49.4 +4.7
AKT *e* 14 16 29.7
AKT *e* 14 16 37.2
AKT pmax pmax
comp=Z,18nm,1.4s
BRVK Borovoye 43.10 62 P **P 14 14 45.5 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 43.10 62 P **P 14 14 45.5 +0.2**
O54A Avella 43.11 267 P **P 14 14 46.8 +1.2**
baz=34
AGMN Agassiz Nation 43.15 287 P **P 14 14 47.6 +1.9**
baz=38
AGMN Agassiz Nation 43.15 287 P **P 14 14 46.6 +0.8**
G40A Rib Lake 43.19 280 P **P 14 14 46.7 +0.6**
G40A IAmb IAmb 14 14 50.4
comp=Z,14nm,1.1s
L48A N Adams 43.41 272 P **P 14 14 48.2 +0.3**
L48A IAmb IAmb 14 14 54.4
comp=Z,20nm,1.1s
O53A New Philadelph 43.41 268 P **P 14 14 48.7 +0.7**
baz=34
O53A New Philadelph 43.41 268 P **P 14 14 48.5 +0.5**
O53A IAmb IAmb 14 14 56.2
comp=Z,11nm,1.0s
MARD Mardin 43.48 100 P **P 14 14 49.6 +0.9**
MARD IAmb IAmb 14 14 57.9
comp=Z,17nm,1.1s
O52A Adamsville 43.79 268 P **P 14 14 51.0 0.0**
baz=34
O52A Adamsville 43.79 268 P **P 14 14 50.3 -0.7**
O52A IAmb IAmb 14 14 53.2
comp=Z,8.9nm,0.9s
O51A Pataskala 44.10 269 P **P 14 14 54.7 +1.2**
baz=34
F36A Milaca 44.12 283 P **P 14 14 53.7 +0.2**
F36A IAmb IAmb 14 14 55.3
comp=Z,6.1nm,1.0s
P53A Whipple 44.12 267 P **P 14 14 55.3 +1.6**
baz=34
P53A Whipple 44.12 267 P **P 14 14 53.7 0.0**
COLD Coldfoot 44.13 336 P **P 14 14 54.8 +1.4**
baz=27
COLD Coldfoot 44.13 336 P **P 14 14 55.4 +1.9**
N49A Columbus Grove 44.14 271 P **P 14 14 53.4 -0.4**
R56A Bull Pasture M 44.17 264 P **P 14 14 55.3 +1.1**
baz=33
ACSO Alum Creek Sta 44.19 269 P **P 14 14 55.0 +0.8**
baz=34
Q54A Coxs Mills 44.30 266 P **P 14 14 56.5 +1.4**
baz=34
P52A Corning 44.32 268 P **P 14 14 56.1 +0.9**
baz=34
EGAK Eagle 44.50 329 P **P 14 14 57.3 +0.9**
EGAK IAmb IAmb 14 14 58.5
comp=Z,7.9nm,1.1s
Q53A Leroy 44.70 267 P **P 14 14 59.9 +1.6**
baz=34
O49A Covington 44.81 270 P **P 14 14 59.5 +0.3**
P51A Williamsport 44.84 269 P **P 14 14 59.4 0.0**
RCRC Randolf Colleg 44.93 264 P **P 14 14 59.5 -0.6**
Q52A Bidwell 44.94 268 P **P 14 15 00.8 +0.7**
baz=34
F33A 5 Mile Ranch, 45.29 285 P **P 14 15 03.5 +0.6**
RDOG Red Dog Mine 45.31 343 P **P 14 15 04.9 +2.1**
R53A Hurricane 45.33 267 P **P 14 15 04.0 +0.7**
R53A IAmb IAmb 14 15 20.7
comp=Z,11nm,1.1s
Q51A Peebles 45.34 269 P **P 14 15 03.6 +0.1**
K27K Chicken 45.35 329 P **P 14 15 05.0 +1.8**
baz=30
S54A Dingess, Beckl 45.50 266 P **P 14 15 05.9 +1.2**
baz=33
S54A Dingess, Beckl 45.50 266 P **P 14 15 05.2 +0.4**
S54A IAmb IAmb 14 15 18.4
comp=Z,9.6nm,1.1s
POKR Poker Plat Res 45.50 333 P **P 14 15 06.8 +2.4**
baz=28
P49A Miami Univ. Ec 45.51 270 P **P 14 15 05.5 +0.8**
baz=34
P49A Miami Univ. Ec 45.51 270 P **P 14 15 05.2 +0.5**
I37A Lemond, Waseca 45.55 281 P **P 14 15 04.7 -0.3**
I37A IAmb IAmb 14 15 18.1
comp=Z,11nm,1.1s
BLA Blacksburg 45.61 265 P **P 14 15 05.3 -0.3**
BLA pmax pmax
comp=Z,10.0nm,1.1s
BLA Blacksburg 45.61 265 P **P 14 15 05.2 -0.3**
BLA IAmb IAmb 14 15 21.6
comp=Z,9.9nm,1.1s
IL31 45.70 332 P **P 14 15 06.7 +0.8**
IL31 IAmb IAmb 14 15 09.1
comp=Z,8.6nm,1.1s
ILAR Eielson Array 45.70 332 P **P 14 15 06.7 +0.7**
comp=Z,8.2nm,1.1s,baz=26,slow=5.9,SNR=29
ILAR PcP **PcP 14 16 43.5 -0.1**
comp=Z,4.6nm,1.1s,baz=0.5,slow=2.8,SNR=9.0
ILAR LR LR 14 36 22.1
comp=Z,152nm,19.1s,baz=36,slow=39
ILAR Eielson Array 45.70 332 P **P 14 15 07.0 +1.1**
COLA College 45.80 333 P **P 14 15 07.8 +1.1**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 45.80 333 P **P 14 15 07.8 +1.1**
TCOL CIGO, UAF Yank 45.80 333 P **P 14 15 08.7 +2.0**
baz=28
U57A Blanch 45.80 263 P **P 14 15 07.9 +0.8**
baz=32
SCRK Sand Creek 45.81 330 P **P 14 15 08.4 +1.5**
baz=29
SFIN Lafayette 45.84 273 P **P 14 15 07.1 -0.2**
SFIN IAmb IAmb 14 15 08.8
comp=Z,7.0nm,0.8s
IMAR Indian Mountai 45.87 337 P **P 14 15 08.5 +1.2**
P48A Milroy 45.88 271 P **P 14 15 07.5 -0.1**
P48A IAmb IAmb 14 15 16.1
comp=Z,9.9nm,1.0s
CCB Clear Creek Bu 45.99 333 P **P 14 15 09.9 +1.7**
CCB IAmb IAmb 14 15 11.2
comp=Z,7.0nm,1.2s
HDA Harding Lake 46.04 332 P **P 14 15 10.0 +1.4**
baz=28,SNR=6.6
HDA Harding Lake 46.04 332 P **P 14 15 10.2 +1.5**
HDA IAmb IAmb 14 15 11.5
comp=Z,5.0nm,1.0s
BCAR Beaver Creek A 46.12 329 P **P 14 15 10.2 +0.8**
RIDG Independent Ri 46.20 331 P **P 14 15 10.6 +0.7**
WRH Wood River Hil 46.21 333 P **P 14 15 11.1 +1.2**
T54A Tazewell 46.23 266 P **P 14 15 10.9 +0.4**
baz=32
NEA2 Nenana 46.29 334 P **P 14 15 11.8 +1.3**
baz=27,SNR=11
DGMT Dagmar 46.38 293 P **P 14 15 13.2 +1.7**
baz=37
DGMT Dagmar 46.38 293 P **P 14 15 11.1 -0.4**
DGMT IAmb IAmb 14 15 29.0
comp=Z,5.4nm,0.8s
R50A Paris 46.39 269 P **P 14 15 11.8 +0.1**
R50A IAmb IAmb 14 15 17.5
comp=Z,9.5nm,1.1s
U55A TA2, Sparta 46.48 265 P **P 14 15 14.0 +1.6**
baz=32,SNR=6.3
WHY Whitehorse 46.53 323 P **P 14 15 13.3 +0.6**
WHY IAmb IAmb 14 15 14.5
comp=Z,3.3nm,0.9s
S51A Beattyville 46.61 268 P **P 14 15 13.2 -0.2**
S51A IAmb IAmb 14 15 15.7
comp=Z,10nm,1.1s
O44A Mansfield 46.61 274 P **P 14 15 13.4 0.0**
HDIL Hopedale 46.63 275 P **P 14 15 13.7 +0.2**
baz=34
HDIL Hopedale 46.63 275 P **P 14 15 13.1 -0.5**
MENT Mentasta 46.66 330 P **P 14 15 14.8 +1.2**
MENT IAmb IAmb 14 15 17.2
comp=Z,8.4nm,1.2s
T53A Wise 46.71 266 P **P 14 15 15.0 +0.7**
baz=32
BWN Browne 46.74 333 P **P 14 15 15.6 +1.5**
U54A Nelsons Funny 46.79 265 P **P 14 15 14.4 -0.6**
V56A Mocksville 46.83 264 P **P 14 15 16.9 +1.8**
baz=32,SNR=6.1
PAX Paxson 47.01 331 P **P 14 15 17.7 +1.3**
PAX pmax pmax
comp=Z,6.0nm,1.1s
PAX Paxson 47.01 331 P **P 14 15 17.7 +1.3**
PAX IAmb IAmb 14 15 19.5
comp=Z,6.4nm,1.1s
MCK McKinley 47.04 333 P **P 14 15 18.2 +1.7**
MCK pmax pmax
comp=Z,5.0nm,0.9s
MCK McKinley 47.04 333 P **P 14 15 18.2 +1.7**
MCK IAmb IAmb 14 15 28.9
comp=Z,4.7nm,0.9s
BPAW Bear Paw Mtn. 47.10 334 P **P 14 15 17.6 +0.7**
DLBC Dease Lake 47.10 318 P **P 14 15 16.7 -0.4**
V55A Taylorsville 47.10 264 P **P 14 15 17.7 +0.4**
ECSD EROS Data Cent 47.13 284 P **P 14 15 19.0 +1.6**
baz=35
ECSD EROS Data Cent 47.13 284 P **P 14 15 17.8 +0.3**
W57A Gilead 47.17 263 P **P 14 15 19.2 +1.4**
baz=32
N41A Harden Midland 47.18 277 P **P 14 15 17.3 -0.5**
WCI Wyandotte Cave 47.28 271 P **P 14 15 18.6 0.0**
WCI pmax pmax
comp=Z,24nm,1.1s
WCI Wyandotte Cave 47.28 271 P **P 14 15 19.2 +0.5**
baz=33
WCI Wyandotte Cave 47.28 271 P **P 14 15 18.6 0.0**
W56A Indian Trail 47.44 263 P **P 14 15 20.5 +0.6**
baz=32
V54A Nebo 47.48 265 P **P 14 15 21.4 +1.2**
baz=32
P43A Skaggs, Pawnee 47.49 275 P **P 14 15 20.8 +0.6**
P43A IAmb IAmb 14 15 22.1
comp=Z,7.9nm,0.9s
TZTN Tazewell 47.51 267 P **P 14 15 21.4 +0.9**
baz=32
TZTN Tazewell 47.51 267 P **P 14 15 20.6 +0.1**
TZTN IAmb IAmb 14 15 23.4
comp=Z,7.2nm,1.1s
ZAA0 Zalesovo Array 47.61 51 P **P 14 15 20.3 -0.7**
ZAA0 IAmb IAmb 14 15 29.3
comp=Z,5.9nm,1.1s
ZALV Zalesovo Beam 47.61 51 P **P 14 15 21.3 +0.3**
comp=Z,0.9nm,0.5s,baz=330,slow=8.6,SNR=6.4
ZALV PcP **PcP 14 16 51.3 +0.8**
comp=Z,1.1nm,0.7s,baz=343,slow=1.5,SNR=1.9
ZALV LR LR 14 38 03.9
comp=Z,153nm,18.2s,baz=310,slow=39
ZALV Zalesovo Beam 47.61 51 P **P 14 15 20.9 -0.1**
T50A Nancy 47.67 268 P **P 14 15 20.9 -0.8**
T50A IAmb IAmb 14 15 23.8
comp=Z,4.0nm,0.9s
KMSC Kings Mountain 47.75 264 P **P 14 15 23.4 +1.1**
baz=32
KMSC Kings Mountain 47.75 264 P **P 14 15 22.2 -0.2**
KURK Kurchatov 48.09 58*ce*P **P 14 15 23.7 -1.0**
KURK pmax pmax
comp=Z,40nm,2.5s
KURK Kurchatov 48.09 58 P **P 14 15 24.0 -0.7**
KURK IAmb IAmb 14 15 27.2
comp=Z,6.9nm,0.8s
W54A Cherokee Point 48.16 265 P **P 14 15 27.1 +1.6**
baz=32
X56A White Oak 48.18 263 P **P 14 15 27.5 +1.9**
baz=31,SNR=6.0
PAULI Pauline 48.23 264 P **P 14 15 25.1 -1.0**
PPLA Purkeypile 48.42 334 P **P 14 15 29.1 +1.7**
PPLA IAmb IAmb 14 15 38.7
comp=Z,11nm,1.2s
X55A Gracelyn & Ava 48.45 264 P **P 14 15 30.0 +2.2**
baz=31
V51A Loudon 48.48 267 P **P 14 15 26.7 -1.3**
U49A Red Boiling Sp 48.50 269 P **P 14 15 27.9 -0.2**
U49A IAmb IAmb 14 15 29.8
comp=Z,8.0nm,1.0s
BG3 Lake Jocassee 48.56 265 P **P 14 15 28.9 +0.3**
BG3 IAmb IAmb 14 15 30.6
comp=Z,4.2nm,0.8s
LAO LASA Array 48.63 293 P **P 14 15 31.0 +1.9**
baz=35,SNR=8.2
LAO LASA Array 48.63 293 P **P 14 15 30.2 +1.1**
T47A Sharon Grove 48.67 271 P **P 14 15 29.0 -0.5**
X54A Belton 48.70 264 P **P 14 15 31.1 +1.3**
baz=31
CPCT Cooper Cave 48.86 267 P **P 14 15 31.1 +0.2**
CPCT IAmb IAmb 14 15 42.0
comp=Z,6.1nm,1.1s
EGMT Eagleton 48.90 297 P **P 14 15 32.9 +1.7**
baz=35,SNR=13
Y55A Saluda 49.00 264 P **P 14 15 33.1 +1.1**
baz=31
TTA Tatalina 49.08 336 P **P 14 15 34.0 +1.7**
TTA pmax pmax
comp=Z,4.0nm,1.0s
TTA Tatalina 49.08 336 P **P 14 15 34.0 +1.7**
TTA IAmb IAmb 14 15 45.4
comp=Z,4.1nm,1.0s
CLTN Cedars of Leba 49.09 269 P **P 14 15 32.7 +0.1**
CLTN IAmb IAmb 14 15 33.9
comp=Z,3.7nm,1.0s
SKT Skwentna 49.13 333 P **P 14 15 33.5 +0.8**
SKT IAmb IAmb 14 15 47.8
comp=Z,11nm,1.2s
W50A Signal Mountai 49.41 268 P **P 14 15 34.6 -0.6**
CCM Cathedral Cave 49.55 275 P **P 14 15 35.4 -0.8**
CCM pmax pmax
comp=Z,4.0nm,0.9s
CCM Cathedral Cave 49.55 275 P **P 14 15 35.4 -0.8**
baz=33
CCM Cathedral Cave 49.55 275 P **P 14 15 35.4 -0.8**
CCM IAmb IAmb 14 15 51.7
comp=Z,4.2nm,0.9s
WALA Waterton Lakes 49.61 301 P **P 14 15 36.7 +0.1**
WALA IAmb IAmb 14 15 51.5
comp=Z,3.5nm,0.8s
RSSD Black Hills 49.87 290 P **P 14 15 39.0 +0.2**
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 49.87 290 P **P 14 15 39.8 +1.0**
baz=34
RSSD Black Hills 49.87 290 P **P 14 15 39.0 +0.2**
RSSD IAmb IAmb 14 15 43.9
comp=Z,8.4nm,1.1s
GOGA Godfrey 50.14 265 P **P 14 15 41.3 +0.6**
GOGA pmax pmax
comp=Z,6.0nm,1.0s
GOGA Godfrey 50.14 265 P **P 14 15 41.6 +1.0**
baz=31
GOGA Godfrey 50.14 265 P **P 14 15 41.3 +0.6**
GOGA IAmb IAmb 14 15 42.4
comp=Z,5.9nm,1.0s
GEYT Alibeck 50.39 84 P **P 14 15 43.2 +0.6**
comp=Z,3.1nm,0.9s,baz=301,slow=12,SNR=7.1
GEYT LR LR 14 38 17.9
comp=Z,146nm,19.8s,baz=40,slow=38
GEYT Alibeck 50.39 84 P **P 14 15 42.9 +0.3**
GYA0B ALIBECK ARRAY 50.39 84 P **P 14 15 43.5 +0.9**
GYA0B IAmb IAmb 14 15 58.9
comp=Z,6.4nm,1.1s
GCMT Greycliff 50.72 295 P **P 14 15 46.0 +0.9**
S39A Bolívar 50.75 276 P **P 14 15 44.7 -0.5**
S39A IAmb IAmb 14 15 45.5
comp=Z,7.9nm,1.1s
HRY Holter Researc 50.78 298 P **P 14 15 45.9 +0.4**
PLAL Pickwick Lake 50.78 270 P **P 14 15 45.1 -0.4**
PLAL IAmb IAmb 14 15 46.2
comp=Z,5.6nm,1.1s
X48A Hartselle 50.79 269 P **P 14 15 44.5 -1.1**
X48A IAmb IAmb 14 15 46.4
comp=Z,7.6nm,1.0s
KSU1 Kansas State U 50.96 280 P **P 14 15 46.8 0.0**
baz=33

KSU1 Kansas State U 50.96 280 P **P** **14 15 46.5 -0.4**
KSU1 IAmb IAmb 14 15 48.2
comp=Z,6.9nm,0.8s
RLMT Red Lodge 51.12 295 P **P** **14 15 49.5 +1.2**
baz=34,SNR=10
RLMT Red Lodge 51.12 295 P **P** **14 15 49.1 +0.9**
RLMT IAmb IAmb 14 16 02.1
comp=Z,6.5nm,1.1s
LCAR Lake Charles 51.19 273 P **P** **14 15 49.0 +0.5**
KKAR Karatay Array 51.25 70 P **P** **14 15 49.3 +0.3**
KKAR Karatay Array 51.25 70 P **P** **14 15 49.3 +0.3**
YAK Yakutsk 51.26 19 *i* P **P** **14 15 44.7 -4.0**
MSO Missoula 51.48 299 P **P** **14 15 51.1 +0.3**
baz=33
MSO Missoula 51.48 299 P **P** **14 15 50.0 -0.8**
YNE Yellowstone No 51.50 295 P **P** **14 15 50.7 -0.5**
BOZ Bozeman (W) 51.64 297 P **P** **14 15 52.5 +0.5**
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ Bozeman (W) 51.64 297 P **P** **14 15 53.3 +1.3**
baz=33,SNR=19
BOZ Bozeman (W) 51.64 297 P **P** **14 15 52.5 +0.5**
BOZ IAmb IAmb 14 16 09.1
comp=Z,12nm,1.1s
U40A Yellville 51.67 275 P **P** **14 15 51.7 -0.5**
baz=32
U40A Yellville 51.67 275 P **P** **14 15 51.6 -0.5**
OGNE Ogallala 51.69 286 P **P** **14 15 52.6 +0.3**
baz=33
FCAR Ozark Folk Cen 51.75 274 P **P** **14 15 53.6 +0.8**
LRM Limekiln Ridge 51.76 298 P **P** **14 15 54.0 +0.9**
YMP Mirror Lake Pl 51.78 295 P **P** **14 15 54.6 +1.3**
LRAL Lakeview Retre 51.98 268 P **P** **14 15 54.3 -0.2**
baz=31
LRAL Lakeview Retre 51.98 268 P **P** **14 15 53.9 -0.6**
LRAL IAmb IAmb 14 15 54.7
comp=Z,5.6nm,1.1s
YHH Holmes Hill 52.01 296 P **P** **14 15 56.2 +1.2**
DGZ Jazzator, Alta 52.05 53 *i* P **P** **14 15 52.5 -2.6**
DGZ pmax pmax
comp=Z,29nm,1.6s
YHL Hebgen Lake 52.09 296 P **P** **14 15 55.8 +0.2**
K22A Casper 52.09 291 P **P** **14 15 55.8 +0.3**
baz=33
K22A Casper 52.09 291 P **P** **14 15 55.9 +0.3**
K22A IAmb IAmb 14 15 57.4
comp=Z,10nm,1.1s
YHB Horse Butte 52.18 296 P **P** **14 15 56.1 -0.1**
HHAR Hobbs 52.20 276 P **P** **14 15 56.5 +0.4**
HHAR IAmb IAmb 14 15 58.5
comp=Z,9.4nm,1.2s
QLMT Earthquake Lak 52.20 296 P **P** **14 15 56.9 +0.6**
DLMT Dillon 52.20 297 P **P** **14 15 56.6 +0.4**
H17A Grant Village 52.24 295 P **P** **14 15 59.6 +2.9**
baz=33
C09A Chrisman Ranch 52.26 303 P **P** **14 15 56.0 -0.4**
WHAR Wooly Hollow 52.33 274 P **P** **14 15 55.8 -1.3**
BOD Bodaibo 52.40 30 *eP* **P** **14 15 56.1 -1.2**
BOD pmax pmax
comp=Z,12nm,2.2s
W41B Gary Mavity, V 52.41 274 P **P** **14 16 00.0 +2.3**
baz=32
YPP Pitchstone Pla 52.43 295 P **P** **14 16 00.5 +2.4**
SEY Seymchan 52.48 6 *i* P **P** **14 15 53.5 -4.4**
MAKZ Makanchi 52.57 59 P **P** **14 15 58.4 -0.4**
MAKZ Makanchi 52.57 59 P **P** **14 15 58.4 -0.4**
MK31 Makanchi Array 52.70 58 P **P** **14 15 58.8 -0.9**
MK31 pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 52.70 58 P **P** **14 15 58.8 -0.9**
MKAR Makanchi Array 52.70 58 P **P** **14 15 59.3 -0.4**
comp=Z,3.1nm,1.0s,baz=330,slow=7.1,SNR=12
MKAR LR LR 14 40 17.6
comp=Z,123nm,18.1s,baz=300,slow=38
MKAR Makanchi Array 52.70 58 P **P** **14 15 59.1 -0.6**
MCMT McKenzie Canyo 52.75 297 P **P** **14 16 00.6 +0.2**
PHWY Pilot Hill 52.80 289 P **P** **14 16 00.9 0.0**
PHWY IAmb IAmb 14 16 02.3
comp=Z,7.5nm,1.1s
IMW Indian Meadow 52.80 295 P **P** **14 16 00.9 0.0**
IMW IAmb IAmb 14 16 07.9
comp=Z,6.1nm,1.1s
LOHW Long Hollow 52.91 295 P **P** **14 16 01.5 0.0**
FXWY Fox Creek 53.05 295 P **P** **14 16 03.0 +0.4**
SNOW Snow King Moun 53.09 295 P **P** **14 16 03.8 +0.8**
SNOW IAmb IAmb 14 16 09.4
comp=Z,11nm,1.1s
TOA0 Torodi Ar. Sit 53.13 156 P **P** **14 16 03.8 +0.7**
TOA0 IAmb IAmb 14 16 09.6
comp=Z,4.7nm,1.0s
TORD Torodi Ar. Bea 53.13 156 P **P** **14 16 02.3 -0.9**
comp=Z,5.1nm,0.9s,baz=344,slow=6.9,SNR=16
TORD LR LR 14 40 24.7
comp=Z,86nm,18.9s,baz=340,slow=38
TPAW Teton Pass 53.14 295 P **P** **14 16 03.2 -0.1**
TPAW IAmb IAmb 14 16 07.2
comp=Z,7.5nm,1.0s
RWWY Rawlins 53.18 291 P **P** **14 16 04.2 +0.6**
RWWY IAmb IAmb 14 16 11.8
comp=Z,5.8nm,0.8s
BW06 Boulder Array 53.21 293 P **P** **14 16 03.7 -0.1**
baz=33,SNR=22
BW06 Boulder Array 53.21 293 P **P** **14 16 02.6 -1.2**
PD31 Pinedale Array 53.21 293 P **P** **14 16 03.2 -0.6**
PDAR Pinedale Array 53.21 293 P **P** **14 16 03.6 -0.2**
comp=Z,8.3nm,0.9s,baz=60,slow=7.0,SNR=30
PDAR LR LR 14 38 31.7
comp=Z,306nm,18.2s,baz=28,slow=36
PDAR Pinedale Array 53.21 293 P **P** **14 16 02.7 -1.1**
REDW Red Top Meadow 53.21 295 P **P** **14 16 04.3 +0.5**
REDW IAmb IAmb 14 16 10.1
comp=Z,8.6nm,1.1s
AAK Ala-Archa 53.23 67 *ceP* **P** **14 16 03.6 -0.3**
AAK pmax pmax
comp=Z,139nm,2.5s
N23A Red Feather La 53.34 289 P **P** **14 16 05.3 +0.5**
baz=33,SNR=9.2
N23A Red Feather La 53.34 289 P **P** **14 16 04.5 -0.3**
N23A IAmb IAmb 14 16 06.9
comp=Z,9.0nm,1.1s
MIAR Mount Ida 53.52 275 P **P** **14 16 05.6 -0.3**
MIAR Mount Ida 53.52 275 P **P** **14 16 06.5 +0.6**
baz=31
MIAR Mount Ida 53.52 275 P **P** **14 16 05.6 -0.3**
KSCO Kaye Shedlock' 53.56 285 P **P** **14 16 06.8 +0.5**
LTY Liberty 53.58 305 P **P** **14 16 06.3 +0.1**
E07A Sunnyside 53.88 303 P **P** **14 16 09.7 +1.2**
E07A IAmb IAmb 14 16 17.0
comp=Z,2.9nm,0.7s
BOOM Boomskoye usch 53.92 66 P **P** **14 16 09.0 0.0**
BOOM pmax pmax
comp=Z,6.0nm,1.1s
BOOM Boomskoye usch 53.92 66 P **P** **14 16 09.0 0.0**
BOOM IAmb IAmb 14 16 23.2
comp=Z,5.5nm,1.1s
BTK Batken 53.93 72 P **P** **14 16 09.3 +0.3**
BTK pmax pmax
comp=Z,30nm,1.2s
BTK Batken 53.93 72 P **P** **14 16 09.3 +0.3**
ISCO Idaho Springs 54.13 288 P **P** **14 16 10.4 -0.3**
ISCO pmax pmax
comp=Z,2.0nm,1.0s
ISCO Idaho Springs 54.13 288 P **P** **14 16 10.8 +0.2**
baz=32
ISCO Idaho Springs 54.13 288 P **P** **14 16 10.4 -0.3**
X37A Clayton 54.25 276 P **P** **14 16 12.0 +0.7**
HLID Hailey 54.42 297 P **P** **14 16 13.7 +1.1**
baz=32,SNR=7.9
HLID Hailey 54.42 297 P **P** **14 16 12.2 -0.4**
CHGR Chuyangaron 54.43 74 P **P** **14 16 12.6 0.0**
GAR Garm 54.62 73 P **P** **14 16 14.3 +0.3**
MOY Mondy 54.64 42 *eP* **P** **14 16 15.7 +1.7**
MOY pmax pmax
comp=Z,97nm,2.5s
G08A Pilot Rock 54.64 302 P **P** **14 16 14.6 +0.4**
O20A White River Ci 54.91 290 P **P** **14 16 16.6 +0.4**
baz=32
O20A White River Ci 54.91 290 P **P** **14 16 16.1 -0.1**
O20A IAmb IAmb 14 16 18.0
comp=Z,9.3nm,1.1s
HWUT Hardware Ranch 54.98 294 P **P** **14 16 16.8 +0.1**
IRK Irkutsk 55.05 40 *eP* **P** **14 16 17.1 +0.3**
IRK *e* 14 18 22.8
IRK pmax pmax
comp=Z,66nm,2.2s
RDMU Red Mountain 55.07 292 P **P** **14 16 17.3 -0.1**
TARG Taragay, Kyrgy 55.30 65 P **P** **14 16 20.0 +0.7**
TCUT Toone Canyon 55.34 294 P **P** **14 16 19.8 +0.4**
TLY Talaya 55.38 40 P **P** **14 16 21.0 +1.8**
TLY pmax pmax
comp=Z,6.0nm,1.0s
TLY Talaya 55.38 40 P **P** **14 16 21.0 +1.8**
TLY IAmb IAmb 14 16 26.0
comp=Z,6.1nm,1.0s
WMOK Wichita Mounta 55.58 279 P **P** **14 16 20.7 -0.2**
WMOK pmax pmax
comp=Z,7.0nm,1.2s
WMOK Wichita Mounta 55.58 279 P **P** **14 16 21.8 +0.9**
baz=31,SNR=9.1
WMOK Wichita Mounta 55.58 279 P **P** **14 16 20.7 -0.2**
WMOK IAmb IAmb 14 16 23.4
comp=Z,7.1nm,1.1s
SPUT South Promonto 55.58 295 P **P** **14 16 21.5 +0.5**
JLU Jordanelle 55.79 293 P **P** **14 16 22.3 -0.3**
SDCO Great Sand Dun 55.83 287 P **P** **14 16 23.7 +0.7**
baz=32
CTU Camp Tracy 55.83 294 P **P** **14 16 24.0 +1.1**
T25A Trinidad 55.89 285 P **P** **14 16 25.2 +1.8**
baz=31
T25A Trinidad 55.89 285 P **P** **14 16 24.6 +1.2**
T25A IAmb IAmb 14 16 26.4
comp=Z,4.6nm,1.1s
Z35A Perchaven, San 56.13 277 P **P** **14 16 24.9 0.0**
BGU Big Grassy Mou 56.14 295 P **P** **14 16 26.2 +1.2**
S22A 4UR Ranch, Cre 56.37 288 P **P** **14 16 27.5 +0.7**
baz=31
S22A 4UR Ranch, Cre 56.37 288 P **P** **14 16 27.0 +0.1**
ZAK Zakamensk 56.44 41 *eP* **P** **14 16 27.0 +0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
PV22 Blue Mesa, Par 56.49 290 P **P** **14 16 27.3 -0.4**
PV22 IAmb IAmb 14 16 38.1
comp=Z,4.7nm,1.0s
PV07 Paradox Valley 56.52 290 P **P** **14 16 28.5 +0.6**
PV15 Paradox Valley 56.53 290 P **P** **14 16 28.3 +0.3**
PV15 IAmb IAmb 14 16 30.6
comp=Z,5.8nm,1.0s
PV21 Cone Mtn., Par 56.55 290 P **P** **14 16 28.2 +0.1**
NLU North Lily Min 56.59 293 P **P** **14 16 29.6 +1.2**
PV23 Carpenter Ridg 56.66 290 P **P** **14 16 28.2 -0.7**
PV04 Paradox Valley 56.66 290 P **P** **14 16 29.3 +0.5**
PV04 IAmb IAmb 14 16 36.2
comp=Z,10nm,1.1s
DUG Dugway, Tooele 56.68 294 P **P** **14 16 29.4 +0.6**
DUG pmax pmax
comp=Z,5.0nm,1.2s
DUG Dugway, Tooele 56.68 294 P **P** **14 16 30.3 +1.5**
baz=31,SNR=12
DUG Dugway, Tooele 56.68 294 P **P** **14 16 29.4 +0.6**
DUG IAmb IAmb 14 16 30.7
comp=Z,4.7nm,1.1s
PV12 Saucer Basin, 56.69 290 P **P** **14 16 29.3 +0.2**
SRU San Rafael Swe 56.70 292 P **P** **14 16 29.5 +0.4**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 56.70 292 P **P** **14 16 29.5 +0.4**
PV14 Lion Creek, Pa 56.73 290 P **P** **14 16 29.3 0.0**
PV14 IAmb IAmb 14 16 31.1
comp=Z,7.3nm,0.8s
PV11 David Mesa, Pa 56.73 290 P **P** **14 16 29.4 +0.1**
PV10 Paradox Valley 56.73 290 P **P** **14 16 30.0 +0.7**
PV20 West Nyswonger 56.73 290 P **P** **14 16 29.8 +0.5**
PV20 IAmb IAmb 14 16 38.3
comp=Z,4.9nm,0.8s
PV16 Nyswonger Mesa 56.74 290 P **P** **14 16 29.5 +0.2**
PV16 IAmb IAmb 14 16 40.9
comp=Z,8.9nm,1.1s
PV01 Paradox Valley 56.75 289 P **P** **14 16 29.7 +0.2**
PV02 Paradox Valley 56.75 290 P **P** **14 16 29.7 +0.2**
PV03 Paradox Valley 56.76 290 P **P** **14 16 29.5 -0.1**
PV03 IAmb IAmb 14 16 33.7
comp=Z,10nm,1.0s
PV19 Morning Glory 56.77 290 P **P** **14 16 29.0 -0.6**
PV19 IAmb IAmb 14 16 44.7
comp=Z,7.6nm,1.0s
PV17 East Wray Mesa 56.78 290 P **P** **14 16 29.1 -0.6**
PV17 IAmb IAmb 14 16 34.0
comp=Z,10nm,1.0s
PV18 Skein Mesa, Pa 56.79 290 P **P** **14 16 29.7 0.0**
TMUT Trail Mountain 56.81 292 P **P** **14 16 30.4 +0.4**
PV13 Radium Mtn., P 56.83 290 P **P** **14 16 30.0 0.0**
PV05 Paradox Valley 57.01 290 P **P** **14 16 30.8 -0.6**
Q16A Castle Valley 57.12 292 P **P** **14 16 32.4 +0.3**
ELK Elko 57.15 296 P **P** **14 16 33.5 +1.2**
ELK pmax pmax
comp=Z,2.0nm,1.1s
ELK Elko 57.15 296 P **P** **14 16 33.5 +1.2**
J05D Fort Rock, OR 57.20 302 P **P** **14 16 33.9 +1.3**
baz=30
WMQ Urumqi 57.20 56 *eP* P 14 16 35.8 +3.4
WMQ pP sP 14 16 42.1 +7.7
WMQ sP pP 14 16 45.8 +12
WMQ LR LR
comp=Z,140nm,19.5s
WMQ LR LR
comp=Z,170nm,19.5s
WHTX Lake Whitney, 57.37 276 P **P** **14 16 34.8 +1.2**
baz=30
WHTX Lake Whitney, 57.37 276 P **P** **14 16 34.3 +0.7**
WHTX IAmb IAmb 14 16 35.8
comp=Z,11nm,1.1s
MVCO Mesa Verde 57.51 289 P **P** **14 16 35.8 +0.9**
baz=31
MVCO Mesa Verde 57.51 289 P **P** **14 16 33.8 -1.1**
MVCO IAmb IAmb 14 16 46.3
comp=Z,4.9nm,1.1s
ABTX Abilene, Hawle 57.76 279 P **P** **14 16 37.6 +1.2**
baz=30
ABTX Abilene, Hawle 57.76 279 P **P** **14 16 35.7 -0.7**
ABTX IAmb IAmb 14 16 40.4
comp=Z,8.9nm,1.1s
MSU Marysvale 57.87 293 P **P** **14 16 37.9 +0.5**
MSU Marysvale 57.87 293 P **P** **14 16 37.9 +0.5**
MVU Marysvale 57.89 293 P **P** **14 16 38.7 +1.1**
MSTX Muleshoe 57.92 282 P **P** **14 16 39.4 +1.7**
baz=30
BANI BANI 58.04 243 P **P** **14 16 39.0 +0.4**
MOD Modoc Plateau 58.06 301 P **P** **14 16 39.0 +0.4**
MTPU Mount Pierson 58.28 292 P **P** **14 16 40.7 +0.2**
L04D Klamath Falls 58.52 303 P **P** **14 16 43.3 +1.6**
baz=29
PSUT Pine Spring 58.52 294 P **P** **14 16 43.4 +1.5**
DBIC Dimbokro 58.58 165 P **P** **14 16 41.5 -0.7**
comp=Z,5.2nm,0.9s,baz=354,slow=5.5,SNR=4.2
DBIC LR LR 14 41 58.1
comp=Z,78nm,18.7s,baz=358,slow=36
DBIC Dimbokro 58.58 165 P **P** **14 16 41.5 -0.7**
DBIC pmax pmax
comp=Z,11nm,1.2s
DBIC Dimbokro 58.58 165 IAmb IAmb 14 16 42.3
comp=Z,11nm,1.1s
K02D Willamette Mer 58.59 304 P **P** **14 16 42.8 +0.6**
baz=29
ANMO Albuquerque 58.62 286 *ceP* **P** **14 16 40.8 -1.8**
ANMO pmax pmax
comp=Z,18nm,2.5s
ANMO Albuquerque 58.62 286 P **P** **14 16 43.5 +0.8**
baz=30
ANMO Albuquerque 58.62 286 P **P** **14 16 42.9 +0.3**
PKCU Pink Cliffs 58.85 292 P **P** **14 16 45.3 +0.9**
SZCU Shurtz Canyon 59.02 293 P **P** **14 16 46.2 +0.8**
CCUT Cedar City 59.17 293 P **P** **14 16 47.5 +1.1**
R11A Troy Canyon, C 59.35 295 P **P** **14 16 48.7 +1.0**
baz=30,SNR=18
R11A Troy Canyon, C 59.35 295 P **P** **14 16 48.3 +0.7**
R11A IAmb IAmb 14 16 49.8
comp=Z,3.7nm,1.1s
BNM Barren Site 59.38 286 P **P** **14 16 48.5 +0.6**
KNB Kanab 59.42 292 P **P** **14 16 48.5 +0.4**
KNB pmax pmax
comp=Z,6.0nm,1.1s
KNB Kanab 59.42 292 P **P** **14 16 48.5 +0.4**
LCMT Little Creek M 59.59 293 P **P** **14 16 49.1 -0.1**
SONM Songino Array 59.62 40 P **P** **14 16 49.8 +0.5**
comp=Z,2.1nm,1.0s,baz=327,slow=7.4,SNR=10
SONM LR LR 14 45 17.6
comp=Z,200nm,18.8s,baz=301,slow=39
SONM Songino Array 59.62 40 P **P** **14 16 49.3 0.0**
PAHR Pah Rah Range 59.63 299 P **P** **14 16 49.9 +0.4**
PAHR IAmb IAmb 14 17 05.3
comp=Z,3.5nm,1.0s
JCT Junction City 59.68 278 P **P** **14 16 49.1 -0.7**
JCT pmax pmax
comp=Z,19nm,1.1s
JCT Junction City 59.68 278 P **P** **14 16 50.2 +0.4**
baz=30
JCT Junction City 59.68 278 P **P** **14 16 49.1 -0.7**
KVN Kaiserville 59.71 298 P **P** **14 16 49.7 -0.4**
KVN pmax pmax
comp=Z,4.0nm,0.9s
KVN Kaiserville 59.71 298 P **P** **14 16 49.7 -0.4**
KVN IAmb IAmb 14 16 52.3
comp=Z,3.8nm,0.9s
U15A North Rim 59.72 291 P **P** **14 16 50.1 -0.2**
U15A IAmb IAmb 14 16 52.0
comp=Z,7.1nm,1.0s
ULN Ulaanbaatar 59.77 40 *ceP* **P** **14 16 49.3 -1.1**
ULN pmax pmax
comp=Z,33nm,2.5s
ULN Ulaanbaatar 59.77 40 P **P** **14 16 51.8 +1.3**
PRN Pahroc Range 59.96 294 P **P** **14 16 52.0 +0.2**
O03E Paynes Creek 60.01 301 P **P** **14 16 52.4 +0.3**
baz=29
WUAZ Wupatki 60.14 290 P **P** **14 16 53.9 +0.8**
baz=30,SNR=12
WUAZ Wupatki 60.14 290 P **P** **14 16 53.4 +0.3**
YERR Yerington 60.20 298 P **P** **14 16 53.9 +0.4**
YERR IAmb IAmb 14 17 01.8
comp=Z,6.7nm,1.0s
KHMM Horse Mountain 60.21 303 P **P** **14 16 54.3 +0.8**
KHMM IAmb IAmb 14 17 01.4
comp=Z,8.0nm,1.2s
RYN Ryan 60.24 298 P **P** **14 16 53.3 -0.5**
PNTR Pine Nut 60.25 299 P **P** **14 16 53.6 -0.3**
NV11 Mina Array Sit 60.27 297 P **P** **14 16 53.4 -0.5**
NVAR Mina Array Bea 60.33 297 P **P** **14 16 54.7 +0.3**
comp=Z,1.4nm,0.9s,baz=49,slow=5.4,SNR=8.0
NVAR LR LR 14 42 43.5
comp=Z,631nm,18.8s,baz=26,slow=36
NVAR Mina Array Bea 60.33 297 P **P** **14 16 54.2 -0.2**
NIL Nilore 60.42 74 P **P** **14 16 54.4 -0.5**
NIL pmax pmax
comp=Z,24nm,1.2s
NIL Nilore 60.42 74 P **P** **14 16 54.4 -0.5**
SHPR Sheep Range 60.79 294 P **P** **14 16 57.9 +0.4**
SHPR IAmb IAmb 14 17 15.0
comp=Z,7.5nm,1.2s
TPNV Topopah Spring 60.83 295 P **P** **14 16 58.0 +0.2**
TPNV Topopah Spring 60.83 295 P **P** **14 16 57.9 +0.2**
baz=29
TPNV Topopah Spring 60.83 295 P **P** **14 16 58.0 +0.2**
AFDM Forest Hills D 60.89 300 P **P** **14 16 57.6 -0.4**
MNTX Cornudas Mount 60.98 283 P **P** **14 16 58.9 +0.3**
baz=30
MNTX Cornudas Mount 60.98 283 P **P** **14 16 58.0 -0.7**
MNTX **PcP** **14 17 42.5 +0.5**
X16A Lo Mia Camp, P 61.12 290 P **P** **14 17 00.4 +0.5**
X16A IAmb IAmb 14 17 07.9
comp=Z,8.5nm,1.1s
KCPM Cahto Peak 61.20 302 P **P** **14 17 01.1 +0.8**
OMMB Old Mammoth Mi 61.31 298 P **P** **14 17 02.0 +0.8**
MDPB Devils Postpil 61.33 298 P **P** **14 17 02.6 +1.3**
MDPB IAmb IAmb 14 17 06.4
comp=Z,7.0nm,1.2s
833A Chaparral WMA, 61.38 276 P **P** **14 17 03.2 +1.8**
baz=29
W13A Hualapai Mount 61.51 292 P **P** **14 17 03.1 +0.6**
CWC Cottonwood Cre 61.98 296 P **P** **14 17 06.2 +0.6**
baz=29
MPMC Manual Prospec 62.09 295 P **P** **14 17 08.0 +1.7**
baz=29
PDMCI Parker Dam,Lak 62.31 292 P **P** **14 17 08.6 +1.0**
baz=29
TX31 Lajitas Ar. Si 62.32 280 P **P** **14 17 07.0 -0.8**
TX31 IAmb IAmb 14 17 09.1
comp=Z,6.3nm,0.9s
TX32 Lajitas Array 62.32 280 P **P** **14 17 07.1 -0.8**
TXAR Lajitas Array 62.32 280 P **P** **14 17 07.4 -0.4**
comp=Z,2.2nm,0.9s,baz=56,slow=4.0,SNR=15
TXAR PcP **PcP** **14 17 48.0 +0.5**
comp=Z,3.1nm,1.1s,baz=90,slow=1.3,SNR=6.5
TXAR LR LR 14 43 40.3
comp=Z,352nm,18.5s,baz=0.0,slow=36
TXAR Lajitas Array 62.32 280 P **P** **14 17 07.6 -0.2**
GSC Goldstone, Bar 62.49 295 P **P** **14 17 09.6 +0.7**
GSC pmax pmax
comp=Z,5.0nm,1.1s
GSC Goldstone, Bar 62.49 295 P **P** **14 17 09.6 +0.7**
GSC IAmb IAmb 14 17 26.2
comp=Z,4.6nm,1.1s
GMRC Granite Mounta 62.49 293 P **P** **14 17 10.4 +1.4**
baz=29,SNR=5.7
PETK Petropavlovsk- 62.50 3 P **P** **14 17 10.3 +1.7**
comp=Z,4.8nm,1.1s,baz=33,slow=11,SNR=5.0
PETK LR LR 14 44 54.1
comp=Z,56nm,18.8s,baz=357,slow=37
PETK Petropavlovsk- 62.50 3 P **P** **14 17 09.9 +1.3**
LRMC Laurel Mtn Rad 62.67 295 P **P** **14 17 11.8 +1.6**
baz=29
TUC Tucson 62.69 288 P **P** **14 17 09.9 -0.3**
TUC pmax pmax
comp=Z,4.0nm,1.1s
TUC Tucson 62.69 288 P **P** **14 17 09.9 -0.3**
TUC IAmb IAmb 14 17 12.7
comp=Z,3.6nm,1.1s
ISA Isabella, Lake 62.82 296 P **P** **14 17 11.8 +0.7**
ISA pmax pmax
comp=Z,4.0nm,1.0s
ISA Isabella, Lake 62.82 296 P **P** **14 17 12.5 +1.4**
baz=28
ISA Isabella, Lake 62.82 296 P **P** **14 17 11.8 +0.7**
ISA IAmb IAmb 14 17 13.4
comp=Z,3.9nm,1.0s
IRM Iron Mountain 62.83 293 P **P** **14 17 12.1 +0.9**
baz=29
BELC Belle Mtn. Jos 63.31 293 P **P** **14 17 15.9 +1.4**
baz=29
BC3 Big Chuckawall 63.40 293 P **P** **14 17 16.8 +1.9**
baz=29,SNR=5.5
113A Mohawk Valley, 63.50 291 P **P** **14 17 15.3 -0.2**
113A IAmb IAmb 14 17 24.4
comp=Z,4.8nm,1.1s
PIX Pinacate 64.44 290 P **P** **14 17 21.2 -0.5**
PIX IAmb IAmb 14 17 32.4
comp=Z,4.9nm,1.0s
GTA Gaotai 65.28 49 ⇑P **P** **14 17 27.8 +0.6**
GTA pP sP 14 17 37.3 +8.1
GTA sP pP 14 17 41.4 +13
GTA SS SS 14 30 23.0 0.0
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,180nm,6.7s
GTA LR LR
comp=Z,170nm,19.3s
GTA LR LR
comp=Z,170nm,18.9s
GTA LR LR
comp=Z,220nm,18.9s
HSIG 65.64 286 P **P** **14 17 30.0 +0.4**
HSIG IAmb IAmb 14 17 31.3
comp=Z,5.7nm,1.0s
SPX San Pedro Mart 65.70 291 P **P** **14 17 30.1 -0.3**
SPX IAmb IAmb 14 17 31.8
comp=Z,5.8nm,1.1s
HHC Hu-ho-hao-te 67.49 40 *eP* **P** **14 17 44.3 +2.9**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,170nm,5.3s
HHC LR LR
comp=Z,160nm,18.7s
HHC LR LR
comp=Z,240nm,17.9s
HHC LR LR
comp=Z,190nm,17.0s
USRK Ussuriysk Ar. 68.85 23 LR LR 14 50 32.5
comp=Z,143nm,18.1s,baz=271,slow=38
BJI Beijing 69.47 36 P P 14 17 57.0 +3.4
BJI pmax pmax
comp=Z,14nm,2.0s
LZH Lanzhou 69.61 48 *eP* **P** **14 17 55.8 +1.1**
LZH pP sP 14 17 59.4 +2.7

LZH				sP	pP	14 18 02.4	+6.2
LZH				PP	**PP**	**14 20 30.6**	**+2.7**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,72nm,4.9s						
LZH				LR	LR		
	comp=Z,220nm,13.6s						
LZH				LR	LR		
	comp=Z,160nm,11.9s						
LZH				LR	LR		
	comp=Z,210nm,14.6s						
ROSC	**El Rosal**	**71.95**	**241**	P	**P**	**14 18 10.6**	**+1.1**
	comp=Z,5.9nm,0.4s,baz=26,slow=6.0,SNR=6.8						
ROSC	**El Rosal**	**71.95**	**241**	P	**P**	**14 18 08.8**	**-0.7**
XAN	**Xi'an**	**73.07**	**44**	P	**P**	**14 18 17.8**	**+2.3**
XAN				pmax	pmax		
	comp=Z,13nm,1.4s						
XAN				pmax	pmax		
	comp=Z,230nm,5.4s						
XAN	**Xi'an**	**73.07**	**44**	P	**P**	**14 18 16.6**	**+1.0**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN	**Xi'an**	**73.07**	**44**	P	**P**	**14 18 16.6**	**+1.0**
XAN				IAmb	IAmb	14 18 17.9	
	comp=Z,4.8nm,0.9s						
KSRS	**Korea Array**	**74.64**	**28**	LR	LR	14 54 55.9	
	comp=Z,108nm,18.3s,baz=234,slow=39						
KMBO	**Kilima Mbogo**	**76.64**	**123**	LR	LR	14 56 37.6	
	comp=Z,60nm,18.1s,baz=94,slow=39						
MJAR	**Matsushiro Arr**	**77.32**	**20**	P	**P**	**14 18 41.8**	**+1.8**
	comp=Z,1.5nm,1.1s,baz=52,slow=8.5,SNR=5.2						
MJAR	**Matsushiro Arr**	**77.32**	**20**	P	**P**	**14 18 41.8**	**+1.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MJAR	**Matsushiro Arr**	**77.32**	**20**	IAmb	IAmb	14 18 47.8	
	comp=Z,0.9nm,1.1s						
NJ2	**Nanjing**	**77.72**	**37**	*e*P	**P**	**14 18 44.0**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SAML	**Samuel**	**80.96**	**226**	P	**P**	**14 19 00.0**	**0.0**
SAML				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SAML	**Samuel**	**80.96**	**226**	P	**P**	**14 18 60.0**	**0.0**
SAML				IAmb	IAmb	14 19 02.9	
	comp=Z,6.6nm,1.1s						
BDFB	**Brasilia**	**83.40**	**210**	LR	LR	14 50 49.6	
	comp=Z,80nm,18.9s,baz=274,slow=32						
CHTO	**Chiang Mai**	**83.78**	**59**	P	**P**	**14 19 13.8**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CHTO	**Chiang Mai**	**83.78**	**59**	P	**P**	**14 19 13.8**	**-1.0**
CHTO				IAmb	IAmb	14 19 17.0	
	comp=Z,4.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**14 19 16.4**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=318,slow=6.2,SNR=12						
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**14 19 15.8**	**-0.7**
LPAZ	**La Paz**	**89.42**	**228**	LR	LR	14 57 31.1	
	comp=Z,31nm,18.8s,baz=248,slow=34						
CPUP	**Villa Florida**	**95.86**	**215**	LR	LR	15 01 10.3	
	comp=Z,46nm,19.0s,baz=287,slow=34						
BOSA	**Boshof**	**98.74**	**143**	LR	LR	15 06 39.1	
	comp=Z,112nm,18.2s,baz=346,slow=36						
WRA	**Warramunga Arr**	**131.50**	**36**	PKP	**PKiKP**	**14 25 58.3**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=342,slow=2.6,SNR=4.6						
WRA	**Warramunga Arr**	**131.50**	**36**		**PKiKP**	**14 25 57.5**	**-1.4**
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKiKP**	**14 26 04.9**	**-1.0**
	comp=Z,0.9nm,1.0s,baz=4.7,slow=2.4,SNR=6.6						
ASAR	**Alice Springs**	**134.95**	**38**		**PKiKP**	**14 26 04.6**	**-1.3**
SNAA	**Sanae**	**136.44**	**173***c*	*i*PKIKP	**PKiKP**	**14 26 06.5**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,11nm,2.5s						

WEL 14 14:15:04.8,40°S±2°×17°7E±°,h38km±7km,M2.6/30, mB4.6/1,ML2.8/30,MLv2.6/30,Mw(mB)3.9/1,Error ellipse: s-maj=0.0km s-min=0.0km az=85.9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.21**	**261**	P	Pn	14 15 12.9	-0.8
KAHZ	**Kahuranaki**	**0.40**	**245**	P	Pn	14 15 15.6	+1.6
ARHZ	**Aropaoanui**	**0.45**	**323**	P	Pn	14 15 14.4	-0.3
MCHZ	**McNeill Hill**	**0.54**	**289**	P	Pn	14 15 15.6	-0.5
WHHZ	**Waihua**	**0.55**	**351**	P	Pn	14 15 16.9	+0.6
NMHZ	**Naumai**	**0.68**	**321**	P	Pn	14 15 17.6	-0.4
RAHZ	**Arahi**	**0.74**	**344**	P	Pn	14 15 19.1	+0.4
KWHZ	**Kaweka Forest**	**0.74**	**285**	P	Pn	14 15 18.4	-0.4
KRHZ	**Kereru**	**0.76**	**268**	P	Pn	14 15 19.2	+0.2
BKZ	**Black Stump Fm**	**0.81**	**304**	P	Pn	14 15 19.1	-0.6
WPHZ	**Waipukurau**	**0.83**	**238**	P	Pn	14 15 21.1	+1.1
SNGZ	**Shannon Statio**	**0.84**	**359**	P	Pn	14 15 20.9	+0.7
MTHZ	**Maungataniwha**	**0.87**	**333**	P	Pn	14 15 20.4	-0.2
PNHZ	**Pukenui**	**0.93**	**252**	P	Pn	14 15 22.2	+0.8
BHHZ	**Black Hill Sta**	**1.00**	**277**	P	Pn	14 15 22.1	-0.3
MRHZ	**Matea Rd**	**1.07**	**317**	P	Pn	14 15 23.3	0.0
DVHZ	**Dannevirke**	**1.13**	**233**	P	Pn	14 15 24.8	+0.7
TSZ	**Takapari Road**	**1.16**	**247**	P	Pn	14 15 24.7	+0.3
HATZ	**Hinemaiaia**	**1.22**	**306**	P	Pn	14 15 25.5	+0.1
MUGZ	**Murupara**	**1.23**	**338**	P	Pn	14 15 25.8	+0.4
MOVZ	**Moawhango**	**1.25**	**279**	P	Pn	14 15 26.6	+0.7
MWZ	**Matawai**	**1.30**	**6**	P	Pn	14 15 26.9	+0.5
ALRZ	**Allen Road**	**1.32**	**323**	P	Pn	14 15 27.5	+0.8
RITZ	**Rihia Road**	**1.33**	**299**	P	Pn	14 15 27.8	+1.0
BFZ	**Birch Farm**	**1.35**	**218**	P	Pn	14 15 27.9	+0.7
TUVZ	**Tukino**	**1.36**	**285**	P	Pn	14 15 28.4	+1.0
ETVZ	**East Tongariro**	**1.36**	**290**	P	Pn	14 15 27.8	+0.4
TMVZ	**Te Maari**	**1.37**	**291**	P	Pn	14 15 27.9	+0.4
URZ	**Urewera**	**1.38**	**352**	P	Pn	14 15 27.8	+0.4
OTVZ	**Oturere**	**1.39**	**289**	P	Pn	14 15 27.9	+0.1
WNVZ	**Wahianoa**	**1.39**	**282**	P	Pn	14 15 29.1	+1.4
NGZ	**Ngauruhoe**	**1.43**	**288**	P	Pn	14 15 28.8	+0.5
WTVZ	**West Tongariro**	**1.46**	**290**	P	Pn	14 15 29.9	+1.2
PKVZ	**Pokaka**	**1.59**	**282**	P	Pn	14 15 32.3	+1.9
RUGZ	**Raukumara Rang**	**1.68**	**9**	P	Pn	14 15 32.3	+0.6
MRZ	**Mangatainoka R**	**1.71**	**232**	P	Pn	14 15 32.3	+0.3
HAZ	**Te Kaha**	**1.90**	**10**	P	Pn	14 15 35.6	+1.0
TLZ	**Tolley Road**	**1.92**	**312**	P	Pn	14 15 40.6	+5.7

*NEIC **14** 14:15:07.3±2.1,0°.3N±0°.1×121°.9E±0°.1,h199km±7km, mb4.1/19,Error ellipse: s-maj=17.8km s-min=14.3km az=73.0*
*DJA **14** 14:15:07.3±0.5,0°N±5°×12°2E±°,h186km±6km,M4.1/11, mB4.5/1,mb4.0/5,MLv4.2/11,Mw(mB)3.7/1*
*IDC **14** 14:15:08.7±2.3,0°.29N×122°.07E,h209km±24km,mb3.5/11, mb1 3.6/14,mb1mx3.4/34,mbtmp4.1/14,Error ellipse: s-maj=27.1km s-min=9.7km az=69.0*
ISC 14 14:15:07.3±0.5,0°.30N±0°.07×122°.00E±0°.07,h200km,n47, σ1§08/49,mb4.1/19,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.07**	**72**	P	**Pn**	**14 15 36.0**	**-1.5**
GTOI				S	**Sn**	**14 15 58.3**	**-2.5**
LUWI	**Luwuk**	**1.54**	**150**	P	**Pn**	**14 15 40.9**	**-0.4**
LUWI	**Luwuk**	**1.54**	**150**	Pn	**Pn**	**14 15 40.9**	**-0.4**
KMSI	**Cibinong**	**2.00**	**82**	P	**Pn**	**14 15 46.3**	**+0.5**
MPSI	**Mapaga**	**2.10**	**271**	P	**Pn**	**14 15 45.9**	**-0.9**
SGKI	**Sangatta, Kali**	**4.47**	**259**	P	**Pn**	**14 16 13.5**	**-1.5**
SANI	**Sanana**	**4.62**	**120**	P	**Pn**	**14 16 15.0**	**-1.9**
SPSI	**Sidrap Palu**	**4.79**	**208**	P	**Pn**	**14 16 19.5**	**+0.5**
BNSI	**Bone**	**5.04**	**202**	P	**Pn**	**14 16 23.1**	**+0.9**
	0.3nm881nm103nm,0.8s						
KAPI	**Kappang**	**5.74**	**203**	P	**Pn**	**14 16 32.2**	**+1.0**
	3.0nm,0.3s,baz=330,slow=14,SNR=6.6						
KAPI	**Kappang**	**5.74**	**203**		**Pn**	**14 16 31.2**	**0.0**
BKSI	**Bulukumba**	**5.89**	**199**	P	**Pn**	**14 16 34.4**	**+1.2**
SOEI	**Soe**	**10.24**	**167**	Pn	**Pn**	**14 17 28.6**	**-1.2**
BATI	**Baumata**	**10.57**	**171**	P	**Pn**	**14 17 35.0**	**+1.1**
	1.9nm,0.3s,baz=73,slow=7.5,SNR=3.7						
JAGI	**Jajag, Banyuwa**	**11.71**	**222**	Pn	**Pn**	**14 17 47.2**	**-1.3**
MTN	**Manton Dam**	**15.89**	**146**	P	**Pn**	**14 18 41.0**	**+0.6**
KNRA	**Kununurra**	**17.22**	**157**	P	**Pn**	**14 18 55.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.63**	**169**	P	**P**	**14 19 10.4**	**+0.4**
	0.3nm,0.3s,baz=1.2,slow=7.3,SNR=23						
FITZ	**Fitzroy Crossi**	**18.63**	**169**	P	**P**	**14 19 10.2**	**+0.1**
WB0	**Warramunga Arr**	**23.35**	**149**	P	**P**	**14 19 57.5**	**-0.5**
WB0				IAmb	IAmb	14 19 59.3	
	comp=Z,3.2nm,0.7s						
WRAB	**Tennant Creek**	**23.47**	**150**	P	**P**	**14 19 58.9**	**-0.2**
WRAB				IAmb	IAmb	14 20 07.1	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**23.47**	**150**	P	**P**	**14 19 59.2**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=327,slow=11,SNR=51						
WRA				PcP	**PcP**	**14 23 39.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=322,slow=2.2,SNR=4.9						
WRA	**Warramunga Arr**	**23.47**	**150**	P	**P**	**14 19 58.9**	**-0.2**
WB2	**Warramunga Arr**	**23.48**	**150**	P	**P**	**14 19 58.9**	**-0.3**
WR0	**Warramunga Arr**	**23.59**	**149**	P	**P**	**14 19 59.7**	**-0.4**
WR0				IAmb	IAmb	14 20 01.7	
	comp=Z,3.6nm,0.7s						
AS31	**Alice Springs**	**26.48**	**155**	P	**P**	**14 20 26.5**	**+0.2**
ASAR	**Alice Springs**	**26.48**	**155**	P	**P**	**14 20 26.6**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=343,slow=14,SNR=58						
ASAR				PcP	**PcP**	**14 23 45.8**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=348,slow=2.1,SNR=17						
CMAR	**Chiang Mai Arr**	**28.95**	**310**	P	**P**	**14 20 50.1**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=137,slow=6.9,SNR=4.6						
STKA	**Stephens Creek**	**36.99**	**152**	P	**P**	**14 21 58.3**	**+0.7**
	comp=Z,2.7nm,0.3s,baz=329,slow=10,SNR=22						
STKA	**Stephens Creek**	**36.99**	**152**	IAmb	IAmb	14 21 58.9	
	comp=Z,1.5nm,0.9s						
MJAR	**Matsushiro Arr**	**39.07**	**21**	P	**P**	**14 22 14.3**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=196,slow=7.6,SNR=4.4						
ARMA	**Armidale**	**41.56**	**140**	P	**P**	**14 22 37.3**	**+1.7**
ARMA				IAmb	IAmb	14 23 04.6	
	comp=Z,12nm,1.4s						
TOO	**Toolangi**	**43.49**	**153**	P	**P**	**14 22 52.3**	**+1.3**
TOO				IAmb	IAmb	14 22 55.1	
	comp=Z,7.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**44.61**	**10**	P	**P**	**14 22 59.8**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=216,slow=6.3,SNR=2.2						
ULN	**Ulaanbaatar**	**49.13**	**347**	P	**P**	**14 23 36.0**	**+1.2**
ULN				IAmb	IAmb	14 23 36.8	
	comp=Z,5.4nm,0.7s						
SONM	**Songino Array**	**49.25**	**346**	P	**P**	**14 23 37.0**	**+1.2**
	comp=Z,4.3nm,0.6s,baz=166,slow=8.8,SNR=27						
SONM	**Songino Array**	**49.25**	**346**	P	**P**	**14 23 36.9**	**+1.2**
MK31	**Makanchi Array**	**57.84**	**329**	P	**P**	**14 24 39.0**	**+1.0**
MKAR	**Makanchi Array**	**57.84**	**329**	P	**P**	**14 24 39.0**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=127,slow=8.7,SNR=44						
MAKZ	**Makanchi**	**58.01**	**329**	P	**P**	**14 24 40.2**	**+1.1**
MAKZ				IAmb	IAmb	14 24 40.5	
	comp=Z,2.4nm,0.7s						
PETK	**Petropavlovsk-**	**60.41**	**24**	P	**P**	**14 24 56.4**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=300,slow=10.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**61.63**	**336**	P	**P**	**14 25 03.2**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=130,slow=6.8,SNR=5.9						
KURK	**Kurchatov**	**62.22**	**330**	P	**P**	**14 25 07.9**	**+0.3**
KURK				IAmb	IAmb	14 25 09.6	
	comp=Z,2.6nm,0.9s						
ABKAR	**Akbulak array**	**71.88**	**322**	P	**P**	**14 26 07.7**	**-0.9**
FOMA	**Nahampoana Res**	**76.56**	**244**	P	**P**	**14 26 33.1**	**-2.9**
VNDA	**Vanda**	**80.68**	**172**	P	**P**	**14 26 57.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=321,slow=6.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**119.36**	**285**	PKP	**PKPdf**	**14 33 33.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=61,slow=2.1,SNR=3.2						

WEL 14 14:16:08.1,45°S±2°×16°8E±°,h84km±3km,M2.5/4, ML3.2/10,MLv2.5/4,Error ellipse: s-maj=0.0km s-min=0.0km az=77.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.27**	**269**	P	Pn	14 16 20.0	-0.6
MSZ				S	Sn	14 16 30.7	+0.7
WKZ	**Wanaka**	**0.53**	**107**	P	Pn	14 16 23.9	+1.4
WKZ				S	Sn	14 16 35.0	+1.7
JCZ	**Jackson Bay**	**0.69**	**30**	P	Pn	14 16 24.3	+0.2
JCZ				S	Sn	14 16 36.2	+0.3
MLZ	**Mavora Lakes**	**0.71**	**191**	P	Pn	14 16 24.6	+0.4
MLZ				S	Sn	14 16 36.5	+0.3
WHZ	**Wether Hill Ro**	**1.25**	**192**	P	Pn	14 16 30.9	+0.5
WHZ				S	Sn	14 16 47.7	+0.5
LBZ	**Lake Benmore**	**1.37**	**79**	P	Pn	14 16 32.6	+0.7
LBZ				S	Sn	14 16 50.2	+0.3
FOZ	**Fox Glacier**	**1.57**	**44**	P	Pn	14 16 34.3	-0.2
FOZ				S	Sn	14 16 54.7	+0.2
TUZ	**Tuapeka**	**1.59**	**144**	P	Pn	14 16 36.1	+1.5
TUZ				S	Sn	14 16 55.0	+0.2
ODZ	**Otahua Downs**	**1.71**	**103**	P	Pn	14 16 37.2	+1.0
ODZ				S	Sn	14 16 57.0	-0.6
PYZ	**Puysegur Point**	**1.88**	**217**	P	Pn	14 16 38.7	+0.1
PYZ				S	Sn	14 17 01.4	-0.3
SYZ	**Scrubby Hill**	**1.96**	**163**	P	Pn	14 16 40.6	+1.1
SYZ				S	Sn	14 17 03.3	-0.1
GCSZ	**Gaunt Creek Bo**	**1.99**	**48**	P	Pn	14 16 39.2	-0.8
HHSZ	**Highcliff Hill**	**2.02**	**128**	P	Sn	14 17 05.3	+0.3
APZ	**The Paps**	**2.17**	**186**	P	Pn	14 16 42.9	+0.5
APZ				S	Sn	14 17 09.3	+0.7
ARCZ	**Arundel**	**2.18**	**72**	P	Pn	14 16 42.2	-0.3
RPZ	**Rata Peaks**	**2.19**	**65**	P	Pn	14 16 42.3	-0.3
WVZ	**Waitaha Valley**	**2.37**	**49**	P	Pn	14 16 43.9	-1.2
WVZ				S	Sn	14 17 11.5	-1.8
WACZ	**Wakanui South**	**2.64**	**75**	P	Pn	14 16 48.4	-0.2
MQZ	**McQueen's Vall**	**3.27**	**74**	P	Pn	14 16 56.5	-0.6
AKCZ	**Akaroa Harbour**	**3.40**	**78**	P	Pn	14 16 58.6	-0.3
LTZ	**Lake Taylor**	**3.44**	**58**	P	Pn	14 16 58.0	-1.4
DSZ	**Denniston Nort**	**3.88**	**42**	P	Pn	14 17 05.3	-0.1
DSZ				S	Sn	14 17 46.6	-3.3

*KRNET **14** 14:25:31.8±0.1,43°.00N×69°.88E,mb3.4*
*NNC **14** 14:25:41.2±6.6,38°.08N×72°.67E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=54.3km s-min=42.7km az=21.0*
ISC 14 14:25:40.6±3.5,37°.9N±0°.2×72°.4E±0°.1,h10km,n5,σ1§50/8, 4C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**2.45**	**330**	⇓*i*P	**Pn**	**14 26 20.4**	**-0.3**
	baz=66						
BTK				⇓*i*S	**Sb**	**14 26 56.0**	**+1.0**
	baz=66						
OHH	**Osh**	**2.60**	**6**	⇓*e*P	**Pn**	**14 26 24.3**	**+1.6**
	baz=38						
OHH				⇓*i*S	**Sg**	**14 27 02.4**	**-1.6**
	baz=38						
AAK	**Ala-Archa**	**4.96**	**18**	⇑Pn	**Pn**	**14 26 55.8**	**+0.6**
	3.0nm,0.7s						
AAK				⇓Lg	Lg	14 28 16.1	
	8.3nm,0.9s						
KK31	**Karatay Array**	**5.35**	**345**	⇑Pn	**Pn**	**14 26 59.0**	**-1.6**
	1.8nm,0.4s,baz=155,slow=11,SNR=29						
KK31				⇑Sn	**Sn**	**14 28 03.4**	**+1.1**
	1.5nm,0.4s						
KK31				⇑Lg	Lg	14 28 30.1	
	8.1nm,0.7s,baz=158,slow=28						
TKM2	**Tokmak 2**	**5.54**	**25**	⇓Pn	**Pn**	**14 27 02.3**	**-1.0**
	2.4nm,0.6s						
TKM2				⇓Lg	Lg	14 28 32.3	
	11nm,1.4s						

*JMA **14** 14:52:53.2±0.2,24°.04N×121°.67E,h0km,M2.8*
*TAP **14** 14:52:53.8,24°.06N×121°.70E,h10km,ML3.6,C*
ISC 14 14:52:54.0±0.8,24°.05N±0°.01×121°.70E±0°.02,h10km±6km, n113,σ0§81/204,13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.11**	**233**	*i*P	**Pg**	**14 52 57.1**	**+0.3**
	baz=236						
HWA				*i*S	**Sg**	**14 52 59.9**	**+1.1**
	baz=236						
NACB	**Ninganchiao**	**0.16**	**322**	⇓P	**Pg**	**14 52 57.1**	**-0.5**
	baz=320						
NACB				S	**Sg**	**14 52 59.5**	**-0.5**
	baz=320						
ETLH	**Xiulin Townshi**	**0.26**	**309**	⇓P	**Pg**	**14 52 59.0**	**-0.3**
	baz=306						
ETLH				S	**Sg**	**14 53 02.5**	**-0.4**
	baz=306						
ESL	**Shilin**	**0.34**	**227**	*i*P	**Pg**	**14 53 00.7**	**-0.1**
	baz=234						
ESL				S	**Sb**	**14 53 05.8**	**-1.7**
	baz=234						
ENA	**Nanau**	**0.38**	**5**	⇓*i*P	**Pg**	**14 53 01.5**	**-0.1**
	baz=4.0						
ENA				*i*S	**Sg**	**14 53 07.2**	**+0.5**
	baz=4.0						
WHF	**Hehuan Shan**	**0.41**	**284**	*i*P	**Pg**	**14 53 01.8**	**-0.5**
	baz=283						
WHF				*i*S	**Sg**	**14 53 07.4**	**-0.4**
	baz=283						
ENAH	**Nanao**	**0.41**	**14**	P	**Pb**	**14 53 02.7**	**-0.7**
	baz=3.0						
EGFH	**Guangfu**	**0.45**	**214**	P	**Pb**	**14 53 03.3**	**-0.7**
	baz=224						
EGFH				*e*S	**Sb**	**14 53 10.6**	**-0.3**
	baz=224						
FUSS	**Fushou**	**0.47**	**296**	P	**Pb**	**14 53 03.2**	**-1.2**
	baz=294						
FUSS				S	**Sb**	**14 53 09.7**	**-1.8**
	baz=294						
NNSB	**Datong**	**0.48**	**323**	⇓P	**Pg**	**14 53 03.3**	**-0.1**
	baz=320						
NNSB				S	**Sg**	**14 53 09.8**	**0.0**
	baz=320						
NNSH	**Datong**	**0.48**	**323**	⇓*i*P	**Pg**	**14 53 03.4**	**-0.1**
	baz=319						
NNSH				*i*S	**Sg**	**14 53 09.9**	**+0.1**
	baz=319						
CHGB	**Renai**	**0.48**	**272**	⇓P	**Pg**	**14 53 03.4**	**-0.1**
	baz=263						
CHGB				S	**Sb**	**14 53 10.2**	**-1.7**
	baz=263						
OWD	**Renai**	**0.49**	**259**	*i*P	**Pb**	**14 53 03.7**	**-1.1**
	baz=267						
OWD				*i*S	**Sg**	**14 53 09.8**	**-0.3**
	baz=267						
NNS	**Nan Shan**	**0.49**	**323**	⇓*i*P	**Pg**	**14 53 03.5**	**-0.2**
	baz=321						
NNS				*i*S	**Sg**	**14 53 10.5**	**+0.2**
	baz=321						
TWT	**Tachien**	**0.52**	**293**	*i*P	**Pb**	**14 53 04.5**	**-0.9**
	baz=291						
TWT				*i*S	**Sb**	**14 53 12.2**	**-0.9**
	baz=291						
TDCB	**Techi**	**0.54**	**293**	⇓P	**Pb**	**14 53 04.5**	**-1.1**
	baz=291						
TDCB				S	**Sb**	**14 53 11.8**	**-1.7**
	baz=291						
TWC	**Suao**	**0.58**	**13**	*i*P	**Pg**	**14 53 05.2**	**0.0**
	baz=5.0						
TWC				*i*S	**Sb**	**14 53 13.9**	**-0.5**
	baz=5.0						
NDT	**Datong Townshi**	**0.58**	**343**	⇓*i*P	**Pb**	**14 53 05.4**	**-0.8**
	baz=341						
NDT				*i*S	**Sb**	**14 53 13.9**	**-0.6**
	baz=341						
VWDT	**VWDT**	**0.59**	**241**	⇓P	**Pb**	**14 53 05.6**	**-0.8**
	baz=241						
VWDT				S	**Sg**	**14 53 12.9**	**-0.3**
	baz=241						
ENTT	**Nioudou**	**0.60**	**348**	⇓*i*P	**Pb**	**14 53 05.8**	**-0.9**
	baz=337						
ENTT				S	**Sg**	**14 53 14.1**	**+0.3**
	baz=337						
HGSD	**Ruisui**	**0.61**	**205**	*e*P	**Pb**	**14 53 07.2**	**+0.5**
	baz=219						
EHY	**Hungye**	**0.64**	**213**	P	**Pb**	**14 53 06.7**	**-0.6**
	baz=225						
EHY				S	**Sb**	**14 53 16.9**	**+0.6**
	baz=225						
TWE	**Neicheng**	**0.67**	**357**	*i*P	**Pb**	**14 53 07.1**	**-0.8**
	baz=356						
TWE				*i*S	**Sb**	**14 53 16.4**	**-0.9**
	baz=356						
YHNB	**Yeheng**	**0.69**	**334**	⇓P	**Pb**	**14 53 07.6**	**-0.5**
	baz=332						
YHNB				S	**Sb**	**14 53 16.9**	**-0.9**
	baz=332						
NSK	**Sanguang**	**0.70**	**333**	⇓*i*P	**Pb**	**14 53 08.6**	**+0.2**
	baz=332						
NSK				*i*S	**Sb**	**14 53 18.0**	**-0.2**
	baz=332						
ILA	**Ilan**	**0.72**	**3**	P	**Pb**	**14 53 08.6**	**0.0**
	baz=353						
ILA				S	**Sg**	**14 53 17.3**	**0.0**
	baz=353						
WHP	**Taichung City**	**0.73**	**289**	*i*P	**Pb**	**14 53 08.5**	**-0.3**
	baz=288						
WHP				*i*S	**Sb**	**14 53 18.7**	**-0.2**
	baz=288						
SSLB	**Suanglung**	**0.73**	**250**	P	**Pg**	**14 53 07.7**	**-0.5**
	baz=260						
SSLB				S	**Sg**	**14 53 17.5**	**-0.3**
	baz=260						
YULB	**Yu-li**	**0.75**	**210**	P	**Pg**	**14 53 08.2**	**-0.3**
	baz=223						
YULB				S	**Sb**	**14 53 19.9**	**+0.5**
	baz=223						
NWLT	**Wulai**	**0.75**	**346**	P	**Pb**	**14 53 09.1**	**-0.1**
	baz=332						
NWLT				*e*S	**Sg**	**14 53 17.9**	**-0.5**
	baz=332						
SMLT	**Sun Moon Lake**	**0.75**	**258**	*i*P	**Pb**	**14 53 08.6**	**-0.6**
	baz=257						
SMLT				*i*S	**Sb**	**14 53 18.6**	**-1.0**
	baz=257						
EYUL	**Yuli**	**0.78**	**207**	*e*P	**Pb**	**14 53 09.6**	**-0.1**
	baz=222						
EYUL				*e*S	**Sb**	**14 53 20.6**	**+0.4**
	baz=222						
TWF1	**Yuli**	**0.78**	**208**	*i*P	**Pg**	**14 53 08.6**	**-0.6**
	baz=220						
TWF1				S	**Sb**	**14 53 19.9**	**-0.6**
	baz=220						
TYC	**Yuchr**	**0.79**	**260**	*i*P	**Pb**	**14 53 09.3**	**-0.5**
	baz=260						
TYC				*i*S	**Sb**	**14 53 19.6**	**-0.8**
	baz=260						
NTC	**

ALS	**Alishan**	**0.98 237**	*i* P	**Pb**	**14 53 13.0**	**-0.2**
	baz=227					
ALS			S	**Sb**	**14 53 26.6**	**+0.3**
	baz=227					
SBCB	**Hsinchu**	**0.99 319**	*e*S	**Sb**	**14 53 27.0**	**+0.7**
	baz=316					
TWB1	**Santiao Chiao**	**0.99 15**	P	**Pb**	**14 53 13.3**	**0.0**
	baz=4.0					
PTSB	**Yuanli**	**0.99 294**	P	**Pn**	**14 53 14.5**	**+0.5**
	baz=292					
PTSB			S	**Sn**	**14 53 28.8**	**+0.7**
	baz=292					
TAP1	**Taipei**	**1.00 351**	*e*P	**Pn**	**14 53 14.6**	**+0.4**
	baz=338					
TAP1			*e*S	**Sb**	**14 53 27.4**	**+0.7**
	baz=338					
TAP	**Taipei**	**1.00 350**	*e*P	**Pb**	**14 53 13.6**	**+0.1**
	baz=338					
TAP			S	**Sb**	**14 53 26.7**	**-0.1**
	baz=338					
HSN	**Hsinchu**	**1.01 319**	*e*P	**Pn**	**14 53 13.7**	**-0.5**
	baz=319					
HSN			*e*S	**Sb**	**14 53 27.0**	**+0.1**
	baz=319					
WDJ	**Dajia District**	**1.02 287**	P	**Pn**	**14 53 14.9**	**+0.6**
	baz=286					
WDJ			S	**Sn**	**14 53 28.2**	**-0.4**
	baz=286					
NWF	**Wu-fen Shan**	**1.02 4**	P	**Pn**	**14 53 14.2**	**-0.2**
WFSB	**Wu-fen Shan**	**1.02 4**	P	**Pn**	**14 53 14.6**	**+0.1**
	baz=342					
NCUH	**Zhongli**	**1.03 333**	P	**Pn**	**14 53 15.2**	**+0.6**
	baz=330					
NCUH			*e*S	**Sn**	**14 53 29.2**	**+0.2**
	baz=330					
NCU	**National Centr**	**1.03 333**	P	**Pn**	**14 53 14.7**	**+0.1**
	baz=330					
NCU			S	**Sn**	**14 53 29.2**	**+0.1**
	baz=330					
CHN5	**Tsauling**	**1.04 245**	*i* P	**Pn**	**14 53 14.7**	**0.0**
	baz=244					
CHN5			*i* S	**Sn**	**14 53 30.3**	**+1.0**
	baz=244					
WCHH	**Zhanghua**	**1.05 272**	P	**Pn**	**14 53 15.5**	**+0.8**
	baz=271					
WCHH			*e*S	**Sn**	**14 53 30.0**	**+0.7**
	baz=271					
ELDTW	**Lidau**	**1.06 217**	P	**Pg**	**14 53 13.3**	**-1.1**
	baz=204					
ELDTW			S	**Sb**	**14 53 28.3**	**-0.1**
	baz=204					
TWS1	**Kuangyinshan**	**1.08 346**	P	**Pn**	**14 53 15.6**	**+0.4**
	baz=343					
TWS1			S	**Sb**	**14 53 29.6**	**+0.6**
	baz=343					
YM01	**YM01**	**1.10 354**	P	**Pn**	**14 53 15.7**	**+0.2**
	baz=350					
WGK	**Gukeng**	**1.10 251**	*i* P	**Pn**	**14 53 16.3**	**+0.8**
	baz=251					
WGK			*i* S	**Sn**	**14 53 32.7**	**+2.0**
	baz=251					
YM10	**YM10**	**1.11 353**	P	**Pn**	**14 53 16.0**	**+0.3**
	baz=350					
YM04	**YM04**	**1.11 352**	P	**Pb**	**14 53 15.4**	**+0.1**
	baz=348					
YM05	**YM05**	**1.12 354**	*e*P	**Pn**	**14 53 16.3**	**+0.5**
	baz=350					
YM11	**YM11**	**1.12 354**	*e*P	**Pn**	**14 53 16.6**	**+0.8**
	baz=350					
WDLH	**Douliu**	**1.12 252**	*e*P	**Pn**	**14 53 16.3**	**+0.6**
	baz=251					
WDLH			*e*S	**Sn**	**14 53 32.8**	**+1.6**
	baz=251					
EDH	**Donghe**	**1.13 199**	*e*P	**Pg**	**14 53 15.1**	**-0.6**
	baz=185					
EDH			*e*S	**Sb**	**14 53 30.3**	**0.0**
	baz=185					
YM03	**YM03**	**1.14 353**	*e*P	**Pn**	**14 53 16.3**	**+0.3**
	baz=349					
YM08	**YM08**	**1.14 355**	*e*P	**Pn**	**14 53 16.3**	**+0.3**
	baz=337					
ANP	**Anpu**	**1.15 352**	P	**Pn**	**14 53 16.3**	**+0.1**
	baz=348					
JYNG	**Yonagunijimaku**	**1.20 70**	P	**Pg**	**14 53 16.9**	**-0.3**
JYNG			S	**Sb**	**14 53 33.0**	**+0.5**
TWY	**Chenhua**	**1.23 356**	*e*P	**Pn**	**14 53 17.3**	**+0.1**
	baz=340					
TWY			S	**Sb**	**14 53 33.6**	**+0.4**
	baz=340					
CHN4	**Tsaushan**	**1.23 236**	*i* P	**Pn**	**14 53 17.8**	**+0.6**
	baz=235					
CHN4			S	**Sn**	**14 53 35.6**	**+1.7**
	baz=235					
TPUB	**Ta-pu**	**1.23 233**	P	**Pn**	**14 53 17.8**	**+0.5**
	baz=233					
TPUB			S	**Sn**	**14 53 35.4**	**+1.4**
	baz=233					
STYT	**Tauyuan**	**1.23 225**	P	**Pg**	**14 53 16.6**	**-1.1**
	baz=225					
STYT			S	**Sn**	**14 53 35.1**	**+1.0**
	baz=225					
RLNB	**Erlin**	**1.24 263**	*e*P	**Pn**	**14 53 17.6**	**+0.2**
	baz=263					
RLNB			*e*S	**Sn**	**14 53 35.5**	**+1.4**
	baz=263					
LONT	**Longtian**	**1.25 205**	*e*P	**Pg**	**14 53 16.3**	**-1.7**
	baz=204					
LONT			*e*S	**Sg**	**14 53 33.2**	**-1.1**
	baz=204					
WTK	**Tuku**	**1.25 254**	*e*P	**Pn**	**14 53 19.3**	**+1.7**
	baz=253					
YOJ	**Yonaguni jima**	**1.26 71**	P	**Pn**	**14 53 17.9**	**+0.2**
YOJ			S	**Sg**	**14 53 34.4**	**-0.4**
WTP	**Ta-pu**	**1.28 232**	P	**Pn**	**14 53 18.7**	**+0.8**
	baz=231					
WTP			S	**Sn**	**14 53 35.7**	**+0.6**
	baz=231					
CHY	**Chiayi**	**1.29 245**	*e*P	**Pb**	**14 53 19.0**	**+0.6**
	baz=258					
CHY			*e*S	**Sn**	**14 53 36.7**	**+1.3**
	baz=258					
WTCT	**Ta-ch'eng**	**1.31 262**	*e*P	**Pg**	**14 53 19.3**	**+0.1**
	baz=262					
WTCT			*e*S	**Sn**	**14 53 37.2**	**+1.3**
	baz=262					
TWG	**Pinlang**	**1.35 206**	*e*P	**Pn**	**14 53 18.9**	**0.0**
	baz=204					
TWG			*e*S	**Sn**	**14 53 37.4**	**+0.5**
	baz=204					
TWGBT	**Beinan**	**1.35 205**	*e*P	**Pn**	**14 53 18.7**	**-0.2**
	baz=205					
TWK	**Hsinying**	**1.36 235**	P	**Pg**	**14 53 20.5**	**+0.4**
	baz=233					
TWK			S	**Sn**	**14 53 39.9**	**+2.8**
	baz=233					
CHN1	**Nanshi**	**1.38 232**	P	**Pg**	**14 53 20.5**	**0.0**
	baz=230					
CHN1			S	**Sn**	**14 53 40.2**	**+2.6**
	baz=230					
SNST	**Tainan City**	**1.38 234**	P	**Pg**	**14 53 20.5**	**0.0**
	baz=232					
SNST			S	**Sn**	**14 53 40.2**	**+2.6**
	baz=232					
LDUT	**Ludao**	**1.38 189**	*e*P	**Pn**	**14 53 18.0**	**-1.4**
	baz=178					
LDUT			*e*S	**Sb**	**14 53 35.5**	**-2.1**
	baz=178					
SGST	**Jiashian**	**1.41 227**	P	**Pg**	**14 53 20.2**	**-0.8**
	baz=227					
SGST			S	**Sn**	**14 53 40.0**	**+1.7**
	baz=227					
WSF	**Szhu**	**1.42 254**	*e*P	**Pg**	**14 53 21.4**	**+0.2**
	baz=253					
SLGT	**Liugui**	**1.43 223**	P	**Pg**	**14 53 21.4**	**0.0**
	baz=221					
SLGT			*e*S	**Sg**	**14 53 40.9**	**+0.9**
	baz=221					
ICHU	**Yijhu**	**1.47 243**	P	**Pg**	**14 53 22.6**	**+0.3**
	baz=241					
ICHU			*e*S	**Sg**	**14 53 43.5**	**+2.0**
	baz=241					
CHN8	**Yiju**	**1.53 243**	P	**Pg**	**14 53 22.6**	**-0.9**
	baz=242					
CHN8			*e*S	**Sg**	**14 53 45.0**	**+1.5**
	baz=242					
ECL	**Taimali**	**1.60 206**	*e*P	**Pn**	**14 53 21.9**	**-0.4**
	baz=205					
ECL			*e*S	**Sn**	**14 53 42.7**	**-0.3**
	baz=205					
SCST	**Cishan**	**1.60 224**	*e*P	**Pg**	**14 53 24.1**	**-0.7**
	baz=221					
SCST			*e*S	**Sg**	**14 53 47.3**	**+1.8**
	baz=221					
SSD	**Sandimen**	**1.62 217**	*e*P	**Pn**	**14 53 23.2**	**+0.5**
	baz=229					
SSD			*e*S	**Sg**	**14 53 45.6**	**-0.8**
	baz=229					
SCLT	**Jiali**	**1.63 238**	*e*S	**Sg**	**14 53 47.3**	**+0.8**
	baz=236					
TWM1	**Shoushan**	**1.69 224**	*e*P	**Pg**	**14 53 27.1**	**+0.6**
	baz=223					
MASBT	**Mashibuluo**	**1.73 215**	*e*P	**Pb**	**14 53 25.9**	**-0.1**
	baz=210					
MASBT			*e*S	**Sg**	**14 53 48.6**	**-1.1**
	baz=210					
EAST	**Anshuo**	**1.83 206**	P	**Pn**	**14 53 26.5**	**+0.9**
	baz=205					
EAST			*e*S	**Sn**	**14 53 49.4**	**+0.5**
	baz=205					
SSPT	**Xinbi**	**1.87 214**	*e*P	**Pg**	**14 53 29.1**	**-0.8**
	baz=194					
SSPT			*e*S	**Sg**	**14 53 53.4**	**-0.9**
	baz=194					
IRIF	**Iriomote-Funau**	**1.87 81**	P	**Pb**	**14 53 28.0**	**-0.3**
IRIF			*e*S	**Sb**	**14 53 52.4**	**+0.6**
PHUB	**P'eng-hu**	**2.02 255**	*e*P	**Pb**	**14 53 29.8**	**-1.1**
	baz=253					
PNG	**Penghu**	**2.02 257**	*e*P	**Pn**	**14 53 29.1**	**+1.0**
	baz=255					
JKRS	**Kuro-shima**	**2.12 84**	S	**Sb**	**14 53 58.2**	**-0.6**
JIJ	**Ishigaki jima**	**2.25 81**	P	**Pn**	**14 53 31.7**	**+0.4**
JIJ			S	**Sn**	**14 53 58.4**	**-0.7**
JISG	**Ishigakijimahi**	**2.44 77**	P	**Pn**	**14 53 34.5**	**+0.6**
JISG			*e*S	**Sn**	**14 54 03.3**	**-0.5**

*IDC **14** 14:57:24.6±1.1, 49°.77S×125°.85E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/33, mbtmp3.9/6, ML2.4/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/19, Error ellipse: s-maj=46.5km s-min=23.4km az=90.0*
*NEIC **14** 14:57:26.5±0.8, 49°.8S±0°.1×125°.8E±0°.2, h14km±4km, mb4.3/15, Error ellipse: s-maj=20.6km s-min=7.8km az=130.0*

ISC 14 14:57:26.1±0.6, 49°.81S±0°.09×125°.8E±0°.2, h10km, n31, σ0 73/23, mb4.1/11, MS3.4/3, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.19**	**326**	T	T	15 19 11.5	
	baz=155,slow=76,SNR=114						
H01W2	**Cape Leeuwin H**	**17.19**	**326**	T	T	15 19 13.5	
	baz=155,slow=76,SNR=99						
H01W3	**Cape Leeuwin H**	**17.20**	**326**	T	T	15 19 07.6	
	baz=155,slow=76,SNR=148						
NWAO	**Narrogin (SRO)**	**18.04**	**336**	P	**P**	**15 01 37.7**	**+0.5**
	0.6nm,0.3s,baz=163,slow=9.1,SNR=5.1						
NWAO	**Narrogin (SRO)**	**18.04**	**336**	P	**P**	**15 01 38.8**	**+1.6**
FORT	**Forrest**	**19.08**	**6**	P	**P**	**15 01 48.4**	**-0.3**
FORT				IAmb	IAmb	15 01 51.1	
	comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**21.44**	**39**	P	**P**	**15 02 15.2**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=196,slow=10,SNR=3.1						
STKA				LR	LR	15 09 57.1	
	comp=Z,134nm,19.1s,baz=291,slow=35						
STKA	**Stephens Creek**	**21.44**	**39**	IAmb	IAmb	15 02 19.2	
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**26.85**	**17**	P	**P**	**15 03 05.5**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=194,slow=8.8,SNR=54						
ASAR	**Alice Springs**	**26.85**	**17**	P	**P**	**15 03 06.5**	**-0.3**
AS31	**Alice Springs**	**26.85**	**17**	P	**P**	**15 03 06.5**	**-0.3**
WRA	**Warramunga Arr**	**30.56**	**16**	P	**P**	**15 03 39.2**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=194,slow=8.4,SNR=7.2						
WRA	**Warramunga Arr**	**30.56**	**16**	IAmb	IAmb	15 03 47.6	
	comp=Z,0.3nm,1.2s						
WB2	**Warramunga Arr**	**30.56**	**16**	P	**P**	**15 03 39.4**	**-0.4**
WB2				IAmb	IAmb	15 03 51.7	
	comp=Z,7.8nm,1.4s						
WRAB	**Tennant Creek**	**30.57**	**16**	P	**P**	**15 03 39.6**	**-0.3**
WRAB				IAmb	IAmb	15 03 47.6	
	comp=Z,7.0nm,1.3s						
WR0	**Warramunga Arr**	**30.58**	**16**	P	**P**	**15 03 38.9**	**-1.1**
WR0				IAmb	IAmb	15 03 41.4	
	comp=Z,8.1nm,1.3s						
VNDA	**Vanda**	**30.97**	**166**	P	**P**	**15 03 43.5**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=315,slow=8.2,SNR=7.1						
VNDA				LR	LR	15 15 00.9	
	comp=Z,84nm,19.8s,baz=330,slow=34						
VNDA	**Vanda**	**30.97**	**166**	P	**P**	**15 03 43.0**	**+0.1**
VNDA				IAmb	IAmb	15 03 52.7	
	comp=Z,1.8nm,0.8s						
BKZ	**Black Stump Fm**	**37.02**	**93**	P	**P**	**15 04 36.0**	**+0.2**
URZ	**Urewera**	**37.93**	**92**	P	**P**	**15 04 43.6**	**+0.1**
QSPA	**South Pole Qui**	**40.32**	**180**	P	**P**	**15 05 03.4**	**0.0**
QSPA				IAmb	IAmb	15 05 04.2	
	comp=Z,6.2nm,1.4s						
SNAA	**Sanae**	**53.52**	**198**	P	**P**	**15 06 46.6**	**+0.3**
SNAA				IAmb	IAmb	15 06 47.7	
	comp=Z,4.3nm,1.0s						
H08S2	**Diego Garcia H**	**61.05**	**295**	T	T	16 13 54.1	
	baz=144,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**61.06**	**295**	T	T	16 13 49.9	
	baz=144,slow=76,SNR=8.6						
H08S3	**Diego Garcia H**	**61.06**	**295**	T	T	16 13 55.6	
	baz=144,slow=76,SNR=16						
CMAR	**Chiang Mai Arr**	**72.01**	**333**	P	**P**	**15 08 50.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=183,slow=6.3,SNR=1.5						
CMAR				LR	LR	15 38 55.3	
	comp=Z,81nm,19.6s,baz=227,slow=35						
SUR	**Sutherland**	**74.70**	**238**	P	**P**	**15 09 06.5**	**+0.3**
BOSA	**Boshof**	**75.03**	**243**	P	**P**	**15 09 07.2**	**-0.8**
BOSA				IAmb	IAmb	15 09 08.6	
	comp=Z,7.2nm,1.5s						
ILAR	**Eielson Array**	**132.46**	**35**	PKP	**PKPdf**	**15 16 38.5**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=270,slow=2.7,SNR=1.8						
YKA	**Yellowknife Ar**	**145.39**	**45**	PKPbc	**PKPbc**	**15 17 02.3**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=258,slow=4.1,SNR=4.4						
EKA	**Eskdalemuir Ar**	**149.10**	**300**	PKPbc	**PKPbc**	**15 17 12.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=118,slow=2.7,SNR=4.5						

*IDC **14** 14:59:40.7±2.2, 2°.68N×127°.77E, h113km±20km, mb3.6/10, mb1 3.8/12, mb1mx3.5/48, mbtmp4.1/12, Error ellipse: s-maj=24.5km s-min=13.8km az=56.0*
*NEIC **14** 14:59:41.9±1.7, 2°.65N±0°.08×127°.84E±0°.08, h128km±7km, mb4.3/29, Error ellipse: s-maj=13.0km s-min=10.1km az=212.0*
*DJA **14** 14:59:41.7±0.5, 3°N±5°×12°8E±°, h115km±9km, M4.4/12, mB4.9/4, mb4.5/7, MLv4.4/12, Mw(mB)4.2/4*
*MAN **14** 14:59:44.3, 2°.83N×127°.18E, h17km, MS4.2*

ISC 14 14:59:39.2±0.5, 2°.81N±0°.05×127°.91E±0°.06, h100km, n57, σ1 81/64, mb4.2/19, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.10**	**195**	P	**Pn**	**15 00 17.2**	**+4.2**
TNTI	**Ternate**	**2.10**	**195**		**Pn**	**15 00 16.1**	**+3.1**
DDMP	**Don Marcelino,**	**3.94**	**326**	*e*P	**Pn**	**15 00 37.5**	**0.0**
DDMP				*e*S	**Sn**	**15 01 22.6**	**-0.2**
KMSI	**Cibinong**	**4.51**	**241**	P	**Pn**	**15 00 47.7**	**+2.4**
KMSI				S	**Sn**	**15 01 39.9**	**+3.3**
SIJI	**Sorong**	**4.96**	**137**	P	**Pn**	**15 00 54.4**	**+2.9**
	11nm,0.3s,baz=332,slow=17,SNR=54						
SIJI				S	**Sn**	**15 01 49.7**	**+2.0**
	5.8nm,0.3s,baz=64,slow=22,SNR=12						
SKMP	**Bagumbayan, Su**	**4.98**	**318**	*e*P	**Pn**	**15 00 52.5**	**+0.7**
SKMP				*e*S	**Sn**	**15 01 46.7**	**-1.5**
KCP	**Kidapawan**	**5.03**	**326**	*e*P	**Pn**	**15 00 56.3**	**+3.9**
KCP				*i* S	**Sn**	**15 01 53.0**	**+3.6**
SANI	**Sanana**	**5.19**	**202**	P	**Pn**	**15 00 55.1**	**+0.5**
	0.5nm3μm18nm,0.6s						
GTOI	**Gorontalo**	**5.35**	**246**	P	**Pn**	**15 00 59.4**	**+2.7**
	0.8nm2μm125nm,0.6s						
BUKP	**Musuan**	**5.78**	**331**	*e*P	**Pn**	**15 01 05.9**	**+3.4**
BUKP				*e*S	**Sn**	**15 02 08.2**	**+0.6**
LUWI	**Luwuk**	**6.40**	**233**	P	**Pn**	**15 01 12.7**	**+1.7**
	1.2nm1μm64nm,0.6s						
LUWI	**Luwuk**	**6.40**	**233**	Pn	**Pn**	**15 01 12.7**	**+1.7**
FAKI	**Fak Fak**	**7.16**	**143**	P	**Pn**	**15 01 24.4**	**+3.1**
	0.2nm25nm,0.6s						
FAKI	**Fak Fak**	**7.16**	**143**	Pn	**Pn**	**15 01 24.3**	**+3.0**
MPSI	**Mapaga**	**8.37**	**253**	P	**Pn**	**15 01 38.7**	**+0.9**
	20nm,0.8s						
MYLDM	**Lahad Datu**	**9.67**	**284**	Pn	**Pn**	**15 01 59.3**	**+3.8**
SPSI	**Sidrap Palu**	**10.55**	**230**	P	**Pn**	**15 02 08.9**	**+1.4**
KAPI	**Kappang**	**11.26**	**226**	P	**Pn**	**15 02 17.9**	**+0.8**
	1.8nm,0.3s,baz=12,slow=9.3,SNR=5.2						
KAPI				S	**Sn**	**15 04 17.8**	**-3.2**
	1.3nm,0.3s,baz=111,slow=9.5,SNR=1.7						
MTN	**Manton Dam**	**15.88**	**168**		**Pn**	**15 03 17.0**	**0.0**
MTN				IAmb	IAmb	15 03 23.5	
	comp=Z,13nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.71**	**231**	P	**P**	**15 03 37.5**	**-1.5**
JAGI				IAmb	IAmb	15 04 04.0	
	comp=Z,69nm,1.4s						
KNRA	**Kununurra**	**18.39**	**177**	P	**P**	**15 03 45.3**	**-1.1**
KNRA				IAmb	IAmb	15 03 50.6	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.89**	**186**	P	**P**	**15 04 11.9**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=360,slow=9.5,SNR=2.3						
COEN	**Coen**	**22.51**	**138**	P	**P**	**15 04 30.4**	**-0.4**
COEN				IAmb	IAmb	15 04 55.5	
	comp=Z,17nm,1.2s						
PMG	**Port Moresby**	**22.70**	**123**	P	**P**	**15 04 31.8**	**-1.0**
PMG				IAmb	IAmb	15 04 47.4	
	comp=Z,25nm,1.1s						
CBJI	**Citeko**	**22.94**	**246**	P	P	15 04 25.4	-10
JMZ	**Minamidaito 2**	**23.10**	**8**	P	**P**	**15 04 37.5**	**+1.0**
WB0	**Warramunga Arr**	**23.32**	**164**	P	**P**	**15 04 37.2**	**-1.5**
WB0				IAmb	IAmb	15 04 38.7	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**23.47**	**165**	P	**P**	**15 04 38.8**	**-1.3**
WRAB				IAmb	IAmb	15 04 40.3	
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**23.48**	**165**	P	**P**	**15 04 38.7**	**-1.4**
	comp=Z,4.4nm,0.4s,baz=344,slow=10,SNR=124						
WRA				PcP	**PcP**	**15 08 23.3**	**0.0**
	comp=Z,0.3nm,0.8s,baz=343,slow=1.7,SNR=1.1						
WRA	**Warramunga Arr**	**23.48**	**165**	P	**P**	**15 04 37.6**	**-2.5**
WB2	**Warramunga Arr**	**23.48**	**165**	P	**P**	**15 04 38.8**	**-1.4**
WB2				IAmb	IAmb	15 04 40.4	
	comp=Z,11nm,0.9s						
WR0	**Warramunga Arr**	**23.55**	**164**	P	**P**	**15 04 39.4**	**-1.3**
MYKOM	**Kota Tinggi**	**24.06**	**268**	P	**P**	**15 04 46.2**	**+0.8**
MYKOM				IAmb	IAmb	15 04 58.0	
	comp=Z,18nm,1.2s						
PSA00	**Pilbara Seismi**	**25.48**	**198**	P	**P**	**15 04 57.5**	**-0.8**
PSA00				IAmb	IAmb	15 05 13.9	
	comp=Z,6.3nm,1.1s						
AS31	**Alice Springs**	**26.96**	**168**	P	**P**	**15 05 10.3**	**-1.3**
ASAR	**Alice Springs**	**26.96**	**168**	P	**P**	**15 05 10.0**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=350,slow=8.3,SNR=9.6						
ASAR				PcP	**PcP**	**15 08 31.1**	**0.0**
	comp=Z,1.0nm,0.6s,baz=353,slow=2.4,SNR=12						
CMAR	**Chiang Mai Arr**	**32.35**	**301**	P	**P**	**15 05 58.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=108,slow=8.8,SNR=2.5						
STKA	**Stephens Creek**	**36.87**	**160**	P	**P**	**15 06 37.5**	**-0.5**
	comp=Z,8.4nm,0.6s,baz=334,slow=9.1,SNR=24						
STKA	**Stephens Creek**	**36.87**	**160**	P	**P**	**15 06 37.3**	**-0.8**
STKA				IAmb	IAmb	15 06 38.3	
	comp=Z,1.9nm,0.6s						
NWAO	**Narrogin (SRO)**	**36.95**	**195**	P	**P**	**15 06 37.5**	**-1.3**
ARMA	**Armidale**	**40.06**	**147**	P	**P**	**15 07 04.7**	**-0.3**
ARMA				IAmb	IAmb	15 07 05.9	
	comp=Z,8.3nm,0.8s						
LHI	**Lord Howe Isla**	**45.20**	**141**	P	**P**	**15 07 44.4**	**-2.0**
SONM	**Songino Array**	**48.54**	**341**	P	**P**	**15 08 12.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=146,slow=10,SNR=2.5						
MSVF	**Nonsavu**	**53.46**	**114**	P	**P**	**15 08 50.3**	**+0.6**
MK31	**Makanchi Array**	**58.98**	**325**	P	**P**	**15 09 28.6**	**+0.2**
MKAR	**Makanchi Array**	**58.98**	**325**	P	**P**	**15 09 28.2**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=122,slow=8.7,SNR=10						
MAKZ	**Makanchi**	**59.16**	**325**	P	**P**	**15 09 28.8**	**-0.8**
MAKZ				IAmb	IAmb	15 09 31.0	
	comp=Z,2.0nm,1.0s						
KHZ	**Kahutara**	**61.02**	**143**	P	**P**	**15 09 41.2**	**-1.1**
BKZ	**Black Stump Fm**	**61.12**	**138**	P	**P**	**15 09 42.4**	**-0.8**
KURK	**Kurchatov**	**63.14**	**327**	P	**P**	**15 09 56.3**	**-0.1**
KURK				IAmb	IAmb	15 10 11.6	
	comp=Z,4.0nm,1.5s						
KK31	**Karatay Array**	**64.70**	**317**	P	**P**	**15 10 07.3**	**+0.5**
KKAR	**Karatay Array**	**64.70**	**317**	P	**P**	**15 10 07.1**	**+0.3**
KKAR	**Karatay Array**	**64.70**	**317**	P	**P**	**15 10 07.2**	**+0.4**
KKAR				IAmb	IAmb	15 10 20.1	
	comp=Z,1.5nm,1.2s						
KIRV	**Kirov**	**81.61**	**329**	P	**P**	**15 11 46.8**	**+0.8**
	comp=Z,6.2nm,0.5s,baz=23,slow=2.4,SNR=2.4						
VNDA	**Vanda**	**82.37**	**173**	P	**P**	**15 11 49.4**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=316,slow=6.8,SNR=7.4						
QSPA	**South Pole Qui**	**92.72**	**180**	P	**P**	**15 12 40.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=266,slow=1.1,SNR=9.5						
QSPA	**South Pole Qui**	**92.72**	**180**	IAmb	IAmb	15 12 48.7	
	comp=Z,4.4nm,1.4s						

DJA 14 15:02:53.8±0.3, 0°S±3°×12°5E±°, h10km, M3.7/8, mb3.8/1, MLv3.6/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.58**	**304**	P	Pn	15 03 20.7	-1.3
KMSI				S	Sb	15 03 43.1	-0.2
SANI	**Sanana**	**1.86**	**158**	P	Pn	15 03 23.4	-2.3
TNTI	**Ternate**	**2.33**	**63**	P	Pn	15 03 32.3	+0.1
LUWI	**Luwuk**	**2.63**	**254**	P	Pn	15 03 37.6	+1.2
LUWI				S	Sb	15 04 14.4	+0.9
MPSI	**Mapaga**	**5.44**	**277**	P	Pn	15 04 15.7	+0.7

*IDC **14** 15:09:01.8±1.4, 34°.17N×25°.15E, h0km, mb3.6/3, mb1 3.5/9, mb1mx3.4/40, mbtmp3.5/9, ML3.5/6, Error ellipse: s-maj=24.4km s-min=13.8km az=69.0*
*ATH **14** 15:09:02.3, 34°.18N×25°.07E, h19km±3km, ML2.9/7, Error ellipse: s-maj=4.6km s-min=1.5km az=4.0*
*THE **14** 15:09:03.2, 34°.22N×25°.06E, h0km±1km, ML2.8/8, Error ellipse: s-maj=3.2km s-min=1.0km az=176.0*

ISC 14 15:09:03.5±1.5, 34°.24N±0°.06×25°.09E±0°.04, h13km±9km, n32, σ0 79/45, mb3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.81**	**343**	P	**Pg**	**15 09 18.9**	**-0.4**
SIVA				S	**Sn**	**15 09 33.1**	**+0.6**
	2μm,0.8s						
SIVA	**Sivas**	**0.81**	**343**	P	**Pg**	**15 09 18.9**	**-0.4**
SIVA				S	**Sn**	**15 09 31.3**	**-1.2**
SIVA				AML	AML	15 09 39.2	

ZKR				S	Sg	15 09 46.2	+1.5
	comp=E,288nm,0.5s						
ZKR	**Zakros**	**1.28**	**46**	P	**Pg**	**15 09 27.8**	**-0.3**
ZKR				S	**Sg**	**15 09 45.4**	**+0.7**
ZKR				AML	AML	15 09 49.4	
	comp=N,331μm,0.5s						
ZKR				AML	AML	15 09 56.3	
	comp=E,855μm,0.6s						
VAM	**Vamos**	**1.38**	**328**	P	**Pn**	**15 09 28.3**	**-0.1**
VAM				S	**Sg**	**15 09 48.7**	**+0.7**
	comp=E,388nm,0.5s						
VAM	**Vamos**	**1.38**	**328**	P	**Pb**	**15 09 28.6**	**-0.5**
VAM				S	**Sg**	**15 09 48.0**	**+0.1**
VAM				AML	AML	15 09 58.4	
	comp=E,855μm,0.7s						
VAM				AML	AML	15 09 59.8	
	comp=N,677μm,0.4s						
IMMV	**Iera Moni Meta**	**1.52**	**324**	P	**Pb**	**15 09 30.8**	**-0.8**
IMMV				S	**Sb**	**15 09 51.8**	**+1.0**
	comp=N,368nm,0.7s						
IMMV	**Iera Moni Meta**	**1.52**	**324**	P	**Pb**	**15 09 31.0**	**-0.6**
IMMV				AML	AML	15 10 04.7	
	comp=E,736μm,0.8s						
IMMV				AML	AML	15 10 15.7	
	comp=N,762μm,0.7s						
ANKY	**Antikythira Is**	**2.19**	**318**	P	**Pn**	**15 09 41.0**	**+1.4**
KTHA	**Kythira Island**	**2.61**	**321**	P	**Pn**	**15 09 47.0**	**+1.6**
VLI	**Veliai**	**3.04**	**325**	P	**Pn**	**15 09 52.3**	**+1.1**
MMAI	**Mount Meron Ar**	**8.69**	**95**	Pn	**Pn**	**15 11 08.2**	**-0.7**
	comp=N,0.9nm,0.3s,baz=284,slow=12,SNR=2.1						
BRTR	**Keskin Array B**	**8.76**	**49**	Pn	**Pn**	**15 11 10.9**	**+1.0**
	comp=N,0.2nm,0.3s,baz=287,slow=15,SNR=1.7						
EIL	**Elat**	**9.53**	**116**	Pn	**Pn**	**15 11 20.1**	**-0.3**
	comp=N,0.3nm,0.3s,baz=310,slow=17,SNR=1.6						
AKASG	**Malin Array Be**	**16.73**	**9**	Pn	**P**	**15 12 58.0**	**-1.6**
	comp=N,0.4nm,0.3s,baz=200,slow=11,SNR=3.7						
GERES	**GERESS Array B**	**16.87**	**333**	Pn	**P**	**15 13 01.0**	**-0.4**
	comp=N,0.1nm,0.3s,baz=148,slow=12,SNR=9.3						
DAVOX	**Davos/Dischmat**	**17.02**	**322**	P	**P**	**15 13 03.6**	**+0.6**
	comp=N,0.1nm,0.3s,baz=272,slow=3.1,SNR=2.0						
KHC	**Kasperske Hory**	**17.16**	**334**	*eP*	**P**	**15 13 03.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**29.86**	**231**	P	**P**	**15 15 11.0**	**+0.4**
	comp=N,0.4nm,0.4s,baz=40,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**15 17 13.8**	**+0.6**
	comp=N,0.4nm,0.7s,baz=282,slow=6.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**45.69**	**46**	P	**P**	**15 17 23.9**	**+0.1**
	comp=N,0.6nm,0.5s,baz=263,slow=8.3,SNR=2.1						

*ATH **14** 15:12:05.8, 34°.16N×25°.05E, h17km±4km, ML2.7/8, Error ellipse: s-maj=5.1km s-min=1.5km az=4.0*
*IDC **14** 15:12:05.7±1.9, 34°.19N×25°.01E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.1/36, mbtmp3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/26, Error ellipse: s-maj=32.4km s-min=15.8km az=91.0*
*THE **14** 15:12:08.2, 34°.29N×25°.03E, h0km±2km, ML2.7/7, Error ellipse: s-maj=5.2km s-min=1.7km az=176.0*
ISC 14 15:12:07.0±1.8, 34°.21N±0°.07×25°.05E±0°.04, h13km±9km, n20, σ0°89/33, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.83**	**346**	P	**Pg**	**15 12 22.8**	**-0.2**
SIVA				S	**Sb**	**15 12 34.1**	**-0.3**
	2μm,0.5s						
SIVA	**Sivas**	**0.83**	**346**	P	**Pg**	**15 12 22.8**	**-0.2**
SIVA				S	**Sg**	**15 12 34.9**	**+1.0**
SIVA				AML	AML	15 12 42.2	
	comp=N,3243μm,0.6s						
SIVA				AML	AML	15 12 43.2	
	comp=E,3802μm,0.8s						
LAST	**Lasithi**	**1.01**	**20**	P	**Pn**	**15 12 25.9**	**-1.1**
LAST				S	**Sn**	**15 12 41.6**	**+0.4**
	comp=E,235nm,0.8s						
LAST	**Lasithi**	**1.01**	**20**	P	**Pb**	**15 12 25.7**	**-0.8**
LAST				S	**Sn**	**15 12 40.8**	**-0.4**
LAST				AML	AML	15 12 53.9	
	comp=N,479μm,0.7s						
LAST				AML	AML	15 12 54.3	
	comp=E,467μm,0.8s						
GVD	**Gavdhos**	**1.01**	**309**	P	**Pg**	**15 12 26.0**	**-0.5**
GVD				S	**Sn**	**15 12 42.2**	**+1.1**
	comp=E,880nm,0.5s						
GVD	**Gavdhos**	**1.01**	**309**	P	**Pg**	**15 12 26.1**	**-0.5**
GVD				S	**Sn**	**15 12 40.7**	**-0.4**
GVD				AML	AML	15 12 46.0	
	comp=E,1858μm,0.5s						
GVD				AML	AML	15 12 46.3	
	comp=N,1698μm,0.6s						
IDI	**Anoyia**	**1.08**	**353**	Pg	**Pn**	**15 12 26.3**	**-1.7**
	comp=N,3.6nm,0.3s,baz=170,slow=18,SNR=5.3						
IDI				Lg	Lg	15 12 42.5	
	comp=N,18nm,0.3s,baz=258,slow=23,SNR=9.5						
IDI	**Anoyia**	**1.08**	**353**	P	**Pn**	**15 12 26.9**	**-1.1**
IDI				S	**Sb**	**15 12 41.5**	**-0.3**
	comp=N,190nm,0.7s						
IDI	**Anoyia**	**1.08**	**353**	P	**Pn**	**15 12 26.8**	**-1.1**
IDI				S	**Sg**	**15 12 43.1**	**+1.1**
IDI				AML	AML	15 12 49.6	
	comp=N,326μm,0.6s						
IDI				AML	AML	15 12 50.6	
	comp=E,446μm,0.8s						
NPS	**Neapolis**	**1.15**	**24**	P	**Pb**	**15 12 28.2**	**-0.6**
NPS				S	**Sg**	**15 12 45.0**	**+1.0**
NPS				AML	AML	15 13 01.0	
	comp=E,530μm,0.6s						
NPS				AML	AML	15 13 03.6	
	comp=N,361μm,0.7s						
ZKR	**Zakros**	**1.32**	**47**	P	**Pg**	**15 12 31.5**	**-0.8**
ZKR				S	**Sg**	**15 12 51.5**	**+2.0**
	comp=N,272nm,0.5s						
ZKR	**Zakros**	**1.32**	**47**	P	**Pg**	**15 12 31.7**	**-0.6**
ZKR				S	**Sg**	**15 12 50.4**	**+0.9**
ZKR				AML	AML	15 12 53.0	
	comp=E,724μm,0.5s						
ZKR				AML	AML	15 12 54.9	
	comp=N,369μm,0.5s						
VAM	**Vamos**	**1.38**	**330**	P	**Pb**	**15 12 32.2**	**-0.5**
VAM				S	**Sg**	**15 12 51.8**	**+0.2**
	comp=N,282nm,0.6s						
VAM	**Vamos**	**1.38**	**330**	P	**Pb**	**15 12 32.2**	**-0.5**
VAM				S	**Sg**	**15 12 52.4**	**+0.9**
VAM				AML	AML	15 13 05.5	
	comp=E,601μm,0.5s						
VAM				AML	AML	15 13 05.6	
	comp=N,558μm,0.5s						
IMMV	**Iera Moni Meta**	**1.53**	**325**	P	**Pb**	**15 12 34.8**	**-0.4**
IMMV				S	**Sb**	**15 12 55.0**	**+0.6**
	comp=N,270nm,0.8s						
IMMV	**Iera Moni Meta**	**1.53**	**325**	P	**Pb**	**15 12 35.2**	**0.0**
IMMV				AML	AML	15 13 13.6	
	comp=E,511μm,0.6s						
IMMV				AML	AML	15 13 16.9	
	comp=N,478μm,0.7s						
VRAC	**Vranov**	**16.33**	**340**	LR	LR	15 23 43.3	
	comp=N,38nm,19.6s,baz=349,slow=43						
GERES	**GERESS Array B**	**16.88**	**333**	Pn	**P**	**15 16 05.3**	**+0.2**
	baz=144,slow=15,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.82**	**231**	P	**P**	**15 18 14.0**	**0.0**
	comp=N,0.3nm,0.5s,baz=40,slow=8.0,SNR=2.5						
MKAR	**Makanchi Array**	**44.38**	**56**	P	**P**	**15 20 18.6**	**+1.5**
	comp=N,0.4nm,0.7s,baz=270,slow=8.5,SNR=2.6						

*INET **14** 15:24:43.1, 10°.32N×86°.24W, h15km, ML2.6*
UCR 14 15:24:41.2±1.2, 10°.25N×86°.32W, h10km, MD4.0, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRZA	**Playa Garza**	**0.75**	**117**	*eP*	Pb	15 24 56.4	+0.1
DUNO	**Dulce Nombre,**	**0.83**	**102**	*eP*	Pg	15 24 57.1	0.0
HZTE	**Horizontes, Gu**	**0.84**	**57**	*eP*	Pg	15 24 57.4	-0.1
ORTG	**Ortega, Santa**	**0.85**	**83**	*eP*	Pg	15 24 57.3	-0.3
ORTG				*eS*	Sg	15 25 08.9	+0.2
PLVR	**Palo Verde**	**0.95**	**84**	*eP*	Pg	15 24 58.9	-0.7
BUEV	**Buena Vista**	**1.04**	**59**	*eP*	Pg	15 24 60.0	-1.3
BUEV				*i* S	Sb	15 25 15.2	-0.1
GB1A	**Borinquen Arri**	**1.06**	**58**	*eP*	Pg	15 25 00.3	-1.3
GB1A				*eS*	Sb	15 25 15.7	-0.1
LIM1	**Limonal**	**1.14**	**67**	*i* P	Pb	15 25 01.5	-1.4
GUAB	**Guayabo de Bag**	**1.16**	**67**	*i* P	Pb	15 25 01.5	-1.9
GUAB				*i* S	Sg	15 25 18.9	+0.3
COLC	**Colonia**	**1.17**	**69**	*i* P	Pb	15 25 01.8	-1.7
COLC				*i* S	Sg	15 25 18.9	+0.1
CUI	**Cuipilapa**	**1.20**	**70**	*eP*	Pb	15 25 02.6	-1.5
HORNC	**Hornillas**	**1.21**	**68**	*i* P	Pb	15 25 02.6	-1.7
HORNC				*i* S	Sg	15 25 20.2	0.0
ACAL	**Aguas Claras**	**1.31**	**73**	*i* P	Pn	15 25 04.5	-1.2
ACAL				*i* S	Sg	15 25 23.6	0.0
JTS	**Las Juntas de**	**1.34**	**88**	*eP*	Pn	15 25 04.6	-1.4
PTEN	**Parque Tenorio**	**1.38**	**71**	*i* P	Pn	15 25 05.6	-1.1
LAFE	**Finca La Fe, P**	**1.45**	**108**	*eP*	Pn	15 25 05.9	-1.6
ARE1	**Arenal 1**	**1.58**	**82**	*eP*	Pn	15 25 09.2	-0.2
CEDE	**Laguna Cedeo**	**1.60**	**82**	*i* P	Pn	15 25 09.3	-0.4
FORC	**Fortuna**	**1.63**	**82**	*i* P	Pn	15 25 09.8	-0.3
COVE	**Coope Vega, Sa**	**1.94**	**76**	*eP*	Pb	15 25 15.7	-0.9

TAP 14 15:34:44.7, 23°.10N×120°.74E, h18km±1km, ML1.2, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.07**	**14**	*i* P	Pg	15 34 48.9	+0.7
	baz=21						
STYT				*i* S	Sg	15 34 51.0	+0.5
	baz=21						
SLGT	**Liugui**	**0.13**	**220**	*i* P	Pg	15 34 49.5	+0.8
	baz=219						
SLGT				*i* S	Sg	15 34 52.0	+0.6
	baz=219						
WTP	**Ta-pu**	**0.19**	**323**	*i* S	Sb	15 34 54.1	+1.2
	baz=324						
CHN1	**Nanshi**	**0.21**	**295**	*i* S	Sb	15 34 53.8	+0.1
	baz=294						
TPUB	**Ta-pu**	**0.23**	**334**	P	Pb	15 34 51.0	+0.6
	baz=333						
TPUB				S	Sg	15 34 53.7	0.0
	baz=333						
SNST	**Tainan City**	**0.25**	**299**	*eP*	Pb	15 34 51.2	+0.4
	baz=299						
SNST				*eS*	Sb	15 34 55.7	+0.8
	baz=299						
ELDTW	**Lidau**	**0.27**	**70**	*i* P	Pb	15 34 51.8	+0.6
	baz=70						
ELDTW				*i* S	Sb	15 34 56.3	+0.8
	baz=70						
TWK	**Hsinying**	**0.29**	**307**	*eP*	Pg	15 34 51.2	+0.1
	baz=307						
TWK				*eS*	Sb	15 34 56.2	+0.3
	baz=307						
CHN4	**Tsaushan**	**0.29**	**332**	P	Pg	15 34 50.9	-0.2
	baz=332						
CHN4				S	Sb	15 34 56.5	+0.6
	baz=332						
CHN3	**Shinhua**	**0.34**	**267**	*eS*	Sb	15 34 58.7	+1.2
	baz=266						
SSD	**Sandimen**	**0.36**	**196**	P	Pb	15 34 52.9	+0.3
	baz=194						
SSD				S	Sb	15 34 58.7	+0.7
	baz=194						
TWM1	**Shoushan**	**0.40**	**227**	*eP*	Pg	15 34 52.9	0.0
	baz=226						
TWM1				*eS*	Sb	15 35 00.2	+1.1
	baz=226						
TWG	**Pinlang**	**0.41**	**132**	*eP*	Pb	15 34 53.8	+0.3
	baz=131						
TWG				*eS*	Sb	15 35 00.6	+1.1
	baz=131						
ALS	**Alishan**	**0.42**	**8**	P	Pb	15 34 53.9	+0.1
	baz=9.0						

TAP 14 15:34:46.6, 23°.31N×120°.54E, h0km, ML2.3, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.07**	**225**	*i* P	Pg	15 34 48.7	+0.8
	baz=216						
TWK				*i* S	Sg	15 34 50.0	+1.2
	baz=216						
WTP	**Ta-pu**	**0.10**	**134**	P	Pg	15 34 49.5	+1.0
	baz=132						
WTP				S	Sg	15 34 52.4	+2.7
	baz=132						
WTP	**Ta-pu**	**0.10**	**134**	P	Pg	15 34 49.5	+1.0
	baz=324						
SNST	**Tainan City**	**0.10**	**202**	*i* P	Pg	15 34 49.8	+1.3
	baz=202						
SNST				*i* S	Sg	15 34 52.3	+2.4
	baz=202						
CHN1	**Nanshi**	**0.13**	**185**	*i* P	Pg	15 34 50.6	+1.5
	baz=184						
CHN1				S	Sg	15 34 53.2	+2.4
	baz=184						
CHN1	**Nanshi**	**0.13**	**185**	*i* P	Pg	15 34 50.6	+1.5
	baz=294						
CHY	**Chiayi**	**0.21**	**330**	*eP*	Pg	15 34 52.3	+1.6
	baz=331						
CHY				*eS*	Sg	15 34 56.6	+3.2
	baz=331						
SGST	**Jiashian**	**0.23**	**170**	S	Pg	15 34 53.3	+2.2
	baz=263						
SGST	**Jiashian**	**0.23**	**170**	P	Pg	15 34 52.8	+1.7
	baz=168						
SGST				S	Sg	15 34 57.4	+3.2
	baz=168						
ICHU	**Yijhu**	**0.24**	**281**	P	Pg	15 34 52.4	+1.1
	baz=280						
ICHU				S	Sg	15 34 57.6	+3.1
	baz=280						
STYT	**Tauyuan**	**0.25**	**127**	*eP*	Pb	15 34 53.5	-0.6
	baz=126						
CHN3	**Shinhua**	**0.29**	**214**	*eP*	Pb	15 34 54.3	-0.3
	baz=214						
CHN3				S	Sb	15 34 59.6	-0.3
	baz=214						
CHN8	**Yiju**	**0.30**	**276**	*eP*	Pb	15 34 54.0	-0.9
	baz=276						
CHN8				*eS*	Sb	15 34 59.8	-0.6
	baz=276						
CHN5	**Tsauling**	**0.31**	**24**	*eP*	Pb	15 34 54.5	-0.6
	baz=24						
CHN5				*eS*	Sb	15 35 00.5	-0.2
	baz=24						
ALS	**Alishan**	**0.31**	**51**	*eP*	Pb	15 34 54.5	-0.8
	baz=52						
ALS				*eS*	Sb	15 35 00.6	-0.4
	baz=52						
ALS	**Alishan**	**0.31**	**51**	*eS*	Sb	15 35 00.7	-0.3
	baz=9.0						
SLGT	**Liugui**	**0.33**	**163**	*eP*	Pb	15 34 54.4	-1.1
	baz=162						
SLGT				*eS*	Sb	15 35 00.2	-1.2
	baz=162						
SCLT	**Jiali**	**0.35**	**247**	*eP*	Pg	15 34 54.0	+0.7
	baz=245						
SCLT				*eS*	Sb	15 35 00.9	-0.7
	baz=245						
WGK	**Gukeng**	**0.37**	**3**	*eP*	Pb	15 34 55.6	-0.5
	baz=4.0						
WGK				*eS*	Sb	15 35 02.4	-0.1
	baz=4.0						
WDLH	**Douliu**	**0.37**	**360**	*eP*	Pb	15 34 56.0	-0.1
	baz=359						
WDLH				*eS*	Sb	15 35 02.4	-0.1
	baz=359						

REN 14 15:36:23.4±0.5, 37°.30N±0°.04×114°.97W±0°.03, h3km±7km, ML2.6/6, Error ellipse: s-maj=5.1km s-min=3.1km az=175.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRN	**Pahroc Range**	**0.12**	**326**		Pg	15 36 26.0	0.0
SHPR	**Sheep Range**	**0.81**	**191**		Pg	15 36 38.7	-0.3
TPNV	**Topopah Spring**	**1.09**	**251**		Pg	15 36 44.0	-0.2
R11A	**Troy Canyon, C**	**1.15**	**335**		Pg	15 36 45.3	-0.2
CCUT	**Cedar City**	**1.30**	**79**	Pg	Pg	15 36 48.0	-0.3
LCMT	**Little Creek M**	**1.41**	**101**		Pn	15 36 49.5	-0.6
PSUT	**Pine Spring**	**1.51**	**35**	Pn	Pn	15 36 50.9	-0.7
SZCU	**Shurtz Canyon**	**1.52**	**78**		Pn	15 36 51.2	-0.4
FMT	**Funeral Mounta**	**1.60**	**246**		Pn	15 36 52.6	0.0
KNB	**Kanab**	**1.74**	**99**		Pn	15 36 54.5	-0.1
GVN	**Grapevine**	**1.93**	**262**		Pn	15 36 56.8	-0.3
TPH	**Tonopah**	**1.95**	**294**		Pn	15 36 56.8	-0.8
TMO	**Tin Mountain**	**2.01**	**256**		Pn	15 36 58.2	-0.3
PKCU	**Pink Cliffs**	**2.12**	**85**	Pn	Pn	15 36 58.9	-1.0
U15A	**North Rim**	**2.31**	**111**		Pn	15 37 03.1	+0.5
MTPU	**Mount Pierson**	**2.33**	**71**		Pn	15 37 03.0	+0.1
W13A	**Hualapai Mount**	**2.37**	**158**	Pn	Pn	15 37 03.1	-0.2
TCRU	**Three Creeks R**	**2.38**	**56**	Pn	Pn	15 37 03.5	0.0
MVU	**Marysvale**	**2.48**	**60**	Pn	Pn	15 37 05.1	+0.2
GSC	**Goldstone, Bar**	**2.49**	**217**	Pn	Pn	15 37 04.8	-0.1
MSU	**Marysvale**	**2.51**	**60**	Pn	Pn	15 37 05.3	0.0
NV11	**Mina Array Sit**	**2.76**	**295**		Pn	15 37 08.3	-0.4
NVAR	**Mina Array Bea**	**2.87**	**294**	Pn	Pn	15 37 10.2	0.0
LHV	**Little Huntoon**	**2.96**	**290**		Pn	15 37 11.6	+0.4
KVN	**Kaiserville**	**3.02**	**306**	Pn	Pn	15 37 12.1	-0.2
RYN	**Ryan**	**3.11**	**296**	Pn	Pn	15 37 13.3	-0.1
OMMB	**Old Mammoth Mi**	**3.23**	**277**	Pn	Pn	15 37 15.0	-0.2
MDPB	**Devils Postpil**	**3.29**	**277**	Pn	Pn	15 37 16.0	0.0
ELK	**Elko**	**3.44**	**357**	Pn	Pn	15 37 18.5	+0.4

JMA 14 15:39:53.7±0.2, 28°.54N×140°.90E, h150km, M3.5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.83**	**141**	P	Pn	15 40 27.3	+0.4
CBIJ				*eS*	Sn	15 40 52.4	0.0
JHH2	**Haha-jima-NKT2**	**2.21**	**149**	P	Pn	15 40 31.4	+0.1
JHH2				*eS*	Sn	15 40 59.9	-0.4
BSO1	**Boso 1**	**6.09**	**1**	P	Pn	15 41 21.9	+0.8
BSO3	**Boso 3**	**6.25**	**357**	P	Pn	15 41 23.6	+0.2
JOD2	**Odawara 2**	**6.88**	**348**	P	Pn	15 41 33.4	+1.3
JHU	**Hanno**	**7.42**	**350**	P	Pn	15 41 38.4	-0.9
JRY	**Ryogami san**	**7.64**	**348**	P	Pn	15 41 42.8	+0.5

TAP 14 15:55:17.9, 24°.43N×121°.84E, h13km±1km, ML1.3, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.04**	**303**	P	Pg	15 55 21.0	+0.7
	baz=303						
ENAH				S	Sg	15 55 22.7	+0.7
	baz=303						
ENA	**Nanau**	**0.09**	**269**	⇑ *i* P	Pg	15 55 21.6	+0.7
	baz=267						
ENA				*i* S	Sg	15 55 23.6	+0.7
	baz=267						
TWC	**Suao**	**0.18**	**1**	P	Pb	15 55 22.8	-0.2
	baz=4.0						
TWC				*i* S	Sg	15 55 25.5	+0.6
	baz=4.0						
ENTT	**Nioudou**	**0.33**	**310**	*i* P	Pb	15 55 25.7	+0.1
	baz=310						
ENTT				*i* S	Sb	15 55 31.1	+0.3
	baz=310						
TWE	**Neicheng**	**0.33**	**331**	P	Pb	15 55 25.7	+0.1
	baz=332						
TWE				S	Sb	15 55 30.8	-0.1
	baz=332						
NACB	**Ninganchiao**	**0.34**	**222**	*eP*	Pg	15 55 24.9	+0.1
	baz=221						
NACB				*eS*	Sb	15 55 30.7	-0.4
	baz=221						
NDT	**Datong Townshi**	**0.35**	**300**	P	Pg	15 55 25.0	0.0
	baz=299						
NDT				S	Sb	15 55 31.5	+0.1
	baz=299						
ETLH	**Xiulin Townshi**	**0.40**	**236**	*eS*	Sb	15 55 33.6	+0.7
	baz=236						
NNSB	**Datong**	**0.42**	**270**	*eP*	Pb	15 55 27.6	+0.4
	baz=269						
NNSB				S	Sb	15 55 33.4	-0.1
	baz=269						
NNSH	**Datong**	**0.42**	**270**	*eP*	Pb	15 55 26.8	-0.5
	baz=269						
NNSH				*eS*	Sb	15 55 33.4	-0.1
	baz=269						
NTC	**Toucheng**	**0.42**	**358**	P	Pb	15 55 27.0	-0.2
	baz=358						
NTC				*eS*	Sb	15 55 33.2	-0.3
	baz=358						
NNS	**Nan Shan**	**0.43**	**272**	*eS*	Sb	15 55 33.8	0.0
	baz=271						
FUSS	**Fushou**	**0.58**	**252**	*eP*	Pb	15 55 30.4	+0.5
	baz=251						
FUSS				*eS*	Sb	15 55 38.0	-0.2
	baz=251						

JMA 14 15:55:23.1±0.4, 24°.82N×123°.37E, h30km, M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.48**	**223**	P	Pb	15 55 33.0	-0.3
YOJ				*eS*	Sb	15 55 39.8	-0.4
JYNG	**Yonagunijimaku**	**0.53**	**227**	P	Pb	15 55 33.9	-0.2
JYNG				*eS*	Sb	15 55 40.3	-1.2
IRIF	**Iriomote-Funau**	**0.58**	**146**	P	Pb	15 55 34.4	-0.5
IRIF				S	Sn	15 55 43.6	-0.3
JKRS	**Kuro-shima**	**0.82**	**135**	P	Pn	15 55 38.6	0.0
JKRS				*eS*	Sn	15 55 49.8	0.0
JIJ	**Ishigaki jima**	**0.84**	**123**	*eS*	Sb	15 55 49.8	-0.3
JISG	**Ishigakijimahi**	**0.89**	**105**	S	Sn	15 55 51.0	-0.4

*IDC **14** 16:03:18.2±3.7, 36°.29N×70°.51E, h176km±33km, mb3.3/10, mb1 3.3/15, mb1mx3.1/66, mbtmp3.8/15, Error ellipse: s-maj=23.6km s-min=17.9km az=167.0*
*NEIC **14** 16:03:21.8±1.8, 36°.52N±0°.06×70°.5E±0°.1, h208km±4km, mb4.1/5, Error ellipse: s-maj=13.1km s-min=8.8km az=92.0*
*NNC **14** 16:03:22.6±7.9, 36°.94N×70°.37E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=61.5km s-min=51.0km az=171.0*
ISC 14 16:03:21.0±0.5, 36°.52N±0°.05×70°.50E±0°.05, h200km, n77, σ1°39/85, mb3.6/9, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.30**	**212**	Pn	**Pn**	**16 04 04.1**	**+1.1**
CHGR	**Chuyangaron**	**2.39**	**334**		**Pn**	**16 04 04.7**	**+1.0**
GAR	**Garm**	**2.48**	**357**		**Pn**	**16 04 06.3**	**+1.5**
CEP	**Cherat**	**2.92**	**156**	P	**Pn**	**16 04 11.2**	**+1.2**
CEP				S	**Sn**	**16 04 49.0**	**+0.9**
BTK	**Batken**	**3.54**	**4**		**Pn**	**16 04 19.5**	**+2.3**
NIL	**Nilore**	**3.64**	**141**	Pn	**Pn**	**16 04 20.3**	**+1.8**
THW	**Thamme Wali**	**3.85**	**164**	P	**Pn**	**16 04 21.8**	**+0.8**
TAS	**Tashkent**	**4.89**	**349**	Pn	**Pn**	**16 04 35.6**	**+1.7**
SARP	**Sargodha**	**4.92**	**158**	P	**Pn**	**16 04 34.6**	**+0.1**
THN	**Thein Dam**	**5.93**	**132**	*eP*	**Pn**	**16 04 47.5**	**+0.2**
THN				*eS*	**Sn**	**16 05 53.5**	**-2.1**
AML	**Almayashu**	**6.13**	**23**	P	**Pn**	**16 04 50.8**	**+0.6**
	SNR=74						
DHRM	**DHARAMSHALA**	**6.41**	**130**	*eP*	**Pn**	**16 04 53.9**	**0.0**
DHRM				*eS*	**Sn**	**16 06 05.0**	**-2.2**
DHRM				IAML		16 06 05.5	
	comp=E,289nm,0.5s						
DHRM				IAML		16 06 05.9	
	comp=N,205nm,0.5s						
UCH	**Uchtor**	**6.49**	**27**	P	**Pn**	**16 04 56.1**	**+1.2**
	SNR=14						
KK31	**Karatay Array**	**6.58**	**0**	⇓ P	**Pn**	**16 04 56.8**	**+1.2**
	comp=N,4.4nm,0.3s,baz=181,slow=13,SNR=162						
KK31				⇓ S	**Sn**	**16 06 07.8**	**-3.0**
	com

n156,σ1°15/181,mb4.0/16,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.95**	**347**	P	**Pg**	**16 05 13.3**	**-0.5**
SIVA				S	**Sg**	**16 05 26.3**	**+0.1**
11μm,0.5s							
SIVA	**Sivas**	**0.95**	**347**	P	**Pg**	**16 05 13.2**	**-0.6**
SIVA				S	**Sg**	**16 05 24.5**	**-1.8**
SIVA				AML	AML	16 05 29.2	
comp=N,15958μm,0.4s							
SIVA				AML	AML	16 05 32.3	
comp=E,25484μm,0.7s							
TMBK	**Timbaki Herakl**	**1.02**	**346**	P	**Pg**	**16 05 14.4**	**-0.5**
TMBK				S	**Sb**	**16 05 28.6**	**+0.3**
comp=E,3μm,0.5s							
FRMA	**Ierapetra Chan**	**1.08**	**30**	P	**Pn**	**16 05 17.3**	**+1.0**
FRMA				S	**Sn**	**16 05 33.6**	**+2.4**
GVD	**Gavdhos**	**1.11**	**313**	P	**Pb**	**16 05 16.8**	**+0.3**
GVD				S	**Sn**	**16 05 33.2**	**+1.3**
comp=E,6μm,0.4s							
GVD	**Gavdhos**	**1.11**	**313**	P	**Pb**	**16 05 16.5**	**+0.1**
GVD				S	**Sg**	**16 05 29.2**	**-1.9**
GVD				AML	AML	16 05 35.1	
comp=N,12630μm,0.4s							
GVD				AML	AML	16 05 36.8	
comp=E,13286μm,0.4s							
GVD	**Gavdhos**	**1.11**	**313**	PN	**Pg**	**16 05 16.9**	**+0.3**
GVD				SN	**Sn**	**16 05 33.4**	**+1.5**
LAST	**Lasithi**	**1.13**	**17**	P	**Pb**	**16 05 16.1**	**-0.8**
LAST				S	**Sb**	**16 05 31.9**	**+0.4**
comp=E,2μm,0.9s							
LAST	**Lasithi**	**1.13**	**17**	P	**Pb**	**16 05 15.8**	**-1.1**
LAST				S	**Sg**	**16 05 31.7**	**0.0**
LAST				AML	AML	16 05 43.5	
comp=E,5137μm,1.0s							
LAST				AML	AML	16 05 44.2	
comp=N,3420μm,0.8s							
IDI	**Anoyia**	**1.21**	**353**	Pg	**Pb**	**16 05 17.1**	**-1.2**
comp=N,22nm,0.3s,baz=193,slow=9.8,SNR=34							
IDI				Lg	Lg	16 05 33.9	
comp=N,132nm,0.3s,baz=81,slow=21,SNR=11							
IDI				LR	LR	16 05 59.8	
comp=N,397nm,18.2s,baz=262,slow=56							
IDI	**Anoyia**	**1.21**	**353**	P	**Pb**	**16 05 17.0**	**-1.3**
IDI				S	**Sb**	**16 05 32.6**	**-1.3**
comp=N,948nm,0.4s							
IDI	**Anoyia**	**1.21**	**353**	P	**Pb**	**16 05 17.0**	**-1.3**
IDI				S	**Sb**	**16 05 32.3**	**-1.6**
IDI	**Anoyia**	**1.21**	**353**	PN	**Pb**	**16 05 17.6**	**-0.7**
IDI				SN	**Sg**	**16 05 34.5**	**+0.1**
KSTL	**Kastelli Herak**	**1.22**	**0**	P	**Pn**	**16 05 16.9**	**-1.3**
KSTL				S	**Sb**	**16 05 32.4**	**-1.6**
HRKL	**Herakleio**	**1.22**	**1**	PN	**Pn**	**16 05 18.5**	**+0.2**
NPS	**Neapolis**	**1.26**	**21**	P	**Pn**	**16 05 18.8**	**0.0**
NPS				S	**Sb**	**16 05 34.8**	**-0.5**
comp=N,2μm,0.8s							
NPS	**Neapolis**	**1.26**	**21**	P	**Pn**	**16 05 18.6**	**-0.3**
NPS				S	**Sb**	**16 05 35.3**	**+0.1**
NPS				AML	AML	16 05 39.5	
comp=N,3354μm,0.6s							
NPS				AML	AML	16 05 39.8	
comp=E,5917μm,0.8s							
PRNS	**Prines Rethymn**	**1.36**	**340**	P	**Pb**	**16 05 20.9**	**+0.1**
PRNS				S	**Sb**	**16 05 38.1**	**0.0**
STIA	**Sitia Lasithi**	**1.40**	**37**	P	**Pg**	**16 05 22.3**	**+0.1**
STIA				S	**Sg**	**16 05 41.1**	**+0.7**
ZKR	**Zakros**	**1.40**	**42**	P	**Pg**	**16 05 22.4**	**+0.2**
ZKR				S	**Sg**	**16 05 42.0**	**+1.6**
comp=E,2μm,1.0s							
ZKR	**Zakros**	**1.40**	**42**	P	**Pb**	**16 05 21.6**	**+0.2**
ZKR				S	**Sg**	**16 05 40.9**	**+0.6**
ZKR				AML	AML	16 05 52.4	
comp=N,2177μm,0.7s							
ZKR				AML	AML	16 05 53.7	
comp=E,5166μm,1.4s							
ZKR	**Zakros**	**1.40**	**42**	PN	**Pn**	**16 05 20.2**	**-0.6**
VAM	**Vamos**	**1.50**	**332**	P	**Pn**	**16 05 22.6**	**+0.4**
VAM				S	**Sg**	**16 05 43.5**	**-0.2**
comp=E,2μm,0.6s							
VAM	**Vamos**	**1.50**	**332**	P	**Pn**	**16 05 22.4**	**+0.2**
VAM				S	**Sn**	**16 05 42.0**	**+0.3**
VAM				AML	AML	16 05 56.2	
comp=E,3329μm,0.9s							
VAM				AML	AML	16 05 56.2	
comp=N,3245μm,0.6s							
KNDR	**Palaiochora Ch**	**1.62**	**316**	P	**Pg**	**16 05 26.2**	**-0.2**
KNDR				S	**Sb**	**16 05 45.9**	**+0.4**
comp=N,552nm,0.8s							
KNDR	**Palaiochora Ch**	**1.62**	**316**	PN	**Pb**	**16 05 25.6**	**+0.5**
IMMV	**Iera Moni Meta**	**1.64**	**327**	P	**Pn**	**16 05 25.0**	**+1.0**
IMMV				S	**Sb**	**16 05 46.7**	**+0.5**
comp=N,1μm,0.5s							
IMMV	**Iera Moni Meta**	**1.64**	**327**	P	**Pb**	**16 05 25.6**	**0.0**
IMMV	**Iera Moni Meta**	**1.64**	**327**	PN	**Pn**	**16 05 25.1**	**+1.0**
RODP	**Rodopos**	**1.82**	**324**	PN	**Pn**	**16 05 28.0**	**+1.4**
KARP	**Karpathos**	**2.26**	**49**	P	**Pn**	**16 05 34.4**	**+1.8**
KARP	**Karpathos**	**2.26**	**49**	PN	**Pn**	**16 05 32.7**	**+0.1**
KARP	**Karpathos**	**2.26**	**49**	Pn	**Pb**	**16 05 35.7**	**-0.4**
ANKY	**Antikythira Is**	**2.29**	**321**	P	**Pb**	**16 05 35.3**	**-1.5**
SANT	**Santorini**	**2.30**	**8**	P	**Pn**	**16 05 33.7**	**+0.5**
SANT	**Santorini**	**2.30**	**8**	PN	**Pn**	**16 05 33.4**	**+0.2**
SANT	**Santorini**	**2.30**	**8**	Pn	**Pn**	**16 05 34.4**	**+1.1**
ANAF	**Anafi Island**	**2.34**	**14**	P	**Pb**	**16 05 36.2**	**-1.3**
SAP3	**Santorini-Thir**	**2.36**	**5**	P	**Pn**	**16 05 34.6**	**+0.7**
THT2	**Imerovigli**	**2.36**	**7**	PN	**Pn**	**16 05 34.5**	**+0.5**
SLUM	**Salum**	**2.59**	**177**	P	**Pb**	**16 05 40.9**	**-0.9**
baz=175							
SLUM				AMP		16 06 00.0	
baz=175							
SLUM				S	**Sb**	**16 06 12.8**	**-0.7**
baz=175							
MHLO	**Agia Marina, M**	**2.66**	**348**	P	**Pn**	**16 05 39.0**	**+1.0**
MHLO	**Agia Marina, M**	**2.66**	**348**	P	**Pn**	**16 05 38.5**	**+0.4**
MHLA	**Plaka, Milos I**	**2.71**	**349**	P	**Pn**	**16 05 40.2**	**+1.5**
KTHA	**Kythira Island**	**2.72**	**323**	P	**Pn**	**16 05 40.9**	**+2.0**
KTHA	**Kythira Island**	**2.72**	**323**	P	**Pn**	**16 05 40.6**	**+1.7**
KTHA	**Kythira Island**	**2.72**	**323**	PN	**Pn**	**16 05 40.6**	**+1.7**
APE	**Apeiranthos**	**3.00**	**7**	P	**Pn**	**16 05 43.6**	**+0.8**
APE	**Apeiranthos**	**3.00**	**7**	PN	**Pn**	**16 05 43.6**	**+0.8**
SERI	**Serifos**	**3.11**	**351**	P	**Pn**	**16 05 45.2**	**+0.9**
ARG	**Arkhangelos**	**3.29**	**49**	P	**Pn**	**16 05 48.5**	**+1.8**
ARG	**Arkhangelos**	**3.29**	**49**	PN	**Pn**	**16 05 47.2**	**+0.5**
DAT	**Datca**	**3.34**	**37**	PN	**Pn**	**16 05 47.9**	**+0.3**
BODT	**Bodrum**	**3.49**	**31**	PN	**Pn**	**16 05 50.2**	**+0.7**
TURN	**Turunc**	**3.73**	**43**	PN	**Pn**	**16 05 53.0**	**+0.2**
DALY	**Dalyan (Mula)**	**4.00**	**46**	PN	**Pn**	**16 05 57.0**	**+0.5**
ITM	**Ithomi**	**4.01**	**321**	PN	**Pn**	**16 05 58.3**	**+1.6**
ITM	**Ithomi**	**4.01**	**321**	Pn	**Pn**	**16 05 58.8**	**+2.1**
YER	**Yerkesik**	**4.01**	**40**	PN	**Pn**	**16 05 57.9**	**+1.1**
FETY	**Fethiye**	**4.15**	**51**	PN	**Pn**	**16 05 59.1**	**+0.5**
AKAS	**Kas**	**4.29**	**59**	PN	**Pn**	**16 06 01.1**	**+0.5**
AKAS	**Kas**	**4.29**	**59**	Pn	**Pn**	**16 06 02.4**	**+1.7**
CHOS	**Chios island**	**4.37**	**10**	PN	**Pn**	**16 06 02.8**	**+1.2**
ELL	**Elmali**	**4.76**	**55**	PN	**Pn**	**16 06 08.0**	**+0.9**
ELL	**Elmali**	**4.76**	**55**	Pn	**Pn**	**16 06 08.6**	**+1.5**
SWA2		**4.84**	**176**	P	**Pn**	**16 06 11.5**	**+3.5**
baz=175							
SWA2				AMP		16 07 00.0	
baz=175							
KORT	**Korkueli**	**5.20**	**54**	PN	**Pn**	**16 06 13.9**	**+0.8**
KULA	**Kula-Manisa**	**5.29**	**32**	PN	**Pn**	**16 06 15.9**	**+1.6**
GAZI	**Gazipasa**	**6.31**	**68**	PN	**Pn**	**16 06 29.8**	**+1.5**
SEYD	**Seydisehir-KON**	**6.42**	**57**	PN	**Pn**	**16 06 31.5**	**+1.6**
LEF	**Lefka**	**6.53**	**79**	PN	**Pn**	**16 06 31.9**	**+0.6**
CSS	**Mathiatis**	**6.88**	**80**	PN	**Pn**	**16 06 36.8**	**+0.7**
CSS	**Mathiatis**	**6.88**	**80**	Pn	**Pn**	**16 06 37.2**	**+1.2**
TEKE	**Tekeli-Mersin**	**6.91**	**70**	PN	**Pn**	**16 06 37.5**	**+1.1**
BERE	**Bereket-Mersin**	**7.05**	**69**	PN	**Pn**	**16 06 39.8**	**+1.3**
LFK	**Lefkose**	**7.08**	**78**	PN	**Pn**	**16 06 39.8**	**+1.0**
HSAF	**As Saff**	**7.09**	**127**	P	**Pn**	**16 06 42.0**	**+3.0**
baz=129							
HSAF				S	**Sn**	**16 07 57.8**	**-1.7**
baz=129							
GLL	**Jalalah**	**7.22**	**127**	P	**Pn**	**16 06 42.8**	**+2.0**
baz=129							
TEVE	**Tevekalti-Mers**	**7.24**	**69**	PN	**Pn**	**16 06 42.0**	**+0.9**
AKKU	**Akkuyu-Mersin**	**7.25**	**71**	PN	**Pn**	**16 06 42.2**	**+1.0**
HHAG	**Hagoal**	**7.25**	**123**	P	**Pn**	**16 06 43.2**	**+2.0**
baz=125							
FNA	**Florina**	**7.30**	**337**	Pn	**Pn**	**16 06 44.1**	**+2.2**
IKL	**Isikli**	**7.38**	**71**	PN	**Pn**	**16 06 43.6**	**+0.7**
KEBE	**Keben-Mersin**	**7.45**	**69**	PN	**Pn**	**16 06 45.1**	**+1.1**
HFRF	**Wahat Farafira**	**7.46**	**157**	P	**Pn**	**16 06 46.8**	**+2.8**
baz=157							
EREN	**Erenkoy**	**7.62**	**77**	PN	**Pn**	**16 06 47.1**	**+0.8**
KIZK	**Mersin**	**7.80**	**70**	PN	**Pn**	**16 06 49.5**	**+0.8**
SUZ	**Suez**	**7.84**	**121**	P	**Pn**	**16 06 51.2**	**+2.0**
baz=123							
SCTE	**Santa Cesarea**	**7.97**	**320**	Pn	**Pn**	**16 06 52.3**	**+1.3**
TAMRE	**El Minia**	**8.12**	**140**	P	**Pn**	**16 06 55.9**	**+2.7**
baz=141							
TIP	**Timpagrande**	**8.39**	**310**	Pn	**Pn**	**16 06 57.7**	**+0.8**
KZIT	**Kziot**	**8.49**	**109**	PN	**Pn**	**16 06 58.7**	**+0.5**
MMAI	**Mount Meron Ar**	**8.69**	**94**	Pn	**Pn**	**16 07 02.0**	**+1.0**
comp=N,2.3nm,0.3s,baz=266,slow=11,SNR=5.8							
MMAI				Sn	**Sn**	**16 08 37.3**	**-1.8**
comp=N,1.5nm,0.3s,baz=268,slow=20,SNR=1.9							
KARA	**Karaisali**	**8.72**	**66**	PN	**Pn**	**16 07 01.9**	**+0.5**
CMRD	**Camardi-Nigde**	**8.81**	**63**	PN	**Pn**	**16 07 03.1**	**+0.4**
MMLI	**Mount Malkishu**	**8.82**	**98**	PN	**Pn**	**16 07 03.1**	**+0.3**
BRTR	**Keskin Array B**	**8.88**	**48**	Pn	**Pn**	**16 07 03.9**	**+0.3**
comp=N,0.1nm,0.3s,baz=224,slow=12,SNR=2.7							
BRTR				LR	LR	16 11 35.1	
comp=N,41nm,18.0s,baz=148,slow=45							
RAFF	**Raffo Rosso**	**9.26**	**293**	Pn	**Pn**	**16 07 10.0**	**+1.3**
HRFI	**Mount Harif**	**9.37**	**113**	PN	**Pn**	**16 07 10.6**	**+0.3**
EIL	**Elat**	**9.48**	**115**	Pn	**Pn**	**16 07 12.6**	**+0.8**
comp=N,0.9nm,0.3s,baz=295,slow=14,SNR=8.8							
EIL				Sn	**Sn**	**16 08 56.1**	**-2.3**
comp=N,0.7nm,0.3s,baz=323,slow=15,SNR=3.8							
CORL	**Corleone**	**10.26**	**295**	Pn	**Pn**	**16 07 24.1**	**+1.6**
SGRT	**San Giovanni R**	**10.62**	**319**	Pn	**Pn**	**16 07 27.9**	**+0.4**
ZCCA	**Zocca**	**14.96**	**317**	Pn	**Pn**	**16 08 26.9**	**+0.3**
ARSA	**Arzberg**	**15.00**	**334**	*eP*	**P**	**16 08 33.9**	**+1.3**
comp=N,1.0nm,0.5s							
ZOU	**Zoufplan**	**15.48**	**327**	P	**P**	**16 08 38.8**	**+0.7**
ZOU				IAmb	IAmb	16 08 39.8	
comp=Z,6.1nm,0.7s							
CIMO	**Cimolais**	**15.54**	**326**	Pn	**Pn**	**16 08 35.3**	**+1.0**
PRMA	**PARMA**	**15.59**	**318**	Pn	**Pn**	**16 08 36.2**	**+1.3**
KBA	**Koelnbreinsper**	**15.72**	**329**	*eP*	**P**	**16 08 40.6**	**-0.2**
comp=Z,2.9nm,0.7s							
CTI	**Castel Tesino**	**15.73**	**323**	Pn	**Pn**	**16 08 37.2**	**+0.4**
ABTA	**Abfaltersbach**	**15.83**	**327**	*eP*	**P**	**16 08 43.3**	**+1.3**
comp=Z,5.3nm,0.6s							
MOA	**Molln**	**15.96**	**333**	*eP*	**P**	**16 08 43.3**	**0.0**
comp=Z,3.9nm,0.8s							
VRAC	**Vranov**	**16.46**	**340**	Pn	**Pn**	**16 08 45.4**	**-0.6**
comp=Z,0.1nm,0.3s,baz=122,slow=11,SNR=3.0							
WTTA	**Wattenberg**	**16.61**	**326**	*ep*P	pP	16 08 52.8	-0.3
comp=Z,4.9nm,0.9s							
WATA	**Walderalm**	**16.69**	**326**	*eP*	**P**	**16 08 53.0**	**+1.4**
comp=Z,4.1nm,0.7s							
SQTA	**Sankt Quirin**	**16.78**	**326**	*ep*P	**P**	**16 08 56.1**	**+3.6**
comp=Z,1.3nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**16.82**	**323**	Pn	**Pn**	**16 08 51.5**	**+0.6**
FUORN				IAmb	IAmb	16 09 10.0	
comp=Z,7.9nm,0.9s							
KBZ	**Khabaz**	**16.86**	**50**	Pn	**P**	**16 08 52.8**	**-0.5**
comp=Z,0.2nm,0.3s,baz=260,slow=8.8,SNR=9.0							
FETA	**Feichten**	**16.87**	**324**	*eP*	**P**	**16 08 54.8**	**+1.3**
comp=Z,5.4nm,1.0s							
AKASG	**Malin Array Be**	**16.88**	**9**	Pn	**Pn**	**16 08 51.6**	**+0.3**
comp=Z,1.3nm,0.3s,baz=200,slow=11,SNR=10							
AKASG	**Malin Array Be**	**16.88**	**9**		**Pn**	**16 08 51.7**	**+0.3**
AKBB	**Malin Array Si**	**16.88**	**9**		**Pn**	**16 08 51.9**	**+0.5**
AKBB				IAmb	IAmb	16 08 53.2	
comp=Z,7.1nm,0.8s							
MOTA	**Moosalm**	**16.92**	**326**	*eP*	**P**	**16 08 55.0**	**+1.0**
comp=Z,1.2nm,0.5s							
GEC2	**GERESS Array S**	**17.00**	**334**	Pn	**Pn**	**16 08 53.8**	**+0.8**
GEC2				IAmb	IAmb	16 08 56.4	
comp=Z,6.1nm,0.7s							
GERES	**GERESS Array B**	**17.00**	**334**	Pn	**Pn**	**16 08 52.9**	**-0.2**
comp=Z,0.6nm,0.3s,baz=145,slow=12,SNR=36							
GERES				LR	LR	16 17 02.7	
comp=Z,56nm,18.7s,baz=141,slow=43							
GERES	**GERESS Array B**	**17.00**	**334**	P	**P**	**16 08 55.6**	**+0.7**
KRLC	**Kraliky**	**17.10**	**342**	*eP*	**P**	**16 08 56.4**	**+0.4**
DAVOX	**Davos/Dischmat**	**17.12**	**322**	P	**Pn**	**16 08 54.0**	**-0.7**
comp=Z,0.2nm,0.3s,baz=183,slow=12,SNR=3.3							
RETA	**Reutte**	**17.18**	**325**	*eP*	**P**	**16 08 58.4**	**+1.5**
comp=Z,1.0nm,0.5s							
KHC	**Kasperske Hory**	**17.28**	**334**	*eP*	**P**	**16 08 59.4**	**+1.4**
KHC	**Kasperske Hory**	**17.28**	**334**	P	**P**	**16 08 58.2**	**+0.3**
DAVA	**Damuels**	**17.47**	**324**	*eP*	**P**	**16 09 01.9**	**+1.8**
comp=Z,3.5nm,0.8s							
DPC	**Dobruska-Polom**	**17.48**	**341**	*eP*	**P**	**16 09 00.9**	**+0.8**
CLL	**Collm**	**19.32**	**337**	*eP*	**P**	**16 09 21.0**	**+0.7**
SUW	**Suwalki**	**19.97**	**357**	P	**P**	**16 09 27.0**	**-0.3**
SUW				IAmb	IAmb	16 09 28.7	
comp=Z,22nm,0.8s							
ESDC	**Sonseca Array**	**23.82**	**292**	P	**P**	**16 10 08.4**	**0.0**
comp=Z,0.7nm,0.8s,baz=83,slow=10,SNR=5.9							
ESDC				LR	LR	16 21 21.1	
comp=Z,29nm,18.2s,baz=330,slow=42							
GEYT	**Alibeck**	**26.93**	**72**	P	**P**	**16 10 37.0**	**+0.4**
comp=Z,0.9nm,0.5s,baz=358,slow=8.7,SNR=2.8							
HFS	**Hagfors**	**27.11**	**347**	P	**P**	**16 10 37.3**	**-0.5**
comp=Z,1.6nm,0.7s,baz=177,slow=8.4,SNR=1.9							
FINES	**FINESS Array B**	**27.38**	**1**	P	**P**	**16 10 39.1**	**-1.2**
comp=Z,0.8nm,0.4s,baz=160,slow=11,SNR=5.0							
NAO01	**NORSAR Array S**	**28.31**	**345**	P	**P**	**16 10 48.2**	**-0.4**
NB2	**NORSAR Subarra**	**28.42**	**346**	P	**P**	**16 10 48.7**	**-1.0**
comp=Z,5.1nm,1.7s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**28.42**	**346**	P	**P**	**16 10 47.4**	**-2.2**
comp=Z,0.4nm,0.7s,baz=144,slow=9.0,SNR=2.7							
NC204	**NORSAR Array S**	**28.73**	**346**	P	**P**	**16 10 51.3**	**-1.1**
NC204				IAmb	IAmb	16 10 59.7	
comp=Z,17nm,1.4s							
EKA	**Eskdalemuir Ar**	**28.88**	**326**	P	**P**	**16 10 51.7**	**-2.0**
comp=Z,0.9nm,0.7s,baz=115,slow=5.8,SNR=4.1							
TOA0	**Torodi Ar. Sit**	**29.75**	**231**	P	**P**	**16 11 01.3**	**-0.6**
TOA0				IAmb	IAmb	16 11 15.3	
comp=Z,4.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.75**	**231**	P	**P**	**16 11 02.6**	**+0.8**
comp=Z,0.9nm,0.4s,baz=36,slow=7.9,SNR=8.1							
TORD				LR	LR	16 25 00.1	
comp=Z,56nm,19.0s,baz=80,slow=41							
KKAR	**Karatay Array**	**36.27**	**62**	P	**P**	**16 11 58.2**	**-0.4**
MK31	**Makanchi Array**	**44.44**	**56**	P	**P**	**16 13 06.8**	**+0.6**
MK31				IAmb	IAmb	16 13 08.5	
comp=Z,2.2nm,0.8s							
MKAR	**Makanchi Array**	**44.44**	**56**	P	**P**	**16 13 06.5**	**+0.4**
comp=Z,2.5nm,0.9s,baz=267,slow=7.2,SNR=12							
MKAR	**Makanchi Array**	**44.44**	**56**	P	**P**	**16 13 06.7**	**+0.6**
ZAA0	**Zalesovo Array**	**45.81**	**45**	P	**P**	**16 13 16.9**	**0.0**
ZAA0				IAmb	IAmb	16 13 20.0	
comp=Z,2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**45.81**	**45**	P	**P**	**16 13 16.7**	**-0.2**
comp=Z,1.4nm,0.4s,baz=273,slow=8.6,SNR=5.7							
NRS	**Narsarsuaq**	**51.52**	**324**	P	**P**	**16 14 00.3**	**-0.4**
SONM	**Songino Array**	**60.23**	**50**	P	**P**	**16 15 03.5**	**0.0**
comp=Z,0.7nm,0.5s,baz=280,slow=8.1,SNR=5.1							
SONM	**Songino Array**	**60.23**	**50**	IAmb	IAmb	16 15 05.5	
comp=Z,1.5nm,1.1s							
USRK	**Ussuriysk Ar.**	**77.65**	**45**	P	**P**	**16 16 52.1**	**+0.3**
comp=Z,1.5nm,0.7s,baz=291,slow=5.7,SNR=4.8							
KSRS	**Korea Array**	**79.00**	**52**	P	**P**	**16 16 59.1**	**-0.2**
comp=Z,0.7nm,0.7s,baz=313,slow=4.6,SNR=3.0							

*IDC **14** 16:04:29.4±1.9, 4°.30S×134°.10E, h0km, mb3.4/1, mb1 3.9/6, mb1mx3.6/35, mbtmp3.8/6, ML3.8/5, Error ellipse: s-maj=64.7km s-min=21.5km az=66.0*
*NEIC **14** 16:04:33.5±1.9, 4°.38S±0°.08×134°.1E±0°.1, h31km±7km, mb4.1/8, Error ellipse: s-maj=22.1km s-min=6.3km az=59.0*
ISC 14 16:04:30.8±0.9, **4°.43S**±0°.07×**134°.0E**±0°.1, **h10**km, **n18**, σ1°**22**/20, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.26**	**311**	Pn	**Pb**	**16 05 11.1**	**-0.6**
SIJI	**Sorong**	**4.43**	**323**	Pn	**Pn**	**16 05 38.8**	**+0.6**
0.7nm,0.3s,baz=208,slow=24,SNR=9.2							
SIJI				Sn	**Sn**	**16 06 31.1**	**+1.2**
1.5nm,0.3s,baz=306,slow=23,SNR=7.9							
MTN	**Manton Dam**	**8.81**	**198**		**Pn**	**16 06 41.2**	**+2.8**
KNRA	**Kununurra**	**12.29**	**204**		**Pn**	**16 07 27.7**	**+1.7**
WB0	**Warramunga Arr**	**15.25**	**178**	Pn	**Pn**	**16 08 06.5**	**+0.1**
WB0				IAmb	IAmb	16 08 16.5	
comp=Z,8.9nm,0.9s							
WRAB	**Tennant Creek**	**15.42**	**179**	Pn	**Pn**	**16 08 09.0**	**+0.4**
WRAB				IAmb	IAmb	16 08 18.0	
comp=Z,12nm,0.7s							
WRA	**Warramunga Arr**	**15.43**	**179**	Pn	**Pn**	**16 08 08.1**	**-0.6**
comp=Z,0.4nm,0.3s,baz=356,slow=13,SNR=37							
WRA				Sn	Sn	16 10 47.4	-12
comp=Z,0.1nm,0.3s,baz=2.5,slow=23,SNR=3.1							
WB2	**Warramunga Arr**	**15.43**	**179**	Pn	**Pn**	**16 08 07.2**	**-1.5**
WB2				IAmb	IAmb	16 08 18.1	
comp=Z,13nm,0.8s							
WR0	**Warramunga Arr**	**15.45**	**178**	Pn	**Pn**	**16 08 09.9**	**+0.8**
WR0				IAmb	IAmb	16 08 18.2	
comp=Z,8.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**15.83**	**210**	Pn	**P**	**16 08 16.9**	**-0.9**
comp=Z,0.3nm,0.3s,baz=360,slow=11,SNR=10							
FITZ				Sn	**Sn**	**16 11 08.4**	**-1.3**
comp=Z,0.3nm,0.3s,baz=183,slow=14,SNR=6.9							
FITZ	**Fitzroy Crossi**	**15.83**	**210**	Pn	**Pn**	**16 08 15.0**	**+1.0**
AS31	**Alice Springs**	**19.13**	**180**	Pn	**Pn**	**16 08 56.0**	**+0.9**
ASAR	**Alice Springs**	**19.13**	**180**	P	**Pn**	**16 08 56.1**	**+1.0**
comp=Z,0.6nm,0.3s,baz=6.1,slow=11,SNR=67							
ASAR	**Alice Springs**	**19.13**	**180**		**P**	**16 08 54.9**	**+0.6**
CTA	**Charters Tower**	**19.65**	**143**	P	**P**	**16 09 00.6**	**+0.7**
comp=Z,0.2nm,0.3s,baz=325,slow=12,SNR=2.5							
CTAO	**Charters Tower**	**19.65**	**143**	P	**P**	**16 09 00.7**	**+0.7**
CTAO				IAmb	IAmb	16 09 03.9	
comp=Z,8.8nm,0.9s							
MKAR	**Makanchi Array**	**68.33**	**325**	P	**P**	**16 15 32.1**	**-0.3**
comp=Z,0.2nm,0.5s,baz=111,slow=7.9,SNR=2.1							
HMH	**Humu'ula Sheep**	**73.32**	**68**	P	**P**	**16 16 02.4**	**-1.2**

*IDC **14** 16:04:53.4±0.9, 34°.10N×25°.02E, h0km, mb3.9/12, mb1 4.0/20, mb1mx3.8/46, mbtmp3.9/20, ML4.0/7, MS3.0/4, Ms1 3.0/4, ms1mx2.7/36, Error ellipse: s-maj=16.7km s-min=12.8km az=65.0*
*HLW **14** 16:04:53.8, 34°.57N×24°.95E, h29km±28km, Md3.8, Ml3.9*
*NEIC **14** 16:04:55.5±1.9, 34°.09N±0°.06×25°.07E±0°.07, h10km±1km, mb4.1/20, Error ellipse: s-maj=11.4km s-min=9.4km az=222.0*
*ISK **14** 16:04:55.9, 34°.06N×25°.16E, h25km, ML4.0/19*
*ATH **14** 16:04:56.4, 34°.18N×25°.04E, h19km±2km, ML3.7/6, Error ellipse: s-maj=3.7km s-min=1.5km az=353.0*
*THE **14** 16:04:58.0, 34°.24N×25°.05E, h0km±1km, ML3.5/10, Error ellipse: s-maj=3.7km s-min=1.2km az=177.0*
ISC 14 16:04:55.4±1.2, **34°.09N**±0°.03×**25°.07E**±0°.03, **h12**km±7km,

*IDC **14** 16:08:15.6±1.3, 21°.27S×178°.31W, h432km±12km, mb3.6/19, mb1 3.9/21, mb1mx3.8/29, mbtmp4.4/21, Error ellipse: s-maj=14.3km s-min=10.2km az=116.0*
*NEIC **14** 16:08:18.9±1.6, 21°.22S±0°.03×178°.4W±0°.1, h469km±5km, mb4.5/164, Error ellipse: s-maj=15.7km s-min=4.2km az=94.0*
ISC 14 16:08:17.1±0.3, **21°.15S**±0°.05×**178°.29W**±0°.07, **h450**km, **n382**, σ1°**21**/435, **mb4.5**/86, **22C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.84**	**314**		**P**	**16 09 44.0**	**+3.8**
RAO	**Raoul Island**	**8.07**	**178**	P	**P**	**16 10 14.5**	**+1.3**
GLKZ	**Green Lake**	**8.08**	**178**	P	**P**	**16 10 13.1**	**-0.3**
GLKZ				S	**S**	**16 11 45.9**	**-2.8**
NIUE	**Niue**	**8.13**	**77**	P	**P**	**16 10 15.0**	**+1.0**
AFI	**Afiamalu**	**9.51**	**42**	P	**P**	**16 10 27.2**	**-1.9**
7.0nm,0.3s,baz=190,slow=2.9,SNR=32							
AFI			

KUZ	Kuaotunu	16.39 197	P	P	16 11 42.3	-0.6	
MXZ	Matakaoa Point	16.62 189	P	P	16 11 43.7	-1.5	
MXZ			S	S	16 14 41.6	+4.4	
MXZ	Matakaoa Point	16.62 189	P	P	16 11 46.1	+0.9	
HAZ	Te Kaha	16.89 191	P	P	16 11 48.5	+0.4	
PUZ	Puketiti	17.12 189	P	P	16 11 49.4	-1.3	
PUZ			S	S	16 14 52.4	+5.6	
OPRZ	Ohinepanea	17.22 194	P	P	16 11 52.7	+1.1	
TOZ	Tahuroa Road	17.37 197	P	P	16 11 54.6	+1.4	
MWZ	Matawai	17.50 191	P	P	16 11 54.0	-0.6	
MWZ			S	S	16 15 02.3	+8.5	
URZ	Urewera	17.50 192	P	P	16 11 50.7	-3.9	
	4.7nm,0.3s,baz=340,slow=3.2,SNR=5.5						
URZ			S	S	16 14 51.3	-2.4	
	1.9nm,0.3s,baz=82,slow=14,SNR=2.2						
URZ	Urewera	17.50 192	P	P	16 11 52.8	-1.8	
URZ			S	S	16 15 01.1	+7.4	
URZ	Urewera	17.50 192	IAmb	IAmb	16 11 54.3		
	comp=Z,28nm,0.8s						
CNGZ	Carnagh Statio	17.54 189	P	P	16 11 54.1	-0.8	
CNGZ			S	S	16 15 01.9	+7.6	
TKGZ	Te Karaka	17.55 190	P	P	16 11 56.0	+1.0	
TKGZ			S	S	16 15 02.1	+7.6	
RRRZ	Republican Roa	17.70 194	P	P	16 11 58.3	+1.5	
MUGZ	Murupara	17.78 193	P	P	16 11 55.0	-2.5	
MUGZ			S	S	16 15 11.5	+13	
RIGZ	Rimuhau	17.82 190	P	P	16 11 57.7	-0.3	
RTZ	Ruatahuna	17.88 192	P	P	16 11 57.2	-1.4	
RTZ			S	S	16 15 08.0	+7.6	
SNGZ	Shannon Statio	17.97 191	P	P	16 11 58.0	-1.4	
SNGZ			S	S	16 15 11.0	+9.1	
KNZ	Kokohu	18.14 190	P	P	16 11 58.8	-2.3	
KNZ			S	S	16 15 13.1	+8.4	
RAHZ	Arahi	18.15 192	P	P	16 11 59.7	-1.5	
RAHZ			S	S	16 15 13.6	+8.7	
HIZ	Hauiti	18.28 197	P	P	16 12 03.5	+1.0	
HIZ	Hauiti	18.28 197	P	P	16 11 59.1	-3.4	
ARHZ	Aropaoanui	18.50 192	P	P	16 12 05.0	+0.4	
ARHZ			S	S	16 15 21.0	+10	
BKZ	Black Stump Fm	18.50 193	P	P	16 12 01.6	-3.1	
BKZ			S	S	16 15 09.4	-1.5	
BKZ	Black Stump Fm	18.50 193	P	P	16 12 01.3	-3.4	
BKZ			IAmb	IAmb	16 12 29.1		
	comp=Z,21nm,1.1s						
TWVZ	Taurewa	18.65 195	P	P	16 12 04.7	-1.4	
WTVZ	West Tongariro	18.66 195	P	P	16 12 04.6	-1.6	
NGZ	Ngauruhoe	18.71 195	P	P	16 12 06.6	-0.1	
MCHZ	McNeill Hill	18.73 192	P	P	16 12 05.4	-1.3	
MCHZ			S	S	16 15 27.9	+14	
TUVZ	Tukino	18.79 195	P	P	16 12 05.6	-1.8	
WNVZ	Wahianoa	18.86 195	P	P	16 12 06.2	-1.9	
VRZ	Vera Road	18.88 197	P	P	16 12 08.8	+0.7	
BHHZ	Black Hill Sta	18.91 194	P	P	16 12 06.0	-2.4	
BHHZ			S	S	16 15 32.0	+15	
KRHZ	Kereru	18.99 193	P	P	16 12 07.1	-2.1	
KRHZ			S	S	16 15 28.7	+10	
KAHZ	Kahuranaki	19.04 191	P	P	16 12 07.8	-1.8	
NEZ	North Egmont	19.20 198	P	P	16 12 13.6	+2.4	
PXZ	Pawanui	19.27 191	P	P	16 12 09.8	-1.8	
PNHZ	Pukenui	19.28 193	P	P	16 12 10.4	-1.5	
KNTN	Kanton	19.36 20	P	P	16 12 13.2	+0.4	
WPHZ	Waipukurau	19.38 192	P	P	16 12 15.1	+2.3	
TSZ	Takapari Road	19.47 193	P	P	16 12 12.2	-1.4	
DVHZ	Dannevirke	19.66 193	P	P	16 12 13.5	-1.9	
DVHZ			S	S	16 15 46.3	+17	
BFZ	Birch Farm	20.02 192	P	P	16 12 15.8	-2.7	
BFZ			S	S	16 15 53.9	+19	
BFZ	Birch Farm	20.02 192	P	P	16 12 15.5	-3.0	
KIW	Kapiti Island	20.48 195	P	P	16 12 20.7	-2.1	
MSWZ	Moikau Station	20.93 194	P	P	16 12 24.9	-2.0	
SNZO	South Karori	20.95 195	P	P	16 12 25.2	-1.8	
BHW	Baring Head	21.01 194	P	P	16 12 25.7	-1.8	
PLWZ	Palliser	21.07 194	P	P	16 12 26.1	-2.1	
QRZ	Quartz Range	21.11 200	P	P	16 12 27.4	-1.0	
NNZ	Nelson	21.21 198	P	P	16 12 27.6	-1.8	
TUWZ	Tuamarina	21.26 196	P	P	16 12 27.6	-2.1	
CMWZ	Cape Campbell	21.49 195	P	P	16 12 30.5	-1.4	
BSWZ	Blackbirch Sta	21.54 196	P	P	16 12 30.6	-1.8	
THZ	Tophouse	21.85 198	P	P	16 12 33.6	-1.7	
KHZ	Kahutara	22.29 196	P	P	16 12 36.6	-2.4	
LTZ	Lake Taylor	22.97 198	P	P	16 12 42.5	-2.9	
OXZ	Oxford	23.54 198	P	P	16 12 48.4	-2.0	
OXZ			IAmb	IAmb	16 12 51.3		
	comp=Z,17nm,0.6s						
HNR	Honiara	23.97 296	P	P	16 12 51.6	-3.0	
	comp=Z,12nm,0.5s,baz=172,slow=7.1,SNR=1.7						
RPZ	Rata Peaks	24.19 199	P	P	16 12 54.4	-1.7	
	comp=Z,5.0nm,0.6s,baz=46,slow=12,SNR=2.0						
RPZ	Rata Peaks	24.19 199	P	P	16 12 53.7	-2.5	
RPZ			IAmb	IAmb	16 13 01.8		
	comp=Z,13nm,0.6s						
FOZ	Fox Glacier	24.42 201	P	P	16 12 55.8	-2.4	
ODZ	Otahua Downs	25.52 198	P	P	16 13 07.7	-0.2	
ODZ			IAmb	IAmb	16 13 19.5		
	comp=Z,36nm,1.4s						
WHZ	Wether Hill Ro	27.13 201	P	P	16 13 21.1	-1.1	
WHZ			IAmb	IAmb	16 13 24.5		
	comp=Z,7.8nm,0.6s						
CTA	Charters Tower	33.16 265	P	P	16 14 14.1	-0.9	
	comp=Z,1.4nm,0.4s,baz=113,slow=15,SNR=1.5						
CTAO	Charters Tower	33.16 265	P	P	16 14 14.5	-0.4	
CTAO			IAmb	IAmb	16 14 36.9		
	comp=Z,21nm,1.3s						
PMG	Port Moresby	35.23 284	P	P	16 14 30.7	-1.8	
TOO	Toolangi	35.29 234	P	P	16 14 33.0	+0.2	
STKA	Stephens Creek	37.26 245	P	P	16 14 48.6	-0.6	
	comp=Z,1.1nm,0.5s,baz=115,slow=11,SNR=4.0						
COEN	Coen	37.36 275	P	P	16 14 50.4	+0.2	
COEN			IAmb	IAmb	16 14 52.0		
	comp=Z,20nm,1.4s						
BBOO	Buckleboo	42.02 244	P	P	16 15 26.5	-1.2	
BBOO			IAmb	IAmb	16 15 32.2		
	comp=Z,36nm,1.3s						
WR0	Warramunga Arr	44.05 263	P	P	16 15 42.2	-1.7	
AS31	Alice Springs	44.10 257	P	P	16 15 43.5	-0.9	
AS31				PcP	16 17 19.3	-0.8	
ASAR	Alice Springs	44.11 257	P	P	16 15 43.8	-0.5	
	comp=Z,1.4nm,0.7s,baz=84,slow=8.6,SNR=11						
ASAR			PcP	PcP	16 17 19.7	-0.4	
	comp=Z,4.0nm,0.6s,baz=104,slow=3.9,SNR=21						
ASAR			ScP	ScP	16 20 29.6	+1.0	
	comp=Z,2.2nm,0.8s,baz=103,slow=4.5,SNR=12						
ASAR	Alice Springs	44.11 257		PcP	16 17 19.4	-0.7	
ASAR				ScP	16 20 29.0	+0.4	
WB0	Warramunga Arr	44.22 263	P	P	16 15 44.2	-1.1	
WB2	Warramunga Arr	44.23 263	P	P	16 15 43.9	-1.4	
WRAB	Tennant Creek	44.23 263	P	P	16 15 43.8	-1.5	
WRA	Warramunga Arr	44.24 263	P	P	16 15 43.9	-1.5	
	comp=Z,0.6nm,0.2s,baz=97,slow=7.6,SNR=31						
WRA			PcP	PcP	16 17 20.7	+0.1	
	comp=Z,2.6nm,0.8s,baz=91,slow=3.7,SNR=8.6						
WRA			ScP	ScP	16 20 30.2	+1.1	
	comp=Z,0.9nm,1.0s,baz=90,slow=4.1,SNR=4.6						
WRA	Warramunga Arr	44.24 263		PcP	16 17 20.1	-0.5	
FORT	Forrest	48.79 247	P	P	16 16 19.0	-0.9	
FORT			IAmb	IAmb	16 16 27.3		
	comp=Z,31nm,1.1s						
MTN	Manton Dam	48.90 271	P	P	16 16 19.8	-1.1	
MTN			IAmb	IAmb	16 16 27.1		
	comp=Z,28nm,1.5s						
KNRA	Kununurra	50.35 267	P	P	16 16 30.6	-1.0	
FITZ	Fitzroy Crossi	52.67 263	P	P	16 16 47.6	-0.9	
	comp=Z,0.8nm,0.5s,baz=169,slow=4.4,SNR=6.3						
SOEI	Soe	56.25 272	P	P	16 17 13.3	-0.8	
SOEI			IAmb	IAmb	16 17 20.3		
	comp=Z,26nm,1.2s						
VNDA	Vanda	57.24 185	P	P	16 17 20.2	+0.5	
	comp=Z,1.8nm,0.9s,baz=0.4,slow=7.0,SNR=18						
VNDA	Vanda	57.24 185	P	P	16 17 20.3	+0.6	
PSA00	Pilbara Seismi	57.26 257	P	P	16 17 19.8	-1.0	
QSPA	South Pole Qui	68.92 180	P	P	16 18 36.0	+0.3	
JGF	Kuroka	70.36 323	P	P	16 18 45.1	+0.5	
JGF			IAmb	IAmb	16 18 50.6		
	comp=Z,19nm,1.5s						
MJAR	Matsushiro Arr	70.57 324	P	P	16 18 46.2	+0.4	
	comp=Z,2.5nm,0.6s,baz=158,slow=5.5,SNR=22						
MJAR	Matsushiro Arr	70.57 324	P	P	16 18 45.8	0.0	
MAJO	Matsushiro	70.57 324	P	P	16 18 46.7	+0.9	
MAT	Matsushiro	70.57 324	P	P	16 18 46.1	+0.3	
MJB9	Matsu-Tunnel	70.58 324	P	P	16 18 46.1	+0.3	
MJB9			IAmb	IAmb	16 19 00.7		
	comp=Z,15nm,0.7s						
AMKA	Amchitka	72.25 358	P	P	16 18 55.5	+0.3	
JTM	Tenmabayashi	72.28 329	P	P	16 18 56.5	+0.8	
JHS	Saijyo	72.42 320	P	P	16 18 57.4	+0.7	
JHS			IAmb	IAmb	16 18 58.3		
	comp=Z,27nm,1.4s						
KIWB	Kanaga Island	72.70 1	P	P	16 19 01.1	+3.2	
ADK	Adak	72.73 1	P	P	16 18 58.0	0.0	
ATKA	Atka Island	73.13 3	P	P	16 19 00.4	+0.1	
KSM	Kuching	73.23 278	P	P	16 19 02.2	+0.3	
TPUB	Ta-pu	74.10 303	P	P	16 19 05.6	-1.0	
UNV	Unalaska Valle	75.38 7	P	P	16 19 13.1	+0.1	
AKUT	Akutan	75.75 8	P	P	16 19 15.1	-0.1	
YSS	Yuzh-Sakhalins	76.35 334	P	P	16 19 20.0	+1.3	
YSS			IAmb	IAmb	16 19 21.2		
	comp=Z,11nm,0.8s						
PEA0B	Petropavlovsk-	76.83 345	P	P	16 19 21.8	+0.7	
PEA0B			IAmb	IAmb	16 19 22.6		
	comp=Z,13nm,0.8s						
PETK	Petropavlovsk-	76.83 345	P	P	16 19 22.0	+0.8	
	comp=Z,9.8nm,0.7s,baz=128,slow=9.7,SNR=28						
PETK	Petropavlovsk-	76.83 345	P	P	16 19 21.8	+0.7	
KSRS	Korea Array	77.19 319	P	P	16 19 25.5	+2.0	
	comp=Z,1.3nm,0.6s,baz=131,slow=6.0,SNR=10						
KSAR	Wonju Array Be	77.21 319	P	P	16 19 26.0	+2.4	
BELA	Belgrano 2	78.95 173	P	P	16 19 31.9	-0.6	
HOPS	Hopland Field	79.04 41	P	P	16 19 35.3	+1.7	
HOPS			IAmb	IAmb	16 19 36.1		
	comp=Z,14nm,0.9s						
CHIR	Chirikof Islan	79.05 13	P	P	16 19 33.8	+0.7	
KCPM	Cahto Peak	79.17 40	P	P	16 19 34.6	+0.3	
KCPM			IAmb	IAmb	16 19 37.1		
	comp=Z,20nm,1.1s						
USRK	Ussuriysk Ar.	79.35 326	P	P	16 19 36.7	+1.7	
	comp=Z,4.2nm,0.6s,baz=124,slow=3.5,SNR=14						
KMRM	Mail Ridge	79.43 39	P	P	16 19 37.1	+1.5	
MWC	Mount Wilson	79.45 47	P	P	16 19 37.1	+1.1	
MWC			IAmb	IAmb	16 20 01.5		
	comp=Z,25nm,1.4s						
ESJX	Sierra Juarez	79.69 50	P	P	16 19 38.2	+0.8	
KHMM	Horse Mountain	79.83 39	P	P	16 19 39.1	+1.3	
KHMM			IAmb	IAmb	16 19 40.7		
	comp=Z,7.9nm,0.8s						
RMX	La Rumorosa	79.93 49	P	P	16 19 40.0	+1.4	
RMX			IAmb	IAmb	16 19 41.1		
	comp=Z,9.3nm,1.0s						
ISA	Isabella, Lake	79.98 46	P	P	16 19 39.5	+0.8	
CMB	Columbia Colle	80.12 43	P	P	16 19 40.3	+0.9	
AFDM	Forest Hills D	80.31 42	P	P	16 19 41.1	+0.9	
ORV	Oroville	80.35 41	P	P	16 19 41.5	+1.1	
WDC	Whiskeytown Da	80.35 40	P	P	16 19 41.4	+1.0	
WDC			IAmb	IAmb	16 19 43.0		
	comp=Z,10nm,1.0s						
MDPB	Devils Postpil	80.72 44	P	P	16 19 43.8	+1.0	
OMMB	Old Mammoth Mi	80.76 44	P	P	16 19 44.1	+1.0	
MAW	Mawson	80.86 200	P	P	16 19 42.4	-0.3	
	comp=Z,1.7nm,0.7s,baz=138,slow=9.4,SNR=8.7						
MAW	Mawson	80.86 200	P	P	16 19 42.5	-0.1	
GSC	Goldstone, Bar	80.91 47	P	P	16 19 44.5	+0.9	
YBH	Yreka Blue Hor	80.97 39	P	P	16 19 45.3	+1.6	
YBH			IAmb	IAmb	16 19 46.5		
	comp=Z,11nm,0.8s						
WAKR	Walker	81.00 43	P	P	16 19 45.5	+1.4	
WAKR			IAmb	IAmb	16 19 46.8		
	comp=Z,15nm,1.1s						
PNTR	Pine Nut	81.25 42	P	P	16 19 46.7	+1.3	
PNTR			IAmb	IAmb	16 19 47.8		
	comp=Z,20nm,0.9s						
PIX	Pinacate	81.26 51	P	P	16 19 45.4	+0.1	
PIX			IAmb	IAmb	16 19 46.5		
	comp=Z,10nm,1.1s						
HUMO	Hull Mountain	81.37 38	P	P	16 19 47.1	+1.4	
HUMO			IAmb	IAmb	16 19 48.7		
	comp=Z,12nm,1.1s						
YERR	Yerington	81.41 43	P	P	16 19 47.3	+1.1	
YERR			IAmb	IAmb	16 19 48.4		
	comp=Z,14nm,1.1s						
LHV	Little Huntoon	81.45 43	P	P	16 19 47.5	+1.3	
LHV			IAmb	IAmb	16 19 48.8		
	comp=Z,12nm,1.0s						
RYN	Ryan	81.66 43	P	P	16 19 48.4	+0.9	
NVAR	Mina Array Bea	81.69 43	P	P	16 19 49.0	+1.3	
	comp=Z,5.1nm,0.8s,baz=224,slow=8.8,SNR=37						
NVAR	Mina Array Bea	81.69 43	P	P	16 19 48.5	+0.8	
PAHR	Pah Rah Range	81.75 42	P	P	16 19 48.8	+0.9	
PAHR			IAmb	IAmb	16 19 50.1		
	comp=Z,15nm,1.2s						
NV11	Mina Array Sit	81.78 43	P	P	16 19 48.8	+0.7	
NV11			IAmb	IAmb	16 19 50.3		
	comp=Z,12nm,1.1s						
HSIG		81.85 55	P	P	16 19 49.3	+0.8	
HSIG			IAmb	IAmb	16 19 50.4		
	comp=Z,5.8nm,0.7s						
214A	Organ Pipe Nat	81.93 51	P	P	16 19 50.3	+1.5	
KVN	Kaiserville	82.17 43	P	P	16 19 51.1	+0.9	
KVN			IAmb	IAmb	16 19 52.1		
	comp=Z,13nm,1.2s						
TPH	Tonopah	82.18 44	P	P	16 19 51.1	+0.9	
TPNV	Topopah Spring	82.19 46	P	P	16 19 51.1	+0.8	
TPNV			IAmb	IAmb	16 19 52.5		
	comp=Z,7.8nm,0.9s						
MOD	Modoc Plateau	82.49 40	P	P	16 19 52.6	+0.9	
MOD			IAmb	IAmb	16 19 53.9		
	comp=Z,14nm,1.1s						
K05A	Summer Lake	82.64 39	P	P	16 19 53.8	+1.3	
K05A			IAmb	IAmb	16 19 55.1		
	comp=Z,20nm,0.9s						
SHPR	Sheep Range	82.68 46	P	P	16 19 53.9	+1.1	
W13A	Hualapai Mount	82.80 48	P	P	16 19 54.7	+1.2	
H04A	Detroit Lake	83.11 37	P	P	16 19 55.4	+0.8	
H04A			IAmb	IAmb	16 19 56.4		
	comp=Z,15nm,1.0s						
PRN	Pahroc Range	83.24 46	P	P	16 19 56.9	+1.4	
PRN			IAmb	IAmb	16 19 58.1		
	comp=Z,14nm,1.0s						
PINE	Pine Mountain	83.27 38	P	P	16 19 56.9	+1.3	
R11A	Troy Canyon, C	83.40 45	P	P	16 19 57.3	+0.9	
WVOR	Wild Horse Val	83.80 40	P	P	16 19 59.1	+1.0	
X16A	Lo Mia Camp, P	84.17 50	P	P	16 20 01.6	+1.3	
X16A			IAmb	IAmb	16 20 03.0		
	comp=Z,9.2nm,1.1s						
LCMT	Little Creek M	84.25 47	P	P	16 20 01.2	+0.7	
I07A	Izee	84.27 38	P	P	16 20 01.6	+1.1	
I07A			IAmb	IAmb	16 20 02.9		
	comp=Z,7.5nm,0.9s						
J08A	Circle Bar Ran	84.44 39	P	P	16 20 02.3	+1.0	
J08A			IAmb	IAmb	16 20 03.7		
	comp=Z,9.6nm,1.3s						
CCUT	Cedar City	84.45 46	P	P	16 20 02.7	+1.1	
U15A	North Rim	84.60 48	P	P	16 20 03.7	+1.2	
U15A			IAmb	IAmb	16 20 05.0		
	comp=Z,11nm,0.9s						
PSUT	Pine Spring	84.65 45	P	P	16 20 03.3	+0.8	
SZCU	Shurtz Canyon	84.66 46	P	P	16 20 03.9	+1.2	
WUAZ	Wupatki	84.78 49	P	P	16 20 04.5	+1.3	
D05A	Enumclaw	84.79 35	P	P	16 20 04.4	+1.6	
D05A			IAmb	IAmb	16 20 05.6		
	comp=Z,24nm,1.3s						
ELK	Elko	84.94 43	P	P	16 20 04.7	+0.7	
PKCU	Pink Cliffs	85.11 47	P	P	16 20 06.9	+1.8	
G08A	Pilot Rock	85.30 38	P	P	16 20 06.3	+0.9	
G08A			IAmb	IAmb	16 20 07.6		
	comp=Z,10nm,1.0s						
MTPU	Mount Pierson	85.51 46	P	P	16 20 08.2	+1.2	
LTY	Liberty	85.54 35	P	P	16 20 07.3	+0.8	
E07A	Sunnyside	85.56 36	P	P	16 20 07.9	+1.3	
E07A			IAmb	IAmb	16 20 08.9		
	comp=Z,9.2nm,0.9s						
HAWA	Hanford	85.63 36	P	P	16 20 08.0	+1.0	
HAWA			IAmb	IAmb	16 20 09.2		
	comp=Z,14nm,1.1s						
PMR	Palmer	85.71 14	P	P	16 20 07.0	+0.1	
PMR			IAmb	IAmb	16 20 08.7		
	comp=Z,18nm,1.2s						
MVU	Marysvale	85.73 46	P	P	16 20 09.2	+1.3	
GHO	Glory Hole Cre	85.92 14	P	P	16 20 08.1	+0.1	
E08A	Dider Farm, El	85.95 37	P	P	16 20 09.5	+1.1	
E08A			IAmb	IAmb	16 20 10.6		
	comp=Z,6.1nm,0.8s						
BMO	Blue Mountains	85.99 39	P	P	16 20 09.3	+0.5	
MFID	Camas Ranch	86.06 40	P	P	16 20 10.2	+1.0	
SCM	Sheep Creek Mo	86.33 14	P	P	16 20 10.3	+0.3	
D08A	Wollman Farm,	86.37 36	P	P	16 20 11.5	+1.0	
D08A			IAmb	IAmb	16 20 12.6		
	comp=Z,11nm,0.9s						
Q16A	Castle Valley	86.64 46	P	P	16 20 13.7	+1.5	
F10A	Beach Ranch, E	86.68 38	P	P	16 20 12.6	+0.5	
TMUT	Trail Mountain	86.81 46	P	P	16 20 14.1	+1.0	
B08A	Colville Reser	86.92 35	P	P	16 20 13.4	+0.4	
B08A			IAmb	IAmb	16 20 14.4		
	comp=Z,8.7nm,0.8s						
HLID	Hailey	87.00 41	P	P	16 20 14.8	+1.1	
KTH	Kantishna Hill	87.11 12	P	P	16 20 12.8	-0.8	
KTH			IAmb	IAmb	16 20 14.2		
	comp=Z,10.0nm,0.9s						
SRU	San Rafael Swe	87.17 46	P	P	16 20 14.7	+0.1	
MNTX	Cornudas Mount	87.35 55	P	P	16 20 16.5	+1.0	
MNTX			IAmb	IAmb	16 20 17.9		
	comp=Z,8.3nm,0.9s						
SNAA	Sanae	87.37 179	P	P	16 20 13.4	-1.6	
RND	Reindeer	87.39 13	P	P	16 20 15.0	0.0	
VNA3	Neumayer Olymp	87.51 176	P	P	16 20 14.5	-1.1	
TX31	Lajitas Ar. Si	87.64 57	P	P	16 20 18.1	+1.1	
TX32	Lajitas Array	87.64 57	P	P	16 20 18.2	+1.2	
TX32			IAmb	IAmb	16 20 19.6		
	comp=Z,9.8nm,1.1s						
TXAR	Lajitas Array	87.64 57	P	P	16 20 18.4	+1.5	
	comp=Z,4.9nm,0.9s,baz=219,slow=5.6,SNR=38						
TXAR	Lajitas Array	87.64 57	P	P	16 20 18.2	+1.2	
MCK	McKinley	87.67 13	P	P	16 20 16.0	-0.2	
VNA2	Neumayer--Watz	87.95 177	P	P	16 20 15.8	-1.8	
ANMO	Albuquerque	88.02 51	P	P	16 20 19.6	+0.8	
ANMO			IAmb	IAmb	16 20 20.7		
	comp=Z,5.6nm,1.1s						
VNA1	Neumayer--Stat	88.18 177	P	P	16 20 18.0	-0.6	
XAN	Xi'an	88.31 307	P	P	16 20 20.8	+0.9	
XAN			IAmb	IAmb	16 20 22.0		
	comp=Z,12nm,1.0s						
WRH	Wood River Hil	88.50 13	P	P	16 20 19.9	-0.2	
MCMT	McKenzie Canyo	88.62 40	P	P	16 20 22.3	+0.9	
DOT	Dot Lake	88.66 15	P	P	16 20 21.2	+0.4	
DOT			IAmb	IAmb	16 20 22.6		
	comp=Z,8.4nm,1.0s						
HDA	Harding Lake	88.68 13	P	P	16 20 20.7	-0.2	
HDA			IAmb	IAmb	16 20 22.7		
	comp=Z,11nm,0.9s						
CCB	Clear Creek Bu	88.71 13	P	P	16 20 20.6	-0.4	
BCAR	Beaver Creek A	88.72 16	P	P	16 20 21.4	+0.2	
IMAR	Indian Mountai	88.84 10	P	P	16 20 21.7	+0.1	
COLA	College	88.90 12	P	P	16 20 21.6	-0.3	
MDM	Murphy Dome	88.90 12	P	P	16 20 21.3	-0.6	
IL31		89.01 13	P	P	16 20 21.9	-0.4	
IL31			IAmb	IAmb	16 20 23.1		
	comp=Z,8.1nm,0.9s						
ILAR	Eielson Array	89.01 13	P	P	16 20 22.2	-0.2	
	comp=Z,2.5nm,0.4s,baz=217,slow=5.3,SNR=62						
ILAR	Eielson Array	89.01 13	P	P	16 20 21.7	-0.7	
S22A	4UR Ranch, Cre	89.05 49	P	P	16 20 24.4	+0.7	
DLMT	Dillon	89.06 40	P	P	16 20 23.9	+0.6	
DLMT			IAmb	IAmb	16 20 25.4		
	comp=Z,4.5nm,0.8s						
REDW	Red Top Meadow	89.10 42	P	P	16 20 24.0	+0.4	
REDW			IAmb	IAmb	16 20 25.6		
	comp=Z,12nm,1.1s						
TPAW	Teton Pass	89.10 42	P	P	16 20 23.8	+0.1	
TPAW			IAmb	IAmb	16 20 24.7		
	comp=Z,6.1nm,1.0s						
FXWY	Fox Creek	89.13 42	P	P	16 20 24.5	+0.7	
SNOW	Snow King Moun	89.21 42	P	P	16 20 25.3	+1.1	
SNOW			IAmb	IAmb	16 20 26.3		
	comp=Z,11nm,0.9s						
IMW	Indian Meadow	89.31 42	P	P	16 20 25.6	+0.9	
IMW			IAmb	IAmb	16 20 26.8		
	comp=Z,7.3nm,0.8s						
LOHW	Long Hollow	89.38 42	P	P	16 20 25.8	+0.8	
LOHW			IAmb	IAmb	16 20 26.7		
	comp=Z,3.6nm,0.8s						
QLMT	Earthquake Lak	89.49 41	P	P	16 20 26.7	+1.3	
FLWY	Flagg Ranch	89.56 42	P	P	16 20 26.5	+0.7	
FLWY			IAmb	IAmb	16 20 28.1		
	comp=Z,8.9nm,0.8s						
YHB	Horse Butte	89.59 41	P	P	16 20 27.1	+1.2	
BW06	Boulder Array	89.62 43	P	P	16 20 26.3	+0.2	
BW06			IAmb	IAmb	16 20 27.4		
	comp=Z,4.7nm,0.8s						
PD31	Pinedale Array	89.62 43	P	P	16 20 26.0	-0.1	
PD31			IAmb	IAmb	16 20 27.4		
	comp=Z,4.6nm,0.8s						
PDAR	Pinedale Array	89.62 43	P	P	16 20 26.6	+0.5	
	comp=Z,4.2nm,0.8s,baz=207,slow=3.0,SNR=37						
PDAR	Pinedale Array	89.62 43	P	P	16 20 26.2	+0.1	
YHL	Hebgen Lake	89.65 41	P	P	16 20 27.6	+1.3	
BOZ	Bozeman (W)	89.76 40	P	P	16 20 27.4	+0.8	
BOZ			IAmb	IAmb	16 20 28.6		
	comp=Z,4.5nm,0.8s						
CMAR	Chiang Mai Arr	90.08 290	P	P	16 20 30.2	+1.7	
	comp=Z,4.9nm,1.0s,baz=121,slow=3.0,SNR=25						
CMAR	Chiang Mai Arr	90.08 290	P	P	16 20 29.8	+1.4	
EGAK	Eagle	90.30 15	P	P	16 20 28.9	+0.5	
MSTX	Muleshoe	90.32 54	P	P	16 20 29.7	+0.3	
MSTX			IAmb	IAmb	16 20 30.7		
	comp=Z,6.9nm,0.9s						
YNE	Yellowstone No	90.45 41	P	P	16 20 31.2	+1.3	
COLD	Coldfoot	90.57 11	P	P	16 20 30

ASSE	Asse, Remlinge	148.30	349	*e*PKPbc	PKPbc	16 27 11.4	0.0
	baz=16,slow=2.4						
MDUB	Mudurnu	148.41	314		PKPbc	16 27 11.7	-0.6
OSTC	Ostas	148.51	342⇑	*e*PKP	PKPbc	16 27 12.3	+0.2
OSTC				*e*PKPAB	PKPab	16 27 18.1	+1.0
CHVC	Chvalec	148.52	342⇑	*e*PKP	PKPbc	16 27 12.5	+0.3
IBBN	Ibbenburen	148.55	353	*e*PKPbc	PKPbc	16 27 12.5	+0.4
	baz=16,slow=2.4						
IBBN				*e*PKPab	PKPab	16 27 17.6	+0.4
	baz=17,slow=4.2						
UPC	Upice	148.61	342⇑	*e*PKP	PKPbc	16 27 12.7	+0.3
UPC				*e*PKPAB	PKPab	16 27 18.3	+0.8
MLR	Muntele Rosu	148.62	326	⇑P	PKPbc	16 27 12.5	-0.2
MLR	Muntele Rosu	148.62	326		PKPbc	16 27 12.2	-0.5
CLL	Collm	148.63	346	⇓*i*PKPbc	PKPbc	16 27 12.2	-0.1
	comp=Z,23nm,1.1s						
CLL				⇑*i*PKPab	PKPab	16 27 17.1	-0.5
	comp=Z,15nm,0.8s						
CLL	Collm	148.63	346	*e*PKPbc	PKPbc	16 27 12.2	-0.1
	baz=16,slow=2.4						
CLL				*e*PKPab	PKPab	16 27 17.7	+0.1
	baz=17,slow=4.2						
CLL	Collm	148.63	346		PKPbc	16 27 11.9	-0.4
CLZ	Clausthal	148.63	350	*e*PKPbc	PKPbc	16 27 12.5	+0.1
	baz=16,slow=2.4						
DPC	Dobruska-Polom	148.66	342⇑	*e*PKP	PKPbc	16 27 12.8	+0.3
DPC				*e*PKPAB	PKPab	16 27 18.4	+0.6
KRLC	Kraliky	148.77	341⇑	*e*PKP	PKPbc	16 27 12.8	0.0
KRLC				*e*PKPAB	PKPab	16 27 18.6	+0.3
MORC	Moravsky Berou	148.79	340	⇑P	PKPbc	16 27 13.2	+0.3
MORC	Moravsky Berou	148.79	340	*e*PKP	PKPbc	16 27 13.2	+0.3
MORC				*e*		16 27 18.8	
MORC	Moravsky Berou	148.79	340		PKPbc	16 27 12.8	0.0
BRG	Berggiesshubel	148.82	345	*i* PKP	PKPbc	16 27 12.9	+0.1
	comp=Z,19nm,1.2s						
BRG				*i*		16 27 18.2	
	comp=Z,10nm,0.8s						
BRG	Berggiesshubel	148.82	345	*e*PKPbc	PKPbc	16 27 12.9	+0.1
	baz=16,slow=2.4						
BRG				*e*PKPab	PKPab	16 27 18.6	+0.2
	baz=17,slow=4.2						
FBE	Freiberg	148.91	346	*e*PKPbc	PKPbc	16 27 13.2	+0.1
	baz=16,slow=2.4						
FBE				*e*PKPab	PKPab	16 27 19.4	+0.6
	baz=17,slow=4.2						
NEUB	Neuenburg	148.98	348	*e*PKPab	PKPab	16 27 19.1	0.0
	baz=17,slow=4.2						
GTTG	Gottingen	148.99	350	*e*PKPbc	PKPbc	16 27 13.4	+0.2
	baz=16,slow=2.4						
CSS	Mathiatis	149.03	303		PKPbc	16 27 13.0	-1.0
VOIR		149.11	327	⇑P	PKiKP	16 27 14.4	-0.4
ARR	Arges	149.37	327	⇓P	PKiKP	16 27 15.3	-0.1
BUG	Bochum--Univer	149.46	353	*e*PKPbc	PKPbc	16 27 13.8	-0.5
	baz=16,slow=2.4						
PRU	Pruhonice	149.48	344⇑	*e*PKP	PKPbc	16 27 13.7	-0.8
PRU				*e*PKPAB	PKPab	16 27 21.1	0.0
GOPC	GO Pecny, Ondr	149.48	343⇑	*e*PKP	PKPbc	16 27 14.4	-0.1
GOPC				*e*PKPAB	PKPab	16 27 21.0	-0.2
VRAC	Vranov	149.50	341	⇑P	PKPbc	16 27 14.9	+0.4
VRAC	Vranov	149.50	341	*e*PKP	PKPbc	16 27 14.7	+0.1
VRAC				*e*		16 27 22.0	
PSZ	Piszkesteto	149.54	336		PKPbc	16 27 13.8	-1.0
JAVC	Velka Javorina	149.55	339	*e*PKP	PKiKP	16 27 15.9	+0.3
MOX	Moxa	149.55	348	*e*PKPbc	PKPbc	16 27 14.4	-0.3
	baz=16,slow=2.4						
MOX				*e*PKPab	PKPab	16 27 21.1	-0.3
	baz=17,slow=4.2						
PLN	Plauen	149.59	347	*e*PKPbc	PKPbc	16 27 14.5	-0.3
	baz=16,slow=2.4						
PLN				*e*PKPab	PKPab	16 27 21.8	+0.3
	baz=17,slow=4.2						
TANN	Tannenbergstha	149.59	346	*e*PKPbc	PKPbc	16 27 14.4	-0.5
	baz=16,slow=2.4						
TANN				*e*PKPab	PKPab	16 27 21.9	+0.2
	baz=17,slow=4.2						
WERD	Werda	149.59	347	*e*PKPbc	PKPbc	16 27 14.8	0.0
	baz=16,slow=2.4						
GUNZ	Gunzen	149.66	346	*e*PKPbc	PKPbc	16 27 15.0	+0.1
	baz=16,slow=2.4						
GUNZ				*e*PKPab	PKPab	16 27 22.4	+0.5
	baz=17,slow=4.2						
UBBA	Unterbreizbach	149.68	350	*e*PKPbc	PKPbc	16 27 14.5	-0.3
	baz=16,slow=2.4						
WERN	Wernitzgruen	149.73	346	*e*PKPbc	PKPbc	16 27 15.2	+0.1
	baz=16,slow=2.4						
WERN				*e*PKPab	PKPab	16 27 22.7	+0.5
	baz=17,slow=4.2						
NKC	Novy Kostel	149.76	346⇑	*e*PKP	PKPbc	16 27 15.4	+0.2
NKC				*e*PKPAB	PKPab	16 27 22.5	+0.2
KRUC	Moravsky	149.78	341	*e*PKP	PKPbc	16 27 15.3	+0.1
KRUC				*e*		16 27 22.8	
PBCC	Pribram	149.90	344⇑	*e*PKP	PKPbc	16 27 15.4	-0.1
PBCC				*e*PKPAB	PKPab	16 27 23.1	+0.2
MANZ	Manzenberg	150.07	346	*e*PKPbc	PKPbc	16 27 15.7	-0.2
	baz=16,slow=2.4						
SIRR	Siria	150.12	332	⇓P	PKPbc	16 27 16.2	+0.1
ROTZ	Rotzenmuhle	150.25	346	*e*PKPbc	PKPbc	16 27 15.9	-0.4
	baz=16,slow=2.4						
ROTZ				*e*PKPab	PKPab	16 27 24.7	+0.3
	baz=17,slow=4.2						
GZR	Gura Zlata	150.26	329	⇑P	PKPbc	16 27 16.1	-0.5
TNS	Taunus Mts	150.50	351	*e*PKPbc	PKPbc	16 27 16.7	-0.2
	baz=16,slow=2.4						
TNS				*e*PKPab	PKPab	16 27 25.4	-0.1
	baz=17,slow=4.2						
KHC	Kasperske Hory	150.52	344⇑	*e*PKP	PKPbc	16 27 16.9	-0.1
KHC				*e*PKPAB	PKPab	16 27 25.9	+0.4
KHC	Kasperske Hory	150.52	344		PKPbc	16 27 16.6	-0.4
KHC				PKPab	PKPab	16 27 25.9	+0.4
GRF	Grafenberg Arr	150.53	347	*e*PKPbc	PKPbc	16 27 16.8	-0.2
	baz=16,slow=2.4						
GRF				*e*PKPab	PKPab	16 27 26.2	+0.6
	baz=17,slow=4.2						
BZS	Buzias	150.64	331	⇓P	PKPbc	16 27 16.3	-1.0
WET	Wettzell	150.68	345	*e*PKPbc	PKPbc	16 27 17.0	-0.4
	baz=16,slow=2.4						
WET				*e*PKPab	PKPab	16 27 26.9	+0.7
	baz=17,slow=4.2						
GEC2	GERESS Array S	150.75	344	*e*PKPbc	PKPbc	16 27 17.1	-0.5
	baz=16,slow=2.4						
GEC2				*e*PKPab	PKPab	16 27 26.6	0.0
	baz=17,slow=4.2						
GEC2	GERESS Array S	150.75	344		PKPbc	16 27 17.2	-0.5
GEC2					PKPab	16 27 26.3	-0.2
GERES	GERESS Array B	150.75	344	PKPbc	PKPbc	16 27 17.4	-0.2
	comp=Z,4.6nm,0.8s,baz=38,slow=2.4,SNR=32						
GERES				PKPab	PKPab	16 27 27.1	+0.5
	comp=Z,1.7nm,0.7s,baz=20,slow=4.3,SNR=8.1						
GERES	GERESS Array B	150.75	344		PKPbc	16 27 17.0	-0.6
GERES					PKPab	16 27 26.8	+0.2
HERR	Herculane	150.81	329	⇓P	PKPbc	16 27 17.5	-0.3
CONA	Conrad Observa	150.95	340	*e*PKiKP	PKPbc	16 27 18.2	+0.1
	comp=Z,14nm,1.2s,SNR=7.9						
MDVR	Moldovita	151.22	330	⇓P	PKPdf	16 27 14.0	+1.6
WLF	Walferdange	151.33	354	*e*PKPab	PKPab	16 27 29.5	+0.7
	baz=17,slow=4.2						
WLF	Walferdange	151.33	354		PKPbc	16 27 19.1	+0.3
MOA	Molln	151.50	342	*e*PKPbc	PKPbc	16 27 18.9	-0.4
	comp=Z,1.6nm,0.5s						
ARSA	Arzberg	151.66	340	*e*PKPbc	PKPbc	16 27 18.8	-0.9
	comp=Z,1.8nm,0.6s						
FUR	Furstenfeldbru	151.97	346	*e*PKPab	PKPab	16 27 31.9	+0.3
	baz=17,slow=4.2						
RJOB	Jochberg	152.01	344	*e*PKPab	PKPab	16 27 31.5	-0.3
	baz=17,slow=4.2						
SOKA	Soboth	152.32	340	*e*PKPbc	PKPbc	16 27 20.5	-0.7
	comp=Z,2.1nm,0.5s						
SOKA				*e*PKPab	PKPab	16 27 33.3	0.0
	comp=Z,7.4nm,1.5s						
BFO	Black Forest	152.37	350	*e*PKPab	PKPab	16 27 32.8	-0.5
	baz=17,slow=4.2						
BFO	Black Forest	152.37	350		PKPbc	16 27 20.7	-0.5
BFO					PKPab	16 27 33.0	-0.3
KBA	Koelnbreinsper	152.46	343	*e*PKPbc	PKPbc	16 27 20.5	-1.2
	comp=Z,7.6nm,1.1s,SNR=4.5						
DIVS	Divibare	152.54	331		PKPbc	16 27 20.9	-0.9
UBR	Ueberruh	152.68	348	*e*PKPbc	PKPbc	16 27 21.5	-0.4
	baz=16,slow=2.4						
WATA	Walderalm	152.68	345	*e*PKPbc	PKPbc	16 27 21.4	-0.7
	comp=Z,3.4nm,0.5s						
WATA				*e*PKPab	PKPab	16 27 35.1	+0.2
	comp=Z,9.9nm,1.2s						
RETA	Reutte	152.72	347	*e*PKPab	PKPab	16 27 35.1	+0.2
	comp=Z,6.8nm,0.8s						
WTTA	Wattenberg	152.74	345	*i* PKPbc	PKPbc	16 27 21.6	-0.6
	comp=Z,6.7nm,0.6s,SNR=6.3						
WTTA				*e*PKPab	PKPab	16 27 35.5	+0.3
	comp=Z,13nm,0.7s						
MOTA	Moosalm	152.78	346	*i* PKPbc	PKPbc	16 27 21.9	-0.5
	comp=Z,5.7nm,0.9s						
MOTA				*e*PKPab	PKPab	16 27 35.3	+0.1
	comp=Z,7.8nm,1.0s						
MYKA	Terra Mystica	152.79	342	*i* PKPbc	PKPbc	16 27 21.2	-1.0
	comp=Z,2.0nm,0.4s						
MYKA				*e*PKPab	PKPab	16 27 34.8	-0.4
	comp=Z,3.6nm,0.8s						
SQTA	Sankt Quirin	152.88	346	*e*PKPbc	PKPbc	16 27 22.0	-0.5
	comp=Z,1.1nm,0.5s						
SQTA				*e*PKPab	PKPab	16 27 35.7	+0.1
	comp=Z,6.6nm,0.9s						
PRED	Cave del Predi	152.98	342		PKPab	16 27 35.0	-1.1
ABTA	Abfaltersbach	153.00	344	*e*PKPbc	PKPbc	16 27 21.8	-0.9
	comp=Z,11nm,1.2s,SNR=6.6						
ABTA				*e*PKPab	PKPab	16 27 35.7	-0.4
	comp=Z,6.9nm,0.7s						
DAVA	Damuels	153.10	348	*e*PKiKP	PKPbc	16 27 22.9	-0.1
	comp=Z,7.1nm,1.2s						
DAVA				*e*PKPab	PKPab	16 27 36.4	-0.3
	comp=Z,5.0nm,0.9s						
FETA	Feichten	153.17	346	*e*PKiKP	PKPbc	16 27 22.9	-0.3
	comp=Z,3.7nm,1.1s						
FETA				*e*PKPab	PKPab	16 27 37.2	+0.3
	comp=Z,3.0nm,0.8s						
STAL	STALIGIAL	153.39	343		PKPbc	16 27 22.3	-1.2
STAL				PKPab	PKPab	16 27 36.3	-1.4
CIMO	Cimolais	153.42	343		PKPbc	16 27 22.1	-1.4
FUORN	Ofenpass-Fuorn	153.66	347		PKPbc	16 27 23.9	-0.4
FUORN					PKPab	16 27 39.3	+0.1
CTI	Castel Tesino	153.87	344		PKPab	16 27 39.1	-0.7
FNA	Florina	154.27	324		PKiKP	16 27 24.4	-1.2
SENIN	Lac Senin/Sane	154.44	351		PKPab	16 27 42.1	-0.3
TEOL	Teolo	154.50	344		PKPab	16 27 42.5	0.0
ESDC	Sonseca Array	160.91	13	PKPab	PKPab	16 28 10.5	0.0
	comp=Z,2.3nm,1.0s,baz=355,slow=4.5,SNR=9.4						
ESDC	Sonseca Array	160.91	13		PKPab	16 28 10.1	-0.4
KEST	Kesra	164.01	337	PKPab	PKPab	16 28 24.9	+0.6
	comp=Z,2.9nm,0.7s,baz=291,slow=8.1,SNR=4.0						
KEST	Kesra	164.01	337		PKPab	16 28 24.3	0.0
TORD	Torodi Ar. Bea	172.04	180	PKP	PKPdf	16 27 32.1	-2.1
	comp=Z,2.1nm,1.0s,baz=243,slow=1.0,SNR=8.6						
TORD				PKPab	PKPab	16 28 59.5	-0.6
	comp=Z,0.7nm,0.7s,baz=176,slow=1.9,SNR=4.6						
TORD	Torodi Ar. Bea	172.04	180		PKPdf	16 27 32.0	-2.1
TORD					PKPab	16 28 59.1	-0.9

ATH ***14*** *16:33:27.8, 35°.34N×21°.43E, h19km±7km, ML3.7/11, Error ellipse: s-maj=9.0km s-min=1.2km az=228.0*
IDC ***14*** *16:33:28.2±1.1, 35°.60N×21°.67E, h0km, mb4.0/12, mb1 4.0/21, mb1mx3.9/50, mbtmp3.9/21, ML3.8/9, MS2.7/2, Ms1 2.7/2, ms1mx2.4/37, Error ellipse: s-maj=22.1km s-min=13.6km az=18.0*
NEIC ***14*** *16:33:33.1±1.7, 35°.63N±0°.06×21°.63E±0°.07, h34km±5km, mb4.6/23, Error ellipse: s-maj=9.3km s-min=6.8km az=133.0*
THE ***14*** *16:33:33.6, 35°.46N×21°.64E, h27km±8km, ML3.7/7, Error ellipse: s-maj=9.5km s-min=1.3km az=232.0*
PDG ***14*** *16:33:34.3±0.2, 36°.04N×21°.35E, h13km±3km, ML4.4/12, Error ellipse: s-maj=4.2km s-min=0.8km az=90.0*
HLW ***14*** *16:33:37.5, 35°.47N×22°.45E, h30km±47km, Md4.3, Ml4.5*
GII ***14*** *16:33:43.9±0.5, 35°.39N×22°.83E, h60km*
BEO ***14*** *16:33:46.5±1.1, 36°.79N×21°.50E, h0km, ML3.8/2*
ISC 14 16:33:31.0±1.5, 35°.47N±0°.05×21°.45E±0°.04, h32km±10km, n267, σ2≥16/297, mb4.3/22, 10C-17D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	1.44	9	P	Pn	16 33 56.5	+1.6
PYL				S	Sb	16 34 16.1	+0.9
	1μm,0.8s						
PYL	PYLOS	1.44	9	P	Pb	16 33 56.6	-0.6
PYL				S	Sb	16 34 17.6	+2.4
PYL				AML	AML	16 34 28.4	
	comp=N,2244μm,0.8s						
PYL				AML	AML	16 34 28.6	
	comp=E,2026μm,0.5s						
KTHA	Kythira Island	1.53	59	P	Pn	16 33 57.2	+1.1
KTHA	Kythira Island	1.53	59	P	Pn	16 33 57.3	+1.1
KTHA				S	Sb	16 34 19.9	+2.1
KTHA				AML	AML	16 34 25.8	
	comp=E,4706μm,0.6s						
KTHA				AML	AML	16 34 26.0	
	comp=N,1722μm,0.8s						
KTHA	Kythira Island	1.53	59	P	Pn	16 33 57.2	+1.1
KTHA				S	Sn	16 34 15.9	+1.0
ANKY	Antikythira Is	1.56	75	P	Pn	16 33 57.6	+1.1
ANKY				S	Sn	16 34 14.5	-1.1
	comp=N,2μm,0.8s						
ANKY	Antikythira Is	1.56	75	P	Pn	16 33 57.7	+1.1
ANKY				S	Sb	16 34 19.3	+0.6
ANKY				AML	AML	16 34 27.0	
	comp=E,5034μm,0.9s						
ANKY				AML	AML	16 34 28.6	
	comp=N,3372μm,0.5s						
VLI	Veliai	1.73	44	P	Pn	16 34 00.7	+1.8
VLI				S	Sn	16 34 22.1	+2.2
	comp=N,1μm,0.5s						
VLI	Veliai	1.73	44	P	Pn	16 34 00.7	+1.8
VLI				S	Sb	16 34 25.0	+1.4
VLI				AML	AML	16 34 33.4	
	comp=E,2978μm,0.5s						
VLI				AML	AML	16 34 40.1	
	comp=N,1912μm,0.5s						
ITM	Ithomi	1.75	13	P	Pn	16 34 00.3	+1.2
ITM	Ithomi	1.75	13	P	Pn	16 34 00.4	+1.3
ITM				S	Sb	16 34 24.8	+0.7
ITM				AML	AML	16 34 28.4	
	comp=N,1055μm,0.4s						
ITM				AML	AML	16 34 30.9	
	comp=E,1475μm,0.6s						
ITM	Ithomi	1.75	13	P	Pn	16 34 00.6	+1.5
ITM				S	Sn	16 34 21.8	+1.5
ITM	Ithomi	1.75	13	Pn	Pn	16 33 59.5	+0.4
KNDR	Palaiochora Ch	1.84	97	P	Pn	16 34 00.9	+0.5
KNDR	Palaiochora Ch	1.84	97	P	Pn	16 34 00.8	+0.4
RODP	Rodopos	1.89	87	P	Pn	16 34 02.3	+1.3
RODP				S	Sn	16 34 23.4	-0.3
RODP	Rodopos	1.89	87	P	Pn	16 34 01.9	+0.9
RODP				S	Sn	16 34 24.1	+0.4
VLX	Vlachokerasia	2.04	21	P	Pn	16 34 05.1	+1.9
VLX	Vlachokerasia	2.04	21	P	Pn	16 34 04.9	+1.7
VLX				S	Sb	16 34 32.8	+0.3
VLX				AML	AML	16 34 52.0	
	comp=N,2318μm,0.6s						
VLX				AML	AML	16 34 55.7	
	comp=E,1504μm,1.1s						
IMMV	Iera Moni Meta	2.07	90	P	Pn	16 34 04.0	+0.5
IMMV				S	Sn	16 34 26.2	-2.0
	comp=E,1μm,0.5s						
IMMV	Iera Moni Meta	2.07	90	P	Pn	16 34 04.1	+0.5
IMMV				S	Sn	16 34 30.8	+2.6
IMMV				AML	AML	16 34 38.8	
	comp=N,2768μm,0.4s						
IMMV				AML	AML	16 34 48.0	
	comp=E,2658μm,0.6s						
IMMV	Iera Moni Meta	2.07	90	P	Pn	16 34 04.2	+0.7
CHAN	Chania	2.12	88	P	Pn	16 34 05.0	+0.8
TRIP	Tripoli	2.16	18	P	Pn	16 34 07.0	+2.2
TRIP	Tripoli	2.16	18	P	Pn	16 34 07.2	+2.4
TRIP				S	Sn	16 34 34.6	+4.1
TRIP				AML	AML	16 34 50.6	
	comp=N,655μm,0.5s						
TRIP				AML	AML	16 34 53.3	
	comp=E,1255μm,0.6s						
VAM	Vamos	2.25	91	P	Pn	16 34 06.6	+0.6
VAM	Vamos	2.25	91	P	Pn	16 34 06.6	+0.6
VAM				S	Sn	16 34 35.4	+2.8
GVD	Gavdhos	2.25	106	P	Pn	16 34 06.3	+0.2
GVD				S	Sn	16 34 32.1	-0.7
	comp=E,2μm,0.3s						
GVD	Gavdhos	2.25	106	P	Pn	16 34 06.2	+0.2
GVD				S	Sn	16 34 32.4	-0.4
GVD				AML	AML	16 34 35.8	
	comp=N,3817μm,0.3s						
GVD				AML	AML	16 34 37.2	
	comp=E,3195μm,0.4s						
GVD	Gavdhos	2.25	106	P	Pn	16 34 06.4	+0.3
KRND	KRANIDI	2.35	35	P	Pn	16 34 08.2	+0.8
KRND	KRANIDI	2.35	35	P	Pn	16 34 08.2	+0.8
VTN	Vitineika	2.45	355	P	Pn	16 34 11.4	+2.7
VLMS	Volimes, Zakyn	2.48	345	P	Pn	16 34 11.1	+1.9
DRO	Drossia	2.48	5	P	Pb	16 34 12.7	-2.3
DRO	Drossia	2.48	5	P	Pn	16 34 12.0	+2.8
DID	Didima	2.49	35	P	Pn	16 34 10.0	+0.6
GUR	Goura	2.56	16	P	Pn	16 34 13.2	+2.8
GUR	Goura	2.56	16	P	Pn	16 34 13.1	+2.7
RLS	Riolos of Patr	2.58	0	P	Pn	16 34 13.7	+3.1
KLV	Kalavryta, Ach	2.63	12	P	Pn	16 34 13.8	+2.5
KLV	Kalavryta, Ach	2.63	12	P	Pn	16 34 13.9	+2.6
MHLO	Agia Marina, M	2.68	62	P	Pn	16 34 11.7	-0.3
MHLO				S	Sn	16 34 42.1	-1.3
	comp=E,3μm,0.5s						
AXS	Araxos	2.72	359	P	Pn	16 34 15.7	+3.3
VLS	Valsamata	2.79	346	P	Pn	16 34 15.5	+2.1
VLS	Valsamata	2.79	346	P	Pn	16 34 15.4	+1.9
SIVA	Sivas	2.79	98	P	Pn	16 34 14.1	+0.6
SIVA				S	Sn	16 34 47.3	+1.3
SIVA				AML	AML	16 34 54.3	
	comp=E,2258μm,0.4s						
SIVA				AML	AML	16 34 55.9	
	comp=N,1597μm,0.3s						
IDI	Anoyia	2.82	93	Pn	Pn	16 34 14.0	0.0
	comp=N,8.7nm,0.3s,baz=259,slow=11,SNR=61						
IDI				Sn	Sn	16 34 45.8	-1.0
	comp=N,33nm,0.3s,baz=300,slow=15,SNR=14						
IDI	Anoyia	2.82	93	P	Pn	16 34 14.5	+0.6
IDI				S	Sn	16 34 45.6	-1.2
	comp=N,502nm,0.5s						
IDI	Anoyia	2.82	93	P	Pn	16 34 14.3	+0.4
IDI	Anoyia	2.82	93	⇓P	Pn	16 34 14.7	+0.8
IDI	Anoyia	2.82	93	⇓S	Sn	16 34 47.2	+0.4
IDI	Anoyia	2.82	93	P	Pn	16 34 14.3	+0.4
IDI	Anoyia	2.82	93	Pn	Pn	16 34 14.3	+0.4
ALIK	Aliki, Aigiali	2.83	11	P	Pn	16 34 17.5	+3.5
EFP	Efpalio	2.97	7	P	Pn	16 34 19.9	+4.0
EFP	Efpalio	2.97	7	P	Pn	16 34 19.4	+3.4
SERI	Serifos	2.98	55	P	Pn	16 34 15.3	-0.7
HRKL	Herakleio	2.99	92	P	Pn	16 34 16.6	+0.4
DSF	Desfina	3.06	16	P	Pn	16 34 18.3	+1.1
DSF	Desfina	3.06	16	P	Pn	16 34 18.3	+1.1
FSK	Fiskardo	3.06	347	P	Pn	16 34 19.6	+2.4
FSK	Fiskardo	3.06	347	P	Pn	16 34 19.6	+2.4
ANX	Ano Chora	3.14	7	P	Pn	16 34 22.3	+4.0
ANX	Ano Chora	3.14	7	P	Pn	16 34 21.8	+3.5
PVO	Paravola	3.14	1	P	Pn	16 34 22.3	+4.1
EVGI	Lefkada island	3.21	349	P	Pn	16 34 21.4	+2.2
DION	Dionisos Attik	3.28	37	P	Pn	16 34 20.4	+0.2
LAST	Lasithi	3.31	94	P	Pn	16 34 21.7	+1.0
LAST	Lasithi	3.31	94	P	Pn	16 34 21.7	+1.0
LAST				S	Sn	16 34 59.1	+1.0
LAST				AML	AML	16 35 00.2	
	comp=N,862μm,0.8s						
LAST				AML	AML	16 35 06.5	
	comp=E,637μm,0.7s						
CMBO	Columbo, Santo	3.36	72	P	Pn	16 34 21.0	-0.3
THT2	Imerovigli	3.36	72	*e*P	Pn	16 34 21.4	0.0
LKD2	Lefkada island	3.37	349	P	Pn	16 34 24.2	+2.7
LKD2	Lefkada island	3.37	349	P	Pn	16 34 23.9	+2.5
SANT	Santorini	3.38	73	P	Pn	16 34 21.1	-0.5
SANT	Santorini	3.38	73	⇓P	Pn	16 34 21.1	-0.5
SANT	Santorini	3.38	73	⇑S	Sn	16 34 59.9	-0.7
SANT	Santorini	3.38	73	P	Pn	16 34 21.1	-0.5
SANT	Santorini	3.38	73		Pn	16 34 20.9	-0.7
LKR	Lokris	3.41	21	P	Pn	16 34 22.7	+0.8
TSLK	Tsoukalades, L	3.41	350	P	Pn	16 34 24.8	+2.9
NPS	Neapolis	3.41	92	P	Pn	16 34 22.1	+0.2
AXAR	Agios Charalam	3.43	16	P	Pn	16 34 25.3	+3.1
EVR	Evrytania	3.45	5	P	Pn	16 34 26.7	+4.1
ANAF	Anafi Island	3.62	75	P	Pn	16 34 24.4	-0.5
APE	Apeiranthos	3.66	63	⇓P	Pn	16 34 25.0	-0.5
APE	Apeiranthos	3.66	63	⇓S	Sn	16 35 05.0	-2.6
APE	Apeiranthos	3.66	63	*e*P	Pn	16 34 24.9	-0.6
ZKR	Zakros	3.92	94	*e*P	Pn	16 34 29.2	+0.2
THL	Klokotos Trika	4.11	6	P	Pn	16 34 33.6	+2.0
XOR	Xorichti	4.13	19	P	Pn	16 34 32.5	+0.6
IGT	Igoumenitsa	4.15	348	*e*Pn	Pn	16 34 33.4	+1.3
IGT				*e*Sg	Sn	16 35 18.1	-1.4
KPRO	Kipourio	4.47	359	P	Pn	16 34 39.8	+3.1
KARP	Karpathos	4.66	87	*e*P	Pn	16 34 39.0	-0.2
KARP	Karpathos	4.66	87	Pn	Pn	16 34 39.3	+0.1
LIT	Litokhoron	4.69	10	Pn	Pn	16 34 40.3	+0.6
CHOS	Chios island	4.70	50	*e*P	Pn	16 34 38.9	-0.9
PAIG	Paliouri	4.79	21	P	Pn	16 34 41.7	+0.8
BODT	Bodrum	5.00	70	*e*P	Pn	16 34 43.4	-0.4
URLA	Izmir	5.03	54	*e*P	Pn	16 34

CEME	Cevo	7.33	345	⇓iPn		Pn	16 35 15.0 -0.9
CEME				*i* Sn		Sn	16 36 30.6 -7.4
HCY	Herceg Novi	7.33	343	⇑iPn		Pn	16 35 14.6 -1.3
HCY				*i* Sn		Sn	16 36 30.6 -7.4
BARS	Barje	7.34	2	*e*Pn		Pn	16 35 17.1 +1.2
IVA	Berane	7.49	351	⇑iPn		Pn	16 35 17.3 -0.7
IVA				*i* Sn		Sn	16 36 34.5 -7.3
KOME	Kolasin	7.52	349	⇑iPn		Pn	16 35 18.0 -0.5
KOME				*i* Sn		Sn	16 36 35.2 -7.4
NKME	Niksic	7.54	346	⇑iPn		Pn	16 35 18.0 -0.7
NKME				*i* Sn		Sn	16 36 35.8 -7.2
NKY	Niksic	7.57	346	⇓iPn		Pn	16 35 18.3 -1.0
NKY				*i* Sn		Sn	16 36 36.6 -7.4
ISP	Isparta	7.66	70	Pn		Pn	16 35 20.2 -0.2
SGRT	San Giovanni R	7.70	326	S		Sn	16 36 45.0 -2.0
SGRT	San Giovanni R	7.70	326	Pn		Pn	16 35 21.2 +0.3
SELS	Selova	7.74	358	*e*Pn		Pn	16 35 21.0 -0.5
PAOL	Paolisi	7.75	318	Pn		Pn	16 35 24.2 +2.6
BRY	Bratogost	7.75	344	⇓iPn		Pn	16 35 20.9 -0.9
BRY				*i* Sn		Sn	16 36 41.1 -7.4
ZAPS	Zavoj	7.84	6	*e*Pn		Pn	16 35 23.8 +0.9
SJES	Sjenica	7.86	352	*e*Pn		Pn	16 35 23.5 +0.3
UPM	Unac-Piva	7.97	346	⇓iPn		Pn	16 35 24.0 -0.7
UPM				*i* Sn		Sn	16 36 46.2 -7.6
PLE	Pljevlja	8.01	349	⇓iPn		Pn	16 35 25.0 -0.2
PLE				*i* Sn		Sn	16 36 47.2 -7.5
BOVS	Bovan	8.15	1	*e*Pn		Pn	16 35 27.4 +0.3
ZAGS	Zajecar	8.35	4	*e*Pn		Pn	16 35 29.8 0.0
GRUS	Gruza	8.43	356	*e*Pn		Pn	16 35 30.6 -0.2
BBLS	Lazići	8.53	350	*e*Pn		Pn	16 35 33.1 +0.8
DIVS	Divibare	8.69	353	*e*Pn		Pn	16 35 33.6 -0.9
DIVS	Divibare	8.69	353	Pn		Pn	16 35 33.4 -1.1
TRUS	Trudelj	8.78	355	*e*Pn		Pn	16 35 34.8 -0.8
INTR	Introdacqua	8.79	320	Pn		Pn	16 35 37.6 +1.7
HNAT	Natroun	9.68	124	P		Pn	16 35 47.3 -0.8
	baz=128						
HNAT				AMP			16 37 00.0
	baz=128						
HMYD	Mayadein	9.70	123	P		Pn	16 35 47.5 -0.9
	baz=126						
CSS	Mathiatis	9.74	90	Pn		Pn	16 35 45.7 -3.2
CSS	Mathiatis	9.74	90	Pn		Pn	16 35 44.2 -4.7
FRGS	Fruska Gora	9.76	353	*e*Pn		Pn	16 35 48.7 -0.4
NRCA	Norcia	9.79	321			Pn	16 35 52.5 +2.9
KEST	Kesra	9.86	275	Sn		Sn	16 37 38.2 -2.0
	comp=E,0.2nm,0.3s,baz=3.7,slow=23,SNR=1.5						
VOIR		10.32	14	⇑P		Pn	16 35 57.4 +0.5
HSAF	As Saff	10.33	122	P		Pn	16 35 54.5 -2.5
	baz=124						
KOT	Kottamia	10.34	119	P		Pn	16 35 55.0 -2.2
	baz=122						
KOT				AMP			16 37 00.0
	baz=122						
GLL	Jalalah	10.46	121	P		Pn	16 35 56.4 -2.5
	baz=124						
HHAG	Hagoal	10.52	119	P		Pn	16 35 57.6 -2.1
	baz=121						
BR131	Keskin Array S	10.56	63			Pn	16 36 00.2 0.0
BRTR	Keskin Array B	10.56	63	Pn		Pn	16 36 01.5 +1.3
	comp=E,0.4nm,0.3s,baz=239,slow=14,SNR=13						
BRTR				LR		LR	16 40 07.1
	comp=E,26nm,21.4s,baz=180,slow=39						
BRTR	Keskin Array B	10.56	63			Pn	16 36 00.5 +0.2
MLR	Muntele Rosu	10.57	17	LR		LR	16 40 21.4
	comp=E,60nm,18.9s,baz=12,slow=40						
MLR	Muntele Rosu	10.57	17	⇑P		Pn	16 36 00.1 -0.3
BOJS	Bojanci	11.07	337	*i* Pn		Pn	16 36 06.9 -0.2
BOJS	Bojanci	11.07	337	P		Pn	16 36 07.1 +0.1
SUZ	Suez	11.11	117	P		Pn	16 36 05.8 -1.9
	baz=119						
VRI	Vrincioaia	11.13	19	⇓P		Pn	16 36 06.3 -1.5
PDKS	Podkum	11.65	337	*i* Pn		Pn	16 36 15.4 +0.5
KZIT	Kziot	11.76	109	Pn		Pn	16 36 13.2 -3.4
TRI	Trieste	11.77	333	P		Pn	16 36 17.3 +0.7
MMAI	Mount Meron Ar	11.81	98	Pn		Pn	16 36 14.4 -2.9
	comp=E,1.1nm,0.3s,baz=303,slow=14,SNR=2.0						
MMAI				Sn		Sn	16 38 14.9 -13
	comp=E,5.7nm,0.3s,baz=310,slow=30,SNR=7.1						
NATI	Neve Ativ	12.01	96	Pn		Pn	16 36 18.3 -1.7
YTIR	Yattir	12.13	106	Pn		Pn	16 36 19.4 -2.3
YTIR				Sn		Sn	16 38 21.5 -14
OBKA	Obir	12.19	337	*e*Pn		Pn	16 36 23.8 +1.4
	comp=E,0.8nm,0.2s						
OBKA				*e*Sn		Sn	16 38 31.4 -5.8
	comp=E,7.1nm,0.4s						
SOKA	Soboth	12.19	339	*e*Pn		Pn	16 36 21.4 -1.0
	comp=E,1.1nm,0.3s						
SOKA				*e*Sn		Sn	16 38 30.5 -6.7
	comp=E,5.8nm,0.7s						
DSI	Dead Sea	12.26	105	Pn		Pn	16 36 20.9 -2.5
PRED	Cave del Predi	12.46	334	Pn		Pn	16 36 27.1 +0.9
PRNI	Paran	12.48	110	Pn		Pn	16 36 24.1 -2.3
HRFI	Mount Harif	12.65	112	Pn		Pn	16 36 26.6 -2.2
MBRI	Mt Berech	12.68	113	Pn		Pn	16 36 27.6 -1.6
EIL	Elat	12.77	113	Pn		Pn	16 36 29.1 -1.2
	comp=E,0.8nm,0.3s,baz=346,slow=10,0,SNR=12						
EIL				Sn		Sn	16 38 39.6 -12
	comp=E,3.2nm,0.3s,baz=319,slow=9.3,SNR=7.2						
EIL	Elat	12.77	113	Pn		Pn	16 36 28.3 -2.1
ZOU	Zoufplan	12.78	333	Pn		Pn	16 36 30.8 +0.2
CIMO	Cimolais	12.78	331	Pn		Pn	16 36 31.2 +0.7
CTI	Castel Tesino	12.90	328	Pn		Pn	16 36 31.4 -0.8
KBA	Koelnbreinsper	13.09	335	*e*Pn		Pn	16 36 35.2 +0.5
	comp=E,0.8nm,0.5s						
KBA				*e*Sn		Sn	16 38 54.6 -4.7
	comp=E,3.1nm,0.5s						
VYHS	Vyhne	13.15	352	*e*PN		Pn	16 36 30.8 -4.7
ASF	Jabal al Asfar	13.26	100	Sn		Sn	16 38 53.3 -10
	comp=E,0.5nm,0.3s,baz=50,slow=17,SNR=2.1						
MOA	Molln	13.47	339	*e*Pn		Pn	16 36 40.3 +0.4
	comp=E,1.7nm,0.3s						
MOA				*e*Sn		Sn	16 39 03.4 -5.0
	comp=E,1.8nm,0.4s						
FUORN	Ofenpass-Fuorn	13.96	326	Pn		Pn	16 36 47.1 +0.5
DAVOX	Davos/Dischmat	14.25	326	Pn		Pn	16 36 51.5 +0.8
	comp=E,0.2nm,0.3s,baz=351,slow=15,SNR=1.9						
DAVOX				Sn		Sn	16 39 19.9 -7.8
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=2.0						
GERES	GERESS Array B	14.53	339	Pn		Pn	16 36 54.5 +0.1
	comp=E,0.2nm,0.3s,baz=165,slow=12,SNR=3.5						
GERES				Sn		Sn	16 39 23.1 -11
	comp=E,0.1nm,0.3s,baz=155,slow=19,SNR=3.2						
BNI	Bardonecchia	14.77	315	Pn		Pn	16 36 59.6 +2.0
KHC	Kasperske Hory	14.83	339	*e*P		P	16 37 06.0 +2.2
KOPT	Kop Dagi	15.73	68			Pn	16 37 11.5 +1.0
AKASG	Malin Array Be	16.23	18	Pn		Pn	16 37 12.3 -4.2
	comp=E,3.4nm,0.3s,baz=211,slow=10.0,SNR=7.5						
AKASG	Malin Array Be	16.23	18			Pn	16 37 17.5 +1.0
CLL	Collm	16.96	342	*es*P		sP	16 37 42.0 +3.6
KBZ	Khabaz	18.44	57	P		Pn	16 37 44.4 +0.4
	comp=E,0.5nm,0.3s,baz=263,slow=8.2,SNR=11						
ESBB	Sonseca Array	20.55	289	P		Pn	16 38 09.4 +0.2
ESDC	Sonseca Array	20.55	289	P		Pn	16 38 10.3 +1.1
	comp=E,2.5nm,0.9s,baz=88,slow=11,SNR=13						
ESDC	Sonseca Array	20.55	289	IAmb		IAmb	16 38 15.3
	comp=Z,5.8nm,1.4s						
PAB	San Pablo	20.84	289	P		Pn	16 38 13.8 +1.1
HFS	Hagfors	25.18	351	P		P	16 38 54.1 +0.8
	comp=Z,1.6nm,0.5s,baz=144,slow=13,SNR=8.5						
EKA	Eskdalemuir Ar	26.08	327	P		P	16 39 02.5 +1.0
	comp=Z,1.3nm,0.6s,baz=124,slow=8.3,SNR=9.1						
FINES	FINESS Array B	26.16	5	P		P	16 39 02.3 +0.2
	comp=Z,3.8nm,0.8s,baz=161,slow=12,SNR=8.9						
FIA1	FINESS Array S	26.16	5	P		P	16 39 02.6 +0.5
FIA1				IAmb		IAmb	16 39 05.9
	comp=Z,29nm,1.4s						
NAO01	NORSAR Array S	26.28	348	P		P	16 39 04.3 +1.1
NAO01				IAmb		IAmb	16 39 06.2
	comp=Z,30nm,1.4s						
NB2	NORSAR Subarra	26.41	349	P		P	16 39 07.2 +2.7
	comp=Z,4.3nm,1.2s,baz=159,slow=9.3						
NOA	NORSAR Array B	26.41	349	P		P	16 39 06.7 +2.2
	comp=Z,0.3nm,0.5s,baz=152,slow=10,SNR=5.1						
NC204	NORSAR Array S	26.71	349	P		P	16 39 08.3 +1.1
NC204				IAmb		IAmb	16 39 28.2
	comp=Z,26nm,1.4s						
TORD	Torodi Ar. Bea	28.49	224	P		P	16 39 26.9 +3.4
	comp=Z,0.1nm,0.3s,baz=46,slow=10,SNR=2.8						
GEYT	Alibeck	29.38	74	P		P	16 39 31.0 -0.4
	comp=Z,1.0nm,0.5s,baz=325,slow=15,SNR=2.4						
GEYT	Alibeck	29.38	74	IAmb		IAmb	16 39 36.3
	comp=Z,0.8nm,0.6s						
ABKAR	Akbulak array	31.24	52	P		P	16 39 45.6 -1.9
ARCES	ARCESS Array B	34.19	3	P		P	16 40 13.4 +0.4
	comp=Z,1.5nm,0.5s,baz=189,slow=9.1,SNR=11						
ARCES	ARCESS Array B	34.19	3	P		P	16 40 13.1 0.0
ARE0	ARCESS Array S	34.19	3	P		P	16 40 12.7 -0.4
KEV	Kevo	34.48	3	P		P	16 40 16.0 +0.5
CHGR	Chuyangaron	37.87	71	P		P	16 40 45.4 +0.3
CHGR				IAmb		IAmb	16 40 46.0
	comp=Z,9.7nm,0.6s						
KK31	Karatay Array	38.27	63	P		P	16 40 48.5 +0.1
KK31				IAmb		IAmb	16 40 49.0
	comp=Z,2.5nm,0.6s						
KKAR	Karatay Array	38.27	63	P		P	16 40 48.4 0.0
KKAR				IAmb		IAmb	16 40 49.0
	comp=Z,2.5nm,0.6s						
KKAR	Karatay Array	38.27	63	P		P	16 40 48.3 0.0
GAR	Garm	38.70	70	P		P	16 40 52.5 +0.4
GAR				IAmb		IAmb	16 40 53.6
	comp=Z,5.3nm,0.7s						
NIL	Nilore	42.30	77	P		P	16 41 22.8 +1.0
NIL				IAmb		IAmb	16 41 51.5
	comp=Z,18nm,0.7s						
BOOM	Boomskoye usch	42.31	63	P		P	16 41 23.0 +1.0
BOOM				IAmb		IAmb	16 41 36.3
	comp=Z,18nm,1.1s						
MAKZ	Makanchi	45.92	56	P		P	16 41 50.1 -0.5
MAKZ				IAmb		IAmb	16 41 51.0
	comp=Z,4.6nm,0.6s						
MK31	Makanchi Array	46.13	56	P		P	16 41 51.8 -0.5
MKAR	Makanchi Array	46.13	56	P		P	16 41 52.0 -0.2
	comp=Z,9.6nm,0.5s,baz=269,slow=7.7,SNR=155						
MKAR	Makanchi Array	46.13	56	P		P	16 41 51.8 -0.5
ZAA0	Zalesovo Array	46.98	46	P		P	16 41 57.6 -1.1
ZAA0				IAmb		IAmb	16 41 58.2
	comp=Z,3.8nm,0.4s						
ZALV	Zalesovo Beam	46.98	46	P		P	16 41 57.9 -0.9
	comp=Z,3.3nm,0.3s,baz=264,slow=9.6,SNR=17						
ZALV	Zalesovo Beam	46.98	46	P		P	16 41 57.6 -1.2
RCBR	Riachuelo	67.67	245	P		P	16 44 28.8 +3.4
CMAR	Chiang Mai Arr	69.54	82	P		P	16 44 38.0 +1.0
	comp=Z,0.8nm,0.8s,baz=297,slow=9.2,SNR=1.8						
AGPR	Aguadilla, PR	78.38	284	P		P	16 45 30.3 +1.6
KSRS	Korea Array	80.47	51	P		P	16 45 40.6 +0.9
	comp=Z,0.8nm,0.5s,baz=317,slow=4.9,SNR=4.6						

BJI ***14*** *16:34:20.2±0.0, 1°.01N×97°.37E, h30km, mB5.2/54, mb5.2/75, Ms5.1/65, Ms7 5.0/63*
DJA ***14*** *16:34:21.0±0.5, 1°N±2°×9°7E±°, h12km±3km, M5.2/37, mb5.2/37, mB5.6/17, MLv5.4/18, Mw(mB)5.1/17, Mwp5.0/1*
MOS ***14*** *16:34:21.3±0.9, 1°.14N×97°.24E, h38km, mb5.2/44, MS4.5/13, Error ellipse: s-maj=7.1km s-min=4.1km az=105.8*
IDC ***14*** *16:34:21.8±2.7, 1°.14N×97°.19E, h28km±17km, mb4.5/29, mb1 4.6/31, mb1mx4.5/38, mbtmp4.7/31, ML4.4/2, MS4.5/28, Ms1 4.5/28, ms1mx4.3/43, Error ellipse: s-maj=14.6km s-min=10.9km az=48.0*
UNK ***14*** *16:34:22.7, 1°.14N×97°.24E, h38km*
NEIC ***14*** *16:34:22.6±1.4, 1°.13N±0°.06×97°.24E±0°.06, h39km±4km, mb5.1/123, Error ellipse: s-maj=8.9km s-min=8.0km az=158.0*
GCMT ***14*** *16:34:23.6±0.3, 0°.92N±0°.02×97°.01E±0°.02, h29km, MW5.1/78, Moment Tensor Solution. s59,c81; s78,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.72±.18; Mθθ-1.76±.11; Mφφ-1.96±.12; Mrθ1.77±.17; Mrφ1.78±.07; Mθφ-2.66±.20; Best double couple: M0=4.87400×10^16 NP1:ϕs311.00000°, δ25.00000°, λ79.00000°. NP2: ϕs143.00000°, δ66.00000°, λ95.00000°. Principal axes: T 4.9340, Plg69.0000°, Azm63.0000°; N -0.1210, Plg5.0000°, Azm321.0000°; P -4.8130, Plg20.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KLM ***14*** *16:34:24.0, 1°.23N×97°.16E, h40km, mb5.2*
BGR ***14*** *16:34:26.1±0.0, 2°.08N×96°.97E, h26km±1km, mb5.1*
ISC 14 16:34:21.5±0.4, 1°.14N±0°.03×97°.23E±0°.04, h26km±2km, h26km:pP-P, n614, σ1§44/635, mb5.1/201, MS4.7/61, 48C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.38	65	P	Pb	16 34 28.7	-1.1
GSI				S	Sb	16 34 34.4	-1.1
GSI	Gunungsitoli	0.38	65		Pn	16 34 31.6	+0.3
GSI				Sn	Sn	16 34 36.9	-0.9
PBSI	Pulau Batu	1.58	139	P	Pn	16 34 48.5	+0.6
PBSI				S	Sb	16 35 11.5	+1.8
TPTI		2.10	359	P	Pn	16 34 54.8	-0.3
TPTI				S	Sn	16 35 21.9	+1.5
RPSI	Rantau Prapat	2.29	48	Pn	Pn	16 34 59.2	+1.6
RPSI	Rantau Prapat	2.29	48		Sn	16 35 22.8	-2.1
PSI	Prapat	2.36	46	Pn	Pn	16 34 59.0	+0.4
	22nm,0.3s,baz=180,slow=8.8,SNR=110						
PSI				Sn	Sn	16 35 22.8	-4.1
	128nm,0.3s,baz=180,slow=13,SNR=9.3						
PSI				LR	LR	16 35 48.4	
	comp=Z,7μm,20.2s,baz=270,slow=37						
MNSI	Mandailing Nat	2.37	98	P	Pn	16 34 59.8	+1.1
TSI	Tuntungan	2.69	30	P	Pn	16 35 04.1	+0.9
SISI	Saibi	3.08	143	P	Pb	16 35 18.3	+2.8
MLSI	Meulaboh, Aceh	3.21	345	P	Pn	16 35 11.0	+0.7
PDSI	Padang	3.82	122	P	Pn	16 35 18.9	+0.2
BKNI	Bangkinang	3.89	102	P	Pn	16 35 21.0	+1.4
BKNI	Bangkinang	3.89	102	Pn	Pn	16 35 19.1	-0.5
LHMI	Lhok Sumawe	4.07	356	P	Pb	16 35 49.3	+17
LHMI	Lhok Sumawe	4.07	356	Pn	Pn	16 35 22.3	+0.2
SDSI	Sungai Dareh	4.67	116	P	Pn	16 35 31.1	+0.7
BSI	Banda Aceh	4.74	336	P	Pb	16 36 01.8	+18
IPM	Ipoh	5.03	49	Pn	Pn	16 35 37.0	+1.6
IPM	Ipoh	5.03	49	P	Pn	16 35 38.0	+2.6
KRJI	Kerinci	5.31	127	P	Pn	16 35 42.4	+3.2
	13nm1μm,0.7s						
KULM	Kulim	5.35	40	Pn	Pn	16 35 40.3	+0.6
KULM	Kulim	5.35	40	P	Pn	16 35 41.0	+1.3
MYKOM	Kota Tinggi	6.65	84	Pn	Pn	16 35 58.3	+0.8
MYKOM	Kota Tinggi	6.65	84	P	Pn	16 35 59.0	+1.5
KSI	Kapahiang	7.17	132	P	Pn	16 36 08.6	+3.9
	1.7nm4μm291nm,0.9s						
TPRI	Tanjung Pinang	7.30	92	P	Pn	16 36 08.7	+2.3
	0.8nm3μm108nm,0.8s						
DSRI	Dabo	7.52	102	P	Pn	16 36 11.3	+1.8
	0.4nm39nm,0.9s						
MNAI	Manna	7.91	134	Pn	Pn	16 36 14.4	-0.5
LHSI	Lahat	7.99	128	P	Pn	16 36 16.9	+0.9
	1.1nm4μm294nm,0.9s						
MDSI	Maura Dua	8.91	129	P	Pn	16 36 28.0	-0.6
	0.4nm118nm,0.7s						
LWLI	Liwa	9.16	132	P	Pn	16 36 46.9	+15
KLSI		9.47	128	P	Pn	16 36 35.9	-0.4
	19nm,0.6s						
TPI	Tanjungpandan	11.11	110	P	Pn	16 37 01.4	+2.6
	72nm,0.9s						
DBJI	Dramaga	12.19	129	P	P	16 37 27.1	+1.2
KSM	Kuching	13.08	88		Pn	16 37 25.6	0.0
KSM	Kuching	13.08	88	P	Pn	16 37 25.0	-0.7
CISI	Cisompet, Garu	13.64	129	Pn	Pn	16 37 31.9	-1.6
SBUM	Sibu	15.04	85	Pn	Pn	16 37 52.6	+0.2
SBUM				IAmb	IAmb	16 38 00.9	
	comp=Z,56nm,0.8s						
SBUM	Sibu	15.04	85	P	Pn	16 37 54.0	+1.6
DLV	T Lat	15.49	46	Pn	Pn	16 37 58.1	-0.4
PBKT	Sadao Pong	15.77	13	Pn	Pn	16 38 02.2	+0.3
PBKT				IAmb	IAmb	16 38 08.0	
	comp=Z,165nm,1.1s						
UGM	Wanagama	16.02	124	Pn	Pn	16 38 04.8	-0.4
UGM				IAmb	IAmb	16 38 15.3	
	comp=Z,97nm,0.9s						
UBPT	Khong Chiam	16.23	30	Pn	Pn	16 38 08.1	+0.3
CM31	Chiang Mai Arr	17.29	5		Pn	16 38 19.9	-1.3
CMAR	Chiang Mai Arr	17.29	5	P	Pn	16 38 20.9	-0.3
	comp=Z,1.2nm,0.3s,baz=197,slow=11,SNR=69						
CMAR				LR	LR	16 45 52.5	
	comp=Z,2μm,18.4s,baz=240,slow=40						
CMAR	Chiang Mai Arr	17.29	5	P	Pn	16 38 19.6	-1.6
CMAR	Chiang Mai Arr	17.29	5	P	Pn	16 38 19.6	-1.6
PALK	Pallekele	17.57	291	P	Pn	16 38 23.5	-1.3
PALK				pmax	pmax		
	comp=Z,32nm,1.1s						
PALK	Pallekele	17.57	291	Pn	Pn	16 38 23.5	-1.3
CHTO	Chiang Mai	17.64	5	P	Pn	16 38 23.6	-2.0
CHTO				pmax	pmax		
	comp=Z,24nm,0.9s						
CHTO	Chiang Mai	17.64	5	Pn	Pn	16 38 23.6	-2.0
MTKI	Muara Teweh, K	17.78	97	P	P	16 38 28.8	+0.8
	comp=Z,3μmcomp=Z,151nm,0.5s						
BBKI	Banjar Baru	18.18	105	P	P	16 38 32.6	+0.2
	comp=Z,1μmcomp=Z,92nm,1.0s						
SPMM	Sapulut	19.53	79	P	Pn	16 38 48.0	-0.6
KKM	Kota Kinabalu	19.55	75	P	P	16 38 46.6	-1.0
KKM				IAmb	IAmb	16 38 51.9	
	comp=Z,137nm,1.0s						
BKB	Balikpapan	19.81	97	P	P	16 38 48.9	-1.3
SLVN	Son La	21.10	18	P	P	16 39 04.0	-0.2
MYLDM	Lahad Datu	21.61	79	P	P	16 39 09.6	-0.1
MYLDM				IAmb	IAmb	16 39 18.8	
	comp=Z,127nm,1.1s						
SAIH	SAIHA	21.62	349	*e*P	P	16 39 10.7	+0.8
SAIH				IAmb	IAmb	16 39 13.5	
	comp=Z,209nm,1.4s						
QIZ	Qiongzhong	21.65	34	P	P	16 39 10.3	+0.2
QIZ				S	S	16 43 10.4	+1.6
QIZ				pmax	pmax		
	comp=Z,42nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,320nm,9.6s						
QIZ				LR	LR		
	comp=Z,1μm,20.6s						
QIZ				LR	LR		
	comp=Z,2μm,12.9s						
QIZ				LR	LR		
	comp=Z,2μm,12.7s						
QIZ	Qiongzhong	21.65	34	P	P	16 39 10.5	+0.4
QIZ				IAmb	IAmb	16 39 18.1	
	comp=Z,57nm,1.1s						
BWNR	Bhubaneshwar	22.07	330	*e*P	P	16 39 05.5	-9.2
BWNR				IAmb	IAmb	16 39 08.3	
	comp=Z,37nm,0.9s						
MPSI	Mapaga	22.68	92	P	P	16 39 21.5	+0.3
	comp=Z,924nmcomp=Z,86nm,1.0s						
SPSI	Sidrap Palu	23.09	103	P	P	16 39 31.1	+5.7
KAPI	Kappang	23.31	105	P	P	16 39 27.9	+0.2
	comp=Z,51nm,0.9s,baz=284,slow=13,SNR=13						
KAPI				LR	LR	16 49 03.7	
	comp=Z,2μm,18.4s,baz=288,slow=38						
KAPI	Kappang	23.31	105	*ce*P	P	16 39 28.9	+1.2
KAPI				pmax	pmax		
	comp=Z,58nm,1.0s						
KAPI	Kappang	23.31	105	P	P	16 39 27.8	+0.2
KAPI				IAmb	IAmb	16 39 30.2	
	comp=Z,61nm,1.0s						
BNSI	Bone	23.51	104	P	P	16 39 30.5	+0.8
	comp=Z,63nm,1.0s						
BKSI	Bulukumba	23.75	106	P	P	16 39 32.9	+1.0
	comp=Z,57nm,0.8s						
KMI	Kunming	24.43	12	⇑*i*P	P	16 39 39.9	+1.5
KMI				pP	sP	16 39 50.5	+1.1
KMI				sP	pP	16 39 54.4	+8.2
KMI				S	S	16 43 58.9	+1.9
KMI				pmax	pmax		
	comp=Z,230nm,1.2s						
KMI				pmax	pmax		
	comp=Z,660nm,3.5s						
KMI				LR	LR		
	comp=Z,4μm,16.8s						
KMI				LR	LR		
	comp=Z,2μm,13.9s						
KMI				LR	LR		
	comp=Z,5μm,16.6s						
KMI	Kunming	24.43	12	P	P	16 39 39.4	+1.0
KMI				pmax	pmax		
	comp=Z,269nm,1.1s						
KMI	Kunming	24.43	12	P	P	16 39 39.4	+1.0
HYB	Hyderabad	24.48	312	*i* P	P	16 39 42.0	+3.3
WBSI	Waikabubak, Su	24.53	116	P	P	16 39 37.2	-2.0
SHL	Shillong	24.83	348	*e*P	P	16 39 42.1	+0.1
SHL				IAmb	IAmb	16 39 44.3	
	comp=Z,121nm,1.1s						
SHL	Shillong	24.83	348	P	P	16 39 41.4	-0.5
SHL				pmax	pmax		
	comp=Z,182nm,1.0s						
SHL	Shillong	24.83	348	P	P	16 39 41.4	-0.5
BOK	Bokaro	25.06	335	*e*P	P	16 39 46.1	+2.2
BOK				IAmb	IAmb	16 39 56.3	
	comp=Z,117nm,1.2s						
LUWI	Luwuk	25.63	95	P	P	16 39 49.5	+0.3
	comp=Z,2μmcomp=Z,302nm,1.0s						
LUWI	Luwuk	25.63	95	P	P	16 39 48.5	-0.6
TEZP	TEZPUR	25.69	351	*e*P	P	16 39 49.8	+0.3
TEZP				IAmb	IAmb	16 39 52.5	
	comp=Z,19nm,0.8s						
GTOI	Gorontalo	25.78	91	P	P	16 39 50.0	-0.5
	comp=Z,450nmcomp=Z,52nm,0.9s						
LKP	Lekhapani	26.08	357	*e*P	P	16 39 53.8	+0.7
LKP				IAmb	IAmb	16 39 57.2	
	comp=Z,905nm,1.0s						
DGAR	Diego Garcia	26.14	251	*i* P	P	16 39 54.8	+1.0
DGAR				pmax	pmax		
	comp=Z,137nm,1.0s						
H08S2	Diego Garcia H	26.17	250	T	T	17 06 56.4	
	baz=71,slow=75,S

comp=Z,3μm,23.1s
LSA Lhasa 28.99 349 P P 16 40 19.7 0.0
LSA pmax pmax
comp=Z,29nm,1.1s
LSA Lhasa 28.99 349 P P 16 40 19.7 0.0
SOEI Soe 29.01 113 P P 16 40 17.4 -2.3
SOEI Soe 29.01 113 P P 16 40 17.6 -2.0
SOEI IAmb IAmb 16 40 32.8
comp=Z,66nm,0.9s
GKN Gorkha 29.31 337 *eP* **P 16 40 23.5 +1.3**
comp=Z,93nm,0.9s
GKN Gorkha 29.31 337 *eP* **P 16 40 23.5 +1.3**
comp=Z,93nm,0.9s
KOLN Koldanda 29.52 335 *eP* **P 16 40 25.8 +1.6**
comp=Z,99nm,0.9s
KOLN Koldanda 29.52 335 *eP* **P 16 40 25.8 +1.6**
comp=Z,99nm,0.9s
PYUN Piuthan 30.07 334 *eP* **P 16 40 30.4 +1.4**
comp=Z,80nm,1.0s
PYUN Piuthan 30.07 334 *eP* **P 16 40 30.4 +1.4**
comp=Z,80nm,1.0s
NLAI Namlea 30.17 98 P **P 16 40 33.1 +3.3**
comp=Z,62nm,0.7s
CD2 Chengdu 30.25 11 P **P 16 40 31.8 +1.5**
CD2 S **S 16 45 30.8 +2.2**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,360nm,7.3s
CD2 LR LR
comp=Z,4μm,15.5s
CD2 LR LR
comp=Z,5μm,15.5s
CD2 LR LR
comp=Z,5μm,15.1s
ENH Enshi 31.22 21 P **P 16 40 37.7 -1.2**
PSA00 Pilbara Seismi 31.59 137 P **P 16 40 42.1 -0.2**
PSA00 IAmb IAmb 16 40 44.1
comp=Z,22nm,1.1s
TPUB Ta-pu 31.63 44 P **P 16 40 42.4 -0.2**
TPUB IAmb IAmb 16 40 45.9
comp=Z,48nm,1.1s
SSLB Suanglung 32.18 44 P **P 16 40 47.6 +0.1**
SSLB IAmb IAmb 16 40 49.8
comp=Z,34nm,0.9s
YHNB Yeheng 33.04 43 P **P 16 40 54.3 -0.8**
YHNB IAmb IAmb 16 40 58.1
comp=Z,16nm,0.8s
WHN Wuhan 33.45 27 P **P 16 40 59.4 +1.0**
WHN S **S 16 46 25.5 +7.0**
WHN pmax pmax
comp=Z,88nm,1.2s
WHN LR LR
comp=Z,2μm,14.3s
WHN LR LR
comp=Z,3μm,13.5s
WHN LR LR
comp=Z,4μm,13.2s
FITZ Fitzroy Crossi 33.87 126 P **P 16 41 01.0 -1.2**
baz=34,SNR=10
FITZ Fitzroy Crossi 33.87 126 P **P 16 41 00.7 -1.5**
XAN Xi'an 34.51 17 P **P 16 41 07.1 -0.6**
XAN pP sP 16 41 18.8 +0.1
XAN sP pP 16 41 24.3 +8.8
XAN PP **PP 16 42 25.0 -1.2**
XAN S **S 16 46 31.8 -3.1**
XAN sS sS 16 46 53.0 +5.1
XAN SS **SnSn 16 48 46.9 -0.4**
XAN pmax pmax
comp=Z,35nm,1.1s
XAN pmax pmax
comp=Z,250nm,4.3s
XAN LR LR
comp=Z,2μm,13.3s
XAN LR LR
comp=Z,2μm,13.0s
XAN LR LR
comp=Z,3μm,17.3s
XAN Xi'an 34.51 17 P **P 16 41 06.5 -1.1**
XAN pmax pmax
comp=Z,61nm,0.8s
XAN Xi'an 34.51 17 P **P 16 41 06.5 -1.1**
MORW Morawa 35.02 151 P **P 16 41 11.8 -0.3**
SAUI Saumlaki 35.16 106 P **P 16 41 11.9 -1.6**
FAKI Fak Fak 35.24 97 P **P 16 41 12.3 -1.9**
FAKI IAmb IAmb 16 41 20.6
comp=Z,42nm,1.1s
LZH Lanzhou 35.31 9 ⇑P **P 16 41 14.9 +0.2**
LZH pP sP 16 41 29.4 +3.7
LZH S **S 16 46 55.8 +8.4**
LZH pmax pmax
comp=Z,44nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.9s
LZH LR LR
comp=Z,2μm,17.9s
LZH LR LR
comp=Z,3μm,14.6s
LZH LR LR
comp=Z,2μm,17.9s
KNRA Kununurra 35.35 119 P **P 16 41 13.6 -1.5**
baz=35,SNR=8.4
KNRA Kununurra 35.35 119 P **P 16 41 12.7 -2.5**
KNRA IAmb IAmb 16 41 14.1
comp=Z,23nm,1.0s
SMLA Simla 35.36 329 *eP* **P 16 41 15.1 +0.1**
SMLA IAmb IAmb 16 41 21.3
comp=Z,48nm,1.2s
MTN Manton Dam 36.39 114 P **P 16 41 23.1 -0.9**
baz=36,SNR=3.4
MTN Manton Dam 36.39 114 P **P 16 41 21.5 -2.5**
MTN IAmb IAmb 16 41 37.4
comp=Z,13nm,0.8s
DHRM DHARAMSHALA 36.70 330 *eP* **P 16 41 27.2 +0.5**
DHRM IAmb IAmb 16 41 33.9
comp=Z,22nm,0.6s
NJ2 Nanjing 36.90 31 ⇑P **P 16 41 28.4 +0.3**
NJ2 pP **sP 16 41 39.1 -0.1**
NJ2 S **S 16 47 09.5 -2.0**
NJ2 pmax pmax
comp=Z,24nm,1.0s
NJ2 LR LR
comp=Z,2μm,12.8s
NJ2 LR LR
comp=Z,1μm,14.7s
NJ2 LR LR
comp=Z,2μm,14.7s
KDU Kakadu 37.57 113 P **P 16 41 32.3 -1.7**
baz=38,SNR=6.2
GTA Gaotai 38.16 3 pP PP 16 44 01.6 +55
GTA P **PcP 16 43 54.8 +1.4**
GTA sP sP 16 44 05.5
GTA Gaotai 38.16 3 ⇑P **P 16 41 39.3 +0.4**
GTA pP pP 16 41 45.8 -1.0
GTA sP sP 16 41 50.0 0.0
GTA PP **PnPn 16 43 11.0 +2.9**
GTA PcP **PcP 16 43 54.8 +1.4**
GTA S **S 16 47 32.5 +1.7**
GTA sS sS 16 47 43.8 0.0
GTA pmax pmax
comp=Z,44nm,0.9s
GTA pmax pmax
comp=Z,210nm,5.3s
GTA LR LR
comp=Z,940nm,16.0s
GTA LR LR
comp=Z,800nm,14.9s
GTA LR LR
comp=Z,1μm,15.3s
H01W3 Cape Leeuwin H 39.18 158 T T 17 23 04.7
baz=332,slow=76,SNR=222
H01W2 Cape Leeuwin H 39.19 158 T T 17 23 05.7
baz=332,slow=76,SNR=216
H01W1 Cape Leeuwin H 39.19 158 T T 17 23 15.4
baz=332,slow=76,SNR=183
NIL Nilore 39.38 328 P **P 16 41 48.9 -0.2**
NIL pmax pmax
comp=Z,30nm,0.9s
NIL Nilore 39.38 328 P **P 16 41 48.9 -0.2**
NIL IAmb IAmb 16 41 57.2
comp=Z,30nm,0.9s
TIA Tai'an 39.47 26 P **P 16 41 49.4 -0.4**
TIA pmax pmax
comp=Z,11nm,1.0s
TIA LR LR
comp=Z,1μm,16.9s
TIA LR LR
comp=Z,1μm,14.7s
TIA LR LR
comp=Z,2μm,14.3s
WRKA Warakurna 39.78 133 P **P 16 41 53.2 +0.6**
baz=40,SNR=9.5
JMZ Minamidaito 2 40.91 50 P **P 16 42 01.6 -0.2**
BTO Baotou 40.96 15 P **P 16 42 01.8 -0.4**
BTO S **S 16 48 03.8 -8.9**
WB0 Warramunga Arr 41.95 122 P **P 16 42 09.2 -1.3**
WRA Warramunga Arr 41.98 122 P **P 16 42 09.6 -1.1**
comp=Z,11nm,0.8s,baz=299,slow=9.0,SNR=95
WRA PcP **PcP 16 44 06.9 +1.0**
comp=Z,1.8nm,0.8s,baz=309,slow=2.6,SNR=2.7
WRA S **S 16 48 23.6 -4.6**
comp=Z,1.4nm,1.0s,baz=293,slow=18,SNR=5.0
WRA LR LR 17 03 19.3
comp=Z,624nm,18.7s,baz=295,slow=41
WRA Warramunga Arr 41.98 122 P **P 16 42 09.2 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 41.98 122 P **P 16 42 09.2 -1.5**
WRAB Tennant Creek 41.98 122 *i* P **P 16 42 09.8 -1.0**
WRAB pmax pmax
comp=Z,19nm,0.9s
WRAB Tennant Creek 41.98 122 P **P 16 42 09.2 -1.6**
WRAB IAmb IAmb 16 42 26.4
comp=Z,20nm,0.8s
WB2 Warramunga Arr 41.99 122 P **P 16 42 09.7 -1.1**
WB2 IAmb IAmb 16 42 26.4
comp=Z,19nm,0.8s
WC3 Warramunga Arr 42.01 122 P **P 16 42 10.7 -0.3**
baz=42
WR0 Warramunga Arr 42.16 122 P **P 16 42 11.2 -1.0**
WR0 IAmb IAmb 16 42 28.2
comp=Z,28nm,0.8s
BJT Baijiatuau 42.36 22 P **P 16 42 12.6 -0.9**
BJT pmax pmax
comp=Z,41nm,0.9s
BJT Baijiatuau 42.36 22 P **P 16 42 12.6 -0.9**
BJT IAmb IAmb 16 42 16.1
comp=Z,41nm,0.9s
BJI Beijing 42.38 22 P **P 16 42 15.1 +1.4**
BJI S **S 16 48 37.3 +3.8**
BJI pmax pmax
comp=Z,48nm,1.0s
BJI LR LR
comp=Z,570nm,13.9s
BJI LR LR
comp=Z,670nm,16.7s
KSH Kashi 42.84 336 P **P 16 42 18.3 +0.7**
KSH S **S 16 48 41.1 +0.5**
KSH sS sS 16 48 57.8 +4.1
KSH ScS **ScS 16 52 16.5 -0.6**
KSH pmax pmax
comp=Z,24nm,1.1s
KSH pmax pmax
comp=Z,98nm,7.0s
KSH LR LR
comp=Z,560nm,15.3s
KSH LR LR
comp=Z,360nm,13.5s
KSH LR LR
comp=Z,1μm,19.7s
GENI Genyem 43.08 95 P **P 16 42 19.2 -0.6**
comp=Z,31nm,0.6s
FORT Forrest 43.21 140 P **P 16 42 22.8 +2.3**
baz=43
FORT Forrest 43.21 140 P **P 16 42 19.4 -1.2**
FORT IAmb IAmb 16 42 30.8
comp=Z,40nm,0.7s
AS31 Alice Springs 43.33 127 P **P 16 42 20.8 -1.0**
ASAR Alice Springs 43.33 127 P **P 16 42 21.4 -0.3**
comp=Z,14nm,0.9s,baz=304,slow=7.6,SNR=97
ASAR ScP **ScP 16 48 00.4 +0.2**
comp=Z,0.7nm,0.9s,baz=305,slow=3.9,SNR=4.4
ASAR S **S 16 48 44.8 -3.4**
comp=Z,1.7nm,1.0s,baz=299,slow=14,SNR=8.2
ASAR Alice Springs 43.33 127 P **P 16 42 20.8 -1.0**
ASAR Alice Springs 43.33 127 P **P 16 42 20.8 -1.0**
WMQ Urumqi 43.34 350 *eP* **P 16 42 23.1 +1.6**
WMQ pP pP 16 42 30.5 +1.0
WMQ sP sP 16 42 36.8 +4.2
WMQ PcP **PcP 16 44 12.3 +2.3**
WMQ S **S 16 48 47.8 +0.2**
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,100nm,4.9s
WMQ LR LR
comp=Z,280nm,16.3s
WMQ LR LR
comp=Z,380nm,19.9s
WMQ LR LR
comp=Z,210nm,23.1s
JSU Suzuyama 43.56 43 P **P 16 42 23.2 -0.2**
JSU IAmb IAmb 16 42 25.7
comp=Z,37nm,1.1s
JAY Jayapura 43.61 95 P **P 16 42 24.8 +0.7**
comp=Z,12nm,1.1s
DL2 Dalian 43.71 28 P **P 16 42 25.3 +0.8**
DL2 *eS* **S 16 48 55.5 +2.4**
DL2 pmax pmax
comp=Z,120nm,0.9s
DL2 pmax pmax
comp=Z,120nm,3.9s
DL2 LR LR
comp=Z,1μm,13.9s
DL2 LR LR
comp=Z,660nm,15.7s
DL2 LR LR
comp=Z,950nm,14.3s
TARG Taragay, Kyrgy 44.04 339 P **P 16 42 27.3 -0.3**
TARG IAmb IAmb 16 42 41.8
comp=Z,28nm,1.0s
PRZ Przheval'sk 44.50 340 P **P 16 42 31.7 +0.8**
PRZ pmax pmax
comp=Z,14nm,0.9s
PRZ Przheval'sk 44.50 340 P **P 16 42 31.7 +0.8**
SHLS Shalkode 44.75 342 *eP* **P 16 42 33.4 +0.5**
comp=Z,19nm,1.1s,baz=342
SHLS Shalkode 44.75 342 *eP* **P 16 42 33.3 +0.5**
SHLS pmax pmax
comp=Z,19nm,1.1s
TJN Taejon 44.80 35*c i*P **P 16 42 33.1 -0.2**
JNU Nakatsue 44.83 41 LR LR 17 03 46.8
comp=Z,755nm,18.5s,baz=245,slow=39
JNU Nakatsue 44.83 41 P **P 16 42 33.6 0.0**
JNU IAmb IAmb 16 42 41.3
comp=Z,52nm,1.1s
UZB Uzynbulak 44.88 341⇑*eP* **P 16 42 35.4 +1.4**
comp=Z,11nm,1.2s,baz=341
UZB *eS* **S 16 49 11.5 +1.1**
baz=341
UZB Uzynbulak 44.88 341*ceP* **P 16 42 35.3 +1.4**
UZB *eS* **S 16 49 11.4 +1.1**
UZB pmax pmax
comp=Z,11nm,1.2s
PDGK Podgornoye 44.90 342 P **P 16 42 33.7 -0.4**
GAR Garm 45.00 330 P **P 16 42 35.1 +0.1**
SATY Saty 45.01 340⇑*iP* **P 16 42 36.4 +1.5**
comp=Z,17nm,1.3s,baz=341
SATY Saty 45.01 340*c i*P **P 16 42 36.3 +1.4**
SATY pmax pmax
comp=Z,17nm,1.3s
INCN Inchon 45.18 33 P **P 16 42 35.5 -0.8**
INCN pmax pmax
comp=Z,55nm,1.2s
INCN Inchon 45.18 33 P **P 16 42 35.5 -0.8**
KPKS Kokpek 45.28 341⇑*iP* **P 16 42 38.2 +1.1**
comp=Z,18nm,1.5s,baz=341
KPKS Kokpek 45.28 341*c i*P **P 16 42 38.1 +1.1**
KPKS pmax pmax
comp=Z,18nm,1.5s
CHGR Chuyangaron 45.33 329 P **P 16 42 37.0 -0.5**
TNSS Tian-Shan 45.49 339 *eP* **P 16 42 40.1 +1.0**
baz=339
TNSS Tian-Shan 45.49 339 *eP* **P 16 42 40.1 +1.0**
MDOK Medeo 45.56 339 *i* P **P 16 42 40.9 +1.4**
baz=340
MDOK LR LR 17 03 41.0
comp=Z,247nm,16.8s,baz=340
MDOK Medeo 45.56 339 *i* P **P 16 42 40.8 +1.4**
MDOK MLR MLR
comp=Z,247nm,17.0s
BTK Batken 45.58 331 P **P 16 42 40.0 +0.5**
BTK pmax pmax
comp=Z,64nm,1.1s
BTK Batken 45.58 331 P **P 16 42 40.0 +0.5**
AAA Alma-Ata 45.65 339 *eP* **P 16 42 41.6 +1.6**
baz=339
AAA LR LR 17 03 24.7
comp=Z,240nm,17.9s,baz=339
AAA Alma-Ata 45.65 339 *eP* **P 16 42 41.6 +1.6**
AAA MLR MLR
comp=Z,240nm,18.0s
MTBS Maitube 45.76 339 *eP* **P 16 42 41.9 +1.0**
baz=339
MTBS Maitube 45.76 339 *eP* **P 16 42 41.8 +1.0**
KSAR Wonju Array Be 45.85 34 P **P 16 42 41.7 +0.2**
KSAR Wonju Array Be 45.85 34 P **P 16 42 41.7 +0.2**
KSRS Korea Array 45.88 34 P **P 16 42 41.7 0.0**
comp=Z,54nm,0.9s,baz=222,slow=9.0,SNR=170
KSRS LR LR 17 02 27.3
comp=Z,425nm,20.1s,baz=224,slow=37
KS19 Wonju Array Si 45.88 34 P **P 16 42 41.7 -0.1**
TKM2 Tokmak 2 45.88 338 P **P 16 42 43.8 +1.8**
SNR=22
TKM2 Tokmak 2 45.88 338 P **P 16 42 41.7 -0.3**
KBK Karagaybulak 45.91 337 P **P 16 42 44.1 +1.9**
SNR=17
AAK Ala-Archa 46.07 337*c i*P **P 16 42 43.9 +0.5**
AAK pmax pmax
comp=Z,33nm,1.6s
CHKK Chushkaly 46.19 340 *eP* **P 16 42 44.4 +0.2**
baz=340
CHKK Chushkaly 46.19 340 *eP* **P 16 42 44.3 +0.2**
CHMS Chumysh 46.27 337 P **P 16 42 46.5 +1.6**
SNR=7.2
EKS2 Erkin-Say 46.38 336 P **P 16 42 47.5 +1.7**
SNR=13
KUU Kurty 46.45 339⇑*iP* **P 16 42 46.8 +0.6**
comp=Z,28nm,1.3s,baz=339
KUU Kurty 46.45 339*c i*P **P 16 42 46.8 +0.6**
KUU pmax pmax
comp=Z,28nm,1.3s
USP Ospenovka 46.60 337 P **P 16 42 48.7 +1.3**
SNR=22
SGDS Sogindy 46.71 337⇑*iP* **P 16 42 49.2 +0.9**
comp=Z,68nm,4.6s,baz=338
SGDS Sogindy 46.71 337*c i*P **P 16 42 49.2 +0.9**
SGDS pmax pmax
comp=Z,68nm,4.6s
TDK Taldyqorghan 46.74 342 *eP* **P 16 42 49.1 +0.6**
comp=Z,7.1nm,0.7s,baz=342
TDK LR LR 17 05 59.6
comp=Z,272nm,19.5s,baz=342
TDK Taldyqorghan 46.74 342 *eP* **P 16 42 49.0 +0.6**
TDK pmax pmax
comp=Z,7.0nm,0.7s
TDK MLR MLR
comp=Z,272nm,19.0s
QIS Mount Isa 46.74 120 P **P 16 42 48.8 -0.1**
baz=47,SNR=8.3
SONM Songino Array 47.19 8 P **P 16 42 51.5 -0.5**
comp=Z,39nm,1.0s,baz=192,slow=8.7,SNR=61
SONM PcP **PcP 16 44 24.2 +0.9**
comp=Z,8.6nm,0.9s,baz=198,slow=2.7,SNR=4.8
SONM LR LR 17 05 29.5
comp=Z,2μm,18.4s,baz=190,slow=40
SONM Songino Array 47.19 8 P **P 16 42 52.0 0.0**
SONM 16 44 24.2
SONM pmax pmax
comp=Z,29nm,1.0s
SONM Songino Array 47.19 8 P **P 16 42 52.0 0.0**
JMN Monobe 47.20 43 P **P 16 42 52.9 +0.7**
MK31 Makanchi Array 47.31 346 *i* P **P 16 42 53.2 +0.3**
MK31 Makanchi Array 47.31 346 P **P 16 42 52.8 -0.1**
MK31 IAmb IAmb 16 42 55.0
comp=Z,20nm,1.1s
MKAR Makanchi Array 47.31 346 P **P 16 42 53.1 +0.3**
comp=Z,18nm,0.9s,baz=159,slow=7.5,SNR=41
MKAR LR LR 17 06 57.0
comp=Z,364nm,20.1s,baz=154,slow=41
MKAR Makanchi Array 47.31 346 P **P 16 42 53.0 +0.1**
MKAR Makanchi Array 47.31 346 P **P 16 42 53.0 +0.1**
ULN Ulaanbaatar 47.31 9*c i*P **P 16 42 53.5 +0.4**
ULN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 47.31 9 P **P 16 42 52.9 -0.2**
ULN IAmb IAmb 16 42 57.8
comp=Z,30nm,1.1s
ZSN Zaisan 47.36 349 *i* P **P 16 42 55.0 +1.6**
comp=Z,18nm,1.2s,baz=349
ZSN Zaisan 47.36 349 *i* P **P 16 42 54.9 +1.6**
ZSN pmax pmax
comp=Z,18nm,1.2s
MAKZ Makanchi 47.40 346 P **P 16 42 53.7 +0.1**
MAKZ pmax pmax
comp=Z,14nm,0.8s
MAKZ Makanchi 47.40 346 P **P 16 42 53.6 +0.1**
MAKZ IAmb IAmb 16 43 12.8
comp=Z,14nm,0.8s
JHS Saijyo 47.44 41 P **P 16 42 54.3 +0.2**
IUG Iuzhnay 47.58 333⇑*iP* **P 16 42 56.4 +1.2**
comp=Z,27nm,1.3s,baz=333
IUG Iuzhnay 47.58 333*c i*P **P 16 42 56.4 +1.2**
IUG pmax pmax
comp=Z,27nm,1.3s
DZA Taraz 47.59 334 *i* P **P 16 42 55.7 +0.5**
comp=Z,8.0nm,0.8s,baz=334
DZA Taraz 47.59 334 *i* P **P 16 42 55.6 +0.5**
DZA pmax pmax
comp=Z,8.0nm,0.8s
COEN Coen 47.91 110 P **P 16 42 57.5 -0.5**
baz=48,SNR=7.1
COEN Coen 47.91 110 P **P 16 42 56.9 -1.2**
COEN IAmb IAmb 16 42 58.8
comp=Z,28nm,0.9s
KK31 Karatay Array 48.12 334 *i* P **P 16 42 59.4 +0.1**
KK31 Karatay Array 48.12 334 P **P 16 42 59.6 +0.3**
KK31 IAmb IAmb 16 43 08.0
comp=Z,26nm,1.1s
KKAR Karatay Array 48.12 334 P **P 16 42 59.6 +0.3**
KKAR pmax pmax
comp=Z,26nm,1.2s
KKAR Karatay Array 48.12 334 P **P 16 42 59.6 +0.3**
KKAR IAmb IAmb 16 43 08.0
comp=Z,26nm,1.1s
KKAR Karatay Array 48.12 334 P **P 16 42 59.0 -0.2**
BTLS Baital 48.28 338⇑*iP* **P 16 43 00.8 +0.4**
comp=Z,8.1nm,1.3s,baz=338
BTLS LR LR 17 05 39.9
comp=Z,118nm,15.7s,baz=338
BTLS Baital 48.28 338*c i*P **P 16 43 00.8 +0.4**
BTLS pmax pmax
comp=Z,8.0nm,1.3s
DGZ Jazzator, Alta 49.10 352*c i*P **P 16 43 08.0 +1.2**
DGZ pmax pmax
comp=Z,20nm,1.1s
JWT Wachi 49.12 42 P **P 16 43 06.7 -0.4**
JWT IAmb IAmb 16 43 19.6
comp=Z,16nm,0.8s
ZAK Zakamensk 49.33 5 *eP* **P 16 43 09.2 +0.7**
ZAK *e* 16 45 04.8
ZAK pmax pmax
comp=Z,13nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
CN2 Changchun 49.34 27 *eP* **P 16 43 08.5 -0.1**
CN2 PP **PP 16 45 06.6 +3.8**
CN2 *eS* **S 16 50 21.1 +7.5**
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 LR LR
comp=Z,100nm,13.2s
CN2 LR LR
comp=Z,610nm,14.9s
CN2 LR LR
comp=Z,1μm,15.4s
BBOO Buckleboo 49.81 136 P **P 16 43 12.3 -0.1**
BBOO IAmb IAmb 16 43 27.2
comp=Z,32nm,1.1s
MTSU Mount Surprise 50.11 115 P **P 16 43 15.2 +0.3**
baz=50,SNR=4.9
JCJ Chichijima 50.23 55 P **P 16 43 15.4 -0.2**
INU Inuyama 50.25 43 P **P 16 43 15.7 +0.1**
INU IAmb IAmb 16 43 29.9
comp=Z,15nm,1.1s
MOY Mondy 50.45 3 *eP* **P 16 43 20.4 +3.4**
JGF Kuroka 50.62 43 P **P 16 43 17.7 -0.8**
JGF IAmb IAmb 16 43 31.9

comp=Z,18nm,0.9s
TLY Talaya 50.65 5 *e*P **P 16 43 19.1 +0.7**
TLY *e*S S 16 50 48.6 +17
TLY pmax pmax
comp=Z,34nm,1.0s
TLY MLR MLR
comp=Z,2μm,16.0s
TLY Talaya 50.65 5 P **P 16 43 18.1 -0.3**
TLY IAmb IAmb 16 43 23.8
comp=Z,11nm,0.8s
SEM Semipalatinsk 51.17 346 *e*P **P 16 43 22.8 +0.2**
comp=Z,20nm,1.0s,baz=346
SEM LR LR 17 05 52.3
comp=Z,78nm,12.9s,baz=346
SEM Semipalatinsk 51.17 346 *e*P **P 16 43 22.8 +0.2**
SEM pmax pmax
comp=Z,20nm,1.0s
SEM MLR MLR
comp=Z,78nm,13.0s
IRK Irkutsk 51.26 6 *e*P **P 16 43 23.7 +0.7**
IRK *e* 16 45 21.2
IRK pmax pmax
comp=Z,32nm,2.2s
GEYT Alibeck 51.28 320 P **P 16 43 23.4 0.0**
comp=Z,1.8nm,0.7s,baz=148,slow=8.6,SNR=5.0
GEYT LR LR 17 08 53.3
comp=Z,199nm,18.8s,baz=75,slow=40
GEYT Alibeck 51.28 320 P **P 16 43 23.4 0.0**
GYA0B ALIBECK ARRAY 51.28 320 P **P 16 43 23.6 +0.2**
HIA Hailar 51.69 19 P **P 16 43 26.6 +0.4**
HIA pmax pmax
comp=Z,33nm,1.0s
HIA Hailar 51.69 19 P **P 16 43 26.6 +0.4**
HIA IAmb IAmb 16 43 27.9
comp=Z,33nm,1.0s
MAJO Matsushiro 51.71 42 *ce*P **P 16 43 27.0 +0.4**
MAJO pmax pmax
comp=Z,8.0nm,1.3s
MAJO Matsushiro 51.71 42 P **P 16 43 25.9 -0.8**
MAJO IAmb IAmb 16 43 43.1
comp=Z,16nm,1.1s
MAT Matsushiro 51.71 42 P **P 16 43 26.2 -0.4**
MAT S **S 16 50 47.4 +0.6**
MJAR Matsushiro Arr 51.71 42 P **P 16 43 26.0 -0.7**
comp=Z,5.9nm,1.0s,baz=225,slow=6.1,SNR=20
MJAR PcP **PcP 16 44 41.0 +1.1**
comp=Z,3.1nm,0.9s,baz=256,slow=3.4,SNR=5.0
MJAR LR LR 17 07 05.1
comp=Z,236nm,19.0s,baz=250,slow=38
MJAR Matsushiro Arr 51.71 42 P **P 16 43 25.5 -1.1**
MJAR **PcP 16 44 40.2 +0.2**
KURK Kurchatov 51.86 345 *ce*P **P 16 43 28.4 +1.0**
KURK pmax pmax
comp=Z,311nm,1.3s
KURK Kurchatov 51.86 345 P **P 16 43 27.7 +0.3**
KURK IAmb IAmb 16 43 30.6
comp=Z,40nm,1.1s
MDJ Mudanjiang 51.90 29 P **P 16 43 28.8 +0.9**
MDJ pmax pmax
comp=Z,25nm,1.5s
MDJ pmax pmax
comp=Z,340nm,4.0s
HTT Hallett 52.16 135 P **P 16 43 31.1 +1.0**
baz=52,SNR=6.9
CTAO Charters Tower 52.45 116 P **P 16 43 32.4 0.0**
CTAO pmax pmax
comp=Z,19nm,1.1s
CTAO Charters Tower 52.45 116 P **P 16 43 32.4 0.0**
CTAO IAmb IAmb 16 43 33.7
comp=Z,19nm,1.1s
USRK Ussuriysk Ar. 52.80 31 P **P 16 43 35.1 +0.5**
comp=Z,48nm,0.9s,baz=232,slow=5.6,SNR=73
USRK PcP **PcP 16 44 44.7 +0.9**
comp=Z,1.1nm,0.5s,baz=207,slow=6.1,SNR=0.6
USRK LR LR 17 06 29.1
comp=Z,735nm,21.5s,baz=210,slow=36
BRZS Berezniki 52.97 340 *e*P **P 16 43 36.2 +0.4**
comp=Z,9.2nm,1.1s,baz=340
BRZS Berezniki 52.97 340 *e*P **P 16 43 36.1 +0.4**
BRZS pmax pmax
comp=Z,9.0nm,1.1s
QLP Quilpie 53.00 125 P **P 16 43 37.3 +0.9**
baz=53,SNR=11
ABPO Ambohimpanom 53.02 245 P **P 16 43 37.6 +0.8**
ABPO pmax pmax
comp=Z,7.0nm,1.0s
ABPO Ambohimpanom 53.02 245 P **P 16 43 37.6 +0.8**
STKA Stephens Creek 53.29 132 P **P 16 43 39.1 +0.7**
comp=Z,19nm,0.9s,baz=305,slow=7.6,SNR=25
STKA LR LR 17 08 29.7
comp=Z,753nm,21.5s,baz=303,slow=38
STKA Stephens Creek 53.29 132 P **P 16 43 39.1 +0.7**
baz=53,SNR=11
STKA Stephens Creek 53.29 132 P **P 16 43 38.7 +0.3**
STKA pmax pmax
comp=Z,7.0nm,1.0s
STKA Stephens Creek 53.29 132 P **P 16 43 38.7 +0.3**
ZAA0 Zalesovo Array 53.62 351 P **P 16 43 40.5 +0.1**
ZALV Zalesovo Beam 53.62 351 P **P 16 43 41.1 +0.7**
comp=Z,67nm,1.0s,baz=165,slow=6.2,SNR=95
ZALV LR LR 17 11 47.0
comp=Z,362nm,19.3s,baz=174,slow=42
ZALV Zalesovo Beam 53.62 351 P **P 16 43 40.6 +0.2**
ZALV Zalesovo Beam 53.62 351 P **P 16 43 40.5 +0.2**
JMM Marumori 54.16 42 P **P 16 43 44.1 -0.5**
JMM IAmb IAmb 16 43 59.7
comp=Z,13nm,0.9s
CMSA Cobar Meteorol 56.23 130 P **P 16 44 00.9 +1.1**
baz=56,SNR=23
BRVK Borovoye 56.38 341 P **P 16 43 59.9 -0.5**
BRVK pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 56.38 341 P **P 16 43 59.9 -0.5**
BRVK IAmb IAmb 16 44 08.2
comp=Z,20nm,0.9s
RMQ Roma 56.72 123 P **P 16 44 05.1 +1.8**
baz=57,SNR=20
JEW Eniwo 57.29 38 P **P 16 44 07.4 +0.4**
AB31 Akbulak array 57.58 332 P **P 16 44 07.7 -1.3**
ABKAR Akbulak array 57.58 332 P **P 16 44 08.5 -0.4**
ZEA Zeya 57.98 21 *e*P **P 16 44 12.2 +0.5**
ZEA *e* 16 52 17.0
ZEA pmax pmax
comp=N,18nm,1.0s
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
ZEA MLR MLR
comp=E,600nm,16.0s
ZEA MLR MLR
comp=N,800nm,14.0s
BOD Bodaibo 58.06 10 *e*P **P 16 44 13.0 +0.8**
BOD pmax pmax
comp=Z,47nm,1.1s
EIDS Eidsvold 58.32 121 P **P 16 44 15.4 +0.8**
baz=58,SNR=14
EIDS Eidsvold 58.32 121 P **P 16 44 14.8 +0.1**
ASAJ Asahikawa 58.69 37 P **P 16 44 18.0 +1.2**
ASAJ pmax pmax
comp=Z,27nm,1.0s
JKA Kamikawa-asahi 58.69 37 P **P 16 44 17.9 +1.1**
JKA IAmb IAmb 16 44 21.8
comp=Z,27nm,1.0s
AKTO Aktyubinsk 59.30 332 P **P 16 44 20.7 -0.3**
comp=Z,4.6nm,0.8s,baz=130,slow=5.0,SNR=9.5
YNG Young 59.47 132 P **P 16 44 23.8 +1.4**
baz=60,SNR=8.2
GRNR Gornyy 59.51 28⇑ *i*P **P 16 44 23.4 +1.0**
GRNR pmax pmax
comp=N,5.0nm,0.9s
GRNR pmax pmax
comp=E,6.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,350nm,15.0s
GRNR MLR MLR
comp=N,390nm,15.0s
GRNR MLR MLR
comp=Z,770nm,14.0s
KMBO Kilima Mbogo 60.02 268 P **P 16 44 28.2 +1.3**
comp=Z,1.7nm,0.8s,baz=73,slow=5.5,SNR=4.1
KMBO LR LR 17 09 07.4
comp=Z,385nm,18.4s,baz=96,slow=35
KMBO Kilima Mbogo 60.02 268 P **P 16 44 26.3 -0.6**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 60.02 268 P **P 16 44 26.3 -0.6**
YSS Yuzh-Sakhalins 60.38 34⇑ *e*P **P 16 44 28.8 +0.4**
YSS *e* 16 44 40.6
YSS *e* 16 52 57.0
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,600nm,15.0s
YSS MLR MLR
comp=N,400nm,19.0s
YSS MLR MLR
comp=E,300nm,15.0s
YSS Yuzh-Sakhalins 60.38 34 P **P 16 44 28.5 +0.1**
ARMA Armidale 60.47 126 P **P 16 44 31.7 +2.2**
baz=60,SNR=6.5
ARMA Armidale 60.47 126 P **P 16 44 30.4 +0.9**
ARMA IAmb IAmb 16 44 32.8
comp=Z,25nm,1.0s
YUK Yuzh-Kuril'sk 60.64 38 *e*P **P 16 44 25.9 -4.3**
YUK *e*S S 16 52 35.0 -10
YUK *i* 16 54 16.6
YUK MLR MLR
comp=N,211nm,17.0s
YUK MLR MLR
comp=E,478nm,16.0s
GEVA Gevas 61.80 314 P **P 16 44 39.0 +0.5**
CRZF Crozet Islands 61.87 214 P **P 16 44 39.2 +0.7**
GROC Groznyy 62.02 320 *e*P **P 16 44 40.6 +1.0**
GROC *e* 16 45 20.8
GROC *e* 16 46 59.8
GROC pmax pmax
comp=Z,53nm,1.1s
TBLG Delisi 62.05 318 P **P 16 44 39.4 -0.5**
TBLG pmax pmax
comp=Z,27nm,1.0s
TBLG Delisi 62.05 318 P **P 16 44 39.4 -0.5**
TBLG IAmb IAmb 16 44 50.0
comp=Z,26nm,1.0s
AKH Akhalkalaki 62.75 317⇑ P **P 16 44 46.2 +1.4**
AKH Akhalkalaki 62.75 317 P **P 16 44 44.7 -0.1**
AKH pmax pmax
comp=Z,12nm,1.0s
AKH Akhalkalaki 62.75 317 P **P 16 44 44.7 -0.1**
AKH IAmb IAmb 16 44 55.1
comp=Z,12nm,1.0s
SVE Sverdlovsk 62.75 338 *e*P **P 16 44 44.3 0.0**
SVE pmax pmax
comp=Z,37nm,1.2s
SVE MLR MLR
comp=Z,475nm,19.0s
ZEI Tsey 63.07 319 *e*P **P 16 44 46.8 -0.1**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
MARD Mardin 63.10 312 P **P 16 44 47.1 -0.1**
MARD IAmb IAmb 16 44 57.2
comp=Z,16nm,1.1s
ARU Arti 63.25 337 *d i*P **P 16 44 47.1 -0.5**
ARU 16 45 25.4
ARU 16 47 02.1
ARU S **S 16 53 17.1 -0.6**
ARU SS **SS 16 57 22.1 -2.3**
ARU pmax pmax
comp=Z,17nm,1.2s
ARU MLR MLR
comp=Z,367nm,15.0s
ARU Arti 63.25 337 P **P 16 44 46.9 -0.7**
ARU IAmb IAmb 16 44 56.4
comp=Z,18nm,1.0s
HNR Honiara 63.32 101 P **P 16 44 48.2 -0.6**
HNR pmax pmax
comp=Z,89nm,0.8s
HNR Honiara 63.32 101 P **P 16 44 48.2 -0.6**
KBZ Khabaz 64.14 319 P **P 16 44 53.9 +0.2**
comp=Z,6.6nm,1.1s,baz=165,slow=4.4,SNR=7.8
KIV Kislovodsk 64.37 319 *e*P **P 16 44 55.7 +0.3**
KIV pmax pmax
comp=Z,72nm,1.0s
KIV Kislovodsk 64.37 319 P **P 16 44 55.4 0.0**
KIV IAmb IAmb 16 45 05.1
comp=Z,28nm,1.1s
GOF Gofitskoye 64.62 320⇑ *e*P pP 16 45 04.1 -1.1
YAK Yakutsk 65.47 16 *c i*P **P 16 45 01.5 -0.5**
YAK *e**PP **pP 16 45 08.5 -1.8**
YAK *e* 16 45 31.8
YAK *e*S **S 16 53 43.8 -1.0**
YAK *e**SS **sS 16 53 57.5 -1.1**
YAK *e*SS **SS 16 57 53.1 -5.6**
YAK pmax pmax
comp=Z,103nm,1.4s
YAK pmax pmax
comp=N,33nm,1.1s
YAK pmax pmax
comp=E,25nm,1.4s
YAK pmax pmax
comp=Z,91nm,4.7s
YAK pmax pmax
comp=N,53nm,4.4s
YAK pmax pmax
comp=E,101nm,4.7s
YAK smax smax
comp=N,68nm,3.8s
YAK smax smax
comp=E,45nm,3.7s
YAK MLR MLR
comp=Z,1μm,19.0s
YAK MLR MLR
comp=N,785nm,19.0s
YAK MLR MLR
comp=E,442nm,19.0s
YAK Yakutsk 65.47 16 P **P 16 45 01.6 -0.3**
SOC Sochi 66.19 318 *e*P **P 16 45 05.9 -1.1**
SOC *e*S **S 16 53 50.7 -3.6**
SOC *e*SS **SS 16 58 06.4 -4.2**
SOC pmax pmax
comp=Z,20nm,1.0s
SOC MLR MLR
comp=Z,96nm,12.0s
MBAR Mbarara 66.51 269 *i* P **P 16 45 09.8 -0.1**
MBAR pmax pmax
comp=Z,4.0nm,1.1s
VRH Novokhopyorsk 68.19 326 *e*P **P 16 45 22.9 +3.4**
VRH pmax pmax
comp=Z,30nm,1.3s
NRIK Noril'sk 68.39 356 P **P 16 45 20.6 +0.1**
comp=Z,9.8nm,0.6s,baz=165,slow=5.8,SNR=14
NRIK LR LR 17 19 49.4
comp=Z,319nm,18.5s,baz=194,slow=40
BR131 Keskin Array S 69.17 312 P **P 16 45 23.9 -2.2**
BR131 Keskin Array S 69.17 312 P **P 16 45 23.9 -2.2**
BRTR Keskin Array B 69.17 312 P **P 16 45 25.1 -1.0**
comp=Z,2.8nm,1.0s,baz=135,slow=4.3,SNR=12
BRTR Keskin Array B 69.17 312 P **P 16 45 24.6 -1.6**
BRTR Keskin Array B 69.17 312 P **P 16 45 24.6 -1.6**
VORD Divnogorie 69.46 325 *e*P P 16 45 32.4 +5.0
VORD pmax pmax
comp=Z,20nm,1.4s
VSR Storozhevoye 69.64 325 *e*P **P 16 45 33.3 +4.8**
VSR pmax pmax
comp=Z,20nm,1.2s
SKR Severo-Kuril's 69.88 35 *e*P **pP 16 45 39.1 +0.7**
SKR *e*S SKiKP 16 55 01.2 -14
SKR MLR MLR
comp=Z,300nm,19.0s
SKR MLR MLR
comp=Z,200nm,15.0s
LSZ Lusaka 70.13 253 P **P 16 45 32.5 +0.1**
comp=Z,0.8nm,0.3s,baz=57,slow=9.7,SNR=3.3
LSZ Lusaka 70.13 253 P **P 16 45 31.6 -0.8**
LSZ pmax pmax
comp=Z,4.0nm,1.1s
LSZ Lusaka 70.13 253 P **P 16 45 31.6 -0.8**
LPSR Galich'ya Gora 70.36 327 *e*P **P 16 45 33.6 +0.6**
LPSR pmax pmax
comp=Z,20nm,1.4s
DZM Mont Dzumac 71.23 114 *e*P **P 16 45 40.5 +1.5**
comp=Z,53nm,1.2s
DZM *e*S **S 16 54 52.9 -2.3**
comp=Z,466nm,23.9s
DZM Mont Dzumac 71.23 114 *e*LR LR 17 07 27.3
comp=Z,536nm,23.1s
MA2 Magadan 71.37 26 P **P 16 45 39.0 0.0**
MA2 pmax pmax
comp=Z,33nm,1.1s
MA2 Magadan 71.37 26 P **P 16 45 39.0 0.0**
MA2 IAmb IAmb 16 45 40.6
comp=Z,33nm,1.1s
AKAS Kas 71.38 308 P **P 16 45 38.9 -0.8**
AKAS IAmb IAmb 16 45 40.1
comp=Z,23nm,1.0s
PRGR Permogore 71.70 337 *e*P **P 16 45 40.2 -0.7**
PRGR pmax pmax
comp=Z,63nm,1.3s
PETK Petropavlovsk- 71.77 34 P **P 16 45 41.6 +0.1**
comp=Z,5.0nm,0.9s,baz=176,slow=4.2,SNR=7.1
PETK LR LR 17 21 04.5
comp=Z,326nm,18.4s,baz=247,slow=39
PETK Petropavlovsk- 71.77 34 P **P 16 45 40.4 -1.1**
PETK Petropavlovsk- 71.77 34 P **P 16 45 40.4 -1.1**
PET Petropavlovsk 72.26 34 *e*P **P 16 45 45.5 +1.1**
PET *e*S **S 16 55 10.5 +4.8**
PET *e*SS **SS 16 59 48.9 +5.0**
PET pmax pmax
comp=Z,79nm,1.1s
PET pmax pmax
comp=Z,100nm,14.3s
PET MLR MLR
comp=Z,300nm,17.0s
PET Petropavlovsk 72.26 34 P **P 16 45 44.2 -0.3**
MOS Moscow 72.40 329 *e*P **P 16 45 43.6 -1.6**
MOS *e* 16 45 50.4
MOS pmax pmax
comp=Z,43nm,1.3s
MAW Mawson 72.66 193 P **P 16 45 46.4 -0.1**
comp=Z,2.5nm,1.0s,baz=3.6,slow=9.0,SNR=5.0
MAW LR LR 17 13 32.6
comp=Z,326nm,18.4s,baz=55,slow=32
MAW Mawson 72.66 193 P **P 16 45 47.5 +1.0**
MAW pmax pmax
comp=Z,1.0nm,1.0s
MAW Mawson 72.66 193 P **P 16 45 47.5 +1.0**
OBN Obninsk 72.69 328 *i* P **P 16 45 47.6 +0.7**
OBN *e* 16 46 00.8
OBN *e* 16 48 27.6
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,196nm,19.0s
TIXI Tiksi 73.24 10 *c i*P **P 16 45 49.1 -0.8**
TIXI pmax pmax
comp=Z,24nm,1.0s
TIXI Tiksi 73.24 10 P **P 16 45 48.9 -0.9**
TIXI IAmb IAmb 16 45 50.6
comp=Z,26nm,1.0s
SEY Seymchan 73.80 23 *i* P **P 16 45 53.9 +0.5**
KLMR Klimovskoe 73.82 334 *e*P **P 16 45 53.3 -0.2**
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 73.82 334 *e*P **P 16 45 53.3 -0.2**
KLMR AMP 16 46 02.5
comp=Z,29nm,1.4s
HARR Harsova 74.58 316⇑ P pP 16 46 06.0 -0.7
HARR Harsova 74.58 316⇑ P pP 16 46 06.0 -0.7
BOSA Boshof 74.78 240 P **P 16 45 59.5 -0.5**
comp=Z,2.8nm,0.9s,baz=90,slow=7.9,SNR=4.3
BOSA LR LR 17 14 52.2
comp=Z,351nm,18.2s,baz=56,slow=32
BOSA Boshof 74.78 240 P **P 16 45 59.2 -0.7**
BOSA pmax pmax
comp=Z,6.0nm,1.0s
BOSA Boshof 74.78 240 P **P 16 45 59.2 -0.7**
SORM Soroca 75.17 320⇑ P **P 16 46 01.8 +0.2**
SORM Soroca 75.17 320⇑ P **P 16 46 01.8 +0.2**
AKASG Malin Array Be 75.32 322 P **P 16 46 01.5 -0.9**
comp=Z,4.0nm,1.0s,baz=86,slow=4.9,SNR=13
AKBB Malin Array Si 75.32 322 P **P 16 46 01.6 -0.8**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 75.32 322 P **P 16 46 01.6 -0.8**
TARA Tarawa 75.67 89 P **P 16 46 03.4 -1.8**
VRI Vrincioaia 75.68 317⇑ P **P 16 46 05.2 +0.5**
VRI Vrincioaia 75.68 317⇑ P **P 16 46 05.2 +0.5**
PLOR Plostina 75.73 317⇑ P **P 16 46 05.3 +0.3**
PLOR Plostina 75.73 317⇑ P **P 16 46 05.3 +0.3**
TESR Tescani 75.89 318⇓ P **P 16 46 06.3 +0.5**
MLR Muntele Rosu 76.13 317⇓ P **P 16 46 08.4 +1.0**
MLR Muntele Rosu 76.13 317⇓ P **P 16 46 08.4 +1.0**
MLR Muntele Rosu 76.13 317 P **P 16 46 07.2 -0.2**
MLR IAmb IAmb 16 46 17.1
comp=Z,17nm,1.1s
BURAR Bucovina Array 77.09 319⇑ P **P 16 46 13.7 +1.0**
BURAR Bucovina Array 77.09 319⇑ P **P 16 46 13.7 +1.0**
BURAR Bucovina Array 77.09 319 P **P 16 46 12.4 -0.3**
BUR08 Bucovina Ar. S 77.11 319 P **P 16 46 12.9 +0.1**
BUR08 IAmb IAmb 16 46 23.5
comp=Z,19nm,1.1s
GZR Gura Zlata 78.30 316⇑ P **P 16 46 19.4 -0.1**
GZR Gura Zlata 78.30 316⇑ P **P 16 46 19.4 -0.1**
LVV L'vov 78.33 321 *e*P **P 16 46 20.8 +1.3**
RPZ Rata Peaks 79.14 135 LR LR 17 23 35.7
comp=Z,261nm,18.9s,baz=236,slow=37
SIRR Siria 79.22 317⇑ P **P 16 46 24.9 +0.5**
KOLS Kolonicke sedl 79.28 320 *e*P **P 16 46 25.2 +0.5**
KOLS pmax pmax
comp=Z,19nm,1.2s
KOLS Kolonicke sedl 79.28 320 *e*P **P 16 46 25.2 +0.5**
SUW Suwalki 79.74 325 P **P 16 46 26.2 -0.8**
SUW pmax pmax
comp=Z,42nm,1.0s
SUW Suwalki 79.74 325 P **P 16 46 26.2 -0.8**
SYO Syowa Base 79.96 198⇑ *e*P **P 16 46 27.0 -0.9**
DIVS Divibare 80.05 314 P **P 16 46 28.3 -0.8**
FINES FINESS Array B 80.07 333 P **P 16 46 27.5 -1.2**
comp=Z,2.3nm,0.7s,baz=97,slow=5.2,SNR=8.3
FINES LR LR 17 25 03.0
comp=Z,121nm,21.8s,baz=102,slow=38
FINES FINESS Array B 80.07 333 P **P 16 46 27.7 -0.9**
FINES FINESS Array B 80.07 333 P **P 16 46 27.7 -0.9**
PSZ Piszkesteto 80.67 318 P **P 16 46 30.8 -1.6**
PSZ pmax pmax
comp=Z,10.0nm,1.1s
PSZ Piszkesteto 80.67 318 P **P 16 46 30.8 -1.6**
OJC Ojcow 81.09 321 P **P 16 46 33.3 -1.2**
OJC pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 81.09 321 P **P 16 46 33.3 -1.2**
VYHS Vyhne 81.46 319 *e*P **P 16 46 36.9 +0.5**
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS Vyhne 81.46 319 *e*P **P 16 46 36.9 +0.5**
JAVC Velka Javorina 82.27 319 *e*P **P 16 46 42.3 +1.5**
MORC Moravsky Berou 82.47 320⇑ P **P 16 46 42.5 +0.7**
MORC Moravsky Berou 82.47 320 *e*P **P 16 46 41.8 0.0**
MORC Moravsky Berou 82.47 320⇑ P **P 16 46 42.5 +0.7**
MORC Moravsky Berou 82.47 320 P **P 16 46 41.0 -0.8**
ARCES ARCESS Array B 82.60 340 P **P 16 46 41.5 -0.5**
comp=Z,16nm,1.1s,baz=104,slow=5.1,SNR=6.0
ARCES LR LR 17 27 21.3
comp=Z,320nm,18.4s,baz=120,slow=38
ARCES ARCESS Array B 82.60 340 P **P 16 46 41.4 -0.6**
URZ Urewera 82.75 129 LR LR 17 24 57.9
comp=Z,466nm,20.3s,baz=196,slow=37
KRLC Kraliky 82.99 320 *e*P **P 16 46 44.8 +0.3**
KRLC *ep*P **pP 16 46 52.5 -0.5**
KRLC Kraliky 82.99 320 *e*P **P 16 46 44.8 +0.3**
KRLC *e* 16 46 52.5
VRAC Vranov 83.03 319 *e*P **P 16 46 45.6 +0.9**
KRUC Moravsky 83.13 319 *e*P **P 16 46 46.1 +0.9**
DPC Dobruska-Polom 83.32 320 *e*P **P 16 46 47.0 +0.8**
DPC *ep*P **pP 16 46 54.2 -0.5**
DPC Dobruska-Polom 83.32 320 *e*P **P 16 46 47.0 +0.8**
DPC *e* 16 46 54.2
CONA Conrad Observa 83.37 318 *e*P **P 16 46 46.6 +0.1**
comp=Z,3.8nm,1.1s
OSTC Ostas 83.41 321 *e*P **P 16 46 47.8 +1.2**
OSTC *ex* x 16 46 55.0
CHVC Chvalec 83.51 321 *e*P **P 16 46 47.0 -0.1**
CHVC *ex* x 16 46 56.3
ARSA Arzberg 83.53 317 *e*P **P 16 46 47.2 -0.1**
comp=Z,6.6nm,1.2s
UPC Upice 83.53 321 *e*P **P 16 46 48.8 +1.6**
UPC Upice 83.53 321 *e*P **P 16 46 48.8 +1.6**
SOKA Soboth 83.81 317 *e*PcP **P 16 46 50.2 +1.4**
comp=Z,6.8nm,1.0s
OBKA Obir 84.13 316 *e*P **P 16 46 50.7 +0.2**
comp=Z,4.6nm,1.3s
INTR Introdacqua 84.28 312 P **P 16 46 50.7 -0.6**
PRU Pruhonice 84.42 320 *ep*P pP 16 46 59.9 -0.4

PRU Pruhonice 84.42 320 eP pP 16 46 59.9 -0.4
MOA Molln 84.43 318 eP P 16 46 52.7 +0.8
comp=Z,1.0nm,0.6s
AQU L'Aquila 84.67 312 P P 16 46 53.1 -0.1
AQU pmax pmax
comp=Z,17nm,1.0s
AQU L'Aquila 84.67 312 P P 16 46 53.1 -0.1
AQU IAmb IAmb 16 47 01.7
comp=Z,17nm,1.0s
PBCC Pribram 84.75 320 eP P 16 46 54.2 +0.8
PBCC ex x 16 47 01.7
MYKA Terra Mystica 84.77 317 eP P 16 46 53.9 +0.2
comp=Z,0.6nm,0.4s
PRED Cave del Predi 84.81 316 P P 16 46 53.6 -0.3
PRED IAmb IAmb 16 47 10.2
comp=Z,12nm,0.9s
BRG Berggiesshubel 84.88 321 eP P 16 46 54.1 +0.1
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 84.88 321 eP P 16 46 54.1 +0.1
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG Berggiesshubel 84.88 321 eP P 16 46 54.3 +0.3
comp=Z,9.8nm,1.3s,baz=92,slow=5.0
BRG epP pP 16 47 01.7 -0.8
GEC2 GERESS Array S 84.88 319 eP P 16 46 54.6 +0.3
comp=Z,23nm,1.2s,baz=92,slow=5.0
GEC2 epP pP 16 47 01.7 -1.0
GEC2 GERESS Array S 84.88 319 P P 16 46 53.3 -0.9
GEC2 IAmb IAmb 16 47 03.9
comp=Z,21nm,1.1s
GERES GERESS Array B 84.88 319 P P 16 46 53.9 -0.3
comp=Z,5.0nm,1.0s,baz=97,slow=5.5,SNR=31
GERES GERESS Array B 84.88 319 P P 16 46 53.3 -0.9
GERES GERESS Array B 84.88 319 P P 16 46 53.3 -0.9
KHC Kasperske Hory 84.98 319 eP pP 16 47 02.4 -0.8
KHC Kasperske Hory 84.98 319 eP pP 16 47 02.4 -0.8
KBA Koelnbreinsper 85.00 317 eP P 16 46 55.5 +0.5
comp=Z,1.6nm,0.7s
RUE Ruedersdorf 85.10 322 eP P 16 46 55.4 +0.4
comp=Z,20nm,0.6s,baz=92,slow=5.0
ZOU Zoufplan 85.22 316 P P 16 46 55.9 -0.2
ZOU IAmb IAmb 16 47 05.4
comp=Z,11nm,1.1s
FBE Freiberg 85.25 321 eP P 16 46 56.4 +0.5
comp=Z,12nm,1.1s,baz=92,slow=5.0
STAL STALIGIAL 85.39 316 P P 16 46 56.3 -0.4
STAL IAmb IAmb 16 47 06.0
comp=Z,16nm,1.0s
WET Wettzell 85.44 319 eP P 16 46 57.3 +0.4
comp=Z,12nm,1.1s,baz=92,slow=5.0
CLL Collm 85.50 321 i P P 16 46 57.7 +0.6
comp=Z,7.0nm,1.3s
CLL i 16 47 04.4
CLL ePP PP 16 50 30.0 +14
CLL eS S 16 57 23.0 -4.0
CLL ePS PnS 16 58 29.0 +3.6
CLL ePPS PPS 16 58 47.0
CLL eSSS SSS 17 06 48.0
CLL eSSSS 17 09 36.0
CLL LmV 17 33 00.0
comp=Z,100nm,20.9s
CLL Collm 85.50 321 i P P 16 46 57.7 +0.6
CLL i 16 47 04.4
CLL eS S 16 57 23.0 -4.0
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 85.50 321 eP P 16 46 57.1 0.0
comp=Z,7.7nm,1.2s,baz=92,slow=5.0
CLL epP pP 16 47 04.3 -1.3
CLL Collm 85.50 321 P P 16 46 57.1 0.0
ABTA Abfaltersbach 85.55 317 eP P 16 46 57.2 -0.4
comp=Z,3.0nm,1.0s
CIMO Cimolais 85.58 316 P P 16 46 57.3 -0.4
CIMO IAmb IAmb 16 47 07.7
comp=Z,24nm,1.1s
VNDA Vanda 85.76 169 P P 16 46 57.6 -0.3
comp=Z,0.9nm,0.9s,baz=283,slow=4.5,SNR=5.2
VNDA LR LR 17 19 55.0
comp=Z,220nm,20.9s,baz=316,slow=32
VNDA Vanda 85.76 169 P P 16 46 58.0 +0.1
VNDA pmax pmax
comp=Z,3.0nm,1.2s
VNDA Vanda 85.76 169 P P 16 46 58.0 +0.1
TANN Tannenbergstha 85.78 320 eP P 16 46 58.8 +0.2
comp=Z,13nm,1.4s,baz=92,slow=5.0
WERN Wernitzgruen 85.83 320 eP P 16 46 59.2 +0.4
comp=Z,11nm,1.2s,baz=92,slow=5.0
GUNZ Gunzen 85.86 320 eP P 16 46 59.4 +0.4
comp=Z,13nm,1.4s,baz=92,slow=5.0
ROTZ Rotzenmuhle 85.91 320 eP P 16 46 59.8 +0.5
comp=Z,9.7nm,1.2s,baz=92,slow=5.0
PLN Plauen 85.98 320 eP P 16 46 59.9 +0.3
comp=Z,6.1nm,1.1s,baz=92,slow=5.0
MANZ Manzenberg 85.99 320 eP P 16 47 00.5 +0.8
comp=Z,17nm,1.2s,baz=92,slow=5.0
CTI Castel Tesino 86.11 316 P P 16 47 00.1 -0.4
CTI pmax pmax
comp=Z,16nm,1.2s
CTI Castel Tesino 86.11 316 P P 16 47 00.1 -0.4
CTI IAmb IAmb 16 47 10.1
comp=Z,16nm,1.2s
WTTA Wattenberg 86.17 317 eP P 16 47 00.7 -0.2
comp=Z,2.9nm,0.7s
NEUB Neuenburg 86.26 321 eP P 16 47 00.9 0.0
comp=Z,22nm,1.3s,baz=92,slow=5.0
MOX Moxa 86.34 320 eP P 16 47 01.6 +0.3
comp=Z,7.2nm,1.1s,baz=92,slow=5.0
SQTA Sankt Quirin 86.46 317 eP P 16 47 01.9 -0.3
comp=Z,2.2nm,0.8s
MOTA Moosalm 86.54 317 eP P 16 47 02.2 -0.4
comp=Z,6.2nm,1.1s
GRF Grafenberg Arr 86.55 320 eP P 16 47 03.0 +0.6
comp=Z,17nm,1.0s,baz=92,slow=5.0
GRF epP pP 16 47 10.4 -0.5
RETA Reutte 86.77 317 eP P 16 47 03.5 -0.2
comp=Z,3.6nm,0.9s
FETA Feichten 86.78 317 eP P 16 47 03.3 -0.5
comp=Z,2.2nm,1.2s
NB2 NORSAR Subarra 87.07 331 P P 16 47 04.5 -0.2
comp=Z,21nm,1.4s,baz=94,slow=4.8
NB2 NORSAR Subarra 87.07 331 P P 16 47 04.5 -0.2
baz=94,slow=4.8
NOA NORSAR Array B 87.07 331 P P 16 47 03.8 -0.9
comp=Z,4.8nm,1.1s,baz=93,slow=5.0,SNR=7.9
NOA LR LR 17 30 47.8
comp=Z,118nm,20.5s,baz=95,slow=39
FUORN Ofenpass-Fuorn 87.09 316 P P 16 47 05.3 -0.1
BSEG Bad Segeberg 87.26 324 eP P 16 47 06.3 +0.6
comp=Z,23nm,1.3s,baz=92,slow=5.0
BSEG epP pP 16 47 14.1 -0.2
NC204 NORSAR Array S 87.30 331 P P 16 47 04.7 -1.2
NRDL Niedersach Rie 87.35 322 eP P 16 47 07.1 +1.0
comp=Z,16nm,1.1s,baz=92,slow=5.0
DAVA Damuels 87.37 317 ePcP PcP 16 47 08.0 -0.6
comp=Z,5.2nm,0.9s
GTTG Gottingen 87.41 321 eP P 16 47 07.1 +0.6
comp=Z,15nm,1.3s,baz=92,slow=5.0
KEST Kesra 87.62 306 P P 16 47 07.4 -0.6
comp=Z,4.4nm,0.9s,baz=326,slow=6.7,SNR=5.6
TNS Taunus Mts 88.35 320 eP P 16 47 11.7 +0.6
comp=Z,9.6nm,1.1s,baz=92,slow=5.0
IBBN Ibbenburen 88.78 322 eP P 16 47 13.6 +0.6
comp=Z,23nm,0.8s,baz=92,slow=5.0
BUG Bochum--Univer 89.09 321 eP P 16 47 15.1 +0.6
comp=Z,21nm,1.2s,baz=92,slow=5.0
BUG epP pP 16 47 23.0 0.0
AHRW Bad Neuenahr-A 89.23 320 eP P 16 47 16.0 +0.9
comp=Z,18nm,1.2s,baz=92,slow=5.0
NVL N'lazarevskaya 89.55 199 eP pP 16 47 25.3 +0.6
NVL pmax pmax
comp=Z,13nm,0.8s
WLF Walferdange 89.84 319 P P 16 47 15.8 -2.2
WLF Walferdange 89.84 319 pP pP 16 47 26.9 +0.2
WLF Walferdange 89.84 319 eP P 16 47 19.0 +1.0
comp=Z,17nm,1.2s,baz=92,slow=5.0
MEM Membach 89.91 320 P P 16 47 16.9 -1.5
MEM pP pP 16 47 27.1 +0.2
MEM sP sP 16 47 31.2 +1.2
BMRD Maredsous 90.71 320 ⇑P P 16 47 21.9 -0.2
QSPA South Pole Qui 91.08 180 P P 16 47 22.1 -1.5
TORD Torodi Ar. Bea 95.14 283 LR LR 17 29 31.5
comp=Z,178nm,19.3s,baz=120,slow=35
ESDC Sonseca Array 97.89 310 LR LR 17 34 22.4
comp=Z,64nm,21.8s,baz=45,slow=37
ILAR Eielson Array 99.74 23 P Pdif 16 48 01.9 -1.1
comp=Z,0.5nm,0.9s,baz=303,slow=5.0,SNR=3.3
ILAR LR LR 17 39 19.8
comp=Z,124nm,18.2s,baz=314,slow=39
ILAR Eielson Array 99.74 23 P Pdif 16 48 01.4 -1.5
ILAR Eielson Array 99.74 23 Pdif 16 48 01.4 -1.5
TBI Tubuai 111.80 115 eLR LR 17 26 24.0
comp=Z,291nm,25.0s
PPT2 Papeete2 112.43 108 eLR LR 17 26 32.4
comp=Z,226nm,25.0s
K02D Willamette Mer 122.94 35 P PKiKP 16 53 16.6 +0.5
baz=309
I04A Tendick Farm, 122.95 33 P PKiKP 16 53 16.1 0.0
baz=311
J05D Fort Rock, OR 123.93 33 P PKiKP 16 53 18.7 +0.6
baz=312
L04D Klamath Falls 124.02 35 P PKiKP 16 53 18.9 +0.6
baz=310
M02C Callahan 124.23 36 P PKiKP 16 53 19.6 +0.9
baz=309
I07A Izee 124.31 31 PKPdf PKiKP 16 53 18.9 +0.1
MSO Missoula 124.96 26 P PKiKP 16 53 20.1 +0.1
baz=321
MSO Missoula 124.96 26 PKPdf PKPdf 16 53 19.1 -0.6
J08A Circle Bar Ran 125.35 31 PKPdf PKPdf 16 53 19.9 -0.6
MOD Modoc Plateau 125.36 34 PKPdf PKPdf 16 53 20.1 -0.6
O03E Paynes Creek 125.54 36 P PKiKP 16 53 21.6 +0.2
baz=309
HOPS Hopland Field 125.58 38 PKPdf 16 53 20.9 0.0
EGMT Eagleton 125.69 22 P PKiKP 16 53 21.4 0.0
baz=326
EGMT Eagleton 125.69 22 PKiKP 16 53 21.4 0.0
MFID Camas Ranch 126.66 30 PKPdf PKPdf 16 53 22.9 -0.1
DLMT Dillon 126.69 26 PKPdf 16 53 22.7 -0.4
AFDM Forest Hills D 126.89 37 PKPdf PKPdf 16 53 23.7 +0.2
BOZ Bozeman (W) 126.92 25 P PKiKP 16 53 24.4 +0.4
baz=323
HLID Hailey 127.24 29 P PKiKP 16 53 25.5 +0.8
baz=319
ULM Lac du Bonnet 127.59 11 PKP PKPdf 16 53 24.3 -0.1
comp=Z,4.1nm,0.7s,baz=194,slow=2.9,SNR=3.5
ULM Lac du Bonnet 127.59 11 PKIKP PKPdf 16 53 24.1 -0.3
ULM Lac du Bonnet 127.59 11 PKPdf 16 53 24.1 -0.3
YHH Holmes Hill 127.90 25 PKPdf 16 53 24.8 -0.8
NVAR Mina Array Bea 128.81 36 PKP PKiKP 16 53 28.4 +0.2
comp=Z,2.8nm,1.0s,baz=271,slow=1.4,SNR=15
NVAR Mina Array Bea 128.81 36 PKPdf PKPdf 16 53 25.9 -1.5
NV11 Mina Array Sit 128.90 36 PKPdf 16 53 26.1 -1.4
BGU Big Grassy Mou 129.90 30 PKPdf 16 53 28.4 -1.0
R11A Troy Canyon, C 130.42 34 P PKiKP 16 53 31.6 +0.3
baz=315
R11A Troy Canyon, C 130.42 34 PKPdf 16 53 29.7 -0.8
DUG Dugway, Tooele 130.56 30 P PKiKP 16 53 32.3 +0.8
baz=319
ECSD EROS Data Cent 133.63 14 PKPdf PKPdf 16 53 36.5 +0.4
PV12 Saucer Basin, 133.98 29 PKPdf 16 53 35.7 -1.5
S39A Bolivar 140.15 13 PKPdf PKPdf 16 53 47.0 -1.4
MSTX Muleshoe 140.33 26 PKPdf PKPdf 16 53 48.3 -0.6
U40A Yellville 141.53 13 P PKPdf 16 53 45.4 -5.5
baz=344
WVT Waverly 142.62 7 P PKPdf 16 53 49.8 -3.0
baz=352
W41B Gary Mavity, V 142.80 13 P PKPdf 16 53 49.4 -3.7
baz=344
ABTX Abilene, Hawle 142.82 24 P PKPdf 16 53 49.5 -3.8
baz=331
MIAR Mount Ida 143.08 15 P PKPbc 16 53 50.5 0.0
baz=342
TX31 Lajitas Ar. Si 143.70 32 PKPbc 16 53 52.8 +0.3
TX32 Lajitas Array 143.70 32 PKPbc 16 53 53.0 +0.5
TXAR Lajitas Array 143.70 32 PKP PKPbc 16 53 53.1 +0.6
comp=Z,4.2nm,1.1s,baz=262,slow=2.5,SNR=17
TXAR SKPbc SKPbc 16 57 31.0 -1.2
comp=Z,0.6nm,0.5s,baz=298,slow=1.9,SNR=3.7
TXAR Lajitas Array 143.70 32 PKIKP PKPbc 16 53 52.3 -0.2
TXAR Lajitas Array 143.70 32 PKPdf PKPbc 16 53 52.3 -0.2
SLBS Sierra La Lagu 143.85 45 PKPbc 16 53 53.8 +0.7
WLAR White Oak Lake 144.01 15 PKPdf PKPbc 16 53 53.2 0.0
CCAR Cane Creek 144.11 13 PKPbc 16 53 54.0 +0.6
WHTX Lake Whitney, 144.23 22 P PKPab 16 53 53.5 0.0
baz=334
WHTX Lake Whitney, 144.23 22 PKPdf PKPbc 16 53 54.0 +0.1
X51A Calhoun 144.43 3 PKPbc 16 53 54.7 +0.3
Z41A Richland Creek 144.50 15 P PKPdf 16 53 55.6 -0.6
baz=343
Z41A Richland Creek 144.50 15 PKPbc 16 53 54.6 -0.1
Y45A Yeager Farm, C 144.60 10 PKPdf PKPbc 16 53 55.0 0.0
JCT Junction City 144.61 26 PKIKP PKPbc 16 53 55.3 +0.1
JCT Junction City 144.61 26 P PKPbc 16 53 55.4 +0.2
baz=330
JCT Junction City 144.61 26 PKPdf PKPbc 16 53 55.2 0.0
237A Washetta, Mont 144.80 19 PKPdf PKPab 16 53 55.6 0.0
HODGE Hodges 144.81 359 PKPab 16 53 54.7 -0.9
CPUP Villa Florida 144.98 222 PKP PKPbc 16 53 56.5 +0.1
comp=Z,6.6nm,1.0s,baz=100,slow=3.6,SNR=9.3
CPUP Villa Florida 144.98 222 PKIKP PKPab 16 53 55.5 -0.9
CPUP Villa Florida 144.98 222 PKPab 16 53 55.5 -0.9
Y49A Blount Mountai 145.02 5 PKPab 16 53 55.3 -1.1
Y55A Saluda 145.10 359 P PKPab 16 53 56.7 0.0
baz=1.6
Y52A Lilburn 145.16 2 PKPab 16 53 57.0 +0.1
435B Jarrell 145.26 23 PKPbc 16 53 56.4 -0.8
NATX Nacogdoches 145.39 18 P PKPdf 16 53 58.1 +0.3
baz=339
NATX Nacogdoches 145.39 18 PKPbc 16 53 57.5 -0.1
Z47A Carrollton 145.48 8 PKPbc 16 53 57.2 -0.6
GOGA Godfrey 145.63 1 PKP2 PKPdf 16 53 57.9 -0.2
GOGA Godfrey 145.63 1 P PKPbc 16 53 58.2 -0.1
baz=359
GOGA Godfrey 145.63 1 PKPdf 16 53 57.9 -0.2
Z51A Franklin 145.65 4 PKPdf 16 53 57.7 -0.5
Z57A Bowman 145.69 357 P PKPab 16 53 58.9 0.0
baz=3.6
Z56A Williston 145.69 358 P PKPbc 16 53 58.4 -0.1
baz=2.5
LRAL Lakeview Retre 145.77 6 P PKPdf 16 53 58.1 -0.3
baz=352
LRAL Lakeview Retre 145.77 6 PKPdf 16 53 58.0 -0.4
NHSC New Hope 145.85 356 P PKPab 16 53 59.4 0.0
baz=4.6
NHSC New Hope 145.85 356 PKPdf 16 53 58.3 -0.2
152A Waverly Hall 146.32 3 PKPbc PKPdf 16 53 59.6 +0.2
154A Montrose 146.43 1 PKPdf 16 53 59.7 +0.2
833A Chaparral WMA, 146.64 27 PKPbc PKPdf 16 53 59.6 -0.4
HKT Hockley 146.66 21 PKP2 PKPdf 16 54 00.3 +0.4
HKT Hockley 146.66 21 PKPbc PKPdf 16 54 00.3 +0.4
250A Grady 146.90 5 PKPdf 16 54 00.4 0.0
352A Blakely 147.49 3 PKPdf 16 54 02.4 +1.1

ROM 14 16:35:26.3±0.2, 43°.431N±0°.003×12°.555E±0°.007, h5km±1km, Md1.0/3, ML0.4/2, Error ellipse: s-maj=0.6km s-min=0.1km az=258.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	Monte Foce - G	0.07	169	P	Pg	16 35 28.0	+0.1
ATFO				S	Sg	16 35 29.3	+0.2
ATFO				END			
PIEI	Pieia	0.11	352	P	Pg	16 35 28.9	+0.3
PIEI				S	Sg	16 35 31.0	+0.8
ATPI	Pietralunga -	0.11	280	P	Pg	16 35 29.0	+0.2
ATPI				S	Sg	16 35 31.2	+0.9
ATPI				END			
ATVO	AVT- Monte Val	0.12	246	P	Pg	16 35 29.0	+0.2
ATVO				S	Sg	16 35 31.2	+0.7
ATVO				AML	AML		
	comp=E,18μm,1.2s						
ATVO				AML	AML		
	comp=N,20μm,0.1s						
ATVO				END			
MURB	Monte Urbino	0.17	188	P	Pg	16 35 30.3	+0.5
MURB				S	Sg	16 35 33.5	+1.5
MURB				AML	AML		
	comp=E,30μm,0.8s						
MURB				AML	AML		
	comp=N,42μm,0.2s						

*NEIC **14** 16:47:21.1±1.3, 56°.25S±0°.1×27°.3W±0°.2, h132km±5km, mb4.7/44, Error ellipse: s-maj=16.7km s-min=13.2km az=206.0*

*IDC **14** 16:47:22.0±2.1, 56°.25S×27°.27W, h136km±18km, mb4.2/11, mb1 4.3/13, mb1mx4.1/24, mbtmp4.6/13, Error ellipse: s-maj=18.7km s-min=12.4km az=73.0*

ISC 14 16:47:21.4±1.0, 56°.29S±0°.07×27°.32W±0°.08, h135km±8km, n78, σ0°88/87, mb4.7/25, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.61	287	Pn	Pn	16 48 40.9	-1.7
VNA1	Neumayer--Stat	16.60	158	P	Pn	16 51 05.7	-0.1
VNA3	Neumayer Olymp	16.79	160	P	P	16 51 07.8	-0.2
VNA2	Neumayer--Watz	17.00	157	P	P	16 51 10.2	-0.1
SNAA	Sanae	18.55	156	P	P	16 51 27.7	+0.4
SNAA	Sanae	18.55	156	P	P	16 51 27.8	+0.4
	4.9nm,0.3s,baz=303,slow=9.9,SNR=498						
SNAA				S	S	16 54 48.5	-3.1
	0.1nm,0.3s,baz=293,slow=15,SNR=2.4						
SNAA				PcP	PcP	16 55 51.1	+0.8
	0.2nm,0.3s,baz=342,slow=3.2,SNR=3.0						
SNAA	Sanae	18.55	156		P	16 51 27.7	+0.4
SNAA				IAmb	IAmb	16 51 28.6	
	comp=Z,23nm,0.6s						
EFI	East Falkland	18.57	271	P	P	16 51 27.8	+0.3
PMSA	Palmer Station	19.69	230	P	P	16 51 40.1	+0.5
	comp=Z,1.3nm,0.3s,baz=346,slow=16,SNR=4.8						
PMSA	Palmer Station	19.69	230	IAmb	IAmb	16 51 40.9	
	comp=Z,25nm,0.9s						
BELA	Belgrano 2	21.83	184		P	16 52 01.7	-0.7
SYO	Syowa Base	31.44	141	eP	P	16 53 28.0	-1.3
PLCA	Paso Flores	31.97	281	P	P	16 53 34.9	+0.5
	comp=Z,1.3nm,1.0s,baz=144,slow=14,SNR=1.6						
PLCA				PcP	PcP	16 56 21.3	+0.2
	comp=Z,1.7nm,0.8s,baz=61,slow=2.5,SNR=4.5						
QSPA	South Pole Qui	33.96	180	P	P	16 53 52.6	+1.1
	comp=Z,8.5nm,0.6s,baz=207,slow=2.4,SNR=116						
QSPA				PcP	PcP	16 56 26.4	+0.2
	comp=Z,6.6nm,0.6s,baz=212,slow=2.2,SNR=11						
QSPA				ScP	ScP	16 59 57.5	-0.7
	comp=Z,1.3nm,0.6s,baz=269,slow=2.5,SNR=11						
QSPA	South Pole Qui	33.96	180		P	16 53 52.6	+1.1
QSPA				IAmb	IAmb	16 53 53.2	
	comp=Z,11nm,0.7s						
QSPA					PcP	16 56 26.8	+0.6
LC01	Cunco	33.99	282	P	P	16 53 46.2	-5.6
BI02	San Fabin de	35.28	285	P	P	16 54 03.1	+0.1
GO05	Huala	36.88	286	P	P	16 54 14.5	-2.1
GO05				IAmb	IAmb	16 54 15.5	
	comp=Z,21nm,1.2s						
CPUP	Villa Florida	36.91	312	P	P	16 54 16.2	-0.7
CPUP				IAmb	IAmb	16 54 19.1	
	comp=Z,14nm,1.1s						
PEL	Peldehue	37.65	289	P	P	16 54 22.4	-0.7
PEL				IAmb	IAmb	16 54 50.4	
	comp=Z,14nm,1.0s						
MT02	Curacav	37.79	289	P	P	16 54 22.8	-1.5
VA03	San Esteban	37.87	290	P	P	16 54 25.5	+0.4
VA03				IAmb	IAmb	16 54 32.5	
	comp=Z,12nm,0.9s						
ROC1	El Roble	37.95	289	P	P	16 54 25.5	-0.4
CO02	Combarbal	39.33	291	P	P	16 54 36.1	-1.2
MAW	Mawson	40.00	143	P	P	16 54 43.1	+0.9
	comp=Z,6.3nm,0.7s,baz=228,slow=8.5,SNR=25						
MAW				PcP	PcP	16 56 45.1	+0.7
	comp=Z,1.2nm,0.6s,baz=278,slow=5.3,SNR=3.2						
MAW				ScP	ScP	17 00 20.8	+0.3
	comp=Z,1.5nm,0.7s,baz=209,slow=4.0,SNR=6.6						
MAW	Mawson	40.00	143	P	P	16 54 42.9	+0.7
GO04	Tololo Observa	40.05	292	P	P	16 54 43.0	-0.4
AC04	Llanos de Chal	41.78	294	P	P	16 54 58.1	+0.8
GO02	Mina Guanaco	43.54	298	P	P	16 55 11.2	-0.6
GO02				IAmb	IAmb	16 55 34.9	
	comp=Z,13nm,0.9s						
PB14	IPOC Station P	44.39	297	P	P	16 55 16.9	-1.8
LVC	Limon Verde	45.36	300	P	P	16 55 26.6	+0.3
LVC				IAmb	IAmb	16 55 29.0	
	comp=Z,14nm,0.7s						
PB09	IPOC Station P	46.21	301	P	P	16 55 33.2	+0.3
PB09				IAmb	IAmb	16 55 36.5	
	comp=Z,32nm,1.3s						
VNDA	Vanda	46.33	183	P	P	16 55 34.4	+1.5
	comp=Z,14nm,0.8s,baz=189,slow=6.6,SNR=78						
VNDA				ScP	ScP	17 00 47.3	+1.3
	comp=Z,0.2nm,0.5s,baz=182,slow=2.9,SNR=4.5						
VNDA	Vanda	46.33	183	P	P	16 55 34.0	+1.1
VNDA				IAmb	IAmb	16 55 36.5	
	comp=Z,14nm,0.7s						
PB07	IPOC Station P	46.58	300	P	P	16 55 35.3	-0.4
PB01	IPOC Station P	46.97	301	P	P	16 55 38.5	-0.2
PB01				IAmb	IAmb	16 55 39.6	
	comp=Z,18nm,0.8s						
PB08	IPOC Station P	47.59	302	P	P	16 55 44.4	+0.6
PB08				IAmb	IAmb	16 56 01.4	
	comp=Z,9.6nm,1.0s						
GO01	Chusmiza	48.01	302	P	P	16 55 47.5	+0.3
GO01				IAmb	IAmb	16 55 48.6	
	comp=Z,14nm,0.7s						
PB11	IPOC Station P	48.15	302	P	P	16 55 47.7	-0.2
PB11				IAmb	IAmb	16 55 49.6	
	comp=Z,17nm,0.9s						
PSGCX	Pisagua	48.51	301	P	P	16 55 50.4	-0.2
MNMC	Minye Minye	48.66	302	P	P	16 55 52.3	+0.4
LBTB	Lobatse	49.15	73	P	P	16 55 55.6	+0.2
PB16	IPOC Station P	49.31	303	P	P	16 55 57.2	0.0
PB16				IAmb	IAmb	16 56 22.4	
	comp=Z,12nm,1.5s						
TSUM	Tsumeb	49.86	61	P	P	16 56 00.4	-0.5
LPAZ	La Paz	50.46	306	P	P	16 56 06.5	+0.6
	comp=Z,4.0nm,0.7s,baz=124,slow=5.5,SNR=18						
LPAZ				PcP	PcP	16 57 23.1	+1.0
	comp=Z,2.4nm,0.5s,baz=139,slow=2.7,SNR=2.2						
LPAZ	La Paz	50.46	306	P	P	16 56 05.7	-0.2
LPAZ				IAmb	IAmb	16 56 07.7	
	comp=Z,12nm,1.4s						
SAML	Samuel	54.92	315	P	P	16 56 38.0	0.0
LSZ	Lusaka	58.53	69	P	P	16 57 03.1	-0.6
DBIC	Dimbokro	65.41	25	P	P	16 57 49.5	+0.1
	comp=Z,2.3nm,0.5s,baz=179,slow=8.8,SNR=4.4						
DBIC				PcP	pP	16 58 22.1	+1.6
	comp=Z,3.0nm,0.9s,baz=158,slow=5.4,SNR=3.0						
DBIC	Dimbokro	65.41	25	IAmb	IAmb	16 57 51.3	
	comp=Z,15nm,1.2s						
RER	Riviere de l'E	68.86	97	P	P	16 58 10.6	-0.7
ROSC	El Rosal	71.98	310	P	P	16 58 31.1	+0.5
	comp=Z,4.6nm,0.3s,baz=140,slow=18,SNR=1.5						
TOA0	Torodi Ar. Sit	73.30	30	P	P	16 58 38.1	+0.3
TOA0				IAmb	IAmb	16 58 39.1	
	comp=Z,24nm,1.4s						
TORD	Torodi Ar. Bea	73.30	30	P	P	16 58 38.3	+0.4
	comp=Z,4.8nm,0.5s,baz=201,slow=6.6,SNR=60						
TORD	Torodi Ar. Bea	73.30	30	P	P	16 58 37.9	+0.1
RPZ	Rata Peaks	79.17	193	P	P	16 59 11.2	+0.4
RPZ				IAmb	IAmb	16 59 18.1	
	comp=Z,20nm,1.2s						
LTZ	Lake Taylor	79.92	195	P	P	16 59 15.4	+0.4
LTZ				IAmb	IAmb	16 59 28.7	
	comp=Z,25nm,1.4s						
STKA	Stephens Creek	91.68	171	P	P	17 00 13.5	+0.4
	comp=Z,3.1nm,0.8s,baz=170,slow=8.2,SNR=6.6						
STKA	Stephens Creek	91.68	171	P	P	17 00 13.3	+0.1
ESDC	Sonseca Array	97.63	18	P	Pdif	17 00 40.6	+0.7
	comp=Z,0.3nm,0.7s,baz=283,slow=6.4,SNR=2.1						
ESDC	Sonseca Array	97.63	18	P	Pdif	17 00 40.1	+0.1
ASAR	Alice Springs	98.78	163	P	P	17 00 45.5	-0.2
	comp=Z,2.1nm,0.7s,baz=185,slow=4.0,SNR=32						
ASAR				PP	PP	17 04 44.5	-3.1
	comp=Z,0.6nm,0.7s,baz=188,slow=6.7,SNR=8.5						
ASAR	Alice Springs	98.78	163	P	P	17 00 45.3	-0.4
AS31	Alice Springs	98.78	163	P	P	17 00 45.6	-0.1
WRA	Warramunga Arr	102.50	162	P	Pdif	17 01 01.0	-1.3
	comp=Z,0.4nm,0.5s,baz=196,slow=4.3,SNR=9.6						
WRA				PP	PP	17 05 16.8	+1.1
	comp=Z,0.6nm,0.9s,baz=182,slow=6.2,SNR=5.0						
NVAR	Mina Array Bea	121.42	293	PKP	PKiKP	17 05 59.0	+0.7
	comp=Z,0.8nm,0.5s,baz=122,slow=2.6,SNR=11						
FINES	FINESS Array B	124.63	28	PKP	PKPdf	17 06 02.9	-0.3
	comp=Z,3.1nm,0.5s,baz=147,slow=1.8,SNR=42						
FINES	FINESS Array B	124.63	28		PKPdf	17 06 02.8	-0.4
CMAR	Chiang Mai Arr	125.05	111	PKP	PKPdf	17 06 05.2	-0.2
	comp=Z,1.4nm,0.8s,baz=230,slow=3.7,SNR=9.3						
ARCES	ARCESS Array B	131.19	22	PKP	PKPdf	17 06 15.5	0.0
	comp=Z,2.9nm,0.7s,baz=192,slow=1.1,SNR=8.0						
ARCES	ARCESS Array B	131.19	22		PKPdf	17 06 15.9	+0.4
YKA	Yellowknife Ar	136.30	318	PKP	PKPdf	17 06 24.9	-0.4
	comp=Z,0.9nm,0.6s,baz=117,slow=2.4,SNR=6.4						
MKAR	Makanchi Array	137.03	72	PKP	PKPdf	17 06 26.4	-0.8
	comp=Z,0.4nm,0.5s,baz=243,slow=5.0,SNR=3.8						
ZALV	Zalesovo Beam	142.54	64	PKhKP	PKPpre	17 06 33.1	
	comp=Z,0.5nm,0.4s,baz=205,slow=3.1,SNR=3.1						

ZALV				PKP	**PKPdf**	**17 06 38.1**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=253,slow=1.5,SNR=3.6						
ILAR	**Eielson Array**	**150.22**	**311**	PKPbc	**PKPbc**	**17 06 54.5**	**-0.2**
	comp=Z,11nm,0.8s,baz=134,slow=1.8,SNR=85						
ILAR				PKPab	**PKPab**	**17 07 01.4**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=99,slow=1.7,SNR=4.8						
SONM	**Songino Array**	**150.81**	**87**	PKPbc	**PKPbc**	**17 06 56.7**	**-0.2**
	comp=Z,5.6nm,0.6s,baz=225,slow=3.5,SNR=28						
SONM	**Songino Array**	**150.81**	**87**		**PKPbc**	**17 06 56.4**	**-0.5**
JNU	**Nakatsue**	**152.36**	**138**	PKPbc	**PKPbc**	**17 07 00.1**	**-0.7**
	comp=Z,3.9nm,0.7s,baz=252,slow=6.4,SNR=1.9						

WEL 14 16:56:11.6±2.4, 33°S±27°×178°0W±3°3, h436km±17km, M4.2/27, mB4.2/5, MLv4.6/27, Mw(mB)3.3/5, Error ellipse: s-maj=0.0km s-min=0.0km az=119.8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.65**	**202**	P	P	16 57 32.0	+0.4
WMGZ	**Waiomatatini S**	**4.85**	**200**	P	P	16 57 33.9	+0.3
HAZ	**Te Kaha**	**5.00**	**205**	P	P	16 57 34.9	-0.1
HAZ				S	S	16 58 43.6	+0.4
PUZ	**Puketiti**	**5.13**	**200**	P	P	16 57 35.1	-1.3
URZ	**Urewera**	**5.69**	**208**	P	P	16 57 40.8	-1.2
MUGZ	**Murupara**	**6.01**	**209**	P	P	16 57 44.8	-0.6
SNGZ	**Shannon Statio**	**6.07**	**204**	P	P	16 57 45.8	-0.2
MTHZ	**Maungataniwha**	**6.31**	**207**	P	P	16 57 48.9	+0.4
TLZ	**Tolley Road**	**6.46**	**217**	P	P	16 57 51.6	+1.5
MRHZ	**Matea Rd**	**6.46**	**209**	P	P	16 57 49.5	-0.6
NMHZ	**Naumai**	**6.54**	**206**	P	P	16 57 52.3	+1.2
ARHZ	**Aropaoanui**	**6.62**	**204**	P	P	16 57 53.2	+1.3
BKZ	**Black Stump Fm**	**6.72**	**208**	P	P	16 57 52.3	-0.7
MCHZ	**McNeill Hill**	**6.89**	**205**	P	P	16 57 55.9	+1.2
CKHZ	**Cape Kidnapper**	**6.95**	**202**	P	P	16 57 56.4	+1.0
HIZ	**Hauiti**	**6.95**	**219**	P	P	16 57 56.5	+1.1
KWHZ	**Kaweka Forest**	**6.97**	**207**	P	P	16 57 55.4	-0.3
KAHZ	**Kahuranaki**	**7.14**	**203**	P	P	16 57 58.6	+1.1
BHHZ	**Black Hill Sta**	**7.17**	**209**	P	P	16 57 57.1	-0.8
KRHZ	**Kereru**	**7.18**	**206**	P	P	16 57 57.8	-0.2
WNVZ	**Wahianoa**	**7.22**	**212**	P	P	16 57 57.7	-0.9
PKVZ	**Pokaka**	**7.31**	**213**	P	P	16 57 58.9	-0.4
PXZ	**Pawanui**	**7.36**	**202**	P	P	16 57 59.9	+0.2
VRZ	**Vera Road**	**7.46**	**217**	P	P	16 58 01.5	+0.6
PNHZ	**Pukenui**	**7.48**	**206**	P	P	16 58 01.1	0.0
WPHZ	**Waipukurau**	**7.53**	**204**	P	P	16 58 02.4	+0.8
PRHZ	**Porangahau**	**7.64**	**203**	P	P	16 58 02.3	-0.6
TSZ	**Takapari Road**	**7.70**	**207**	P	P	16 58 02.8	-0.7
ANWZ	**Angora Road**	**7.87**	**203**	P	P	16 58 06.8	+1.5
TIWZ	**Tintock**	**8.35**	**205**	P	P	16 58 11.4	+0.8
MRZ	**Mangatainoka R**	**8.36**	**207**	P	P	16 58 10.0	-0.6
HOWZ	**Holdsworth Sta**	**8.59**	**206**	P	P	16 58 13.7	+0.5
TMWZ	**Te Maipa**	**8.64**	**204**	P	P	16 58 14.8	+1.0
OGWZ	**Otaki Gorge**	**8.65**	**208**	P	P	16 58 13.0	-0.8
CAW	**Cannon Point**	**8.94**	**207**	P	P	16 58 16.8	-0.2
MSWZ	**Moikau Station**	**9.14**	**206**	P	P	16 58 19.1	-0.1
TUWZ	**Tuamarina**	**9.67**	**211**	P	P	16 58 24.4	-0.5

*NEIC **14** 17:12:26.6±1.4, 17°7S±0°2×178°4W±0°2, h585km±22km, mb4.3/13, Error ellipse: s-maj=31.8km s-min=27.9km az=154.0*
*IDC **14** 17:12:26.1±1.8, 18°23S×178°30W, h558km±21km, mb3.1/4, mb1 3.5/6, mb1mx3.0/29, mbtmp4.2/6, Error ellipse: s-maj=46.6km s-min=15.3km az=156.0*
ISC 14 17:12:27.6±0.7, 17°9S±0°2×178°5W±0°1, h579km, n25, σ1°33/27, mb4.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.34**	**272**	P	**P**	**17 13 48.0**	**+0.8**
AFI	**Afiamalu**	**7.55**	**59**	P	**P**	**17 14 20.0**	**-2.1**
	4.8nm,0.3s,baz=357,slow=3.3,SNR=7.0						
RAO	**Raoul Island**	**11.31**	**178**	P	**P**	**17 14 59.8**	**+0.7**
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**17 15 33.5**	**-1.1**
	0.4nm,0.3s,baz=111,slow=22,SNR=1.8						
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**17 15 32.9**	**-1.6**
HNR	**Honiara**	**22.59**	**289**	P	**P**	**17 16 48.8**	**+3.1**
	34nm,0.3s,baz=202,slow=19,SNR=6.8						
ARMA	**Armidale**	**29.91**	**240**	P	**P**	**17 17 49.8**	**0.0**
CTAO	**Charters Tower**	**33.41**	**261**	P	**P**	**17 18 18.8**	**-0.8**
CTAO				IAmb	IAmb	17 18 19.8	
	comp=Z,9.4nm,1.1s						
COEN	**Coen**	**37.06**	**270**	P	**P**	**17 18 49.1**	**-0.8**
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**17 19 02.9**	**+0.8**
	comp=Z,3.4nm,0.5s,baz=97,slow=12,SNR=19						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**17 19 03.1**	**+0.9**
BBOO	**Buckleboo**	**43.37**	**241**	P	**P**	**17 19 40.5**	**+0.6**
WRA	**Warramunga Arr**	**44.59**	**260**	P	**P**	**17 19 48.3**	**-1.3**
	comp=Z,2.4nm,0.5s,baz=94,slow=6.8,SNR=147						
WRA	**Warramunga Arr**	**44.59**	**260**	P	**P**	**17 19 47.8**	**-1.8**
AS31	**Alice Springs**	**44.75**	**254**	P	**P**	**17 19 50.5**	**-0.3**
AS31				IAmb	IAmb	17 19 50.9	
	comp=Z,6.9nm,0.7s						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**17 19 50.4**	**-0.4**
	comp=Z,21nm,0.4s,baz=89,slow=7.7,SNR=944						
ASAR				PcP	**PcP**	**17 21 20.6**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=94,slow=5.0,SNR=1.8						
ASAR				ScP	**ScP**	**17 24 20.5**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=111,slow=5.1,SNR=1.8						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**17 19 50.1**	**-0.7**
MTN	**Manton Dam**	**48.76**	**268**	P	**P**	**17 20 19.7**	**-1.3**
MTN				IAmb	IAmb	17 20 20.4	
	comp=Z,8.4nm,0.9s						
FORT	**Forrest**	**49.97**	**245**	P	**P**	**17 20 29.3**	**-0.4**
KNRA	**Kununurra**	**50.45**	**264**	P	**P**	**17 20 32.1**	**-1.2**
KNRA				IAmb	IAmb	17 20 32.9	
	comp=Z,5.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.99**	**261**	P	**P**	**17 20 51.5**	**-0.1**
SOEI	**Soe**	**56.03**	**270**	P	**P**	**17 21 12.6**	**-0.4**
SOEI				IAmb	IAmb	17 21 18.8	
	comp=Z,17nm,0.9s						
PSA00	**Pilbara Seismi**	**57.87**	**255**	P	**P**	**17 21 23.5**	**-1.8**
PSA00				IAmb	IAmb	17 21 25.3	
	comp=Z,16nm,1.1s						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**17 23 35.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=225,slow=8.8,SNR=4.0						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**17 24 09.3**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=224,slow=5.0,SNR=7.9						

TAP 14 17:13:35.0, 23°05N×120°78E, h8km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.12**	**348**	*i* P	Pg	17 13 38.2	+0.5
	baz=355						
STYT				*i* S	Sg	17 13 40.1	+0.5
	baz=355						
SLGT	**Liugui**	**0.14**	**247**	P	Pg	17 13 38.7	+0.8
	baz=247						
SLGT				S	Sg	17 13 41.1	+1.2
	baz=247						
SGST	**Jiashian**	**0.19**	**281**	*e*P	Pg	17 13 39.5	+0.7
	baz=288						
SGST				S	Sg	17 13 42.6	+1.2
	baz=288						
WTP	**Ta-pu**	**0.25**	**322**	*e*P	Pb	17 13 41.3	-0.6
	baz=324						
WTP				S	Sb	17 13 45.2	-1.2
	baz=324						
ELDTW	**Lidau**	**0.26**	**57**	P	Pg	17 13 40.9	+0.7
	baz=58						
ELDTW				*e*S	Sg	17 13 44.8	+1.1
	baz=58						
CHN1	**Nanshi**	**0.27**	**301**	*e*P	Pb	17 13 41.9	-0.2
	baz=301						
CHN1				*e*S	Sb	17 13 46.0	-1.0
	baz=301						
TPUB	**Ta-pu**	**0.29**	**331**	*e*P	Pb	17 13 42.1	-0.4
	baz=331						
TPUB				*e*S	Sb	17 13 46.7	-0.8
	baz=331						
SCST	**Cishan**	**0.31**	**239**	*e*P	Pb	17 13 42.6	-0.2
	baz=238						
SCST				*e*S	Sb	17 13 48.8	+0.8
	baz=238						
SNST	**Tainan City**	**0.32**	**303**	*e*P	Pb	17 13 42.5	-0.4
	baz=304						
SNST				*e*S	Sb	17 13 47.7	-0.5
	baz=304						
SSD	**Sandimen**	**0.33**	**205**	P	Pg	17 13 42.0	+0.6
	baz=200						
SSD				S	Sg	17 13 46.3	+0.4
	baz=200						
LONT	**Longtian**	**0.35**	**113**	*e*P	Pg	17 13 42.2	+0.4
	baz=113						
LONT				*e*S	Sb	17 13 47.8	-1.3
	baz=113						
CHN4	**Tsaushan**	**0.35**	**330**	*e*P	Pb	17 13 43.9	+0.4
	baz=342						
CHN4				*e*S	Sb	17 13 49.9	+0.7
	baz=342						
MASBT	**Mashibuluo**	**0.45**	**198**	*e*P	Pg	17 13 44.3	+0.5
	baz=202						
MASBT				*e*S	Sg	17 13 49.9	+0.1
	baz=202						
ALS	**Alishan**	**0.46**	**3**	P	Pb	17 13 45.0	-0.6
	baz=4.0						
ALS				*i* S	Sb	17 13 52.1	-0.6
	baz=4.0						
FULB	**Fuli**	**0.49**	**72**	P	Pb	17 13 46.0	+0.1
	baz=72						
FULB				S	Sb	17 13 53.7	+0.3
	baz=72						
CHN5	**Tsauling**	**0.56**	**350**	*e*P	Pb	17 13 47.5	+0.5
	baz=350						
CHN5				*e*S	Sb	17 13 55.8	+0.5
	baz=350						
SCLT	**Jiali**	**0.56**	**283**	*e*P	Pb	17 13 47.7	+0.7
	baz=297						
TWF1	**Yuli**	**0.56**	**57**	*e*P	Pb	17 13 46.8	-0.3
	baz=58						
TWF1				*e*S	Sb	17 13 54.8	-0.5
	baz=58						
YULB	**Yu-li**	**0.58**	**54**	*e*P	Pg	17 13 46.5	+0.2
	baz=46						
YULB				*e*S	Sb	17 13 55.2	-0.8
	baz=46						
CHN8	**Yiju**	**0.60**	**300**	*e*P	Pb	17 13 48.2	+0.4
	baz=315						
WDLH	**Douliu**	**0.68**	**341**	*e*S	Sn	17 14 01.4	-0.3
	baz=340						
HGSD	**Ruisui**	**0.74**	**53**	*e*P	Pg	17 13 49.5	+0.3
	baz=47						
HGSD				*e*S	Sb	17 13 59.8	-0.5
	baz=47						
SSLB	**Suanglung**	**0.76**	**12**	P	Pb	17 13 50.3	-0.1
	baz=19						
SSLB				*e*S	Sb	17 14 01.4	+0.5
	baz=19						
TYC	**Yuchr**	**0.86**	**5**	*e*P	Pn	17 13 53.1	-0.2
	baz=13						

TAP 14 17:13:49.5, 23°29N×120°29E, h10km, ML2.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICHU	**Yijhu**	**0.07**	**353**	*i* P	Pg	17 13 52.1	+0.4
	baz=355						
ICHU				*i* S	Sg	17 13 55.2	+1.8
	baz=355						
CHN8	**Yiju**	**0.09**	**309**	P	Pg	17 13 52.5	+0.5
	baz=317						
CHN8				S	Sg	17 13 55.5	+1.7
	baz=317						
SCLT	**Jiali**	**0.14**	**218**	P	Pb	17 13 53.5	-0.7
	baz=215						
SCLT				*e*S	Sg	17 13 57.3	+2.4
	baz=215						
SNST	**Tainan City**	**0.20**	**109**	*e*P	Pb	17 13 55.0	-0.3
	baz=109						
SNST				*e*S	Sg	17 13 58.8	+2.2
	baz=109						
CHN1	**Nanshi**	**0.24**	**115**	*e*P	Pb	17 13 55.7	-0.2
	baz=104						
CHN1				*e*S	Sg	17 14 00.9	+3.1
	baz=104						
CHY	**Chiayi**	**0.24**	**31**	P	Pb	17 13 55.6	-0.4
	baz=32						
CHY				*e*S	Sg	17 13 59.7	+1.8
	baz=32						
CHN4	**Tsaushan**	**0.29**	**77**	P	Pb	17 13 56.6	-0.1
	baz=77						
CHN4				*e*S	Sb	17 14 01.4	-0.2
	baz=77						
WTP	**Ta-pu**	**0.30**	**98**	P	Pb	17 13 56.9	-0.1
	baz=98						
WTP				S	Sb	17 14 02.3	+0.2
	baz=98						
TPUB	**Ta-pu**	**0.31**	**87**	*i* P	Pb	17 13 56.8	-0.4
	baz=87						
TPUB				*e*S	Sb	17 14 02.2	-0.2
	baz=87						
SGST	**Jiashian**	**0.34**	**127**	P	Pg	17 13 56.6	+0.4
	baz=111						
SGST				S	Sb	17 14 02.9	-0.2
	baz=111						
WSF	**Szhu**	**0.35**	**350**	*e*P	Pb	17 13 57.5	-0.4
	baz=351						
WSF				*e*S	Sb	17 14 04.0	+0.5
	baz=351						
WTK	**Tuku**	**0.41**	**13**	*e*P	Pb	17 13 58.4	-0.4
	baz=358						
WTK				S	Sb	17 14 05.4	+0.3
	baz=358						
SLGT	**Liugui**	**0.44**	**132**	*e*P	Pb	17 14 00.2	+0.9
	baz=118						
SLGT				*e*S	Sb	17 14 09.0	+3.0
	baz=118						
SCST	**Cishan**	**0.44**	**155**	*e*P	Pn	17 14 00.7	-1.2
	baz=140						
SCST				*e*S	Sb	17 14 09.6	+3.6
	baz=140						
STYT	**Tauyuan**	**0.45**	**106**	*e*P	Pb	17 13 59.7	+0.2
	baz=93						
STYT				*e*S	Sb	17 14 07.0	+0.8
	baz=93						
WDLH	**Douliu**	**0.46**	**30**	*e*P	Pb	17 13 59.3	-0.4
	baz=29						
WDLH				*e*S	Sb	17 14 07.7	+1.1
	baz=29						
WGK	**Gukeng**	**0.47**	**32**	*e*P	Pb	17 13 59.5	-0.3
	baz=32						
WGK				*e*S	Sb	17 14 07.1	+0.3
	baz=32						
CHN5	**Tsauling**	**0.47**	**49**	*e*P	Pb	17 13 59.5	-0.4
	baz=48						
CHN5				*e*S	Sb	17 14 07.3	+0.3
	baz=48						
TWM1	**Shoushan**	**0.48**	**165**	*e*P	Pb	17 13 59.8	-0.2
	baz=164						
ALS	**Alishan**	**0.52**	**65**	*e*P	Pb	17 14 01.4	+0.4
	baz=64						
ALS				*e*S	Sb	17 14 10.0	+1.3
	baz=64						
SNJT	**Kaohsiung City**	**0.53**	**175**	*e*P	Pn	17 14 02.5	-0.6
	baz=177						
SNJT				*e*S	Sn	17 14 11.4	-0.7
	baz=177						
WDGT	**Dungji**	**0.58**	**267**	*e*P	Pg	17 14 01.1	+0.4
	baz=268						
WDGT				*e*S	Sb	17 14 09.3	-0.6
	baz=268						
RLNB	**Erlin**	**0.60**	**6**	*e*P	Pg	17 14 01.4	+0.1
	baz=6.0						
RLNB				*e*S	Sb	17 14 10.6	-0.1
	baz=6.0						
SSD	**Sandimen**	**0.62**	**150**	*e*S	Sn	17 14 15.2	+0.8
	baz=135						
WHYT	**Xinyi Township**	**0.66**	**52**	*e*P	Pb	17 14 03.2	+0.1
	baz=51						
WHYT				*e*S	Sn	17 14 14.2	-1.2
	baz=51						
WJS	**Zhushan**	**0.67**	**37**	*e*P	Pg	17 14 02.8	+0.3
	baz=37						
ELDTW	**Lidau**	**0.68**	**98**	*e*P	Pb	17 14 03.2	-0.3
	baz=97						
ELDTW				*e*S	Sn	17 14 14.5	-1.4
	baz=97						
WNT	**Mingjian**	**0.69**	**32**	P	Pb	17 14 03.8	+0.1
	baz=17						
WNT				S	Sn	17 14 14.9	-1.2
	baz=17						
PNG	**Penghu**	**0.73**	**293**	*e*P	Pg	17 14 03.6	0.0
	baz=294						
PNG				*e*S	Sb	17 14 13.8	-0.5
	baz=294						
MASBT	**Mashibuluo**	**0.74**	**155**	*e*P	Pn	17 14 05.5	-0.5
	baz=137						
MASBT				*e*S	Sn	17 14 17.4	+0.1
	baz=137						
SSLB	**Suanglung**	**0.79**	**51**	*e*P	Pb	17 14 05.1	-0.2
	baz=50						
SSLB				*e*S	Sn	17 14 17.4	-1.1
	baz=50						
TYC	**Yuchr**	**0.81**	**40**	P	Pb	17 14 05.8	+0.2
	baz=40						
TYC				*e*S	Sn	17 14 18.1	-0.8
	baz=40						
TYC	**Yuchr**	**0.81**	**40**	*e*S	Pb	17 14 05.8	+0.3
	baz=13						
SMLT	**Sun Moon Lake**	**0.82**	**43**	P	Pb	17 14 05.9	+0.1
	baz=43						
SMLT				*e*S	Sb	17 14 18.0	+1.1
	baz=43						
WCHH	**Zhanghua**	**0.83**	**17**	*e*S	Sn	17 14 19.0	-0.5
	baz=3.0						
TWG	**Pinlang**	**0.86**	**123**	*e*S	Sn	17 14 20.2	0.0
	baz=108						
LONT	**Longtian**	**0.86**	**116**	*e*S	Sn	17 14 19.9	-0.4
	baz=103						
TWGBT	**Beinan**	**0.86**	**123**	*e*S	Sn	17 14 20.5	+0.1
	baz=108						
TWF1	**Yuli**	**0.93**	**86**	*e*P	Pn	17 14 08.6	0.0
	baz=85						
TWF1				S	Sn	17 14 21.4	-0.6
	baz=85						
YULB	**Yu-li**	**0.93**	**83**	*e*P	Pb	17 14 07.7	-0.1
	baz=82						
YULB				*e*S	Sb	17 14 20.6	+0.5
	baz=82						
EYUL	**Yuli**	**0.95**	**86**	*e*S	Sb	17 14 20.5	-0.1
	baz=85						
EHY	**Hungye**	**0.97**	**77**	*e*P	Pn	17 14 08.9	-0.3
	baz=76						
EHY				*e*S	Sn	17 14 22.3	-0.8
	baz=76						
EGFH	**Guangfu**	**1.11**	**70**	*e*P	Pn	17 14 11.0	-0.1
	baz=68						
EGFH				*e*S	Sb	17 14 25.4	+0.1
	baz=68						
CHGB	**Renai**	**1.12**	**46**	P	Pn	17 14 11.4	0.0
	baz=45						
CHGB				*e*S	Sn	17 14 27.2	+0.2
	baz=45						
WHP	**Taichung City**	**1.16**	**31**	*e*P	Pb	17 14 11.4	-0.2
	baz=30						
WHP				*e*S	Sn	17 14 28.6	+0.9
	baz=30						
TDCB	**Techi**	**1.25**	**39**	*e*P	Pb	17 14 13.2	0.0
	baz=38						
TDCB				*e*S	Sg	17 14 29.7	0.0
	baz=38						
TWT	**Tachien**	**1.26**	**40**	*e*P	Pn	17 14 13.0	-0.3
	baz=38						
TWT				*e*S	Sn	17 14 30.4	+0.1
	baz=38						
FUSS	**Fushou**	**1.30**	**42**	*e*P	Pb	17 14 14.2	+0.1
	baz=41						
FUSS				*e*S	Sn	17 14 32.1	+0.7
	baz=41						
HEN	**Hengchun**	**1.34**	**162**	*e*S	Sn	17 14 32.2	+0.1
	baz=184						
TWKBT	**Hengchun**	**1.43**	**160**	*e*P	Pn	17 14 14.8	-0.6
	baz=159						

*IDC **14** 17:26:18.9±0.9, 19°68S×11°86W, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/32, mbtmp3.9/8, MS3.8/7, Ms1 3.7/7, ms1mx3.4/30, Error ellipse: s-maj=32.9km s-min=21.9km az=131.0*
*NEIC **14** 17:26:20.4±1.7, 19°72S±0°08×11°6W±0°1, h10km±2km, mb4.3/6, Error ellipse: s-maj=23.8km s-min=10.8km az=247.0*
ISC 14 17:26:20.2±0.7, 19°7S±0°1×11°8W±0°1, h10km, n24, σ0°72/16, mb4.1/9, MS3.8/7, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**6.88**	**58**	Pn	Pn	17 27 55.0	-6.2
TSUM	**Tsumeb**	**27.70**	**94**	LR	LR	17 41 27.8	
	comp=Z,104nm,18.3s,baz=260,slow=33						
SUR	**Sutherland**	**31.77**	**120**	LR	LR	17 42 56.5	
	comp=Z,92nm,19.2s,baz=276,slow=31						
BOSA	**Boshof**	**34.84**	**112**	LR	LR	17 45 26.8	
	comp=Z,50nm,18.2s,baz=354,slow=33						
BOSA	**Boshof**	**34.84**	**112**	P	**P**	**17 33 10.4**	**-1.4**
LBTB	**Lobatse**	**34.92**	**106**	LR	LR	17 45 07.1	
	comp=Z,156nm,19.5s,baz=272,slow=32						
LBTB	**Lobatse**	**34.92**	**106**	P	**P**	**17 33 12.8**	**+0.3**
LBTB				IAmb	IAmb	17 33 25.7	
	comp=Z,6.9nm,1.4s						
TOA0	**Torodi Ar. Sit**	**35.26**	**23**	P	**P**	**17 33 14.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**35.26**	**23**	P	**P**	**17 33 15.6**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=200,slow=9.1,SNR=16						
TORD	**Torodi Ar. Bea**	**35.26**	**23**	P	**P**	**17 33 15.7**	**+0.4**
LSZ	**Lusaka**	**38.34**	**90**	P	**P**	**17 33 42.2**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=149,slow=5.4,SNR=2.8						
CPUP	**Villa Florida**	**42.24**	**252**	P	**P**	**17 34 14.0**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=90,slow=11,SNR=2.0						
SNAA	**Sanae**	**52.23**	**176**	P	**P**	**17 35 31.9**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=307,slow=5.7,SNR=3.8						
SNAA	**Sanae**	**52.23**	**176**	P	**P**	**17 35 31.3**	**+0.1**
SNAA				IAmb	IAmb	17 35 42.3	
	comp=Z,4.2nm,1.3s						
LPAZ	**La Paz**	**53.47**	**264**	P	**P**	**17 35 41.6**	**-0.2**
	comp=Z,1.2nm,1.1s,baz=120,slow=8.1,SNR=2.8						
ESDC	**Sonseca Array**	**59.53**	**7**	P	**P**	**17 36 23.9**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=185,slow=6.9,SNR=12						
ESDC	**Sonseca Array**	**59.53**	**7**	P	**P**	**17 36 23.6**	**-0.2**
NNA	**Nana**	**62.72**	**266**	LR	LR	18 00 09.3	
	comp=Z,99nm,19.4s,baz=148,slow=32						
SDV	**Santo Domingo**	**64.50**	**291**	LR	LR	18 04 01.6	
	comp=Z,198nm,21.9s,baz=81,slow=35						
ATAH	**Atahualpa**	**65.61**	**271**	LR	LR	18 04 21.0	
	comp=Z,102nm,20.7s,baz=208,slow=35						
BRTR	**Keskin Array B**	**72.77**	**35**	P	**P**	**17 37 50.3**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=214,slow=7.0,SNR=7.5						
BRTR	**Keskin Array B**	**72.77**	**35**	P	**P**	**17 37 49.6**	**+0.7**
AKASG	**Malin Array Be**	**78.86**	**25**	P	**P**	**17 38 22.4**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=226,slow=5.4,SNR=3.9						
MJAR	**Matsushiro Arr**	**148.87**	**51**	PKPbc	**PKPbc**	**17 46 08.2**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=292,slow=2.6,SNR=11						

*IDC **14** 17:33:29.5±2.7, 10°47S×161°39E, h111km±17km, mb3.4/4, mb1 3.5/5, mb1mx3.3/29, mbtmp3.8/5, Error ellipse: s-maj=36.9km s-min=22.2km az=66.0*
ISC 14 17:33:25.3±1.9, 10°5S±0°2×161°8E±0°2, h100km, n12, σ1°48/7, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.06**	**300**	P	**Pn**	**17 33 59.3**	**+0.7**
	52nm,0.3s,baz=171,slow=7.9,SNR=86						
HNR				S	**Sn**	**17 34 22.5**	**-1.6**
	62nm,0.3s,baz=168,slow=13,SNR=6.5						
DZM	**Mont Dzumac**	**12.37**	**159**	P	**P**	**17 36 24.3**	**-1.8**
	0.3nm,0.3s,baz=35,slow=7.2,SNR=24						
DZM				S	**Sn**	**17 38 35.4**	**+1.1**
	0.1nm,0.3s,baz=113,slow=23,SNR=1.1						
WRA	**Warramunga

n133,σ0986/254, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=233	0.12	230	P	**Pg**	17 37 05.8	+0.3
HWA	baz=233			S	**Sg**	17 37 08.3	+0.9
NACB	**Ninganchiao** baz=320	0.16	319	eP	**Pg**	17 37 05.7	-0.4
NACB	baz=320			eS	**Sg**	17 37 07.8	-0.6
ETLH	**Xiulin Townshi** baz=310	0.26	306	P	**Pg**	17 37 07.5	-0.3
ETLH	baz=310			S	**Sg**	17 37 11.3	-0.1
ESL	**Shilin** baz=235	0.35	226	eP	**Pg**	17 37 09.1	-0.5
ESL	baz=235			eS	**Sg**	17 37 14.8	+0.5
ENA	**Nanau** baz=4.0	0.37	5	eP	**Pg**	17 37 10.2	+0.2
ENA	baz=4.0			eS	**Sb**	17 37 15.9	-1.5
ENAH	**Nanao** baz=10.0	0.40	13	P	**Pg**	17 37 10.8	+0.2
ENAH	baz=10.0			eS	**Sb**	17 37 18.2	-0.1
WHF	**Hehuan Shan** baz=282	0.41	282	P	**Pg**	17 37 10.5	-0.5
WHF	baz=282			S	**Sg**	17 37 17.0	+0.5
EGFH	**Guangfu** baz=227	0.46	214	i P	**Pg**	17 37 12.1	+0.4
EGFH	baz=227			S	**Sb**	17 37 20.1	0.0
FUSS	**Fushou** baz=294	0.46	294	i P	**Pg**	17 37 11.6	-0.2
FUSS	baz=294			eS	**Sb**	17 37 19.3	-1.1
NNSB	**Datong** baz=319	0.47	321	i P	**Pg**	17 37 11.9	-0.1
NNSB	baz=319			S	**Sg**	17 37 18.5	+0.2
NNSH	**Datong** baz=319	0.47	321	i P	**Pg**	17 37 11.9	-0.1
NNSH	baz=319			S	**Sg**	17 37 18.5	+0.2
CHGB	**Renai** baz=263	0.49	271	eP	**Pg**	17 37 12.0	-0.2
CHGB	baz=263			eS	**Sg**	17 37 19.0	+0.3
NNS	**Nan Shan** baz=320	0.49	321	P	**Pg**	17 37 12.2	-0.1
NNS	baz=320			S	**Sb**	17 37 19.3	-1.6
OWD	**Renai** baz=268	0.50	258	P	**Pb**	17 37 12.6	-1.1
OWD	baz=268			eS	**Sg**	17 37 19.1	+0.1
TWT	**Tachien** baz=291	0.52	292	P	**Pb**	17 37 13.1	-1.1
TWT	baz=291			S	**Sb**	17 37 20.9	-1.1
TDCB	**Techi** baz=291	0.54	291	i P	**Pg**	17 37 13.2	0.0
TDCB	baz=291			eS	**Sg**	17 37 20.5	+0.2
TWC	**Suao** baz=5.0	0.56	13	i P	**Pb**	17 37 14.1	-0.7
TWC	baz=5.0			S	**Sb**	17 37 22.7	-0.3
NDT	**Datong Townshi** baz=338	0.57	342	i P	**Pb**	17 37 14.0	-0.9
NDT	baz=338			S	**Sb**	17 37 22.2	-1.0
ENTT	**Nioudou** baz=346	0.59	347	i P	**Pb**	17 37 14.5	-0.8
ENTT	baz=346			i S	**Sb**	17 37 23.0	-0.9
VWDT	**VWDT** baz=242	0.60	240	i P	**Pg**	17 37 14.3	0.0
VWDT	baz=242			S	**Sg**	17 37 22.5	+0.4
HGSD	**Ruisui** baz=194	0.62	205	eP	**Pb**	17 37 15.3	-0.4
HGSD	baz=194			eS	**Sb**	17 37 25.4	+0.9
EHY	**Hungye** baz=229	0.65	213	eP	**Pg**	17 37 14.9	-0.4
EHY	baz=229			eS	**Sb**	17 37 24.9	-0.6
TWE	**Neicheng** baz=356	0.66	357	i P	**Pb**	17 37 15.9	-0.6
TWE	baz=356			S	**Sb**	17 37 24.7	-1.1
YHNB	**Yeheng** baz=332	0.68	334	i P	**Pb**	17 37 16.2	-0.7
YHNB	baz=332			eS	**Sb**	17 37 25.2	-1.2
NSK	**Sanguang** baz=331	0.69	333	P	**Pb**	17 37 16.4	-0.7
NSK	baz=331			S	**Sb**	17 37 26.2	-0.6
ILA	**Ilan** baz=352	0.71	3	eP	**Pb**	17 37 17.0	-0.2
ILA	baz=352			eS	**Sb**	17 37 26.6	-0.4
WHP	**Taichung City** baz=288	0.73	288	P	**Pb**	17 37 17.0	-0.7
WHP	baz=288			eS	**Sb**	17 37 27.7	-0.1
SSLB	**Suanglung** baz=261	0.74	249	i P	**Pg**	17 37 16.7	-0.3
SSLB	baz=261			S	**Sb**	17 37 26.9	-1.2
NWLT	**Wulai** baz=331	0.74	345	P	**Pb**	17 37 17.2	-0.6
NWLT	baz=331			eS	**Sb**	17 37 27.0	-1.1
SMLT	**Sun Moon Lake** baz=258	0.76	257	P	**Pg**	17 37 17.2	-0.1
SMLT	baz=258			eS	**Sg**	17 37 27.3	+0.1
YULB	**Yu-li** baz=225	0.76	210	eP	**Pg**	17 37 17.2	-0.2
YULB	baz=225			eS	**Sb**	17 37 28.5	-0.1
EYUL	**Yuli** baz=224	0.79	207	eP	**Pb**	17 37 18.4	-0.2
EYUL	baz=224			eS	**Sb**	17 37 30.8	+1.3
TYC	**Yuchr** baz=261	0.79	259	P	**Pg**	17 37 17.8	-0.2
TYC	baz=261			S	**Sb**	17 37 28.4	-1.1
TWF1	**Yuli** baz=225	0.80	208	eP	**Pb**	17 37 18.4	-0.4
TWF1	baz=225			eS	**Sb**	17 37 30.9	+1.3
NTC	**Toucheng** baz=353	0.80	8	eP	**Pb**	17 37 18.4	-0.5
NTC	baz=353			eS	**Sn**	17 37 32.3	0.0
EGS	baz=19	0.81	15	eP	**Pb**	17 37 19.1	+0.1
EGS	baz=19			eS	**Sb**	17 37 29.5	-0.5
WHYT	**Xinyi Township** baz=255	0.86	246	eP	**Pb**	17 37 19.7	-0.1
WHYT	baz=255			eS	**Sb**	17 37 32.5	+1.0
LIOB	**Emei** baz=311	0.86	313	P	**Pb**	17 37 19.9	+0.1
LIOB	baz=311			S	**Sb**	17 37 32.5	+0.9
NSTT	**Nanjuang** baz=310	0.86	312	eP	**Pb**	17 37 19.4	-0.5
NSTT	baz=310			eS	**Sb**	17 37 32.3	+0.8
YUS	**Yu-Shan** baz=234	0.89	231	P	**Pg**	17 37 19.9	0.0
YUS	baz=234			eS	**Sb**	17 37 32.3	-0.6
TWQ1	**Liyutan** baz=300	0.90	289	eP	**Pn**	17 37 21.3	-0.3
TWQ1	baz=300			S	**Sn**	17 37 34.2	-0.6
TIPB	**Shuangxi** baz=354	0.92	7	P	**Pb**	17 37 20.7	-0.2
TIPB	baz=354			eS	**Sg**	17 37 32.5	+0.1
WJS	**Zhushan** baz=258	0.93	256	eP	**Pn**	17 37 21.4	-0.6
WJS	baz=258			eS	**Sb**	17 37 34.4	+1.0
TWA	**Mucha** baz=350	0.93	353	eP	**Pb**	17 37 20.8	-0.2
TWA	baz=350			S	**Sb**	17 37 33.3	-0.1
FULB	**Fuli** baz=226	0.93	204	eP	**Pb**	17 37 21.0	-0.1
FULB	baz=226			S	**Sn**	17 37 36.9	+1.3
NSY	**Sanyi** baz=303	0.94	293	eP	**Pn**	17 37 21.8	-0.3
NSY	baz=303			eS	**Sb**	17 37 34.4	+0.8
TATO	**Taipei** baz=335	0.94	348	eP	**Pb**	17 37 21.3	+0.2
TATO	baz=335			eS	**Sb**	17 37 33.1	-0.5
TCU	**Taichung** baz=272	0.95	276	eP	**Pn**	17 37 23.2	+1.0
TCU	baz=272			eS	**Sn**	17 37 36.6	+0.7
WNT	**Mingjian** baz=261	0.95	259	eP	**Pn**	17 37 22.0	-0.3
WNT	baz=261			eS	**Sn**	17 37 35.9	-0.1
NMLH	**Miaoli** baz=299	0.96	300	eP	**Pn**	17 37 23.3	+0.8
NMLH	baz=299			eS	**Sn**	17 37 36.1	-0.2
TWB1	**Santiao Chiao** baz=3.0	0.98	15	eP	**Pn**	17 37 23.4	+0.7
TWB1	baz=3.0			eS	**Sb**	17 37 35.4	+0.4
SBCB	**Hsinchu** baz=316	0.98	318	eP	**Pn**	17 37 22.3	-0.4
SBCB	baz=316			eS	**Sn**	17 37 36.8	0.0
ALS	**Alishan** baz=240	0.99	237	eP	**Pb**	17 37 21.8	-0.4
ALS	baz=240			eS	**Sb**	17 37 36.4	+1.0
TAP1	**Taipei** baz=345	0.99	350	P	**Pn**	17 37 22.7	-0.1
TAP1	baz=345			eS	**Sb**	17 37 35.7	+0.5
PTSB	**Yuanli** baz=293	0.99	293	eP	**Pn**	17 37 22.8	0.0
PTSB	baz=293			eS	**Sn**	17 37 37.8	+0.7
TAP	**Taipei** baz=345	1.00	349	eP	**Pb**	17 37 21.6	-0.5
TAP	baz=345			S	**Sb**	17 37 36.2	+0.9
HSN	**Hsinchu** baz=318	1.00	318	P	**Pb**	17 37 22.3	+0.1
CHKT	**Chengkung** baz=185	1.00	198	eP	**Pg**	17 37 21.8	-0.2
CHKT	baz=185			eS	**Sn**	17 37 38.0	+0.7
NWF	**Wu-fen Shan** baz=339	1.01	4	eP	**Pb**	17 37 22.8	+0.3
NWF	baz=339			S	**Sb**	17 37 36.8	+0.8
WFSB	**Wu-fen Shan** baz=339	1.01	4	eP	**Pb**	17 37 22.1	-0.3
WFSB	baz=339			eS	**Sb**	17 37 36.1	+0.2
WDJ	**Dajia District** baz=296	1.02	287	i P	**Pn**	17 37 23.9	+0.7
WDJ	baz=296			eS	**Sn**	17 37 37.1	-0.5
NCUH	**Zhongli** baz=329	1.02	332	eP	**Pn**	17 37 23.9	+0.6
NCUH	baz=329			eS	**Sn**	17 37 39.2	+1.4
NCU	**National Centr** baz=330	1.03	333	eP	**Pb**	17 37 22.3	-0.4
NCU	baz=330			eS	**Sn**	17 37 37.5	-0.3
CHN5	**Tsauling** baz=248	1.05	244	eP	**Pn**	17 37 23.4	-0.2
CHN5	baz=248			eS	**Sn**	17 37 38.2	-0.2
WCHH	**Zhanghua** baz=272	1.05	271	P	**Pn**	17 37 23.5	-0.1
WCHH	baz=272			eS	**Sn**	17 37 38.8	+0.4
ELDTW	**Lidau** baz=209	1.07	216	P	**Pg**	17 37 22.7	-0.6
ELDTW	baz=209			eS	**Sg**	17 37 36.9	-0.3
TWS1	**Kuangyinshan** baz=342	1.07	346	eP	**Pb**	17 37 23.2	-0.2
TWS1	baz=342			eS	**Sn**	17 37 39.2	+0.2
YM01	**YM01** baz=334	1.09	353	eP	**Pn**	17 37 24.2	-0.1
YM01	baz=334			eS	**Sn**	17 37 40.0	+0.5
YM10	**YM10** baz=335	1.10	353	eP	**Pn**	17 37 24.7	+0.2
YM10	baz=335			eS	**Sn**	17 37 40.6	+0.7
YM04	**YM04** baz=347	1.10	352	eP	**Pb**	17 37 24.0	0.0
YM04	baz=347			eS	**Sn**	17 37 40.2	+0.4
YM05	**YM05** baz=336	1.11	353	eP	**Pn**	17 37 24.8	+0.2
YM05	baz=336			eS	**Sn**	17 37 40.2	+0.1
YM11	**YM11** baz=335	1.11	354	eP	**Pb**	17 37 24.0	-0.1
YM11	baz=335			eS	**Sb**	17 37 39.4	+0.6
WGK	**Gukeng** baz=254	1.11	251	eP	**Pb**	17 37 23.7	-0.4
WGK	baz=254			eS	**Sn**	17 37 40.0	0.0
NTST	**Danshui** baz=353	1.13	348	eP	**Pn**	17 37 25.2	+0.5
NTST	baz=353			S	**Sn**	17 37 42.1	+1.8
YM03	**YM03** baz=347	1.13	352	eP	**Pn**	17 37 24.7	-0.1
YM03	baz=347			eS	**Sb**	17 37 39.7	+0.4
WDLH	**Douliu** baz=254	1.13	251	eP	**Pn**	17 37 24.6	-0.2
WDLH	baz=254			eS	**Sn**	17 37 41.9	+1.5
YM08	**YM08** baz=336	1.13	355	eP	**Pb**	17 37 24.6	+0.1
YM08	baz=336			eS	**Sb**	17 37 39.9	+0.5
ANP	**Anpu** baz=347	1.14	351	eP	**Pn**	17 37 25.2	+0.3
ANP	baz=347			eS	**Sb**	17 37 39.9	+0.3
EDH	**Donghe** baz=188	1.14	199	eP	**Pb**	17 37 24.6	0.0
EDH	baz=188			S	**Sn**	17 37 41.4	+0.8
TWY	**Chenhua** baz=338	1.22	355	eP	**Pn**	17 37 27.0	+1.0
TWY	baz=338			eS	**Sn**	17 37 42.4	-0.1
CHN4	**Tsaushan** baz=240	1.24	236	P	**Pn**	17 37 26.3	+0.1
CHN4	baz=240			eS	**Sn**	17 37 44.1	+1.0
TPUB	**Ta-pu** baz=237	1.24	233	P	**Pn**	17 37 26.6	+0.3
TPUB	baz=237			eS	**Sn**	17 37 44.2	+1.1
RLNB	**Erlin** baz=265	1.24	263	P	**Pn**	17 37 26.7	+0.4
RLNB	baz=265			eS	**Sn**	17 37 45.3	+2.2
STYT	**Tauyuan** baz=230	1.25	225	P	**Pg**	17 37 25.8	-0.8
STYT	baz=230			eS	**Sn**	17 37 43.5	+0.1
YOJ	**Yonaguni jima** baz=69	1.26	71	eP	**Pg**	17 37 26.3	-0.5
YOJ	baz=69			eS	**Sn**	17 37 46.6	+3.1
YOJ	**Yonaguni jima** baz=69	1.26	71	P	**Pg**	17 37 26.1	-0.7
LONT	**Longtian** baz=210	1.26	205	eP	**Pg**	17 37 25.2	-1.7
LONT	baz=210			eS	**Sg**	17 37 42.3	-1.1
WTK	**Tuku** baz=256	1.26	253	eP	**Pn**	17 37 26.9	+0.4
WTK	baz=256			eS	**Sn**	17 37 45.2	+1.6
WTP	**Ta-pu** baz=236	1.29	231	P	**Pn**	17 37 27.1	+0.1
WTP	baz=236			eS	**Sn**	17 37 45.4	+1.1
CHY	**Chiayi** baz=260	1.30	245	eP	**Pb**	17 37 27.6	+0.3
CHY	baz=260			eS	**Sn**	17 37 47.1	+2.5
WTCT	**Ta-ch'eng** baz=264	1.32	262	P	**Pb**	17 37 27.5	-0.2
WTCT	baz=264			S	**Sn**	17 37 46.9	+1.9
TWGBT	**Beinan** baz=210	1.36	205	eP	**Pn**	17 37 26.4	-1.5
TWGBT	baz=210			S	**Sg**	17 37 45.7	-0.8
TWG	**Pinlang** baz=210	1.36	206	eP	**Pg**	17 37 28.8	0.0
TWG	baz=210			eS	**Sg**	17 37 44.0	-2.5
TWK	**Hsinying** baz=239	1.37	235	eP	**Pn**	17 37 28.0	0.0
TWK	baz=239			eS	**Sn**	17 37 47.3	+1.0
CHN1	**Nanshi** baz=235	1.39	232	eP	**Pn**	17 37 28.3	0.0
CHN1	baz=235			eS	**Sn**	17 37 48.0	+1.2
SNST	**Tainan City** baz=238	1.39	233	eP	**Pn**	17 37 27.5	-0.8
SNST	baz=238			eS	**Sn**	17 37 48.6	+1.9
LDUT	**Ludao** baz=181	1.39	189	P	**Pn**	17 37 28.7	+0.3
LDUT	baz=181			eS	**Sb**	17 37 45.0	-1.8
SGST	**Jiashian** baz=231	1.42	227	eP	**Pn**	17 37 28.3	-0.3
SGST	baz=231			S	**Sn**	17 37 48.8	+1.3
WSF	**Szhu** baz=256	1.42	253	eP	**Pg**	17 37 29.4	-0.6
WSF	baz=256			eS	**Sn**	17 37 50.4	+2.8
SLGT	**Liugui** baz=227	1.44	223	eP	**Pb**	17 37 29.5	-0.2
SLGT	baz=227			eS	**Sn**	17 37 50.4	+2.3
ICHU	**Yijhu** baz=246	1.48	242	eP	**Pb**	17 37 30.1	-0.3
ICHU	baz=246			eS	**Sg**	17 37 50.3	-0.1
CHN8	**Yiju** baz=246	1.54	243	eP	**Pb**	17 37 31.0	-0.5
CHN8	baz=246			eS	**Sg**	17 37 51.6	-0.8
ECL	**Taimali** baz=212	1.61	206	eP	**Pn**	17 37 30.8	-0.6
ECL	baz=212			eS	**Sn**	17 37 52.2	0.0
SCST	**Cishan** baz=227	1.61	224	eP	**Pb**	17 37 32.8	+0.2
SCST	baz=227			eS	**Sg**	17 37 55.5	+0.9
SSD	**Sandimen** baz=236	1.64	217	eP	**Pb**	17 37 32.5	-0.6
SSD	baz=236			eS	**Sg**	17 37 54.7	-0.7
SCLT	**Jiali** baz=242	1.64	238	eP	**Pb**	17 37 33.0	-0.2
SCLT	baz=242			eS	**Sg**	17 37 55.4	-0.2
TSMG	**Majia** baz=218	1.66	216	eP	**Pn**	17 37 32.5	+0.4
TSMG	baz=218			eS	**Sg**	17 37 56.0	-0.1
TWM1	**Shoushan** baz=227	1.70	224	eP	**Pg**	17 37 34.5	-0.8
TWM1	baz=227			eS	**Sg**	17 38 00.5	+3.0
MASBT	**Mashibuluo** baz=216	1.75	215	eP	**Pb**	17 37 34.5	-0.4
MASBT	baz=216			eS	**Sg**	17 37 57.9	-0.9
EAST	**Anshuo** baz=212	1.84	206	eP	**Pn**	17 37 35.0	+0.5
EAST	baz=212			eS	**Sn**	17 37 59.1	+1.1
IRIF	**Iriomote-Funau**	1.87	81	P	**Pn**	17 37 35.1	+0.2
SSPT	**Xinbi** baz=199	1.88	214	eP	**Pb**	17 37 37.3	0.0
SSPT	baz=199			eS	**Sb**	17 38 01.9	+0.9
SCZT	**Fangliau** baz=211	1.95	211	eP	**Pb**	17 37 37.5	-1.0
SCZT	baz=211			eS	**Sg**	17 38 05.3	-0.2
SLIU	**Shizi** baz=195	2.01	205	eP	**Pn**	17 37 37.6	+0.7
SLIU	baz=195			eS	**Sn**	17 38 02.4	+0.2
PHUB	**P'eng-hu** baz=258	2.03	255	eP	**Pn**	17 37 36.2	-0.8
PHUB	baz=258			eS	**Sb**	17 38 04.0	-1.2
PNG	**Penghu** baz=259	2.03	257	P	**Pn**	17 37 38.0	+0.9
PNG	baz=259			S	**Sb**	17 38 04.6	-0.5
WDGT	**Dungji** baz=237	2.04	248	eP	**Pn**	17 37 36.8	-0.4
WDGT	baz=237			eS	**Sg**	17 38 06.4	-1.9
WLCH	**Liuqiu** baz=216	2.09	216	eP	**Pb**	17 37 40.4	-0.5
TWP	**Hsiaoliuchiu** baz=216	2.10	216	eP	**Pb**	17 37 39.9	-1.2
JKRS	**Kuro-shima**	2.11	85	P	**Pb**	17 37 40.3	-0.8
JKRS				eS	**Sb**	17 38 07.2	-0.3
HEN	**Hengchun** baz=188	2.23	204	eS	**Sn**	17 38 08.6	+1.1
JIJ	**Ishigaki jima**	2.24	82	P	**Pn**	17 37 39.6	-0.5
JIJ				eS	**Sn**	17 38 07.3	-0.6
VWUC	**VWUC** baz=294	2.26	295	eP	**Pn**	17 37 40.6	+0.3
PTTC	**Pingtan** baz=307	2.27	310	eP	**Pn**	17 37 39.7	-0.7
PTTC	baz=307			eS	**Sn**	17 38 08.2	-0.3
PTMZ	**Houxiangcun** baz=292	2.55	293	eP	**Pn**	17 37 45.0	+0.8
PTMZ	baz=292			eS	**Sn**	17 38 15.8	+0.3
MATB	**Ma-tsu** baz=319	2.63	323	eS	**Sn**	17 38 17.9	+0.5
KNM	**Kinmen** baz=279	3.01	278	eP	**Pb**	17 37 53.6	-2.9
LYJJ	**Jianjiangzhen** baz=321	3.04	325	eP	**Pn**	17 37 53.1	+2.0
LYJJ	baz=321			eS	**Sn**	17 38 28.4	+0.7
KNMB	**Chin-men Tao** baz=280	3.06	278	eP	**Pn**	17 37 52.6	+1.4
MHZQ	**Yeshan** baz=308	3.17	311	eP	**Pn**	17 37 54.5	+1.7
MHZQ	baz=308			eS	**Sn**	17 38 31.8	+1.1
XPSS	**Dashiqiu** baz=328	3.17	335	eS	**Sn**	17 38 32.7	+1.9
AXDP	**Jialang** baz=284	3.51	285	eP	**Pn**	17 37 58.6	+1.2
AXDP	baz=284			eS	**Sn**	17 38 39.6	+0.5
ZPLA	**Ao Xicun** baz=270	3.62	269	eS	**Sn**	17 38 42.1	+0.2

*IDC **14** 17:37:21.4±19.0, 20°.53S×177°.23W, h440km±167km, mb3.3/6, mb1 3.5/6, mb1mx3.1/31, mbtmp4.1/6, Error ellipse: s-maj=145.8km s-min=34.7km az=114.0*
ISC 14 17:37:15.9±2.3, 20.7S±0°.4×176.9W±0°.4, h400km, n9, σ0°86/11, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.51**	**264**	P	**P**	**17 43 29.1**	**+0.4**
	1.7nm,0.3s,baz=95,slow=12,SNR=9.0						
ASAR	**Alice Springs**	**45.49**	**257**	P	**P**	**17 44 57.9**	**+0.1**
	2.0nm,0.5s,baz=90,slow=7.8,SNR=97						
ASAR				PcP	**PcP**	**17 46 29.4**	**+0.5**
	0.3nm,0.5s,baz=107,slow=3.9,SNR=6.2						
WRA	**Warramunga Arr**	**45.61**	**262**	P	**P**	**17 44 58.0**	**-0.6**
	0.9nm,0.3s,baz=96,slow=7.6,SNR=69						
WRA				PcP	**PcP**	**17 46 28.7**	**-0.6**
	0.3nm,0.8s,baz=98,slow=3.5,SNR=2.0						
MJAR	**Matsushiro Arr**	**70.97**	**323**	P	**P**	**17 47 50.6**	**-1.0**
	0.5nm,0.5s,baz=31,slow=2.1,SNR=5.0						
PETK	**Petropavlovsk-**	**76.71**	**345**	P	**P**	**17 48 25.0**	**+0.9**
	1.1nm,0.7s,baz=131,slow=7.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**91.16**	**289**	P	**P**	**17 49 37.8**	**+0.7**
	0.6nm,0.5s,baz=109,slow=1.7,SNR=5.6						
AKASG	**Malin Array Be**	**143.67**	**332**	PKP	**PKPab**	**17 56 01.8**	**-0.3**
	1.0nm,0.4s,baz=40,slow=4.5,SNR=6.0						
BRTR	**Keskin Array B**	**147.73**	**313**	PKPbc	**PKiKP**	**17 56 14.9**	**-1.4**
	0.5nm,0.6s,baz=157,slow=5.3,SNR=4.0						
GERES	**GERESS Array B**	**150.64**	**346**	PKPbc	**PKiKP**	**17 56 22.6**	**+0.7**
	0.3nm,0.7s,baz=318,slow=1.3,SNR=3.8						

*UPA **14** 17:46:37.9±0.8, 8°.72N×76°.54W, h53km±24km, MW3.8*
*RSNC **14** 17:46:38.5±1.1, 8°.71N×76°.53W, h53km±6km, ML3.7, Fault plane solution: NP1:φ=28.00000°, δ38.00000°, λ-162.00000°.*
*IDC **14** 17:46:38.9±1.8, 8°.86N×76°.44W, h49km±19km, mb3.6/1, mb1 4.0/4, mb1mx3.4/34, mbtmp4.1/4, ML3.0/3, Error ellipse: s-maj=22.1km s-min=14.8km az=21.0*
ISC 14 17:46:38.3±0.9, 8.74N±0°.03×76.53W±0°.03, h55km±9km, n43, σ1°25/79, 6C-6D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBC	**Los crdobas,**	**0.20**	**54**	⇓iPg	**Pn**	**17 46 46.6**	**-0.6**
LCBC				eSg	**Sn**	**17 46 53.8**	**+0.2**
MOTC	**Monteria, Cord**	**0.86**	**87**	⇓iP	**Pn**	**17 46 53.9**	**-0.4**
MOTC				eS	**Sn**	**17 47 06.2**	**+0.2**
MOTC				i		17 47 07.5	
	comp=Z,1μm,0.7s						
MONA	**Monteria**	**0.86**	**88**	⇓iP	**Pn**	**17 46 53.9**	**-0.5**
MONA				eS	**Sn**	**17 47 05.9**	**-0.3**
UREC	**San Jos de Ur**	**1.39**	**135**	eP	**Pn**	**17 47 00.7**	**-0.7**
UPD2	**Meteti**	**1.48**	**263**	eP	**Pn**	**17 47 01.9**	**-0.7**
UPD2				eS	**Sn**	**17 47 20.4**	**-0.4**
UPD2				i		17 47 21.3	
	comp=Z,1μm,0.3s						
UPD2	**Meteti**	**1.48**	**263**	⇓iP	**Pn**	**17 47 01.9**	**-0.7**
UPD2				eS	**Sn**	**17 47 20.4**	**-0.4**
DBBC	**Dabeiba**	**1.74**	**169**	⇑iP	**Pn**	**17 47 04.9**	**-1.3**
DBBC				eS	**Sn**	**17 47 25.7**	**-1.7**
DBBC				i		17 47 28.1	
	comp=Z,2μm,0.3s						
SJCC	**San Jacinto, C**	**1.76**	**49**	⇓iP	**Pn**	**17 47 06.3**	**-0.2**
SJCC				eS	**Sn**	**17 47 27.5**	**-0.4**
SJCC	**San Jacinto, C**	**1.76**	**49**	eP	**Pn**	**17 47 06.5**	**0.0**
SJCC				eS	**Sn**	**17 47 26.4**	**-1.4**
PTAC	**Punta Ardita,**	**2.02**	**219**	eP	**Pn**	**17 47 08.9**	**-1.1**
PTAC				eS	**Sn**	**17 47 33.4**	**-0.8**
PTAC				i		17 47 34.9	
	comp=Z,2μm,0.2s						
PTAC	**Punta Ardita,**	**2.02**	**219**	eP	**Pn**	**17 47 08.9**	**-1.1**
PTAC				eS	**Sn**	**17 47 33.4**	**-0.8**
ZARC	**Zaragoza, Cauc**	**2.07**	**127**	⇑eP	**Pn**	**17 47 10.4**	**-0.2**
ZARC				eS	**Sn**	**17 47 33.7**	**-1.6**
ZARC				i		17 47 35.2	
	comp=Z,626nm,0.5s						
CNTA3	**Canitas, Panam**	**2.38**	**282**	eS	**Sn**	**17 47 41.1**	**-1.8**
SMLC	**San Martn de**	**2.43**	**88**	⇓eP	**Pn**	**17 47 15.1**	**-0.5**
SMLC				eS	**Sn**	**17 47 43.6**	**-0.6**
SMLC				i		17 47 45.2	
	comp=Z,304nm,0.2s						
CHPO	**Chepo, Panama**	**2.59**	**280**	eP	**Pn**	**17 47 17.9**	**+0.1**
CHPO				eS	**Sn**	**17 47 46.6**	**-1.3**
SOLC	**Bahia Solano**	**2.64**	**199**	⇑eP	**Pn**	**17 47 18.6**	**+0.1**
SOLC				eS	**Sn**	**17 47 47.9**	**-1.5**
SOLC				i		17 47 54.9	
	comp=Z,153nm,0.4s						
HELC	**Santa Helena**	**2.72**	**158**	eP	**Pn**	**17 47 18.8**	**-1.1**
HELC				eS	**Sn**	**17 47 49.2**	**-2.6**
HELC				i		17 47 53.2	
	comp=Z,138nm,0.7s						
HELC	**Santa Helena**	**2.72**	**158**	eP	**Pn**	**17 47 18.6**	**-1.3**
HELC				eS	**Sn**	**17 47 49.6**	**-2.1**
CBOC	**Ciudad Bolivar**	**2.90**	**170**	eP	**Pn**	**17 47 22.5**	**+0.2**
CBOC				eS	**Sn**	**17 47 56.6**	**+0.6**
CBOC				i		17 48 00.7	
	comp=Z,298nm,0.4s						
UPA	**Univ. de Panam**	**2.98**	**275**	eP	**Pn**	**17 47 22.5**	**-0.5**
UPA				eS	**Sn**	**17 47 55.3**	**-2.3**
PTBC	**PUERTO BERRIO,**	**3.00**	**137**	⇑iP	**Pn**	**17 47 22.8**	**-0.6**
PTBC				eS	**Sn**	**17 47 56.3**	**-1.9**
PTBC				i		17 47 59.5	
	comp=Z,143nm,0.1s						
OCAC	**Ocana**	**3.22**	**99**	eP	**Pn**	**17 47 26.7**	**+0.3**
OCAC				eS	**Sn**	**17 48 02.9**	**-0.8**
OCAC				i		17 48 07.1	
	comp=Z,698nm,0.5s						
BRRC	**Barranca, Sant**	**3.23**	**120**	⇑iP	**Pn**	**17 47 27.3**	**+0.7**
BRRC				eS	**Sn**	**17 48 03.4**	**-0.4**
BRRC				i		17 48 07.4	
	comp=Z,173nm,0.5s						
BCIP	**Isla Barro Col**	**3.29**	**278**	eP	**Pn**	**17 47 27.5**	**+0.1**
BCIP				eS	**Sn**	**17 48 02.9**	**-2.4**
BCIP				i		17 48 11.1	
	comp=Z,76nm,0.5s						
BCIP	**Isla Barro Col**	**3.29**	**278**	eP	**Pn**	**17 47 27.7**	**+0.4**
BCIP				eS	**Sn**	**17 48 03.6**	**-1.8**
ZANG	**Zanguenga, Cho**	**3.30**	**274**	eP	**Pn**	**17 47 27.3**	**-0.2**
ZANG				eS	**Sn**	**17 48 04.2**	**-1.4**
NORC	**Norcasia**	**3.56**	**152**	⇑eP	**Pn**	**17 47 30.7**	**-0.5**
NORC				eS	**Sn**	**17 48 11.9**	**-0.1**
NORC				i		17 48 16.8	
	comp=Z,81nm,0.5s						
CVALL	**Valledupar, Ce**	**3.68**	**61**	eP	**Pn**	**17 47 32.4**	**-0.3**
CVALL				eS	**Sn**	**17 48 11.8**	**-3.0**
CVALL				i		17 48 14.7	
	comp=Z,97nm,0.2s						
GUY2C	**Guyana, Caldas**	**3.68**	**162**	eP	**Pn**	**17 47 33.2**	**+0.1**
GUY2C				eS	**Sn**	**17 48 14.2**	**-1.3**
AZU	**Azuero**	**3.82**	**256**	eP	**Pn**	**17 47 35.0**	**+0.4**
AZU				eS	**Sn**	**17 48 16.4**	**-1.9**
SPBC	**San Pablo de B**	**3.92**	**141**	eP	**Pn**	**17 47 34.7**	**-1.4**
SPBC				eS	**Sn**	**17 48 18.2**	**-2.7**
SPBC				i		17 48 33.8	
	comp=Z,54nm,0.6s						
BARC	**Barichara**	**3.95**	**122**	eP	**Pn**	**17 47 37.0**	**+0.5**
BARC				eS	**Sn**	**17 48 20.8**	**-0.9**
BARC				i		17 48 27.1	
	comp=Z,165nm,0.4s						
PAMC	**Pamplona, Colo**	**4.04**	**110**	eP	**Pn**	**17 47 38.4**	**+0.3**
PAMC				eS	**Sn**	**17 48 23.8**	**-0.6**
PAMC				i		17 48 28.0	
	comp=Z,223nm,0.4s						
TOLC	**Tolima**	**4.30**	**164**	eP	**Pn**	**17 47 43.2**	**+1.7**
RUSC	**La Rusia**	**4.44**	**129**	eP	**Pn**	**17 47 42.9**	**-0.7**
RUSC				eS	**Sn**	**17 48 33.1**	**-1.1**
ROSC	**El Rosal**	**4.45**	**150**	P	**Pn**	**17 47 45.2**	**+1.5**
	comp=Z,5.3nm,0.3s,baz=304,slow=15,SNR=4.8						
ROSC				S	**Sn**	**17 48 37.3**	**+2.8**
	comp=Z,24nm,0.3s,baz=11,slow=22,SNR=7.2						
ROSC	**El Rosal**	**4.45**	**150**	eP	**Pn**	**17 47 44.8**	**+1.1**
ROSC				eS	**Sn**	**17 48 34.6**	**+0.2**
ROSC				i		17 48 57.1	
	comp=Z,32nm,0.8s						
VILC	**Villavicencio,**	**5.39**	**148**	eP	**Pn**	**17 47 56.9**	**+0.6**
SDV	**Santo Domingo**	**5.83**	**88**	P	**Pn**	**17 48 02.6**	**+0.2**
	comp=Z,3.5nm,0.3s,baz=278,slow=11,SNR=20						
SDV				S	**Sn**	**17 49 06.6**	**-1.5**
	comp=Z,22nm,0.3s,baz=9.6,slow=22,SNR=13						
JTS	**Las Juntas de**	**8.45**	**281**	P	**Pn**	**17 48 39.8**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=307,slow=22,SNR=4.9						
JTS				S	**Sn**	**17 50 14.5**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=338,slow=22,SNR=1.2						
LPAZ	**La Paz**	**26.22**	**161**	P	**P**	**17 52 10.3**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=329,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**147.32**	**239**	PKPbc	**PKPab**	**18 06 18.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=114,slow=3.7,SNR=9.0						
WRA	**Warramunga Arr**	**148.15**	**246**	PKPbc	**PKPbc**	**18 06 19.8**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=99,slow=3.5,SNR=5.3						

*IDC **14** 17:50:09.3±7.6, 31°.30S×179°.88W, h440km±88km, mb2.3/2, mb1 2.7/3, mb1mx2.6/35, mbtmp3.4/3, Error ellipse: s-maj=111.3km s-min=41.9km az=8.0*
ISC 14 17:50:06.6±2.3, 31.4S±0°.1×179.3W±0°.3, h450km, n19, σ1°18/31, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.49**	**197**	P	**P**	**17 51 46.6**	**+0.8**
MXZ				S	**S**	**17 53 05.0**	**-2.0**
WMGZ	**Waiomatatini S**	**6.71**	**195**	P	**P**	**17 51 47.6**	**-0.5**
HAZ	**Te Kaha**	**6.81**	**200**	P	**P**	**17 51 48.6**	**-0.6**
PUZ	**Puketiti**	**6.98**	**196**	P	**P**	**17 51 50.4**	**-0.7**
PUZ				S	**S**	**17 53 14.9**	**-1.8**
MWZ	**Matawai**	**7.42**	**199**	P	**P**	**17 51 54.7**	**-1.0**
URZ	**Urewera**	**7.48**	**202**	P	**P**	**17 51 57.3**	**+1.0**
	1.4nm,0.3s,baz=274,slow=4.6,SNR=18						
URZ	**Urewera**	**7.48**	**202**	P	**P**	**17 51 55.4**	**-0.9**
MCHZ	**McNeill Hill**	**8.69**	**201**	P	**P**	**17 52 10.3**	**+1.0**
MCHZ				S	**S**	**17 53 51.9**	**+1.6**
KAHZ	**Kahuranaki**	**8.96**	**199**	P	**P**	**17 52 14.1**	**+1.7**
KAHZ				S	**S**	**17 53 53.4**	**-2.4**
KRHZ	**Kereru**	**8.97**	**202**	P	**P**	**17 52 13.6**	**+1.1**
KRHZ				S	**S**	**17 53 56.8**	**+0.9**
PXZ	**Pawanui**	**9.19**	**199**	P	**P**	**17 52 15.3**	**+0.6**
PXZ				S	**S**	**17 54 00.8**	**+0.7**
PNHZ	**Pukenui**	**9.27**	**202**	P	**P**	**17 52 16.8**	**+1.0**
PNHZ				S	**S**	**17 54 02.5**	**+0.6**
WPHZ	**Waipukurau**	**9.34**	**200**	P	**P**	**17 52 17.3**	**+0.9**
WPHZ				S	**S**	**17 54 03.3**	**+0.1**
TSZ	**Takapari Road**	**9.48**	**202**	P	**P**	**17 52 18.8**	**+0.8**
TSZ				S	**S**	**17 54 04.8**	**-1.3**
DVHZ	**Dannevirke**	**9.64**	**201**	P	**P**	**17 52 19.0**	**-0.6**
DVHZ				S	**S**	**17 54 09.2**	**+0.1**
BFZ	**Birch Farm**	**9.96**	**200**	P	**P**	**17 52 25.0**	**+1.8**
BFZ				S	**S**	**17 54 17.4**	**+1.7**
ASAR	**Alice Springs**	**41.92**	**269**	P	**P**	**17 57 16.3**	**-0.2**
	0.3nm,0.9s,baz=106,slow=7.3,SNR=2.1						
ASAR				PcP	**PP**	**17 59 05.2**	**-0.2**
	0.2nm,0.8s,baz=109,slow=4.0,SNR=1.5						
WRA	**Warramunga Arr**	**42.99**	**274**	P	**P**	**17 57 24.3**	**-0.8**
	0.1nm,0.3s,baz=114,slow=6.6,SNR=8.1						
FINES	**FINESS Array B**	**145.63**	**339**	PKPbc	**PKPab**	**18 08 55.3**	**+0.8**
	1.7nm,0.6s,baz=69,slow=4.3,SNR=13						

*JMA **14** 17:59:41.5±0.2, 34°.37N×140°.31E, h87km±3km, M3.1*
*IDC **14** 17:59:41.4±1.5, 34°.38N×140°.35E, h93km±16km, mb3.0/2, mb1 3.3/5, mb1mx3.0/55, mbtmp3.5/5, Error ellipse: s-maj=33.5km s-min=8.8km az=79.0*
ISC 14 17:59:41.1±1.0, 34°.39N±0°.04×140°.33E±0°.06, h93km±8km, n29, σ1°25/39, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.44**	**19**	P	**Pn**	**17 59 55.9**	**+0.5**
BSO3				X		18 00 07.9	
BSO1	**Boso 1**	**0.59**	**63**	P	**Pn**	**17 59 56.9**	**+0.7**
BSO4	**Boso 4**	**0.60**	**0**	P	**Pn**	**17 59 57.6**	**+0.8**
BSO4				X		18 00 10.9	
TATJ	**Tateyama 2**	**0.74**	**330**	P	**Pn**	**17 59 59.0**	**+0.8**
TATJ				S	**Sn**	**18 00 12.6**	**+1.6**
KTR	**Katsuura**	**0.76**	**359**	P	**Pn**	**17 59 58.9**	**+0.5**
KTR				S	**Sn**	**18 00 12.0**	**+0.7**
JMKN	**Mikurajimanish**	**0.79**	**231**	P	**Pn**	**17 59 58.5**	**-0.2**
JMKN				S	**Sn**	**18 00 11.3**	**-0.6**
JIM2	**Oshima 3**	**0.81**	**294**	P	**Pn**	**17 59 58.7**	**-0.3**
JIM2				S	**Sn**	**18 00 11.8**	**-0.6**
JTHY	**Toshimahigashi**	**0.87**	**279**	P	**Pn**	**17 59 59.9**	**+0.3**
JTHY				S	**Sn**	**18 00 14.1**	**+0.6**
JKO	**Kozu shima**	**1.01**	**259**	P	**Pn**	**18 00 01.2**	**+0.1**
JKO				S	**Sn**	**18 00 16.9**	**+0.8**
KTJ3	**Kamata3**	**1.18**	**298**	P	**Pn**	**18 00 02.7**	**-0.3**
KTJ3				S	**Sn**	**18 00 18.7**	**-0.8**
JIZS	**Izushimoda**	**1.25**	**286**	P	**Pn**	**18 00 03.8**	**0.0**
JIZS				S	**Sn**	**18 00 20.7**	**-0.3**
JHJ2	**Mitsune**	**1.34**	**199**	P	**Pn**	**18 00 05.2**	**+0.2**
JHJ2				S	**Sn**	**18 00 23.1**	**0.0**
JHJ	**Hachijo jima 2**	**1.35**	**200**	P	**Pn**	**18 00 05.2**	**+0.1**
	84nm,0.3s,baz=329,slow=19,SNR=65						
JHJ				S	**Sn**	**18 00 23.3**	**+0.2**
	187nm,0.3s,baz=238,slow=23,SNR=22						
JOD2	**Odawara 2**	**1.35**	**311**	P	**Pn**	**18 00 04.9**	**-0.2**
JOD2				S	**Sn**	**18 00 22.8**	**-0.4**
JFNN	**Fujinakano**	**1.58**	**301**	P	**Pn**	**18 00 08.5**	**+0.6**
JFNN				S	**Sn**	**18 00 29.3**	**+1.0**
JYN	**Shimob**	**1.84**	**307**	P	**Pn**	**18 00 12.0**	**+0.6**
JYN				S	**Sn**	**18 00 35.8**	**+1.4**
SHZ3	**Shizuoka 3**	**1.88**	**292**	P	**Pn**	**18 00 12.6**	**+0.8**
MJAR	**Matsushiro Arr**	**2.76**	**322**	P	**Pn**	**18 00 23.3**	**-0.2**
	0.5nm,0.3s,baz=159,slow=11,SNR=73						
MJAR				S	**Sn**	**18 00 56.5**	**+0.4**
	0.6nm,0.3s,baz=196,slow=19,SNR=3.4						
MAT	**Matsushiro**	**2.76**	**322**	P	**Pn**	**18 00 24.4**	**+0.9**
MAT				eS	**Sn**	**18 00 56.2**	**+0.1**
JNU	**Nakatsue**	**7.97**	**264**	P	**Pn**	**18 01 35.8**	**+1.5**
	0.7nm,0.3s,baz=30,slow=4.8,SNR=8.9						
ASAJ	**Asahikawa**	**9.87**	**10**	P	**Pn**	**18 01 58.7**	**-1.2**
	0.2nm,0.3s,baz=312,slow=15,SNR=6.7						
ASAJ				S	**Sn**	**18 03 42.9**	**-5.9**
	0.1nm,0.3s,baz=113,slow=30,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**27.69**	**115**	T	T	18 35 18.9	
	baz=308,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**27.70**	**115**	T	T	18 35 19.1	
	baz=308,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**27.71**	**115**	T	T	18 35 16.1	
	baz=308,slow=75,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**28.30**	**117**	T	T	18 36 00.0	
	baz=310,slow=76,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**28.30**	**117**	T	T	18 36 01.2	
	baz=310,slow=76,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**28.31**	**117**	T	T	18 36 00.9	
	baz=310,slow=76,SNR=3.8						
ILAR	**Eielson Array**	**52.20**	**31**	P	**P**	**18 08 43.5**	**+1.5**
	0.3nm,0.6s,baz=264,slow=8.1,SNR=2.2						
WRA	**Warramunga Arr**	**54.33**	**187**	P	**P**	**18 08 57.5**	**-0.5**
	0.3nm,0.5s,baz=3.7,slow=7.4,SNR=6.9						

*NEIC **14** 18:04:03.4±2.9, 10°.3S±0°.1×162°.1E±0°.1, h10km±1km, mb4.2/4, Error ellipse: s-maj=24.2km s-min=17.6km az=37.0*
*IDC **14** 18:04:10.6±2.4, 10°.51S×162°.05E, h70km±20km, mb3.8/11, mb1 4.0/14, mb1mx3.7/42, mbtmp4.2/14, MS3.5/3, Ms1 3.5/3, ms1mx3.2/34, Error ellipse: s-maj=19.6km s-min=15.1km az=81.0*
ISC 14 18:04:08.7±0.6, 10.46S±0°.08×162.12E±0°.09, h54km, n37, σ1°21/31, mb4.1/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.37**	**295**	P	**Pn**	**18 04 46.6**	**+1.3**
	409nm,0.3s,baz=163,slow=11,SNR=169						
HNR				S	**Sn**	**18 05 15.4**	**+2.2**
	350nm,0.3s,baz=195,slow=20,SNR=3.0						
HNR				LR	LR	18 05 56.0	
	comp=Z,789nm,19.2s,baz=56,slow=45						
HNR	**Honiara**	**2.37**	**295**		**Pn**	**18 04 46.3**	**+1.1**
SANVU	**Saraoutou**	**7.01**	**136**		**Pn**	**18 05 49.2**	**+0.4**
DZM	**Mont Dzumac**	**12.27**	**161**	P	**Pn**	**18 07 02.3**	**+1.4**
	1.0nm,0.3s,baz=28,slow=7.8,SNR=77						
DZM				S	**Sn**	**18 09 16.2**	**0.0**
	0.2nm,0.3s,baz=31,slow=19,SNR=2.2						
DZM				LR	LR	18 10 47.7	
	comp=Z,215nm,20.5s,baz=352,slow=32						
DZM	**Mont Dzumac**	**12.27**	**161**		**Pn**	**18 07 03.1**	**+2.2**
PMG	**Port Moresby**	**14.78**	**273**	LR	LR	18 12 54.1	
	comp=Z,294nm,19.4s,baz=103,slow=36						
CTA	**Charters Tower**	**18.04**	**236**	P	**Pn**	**18 08 16.1**	**+0.3**
	0.4nm,0.3s,baz=68,slow=12,SNR=6.2						
JAY	**Jayapura**	**22.68**	**289**	P	**P**	**18 09 04.5**	**-1.5**
	7.1nm,0.9s,baz=152,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**28.38**	**247**	P	**P**	**18 09 58.3**	**+0.1**
	2.5nm,0.8s,baz=74,slow=9.5,SNR=14						
WRA	**Warramunga Arr**	**28.38**	**247**	P	**P**	**18 09 57.2**	**-1.0**
STKA	**Stephens Creek**	**28.55**	**219**	P	**P**	**18 09 59.2**	**-0.3**
	1.0nm,0.7s,baz=31,slow=18,SNR=1.4						
STKA	**Stephens Creek**	**28.55**	**219**	P	**P**	**18 09 57.4**	**-2.1**
STKA				IAmb	IAmb	18 09 58.6	
	comp=Z,1.2nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**29.11**	**9**	T	T	18 40 58.7	
	baz=188,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**29.12**	**9**	T	T	18 40 58.7	
	baz=188,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**29.13**	**9**	T	T	18 40 58.7	
	baz=188,slow=76,SNR=19						
ASAR	**Alice Springs**	**29.93**	**240**	P	**P**	**18 10 11.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=64,slow=10.0,SNR=18						
ASAR	**Alice Springs**	**29.93**	**240**	P	**P**	**18 10 10.1**	**-1.9**
H11N1	**WAKE ISLAND Hy**	**30.34**	**9**	T	T	18 42 30.0	
	baz=188,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.35**	**9**	T	T	18 42 31.1	
	baz=188,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy**	**30.36**	**9**	T	T	18 42 30.6	
	baz=188,slow=76,SNR=16						
FITZ	**Fitzroy Crossi**	**36.11**	**254**	P	**P**	**18 11 05.3**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=358,slow=6.7,SNR=8.5						
FITZ	**Fitzroy Crossi**	**36.11**	**254**	P	**P**	**18 11 05.5**	**-0.4**
JKA	**Kamikawa-asahi**	**57.13**	**343**	P	**P**	**18 13 47.9**	**-1.9**
JKA				IAmb	IAmb	18 13 51.5	
	comp=Z,12nm,1.1s						
ASAJ	**Asahikawa**	**57.14**	**343**	P	**P**	**18 13 50.3**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=225,slow=9.2,SNR=6.6						
PETK	**Petropavlovsk-**	**63.42**	**357**	P	**P**	**18 14 32.7**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=150,slow=6.1,SNR=2.6						
SONM	**Songino Array**	**76.11**	**325**	P	**P**	**18 15 51.2**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=133,slow=8.2,SNR=6.0						
SONM	**Songino Array**	**76.11**	**325**	P	**P**	**18 15 48.8**	**-2.2**
IMAR	**Indian Mountai**	**82.85**	**17**	P	**P**	**18 16 28.0**	**+1.0**
ILAR	**Eielson Array**	**84.12**	**20**	P	**P**	**18 16 33.4**	**-0.1**
	comp=Z,2.9nm,1.0s,baz=250,slow=4.9,SNR=13						
ILAR	**Eielson Array**	**84.12**	**20**	P	**P**	**18 16 33.6**	**0.0**
BCAR	**Beaver Creek A**	**84.87**	**22**	P	**P**	**18 16 38.3**	**+0.8**
NVAR	**Mina Array Bea**	**88.38**	**51**	P	**P**	**18 16 56.9**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=234,slow=7.5,SNR=12						
MKAR	**Makanchi Array**	**90.67**	**317**	P	**P**	**18 17 05.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=81,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**90.67**	**317**	P	**P**	**18 17 04.7**	**-0.9**
FINES	**FINESS Array B**	**119.89**	**337**	PKP	**PKPdf**	**18 22 51.9**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=50,slow=4.3,SNR=1.7						
LATE	**Laterza**	**138.80**	**326**	PKPpre		18 23 22.4	
ESDC	**Sonseca Array**	**148.38**	**339**	PKPbc	**PKPbc**	**18 23 49.3**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=64,slow=3.4,SNR=4.2						

*NEIC **14** 18:08:35.3±1.7, 0°.1N±0°.1×123°.19E±0°.09, h162km±12km, mb4.1/10, Error ellipse: s-maj=19.6km s-min=9.9km az=151.0*
*DJA **14** 18:08:37.1±0.5, 0°.S±5°.×12°.3E±°, h156km±5km, M3.9/8, mb4.3/1, MLv3.7/8*
*IDC **14** 18:08:37.2±3.0, 0°.04N×123°.33E, h165km±29km, mb3.4/9, mb1 3.5/10, mb1mx3.2/46, mbtmp3.9/10, Error ellipse: s-maj=31.8km s-min=12.3km az=72.0*
ISC 14 18:08:36.4±0.6, 0°.11S±0°.06×123°.23E±0°.06, h162km, n32, σ1°61/38, mb3.8/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.77**	**344**	P	**Pn**	**18 09 01.6**	**+1.0**
GTOI				S	**Sn**	**18 09 20.1**	**+0.8**
KMSI	**Cibinong**	**1.02**	**48**	P	**Pn**	**18 09 04.7**	**+2.3**
KMSI				S	**Sn**	**18 09 25.7**	**+3.3**
LUWI	**Luwuk**	**1.03**	**206**	P	**Pn**	**18 09 03.0**	**+0.4**
LUWI				S	**Sn**	**18 09 21.9**	**-0.8**
LUWI	**Luwuk**	**1.03**	**206**		**Pn**	**18 09 02.8**	**+0.2**
MPSI	**Mapaga**	**3.36**	**278**	P	**Pn**	**18 09 29.2**	**+0.5**
SANI	**Sanana**	**3.37**	**125**	P	**Pn**	**18 09 29.4**	**+0.6**
SANI				S	**Sn**	**18 10 05.9**	**-3.7**
TNTI	**Ternate**	**4.23**	**78**	P	**Pn**	**18 09 41.6**	**+1.6**
TNTI	**Ternate**	**4.23**	**78**		**Pn**	**18 09 38.8**	**-1.2**
MTN	**Manton Dam

CMAR Chiang Mai Arr 93.43 288 P **P 18 30 52.3 +2.3**
0.5nm,0.3s,baz=108,slow=2.9,SNR=8.6
FINES FINESS Array B 137.00 346 PKhKP PKPpre 18 36 51.5
0.5nm,0.6s,baz=35,slow=5.1,SNR=0.9
NB2 NORSAR Subarra139.66 356 PKP **PKPdf 18 36 58.5 -2.9**
comp=Z,30nm,2.5s,baz=17,slow=2.6
NOA NORSAR Array B 139.66 356 PKP **PKPdf 18 36 59.7 -1.7**
comp=Z,0.2nm,0.2s,baz=354,slow=4.5,SNR=3.5
AKASG Malin Array Be 144.89 334 PKPbc **PKPdf 18 37 10.4 -0.5**
comp=Z,0.9nm,0.5s,baz=38,slow=3.9,SNR=5.8
BRTR Keskin Array B 149.54 314 PKPbc **PKPbc 18 37 23.7 -0.1**
comp=Z,3.8nm,0.9s,baz=29,slow=5.6,SNR=4.2
GERES GERESS Array B 151.33 349 PKPbc **PKPbc 18 37 27.4 -0.3**
comp=Z,0.8nm,0.9s,baz=27,slow=3.3,SNR=6.0
ESDC Sonseca Array 159.52 22 PKPab **PKPab 18 38 11.8 +0.9**
comp=Z,0.5nm,0.4s,baz=328,slow=4.6,SNR=3.0

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*NEIC **14** 18:17:35.4±2.3,21°.11S±0°.09×173°.92W±0°.09,h10km±1km, mb5.2/75, Mwb5.4/63, Mwc5.7(GCMT), Error ellipse: s-maj=14.7km s-min=13.3km az=159.0*
*IDC **14** 18:17:38.0±0.4,21°.05S×174°.44W,h0km,mb4.9/29, mb1 5.0/30, mb1mx4.9/37, mbtmp4.8/30, ML4.9/1, Error ellipse: s-maj=14.5km s-min=11.0km az=152.0*
*BGR **14** 18:17:41.3±0.0,21°.61S×173°.20W,h36km±1km, Ms5.5*
*BJI **14** 18:17:43.6±0.0,20°.72S×174°.18W,h45km, mB5.8/43, mb5.1/50, Ms5.4/44, Ms7 5.1/43*
*UNK **14** 18:17:44.6,21°.14S×174°.46W,h48km*
*GCMT **14** 18:17:44.4±0.1,21°.27S±0°.01×173°.83W,h18km, MW5.7/158, Moment Tensor Solution. s138,c261; s158,c336; Duration: 1s7 Moment tensor: Scale 10^17 Nm; M_{rr}3.18±.04; $M_{\theta\theta}$-0.05±.03; $M_{\phi\phi}$-3.12±.03; $M_{r\theta}$1.06±.07; $M_{\theta\phi}$-0.96±.02; $M_{r\phi}$1.78±.07; Best double couple: $M_0$3.88800×10^17 NP1:ϕ_s187.00000°, δ30.00000°, λ75.00000°. NP2:ϕ_s24.00000°, δ61.00000°, λ98.00000°. Principal axes: T 3.8140, Plg73.0000°, Azm314.0000°; N 0.1540, Plg7.0000°, Azm200.0000°; P -3.9620, Plg16.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 18:17:45.2,21°.11S×174°.48W,h17km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; M_{rr}1.38; $M_{\theta\theta}$-0.38; $M_{\phi\phi}$-1.00; $M_{r\theta}$0.85; $M_{\theta\phi}$-0.49; $M_{\phi r}$0.84; Fault plane solution: $M_0$1.79000×10^17 NP1:ϕ_s200.67000°, δ25.08000°, λ73.16000°. NP2:ϕ_s39.14000°, δ66.07000°, λ97.72000°. Principal axes: T 1.8588, Plg68.0000°, Azm324.0000°; N -0.1481, Plg7.0000°, Azm216.0000°; P -1.7108, Plg21.0000°, Azm123.0000°;*

ISC 14 18:17:44.6±0.5,21°.37S±0°.04×174°.43W±0°.05,h49km±4km, h49km:pP-P,n488,σ2°05/484,mb5.1/76,MS5.5/41, 19C-19D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.81**	**62**	S	Sn	18 19 26.5	-22
baz=4.0							
NIUE	**Niue**	**4.81**	**62**		Pn	18 18 41.4	-13
NIUE	**Niue**	**4.81**	**62**	P	Pn	18 18 35.6	-19
baz=4.0,SNR=268							
AFI	**Afiamalu**	**7.84**	**19**	Pn	Pn	18 19 24.9	-11
74nm,0.3s,baz=261,slow=2.3,SNR=41							
AFI				Sn	Sn	18 20 40.8	-23
21nm,0.3s,baz=133,slow=19,SNR=2.3							
MSVF	**Nonsavu**	**7.96**	**296**	Pn	**Pn**	**18 19 38.2**	**+0.4**
RIZ	**Raoul Island**	**8.45**	**201**	P	**Pn**	**18 19 45.7**	**+1.3**
RIZ				S	**Sn**	**18 21 16.0**	**-2.4**
RAO	**Raoul Island**	**8.45**	**201**	Sn	**Sn**	**18 21 18.6**	**+0.1**
53nm,0.3s,baz=90,slow=20,SNR=1.4							
GLKZ	**Green Lake**	**8.46**	**201**	P	**Pn**	**18 19 46.7**	**+2.1**
GLKZ				S	**Sn**	**18 21 17.8**	**-0.9**
RAR	**Rarotonga**	**13.67**	**92**	Pn	Pn	18 20 42.7	-13
26nm,0.3s,baz=252,slow=8.2,SNR=21							
RAR				Sn	Sn	18 23 01.5	-25
6.5nm,0.3s,baz=300,slow=20,SNR=2.5							
RAR	**Rarotonga**	**13.67**	**92**		Pn	18 20 43.5	-12
MXZ	**Matakaoa Point**	**17.32**	**200**	P	**P**	**18 21 48.8**	**+5.2**
OUZ	**Omahuta**	**17.34**	**215**	P	**P**	**18 21 46.5**	**+2.6**
OUZ	**Omahuta**	**17.34**	**215**	P	**P**	**18 21 46.9**	**+3.0**
WCZ	**Waipu Caves**	**17.52**	**212**	P	**P**	**18 21 49.1**	**+3.2**
KUZ	**Kuaotunu**	**17.55**	**207**	P	**P**	**18 21 53.2**	**+7.0**
HAZ	**Te Kaha**	**17.66**	**201**	P	**P**	**18 21 47.8**	**+0.3**
HAZ				S	**Sn**	**18 24 55.2**	**-7.7**
DZM	**Mont Dzumac**	**17.78**	**264**	P	**P**	**18 21 52.7**	**+3.6**
2.6nm,0.3s,baz=77,slow=16,SNR=21							
DZM	**Mont Dzumac**	**17.78**	**264**	*e*P	**P**	**18 21 52.9**	**+3.9**
302nm,1.4s							
DZM	**Mont Dzumac**	**17.78**	**264**	P	**P**	**18 21 52.2**	**+3.2**
PUZ	**Puketiti**	**17.80**	**199**	S	**Sn**	**18 24 56.7**	**-10**
PUZ	**Puketiti**	**17.80**	**199**	P	**Pn**	**18 21 47.6**	**-1.2**
WIAZ	**Waiheke Island**	**17.85**	**208**	P	**P**	**18 21 53.4**	**+3.9**
MWZ	**Matawai**	**18.27**	**201**	P	**Pn**	**18 21 58.5**	**+4.0**
MWZ				S	Sn	18 25 05.1	-13
URZ	**Urewera**	**18.34**	**202**	P	**Pn**	**18 21 57.1**	**+1.8**
4.1nm,0.3s,baz=298,slow=2.4,SNR=14							
URZ				S	Sn	18 25 08.1	-11
0.9nm,0.3s,baz=299,slow=19,SNR=1.7							
URZ	**Urewera**	**18.34**	**202**	P	**Pn**	**18 21 56.6**	**+1.3**
URZ				S	Sn	18 25 05.8	-14
URZ	**Urewera**	**18.34**	**202**		**Pn**	**18 21 57.2**	**+1.9**
SANVU	**Saraoutou**	**18.39**	**286**		**Pn**	**18 21 56.3**	**+0.3**
SANVU				IAmb	IAmb	18 22 15.6	
comp=Z,223nm,1.1s							
TOZ	**Tahuroa Road**	**18.48**	**206**	P	**Pn**	**18 22 02.9**	**+5.8**
BKZ	**Black Stump Fm**	**19.37**	**202**	S	S	18 25 31.3	-12
BKZ	**Black Stump Fm**	**19.37**	**202**		**Pn**	**18 22 08.5**	**+0.8**
BKZ	**Black Stump Fm**	**19.37**	**202**	P	**P**	**18 22 05.1**	**-1.2**
MCHZ	**McNeill Hill**	**19.55**	**201**	P	**P**	**18 22 08.9**	**+0.8**
MCHZ				S	S	18 25 30.9	-15
BHHZ	**Black Hill Sta**	**19.81**	**202**	S	**S**	**18 25 43.3**	**-8.3**
KAHZ	**Kahuranaki**	**19.81**	**200**	P	**Pn**	**18 22 16.6**	**+3.7**
KAHZ				S	**S**	**18 25 43.7**	**-7.8**
WNVZ	**Wahianoa**	**19.83**	**203**	P	**Pn**	**18 22 14.9**	**+1.6**
WNVZ				S	**S**	**18 25 47.1**	**-5.2**
KRHZ	**Kereru**	**19.84**	**201**	P	**Pn**	**18 22 19.7**	**+6.4**
KRHZ				S	S	18 25 39.9	-12
VRZ	**Vera Road**	**19.98**	**205**	P	**Pn**	**18 22 17.2**	**+2.4**
PXZ	**Pawanui**	**20.03**	**200**	P	Pn	18 22 17.0	+1.6
PXZ				S	S	18 25 43.2	-13
PNHZ	**Pukenui**	**20.14**	**201**	P	Pn	18 22 20.7	+3.9
PNHZ				S	S	18 25 46.1	-12
NEZ	**North Egmont**	**20.37**	**206**	P	Pn	18 22 24.7	+5.1
BFZ	**Birch Farm**	**20.81**	**200**	P	Pn	18 22 25.2	+0.4
BFZ				S	S	18 25 59.9	-11
MRZ	**Mangatainoka R**	**21.02**	**202**	P	**P**	**18 22 25.1**	**+1.0**
MRZ				S	S	18 26 03.2	-12
HOWZ	**Holdsworth Sta**	**21.25**	**201**	P	**P**	**18 22 30.0**	**+3.5**
HOWZ				S	**S**	**18 26 09.9**	**-10**
TMWZ	**Te Maipa**	**21.31**	**200**	P	**P**	**18 22 31.5**	**+4.2**
TMWZ				S	S	18 26 10.5	-11
PLWZ	**Palliser**	**21.94**	**201**	P	**P**	**18 22 36.0**	**+2.0**
PLWZ				S	**S**	**18 26 26.0**	**-7.5**
TUWZ	**Tuamarina**	**22.28**	**204**	P	**P**	**18 22 38.4**	**+0.8**
TUWZ	**Tuamarina**	**22.28**	**204**	P	**P**	**18 22 37.2**	**-0.4**
TBI	**Tubuai**	**23.17**	**100**	*e*LR	LR	18 28 12.5	
comp=Z,12μm,29.5s,baz=272							
TBI	**Tubuai**	**23.17**	**100**	*e*T	T	18 46 05.6	
comp=Z,13nm,0.4s							
TBI	**Tubuai**	**23.17**	**100**	*e*P	P	18 22 39.7	-7.3
comp=Z,439nm,1.4s							
TBI	**Tubuai**	**23.17**	**100**	*e*S	S	18 26 40.7	-14
comp=Z,2μm,26.2s							
TBI	**Tubuai**	**23.17**	**100**	*e*LQ	LQ	18 27 05.4	
comp=Z,3μm,26.5s							
PAE	**Paea**	**23.70**	**85**	*e*P	P	18 22 43.4	-8.8
comp=Z,21nm,1.3s							
PAE	**Paea**	**23.70**	**85**	*e*T	T	18 46 34.8	
comp=Z,8.4nm,0.4s							
PPT2	**Papeete2**	**23.73**	**85**	*e*P	P	18 22 44.0	-8.4
comp=Z,119nm,1.5s							
PPT2	**Papeete2**	**23.73**	**85**	*e*T	T	18 46 36.4	
comp=Z,7.4nm,0.3s							
PPT2	**Papeete2**	**23.73**	**85**	*e*S	S	18 26 48.5	-16
comp=Z,2μm,23.8s							
PPT2	**Papeete2**	**23.73**	**85**	*e*LR	LR	18 28 21.3	
comp=Z,14μm,28.2s,baz=254							
PPT	**Papeete**	**23.73**	**85**	P	**P**	**18 22 51.6**	**-0.9**
comp=Z,38nm,0.7s,baz=245,slow=19,SNR=5.7							
TIAR	**Tiarei**	**23.95**	**85**	*e*P	P	18 22 45.7	-8.7
comp=Z,23nm,1.0s							
TIAR	**Tiarei**	**23.95**	**85**	*e*T	T	18 46 53.0	
comp=Z,2.9nm,0.3s							
MEH	**Mehetia**	**25.07**	**87**	*e*P	P	18 22 56.5	-8.1
comp=Z,27nm,1.1s							
MEH	**Mehetia**	**25.07**	**87**	*e*T	T	18 48 17.4	
comp=Z,26nm,0.3s							
RPZ	**Rata Peaks**	**25.34**	**205**	P	**P**	**18 23 09.2**	**+2.3**
comp=Z,13nm,0.8s,baz=113,slow=17,SNR=5.3							
HNR	**Honiara**	**27.35**	**292**	P	**P**	**18 23 24.2**	**-1.1**
comp=Z,46nm,0.7s,baz=200,slow=1.9,SNR=6.5							
HNR	**Honiara**	**27.35**	**292**	P	**P**	**18 23 25.3**	**0.0**
HNR				IAmb	IAmb	18 23 37.1	
comp=Z,58nm,0.8s							
ARMA	**Armidale**	**31.73**	**246**	P	**P**	**18 24 05.2**	**+1.0**
EIDS	**Eidsvold**	**31.85**	**256**	P	**P**	**18 24 05.7**	**+0.6**
baz=33,SNR=3.9							
EIDS	**Eidsvold**	**31.85**	**256**	P	**P**	**18 24 04.8**	**-0.4**
RMQ	**Roma**	**33.95**	**254**	P	**P**	**18 24 25.0**	**+1.5**
baz=35,SNR=11							
TAOE	**Nuku Hiva Isla**	**35.27**	**75**	*e*LR	LR	18 33 35.7	
comp=Z,7μm,30.0s							
TAOE	**Nuku Hiva Isla**	**35.27**	**75**	*e*T	T	19 00 55.0	
comp=Z,24nm,0.2s							
TAOE	**Nuku Hiva Isla**	**35.27**	**75**	*e*S	S	18 29 53.4	-12
comp=Z,974nm,26.4s							
CTA	**Charters Tower**	**36.73**	**265**	P	**P**	**18 24 47.6**	**+0.2**
comp=Z,6.0nm,0.4s,baz=86,slow=11,SNR=21							
CTAO	**Charters Tower**	**36.73**	**265**	P	**P**	**18 24 46.8**	**-0.6**
CMSA	**Cobar Meteorol**	**36.93**	**246**	P	**P**	**18 24 49.1**	**+0.1**
baz=38,SNR=11							
TOO	**Toolangi**	**38.12**	**236**	P	**P**	**18 25 00.9**	**+1.8**
baz=39,SNR=5.2							
TOO	**Toolangi**	**38.12**	**236**	P	**P**	**18 24 59.7**	**+0.7**
PMG	**Port Moresby**	**38.79**	**282**	P	**P**	**18 25 04.1**	**-0.7**
comp=Z,22nm,0.9s,baz=37,slow=11,SNR=3.9							
MTSU	**Mount Surprise**	**38.88**	**267**	P	**P**	**18 25 05.7**	**+0.1**
baz=40,SNR=13							
STKA	**Stephens Creek**	**40.44**	**246**	P	**P**	**18 25 18.9**	**+0.4**
comp=Z,7.1nm,0.6s,baz=91,slow=9.8,SNR=20							
STKA	**Stephens Creek**	**40.44**	**246**	P	**P**	**18 25 18.9**	**+0.4**
baz=41,SNR=14							
COEN	**Coen**	**40.96**	**273**	P	**P**	**18 25 22.9**	**0.0**
baz=42,SNR=10.0							
COEN	**Coen**	**40.96**	**273**	P	**P**	**18 25 21.8**	**-1.1**
HTT	**Hallett**	**42.80**	**244**	P	**P**	**18 25 37.9**	**+0.1**
baz=44,SNR=5.4							
H11S2	**WAKE ISLAND Hy**	**43.71**	**334**	T	T	19 13 30.1	
baz=148,slow=76,SNR=9.6							
H11S3	**WAKE ISLAND Hy**	**43.72**	**334**	T	T	19 13 32.1	
baz=148,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**43.73**	**334**	T	T	19 13 32.6	
baz=148,slow=76,SNR=7.8							
BBOO	**Buckleboo**	**45.17**	**245**	P	**P**	**18 25 56.7**	**0.0**
baz=46,SNR=12							
BBOO	**Buckleboo**	**45.17**	**245**	P	**P**	**18 25 56.5**	**-0.2**
BBOO				IAmb	IAmb	18 26 08.5	
comp=Z,16nm,1.1s							
JAY	**Jayapura**	**47.48**	**287**	P	**P**	**18 26 14.1**	**-1.0**
comp=Z,55nm,0.6s,baz=147,slow=4.4,SNR=32							
JAY	**Jayapura**	**47.48**	**287**	P	**P**	**18 26 14.3**	**-0.8**
comp=Z,782nmcomp=Z,46nm,0.8s							
AS31	**Alice Springs**	**47.57**	**257**	P	**P**	**18 26 14.9**	**-0.8**
AS31				IAmb	IAmb	18 26 17.6	
comp=Z,7.5nm,0.6s							
ASAR	**Alice Springs**	**47.57**	**257**	P	**P**	**18 26 15.4**	**-0.3**
comp=Z,26nm,0.8s,baz=97,slow=7.0,SNR=81							
ASAR				PcP	**PcP**	**18 27 47.1**	**+2.0**
comp=Z,4.9nm,0.7s,baz=105,slow=4.7,SNR=1.3							
ASAR				S	**S**	**18 33 09.0**	**+1.2**
comp=Z,0.5nm,0.7s,baz=92,slow=16,SNR=3.7							
ASAR	**Alice Springs**	**47.57**	**257**	P	**P**	**18 26 15.2**	**-0.6**
WR0	**Warramunga Arr**	**47.59**	**262**	P	**P**	**18 26 15.7**	**-0.2**
WR0				IAmb	IAmb	18 26 31.2	
comp=Z,17nm,1.1s							
WB0	**Warramunga Arr**	**47.77**	**262**	P	**P**	**18 26 15.6**	**-1.7**
WB0				IAmb	IAmb	18 26 28.0	
comp=Z,26nm,1.1s							
WB2	**Warramunga Arr**	**47.77**	**262**	P	**P**	**18 26 15.8**	**-1.5**
WB2				IAmb	IAmb	18 26 28.6	
comp=Z,21nm,0.8s							
WRAB	**Tennant Creek**	**47.77**	**262**	P	**P**	**18 26 16.2**	**-1.1**
WRAB				IAmb	IAmb	18 26 28.5	
comp=Z,17nm,0.8s							
WRA	**Warramunga Arr**	**47.78**	**262**	P	**P**	**18 26 16.8**	**-0.6**
comp=Z,4.4nm,0.4s,baz=96,slow=7.7,SNR=27							
WRA				PcP	**PcP**	**18 27 47.6**	**+1.8**
comp=Z,2.7nm,0.6s,baz=103,slow=3.1,SNR=2.2							
WRA				S	**S**	**18 33 10.8**	**-0.1**
comp=Z,0.5nm,1.0s,baz=98,slow=12,SNR=2.2							
WRA	**Warramunga Arr**	**47.78**	**262**	P	**P**	**18 26 15.8**	**-1.6**
GENI	**Genyem**	**47.93**	**287**	P	**P**	**18 26 17.0**	**-1.5**
comp=Z,2μmcomp=Z,58nm,0.8s							
KDU	**Kakadu**	**51.30**	**271**	P	**P**	**18 26 43.7**	**-0.4**
baz=52,SNR=4.4							
FORT	**Forrest**	**52.02**	**247**	P	**P**	**18 26 50.1**	**+0.7**
baz=53,SNR=13							
FORT	**Forrest**	**52.02**	**247**	P	**P**	**18 26 47.4**	**-2.0**
WRKA	**Warakurna**	**52.44**	**254**	P	**P**	**18 26 52.3**	**-0.3**
baz=53,SNR=20							
MTN	**Manton Dam**	**52.50**	**270**	P	**P**	**18 26 52.4**	**-0.7**
baz=53,SNR=5.7							
MTN	**Manton Dam**	**52.50**	**270**	P	**P**	**18 26 51.9**	**-1.3**
MTN				IAmb	IAmb	18 27 06.5	
comp=Z,16nm,0.8s							
KNRA	**Kununurra**	**53.92**	**266**	P	**P**	**18 27 02.9**	**-0.7**
baz=55,SNR=6.8							
KNRA	**Kununurra**	**53.92**	**266**	P	**P**	**18 27 02.9**	**-0.7**
KNRA				IAmb	IAmb	18 27 14.4	
comp=Z,16nm,0.7s							
FITZ	**Fitzroy Crossi**	**56.21**	**262**	P	**P**	**18 27 19.9**	**-0.2**
comp=Z,2.8nm,0.3s,baz=162,slow=3.4,SNR=42							
FITZ	**Fitzroy Crossi**	**56.21**	**262**	P	**P**	**18 27 20.2**	**0.0**
baz=57,SNR=27							
FITZ	**Fitzroy Crossi**	**56.21**	**262**	P	**P**	**18 27 20.0**	**-0.1**
VNDA	**Vanda**	**57.37**	**186**	P	**P**	**18 27 31.3**	**+3.9**
comp=Z,3.1nm,0.8s,baz=7.2,slow=7.6,SNR=19							
VNDA	**Vanda**	**57.37**	**186**	P	**P**	**18 27 31.5**	**+4.2**
SOEI	**Soe**	**59.85**	**271**	P	**P**	**18 27 46.7**	**+0.9**
BATI	**Baumata**	**60.27**	**270**	P	**P**	**18 27 49.2**	**+0.6**
comp=Z,9.0nm,0.5s,baz=142,slow=12,SNR=2.5							
KLBR	**Kellerberrin**	**60.71**	**245**	P	**P**	**18 27 52.2**	**+0.9**
baz=61,SNR=5.4							
MEEK	**Meekatharra**	**60.78**	**251**	P	**P**	**18 27 53.7**	**+1.8**
baz=62,SNR=6.7							
NWAO	**Narrogin (SRO)**	**60.96**	**243**	P	**P**	**18 27 54.3**	**+1.3**
comp=Z,6.3nm,0.6s,baz=124,slow=6.9,SNR=6.2							
NWAO	**Narrogin (SRO)**	**60.96**	**243**	P	**P**	**18 27 53.5**	**+0.5**
NWAO				IAmb	IAmb	18 27 59.7	
comp=Z,13nm,1.1s							
BLDU	**Ballidu**	**61.74**	**246**	P	**P**	**18 27 59.2**	**+0.9**
baz=62,SNR=11							
MUN	**Mundaring**	**61.95**	**244**	P	**P**	**18 28 01.6**	**+1.9**
baz=63,SNR=5.1							
MORW	**Morawa**	**62.58**	**248**	P	**P**	**18 28 04.7**	**+0.8**
baz=63,SNR=5.6							
MORW	**Morawa**	**62.58**	**248**	P	**P**	**18 28 03.9**	**-0.1**
MORW				IAmb	IAmb	18 28 08.0	
comp=Z,27nm,1.0s							
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**18 28 46.0**	**+3.1**
comp=Z,4.2nm,0.8s,baz=38,slow=4.3,SNR=3.7							
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**18 28 46.0**	**+3.1**
QSPA				IAmb	IAmb	18 29 01.8	
comp=Z,27nm,1.1s							
JYT	**Yasato**	**71.57**	**323**	P	**P**	**18 29 00.6**	**0.0**
JMM	**Marumori**	**72.41**	**324**	P	**P**	**18 29 04.8**	**-0.8**
JMM				IAmb	IAmb	18 29 07.0	
comp=Z,24nm,0.8s							
JGF	**Kuroka**	**72.77**	**320**	P	**P**	**18 29 06.9**	**-1.1**
JGF				IAmb	IAmb	18 29 16.6	
comp=Z,13nm,0.8s							
MJAR	**Matsushiro Arr**	**72.92**	**322**	P	**P**	**18 29 07.3**	**-1.5**
comp=Z,25nm,0.7s,baz=154,slow=5.0,SNR=38							
MJAR	**Matsushiro Arr**	**72.92**	**322**	P	**P**	**18 29 07.8**	**-1.0**
MAJO	**Matsushiro**	**72.92**	**322**	P	**P**	**18 29 08.1**	**-0.7**
MAJO				IAmb	IAmb	18 29 08.7	
comp=Z,27nm,0.7s							
MAT	**Matsushiro**	**72.92**	**322**	P	**P**	**18 29 07.4**	**-1.4**
MAT				S	**S**	**18 38 29.0**	**-2.8**
JMN	**Monobe**	**73.66**	**317**	P	**P**	**18 29 11.9**	**-1.3**
JMN				IAmb	IAmb	18 29 16.8	
comp=Z,34nm,0.9s							
JSD	**Sado**	**73.94**	**323**	P	**P**	**18 29 13.7**	**-1.0**
JHS	**Saijyo**	**74.96**	**318**	P	**P**	**18 29 20.1**	**-0.7**
SMMC	**Simmler**	**76.42**	**43**	P	**P**	**18 29 28.7**	**-0.4**
baz=231							
ARVC	**Arvin**	**77.05**	**44**	P	**P**	**18 29 31.9**	**-0.7**
baz=232							
MURC	**Murrieta**	**77.21**	**46**	P	**P**	**18 29 32.7**	**-0.9**
baz=234							
SSLB	**Suanglung**	**77.25**	**302**	IAmb	IAmb	18 29 34.0	
comp=Z,24nm,1.0s							
BFSC	**Mount Baldy Ra**	**77.28**	**45**	P	**P**	**18 29 31.1**	**-3.0**
baz=233							
MONP2	**Monument Peak**	**77.31**	**47**	P	**P**	**18 29 33.5**	**-0.9**
baz=234,SNR=6.9							
VES	**Vestal, Richgr**	**77.33**	**43**	P	**P**	**18 29 33.0**	**-1.1**
baz=232,SNR=6.5							
IKP	**In-Ko-Pah, Jac**	**77.39**	**47**	P	**P**	**18 29 34.2**	**-0.5**
baz=234							
EDW2	**Edwards Air Fo**	**77.45**	**45**	P	**P**	**18 29 33.4**	**-1.5**
baz=233,SNR=14							
ISA	**Isabella, Lake**	**77.61**	**44**	P	**P**	**18 29 34.9**	**-1.0**
baz=232,SNR=11							
PFO	**Pinyon Flats O**	**77.71**	**46**	P	**P**	**18 29 34.4**	**-2.1**
comp=Z,5.2nm,1.0s,baz=275,slow=4.9,SNR=6.1							
PFO	**Pinyon Flats O**	**77.71**	**46**	P	**P**	**18 29 35.7**	**-0.8**
baz=234							
PFO	**Pinyon Flats O**	**77.71**	**46**	P	**P**	**18 29 33.6**	**-2.9**
TPFO	**Pinon Flats**	**77.71**	**46**	P	**P**	**18 29 35.6**	**-0.9**
baz=234							
SWSC	**Sam W. Stewart**	**77.77**	**47**	P	**P**	**18 29 35.2**	**-1.5**
baz=235							
O02D	**Mt. Diablo Mer**	**77.86**	**38**	P	**P**	**18 29 36.3**	**-0.8**
baz=228,SNR=7.2							
LRMC	**Laurel Mtn Rad**	**78.01**	**44**	P	**P**	**18 29 37.4**	**-0.7**
baz=233							
PEA0B	**Petropavlovsk-**	**78.01**	**343**	P	**P**	**18 29 34.7**	**-2.9**
PETK	**Petropavlovsk-**	**78.01**	**343**	P	**P**	**18 29 36.2**	**-1.4**
comp=Z,8.7nm,0.8s,baz=130,slow=8.1,SNR=14							
YSS	**Yuzh-Sakhalins**	**78.20**	**332**	P	**P**	**18 29 35.7**	**-3.0**
YSS				IAmb	IAmb	18 29 49.3	
comp=Z,26nm,0.8s							
BELC	**Belle Mtn. Jos**	**78.25**	**46**	P	**P**	**18 29 38.5**	**-1.0**
baz=234,SNR=10							
CWC	**Cottonwood Cre**	**78.34**	**43**	P	**P**	**18 29 38.9**	**-1.0**
baz=232							
BC3	**Big Chuckawall**	**78.42**	**47**	P	**P**	**18 29 39.7**	**-0.7**
baz=235,SNR=6.4							
N02D	**Trinity Center**	**78.44**	**37**	P	**P**	**18 29 40.9**	**+0.6**
baz=228							
GSC	**Goldstone, Bar**	**78.48**	**45**	P	**P**	**18 29 39.7**	**-1.0**
baz=234,SNR=7.0							
MPMC	**Manual Prospec**	**78.48**	**44**	P	**P**	**18 29 39.9**	**-1.0**
baz=233,SNR=18							
GLA	**Glamis**	**78.50**	**48**	P	**P**	**18 29 41.2**	**+0.4**
baz=235							
O03E	**Paynes Creek**	**78.50**	**38**	P	**P**	**18 29 40.5**	**-0.2**
baz=229,SNR=8.3							
HEC	**Hector,Ludlow**	**78.51**	**45**	P	**P**	**18 29 40.2**	**-0.6**
baz=234							
MLAC	**Mammoth, Mammo**	**78.59**	**42**	P	**P**	**18 29 41.7**	**+0.3**
baz=232							
TIN	**Tinemaha, Big**	**78.62**	**43**	P	**P**	**18 29 41.4**	**-0.1**
baz=232							
M02C	**Callahan**	**78.63**	**37**	P	**P**	**18 29 40.3**	**-1.1**
baz=228							
L02E	**Cave Junction**	**78.73**	**36**	P	**P**	**18 29 42.4**	**+0.6**
baz=228							
IRM	**Iron Mountain**	**78.92**	**47**	P	**P**	**18 29 41.9**	**-1.2**
baz=235,SNR=9.6							
GMRC	**Granite Mounta**	**78.93**	**46**	P	**P**	**18 29 42.3**	**-1.0**
baz=234,SNR=7.1							
PNTR	**Pine Nut**	**79.03**	**40**	P	**P**	**18 29 39.6**	**-4.2**
PNTR				IAmb	IAmb	18 29 54.9	
comp=Z,39nm,1.0s							
K02D	**Willamette Mer**	**79.06**	**36**	P	**P**	**18 29 43.8**	**+0.1**
baz=227							
GRAC	**Grapevine Rang**	**79.13**	**43**	P	**P**	**18 29 43.8**	**-0.4**
baz=233							
FURC	**Furnace Creek,**	**79.13**	**44**	P	**P**	**18 29 43.5**	**-0.6**
baz=233							
TUQ	**Turquoise Moun**	**79.14**	**45**	P	**P**	**18 29 44.3**	**0.0**
baz=234							
SHOC	**Shoshone, Teco**	**79.18**	**45**	P	**P**	**18 29 44.1**	**-0.3**
baz=234							
214A	**Organ Pipe Nat**	**79.30**	**50**	P	**P**	**18 29 44.6**	**-0.6**
baz=237,SNR=8.3							
NVAR	**Mina Array Bea**	**79.41**	**42**	P	**P**	**18 29 44.9**	**-1.0**
comp=Z,11nm,0.7s,baz=226,slow=7.4,SNR=17							
NVAR	**Mina Array Bea**	**79.41**	**42**	P	**P**	**18 29 45.0**	**-0.9**
M04C	**Macd

QIZ				LR	LR			
	comp=Z,430nm,22.1s							
QIZ				LR	LR			
	comp=Z,140nm,9.8s							
QIZ				LR	LR			
	comp=Z,550nm,21.5s							
MNTX	**Cornudas Mount**	**84.57**	**53**	P	**P**		**18 30 12.6**	**-0.3**
	baz=241							
DL2	**Dalian**	**84.67**	**315**	P	**P**		**18 30 10.5**	**-2.7**
DL2				S	**SKSac**		**18 40 25.9**	**-7.4**
DL2				pmax	pmax			
	comp=Z,25nm,1.2s							
DL2				pmax	pmax			
	comp=Z,520nm,8.8s							
DL2				LR	LR			
	comp=Z,590nm,19.2s							
DL2				LR	LR			
	comp=Z,490nm,16.6s							
DL2				LR	LR			
	comp=Z,580nm,20.8s							
TX31	**Lajitas Ar. Si**	**84.75**	**56**	P	**P**		**18 30 12.3**	**-1.6**
TXAR	**Lajitas Array**	**84.75**	**56**	P	**P**		**18 30 13.0**	**-0.9**
	comp=Z,7.1nm,1.1s,baz=218,slow=6.6,SNR=22							
HLID	**Hailey**	**84.85**	**39**	P	**P**		**18 30 13.5**	**-0.7**
	baz=234							
HLID	**Hailey**	**84.85**	**39**	IAmb	IAmb		18 30 21.3	
	comp=Z,25nm,1.1s							
CN2	**Changchun**	**85.05**	**321**	*e*P	**P**		**18 30 14.6**	**-0.3**
CN2				*e*S	**SKSac**		**18 40 38.3**	**+2.8**
CN2				pmax	pmax			
	comp=Z,20nm,1.6s							
B08A	**Colville Reser**	**85.08**	**33**	IAmb	IAmb		18 30 26.8	
	comp=Z,8.0nm,0.8s							
MVCO	**Mesa Verde**	**85.11**	**47**	P	**P**		**18 30 16.5**	**+0.7**
	baz=239							
TTA	**Tatalina**	**85.27**	**8**	IAmb	IAmb		18 30 23.5	
	comp=Z,15nm,1.1s							
ANMO	**Albuquerque**	**85.38**	**50**	P	**P**		**18 30 16.4**	**-0.7**
	baz=240							
ANMO	**Albuquerque**	**85.38**	**50**	P	**P**		**18 30 15.6**	**-1.6**
ANMO				IAmb	IAmb		18 30 25.5	
	comp=Z,15nm,1.0s							
HWUT	**Hardware Ranch**	**85.46**	**42**	P	**P**		**18 30 14.2**	**-3.2**
HWUT				IAmb	IAmb		18 30 29.2	
	comp=Z,12nm,1.1s							
WHN	**Wuhan**	**85.66**	**305**	P	**P**		**18 30 19.3**	**+1.0**
WHN				PP	**PP**		**18 33 40.8**	**+2.7**
WHN				S	**S**		**18 40 48.4**	**+1.3**
WHN				LR	LR			
	comp=Z,2μm,15.2s							
WHN				LR	LR			
	comp=Z,1μm,12.2s							
WHN				LR	LR			
	comp=Z,2μm,17.8s							
LC01	**Cunco**	**86.07**	**130**	P	**P**		**18 30 21.5**	**+1.1**
LC01				IAmb	IAmb		18 30 24.0	
	comp=Z,11nm,0.9s							
NEW	**Newport**	**86.17**	**34**	P	**P**		**18 30 19.0**	**-1.5**
	baz=232							
M24K	**Tolsona, Glenn**	**86.20**	**13**	P	**P**		**18 30 19.5**	**-0.8**
	baz=206							
PLCA	**Paso Flores**	**86.24**	**132**	P	**P**		**18 30 22.9**	**+1.6**
	comp=Z,2.5nm,0.8s,baz=225,slow=4.9,SNR=3.9							
PLCA	**Paso Flores**	**86.24**	**132**	P	**P**		**18 30 19.3**	**-1.9**
TIA	**Tai'an**	**86.34**	**311**	P	**P**		**18 30 22.3**	**+0.7**
TIA				S	**SKKSac**		**18 40 51.0**	**-0.9**
TIA				pmax	pmax			
	comp=Z,14nm,1.2s							
TIA				LR	LR			
	comp=Z,400nm,17.1s							
TIA				LR	LR			
	comp=Z,440nm,16.3s							
TIA				LR	LR			
	comp=Z,480nm,15.9s							
S22A	**4UR Ranch, Cre**	**86.52**	**47**	P	**P**		**18 30 22.7**	**-0.1**
	baz=240							
SYO	**Syowa Base**	**86.58**	**192⇑**	*e*pP	**P**		**18 30 22.3**	**+0.1**
SYO	**Syowa Base**	**86.58**	**192⇑**	*e*PKiKP	**PKiKP**		**18 35 24.4**	**-4.2**
O20A	**White River Ci**	**86.80**	**45**	P	**P**		**18 30 23.4**	**-0.6**
	baz=239							
SNAA	**Sanae**	**87.02**	**177**	P	**P**		**18 30 25.9**	**+1.4**
VNA3	**Neumayer Olymp**	**87.02**	**175**	P	**P**		**18 30 25.8**	**+1.4**
MSO	**Missoula**	**87.03**	**37**	P	**P**		**18 30 24.3**	**-0.5**
	baz=234							
BW06	**Boulder Array**	**87.35**	**42**	P	**P**		**18 30 25.7**	**-0.9**
	baz=238							
PDAR	**Pinedale Array**	**87.35**	**42**	P	**P**		**18 30 25.4**	**-1.2**
	comp=Z,4.4nm,0.7s,baz=207,slow=3.6,SNR=16							
PDAR	**Pinedale Array**	**87.35**	**42**	P	**P**		**18 30 23.5**	**-3.1**
SDCO	**Great Sand Dun**	**87.44**	**48**	P	**P**		**18 30 26.8**	**-0.5**
	baz=241							
VNA2	**Neumayer--Watz**	**87.50**	**176**	P	**P**		**18 30 28.0**	**+1.2**
MSTX	**Muleshoe**	**87.58**	**52**	P	**P**		**18 30 27.4**	**-0.4**
	baz=242							
BOZ	**Bozeman (W)**	**87.64**	**39**	P	**P**		**18 30 26.7**	**-1.2**
	baz=236							
VNA1	**Neumayer--Stat**	**87.71**	**175**	P	**P**		**18 30 29.0**	**+1.3**
PSI	**Prapat**	**87.88**	**274**	P	**P**		**18 30 29.0**	**-0.7**
	comp=Z,20nm,0.9s,baz=179,slow=5.4,SNR=7.8							
NEA2	**Nenana**	**87.91**	**11**	P	**P**		**18 30 27.0**	**-1.5**
	baz=204							
DOT	**Dot Lake**	**88.02**	**13**	IAmb	IAmb		18 30 41.7	
	comp=Z,15nm,0.9s							
HDA	**Harding Lake**	**88.12**	**12**	P	**P**		**18 30 27.7**	**-1.8**
	baz=206							
HDA	**Harding Lake**	**88.12**	**12**	IAmb	IAmb		18 30 41.7	
	comp=Z,11nm,0.8s							
SCRK	**Sand Creek**	**88.32**	**13**	P	**P**		**18 30 29.4**	**-1.2**
	baz=208							
ILAR	**Eielson Array**	**88.46**	**11**	P	**P**		**18 30 29.8**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=218,slow=6.0,SNR=23							
ILAR	**Eielson Array**	**88.46**	**11**	P	**P**		**18 30 29.1**	**-2.0**
IMAR	**Indian Mountai**	**88.49**	**8**	P	**P**		**18 30 30.2**	**-1.0**
GSI	**Gunungsitoli**	**88.60**	**272**	P	P		18 30 39.1	+6.1
K27K	**Chicken**	**88.78**	**14**	P	**P**		**18 30 32.3**	**-0.3**
	baz=210							
BJI	**Beijing**	**88.87**	**314**	P	**P**		**18 30 34.6**	**+1.0**
BJI				S	**S**		**18 41 17.8**	**+0.2**
BJI				pmax	pmax			
	comp=Z,16nm,1.7s							
BJI				LR	LR			
	comp=Z,170nm,11.4s							
BJI				LR	LR			
	comp=Z,540nm,17.5s							
K22A	**Casper**	**89.20**	**43**	P	**P**		**18 30 34.6**	**-0.7**
	baz=240							
ABTX	**Abilene, Hawle**	**89.31**	**55**	P	**P**		**18 30 36.0**	**+0.1**
	baz=244							
GYA	**Guiyang**	**89.99**	**298**	⇓P	**P**		**18 30 41.9**	**+2.6**
GYA				S	**SKKSac**		**18 41 21.6**	**+1.7**
GYA				SS	**SS**		**18 47 29.8**	**+1.4**
GYA				pmax	pmax			
	comp=Z,15nm,1.3s							
GYA				pmax	pmax			
	comp=Z,460nm,3.8s							
GYA				LR	LR			
	comp=Z,490nm,13.3s							
GYA				LR	LR			
	comp=Z,590nm,17.3s							
GYA				LR	LR			
	comp=Z,590nm,18.0s							
COLD	**Coldfoot**	**90.17**	**9**	P	**P**		**18 30 38.2**	**-0.8**
	baz=202							
BMAR	**Burnt Mountain**	**91.27**	**11**	P	**P**		**18 30 43.8**	**-0.4**
XAN	**Xi'an**	**91.33**	**306**	P	**P**		**18 30 45.8**	**+0.5**
XAN				pP	pP		18 30 57.4	-1.6
XAN				sP	pwP		18 31 02.5	+0.7
XAN				PP	**PP**		**18 34 22.5**	**-1.0**
XAN				SKS	**SKSac**		**18 41 10.9**	**-2.9**
XAN				S	**SKKSac**		**18 41 35.5**	**+6.1**
XAN				sS	pS		18 41 59.8	+1.4
XAN				pmax	pmax			
	comp=Z,29nm,1.0s							
XAN				pmax	pmax			
	comp=Z,430nm,7.9s							
XAN				LR	LR			
	comp=Z,580nm,16.5s							
XAN				LR	LR			
	comp=Z,510nm,16.0s							
XAN				LR	LR			
	comp=Z,910nm,19.8s							
LAO	**LASA Array**	**91.41**	**40**	P	**P**		**18 30 46.0**	**+0.6**
	baz=240							
RSSD	**Black Hills**	**91.50**	**43**	P	**P**		**18 30 44.6**	**-1.5**
	baz=242							
HHC	**Hu-ho-hao-te**	**92.36**	**313**	*e*P	**P**		**18 30 49.5**	**-0.5**
HHC				sP	sP		18 31 08.1	-0.7
HHC				PP	**PP**		**18 34 27.0**	**-4.6**
HHC				SKS	**SKSac**		**18 41 20.4**	**+0.9**
HHC				S	**ScS**		**18 41 54.4**	**+2.4**
HHC				SS	**SS**		**18 48 00.3**	**-1.8**
HHC				pmax	pmax			
	comp=Z,22nm,0.7s							
HHC				pmax	pmax			
	comp=Z,440nm,8.4s							
HHC				LR	LR			
	comp=Z,460nm,16.2s							
HHC				LR	LR			
	comp=Z,670nm,16.2s							
HHC				LR	LR			
	comp=Z,1μm,17.0s							
KMI	**Kunming**	**92.72**	**296⇑**	*e*P	**P**		**18 30 53.8**	**+1.6**
KMI				pmax	pmax			
	comp=Z,23nm,1.0s							
DGMT	**Dagmar**	**93.48**	**39**	P	**P**		**18 30 54.5**	**-0.4**
	baz=242							
CMAR	**Chiang Mai Arr**	**93.55**	**288**	P	**P**		**18 30 57.7**	**+1.8**
	comp=Z,8.3nm,0.8s,baz=127,slow=2.8,SNR=50							
CHTO	**Chiang Mai**	**93.68**	**289**	P	**P**		**18 30 58.3**	**+1.9**
CD2	**Chengdu**	**94.08**	**301**	*e*P	**P**		**18 30 58.3**	**+0.2**
CD2				SKS	**SKSac**		**18 41 27.6**	**-1.6**
CD2				S	**S**		**18 42 03.8**	**-1.5**
CD2				pmax	pmax			
	comp=Z,420nm,7.0s							
CD2				LR	LR			
	comp=Z,1μm,17.7s							
CD2				LR	LR			
	comp=Z,1μm,19.6s							
CD2				LR	LR			
	comp=Z,960nm,16.3s							
YKA	**Yellowknife Ar**	**95.94**	**24**	P	**P**		**18 31 04.2**	**-1.4**
	comp=Z,3.9nm,1.0s,baz=246,slow=4.1,SNR=6.8							
LZH	**Lanzhou**	**95.96**	**306**	⇓P	**P**		**18 31 05.3**	**-1.4**
LZH				sP	pwP		18 31 23.1	-0.1
LZH				SKS	**SKSac**		**18 41 38.1**	**-1.2**
LZH				S	**SKKSac**		**18 42 12.3**	**+8.4**
LZH				sS	sS		18 42 42.8	-2.4
LZH				SS	**SS**		**18 48 52.3**	**-1.4**
LZH				pmax	pmax			
	comp=Z,18nm,1.1s							
LZH				pmax	pmax			
	comp=Z,210nm,4.9s							
LZH				LR	LR			
	comp=Z,480nm,16.8s							
LZH				LR	LR			
	comp=Z,680nm,17.3s							
LZH				LR	LR			
	comp=Z,600nm,18.4s							
ECSD	**EROS Data Cent**	**96.14**	**45**	P	**P**		**18 31 05.9**	**-1.2**
	baz=246							
Y45A	**Yeager Farm, C**	**97.58**	**57**	P	**P**		**18 31 12.7**	**-1.2**
SONM	**Songino Array**	**98.61**	**318**	P	**P**		**18 31 17.9**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.1,SNR=3.1							
GTA	**Gaotai**	**100.12**	**308**	P	**Pdif**		**18 31 30.1**	**+4.8**
GTA				pP	pPdif		18 31 34.3	-4.7
GTA				SKS	**SKSac**		**18 42 01.5**	**+1.3**
GTA				S	**Sdif**		**18 42 59.6**	**+2.8**
GTA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,190nm,5.3s							
GTA				LR	LR			
	comp=Z,320nm,19.6s							
GTA				LR	LR			
	comp=Z,440nm,19.3s							
GTA				LR	LR			
	comp=Z,580nm,21.1s							
ZALV	**Zalesovo Beam**	**113.27**	**321**	PKiKP	**PKiKP**		**18 36 15.8**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=119,slow=1.1,SNR=7.3							
MKAR	**Makanchi Array**	**114.23**	**313**	PKP	PKPdf		18 36 17.5	-1.1
	comp=Z,0.5nm,0.4s,baz=178,slow=0.9,SNR=11							
KURK	**Kurchatov**	**116.90**	**317**		**PKiKP**		**18 36 23.7**	**+0.1**
KURBB	**Kurchatov Arra**	**116.95**	**317**	PKP	**PKPdf**		**18 36 22.5**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=92,slow=1.8,SNR=15							
BVAR	**Borovoye Array**	**121.89**	**320**	PKP	**PKPdf**		**18 36 33.1**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=152,slow=5.1,SNR=19							
KKAR	**Karatay Array**	**122.40**	**308**	PKPdf	**PKPdf**		**18 36 34.3**	**-0.2**
BOSA	**Boshof**	**126.79**	**202**	PKP	**PKiKP**		**18 36 44.6**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=143,slow=16,SNR=3.2							
ARU	**Arti**	**127.80**	**326**	PKP	**PKPdf**		**18 36 43.9**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=23,slow=4.4,SNR=6.1							
AKTO	**Aktyubinsk**	**129.93**	**319**	PKP	**PKiKP**		**18 36 49.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=1.1,slow=5.3,SNR=4.9							
ARCES	**ARCESS Array B**	**130.34**	**351**	PKP	**PKiKP**		**18 36 49.3**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=321,slow=1.6,SNR=7.9							
GEYT	**Alibeck**	**132.06**	**302**	PKP	**PKPdf**		**18 36 52.8**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=89,slow=7.9,SNR=1.8							
MATP	**Matopo**	**132.79**	**211**	PKP	**PKiKP**		**18 36 56.2**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=270,slow=11,SNR=3.7							
KLMR	**Klimovskoe**	**133.98**	**338**	PKPdf	**PKiKP**		**18 36 57.0**	**-0.2**
KLMR				AMP			18 37 08.6	
	comp=Z,15nm,1.4s							
KLMR				LQ	LQ		19 26 37.1	
KLMR				LQ	LQ		19 26 37.1	
KLMR				LR	LR		19 31 47.9	
FINES	**FINESS Array B**	**137.50**	**346**	PKP	**PKPdf**		**18 37 00.8**	**-1.7**
	comp=Z,3.2nm,0.8s,baz=82,slow=2.1,SNR=9.6							
NOA	**NORSAR Array B**	**140.17**	**356**	PKP	**PKPdf**		**18 37 06.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=16,slow=4.2,SNR=3.9							
KAC	**Achnashellach**	**143.05**	**10**	*e*P	PKPbc		18 37 09.1	-0.5
LAWE	**Loch Awe, Argy**	**144.22**	**10**	*e*P	**PKPab**		**18 37 11.7**	**-0.8**
LAWE				IAMs_20	IAMs_20		19 48 35.6	
	comp=Z,929nm,16.3s							
INVG	**Invergeldie, C**	**144.27**	**9**	*e*P	**PKPab**		**18 37 11.2**	**-1.6**
INVG				IAMs_20	IAMs_20		19 38 35.1	
	comp=Z,834nm,21.6s							
ELO	**Logie Almond**	**144.28**	**9**	*e*P	**PKPab**		**18 37 11.9**	**-1.0**
EAB	**Aberfoyle**	**144.46**	**10**	*e*P	**PKPab**		**18 37 12.3**	**-1.2**
SUW	**Suwalki**	**144.76**	**342**	*e*PKP	**PKPab**		**18 37 13.8**	**-0.8**
PGBU	**Glenifferbraes**	**144.80**	**10**	*e*P	**PKPab**		**18 37 13.2**	**-1.5**
MUD	**Monsted U'grnd**	**144.86**	**357**	*i* P	**PKPab**		**18 37 14.3**	**-0.6**
	comp=Z,42nm,0.9s							
EDI	**Edinburgh**	**144.88**	**9**	*e*P	**PKPab**		**18 37 14.1**	**-0.9**
ESY	**Stoneypath**	**144.97**	**8**	*e*P	**PKPab**		**18 37 14.6**	**-0.8**
EBL	**Broad Law**	**145.05**	**8**	*e*P	**PKPbc**		**18 37 14.6**	**-1.0**
ANKE	**Ethiopia-Afar**	**145.14**	**256**	*e*P	**PKPbc**		**18 37 10.7**	**-7.0**
AKASG	**Malin Array Be**	**145.34**	**333**	PKPbc	**PKPbc**		**18 37 15.6**	**-1.1**
	comp=Z,14nm,0.5s,baz=37,slow=4.3,SNR=32							
AKASG	**Malin Array Be**	**145.34**	**333**		**PKPbc**		**18 37 16.4**	**-0.3**
ESK	**Eskdalemuir**	**145.47**	**9**	*e*P	**PKPdf**		**18 37 15.0**	**-1.9**
ESK				IAMs_20	IAMs_20		19 42 54.8	
	comp=Z,755nm,15.5s							
NEWG	**New Galloway**	**145.51**	**10**	*e*P	**PKPdf**		**18 37 14.1**	**-2.9**
NEWG				IAMs_20	IAMs_20		19 46 39.9	
	comp=Z,822nm,18.5s							
GAL1	**Galloway**	**145.67**	**11**	*e*P	**PKPdf**		**18 37 16.2**	**-1.0**
GAL1				IAMs_20	IAMs_20		19 48 44.7	
	comp=Z,844nm,15.7s							
EDMD	**Edmundbyers**	**146.11**	**8**	*e*P	**PKPdf**		**18 37 18.0**	**-0.1**
EDMD				IAMs_20	IAMs_20		19 54 14.9	
	comp=Z,659nm,17.7s							
GDLE	**Glaisdale, N Y**	**146.65**	**7**	*e*P	**PKPdf**		**18 37 19.2**	**+0.3**
GKP	**Gorka Klasztor**	**146.92**	**347**	*e*PKP	**PKPbc**		**18 37 20.6**	**-0.8**
HPK	**Haverah Park**	**147.01**	**8**	*e*P	**PKPdf**		**18 37 19.3**	**-0.3**
HPK				IAMs_20	IAMs_20		19 43 25.6	
	comp=Z,739nm,21.4s							
WPS	**Cemaes, Angles**	**147.11**	**11**	*e*P	**PKPdf**		**18 37 20.5**	**+0.8**
WPS				IAMs_20	IAMs_20		19 44 53.6	
	comp=Z,862nm,19.1s							
WLF1	**Llynfaes**	**147.23**	**11**	*e*P	**PKPdf**		**18 37 21.0**	**+1.1**
WLF1				IAMs_20	IAMs_20		19 47 43.1	
	comp=Z,2μm,18.1s							
BSEG	**Bad Segeberg**	**147.29**	**355**	*e*PKPbc	**PKPbc**		**18 37 21.9**	**-0.5**
	baz=8.7,slow=2.4							
BEL	**Belsk**	**147.37**	**342**	*e*PKP	**PKPbc**		**18 37 23.0**	**+0.3**
SORM	**Soroca**	**147.63**	**331**	⇓P	**PKPbc**		**18 37 23.2**	**-0.3**
PURM	**Purcari**	**148.06**	**328**	⇓P	**PKPab**		**18 37 27.1**	**-0.4**
HLM1	**Long Mynd**	**148.23**	**10**	*e*P	**PKPdf**		**18 37 21.5**	**-0.1**
CWF	**Charnwood Fore**	**148.24**	**8**	*e*P	**PKPbc**		**18 37 23.9**	**-1.1**
CWF				IAMs_20	IAMs_20		19 41 05.1	
	comp=Z,785nm,22.6s							
KIS	**Kishinev**	**148.24**	**329**	*e*PKP	**PKPdf**		**18 37 22.0**	**+0.2**
	comp=Z,500nm,10.0s							
KIS				*e*LR	LR		19 33 21.0	
	comp=Z,2μm,24.0s							
MILM	**Milestii Mici**	**148.30**	**329**	⇑P	**PKPbc**		**18 37 25.2**	**-0.1**
RUE	**Ruedersdorf**	**148.31**	**350**	*e*PKPbc	**PKPbc**		**18 37 24.6**	**-0.5**
	baz=8.7,slow=2.4							
KWP	**Kalwaria Pacla**	**148.69**	**338**	*e*PKP	**PKPdf**		**18 37 20.7**	**-1.8**
MCH1	**Michaelchurch**	**148.72**	**10**	*e*P	**PKPdf**		**18 37 22.4**	**0.0**
MCH1				IAMs_20	IAMs_20		19 49 13.3	
	comp=Z,1μm,18.0s							
NRDL	**Niedersach Rie**	**148.74**	**355**	*e*PKPbc	**PKPbc**		**18 37 25.8**	**-0.4**
	baz=8.7,slow=2.4							
VASR	**Vaslui**	**148.99**	**330**	⇑P	**PKiKP**		**18 37 28.1**	**-0.4**
ASSE	**Asse, Remlinge**	**149.04**	**354**	*e*PKPbc	**PKPbc**		**18 37 26.7**	**-0.3**
	baz=8.7,slow=2.4							
IBBN	**Ibbenburen**	**149.08**	**357**	*e*PKPbc	**PKPbc**		**18 37 26.7**	**-0.5**
	baz=8.7,slow=2.4							
OJC	**Ojcow**	**149.10**	**342**	*e*PKP	**PKPbc**		**18 37 26.9**	**-0.4**
PRAR	**RASCA**	**149.16**	**332**	⇑P	**PKPbc**		**18 37 28.1**	**+0.5**
CLZ	**Clausthal**	**149.36**	**354**	*e*PKPbc	**PKPbc**		**18 37 27.7**	**-0.3**
	baz=8.7,slow=2.4							
BURAR	**Bucovina Array**	**149.39**	**333**	⇓P	**PKiKP**		**18 37 28.9**	**-0.5**
BURAR	**Bucovina Array**	**149.39**	**333**	PKPab	**PKiKP**		**18 37 29.4**	**0.0**
KSP	**Ksiaz**	**149.41**	**347**	*e*PKP	**PKPbc**		**18 37 28.6**	**+0.5**
KOLS	**Kolonicke sedl**	**149.44**	**338**	*e*PKP	**PKPbc**		**18 37 27.8**	**-0.4**
VARL	**Varlezi**	**149.50**	**329**	⇑P	**PKiKP**		**18 37 29.6**	**+0.1**
CLL	**Collm**	**149.56**	**351**	*e*(PKPdf)	**PKPdf**		**18 37 23.0**	**-0.8**
CLL				*i* PKPbc	**PKPbc**		**18 37 27.4**	**-1.0**
	comp=Z,24nm,1.0s							
CLL				*i* PKPab	**PKiKP**		**18 37 30.7**	**+1.2**
	comp=Z,52nm,1.3s							
CLL				*i* pPKPab	**PKPab**		**18 37 33.7**	**+0.2**
	comp=Z,20nm,0.8s							
CLL				*i*			18 37 38.4	
CLL				*e*			18 37 44.0	
CLL				*e*PP	**PP**		**18 40 56.0**	**-4.7**
CLL				*e*PSKS			18 51 16.0	
CLL				*e*PPS	PPS		18 53 48.0	
CLL				*e*SS	SS		19 00 06.0	-4.7
CLL				*e*			19 01 30.0	
CLL				*e*SSS	SSS		19 05 47.0	
CLL				*e*SSSS			19 09 54.0	
CLL				Lm	MLR		19 52 00.0	
	comp=N,300nm,19.2s							
CLL				Lm	MLR		19 52 00.0	
	comp=E,400nm,19.5s							
CLL				Lm	MLR		19 52 00.0	
	comp=Z,700nm,19.1s							
GHRR		**149.59**	**329**	⇓P	**PKiKP**		**18 37 30.0**	**+0.3**
TESR	**Tescani**	**149.62**	**331**	⇑P	**PKiKP**		**18 37 29.3**	**-0.4**
NIE	**Niedzica**	**149.66**	**341**	*e*PKP	**PKiKP**		**18 37 29.4**	**-0.4**
GTTG	**Gottingen**	**149.69**	**355**	*e*PKPbc	**PKPbc**		**18 37 28.3**	**-0.4**
	baz=8.7,slow=2.4							
OSTC	**Ostas**	**149.69**	**346**	*e*PKP	**PKPbc**		**18 37 28.6**	**-0.2**
OSTC				*ex*	x		18 37 38.7	
OSTC				AMS	AMS		19 48 40.0	
	comp=Z,600nm,16.7s							
CHVC	**Chvalec**	**149.70**	**347**	*e*PKP	**PKPbc**		**18 37 29.0**	**+0.2**
CHVC				*ex*	x		18 37 36.4	
CHVC				AMS	AMS		19 49 00.0	
	comp=Z,800nm,15.8s							
CRVS	**Cervenica-Dubn**	**149.74**	**339**	*e*PKP	**PKiKP**		**18 37 29.9**	**0.0**
UPC	**Upice**	**149.78**	**347**	*e*PKP	**PKPbc**		**18 37 29.0**	**0.0**
UPC				*ep*PKP	**PKPab**		**18 37 35.3**	**+0.9**
UPC				*ex*	x		18 37 39.7	
UPC				AMS	AMS		19 49 10.0	
	comp=Z,700nm,16.1s							
NEUB	**Neuenburg**	**149.83**	**352**	*e*PKPbc	**PKPbc**		**18 37 28.7**	**-0.3**
	baz=8.7,slow=2.4							
BRG	**Berggiesshubel**	**149.83**	**349**	*e*PKP	**PKPdf**		**18 37 26.4**	**+2.1**
	comp=Z,10nm,1.5s							
BRG				*i*			18 37 28.6	
	comp=Z,54nm,1.7s							
BRG				SS	SS		19 00 05.0	-8.7
BRG	**Berggiesshubel**	**149.83**	**349**	*e*PKPbc	**PKPbc**		**18 37 28.9**	**-0.2**
	baz=8.7,slow=2.4							
DPC	**Dobruska-Polom**	**149.86**	**346**	*e*PKP	**PKPbc**		**18 37 29.1**	**-0.2**
DPC				*ep*PKP	**pPKPdf**		**18 37 39.5**	**+0.9**
DPC				AMS	AMS		19 56 20.0	
	comp=Z,600nm,15.9s							
CFR	**Carcaliu**	**149.87**	**327**	⇓P	**PKPbc**		**18 37 29.7**	**+0.3**
BRTR	**Keskin Array B**	**149.87**	**314**	PKPbc	**PKPbc**		**18 37 29.9**	**+0.1**
	comp=Z,9.1nm,0.8s,baz=130,slow=2.6,SNR=32							
BRTR	**Keskin Array B**	**149.87**	**314**		**PKiKP**		**18 37 30.3**	**-0.4**
FBE	**Freiberg**	**149.88**	**350**	*e*PKPbc	**PKPbc**		**18 37 29.3**	**+0.1**
	baz=8.7,slow=2.4							
FBE				*ep*PKPbc	**pPKPdf**		**18 37 39.8**	**+1.3**
TOPG	**Topolog**	**149.96**	**327**	⇓P	**PKiKP**		**18 37 30.6**	**+0.1**
BUG	**Bochum--Univer**	**149.96**	**358**	*e*PKPbc	**PKPbc**		**18 37 28.7**	**-0.6**
	baz=8.7,slow=2.4							
KRLC	**Kraliky**	**150.01**	**345**	*e*PKP	**PKPbc**		**18 37 29.2**	**-0.4**
KRLC				*ep*PKP	**pPKPdf**		**18 37 39.9**	**+1.4**
KRLC				AMS	AMS		19 54 10.0	
	comp=Z,700nm,18.0s							
PVCC	**Panska Ves**	**150.05**	**348**	*e*PKP	**PKPbc**		**18 37 29.5**	**-0.1**
PVCC				*ep*PKP	**pPKPdf**		**18 37 40.5**	**+1.7**
PVCC				AMS	AMS		19 53 40.0	
	comp=Z,800nm,16.9s							
VRI	**Vrincioaia**	**150.06**	**330**	⇓P	**PKPbc**

comp=Z,10nm,0.6s,baz=69,slow=5.4,SNR=11
VOIR **151.16 331** ⇓P **PKPbc** **18 37 32.8 +0.3**
ROTZ **Rotzenmuhle** **151.18 351** *e*PKPbc **PKPbc** **18 37 32.1 -0.3**
baz=8.7,slow=2.4
SMOL **Smolenice** **151.30 343** *e*PKP **PKiKP** **18 37 33.6 +0.4**
DOU **Dourbes** **151.33 1** PKiKP **PKPbc** **18 37 32.1 -0.5**
GRF **Grafenberg Arr** **151.39 352** *e*PKPbc **PKPbc** **18 37 32.0 -0.8**
baz=8.7,slow=2.4
GRF *e*pPKPbc **PKPab** **18 37 43.3 +2.3**
GRF *e*L L 19 56 44.3
comp=Z,638nm,18.6s
ARR **Arges** **151.40 331** ⇑P **PKPbc** **18 37 33.0 -0.1**
MODS **Modra-Piesok** **151.47 344** *e*PKP **PKPbc** **18 37 32.9 -0.2**
KHC **Kasperske Hory** **151.57 349** *e*PKP **PKPdf** **18 37 27.3 +0.2**
KHC *ex* x 18 37 33.2
KHC *e*pPKP **sPKPdf** **18 37 43.9 -1.9**
KHC AMS AMS 19 57 50.0
comp=Z,800nm,17.6s
WET **Wettzell** **151.68 350** *e*PKPbc **PKPbc** **18 37 33.3 -0.2**
baz=8.7,slow=2.4
LOT **Lotru** **151.72 332** ⇓P **PKPbc** **18 37 33.4 -0.5**
WLF **Walferdange** **151.76 359** PKiKP **PKPbc** **18 37 33.8 +0.1**
WLF **Walferdange** **151.76 359** *e*PKPbc **PKPbc** **18 37 33.7 0.0**
baz=8.7,slow=2.4
GEC2 **GERESS Array S** **151.83 349** *e*PKPbc **PKPbc** **18 37 33.6 -0.4**
baz=8.7,slow=2.4
GERES **GERESS Array B** **151.83 349** PKPbc **PKPbc** **18 37 33.7 -0.3**
comp=Z,3.8nm,0.8s,baz=48,slow=2.0,SNR=28
GERES PKPab **PKPab** **18 37 42.8 -0.2**
comp=Z,5.4nm,0.7s,baz=38,slow=2.7,SNR=10
GERES **GERESS Array B** **151.83 349** **PKiKP** **18 37 34.4 0.0**
HUMR **Humele** **151.88 330** ⇑P **PKPbc** **18 37 33.0 -1.1**
SIRR **Siria** **151.91 336** ⇑P **PKPbc** **18 37 34.3 +0.1**
GZR **Gura Zlata** **152.18 333** ⇑P **PKPbc** **18 37 34.3 -0.5**
CONA **Conrad Observa** **152.24 345** *es*PKPbc **PKiKP** **18 37 35.1 -0.1**
comp=Z,10nm,1.0s,SNR=8.1
EIL **Elat** **152.28 293** PKPbc **PKPbc** **18 37 34.5 -1.1**
comp=Z,5.2nm,0.6s,baz=113,slow=7.7,SNR=3.9
BZS **Buzias** **152.47 335** ⇑P **PKPbc** **18 37 35.1 -0.3**
STU **Stuttgart** **152.51 355** *e*PKPbc **PKPbc** **18 37 35.0 -0.4**
baz=8.7,slow=2.4
MOA **Molln** **152.67 347** pPKiKP **PKPbc** **18 37 35.5 -0.3**
comp=Z,3.0nm,0.8s
HERR **Herculane** **152.75 333** ⇓P **PKPbc** **18 37 35.7 -0.4**
BANR **Banloc** **152.85 336** ⇑P **PKPbc** **18 37 35.7 -0.5**
FUR **Furstenfeldbru** **152.88 352** *e*PKPbc **PKPbc** **18 37 35.7 -0.6**
baz=8.7,slow=2.4
FUR *e*pPKPbc **PKPab** **18 37 46.9 -0.5**
ARSA **Arzberg** **152.95 345** *i* pPKiKP **PKPbc** **18 37 36.1 -0.4**
comp=Z,5.2nm,1.2s
BFO **Black Forest** **153.01 356** *e*PKPbc **PKPbc** **18 37 35.9 -0.7**
baz=8.7,slow=2.4
RJOB **Jochberg** **153.06 349** *e*PKPbc **PKPbc** **18 37 35.8 -1.0**
baz=8.7,slow=2.4
MDVR **Moldovita** **153.12 334** ⇓P **PKPbc** **18 37 34.5 -2.4**
UBR **Ueberruh** **153.50 353** *e*PKPbc **PKPbc** **18 37 37.0 -0.7**
baz=8.7,slow=2.4
KBA **Koelnbreinsper** **153.59 348** *es*PKPbc **PKPbc** **18 37 38.0 -0.1**
comp=Z,5.8nm,0.9s
SOKA **Soboth** **153.61 345** *es*PKPdf **PKPdf** **18 37 30.6 +0.4**
comp=Z,2.3nm,0.8s
RETA **Reutte** **153.61 352** *ep*PKiKP **PKPbc** **18 37 37.3 -0.7**
comp=Z,2.8nm,0.7s
WATA **Walderalm** **153.65 351** *ep*PKiKP **PKPbc** **18 37 37.4 -0.8**
comp=Z,3.3nm,0.7s
MOTA **Moosalm** **153.71 351** *es*PKPdf **PKPdf** **18 37 30.8 +0.3**
comp=Z,14nm,1.7s
WTTA **Wattenberg** **153.71 351** *ep*PKiKP **PKPbc** **18 37 37.9 -0.5**
comp=Z,8.4nm,1.1s
SQTA **Sankt Quirin** **153.81 351** *es*PKPdf **PKPdf** **18 37 31.0 +0.4**
comp=Z,8.5nm,1.3s
OBKA **Obir** **153.88 346** *es*PKPbc **PKPbc** **18 37 38.6 0.0**
comp=Z,7.4nm,1.0s
DAVA **Damuels** **153.91 353** *ep*PKiKP **PKPbc** **18 37 38.4 -0.3**
comp=Z,8.9nm,1.0s
ABTA **Abfaltersbach** **154.06 349** *es*PKPdf **PKPdf** **18 37 30.8 -0.1**
comp=Z,9.4nm,1.2s
FETA **Feichten** **154.07 352** *es*PKPdf **PKPdf** **18 37 31.6 +0.6**
comp=Z,6.2nm,1.1s
PGAV **Gavieira, Arco** **156.39 26** *e*PKPdf **PKPdf** **18 37 35.8 +1.6**
PGAV **Gavieira, Arco** **156.39 26** *e*PKPab **PKPab** **18 38 04.9 +2.2**
PGAV **Gavieira, Arco** **156.39 26** *e*PP PP 18 41 43.8 +3.9
PGAV **Gavieira, Arco** **156.39 26** *e*SS SS 19 01 30.9 +4.5
PGAV **Gavieira, Arco** **156.39 26** *e*LQ LQ 19 36 06.3
PGAV *e*LR LR 19 39 18.1
comp=Z,848nm,18.0s
PBRG **Braganca** **157.14 24** *e*PKPab **PKPab** **18 38 04.8 -1.0**
MVO **Moncorvo** **157.57 26** *e*PKPdf **PKPdf** **18 37 38.1 +2.4**
MVO **Moncorvo** **157.57 26** *e*PKPab **PKPab** **18 38 06.8 -0.9**
MVO **Moncorvo** **157.57 26** *e*PP PP 18 41 47.7 +1.4
MVO **Moncorvo** **157.57 26** *e*SS SS 19 01 42.3 +3.4
MVO **Moncorvo** **157.57 26** *e*LQ LQ 19 34 29.3
MVO *e*LR LR 19 40 25.0
comp=Z,789nm,20.0s
COI **Coimbra** **157.77 29** *e*PKPdf **PKPdf** **18 37 40.5 +4.7**
PCAS **Casmilo, Conde** **157.85 30** *e*PKPdf **PKPdf** **18 37 41.3 +5.3**
IDI **Anoyia** **158.11 313** PKPab **PKPab** **18 38 10.3 -0.1**
comp=Z,4.5nm,0.7s,baz=23,slow=5.0,SNR=3.9
PSBE **So Bento** **158.14 31** *e*PKPdf **PKPdf** **18 37 41.0 +4.6**
PMAFR **Mafra** **158.33 33** *e*PKPdf **PKPdf** **18 37 41.9 +5.3**
LIS **Lisbon** **158.58 33** *e*PKPdf **PKPdf** **18 37 37.4 +0.5**
LIS AMS AMS 19 46 20.6
comp=E,1μm,21.9s
LIS **Lisbon** **158.58 33** *e*PKPdf **PKPdf** **18 37 32.9 -4.0**
PMTG **Montargil** **158.76 31** *e*PKPdf **PKPdf** **18 37 38.5 +1.4**
PMRV **Marv??o** **158.86 29** *e*PKPdf **PKPdf** **18 37 41.3 +4.1**
PMRV **Marv??o** **158.86 29** *e*PKPab **PKPab** **18 38 15.2 +1.9**
PMRV **Marv??o** **158.86 29** *e*PP PP 18 42 00.7 +7.3
PMRV **Marv??o** **158.86 29** *e*SS SS 19 01 57.5 +4.8
PMRV **Marv??o** **158.86 29** *e*LR LR 19 43 35.6
comp=E,551nm,18.0s
PNCL **Nicolau / Gran** **159.35 33** *e*PKPdf **PKPdf** **18 37 42.8 +5.0**
MORF **Marmelete** **159.90 35** *e*PKPdf **PKPdf** **18 37 39.4 +0.8**
MORF AMS AMS 19 48 36.9
comp=Z,796nm,17.1s
MORF **Marmelete** **159.90 35** *e*PKPdf **PKPdf** **18 37 42.8 +4.2**
PFVI **Vila Bisbo** **159.93 35** *e*PKPdf **PKPdf** **18 37 44.8 +6.3**
PCVE **Castro Verde** **159.97 33** *e*PKPdf **PKPdf** **18 37 42.8 +4.2**
ESDC **Sonseca Array** **160.02 22** PKPab **PKPab** **18 38 17.2 -1.2**
comp=Z,2.1nm,1.0s,baz=326,slow=4.5,SNR=7.2
PVAQ **Vaqueiros** **160.31 33** *e*PKPdf **PKPdf** **18 37 45.4 +6.5**
PVAQ **Vaqueiros** **160.31 33** *e*PKPab **PKPab** **18 38 17.9 -1.7**
PVAQ **Vaqueiros** **160.31 33** *e*PP PP 18 41 59.4 -2.0
PVAQ **Vaqueiros** **160.31 33** *e*SS SS 19 02 14.8 +6.6
PVAQ **Vaqueiros** **160.31 33** *e*LR LR 19 40 03.7
comp=Z,708nm,18.0s
PBDV **Barranco-do-Ve** **160.32 34** *e*PKPdf **PKPdf** **18 37 43.6 +4.6**
DBIC **Dimbokro** **162.24 144** PKPab **PKPab** **18 38 29.2 +0.6**
comp=Z,4.8nm,0.9s,baz=199,slow=5.8,SNR=3.2
TORD **Torodi Ar. Bea** **171.02 155** PKP **PKPdf** **18 37 47.3 -1.0**
comp=Z,0.8nm,0.7s,baz=293,slow=4.4,SNR=5.9
TORD PKPab **PKPab** **18 39 09.1 +1.9**
comp=Z,2.1nm,0.8s,baz=220,slow=4.1,SNR=4.8
TORD PP **PP** **18 43 04.2 +7.6**
comp=Z,1.6nm,1.0s,baz=199,slow=3.1,SNR=5.0

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*IDC **14** 18:21:09.9±6.0, 35°.95N×70°.00E, h0km, mb3.4/3, mb1 3.6/8, mb1mx3.3/52, mbtmp3.6/8, ML3.5/5, MS3.9/1, Ms1 3.9/1, ms1mx2.7/32, Error ellipse: s-maj=89.5km s-min=29.0km az=161.0*
*NNC **14** 18:21:18.7±6.8, 36°.68N×69°.74E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=51.7km s-min=49.9km az=45.0*
ISC 14 18:21:20.3±1.3, 36°.58N±0°.10×69°.59E±0°.08, h35km, n20, σ1§83/23, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.34**	**145**	P	**Pn**	**18 22 10.9**	**+0.7**
AML	**Almayashu** SNR=9.9	**6.39**	**29**	P	**Pn**	**18 22 53.6**	**+1.3**
KK31	**Karatay Array** 12nm,0.6s,baz=194,slow=15,SNR=82	**6.56**	**6**	⇑Pn	**Pn**	**18 22 56.0**	**+1.7**
KK31	1.2nm,0.3s			⇑Sn	**Sn**	**18 24 10.3**	**+2.6**
KK31	4.3nm,0.3s,baz=185,slow=27,SNR=6.8			⇑Lg	Lg	18 24 45.8	
EKS2	**Erkin-Say** SNR=10	**6.88**	**27**	P	**Pn**	**18 23 00.4**	**+1.6**
AAK	**Ala-Archa** SNR=11	**7.14**	**30**	P	**Pn**	**18 23 03.7**	**+1.4**
AAK	**Ala-Archa** 5.8nm,0.6s	**7.14**	**30**	⇓Pn	**Pn**	**18 23 02.7**	**+0.3**
AAK	6.3nm,0.5s			⇓Sn	**Sn**	**18 24 22.5**	**+0.3**
KBK	**Karagaybulak** SNR=6.0	**7.34**	**33**	P	**Pn**	**18 23 06.8**	**+1.6**
CHMS	**Chumysh** SNR=15	**7.54**	**30**	P	**Pn**	**18 23 08.6**	**+0.9**
USP	**Ospenovka** SNR=12	**7.67**	**28**	P	**Pn**	**18 23 10.1**	**+0.6**
TKM2	**Tokmak 2** SNR=9.3	**7.84**	**34**	P	**Pn**	**18 23 13.0**	**+0.9**
TKM2	**Tokmak 2** 4.2nm,0.6s	**7.84**	**34**	⇑Pn	**Pn**	**18 23 11.1**	**-0.9**
TKM2	4.6nm,1.1s			⇓Lg	Lg	18 25 25.4	
GEYT	**Alibeck** 1.1nm,0.3s,baz=132,slow=10,SNR=14	**9.25**	**282**	Pn	**Pn**	**18 23 30.5**	**-0.8**
GEYT	0.7nm,0.3s,baz=132,slow=24,SNR=1.9			Sn	**Sn**	**18 25 14.8**	**+0.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=228,slow=13,SNR=2.3	**13.92**	**39**	Pn	**Pn**	**18 24 32.7**	**-2.3**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=210,slow=13,SNR=7.3	**15.44**	**22**	Pn	**Pn**	**18 24 51.0**	**-4.4**
AKTO	**Aktyubinsk** 0.4nm,0.3s,baz=143,slow=14,SNR=6.1	**16.17**	**333**	Pn	**Pn**	**18 25 05.0**	**+0.3**
AKTO	0.1nm,0.3s,baz=162,slow=20,SNR=1.6			Sn	**Sn**	**18 27 59.2**	**-3.6**
BVAR	**Borovoye Array** 0.5nm,0.3s,baz=175,slow=13,SNR=10.0	**16.46**	**2**	Pn	**Pn**	**18 25 06.7**	**-1.6**
ZALV	**Zalesovo Beam** 1.0nm,0.3s,baz=210,slow=11,SNR=8.4	**20.33**	**27**	P	**P**	**18 25 51.9**	**-1.4**
ARU	**Arti** 0.5nm,0.4s,baz=206,slow=20,SNR=3.1	**21.21**	**343**	P	**P**	**18 26 04.0**	**+1.3**
MMAI	**Mount Meron Ar** comp=Z,196nm,18.2s,baz=50,slow=43	**28.21**	**273**	LR	LR	18 41 31.1	
NOA	**NORSAR Array B** 0.5nm,0.8s,baz=88,slow=9.9,SNR=3.4	**43.64**	**323**	P	**P**	**18 29 21.7**	**+0.5**

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*IDC **14** 19:10:44.8±3.0, 11°.63S×162°.04E, h50km±28km, mb3.3/5, mb1 3.7/8, mb1mx3.4/41, mbtmp3.7/8, ML3.7/3, Error ellipse: s-maj=32.0km s-min=22.6km az=70.0*
ISC 14 19:10:43.8±1.0, 11°.6S±0°.1×161°.9E±0°.2, h39km, n8, σ2§90/10, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 15nm,0.3s,baz=166,slow=3.7,SNR=8.5	**2.88**	**317**	P	**Pn**	**19 11 29.4**	**+2.2**
HNR	36nm,0.3s,baz=163,slow=11,SNR=6.6			S	**Sn**	**19 11 54.9**	**-5.8**
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=353,slow=9.1,SNR=14	**11.30**	**158**	P	**Pn**	**19 13 23.9**	**+0.9**
DZM	0.2nm,0.3s,baz=323,slow=20,SNR=1.4			S	**Sn**	**19 15 24.1**	**-4.0**
CTA	**Charters Tower** 0.2nm,0.3s,baz=73,slow=18,SNR=4.1	**17.30**	**239**	P	**P**	**19 14 45.1**	**+1.5**
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=77,slow=9.2,SNR=5.4	**27.81**	**249**	P	**P**	**19 16 29.8**	**+0.1**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=65,slow=9.5,SNR=2.2	**29.25**	**242**	P	**P**	**19 16 42.4**	**0.0**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=122,slow=5.3,SNR=4.9	**68.92**	**295**	P	**P**	**19 21 45.8**	**+0.4**
SONM	**Songino Array** 0.5nm,0.7s,baz=140,slow=5.0,SNR=2.6	**76.91**	**325**	P	**P**	**19 22 33.4**	**+1.2**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=238,slow=6.3,SNR=2.9	**85.21**	**20**	P	**P**	**19 23 15.3**	**-0.6**

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*IDC **14** 19:17:51.8±0.9, 62°.64S×60°.29W, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/23, mbtmp4.0/9, ML4.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.5/19, Error ellipse: s-maj=25.6km s-min=14.4km az=115.0*
*NEIC **14** 19:17:53.2±2.7, 62°.59S±0°.08×60°.1W±0°.2, h10km±1km, mb4.4/13, Error ellipse: s-maj=17.3km s-min=13.3km az=257.0*
ISC 14 19:17:52.9±0.5, 62°.59S±0°.06×60°.29W±0°.10, h10km, n37, σ1§28/35, mb4.2/11, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station** 35nm,0.3s,baz=33,slow=11,SNR=91	**2.76**	**216**	Pn	**Pn**	**19 18 38.0**	**+0.9**
PMSA	35nm,0.3s,baz=36,slow=14,SNR=61			Pg	**Pb**	**19 18 41.1**	**-1.1**
PMSA	104nm,0.3s,baz=90,slow=20,SNR=15			Lg	Lg	19 19 16.2	
PMSA	comp=Z,416nm,18.3s,baz=201,slow=37			LR	LR	19 19 31.3	
GO09	**Cerro Castillo**	**13.08**	**325**	Pn	**Pn**	**19 20 56.5**	**-2.0**
HOPE	**Hope Point**	**14.90**	**67**	Pn	**Pn**	**19 21 22.8**	**-0.5**
BELA	**Belgrano 2**	**17.33**	**162**	Pn	**Pn**	**19 21 52.7**	**-1.7**
VNA3	**Neumayer Olymp**	**20.97**	**136**	P	**P**	**19 22 35.4**	**-0.2**
VNA1	**Neumayer--Stat**	**21.46**	**134**	P	**P**	**19 22 41.4**	**+0.6**
VNA2	**Neumayer--Watz**	**21.72**	**135**	P	**P**	**19 22 44.2**	**+0.4**
PLCA	**Paso Flores** 3.6nm,0.9s,baz=171,slow=8.9,SNR=6.1	**22.74**	**339**	P	**P**	**19 22 57.1**	**+2.2**
PLCA	**Paso Flores**	**22.74**	**339**	P	**P**	**19 22 57.4**	**+2.5**
PLCA	comp=Z,9.8nm,1.1s			IAmb	IAmb	19 23 00.4	
SNAA	**Sanae**	**23.12**	**137**	P	**P**	**19 22 58.5**	**-0.1**
SNAA	**Sanae** comp=Z,8.1nm,1.0s,baz=247,slow=7.9,SNR=24	**23.12**	**137**	P	**P**	**19 22 58.5**	**-0.1**
SNAA	**Sanae**	**23.12**	**137**	P	**P**	**19 22 58.4**	**-0.2**
SNAA	comp=Z,14nm,1.1s			IAmb	IAmb	19 23 11.5	
LC01	**Cunco**	**24.75**	**338**	P	**P**	**19 23 12.4**	**-1.9**
LC01	comp=Z,4.3nm,0.7s			IAmb	IAmb	19 23 19.7	
QSPA	**South Pole Qui** comp=Z,3.3nm,0.9s,baz=160,slow=4.0,SNR=11	**27.64**	**180**	P	**P**	**19 23 40.8**	**+0.5**
QSPA	**South Pole Qui**	**27.64**	**180**	P	**P**	**19 23 41.0**	**+0.7**
QSPA	comp=Z,6.2nm,1.0s			IAmb	IAmb	19 23 53.5	
CO02	**Combarbal**	**32.15**	**343**	P	**P**	**19 24 23.0**	**+2.5**
CO03	**El Pedregal**	**32.47**	**343**	P	**P**	**19 24 25.7**	**+2.5**
CO03	comp=Z,12nm,0.8s			IAmb	IAmb	19 24 27.6	
CO01	**Juntas del Tor**	**33.24**	**344**	P	**P**	**19 24 31.9**	**+1.7**
CO01	comp=Z,10nm,1.0s			IAmb	IAmb	19 24 41.7	
AC01	**Pan de Azucar**	**37.08**	**345**	P	**P**	**19 25 03.7**	**+0.7**
VNDA	**Vanda** comp=Z,0.3nm,0.7s,baz=146,slow=11,SNR=2.2	**37.76**	**194**	P	**P**	**19 25 09.8**	**+1.5**
MAW	**Mawson** comp=Z,1.3nm,0.7s,baz=181,slow=9.0,SNR=6.3	**43.80**	**152**	P	**P**	**19 25 59.0**	**+0.9**
MAW	comp=Z,145nm,20.1s,baz=235,slow=35			LR	LR	19 43 26.2	
MAW	**Mawson**	**43.80**	**152**	P	**P**	**19 25 57.9**	**-0.2**
LPAZ	**La Paz** comp=Z,124nm,18.6s,baz=113,slow=37	**46.58**	**350**	LR	LR	19 46 41.4	
LPAZ	**La Paz**	**46.58**	**350**	P	**P**	**19 26 19.6**	**-1.8**
BDFB	**Brasilia** comp=Z,1.7nm,0.4s,baz=149,slow=3.3,SNR=4.2	**47.68**	**16**	P	**P**	**19 26 29.4**	**-0.1**
BDFB	**Brasilia**	**47.68**	**16**	P	**P**	**19 26 28.7**	**-0.8**
BDFB	comp=Z,3.9nm,0.9s			IAmb	IAmb	19 26 39.1	
H10N3	**ASCENSION HYDR** baz=202,slow=75,SNR=4.8	**63.90**	**52**	T	T	20 37 08.8	
H10N1	**ASCENSION HYDR** baz=202,slow=75,SNR=4.8	**63.91**	**52**	T	T	20 37 09.0	
H10N2	**ASCENSION HYDR** baz=202,slow=75,SNR=5.2	**63.92**	**52**	T	T	20 37 11.3	
ASAR	**Alice Springs** comp=Z,0.7nm,0.8s,baz=166,slow=4.5,SNR=3.2	**93.30**	**193**	P	**P**	**19 31 08.0**	**+0.3**
ASAR	**Alice Springs**	**93.30**	**193**	P	**P**	**19 31 07.8**	**0.0**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.8s,baz=173,slow=4.0,SNR=2.0	**96.93**	**194**	P	**P**	**19 31 23.7**	**-0.6**
WRA	**Warramunga Arr**	**96.93**	**194**	P	**P**	**19 31 24.0**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,5.1nm,0.9s,baz=270,slow=1.1,SNR=7.2	**144.87**	**38**	PKP	**PKPdf**	**19 37 28.4**	**+0.2**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,1.0s,baz=150,slow=2.7,SNR=2.5	**151.52**	**212**	PKPab	**PKPab**	**19 37 53.8**	**-0.9**
MK31	**Makanchi Array**	**153.72**	**109**	PKPab	**PKPab**	**19 38 05.1**	**+1.3**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,baz=203,slow=2.5,SNR=2.3	**153.72**	**109**	PKPbc	**PKPbc**	**19 37 49.9**	**-0.9**
MKAR	comp=Z,1.0nm,0.6s,baz=210,slow=4.3,SNR=6.2			PKPab	**PKPab**	**19 38 03.4**	**-0.4**

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*KRNET **14** 19:18:45.8±0.1, 40°.95N×74°.41E, h35km, mb2.0*
*SOME **14** 19:18:49.5, 41°.10N×74°.75E, h5km*
*NNC **14** 19:18:52.2±1.2, 41°.19N×74°.82E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=8.1km s-min=6.1km az=177.0*
ISC 14 19:18:47.3±2.0, 41°.02N±0°.08×74°.71E±0°.04, h3km±13km, n25, σ1§26/39, 10C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral** baz=56	**0.89**	**341**	⇑*iP*	**Pg**	**19 19 04.1**	**-0.4**
ARLS	baz=56			⇑*iS*	**Sg**	**19 19 16.3**	**+0.2**
OHH	**Osh** baz=52	**1.54**	**252**	⇑*iP*	Pn	19 19 08.7	-7.1
OHH	baz=52			⇑*iS*	Sn	19 19 25.7	-11
AAK	**Ala-Archa** 1.8nm,0.8s	**1.63**	**354**	P	**Pb**	**19 19 18.4**	**+0.2**
AAK	3.3nm,0.5s			S	**Sg**	**19 19 39.4**	**-0.3**
BOOM	**Boomskoye usch** baz=36	**1.74**	**32**	⇑*iP*	**Pn**	**19 19 17.4**	**-1.2**
BOOM	baz=36			⇑*iS*	**Sn**	**19 19 40.4**	**-1.0**
TKM2	**Tokmak 2** 0.8nm,0.3s	**2.02**	**19**	⇑Pn	**Pb**	**19 19 24.2**	**-0.6**
TKM2	4.8nm,0.3s			⇓Sn	**Sg**	**19 19 50.8**	**-1.3**
MRKS	**Merke** 4.9nm,0.3s	**2.05**	**328**	*eP*	**Pb**	**19 19 27.1**	**+1.8**
MRKS	7.8nm,0.3s			*eS*	**Sg**	**19 19 53.0**	**-0.3**
MRKS	**Merke** 4.9nm,0.3s	**2.05**	**328**	P	**Pb**	**19 19 27.1**	**+1.8**
MRKS	7.8nm,0.3s			S	**Sb**	**19 19 52.6**	**+1.3**
KDJ	**Kajisay** baz=60	**2.17**	**58**	⇑*iP*	**Pn**	**19 19 23.4**	**-1.1**
KDJ	baz=60			⇑*iS*	**Sn**	**19 19 51.3**	**-0.6**
KST	**Kastek** 1.3nm,0.2s	**2.23**	**24**	*eP*	**Pg**	**19 19 30.0**	**-0.2**
KST	13nm,0.3s			*eS*	**Sg**	**19 19 57.8**	**-1.3**
KST	**Kastek** 1.1nm,0.2s	**2.23**	**24**	Pg	**Pg**	**19 19 30.0**	**-0.2**
KST	13nm,0.3s			Lg	Lg	19 19 57.8	
DGS	**Degeres** 3.0nm,0.3s	**2.36**	**19**	*eP*	**Pb**	**19 19 30.7**	**+0.1**
DGS	6.7nm,0.4s			*eS*	**Sb**	**19 19 58.9**	**-1.3**
DGS	**Degeres** 1.9nm,0.2s	**2.36**	**19**	Pg	**Pb**	**19 19 30.5**	**-0.1**
DGS	7.9nm,0.4s			Lg	Lg	19 19 58.7	
SGDS	**Sogindy** 1.6nm,0.3s	**2.44**	**359**	Pg	**Pb**	**19 19 33.4**	**+1.6**
SGDS	9.6nm,0.5s			Lg	Lg	19 20 03.5	
IZV	**Izvestkoviy** 0.8nm,0.1s	**2.47**	**34**	*eP*	**Pg**	**19 19 34.7**	**+0.1**
IZV	10nm,0.6s			*eS*	**Sg**	**19 20 05.8**	**-0.9**
IZV	**Izvestkoviy** 0.8nm,0.1s	**2.47**	**34**	Pg	**Pg**	**19 19 34.8**	**+0.1**
IZV	10nm,0.6s			Lg	Lg	19 20 05.6	
MDOK	**Medeo** 2.6nm,0.6s	**2.77**	**38**	*eP*	**Pb**	**19 19 38.9**	**+1.4**
MDOK	5.2nm,0.5s			*eS*	**Sb**	**19 20 12.8**	**+1.0**
MDOK	**Medeo** 2.6nm,0.6s	**2.77**	**38**	Pg	**Pb**	**19 19 38.9**	**+1.4**
MDOK	5.2nm,0.5s			Lg	Lg	19 20 12.8	
KOTS	**Kotyrbulak** 2.5nm,0.2s	**2.85**	**38**	*eP*	**Pb**	**19 19 40.6**	**+1.6**
KOTS	23nm,0.5s			*eS*	**Sb**	**19 20 15.6**	**+1.3**
KOTS	**Kotyrbulak** 2.5nm,0.2s	**2.85**	**38**	Pg	**Pb**	**19 19 40.6**	**+1.6**
KOTS	23nm,0.5s			Lg	Lg	19 20 15.6	
KTBS	**Karatobe** 2.0nm,0.7s	**3.07**	**28**	*eP*	**Pb**	**19 19 44.5**	**+1.9**
KTBS	4.9nm,0.5s			*eS*	**Sb**	**19 20 22.4**	**+2.0**
KTBS	**Karatobe** 2.0nm,0.7s	**3.07**	**28**	Pg	**Pb**	**19 19 44.5**	**+1.9**
KTBS	4.9nm,0.5s			Lg	Lg	19 20 22.4	
KUU	**Kurty** 1.0nm,0.6s	**3.12**	**22**	*eP*	**Pb**	**19 19 45.3**	**+1.8**
KUU	3.1nm,0.3s			*eS*	**Sb**	**19 20 23.7**	**+1.8**
KUU	**Kurty** 1.0nm,0.6s	**3.12**	**22**	Pg	**Pb**	**19 19 45.3**	**+1.8**
KUU	3.1nm,0.3s			Lg	Lg	19 20 23.7	
IUG	**Iuzhnay** 0.8nm,0.1s	**3.69**	**289**	*eP*	**Pg**	**19 19 58.3**	**+0.3**
IUG	3.2nm,0.5s			*eS*	**Sg**	**19 20 45.7**	**0.0**
KK31	**Karatay Array** 0.1nm,0.3s,baz=124,slow=16,SNR=4.6	**3.76**	**305**	⇑Pn	**Pb**	**19 19 53.2**	**-1.1**
KK31	0.4nm,0.3s,baz=122,slow=29,SNR=7.0			⇓Lg	Lg	19 20 48.9	

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*SOME **14** 19:20:56.7, 41°.07N×74°.85E, h5km*
*KRNET **14** 19:20:57.5±0.1, 41°.07N×74°.81E, h17km, mb3.7*
*NNC **14** 19:20:58.4±0.9, 41°.05N×74°.90E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=7.0km s-min=4.4km az=176.0*
ISC 14 19:20:55.0±1.3, 40°.89N±0°.04×74°.62E±0°.02, h8km±11km, n86, σ1§27/133, 32C-22D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral** baz=36	**1.00**	**347**	⇑*iP*	**Pn**	**19 21 14.3**	**-1.2**
ARLS	baz=36			⇑*iS*	**Sg**	**19 21 26.2**	**-1.0**
KZA	**Kyzart** baz=18	**1.28**	**21**	⇑*iP*	**Pn**	**19 21 17.7**	**-1.9**
KZA	baz=18			⇑*iS*	**Sb**	**19 21 32.5**	**-3.9**
KZA	**Kyzart** SNR=86	**1.28**	**21**	P	**Pn**	**19 21 18.0**	**-1.6**
UCH	**Uchtor** SNR=25	**1.34**	**357**	P	**Pg**	**19 21 20.8**	**0.0**
AML	**Almayashu** baz=22	**1.43**	**331**	⇑*iP*	**Pg**	**19 21 22.9**	**+0.5**
AML	baz=22			⇑*iS*	**Sg**	**19 21 41.3**	**+0.4**
AML	**Almayashu** SNR=21	**1.43**	**331**	P	**Pg**	**19 21 23.5**	**+1.1**
OHH	**Osh** baz=51	**1.44**	**256**	⇑*iP*	Pg	19 21 28.1	+5.5
OHH	baz=51			⇑*iS*	Sg	19 21 50.0	+8.7
AAK	**Ala-Archa** baz=52	**1.75**	**357**	⇓*iP*	**Pb**	**19 21 27.2**	**-0.3**
AAK	baz=52			⇓*iS*	**Sb**	**19 21 48.4**	**-1.4**
AAK	**Ala-Archa** SNR=54	**1.75**	**357**	P	**Pg**	**19 21 28.1**	**-0.5**
AAK	**Ala-Archa** 16nm,0.3s	**1.75**	**357**	⇓P	**Pg**	**19 21 27.6**	**-1.0**
AAK	167nm,0.7s			S	**Sg**	**19 21 51.5**	**+0.2**
KBK	**Karagaybulak** baz=4.0	**1.79**	**8**	⇓*iP*	**Pb**	**19 21 27.2**	**-0.9**
KBK	baz=4.0			⇓*iS*	**Sn**	**19

FRU1	**Bishkek**	**1.92**	**0**	⇑*iP*		**Pb**	**19 21 30.1**	**-0.3**
	baz=56							
FRU1				⇑*iS*		**Sb**	**19 21 53.0**	**-1.6**
	baz=56							
CHMS	**Chumysh**	**2.11**	**3**	⇑*iP*		**Pb**	**19 21 33.0**	**-0.6**
	baz=59							
CHMS				⇑*iS*		**Sb**	**19 21 58.7**	**-1.3**
	baz=59							
CHMS	**Chumysh**	**2.11**	**3**	P		**Pb**	**19 21 33.9**	**+0.3**
	SNR=45							
MRKS	**Merke**	**2.13**	**331**	*e*P		**Pg**	**19 21 35.7**	**-0.2**
	77nm,0.5s							
MRKS				*e*S		**Sg**	**19 22 03.8**	**+0.3**
	264nm,0.7s							
MRKS	**Merke**	**2.13**	**331**	Pg		**Pg**	**19 21 35.7**	**-0.2**
	77nm,0.5s							
MRKS				Lg		Lg	19 22 03.2	
	264nm,0.7s							
TKM2	**Tokmak 2**	**2.16**	**19**	⇓*iP*		**Pb**	**19 21 33.5**	**-1.0**
	baz=17							
TKM2				⇓*iS*		**Sb**	**19 21 59.6**	**-1.9**
	baz=17							
TKM2	**Tokmak 2**	**2.16**	**19**	P		**Pb**	**19 21 33.9**	**-0.6**
	SNR=120							
TKM2	**Tokmak 2**	**2.16**	**19**	⇓Pn		**Pb**	**19 21 33.9**	**-0.6**
	23nm,0.3s							
TKM2				⇓Sn		**Sb**	**19 22 00.7**	**-0.8**
	121nm,0.5s							
KDJ	**Kajisay**	**2.29**	**56**	⇑*iP*		**Pb**	**19 21 35.5**	**-1.2**
	baz=59							
KDJ				⇑*iS*		**Sn**	**19 22 02.5**	**+0.8**
	baz=59							
KST	**Kastek**	**2.38**	**24**	*e*P		**Pb**	**19 21 38.1**	**0.0**
	90nm,0.3s							
KST				*e*S		**Sb**	**19 22 08.1**	**+0.5**
	362nm,0.6s							
KST	**Kastek**	**2.38**	**24**	Pg		**Pb**	**19 21 37.6**	**-0.6**
	90nm,0.3s							
KST				Lg		Lg	19 22 07.1	
	362nm,0.6s							
USP	**Ospenovka**	**2.38**	**358**	⇑*iP*		**Pb**	**19 21 36.7**	**-1.5**
	baz=54							
USP				⇑*iS*		**Sb**	**19 22 05.5**	**-2.2**
	baz=54							
USP	**Ospenovka**	**2.38**	**358**	P		**Pb**	**19 21 38.6**	**+0.4**
	SNR=166							
DGS	**Degeres**	**2.51**	**20**	*e*P		**Pb**	**19 21 40.5**	**+0.2**
	134nm,0.4s							
DGS				*e*S		**Sb**	**19 22 12.2**	**+0.8**
	276nm,0.5s							
DGS	**Degeres**	**2.51**	**20**	Pg		**Pb**	**19 21 39.4**	**-0.9**
	134nm,0.4s							
DGS				Lg		Lg	19 22 10.1	
	276nm,0.5s							
TARG	**Taragay, Kyrgy**	**2.54**	**70**	⇑*iP*		**Pn**	**19 21 38.6**	**+1.7**
	baz=73							
TARG				⇑*iS*		**Sn**	**19 22 09.6**	**+1.3**
	baz=73							
SGDS	**Sogindy**	**2.56**	**0**	Pg		**Pb**	**19 21 42.1**	**+0.8**
	83nm,0.6s							
SGDS				Lg		Lg	19 22 14.2	
	217nm,0.8s							
IZV	**Izvestkoviy**	**2.61**	**34**	*e*P		**Pb**	**19 21 41.8**	**-0.3**
	34nm,0.7s							
IZV				*e*S		**Sb**	**19 22 14.0**	**-0.5**
	262nm,0.7s							
IZV	**Izvestkoviy**	**2.61**	**34**	Pg		**Pb**	**19 21 41.8**	**-0.3**
	34nm,0.7s							
IZV				Lg		Lg	19 22 14.0	
	262nm,0.7s							
MTBS	**Maitube**	**2.62**	**30**	*e*P		**Pb**	**19 21 42.1**	**0.0**
	72nm,0.3s							
MTBS				*e*S		**Sb**	**19 22 14.7**	**+0.2**
	158nm,0.4s							
MTBS	**Maitube**	**2.62**	**30**	Pg		**Pb**	**19 21 42.1**	**0.0**
	72nm,0.3s							
MTBS				Lg		Lg	19 22 14.3	
	158nm,0.4s							
TNSS	**Tian-Shan**	**2.76**	**38**	*e*P		**Pb**	**19 21 44.3**	**-0.6**
	77nm,0.3s							
TNSS				*e*S		**Sb**	**19 22 18.9**	**-0.1**
	329nm,0.8s							
AAA	**Alma-Ata**	**2.88**	**36**	*e*P		**Pb**	**19 21 47.1**	**+0.4**
	103nm,0.4s							
AAA				*e*S		**Sb**	**19 22 23.1**	**+0.9**
	136nm,0.7s							
AAA	**Alma-Ata**	**2.88**	**36**	Pg		**Pb**	**19 21 47.1**	**+0.4**
	96nm,0.3s							
AAA				Lg		Lg	19 22 22.2	
	136nm,0.7s							
MDOK	**Medeo**	**2.91**	**38**	*e*P		**Pb**	**19 21 46.8**	**-0.4**
	101nm,0.4s							
MDOK				*e*S		**Sb**	**19 22 22.3**	**-0.6**
	120nm,0.8s							
MDOK	**Medeo**	**2.91**	**38**	Pg		**Pb**	**19 21 46.8**	**-0.4**
	101nm,0.4s							
MDOK				Lg		Lg	19 22 22.3	
	120nm,0.8s							
KNDC	**Almaty**	**2.91**	**36**	⇓Pg		**Pb**	**19 21 47.4**	**+0.2**
	65nm,0.3s							
KNDC				⇑Lg		Lg	19 22 23.4	
	174nm,0.5s							
ANVS	**Anan'yevo**	**2.96**	**49**	⇑*iP*		**Pn**	**19 21 44.0**	**+1.5**
	baz=50							
ANVS				⇑*iS*		**Sn**	**19 22 18.3**	**0.0**
	baz=50							
KOTS	**Kotyrbulak**	**2.99**	**38**	*e*P		**Pb**	**19 21 48.4**	**-0.2**
	331nm,0.5s							
KOTS				*e*S		**Sb**	**19 22 25.4**	**0.0**
	761nm,0.5s							
KOTS	**Kotyrbulak**	**2.99**	**38**	Pg		**Pb**	**19 21 48.4**	**-0.2**
	331nm,0.5s							
KOTS				Lg		Lg	19 22 25.4	
	761nm,0.5s							
BTK	**Batken**	**3.02**	**255**	⇑*iP*		**Pb**	**19 21 50.4**	**+1.4**
	baz=53							
BTK				⇑*iS*		**Sg**	**19 22 29.6**	**-2.3**
	baz=53							
DZA	**Taraz**	**3.17**	**310**	*e*P		**Pg**	**19 21 56.3**	**+0.5**
	17nm,0.1s							
DZA				*e*S		**Sg**	**19 22 38.3**	**+1.5**
	138nm,0.5s							
DZA	**Taraz**	**3.17**	**310**	Pg		**Pg**	**19 21 56.3**	**+0.5**
	14nm,0.1s							
DZA				Lg		Lg	19 22 38.3	
	138nm,0.5s							
KTBS	**Karatobe**	**3.21**	**28**	*e*P		**Pb**	**19 21 52.6**	**+0.3**
	91nm,0.4s							
KTBS				*e*S		**Sb**	**19 22 32.3**	**+0.7**
	203nm,0.7s							
KTBS	**Karatobe**	**3.21**	**28**	Pg		**Pb**	**19 21 52.6**	**+0.3**
	91nm,0.4s							
KTBS				Lg		Lg	19 22 32.3	
	203nm,0.7s							
PRZ	**Przheval'sk**	**3.25**	**59**	⇑*iP*		**Pn**	**19 21 48.8**	**+2.3**
	baz=61							
PRZ				⇑*iS*		**Sn**	**19 22 25.8**	**+0.4**
	baz=61							
KUU	**Kurty**	**3.26**	**22**	*e*P		**Pb**	**19 21 53.5**	**+0.3**
	31nm,0.5s							
KUU				*e*S		**Sb**	**19 22 33.9**	**+0.8**
	205nm,0.6s							
KUU	**Kurty**	**3.26**	**22**	Pg		**Pb**	**19 21 53.5**	**+0.3**
	31nm,0.5s							
KUU				Lg		Lg	19 22 33.9	
	205nm,0.6s							
CHKK	**Chushkaly**	**3.45**	**30**	*e*P		**Pb**	**19 21 56.2**	**-0.1**
	26nm,0.5s							
CHKK				*e*S		**Sb**	**19 22 38.6**	**+0.3**
	154nm,0.5s							
CHKK	**Chushkaly**	**3.45**	**30**	Pg		**Pb**	**19 21 56.2**	**-0.1**
	26nm,0.5s							
CHKK				Lg		Lg	19 22 38.6	
	154nm,0.5s							
SATY	**Saty**	**3.56**	**51**	*e*P		**Pb**	**19 21 58.2**	**-0.1**
	12nm,0.6s							
SATY				*e*S		**Sb**	**19 22 42.5**	**+0.8**
	66nm,0.3s							
SATY	**Saty**	**3.56**	**51**	Pg		**Pb**	**19 21 58.2**	**-0.1**
	12nm,0.6s							
SATY				Lg		Lg	19 22 42.5	
	66nm,0.3s							
IUG	**Iuzhnay**	**3.67**	**292**	*e*P		**Pg**	**19 22 05.9**	**+0.6**
	18nm,0.5s							
IUG				*e*S		**Sg**	**19 22 55.3**	**+2.5**
	100nm,0.5s							
KURS	**Kuram**	**3.70**	**44**	*e*P		**Pb**	**19 22 00.0**	**-0.7**
	17nm,0.6s							
KURS				*e*S		**Sb**	**19 22 44.8**	**-1.0**
	31nm,0.7s							
KK31	**Karatay Array**	**3.78**	**307**	Pn		**Pb**	**19 22 01.8**	**-0.2**
	0.3nm,0.3s,baz=128,slow=12,SNR=35							
KK31				⇑Pg		**Pg**	**19 22 07.4**	**0.0**
	2.1nm,0.3s,baz=126,slow=16,SNR=13							
KK31				⇑Lg		Lg	19 22 59.7	
	16nm,0.5s,baz=129,slow=32,SNR=9.4							
GAR	**Garm**	**3.81**	**242**	⇑*iP*		**Pb**	**19 22 02.1**	**-0.4**
	baz=41							
GAR				⇑*iS*		**Sb**	**19 22 49.4**	**+0.6**
	baz=41							
KPKS	**Kokpek**	**3.97**	**48**	*e*P		**Pb**	**19 22 05.6**	**+0.3**
	18nm,0.3s							
KPKS				*e*S		**Sb**	**19 22 54.2**	**+0.7**
	87nm,0.5s							
UZB	**Uzynbulak**	**3.98**	**54**	*e*P		**Pb**	**19 22 04.7**	**-0.8**
	8.1nm,0.6s							
UZB				*e*S		**Sb**	**19 22 53.5**	**-0.3**
	38nm,0.7s							
UZB	**Uzynbulak**	**3.98**	**54**	Pg		**Pb**	**19 22 04.7**	**-0.8**
	8.1nm,0.6s							
UZB				Lg		Lg	19 22 53.5	
	38nm,0.7s							
CHM	**Chimkent**	**4.03**	**292**	*e*P		**Pg**	**19 22 12.2**	**+0.1**
	5.2nm,0.4s							
CHM				*e*S		**Sg**	**19 23 05.4**	**+1.2**
	103nm,0.4s							
ARXS	**Arharly**	**4.08**	**34**	*e*P		**Pb**	**19 22 06.5**	**-0.7**
	28nm,0.4s							
ARXS				*e*S		**Sb**	**19 22 56.7**	**0.0**
	52nm,0.4s							
ARXS	**Arharly**	**4.08**	**34**	Pg		**Pb**	**19 22 06.5**	**-0.7**
	12nm,0.4s							
ARXS				Lg		Lg	19 22 56.7	
	52nm,0.4s							
BRLS	**Borolday**	**4.16**	**303**	*e*P		**Pg**	**19 22 14.7**	**0.0**
	1.9nm,0.2s							
BRLS				*e*S		**Sg**	**19 23 09.8**	**+1.2**
	29nm,0.6s							
BRLS	**Borolday**	**4.16**	**303**	Pg		**Pg**	**19 22 14.7**	**0.0**
	1.9nm,0.2s							
BRLS				Lg		Lg	19 23 09.8	
	29nm,0.6s							
BTLS	**Baital**	**4.17**	**354**	*e*P		**Pb**	**19 22 10.4**	**+1.7**
	5.4nm,0.3s							
BTLS				*e*S		**Sb**	**19 23 02.5**	**+3.2**
	35nm,0.7s							
BTLS	**Baital**	**4.17**	**354**	Pg		**Pb**	**19 22 10.4**	**+1.7**
	2.0nm,0.4s							
BTLS				Lg		Lg	19 23 02.5	
	35nm,0.7s							
SHLS	**Shalkode**	**4.26**	**56**	*e*P		**Pg**	**19 22 16.1**	**-0.5**
	15nm,0.4s							
SHLS				*e*S		**Sg**	**19 23 12.4**	**+0.6**
	52nm,0.6s							
SHLS	**Shalkode**	**4.26**	**56**	Pg		**Pg**	**19 22 16.1**	**-0.5**
	8.8nm,0.5s							
SHLS				Lg		Lg	19 23 12.4	
	52nm,0.6s							
PDGK	**Podgornoye**	**4.37**	**54**	Pg		**Pb**	**19 22 12.8**	**+0.7**
	0.9nm,0.2s							
PDGK				Lg		Lg	19 23 06.8	
	16nm,0.6s							
PDGK	**Podgornoye**	**4.37**	**54**	⇓Pn		**Pn**	**19 22 02.6**	**+0.9**
	1.2nm,0.4s							
PDGK				⇑Pg		**Pg**	**19 22 16.0**	**-2.7**
	7.3nm,0.5s							
PDGK				⇑Lg		Lg	19 23 06.1	
	32nm,0.7s							
CHGR	**Chuyangaron**	**4.76**	**244**	⇓*iP*		**Pb**	**19 22 15.0**	**-3.7**
	baz=43							
CHGR				⇓*iS*		**Sb**	**19 23 11.8**	**-4.4**
	baz=43							
TDK	**Taldyqorghan**	**4.96**	**33**	*e*P		**Pb**	**19 22 23.4**	**+1.2**
	32nm,0.5s							
TDK				*e*S		**Sb**	**19 23 24.9**	**+2.9**
	88nm,0.8s							
TDK	**Taldyqorghan**	**4.96**	**33**	Pg		**Pb**	**19 22 23.4**	**+1.2**
	20nm,0.6s							
TDK				Lg		Lg	19 23 24.9	
	88nm,0.8s							
DJR	**Jarkent**	**5.14**	**46**	*e*P		**Pb**	**19 22 26.3**	**+1.2**
	4.5nm,0.3s							
DJR				*e*S		**Sb**	**19 23 29.8**	**+2.7**
	23nm,0.9s							
DJR	**Jarkent**	**5.14**	**46**	Pg		**Pb**	**19 22 26.3**	**+1.2**
	4.5nm,0.3s							
DJR				Lg		Lg	19 23 29.8	
	23nm,0.9s							
KAPS	**Kapalarasan**	**5.60**	**37**	*e*P		**Pb**	**19 22 34.7**	**+1.7**
	5.0nm,0.4s							
KAPS				*e*S		**Sb**	**19 23 44.2**	**+3.9**
	16nm,0.7s							
KAPS	**Kapalarasan**	**5.60**	**37**	Pg		**Pb**	**19 22 34.7**	**+1.7**
	3.8nm,0.4s							
KAPS				Lg		Lg	19 23 44.2	
	16nm,0.7s							
MAKZ	**Makanchi**	**7.95**	**39**	⇑Pg		Pb	19 23 19.0	+6.0
	4.5nm,1.1s							
MAKZ				⇓Lg		Lg	19 25 00.9	
	5.0nm,0.9s							
MK31	**Makanchi Array**	**8.10**	**41**	⇓Pn		**Pn**	**19 22 52.5**	**-0.4**
	0.1nm,0.3s,baz=222,slow=14,SNR=6.3							
MK31				⇓Lg		Lg	19 25 04.4	
	1.5nm,0.6s,baz=232,slow=28,SNR=2.7							

*UPA **14** 19:22:41.9±1.1, 9°.67N×82°.70W, h20km±4km, MW4.2*
*UCR **14** 19:22:41.0±2.0, 9°.77N×82°.68W, h21km±6km, MD3.9*

ISC 14 19:22:41.2±1.2, 9.73N±0°.06×82.65W±0°.04, h29km±6km, n26, σ1°.05/44, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGM0	**Gandoca**	**0.14**	**162**	*e*P	**Pb**	**19 22 46.1**	**-0.6**
RGM0				*e*S	**Sb**	**19 22 49.3**	**-1.1**
RGM0	**Gandoca**	**0.14**	**162**	*e*P	**Pb**	**19 22 46.7**	**+0.1**
RGM0				*e*S	**Sb**	**19 22 51.7**	**+1.3**
DRK0	**Durika**	**0.74**	**232**	*e*P	**Pb**	**19 22 54.5**	**-1.3**
DRK0				*e*S	**Sb**	**19 23 04.8**	**-0.9**
DRK0	**Durika**	**0.74**	**232**	*e*P	**Pb**	**19 22 54.7**	**-1.0**
DRK0				*e*S	**Sb**	**19 23 05.2**	**-0.4**
EDBA	**Buenos Aires**	**0.83**	**228**	*e*P	**Pb**	**19 22 56.8**	**-0.4**
EDBA				*e*S	**Sn**	**19 23 08.7**	**+0.3**
BC3P	**Paso Ancho**	**0.91**	**177**	*e*P	**Pb**	**19 22 57.3**	**-1.2**
BC3P				*e*S	**Sb**	**19 23 09.0**	**-1.3**
BRU2	**Volcan**	**0.93**	**182**	⇓*iP*	**Pb**	**19 22 57.5**	**-1.3**
BRU2				*e*S	**Sb**	**19 23 10.1**	**-0.7**
BRU2	**Volcan**	**0.93**	**182**	*e*P	**Pb**	**19 22 57.4**	**-1.3**
CHGR2	**Aguacate**	**0.93**	**147**	*e*P	**Pb**	**19 22 57.4**	**-1.4**
EDSV	**San Vito**	**0.95**	**199**	*e*P	**Pb**	**19 22 58.9**	**-0.3**
EDSV				*e*S	**Sn**	**19 23 13.2**	**+1.7**
BCO2	**Palmira**	**1.01**	**173**	*e*P	**Pb**	**19 22 58.5**	**-1.7**
BCO2				*e*S	**Sb**	**19 23 12.3**	**-0.8**
EDLM	**Las Mercedes**	**1.03**	**244**	*e*P	**Pb**	**19 22 59.2**	**-1.2**
EDLM				*e*S	**Sb**	**19 23 12.9**	**-0.7**
PEZE	**Perez Zeledon,**	**1.07**	**251**	*e*P	**Pn**	**19 22 59.7**	**-0.6**
EDPN	**Palmar Norte**	**1.10**	**226**	*e*P	**Pb**	**19 23 01.7**	**+0.1**
EDPN				*e*S	**Sn**	**19 23 17.2**	**+2.3**
RIMA	**Rio Macho**	**1.20**	**272**	*e*P	**Pn**	**19 23 01.8**	**-0.4**
RIMA				*e*S	**Sb**	**19 23 17.6**	**-0.9**
EDDO	**Dominical**	**1.28**	**249**	*e*P	**Pn**	**19 23 04.3**	**+1.1**
EDDO				*e*S	**Sb**	**19 23 21.3**	**+0.4**
DVD	**David**	**1.30**	**171**	*e*P	**Pn**	**19 23 04.0**	**+0.6**
DVD				*e*S	**Sn**	**19 23 20.8**	**+1.0**
RIOS	**Rincon, Osa**	**1.33**	**220**	*e*P	**Pn**	**19 23 03.7**	**-0.1**
LCR2	**La Lucha 2**	**1.33**	**271**	*e*P	**Pn**	**19 23 04.1**	**0.0**
LCR2				*e*S	**Sn**	**19 23 21.2**	**+0.3**
PTJ1	**Puerto Jimnez**	**1.35**	**209**	*e*P	**Pn**	**19 23 03.9**	**-0.1**
PTJ1				*e*S	**Sn**	**19 23 22.0**	**+1.0**
PTJ1	**Puerto Jimnez**	**1.35**	**209**	*e*P	**Pn**	**19 23 04.7**	**+0.6**
CHIR3	**Chiriqui UPA,**	**1.36**	**166**	*e*P	**Pn**	**19 23 04.9**	**+0.6**
CHIR3				*e*S	**Sn**	**19 23 22.7**	**+1.3**
HDC	**Heredia**	**1.47**	**281**	*e*P	**Pn**	**19 23 07.3**	**+1.4**
REME3	**Remedios, Chir**	**1.69**	**151**	*e*P	**Pn**	**19 23 09.7**	**+0.8**
REME3				*e*S	**Sn**	**19 23 31.5**	**+1.8**
BCIP	**Isla Barro Col**	**2.83**	**101**	*e*P	**Pn**	**19 23 24.5**	**0.0**
ZANG	**Zanguenga, Cho**	**2.85**	**105**	*e*P	**Pn**	**19 23 24.6**	**-0.2**

IDC 14 19:25:34.0±4.0, 18°.17S×174°.88W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/29, mbtmp3.8/4, Error ellipse: s-maj=169.6km s-min=82.4km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.47**	**242**	P	P	19 33 22.5	-0.3
	1.3nm,0.7s,baz=90,slow=7.1,SNR=1.3						
WRA	**Warramunga Arr**	**47.89**	**259**	P	P	19 34 14.3	0.0
	0.5nm,0.3s,baz=98,slow=7.6,SNR=23						
WRA				PcP	PcP	19 35 43.0	0.0
	0.4nm,1.1s,baz=98,slow=3.9,SNR=2.1						
ASAR	**Alice Springs**	**47.95**	**254**	P	P	19 34 14.9	+0.1
	0.5nm,0.4s,baz=86,slow=8.3,SNR=20						
ASAR				PcP	PcP	19 35 42.6	-0.6
	0.3nm,0.8s,baz=110,slow=5.0,SNR=1.9						
FITZ	**Fitzroy Crossi**	**56.30**	**260**	P	P	19 35 16.6	-0.4
	0.6nm,0.5s,baz=94,slow=22,SNR=9.3						

*IDC **14** 19:46:03.8±1.4, 50°.87N×98°.13E, h0km, mb1 3.2/3, mb1mx2.9/55, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=35.8km s-min=11.2km az=175.0*
*ASRS **14** 19:46:03.7±0.2, 51°.N±1°.×97°.9E±0°.7, h10km, MLh4.1/15, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*

ISC 14 19:46:01.0±0.8, 51°.09N±0°.04×97°.91E±0°.03, h10km, n38, σ2°.32/63, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.54**	**207**	Pg	**Pb**	**19 46 12.3**	**-0.3**
KNGR				Sg	**Sb**	**19 46 19.7**	**-0.7**
TDJR	**Todzha**	**1.73**	**320**	Pg	**Pg**	**19 46 37.2**	**+3.1**
TDJR				Sg	**Sg**	**19 47 01.6**	**+5.0**
ERNS	**Erzin**	**1.93**	**246**	Pg	**Pg**	**19 46 37.2**	**-0.8**
ERNS				Sg	**Sg**	**19 47 03.0**	**-0.1**
MOY	**Mondy**	**2.02**	**72**	Pg	**Pg**	**19 46 39.8**	**+0.1**
MOY				Sg	**Sg**	**19 47 06.4**	**+0.5**
KZLR	**Kyzyl**	**2.25**	**287**	Sg	**Sg**	**19 47 13.5**	**+0.3**
ARDR	**Aradan**	**3.15**	**300**	Pg	**Pg**	**19 47 00.4**	**-1.0**
ARDR				Sg	**Sg**	**19 47 42.0**	**-0.2**
ZAK	**Zakamensk**	**3.49**	**100**	Pg	**Pb**	**19 47 05.0**	**+2.1**
ZAK				Sg	**Sg**	**19 47 52.0**	**-0.9**
TLY	**Talaya**	**3.65**	**78**	Pg	**Pb**	**19 47 07.2**	**+1.8**
	0.0nm,0.3s,baz=248,slow=15,SNR=9.9						
TLY				Lg	Lg	19 47 55.4	
	0.1nm,0.3s,baz=349,slow=13,SNR=4.8						
TLY	**Talaya**	**3.65**	**78**	Pg	**Pg**	**19 47 09.6**	**-1.1**
TLY				Sg	**Sg**	**19 47 55.9**	**-2.0**
IRK	**Irkutsk**	**4.13**	**71**	Pg	**Pg**	**19 47 18.1**	**-1.9**
IRK				Sg	**Sg**	**19 48 11.5**	**-2.0**
ORY	**Orie**	**4.27**	**338**	Pg	**Pg**	**19 47 20.3**	**-2.5**
ORY				Sg	**Sg**	**19 48 17.2**	**-0.9**
DJOS	**Djoyskaya Sosn**	**4.38**	**296**	Pg	**Pg**	**19 47 23.7**	**-1.0**
DJOS				Sg	**Sg**	**19 48 19.5**	**-1.9**
CERR	**Cheremushki**	**4.39**	**296**	Pg	**Pg**	**19 47 25.7**	**+0.7**
CERR				Sg	**Sg**	**19 48 20.3**	**-1.4**
DJO	**Djoy, Khakassi**	**4.47**	**295**	Pg	**Pg**	**19 47 24.5**	**-2.1**
DJO				Sg	**Sg**	**19 48 27.8**	**+3.3**
ABNR	**Abakan**	**4.76**	**306**	Pn	**Pn**	**19 47 14.7**	**+2.0**
ABNR				Pg	**Pg**	**19 47 32.4**	**+0.2**
ABNR				Sg	**Sg**	**19 48 32.9**	**-0.9**
TBTR	**Tabat**	**4.81**	**295**	Pg	**Pg**	**19 47 30.1**	**-2.9**
TBTR				Sg	**Sg**	**19 48 32.6**	**-2.6**
TEL	**Teeli**	**4.86**	**272**	Pn	Pb	19 47 19.4	-6.8
TEL				Pg	**Pg**	**19 47 31.7**	**-2.3**
TEL				Sg	**Sg**	**19 48 35.1**	**-1.9**
TRG	**Tyrgan**	**5.49**	**69**	Pn	**Pb**	**19 47 34.6**	**-2.3**
TRG				Pg	**Pg**	**19 47 45.6**	**-0.4**
TRG				Sg	**Sg**	**19 48 55.0**	**-2.1**
SHRR	**Shira**	**5.81**	**309**	Pn	Pn	19 47 32.4	+5.3
SHRR				Pg	**Pg**	**19 47 50.9**	**-1.2**
SHRR				Sg	**Sg**	**19 49 05.0**	**-2.3**
GZLN	**Zheleznogorsk**	**5.84**	**337**	Sg	**Sg**	**19 49 05.6**	**-2.8**
SHTK	**Zheleznogorsk-**	**5.84**	**336**	Pg	Pg	19 47 47.7	-5.1
SHTK				Sg	**Sg**	**19 49 03.3**	**-5.1**
CUR	**Chagan-Uzun**	**6.17**	**265**	Pn	Pn	19 47 38.6	+6.4
CUR				Pg	**Pg**	**19 47 57.2**	**-1.7**
CUR				Sg	**Sg**	**19 49 15.3**	**-3.5**
ULGR	**Ulagan, Altay**	**6.32**	**270**	Pn	Pn	19 47 40.2	+6.0
ULGR				Pg	**Pg**	**19 47 58.7**	**-3.1**
ULGR				Sg	**Sg**	**19 49 22.3**	**-1.3**
SONM	**Songino Array**	**6.42**	**117**	Pg	**Pb**	**19 47 56.8**	**+4.0**
	1.7nm,0.3s,baz=307,slow=18,SNR=20						
SONM				Lg	Lg	19 49 21.1	
	2.9nm,0.3s,baz=300,slow=31,SNR=5.0						
TASR	**Tashtagol**	**6.42**	**289**	Pn	Pb	19 47 44.8	-8.0
TASR				Pg	**Pg**	**19 48 02.1**	**-1.8**
TASR				Sg	**Sg**	**19 49 23.3**	**-3.8**
CHBI	**Chibit, Altay**	**6.65**	**267**	Pn	Pn	19 47 44.0	+5.2
CHBI				Pg	**Pg**	**19 48 05.2**	**-3.1**
CHBI				Sg	**Sg**	**19 49 29.5**	**-4.9**
ARTR	**Artybash**	**6.68**	**280**	Pn	**Pn**	**19 47 42.7**	**+3.6**
ARTR				Pg	**Pg**	**19 48 09.8**	**+1.0**
ARTR				Sg	**Sg**	**19 49 33.4**	**-1.9**
ULN	**Ulaanbaatar**	**6.78**	**115**	Pg	Pb	19 48 04.6	+5.7
ULN				Sg	**Sg**	**19 49 35.9**	**-2.5**
DGZ	**Jazzator, Alta**	**6.84**	**262**	Pn	**Pn**	**19 47 45.1**	**+3.7**
DGZ				Pg	**Pg**	**19 48 12.0**	**+0.1**
DGZ				Sg	**Sg**	**19 49 38.2**	**-2.2**
TUNR	**Tungur**	**7.42**	**267**	Pn	Pn	19 47 57.1	+7.7
TUNR				Pg	**Pg**	**19 48 21.3**	**-1.7**
TUNR				Sg	**Sg**	**19 49 58.0**	**-1.1**
GALT	**Gorno-Altaysk,**	**7.51**	**281**	Pn	Pn	19 47 54.8	+4.3
GALT				Pg	**Pg**	**19 48 22.6**	**-2.1**
GALT				Sg	**Sg**	**19 49 59.9**	**-2.0**
SALR	**Pechorkino, Sa**	**8.12**	**299**	Sg	Sg	19 50 10.9	-10
UKR	**Ust'-Kan**

JFFD				S	Sb	19 52 21.6	-1.7
JFT	Otama	1.30	308	P	Pn	19 52 17.5	+0.6
JFT				S	Sb	19 52 32.8	-1.2
JMM	Marumori	1.32	330	P	Pn	19 52 17.0	-0.1
JFY	Yanaizu	1.69	294	P	Pn	19 52 22.9	+0.8
JIO	Ouri	1.74	353	P	Pn	19 52 23.2	+0.4
JAG	Ashikaga	1.78	261	P	Pn	19 52 23.3	-0.1
JOU	Okura	1.81	335	P	Pn	19 52 25.3	+1.5
JOU				S	Sn	19 52 47.0	+0.3
MJAR	Matsushiro Arr	2.76	267	Pn	Pn	19 52 38.0	+1.1
	1.2nm,0.3s,baz=88,slow=15,SNR=68						
MJAR				Sn	Sn	19 53 11.5	+1.4
	1.1nm,0.3s,baz=102,slow=21,SNR=11						
MAT	Matsushiro	2.76	267	P	Pn	19 52 38.3	+1.4
MAT				S	Sn	19 53 08.6	-1.6
JHJ	Hachijo jima 2	3.91	203	Pn	Pn	19 52 54.6	+2.1
	4.9nm,0.3s,baz=98,slow=21,SNR=2.2						
JHJ				Sn	Sn	19 53 37.2	-1.1
	8.5nm,0.3s,baz=108,slow=20,SNR=1.7						
ASAJ	Asahikawa	7.42	5	Pn	Pn	19 53 42.5	+1.7
	0.4nm,0.3s,baz=218,slow=3.3,SNR=6.4						
ASAJ				Sn	Sn	19 55 01.9	-3.0
	0.2nm,0.3s,baz=216,slow=18,SNR=1.7						
USRK	Ussuriysk Ar.	10.47	318	Pn	Pn	19 54 27.9	+5.2
	baz=118,slow=12,SNR=3.1						
KSRS	Korea Array	10.98	278	Pn	Pn	19 54 31.1	+1.5
	0.1nm,0.3s,baz=94,slow=13,SNR=1.8						
H11N2	WAKE ISLAND Hy	27.84	121	T	T	20 26 59.4	
	baz=313,slow=75,SNR=16						
H11N1	WAKE ISLAND Hy	27.85	121	T	T	20 27 01.1	
	baz=313,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	27.86	121	T	T	20 27 01.1	
	baz=313,slow=75,SNR=12						
SONM	Songino Array	28.11	304	P	P	19 57 45.2	+0.7
	0.4nm,0.4s,baz=102,slow=8.4,SNR=2.9						
H11S1	WAKE ISLAND Hy	28.54	123	T	T	20 27 57.7	
	baz=316,slow=74,SNR=8.3						
H11S3	WAKE ISLAND Hy	28.54	123	T	T	20 27 57.1	
	baz=316,slow=74,SNR=5.2						
H11S2	WAKE ISLAND Hy	28.56	123	T	T	20 27 57.6	
	baz=316						
ZALV	Zalesovo Beam	42.25	313	P	P	19 59 45.7	0.0
	0.8nm,0.9s,baz=97,slow=12,SNR=1.8						
MKAR	Makanchi Array	44.43	302	P	P	20 00 03.8	+0.3
	0.3nm,0.7s,baz=100,slow=7.5,SNR=2.1						

IDC 14 20:00:15.1±2.8, 6°.33S×155°.76E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.5/36, mbtmp3.9/5, ML2.8/2, Error ellipse: s-maj=51.0km s-min=35.8km az=68.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	4.22	298	Pn	Pn	20 01 22.9	+2.1
	1.0nm,0.3s,baz=63,slow=21,SNR=1.4						
KRVT				Sn	Sn	20 02 11.0	+0.2
	10.0nm,0.3s,baz=190,slow=18,SNR=5.0						
PMG	Port Moresby	9.05	250	Pn	Pn	20 02 29.2	+2.1
	3.4nm,0.3s,baz=74,slow=11,SNR=8.3						
WRA	Warramunga Arr	24.82	235	P	P	20 05 38.8	-0.4
	0.9nm,0.7s,baz=60,slow=10,SNR=9.8						
WRA				PcP	PcP	20 09 16.8	+1.0
	0.3nm,0.9s,baz=63,slow=3.0,SNR=1.6						
H11S3	WAKE ISLAND Hy	26.92	23	T	T	20 34 14.0	
	baz=205,slow=76,SNR=4.7						
H11S2	WAKE ISLAND Hy	26.92	23	T	T	20 34 14.0	
	baz=205,slow=76,SNR=5.8						
H11S1	WAKE ISLAND Hy	26.93	23	T	T	20 34 14.0	
	baz=205,slow=76,SNR=4.7						
ASAR	Alice Springs	27.18	228	P	P	20 06 00.0	-0.6
	0.3nm,0.4s,baz=57,slow=9.0,SNR=12						
CMAR	Chiang Mai Arr	61.19	295	P	P	20 10 31.2	-0.9
	0.5nm,0.4s,baz=119,slow=5.3,SNR=4.9						

*KRNET **14** 20:05:39.1±0.1, 42°.21N×79°.66E, h16km, mb4.4*
*BJI **14** 20:05:39.7±0.0, 42°.29N×79°.53E, h7km, ML3.6/9*
*SOME **14** 20:05:40.2, 42°.30N×79°.50E, h0km, MS2.9*
*NNC **14** 20:05:40.5±0.8, 42°.29N×79°.57E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=5.5km s-min=3.2km az=145.0*
*MOS **14** 20:05:42.3±1.5, 42°.36N×79°.79E, h15km, mb4.2/1, Error ellipse: s-maj=8.4km s-min=4.8km az=114.0*
*IDC **14** 20:05:47.3±3.8, 42°.81N×79°.87E, h0km, mb1 3.4/4, mb1mx3.1/42, mbtmp3.4/4, ML3.2/4, Error ellipse: s-maj=40.1km s-min=31.4km az=176.0*

ISC 14 20:05:41.3±1.4, 42°.32N±0°.04×79°.68E±0°.03, h3km±9km, n128, σ1§60/207, 48C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	0.86	349	⇓*iP*	Pg	20 05 57.9	+0.2
	baz=10.0						
SHLS				⇑*iS*	Sb	20 06 10.8	0.0
	baz=10.0						
SHLS	Shalkode	0.86	349	⇓*iP*	Pg	20 05 57.9	+0.2
	827nm,0.1s						
SHLS				⇑*iS*	Sb	20 06 10.8	0.0
	1μm,0.2s						
SHLS	Shalkode	0.86	349	P	Pg	20 05 57.9	+0.2
	827nm,0.1s						
SHLS				S	Sb	20 06 10.8	0.0
	1μm,0.2s						
SHLS	Shalkode	0.86	349	*i* PG	Pg	20 05 57.9	+0.2
SHLS				*i* S	Sb	20 06 10.8	0.0
PRZ	Przheval'sk	0.96	280	⇑*iP*	Pg	20 05 58.1	-1.6
	baz=87						
PRZ				⇑*iS*	Sg	20 06 11.6	-0.5
	baz=87						
UZB	Uzynbulak	0.96	330	⇑*iP*	Pg	20 05 58.9	-0.8
	baz=34						
UZB				⇓*iS*	Sg	20 06 12.6	+0.4
	baz=34						
UZB	Uzynbulak	0.96	330	⇑*iP*	Pg	20 05 58.9	-0.8
	56nm,0.2s						
UZB				⇓*iS*	Sg	20 06 12.6	+0.4
	482nm,0.2s						
UZB	Uzynbulak	0.96	330	P	Pg	20 05 58.9	-0.8
	33nm,0.2s						
UZB				S	Sg	20 06 12.4	+0.2
	482nm,0.2s						
UZB	Uzynbulak	0.96	330	*i* PG	Pg	20 05 58.9	-0.8
UZB				*i* S	Sg	20 06 12.6	+0.4
PDGK	Podgornoye	1.02	352	P	Pg	20 06 00.2	-0.7
	69nm,0.2s						
PDGK				S	Sg	20 06 14.8	+0.7
	432nm,0.3s						
PDGK	Podgornoye	1.02	352	⇑P	Pg	20 05 60.0	-0.9
	26nm,0.2s						
PDGK				⇑S	Sg	20 06 14.6	+0.5
	89nm,0.2s						
PDGK	Podgornoye	1.02	352	*i* PG	Pg	20 06 00.0	-0.9
PDGK				pmax	pmax		
	comp=Z,26nm,0.2s						
SATY	Saty	1.20	309	⇑*iP*	Pg	20 06 02.5	-1.7
	comp=Z,57nm,0.2s						
SATY				⇑*iS*	Sg	20 06 18.7	-1.0
	comp=Z,472nm,0.2s						
SATY	Saty	1.20	309	P	Pg	20 06 02.5	-1.7
	comp=Z,46nm,0.5s						
SATY				S	Sg	20 06 18.8	-1.0
	comp=Z,472nm,0.2s						
SATY	Saty	1.20	309	*i* PG	Pg	20 06 02.5	-1.7
SATY				*i* S	Sg	20 06 18.7	-1.0
KPKS	Kokpek	1.36	328	⇑*iP*	Pn	20 06 06.0	-1.3
	comp=Z,223nm,0.1s						
KPKS				⇓*iS*	Sg	20 06 24.7	-0.4
	comp=Z,907nm,0.2s						
KPKS	Kokpek	1.36	328	*i* PG	Pn	20 06 06.0	-1.3
KPKS				*i* S	Sg	20 06 24.7	-0.4
TARG	Taragay, Kyrgy	1.51	248	⇑*iP*	Pn	20 06 06.5	-3.2
	baz=52						
TARG				⇑*iS*	Sb	20 06 26.5	-3.5
	baz=52						
ANVS	Anan'yevo	1.56	288	⇑*iP*	Pn	20 06 09.0	-1.1
	baz=92						
ANVS				⇑*iS*	Sb	20 06 30.7	-0.4
	baz=92						
KURS	Kuram	1.61	317	⇑*iP*	Pn	20 06 10.4	-0.3
	baz=20						
KURS				⇑*eS*	Sb	20 06 32.7	+0.2
	baz=20						
KURS	Kuram	1.61	317	⇑*iP*	Pn	20 06 10.3	-0.3
	comp=Z,116nm,0.3s						
KURS				*eS*	Sb	20 06 32.7	+0.2
	comp=Z,262nm,0.5s						
KURS	Kuram	1.61	317	*i* PN	Pn	20 06 10.4	-0.3
KURS				*eS*	Sb	20 06 32.7	+0.2
KDJ	Kajisay	1.86	265	⇑*iP*	Pn	20 06 12.9	-1.4
	baz=68						
KDJ				⇑*iS*	Sn	20 06 37.4	-1.1
	baz=68						
MNBS	Baschi	2.00	333	*eP*	Pn	20 06 17.6	+1.6
	comp=Z,117nm,0.1s						
MNBS				*eS*	Sb	20 06 44.6	+1.0
	comp=Z,3μm,0.3s						
MNBS	Baschi	2.00	333	Pg	Pn	20 06 17.6	+1.6
	comp=Z,117nm,0.1s						
MNBS				Lg	Lg	20 06 44.6	
	comp=Z,3μm,0.3s						
MNBS	Baschi	2.00	333	*e*PN	Pn	20 06 17.6	+1.6
MNBS				*eS*	Sb	20 06 44.6	+1.0
DJR	Jarkent	2.02	2	*eP*	Pn	20 06 18.2	+1.9
	comp=Z,196nm,0.3s						
DJR				*eS*	Sb	20 06 45.4	+1.2
	comp=Z,1μm,0.4s						
DJR	Jarkent	2.02	2	Pg	Pn	20 06 18.2	+1.9
	comp=Z,196nm,0.3s						
DJR				Lg	Lg	20 06 45.4	
	comp=Z,1μm,0.4s						
DJR	Jarkent	2.02	2	*e*PN	Pn	20 06 18.2	+1.9
DJR				*eS*	Sb	20 06 45.4	+1.2
KOTS	Kotyrbulak	2.10	297	*eP*	Pn	20 06 18.5	+1.0
	baz=99						
KOTS				*eS*	Sb	20 06 45.9	-0.8
	baz=99						
KOTS	Kotyrbulak	2.10	297	*eP*	Pn	20 06 18.5	+1.0
	comp=Z,462nm,0.5s						
KOTS				*eS*	Sb	20 06 45.9	-0.8
	comp=Z,487nm,0.3s						
KOTS	Kotyrbulak	2.10	297	Pg	Pn	20 06 18.5	+1.0
	comp=Z,462nm,0.5s						
KOTS				Lg	Lg	20 06 45.9	
	comp=Z,487nm,0.3s						
KOTS	Kotyrbulak	2.10	297	*e*PN	Pn	20 06 18.5	+1.0
KOTS				*eS*	Sb	20 06 45.9	-0.8
MDOK	Medeo	2.11	295	*eP*	Pn	20 06 18.3	+0.6
	baz=97						
MDOK				*eS*	Sb	20 06 46.4	-0.7
	baz=97						
MDOK	Medeo	2.11	295	*eP*	Pn	20 06 18.3	+0.6
	comp=Z,362nm,0.5s						
MDOK				*eS*	Sb	20 06 46.4	-0.7
	comp=Z,174nm,0.5s						
MDOK	Medeo	2.11	295	Pg	Pn	20 06 18.3	+0.6
	comp=Z,362nm,0.5s						
MDOK				Lg	Lg	20 06 45.4	
	comp=Z,167nm,0.6s						
MDOK	Medeo	2.11	295	*e*PN	Pn	20 06 18.3	+0.6
MDOK				*eS*	Sb	20 06 46.4	-0.7
TNSS	Tian-Shan	2.14	291	*eP*	Pn	20 06 18.9	+0.6
	baz=93						
TNSS				*eS*	Sb	20 06 46.6	-1.4
	baz=93						
TNSS	Tian-Shan	2.14	291	*eP*	Pn	20 06 18.9	+0.6
	comp=Z,285nm,0.2s						
TNSS				*eS*	Sb	20 06 46.6	-1.4
	comp=Z,145nm,0.3s						
TNSS	Tian-Shan	2.14	291	*e*PN	Pn	20 06 18.9	+0.6
TNSS				*eS*	Sb	20 06 46.6	-1.4
KNDC	Almaty	2.19	295	⇑Pg	Pn	20 06 19.3	+0.6
	comp=Z,95nm,0.4s						
KNDC				⇑Lg	Lg	20 06 50.8	
	comp=Z,120nm,0.4s						
AAA	Alma-Ata	2.22	295	*eP*	Pn	20 06 20.9	+1.8
	baz=97						
AAA				*eS*	Sb	20 06 49.8	-0.3
	baz=97						
AAA	Alma-Ata	2.22	295	*eP*	Pn	20 06 20.9	+1.8
	comp=Z,204nm,0.3s						
AAA				*eS*	Sb	20 06 49.7	-0.3
	comp=Z,100nm,0.2s						
AAA	Alma-Ata	2.22	295	Pg	Pn	20 06 20.9	+1.8
	comp=Z,204nm,0.3s						
AAA				Lg	Lg	20 06 49.7	
	comp=Z,97nm,0.1s						
AAA	Alma-Ata	2.22	295	*e*PN	Pn	20 06 20.9	+1.8
AAA				*eS*	Sb	20 06 49.7	-0.3
ARXS	Arharly	2.33	325	*eP*	Pn	20 06 22.7	+2.1
	comp=Z,519nm,0.3s						
ARXS				*eS*	Sb	20 06 53.1	-0.1
	comp=Z,681nm,0.3s						
ARXS	Arharly	2.33	325	Pg	Pn	20 06 22.7	+2.1
	comp=Z,519nm,0.3s						
ARXS				Lg	Lg	20 06 53.1	
	comp=Z,681nm,0.3s						
ARXS	Arharly	2.33	325	*e*PN	Pn	20 06 22.7	+2.1
ARXS				*eS*	Sb	20 06 53.1	-0.1
IZV	Izvestkoviy	2.37	289	*eP*	Pn	20 06 22.0	+0.7
	baz=91						
IZV				*eS*	Sn	20 06 52.0	+1.0
	baz=91						
IZV	Izvestkoviy	2.37	289	*eP*	Pn	20 06 22.0	+0.7
	comp=Z,107nm,0.2s						
IZV				*eS*	Sn	20 06 52.0	+1.0
	comp=Z,398nm,0.4s						
IZV	Izvestkoviy	2.37	289	Pg	Pn	20 06 22.0	+0.7
	comp=Z,98nm,0.2s						
IZV				Lg	Lg	20 06 51.9	
	comp=Z,398nm,0.4s						
IZV	Izvestkoviy	2.37	289	*e*PN	Pn	20 06 22.0	+0.7
IZV				*eS*	Sn	20 06 52.0	+1.0
CHKK	Chushkaly	2.50	309	*eP*	Pb	20 06 26.1	-0.7
	comp=Z,137nm,0.3s						
CHKK				*eS*	Sb	20 06 59.2	+1.2
	comp=Z,787nm,0.4s						
CHKK	Chushkaly	2.50	309	Pg	Pb	20 06 26.3	-0.5
CHKK				Lg	Lg	20 06 59.2	
CHKK	Chushkaly	2.50	309	*e*PN	Pb	20 06 26.1	-0.7
CHKK				*eS*	Sb	20 06 59.2	+1.2
MTBS	Maitube	2.53	290	*eP*	Pn	20 06 25.4	+2.1
	comp=Z,68nm,0.3s						
MTBS				*eS*	Sb	20 06 58.2	-0.7
	comp=Z,206nm,0.4s						
MTBS	Maitube	2.53	290	Pg	Pn	20 06 25.4	+2.1
	comp=Z,68nm,0.3s						
MTBS				Lg	Lg	20 06 58.2	
	comp=Z,206nm,0.4s						
MTBS	Maitube	2.53	290	*e*PN	Pn	20 06 25.4	+2.1
MTBS				*eS*	Sb	20 06 58.2	-0.7
ULHL	Ulahol	2.55	270	⇑*iP*	Pn	20 06 23.1	-0.7
	baz=72						
ULHL				⇑*iS*	Sn	20 06 55.8	+0.4
	baz=72						
ULHL	Ulahol	2.55	270	P	Pn	20 06 24.5	+0.8
	SNR=221						
KTBS	Karatobe	2.60	303	*eP*	Pn	20 06 27.0	+2.7
	baz=6.0						
KTBS				*eS*	Sb	20 07 00.6	-0.4
	baz=6.0						
KTBS	Karatobe	2.60	303	*eP*	Pn	20 06 27.0	+2.7
	comp=Z,144nm,0.3s						
KTBS				*eS*	Sb	20 07 00.6	-0.4
	comp=Z,1μm,0.3s						
KTBS	Karatobe	2.60	303	Pg	Pn	20 06 27.0	+2.7
	comp=Z,53nm,0.2s						
KTBS				Lg	Lg	20 07 00.6	
	comp=Z,1μm,0.3s						
KTBS	Karatobe	2.60	303	*e*PN	Pn	20 06 27.0	+2.7
KTBS				*eS*	Sb	20 07 00.6	-0.4
BOOM	Boomskoye usch	2.77	275	⇑*iP*	Pn	20 06 26.7	-0.1
	baz=77						
BOOM				⇑*iS*	Sn	20 07 01.9	+1.0
	baz=77						
KST	Kastek	2.83	286	*eP*	Pb	20 06 30.9	-1.7
	comp=Z,114nm,0.3s						
KST				*eS*	Sb	20 07 07.4	-0.3
	comp=Z,310nm,0.5s						
KST	Kastek	2.83	286	Pg	Pb	20 06 30.9	-1.7
	comp=Z,114nm,0.3s						
KST				Lg	Lg	20 07 07.4	
	comp=Z,310nm,0.5s						
KST	Kastek	2.83	286	*e*PN	Pb	20 06 30.9	-1.7
KST				*eS*	Sb	20 07 07.4	-0.3
TDK	Taldyqorghan	2.84	341	*eP*	Pb	20 06 31.5	-1.1
	comp=Z,86nm,0.3s						
TDK				*eS*	Sb	20 07 08.2	+0.4
	comp=Z,538nm,0.7s						
TDK	Taldyqorghan	2.84	341	Pg	Pb	20 06 31.5	-1.1
	comp=Z,86nm,0.3s						
TDK				Lg	Lg	20 07 08.2	
	comp=Z,538nm,0.7s						
TDK	Taldyqorghan	2.84	341	*e*PN	Pb	20 06 31.5	-1.1
TDK				*eS*	Sb	20 07 08.2	+0.4
KUU	Kurty	2.91	304	*eP*	Pb	20 06 33.0	-0.8
	comp=Z,36nm,0.3s						
KUU				*eS*	Sb	20 07 10.6	+0.8
	comp=Z,310nm,0.7s						
KUU	Kurty	2.91	304	Pg	Pb	20 06 33.0	-0.8
	comp=Z,36nm,0.3s						
KUU				Lg	Lg	20 07 10.6	
	comp=Z,310nm,0.7s						
KUU	Kurty	2.91	304	*e*PN	Pb	20 06 33.0	-0.8
KUU				*eS*	Sb	20 07 10.6	+0.8
KAPS	Kapalarasan	2.98	356	*eP*	Pb	20 06 34.5	-0.5
	comp=Z,12nm,0.2s						
KAPS				*eS*	Sb	20 07 13.3	+1.5
	comp=Z,323nm,0.4s						
KAPS	Kapalarasan	2.98	356	Pg	Pb	20 06 34.5	-0.5
	comp=Z,12nm,0.2s						
KAPS				Lg	Lg	20 07 13.3	
	comp=Z,323nm,0.4s						
KAPS	Kapalarasan	2.98	356	*e*PN	Pb	20 06 34.5	-0.5
KAPS				*eS*	Sb	20 07 13.3	+1.5
DGS	Degeres	3.02	289	*eP*	Pb	20 06 34.8	-1.0
	comp=Z,72nm,0.3s						
DGS				*eS*	Sb	20 07 13.6	+0.5
	comp=Z,148nm,0.5s						
DGS	Degeres	3.02	289	Pg	Pb	20 06 34.8	-1.0
	comp=Z,72nm,0.3s						
DGS				Lg	Lg	20 07 13.6	
	comp=Z,148nm,0.5s						
DGS	Degeres	3.02	289	*e*PN	Pb	20 06 34.8	-1.0
DGS				*eS*	Sb	20 07 13.6	+0.5
TKM2	Tokmak 2	3.07	283	⇑*iP*	Pn	20 06 31.6	+0.7
	baz=85						
TKM2				⇑*iS*	Sn	20 07 09.9	+1.6
	baz=85						
TKM2	Tokmak 2	3.07	283	P	Pn	20 06 32.3	+1.4
	SNR=87						
TKM2	Tokmak 2	3.07	283	⇑Pg	Pn	20 06 32.9	+1.9
	comp=Z,14nm,0.3s						
TKM2				⇑Lg	Lg	20 07 16.3	
	comp=Z,64nm,0.4s						
TKM2	Tokmak 2	3.07	283	*i* PN	Pn	20 06 32.8	+1.9
TKM2				pmax	pmax		
	comp=Z,14nm,0.3s						
KZA	Kyzart	3.30	267	⇑*iP*	Pn	20 06 33.5	-0.7
	baz=69						
KZA				⇑*iS*	Sn	20 07 13.8	-0.4
	baz=69						
KZA	Kyzart	3.30	267	P	Pn	20 06 35.9	+1.7
	SNR=8.1						
KBK	Karagaybulak	3.52	277	⇑*iP*	Pn	20 06 37.2	+0.2
	baz=79						
KBK				⇑*iS*	Sn	20 07 20.0	+0.8
	baz=79						
KBK	Karagaybulak	3.52	277	P	Pn	20 06 38.5	+1.6
	SNR=24						
CHMS	Chumysh	3.70	282	⇓*eP*	Pn	20 06 39.5	+0.2
	baz=84						
CHMS				⇓*iS*	Sn	20 07 24.2	+0.7
	baz=84						
CHMS	Chumysh	3.70	282	P	Pg	20 06 50.7	-1.4
	SNR=9.4						
FRU1	Bishkek	3.76	279	⇑*iP*	Pn	20 06 40.4	+0.1
	baz=81						
FRU1				⇑*iS*	Sn	20 07 25.6	+0.5
	baz=81						
AAK	Ala-Archa	3.85	277	⇑*iP*	Pn	20 06 41.6	+0.1
	baz=78						
AAK				⇑*iS*	Sn	20 07 27.5	+0.1
	baz=78						
AAK	Ala-Archa	3.85	277	P	Pn	20 06 42.9	+1.4
	SNR=8.6						
AAK	Ala-Archa	3.85	277	⇑Pg	Pb	20 06 52.0	+2.1
	comp=Z,28nm,0.5s						
AAK				⇓Lg	Lg	20 07 38.6	
	comp=Z,43nm,0.6s						
AAK	Ala-Archa	3.85	277	*i* PN	Pn	20 06 43.0	+1.4
AAK				pmax	pmax		
	comp=Z,28nm,0.4s						
SGDS	Sogindy	3.88	289	Pg	Pb	20 06 49.1	-1.3
	comp=Z,23nm,0.6s						
SGDS				Lg	Lg	20 07 38.1	
	comp=Z,38nm,0.3s						
USP	Ospenovka	3.93	286	⇓*iP*	Pn	20 06 42.8	+0.3
	baz=87						
USP				⇓*iS*	Sn	20 07 30.4	+1.2
	baz=87						
USP	Ospenovka	3.93	286	P	Pn	20 06 44.1	+1.6
	SNR=8.7						
KSH	Kashi	3.96	226	Pg	Pg	20 06 57.8	+0.6
KSH				Sg	Sg	20 07 55.3	+6.8
KSH				smax	smax		
	comp=Z,53nm,0.9s						
KSH				smax	smax		
	comp=Z,34nm,0.7s						
ARLS	Aral	4.01	265	⇑*iP*	Pn	20 06 43.2	-0.6
	baz=67						
ARLS				⇑*iS*	Sn	20 07 30.4	-1.0
	baz=67						
EKS2	Erkin-Say	4.38	277	⇑*iP*	Pn	20 06 48.9	+0.1
	baz=78						
EKS2				⇑*iS*	Sn	20 07 40.2	-0.2
	baz=78						
EKS2	Erkin-Say	4.38	277	P	Pb	20 06 59.7	+0.8
	SNR=32						
AML	Almayashu	4.45	270	⇓*iP*	Pn	20 06 49.9	-0.1
	baz=71						
AML				⇓*iS*	Sn	20 07 41.6	-0.9
	baz=71						
AML	Almayashu	4.45	270	P	Pb	20 07 02.2	+2.0
	SNR=13						
MAKZ	Makanchi	4.78	19	⇑Pn	Pn	20 06 54.8	+0.6
	comp=Z,2.4nm,0.5s						
MAKZ				⇓Lg	Lg	20 08 12.5	
	comp=Z,14nm,0.6s						
MAKZ	Makanchi	4.78	19	PN	Pn	20 06 54.8	+0.6
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MRKS	Merke	4.79	277	*eP*	Pb	20 07 06.5	+0.6
	comp=Z,11nm,0.4s						
MRKS				*eS*	Sb	20 08 07.9	+4.0
	comp=Z,37nm,0.3s						
MRKS	Merke	4.79	277	Pg	Pb	20 07 06.5	+0.6
	comp=Z,11nm,0.4s						
MRKS				Lg	Lg	20 08 07.9	
	comp=Z,37nm,0.3s						
MRKS	Merke	4.79	277	*e*PN	Pb	20 07 06.5	+0.6
MRKS				*eS*	Sb	20 08 07.9	+4.0
MK31	Makanchi Array	4.85	22	⇓Pn	Pn	20 06 56.1	+0.8
	comp=Z,1.2nm,0.3s,baz=205,slow=13,SNR=116						
MK31				⇑Pg	Pb	20 07 08.8	+1.9
	comp=Z,2.3nm,0.3s,baz=194,slow=13,SNR=5.3						
MK31				⇓Lg	Lg	20 08 11.8	
	comp=Z,2.3nm,0.2s,baz=200,slow=26,SNR=5.3						
MK31	Makanchi Array	4.85	22	*i* PN	Pn	20 06 56.0	+0.8
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	4.85	22	Pn	Pn	20 06 56.2	+1.0
	comp=Z,3.9nm,0.3s,baz=208,slow=14,SNR=144						
MKAR				Sn	Sn	20 07 52.6	+0.7
	comp=Z,3.4nm,0.3s,baz=218,slow=15,SNR=5.8						
MKAR				Lg	Lg	20 08 07.4	
	comp=Z,2.0nm,0.3s,baz=206,slow=25,SNR=2.5						
BTLS	Baital	4.91	306	*e

comp=Z,4.7nm,0.6s,baz=91,slow=16,SNR=22
KK31 ⇑Lg Lg 20 09 14.3
comp=Z,6.7nm,0.7s,baz=92,slow=25,SNR=5.5
KURBB **Kurchatov Arra** 8.35 355 Lg Lg 20 09 57.5
comp=Z,0.3nm,0.3s,baz=174,slow=33,SNR=7.3
KURK **Kurchatov** 8.43 355 ⇑Lg Lg 20 10 06.7
comp=Z,18nm,0.7s
KURK **Kurchatov** 8.43 355 *i* P Pn 20 07 44.6 +0.3
DGZ **Jazzator, Alta** 9.14 33 *i* P Pn 20 07 54.8 +0.6
ZALV **Zalesovo Beam** 12.13 15 Pn Pn 20 08 34.3 -0.6
comp=Z,0.3nm,0.3s,baz=202,slow=13,SNR=5.3
ZALV Sn Sn 20 10 43.3 -7.3
comp=Z,0.2nm,0.3s,baz=193,slow=25,SNR=3.6
BVAR **Borovoye Array** 12.40 333 Pn Pn 20 08 38.6 0.0
comp=Z,0.1nm,0.3s,baz=145,slow=18,SNR=1.7
ARU **Arti** 19.59 323 *i* P P 20 10 10.4 0.0
ARU pmax pmax
comp=Z,22nm,3.4s
SONM **Songino Array** 19.61 65 P Pn 20 10 14.1 +2.1
comp=Z,0.1nm,0.3s,baz=273,slow=13,SNR=3.0
ULN **Ulaanbaatar** 20.05 65 *i* P P 20 10 14.5 -1.1
ULN pmax pmax
comp=Z,2.0nm,1.4s

*ANF **14** 20:17:44.6±1.4, 39.°61N×123.°07W, h13km±5km, ML3.5/13, Error ellipse: s-maj=9.5km s-min=7.9km az=170.0*
*NEIC **14** 20:17:46.4, 39.°75N×123.°13W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr2.64; Mθθ-2.26; Mφφ-0.38; Mrθ-0.50; Mrφ0.84; Mθφ0.10; Fault plane solution: M=2.66000×10^14^ NP1:φs112.61000°, δ39.62000°, λ92.63000°. NP2:φs289.20000°, δ50.43000°, λ87.82000°. Principal axes: T 2.6886, Plg84.0000°, Azm183.0000°; N -0.0582, Plg2.0000°, Azm291.0000°; P -2.6304, Plg5.0000°, Azm21.0000°.*
*NEIC **14** 20:17:46.7±1.4, 39.°76N±0.°01×123.°15W±0.°02, h8km±7km Error ellipse: s-maj=2.2km s-min=1.8km az=210.0*
*NCEDC **14** 20:17:46.4±1.4, 39.°75N±0.°01×123.°13W±0.°02, h8km±7km, Mwr3.6/5, Error ellipse: s-maj=2.2km s-min=1.8km az=211.0*

ISC 14 20:17:45.2±1.2, 39.°68N±0.°02×123.°09W±0.°02, h16km±4km, n125, σ1°36/132, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKM	Rackout Spring	0.14	210		Pg	20 17 50.7	+1.5
GHMM	Hull Mountain	0.22	146		Pb	20 17 52.6	+1.6
KBNM	Bluenose Ridge	0.23	340		Pg	20 17 50.0	-0.6
KFPM	Farley Peak	0.26	261		Pb	20 17 51.5	0.0
GASB	Alder Springs	0.29	95		Pn	20 17 53.5	-1.5
GASB					Sn	20 17 59.4	-1.7
KIPM	Iron Peak	0.33	294		Pg	20 17 52.0	-0.2
GVV	Valley View	0.34	73		Pb	20 17 53.8	+0.8
KCPM	Cahto Peak	0.38	271		Pb	20 17 53.8	+0.2
KCPM					Sb	20 17 59.8	+0.5
GROM	Round Mountain	0.40	54		Pb	20 17 54.5	+0.5
GTC	Three Chop Rid	0.45	232		Pn	20 17 56.0	-1.1
KBSM	Bell Springs	0.45	302		Pg	20 17 54.4	0.0
GWRM	Wonder Ranch	0.50	199		Pn	20 17 57.5	-0.2
GCK	Clark Valley	0.53	105		Pn	20 17 58.6	+0.5
GTSM	Trough Springs	0.53	134		Pn	20 17 58.2	0.0
O02D	Mt. Diablo Mer	0.55	25	P	Pg	20 17 56.2	0.0
O02D	baz=212,SNR=972			S	Sb	20 18 05.7	+1.4
O02D	baz=212						
O02D	Mt. Diablo Mer	0.55	25		Pg	20 17 56.5	+0.3
GNAM	Navarro Ridge	0.64	221		Pn	20 17 59.6	0.0
GHLM	Highland Sprin	0.64	175		Pn	20 18 00.5	+0.8
LBPM	Beegum Peak	0.66	14		Pg	20 17 58.2	0.0
HOPS	Hopland Field	0.69	179		Pn	20 18 01.1	+0.8
KPPM	Pickett Peak	0.70	343		Pg	20 17 58.9	-0.1
GBMM	Baldy Mountain	0.71	139		Pn	20 18 01.7	+1.0
GFC	Funks Creek	0.71	119		Pn	20 18 02.6	+2.0
KMRM	Mail Ridge	0.72	319		Pg	20 17 59.2	-0.1
GHOM	Hamilton Openi	0.72	209		Pn	20 18 01.0	+0.1
GSNM	Snow Mountain	0.74	186		Pn	20 18 01.9	+0.7
GRTM	Round Top Moun	0.81	156		Pn	20 18 03.8	+1.8
GACM	Adobe Creek	0.82	167		Pn	20 18 04.2	+2.0
GPMM	Pine Mountain	0.84	172		Pn	20 18 04.8	+2.4
GSGM	Seigler Mounta	0.86	160		Pn	20 18 05.4	+2.7
GGUM	Gualala	0.88	201		Pn	20 18 03.1	+0.1
GDXM	Geysers	0.90	165		Pn	20 18 05.8	+2.5
GCVM	Cloverdale	0.91	176		Pn	20 18 04.1	+0.8
LTCM	Tuscan Springs	0.91	54		Pn	20 18 03.7	+0.3
KCSM	Cold Springs	0.92	340		Pb	20 18 02.9	+0.1
GDCM	Dry Creek	0.92	187		Pn	20 18 04.3	+0.8
GBGM	Boggs Mountain	0.92	159		Pn	20 18 06.5	+2.9
KCRM	Chalk Rock	0.93	324		Pb	20 18 03.2	+0.2
GGPM	Geyser Peak	0.93	168		Pn	20 18 06.4	+2.7
MNRC	McLaughlin Min	0.95	148		Pn	20 18 05.4	+1.5
GCRM	Castle Rock Sp	0.95	162		Pn	20 18 06.8	+2.8
KSMM	Slide Mountain	0.97	302		Pb	20 18 02.7	-1.0
GSSM	Skaggs Springs	0.98	176		Pn	20 18 05.2	+1.0
KHBM	Hayfork Bally	0.98	354		Pb	20 18 03.4	-0.6
WDC	Whiskeytown Da	0.99	25		Pb	20 18 04.1	0.0
GAXM	Alexander Vall	1.00	165		Pn	20 18 05.7	+1.1
NMTM	Middletown	1.01	150		Pn	20 18 05.7	+1.0
OSUM	Sutter Buttes	1.04	113		Pn	20 18 06.0	+0.9
GHCM	House Creek	1.07	184		Pn	20 18 06.4	+0.8
KMPM	Mount Pierce	1.08	313		Pb	20 18 05.0	-0.6
NHSM	Mount Saint He	1.09	160		Pn	20 18 07.0	+1.1
NMCNC	Mill Creek, So	1.10	173		Pn	20 18 06.9	+1.0
SUTB	Sutter Butte	1.11	114		Pn	20 18 06.6	+0.5
FTR	Fort Ross	1.16	183		Pg	20 18 07.7	+0.1
O03E	Paynes Creek	1.17	58	P	Pn	20 18 07.1	+0.1
O03E	baz=242,SNR=114			S	Sn	20 18 24.0	+1.4
O03E	baz=242						
O03E	Paynes Creek	1.17	58		Pb	20 18 07.2	+0.2
NSHM	Saint Helena R	1.22	162		Pg	20 18 08.4	-0.3
NBPM	Berryessa Peak	1.23	145		Pg	20 18 09.4	+0.5
ORV	Oroville	1.24	95		Pg	20 18 08.3	-0.8
ORV	Oroville	1.24	95		Pg	20 18 08.4	-0.7
PAM	Palermo	1.24	100		Pg	20 18 08.3	-0.8
KCTM	Capetown	1.24	310		Pn	20 18 07.4	-0.5
LGPM	Granite Peak	1.25	9		Pn	20 18 08.1	0.0
LDBM	Digger Butte	1.25	53		Pn	20 18 07.8	-0.4
KHMM	Horse Mountain	1.29	338		Pn	20 18 08.6	-0.2
OHCM	Honcut	1.29	105		Pg	20 18 09.2	-1.0
NDHM	Dunnigan Hills	1.29	134		Pg	20 18 10.9	+0.7
LCMM	Colby Mountain	1.30	68		Pg	20 18 09.6	-0.7
N02D	Trinity Center	1.33	13	P	Pn	20 18 09.2	0.0
N02D	baz=195,SNR=334			S	Sb	20 18 28.4	+1.8
N02D	baz=195						
N02D	Trinity Center	1.33	13		Pn	20 18 09.6	+0.4
JCC	Jacoby Creek,	1.34	328		Pn	20 18 08.4	-0.9
CVS	Carmenet Viney	1.42	159		Pg	20 18 13.4	+0.8
LBKM	Bonanza King	1.44	13		Pn	20 18 11.1	+0.3
LMEM	Manzanita Entr	1.45	53		Pb	20 18 12.2	+0.3
NADM	Allendale	1.50	144		Pg	20 18 15.3	+1.3
KOMM	Orleans Mounta	1.62	350		Pn	20 18 13.2	0.0
KRPM	Rodgers	1.64	335		Pn	20 18 13.8	+0.3
HATC	Hat Creek Radi	1.69	47		Pb	20 18 15.4	-0.6
M02C	Callahan	1.72	6	P	Pn	20 18 15.3	+0.7
M02C	baz=188,SNR=168			S	Sn	20 18 37.9	+1.6
M02C	baz=188						
M02C	Callahan	1.72	6		Pn	20 18 15.5	+0.9
M03C	McCloud	1.76	25		Pb	20 18 17.0	-0.2
LGBM	Gray Butte	1.80	22		Pn	20 18 17.3	+1.5
AFDM	Forest Hills D	1.80	113		Pb	20 18 17.6	-0.3
LBFM	Black Fox Moun	1.90	28		Pb	20 18 19.0	-0.6
LTIM	Timbered Crate	1.93	39		Pb	20 18 19.4	-0.7
LMPM	Military Pass	1.94	21		Pb	20 18 20.2	-0.2
KRMB	Red Mountain	1.94	342		Pn	20 18 17.1	-0.6
AASM	Arroyo Seco	1.99	128		Pb	20 18 19.9	-1.1
LHEM	Herd Peak	2.06	19		Pn	20 18 21.2	+1.9
YBH	Yreka Blue Hor	2.07	8		Pn	20 18 20.9	+1.4
LGMM	Garner Mountai	2.14	26		Pb	20 18 23.1	-0.7
DONR	Donner Summit	2.17	98		Pb	20 18 24.2	-0.1
IND	Independence	2.18	96		Pb	20 18 24.7	+0.3
BMRR	Black Mountain	2.20	78		Pb	20 18 23.8	-1.0
LOY	Loyalton	2.21	90		Pb	20 18 24.4	-0.4
B040	Montague	2.21	13		Pn	20 18 22.9	+1.7
KSXB	Camp Six Broad	2.23	345		Pn	20 18 21.8	+0.2
KBF	Kyburz Flat	2.23	94		Pb	20 18 25.3	0.0
KTRM	Thompson Ridge	2.24	355		Pn	20 18 22.5	+0.8
M04C	Macdoel	2.31	24	Pb	Pb	20 18 27.4	+0.8
	baz=206,SNR=52						
BABR	Babbit Peak	2.31	91		Pb	20 18 26.4	-0.3
RUBR	Rubicon Trail	2.36	104		Pg	20 18 28.4	-2.2
VPK	Verdi Peak	2.37	94		Pb	20 18 25.4	-2.3
MPK	Martis Peak	2.40	98		Pb	20 18 28.1	-0.1
PEAR	Peavine Mounta	2.42	91		Pb	20 18 27.9	-0.6
L02E	Cave Junction	2.51	351	Pn	Pn	20 18 26.4	+1.1
L02E	baz=172			Pb	Pb	20 18 31.2	+1.4
L02E	baz=172,SNR=24						
L02E	Cave Junction	2.51	351		Pn	20 18 26.1	+0.7
L04D	Klamath Falls	2.61	13	Pn	Pn	20 18 28.7	+1.8
L04D	baz=194,SNR=48			Pb	Pb	20 18 32.0	+0.3
L04D	baz=194						
L04D	Klamath Falls	2.61	13		Pn	20 18 28.9	+2.1
KBO	Bosley Butte	2.67	342		Pn	20 18 27.6	0.0
CMB	Columbia Colle	2.68	127		Pb	20 18 30.2	-2.6
PAHR	Pah Rah Range	2.86	88		Pn	20 18 32.6	+2.3
K02D	Willamette Mer	3.04	352	P	Pn	20 18 33.9	+1.1
MOD	Modoc Plateau	3.07	43		Pn	20 18 33.6	+0.4
K04D	Chiloquin, OR	3.11	19	Pb	Pb	20 18 40.5	+0.3
K05A	Summer Lake	3.47	28		Pn	20 18 41.4	+2.7
RYN	Ryan	3.71	105		Pb	20 18 46.2	-4.2
OMMB	Old Mammoth Mi	3.81	121		Pb	20 18 48.5	-3.8
J05D	Fort Rock, OR	3.86	21	P	Pn	20 18 46.7	+2.6
NVAR	Mina Array Bea	3.93	107		Pn	20 18 49.0	-5.2
I03D	Drain, OR	4.02	357	Pb	Pb	20 18 56.9	+1.3
NV11	Mina Array Sit	4.04	106		Pn	20 18 50.5	+3.9
I04A	Tendick Farm,	4.14	7	Pb	Pb	20 18 55.0	-2.8
I02D	Swisshome	4.46	353	P	Pn	20 18 54.5	+2.3
TPNV	Topopah Spring	6.03	115	Pg	Pg	20 19 38.3	-2.5

*VIE **14** 20:37:58.7±0.4, 46.°69N×10.°11E, h12km±1km, ML h1.0/7, 1C-3D, Error ellipse: s-maj=3.7km s-min=1.2km az=23.0, Northern Italy*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZER	Zernez	0.01	302	⇓Pg	Pg	20 38 01.0	0.0
FUORN	Ofenpass-Fuorn	0.13	124	⇑Pg	Pg	20 38 02.3	+0.2
DAVOX	Davos/Dischmat	0.18	299	⇓Pg	Pg	20 38 03.3	+0.4
DAVOX				Sg	Sg	20 38 06.1	+0.3
VDL	Val di Lei	0.50	246	Pg	Pg	20 38 08.5	-0.1
FETA	Feichten	0.54	52	⇓Pg	Pg	20 38 09.3	+0.1
FETA				Sg	Sg	20 38 16.3	0.0
FETA	Feichten	0.54	52	*e*Pg	Pg	20 38 09.3	+0.1
FETA	0.2nm,0.1s			*e*Sg	Sg	20 38 16.2	-0.1
	1.3nm,0.1s,SNR=7.6						
DAVA	Damuels	0.62	345	*e*Pg	Pb	20 38 11.5	-0.1
	0.4nm,0.1s						

ROM 14 20:39:22.7±0.1, 42.°829N±0.°003×13.°028E±0.°005, h10km, ML1.4/7, Error ellipse: s-maj=0.4km s-min=0.1km az=76.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.06	86	P	Pg	20 39 25.2	+0.3
NRCA				S	Sg	20 39 26.5	0.0
NRCA				AML	AML		
	comp=E,1086μm,0.1s						
NRCA				AML	AML		
	comp=N,1305μm,1.2s						
NRCA				AML	AML		
	comp=E,1086μm,0.1s						
CESI	CESI - Serrava	0.20	333	P	Pg	20 39 27.7	+0.8
CESI				S	Sg	20 39 31.1	+1.3
CESI				AML	AML		
	comp=N,84μm,0.2s						
CESI				AML	AML		
	comp=E,156μm,0.4s						
FDMO	Fiordimonte	0.21	12	P	Pg	20 39 27.9	+0.8
FDMO				S	Sg	20 39 31.5	+1.4
FDMO				AML	AML		
	comp=N,260μm,0.2s						
FDMO				AML	AML		
	comp=E,203μm,1.2s						
LNSS	Leonessa	0.23	178	P	Pg	20 39 28.2	+0.8
LNSS				S	Sg	20 39 32.0	+1.4
LNSS				AML	AML		
	comp=E,160μm,0.2s						
LNSS				AML	AML		
	comp=N,140μm,0.6s						
LNSS				AML	AML		
	comp=E,159μm,0.2s						
LNSS				AML	AML		
	comp=N,140μm,0.6s						
CSP1	Cessapalombo	0.29	26	P	Pb	20 39 29.4	-0.8
CSP1				S	Sb	20 39 34.2	-1.0
ASSB	Assisi San Ben	0.34	308	P	Pg	20 39 30.2	+0.6
ASSB				S	Sb	20 39 35.5	-1.1
ASSB				AML	AML		
	comp=E,50μm,1.4s						
ASSB				AML	AML		
	comp=N,55μm,0.2s						
RM33	Pellescritta (	0.35	157	P	Pg	20 39 30.3	+0.6
RM33				S	Sb	20 39 35.9	-0.8
RM33				AML	AML		
	comp=E,31μm,1.4s						
RM33				AML	AML		
	comp=N,27μm,0.8s						
RM33				AML	AML		
	comp=N,27μm,0.8s						
RM33				AML	AML		
	comp=E,31μm,1.4s						
ATCC	AVT- Casa Cast	0.46	321	P	Pb	20 39 32.3	-0.6
ATCC				S	Sb	20 39 38.8	-1.1
MURB	Monte Urbino	0.57	320	AML	AML		
	comp=E,53μm,1.0s						
MURB				AML	AML		
	comp=N,55μm,0.2s						
MURB				AML	AML		
	comp=N,55μm,0.2s						

*DDA **14** 21:17:57.9, 37.°17N×45.°22E, h7km±1km, ML2.2*
*ISK **14** 21:17:59.2, 36.°99N×45.°09E, h8km, ML2.6/5*
*TEH **14** 21:18:00.7, 37.°18N×45.°07E, h6km, ML2.6*
*ISN **14** 21:18:11.7±1.4, 36.°67N×44.°56E, h15km, ML2.6*

ISC 14 21:17:58.2±1.4, 37.°13N±0.°05×45.°10E±0.°03, h8km±12km, n17, σ1°67/25, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	Mahabad	0.60	126	*e*Pg	Pn	21 18 13.4	+0.2
MAHB				*e*Sg	Sn	21 18 22.2	-1.0
MAHB				*e*		21 18 26.1	
YOVA	Hakkari_Yksek	0.79	306	*i* P	Pn	21 18 14.9	-1.0
YOVA				*i* S	Sn	21 18 26.4	-1.7
YOVA				IAML		21 18 27.0	
	comp=N,131nm,0.6s						
YOVA				IAML		21 18 31.0	
	comp=E,132nm,0.5s						
IAZR	Azarshahr	0.89	51	*e*Pg	Pn	21 18 18.2	+0.9
IAZR				*e*		21 18 35.6	
HAKT	HAKKARI	1.19	292	*i* P	Pn	21 18 21.5	+0.1
HAKT				*i* S	Sn	21 18 39.9	+2.0
HAKT				IAML		21 18 46.0	
	comp=N,29nm,0.8s						
HAKT				IAML		21 18 46.0	
	comp=E,37nm,0.5s						
CUKT	Cukurca	1.20	276	PN	Pg	21 18 22.7	+1.5
CUKT				SN	Sn	21 18 40.2	+2.2
CUKT	Cukurca	1.20	276	*i* P	Pg	21 18 22.5	+1.2
CUKT				*i* S	Sn	21 18 41.9	+3.9
CUKT				IAML		21 18 49.0	
	comp=N,124nm,0.5s						
ITBZ	Tabriz	1.38	37	*e*Pg	Pg	21 18 25.5	+0.8
ITBZ				*e*		21 18 46.6	
IMRD	Marand	1.65	17	*e*Pg	Pg	21 18 30.5	+0.6
IMRD				*e*		21 19 00.7	
MSL	Mosul	1.76	246	*e*Pg	Pg	21 18 33.0	+1.1
	baz=77						
MSL				*e*Sg	Sn	21 18 51.0	-0.5
MSL				AML	AML	21 18 59.3	
	comp=N,127nm,0.6s						
MSL				AML	AML	21 18 59.8	
	comp=E,128nm,0.6s						
IHRS	Heris	1.94	52	*e*Pn	Pg	21 18 37.0	+1.5
IHRS				*e*		21 19 08.1	
AKDM	Akdamar-Van	2.07	306	PN	Pb	21 18 36.2	+0.1
AKDM				SN	Sg	21 19 03.2	-1.4
IHSH	Hashtrud	2.08	55	*e*Pg	Pn	21 18 33.0	-0.7
IHSH				*e*		21 19 04.3	
ISRB	Sarab	2.16	70	*e*Pn	Pg	21 18 40.4	+0.9
ISRB				*e*		21 19 20.2	
SIRT	Sirnak	2.16	281	PN	Pb	21 18 36.8	-0.7
SIRT				SN	Sb	21 19 04.4	-0.1
CLDR	Caldiran	2.22	335	PN	Pb	21 18 39.3	+0.6
AGRB	Hanur-Agry	2.96	326	PN	Pb	21 18 49.4	-1.8
SVAN	Silvan-Diyarba	3.26	289	PN	Pb	21 18 52.8	-3.6

WEL 14 21:39:26.8±1.1, 33.°S±20.°×18.°0W±2.°8, h356km±29km, M4.0/24, mB4.3/8, MLv4.6/24, Mw(mB)3.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=122.9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.11	197	P	Pn	21 40 49.5	+1.8
MXZ				S	S	21 41 54.6	+1.3
WMGZ	Waiomatatini S	5.33	195	P	Pn	21 40 51.8	+1.7
WMGZ				S	S	21 41 56.9	-0.8
HAZ	Te Kaha	5.43	200	P	Pn	21 40 50.3	-1.0
HAZ				S	S	21 41 57.8	-2.0
PUZ	Puketiti	5.61	196	P	Pn	21 40 52.8	-0.5
PUZ				S	S	21 42 02.8	-0.6
RUGZ	Raukumara Rang	5.66	200	P	Pn	21 40 50.8	-3.1
RUGZ				S	S	21 42 02.6	-2.0
CNGZ	Carnagh Statio	6.01	195	P	Pn	21 40 59.2	+1.4
MWZ	Matawai	6.04	200	P	Pn	21 40 59.6	+1.4
MWZ				S	S	21 42 16.1	+3.7
TKGZ	Te Karaka	6.06	197	P	Pn	21 40 59.8	+1.5
URZ	Urewera	6.11	203	P	Pn	21 40 58.9	+0.1
URZ				S	S	21 42 11.9	-1.7
RIGZ	Rimuhau	6.33	197	P	Pn	21 41 02.0	+0.5
RIGZ				S	S	21 42 21.2	+2.8
MUGZ	Murupara	6.42	205	P	Pn	21 41 02.6	+0.2
MUGZ				S	S	21 42 23.6	+3.4
RTZ	Ruatahuna	6.47	203	P	Pn	21 41 03.3	+0.2
RTZ				S	S	21 42 22.4	+1.0
SNGZ	Shannon Statio	6.51	200	P	P	21 41 04.7	-0.1
SNGZ				S	S	21 42 23.9	+1.7
RAHZ	Arahi	6.71	201	P	P	21 41 06.5	-0.6
RAHZ				S	S	21 42 27.5	+1.0
MTHZ	Maungataniwha	6.73	203	P	Pn	21 41 06.5	+0.4
MTHZ				S	S	21 42 25.6	-1.2
TLZ	Tolley Road	6.79	212	P	P	21 41 08.1	0.0
NMHZ	Naumai	6.97	202	P	Pn	21 41 08.9	+0.1
ARHZ	Aropaoanui	7.06	200	P	Pn	21 41 10.3	+0.5
BKZ	Black Stump Fm	7.13	204	P	Pn	21 41 09.8	-0.9
HIZ	Hauiti	7.25	215	P	P	21 41 14.5	+1.1
MCHZ	McNeill Hill	7.32	202	P	Pn	21 41 13.2	+0.4
KWHZ	Kaweka Forest	7.39	203	P	Pn	21 41 13.3	-0.5
TWVZ	Taurewa	7.45	210	P	Pn	21 41 14.1	-0.3
TUVZ	Tukino	7.53	208	P	Pn	21 41 14.7	-0.7
FWVZ	Far West T-bar	7.56	208	P	Pn	21 41 15.2	-0.7
BHHZ	Black Hill Sta	7.57	205	P	Pn	21 41 14.3	-1.5
KAHZ	Kahuranaki	7.59	200	P	Pn	21 41 15.2	-0.8
WNVZ	Wahianoa	7.60	208	P	Pn	21 41 15.3	-1.0
KRHZ	Kereru	7.60	203	P	Pn	21 41 15.0	-1.2
PXZ	Pawanui	7.81	199	P	Pn	21 41 18.2	-0.4
PNHZ	Pukenui	7.90	203	P	Pn	21 41 18.4	-1.4
PRHZ	Porangahau	8.09	199	P	Pn	21 41 21.6	-0.3

IDC 14 21:54:22.3±3.3, 45.°90N×151.°18E, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.5/39, mbtmp3.5/5, MS2.7/2, Ms1 2.7/2, ms1mx2.5/41, Error ellipse: s-maj=206.6km s-min=33.0km az=124.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	8.37	28	LR	LR	21 59 46.5	
	comp=Z,41nm,21.9s,baz=224,slow=39						
KSRS	Korea Array	19.26	252	LR	LR	22 05 48.3	
	comp=Z,28nm,18.7s,baz=205,slow=36						
H11N2	WAKE ISLAND Hy 29.14	148		T	T	22 31 32.0	
	baz=337,slow=76,SNR=27						
H11N1	WAKE ISLAND Hy 29.16	148		T	T	22 31 33.8	
	baz=337,slow=76,SNR=34						
H11N3	WAKE ISLAND Hy 29.16	148		T	T	22 31 34.4	
	baz=337,slow=76,SNR=35						
H11S1	WAKE ISLAND Hy 30.20	150		T	T	22 32 54.6	
	baz=338,slow=76,SNR=31						
H11S3	WAKE ISLAND Hy 30.20	150		T	T	22 32 56.3	
	baz=338,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy 30.21	150		T	T	22 32 57.8	
	baz=338,slow=76,SNR=17						
ILAR	Eielson Array	38.05	38	P	P	22 01 42.0	+0.1
	0.3nm,0.6s,baz=278,slow=9.0,SNR=2.8						
NVAR	Mina Array Bea	64.02	61	P	P	22 04 58.2	+0.4
	0.6nm,0.8s,baz=291,slow=5.1,SNR=4.3						
PDAR	Pinedale Array	66.33	53	P	P	22 05 13.4	+0.6
	0.2nm,0.3s,baz=343,slow=4.6,SNR=3.7						
ASAR	Alice Springs	70.99	197	P	P	22 05 41.9	+0.2
	0.5nm,0.9s,baz=7.5,slow=7.8,SNR=2.9						
TXAR	Lajitas Array	79.08	59	P	P	22 06 27.8	-0.9
	0.4nm,0.6s,baz=279,slow=3.0,SNR=7.6						

DJA 14 22:08:58.3±0.3, 0.°S±3.°×12.°5E±.°, h10km, M3.5/7, mb3.6/1, MLv3.5/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.42	306	P	Pn	22 09 23.7	-0.4
SANI	Sanana	1.97	154	P	Pn	22 09 28.4	-3.4
SANI				S	Sb	22 09 59.3	+0.3
TNTI	Ternate	2.46	65	P	Pn	22 09 38.3	-0.2
TNTI				S	Sn	22 10 10.4	+1.7
LUWI	Luwuk	2.48	252	P	Pn	22 09 38.9	+0.1
LUWI				S	Sb	22 10 15.7	+2.0
NLAI	Namlea	3.55	146	P	Pn	22 09 51.3	-2.3
MPSI	Mapaga	5.27	276	P	Pn	22 10 16.9	-0.2

*OSPL **14** 22:14:59.6±0.5, 19.°36N×65.°53W, h0km±48km, ML2.7*
*NEIC **14** 22:14:60.0±0.8, 19.°63N±0.°10×65.°58W±0.°05, h38km±46km, Error ellipse: s-maj=15.1km s-min=3.4km az=203.0*
*RSPR **14** 22:15:00.7, 19.°67N×65.°60W, h33km±16km, MD3.4/11*

ISC 14 22:15:01.6±2.0, 19.°54N±0.°10×65.°62W±0.°05, h35km, n43, σ0°72/56, 9C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.27	165	⇓*e*P	Pn	22 15 22.2	-0.7
CUPR	Culebra, Puert	1.27

AOPR					Sn	22 15 47.9	+0.9
IGPR	InterUniversit	1.63	196		Pn	22 15 28.7	+0.8
CELP	Cerrillos	1.72	212⇑	*e*P	Pn	22 15 28.7	-0.4
CELP	Cerrillos	1.72	212	*e*S	Sn	22 15 50.4	+0.6
CELP	Cerrillos	1.72	212		Pn	22 15 28.7	-0.4
CELP					Sn	22 15 50.4	+0.6
OBIP	Obispado Ponce	1.76	212⇑	*e*P	Pn	22 15 29.1	-0.5
OBIP	Obispado Ponce	1.76	212	*e*S	Sn	22 15 51.6	+0.8
OBIP	Obispado Ponce	1.76	212		Pn	22 15 29.1	-0.5
OBIP					Sn	22 15 51.6	+0.8
AGPR	Aguadilla, PR	1.77	233	*i* P	Pn	22 15 29.3	-0.5
AGPR				IAML		22 16 04.0	
	comp=Z,82nm,1.2s						
MPR	Mayaguez	1.95	228		Pn	22 15 31.5	-0.9
MPR	Mayaguez	1.95	228	*i* P	Pn	22 15 31.4	-0.9
MPR				IAML		22 15 59.5	
	comp=Z,36nm,1.9s						
CDVI	St. Croix	1.96	155⇑	*e*P	Pn	22 15 32.3	-0.1
CDVI	St. Croix	1.96	155	*e*S	Sn	22 15 56.3	+0.7
CDVI	St. Croix	1.96	155		Pn	22 15 32.3	-0.1
CDVI					Sn	22 15 56.3	+0.7
MLPR	Magueyes Islan	2.06	221⇑	*e*P	Pn	22 15 33.9	0.0
MLPR	Magueyes Islan	2.06	221	*e*S	Sn	22 15 59.4	+1.1
MLPR	Magueyes Islan	2.06	221		Pn	22 15 33.9	0.0
MLPR					Sn	22 15 59.4	+1.1
CRPR	Cabo Rojo, PR	2.08	223⇑	*e*P	Pn	22 15 33.7	-0.3
CRPR	Cabo Rojo, PR	2.08	223	*e*S	Sn	22 15 59.7	+1.0
CRPR	Cabo Rojo, PR	2.08	223		Pn	22 15 33.7	-0.3
CRPR					Sn	22 15 59.7	+1.0
PCDR	Punta Cana, DR	2.80	249	*i* P	Pn	22 15 43.9	-0.1
PCDR				*e*S	Sn	22 16 16.9	+0.3
PCDR				IAML		22 16 17.5	
	comp=Z,89nm,1.2s						
SDDR	Presa de Saban	5.38	265	Pn	Pn	22 16 18.9	-0.6
SDDR	Presa de Saban	5.38	265	*i* P	Pn	22 16 19.9	+0.4
SDDR				*e*S	Sn	22 17 19.7	-0.7
SDDR				IAML		22 17 24.7	
	comp=Z,17nm,3.4s						

IDC 14 22:15:22.4±13.0, **45°57N**×**146°23E, h0**km, **mb3.5**/4, **mb1 4.0**/4, **mb1mx3.4**/45, **mbtmp3.5**/4, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.5**/31, **Error ellipse: s-maj=434.3km s-min=125.9km az=96.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**40.42**	**37**	P	P	22 23 02.0	0.0
	0.4nm,0.9s,baz=262,slow=6.3,SNR=4.3						
KIRV	**Kirov**	**55.76**	**321**	LR	LR	22 51 14.3	
	comp=Z,30nm,19.8s,baz=91,slow=39						
NVAR	**Mina Array Bea**	**67.17**	**58**	P	P	22 26 18.7	+0.4
	0.3nm,0.7s,baz=286,slow=6.5,SNR=3.7						
PDAR	**Pinedale Array**	**69.23**	**50**	P	P	22 26 30.4	-0.8
	0.4nm,0.8s,baz=263,slow=4.5,SNR=3.5						
TXAR	**Lajitas Array**	**82.18**	**56**	P	P	22 27 45.6	+0.3
	0.5nm,0.6s,baz=296,slow=3.7,SNR=8.2						

*IDC **14** 22:15:46.4±4.0, 19°29S×177°39W, h294km±39km, mb3.4/8, mb1 3.7/9, mb1mx3.4/38, mbtmp4.1/9, Error ellipse: s-maj=23.6km s-min=14.2km az=105.0*

ISC 14 22:15:46.9±1.0, **19°3S**±0°1×**177°4W**±0°2, **h300**km, **n11**, σ**0**§**96**/12, **mb3.8**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.52**	**193**	P	**P**	22 19 51.8	-0.8
	3.7nm,0.3s,baz=292,slow=1.5,SNR=12						
URZ				S	**S**	22 23 16.9	+0.6
	0.4nm,0.3s,baz=187,slow=19,SNR=1.1						
STKA	**Stephens Creek**	**38.85**	**243**	P	**P**	22 22 44.1	+0.3
	1.3nm,0.6s,baz=95,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**45.35**	**261**	P	**P**	22 23 36.1	-0.1
	0.4nm,0.3s,baz=97,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**45.37**	**255**	P	**P**	22 23 36.4	+0.1
	2.8nm,0.6s,baz=91,slow=8.4,SNR=44						
MJAR	**Matsushiro Arr**	**69.56**	**323**	P	**P**	22 26 23.7	-0.1
	1.2nm,0.6s,baz=157,slow=6.1,SNR=6.6						
PETK	**Petropavlovsk-**	**75.23**	**345**	P	**P**	22 26 56.8	0.0
	2.6nm,0.8s,baz=125,slow=7.4,SNR=5.0						
NVAR	**Mina Array Bea**	**79.74**	**43**	P	**P**	22 27 23.6	+1.4
	1.0nm,0.7s,baz=225,slow=9.2,SNR=8.8						
ILAR	**Eielson Array**	**86.99**	**13**	P	**P**	22 27 57.1	-0.9
	0.2nm,0.4s,baz=221,slow=4.5,SNR=5.9						
CMAR	**Chiang Mai Arr**	**90.24**	**289**	P	**P**	22 28 15.5	+1.1
	1.2nm,0.6s,baz=104,slow=3.8,SNR=3.6						
BRTR	**Keskin Array B**	**146.41**	**314**	PKPbc	**PKPbc**	22 34 52.2	-1.0
	0.4nm,0.6s,baz=141,slow=5.8,SNR=3.7						
GERES	**GERESS Array B**	**149.16**	**346**	PKPbc	**PKPbc**	22 34 58.6	-1.4
	0.4nm,0.7s,baz=99,slow=3.2,SNR=2.9						

*ANF **14** 22:16:54.6±0.2, 33°78N×116°97W, h18km±1km, ML3.0/28, Error ellipse: s-maj=1.3km s-min=1.2km az=63.0*
*PAS **14** 22:16:55.7±0.8, 33°796N±0°007×116°964W±0°009, h13km±2km, ML3.0/209, Error ellipse: s-maj=1.1km s-min=1.0km az=135.0*
*SCEDC **14** 22:16:55.7, 33°80N×116°96W, h13km*
*NEIC **14** 22:16:55.0±0.8, 33°795N±0°010×116°96W±0°01, h18km±1km, Error ellipse: s-maj=1.6km s-min=1.3km az=215.0*

ISC 14 22:16:55.0±0.8, **33°79N**±0°01×**116°96W**±0°01, **h18**km±3km, **n128**, σ**0**§**60**/205, **Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMTC	**Hemet**	**0.09**	**202**		**Pg**	22 16 58.5	-0.2
HMTC					**Sg**	22 17 00.5	-0.6
POB	**Polly Butte**	**0.11**	**163**		**Pg**	22 16 58.8	-0.2
POB					**Sg**	22 17 01.2	-0.4
BACC	**Bachelor Mtn.**	**0.19**	**200**		**Pg**	22 16 59.9	0.0
BACC					**Sb**	22 17 03.0	+0.1
CFT	**Crafton Hills**	**0.27**	**333**		**Pg**	22 17 01.2	0.0
CFT					**Sg**	22 17 05.3	0.0
GVDA	**Garner Valley**	**0.27**	**117**		**Pg**	22 17 01.0	-0.2
MURC	**Murrieta**	**0.27**	**225**	P	**Pg**	22 17 01.2	+0.1
	baz=44,SNR=1000						
MURC				S	**Sg**	22 17 05.3	0.0
	baz=44						
MURC	**Murrieta**	**0.27**	**225**		**Pg**	22 17 01.2	+0.1
MURC					**Sg**	22 17 05.4	0.0
SME	**Santa Rosa Min**	**0.33**	**275**		**Pg**	22 17 02.0	-0.1
SVD	**Seven Oaks Dam**	**0.33**	**340**		**Pg**	22 17 02.1	0.0
SVD					**Sg**	22 17 06.9	-0.1
DEVC	**Devers**	**0.35**	**66**		**Pb**	22 17 02.7	-0.1
DEVC					**Sg**	22 17 07.0	-0.5
RSBC	**Riverside Bore**	**0.35**	**301**		**Pg**	22 17 02.2	-0.3
RSBC					**Sg**	22 17 07.0	-0.5
RSBC	**Riverside Bore**	**0.35**	**301**		**Pg**	22 17 02.3	-0.2
RSBC					**Sg**	22 17 07.0	-0.5
DNR	**Dunn Ranch,Anz**	**0.36**	**129**		**Pb**	22 17 02.9	0.0
DNR					**Sb**	22 17 08.2	-0.1
SNDA	**J Saunders Pla**	**0.38**	**130**		**Pg**	22 17 03.2	+0.2
SNDA					**Sb**	22 17 09.0	0.0
BZNA	**Buzz No.'s Pla**	**0.39**	**141**		**Pb**	22 17 03.4	-0.1
BZNA					**Sg**	22 17 08.8	+0.1
RVR	**Riverside**	**0.40**	**300**		**Pg**	22 17 02.9	-0.3
RVR					**Sg**	22 17 08.3	-0.6
CFSC	**Central Fire S**	**0.41**	**319**		**Pb**	22 17 03.7	-0.1
CFSC					**Sb**	22 17 09.6	-0.1
ELS	**Elsinore Mount**	**0.41**	**250**		**Pg**	22 17 03.6	+0.1
ELS					**Sg**	22 17 09.4	+0.1
CLTC	**Calectric**	**0.42**	**315**		**Sb**	22 17 09.8	-0.3
FRD	**Ford Ranch, An**	**0.42**	**135**		**Pb**	22 17 04.0	-0.1
FRD					**Sg**	22 17 09.8	+0.1
FRD	**Ford Ranch, An**	**0.42**	**135**		**Pb**	22 17 03.9	-0.1
FRD					**Sg**	22 17 09.6	-0.1
PLM	**Palomar**	**0.45**	**169**		**Pb**	22 17 04.4	-0.1
PLM					**Sg**	22 17 10.6	+0.2
PFO	**Pinyon Flats O**	**0.46**	**113**	P	**Pg**	22 17 04.2	-0.2
	baz=294,SNR=70						
PFO				S	**Sg**	22 17 10.2	-0.5
	baz=294						
PFO	**Pinyon Flats O**	**0.46**	**113**	Pg	**Pg**	22 17 04.2	-0.2
PFO	**Pinyon Flats O**	**0.46**	**113**		**Pg**	22 17 04.2	-0.2
PFO					**Sg**	22 17 10.2	-0.5
XPFO	**Pion Flat**	**0.46**	**113**		**Pg**	22 17 04.2	-0.3
XPFO					**Sg**	22 17 10.2	-0.6
BTL	**Butler Peak**	**0.46**	**356**		**Pg**	22 17 04.5	-0.1
BBRC	**Big Bear Solar**	**0.47**	**4**	P	**Pg**	22 17 04.5	-0.2
	baz=184,SNR=30						
BBRC				S	**Sg**	22 17 11.2	+0.1
	baz=184						
BBRC	**Big Bear Solar**	**0.47**	**4**		**Pg**	22 17 04.5	-0.2
BBRC					**Sg**	22 17 11.1	0.0
EW2	**E Wide Canyon**	**0.48**	**72**		**Pg**	22 17 04.9	+0.1
EW2					**Sg**	22 17 11.4	0.0
FON	**Fontana**	**0.50**	**308**		**Sg**	22 17 11.5	-0.4
CRNC	**Corona**	**0.51**	**279**		**Pg**	22 17 04.9	-0.3
CRNC					**Sg**	22 17 11.9	-0.2
PMD	**Palm Desert**	**0.51**	**106**		**Pg**	22 17 05.0	-0.3
PMD					**Sg**	22 17 11.6	-0.6
MLSC	**Mira Loma**	**0.54**	**293**		**Pg**	22 17 05.7	-0.2
MLSC					**Sg**	22 17 12.6	-0.6
BLAC	**Blackrock camp**	**0.55**	**60**		**Pg**	22 17 06.1	0.0
BLAC					**Sg**	22 17 13.4	-0.2
SIL	**Silver Peak**	**0.56**	**11**		**Pg**	22 17 06.2	-0.2
CSP	**Cedar Springs**	**0.60**	**327**		**Pg**	22 17 06.8	-0.2
SS2	**San Sevaine**	**0.61**	**313**		**Pb**	22 17 06.9	-0.2
CHNC	**Chino**	**0.63**	**289**		**Pb**	22 17 07.3	-0.2
CHNC					**Sb**	22 17 15.9	0.0
MATG	**Mataguay Scout**	**0.65**	**156**		**Pg**	22 17 08.0	+0.1
GORC	**Green Oak Ranc**	**0.68**	**199**		**Pb**	22 17 07.8	-0.5
GORC					**Sb**	22 17 16.7	-0.6
BORC	**Borrego Spring**	**0.69**	**139**		**Pg**	22 17 08.8	+0.1
BORC					**Sb**	22 17 17.6	-0.2
GTM	**Goat Mountain**	**0.71**	**45**		**Pb**	22 17 08.5	-0.4
GTM					**Sb**	22 17 17.9	-0.5
BFSC	**Mount Baldy Ra**	**0.73**	**308**	P	**Pb**	22 17 08.7	-0.6
	baz=127,SNR=16						
BFSC				S	**Sb**	22 17 18.2	-0.7
	baz=127						
BFSC	**Mount Baldy Ra**	**0.73**	**308**		**Pb**	22 17 08.7	-0.6
BFSC					**Sb**	22 17 18.3	-0.7
SSK	**Sunset Peak**	**0.74**	**305**		**Pb**	22 17 09.0	-0.4
PSRC	**Puddingstone R**	**0.76**	**293**		**Pb**	22 17 09.5	-0.3
PSRC					**Sb**	22 17 19.6	-0.2
HWB	**Hans Werner Br**	**0.77**	**180**		**Pb**	22 17 09.2	-0.6
HWB					**Sb**	22 17 19.3	-0.6
DPP	**Dos Picos Cty**	**0.79**	**179**		**Pb**	22 17 09.7	-0.6
DPP					**Sb**	22 17 20.1	-0.6
TPC	**Twentynine Pal**	**0.82**	**67**		**Pb**	22 17 10.7	-0.1
CTCC	**Cactus City**	**0.82**	**99**		**Pb**	22 17 11.0	+0.2
CTCC					**Sg**	22 17 21.9	-0.1
VTV	**Victorville**	**0.82**	**338**		**Pb**	22 17 10.7	-0.2
VTV					**Sb**	22 17 21.3	-0.4
BELC	**Belle Mtn. Jos**	**0.83**	**75**	P	**Pb**	22 17 11.0	0.0
	baz=256,SNR=153						
BELC				S	**Sb**	22 17 21.6	-0.2
	baz=256						
BELC	**Belle Mtn. Jos**	**0.83**	**75**		**Pb**	22 17 11.0	0.0
BELC					**Sg**	22 17 22.1	-0.2
PEM	**Pine Mountain**	**0.84**	**297**		**Pb**	22 17 10.8	-0.3
SLH	**Sleepy Hollow**	**0.84**	**135**		**Pg**	22 17 11.7	+0.2
ADO	**Adelanto Recei**	**0.85**	**333**		**Pb**	22 17 11.4	+0.1
RHC	**Rose Hills Cem**	**0.90**	**284**		**Pn**	22 17 13.4	+0.6
XTL	**Crystal Lake,**	**0.90**	**304**		**Pb**	22 17 11.7	-0.6
109C	**Camp Elliot, M**	**0.91**	**188**	P	**Pb**	22 17 11.7	-0.6
	baz=7.4,SNR=35						
109C				S	**Sb**	22 17 23.5	-0.6
	baz=7.4						
109C	**Camp Elliot, M**	**0.91**	**188**	Pg	**Pb**	22 17 11.7	-0.6
CPE	**Camp Elliot**	**0.91**	**188**		**Pb**	22 17 11.7	-0.6
CPE					**Sb**	22 17 23.5	-0.6
CTW	**Cottonwood Mou**	**0.92**	**97**		**Pb**	22 17 12.5	+0.1
SALN	**Salton City**	**0.96**	**122**		**Pn**	22 17 13.6	-0.1
SALN					**Sg**	22 17 26.3	-0.1
HOLC	**Holcomb Ridge**	**0.99**	**312**		**Pb**	22 17 13.4	-0.3
MWC	**Mount Wilson**	**1.01**	**296**		**Pb**	22 17 13.4	-0.6
MWC					**Sb**	22 17 27.0	-0.1
MONP2	**Monument Peak**	**1.01**	**153**	P	**Pb**	22 17 14.2	+0.2
	baz=334,SNR=55						
MONP2				S	**Sb**	22 17 27.3	+0.2
	baz=334						
MONP2	**Monument Peak**	**1.01**	**153**		**Pb**	22 17 14.2	+0.2
MONP2					**Sb**	22 17 27.0	-0.1
JNH	**Juniper Hills**	**1.05**	**309**		**Pb**	22 17 14.2	-0.5
JNH					**Sb**	22 17 27.8	-0.4
SDRC	**San Diego Road**	**1.06**	**179**		**Pb**	22 17 13.9	-0.9
SDRC					**Sb**	22 17 27.8	-0.5
CBKC	**Canebrake**	**1.07**	**146**		**Pn**	22 17 15.3	+0.1
CBKC					**Sb**	22 17 29.0	+0.2
RRX	**Edison Barstow**	**1.08**	**358**	P	**Pn**	22 17 15.6	+0.3
	baz=178,SNR=12						
RRX				S	**Sg**	22 17 30.3	+0.1
	baz=178						
RRX	**Edison Barstow**	**1.08**	**358**		**Pn**	22 17 15.3	0.0
PASC	**Pasadena Art C**	**1.08**	**291**	Pn	**Pb**	22 17 14.8	-0.5
PASC	**Pasadena Art C**	**1.08**	**291**		**Sb**	22 17 29.2	+0.1
FMP	**Fort Macarthur**	**1.11**	**266**	S	**Sb**	22 17 30.1	+0.2
	baz=85						
BAR	**Barrett**	**1.14**	**168**		**Pn**	22 17 15.6	-0.5
BAR	**Barrett**	**1.14**	**168**		**Sb**	22 17 30.7	+0.1
SBB	**Saddle Back Bu**	**1.14**	**322**		**Pn**	22 17 16.1	-0.2
SBB					**Sb**	22 17 30.4	-0.4
LRRC	**Littlerock Res**	**1.15**	**310**		**Pb**	22 17 16.7	+0.4
HEC	**Hector,Ludlow**	**1.16**	**27**	P	**Pb**	22 17 16.8	+0.2
	baz=207,SNR=24						
HEC				S	**Sn**	22 17 32.1	+0.2
	baz=207						
HEC	**Hector,Ludlow**	**1.16**	**27**		**Pb**	22 17 16.8	+0.2
FRK	**Frink**	**1.17**	**109**		**Pn**	22 17 15.8	-0.7
HYS	**Haystack Butte**	**1.18**	**335**		**Pb**	22 17 17.1	+0.2
DECC	**Green Verdugo**	**1.23**	**292**	P	**Pb**	22 17 17.6	-0.1
	baz=112						
DECC				S	**Sn**	22 17 33.6	+0.1
	baz=112						
CRR	**Carrizo Plain**	**1.23**	**137**		**Pn**	22 17 17.0	-0.3
TKX	**Tecate**	**1.26**	**166**		**Pn**	22 17 16.6	-1.1
BC3	**Big Chuckawall**	**1.27**	**96**	P	**Pn**	22 17 17.6	-0.3
	baz=277,SNR=40						
BC3				S	**Sn**	22 17 34.6	+0.1
	baz=277						
CIS	**Catalina Islan**	**1.27**	**253**	P	**Pn**	22 17 18.1	+0.2
	baz=72						
CIS				S	**Sn**	22 17 34.8	+0.1
	baz=72						
SWSC	**Sam W. Stewart**	**1.29**	**131**	Pn	**Pn**	22 17 17.4	-0.8
	baz=312,SNR=17						
SWSC				Pg	**Pg**	22 17 19.7	-0.2
	baz=312						
SWSC				Sb	**Sg**	22 17 36.2	-0.6
	baz=312						
IKP	**In-Ko-Pah, Jac**	**1.35**	**148**	Pb	**Pn**	22 17 19.1	+0.1
	baz=328						
IKP				Pg	**Pb**	22 17 20.4	+0.6
	baz=328,SNR=28						
IKP				Sb	**Sb**	22 17 37.6	+0.9
	baz=328						
EDW2	**Edwards Air Fo**	**1.38**	**322**	Pb	**Pb**	22 17 20.6	+0.2
	baz=142,SNR=14						
EDW2				Sb	**Sb**	22 17 38.5	+0.8
	baz=142						
GMRC	**Granite Mounta**	**1.46**	**47**	P	**Pn**	22 17 20.8	+0.1
	baz=228,SNR=43						
GMRC				Sb	**Sb**	22 17 41.2	+1.1
	baz=228						
GSC	**Goldstone, Bar**	**1.51**	**5**	Pg	**Pb**	22 17 23.3	+0.7
	baz=185,SNR=63						
GSC				S	**Sn**	22 17 40.9	+0.4
	baz=185						
GSC	**Goldstone, Bar**	**1.51**	**5**		**Pb**	22 17 22.2	-0.4
IRM	**Iron Mountain**	**1.55**	**76**	Pn	**Pn**	22 17 21.5	-0.3
	baz=257,SNR=80						
IRM				Pg	**Pg**	22 17 24.2	-0.8
	baz=257						
IRM				Sb	**Sg**	22 17 44.4	-0.8
	baz=257						
LRMC	**Laurel Mtn Rad**	**1.78**	**341**	Pg	**Pg**	22 17 29.0	-0.4
	baz=160						
TUQ	**Turquoise Moun**	**1.85**	**27**	Pn	**Pn**	22 17 26.5	+0.5
	baz=208,SNR=23						
TUQ				Pg	**Pg**	22 17 29.8	-0.8
	baz=208						
TUQ				Sb	**Sg**	22 17 53.5	-1.2
	baz=208						
GLA	**Glamis**	**1.93**	**112**	P	**Pn**	22 17 27.2	+0.1
	baz=293						
GLA				S	**Sn**	22 17 50.9	0.0
	baz=293						
GLA	**Glamis**	**1.93**	**112**		**Pn**	22 17 26.6	-0.4
CCX	**Cicese**	**1.94**	**172**		**Pn**	22 17 28.1	+1.0
CCX				Sn	**Sn**	22 17 52.2	+1.3
CPBX	**Cerro Prieto**	**1.95**	**134**	Pn	**Pn**	22 17 28.5	+1.2
ESJX	**Sierra Juarez**	**1.98**	**154**		**Pn**	22 17 28.1	+0.3
ARVC	**Arvin**	**2.04**	**311**	Sb	**Sb**	22 17 58.1	+1.6
	baz=130						
NEE2	**Needles Airpor**	**2.17**	**63**	Pn	**Pn**	22 17 30.3	0.0
	baz=244						
NEE2				Pg	**Pg**	22 17 35.3	-1.4
	baz=244						
NEE2				Sb	**Sg**	22 18 02.9	-2.0
	baz=244						
SHOC	**Shoshone, Teco**	**2.17**	**15**	P	**Pn**	22 17 31.4	+1.1
	baz=195,SNR=15						
ISA	**Isabella, Lake**	**2.24**	**327**	Pg	**Pb**	22 17 36.4	+1.4
	baz=146,SNR=7.1						
ISA				Sb	**Sg**	22 18 05.0	-2.2
	baz=146						
ISA	**Isabella, Lake**	**2.24**	**327**		**Pn**	22 17 32.2	+0.8
MPMC	**Manual Prospec**	**2.30**	**349**	Pn	**Pn**	22 17 33.2	+0.9
	baz=169						
MPMC				Pg	**Pg**	22 17 37.9	-1.3
	baz=169,SNR=20						
MPMC				Sb	**Sg**	22 18 08.5	-0.6
	baz=169						
W13A	**Hualapai Mount**	**2.86**	**62**	Pn	**Pn**	22 17 40.3	+0.4
SPX	**San Pedro Mart**	**3.03**	**155**	Pn	**Pn**	22 17 43.0	+0.6
SHPR	**Sheep Range**	**3.08**	**28**		**Pn**	22 17 43.9	+0.9
TPNV	**Topopah Spring**	**3.20**	**10**	P	**Pn**	22 17 46.4	+1.8
	baz=191						
TPNV				Sb	**Sg**	22 18 35.5	-2.4
	baz=191						
TPNV	**Topopah Spring**	**3.20**	**10**		**Pn**	22 17 45.4	+0.8
Y14A	**Wickenburg**	**3.30**	**86**		**Pn**	22 17 46.3	+0.5
PRN	**Pahroc Range**	**3.93**	**23**	Pn	**Pn**	22 17 55.6	+1.1
OMMB	**Old Mammoth Mi**	**4.16**	**337**	Pn	**Pn**	22 17 58.7	+0.8
TPH	**Tonopah**	**4.28**	**357**	Pn	**Pn**	22 18 00.3	+0.9
LCMT	**Little Creek M**	**4.42**	**42**		**Pn**	22 18 02.3	+0.9
LCMT					**Sn**	22 18 53.5	+1.1
X16A	**Lo Mia Camp, P**	**4.62**	**81**		**Pn**	22 18 05.0	+0.8
U15A	**North Rim**	**4.64**	**54**		**Pn**	22 18 05.3	+0.7
KNB	**Kanab**	**4.67**	**45**	Pn	**Pn**	22 18 05.7	+0.9
R11A	**Troy Canyon, C**	**4.68**	**13**	Pn	**Pn**	22 18 05.8	+0.9
NV11	**Mina Array Sit**	**4.73**	**349**	Pn	**Pn**	22 18 06.6	+1.0
NVAR	**Mina Array Bea**	**4.75**	**347**	Pn	**Pn**	22 18 06.8	+0.8
CCUT	**Cedar City**	**4.76**	**37**	Pn	**Pn**	22 18 06.9	+0.8
RYN	**Ryan**	**4.99**	**346**	Pn	**Pn**	22 18 10.0	+0.8
PKCU	**Pink Cliffs**	**5.25**	**45**		**Pn**	22 18 13.7	+0.7

*IDC **14** 22:22:13.4±0.7, 1°49N×126°35E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/36, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=55.4km s-min=16.0km az=74.0*
*DJA **14** 22:22:16.8±0.4, 2°N±6°×12°6E±°, h10km, M4.1/7, mb4.3/2, MLv4.0/7*
*NEIC **14** 22:22:18.0±1.8, 1°46N±0°04×126°44E±0°06, h35km±1km, mb4.3/12, Error ellipse: s-maj=12.2km s-min=4.5km az=61.0*

ISC 14 22:22:19.3±0.6, **1°50N**±0°05×**126°42E**±0°07, **h47**km, **n38**, σ**1**§**58**/44, **mb4.1**/13, **1D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**127**	P	**Pn**	22 22 39.4	-0.2
TNTI				S	**Sn**	22 22 58.4	+3.7
TNTI	**Ternate**	**1.19**	**127**		**Pn**	22 22 37.5	-2.1
TNTI				Sn	**Sn**	22 22 52.5	-2.2
KMSI	**Cibinong**	**2.61**	**249**	P	**Pn**	22 22 58.3	-0.7
GTOI	**Gorontalo**	**3.52**	**256**	P	**Pn**	22 23 12.6	+1.2
LUWI	**Luwuk**	**4.44**	**235**	P	**Pn**	22 23 23.6	-0.5
LUWI	**Luwuk**	**4.44**	**235**		**Pn**	22 23 24.1	0.0
DDMP	**Don Marcelino,**	**4.62**	**351**	*e*P	**Pn**	22 23 23.7	-3.0
DDMP				*e*S	**Sn**	22 24 21.9	+2.7
SKMP	**Bagumbayan, Su**	**5.32**	**339**	*e*P	**Pn**	22 23 35.3	-1.0
SKMP				*e*S	**Sn**	22 24 32.2	-4.2
KCP	**Kidapawan**	**5.63**	**346**	‖ *i*P	**Pn**	22 23 44.5	+4.0
FAKI	**Fak Fak**	**7.30**	**127**	Pn	**Pn**	22 24 03.2	-0.2
MYLDM	**Lahad Datu**	**8.71**	**295**	Pn	**Pn**	22 24 23.2	+0.5
KAPI	**Kappang**	**9.29**	**226**	Pn	**Pn**	22 24 29.7	-1.0
FITZ	**Fitzroy Crossi**	**19.49**	**182**	P	**P**	22 26 41.8	-0.8
	0.2nm,0.3s,baz=14,slow=1.5,SNR=2.6						
GUMO	**Guam**	**21.85**	**56**	P	**P**	22 27 06.8	-1.3
TPUB	**Ta-pu**	**22.38**	**346**	P	**P**	22 27 12.6	-1.2
TPUB				IAmb	IAmb	22 27 17.6	
	comp=Z,9.3nm,0.8s						
WB0	**Warramunga Arr**	**22.54**	**160**	P	**P**	22 27 15.2	-0.3
WB0				IAmb	IAmb	22 27 25.3	
	comp=Z,5.2nm,0.8s						
WRAB	**Tennant Creek**	**22.68**	**160**	P	**P**	22 27 16.2	-0.8
WRAB				IAmb	IAmb	22 27 22.1	
	comp=Z,8.7nm,0.7s						
WRA	**Warramunga Arr**	**22.68**

DID AML AML 22 42 13.7
comp=N,39957µm,0.5s
YDRA Hydra 0.38 62 P Pb 22 42 05.9 +0.4
YDRA S Sb 22 42 11.7 +0.7
YDRA AML AML 22 42 15.0
comp=E,53510µm,0.4s
YDRA AML AML 22 42 15.8
comp=N,55830µm,0.4s
VLI Veliai 0.46 191 P Pb 22 42 07.0 0.0
VLI S Sb 22 42 14.0 +0.5
VLI Veliai 0.46 191 P Pb 22 42 07.1 +0.1
VLI S Sb 22 42 13.2 -0.3
VLI AML AML 22 42 18.0
comp=E,21822µm,0.3s
VLI AML AML 22 42 19.4
comp=N,30946µm,0.3s
MNVA Monemvasia 0.49 181 P Pb 22 42 07.6 +0.2
MNVA S Sb 22 42 13.7 -0.4
VLX Vlachokerasia 0.57 290 P Pb 22 42 08.2 -0.7
VLX S Sb 22 42 15.1 -1.5
comp=N,24µm,0.4s
VLX Vlachokerasia 0.57 290 P Pb 22 42 08.4 -0.5
VLX S Sb 22 42 15.6 -1.0
VLX AML AML 22 42 15.6
comp=N,33975µm,0.4s
VLX AML AML 22 42 16.9
comp=E,60403µm,0.5s
TRIP Tripoli 0.71 300 P Pb 22 42 10.8 -0.4
TRIP S Sb 22 42 19.6 -1.1
comp=E,9µm,0.3s
TRIP Tripoli 0.71 300 P Pb 22 42 10.9 -0.4
TRIP S Sb 22 42 19.5 -1.2
LTK Loutraki 0.85 356 P Pb 22 42 13.0 -0.5
LTK S Sn 22 42 26.5 +0.9
comp=E,10µm,0.5s
LTK Loutraki 0.85 356 P Pn 22 42 13.7 -0.2
LTK S Sn 22 42 25.2 -0.4
ITM Ithomi 0.90 271 P Pb 22 42 14.2 -0.2
ITM S Sb 22 42 25.8 -0.1
comp=E,6µm,0.4s
ITM Ithomi 0.90 271 P Pb 22 42 14.1 -0.2
ITM S Sb 22 42 25.1 -0.8
ITM AML AML 22 42 28.8
comp=E,12660µm,0.6s
ITM AML AML 22 42 29.4
comp=N,10398µm,0.3s
ITM Ithomi 0.90 271 PG Pb 22 42 14.2 -0.2
ITM SG Sn 22 42 27.2 +0.4
ITM Ithomi 0.90 271 Pn Pb 22 42 13.4 -0.9
VLY Voula,Athens 0.90 41 P Pn 22 42 14.4 -0.1
VLY S Sn 22 42 29.1 +2.3
comp=N,9µm,0.5s
VLY Voula,Athens 0.90 41 P Pn 22 42 14.7 +0.1
VLY S Sn 22 42 27.5 +0.7
VLY AML AML 22 42 32.4
comp=E,20124µm,0.4s
VLY AML AML 22 42 32.5
comp=N,13658µm,0.6s
KTHA Kythira Island 0.92 179 P Pb 22 42 14.9 +0.2
KTHA S Sn 22 42 29.1 +1.9
comp=N,7µm,0.2s
KTHA Kythira Island 0.92 179 P Pn 22 42 15.0 +0.2
KTHA S Sn 22 42 27.6 +0.4
KTHA AML AML 22 42 30.5
comp=E,16641µm,0.4s
KTHA AML AML 22 42 30.6
comp=N,11717µm,0.3s
KTHA Kythira Island 0.92 179 PG Pn 22 42 15.5 +0.7
KTHA SG Sn 22 42 29.5 +2.3
GUR Goura 0.95 324 P Pb 22 42 14.6 -0.7
GUR S Sn 22 42 27.9 -0.2
comp=N,28µm,0.4s
GUR Goura 0.95 324 P Pb 22 42 14.5 -0.7
GUR S Sb 22 42 27.5 +0.1
GUR AML AML 22 42 29.8
comp=E,50350µm,0.4s
GUR AML AML 22 42 29.9
comp=N,56620µm,0.4s
ATH Athens Observa 0.96 33 P Pn 22 42 15.7 +0.4
ATH S Sn 22 42 29.8 +1.6
comp=N,9µm,0.6s
ATH Athens Observa 0.96 33 P Pn 22 42 15.7 +0.4
ATH S Sn 22 42 29.9 +1.8
ATH AML AML 22 42 32.9
comp=N,17955µm,0.7s
ATH AML AML 22 42 33.3
comp=E,19399µm,0.4s
ATHU Athens Univers 0.98 36 P Pn 22 42 16.0 +0.3
ATHU S Sn 22 42 30.6 +1.7
comp=E,2µm,0.5s
ATHU Athens Univers 0.98 36 P Pn 22 42 16.1 +0.4
VILL Villia 1.01 12 P Pn 22 42 16.4 +0.3
VILL S Sn 22 42 31.5 +1.9
comp=E,8µm,0.5s
VIL2 Platees 1.05 9 P Pn 22 42 16.4 -0.3
VIL2 S Sn 22 42 30.5 -0.1
PYL PYLOS 1.08 255 P Pn 22 42 17.4 +0.3
PYL PYLOS 1.08 255 P Pb 22 42 17.6 +0.1
PTL Penteli 1.09 36 P Pb 22 42 18.1 +0.5
PTL S Sn 22 42 33.1 +1.6
comp=E,5µm,0.5s
PTL Penteli 1.09 36 P Pb 22 42 17.9 +0.3
PTL S Sn 22 42 33.1 +1.6
KLV Kalavryta, Ach 1.12 321 P Pn 22 42 17.6 -0.1
KLV S Sn 22 42 33.8 +1.4
KLV Kalavryta, Ach 1.12 321 P Pn 22 42 17.7 -0.1
KLV S Sn 22 42 33.2 +0.8
KLV AML AML 22 42 36.2
comp=N,7993µm,0.3s
KLV AML AML 22 42 37.6
comp=E,9190µm,0.3s
DION Dionisos Attik 1.14 38 P Pb 22 42 19.1 +0.6
DION S Sn 22 42 35.0 +2.2
comp=E,10µm,0.7s
DION Dionisos Attik 1.14 38 P Pb 22 42 19.5 +0.9
SERI Serifos 1.15 90 P Pb 22 42 19.4 +0.8
SERI S Sn 22 42 35.4 +2.4
SERI Serifos 1.15 90 P Pb 22 42 19.3 +0.8
SERI S Sn 22 42 35.3 +2.4
SERI AML AML 22 42 39.6
comp=N,6296µm,0.4s
SERI AML AML 22 42 40.1
comp=E,5639µm,0.3s
MHLA Plaka, Milos I 1.18 111 P Pb 22 42 20.1 +1.0
MHLO Agia Marina, M 1.19 114 P Pb 22 42 19.6 +0.4
MHLO S Sb 22 42 36.8 +2.6
comp=E,16µm,0.7s
MHLO Agia Marina, M 1.19 114 P Pb 22 42 20.3 +1.1
DSF Desfina 1.30 342 P Pb 22 42 21.1 -0.2
DSF S Sb 22 42 38.7 +1.1
comp=E,3µm,0.5s
DSF Desfina 1.30 342 P Pb 22 42 21.0 -0.3
ALIK Aliki, Aigiali 1.31 326 P Pb 22 42 21.3 -0.1
ALIK S Sb 22 42 41.8 +4.0
DRO Drossia 1.32 307 P Pb 22 42 21.4 -0.1
DRO S Sb 22 42 40.6 +2.6
comp=E,8µm,0.4s
DRO Drossia 1.32 307 P Pb 22 42 21.5 0.0
DRO S Sb 22 42 38.3 +0.3
DRO AML AML 22 42 43.4
comp=E,10379µm,0.4s
DRO AML AML 22 42 46.3
comp=N,19453µm,0.4s
ANKY Antikythira Is 1.32 171 P Pb 22 42 21.8 +0.3
ANKY S Sb 22 42 39.5 +1.5
comp=N,3µm,0.3s
ANKY Antikythira Is 1.32 171 P Pb 22 42 22.0 +0.5
ANKY S Sb 22 42 39.1 +1.1
KARY Karystos 1.40 52 P Pb 22 42 22.5 -0.3
KARY Karystos 1.40 52 P Pb 22 42 22.8 0.0
KARY S Sb 22 42 42.8 +2.6
LKR Lokris 1.47 358 P Pb 22 42 23.5 -0.6
LKR S Sb 22 42 43.2 +0.8
comp=N,2µm,0.4s
LKR Lokris 1.47 358 P Pb 22 42 23.7 -0.4
RLS Riolos of Patr 1.54 306 P Pb 22 42 24.8 -0.4
RLS S Sb 22 42 46.4 +2.2
comp=N,2µm,0.6s
RLS Riolos of Patr 1.54 306 P Pb 22 42 24.6 -0.5
EFP Efpalio 1.54 324 P Pb 22 42 25.1 -0.2
EFP S Sb 22 42 45.7 +1.2
comp=N,2µm,0.6s
EFP Efpalio 1.54 324 P Pb 22 42 25.2 -0.1
EFP S Sb 22 42 44.9 +0.4

EFP AML AML 22 42 49.0
comp=N,3164µm,0.4s
EFP AML AML 22 42 50.7
comp=E,5967µm,0.7s
AXAR Agios Charalam 1.62 349 P Pb 22 42 26.1 -0.5
AXAR S Sb 22 42 46.7 +0.1
comp=E,6µm,0.5s
AXAR Agios Charalam 1.62 349 P Pb 22 42 26.0 -0.6
AXAR S Sb 22 42 47.1 +0.5
VTN Vitineika 1.66 297 P Pb 22 42 28.7 +1.5
ANX Ano Chora 1.67 328 P Pb 22 42 26.7 -0.9
ANX S Sb 22 42 48.1 -0.2
comp=E,4µm,0.4s
ANX Ano Chora 1.67 328 P Pb 22 42 26.9 -0.7
AXS Araxos 1.67 308 P Pb 22 42 27.2 -0.4
AXS S Sb 22 42 51.3 +3.1
comp=E,2µm,0.6s
AXS Araxos 1.67 308 P Pb 22 42 27.1 -0.4
KYMI Kymi, Euboea I 1.68 29 P Pb 22 42 26.5 -1.1
KYMI S Sb 22 42 48.3 0.0
comp=E,2µm,0.6s
KYMI Kymi, Euboea I 1.68 29 P Pb 22 42 26.4 -1.1
KYMI S Sb 22 42 48.4 +0.2
RODP Rodopos 1.71 160 P Pb 22 42 27.4 -0.8
RODP S Sb 22 42 49.3 +0.1
comp=E,790nm,0.3s
RODP Rodopos 1.71 160 PN Pb 22 42 27.6 -0.6
CHAN Chania 1.84 154 P Pb 22 42 29.3 -1.0
CHAN S Sb 22 42 52.4 -0.4
comp=E,1µm,0.3s
IMMV Iera Moni Meta 1.87 156 P Pb 22 42 29.6 -1.3
IMMV S Sb 22 42 53.8 0.0
comp=E,3µm,0.3s
IMMV Iera Moni Meta 1.87 156 P Pb 22 42 29.7 -1.2
IMMV Iera Moni Meta 1.87 156 PN Pb 22 42 29.7 -1.2
IMMV SN Sb 22 42 54.3 +0.5
PVO Paravola 1.88 321 P Pb 22 42 30.8 -0.2
SAP3 Santorini-Thir 1.98 111 P Pb 22 42 31.6 -1.2
APE Apeiranthos 1.99 92 P Pb 22 42 31.2 -1.7
APE Apeiranthos 1.99 92 PN Pn 22 42 30.8 +1.3
APE SN Sb 22 42 55.9 -1.3
APE Apeiranthos 1.99 92 *i* P Pb 22 42 31.1 -1.8
APE *i* S Sb 22 42 55.5 -1.7
VAM Vamos 1.99 152 P Pn 22 42 31.4 +1.8
VAM S Sb 22 42 56.9 -0.5
comp=E,2µm,0.4s
EVR Evrytania 2.00 331 P Pb 22 42 32.0 -1.1
KNDR Palaiochora Ch 2.00 165 P Pb 22 42 32.4 -0.7
KNDR S Sb 22 43 00.0 +2.4
comp=E,775nm,0.5s
KNDR Palaiochora Ch 2.00 165 PN Pb 22 42 31.7 -1.4
CMBO Columbo, Santo 2.02 110 P Pb 22 42 32.1 -1.3
THT2 Imerovigli 2.04 110 PN Pn 22 42 31.9 +1.6
SAP1 Santorini-Akro 2.05 113 P Pb 22 42 32.6 -1.4
SKY Skiros Island 2.07 34 P Pn 22 42 31.8 +1.1
SANT Santorini 2.09 112 P Pb 22 42 33.0 -1.7
SANT Santorini 2.09 112 PN Pn 22 42 32.5 +1.5
SANT Santorini 2.09 112 *i* P Pb 22 42 33.2 -1.5
SANT Santorini 2.09 112 Pn Pn 22 42 30.8 -0.2
NEO Neokhori 2.13 4 P Pn 22 42 32.9 +1.4
PRNS Prines Rethymn 2.15 147 P Pb 22 42 34.8 -0.9
PRNS S Sn 22 42 59.8 +2.1
XOR Xorichti 2.19 3 P Pn 22 42 34.0 +1.7
VLS Valsamata 2.19 298 P Pb 22 42 35.1 -1.3
EVGI Lefkada island 2.38 308 P Pb 22 42 38.6 -1.0
IDI Anoyia 2.40 141 Pn Pn 22 42 36.6 +1.3
comp=E,8.2nm,0.3s,baz=296,slow=13,SNR=65
IDI Sn Sn 22 43 05.3 +1.4
comp=E,124nm,0.3s,baz=88,slow=22,SNR=15
IDI Anoyia 2.40 141 P Pn 22 42 36.2 +1.0
IDI S Sn 22 43 05.8 +1.9
comp=E,1µm,0.4s
IDI Anoyia 2.40 141 PN Pn 22 42 37.3 +2.1
IDI Anoyia 2.40 141 Pn Pb 22 42 35.0 -0.2
GVD Gavdhos 2.48 160 P Pb 22 42 41.2 0.0
GVD Gavdhos 2.48 160 PN Pn 22 42 38.8 +2.6
KSTL Kastelli Herak 2.48 138 P Pb 22 42 42.1 +0.8
LKD2 Lefkada island 2.48 311 P Pb 22 42 39.7 -1.7
HRKL Herakleio 2.49 138 P Pb 22 42 39.1 -2.4
HRKL S Sb 22 43 09.6 -2.1
comp=E,3µm,0.6s
HRKL Herakleio 2.49 138 PN Pn 22 42 38.9 +2.5
TSLK Tsoukalades, L 2.51 312 P Pb 22 42 40.7 -1.1
TMBK Timbaki Herakl 2.52 146 P Pb 22 42 40.3 -1.6
THL Klokotos Trika 2.52 341 P Pb 22 42 38.5 +1.7
SIVA Sivas 2.58 146 P Pb 22 42 41.2 -1.8
SIVA S Sb 22 43 12.0 -2.3
comp=E,2µm,0.6s
CHOS Chios island 2.67 62 P Pn 22 42 40.4 +1.4
CHOS Chios island 2.67 62 PN Pn 22 42 39.9 +0.9
PAIG Paliouri 2.79 10 P Pn 22 42 41.8 +1.2
LAST Lasithi 2.81 135 P Pn 22 42 43.3 +2.4
LAST S Sn 22 43 16.2 +2.1
comp=E,560nm,0.7s
LIT Litokhoron 2.96 352 P Pn 22 42 45.0 +2.2
LIT Litokhoron 2.96 352 *i* P Pn 22 42 45.2 +2.3
LIT IAML 22 43 39.0
comp=E,111nm,0.7s
LIT IAML 22 43 43.0
comp=N,131nm,0.6s
LIT Litokhoron 2.96 352 Pn Pn 22 42 41.9 -0.9
SIGR SIGRI 3.00 47 P Pn 22 42 44.8 +1.3
SIGR SIGRI 3.00 47 PN Pn 22 42 44.6 +1.1
JAN Janina 3.02 326 P Pn 22 42 47.7 -2.8
SMG Samos 3.06 79 P Pn 22 42 46.2 +1.9
KPRO Kipourio 3.08 335 P Pn 22 42 47.4 +2.9
STIA Sitia Lasithi 3.15 128 P Pn 22 42 48.5 +3.0
DGB zmir 3.17 73 *i* P Pn 22 42 47.3 +1.6
DGB *i* S Sn 22 43 23.3 +0.6
DGB IAML 22 43 46.0
comp=N,71nm,0.7s
DGB IAML 22 43 57.0
comp=E,65nm,1.4s
IGT Igoumenitsa 3.18 319 P Pn 22 42 48.3 +2.4
PLG Polygyros 3.21 5 P Pn 22 42 47.6 +1.2
OUR Ouranopolis 3.24 13 P Pn 22 42 48.2 +1.5
OUR Ouranopolis 3.24 13 PN Pn 22 42 47.9 +1.2
PRI Paraskevi 3.27 50 P Pn 22 42 49.3 +2.1
KZN Kozani 3.28 343 P Pn 22 42 49.9 +2.5
KZN S Sn 22 43 28.3 +2.6
comp=E,220nm,0.8s
ZKR Zakros 3.29 128 P Pn 22 42 50.3 +2.9
ZKR Zakros 3.29 128 PN Pn 22 42 49.7 +2.3
GCAM G?zelcaml? 3.37 80 PN Pn 22 42 50.0 +1.5
GCAM G?zelcaml? 3.37 80 *i* P Pn 22 42 51.1 +2.6
GCAM IAML 22 43 54.0
comp=N,111nm,0.9s
GCAM IAML 22 44 02.0
comp=E,100nm,0.8s
BLCB Balcova 3.39 68 P Pn 22 42 51.1 +2.4
BLCB Balcova 3.39 68 PN Pn 22 42 50.4 +1.7
BODT Bodrum 3.41 91 PN Pn 22 42 51.0 +2.0
HORT Hortiatis 3.42 1 P Pn 22 42 50.6 +1.3
HORT Hortiatis 3.42 1 PN Pn 22 42 50.3 +1.0
AYVA Ayvalik 3.57 52 *i* P Pn 22 42 52.4 +1.1
AYVA IAML 22 43 59.0
comp=E,93nm,0.7s
AYVA IAML 22 44 05.0
comp=N,96nm,0.7s
DKL Dikili 3.58 57 PN Pn 22 42 52.7 +1.3
NEST Nestorio 3.59 335 P Pn 22 42 53.9 +2.2
SRN Sarande 3.61 319 P Pn 22 42 53.9 +2.1
ZEDA zmir-Bergama 3.65 59 *i* P Pn 22 42 53.8 +1.5
ZEDA IAML 22 44 00.0
comp=N,78nm,0.8s
ZEDA IAML 22 44 02.0
comp=E,66nm,1.0s
SOH Sokhos 3.65 4 P Pn 22 42 54.5 +2.1
DAT Datca 3.65 96 PN Pn 22 42 54.5 +2.0
THAS Thassos island 3.67 20 P Pn 22 42 53.7 +1.1
EZN Ezine 3.69 43 PN Pn 22 42 54.0 +1.1
KARP Karpathos 3.69 115 PN Pn 22 42 55.4 +2.4
KARP Karpathos 3.69 115 Pn Pn 22 42 52.7 -0.4
GADA Gvkgeada 3.75 36 PN Pn 22 42 54.9 +1.2
FNA Florina 3.83 341 P Pn 22 42 57.1 +2.2
FNA Florina 3.83 341 PN Pn 22 42 56.1 +1.2
FNA Florina 3.83 341 *i* P Pn 22 42 57.2 +2.2
FNA *i* S Sb 22 43 44.8 -5.5
FNA IAML 22 43 47.0
comp=N,71nm,0.4s
FNA IAML 22 43 48.0
comp=E,99nm,0.5s

FNA Florina 3.83 341 Pn 22 42 53.8 -1.1
SRS Serrai 3.96 6 P Pn 22 42 57.3 +0.7
KNT Kendrikon 3.98 358 P Pn 22 42 59.3 +2.3
KNT Kendrikon 3.98 358 PN Pn 22 42 58.1 +1.1
VAY Valandovo 4.16 355 *i* Pn Pn 22 43 02.2 +2.9
YER Yerkesik 4.18 89 PN Pn 22 43 02.0 +2.3
GELI Tayfur-Gelibol 4.18 39 PN Pn 22 43 01.1 +1.4
ARG Arkhangelos 4.19 102 PN Pn 22 43 02.3 +2.5
NVR Nevrokopi 4.22 8 P Pn 22 43 01.7 +1.5
ENEZ Enez 4.30 33 PN Pn 22 43 02.4 +1.1
OHR Ohrid 4.30 337 *i* Pn Pn 22 43 01.3 -0.1
LPK Lapseki 4.31 41 PN Pn 22 43 03.1 +1.6
ALN Alexandroupoli 4.39 31 PN Pn 22 43 03.1 +0.6
ALN Alexandroupoli 4.39 31 *i* P Pn 22 43 03.0 +0.6
ALN Alexandroupoli 4.39 31 Pn 22 43 02.0 -0.5
RDO Rodhopi 4.41 25 P Pn 22 43 03.7 +0.9
RDO Rodhopi 4.41 25 PN Pn 22 43 03.7 +0.9
MMB Musomiste 4.44 7 *i* P Pn 22 43 04.8 +1.5
DALY Dalyan (Mula) 4.50 93 PN Pn 22 43 06.6 +2.6
BALB Balíkesir 4.52 56 PN Pn 22 43 06.0 +1.7
KESN Edirne-Kesan 4.61 37 *i* P Pn 22 43 06.6 +0.7
KESN IAML 22 44 34.0
comp=E,29nm,1.0s
KESN IAML 22 44 53.0
comp=N,22nm,1.1s
KKB Krupnik 4.69 0 *i* P Pn 22 43 08.6 +2.0
RZN Rozhen 4.69 15 *i* P Pn 22 43 08.7 +1.9
KDZ Kurdzhali 4.83 22 PN Pn 22 43 09.0 +0.4
KDZ Kurdzhali 4.83 22 *i* P Pn 22 43 09.5 +0.9
UKOP Uzunkopru-Edir 4.83 34 PN Pn 22 43 09.9 +1.3
SKO Skopje 4.95 346 *i* Pn Pn 22 43 15.1 +4.9
PLD Plovdiv 5.09 14 PN Pn 22 43 12.9 +0.8
PLD Plovdiv 5.09 14 *i* P Pn 22 43 14.8 +2.7
DIM Dimitrovgrad 5.23 21 *i* P Pn 22 43 16.3 +2.2
TIP Timpagrande 5.34 294 Pn Pn 22 43 14.5 -1.3
VTS Vitosha 5.44 1 *i* P Pn 22 43 19.6 +2.5
EL Elmali 5.51 92 Pn 22 43 17.6 -0.4
CEL Celeste 5.78 283 Pn 22 43 20.4 -1.2
DRME Dracevica, Mon 5.83 330 *e*Pn Pn 22 43 23.7 +1.4
SLUM Salum 5.94 162 P Pn 22 43 25.3 +1.4
baz=164
SLUM AMP 22 44 00.0
baz=164
SLUM S Sn 22 44 27.3 -3.9
baz=164
ISP Isparta 5.98 82 Pn Pn 22 43 23.9 -0.6
PDG Podgorica 6.01 332 *e*Pn Pn 22 43 25.7 +1.0
PDG Podgorica 6.01 332 Pn 22 43 23.7 -1.0
HCY Herceg Novi 6.33 328 *e*Pn Pn 22 43 31.1 +2.0
ORH Orhaniye 6.59 54 P Pn 22 43 35.2 +2.5
BRY Bratogost 6.68 330 *e*Pn Pn 22 43 34.9 +0.7
MATC Matruh 6.76 148 P Pn 22 43 36.3 +1.1
baz=150
MATC AMP 22 44 00.0
baz=150
UPM Unac-Piva 6.80 334 *e*Pn Pn 22 43 38.6 +2.7
NEF NEVSHA 6.89 27 *i* P Pn 22 43 38.5 +1.7
VAE Valguarnera 6.89 275 Pn Pn 22 43 40.0 +3.0
comp=N,1.6nm,0.3s,baz=138,slow=13,SNR=6.6
VAE Sn Sn 22 44 53.0 -1.6
comp=N,1.3nm,0.3s,baz=172,slow=22,SNR=0.9
RAFF Raffo Rosso 6.94 273 Pn Pn 22 43 36.2 -1.3
RUDO Rudo 7.02 338 *e*Pn Pn 22 43 41.1 +2.4
BBLS Lazići 7.24 339 *e*Pn Pn 22 43 42.7 +1.0
DIVS Divibare 7.30 342 *e*Pn Pn 22 43 44.4 +1.9
DIVS Divibare 7.30 342 Pn Pn 22 43 41.5 -1.0
PAOL Paolisi 7.64 303 Pn Pn 22 43 45.9 -1.2
SWA2 8.16 165 P Pn 22 43 54.7 +0.3
baz=166
SWA2 AMP 22 45 00.0
baz=166
SWA2 S Sn 22 45 20.6 -5.2
baz=166
FRGS Fruska Gora 8.34 344 *e*Pn Pn 22 43 58.7 +1.9
MLR Muntele Rosu 8.59 14 Pn Pn 22 44 02.1 +1.8
comp=N,1.7nm,0.3s,baz=269,slow=6.3,SNR=32
MLR LR LR 22 47 54.8
comp=N,45nm,21.4s,baz=110,slow=42
MLR Muntele Rosu 8.59 14 Pn 22 43 59.4 -0.9
BR131 Keskin Array S 8.69 70 Pn Pn 22 44 01.1 -0.6
BRTR Keskin Array B 8.69 70 Pn Pn 22 44 03.0 +1.3
comp=N,0.1nm,0.3s,baz=256,slow=13,SNR=4.4
BRTR LR LR 22 47 27.2
comp=N,34nm,21.0s,baz=240,slow=38
BRTR Keskin Array B 8.69 70 Pn 22 44 01.1 -0.6
BLY Banja Luka 8.77 331 *e*Pn Pn 22 44 02.9 +0.3
AQU L'Aquila 9.05 308 *e*Pn Pn 22 44 13.3 +6.8
NRCA Norcia 9.49 310 Pn 22 44 11.2 -1.3
CRES Cresnjev 10.35 329 *e*Pn Pn 22 44 23.7 -0.5
HSAF As Safi 10.35 134 P Pn 22 44 24.9 +0.5
baz=136
GLL Jalalah 10.47 134 P Pn 22 44 25.1 -1.0
baz=135
BUR08 Bucovina Ar. S 10.58 8 Pn Pn 22 44 26.7 -0.9
CEY Cerknica 10.72 326 *e*Pn Pn 22 44 28.5 -0.9
MMA0B Mount Meron ar 10.94 109 Pn Pn 22 44 32.1 -0.3
MMAI Mount Meron Ar 10.94 109 Pn Pn 22 44 32.2 -0.2
comp=N,1.4nm,0.3s,baz=303,slow=12,SNR=11
MMAI Sn Sn 22 46 32.2 -1.8
comp=N,2.0nm,0.3s,baz=299,slow=25,SNR=5.5
SUZ Suez 10.96 129 P Pn 22 44 32.7 0.0
baz=130
NBNS Bani Suef 10.98 139 P Pn 22 44 33.0 0.0
baz=140
NBNS AMP 22 46 00.0
baz=140
SLTI Sal'it 11.03 113 Pn Pn 22 44 35.2 +1.6
GEM Giv'at Ha'Em 11.05 107 Pn Pn 22 44 35.0 +1.1
NATI Neve Ativ 11.09 107 Pn Pn 22 44 35.2 +0.8
NATI Sn Sn 22 46 35.1 -2.4
KEST Kesra 11.13 267 Pn Pn 22 44 38.4 +3.3
comp=N,0.1nm,0.3s,baz=324,slow=14,SNR=2.4
KEST Sn Sn 22 46 38.3 -0.5
comp=N,0.1nm,0.3s,baz=147,slow=19,SNR=1.3
KEST Kesra 11.13 267 Pn 22 44 33.8 -1.4
KEST Sn 22 46 37.0 -1.9
SOKA Soboth 11.21 330 *e*Pn Pn 22 44 40.6 +4.5
comp=N,1.3nm,0.5s
KZIT Kziot 11.29 120 Pn Pn 22 44 37.5 +0.2
KZIT Sn Sn 22 46 36.9 -5.8
AMAZ Amatzia 11.30 116 Pn Pn 22 44 37.8 +0.4
AMAZ Sn Sn 22 46 37.6 -5.4
TAMRE El Minia 11.56 143 P Pn 22 44 42.2 +1.3
baz=144
DSI Dead Sea 11.62 115 Pn Pn 22 44 42.1 +0.4
VYHS Vyhne 11.73 346 *e*PN Pn 22 44 39.6 -3.5
KOLS Kolonicke sedl 11.77 357 *e*PN Pn 22 44 47.0 +3.3
ZFRI Zfri 12.04 120 Pn Pn 22 44 46.8 -0.7
PRNI Paran 12.05 121 Pn Pn 22 44 46.8 -0.8
PRNI Sn Sn 22 46 56.1 -5.1
HRFI Mount Harif 12.26 122 Pn Pn 22 44 50.2 -0.3
HRFI Sn Sn 22 47 01.6 -4.9
MBRI Mt Berech 12.33 123 Pn Pn 22 44 50.8 -0.7
ABTA Abfaltersbach 12.36 324 *e*Pn Pn 22 44 54.2 +2.4
comp=N,0.5nm,0.3s
EIL Elat 12.44 124 Pn Pn 22 44 52.0 -0.9
comp=N,0.8nm,0.3s,baz=321,slow=3.3,SNR=10
EIL Sn Sn 22 47 04.6 -6.1
comp=N,0.7nm,0.3s,baz=78,slow=22,SNR=2.8
EIL Elat 12.44 124 Pn Pn 22 44 53.2 +0.3
ASF Jabal al Asfar 12.44 110 Pn Pn 22 44 51.4 -1.7
comp=N,0.1nm,0.3s,baz=146,slow=13,SNR=1.8
MOA Molln 12.47 332 *e*Pn Pn 22 44 56.8 +3.5
comp=N,0.4nm,0.2s
WTTA Wattenberg 13.14 324 *e*Pn Pn 22 45 03.4 +0.7
comp=N,1.3nm,0.4s
WATA Walderalm 13.22 324 *e*Pn Pn 22 45 04.6 +0.9
comp=N,0.6nm,0.3s
SQTA Sankt Quirin 13.32 323 *e*Pn Pn 22 45 07.7 +2.7
comp=N,2.9nm,1.2s
FETA Feichten 13.42 321 *e*Pn Pn 22 45 10.7 +4.3
comp=N,0.3nm,0.3s
MOTA Moosalm 13.46 323 *e*Pn Pn 22 45 07.9 +1.0
comp=N,0.7nm,0.3s
GERES GERESS Array B 13.51 333 Pn Pn 22 45 10.6 +3.1
comp=N,0.1nm,0.3s,baz=142,slow=15,SNR=2.9
GERES GERESS Array B 13.51 333 Pn 22 45 03.5 -4.1
DAVOX Davos/Dischmat 13.70 319 Pn P 22 45 16.5 -2.2
comp=N,0.2nm,0.3s,baz=124,slow=17,SNR=2.3
DAVOX Sn Sn 22 47 36.9 -4.7
comp=N,0.2nm,0.3s,baz=184,slow=23,SNR=2.4
RETA Reutte 13.72 323 *e*Pn Pn 22 45 14.1 +3.7
comp=N,0.2nm,0.1s
KHC Kasperske Hory 13.79 333 *e*P Pn 22 45 13.3 +2.0

AKASG	**Malin Array Be**	14.23	16	Pn		**Pn**	22 45 17.1	-0.1
	comp=N,0.3nm,0.3s,baz=187,slow=31,SNR=2.8							
AKASG	**Malin Array Be**	14.23	16			**Pn**	22 45 14.1	-3.1
BRG	**Berggiesshubel**	15.16	337	*e*P		**P**	22 45 37.2	+2.4
	comp=N,2.8nm,0.8s							
BFO	**Black Forest**	15.50	321	Pn		**Pn**	22 45 33.5	-0.9
CLL	**Collm**	15.83	336	*i* (pP)		**P**	22 45 45.0	+2.8
	comp=Z,5.0nm,0.9s							
CLL				*i* PP		**pP**	22 45 48.6	-0.1
AKH	**Akhalkalaki**	16.38	69	Pn		**Pn**	22 45 45.1	-0.6
AKH				IAmb		IAmb	22 46 01.2	
	comp=Z,12nm,1.2s							
KBZ	**Khabaz**	16.45	60	Pn		**P**	22 45 49.0	0.0
	comp=Z,0.1nm,0.3s,baz=186,slow=11,SNR=1.8							
KBZ				LR		LR	22 53 21.4	
	comp=Z,52nm,20.0s,baz=260,slow=42							
ESDC	**Sonseca Array**	21.28	285	P		**P**	22 46 44.8	+2.7
	comp=Z,0.9nm,0.7s,baz=78,slow=10,SNR=12							
HFS	**Hagfors**	23.75	348	P		**P**	22 47 08.0	+0.4
	comp=Z,3.1nm,0.5s,baz=152,slow=10,SNR=11							
FINES	**FINESS Array B**	24.37	4	P		**P**	22 47 13.6	+0.3
	comp=Z,1.4nm,0.6s,baz=176,slow=9.6,SNR=9.3							
FINES				PcP		**PcP**	22 50 53.0	+1.0
	comp=Z,1.0nm,0.8s,baz=204,slow=3.0,SNR=1.2							
FINES	**FINESS Array B**	24.37	4	P		**P**	22 47 12.8	-0.5
NC602	**NORSAR Array S**	24.69	346	P		**P**	22 47 14.5	-1.7
NC602				IAmb		IAmb	22 47 30.0	
	comp=Z,5.8nm,0.9s							
NAO01	**NORSAR Array S**	24.91	346	P		**P**	22 47 16.1	-2.2
NC405	**NORSAR Array S**	25.01	347	P		**P**	22 47 17.7	-1.5
NC405				IAmb		IAmb	22 47 36.6	
	comp=Z,2.8nm,0.7s							
NB2	**NORSAR Subarra**	25.03	346	P		**P**	22 47 19.6	+0.3
	comp=Z,1.6nm,0.6s,baz=149,slow=10							
NOA	**NORSAR Array B**	25.03	346	P		**P**	22 47 19.7	+0.3
	comp=Z,0.9nm,0.7s,baz=148,slow=9.6,SNR=6.0							
EKA	**Eskdalemuir Ar**	25.41	324	P		**P**	22 47 25.2	+2.4
	comp=Z,1.0nm,0.4s,baz=126,slow=9.4,SNR=12							
ESK	**Eskdalemuir**	25.42	324	P		**P**	22 47 23.1	+0.2
ESK				IAmb		IAmb	22 47 40.0	
	comp=Z,8.1nm,0.8s							
TOA0	**Torodi Ar. Sit**	30.61	224	P		**P**	22 48 09.5	-0.1
TOA0				IAmb		IAmb	22 48 16.3	
	comp=Z,3.7nm,1.0s							
TORD	**Torodi Ar. Bea**	30.61	224	P		**P**	22 48 11.3	+1.7
	comp=Z,0.9nm,0.6s,baz=33,slow=9.0,SNR=16							
TORD	**Torodi Ar. Bea**	30.61	224	P		**P**	22 48 07.6	-2.1
ARCES	**ARCESS Array B**	32.45	2	P		**P**	22 48 25.1	-0.2
	comp=Z,3.8nm,1.0s,baz=170,slow=5.5,SNR=1.2							
ARCES	**ARCESS Array B**	32.45	2	P		**P**	22 48 23.2	-2.1
CHGR	**Chuyangaron**	36.11	73	P		**P**	22 48 56.8	-0.8
KKAR	**Karatay Array**	36.37	66	P		**P**	22 48 59.0	-0.7
DBIC	**Dimbokro**	39.59	227	P		**P**	22 49 28.6	+1.6
	comp=Z,1.2nm,0.3s,baz=32,slow=7.7,SNR=7.0							
DBIC	**Dimbokro**	39.59	227	P		**P**	22 49 26.6	-0.4
DBIC				IAmb		IAmb	22 49 40.2	
	comp=Z,11nm,1.1s							
MKAR	**Makanchi Array**	44.12	58	P		**P**	22 50 04.2	+0.4
	comp=Z,1.8nm,0.5s,baz=273,slow=7.7,SNR=25							
MKAR				ScP		**ScP**	22 55 39.3	+0.5
	comp=Z,0.4nm,0.5s,baz=262,slow=4.1,SNR=5.4							
MKAR	**Makanchi Array**	44.12	58	P		**P**	22 50 03.3	-0.5
MKAR						**ScP**	22 55 38.2	-0.6
ZALV	**Zalesovo Beam**	44.88	48	P		**P**	22 50 09.9	+0.3
	comp=Z,3.3nm,0.4s,baz=270,slow=9.2,SNR=16							
ZALV	**Zalesovo Beam**	44.88	48	P		**P**	22 50 09.2	-0.5
SONM	**Songino Array**	59.54	51	P		**P**	22 51 59.0	+0.2
	comp=Z,0.6nm,0.4s,baz=285,slow=7.3,SNR=3.9							
SCHQ	**Schefferville**	60.55	318	P		**P**	22 52 07.5	+2.0
	comp=Z,2.3nm,0.5s,baz=56,slow=5.8,SNR=6.1							
BOSA	**Boshof**	65.47	178	P		**P**	22 52 39.8	+1.3
	comp=Z,1.4nm,0.8s,baz=54,slow=8.0,SNR=1.4							
CMAR	**Chiang Mai Arr**	68.03	83	P		**P**	22 52 55.3	+0.2
	comp=Z,0.6nm,0.4s,baz=308,slow=8.9,SNR=6.8							
SEY	**Seymchan**	72.34	22	LR		LR	23 28 01.0	
	comp=Z,56nm,18.3s,baz=217,slow=38							
KSRS	**Korea Array**	78.39	52	P		**P**	22 53 56.4	+0.4
	comp=Z,1.2nm,0.5s,baz=321,slow=4.5,SNR=2.5							
WRA	**Warramunga Arr**	118.48	94	PKP		**PKiKP**	23 00 43.8	+0.4
	comp=Z,0.3nm,0.6s,baz=321,slow=1.5,SNR=9.1							
WRA	**Warramunga Arr**	118.48	94			**PKPdf**	23 00 42.5	-0.8
ASAR	**Alice Springs**	120.06	98	PKP		**PKiKP**	23 00 47.4	+0.9
	comp=Z,0.4nm,0.3s,baz=312,slow=1.7,SNR=5.6							
ASAR	**Alice Springs**	120.06	98			**PKPdf**	23 00 45.0	-1.4

*IDC **14** 22:47:37.3±9.2, 52.°54N×174.°40W, h143^{km}±91^{km}, mb3.1/4, mb1 3.6/7, mb1mx3.2/34, mbtmp3.8/7, Error ellipse: s-maj=83.9km s-min=23.5km az=170.0*
*NEIC **14** 22:47:39.9±1.0, 52.°4N±0.°2×174.°3W±0.°1, h176^{km}±6^{km}, Error ellipse: s-maj=28.6km s-min=7.2km az=166.0*
*AEIC **14** 22:47:40±1.5, 52.°2N±0.°2×174.°2W±0.°1, h175^{km}±5^{km}, ML3.5, mb3.9/22(NEIC), Error ellipse: s-maj=27.8km s-min=7.1km az=165.0*

ISC 14 22:47:39.8±0.7, 52.°5N±0.°2×174.°29W±0.°05, h175^{km}±7^{km}, n62, σ0°74/67, mb3.4/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	0.10	166		**Pn**	22 48 03.4	+0.4
KOKL	**Mount Kliuchef**	0.14	158		**Pn**	22 48 03.7	+0.7
KOSE	**Korovin Southe**	0.18	128		**Pn**	22 48 03.5	+0.4
ATKA	**Atka Island**	0.26	167		**Pn**	22 48 03.2	0.0
ATKA				Sn	**Sn**	22 48 20.8	-0.2
GSTR	**Great Sitkin T**	1.15	252		**Pn**	22 48 08.3	+0.2
GSMY	**Great Sitkin M**	1.16	250		**Pn**	22 48 08.2	0.0
GSTD	**Great Sitkin T**	1.21	251		**Pn**	22 48 08.6	-0.1
GSTD					**Sn**	22 48 31.2	+0.3
GSSP	**Great Sitkin S**	1.22	253		**Pn**	22 48 08.9	+0.3
ADAG	**Mount Adagdak**	1.50	252		**Pn**	22 48 11.5	+0.2
ADK	**Adak**	1.58	250	Pn	**Pn**	22 48 12.2	+0.2
ADK				Sn	**Sn**	22 48 36.7	-0.3
KIKV	**Kanaga Island**	1.87	253		**Pn**	22 48 15.4	+0.4
KIMD	**Kanaga Island**	1.95	250		**Pn**	22 48 16.3	+0.5
TAFP	**Tanaga Falls P**	2.34	258		**Pn**	22 48 20.6	+0.3
TAFP					**Sn**	22 48 51.2	-0.5
TASE	**Tanaga Southea**	2.39	256		**Pn**	22 48 21.4	+0.5
TANO	**Tanaga North**	2.42	259		**Pn**	22 48 22.3	+1.1
GAEA	**Gareloi East**	2.83	258		**Pn**	22 48 26.7	+0.7
GALAA	**Gareloi Lava P**	2.85	258		**Pn**	22 48 26.9	+0.7
NIKH	**Nikolski High**	3.34	79		**Pn**	22 48 31.9	-0.5
NIKH				Sn	**Sn**	22 49 12.7	-0.7
CERAA	**Semis' Rag'd T**	3.75	264		**Pn**	22 48 38.1	+0.7
CESW	**Semis' Southwe**	3.83	264		**Pn**	22 48 38.9	+0.5
AMKA	**Amchitka**	4.11	257		**Pn**	22 48 42.0	0.0
AMKA				Sn	**Sn**	22 49 28.2	-2.6
LSSE	**Little Sitkin**	4.43	266		**Pn**	22 48 46.8	+0.7
MAPS	**Pakushin South**	4.63	70		**Pn**	22 48 49.2	+0.5
UNV	**Unalaska Valle**	4.89	70		**Pn**	22 48 52.1	0.0
UNV				Sn	**Sn**	22 49 48.9	+0.2
AKUT	**Akutan**	5.38	68	Pn	**Pn**	22 48 57.9	-0.5
KDAK	**Kodiak Island**	13.49	58	P	**Pn**	22 50 41.4	-2.5
	3.0nm,0.3s,baz=276,slow=0.8,SNR=16						
KDAK				S	**Sn**	22 53 13.0	-0.7
	0.2nm,0.3s,baz=161,slow=13,SNR=1.6						
CNPM	**China Poot**	14.66	52	Pn	**Pn**	22 50 58.8	+0.2
SKT	**Skwentna**	15.50	43	Pn	**Pn**	22 51 09.3	+0.5
PPLA	**Purkeypile**	15.68	40	P	**P**	22 51 12.9	+1.2
PPLA				IAmb	IAmb	22 51 29.9	
	comp=Z,4.2nm,1.2s						
KTH	**Kantishna Hill**	16.52	39		**P**	22 51 21.0	+0.2
KTH				IAmb	IAmb	22 51 24.6	
	comp=Z,4.5nm,0.8s						
GHO	**Glory Hole Cre**	16.52	46		**P**	22 51 21.0	+0.1
BPAW	**Bear Paw Mtn.**	16.79	37	P	**Pn**	22 51 25.4	+0.9
BPAW				IAmb	IAmb	22 51 29.3	
	comp=Z,3.8nm,0.4s						
PETK	**Petropavlovsk-**	16.92	283	P	**P**	22 51 25.8	+0.5
	comp=Z,0.1nm,0.3s,baz=90,slow=15,SNR=1.3						
SCM	**Sheep Creek Mo**	17.25	47	P	**P**	22 51 29.0	+0.1
RND	**Reindeer**	17.25	41	P	**Pn**	22 51 30.0	-0.1
MCK	**McKinley**	17.38	40	P	**P**	22 51 30.2	+0.1
MCK				IAmb	IAmb	22 51 33.3	
	comp=Z,3.6nm,0.4s						
DHY	**Denali Highway**	17.71	43	P	**P**	22 51 34.5	+0.6
DHY				IAmb	IAmb	22 51 36.3	
	comp=Z,5.7nm,0.6s						
KLU	**Klutina**	17.77	48	P	**P**	22 51 34.8	+0.3
WRH	**Wood River Hil**	18.06	38	P	**P**	22 51 36.6	-0.9
WRH				IAmb	IAmb	22 51 40.4	
	comp=Z,2.9nm,0.8s						
CCB	**Clear Creek Bu**	18.25	38	P	**P**	22 51 39.1	-0.6
CCB				IAmb	IAmb	22 51 42.3	
	comp=Z,2.9nm,0.7s						
MDM	**Murphy Dome**	18.25	37	P	**P**	22 51 39.7	-0.1
MDM				IAmb	IAmb	22 51 43.4	
	comp=Z,3.1nm,0.6s						
HDA	**Harding Lake**	18.47	39	P	**P**	22 51 42.7	+0.7
IL31		18.66	38	P	**P**	22 51 44.5	+0.4
IL31				IAmb	IAmb	22 51 46.1	
	comp=Z,4.1nm,1.1s						
ILAR	**Eielson Array**	18.66	38	P	**P**	22 51 43.2	-0.9
	comp=Z,0.7nm,0.3s,baz=233,slow=10,SNR=33						
ILAR	**Eielson Array**	18.66	38	P	**Pn**	22 51 45.9	-0.6
RIDG	**Independent Ri**	19.02	42	P	**P**	22 51 47.2	-0.9
DOT	**Dot Lake**	19.31	43	P	**P**	22 51 51.2	0.0
DOT				IAmb	IAmb	22 51 52.1	
	comp=Z,6.3nm,1.0s						
TOLK	**Toolik Lake Re**	20.02	27	P	**P**	22 51 58.8	+0.1
BCAR	**Beaver Creek A**	20.09	45	P	**P**	22 51 58.9	-0.7
H11N2	**WAKE ISLAND Hy**	35.80	211	T	T	23 31 09.5	
	baz=18,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	35.81	211	T	T	23 31 10.3	
	baz=18,slow=76,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	35.82	211	T	T	23 31 11.0	
	baz=18,slow=76,SNR=6.1						
NVAR	**Mina Array Bea**	40.67	87	P	**P**	22 55 05.1	+2.1
	comp=Z,0.5nm,0.7s,baz=301,slow=8.1,SNR=6.0						
NVAR	**Mina Array Bea**	40.67	87	P	**P**	22 55 02.5	-0.5
PD31	**Pinedale Array**	43.33	76	P	**P**	22 55 24.9	+0.4
PDAR	**Pinedale Array**	43.33	76	P	**P**	22 55 25.1	+0.6
	comp=Z,0.5nm,0.4s,baz=325,slow=3.1,SNR=6.6						
PDAR	**Pinedale Array**	43.33	76	P	**P**	22 55 24.2	-0.3
TX31	**Lajitas Ar. Si**	55.75	85	P	**P**	22 56 58.4	0.0
TX31				IAmb	IAmb	22 57 08.9	
	comp=Z,2.2nm,1.1s						
TX32	**Lajitas Array**	55.75	85	P	**P**	22 56 57.7	-0.7
TXAR	**Lajitas Array**	55.75	85	P	**P**	22 56 59.3	+0.9
	comp=Z,0.4nm,0.7s,baz=299,slow=6.4,SNR=5.9						
TXAR	**Lajitas Array**	55.75	85	P	**P**	22 56 58.1	-0.3
WRA	**Warramunga Arr**	84.77	228	P	**P**	22 59 54.3	+0.1
	comp=Z,0.5nm,1.1s,baz=34,slow=5.8,SNR=3.0						

*JMA **14** 23:20:35.0±0.1, 38.°23N×142.°45E, h39^{km}±2^{km}, M4.1*
JMA Felt I J1.
*NIED **14** 23:20:35.0, 38.°23N×142.°45E, h39^{km}, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.72; $M_{\theta\theta}$-1.50; $M_{\phi\phi}$-1.22; $M_{r\theta}$-0.40; $M_{\theta\phi}$-1.98; $M_{\phi r}$-2.72; Fault plane solution: $M_0$4.12000×10^{14} NP1: ϕ_s203.00000°, δ67.00000°, λ67.00000°. NP2:ϕ_s71.00000°, δ32.00000°, λ133.00000°.*
*IDC **14** 23:20:35.7±2.6, 38.°16N×142.°61E, h44^{km}±25^{km}, mb3.4/6, mb1 3.6/10, mb1mx3.3/46, mbtmp3.6/10, ML3.0/4 Error ellipse: s-maj=31.9km s-min=20.7km az=96.0*

ISC 14 23:20:34.6±3.0, 38.°22N±0.°05×142.°48E±0.°09, h31^{km}±20^{km}, n31, σ1°59/38, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	0.80	277	P	**Pn**	23 20 49.6	-0.1
JIKH				S	**Sb**	23 20 59.6	-1.0
JIO	**Ouri**	0.92	285	P	**Pn**	23 20 51.4	+0.1
JIO				S	**Sn**	23 21 03.0	-0.4
JKMT	**Kesennumamotoy**	0.98	307	P	**Pn**	23 20 52.4	+0.2
JKMT				S	**Sn**	23 21 05.1	+0.1
OFUJ	**Ofunato**	1.06	324	P	**Pn**	23 20 53.6	+0.2
OFUJ				S	**Sn**	23 21 06.8	-0.3
JMK	**Ichinoseki**	1.23	307	P	**Pn**	23 20 56.0	+0.4
JMK				*e*S	**Sn**	23 21 11.3	+0.3
JMM	**Marumori**	1.38	255	P	**Pn**	23 20 57.6	-0.1
JMM				S	**Sn**	23 21 14.1	-0.7
JOU	**Okura**	1.43	276	P	**Pn**	23 20 59.2	+0.7
JOU				*e*S	**Sn**	23 21 17.1	+0.8
JFK	**Kawauchi**	1.53	237	P	**Pn**	23 20 59.5	-0.3
JOM	**Ohasama**	1.55	324	P	**Pn**	23 21 00.9	+0.8
JOM				*e*S	**Sn**	23 21 20.8	+1.6
JYK	**Kaneyama**	1.80	293	P	**Pn**	23 21 04.4	+0.9
JFT	**Otama**	1.83	248	P	**Pn**	23 21 04.9	+0.9
JFT				*e*S	**Sn**	23 21 27.2	+1.0
JRG	**Rokugo**	1.86	310	P	**Pn**	23 21 05.0	+0.7
JYS	**Shirataka**	1.90	271	P	**Pn**	23 21 05.8	+0.9
JYS				S	**Sn**	23 21 28.9	+1.2
JYA	**Atsumi**	2.20	280	P	**Pn**	23 21 10.3	+1.3
MJAR	**Matsushiro Arr**	3.79	245	P	**Pn**	23 21 33.2	+2.3
	0.3nm,0.3s,baz=334,slow=6.2,SNR=15						
MAT	**Matsushiro**	3.79	245	P	**Pn**	23 21 33.5	+2.6
MAT				*e*S	**Sn**	23 22 15.7	+1.2
JHJ	**Hachijo jima 2**	5.54	204	P	**Pn**	23 21 54.4	-0.6
	5.9nm,0.3s,baz=126,slow=23,SNR=9.0						
JHJ				S	**Sn**	23 22 53.0	-4.7
	24nm,0.3s,baz=69,slow=22,SNR=6.9						
ASAJ	**Asahikawa**	5.89	1	P	**Pn**	23 22 01.4	+1.8
	0.7nm,0.3s,baz=191,slow=16,SNR=2.7						
ASAJ				S	**Sn**	23 23 00.9	-5.2
	0.7nm,0.3s,baz=155,slow=32,SNR=1.6						
USRK	**Ussuriysk Ar.**	9.90	310	P	**Pn**	23 22 56.6	+1.9
	baz=173,slow=29,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	28.07	124	T	T	23 56 47.4	
	baz=316,slow=75,SNR=124						
H11N1	**WAKE ISLAND Hy**	28.08	124	T	T	23 56 49.5	
	baz=316,slow=75,SNR=114						
H11N3	**WAKE ISLAND Hy**	28.09	124	T	T	23 56 51.5	
	baz=316,slow=75,SNR=114						
H11S1	**WAKE ISLAND Hy**	28.84	126	T	T	23 57 51.3	
	baz=318,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	28.84	126	T	T	23 57 44.1	
	baz=318,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	28.85	126	T	T	23 57 51.9	
	baz=318,slow=76,SNR=43						
ZALV	**Zalesovo Beam**	41.75	311	P	**P**	23 28 21.2	+0.5
	0.4nm,0.3s,baz=79,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	44.21	301	P	**P**	23 28 41.4	+0.6
	0.7nm,0.7s,baz=83,slow=9.9,SNR=4.8						
ILAR	**Eielson Array**	48.04	33	P	**P**	23 29 09.5	-1.0
	0.2nm,0.8s,baz=280,slow=6.3,SNR=1.6						
WRA	**Warramunga Arr**	58.36	189	P	**P**	23 30 25.9	-0.9
	0.3nm,0.6s,baz=6.9,slow=7.2,SNR=5.4						
FINES	**FINESS Array B**	68.16	332	P	**P**	23 31 31.0	-0.3
	2.6nm,1.0s,baz=60,slow=8.2,SNR=1.8						
TXAR	**Lajitas Array**	88.73	53	P	**P**	23 33 25.8	+0.3
	0.1nm,0.5s,baz=310,slow=5.6,SNR=2.4						

*IDC **14** 23:21:31.7±2.3, 1.°04N×97.°26E, h0^{km}, mb3.7/5, mb1 3.7/7, mb1mx3.4/46, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=50.7km s-min=31.0km az=57.0*

ISC 14 23:21:36.4±1.9, 1.°2N±0.°2×97.°4E±0.°2, h27^{km}, n10, σ0°36/7, mb3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	2.23	43	Pn	**Pn**	23 22 11.7	-0.1
	1.9nm,0.3s,baz=180,slow=1.1,SNR=11						
CMAR	**Chiang Mai Arr**	17.26	5	P	**P**	23 25 36.7	-0.4
	0.1nm,0.3s,baz=180,slow=13,SNR=1.4						
H08S2	**Diego Garcia H**	26.34	250	T	T	23 54 06.5	
	baz=71,slow=75,SNR=815						
H08S3	**Diego Garcia H**	26.34	250	T	T	23 54 06.6	
	baz=71,slow=75,SNR=753						
H08S1	**Diego Carcia H**	26.36	250	T	T	23 54 07.8	
	baz=71,slow=75,SNR=620						
WRA	**Warramunga Arr**	41.84	122	P	**P**	23 29 24.3	-0.2
	0.4nm,0.7s,baz=302,slow=9.0,SNR=3.0						
KSRS	**Korea Array**	45.77	34	P	**P**	23 29 56.2	+0.5
	0.8nm,0.5s,baz=224,slow=7.6,SNR=4.0						
SONM	**Songino Array**	47.15	8	P	**P**	23 30 06.5	-0.1
	0.6nm,0.7s,baz=188,slow=8.7,SNR=3.8						
MKAR	**Manchi Array**	47.34	346	P	**P**	23 30 07.8	-0.2
	0.5nm,0.7s,baz=158,slow=8.0,SNR=3.1						
ZALV	**Zalesovo Beam**	53.64	351	P	**P**	23 30 55.6	+0.3
	1.8nm,0.8s,baz=189,slow=5.6,SNR=5.9						

*NEIC **14** 23:56:49.4±2.2, 0.°48S±0.°09×19.°04W±0.°08, h10^{km}±1^{km}, mb4.8/55, Error ellipse: s-maj=15.8km s-min=14.2km az=161.0*
*IDC **14** 23:56:50.5±1.0, 0.°40S×18.°62W, h0^{km}, mb4.2/13, mb1 4.4/15, mb1mx4.1/40, mbtmp4.2/15, ML4.6/2, MS3.6/13, Ms1 3.6/13, ms1mx3.3/44, Error ellipse: s-maj=41.8km s-min=14.5km az=146.0*

ISC 14 23:56:49.1±0.6, 0.°5S±0.°1×18.°93W±0.°09, h10^{km}, n131, σ1°57/118, mb4.6/52, MS3.6/11, 13C-12D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	8.52	149	T	T	00 07 35.9	
	baz=329,slow=74,SNR=651						
H10N3	**ASCENSION HYDR**	8.53	149	T	T	00 07 36.2	
	baz=329,slow=74,SNR=1296						
H10N1	**ASCENSION HYDR**	8.54	149	T	T	00 07 37.3	
	baz=329,slow=74,SNR=1389						
ASCN	**Ascension**	8.68	148	Pn	Pn	23 58 57.7	+2.8
MBO	**M'Bour**	14.92	7		**P**	00 00 25.9	-0.1
DBIC	**Dimbokro**	15.75	63	Pn	**Pn**	00 00 28.5	-2.7
	2.4nm,0.3s,baz=233,slow=12,SNR=48						
DBIC				LR	LR	00 05 34.0	
	comp=Z,171nm,18.0s,baz=224,slow=34						
DBIC	**Dimbokro**	15.75	63		**Pn**	00 00 30.0	-1.2
SACV	**Santiago Islan**	16.05	343	Pn	**Pn**	00 00 33.0	-2.2
RCBR	**Riachuelo**	17.75	252	P	**P**	00 01 02.1	+4.7
	2.0nm,0.3s,baz=80,slow=13,SNR=22						
RCBR				LR	LR	00 05 55.8	
	comp=Z,155nm,21.4s,baz=79,slow=30						
RCBR	**Riachuelo**	17.75	252	Pn	**P**	00 01 01.2	+3.8
TOA0	**Torodi Ar. Sit**	24.54	56	P	**P**	00 02 08.9	-0.3
TOA0				IAmb	IAmb	00 02 11.1	
	comp=Z,14nm,0.9s						
TORD	**Torodi Ar. Bea**	24.54	56	P	**P**	00 02 08.4	-0.8
	comp=Z,11nm,0.8s,baz=240,slow=8.6,SNR=36						
TORD				LR	LR	00 10 26.6	
	comp=Z,91nm,19.7s,baz=210,slow=34						
TORD	**Torodi Ar. Bea**	24.54	56	P	**P**	00 02 08.1	-1.1
BDFB	**Brasilia**	32.41	241	LR	LR	00 15 01.1	
	comp=Z,132nm,20.0s,baz=97,slow=33						
TAM	**Tamanrasset**	33.21	44	P	**P**	00 03 27.4	+0.8
MDT	**Midelt**	35.79	21	P	**P**	00 03 51.0	+2.3
	comp=Z,1.6nm,0.7s,baz=217,slow=7.0,SNR=6.8						
ROSA	**Rosais**	39.96	349	P	**P**	00 04 25.4	+1.6
CART	**Cartagena**	41.36	22	P	**P**	00 04 37.4	+1.9
PAB	**San Pablo**	42.03	17	P	**P**	00 04 43.5	+2.5
ESDC	**Sonseca Array**	42.26	17	P	**P**	00 04 44.3	+1.4
	comp=Z,2.0nm,1.0s,baz=212,slow=8.6,SNR=8.3						
ESDC				LR	LR	00 22 04.4	
	comp=Z,49nm,20.5s,baz=175,slow=36						
ESDC	**Sonseca Array**	42.26	17	P	**P**	00 04 44.2	+1.4
SIV	**San Ignacio**	44.31	247	P	P	00 05 06.0	+6.2
	comp=Z,2.8nm,0.8s,baz=84,slow=9.5,SNR=14						
KEST	**Kesra**	44.65	33	LR	LR	00 24 50.6	
	comp=Z,181nm,19.6s,baz=198,slow=38						
CPUP	**Villa Florida**	45.00	232	LR	LR	00 23 27.6	
	comp=Z,70nm,18.3s,baz=85,slow=35						
SEUS	**St. Eustatius**	46.90	295	P	**P**	00 05 19.8	-0.4
LPAZ	**La Paz**	50.96	249	P	P	00 05 56.8	+4.7
	comp=Z,1.3nm,0.8s,baz=83,slow=4.5,SNR=5.8						
LATE	**Laterza**	51.05	29	P	**P**	00 05 53.5	+1.8
TIP	**Timpagrande**	51.26	36	P	**P**	00 05 53.8	+0.5
TIP				IAmb	IAmb	00 05 55.3	
	comp=Z,6.2nm,0.9s						
AQU	**L'Aquila**	51.65	30	P	**P**	00 05 57.8	+1.6
AQU				IAmb	IAmb	00 06 01.7	
	comp=Z,6.7nm,1.0s						
INTR	**Introdacqua**	51.66	31	P	**P**	00 05 57.6	+1.4
INTR				IAmb	IAmb	00 06 12.4	
	comp=Z,9.6nm,1.3s						
PRMA	**PARMA**	52.01	26	P	**P**	00 06 00.7	+2.0
PRMA				IAmb	IAmb	00 06 02.2	
	comp=Z,34nm,1.4s						
DR12	**Loma Pena Alta**	53.10	294	P	**P**	00 06 06.2	-1.2
PB11	**IPOC Station P**

BISRR	Bisoca	60.98	35	⇑P		P	00 07 02.6	-0.2
MDUB	Mudurnu	61.09	42	P		P	00 07 03.2	-0.5
PLOR	Plostina	61.12	35	⇓P		P	00 07 04.2	+0.5
VRI	Vrincioaia	61.17	35	⇓P		P	00 07 04.8	+0.8
HARR	Harsova	61.21	36	⇓P		P	00 07 05.4	+1.2
ODBI	Odobesti	61.30	35	⇓P		P	00 07 07.0	+2.2
BURAR	Bucovina Array	61.38	32	⇑P		P	00 07 07.7	+2.2
BURAR	Bucovina Array	61.38	32	P		P	00 07 06.1	+0.6
PETR	Petresti	61.38	35	⇑P		P	00 07 01.2	-4.1
GHRR		61.67	35	⇑P		P	00 07 08.0	+0.7
BR131	Keskin Array S	62.41	44	P		P	00 07 13.3	+0.7
BRTR	Keskin Array B	62.41	44	P		P	00 07 14.1	+1.5
	comp=Z,2.7nm,0.7s,baz=243,slow=6.3,SNR=16							
BRTR				LR		LR	00 34 55.5	
	comp=Z,22nm,19.6s,baz=70,slow=37							
BRTR	Keskin Array B	62.41	44	P		P	00 07 13.7	+1.1
SORM	Soroca	63.39	33	⇓P		P	00 07 18.3	-0.4
GAZ	Gaziantep	63.91	48	P		P	00 07 23.4	+0.8
GAZ				IAmb		IAmb	00 07 25.6	
	comp=Z,8.3nm,0.9s							
V62A	Hyde County Ai	63.98	310	P		P	00 07 21.1	-1.9
R61A	Willards	64.55	313	P		P	00 07 24.9	-1.7
AKASG	Malin Array Be	65.32	31	P		P	00 07 32.1	+0.7
	comp=Z,3.1nm,0.8s,baz=238,slow=6.6,SNR=8.5							
AKASG	Malin Array Be	65.32	31	P		P	00 07 31.6	+0.3
AKBB	Malin Array Si	65.32	31	P		P	00 07 31.8	+0.4
AKBB				IAmb		IAmb	00 07 32.7	
	comp=Z,7.3nm,0.8s							
P60A	Greenville	65.34	315	P		P	00 07 30.5	-1.2
P60A				IAmb		IAmb	00 07 31.0	
	comp=Z,18nm,1.3s							
NB2	NORSAR Subarra	65.59	16	P		P	00 07 34.7	+1.7
	comp=Z,0.5nm,0.7s,baz=209,slow=6.9							
NOA	NORSAR Array B	65.59	16	P		P	00 07 34.5	+1.5
	comp=Z,0.8nm,0.8s,baz=210,slow=6.6,SNR=3.9							
NOA				LR		LR	00 37 16.7	
	comp=Z,18nm,20.0s,baz=90,slow=37							
MARD	Mardin	66.62	49	P		P	00 07 40.4	+0.2
MARD				IAmb		IAmb	00 07 42.3	
	comp=Z,6.0nm,0.9s							
LATQ	La Tuque	66.77	323	P		P	00 07 40.0	-0.7
ACON	Acoyapa	66.89	283	P		P	00 07 40.4	-1.8
P57A	Homestead Farm	66.91	314	P		P	00 07 41.1	-0.8
P57A				IAmb		IAmb	00 07 41.9	
	comp=Z,19nm,1.4s							
456A	Hilliard	67.34	304	P		P	00 07 42.3	-2.4
TKL	Tuckaleechee C	70.05	308	LR		LR	00 33 27.8	
	comp=Z,31nm,20.0s,baz=194,slow=31							
KIV	Kislovodsk	70.29	42	P		P	00 08 03.7	+0.7
KIV				IAmb		IAmb	00 08 05.1	
	comp=Z,6.6nm,1.2s							
KBZ	Khabaz	70.35	43	P		P	00 08 05.0	+1.8
	comp=Z,6.7nm,0.8s,baz=226,slow=6.8,SNR=15							
FINES	FINESS Array B	70.60	21	P		P	00 08 06.3	+1.9
	comp=Z,2.8nm,0.8s,baz=178,slow=15,SNR=6.1							
FINES	FINESS Array B	70.60	21	P		P	00 08 05.3	+0.9
FIA1	FINESS Array S	70.60	21	P		P	00 08 04.7	+0.3
FIA1				IAmb		IAmb	00 08 06.7	
	comp=Z,26nm,1.5s							
TBLG	Delisi	70.96	45	P		P	00 08 07.1	0.0
TBLG				IAmb		IAmb	00 08 09.9	
	comp=Z,3.9nm,0.7s							
R50A	Paris	71.20	311	P		P	00 08 06.9	-1.6
R50A				IAmb		IAmb	00 08 07.5	
	comp=Z,13nm,1.5s							
SYO	Syowa Base	78.68	162	⇓eP		P	00 08 51.0	-0.2
ABKAR	Akbulak array	83.11	40	P		P	00 09 15.9	+0.6
TXAR	Lajitas Array	85.65	299	P		P	00 09 32.0	+3.3
	comp=Z,1.1nm,1.1s,baz=131,slow=6.8,SNR=4.6							
RWWY	Rawlins	89.04	312	P		P	00 09 44.3	-0.8
PDAR	Pinedale Array	90.80	313	LR		LR	00 44 22.1	
	comp=Z,23nm,21.8s,baz=160,slow=31							
ASAR	Alice Springs	144.32	134	PKP		PKPdf	00 16 27.7	+1.1
	comp=Z,0.5nm,0.6s,baz=222,slow=2.8,SNR=5.9							
WRA	Warramunga Arr	146.85	129	PKPbc		PKiKP	00 16 35.5	+0.1
	comp=Z,0.6nm,0.9s,baz=253,slow=3.3,SNR=3.4							

*IDC **15** 00:01:08.1±8.2, 32°.42S×179°.75E, h340km±94km, mb3.0/2, mb1 3.3/3, mb1mx3.0/21, mbtmp3.8/3, Error ellipse: s-maj=109.6km s-min=45.4km az=2.0*
*WEL **15** 00:01:14.0±1.4, 32°S±19°×17°.9E±4°.4, h180km±53km, M4.3/8, mB4.6/3, ML4.5/8, MLv4.4/8, Mw(mB)3.8/3, Error ellipse: s-maj=0.1km s-min=0.0km az=112.8*
ISC 15 00:01:08.5±1.1, 32°.13S±0°.09×179°.1E±0°.2, h300km, n16, σ2§32/26, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.85	43	S	S	00 03 04.8	0.0
MXZ	Matakaoa Point	5.46	187	P	Pn	00 02 34.6	+3.3
MXZ				S	S	00 03 37.8	-0.1
WMGZ	Waiomatatini S	5.70	185	P	Pn	00 02 38.0	+3.8
WMGZ				S	S	00 03 41.8	-1.3
HAZ	Te Kaha	5.72	190	P	Pn	00 02 37.4	+3.2
HAZ				S	S	00 03 41.1	-2.3
RUGZ	Raukumara Rang	5.94	191	P	Pn	00 02 40.1	+3.0
RUGZ				S	S	00 03 46.6	-1.8
MWZ	Matawai	6.32	191	P	Pn	00 02 44.1	+2.5
MWZ				S	S	00 03 54.6	-2.1
URZ	Urewera	6.33	194	P	Pn	00 02 42.7	+1.1
	3.3nm,0.3s,baz=271,slow=5.2,SNR=47						
URZ				S	S	00 03 54.4	-2.3
	1.1nm,0.3s,baz=51,slow=20,SNR=2.1						
URZ	Urewera	6.33	194	P	Pn	00 02 43.2	+1.6
URZ				S	S	00 03 54.1	-2.6
CNGZ	Carnagh Statio	6.38	186	P	Pn	00 02 44.3	+2.1
RAGZ	Rawiri	6.50	192	P	Pn	00 02 42.0	-1.8
MUGZ	Murupara	6.61	196	P	Pn	00 02 47.8	+2.7
MUGZ				S	S	00 04 01.8	-1.2
RIGZ	Rimuhau	6.65	189	P	Pn	00 02 46.9	+1.4
RIGZ				S	S	00 04 01.4	-2.5
SNGZ	Shannon Statio	6.79	192	P	Pn	00 02 49.3	+2.1
SNGZ				S	S	00 04 06.7	-0.3
ASAR	Alice Springs	40.57	270	P	P	00 08 20.5	+0.9
	0.3nm,0.5s,baz=109,slow=7.0,SNR=4.8						
WRA	Warramunga Arr	41.73	276	P	P	00 08 29.6	+0.7
	0.7nm,0.3s,baz=113,slow=8.0,SNR=22						
FINES	FINESS Array B	145.84	337	PKPbc	PKPdf	00 20 07.2	-3.5
	1.8nm,0.9s,baz=35,slow=3.4,SNR=4.7						

*TUL **15** 00:11:16.5±2.2, 35°.82N±0°.04×97°.42W±0°.06, h4km±7km, ML3.1, Error ellipse: s-maj=7.1km s-min=5.5km az=80.0*
*UNK **15** 00:11:16.5, 35°.82N×97°.42W, h4km*
*ANF **15** 00:11:16.2±0.5, 35°.75N×97°.41W, h0km, ML3.8/9, Error ellipse: s-maj=5.7km s-min=3.8km az=167.0*
*NEIC **15** 00:11:17.4±2.7, 35°.79N±0°.04×97°.45W±0°.03, h9km±7km, Error ellipse: s-maj=6.6km s-min=1.8km az=209.0*
ISC 15 00:11:17.2±0.8, 35°.82N±0°.02×97°.45W±0°.02, h4km±7km, n63, σ1§77/77, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.03	190		Pg	00 11 17.8	-0.2
OK029				Sg	Sg	00 11 18.8	+0.1
BCOK	Bluff Creek, N	0.21	218		Pg	00 11 21.2	-0.1
BCOK				Sg	Sg	00 11 24.4	+0.4
OK009	Oakdale Elemen	0.24	175		Pg	00 11 21.4	-0.4
OK009				Sg	Sg	00 11 24.9	-0.1
OK025	Westminster Rd	0.26	160		Pg	00 11 21.7	-0.5
OK025				Sg	Sg	00 11 25.4	-0.1
OK005	Luther M Schoo	0.27	129		Pg	00 11 21.7	-0.7
OK005				Sg	Sg	00 11 25.4	-0.5
OKCFA	Oklahoma City	0.41	180		Pg	00 11 24.6	-0.5
OKCFA				Sg	Sg	00 11 30.5	+0.2
OKCSW	OKLAHOMA CITY	0.42	179		Pg	00 11 24.7	-0.5
OKCSW				Sg	Sg	00 11 30.7	+0.1
FNO	Franklin	0.57	176	Pg	Pg	00 11 27.7	-0.4
FNO				Sg	Sb	00 11 35.9	-2.2
QUOK	Quay	0.69	60	Pg	Pg	00 11 29.5	-1.0
QUOK				Sg	Sg	00 11 38.5	-1.0
CROK	Carrier	0.81	328		Pg	00 11 32.3	-0.3
CROK				Sg	Sg	00 11 43.8	+0.7
KAN13	South Haven SW	1.19	359		Pn	00 11 39.1	-1.6
T35A	Sooner Cattle	1.33	34	Pn	Pn	00 11 40.9	-1.7
TUL1	Leonard	1.35	86	P	Pn	00 11 40.4	-2.4
	baz=266						
TUL1				S	Sb	00 11 58.4	-2.2
	baz=266						
TUL1	Leonard	1.35	86		Pn	00 11 40.3	-2.5
U32A	Winter Ranch,	1.37	294		Pn	00 11 42.3	-0.9
KAN10	Anthony SW Sta	1.40	338	Pn	Pn	00 11 42.4	-1.1
KAN12	Harper NE Stat	1.54	343	Pn	Pn	00 11 45.2	-0.3
WMOK	Wichita Mounta	1.54	226	P	Pn	00 11 44.5	-0.9
	baz=46						
WMOK				S	Sb	00 12 05.0	-1.1
	baz=46						
WMOK	Wichita Mounta	1.54	226	Pn	Pn	00 11 44.4	-1.1
X37A	Clayton	2.10	125		Pn	00 11 52.4	-0.8
Z35A	Perchaven, San	2.49	176		Pn	00 11 57.6	-0.9
U38A	Gravette	2.56	75		Pn	00 11 59.6	+0.2
R32A	Long Quarter,	2.78	339		Pn	00 12 03.0	+0.4
HHAR	Hobbs	2.88	80		Pn	00 12 03.5	-0.4
W39A	Magazine	3.06	101	P	Pn	00 12 06.0	-0.3
	baz=283						
W39A	Magazine	3.06	101		Pn	00 12 06.7	+0.4
Z38A	Mt. Pleasant	3.27	141		Pb	00 12 17.1	+1.3
KSU1	Kansas State U	3.34	11	Pb	Pb	00 12 17.9	+1.0
	baz=191						
KSU1	Kansas State U	3.34	11		Pn	00 12 09.1	-1.1
MIAR	Mount Ida	3.42	111	P	Pn	00 12 11.2	-0.1
	baz=293						
MIAR	Mount Ida	3.42	111	Pn	Pn	00 12 11.4	+0.2
CBKS	Cedar Bluff	3.50	329	Pb	Pb	00 12 20.6	+0.9
	baz=148						
CBKS				Sb	Sg	00 13 07.4	-2.1
	baz=148						
CBKS	Cedar Bluff	3.50	329	Pg	Pb	00 12 20.8	+1.1
AMTX	Amarillo	3.58	256	Pb	Pb	00 12 20.1	-1.1
	baz=74						
AMTX	Amarillo	3.58	256	Pn	Pn	00 12 13.0	-0.7
ABTX	Abilene, Hawle	3.67	210		Pb	00 12 21.6	-1.1
U40A	Yellville	3.76	81	Pn	Pn	00 12 15.4	-0.6
S39A	Bolivar	3.80	59	Pn	Pn	00 12 16.4	-0.1
WHTX	Lake Whitney,	3.82	180	Sb	Sb	00 13 13.0	+1.1
	baz=0.5						
WHTX	Lake Whitney,	3.82	180		Pb	00 12 23.4	-1.8
237A	Washetta, Mont	4.05	160	Pn	Pn	00 12 18.9	-1.0
WLAR	White Oak Lake	4.16	120	Pg	Pg	00 12 34.5	-2.4
WHAR	Wooly Hollow	4.24	96	Pn	Pn	00 12 23.3	+0.7
W41B	Gary Mavity, V	4.29	97	P	Pn	00 12 22.8	-0.5
	baz=280						
W41B				Sb	Sb	00 13 29.4	+4.0
	baz=280						
UALR	University of	4.30	103	Pn	Pn	00 12 20.4	-3.1
Z41A	Richland Creek	4.61	122	Pn	Pn	00 12 25.8	-1.9
MSTX	Muleshoe	4.75	249		Pb	00 12 42.0	+0.9
R40A	Maddies Statio	4.82	58		Pn	00 12 30.2	-0.4
P38A	Dawn	4.90	38		Pg	00 12 49.2	-1.9
435B	Jarrell	5.03	181		Pg	00 12 51.0	-2.6
LCAR	Lake Charles	5.11	85		Pb	00 12 49.7	+2.5
KSCO	Kaye Shedlock'	5.21	309	Pg	Pb	00 12 53.0	+4.2
N35A	Tabor	5.23	15	Pg	Pg	00 12 54.9	-2.3
T42A	Van Buren	5.26	75	Pg	Pb	00 12 54.0	+4.2
CCM	Cathedral Cave	5.45	64	Pg	Pb	00 12 56.7	+3.9
HBAR	Harrisburg	5.53	91	Pg	Pb	00 12 58.4	+4.0
X43A	Marvell	5.54	102	Pn	Pn	00 12 40.4	0.0
BGNE	Belgrade	5.60	355	Pn	Pn	00 12 42.2	+0.9
JCT	Junction City	5.68	201	Pg	Pg	00 13 02.0	-4.1
SDCO	Great Sand Dun	6.74	289	Pn	Pn	00 12 58.0	+0.7
GDL2	Guadalupe Moun	6.78	240	Pg	Pb	00 13 18.4	+2.6
K31A	O'Neill	6.87	352	Pg	Pg	00 13 25.4	-3.3
SCIA	State Center	6.91	27	Pg	Pb	00 13 21.1	+3.3

*IDC **15** 00:18:26.9±0.8, 27°.76N×66°.18E, h0km, mb3.9/16, mb1 4.0/17, mb1mx3.8/48, mbtmp3.9/17, ML3.8/1, MS3.4/11, Ms1 3.4/11, ms1mx3.1/50, Error ellipse: s-maj=19.3km s-min=17.1km az=8.0*
*NEIC **15** 00:18:29.6±1.9, 27°.73N±0°.06×66°.16E±0°.06, h33km±7km, mb4.1/25, Error ellipse: s-maj=10.1km s-min=7.0km az=217.0*
ISC 15 00:18:26.1±0.5, 27°.59N±0°.06×66°.20E±0°.04, h10km, n103, σ2§40/114, mb4.1/28, MS3.4/9, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	Bhuj	5.32	143	eP	Pn	00 19 52.0	+6.4
THW	Thamme Wali	7.07	41	P	Pn	00 20 09.6	0.0
KBL	Kabul	7.35	19	P	Pn	00 20 13.9	+0.2
	SNR=14						
KBL				S	Sn	00 21 35.5	-1.8
KBL	Kabul	7.35	19	Pn	Pn	00 20 13.7	0.0
KBL				Sn	Sn	00 21 35.9	-1.3
HRA	Herat	7.58	334	Pn	Pn	00 20 16.5	-0.4
CEP	Cherat	7.92	37	P	Pn	00 20 20.7	-0.8
WSAR	Wadi Sarin	8.10	239	Pn	Pn	00 20 26.2	+2.5
	1.1nm,0.3s,baz=90,slow=10,SNR=19						
WSAR				Sn	Sn	00 21 49.5	-5.8
	0.6nm,0.3s,baz=186,slow=12,SNR=3.0						
WSAR				LR	LR	00 24 38.5	
	comp=Z,142nm,18.2s,baz=92,slow=45						
WSAR	Wadi Sarin	8.10	239	P	Pn	00 20 25.8	+2.1
	SNR=19						
WSAR				S	Sn	00 21 49.6	-5.8
JLN	Jalan Bani Buh	8.20	230	P	Pn	00 20 27.0	+1.8
JLN				S	Sn	00 21 53.7	-4.3
WBK	Wadi Bani Khal	8.21	234	P	Pn	00 20 27.1	+1.7
	SNR=25						
WBK				S	Sn	00 21 54.3	-4.0
NIL	Nilore	8.57	43	P	Pn	00 20 31.1	+0.9
NIL	Nilore	8.57	43	Pn	Pn	00 20 29.8	-0.4
SMDO	Samad	8.64	240	P	Pn	00 20 33.3	+2.0
SMDO				P	Pn	00 20 33.3	+2.0
SMDO				S	Sn	00 22 04.7	-4.2
SMDO				S	Sn	00 22 04.7	-4.2
HOQ	Hoqain	8.96	246	P	Pn	00 20 37.4	+1.8
JMDO	Jabal Madar	8.99	237	P	Pn	00 20 38.0	+1.9
JMDO				S	Sn	00 22 15.7	-1.8
BANOM	Banah	9.00	262	P	Pn	00 20 38.2	+2.0
BANOM				S	Sn	00 22 14.3	-3.4
MDH	Madha	9.16	258	P	Pn	00 20 40.3	+1.9
UOSS	Minazif	9.35	256	P	Pn	00 20 42.6	+1.6
UOSS				P	Pn	00 20 42.6	+1.6
UOSS	Minazif	9.35	256	Pn	Pn	00 20 42.9	+1.9
UOSS				Sn	Sn	00 22 23.7	-2.5
SOHO	SOHO	9.36	251	P	Pn	00 20 42.5	+1.4
BSY	Bisya	9.47	241	P	Pn	00 20 44.5	+1.9
BSY				S	Sn	00 22 26.1	-3.0
ASHO	Ashiyiah	9.56	255	P	Pn	00 20 46.6	+2.8
	SNR=14						
NDI	New Delhi	9.79	81	eP	Pn	00 20 44.0	-2.9
NDI				eS	Sn	00 22 33.0	-3.9
DHRM	DHARAMSHALA	9.92	60	eP	Pn	00 20 50.2	+1.2
DHRM				eS	Sn	00 22 39.9	-0.6
DHRM				IAML		00 22 44.7	
	comp=E,187nm,0.9s						
DHRM				IAML		00 22 45.1	
	comp=N,175nm,0.5s						
SMLA	Simla	10.20	67	eP	Pn	00 20 54.5	+2.0
SMLA				eS	Sn	00 22 46.3	-0.6
SMLA				IAML		00 22 48.9	
	comp=N,55nm,0.1s						
SMLA				IAML		00 22 49.0	
	comp=E,42nm,0.9s						
BHPL	Bhopal	11.03	111	eP	Pn	00 21 08.9	+4.9
BHPL				eS	Sn	00 23 14.3	+6.8
CHGR	Chuyangaron	11.32	12	Pn	Pn	00 21 06.9	-1.0
GAR	Garm	11.89	16	Pn	Pn	00 21 12.8	-3.0
GEYT	Alibeck	12.35	329	LR	LR	00 26 05.2	
	comp=E,63nm,20.2s,baz=30,slow=38						
GEYT	Alibeck	12.35	329	Pn	Pn	00 21 22.5	+0.5
GYA0B	ALIBECK ARRAY	12.35	329	Pn	Pn	00 21 22.5	+0.5
BTK	Batken	13.02	16	Pn	Pn	00 21 30.4	-0.8
KSH	Kashi	14.41	32	P	Pn	00 21 43.4	-6.8
KSH				pmax	pmax		
	comp=Z,30nm,0.5s						
KSH				pmax	pmax		
	comp=Z,370nm,6.6s						
PYUN	Piuthan	14.87	84	eP	Pn	00 21 55.8	-0.8
	comp=Z,18nm,0.4s						
PYUN				eS	Sn	00 24 34.6	-6.9
PYUN	Piuthan	14.87	84	eP	Pn	00 21 55.8	-0.8
	comp=Z,18nm,0.4s						
PYUN				eS	Sn	00 24 34.6	-6.9
KOLN	Koldanda	15.42	85	eP	Pn	00 22 02.2	-1.8
	comp=Z,8.3nm,0.5s						
KOLN	Koldanda	15.42	85	eP	Pn	00 22 02.2	-1.8
	comp=Z,8.3nm,0.5s						
KK31	Karatay Array	15.87	12	P	Pn	00 22 08.8	-0.8
KKAR	Karatay Array	15.87	12	Pn	Pn	00 22 08.4	-1.2
KKAR	Karatay Array	15.87	12		Pn	00 22 09.1	-0.6
KKAR				IAmb	IAmb	00 22 15.2	
	comp=Z,4.3nm,0.8s						
AAK	Ala-Archa	16.47	22	Pn	Pn	00 22 16.0	-1.3
FRU1	Bishkek	16.66	22	Pn	Pn	00 22 18.1	-1.7
FRU1				IAmb	IAmb	00 22 23.8	
	comp=Z,9.3nm,0.8s						
DMN	Daman	16.76	86	eP	Pn	00 22 19.6	-1.7
	comp=Z,27nm,0.8s						
DMN	Daman	16.76	86	eP	Pn	00 22 19.6	-1.7
	comp=Z,27nm,0.8s						
BOOM	Boomskoye usch	16.86	26	Pn	Pn	00 22 20.2	-2.1
BOOM				IAmb	IAmb	00 22 35.8	
	comp=Z,18nm,1.5s						
TARG	Taragay, Kyrgy	17.01	31		Pn	00 22 23.3	-1.2
PKI	Pulchoki	17.03	86	eP	Pn	00 22 22.8	-2.0
	comp=Z,14nm,0.6s						
PKI	Pulchoki	17.03	86	eP	Pn	00 22 22.8	-2.0
	comp=Z,14nm,0.6s						
PRZ	Przheval'sk	17.88	31	P	Pn	00 22 34.3	-0.8
PRZ				IAmb	IAmb	00 22 39.8	
	comp=Z,12nm,0.8s						
RAMN	Ramite	18.15	87	eP	Pn	00 22 36.3	-2.3
	comp=Z,11nm,0.5s						
RAMN	Ramite	18.15	87	eP	Pn	00 22 36.3	-2.3
	comp=Z,11nm,0.5s						
TAPN	Taplejung	19.09	86	eP	P	00 22 47.6	-1.7
	comp=Z,22nm,1.0s						
TAPN	Taplejung	19.09	86	eP	P	00 22 47.6	-1.7
	comp=Z,22nm,1.0s						
GEVA	Gevas	22.11	305	P	P	00 23 20.8	-1.1
GEVA				IAmb	IAmb	00 23 30.8	
	comp=Z,7.4nm,0.9s						
ABKAR	Akbulak array	22.17	349	P	P	00 23 21.7	-0.5
TBLG	Delisi	22.52	314	P	P	00 23 24.9	-1.1
TBLG				IAmb	IAmb	00 23 54.2	
	comp=Z,10.0nm,1.4s						
MAKZ	Makanchi	22.86	29	P	P	00 23 28.4	-1.1
MAKZ				IAmb	IAmb	00 23 30.4	
	comp=Z,8.3nm,0.8s						
MK31	Makanchi Array	22.98	29	P	P	00 23 30.7	-0.1
MKAR	Makanchi Array	22.98	29	P	P	00 23 29.9	-0.9
	comp=Z,2.8nm,0.8s,baz=212,slow=10,SNR=12						
MKAR				LR	LR	00 34 03.9	
	comp=Z,150nm,21.6s,baz=204,slow=41						
MKAR	Makanchi Array	22.98	29	P	P	00 23 29.0	-1.9
SHL	Shillong	23.05	89	P	P	00 23 31.9	0.0
AKH	Akhalkalaki	23.16	312	P	P	00 23 28.8	-4.1
MARD	Mardin	23.48	301	P	P	00 23 36.0	-0.1
MARD				IAmb	IAmb	00 23 48.4	
	comp=Z,6.0nm,1.0s						
AKTO	Aktyubinsk	23.66	347	P	P	00 23 39.3	+1.8
	comp=Z,3.4nm,0.7s,baz=137,slow=9.9,SNR=5.5						
AKTO				LR	LR	00 33 09.5	
	comp=Z,57nm,21.1s,baz=145,slow=38						
WMQ	Urumqi	23.71	41	eP	P	00 23 38.6	+0.4
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,37nm,4.3s						
PALK	Pallekele	24.44	143	LR	LR	00 32 29.4	
	comp=Z,105nm,21.1s,baz=103,slow=34						
KBZ	Khabaz	24.73	317	P	P	00 23 48.9	+1.3
	comp=Z,1.9nm,0.9s,baz=130,slow=7.9,SNR=3.2						
KURBB	Kurchatov Arra	24.85	19	P	P	00 23 49.3	+0.7
	comp=Z,3.5nm,0.7s,baz=213,slow=9.2,SNR=11						
KURK	Kurchatov	24.96	19	P	P	00 23 48.6	-0.9
KURK				IAmb	IAmb	00 23 51.8	
	comp=Z,5.9nm,1.1s						
KIV	Kislovodsk	24.99	317	P	P	00 23 49.5	-0.5
KIV				IAmb	IAmb	00 24 46.0	
	comp=Z,6.6nm,1.0s						
BVAR	Borovoye Array	25.60	6	P	P	00 23 55.4	+0.1
	comp=Z,0.5nm,0.5s,baz=173,slow=13,SNR=5.1						
ZAA0	Zalesovo Array	29.69	22	P	P	00 24 32.0	0.0
ZAA0				IAmb	IAmb	00 25 08.1	
	comp=Z,3.2nm,0.9s						
ZALV	Zalesovo Beam	29.69	22	P	P	00 24 32.9	+0.9
	comp=Z,1.6nm,0.6s,baz=230,slow=10,SNR=8.2						
ZALV				LR	LR	00 37 44.1	
	comp=Z,91nm,21.9s,baz=208,slow=39						
ANTO	Ankara	30.19	303	P	P	00 24 36.4	-0.3
GTA	Gaotai	30.24	58	eP	P	00 24 41.0	+3.8
GTA				pP	sP	00 24 46.8	+4.7
GTA				sP	pP	00 24 49.5	+8.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LZH	Lanzhou	32.92	66	eP	P	00 24 59.8	-1.1
LZH				pP	sP	00 25 08.8	+3.1
LZH				sP	pP	00 25 13.1	+8.8
LZH				PP	PnPn	00 26 02.6	-7.1
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				pmax	pmax		
	comp=Z,72nm,4.3s						
KIRV	Kirov	33.12	344	LR	LR	00 40 06.5	
	comp=Z,86nm,19.5s,baz=157,slow=39						
KARP	Karpathos	34.02	293	P	P	00 25 09.4	-0.9
IDI	Anoyia	35.87	293	LR	LR	00 42 41.0	
	comp=Z,36nm,21.0s,baz=74,slow=41						
AKASG	Malin Array Be	36.25	320	P	P	00 25 30.2	+1.0
	comp=Z,0.2nm,0.2s,baz=119,slow=7.9,SNR=4.5						
MLR	Muntele Rosu	36.50	310	P	P	00 25 32.2	+0.5
SRIT	Nakonsritamara	36.76	115	P	P	00 25 35.3	+1.3
SONM	Songino Array	37.14	46	P	P	00 25 39.3	+2.3
	comp=Z,1

STVI	**Saint Thomas**	**1.45 154**	⇑*eP*		**Pn**	**00 37 42.1**	**-0.6**
STVI	**Saint Thomas**	**1.45 154**	*eS*		**Sn**	**00 38 01.5**	**+0.9**
STVI	**Saint Thomas**	**1.45 154**			**Pn**	**00 37 42.1**	**-0.6**
STVI					**Sn**	**00 38 01.5**	**+0.9**
EMPR	**Esperanza - Ma**	**1.47 216**	⇑*eP*		**Pn**	**00 37 42.9**	**0.0**
EMPR	**Esperanza - Ma**	**1.47 216**	*eS*		**Sn**	**00 38 01.9**	**+1.0**
EMPR	**Esperanza - Ma**	**1.47 216**			**Pn**	**00 37 42.9**	**0.0**
EMPR					**Sn**	**00 38 01.9**	**+1.0**
HUMP	**Col San Antoni**	**1.53 188**	⇑*eP*		**Pn**	**00 37 43.4**	**-0.5**
HUMP	**Col San Antoni**	**1.53 188**	*eS*		**Sn**	**00 38 02.8**	**+0.2**
HUMP	**Col San Antoni**	**1.53 188**			**Pn**	**00 37 43.4**	**-0.5**
HUMP					**Sn**	**00 38 01.0**	**-1.6**
MTP	**Monte Pirata**	**1.56 178**	⇓*eP*		**Pn**	**00 37 44.3**	**-0.1**
MTP	**Monte Pirata**	**1.56 178**	*eS*		**Sn**	**00 38 04.0**	**+0.6**
MTP	**Monte Pirata**	**1.56 178**			**Pn**	**00 37 44.3**	**-0.1**
MTP	**Monte Pirata**	**1.56 178**			**Sn**	**00 38 02.8**	**-0.6**
PDPR	**Patillas Dam,**	**1.69 193**	⇓*eP*		**Pn**	**00 37 46.1**	**+0.1**
PDPR	**Patillas Dam,**	**1.69 193**	*eS*		**Sn**	**00 38 06.9**	**+0.5**
PDPR	**Patillas Dam,**	**1.69 193**			**Pn**	**00 37 46.1**	**+0.1**
PDPR	**Patillas Dam,**	**1.69 193**			**Sn**	**00 38 06.5**	**+0.2**
AOPR	**Arecibo Observ**	**1.70 220**			**Pn**	**00 37 46.5**	**+0.2**
IGPR	**InterUniversit**	**1.75 195**			**Pn**	**00 37 49.5**	**+2.5**
AGPR	**Aguadilla, PR**	**1.85 230**	Pn		**Pn**	**00 37 49.1**	**+0.8**
OBIP	**Obispado Ponce**	**1.87 210**	⇓*eP*		**Pn**	**00 37 47.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.87 210**	*eS*		**Sn**	**00 38 10.5**	**-0.4**
OBIP	**Obispado Ponce**	**1.87 210**			**Pn**	**00 37 47.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.87 210**			**Sn**	**00 38 10.2**	**-0.7**
ICMP	**Isla Caja de M**	**1.97 206**	Pn		**Pn**	**00 37 49.0**	**-0.9**
MPR	**Mayaguez**	**2.04 225**	Pn		**Pn**	**00 37 51.1**	**+0.1**
CDVI	**St. Croix**	**2.07 157**	Pn		**Pn**	**00 37 52.2**	**+1.0**
MLPR	**Magueyes Islan**	**2.16 219**	Pn		**Pn**	**00 37 52.5**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.17 221**	⇑*eP*		**Pn**	**00 37 52.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.17 221**	*eS*		**Sn**	**00 38 18.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.17 221**			**Pn**	**00 37 52.9**	**+0.2**
CRPR					**Sn**	**00 38 18.0**	**-0.4**
PCDR	**Punta Cana, DR**	**2.85 247**	Pn		**Pn**	**00 38 02.1**	**0.0**
DR12	**Loma Pena Alta**	**3.66 257**	Pn		**Pn**	**00 38 13.0**	**-0.3**
BANI	**BANI**	**4.66 255**	Pn		**Pn**	**00 38 26.7**	**-0.3**
SDDR	**Presa de Saban**	**5.40 264**	Pn		**Pn**	**00 38 38.1**	**+0.9**
GRTK	**Grand Turk**	**5.48 290**	Pn		**Pn**	**00 38 37.5**	**-0.7**
DLPL	**La Plaine**	**6.00 135**	Pn		**Pn**	**00 38 45.0**	**-0.3**

*SOME **15** 00:43:04.5, 43.2′25N×78.2′22E, h5km*
*NNC **15** 00:43:05.0±0.2, 43.2′23N×78.2′28E, h0km, mb2.6, mpv2.3,*
Error ellipse: s-maj=4.2km s-min=1.3km az=177.0
ISC 15 00:43:04.7±0.9,**43.2′22N**±0.2′05×**78.2′30E**±0.2′03,**h16**km±8km,
n11,σ0°**63**/20,**5C-5D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.18 155**		⇓*iP*	**Pg**	**00 43 09.1**	**-0.2**
SATY	7.8nm,0.1s			⇓*iS*	**Sg**	**00 43 12.4**	**+0.1**
SATY	**Saty**	**0.18 155**		P	**Pg**	**00 43 09.1**	**-0.2**
SATY	7.8nm,0.1s			S	**Sg**	**00 43 12.4**	**+0.1**
KPKS	**Kokpek**	**0.37 49**		*eP*	**Pg**	**00 43 12.1**	**-0.2**
KPKS	1.5nm,0.1s			*eS*	**Sg**	**00 43 17.6**	**0.0**
UZB	**Uzynbulak**	**0.53 98**		*eP*	**Pb**	**00 43 15.7**	**0.0**
UZB	0.4nm,0.1s			*eS*	**Sb**	**00 43 23.8**	**+0.6**
UZB	**Uzynbulak**	**0.53 98**		P	**Pb**	**00 43 15.8**	**0.0**
UZB	0.4nm,0.1s			S	**Sb**	**00 43 23.8**	**+0.6**
PDGK	**Podgornoye**	**0.88 83**		⇓P	**Pb**	**00 43 22.3**	**+0.7**
PDGK	1.6nm,1.1s			⇑S	**Sn**	**00 43 34.6**	**-0.3**
KNDC	**Almaty**	**0.98 270**		⇑P	**Pb**	**00 43 23.6**	**+0.4**
KNDC	0.6nm,0.6s			⇑S	**Sg**	**00 43 36.8**	**+0.4**
KTBS	**Karatobe**	**1.27 293**		*eP*	**Pn**	**00 43 27.2**	**-0.7**
KTBS	0.3nm,0.2s			*eS*	**Sb**	**00 43 43.6**	**-0.9**
KTBS	**Karatobe**	**1.27 293**		P	**Pg**	**00 43 29.3**	**0.0**
KTBS	0.3nm,0.2s			S	**Sg**	**00 43 47.0**	**+1.1**
TKM2	**Tokmak 2**	**2.00 262**		⇑Pg	**Pb**	**00 43 40.2**	**-0.7**
TKM2	1.2nm,0.8s			⇑Lg	Lg	00 44 06.3	
AAK	**Ala-Archa**	**2.86 259**		⇓Pg	**Pb**	**00 43 56.6**	**+1.3**
AAK	1.1nm,0.8s			⇓Lg	Lg	00 44 38.3	
	1.5nm,0.9s						

*NEIC **15** 00:44:11.8±1.9, 35.2′05S×0.2′05×73.2′90W±0.2′07, h22km±5km,*
Error ellipse: s-maj=8.6km s-min=6.8km az=107.0
*IDC **15** 00:44:11.2±0.8, 35.2′03S×73.2′71W, h0km, mb4.1/10,*
mb1 4.2/12, mb1mx4.1/27, mbtmp4.0/12, ML3.7/2, MS3.3/4,
Ms1 3.3/4, ms1mx3.1/19, Error ellipse: s-maj=31.7km
s-min=16.3km az=81.0
*GUC **15** 00:44:13.5±0.6, 34.2′94S×73.2′75W, h24km±7km, ML3.8*
ISC 15 00:44:12.2±0.7,**35.2′00S**±0.2′04×**73.2′79W**±0.2′07,**h10**km,**n63,**
σ1°**35**/63,**mb4.1**/10,**5D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.52 91**		⇓*iP*	**Pn**	**00 44 38.8**	**-0.7**
GO05				*i* S	**Sn**	**00 44 57.2**	**-2.2**
GO05	**Huala**	**1.52 91**			**Pn**	**00 44 38.9**	**-0.6**
GO05				Sn	**Sn**	**00 44 58.1**	**-1.3**
BI03	**Tigo**	**1.94 162**		IAML		00 45 07.3	
BI03	comp=N,2μm,0.5s						
BI03	**Tigo**	**1.94 162**		Pn	**Pn**	**00 44 43.8**	**-1.4**
BI03				Sn	**Sn**	**00 45 04.0**	**-5.7**
LAJA	**Laja**	**2.44 159**		*eP*	**Pn**	**00 44 50.9**	**-1.1**
LAJA				IAML		00 45 19.6	
	comp=E,133nm,0.5s						
BO02	**Sierra Bellavi**	**2.48 86**		⇓*iP*	**Pn**	**00 44 52.9**	**+0.3**
BO02				*eS*	**Sn**	**00 45 22.8**	**-0.2**
BO02	**Sierra Bellavi**	**2.48 86**			**Pn**	**00 44 53.0**	**+0.3**
BI02	**San Fabin de**	**2.63 130**		*eP*	**Pn**	**00 44 55.2**	**+0.4**
BI02				*eS*	**Sn**	**00 45 25.1**	**-1.7**
BI02				IAML		00 45 35.0	
	comp=E,799nm,0.9s						
BI02	**San Fabin de**	**2.63 130**			**Pn**	**00 44 54.4**	**-0.3**
VA01	**Torpederas**	**2.65 43**		Pn	**Pn**	**00 44 53.7**	**-1.2**
MT02	**Curacav**	**2.80 52**		⇓*iP*	**Pn**	**00 44 55.9**	**-1.1**
MT02				*i* S	**Sn**	**00 45 28.1**	**-2.8**
MT02				IAML		00 45 30.4	
	comp=N,171nm,0.3s						
MT02	**Curacav**	**2.80 52**			**Pn**	**00 44 56.1**	**-0.9**
MT05	**Renca**	**2.99 58**		*eP*	**Pn**	**00 44 59.4**	**-0.3**
MT05				IAML		00 45 36.9	
	comp=N,217nm,0.2s						
MT05	**Renca**	**2.99 58**			**Pn**	**00 44 59.5**	**-0.2**
ROC1	**El Roble**	**3.06 50**			**Pn**	**00 45 01.0**	**+0.1**
ROCH	**El Roble**	**3.06 50**		*eP*	**Pn**	**00 45 00.7**	**-0.2**
ROCH				IAML		00 45 42.5	
	comp=N,200nm,0.3s						
MT03	**Universidad Ad**	**3.10 62**		⇓*iP*	**Pn**	**00 45 00.9**	**-0.3**
MT03				IAML		00 45 48.6	
	comp=N,205nm,0.3s						
CLCH	**Cerro Calan**	**3.13 60**		*eP*	**Pn**	**00 45 01.4**	**-0.2**
CLCH				*i* S	**Sn**	**00 45 38.0**	**-1.1**
CLCH				IAML		00 45 50.4	
	comp=N,311nm,0.6s						
PEL	**Peldehue**	**3.17 55**		*eP*	**Pn**	**00 45 02.0**	**-0.2**
PEL				*i* S	**Sn**	**00 45 38.9**	**-1.2**
PEL				IAML		00 45 41.6	
	comp=N,302nm,0.5s						
PEL	**Peldehue**	**3.17 55**			**Pn**	**00 45 01.9**	**-0.2**
LMEL	**Las Melosas**	**3.17 70**		*eP*	**Pn**	**00 45 02.4**	**+0.1**
LMEL				*i* S	**Sn**	**00 45 40.2**	**-0.1**
LMEL				IAML		00 45 47.2	
	comp=N,209nm,0.5s						
VA03	**San Esteban**	**3.49 51**		⇓*iP*	**Pn**	**00 45 06.7**	**0.0**
VA03				IAML		00 45 50.7	
	comp=E,262nm,0.3s						
VA03	**San Esteban**	**3.49 51**			**Pn**	**00 45 06.5**	**-0.2**
LC01	**Cunco**	**4.18 159**			**Pn**	**00 45 16.1**	**+0.1**
H03S1	**Juan Fernandez**	**4.39 284**		T	T	00 49 36.4	
	baz=103,slow=71,SNR=13						
VA04	**Juan Fernndez**	**4.39 287**		Pn	Pn	00 45 15.9	-2.9
H03S3	**Juan Fernandez**	**4.39 284**		T	T	00 49 38.4	
	baz=103,slow=71,SNR=12						
H03S2	**Juan Fernandez**	**4.40 284**		T	T	00 49 36.4	
	baz=103,slow=71,SNR=12						
CO02	**Combarbal**	**4.45 32**		*eP*	**Pn**	**00 45 18.7**	**-1.1**
CO02				*i* S	**Sn**	**00 46 08.9**	**-2.7**
CO02	**Combarbal**	**4.45 32**			**Pn**	**00 45 18.9**	**-0.8**
CO03	**El Pedregal**	**4.90 33**			**Pn**	**00 45 25.5**	**-0.4**
GO04	**Tololo Observa**	**5.43 28**			**Pn**	**00 45 32.3**	**-1.1**
ZON	**Zonda**	**5.49 53**			**Pn**	**00 45 34.4**	**+0.4**
CO01	**Juntas del Tor**	**5.90 33**			**Pn**	**00 45 39.6**	**-0.3**
PLCA	**Paso Flores**	**6.27 157**		Pn	**Pn**	**00 45 45.8**	**+1.0**
	comp=E,0.5nm,0.3s,baz=337,slow=12,SNR=10						
PLCA				Sn	**Sn**	**00 46 59.9**	**+3.4**
	baz=48,slow=23,SNR=1.5						
PLCA				LR	LR	00 48 20.9	
	comp=E,285nm,20.7s,baz=346,slow=40						
PLCA	**Paso Flores**	**6.27 157**			**Pn**	**00 45 44.2**	**-0.5**
LCO	**Las Campanas**	**6.52 25**		Pn	**Pn**	**00 45 47.0**	**-1.4**
AC05	**El Transito**	**6.83 27**			**Pn**	**00 45 52.0**	**-0.5**
AC04	**Llanos de Chal**	**7.16 20**		Pn	**Pn**	**00 45 55.5**	**-1.4**
LL01	**San Ignacio de**	**7.45 172**		Pn	**Pn**	**00 45 59.9**	**-0.9**
GO03	**Copiap**	**7.98 23**		Pn	**Pn**	**00 46 07.4**	**-0.8**
LVC	**Limon Verde**	**13.06 20**		LR	LR	00 51 27.9	
	comp=E,102nm,19.1s,baz=214,slow=33						
CPUP	**Villa Florida**	**16.57 63**		LR	LR	00 55 05.3	
	comp=E,85nm,20.4s,baz=207,slow=40						
LPAZ	**La Paz**	**19.31 17**		P	**P**	**00 48 39.5**	**+1.5**
	comp=E,0.1nm,0.3s,baz=198,slow=7.8,SNR=7.8						
LPAZ	**La Paz**	**19.31 17**		P	**P**	**00 48 36.9**	**-1.2**
LPAZ				IAmb	IAmb	00 48 43.2	
	comp=Z,2.6nm,0.8s						
SIV	**San Ignacio**	**22.09 34**		P	**P**	**00 49 07.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=228,slow=12,SNR=8.9						
BELA	**Belgrano 2**	**46.16 169**		P	P	00 52 33.7	-2.7
SNAA	**Sanae**	**51.21 157**		P	**P**	**00 53 16.0**	**+0.6**
SNAA	**Sanae**	**51.21 157**		P	**P**	**00 53 15.7**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=267,slow=7.7,SNR=8.5						
SNAA	**Sanae**	**51.21 157**		P	**P**	**00 53 13.9**	**-1.5**
SNAA				IAmb	IAmb	00 53 17.0	
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	**55.24 180**		P	**P**	**00 53 45.7**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=148,slow=4.6,SNR=13						
QSPA	**South Pole Qui**	**55.24 180**		P	P	00 53 43.2	-2.0
QSPA				IAmb	IAmb	00 53 47.2	
	comp=Z,4.1nm,1.0s						
TXAR	**Lajitas Array**	**69.92 332**		P	**P**	**00 55 24.3**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=148,slow=7.9,SNR=5.6						
TXAR	**Lajitas Array**	**69.92 332**		P	**P**	**00 55 22.1**	**-1.4**
MAW	**Mawson**	**72.63 164**		P	**P**	**00 55 39.7**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=238,slow=5.0,SNR=5.7						
DBIC	**Dimbokro**	**76.86 72**		P	**P**	**00 56 05.2**	**+0.4**
	comp=Z,4.4nm,1.1s,baz=207,slow=6.8,SNR=3.6						
BOSA	**Boshof**	**80.88 118**		P	**P**	**00 56 27.3**	**+0.4**
	comp=Z,4.6nm,1.0s,baz=225,slow=5.7,SNR=5.6						
NVAR	**Mina Array Bea**	**83.90 326**		P	**P**	**00 56 43.8**	**+1.5**
	comp=Z,0.3nm,0.2s,baz=120,slow=6.3,SNR=8.1						
PDAR	**Pinedale Array**	**84.02 334**		P	**P**	**00 56 45.0**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=157,slow=4.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.90 71**		P	**P**	**00 56 52.8**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=232,slow=5.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**85.90 71**		P	P	00 56 49.2	-3.4
SCHQ	**Schefferville**	**89.67 4**		LR	LR	01 35 22.7	
	comp=Z,34nm,21.9s,baz=86,slow=34						
WRA	**Warramunga Arr**	**119.18 211**		PKP	**PKPdf**	**01 03 00.5**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=144,slow=1.7,SNR=1.9						

*ANF **15** 00:56:55.2±0.1, 35.2′91N×118.2′01W, h12km±1km, ML3.2/27,*
Error ellipse: s-maj=1.0km s-min=0.9km az=125.0
*PAS **15** 00:56:56.3±1.3, 35.2′92N±0.2′03×118.2′01W±0.2′02, h10km±4km,*
ML3.2/167, Error ellipse: s-maj=4.2km s-min=1.3km
az=159.0
*SCEDC **15** 00:56:56.3, 35.2′92N×118.2′01W, h10km*
*NEIC **15** 00:56:56.1±1.7, 35.2′88N±0.2′02×117.2′99W±0.2′02, h5km±5km,*
Error ellipse: s-maj=3.8km s-min=1.5km az=153.0
ISC 15 00:56:56.3±0.8,**35.2′90N**±0.2′01×**117.2′99W**±0.2′01,**h13**km±5km,
n107,σ1°**11**/146,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCHM	**Chimney Peak**	**0.07 258**			**Pg**	**00 56 58.5**	**-0.8**
WRVM	**Rose V. Centra**	**0.14 36**			**Pg**	**00 56 59.1**	**-0.8**
WVPM	**Volcano Peak E**	**0.15 70**			**Pg**	**00 56 59.6**	**-0.5**
WVPM					**Sg**	**00 57 02.1**	**-0.5**
JRC2	**Joshua Ridge**	**0.17 60**			**Pg**	**00 56 59.9**	**-0.5**
JRC2					**Sg**	**00 57 02.7**	**-0.5**
TOW	**Tower One**	**0.20 116**			**Pg**	**00 57 01.0**	**+0.2**
WCSM	**Coso Springs S**	**0.22 55**			**Pg**	**00 57 00.7**	**-0.5**
WCSM					**Sg**	**00 57 03.9**	**-0.6**
MFS	**McCloud Flat S**	**0.24 26**			**Pg**	**00 57 00.9**	**-0.7**
SRTC	**Snort**	**0.28 137**			**Pb**	**00 57 02.5**	**-0.8**
SRTC					**Sb**	**00 57 07.7**	**-0.3**
WORM	**Onyx Ranch**	**0.29 226**			**Pg**	**00 57 01.7**	**-0.6**
WORM					**Sg**	**00 57 05.9**	**-0.5**
CLC	**China Lake**	**0.33 104**			**Pg**	**00 57 02.7**	**-0.3**
CLC					**Sg**	**00 57 07.7**	**+0.1**
WHFM	**Hanning Flat**	**0.36 236**			**Pg**	**00 57 03.0**	**-0.6**
WHFM					**Sg**	**00 57 07.9**	**-0.5**
WLHM	**Little Horse**	**0.36 314**			**Pg**	**00 57 02.7**	**-1.1**
WBSM	**Bird Springs**	**0.38 199**			**Pg**	**00 57 03.6**	**-0.4**
WBSM					**Sg**	**00 57 09.2**	**0.0**
MPMC	**Manual Prospec**	**0.43 68**		P	**Pg**	**00 57 04.6**	**-0.4**
	baz=252,SNR=124						
MPMC				S	**Sg**	**00 57 10.5**	**-0.4**
	baz=252						
ISA	**Isabella, Lake**	**0.46 239**		P	**Pg**	**00 57 04.8**	**-0.5**
	baz=56,SNR=178						
ISA				S	**Sg**	**00 57 10.8**	**-0.7**
	baz=56						
ISA	**Isabella, Lake**	**0.46 239**		Pg	**Pg**	**00 57 04.9**	**-0.5**
ISA	**Isabella, Lake**	**0.46 239**			**Sg**	**00 57 11.0**	**-0.6**
LRMC	**Laurel Mtn Rad**	**0.49 149**		P	**Pg**	**00 57 05.7**	**-0.3**
	baz=329,SNR=70						
LRMC				S	**Sg**	**00 57 12.4**	**0.0**
	baz=329						
LRMC	**Laurel Mtn Rad**	**0.49 149**			**Pg**	**00 57 05.7**	**-0.3**
LRMC					**Sg**	**00 57 12.4**	**0.0**
WASM	**Alta Sierra Ca**	**0.49 251**			**Pg**	**00 57 05.3**	**-0.7**
WASM					**Sg**	**00 57 11.9**	**-0.6**
CWC	**Cottonwood Cre**	**0.55 352**		P	**Pg**	**00 57 05.9**	**-1.2**
	baz=174						
CWC				S	**Sg**	**00 57 12.8**	**-1.5**
	baz=174						
CWC	**Cottonwood Cre**	**0.55 352**			**Pg**	**00 57 05.9**	**-1.2**
CWC					**Sg**	**00 57 12.7**	**-1.6**
CCCA	**Chr Cany lake**	**0.63 126**			**Sb**	**00 57 17.9**	**-0.1**
DTP	**Desert Tortois**	**0.64 169**			**Pg**	**00 57 08.3**	**-0.5**
DTP					**Sg**	**00 57 17.0**	**-0.2**
CGO	**Cerro Gordo**	**0.67 13**			**Pg**	**00 57 08.4**	**-1.0**
SPG2	**Springville 2**	**0.70 296**			**Pg**	**00 57 08.6**	**-1.3**
SPG2					**Sg**	**00 57 17.5**	**-1.6**
TEJ	**El Tejon**	**0.88 221**			**Pg**	**00 57 12.1**	**-1.2**
VES	**Vestal, Richgr**	**0.89 267**		P	**Pg**	**00 57 12.5**	**-1.0**
	baz=85,SNR=51						
VES				S	**Sg**	**00 57 23.7**	**-1.5**
	baz=85						
VES	**Vestal, Richgr**	**0.89 267**			**Pg**	**00 57 12.5**	**-1.0**
VES					**Sg**	**00 57 23.7**	**-1.5**
QSM	**Queen of Sheba**	**0.91 86**			**Pg**	**00 57 13.2**	**-0.7**
MCA	**Marble Canyon**	**0.94 37**			**Pg**	**00 57 13.3**	**-1.2**
EDW2	**Edwards Air Fo**	**1.01 180**		P	**Pg**	**00 57 14.8**	**-1.1**
	baz=359,SNR=98						
EDW2				S	**Sg**	**00 57 28.1**	**-1.0**
	baz=359						
EDW2	**Edwards Air Fo**	**1.01 180**			**Sg**	**00 57 28.3**	**-0.8**
ARVC	**Arvin**	**1.03 222**		P	**Pg**	**00 57 15.3**	**-0.9**
	baz=40,SNR=62						
ARVC				S	**Sg**	**00 57 29.2**	**-0.4**
	baz=40						
ARVC	**Arvin**	**1.03 222**			**Sg**	**00 57 28.7**	**-0.9**
TPO	**Tropico Hills**	**1.04 191**			**Pg**	**00 57 15.2**	**-1.1**
TPO					**Sg**	**00 57 29.3**	**-0.5**
TJR	**Tejon Ranch**	**1.06 216**			**Pg**	**00 57 15.7**	**-1.1**
FURC	**Furnace Creek,**	**1.07 58**		P	**Pg**	**00 57 16.7**	**-0.3**
	baz=240,SNR=64						
FURC				S	**Sg**	**00 57 31.0**	**0.0**
	baz=240						
THC	**Tehachapi Micr**	**1.13 209**			**Pg**	**00 57 16.6**	**-1.5**
GSC	**Goldstone, Bar**	**1.13 121**		P	**Pg**	**00 57 17.1**	**-1.0**
	baz=303,SNR=93						
GSC				S	**Sb**	**00 57 32.6**	**+0.1**
	baz=303						
GSC	**Goldstone, Bar**	**1.13 121**			**Pg**	**00 57 17.1**	**-1.0**
GSC	**Goldstone, Bar**	**1.13 121**		Pn	**Pg**	**00 57 17.3**	**-0.9**
GSC				Sn	**Sb**	**00 57 33.0**	**+0.5**
TIN	**Tinemaha, Big**	**1.17 350**		P	**Pg**	**00 57 17.7**	**-1.1**
	baz=171,SNR=16						
TIN				S	**Sg**	**00 57 33.3**	**-0.8**
	baz=171						
GRAC	**Grapevine Rang**	**1.21 24**		P	**Pg**	**00 57 18.4**	**-1.1**
	baz=206,SNR=52						
GRAC				S	**Sg**	**00 57 34.6**	**-0.6**
	baz=206						
GRAC	**Grapevine Rang**	**1.21 24**			**Pg**	**00 57 18.3**	**-1.1**
VOG	**Valley Oaks Go**	**1.21 291**		P	**Pg**	**00 57 17.8**	**-1.7**
	baz=110,SNR=20						
VOG				S	**Sg**	**00 57 33.8**	**-1.4**
	baz=110						
VOG	**Valley Oaks Go**	**1.21 291**			**Pg**	**00 57 17.8**	**-1.7**
SBB	**Saddle Back Bu**	**1.22 174**			**Sg**	**00 57 34.3**	**-1.2**
FMT	**Funeral Mounta**	**1.22 53**			**Pg**	**00 57 18.1**	**-1.7**
RRX	**Edison Barstow**	**1.30 141**		P	**Pn**	**00 57 19.9**	**-0.4**
	baz=322						
RRX				S	**Sb**	**00 57 37.7**	**+0.3**
	baz=322						
SHOC	**Shoshone, Teco**	**1.39 89**		P	**Pn**	**00 57 21.1**	**-0.4**
	baz=271,SNR=38						
SHOC				Sb	**Sn**	**00 57 40.8**	**+1.1**
	baz=271						
OSI	**Osito Audit: C**	**1.42 205**		Pn	**Pn**	**00 57 22.2**	**+0.4**
CARC	**Carrizo Plain**	**1.62 249**			**Pb**	**00 57 26.1**	**-0.1**
DECC	**Green Verdugo**	**1.67 190**		Pg	**Pg**	**00 57 27.4**	**-0.8**
	baz=8.9						
MWC	**Mount Wilson**	**1.67 182**			**Pn**	**00 57 26.0**	**+0.5**
BFSC	**Mount Baldy Ra**	**1.68 171**		P	**Pn**	**00 57 25.0**	**-0.5**
	baz=350,SNR=8.5						
BFSC				Sb	**Sb**	**00 57 48.9**	**+0.7**
	baz=350						
HEC	**Hector,Ludlow**	**1.72 128**		P	**Pn**	**00 57 25.2**	**-0.9**
	baz=309,SNR=13						
HEC				Sb	**Sg**	**00 57 50.8**	**-0.9**
	baz=309						
PASC	**Pasadena Art C**	**1.73 185**			**Pn**	**00 57 26.5**	**+0.4**
SMMC	**Simmler**	**1.74 251**		Pb	**Pn**	**00 57 26.8**	**+0.6**
	baz=69						
SMMC				Sb	**Sn**	**00 57 49.5**	**+1.2**
	baz=69						
TUQ	**Turquoise Moun**	**1.74 105**		P	**Pn**	**00 57 25.4**	**-1.0**
	baz=286,SNR=11						
TUQ	**Turquoise Moun**	**1.74 105**			**Pn**	**00 57 25.6**	**-0.8**
TPNV	**Topopah Spring**	**1.75 53**		Pg	**Pb**	**00 57 29.0**	**+0.6**
	baz=234						
TPNV				Sb	**Sb**	**00 57 51.6**	**+1.3**
	baz=234						
TPNV	**Topopah Spring**	**1.75 53**		Pn	**Pn**	**00 57 26.6**	**0.0**
TPNV				Pg	**Pb**	**00 57 29.0**	**+0.6**
PKM	**Mcpherson Peak**	**1.80 236**		Pb	**Pn**	**00 57 27.9**	**+0.6**
	baz=54						
PKM				Sb	**Sn**	**00 57 51.7**	**+1.6**
	baz=54						
PAGB	**Antelope Grade**	**1.85 265**			**Pn**	**00 57 27.9**	**+0.2**
MLAC	**Mammoth, Mammo**	**1.86 339**		Sb	**Sn**	**00 57 53.6**	**+2.0**
	baz=159						
MLAC	**Mammoth, Mammo**	**1.86 339**			**Pb**	**00 57 30.0**	**-0.3**
OMMB	**Old Mammoth Mi**	**1.89 335**			**Pn**	**00 57 29.4**	**+0.7**
MDPB	**Devils Postpil**	**1.94 333**			**Pn**	**00 57 30.2**	**+1.0**
MMIM	**Miami Mountain**	**2.07 318**			**Pn**	**00 57 32.7**	**+1.8**
SME	**Santa Rosa Min**	**2.14 166**			**Pn**	**00 57 31.6**	**-0.1**
GMRC	**Granite Mounta**	**2.20 120**		P	**Pn**	**00 57 31.4**	**-1.4**
	baz=301,SNR=10						
TPH	**Tonopah**	**2.26 16**			**Pb**	**00 57 37.5**	**+0.4**
PMPB	**Monarch Peak**	**2.30 279**			**Pn**	**00 57 34.4**	**+0.4**
SHPR	**Sheep Range**	**2.37 74**		Pg	**Pb**	**00 57 40.3**	**+1.4**
LHV	**Little Huntoon**	**2.38 350**			**Pb**	**00 57 40.2**	**+1.2**
MURC	**Murrieta**	**2.38 164**		P	**Pn**	**00 57 34.7**	**-0.4**
	baz=344						
BELC	**Belle Mtn. Jos**	**2.50 139**		P	**Pn**	**00 57 36.0**	**-0.9**
	baz=320						
CIS	**Catalina Islan**	**2.52 188**		Pg	**Pg**	**00 57 43.2**	**-1.3**
	baz=7.4						
NV11	**Mina Array Sit**	**2.53 357**			**Pb**	**00 57 42.6**	**+0.9**
NVAR	**Mina Array Bea**	**2.54 354**	

IPIR *e* 01 06 30.4

NIED ***15*** *01:43:40.7, 43°.50N×147°.05E, h26km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr4.34; Mθθ-1.40; Mφφ-2.94; Mrθ4.07; Mrφ-1.88; Mθφ3.47; Fault plane solution: M0 6.84000×10^14 NP1: φs46.00000°, δ71.00000°, λ98.00000°. NP2: φs204.00000°, δ20.00000°, λ69.00000°.*

JMA ***15*** *01:43:40.6±0.4, 43°.50N×147°.05E, h26km±5km, M3.9*

SKHL ***15*** *01:43:40.9±0.7, 43°.54N×147°.17E, h57km±4km, mb4.9/4*

MOS ***15*** *01:43:42.3±1.0, 43°.55N×146°.91E, h58km, mb4.3/11, Error ellipse: s-maj=10.3km s-min=8.0km az=100.5*

NEIC ***15*** *01:43:44.2±1.4, 43°.35N±0°.07×147°.1E±0°.1, h70km±7km, mb4.2/24, Error ellipse: s-maj=16.0km s-min=1.2km az=131.0*

IDC ***15*** *01:43:45.0±3.1, 43°.53N×147°.02E, h75km±25km, mb3.7/11, mb1 3.9/14, mb1mx3.6/44, mbtmp4.0/14, MS3.4/2, Ms1 3.4/2, ms1mx2.7/50, Error ellipse: s-maj=28.6km s-min=19.8km az=156.0*

ISC 15 01:43:41.9±1.1, 43°.51N±0°.06×147°.13E±0°.06, h44km±10km, n118, σ1§35/119, mb4.2/28, 4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.02**	**263**	P	**Pn**	**01 43 58.1**	**-1.6**
NEM2				*e*S	**Sn**	**01 44 10.7**	**-2.2**
NMR	**Nemuro--Hokkai**	**1.03**	**263**	*i* P	**Pn**	**01 43 58.2**	**-1.7**
NMR				*i* S	**Sn**	**01 44 11.4**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.03**	**263**	⇓*i* PN	**Pn**	**01 43 58.2**	**-1.7**
NMR				*i* S	**Sn**	**01 44 11.9**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.06**	**300**	*i* P	**Pn**	**01 43 59.2**	**-1.1**
YUK				AMB	AMB	01 44 00.4	
	650nm,0.3s						
YUK				*i* S	**Sn**	**01 44 12.3**	**-1.6**
YUK				A	A	01 44 17.0	
	3μm,0.3s						
YUK				A	A	01 44 17.0	
	770nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.06**	**300**	*d* PN	**Pn**	**01 43 59.2**	**-1.1**
GRPR	**Tuman**	**1.10**	**297**	*i* P	**Pn**	**01 43 59.5**	**-1.3**
GRPR				AMB	AMB	01 44 00.3	
	780nm,0.3s						
GRPR				*e*S	**Sn**	**01 44 13.2**	**-1.6**
GRPR				A	A	01 44 15.9	
	6μm,0.4s						
GRPR				A	A	01 44 15.9	
	3μm,0.4s						
GRPR	**Tuman**	**1.10**	**297**	⇓*i* PN	**Pn**	**01 43 59.9**	**-0.9**
GRPR				*e*S	**Sn**	**01 44 13.2**	**-1.6**
GRPR				pmax	pmax		
	comp=E,3μm,0.2s						
GRPR				pmax	pmax		
	comp=Z,766nm,0.2s						
GRPR				smax	smax		
	comp=N,6μm,0.4s						
GRPR				smax	smax		
	comp=E,3μm,0.2s						
GLVR	**Golovnino**	**1.19**	**282**	*i* P	**Pn**	**01 44 01.1**	**-1.0**
GLVR				AMB	AMB	01 44 01.5	
	comp=E,700nm,0.4s						
GLVR				*i* S	**Sn**	**01 44 17.0**	**-0.1**
GLVR				A	A	01 44 22.8	
	comp=E,500nm,0.3s						
GLVR				A	A	01 44 22.8	
	comp=E,2μm,0.3s						
GLVR	**Golovnino**	**1.19**	**282**	⇓*i* PN	**Pn**	**01 44 01.1**	**-1.0**
GLVR				*i* S	**Sn**	**01 44 17.0**	**-0.1**
GLVR				pmax	pmax		
	comp=E,86nm,0.4s						
GLVR				pmax	pmax		
	comp=Z,704nm,0.4s						
GLVR				smax	smax		
	comp=N,497nm,0.1s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
JKHN	**Kushirohamanak**	**1.50**	**254**	P	**Pn**	**01 44 05.7**	**-0.6**
JRA	**Rausu**	**1.52**	**287**	P	**Pn**	**01 44 05.9**	**-0.6**
JNSB	**Nemuroshibetsu**	**1.56**	**281**	P	**Pn**	**01 44 06.5**	**-0.7**
JNSB				*e*S	**Sn**	**01 44 26.1**	**-0.2**
AKK	**Akkeshi**	**1.74**	**254**	*i* P	**Pn**	**01 44 09.4**	**-0.2**
AKK				*e*S	**Sn**	**01 44 30.2**	**-0.4**
JNK	**Nakash**	**1.75**	**273**	P	**Pn**	**01 44 08.8**	**-1.0**
KUR	**Kuril'sk**	**1.81**	**17**	*e*P	**Pn**	**01 44 08.8**	**-1.7**
KUR				AMB	AMB	01 44 13.2	
	comp=E,20nm,0.4s						
KUR				AMB	AMB	01 44 13.2	
	comp=E,50nm,0.4s						
KUR				AMB	AMB	01 44 13.2	
	comp=E,90nm,0.4s						
KUR				*e*S	**Sn**	**01 44 30.3**	**-1.9**
KUR				A	A	01 44 34.8	
	comp=E,620nm,0.3s						
KUR				A	A	01 44 34.8	
	comp=E,340nm,0.3s						
KUR	**Kuril'sk**	**1.81**	**17**	*e*PN	**Pn**	**01 44 10.6**	**+0.1**
JTKR	**Abashiri--Toko**	**2.38**	**282**	P	**Pn**	**01 44 18.7**	**+0.3**
JAR	**Ashorobuto**	**2.46**	**266**	P	**Pn**	**01 44 19.3**	**-0.2**
JOB	**Onbets**	**2.48**	**257**	*e*S	**Sn**	**01 44 50.1**	**+1.3**
JCH	**Churui**	**2.90**	**253**	P	**Pn**	**01 44 26.0**	**+0.5**
JEM	**Erimo**	**3.28**	**244**	Pn	**Pn**	**01 44 33.0**	**+2.2**
ERM	**Erimo**	**3.28**	**244**	PN	**Pn**	**01 44 32.9**	**+2.1**
ERM	**Erimo**	**3.28**	**244**		**Pn**	**01 44 32.9**	**+2.1**
JKA	**Kamikawa-asahi**	**3.33**	**282**	Pn	**Pn**	**01 44 33.8**	**+2.3**
ASAJ	**Asahikawa**	**3.34**	**282**	P	**Pn**	**01 44 33.1**	**+1.6**
	comp=E,4.5nm,0.3s,baz=118,slow=15,SNR=12						
ASAJ				S	**Sn**	**01 45 15.9**	**+6.1**
	comp=E,2.8nm,0.3s,baz=41,slow=24,SNR=1.6						
ASAJ				LR	LR	01 46 03.2	
	comp=E,152nm,19.6s,baz=148,slow=42						
ASAJ	**Asahikawa**	**3.34**	**282**	PN	**Pn**	**01 44 33.8**	**+2.3**
JEW	**Eniwo**	**4.21**	**263**	Pn	**Pn**	**01 44 46.1**	**+2.7**
YSS	**Yuzh-Sakhalins**	**4.63**	**320**	*e*P	**Pn**	**01 44 48.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**4.63**	**320**	*e*PN	**Pn**	**01 44 48.5**	**-0.7**
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
JTM	**Tenmabayashi**	**5.26**	**241**	Pn	**Pn**	**01 44 58.5**	**+0.5**
JSD	**Sado**	**8.66**	**234**	Pn	**Pn**	**01 45 44.6**	**0.0**
JGF	**Kuroka**	**10.91**	**227**	Pn	**Pn**	**01 46 16.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**11.90**	**32**	PN	Pn	01 46 33.9	+5.1
PEA0B	**Petropavlovsk-**	**11.90**	**32**	Pn	Pn	01 46 33.9	+5.1
PETK	**Petropavlovsk-**	**11.90**	**32**	P	**Pn**	**01 46 32.5**	**+3.8**
	comp=Z,0.3nm,0.3s,baz=191,slow=13,SNR=7.0						
PETK	**Petropavlovsk-**	**11.90**	**32**	PN	Pn	01 46 34.1	+5.3
PETK	**Petropavlovsk-**	**11.90**	**32**	Pn	Pn	01 46 34.1	+5.3
PET	**Petropavlovsk**	**12.22**	**35**	*e*P	**Pn**	**01 46 31.0**	**-2.1**
PET	**Petropavlovsk**	**12.22**	**35**	*i* PN	**Pn**	**01 46 36.2**	**+3.1**
PET				pmax	pmax		
	comp=Z,25nm,0.3s						
JWT	**Wachi**	**12.22**	**232**	Pn	**Pn**	**01 46 34.7**	**+1.4**
JMN	**Monobe**	**14.22**	**231**	Pn	**Pn**	**01 47 03.1**	**+2.6**
SEY	**Seymchan**	**19.70**	**7**	P	**Pn**	**01 48 08.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=186,slow=10,SNR=4.2						
YAK	**Yakutsk**	**21.22**	**337**	*e*P	**P**	**01 48 24.1**	**+0.6**
YAK	**Yakutsk**	**21.22**	**337**	*i* P	**P**	**01 48 24.1**	**+0.6**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**28.11**	**293**	*e*P	**P**	**01 49 28.8**	**-0.7**
ULN	**Ulaanbaatar**	**28.11**	**293**	*i* P	**P**	**01 49 28.8**	**-0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**28.55**	**293**	P	**P**	**01 49 32.9**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=88,slow=8.8,SNR=4.1						
SONM	**Songino Array**	**28.55**	**293**	P	**P**	**01 49 34.6**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**28.93**	**139**	T	T	02 20 12.2	
	baz=332,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.94**	**139**	T	T	02 20 16.1	
	baz=332,slow=76						
H11N3	**WAKE ISLAND Hy**	**28.94**	**139**	T	T	02 20 12.9	
	baz=332,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.89**	**140**	T	T	02 21 25.4	
	baz=331,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.89**	**140**	T	T	02 21 18.8	
	baz=331,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.91**	**140**	T	T	02 21 22.5	
	baz=331,slow=76						
TGY	**Tagaytay City**	**36.91**	**225**	LR	LR	02 05 17.7	
	comp=Z,253nm,20.6s,baz=110,slow=35						
BPAW	**Bear Paw Mtn.**	**39.93**	**37**	P	**P**	**01 51 12.1**	**+0.8**
TOLK	**Toolik Lake Re**	**40.71**	**30**	P	**P**	**01 51 18.1**	**+0.3**
RND	**Reindeer**	**40.88**	**38**	P	**P**	**01 51 20.6**	**+1.3**
RND				pmax	pmax		
	comp=Z,13nm,1.4s						
RND	**Reindeer**	**40.88**	**38**	P	**P**	**01 51 20.6**	**+1.3**
RND				IAmb	IAmb	01 51 25.6	
	comp=Z,13nm,1.4s						
GHO	**Glory Hole Cre**	**40.94**	**41**	P	**P**	**01 51 22.7**	**+2.9**
GHO				IAmb	IAmb	01 51 28.4	
	comp=Z,12nm,1.3s						
MDM	**Murphy Dome**	**41.12**	**36**	P	**P**	**01 51 22.0**	**+0.8**
MDM				IAmb	IAmb	01 51 30.2	
	comp=Z,4.0nm,1.4s						
WRH	**Wood River Hil**	**41.19**	**37**	P	**P**	**01 51 23.0**	**+1.4**
HDA	**Harding Lake**	**41.68**	**37**	P	**P**	**01 51 25.9**	**+0.1**
ILAR	**Eielson Array**	**41.70**	**36**	P	**P**	**01 51 25.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=269,slow=8.0,SNR=8.9						
ILAR	**Eielson Array**	**41.70**	**36**	*e*P	**P**	**01 51 27.3**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BCAR	**Beaver Creek A**	**44.10**	**38**	P	**P**	**01 51 46.4**	**+1.0**
MK31	**Makanchi Array**	**44.68**	**298**	P	**P**	**01 51 50.2**	**-0.1**
MK31				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MK31	**Makanchi Array**	**44.68**	**298**	P	**P**	**01 51 50.2**	**-0.1**
MK31				IAmb	IAmb	01 51 51.0	
	comp=Z,4.1nm,1.2s						
MKAR	**Makanchi Array**	**44.68**	**298**	P	**P**	**01 51 50.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=81,slow=9.0,SNR=10						
MKAR	**Makanchi Array**	**44.68**	**298**	P	**P**	**01 51 49.9**	**-0.3**
MAKZ	**Makanchi**	**44.88**	**298**	P	**P**	**01 51 51.7**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MAKZ	**Makanchi**	**44.88**	**298**	P	**P**	**01 51 51.7**	**-0.1**
MAKZ				IAmb	IAmb	01 51 53.6	
	comp=Z,3.0nm,1.1s						
KURK	**Kurchatov**	**45.65**	**304**	*e*P	**P**	**01 51 57.6**	**-0.2**
KURK	**Kurchatov**	**45.65**	**304**	P	**P**	**01 51 57.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,784nm,0.4s						
KURK	**Kurchatov**	**45.65**	**304**	P	**P**	**01 51 57.9**	**+0.1**
KURK				IAmb	IAmb	01 52 11.7	
	comp=Z,2.9nm,1.3s						
AAK	**Ala-Archa**	**51.45**	**296**	*e*P	**P**	**01 52 41.7**	**-1.0**
AAK	**Ala-Archa**	**51.45**	**296**	*i* P	**P**	**01 52 41.7**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KK31	**Karatay Array**	**53.81**	**298**	P	**P**	**01 52 59.8**	**-0.2**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KK31	**Karatay Array**	**53.81**	**298**	P	**P**	**01 52 59.8**	**-0.2**
KK31				IAmb	IAmb	01 53 00.4	
	comp=Z,1.8nm,0.7s						
KKAR	**Karatay Array**	**53.81**	**298**	P	**P**	**01 52 59.8**	**-0.2**
KKAR	**Karatay Array**	**53.81**	**298**	P	**P**	**01 52 59.8**	**-0.2**
KKAR	**Karatay Array**	**53.81**	**298**	P	**P**	**01 52 59.8**	**-0.2**
KKAR				IAmb	IAmb	01 53 00.4	
	comp=Z,1.8nm,0.7s						
BTK	**Batken**	**55.12**	**295**	P	**P**	**01 53 10.2**	**+0.6**
BTK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BTK	**Batken**	**55.12**	**295**	P	**P**	**01 53 10.2**	**+0.6**
ABKAR	**Akbulak array**	**57.20**	**309**	P	**P**	**01 53 24.0**	**-0.2**
ARCES	**ARCESS Array B**	**59.47**	**340**	P	**P**	**01 53 39.1**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=26,slow=6.4,SNR=1.8						
ARCES	**ARCESS Array B**	**59.47**	**340**	P	**P**	**01 53 39.4**	**-0.4**
ARCES	**ARCESS Array B**	**59.47**	**340**	P	**P**	**01 53 39.4**	**-0.4**
HAWA	**Hanford**	**62.24**	**51**	P	**P**	**01 53 59.4**	**+0.4**
HAWA				IAmb	IAmb	01 54 12.8	
	comp=Z,5.3nm,1.5s						
SUMG	**Summit**	**64.16**	**2**	P	**P**	**01 54 11.9**	**+0.2**
SUMG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SUMG	**Summit**	**64.16**	**2**	P	**P**	**01 54 11.8**	**+0.2**
SUMG				IAmb	IAmb	01 54 28.1	
	comp=Z,3.5nm,1.0s						
WRA	**Warramunga Arr**	**64.22**	**193**	P	**P**	**01 54 11.8**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=11,slow=6.6,SNR=2.1						
WRA	**Warramunga Arr**	**64.22**	**193**	P	**P**	**01 54 12.1**	**-0.1**
WRA	**Warramunga Arr**	**64.22**	**193**	P	**P**	**01 54 12.1**	**-0.1**
FIA1	**FINESS Array S**	**65.08**	**333**	P	**P**	**01 54 16.7**	**-0.7**
FINES	**FINESS Array B**	**65.08**	**333**	P	**P**	**01 54 16.5**	**-0.9**
	comp=Z,4.2nm,0.5s,baz=42,slow=8.3,SNR=45						
NC303	**NORSAR Array S**	**69.63**	**339**	P	**P**	**01 54 45.6**	**-0.5**
NB2	**NORSAR Subarra**	**69.83**	**339**	P	**P**	**01 54 46.0**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.83**	**339**	P	**P**	**01 54 46.0**	**-1.4**
	comp=Z,1.9nm,0.5s,baz=32,slow=6.6,SNR=16						
NOA	**NORSAR Array B**	**69.83**	**339**	*e*P	**P**	**01 54 46.7**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIV	**Kislovodsk**	**69.91**	**312**	*e*P	**P**	**01 54 49.0**	**+0.7**
KIV	**Kislovodsk**	**69.91**	**312**	*e*P	**P**	**01 54 49.0**	**+0.7**
KIV				pmax	pmax		
	comp=Z,17nm,0.9s						
KIV	**Kislovodsk**	**69.91**	**312**	P	**P**	**01 54 49.8**	**+1.5**
KBZ	**Khabaz**	**69.95**	**312**	P	**P**	**01 54 48.7**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=56,slow=4.4,SNR=8.6						
KBZ	**Khabaz**	**69.95**	**312**	*e*P	**P**	**01 54 49.1**	**+0.7**
KBZ	**Khabaz**	**69.95**	**312**	*e*P	**P**	**01 54 49.1**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PSUT	**Pine Spring**	**70.36**	**55**	P	**P**	**01 54 51.4**	**+0.1**
AKASG	**Malin Array Be**	**71.77**	**324**	P	**P**	**01 54 58.4**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=34,slow=7.5,SNR=4.0						
AKASG	**Malin Array Be**	**71.77**	**324**	*e*P	**P**	**01 54 59.0**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STKA	**Stephens Creek**	**75.19**	**185**	P	**P**	**01 55 16.5**	**-2.9**
STKA				pmax	pmax		
	comp=Z,1.0nm,1.4s						
STKA	**Stephens Creek**	**75.19**	**185**	P	**P**	**01 55 16.5**	**-2.9**
BUR08	**Bucovina Ar. S**	**75.81**	**324**	P	**P**	**01 55 23.3**	**+0.1**
BUR08				IAmb	IAmb	01 55 24.0	
	comp=Z,2.2nm,1.1s						
BURAR	**Bucovina Array**	**75.82**	**324**	P	**P**	**01 55 23.2**	**-0.1**
KHC	**Kasperske Hory**	**79.17**	**331**	P	**P**	**01 55 42.3**	**+0.5**
KHC				pmax	pmax		
	comp=Z,1.0nm,1.2s						
KHC	**Kasperske Hory**	**79.17**	**331**	P	**P**	**01 55 42.3**	**+0.5**
GERES	**GERESS Array B**	**79.36**	**331**	P	**P**	**01 55 41.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=27,slow=6.6,SNR=1.8						
TXAR	**Lajitas Array**	**82.80**	**56**	P	**P**	**01 56 01.7**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=346,slow=4.1,SNR=4.6						
TXAR	**Lajitas Array**	**82.80**	**56**	P	**P**	**01 56 01.9**	**+0.4**

IDC ***15*** *01:48:41.5±1.1, 27°.79N×140°.94E, h100km±9km, mb4.0/21, mb1 4.2/24, mb1mx4.1/36, mbtmp4.3/24, MS3.4/10, Ms1 3.4/10, ms1mx3.1/42, Error ellipse: s-maj=17.2km s-min=10.4km az=74.0*

JMA ***15*** *01:48:42.4±0.1, 27°.83N×141°.58E, h108km, M4.1*

JMA Felt II J1.

NEIC ***15*** *01:48:42.8±2.3, 27°.76N±0°.06×141°.08E±0°.09, h102km±5km, mb4.5/93, Error ellipse: s-maj=13.1km s-min=7.7km az=61.0*

ISC 15 01:48:41.8±0.3, 27°.82N±0°.04×141°.15E±0°.06, h100km, n210, σ1§70/216, mb4.5/69, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.16**	**128**	P	**Pn**	**01 49 02.7**	**-1.3**
CBIJ				*e*S	**Sn**	**01 49 17.8**	**-3.0**
JCJ	**Chichijima**	**1.16**	**128**	P	**Pn**	**01 49 03.1**	**-0.9**
	3μm,0.3s,baz=294,slow=12,SNR=1465						
JCJ				S	**Sn**	**01 49 17.6**	**-3.2**
	7μm,0.3s,baz=124,slow=23,SNR=19						
JCJ				LR	LR	01 49 34.3	
	comp=Z,2μm,20.1s,baz=34,slow=40						
JHH2	**Haha-jima-NKT2**	**1.49**	**142**	P	**Pn**	**01 49 06.8**	**-1.1**
JHH2				S	**Sn**	**01 49 25.5**	**-2.2**
JAOM	**Aogashimamukai**	**4.79**	**346**	P	**Pn**	**01 49 54.5**	**+2.9**
JHJ2	**Mitsune**	**5.40**	**348**	Pn	**Pn**	**01 50 01.9**	**+2.0**
JHJ	**Hachijo jima 2**	**5.42**	**348**	P	**Pn**	**01 49 59.7**	**-0.4**
	14nm,0.3s,baz=356,slow=16,SNR=1.8						
JHJ				S	**Sn**	**01 50 56.2**	**-5.0**
	8.3nm,0.3s,baz=244,slow=21,SNR=1.5						
BSO1	**Boso 1**	**6.82**	**359**	P	**Pn**	**01 50 18.0**	**-0.6**
BSO3	**Boso 3**	**6.99**	**356**	P	**Pn**	**01 50 19.6**	**-1.6**
BSO4	**Boso 4**	**7.19**	**355**	P	**Pn**	**01 50 24.9**	**+0.9**
BSO4				*e*S	**Sn**	**01 51 46.4**	**+2.4**
JOD2	**Odawara 2**	**7.63**	**347**	P	**Pn**	**01 50 31.3**	**+1.1**
JTNC	**Tanabenakahech**	**7.65**	**323**	P	**Pn**	**01 50 33.1**	**+2.7**
JHU	**Hanno**	**8.17**	**349**	P	**Pn**	**01 50 36.3**	**-1.2**
JRY	**Ryogami san**	**8.40**	**347**	P	**Pn**	**01 50 40.1**	**-0.5**
JGF	**Kuroka**	**8.41**	**338**		**Pn**	**01 50 41.2**	**+0.4**
JYT	**Yasato**	**8.43**	**355**	Pn	**Pn**	**01 50 42.9**	**+1.9**
JAG	**Ashikaga**	**8.71**	**351**	P	**Pn**	**01 50 42.7**	**-2.1**
JHO	**Hitachi**	**8.78**	**357**	P	**Pn**	**01 50 44.9**	**-1.0**
JWT	**Wachi**	**8.91**	**328**		**Pn**	**01 50 51.4**	**+3.7**
MJAR	**Matsushiro Arr**	**9.05**	**345**	P	**Pn**	**01 50 49.1**	**-0.4**
	0.2nm,0.3s,baz=157,slow=14,SNR=2.6						
MJAR	**Matsushiro Arr**	**9.05**	**345**	Pn	**Pn**	**01 50 51.6**	**+2.1**
MAJO	**Matsushiro**	**9.05**	**345**	Pn	**Pn**	**01 50 52.2**	**+2.6**
MAT	**Matsushiro**	**9.05**	**345**	P	**Pn**	**01 50 52.2**	**+2.7**
MAT				*e*S	**Sn**	**01 52 30.7**	**+1.1**
JMM	**Marumori**	**10.03**	**358**	Pn	**Pn**	**01 50 59.5**	**-3.3**
JNU	**Nakatsue**	**10.32**	**303**	P	**Pn**	**01 51 10.7**	**+3.8**
	1.0nm,0.3s,baz=98,slow=6.7,SNR=16						
JNU				LR	LR	01 54 42.1	
	comp=Z,159nm,21.9s,baz=84,slow=35						
JNU	**Nakatsue**	**10.32**	**303**	Pn	**Pn**	**01 51 10.0**	**+3.1**
JSD	**Sado**	**10.48**	**347**	Pn	**Pn**	**01 51 05.5**	**-3.4**
JAMN	**Amaminishikomi**	**10.59**	**275**	P	Pn	01 51 16.1	+5.6
JMK	**Ichinoseki**	**11.11**	**0**	P	**Pn**	**01 51 16.0**	**-1.4**
JMK				*e*S	Sn	01 53 12.3	-7.2
JTM	**Tenmabayashi**	**12.94**	**360**	Pn	Pn	01 51 38.4	-3.4
ERM	**Erimo**	**14.26**	**6**	Pn	**Pn**	**01 52 00.6**	**+1.7**
GUMO	**Guam**	**14.57**	**165**	P	**Pn**	**01 52 04.0**	**+0.8**
	5.8nm,0.3s,baz=170,slow=3.6,SNR=5.1						
GUMO	**Guam**	**14.57**	**165**	P	**P**	**01 52 06.2**	**-0.6**
KSRS	**Korea Array**	**14.70**	**314**	P	**P**	**01 52 08.0**	**-0.2**
	0.5nm,0.3s,baz=124,slow=12,SNR=8.7						
KSRS				LR	LR	01 57 07.1	
	comp=Z,111nm,21.2s,baz=185,slow=35						
ASAJ	**Asahikawa**	**16.31**	**4**	P	**Pn**	**01 52 24.9**	**+0.2**
	0.9nm,0.3s,baz=212,slow=13,SNR=2.4						
ASAJ				LR	LR	01 59 53.1	
	comp=Z,57nm,18.8s,baz=164,slow=41						
JKA	**Kamikawa-asahi**	**16.31**	**4**	P	**Pn**	**01 52 26.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**17.93**	**338**	P	**P**	**01 52 42.6**	**-1.1**
	baz=167,slow=29,SNR=2.2						
NACB	**Ninganchiao**	**17.95**	**263**	P	**Pn**	**01 52 45.1**	**+0.2**
NACB				IAmb	IAmb	01 52 50.4	
	comp=Z,28nm,0.9s						
YULB	**Yu-li**	**18.44**	**261**	P	**Pn**	**01 52 53.5**	**+2.7**
YULB				IAmb	IAmb	01 52 54.5	
	comp=Z,30nm,0.7s						
SSLB	**Suanglung**	**18.62**	**262**	P	**Pn**	**01 52 56.1**	**+3.1**
TPUB	**Ta-pu**	**19.05**	**261**	P	**Pn**	**01 53 00.5**	**+2.5**
NJ2	**Nanjing**	**19.77**	**288**	*e*P	**P**	**01 53 01.4**	**-2.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
TIA	**Tai'an**	**21.99**	**298**	P	**P**	**01 53 27.3**	**-0.4**
TIA				pmax	pmax		
	comp=Z,12nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**24.86**	**103**	T	T	02 19 04.7	
	baz=293						
H11N1	**WAKE ISLAND Hy**	**24.86**	**103**	T	T	02 19 08.5	
	baz=293						
H11N3	**WAKE ISLAND Hy**	**24.88**	**103**	T	T	02 19 06.2	
	baz=293						
H11S3	**WAKE ISLAND Hy**	**25.20**	**106**	T	T	02 19 35.2	
	baz=297,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**25.21**	**106**	T	T	02 19 35.8	
	baz=297,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy**	**25.22**	**106**	T	T	02 19 35.8	
	baz=297,slow=75,SNR=15						
HHC	**Hu-ho-hao-te**	**27.53**	**306**	*e*P	**P**	**01 54 18.4**	**-0.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,7.7s						
HHC				LR	LR		
	comp=Z,200nm,14.5s						
HHC				LR	LR		
	comp=Z,270nm,14.5s						
XAN	**Xi'an**	**28.26**	**291**	P	**P**	**01 54 25.6**	**0.0**
XAN				pmax	pmax		
	comp=Z,21nm,0.6s						
XAN				pmax	pmax		
	comp=Z,170nm,5.4s						
XAN	**Xi'an**	**28.26**	**291**	P	**P**	**01 54 25.6**	**0.0**
XAN				IAmb	IAmb	01 54 26.2	
	comp=Z,13nm,0.6s						
FAKI	**Fak Fak**	**31.74**	**197**	P	**P**	**01 54 56.6**	**+0.2**
FAKI				IAmb	IAmb	01 55 01.4	
	comp=Z,8.1nm,0.8s						
LZH	**Lanzhou**	**32.56**	**294**	*e*P	**P**	**01 55 03.0**	**-0.6**
LZH				pP	pP	01 55 15.9	-9.4
LZH				sP	pwP	01 55 23.3	-5.8
LZH				PP	**PnPn**	**01 56 08.0**	**-6.8**
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				pmax	pmax		
	comp=Z,130nm,5.4s						
LZH				LR	LR		
	comp=Z,260nm,15.2s						
LZH				LR	LR		
	comp=Z,280nm,15.6s						
LZH				LR	LR		
	comp=Z,390nm,16.3s		

MNAI	Manna	48.77	235	P	P	01 57 17.1	+0.3
PKI	Pulchoki	48.98	283	eP	P	01 57 18.4	-0.4
comp=Z,6.2nm,0.4s							
PKI	Pulchoki	48.98	283	eP	P	01 57 18.4	-0.4
comp=Z,6.2nm,0.4s							
PKIN	Phulchoki	48.99	283	eP	P	01 57 18.4	-0.4
comp=Z,8.0nm,0.4s							
PKIN	Phulchoki	48.99	283	eP	P	01 57 18.4	-0.4
comp=Z,8.0nm,0.4s							
DMN	Daman	49.23	284	eP	P	01 57 20.7	+0.1
DMN	Daman	49.23	284	eP	P	01 57 20.7	+0.1
MK31	Makanchi Array	49.31	309	P	P	01 57 20.2	-0.4
MKAR	Makanchi Array	49.31	309	P	P	01 57 19.2	-1.4
comp=Z,0.9nm,0.6s,baz=86,slow=8.5,SNR=8.1							
MKAR				PcP	PcP	01 58 41.3	-0.6
comp=Z,2.0nm,0.7s,baz=71,slow=5.0,SNR=5.8							
MKAR				ScP	ScP	02 02 24.1	-4.0
comp=Z,0.9nm,0.7s,baz=73,slow=4.8,SNR=5.5							
MKAR	Makanchi Array	49.31	309	P	P	01 57 18.8	-1.8
MAKZ	Makanchi	49.53	309	P	P	01 57 22.2	-0.1
ANM	Nome	49.74	27	P	P	01 57 26.0	+2.5
ANM				IAmb	IAmb	01 57 38.0	
comp=Z,10.0nm,1.0s							
SANVU	Saraoutou	49.87	146	P	P	01 57 25.8	+0.7
KOLN	Koldanda	50.49	284	eP	P	01 57 29.9	-0.1
comp=Z,4.7nm,0.4s							
KOLN	Koldanda	50.49	284	eP	P	01 57 29.9	-0.1
comp=Z,4.7nm,0.4s							
PYUN	Piuthan	50.93	285	eP	P	01 57 33.4	0.0
comp=Z,16nm,0.3s							
PYUN	Piuthan	50.93	285	eP	P	01 57 33.4	0.0
comp=Z,16nm,0.3s							
NRIK	Noril'sk	51.65	339	P	P	01 57 37.8	0.0
comp=Z,5.1nm,0.6s,baz=108,slow=8.2,SNR=7.2							
AS31	Alice Springs	51.66	188	P	P	01 57 39.4	+0.9
AS31				IAmb	IAmb	01 57 48.7	
comp=Z,1.5nm,0.3s							
ASAR	Alice Springs	51.66	188	P	P	01 57 38.3	-0.1
comp=Z,1.0nm,0.3s,baz=11,slow=8.3,SNR=17							
ASAR				PcP	PcP	01 58 49.6	-1.2
comp=Z,0.6nm,0.5s,baz=5.2,slow=4.1,SNR=4.5							
ASAR				ScP	ScP	02 02 35.6	-2.7
comp=Z,0.7nm,0.5s,baz=6.8,slow=4.8,SNR=9.4							
KURK	Kurchatov	51.83	314	P	P	01 57 39.3	-0.1
KURK				IAmb	IAmb	01 57 41.5	
comp=Z,2.2nm,0.6s							
SVW2	Sparrevohn	53.18	33	P	P	01 57 49.1	-0.2
OHAK	Old Harbor	53.93	38	P	P	01 57 55.5	+0.8
KDAK	Kodiak Island	54.34	37	P	P	01 57 58.5	+0.7
IMAR	Indian Mountai	54.82	27	P	P	01 58 02.7	+1.6
BPAW	Bear Paw Mtn.	55.69	30	P	P	01 58 10.1	+2.6
BPAW				IAmb	IAmb	01 58 11.7	
comp=Z,3.9nm,0.8s							
COLD	Coldfoot	56.42	26	P	P	01 58 14.8	+2.3
COLD				IAmb	IAmb	01 58 22.3	
comp=Z,2.9nm,0.9s							
RND	Reindeer	56.57	30	P	P	01 58 14.8	+1.0
RND				IAmb	IAmb	01 58 20.8	
comp=Z,5.1nm,1.0s							
SML	Sawmill	56.72	32	P	P	01 58 15.9	+1.1
SML				IAmb	IAmb	01 58 27.9	
comp=Z,3.8nm,0.8s							
BRVK	Borovoye	56.96	317	P	P	01 58 15.6	-0.9
BRVK				IAmb	IAmb	01 58 15.8	
comp=Z,2.6nm,0.7s							
MDM	Murphy Dome	56.97	29	P	P	01 58 18.7	+2.2
MDM				IAmb	IAmb	01 58 19.3	
comp=Z,5.0nm,0.6s							
WRH	Wood River Hil	56.99	29	P	P	01 58 18.0	+1.4
WRH				IAmb	IAmb	01 58 20.1	
comp=Z,2.5nm,0.7s							
CCB	Clear Creek Bu	57.12	29	P	P	01 58 19.8	+2.3
CCB				IAmb	IAmb	01 58 20.7	
comp=Z,2.3nm,0.6s							
SCM	Sheep Creek Mo	57.19	32	P	P	01 58 20.3	+2.1
SCM				IAmb	IAmb	01 58 34.2	
comp=Z,7.4nm,1.0s							
HDA	Harding Lake	57.48	29	P	P	01 58 21.2	+1.2
HDA				IAmb	IAmb	01 58 21.7	
comp=Z,6.2nm,0.7s							
IL31		57.52	29	P	P	01 58 21.4	+1.1
IL31				IAmb	IAmb	01 58 22.5	
comp=Z,5.8nm,0.9s							
ILAR	Eielson Array	57.52	29	P	P	01 58 21.1	+0.7
comp=Z,4.3nm,0.8s,baz=264,slow=5.9,SNR=38							
ILAR	Eielson Array	57.52	29	P	P	01 58 21.6	+1.3
HIN	Hinchinbrook I	57.57	34	P	P	01 58 22.9	+2.1
KK31	Karatay Array	57.92	305	P	P	01 58 22.8	-0.8
KK31				IAmb	IAmb	01 58 23.4	
comp=Z,3.0nm,0.5s							
KKAR	Karatay Array	57.92	305	P	P	01 58 22.6	-0.9
KKAR	Karatay Array	57.92	305	P	P	01 58 22.9	-0.6
KKAR				IAmb	IAmb	01 58 23.4	
comp=Z,3.0nm,0.5s							
RIDG	Independent Ri	58.38	30	P	P	01 58 28.5	+2.1
RIDG				IAmb	IAmb	01 58 31.5	
comp=Z,6.2nm,1.0s							
BMAR	Burnt Mountain	58.61	26	P	P	01 58 30.7	+2.7
DOT	Dot Lake	58.73	30	P	P	01 58 30.1	+1.3
STKA	Stephens Creek	59.36	180	P	P	01 58 32.8	-0.6
comp=Z,1.8nm,0.4s,baz=3.6,slow=6.5,SNR=5.2							
STKA	Stephens Creek	59.36	180	P	P	01 58 33.4	0.0
BCAR	Beaver Creek A	59.77	31	P	P	01 58 38.0	+2.0
CHGR	Chuyangaron	59.79	301	P	P	01 58 36.8	+0.2
EGAK	Eagle	59.98	29	P	P	01 58 38.4	+1.1
EGAK				IAmb	IAmb	01 58 39.3	
comp=Z,2.6nm,0.6s							
HYT	Haines Junctio	61.97	33	P	P	01 58 53.8	+2.7
HYT				IAmb	IAmb	01 58 57.1	
comp=Z,4.1nm,0.8s							
WHY	Whitehorse	63.27	33	P	P	01 59 02.2	+2.5
WHY				IAmb	IAmb	01 59 02.8	
comp=Z,6.3nm,0.8s							
ARU	Arti	63.30	322	P	P	01 58 58.8	-0.9
BESE	Bessie Mountai	63.65	36	P	P	01 59 04.3	+2.2
BESE				IAmb	IAmb	01 59 11.1	
comp=Z,6.7nm,1.0s							
ABKAR	Akbulak array	63.94	314	P	P	01 59 03.2	-0.9
JIS	Juneau Island	63.95	36	P	P	01 59 06.5	+2.5
JIS				IAmb	IAmb	01 59 07.2	
comp=Z,4.0nm,0.7s							
NWAO	Narrogin (SRO)	64.54	202	P	P	01 59 08.4	+0.3
C36M	Paulatuk	65.93	23	P	P	01 59 17.3	+0.6
EUNU	Eureka	69.32	8	P	P	01 59 39.0	+1.1
YKA	Yellowknife Ar	71.94	28	P	P	01 59 54.2	+0.2
comp=Z,1.2nm,0.6s,baz=301,slow=6.7,SNR=9.4							
KEV	Kevo	72.00	340	P	P	01 59 54.9	+0.7
ARCES	ARCESS Array B	72.56	341	P	P	01 59 58.0	+0.3
comp=Z,5.6nm,0.5s,baz=70,slow=8.2,SNR=36							
ARCES	ARCESS Array B	72.56	341	P	P	01 59 58.1	+0.5
ARE0	ARCESS Array S	72.56	341	P	P	01 59 58.1	+0.5
NLWA	Neilton Lookou	73.24	45	P	P	02 00 04.0	+2.0
KEBM	Edson Butte	74.73	49	P	P	02 00 13.4	+2.5
KEBM				IAmb	IAmb	02 00 16.8	
comp=Z,13nm,1.0s							
NNZ	Nelson	74.89	155	P	P	02 00 11.4	-0.1
KBO	Bosley Butte	75.07	50	P	P	02 00 15.4	+2.6
KRMB	Red Mountain	75.56	51	P	P	02 00 18.5	+2.8
KCPM	Cahto Peak	76.56	52	P	P	02 00 23.8	+2.4
KCPM				IAmb	IAmb	02 00 24.2	
comp=Z,6.6nm,0.8s							
PINE	Pine Mountain	76.59	48	P	P	02 00 24.1	+2.5
PINE				IAmb	IAmb	02 00 24.7	
comp=Z,5.5nm,0.8s							
KBZ	Khabaz	76.85	313	P	P	02 00 22.1	-0.7
comp=Z,4.8nm,0.7s,baz=76,slow=4.7,SNR=16							
KBZ				LR	LR	02 35 30.0	
comp=Z,43nm,20.5s,baz=68,slow=37							
FIA1	FINESS Array S	76.90	333	P	P	02 00 22.2	-0.4
FIA1				IAmb	IAmb	02 00 30.9	
comp=Z,6.8nm,1.1s							
FINES	FINESS Array B	76.90	333	P	P	02 00 21.9	-0.8
comp=Z,3.2nm,0.4s,baz=69,slow=5.2,SNR=78							
FINES	FINESS Array B	76.90	333	P	P	02 00 22.1	-0.6
NEW	Newport	76.99	42	P	P	02 00 25.6	+2.0
K05A	Summer Lake	77.09	48	P	P	02 00 26.8	+2.4
K05A				IAmb	IAmb	02 00 27.4	
comp=Z,6.2nm,1.0s							
BMO	Blue Mountains	78.45	45	P	P	02 00 34.0	+2.2
WALA	Waterton Lakes	78.50	40	P	P	02 00 34.0	+2.0
WALA				IAmb	IAmb	02 00 35.0	
comp=Z,7.0nm,0.6s							
JTMT	Jette	78.92	42	P	P	02 00 36.2	+1.8
JTMT				IAmb	IAmb	02 00 37.0	
comp=Z,4.8nm,0.7s							
MFID	Camas Ranch	80.07	46	P	P	02 00 42.8	+2.1
MFID				IAmb	IAmb	02 00 43.2	
comp=Z,3.1nm,0.7s							
KVN	Kaiserville	80.64	51	P	P	02 00 45.5	+1.6
NVAR	Mina Array Bea	80.79	51	P	P	02 00 46.0	+1.2
comp=Z,1.7nm,0.7s,baz=285,slow=5.4,SNR=21							
NVAR	Mina Array Bea	80.79	51	P	P	02 00 46.5	+1.7
HRY	Holter Researc	80.88	42	P	P	02 00 47.3	+2.3
HLID	Hailey	80.89	45	P	P	02 00 47.4	+2.2
LRM	Limekiln Ridge	80.97	43	P	P	02 00 47.6	+2.0
DLMT	Dillon	81.12	43	P	P	02 00 48.2	+1.9
MARD	Mardin	81.20	307	P	P	02 00 47.0	+0.1
MARD				IAmb	IAmb	02 00 47.2	
comp=Z,4.8nm,0.6s							
AKASG	Malin Array Be	81.50	323	P	P	02 00 46.8	-1.2
comp=Z,1.0nm,0.3s,baz=51,slow=5.5,SNR=8.0							
BOZ	Bozeman (W)	81.58	43	P	P	02 00 50.8	+2.1
SOCY	Socotra	81.94	279	P	P	02 00 48.9	-2.1
NC405	NORSAR Array S	82.38	338	P	P	02 00 52.1	-0.3
NC303	NORSAR Array S	82.42	338	P	P	02 00 53.1	+0.5
NC303				IAmb	IAmb	02 01 11.3	
comp=Z,12nm,1.1s							
NB201	NORSAR Array S	82.57	338	P	P	02 00 52.7	-0.7
NB2	NORSAR Subarra	82.60	338	P	P	02 00 52.5	-1.1
comp=Z,2.1nm,0.6s,baz=46,slow=5.1							
NOA	NORSAR Array B	82.60	338	P	P	02 00 52.3	-1.3
comp=Z,0.6nm,0.5s,baz=60,slow=6.2,SNR=24							
R11A	Troy Canyon, C	82.70	50	P	P	02 00 56.3	+1.5
IMW	Indian Meadow	82.89	44	P	P	02 00 57.4	+1.6
TPNV	Topopah Spring	82.93	52	P	P	02 00 57.7	+1.7
RLMT	Red Lodge	83.24	42	P	P	02 00 59.7	+2.2
DUG	Dugway, Tooele	83.63	48	P	P	02 01 01.3	+1.9
PDAR	Pinedale Array	84.34	44	P	P	02 01 03.1	-0.1
comp=Z,0.6nm,0.5s,baz=300,slow=3.3,SNR=8.9							
PDAR	Pinedale Array	84.34	44	P	P	02 01 04.6	+1.4
BR131	Keskin Array S	84.84	312	P	P	02 01 05.2	-0.4
BRTR	Keskin Array B	84.84	312	P	P	02 01 03.0	-2.6
comp=Z,0.9nm,0.6s,baz=93,slow=3.6,SNR=7.7							
BRTR				LR	LR	02 42 51.2	
comp=Z,21nm,19.0s,baz=78,slow=38							
BRTR	Keskin Array B	84.84	312	P	P	02 01 04.3	-1.3
KNB	Kanab	85.27	51	P	P	02 01 10.1	+2.3
RDMU	Red Mountain	85.53	46	P	P	02 01 11.0	+1.9
SRU	San Rafael Swe	85.70	48	P	P	02 01 11.5	+1.5
U15A	North Rim	85.94	51	P	P	02 01 12.9	+1.6
U15A				IAmb	IAmb	02 01 13.3	
comp=Z,2.9nm,0.9s							
PV23	Carpenter Ridg	87.05	48	P	P	02 01 18.9	+2.2
PV23				IAmb	IAmb	02 01 18.9	
comp=Z,5.5nm,0.8s							
KRLC	Kraliky	88.12	328	eP	P	02 01 19.8	-1.5
DPC	Dobruska-Polom	88.15	328	eP	P	02 01 20.5	-0.9
PRU	Pruhonice	89.22	329	eP	P	02 01 25.2	-1.2
KHC	Kasperske Hory	90.27	329	eP	P	02 01 30.3	-1.1
GERES	GERESS Array B	90.42	328	P	P	02 01 30.4	-1.8
comp=Z,1.1nm,0.6s,baz=40,slow=5.2,SNR=14							
GERES				LR	LR	02 44 26.0	
comp=Z,33nm,18.7s,baz=68,slow=37							
ABTA	Abfaltersbach	92.48	327	i P	P	02 01 39.7	-2.0
comp=Z,0.9nm,0.5s							
MOTA	Moosalm	92.71	329	i P	P	02 01 41.1	-1.7
comp=Z,0.5nm,0.3s							
FETA	Feichten	93.12	329	i P	P	02 01 42.6	-2.1
comp=Z,0.8nm,0.5s							
DAVA	Damuels	93.31	329	i P	P	02 01 44.1	-1.5
comp=Z,0.4nm,0.1s							
SCHQ	Schefferville	94.24	16	P	P	02 01 50.1	+0.6
comp=Z,3.2nm,0.8s,baz=318,slow=2.5,SNR=5.8							
SCHQ	Schefferville	94.24	16	P	P	02 01 49.9	+0.4
TXAR	Lajitas Array	95.90	53	P	P	02 01 59.1	+1.3
comp=Z,1.1nm,0.7s,baz=306,slow=2.8,SNR=13							
TXAR	Lajitas Array	95.90	53	P	P	02 02 00.1	+2.3
TORD	Torodi Ar. Bea	123.42	311	PKP	PKPdf	02 07 27.2	-0.8
comp=Z,0.8nm,0.5s,baz=22,slow=1.1,SNR=35							
DBIC	Dimbokro	132.53	311	PKP	PKPdf	02 07 45.2	-0.1
comp=Z,1.0nm,0.5s,baz=45,slow=5.7,SNR=1.4							
DBIC	Dimbokro	132.53	311		PKPdf	02 07 45.6	+0.2
VNA3	Neumayer Olymp	133.58	193	PKiKP	PKPdf	02 07 46.4	+0.7
LPAZ	La Paz	150.61	73	PKPbc	PKPbc	02 08 24.2	+0.7
comp=Z,1.4nm,0.4s,baz=7.1,slow=3.9,SNR=8.5							
LPAZ	La Paz	150.61	73		PKPbc	02 08 24.5	+1.0
PLCA	Paso Flores	150.97	125	PKPbc	PKPbc	02 08 22.2	-0.8
comp=Z,1.6nm,0.6s,baz=213,slow=3.1,SNR=5.7							
PLCA	Paso Flores	150.97	125		PKPbc	02 08 24.0	+1.0

IDC 15 02:10:09.0±1.1, 27°.80N×66°.10E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/48, mbtmp3.5/6, ML3.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/28, Error ellipse: s-maj=35.6km s-min=27.0km az=140.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	8.13	238	Pn	Pn	02 12 07.7	-0.7
0.4nm,0.3s,baz=123,slow=12,SNR=5.8							
WSAR				Sn	Sn	02 13 28.9	-12
0.2nm,0.3s,baz=62,slow=10,SNR=2.3							
GEYT	Alibeck	12.12	328	LR	LR	02 19 02.1	
comp=Z,44nm,18.9s,baz=215,slow=44							
MKAR	Makanchi Array	22.84	30	P	P	02 15 13.7	0.0
0.6nm,0.9s,baz=215,slow=11,SNR=2.5							
AKTO	Aktyubinsk	23.43	347	LR	LR	02 26 41.6	
comp=Z,51nm,18.2s,baz=117,slow=42							
KURBB	Kurchatov Arra	24.68	19	P	P	02 15 31.4	-0.1
0.4nm,0.5s,baz=213,slow=8.6,SNR=3.4							
TORD	Torodi Ar. Bea	61.47	270	P	P	02 20 28.1	+0.3
0.5nm,0.9s,baz=64,slow=6.6,SNR=2.2							
WRA	Warramunga Arr	81.27	118	P	P	02 22 27.2	-0.2
0.2nm,0.6s,baz=318,slow=4.4,SNR=6.3							
ASAR	Alice Springs	83.01	121	P	P	02 22 36.8	+0.3
0.4nm,0.5s,baz=310,slow=5.4,SNR=6.8							

IDC 15 02:21:03.1±22.0, 17°.43S×177°.04W, h278km±189km, mb3.2/4, mb1 3.4/4, mb1mx3.1/22, mbtmp3.8/4, MS3.9/1, Ms1 3.9/1, ms1mx2.9/9, Error ellipse: s-maj=171.1km s-min=44.4km az=129.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.01	259	P	P	02 28 59.2	-0.3
0.2nm,0.6s,baz=96,slow=7.6,SNR=9.2							
WRA				LR	LR	02 47 55.2	
comp=Z,119nm,19.1s,baz=325,slow=35							
ASAR	Alice Springs	46.18	254	P	P	02 29 00.8	0.0
1.9nm,0.5s,baz=89,slow=8.2,SNR=23							
PETK	Petropavlovsk-	73.56	344	P	P	02 32 05.7	+0.1
0.7nm,0.5s,baz=142,slow=7.3,SNR=1.8							
ILAR	Eielson Array	85.13	12	P	P	02 33 07.6	0.0
0.3nm,0.5s,baz=224,slow=5.1,SNR=8.2							
BRTR	Keskin Array B	145.36	316	PKPbc	PKPdf	02 40 08.1	-0.2
0.6nm,0.6s,baz=55,slow=1.6,SNR=5.5							
GERES	GERESS Array B	147.47	347	PKPbc	PKPbc	02 40 13.5	-1.0
0.1nm,0.3s,baz=18,slow=4.2,SNR=2.4							

NNC 15 03:12:06.8±5.4, 38°.77N×69°.90E, h0km, mb3.7, mpv3.4, 3C-2D, Error ellipse: s-maj=40.5km s-min=29.3km az=11.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	3.37	2	Pg	Pb	03 13 08.1	+0.6
12nm,0.5s							
IUG				Lg	Lg	03 13 59.1	
52nm,0.5s							
BRLS	Borolday	4.25	359	Pg	Pb	03 13 19.3	-3.1
4.3nm,0.2s							
BRLS				Lg	Lg	03 14 17.9	
9.7nm,0.5s							
KK31	Karatay Array	4.35	6	Pn	Pn	03 13 13.6	-0.6
0.3nm,0.2s,baz=201,slow=15,SNR=22							
KK31				⇑Pg	Pb	03 13 26.3	+2.2
4.4nm,0.7s,baz=196,slow=16,SNR=12							
KK31				⇓Lg	Lg	03 14 21.1	
3.8nm,0.5s,baz=189,slow=28,SNR=7.3							
MRKS	Merke	4.71	31	Pg	Pn	03 13 22.8	+3.7
2.9nm,0.3s							
MRKS				Lg	Lg	03 14 24.5	
6.1nm,0.8s							
AAK	Ala-Archa	5.21	41	⇑Pn	Pn	03 13 28.3	+2.2
2.4nm,0.8s							
AAK				⇑Sn	Sn	03 14 26.1	-0.7
2.7nm,0.7s							
AAK				⇓Lg	Lg	03 14 50.7	
6.5nm,1.2s							

IDC 15 03:22:50.1±2.0, 1°.06S×127°.65E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/29, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=160.0km s-min=25.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.87	161	P	P	03 27 23.5	+0.5
0.1nm,0.3s,baz=340,slow=12,SNR=8.3							
ASAR	Alice Springs	23.27	165	P	P	03 27 59.3	-0.3
0.8nm,0.7s,baz=344,slow=10,SNR=9.0							
MKAR	Makanchi Array	62.01	326	P	P	03 33 12.2	0.0
0.6nm,0.3s,baz=120,slow=7.3,SNR=8.8							

TIF 15 03:40:21.9, 42°.52N×43°.52E, h14km
DDA 15 03:40:21.5, 42°.52N×43°.45E, h8km±2km, ML2.2
NORS 15 03:40:21.7±0.0, 42°.56N×43°.48E, h15km, MPVA3.8
MOS 15 03:40:22.9±0.0, 42°.49N×43°.47E, h7km, MPVA3.8
ISK 15 03:40:22.9, 42°.45N×43°.54E, h9km, ML2.7/6
ISC 15 03:40:22.4±0.8, 42°.50N±0°.02×43°.47E±0°.02, h11km±5km, n52, σ0°.98/96, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.09	352	i Pg	Pg	03 40 25.1	+0.1
ONI				i Sg	Sg	03 40 27.2	+0.1
ONI	Oni	0.09	352	P	Pg	03 40 25.1	+0.1
ONI				S	Sg	03 40 27.1	+0.1
TKB	Tkibuli	0.38	247	ePg	Pb	03 40 30.7	-0.5
TKB				eSg	Sb	03 40 37.3	+0.2
TKB	Tkibuli	0.38	247	P	Pb	03 40 30.7	-0.5
TKB				S	Sb	03 40 37.3	+0.2
DIGR	Digorskoe uzhe	0.41	12	i Pg	Pg	03 40 29.9	-0.6
DIGR				eSg	Sg	03 40 35.7	-0.2
ZEI	Tsey	0.43	48	i Pg	Pg	03 40 30.4	-0.5
ZEI				eSg	Sg	03 40 36.4	-0.2
KORR	Kora	0.73	37	i Pg	Pb	03 40 36.4	-0.8
KORR				eSg	Sb	03 40 47.5	+0.3
BKRG	Bakuriani	0.74	177	ePg	Pb	03 40 37.1	-0.3
BKRG				eSg	Sb	03 40 48.1	+0.5
BKRG	Bakuriani	0.74	177	P	Pb	03 40 37.1	-0.3
BKRG				S	Sb	03 40 48.1	+0.5
LSNR	Lesken	0.82	19	i Pg	Pb	03 40 38.0	-0.7
LSNR				eSg	Sn	03 40 50.3	-1.8
ARNR	Ardon	0.90	41	ePg	Pn	03 40 40.1	-1.0
ARNR				eSg	Sn	03 40 53.5	-0.7
STDR	Stavd-Durt	0.97	26	i Pg	Pn	03 40 42.1	+0.1
STDR				eSg	Sn	03 40 55.9	+0.1
VLKR	Vladikavkaz	1.04	58	ePg	Pn	03 40 42.3	-0.7
VLKR				eSg	Sn	03 40 58.8	+1.2
CHVG	Ch'k'valeri	1.05	282	P	Pn	03 40 43.6	+0.5
CHVG				S	Sn	03 40 58.4	+0.7
TRLG	Trialeti	1.07	154	ePg	Pb	03 40 42.9	-0.1
TRLG				eSg	Sn	03 40 58.0	-0.5
TRLG	Trialeti	1.07	154	P	Pb	03 40 42.9	-0.1
TRLG				S	Sn	03 40 58.0	-0.5
AKH	Akhalkalaki	1.09	179	PG	Pb	03 40 43.2	-0.2
AKH				SG	Sb	03 40 58.3	+0.6
AKH	Akhalkalaki	1.09	179	ePg	Pb	03 40 43.2	-0.2
AKH				eSg	Sb	03 40 57.8	+0.1
AKH	Akhalkalaki	1.09	179	P	Pb	03 40 43.3	-0.2
AKH				S	Sn	03 40 58.7	-0.3
EPOS	Posof	1.14	209	i P	Pb	03 40 44.1	-0.1
EPOS				i S	Sn	03 41 00.6	+0.5
EPOS				IAML		03 41 04.0	
comp=E,28nm,0.2s							
EPOS				IAML		03 41 05.0	
comp=N,63nm,0.3s							
KMGR	Komgaron	1.17	61	ePg	Pn	03 40 45.2	+0.5
KMGR				ePg	Pg	03 40 45.7	+0.8
KMGR				eSg	Sn	03 41 01.6	+0.9
KMGR				eSg	Sb	03 41 02.4	+2.6
BTKR	Batakoyurt	1.17	42	ePg	Pn	03 40 46.0	+1.2
BTKR				eSg	Sn	03 41 03.7	+2.8
TBLG	Delisi	1.22	129	PN	Pn	03 40 45.1	-0.3
TBLG				SN	Sn	03 41 01.5	-0.4
TBLG	Delisi	1.22	129	ePg	Pg	03 40 45.6	-0.2
TBLG				eSg	Sn	03 41 01.8	-0.1
TBLG	Delisi	1.22	129	i P	Pg	03 40 45.3	-0.5
TBLG				i S	Sn	03 41 01.7	-0.2
TBLG				IAML		03 41 03.0	
comp=E,21nm,0.4s							
TBLG				IAML		03 41 08.0	
comp=N,23nm,0.6s							
TBLG	Delisi	1.22	129	P	Pg	03 40 45.6	-0.2
TBLG				S	Sn	03 41 01.8	-0.1
DMNI	Dmanisi	1.29	155	P	Pn	03 40 46.0	-0.5
DMNI				S	Sb	03 41 03.3	0.0
KZRT	Kazreti	1.31	148	ePg	Pn	03 40 46.4	-0.3
KZRT	Kazreti	1.31	148	i P	Pn	03 40 46.4	-0.3
KZRT				i S	Sb	03 41 03.9	-0.1
KZRT	Kazreti	1.31	148	P	Pn	03 40 46.4	-0.3
KZRT				S	Sb	03 41 03.7	-0.3
SHA1	Shidzhatmaz	1.37	335	ePg	Pg	03 40 48.2	-0.5
PRTR	Priterechnaya	1.38	25	ePg	Pg	03 40 51.1	+2.2
PRTR				eSg	Sg	03 41 10.1	+3.2
KIV	Kislovodsk	1.56	339	PN	Pg	03 40

*IDC **15** 03:48:02.5±1.6, 14.′65S×73.′51W, h77km±16km, mb3.4/3, mb1 3.7/8, mb1mx3.5/35, mbtmp3.9/8, Error ellipse: s-maj=36.2km s-min=12.5km az=39.0*
*NEIC **15** 03:48:02.6±1.8, 14.′75S±0.′04×73.′48W±0.′10, h82km±7km, mb4.2/7, Error ellipse: s-maj=14.7km s-min=3.5km az=70.0*

ISC 15 03:48:03.0±0.6, 14.°74S±0.°08×73.°50W±0.°09, h87km, n38, σ1§40/38, mb4.1/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.25 310**		P	**Pn**	**03 49 05.2**	**-0.2**
	6.7nm,0.3s,baz=130,slow=12,SNR=13						
NNA				S	**Sn**	**03 49 51.6**	**-2.3**
	21nm,0.3s,baz=277,slow=17,SNR=6.8						
NNA	**Nana**	**4.25 310**			**Pn**	**03 49 05.5**	**0.0**
PB12	**IPOC Station P**	**4.91 142**			**Pn**	**03 49 14.1**	**-0.4**
PB16	**IPOC Station P**	**5.24 134**		Pn	**Pn**	**03 49 20.7**	**+1.3**
LPAZ	**La Paz**	**5.40 107**		P	**Pn**	**03 49 23.1**	**+1.5**
	3.7nm,0.3s,baz=275,slow=11,SNR=89						
LPAZ	**La Paz**	**5.40 107**			**Pn**	**03 49 24.9**	**+3.2**
MNMC	**Minye Minye**	**5.75 140**		Pn	**Pn**	**03 49 26.5**	**+0.5**
PSGCX	**Pisagua**	**5.81 147**		Pn	**Pn**	**03 49 25.6**	**-1.1**
PB11	**IPOC Station P**	**6.20 144**		Pn	**Pn**	**03 49 31.5**	**-0.6**
GO01	**Chusmiza**	**6.40 141**			**Pn**	**03 49 35.4**	**+0.2**
PB08	**IPOC Station P**	**6.79 143**		Pn	**Pn**	**03 49 40.0**	**-0.3**
PATCX	**Punta Patache**	**6.84 153**		Pn	**Pn**	**03 49 39.5**	**-1.2**
PB09	**IPOC Station P**	**8.10 151**		Pn	**Pn**	**03 49 57.0**	**-1.0**
PB09					**Sn**	**03 51 26.0**	**-2.1**
ATAH	**Atahualpa**	**8.95 327**		P	**Pn**	**03 50 10.3**	**+0.4**
	0.2nm,0.3s,baz=132,slow=12,SNR=1.2						
LVC	**Limon Verde**	**8.96 152**		P	**Pn**	**03 50 09.4**	**-0.4**
	1.2nm,0.3s,baz=335,slow=11,SNR=10						
LVC				S	**Sn**	**03 51 46.4**	**-2.9**
	1.4nm,0.3s,baz=241,slow=21,SNR=7.6						
LVC	**Limon Verde**	**8.96 152**			**Pn**	**03 50 07.7**	**-2.2**
SAML	**Samuel**	**11.62 61**		Pn	**Pn**	**03 50 42.8**	**-3.0**
SIV	**San Ignacio**	**12.05 98**		P	**Pn**	**03 50 49.7**	**-2.0**
	0.6nm,0.3s,baz=287,slow=12,SNR=24						
H03N1	**Juan Fernandez**	**19.26 194**		T	T	04 11 10.3	
	baz=16,slow=74,SNR=144						
H03N2	**Juan Fernandez**	**19.26 194**		T	T	04 11 10.0	
	baz=16,slow=74,SNR=149						
H03N3	**Juan Fernandez**	**19.27 194**		T	T	04 11 04.9	
	baz=16,slow=74,SNR=100						
PTGA	**Pitinga**	**19.30 45**		P	**P**	**03 52 20.3**	**-0.9**
BO02	**Sierra Bellavi**	**20.12 173**		Pn	**P**	**03 52 31.8**	**+1.8**
BO02				IAmb	IAmb	03 52 34.0	
	comp=Z,7.3nm,0.8s						
LC01	**Cunco**	**24.11 177**		P	**P**	**03 53 10.1**	**-0.5**
LC01				IAmb	IAmb	03 53 12.6	
	comp=Z,8.9nm,0.8s						
TXAR	**Lajitas Array**	**52.61 326**		P	**P**	**03 57 07.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=150,slow=8.2,SNR=6.3						
TX31	**Lajitas Ar. Si**	**52.62 326**		P	**P**	**03 57 07.9**	**-0.3**
SNAA	**Sanae**	**70.05 161**		P	**P**	**03 59 06.7**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=293,slow=6.2						
SNAA	**Sanae**	**70.05 161**		P	**P**	**03 59 06.5**	**+1.3**
SNAA				IAmb	IAmb	03 59 07.5	
	comp=Z,2.5nm,0.8s						
QSPA	**South Pole Qui**	**75.41 180**		P	**P**	**03 59 38.7**	**+1.5**
QSPA				IAmb	IAmb	03 59 39.9	
	comp=Z,3.4nm,0.9s						
TOA0	**Torodi Ar. Sit**	**79.42 73**		P	**P**	**04 00 00.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**79.42 73**		P	**P**	**04 00 00.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=265,slow=4.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**79.42 73**		P	**P**	**04 00 00.0**	**-0.2**
ASAR	**Alice Springs**	**133.37 215**		PKP	**PKPdf**	**04 07 10.1**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=121,slow=2.4,SNR=5.0						
WRA	**Warramunga Arr**	**135.98 219**		PKP	**PKPdf**	**04 07 15.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=142,slow=1.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**137.34 19**		PKP	**PKPdf**	**04 07 17.2**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=336,slow=3.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**137.34 19**			**PKPdf**	**04 07 17.0**	**+0.8**
SONM	**Songino Array**	**147.00 0**		PKPbc	**PKPbc**	**04 07 36.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=354,slow=2.9,SNR=5.4						
SONM	**Songino Array**	**147.00 0**			**PKPdf**	**04 07 34.2**	**+0.4**

IDC 15 04:09:58.1±1.9, 3.°08S×142.°21E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/24, mbtmp3.4/3, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/23, Error ellipse: s-maj=32.3km s-min=17.1km az=31.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.61 290**		Pg	Pn	04 10 27.1	-0.7
	3.4nm,0.3s,baz=140,slow=8.6,SNR=10						
JAY				Lg	Lg	04 10 49.3	
	7.3nm,0.3s,baz=188,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**18.44 204**		P	P	04 14 16.6	+1.2
	0.2nm,0.3s,baz=23,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.99 201**		P	P	04 14 53.1	-0.9
	0.6nm,0.7s,baz=30,slow=9.6,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**32.26 47**		T	T	04 50 17.0	
	baz=224,slow=75						
H11S2	**WAKE ISLAND Hy**	**32.27 47**		T	T	04 50 14.7	
	baz=224,slow=75						
H11S1	**WAKE ISLAND Hy**	**32.28 47**		T	T	04 50 15.1	
	baz=224,slow=75						
H11N1	**WAKE ISLAND Hy**	**33.18 46**		T	T	04 51 25.2	
	baz=230,slow=76,SNR=90						
H11N2	**WAKE ISLAND Hy**	**33.20 46**		T	T	04 51 24.0	
	baz=230,slow=76,SNR=76						
H11N3	**WAKE ISLAND Hy**	**33.20 46**		T	T	04 51 25.2	
	baz=230,slow=76,SNR=49						
RAR	**Rarotonga**	**59.16 113**		LR	LR	04 39 36.9	
	comp=Z,53nm,22.0s,baz=310,slow=30						
ILAR	**Eielson Array**	**84.73 24**		P	P	04 22 33.9	0.0
	0.3nm,0.7s,baz=243,slow=6.5,SNR=2.9						

*REN **15** 04:20:35.2±2.3, 41.°87N±0.°04×119.°63W±0.°07, h1km±7km, ML3.5/2, Mwr3.5/66(NEIC), Error ellipse: s-maj=7.0km s-min=5.3km az=90.0*
*NEIC **15** 04:20:35.3, 41.°87N×119.°63W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.16; $M_{\theta\theta}$=0.63; $M_{\phi\phi}$ 1.79; $M_{r\theta}$=0.75; $M_{r\phi}$=0.13; $M_{\theta\phi}$=1.17; Fault plane solution: M_0=2.10000×10^{14} NP1:φ=23.54000°, δ=69.60000°, λ=-61.84000°. NP2:φ=146.61000°, δ=34.27000°, λ=-141.76000°. Principal axes: T 2.2029, Plg20.0000°, Azm93.0000°; N -0.2193, Plg26.0000°, Azm193.0000°; P -1.9836, Plg56.0000°, Azm330.0000°;*
*NEIC **15** 04:20:36.4±2.7, 41.°89N±0.°04×119.°69W±0.°06, h3km±3km Error ellipse: s-maj=6.6km s-min=5.8km az=110.0*
*ANF **15** 04:20:36.7±0.6, 41.°90N×119.°89W, h0km, ML3.3/16, Error ellipse: s-maj=4.4km s-min=3.4km az=103.0*

ISC 15 04:20:35.7±1.2, 41.°88N±0.°02×119.°69W±0.°02, h2km±11km, n69, σ1§26/81, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.46 273**			**Pg**	**04 20 45.0**	**+0.5**
MOD					**Sg**	**04 20 52.1**	**+1.6**
WVOR	**Wild Horse Val**	**0.96 55**			**Pg**	**04 20 53.3**	**-0.8**
WVOR					**Sg**	**04 21 05.7**	**-0.7**
K05A	**Summer Lake**	**1.23 314**			**Pg**	**04 20 59.3**	**+0.1**
M04C	**Macdoel**	**1.61 267**		P	**Pn**	**04 21 04.3**	**-0.9**
	baz=86,SNR=107						
M04C				S	**Sn**	**04 21 25.2**	**-1.4**
	baz=86						
K04D	**Chiloquin, OR**	**1.70 296**		P	**Pn**	**04 21 05.9**	**-0.6**
	baz=115,SNR=33						
K04D				S	**Sn**	**04 21 27.7**	**-1.2**
	baz=115						
J08A	**Circle Bar Ran**	**1.73 31**		Pn	**Pn**	**04 21 05.3**	**-1.5**
J05D	**Fort Rock, OR**	**1.81 321**		P	**Pn**	**04 21 07.5**	**-0.4**
	baz=140,SNR=108						
L04D	**Klamath Falls**	**1.98 281**		S	**Sn**	**04 21 33.5**	**-2.2**
	baz=99						
PINE	**Pine Mountain**	**2.12 335**			**Pn**	**04 21 13.7**	**+1.4**
PAHR	**Pah Rah Range**	**2.19 174**			**Pn**	**04 21 14.4**	**+1.3**
I07A	**Izee**	**2.20 3**			**Pn**	**04 21 15.2**	**+1.8**
J04D	**Umpqua Nationa**	**2.24 308**		Pg	**Pb**	**04 21 17.3**	**+0.3**
	baz=126,SNR=37						
O03E	**Paynes Creek**	**2.25 226**		P	**Pn**	**04 21 13.0**	**-1.0**
	baz=45						
O03E				Sb	**Sb**	**04 21 46.2**	**+0.8**
	baz=45						
YBH	**Yreka Blue Hor**	**2.26 267**			**Pn**	**04 21 12.7**	**-1.4**
M02C	**Callahan**	**2.42 259**		P	**Pn**	**04 21 14.7**	**-1.6**
	baz=78						
M02C				Sg	**Sb**	**04 21 52.3**	**+2.0**
	baz=78						
N02D	**Trinity Center**	**2.44 249**		P	**Pn**	**04 21 15.8**	**-0.8**
	baz=68						
N02D				Sg	**Sb**	**04 21 52.9**	**+2.0**
	baz=68						
WDC	**Whiskeytown Da**	**2.51 240**		Pn	**Pn**	**04 21 19.3**	**+1.8**
HUMO	**Hull Mountain**	**2.53 288**		Pn	**Pn**	**04 21 16.5**	**-1.3**
VCNR	**Virginia City**	**2.58 179**			**Pb**	**04 21 22.5**	**-0.4**
ORV	**Oroville**	**2.70 211**		Pn	**Pn**	**04 21 20.9**	**+0.7**
I05D	**Terrebonne, OR**	**2.73 334**		Pb	**Pb**	**04 21 25.3**	**0.0**
	baz=153						
I05D				Sb	**Sb**	**04 22 01.6**	**+2.3**
	baz=153						
I04A	**Tendick Farm,**	**2.77 315**		P	**Pn**	**04 21 20.9**	**-0.1**
	baz=132						
I04A				Sg	**Sg**	**04 22 03.9**	**-0.7**
	baz=132						
PNTR	**Pine Nut**	**2.79 179**			**Pb**	**04 21 26.8**	**+0.4**
RUBR	**Rubicon Trail**	**2.85 187**			**Pb**	**04 21 27.4**	**0.0**
O02D	**Mt. Diablo Mer**	**2.90 235**		P	**Pn**	**04 21 23.9**	**+1.0**
	baz=54						
O02D				Sb	**Sb**	**04 22 05.2**	**+1.2**
	baz=54						
YERR	**Yerington**	**2.92 173**			**Pb**	**04 21 28.0**	**-0.5**
L02E	**Cave Junction**	**2.93 277**		P	**Pn**	**04 21 23.5**	**+0.3**
	baz=94,SNR=9.5						
L02E				Sb	**Sb**	**04 22 04.3**	**-0.5**
	baz=94						
K02D	**Willamette Mer**	**3.06 287**		P	**Pn**	**04 21 25.4**	**+0.3**
	baz=104,SNR=12						
K02D				Sb	**Sb**	**04 22 07.2**	**-1.4**
	baz=104						
KVN	**Kaiserville**	**3.08 156**			**Pn**	**04 21 25.4**	**-0.1**
AFDM	**Forest Hills D**	**3.09 199**			**Pb**	**04 21 31.1**	**-0.2**
KRMB	**Red Mountain**	**3.18 265**		Pg	**Pb**	**04 21 35.1**	**+2.2**
KHMM	**Horse Mountain**	**3.20 253**		Pg	**Pg**	**04 21 35.7**	**-1.4**
MFID	**Camas Ranch**	**3.23 60**		Pn	**Pn**	**04 21 26.2**	**-1.4**
I03D	**Drain, OR**	**3.25 305**		Sg	**Sg**	**04 22 18.2**	**-1.7**
	baz=122						
H04A	**Detroit Lake**	**3.34 328**			**Pb**	**04 21 36.6**	**+1.0**
RYN	**Ryan**	**3.37 164**			**Pn**	**04 21 30.1**	**+0.7**
WAKR	**Walker**	**3.38 177**			**Pb**	**04 21 36.5**	**+0.1**
KBO	**Bosley Butte**	**3.39 277**			**Pb**	**04 21 38.1**	**+1.5**
JCC	**Jacoby Creek,**	**3.44 253**			**Pg**	**04 21 40.0**	**-1.5**
BMO	**Blue Mountains**	**3.44 30**			**Pb**	**04 21 39.1**	**+1.8**
G08A	**Pilot Rock**	**3.45 9**			**Pb**	**04 21 38.9**	**+1.4**
H04D	**Lebanon**	**3.45 321**		Sg	**Sg**	**04 22 25.9**	**-0.7**
	baz=138						
KMRM	**Mail Ridge**	**3.46 243**			**Pb**	**04 21 40.1**	**+2.4**
ELK	**Elko**	**3.54 107**		Pn	**Pn**	**04 21 31.1**	**-0.8**
KEBM	**Edson Butte**	**3.58 288**			**Pg**	**04 21 43.5**	**-0.8**
NVAR	**Mina Array Bea**	**3.61 162**			**Pb**	**04 21 41.2**	**+0.9**
NV11	**Mina Array Sit**	**3.64 161**			**Pb**	**04 21 42.9**	**+2.1**
KCPM	**Cahto Peak**	**3.68 235**			**Pb**	**04 21 43.1**	**+1.6**
LHV	**Little Huntoon**	**3.74 166**			**Pb**	**04 21 43.1**	**+0.7**
I02D	**Swisshome**	**3.77 307**		Sg	**Sg**	**04 22 36.4**	**-0.4**
	baz=124						
F07A	**Phinny Hill Vi**	**4.01 358**			**Pg**	**04 21 52.1**	**-0.5**
HLID	**Hailey**	**4.23 65**			**Pn**	**04 21 40.8**	**-0.6**
TPH	**Tonopah**	**4.25 153**			**Pg**	**04 21 54.9**	**-2.3**
MDPB	**Devils Postpil**	**4.27 173**			**Pb**	**04 21 54.6**	**+3.0**
E07A	**Sunnyside**	**4.68 359**			**Pn**	**04 21 48.2**	**+0.9**
BGU	**Big Grassy Mou**	**5.10 99**		Pn	**Pn**	**04 21 53.4**	**+0.1**
HVU	**Hansel Valley**	**5.17 89**		Pn	**Pn**	**04 21 54.0**	**-0.1**
SPUT	**South Promonto**	**5.46 94**		Pn	**Pn**	**04 22 00.1**	**+1.9**
DUG	**Dugway, Tooele**	**5.47 106**		Pn	**Pn**	**04 21 58.0**	**-0.3**
PSUT	**Pine Spring**	**5.58 125**		Pn	**Pn**	**04 22 00.1**	**+0.2**
PRN	**Pahroc Range**	**5.73 140**		Pn	**Pn**	**04 22 02.5**	**+0.6**
MCMT	**McKenzie Canyo**	**5.79 57**		Pn	**Pn**	**04 22 02.9**	**+0.1**
HWUT	**Hardware Ranch**	**6.08 90**		Pn	**Pn**	**04 22 09.3**	**+2.5**
TCRU	**Three Creeks R**	**6.43 118**		Pn	**Pn**	**04 22 12.8**	**+1.1**
CCUT	**Cedar City**	**6.52 130**		Pn	**Pn**	**04 22 12.5**	**-0.3**
MVU	**Marysvale**	**6.64 118**		Pn	**Pn**	**04 22 15.3**	**+0.7**
SZCU	**Shurtz Canyon**	**6.65 128**		Pn	**Pn**	**04 22 14.8**	**+0.2**
TMUT	**Trail Mountain**	**6.95 109**		Pn	**Pn**	**04 22 19.4**	**+0.5**
U15A	**North Rim**	**7.92 131**		Pn	**Pn**	**04 22 33.3**	**+1.3**

*IDC **15** 04:23:43.1±1.9, 2.°62S×101.°46E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/32, mbtmp3.5/4, Error ellipse: s-maj=128.6km s-min=25.9km az=45.0*
*DJA **15** 04:24:01.1±0.5, 2.°S±4.×10^{-2}E±.°, h127km±5km, M4.0/11, mb5.1/1, MLv3.5/11*

ISC 15 04:24:00.4±0.9, 2.°45S±0.°08×101.°70E±0.°09, h150km, n16, σ1§04/18, mb3.3/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.42 327**		P	**Pn**	**04 24 21.4**	**-0.2**
KRJI				S	**Sn**	**04 24 36.2**	**-1.4**
MASI	**Maura Aman, Be**	**0.88 142**		P	**Pn**	**04 24 24.0**	**-0.2**
KSI	**Kapahiang**	**1.49 143**		P	**Pn**	**04 24 29.7**	**-0.3**
SDSI	**Sungai Dareh**	**1.53 350**		P	**Pn**	**04 24 29.4**	**-0.9**
SDSI				S	**Sn**	**04 24 50.8**	**-2.4**
PPSI	**Pulau Pagai**	**1.71 259**		P	**Pn**	**04 24 31.2**	**-1.1**
PDSI	**Padang**	**1.96 321**		P	**Pn**	**04 24 34.9**	**-0.3**
LHSI	**Lahat**	**2.28 127**		P	**Pn**	**04 24 37.4**	**-1.5**
BKNI	**Bangkinang**	**2.83 347**		P	**Pn**	**04 24 45.7**	**0.0**
MDSI	**Maura Dua**	**3.20 129**		P	**Pn**	**04 24 50.1**	**-0.2**
KLSI		**3.76 126**		P	**Pn**	**04 24 57.7**	**+0.1**
GSI	**Gunungsitoli**	**5.55 312**		P	**Pn**	**04 25 21.5**	**+0.2**
WRA	**Warramunga Arr**	**36.31 121**		P	**P**	**04 30 49.5**	**-0.5**
	0.1nm,0.3s,baz=301,slow=8.6,SNR=6.2						
ASAR	**Alice Springs**	**37.62 127**		P	**P**	**04 31 01.5**	**+0.4**
	0.4nm,0.4s,baz=300,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**51.93 343**		P	**P**	**04 32 55.5**	**+1.6**
	0.4nm,0.5s,baz=163,slow=6.9,SNR=2.8						
BRTR	**Keskin Array B**	**74.88 312**		P	**P**	**04 35 25.6**	**+0.6**
	0.4nm,0.7s,baz=134,slow=4.2,SNR=2.2						
TXAR	**Lajitas Array**	**144.00 40**		PKP	**PKPdf**	**04 43 19.2**	**+0.2**
	0.3nm,0.5s,baz=268,slow=0.4,SNR=7.4						

*JMA **15** 04:24:49.6±0.1, 24.°19N×122.°46E, h66km±3km, M2.4*
*TAP **15** 04:24:50.4, 24.°28N×122.°46E, h65km, ML2.5, C*

ISC 15 04:24:48.1±1.4, 24.°21N±0.°04×122.°48E±0.°02, h13km±11km, n39, σ0§53/74, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.70 305**		*eP*	**Pn**	**04 25 04.4**	**+0.7**
	baz=301						
TWC				S	**Sn**	**04 25 14.2**	**0.0**
	baz=301						
ENA	**Nanau**	**0.71 288**		P	**Pn**	**04 25 04.8**	**+1.0**
	baz=289						
ENA				S	**Sn**	**04 25 15.1**	**+0.6**
	baz=289						
NACB	**Ninganchiao**	**0.81 268**		P	**Pn**	**04 25 05.5**	**+0.4**
	baz=262						
NACB				S	**Sn**	**04 25 17.1**	**+0.1**
	baz=262						
ETLH	**Xiulin Townshi**	**0.91 270**		P	**Pn**	**04 25 07.0**	**+0.4**
	baz=265						
ETLH				S	**Sn**	**04 25 19.6**	**0.0**
	baz=265						
ENTT	**Nioudou**	**0.93 297**		*i* P	**Pn**	**04 25 07.4**	**+0.5**
	baz=287						
ENTT				*i* S	**Sn**	**04 25 20.4**	**+0.2**
	baz=287						
NDT	**Datong Townshi**	**0.96 294**		P	**Pn**	**04 25 08.4**	**+1.1**
	baz=284						
NDT				S	**Sn**	**04 25 20.8**	**0.0**
	baz=284						
TIPB	**Shuangxi**	**0.96 322**		P	**Pn**	**04 25 07.2**	**-0.1**
	baz=320						
TIPB				*i* S	**Sb**	**04 25 19.5**	**+0.2**
	baz=320						
NNSB	**Datong**	**1.02 283**		P	**Pn**	**04 25 08.6**	**+0.3**
	baz=278						
NNSB				S	**Sn**	**04 25 22.2**	**-0.2**
	baz=278						
NNSH	**Datong**	**1.02 283**		*i* P	**Pn**	**04 25 08.5**	**+0.3**
	baz=278						
NNSH				*i* S	**Sn**	**04 25 21.9**	**-0.6**
	baz=278						
ESL	**Shilin**	**1.03 248**		P	**Pn**	**04 25 08.8**	**+0.6**
	baz=250						
ESL				*e*S	**Sn**	**04 25 23.1**	**+0.6**
	baz=250						
NNS	**Nan Shan**	**1.03 283**		P	**Pn**	**04 25 08.4**	**+0.1**
	baz=271						
NNS				S	**Sn**	**04 25 22.2**	**-0.5**
	baz=271						
NWLT	**Wulai**	**1.05 303**		P	**Pn**	**04 25 09.5**	**+0.9**
	baz=305						
NWLT				*i* S	**Sn**	**04 25 22.6**	**-0.5**
	baz=305						
EGFH	**Guangfu**	**1.10 241**		P	**Pn**	**04 25 09.7**	**+0.5**
	baz=231						
EGFH				S	**Sn**	**04 25 24.4**	**+0.1**
	baz=231						
YHNB	**Yeheng**	**1.10 295**		P	**Pn**	**04 25 09.5**	**+0.1**
	baz=283						
YHNB				S	**Sn**	**04 25 23.9**	**-0.6**
	baz=283						
WHF	**Hehuan Shan**	**1.11 267**		*i* P	**Pn**	**04 25 10.0**	**+0.3**
	baz=254						
WHF				*i* S	**Sn**	**04 25 24.9**	**-0.1**
	baz=254						
IRIF	**Iriomote-Funau**	**1.15 84**		P	**Pb**	**04 25 09.9**	**+0.1**
IRIF				S	**Sb**	**04 25 25.5**	**+0.8**
TWT	**Tachien**	**1.19 272**		*i* P	**Pg**	**04 25 11.7**	**+0.7**
	baz=268						
TWT				*i* S	**Sn**	**04 25 27.2**	**+0.5**
	baz=268						
CHGB	**Renai**	**1.20 263**		P	**Pg**	**04 25 11.4**	**+0.2**
	baz=251						
CHGB				S	**Sn**	**04 25 27.1**	**+0.1**
	baz=251						
HGSD	**Ruisui**	**1.20 234**		P	**Pb**	**04 25 11.1**	**+0.4**
	baz=225						
HGSD				*e*S	**Sn**	**04 25 27.2**	**+0.5**
	baz=225						
TDCB	**Techi**	**1.20 272**		P	**Pg**	**04 25 11.9**	**+0.6**
	baz=268						
TDCB				S	**Sn**	**04 25 26.9**	**-0.1**
	baz=268						
VWDT	**VWDT**	**1.30 250**		*e*P	**Pn**	**04 25 12.3**	**+0.3**
	baz=246						
VWDT				*e*S	**Sb**	**04 25 28.8**	**-0.2**
	baz=246						
YULB	**Yu-li**	**1.35 233**		P	**Pn**	**04 25 13.2**	**+0.5**
	baz=239						
YULB				*e*S	**Sb**	**04 25 30.1**	**-0.4**
	baz=239						
TWF1	**Yuli**	**1.38 232**		*e*P	**Pn**	**04 25 13.6**	**+0.5**
	baz=225						
WHP	**Taichung City**	**1.40 273**		P	**Pg**	**04 25 14.9**	**-0.2**
	baz=264						
WHP				*i* S	**Sn**	**04 25 31.9**	**+0.2**
	baz=264						
NSTT	**Nanjuang**	**1.41 288**		S	**Sb**	**04 25 31.9**	**-0.2**
	baz=284						
SSLB	**Suanglung**	**1.46 254**		P	**Pb**	**04 25 14.7**	**-0.4**
	baz=255						
SSLB				*e*S	**Sn**	**04 25 32.7**	**-0.3**
	baz=255						
FULB	**Fuli**	**1.48 227**		P	**Pn**	**04 25 14.8**	**+0.3**
	baz=216						
FULB				*e*S	**Sn**	**04 25 33.9**	**+0.3**
	baz=216						
TYC	**Yuchr**	**1.51 259**		*i* P	**Pb**	**04 25 15.8**	**-0.2**
	baz=250						
TYC				*e*S	**Sn**	**04 25 34.0**	**-0.3**
	baz=250						
JIJ	**Ishigaki jima**	**1.53 84**		P	**Pn**	**04 25 15.2**	**+0.1**
JIJ				S	**Sn**	**04 25 34.2**	**-0.6**
WJS	**Zhushan**	**1.65 257**		*e*S	**Sg**	**04 25 40.3**	**-0.8**
	baz=249						
ELDTW	**Lidau**	**1.68 233**		*e*P	**Pn**	**04 25 18.0**	**+0.7**
	baz=223						
ALS	**Alishan**	**1.68 246**		*e*P	**Pb**	**04 25 19.0**	**0.0**
	baz=235						
ALS				*e*S	**Sn**	**04 25 39.1**	**+0.1**
	baz=235						
JISG	**Ishigakijimahi**	**1.71 77**		P	**Pn**	**04 25 18.1**	**+0.5**
JISG				S	**Sn**	**04 25 38.0**	**-1.4**
CHN5	**Tsauling**	**1.76 250**		*e*P	**Pb**	**04 25 19.9**	**-0.3**
	baz=238						
CHN5				*e*S	**Sb**	**04 25 41.8**	**-0.4**
	baz=238						
TPUB	**Ta-pu**	**1.92 242**		P	**Pb**	**04 25 22.2**	**-0.8**
	baz=239						
TPUB				*e*S	**Sn**	**04 25 45.8**	**+1.3**
	baz=239						
CHN4	**Tsaushan**	**1.93 244**		*i* P	**Pb**	**04 25 22.9**	**-0.2**
	baz=234						
CHN4				*e*S	**Sb**	**04 25 46.7**	**-0.3**
	baz=234						
WTP	**Ta-pu**	**1.96 241**		*i* P	**Pb**	**04 25 23.1**	**-0.6**
	baz=237						
WTP				*e*S	**Sb**	**04 25 47.0**	**-1.0**
	baz=237						
CHN1	**Nanshi**	**2.06 241**		*i* P	**Pb**	**04 25 25.5**	**+0.2**
	baz=237						
CHN1				S	**Sb**	**04 25 50.1**	**-0.7**
	baz=237						
SLGT	**Liugui**	**2.07 235**		P	**Pb**	**04 25 24.9**	**-0.6**
	baz=224						
SLGT				*e*S	**Sb**	**04 25 50.4**	**-0.7**
	baz=224						

*TIR **15** 04:57:23.7, 39.°21N×18.°78E, h24km±1km, Md3.5*
*BEO **15** 04:57:24.7±2.3, 39.°16N×18.°76E, h15km±5km, ML3.4/5*
*THE **15** 04:57:24.6, 39.°29N×18.°50E, h24km±14km, ML3.6/4, Error ellipse: s-maj=17.3km s-min=1.4km az=274.0*
*PDG **15** 04:57:26.1±0.2, 39.°35N×18.°85E, h19km, ML3.4/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

ISC 15 04:57:26.0±1.3, 39.°27N±0.°04×18.°83E±0.°03, h19km±3km, n69, σ1§11/99, 7C-5D, Southern Italy

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

TIR					S		Sg	04 58 34.5	-2.9
	baz=20									
EVR	Evrytania	2.34	98	P			Pn	04 58 05.5	+1.9
BAI	Bari	2.37	321	*e*Pn			Pb	04 58 05.3	-2.6
BAI				Sn			Sg	04 58 46.2	+4.1
OHR	Ohrid	2.38	39	*i* Pn			Pb	04 58 07.2	-1.0
FNA	Florina	2.47	52	P			Pn	04 58 05.7	+0.4
FNA	Florina	2.47	52	*e*Pn			Pn	04 58 06.3	+1.0
FNA	Florina	2.47	52	P			Pn	04 58 06.7	+1.4
	baz=51									
THL	Klokotos Trika	2.48	82	P			Pb	04 58 07.6	-2.4
EFP	Efpalio	2.54	108	P			Pn	04 58 08.0	+1.8
DRO	Drossia	2.61	119	P			Pn	04 58 08.7	+1.5
PHP	Peshkopia	2.70	26	P			Pn	04 58 09.2	+0.7
	baz=26									
ULC	Ulcinj	2.71	7	⇑*i*Pn			Pn	04 58 08.7	+0.2
ULC				*i* Sn			Sn	04 58 41.7	+1.0
KLV	Kalavryta, Ach	2.87	114	P			Pn	04 58 12.5	+1.7
PUK	Puka	2.88	16	P			Pn	04 58 12.2	+1.2
	baz=16									
DRME	Dracevica, Mon	2.92	5	*e*Pn			Pn	04 58 11.7	+0.2
DRME				*i* Sn			Sn	04 58 46.8	+0.8
BUM	Brajici-Budva	3.02	1	⇑*i*Pn			Pn	04 58 12.9	0.0
BUM				*i* Sn			Sn	04 58 49.2	+0.5
PDG	Podgorica	3.17	6	*e*Pn			Pn	04 58 15.1	+0.3
TTG	Podgorica	3.17	6	⇑*i*Pn			Pn	04 58 15.5	+0.7
TTG				*i* Sn			Sn	04 58 52.3	+0.2
HCY	Herceg Novi	3.18	355	⇑*i*Pn			Pn	04 58 14.5	-0.5
HCY				*i* Sn			Sn	04 58 52.8	+0.4
BCI	Bajram Curri	3.23	16	P			Pn	04 58 17.1	+1.4
	baz=16									
CEME	Cevo	3.27	1	⇓*i*Pn			Pn	04 58 15.9	-0.4
CEME				*i* Sn			Sn	04 58 55.1	+0.4
SKO	Skopje	3.35	36	*i* Pn			Pn	04 58 18.1	+0.8
PVY	Plav	3.43	14	⇓*i*Pn			Pn	04 58 19.1	+0.6
PVY				*i* Sn			Sn	04 58 59.2	+0.6
NKME	Niksic	3.49	1	⇑*i*Pn			Pn	04 58 19.6	+0.3
NKME				*i* Sn			Sn	04 59 00.4	+0.3
VAY	Valandovo	3.52	53	*i* Pn			Pn	04 58 19.9	+0.3
NKY	Niksic	3.54	2	*e*Pn			Pn	04 58 20.4	+0.4
NKY				*i* Sn			Sn	04 59 01.7	+0.3
KOME	Kolasin	3.61	8	⇓*i*Pn			Pn	04 58 21.7	+0.7
KOME				*i* Sn			Sn	04 59 03.6	+0.4
BRY	Bratogost	3.63	357	⇓*i*Pn			Pn	04 58 21.1	-0.2
BRY				*i* Sn			Sn	04 59 03.6	-0.1
KNT	Kendrikon	3.64	57	P			Pn	04 58 22.1	+0.8
IVA	Berane	3.68	12	⇑*i*Pn			Pn	04 58 22.3	+0.3
IVA				*i* Sn			Sn	04 59 05.2	+0.3
UPM	Unac-Piva	3.93	1	⇑*i*Pn			Pn	04 58 26.1	+0.7
UPM				*i* Sn			Sn	04 59 11.1	0.0
PLE	Pljevlja	4.08	6	⇓*i*Pn			Pn	04 58 27.7	+0.3
PLE				*i* Sn			Sn	04 59 14.5	-0.1
SJES	Sjenica	4.08	12	*e*Pn			Pn	04 58 28.8	+1.4
BARS	Barje	4.20	32	*e*Pn			Pn	04 58 29.7	+0.7
BOSS	Bosilegrad	4.24	39	*e*Pn			Pn	04 58 29.7	+0.1
SELS	Selova	4.30	23	*e*Pn			Pn	04 58 31.0	+0.6
BBLS	Lazići	4.61	5	*e*Pn			Pn	04 58 35.2	+0.5
GRUS	Gruza	4.82	16	*e*Pn			Pn	04 58 38.0	+0.5
DIVS	Divibare	4.90	10	*e*Pn			Pn	04 58 38.8	+0.1
ZAPS	Zavoj	4.92	34	*e*Pn			Pn	04 58 40.3	+1.4
TRUS	Trudelj	5.08	13	*e*Pn			Pn	04 58 41.5	+0.3
ZAGS	Zajecar	5.20	28	*e*Pn			Pn	04 58 42.7	-0.1
OBKA	Obir	7.88	338	*i* Pn			Pn	04 59 21.1	+1.4
	1.7nm,0.3s									
SOKA	Soboth	7.91	341	*i* Pn			Pn	04 59 20.1	+0.2
	1.0nm,0.2s									
ARSA	Arzberg	8.33	344	*i* Pn			Pn	04 59 26.3	+0.6
	1.3nm,0.4s									
ABTA	Abfaltersbach	8.79	330	*i* Pn			Pn	04 59 32.3	+0.3
	3.0nm,0.6s									
FETA	Feichten	9.74	325	*i* Pn			Pn	04 59 46.5	+1.3
	0.3nm,0.3s									
MOTA	Moosalm	9.83	328	*i* Pn			Pn	04 59 47.7	+1.3
	0.5nm,0.2s									

*IDC **15** 05:16:30.2±0.7, 6.77N×91.89E, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.1/44, mbtmp4.2/17, ML4.3/3, MS3.6/9, Ms1 3.6/9, ms1mx3.2/46, Error ellipse: s-maj=25.5km s-min=13.8km az=45.0*

*NEIC **15** 05:16:35.1±1.3, 6.76N±0.07×91.88E±0.08, h35km±1km, mb4.5/40, Error ellipse: s-maj=13.5km s-min=11.8km az=238.0*

*BJI **15** 05:16:35.0±0.0, 6.77N×91.61E, h40km, mB4.7/19, mb4.7/25, Ms4.1/3, Ms7 4.0/3*

*NDI **15** 05:16:41.3±4.0, 7.35N×91.70E, h46km±43km, mb4.2, mb4.5(NEIC)*

ISC 15 05:16:34.8±0.5, 6.72N±0.07×91.92E±0.06, h35km, n143, σ18.25/126, mb4.4/37, MS3.6/9, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	4.97	9	*e*P	Pn	05 17 43.9	-3.1
PBA				*e*S	Sn	05 17 50.0	-53
PBA				*e*S		05 18 34.0	
PBA	Port Blair	4.97	9	Pn	Pn	05 17 45.7	-1.3
LHMI	Lhok Sumawe	5.22	106	Pn	Pn	05 17 50.8	+0.4
DGPR	DIGLIPUR	6.49	9	*e*P	Pn	05 18 08.3	+0.4
DGPR				*e*S	Sn	05 19 07.2	-14
GSI	Gunungsitoli	7.80	133	Pn	Pn	05 18 24.1	-1.8
PSI	Prapat	8.00	119	Pn	Pn	05 18 29.0	+0.3
	1.1nm,0.3s,baz=360,slow=17,SNR=2.0						
PSI				Sn	Sn	05 19 52.5	-5.5
	1.5nm,0.3s,baz=0.2,slow=11,SNR=2.9						
RPSI	Rantau Prapat	8.05	119	Pn	Pn	05 18 30.9	+1.6
RPSI	Rantau Prapat	8.05	119		Pn	05 18 29.0	-0.3
KULM	Kulim	8.80	99	Pn	Pn	05 18 39.5	-0.1
PALK	Pallekele	11.14	273	Pn	Pn	05 19 10.3	-1.5
	2.1nm,0.3s,baz=194,slow=13,SNR=15						
PALK				Sn	Sn	05 21 00.1	-15
	3.5nm,0.3s,baz=192,slow=7.6,SNR=9.8						
PALK				LR	LR	05 22 52.5	
	comp=Z,229nm,21.9s,baz=187,slow=34						
PALK	Pallekele	11.14	273		Pn	05 19 10.1	-1.7
MDRS	Chennai	13.11	300	*e*P	Pn	05 19 36.7	-1.9
MDRS				IAmb	IAmb	05 19 41.0	
	comp=Z,62nm,0.4s						
PBKT	Sadao Pong	13.20	41	Pn	Pn	05 19 40.2	+0.3
CMAR	Chiang Mai Arr	13.53	30	Pn	Pn	05 19 43.2	-1.1
	comp=Z,1.0nm,0.3s,baz=232,slow=14,SNR=18						
VIS	Vishakhapatnam	13.78	323	*e*P	Pn	05 19 44.2	-3.5
SKHT	Srikalahasti	13.89	301	*e*P	Pn	05 19 47.9	-1.3
SKHT				IVmBBB		05 20 03.0	
	comp=Z,208nm,0.9s						
CHLP	Challavanipeta	13.99	328	*e*P	Pn	05 19 48.0	-2.7
CHLP				IVmB_BB		05 19 49.3	
	comp=Z,557nm,0.7s						
PVM	Polavaram	14.51	317	*e*P	Pn	05 19 56.2	-1.6
PVM				IVmB_BB		05 20 01.7	
	comp=Z,111nm,0.5s						
ADKI	Addanki	14.81	309	*e*P	Pn	05 19 59.3	-2.5
ADKI				IVmBBB		05 20 02.9	
	comp=Z,117nm,0.5s						
MYLAV	Mylavaram	14.87	313	*e*P	Pn	05 20 00.3	-2.3
MYLAV				IVmBBB		05 20 01.1	
	comp=Z,416nm,0.5s						
NJS	Nagarjunasagar	15.74	309	*e*P	Pn	05 20 12.7	-1.3
NJS				IVmBBB		05 20 13.3	
	comp=Z,124nm,0.4s						
CUPL	Choutuppal	16.48	311	*e*P	Pn	05 20 22.1	-1.3
URV	Uravakonda	16.54	301	*e*P	Pn	05 20 23.8	-0.5
URV				IVmBBB		05 20 28.2	
	comp=Z,133nm,1.1s						
HYBB	Hyderabad (bro	16.83	310	*e*P	Pn	05 20 26.0	-1.9
HYBB				IVmB_BB		05 20 32.2	
	comp=Z,114nm,0.7s						
SRSP	Sriramsagar	17.94	314	*e*P	Pn	05 20 40.1	-1.5
SRSP				IVmBBB		05 20 44.9	
	comp=Z,58nm,0.4s						
BOK	Bokaro	17.94	342	*e*P	Pn	05 20 39.8	-1.8
BOK				IAmb	IAmb	05 20 44.9	
	comp=Z,32nm,0.8s						
SLVN	Son La	18.59	37	P	P	05 20 48.2	-1.0
KLRI	Killari	18.72	308	*e*P	P	05 20 50.2	-0.3
KLRI				IVmB_BB		05 21 03.6	
	comp=Z,288nm,5.2s						
SHL	Shillong	18.74	360	*e*P	P	05 20 49.4	-1.6
SHL				IAmb	IAmb	05 20 54.0	
	comp=Z,6.6nm,0.8s						
SHL	Shillong	18.74	360	P	P	05 20 50.9	0.0
SHL				IAmb	IAmb	05 21 03.0	
	comp=Z,18nm,0.6s						
ODAN	Odare	20.49	348	*e*P	P	05 21 10.9	+0.9
ODAN	Odare	20.49	348	*e*P	P	05 21 10.9	+0.9
RAMN	Ramite	20.74	346	*e*P	Pn	05 21 14.6	-0.8
	comp=Z,40nm,0.4s						
RAMN	Ramite	20.74	346	*e*P	Pn	05 21 14.6	-0.8
	comp=Z,40nm,0.4s						
TAPN	Taplejung	20.90	349	*e*P	P	05 21 15.8	+1.2
	comp=Z,111nm,0.8s						
TAPN	Taplejung	20.90	349	*e*P	P	05 21 15.8	+1.2
	comp=Z,111nm,0.8s						
POO	Poona	21.15	305	*e*P	P	05 21 19.0	+1.9
JIRN	Jiri	21.52	346	*e*P	P	05 21 22.3	+1.0
	comp=Z,85nm,0.7s						
JIRN	Jiri	21.52	346	*e*P	P	05 21 22.3	+1.0
	comp=Z,85nm,0.7s						
PKI	Pulchoki	21.64	344	*e*P	P	05 21 23.2	+0.7
	comp=Z,36nm,0.5s						
PKI	Pulchoki	21.64	344	*e*P	P	05 21 23.2	+0.7
	comp=Z,36nm,0.5s						
PKIN	Phulchoki	21.65	344	*e*P	P	05 21 23.1	+0.5
	comp=Z,35nm,0.5s						
PKIN	Phulchoki	21.65	344	*e*P	P	05 21 23.1	+0.5
	comp=Z,35nm,0.5s						
DMN	Daman	21.76	344	*e*P	P	05 21 24.4	+0.7
	comp=Z,42nm,0.5s						
DMN	Daman	21.76	344	*e*P	P	05 21 24.4	+0.7
	comp=Z,42nm,0.5s						
GUN	Gumba	21.84	346	*e*P	P	05 21 25.2	+0.5
	comp=Z,74nm,0.7s						
GUN	Gumba	21.84	346	*e*P	P	05 21 25.2	+0.5
	comp=Z,74nm,0.7s						
GKN	Gorkha	22.26	343	*e*P	P	05 21 29.4	+0.3
GKN	Gorkha	22.26	343	*e*P	P	05 21 29.4	+0.3
KOLN	Koldanda	22.37	340	*e*P	P	05 21 31.1	+0.8
KOLN	Koldanda	22.37	340	*e*P	P	05 21 31.1	+0.8
LSA	Lhasa	22.87	358	P	P	05 21 37.4	+1.6
LSA				pmax	pmax		
	comp=Z,55nm,0.9s						
LSA	Lhasa	22.87	358	P	P	05 21 35.7	-0.1
LSA				IAmb	IAmb	05 21 44.6	
	comp=Z,12nm,0.8s						
PYUN	Piuthan	22.88	339	*e*P	P	05 21 36.1	+0.4
	comp=Z,59nm,0.8s						
PYUN	Piuthan	22.88	339	*e*P	P	05 21 36.1	+0.4
	comp=Z,59nm,0.8s						
H08S3	Diego Garcia H	24.06	234	T	T	05 48 21.8	
	baz=53,slow=75,SNR=82						
H08S2	Diego Garcia H	24.06	234	T	T	05 48 10.9	
	baz=53,slow=75,SNR=45						
H08S1	Diego Garcia H	24.08	234	T	T	05 48 25.0	
	baz=53,slow=75,SNR=11						
GYA	Guiyang	24.14	34	*e*P	P	05 21 48.9	+1.1
GYA				pmax	pmax		
	comp=Z,14nm,0.9s						
SMLA	Simla	27.94	332	*e*P	P	05 22 21.6	-0.3
SMLA				IAmb	IAmb	05 22 23.9	
	comp=Z,5.3nm,0.7s						
LZH	Lanzhou	31.20	19	*e*P	P	05 22 56.0	+4.9
LZH				pP	pwP	05 23 06.4	+1.2
LZH				sP	sP	05 23 09.6	+5.9
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
NIL	Nilore	31.89	330	P	P	05 22 57.8	+0.8
GTA	Gaotai	33.31	11	⇓P	P	05 23 10.1	+0.6
GTA				pP	sP	05 23 20.8	-1.3
GTA				sP	pwP	05 23 27.6	+3.9
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,67nm,7.3s						
GTA				LR	LR		
	comp=Z,61nm,16.4s						
GTA				LR	LR		
	comp=Z,160nm,16.0s						
GTA				LR	LR		
	comp=Z,85nm,15.3s						
DAV	Davao City (W)	33.42	87	LR	LR	05 39 09.5	
	comp=Z,85nm,18.2s,baz=163,slow=41						
KBL	Kabul	34.81	326	P	P	05 23 22.5	-0.2
NJ2	Nanjing	35.58	41	*e*P	P	05 23 30.3	+1.3
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
TARG	Taragay, Kyrgy	37.05	342	P	P	05 23 41.5	-0.4
TARG				IAmb	IAmb	05 23 52.4	
	comp=Z,7.4nm,1.3s						
WMQ	Urumqi	37.14	355	*e*P	P	05 23 43.8	+1.5
WMQ				pmax	pmax		
	comp=Z,13nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,69nm,5.3s						
PRZ	Przheval'sk	37.57	344	P	P	05 23 43.5	-2.6
GAR	Garm	37.59	332	P	P	05 23 45.6	-0.6
GAR				IAmb	IAmb	05 23 46.4	
	comp=Z,7.2nm,0.6s						
CHGR	Chuyangaron	37.87	330	P	P	05 23 47.4	-1.2
BTK	Batken	38.21	333	P	P	05 23 52.3	+0.9
HHC	Hu-ho-hao-te	38.25	24	*e*P	P	05 23 53.3	+1.6
HHC				pmax	pmax		
	comp=Z,32nm,0.7s						
HHC				pmax	pmax		
	comp=Z,91nm,7.0s						
BOOM	Boomskoye usch	38.33	341	P	P	05 23 51.6	-0.8
BOOM				IAmb	IAmb	05 23 55.2	
	comp=Z,7.4nm,0.9s						
AML	Almayashu	38.79	338	P	P	05 23 58.2	+1.6
	SNR=5.2						
KBK	Karagaybulak	38.80	340	P	P	05 23 58.1	+1.6
	SNR=6.8						
TKM2	Tokmak 2	38.82	341	P	P	05 23 57.8	+1.1
	SNR=6.5						
AAK	Ala-Archa	38.95	339	P	P	05 23 59.0	+1.4
	SNR=6.2						
EKS2	Erkin-Say	39.22	339	P	P	05 24 01.3	+1.4
	SNR=5.7						
USP	Ospenovka	39.50	340	P	P	05 24 03.3	+1.2
	SNR=8.3						
MK31	Makanchi Array	40.77	350	P	P	05 24 12.5	-0.1
MKAR	Makanchi Array	40.77	350	P	P	05 24 12.7	+0.1
	comp=Z,6.1nm,0.6s,baz=169,slow=8.9,SNR=51						
MKAR				LR	LR	05 44 27.1	
	comp=Z,72nm,18.4s,baz=172,slow=41						
MKAR	Makanchi Array	40.77	350	P	P	05 24 12.5	-0.1
MAKZ	Makanchi	40.84	350	P	P	05 24 13.5	+0.3
KK31	Karatay Array	40.85	336	P	P	05 24 13.3	0.0
KK31				IAmb	IAmb	05 24 14.6	
	comp=Z,6.3nm,0.8s						
KKAR	Karatay Array	40.85	336	P	P	05 24 13.4	+0.1
KKAR				IAmb	IAmb	05 24 14.6	
	comp=Z,6.3nm,0.8s						
KKAR	Karatay Array	40.85	336	P	P	05 24 13.3	+0.1
FITZ	Fitzroy Crossi	41.42	127	P	P	05 24 18.8	+0.5
	comp=Z,0.5nm,0.6s,baz=2.4,slow=8.7,SNR=1.6						
FITZ	Fitzroy Crossi	41.42	127	P	P	05 24 19.3	+1.0
SONM	Songino Array	42.79	14	P	P	05 24 29.3	+0.1
	comp=Z,5.1nm,0.7s,baz=193,slow=9.2,SNR=26						
SONM	Songino Array	42.79	14	P	P	05 24 29.5	+0.3
ULN	Ulaanbaatar	42.98	15	P	P	05 24 30.1	-0.7
GEYT	Alibeck	43.63	320	P	P	05 24 37.8	+1.7
	comp=Z,7.2nm,0.9s,baz=128,slow=9.6,SNR=8.3						
GEYT	Alibeck	43.63	320	P	P	05 24 35.9	-0.2
GYA0B	ALIBECK ARRAY	43.63	320	P	P	05 24 36.5	+0.4
GYA0B				IAmb	IAmb	05 24 38.4	
	comp=Z,9.3nm,0.9s						
JNU	Nakatsue	44.66	49	LR	LR	05 43 54.8	
	comp=Z,86nm,20.0s,baz=247,slow=37						
KSRS	Korea Array	44.78	42	LR	LR	05 46 17.3	
	comp=Z,52nm,18.5s,baz=225,slow=40						
KURK	Kurchatov	45.23	348	P	P	05 24 48.4	-0.1
KURK				IAmb	IAmb	05 25 00.9	
	comp=Z,12nm,1.3s						
H01W3	Cape Leeuwin H	46.39	155	T	T	06 15 40.6	
	baz=329						
H01W2	Cape Leeuwin H	46.41	155	T	T	06 15 02.8	
	baz=329						
H01W1	Cape Leeuwin H	46.41	155	T	T	06 15 25.8	
	baz=329						
ZAA0	Zalesovo Array	47.44	354	P	P	05 25 06.0	+0.1
ZALV	Zalesovo Beam	47.44	354	P	P	05 25 06.0	+0.2
	comp=Z,7.7nm,0.5s,baz=175,slow=7.7,SNR=46						
ZALV				LR	LR	05 48 20.0	
	comp=Z,56nm,20.4s,baz=165,slow=40						
ZALV	Zalesovo Beam	47.44 354	P	P	05 25 05.8	-0.1	
WB0	Warramunga Arr	49.40 123	P	P	05 25 21.8	+0.3	
WB0			IAmb	IAmb	05 25 32.1		
	comp=Z,3.5nm,0.8s						
WRA	Warramunga Arr	49.43 123	P	P	05 25 22.2	+0.5	
	comp=Z,1.9nm,0.9s,baz=304,slow=8.3,SNR=13						
WRA	Warramunga Arr	49.43 123	P	P	05 25 24.3	+2.5	
WB2	Warramunga Arr	49.44 123	P	P	05 25 22.4	+0.6	
WB2			IAmb	IAmb	05 25 32.7		
	comp=Z,4.7nm,0.8s						
BRVK	Borovoye	49.46 343	P	P	05 25 20.9	-0.6	
BRVK			IAmb	IAmb	05 25 24.1		
	comp=Z,2.9nm,0.7s						
ABKAR	Akbulak array	50.22 333	P	P	05 25 27.1	-0.1	
ASAR	Alice Springs	50.91 128	P	P	05 25 33.7	+0.7	
	comp=Z,1.4nm,0.9s,baz=307,slow=6.9,SNR=11						
ASAR	Alice Springs	50.91 128	P	P	05 25 33.4	+0.4	
MJAR	Matsushiro Arr	51.57 48	LR	LR	05 48 13.1		
	comp=Z,46nm,19.8s,baz=165,slow=37						
KMBO	Kilima Mbogo	55.10 264	P	P	05 26 05.4	+1.1	
	comp=Z,1.2nm,0.4s,baz=71,slow=12,SNR=3.9						
KMBO	Kilima Mbogo	55.10 264	IAmb	IAmb	05 26 07.2		
	comp=Z,3.9nm,1.1s						
KBZ	Khabaz	56.48 319	P	P	05 26 13.2	-0.1	
	comp=Z,3.0nm,1.0s,baz=162,slow=3.9,SNR=4.1						
STKA	Stephens Creek	60.94 132	P	P	05 26 46.7	+2.1	
	comp=Z,0.8nm,0.4s,baz=263,slow=22,SNR=2.1						
STKA	Stephens Creek	60.94 132	P	P	05 26 46.1	+1.4	
BR131	Keskin Array S	61.52 312	P	P	05 26 48.1	-0.6	
BRTR	Keskin Array B	61.52 312	P	P	05 26 48.2	-0.5	
	comp=Z,1.4nm,0.7s,baz=140,slow=6.7,SNR=7.4						
NRIK	Noril'sk	62.60 358	LR	LR	05 59 03.1		
	comp=Z,52nm,18.1s,baz=201,slow=41						
ISP	Isparta	63.41 309	P	P	05 27 01.2	0.0	
ELL	Elmali	63.66 308	P	P	05 27 03.2	+0.2	
MLR	Muntele Rosu	68.46 316	P	P	05 27 33.0	-0.6	
TIXI	Tiksi	68.80 12	P	P	05 27 35.1	+0.1	
BURAR	Bucovina Array	69.43 318	P	P	05 27 39.9	+0.3	
BUR08	Bucovina Ar. S	69.44 318	P	P	05 27 39.9	+0.2	
BUR08			IAmb	IAmb	05 27 45.7		
	comp=Z,5.6nm,1.4s						
DIVS	Divibare	72.38 314	P	P	05 27 55.3	-2.3	
DIVS			IAmb	IAmb	05 27 58.4		
	comp=Z,4.2nm,1.1s						
FINES	FINESS Array B	72.70 333	P	P	05 27 57.9	-1.0	
	comp=Z,2.4nm,0.9s,baz=83,slow=7.9,SNR=4.4						
FINES	FINESS Array B	72.70 333	P	P	05 27 58.4	-0.6	
BOSA	Boshof	73.11 238	LR	LR	05 58 39.0		
	comp=Z,44nm,18.1s,baz=54,slow=35						
PRED	Cave del Predi	77.14 316	P	P	05 28 24.9	-0.1	
PRED			IAmb	IAmb	05 28 36.5		
	comp=Z,3.2nm,0.9s						
GEC2	GERESS Array S	77.22 318	P	P	05 28 24.8	-0.7	
GERES	GERESS Array B	77.22 318	P	P	05 28 25.9	+0.5	
	comp=Z,1.2nm,0.7s,baz=91,slow=6.9,SNR=11						
GERES	GERESS Array B	77.22 318	P	P	05 28 25.5	0.0	
ZOU	Zoufplan	77.55 316	P	P	05 28 27.4	-0.2	
ZOU			IAmb	IAmb	05 28 41.3		
	comp=Z,6.8nm,1.1s						
CIMO	Cimolais	77.90 316	P	P	05 28 29.9	+0.6	
CIMO			IAmb	IAmb	05 28 31.1		
	comp=Z,6.4nm,1.1s						
ESDC	Sonseca Array	90.26 310	P	P	05 29 33.3	+0.9	
	comp=Z,0.5nm,0.7s,baz=92,slow=3.9,SNR=2.2						
NVAR	Mina Array Bea	127.02 30	PKP	PKiKP	05 35 37.9	+1.4	
	comp=Z,0.5nm,0.7s,baz=317,slow=1.1,SNR=6.0						
TXAR	Lajitas Array	141.14 22	PKP	PKPdf	05 36 03.7	+1.3	
	comp=Z,0.3nm,0.8s,baz=29,slow=2.1,SNR=2.0						
TXAR	Lajitas Array	141.14 22		PKPdf	05 36 00.6	-1.9	
CPUP	Villa Florida	144.81 233	PKP	PKPbc	05 36 08.0	+0.1	
	comp=Z,1.1nm,0.8s,baz=117,slow=6.8,SNR=1.7						
CPUP	Villa Florida	144.81 233		PKPab	05 36 06.9	-1.0	

*PDG **15** 05:30:03.8±0.1, 41.90N×19.64E, h13km, ML2.0/12, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*

*BEO **15** 05:30:04.5±0.6, 41.79N×19.37E, h10km±3km, ML1.9/5*

TIR 15 05:30:02.4, 41.94N×19.53E, h22km±13km, Md2.4, 5C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.21	276	⇑*i*Pg	Pb	05 30 09.8	+1.7
ULC				*i* Sg	Sb	05 30 14.9	+2.9
PUK	Puka	0.29	70	P	Pb	05 30 09.3	+0.1
	baz=69						
PUK				S	Sb	05 30 13.5	-0.3
	baz=69						
DRME	Dracevica, Mon	0.35	314	⇑*i*Pg	Pn	05 30 12.7	+0.4
DRME				*i* Sg	Sn	05 30 19.6	+1.0
PDG	Podgorica	0.53	338	*e*Pg	Pn	05 30 16.4	+1.8
PDG				*e*Sg	Sn	05 30 26.2	+3.3
TTG	Podgorica	0.53	338	⇑*i*Pg	Pn	05 30 15.3	+0.7
TTG				*i* Sg	Sn	05 30 24.9	+2.0
BCI	Bajram Curri	0.58	43	P	Pb	05 30 14.3	+0.3
	baz=43						
BCI				S	Sn	05 30 23.3	-1.1
	baz=43						
BUM	Brajici-Budva	0.59	308	*e*Pg	Pn	05 30 16.6	+1.0
BUM				*i* Sg	Sn	05 30 27.8	+3.2
TIR	Tirane	0.65	157	*e*Pg	Pb	05 30 14.4	-0.7
TIR				*e*Sg	Sn	05 30 25.1	-0.7
PVY	Plav	0.73	26	⇑*i*Pg	Pn	05 30 17.3	-0.2
PVY				*i* Sg	Sn	05 30 29.1	+1.1
PHP	Peshkopia	0.73	110	P	Pb	05 30 16.9	+0.4
	baz=110

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DID	**Didima**	**1.48**	**188**	P	Pb	05 32 10.4	+0.4
DID				S	Sb	05 32 30.2	+1.8

*ANF **15** 05:45:29.6±3.0, 29°.68N×113°.86W, h0km, ML4.3/10, Error ellipse: s-maj=25.1km s-min=10.7km az=176.0*
*MEX **15** 05:45:39.7±0.8, 29°.63N×114°.52W, h16km±14km, MDA.3*
*ECX **15** 05:45:44.7±0.8, 30°.56N×114°.29W, h12km±5km, MD3.7, ML3.9*
*IDC **15** 05:45:45.5±2.6, 30°.43N×114°.33W, h0km, mb4.0/2, mb1 3.9/6, mb1mx3.7/41, mbtmp3.6/6, ML3.6/4, MS3.1/6, Ms1 3.1/6, ms1mx2.9/39, Error ellipse: s-maj=48.4km s-min=13.4km az=33.0*

ISC 15 05:45:43.7±1.2, 30°.51N±0°.07×114°.25W±0°.03, h10km, n34, σ2°.9 16/42, 3C-7D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.74**	**315**	⇓*e*P	**Pg**	**05 45 56.8**	**-1.1**
SFX				*e*S	**Sg**	**05 46 06.3**	**-1.2**
SFX				⇑*e*		05 46 09.3	
SFX				IAML		05 46 09.3	
	comp=N,6μm,0.4s						
SPX	**San Pedro Mart**	**1.17**	**297**	*e*P	**Pg**	**05 46 04.1**	**-2.2**
SPX	**San Pedro Mart**	**1.17**	**297**	⇓*i*P	**Pg**	**05 46 04.0**	**-2.2**
SPX				*e*S	**Sg**	**05 46 19.7**	**-1.8**
SPX				IAML		05 46 29.3	
	comp=E,3μm,0.4s						
SPX				⇑*e*		05 46 29.3	
SPX				IAML		05 46 32.5	
	comp=N,3μm,0.4s						
SPX				*e*		05 46 32.5	
SPIG	**San Pedro Mart**	**1.18**	**297**	*i*P	**Pg**	**05 46 05.1**	**-1.2**
SPIG				*i*S	**Sn**	**05 46 22.7**	**0.0**
SPIG	**San Pedro Mart**	**1.18**	**297**	⇓*i*P	**Pg**	**05 46 05.1**	**-1.2**
SPIG				*e*S	**Sg**	**05 46 19.9**	**-1.8**
ECBX	**El Chinero**	**1.18**	**324**	⇓*e*P	**Pb**	**05 46 03.9**	**-2.3**
PIX	**Pinacate**	**1.24**	**33**	⇓*e*P	**Pn**	**05 46 05.5**	**-1.7**
PIX				*e*S	**Sn**	**05 46 23.2**	**-0.7**
SQX	**San Quintin**	**1.41**	**273**	*e*P	**Pb**	**05 46 08.6**	**-1.5**
SQX				*e*S	**Sb**	**05 46 26.8**	**-1.2**
VTX	**Valle De La Tr**	**1.58**	**304**	*e*P	**Pn**	**05 46 10.7**	**-1.2**
VTX				*e*S	**Sn**	**05 46 30.8**	**-1.7**
214A	**Organ Pipe Nat**	**1.89**	**40**	P	**Pn**	**05 46 11.8**	**-4.4**
	baz=202,SNR=65						
214A				S	**Sg**	**05 46 43.3**	**-1.3**
	baz=202						
SJX	**San Joaquin**	**1.92**	**311**	⇓*e*	**Sg**	**05 46 51.9**	**+6.3**
SJX				IAML		05 46 51.9	
	comp=N,623nm,0.4s						
SJX				IAML		05 46 56.4	
	comp=E,700nm,0.7s						
SJX				⇑*e*		05 46 56.4	
MBIG	**Mexicali**	**2.06**	**337**	*e*P	**Pg**	**05 46 22.1**	**-1.1**
CPBX	**Cerro Prieto**	**2.10**	**335**	IAML		05 47 10.5	
	comp=E,3μm,0.5s						
CPBX				⇓*e*		05 47 10.5	
GLA	**Glamis**	**2.58**	**349**	P	**Pn**	**05 46 24.1**	**-1.4**
	baz=166,SNR=19						
IKP	**In-Ko-Pah, Jac**	**2.66**	**324**	P	**Pn**	**05 46 25.9**	**-0.8**
	baz=146,SNR=72						
IKP				S	**Sg**	**05 47 07.7**	**-1.4**
	baz=146						
TJIG	**Tijuana**	**2.82**	**313**	*i*P	**Pn**	**05 46 28.3**	**-0.5**
TJIG				*i*S	**Sb**	**05 47 07.2**	**-1.6**
MONP2	**Monument Peak**	**3.01**	**323**	P	**Pn**	**05 46 30.6**	**-1.1**
	baz=145,SNR=60						
MONP2				S	**Sg**	**05 47 18.6**	**-1.8**
	baz=145						
BC3	**Big Chuckawall**	**3.29**	**342**	P	**Pn**	**05 46 35.0**	**-0.5**
	baz=161						
109C	**Camp Elliot, M**	**3.40**	**315**	P	**Pn**	**05 46 36.3**	**-0.4**
	baz=138,SNR=17						
109C				S	**Sg**	**05 47 28.1**	**-4.8**
	baz=138						
TUC	**Tucson**	**3.46**	**58**	Pb	**Pn**	**05 46 36.6**	**-1.1**
	baz=226						
TUC				Sg	**Sg**	**05 47 32.4**	**-2.4**
	baz=226						
PFO	**Pinyon Flats O**	**3.61**	**329**	Pn	**Pn**	**05 46 39.2**	**-0.6**
	comp=E,0.4nm,0.3s,baz=141,slow=12,SNR=8.3						
PFO				Pg	**Pg**	**05 46 52.3**	**-0.6**
	comp=E,1.7nm,0.3s,baz=167,slow=12,SNR=11						
PFO				Lg	Lg	05 47 39.8	
	comp=E,12nm,0.3s,baz=66,slow=21,SNR=7.0						
PFO				LR	LR	05 48 10.5	
	comp=E,288nm,21.3s,baz=156,slow=40						
PFO	**Pinyon Flats O**	**3.61**	**329**	P	**Pn**	**05 46 38.2**	**-1.6**
	baz=150						
BBRC	**Big Bear Solar**	**4.37**	**330**	Pg	**Pg**	**05 47 10.2**	**+2.8**
	baz=150						
CIS	**Catalina Islan**	**4.56**	**310**	Pg	**Pg**	**05 47 11.5**	**+0.4**
	baz=133						
ARVC	**Arvin**	**6.00**	**321**	Pb	**Pb**	**05 47 30.2**	**+1.8**
	baz=141						
ANMO	**Albuquerque**	**7.91**	**54**	Pn	**Pn**	**05 47 40.6**	**+1.7**
	comp=E,0.0nm,0.3s,baz=24,slow=17,SNR=3.6						
ANMO				Lg	Lg	05 50 04.6	
	comp=E,0.0nm,0.3s,baz=222,slow=15,SNR=4.1						
NVAR	**Mina Array Bea**	**8.57**	**338**	Pn	Pn	05 47 54.2	+6.1
	comp=E,0.1nm,0.3s,baz=161,slow=14,SNR=6.7						
NVAR				Lg	Lg	05 50 17.7	
	comp=E,0.1nm,0.3s,baz=181,slow=19,SNR=1.4						
NVAR				LR	LR	05 50 57.2	
	comp=E,74nm,19.6s,baz=144,slow=36						
TXAR	**Lajitas Array**	**9.26**	**95**	Pn	Pn	05 48 02.8	+5.5
	comp=E,0.3nm,0.3s,baz=260,slow=16,SNR=21						
TXAR				Lg	Lg	05 50 40.4	
	comp=E,0.3nm,0.3s,baz=289,slow=31,SNR=5.3						
TXAR				LR	LR	05 51 43.4	
	comp=E,159nm,18.8s,baz=0.0,slow=38						
PDAR	**Pinedale Array**	**12.79**	**16**	Pn	Pn	05 48 52.9	+7.0
	comp=E,0.0nm,0.3s,baz=206,slow=10.0,SNR=3.9						
PDAR				Lg	Lg	05 52 35.4	
	comp=E,0.1nm,0.3s,baz=178,slow=24,SNR=1.9						
YBH	**Yreka Blue Hor**	**13.11**	**331**	LR	LR	05 53 54.0	
	comp=E,50nm,18.7s,baz=152,slow=37						
NEW	**Newport**	**17.86**	**354**	P	**P**	**05 49 55.2**	**+2.3**
	comp=E,0.1nm,0.3s,baz=170,slow=12,SNR=6.0						
NEW				LR	LR	05 57 14.3	
	comp=E,48nm,20.2s,baz=180,slow=38						
ILAR	**Eielson Array**	**39.83**	**339**	P	**P**	**05 53 20.4**	**+3.5**
	comp=E,1.5nm,0.7s,baz=153,slow=7.3,SNR=18						
AFI	**Afiamalu**	**70.78**	**240**	LR	LR	06 20 30.6	
	comp=E,51nm,20.0s,baz=188,slow=38						
FINES	**FINESS Array B**	**82.88**	**18**	P	**P**	**05 58 10.4**	**+2.2**
	comp=E,1.3nm,0.7s,baz=5.6,slow=5.7,SNR=3.8						

*TIR **15** 05:47:40.6, 39°.85N×20°.59E, h28km±1km, Md2.8*
*ATH **15** 05:47:40.5, 39°.82N×20°.65E, h22km±1km, ML2.5/13, Error ellipse: s-maj=1.4km s-min=1.0km az=134.0*
*THE **15** 05:47:41.4, 39°.83N×20°.66E, h15km±1km, ML2.6/7, Error ellipse: s-maj=1.0km s-min=0.5km az=166.0*
*BEO **15** 05:47:42.5±0.5, 39°.86N×20°.54E, h10km, ML2.7/1*

ISC 15 05:47:41.1±1.0, 39°.81N±0°.02×20°.66E±0°.02, h13km±8km, n52, σ0°.72/73, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.21**	**136**	P	**Pg**	**05 47 46.2**	**+0.3**
JAN				S	**Sb**	**05 47 50.4**	**-0.3**
	4μm,0.4s						
JAN	**Janina**	**0.21**	**136**	P	**Pg**	**05 47 46.2**	**+0.3**
JAN				S	**Sb**	**05 47 50.2**	**-0.5**
JAN				AML	AML	05 47 50.6	
	comp=E,10031μm,0.4s						
JAN				AML	AML	05 47 52.6	
	comp=N,7265μm,0.5s						
LSK	**Leskovik**	**0.34**	**353**	P	**Pg**	**05 47 48.0**	**-0.2**
	baz=0.0						
LSK				S	**Sb**	**05 47 53.7**	**-0.8**
	baz=0.0						
IGT	**Igoumenitsa**	**0.37**	**222**	P	**Pg**	**05 47 48.6**	**-0.1**
IGT				S	**Sb**	**05 47 55.7**	**+0.4**
	comp=N,2μm,0.2s						
IGT	**Igoumenitsa**	**0.37**	**222**	*e*Pg	**Pg**	**05 47 48.7**	**0.0**
IGT				*e*Sg	**Sb**	**05 47 56.3**	**+1.0**
IGT	**Igoumenitsa**	**0.37**	**222**	P	**Pg**	**05 47 48.5**	**-0.2**
IGT				S	**Sb**	**05 47 55.5**	**+0.2**
IGT				AML	AML	05 47 56.4	
	comp=E,4251μm,0.2s						
IGT				AML	AML	05 47 57.0	
	comp=N,2802μm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.44**	**93**	P	**Pg**	**05 47 50.0**	**0.0**
SRN	**Sarande**	**0.51**	**278**	P	**Pg**	**05 47 51.0**	**-0.2**
SRN				S	**Sb**	**05 47 59.4**	**+0.2**
	comp=N,1μm,0.3s						
SRN	**Sarande**	**0.51**	**278**	P	**Pg**	**05 47 51.0**	**-0.2**
	baz=274						
SRN				S	**Sg**	**05 47 58.2**	**+0.2**
	baz=274						
PENT	**Pentalofos**	**0.53**	**44**	P	**Pg**	**05 47 51.3**	**-0.4**
PENT				S	**Sg**	**05 47 59.3**	**+0.5**
	comp=N,425nm,0.3s						
PENT	**Pentalofos**	**0.53**	**44**	P	**Pg**	**05 47 51.2**	**-0.4**
PENT				S	**Sg**	**05 47 58.7**	**-0.1**
PENT				AML	AML	05 48 02.3	
	comp=N,1004μm,0.4s						
PENT				AML	AML	05 48 04.2	
	comp=E,674μm,0.3s						
KASA	**Kassiopi**	**0.56**	**264**	P	**Pg**	**05 47 51.1**	**-1.0**
KASA				S	**Sb**	**05 48 00.3**	**-0.3**
KASA				AML	AML	05 48 02.9	
	comp=E,1498μm,0.4s						
KASA				AML	AML	05 48 03.5	
	comp=N,1863μm,0.3s						
KPRO	**Kipourio**	**0.56**	**75**	P	**Pg**	**05 47 51.5**	**-0.7**
KPRO				S	**Sb**	**05 48 00.7**	**-0.1**
	comp=N,632nm,0.4s						
KPRO	**Kipourio**	**0.56**	**75**	P	**Pg**	**05 47 51.5**	**-0.7**
KPRO				S	**Sb**	**05 48 00.4**	**-0.4**
KPRO				AML	AML	05 48 02.2	
	comp=E,1299μm,0.4s						
KPRO				AML	AML	05 48 02.4	
	comp=N,1223μm,0.4s						
NEST	**Nestorio**	**0.67**	**26**	P	**Pg**	**05 47 53.9**	**-0.4**
NEST				S	**Sb**	**05 48 03.9**	**-0.2**
	comp=N,255nm,0.6s						
NEST	**Nestorio**	**0.67**	**26**	P	**Pg**	**05 47 53.9**	**-0.4**
NEST				AML	AML	05 48 11.0	
	comp=N,432μm,0.6s						
NEST				AML	AML	05 48 11.1	
	comp=E,651μm,0.7s						
TSLK	**Tsoukalades, L**	**0.98**	**180**	P	**Pb**	**05 47 59.2**	**-0.8**
KZN	**Kozani**	**0.99**	**60**	P	**Pb**	**05 47 59.1**	**-1.1**
KZN				AML	AML	05 48 17.3	
	comp=E,527μm,0.5s						
KZN				AML	AML	05 48 18.8	
	comp=N,250μm,0.6s						
LKD2	**Lefkada island**	**1.02**	**180**	P	**Pb**	**05 48 00.3**	**-0.3**
LKD2	**Lefkada island**	**1.02**	**180**	P	**Pb**	**05 47 59.5**	**-1.1**
LKD2				S	**Sn**	**05 48 15.3**	**0.0**
LKD2				AML	AML	05 48 18.7	
	comp=E,475μm,0.4s						
LKD2				AML	AML	05 48 22.3	
	comp=N,564μm,0.4s						
LKD2	**Lefkada island**	**1.02**	**180**	P	**Pb**	**05 48 00.4**	**-0.2**
	baz=177						
LKD2				S	**Sn**	**05 48 16.5**	**+1.2**
	baz=177						
THL	**Klokotos Trika**	**1.08**	**103**	P	**Pb**	**05 48 01.2**	**-0.3**
THL	**Klokotos Trika**	**1.08**	**103**	P	**Pb**	**05 48 00.8**	**-0.7**
THL				S	**Sn**	**05 48 16.7**	**+0.1**
THL				AML	AML	05 48 20.4	
	comp=N,231μm,0.7s						
THL				AML	AML	05 48 23.7	
	comp=E,204μm,0.3s						
VLO	**Vlora**	**1.11**	**307**	P	**Pb**	**05 48 00.6**	**-1.4**
	baz=307						
FNA	**Florina**	**1.12**	**29**	P	**Pb**	**05 48 01.6**	**-0.7**
FNA				S	**Sn**	**05 48 17.4**	**-0.3**
	comp=E,312nm,0.5s						
FNA	**Florina**	**1.12**	**29**	P	**Pb**	**05 48 01.8**	**-0.5**
FNA				AML	AML	05 48 21.3	
	comp=N,584μm,0.5s						
FNA				AML	AML	05 48 22.9	
	comp=E,680μm,0.8s						
FNA	**Florina**	**1.12**	**29**	P	**Pb**	**05 48 02.0**	**-0.3**
	baz=32						
FNA				S	**Sn**	**05 48 17.9**	**+0.2**
	baz=32						
EVGI	**Lefkada island**	**1.19**	**180**	P	**Pn**	**05 48 03.2**	**-0.2**
EVR	**Evrytania**	**1.26**	**135**	P	**Pn**	**05 48 03.6**	**-1.0**
EVR				AML	AML	05 48 27.0	
	comp=N,189μm,0.5s						
EVR				AML	AML	05 48 38.5	
	comp=E,185μm,0.8s						
OHR	**Ohrid**	**1.30**	**5**	*i*Pn	**Pg**	**05 48 07.2**	**+1.0**
FSK	**Fiskardo**	**1.35**	**183**	P	**Pn**	**05 48 05.6**	**-0.1**
FSK				S	**Sb**	**05 48 23.9**	**+0.5**
PVO	**Paravola**	**1.37**	**150**	P	**Pg**	**05 48 07.4**	**-0.1**
PVO				AML	AML	05 48 37.5	
	comp=N,197μm,0.5s						
PVO				AML	AML	05 48 40.1	
	comp=E,212μm,0.4s						
KEF5	**Kardakata, Kep**	**1.54**	**186**	P	**Pb**	**05 48 09.1**	**-0.4**
ANX	**Ano Chora**	**1.56**	**141**	P	**Pb**	**05 48 10.1**	**+0.2**
ANX				AML	AML	05 48 45.3	
	comp=E,249μm,0.7s						
ANX				AML	AML	05 48 45.6	
	comp=N,265μm,0.6s						
VLS	**Valsamata**	**1.63**	**182**	P	**Pb**	**05 48 10.4**	**-0.7**
SCTE	**Santa Cesarea**	**1.70**	**280**	P	**Pn**	**05 48 09.9**	**-0.6**
SCTE	**Santa Cesarea**	**1.70**	**280**	P	**Pn**	**05 48 10.6**	**+0.2**
	baz=279						
SCTE				S	**Sb**	**05 48 33.7**	**+0.1**
	baz=279						
AXS	**Araxos**	**1.71**	**161**	P	**Pb**	**05 48 12.3**	**-0.1**
SERG	**Sergoula**	**1.77**	**142**	P	**Pn**	**05 48 11.8**	**+0.4**
PHP	**Peshkopia**	**1.88**	**355**	P	**Pb**	**05 48 14.4**	**-0.9**
	baz=357						
XOR	**Xorichti**	**2.01**	**102**	P	**Pb**	**05 48 16.4**	**-1.1**
KLV	**Kalavryta, Ach**	**2.11**	**146**	P	**Pb**	**05 48 17.8**	**-1.5**
GUR	**Goura**	**2.29**	**144**	P	**Pn**	**05 48 20.0**	**+1.4**
PUK	**Puka**	**2.30**	**346**	P	**Pn**	**05 48 20.2**	**+1.4**
	baz=347						
PAIG	**Paliouri**	**2.33**	**86**	P	**Pn**	**05 48 19.0**	**0.0**
BOSS	**Bosilegrad**	**3.02**	**27**	*e*Pn	**Pn**	**05 48 30.1**	**+1.6**
PYL	**PYLOS**	**3.03**	**163**	P	**Pn**	**05 48 29.1**	**+0.3**
DID	**Didima**	**3.06**	**138**	P	**Pn**	**05 48 29.2**	**0.0**
BARS	**Barje**	**3.13**	**16**	*e*Pn	**Pn**	**05 48 32.4**	**+2.3**
SELS	**Selova**	**3.42**	**6**	*e*Pn	**Pn**	**05 48 35.2**	**+1.0**
SJES	**Sjenica**	**3.49**	**352**	*e*Pn	**Pn**	**05 48 36.1**	**+1.0**
DIVS	**Divibare**	**4.31**	**354**	*e*Pn	**Pn**	**05 48 47.0**	**+0.6**

*ISN **15** 06:07:35.7±0.9, 32°.72N×47°.53E, h0km±10km, ML3.0*
*TEH **15** 06:07:36.1, 32°.72N×47°.66E, h10km, ML3.5*

ISC 15 06:07:37.1±0.9, 32°.72N±0°.03×47°.65E±0°.03, h10km, n38, σ1°.12/43, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.31**	**263**	*e*Pg	**Pg**	**06 07 42.3**	**-1.1**
IKFM	**Kafar-mosalman**	**0.82**	**12**	*e*Pg	**Pg**	**06 07 51.1**	**-1.8**
IKFM				*e*		06 08 06.3	
IKMR	**Kamar-syah**	**1.01**	**37**	*e*Pg	**Pg**	**06 07 54.7**	**-1.8**
IKMR				*e*		06 08 13.0	
IDOB	**Doab**	**1.15**	**22**	*e*Pg	**Pb**	**06 07 58.4**	**-0.9**
BMDN	**Meydan**	**1.37**	**46**	*e*Pg	**Pn**	**06 08 01.8**	**-0.7**
BMDN				*e*		06 08 28.2	
IKOM	**Komasi**	**1.46**	**355**	*e*		06 08 32.9	
IKOM				*e*Pg	**Pn**	**06 08 04.2**	**+0.5**
IBDR	**Badra**	**1.50**	**286**	*e*Pn	**Pn**	**06 08 04.0**	**0.0**
IBDR				*e*Sn	**Sg**	**06 08 25.0**	**-0.3**
IBDR				AML	AML	06 08 38.7	
	comp=E,292nm,0.6s						
IBDR				AML	AML	06 08 43.5	
	comp=N,272nm,0.5s						
AHWZ	**Ahwaz**	**1.62**	**148**	*e*Sg	**Sg**	**06 08 30.1**	**+0.8**
AHWZ				*e*Pg	**Pn**	**06 08 06.4**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.63**	**342**	*e*		06 08 31.5	
KCHF				*e*Pg	**Pn**	**06 08 06.7**	**+0.6**
HSAM	**Samen**	**1.69**	**28**	*e*		06 08 11.6	
HSAM				*e*Pg	**Pn**	**06 08 07.9**	**+1.0**
KER	**Kermanshah**	**1.72**	**346**	*e*Pg	**Pn**	**06 08 08.0**	**+0.8**
IBZA	**Bozab**	**1.76**	**6**	*e*		06 08 12.2	
IBZA				*e*Pg	**Pn**	**06 08 09.4**	**+1.5**
IGHG	**Ghaleghazi**	**1.84**	**331**	*e*Pg	**Pb**	**06 08 11.6**	**+0.5**
IGHG				*e*		06 08 59.9	
IVIS	**Veis**	**1.92**	**340**	*e*		06 08 55.9	
IVIS				*e*Pn	**Pn**	**06 08 09.9**	**-0.1**
NSR	**Nassriya**	**2.13**	**217**	*e*Pn	**Pn**	**06 08 13.0**	**+0.2**
NSR				*e*Sn	**Sn**	**06 08 40.0**	**+0.7**
IALM	**Almabolaq**	**2.18**	**11**	*e*Pn	**Pn**	**06 08 15.2**	**+1.5**
IDHR	**Dehrash**	**2.24**	**332**	*e*Pn	**Pn**	**06 08 15.9**	**+1.4**
IDHR				*e*		06 08 20.7	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIN	**Lien**	**2.27**	**346**	*e*Pn	**Pn**	**06 08 15.4**	**+0.5**
ILIN				*e*		06 08 57.8	
HAGD	**Aghdareh**	**2.44**	**30**	*e*Pn	**Pn**	**06 08 18.4**	**+1.2**
HAGD				*e*		06 08 58.7	
HSRG	**Sareghieh**	**2.57**	**12**	*e*Pn	**Pn**	**06 08 21.1**	**+2.0**
HSRG				*e*		06 09 02.3	
JHBN	**Jahan bin**	**2.59**	**100**	*e*Pn	**Pn**	**06 08 19.8**	**+0.4**
JHBN				*e*		06 09 08.3	
IPIR	**Pirpir**	**2.73**	**90**	*e*Pn	**Pn**	**06 08 22.2**	**+0.9**
IPIR				*e*		06 09 05.3	
BHD	**Baghdad**	**2.80**	**282**	*e*Pn	**Pn**	**06 08 22.0**	**0.0**
BHD				*e*Sn	**Sn**	**06 08 57.0**	**+1.2**
ROKH	**ROKH**	**2.88**	**96**	*e*Pn	**Pn**	**06 08 24.0**	**+0.7**
ROKH				*e*		06 09 08.1	
IRAZ	**Razeghan**	**3.28**	**35**	*e*Pn	**Pn**	**06 08 30.9**	**+2.1**
QAM	**Ghamsar**	**3.34**	**71**	*e*Pn	**Pn**	**06 08 31.1**	**+1.5**
IKLH	**Kolahrood**	**3.35**	**79**	*e*Pn	**Pn**	**06 08 31.1**	**+1.3**
IKLH				*e*		06 09 33.0	
QABG	**Abgarm-Qazvin**	**3.38**	**28**	*e*Pn	**Pn**	**06 08 30.9**	**+0.7**
IGAR	**Gharneh**	**3.72**	**94**	*e*Pn	**Pn**	**06 08 35.2**	**+0.3**
IGAR				*e*		06 08 37.8	
KLNJ	**Kolanjah**	**3.76**	**116**	*e*Pn	**Pn**	**06 08 35.5**	**0.0**
IZEF	**Zefreh**	**3.94**	**86**	*e*Pn	**Pn**	**06 08 39.2**	**+1.2**
KRSH	**Karshahi**	**3.96**	**70**	*e*Pn	**Pn**	**06 08 39.1**	**+1.1**
QSDN	**Sirdan**	**3.98**	**18**	*e*Pn	**Pn**	**06 08 39.6**	**+1.2**
IRAM	**Ramesheh**	**4.11**	**101**	*e*Pn	**Pn**	**06 08 41.5**	**+1.3**
QALM	**Alamut, Qazvin**	**4.45**	**33**	*e*Pn	**Pn**	**06 08 47.0**	**+2.1**
IDMV	**Damavand**	**4.62**	**51**	*e*Pn	**Pn**	**06 08 47.7**	**+0.4**
IFIR	**Firoozkooh**	**5.14**	**54**	*e*Pn	**Pn**	**06 08 55.3**	**+0.9**
MSL	**Mosul**	**5.25**	**316**	*e*Pn	**Pn**	**06 08 57.0**	**+1.4**
MSL				*e*Sn	**Sn**	**06 09 56.0**	**-0.1**
MSL				AML	AML	06 09 57.3	
	comp=N,21nm,0.3s						
MSL				AML	AML	06 09 58.5	
	comp=E,22nm,0.5s						

*NEIC **15** 06:09:37.0±1.2, 19°.58N±0°.08×65°.56W±0°.06, h38km±46km, Error ellipse: s-maj=12.4km s-min=6.9km az=196.0*
*RSPR **15** 06:09:37.2, 19°.64N×65°.55W, h42km±11km, MD3.6/17*
*OSPL **15** 06:09:51.0±0.3, 18°.77N×66°.41W, h77km±9km, ML3.4*

ISC 15 06:09:35.7±2.5, 19°.51N±0°.07×65°.58W±0°.04, h14km±14km, n73, σ0°.54/88, 19C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.23**	**167**	⇑*e*P	**Pn**	**06 09 58.3**	**-0.2**
CUPR	**Culebra, Puert**	**1.23**	**167**	*e*S	**Sg**	**06 10 15.3**	**-0.1**
CUPR	**Culebra, Puert**	**1.23**	**167**		**Pn**	**06 09 58.3**	**-0.2**
CUPR					**Sg**	**06 10 15.3**	**-0.1**
CBYP	**Canovanas**	**1.26**	**192**	⇑*e*P	**Pn**	**06 09 58.7**	**-0.3**
CBYP	**Canovanas**	**1.26**	**192**	*e*S	**Sb**	**06 10 16.2**	**+0.7**
CBYP	**Canovanas**	**1.26**	**192**		**Pn**	**06 09 58.7**	**-0.3**
CBYP					**Sb**	**06 10 16.2**	**+0.7**
GCPR	**Guaynabo City**	**1.29**	**202**	⇑*e*P	**Pn**	**06 09 59.4**	**+0.1**
GCPR	**Guaynabo City**	**1.29**	**202**	*e*S	**Sb**	**06 10 16.4**	**+0.3**
GCPR	**Guaynabo City**	**1.29**	**202**		**Pn**	**06 09 58.8**	**-0.5**
GCPR					**Sb**	**06 10 15.7**	**-0.4**
STVI	**Saint Thomas**	**1.30**	**153**	⇑*e*P	**Pn**	**06 09 59.1**	**-0.3**
STVI	**Saint Thomas**	**1.30**	**153**	*e*S	**Sb**	**06 10 16.7**	**+0.3**
STVI	**Saint Thomas**	**1.30**	**153**		**Pn**	**06 09 59.1**	**-0.3**
STVI					**Sb**	**06 10 16.7**	**+0.3**
EMPR	**Esperanza - Ma**	**1.36**	**221**	⇑*e*P	**Pn**	**06 09 60.0**	**-0.4**
EMPR	**Esperanza - Ma**	**1.36**	**221**	*e*S	**Sb**	**06 10 18.3**	**-0.1**
EMPR	**Esperanza - Ma**	**1.36**	**221**		**Pn**	**06 09 60.0**	**-0.4**
EMPR					**Sb**	**06 10 18.3**	**-0.1**
HUMP	**Col San Antoni**	**1.39**	**191**	⇑*e*P	**Pn**	**06 10 00.8**	**+0.1**
HUMP	**Col San Antoni**	**1.39**	**191**	*e*S	**Sb**	**06 10 18.5**	**-0.5**
HUMP	**Col San Antoni**	**1.39**	**191**		**Pn**	**06 10 00.8**	**+0.1**
HUMP					**Sb**	**06 10 18.5**	**-0.5**
MTP	**Monte Pirata**	**1.41**	**179**		**Pn**	**06 10 00.8**	**-0.1**
TBVI	**Tortola**	**1.42**	**140**	⇑*e*P	**Pn**	**06 10 00.9**	**-0.2**
TBVI	**Tortola**	**1.42**	**140**	*e*S	**Sn**	**06 10 18.7**	**-0.9**
TBVI	**Tortola**	**1.42**	**140**		**Pn**	**06 10 00.9**	**-0.2**
TBVI					**Sn**	**06 10 18.7**	**-0.9**
PDPR	**Patillas Dam,**	**1.54**	**196**	⇑*e*P	**Pn**	**06 10 02.7**	**-0.1**
PDPR	**Patillas Dam,**	**1.54**	**196**	*e*S	**Sn**	**06 10 23.1**	**+0.4**
PDPR	**Patillas Dam,**	**1.54**	**196**		**Pn**	**06 10 02.2**	**-0.6**
PDPR					**Sn**	**06 10 22.5**	**-0.1**
AOPR	**Arecibo Observ**	**1.60**	**224**	⇑*e*P	**Pn**	**06 10 03.6**	**-0.1**
AOPR	**Arecibo Observ**	**1.60**	**224**	*e*S	**Sn**	**06 10 24.0**	**-0.2**
AOPR	**Arecibo Observ**	**1.60**	**224**		**Pn**	**06 10 03.6**	**-0.1**
AOPR	**Arecibo Observ**	**1.60**	**224**		**Sn**	**06 10 24.7**	**+0.5**
IGPR	**InterUniversit**	**1.62**	**198**	⇑*e*P	**Pn**	**06 10 04.0**	**+0.2**
IGPR	**InterUniversit**	**1.62**	**198**	*e*S	**Sn**	**06 10 24.6**	**+0.1**
IGPR	**InterUniversit**	**1.62**	**198**		**Pn**	**06 10 04.1**	**+0.2**
CELP	**Cerrillos**	**1.71**

CO02 IAML 06 35 50.7
comp=N,28μm,0.2s
CO02 Combarbal 0.77 22 Pn Pn 06 35 36.6 +1.8
CO02 Sn Sn **06 35 49.5 +2.3**
VA03 San Esteban 1.07 142 ⇓*i*P **Pn 06 35 38.5 +0.3**
VA03 *e*S **Sn 06 35 53.0 -0.2**
VA03 IAML 06 35 56.1
comp=E,38μm,0.1s
VA03 San Esteban 1.07 142 Pn **Pn 06 35 38.5 +0.3**
VA03 Sn **Sn 06 35 53.1 -0.2**
ROCH El Roble 1.08 165 ⇓*i*P **Pn 06 35 39.1 +0.6**
ROCH *i* S **Sn 06 35 54.4 +0.7**
ROCH IAML 06 35 54.9
comp=N,18μm,0.3s
ROC1 El Roble 1.09 166 Pn **Pn 06 35 38.6 +0.1**
ROC1 Sn **Sn 06 35 54.6 +0.8**
VA01 Torpederas 1.13 193 ⇓*i*P **Pn 06 35 40.0 +1.3**
VA01 *i* S **Sn 06 35 55.5 +1.2**
VA01 IAML 06 35 57.1
comp=N,28μm,0.1s
VA01 Torpederas 1.13 193 Pn **Pn 06 35 39.9 +1.1**
VA01 Sn **Sn 06 35 55.6 +1.3**
CO03 El Pedregal 1.21 27 ⇑*i*P **Pn 06 35 41.5 +1.6**
CO03 *i* S **Sn 06 35 58.2 +1.9**
CO03 IAML 06 35 59.6
comp=E,14μm,0.2s
CO03 El Pedregal 1.21 27 Pn 06 35 41.5 +1.6
CO03 Sn **Sn 06 35 58.4 +2.1**
PEL Peldehue 1.34 156 *e*P **Pn 06 35 41.5 +0.1**
PEL *i* S **Sn 06 35 58.9 -0.1**
PEL IAML 06 36 01.0
comp=E,10μm,0.4s
PEL Peldehue 1.34 156 Pn 06 35 42.0 +0.6
MT02 Curacav 1.34 173 ⇓*i*P **Pn 06 35 42.0 +0.5**
MT02 *i* S **Sn 06 35 58.9 -0.2**
MT02 IAML 06 36 00.5
comp=E,9μm,0.2s
MT02 Curacav 1.34 173 Pn 06 35 42.0 +0.5
MT05 Renca 1.55 161 ⇓*i*P **Pn 06 35 44.8 +0.6**
MT05 *i* S **Sn 06 36 03.6 -0.3**
MT05 IAML 06 36 05.8
comp=N,17μm,0.2s
MT05 Renca 1.55 161 Pn **Pn 06 35 44.7 +0.5**
CLCH Cerro Calan 1.62 156 ⇓*i*P **Pn 06 35 45.7 +0.6**
CLCH *i* S **Sn 06 36 05.5 0.0**
CLCH IAML 06 36 06.8
comp=E,8μm,0.3s
AUSP Uspallata 1.68 101 *e*P **Pn 06 35 47.2 +1.1**
AUSP *e*S **Sn 06 36 08.9 +1.6**
FSR Penalolen 1.70 156 ⇑*i*P **Pn 06 35 47.9 +1.8**
FSR *i* S **Sn 06 36 08.9 +1.7**
MT03 Universidad Ad 1.71 156 ⇓*i*P **Pn 06 35 47.0 +0.6**
MT03 *i* S **Sn 06 36 08.0 +0.2**
MT03 IAML 06 36 10.6
comp=N,15μm,0.2s
RTLS Leoncito 1.74 86 *e*P **Pn 06 35 47.9 +1.0**
RTLS *e*S **Sn 06 36 10.9 +2.2**
RTLS IAML 06 36 15.5
comp=Z,1μm,0.6s
GO04 Tololo Observa 1.80 15 *e*P **Pn 06 35 49.0 +1.3**
GO04 *e*S **Sn 06 36 09.9 -0.2**
GO04 IAML 06 36 14.2
comp=N,23μm,0.4s
GO04 Tololo Observa 1.80 15 Pn 06 35 48.9 +1.3
LMEL Las Melosas 2.14 154 ⇓*i*P **Pn 06 35 53.0 +0.9**
LMEL *i* S **Sn 06 36 18.6 +0.6**
LMEL IAML 06 36 20.7
comp=E,9μm,0.2s
CO01 Juntas del Tor 2.21 29 *e*P **Pn 06 35 54.7 +1.6**
CO01 *e*S **Sn 06 36 21.3 +1.5**
CO01 IAML 06 36 22.8
comp=E,2μm,0.3s
CO01 Juntas del Tor 2.21 29 Pn 06 35 54.7 +1.6
ASAL Salagasta 2.22 108 *e*P **Pn 06 35 54.7 +1.7**
ASAL *e*S **Sn 06 36 21.0 +1.2**
ASAL IAML 06 36 24.0
comp=Z,728nm,0.4s
ARCO CERRO ARCO 2.23 115 *e*P **Pn 06 35 55.1 +1.9**
ARCO IAML 06 36 25.7
comp=Z,1μm,0.3s
ZON Zonda 2.30 81 Pn **Pn 06 35 55.1 +1.1**
ZON Zonda 2.30 81 *e*P **Pn 06 35 55.2 +1.1**
ZON IAML 06 36 29.4
comp=Z,855nm,0.3s
ACCO Cerro Coronel 2.36 56 *e*P **Pn 06 35 56.6 +1.5**
ACCO IAML 06 36 29.7
comp=Z,2μm,4.6s
AROD Rodeo 2.37 43 *e*P **Pn 06 35 57.2 +1.9**
RTCV Cerro Valdivia 2.38 89 *e*P **Pn 06 35 56.2 +1.1**
RTCV IAML 06 36 30.9
comp=Z,722nm,2.0s
AAGR Agrelo 2.42 119 *e*P **Pn 06 35 57.6 +1.9**
RTLL Cerro Villicun 2.51 77 IAML 06 36 28.4
comp=E,3μm,0.3s
RTLL Cerro Villicun 2.51 77 *e*P **Pn 06 35 57.7 +0.8**
RTLL IAML 06 36 29.2
comp=Z,796nm,0.2s
ACDV Cuesta del Vie 2.58 48 *e*P **Pn 06 36 00.1 +2.1**
ACDV IAML 06 36 34.6
comp=Z,813nm,0.5s
BO02 Sierra Bellavi 2.90 171 ⇓*i*P **Pn 06 36 02.6 +0.4**
BO02 *i* S **Sn 06 36 35.4 -0.7**
BO02 Sierra Bellavi 2.90 171 Pn **Pn 06 36 02.6 +0.4**
LCO Las Campanas 2.95 11 Pn **Pn 06 36 04.4 +1.4**
GO05 Huala 3.12 189 *e*P **Pn 06 36 04.8 -0.3**
GO05 *e*S **Sn 06 36 39.3 -2.0**
GO05 IAML 06 36 40.9
comp=N,851nm,0.1s
GO05 Huala 3.12 189 Pn **Pn 06 36 04.8 -0.3**
GO05 Huala 3.12 189 *e*P **Pn 06 36 05.1 +0.1**
AC05 El Transito 3.21 17 IAML 06 36 45.9
comp=N,2μm,0.3s
AC05 El Transito 3.21 17 Pn **Pn 06 36 07.9 +1.5**
AGUA GUANDACOL 3.45 46 *e*P **Pn 06 36 11.4 +1.7**
AGUA IAML 06 36 58.5
comp=Z,751nm,0.7s
LAMA Las Malvinas 3.49 150 *e*P **Pn 06 36 11.7 +1.6**
COIS El Sosneado 3.50 156 *e*P **Pn 06 36 12.0 +1.8**
AC04 Llanos de Chal 3.71 4 Pn **Pn 06 36 14.3 +1.2**
RFA San Rafael 3.72 141 *e*P **Pn 06 36 14.4 +1.1**
PUMA Malargue 3.90 157 *e*P **Pn 06 36 17.2 +1.5**
EDS3 Malargue 4.16 158 *e*P **Pn 06 36 20.4 +1.1**
GO03 Copiap 4.42 13 Pn 06 36 23.3 +0.5
GO03 Copiap 4.42 13 *e*P **Pn 06 36 23.5 +0.7**
ACLC CERRO LA CRUZ 4.52 58 *e*P **Pn 06 36 24.1 -0.2**
ACLC IAML 06 37 34.5
comp=Z,287nm,0.3s
BI02 San Fabin de 4.73 179 Pn **Pn 06 36 27.4 +0.4**
BI03 Tigo 5.10 195 Pn 06 36 31.2 -0.8
TCA Tanti 5.78 86 *e*P **Pn 06 36 39.5 -1.9**
TCA IAML 06 38 16.4
comp=Z,90nm,0.6s
AC01 Pan de Azucar 5.79 7 Pn **Pn 06 36 40.2 -1.3**
CYA Choya 5.92 56 *e*P **Pn 06 36 40.8 -2.3**
CYA IAML 06 38 20.2
comp=Z,57nm,1.3s
VA04 Juan Fernndez 6.54 253 Pn **Pn 06 36 55.0 +3.4**
H03N1 Juan Fernandez 6.56 255 T T 06 43 40.4
baz=86,slow=73,SNR=182
H03N3 Juan Fernandez 6.58 255 T T 06 43 38.8
baz=86,slow=73,SNR=190
H03N2 Juan Fernandez 6.58 255 T T 06 43 43.3
baz=86,slow=73,SNR=141
H03S3 Juan Fernandez 6.65 251 T T 06 43 33.0
baz=87,slow=75,SNR=110
H03S1 Juan Fernandez 6.65 251 T T 06 43 31.1
baz=87,slow=75,SNR=98
H03S2 Juan Fernandez 6.66 251 T T 06 43 33.4
baz=87,slow=75,SNR=100
GO02 Mina Guanaco 6.91 13 Pn **Pn 06 36 55.4 -1.6**
LC01 Cunco 6.97 183 Pn **Pn 06 36 56.3 -1.2**
PB14 IPOC Station P 7.32 7 Pn **Pn 06 37 00.5 -2.0**
FSA Cafayete 7.45 40 *e*P **Pn 06 37 02.9 -1.4**
PLCA Paso Flores 8.82 176 P **Pn 06 37 22.7 0.0**
comp=Z,0.6nm,0.3s,baz=344,slow=11,SNR=26
PLCA Paso Flores 8.82 176 Pn **Pn 06 37 22.9 +0.1**
PB15 IPOC Station P 8.84 11 Pn **Pn 06 37 21.3 -1.9**
PB06 IPOC Station P 9.31 10 Pn **Pn 06 37 25.7 -3.9**
LVC Limon Verde 9.52 14 P **Pn 06 37 29.5 -3.2**
comp=Z,0.7nm,0.3s,baz=158,slow=8.3,SNR=8.7
LVC S **Sn 06 39 11.5 -6.7**
comp=Z,0.8nm,0.3s,baz=37,slow=22,SNR=2.1
LVC Limon Verde 9.52 14 Pn **Pn 06 37 29.4 -3.3**

LL01 San Ignacio de 10.47 184 Pn **Pn 06 37 43.0 -2.2**
PB01 IPOC Station P 10.96 9 Pn Pn 06 37 47.1 -4.9
PB11 IPOC Station P 12.20 8 Pn **Pn 06 38 09.8 +0.8**
PSGCX Pisagua 12.32 5 Pn **Pn 06 38 12.6 +2.1**
GO01 Chusmiza 12.35 9 Pn **Pn 06 38 13.3 +1.9**
MNMC Minye Minye 12.83 7 Pn **Pn 06 38 19.8 +2.2**
CPUP Villa Florida 13.45 69 P Pn 06 38 20.0 -5.5
comp=Z,0.3nm,0.3s,baz=244,slow=13,SNR=6.9
CPUP Villa Florida 13.45 69 Pn 06 38 20.5 -5.0
PB16 IPOC Station P 13.63 7 Pn **Pn 06 38 30.4 +1.9**
PLTB Pedras Altas 15.08 94 *e*P **Pn 06 38 42.1 -4.5**
LPAZ La Paz 15.84 11 P **Pn 06 38 57.4 +0.5**
comp=Z,0.4nm,0.3s,baz=188,slow=6.7,SNR=22
LPAZ La Paz 15.84 11 P **P 06 38 58.1 -1.0**
LPAZ La Paz 15.84 11 *e*P **P 06 38 58.4 -0.7**
SIV San Ignacio 18.41 33 P **P 06 39 25.7 -1.1**
comp=Z,0.3nm,0.3s,baz=214,slow=11,SNR=15
PTGB Pitanga 18.41 72 *e*P **P 06 39 26.8 -0.1**
PTLB Pontes e Lacer 19.81 37 *e*P **P 06 39 42.5 +0.3**
PCMB Pacaembu 20.63 65 *e*P **P 06 39 49.8 -1.2**
VILB Vilhena 21.47 31 *e*P **P 06 40 00.0 0.0**
ETMB Extrema 22.50 13 *e*P **P 06 40 12.2 +1.2**
ARAG Araguaiana, MT 24.01 52 *e*P **P 06 40 24.5 -0.9**
SAML Samuel 24.08 20 P **P 06 40 25.8 -0.2**
CZSB Cruzeiro do Su 24.10 357 *e*P **P 06 40 27.5 +1.3**
CLDB Colider 25.39 38 *e*P **P 06 40 37.2 -0.8**
ATAH Atahualpa 25.52 344 LR LR 06 50 11.8
comp=Z,97nm,20.4s,baz=29,slow=35
BDFB Brasilia 26.71 58 P **P 06 40 48.5 -1.5**
comp=Z,5.0nm,0.7s,baz=235,slow=6.7,SNR=7.8
BDFB Brasilia 26.71 58 P **P 06 40 48.9 -1.1**
PTGA Pitinga 32.83 21 P **P 06 41 43.7 -0.3**
PTGA IAmb IAmb 06 41 44.6
comp=Z,6.3nm,0.9s
MCPB Macapa, AP 36.30 34 *e*P **P 06 42 13.3 -0.6**
TOSP Speyside 44.20 15 P **P 06 43 19.6 +0.5**
GRGR Grenville 44.77 14 P **P 06 43 23.2 -0.5**
BELA Belgrano 2 48.82 170 P **P 06 43 55.1 +0.6**
MLPR Magueyes Islan 49.78 5 P **P 06 44 03.0 +0.6**
CRPR Cabo Rojo, PR 49.81 5 P **P 06 44 02.6 -0.1**
PDPR Patillas Dam, 49.92 7 P **P 06 44 03.2 -0.3**
SNAA Sanae 53.29 158 P **P 06 44 28.6 +0.4**
TEIG Tepich 54.33 340 P **P 06 44 37.6 +1.4**
QSPA South Pole Qui 58.31 180 P **P 06 45 05.7 +1.5**
W50A Signal Mountai 68.05 348 P **P 06 46 08.5 -0.2**
W50A IAmb IAmb 06 46 13.0
comp=Z,5.5nm,1.1s
TXAR Lajitas Array 68.23 330 P **P 06 46 12.2 +2.1**
comp=Z,0.6nm,0.6s,baz=153,slow=8.2,SNR=9.7
TXAR Lajitas Array 68.23 330 P **P 06 46 09.8 -0.3**
TX31 Lajitas Ar. Si 68.23 330 P **P 06 46 09.7 -0.4**
TX31 IAmb IAmb 06 46 12.7
comp=Z,11nm,1.5s
TX32 Lajitas Array 68.23 330 P **P 06 46 08.8 -1.2**
OXF Oxford 68.24 344 P **P 06 46 09.2 -0.7**
V48A Smith Brothers 68.86 347 P **P 06 46 14.4 +0.7**
V48A IAmb IAmb 06 46 15.6
comp=Z,7.9nm,1.1s
WVT Waverly 69.44 346 P **P 06 46 18.1 +0.8**
WVT IAmb IAmb 06 46 18.9
comp=Z,8.1nm,0.8s
W39A Magazine 70.02 341 P **P 06 46 22.6 +1.8**
W39A IAmb IAmb 06 46 23.6
comp=Z,9.5nm,1.0s
LCAR Lake Charles 70.14 343 P **P 06 46 21.7 +0.1**
LCAR IAmb IAmb 06 46 23.2
comp=Z,5.2nm,0.7s
HHAR Hobbs 71.08 341 P **P 06 46 28.3 +1.0**
HHAR IAmb IAmb 06 46 28.8
comp=Z,3.6nm,0.7s
CCM Cathedral Cave 72.05 344 P **P 06 46 33.4 +0.3**
CCM IAmb IAmb 06 46 35.1
comp=Z,6.2nm,0.9s
R40A Maddies Statio 72.53 343 P **P 06 46 37.0 +1.0**
ACSO Alum Creek Sta 72.60 351 P **P 06 46 37.0 +0.7**
ACSO IAmb IAmb 06 46 37.6
comp=Z,5.0nm,0.7s
P40A Paris 73.65 343 P **P 06 46 43.8 +1.3**
DBIC Dimbokro 73.96 71 P **P 06 46 43.9 -1.0**
comp=Z,4.8nm,0.6s,baz=195,slow=7.3,SNR=10
DBIC Dimbokro 73.96 71 P **P 06 46 44.0 -1.0**
DBIC IAmb IAmb 06 46 45.0
comp=Z,7.8nm,0.8s
ANMO Albuquerque 74.26 331 P **P 06 46 48.8 +2.4**
X16A Lo Mia Camp, P 76.02 327 P **P 06 46 59.2 +2.6**
SDCO Great Sand Dun 76.29 333 P **P 06 47 00.6 +2.4**
L34A Svendsen Farm, 77.06 341 P **P 06 47 00.9 -1.1**
L34A IAmb IAmb 06 47 03.5
comp=Z,6.4nm,0.7s
PV13 Radium Mtn., P 77.98 331 P **P 06 47 09.8 +2.2**
PV13 IAmb IAmb 06 47 10.6
comp=Z,3.9nm,1.0s
ECSD EROS Data Cent 78.76 342 P **P 06 47 12.3 +0.9**
ECSD IAmb IAmb 06 47 13.3
comp=Z,4.6nm,0.8s
SHPR Sheep Range 79.48 325 P **P 06 47 16.6 +0.9**
SRU San Rafael Swe 79.50 330 P **P 06 47 17.7 +1.9**
MSU Marysvale 79.72 329 P **P 06 47 18.8 +1.7**
F36A Milaca 79.99 344 P **P 06 47 18.6 +0.6**
F36A IAmb IAmb 06 47 19.4
comp=Z,4.2nm,1.0s
TPNV Topopah Spring 80.36 325 P **P 06 47 23.3 +2.8**
TPNV IAmb IAmb 06 47 23.7
comp=Z,5.2nm,1.4s
SPUT South Promonto 82.15 330 P **P 06 47 30.9 +1.1**
PDAR Pinedale Array 82.19 333 P **P 06 47 31.3 +1.2**
comp=Z,0.2nm,0.4s,baz=104,slow=3.8,SNR=3.5
PDAR Pinedale Array 82.19 333 P **P 06 47 30.8 +0.7**
B35A Bob, Littlefor 82.40 345 P **P 06 47 31.5 +0.7**
B35A IAmb IAmb 06 47 32.0
comp=Z,4.4nm,0.8s
NVAR Mina Array Bea 82.53 325 P **P 06 47 34.0 +2.1**
comp=Z,1.3nm,0.8s,baz=157,slow=6.2,SNR=12
NVAR Mina Array Bea 82.53 325 P 06 47 32.8 +0.8
ELK Elko 82.91 328 P **P 06 47 35.1 +1.2**
TOA0 Torodi Ar. Sit 82.94 70 P **P 06 47 33.8 -0.6**
TOA0 IAmb IAmb 06 47 34.7
comp=Z,4.0nm,0.7s
TORD Torodi Ar. Bea 82.94 70 P **P 06 47 33.3 -1.0**
comp=Z,3.1nm,0.6s,baz=282,slow=7.1,SNR=9.8
TORD Torodi Ar. Bea 82.94 70 P **P 06 47 33.1 -1.3**
PNTR Pine Nut 83.68 324 P **P 06 47 38.4 +0.5**
PNTR IAmb IAmb 06 47 41.8
comp=Z,4.1nm,0.7s
YHH Holmes Hill 84.39 333 P **P 06 47 43.0 +1.5**
ULM Lac du Bonnet 84.66 344 P **P 06 47 43.0 +0.7**
comp=Z,3.5nm,0.6s,baz=154,slow=3.5,SNR=3.1
ULM Lac du Bonnet 84.66 344 P **P 06 47 42.8 +0.5**
MCMT McKenzie Canyo 85.22 332 P **P 06 47 45.7 +0.1**
PINE Pine Mountain 87.92 327 P **P 06 47 56.9 -1.8**
PINE IAmb IAmb 06 48 02.0
comp=Z,3.3nm,0.8s
ASAR Alice Springs 119.68 207 PKP **PKPdf 06 53 58.7 -0.4**
comp=Z,0.3nm,0.6s,baz=144,slow=1.6,SNR=2.6
WRA Warramunga Arr 122.86 209 PKP **PKPdf 06 54 05.0 -0.3**
comp=Z,0.5nm,0.3s,baz=155,slow=1.8,SNR=25
WRA Warramunga Arr 122.86 209 PKPdf 06 54 05.0 -0.3
H11S2 WAKE ISLAND Hyl 26.37 270 T T 09 13 37.1
baz=118,slow=75,SNR=132
H11S1 WAKE ISLAND Hyl 26.38 270 T T 09 13 38.2
baz=118,slow=75,SNR=173
H11S3 WAKE ISLAND Hyl 26.39 270 T T 09 13 36.4
baz=118,slow=75,SNR=155
H11N3 WAKE ISLAND Hyl 26.73 272 T T 09 13 42.0
baz=116,slow=75,SNR=33
H11N1 WAKE ISLAND Hyl 26.75 272 T T 09 14 05.3
baz=116,slow=75,SNR=15
H11N2 WAKE ISLAND Hyl 26.75 272 T T 09 14 01.7
baz=116,slow=75,SNR=76
ZALV Zalesovo Beam 152.15 31 PKPbc **PKiKP 06 55 03.9 0.0**
comp=Z,9.7nm,0.5s,baz=300,slow=3.1,SNR=31
MKAR Makanchi Array 154.93 46 PKPbc **PKPbc 06 55 10.1 +0.2**
comp=Z,0.5nm,0.6s,baz=318,slow=3.3,SNR=4.2
MKAR PKPab **PKPab 06 55 25.5 -0.1**
comp=Z,1.3nm,0.6s,baz=297,slow=3.4,SNR=9.4

BJI ***15*** *06:50:04.0±0.0, 30°.50N×114°.30W, h10km, mB5.7/3, mb5.6/6*
ANF ***15*** *06:50:07.1±0.3, 30°.56N×114°.28W, h0km, ML4.8/18, Error ellipse: s-maj=5.1km s-min=2.1km az=23.0*
IDC ***15*** *06:50:08.2±0.7, 30°.41N×114°.13W, h0km, mb4.4/17, mb1 4.5/21, mb1mx4.3/40, mbtmp4.3/21, ML3.6/4, MS4.2/28, Ms1 4.2/28, ms1mx4.1/39, Error ellipse: s-maj=18.9km s-min=8.8km az=36.0*
UNK ***15*** *06:50:09.7, 30°.61N×114°.25W, h10km*
MEX ***15*** *06:50:09.8±0.5, 30°.49N×114°.21W, h10km±7km, MD4.6*
NEIC ***15*** *06:50:09.2±2.8, 30°.57N±0°.05×114°.29W±0°.06, h10km±1km, mb4.7/136, ML4.4(ECX), Error ellipse: s-maj=10.6km s-min=7.9km az=225.0*
ECX ***15*** *06:50:09.0±0.8, 30°.56N×114°.25W, h9km±7km, MD4.5, ML4.7*
GCMT ***15*** *06:50:10.2±0.2, 30°.43N±0°.02×114°.28W±0°.01, h12km, MW5.0/125, Moment Tensor Solution. s49,c56; s125,c220; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.58±.08; $M_{\theta\theta}$0.10±.08; $M_{\phi\phi}$3.48±.06; $M_{r\theta}$-2.30±.33; $M_{\theta\phi}$0.97±.06; $M_{\phi r}$-0.98±.23; Best double couple: M_o4.40000×10^16^ NP1:ϕ_s175.00000°, δ37.00000°, λ-127.00000°. NP2:ϕ_s38.00000°, δ61.00000°, λ-65.00000°. Principal axes: T 4.0880, Plg13.0000°, Azm111.0000°; N 0.6240, Plg21.0000°, Azm206.0000°; P -4.7130, Plg65.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 06:50:09.2±0.4, 30°.57N±0°.04×114°.24W±0°.03, h10km, n446, σ1§60/434, mb4.7/66, MS4.3/28, 1C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.70**	**312**	Pg	**Pg**	**06 50 21.1**	**-1.7**
SFX	**San Felipe**	**0.70**	**312**	*e*P	**Pg**	**06 50 21.1**	**-1.7**
SFX				*e*S	**Sg**	**06 50 31.2**	**-0.8**
ECBX	**El Chinero**	**1.14**	**323**	*e*P	**Pb**	**06 50 28.2**	**-2.8**
ECBX				*e*S	**Sb**	**06 50 44.5**	**-1.4**
SPX	**San Pedro Mart**	**1.15**	**294**	*e*P	**Pg**	**06 50 28.4**	**-3.0**
SPX	**San Pedro Mart**	**1.15**	**294**		**Pg**	**06 50 28.4**	**-3.0**
SPX	**San Pedro Mart**	**1.15**	**294**	*e*P	**Pg**	**06 50 28.4**	**-3.0**
SPX				*e*S	**Sg**	**06 50 44.7**	**-1.7**
SPX				⇓*e*		06 50 59.3	
SPX				IAML		06 50 59.3	
	comp=N,14μm,1.1s						
SPIG	**San Pedro Mart**	**1.16**	**295**	*i* P	**Pg**	**06 50 29.4**	**-2.1**
SPIG				*e*S	**Sg**	**06 50 45.0**	**-1.5**
SPIG	**San Pedro Mart**	**1.16**	**295**	*e*P	**Pg**	**06 50 29.5**	**-1.9**
SPIG				*e*S	**Sg**	**06 50 44.7**	**-1.8**
PIX	**Pinacate**	**1.20**	**34**		**Pn**	**06 50 29.6**	**-2.4**
PIX	**Pinacate**	**1.20**	**34**	⇓*e*P	**Pn**	**06 50 29.8**	**-2.3**
PIX				*e*S	**Sb**	**06 50 46.1**	**-1.5**
SQX	**San Quintin**	**1.41**	**271**	*e*P	**Pn**	**06 50 32.9**	**-2.0**
SQX				*e*S	**Sn**	**06 50 52.1**	**-1.4**
SQX				⇓*e*		06 50 53.0	
SQX				IAML		06 50 53.0	
	comp=E,20μm,0.4s						
VTX	**Valle De La Tr**	**1.56**	**302**	*e*P	**Pn**	**06 50 35.0**	**-2.1**
214A	**Organ Pipe Nat**	**1.85**	**41**	P	**Pn**	**06 50 39.2**	**-1.9**
	baz=223,SNR=382						
214A				Sb	**Sb**	**06 51 08.1**	**+1.7**
	baz=223						
214A	**Organ Pipe Nat**	**1.85**	**41**	Pn	**Pn**	**06 50 39.1**	**-2.0**
GUVIX	**Guadalupe Vict**	**1.87**	**338**		**Pn**	**06 50 40.0**	**-1.3**
SVX	**San Vicente**	**1.89**	**294**	*e*P	**Pn**	**06 50 40.2**	**-1.3**
SJX	**San Joaquin**	**1.89**	**310**	IAML		06 51 16.7	
	comp=E,5μm,0.6s						
SJX				*e*		06 51 16.7	
MBIG	**Mexicali**	**2.01**	**336**	*i* P	**Pn**	**06 50 41.8**	**-1.4**
MBIG				*i* P	**Pb**	**06 50 42.5**	**-3.4**
ESJX	**Sierra Juarez**	**2.05**	**315**		**Pn**	**06 50 40.6**	**-3.3**
CPBX	**Cerro Prieto**	**2.06**	**334**		**Pn**	**06 50 42.1**	**-1.8**
CPBX	**Cerro Prieto**	**2.06**	**334**	*e*P	**Pn**	**06 50 43.9**	**0.0**
CPBX				⇑*e*		06 51 56.2	
CPBX				IAML		06 51 56.2	
	comp=E,16μm,1.2s						
113A	**Mohawk Valley,**	**2.23**	**10**	Pn	**Pn**	**06 50 44.9**	**-1.4**
CCX	**Cicese**	**2.45**	**303**		**Pn**	**06 50 47.7**	**-1.5**
GLA	**Glamis**	**2.53**	**349**	P	**Pn**	**06 50 48.8**	**-1.7**
	baz=168,SNR=18						
GLA	**Glamis**	**2.53**	**349**		**Pn**	**06 50 48.5**	**-1.9**
RMX	**La Rumorosa**	**2.56**	**323**		**Pn**	**06 50 47.9**	**-3.2**
IKP	**In-Ko-Pah, Jac**	**2.62**	**323**	P	**Pn**	**06 50 49.5**	**-2.2**
	baz=142,SNR=15						
SWSC	**Sam W. Stewart**	**2.72**	**331**	P	**Pn**	**06 50 50.7**	**-2.2**
	baz=150,SNR=11						
TJIG	**Tijuana**	**2.79**	**313**	*e*P	**Pn**	**06 50 52.4**	**-1.6**
TJIG				*i* S	**Sn**	**06 51 25.7**	**-2.0**
TKX	**Tecate**	**2.84**	**315**		**Pn**	**06 50 52.6**	**-2.0**
BAR	**Barrett**	**2.96**	**316**	Pn	**Pn**	**06 50 54.6**	**-1.7**
MONP2	**Monument Peak**	**2.97**	**322**	P	**Pn**	**06 50 54.6**	**-2.1**
	baz=140,SNR=13						
TJX	**Tijuana**	**3.08**	**310**	Pn	**Pn**	**06 50 58.1**	**+0.1**
BC3	**Big Chuckawall**	**3.25**	**342**	P	**Pn**	**06 50 59.1**	**-1.3**
	baz=161,SNR=18						
HSIG		**3.25**	**117**	*i* P	**Pn**	**06 50 57.2**	**-3.1**
HSIG				*i* S	**Sn**	**06 51 34.8**	**-4.3**
HSIG		**3.25**	**117**	Pn	**Pn**	**06 50 58.1**	**-2.2**
HSIG		**3.25**	**117**	*e*P	**Pn**	**06 50 59.1**	**-1.2**
109C	**Camp Elliot, M**	**3.36**	**314**	P	**Pn**	**06 51 00.3**	**-1.5**
	baz=132,SNR=18						
109C				Sb	**Sg**	**06 51 53.1**	**-4.2**
	baz=132						
109C	**Camp Elliot, M**	**3.36**	**314**	Pn	**Pn**	**06 51 00.6**	**-1.3**
TUC	**Tucson**	**3.43**	**59**	P	**Pn**	**06 51 01.2**	**-1.6**
	baz=241						
TUC	**Tucson**	**3.43**	**59**	*i* P	**Pn**	**06 51 01.2**	**-1.6**
TUC	**Tucson**	**3.43**	**59**	Pn	**Pn**	**06 51 00.9**	**-1.9**
Y14A	**Wickenburg**	**3.52**	**17**		**Pn**	**06 51 03.3**	**-0.8**
PFO	**Pinyon Flats O**	**3.57**	**329**	Pn	**Pn**	**06 51 03.9**	**-1.0**
	comp=E,3.0nm,0.3s,baz=150,slow=13,SNR=46						
PFO				Pg	**Pg**	**06 51 16.1**	**-1.6**
	comp=E,7.4nm,0.3s,baz=149,slow=17,SNR=17						
PFO				Lg	Lg	06 52 05.5	
	comp=E,55nm,0.3s,baz=229,slow=19,SNR=8.9						
PFO				LR	LR	06 52 35.5	
	comp=E,6μm,21.3s,baz=162,slow=39						
PFO	**Pinyon Flats O**	**3.57**	**329**	P	**Pn**	**06 51 02.7**	**-2.1**
	baz=147,SNR=21						
PFO	**Pinyon Flats O**	**3.57**	**329**	Pn	**Pn**	**06 51 03.3**	**-1.5**
IRM	**Iron Mountain**	**3.66**	**348**	P	**Pn**	**06 51 05.1**	**-0.9**
	baz=168,SNR=20						
SRIG	**Santa Rosalia**	**3.68**	**151**	*i* P	**Pn**	**06 51 03.4**	**-2.7**
SRIG				*i* S	**Sn**	**06 51 44.9**	**-4.7**
SRIG	**Santa Rosalia**	**3.68**	**151**		**Pn**	**06 51 06.2**	**0.0**
PDMCI	**Parker Dam,Lak**	**3.73**	**1**	P	**Pn**	**06 51 05.7**	**-1.1**
	baz=181,SNR=37						
BELC	**Belle Mtn. Jos**	**3.73**	**337**	P	**Pn**	**06 51 05.9**	**-1.2**
	baz=156						
MURC	**Murrieta**	**3.93**	**321**	P	**Pn**	**06 51 08.3**	**-1.3**
	baz=139						
MURC				Sb	**Sb**	**06 52 10.1**	**+3.8**
	baz=139						
GUYB	**Guaymas**	**3.97**	**131**	*e*P	**Pn**	**06 51 06.8**	**-3.3**
GUYB				*i* S	**Sn**	**06 51 52.0**	**-4.7**
GUYB	**Guaymas**	**3.97**	**131**	*e*P	**Pn**	**06 51 10.7**	**+0.5**
NZIG	**Nacozari, Sono**	**4.05**	**92**	*i* P	**Pn**	**06 51 09.7**	**-1.8**
NZIG				*i* S	**Sn**	**06 51 54.6**	**-4.5**
BBRC	**Big Bear Solar**	**4.33**	**329**	P	**Pn**	**06 51 14.4**	**-0.8**
	baz=148						
GMRC	**Granite Mounta**	**4.37**	**345**	P	**Pn**	**06 51 14.4**	**-1.5**
	baz=164,SNR=12						
X16A	**Lo Mia Camp, P**	**4.51**	**31**		**Pn**	**06 51 17.3**	**-0.5**
W13A	**Hualapai Mount**	**4.53**	**4**	Pn	**Pn**	**06 51 18.2**	**+0.1**
BFSC	**Mount Baldy Ra**	**4.67**	**323**	P	**Pn**	**06 51 19.6**	**-0.3**
	baz=141						
BFSC				Sb	**Sb**	**06 52 31.3**	**+3.8**
	baz=141						
MWC	**Mount Wilson**	**4.87**	**320**	Pn	**Pn**	**06 51 21.8**	**-0.9**
PASC	**Pasadena Art C**	**4.90**	**318**	Pn	**Pn**	**06 51 21.7**	**-1.3**
GSC	**Goldstone, Bar**	**5.19**	**336**	P	**Pn**	**06 51 25.0**	**-2.0**
	baz=155						
GSC	**Goldstone, Bar**	**5.19**	**336**	Pn	**Pn**	**06 51 25.9**	**-1.1**
EDW2	**Edwards Air Fo**	**5.34**	**325**	P	**Pn**	**06 51 26.9**	**-2.2**
	baz=143						
CGIG		**5.41**	**91**	*i* P	**Pn**	**06 51 28.8**	**-1.4**
CGIG				*i* S	**Sn**	**06 52 28.7**	**-4.0**
WUAZ	**Wupatki**	**5.49**	**25**	P	**Pn**	**06 51 32.0**	**+0.7**
	baz=207,SNR=36						
WUAZ	**Wupatki**	**5.49**	**25**	Pn	**Pn**	**06 51 31.9**	**+0

121A Cookes Peak, D 5.85 69 Pn Pn 06 51 36.0 -0.2
W18A Petrified Fore 5.92 39 P Pn 06 51 37.5 +0.4
baz=221,SNR=39
W18A Petrified Fore 5.92 39 Pn Pn 06 51 37.6 +0.5
SHPR Sheep Range 5.97 353 Pn 06 51 37.9 0.0
U15A North Rim 6.07 15 Pn 06 51 40.8 +1.5
MPMC Manual Prospec 6.11 334 P Pn 06 51 38.0 -1.9
baz=153
ISA Isabella, Lake 6.20 326 P Pn 06 51 38.7 -2.1
baz=144
ISA Sb Sb 06 53 15.5 +4.0
baz=144
ISA Isabella, Lake 6.20 326 Pn Pn 06 51 40.5 -0.4
FURC Furnace Creek, 6.28 340 P Pn 06 51 41.5 -0.3
baz=159
PKM Mcpherson Peak 6.37 314 P Pn 06 51 42.9 -0.5
baz=131
LCMT Little Creek M 6.48 7 Pn 06 51 45.8 +0.9
KNB Kanab 6.54 10 Pn Pn 06 51 47.4 +1.7
TPNV Topopah Spring 6.58 346 P Pn 06 51 47.0 +0.8
baz=165
TPNV Topopah Spring 6.58 346 Pn 06 51 46.6 +0.3
VES Vestal, Richgr 6.64 324 P Pn 06 51 45.8 -1.0
baz=141
CWC Cottonwood Cre 6.68 332 P Pn 06 51 47.4 -0.2
baz=150
PRN Pahroc Range 6.86 355 Pn 06 51 51.9 +2.0
GRAC Grapevine Rang 6.92 339 P Pn 06 51 51.6 +0.8
baz=157
CCUT Cedar City 7.01 6 Pn 06 51 53.2 +1.1
PKCU Pink Cliffs 7.05 13 Pn 06 51 55.6 +2.8
SZCU Shurtz Canyon 7.08 7 Pn Pn 06 51 55.0 +2.0
LENM Lemitar 7.12 58 Pn 06 51 50.7 -2.9
PAGB Antelope Grade 7.20 317 Pn Pn 06 51 55.0 +0.4
LPIG La Paz 7.33 151 LR LR 06 54 36.7
comp=E,3µm,20.8s,baz=332,slow=38
BNM Barren Site 7.37 59 Pn 06 51 56.8 -0.3
MTPU Mount Pierson 7.65 12 Pn Pn 06 52 02.4 +1.3
MNTX Cornudas Mount 7.68 79 P Pn 06 52 00.9 -0.3
baz=264,SNR=19
MNTX Cornudas Mount 7.68 79 Pn 06 52 00.8 -0.3
R11A Troy Canyon, C 7.84 352 P Pn 06 52 03.8 +0.2
baz=172,SNR=8.1
R11A Troy Canyon, C 7.84 352 Pn Pn 06 52 06.0 +2.4
PMPB Monarch Peak 7.86 318 Pn Pn 06 52 05.0 +1.3
ANMO Albuquerque 7.88 54 P Pn 06 52 04.7 +0.7
baz=239
ANMO Albuquerque 7.88 54 Pn Pn 06 52 03.4 -0.6
PSUT Pine Spring 7.96 2 Pn Pn 06 52 06.4 +1.3
OMMB Old Mammoth Mi 8.06 332 Pn Pn 06 52 04.8 -1.8
MVU Marysvale 8.10 11 Pn Pn 06 52 05.4 -1.6
MDPB Devils Postpil 8.11 332 Pn Pn 06 52 07.6 +0.3
MVCO Mesa Verde 8.17 34 P Pn 06 52 08.4 +0.4
baz=218,SNR=24
MVCO Mesa Verde 8.17 34 Pn Pn 06 52 09.7 +1.6
LHV Little Huntoon 8.44 337 Pn Pn 06 52 12.9 +1.5
NVAR Mina Array Bea 8.53 338 Pn Pn 06 52 16.8 +3.8
comp=E,0.2nm,0.3s,baz=164,slow=13,SNR=22
NVAR Lg Lg 06 54 44.4
baz=199,slow=19,SNR=1.3
GDL2 Guadalupe Moun 8.60 77 Pn Pn 06 52 13.8 -0.1
SAO San Andreas Ge 8.62 318 Pn Pn 06 52 13.9 0.0
PV05 Paradox Valley 8.62 28 Pn Pn 06 52 14.5 +0.3
Q16A Castle Valley 8.71 16 Pn Pn 06 52 16.0 +0.6
RYN Ryan 8.78 337 Pn Pn 06 52 18.4 +2.0
PV13 Radium Mtn., P 8.80 29 Pn 06 52 18.8 +2.1
PV19 Morning Glory 8.86 28 Pn Pn 06 52 16.0 -1.6
PV03 Paradox Valley 8.87 29 Pn 06 52 19.1 +1.5
PV02 Paradox Valley 8.88 29 Pn 06 52 17.7 -0.1
PV01 Paradox Valley 8.89 30 Pn 06 52 18.7 +0.8
PV10 Paradox Valley 8.90 27 Pn Pn 06 52 17.5 -0.6
PV14 Lion Creek, Pa 8.90 28 Pn 06 52 19.5 +1.4
PV12 Saucer Basin, 8.94 29 Pn Pn 06 52 20.0 +1.4
WAKR Walker 9.00 333 Pn Pn 06 52 21.8 +2.3
CMB Columbia Colle 9.02 327 Pn Pn 06 52 19.4 -0.1
KVN Kaiserville 9.04 341 Pn Pn 06 52 20.7 +0.7
SRU San Rafael Swe 9.06 19 Pn 06 52 20.0 -0.2
TMUT Trail Mountain 9.06 15 Pn 06 52 21.5 +1.2
PV21 Cone Mtn., Par 9.08 27 Pn 06 52 22.2 +1.6
PV15 Paradox Valley 9.10 30 Pn 06 52 19.7 -1.1
PV07 Paradox Valley 9.11 29 Pn 06 52 24.0 +3.0
PV22 Blue Mesa, Par 9.13 28 Pn 06 52 24.8 +3.6
TX31 Lajitas Ar. Si 9.26 95 Pn 06 52 22.8 -0.1
TX32 Lajitas Array 9.26 95 Pn 06 52 23.4 +0.5
TXAR Lajitas Array 9.26 95 Pn Pn 06 52 22.4 -0.5
comp=E,0.5nm,0.3s,baz=262,slow=15,SNR=23
TXAR Sn Sn 06 54 04.1 -3.1
comp=E,0.2nm,0.3s,baz=306,slow=26,SNR=1.0
TXAR Lg Lg 06 54 55.3
comp=E,0.4nm,0.3s,baz=275,slow=32,SNR=2.6
TXAR Lajitas Array 9.26 95 Pn 06 52 22.9 0.0
P17A Butcher Ranch, 9.34 17 Pn 06 52 22.9 -1.2
S22A 4UR Ranch, Cre 9.43 39 P Pn 06 52 25.0 -0.5
baz=223
S22A 4UR Ranch, Cre 9.43 39 Pn Pn 06 52 26.7 +1.2
PNTR Pine Nut 9.57 334 Pn Pn 06 52 27.3 0.0
PAHR Pah Rah Range 10.04 337 Pn Pn 06 52 33.1 -0.6
SDCO Great Sand Dun 10.18 43 P Pn 06 52 36.5 +0.8
baz=228,SNR=10.0
SDCO Great Sand Dun 10.18 43 Pn 06 52 37.1 +1.4
ELK Elko 10.19 356 Pn 06 52 35.9 +0.1
MSTX Muleshoe 10.29 68 P Pn 06 52 35.2 -1.8
baz=254,SNR=10
MSTX Muleshoe 10.29 68 Pn 06 52 38.3 +1.3
CTU Camp Tracy 10.31 11 Pn Pn 06 52 38.2 +0.9
BGU Big Grassy Mou 10.38 5 Pn Pn 06 52 38.9 +0.5
T25A Trinidad 10.47 49 P Pn 06 52 38.8 -0.9
baz=234,SNR=18
T25A Trinidad 10.47 49 Pn Pn 06 52 42.7 +3.1
RDMU Red Mountain 10.68 20 Pn Pn 06 52 41.9 -0.6
O20A White River Ci 10.73 26 P Pn 06 52 44.1 +1.0
baz=209
O20A White River Ci 10.73 26 Pn Pn 06 52 45.8 +2.6
ORV Oroville 10.76 328 Pn Pn 06 52 44.7 +1.4
TCUT Toone Canyon 10.78 12 Pn Pn 06 52 42.9 -1.0
GDXM Geysers 10.82 322 Pn Pn 06 52 44.2 0.0
SPUT South Promonto 10.82 7 Pn Pn 06 52 44.8 +0.5
HWUT Hardware Ranch 11.23 10 Pn 06 52 51.2 +1.3
AMTX Amarillo 11.42 65 P Pn 06 52 53.1 +0.5
baz=252
AMTX Amarillo 11.42 65 Pn 06 52 53.0 +0.5
ISCO Idaho Springs 11.60 35 P Pn 06 52 53.5 -1.7
baz=220,SNR=5.6
ISCO Idaho Springs 11.60 35 Pn 06 52 57.3 +2.1
KCPM Cahto Peak 11.88 323 Pn 06 52 57.1 -1.7
N23A Red Feather La 12.31 31 P Pn 06 53 04.2 -0.6
baz=216
N23A Red Feather La 12.31 31 Pn Pn 06 53 03.6 -1.2
MOD Modoc Plateau 12.32 338 Pn Pn 06 53 08.2 +3.3
KMRM Mail Ridge 12.34 324 Pn Pn 06 53 07.4 +2.4
WVOR Wild Horse Val 12.36 345 Pn 06 53 06.7 +1.3
AHID Auburn Hatcher 12.43 11 Pn 06 53 06.1 -0.3
JCT Junction City 12.45 87 P Pn 06 53 05.4 -1.2
baz=274
JCT Junction City 12.45 87 Pn Pn 06 53 04.3 -2.3
RWWY Rawlins 12.46 25 Pn Pn 06 53 07.1 +0.2
ABTX Abilene, Hawle 12.62 77 P Pn 06 53 08.7 -0.1
baz=265
ABTX Abilene, Hawle 12.62 77 Pn 06 53 08.2 -0.6
KSCO Kaye Shedlock' 12.72 45 P Pn 06 53 11.4 +1.0
baz=232
KSCO Kaye Shedlock' 12.72 45 Pn 06 53 10.4 +0.1
BW06 Boulder Array 12.74 16 P Pn 06 53 12.2 +1.5
baz=199
BW06 Boulder Array 12.74 16 Pn 06 53 11.5 +0.9
PD31 Pinedale Array 12.74 16 Pn Pn 06 53 10.7 +0.1
PDAR Pinedale Array 12.74 16 Pn Pn 06 53 12.1 +1.4
comp=E,0.1nm,0.3s,baz=176,slow=13,SNR=3.1
PDAR Lg Lg 06 56 51.7
comp=E,0.0nm,0.3s,baz=172,slow=22,SNR=1.5
PDAR Pinedale Array 12.74 16 Pn 06 53 10.3 -0.4
KHMM Horse Mountain 12.84 326 Pn Pn 06 53 09.2 -2.8
M02C Callahan 12.85 330 P Pn 06 53 12.0 0.0
baz=144,SNR=6.5
MFID Camas Ranch 12.89 355 Pn Pn 06 53 11.4 -1.1
HLID Hailey 12.97 359 P Pn 06 53 15.3 +1.5
baz=179,SNR=10
HLID Hailey 12.97 359 Pn Pn 06 53 16.6 +2.8
ZAIG Zacatecas 13.00 124 Pn 06 53 16.3 +1.9
REDW Red Top Meadow 13.06 11 Pn 06 53 18.8 +3.9
YBH Yreka Blue Hor 13.07 331 Pn P 06 53 20.3 -5.1
comp=E,0.0nm,0.3s,baz=162,slow=11,SNR=11
YBH Lg Lg 06 57 03.6
comp=E,0.1nm,0.3s,baz=114,slow=18,SNR=1.1
YBH LR LR 06 58 17.2
comp=E,770nm,19.3s,baz=156,slow=37
YBH Yreka Blue Hor 13.07 331 Pn 06 53 18.2 +3.2
833A Chaparral WMA, 13.13 96 Pn Pn 06 53 14.1 -1.8
TPAW Teton Pass 13.16 11 Pn 06 53 17.9 +1.4
SNOW Snow King Moun 13.17 11 Pn 06 53 18.9 +2.3
J08A Circle Bar Ran 13.21 346 Pn Pn 06 53 16.6 -0.3
K05A Summer Lake 13.25 338 Pn Pn 06 53 19.7 +2.1
FXWY Fox Creek 13.30 10 Pn 06 53 15.2 -3.1
L04D Klamath Falls 13.31 333 P Pn 06 53 17.0 -1.3
baz=148,SNR=5.8
LOHW Long Hollow 13.34 12 Pn 06 53 17.0 -1.8
K22A Casper 13.55 25 P Pn 06 53 21.9 +0.3
baz=210,SNR=7.7
K22A Casper 13.55 25 Pn 06 53 22.2 +0.6
IMW Indian Meadow 13.56 10 Pn Pn 06 53 24.0 +2.1
WMOK Wichita Mounta 13.68 68 P Pn 06 53 22.5 -0.7
baz=257
WMOK Wichita Mounta 13.68 68 Pn Pn 06 53 23.9 +0.7
FLWY Flagg Ranch 13.78 11 Pn 06 53 28.6 +3.8
J05D Fort Rock, OR 13.86 338 P Pn 06 53 26.2 +0.3
baz=154,SNR=20
HUMO Hull Mountain 13.90 332 Pn Pn 06 53 25.4 -0.9
YPP Pitchstone Pla 13.95 10 Pn Pn 06 53 29.1 +1.8
H17A Grant Village 14.11 11 P Pn 06 53 28.8 -0.5
baz=193
H17A Grant Village 14.11 11 P P 06 53 35.5 -1.6
J04D Umpqua Nationa 14.12 336 P Pn 06 53 27.4 -2.0
baz=151
I07A Izee 14.12 344 Pn Pn 06 53 30.0 +0.6
PINE Pine Mountain 14.23 340 P 06 53 36.5 -2.0
K02D Willamette Mer 14.26 331 P Pn 06 53 30.3 -1.0
baz=145,SNR=5.8
MCMT McKenzie Canyo 14.28 4 P P 06 53 37.1 -1.9
YMR Madison River 14.31 10 P 06 53 37.2 -2.2
435B Jarrell 14.34 85 Pn Pn 06 53 34.5 +2.1
YHB Horse Butte 14.36 9 P P 06 53 38.0 -2.0
X34A Smith Ranch, M 14.41 69 Pn Pn 06 53 33.8 +0.5
WHTX Lake Whitney, 14.43 80 P Pn 06 53 30.7 -2.9
baz=269,SNR=11
WHTX Lake Whitney, 14.43 80 Pn 06 53 32.5 -1.0
YMP Mirror Lake Pl 14.51 12 P P 06 53 40.5 -1.2
KEBM Edson Butte 14.69 329 P P 06 53 42.4 -1.0
I04A Tendick Farm, 14.71 336 P Pn 06 53 34.7 -2.7
baz=151
I05D Terrebonne, OR 14.85 340 P Pn 06 53 37.4 -1.9
baz=156,SNR=16
R32A Long Quarter, 15.00 54 IAmb IAmb 06 53 53.6
comp=Z,19nm,0.9s
OK025 Westminster Rd 15.03 66 P P 06 53 47.2 +0.1
OK025 IAmb IAmb 06 53 54.7
comp=Z,44nm,1.1s
RLMT Red Lodge 15.05 14 P Pn 06 53 42.4 +0.3
baz=197
RLMT Red Lodge 15.05 14 P 06 53 45.8 -1.8
BOZ Bozeman (W) 15.15 7 P Pn 06 53 44.0 +0.6
baz=189,SNR=10
BOZ Bozeman (W) 15.15 7 IAmb IAmb 06 53 54.4
comp=Z,50nm,1.8s
LRM Limekiln Ridge 15.30 5 P 06 53 49.1 -1.2
H04A Detroit Lake 15.42 338 P 06 53 50.8 -0.7
H04A IAmb IAmb 06 54 10.9
comp=Z,43nm,1.3s
F10A Beach Ranch, E 15.56 352 P P 06 53 52.3 -0.7
GCMT Greycliff 15.62 12 P P 06 53 53.5 -0.2
G05D Wamic, OR 15.67 341 P Pn 06 53 50.2 +0.2
baz=157,SNR=13
QUOK Quay 15.68 64 P P 06 53 52.6 -1.6
RSSD Black Hills 15.76 28 P Pn 06 53 50.4 -1.1
baz=214
RSSD Black Hills 15.76 28 P P 06 53 53.5 -2.0
237A Washetta, Mont 15.83 80 P P 06 53 54.3 -1.7
237A IAmb IAmb 06 54 10.6
comp=Z,67nm,1.4s
HKT Hockley 15.92 88 Pn Pn 06 53 52.4 -1.0
F07A Phinny Hill Vi 15.94 345 Pn Pn 06 53 53.1 -0.4
F07A IAmb IAmb 06 54 01.9
comp=Z,155nm,2.0s
T35A Sooner Cattle 16.04 62 Pn Pn 06 53 54.8 -0.1
HRY Holter Researc 16.23 6 Pn Pn 06 53 57.0 -0.4
MSO Missoula 16.24 1 P Pn 06 53 55.8 -1.8
baz=181,SNR=14
MSO Missoula 16.24 1 Pn Pn 06 53 57.9 +0.4
F05D White Salmon 16.30 342 P Pn 06 53 58.6 +0.5
baz=157
TUL1 Leonard 16.33 66 P Pn 06 53 57.8 -0.7
baz=256,SNR=5.3
TUL1 Leonard 16.33 66 Pn Pn 06 53 58.0 -0.5
HAWA Hanford 16.33 347 IAmb IAmb 06 54 22.8
comp=Z,92nm,1.9s
X37A Clayton 16.40 71 Pn Pn 06 53 58.5 -1.0
E07A Sunnyside 16.55 346 Pn 06 54 00.6 -0.8
E07A IAmb IAmb 06 54 07.6
comp=Z,161nm,2.0s
Z38A Mt. Pleasant 16.57 76 Pn 06 54 01.0 -0.7
Z38A IAmb IAmb 06 54 09.2
comp=Z,74nm,1.2s
F04A Amboy 16.62 340 Pn Pn 06 54 00.5 -1.7
KSU1 Kansas State U 16.78 55 P Pn 06 54 04.5 +0.2
baz=245,SNR=6.0
NATX Nacogdoches 16.81 81 IAmb IAmb 06 54 16.9
comp=Z,55nm,1.2s
F03A Seaside 16.98 337 IAmb IAmb 06 54 25.2
comp=Z,56nm,1.1s
E04D Cinebar 17.23 340 P Pn 06 54 08.8 -1.0
baz=155,SNR=6.3
LAO LASA Array 17.26 19 P Pn 06 54 10.3 -0.1
baz=204,SNR=16
K31A O'Neill 17.27 42 IAmb IAmb 06 54 20.7
comp=Z,74nm,1.1s
D05A Enumclaw 17.64 342 P P 06 54 15.5 -0.5
EGMT Eagleton 17.77 10 P Pn 06 54 16.5 -0.3
baz=193,SNR=10
EGMT Eagleton 17.77 10 IAmb IAmb 06 54 22.1
comp=Z,90nm,1.6s
W39A Magazine 17.79 70 P Pn 06 54 15.4 -1.5
baz=261
NEW Newport 17.81 354 P P 06 54 20.4 +2.5
comp=Z,0.1nm,0.3s,baz=176,slow=12,SNR=13
NEW Lg Lg 06 59 28.8
baz=95,slow=19,SNR=1.5
NEW LR LR 07 01 29.0
comp=Z,671nm,18.8s,baz=178,slow=38
NEW Newport 17.81 354 P Pn 06 54 17.2 0.0
baz=172,SNR=9.5
D04E Lakebay 17.85 341 P Pn 06 54 16.9 -0.7
baz=155
MIAR Mount Ida 17.86 72 P Pn 06 54 17.0 -0.9
baz=263
D03D Eldon 18.26 341 P Pn 06 54 21.4 -1.3
baz=155
Z41A Richland Creek 18.40 76 P P 06 54 21.8 -2.6
baz=268
X40A Basin Creek Fa 18.47 72 P P 06 54 24.4 -0.8
baz=264
X40A Basin Creek Fa 18.47 72 P P 06 54 25.0 -0.2
B05A Bryant 18.67 343 P P 06 54 26.1 -1.2
baz=158
S39A Bolivar 18.70 62 P P 06 54 26.2 -1.5
U40A Yellville 18.74 66 P Pn 06 54 28.9 +0.3
baz=258,SNR=7.9
U40A Yellville 18.74 66 P P 06 54 27.7 -0.6
342A Flagon Creek P 18.81 82 P 06 54 27.1 -1.9
342A IAmb IAmb 06 54 33.9
comp=Z,52nm,1.1s
WHAR Wooly Hollow 19.01 70 P P 06 54 29.6 -1.6
WHAR IAmb IAmb 06 55 25.4
comp=Z,54nm,1.5s
W41B Gary Mavity, V 19.03 70 P P 06 54 29.4 -1.9
baz=262
W41B Gary Mavity, V 19.03 70 P Pn 06 54 32.6 +0.5
E28A Huff 19.13 30 P P 06 54 32.3 -0.2
P38A Dawn 19.17 56 P P 06 54 32.0 -0.9
P38A IAmb IAmb 06 55 03.4
comp=Z,55nm,1.6s
ECSD EROS Data Cent 19.19 42 P P 06 54 32.9 -0.2
baz=233,SNR=12
ECSD EROS Data Cent 19.19 42 P P 06 54 33.1 +0.1
DGMT Dagmar 19.46 20 P P 06 54 35.4 -0.6
baz=207,SNR=8.6
R40A Maddies Statio 19.67 61 P P 06 54 38.3 0.0
N38A Joes South For 19.84 53 P P 06 54 41.0 +0.7
N38A IAmb IAmb 06 54 47.2
comp=Z,22nm,0.8s
LCAR Lake Charles 20.04 68 P P 06 54 42.9 +0.4
X43A Marvell 20.07 73 P P 06 54 42.3 -0.5
X43A IAmb IAmb 06 54 58.2
comp=Z,52nm,1.4s
344A Westbrook Farm 20.17 81 P P 06 54 44.1 +0.3
P40A Paris 20.21 58 P P 06 54 44.0 -0.3
P40A IAmb IAmb 06 54 51.3
comp=Z,62nm,1.2s
T42A Van Buren 20.27 65 P P 06 54 45.3 +0.5
CCM Cathedral Cave 20.38 62 P P 06 54 45.3 -0.8
baz=255
CCM Cathedral Cave 20.38 62 P Pn 06 54 47.8 -0.4
MDND Maddock 20.59 29 P P 06 54 48.1 -0.2
baz=218
MDND Maddock 20.59 29 P P 06 54 47.6 -0.7
MDND IAmb IAmb 06 54 58.8
comp=Z,44nm,1.1s
F33A 5 Mile Ranch, 20.70 38 P P 06 54 49.6 +0.1
D32A Dogwood Acres, 21.22 34 P P 06 54 56.6 +1.5
346A Big Creek Wild 21.25 81 P P 06 54 54.9 -0.7
PARMO Parma 21.26 67 P P 06 54 55.3 -0.2
PARMO IAmb IAmb 06 55 02.6
comp=Z,28nm,0.7s
I37A Lemond, Waseca 21.26 45 P P 06 54 57.2 +1.7
I37A IAmb IAmb 06 55 02.0
comp=Z,26nm,0.8s
OXF Oxford 21.29 73 P P 06 54 54.6 -1.3
baz=266
N41A Harden Midland 21.48 56 IAmb IAmb 06 55 04.5
comp=Z,43nm,1.1s
L40A Anamosa 21.74 52 IAmb IAmb 06 55 07.5
comp=Z,36nm,1.1s
S44A Carbondale 21.84 64 IAmb IAmb 06 55 08.7
comp=Z,26nm,1.1s
F36A Milaca 22.23 41 P P 06 55 06.1 +0.2
Q44A Meyer Farm, Va 22.29 61 P P 06 55 07.0 +0.4
Q44A IAmb IAmb 06 55 13.4
comp=Z,45nm,1.2s
Z47A Carrollton 22.36 76 P P 06 55 07.3 -0.2
PLAL Pickwick Lake 22.41 72 P P 06 55 06.1 -1.9
PLAL IAmb IAmb 06 55 16.3
comp=Z,66nm,1.8s
HDIL Hopedale 22.55 57 P P 06 55 07.4 -2.0
baz=252
HDIL Hopedale 22.55 57 P P 06 55 09.5 +0.1
AGMN Agassiz Nation 22.60 33 P P 06 55 09.0 -0.9
baz=225
AGMN Agassiz Nation 22.60 33 P P 06 55 07.9 -1.9
WVT Waverly 22.72 69 P P 06 55 10.4 -0.9
baz=264
WVT Waverly 22.72 69 P P 06 55 11.6 +0.3
JFWS Jewell Farm 22.75 51 P P 06 55 09.6 -1.9
baz=245
JFWS Jewell Farm 22.75 51 P P 06 55 12.3 +0.7
JFWS IAmb IAmb 06 55 50.8
comp=Z,31nm,1.1s
L42A Oliver, Polo 22.78 53 IAmb IAmb 06 55 18.2
comp=Z,38nm,1.1s
I40A Norwalk 22.94 48 P P 06 55 14.1 +0.6
I40A IAmb IAmb 06 55 22.2
comp=Z,54nm,1.6s
OLIL Olney 22.95 62 P P 06 55 14.4 +0.8
O44A Mansfield 23.03 58 P P 06 55 14.8 +0.4
X48A Hartselle 23.23 73 P P 06 55 16.7 +0.1
X48A IAmb IAmb 06 55 45.0
comp=Z,42nm,1.6s
LRAL Lakeview Retre 23.27 77 P P 06 55 13.7 -3.2
baz=271
LRAL Lakeview Retre 23.27 77 P P 06 55 17.1 +0.1
LRAL IAmb IAmb 06 55 33.6
comp=Z,39nm,1.6s
T47A Sharon Grove 23.41 67 P P 06 55 19.6 +1.2
B35A Bob, Littlefor 23.68 36 P P 06 55 21.4 +0.5
B35A IAmb IAmb 06 55 36.2
comp=Z,35nm,1.5s
M44A Midewin, Midew 23.71 56 P P 06 55 21.1 -0.2
P46A Rosedale 23.82 60 P P 06 55 22.6 +0.2
P46A IAmb IAmb 06 55 28.5
comp=Z,25nm,1.1s
BBB Bella Bella 23.90 339 P P 06 55 22.2 -0.7
comp=Z,4.9nm,0.8s,baz=143,slow=9.2,SNR=4.2
BBB LR LR 07 04 21.1
comp=Z,1µm,21.9s,baz=164,slow=35
250A Grady 23.93 79 P P 06 55 24.8 +1.3
ULM Lac du Bonnet 24.01 30 P P 06 55 23.7 -0.4
comp=Z,8.4nm,0.8s,baz=224,slow=9.5,SNR=8.2
ULM LR LR 07 04 11.5
comp=Z,156nm,19.2s,baz=229,slow=35
ULM Lac du Bonnet 24.01 30 P P 06 55 24.0 -0.1
L44A Lake County Fo 24.06 54 P P 06 55 25.5 +0.9
SFIN Lafayette 24.10 59 P P 06 55 24.7 -0.3
SFIN IAmb IAmb 06 55 55.8
comp=Z,36nm,1.4s
SWET Sewanee 24.18 71 P P 06 55 25.3 -0.6
SWET IAmb IAmb 06 55 33.1
comp=Z,13nm,0.9s
WCI Wyandotte Cave 24.23 64 P P 06 55 25.7 -0.6
BLO Bloomington 24.24 62 P P 06 55 26.5 +0.2
U49A Red Boiling Sp 24.41 68 P P 06 55 30.1 +2.3
U49A IAmb IAmb 06 56 27.2
comp=Z,31nm,1.6s
FPAL Fort Paine 24.42 73 P P 06 55 28.8 +0.8
FPAL IAmb IAmb 06 55 35.1
comp=Z,21nm,1.1s
EYMN Ely 24.58 39 P P 06 55 29.0 -0.4
baz=233
W50A Signal Mountai 24.69 72 P P 06 55 31.7 +1.2
W50A IAmb IAmb 06 55 38.1
comp=Z,27nm,1.1s
X51A Calhoun 25.04 73 P P 06 55 34.2 +0.6
352A Blakely 25.11 80 P P 06 55 34.9 +0.7
R49A Shelbyville 25.12 64 P P 06 55 35.5 +1.2
R49A IAmb IAmb 06 55 42.8
comp=Z,23nm,1.4s
P48A Milroy 25.13 61 P P 06 55 34.9 +0.5
P48A IAmb IAmb 06 55 42.2
comp=Z,35nm,1.4s
152A Waverly Hall 25.20 78 P P 06 55 35.5 +0.5
152A IAmb IAmb 06 55 42.9
comp=Z,13nm,0.9s
T50A Nancy 25.21 67 P P 06 55 35.0 -0.1
N47A Urbana 25.26 58 P P 06 55 34.3 -1.2
N47A IAmb IAmb 06 55 41.3
comp=Z,19nm,1.1s
TEIG Tepich 25.56 108 LR LR 07 06 51.6
comp=Z,266nm,20.0s,baz=329,slow=40
Y52A Lilburn 25.70 75 P P 06 55 38.3 -1.3
Y52A IAmb IAmb 06 55 47.2
comp=Z,22nm,1.6s
W52A Murphy 25.82 72 P P 06 55 40.6 -0.2
W52A IAmb IAmb 06 55 51.7
comp=Z,20nm,1.4s
TKL Tuckaleechee C 25.96 71 P P 06 55 44.6 +2.6
comp=Z,4.1nm,0.9s,baz=246,slow=8.7,SNR=7.0
TKL Lg Lg 07 03 53.5
comp=Z,0.7nm,0.6s,baz=339,slow=17,SNR=1.7
TKL LR LR 07 06 31.1
comp=Z,2µm,18.5s,baz=266,slow=38
TKL Tuckaleechee C 25.96 71 P P 06 55 41.2 -0.8
TKL IAmb IAmb 06 55 50.7
comp=Z,13nm,1.1s
O49A Covington 26.10 60 P P 06 55 43.1 -0.2
O49A IAmb IAmb 06 55 49.4
comp=Z,17nm,1.0s
APG El Apazote 26.76 120 P P 06 55 54.5 +5.0
comp=Z,5.0nm,1.0s,baz=6.3,slow=18,SNR=2.8
APG LR LR 07 05 55.1
comp=Z,1µm,21.9s,baz=300,slow=36
P51A Williamsport 26.93 62 P P 06 55 48.9 -1.8
P51A IAmb IAmb 06 55 57.3
comp=Z,13nm,0.8s
ACSO Alum Creek Sta 27.13 61 P P 06 55 51.9 -0.6
ACSO IAmb IAmb 06 56 01.9
comp=Z,31nm,1.4s
P52A Corning 27.67 62 P P 06 55 57.1 -0.2
P52A IAmb IAmb 06 56 02.9
comp=Z,14nm,1.1s
P53A Whipple 28.21 63 P P 06 56 03.1 +1.0
P53A IAmb IAmb 06 56 07.8
comp=Z,9.7nm,0.9s
R55A Marlinton 29.06 65 P P 06 56 10.5 +0.7
DLBC Dease Lake 29.90 343 P P 06 56 20.0 +3.0
comp=Z,3.6nm,0.7s,baz=155,slow=6.8,SNR=9.6
DLBC LR LR 07 09 30.9
comp=Z,1µm,18.6s,baz=164,slow=39

M55A Ridgway 30.50 59 P P 06 56 23.8 +1.3
M55A IAmb IAmb 06 56 29.2
comp=Z,13nm,0.9s
M57A Sunshine Farm, 31.69 60 P P 06 56 32.9 -0.1
YKA Yellowknife Ar 31.94 360 LR LR 07 11 09.5
comp=Z,696nm,18.9s,baz=0.0,slow=39
BCAR Beaver Creek A 36.99 340 P P 06 57 20.6 +2.0
KDAK Kodiak Island 37.84 327 P **P 06 57 28.4 +2.5**
comp=Z,8.2nm,0.9s,baz=228,slow=9.7,SNR=1.9
DOT Dot Lake 38.12 339 P P 06 57 27.9 -0.3
EGAK Eagle 38.12 342 P P 06 57 26.9 -1.2
EGAK IAmb IAmb 06 57 32.6
comp=Z,24nm,1.3s
KNK Knik Glacier 38.12 334 P P 06 57 27.9 -0.4
PMR Palmer 38.49 334 P P 06 57 33.9 +2.6
PMR IAmb IAmb 06 57 35.7
comp=Z,17nm,1.0s
HDA Harding Lake 39.56 338 IAmb IAmb 06 57 44.1
comp=Z,29nm,1.7s
SKT Skwentna 39.64 333 IAmb IAmb 06 57 45.0
comp=Z,18nm,1.2s
IL31 39.79 339 P P 06 57 40.8 -1.2
IL31 IAmb IAmb 06 57 46.2
comp=Z,15nm,0.9s
ILAR Eielson Array 39.79 339 P P 06 57 44.4 +2.3
comp=Z,7.2nm,0.7s,baz=151,slow=7.4,SNR=64
ILAR Eielson Array 39.79 339 P P 06 57 42.5 +0.4
WRH Wood River Hil 39.97 338 P P 06 57 43.2 -0.4
WRH IAmb IAmb 06 57 48.3
comp=Z,21nm,1.4s
CCB Clear Creek Bu 39.99 338 P P 06 57 43.9 +0.2
CCB IAmb IAmb 06 57 47.3
comp=Z,22nm,1.7s
COLA College 40.16 339 P P 06 57 47.0 +1.9
COLA IAmb IAmb 06 57 50.0
comp=Z,24nm,1.2s
KTH Kantishna Hill 40.34 336 IAmb IAmb 06 57 51.1
comp=Z,17nm,1.0s
NEA2 Nenana 40.37 338 P P 06 57 45.9 -0.9
baz=130,SNR=6.2
PPLA Purkeypile 40.42 334 P P 06 57 47.5 0.0
BPAW Bear Paw Mtn. 40.70 336 P P 06 57 52.1 +2.5
BMAR Burnt Mountain 41.05 343 P P 06 57 54.8 +2.3
SCHQ Schefferville 41.37 40 P P 06 57 58.4 +3.1
comp=Z,8.2nm,1.1s,baz=270,slow=15,SNR=3.4
SCHQ LR LR 07 13 53.6
comp=Z,368nm,19.4s,baz=213,slow=34
SCHQ Schefferville 41.37 40 IAmb IAmb 06 59 23.5
comp=Z,22nm,1.4s
TTA Tatalina 41.91 333 P P 06 58 01.1 +1.5
TTA IAmb IAmb 06 58 03.2
comp=Z,24nm,1.4s
COLD Coldfoot 42.45 340 P P 06 58 03.2 -0.7
baz=131,SNR=6.0
COLD Coldfoot 42.45 340 P P 06 58 07.0 +3.1
COLD IAmb IAmb 06 58 08.7
comp=Z,14nm,1.0s
SDV Santo Domingo 45.99 109 LR LR 07 18 50.6
comp=Z,253nm,21.8s,baz=319,slow=38
SDV Santo Domingo 45.99 109 P P 06 58 32.6 -0.6
TAOE Nuku Hiva Isla 46.42 217 *e*LR LR 07 11 36.4
comp=Z,397nm,25.4s
RDOG Red Dog Mine 46.92 337 P P 06 58 40.8 +1.2
ATAH Atahualpa 50.85 131 LR LR 07 18 11.5
comp=Z,196nm,20.0s,baz=311,slow=33
NNA Nana 55.53 134 LR LR 07 19 20.2
comp=Z,159nm,20.3s,baz=296,slow=32
PPT Papeete 58.70 220 LR LR 07 20 34.3
comp=Z,153nm,18.6s,baz=20,slow=31
PPT2 Papeete2 58.72 220 *e*S **S 07 08 11.7 -0.8**
comp=Z,63nm,27.0s
PPT2 *e*LR LR 07 17 17.4
comp=Z,346nm,24.5s,baz=27
PTGA Pitinga 60.19 111 P P 07 00 17.8 +0.1
SAML Samuel 62.78 120 P P 07 00 35.5 +0.4
TBI Tubuai 63.37 216 *e*LR LR 07 19 30.8
comp=Z,178nm,25.8s,baz=31
LPAZ La Paz 64.33 130 P P 07 00 46.4 +0.3
comp=Z,0.5nm,0.5s,baz=299,slow=10,SNR=2.4
LPAZ LR LR 07 27 43.4
comp=Z,193nm,19.3s,baz=318,slow=35
LPAZ La Paz 64.33 130 IAmb IAmb 07 00 47.0
comp=Z,16nm,1.9s
SEY Seymchan 64.74 330 P P 07 00 48.4 +1.0
comp=Z,2.4nm,0.9s,baz=31,slow=4.3,SNR=5.2
PETK Petropavlovsk- 65.08 318 P P 07 00 51.1 +1.3
comp=Z,2.9nm,0.8s,baz=74,slow=13,SNR=5.5
PETK LR LR 07 26 05.4
comp=Z,107nm,20.2s,baz=80,slow=33
PB11 IPOC Station P 65.89 134 P P 07 00 56.5 +0.9
RAR Rarotonga 67.56 226 LR LR 07 23 40.7
comp=Z,129nm,20.2s,baz=32,slow=30
AFI Afiamalu 70.81 240 LR LR 07 24 13.8
comp=Z,255nm,19.8s,baz=72,slow=29
ARCES ARCESS Array B 75.99 14 P P 07 01 57.4 +1.3
comp=Z,9.3nm,0.8s,baz=335,slow=4.0,SNR=7.3
ARCES ARCESS Array B 75.99 14 P P 07 01 57.5 +1.4
BDFB Brasilia 78.50 116 P P 07 02 11.9 +0.8
comp=Z,4.8nm,0.9s,baz=264,slow=6.5,SNR=5.3
BDFB LR LR 07 39 38.0
comp=Z,169nm,19.4s,baz=307,slow=38
BDFB Brasilia 78.50 116 P P 07 02 11.2 +0.1
CPUP Villa Florida 78.50 130 P P 07 02 11.2 +0.5
comp=Z,8.1nm,0.9s,baz=324,slow=5.6,SNR=4.8
CPUP LR LR 07 36 49.5
comp=Z,113nm,19.2s,baz=340,slow=36
CPUP Villa Florida 78.50 130 P P 07 02 11.7 +0.9
CPUP IAmb IAmb 07 02 15.8
comp=Z,9.0nm,1.0s
NB2 NORSAR Subarra 78.55 24 P P 07 02 11.6 +0.9
comp=Z,29nm,1.7s,baz=311,slow=5.9
NB2 NORSAR Subarra 78.55 24 P P 07 02 11.6 +0.9
baz=311,slow=5.9
NOA NORSAR Array B 78.55 24 P P 07 02 11.9 +1.2
comp=Z,1.8nm,0.8s,baz=312,slow=5.4,SNR=5.4
NRIK Noril'sk 79.12 352 P P 07 02 15.3 +1.8
comp=Z,2.6nm,0.6s,baz=7.4,slow=6.9,SNR=2.4
PLCA Paso Flores 81.66 148 P P 07 02 28.5 +0.9
comp=Z,2.2nm,1.0s,baz=307,slow=5.1,SNR=2.9
PLCA LR LR 07 31 27.8
comp=Z,270nm,18.5s,baz=342,slow=30
PLCA Paso Flores 81.66 148 P P 07 02 28.4 +0.9
FINES FINESS Array B 82.83 18 P P 07 02 35.0 +1.5
comp=Z,8.2nm,0.7s,baz=357,slow=3.8,SNR=17
FINES LR LR 07 39 24.7
comp=Z,100nm,18.9s,baz=8.5,slow=36
FINES FINESS Array B 82.83 18 P P 07 02 34.9 +1.5
ESDC Sonseca Array 84.78 47 P P 07 02 45.2 +1.2
comp=Z,2.2nm,0.8s,baz=305,slow=5.4,SNR=10.0
ESDC Sonseca Array 84.78 47 P P 07 02 44.7 +0.7
MJAR Matsushiro Arr 84.81 310 P P 07 02 44.5 +0.3
comp=Z,1.6nm,0.6s,baz=28,slow=4.5,SNR=5.5
MJAR LR LR 07 34 01.3
comp=Z,212nm,21.1s,baz=85,slow=31
MJAR Matsushiro Arr 84.81 310 P P 07 02 43.7 -0.4
CLL Collm 86.20 30 *e*(P) **P 07 02 55.0 +4.2**
CLL Lm MLR 07 45 00.0
comp=Z,200nm,20.3s
KSRS Korea Array 90.81 315 LR LR 07 42 47.6
comp=Z,84nm,18.4s,baz=68,slow=35
AKASG Malin Array Be 92.88 22 P P 07 03 23.6 +1.4
comp=Z,0.3nm,0.4s,baz=320,slow=3.6,SNR=5.1
AKASG Malin Array Be 92.88 22 P P 07 03 22.8 +0.5
SONM Songino Array 93.85 334 P P 07 03 30.6 +3.6
comp=Z,0.3nm,0.3s,baz=46,slow=6.4,SNR=4.0
SONM LR LR 07 45 39.5
comp=Z,151nm,20.6s,baz=39,slow=35
ZALV Zalesovo Beam 94.23 349 LR LR 07 52 07.0
comp=Z,62nm,19.4s,baz=37,slow=39
HHC Hu-ho-hao-te 97.26 327 *e*P **P 07 03 41.8 -0.9**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,150nm,8.1s
NJ2 Nanjing 99.94 316 *e*P **Pdif 07 03 53.3 -1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
WRA Warramunga Arr 117.90 262 PKP **PKiKP 07 08 57.1 +0.5**
comp=Z,0.3nm,0.8s,baz=51,slow=2.7,SNR=5.2
WRA Warramunga Arr 117.90 262 PKiKP 07 08 56.9 +0.2
ASAR Alice Springs 119.76 259 PKP **PKPdf 07 08 59.5 -0.7**
comp=Z,0.3nm,0.6s,baz=72,slow=2.0,SNR=5.1
ASAR Alice Springs 119.76 259 PKiKP 07 08 59.9 -0.3
CMAR Chiang Mai Arr 121.73 322 PKP **PKPdf 07 09 03.0 -1.1**
comp=Z,1.5nm,0.4s,baz=303,slow=2.2,SNR=6.4
CMAR Chiang Mai Arr 121.73 322 PKPdf 07 09 01.2 -2.9

VNA3 Neumayer Olymp 123.30 158 P **PKPdf 07 09 04.6 -0.9**
VNA2 Neumayer--Watz 124.06 158 P **PKiKP 07 09 06.7 -0.5**
SNAA Sanae 125.42 159 P **PKiKP 07 09 10.1 +0.1**
MAW Mawson 142.89 178 PKhKP PKPpre 07 09 36.7
comp=Z,1.6nm,0.8s,baz=315,slow=7.5,SNR=5.0
BOSA Boshof 144.86 97 PKP **PKPdf 07 09 46.5 -0.6**
comp=Z,5.2nm,0.9s,baz=172,slow=1.9,SNR=4.7
BOSA Boshof 144.86 97 PKPdf **PKPab 07 09 44.7 -1.4**

OMAN 15 07:02:26.6±1.6, 26°.12N×53°.58E, h13km±12km, mb4.6/2, ml3.1/12, Error ellipse: s-maj=24.2km s-min=16.7km az=295.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAQ	**Al Faqa, Dubai**	**2.28**	**127**	P	Pn	07 03 03.9	0.0
FAQ				S	Sn	07 03 33.1	+1.3
BANOM	**Banah**	**2.45**	**94**	P	Pn	07 03 04.0	-2.4
BANOM	SNR=10			S	Sn	07 03 36.6	+0.3
MDH	**Madha**	**2.58**	**108**	P	Pn	07 03 07.9	-0.2
UOSS	**Minazif**	**2.64**	**116**	P	Pn	07 03 09.3	+0.3
UOSS				S	Sn	07 03 41.9	+1.0
ASHO	**Ashiyiah**	**2.66**	**122**	P	Pn	07 03 08.8	-0.4
ASHO				S	Sn	07 03 42.8	+1.4
SOHO	**SOHO**	**3.33**	**126**	P	Pn	07 03 18.2	-0.2
ARQ	**Araqi**	**3.85**	**135**	P	Pn	07 03 25.6	0.0
HOQ	**Hoqain**	**4.23**	**126**	P	Pn	07 03 30.5	-0.3
HOQ	SNR=5.4			S	Sn	07 04 20.0	0.0
BSY	**Bisya**	**4.71**	**135**	P	Pn	07 03 37.3	-0.1
BSY				S	Sn	07 04 32.7	+0.7
SMDO	**Samad**	**5.08**	**126**	P	Pn	07 03 42.3	-0.3
SMDO				S	Sn	07 04 41.8	+0.6
WSAR	**Wadi Sarin**	**5.42**	**121**	P	Pn	07 03 46.1	-1.0
WSAR				S	Sn	07 04 48.6	-0.8
JMDO	**Jabal Madar**	**5.57**	**131**	P	Pn	07 03 48.3	-0.9
JMDO				S	Sn	07 04 53.0	-0.1
WBK	**Wadi Bani Khal**	**6.03**	**124**	P	Pn	07 03 54.9	-0.7
WBK				S	Sn	07 05 04.3	-0.2
MHTO	**MHTO**	**6.51**	**141**	P	Pn	07 04 02.0	-0.1
DQM	SNR=18 **DQM**	**7.16**	**149**	P	Pn	07 04 11.2	+0.1
	SNR=6.5						

*IDC **15** 07:07:56.5±3.0, 26°.17N×53°.59E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.5/38, mbtmp3.9/4, ML3.7/1, MS4.1/4, Ms1 4.1/4, ms1mx3.3/37, Error ellipse: s-maj=62.8km s-min=33.7km az=154.0*
*TEH **15** 07:07:59.2, 26°.41N×53°.52E, h12km, ML3.6*
*THR **15** 07:08:04.8±0.3, 26°.62N×53°.74E, h16km±5km, ML3.4*
ISC 15 07:07:59.9±0.9, 26°.40N±0°.04×53°.51E±0°.05, h10km, n36, σ1ŝ29/34, mb3.8/3, MS4.5/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.99**	**342**	*e*Pg	**Pg**	**07 08 18.6**	**-0.3**
LMD1				*e*Sg	**Sg**	**07 08 30.7**	**-1.1**
LMD1				*e*		07 08 41.8	
LAR1	**LAR**	**1.49**	**31**	*e*Pg	**Pn**	**07 08 27.0**	**+0.2**
LAR1				*e*		07 08 58.4	
JRN	**Qarnain Island**	**1.56**	**202**	*e*Pn	**Pn**	**07 08 29.0**	**+1.3**
JHRM	**Jahrom**	**2.10**	**2**	*e*Pn	**Pn**	**07 08 36.8**	**+1.5**
JHRM				*e*		07 09 23.8	
SHME	**Shamm**	**2.39**	**98**	*e*Pn	**Pn**	**07 08 39.0**	**-0.2**
NAZ	**Nazwa, Dubai**	**2.40**	**125**	*e*Pn	**Pn**	**07 08 40.5**	**+1.3**
GHWR	**Ruwais**	**2.49**	**193**	*e*Pn	**Pn**	**07 08 41.3**	**+0.8**
BANOM	**Banah**	**2.55**	**100**	*e*Pn	**Pn**	**07 08 41.4**	**0.0**
BNDS	**Bandar-Abbas**	**2.58**	**67**	*e*Pn	**Pn**	**07 08 44.3**	**+2.4**
BNDS				Sn	**Sn**	**07 09 13.2**	**-0.2**
GENO	**Geno**	**2.58**	**67**	*e*Pn	**Pn**	**07 08 42.3**	**+0.4**
MSFE	**Esma-Masafi**	**2.60**	**113**	*e*Pn	**Pn**	**07 08 42.5**	**+0.4**
MZWR	**Madinat Zayed**	**2.65**	**173**	*e*Pn	**Pn**	**07 08 42.7**	**+0.1**
UOSS	**Minazif**	**2.83**	**120**	*e*Pn	**Pn**	**07 08 46.8**	**+1.6**
HATD	**Hatta, Dubai**	**2.84**	**123**	*e*Pn	**Pn**	**07 08 47.2**	**+1.9**
SLWR	**Sila**	**2.84**	**216**	*e*Pn	**Pn**	**07 08 46.5**	**+1.2**
ASHO	**Ashiyiah**	**2.87**	**126**	*e*Pn	**Pn**	**07 08 46.5**	**+0.8**
SOHO	**SOHO**	**3.55**	**129**	*e*Pn	**Pn**	**07 08 56.9**	**+1.9**
UMZA	**Um Al Zommool**	**3.96**	**157**	*e*Pn	**Pn**	**07 09 01.5**	**+0.7**
NGRK	**Negar Kerman**	**4.31**	**41**	*e*		07 09 12.3	
NGRK				*e*Pn	**Pn**	**07 09 07.3**	**+1.4**
KRBR	**Kerman**	**4.58**	**38**	*e*Pn	**Pn**	**07 09 11.7**	**+2.1**
KHGB	**Koh Gabri**	**4.75**	**33**	*e*Pn	**Pn**	**07 09 13.0**	**+1.2**
KHGB				*e*		07 10 10.9	
KLNJ	**Kolanjah**	**4.89**	**340**	*e*Pn	**Pn**	**07 09 15.3**	**+1.4**
CHMN	**Cheshme madani**	**4.96**	**45**	*e*Pn	**Pn**	**07 09 16.6**	**+1.8**
CHMN				*e*		07 09 21.3	
IMEH	**Mehriz**	**5.07**	**11**	*e*Pn	**Pn**	**07 09 17.0**	**+0.8**
IRAM	**Ramesheh**	**5.48**	**350**	*e*Pn	**Pn**	**07 09 23.1**	**+1.2**
ISAD	**Sadrabad**	**5.50**	**2**	*e*Pn	**Pn**	**07 09 23.4**	**+1.3**
IGAR	**Gharneh**	**6.12**	**348**	*e*Pn	**Pn**	**07 09 31.4**	**+0.8**
ANAR	**Anarak**	**6.77**	**2**	*e*Pn	**Pn**	**07 09 39.7**	**+0.2**
GEYT	**Alibeck**	**12.14**	**18**	LR	LR	07 16 39.0	
	comp=Z,93nm,19.3s,baz=10.0,slow=42						
KBZ	**Khabaz**	**19.32**	**336**	P	**P**	**07 12 27.4**	**+2.2**
	0.2nm,0.3s,baz=240,slow=8.1,SNR=3.5						
BRTR	**Keskin Array B**	**21.25**	**314**	P	**P**	**07 12 45.6**	**-0.7**
	1.9nm,0.7s,baz=133,slow=13,SNR=9.0						
ZALV	**Zalesovo Beam**	**35.94**	**32**	P	**P**	**07 14 59.6**	**-0.7**
	2.2nm,0.5s,baz=236,slow=8.9,SNR=10						
TORD	**Torodi Ar. Bea**	**50.20**	**265**	P	**P**	**07 16 55.0**	**-1.2**
	1.2nm,0.9s,baz=61,slow=7.0,SNR=3.6						
DBIC	**Dimbokro**	**58.78**	**261**	LR	LR	07 46 38.3	
	comp=Z,195nm,19.4s,baz=280,slow=40						
BATI	**Baumata**	**77.18**	**108**	LR	LR	07 56 28.6	
	comp=Z,492nm,19.1s,baz=300,slow=38						
FITZ	**Fitzroy Crossi**	**82.81**	**114**	LR	LR	07 55 15.7	
	comp=Z,204nm,21.8s,baz=80,slow=34						

*IDC **15** 07:25:05.8±2.9, 30°.23N×114°.59W, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.4/33, mbtmp3.0/4, ML3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/34, Error ellipse: s-maj=51.9km s-min=11.8km az=36.0*
*MEX **15** 07:25:07.8±0.4, 31°.71N×114°.23W, h10km, MD4.2*
ISC 15 07:25:06.0±2.7, 29°.9N±0°.2×115°.1W±0°.2, h10km, n9, σ2ŝ19/10, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.14**	**344**	*e*P	**Pn**	**07 25 27.2**	**-1.2**
SPX				*i* S	**Sb**	**07 25 43.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.15**	**344**	*e*P	**Pg**	**07 25 28.5**	**+0.3**
HSIG		**3.72**	**103**	*e*P	**Pn**	**07 26 05.8**	**+2.3**
HSIG				*i* S	**Sn**	**07 26 49.7**	**+2.2**
PFO	**Pinyon Flats O**	**3.85**	**343**	Pn	**Pn**	**07 26 02.6**	**-2.7**
	0.3nm,0.3s,baz=145,slow=11,SNR=4.4						
PFO				Pg	**Pb**	**07 26 14.2**	**+0.2**
	0.2nm,0.3s,baz=174,slow=11,SNR=5.0						
PFO				Lg	Lg	07 27 02.4	
	6.4nm,0.3s,baz=261,slow=12,SNR=8.4						
CGIG		**6.17**	**84**	*e*P	Pn	07 26 28.5	-8.8
NVAR	**Mina Array Bea**	**8.88**	**343**	Pn	**Pn**	**07 27 15.6**	**+1.1**
	0.0nm,0.3s,baz=166,slow=11,SNR=2.6						
NVAR				Lg	Lg	07 29 45.0	
	0.0nm,0.3s,baz=152,slow=30,SNR=1.4						
TXAR	**Lajitas Array**	**9.96**	**91**	Pn	**Pn**	**07 27 25.7**	**-3.6**
	0.2nm,0.3s,baz=258,slow=16,SNR=16						
TXAR				Lg	Lg	07 30 04.4	
	0.1nm,0.3s,baz=270,slow=27,SNR=3.4						
APG	**El Apazote**	**27.09**	**118**	LR	LR	07 42 21.1	
	comp=Z,71nm,20.8s,baz=308,slow=39						
ILAR	**Eielson Array**	**40.11**	**339**	P	**P**	**07 32 42.5**	**+0.9**
	0.7nm,0.8s,baz=150,slow=7.1,SNR=7.9						

*IDC **15** 07:29:10.8±2.8, 19°.60N×108°.88W, h0km, mb3.4/3, mb1 4.0/5, mb1mx3.7/35, mbtmp3.6/5, ML3.8/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/23, Error ellipse: s-maj=73.9km s-min=40.7km az=98.0*
*NEIC **15** 07:29:12.0±2.2, 19°.52N±0°.03×109°.17W±0°.07, h10km±1km, mb4.0/66, Error ellipse: s-maj=11.4km s-min=5.3km az=86.0*
ISC 15 07:29:13.7±1.0, 19°.4N±0°.1×109°.16W±0°.09, h26km, n97, σ1ŝ16/91, mb3.9/14, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.79**	**249**	Pn	**Pn**	**07 29 41.7**	**-1.2**
H06E1				T	T	07 31 47.1	
	SNR=5.6						
H06N1	**SOCORRO T-PHAS**	**1.82**	**252**	Pn	**Pn**	**07 29 41.4**	**-1.9**
H06N1				T	T	07 31 35.5	
	SNR=8.8						
H06S1	**SOCORRO T**	**1.84**	**248**	Pn	**Pn**	**07 29 42.0**	**-1.5**
SLBS	**Sierra La Lagu**	**4.29**	**350**	Pn	Pn	07 30 12.4	-4.9
LPIG	**La Paz**	**4.76**	**347**	Pn	**Pn**	**07 30 21.2**	**-2.5**
	12nm,0.3s,baz=163,slow=6.2,SNR=4.8						
ZAIG	**Zacatecas**	**6.99**	**61**	Pn	**Pn**	**07 30 52.2**	**-2.5**
SRIG	**Santa Rosalia**	**8.34**	**341**		**Pn**	**07 31 11.3**	**-1.6**
HSIG		**9.68**	**351**	Pn	**Pn**	**07 31 31.2**	**0.0**
TLIG	**Tlapa**	**10.23**	**99**	Pn	**Pn**	**07 31 38.5**	**-0.4**
TX31	**Lajitas Ar. Si**	**11.05**	**26**	Pn	**Pn**	**07 31 48.1**	**-2.0**
TX32	**Lajitas Array**	**11.05**	**26**	Pn	**Pn**	**07 31 48.3**	**-1.8**
TXAR	**Lajitas Array**	**11.05**	**26**	Pn	**Pn**	**07 31 47.9**	**-2.3**
	0.1nm,0.3s,baz=208,slow=13,SNR=4.2						
TXAR				LR	LR	07 35 32.3	
	comp=Z,169nm,18.8s,baz=0.0,slow=35						
SFX	**San Felipe**	**12.64**	**337**	Pn	**Pn**	**07 32 11.0**	**-0.8**
PIX	**Pinacate**	**12.67**	**343**	Pn	**Pn**	**07 32 08.8**	**-3.5**
SPX	**San Pedro Mart**	**12.87**	**335**	Pn	**Pn**	**07 32 14.8**	**-0.6**
214A	**Organ Pipe Nat**	**12.89**	**346**		**Pn**	**07 32 15.6**	**+0.4**
TUC	**Tucson**	**12.90**	**354**		**Pn**	**07 32 16.4**	**+0.9**
121A	**Cookes Peak, D**	**13.10**	**5**	Pn	**Pn**	**07 32 20.5**	**+2.3**
BNM	**Barren Site**	**14.82**	**8**		**Pn**	**07 32 42.3**	**+0.4**
Y14A	**Wickenburg**	**14.84**	**347**		**Pn**	**07 32 42.0**	**+0.1**
X16A	**Lo Mia Camp, P**	**15.05**	**353**		**Pn**	**07 32 45.4**	**+0.5**
PFO	**Pinyon Flats O**	**15.54**	**337**	LR	LR	07 37 52.9	
	comp=Z,164nm,21.1s,baz=154,slow=34						
ANMO	**Albuquerque**	**15.63**	**8**		**Pn**	**07 32 53.4**	**+1.0**
WUAZ	**Wupatki**	**16.13**	**353**	P	**Pn**	**07 32 58.6**	**-0.2**
WUAZ				IAmb	IAmb	07 33 06.2	
	comp=Z,13nm,1.3s						
W13A	**Hualapai Mount**	**16.15**	**346**		**Pn**	**07 33 00.3**	**+1.2**
U15A	**North Rim**	**17.15**	**351**	P	**Pn**	**07 33 12.4**	**+0.6**
U15A				IAmb	IAmb	07 33 17.7	
	comp=Z,22nm,1.6s						
MVCO	**Mesa Verde**	**17.71**	**2**		**P**	**07 33 19.9**	**+0.3**
MVCO				IAmb	IAmb	07 33 21.5	
	comp=Z,12nm,1.1s						
SHPR	**Sheep Range**	**17.80**	**344**		**Pn**	**07 33 20.6**	**+0.8**
KNB	**Kanab**	**17.80**	**350**		**Pn**	**07 33 20.7**	**+0.9**
LCMT	**Little Creek M**	**17.87**	**349**	P	**Pn**	**07 33 20.2**	**-0.4**
S22A	**4UR Ranch, Cre**	**18.35**	**6**		**P**	**07 33 26.5**	**-0.1**
SZCU	**Shurtz Canyon**	**18.41**	**350**	P	**P**	**07 33 27.3**	**+0.1**
CCUT	**Cedar City**	**18.41**	**349**		**P**	**07 33 27.6**	**+0.3**
TPNV	**Topopah Spring**	**18.52**	**342**		**P**	**07 33 28.3**	**+0.1**
TPNV				IAmb	IAmb	07 33 32.5	
	comp=Z,8.9nm,1.1s						
SDCO	**Great Sand Dun**	**18.52**	**9**	P	**Pn**	**07 33 29.6**	**+1.0**
PRN	**Pahroc Range**	**18.63**	**345**		**P**	**07 33 29.4**	**-0.1**
PV13	**Radium Mtn., P**	**18.66**	**1**	P	**P**	**07 33 29.4**	**-0.5**
Z38A	**Mt. Pleasant**	**18.70**	**40**	P	**Pn**	**07 33 31.1**	**+0.5**
MTPU	**Mount Pierson**	**18.72**	**353**		**Pn**	**07 33 31.7**	**+0.5**
PV18	**Skein Mesa, Pa**	**18.74**	**1**	P	**Pn**	**07 33 31.8**	**+0.5**
PV03	**Paradox Valley**	**18.75**	**1**	P	**P**	**07 33 30.4**	**-0.5**
PV11	**David Mesa, Pa**	**18.79**	**1**	P	**P**	**07 33 29.9**	**-1.4**
PV10	**Paradox Valley**	**18.87**	**0**	P	**P**	**07 33 32.4**	**+0.1**
PV10				IAmb	IAmb	07 33 36.4	
	comp=Z,15nm,1.1s						
PV04	**Paradox Valley**	**18.89**	**1**	P	**P**	**07 33 32.3**	**-0.1**
PV04				IAmb	IAmb	07 33 45.2	
	comp=Z,13nm,1.4s						
MVU	**Marysvale**	**19.18**	**353**	P	**Pn**	**07 33 37.0**	**+0.4**
MSU	**Marysvale**	**19.18**	**353**	P	**P**	**07 33 35.6**	**-0.1**
PSUT	**Pine Spring**	**19.46**	**349**	P	**P**	**07 33 37.8**	**-0.9**
Q16A	**Castle Valley**	**19.49**	**355**	P	**P**	**07 33 38.6**	**-0.3**
SRU	**San Rafael Swe**	**19.64**	**357**	P	**P**	**07 33 40.7**	**+0.1**
P17A	**Butcher Ranch,**	**20.01**	**356**	P	**P**	**07 33 44.6**	**0.0**
OMMB	**Old Mammoth Mi**	**20.04**	**337**	P	**P**	**07 33 45.3**	**+0.2**
OMMB				IAmb	IAmb	07 34 02.8	
	comp=Z,13nm,1.7s						
MDPB	**Devils Postpil**	**20.09**	**337**	P	**P**	**07 33 44.7**	**-0.8**
MDPB				IAmb	IAmb	07 33 52.7	
	comp=Z,13nm,1.6s						
KAN10	**Anthony SW Sta**	**20.11**	**27**	P	**P**	**07 33 46.5**	**+1.0**
KSCO	**Kaye Shedlock'**	**20.31**	**15**	P	**P**	**07 33 48.6**	**+0.8**
LHV	**Little Huntoon**	**20.43**	**339**	P	**P**	**07 33 50.1**	**+1.2**
NV11	**Mina Array Sit**	**20.47**	**339**	P	**P**	**07 33 50.0**	**+0.3**
NV11				IAmb	IAmb	07 33 54.2	
	comp=Z,7.9nm,1.1s						
ISCO	**Idaho Springs**	**20.52**	**8**		**P**	**07 33 49.7**	**-0.6**
NVAR	**Mina Array Bea**	**20.52**	**339**	P	**P**	**07 33 50.6**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=161,slow=12,SNR=20						
NVAR				LR	LR	07 40 29.5	
	comp=Z,123nm,20.6s,baz=139,slow=33						
NVAR	**Mina Array Bea**	**20.52**	**339**	P	**P**	**07 33 50.5**	**+0.2**
O20A	**White River Ci**	**20.64**	**2**	P	**P**	**07 33 50.1**	**-1.3**
O20A				IAmb	IAmb	07 33 55.1	
	comp=Z,11nm,1.2s						
RYN	**Ryan**	**20.77**	**339**	P	**P**	**07 33 52.9**	**0.0**
RYN				IAmb	IAmb	07 34 00.5	
	comp=Z,12nm,1.5s						
DUG	**Dugway, Tooele**	**20.92**	**352**	P	**P**	**07 33 52.7**	**-1.7**
CMB	**Columbia Colle**	**20.95**	**335**	P	**P**	**07 33 54.3**	**-0.4**
WAKR	**Walker**	**20.99**	**337**	P	**P**	**07 33 54.6**	**-0.6**
WAKR				IAmb	IAmb	07 34 00.1	
	comp=Z,6.6nm,1.3s						
KVN	**Kaiserville**	**21.02**	**340**	P	**P**	**07 33 55.6**	**0.0**
KVN				IAmb	IAmb	07 34 03.5	
	comp=Z,13nm,1.5s						
VBMS	**Vicksburg**	**21.02**	**49**	P	**P**	**07 33 55.0**	**-0.4**
RDMU	**Red Mountain**	**21.06**	**359**	P	**P**	**07 33 54.9**	**-1.2**
YERR	**Yerington**	**21.34**	**338**	P	**P**	**07 33 58.9**	**-0.1**
N23A	**Red Feather La**	**21.56**	**7**	P	**P**	**07 34 00.2**	**-1.2**
PNTR	**Pine Nut**	**21.56**	**337**	P	**P**	**07 34 01.8**	**+0.4**
BGU	**Big Grassy Mou**	**21.67**	**352**	P	**P**	**07 34 02.1**	**-0.4**
VCNR	**Virginia City**	**21.76**	**338**	P	**P**	**07 34 00.0**	**-3.5**
VCNR				IAmb	IAmb	07 34 15.9	
	comp=Z,7.4nm,1.1s						
ELK	**Elko**	**21.86**	**348**	P	**P**	**07 34 04.2**	**-0.4**
SPUT	**South Promonto**	**21

SKHL ***15*** *08:48:47.6±0.4, 44.°39N×148.°30E, h52km±8km, mb4.5/4*
JMA ***15*** *07:48:47.5±0.3, 44.°01N×148.°01E, h0km, M4.2*
ISC 15 07:48:44.0±3.9, 44°33N±0°.09×148°.4E±0°.2, h16km±29km, n15, σ1°55/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.97**	**339**	*i* P	**Pn**	**07 49 03.3**	**+0.5**
KUR				AMB	AMB	07 49 03.7	
	180nm,0.4s						
KUR				*e*S	**Sb**	**07 49 15.2**	**+0.3**
KUR				A	A	07 49 18.9	
	960nm,0.2s						
KUR				A	A	07 49 18.9	
	550nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.82**	**262**	*i* P	**Pn**	**07 49 15.9**	**+1.3**
YUK				AMB	AMB	07 49 17.6	
	210nm,0.4s						
YUK				*e*S	**Sn**	**07 49 36.8**	**-0.5**
YUK				A	A	07 49 42.4	
	530nm,0.4s						
YUK				A	A	07 49 42.4	
	660nm,0.4s						
GRPR	**Tuman**	**1.90**	**261**	*e*P	**Pn**	**07 49 16.3**	**+0.7**
GRPR				AMB	AMB	07 49 18.8	
	190nm,0.4s						
GRPR				*e*S	**Sn**	**07 49 38.1**	**-1.0**
GRPR				A	A	07 49 44.4	
	740nm,0.4s						
GRPR				A	A	07 49 44.4	
	471nm,0.4s						
NEM2	**Nemuro 2**	**2.13**	**244**	P	**Pn**	**07 49 19.5**	**+0.7**
NEM2				*e*S	**Sn**	**07 49 42.6**	**-2.2**
GLVR	**Golovnino**	**2.13**	**255**	*e*P	**Pn**	**07 49 20.0**	**+1.1**
GLVR				AMB	AMB	07 49 23.5	
	190nm,0.5s						
GLVR				*i* S	**Sn**	**07 49 44.7**	**-0.3**
GLVR				A	A	07 49 51.4	
	860nm,0.5s						
GLVR				A	A	07 49 51.4	
	750nm,0.5s						
NMR	**Nemuro--Hokkai**	**2.14**	**244**	*e*P	**Pn**	**07 49 19.5**	**+0.6**
NMR				*e*S	**Sn**	**07 49 43.3**	**-1.7**
JRA	**Rausu**	**2.37**	**262**	P	**Pb**	**07 49 24.4**	**-1.7**
JRA				*e*S	**Sn**	**07 49 51.2**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.48**	**258**	P	**Pn**	**07 49 25.9**	**+2.2**
JKHN	**Kushirohamanak**	**2.64**	**243**	P	**Pn**	**07 49 27.0**	**+1.2**
JKHN				*e*S	**Sn**	**07 49 56.4**	**-1.0**
JNK	**Nakash**	**2.73**	**255**	P	**Pn**	**07 49 29.0**	**+1.9**
JNK				*e*S	**Sn**	**07 49 59.4**	**-0.4**
JAK	**Akkeshi**	**2.98**	**245**	P	**Pn**	**07 49 31.8**	**+1.4**
JAK				*e*S	**Sn**	**07 50 04.1**	**-1.7**
JAR	**Ashorobuto**	**3.48**	**254**	P	**Pn**	**07 49 40.0**	**+2.6**
JAR				*e*S	**Sn**	**07 50 19.6**	**+1.4**
JOB	**Onbets**	**3.58**	**248**	P	**Pn**	**07 49 40.9**	**+2.1**
JOB				*e*S	**Sn**	**07 50 21.1**	**+0.3**
JNBK	**Urakawa-nobuka**	**4.58**	**245**	P	**Pn**	**07 49 54.5**	**+2.0**
JNBK				*e*S	**Sn**	**07 50 44.0**	**-1.3**
JKB	**Kayabe**	**5.90**	**248**	P	**Pn**	**07 50 12.9**	**+2.4**
JKB				*e*S	**Sn**	**07 51 16.1**	**-1.6**

REY ***15*** *08:04:58.4, 64.°61N×17.°43W, h1km*
BGS ***15*** *08:04:59.6±2.0, 64.°57N×17.°40W, h5km, MS5.2*
DNK ***15*** *08:04:59.9±3.9, 64.°39N×17.°55W, h0km±179km, Ms5.1, Hypocentre not reviewed by the ISC*
IDC ***15*** *08:05:00.1±0.4, 64.°48N×17.°55W, h0km, mb4.6/31, mb1 4.7/36, mb1mx4.6/43, mbtmp4.6/36, ML3.5/5, MS5.1/44, Ms1 5.1/44, ms1mx5.1/48, Error ellipse: s-maj=12.6km s-min=7.3km az=14.0*
MOS ***15*** *08:05:00.0±0.9, 64.°54N×17.°42W, h7km, mb5.4/115, MS5.0/82, Error ellipse: s-maj=7.0km s-min=4.6km az=104.8*
NAO ***15*** *08:05:01.0±5.5, 64.°49N×17.°15W, ML4.8*
IEPN ***15*** *08:05:01.0, 64.°40N×17.°63W, h10km*
BJI ***15*** *08:05:02.1±0.0, 65.°05N×16.°81W, h5km, mB5.8/52, mb5.0/54, Ms5.5/53, Ms7 5.2/53*
NEIC ***15*** *08:05:02.1±1.8, 64.°57N±0.°06×17.°4W±0.°1, h10km±1km, mb5.3/506, Ms_20 5.1/756, Mwb5.2/43, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=11.2km s-min=8.7km az=201.0*
UNK ***15*** *08:05:02.1, 64.°54N×17.°36W, h10km*
NEIC ***15*** *08:05:02.1, 64.°57N×17.°40W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-8.75; $M_{\theta\theta}$5.76; $M_{\phi\phi}$3.00; $M_{r\theta}$1.22; $M_{\theta\phi}$-2.57; $M_{\phi r}$-0.18; Fault plane solution: $M_0$8.21000×10^{16} NP1:ϕ_s298.11000°, δ49.10000°, λ-93.44000°. NP2:ϕ_s123.36000°, δ41.02000°, λ-86.03000°. Principal axes: T 7.3716, Plg4.0000°, Azm31.0000°; N 1.4835, Plg3.0000°, Azm300.0000°; P -8.8551, Plg85.0000°, Azm178.0000°;*
GCMT ***15*** *08:05:05.1±0.1, 64.°60N×17.°13W, h12km, MW5.4/157, Moment Tensor Solution. s114,c190; s157,c319; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.24±.02; $M_{\theta\theta}$1.23±.02; $M_{\phi\phi}$1.02±.02; $M_{r\theta}$0.02±.04; $M_{\theta\phi}$-0.02±.02; $M_{\phi r}$-0.81±.04; Best double couple: $M_0$1.83700×10^{17} NP1:ϕ_s109.00000°, δ39.00000°, λ-108.00000°. NP2:ϕ_s312.00000°, δ53.00000°, λ-76.00000°. Principal axes: T 1.2440, Plg7.0000°, Azm32.0000°; N 1.1960, Plg11.0000°, Azm123.0000°; P -2.4300, Plg77.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***15*** *08:05:05, 64.°61N×17.°16W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.47; $M_{\theta\theta}$1.42; $M_{\phi\phi}$1.05; $M_{r\theta}$-0.14; $M_{\theta\phi}$-0.14; $M_{\phi r}$-0.86; Fault plane solution: $M_0$2.32000×10^{17} NP1:ϕ_s101.00000°, δ43.00000°, λ-109.00000°. NP2:ϕ_s306.00000°, δ50.00000°, λ-73.00000°. Principal axes: T 1.4726, Plg3.0000°, Azm24.0000°; N 1.2022, Plg13.0000°, Azm115.0000°; P -2.6747, Plg77.0000°, Azm280.0000°;*
BGR ***15*** *08:05:07.9±1.8, 64.°32N×16.°13W, h10km, mb5.5, Ms5.1 Error ellipse: s-maj=33.4km s-min=27.8km az=22.0*
NEIC ***15*** *08:05:07, 64.°34N×17.°36W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.15; $M_{\theta\theta}$1.24; $M_{\phi\phi}$0.91; $M_{r\theta}$0.30; $M_{\theta\phi}$-0.04; $M_{\phi r}$-0.14; Fault plane solution: $M_0$1.90000×10^{17} NP1:ϕ_s96.00000°, δ40.00000°, λ-92.00000°. NP2:ϕ_s280.00000°, δ50.00000°, λ-87.00000°. Principal axes: T 1.2718, Plg5.0000°, Azm9.0000°; N 0.9065, Plg2.0000°, Azm99.0000°; P -2.1783, Plg84.0000°, Azm208.0000°;*
ISC 15 08:05:01.2±0.1, 64°65N±0°.01×17°582W±0°.010, h10km, h10km:pP-P, n1722, σ2°28/1539, mb5.3/385, MS5.1/491, 20C-71D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.08**	**289**	P	**Pg**	**08 05 02.1**	**-1.5**
	baz=294						
IDYN	**Dyngjuhals**	**0.17**	**33**	P	**Pg**	**08 05 02.6**	**-2.4**
	baz=9.1						
IDYN				S	**Sg**	**08 05 06.0**	**-1.6**
	baz=9.1						
IDJK	**Dyngjujokull**	**0.21**	**134**	P	**Pg**	**08 05 01.9**	**-3.7**
	baz=142						
IURH	**Urdarhals**	**0.25**	**47**	P	**Pg**	**08 05 03.9**	**-2.5**
	baz=30						
IURH				S	**Sg**	**08 05 08.1**	**-1.8**
	baz=30						
IGRF	**Grimsfjall**	**0.28**	**151**	P	**Pg**	**08 05 03.3**	**-3.5**
	baz=161						
IHUS	**Husbondi**	**0.35**	**185**	P	**Pg**	**08 05 05.3**	**-3.0**
	baz=197						
ISKR	**Skrokkalda**	**0.36**	**256**	P	**Pg**	**08 05 06.8**	**-1.5**
	baz=263						
IKVE	**Kverkfjoll**	**0.39**	**85**	P	**Pg**	**08 05 06.3**	**-2.7**
	baz=78						
IBJK	**Bruarjokull**	**0.40**	**116**	P	**Pg**	**08 05 05.3**	**-3.8**
	baz=116						
IVOT	**Vottur**	**0.42**	**155**	P	**Pg**	**08 05 05.9**	**-3.5**
	baz=162						
IKRE	**Kreppuhraun**	**0.53**	**75**	P	**Pg**	**08 05 07.7**	**-3.8**
	baz=69						
IKRE				S	**Sg**	**08 05 15.2**	**-3.4**
	baz=69						
IASK	**Askja**	**0.57**	**44**	P	**Pg**	**08 05 09.2**	**-3.0**
	baz=37						
IASK				S	**Sg**	**08 05 17.4**	**-2.4**
	baz=37						
IIEY	**Innrieyrar**	**0.60**	**203**	P	**Pg**	**08 05 09.8**	**-3.1**
	baz=210						
IMKO	**Mokollar**	**0.63**	**58**	P	**Pg**	**08 05 09.7**	**-3.6**
	baz=51						
IMKO				S	**Sg**	**08 05 19.0**	**-2.5**
	baz=51						
IKSK	**Karasker**	**0.69**	**135**	P	Pg	08 05 09.6	-4.8
	baz=137						
ISVA	**Svartarkot**	**0.71**	**11**	P	**Pg**	**08 05 12.0**	**-2.8**
	baz=5.9						
IVAT	**Vatnsfell**	**0.74**	**232**	P	**Pg**	**08 05 13.1**	**-2.4**
	baz=237						
IVSH	**V-Sauoahnukur**	**0.81**	**78**	P	**Pg**	**08 05 12.5**	**-4.4**
	baz=74						
IHVE	**Hveravellir**	**0.88**	**286**	P	**Pg**	**08 05 15.5**	**-2.6**
	baz=287						
IHVE				S	**Sg**	**08 05 29.0**	**-0.6**
	baz=287						
IADA	**Aoalbol**	**0.94**	**66**	P	Pg	08 05 14.3	-4.8
	baz=62						
IADA				S	**Sg**	**08 05 27.5**	**-3.9**
	baz=62						
IMEL	**Melhnausar**	**1.00**	**22**	P	Pg	08 05 16.4	-4.1
	baz=18						
IMEL				S	**Sg**	**08 05 31.2**	**-2.3**
	baz=18						
ISNB	**Snabyli**	**1.02**	**207**	P	**Pg**	**08 05 16.8**	**-4.1**
	baz=211						
ISNB				S	**Sg**	**08 05 31.3**	**-2.8**
	baz=211						
IREN	**Reynihlio**	**1.04**	**16**	P	**Pg**	**08 05 17.4**	**-3.9**
	baz=12						
IFED	**Fedgar**	**1.11**	**237**	P	**Pb**	**08 05 19.2**	**-3.2**
	baz=240						
IRJU	**Rjupnafell**	**1.14**	**205**	P	**Pb**	**08 05 18.9**	**-4.0**
	baz=209						
IMJO	**Mjoaskard**	**1.16**	**233**	P	**Pb**	**08 05 19.9**	**-3.4**
	baz=236						
IGRS	**Grimsstaoir**	**1.17**	**31**	P	Pb	08 05 19.2	-4.3
	baz=28						
IGRS				S	**Sb**	**08 05 36.1**	**-2.6**
	baz=28						
IGYG	**Gygjarholskot**	**1.20**	**253**	P	**Pn**	**08 05 20.7**	**-3.3**
	baz=256						
IHAU	**Haukadalur**	**1.24**	**238**	P	**Pn**	**08 05 21.1**	**-3.4**
	baz=241						
ISKI	**Skildingahlsh**	**1.25**	**11**	P	Pn	08 05 20.7	-4.0
	baz=7.5						
ISKI				S	**Sb**	**08 05 39.1**	**-1.9**
	baz=7.5						
IGOD	**Go??abunga**	**1.25**	**218**	P	**Pn**	**08 05 21.4**	**-3.4**
	baz=222						
IGHA	**Grjothals**	**1.26**	**17**	P	**Pn**	**08 05 21.2**	**-3.6**
	baz=14						
IGRA	**Granastaoir**	**1.28**	**0**	P	**Pn**	**08 05 21.4**	**-3.6**
	baz=357						
IGRA				S	**Sb**	**08 05 39.6**	**-2.1**
	baz=357						
IHLA	**Hella**	**1.34**	**346**	P	**Pn**	**08 05 22.8**	**-3.2**
	baz=344						
IDIM	**Dimmadalss**	**1.35**	**11**	P	**Pn**	**08 05 22.5**	**-3.5**
	baz=8.6						
IALF	**Alftagrof**	**1.36**	**212**	P	**Pn**	**08 05 22.9**	**-3.3**
	baz=215						
IESK	**Eystri-Skogar**	**1.40**	**217**	P	**Pn**	**08 05 23.5**	**-3.1**
	baz=220						
IMID	**Miomork**	**1.42**	**226**	P	**Pn**	**08 05 24.1**	**-2.8**
	baz=229						
IHED	**Heoinshofoi**	**1.44**	**4**	P	**Pn**	**08 05 24.1**	**-3.2**
	baz=2.0						
IBRE	**Brettingsstaoi**	**1.49**	**355**	P	**Pn**	**08 05 24.9**	**-3.0**
	baz=353						
IBRE				S	**Sn**	**08 05 46.6**	**-0.8**
	baz=353						
IGIL	**Gilhagi**	**1.52**	**19**	P	**Pn**	**08 05 25.2**	**-3.2**
	baz=17						
ISIG	**Siglufjorour**	**1.59**	**340**	P	**Pn**	**08 05 26.8**	**-2.5**
	baz=338						
BORG	**Borgarnes**	**1.61**	**275**	Pg	**Pn**	**08 05 28.7**	**-0.9**
	112nm,0.3s,baz=92,slow=10.0,SNR=62						
BORG				Lg	Lg	08 05 51.5	
	76nm,0.3s,baz=66,slow=21,SNR=10						
BORG				LR	LR	08 06 00.3	
	comp=Z,5μm,21.3s,baz=140,slow=36						
BORG	**Borgarnes**	**1.61**	**275**	P	**Pn**	**08 05 27.6**	**-2.0**
BORG	**Borgarnes**	**1.61**	**275**	Pn	**Pn**	**08 05 27.6**	**-2.0**
IASB	**`sbjarnarst**	**1.61**	**275**	P	**Pn**	**08 05 27.2**	**-2.4**
	baz=276						
IKRO	**Krokur**	**1.64**	**252**	P	**Pn**	**08 05 27.5**	**-2.5**
	baz=254						
ISOL	**Solvholt**	**1.64**	**245**	P	**Pn**	**08 05 27.2**	**-2.7**
	baz=248						
IHEI	**Heioarbar**	**1.65**	**256**	P	**Pn**	**08 05 27.4**	**-2.7**
	baz=258						
IBJA	**Bjarnastaoir**	**1.77**	**248**	P	**Pn**	**08 05 29.8**	**-2.0**
	baz=250						
IHRN	**Hraun**	**1.81**	**325**	P	**Pn**	**08 05 30.5**	**-1.9**
	baz=324						
IKUD	**Kuludalsa**	**1.89**	**262**	P	**Pn**	**08 05 31.3**	**-2.1**
	baz=263						
IGRI	**Grimsey**	**1.91**	**355**	P	**Pn**	**08 05 30.9**	**-2.8**
	baz=353						
IKAS	**Kald??rsel**	**1.96**	**253**	P	**Pn**	**08 05 33.0**	**-1.4**
	baz=255						
SOFL	**Sornfelli, Far**	**5.43**	**114**	*e*P	**Pn**	**08 06 18.8**	**-3.4**
SCO	**Scoresbysund**	**6.09**	**346**	*i* P	**Pn**	**08 06 31.0**	**-0.2**
	comp=Z,41μm,16.0s						
SCO	**Scoresbysund**	**6.09**	**346**	*i* P	**Pn**	**08 06 31.0**	**-0.2**
SCO				MLR	MLR		
	comp=Z,41μm,16.0s						
SCO	**Scoresbysund**	**6.09**	**346**		**Pn**	**08 06 30.9**	**-0.2**
JMIC	**Jan Mayen**	**7.22**	**24**	Pn	**Pn**	**08 06 48.9**	**+2.3**
JMIC	**Jan Mayen**	**7.22**	**24**	Pn	**Pn**	**08 06 47.7**	**+1.1**
	baz=180,slow=2.6,SNR=1.9						
JMIC				LR	LR	08 09 05.4	
	comp=Z,22μm,18.1s,baz=260,slow=33						
JMIC	**Jan Mayen**	**7.22**	**24**	Pn	**Pn**	**08 06 48.9**	**+2.3**
LEWI	**Lewis, Hebride**	**8.29**	**137**	*e*P	**Pn**	**08 06 58.4**	**-3.0**
LEWI				IAMs_20	IAMs_20	08 10 41.5	
	comp=Z,20μm,11.1s						
WAL1	**Walls**	**8.60**	**113**	*e*P	**Pn**	**08 07 02.2**	**-3.3**
YEL1	**Yell**	**8.63**	**111**	*e*P	**Pn**	**08 07 03.8**	**-2.2**
LRW	**Lerwick**	**8.85**	**113**	*e*P	**Pn**	**08 07 05.4**	**-3.5**
LRW				IAMs_20	IAMs_20	08 10 41.2	
	comp=Z,28μm,15.4s						
LRW	**Lerwick**	**8.85**	**113**	*e*P	**Pn**	**08 07 08.1**	**-0.8**
MLA1	**Latheron**	**9.29**	**127**	*e*P	**Pn**	**08 07 13.2**	**-1.8**
KAC	**Achnashellach**	**9.30**	**135**	*e*P	**Pn**	**08 07 12.1**	**-3.1**
KPL	**Plockton**	**9.33**	**136**	*e*P	**Pn**	**08 07 12.7**	**-2.8**
KPL				IAMs_20	IAMs_20	08 11 05.5	
	comp=Z,18μm,12.4s						
KPL	**Plockton**	**9.33**	**136**	*e*P	**Pn**	**08 07 13.1**	**-2.4**
MCD	**Coleburn Disti**	**9.89**	**129**	*e*P	**Pn**	**08 07 21.3**	**-1.9**
LAWE	**Loch Awe, Argy**	**10.32**	**139**	*e*P	**Pn**	**08 07 26.9**	**-2.2**
LAWE				IAMs_20	IAMs_20	08 11 46.7	
	comp=Z,19μm,12.0s						
INVG	**Invergeldie, C**	**10.58**	**135**	*e*P	**Pn**	**08 07 29.6**	**-3.0**
INVG				IAMs_20	IAMs_20	08 11 38.3	
	comp=Z,20μm,14.6s						
ELO	**Logie Almond**	**10.64**	**134**	*e*P	**Pn**	**08 07 31.7**	**-1.8**
FOO	**Floro**	**10.66**	**96**	*e*P	**Pn**	**08 07 36.6**	**+2.9**
EAB	**Aberfoyle**	**10.69**	**136**	*e*P	**Pn**	**08 07 31.8**	**-2.4**
SUMG	**Summit**	**10.94**	**326**	*i* P	**Pn**	**08 07 41.6**	**+3.8**
	comp=Z,64μm,10.0s						
SUMG	**Summit**	**10.94**	**326**	*i* P	**Pn**	**08 07 41.6**	**+3.8**
SUMG				MLR	MLR		
	comp=Z,64μm,10.0s						
SUMG	**Summit**	**10.94**	**326**		**Pn**	**08 07 40.6**	**+2.8**
PGBU	**Glenifferbraes**	**10.97**	**138**	*e*P	**Pn**	**08 07 36.4**	**-1.6**
PGBU				IAMs_20	IAMs_20	08 12 13.6	
	comp=Z,18μm,14.2s						
CLGH	**Cloghs, Cushen**	**11.17**	**144**	*e*P	**Pn**	**08 07 39.4**	**-1.3**
CLGH				IAMs_20	IAMs_20	08 12 30.2	
	comp=Z,15μm,15.9s						
AKN	**Aaknes**	**11.26**	**91**	Pn	**Pn**	**08 07 40.0**	**-1.9**
AKN	**Aaknes**	**11.26**	**91**	*e*P	**Pn**	**08 07 38.2**	**-3.7**
EDI	**Edinburgh**	**11.26**	**134**	*e*P	**Pn**	**08 07 40.0**	**-2.0**
EDI				IAMs_20	IAMs_20	08 11 59.9	
	comp=Z,15μm,15.0s						
EDI	**Edinburgh**	**11.26**	**134**	*e*P	**Pn**	**08 07 40.2**	**-1.8**
ASK	**Askoy**	**11.27**	**101**	*e*P	**Pn**	**08 07 40.1**	**-1.9**
MOL	**Molde**	**11.34**	**89**	*e*P	**Pn**	**08 07 42.6**	**-0.4**
BER	**Bergen**	**11.38**	**101**	*e*P	**Pn**	**08 07 43.0**	**-0.6**
EBL	**Broad Law**	**11.43**	**134**	*e*P	**Pn**	**08 07 42.6**	**-1.7**
NEWG	**New Galloway**	**11.64**	**139**	*e*P	**Pn**	**08 07 45.2**	**-2.0**
NEWG				IAMs_20	IAMs_20	08 12 36.5	
	comp=Z,26μm,14.2s						
GAL1	**Galloway**	**11.73**	**141**	*e*P	**Pn**	**08 07 46.4**	**-2.0**
GAL1				IAMs_20	IAMs_20	08 13 05.8	
	comp=Z,26μm,14.1s						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**08 07 47.2**	**-1.7**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**08 07 47.0**	**-1.9**
	baz=321,slow=13,SNR=54						
EKA				Sn	**Sn**	**08 09 58.7**	**-1.5**
	baz=323,slow=23,SNR=2.0						
EKA				LR	LR	08 12 23.6	
	comp=Z,11μm,18.4s,baz=325,slow=38						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**08 07 47.2**	**-1.7**
ESK	**Eskdalemuir**	**11.77**	**136**	*e*P	**Pn**	**08 07 46.6**	**-2.3**
ESK				IAMs_20	IAMs_20	08 12 25.3	
	comp=Z,17μm,14.6s						
ESK	**Eskdalemuir**	**11.77**	**136**	P	**Pn**	**08 07 46.3**	**-2.6**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**08 07 46.3**	**-2.6**
KMY	**Karmoy**	**12.01**	**106**	*e*P	**Pn**	**08 07 48.6**	**-3.5**
ODD1	**Odda**	**12.18**	**102**	*e*P	**Pn**	**08 07 55.8**	**+1.2**
DAG	**Danmarks Havn**	**12.19**	**359**	*i* P	Pn	08 07 59.4	+4.8
	comp=Z,5μm,11.0s						
DAG	**Danmarks Havn**	**12.19**	**359**	*i* P	Pn	08 07 59.4	+4.8
DAG				MLR	MLR		
	comp=Z,5μm,11.0s						
DOMB	**Dombas**	**12.20**	**90**	*e*P	**Pn**	**08 07 53.5**	**-1.3**
BLS5	**Blasjo**	**12.39**	**104**	*e*P	**Pn**	**08 07 54.7**	**-2.7**
KESW	**Keswick, Cumbr**	**12.43**	**137**	*e*P	**Pn**	**08 07 56.1**	**-1.8**
KESW				IAMs_20	IAMs_20	08 13 02.1	
	comp=Z,20μm,13.2s						
SKAR	**Skarslia**	**12.49**	**97**	*e*P	**Pn**	**08 08 00.4**	**+1.6**
EDMD	**Edmundbyers**	**12.56**	**134**	*e*P	**Pn**	**08 07 56.5**	**-3.3**
NSS	**Namsos**	**12.63**	**77**	*e*P	**Pn**	**08 08 03.1**	**+2.4**
NBB40	**Tonnes**	**12.72**	**68**	*e*P	**Pn**	**08 08 01.1**	**-0.8**
KONS	**Konsvik**	**12.77**	**68**	*e*	**Pn**	**08 08 01.8**	**-0.6**
DSB	**Dublin**	**12.79**	**148**	Pn	**Pn**	**08 07 59.5**	**-3.3**
NRS	**Narsarsuaq**	**13.10**	**267**	P	**Pn**	**08 08 07.4**	**+0.4**
NRS	**Narsarsuaq**	**13.10**	**267**	Pn	**Pn**	**08 08 07.4**	**+0.4**
NC204	**NORSAR Array S**	**13.27**	**92**	Pn	**Pn**	**08 08 06.4**	**-3.0**
GDLE	**Glaisdale, N Y**	**13.27**	**133**	*e*P	**Pn**	**08 08 09.8**	**+0.5**
NBO00	**NORSAR Array S**	**13.38**	**93**		**Pn**	**08 08 07.8**	**-3.1**
NBO00	**NORSAR Array S**	**13.38**	**93**	*e*P	**Pn**	**08 08 09.0**	**-2.0**
STEI	**Steigen**	**13.50**	**61**	*e*P	**Pn**	**08 08 10.8**	**-1.6**
NAO01	**NORSAR Array S**	**13.52**	**93**		**Pn**	**08 08 10.1**	**-2.7**
FAUS	**Fauske**	**13.54**	**64**	*e*P	**Pn**	**08 08 11.2**	**-1.8**
NC303	**NORSAR Array S**	**13.55**	**91**	Pn	**Pn**	**08 08 11.4**	**-1.8**
NB2	**NORSAR Subarra**	**13.57**	**92**	Pn	**Pn**	**08 08 10.8**	**-2.7**
NB2	**NORSAR Subarra**	**13.57**	**92**	Pn	**Pn**	**08 08 10.7**	**-2.7**
	comp=Z,667nm,3.3s,baz=297,slow=14						
NB2	**NORSAR Subarra**	**13.57**	**92**	Pn	**Pn**	**08 08 10.8**	**-2.7**
NOA	**NORSAR Array B**	**13.57**	**92**	Pn	**Pn**	**08 08 10.0**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=300,slow=13,SNR=7.6						
NOA				Sn	**Sn**	**08 10 41.7**	**-2.4**
	baz=327,slow=13,SNR=1.5						
NOA				LR	LR	08 13 12.8	
	comp=Z,6μm,20.8s,baz=300,slow=36						
NOA	**NORSAR Array B**	**13.57**	**92**	P	**Pn**	**08 08 10.0**	**-3.5**
KONO	**Kongsberg**	**13.58**	**99**	‖*e*P	**Pn**	**08 08 12.2**	**-1.4**
KONO				pmax	pmax		
	comp=Z,71nm,3.8s						
KONO	**Kongsberg**	**13.58**	**99**	*e*P	**Pn**	**08 08 10.0**	**-3.6**
NB201	**NORSAR Array S**	**13.60**	**92**	Pn	**Pn**	**08 08 14.8**	**+0.9**
SFJD	**Kangerlussuaq**	**13.64**	**295**	Lg	Lg	08 11 57.3	
	comp=Z,0.3nm,0.3s,baz=344,slow=22,SNR=3.0						
SFJD				LR	LR	08 13 02.8	
	comp=Z,16μm,19.5s,baz=88,slow=35						
NC405	**NORSAR Array S**	**13.75**	**91**		**Pn**	**08 08 14.8**	**-1.2**
NC602	**NORSAR Array S**	**13.85**	**93**		**Pn**	**08 08 16.4**	**-0.9**
NRA0	**NORESS Array S**	**13.85**	**93**	Pn	**Pn**	**08 08 16.2**	**-1.1**
	baz=270,slow=14						
NRA0	**NORESS Array S**	**13.85**	**93**	Pn	**Pn**	**08 08 16.2**	**-1.1**
	baz=270,slow=14						
LBWR	**Ladybower, Pea**	**13.86**	**137**	*e*P	**Pn**	**08 08 16.0**	**-1.5**
LBWR				IAMs_20	IAMs_20	08 13 47.4	
	comp=Z,18μm,14.2s						
HOMB	**Homborsund**	**13.93**	**105**	*e*P	**Pn**	**08 08 17.1**	**-1.2**
NOD	**Norderasen**	**14.17**	**80**	*e*P	**Pn**	**08 08 23.5**	**+1.9**
STRU	**Stroemstad**	**14.60**	**99**	*e*P	**Pn**	**08 08 23.2**	**-4.3**
HFS	**Hagfors**	**15.08**	**93**	P	**Pn**	**08 08 34.3**	**+0.3**
	baz=315,slow=8.6						
HFS	**Hagfors**	**15.08**	**93**	Pn	**Pn**	**08 08 32.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=322,slow=9.1,SNR=2.0						
HFS				LR	LR	08 13 59.1	
	comp=Z,7μm,21.9s,baz=278,slow=36						
HFS	**Hagfors**	**15.08**	**93**	P	**Pn**	**08 08 34.3**	**+0.3**
	baz=315,slow=8.6						
MUD	**Monsted U'grnd**	**15.39**	**110**	*i* P	**Pn**	**08 08 36.6**	**-1.5**
	comp=Z,8μm,12.0s						
MUD	**Monsted U'grnd**	**15.39**	**110**	*i* P	**Pn**	**08 08 36.6**	**-1.5**
MUD				MLR	MLR		
	comp=Z,8μm,12.0s						
MUD	**Monsted U'grnd**	**15.39**	**110**	*e*P	**Pn**	**08 08 35.4**	**-2.7**
KIF	**Kilpisjarvi**	**15.52**	**57**	P	**Pn**	**08 08 41.4**	**+1.7**
KIF	**Kilpisjarvi**	**15.52**	**57**	P	**Pn**	**08 08 41.4**	**+1.7**
HSPB	**Hornsund (broa**	**16.10**	**26**	*e*P	**P**	**08 08 56.2**	**+5.7**
HSPB	**Hornsund (broa**	**16.10**	**26**	⇓*i*P	**P**	**08 08 49.5**	**-1.0**
HSPB				*e*S	**Sn**

comp=Z,2μm,3.0s,baz=325,slow=11
WLF Walferdange 19.58 129 P **P 08 09 29.2 +0.1**
WLF Walferdange 19.58 129 P **P 08 09 27.3 -1.7**
WLF pmax pmax
comp=Z,234nm,1.8s
WLF Walferdange 19.58 129 *e*P **P 08 09 27.3 -1.7**
comp=Z,266nm,1.9s,baz=325,slow=11
WLF Walferdange 19.58 129 P **P 08 09 27.3 -1.7**
WLF IAmb IAmb 08 09 35.9
comp=Z,234nm,1.8s
FIA0 FINESS Array S 19.74 79 P **P 08 09 29.1 -1.6**
baz=307,slow=6.9
FIA0 FINESS Array S 19.74 79 P **P 08 09 29.1 -1.6**
baz=307,slow=6.9
FINES FINESS Array B 19.74 79 P **P 08 09 30.8 +0.1**
comp=Z,0.4nm,0.3s,baz=328,slow=6.9,SNR=22
FINES LR LR 08 16 42.1
comp=Z,5μm,20.9s,baz=306,slow=36
FINES FINESS Array B 19.74 79 P **P 08 09 29.3 -1.4**
FIA1 FINESS Array S 19.74 79 P **P 08 09 29.5 -1.1**
FIA1 IAmb IAmb 08 09 58.4
comp=Z,315nm,1.9s
CLF Chambon-Foret 19.81 138 P **P 08 09 31.0 -0.5**
TNS Taunus Mts 19.91 124 *e*P **P 08 09 30.8 -1.9**
comp=Z,9μm,6.3s,baz=325,slow=11
UBBA Unterbreizbach 19.98 121 *e*P **P 08 09 31.9 -1.3**
comp=Z,295nm,2.0s,baz=325,slow=11
RUE Ruedersdorf 20.13 112 *e*P **P 08 09 35.5 +0.6**
RUE Ruedersdorf 20.13 112 *e*P **P 08 09 32.9 -2.0**
comp=Z,1μm,2.9s,baz=325,slow=11
SLIT Slitere, Latvi 20.18 92 *e*P **P 08 09 35.0 -0.5**
APA0 Apatity Array 20.21 59 P **P 08 09 34.7 -1.0**
APA0 Apatity Array 20.21 59 P **P 08 09 34.7 -1.0**
NEUB Neuenburg 20.34 117 *e*P **P 08 09 36.5 -0.7**
comp=Z,345nm,1.5s,baz=325,slow=11
APA Apatity 20.37 59⇓*i*P Pn 08 09 40.9 +1.4
APA *i* S **S 08 13 24.0 -1.2**
APA pmax pmax
comp=Z,41nm,0.9s
MOX Moxa 20.73 119 *e*P **P 08 09 41.4 -0.1**
comp=Z,196nm,1.4s,baz=325,slow=11
MOX *e*L L 08 18 43.7
comp=Z,9μm,18.3s
CLL Collm 20.73 116 *i* P **P 08 09 40.7 -0.8**
comp=Z,142nm,1.5s
CLL *e*Plp 08 09 42.0
CLL *i* sP **sP 08 09 45.8 -0.5**
comp=Z,179nm,1.4s
CLL *e*Pmax 08 09 48.0
CLL *i* 08 09 53.7
CLL *e* 08 11 30.0
CLL *e*S Sn 08 13 35.0 -2.5
CLL *e* 08 14 14.0
CLL Lmax 08 19 00.0
CLL Collm 20.73 116 *i* P **P 08 09 40.7 -0.8**
CLL *i* 08 09 45.8
CLL *e*S Sn 08 13 35.0 -2.5
CLL pmax pmax
comp=Z,142nm,1.5s
CLL Collm 20.73 116 *e*P **P 08 09 40.7 -0.8**
comp=Z,179nm,1.4s,baz=325,slow=11
CLL Collm 20.73 116 P **P 08 09 40.7 -0.8**
CLL IAmb IAmb 08 09 47.3
comp=Z,146nm,1.3s
CLL IAMs_20 IAMs_20 08 18 36.3
comp=Z,7μm,18.0s
LVZ Lovozero 20.73 58⇓*e*P Pn 08 09 43.8 0.0
LVZ pmax pmax
comp=Z,98nm,1.7s
LVZ Lovozero 20.73 58 P **P 08 09 41.2 -0.2**
LVZ IAmb IAmb 08 09 57.7
comp=Z,362nm,1.8s
GKP Gorka Klasztor 20.94 106 *e*P Pn 08 09 48.5 +2.1
PBUR Paburge 21.03 96 *e*P **P 08 09 44.6 -0.1**
PLN Plauen 21.06 118 *e*P **P 08 09 45.0 0.0**
comp=Z,238nm,1.5s,baz=325,slow=11
WERD Werda 21.15 118 *e*P **P 08 09 46.0 -0.1**
comp=Z,901nm,2.5s,baz=325,slow=11
ECH Echery 21.17 129 P **P 08 09 44.8 -1.5**
ECH pmax pmax
comp=Z,96nm,1.2s
ECH MLR MLR
comp=Z,5μm,18.0s
ECH Echery 21.17 129 P **P 08 09 44.8 -1.5**
FBE Freiberg 21.17 116 *e*P **P 08 09 46.2 -0.1**
comp=Z,719nm,2.0s,baz=325,slow=11
GUNZ Gunzen 21.22 118 *e*P **P 08 09 46.9 0.0**
comp=Z,444nm,1.8s,baz=325,slow=11
TANN Tannenbergstha 21.23 118 *e*P **P 08 09 47.0 0.0**
comp=Z,2μm,2.4s,baz=325,slow=11
KLNR Kaliningrad 21.25 100 *ce*P **P 08 09 47.3 +0.3**
KLNR pmax pmax
comp=Z,290nm,2.2s
WERN Wernitzgruen 21.30 118 *e*P **P 08 09 47.8 +0.1**
comp=Z,348nm,1.5s,baz=325,slow=11
GRA1 Grafenberg Arr 21.35 121 P **P 08 09 49.2 +0.9**
GRA1 IAmb IAmb 08 10 04.8
comp=Z,276nm,1.5s
GRF Grafenberg Arr 21.35 121 P **P 08 09 49.2 +0.9**
GRF pmax pmax
comp=Z,276nm,1.5s
GRF MLR MLR
comp=Z,4μm,21.0s
GRF Grafenberg Arr 21.35 121 *e*P **P 08 09 48.9 +0.7**
comp=Z,256nm,1.6s,baz=325,slow=11
GRF *e*L L 08 19 28.4
comp=Z,6μm,18.0s
NKC Novy Kostel 21.37 118 *e*P **P 08 09 48.5 0.0**
NKC *e*pP **sP 08 09 53.2 -0.1**
NKC *e*S Sn 08 13 55.5 +2.5
NKC AMS AMS 08 18 50.0
comp=Z,9μm,17.7s
NKC Novy Kostel 21.37 118 *e*P **P 08 09 48.5 0.0**
NKC *e* 08 09 53.2
NKC *e*S Sn 08 13 55.5 +2.5
NKC MLR MLR
comp=Z,9μm,17.7s
STU Stuttgart 21.39 125 P **P 08 09 49.0 +0.3**
STU pmax pmax
comp=Z,297nm,1.5s
STU MLR MLR
comp=Z,7μm,18.0s
STU Stuttgart 21.39 125 *e*P **P 08 09 49.4 +0.7**
comp=Z,411nm,1.7s,baz=325,slow=11
STU Stuttgart 21.39 125 P **P 08 09 49.0 +0.3**
STU IAmb IAmb 08 09 54.6
comp=Z,297nm,1.5s
STU IAMs_20 IAMs_20 08 18 55.7
comp=Z,7μm,18.0s
BRG Berggiesshubel 21.44 115 *i* P **P 08 09 49.3 +0.2**
comp=Z,501nm,1.8s
BRG *i* 08 09 54.6
comp=Z,609nm,2.0s
BRG S Sn 08 13 53.0 -1.5
comp=N,8μm,18.0s
comp=E,6μm,13.5s
comp=Z,11μm,16.4s
BRG Berggiesshubel 21.44 115 *i* P **P 08 09 49.3 +0.2**
BRG *i* 08 09 54.6
BRG S Sn 08 13 53.0 -1.5
BRG pmax pmax
comp=Z,501nm,1.8s
BRG MLR MLR
comp=N,8μm,18.0s
BRG MLR MLR
comp=E,6μm,13.5s
BRG MLR MLR
comp=Z,11μm,16.4s
BRG Berggiesshubel 21.44 115 *e*P **P 08 09 49.0 -0.1**
comp=Z,502nm,1.8s,baz=325,slow=11
MANZ Manzenberg 21.44 119 *e*P **P 08 09 49.4 +0.2**
comp=Z,228nm,1.7s,baz=325,slow=11
BFO Black Forest 21.47 127 P **P 08 09 47.3 -2.2**
BFO pmax pmax
comp=Z,260nm,1.5s
BFO MLR MLR
comp=Z,6μm,18.0s
BFO Black Forest 21.47 127 *e*P **P 08 09 50.3 +0.8**
comp=Z,284nm,1.6s,baz=325,slow=11
BFO Black Forest 21.47 127 P **P 08 09 47.3 -2.2**
BFO IAmb IAmb 08 09 57.3
comp=Z,260nm,1.5s
BFO IAMs_20 IAMs_20 08 18 47.7
comp=Z,6μm,18.0s
VSU Vasula 21.60 86 *e*P **P 08 09 50.4 -0.5**
VSU Vasula 21.60 86⇑*i*P **P 08 09 50.3 -0.5**
VSU pmax pmax
comp=Z,65nm,1.1s
ROTZ Rotzenmuhle 21.66 119 *e*P **P 08 09 51.0 -0.5**
comp=Z,165nm,1.6s,baz=325,slow=11
FRB Frobisher Bay 21.72 291 P **P 08 09 53.8 +1.7**
comp=Z,24nm,0.9s,baz=63,slow=13,SNR=3.9
FRB LR LR 08 17 53.0
comp=Z,6μm,19.2s,baz=68,slow=36
PVCC Panska Ves 21.95 115 *e*P **P 08 09 54.5 -0.2**
PVCC AMS AMS 08 19 30.0
comp=Z,8μm,16.9s
PVCC Panska Ves 21.95 115 *e*P **P 08 09 54.5 -0.2**
PVCC MLR MLR
comp=Z,8μm,16.9s
SLVR Solovky 22.11 65 *e*P **P 08 09 54.3 -1.9**
comp=Z,197nm,1.8s
SLVR *e*S **S 08 13 56.9 -2.5**
PABE Paberze 22.24 95 *e*P **P 08 09 58.1 +0.4**
PRA Prague 22.27 116 *e*S Sn 08 14 08.4 -5.9
PRA AMS AMS 08 19 50.0
comp=Z,4μm,15.9s
PRU Pruhonice 22.37 116 *e*P **P 08 09 59.2 0.0**
PRU *e*pP **sP 08 10 04.1 +0.1**
PRU *e*S **S 08 14 08.0 +3.3**
PRU AMS AMS 08 19 50.0
comp=Z,7μm,15.7s
PRU Pruhonice 22.37 116 *e*P **P 08 09 59.2 0.0**
PRU *e* 08 10 04.1
PRU *e*S **S 08 14 08.0 +3.3**
PRU MLR MLR
comp=Z,7μm,15.7s
KSP Ksiaz 22.39 112 *e*P **P 08 09 59.5 +0.2**
PUL Pulkovo 22.40 80 *e*P **P 08 09 59.1 -0.2**
PUL Pulkovo 22.40 80⇑*e*P **P 08 10 00.7 +1.4**
PUL pmax pmax
comp=Z,127nm,1.1s
WET Wettzell 22.42 119 *e*P **P 08 09 58.8 -0.9**
comp=Z,784nm,2.8s,baz=325,slow=11
CHVC Chvalec 22.49 113 *e*P **P 08 10 00.5 0.0**
CHVC *e*S Sn 08 14 14.1 -5.7
CHVC AMS AMS 08 19 10.0
comp=Z,7μm,18.4s
GOPC GO Pecny, Ondr 22.53 115 *e*P **P 08 10 00.5 -0.4**
GOPC *e*x x 08 10 06.1
GOPC *e*S **S 08 14 13.2 +5.6**
GOPC AMS AMS 08 20 00.0
comp=Z,8μm,15.8s
GOPC GO Pecny, Ondr 22.53 115 *e*P **P 08 10 00.5 -0.4**
GOPC *e* 08 10 06.1
GOPC MLR MLR
comp=Z,8μm,15.8s
UPC Upice 22.54 113 *e*P **P 08 10 00.9 0.0**
UPC *e*S **S 08 14 13.9 +6.1**
UPC AMS AMS 08 19 00.0
comp=Z,8μm,19.0s
UPC Upice 22.54 113 *e*P **P 08 10 00.9 0.0**
UPC MLR MLR
comp=Z,8μm,19.0s
OSTC Ostas 22.58 112 *e*P **P 08 10 02.1 +0.7**
OSTC *e*S **S 08 14 14.2 +5.6**
OSTC AMS AMS 08 19 10.0
comp=Z,7μm,18.0s
UBR Ueberruh 22.64 125 *e*P **P 08 10 00.5 -1.6**
comp=Z,428nm,1.5s,baz=325,slow=11
FUR Furstenfeldbru 22.64 123 *e*P **P 08 10 01.9 -0.2**
comp=Z,483nm,1.6s,baz=325,slow=11
KHC Kasperske Hory 22.70 118 *e*P **P 08 10 02.4 -0.2**
KHC *e*x x 08 10 12.5
KHC *e*S Sn 08 14 19.2 -5.6
KHC AMS AMS 08 19 30.0
comp=Z,7μm,18.5s
KHC Kasperske Hory 22.70 118 *e*P **P 08 10 02.4 -0.2**
KHC MLR MLR
comp=Z,7μm,18.5s
KHC Kasperske Hory 22.70 118 P **P 08 10 02.5 -0.2**
DPC Dobruska-Polom 22.79 113 *e*P **P 08 10 04.1 +0.5**
DPC *e*S **S 08 14 18.2 +5.8**
DPC AMS AMS 08 19 40.0
comp=Z,6μm,18.4s
DPC Dobruska-Polom 22.79 113 *e*P **P 08 10 04.1 +0.5**
DPC MLR MLR
comp=Z,6μm,18.4s
SENIN Lac Senin/Sane 22.84 131 P **P 08 10 04.0 -0.3**
SENIN IAmb IAmb 08 10 28.8
comp=Z,151nm,1.6s
DAVA Damuels 22.90 126 *i* pP **P 08 10 06.6 +1.7**
comp=Z,82nm,1.2s,SNR=17
SUW Suwalki 22.92 98 *e*P **P 08 10 04.7 -0.2**
SUW Suwalki 22.92 98 P **P 08 10 03.5 -1.3**
SUW pmax pmax
comp=Z,364nm,1.4s
SUW Suwalki 22.92 98 P **P 08 10 03.5 -1.3**
SSB Saint Sauveur 22.96 137 P **P 08 10 04.0 -1.4**
SSB pmax pmax
comp=Z,150nm,1.4s
SSB MLR MLR
comp=Z,10μm,18.0s
SSB Saint Sauveur 22.96 137 P **P 08 10 04.0 -1.4**
SSB IAmb IAmb 08 10 20.3
comp=Z,150nm,1.4s
SSB Saint Sauveur 22.96 137 IAMs_20 IAMs_20 08 19 29.2
comp=Z,10μm,18.0s
GEC2 GERESS Array S 22.98 119 *e*P **P 08 10 05.8 +0.1**
comp=Z,2μm,3.1s,baz=325,slow=11
GEC2 GERESS Array S 22.98 119 P **P 08 10 05.1 -0.6**
GEC2 IAMs_20 IAMs_20 08 19 32.7
comp=Z,7μm,20.0s
GERES GERESS Array B 22.98 119 P **P 08 10 05.6 0.0**
comp=Z,11nm,1.0s,baz=327,slow=9.5,SNR=40
GERES LR LR 08 19 52.6
comp=Z,7μm,19.5s,baz=324,slow=39
GERES GERESS Array B 22.98 119 P **P 08 10 05.0 -0.7**
RETA Reutte 23.04 125 *i* P **P 08 10 06.5 +0.3**
comp=Z,66nm,1.7s,SNR=15
IZAR Zarasai 23.06 92 *e*P **P 08 10 06.0 -0.3**
ZFI2 Zemlya Franca- 23.10 22 P **P 08 10 05.0 -1.6**
comp=Z,10nm,1.0s
ZFI2 *e*S **S 08 14 15.5 -1.8**
ISAL Salakas 23.13 92 *e*P **P 08 10 07.7 +0.7**
KRLC Kraliky 23.18 113 *e*P **P 08 10 07.9 +0.2**
KRLC *e*S **S 08 14 24.4 +5.2**
KRLC AMS AMS 08 19 30.0
comp=Z,6μm,18.5s
KRLC Kraliky 23.18 113 *e*P **P 08 10 07.9 +0.2**
KRLC MLR MLR
comp=Z,6μm,18.5s
MOTA Moosalm 23.28 124 *i* P **P 08 10 09.4 +0.6**
comp=Z,60nm,1.4s,SNR=18
TREC Trest 23.30 115 *e*P **P 08 10 09.6 +0.7**
TREC AMS AMS 08 20 20.0
comp=Z,6μm,16.3s
TREC Trest 23.30 115 *e*P **P 08 10 09.6 +0.7**
TREC MLR MLR
comp=Z,6μm,16.3s
IIGN Ignalina 23.32 93 *e*P **P 08 10 09.6 +0.6**
DAVOX Davos/Dischmat 23.34 127 P **P 08 10 08.6 -0.8**
comp=Z,12nm,0.8s,baz=334,slow=11,SNR=18
DAVOX LR LR 08 20 19.0
comp=Z,6μm,18.6s,baz=342,slow=40
PGAV Gavieira, Arco 23.34 162 *e*P **P 08 10 09.7 +0.2**
comp=Z,119nm,1.9s
PGAV *e*S **S 08 14 24.9 +2.9**
TMCR Tamitsa 23.39 66 *e*P **P 08 10 10.6 +1.1**
TMCR *e*S **S 08 14 25.0 +2.9**
TMCR Tamitsa 23.39 66 *e*P **P 08 10 10.6 +1.1**
TMCR *e*S **S 08 14 24.1 +2.0**
TMCR pmax pmax
comp=Z,121nm,0.9s
TUE Stuetta 23.42 128 P **P 08 10 10.8 +0.4**
TUE IAmb IAmb 08 10 33.3
comp=Z,212nm,1.6s
TUE IAMs_20 IAMs_20 08 19 31.4
comp=Z,7μm,20.0s
SQTA Sankt Quirin 23.42 124 *i* P **P 08 10 10.8 +0.6**
comp=Z,57nm,1.1s,SNR=15
FETA Feichten 23.42 125 *i* P **P 08 10 10.5 +0.2**
comp=Z,52nm,1.2s,SNR=14
WATA Walderalm 23.46 124 *i* P **P 08 10 11.2 +0.6**
comp=Z,56nm,1.4s,SNR=13
BEL Belsk 23.47 105 *e*P **P 08 10 11.7 +1.2**
WTTA Wattenberg 23.54 124 *i* P **P 08 10 12.1 +0.7**
comp=Z,72nm,1.3s,SNR=22
RJOB Jochberg 23.56 121 *e*P **P 08 10 10.4 -1.1**
comp=Z,196nm,1.6s,baz=325,slow=11
IDID Didziasalis 23.56 92 *e*P **P 08 10 11.6 +0.3**
FUORN Ofenpass-Fuorn 23.61 126 P **P 08 10 11.3 -0.9**
FUORN IAmb IAmb 08 11 06.7
comp=Z,243nm,1.9s
FUORN IAMs_20 IAMs_20 08 20 26.3
comp=Z,7μm,18.0s
PCAB Cabril 23.63 162 *e*P **P 08 10 13.3 +1.1**
comp=Z,111nm,1.6s
EUNU Eureka 23.67 336 P **P 08 10 15.0 +2.6**
PBRG Braganca 23.72 160 *e*P **P 08 10 12.4 -0.7**
comp=Z,78nm,1.7s
VRAC Vranov 23.72 114 P **P 08 10 12.9 -0.1**
comp=Z,16nm,0.9s,baz=325,slow=10,SNR=31
VRAC LR LR 08 20 45.9
comp=Z,8μm,18.1s,baz=319,slow=40
VRAC Vranov 23.72 114⇓*i*P **P 08 10 13.0 -0.1**
VRAC Vranov 23.72 114⇓*i*P **P 08 10 12.3 -0.7**
VRAC *e*S **S 08 14 33.4 +5.6**
MORC Moravsky Berou 23.72 112⇓*i*P **P 08 10 12.3 -0.8**
MORC *e*S **S 08 14 33.5 +5.6**
MORC Moravsky Berou 23.72 112 P **P 08 10 12.7 -0.4**
MORC pmax pmax
comp=Z,428nm,2.0s
MORC MLR MLR
comp=Z,6μm,20.0s
MORC Moravsky Berou 23.72 112 P **P 08 10 12.7 -0.4**
MORC IAMs_20 IAMs_20 08 19 57.5
comp=Z,6μm,20.0s
BNI Bardonecchia 23.81 134 P **P 08 10 13.1 -1.0**
BNI pmax pmax
comp=Z,242nm,1.9s
BNI MLR MLR
comp=Z,10μm,18.0s
BNI Bardonecchia 23.81 134 P **P 08 10 13.1 -1.0**
BNI IAmb IAmb 08 10 18.8
comp=Z,242nm,1.9s
KRUC Moravsky 23.84 115⇓*i*P **P 08 10 13.1 -1.0**
KRUC *e*S **S 08 14 34.1 +4.4**
NACGM Naroch 23.85 93 *e*P **P 08 10 12.0 -2.2**
NACGM *e*P **pP 08 10 14.0 -3.7**
NACGM *e*S **S 08 14 24.0 -5.8**
NACGM *e*SS SnSn 08 15 28.0 +20
NACGM *e*LQ LQ 08 17 16.0
NACGM *e*LR LR 08 18 24.0
NACGM LRM MLR 08 19 50.0
comp=Z,5.7nm,16.0s
MOA Molln 24.01 119 *i* P **P 08 10 15.9 +0.1**
comp=Z,39nm,1.4s,SNR=12
MOA Molln 24.01 119 *e*P **P 08 10 14.6 -1.2**
comp=Z,3μm,4.9s,baz=325,slow=11
PVRL Vila Real 24.10 162 *e*P **P 08 10 17.5 +0.8**
comp=Z,133nm,1.7s
OJC Ojcow 24.29 109 *e*P **P 08 10 18.2 -0.2**
OJC Ojcow 24.29 109 P **P 08 10 17.1 -1.3**
OJC pmax pmax
comp=Z,296nm,2.0s
OJC Ojcow 24.29 109 P **P 08 10 17.1 -1.3**
ABTA Abfaltersbach 24.29 123 *i* pP **P 08 10 19.8 +1.3**
comp=Z,41nm,1.3s,SNR=9.8
MVO Moncorvo 24.30 160 *e*P **P 08 10 18.9 +0.3**
comp=Z,122nm,1.9s
MVO *e*S **S 08 14 42.5 +5.2**
KBA Koelnbreinsper 24.32 121 *i* P **P 08 10 19.8 +1.0**
comp=Z,54nm,1.4s,SNR=15
KBA Koelnbreinsper 24.32 121 *e*P **P 08 10 18.8 0.0**
comp=Z,2μm,4.0s,baz=325,slow=11
JAVC Velka Javorina 24.50 113⇓*i*P **P 08 10 21.0 +0.6**
JAVC *e*S **S 08 14 48.9 +8.4**
CONA Conrad Observa 24.55 117 *i* P **P 08 10 21.3 +0.4**
comp=Z,21nm,0.9s,SNR=17
SALO Salr 24.57 127 P **P 08 10 19.0 -1.9**
SALO IAmb IAmb 08 10 28.2
comp=Z,198nm,1.8s
SALO IAMs_20 IAMs_20 08 20 48.7
comp=Z,6μm,19.0s
CTI Castel Tesino 24.59 125 P **P 08 10 21.8 +0.6**
CTI pmax pmax
comp=Z,72nm,1.1s
CTI MLR MLR
comp=Z,4μm,18.0s
CTI Castel Tesino 24.59 125 P **P 08 10 21.8 +0.6**
CTI IAmb IAmb 08 10 30.2
comp=Z,72nm,1.1s
MICGM Minsk 24.60 93⇓*e*P **P 08 10 21.0 -0.1**
MICGM ⇓*e*P **P 08 10 21.0 -0.1**
MICGM PM 08 10 22.0
comp=Z,0.3nm,2.0s
MICGM PM 08 10 22.0
comp=Z,5.1nm,6.0s
MICGM PM 08 10 23.0
comp=N,0.2nm,2.0s
MICGM PM 08 10 23.0
comp=E,0.2nm,1.8s
MICGM *e*PP **PnPn 08 10 52.0 -0.1**
MICGM *e*PPP PPP 08 11 12.0
MICGM *e*S **S 08 14 42.0 +0.3**
MICGM SM 08 14 48.0
comp=E,7.5nm,8.0s
MICGM SM 08 14 50.0
comp=N,9.6nm,8.0s
MICGM *e*SS SnSn 08 15 42.0 +16
MICGM *e*LQ LQ 08 18 10.0
MICGM *e*LR LR 08 20 00.0
MICGM LRM MLR 08 21 32.0
comp=Z,6.0nm,16.0s
MNK Minsk 24.60 93κ *i*P **P 08 10 21.0 -0.1**
MNK *e* 08 10 52.0
MNK *e*PPP PPP 08 11 12.0
MNK *e*S **S 08 14 42.0 +0.3**
MNK pmax pmax
comp=N,240nm,2.0s
MNK pmax pmax
comp=Z,250nm,2.0s
MNK pmax pmax
comp=E,170nm,1.8s
MNK pmax pmax
comp=Z,5μm,6.0s
MNK smax smax
comp=N,10μm,8.0s
MNK smax smax
comp=E,8μm,8.0s
MNK MLR MLR
comp=Z,6μm,16.0s
ZOU Zoufplan 24.62 123 P **P 08 10 22.0 +0.4**
PVIS Viseu 24.62 162 *e*P **P 08 10 22.2 +0.7**
comp=Z,96nm,2.1s
CIMO Cimolais 24.64 124 P **P 08 10 22.0 +0.4**
CIMO IAmb IAmb 08 10 41.8
comp=Z,88nm,1.4s
SMOL Smolenice 24.69 114 *e*P **P 08 10 22.9 +0.9**
SMOL pmax pmax
comp=Z,50nm,1.4s
SMOL Smolenice 24.69 114 *e*P **P 08 10 22.9 +0.9**
MODS Modra-Piesok 24.74 114 *e*P **P 08 10 22.4 -0.1**
MODS pmax pmax
comp=Z,311nm,2.1s
MODS Modra-Piesok 24.74 114 *e*P **P 08 10 22.4 -0.1**
STAL STALIGIAL 24.78 123 P **P 08 10 23.0 +0.2**
MYKA Terra Mystica 24.80 122 *i* P **P 08 10 24.4 +1.3**
comp=Z,36nm,1.2s,SNR=11
PRED Cave del Predi 24.93 122 P **P 08 10 23.6 -0.7**
PRED IAmb IAmb 08 10 36.0
comp=Z,111nm,1.3s
ARSA Arzberg 24.98 118 *i* P **P 08 10 26.2 +1.5**
comp=Z,28nm,1.1s
ARSA Arzberg 24.98 118 *e*P **P 08 10 24.7 0.0**
comp=Z,44nm,0.5s,baz=325,slow=11
LANS Liptovska Anna 24.99 111 *e*P **P 08 10 25.9 +1.2**
LANS pmax pmax
comp=Z,21nm,1.0s
LANS Liptovska Anna 24.99 111 *e*P **P 08 10 25.9 +1.2**
COI Coimbra 25.06 163 P **P 08 10 25.4 +0.1**
COI pmax pmax
comp=Z,127nm,1.2s
COI MLR MLR
comp=Z,7μm,19.0s
COI Coimbra 25.06 163 P **P 08 10 25.4 +0.1**
COI IAMs_20 IAMs_20 08 18 53.1
comp=Z,7μm,19.0s
COI Coimbra 25.06 163 *e*P **P 08 10 26.7 +1.4**
comp=Z,196nm,1.4s
NIE Niedzica 25.12 109 *e*P **P 08 10 26.6 +0.7**
CADS Cadrg 25.18 122 *i* P **P 08 10 26.1 -0.3**
CADS *e*S **S 08 14 57.2 +5.9**
CADS *e* 08 15 13.6
TEOL Teolo 25.19 126 P **P 08 10 26.1 -0.4**

TEOL				IAmb	IAmb	08 10 32.9	
	comp=Z,59nm,1.1s						
TEOL				IAms_20	IAms_20	08 21 19.1	
	comp=Z,5μm,18.0s						
PCAS	**Casmilo, Conde**	**25.20**	**163**	*e*P	**P**	**08 10 27.2**	**+0.6**
	comp=Z,102nm,1.6s						
OBKA	**Obir**	**25.24**	**121**	*i* P	**P**	**08 10 27.6**	**+0.5**
	comp=Z,46nm,1.4s,SNR=11						
OBKA	**Obir**	**25.24**	**121**	*e*P	**P**	**08 10 26.5**	**-0.6**
	comp=Z,89nm,1.4s,baz=325,slow=11						
VYHS	**Vyhne**	**25.26**	**112**	*e*P	**P**	**08 10 28.0**	**+0.9**
VYHS				pmax	pmax		
	comp=Z,166nm,1.7s						
VYHS	**Vyhne**	**25.26**	**112**	*e*P	**P**	**08 10 28.0**	**+0.9**
SOKA	**Soboth**	**25.28**	**120**	*i* P	**P**	**08 10 27.6**	**+0.2**
	comp=Z,22nm,1.2s,SNR=23						
MSSA	**Maissana**	**25.38**	**130**	P	**P**	**08 10 29.0**	**+0.7**
MSSA				IAmb	IAmb	08 11 14.6	
	comp=Z,125nm,1.8s						
PCBR	**Castelo Branco**	**25.54**	**162**	*e*P	**P**	**08 10 30.5**	**+0.8**
	comp=Z,84nm,1.5s						
SRO	**Srobarova**	**25.60**	**114**	*e*P	**P**	**08 10 32.0**	**+1.8**
SRO	**Srobarova**	**25.60**	**114**	*e*P	**P**	**08 10 32.0**	**+1.8**
LJU	**Ljubljana**	**25.63**	**121**	*i* P	**P**	**08 10 30.0**	**-0.4**
LJU				*e*S	**S**	**08 15 03.1**	**+4.7**
LJU	**Ljubljana**	**25.63**	**121**	⇓*i*P	**P**	**08 10 29.5**	**-1.0**
TRI	**Trieste**	**25.63**	**123**	P	**P**	**08 10 29.7**	**-0.8**
TRI				pmax	pmax		
	comp=Z,157nm,1.9s						
TRI				MLR	MLR		
	comp=Z,3μm,20.0s						
TRI	**Trieste**	**25.63**	**123**	P	**P**	**08 10 29.6**	**-0.8**
TRI				IAmb	IAmb	08 10 38.3	
	comp=Z,157nm,1.9s						
KLMR	**Klimovskoe**	**25.64**	**72**	⇓*i*P	**P**	**08 10 28.8**	**-1.7**
	comp=Z,124nm,1.5s						
KLMR				*i* S	**S**	**08 14 56.6**	**-1.7**
KLMR	**Klimovskoe**	**25.64**	**72**	*e*P	**P**	**08 10 28.7**	**-1.7**
KLMR				*e*		08 14 04.8	
KLMR				*e*S	**S**	**08 14 56.8**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,124nm,1.5s						
KLMR				MLR	MLR		
	comp=Z,3μm,18.0s						
KLMR	**Klimovskoe**	**25.64**	**72**	*e*P	**P**	**08 10 28.7**	**-1.7**
KLMR				AMP		08 10 37.1	
	comp=Z,124nm,1.5s						
KLMR				*e*PcP	**PcP**	**08 14 04.8**	**+4.3**
KLMR				*e*S	**S**	**08 14 56.8**	**-1.5**
KLMR				*e*S	**S**	**08 14 56.8**	**-1.5**
KLMR				LQ	LQ	08 17 30.4	
KLMR				LQ	LQ	08 17 30.4	
KLMR				LR	LR	08 18 39.4	
KLMR				AMP		08 20 11.5	
	comp=Z,3μm,17.8s						
PSBE	**So Bento**	**25.70**	**164**	*e*P	**P**	**08 10 33.0**	**+1.8**
	comp=Z,116nm,2.3s						
UCM	**Universidad Co**	**25.77**	**154**	⇓*i*P	**P**	**08 10 30.4**	**-1.4**
UCM				*e*S	**S**	**08 15 10.1**	**+9.4**
VLC	**Villacollemand**	**25.80**	**129**	P	**P**	**08 10 30.2**	**-1.9**
VLC				IAmb	IAmb	08 10 46.7	
	comp=Z,111nm,1.4s						
ZCCA	**Zocca**	**25.83**	**128**	P	**P**	**08 10 33.6**	**+1.2**
ZCCA				IAms_20	IAms_20	08 21 15.2	
	comp=Z,6μm,20.0s						
CEY	**Cerknica**	**25.85**	**122**	⇓*i*P	**P**	**08 10 31.6**	**-0.9**
KECS	**Kecovo**	**25.93**	**110**	*e*P	**P**	**08 10 34.6**	**+1.4**
KECS				pmax	pmax		
	comp=Z,17nm,1.3s						
KECS	**Kecovo**	**25.93**	**110**	*e*P	**P**	**08 10 34.6**	**+1.4**
KWP	**Kalwaria Pacla**	**25.94**	**106**	*e*P	**P**	**08 10 34.2**	**+0.9**
KWP	**Kalwaria Pacla**	**25.94**	**106**	P	**P**	**08 10 33.0**	**-0.3**
KWP				pmax	pmax		
	comp=Z,304nm,1.5s						
KWP				MLR	MLR		
	comp=Z,4μm,21.0s						
KWP	**Kalwaria Pacla**	**25.94**	**106**	P	**P**	**08 10 33.0**	**-0.3**
PMRV	**Marv??o**	**25.96**	**162**	*e*P	**P**	**08 10 33.8**	**+0.3**
	comp=Z,101nm,1.7s						
PMRV				*e*S	**S**	**08 15 08.9**	**+5.2**
CRVS	**Cervenica-Dubn**	**26.00**	**108**	*e*P	**P**	**08 10 34.4**	**+0.6**
CRVS				pmax	pmax		
	comp=Z,132nm,1.4s						
CRVS	**Cervenica-Dubn**	**26.00**	**108**	*e*P	**P**	**08 10 34.4**	**+0.6**
SCHQ	**Schefferville**	**26.00**	**271**	P	**P**	**08 10 34.8**	**+0.9**
	comp=Z,44nm,0.8s,baz=42,slow=7.5,SNR=20						
SCHQ				LR	LR	08 19 54.9	
	comp=Z,2μm,18.1s,baz=69,slow=34						
SCHQ	**Schefferville**	**26.00**	**271**	P	**P**	**08 10 34.9**	**+1.0**
SCHQ				IAmb	IAmb	08 10 40.0	
	comp=Z,52nm,0.9s						
LSH	**Leshukonskoye**	**26.01**	**60**	*e*P	**P**	**08 10 37.6**	**+3.9**
LSH				*e*S	**S**	**08 15 08.9**	**+4.9**
BEHE	**Becsehely**	**26.11**	**118**	⇓*i*P	**P**	**08 10 34.3**	**-0.6**
PSZ	**Piszkesteto**	**26.14**	**112**	⇓P	**P**	**08 10 36.0**	**+0.7**
PSZ	**Piszkesteto**	**26.14**	**112**	P	**P**	**08 10 35.0**	**-0.2**
PSZ				pmax	pmax		
	comp=Z,205nm,1.5s						
PSZ				MLR	MLR		
	comp=Z,4μm,20.0s						
PSZ	**Piszkesteto**	**26.14**	**112**	P	**P**	**08 10 35.0**	**-0.2**
CRES	**Cresnjev**	**26.16**	**120**	*e*P	**P**	**08 10 34.2**	**-1.1**
PMAFR	**Mafra**	**26.19**	**165**	*e*P	**P**	**08 10 36.9**	**+1.3**
	comp=Z,220nm,1.5s						
PMTG	**Montargil**	**26.20**	**163**	*e*P	**P**	**08 10 35.3**	**-0.4**
	comp=Z,80nm,1.7s						
ES18	**SONSECA Array**	**26.22**	**156**	IAms_20	IAms_20	08 20 51.6	
	comp=Z,7μm,18.0s						
ES17	**SONSECA Array**	**26.22**	**156**	IAms_20	IAms_20	08 20 51.8	
	comp=Z,7μm,18.0s						
ES16	**SONSECA Array**	**26.23**	**156**	IAms_20	IAms_20	08 21 00.0	
	comp=Z,7μm,18.0s						
ES19	**SONSECA Array**	**26.24**	**156**	IAms_20	IAms_20	08 20 54.1	
	comp=Z,7μm,18.0s						
ES07	**SONSECA Array**	**26.24**	**156**	IAms_20	IAms_20	08 20 59.2	
	comp=Z,7μm,18.0s						
ES08	**SONSECA Array**	**26.24**	**156**	IAms_20	IAms_20	08 20 52.2	
	comp=Z,7μm,18.0s						
ESBB	**Sonseca Array**	**26.25**	**156**	P	**P**	**08 10 35.0**	**-1.2**
ESBB				IAms_20	IAms_20	08 21 00.5	
	comp=Z,7μm,18.0s						
ES06	**SONSECA Array**	**26.25**	**156**	IAms_20	IAms_20	08 20 42.5	
	comp=Z,6μm,18.0s						
ESDC	**Sonseca Array**	**26.25**	**156**	P	**P**	**08 10 35.2**	**-1.0**
	comp=Z,5.3nm,0.9s,baz=346,slow=8.8,SNR=5.5						
ESDC				LR	LR	08 20 53.8	
	comp=Z,6μm,18.0s,baz=345,slow=36						
ESDC	**Sonseca Array**	**26.25**	**156**	P	**P**	**08 10 35.0**	**-1.2**
ES02	**SONSECA Array**	**26.25**	**156**	IAms_20	IAms_20	08 20 59.6	
	comp=Z,7μm,18.0s						
ES15	**SONSECA Array**	**26.25**	**156**	IAms_20	IAms_20	08 20 51.6	
	comp=Z,7μm,18.0s						
ES01	**SONSECA Array**	**26.26**	**156**	IAms_20	IAms_20	08 20 59.7	
	comp=Z,7μm,18.0s						
ES09	**SONSECA Array**	**26.26**	**156**	IAms_20	IAms_20	08 20 53.7	
	comp=Z,7μm,18.0s						
ES03	**SONSECA Array**	**26.26**	**156**	IAms_20	IAms_20	08 21 10.9	
	comp=Z,8μm,18.0s						
ES14	**SONSECA Array**	**26.27**	**156**	IAms_20	IAms_20	08 20 53.0	
	comp=Z,7μm,18.0s						
ES04	**SONSECA Array**	**26.27**	**156**	IAms_20	IAms_20	08 20 54.1	
	comp=Z,7μm,18.0s						
ES13	**SONSECA Array**	**26.27**	**156**	IAms_20	IAms_20	08 21 01.1	
	comp=Z,7μm,18.0s						
ES10	**SONSECA Array**	**26.28**	**156**	IAms_20	IAms_20	08 21 00.2	
	comp=Z,7μm,18.0s						
ES11	**SONSECA Array**	**26.28**	**156**	IAms_20	IAms_20	08 21 00.4	
	comp=Z,7μm,18.0s						
ES12	**SONSECA Array**	**26.29**	**156**	IAms_20	IAms_20	08 21 00.5	
	comp=Z,6μm,18.0s						
KOLS	**Kolonicke sedl**	**26.30**	**108**	*e*P	**P**	**08 10 36.7**	**+0.1**
KOLS				pmax	pmax		
	comp=Z,114nm,1.5s						
KOLS	**Kolonicke sedl**	**26.30**	**108**	*e*P	**P**	**08 10 36.7**	**+0.1**
PAB	**San Pablo**	**26.31**	**156**	P	**P**	**08 10 36.5**	**-0.3**
PAB				pmax	pmax		
	comp=Z,79nm,1.5s						
PAB				MLR	MLR		
	comp=Z,5μm,18.0s						
PAB	**San Pablo**	**26.31**	**156**	P	**P**	**08 10 36.5**	**-0.3**
PAB				IAmb	IAmb	08 10 52.2	
	comp=Z,79nm,1.5s						
PAB	**San Pablo**	**26.31**	**156**	IAms_20	IAms_20	08 20 51.1	
	comp=Z,5μm,18.0s						
LVV	**L'vov**	**26.34**	**104**	*e*P	**P**	**08 10 37.0**	**+0.1**
LVV				*e*S	**S**	**08 15 06.7**	**-2.9**
LVV				MLR	MLR		
	comp=Z,3μm,14.0s						
BOJS	**Bojanci**	**26.35**	**121**	*i* P	**P**	**08 10 35.6**	**-1.5**
BOJS				*e*S	**S**	**08 15 12.7**	**+3.0**
PGRA	**Graciosa**	**26.38**	**198**	*e*P	P	08 10 46.4	+9.1
SRBC	**Serra Branca**	**26.38**	**199**	*e*P	P	08 10 47.6	+10
LIS	**Lisbon**	**26.44**	**165**	*e*P	**P**	**08 10 38.7**	**+0.8**
LIS				AMb	AMB	08 10 50.9	
	comp=Z,171nm,1.3s						
LIS				*e*S	**S**	**08 15 12.4**	**+1.1**
LIS	**Lisbon**	**26.44**	**165**	*e*P	**P**	**08 10 38.6**	**+0.8**
LIS				*e*S	**S**	**08 15 12.3**	**+1.1**
LIS				pmax	pmax		
	comp=Z,171nm,1.3s						
RES	**Resolute Bay**	**26.46**	**324**	LR	LR	08 21 20.7	
	comp=Z,4μm,19.3s,baz=70,slow=37						
RES	**Resolute Bay**	**26.46**	**324**	IAms_20	IAms_20	08 21 09.3	
	comp=Z,5μm,19.0s						
UZH	**Uzhgorod**	**26.55**	**108**	*e*P	**P**	**08 10 37.8**	**-1.0**
UZH				*i* PPP	PPP	08 11 26.4	
UZH				*i* S	**S**	**08 15 06.3**	**-6.5**
UZH				MLR	MLR		
	comp=Z,340nm,14.0s						
PSCM	**Serra do Cume**	**26.59**	**197**	*e*P	P	08 10 48.5	+9.3
OSSC	**Osservatorio P**	**26.66**	**129**	P	**P**	**08 10 39.2**	**-0.7**
OSSC				IAmb	IAmb	08 11 07.0	
	comp=Z,98nm,1.3s						
ROSA	**Rosais**	**26.72**	**199**	*e*P	P	08 10 49.5	+9.1
EVO	**Evora**	**26.76**	**163**	*e*S	**S**	**08 15 22.5**	**+6.2**
CALA	**Caldeira**	**26.92**	**200**	*e*P	P	08 10 51.1	+8.8
PNCL	**Nicolau / Gran**	**27.11**	**164**	*e*P	**P**	**08 10 42.7**	**-1.2**
PBEJ	**Beja**	**27.27**	**163**	*e*P	**P**	**08 10 46.7**	**+1.3**
	comp=Z,46nm,1.9s						
BART	**Pico Bartolome**	**27.28**	**193**	*e*P	P	08 10 54.1	+8.5
PSET	**Sete Cidades**	**27.29**	**194**	*e*P	P	08 10 53.9	+8.3
MUBB	**Monte Urbino**	**27.32**	**127**	P	**P**	**08 10 45.7**	**-0.2**
CMLA	**Cha da Macela**	**27.33**	**194**	*e*P	P	08 10 54.5	+8.6
PCVE	**Castro Verde**	**27.64**	**164**	*e*P	**P**	**08 10 48.1**	**-0.6**
	comp=Z,39nm,1.6s						
PTEO	**Sao Teotonio**	**27.65**	**165**	*e*P	**P**	**08 10 50.3**	**+1.6**
LATE	**Laterza**	**27.65**	**129**	P	**P**	**08 10 48.9**	**+0.1**
PRGR	**Permogore**	**27.66**	**67**	*e*P	**P**	**08 10 51.1**	**+2.4**
	comp=Z,158nm,1.6s						
PRGR				*i* S	**S**	**08 15 36.0**	**+5.8**
PRGR	**Permogore**	**27.66**	**67**	*e*P	**P**	**08 10 51.1**	**+2.4**
PRGR				pmax	pmax		
	comp=Z,141nm,1.5s						
BLY	**Banja Luka**	**27.71**	**119**	⇓*i*P	**P**	**08 10 48.2**	**-1.1**
MAHO	**Mahon**	**27.87**	**142**	⇓*i*P	**P**	**08 10 48.7**	**-2.0**
MAHO				*e*S	**S**	**08 15 40.0**	**+6.4**
AKASG	**Malin Array Be**	**27.88**	**97**	P	**P**	**08 10 49.9**	**-0.8**
	comp=Z,7.1nm,0.9s,baz=324,slow=9.7,SNR=12						
AKASG				PcP	**PcP**	**08 14 06.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=304,slow=2.7,SNR=1.6						
AKASG				LR	LR	08 21 35.7	
	comp=Z,4μm,21.7s,baz=315,slow=36						
AKASG	**Malin Array Be**	**27.88**	**97**	*c*e*P*	**P**	**08 10 49.9**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,18nm,1.2s						
AKASG	**Malin Array Be**	**27.88**	**97**	P	**P**	**08 10 49.6**	**-1.0**
AKBB	**Malin Array Si**	**27.88**	**97**	P	**P**	**08 10 49.6**	**-1.0**
AKBB				pmax	pmax		
	comp=Z,61nm,1.4s						
AKBB				MLR	MLR		
	comp=Z,4μm,21.0s						
AKBB	**Malin Array Si**	**27.88**	**97**	P	**P**	**08 10 49.6**	**-1.0**
AKBB				IAmb	IAmb	08 10 59.2	
	comp=Z,61nm,1.4s						
MORF	**Marmelete**	**27.89**	**165**	*e*P	**P**	**08 10 51.7**	**+0.6**
MORF				AMb	AMB	08 11 00.8	
	comp=Z,64nm,1.5s						
MORF				*e*S	**S**	**08 15 35.3**	**+1.0**
MORF	**Marmelete**	**27.89**	**165**	*e*P	**P**	**08 10 51.6**	**+0.6**
MORF				*e*S	**S**	**08 15 35.2**	**+1.0**
MORF				pmax	pmax		
	comp=Z,64nm,1.5s						
MORF	**Marmelete**	**27.89**	**165**	*e*P	**P**	**08 10 49.4**	**-1.6**
NRCA	**Norcia**	**27.90**	**127**	P	**P**	**08 10 50.6**	**-0.5**
NRCA				IAmb	IAmb	08 11 04.6	
	comp=Z,105nm,1.6s						
PVAQ	**Vaqueiros**	**27.91**	**163**	IAms_20	IAms_20	08 20 09.5	
	comp=Z,7μm,20.0s						
PVAQ	**Vaqueiros**	**27.91**	**163**	*e*P	**P**	**08 10 51.4**	**+0.3**
	comp=Z,40nm,1.7s						
PVAQ				*e*S	**S**	**08 15 41.3**	**+6.9**
OBN	**Obninsk**	**27.92**	**84**	P	**P**	**08 10 51.2**	**+0.2**
	comp=Z,7.1nm,0.4s,baz=328,slow=6.0,SNR=8.8						
OBN				LR	LR	08 22 13.2	
	comp=Z,543nm,18.2s,baz=322,slow=37						
OBN	**Obninsk**	**27.92**	**84**	⇓*i*P	**P**	**08 10 51.6**	**+0.6**
OBN				*e*		08 14 07.0	
OBN				*i* S	**S**	**08 15 37.4**	**+3.1**
OBN				*e*SS	**SnSn**	**08 16 50.3**	**+2.7**
OBN				pmax	pmax		
	comp=Z,146nm,1.7s						
OBN				MLR	MLR		
	comp=Z,2μm,17.0s						
OBN	**Obninsk**	**27.92**	**84**	P	**P**	**08 10 51.8**	**+0.8**
MOS	**Moscow**	**27.96**	**82**	*e*P	**P**	**08 10 49.4**	**-1.9**
MOS				*e*		08 11 41.3	
MOS				*e*S	**S**	**08 15 34.9**	**0.0**
MOS				*e*SS	**SnSn**	**08 16 58.0**	**+10**
MOS				pmax	pmax		
	comp=Z,59nm,1.1s						
MOS				MLR	MLR		
	comp=Z,2μm,14.0s						
PBDV	**Barranco-do-Ve**	**28.04**	**163**	*e*P	**P**	**08 10 53.0**	**+0.7**
PSMN	**Pico do Norte,**	**28.04**	**193**	*e*P	P	08 11 00.6	+8.3
PFVI	**Vila Bisbo**	**28.04**	**165**	IAms_20	IAms_20	08 20 44.2	
	comp=Z,5μm,18.0s						
PFVI	**Vila Bisbo**	**28.04**	**165**	*e*P	**P**	**08 10 54.0**	**+1.7**
PSMA	**Santa Maria**	**28.05**	**193**	*e*P	P	08 11 00.4	+8.0
FRGS	**Fruska Gora**	**28.38**	**115**	⇓*i*P	**P**	**08 10 54.9**	**-0.3**
AQU	**L'Aquila**	**28.43**	**127**	⇓*i*P	**P**	**08 10 55.6**	**-0.1**
AQU	**L'Aquila**	**28.43**	**127**	IAms_20	IAms_20	08 23 42.8	
	comp=Z,6μm,18.0s						
BUR08	**Bucovina Ar. S**	**28.52**	**106**	P	**P**	**08 10 56.7**	**+0.1**
BUR08				IAmb	IAmb	08 11 20.6	
	comp=Z,117nm,1.9s						
BURAR	**Bucovina Array**	**28.55**	**106**	⇓P	**P**	**08 10 56.5**	**-0.4**
BURAR	**Bucovina Array**	**28.55**	**106**	P	**P**	**08 10 56.9**	**0.0**
CJR	**Cluj-Napoca**	**28.61**	**109**	⇓P	**P**	**08 10 58.3**	**+0.9**
BZS	**Buzias**	**28.71**	**113**	⇓P	**P**	**08 10 58.7**	**+0.6**
CART	**Cartagena**	**28.84**	**152**	IPd		08 10 58.4	
CART				*e*S	**S**	**08 15 57.5**	**+8.5**
INTR	**Introdacqua**	**28.90**	**126**	P	**P**	**08 10 59.3**	**-0.7**
EMAL	**Malaga-Limoner**	**29.01**	**158**	⇓*i*P	**P**	**08 11 00.9**	**+0.1**
EMAL				*e*S	**S**	**08 15 59.8**	**+8.1**
SFS	**San Fernando**	**29.03**	**161**	⇓*i*P	**P**	**08 11 01.4**	**+0.3**
SFS				*e*S	S	08 16 02.5	+10
BBLS	**Lazići**	**29.31**	**117**	⇓*i*P	**P**	**08 11 03.0**	**-0.6**
DIVS	**Divibare**	**29.34**	**116**	⇓*i*P	**P**	**08 11 02.7**	**-1.1**
DIVS	**Divibare**	**29.34**	**116**	P	**P**	**08 11 03.1**	**-0.8**
MDVR	**Moldovita**	**29.44**	**113**	⇓P	**P**	**08 11 05.1**	**+0.5**
HERR	**Herculane**	**29.63**	**112**	⇓P	**P**	**08 11 06.2**	**-0.1**
VSL	**Villasalto**	**29.69**	**135**	P	**P**	**08 11 05.2**	**-1.7**
LOT	**Lotru**	**29.71**	**110**	⇓P	**P**	**08 11 07.5**	**+0.3**
CEU	**Ceuta**	**29.71**	**160**	⇓*i*P	**P**	**08 11 05.2**	**-1.8**
CEU				*e*S	S	08 16 13.9	+11
SGRT	**San Giovanni R**	**29.78**	**124**	P	**P**	**08 11 07.7**	**0.0**
SGRT				IAmb	IAmb	08 11 20.2	
	comp=Z,73nm,1.7s						
BRY	**Bratogost**	**29.80**	**119**	*e*P	**P**	**08 11 03.8**	**-4.2**
PAOL	**Paolisi**	**30.00**	**126**	P	**P**	**08 11 09.6**	**-0.1**
PAOL				IAmb	IAmb	08 11 15.0	
	comp=Z,57nm,1.4s						
TESR	**Tescani**	**30.03**	**106**	⇓P	**P**	**08 11 10.9**	**+1.0**
VOIR	**Voir**	**30.24**	**109**	⇓P	**P**	**08 11 12.6**	**+0.8**
PDG	**Podgorica**	**30.48**	**119**	⇓P	**P**	**08 11 12.6**	**-1.2**
PDG	**Podgorica**	**30.48**	**119**	⇓*i*P	**P**	**08 11 11.1**	**-2.7**
PDG	**Podgorica**	**30.48**	**119**	P	**P**	**08 11 13.7**	**-0.1**
PDG				IAms_20	IAms_20	08 25 34.2	
	comp=Z,3μm,18.0s						
KIS	**Kishinev**	**30.54**	**103**	⇓*i*P	**P**	**08 11 13.6**	**-0.8**
	comp=Z,460nm,5.5s						
KIS	**Kishinev**	**30.54**	**103**	*e*PP	P	08 12 08.0	+54
KIS				*e*S	**S**	**08 16 11.6**	**-4.1**
KIS				*e*LQ	LQ	08 23 45.0	
	comp=Z,900nm,15.0s						
KIS				LRM	MLR	08 26 20.0	
	comp=Z,900nm,11.0s						
KIS	**Kishinev**	**30.54**	**103**	*d*i*P*	**P**	**08 11 13.6**	**-0.8**
KIS				*e*		08 12 08.0	
KIS				*e*S	**S**	**08 16 11.6**	**-4.1**
KIS				pmax	pmax		
	comp=Z,460nm,5.5s						
KIS				smax	smax		
	comp=E,800nm,10.0s						
KIS				MLR	MLR		
	comp=Z,1μm,13.0s						
KIS				MLR	MLR		
	comp=E,900nm,11.0s						
PLOR	**Plostina**	**30.56**	**106**	⇓P	**P**	**08 11 14.5**	**-0.1**
MLR	**Muntele Rosu**	**30.56**	**108**	⇓P	**P**	**08 11 15.5**	**+0.8**
MLR	**Muntele Rosu**	**30.56**	**108**	P	**P**	**08 11 15.8**	**+1.1**
MLR				pmax	pmax		
	comp=Z,49nm,1.4s						
MLR				MLR	MLR		
	comp=Z,4μm,20.0s						
MLR	**Muntele Rosu**	**30.56**	**108**	P	**P**	**08 11 15.8**	**+1.1**
MLR				IAmb	IAmb	08 11 21.0	
	comp=Z,50nm,1.4s						
MLR				IAms_20	IAms_20	08 24 41.4	
	comp=Z,4μm,20.0s						
VRI	**Vrincioaia**	**30.58**	**106**	⇑P	**P**	**08 11 15.5**	**+0.8**
PVLZ	**Peæn de**	**30.59**	**158**	*e*P	**P**	**08 11 10.7**	**-4.1**
PVLZ				*e*S	**S**	**08 16 20.2**	**+3.8**
RSA	**Sarsar**	**30.64**	**161**	P	**P**	**08 11 20.0**	**+4.6**
	SNR=9.1						
RSA				P	**P**	**08 11 20.0**	**+4.6**
	SNR=9.1						
DRME	**Dracevica, Mon**	**30.66**	**119**	⇓*i*P	**P**	**08 11 14.1**	**-1.4**
LPSR	**Galich'ya Gora**	**30.67**	**86**	*e*P	**P**	**08 11 15.0**	**-0.4**
LPSR				*e*S	**S**	**08 16 13.9**	**-3.6**
LPSR				pmax	pmax		
	comp=Z,40nm,1.4s						
LPSR				smax	smax		
	comp=E,1μm,5.8s						
LPSR				MLR	MLR		
	comp=Z,2μm,12.0s						
MELI	**Melilla**	**30.70**	**156**	⇓*i*P	**P**	**08 11 15.1**	**-0.7**
MELI				*e*S	**S**	**08 16 24.9**	**+6.7**
GOG	**Mont Gurugu**	**30.75**	**156**	P	**P**	**08 11 21.0**	**+4.5**
	SNR=5.6						
MATE	**Matera**	**31.09**	**124**	⇓P	**P**	**08 11 17.7**	**-1.6**
BATG	**Bathurst New B**	**31.20**	**260**	IAms_20	IAms_20	08 21 51.9	
	comp=Z,4μm,19.0s						
TAF	**Taforalt**	**31.25**	**155**	P	**P**	**08 11 25.0**	**+4.2**
	SNR=6.0						
AKLM	**AKL**	**31.30**	**158**	P	**P**	**08 11 25.0**	**+3.7**
	SNR=7.4						
AKLM				P	**P**	**08 11 25.0**	**+3.7**
	SNR=7.4						
RTC	**Rabat Centre**	**31.38**	**163**	P	**P**	**08 11 25.5**	**+3.7**
	SNR=5.9						
SICH	**Sidi Chahed**	**31.48**	**160**	P	**P**	**08 11 27.0**	**+4.2**
	SNR=7.2						
TIR	**Tirane**	**31.64**	**119**	P	**P**	**08 11 25.3**	**+1.2**
TIR				pmax	pmax		
	comp=Z,62nm,1.3s						
TIR				MLR	MLR		
	comp=Z,4μm,20.0s						
TIR	**Tirane**	**31.64**	**119**	P	**P**	**08 11 25.3**	**+1.2**
TIR				IAmb	IAmb	08 11 27.4	
	comp=Z,62nm,1.3s						
TIR				IAms_20	IAms_20	08 25 07.9	
	comp=Z,4μm,20.0s						
JBK	**JBK**	**31.70**	**156**	P	**P**	**08 11 29.0**	**+4.1**
	SNR=9.9						
JBK				P	**P**	**08 11 29.0**	**+4.1**
	SNR=9.9						
SKO	**Skopje**	**31.70**	**117**	*i* P	**P**	**08 11 25.1**	**+0.5**
CFR	**Carcaliu**	**31.72**	**106**	⇓P	**P**	**08 11 24.2**	**-0.5**
VSR	**Storozhevoye**	**31.77**	**87**	*e*P	**P**	**08 11 25.4**	**+0.3**
VSR				*e*S	**S**	**08 16 38.6**	**+3.9**
VSR				pmax	pmax		
	comp=Z,80nm,2.1s						
VSR				smax	smax		
	comp=N,1μm,5.8s						
VSR				MLR	MLR		
	comp=Z,4μm,19.0s						
VTS	**Vitosha**	**31.85**	**114**	*e*P	**P**	**08 11 25.7**	**-0.4**
PMOZ	**Porto Moniz, M**	**31.85**	**179**	*e*S	**S**	**08 16 43.7**	**+7.2**
ZHG	**ZHG**	**31.95**	**163**	P	**P**	**08 11 31.0**	**+4.1**
	SNR=7.2						
ZHG				P	**P**	**08 11 31.0**	**+4.1**
	SNR=7.2						
LCRM	**LCR**	**31.96**	**160**	P	**P**	**08 11 31.0**	**+3.9**
	SNR=8.5						
LCRM				P	**P**	**08 11 31.0**	**+3.9**
	SNR=8.5						
AVE	**Averroes**	**32.00**	**164**	⇓*i*P	**P**	**08 11 26.2**	**-1.0**
AVE				*e*S	**S**	**08 16 45.5**	**+6.9**
VORD	**Divnogorie**	**32.01**	**88**	*e*P	**P**	**08 11 26.4**	**-0.8**
VORD				*e*S	**S**	**08 16 47.2**	**+8.8**
VORD				pmax	pmax		
	comp=Z,40nm,1.4s						
TOPG	**Topolog**	**32.06**	**106**	⇓P	**P**	**08 11 28.3**	**+0.5**
IFR	**Ifrane**	**32.08**	**160**	⇓*i*P	**P**	**08 11 26.7**	**-1.6**
IFR				*e*S	**S**	**08 16 44.3**	**+4.0**
SCTE	**Santa Cesarea**	**32.24**	**122**	IAms_20	IAms_20	08 26 50.7	
	comp=Z,4μm,18

comp=Z,3μm,19.0s
RAFF Raffo Rosso 33.35 130 P P 08 11 38.3 -0.9
RAFF IAmb IAmb 08 12 07.5
comp=Z,63nm,1.5s
G65A Princeton 33.48 259 P P 08 11 38.7 -1.5
baz=37
G65A Princeton 33.48 259 IAms_20 IAms_20 08 23 21.2
comp=Z,4μm,19.0s
KDZ Kurdzhali 33.53 112 *e*P **P 08 11 40.2 -0.5**
D60A Saint Jean D'O 33.56 264 P P 08 11 40.0 -0.8
baz=39
H66A Whiting 33.71 258 P P 08 11 41.1 -1.1
baz=36
LIT Litokhoron 33.72 117 P P 08 11 42.1 -0.2
LIT pmax pmax
comp=Z,104nm,1.9s
LIT MLR MLR
comp=Z,1μm,20.0s
LIT Litokhoron 33.72 117 P P 08 11 42.1 -0.2
LIT IAmb IAmb 08 11 53.2
comp=Z,104nm,1.9s
F63A Nahmakanta, Br 33.74 261 P P 08 11 39.9 -2.5
baz=38
F63A Nahmakanta, Br 33.74 261 P P 08 11 44.4 +2.0
F63A IAmb IAmb 08 11 48.2
comp=Z,62nm,1.4s
F63A IAms_20 IAms_20 08 23 20.9
comp=Z,3μm,19.0s
E61A Lac Etchemin 33.75 263 P P 08 11 41.6 -0.9
baz=38
D59A Saint-Raymond 33.88 265 P P 08 11 41.7 -1.9
baz=39
GOLM Goulmima 33.89 160 P P 08 11 48.0 +4.0
SNR=9.9
GOLM P **P 08 11 48.0 +4.0**
SNR=9.9
G64A Maxfield 33.95 260 P P 08 11 42.7 -1.5
baz=37
F62A Pittston Farm, 33.95 262 P P 08 11 41.0 -3.3
baz=38,SNR=8.5
F62A Pittston Farm, 33.95 262 P P 08 11 46.8 +2.6
F62A IAms_20 IAms_20 08 23 29.6
comp=Z,3μm,20.0s
LATQ La Tuque 33.99 266 P P 08 11 42.2 -2.4
baz=39
PKME Peaks-Kenny Pk 34.16 261 P P 08 11 43.6 -2.5
baz=37
PKME Peaks-Kenny Pk 34.16 261 P P 08 11 46.2 +0.1
PKME IAmb IAmb 08 11 57.6
comp=Z,100nm,1.7s
PKME IAms_20 IAms_20 08 23 34.3
comp=Z,3μm,19.0s
H65A Eastbrook 34.18 259 P P 08 11 43.7 -2.5
baz=36
E60A Ste Agathe de 34.21 264 P P 08 11 43.8 -2.7
baz=38,SNR=8.4
D58A Chemin du LacG 34.26 266 P P 08 11 44.8 -2.1
baz=39,SNR=6.4
D58A S **S 08 17 22.5 +9.0**
baz=39
ARF Arif 34.26 159 P P 08 11 51.0 +3.8
SNR=9.1
MATQ Matagami 34.27 274 P P 08 11 46.4 -0.6
baz=42
MATQ S **S 08 17 20.8 +7.2**
baz=42
F61A St Evariste 34.33 263 P P 08 11 45.9 -1.6
baz=38
ALN Alexandroupoli 34.42 112 P P 08 11 48.2 -0.2
ALN pmax pmax
comp=Z,86nm,1.6s
ALN MLR MLR
comp=Z,3μm,18.0s
ALN Alexandroupoli 34.42 112 P P 08 11 48.2 -0.2
ALN IAmb IAmb 08 11 54.9
comp=Z,86nm,1.6s
ALN IAms_20 IAms_20 08 28 19.7
comp=Z,3μm,18.0s
G63A Kingsbury 34.42 261 P P 08 11 47.9 -0.5
baz=37
OUZM OUZ 34.43 163 P P 08 11 53.0 +4.3
SNR=7.5
OUZM P **P 08 11 53.0 +4.3**
SNR=7.5
LSQQ Lebel-sur-Quev 34.52 272 P P 08 11 47.3 -1.9
baz=41
E59A St. Maurice 34.58 265 P P 08 11 49.2 -0.4
baz=38
H64A Troy 34.63 260 P P 08 11 49.5 -0.7
baz=37
H64A S **S 08 17 28.2 +8.9**
baz=37
G62A West of Eustis 34.73 262 P P 08 11 49.9 -1.1
baz=37
F60A Warwick 34.74 264 P P 08 11 50.2 -0.9
baz=38
D57A Chemin Vers le 34.75 267 P P 08 11 51.7 +0.5
baz=39,SNR=19
WVL Waterville 34.88 260 IAms_20 IAms_20 08 24 04.3
comp=Z,3μm,20.0s
H63A New Sharon 34.96 261 P P 08 11 52.9 -0.1
baz=37
E58A La Victoria 34.99 266 P P 08 11 51.9 -1.3
baz=38
D56A ZEC Mazanza, M 35.10 268 P P 08 11 52.8 -1.4
baz=39,SNR=11
G61A St-Isidore-de- 35.10 263 P P 08 11 52.7 -1.6
baz=37
G61A S S 08 17 35.8 +9.3
baz=37
F59A Saint Guilaume 35.19 265 P P 08 11 54.1 -0.9
baz=38
A36M Sachs Harbour 35.20 329 P P 08 11 53.8 -0.9
baz=45
A36M S S 08 17 38.3 +11
baz=45
E57A Chemin Saint G 35.34 267 P P 08 11 56.0 -0.3
baz=38,SNR=9.0
E57A S **S 08 17 38.8 +8.7**
baz=38
ZGR Zagora 35.36 162 P P 08 11 59.0 +2.3
SNR=14
ZGR P **P 08 11 59.0 +2.3**
SNR=14
MOQ Mont Orford 35.39 264 P P 08 11 56.9 +0.1
I64A Boothbay 35.39 260 P P 08 11 56.2 -0.5
baz=36
D55A Sainte-Anne-du 35.43 269 P P 08 11 56.8 -0.2
baz=39,SNR=14
D55A S **S 08 17 39.8 +8.2**
baz=39
VLDQ Val d'Or 35.44 272 P P 08 11 58.7 +1.6
VLDQ IAmb IAmb 08 12 07.5
comp=Z,47nm,1.3s
H62A Milan 35.51 262 P P 08 11 56.6 -1.1
baz=37
H62A S S 08 17 42.4 +10
baz=37
H62A Milan 35.51 262 P P 08 11 58.1 +0.4
H62A IAmb IAmb 08 12 08.1
comp=Z,55nm,1.4s
H62A IAms_20 IAms_20 08 24 17.0
comp=Z,3μm,21.0s
G60A Masonville 35.60 264 P P 08 11 57.1 -1.4
baz=37,SNR=5.5
G60A S S 08 17 43.3 +9.2
baz=37
E56A St. Veronique 35.61 268 P P 08 11 57.7 -0.9
baz=39,SNR=10
F58A St-Lin Laurent 35.62 266 P P 08 11 58.8 +0.2
baz=38
TRQ Mont Tremblant 35.66 267 P P 08 11 59.2 +0.2
I63A Otisfield 35.69 261 P P 08 11 57.9 -1.3
baz=36
I63A Otisfield 35.69 261 IAms_20 IAms_20 08 24 29.6
comp=Z,4μm,20.0s
D54A Lac Fusel, La 35.84 270 P P 08 11 59.4 -1.1
baz=39,SNR=11
H61A Lyndonville 35.87 263 P P 08 11 59.1 -1.8
baz=37
ANN Anapa 35.95 96 *e*P **P 08 12 01.2 -0.2**
ANN *e**PP **pP 08 12 04.6 -0.5**
ANN *e* 08 13 17.8
ANN *e*S **S 08 17 40.7 +1.3**
ANN pmax pmax
comp=Z,31nm,1.0s
ANN MLR MLR
comp=N,847nm,15.0s
ANN MLR MLR
comp=Z,4μm,15.0s
G59A Clarenceville 35.97 264 P P 08 11 59.9 -1.7
baz=37
F57A Harrington 36.04 267 P P 08 12 01.4 -0.9
baz=38
ITM Ithomi 36.06 120 P P 08 12 02.6 +0.1
ITM IAms_20 IAms_20 08 29 27.9
comp=Z,4μm,19.0s
LBNH Lisbon 36.11 262 P P 08 12 00.7 -2.2
baz=36
LBNH Lisbon 36.11 262 IAms_20 IAms_20 08 24 45.8
comp=Z,3μm,20.0s
ARU Arti 36.12 66 *c i*P **P 08 12 03.8 +0.9**
ARU 08 13 23.6
ARU PPP PPP 08 13 45.0
ARU S **S 08 17 45.1 +3.2**
ARU pmax pmax
comp=Z,33nm,1.4s
ARU MLR MLR
comp=Z,6μm,20.0s
ARU Arti 36.12 66 P **P 08 12 03.7 +0.9**
ARU IAmb IAmb 08 12 12.1
comp=Z,113nm,1.7s
E55A Montcerf-Lytto 36.12 269 P P 08 12 01.9 -1.1
baz=39
I62A Tamworth 36.15 261 P P 08 12 02.7 -0.5
baz=36
I62A Tamworth 36.15 261 P P 08 12 02.1 -1.1
I62A IAms_20 IAms_20 08 24 45.9
comp=Z,3μm,20.0s
H60A Morristown 36.18 263 P P 08 12 01.7 -1.8
baz=37
G58A Ormstown 36.29 265 P P 08 12 04.1 -0.3
baz=37
D53A Lac Vacive, Po 36.34 271 P P 08 12 03.8 -1.1
baz=39,SNR=13
D53A S **S 08 17 54.0 +8.5**
baz=39
D53A Lac Vacive, Po 36.34 271 P P 08 12 07.0 +2.2
D53A IAmb IAmb 08 12 09.9
comp=Z,55nm,1.1s
FRNY Flat Rock 36.34 265 P P 08 12 07.1 +2.2
FRNY IAmb IAmb 08 12 15.9
comp=Z,67nm,1.4s
FRNY IAms_20 IAms_20 08 25 05.0
comp=Z,3μm,20.0s
VT1 Waterbury 36.39 263 P P 08 12 08.4 +3.2
VT1 IAms_20 IAms_20 08 24 55.4
comp=Z,3μm,21.0s
I61A Oroboro, Fairl 36.48 262 P P 08 12 04.9 -1.2
baz=36
NRIK Noril'sk 36.49 35 P P 08 12 07.4 +1.5
comp=Z,18nm,1.1s,baz=358,slow=2.4,SNR=12
NRIK LR LR 08 28 59.4
comp=Z,3μm,18.3s,baz=344,slow=39
J63A Strafford 36.52 261 P P 08 12 05.9 -0.5
baz=36
H59A Cadyville 36.54 264 P P 08 12 06.0 -0.6
baz=37,SNR=6.5
FFD Franklin Falls 36.61 261 IAms_20 IAms_20 08 24 59.1
comp=Z,3μm,19.0s
SVE Sverdlovsk 36.65 64 *e*P **P 08 12 08.3 +0.9**
SVE *e*S **S 08 17 52.2 +2.2**
SVE *e* 08 20 11.1
SVE pmax pmax
comp=Z,55nm,2.1s
SVE MLR MLR
comp=Z,5μm,19.0s
ORIO Orleans, Innes 36.68 267 P P 08 12 06.8 -0.9
baz=38
ORIO S S 08 18 00.2 +10
baz=38
ORIO Orleans, Innes 36.68 267 P P 08 12 10.2 +2.5
HNH Hanover 36.69 262 IAms_20 IAms_20 08 25 14.2
comp=Z,3μm,20.0s
G57A Newington 36.73 266 P P 08 12 08.8 +0.6
baz=37,SNR=18
G57A S S 08 18 00.9 +10
baz=37
F55A Otter Lake 36.74 268 P P 08 12 06.8 -1.4
baz=38
F55A S **S 08 18 00.1 +8.6**
baz=38
C36M Paulatuk 36.82 325 P P 08 12 07.1 -1.5
baz=44
C36M S S 08 18 01.9 +10
baz=44
J62A Henniker 36.88 261 P P 08 12 08.9 -0.5
baz=36
H58A Gabriels 36.93 265 P P 08 12 08.9 -1.0
baz=37
LONY Lake Ozonia 36.94 265 P P 08 12 08.8 -1.1
baz=37,SNR=12
LONY S **S 08 18 03.6 +8.9**
baz=37
LONY Lake Ozonia 36.94 265 P P 08 12 12.1 +2.1
I60A Shoreham 37.01 263 P P 08 12 09.4 -1.1
baz=36
J61A Chester 37.10 262 P P 08 12 09.5 -1.8
baz=36
J61A S S 08 18 08.5 +11
baz=36
K63A Dunstable 37.20 260 P P 08 12 09.6 -2.5
baz=35
I59A Olmsteadville 37.30 264 P P 08 12 11.6 -1.4
baz=36
G55A Calabogie 37.35 268 P P 08 12 11.8 -1.7
baz=38,SNR=9.0
G55A S **S 08 18 09.8 +8.9**
baz=38
HRV Adam Dziewonsk 37.36 260 P P 08 12 12.1 -1.4
baz=35
HRV Adam Dziewonsk 37.36 260 IAms_20 IAms_20 08 25 36.8
comp=Z,3μm,19.0s
ALGO Algonquin Park 37.37 270 P P 08 12 12.0 -1.7
baz=38,SNR=7.1
H57A Richville 37.41 266 P P 08 12 13.0 -0.9
baz=37
H57A S S 08 18 12.4 +11
baz=37
ILGA Ilgaz 37.43 104 P P 08 12 14.1 -0.4
K62A Royalston 37.52 261 P P 08 12 13.4 -1.4
baz=35
K62A Royalston 37.52 261 IAms_20 IAms_20 08 25 36.0
comp=Z,3μm,20.0s
APE Apeiranthos 37.52 116⇓ *e*P **P 08 12 15.9 +0.9**
APE pmax pmax
comp=Z,65nm,1.7s
L64A Middleborough 37.52 259 P P 08 12 12.9 -1.9
baz=35
J60A Lant Hill Farm 37.55 263 P P 08 12 13.8 -1.4
baz=36
PLVO Plevna 37.68 268 P P 08 12 17.5 +1.3
PLVO IAms_20 IAms_20 08 25 57.5
comp=Z,4μm,21.0s
H56A Elgin 37.68 267 P P 08 12 15.3 -0.9
baz=37
H56A S S 08 18 16.1 +10
baz=37
M65A Busby, Falmout 37.75 258 P P 08 12 14.0 -2.8
baz=34
G54A Lake Saint Pet 37.83 269 P P 08 12 14.7 -2.8
baz=38,SNR=7.1
G54A S **S 08 18 17.1 +8.9**
baz=38
J59A Piesco 37.84 264 P P 08 12 16.2 -1.4
baz=36
J59A S S 08 18 18.4 +10
baz=36
J59A Piesco 37.84 264 P P 08 12 19.2 +1.6
I58A Old Forge 37.85 265 P P 08 12 17.0 -0.8
baz=36
I58A S S 08 18 17.8 +9.1
baz=36
L61B Northampton 37.88 261 P P 08 12 16.8 -1.2
baz=35
QUA2 Belchertown 37.88 261 IAms_20 IAms_20 08 25 55.7
comp=Z,3μm,19.0s
SOC Sochi 37.90 95 *c i*P **P 08 12 19.2 +1.1**
SOC *e* 08 13 43.0
SOC *e*S **S 08 18 10.8 +1.6**
SOC *e*SS **SnSn 08 20 46.2 -3.8**
SOC pmax pmax
comp=Z,6.0nm,0.5s
SOC MLR MLR
comp=Z,3μm,17.0s
L63A North Scituate 37.91 260 P P 08 12 17.4 -0.8
baz=35
I57A Carthage 37.95 266 P P 08 12 17.1 -1.4
baz=36,SNR=7.2
K61A Williamstown 37.95 262 P P 08 12 16.8 -1.8
baz=35
M64A Tiverton 38.00 259 P P 08 12 17.5 -1.4
baz=34
TRY Troy 38.07 263 P P 08 12 20.0 +0.4
TRY IAmb IAmb 08 12 30.4
comp=Z,66nm,1.5s
TRY IAms_20 IAms_20 08 25 56.8
comp=Z,3μm,20.0s
SANT Santorini 38.11 117 P P 08 12 18.4 -1.5
SANT IAmb IAmb 08 12 21.5
comp=Z,50nm,1.1s
SANT IAms_20 IAms_20 08 30 22.1
comp=Z,3μm,20.0s
H55A Tweed 38.11 268 P P 08 12 17.5 -2.4
baz=37,SNR=9.9
H55A S S 08 18 21.6 +9.1
baz=37
GOF Gofitskoye 38.15 91⇑ *i*P **P 08 12 21.5 +1.3**
GOF *e*S **S 08 18 21.7 +8.7**
GOF pmax pmax
comp=Z,270nm,1.3s
GOF smax smax
comp=N,251nm,2.7s
L62A Suffield 38.22 261 P P 08 12 19.1 -1.7
baz=35
J58A Remsen 38.26 265 P P 08 12 19.5 -1.6
baz=36
J58A Remsen 38.26 265 P P 08 12 23.7 +2.6
J58A IAms_20 IAms_20 08 26 03.6
comp=Z,3μm,21.0s
K60A Five Rivers En 38.26 263 P P 08 12 18.3 -2.8
baz=35
DELO Deloro Mine 38.33 268 P P 08 12 24.6 +3.0
DELO IAms_20 IAms_20 08 26 18.6
comp=Z,4μm,21.0s
L61A Hillsdale 1, H 38.46 262 P P 08 12 21.9 -1.0
baz=35
M63A Gales Ferry 38.47 260 P P 08 12 21.3 -1.6
baz=34
BR131 Keskin Array S 38.51 105 P P 08 12 24.4 +0.9
BR131 pmax pmax
comp=Z,21nm,1.2s
BR131 Keskin Array S 38.51 105 P P 08 12 24.4 +0.9
BRTR Keskin Array B 38.51 105 P P 08 12 24.0 +0.6
comp=Z,5.9nm,0.8s,baz=329,slow=6.6,SNR=21
BRTR LR LR 08 30 49.2
comp=Z,657nm,18.7s,baz=271,slow=40
BRTR Keskin Array B 38.51 105 P P 08 12 24.2 +0.7
BRTR Keskin Array B 38.51 105 P P 08 12 24.2 +0.7
J57A Williamstown 38.52 265 P P 08 12 21.5 -1.8
baz=36
J57A Williamstown 38.52 265 P P 08 12 25.6 +2.3
PECO Prince Edward 38.53 267 P P 08 12 23.2 -0.2
K59A Cooperstown 38.54 264 P P 08 12 21.7 -1.8
baz=36,SNR=7.7
I55A Frankford 38.60 268 P P 08 12 23.4 -0.5
baz=37
H53A Bobcaygeon 38.70 269 P P 08 12 22.2 -2.6
baz=37,SNR=6.4
H53A S S 08 18 30.6 +9.3
baz=37
SADO Sadowa 38.78 270 P P 08 12 26.4 +0.9
SADO IAms_20 IAms_20 08 26 42.7
comp=Z,3μm,20.0s
M62A Hamden 38.80 261 P P 08 12 24.1 -1.6
baz=34
KSCT Kent School, K 38.82 261 P P 08 12 28.3 +2.4
IDI Anoyia 38.84 118⇓ *i*P **P 08 12 24.6 -1.5**
IDI Anoyia 38.84 118 P P 08 12 25.1 -1.1
ISP Isparta 38.85 110 P P 08 12 26.7 +0.5
ISP pmax pmax
comp=Z,12nm,0.9s
ISP MLR MLR
comp=Z,3μm,22.0s
ISP Isparta 38.85 110 P P 08 12 26.7 +0.5
ISP Isparta 38.85 110 IAms_20 IAms_20 08 29 01.1
comp=Z,3μm,22.0s
KIV Kislovodsk 38.88 92 *e*P **P 08 12 27.1 +0.7**
KIV *e* 08 13 54.1
KIV *e*S **S 08 18 25.1 +0.9**
KIV pmax pmax
comp=Z,91nm,1.1s
KIV pmax pmax
comp=Z,576nm,3.4s
KIV MLR MLR
comp=Z,6μm,16.0s
KIV Kislovodsk 38.88 92 P P 08 12 26.3 -0.2
KIV IAms_20 IAms_20 08 28 23.9
comp=Z,3μm,21.0s
K58A Earlville 38.89 264 P P 08 12 25.5 -1.0
baz=36
K58A Earlville 38.89 264 P P 08 12 26.4 -0.2
K58A IAms_20 IAms_20 08 26 32.5
comp=Z,3μm,20.0s
L60A Shokan 38.92 262 P P 08 12 24.7 -2.0
baz=35
YLE Yale 38.92 261 IAms_20 IAms_20 08 26 35.2
comp=Z,3μm,18.0s
J56A Wolcott 39.00 266 P P 08 12 25.1 -2.2
baz=36
L59A Walton 39.10 263 P P 08 12 26.8 -1.5
baz=35
L59A Walton 39.10 263 IAms_20 IAms_20 08 26 29.0
comp=Z,3μm,21.0s
KBZ Khabaz 39.15 92 P P 08 12 29.3 +0.7
comp=Z,17nm,0.9s,baz=324,slow=9.1,SNR=20
KBZ LR LR 08 28 46.7
comp=Z,4μm,21.6s,baz=338,slow=36
YKA Yellowknife Ar 39.20 313 P P 08 12 30.3 +1.5
comp=Z,11nm,1.0s,baz=38,slow=8.8,SNR=11
YKA PcP **PcP 08 14 38.1 +0.5**
comp=Z,1.1nm,0.6s,baz=39,slow=4.3,SNR=2.1
YKA LR LR 08 28 40.0
comp=Z,3μm,18.5s,baz=0.0,slow=36
WSPT Westport, CT 39.21 261 IAms_20 IAms_20 08 27 09.8
comp=Z,2μm,18.0s
M61A Granite Spring 39.28 261 P P 08 12 28.5 -1.2
baz=34
K57A Scipio Center 39.29 265 P P 08 12 29.6 -0.2
baz=36
J55A Hilton 39.42 267 P P 08 12 28.6 -2.2
baz=36
N62A Caumsett State 39.47 261 P P 08 12 29.7 -1.6
baz=34
KARP Karpathos 39.49 115 IAms_20 IAms_20 08 30 18.7
comp=Z,3μm,20.0s
BINY Binghamton 39.50 264 P P 08 12 30.3 -1.2
baz=35
BINY Binghamton 39.50 264 IAms_20 IAms_20 08 26 51.5
comp=Z,2μm,20.0s
L58A Harry Jones Me 39.57 264 P P 08 12 30.4 -1.7
baz=35
PAL Palisades 39.59 261 P P 08 12 29.5 -2.8
baz=34
CHVG Ch'k'valeri 39.62 94⇓ *i*P **P 08 12 34.0 +1.5**
M60A Port Jervis 39.63 262 *i*P **P 08 12 31.7 -1.0**
baz=35
M60A S S 08 18 46.2 +11
baz=35
K56A Middlesex 39.67 266 P P 08 12 32.1 -0.8
baz=36
E46A Sault Ste Mari 39.74 276 P P 08 12 36.0 +2.5
E46A IAmb IAmb 08 12 38.9
comp=Z,54nm,0.9s
E46A IAms_20 IAms_20 08 27 34.2
comp=Z,3μm,20.0s
J54A Appleton 39.77 268 P P 08 12 32.1 -1.6
baz=36
J54A Appleton 39.77 268 IAms_20 IAms_20 08 27 01.7
comp=Z,3μm,21.0s
M59A Waymart 39.80 263 P P 08 12 33.1 -1.0
baz=35
ODNJ Ogdensburg 39.83 262 P P 08 12 36.0 +1.7
ODNJ IAms_20 IAms_20 08 26 58.1
comp=Z,3μm,20.0s
AKAS Kas 39.85 112 P P 08 12 33.2 -1.4
AKAS IAms_20 IAms_20 08 32 00.3
comp=Z,2μm,18.0s
MMNY Mt. Morris Dam 39.89 267 P P 08 12 36.0 +1.3
MMNY IAmb IAmb 08 12 45.9
comp=Z,74nm,1.4s
KSPA Keystone Colle 39.93 264 IAms_20 IAms_20 08 27 04.0

comp=Z,3μm,21.0s
K55A Perry 39.96 267 P P 08 12 34.4 -1.0
baz=36
N61A South Mountain 39.97 261 P P 08 12 33.6 -1.8
baz=34
L57A Andrews Acres 40.03 265 P P 08 12 34.3 -1.6
baz=35
L57A S S 08 18 52.6 +11
baz=35
N60A Cedar Hill Far 40.21 262 P P 08 12 36.3 -1.2
baz=34
L56A Greenwood 40.23 266 P P 08 12 36.2 -1.5
baz=35,SNR=6.6
L56A S S 08 18 55.6 +11
baz=35
L56A Greenwood 40.23 266 P P 08 12 38.8 +1.2
AKTO Aktyubinsk 40.33 73 LR LR 08 29 12.9
comp=Z,6μm,19.0s,baz=325,slow=36
K54A Basiliko Farm, 40.33 267 P P 08 12 36.8 -1.6
baz=36
K54A S S 08 18 55.8 +10
baz=36
ZEI Tsey 40.34 92 *e*P **P 08 12 40.1 +1.3**
ZEI pmax pmax
comp=Z,24nm,1.1s
BATM Batumi 40.36 95 ⇓P **P 08 12 39.7 +1.1**
I51A Listowel 40.37 270 P P 08 12 37.3 -1.4
baz=37
I51A S S 08 18 56.8 +10
baz=37
M58A Price's Panora 40.38 264 P P 08 12 36.6 -2.3
baz=35
M58A S S 08 18 57.3 +11
baz=35
WVNY West Valley, N 40.45 267 P P 08 12 41.1 +1.6
WVNY IAmb IAmb 08 12 50.1
comp=Z,75nm,1.2s
BCA Borcka 40.46 96 ⇓P **P 08 12 40.2 +0.6**
N59A State Game Lan 40.46 263 P P 08 12 37.5 -2.1
baz=34
N59A S **S 08 18 56.7 +8.9**
baz=34
LUPA Lehigh Univers 40.55 262 IAMs_20 IAMs_20 08 27 20.4
comp=Z,3μm,20.0s
L55A Hinsdale 40.56 267 P P 08 12 38.1 -2.3
baz=35,SNR=7.0
FFC Flin Flon 40.57 297 P P 08 12 43.0 +2.7
FFC MLR MLR
comp=Z,6μm,19.0s
FFC Flin Flon 40.57 297 P P 08 12 43.0 +2.7
O61A Allentown 40.62 261 P P 08 12 39.5 -1.4
baz=34
M57A Sunshine Farm, 40.69 265 P P 08 12 40.5 -1.0
baz=35,SNR=9.1
M57A Sunshine Farm, 40.69 265 P P 08 12 42.7 +1.2
O60A Telford 40.80 262 P P 08 12 40.9 -1.4
baz=34
ARTV Artvin 40.80 96 P P 08 12 43.3 +0.7
GROC Groznyy 40.82 90 *e*P **P 08 12 43.3 +0.8**
GROC *e* 08 14 17.4
GROC *e* 08 14 45.3
GROC *e*S **S 08 18 54.3 +1.2**
GROC pmax pmax
comp=Z,96nm,1.2s
E43A Lone Tree Farm 40.88 278 IAMs_20 IAMs_20 08 28 13.4
comp=Z,4μm,21.0s
L54A Sinclairville 40.90 267 P P 08 12 41.5 -1.6
baz=36
N58A Sunbury 40.93 264 P P 08 12 42.5 -0.9
baz=34,SNR=7.0
N58A Sunbury 40.93 264 IAMs_20 IAMs_20 08 27 46.3
comp=Z,3μm,20.0s
D41A Chassel 41.01 280 P P 08 12 46.7 +2.7
D41A IAMs_20 IAMs_20 08 28 16.9
comp=Z,3μm,21.0s
M56A Emporium 41.03 266 P P 08 12 42.7 -1.5
baz=35,SNR=5.4
M56A Emporium 41.03 266 P P 08 12 46.2 +2.0
P61A Hammonton 41.07 261 P P 08 12 42.8 -1.8
baz=34
GLMI Grayling 41.09 275 IAMs_20 IAMs_20 08 28 51.0
comp=Z,3μm,18.0s
O59A Robesonia 41.14 263 P P 08 12 44.3 -0.8
baz=34
PSUB Penn St. - Bra 41.14 262 IAMs_20 IAMs_20 08 27 48.0
comp=Z,2μm,19.0s
WUPA West Chester U 41.20 262 P P 08 12 47.9 +2.3
ERPA Erie 41.28 268 P P 08 12 42.0 -4.3
baz=35
ERPA Erie 41.28 268 IAMs_20 IAMs_20 08 27 57.9
comp=Z,3μm,22.0s
M55A Ridgway 41.29 266 P P 08 12 42.7 -3.7
baz=35,SNR=6.8
M55A Ridgway 41.29 266 P P 08 12 46.4 0.0
M55A IAmb IAmb 08 12 57.1
comp=Z,79nm,1.5s
AKH Akhalkalaki 41.29 94 ⇓P **P 08 12 48.5 +1.9**
AKH Akhalkalaki 41.29 94 P P 08 12 48.0 +1.4
AKH pmax pmax
comp=Z,170nm,1.7s
AKH MLR MLR
comp=Z,2μm,21.0s
AKH Akhalkalaki 41.29 94 P P 08 12 48.0 +1.4
P60A Greenville 41.32 262 P P 08 12 44.4 -2.2
baz=34
P60A Greenville 41.32 262 IAMs_20 IAMs_20 08 27 52.6
comp=Z,2μm,19.0s
N57A Milroy 41.35 265 P P 08 12 44.0 -2.9
baz=34
G45A Suttons Bay 41.37 276 IAMs_20 IAMs_20 08 28 23.3
comp=Z,3μm,21.0s
PAGS Pennsylvania G 41.44 263 P P 08 12 48.8 +1.2
PAGS IAMs_20 IAMs_20 08 27 50.8
comp=Z,4μm,21.0s
MVL Millersville 41.47 263 P P 08 12 49.0 +1.2
L53A Girard 41.53 268 P P 08 12 45.5 -2.9
baz=35
L53A S S 08 19 14.0 +10
baz=35
N56A West Decatur 41.54 265 P P 08 12 43.9 -4.6
baz=35,SNR=9.8
EYMN Ely 41.55 283 P P 08 12 45.8 -2.7
baz=39,SNR=6.2
EYMN Ely 41.55 283 P P 08 12 50.8 +2.3
EYMN Ely 41.55 283 IAMs_20 IAMs_20 08 28 52.3
comp=Z,3μm,20.0s
ULM Lac du Bonnet 41.57 289 P P 08 12 49.6 +1.1
comp=Z,7.9nm,1.0s,baz=39,slow=6.2,SNR=5.6
ULM LR LR 08 29 00.1
comp=Z,2μm,20.0s,baz=40,slow=35
ULM Lac du Bonnet 41.57 289 P P 08 12 49.9 +1.3
ULM pmax pmax
comp=Z,47nm,1.5s
ULM Lac du Bonnet 41.57 289 P P 08 12 49.9 +1.3
SSPA Standing Stone 41.60 265 P P 08 12 46.9 -2.0
baz=34
SSPA S S 08 19 15.0 +10
baz=34
SSPA Standing Stone 41.60 265 P P 08 12 51.6 +2.7
SSPA IAmb IAmb 08 12 59.6
comp=Z,76nm,1.6s
O58A Lewisberry 41.61 263 P P 08 12 45.9 -3.1
baz=34
O58A S S 08 19 15.1 +10
baz=34
M54A Oil Creek Stat 41.64 267 P P 08 12 46.2 -3.1
baz=35,SNR=7.3
M54A Oil Creek Stat 41.64 267 P P 08 12 52.0 +2.7
M54A IAmb IAmb 08 12 60.0
comp=Z,97nm,1.4s
M54A IAMs_20 IAMs_20 08 28 21.4
comp=Z,3μm,21.0s
MAK Makhachkala 41.75 89 *e*P **P 08 12 47.3 -2.8**
MAK *e* 08 14 23.9
MAK *e*S **S 08 19 02.8 -4.1**
MAK *e*SS SS 08 22 00.9 -11
MAK pmax pmax
comp=Z,217nm,1.4s
MAK MLR MLR
comp=Z,3μm,19.0s
P59A Jarrettsville 41.83 262 P P 08 12 48.7 -2.0
baz=34
O57A Amberson 41.84 264 P P 08 12 49.1 -1.8
baz=34,SNR=12
O57A S S 08 19 18.9 +11
baz=34
F42A Maple Grove Fa 41.85 278 IAMs_20 IAMs_20 08 28 53.2
comp=Z,4μm,21.0s
K50A Casco 41.88 271 P P 08 12 53.1 +1.9
K50A IAmb IAmb 08 13 02.0
comp=Z,82nm,1.2s
N55A Marion Center 41.95 266 P P 08 12 50.3 -1.5
baz=34,SNR=9.6
N55A S S 08 19 20.1 +10
baz=34
Q61A Milford 41.96 261 P P 08 12 49.4 -2.4
baz=33
COWI Conover 42.01 280 P P 08 12 53.6 +1.4
COWI IAMs_20 IAMs_20 08 28 58.3
comp=Z,4μm,21.0s
ABKAR Akbulak array 42.03 73 P P 08 12 52.9 +0.6
TIXI Tiksi 42.06 15*d* *i*P **P 08 12 54.6 +2.3**
TIXI pmax pmax
comp=Z,46nm,1.1s
TIXI Tiksi 42.06 15 P P 08 12 53.3 +1.1
M53A Wt Miller and 42.13 268 P P 08 12 50.0 -3.3
baz=35
M53A Wt Miller and 42.13 268 P P 08 12 55.5 +2.2
M53A IAmb IAmb 08 13 03.9
comp=Z,103nm,1.6s
M53A IAMs_20 IAMs_20 08 28 34.4
comp=Z,3μm,21.0s
B35A Bob, Littlefor 42.16 285 P P 08 12 55.9 +2.5
B35A IAMs_20 IAMs_20 08 29 38.4
comp=Z,3μm,18.0s
SDMD Soldier's Deli 42.17 263 P P 08 12 55.9 +2.4
O56A Blue Knob Stat 42.19 265 P P 08 12 52.1 -1.7
baz=34,SNR=8.5
O56A Blue Knob Stat 42.19 265 P P 08 12 55.0 +1.1
O56A IAmb IAmb 08 13 04.7
comp=Z,93nm,1.6s
N54A Moraine State 42.23 267 P P 08 12 52.2 -1.8
baz=35,SNR=8.4
N54A Moraine State 42.23 267 P P 08 12 56.1 +2.1
N54A IAmb IAmb 08 13 04.9
comp=Z,90nm,1.2s
N54A IAMs_20 IAMs_20 08 28 39.9
comp=Z,3μm,22.0s
P58A Pank, Wackersv 42.30 263 P P 08 12 52.3 -2.3
baz=34
P58A S S 08 19 25.3 +10
baz=34
M52A Chesterland 42.34 269 P P 08 12 53.8 -1.2
baz=35,SNR=5.6
M52A S S 08 19 26.3 +11
baz=35
M52A Chesterland 42.34 269 P P 08 12 54.8 -0.2
M52A IAmb IAmb 08 13 00.6
comp=Z,49nm,0.9s
M52A IAMs_20 IAMs_20 08 28 41.0
comp=Z,3μm,21.0s
I45A Fountain 42.42 275 IAMs_20 IAMs_20 08 29 05.1
comp=Z,2μm,21.0s
R61A Willards 42.43 260 P P 08 12 54.1 -1.6
baz=33
CSS Mathiatis 42.45 109 P P 08 12 55.1 -0.8
J47A Sunmer 42.45 273 P P 08 12 57.5 +1.6
J47A IAmb IAmb 08 13 06.7
comp=Z,113nm,1.6s
Q59A Harwood 42.54 262 P P 08 12 53.5 -3.1
baz=33
O55A Ligonier 42.56 266 P P 08 12 54.5 -2.3
baz=34,SNR=6.4
P57A Homestead Farm 42.61 264 P P 08 12 53.6 -3.5
baz=34
P57A Homestead Farm 42.61 264 P P 08 12 58.0 +0.9
P57A IAMs_20 IAMs_20 08 28 48.8
comp=Z,3μm,20.0s
E38A The Farm, Brul 42.63 282 P P 08 12 58.3 +1.1
AAM Ann Arbor 42.71 271 P P 08 12 54.7 -3.3
baz=36
N53A Lisbon 42.72 268 P P 08 12 55.8 -2.3
baz=35,SNR=9.0
N53A Lisbon 42.72 268 P P 08 12 58.4 +0.3
N53A IAmb IAmb 08 13 09.6
comp=Z,77nm,1.3s
N53A IAMs_20 IAMs_20 08 28 54.0
comp=Z,3μm,22.0s
H43A Windswept, Lux 42.73 277 IAMs_20 IAMs_20 08 29 18.3
comp=Z,4μm,21.0s
TOLK Toolik Lake Re 42.75 336 P P 08 12 55.6 -2.4
baz=28
TOLK S S 08 19 31.2 +10
baz=28
TOLK Toolik Lake Re 42.75 336 P P 08 12 59.0 +1.0
TOLK IAmb IAmb 08 13 10.4
comp=Z,84nm,1.2s
TOLK IAMs_20 IAMs_20 08 32 26.6
comp=Z,3μm,20.0s
M51A Elyria 42.87 269 P P 08 12 56.4 -2.9
baz=35,SNR=8.1
Q58A Fox Den Farm, 42.92 263 P P 08 12 56.0 -3.7
baz=33
Q58A S S 08 19 35.2 +11
baz=33
P56A Dayton Farm, R 42.94 265 P P 08 12 56.8 -3.1
baz=34
R60A Leonardtown, M 43.01 262 P P 08 12 57.5 -2.8
baz=33
O54A Avella 43.04 267 P P 08 12 58.2 -2.5
baz=34,SNR=7.5
O54A Avella 43.04 267 P P 08 13 02.3 +1.6
O54A IAMs_20 IAMs_20 08 29 15.4
comp=Z,3μm,21.0s
AKT Akhty 43.06 90 *e*P **P 08 13 01.6 +0.7**
AKT *e* 08 14 41.0
AKT *e* 08 14 53.3
AKT pmax pmax
comp=Z,45nm,1.3s
N52A McGinn's Farm, 43.09 268 P P 08 12 58.7 -2.3
baz=35,SNR=6.5
AGMN Agassiz Nation 43.09 287 P P 08 12 57.8 -3.1
baz=38,SNR=12
AGMN S S 08 19 36.4 +10
baz=38
AGMN Agassiz Nation 43.09 287 P P 08 13 02.2 +1.3
AGMN IAMs_20 IAMs_20 08 30 28.0
comp=Z,3μm,18.0s
S61A Accomac 43.12 260 P P 08 12 58.8 -2.4
baz=32
G40A Rib Lake 43.12 280 P P 08 13 02.2 +0.9
G40A IAMs_20 IAMs_20 08 29 31.8
comp=Z,3μm,21.0s
Q57A Strasburg 43.15 264 P P 08 12 58.3 -3.3
baz=33
BRVK Borovoye 43.17 62 P P 08 13 01.0 -0.5
BRVK pmax pmax
comp=Z,59nm,1.6s
BRVK MLR MLR
comp=Z,2μm,18.0s
BRVK Borovoye 43.17 62 P P 08 13 01.0 -0.5
M50A Fremont 43.18 270 P P 08 13 01.0 -0.7
M50A IAmb IAmb 08 13 07.4
comp=Z,59nm,0.9s
M50A IAMs_20 IAMs_20 08 29 18.2
comp=Z,2μm,20.0s
MCWV Mont Chateau 43.25 266 P P 08 12 58.8 -3.5
baz=34
MCWV S S 08 19 39.6 +11
baz=34
N51A Ashland 43.29 269 P P 08 12 59.8 -2.9
baz=35
N51A Ashland 43.29 269 P P 08 13 03.7 +1.0
N51A IAMs_20 IAMs_20 08 29 10.1
comp=Z,3μm,21.0s
R59A King George, V 43.30 262 P P 08 12 59.9 -2.8
baz=33
L48A N Adams 43.34 272 P P 08 13 05.2 +2.1
L48A IAmb IAmb 08 13 08.4
comp=Z,43nm,0.9s
O53A New Philadelph 43.34 268 P P 08 13 00.3 -2.8
baz=34,SNR=12
O53A S S 08 19 40.8 +10
baz=34
O53A New Philadelph 43.34 268 P P 08 13 04.5 +1.4
O53A IAmb IAmb 08 13 14.1
comp=Z,83nm,1.3s
O53A IAMs_20 IAMs_20 08 29 13.4
comp=Z,3μm,22.0s
P55A Reedsville 43.36 266 P P 08 12 59.9 -3.4
baz=34
P55A S S 08 19 42.2 +11
baz=34
CBN Corbin Frederi 43.40 262 P P 08 12 59.5 -4.1
baz=33
CBN Corbin Frederi 43.40 262 IAMs_20 IAMs_20 08 29 06.8
comp=Z,2μm,19.0s
Q56A Snyder Ridge, 43.48 265 P P 08 13 01.7 -2.5
baz=34
Q56A Snyder Ridge, 43.48 265 IAMs_20 IAMs_20 08 29 05.9
comp=Z,2μm,22.0s
S60A Water View 43.51 261 P P 08 13 02.7 -1.8
baz=32
MARD Mardin 43.54 100 P P 08 13 05.9 +1.0
MARD IAmb IAmb 08 13 15.7
comp=Z,113nm,1.4s
P54A Burton 43.57 266 P P 08 13 03.5 -1.4
baz=34
R58A Rapidan 43.59 263 P P 08 13 03.7 -1.4
baz=33
I42A Draeger Farm, 43.68 277 P P 08 13 06.2 +0.5
I42A IAmb IAmb 08 13 16.5
comp=Z,59nm,1.4s
O52A Adamsville 43.72 268 P P 08 13 04.5 -1.6
baz=34,SNR=9.4
O52A S S 08 19 46.4 +10
baz=34
O52A Adamsville 43.72 268 P P 08 13 06.9 +0.7
O52A IAmb IAmb 08 13 17.0
comp=Z,79nm,1.2s
O52A IAMs_20 IAMs_20 08 29 45.4
comp=Z,2μm,19.0s
S59A Mechanicsville 43.74 262 P P 08 13 04.5 -1.8
baz=33
R57A Stanardsville 43.81 263 P P 08 13 05.1 -1.8
baz=33
R57A S S 08 19 48.1 +11
baz=33
R58B Mineral 43.82 263 P P 08 13 06.6 -0.4
baz=33
R58B S S 08 19 48.0 +11
baz=33
R58B Mineral 43.82 263 IAMs_20 IAMs_20 08 29 20.9
comp=Z,3μm,19.0s
Q55A Buckhannon 43.90 265 P P 08 13 05.5 -2.1
baz=34
Q55A S S 08 19 49.8 +11
baz=34
T60A Surry 44.03 261 P P 08 13 06.4 -2.2
baz=32
O51A Pataskala 44.03 269 P P 08 13 07.2 -1.4
baz=34,SNR=22
F36A Milaca 44.05 283 P P 08 13 09.9 +1.2
F36A IAMs_20 IAMs_20 08 30 28.4
comp=Z,2μm,20.0s
P53A Whipple 44.05 267 P P 08 13 07.2 -1.6
baz=34,SNR=17
P53A Whipple 44.05 267 P P 08 13 11.6 +2.8
P53A IAMs_20 IAMs_20 08 29 46.1
comp=Z,3μm,22.0s
N49A Columbus Grove 44.07 271 P P 08 13 11.4 +2.5
L46A Eue Claire 44.08 274 P P 08 13 11.2 +2.2
L46A IAmb IAmb 08 13 19.8
comp=Z,73nm,1.2s
L46A IAMs_20 IAMs_20 08 30 43.1
comp=Z,2μm,18.0s
R56A Bull Pasture M 44.10 264 P P 08 13 08.2 -1.1
baz=33
ACSO Alum Creek Sta 44.12 269 P P 08 13 05.7 -3.7
baz=34,SNR=13
ACSO Alum Creek Sta 44.12 269 P P 08 13 11.1 +1.8
ACSO IAmb IAmb 08 13 14.8
comp=Z,42nm,0.9s
ACSO IAMs_20 IAMs_20 08 29 46.0
comp=Z,3μm,20.0s
COLD Coldfoot 44.12 336 P P 08 13 08.9 -0.1
baz=27
COLD S S 08 19 52.0 +11
baz=27
COLD Coldfoot 44.12 336 P P 08 13 11.1 +2.1
COLD IAmb IAmb 08 13 20.2
comp=Z,64nm,1.8s
COLD IAMs_20 IAMs_20 08 33 43.8
comp=Z,2μm,20.0s
S58A Poland Farm, P 44.19 262 P P 08 13 07.9 -2.0
baz=33
S58A Poland Farm, P 44.19 262 P P 08 13 12.8 +2.9
S58A IAmb IAmb 08 13 20.6
comp=Z,52nm,1.6s
S58A IAMs_20 IAMs_20 08 29 40.6
comp=Z,2μm,19.0s
Q54A Coxs Mills 44.23 266 P P 08 13 07.8 -2.4
baz=34,SNR=8.3
Q54A S S 08 19 54.4 +11
baz=34
Q54A Coxs Mills 44.23 266 P P 08 13 11.7 +1.5
Q54A IAmb IAmb 08 13 21.2
comp=Z,66nm,1.3s
Q54A IAMs_20 IAMs_20 08 29 40.9
comp=Z,3μm,22.0s
P52A Corning 44.25 268 P P 08 13 08.5 -1.8
baz=34,SNR=10
P52A Corning 44.25 268 P P 08 13 12.6 +2.2
P52A IAmb IAmb 08 13 21.6
comp=Z,78nm,1.2s
P52A IAMs_20 IAMs_20 08 29 40.4
comp=Z,3μm,22.0s
SPMN Marine on St. 44.26 282 P P 08 13 08.6 -1.8
baz=37,SNR=7.3
SPMN Marine on St. 44.26 282 P P 08 13 12.7 +2.3
SPMN IAmb IAmb 08 13 21.8
comp=Z,49nm,1.3s
K43A Burlington 44.39 276 P P 08 13 12.3 +0.8
K43A IAmb IAmb 08 13 22.2
comp=Z,80nm,1.2s
K43A IAMs_20 IAMs_20 08 30 16.4
comp=Z,2μm,21.0s
I40A Norwalk 44.41 279 P P 08 13 14.2 +2.6
I40A IAmb IAmb 08 13 22.5
comp=Z,57nm,1.4s
S57A Dark Hollow, R 44.45 263 P P 08 13 08.9 -3.1
baz=33
S57A Dark Hollow, R 44.45 263 P P 08 13 13.6 +1.6
S57A IAmb IAmb 08 13 23.0
comp=Z,59nm,1.5s
EGAK Eagle 44.48 329 P P 08 13 14.1 +2.1
EGAK IAmb IAmb 08 13 22.0
comp=Z,54nm,1.7s
D32A Dogwood Acres, 44.49 287 P P 08 13 14.4 +2.2
D32A IAMs_20 IAMs_20 08 31 01.0
comp=Z,3μm,20.0s
R55A Marlinton 44.51 265 P P 08 13 10.9 -1.7
baz=33
R55A Marlinton 44.51 265 IAMs_20 IAMs_20 08 29 39.2
comp=Z,3μm,22.0s
TAM Tamanrasset 44.51 149 P P 08 13 13.3 +0.5
TAM pmax pmax
comp=Z,33nm,1.4s
TAM MLR MLR
comp=Z,3μm,21.0s
TAM Tamanrasset 44.51 149 P P 08 13 13.3 +0.5
TAM IAMs_20 IAMs_20 08 31 37.0
comp=Z,3μm,21.0s
T59A Double "B" Far 44.52 261 P P 08 13 10.9 -1.6
baz=32
T59A S S 08 19 58.2 +11
baz=32
T59A Double "B" Far 44.52 261 P P 08 13 14.6 +2.1
T59A IAmb IAmb 08 13 23.1
comp=Z,45nm,1.3s
U61A Possum Corner 44.59 260 P P 08 13 10.5 -2.6
baz=32
Q53A Leroy 44.63 267 P P 08 13 11.0 -2.5
baz=34,SNR=15
L44A Lake County Fo 44.64 275 P P 08 13 10.9 -2.6
baz=35
L44A Lake County Fo 44.64 275 IAMs_20 IAMs_20 08 31 00.9
comp=Z,3μm,18.0s
O49A Covington 44.74 270 P P 08 13 16.8 +2.5
O49A IAMs_20 IAMs_20 08 30 06.4
comp=Z,3μm,20.0s
U60A Pendleton 44.77 261 P P 08 13 12.6 -2.0
baz=32
U60A S S 08 20 02.3 +11
baz=32
P51A Williamsport 44.77 269 P P 08 13 11.5 -3.1
baz=34,SNR=10
P51A Williamsport 44.77 269 P P 08 13 15.6 +1.0
P51A IAmb IAmb 08 13 19.8
comp=Z,43nm,0.9s
P51A IAMs_20 IAMs_20 08 30 06.3

comp=Z,2μm,20.0s
S56A Natural Bridge 44.78 264 P **P** **08 13 11.2 -3.5**
baz=33
Q52A Bidwell 44.87 267 P **P** **08 13 13.7 -1.6**
baz=34,SNR=5.8
HQIL Hanson Quary C 44.93 275 P **P** **08 13 17.1 +1.4**
HQIL IAmb IAmb 08 13 27.2
comp=Z,56nm,1.0s
HQIL IAMs_20 IAMs_20 08 30 58.4
comp=Z,2μm,19.0s
T58A Grand View Acr 44.96 262 P **P** **08 13 13.6 -2.4**
baz=32
T58A S S 08 20 04.9 +11
baz=32
R54A Victor 44.97 266 P **P** **08 13 14.0 -2.1**
baz=33,SNR=7.3
MDND Maddock 44.98 289 P **P** **08 13 13.4 -2.7**
baz=37,SNR=6.0
MDND Maddock 44.98 289 P **P** **08 13 17.4 +1.3**
V62A Hyde County Ai 45.04 259 IAMs_20 IAMs_20 08 30 11.0
comp=Z,3μm,21.0s
JFWS Jewell Farm 45.04 278 P **P** **08 13 18.6 +1.9**
JFWS pmax pmax
comp=Z,14nm,0.8s
JFWS Jewell Farm 45.04 278 P **P** **08 13 14.0 -2.7**
baz=36
JFWS Jewell Farm 45.04 278 P **P** **08 13 18.6 +1.9**
S55A Lewisburg 45.10 265 P **P** **08 13 13.9 -3.3**
baz=33
S55A S S 08 20 08.7 +12
baz=33
V61A Roper 45.10 260 P **P** **08 13 14.2 -3.0**
baz=32
U59A Littleton 45.14 261 P **P** **08 13 15.1 -2.4**
baz=32
U59A S S 08 20 07.3 +11
baz=32
T57A Hurt 45.22 263 P **P** **08 13 14.8 -3.4**
baz=32,SNR=9.6
T57A Hurt 45.22 263 P **P** **08 13 20.0 +1.8**
T57A IAmb IAmb 08 13 29.0
comp=Z,51nm,1.3s
T57A IAMs_20 IAMs_20 08 30 03.9
comp=Z,3μm,20.0s
F33A 5 Mile Ranch, 45.23 285 P **P** **08 13 20.1 +2.0**
F33A IAmb IAmb 08 13 23.7
comp=Z,30nm,1.1s
F33A IAMs_20 IAMs_20 08 30 53.5
comp=Z,2μm,20.0s
R53A Hurricane 45.26 267 P **P** **08 13 15.1 -3.3**
baz=33
R53A S S 08 20 09.0 +11
baz=33
R53A Hurricane 45.26 267 P **P** **08 13 20.4 +2.0**
R53A IAmb IAmb 08 13 29.5
comp=Z,56nm,1.1s
R53A IAMs_20 IAMs_20 08 30 34.0
comp=Z,3μm,21.0s
Q51A Peebles 45.28 268 P **P** **08 13 20.5 +1.9**
Q51A IAMs_20 IAMs_20 08 30 22.6
comp=Z,2μm,22.0s
K27K Chicken 45.33 329 P **P** **08 13 15.7 -3.0**
baz=30
M44A Midewin, Midew 45.35 275 IAMs_20 IAMs_20 08 31 30.5
comp=Z,2μm,18.0s
V60A Jim Taylor Roa 45.42 260 P **P** **08 13 18.1 -1.6**
baz=32
S54A Dingess, Beckl 45.43 266 P **P** **08 13 16.4 -3.4**
baz=33,SNR=7.8
S54A Dingess, Beckl 45.43 266 IAmb IAmb 08 13 30.4
comp=Z,64nm,1.4s
U58A Oxford 45.43 262 P P 08 13 15.5 -4.3
baz=32
P49A Miami Univ. Ec 45.45 270 P **P** **08 13 16.4 -3.5**
baz=34,SNR=13
P49A S **S** **08 20 08.7 +7.8**
baz=34
P49A Miami Univ. Ec 45.45 270 IAMs_20 IAMs_20 08 30 28.1
comp=Z,3μm,21.0s
POKR Poker Plat Res 45.49 333 P **P** **08 13 17.9 -2.0**
baz=28
I37A Lemond, Waseca 45.49 281 IAMs_20 IAMs_20 08 30 56.4
comp=Z,3μm,19.0s
T56A Rocky Mt 45.53 264 P **P** **08 13 17.9 -2.7**
baz=32
L42A Oliver, Polo 45.54 276 IAmb IAmb 08 13 31.8
comp=Z,48nm,1.2s
L42A IAMs_20 IAMs_20 08 31 02.6
comp=Z,3μm,20.0s
BLA Blacksburg 45.54 264 P **P** **08 13 17.4 -3.3**
baz=32
BLA Blacksburg 45.54 264 IAmb IAmb 08 13 31.5
comp=Z,72nm,1.6s
BLA IAMs_20 IAMs_20 08 30 29.4
comp=Z,3μm,20.0s
IL31 45.69 332 IAmb IAmb 08 13 32.8
comp=Z,42nm,1.5s
ILAR Eielson Array 45.69 332 P **P** **08 13 23.3 +1.8**
comp=Z,12nm,1.1s,baz=23,slow=5.4,SNR=44
ILAR PcP **PcP** **08 15 00.2 +1.0**
comp=Z,1.8nm,0.8s,baz=14,slow=3.5,SNR=5.7
ILAR LR LR 08 34 59.1
comp=Z,2μm,19.3s,baz=33,slow=39
ILAR Eielson Array 45.69 332 P **P** **08 13 23.2 +1.7**
ILAR PcP **PcP** **08 14 59.9 +0.7**
U57A Blanch 45.73 263 P **P** **08 13 19.2 -3.0**
baz=32
U57A S S 08 20 15.1 +10
baz=32
SFIN Lafayette 45.77 273 P **P** **08 13 19.8 -2.6**
baz=34,SNR=11
SFIN S S 08 20 16.1 +11
baz=34
SFIN Lafayette 45.77 273 P **P** **08 13 24.2 +1.7**
T55A Pulaski 45.77 265 P **P** **08 13 19.7 -2.9**
baz=32,SNR=7.6
MDM Murphy Dome 45.78 333 P **P** **08 13 25.2 +2.9**
MDM IAmb IAmb 08 13 35.8
comp=Z,65nm,1.4s
MDM IAMs_20 IAMs_20 08 35 42.7
comp=Z,2μm,18.0s
COLA College 45.78 333 *de*P **P** **08 13 25.1 +2.9**
COLA pmax pmax
comp=Z,23nm,1.2s
TCOL CIGO, UAF Yank 45.79 333 P **P** **08 13 19.2 -3.0**
baz=27
SCRK Sand Creek 45.79 330 P **P** **08 13 19.5 -3.0**
baz=29
P48A Milroy 45.81 271 P **P** **08 13 25.0 +2.2**
P48A IAMs_20 IAMs_20 08 30 50.8
comp=Z,2μm,20.0s
V59A Middlesex 45.83 261 P **P** **08 13 19.1 -3.9**
baz=32
V59A S S 08 20 16.8 +10
baz=32
IMAR Indian Mountai 45.86 337 P **P** **08 13 25.5 +2.6**
S53A Williamson 45.88 266 P **P** **08 13 20.1 -3.3**
baz=33
CCB Clear Creek Bu 45.98 333 IAmb IAmb 08 13 34.8
comp=Z,56nm,1.7s
HDA Harding Lake 46.02 332 P **P** **08 13 21.1 -3.1**
baz=28,SNR=8.8
HDA Harding Lake 46.02 332 P **P** **08 13 26.0 +1.8**
HDA IAMs_20 IAMs_20 08 34 57.1
comp=Z,2μm,20.0s
DOT Dot Lake 46.09 330 IAmb IAmb 08 13 36.2
comp=Z,40nm,1.4s
DOT IAMs_20 IAMs_20 08 33 43.1
comp=Z,2μm,19.0s
BCAR Beaver Creek A 46.10 328 P **P** **08 13 27.5 +2.6**
CNNC Cliffs of the 46.13 261 P **P** **08 13 23.1 -2.2**
baz=31
L40A Anamosa 46.15 278 P **P** **08 13 27.6 +2.2**
T54A Tazewell 46.16 265 P **P** **08 13 22.5 -3.2**
baz=32,SNR=12
T54A S S 08 20 21.3 +10
baz=32
RIDG Independent Ri 46.18 331 P **P** **08 13 28.7 +3.2**
RIDG IAMs_20 IAMs_20 08 34 16.3
comp=Z,2μm,19.0s
V58A Windy Hill, Pi 46.18 262 P **P** **08 13 24.5 -1.2**
baz=32
V58A Windy Hill, Pi 46.18 262 IAMs_20 IAMs_20 08 31 32.3
comp=Z,2μm,18.0s
WRH Wood River Hil 46.19 333 P **P** **08 13 27.3 +1.9**
W60A Pink Hill 46.22 260 P **P** **08 13 24.6 -1.4**
baz=31

U56A King 46.25 264 P **P** **08 13 24.3 -2.0**
baz=32
U56A King 46.25 264 IAMs_20 IAMs_20 08 30 48.3
comp=Z,3μm,20.0s
NEA2 Nenana 46.27 333 P **P** **08 13 24.5 -1.6**
baz=26
R50A Paris 46.32 269 IAmb IAmb 08 13 31.5
comp=Z,22nm,0.9s
R50A IAMs_20 IAMs_20 08 31 05.2
comp=Z,2μm,20.0s
DGMT Dagmar 46.32 293 P **P** **08 13 24.4 -2.4**
baz=36,SNR=9.9
DGMT Dagmar 46.32 293 IAMs_20 IAMs_20 08 31 50.6
comp=Z,3μm,21.0s
K38A Parkersburg 46.33 280 IAMs_20 IAMs_20 08 31 20.8
comp=Z,3μm,20.0s
V57A Coltrane Farms 46.38 263 P **P** **08 13 24.3 -3.1**
baz=32
U55A TA2, Sparta 46.41 264 P P 08 13 23.3 -4.3
baz=32,SNR=19
U55A S S 08 20 24.3 +9.3
baz=32
W59A Clinton 46.43 261 P P 08 13 23.4 -4.3
baz=31
E28A Huff 46.45 289 IAmb IAmb 08 13 34.1
comp=Z,51nm,1.4s
P46A Rosedale 46.45 272 IAMs_20 IAMs_20 08 31 47.6
comp=Z,2μm,18.0s
WHY Whitehorse 46.51 323 P **P** **08 13 30.4 +2.2**
WHY IAMs_20 IAMs_20 08 33 03.1
comp=Z,2μm,21.0s
BRZS Berezniki 46.52 63 ↓↓ *i*P **P** **08 13 28.8 +0.5**
comp=Z,275nm,3.6s,baz=63
BRZS *i* PP **PP** **08 15 18.0 +0.8**
baz=63
BRZS LR LR 08 31 44.1
comp=Z,800nm,16.1s,baz=63
BRZS Berezniki 46.52 63 *d* *i*P **P** **08 13 28.8 +0.5**
BRZS *i* 08 15 18.0
BRZS pmax pmax
comp=Z,275nm,3.6s
BRZS MLR MLR
comp=Z,800nm,16.0s
S51A Beattyville 46.54 268 IAmb IAmb 08 13 33.9
comp=Z,32nm,0.9s
S51A IAMs_20 IAMs_20 08 31 24.1
comp=Z,2μm,20.0s
O44A Mansfield 46.55 274 P **P** **08 13 31.1 +2.5**
HDIL Hopedale 46.57 275 P **P** **08 13 26.7 -2.0**
baz=34,SNR=8.8
HDIL S S 08 20 28.3 +11
baz=34
HDIL Hopedale 46.57 275 P **P** **08 13 31.4 +2.7**
HDIL IAMs_20 IAMs_20 08 32 09.9
comp=Z,2μm,20.0s
T53A Wise 46.64 266 P **P** **08 13 27.5 -1.9**
baz=32,SNR=9.4
MENT Mentasta 46.65 329 IAmb IAmb 08 13 40.7
comp=Z,36nm,1.5s
R49A Shelbyville 46.67 270 IAmb IAmb 08 13 39.9
comp=Z,55nm,1.4s
R49A IAMs_20 IAMs_20 08 31 15.6
comp=Z,3μm,20.0s
U54A Nelsons Funny 46.72 265 P **P** **08 13 28.0 -2.1**
baz=32
U54A S S 08 20 30.0 +10
baz=32
U54A Nelsons Funny 46.72 265 IAMs_20 IAMs_20 08 31 08.8
comp=Z,3μm,22.0s
BWN Browne 46.73 333 IAMs_20 IAMs_20 08 36 11.9
comp=Z,2μm,19.0s
X60A Albert Glenn T 46.73 260 P **P** **08 13 27.5 -2.6**
baz=31
V56A Mocksville 46.76 263 P **P** **08 13 28.0 -2.2**
baz=32,SNR=9.6
V56A S S 08 20 29.9 +10
baz=32
W58A Raeford 46.89 262 P **P** **08 13 29.3 -2.0**
baz=31
PAX Paxson 46.99 330 IAmb IAmb 08 13 43.3
comp=Z,60nm,1.6s
PAX IAMs_20 IAMs_20 08 34 41.9
comp=Z,2μm,18.0s
X59A McDuffie Farm, 47.00 261 P **P** **08 13 29.8 -2.4**
baz=31
MCK McKinley 47.02 333 P **P** **08 13 34.1 +2.1**
MCK pmax pmax
comp=Z,76nm,1.6s
MCK MLR MLR
comp=Z,2μm,21.0s
MCK McKinley 47.02 333 P **P** **08 13 34.1 +2.1**
MCK IAMs_20 IAMs_20 08 34 08.5
comp=Z,2μm,21.0s
V55A Taylorsville 47.03 264 P **P** **08 13 30.4 -2.0**
baz=32,SNR=7.6
V55A S S 08 20 34.3 +11
baz=32
V55A Taylorsville 47.03 264 IAMs_20 IAMs_20 08 31 13.9
comp=Z,3μm,21.0s
HYT Haines Junctio 47.03 325 P **P** **08 13 35.8 +3.6**
DLBC Dease Lake 47.06 318 IAMs_20 IAMs_20 08 33 36.0
comp=Z,2μm,19.0s
ECSD EROS Data Cent 47.07 284 P **P** **08 13 29.5 -3.2**
baz=35,SNR=12
ECSD S S 08 20 35.3 +11
baz=35
ECSD EROS Data Cent 47.07 284 P **P** **08 13 34.5 +1.8**
ECSD IAmb IAmb 08 13 38.2
comp=Z,24nm,1.2s
ECSD EROS Data Cent 47.07 284 IAMs_20 IAMs_20 08 32 11.2
comp=Z,3μm,20.0s
BPAW Bear Paw Mtn. 47.08 334 P **P** **08 13 35.4 +2.9**
BPAW IAmb IAmb 08 13 43.5
comp=Z,64nm,1.6s
W57A Gilead 47.10 262 P **P** **08 13 29.5 -3.4**
baz=31
W57A S S 08 20 34.6 +10
baz=31
W57A Gilead 47.10 262 IAMs_20 IAMs_20 08 32 01.7
comp=Z,2μm,18.0s
N41A Harden Midland 47.11 276 IAMs_20 IAMs_20 08 31 50.3
comp=Z,3μm,21.0s
SCIA State Center 47.13 279 P **P** **08 13 30.6 -2.5**
baz=35,SNR=5.6
SCIA State Center 47.13 279 P **P** **08 13 35.5 +2.3**
SCIA IAmb IAmb 08 13 38.3
comp=Z,33nm,0.9s
SCIA IAMs_20 IAMs_20 08 31 44.8
comp=Z,3μm,22.0s
WCI Wyandotte Cave 47.21 271 P **P** **08 13 35.9 +2.1**
WCI pmax pmax
comp=Z,46nm,0.9s
WCI Wyandotte Cave 47.21 271 P **P** **08 13 32.2 -1.6**
baz=33
WCI S S 08 20 36.6 +10
baz=33
WCI Wyandotte Cave 47.21 271 P **P** **08 13 35.9 +2.1**
WCI IAMs_20 IAMs_20 08 31 43.8
comp=Z,3μm,20.0s
DHY Denali Highway 47.30 332 IAMs_20 IAMs_20 08 34 45.9
comp=Z,3μm,18.0s
RND Reindeer 47.30 333 IAMs_20 IAMs_20 08 35 36.9
comp=Z,2μm,20.0s
X58A Rowland 47.33 261 P **P** **08 13 32.3 -2.4**
baz=31
W56A Indian Trail 47.37 263 P **P** **08 13 32.8 -2.2**
baz=32,SNR=9.7
W56A S S 08 20 38.0 +9.3
baz=32
V54A Nebo 47.41 265 P **P** **08 13 33.3 -2.1**
baz=32,SNR=12
V54A S S 08 20 39.9 +11
baz=32
P43A Skaggs, Pawnee 47.42 274 IAMs_20 IAMs_20 08 32 45.5
comp=Z,2μm,18.0s
TZTN Tazewell 47.45 267 P **P** **08 13 33.6 -2.0**
baz=32
TZTN S S 08 20 40.5 +11
baz=32
TZTN Tazewell 47.45 267 IAMs_20 IAMs_20 08 31 52.9
comp=Z,2μm,20.0s
SUSD Miller 47.46 286 P **P** **08 13 33.8 -1.9**
baz=35
SUSD Miller 47.46 286 IAmb IAmb 08 13 42.0
comp=Z,30nm,1.1s
SUSD IAMs_20 IAMs_20 08 32 49.7
comp=Z,2μm,19.0s
TRF Thorofare Moun 47.54 333 IAMs_20 IAMs_20 08 35 09.2

comp=Z,3μm,21.0s
KTH Kantishna Hill 47.57 334 IAMs_20 IAMs_20 08 35 09.9
comp=Z,2μm,20.0s
T50A Nancy 47.60 268 P **P** **08 13 39.2 +2.4**
T50A IAMs_20 IAMs_20 08 31 35.0
comp=Z,2μm,22.0s
SKAG Skagway 47.65 322 IAMs_20 IAMs_20 08 34 24.4
comp=Z,3μm,19.0s
ZAA0 Zalesovo Array 47.67 51 IAmb IAmb 08 13 44.5
comp=Z,41nm,1.5s
ZALV Zalesovo Beam 47.67 51 P **P** **08 13 37.6 +0.5**
comp=Z,8.4nm,1.0s,baz=324,slow=7.3,SNR=13
ZALV PcP **PcP** **08 15 06.6 +0.2**
comp=Z,2.0nm,0.8s,baz=299,slow=3.0,SNR=3.0
ZALV LR LR 08 36 28.5
comp=Z,1μm,18.8s,baz=320,slow=40
ZALV Zalesovo Beam 47.67 51 P **P** **08 13 36.9 -0.3**
KMSC Kings Mountain 47.68 264 P **P** **08 13 35.7 -1.8**
baz=32,SNR=7.0
KMSC Kings Mountain 47.68 264 IAmb IAmb 08 13 48.1
comp=Z,46nm,1.2s
KMSC IAMs_20 IAMs_20 08 31 32.2
comp=Z,2μm,21.0s
X57A Johnson Farm, 47.73 262 P **P** **08 13 34.8 -3.0**
baz=31
Q44A Meyer Farm, Va 47.82 273 IAMs_20 IAMs_20 08 32 40.0
comp=Z,2μm,18.0s
BARN Barnard Glacie 47.83 327 IAMs_20 IAMs_20 08 34 14.2
comp=Z,2μm,20.0s
CTGM Chitina Glacie 47.84 327 IAMs_20 IAMs_20 08 34 47.4
comp=Z,3μm,18.0s
MCARA McCarthy VSAT 47.86 328 IAMs_20 IAMs_20 08 34 32.9
comp=Z,3μm,20.0s
V53A Saluda 47.87 266 IAmb IAmb 08 13 49.6
comp=Z,58nm,1.6s
GLB Gilahina Butte 47.99 329 IAMs_20 IAMs_20 08 35 03.2
comp=Z,3μm,20.0s
BALM Baldy 48.01 327 IAMs_20 IAMs_20 08 34 38.9
comp=Z,3μm,18.0s
V52A Sevierville 48.06 266 IAmb IAmb 08 13 51.0
comp=Z,33nm,1.4s
V52A IAMs_20 IAMs_20 08 32 02.2
comp=Z,3μm,21.0s
W54A Cherokee Point 48.09 265 P **P** **08 13 38.3 -2.4**
baz=32,SNR=9.3
W54A S S 08 20 49.6 +11
baz=32
VRDI Verde Repeater 48.10 328 IAMs_20 IAMs_20 08 34 51.1
comp=Z,3μm,19.0s
X56A White Oak 48.11 263 P **P** **08 13 37.7 -3.0**
baz=31,SNR=10
KURK Kurchatov 48.15 58 *d* *i*P **P** **08 13 41.2 +0.3**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 48.15 58 P **P** **08 13 40.9 0.0**
KURK IAmb IAmb 08 13 47.2
comp=Z,32nm,1.1s
KURK Kurchatov 48.15 58 IAMs_20 IAMs_20 08 33 58.3
comp=Z,3μm,20.0s
PAULI Pauline 48.16 264 P **P** **08 13 43.3 +2.1**
PAULI IAMs_20 IAMs_20 08 31 57.8
comp=Z,2μm,19.0s
BESE Bessie Mountai 48.28 321 P **P** **08 13 45.1 +3.2**
BESE IAmb IAmb 08 14 37.7
comp=Z,66nm,2.0s
TKL Tuckaleechee C 48.29 266 P **P** **08 13 44.7 +2.5**
TKL pmax pmax
comp=Z,40nm,1.3s
TKL Tuckaleechee C 48.29 266 P **P** **08 13 44.7 +2.5**
TKL IAmb IAmb 08 13 52.7
comp=Z,40nm,1.3s
TKL IAMs_20 IAMs_20 08 32 09.3
comp=Z,3μm,21.0s
BCPM Bancas Point 48.32 325 IAMs_20 IAMs_20 08 34 49.0
comp=Z,2μm,19.0s
PCA Pinnacle 48.34 326 IAMs_20 IAMs_20 08 35 34.7
comp=Z,3μm,19.0s
TGL Tana Glacier 48.37 328 IAMs_20 IAMs_20 08 34 51.4
comp=Z,3μm,19.0s
X55A Gracelyn & Ava 48.38 264 P **P** **08 13 41.1 -1.8**
baz=31,SNR=11
X55A S S 08 20 52.9 +10
baz=31
JSC Jenkinsville 48.38 263 IAmb IAmb 08 13 53.6
comp=Z,41nm,1.4s
ISLE Juniper Island 48.40 327 IAMs_20 IAMs_20 08 34 33.0
comp=Z,3μm,21.0s
SCM Sheep Creek Mo 48.40 331 P **P** **08 13 45.4 +2.5**
SCM pmax pmax
comp=Z,58nm,1.4s
SCM MLR MLR
comp=Z,2μm,19.0s
SCM Sheep Creek Mo 48.40 331 P **P** **08 13 45.4 +2.5**
SCM IAmb IAmb 08 13 54.0
comp=Z,58nm,1.4s
SCM IAMs_20 IAMs_20 08 35 10.1
comp=Z,2μm,19.0s
PPLA Purkeypile 48.41 334 P **P** **08 13 45.9 +3.0**
KLU Klutina 48.41 330 IAMs_20 IAMs_20 08 34 45.3
comp=Z,2μm,20.0s
JIS Juneau Island 48.42 321 IAMs_20 IAMs_20 08 34 26.7
comp=Z,3μm,20.0s
V51A Loudon 48.42 267 IAmb IAmb 08 13 54.0
comp=Z,46nm,1.2s
V51A IAMs_20 IAMs_20 08 32 33.6
comp=Z,2μm,19.0s
L34A Svendsen Farm, 48.42 282 IAMs_20 IAMs_20 08 32 56.9
comp=Z,2μm,18.0s
U49A Red Boiling Sp 48.43 269 IAmb IAmb 08 13 53.6
comp=Z,45nm,1.3s
U49A IAMs_20 IAMs_20 08 32 11.1
comp=Z,2μm,21.0s
CRQM Cirque 48.45 328 IAMs_20 IAMs_20 08 34 53.1
comp=Z,3μm,20.0s
BG3 Lake Jocassee 48.49 265 IAmb IAmb 08 13 54.4
comp=Z,32nm,1.3s
BG3 IAMs_20 IAMs_20 08 32 12.7
comp=Z,3μm,21.0s
SLM Saint Louis 48.57 274 P **P** **08 13 46.0 +1.7**
SLM pmax pmax
comp=Z,143nm,1.6s
SLM Saint Louis 48.57 274 P **P** **08 13 46.0 +1.7**
SLM IAMs_20 IAMs_20 08 33 29.8
comp=Z,2μm,18.0s
LAO LASA Array 48.57 293 P P 08 13 40.3 -4.1
baz=35,SNR=24
LAO LASA Array 48.57 293 P **P** **08 13 47.1 +2.8**
P40A Paris 48.60 277 IAmb IAmb 08 15 20.5
comp=Z,28nm,1.3s
P40A IAMs_20 IAMs_20 08 32 46.6
comp=Z,2μm,20.0s
T47A Sharon Grove 48.60 270 P **P** **08 13 45.8 +1.2**
T47A IAMs_20 IAMs_20 08 32 26.6
comp=Z,3μm,19.0s
X54A Belton 48.63 264 P P 08 13 40.6 -4.3
baz=31
X54A S S 08 20 57.2 +11
baz=31
SML Sawmill 48.64 331 IAMs_20 IAMs_20 08 35 26.3
comp=Z,3μm,18.0s
MESA MESA 48.68 327 IAMs_20 IAMs_20 08 35 25.5
comp=Z,3μm,19.0s
CPCT Cooper Cave 48.79 267 IAMs_20 IAMs_20 08 32 44.5
comp=Z,2μm,20.0s
GHO Glory Hole Cre 48.79 332 P **P** **08 13 49.2 +3.4**
GHO IAMs_20 IAMs_20 08 35 32.3
comp=Z,2μm,21.0s
Y56A Pelion 48.82 263 P **P** **08 13 44.3 -2.0**
baz=31
EGMT Eagleton 48.85 297 P **P** **08 13 44.0 -2.4**
baz=35,SNR=37
HODGE Hodges 48.85 264 P **P** **08 13 48.2 +1.7**
HODGE IAmb IAmb 08 13 57.0
comp=Z,56nm,1.3s
HODGE IAMs_20 IAMs_20 08 32 19.2
comp=Z,2μm,21.0s
K31A O'Neill 48.87 284 IAmb IAmb 08 13 58.4
comp=Z,39nm,1.1s
NHSC New Hope 48.93 261 P **P** **08 13 45.6 -1.5**
baz=30
S44A Carbondale 48.93 273 IAmb IAmb 08 13 57.4
comp=Z,23nm,1.1s
S44A IAMs_20 IAMs_20 08 33 16.5
comp=Z,2μm,19.0s
Y55A Saluda 48.94 263 P **P** **08 13 44.1 -3.1**
baz=31
Y55A S S 08 21 00.5 +10
baz=31

ANM Nome 48.95 342 IAMs_20 IAMs_20 08 35 50.1
comp=Z,2μm,18.0s
Z57A Bowman 48.99 262 P **P** **08 13 46.0 -1.6**
baz=31
PMR Palmer 48.99 332 P **P** **08 13 49.6 +2.4**
PMR pmax pmax
comp=Z,119nm,1.8s
PMR MLR MLR
comp=Z,2μm,21.0s
PMR Palmer 48.99 332 P **P** **08 13 49.6 +2.4**
PMR IAMs_20 IAMs_20 08 35 38.7
comp=Z,2μm,21.0s
KNK Knik Glacier 49.02 331 IAMs_20 IAMs_20 08 35 38.4
comp=Z,3μm,20.0s
CLTN Cedars of Leba 49.02 269 IAmb IAmb 08 13 58.3
comp=Z,50nm,1.4s
CLTN IAMs_20 IAMs_20 08 32 28.8
comp=Z,2μm,21.0s
TTA Tatalina 49.06 336 IAmb IAmb 08 14 01.3
comp=Z,42nm,1.5s
SKT Skwentna 49.12 333 IAmb IAmb 08 13 58.4
comp=Z,73nm,1.6s
SKT IAMs_20 IAMs_20 08 37 17.0
comp=Z,2μm,20.0s
FID Port Fidalgo 49.20 330 IAMs_20 IAMs_20 08 37 56.3
comp=Z,2μm,20.0s
GLI Glacier Island 49.21 330 IAMs_20 IAMs_20 08 37 00.6
comp=Z,2μm,20.0s
Z56A Williston 49.25 263 P **P** **08 13 48.2 -1.3**
baz=31
W50A Signal Mountai 49.34 268 P **P** **08 13 52.5 +2.2**
W50A IAmb IAmb 08 13 55.7
comp=Z,43nm,0.9s
W50A IAMs_20 IAMs_20 08 33 01.1
comp=Z,2μm,20.0s
SUA Susitna One 49.44 333 IAMs_20 IAMs_20 08 36 21.4
comp=Z,2μm,21.0s
CCM Cathedral Cave 49.48 275 P **P** **08 13 52.6 +1.3**
CCM pmax pmax
comp=Z,39nm,1.7s
CCM Cathedral Cave 49.48 275 P **P** **08 13 49.3 -2.0**
baz=33
CCM S S 08 21 07.6 +9.2
baz=33
CCM Cathedral Cave 49.48 275 P **P** **08 13 52.6 +1.3**
CCM Cathedral Cave 49.48 275 IAMs_20 IAMs_20 08 33 59.1
comp=Z,2μm,18.0s
V48A Smith Brothers 49.53 269 IAMs_20 IAMs_20 08 32 44.3
comp=Z,2μm,22.0s
WALA Waterton Lakes 49.56 301 P **P** **08 13 53.2 +1.2**
WALA IAmb IAmb 08 14 08.7
comp=Z,83nm,1.9s
SWET Sewanee 49.59 268 IAmb IAmb 08 14 02.3
comp=Z,38nm,1.4s
SWET IAMs_20 IAMs_20 08 32 46.9
comp=Z,2μm,21.0s
BGNE Belgrade 49.62 283 P **P** **08 13 49.9 -2.5**
baz=34
BGNE Belgrade 49.62 283 IAMs_20 IAMs_20 08 33 30.9
comp=Z,2μm,20.0s
WVT Waverly 49.64 270 P **P** **08 13 53.9 +1.4**
WVT pmax pmax
comp=Z,27nm,1.5s
WVT Waverly 49.64 270 P **P** **08 13 51.3 -1.2**
baz=32
WVT S S 08 21 09.9 +9.3
baz=32
WVT Waverly 49.64 270 P **P** **08 13 53.9 +1.4**
WVT IAMs_20 IAMs_20 08 33 08.0
comp=Z,2μm,20.0s
157A Early Branch 49.65 262 P **P** **08 13 50.0 -2.6**
baz=30
X51A Calhoun 49.69 267 P **P** **08 13 53.8 +0.9**
X51A IAMs_20 IAMs_20 08 33 14.2
comp=Z,2μm,20.0s
R40A Maddies Statio 49.73 276 IAMs_20 IAMs_20 08 33 31.5
comp=Z,2μm,19.0s
SIT Sitka 49.73 321 IAMs_20 IAMs_20 08 35 16.3
comp=Z,2μm,19.0s
RSSD Black Hills 49.81 290 P **P** **08 13 55.6 +1.6**
RSSD pmax pmax
comp=Z,12nm,0.9s
RSSD Black Hills 49.81 290 P P 08 13 50.0 -4.0
baz=34
RSSD Black Hills 49.81 290 P **P** **08 13 55.6 +1.6**
RSSD Black Hills 49.81 290 IAMs_20 IAMs_20 08 33 35.8
comp=Z,3μm,21.0s
N33A J Bar K, Exete 49.89 282 P **P** **08 13 55.9 +1.5**
HICK Hickman 49.89 272 P **P** **08 13 54.7 +0.3**
UTMT University of 49.90 272 P **P** **08 13 55.9 +1.3**
Y52A Lilburn 49.94 265 IAmb IAmb 08 14 05.3
comp=Z,58nm,1.2s
PARMO Parma 50.01 273 IAMs_20 IAMs_20 08 34 07.0
comp=Z,2μm,18.0s
FPAL Fort Paine 50.03 267 IAmb IAmb 08 14 05.8
comp=Z,55nm,1.3s
FPAL IAMs_20 IAMs_20 08 33 22.4
comp=Z,2μm,20.0s
GOGA Godfrey 50.07 265 P **P** **08 13 58.3 +2.5**
GOGA pmax pmax
comp=Z,43nm,1.3s
GOGA Godfrey 50.07 265 P **P** **08 13 54.3 -1.6**
baz=31,SNR=9.7
GOGA S S 08 21 16.1 +9.3
baz=31
GOGA Godfrey 50.07 265 P **P** **08 13 58.3 +2.5**
GOGA IAmb IAmb 08 14 06.2
comp=Z,43nm,1.3s
GOGA Godfrey 50.07 265 IAMs_20 IAMs_20 08 32 58.5
comp=Z,2μm,22.0s
O22K Cooper Landing 50.13 331 P P 08 13 52.0 -3.9
baz=24
GLAT Glass 50.15 272 P **P** **08 13 59.4 +3.0**
257A Skidaway Islan 50.27 261 IAMs_20 IAMs_20 08 33 17.5
comp=Z,2μm,20.0s
T42A Van Buren 50.28 274 P **P** **08 13 58.1 +0.7**
T42A IAmb IAmb 08 14 07.0
comp=Z,40nm,1.3s
Q23K Middleton Isla 50.36 329 P **P** **08 13 54.6 -3.1**
baz=26
SEW Seward 50.42 331 IAMs_20 IAMs_20 08 36 22.3
comp=Z,2μm,22.0s
GEYT Alibeck 50.46 84 P **P** **08 13 59.8 +1.0**
comp=Z,4.7nm,0.7s,baz=325,slow=7.2,SNR=4.2
GEYT LR LR 08 37 43.0
comp=Z,2μm,18.9s,baz=330,slow=39
GEYT Alibeck 50.46 84 P **P** **08 13 59.1 +0.3**
GYA0B ALIBECK ARRAY 50.46 84 P **P** **08 13 59.3 +0.5**
GYA0B IAmb IAmb 08 14 10.1
comp=Z,67nm,1.6s
GYA0B IAMs_20 IAMs_20 08 37 22.7
comp=Z,2μm,18.0s
PEBM Pemiscott Bayo 50.53 272 P **P** **08 14 01.2 +1.9**
GCMT Greycliff 50.66 295 P **P** **08 14 02.7 +2.3**
S39A Bolivar 50.68 276 P **P** **08 14 02.5 +2.1**
S39A IAMs_20 IAMs_20 08 34 48.8
comp=Z,2μm,18.0s
PLAL Pickwick Lake 50.72 270 P **P** **08 14 01.4 +0.7**
PLAL IAMs_20 IAMs_20 08 33 41.6
comp=Z,2μm,20.0s
GNAR Gosnell 50.72 272 P **P** **08 14 02.6 +1.9**
X48A Hartselle 50.72 269 P **P** **08 14 02.5 +1.7**
X48A IAmb IAmb 08 14 10.3
comp=Z,56nm,1.4s
X48A IAMs_20 IAMs_20 08 33 31.8
comp=Z,3μm,21.0s
HRY Holter Researc 50.73 298 P **P** **08 14 03.1 +2.2**
JTMT Jette 50.79 300 P **P** **08 14 03.5 +2.2**
KSU1 Kansas State U 50.90 280 P **P** **08 14 00.2 -1.9**
baz=33,SNR=9.3
KSU1 Kansas State U 50.90 280 P **P** **08 14 03.5 +1.5**
KSU1 IAmb IAmb 08 14 06.4
comp=Z,36nm,1.0s
255A Hazlehurst 50.93 263 P **P** **08 14 03.6 +1.4**
Y49A Blount Mountai 50.96 268 P **P** **08 14 04.2 +1.7**
Y49A IAmb IAmb 08 14 12.5
comp=Z,52nm,1.4s
Y49A IAMs_20 IAMs_20 08 33 50.9
comp=Z,2μm,20.0s
KOWA Kowa 50.96 163 IAMs_20 IAMs_20 08 36 25.1
comp=Z,2μm,18.0s
W45A Hickory Valley 51.05 271 P **P** **08 14 05.1 +1.9**
W45A IAmb IAmb 08 14 07.3
comp=Z,44nm,1.3s
W45A IAMs_20 IAMs_20 08 34 01.3
comp=Z,2μm,21.0s
RLMT Red Lodge 51.06 295 P **P** **08 14 00.2 -3.2**
baz=34,SNR=28
RLMT Red Lodge 51.06 295 P **P** **08 14 06.4 +2.9**
RLMT IAmb IAmb 08 14 10.3
comp=Z,76nm,1.4s
BTLS Baital 51.11 66 ||*i*P **P** **08 14 04.5 +0.9**
comp=Z,97nm,3.2s,baz=66
BTLS *e*S **S** **08 21 22.5 +1.6**
baz=66
BTLS LR LR 08 34 33.9
comp=Z,1μm,22.5s,baz=66
BTLS Baital 51.11 66 *d i*P **P** **08 14 04.4 +0.9**
BTLS *e*S **S** **08 21 22.5 +1.6**
BTLS pmax pmax
comp=Z,97nm,3.2s
BTLS MLR MLR
comp=Z,1μm,23.0s
LCAR Lake Charles 51.12 273 P **P** **08 14 05.2 +1.5**
LCAR IAMs_20 IAMs_20 08 34 41.3
comp=Z,2μm,18.0s
HOM Homer 51.27 332 P **P** **08 14 01.8 -2.7**
baz=23
KK31 Karatay Array 51.32 70 P **P** **08 14 06.8 +1.7**
KK31 pmax pmax
comp=Z,48nm,1.4s
KK31 Karatay Array 51.32 70 P **P** **08 14 06.8 +1.7**
KK31 IAmb IAmb 08 14 11.4
comp=Z,48nm,1.4s
KKAR Karatay Array 51.32 70 P **P** **08 14 06.3 +1.2**
KKAR pmax pmax
comp=Z,48nm,1.4s
KKAR Karatay Array 51.32 70 P **P** **08 14 06.3 +1.2**
KKAR IAmb IAmb 08 14 11.4
comp=Z,48nm,1.4s
MET Memphis--Engin 51.40 272 IAMs_20 IAMs_20 08 34 23.6
comp=Z,1μm,19.0s
NEW Newport 51.40 303 P **P** **08 14 07.7 +1.9**
NEW pmax pmax
comp=Z,9.0nm,1.4s
NEW MLR MLR
comp=Z,3μm,19.0s
NEW Newport 51.40 303 P **P** **08 14 02.9 -2.8**
baz=33
NEW Newport 51.40 303 P **P** **08 14 07.7 +1.9**
MSO Missoula 51.43 299 P **P** **08 14 03.2 -2.9**
baz=33
YNE Yellowstone No 51.45 295 P **P** **08 14 08.5 +2.1**
BOZ Bozeman (W) 51.58 297 P **P** **08 14 08.9 +1.6**
BOZ pmax pmax
comp=Z,67nm,1.3s
BOZ MLR MLR
comp=Z,6μm,19.0s
BOZ Bozeman (W) 51.58 297 P **P** **08 14 05.0 -2.3**
baz=33,SNR=55
BOZ Bozeman (W) 51.58 297 P **P** **08 14 08.9 +1.6**
BOZ IAmb IAmb 08 14 18.1
comp=Z,67nm,1.2s
U40A Yellville 51.60 275 P **P** **08 14 05.3 -2.0**
baz=32,SNR=12
U40A Yellville 51.60 275 P **P** **08 14 09.0 +1.7**
U40A IAmb IAmb 08 14 17.2
comp=Z,71nm,1.5s
U40A IAMs_20 IAMs_20 08 35 08.2
comp=Z,2μm,18.0s
FCAR Ozark Folk Cen 51.69 274 IAMs_20 IAMs_20 08 35 08.4
comp=Z,2μm,18.0s
OXF Oxford 51.69 271 P **P** **08 14 06.4 -1.6**
baz=31
OXF Oxford 51.69 271 IAMs_20 IAMs_20 08 34 21.4
comp=Z,2μm,20.0s
LRM Limekiln Ridge 51.71 297 P **P** **08 14 10.0 +1.7**
YMP Mirror Lake Pl 51.73 295 P **P** **08 14 10.7 +2.1**
TIGA Tifton 51.82 263 P **P** **08 14 07.1 -1.9**
baz=30
DZA Taraz 51.82 69 *e*P **P** **08 14 09.8 +0.8**
baz=69
DZA LR LR 08 35 27.4
comp=Z,569nm,14.7s,baz=69
DZA Taraz 51.82 69 *e*P **P** **08 14 09.8 +0.8**
DZA MLR MLR
comp=Z,569nm,15.0s
LRAL Lakeview Retre 51.91 268 P **P** **08 14 07.3 -2.4**
baz=31,SNR=8.2
LRAL Lakeview Retre 51.91 268 P **P** **08 14 10.3 +0.6**
LRAL IAmb IAmb 08 14 19.2
comp=Z,72nm,1.8s
IUG Iuzhnay 51.92 71 *e*P **P** **08 14 11.2 +1.3**
comp=Z,151nm,3.4s,baz=71
IUG *e*S **S** **08 21 34.3 +1.9**
baz=71
IUG LR LR 08 35 34.5
comp=Z,537nm,16.4s,baz=71
IUG Iuzhnay 51.92 71 *e*P **P** **08 14 11.1 +1.3**
IUG *e*S **S** **08 21 34.3 +1.9**
IUG pmax pmax
comp=Z,151nm,3.4s
IUG MLR MLR
comp=Z,537nm,16.0s
YHH Holmes Hill 51.96 295 P **P** **08 14 12.7 +2.4**
LKWY Lake 51.97 295 P **P** **08 14 12.9 +2.6**
LKWY pmax pmax
comp=Z,45nm,1.5s
LKWY MLR MLR
comp=Z,11μm,18.0s
LKWY Lake 51.97 295 P **P** **08 14 12.9 +2.6**
LKWY IAmb IAmb 08 14 23.1
comp=Z,45nm,1.4s
YHL Hebgen Lake 52.04 296 P **P** **08 14 13.6 +2.8**
K22A Casper 52.04 291 P **P** **08 14 07.6 -3.1**
baz=33,SNR=14
K22A Casper 52.04 291 P **P** **08 14 10.6 -0.1**
K22A IAmb IAmb 08 14 14.6
comp=Z,31nm,1.1s
K22A IAMs_20 IAMs_20 08 35 18.7
comp=Z,3μm,20.0s
YMR Madison River 52.10 295 P **P** **08 14 13.7 +2.5**
B08A Colville Reser 52.12 304 P **P** **08 14 12.7 +1.6**
B08A IAMs_20 IAMs_20 08 36 28.9
comp=Z,2μm,20.0s
DGZ Jazzator, Alta 52.12 53 *de*P **P** **08 14 13.3 +2.1**
DGZ pmax pmax
comp=Z,10.0nm,1.2s
HHAR Hobbs 52.13 276 P **P** **08 14 11.8 +0.4**
HHAR IAmb IAmb 08 14 20.5
comp=Z,46nm,1.6s
HHAR IAMs_20 IAMs_20 08 36 13.2
comp=Z,2μm,22.0s
DLMT Dillon 52.15 297 IAmb IAmb 08 14 22.3
comp=Z,41nm,1.4s
H17A Grant Village 52.18 295 P **P** **08 14 09.6 -2.2**
baz=33,SNR=24
H17A Grant Village 52.18 295 IAmb IAmb 08 14 18.7
comp=Z,42nm,1.1s
U38A Gravette 52.19 276 IAmb IAmb 08 14 19.9
comp=Z,53nm,1.8s
U38A IAMs_20 IAMs_20 08 35 00.8
comp=Z,2μm,21.0s
C09A Chrisman Ranch 52.21 303 P **P** **08 14 12.8 +1.1**
Z47A Carrollton 52.23 269 IAMs_20 IAMs_20 08 34 17.8
comp=Z,3μm,21.0s
WHAR Wooly Hollow 52.27 274 P **P** **08 14 13.5 +1.3**
WHAR IAmb IAmb 08 14 22.2
comp=Z,64nm,1.4s
WHAR IAMs_20 IAMs_20 08 35 26.7
comp=Z,2μm,18.0s
DIB Dawson Inlet, 52.27 316 IAMs_20 IAMs_20 08 36 39.6
comp=Z,2μm,18.0s
Y45A Yeager Farm, C 52.30 270 P **P** **08 14 14.1 +1.6**
Y45A IAmb IAmb 08 14 21.4
comp=Z,62nm,1.7s
Y45A IAMs_20 IAMs_20 08 34 49.5
comp=Z,2μm,19.0s
X43A Marvell 52.32 272 P **P** **08 14 10.5 -2.2**
baz=31
W41B Gary Mavity, V 52.35 274 P **P** **08 14 10.3 -2.6**
baz=32,SNR=7.7
W41B Gary Mavity, V 52.35 274 IAmb IAmb 08 14 22.9
comp=Z,93nm,1.9s
W41B IAMs_20 IAMs_20 08 35 28.9
comp=Z,2μm,19.0s
R32A Long Quarter, 52.36 281 IAMs_20 IAMs_20 08 35 13.1
comp=Z,2μm,20.0s
352A Blakely 52.36 265 IAMs_20 IAMs_20 08 35 01.0
comp=Z,2μm,18.0s
BOD Bodaibo 52.45 30 *e*P **P** **08 14 13.1 -0.2**
BOD pmax pmax
comp=Z,28nm,2.5s
CBKS Cedar Bluff 52.46 283 P **P** **08 14 11.8 -1.9**
baz=32
CBKS Cedar Bluff 52.46 283 IAmb IAmb 08 14 23.4
comp=Z,43nm,1.3s
CBKS IAMs_20 IAMs_20 08 35 09.9
comp=Z,2μm,20.0s
FLWY Flagg Ranch 52.49 295 P **P** **08 14 15.7 +1.5**
250A Grady 52.51 266 IAmb IAmb 08 14 23.9
comp=Z,78nm,1.6s
SEY Seymchan 52.51 6 ||*e*P **P** **08 14 16.1 +2.4**
MAKZ Makanchi 52.64 58 P **P** **08 14 14.6 -0.3**
MAKZ pmax pmax
comp=Z,86nm,2.0s
MAKZ MLR MLR
comp=Z,1μm,22.0s
MAKZ Makanchi 52.64 58 P **P** **08 14 14.6 -0.3**
MAKZ IAmb IAmb 08 14 23.1
comp=Z,86nm,1.9s
SGDS Sogindy 52.67 66 *e*P **P** **08 14 16.4 +1.1**
comp=Z,133nm,3.2s,baz=66
SGDS Sogindy 52.67 66 *e*P **P** **08 14 16.3 +1.0**
SGDS pmax pmax
comp=Z,133nm,3.2s
T35A Sooner Cattle 52.70 279 P **P** **08 14 16.4 +0.9**
T35A IAmb IAmb 08 14 24.4
comp=Z,65nm,1.5s
UALR University of 52.73 274 IAMs_20 IAMs_20 08 35 49.9
comp=Z,2μm,19.0s
PHWY Pilot Hill 52.74 289 IAMs_20 IAMs_20 08 36 21.3
comp=Z,2μm,18.0s
B06A Marblemount 52.74 306 IAMs_20 IAMs_20 08 37 02.3
comp=Z,2μm,18.0s
MKAR Makanchi Array 52.77 58 P **P** **08 14 15.6 -0.2**
comp=Z,6.4nm,0.9s,baz=328,slow=4.3,SNR=21
MKAR LR LR 08 36 57.1
comp=Z,1μm,21.1s,baz=313,slow=36
TDK Taldyqorghan 52.83 62 *e*P **P** **08 14 17.2 +0.8**
baz=62
TDK *e*S **S** **08 21 46.3 +1.7**
baz=62
TDK LR LR 08 35 47.4
comp=Z,1μm,15.8s,baz=62
TDK Taldyqorghan 52.83 62 *e*P **P** **08 14 17.2 +0.8**
TDK *e*S **S** **08 21 46.2 +1.7**
TDK MLR MLR
comp=Z,1μm,16.0s
LOHW Long Hollow 52.85 294 P **P** **08 14 17.8 +1.0**
KUU Kurty 52.97 65 *e*P **P** **08 14 18.1 +0.7**
comp=Z,250nm,3.2s,baz=65
KUU LR LR 08 35 41.0
comp=Z,3μm,16.9s,baz=65
KUU Kurty 52.97 65 *e*P **P** **08 14 18.1 +0.7**
KUU pmax pmax
comp=Z,250nm,3.2s
KUU MLR MLR
comp=Z,3μm,17.0s
W39A Magazine 52.99 275 P **P** **08 14 14.6 -3.0**
baz=32,SNR=7.1
W39A Magazine 52.99 275 P **P** **08 14 19.3 +1.7**
W39A IAmb IAmb 08 14 27.3
comp=Z,45nm,1.4s
D08A Wollman Farm, 53.08 303 P **P** **08 14 19.5 +1.3**
TPAW Teton Pass 53.09 295 P **P** **08 14 19.8 +1.2**
TPAW IAmb IAmb 08 14 28.7
comp=Z,41nm,1.3s
TOC1 Torodi Ar. Sit 53.12 156 IAMs_20 IAMs_20 08 36 58.1
comp=Z,2μm,18.0s
TOC7 Torodi Ar. Sit 53.12 156 IAMs_20 IAMs_20 08 36 57.2
comp=Z,1μm,18.0s
RWWY Rawlins 53.12 291 P **P** **08 14 20.3 +1.4**
RWWY IAmb IAmb 08 14 28.9
comp=Z,68nm,1.6s
TOB1 Torodi Ar. Sit 53.12 156 IAMs_20 IAMs_20 08 36 58.3
comp=Z,1μm,18.0s
TOC2 Torodi Ar. Sit 53.13 156 IAMs_20 IAMs_20 08 36 58.6
comp=Z,1μm,18.0s
TOA0 Torodi Ar. Sit 53.14 156 P **P** **08 14 19.0 +0.1**
TOA0 IAmb IAmb 08 14 23.4
comp=Z,70nm,1.7s
TOA0 IAMs_20 IAMs_20 08 36 58.7
comp=Z,1μm,18.0s
TORD Torodi Ar. Bea 53.14 156 P **P** **08 14 17.1 -1.8**
comp=Z,13nm,1.0s,baz=342,slow=7.5,SNR=26
TORD LR LR 08 38 37.5
comp=Z,1μm,18.0s,baz=350,slow=38
TORD Torodi Ar. Bea 53.14 156 P **P** **08 14 18.2 -0.7**
146A Union 53.14 269 P **P** **08 14 19.4 +0.6**
146A IAmb IAmb 08 14 28.2
comp=Z,38nm,1.2s
146A IAMs_20 IAMs_20 08 34 56.8
comp=Z,3μm,21.0s
TOA2 Torodi Ar. Sit 53.14 156 IAMs_20 IAMs_20 08 36 58.7
comp=Z,1μm,18.0s
TOB3 Torodi Ar. Sit 53.15 156 IAMs_20 IAMs_20 08 36 59.0
comp=Z,1μm,18.0s
BW06 Boulder Array 53.15 293 P **P** **08 14 16.8 -2.2**
baz=32,SNR=55
BW06 Boulder Array 53.15 293 P **P** **08 14 19.6 +0.5**
BW06 IAmb IAmb 08 14 23.1
comp=Z,43nm,1.1s
PD31 Pinedale Array 53.15 293 P **P** **08 14 19.4 +0.4**
PD31 IAmb IAmb 08 14 23.1
comp=Z,39nm,1.1s
PDAR Pinedale Array 53.15 293 P **P** **08 14 19.5 +0.4**
comp=Z,18nm,0.8s,baz=55,slow=5.6,SNR=76
PDAR LR LR 08 36 40.1
comp=Z,3μm,19.6s,baz=26,slow=36
PDAR Pinedale Array 53.15 293 P **P** **08 14 19.3 +0.2**
TOC3 Torodi Ar. Sit 53.15 156 IAMs_20 IAMs_20 08 36 51.1
comp=Z,1μm,18.0s
TOC5 Torodi Ar. Sit 53.16 156 IAMs_20 IAMs_20 08 38 18.1
comp=Z,2μm,18.0s
REDW Red Top Meadow 53.16 295 P **P** **08 14 19.9 +0.8**
REDW IAmb IAmb 08 14 29.9
comp=Z,55nm,1.4s
656A Willston 53.17 261 IAMs_20 IAMs_20 08 35 12.3
comp=Z,1μm,19.0s
B05A Bryant 53.17 306 P **P** **08 14 16.0 -2.8**
baz=31
X40A Basin Creek Fa 53.18 274 P **P** **08 14 15.5 -3.6**
baz=31,SNR=11
X40A Basin Creek Fa 53.18 274 P **P** **08 14 20.4 +1.4**
X40A IAMs_20 IAMs_20 08 36 04.0
comp=Z,2μm,18.0s
KDAK Kodiak Island 53.20 332 IAMs_20 IAMs_20 08 38 14.8
comp=Z,2μm,22.0s
CCAR Cane Creek 53.21 272 P **P** **08 14 19.6 +0.3**
CCAR IAmb IAmb 08 14 30.5
comp=Z,86nm,1.7s
CCAR IAMs_20 IAMs_20 08 35 56.7
comp=Z,2μm,18.0s
TUL1 Leonard 53.24 277 P **P** **08 14 16.0 -3.5**
baz=32
CHKK Chushkaly 53.25 64 *i* P **P** **08 14 19.9 +0.4**
baz=64
CHKK Chushkaly 53.25 64 *i* P **P** **08 14 19.9 +0.4**
N23A Red Feather La 53.28 289 P **P** **08 14 16.4 -3.7**
baz=32,SNR=30
N23A Red Feather La 53.28 289 P **P** **08 14 22.8 +2.7**
N23A IAmb IAmb 08 14 25.7
comp=Z,48nm,1.1s
N23A IAMs_20 IAMs_20 08 36 38.6
comp=Z,2μm,19.0s
AAK Ala-Archa 53.30 67 *d i*P **P** **08 14 21.5 +1.4**
AAK pmax pmax
comp=Z,136nm,1.7s
F10A Beach Ranch, E 53.38 301 P **P** **08 14 22.0 +1.5**
QUOK Quay 53.41 278 P **P** **08 14 21.4 +0.6**
QUOK IAmb IAmb 08 14 29.7
comp=Z,55nm,1.8s
MIAR Mount Ida 53.45 274 P **P** **08 14 23.5 +2.5**
MIAR pmax pmax
comp=Z,43nm,1.6s
MIAR Mount Ida 53.45 274 P **P** **08 14 18.4 -2.6**
baz=31,SNR=8.9
MIAR Mount Ida 53.45 274 P **P** **08 14 23.5 +2.5**
MIAR IAmb IAmb 08 14 30.9
comp=Z,43nm,1.6s
MIAR IAMs_20 IAMs_20 08 36 16.1
comp=Z,2μm,18.0s
KSCO Kaye Shedlock' 53.50 285 P **P** **08 14 18.9 -2.7**
baz=32,SNR=12
KSCO Kaye Shedlock' 53.50 285 P **P** **08 14 23.2 +1.6**
LTY Liberty 53.53 304 IAMs_20 IAMs_20 08 37 22.2
comp=Z,1μm,21.0s
BRAL Brewton 53.54 266 P **P** **08 14 18.8 -3.0**
baz=30
MTBS Maitube 53.64 65 *e*P **P** **08 14 23.7 +1.2**

baz=65
MTBS Maitube 53.64 65 *e*P **P** **08 14 23.7 +1.2**
CROK Carrier 53.67 280 P **P** **08 14 24.1 +1.4**
AHID Auburn Hatcher 53.76 294 P **P** **08 14 25.8 +2.3**
AHID IAmb IAmb 08 14 36.1
comp=Z,40nm,1.4s
AAA Alma-Ata 53.77 65 *e*P **P** **08 14 24.7 +1.3**
baz=65
AAA *e*S **S** **08 21 59.6 +2.1**
baz=65
AAA LR LR 08 36 13.1
comp=Z,2μm,16.2s,baz=65
AAA Alma-Ata 53.77 65 *e*P **P** **08 14 24.6 +1.3**
AAA *e*S **S** **08 21 59.5 +2.1**
AAA MLR MLR
comp=Z,2μm,16.0s
E07A Sunnyside 53.84 303 IAms_20 IAms_20 08 37 28.3
comp=Z,3μm,20.0s
MDOK Medeo 53.86 65 *e*P **P** **08 14 25.4 +1.2**
baz=65
MDOK *i* PP **PP** **08 16 26.3 +1.5**
baz=65
MDOK *e*S **S** **08 22 00.7 +1.8**
baz=65
MDOK LR LR 08 36 13.8
comp=Z,2μm,16.2s,baz=65
MDOK Medeo 53.86 65 *e*P **P** **08 14 25.3 +1.2**
MDOK *i* 08 16 26.3
MDOK *e*S **S** **08 22 00.6 +1.8**
MDOK MLR MLR
comp=Z,2μm,16.0s
HAWA Hanford 53.86 303 P **P** **08 14 25.9 +2.0**
OHAK Old Harbor 53.86 332 IAms_20 IAms_20 08 41 34.4
comp=Z,2μm,19.0s
TNSS Tian-Shan 53.92 65 *e*P **P** **08 14 26.0 +1.1**
baz=65
TNSS Tian-Shan 53.92 65 *e*P **P** **08 14 26.0 +1.1**
WLAR White Oak Lake 53.98 274 IAmb IAmb 08 14 36.8
comp=Z,37nm,1.2s
BOOM Boomskoye usch 53.99 66 IAmb IAmb 08 14 35.9
comp=Z,72nm,1.6s
OK029 Liberty Lake 54.05 279 P **P** **08 14 25.9 +0.5**
OK029 IAmb IAmb 08 14 34.9
comp=Z,59nm,1.4s
D05A Enumclaw 54.06 305 IAms_20 IAms_20 08 37 48.1
comp=Z,2μm,21.0s
ISCO Idaho Springs 54.07 288 P P 08 14 21.8 -4.1
baz=32,SNR=12
ISCO Idaho Springs 54.07 288 IAmb IAmb 08 14 31.5
comp=Z,52nm,2.0s
ISCO IAms_20 IAms_20 08 36 34.5
comp=Z,2μm,20.0s
143A Socs Landing, 54.09 271 IAms_20 IAms_20 08 36 07.0
comp=Z,2μm,20.0s
VBMS Vicksburg 54.13 270 P **P** **08 14 22.7 -3.3**
baz=30
VBMS Vicksburg 54.13 270 IAms_20 IAms_20 08 36 15.9
comp=Z,2μm,18.0s
D03D Eldon 54.14 306 P P 08 14 21.6 -4.4
baz=31
OK025 Westminster Rd 54.18 278 IAmb IAmb 08 14 35.8
comp=Z,55nm,1.3s
X37A Clayton 54.19 276 IAmb IAmb 08 14 36.3
comp=Z,34nm,1.5s
X37A IAms_20 IAms_20 08 36 12.5
comp=Z,2μm,19.0s
U32A Winter Ranch, 54.21 280 P **P** **08 14 28.0 +1.4**
Z41A Richland Creek 54.22 273 P **P** **08 14 23.4 -3.3**
baz=31
Z41A Richland Creek 54.22 273 P **P** **08 14 28.3 +1.6**
Z41A IAmb IAmb 08 14 32.4
comp=Z,33nm,1.0s
Z41A IAms_20 IAms_20 08 36 38.4
comp=Z,2μm,19.0s
BCOK Bluff Creek, N 54.23 279 P **P** **08 14 27.8 +1.0**
KPKS Kokpek 54.23 63 *e*P **P** **08 14 28.1 +1.2**
comp=Z,174nm,2.8s,baz=63
KPKS LR LR 08 36 24.5
comp=Z,784nm,15.8s,baz=63
KPKS Kokpek 54.23 63 *e*P **P** **08 14 28.0 +1.2**
KPKS pmax pmax
comp=Z,174nm,2.8s
KPKS MLR MLR
comp=Z,784nm,16.0s
D04E Lakebay 54.34 306 P **P** **08 14 24.6 -2.8**
baz=31
BMO Blue Mountains 54.36 300 IAmb IAmb 08 14 44.1
comp=Z,70nm,1.9s
HLID Hailey 54.37 297 P **P** **08 14 24.7 -3.2**
baz=32,SNR=8.4
HLID Hailey 54.37 297 IAmb IAmb 08 14 38.6
comp=Z,55nm,1.8s
346A Big Creek Wild 54.39 269 IAms_20 IAms_20 08 35 47.8
comp=Z,2μm,21.0s
F07A Phinny Hill Vi 54.43 303 IAmb IAmb 08 14 39.0
comp=Z,64nm,1.8s
SATY Saty 54.47 64⇓ *i*P **P** **08 14 29.5 +0.9**
comp=Z,69nm,2.8s,baz=64
SATY *e*S **S** **08 22 08.7 +1.6**
baz=64
SATY LR LR 08 36 36.6
comp=Z,604nm,15.5s,baz=64
SATY Saty 54.47 64 *d i*P **P** **08 14 29.5 +0.9**
SATY *e*S **S** **08 22 08.7 +1.6**
SATY pmax pmax
comp=Z,69nm,2.8s
SATY MLR MLR
comp=Z,604nm,16.0s
FNO Franklin 54.48 278 P **P** **08 14 30.7 +2.1**
CHGR Chuyangaron 54.50 74 P **P** **08 14 28.4 -0.4**
NLWA Neilton Lookou 54.53 307 P **P** **08 14 30.8 +2.0**
NLWA IAms_20 IAms_20 08 37 55.7
comp=Z,2μm,19.0s
Q24A Divide 54.58 287 P **P** **08 14 27.2 -2.5**
baz=32
G08A Pilot Rock 54.59 302 P **P** **08 14 29.2 -0.2**
UZB Uzynbulak 54.63 63 *e*P **P** **08 14 30.7 +0.9**
comp=Z,106nm,3.1s,baz=63
UZB *e*S **S** **08 22 10.9 +1.6**
baz=63
UZB LR LR 08 36 44.5
comp=Z,434nm,15.5s,baz=63
UZB Uzynbulak 54.63 63 *e*P **P** **08 14 30.7 +0.9**
UZB *e*S **S** **08 22 10.9 +1.6**
UZB pmax pmax
comp=Z,106nm,3.1s
UZB MLR MLR
comp=Z,434nm,16.0s
GAR Garm 54.69 73 P **P** **08 14 30.6 +0.4**
MOY Mondy 54.70 42 *e*P **P** **08 14 32.7 +2.6**
MOY pmax pmax
comp=Z,216nm,2.7s
SHLS Shalkode 54.79 63 *e*P **P** **08 14 33.5 +2.5**
comp=Z,137nm,3.0s,baz=62
SHLS *e*S **S** **08 22 15.7 +4.3**
baz=62
SHLS LR LR 08 36 54.4
comp=Z,140nm,11.5s,baz=62
SHLS Shalkode 54.79 63 *e*P **P** **08 14 33.4 +2.5**
SHLS *e*S **S** **08 22 15.7 +4.3**
SHLS pmax pmax
comp=Z,137nm,3.0s
SHLS MLR MLR
comp=Z,140nm,11.0s
E04D Cinebar 54.80 305 P **P** **08 14 27.5 -3.3**
baz=31
O20A White River Ci 54.85 290 P **P** **08 14 28.7 -2.8**
baz=32,SNR=17
O20A White River Ci 54.85 290 IAms_20 IAms_20 08 36 50.2
comp=Z,2μm,21.0s
344A Westbrook Farm 54.88 270 IAms_20 IAms_20 08 37 06.8
comp=Z,2μm,18.0s
HWUT Hardware Ranch 54.92 294 P **P** **08 14 32.7 +0.7**
F05D White Salmon 54.99 304 P **P** **08 14 29.5 -2.6**
baz=31
MFID Camas Ranch 55.03 298 P **P** **08 14 33.6 +1.0**
IRK Irkutsk 55.10 40 *e*P **P** **08 14 32.9 0.0**
IRK *e* 08 16 38.6
IRK pmax pmax
comp=Z,126nm,2.7s
E03A Lebam 55.16 306 IAmb IAmb 08 14 46.2
comp=Z,72nm,1.9s
HRA Herat 55.23 82 P **P** **08 14 34.8 +0.5**
HRA IAmb IAmb 08 14 40.8
comp=Z,30nm,1.2s
F04A Amboy 55.29 305 P **P** **08 14 36.4 +2.1**
F04A IAms_20 IAms_20 08 38 28.7
comp=Z,2μm,20.0s
F04D Rainier, OR 55.37 305 P **P** **08 14 32.2 -2.6**
baz=30
TARG Taragay, Kyrgy 55.37 65 IAmb IAmb 08 14 41.5
comp=Z,35nm,1.2s
TLY Talaya 55.44 40 *ce*P **P** **08 14 37.5 +2.2**
TLY pmax pmax
comp=Z,12nm,1.1s
GRTK Grand Turk 55.44 245 IAMs_20 IAMs_20 08 34 06.2
comp=Z,2μm,20.0s
G05D Wamic, OR 55.49 304 P **P** **08 14 32.1 -3.7**
baz=30
WMOK Wichita Mounta 55.51 279 P **P** **08 14 33.8 -2.3**
baz=31,SNR=19
WMOK Wichita Mounta 55.51 279 IAmb IAmb 08 14 46.3
comp=Z,41nm,1.4s
342A Flagon Creek P 55.63 271 IAMs_20 IAMs_20 08 37 14.8
comp=Z,2μm,19.0s
F03A Seaside 55.69 306 IAMs_20 IAMs_20 08 38 58.3
comp=Z,1μm,18.0s
JLU Jordanelle 55.74 293 P **P** **08 14 39.6 +1.7**
SDCO Great Sand Dun 55.77 287 P **P** **08 14 35.0 -3.2**
baz=31,SNR=12
SDCO Great Sand Dun 55.77 287 P **P** **08 14 38.4 +0.2**
SDCO IAmb IAmb 08 14 48.8
comp=Z,44nm,1.8s
CTU Camp Tracy 55.78 293 P **P** **08 14 39.3 +1.2**
T25A Trinidad 55.83 285 P **P** **08 14 35.0 -3.6**
baz=31,SNR=11
T25A Trinidad 55.83 285 P **P** **08 14 39.8 +1.2**
T25A IAmb IAmb 08 14 49.4
comp=Z,42nm,1.4s
Z35A Perchaven, San 56.07 277 IAMs_20 IAMs_20 08 37 59.3
comp=Z,2μm,18.0s
G03D McMinnville, O 56.21 305 P **P** **08 14 37.9 -3.0**
baz=30
I05D Terrebonne, OR 56.28 303 P P 08 14 37.0 -4.4
baz=30
H04A Detroit Lake 56.28 304 IAMs_20 IAMs_20 08 39 08.0
comp=Z,2μm,20.0s
NATX Nacogdoches 56.30 274 P **P** **08 14 38.0 -3.7**
baz=30
NATX Nacogdoches 56.30 274 IAMs_20 IAMs_20 08 38 21.6
comp=Z,1μm,19.0s
S22A 4UR Ranch, Cre 56.31 288 P **P** **08 14 38.6 -3.5**
baz=31,SNR=16
S22A 4UR Ranch, Cre 56.31 288 P **P** **08 14 44.3 +2.2**
S22A IAmb IAmb 08 14 53.1
comp=Z,68nm,1.9s
S22A IAMs_20 IAMs_20 08 38 28.9
comp=Z,1μm,20.0s
CBYP Canovanas 56.39 238 P **P** **08 14 44.3 +1.7**
P17A Butcher Ranch, 56.42 292 P **P** **08 14 43.9 +1.2**
PV22 Blue Mesa, Par 56.44 290 P **P** **08 14 44.0 +1.1**
PV07 Paradox Valley 56.46 290 P **P** **08 14 44.8 +1.8**
PV15 Paradox Valley 56.48 289 P **P** **08 14 44.8 +1.6**
PV15 IAmb IAmb 08 14 53.6
comp=Z,31nm,1.3s
PV21 Cone Mtn., Par 56.49 290 IAMs_20 IAMs_20 08 40 53.6
comp=Z,1μm,21.0s
ZAK Zakamensk 56.50 41 *e*P **P** **08 14 44.5 +1.5**
ZAK pmax pmax
comp=Z,22nm,1.3s
HUMP Col San Antoni 56.51 238 P **P** **08 14 44.1 +0.9**
HUMP IAmb IAmb 08 14 53.4
comp=Z,40nm,1.1s
KSH Kashi 56.54 68 P **P** **08 14 46.0 +2.5**
KSH pP sP 08 14 51.0 +2.4
KSH PP **PP** **08 16 52.3 +3.4**
KSH pmax pmax
comp=Z,89nm,1.3s
KSH pmax pmax
comp=Z,920nm,6.8s
KSH LR LR
comp=Z,4μm,17.8s
KSH LR LR
comp=Z,2μm,16.3s
KSH LR LR
comp=Z,5μm,20.2s
441A DeRidder 56.54 272 IAMs_20 IAMs_20 08 37 55.9
comp=Z,2μm,18.0s
237A Washetta, Mont 56.59 275 P **P** **08 14 45.5 +1.8**
237A IAmb IAmb 08 14 54.1
comp=Z,67nm,1.5s
237A IAMs_20 IAMs_20 08 38 15.2
comp=Z,1μm,20.0s
PV23 Carpenter Ridg 56.60 290 P **P** **08 14 46.2 +2.1**
PV23 IAmb IAmb 08 14 49.7
comp=Z,28nm,0.8s
PV04 Paradox Valley 56.60 290 P **P** **08 14 45.4 +1.4**
PV04 IAmb IAmb 08 14 50.2
comp=Z,30nm,1.0s
PV04 IAMs_20 IAMs_20 08 38 53.7
comp=Z,1μm,19.0s
PINE Pine Mountain 56.61 302 P **P** **08 14 46.1 +2.1**
PINE IAMs_20 IAMs_20 08 39 54.6
comp=Z,2μm,18.0s
AMTX Amarillo 56.62 282 P P 08 14 39.7 -4.3
baz=31
H04D Lebanon 56.62 304 P **P** **08 14 40.0 -3.8**
baz=30
DUG Dugway, Tooele 56.62 294 P **P** **08 14 46.4 +2.3**
DUG pmax pmax
comp=Z,53nm,1.4s
DUG MLR MLR
comp=Z,3μm,20.0s
DUG Dugway, Tooele 56.62 294 P P 08 14 39.1 -5.0
baz=31,SNR=20
DUG Dugway, Tooele 56.62 294 P **P** **08 14 46.4 +2.3**
DUG IAmb IAmb 08 14 55.2
comp=Z,53nm,1.4s
PV12 Saucer Basin, 56.63 290 IAmb IAmb 08 14 48.8
comp=Z,22nm,1.0s
PV14 Lion Creek, Pa 56.67 290 P **P** **08 14 46.2 +1.6**
PV14 IAmb IAmb 08 14 49.5
comp=Z,27nm,0.8s
PV14 IAMs_20 IAMs_20 08 39 08.4
comp=Z,2μm,18.0s
PV11 David Mesa, Pa 56.67 290 IAmb IAmb 08 14 51.4
comp=Z,32nm,0.9s
PV11 IAMs_20 IAMs_20 08 37 59.4
comp=Z,2μm,20.0s
PV10 Paradox Valley 56.67 290 P **P** **08 14 47.4 +2.8**
PV10 IAmb IAmb 08 14 50.2
comp=Z,37nm,0.9s
PV20 West Nyswonger 56.67 290 P **P** **08 14 46.3 +1.8**
PV20 IAMs_20 IAMs_20 08 38 57.5
comp=Z,2μm,21.0s
PV16 Nyswonger Mesa 56.68 290 IAMs_20 IAMs_20 08 37 59.6
comp=Z,2μm,20.0s
PDPR Patillas Dam, 56.68 238 P **P** **08 14 47.1 +2.5**
PV01 Paradox Valley 56.69 289 P **P** **08 14 46.0 +1.3**
PV01 IAmb IAmb 08 14 50.0
comp=Z,38nm,1.0s
PV02 Paradox Valley 56.70 290 P **P** **08 14 47.1 +2.4**
PV02 IAMs_20 IAMs_20 08 42 13.0
comp=Z,2μm,20.0s
PV03 Paradox Valley 56.70 290 P **P** **08 14 46.9 +2.2**
PV03 IAmb IAmb 08 14 49.8
comp=Z,32nm,1.0s
PV19 Morning Glory 56.71 290 P **P** **08 14 46.6 +1.7**
PV19 IAmb IAmb 08 14 56.0
comp=Z,60nm,1.6s
PV17 East Wray Mesa 56.72 290 P **P** **08 14 46.8 +1.9**
PV17 IAmb IAmb 08 14 49.4
comp=Z,33nm,1.0s
PV18 Skein Mesa, Pa 56.73 290 P **P** **08 14 46.5 +1.5**
PV18 IAmb IAmb 08 14 50.1
comp=Z,31nm,0.9s
PV18 IAMs_20 IAMs_20 08 38 01.0
comp=Z,2μm,21.0s
TMUT Trail Mountain 56.76 292 P **P** **08 14 46.7 +1.4**
PV13 Radium Mtn., P 56.77 290 IAMs_20 IAMs_20 08 38 01.0
comp=Z,1μm,19.0s
WVOR Wild Horse Val 56.93 300 P **P** **08 14 47.9 +1.7**
WVOR pmax pmax
comp=Z,25nm,1.7s
WVOR MLR MLR
comp=Z,4μm,18.0s
WVOR Wild Horse Val 56.93 300 P **P** **08 14 47.9 +1.7**
Q16A Castle Valley 57.07 292 P **P** **08 14 49.7 +2.3**
ELK Elko 57.09 296 P **P** **08 14 49.9 +2.3**
ELK pmax pmax
comp=Z,34nm,1.4s
ELK Elko 57.09 296 P **P** **08 14 49.9 +2.3**
ELK IAmb IAmb 08 14 58.9
comp=Z,34nm,1.4s
MLPR Magueyes Islan 57.10 239 P **P** **08 14 48.3 +0.8**
I04A Tendick Farm, 57.13 304 P P 08 14 43.5 -4.1
baz=30,SNR=5.4
J05D Fort Rock, OR 57.15 302 P **P** **08 14 45.0 -2.8**
baz=30,SNR=33
WMQ Urumqi 57.27 56 *e*P **P** **08 14 50.6 +2.1**
WMQ pP sP 08 14 57.0 +3.6
WMQ S **S** **08 22 49.4 +5.2**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,120nm,4.1s
WMQ LR LR
comp=Z,790nm,19.7s
WMQ LR LR
comp=Z,810nm,20.1s
WMQ LR LR
comp=Z,760nm,22.5s
WHTX Lake Whitney, 57.30 276 P P 08 14 44.3 -4.5
baz=30
WHTX Lake Whitney, 57.30 276 P **P** **08 14 50.9 +2.1**
WHTX IAMs_20 IAMs_20 08 37 49.1
comp=Z,2μm,22.0s
CNBA Chernabura Isl 57.34 335 IAMs_20 IAMs_20 08 38 38.9
comp=Z,2μm,21.0s
I02D Swisshome 57.38 305 P P 08 14 43.4 -5.7
baz=29
MVCO Mesa Verde 57.45 289 P **P** **08 14 48.4 -1.7**
baz=31,SNR=14
MVCO Mesa Verde 57.45 289 P **P** **08 14 52.0 +1.8**
J04D Umpqua Nationa 57.51 303 P **P** **08 14 48.0 -2.4**
baz=30,SNR=9.5
K05A Summer Lake 57.51 302 P **P** **08 14 52.9 +2.5**
I03D Drain, OR 57.55 304 P P 08 14 44.6 -5.9
baz=29
ABTX Abilene, Hawle 57.69 279 P **P** **08 14 48.0 -3.6**
baz=30,SNR=10
ABTX Abilene, Hawle 57.69 279 P **P** **08 14 53.1 +1.5**
MSU Marysvale 57.82 292 P **P** **08 14 54.5 +1.8**
MSU Marysvale 57.82 292 P **P** **08 14 54.5 +1.8**
MSTX Muleshoe 57.86 282 P P 08 14 48.8 -4.1
baz=30,SNR=7.6
MSTX Muleshoe 57.86 282 IAMs_20 IAMs_20 08 38 27.9
comp=Z,2μm,21.0s
K04D Chiloquin, OR 57.91 302 P P 08 14 46.7 -6.4
baz=30
KBL Kabul 57.97 76 P **P** **08 14 57.6 +3.8**
KBL pmax pmax
comp=Z,19nm,1.1s
KBL MLR MLR
comp=Z,2μm,21.0s
KBL Kabul 57.97 76 P **P** **08 14 57.6 +3.8**
KBL IAMs_20 IAMs_20 08 40 17.6
comp=Z,2μm,21.0s
MOD Modoc Plateau 58.01 301 IAmb IAmb 08 15 04.4
comp=Z,42nm,1.6s
J01E Myrtle Point 58.23 304 P **P** **08 14 51.9 -3.2**
baz=29
HUMO Hull Mountain 58.36 303 IAMs_20 IAMs_20 08 41 01.1
comp=Z,2μm,19.0s
HKT Hockley 58.37 274 P **P** **08 14 59.3 +3.1**
HKT Hockley 58.37 274 P **P** **08 14 59.3 +3.1**
HKT IAmb IAmb 08 15 06.7
comp=Z,41nm,1.6s
HKT Hockley 58.37 274 IAMs_20 IAMs_20 08 40 49.1
comp=Z,1μm,20.0s
435B Jarrell 58.40 276 IAmb IAmb 08 15 08.2
comp=Z,46nm,1.6s
435B IAMs_20 IAMs_20 08 38 33.2
comp=Z,2μm,20.0s
GTBY Guantanamo Bay 58.45 249 IAMs_20 IAMs_20 08 35 19.9
comp=Z,2μm,22.0s
PSUT Pine Spring 58.46 294 P **P** **08 14 58.4 +1.3**
L04D Klamath Falls 58.47 303 P P 08 14 53.1 -4.0
baz=29,SNR=7.7
K02D Willamette Mer 58.54 304 P **P** **08 14 54.2 -3.3**
baz=29,SNR=10
ANMO Albuquerque 58.56 286⇑ *i*P **P** **08 14 59.8 +1.9**
ANMO pmax pmax
comp=Z,15nm,1.5s
ANMO Albuquerque 58.56 286 P P 08 14 54.0 -3.9
baz=30
ANMO Albuquerque 58.56 286 P **P** **08 14 59.3 +1.4**
ANMO IAmb IAmb 08 15 09.0
comp=Z,31nm,1.6s
DBIC Dimbokro 58.58 165 P **P** **08 14 57.4 -0.5**
comp=Z,16nm,1.0s,baz=333,slow=7.5,SNR=12
DBIC LR LR 08 40 44.0
comp=Z,2μm,18.9s,baz=342,slow=37
DBIC Dimbokro 58.58 165 P **P** **08 14 58.1 +0.2**
DBIC pmax pmax
comp=Z,20nm,1.1s
DBIC Dimbokro 58.58 165 P **P** **08 14 58.1 +0.2**
M04C Macdoel 58.68 302 P **P** **08 14 54.8 -3.7**
baz=29
ZEA Zeya 58.87 24 *e*P **P** **08 15 03.5 +4.0**
ZEA *e* 08 17 10.0
ZEA *e*SS SS 08 27 09.0 +12
ZEA pmax pmax
comp=Z,800nm,5.0s
ZEA pmax pmax
comp=Z,200nm,5.0s
ZEA MLR MLR
comp=Z,1μm,17.0s
ZEA MLR MLR
comp=E,500nm,16.0s
ZEA MLR MLR
comp=N,700nm,17.0s
BBGH Gun Hill 58.95 230 IAMs_20 IAMs_20 08 35 02.6
comp=Z,2μm,19.0s
L02E Cave Junction 58.99 304 P **P** **08 14 57.7 -2.8**
baz=29
YBH Yreka Blue Hor 59.04 303 IAMs_20 IAMs_20 08 40 44.0
comp=Z,2μm,18.0s
CCUT Cedar City 59.12 293 P **P** **08 15 03.6 +1.9**
R11A Troy Canyon, C 59.30 295 P **P** **08 15 00.4 -2.5**
baz=30,SNR=30
R11A S S 08 23 23.2 +12
baz=30
R11A Troy Canyon, C 59.30 295 P **P** **08 15 04.6 +1.7**
M02C Callahan 59.39 303 P **P** **08 15 00.3 -3.1**
baz=29
Y22D IRIS PASSCAL I 59.51 286 P **P** **08 15 01.6 -2.7**
baz=30,SNR=6.3
Y22D IRIS PASSCAL I 59.51 286 IAMs_20 IAMs_20 08 40 15.4
comp=Z,2μm,18.0s
LCMT Little Creek M 59.54 292 P **P** **08 15 06.2 +1.7**
PAHR Pah Rah Range 59.58 299 IAmb IAmb 08 15 10.4
comp=Z,25nm,1.2s
JCT Junction City 59.61 277 P **P** **08 15 03.1 -2.0**
baz=30,SNR=21
JCT Junction City 59.61 277 IAMs_20 IAMs_20 08 39 33.3
comp=Z,2μm,21.0s
KRMB Red Mountain 59.66 303 IAmb IAmb 08 15 18.4
comp=Z,28nm,1.4s
KVN Kaiserville 59.66 297 P **P** **08 15 06.5 +1.1**
KVN pmax pmax
comp=Z,40nm,1.5s
KVN MLR MLR
comp=Z,5μm,20.0s
KVN Kaiserville 59.66 297 P **P** **08 15 06.5 +1.1**
KVN IAmb IAmb 08 15 15.8
comp=Z,40nm,1.5s
U15A North Rim 59.66 291 IAmb IAmb 08 15 10.2
comp=Z,19nm,0.9s
U15A IAMs_20 IAMs_20 08 41 04.5
comp=Z,2μm,18.0s
SONM Songino Array 59.68 40 P **P** **08 15 06.4 +1.1**
comp=Z,3.5nm,0.8s,baz=322,slow=6.0,SNR=11
SONM LR LR 08 43 13.7
comp=Z,3μm,20.2s,baz=334,slow=38
SONM Songino Array 59.68 40 P **P** **08 15 05.1 -0.3**
N02D Trinity Center 59.70 302 P **P** **08 15 04.1 -1.4**
baz=29
W18A Petrified Fore 59.76 289 P **P** **08 15 04.2 -2.0**
baz=30
ULN Ulaanbaatar 59.83 40 *d i*P **P** **08 15 07.7 +1.3**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 59.83 40 P **P** **08 15 07.9 +1.5**
ULN IAmb IAmb 08 15 18.0
comp=Z,47nm,1.8s
O03E Paynes Creek 59.97 301 P **P** **08 15 05.1 -2.2**
baz=29

WUAZ	**Wupatki**	**60.08 290**	P	**P**	**08 15 05.9 -2.5**	
	baz=30,SNR=34					
WUAZ	**Wupatki**	**60.08 290**	IAMs_20	IAMs_20	08 39 45.7	
	comp=Z,1μm,21.0s					
KHMM	**Horse Mountain**	**60.16 303**	IAMs_20	IAMs_20	08 41 24.7	
	comp=Z,2μm,18.0s					
735A	**Kenedy**	**60.17 275**	IAMs_20	IAMs_20	08 40 59.0	
	comp=Z,1μm,20.0s					
TPH	**Tonopah**	**60.17 296**	P	**P**	**08 15 10.9 +1.9**	
TPH			pmax	pmax		
	comp=Z,66nm,1.2s					
TPH	**Tonopah**	**60.17 296**	P	**P**	**08 15 10.9 +1.9**	
PNTR	**Pine Nut**	**60.20 299**	P	**P**	**08 15 10.2 +1.0**	
PNTR			IAmb	IAmb	08 15 20.1	
	comp=Z,34nm,1.5s					
NV11	**Mina Array Sit**	**60.22 297**	P	**P**	**08 15 12.2 +3.0**	
NVAR	**Mina Array Bea**	**60.28 297**	P	**P**	**08 15 11.6 +1.9**	
	comp=Z,3.2nm,0.8s,baz=38,slow=3.6,SNR=24					
NVAR			LR	LR	08 41 21.8	
	comp=Z,7μm,18.6s,baz=22,slow=36					
NVAR	**Mina Array Bea**	**60.28 297**	P	**P**	**08 15 10.7 +0.9**	
RUBR	**Rubicon Trail**	**60.44 299**	P	**P**	**08 15 09.7 -1.1**	
RUBR			IAmb	IAmb	08 15 48.3	
	comp=Z,50nm,1.8s					
NIL	**Nilore**	**60.49 73**	P	**P**	**08 15 10.7 -0.3**	
NIL			pmax	pmax		
	comp=Z,71nm,1.2s					
NIL			MLR	MLR		
	comp=Z,1μm,19.0s					
NIL	**Nilore**	**60.49 73**	P	**P**	**08 15 10.7 -0.3**	
NIL	**Nilore**	**60.49 73**	IAMs_20	IAMs_20	08 42 34.5	
	comp=Z,1μm,19.0s					
ORV	**Oroville**	**60.50 300**	P	**P**	**08 15 13.5 +2.5**	
ORV			pmax	pmax		
	comp=Z,24nm,1.7s					
ORV			MLR	MLR		
	comp=Z,5μm,19.0s					
ORV	**Oroville**	**60.50 300**	P	**P**	**08 15 13.5 +2.5**	
LHV	**Little Huntoon**	**60.51 297**	P	**P**	**08 15 13.2 +2.3**	
WAKR	**Walker**	**60.65 298**	IAmb	IAmb	08 15 23.2	
	comp=Z,53nm,1.6s					
KMRM	**Mail Ridge**	**60.73 303**	P	**P**	**08 15 15.4 +2.8**	
SHPR	**Sheep Range**	**60.73 294**	P	**P**	**08 15 15.1 +2.4**	
SHPR			IAMs_20	IAMs_20	08 41 26.9	
	comp=Z,2μm,19.0s					
TPNV	**Topopah Spring**	**60.78 295**	P	**P**	**08 15 14.2 +1.1**	
TPNV			pmax	pmax		
	comp=Z,55nm,1.9s					
TPNV			MLR	MLR		
	comp=Z,3μm,20.0s					
TPNV	**Topopah Spring**	**60.78 295**	P	**P**	**08 15 09.8 -3.3**	
	baz=29,SNR=9.8					
TPNV	**Topopah Spring**	**60.78 295**	P	**P**	**08 15 14.2 +1.1**	
TPNV			IAmb	IAmb	08 15 23.6	
	comp=Z,55nm,1.9s					
AFDM	**Forest Hills D**	**60.84 300**	P	**P**	**08 15 14.9 +1.7**	
AFDM			IAmb	IAmb	08 15 23.1	
	comp=Z,53nm,1.9s					
MNTX	**Cornudas Mount**	**60.92 283**	P	**P**	**08 15 10.9 -3.1**	
	baz=30,SNR=9.9					
MNTX	**Cornudas Mount**	**60.92 283**	IAmb	IAmb	08 16 08.2	
	comp=Z,33nm,1.6s					
MNTX			IAMs_20	IAMs_20	08 41 07.9	
	comp=Z,2μm,18.0s					
MTDJ	**Mount Denham**	**60.96 250**	IAMs_20	IAMs_20	08 37 52.4	
	comp=Z,1μm,20.0s					
X16A	**Lo Mia Camp, P**	**61.06 290**	IAmb	IAmb	08 15 20.9	
	comp=Z,22nm,1.0s					
X16A			IAMs_20	IAMs_20	08 41 22.6	
	comp=Z,1μm,19.0s					
GRAC	**Grapevine Rang**	**61.17 296**	P	**P**	**08 15 12.9 -2.7**	
	baz=29					
MLAC	**Mammoth, Mammo**	**61.18 297**	P	**P**	**08 15 13.8 -2.1**	
	baz=29					
121A	**Cookes Peak, D**	**61.20 285**	P	**P**	**08 15 13.0 -3.0**	
	baz=29,SNR=6.1					
121A	**Cookes Peak, D**	**61.20 285**	IAMs_20	IAMs_20	08 41 12.3	
	comp=Z,1μm,18.0s					
833A	**Chaparral WMA,**	**61.31 276**	IAMs_20	IAMs_20	08 40 34.2	
	comp=Z,2μm,21.0s					
NKL	**Nikolayevsk**	**61.34 15**	*e*P	**P**	**08 15 18.1 +1.7**	
NKL			*e*		08 16 01.5	
NKL			*e*S	**S**	**08 23 39.6 +3.3**	
NKL			pmax	pmax		
	comp=N,12nm,0.9s					
NKL			pmax	pmax		
	comp=Z,32nm,1.3s					
NKL			pmax	pmax		
	comp=Z,94nm,2.2s					
NKL			smax	smax		
	comp=N,20nm,4.2s					
FURC	**Furnace Creek,**	**61.44 295**	P	**P**	**08 15 15.3 -2.0**	
	baz=29,SNR=7.6					
W13A	**Hualapai Mount**	**61.45 292**	IAmb	IAmb	08 15 28.4	
	comp=Z,50nm,2.0s					
W13A			IAMs_20	IAMs_20	08 40 57.0	
	comp=Z,2μm,22.0s					
HOPS	**Hopland Field**	**61.57 301**	P	**P**	**08 15 20.2 +2.0**	
HOPS			IAmb	IAmb	08 15 31.6	
	comp=Z,44nm,1.4s					
HIA	**Hailar**	**61.66 30**	IAMs_20	IAMs_20	08 42 43.6	
	comp=Z,2μm,19.0s					
SHOC	**Shoshone, Teco**	**61.70 294**	P	**P**	**08 15 17.8 -1.4**	
	baz=29,SNR=7.2					
CWC	**Cottonwood Cre**	**61.93 296**	P	**P**	**08 15 19.2 -1.7**	
	baz=29					
TUQ	**Turquoise Moun**	**61.97 294**	P	**P**	**08 15 19.7 -1.4**	
	baz=29					
MPMC	**Manual Prospec**	**62.04 295**	P	**P**	**08 15 19.8 -1.9**	
	baz=29,SNR=9.4					
Y14A	**Wickenburg**	**62.11 291**	IAMs_20	IAMs_20	08 41 43.4	
	comp=Z,2μm,18.0s					
PDMCI	**Parker Dam,Lak**	**62.25 292**	P	P	08 15 18.7 -4.2	
	baz=29,SNR=12					
TX31	**Lajitas Ar. Si**	**62.25 280**	P	**P**	**08 15 25.1 +2.1**	
TXAR	**Lajitas Array**	**62.25 280**	P	**P**	**08 15 24.1 +1.0**	
	comp=Z,5.0nm,0.9s,baz=53,slow=4.6,SNR=44					
TXAR			LR	LR	08 41 46.3	
	comp=Z,3μm,20.0s,baz=0.0,slow=35					
TXAR	**Lajitas Array**	**62.25 280**	P	**P**	**08 15 23.4 +0.3**	
TX32	**Lajitas Array**	**62.25 280**	P	**P**	**08 15 25.7 +2.6**	
TX32			IAmb	IAmb	08 16 12.8	
	comp=Z,25nm,1.6s					
GSC	**Goldstone, Bar**	**62.43 294**	P	**P**	**08 15 25.1 +0.9**	
GSC			pmax	pmax		
	comp=Z,56nm,1.8s					
GSC			MLR	MLR		
	comp=Z,2μm,19.0s					
GSC	**Goldstone, Bar**	**62.43 294**	P	P	08 15 19.5 -4.7	
	baz=29					
GSC	**Goldstone, Bar**	**62.43 294**	P	**P**	**08 15 25.1 +0.9**	
GSC			IAmb	IAmb	08 15 35.3	
	comp=Z,56nm,1.8s					
GMRC	**Granite Mounta**	**62.43 293**	P	P	08 15 20.3 -4.0	
	baz=29,SNR=17					
PETK	**Petropavlovsk-**	**62.52 3**	P	**P**	**08 15 25.8 +1.4**	
	comp=Z,4.3nm,1.1s,baz=36,slow=7.9,SNR=5.2					
PETK	**Petropavlovsk-**	**62.52 3**	P	**P**	**08 15 24.9 +0.5**	
PET	**Petropavlovsk**	**62.63 3**	*e*P	**P**	**08 15 25.4 +0.4**	
PET			*e*S	**S**	**08 23 54.1 +1.5**	
PET			pmax	pmax		
	comp=Z,300nm,19.0s					
PET			MLR	MLR		
	comp=Z,700nm,17.0s					
TUC	**Tucson**	**62.63 288**	P	**P**	**08 15 26.5 +1.0**	
TUC			MLR	MLR		
	comp=Z,2μm,18.0s					
TUC	**Tucson**	**62.63 288**	P	**P**	**08 15 22.4 -3.1**	
	baz=29					
TUC	**Tucson**	**62.63 288**	P	**P**	**08 15 26.5 +1.0**	
TUC	**Tucson**	**62.63 288**	IAMs_20	IAMs_20	08 42 23.2	
	comp=Z,2μm,18.0s					
HEC	**Hector,Ludlow**	**62.66 294**	P	**P**	**08 15 22.2 -3.5**	
	baz=29,SNR=6.5					
ISA	**Isabella, Lake**	**62.77 296**	P	P	08 15 21.7 -4.6	
	baz=28,SNR=8.8					
IRM	**Iron Mountain**	**62.78 292**	P	P	08 15 22.2 -4.3	
	baz=29,SNR=11					
VES	**Vestal, Richgr**	**62.84 297**	P	P	08 15 22.0 -4.8	
	baz=28					
RRX	**Edison Barstow**	**62.88 294**	P	**P**	**08 15 23.2 -3.8**	
	baz=28					
PMPB	**Monarch Peak**	**63.17 298**	P	**P**	**08 15 31.4 +2.4**	
PMPB			IAmb	IAmb	08 15 35.5	
	comp=Z,41nm,1.3s					
BELC	**Belle Mtn. Jos**	**63.25 293**	P	**P**	**08 15 26.7 -3.0**	
	baz=28,SNR=14					
EDW2	**Edwards Air Fo**	**63.27 295**	P	**P**	**08 15 27.0 -2.7**	
	baz=28					
BC3	**Big Chuckawall**	**63.34 292**	P	**P**	**08 15 27.3 -3.0**	
	baz=28,SNR=9.3					
ARVC	**Arvin**	**63.37 296**	P	**P**	**08 15 27.3 -3.0**	
	baz=28					
BBRC	**Big Bear Solar**	**63.39 294**	P	P	08 15 26.6 -4.1	
	baz=28					
113A	**Mohawk Valley,**	**63.44 291**	P	**P**	**08 15 31.9 +1.2**	
113A			IAmb	IAmb	08 15 41.4	
	comp=Z,53nm,1.7s					
113A			IAMs_20	IAMs_20	08 42 33.6	
	comp=Z,1μm,18.0s					
GLA	**Glamis**	**63.62 292**	P	P	08 15 28.1 -4.0	
	baz=28					
GLA	**Glamis**	**63.62 292**	IAMs_20	IAMs_20	08 42 12.4	
	comp=Z,2μm,22.0s					
TEIG	**Tepich**	**63.65 262**	IAMs_20	IAMs_20	08 41 59.0	
	comp=Z,1μm,19.0s					
BFSC	**Mount Baldy Ra**	**63.70 295**	P	P	08 15 28.5 -4.1	
	baz=28					
214A	**Organ Pipe Nat**	**63.77 289**	P	P	08 15 29.1 -3.9	
	baz=28					
214A	**Organ Pipe Nat**	**63.77 289**	P	**P**	**08 15 35.5 +2.5**	
214A			IAmb	IAmb	08 15 43.7	
	comp=Z,43nm,1.6s					
214A			IAMs_20	IAMs_20	08 43 17.3	
	comp=Z,2μm,20.0s					
PFO	**Pinyon Flats O**	**63.78 293**	P	**P**	**08 15 35.8 +2.6**	
PFO			pmax	pmax		
	comp=Z,17nm,1.5s					
PFO			MLR	MLR		
	comp=Z,3μm,18.0s					
PFO	**Pinyon Flats O**	**63.78 293**	P	P	08 15 29.2 -3.9	
	baz=28					
PFO	**Pinyon Flats O**	**63.78 293**	P	**P**	**08 15 35.8 +2.6**	
PKM	**Mcpherson Peak**	**63.96 297**	P	P	08 15 28.9 -5.6	
	baz=28					
MURC	**Murrieta**	**64.08 294**	P	**P**	**08 15 31.6 -3.4**	
	baz=28					
GUVIX	**Guadalupe Vict**	**64.38 291**	IAMs_20	IAMs_20	08 41 59.4	
	comp=Z,1μm,22.0s					
PIX	**Pinacate**	**64.38 290**	P	**P**	**08 15 38.2 +1.3**	
PIX			IAmb	IAmb	08 15 46.5	
	comp=Z,51nm,1.7s					
MONP2	**Monument Peak**	**64.39 293**	P	**P**	**08 15 34.9 -2.5**	
	baz=28,SNR=6.6					
IKP	**In-Ko-Pah, Jac**	**64.48 292**	P	P	08 15 33.1 -4.6	
	baz=28					
RMX	**La Rumorosa**	**64.51 292**	P	**P**	**08 15 41.1 +3.1**	
RMX			IAmb	IAmb	08 15 49.6	
	comp=Z,52nm,1.6s					
BAR	**Barrett**	**64.68 293**	P	**P**	**08 15 40.9 +1.9**	
BAR			IAmb	IAmb	08 15 50.2	
	comp=Z,43nm,1.8s					
CIS	**Catalina Islan**	**64.73 295**	P	P	08 15 34.7 -4.6	
	baz=28					
SKR	**Severo-Kuril's**	**64.90 4**	*e*P	P	08 15 35.3 -4.8	
SKR			pmax	pmax		
	comp=Z,100nm,7.0s					
SKR			MLR	MLR		
	comp=Z,400nm,19.0s					
ESJX	**Sierra Juarez**	**64.99 292**	P	**P**	**08 15 40.3 -0.8**	
ESJX			IAMs_20	IAMs_20	08 43 06.6	
	comp=Z,1μm,21.0s					
GTA	**Gaotai**	**65.34 49**	⇑P	**P**	**08 15 44.6 +1.3**	
GTA			pP	sP	08 15 50.6 +2.4	
GTA			sP	pP	08 15 53.9 +7.0	
GTA			PcP	**PcP**	**08 16 17.6 +2.2**	
GTA			S	**S**	**08 24 29.3 +2.3**	
GTA			sS	sS	08 24 33.5 +0.4	
GTA			SS	**SS**	**08 28 42.0 +3.0**	
GTA			pmax	pmax		
	comp=Z,11nm,1.6s					
GTA			pmax	pmax		
	comp=Z,590nm,5.3s					
GTA			LR	LR		
	comp=Z,1μm,16.4s					
GTA			LR	LR		
	comp=Z,940nm,17.5s					
GTA			LR	LR		
	comp=Z,2μm,17.5s					
CCX	**Cicese**	**65.39 292**	IAMs_20	IAMs_20	08 43 20.3	
	comp=Z,2μm,22.0s					
HSIG		**65.58 286**	P	**P**	**08 15 47.2 +2.4**	
HSIG			IAMs_20	IAMs_20	08 45 44.3	
	comp=Z,1μm,18.0s					
SPX	**San Pedro Mart**	**65.65 291**	P	**P**	**08 15 47.2 +1.6**	
SPX			IAmb	IAmb	08 15 55.7	
	comp=Z,25nm,1.2s					
SDV	**Santo Domingo**	**66.78 239**	*e*P	**P**	**08 15 51.9 -1.0**	
SDV	**Santo Domingo**	**66.78 239**	P	**P**	**08 15 53.6 +0.7**	
SDV	**Santo Domingo**	**66.78 239**	*e*P	**P**	**08 15 54.7 +1.9**	
ARGC	**Ariguani, Magd**	**67.25 243**	*e*P	**P**	**08 15 55.4 -0.2**	
PETF	**Flores**	**67.27 261**	IAMs_20	IAMs_20	08 45 59.9	
	comp=Z,1μm,19.0s					
BTO	**Baotou**	**67.35 41**	*e*P	**P**	**08 15 53.0 -3.1**	
ZAIG	**Zacatecas**	**67.54 276**	P	**P**	**08 15 59.3 +1.6**	
ZAIG			IAmb	IAmb	08 16 03.5	
	comp=Z,14nm,0.9s					
ZAIG			IAMs_20	IAMs_20	08 44 01.2	
	comp=Z,1μm,22.0s					
HHC	**Hu-ho-hao-te**	**67.55 40**	*e*P	P	08 16 02.4 +5.0	
HHC			pmax	pmax		
	comp=Z,28nm,0.8s					
HHC			pmax	pmax		
	comp=Z,370nm,4.7s					
HHC			LR	LR		
	comp=Z,1μm,14.5s					
HHC			LR	LR		
	comp=Z,850nm,14.5s					
HHC			LR	LR		
	comp=Z,1μm,16.2s					
SJCC	**San Jacinto, C**	**67.58 244**	*e*P	**P**	**08 15 57.6 -0.2**	
YSS	**Yuzh-Sakhalins**	**67.68 14**	*e*P	**P**	**08 16 00.9 +3.0**	
YSS			*e*		08 18 28.9	
YSS			*e*PPP	PPP	08 20 04.6	
YSS			*e*S	**S**	**08 24 57.6 +2.8**	
YSS			*e*PS	**PnS**	**08 25 13.8 -2.6**	
YSS			pmax	pmax		
	comp=Z,10.0nm,0.9s					
YSS			MLR	MLR		
	comp=Z,500nm,18.0s					
YSS			MLR	MLR		
	comp=E,500nm,17.0s					
CN2	**Changchun**	**68.07 28**	*e*P	**P**	**08 16 03.0 +2.5**	
CN2			*e*sP	sP	08 16 07.0 +1.6	
CN2			*e*S	**S**	**08 25 00.3 +0.7**	
CN2			pmax	pmax		
	comp=E,10.0nm,0.5s					
CN2			pmax	pmax		
	comp=E,600nm,5.0s					
CN2			LR	LR		
	comp=E,300nm,15.0s					
CN2			LR	LR		
	comp=E,700nm,15.0s					
CN2			LR	LR		
	comp=E,1μm,16.0s					
MDJ	**Mudanjiang**	**68.08 25**	IAMs_20	IAMs_20	08 48 19.4	
	comp=Z,942nm,18.0s					
SMLC	**San Martn de**	**68.15 243**	*e*P	**P**	**08 15 59.0 -2.3**	
MOTC	**Monteria, Cord**	**68.79 244**	*e*P	**P**	**08 16 05.9 +0.7**	
CCIG	**Comitan**	**68.80 263**	IAMs_20	IAMs_20	08 44 52.5	
	comp=Z,1μm,21.0s					
USRK	**Ussuriysk Ar.**	**68.90 23**	P	**P**	**08 16 09.4 +3.8**	
	comp=Z,1.7nm,0.8s,baz=336,slow=4.2,SNR=5.3					
USRK			LR	LR	08 48 26.6	
	comp=Z,471nm,18.3s,baz=330,slow=38					
ESPN	**Las Esperanzas**	**69.16 254**	IAMs_20	IAMs_20	08 42 49.8	
	comp=Z,910nm,20.0s					
MTO3	**Montecristo**	**69.30 260**	IAMs_20	IAMs_20	08 46 36.7	
	comp=Z,908nm,20.0s					
HUEH	**Huehuetenango**	**69.39 262**	IAMs_20	IAMs_20	08 46 01.1	
	comp=Z,1μm,18.0s					
BJI	**Beijing**	**69.53 36**	P	**P**	**08 16 11.4 +1.8**	
BJI			S	**S**	**08 25 16.3 -0.6**	
BJI			SS	**SS**	**08 29 45.1 +1.8**	
BJI			pmax	pmax		
	comp=Z,8.0nm,1.6s					
BJI			pmax	pmax		
	comp=Z,550nm,4.9s					
BJI			LR	LR		
	comp=Z,2μm,17.6s					
BJI			LR	LR		
	comp=Z,1μm,18.2s					
BJI			LR	LR		
	comp=Z,2μm,18.6s					
MCPB	**Macapa, AP**	**69.56 217**	*e*P	**P**	**08 16 11.3 +1.3**	
BRRC	**Barranca, Sant**	**69.57 242**	*e*P	**P**	**08 16 08.4 -1.8**	
SNY	**Shenyang**	**69.57 30**	⇑P	**P**	**08 16 12.8 +3.0**	
SNY			S	**S**	**08 25 23.8 +6.4**	
SNY			pmax	pmax		
	comp=Z,400nm,5.8s					
SNY			LR	LR		
	comp=Z,830nm,20.6s					
SNY			LR	LR		
	comp=Z,360nm,14.2s					
SNY			LR	LR		
	comp=Z,1μm,22.1s					
ZARC	**Zaragoza, Cauc**	**69.65 243**	*e*P	**P**	**08 16 08.4 -2.3**	
LZH	**Lanzhou**	**69.67 47**	⇑P	**P**	**08 16 12.4 +1.7**	
LZH			pP	sP	08 16 17.3 +1.6	
LZH			sP	pP	08 16 20.6 +6.3	
LZH			S	**S**	**08 25 23.8 +4.7**	
LZH			pmax	pmax		
	comp=Z,24nm,1.2s					
LZH			pmax	pmax		
	comp=Z,210nm,4.9s					
LZH			LR	LR		
	comp=Z,1μm,18.4s					
LZH			LR	LR		
	comp=Z,2μm,15.2s					
LZH			LR	LR		
	comp=Z,1μm,19.0s					
UREC	**San Jos de Ur**	**69.68 244**	*e*P	**P**	**08 16 08.8 -2.0**	
ACON	**Acoyapa**	**69.72 255**	P	**P**	**08 16 13.4 +2.3**	
ACON			IAmb	IAmb	08 16 15.2	
	comp=Z,38nm,1.4s					
CRIN	**San Cristobal**	**69.85 257**	IAMs_20	IAMs_20	08 43 19.0	
	comp=Z,795nm,18.0s					
KUR	**Kuril'sk**	**69.87 11**	*e*P	**P**	**08 16 12.8 +1.2**	
KUR			*e*		08 16 35.0	
KUR			*e*PPP	PPP	08 20 30.4	
KUR			*e*		08 26 17.1	
PTBC	**PUERTO BERRIO,**	**70.37 242**	*e*P	**P**	**08 16 14.7 -0.4**	
RUSC	**La Rusia**	**70.45 240**	*e*P	**P**	**08 16 14.7 -1.5**	
JKA	**Kamikawa-asahi**	**70.47 15**	IAMs_20	IAMs_20	08 50 52.9	
	comp=Z,830nm,18.0s					
TIY	**Taiyuan**	**70.72 40**	*e*P	**P**	**08 16 21.4 +4.4**	
TIY			pmax	pmax		
	comp=Z,320nm,6.9s					
TIY			LR	LR		
	comp=Z,960nm,12.7s					
TIY			LR	LR		
	comp=Z,550nm,14.6s					
TIY			LR	LR		
	comp=Z,1μm,17.0s					
SPBC	**San Pablo de B**	**71.04 241**	*e*P	**P**	**08 16 17.8 -1.5**	
HELC	**Santa Helena**	**71.10 243**	*e*P	**P**	**08 16 19.2 -0.8**	
NORC	**Norcasia**	**71.43 242**	*e*P	**P**	**08 16 20.8 -0.7**	
CBOC	**Ciudad Bolivar**	**71.59 243**	*e*P	**P**	**08 16 23.1 +0.4**	
CHIC	**Chingaza**	**71.86 241**	*e*P	**P**	**08 16 24.1 -0.4**	
ROSC	**El Rosal**	**71.88 241**	P	**P**	**08 16 24.6 -0.1**	
	comp=Z,20nm,0.8s,baz=91,slow=9.7,SNR=10					
ROSC			LR	LR	08 44 27.2	
	comp=Z,1μm,21.8s,baz=3.5,slow=33					
ROSC	**El Rosal**	**71.88 241**	*e*P	**P**	**08 16 25.7 +1.0**	
ROSC	**El Rosal**	**71.88 241**	P	**P**	**08 16 25.8 +1.1**	
ROSC			IAMs_20	IAMs_20	08 44 05.6	
	comp=Z,1μm,21.0s					
DL2	**Dalian**	**71.93 32**	⇓P	**P**	**08 16 24.5 +0.3**	
DL2			S	**S**	**08 25 46.9 +2.0**	
DL2			pmax	pmax		
	comp=Z,25nm,1.3s					
DL2			pmax	pmax		
	comp=Z,650nm,5.9s					
DL2			LR	LR		
	comp=Z,2μm,18.4s					
DL2			LR	LR		
	comp=Z,580nm,14.4s					
DL2			LR	LR		
	comp=Z,2μm,19.1s					
GUY2C	**Guyana, Caldas**	**71.93 242**	*e*P	**P**	**08 16 24.5 -0.6**	
PTGA	**Pitinga**	**72.15 225**	P	**P**	**08 16 25.5 -0.3**	
PTGA			IAmb	IAmb	08 16 35.5	
	comp=Z,44nm,1.5s					
PTGA			IAMs_20	IAMs_20	08 41 19.2	
	comp=Z,1μm,22.0s					
PTGA	**Pitinga**	**72.15 225**	*e*P	**P**	**08 16 26.8 +1.0**	
TOLC	**Tolima**	**72.50 242**	*e*P	**P**	**08 16 30.1 +1.8**	
TOLC			*e*P	**pP**	**08 16 32.6 +0.6**	
JEM	**Erimo**	**72.60 15**	IAMs_20	IAMs_20	08 50 59.9	
	comp=Z,910nm,19.0s					
ANIL	**Santa Ana**	**72.61 242**	*e*P	**P**	**08 16 29.4 +0.4**	
ORTC	**Ortega, Tolima**	**73.09 242**	*e*P	**P**	**08 16 31.8 +0.3**	
XAN	**Xi'an**	**73.13 44**	P	**P**	**08 16 30.8 -0.7**	
XAN			pP	sP	08 16 36.1 -0.4	
XAN			S	**S**	**08 25 53.9 -5.0**	
XAN			pmax	pmax		
	comp=Z,13nm,1.5s					
XAN			pmax	pmax		
	comp=Z,660nm,5.4s					
XAN			LR	LR		
	comp=Z,2μm,22.8s					
XAN			LR	LR		
	comp=Z,2μm,18.4s					
XAN			LR	LR		
	comp=Z,3μm,23.9s					
XAN	**Xi'an**	**73.13 44**	P	**P**	**08 16 30.1 -1.4**	
XAN			pmax	pmax		
	comp=Z,44nm,1.4s					
XAN			MLR	MLR		
	comp=Z,2μm,22.0s					
XAN	**Xi'an**	**73.13 44**	P	**P**	**08 16 30.1 -1.4**	
XAN			IAmb	IAmb	08 16 41.9	
	comp=Z,44nm,1.4s					
PRAC	**Prado**	**73.13 241**	*e*P	**P**	**08 16 29.6 -2.1**	
TIA	**Tai'an**	**73.39 37**	P	P	08 16 41.4 +8.5	
TIA			pmax	pmax		
	comp=Z,15nm,1.8s					
YOTC	**Yotoco, Valle**	**73.44 243**	*e*P	**P**	**08 16 31.4 -2.3**	
MBAR	**Mbarara**	**73.93 129**	IAMs_20	IAMs_20	08 49 22.2	
	comp=Z,1μm,21.0s					
MACC	**Macarena, Meta**	**74.19 240**	*e*P	**P**	**08 16 36.0 -1.8**	
BETC	**Betania**	**74.29 241**	*e*P	**P**	**08 16 37.8 -0.8**	
ITTB	**Itaituba**	**74.38 220**	*e*P	**P**	**08 16 40.4 +1.5**	
INCN	**Inchon**	**74.39 29**	IAMs_20	IAMs_20	08 50 31.4	
	comp=Z,1μm,21.0s					
CD2	**Chengdu**	**74.40 50**	*e*P	**P**	**08 16 40.5 +1.5**	
CD2			S	**S**	**08 26 13.3 -0.1**	
CD2			pmax	pmax		
	comp=Z,40nm,1.4s					
CD2			pmax	pmax		
	comp=Z,750nm,5.4s					
CD2			LR	LR		
	comp=Z,2μm,15.5s					
CD2			LR	LR		
	comp=Z,1μm,13.7s					
CD2			LR	LR		
	comp=Z,2μm,19.4s					
PRPB	**Paraua pebas**	**74.59 213**	*e*P	**P**	**08 16 41.0 +0.8**	
MACA	**Manacapuru-AM**	**74.67 225**	*e*P	**P**	**08 16 42.1 +1.5**	
KSRS	**Korea Array**	**74.68 28**	P	**P**	**08 16 42.0 +1.5**	
	comp=Z,1.1nm,0.8s,baz=341,slow=6.4,SNR=2.5					
KSRS			LR	LR	08 53 00.5	
	comp=Z,787nm,18.2s,baz=342,slow=38					
GARC	**Garzon, Huila**	**74.77 241**	*e*P	**P**	**08 16 41.6 +0.1**	
PCON	**Cinco Dias**	**74.98 242**	*e*P	**P**	**08 16 43.1 0.0**	
SHL	**Shillong**	**75.06 62**	P	**P**	**08 16 43.5 +0.4**	
SHL			pmax	pmax		
	comp=Z,45nm,1.4s					
SHL			MLR	MLR		
	comp=Z,2μm,19.0s					
SHL	**Shillong**	**75.06 62**	P	**P**	**08 16 43.5 +0.4**	
SHL			IAmb	IAmb	08 16 49.9	
	comp=Z,45nm,1.4s					
FLOC	**Florencia**	**75.38 241**	*e*P	**P**	**08 16 43.7 -1.1**	
TJN	**Taejon**	**75.61 29**	*c*e*P	**P**	**08 16 47.4 +1.6**	
SMTB	**Santa Maria do**	**76.69 211**	*e*P	**P**	**08 16 53.4 +1.3**	
KMBO	**Kilima Mbogo**	**76.69 123**	LR	LR	08 54 01.1	
	comp=Z,1μm,19.3s,baz=282,slow=38					
KMBO	**Kilima Mbogo**	**76.69 123**	IAMs_20	IAMs_20	08 53 57.2	
	comp=Z,1μm,19.0s					
NPGB	**Novo Progresso**	**76.83 219**	*e*P	**P**	**08 16 53.5 +0.6**	
HYB	**Hyderabad**	**77.02 77**	*i* P	**P**	**08 16 58.0 +3.9**	
MAJO	**

MJAR	**Matsushiro Arr**	**77.36**	**20**	P	**P**	**08 16 58.2**	**+2.4**
	comp=Z,1.6nm,0.7s,baz=346,slow=4.5,SNR=3.8						
MJAR	**Matsushiro Arr**	**77.36**	**20**	P	**P**	**08 16 57.4**	**+1.6**
OTAV	**Otavalo**	**77.68**	**243**	*e*P	**P**	**08 16 59.2**	**+0.9**
OTAV	**Otavalo**	**77.68**	**243**	P	**P**	**08 16 58.1**	**-0.2**
OTAV				pmax	pmax		
	comp=Z,37nm,1.4s						
OTAV	**Otavalo**	**77.68**	**243**	P	**P**	**08 16 58.1**	**-0.2**
OTAV				IAmb	IAmb	08 17 09.7	
	comp=Z,36nm,1.4s						
OTAV	**Otavalo**	**77.68**	**243**	IAMs_20	IAMs_20	08 48 02.5	
	comp=Z,836nm,22.0s						
OTAV	**Otavalo**	**77.68**	**243**	*e*P	**P**	**08 17 00.0**	**+1.7**
NJ2	**Nanjing**	**77.77**	**37**	*e*P	**P**	**08 16 58.6**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				LR	LR		
	comp=Z,940nm,15.6s						
NJ2				LR	LR		
	comp=Z,960nm,15.6s						
NJ2				LR	LR		
	comp=Z,2μm,13.7s						
JTU	**Tsushima**	**77.81**	**27**	IAMs_20	IAMs_20	08 54 47.9	
	comp=Z,785nm,20.0s						
INU	**Inuyama**	**78.35**	**21**	IAMs_20	IAMs_20	08 53 44.5	
	comp=Z,683nm,18.0s						
JSG	**Sagara**	**79.19**	**20**	IAMs_20	IAMs_20	08 57 46.6	
	comp=Z,898nm,19.0s						
KMI	**Kunming**	**79.39**	**53**	⇓*i*P	**P**	**08 17 11.3**	**+3.8**
KMI				pP	PcP	08 17 14.3	-1.3
KMI				S	**S**	**08 27 13.6**	**+5.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,520nm,7.1s						
KMI				LR	LR		
	comp=Z,540nm,19.8s						
KMI				LR	LR		
	comp=Z,570nm,19.3s						
KMI				LR	LR		
	comp=Z,880nm,28.2s						
KMI	**Kunming**	**79.39**	**53**	IAMs_20	IAMs_20	08 57 48.4	
	comp=Z,939nm,18.0s						
JNU	**Nakatsue**	**79.46**	**27**	LR	LR	08 57 31.1	
	comp=Z,764nm,18.1s,baz=332,slow=40						
GYA	**Guiyang**	**79.47**	**49**	⇑P	**P**	**08 17 11.9**	**+4.2**
GYA				PP	**PP**	**08 20 11.3**	**+3.9**
GYA				S	**S**	**08 27 09.3**	**+0.5**
GYA				SKS	**SKSac**	**08 27 22.1**	**-2.0**
GYA				SS	**SS**	**08 32 17.3**	**+2.1**
GYA				pmax	pmax		
	comp=Z,16nm,1.0s						
GYA				pmax	pmax		
	comp=Z,670nm,5.1s						
GYA				LR	LR		
	comp=Z,440nm,4.6s						
GYA				LR	LR		
	comp=Z,310nm,4.6s						
GYA				LR	LR		
	comp=Z,190nm,4.6s						
CLDB	**Colider**	**80.61**	**218**	*e*P	**P**	**08 17 14.7**	**+1.0**
SAML	**Samuel**	**80.90**	**226**	P	**P**	**08 17 15.8**	**+0.5**
SAML				pmax	pmax		
	comp=Z,30nm,1.4s						
SAML	**Samuel**	**80.90**	**226**	P	**P**	**08 17 15.8**	**+0.5**
SAML	**Samuel**	**80.90**	**226**	IAMs_20	IAMs_20	08 47 16.2	
	comp=Z,850nm,21.0s						
SAML	**Samuel**	**80.90**	**226**	*e*P	**P**	**08 17 16.0**	**+0.7**
JSU	**Suzuyama**	**80.94**	**27**	IAMs_20	IAMs_20	08 58 14.9	
	comp=Z,805nm,20.0s						
ETMB	**Extrema**	**82.67**	**228**	*e*P	**P**	**08 17 25.0**	**+0.4**
CZSB	**Cruzeiro do Su**	**82.91**	**235**	*e*P	**P**	**08 17 25.4**	**-0.5**
BDFB	**Brasilia**	**83.35**	**209**	P	**P**	**08 17 28.0**	**-0.2**
	comp=Z,5.7nm,0.9s,baz=75,slow=5.9,SNR=3.4						
BDFB				LR	LR	08 48 08.8	
	comp=Z,984nm,21.6s,baz=338,slow=31						
BDFB	**Brasilia**	**83.35**	**209**	P	**P**	**08 17 29.1**	**+0.9**
BDFB				pmax	pmax		
	comp=Z,41nm,2.0s						
BDFB	**Brasilia**	**83.35**	**209**	P	**P**	**08 17 29.1**	**+0.9**
BDFB				IAmb	IAmb	08 18 34.1	
	comp=Z,41nm,2.0s						
BDFB				IAMs_20	IAMs_20	08 51 08.4	
	comp=Z,1μm,19.0s						
MC01	**Montes Claros**	**83.58**	**205**	*e*P	**P**	**08 17 30.6**	**+1.4**
VILB	**Vilhena**	**83.81**	**222**	*e*P	**P**	**08 17 31.7**	**+1.2**
CHTO	**Chiang Mai**	**83.85**	**58**	P	**P**	**08 17 31.0**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,22nm,1.3s						
CHTO	**Chiang Mai**	**83.85**	**58**	P	**P**	**08 17 31.0**	**+0.2**
CHTO				IAmb	IAmb	08 17 36.3	
	comp=Z,22nm,1.2s						
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**08 17 33.7**	**+1.3**
	comp=Z,2.2nm,0.3s,baz=319,slow=6.1,SNR=11						
CMAR				LR	LR	08 57 44.1	
	comp=Z,731nm,19.5s,baz=351,slow=38						
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**08 17 33.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P	**P**	**08 17 33.2**	**+0.7**
ARAG	**Araguaiana, MT**	**84.26**	**213**	*e*P	**P**	**08 17 34.2**	**+1.6**
IPMB	**Ipameri, GO**	**85.66**	**209**	*e*P	**P**	**08 17 39.1**	**-0.6**
PTLB	**Pontes e Lacer**	**85.89**	**220**	*e*P	**P**	**08 17 41.9**	**+1.0**
QIZ	**Qiongzhong**	**87.42**	**49**	P	**P**	**08 17 46.5**	**-2.0**
QIZ				S	**S**	**08 28 28.8**	**-0.4**
QIZ				SS	**SS**	**08 34 13.5**	**+0.6**
QIZ				LR	LR		
	comp=Z,910nm,21.0s						
QIZ				LR	LR		
	comp=Z,300nm,12.1s						
QIZ				LR	LR		
	comp=Z,890nm,20.8s						
LPAZ	**La Paz**	**89.36**	**228**	P	**P**	**08 17 58.6**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=346,slow=4.2,SNR=2.7						
LPAZ				LR	LR	08 55 25.2	
	comp=Z,302nm,19.6s,baz=4.5,slow=34						
LPAZ	**La Paz**	**89.36**	**228**	P	**P**	**08 17 57.6**	**-0.7**
LPAZ				pmax	pmax		
	comp=Z,14nm,1.9s						
LPAZ	**La Paz**	**89.36**	**228**	P	**P**	**08 17 57.6**	**-0.7**
AQDB	**Aquidauana**	**89.79**	**215**	*e*P	**P**	**08 18 00.5**	**+1.1**
SPB	**Sao Paulo**	**90.95**	**207**	IAMs_20	IAMs_20	08 51 00.7	
	comp=Z,870nm,21.0s						
DLV	**T Lat**	**93.58**	**52**	IAMs_20	IAMs_20	09 05 05.1	
	comp=Z,980nm,21.0s						
CPUP	**Villa Florida**	**95.80**	**215**	LR	LR	08 57 41.8	
	comp=Z,666nm,19.1s,baz=18,slow=33						
KULM	**Kulim**	**96.90**	**62**	IAMs_20	IAMs_20	09 06 15.1	
	comp=Z,894nm,19.0s						
BOSA	**Boshof**	**98.77**	**143**	LR	LR	09 05 49.7	
	comp=Z,2μm,18.3s,baz=346,slow=37						
KKM	**Kota Kinabalu**	**101.65**	**47**	IAMs_20	IAMs_20	09 07 37.2	
	comp=Z,738nm,22.0s						
SBUM	**Sibu**	**103.71**	**52**	IAMs_20	IAMs_20	09 08 52.7	
	comp=Z,551nm,22.0s						
KSM	**Kuching**	**103.96**	**54**	IAMs_20	IAMs_20	09 13 13.4	
	comp=Z,654nm,21.0s						
PPT2	**Papeete2**	**123.08**	**302**	*e*SS	SS	08 42 21.7	+0.6
	comp=Z,486nm,29.2s						
PPT2	**Papeete2**	**123.08**	**302**	*e*LR	LR	09 02 02.0	
	comp=Z,964nm,22.0s						
COEN	**Coen**	**127.66**	**24**	IAMs_20	IAMs_20	09 26 10.0	
	comp=Z,447nm,20.0s						
TBI	**Tubuai**	**128.31**	**299**	*e*SS	SS	08 43 27.5	+1.0
	comp=Z,332nm,38.8s						
TBI	**Tubuai**	**128.31**	**299**	*e*LR	LR	09 04 41.4	
	comp=Z,809nm,23.0s						
WRA	**Warramunga Arr**	**131.56**	**36**	PKP	**PKiKP**	**08 24 14.2**	**-0.4**
	comp=Z,4.1nm,1.2s,baz=351,slow=2.0,SNR=9.8						
WRA	**Warramunga Arr**	**131.56**	**36**		**PKiKP**	**08 24 15.4**	**+0.8**
PMSA	**Palmer Station**	**133.51**	**205**	*e*P	**PKiKP**	**08 24 16.6**	**-0.4**
ASAR	**Alice Springs**	**135.00**	**38**	PKP	**PKPdf**	**08 24 20.2**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=0.4,slow=1.6,SNR=9.5						
ASAR	**Alice Springs**	**135.00**	**38**	PKIKP	**PKPdf**	**08 24 20.0**	**-0.1**
ASAR	**Alice Springs**	**135.00**	**38**	PKPdf	**PKPdf**	**08 24 20.0**	**-0.1**
VNA3	**Neumayer Olymp**	**135.73**	**176**	PKPdf	**PKiKP**	**08 24 22.4**	**+0.9**
SNAA	**Sanae**	**136.43**	**173**	PKPdf	**PKiKP**	**08 24 24.0**	**+1.0**
SNAA	**Sanae**	**136.43**	**173**	PKIKP	**PKiKP**	**08 24 23.7**	**+0.7**
SNAA	**Sanae**	**136.43**	**173**	PKPdf	**PKiKP**	**08 24 23.7**	**+0.7**
MAW	**Mawson**	**143.74**	**140**	PKP	**PKPdf**	**08 24 34.5**	**0.0**
	comp=Z,1.9nm,0.8s,baz=308,slow=12,SNR=4.3						
MAW	**Mawson**	**143.74**	**140**	PKIKP	**PKPdf**	**08 24 35.6**	**+1.1**
MAW	**Mawson**	**143.74**	**140**		**PKPdf**	**08 24 35.6**	**+1.1**
STKA	**Stephens Creek**	**144.75**	**32**	PKP	PKPbc	08 24 36.5	+0.1
	comp=Z,4.9nm,0.7s,baz=342,slow=9.3,SNR=7.3						
STKA	**Stephens Creek**	**144.75**	**32**	PKIKP	**PKPdf**	**08 24 37.4**	**0.0**
STKA	**Stephens Creek**	**144.75**	**32**	PKPdf	**PKPdf**	**08 24 37.4**	**0.0**
ARMA	**Armidale**	**145.09**	**16**		**PKPbc**	**08 24 36.8**	**-0.9**
QSPA	**South Pole Qui**	**154.57**	**180**	PKPdf	**PKPdf**	**08 24 51.9**	**+0.1**

*IDC **15** 08:19:24.7±1.2, 20°.63N×92°.96E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/31, mbtmp3.8/8, ML3.9/1, MS4.8/1, Ms1 4.8/1, ms1mx3.3/40, Error ellipse: s-maj=79.1km s-min=17.7km az=54.0*
*NEIC **15** 08:19:25.8±1.7, 20°.6N±0°.1×93°.0E±0°.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=36.9km s-min=7.7km az=238.0*
*NDI **15** 08:19:31.2±2.1, 21°.10N×93°.38E, h7km±539km, ML3.3*
ISC 15 08:19:27.4±0.8, 20°.90N±0°.08×93°.31E±0°.08, h10km, n42, σ1°92/43, mb4.2/11, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**1.61**	**349**	*e*P	**Pn**	**08 19 58.8**	**+2.7**
SAIH				*e*S	**Sn**	**08 20 18.2**	**+1.1**
SAIH				IAML		08 20 23.4	
	comp=N,392nm,0.3s						
SAIH				IAML		08 20 23.5	
	comp=E,592nm,0.1s						
SHL	**Shillong**	**4.83**	**344**	*e*P	**Pn**	**08 20 42.7**	**+2.3**
SHL				*e*S	**Sn**	**08 21 33.6**	**-2.9**
SHL				IAML		08 21 37.2	
	comp=E,97nm,0.2s						
SHL				IAML		08 21 37.7	
	comp=N,88nm,0.1s						
SHL	**Shillong**	**4.83**	**344**	Pn	**Pn**	**08 20 41.6**	**+1.2**
SHL					**Sn**	**08 21 36.9**	**+0.3**
GUWA	**GUWAHATI**	**5.48**	**345**	*e*P	**Pn**	**08 20 50.9**	**+1.8**
GUWA				*e*S	**Sn**	**08 21 47.7**	**-4.5**
GUWA				IAML		08 21 51.8	
	comp=E,36nm,0.1s						
GUWA				IAML		08 21 51.8	
	comp=N,49nm,0.3s						
CHTO	**Chiang Mai**	**5.69**	**110**		**Pn**	**08 20 53.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**5.83**	**114**	Pn	**Pn**	**08 20 55.6**	**+1.6**
	comp=N,0.8nm,0.3s,baz=292,slow=14,SNR=8.2						
CMAR				Lg	Lg	08 22 29.3	
	comp=N,0.6nm,0.3s,baz=299,slow=30,SNR=1.5						
CMAR	**Chiang Mai Arr**	**5.83**	**114**		**Pn**	**08 20 55.1**	**+1.1**
BWNR	**Bhubaneshwar**	**7.06**	**266**	*ex*	Sn	08 22 19.5	-12
BOK	**Bokaro**	**7.46**	**294**	*e*P	**Pn**	**08 21 18.1**	**+1.8**
BOK				*e*S	**Sn**	**08 22 39.6**	**-1.3**
ODAN	**Odare**	**8.04**	**319**	*e*Pn	**Pn**	**08 21 27.7**	**+3.2**
ODAN				*e*Sn	**Sn**	**08 22 55.2**	**-0.4**
	comp=N,53nm,0.3s						
ODAN	**Odare**	**8.04**	**319**	*e*Pn	**Pn**	**08 21 27.7**	**+3.2**
ODAN				*e*Sn	**Sn**	**08 22 55.2**	**-0.4**
	comp=N,53nm,0.3s						
TAPN	**Taplejung**	**8.21**	**323**	*e*Pn	**Pn**	**08 21 30.0**	**+3.1**
TAPN	**Taplejung**	**8.21**	**323**	*e*Pn	**Pn**	**08 21 30.0**	**+3.1**
RAMN	**Ramite**	**8.60**	**316**	*e*Pn	**Pn**	**08 21 34.5**	**+2.3**
RAMN	**Ramite**	**8.60**	**316**	*e*Pn	**Pn**	**08 21 34.5**	**+2.3**
JIRN	**Jiri**	**9.36**	**317**	*e*Pn	**Pn**	**08 21 44.9**	**+2.2**
JIRN	**Jiri**	**9.36**	**317**	*e*Pn	**Pn**	**08 21 44.9**	**+2.2**
PKI	**Pulchoki**	**9.80**	**314**	*e*Pn	**Pn**	**08 21 50.8**	**+2.0**
PKI	**Pulchoki**	**9.80**	**314**	*e*Pn	**Pn**	**08 21 50.8**	**+2.0**
PKIN	**Phulchoki**	**9.82**	**314**	*e*Pn	**Pn**	**08 21 51.0**	**+2.1**
PKIN	**Phulchoki**	**9.82**	**314**	*e*Pn	**Pn**	**08 21 51.0**	**+2.1**
MKAR	**Makanchi Array**	**27.35**	**343**	P	**P**	**08 25 12.8**	**+0.2**
	comp=N,0.2nm,0.4s,baz=159,slow=9.5,SNR=2.0						
KK31	**Karatay Array**	**29.22**	**324**	P	P	08 25 27.6	-1.7
KKAR	**Karatay Array**	**29.22**	**324**	P	**P**	**08 25 28.0**	**-1.4**
ZALV	**Zalesovo Beam**	**33.63**	**351**	P	**P**	**08 26 08.5**	**+0.5**
	comp=N,0.8nm,0.4s,baz=185,slow=8.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**33.63**	**351**	P	**P**	**08 26 08.2**	**+0.3**
AKAR	**Akbulak array**	**38.78**	**325**	P	**P**	**08 26 53.5**	**+1.4**
BATI	**Bamata**	**42.96**	**133**	LR	LR	08 47 43.2	
	comp=N,1μm,18.6s,baz=274,slow=40						
WB0	**Warramunga Arr**	**57.00**	**132**	P	P	08 29 10.9	-2.7
WB0				IAmb	IAmb	08 29 16.1	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**57.09**	**133**	P	**P**	**08 29 13.3**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=317,slow=7.5,SNR=11						
WRA				PcP	**PcP**	**08 30 07.6**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=309,slow=5.2,SNR=9.8						
WRA	**Warramunga Arr**	**57.09**	**133**	P	P	08 29 11.6	-2.6
WB2	**Warramunga Arr**	**57.09**	**133**	P	**P**	**08 29 14.2**	**-0.1**
WB2				IAmb	IAmb	08 29 25.0	
	comp=Z,4.3nm,1.1s						
WR0	**Warramunga Arr**	**57.24**	**133**	P	**P**	**08 29 14.8**	**-0.5**
WR0				IAmb	IAmb	08 29 15.4	
	comp=Z,5.0nm,1.2s						
ASAR	**Alice Springs**	**59.37**	**136**	P	**P**	**08 29 29.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=316,slow=6.8,SNR=7.8						
ASAR	**Alice Springs**	**59.37**	**136**	P	**P**	**08 29 28.7**	**-1.4**
FINES	**FINESS Array B**	**61.00**	**330**	P	**P**	**08 29 40.5**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=108,slow=6.2,SNR=5.5						
FINES	**FINESS Array B**	**61.00**	**330**	P	**P**	**08 29 40.2**	**-0.6**
FORT	**Forrest**	**61.27**	**146**	P	P	08 29 39.3	-3.6
ARCES	**ARCESS Array B**	**62.86**	**339**	P	**P**	**08 29 52.9**	**-0.3**
	comp=Z,11nm,1.2s,baz=117,slow=7.2,SNR=1.5						
GEC2	**GERESS Array S**	**67.82**	**315**	P	**P**	**08 30 24.7**	**-1.1**
GEC2				IAmb	IAmb	08 30 32.0	
	comp=Z,7.3nm,1.3s						
GERES	**GERESS Array B**	**67.82**	**315**	P	P	08 30 22.4	-3.4
NOA	**NORSAR Array B**	**68.14**	**329**	P	**P**	**08 30 26.4**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=90,slow=6.1,SNR=1.3						

IDC 15 08:22:37.4±2.1, 7°.31S×74°.52W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/21, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=99.3km s-min=31.1km az=44.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**10.90**	**146**	Pn	Pn	08 25 15.4	+0.1
	0.0nm,0.3s,baz=326,slow=15,SNR=1.2						
LPAZ				Sn	Sn	08 27 27.1	+8.6
	0.0nm,0.3s,baz=166,slow=6.1,SNR=1.9						
TXAR	**Lajitas Array**	**45.98**	**324**	P	P	08 31 03.0	+0.3
	0.2nm,0.6s,baz=151,slow=9.1,SNR=5.4						
PDAR	**Pinedale Array**	**59.16**	**331**	P	P	08 32 39.9	-0.5
	0.2nm,0.7s,baz=138,slow=9.6,SNR=2.1						
TORD	**Torodi Ar. Bea**	**78.36**	**75**	P	P	08 34 40.5	+0.1
	0.7nm,0.8s,baz=270,slow=5.8,SNR=2.5						

*THE **15** 08:38:56.4, 38°.19N×20°.30E, h6km±2km, ML2.8/3, Error ellipse: s-maj=2.7km s-min=0.7km az=81.0*
*ATH **15** 08:38:57.2±1.6, 38°.20N×20°.40E, h12km±1km, ML2.6/5, Error ellipse: s-maj=2.9km s-min=1.0km az=260.0*
ISC 15 08:38:57.2±1.6, 38°.20N±0°.03×20°.38E±0°.09, h12km±5km, n22, σ0°53/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGA	**Argostoli. Kep**	**0.08**	**103**	P	**Pg**	**08 38 59.7**	**-0.1**
ARGA				S	**Sg**	**08 39 01.4**	**-0.3**
ARG2	**Argostoli**	**0.09**	**101**	P	**Pg**	**08 38 59.9**	**0.0**
ARG2				S	**Sg**	**08 39 01.9**	**+0.1**
KEF5	**Kardakata, Kep**	**0.11**	**39**	P	**Pg**	**08 39 00.1**	**-0.2**
KEF5				S	**Sg**	**08 39 02.2**	**-0.2**
VSK1	**VASILIKIADES**	**0.26**	**34**	P	**Pg**	**08 39 01.5**	**-1.1**
VSK1				S	**Sg**	**08 39 06.2**	**-0.1**
	3μm,0.1s						
FSK	**Fiskardo**	**0.30**	**28**	P	**Pg**	**08 39 03.1**	**-0.3**
FSK				S	**Sg**	**08 39 08.3**	**+0.8**
	2μm,0.3s						
FSK	**Fiskardo**	**0.30**	**28**	P	**Pg**	**08 39 03.2**	**-0.2**
FSK				S	**Sg**	**08 39 08.0**	**+0.5**
FSK				AML	AML	08 39 08.7	
	comp=N,2734μm,0.3s						
FSK				AML	AML	08 39 09.4	
	comp=E,4430μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.39**	**145**	P	**Pg**	**08 39 04.8**	**-0.2**
VLMS				S	**Sg**	**08 39 11.2**	**+1.0**
VLMS				AML	AML	08 39 12.2	
	comp=N,9712μm,0.2s						
VLMS				AML	AML	08 39 14.9	
	comp=E,7467μm,0.2s						
EVGI	**Lefkada island**	**0.48**	**27**	P	**Pg**	**08 39 06.4**	**-0.3**
EVGI				S	**Sb**	**08 39 14.1**	**-0.4**
EVGI	**Lefkada island**	**0.48**	**27**	P	**Pg**	**08 39 06.3**	**-0.3**
EVGI				S	**Sg**	**08 39 13.7**	**+0.8**
LKD2	**Lefkada island**	**0.63**	**20**	P	**Pg**	**08 39 08.6**	**-0.9**
LKD2	**Lefkada island**	**0.63**	**20**	P	**Pg**	**08 39 09.2**	**-0.4**
LKD2				AML	AML	08 39 25.4	
	comp=N,412μm,0.4s						
LKD2				AML	AML	08 39 28.0	
	comp=E,584μm,0.4s						
KRI1	**kERI**	**0.63**	**147**	P	**Pg**	**08 39 08.7**	**-0.8**
KRI1				S	**Sb**	**08 39 18.7**	**-0.3**
	comp=E,2μm,0.3s						
TSLK	**Tsoukalades, L**	**0.67**	**19**	P	**Pg**	**08 39 09.8**	**-0.4**
TSLK	**Tsoukalades, L**	**0.67**	**19**	P	**Pg**	**08 39 10.3**	**+0.2**
VTN	**Vitineika**	**0.69**	**113**	P	**Pg**	**08 39 10.7**	**+0.1**
AXS	**Araxos**	**0.78**	**90**	P	**Pg**	**08 39 12.1**	**-0.3**
AXS				S	**Sg**	**08 39 22.1**	**-0.5**
AXS				AML	AML	08 39 28.7	
	comp=E,459μm,0.6s						
AXS				AML	AML	08 39 30.8	
	comp=N,543μm,0.6s						
RLS	**Riolos of Patr**	**0.87**	**99**	P	**Pg**	**08 39 13.4**	**-0.6**
RLS	**Riolos of Patr**	**0.87**	**99**	P	**Pg**	**08 39 13.3**	**-0.6**
ANX	**Ano Chora**	**1.27**	**71**	P	**Pn**	**08 39 21.1**	**+0.2**
ANX	**Ano Chora**	**1.27**	**71**	P	**Pn**	**08 39 21.1**	**+0.2**
ANX				S	**Sb**	**08 39 38.3**	**+0.8**
ANX				AML	AML	08 39 44.9	
	comp=E,432μm,0.5s						
ANX				AML	AML	08 39 52.9	
	comp=N,645μm,0.6s						
KLV	**Kalavryta, Ach**	**1.40**	**96**	P	**Pn**	**08 39 22.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.40**	**96**	P	**Pn**	**08 39 23.2**	**+0.5**

*IDC **15** 08:51:01.8±2.9, 53°.61N×87°.79E, h0km, mb1 3.1/2, mb1mx3.0/40, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=24.1km s-min=15.1km az=60.0*
*NNC **15** 08:51:02.3±4.2, 53°.46N×87°.69E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=34.4km s-min=16.3km az=63.0, Suspected Mining explosion.*
ISC 15 08:50:58.2±2.4, 52°.37N±0°.05×86°.6E±0°.1, h0km, n7, σ2°46/10, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**327**	*i*		09 03 00.0	
	baz=95,slow=313,SNR=4.8						
ZAA0	**Zalesovo Array**	**1.90**	**327**	⇑Pg	**Pg**	**08 51 34.0**	**-0.6**
	0.8nm,0.6s						
ZAA0				⇓Lg	Lg	08 52 00.1	
	3.6nm,0.6s						
ZALV	**Zalesovo Beam**	**1.90**	**327**	Pg	**Pg**	**08 51 34.0**	**-0.6**
	1.7nm,0.3s,baz=102,slow=14,SNR=24						
ZALV				Lg	Lg	08 51 59.1	
	3.8nm,0.3s,baz=99,slow=27,SNR=16						
KURBB	**Kurchatov Arra**	**5.32**	**254**	Pn	**Pg**	**08 52 38.8**	**-1.1**
	0.1nm,0.3s,baz=62,slow=14,SNR=8.3						
KURBB				Sn	**Sg**	**08 53 50.0**	**+1.3**
	0.0nm,0.3s,baz=70,slow=14,SNR=0.9						
KURBB				Lg	Lg	08 54 26.4	
	0.1nm,0.3s,baz=64,slow=32,SNR=7.1						
KURBB	**Kurchatov Arra**	**5.32**	**254**	⇑Pn	**Pg**	**08 52 38.0**	**-1.9**
	1.7nm,0.4s						
KURBB				⇓Sn	**Sg**	**08 53 49.1**	**+0.4**
	5.3nm,0.6s						
KURBB				⇓Lg	Lg	08 54 21.3	
	6.4nm,0.7s						
MK31	**Makanchi Array**	**6.23**	**208**	⇓Pn	**Pg**	**08 52 54.9**	**-2.6**
	0.8nm,0.7s,baz=30,slow=15,SNR=5.2						
MK31				⇓Sn	**Sg**	**08 54 20.3**	**+2.2**
	0.6nm,0.6s						
MK31				⇑Lg	Lg	08 55 01.8	
	3.7nm,1.1s,baz=33,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	**6.23**	**208**	Pn	**Pg**	**08 52 55.9**	**-1.6**
	0.1nm,0.3s,baz=29,slow=10,SNR=5.4						
MKAR				Sn	**Sg**	**08 54 22.7**	**+4.5**
	0.1nm,0.3s,baz=30,slow=23,SNR=3.9						
MKAR				Lg	Lg	08 55 02.4	
	0.1nm,0.3s,baz=23,slow=30,SNR=3.7						

*ECX **15** 08:57:50.7±1.0, 30°.58N×114°.27W, h0km±9km, MD3.2, ML3.4*
*MEX **15** 08:57:52.3±0.5, 30°.76N×114°.15W, h8km±8km, MD3.8*
ISC 15 08:57:49.5±1.5, 30°.60N±0°.07×114°.23W±0°.04, h12km±12km, n13, σ1°08/20, 1C-6D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.69**	**310**	⇓*e*P	**Pg**	**08 58 03.2**	**+0.3**
SFX				*e*S	**Sg**	**08 58 13.0**	**+1.0**
SFX				IAML		08 58 15.7	
	comp=E,2μm,0.6s						
SFX				⇑*e*		08 58 15.7	
SFX				*e*		08 58 24.2	
SFX				IAML		08 58 24.2	
	comp=N,2μm,0.6s						
ECBX	**El Chinero**	**1.12**	**321**	*e*P	**Pg**	**08 58 10.1**	**-1.0**
SPX	**San Pedro Mart**	**1.15**	**293**	*i* P	**Pg**	**08 58 10.5**	**-1.1**
SPX				*i* S	**Sg**	**08 58 25.6**	**-1.1**
SPX	**San Pedro Mart**	**1.15**	**293**	*e*P	**Pg**	**08 58 10.5**	**-1.1**
SPX				IAML		08 58 37.4	
	comp=N,986nm,0.8s						
SPIG	**San Pedro Mart**	**1.15**	**293**	*i* P	**Pg**	**08 58 11.6**	**-0.2**
SPIG				*i* S	**Sg**	**08 58 26.6**

CBKS	Cedar Bluff	2.32	329		Pn	09 22 02.4	+0.8
KSU1	Kansas State U	2.61	29	S	Sb	09 22 41.7	-0.4
	baz=208						
KSU1	Kansas State U	2.61	29	Pn	Pn	09 22 05.9	+0.5
U38A	Gravette	3.11	96		Pn	09 22 12.9	+0.6
X37A	Clayton	3.22	133		Pn	09 22 14.6	+0.9
AMTX	Amarillo	3.41	236	Pn	Pn	09 22 16.5	0.0
HHAR	Hobbs	3.49	98		Pn	09 22 18.4	+0.9
Z35A	Perchaven, San	3.57	167	Pn	Pn	09 22 19.4	+0.7
W39A	Magazine	3.95	113	Sb	Sg	09 23 27.6	-2.0
	baz=295						
W39A	Magazine	3.95	113	Pn	Pn	09 22 25.0	+1.2
N33A	J Bar K, Exete	3.96	9	Pn	Pn	09 22 23.3	-0.7
S39A	Bolivar	4.00	76	Pn	Pn	09 22 24.7	+0.1
KSCO	Kaye Shedlock'	4.11	303		Pn	09 22 26.3	+0.1
U40A	Yellville	4.34	95	P	Pn	09 22 30.4	+1.1
	baz=277						
U40A	Yellville	4.34	95		Pn	09 22 29.6	+0.4
ABTX	Abilene, Hawle	4.35	196	Pn	Pn	09 22 30.1	+0.7
MIAR	Mount Ida	4.41	120	P	Pn	09 22 31.3	+1.1
	baz=302						
MIAR				S	Sn	09 23 23.3	+1.6
	baz=302						
MIAR	Mount Ida	4.41	120	Pn	Pn	09 22 30.6	+0.5
Z38A	Mt. Pleasant	4.44	142	Pn	Pn	09 22 30.7	+0.2
BGNE	Belgrade	4.58	1	P	Pn	09 22 32.7	+0.1
	baz=180						
BGNE	Belgrade	4.58	1		Pn	09 22 32.8	+0.3
P38A	Dawn	4.63	51	Pn	Pn	09 22 33.8	+0.6
MSTX	Muleshoe	4.68	234	Pn	Pn	09 22 34.5	+0.5
WHTX	Lake Whitney,	4.86	172	P	Pn	09 22 36.7	+0.4
	baz=353						
WHTX				S	Sn	09 23 31.3	-1.6
	baz=353						
WHTX	Lake Whitney,	4.86	172		Pn	09 22 36.8	+0.4
R40A	Maddies Statio	4.95	71		Pn	09 22 37.9	+0.3
T25A	Trinidad	4.97	275	P	Pn	09 22 38.1	+0.1
	baz=92						
T25A	Trinidad	4.97	275	Pn	Pn	09 22 38.2	+0.2
X40A	Basin Creek Fa	4.97	116	P	Pn	09 22 38.9	+1.1
	baz=299						
X40A	Basin Creek Fa	4.97	116	Pn	Pn	09 22 38.9	+1.1
FCAR	Ozark Folk Cen	5.01	99	Pn	Pn	09 22 39.6	+1.3
WHAR	Wooly Hollow	5.04	106	Pn	Pn	09 22 39.9	+1.1
W41B	Gary Mavity, V	5.11	107	Pn	Pn	09 22 39.9	+0.1
237A	Washetta, Mont	5.21	157	Pn	Pn	09 22 40.6	-0.5
WLAR	White Oak Lake	5.22	125	Pn	Pn	09 22 41.6	+0.3
P40A	Paris	5.56	59	Pn	Pn	09 22 46.6	+0.7
CCM	Cathedral Cave	5.69	75	Pn	Pn	09 22 48.3	+0.6
Z41A	Richland Creek	5.69	127	S	Sn	09 23 51.1	-2.2
	baz=310						
T42A	Van Buren	5.71	86	Pn	Pn	09 22 48.9	+0.8
LCAR	Lake Charles	5.75	95	Pn	Pn	09 22 49.4	+0.9
K31A	O'Neill	5.81	356	Pn	Pn	09 22 49.5	+0.2
SDCO	Great Sand Dun	5.88	281	Pn	Pn	09 22 50.5	-0.1
ECSD	EROS Data Cent	7.01	10	P	Pn	09 23 04.8	-1.1
	baz=190						
ECSD	EROS Data Cent	7.01	10	Pn	Pn	09 23 04.9	-0.9

*IDC **15** 09:23:38.7±0.8, 38.°99N×110.°91E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.8/55, mbtmp3.9/12, ML2.9/1, Error ellipse: s-maj=30.4km s-min=16.2km az=62.0*
*NEIC **15** 09:23:40.2±0.7, 39.°02N±0.°08×110.°86E±0.°1, h10km±1km, mb4.0/6, Error ellipse: s-maj=16.0km s-min=6.6km az=70.0*

ISC 15 09:23:40.2±0.7, 39.°02N±0.°08×110.°86E±0.°10, h10km, n28, σ0°76/28, mb3.9/13, 1D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJT	Baijiatuau	4.22	75	Pn	Pn	09 24 44.6	-0.1
XAN	Xi'an	5.21	198		Pn	09 24 58.5	+0.3
ULN	Ulaanbaatar	9.27	344		Pn	09 25 54.0	-0.1
SONM	Songino Array	9.39	341	Pn	Pn	09 25 55.6	-0.1
	0.1nm,0.3s,baz=161,slow=13,SNR=29						
MK31	Makanchi Array	22.24	300	⇓P	P	09 28 37.2	+0.2
	4.4nm,1.0s,baz=203,slow=15,SNR=16						
MK31	Makanchi Array	22.24	300		P	09 28 36.8	-0.2
MK31				IAmb	IAmb	09 28 38.7	
	comp=Z,7.4nm,1.4s						
MKAR	Makanchi Array	22.24	300	P	P	09 28 37.0	0.0
	comp=Z,3.1nm,1.0s,baz=99,slow=14,SNR=16						
MKAR	Makanchi Array	22.24	300		P	09 28 36.2	-0.8
MAKZ	Makanchi	22.45	300		P	09 28 39.2	-0.2
MAKZ				IAmb	IAmb	09 28 41.2	
	comp=Z,8.9nm,1.1s						
CMAR	Chiang Mai Arr	22.95	210	P	P	09 28 45.0	+0.3
	comp=Z,8.0nm,0.9s,baz=13,slow=9.5,SNR=37						
ZALV	Zalesovo Beam	23.15	319	P	P	09 28 47.5	+0.9
	comp=Z,0.6nm,0.6s,baz=117,slow=5.0,SNR=2.1						
ZALV	Zalesovo Beam	23.15	319		P	09 28 46.6	+0.1
TARG	Taragay, Kyrgy	25.24	287	P	P	09 29 04.7	-2.1
KURK	Kurchatov	25.46	308	P	P	09 29 08.2	0.0
KURBB	Kurchatov Arra	25.49	308	P	P	09 29 08.7	+0.2
	comp=Z,2.1nm,0.2s,baz=106,slow=10,SNR=5.2						
KK05	Karatay Array	30.48	291	P	P	09 29 53.5	+0.3
KK06	Karatay Array	30.48	291	P	P	09 29 53.1	-0.1
KKAR	Karatay Array	30.49	291	P	P	09 29 51.1	-2.2
KKAR	Karatay Array	30.49	291	P	P	09 29 52.2	-1.1
KKAR				IAmb	IAmb	09 29 54.8	
	comp=Z,2.2nm,1.1s						
KK04	Karatay Array	30.49	291	P	P	09 29 53.1	-0.2
BRTR	Keskin Array B	57.86	297	P	P	09 33 32.7	+0.4
	comp=Z,1.0nm,0.8s,baz=69,slow=7.9,SNR=5.7						
ILAR	Eielson Array	60.29	29	P	P	09 33 48.8	+0.2
	comp=Z,0.5nm,0.8s,baz=291,slow=7.6,SNR=5.0						
NOA	NORSAR Array B	61.04	327	P	P	09 33 54.5	+0.7
	comp=Z,0.1nm,0.2s,baz=186,slow=17,SNR=3.7						
WRA	Warramunga Arr	62.64	155	P	P	09 34 05.2	+0.3
	comp=Z,1.6nm,1.0s,baz=346,slow=7.2,SNR=9.1						
WRA	Warramunga Arr	62.64	155	P	P	09 34 04.5	-0.4
ASAR	Alice Springs	65.98	157	P	P	09 34 25.9	-0.9
	comp=Z,0.9nm,0.8s,baz=330,slow=5.5,SNR=8.4						
GERES	GERESS Array B	66.01	314	P	P	09 34 27.2	+0.3
	comp=Z,0.3nm,0.5s,baz=54,slow=6.7,SNR=4.4						
ESDC	Sonseca Array	81.59	315	P	P	09 35 58.6	+0.3
	comp=Z,0.9nm,0.9s,baz=18,slow=4.6,SNR=5.2						

*IDC **15** 09:24:35.9±1.3, 39.°01N×110.°87E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.6/56, mbtmp3.9/8, ML3.1/1, Error ellipse: s-maj=45.4km s-min=19.0km az=61.0*
*NEIC **15** 09:24:39.3±1.7, 39.°04N±0.°07×110.°44E±0.°05, h10km±1km, mb4.1/6, Error ellipse: s-maj=12.6km s-min=6.5km az=16.0*

ISC 15 09:24:38.7±0.8, 39.°01N±0.°06×110.°5E±0.°1, h10km, n21, σ1°30/22, mb4.1/9, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJT	Baijiatuau	4.52	75	Pn	Pn	09 25 48.7	+1.4
XAN	Xi'an	5.11	195	Pn	Pn	09 25 56.1	+0.7
ENH	Enshi	8.75	186	Pn	Pn	09 26 45.9	+0.6
ULN	Ulaanbaatar	9.20	345	Pn	Pn	09 26 52.0	+0.5
ULN					Sn	09 28 33.1	-2.0
SONM	Songino Array	9.31	343	Pn	Pn	09 26 53.6	+0.6
	0.2nm,0.3s,baz=158,slow=13,SNR=7.5						
SONM	Songino Array	9.31	343		Pn	09 26 52.8	-0.3
MK31	Makanchi Array	21.98	300	P	P	09 29 34.6	+1.9
MKAR	Makanchi Array	21.98	300	P	P	09 29 34.1	+1.4
	2.4nm,1.0s,baz=92,slow=13,SNR=5.8						
MKAR	Makanchi Array	21.98	300	P	P	09 29 32.4	-0.3
MAKZ	Makanchi	22.19	300	P	P	09 29 35.6	+0.6
MAKZ				IAmb	IAmb	09 29 37.1	
	comp=Z,9.6nm,1.4s						
CM31	Chiang Mai Arr	22.79	209	P	P	09 29 42.3	+0.8
CMAR	Chiang Mai Arr	22.79	209	P	P	09 29 41.8	+0.2
	comp=Z,6.3nm,0.9s,baz=13,slow=9.5,SNR=11						
CMAR	Chiang Mai Arr	22.79	209	P	P	09 29 40.3	-1.2
TARG	Taragay, Kyrgy	24.95	287	P	P	09 30 03.3	+0.7
KURK	Kurchatov	25.23	308	P	P	09 30 05.2	+0.6
KURK				IAmb	IAmb	09 30 06.2	
	comp=Z,7.0nm,1.4s						
KURBB	Kurchatov Arra	25.26	308	P	P	09 30 05.9	+1.1
	comp=Z,1.2nm,0.7s,baz=105,slow=9.9,SNR=1.2						
BRTR	Keskin Array B	57.59	297	P	P	09 34 29.8	+0.9
	comp=Z,0.9nm,0.8s,baz=112,slow=8.6,SNR=4.2						
NOA	NORSAR Array B	60.88	327	P	P	09 34 50.6	-0.6
	comp=Z,1.4nm,0.9s,baz=60,slow=6.8,SNR=4.1						
WRA	Warramunga Arr	62.76	155	P	P	09 35 01.5	-2.7
	comp=Z,1.3nm,1.0s,baz=345,slow=6.8,SNR=6.0						
WRA	Warramunga Arr	62.76	155	P	P	09 35 02.2	-2.0
ASAR	Alice Springs	66.09	156	P	P	09 35 24.7	-1.3
	comp=Z,0.7nm,0.8s,baz=344,slow=5.6,SNR=4.3						

*VIE **15** 09:28:31.0±1.1, 51.°53N×16.°31E, h0km, mb2.2/5, ml2.8/6, Error ellipse: s-maj=6.9km s-min=4.7km az=168.0 69 km NW of Wroclaw Suspected Mining induced.*
*IPEC **15** 09:28:31.1±0.3, 51.°58N×16.°25E, h0km, ML2.3/2, Error ellipse: s-maj=2.0km s-min=1.6km az=32.0*
*PRU **15** 09:28:32.5±0.0, 51.°53N×16.°07E, h0km*

ISC 15 09:28:30.7±1.3, 51.°59N±0.°06×16.°14E±0.°03, h0km, n25, σ0°89/48, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.75	173	*i* Pg	Pg	09 28 45.6	+0.5
KSP				*e*		09 28 48.3	
KSP				*e*Sg	Sg	09 28 55.1	+0.3
CHVC	Chvalec	1.00	183	*e*PG	Pb	09 28 50.5	-0.4
CHVC				*e*SG	Sg	09 29 03.0	+0.2
	comp=Z,73nm,0.5s						
OSTC	Ostas	1.03	177	*e*PG	Pb	09 28 51.1	-0.4
OSTC				*e*SG	Sg	09 29 04.1	+0.3
	comp=Z,53nm,0.3s						
UPC	Upice	1.08	184	*e*PG	Pb	09 28 51.7	-0.6
UPC				*e*SG	Sg	09 29 05.1	-0.4
	comp=Z,107nm,0.4s						
DPC	Dobruska-Polom	1.24	175	*e*PG	Pg	09 28 54.4	-0.1
DPC				*e*SG	Sg	09 29 10.1	-0.5
	comp=Z,37nm,0.2s						
PVCC	Panska Ves	1.45	224	*e*PG	Pb	09 28 58.6	0.0
PVCC				*e*SG	Sb	09 29 17.2	-0.4
	comp=Z,141nm,0.5s						
BRG	Berggiesshubel	1.55	244	PG	Pg	09 29 00.3	-0.2
BRG				SG	Sg	09 29 20.5	-0.1
	73nm,0.3s						
KRLC	Kraliky	1.57	165	*e*PG	Pb	09 29 00.3	-0.3
KRLC				*e*SG	Sn	09 29 20.2	-0.6
	comp=Z,47nm,0.5s						
PRU	Pruhonice	1.89	213	*e*PG	Pb	09 29 05.9	-0.2
PRU				*e*SG	Sb	09 29 29.9	-0.4
	comp=Z,26nm,0.5s						
CLL	Collm	1.98	263	*e*Pn	Pn	09 29 05.0	-0.5
CLL				*e*Pg	Pb	09 29 08.0	+0.3
CLL				*i*		09 29 12.3	
CLL				*e*Sg	Sb	09 29 33.0	+0.1
	comp=Z,13nm,0.3s						
MORC	Moravsky Berou	2.02	153	*e*PN	Pn	09 29 05.9	-0.2
MORC				*e*SG	Sb	09 29 33.3	-0.7
MORC	Moravsky Berou	2.02	153	*e*Pn	Pn	09 29 05.8	-0.3
	baz=336						
MORC				*e*Sg	Sb	09 29 33.2	-0.7
	comp=Z,19nm,0.4s,baz=336						
VRAC	Vranov	2.30	173	*e*PN	Pn	09 29 10.2	+0.3
VRAC				*e*SG	Sb	09 29 42.7	+0.7
VRAC	Vranov	2.30	173	*e*Pn	Pn	09 29 10.2	+0.3
	baz=355						
VRAC				*e*Sg	Sb	09 29 42.6	+0.6
	comp=Z,13nm,0.3s,baz=355						
KRUC	Moravsky	2.53	176	*e*PN	Pn	09 29 13.4	+0.3
KRUC				*e*PG	Pb	09 29 17.4	+0.4
KRUC	Moravsky	2.53	176	*e*Pn	Pn	09 29 13.4	+0.3
	baz=358						
OJC	Ojcow	2.69	119	*e*Pg	Pg	09 29 22.6	+0.3
OJC				*e*Sg	Sg	09 29 57.8	+0.7
NKC	Novy Kostel	2.70	241	*e*PN	Pn	09 29 15.8	+0.4
NKC				*e*PG	Pg	09 29 22.0	-0.5
NKC				*e*SG	Sg	09 29 57.2	-0.2
	comp=Z,32nm,0.6s						
KHC	Kasperske Hory	2.95	215	*e*PN	Pn	09 29 19.1	+0.2
KHC				*e*PG	Pb	09 29 25.1	+0.8
KHC				*e*SN	Sn	09 29 54.0	-1.1
KHC				*e*SG	Sg	09 30 03.5	-2.1
	comp=Z,10nm,0.4s						
SMOL	Smolenice	3.19	164	*e*SG	Sg	09 30 12.8	-0.2
MODS	Modra-Piesok	3.30	167	*e*PN	Pn	09 29 18.2	-5.4
MODS				*e*SG	Sg	09 30 16.1	-0.5
CONA	Conrad Observa	3.67	183	*i* Pn	Pn	09 29 27.6	-1.1
	comp=Z,0.4nm,0.1s						
CONA				*i* Sn	Sn	09 30 13.4	+0.7
	comp=Z,5.8nm,0.4s						
ARSA	Arzberg	4.36	186	*i* Sn	Sn	09 30 30.0	+0.3
	comp=Z,2.1nm,0.3s						
KBA	Koelnbreinsper	4.87	203	*i* Sn	Sn	09 30 42.5	+0.1
	comp=Z,1.0nm,0.1s						
WTTA	Wattenberg	5.23	216	*i* Sg	Sg	09 31 23.2	+4.6
	comp=Z,3.9nm,0.5s						

*MOS **15** 09:43:20.0±1.2, 4.°24N×125.°36E, h38km, mb4.9/35, Error ellipse: s-maj=11.5km s-min=6.1km az=108.6*
*IDC **15** 09:43:22.2±1.7, 4.°23N×125.°39E, h40km±14km, mb4.5/29, mb1 4.6/33, mb1mx4.5/46, mbtmp4.7/33, ML4.1/4, MS3.7/8, Ms1 3.7/8, ms1mx3.3/46, Error ellipse: s-maj=19.0km s-min=8.5km az=79.0*
*MAN **15** 09:43:23.3, 4.°31N×125.°46E, h32km, MS4.9*
*NEIC **15** 09:43:23.1±1.7, 4.°22N±0.°06×125.°55E±0.°07, h48km±5km, mb5.0/97, Error ellipse: s-maj=11.4km s-min=8.3km az=60.0*
*DJA **15** 09:43:23.3±0.3, 4.°N±2.°×12.°6E±.°, h35km±3km, M4.8/36, mb4.9/36, mB5.1/6, MLv4.9/12, Mw(mB)4.5/6, Mwp5.8/2*
*UNK **15** 09:43:25.9, 4.°11N×125.°51E, h77km*

ISC 15 09:43:23.6±0.6, 4.°17N±0.°03×125.°49E±0.°05, h54km±5km, n324, σ1°49/325, mb4.9/105, MS3.9/10, 19C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.93	6	*e*P	Pn	09 43 53.1	-1.1
DDMP				*e*S	Sn	09 44 18.9	+1.6
SKMP	Bagumbayan, Su	2.52	338	*e*P	Pn	09 43 58.9	-3.3
SKMP				*e*S	Sn	09 44 25.0	-6.7
KCP	Kidapawan	2.85	352	⇑*i*P	Pn	09 44 07.0	+0.2
KCP				*i* S	Sn	09 44 42.0	+2.1
MATI	Mati	2.86	15	*e*P	Pn	09 44 04.8	-2.1
MATI				*e*S	Sn	09 44 37.3	-2.8
DAV	Davao City (W)	2.88	2	P	Pn	09 44 06.7	-0.5
	6.9nm,0.3s,baz=252,slow=3.7,SNR=1.2						
DAV				S	Sn	09 44 46.4	+5.8
	205nm,0.3s,baz=287,slow=22,SNR=6.8						
DAV	Davao City (W)	2.88	2	⇑*e*P	Pn	09 44 03.3	-3.9
BUKP	Musuan	3.71	353	*e*P	Pn	09 44 18.4	-0.1
BUKP				*e*S	Sn	09 45 08.8	+7.8
TNTI	Ternate	3.86	151	P	Pn	09 44 21.4	+0.8
TNTI				S	Sn	09 45 05.6	+0.9
TNTI	Ternate	3.86	151	Pn	Pn	09 44 21.0	+0.4
KMSI	Cibinong	3.88	203	P	Pn	09 44 20.6	-0.2
GTOI	Gorontalo	4.30	215	P	Pn	09 44 24.4	-2.2
MSLP	Maasin	5.96	354	*e*P	Pn	09 44 48.8	-0.6
SANI	Sanana	6.20	175	P	Pn	09 44 51.6	-1.0
	0.4nm1μm102nm,0.8s						
MPSI	Mapaga	6.76	236	P	Pn	09 45 00.4	0.0
	0.6nm1μm68nm,0.7s						
MYLDM	Lahad Datu	7.04	278	Pn	Pn	09 45 06.1	+1.9
NLAI	Namlea	7.53	168	P	Pn	09 45 11.3	+0.3
	0.4nm87nm,0.7s						
SIJI	Sorong	7.64	131	P	Pn	09 45 12.6	+0.2
	2.9nm,0.3s,baz=290,slow=19,SNR=4.2						
CNP	Catarman	8.33	354	*e*P	Pn	09 45 23.7	+1.9
KKM	Kota Kinabalu	9.43	282	Pn	Pn	09 45 39.8	+2.8
FAKI	Fak Fak	9.76	136	P	Pn	09 45 40.5	-0.9
	51nm,0.9s						
FAKI	Fak Fak	9.76	136	Pn	Pn	09 45 41.0	-0.4
SPSI	Sidrap Palu	9.90	215	P	Pn	09 45 43.4	0.0
	32nm,0.7s						
BNSI	Bone	10.07	212	P	Pn	09 45 47.0	+1.3
	37nm,0.7s						
BKB	Balikpapan	10.14	238	P	Pn	09 45 47.1	+0.4
	244nm,0.7s						
MTKI	Muara Teweh, K	11.74	245	P	Pn	09 46 05.4	-3.2
SBUM	Sibu	13.36	263	Pn	Pn	09 46 32.6	+2.0
EDFI	Ende, Flores	13.38	196	P	Pn	09 46 28.6	-2.5
	19nm,0.8s						
SOEI	Soe	13.89	185	P	P	09 46 51.7	+7.1
BATI	Baumata	14.40	187	P	Pn	09 46 45.1	+0.4
	3.4nm,0.3s,baz=296,slow=8.5,SNR=1.4						
SMPI	Sarmi	14.56	115	P	Pn	09 46 48.0	+1.3
	20nm,1.0s						
KSM	Kuching	15.40	260	P	Pn	09 46 58.3	+0.6
GENI	Genyem	16.13	114	P	Pn	09 47 06.5	-0.5
	150nm,1.5s						
JAY	Jayapura	16.59	113	P	Pn	09 47 13.2	+0.4
	1.0nm,0.3s,baz=307,slow=5.1,SNR=10						
JAY				LR	LR	09 53 30.0	
	comp=Z,86nm,21.5s,baz=306,slow=36						
JAY	Jayapura	16.59	113	P	P	09 47 15.1	+0.5
	20nm,0.9s						
MTN	Manton Dam	17.81	162	P	Pn	09 47 26.1	-1.7
YULB	Yu-li	19.53	348	P	P	09 47 43.8	-3.1
TPUB	Ta-pu	19.59	347	P	P	09 47 46.0	-1.4
TPUB				IAmb	IAmb	09 47 58.5	
	comp=Z,169nm,1.3s						
KNRA	Kununurra	19.98	171	P	P	09 47 52.2	+0.4
	baz=20,SNR=32						
KNRA	Kununurra	19.98	171		P	09 47 52.1	+0.4
KNRA				IAmb	IAmb	09 47 59.1	
	comp=Z,49nm,0.8s						
FITZ	Fitzroy Crossi	22.13	180	P	P	09 48 14.8	-0.1
	comp=Z,17nm,0.7s,baz=0.1,slow=8.3,SNR=33						
FITZ	Fitzroy Crossi	22.13	180	P	P	09 48 15.1	+0.2
	baz=22,SNR=26						
FITZ	Fitzroy Crossi	22.13	180	P	P	09 48 14.9	+0.1
KLSI		22.53	247	P	P	09 48 20.7	+1.4
	comp=Z,9.2nm,1.4s						
MDSI	Maura Dua	22.96	248	P	P	09 48 25.5	+1.7
	comp=Z,5μmcomp=Z,28nm,1.2s						
SDSI	Sungai Dareh	24.57	259	P	P	09 48 41.0	+2.2
	comp=Z,22nm,0.9s						
BKNI	Bangkinang	24.73	262	P	P	09 48 57.2	+17
COEN	Coen	25.14	136	P	P	09 48 42.1	-1.9
WB0	Warramunga Arr	25.35	160	P	P	09 48 45.7	-0.1
WB0				IAmb	IAmb	09 48 49.2	
	comp=Z,51nm,0.8s						
PMG	Port Moresby	25.46	122	P	P	09 48 47.2	+0.3
	comp=Z,23nm,0.8s,baz=295,slow=7.1,SNR=5.4						
PMG	Port Moresby	25.46	122	*c i*P	P	09 48 46.9	0.0
PMG				pmax	pmax		
	comp=Z,76nm,1.7s						
PMG	Port Moresby	25.46	122	IAmb	IAmb	09 48 50.2	
	comp=Z,31nm,0.9s						
WRAB	Tennant Creek	25.49	160	*c i*P	P	09 48 46.5	-0.5
WRAB				pmax	pmax		
	comp=Z,94nm,1.3s						
WRAB	Tennant Creek	25.49	160	P	P	09 48 47.0	-0.1
WRAB				IAmb	IAmb	09 48 49.5	
	comp=Z,63nm,0.9s						
WRA	Warramunga Arr	25.49	160	P	P	09 48 46.6	-0.4
	comp=Z,43nm,0.8s,baz=341,slow=10,SNR=220						
WRA				S	S	09 53 08.3	-2.5
	comp=Z,3.1nm,1.1s,baz=339,slow=19,SNR=6.4						
WRA				ScP	ScP	09 55 53.7	+0.9
	comp=Z,0.5nm,0.6s,baz=334,slow=3.0,SNR=6.4						
WRA	Warramunga Arr	25.49	160	P	P	09 48 45.9	-1.2
WRA				S	S	09 53 08.3	-2.5
WRA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WRA	Warramunga Arr	25.49	160	P	P	09 48 45.9	-1.2
WB2	Warramunga Arr	25.50	160	P	P	09 48 47.0	-0.1
WR0	Warramunga Arr	25.58	160	IAmb	IAmb	09 48 50.3	
	comp=Z,40nm,0.9s						
PSA00	Pilbara Seismi	26.18	192	P	P	09 48 53.6	+0.4
SLVN	Son La	27.03	311	pP	pP	09 49 11.7	-1.9
JSU	Suzuyama	27.59	9	P	P	09 49 05.7	-0.2
JSU				IAmb	IAmb	09 49 17.2	
	comp=Z,31nm,1.1s						
KRVT	Keravat (AS076	27.82	107	P	P	09 49 09.2	+1.0
	comp=Z,48nm,0.9s,baz=89,slow=4.9,SNR=6.0						
KRVT				LR	LR	09 59 49.1	
	comp=Z,73nm,18.5s,baz=241,slow=35						
JCJ	Chichijima	27.82	33	P	P	09 49 06.9	-1.1
	comp=Z,64nm,0.4s,baz=291,slow=19,SNR=15						
JCJ	Chichijima	27.82	33	P	P	09 49 06.0	-2.0
GSI	Gunungsitoli	28.03	265	P	P	09 49 10.6	+0.6
GSI				IAmb	IAmb	09 49 11.2	
	comp=Z,39nm,1.2s						
QIS	Mount Isa	28.21	151	P	P	09 49 11.8	+0.3
	baz=28,SNR=12						
NJ2	Nanjing	28.43	348	*e*P	P	09 49 15.8	+2.5
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ASAR	Alice Springs	28.86	164	P	P	09 49 17.2	0.0
	comp=Z,4.3nm,0.6s,baz=351,slow=7.9,SNR=89						
ASAR				PcP	PcP	09 52 26.0	+0.2
	comp=Z,1.5nm,0.6s,baz=353,slow=2.3,SNR=5.1						
ASAR				S	S	09 54 03.7	-0.2
	comp=Z,0.8nm,0.8s,baz=349,slow=24,SNR=4.4						
ASAR				ScP	ScP	09 56 04.8	+1.9
	comp=Z,0.7nm,0.7s,baz=340,slow=2.8,SNR=4.3						
ASAR	Alice Springs	28.86	164	P	P	09 49 17.4	+0.1
WRKA	Warakurna	29.16	175	P	P	09 49 20.3	+0.4
	baz=29,SNR=70						
JNU	Nakatsue	29.24	9	P	P	09 49 19.6	-1.0
	comp=Z,6.4nm,0.8s,baz=102,slow=7.7,SNR=4.9						
JNU	Nakatsue	29.24	9	P	P	09 49 19.9	-0.7
JNU				IAmb	IAmb	09 49 34.4	
	comp=Z,50nm,1.4s						
CM31	Chiang Mai Arr	29.59	301	P	P	09 49 24.9	+1.1
CM31				IAmb	IAmb	09 49 28.4	
	comp=Z,16nm,0.8s						
CMAR	Chiang Mai Arr	29.59	301	P	P	09 49 26.7	+2.9
	comp=Z,10nm,0.8s,baz=109,slow=6.8,SNR=39						
CMAR	Chiang Mai Arr	29.59	301	*ce*P	P	09 49 27.2	+3.4

MAT Matsushiro 34.27 18 P P 09 50 03.2 -1.5
MJAR Matsushiro Arr 34.27 18 P P 09 50 03.4 -1.3
comp=Z,21nm,0.8s,baz=191,slow=8.6,SNR=42
MJAR LR LR 10 05 14.4
comp=Z,49nm,18.3s,baz=210,slow=38
MJAR Matsushiro Arr 34.27 18 P P 09 50 02.8 -1.9
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 34.27 18 P P 09 50 02.8 -1.9
FORT Forrest 34.84 176 P P 09 50 09.9 +0.3
baz=35,SNR=26
KMBL Kambalda 35.51 185 P P 09 50 15.5 +0.1
baz=36,SNR=24
BLDU Ballidu 35.59 193 P P 09 50 16.0 -0.1
baz=36,SNR=8.0
JSD Sado 35.67 17 P P 09 50 15.1 -1.5
KLBR Kellerberrin 36.32 191 P P 09 50 21.9 -0.4
baz=36,SNR=6.8
BJI Beijing 36.69 348 P P 09 50 28.0 +2.7
BJI pmax pmax
comp=Z,5.0nm,1.0s
MUN Mundaring 37.02 193 P P 09 50 28.3 +0.1
baz=37,SNR=3.9
LZH Lanzhou 37.51 331 eP P 09 50 33.8 +1.2
LZH pP sP 09 50 53.4 +1.4
LZH sP pwP 09 51 00.6 +12
LZH PP **PnPn 09 52 02.5 +2.2**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.9s
BBOO Buckleboo 38.12 166 P P 09 50 38.1 +0.5
baz=38,SNR=33
EIDS Eidsvold 38.46 141 P P 09 50 40.7 +0.2
baz=39,SNR=7.8
EIDS Eidsvold 38.46 141 P P 09 50 40.7 +0.2
EIDS IAmb IAmb 09 50 43.2
comp=Z,16nm,0.8s
HHC Hu-ho-hao-te 38.61 343 eP P 09 50 43.8 +2.1
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.7s
STKA Stephens Creek 38.99 158 P P 09 50 45.3 +0.4
comp=Z,28nm,0.7s,baz=330,slow=9.2,SNR=59
STKA PcP **PcP 09 52 54.7 +0.2**
comp=Z,4.9nm,0.7s,baz=7.1,slow=4.4,SNR=2.9
STKA Stephens Creek 38.99 158 P P 09 50 45.6 +0.7
baz=39,SNR=49
STKA Stephens Creek 38.99 158 P P 09 50 45.0 +0.1
VLA Vladivostok 39.20 7⇑ eP P 09 50 47.3 +0.9
VLA pmax pmax
comp=Z,17nm,0.8s
CN2 Changchun 39.47 360 eP P 09 50 52.8 +4.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HTT Hallett 39.50 162 P P 09 50 49.3 +0.1
baz=40,SNR=8.6
USRK Ussuriysk Ar. 40.27 7 P P 09 50 55.5 +0.1
comp=Z,9.6nm,0.9s,baz=189,slow=7.6,SNR=19
USRK Ussuriysk Ar. 40.27 7 P P 09 50 55.2 -0.2
USRK Ussuriysk Ar. 40.27 7 P P 09 50 55.2 -0.2
CMSA Cobar Meteorol 40.39 153 P P 09 50 57.6 +1.0
baz=41,SNR=8.1
MDJ Mudanjiang 40.44 5 P P 09 50 56.6 -0.2
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,100nm,5.4s
MDJ Mudanjiang 40.44 5 IAmb IAmb 09 51 08.1
comp=Z,14nm,0.6s
ERM Erimo 40.85 20⇓ eP P 09 50 59.6 -0.6
ERM pmax pmax
comp=Z,20nm,1.0s
ERM Erimo 40.85 20 P P 09 51 00.9 +0.7
ERM IAmb IAmb 09 51 03.9
comp=Z,20nm,1.0s
LSA Lhasa 41.22 312 Pn P 09 51 07.4 +3.4
LSA smax smax
comp=N,41nm,0.7s
LSA smax smax
comp=E,68nm,1.2s
LSA Lhasa 41.22 312 P P 09 51 07.0 +3.0
LSA **pP 09 51 13.4 -4.0**
LSA IAmb IAmb 09 51 16.2
comp=Z,17nm,0.8s
TEY Ternei 41.85 12⇑ eP P 09 51 07.9 -0.4
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=Z,10.0nm,1.2s
TEY pmax pmax
comp=E,10.0nm,1.2s
GTA Gaotai 42.09 330 eP P 09 51 08.8 -1.8
GTA pP pP 09 51 23.4 -0.7
GTA pmax pmax
comp=E,3.0nm,0.9s
GTA pmax pmax
comp=E,89nm,5.5s
GTA LR LR
comp=E,120nm,16.4s
GTA LR LR
comp=E,140nm,17.8s
ARMA Armidale 42.52 146 P P 09 51 16.0 +1.9
baz=43,SNR=4.5
ARMA Armidale 42.52 146 P P 09 51 15.0 +0.8
JKA Kamikawa-asahi 42.55 18 IAmb IAmb 09 51 16.2
comp=Z,27nm,0.8s
TAPN Taplejung 42.76 307 eP P 09 51 18.0 +1.6
comp=Z,90nm,0.9s
TAPN Taplejung 42.76 307 eP P 09 51 18.0 +1.6
comp=Z,90nm,0.9s
ODAN Odare 42.81 306 eP P 09 51 18.5 +1.7
comp=Z,136nm,0.8s
ODAN Odare 42.81 306 eP P 09 51 18.5 +1.7
comp=Z,136nm,0.8s
RAMN Ramite 43.49 305 eP P 09 51 23.7 +1.5
comp=Z,59nm,0.8s
RAMN Ramite 43.49 305 eP P 09 51 23.7 +1.5
comp=Z,59nm,0.8s
ARPS Mount Arapiles 43.49 161 P P 09 51 23.2 +1.4
baz=44,SNR=11
JIRN Jiri 44.12 306 eP P 09 51 28.3 +0.9
comp=Z,153nm,0.9s
JIRN Jiri 44.12 306 eP P 09 51 28.3 +0.9
comp=Z,153nm,0.9s
GUN Gumba 44.47 306 eP P 09 51 30.4 +0.2
GUN Gumba 44.47 306 eP P 09 51 30.4 +0.2
PKI Pulchoki 44.71 306 eP P 09 51 32.9 +0.8
comp=Z,52nm,1.0s
PKI Pulchoki 44.71 306 eP P 09 51 32.9 +0.8
comp=Z,52nm,1.0s
PKIN Phulchoki 44.72 306 eP P 09 51 33.2 +1.1
comp=Z,42nm,1.0s
PKIN Phulchoki 44.72 306 eP P 09 51 33.2 +1.1
comp=Z,42nm,1.0s
DMN Daman 44.97 306 eP P 09 51 35.5 +1.4
comp=Z,46nm,0.9s
DMN Daman 44.97 306 eP P 09 51 35.5 +1.4
comp=Z,46nm,0.9s
YSS Yuzh-Sakhalins 45.16 17 eP P 09 51 35.0 0.0
YSS e 09 51 49.3
YSS eS **S 09 58 10.7 0.0**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,200nm,18.0s
YSS Yuzh-Sakhalins 45.16 17 P P 09 51 35.2 +0.3
YSS IAmb IAmb 09 51 39.4
comp=Z,20nm,0.7s
CNB Canberra Magne 45.23 152 P P 09 51 37.3 +1.6
baz=45,SNR=4.9
KUR Kuril'sk 45.35 22⇑ eP P 09 51 38.4 +2.0
KOLN Koldanda 46.26 305 eP P 09 51 45.4 +1.2
comp=Z,66nm,0.7s
KOLN Koldanda 46.26 305 eP P 09 51 45.4 +1.2
comp=Z,66nm,0.7s
ULN Ulaanbaatar 46.33 343⇑ eP P 09 51 45.0 +0.6
ULN pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 46.50 342 P P 09 51 43.8 -1.9
comp=Z,0.7nm,0.5s,baz=159,slow=9.3,SNR=2.9
SONM PcP **PcP 09 53 19.4 0.0**
comp=Z,2.8nm,0.7s,baz=166,slow=3.8,SNR=7.2
SONM LR LR 10 12 08.9
comp=Z,130nm,18.3s,baz=161,slow=37

TYV Tymovskoe 48.72 14 eP P 09 52 00.9 -1.7
TYV pmax pmax
comp=Z,12nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.8s
ZEA Zeya 49.43 1 eP P 09 52 07.0 -1.1
WMQ Urumqi 51.66 326 eP P 09 52 27.4 +2.2
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,65nm,6.1s
PETK Petropavlovsk- 55.50 23 P P 09 52 53.4 +0.4
comp=Z,22nm,0.7s,baz=193,slow=5.9,SNR=35
PETK Petropavlovsk- 55.50 23 P P 09 52 53.6 +0.6
PETK Petropavlovsk- 55.50 23 P P 09 52 53.6 +0.6
DGZ Jazzator, Alta 55.61 331⇑ eP P 09 52 54.3 +0.2
DGZ pmax pmax
comp=Z,1.0nm,0.9s
PET Petropavlovsk 55.81 24 eP P 09 52 56.2 +1.0
PET pmax pmax
comp=Z,109nm,0.9s
MSVF Nonsavu 56.22 114⇑ eP P 09 52 58.5 -0.4
MSVF pmax pmax
comp=Z,30nm,1.7s
SHLS Shalkode 56.22 321 eP P 09 52 55.4 -3.2
baz=321
SHLS Shalkode 56.22 321 eP P 09 52 55.3 -3.2
MK31 Makanchi Array 56.49 326 P P 09 53 00.1 -0.2
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 56.49 326 P P 09 53 00.1 -0.2
MKAR Makanchi Array 56.49 326 P P 09 52 59.9 -0.4
comp=Z,3.0nm,0.5s,baz=121,slow=8.0,SNR=35
MKAR ScP **ScP 09 57 52.2 +0.6**
comp=Z,0.9nm,0.7s,baz=116,slow=8.4,SNR=4.6
MKAR LR LR 10 19 54.6
comp=Z,60nm,19.8s,baz=134,slow=39
MKAR Makanchi Array 56.49 326 ceP P 09 53 00.8 +0.5
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 56.49 326 P P 09 53 00.2 -0.1
UZB Uzynbulak 56.50 320 eP P 09 52 58.8 -1.8
baz=320
UZB eS **S 10 00 45.0 -3.1**
baz=320
UZB Uzynbulak 56.50 320 eP P 09 52 58.7 -1.8
UZB eS **S 10 00 45.0 -3.1**
MAKZ Makanchi 56.68 326 P P 09 53 01.1 -0.5
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 56.68 326 P P 09 53 01.1 -0.5
NIL Nilore 56.68 308 P P 09 53 01.9 0.0
NIL pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 56.68 308 P P 09 53 01.9 0.0
KSH Kashi 56.86 315 P P 09 53 06.8 +3.6
KSH pP sP 09 53 27.3 +4.4
KSH ScP **ScP 09 57 55.3 +1.8**
KSH S **S 10 00 55.3 +2.3**
KSH ScS **ScS 10 02 44.0 -4.1**
KSH pmax pmax
comp=Z,11nm,1.3s
KSH pmax pmax
comp=Z,89nm,5.7s
KSH LR LR
comp=Z,220nm,6.8s
KSH LR LR
comp=Z,260nm,8.1s
KSH LR LR
comp=Z,160nm,8.5s
KPKS Kokpek 56.87 321 eP P 09 53 02.0 -1.1
comp=Z,3.3nm,0.9s,baz=321
KPKS Kokpek 56.87 321 eP P 09 53 02.0 -1.1
KPKS pmax pmax
comp=Z,3.0nm,0.9s
MDOK Medeo 57.77 320 eP P 09 53 08.4 -1.1
baz=320
MDOK Medeo 57.77 320 eP P 09 53 08.3 -1.2
TNSS Tian-Shan 57.77 319 eP P 09 53 08.6 -1.3
baz=319
TNSS Tian-Shan 57.77 319 eP P 09 53 08.5 -1.3
YAK Yakutsk 57.81 2 P P 09 53 09.3 +0.1
comp=Z,16nm,0.4s,baz=165,slow=2.3,SNR=5.1
YAK Yakutsk 57.81 2 eP P 09 53 08.4 -0.8
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK Yakutsk 57.81 2 P P 09 53 09.3 +0.1
KUU Kurty 58.56 320 eP P 09 53 13.6 -1.3
comp=N,5.6nm,0.9s,baz=320
KUU Kurty 58.56 320 eP P 09 53 13.6 -1.3
KUU pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 58.59 15 P P 09 53 15.4 +0.7
MA2 pmax pmax
comp=Z,30nm,1.0s
MA2 Magadan 58.59 15 P P 09 53 15.4 +0.7
SGDS Sogindy 59.47 319 eP P 09 53 20.2 -1.1
baz=319
SGDS Sogindy 59.47 319 eP P 09 53 20.2 -1.1
ZAA0 Zalesovo Array 59.64 333 P P 09 53 21.8 -0.3
ZALV Zalesovo Beam 59.64 333 P P 09 53 21.2 -0.9
comp=Z,0.9nm,0.4s,baz=107,slow=5.1,SNR=4.7
ZALV LR LR 10 21 08.6
comp=Z,96nm,18.1s,baz=122,slow=38
ZALV Zalesovo Beam 59.64 333 i P P 09 53 21.8 -0.3
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 59.64 333 P P 09 53 20.4 -1.7
BTLS Baital 60.55 320 eP P 09 53 27.4 -1.1
baz=320
BTLS Baital 60.55 320 eP P 09 53 27.4 -1.1
KURK Kurchatov 60.71 328 ceP P 09 53 28.2 -1.3
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 60.71 328 P P 09 53 28.7 -0.8
KURK IAmb IAmb 09 53 31.4
comp=Z,8.1nm,0.7s
GAR Garm 60.72 313 P P 09 53 30.2 +0.3
GAR IAmb IAmb 09 53 40.8
comp=Z,12nm,0.9s
SEY Seymchan 61.89 14 P P 09 53 38.0 +0.8
comp=Z,7.3nm,0.6s,baz=230,slow=7.3,SNR=23
SEY Seymchan 61.89 14⇑ eP P 09 53 37.8 +0.6
IUG luzhnay 62.04 316 eP P 09 53 37.6 -1.2
baz=316
IUG luzhnay 62.04 316 eP P 09 53 37.6 -1.2
KK31 Karatay Array 62.07 317 P P 09 53 38.8 -0.1
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KK31 Karatay Array 62.07 317 P P 09 53 38.8 -0.1
KKAR Karatay Array 62.07 317 P P 09 53 38.3 -0.6
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 62.07 317 P P 09 53 38.6 -0.3
KKAR Karatay Array 62.07 317 P P 09 53 38.3 -0.6
KKAR IAmb IAmb 09 53 39.4
comp=Z,3.9nm,0.9s
RPZ Rata Peaks 62.83 144 P P 09 53 44.9 +1.0
comp=Z,16nm,0.8s,baz=9.0,slow=6.1,SNR=3.8
RPZ Rata Peaks 62.83 144 IAmb IAmb 09 53 48.0
comp=Z,35nm,1.1s
TUWZ Tuamarina 63.27 141 P P 09 53 47.2 +0.4
KHZ Kahutara 63.56 142 P P 09 53 48.6 -0.2
KHZ IAmb IAmb 09 53 50.5
comp=Z,15nm,1.0s
BKZ Black Stump Fm 63.74 138 P P 09 53 50.5 +0.5
BKZ IAmb IAmb 09 53 51.6
comp=Z,14nm,0.8s
ADK Adak 67.30 35 P P 09 54 12.8 +0.1
ADK pmax pmax
comp=Z,19nm,0.8s
ADK Adak 67.30 35 P P 09 54 12.8 +0.1
ADK IAmb IAmb 09 54 19.3
comp=Z,19nm,0.8s
TIXI Tiksi 67.42 1 P P 09 54 12.5 -0.6
comp=Z,8.8nm,0.4s,baz=172,slow=4.4,SNR=13
TIXI Tiksi 67.42 1⇑ eP P 09 54 15.6 +2.5
TIXI pmax pmax
comp=Z,11nm,1.1s
TIXI Tiksi 67.42 1 IAmb IAmb 09 54 24.2
comp=Z,11nm,0.6s

ATKA Atka Island 68.84 35 P P 09 54 22.6 +0.2
NRIK Noril'sk 69.71 347 P P 09 54 27.4 -0.1
comp=Z,5.2nm,0.5s,baz=130,slow=6.5,SNR=6.1
ABKAR Akbulak array 71.03 321 P P 09 54 35.3 -0.6
NIKH Nikolski High 72.17 35 P P 09 54 42.9 +0.2
AKTO Aktyubinsk 72.55 322 P P 09 54 44.9 -0.2
comp=Z,4.3nm,0.7s,baz=99,slow=8.5,SNR=14
UNV Unalaska Valle 73.77 35 P P 09 54 51.9 -0.2
UNV IAmb IAmb 09 54 59.3
comp=Z,32nm,1.0s
ARU Arti 73.91 328 c iP P 09 54 50.4 -2.5
ARU S **SKiKP 10 04 15.7 -1.4**
ARU pmax pmax
comp=Z,5.0nm,1.0s
AKUT Akutan 74.26 35 P P 09 54 55.2 +0.3
TTA Tatalina 81.07 27 P P 09 55 33.2 +0.3
TTA pmax pmax
comp=Z,9.0nm,0.6s
TTA Tatalina 81.07 27 P P 09 55 33.2 +0.3
TTA IAmb IAmb 09 55 34.7
comp=Z,8.5nm,0.6s
KIV Kislovodsk 81.94 314 eP P 09 55 35.4 -2.5
KIV pmax pmax
comp=Z,18nm,0.9s
IMAR Indian Mountai 82.44 24 P P 09 55 39.5 -0.4
PPLA Purkeypile 82.80 27 IAmb IAmb 09 55 43.7
comp=Z,13nm,0.9s
SKT Skwentna 83.03 28 P P 09 55 42.8 -0.3
SKT IAmb IAmb 09 55 43.8
comp=Z,14nm,0.6s
KTH Kantishna Hill 83.43 27 P P 09 55 45.4 +0.2
KTH IAmb IAmb 09 55 46.6
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 83.44 26 IAmb IAmb 09 55 46.8
comp=Z,16nm,0.8s
MAW Mawson 83.74 200 P P 09 55 47.1 +0.6
comp=Z,2.6nm,0.9s,baz=55,slow=8.1,SNR=5.8
MAW Mawson 83.74 200 P P 09 55 47.1 +0.6
MAW pmax pmax
comp=Z,2.0nm,1.5s
MAW Mawson 83.74 200 IAmb IAmb 09 55 56.3
comp=Z,2.3nm,1.4s
COLD Coldfoot 83.97 23 P P 09 55 49.2 +1.4
baz=266
VNDA Vanda 84.02 173 P P 09 55 48.6 +0.9
comp=Z,3.2nm,0.7s,baz=318,slow=7.3,SNR=17
VNDA Vanda 84.02 173 P P 09 55 48.7 +0.9
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 84.02 173 P P 09 55 48.7 +0.9
PMR Palmer 84.15 29 P P 09 55 48.4 -0.4
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 84.15 29 P P 09 55 48.4 -0.4
PMR IAmb IAmb 09 55 49.5
comp=Z,15nm,1.0s
TOLK Toolik Lake Re 84.29 22 P P 09 55 50.7 +1.3
baz=267
NEA2 Nenana 84.30 26 P P 09 55 50.3 +0.8
baz=268
RND Reindeer 84.35 27 IAmb IAmb 09 55 50.4
comp=Z,18nm,0.8s
KLMR Klimovskoe 84.42 331 eP P 09 55 47.9 -2.2
KLMR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 84.42 331 eP P 09 55 47.9 -2.2
KLMR AMP 09 55 49.1
comp=Z,10.0nm,0.9s
MDM Murphy Dome 84.67 25 IAmb IAmb 09 55 54.7
comp=Z,21nm,1.4s
WRH Wood River Hil 84.72 26 P P 09 55 51.5 0.0
WRH IAmb IAmb 09 55 52.3
comp=Z,16nm,1.2s
COLA College 84.83 25⇑ eP P 09 55 52.3 +0.2
COLA pmax pmax
comp=Z,17nm,2.0s
COLA College 84.83 25 P P 09 55 52.9 +0.8
COLA IAmb IAmb 09 55 54.3
comp=Z,15nm,1.2s
CCB Clear Creek Bu 84.84 26 IAmb IAmb 09 55 53.2
comp=Z,23nm,1.4s
HDA Harding Lake 85.21 26 P P 09 55 54.3 +0.2
baz=270
HDA Harding Lake 85.21 26 IAmb IAmb 09 55 55.1
comp=Z,10nm,0.6s
ILAR Eielson Array 85.24 25 P P 09 55 53.5 -0.7
comp=Z,2.6nm,0.8s,baz=246,slow=4.7,SNR=33
ILAR PP **PP 09 59 16.0 +3.8**
comp=Z,0.6nm,0.9s,baz=255,slow=8.6,SNR=4.4
ILAR Eielson Array 85.24 25 P P 09 55 52.5 -1.7
ILAR Eielson Array 85.24 25 P P 09 55 52.5 -1.7
OBN Obninsk 85.99 325⇓ eP P 09 55 59.6 +1.5
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,51nm,15.0s
RIDG Independent Ri 86.14 26 P P 09 55 58.1 -0.7
RIDG IAmb IAmb 09 56 00.1
comp=Z,8.6nm,0.8s
BMAR Burnt Mountain 86.15 23 P P 09 55 59.8 +1.1
SCRK Sand Creek 86.51 26 P P 09 56 01.2 +0.5
baz=272
MENT Mentasta 86.68 27 IAmb IAmb 09 56 02.5
comp=Z,5.2nm,0.8s
K27K Chicken 87.35 26 P P 09 56 05.6 +0.9
baz=274
BCAR Beaver Creek A 87.55 27 P P 09 56 06.0 +0.3
BARN Barnard Glacie 87.76 29 IAmb IAmb 09 56 09.3
comp=Z,11nm,0.9s
BRTR Keskin Array B 88.79 310 P P 09 56 12.0 -0.2
comp=Z,1.6nm,0.8s,baz=118,slow=5.0,SNR=8.6
BRTR Keskin Array B 88.79 310 ceP P 09 56 12.1 -0.1
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 88.79 310 P P 09 56 11.6 -0.6
EPYK Eagle Plains 89.33 24 P P 09 56 13.9 -0.2
baz=279
ARCES ARCESS Array B 89.61 340 P P 09 56 13.6 -1.6
comp=Z,4.4nm,0.9s,baz=82,slow=6.5,SNR=4.7
HYT Haines Junctio 89.81 29 IAmb IAmb 09 56 17.9
comp=Z,7.1nm,0.9s
AKASG Malin Array Be 90.77 321 P P 09 56 20.1 -0.9
comp=Z,0.2nm,0.2s,baz=63,slow=4.3,SNR=1.8
AKASG Malin Array Be 90.77 321 P P 09 56 20.1 -0.9
AKASG pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 90.77 321 IAmb IAmb 09 56 22.8
comp=Z,0.7nm,1.0s
FINES FINESS Array B 90.86 332 P P 09 56 18.9 -2.2
comp=Z,1.0nm,0.5s,baz=31,slow=4.4,SNR=5.3
FINES FINESS Array B 90.86 332 i P P 09 56 21.0 -0.1
FINES pmax pmax
comp=Z,1.0nm,0.5s
WHY Whitehorse 91.10 29 P P 09 56 22.9 +0.4
SYO Syowa Base 92.39 201⇑ eX P 09 56 26.5 -1.5
SYO Syowa Base 92.39 201⇓ eX P 09 56 38.2 +10
DLBC Dease Lake 94.00 31 P P 09 56 36.2 +0.4
comp=Z,4.9nm,0.8s,baz=319,slow=6.0,SNR=12
QSPA South Pole Qui 94.08 180 P P 09 56 36.6 +0.6
comp=Z,2.0nm,0.7s,baz=245,slow=0.7,SNR=16
QSPA South Pole Qui 94.08 180 IAmb IAmb 09 56 39.2
comp=Z,3.1nm,1.0s
NOA NORSAR Array B 97.84 333 P P 09 56 51.9 -1.3
comp=Z,0.8nm,0.7s,baz=66,slow=4.4,SNR=3.4
NOA LR LR 10 45 10.0
comp=Z,51nm,19.7s,baz=85,slow=38
D03D Eldon 101.17 40 P Pdif 09 57 09.6 +1.3
baz=289
NVAR Mina Array Bea 107.53 48 Pdiff Pdif 09 57 37.3 +0.2
comp=Z,0.5nm,0.6s,baz=282,slow=4.3,SNR=4.7
NVAR PKiKP **PKiKP 10 01 45.2 0.0**
comp=Z,0.6nm,0.6s,baz=243,slow=1.0,SNR=5.7
PDAR Pinedale Array 111.83 41 PKiKP PKiKP 10 01 53.5 +0.2
comp=Z,0.4nm,0.6s,baz=163,slow=0.9,SNR=4.7
ANMO Albuquerque 117.63 47 P PKiKP 10 02 06.0 +1.4
baz=298
MNTX Cornudas Mount 119.91 50 P PKiKP 10 02 09.8 +1.0
baz=297
SCHQ Schefferville 120.32 8 PKP PKPdf 10 02 08.3 -0.6
comp=Z,0.9nm,0.4s,baz=199,slow=3.3,SNR=5.2
MSTX Muleshoe 120.77 46 P PKiKP 10 02 11.4 +0.8
baz=300
TORD Torodi Ar. Bea 121.61 288 PKP PKPdf 10 02 11.3 -1.1
comp=Z,1.0nm,0.4s,baz=46,slow=1.8,SNR=6.3
TORD Torodi Ar. Bea 121.61 288 PKPdf PKPdf 10 02 11.9 -0.5
TXAR Lajitas Array 122.30 51 PKP PKiKP 10 02 14.4 +0.7

comp=Z,2.4nm,0.7s,baz=226,slow=0.8,SNR=11
WMOK Wichita Mounta 123.17 43 PKIKP **PKPdf 10 02 15.0 0.0**
WMOK Wichita Mounta 123.17 43 P **PKiKP 10 02 15.4 +0.2**
baz=304
WMOK Wichita Mounta 123.17 43 PKPdf 10 02 15.0 0.0
ABTX Abilene, Hawle 123.71 46 P **PKiKP 10 02 16.7 +0.4**
baz=302
JCT Junction City 124.70 48 PKIKP **PKiKP 10 02 18.9 +0.5**
JCT Junction City 124.70 48 P **PKiKP 10 02 18.6 +0.3**
baz=300
JCT Junction City 124.70 48 PKPdf **PKiKP 10 02 18.9 +0.5**
S39A Bolivar 124.93 37 PKPdf **PKPdf 10 02 18.1 -0.1**
U38A Gravette 125.06 39 PKPdf 10 02 18.6 +0.1
WHTX Lake Whitney, 125.61 45 P **PKiKP 10 02 20.7 +0.7**
baz=303
WHTX Lake Whitney, 125.61 45 PKPdf **PKiKP 10 02 21.1 +1.1**
U40A Yellville 126.07 38 P **PKPdf 10 02 20.0 -0.4**
baz=310
U40A Yellville 126.07 38 PKPdf **PKiKP 10 02 20.9 0.0**
MIAR Mount Ida 126.76 40 P **PKiKP 10 02 23.4 +1.1**
baz=308
M57A Sunshine Farm, 130.22 22 P **PKiKP 10 02 29.1 +0.1**
baz=330
P54A Burton 130.31 26 P **PKiKP 10 02 29.6 +0.3**
baz=325
Q54A Coxs Mills 130.65 27 P **PKiKP 10 02 29.7 -0.2**
baz=324
M59A Waymart 130.66 21 P **PKiKP 10 02 30.2 +0.2**
baz=332
PLCA Paso Flores 140.84 161 PKP **PKPdf 10 02 49.3 +1.3**
comp=Z,1.5nm,0.7s,baz=247,slow=3.3,SNR=5.6
BI02 San Fabin de 144.18 157 PKPdf 10 02 54.0 -0.1
CPUP Villa Florida 157.80 173 PKPab **PKPab 10 03 48.4 +0.8**
comp=Z,2.0nm,0.7s,baz=174,slow=1.3,SNR=4.4
LPAZ La Paz 162.00 133 PKP **PKPdf 10 03 21.0 +0.2**
comp=Z,1.2nm,0.7s,baz=346,slow=4.5,SNR=5.6
LPAZ PKPab **PKPab 10 04 08.6 +1.6**
comp=Z,1.6nm,0.9s,baz=269,slow=4.1,SNR=2.9
LPAZ La Paz 162.00 133 PKIKP **PKPdf 10 03 20.7 -0.1**
LPAZ La Paz 162.00 133 PKPdf 10 03 20.7 -0.1
BDFB Brasilia 166.93 209 PKPab **PKPab 10 04 27.9 -0.1**
comp=Z,1.0nm,0.3s,baz=86,slow=6.0,SNR=3.4

DDA 15 09:50:34.6, 39.62N×27.09E, h6km±3km, ML1.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.43**	**74**	*i* P	Pg	09 50 42.8	-0.2
BALY				*i* S	Sb	09 50 50.0	-1.3
BALY				IAML		09 50 50.0	
	comp=E,19nm,0.5s						
BALY				IAML		09 50 51.0	
	comp=N,24nm,0.6s						
BAYC	**CANAKKALE_Bayr**	**0.43**	**286**	*i* P	Pg	09 50 43.0	-0.1
BAYC				*i* S	Sb	09 50 50.7	-0.7
BAYC				IAML		09 50 55.0	
	comp=N,18nm,0.5s						
BAYC				IAML		09 50 56.0	
	comp=E,12nm,0.6s						
ZEDA	**zmir-Bergama**	**0.65**	**181**	*i* P	Pb	09 50 47.9	-0.4
ZEDA				*i* S	Sb	09 50 57.5	-0.2
ZEDA				IAML		09 50 59.0	
	comp=N,11nm,0.5s						
ZEDA				IAML		09 51 01.0	
	comp=E,7.4nm,0.5s						

ISK 15 09:50:54.2, 41.33N×28.31E, h3km, ML2.0/13, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLVT	**Silivri**	**0.13**	**217**	PG	Pg	09 50 57.3	+0.6
CTYL	**Yalikoy Yolu**	**0.14**	**353**	PG	Pg	09 50 57.8	+0.8
CTKS	**Kestanelik-??a**	**0.17**	**123**	PG	Pg	09 50 58.6	+1.0
BGKT	**Bogazkoy**	**0.38**	**113**	PG	Pg	09 51 02.2	+0.7
ISK	**Istanbul-Kandi**	**0.62**	**115**	PG	Pb	09 51 07.5	-0.2
KAVV	**Kandilli-Istan**	**0.62**	**115**	PG	Pb	09 51 07.5	-0.3
MAR9	**Marsite Statio**	**0.85**	**213**	PG	Pb	09 51 11.5	-0.1
MAR9				SG	Sb	09 51 24.1	+0.8
ARMT	**Armutlu**	**0.87**	**151**	PG	Pb	09 51 12.3	+0.3
MRMT	**Marmara Adasi**	**0.91**	**217**	PG	Pg	09 51 12.0	+0.4
MRMT				SG	Sb	09 51 25.7	+0.6
MAR4	**Marsite Statio**	**0.94**	**235**	PG	Pg	09 51 12.6	+0.4
MAR2	**Marsite Statio**	**0.97**	**231**	PG	Pb	09 51 13.7	0.0
MAR2				SG	Sb	09 51 27.9	+0.9
SILT	**Sile**	**1.02**	**100**	PG	Pn	09 51 15.7	+0.3
HRT	**Hereke**	**1.15**	**116**	PN	Pb	09 51 16.8	+0.1
HRT				SN	Sn	09 51 33.6	+0.2
EDRB	**Edirne**	**1.28**	**294**	PN	Pn	09 51 19.6	+0.5
ALN	**Alexandroupoli**	**1.77**	**257**	PN	Pn	09 51 26.3	+0.6

*ECX **15** 09:55:41.3±0.7, 30.55N×114.29W, h0km±5km, MD3.4, ML3.6*
*MEX **15** 09:55:43.0±0.5, 30.75N×114.12W, h10km, MD4.2*
ISC 15 09:55:39.6±1.6, 30.64N±0.06×114.21W±0.03, h13km±12km, n16, σ0.90/21, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.68**	**306**	*e*P	**Pb**	**09 55 53.7**	**+0.4**
SFX				*e*		09 56 05.8	
SFX				IAML		09 56 05.8	
	comp=E,3μm,0.6s						
SFX				*e*		09 56 06.1	
SFX				IAML		09 56 06.1	
	comp=N,3μm,0.3s						
ECBX	**El Chinero**	**1.10**	**319**	*e*P	**Pg**	**09 56 00.8**	**-0.1**
ECBX				*e*S	**Sn**	**09 56 15.9**	**+0.1**
PIX	**Pinacate**	**1.12**	**35**	⇓*e*P	**Pg**	**09 56 01.4**	**+0.2**
PIX				*e*S	**Sn**	**09 56 18.5**	**+2.1**
SPX	**San Pedro Mart**	**1.15**	**291**	*i* P	**Pb**	**09 56 01.1**	**-0.5**
SPX	**San Pedro Mart**	**1.15**	**291**	*e*P	**Pb**	**09 56 00.7**	**-0.8**
SPX				⇓*e*		09 56 29.4	
SPX				IAML		09 56 29.4	
	comp=N,760nm,0.7s						
SPIG	**San Pedro Mart**	**1.15**	**291**	*i* P	**Pn**	**09 56 01.8**	**0.0**
SPIG				*i* S	**Sn**	**09 56 17.9**	**+0.2**
SPIG	**San Pedro Mart**	**1.15**	**291**	*e*P	**Pg**	**09 56 02.0**	**+0.1**
SQX	**San Quintin**	**1.44**	**268**	*e*P	**Pn**	**09 56 05.5**	**+0.1**
SQX				*e*S	**Sn**	**09 56 24.1**	**0.0**
SQX				*e*		09 56 27.2	
SQX				IAML		09 56 27.2	
	comp=E,2μm,0.3s						
VTX	**Valle De La Tr**	**1.55**	**299**	*e*P	**Pb**	**09 56 07.7**	**-0.5**
SJX	**San Joaquin**	**1.87**	**307**	IAML		09 56 57.5	
	comp=E,270nm,0.6s						
MBIG	**Mexicali**	**1.96**	**335**	*i* P	**Pn**	**09 56 11.9**	**-0.6**
CPBX	**Cerro Prieto**	**2.01**	**333**	IAML		09 57 14.2	
	comp=E,1μm,0.6s						
TJIG	**Tijuana**	**2.76**	**311**	*i* P	**Pn**	**09 56 24.3**	**+0.7**
TJIG				*i* S	**Sn**	**09 56 56.9**	**+0.1**
HSIG		**3.26**	**119**	*i* P	**Pn**	**09 56 31.5**	**+1.0**
HSIG				*i* S	**Sn**	**09 57 09.0**	**-0.2**
TUC	**Tucson**	**3.37**	**59**	*i* P	**Pn**	**09 56 30.7**	**-1.3**
CGIG		**5.39**	**91**	*i* P	**Pn**	**09 57 00.6**	**+0.8**
CGIG				*i* S	**Sn**	**09 57 59.9**	**-1.9**

*NEIC **15** 09:58:44.9±1.4, 22.2S±0.1×171.64E±0.09, h99km±7km, mb4.4/20, Error ellipse: s-maj=22.1km s-min=11.0km az=166.0*
*IDC **15** 09:58:46.8±3.7, 22.24S×171.52E, h114km±29km, mb4.0/11, mb1 4.1/13, mb1mx3.8/34, mbtmp4.3/13, Error ellipse: s-maj=28.4km s-min=25.4km az=8.0*
ISC 15 09:58:45.6±0.6, 22.19S±0.10×171.63E±0.07, h105km, n39, σ0.67/39, mb4.3/16, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.81**	**270**	P	**Pn**	**09 59 56.9**	**+1.0**
	16nm,0.3s,baz=114,slow=10,SNR=318						
DZM				S	**Sn**	**10 00 49.3**	**-1.2**
	63nm,0.3s,baz=74,slow=12,SNR=25						
DZM	**Mont Dzumac**	**4.81**	**270**		**Pn**	**09 59 56.5**	**+0.6**
MSVF	**Nonsavu**	**7.49**	**55**	Pn	**Pn**	**10 00 31.7**	**-0.6**
URZ	**Urewera**	**16.70**	**165**	P	**Pn**	**10 02 33.3**	**+0.1**
	0.5nm,0.3s,baz=12,slow=24,SNR=3.6						
URZ	**Urewera**	**16.70**	**165**	IAmb	IAmb	10 02 35.7	
	comp=Z,9.2nm,0.8s						
BKZ	**Black Stump Fm**	**17.43**	**167**		**Pn**	**10 02 42.4**	**+0.2**
BKZ				IAmb	IAmb	10 03 00.3	
	comp=Z,25nm,1.4s						
BFZ	**Birch Farm**	**18.85**	**169**		**P**	**10 02 57.1**	**-0.3**
BFZ				IAmb	IAmb	10 03 04.2	
	comp=Z,47nm,1.3s						
EIDS	**Eidsvold**	**19.07**	**256**	P	**Pn**	**10 03 01.8**	**0.0**
TUWZ	**Tuamarina**	**19.29**	**175**	P	**P**	**10 03 02.9**	**+0.8**
MSWZ	**Moikau Station**	**19.41**	**172**	P	**P**	**10 03 02.8**	**-0.7**
PLWZ	**Palliser**	**19.57**	**172**	P	**P**	**10 03 04.7**	**-0.5**
ARMA	**Armidale**	**19.70**	**241**	P	**P**	**10 03 06.5**	**-0.3**
ARMA				IAmb	IAmb	10 03 24.7	
	comp=Z,18nm,1.2s						
KHZ	**Kahutara**	**20.24**	**176**	P	**P**	**10 03 11.7**	**-0.6**
KHZ				IAmb	IAmb	10 03 18.1	
	comp=Z,29nm,1.2s						
LTZ	**Lake Taylor**	**20.55**	**179**	P	**P**	**10 03 16.3**	**+0.5**
CTA	**Charters Tower**	**23.75**	**270**	P	**P**	**10 03 48.2**	**-0.3**
	comp=Z,5.4nm,0.9s,baz=102,slow=9.3,SNR=3.4						
KRVT	**Keravat (AS076**	**26.01**	**310**	P	**P**	**10 04 09.2**	**+0.1**
	comp=Z,22nm,0.6s,baz=191,slow=2.2,SNR=4.9						
WR0	**Warramunga Arr**	**34.62**	**267**	P	**P**	**10 05 24.2**	**-0.8**
WR0				IAmb	IAmb	10 05 39.4	
	comp=Z,7.7nm,1.4s						
AS31	**Alice Springs**	**34.71**	**260**	P	**P**	**10 05 25.8**	**0.0**
ASAR	**Alice Springs**	**34.71**	**260**	P	**P**	**10 05 25.4**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=84,slow=9.1,SNR=40						
ASAR				PcP	**PcP**	**10 07 56.4**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=95,slow=3.1,SNR=2.6						
ASAR	**Alice Springs**	**34.71**	**260**	P	**P**	**10 05 25.1**	**-0.6**
WB0	**Warramunga Arr**	**34.80**	**267**	P	**P**	**10 05 25.8**	**-0.7**
WB0				IAmb	IAmb	10 05 26.4	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**34.80**	**267**	P	**P**	**10 05 25.5**	**-1.0**
WB2				IAmb	IAmb	10 05 29.7	
	comp=Z,5.5nm,1.2s						
WRAB	**Tennant Creek**	**34.81**	**267**	P	**P**	**10 05 25.5**	**-1.1**
WRAB				IAmb	IAmb	10 05 37.2	
	comp=Z,5.2nm,1.4s						
WRA	**Warramunga Arr**	**34.81**	**267**	P	**P**	**10 05 25.3**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=98,slow=8.5,SNR=35						
WRA	**Warramunga Arr**	**34.81**	**267**	P	**P**	**10 05 25.7**	**-0.9**
JAY	**Jayapura**	**35.84**	**299**	P	**P**	**10 05 35.5**	**0.0**
	comp=Z,19nm,1.1s,baz=129,slow=3.2,SNR=6.1						
MTN	**Manton Dam**	**39.62**	**277**	P	**P**	**10 06 07.1**	**-0.1**
FORT	**Forrest**	**39.72**	**248**	P	**P**	**10 06 08.0**	**+0.1**
KNRA	**Kununurra**	**40.96**	**271**	P	**P**	**10 06 17.8**	**-0.5**
KNRA				IAmb	IAmb	10 06 19.0	
	comp=Z,6.0nm,0.9s						
FAKI	**Fak Fak**	**42.73**	**291**	P	**P**	**10 06 33.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**43.24**	**267**	P	**P**	**10 06 37.2**	**+0.4**
SIJI	**Sorong**	**44.62**	**293**	P	**P**	**10 06 48.1**	**+0.2**
	comp=Z,13nm,0.8s,baz=142,slow=15,SNR=2.2						
PSA00	**Pilbara Seismi**	**47.86**	**260**	P	**P**	**10 07 13.4**	**+0.1**
MJAR	**Matsushiro Arr**	**66.39**	**331**	P	**P**	**10 09 23.5**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=167,slow=5.8,SNR=4.2						
MJAR	**Matsushiro Arr**	**66.39**	**331**	IAmb	IAmb	10 09 25.6	
	comp=Z,0.7nm,0.6s						
KSRS	**Korea Array**	**72.19**	**325**	P	**P**	**10 09 59.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=134,slow=7.0,SNR=4.2						
PETK	**Petropavlovsk-**	**75.95**	**351**	P	**P**	**10 10 20.0**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=139,slow=7.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**81.74**	**294**	P	**P**	**10 10 53.7**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=142,slow=3.3,SNR=4.6						
NVAR	**Mina Array Bea**	**89.10**	**48**	P	**P**	**10 11 30.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=231,slow=8.8,SNR=5.0						

*ECX **15** 10:00:38.9±0.8, 30.54N×114.29W, h0km±6km, MD3.0, ML3.2*
*MEX **15** 10:00:42.9±0.5, 30.47N×114.53W, h10km, MD3.9*
ISC 15 10:00:36.5±2.8, 30.6N±0.1×114.27W±0.08, h1km±16km, n9, σ0.38/13, 1C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.69**	**313**	*e*P	**Pb**	**10 00 51.2**	**-0.2**
SFX				*e*S	**Sb**	**10 01 01.6**	**+0.2**
SFX				⇓*e*		10 01 03.2	
SFX				IAML		10 01 03.2	
	comp=E,572nm,0.7s						
ECBX	**El Chinero**	**1.13**	**323**	*e*P	**Pg**	**10 00 58.6**	**+0.4**
ECBX				*e*S	**Sb**	**10 01 14.2**	**+0.1**
SPX	**San Pedro Mart**	**1.14**	**295**	*i* P	**Pg**	**10 00 58.5**	**+0.2**
SPX				*i* S	**Sg**	**10 01 12.4**	**-0.7**
SPX	**San Pedro Mart**	**1.14**	**295**	*e*P	**Pg**	**10 00 58.5**	**+0.2**
SPIG	**San Pedro Mart**	**1.14**	**295**	*i* P	**Pb**	**10 00 59.5**	**+0.3**
SPIG	**San Pedro Mart**	**1.14**	**295**	*e*P	**Pb**	**10 00 59.4**	**+0.1**
SPIG				*e*S	**Sb**	**10 01 15.3**	**+0.6**
PIX	**Pinacate**	**1.21**	**35**	*e*P	**Pn**	**10 01 00.6**	**0.0**
PIX				*i* S	**Sn**	**10 01 17.5**	**-0.2**
SQX	**San Quintin**	**1.39**	**271**	*e*P	**Pn**	**10 01 02.9**	**-0.2**
SQX				IAML		10 01 24.3	
	comp=N,696nm,0.4s						
SQX				⇓*e*		10 01 24.3	
SQX				IAML		10 01 31.0	
	comp=E,586nm,0.4s						
SQX				⇓*e*		10 01 31.0	
CPBX	**Cerro Prieto**	**2.05**	**335**	IAML		10 02 20.6	
	comp=N,343nm,0.8s						
CPBX				⇑*e*		10 02 20.6	
CPBX				IAML		10 02 20.6	
	comp=E,286nm,0.8s						
CPBX				⇓*e*		10 02 20.6	

*BJI **15** 10:52:56.2±0.0, 4.47S×153.61E, h65km, mB5.1/22, mb4.8/29, Ms4.5/1*
*IDC **15** 10:52:56.8±1.5, 4.75S×153.44E, h60km±11km, mb4.2/26, mb1 4.2/28, mb1mx4.2/41, mbtmp4.5/28, MS3.6/21, Ms1 3.6/21, ms1mx3.5/36, Error ellipse: s-maj=12.4km s-min=9.3km az=78.0*
*NEIC **15** 10:52:57.8±1.4, 4.72S±0.08×153.37E±0.07, h68km±5km, mb4.8/41, Error ellipse: s-maj=11.8km s-min=8.7km az=207.0*
*DJA **15** 10:52:57.3±1.3, 5°S±6°×15°3E±1°0, h59km±8km, M5.0/14, mb4.7/14, mB4.8/3, MLv5.2/2, Mw(mB)4.1/3, Mwp5.4/1*
ISC 15 10:52:59.7±0.3, 4.73S±0.05×153.39E±0.05, h85km, n133, σ1.51/127, mb4.6/49, 3C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.33**	**294**	Pn	**Pn**	**10 53 19.9**	**-3.3**
KRVT	**Keravat (AS076**	**1.42**	**287**	P	**Pn**	**10 53 20.6**	**-3.6**
	405nm,0.3s,baz=191,slow=0.7,SNR=496						
KRVT				S	**Sn**	**10 53 39.5**	**-3.2**
	baz=114,slow=20						
PMG	**Port Moresby**	**7.73**	**233**	P	**Pn**	**10 54 47.4**	**-2.2**
	11nm,0.3s,baz=39,slow=17,SNR=29						
PMG				S	**Sn**	**10 56 09.9**	**-5.8**
	11nm,0.3s,baz=337,slow=16,SNR=7.9						
PMG	**Port Moresby**	**7.73**	**233**	Pn	**Pn**	**10 54 47.6**	**-2.0**
HNR	**Honiara**	**8.01**	**126**	P	**Pn**	**10 54 53.7**	**+0.2**
	20nm,0.3s,baz=297,slow=1.9,SNR=4.8						
HNR				S	**Sn**	**10 56 23.2**	**+0.6**
	18nm,0.3s,baz=78,slow=17,SNR=6.4						
PATS	**Pohnpei**	**12.50**	**23**	Pn	**Pn**	**10 55 52.4**	**-2.1**
JAY	**Jayapura**	**12.85**	**279**	P	**Pn**	**10 56 01.0**	**+1.8**
	0.3nm,0.3s,baz=360,slow=4.0,SNR=3.0						
JAY				LR	LR	11 00 45.8	
	comp=Z,227nm,20.4s,baz=50,slow=36						
JAY	**Jayapura**	**12.85**	**279**	P	**P**	**10 56 07.0**	**+0.2**
SMPI	**Sarmi**	**14.90**	**280**	P	**Pn**	**10 56 28.1**	**+2.1**
CTA	**Charters Tower**	**16.77**	**204**	P	**Pn**	**10 56 48.2**	**-1.2**
	0.1nm,0.3s,baz=8.5,slow=15,SNR=3.7						
GUMO	**Guam**	**20.07**	**335**	LR	LR	11 06 11.5	
	comp=Z,36nm,18.4s,baz=163,slow=40						
EIDS	**Eidsvold**	**20.64**	**186**		**P**	**10 57 33.9**	**+1.4**
DZM	**Mont Dzumac**	**21.38**	**145**	P	**P**	**10 57 39.9**	**-0.8**
	32nm,0.6s,baz=292,slow=6.5,SNR=34						
DZM				LR	LR	11 05 18.5	
	comp=Z,239nm,19.5s,baz=264,slow=35						
DZM	**Mont Dzumac**	**21.38**	**145**	*e*P	**P**	**10 57 39.2**	**-1.4**
	53nm,0.7s						
DZM				*e*LR	LR	11 02 51.2	
	comp=Z,327nm,24.1s						
DZM	**Mont Dzumac**	**21.38**	**145**	P	**P**	**10 57 40.2**	**-0.5**
DZM				IAmb	IAmb	10 57 44.2	
	comp=Z,44nm,0.9s						
SIJI	**Sorong**	**22.42**	**279**	P	**P**	**10 57 51.1**	**-0.7**
	comp=Z,25nm,0.8s,baz=49,slow=15,SNR=3.6						
SIJI				LR	LR	11 05 30.4	
	comp=Z,242nm,21.6s,baz=38,slow=34						
MTN	**Manton Dam**	**23.41**	**248**	P	**P**	**10 58 00.0**	**-1.4**
MTN				IAmb	IAmb	10 58 03.7	
	comp=Z,19nm,0.8s						
MTN					**S**	**11 02 13.8**	**+5.6**
WB0	**Warramunga Arr**	**23.79**	**229**	P	**P**	**10 58 04.4**	**-0.4**
WB0				IAmb	IAmb	10 58 19.1	
	comp=Z,29nm,1.2s						
WR0	**Warramunga Arr**	**23.79**	**229**	P	**P**	**10 58 04.0**	**-0.8**
WR0				IAmb	IAmb	10 58 18.6	
	comp=Z,24nm,1.2s						
WRAB	**Tennant Creek**	**23.92**	**229**	P	**P**	**10 58 05.7**	**-0.3**
WRAB				IAmb	IAmb	10 58 21.5	
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**23.92**	**229**	P	**P**	**10 58 05.6**	**-0.5**
WRA	**Warramunga Arr**	**23.93**	**229**	P	**P**	**10 58 05.5**	**-0.6**
	comp=Z,7.7nm,0.8s,baz=52,slow=9.8,SNR=82						
WRA				PcP	**PcP**	**11 01 47.2**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=63,slow=2.3,SNR=7.4						
WRA				S	**S**	**11 02 18.6**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=58,slow=12,SNR=2.4						
WRA				ScP	**ScP**	**11 05 21.0**	**+3.3**
	comp=Z,1.2nm,0.9s,baz=61,slow=2.7,SNR=5.8						
WRA				LR	LR	11 07 19.8	
	comp=Z,132nm,21.5s,baz=75,slow=36						
WRA	**Warramunga Arr**	**23.93**	**229**	P	**P**	**10 58 05.2**	**-1.0**
ARMA	**Armidale**	**25.61**	**184**	P	**P**	**10 58 22.0**	**+0.6**
ARMA				IAmb	IAmb	10 58 24.2	
	comp=Z,22nm,1.2s						
KNRA	**Kununurra**	**26.53**	**244**	P	**P**	**10 58 30.8**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**26.54**	**29**	T	T	11 27 00.7	
	baz=208,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**26.55**	**29**	T	T	11 27 01.7	
	baz=208,slow=76,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**26.56**	**29**	T	T	11 27 00.5	
	baz=208,slow=76,SNR=6.2						
AS31	**Alice Springs**	**26.60**	**223**	P	**P**	**10 58 30.5**	**+0.2**
ASAR	**Alice Springs**	**26.60**	**223**	P	**P**	**10 58 29.4**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=59,slow=8.5,SNR=16						
ASAR				PcP	**PcP**	**11 01 53.6**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=60,slow=2.7,SNR=13						
ASAR				S	**S**	**11 03 06.5**	**+7.4**
	comp=Z,0.5nm,0.9s,baz=40,slow=14,SNR=2.0						
ASAR				ScP	**ScP**	**11 05 28.6**	**+3.2**
	comp=Z,0.9nm,0.9s,baz=62,slow=2.2,SNR=5.5						
ASAR				LR	LR	11 08 17.9	
	comp=Z,226nm,21.2s,baz=12,slow=35						
ASAR	**Alice Springs**	**26.60**	**223**	P	**P**	**10 58 30.5**	**+0.2**
ASAR				PcP	**PcP**	**11 01 53.1**	**+0.4**
STKA	**Stephens Creek**	**29.18**	**201**	P	**P**	**10 58 51.5**	**-1.7**
	comp=Z,2.8nm,0.8s,baz=25,slow=13,SNR=7.0						
STKA				PcP	**PcP**	**11 01 59.5**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=70,slow=6.6,SNR=4.1						
STKA				LR	LR	11 10 57.7	
	comp=Z,105nm,19.3s,baz=12,slow=37						
STKA	**Stephens Creek**	**29.18**	**201**	P	**P**	**10 58 52.5**	**-0.8**
DAV	**Davao City (W)**	**30.12**	**293**	LR	LR	11 11 38.2	
	comp=Z,59nm,18.5s,baz=161,slow=37						
FITZ	**Fitzroy Crossi**	**30.20**	**242**	P	**P**	**10 59 01.4**	**-1.0**
	comp=Z,19nm,1.2s,baz=180,slow=8.7,SNR=6.4						
FITZ				LR	LR	11 12 55.3	
	comp=Z,277nm,18.0s,baz=280,slow=40						
JCJ	**Chichijima**	**33.44**	**342**	LR	LR	11 11 01.3	
	comp=Z,82nm,21.5s,baz=170,slow=32						
FORT	**Forrest**	**35.21**	**220**	P	**P**	**10 59 45.1**	**-0.8**
AFI	**Afiamalu**	**35.52**	**107**	LR	LR	11 13 01.7	
	comp=Z,75nm,18.7s,baz=268,slow=34						
URZ	**Urewera**	**39.76**	**150**	P	**P**	**11 00 23.9**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=345,slow=2.2,SNR=1.1						
URZ	**Urewera**	**39.76**	**150**	IAmb	IAmb	11 00 42.0	
	comp=Z,20nm,1.1s						
QRZ	**Quartz Range**	**39.84**	**157**	P	**P**	**11 00 25.7**	**+0.8**
BKZ	**Black Stump Fm**	**40.17**	**152**	P	**P**	**11 00 27.4**	**-0.4**
BKZ				IAmb	IAmb	11 00 45.5	
	comp=Z,12nm,1.0s						
THZ	**Tophouse**	**40.79**	**158**	P	**P**	**11 00 32.7**	**-0.1**
TUWZ	**Tuamarina**	**40.91**	**156**	P	**P**	**11 00 33.4**	**-0.4**
BSWZ	**Blackbirch Sta**	**41.13**	**157**	P	**P**	**11 00 35.2**	**-0.3**
BFZ	**Birch Farm**	**41.27**	**153**	P	**P**	**11 00 36.0**	**-0.7**
LTZ	**Lake Taylor**	**41.44**	**159**	P	**P**	**11 00 38.5**	**+0.4**
MSWZ	**Moikau Station**	**41.44**	**155**	P	**P**	**11 00 37.9**	**-0.2**
PLWZ	**Palliser**	**41.57**	**155**	P	**P**	**11 00 37.9**	**-1.3**
KHZ	**Kahutara**	**41.59**	**157**	P	**P**	**11 00 38.4**	**-0.9**
KHZ				IAmb	IAmb	11 00 40.1	
	comp=Z,18nm,0.7s						
OXZ	**Oxford**	**41.83**	**160**	P	**P**	**11 00 40.8**	**-0.5**
OXZ				IAmb	IAmb	11 00 41.1	
	comp=Z,20nm,0.7s						
RPZ	**Rata Peaks**	**41.84**	**161**	P	**P**	**11 00 40.8**	**-0.6**
	comp=Z,48nm,0.8s,baz=354,slow=1.5,SNR=14						
RPZ				LR	LR	11 19 50.1	
	comp=Z,66nm,18.2s,baz=340,slow=39						
RPZ	**Rata Peaks**	**41.84**	**161**	P	**P**	**11 00 41.7**	**+0.4**
MQZ	**McQueen's Vall**	**42.38**	**159**	P	**P**	**11 00 45.6**	**0.0**
MLZ	**Mavora Lakes**	**42.48**	**165**	P	**P**	**11 00 46.6**	**+0.1**
JNU	**Nakatsue**	**43.27**	**332**	P	**P**	**11 00 53.1**	**0.0**
	comp=Z,22nm,1.0s,baz=96,slow=2.8,SNR=7.4						
JNU	**Nakatsue**	**43.27**	**332**	IAmb	IAmb	11 00 53.9	
	comp=Z,23nm,0.9s						
MJAR	**Matsushiro Arr**	**43.44**	**342**	P	**P**	**11 00 53.7**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=165,slow=5.0,SNR=2.3						
MJAR				LR	LR	11 16 27.1	
	comp=Z,51nm,22.0s,baz=175,slow=32						
NWAO	**Narrogin (SRO)**	**43.85**	**226**	LR	LR	11

GTA				LR	LR		
	comp=Z,120nm,16.7s						
GTA				LR	LR		
	comp=Z,110nm,15.6s						
SONM	**Songino Array**	**66.58**	**328**	P	**P**	**11 03 41.1**	**0.0**
	comp=Z,1.4nm,0.5s,baz=143,slow=5.6,SNR=12						
SONM	**Songino Array**	**66.58**	**328**	P	**P**	**11 03 41.4**	**+0.3**
SEY	**Seymchan**	**67.48**	**360**	P	**P**	**11 03 46.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=130,slow=8.8,SNR=4.8						
TLY	**Talaya**	**70.31**	**330**	P	**P**	**11 04 04.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=189,slow=6.8,SNR=4.0						
TLY	**Talaya**	**70.31**	**330**	IAmb	IAmb	11 04 05.8	
	comp=Z,2.2nm,0.8s						
VNDA	**Vanda**	**72.88**	**178**	P	**P**	**11 04 18.9**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=328,slow=6.8,SNR=26						
VNDA	**Vanda**	**72.88**	**178**	P	**P**	**11 04 19.6**	**+0.5**
VNDA				IAmb	IAmb	11 04 20.9	
	comp=Z,19nm,1.3s						
WMQ	**Urumqi**	**76.08**	**317**	*e*P	**P**	**11 04 38.8**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,11nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,55nm,3.9s						
IMAR	**Indian Mountai**	**80.12**	**19**	P	**P**	**11 05 00.0**	**-0.1**
MK31	**Makanchi Array**	**80.66**	**319**	P	**P**	**11 05 04.1**	**+0.6**
MK31				IAmb	IAmb	11 05 05.2	
	comp=Z,12nm,1.1s						
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**11 05 03.9**	**+0.5**
	comp=Z,7.2nm,0.6s,baz=98,slow=7.4,SNR=47						
MAKZ	**Makanchi**	**80.87**	**319**	P	**P**	**11 05 05.1**	**+0.5**
ZAA0	**Zalesovo Array**	**81.42**	**326**	IAmb	IAmb	11 05 07.8	
	comp=Z,6.4nm,0.7s						
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**11 05 06.8**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=109,slow=6.5,SNR=23						
ZALV				LR	LR	11 42 15.5	
	comp=Z,44nm,19.5s,baz=142,slow=36						
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**11 05 06.7**	**-0.5**
SHLS	**Shalkode**	**81.60**	**315**	*e*P	**P**	**11 05 07.5**	**-1.2**
	comp=Z,4.1nm,1.0s,baz=315						
ILAR	**Eielson Array**	**81.87**	**22**	P	**P**	**11 05 07.5**	**-1.9**
	comp=Z,2.2nm,1.0s,baz=249,slow=5.1,SNR=12						
ILAR				LR	LR	11 38 31.3	
	comp=Z,33nm,18.9s,baz=173,slow=33						
ILAR	**Eielson Array**	**81.87**	**22**	P	**P**	**11 05 08.1**	**-1.4**
UZB	**Uzynbulak**	**81.91**	**315**	*e*P	**P**	**11 05 10.6**	**+0.3**
	comp=Z,2.8nm,1.1s,baz=315						
UZB				*e*S	**S**	**11 15 18.5**	**+1.1**
	baz=315						
KPKS	**Kokpek**	**82.22**	**315**	*e*P	**P**	**11 05 12.3**	**+0.4**
	comp=Z,3.2nm,1.2s,baz=315						
SATY	**Saty**	**82.32**	**314**	*e*P	**P**	**11 05 13.0**	**+0.6**
	baz=314						
TDK	**Taldyqorghan**	**82.79**	**316**	*e*P	**P**	**11 05 15.4**	**+0.7**
	baz=316						
BCAR	**Beaver Creek A**	**83.10**	**25**	P	**P**	**11 05 16.8**	**+0.9**
MDOK	**Medeo**	**83.31**	**314**	*e*P	**P**	**11 05 18.3**	**+0.7**
	baz=314						
TNSS	**Tian-Shan**	**83.36**	**314**	*e*P	**P**	**11 05 18.9**	**+0.8**
	baz=314						
AAA	**Alma-Ata**	**83.42**	**314**	*e*P	**P**	**11 05 19.2**	**+1.1**
	baz=314						
KURK	**Kurchatov**	**84.07**	**322**	P	**P**	**11 05 21.3**	**+0.2**
KURK	**Kurchatov**	**84.07**	**322**	IAmb	IAmb	11 05 22.4	
	comp=Z,19nm,1.1s						
KURBB	**Kurchatov Arra**	**84.10**	**322**	P	**P**	**11 05 21.3**	**0.0**
	comp=Z,7.1nm,0.9s,baz=103,slow=4.6,SNR=9.7						
QSPA	**South Pole Qui**	**85.23**	**180**	P	**P**	**11 05 27.3**	**+0.4**
MAW	**Mawson**	**85.86**	**203**	P	**P**	**11 05 29.7**	**0.0**
	comp=Z,2.8nm,0.5s,baz=110,slow=4.5,SNR=14						
MAW	**Mawson**	**85.86**	**203**	P	**P**	**11 05 30.0**	**+0.3**
NRIK	**Noril'sk**	**86.08**	**341**	P	**P**	**11 05 31.1**	**+0.3**
	comp=Z,6.0nm,0.5s,baz=124,slow=4.8,SNR=7.0						
NRIK				LR	LR	11 45 26.8	
	comp=Z,38nm,18.6s,baz=202,slow=37						
KKAR	**Karatay Array**	**88.01**	**313**	P	**P**	**11 05 40.2**	**-0.5**
IUG	**Iuzhnay**	**88.22**	**312**	*e*P	**P**	**11 05 42.0**	**+0.1**
	baz=312						
CHGR	**Chuyangaron**	**88.42**	**309**	P	**P**	**11 05 43.0**	**+0.2**
CHGR				IAmb	IAmb	11 05 45.2	
	comp=Z,9.4nm,1.1s						
BRVK	**Borovoye**	**89.60**	**323**	P	**P**	**11 05 47.8**	**-0.1**
NVAR	**Mina Array Bea**	**91.58**	**52**	P	**P**	**11 05 56.5**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=261,slow=6.4,SNR=5.1						
SYO	**Syowa Base**	**93.93**	**199⇑**	*e*P	**P**	**11 06 06.0**	**-1.6**
SYO	**Syowa Base**	**93.93**	**199⇑**	*e*pP	pP	11 06 26.6	-2.8
YKA	**Yellowknife Ar**	**95.09**	**28**	LR	LR	11 48 26.8	
	comp=Z,37nm,18.6s,baz=0.0,slow=35						
ABKAR	**Akbulak array**	**95.80**	**319**	P	**P**	**11 06 15.2**	**-1.3**
BELA	**Belgrano 2**	**97.39**	**178**	P	**P**	**11 06 22.6**	**-0.6**
AKASG	**Malin Array Be**	**114.78**	**325**	PKP	**PKiKP**	**11 11 30.4**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=110,slow=2.1,SNR=6.7						
AKASG	**Malin Array Be**	**114.78**	**325**		**PKiKP**	**11 11 30.7**	**+0.2**
BRTR	**Keskin Array B**	**115.69**	**312**	PKP	**PKPdf**	**11 11 32.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=137,slow=4.4,SNR=3.5						
PLCA	**Paso Flores**	**119.48**	**143**	PKP	**PKiKP**	**11 11 41.0**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=278,slow=3.4,SNR=3.7						
VYHS	**Vyhne**	**121.75**	**326**	*e*PKP	**PKPdf**	**11 11 43.9**	**-0.1**
GERES	**GERESS Array B**	**124.30**	**329**	PKP	**PKiKP**	**11 11 49.5**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=45,slow=2.1,SNR=12						
GERES	**GERESS Array B**	**124.30**	**329**	PKPdf	**PKiKP**	**11 11 49.8**	**+0.4**
LPAZ	**La Paz**	**133.94**	**118**	PKP	**PKPdf**	**11 12 08.7**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=289,slow=4.9,SNR=6.2						
BDFB	**Brasilia**	**150.70**	**134**	PKPbc	**PKPbc**	**11 12 42.6**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=353,slow=1.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**150.84**	**289**	PKPbc	**PKPbc**	**11 12 43.5**	**0.0**
	comp=Z,18nm,0.8s,baz=95,slow=3.4,SNR=10						

*ATH **15** 11:04:32.8, 38°.12N×25°.84E, h19km±4km, ML2.3/4, Error ellipse: s-maj=4.6km s-min=1.3km az=87.0*
*THE **15** 11:04:32.7, 38°.09N×25°.87E, h4km±2km, ML2.2/5, Error ellipse: s-maj=2.2km s-min=0.5km az=58.0*
*ISK **15** 11:04:32.4, 38°.14N×25°.81E, h21km, ML2.5/5*
ISC 15 11:04:33.0±1.0, 38°.11N±0°.03×25°.86E±0°.03, h18km±6km, n22, σ0^{s}50/33, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.32**	**29**	P	**Pg**	**11 04 39.6**	**-0.3**
CHOS				S	**Sg**	**11 04 44.5**	**-0.1**
	1μm,0.4s						
CHOS	**Chios island**	**0.32**	**29**	P	**Pg**	**11 04 39.9**	**0.0**
CHOS				S	**Sg**	**11 04 44.6**	**0.0**
CHOS				AML	AML	11 04 45.8	
	comp=N,1522μm,0.3s						
CHOS				AML	AML	11 04 45.9	
	comp=E,2831μm,0.4s						
CHOS	**Chios island**	**0.32**	**29**	PG	**Pg**	**11 04 39.7**	**-0.2**
CHOS				SG	**Sb**	**11 04 45.1**	**0.0**
URLA	**Izmir**	**0.63**	**66**	PG	**Pb**	**11 04 45.8**	**+0.3**
URLA				SG	**Sn**	**11 04 55.7**	**-1.1**
TNSA	**Tinos**	**0.79**	**224**	P	**Pb**	**11 04 48.3**	**0.0**
SMG	**Samos**	**0.87**	**117**	P	**Pb**	**11 04 48.9**	**-0.7**
SMG				S	**Sb**	**11 05 01.1**	**+0.2**
	comp=E,242nm,0.4s						
SMG	**Samos**	**0.87**	**117**	P	**Pg**	**11 04 50.2**	**+0.3**
SMG				AML	AML	11 05 03.1	
	comp=N,580μm,0.5s						
SMG				AML	AML	11 05 03.2	
	comp=E,391μm,0.4s						
BLCB	**Balcova**	**0.97**	**73**	PG	**Pb**	**11 04 51.6**	**+0.3**
BLCB				SG	**Sn**	**11 05 05.6**	**+0.5**
APE	**Apeiranthos**	**1.07**	**194**	P	**Pb**	**11 04 52.8**	**-0.2**
APE				S	**Sg**	**11 05 07.8**	**0.0**
	comp=E,60nm,0.2s						
APE	**Apeiranthos**	**1.07**	**194**	P	**Pb**	**11 04 52.8**	**-0.2**
APE	**Apeiranthos**	**1.07**	**194**	PN	**Pb**	**11 04 52.8**	**-0.2**
APE				SN	**Sg**	**11 05 07.9**	**+0.1**
SIGR	**SIGRI**	**1.10**	**360**	P	**Pb**	**11 04 53.2**	**-0.4**
SIGR				S	**Sg**	**11 05 10.1**	**+1.3**
	comp=E,60nm,0.6s						
SIGR	**SIGRI**	**1.10**	**360**	P	**Pb**	**11 04 53.1**	**-0.4**
SIGR	**SIGRI**	**1.10**	**360**	PG	**Pb**	**11 04 52.7**	**-0.8**
KARY	**Karystos**	**1.12**	**267**	P	**Pn**	**11 04 53.6**	**-0.2**
KARY				S	**Sg**	**11 05 09.8**	**+0.3**
KARY	**Karystos**	**1.12**	**267**	P	**Pn**	**11 04 53.7**	**-0.2**
PRK	**Paraskevi**	**1.18**	**16**	P	**Pb**	**11 04 55.2**	**+0.3**
PRK				AML	AML	11 05 15.6	
	comp=E,311μm,0.7s						
PRK				AML	AML	11 05 18.0	
	comp=N,166μm,0.5s						
AMGA	**Amorgos Island**	**1.27**	**179**	P	**Pn**	**11 04 55.6**	**-0.4**
AMGA	**Amorgos Island**	**1.27**	**179**	P	**Pn**	**11 04 56.4**	**+0.4**
SERI	**Serifos**	**1.44**	**230**	P	**Pn**	**11 04 58.3**	**0.0**
SERI				S	**Sb**	**11 05 18.5**	**+1.1**
	comp=N,68nm,0.3s						
SERI	**Serifos**	**1.44**	**230**	P	**Pg**	**11 05 00.4**	**-0.5**
SERI				AML	AML	11 05 20.5	
	comp=E,130μm,0.4s						
SERI				AML	AML	11 05 20.6	
	comp=N,137μm,0.2s						
DION	**Dionisos Attik**	**1.52**	**269**	P	**Pb**	**11 05 00.9**	**+0.2**

IDC 15 11:44:28.8±6.8, 19°.01S×177°.30W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/36, mbtmp3.7/3, Error ellipse: s-maj=294.1km s-min=37.8km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.47**	**260**	P	P	11 52 49.9	-0.3
	0.2nm,0.3s,baz=96,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**45.51**	**255**	P	P	11 52 50.5	0.0
	0.9nm,0.6s,baz=91,slow=8.5,SNR=20						
ILAR	**Eielson Array**	**86.73**	**13**	P	P	11 57 14.2	0.0
	0.2nm,0.4s,baz=228,slow=4.6,SNR=5.2						

*SOME **15** 11:53:26.2, 40°.65N×70°.07E, h5km*
*KRNET **15** 11:53:28.0±0.1, 41°.30N×71°.06E, mb2.4*
*NNC **15** 11:53:29.7±3.9, 40°.78N×70°.09E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=26.4km s-min=15.0km az=27.0*
ISC 15 11:53:29.8±1.8, 40°.77N±0°.06×69°.76E±0°.09, h10km, n13, σ1^{s}87/21, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.07**	**131**	⇓*i*P	**Pn**	**11 53 51.3**	**+0.3**
	baz=89						
BTK				⇓*i*S	**Sn**	**11 54 07.7**	**+1.7**
	baz=89						
IUG	**Iuzhnay**	**1.39**	**8**	*e*P	**Pb**	**11 53 55.4**	**-0.6**
	16nm,0.1s						
IUG				*e*S	**Sg**	**11 54 16.1**	**+1.5**
	77nm,0.5s						
IUG	**Iuzhnay**	**1.39**	**8**	P	**Pg**	**11 53 56.0**	**-0.5**
	16nm,0.1s						
IUG				S	**Sg**	**11 54 15.6**	**+0.9**
	68nm,0.6s						
BRLS	**Borolday**	**2.26**	**1**	*e*P	**Pn**	**11 54 06.6**	**-0.7**
	8.1nm,0.3s						
BRLS				*e*S	**Sn**	**11 54 34.4**	**-0.8**
	18nm,0.5s						
BRLS	**Borolday**	**2.26**	**1**	Pg	**Pn**	**11 54 06.6**	**-0.7**
	8.1nm,0.3s						
BRLS				Lg	Lg	11 54 33.2	
	18nm,0.5s						
KK31	**Karatay Array**	**2.40**	**13**	⇑Pg	**Pb**	**11 54 11.6**	**-1.5**
	1.8nm,0.5s,baz=185,slow=15,SNR=16						
KK31				⇑Lg	Lg	11 54 40.4	
	3.7nm,0.5s,baz=192,slow=28,SNR=8.2						
MRKS	**Merke**	**3.26**	**52**	*e*P	**Pb**	**11 54 25.1**	**-2.7**
	5.1nm,0.7s						
MRKS				*e*S	**Sb**	**11 55 05.9**	**-1.6**
	6.7nm,0.5s						
MRKS	**Merke**	**3.26**	**52**	Pg	**Pb**	**11 54 24.7**	**-3.1**
	5.1nm,0.7s						
MRKS				Lg	Lg	11 55 04.3	
	6.7nm,0.5s						
AAK	**Ala-Archa**	**4.01**	**61**	Pg	**Pb**	**11 54 38.7**	**-1.9**
	1.2nm,0.6s						
AAK				Lg	Lg	11 55 30.9	
	2.3nm,0.6s						
DGS	**Degeres**	**5.12**	**59**	*e*P	**Pb**	**11 54 57.5**	**-1.9**
	1.8nm,0.6s						
DGS				*e*S	**Sb**	**11 56 01.4**	**+0.5**
	2.6nm,0.8s						
KST	**Kastek**	**5.16**	**62**	*e*P	**Pb**	**11 54 59.1**	**-1.0**
	1.5nm,0.1s						
KST				*e*S	**Sb**	**11 56 04.4**	**+2.3**
	5.4nm,0.7s						
BTLS	**Baital**	**5.30**	**35**	*e*P	**Pb**	**11 55 03.4**	**+0.8**
	1.0nm,0.3s						
BTLS				*e*S	**Sb**	**11 56 10.6**	**+4.3**
	2.0nm,0.4s						
BTLS	**Baital**	**5.30**	**35**	Pg	**Pb**	**11 55 03.4**	**+0.8**
	1.0nm,0.3s						
BTLS				Lg	Lg	11 56 10.6	
	2.0nm,0.4s						

NEIC 15 11:55:06.6±2.1, 32°.45N±0°.06×109°.16W±0°.04, h5km±2km, ML3.5/34, Error ellipse: s-maj=9.9km s-min=5.4km az=166.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
121A	**Cookes Peak, D**	**1.17**	**86**		Pg	11 55 29.0	+0.1
121A				Sg	Sb	11 55 44.6	-0.2
TUC	**Tucson**	**1.38**	**265**	Pn	Pn	11 55 32.6	0.0
TUC				Sn	Sb	11 55 50.3	-0.7
TUC				IAML		11 55 54.1	
	1μm,0.5s						
TUC				IAML		11 55 54.5	
	422nm,0.6s						
Y22D	**IRIS PASSCAL I**	**2.48**	**49**	Pn	Pn	11 55 47.1	-0.7
Y22D				Sn	Sn	11 56 19.9	+1.4
LENM	**Lemitar**	**2.51**	**46**	Pn	Pn	11 55 44.1	-4.1
W18A	**Petrified Fore**	**2.71**	**350**	Pn	Pn	11 55 50.0	-0.9
W18A				IAML		11 56 42.2	
	comp=N,203nm,0.7s						
BNM	**Barren Site**	**2.72**	**51**	Pn	Pn	11 55 49.7	-1.4
X16A	**Lo Mia Camp, P**	**2.74**	**316**		Pn	11 55 51.0	-0.4
X16A				IAML		11 56 33.0	
	comp=N,221nm,0.8s						
X16A				IAML		11 56 40.0	
	comp=E,176nm,0.8s						
214A	**Organ Pipe Nat**	**3.13**	**262**		Pn	11 55 56.7	0.0
214A				IAML		11 56 50.8	
	comp=N,132nm,0.5s						
214A				IAML		11 56 51.7	
	comp=E,91nm,0.9s						
MNTX	**Cornudas Mount**	**3.29**	**102**	Pn	Pn	11 55 58.6	-0.2
MNTX				IAML		11 56 51.1	
	comp=E,121nm,0.5s						
MNTX				IAML		11 56 52.0	
	comp=E,85nm,0.4s						
ANMO	**Albuquerque**	**3.36**	**41**	Pn	Pn	11 55 58.6	-1.3
Y14A	**Wickenburg**	**3.55**	**296**	Pn	Pn	11 56 02.0	-0.3
Y14A					LR	11 56 58.6	
Y14A				IAML		11 57 02.4	
	comp=E,122nm,0.4s						
Y14A				IAML		11 57 07.3	
	comp=N,85nm,0.5s						
WUAZ	**Wupatki**	**3.57**	**330**	Pn	Pn	11 56 02.8	0.0
HSIG		**3.75**	**205**	Pn	Pn	11 56 05.4	+0.3
HSIG				IAML		11 57 10.5	
	comp=E,98nm,0.5s						
HSIG				IAML		11 57 11.4	
	comp=N,60nm,0.5s						
PIX	**Pinacate**	**3.76**	**258**	Pn	Pn	11 56 03.9	-1.3
113A	**Mohawk Valley,**	**3.90**	**276**	Pn	Pn	11 56 06.8	-0.4
GDL2	**Guadalupe Moun**	**4.07**	**92**	Pn	Pn	11 56 10.4	+0.8
W13A	**Hualapai Mount**	**4.74**	**305**	Pn	Pn	11 56 18.7	-0.2
MVCO	**Mesa Verde**	**4.78**	**6**	Pn	Pn	11 56 20.4	+0.8
MVCO				IAML		11 57 35.5	
	comp=N,50nm,0.6s						
GLA	**Glamis**	**4.81**	**279**	Pn	Pn	11 56 20.0	+0.2
GLA				IAML		11 57 49.1	
	comp=N,43nm,0.7s						
GLA				IAML		11 57 55.6	
	comp=E,55nm,0.8s						
TX31	**Lajitas Ar. Si**	**5.65**	**122**		Pn	11 56 32.3	+1.0
TX32	**Lajitas Array**	**5.65**	**122**	Pn	Pn	11 56 31.5	+0.2
LCMT	**Little Creek M**	**5.66**	**325**		Pb	11 56 49.2	+3.4
ESJX	**Sierra Juarez**	**5.77**	**267**	Pn	Pn	11 56 32.1	-0.9
PV04	**Paradox Valley**	**5.94**	**2**	Pn	Pn	11 56 37.6	+2.3
T25A	**Trinidad**	**6.09**	**39**	Pn	Pn	11 56 36.9	-0.6
SHPR	**Sheep Range**	**6.40**	**311**	Pn	Pn	11 56 42.0	+0.3
TPNV	**Topopah Spring**	**7.36**	**310**	Pn	Pn	11 56 56.1	+1.2

*IDC **15** 11:57:29.0±1.0, 34°.18N×25°.11E, h0km, mb4.0/9, mb1 4.1/14, mb1mx3.8/51, mbtmp4.0/14, ML4.0/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/52, Error ellipse: s-maj=18.3km s-min=16.6km az=36.0*
*ATH **15** 11:57:30.0, 34°.12N×25°.04E, h15km±2km, ML3.3/8, Error ellipse: s-maj=4.6km s-min=1.9km az=359.0*
*ISK **15** 11:57:31.6, 34°.21N×24°.95E, h83km, ML3.6/12*
*HLW **15** 11:57:31.3, 34°.29N×25°.25E, h16km±21km, Ml4.2*
*THE **15** 11:57:31.8, 34°.25N×25°.08E, h0km±1km, ML3.3/7, Error ellipse: s-maj=2.8km s-min=0.9km az=174.0*
ISC 15 11:57:31.1±1.3, 34°.18N±0°.03×25°.10E±0°.03, h17km±8km, n66, σ1^{s}32/83, mb4.0/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.87**	**344**	P	**Pb**	**11 57 47.3**	**-0.4**
SIVA				S	**Sn**	**11 58 00.2**	**-0.6**
	11μm,0.8s						
SIVA	**Sivas**	**0.87**	**344**	P	**Pb**	**11 57 47.3**	**-0.4**
SIVA				S	**Sn**	**11 58 00.3**	**-0.5**
SIVA				AML	AML	11 58 06.8	
	comp=E,18976μm,0.8s						
SIVA				AML	AML	11 58 09.7	
	comp=N,12895μm,0.7s						
LAST	**Lasithi**	**1.03**	**17**	P	**Pb**	**11 57 50.5**	**0.0**
LAST				S	**Sn**	**11 58 05.3**	**+0.5**
	comp=N,565nm,0.8s						
LAST	**Lasithi**	**1.03**	**17**	P	**Pb**	**11 57 50.4**	**0.0**
LAST				S	**Sn**	**11 58 06.7**	**+1.9**
LAST				AML	AML	11 58 11.1	
	comp=E,2354μm,0.9s						
LAST				AML	AML	11 58 16.6	
	comp=N,2034μm,0.7s						
GVD	**Gavdhos**	**1.06**	**308**	P	**Pb**	**11 57 50.7**	**-0.4**
GVD				S	**Sn**	**11 58 06.7**	**+1.1**
	comp=N,2μm,0.4s						
GVD	**Gavdhos**	**1.06**	**308**	P	**Pb**	**11 57 50.6**	**-0.4**
GVD				S	**Sn**	**11 58 05.6**	**0.0**
GVD				AML	AML	11 58 11.0	
	comp=E,5580μm,0.4s						
GVD				AML	AML	11 58 11.2	
	comp=N,4122μm,0.3s						
GVD	**Gavdhos**	**1.06**	**308**	PG	**Pb**	**11 57 50.7**	**-0.4**
GVD				SG	**Sn**	**11 58 05.3**	**-0.3**
IDI	**Anoyia**	**1.12**	**351**	Pg	**Pb**	**11 57 51.4**	**-0.6**
	comp=N,17nm,0.3s,baz=178,slow=16,SNR=60						
IDI				Lg	Lg	11 58 08.8	
	comp=N,139nm,0.3s,baz=291,slow=11,SNR=14						
IDI	**Anoyia**	**1.12**	**351**	P	**Pb**	**11 57 51.4**	**-0.6**
IDI				S	**Sn**	**11 58 07.1**	**0.0**
	comp=N,985nm,0.5s						
IDI	**Anoyia**	**1.12**	**351**	P	**Pb**	**11 57 51.5**	**-0.5**
IDI				S	**Sn**	**11 58 08.0**	**+0.9**
IDI				AML	AML	11 58 13.2	
	comp=N,1796μm,0.4s						
IDI				AML	AML	11 58 16.2	
	comp=E,2024μm,0.5s						
IDI	**Anoyia**	**1.12**	**351**	PG	**Pb**	**11 57 51.5**	**-0.5**
IDI				SG	**Sn**	**11 58 07.7**	**+0.6**
HRKL	**Herakleio**	**1.13**	**360**	PN	**Pg**	**11 57 52.8**	**-0.1**
NPS	**Neapolis**	**1.16**	**21**	P	**Pg**	**11 57 53.1**	**-0.4**
NPS				AML	AML	11 58 19.4	
	comp=E,1944μm,0.9s						
NPS				AML	AML	11 58 19.9	
	comp=N,1414μm,0.7s						
ZKR	**Zakros**	**1.31**	**44**	P	**Pg**	**11 57 56.1**	**-0.2**
ZKR				S	**Sg**	**11 58 13.7**	**+0.3**
	comp=N,595nm,0.7s						
ZKR	**Zakros**	**1.31**	**44**	P	**Pg**	**11 57 56.4**	**+0.1**
ZKR				AML	AML	11 58 30.0	
	comp=N,677μm,1.1s						
ZKR				AML	AML	11 58 31.3	
	comp=E,1540μm,0.8s						
ZKR	**Zakros**	**1.31**	**44**	PN	**Pg**	**11 57 56.3**	**0.0**
VAM	**Vamos**	**1.43**	**329**	P	**Pb**	**11 57 57.0**	**-0.3**
VAM				S	**Sg**	**11 58 16.1**	**-1.2**
	comp=E,2μm,0.5s						
VAM	**Vamos**	**1.43**	**329**	P	**Pb**	**11 57 56.9**	**-0.3**
VAM				AML	AML	11 58 26.2	
	comp=N,2421μm,0.4s						
VAM				AML	AML	11 58 31.7	
	comp=E,2148μm,0.5s						
KNDR	**Palaiochora Ch**	**1.57**	**312**	PN	**Pn**	**11 57 58.0**	**-0.2**
IMMV	**Iera Moni Meta**	**1.58**	**324**	P	**Pb**	**11 57 59.0**	**-0.8**
IMMV				S	**Sb**	**11 58 19.5**	**+0.1**
	comp=E,860nm,0.4s						
IMMV	**Iera Moni Meta**	**1.58**	**324**	P	**Pb**	**11 57 59.8**	**+0.1**
IMMV				AML	AML	11 58 29.6	
	comp=N,1408μm,0.3s						
IMMV				AML	AML	11 58 34.1	
	comp=E,1966μm,0.5s						
IMMV	**Iera Moni Meta**	**1.58**	**324**	PN	**Pn**	**11 57 57.9**	**-0.3**
RODP	**Rodopos**	**1.77**	**322**	PN	**Pn**	**11 58 00.3**	**-0.6**
KARP	**Karpathos**	**2.17**	**51**	P	**Pb**	**11 58 09.9**	**-0.1**
KARP	**Karpathos**	**2.17**	**51**	PN	**Pn**	**11 58 08.5**	**+2.0**
SANT	**Santorini**	**2.21**	**8**	PN	**Pn**	**11 58 07.6**	**+0.7**
ANAF	**Anafi Island**	**2.24**	**14**	P	**Pb**	**11 58 10.0**	**-1.1**
ANKY	**Antikythira Is**	**2.24**	**319**	P	**Pb**	**11 58 09.5**	**-1.6**
THT2	**Imerovigli**	**2.27**	**7**	PN	**Pn**	**11 58 08.6**	**+0.9**
MHLO	**Agia Marina, M**	**2.57**	**347**	P	**Pn**	**11 58 13.3**	**+1.4**
KTHA	**Kythira Island**	**2.66**	**322**	P	**Pn**	**11 58 15.2**	**+2.1**
KTHA	**Kythira Island**	**2.66**	**322**	PN	**Pn**	**11 58 12.7**	**-0.5**
SLUM	**Salum**	**2.68**	**178**	P	**Pn**	**11 58 15.3**	**+1.8**
	baz=181						
SLUM				AMP		11 58 00.0	
	baz=181						
SLUM				S	**Sn**	**11 58 46.1**	**+0.6**
	baz=181						
AMGA	**Amorgos Island**	**2.72**	**13**	P	**Pn**	**11 58 15.7**	**+1.6**
APE	**Apeiranthos**	**2.90**	**7**	P	**Pn**	**11 58 19.1**	**+2.5**
APE	**Apeiranthos**	**2.90**	**7**	PN	**Pn**	**11 58 17.3**	**+0.7**
ARG	**Arkhangelos**	**3.20**	**50**	P	**Pn**	**11 58 23.5**	**+2.8**
ARG	**Arkhangelos**	**3.20**	**50**	PN	**Pn**	**11 58 22.5**	**+1.9**
DAT	**Datca**	**3.25**	**38**	PN	**Pn**	**11 58 22.8**	**+1.4**
BODT	**Bodrum**

SONM	**Songino Array**	**60.15**	**50**	P		**P**	**12 07 39.0**	**+1.2**
	comp=E,1.1nm,0.6s,baz=284,slow=9.3,SNR=5.5							
KSRS	**Korea Array**	**78.92**	**52**	P		**P**	**12 09 34.4**	**+0.7**
	comp=E,0.7nm,0.6s,baz=300,slow=5.0,SNR=2.4							

*BEO **15** 11:58:48.9±1.9, 36°.91N×20°.76E, h0km, ML3.4/2*
*IDC **15** 11:58:52.4±1.5, 37°.43N×20°.80E, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.5/45, mbtmp3.6/8, ML4.0/1, Error ellipse: s-maj=39.7km s-min=25.0km az=121.0*
*THE **15** 11:58:55.8, 37°.44N×20°.50E, h0km±1km, ML3.4/10, Error ellipse: s-maj=1.8km s-min=0.5km az=226.0*
*ATH **15** 11:58:56.2, 37°.45N×20°.57E, h19km±2km, ML3.4/4, Error ellipse: s-maj=3.7km s-min=1.0km az=54.0*

ISC 15 11:58:55.2±1.5, **37°.42N**±0°.05×**20°.48E**±0°.05, **h14**km±9km, **n58**, σ1§**04**/76, **mb3.6**/7, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**47**	P	**Pg**	**11 59 02.4**	**-0.2**
KRI1				S	**Sg**	**11 59 07.1**	**-0.5**
	36μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.48**	**17**	P	**Pg**	**11 59 04.7**	**-0.1**
VLMS				S	**Sg**	**11 59 11.7**	**+0.5**
VLMS				AML	AML	11 59 12.8	
	comp=N,24806μm,0.3s						
VLMS				AML	AML	11 59 15.0	
	comp=E,20551μm,0.3s						
ZAK2	**Zakynthos**	**0.50**	**42**	P	**Pg**	**11 59 04.5**	**-0.6**
ZAK2				S	**Sg**	**11 59 11.7**	**-0.1**
	comp=E,40μm,0.6s						
VTN	**Vitineika**	**0.75**	**48**	P	**Pg**	**11 59 09.7**	**-0.1**
VTN				S	**Sg**	**11 59 19.7**	**0.0**
VTN	**Vitineika**	**0.75**	**48**	P	**Pg**	**11 59 09.7**	**-0.1**
ARGA	**Argostoli. Kep**	**0.76**	**360**	P	**Pb**	**11 59 10.2**	**0.0**
ARGA				S	**Sg**	**11 59 20.7**	**+0.6**
VLS	**Valsamata**	**0.76**	**6**	P	**Pg**	**11 59 09.8**	**-0.3**
VLS				S	**Sg**	**11 59 20.2**	**0.0**
	comp=E,3μm,0.2s						
VLS	**Valsamata**	**0.76**	**6**	P	**Pg**	**11 59 09.8**	**-0.3**
VLS				S	**Sg**	**11 59 20.2**	**0.0**
VLS				AML	AML	11 59 24.8	
	comp=E,7328μm,0.3s						
VLS				AML	AML	11 59 25.0	
	comp=N,6532μm,0.2s						
KEF4	**Livadi, Kephal**	**0.84**	**357**	P	**Pn**	**11 59 12.6**	**0.0**
KEF4				S	**Sg**	**11 59 23.3**	**+0.7**
KEF5	**Kardakata, Kep**	**0.86**	**359**	P	**Pg**	**11 59 11.5**	**-0.4**
KEF5				S	**Sb**	**11 59 24.2**	**+0.9**
VSK1	**VASILIKIADES**	**0.99**	**4**	P	**Pb**	**11 59 13.1**	**-1.1**
VSK1				S	**Sb**	**11 59 28.2**	**+1.1**
	comp=N,4μm,0.6s						
RLS	**Riolos of Patr**	**1.01**	**50**	P	**Pb**	**11 59 13.9**	**-0.5**
RLS				S	**Sb**	**11 59 28.6**	**+1.0**
	comp=N,1μm,0.4s						
RLS	**Riolos of Patr**	**1.01**	**50**	P	**Pb**	**11 59 14.0**	**-0.5**
RLS				AML	AML	11 59 32.3	
	comp=E,1616μm,0.3s						
RLS				AML	AML	11 59 32.9	
	comp=N,2146μm,0.5s						
FSK	**Fiskardo**	**1.04**	**4**	P	**Pb**	**11 59 14.8**	**-0.3**
FSK				S	**Sb**	**11 59 29.7**	**+1.2**
	comp=N,2μm,0.7s						
FSK	**Fiskardo**	**1.04**	**4**	P	**Pb**	**11 59 14.7**	**-0.3**
FSK				AML	AML	11 59 34.9	
	comp=E,3192μm,0.3s						
FSK				AML	AML	11 59 37.6	
	comp=N,3594μm,0.8s						
AXS	**Araxos**	**1.05**	**42**	P	**Pn**	**11 59 14.5**	**-1.0**
PYL	**PYLOS**	**1.13**	**117**	P	**Pg**	**11 59 16.5**	**-0.5**
PYL				S	**Sn**	**11 59 34.1**	**+2.2**
	comp=N,508nm,0.4s						
PYL	**PYLOS**	**1.13**	**117**	P	**Pg**	**11 59 16.6**	**-0.5**
ITM	**Ithomi**	**1.18**	**101**	P	**Pg**	**11 59 17.6**	**-0.3**
ITM				S	**Sg**	**11 59 34.8**	**+1.5**
	comp=N,568nm,0.6s						
ITM	**Ithomi**	**1.18**	**101**	P	**Pg**	**11 59 17.8**	**-0.1**
EVGI	**Lefkada island**	**1.21**	**6**	P	**Pb**	**11 59 18.1**	**+0.2**
EVGI				S	**Sg**	**11 59 35.7**	**+1.4**
EVGI	**Lefkada island**	**1.21**	**6**	P	**Pb**	**11 59 18.0**	**+0.1**
LKD2	**Lefkada island**	**1.38**	**6**	P	**Pb**	**11 59 20.8**	**0.0**
LKD2				S	**Sg**	**11 59 40.4**	**+0.7**
	comp=N,2μm,0.7s						
LKD2	**Lefkada island**	**1.38**	**6**	P	**Pg**	**11 59 21.5**	**-0.2**
TSLK	**Tsoukalades, L**	**1.41**	**6**	P	**Pg**	**11 59 21.9**	**-0.5**
TSLK				S	**Sg**	**11 59 41.8**	**+1.0**
	comp=N,2μm,0.5s						
TSLK	**Tsoukalades, L**	**1.41**	**6**	P	**Pg**	**11 59 21.9**	**-0.5**
TRIP	**Tripoli**	**1.43**	**85**	P	**Pb**	**11 59 21.7**	**+0.1**
KLV	**Kalavryta, Ach**	**1.46**	**64**	P	**Pb**	**11 59 22.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.46**	**64**	P	**Pb**	**11 59 22.6**	**+0.4**
EFP	**Efpalio**	**1.51**	**48**	P	**Pn**	**11 59 22.7**	**+0.8**
GUR	**Goura**	**1.56**	**70**	P	**Pn**	**11 59 23.6**	**+0.9**
ANX	**Ano Chora**	**1.64**	**44**	P	**Pn**	**11 59 24.8**	**+1.2**
ANX	**Ano Chora**	**1.64**	**44**	P	**Pn**	**11 59 24.8**	**+1.2**
EVR	**Evrytania**	**1.83**	**35**	P	**Pb**	**11 59 28.6**	**+0.1**
DSF	**Desfina**	**1.90**	**58**	P	**Pb**	**11 59 28.9**	**-0.7**
DSF	**Desfina**	**1.90**	**58**	P	**Pb**	**11 59 28.9**	**-0.7**
IGT	**Igoumenitsa**	**2.12**	**357**	P	**Pb**	**11 59 31.9**	**-1.4**
IGT	**Igoumenitsa**	**2.12**	**357**	*e*Pn	**Pb**	**11 59 33.0**	**-0.3**
IGT				*e*Sn	**Sg**	**12 00 05.6**	**+2.3**
AXAR	**Agios Charalam**	**2.18**	**51**	P	**Pn**	**11 59 32.7**	**+1.6**
LKR	**Lokris**	**2.34**	**57**	P	**Pn**	**11 59 34.3**	**+1.1**
LKR	**Lokris**	**2.34**	**57**	P	**Pn**	**11 59 34.4**	**+1.2**
THL	**Klokotos Trika**	**2.46**	**29**	P	**Pn**	**11 59 36.6**	**+1.8**
FNA	**Florina**	**3.43**	**11**	*e*Pn	**Pn**	**11 59 49.8**	**+1.5**
SRS	**Serrai**	**4.41**	**32**	*e*Pn	**Pn**	**12 00 01.5**	**-0.2**
BOSS	**Bosilegrad**	**5.30**	**16**	*e*Pn	**Pn**	**12 00 14.7**	**+0.8**
BARS	**Barje**	**5.49**	**10**	*e*Pn	**Pn**	**12 00 17.0**	**+0.5**
SELS	**Selova**	**5.82**	**5**	*e*Pn	**Pn**	**12 00 21.6**	**+0.6**
ZAPS	**Zavoj**	**6.08**	**15**	*e*Pn	**Pn**	**12 00 25.2**	**+0.6**
GRUS	**Gruza**	**6.47**	**2**	*e*Pn	**Pn**	**12 00 30.9**	**+1.0**
BBLS	**Lazići**	**6.49**	**353**	*e*Pn	**Pn**	**12 00 32.6**	**+2.2**
MLR	**Muntele Rosu**	**9.05**	**25**	Pn	**Pn**	**12 01 03.5**	**-1.9**
	comp=N,0.4nm,0.3s,baz=210,slow=20,SNR=1.7						
HFS	**Hagfors**	**23.15**	**351**	P	**P**	**12 04 00.1**	**-0.7**
	comp=N,3.2nm,0.8s,baz=150,slow=9.9,SNR=2.1						
FINES	**FINESS Array B**	**24.31**	**7**	P	**P**	**12 04 10.9**	**-1.0**
	comp=N,1.3nm,0.7s,baz=181,slow=9.7,SNR=1.9						
NOA	**NORSAR Array B**	**24.36**	**349**	P	**P**	**12 04 13.0**	**+0.5**
	comp=N,0.3nm,0.6s,baz=166,slow=9.4,SNR=1.7						
TORD	**Torodi Ar. Bea**	**29.42**	**220**	P	**P**	**12 04 58.9**	**+0.6**
	comp=N,0.7nm,0.8s,baz=35,slow=8.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**42.71**	**53**	P	**P**	**12 06 47.4**	**-4.1**
	comp=N,0.4nm,0.6s,baz=275,slow=9.3,SNR=2.5						
MKAR	**Makanchi Array**	**45.73**	**58**	P	**P**	**12 07 14.7**	**-1.1**
	comp=N,0.5nm,0.5s,baz=299,slow=6.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**46.23**	**48**	P	**P**	**12 07 18.2**	**-1.4**
	comp=N,0.8nm,0.5s,baz=285,slow=8.4,SNR=1.6						

*IDC **15** 12:01:03.9±2.6, 15°.95S×74°.49W, h54km±23km, mb3.7/4, mb1 4.1/7, mb1mx3.7/30, mbtmp4.1/7, ML4.4/3, MS2.8/3, Ms1 2.9/3, ms1mx2.8/31, Error ellipse: s-maj=37.2km s-min=18.6km az=61.0*
*NEIC **15** 12:01:03.8±2.0, 16°.05S±0°.08×74°.3W±0°.1, h58km±7km, mb4.0/5, Error ellipse: s-maj=16.6km s-min=7.8km az=51.0*

ISC 15 12:01:03.2±0.6, **16°.04S**±0°.07×**74°.3W**±0°.1, **h49**km, **n49**, σ1§**55**/42, **mb3.9**/5, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**4.60**	**124**		**Pn**	**12 02 10.8**	**+0.5**
NNA	**Nana**	**4.71**	**328**	P	**Pn**	**12 02 10.9**	**-0.8**
	22nm,0.3s,baz=126,slow=14,SNR=18						
NNA				S	**Sn**	**12 03 10.1**	**+4.9**
	48nm,0.3s,baz=258,slow=14,SNR=8.1						
NNA				LR	LR	12 03 42.6	
	comp=Z,55nm,21.0s,baz=294,slow=35						
NNA	**Nana**	**4.71**	**328**		**Pn**	**12 02 11.3**	**-0.5**
PB16	**IPOC Station P**	**5.14**	**117**		**Pn**	**12 02 20.2**	**+2.0**
PSGCX	**Pisagua**	**5.34**	**132**		**Pn**	**12 02 21.1**	**+0.6**
MNMC	**Minye Minye**	**5.46**	**125**		**Pn**	**12 02 22.9**	**+0.6**
PB11	**IPOC Station P**	**5.79**	**130**		**Pn**	**12 02 27.2**	**+0.5**
LPAZ	**La Paz**	**5.96**	**93**	P	**Pn**	**12 02 33.9**	**+4.4**
	5.6nm,0.3s,baz=271,slow=9.8,SNR=52						
LPAZ				S	Sn	12 03 53.1	+16
	baz=193,slow=19,SNR=1.7						
LPAZ				LR	LR	12 05 12.7	
	comp=Z,135nm,21.6s,baz=328,slow=41						
LPAZ	**La Paz**	**5.96**	**93**		Pn	12 02 35.0	+5.5
GO01	**Chusmiza**	**6.08**	**127**		**Pn**	**12 02 33.2**	**+2.3**
PATCX	**Punta Patache**	**6.19**	**141**	Pn	**Pn**	**12 02 32.3**	**+0.2**
PB08	**IPOC Station P**	**6.39**	**130**		**Pn**	**12 02 36.3**	**+1.1**
PB01	**IPOC Station P**	**6.77**	**138**		**Pn**	**12 02 40.4**	**+0.3**
PB07	**IPOC Station P**	**7.05**	**144**		**Pn**	**12 02 44.0**	**0.0**
PB09	**IPOC Station P**	**7.48**	**141**		**Pn**	**12 02 50.6**	**+0.6**
PB06	**IPOC Station P**	**8.01**	**147**	Pn	**Pn**	**12 02 57.4**	**+0.3**
LVC	**Limon Verde**	**8.30**	**143**	P	**Pn**	**12 03 02.3**	**+1.0**
	3.3nm,0.3s,baz=315,slow=9.7,SNR=22						
LVC				S	**Sn**	**12 04 31.8**	**-2.1**
	1.6nm,0.3s,baz=92,slow=18,SNR=3.0						
LVC				LR	LR	12 05 59.8	
	comp=Z,96nm,19.7s,baz=288,slow=35						
LVC	**Limon Verde**	**8.30**	**143**		**Pn**	**12 03 02.5**	**+1.2**
PB15	**IPOC Station P**	**8.47**	**148**		**Pn**	**12 03 03.5**	**0.0**
ATAH	**Atahualpa**	**9.70**	**335**	P	Pn	12 03 25.2	+4.6
	1.3nm,0.3s,baz=118,slow=5.1,SNR=6.5						
ATAH				S	Sn	12 05 19.8	+11
	0.8nm,0.3s,baz=87,slow=11,SNR=2.4						
GO02	**Mina Guanaco**	**10.10**	**155**	Pn	**Pn**	**12 03 26.2**	**+0.2**
SIV	**San Ignacio**	**12.74**	**92**	P	**Pn**	**12 04 01.3**	**-0.5**
	0.3nm,0.3s,baz=287,slow=12,SNR=3.6						
SAML	**Samuel**	**12.96**	**58**		**Pn**	**12 04 03.8**	**-0.9**
OTAV	**Otavalo**	**16.68**	**345**		**Pn**	**12 04 51.7**	**-2.3**
H03N1	**Juan Fernandez**	**17.82**	**193**	T	T	12 23 45.1	
	baz=14,slow=74,SNR=2752						
H03N2	**Juan Fernandez**	**17.82**	**193**	T	T	12 23 44.6	
	baz=14,slow=74,SNR=2755						
H03N3	**Juan Fernandez**	**17.84**	**193**	T	T	12 23 43.0	
	baz=14,slow=74,SNR=3184						
PTGA	**Pitinga**	**20.78**	**44**	P	**P**	**12 05 39.1**	**-1.3**
PTGA				IAmb	IAmb	12 05 46.5	
	comp=Z,8.3nm,0.8s						
GUY2C	**Guyana, Caldas**	**21.15**	**357**	*e*P	**P**	**12 05 45.0**	**+0.3**
RUSC	**La Rusia**	**21.82**	**3**	*e*P	**P**	**12 05 51.4**	**-0.6**
LC01	**Cunco**	**22.88**	**175**		**P**	**12 06 03.6**	**+1.0**
LC01				IAmb	IAmb	12 06 05.2	
	comp=Z,3.9nm,0.8s						
ZARC	**Zaragoza, Cauc**	**23.38**	**359**	*e*P	**P**	**12 06 07.2**	**-0.5**
SMLC	**San Martn de**	**24.68**	**1**	*e*P	**P**	**12 06 18.1**	**-1.6**
PLCA	**Paso Flores**	**24.83**	**173**	P	**P**	**12 06 22.2**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=11,slow=9.5,SNR=4.3						
TXAR	**Lajitas Array**	**53.27**	**328**	P	**P**	**12 10 15.3**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=153,slow=9.0,SNR=4.9						
VNA3	**Neumayer Olymp**	**66.86**	**161**	P	**P**	**12 11 51.5**	**+1.7**
SNAA	**Sanae**	**69.08**	**161**	P	**P**	**12 12 05.4**	**+1.6**
SNAA	**Sanae**	**69.08**	**161**	P	**P**	**12 12 05.3**	**+1.6**
	comp=Z,2.3nm,0.5s,baz=275,slow=8.3,SNR=35						
SNAA	**Sanae**	**69.08**	**161**	P	**P**	**12 12 05.2**	**+1.4**
TORD	**Torodi Ar. Bea**	**80.55**	**73**	P	**P**	**12 13 11.1**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=273,slow=6.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**80.55**	**73**	IAmb	IAmb	12 13 11.9	
	comp=Z,1.2nm,0.7s						
H11S2	**WAKE ISLAND Hyd**	**21.91**	**282**	T	T	14 33 34.0	
	baz=99,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hyd**	**21.91**	**282**	T	T	14 33 34.4	
	baz=99,slow=74,SNR=7.7						
H11S3	**WAKE ISLAND Hyd**	**21.92**	**282**	T	T	14 33 35.2	
	baz=99,slow=74,SNR=12						
ASAR	**Alice Springs**	**131.85**	**216**	PKP	**PKPdf**	**12 20 11.2**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=127,slow=1.7,SNR=7.1						
WRA	**Warramunga Arr**	**134.48**	**219**	PKP	**PKPdf**	**12 20 16.4**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=133,slow=1.9,SNR=10						
WRA	**Warramunga Arr**	**134.48**	**219**		**PKPdf**	**12 20 15.9**	**-1.0**
SONM	**Songino Array**	**148.28**	**359**	PKPbc	**PKPbc**	**12 20 44.1**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=0,slow=5.8,SNR=3.0						
KSRS	**Korea Array**	**150.99**	**322**	PKPbc	**PKiKP**	**12 20 51.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=336,slow=2.7,SNR=4.7						

*IDC **15** 12:13:41.0±0.5, 60°.18S×18°.76W, h0km, mb4.6/13, mb1 4.7/14, mb1mx4.5/30, mbtmp4.6/14, ML5.5/1, MS4.4/13, Ms1 4.3/13, ms1mx4.2/26, Error ellipse: s-maj=18.4km s-min=15.7km az=63.0*
*GCMT **15** 12:13:44.9±0.2, 60°.45S±0°.02×18°.62W±0°.02, h12km, MW5.1/103, Moment Tensor Solution. s60,c86; s103,c158; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.35±.18; $M_{\theta\theta}$=1.29±.19; $M_{\phi\phi}$=5.64±.13; $M_{r\theta}$=1.08±.53; $M_{r\phi}$=3.00±.13; $M_{\theta\phi}$=2.13±.38; Best double couple: M_0=6.27100×10^{16} NP1:ϕ_s=48.00000°, δ=44.00000°, λ=-47.00000°. NP2:ϕ_s=176.00000°, δ=59.00000°, λ=-124.00000°. Principal axes: T 6.9960, Plg8.0000°, Azm289.0000°; N -1.4500, Plg28.0000°, Azm194.0000°; P -5.5460, Plg60.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 12:13:44.9±1.4, 60°.25S±0°.1×18°.8W±0°.2, h22km±4km, mb4.9/32 Error ellipse: s-maj=16.7km s-min=12.5km az=218.0*

ISC 15 12:13:43.9±0.4, **60°.22S**±0°.07×**18°.73W**±0°.08, **h18**km, **n118**, σ1§**17**/107, **mb4.8**/19, **MS4.4**/12, **3C, East of South Sandwich Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**11.29**	**294**	Pn	**Pn**	**12 16 22.7**	**-1.3**
VNA1	**Neumayer--Stat**	**11.31**	**162**	P	**Pn**	**12 16 23.6**	**-0.7**
VNA3	**Neumayer Olymp**	**11.65**	**165**	P	**Pn**	**12 16 27.1**	**-1.9**
VNA2	**Neumayer--Watz**	**11.69**	**161**	P	**Pn**	**12 16 27.8**	**-1.8**
SNAA	**Sanae**	**13.12**	**158**	P	**Pn**	**12 16 46.9**	**-2.2**
SNAA	**Sanae**	**13.12**	**158**	Pn	**Pn**	**12 16 46.9**	**-2.2**
	26nm,0.3s,baz=320,slow=13,SNR=375						
SNAA				Sn	Sn	12 19 02.5	-12
	0.8nm,0.3s,baz=336,slow=20,SNR=2.8						
SNAA				LR	LR	12 20 54.1	
	comp=Z,2μm,21.9s,baz=318,slow=33						
SNAA	**Sanae**	**13.12**	**158**	Pn	**Pn**	**12 16 47.2**	**-1.9**
BELA	**Belgrano 2**	**18.48**	**191**		**Pn**	**12 17 59.5**	**+0.9**
PMSA	**Palmer Station**	**21.04**	**238**	P	**P**	**12 18 27.0**	**+0.7**
	27nm,0.9s,baz=86,slow=9.9,SNR=3.8						
PMSA				LR	LR	12 24 34.4	
	comp=Z,648nm,20.6s,baz=90,slow=31						
PMSA	**Palmer Station**	**21.04**	**238**	P	**P**	**12 18 28.0**	**+1.7**
PMSA				IAmb	IAmb	12 18 29.7	
	comp=Z,48nm,1.1s						
EFI	**East Falkland**	**23.30**	**274**	P	**P**	**12 18 49.1**	**-1.3**
SYO	**Syowa Base**	**25.48**	**135**	∥*i*P	**P**	**12 19 10.0**	**-0.4**
SYO	**Syowa Base**	**25.48**	**135**	∥*i*pP	pP	12 19 15.0	+0.3
SYO	**Syowa Base**	**25.48**	**135**	∥*es*P	sP	12 19 17.6	+1.2
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**12 19 52.2**	**+0.9**
	comp=Z,30nm,1.0s,baz=212,slow=5.1,SNR=55						
QSPA				LR	LR	12 30 56.0	
	comp=Z,346nm,19.9s,baz=200,slow=34						
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**12 19 52.4**	**+1.1**
MAW	**Mawson**	**34.07**	**137**	P	**P**	**12 20 27.0**	**+0.4**
	comp=Z,18nm,0.8s,baz=239,slow=7.5,SNR=32						
MAW				LR	LR	12 32 22.3	
	comp=Z,940nm,21.5s,baz=250,slow=33						
MAW	**Mawson**	**34.07**	**137**	P	**P**	**12 20 27.8**	**+1.2**
PLTB	**Pedras Altas**	**36.61**	**305**	*e*P	**P**	**12 20 48.7**	**-0.1**
PLCA	**Paso Flores**	**37.09**	**278**	P	**P**	**12 20 51.5**	**-1.3**
	comp=Z,4.3nm,0.7s,baz=148,slow=8.3,SNR=18						
PLCA				LR	LR	12 36 30.5	
	comp=Z,293nm,18.6s,baz=146,slow=37						
PLCA	**Paso Flores**	**37.09**	**278**	P	**P**	**12 20 53.1**	**+0.2**
PLCA	**Paso Flores**	**37.09**	**278**	*e*P	**P**	**12 20 51.2**	**-1.6**
ITAB	**Concordia**	**40.05**	**310**	*e*P	**P**	**12 21 17.4**	**-0.4**
SPB	**Sao Paulo**	**41.71**	**319**	P	**P**	**12 21 33.7**	**+2.3**
SPB				IAmb	IAmb	12 21 39.5	
	comp=Z,31nm,1.1s						
SPB	**Sao Paulo**	**41.71**	**319**	*e*P	**P**	**12 21 33.3**	**+1.9**
VAO	**Valinhos**	**42.11**	**319**	*e*P	**P**	**12 21 36.2**	**+1.4**
PTGB	**Pitanga**	**42.30**	**312**	*e*P	**P**	**12 21 37.3**	**+0.9**
VNDA	**Vanda**	**42.51**	**180**	P	**P**	**12 21 38.1**	**+0.8**
	comp=Z,5.1nm,1.1s,baz=203,slow=8.2,SNR=12						
VNDA				LR	LR	12 38 05.4	
	comp=Z,409nm,21.3s,baz=181,slow=34						
VNDA	**Vanda**	**42.51**	**180**	P	**P**	**12 21 39.3**	**+1.9**
FRTB	**Fartura**	**42.66**	**316**	*e*P	**P**	**12 21 40.0**	**+0.7**
CPUP	**Villa Florida**	**42.91**	**305**	P	**P**	**12 21 41.2**	**0.0**
	comp=Z,2.7nm,0.6s,baz=168,slow=7.4,SNR=5.3						
CPUP				LR	LR	12 38 13.3	
	comp=Z,415nm,20.6s,baz=156,slow=34						
CPUP	**Villa Florida**	**42.91**	**305**	P	**P**	**12 21 44.4**	**+3.1**
CPUP				IAmb	IAmb	12 21 49.8	
	comp=Z,27nm,1.5s						
CPUP	**Villa Florida**	**42.91**	**305**	*e*P	**P**	**12 21 41.5**	**+0.2**
BOSA	**Boshof**	**43.23**	**63**	P	**P**	**12 21 43.9**	**-0.1**
	comp=Z,8.7nm,0.9s,baz=193,slow=7.2,SNR=11						
BOSA				PcP	**PcP**	**12 23 33.0**	**+0.1**
	comp=Z,4.8nm,1.0s,baz=189,slow=5.3,SNR=3.4						
BOSA				LR	LR	12 36 00.7	
	comp=Z,483nm,18.8s,baz=182,slow=31						
BOSA	**Boshof**	**43.23**	**63**	P	**P**	**12 21 45.2**	**+1.3**
BOSA				IAmb	IAmb	12 21 54.7	
	comp=Z,28nm,1.4s						
BSCB	**Bom Sucesso**	**43.30**	**323**	*e*P	**P**	**12 21 46.4**	**+1.9**
ZON	**Zonda**	**43.50**	**288**	P	**P**	**12 21 45.9**	**-0.1**
RIB01	**Linhares ES**	**43.70**	**330**	*e*P	**P**	**12 21 48.8**	**+1.1**
BSFB	**Barra de Sao F**	**44.28**	**329**	*e*P	**P**	**12 21 51.6**	**-0.7**
SJMB	**Sao Joao De Ma**	**44.49**	**329**	*e*P	**P**	**12 21 54.3**	**+0.4**
CO02	**Combarbal**	**44.89**	**286**	P	**P**	**12 21 58.9**	**+1.7**
CO01	**Juntas del Tor**	**45.48**	**288**	P	**P**	**12 22 02.7**	**+0.6**
LBTB	**Lobatse**	**46.50**	**61**	P	**P**	**12 22 10.9**	**+0.9**
LBTB				IAmb	IAmb	12 22 25.8	
	comp=Z,19nm,1.2s						
AC05	**El Transito**	**46.52**	**289**	P	**P**	**12 22 10.2**	**+0.1**
MC01	**Montes Claros**	**47.13**	**326**	*e*P	**P**	**12 22 15.4**	**+0.5**
IPMB	**Ipameri, GO**	**47.20**	**320**	*e*P	**P**	**12 22 16.8**	**+1.4**
AC04	**Llanos de Chal**	**47.43**	**288**	P	**P**	**12 22 17.0**	**0.0**
AQDB	**Aquidauana**	**47.53**	**310**	*e*P	**P**	**12 22 17.5**	**-0.4**
JANB	**Januaria**	**48.80**	**326**	*e*P	**P**	**12 22 27.1**	**-0.8**
GO02	**Mina Guanaco**	**49.31**	**292**	P	**P**	**12 22 32.1**	**+0.1**
BDFB	**Brasilia**	**49.34**	**322**	LR	LR	12 41 19.1	
	comp=Z,532nm,18.9s,baz=137,slow=34						
ARAG	**Araguaiana, MT**	**50.51**	**317**	*e*P	**P**	**12 22 42.3**	**+1.5**
LVC	**Limon Verde**	**51.20**	**294**	P	**P**	**12 22 47.1**	**+0.7**
LVC	**Limon Verde**	**51.20**	**294**	*e*P	**P**	**12 22 46.7**	**+0.3**
SDBA	**SAO DESIDERIO**	**51.49**	**327**	*e*P	**P**	**12 22 48.9**	**+0.6**
PB09	**IPOC Station P**	**52.06**	**295**	P	**P**	**12 22 53.5**	**+1.0**
H10N1	**ASCENSION HYDR**	**52.36**	**5**	T	T	13 19 33.1	
	baz=190,slow=78,SNR=4.0						
H10N3	**ASCENSION HYDR**	**52.37**	**5**	T	T	13 19 29.2	
	baz=190,slow=78,SNR=16						
H10N2	**ASCENSION HYDR**	**52.38**	**5**	T	T	13 19 30.7	
	baz=190,slow=78,SNR=7.6						
PEXB	**Peixe**	**52.76**	**323**	*e*P	**P**	**12 22 58.7**	**+1.1**
PTLB	**Pontes e Lacer**	**53.42**	**309**	*e*P	**P**	**12 23 02.7**	**+0.2**
GO01	**Chusmiza**	**53.89**	**296**	P	**P**	**12 23 06.6**	**+0.1**
PB16	**IPOC Station P**	**55.20**	**296**	P	**P**	**12 23 16.4**	**+0.3**
PB16				IAmb	IAmb	12 23 26.3	
	comp=Z,23nm,1.5s						
SMTB	**Santa Maria do**	**55.62**	**325**	*e*P	**P**	**12 23 19.5**	**+1.0**
LSZ	**Lusaka**	**56.23**	**58**	P	**P**	**12 23 23.5**	**+0.5**
CLDB	**Colider**	**56.38**	**315**	*e*P	**P**	**12 23 23.3**	**-0.6**
LPAZ	**La Paz**	**56.39**	**299**	P	**P**	**12 23 25.0**	**+0.3**
	comp=Z,8.9nm,0.8s,baz=126,slow=6.4,SNR=16						
LPAZ				LR	LR	12 47 11.6	
	comp=Z,176nm,21.6s,baz=247,slow=36						
LPAZ	**La Paz**	**56.39**	**299**	P	**P**	**12 23 25.2**	**+0.5**
LPAZ				IAmb	IAmb	12 23 35.0	
	comp=Z,15nm,1.0s						
LPAZ	**La Paz**	**56.39**	**299**	*e*P	**P**	**12 23 25.5**	**+0.8**
NPGB	**Novo Progresso**	**59.79**	**317**	*e*P	**P**	**12 23 47.8**	**0.0**
SAML	**Samuel**	**60.93**	**308**	P	**P**	**12 23 55.8**	**+0.3**
SAML	**Samuel**	**60.93**	**308**	*e*P	**P**	**12 23 55.2**	**-0.3**
ETMB	**Extrema**	**61.37**	**304**	*e*P	**P**	**12 23 58.9**	**+0.4**
ITTB	**Itaituba**	**62.42**	**317**	*e*P	**P**	**12 24

SFX	San Felipe	0.74	321	eP		Pg	12 23 53.8	-1.5
SFX				eS		Sg	12 24 04.1	-0.9
SFX				IAML			12 24 05.8	
	comp=N,32µm,0.7s							
SFX				⇓e			12 24 05.8	
SFX				IAML			12 24 05.8	
	comp=E,35µm,0.4s							
SFX				e			12 24 05.8	
SPX	San Pedro Mart	1.16	300	iP		Pg	12 24 00.4	-2.8
SPX	San Pedro Mart	1.16	300	Pn		Pg	12 24 00.7	-2.5
SPX	San Pedro Mart	1.16	300	eP		Pg	12 24 00.5	-2.7
SPX				IAML			12 24 24.4	
	comp=E,13µm,1.6s							
SPX				⇑e			12 24 24.4	
SPX				e			12 24 28.7	
SPX				IAML			12 24 28.7	
	comp=N,19µm,1.2s							
SPIG	San Pedro Mart	1.16	300	iP		Pg	12 24 01.4	-1.9
SPIG				iS		Sg	12 24 14.9	-3.5
SPIG	San Pedro Mart	1.16	300	⇓eP		Pg	12 24 01.4	-1.9
SPIG				eS		Sg	12 24 17.8	-0.6
ECBX	El Chinero	1.20	328	eP		Pg	12 24 01.1	-2.9
ECBX				eS		Sg	12 24 19.2	-0.3
PIX	Pinacate	1.31	33	Pn		Pn	12 24 01.4	-4.4
PIX	Pinacate	1.31	33	⇓eP		Pn	12 24 01.0	-4.8
PIX				eS		Sb	12 24 19.6	-3.4
SQX	San Quintin	1.36	275	eP		Pn	12 24 04.9	-1.6
SQX				iS		Sb	12 24 23.4	-1.2
SQX				IAML			12 24 25.1	
	comp=E,27µm,0.5s							
SQX				⇑e			12 24 25.1	
SQX				⇓e			12 24 28.4	
SQX				IAML			12 24 28.4	
	comp=N,46µm,0.5s							
SJX	San Joaquin	1.93	313	IAML			12 24 56.8	
	comp=N,3µm,0.8s							
SJX				IAML			12 25 05.6	
	comp=E,4µm,1.0s							
GUVIX	Guadalupe Vict	1.95	340			Pn	12 24 13.2	-1.4
214A	Organ Pipe Nat	1.96	40	P		Pn	12 24 11.5	-3.3
	baz=222,SNR=428							
214A	Organ Pipe Nat	1.96	40	Pn		Pn	12 24 11.4	-3.3
MBIG	Mexicali	2.08	339	iP		Pn	12 24 12.9	-3.5
MBIG				iP		Pb	12 24 13.2	-6.0
ESJX	Sierra Juarez	2.09	318			Pn	12 24 13.5	-3.1
CPBX	Cerro Prieto	2.13	337			Pn	12 24 14.2	-2.8
CPBX	Cerro Prieto	2.13	337	eP		Pn	12 24 14.3	-2.8
CPBX				⇓e			12 25 25.9	
CPBX				IAML			12 25 25.9	
	comp=N,33µm,1.4s							
CPBX				IAML			12 25 29.4	
	comp=E,25µm,1.5s							
113A	Mohawk Valley,	2.34	11	Pn		Pn	12 24 16.8	-3.2
UABX	UABC, Campus M	2.37	336			Pg	12 24 30.2	+3.8
CCX	Cicese	2.46	305			Pn	12 24 20.4	-1.2
RMX	La Rumorosa	2.62	325			Pn	12 24 20.7	-3.2
GLA	Glamis	2.62	350	P		Pn	12 24 20.8	-3.1
	baz=168,SNR=49							
GLA	Glamis	2.62	350			Pn	12 24 21.2	-2.7
IKP	In-Ko-Pah, Jac	2.67	325	P		Pn	12 24 21.2	-3.4
	baz=142,SNR=22							
SWSC	Sam W. Stewart	2.79	333	P		Pn	12 24 22.4	-3.7
	baz=150,SNR=24							
TJIG	Tijuana	2.83	315	iP		Pn	12 24 25.0	-1.7
TJIG				iS		Sn	12 24 56.7	-4.3
TKX	Tecate	2.88	317			Pn	12 24 25.3	-2.1
BAR	Barrett	3.00	318	Pn		Pn	12 24 27.2	-1.8
MONP2	Monument Peak	3.02	324	P		Pn	12 24 26.9	-2.6
	baz=140,SNR=14							
TJX	Tijuana	3.11	312			Pn	12 24 30.9	+0.3
HSIG		3.25	115	iP		Pn	12 24 29.8	-2.7
HSIG				iS		Sn	12 25 07.6	-3.8
HSIG		3.25	115	Pn		Pn	12 24 29.8	-2.7
HSIG		3.25	115	eP		Pn	12 24 29.9	-2.7
BC3	Big Chuckawall	3.33	343	P		Pn	12 24 31.0	-2.7
	baz=161,SNR=32							
109C	Camp Elliot, M	3.40	316	P		Pn	12 24 32.4	-2.1
	baz=132,SNR=13							
109C	Camp Elliot, M	3.40	316	Pn		Pn	12 24 32.9	-1.7
TUC	Tucson	3.52	58	P		Pn	12 24 31.9	-4.4
	baz=241							
TUC	Tucson	3.52	58	iP		Pn	12 24 33.2	-3.2
TUC	Tucson	3.52	58	Pn		Pn	12 24 33.1	-3.2
SRIG	Santa Rosalia	3.62	150	iP		Pn	12 24 35.7	-1.8
SRIG				iS		Sn	12 25 17.1	-3.3
SRIG	Santa Rosalia	3.62	150	Pn		Pn	12 24 35.7	-1.8
PFO	Pinyon Flats O	3.64	330	Pn		Pn	12 24 35.7	-2.2
	comp=E,2.1nm,0.3s,baz=148,slow=12,SNR=20							
PFO				Lg	Lg		12 25 36.3	
	comp=E,35nm,0.3s,baz=246,slow=20,SNR=4.9							
PFO				LR	LR		12 26 07.6	
	comp=E,12µm,21.1s,baz=162,slow=40							
PFO	Pinyon Flats O	3.64	330	P		Pn	12 24 34.6	-3.3
	baz=147,SNR=20							
PFO	Pinyon Flats O	3.64	330	Pn		Pn	12 24 36.5	-1.5
IRM	Iron Mountain	3.75	349	P		Pn	12 24 36.8	-2.6
	baz=168,SNR=23							
BELC	Belle Mtn. Jos	3.81	338	P		Pn	12 24 38.2	-2.1
	baz=156,SNR=18							
PDMCI	Parker Dam,Lak	3.83	2	P		Pn	12 24 37.7	-2.7
	baz=181,SNR=29							
GUYB	Guaymas	3.94	130	iP		Pn	12 24 39.5	-2.3
GUYB				iS		Sn	12 25 24.6	-3.8
GUYB	Guaymas	3.94	130	eP		Pn	12 24 39.6	-2.3
MURC	Murrieta	3.98	323	P		Pn	12 24 40.4	-2.2
	baz=139							
NZIG	Nacozari, Sono	4.10	90	iP		Pn	12 24 41.6	-2.7
NZIG				iS		Sn	12 25 26.9	-5.7
NEE2	Needles Airpor	4.30	356	P		Pn	12 24 44.7	-2.2
	baz=176,SNR=10							
BBRC	Big Bear Solar	4.39	330	P		Pn	12 24 47.0	-1.4
	baz=148,SNR=9.3							
SCI2	San Clemente I	4.40	306	P		Pn	12 24 47.7	-0.7
	baz=122							
GMRC	Granite Mounta	4.46	345	P		Pn	12 24 47.2	-2.0
	baz=164,SNR=11							
CIS	Catalina Islan	4.56	311	P		Pn	12 24 50.1	-0.5
	baz=127							
X16A	Lo Mia Camp, P	4.62	31			Pn	12 24 49.9	-1.7
HEC	Hector,Ludlow	4.68	339	P		Pn	12 24 51.1	-1.1
	baz=157							
FMP	Fort Macarthur	4.69	315	P		Pn	12 24 50.8	-1.4
	baz=131							
BFSC	Mount Baldy Ra	4.72	324	P		Pn	12 24 50.7	-2.1
	baz=141							
MWC	Mount Wilson	4.92	321			Pn	12 24 57.0	+1.5
PASC	Pasadena Art C	4.95	319	Pn		Pn	12 24 56.0	+0.1
RRX	Edison Barstow	4.95	333	P		Pn	12 24 53.8	-2.1
	baz=151							
DECC	Green Verdugo	5.09	319	P		Pn	12 24 56.2	-1.6
	baz=135							
TUQ	Turquoise Moun	5.14	345	P		Pn	12 24 56.5	-2.2
	baz=163							
GSC	Goldstone, Bar	5.27	337	P		Pn	12 24 59.5	-0.8
	baz=155							
GSC	Goldstone, Bar	5.27	337	Pn		Pn	12 25 00.4	+0.1
EDW2	Edwards Air Fo	5.39	326	P		Pn	12 25 02.0	0.0
	baz=142							
CGIG		5.46	89	iP		Pn	12 25 01.5	-1.5
CGIG				iS		Sn	12 26 01.8	-4.5
OSI	Osito Audit: C	5.58	319	P		Pn	12 25 03.1	-1.4
	baz=136							
WUAZ	Wupatki	5.61	25	P		Pn	12 25 03.6	-1.4
	baz=207,SNR=66							
WUAZ	Wupatki	5.61	25	Pn		Pn	12 25 04.0	-1.0
SHOC	Shoshone, Teco	5.67	344	P		Pn	12 25 04.4	-1.4
	baz=162							
LRMC	Laurel Mtn Rad	5.75	331	P		Pn	12 25 06.7	-0.3
	baz=148,SNR=9.5							
121A	Cookes Peak, D	5.93	68	P		Pn	12 25 07.5	-2.1
	baz=252,SNR=46							
121A	Cookes Peak, D	5.93	68	Pn		Pn	12 25 07.9	-1.6
ARVC	Arvin	6.01	322	P		Pn	12 25 12.4	+1.9
	baz=138							
W18A	Petrified Fore	6.03	38	P		Pn	12 25 09.5	-1.4
	baz=221,SNR=18							
W18A	Petrified Fore	6.03	38			Pn	12 25 10.4	-0.4
SBC	Santa Barbara	6.05	312	P		Pn	12 25 12.6	+1.6
	baz=128							
SHPR	Sheep Range	6.07	353	Pn		Pn	12 25 11.1	-0.3
MPMC	Manual Prospec	6.19	335	P		Pn	12 25 13.0	0.0
	baz=153,SNR=12							
ISA	Isabella, Lake	6.26	327	P		Pn	12 25 13.6	-0.3
	baz=144							
FURC	Furnace Creek,	6.36	341	P		Pn	12 25 14.4	-0.8
	baz=159							
PKM	Mcpherson Peak	6.41	315	P		Pn	12 25 15.9	-0.2
	baz=131							
LCMT	Little Creek M	6.59	7			Pn	12 25 18.2	-0.3
KNB	Kanab	6.65	10			Pn	12 25 19.2	-0.2
TPNV	Topopah Spring	6.67	346	P		Pn	12 25 19.6	0.0
	baz=165,SNR=19							
TPNV	Topopah Spring	6.67	346	Pn		Pn	12 25 19.8	+0.1
VES	Vestal, Richgr	6.70	324	P		Pn	12 25 20.0	+0.1
	baz=141							
CWC	Cottonwood Cre	6.75	333	P		Pn	12 25 20.4	-0.3
	baz=150							
SMMC	Simmler	6.81	317	P		Pn	12 25 21.7	+0.3
	baz=133							
PRN	Pahroc Range	6.95	355			Pn	12 25 23.6	+0.1
GRAC	Grapevine Rang	7.00	339	P		Pn	12 25 23.8	-0.2
	baz=157							
PKCU	Pink Cliffs	7.16	13			Pn	12 25 27.5	+1.1
SZCU	Shurtz Canyon	7.18	8			Pn	12 25 27.2	+0.5
Y22D	IRIS PASSCAL I	7.21	58	P		Pn	12 25 26.3	-0.7
	baz=243							
Y22D	IRIS PASSCAL I	7.21	58			Pn	12 25 26.3	-0.7
PAGB	Antelope Grade	7.25	318	Pn		Pn	12 25 27.9	+0.5
TIN	Tinemaha, Big	7.34	335	P		Pn	12 25 28.9	+0.1
	baz=152							
MNTX	Cornudas Mount	7.75	79	P		Pn	12 25 33.4	-0.9
	baz=264,SNR=18							
MNTX	Cornudas Mount	7.75	79	Pn		Pn	12 25 32.8	-1.5
MTPU	Mount Pierson	7.76	12			Pn	12 25 36.1	+1.4
PMPB	Monarch Peak	7.90	318	Pn		Pn	12 25 36.7	+0.2
R11A	Troy Canyon, C	7.94	353	P		Pn	12 25 37.1	0.0
	baz=171,SNR=14							
TPH	Tonopah	7.97	343	Pn		Pn	12 25 39.1	+1.6
ANMO	Albuquerque	7.98	54	P		Pn	12 25 35.1	-2.5
	baz=239							
ANMO	Albuquerque	7.98	54	Pn		Pn	12 25 36.2	-1.4
MLAC	Mammoth, Mammo	8.08	333	P		Pn	12 25 39.5	+0.5
	baz=150							
MVU	Marysvale	8.20	12			Pn	12 25 42.3	+1.6
MSU	Marysvale	8.22	12			Pn	12 25 41.2	+0.2
TCRU	Three Creeks R	8.27	10			Pn	12 25 43.6	+2.0
MVCO	Mesa Verde	8.28	34	P		Pn	12 25 41.9	+0.1
	baz=217,SNR=23							
BCIG	La Boquilla	8.31	108	iP		Pn	12 25 41.5	-0.7
NVAR	Mina Array Bea	8.61	339	Pn		Pn	12 25 47.5	+1.3
	comp=E,0.3nm,0.3s,baz=161,slow=14,SNR=30							
NVAR				Lg	Lg		12 28 16.0	
	baz=145,slow=19,SNR=1.3							
NVAR	Mina Array Bea	8.61	339	Pn		Pn	12 25 47.0	+0.7
SAO	San Andreas Ge	8.66	318	Pn		Pn	12 25 46.7	-0.1
GDL2	Guadalupe Moun	8.67	76			Pn	12 25 45.9	-1.2
PV05	Paradox Valley	8.73	28			Pn	12 25 50.5	+2.5
Q16A	Castle Valley	8.82	16			Pn	12 25 51.0	+1.9
PV13	Radium Mtn., P	8.91	29			Pn	12 25 51.1	+0.6
PV18	Skein Mesa, Pa	8.95	28			Pn	12 25 50.9	-0.1
PV19	Morning Glory	8.97	28			Pn	12 25 51.7	+0.4
PV01	Paradox Valley	9.00	30			Pn	12 25 52.3	+0.6
PV20	West Nyswonger	9.01	28			Pn	12 25 52.7	+1.0
PV10	Paradox Valley	9.01	27			Pn	12 25 51.3	-0.5
PV11	David Mesa, Pa	9.01	28			Pn	12 25 52.6	+0.9
PV14	Lion Creek, Pa	9.01	27			Pn	12 25 52.8	+0.9
PV07	Paradox Valley	9.22	29			Pn	12 25 55.0	+0.3
PV22	Blue Mesa, Par	9.25	28			Pn	12 25 56.2	+1.2
TX31	Lajitas Ar. Si	9.30	94			Pn	12 25 54.6	-1.0
TX32	Lajitas Array	9.30	94			Pn	12 25 54.6	-1.1
TXAR	Lajitas Array	9.30	94	Pn		Pn	12 25 53.9	-1.8
	comp=E,0.8nm,0.3s,baz=262,slow=15,SNR=32							
TXAR				Sn		Sn	12 27 37.2	-3.4
	comp=E,4.4nm,0.3s,baz=260,slow=16,SNR=7.9							
TXAR				Lg	Lg		12 28 35.5	
	comp=E,2.6nm,0.3s,baz=282,slow=30,SNR=7.6							
TXAR	Lajitas Array	9.30	94	Pn		Pn	12 25 54.6	-1.1
P17A	Butcher Ranch,	9.45	17			Pn	12 25 58.8	+1.0
S22A	4UR Ranch, Cre	9.54	38	P		Pn	12 25 56.9	-2.3
	baz=223							
DUG	Dugway, Tooele	9.79	7	P		Pn	12 26 03.9	+1.5
	baz=187,SNR=13							
DUG	Dugway, Tooele	9.79	7			Pn	12 26 05.2	+2.8
ELK	Elko	10.29	356	Pn		Pn	12 26 10.7	+1.4
SDCO	Great Sand Dun	10.29	43	P		Pn	12 26 10.5	+1.1
	baz=228,SNR=14							
SDCO	Great Sand Dun	10.29	43	Pn		Pn	12 26 11.2	+1.8
MSTX	Muleshoe	10.37	67	P		Pn	12 26 10.8	+0.5
	baz=254,SNR=12							
JLU	Jordanelle	10.38	12			Pn	12 26 13.2	+2.6
T25A	Trinidad	10.58	48	P		Pn	12 26 15.3	+2.0
	baz=234,SNR=49							
O20A	White River Ci	10.84	25	P		Pn	12 26 16.7	-0.2
	baz=209,SNR=8.7							
Q24A	Divide	11.33	39	P		Pn	12 26 23.1	-0.6
	baz=224							
HWUT	Hardware Ranch	11.34	10			Pn	12 26 26.7	+3.1
AMTX	Amarillo	11.51	64	P		Pn	12 26 25.9	0.0
	baz=251							
AMTX	Amarillo	11.51	64	Pn		Pn	12 26 27.2	+1.3
O03E	Paynes Creek	11.56	330	P		Pn	12 26 27.3	+0.7
	baz=145							
ISCO	Idaho Springs	11.71	35	P		Pn	12 26 28.4	-0.5
	baz=220,SNR=8.0							
O02D	Mt. Diablo Mer	11.91	327	P		Pn	12 26 32.2	+0.8
	baz=141							
N23A	Red Feather La	12.42	31	P		Pn	12 26 38.2	-0.3
	baz=216							
N02D	Trinity Center	12.51	329	P		Pn	12 26 41.3	+1.8
	baz=144							
JCT	Junction City	12.51	86	P		Pn	12 26 41.0	+1.4
	baz=274,SNR=8.9							
ABTX	Abilene, Hawle	12.69	76	P		Pn	12 26 42.3	+0.3
	baz=265,SNR=6.3							
M04C	Macdoel	12.83	334	P		Pn	12 26 44.5	+0.6
	baz=149							
KSCO	Kaye Shedlock'	12.83	45	P		Pn	12 26 44.0	0.0
	baz=232							
BW06	Boulder Array	12.85	16	P		Pn	12 26 43.9	-0.5
	baz=199							
PDAR	Pinedale Array	12.85	16	Pn		Pn	12 26 45.8	+1.4
	comp=E,0.1nm,0.3s,baz=184,slow=9.8,SNR=20							
PDAR				Lg	Lg		12 30 20.9	
	comp=E,0.1nm,0.3s,baz=200,slow=14,SNR=1.7							
PDAR	Pinedale Array	12.85	16	Pn		Pn	12 26 45.2	+0.8
M02C	Callahan	12.91	330	P		Pn	12 26 48.0	+2.9
	baz=144,SNR=14							
ZAIG	Zacatecas	12.99	123	Pn		Pn	12 26 50.5	+4.1
HLID	Hailey	13.08	360	P		Pn	12 26 49.0	+1.6
	baz=179,SNR=19							
YBH	Yreka Blue Hor	13.13	331	Pn		Pn	12 26 51.0	+2.9
	comp=E,0.2nm,0.3s,baz=153,slow=10,SNR=23							
YBH				Lg	Lg		12 30 24.0	
	comp=E,0.1nm,0.3s,baz=156,slow=18,SNR=1.1							
YBH				LR	LR		12 31 49.1	
	comp=E,2µm,18.7s,baz=156,slow=37							
YBH	Yreka Blue Hor	13.13	331	Pn		Pn	12 26 52.5	+4.4
833A	Chaparral WMA,	13.17	96	P		Pn	12 26 51.1	+2.5
	baz=284							
L04D	Klamath Falls	13.38	333	P		Pn	12 26 53.7	+2.2
	baz=148,SNR=19							
K22A	Casper	13.67	25	P		Pn	12 26 55.9	+0.4
	baz=210,SNR=14							
WMOK	Wichita Mounta	13.76	68	P		Pn	12 26 57.3	+0.7
	baz=257							
L02E	Cave Junction	13.86	330	P		Pn	12 26 58.9	+1.0
	baz=144							
J05D	Fort Rock, OR	13.94	339	P		Pn	12 27 01.0	+1.8
	baz=154,SNR=14							
J04D	Umpqua Nationa	14.19	336	P		Pn	12 27 05.9	+3.2
	baz=151,SNR=13							
H17A	Grant Village	14.22	11	P		Pn	12 27 05.1	+2.1
	baz=193,SNR=9.8							
PINE	Pine Mountain	14.31	340	P		P	12 27 09.0	-2.6
K02D	Willamette Mer	14.33	331	P		Pn	12 27 05.2	+0.8
	baz=145,SNR=8.3							
435B	Jarrell	14.40	84			P	12 27 11.9	-0.5
WHTX	Lake Whitney,	14.49	80	P		Pn	12 27 06.3	-0.4
	baz=269,SNR=10							
WHTX	Lake Whitney,	14.49	80	Pn		Pn	12 27 06.8	+0.2
BMO	Blue Mountains	14.56	351	P		P	12 27 11.0	-3.2
CBKS	Cedar Bluff	14.59	51	P		Pn	12 27 07.5	-0.4
	baz=240							
CBKS	Cedar Bluff	14.59	51			Pn	12 27 08.5	+0.6
KEBM	Edson Butte	14.76	330	P		P	12 27 16.9	+0.5
I04A	Tendick Farm,	14.78	336	P		Pn	12 27 12.7	+2.1
	baz=151,SNR=16							
J01E	Myrtle Point	14.82	331	P		Pn	12 27 12.0	+1.0
	baz=145							
I05D	Terrebonne, OR	14.93	340	P		Pn	12 27 14.0	+1.5
	baz=155,SNR=29							
I03D	Drain, OR	15.04	334	P		Pn	12 27 15.1	+1.1
	baz=148							
OK029	Liberty Lake	15.08	65	P		P	12 27 20.2	+0.3
KAN12	Harper NE Stat	15.15	59	P		P	12 27 19.9	-0.9
RLMT	Red Lodge	15.16	14	P		Pn	12 27 16.6	+0.8
	baz=197,SNR=16							
RLMT	Red Lodge	15.16	14	IAmb		IAmb	12 27 24.8	
	comp=Z,67nm,1.5s							
BOZ	Bozeman (W)	15.25	7	P		Pn	12 27 18.8	+1.8
	baz=189,SNR=28							
BOZ	Bozeman (W)	15.25	7	IAmb		IAmb	12 27 26.5	
	comp=Z,49nm,1.4s							
KAN13	South Haven SW	15.44	60	P		P	12 27 22.7	-1.2
H04D	Lebanon	15.54	337	P		Pn	12 27 21.2	+0.6
	baz=152							
I02D	Swisshome	15.58	334	P		P	12 27 24.1	-1.2
	baz=147,SNR=5.9							
G05D	Wamic, OR	15.75	341	P		P	12 27 26.5	-0.9
	baz=157,SNR=22							
QUOK	Quay	15.76	64	P		P	12 27 28.3	+0.7
QUOK				IAmb		IAmb	12 27 30.3	
	comp=Z,82nm,1.3s							
COR	Corvallis	15.79	336	P		P	12 27 28.6	+0.9
RSSD	Black Hills	15.87	28	P		Pn	12 27 24.6	-0.6
	baz=214							
RSSD	Black Hills	15.87	28	Pn		Pn	12 27 26.0	+0.9
RSSD				IAmb		IAmb	12 27 32.4	
	comp=Z,74nm,1.1s							
237A	Washetta, Mont	15.89	80	P		Pn	12 27 26.3	+1.1
237A				IAmb		IAmb	12 27 42.7	
	comp=Z,107nm,1.4s							
HKT	Hockley	15.98	87	Pn		Pn	12 27 27.3	+1.0
F07A	Phinny Hill Vi	16.02	346	P		P	12 27 30.1	-0.2
T35A	Sooner Cattle	16.13	62	P		P	12 27 32.7	+1.0
G03D	McMinnville, O	16.32	337	P		Pn	12 27 31.9	+1.2
	baz=151,SNR=5.3							
MSO	Missoula	16.34	1	P		Pn	12 27 32.5	+1.4
	baz=181,SNR=19							
MSO	Missoula	16.34	1	IAmb		IAmb	12 27 37.8	
	comp=Z,103nm,1.4s							
F05D	White Salmon	16.38	342	P		Pn	12 27 32.8	+1.4
	baz=157,SNR=7.8							
TUL1	Leonard	16.41	66	P		Pn	12 27 31.3	-0.6
	baz=256							
E08A	Dider Farm, El	16.43	348	P		P	12 27 34.5	-0.3
Z38A	Mt. Pleasant	16.64	75	IAmb		IAmb	12 27 44.6	
	comp=Z,103nm,1.2s							
NATX	Nacogdoches	16.87	81	P		Pn	12 27 36.9	-0.9
	baz=271							
NATX	Nacogdoches	16.87	81	IAmb		IAmb	12 27 51.7	
	comp=Z,128nm,1.4s							
KSU1	Kansas State U	16.88	55	P		Pn	12 27 37.7	-0.1
	baz=245,SNR=9.1							
KSU1	Kansas State U	16.88	55	IAmb		IAmb	12 27 42.0	
	comp=Z,148nm,1.4s							
BGNE	Belgrade	17.01	46	P		Pn	12 27 38.1	-1.4
	baz=235							
BGNE	Belgrade	17.01	46	P		Pn	12 27 40.2	+0.7
BGNE				IAmb		IAmb	12 27 40.5	
	comp=Z,34nm,0.5s							
F04D	Rainier, OR	17.01	339	P		Pn	12 27 39.6	+0.2
	baz=153							
F03A	Seaside	17.05	337	P		P	12 27 44.4	+2.7
F03A				IAmb		IAmb	12 27 47.1	
	comp=Z,66nm,0.9s							
N33A	J Bar K, Exete	17.09	49	P		P	12 27 42.4	+0.1
N33A				IAmb		IAmb	12 27 44.0	
	comp=Z,178nm,1.4s							
E04D	Cinebar	17.30	341	P		Pn	12 27 43.7	+0.6
	baz=155,SNR=7.4							
LAO	LASA Array	17.37	19	P		Pn	12 27 44.3	+0.3
	baz=204,SNR=19							
LAO	LASA Array	17.37	19	IAmb		IAmb	12 27 49.4	
	comp=Z,221nm,1.2s							
E03A	Lebam	17.60	338	P		P	12 27 49.4	+1.6
E03A				IAmb		IAmb	12 27 52.3	
	comp=Z,226nm,1.4s							
D05A	Enumclaw	17.73	343	IAmb		IAmb	12 28 10.1	
	comp=Z,94nm,1.3s							
W39A	Magazine	17.87	69	P		Pn	12 27 49.4	-0.7
	baz=261							
EGMT	Eagleton	17.88	10	P		P	12 27 51.1	+0.1
	baz=193,SNR=27							
EGMT	Eagleton	17.88	10	IAmb		IAmb	12 27 54.2	
	comp=Z,176nm,1.4s							
NEW	Newport	17.91	354	P		P	12 27 51.6	+0.4
	comp=Z,0.2nm,0.3s,baz=168,slow=13,SNR=21							
NEW				Lg	Lg		12 33 00.5	
	comp=Z,0.1nm,0.3s,baz=114,slow=20,SNR=1.3							
NEW				LR	LR		12 35 00.9	
	comp=Z,1µm,18.7s,baz=180,slow=38							
NEW	Newport	17.91	354	P		P	12 27 52.0	+0.7
	baz=172,SNR=15							
D04E	Lakebay	17.93	341	P		P	12 27 51.4	0.0
	baz=155							
MIAR	Mount Ida	17.94	71	P		P	12 27 51.8	+0.1
	baz=263,SNR=7.6							
C06D	Leavenworth	18.16	346	P		P	12 27 55.6	+1.6
	baz=161							
441A	DeRidder	18.18	84	P	

SLM	Saint Louis	21.39	61	P	P	12 28 29.9	+0.7
SLM				IAmb	IAmb	12 28 31.1	
	comp=Z,67nm,1.2s						
N41A	Harden Midland	21.57	55	IAmb	IAmb	12 28 32.4	
	comp=Z,94nm,1.1s						
W45A	Hickory Valley	21.60	71	P	P	12 28 32.5	+1.0
W45A				IAmb	IAmb	12 28 37.0	
	comp=Z,46nm,1.0s						
146A	Union	21.61	78	P	P	12 28 33.1	+1.4
146A				IAmb	IAmb	12 28 46.7	
	comp=Z,66nm,1.1s						
L40A	Anamosa	21.84	52	IAmb	IAmb	12 28 35.4	
	comp=Z,82nm,1.1s						
S44A	Carbondale	21.92	64	IAmb	IAmb	12 28 36.6	
	comp=Z,61nm,1.2s						
F36A	Milaca	22.34	41	IAmb	IAmb	12 28 42.4	
	comp=Z,60nm,1.2s						
Q44A	Meyer Farm, Va	22.38	61	IAmb	IAmb	12 28 43.1	
	comp=Z,87nm,1.2s						
SPMN	Marine on St.	22.38	43	P	P	12 28 38.9	-1.0
	baz=236						
Z47A	Carrollton	22.43	76	P	P	12 28 41.6	+1.0
Z47A				IAmb	IAmb	12 28 55.6	
	comp=Z,94nm,1.4s						
HDIL	Hopedale	22.64	57	P	P	12 28 40.8	-1.9
	baz=252						
HDIL	Hopedale	22.64	57	IAmb	IAmb	12 28 44.4	
	comp=Z,69nm,1.1s						
AGMN	Agassiz Nation	22.71	33	P	P	12 28 42.6	-0.8
	baz=225,SNR=8.0						
AGMN	Agassiz Nation	22.71	33	P	P	12 28 43.5	+0.1
AGMN				IAmb	IAmb	12 28 45.8	
	comp=Z,60nm,1.5s						
WVT	Waverly	22.80	69	P	P	12 28 43.5	-0.9
	baz=264						
WVT	Waverly	22.80	69	P	P	12 28 45.7	+1.3
WVT				IAmb	IAmb	12 28 47.6	
	comp=Z,28nm,1.0s						
JFWS	Jewell Farm	22.85	50	P	P	12 28 43.0	-1.9
	baz=245,SNR=7.4						
JFWS	Jewell Farm	22.85	50	IAmb	IAmb	12 28 47.2	
	comp=Z,58nm,1.2s						
L42A	Oliver, Polo	22.88	53	IAmb	IAmb	12 28 46.1	
	comp=Z,80nm,1.1s						
I40A	Norwalk	23.05	48	P	P	12 28 47.5	+0.5
I40A				IAmb	IAmb	12 28 49.1	
	comp=Z,44nm,1.2s						
O44A	Mansfield	23.12	58	P	P	12 28 48.1	+0.4
O44A				IAmb	IAmb	12 28 49.0	
	comp=Z,58nm,1.2s						
LRAL	Lakeview Retre	23.34	77	P	P	12 28 49.3	-0.6
	baz=271						
BRAL	Brewton	23.39	81	P	P	12 28 50.7	+0.1
	baz=276						
T47A	Sharon Grove	23.49	67	IAmb	IAmb	12 28 55.2	
	comp=Z,26nm,0.9s						
B35A	Bob, Littlefor	23.79	36	IAmb	IAmb	12 28 55.4	
	comp=Z,80nm,1.4s						
P46A	Rosedale	23.92	60	IAmb	IAmb	12 28 57.6	
	comp=Z,64nm,1.1s						
G40A	Rib Lake	23.97	45	IAmb	IAmb	12 28 58.5	
	comp=Z,71nm,1.4s						
BBB	Bella Bella	23.97	339	P	P	12 28 56.9	+0.9
	comp=Z,9.9nm,0.9s,baz=166,slow=9.1,SNR=9.5						
BBB				LR	LR	12 38 38.9	
	comp=Z,2μm,18.2s,baz=164,slow=38						
BBB	Bella Bella	23.97	339	IAmb	IAmb	12 28 59.8	
	comp=Z,55nm,1.3s						
ULM	Lac du Bonnet	24.12	30	P	P	12 28 56.5	-0.9
	comp=Z,83nm,1.2s,baz=225,slow=10,SNR=30						
ULM	Lac du Bonnet	24.12	30	P	P	12 28 56.9	-0.5
I42A	Draeger Farm,	24.15	49	P	P	12 28 58.7	+0.9
I42A				IAmb	IAmb	12 28 59.4	
	comp=Z,56nm,1.4s						
L44A	Lake County Fo	24.16	54	P	P	12 28 56.4	-1.5
	baz=250						
SFIN	Lafayette	24.19	58	P	P	12 28 56.8	-1.4
	baz=255,SNR=7.6						
SFIN	Lafayette	24.19	58	IAmb	IAmb	12 29 00.1	
	comp=Z,34nm,1.1s						
WCI	Wyandotte Cave	24.32	64	P	P	12 28 58.4	-1.0
	baz=260						
WCI	Wyandotte Cave	24.32	64	P	P	12 28 60.0	+0.6
WCI				IAmb	IAmb	12 29 03.1	
	comp=Z,24nm,1.0s						
U49A	Red Boiling Sp	24.49	68	IAmb	IAmb	12 29 03.5	
	comp=Z,29nm,1.2s						
FPAL	Fort Paine	24.50	73	IAmb	IAmb	12 29 07.2	
	comp=Z,28nm,1.0s						
EYMN	Ely	24.69	39	P	P	12 29 01.1	-1.6
	baz=233						
W50A	Signal Mountai	24.77	71	IAmb	IAmb	12 29 07.4	
	comp=Z,52nm,1.1s						
COWI	Conover	25.03	44	IAmb	IAmb	12 29 08.5	
	comp=Z,34nm,1.1s						
352A	Blakely	25.18	80	P	P	12 29 07.9	+0.8
P48A	Milroy	25.22	61	IAmb	IAmb	12 29 10.1	
	comp=Z,45nm,1.1s						
L46A	Eue Claire	25.25	55	P	P	12 29 08.0	+0.3
152A	Waverly Hall	25.27	77	IAmb	IAmb	12 29 10.7	
	comp=Z,28nm,0.9s						
N47A	Urbana	25.36	58	IAmb	IAmb	12 29 10.5	
	comp=Z,27nm,1.1s						
P49A	Miami Univ. Ec	25.78	61	P	P	12 29 11.5	-1.0
	baz=259						
FFC	Flin Flon	25.81	17	P	P	12 29 12.8	+0.1
FFC				IAmb	IAmb	12 29 15.0	
	comp=Z,26nm,1.0s						
R50A	Paris	25.86	64	IAmb	IAmb	12 29 18.1	
	comp=Z,28nm,1.4s						
W52A	Murphy	25.90	72	P	P	12 29 14.7	+1.0
TKL	Tuckaleechee C	26.04	70	P	P	12 29 15.4	+0.4
	comp=Z,13nm,0.9s,baz=223,slow=6.8,SNR=16						
TKL				S	S	12 33 49.7	+3.3
	comp=Z,1.2nm,0.4s,baz=349,slow=18,SNR=1.4						
TKL				Lg	Lg	12 37 25.1	
	comp=Z,1.5nm,0.7s,baz=270,slow=19,SNR=1.8						
TKL				LR	LR	12 40 03.4	
	comp=Z,4μm,18.4s,baz=266,slow=38						
TKL	Tuckaleechee C	26.04	70	P	P	12 29 17.6	+2.5
TKL				IAmb	IAmb	12 29 18.5	
	comp=Z,30nm,1.2s						
O49A	Covington	26.20	60	IAmb	IAmb	12 29 17.2	
	comp=Z,41nm,1.1s						
V52A	Sevierville	26.20	70	IAmb	IAmb	12 29 20.2	
	comp=Z,35nm,1.4s						
TZTN	Tazewell	26.28	68	P	P	12 29 15.7	-1.4
	baz=266						
TZTN	Tazewell	26.28	68	IAmb	IAmb	12 29 21.8	
	comp=Z,23nm,1.1s						
GOGA	Godfrey	26.28	75	P	P	12 29 15.7	-1.5
	baz=272,SNR=5.2						
N49A	Columbus Grove	26.48	59	IAmb	IAmb	12 29 19.7	
	comp=Z,26nm,0.9s						
Q51A	Peebles	26.73	63	P	P	12 29 21.1	-0.2
APG	El Apazote	26.75	120	P	P	12 29 20.3	-1.4
	comp=Z,6.1nm,0.9s,baz=283,slow=7.8,SNR=12						
APG				LR	LR	12 40 34.0	
	comp=Z,2μm,18.7s,baz=290,slow=38						
V53A	Saluda	26.83	70	IAmb	IAmb	12 29 37.3	
	comp=Z,23nm,1.3s						
P51A	Williamsport	27.03	62	P	P	12 29 22.8	-1.0
	baz=260						
P51A	Williamsport	27.03	62	IAmb	IAmb	12 29 25.2	
	comp=Z,33nm,1.0s						
T53A	Wise	27.13	68	P	P	12 29 23.4	-1.5
	baz=266						
X54A	Belton	27.17	73	P	P	12 29 24.7	-0.5
	baz=271						
ACSO	Alum Creek Sta	27.22	60	P	P	12 29 24.0	-1.6
	baz=259,SNR=6.2						
W54A	Cherokee Point	27.32	72	P	P	12 29 25.6	-1.0
	baz=270						
M50A	Fremont	27.43	58	IAmb	IAmb	12 29 28.8	
	comp=Z,32nm,0.9s						
O51A	Pataskala	27.49	61	P	P	12 29 28.0	0.0
	baz=260						
S53A	Williamson	27.51	66	P	P	12 29 26.4	-1.9
	baz=265						
V54A	Nebo	27.53	70	P	P	12 29 27.0	-1.4
	baz=268						
Q52A	Bidwell	27.55	63	P	P	12 29 27.1	-1.5
	baz=262						
Y55A	Saluda	27.61	74	P	P	12 29 28.4	-0.7
	baz=272						
U54A	Nelsons Funny	27.67	69	P	P	12 29 28.6	-1.1
	baz=267						
R53A	Hurricane	27.72	65	P	P	12 29 28.8	-1.3
	baz=264						
R53A	Hurricane	27.72	65	IAmb	IAmb	12 29 31.6	
	comp=Z,25nm,0.9s						
P52A	Corning	27.76	62	P	P	12 29 28.3	-2.1
	baz=261						
N51A	Ashland	27.81	59	P	P	12 29 28.8	-2.1
	baz=258						
T54A	Tazewell	27.90	68	P	P	12 29 30.0	-1.7
	baz=266						
MTO3	Montecristo	27.96	119	P	P	12 29 35.4	+2.8
MTO3				IAmb	IAmb	12 29 37.5	
	comp=Z,13nm,0.9s						
KMSC	Kings Mountain	28.02	72	P	P	12 29 32.1	-0.8
	baz=270						
M51A	Elyria	28.04	58	P	P	12 29 31.4	-1.5
	baz=258						
O52A	Adamsville	28.06	61	P	P	12 29 32.1	-1.1
	baz=260						
Q53A	Leroy	28.11	64	P	P	12 29 32.1	-1.5
	baz=263						
V55A	Taylorsville	28.13	70	P	P	12 29 32.8	-1.0
	baz=269						
S54A	Dingess, Beckl	28.17	66	P	P	12 29 32.8	-1.3
	baz=265						
X56A	White Oak	28.28	73	P	P	12 29 34.2	-0.9
	baz=271						
U55A	TA2, Sparta	28.29	69	P	P	12 29 33.3	-2.0
	baz=266,SNR=7.9						
N52A	McGinn's Farm,	28.30	60	P	P	12 29 34.2	-1.1
	baz=259						
P53A	Whipple	28.30	62	P	P	12 29 33.0	-2.3
	baz=262						
P53A	Whipple	28.30	62	IAmb	IAmb	12 29 36.1	
	comp=Z,24nm,1.1s						
157A	Early Branch	28.40	77	P	P	12 29 35.3	-0.9
	baz=275						
R54A	Victor	28.45	65	P	P	12 29 34.3	-2.3
	baz=265						
T55A	Pulaski	28.53	68	P	P	12 29 35.8	-1.6
	baz=267,SNR=7.4						
O53A	New Philadelph	28.56	61	P	P	12 29 35.8	-1.7
	baz=261						
Z57A	Bowman	28.60	75	P	P	12 29 36.4	-1.5
	baz=274						
W56A	Indian Trail	28.64	72	P	P	12 29 36.9	-1.4
	baz=270						
Q54A	Coxs Mills	28.66	64	P	P	12 29 37.2	-1.3
	baz=263,SNR=5.4						
Q54A	Coxs Mills	28.66	64	IAmb	IAmb	12 29 39.6	
	comp=Z,27nm,1.1s						
M52A	Chesterland	28.69	58	P	P	12 29 38.1	-0.7
	baz=258						
V56A	Mocksville	28.71	70	P	P	12 29 37.6	-1.4
	baz=269						
BIRD	Birdtown, Kers	28.75	73	IAmb	IAmb	12 29 58.6	
	comp=Z,20nm,1.3s						
S55A	Lewisburg	28.80	66	P	P	12 29 38.5	-1.3
	baz=266						
U56A	King	28.82	69	P	P	12 29 38.7	-1.2
	baz=268						
BLA	Blacksburg	28.83	67	P	P	12 29 38.7	-1.3
	baz=267						
WRAK	Wrangell Islan	28.88	339	IAmb	IAmb	12 29 43.7	
	comp=Z,33nm,1.2s						
N53A	Lisbon	28.93	60	P	P	12 29 40.0	-0.9
	baz=260						
P54A	Burton	29.02	62	P	P	12 29 40.6	-1.1
	baz=262,SNR=7.0						
W57A	Gilead	29.12	72	P	P	12 29 41.2	-1.4
	baz=271						
T56A	Rocky Mt	29.13	68	P	P	12 29 41.4	-1.3
	baz=267						
R55A	Marlinton	29.15	65	P	P	12 29 42.9	0.0
	baz=265,SNR=6.3						
R55A	Marlinton	29.15	65	IAmb	IAmb	12 29 44.5	
	comp=Z,29nm,1.1s						
M53A	WI Miller and	29.17	59	P	P	12 29 42.3	-0.7
	baz=259						
M53A	WI Miller and	29.17	59	IAmb	IAmb	12 29 44.2	
	comp=Z,24nm,1.1s						
O54A	Avella	29.18	61	P	P	12 29 42.4	-0.7
	baz=261						
Q55A	Buckhannon	29.25	64	P	P	12 29 42.2	-1.6
	baz=264						
V57A	Coltrane Farms	29.30	70	P	P	12 29 42.6	-1.6
	baz=270						
Z58A	St. Stephen	29.34	75	P	P	12 29 43.9	-0.7
	baz=274						
P55A	Reedsville	29.50	63	P	P	12 29 44.9	-1.1
	baz=263						
L53A	Girard	29.58	58	P	P	12 29 45.3	-1.3
	baz=258						
N54A	Moraine State	29.59	60	P	P	12 29 47.0	+0.2
	baz=260,SNR=5.2						
N54A	Moraine State	29.59	60	IAmb	IAmb	12 29 48.3	
	comp=Z,34nm,1.1s						
U57A	Blanch	29.66	69	P	P	12 29 46.2	-1.2
	baz=269						
X58A	Rowland	29.67	73	P	P	12 29 47.2	-0.3
	baz=272						
R56A	Bull Pasture M	29.72	65	P	P	12 29 48.1	+0.1
	baz=265,SNR=7.7						
W58A	Raeford	29.75	72	P	P	12 29 47.8	-0.3
	baz=271						
T57A	Hurt	29.75	68	P	P	12 29 47.5	-0.6
	baz=268						
TGUH	Tegucigalpa,Un	29.75	117	P	P	12 29 50.2	+1.7
Z59A	Georgetown, SC	29.80	75	P	P	12 29 48.7	+0.2
	baz=274						
ERPA	Erie	29.81	58	P	P	12 29 48.4	-0.3
	baz=258						
M54A	Oil Creek Stat	29.93	59	P	P	12 29 49.7	-0.1
	baz=260						
M54A	Oil Creek Stat	29.93	59	IAmb	IAmb	12 29 51.2	
	comp=Z,27nm,1.1s						
DLBC	Dease Lake	29.98	343	IAmb	IAmb	12 29 53.8	
	comp=Z,35nm,1.1s						
P56A	Dayton Farm, R	30.26	63	P	P	12 29 51.0	-1.7
	baz=264						
X59A	McDuffie Farm,	30.28	73	P	P	12 29 51.3	-1.6
	baz=272						
U58A	Oxford	30.30	69	P	P	12 29 52.4	-0.6
	baz=269						
N55A	Marion Center	30.32	60	P	P	12 29 52.5	-0.7
	baz=262						
L54A	Sinclairville	30.32	57	P	P	12 29 51.4	-1.8
	baz=259						
T58A	Grand View Acr	30.32	68	P	P	12 29 52.6	-0.6
	baz=268						
R57A	Stanardsville	30.40	65	P	P	12 29 52.4	-1.5
	baz=266						
Q57A	Strasburg	30.55	64	P	P	12 29 54.3	-0.9
	baz=265						
V59A	Middlesex	30.55	70	P	P	12 29 54.9	-0.4
	baz=271						
O56A	Blue Knob Stat	30.56	62	P	P	12 29 55.2	-0.2
	baz=263,SNR=6.6						
O56A	Blue Knob Stat	30.56	62	IAmb	IAmb	12 29 56.7	
	comp=Z,27nm,1.1s						
M55A	Ridgway	30.59	59	P	P	12 29 55.5	-0.1
	baz=261,SNR=6.0						
M55A	Ridgway	30.59	59	IAmb	IAmb	12 29 57.5	
	comp=Z,16nm,0.8s						
R58A	Rapidan	30.81	65	P	P	12 29 56.6	-0.9
	baz=267						
K54A	Basilico Farm,	30.85	57	P	P	12 29 57.6	-0.3
	baz=259						
N56A	West Decatur	30.86	60	P	P	12 29 56.3	-1.6
	baz=262						
R58B	Mineral	30.89	66	P	P	12 29 56.9	-1.3
	baz=267						
P57A	Homestead Farm	30.90	63	P	P	12 29 57.0	-1.3
	baz=265						
P57A	Homestead Farm	30.90	63	IAmb	IAmb	12 29 59.3	
	comp=Z,18nm,1.0s						
U59A	Littleton	30.91	69	P	P	12 29 57.6	-0.8
	baz=270						
L55A	Hinsdale	30.95	58	P	P	12 29 57.8	-1.0
	baz=260						
M56A	Emporium	31.02	59	P	P	12 29 58.0	-1.4
	baz=261						
J54A	Appleton	31.02	56	P	P	12 29 58.0	-1.3
	baz=258						
SADO	Sadowa	31.03	53	P	P	12 29 59.5	+0.1
	comp=Z,12nm,0.9s,baz=262,slow=15,SNR=4.0						
SADO	Sadowa	31.03	53	IAmb	IAmb	12 30 00.3	
	comp=Z,20nm,1.1s						
Q58A	Fox Den Farm,	31.11	64	P	P	12 29 59.2	-0.9
	baz=266						
T59A	Double "B" Far	31.11	68	P	P	12 29 59.1	-1.0
	baz=269						
SSPA	Standing Stone	31.12	61	P	P	12 29 59.3	-0.9
	baz=263						
SSPA	Standing Stone	31.12	61	P	P	12 30 00.5	+0.2
SSPA				IAmb	IAmb	12 30 01.4	
	comp=Z,22nm,1.1s						
O57A	Amberson	31.26	62	P	P	12 30 00.2	-1.4
	baz=264						
K55A	Perry	31.32	57	P	P	12 30 01.9	-0.1
	baz=259						
S59A	Mechanicsville	31.34	67	P	P	12 30 01.5	-0.6
	baz=268						
H53A	Bobcaygeon	31.37	53	P	P	12 30 01.6	-0.7
	baz=256						
N57A	Milroy	31.39	61	P	P	12 30 01.9	-0.7
	baz=263						
U60A	Pendleton	31.42	69	P	P	12 30 02.7	-0.2
	baz=270						
BESE	Bessie Mountai	31.44	339	IAmb	IAmb	12 30 15.3	
	comp=Z,16nm,1.4s						
P58A	Pank, Wackersv	31.45	63	P	P	12 30 03.9	+0.8
	baz=265						
L56A	Greenwood	31.59	58	P	P	12 30 04.5	+0.1
	baz=261,SNR=6.0						
J55A	Hilton	31.61	56	P	P	12 30 03.8	-0.7
	baz=258						
T60A	Surry	31.77	68	P	P	12 30 05.5	-0.4
	baz=269						
M57A	Sunshine Farm,	31.79	60	P	P	12 30 06.3	+0.1
	baz=262,SNR=6.2						
M57A	Sunshine Farm,	31.79	60	IAmb	IAmb	12 30 07.5	
	comp=Z,21nm,0.9s						
O58A	Lewisberry	31.80	62	P	P	12 30 05.3	-0.9
	baz=264						
S60A	Water View	31.84	67	P	P	12 30 05.3	-1.3
	baz=268						
K56A	Middlesex	31.86	57	P	P	12 30 06.4	-0.4
	baz=260						
V61A	Roper	31.90	70	P	P	12 30 06.5	-0.6
	baz=272						
I55A	Frankford	31.91	54	P	P	12 30 06.4	-0.7
	baz=257						
G54A	Lake Saint Pet	31.92	52	P	P	12 30 07.5	+0.3
	baz=255						
N58A	Sunbury	32.03	61	P	P	12 30 07.9	-0.3
	baz=263						
YKA	Yellowknife Ar	32.04	360	P	P	12 30 08.1	+0.1
	comp=Z,2.2nm,0.9s,baz=178,slow=8.0,SNR=2.4						
YKA				LR	LR	12 44 51.1	
	comp=Z,1μm,18.8s,baz=0.0,slow=40						
L57A	Andrews Acres	32.09	59	P	P	12 30 07.8	-1.0
	baz=261						
ALGO	Algonquin Park	32.09	51	P	P	12 30 07.8	-0.9
	baz=254						
P59A	Jarrettsville	32.12	63	P	P	12 30 08.2	-0.9
	baz=266						
M58A	Price's Panora	32.29	60	P	P	12 30 10.8	+0.3
	baz=263						
SKAG	Skagway	32.30	340	IAmb	IAmb	12 30 18.9	
	comp=Z,33nm,1.5s						
J56A	Wolcott	32.30	56	P	P	12 30 10.5	-0.1
	baz=259						
H55A	Tweed	32.33	54	P	P	12 30 10.5	-0.3
	baz=257						
O59A	Robesonia	32.38	62	P	P	12 30 11.0	-0.3
	baz=265						
K57A	Scipio Center	32.45	57	P	P	12 30 11.6	-0.4
	baz=260						
PLVO	Plevna	32.52	53	IAmb	IAmb	12 30 14.3	
	comp=Z,23nm,1.0s						
S61A	Accomac	32.62	67	P	P	12 30 11.9	-1.5
	baz=269						
D53A	Lac Vacive, Po	32.65	49	P	P	12 30 12.8	-0.8
	baz=253						
D53A	Lac Vacive, Po	32.65	49	IAmb	IAmb	12 30 15.0	
	comp=Z,16nm,1.1s						
N59A	State Game Lan	32.75	61	P	P	12 30 14.2	-0.4
	baz=264						
P60A	Greenville	32.75	63	P	P	12 30 14.3	-0.3
	baz=266						
BINY	Binghamton	32.76	58	P	P	12 30 15.1	+0.5
	baz=262						
G55A	Calabogie	32.82	53	P	P	12 30 14.7	-0.3
	baz=256						
L58A	Harry Jones Me	32.83	59	P	P	12 30 14.7	-0.6
	baz=262						
R61A	Willards	32.90	66	P	P	12 30 15.0	-0.9
	baz=268						
Q61A	Milford	32.94	65	P	P	12 30 16.3	+0.1
	baz=267						
J57A	Williamstown	32.94	56	P	P	12 30 15.6	-0.6
	baz=260						
O60A	Telford	32.97	62	P	P	12 30 16.2	-0.3
	baz=265						
H56A	Elgin	32.99	54	P	P	12 30 16.6	+0.1
	baz=258						
M59A	Waymart	33.08	60	P	P	12 30 17.1	-0.4
	baz=263						
K58A	Earlville	33.09	57	P	P	12 30 17.5	0.0
	baz=261						
K58A	Earlville	33.09	57	IAmb	IAmb	12 30 19.0	
	comp=Z,26nm,1.1s						
WHY	Whitehorse	33.16	342	P	P	12 30 20.4	+2.3
WHY				IAmb	IAmb	12 30 22.5	
	comp=Z,33nm,1.4s						
F55A	Otter Lake	33.21	52	P	P	12 30 17.9	-0.6
	baz=256						
N60A	Cedar Hill Far	33.25	61	P	P	12 30 18.8	-0.1
	baz=265						
I57A	Carthage	33.28	55	P	P	12 30 17.7	-1.4
	baz=259						
D54A	Lac Fusel, La	33.35	49	P	P	12 30 18.1	-1.6
	baz=254						
J58A	Remsen	33.44	56	P	P	12 30 19.8	-0.8
	baz=261						
L59A	Walton	33.45	59	P	P	12 30 20.7	0.0
	baz=263,SNR=6.0						
L59A	Walton	33.45	59	IAmb	IAmb	12 30 22.4	
	comp=Z,21nm,0.9s						
E55A	Montcerf-Lytto	33.56	51	P	P	12 30 20.8	-0.8
	baz=255						
H57A	Richville	33.57	54	P	P	12 30 21.7	+0.1
	baz=259						
MATQ	Matagami	33.57	44	P	P	12 30 21.7	+0.1
	baz=249						
M60A	Port Jervis	33.66	60	P	P	12 30 21.2	-1.2
	baz=264						
K59A	Cooperstown	33.67	58	P	P	12 30 22.2	-0.4
	baz=262						
ORIO	Orleans, Innes	33.69	53	P	P	12 30 22.5	-0.1
	baz=257						
I58A	Old Forge	33.72	56	P	P	12 30 23.3	+0.2
	baz=260,SNR=7.7						
G57A	Newington	33.98	53	P	P	12 30 24.6	-0.6
	baz=258						
J59A	Piesco	34.02	56	P	P	12 30 25.6	-0.1
	baz=261,SNR=7.9						
L60A	Shokan	34.03	59	P	P	12 30 25.9	+0.2
	baz=264						
HYT	Haines Junctio	34.05	340	IAmb	IAmb	12 30 29.6	
	comp=Z,18nm,1.3s						
D55A	Sainte-Anne-du	34.09	50	P	P	12 30 26.1	-0.1
	baz=255,SNR=6.3						
LONY	Lake Ozonia	34.16	54	P	P	12 30 26.2	-0.6
	baz=259						
LONY	Lake Ozonia	34.16	54	IAmb	IAmb	12 30 28.4	
	comp=Z,18nm,1.2s						
PAL	Palisades	34.16	61	P	P	12 30 26.3	-0.6
	baz=265						
E56A	St. Veronique	34.27	51	P	P	12 30 27.5	-0.2
	baz=256						
NCB	Newcomb	34.30	56	IAmb	IAmb	12 30 29.6	
	comp=Z,13nm,1.0s						
K60A	Five Rivers En	34.35	58	P	P	12 30 28.5	0.0
	baz=263						
I59A	Olmsteadville	34.53	56	P	P	12 30 29.6	-0.4
	baz=261,SNR=5.1						
D56A	ZEC Mazanza, M	34.58	50	P	P	12 30 30.0	-0.4
	baz=256						
ACCN	Adirondack Com	34.61	57	IAmb	IAmb	12 30 32.1	
	comp=Z,18nm,0.9s						
G58A	Ormstown	34.63	54	P	P	12 30 30.1	-0.8
	baz=259						
J60A	Lant Hill Farm	34.77	57	P	P	12 30 32.1	0.0
	baz=262						

H59A Cadyville 34.80 55 P **P 12 30 31.9 -0.4**
baz=260
K61A Williamstown 34.81 58 P **P 12 30 32.5 0.0**
baz=263
E57A Chemin Saint G 34.83 51 P **P 12 30 33.0 +0.4**
baz=257
I60A Shoreham 34.95 56 P **P 12 30 33.8 +0.1**
baz=262,SNR=7.2
M62A Hamden 34.96 60 P **P 12 30 33.4 -0.4**
baz=265
D57A Chemin Vers le 35.14 50 P **P 12 30 35.3 0.0**
baz=257
L61B Northampton 35.22 58 P **P 12 30 36.6 +0.6**
baz=264
G59A Clarenceville 35.23 54 P **P 12 30 36.5 +0.5**
baz=260,SNR=5.9
CTGM Chitina Glacie 35.36 337 IAmb IAmb 12 30 41.2
comp=Z,26nm,1.1s
VT1 Waterbury 35.41 55 IAmb IAmb 12 30 39.6
comp=Z,22nm,0.9s
E58A La Victoria 35.41 52 P **P 12 30 38.4 +0.8**
baz=258
J61A Chester 35.41 57 P **P 12 30 38.3 +0.6**
baz=263
H60A Morristown 35.48 55 P **P 12 30 38.6 +0.4**
baz=261,SNR=5.1
CHGQ Chibougamau 35.62 45 P **P 12 30 39.7 +0.4**
baz=252
F59A Saint Guilaume 35.65 53 P **P 12 30 39.8 +0.2**
baz=259
I61A Oroboro, Fairl 35.74 56 P **P 12 30 39.8 -0.7**
baz=262
BALM Baldy 35.75 337 IAmb IAmb 12 30 44.3
comp=Z,35nm,1.1s
G60A Masonville 35.82 54 P **P 12 30 40.5 -0.7**
baz=261
D58A Chemin du LacG 35.83 51 P **P 12 30 41.2 0.0**
baz=257
J62A Henniker 35.94 57 P **P 12 30 42.5 +0.4**
baz=264
L63A North Scituate 35.96 60 P **P 12 30 40.6 -1.7**
baz=266
LATQ La Tuque 35.96 50 P **P 12 30 42.1 -0.2**
baz=257
LBNH Lisbon 35.98 56 P **P 12 30 43.3 +0.8**
baz=262
H61A Lyndonville 36.02 55 P **P 12 30 43.5 +0.6**
baz=262
HRV Adam Dziewonsk 36.05 59 P **P 12 30 43.3 +0.2**
baz=265
K63A Dunstable 36.09 58 P **P 12 30 43.4 0.0**
baz=265
Q23K Middleton Isla 36.13 333 P **P 12 30 44.8 +1.2**
baz=129
F60A Warwick 36.24 53 P **P 12 30 45.1 +0.4**
baz=260
I62A Tamworth 36.36 56 P **P 12 30 45.9 +0.2**
baz=263
G61A St-Isidore-de- 36.42 54 P **P 12 30 47.0 +0.8**
baz=261
J63A Strafford 36.48 57 P **P 12 30 47.8 +1.0**
baz=264
GLB Gilahina Butte 36.54 337 IAmb IAmb 12 30 51.1
comp=Z,41nm,1.2s
H62A Milan 36.57 55 P **P 12 30 48.4 +0.8**
baz=262
F61A St Evariste 36.90 53 P **P 12 30 51.1 +0.8**
baz=261
I63A Otisfield 36.92 56 P **P 12 30 51.5 +1.0**
baz=264
G62A West of Eustis 37.10 54 P **P 12 30 53.1 +1.0**
baz=262
E61A Lac Etchemin 37.32 52 P **P 12 30 54.5 +0.5**
baz=260
MENT Mentasta 37.57 338 IAmb IAmb 12 30 59.8
comp=Z,22nm,1.2s
I64A Boothbay 37.58 56 P **P 12 30 57.2 +1.0**
baz=264
F62A Pittston Farm, 37.59 53 P **P 12 30 57.2 +1.0**
baz=262
D61A St Aubert, Com 37.66 51 P **P 12 30 57.3 +0.6**
baz=260
G63A Kingsbury 37.73 54 P **P 12 30 57.3 -0.1**
baz=263
K27K Chicken 37.88 340 P **P 12 31 00.6 +2.2**
baz=139,SNR=18
H64A Troy 37.95 55 P **P 12 31 00.7 +1.4**
baz=264
PKME Peaks-Kenny Pk 37.98 54 P **P 12 30 59.8 +0.4**
baz=263
E62A Clayton Lake 38.01 52 P **P 12 31 00.7 +1.0**
baz=261
PAX Paxson 38.16 337 IAmb IAmb 12 31 04.3
comp=Z,18nm,1.2s
F63A Nahmakanta, Br 38.16 54 P **P 12 31 01.8 +0.7**
baz=263
DOT Dot Lake 38.19 339 IAmb IAmb 12 31 04.5
comp=Z,25nm,1.2s
EGAK Eagle 38.20 342 P **P 12 31 03.5 +2.4**
G64A Maxfield 38.35 54 P **P 12 31 03.4 +0.8**
baz=264
D62A Allapoint, All 38.40 51 P **P 12 31 03.8 +0.8**
baz=261
SCRK Sand Creek 38.41 339 P **P 12 31 04.6 +1.6**
baz=136,SNR=19
PMR Palmer 38.56 334 IAmb IAmb 12 31 07.7
comp=Z,44nm,1.1s
GHO Glory Hole Cre 38.59 334 IAmb IAmb 12 31 08.7
comp=Z,44nm,1.2s
F64A Sherman 38.71 53 P **P 12 31 05.9 +0.3**
baz=263
E63A Oxbow 38.73 53 P **P 12 31 05.9 +0.1**
baz=262
E63A Oxbow 38.73 53 IAmb IAmb 12 31 07.4
comp=Z,27nm,1.1s
MLOA Mauna Loa Obse 38.77 264 P **P 12 31 10.6 +3.6**
D63A Stockholm 39.03 52 P **P 12 31 07.8 -0.5**
baz=262
E64A Bridgewater 39.14 53 P **P 12 31 08.9 -0.3**
baz=263
G65A Princeton 39.18 55 P **P 12 31 09.9 +0.3**
baz=264
H66A Whiting 39.32 55 P **P 12 31 10.7 -0.1**
baz=265
CUT Chulitna 39.48 335 P **P 12 31 13.5 +1.7**
baz=127
HDA Harding Lake 39.63 338 P **P 12 31 14.8 +1.7**
baz=133,SNR=6.5
SKT Skwentna 39.71 333 IAmb IAmb 12 31 16.9
comp=Z,26nm,1.2s
MCK McKinley 39.84 337 IAmb IAmb 12 31 18.1
comp=Z,42nm,1.1s
IL31 39.86 339 IAmb IAmb 12 31 18.3
comp=Z,33nm,1.0s
ILAR Eielson Array 39.86 339 P **P 12 31 16.5 +1.5**
comp=Z,13nm,0.9s,baz=151,slow=7.4,SNR=81
ILAR LR LR 12 46 31.5
comp=Z,321nm,18.6s,baz=138,slow=34
ILAR Eielson Array 39.86 339 P **P 12 31 16.0 +1.0**
WRH Wood River Hil 40.04 338 P **P 12 31 18.6 +2.1**
WRH IAmb IAmb 12 31 19.6
comp=Z,38nm,1.4s
COLA College 40.24 339 P **P 12 31 21.4 +3.4**
COLA IAmb IAmb 12 31 22.0
comp=Z,40nm,1.1s
TCOL CIGO, UAF Yank 40.24 339 P **P 12 31 20.2 +2.1**
baz=132
POKR Poker Plat Res 40.27 339 P **P 12 31 20.0 +1.6**
baz=133,SNR=9.1
KTH Kantishna Hill 40.42 336 IAmb IAmb 12 31 22.5
comp=Z,48nm,1.1s
NEA2 Nenana 40.44 338 P **P 12 31 21.1 +1.2**
baz=130,SNR=19
SVW2 Sparrevohn 40.87 331 P **P 12 31 25.1 +1.7**
SVW2 IAmb IAmb 12 31 26.0
comp=Z,20nm,1.0s
SCHQ Schefferville 41.48 40 P **P 12 31 28.4 -0.1**
comp=Z,18nm,1.1s,baz=240,slow=7.1,SNR=6.6
SCHQ LR LR 12 47 17.1
comp=Z,532nm,19.5s,baz=258,slow=34
SCHQ Schefferville 41.48 40 P **P 12 31 28.8 +0.2**
SCHQ IAmb IAmb 12 31 29.8
comp=Z,31nm,1.1s
TTA Tatalina 41.97 333 P **P 12 31 34.2 +1.6**
TTA IAmb IAmb 12 31 35.2
comp=Z,50nm,1.4s
A36M Sachs Harbour 42.00 355 P **P 12 31 34.8 +2.3**
baz=166

MOTC Monteria, Cord 42.00 113 *eP* **P 12 31 33.8 +0.5**
COLD Coldfoot 42.53 340 P **P 12 31 38.9 +2.0**
baz=131,SNR=14
COLD Coldfoot 42.53 340 IAmb IAmb 12 31 40.7
comp=Z,41nm,1.1s
UREC San Jos de Ur 42.72 114 *eP* **P 12 31 39.1 0.0**
SMLC San Martn de 43.26 111 *eP* **P 12 31 44.3 +0.8**
TOLK Toolik Lake Re 43.31 342 P **P 12 31 45.3 +2.0**
baz=133,SNR=10
ZARC Zaragoza, Cauc 43.40 114 *eP* **P 12 31 44.0 -0.7**
CBOC Ciudad Bolivar 43.50 116 *eP* **P 12 31 47.3 +1.7**
PTBC PUERTO BERRIO, 44.29 114 *eP* **P 12 31 52.3 +0.5**
GUY2C Guyana, Caldas 44.40 117 *eP* **P 12 31 54.3 +1.1**
YOTC Yotoco, Valle 44.44 119 *eP* **P 12 31 52.4 -0.7**
NORC Norcasia 44.57 116 *eP* **P 12 31 55.6 +1.5**
TOLC Tolima 44.83 117 *eP* **P 12 31 57.9 +1.4**
BBAC Balboa, Cauca 45.06 122 *eP* **P 12 31 59.7 +1.5**
BARC Barichara 45.27 113 *eP* **P 12 32 00.9 +1.1**
ORTC Ortega, Tolima 45.32 118 *eP* **P 12 31 58.3 -1.7**
OTAV Otavalo 45.42 125 *eP* **P 12 32 02.9 +1.7**
OTAV Otavalo 45.42 125 P **P 12 32 03.4 +2.2**
OTAV IAmb IAmb 12 32 04.3
comp=Z,19nm,1.2s
OTAV Otavalo 45.42 125 *eP* **P 12 32 01.1 -0.1**
ROSC El Rosal 45.45 116 P **P 12 32 03.0 +1.6**
comp=Z,7.7nm,0.3s,baz=346,slow=11,SNR=7.6
ROSC LR LR 12 54 06.6
comp=Z,705nm,18.7s,baz=301,slow=40
MARP Paez Belalcaza 45.48 120 *eP* **P 12 32 04.3 +2.8**
PCON Cinco Dias 45.48 121 *eP* **P 12 32 04.3 +2.4**
PRAC Prado 45.72 118 *eP* **P 12 32 03.6 +0.3**
RUSC La Rusia 45.77 114 *eP* **P 12 32 04.0 -0.1**
SDV Santo Domingo 46.01 108 *eP* **P 12 32 05.7 0.0**
SDV Santo Domingo 46.01 108 P **P 12 32 06.6 +0.9**
SDV Santo Domingo 46.01 108 *eP* **P 12 32 06.0 +0.3**
CHIC Chingaza 46.03 116 *eP* **P 12 32 07.2 +1.1**
TAOE Nuku Hiva Isla 46.31 217 *eLR* LR 12 44 58.0
comp=Z,723nm,25.6s
CZSB Cruzeiro do Su 55.07 127 *eP* **P 12 33 14.3 +0.3**
SUMG Summit 57.00 20 *i P* **P 12 33 27.0 -0.5**
comp=Z,111nm,1.2s
SUMG Summit 57.00 20 P **P 12 33 27.5 +0.1**
PPT Papeete 58.59 220 LR LR 12 53 39.6
comp=Z,282nm,18.4s,baz=44,slow=31
PPT2 Papeete2 58.61 220 *eS* **S 12 41 38.4 -5.4**
comp=Z,412nm,27.0s
PPT2 *eLR* LR 12 50 39.0
comp=Z,648nm,24.2s,baz=31
PTGA Pitinga 60.20 111 *eP* **P 12 33 49.9 -0.2**
MACA Manacapuru-AM 61.07 113 *eP* **P 12 33 55.8 -0.2**
ETMB Extrema 61.12 123 *eP* **P 12 33 54.8 -1.5**
SAML Samuel 62.77 120 *eP* **P 12 34 06.1 -1.3**
SAML *epP* **sP 12 34 10.3 0.0**
TBI Tubuai 63.26 216 *eLQ* LQ 12 50 11.8
comp=Z,359nm,32.2s
TBI *eLR* LR 12 52 52.3
comp=Z,382nm,26.2s
LPAZ La Paz 64.30 130 P **P 12 34 16.4 -1.8**
comp=Z,1.9nm,0.8s,baz=335,slow=11,SNR=6.6
LPAZ La Paz 64.30 130 *eP* **P 12 34 17.5 -0.7**
SEY Seymchan 64.80 330 P **P 12 34 21.2 +1.1**
comp=Z,9.8nm,1.2s,baz=93,slow=7.6,SNR=9.6
PETK Petropavlovsk- 65.13 318 P **P 12 34 22.8 +0.3**
comp=Z,4.2nm,0.9s,baz=80,slow=12,SNR=8.4
PETK LR LR 12 57 42.1
comp=Z,197nm,21.7s,baz=77,slow=31
MALB Monte Alegre 65.49 108 *eP* **P 12 34 25.1 -0.2**
ITTB Itaituba 65.74 111 *eP* **P 12 34 26.7 -0.2**
ITTB *epP* **pP 12 34 29.4 +0.3**
MCPB Macapa, AP 66.49 105 *eP* **P 12 34 31.5 -0.3**
MCPB *epP* **sP 12 34 35.0 +0.3**
VILB Vilhena 67.59 121 *eP* **P 12 34 38.8 0.0**
NPGB Novo Progresso 67.62 113 *eP* **P 12 34 38.9 -0.1**
LVC Limon Verde 68.44 135 P **P 12 34 46.4 +2.1**
LVC IAmb IAmb 12 34 47.1
comp=Z,11nm,0.9s
LVC Limon Verde 68.44 135 *eP* **P 12 34 43.6 -0.7**
LVC *epP* **pP 12 34 46.8 +0.4**
SIV San Ignacio 68.96 124 LR LR 13 04 13.0
comp=Z,279nm,21.4s,baz=300,slow=35
CLDB Colider 69.60 117 *eP* **P 12 34 50.1 -1.2**
PTLB Pontes e Lacer 70.00 123 *eP* **P 12 34 53.5 -0.2**
TMAB Tom-Au,PA,Br 70.89 105 *eP* **P 12 34 59.8 +0.5**
PRPB Parauapebas 71.58 109 *eP* **P 12 35 03.8 +0.4**
ROSB Rosrio 74.51 103 *eP* **P 12 35 21.0 +0.2**
SMTB Santa Maria do 74.92 110 *eP* **P 12 35 23.3 +0.1**
ARAG Araguaiana, MT 75.61 118 *eP* **P 12 35 26.7 -0.4**
ARCES ARCESS Array B 76.10 14 P **P 12 35 28.8 -0.2**
comp=Z,16nm,0.8s,baz=316,slow=5.1,SNR=16
ARCES LR LR 13 11 34.0
comp=Z,370nm,19.5s,baz=346,slow=38
PEXB Peixe 76.21 113 *eP* **P 12 35 30.4 -0.2**
CPUP Villa Florida 78.47 130 P **P 12 35 43.2 +0.3**
comp=Z,11nm,0.9s,baz=333,slow=6.2,SNR=15
CPUP LR LR 13 10 21.3
comp=Z,209nm,20.7s,baz=342,slow=36
CPUP Villa Florida 78.47 130 *eP* **P 12 35 42.8 -0.2**
BDFB Brasilia 78.50 116 P **P 12 35 43.8 +0.3**
comp=Z,7.6nm,0.8s,baz=263,slow=5.7,SNR=7.4
BDFB Brasilia 78.50 116 P **P 12 35 45.0 +1.6**
BDFB IAmb IAmb 12 35 46.6
comp=Z,9.6nm,1.0s
NB2 NORSAR Subarra 78.66 24 P **P 12 35 44.2 +0.6**
comp=Z,40nm,1.2s,baz=314,slow=5.9
NB2 NORSAR Subarra 78.66 24 P **P 12 35 44.2 +0.6**
baz=314,slow=5.9
NOA NORSAR Array B 78.66 24 P **P 12 35 44.0 +0.4**
comp=Z,10nm,1.1s,baz=317,slow=5.7,SNR=11
KONO Kongsberg 79.05 25 P **P 12 35 47.6 +1.9**
SDBA SAO DESIDERIO 79.10 111 *eP* **P 12 35 47.5 +0.7**
ITRB Iturama 79.15 120 *eP* **P 12 35 46.9 0.0**
NRIK Noril'sk 79.21 352 P **P 12 35 46.5 +0.1**
comp=Z,4.7nm,0.8s,baz=4.1,slow=4.3,SNR=6.4
NRIK LR LR 13 12 37.0
comp=Z,188nm,21.2s,baz=20,slow=37
IPMB Ipameri, GO 79.73 118 *eP* **P 12 35 50.4 +0.3**
PGAV Gavieira, Arco 80.89 47 A A 13 11 05.2
comp=Z,578nm,20.0s
PTGB Pitanga 81.02 125 *eP* **P 12 35 56.7 -0.3**
JANB Januaria 81.07 113 *eP* **P 12 35 57.4 +0.1**
PLCA Paso Flores 81.60 148 P **P 12 36 00.1 +0.5**
comp=Z,2.8nm,0.8s,baz=304,slow=7.8,SNR=5.3
PLCA LR LR 13 05 20.5
comp=Z,451nm,19.1s,baz=342,slow=31
PLCA Paso Flores 81.60 148 IAmb IAmb 12 36 01.9
comp=Z,13nm,1.2s
PCAS Casmilo, Conde 81.79 48 *eP* **P 12 36 01.8 +1.0**
comp=Z,49nm,1.6s
PVIS Viseu 81.81 47 *eP* **P 12 36 01.8 +0.8**
comp=Z,39nm,1.2s
PBRG Braganca 81.94 46 *eP* **P 12 36 01.7 +0.1**
comp=Z,28nm,1.7s
MVO Moncorvo 82.11 47 A A 13 11 40.1
comp=Z,573nm,20.0s
PMTG Montargil 82.50 49 *eP* **P 12 36 03.7 -0.9**
comp=Z,57nm,1.7s
PCBR Castelo Branco 82.56 48 *eP* **P 12 36 05.3 +0.4**
comp=Z,20nm,2.0s
PNCL Nicolau / Gran 82.82 50 *eP* **P 12 36 07.1 +0.8**
comp=Z,51nm,2.2s
PMRV Marv??o 82.84 48 *eP* **P 12 36 06.3 -0.1**
comp=Z,49nm,1.6s
PMRV A A 13 12 37.4
comp=Z,630nm,18.0s
FINES FINESS Array B 82.94 18 P **P 12 36 06.9 +0.5**
comp=Z,14nm,0.8s,baz=354,slow=5.7,SNR=28
PTEO Sao Teotonio 83.00 50 *eP* **P 12 36 09.0 +1.8**
comp=Z,134nm,1.8s
MORF Marmelete 83.18 51 *eP* **P 12 36 09.0 +0.8**
MORF AMb AMB 12 36 12.3
comp=Z,61nm,2.1s
MORF Marmelete 83.18 51 *eP* **P 12 36 09.4 +1.2**
comp=Z,64nm,1.6s
BMRD Maredsous 83.22 34 P **P 12 36 09.0 +1.0**
comp=Z,31nm,2.0s
DOU Dourbes 83.27 35 P **P 12 36 08.7 +0.4**
comp=Z,21nm,2.0s
BSEG Bad Segeberg 83.29 29 *eP* **P 12 36 09.1 +0.7**
comp=Z,78nm,1.3s,baz=315,slow=4.7
IBBN Ibbenburen 83.29 32 *eP* **P 12 36 08.9 +0.5**
comp=Z,127nm,1.6s,baz=315,slow=4.7
BGES Gesves 83.32 34 P **P 12 36 08.9 +0.3**
comp=Z,22nm,1.8s
BCLA Clavier 83.40 34 P **P 12 36 09.7 +0.6**
PCVE Castro Verde 83.41 50 *eP* **P 12 36 09.8 +0.5**

comp=Z,68nm,1.7s
MEM Membach 83.62 34 P **P 12 36 10.6 +0.5**
BUG Bochum--Univer 83.66 32 *eP* **P 12 36 10.4 +0.1**
comp=Z,89nm,1.8s,baz=315,slow=4.7
PVAQ Vaqueiros 83.75 50 *eP* **P 12 36 12.2 +1.1**
comp=Z,45nm,1.5s
PVAQ Vaqueiros 83.75 50 A A 13 17 09.1
comp=Z,258nm,18.0s
AHRW Bad Neuenahr-A 84.17 33 *eP* **P 12 36 13.2 +0.2**
comp=Z,35nm,1.1s,baz=315,slow=4.7
NRDL Niedersach Rie 84.21 30 *eP* **P 12 36 13.7 +0.7**
comp=Z,80nm,1.3s,baz=315,slow=4.7
USRK Ussuriysk Ar. 84.22 319 P **P 12 36 13.8 +0.5**
comp=Z,2.7nm,0.8s,baz=85,slow=2.1,SNR=8.1
USRK Ussuriysk Ar. 84.22 319 P **P 12 36 13.2 -0.1**
WLF Walferdange 84.31 34 P **P 12 36 15.1 +1.4**
WLF Walferdange 84.31 34 *eP* **P 12 36 14.2 +0.5**
comp=Z,52nm,1.2s,baz=315,slow=4.7
ASSE Asse, Remlinge 84.71 30 *eP* **P 12 36 16.1 +0.5**
comp=Z,77nm,1.5s,baz=315,slow=4.7
PAB San Pablo 84.72 47 P **P 12 36 17.6 +1.5**
CLZ Clausthal 84.78 31 *eP* **P 12 36 16.9 +0.8**
comp=Z,96nm,1.8s,baz=315,slow=4.7
GTTG Gottingen 84.81 31 *eP* **P 12 36 16.7 +0.5**
comp=Z,42nm,1.6s,baz=315,slow=4.7
MJAR Matsushiro Arr 84.83 310 P **P 12 36 16.4 -0.2**
comp=Z,4.8nm,1.0s,baz=42,slow=3.8,SNR=11
MJAR LR LR 13 07 43.8
comp=Z,430nm,20.9s,baz=100,slow=31
MJAR Matsushiro Arr 84.83 310 P **P 12 36 17.2 +0.6**
MAJO Matsushiro 84.83 310 P **P 12 36 15.9 -0.7**
MAT Matsushiro 84.83 310 P **P 12 36 16.9 +0.3**
MAT *eS* **S 12 46 44.4 -1.1**
ESBB Sonseca Array 84.88 47 IAmb IAmb 12 36 18.5
comp=Z,10nm,1.1s
ESDC Sonseca Array 84.88 47 P **P 12 36 17.2 +0.3**
comp=Z,4.5nm,0.8s,baz=307,slow=5.9,SNR=22
ESDC LR LR 13 13 14.4
comp=Z,613nm,19.1s,baz=310,slow=35
ESDC Sonseca Array 84.88 47 P **P 12 36 17.2 +0.3**
TNS Taunus Mts 85.03 33 *eP* **P 12 36 17.5 0.0**
comp=Z,48nm,1.7s,baz=315,slow=4.7
UBBA Unterbreizbach 85.33 32 *eP* **P 12 36 19.1 +0.4**
comp=Z,54nm,1.8s,baz=315,slow=4.7
ECH Echery 85.78 35 IAmb IAmb 12 36 23.3
comp=Z,8.6nm,1.1s
BSFB Barra de Sao F 85.93 114 *eP* **P 12 36 22.3 +0.2**
MOX Moxa 86.19 31 *eP* **P 12 36 23.6 +0.5**
comp=Z,13nm,1.3s,baz=315,slow=4.7
MOX *eL* L 13 16 00.5
comp=Z,446nm,19.1s
BFO Black Forest 86.27 34 *eP* **P 12 36 23.1 -0.4**
comp=Z,9.2nm,1.1s,baz=315,slow=4.7
CLL Collm 86.32 30 *i P* **P 12 36 23.5 -0.1**
comp=Z,8.0nm,1.1s
CLL *i* 12 36 26.3
CLL Collm 86.32 30 *eP* **P 12 36 23.6 -0.1**
comp=Z,8.1nm,1.1s,baz=315,slow=4.7
KLMR Klimovskoe 86.53 12 *eP* **P 12 36 23.3 -1.2**
KLMR AMP 12 36 27.0
comp=Z,61nm,1.4s
PLN Plauen 86.54 31 *eP* **P 12 36 24.5 -0.3**
comp=Z,7.3nm,1.0s,baz=315,slow=4.7
GRF Grafenberg Arr 86.69 32 *eP* **P 12 36 26.2 +0.6**
comp=Z,13nm,1.1s,baz=315,slow=4.7
GRF *eL* L 13 16 38.4
comp=Z,331nm,21.2s
GUNZ Gunzen 86.71 31 *eP* **P 12 36 25.7 0.0**
comp=Z,13nm,1.4s,baz=315,slow=4.7
FBE Freiberg 86.75 30 *eP* **P 12 36 25.2 -0.6**
comp=Z,8.4nm,1.1s,baz=315,slow=4.7
BRG Berggiesshubel 87.04 30 *eP* **P 12 36 27.2 0.0**
comp=Z,8.3nm,1.2s
BRG Berggiesshubel 87.04 30 *eP* **P 12 36 26.5 -0.7**
comp=Z,8.3nm,1.2s,baz=315,slow=4.7
ROTZ Rotzenmuhle 87.08 31 *eP* **P 12 36 26.8 -0.7**
comp=Z,5.6nm,1.1s,baz=315,slow=4.7
BNI Bardonecchia 87.66 37 IAmb IAmb 12 36 32.1
comp=Z,9.7nm,1.2s
CN2 Changchun 88.11 321 *eP* **P 12 36 32.3 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
GERES GERESS Array B 88.42 31 P **P 12 36 32.7 -1.3**
comp=Z,1.3nm,0.8s,baz=316,slow=3.7,SNR=7.7
GERES LR LR 13 16 23.4
comp=Z,397nm,18.0s,baz=298,slow=36
GERES GERESS Array B 88.42 31 P **P 12 36 33.2 -0.8**
WTTA Wattenberg 88.61 33 *eP* **P 12 36 34.9 -0.2**
comp=Z,11nm,1.2s,baz=315,slow=4.7
VRAC Vranov 89.34 30 *eP* **P 12 36 38.0 -0.3**
MORC Moravsky Berou 89.39 29 *eP* **P 12 36 38.4 -0.1**
KRUC Moravsky 89.45 30 *eP* **P 12 36 38.1 -0.6**
KBA Koelnbreinsper 89.55 33 *eP* **P 12 36 38.5 -1.0**
comp=Z,8.2nm,1.3s,baz=315,slow=4.7
JAVC Velka Javorina 90.15 29 *eP* **P 12 36 42.6 +0.5**
MODS Modra-Piesok 90.35 30 *eP* **P 12 36 42.5 -0.5**
OBKA Obir 90.53 33 *eP* **P 12 36 42.8 -1.2**
comp=Z,14nm,1.4s,baz=315,slow=4.7
PERS Pernice 90.70 32 *eP* **P 12 36 43.9 -0.8**
KSRS Korea Array 90.85 315 LR LR 13 12 39.8
comp=Z,158nm,20.1s,baz=74,slow=32
VYHS Vyhne 90.92 29 *eP* **P 12 36 45.5 -0.1**
SKDS Skadanscina 90.99 33 *eP* **P 12 36 45.8 -0.2**
OBN Obninsk 91.17 16 LR LR 13 19 47.6
comp=Z,53nm,18.7s,baz=3.5,slow=37
DZM Mont Dzumac 92.24 246 *eLR* LR 13 06 21.0
comp=Z,294nm,22.2s
AKASG Malin Array Be 92.99 22 P **P 12 36 54.8 -0.3**
comp=Z,2.8nm,0.8s,baz=324,slow=3.8,SNR=14
AKASG Malin Array Be 92.99 22 IAmb IAmb 12 36 57.8
comp=Z,3.5nm,1.5s
ARU Arti 93.24 4 P **P 12 36 56.9 +0.8**
comp=Z,0.7nm,0.3s,baz=27,slow=6.3,SNR=8.6
ARU LR LR 13 24 15.0
comp=Z,218nm,18.9s,baz=2.0,slow=39
ARU Arti 93.24 4 P **P 12 36 57.2 +1.0**
SONM Songino Array 93.92 334 P **P 12 36 59.4 -0.3**
comp=Z,0.8nm,0.5s,baz=46,slow=4.3,SNR=7.9
SONM LR LR 13 19 11.5
comp=Z,296nm,20.6s,baz=30,slow=36
SONM Songino Array 93.92 334 P **P 12 37 00.1 +0.4**
BURAR Bucovina Array 94.18 26 P **P 12 37 00.8 0.0**
ZAA0 Zalesovo Array 94.32 349 P **P 12 37 01.9 +0.7**
ZAA0 IAmb IAmb 12 37 03.3
comp=Z,11nm,1.4s
ZALV Zalesovo Beam 94.32 349 P **P 12 37 00.8 -0.3**
comp=Z,0.4nm,0.3s,baz=20,slow=4.7,SNR=8.0
ZALV LR LR 13 26 09.1
comp=Z,112nm,18.9s,baz=28,slow=40
ZALV Zalesovo Beam 94.32 349 P **P 12 37 01.3 +0.2**
KEST Kesra 95.50 43 P **P 12 37 07.6 +0.5**
comp=Z,3.7nm,0.9s,baz=256,slow=4.2,SNR=3.8
KEST Kesra 95.50 43 IAmb IAmb 12 37 09.8
comp=Z,10.0nm,1.2s
HHC Hu-ho-hao-te 97.32 327 *eP* Pdif 12 37 16.6 +1.2
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,250nm,7.2s
HHC LR LR
comp=N,230nm,15.3s
HHC LR LR
comp=E,340nm,14.5s
HHC LR LR
comp=Z,250nm,16.2s
AKTO Aktyubinsk 99.17 5 LR LR 13 26 48.1
comp=Z,221nm,19.5s,baz=9.2,slow=38
NJ2 Nanjing 99.98 316 *eP* **Pdif 12 37 27.1 -0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 100.47 4 Pdif **Pdif 12 37 29.6 +0.5**
WRA Warramunga Arr 117.83 262 PKP **PKPdf 12 42 28.2 -0.7**
comp=Z,1.4nm,1.1s,baz=70,slow=2.5,SNR=5.9
ASAR Alice Springs 119.69 259 PKP **PKPdf 12 42 32.0 -0.3**
comp=Z,0.7nm,0.8s,baz=75,slow=1.7,SNR=7.8
CMAR Chiang Mai Arr 121.78 322 PKP **PKiKP 12 42 37.4 +0.7**
comp=Z,2.9nm,1.0s,baz=333,slow=2.6,SNR=12
CMAR Chiang Mai Arr 121.78 322 PKPdf **PKPdf 12 42 36.6 +0.1**
VNA3 Neumayer Olymp 123.22 158 PKPdf **PKPdf 12 42 37.4 -0.3**
VNA1 Neumayer--Stat 123.72 157 PKPdf **PKPdf 12 42 38.5 -0.1**
VNA2 Neumayer--Watz 123.98 158 PKPdf **PKPdf 12 42 39.1 0.0**
SNAA Sanae 125.34 159 PKPdf **PKPdf 12 42 41.7 -0.1**
SNAA Sanae 125.34 159 PKPdf **PKPdf 12 42 41.9 0.0**
MAW Mawson 142.79 178 PKhKP **PKPdf 12 43 10.4 -3.9**
comp=Z,2.5nm,0.9s,baz=212,slow=9.5,SNR=3.4
MAW PKP **pPKPdf 12 43 15.7 -0.9**

comp=Z,3.3nm,1.0s,baz=102,slow=2.0,SNR=4.2
LBTB Lobatse 144.23 91 PKPdf PKPbc 12 43 16.7 +0.2
BOSA Boshof 144.89 97 PKPab 12 43 17.6 -1.0
comp=Z,9.5nm,0.9s,baz=273,slow=4.2,SNR=10

KRNET 15 12:24:06.4±0.1, 42°.64N×75°.17E, mb1.3, 2C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.16**	**275**	⇑	*i*	P	Pg	12 24 09.5	0.0
KBK	baz=75			⇑	*i*	S	Sg	12 24 12.0	+0.4
TKM2	**Tokmak 2**	**0.42**	**49**	⇓	*i*	P	Pg	12 24 15.0	+0.5
CHMS	baz=49 **Chumysh**	**0.47**	**320**	⇓	*i*	P	Pg	12 24 15.7	+0.3
CHMS	baz=20			⇓	*i*	S	Sg	12 24 22.6	+1.1
	baz=20								

KRNET 15 12:24:11.8±0.1, 42°.61N×75°.13E, mb1.3, 2C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.14**	**289**	⇓	*i*	P	Pg	12 24 14.9	+0.5
KBK	baz=89			⇓	*i*	S	Sg	12 24 17.2	+1.0
TKM2	**Tokmak 2**	**0.47**	**48**	⇑	*i*	P	Pg	12 24 20.8	+0.1
TKM2	baz=48			⇑	*i*	S	Sg	12 24 27.4	+0.7
TKM2	**Tokmak 2**	**0.47**	**48**	⇓	*i*	S	Pg	12 24 20.8	+0.1
CHMS	baz=49 **Chumysh**	**0.47**	**325**	⇓	*i*	P	Pg	12 24 21.0	+0.1
CHMS	baz=25			⇓	*i*	S	Sg	12 24 27.7	+0.7
	baz=25								

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*IDC **15** 12:41:28.2±2.5, 22°.79N×11°.64W, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.5/46, mbtmp3.7/7, ML3.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/51, Error ellipse: s-maj=75.4km s-min=24.2km az=80.0*

ISC 15 12:41:29.5±1.4, 22°.80N±0°.07×11°.7W±0°.2, h10km, n14, σ1°.26/17, mb3.9/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TTIG	**Tnine Tigouga,**	**8.23**	**20**	P			Pn	12 43 35.3	+6.1
TTIG				S			**Sn**	**12 45 04.2**	**+1.9**
TTIG				Lg			Lg	12 45 53.8	
OUK	**Oukaimeden**	**9.03**	**21**	P			**Pn**	**12 43 40.6**	**+0.4**
OUK				S			**Sn**	**12 45 19.7**	**-2.5**
OUK				Lg			Lg	12 46 09.2	
ZGR	**Zagora**	**9.08**	**35**	P			**Pn**	**12 43 42.0**	**+1.3**
ZGR				S			**Sn**	**12 45 23.6**	**+0.6**
ZGR				Lg			Lg	12 46 16.0	
OUZM	**OUZ**	**9.18**	**27**	P			**Pn**	**12 43 42.0**	**-0.2**
OUZM				S			**Sn**	**12 45 23.0**	**-2.7**
OUZM				Lg			Lg	12 46 14.7	
MDT	**Midelt**	**11.76**	**30**	LR			LR	12 48 28.9	
	comp=Z,46nm,21.2s,baz=354,slow=36								
TORD	**Torodi Ar. Bea**	**15.92**	**125**	Pn			**Pn**	**12 45 14.5**	**+0.8**
	0.2nm,0.3s,baz=319,slow=13,SNR=3.6								
TORD				Sn			**Sn**	**12 48 09.7**	**-0.6**
	0.1nm,0.3s,baz=308,slow=22,SNR=1.7								
TORD				LR			LR	12 52 01.3	
	comp=Z,122nm,19.9s,baz=210,slow=40								
DBIC	**Dimbokro**	**17.33**	**157**	P			**Pn**	**12 45 30.7**	**-0.9**
	0.3nm,0.3s,baz=328,slow=17,SNR=1.8								
DBIC				S			Sn	12 48 30.4	-14
	0.1nm,0.3s,baz=130,slow=14,SNR=1.9								
DBIC				Lg			Lg	12 50 37.2	
	0.1nm,0.3s,baz=90,slow=15,SNR=3.2								
ESDC	**Sonseca Array**	**18.05**	**20**	P			**P**	**12 45 41.1**	**+0.3**
	0.1nm,0.3s,baz=249,slow=15,SNR=1.3								
GERES	**GERESS Array B**	**32.85**	**31**	P			**P**	**12 48 03.8**	**+0.4**
	0.3nm,0.3s,baz=223,slow=9.2,SNR=3.5								
FINES	**FINESS Array B**	**46.48**	**24**	P			**P**	**12 49 56.0**	**-0.6**
	2.0nm,0.9s,baz=222,slow=4.6,SNR=4.9								
KURBB	**Kurchatov Arra**	**72.84**	**42**	P			**P**	**12 52 58.9**	**+0.5**
	0.6nm,0.6s,baz=287,slow=6.3,SNR=5.2								
MKAR	**Makanchi Array**	**76.33**	**45**	P			**P**	**12 53 19.1**	**+0.3**
	0.5nm,0.5s,baz=274,slow=6.8,SNR=5.6								
WRA	**Warramunga Arr**	**148.25**	**91**	PKPbc			**PKPbc**	**13 01 16.3**	**-0.3**
	0.5nm,0.7s,baz=288,slow=2.5,SNR=6.6								
ASAR	**Alice Springs**	**148.39**	**98**	PKPbc			**PKPbc**	**13 01 16.9**	**0.0**
	0.6nm,0.7s,baz=282,slow=1.6,SNR=12								

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*ECX **15** 12:42:30.9±0.7, 30°.57N×114°.27W, h0km±5km, MD3.6, ML3.8*
*MEX **15** 12:42:32.1±0.5, 29°.85N×115°.13W, h15km±13km, MD4.1*
*ANF **15** 12:42:37.3±2.7, 30°.99N×113°.81W, h0km, ML3.9/16, Error ellipse: s-maj=22.4km s-min=5.7km az=179.0*

ISC 15 12:42:27.6±1.4, 30°.51N±0°.05×114°.17W±0°.03, h11km±10km, n32, σ1°.99/45, 2C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.79**	**312**	⇓	*e*	P	**Pb**	**12 42 43.2**	**0.0**
SFX					*i*	S	**Sg**	**12 42 53.3**	**+0.2**
PIX	**Pinacate**	**1.21**	**30**		*e*	P	**Pg**	**12 42 50.7**	**-0.1**
PIX					*e*	S	**Sn**	**12 43 07.7**	**+1.0**
ECBX	**El Chinero**	**1.22**	**322**		*e*	P	**Pn**	**12 42 50.1**	**-0.4**
ECBX					*e*	S	**Sb**	**12 43 06.2**	**-0.2**
SPX	**San Pedro Mart**	**1.23**	**295**		*i*	P	**Pb**	**12 42 50.4**	**-0.7**
SPX					*i*	S	**Sg**	**12 43 05.8**	**-1.6**
SPX	**San Pedro Mart**	**1.23**	**295**		*e*	P	**Pb**	**12 42 50.7**	**-0.4**
SPX					*e*	S	**Sg**	**12 43 06.9**	**-0.5**
SPX						IAML		12 43 16.3	
	comp=E,2μm,0.4s								
SPX						IAML		12 43 19.2	
	comp=N,2μm,0.9s								
SPX				⇓	*e*			12 43 19.2	
SPIG	**San Pedro Mart**	**1.24**	**296**		*i*	P	**Pn**	**12 42 51.5**	**+0.4**
SPIG					*i*	S	**Sg**	**12 43 06.2**	**-1.3**
SPIG	**San Pedro Mart**	**1.24**	**296**		*e*	P	**Pg**	**12 42 51.2**	**-0.2**
SPIG					*e*	S	**Sg**	**12 43 07.1**	**-0.4**
SQX	**San Quintin**	**1.48**	**273**	⇓	*e*	P	**Pb**	**12 42 55.3**	**+0.3**
SQX					*e*	S	**Sn**	**12 43 13.7**	**+0.3**
VTX	**Valle De La Tr**	**1.64**	**303**		*e*	P	**Pb**	**12 42 57.6**	**-0.3**
VTX					*e*	S	**Sb**	**12 43 19.1**	**+0.4**
214A	**Organ Pipe Nat**	**1.85**	**39**			P	**Pb**	**12 43 00.9**	**-0.5**
	baz=222								
214A						S	**Sn**	**12 43 20.8**	**-1.9**
	baz=222								
SJX	**San Joaquin**	**1.98**	**310**		*e*	P	**Pg**	**12 43 07.6**	**+2.1**
SJX					*e*	S	**Sg**	**12 43 35.0**	**+3.8**
SJX				⇑	*e*			12 43 40.1	
SJX						IAML		12 43 40.1	
	comp=N,478nm,0.6s								
SJX						IAML		12 43 52.8	
	comp=E,582nm,0.7s								
SJX				⇑	*e*			12 43 52.8	
MBIG	**Mexicali**	**2.08**	**335**		*i*	P	**Pg**	**12 43 10.3**	**+2.7**
MBIG					*i*	S	**Sg**	**12 43 39.9**	**+5.3**
CPBX	**Cerro Prieto**	**2.13**	**333**		*e*			12 44 20.1	
CPBX						IAML		12 44 20.1	
	comp=E,2μm,0.6s								
GLA	**Glamis**	**2.59**	**348**			P	**Pb**	**12 43 14.7**	**+0.6**
	baz=157								
IKP	**In-Ko-Pah, Jac**	**2.70**	**323**			P	**Pg**	**12 43 19.1**	**-0.2**
	baz=130								
IKP						S	**Sg**	**12 43 53.7**	**-0.6**
	baz=130								
SWSC	**Sam W. Stewart**	**2.79**	**331**			Pg	Pg	12 43 28.1	+6.9
	baz=139								
TJIG	**Tijuana**	**2.87**	**312**		*i*	P	**Pn**	**12 43 15.3**	**+2.0**
TJIG					*i*	S	**Sn**	**12 43 48.2**	**+0.3**
MONP2	**Monument Peak**	**3.05**	**322**			P	**Pg**	**12 43 25.0**	**-1.1**
	baz=130								
109C	**Camp Elliot, M**	**3.45**	**314**			S	**Sg**	**12 44 14.8**	**-3.5**
	baz=123								
TPFO	**Pinon Flats**	**3.64**	**328**			Pb	**Pg**	**12 43 39.0**	**+1.6**
	baz=139								
TPFO						Sb	**Sg**	**12 44 24.9**	**+0.3**
	baz=139								
PFO	**Pinyon Flats O**	**3.65**	**328**			Pb	**Pg**	**12 43 38.9**	**+1.3**
	baz=139								

IRM	**Iron Mountain**	**3.73**	**347**			Pb	**Pg**	**12 43 38.9**	**-0.1**
	baz=160								
BELC	**Belle Mtn. Jos**	**3.81**	**336**			Pg	Pg	12 43 46.1	+5.5
	baz=148								
NZIG	**Nacozari, Sono**	**3.99**	**91**		*i*	P	**Pg**	**12 43 43.4**	**-0.6**
NZIG					*i*	S	**Sg**	**12 44 37.1**	**+1.4**
BFSC	**Mount Baldy Ra**	**4.75**	**322**			Sb	**Sg**	**12 44 57.8**	**-2.2**
	baz=134								
DECC	**Green Verdugo**	**5.13**	**318**			Sb	**Sg**	**12 45 08.5**	**-3.8**
	baz=129								
EDW2	**Edwards Air Fo**	**5.42**	**324**			Sb	**Sg**	**12 45 17.6**	**-3.9**
	baz=137								
WUAZ	**Wupatki**	**5.51**	**24**			S	**Sn**	**12 44 53.6**	**+0.3**
	baz=205								
OSI	**Osito Audit: C**	**5.61**	**318**			Sb	**Sg**	**12 45 23.3**	**-4.5**
	baz=130								
121A	**Cookes Peak, D**	**5.81**	**68**			Sg	**Sg**	**12 45 34.3**	**+0.2**
	baz=255								
W18A	**Petrified Fore**	**5.92**	**38**			Sg	**Sg**	**12 45 36.0**	**-1.6**
	baz=221								
ARVC	**Arvin**	**6.05**	**321**			Sb	**Sg**	**12 45 38.1**	**-3.6**
	baz=133								

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*GCMT **15** 12:56:31.0±0.3, 2°.81N±0°.02×95°.05W±0°.03, h14km, MW4.9/106, Moment Tensor Solution. s39,c51; s106,c156; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.28±.16; Mθθ2.93±.11; Mφφ0.34±.09; Mrθ0.48±.20; Mθφ0.13±.06; Mφr-0.56±.26; Best double couple: M0=3.18600×10^16 NP1:φs=79.00000°, δ41.00000°, λ-103.00000°. NP2:φs=276.00000°, δ50.00000°, λ-79.00000°. Principal axes: T 2.9700, Plg4.0000°; Azm358.0000°; N 0.4250, Plg9.0000°, Azm89.0000°; P -3.4020, Plg80.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 15 12:56:21.4±4.2, 2°.31N×94°.93W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/35, mbtmp3.9/4, MS4.1/23, Ms1 4.1/23, ms1mx4.0/37 Error ellipse: s-maj=231.5km s-min=81.3km az=75.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**12.69**	**51**	LR			LR	13 02 59.6	
	comp=Z,1μm,20.2s,baz=258,slow=31								
APG	**El Apazote**	**13.36**	**19**	LR			LR	13 03 33.1	
	comp=Z,2μm,21.3s,baz=231,slow=32								
TEIG	**Tepich**	**18.95**	**20**	LR			LR	13 07 10.0	
	comp=Z,952nm,19.4s,baz=224,slow=34								
ATAH	**Atahualpa**	**18.98**	**120**	LR			LR	13 06 55.2	
	comp=Z,424nm,18.3s,baz=299,slow=33								
NNA	**Nana**	**22.91**	**129**	LR			LR	13 08 40.1	
	comp=Z,296nm,19.7s,baz=248,slow=32								
SDV	**Santo Domingo**	**25.03**	**74**	LR			LR	13 10 35.8	
	comp=Z,274nm,18.6s,baz=255,slow=34								
TXAR	**Lajitas Array**	**28.13**	**344**	P			P	13 02 15.7	+0.2
	0.8nm,0.8s,baz=168,slow=12,SNR=4.9								
TXAR				LR			LR	13 12 24.3	
	comp=Z,482nm,21.9s,baz=0.0,slow=34								
LPAZ	**La Paz**	**32.29**	**126**	LR			LR	13 15 47.5	
	comp=Z,202nm,19.5s,baz=314,slow=36								
TKL	**Tuckaleechee C**	**34.75**	**16**	LR			LR	13 17 00.8	
	comp=Z,624nm,20.6s,baz=188,slow=36								
H03N2	**Juan Fernandez**	**38.63**	**158**	T			T	13 45 31.1	
	baz=334,slow=77,SNR=65								
H03N1	**Juan Fernandez**	**38.64**	**158**	T			T	13 45 32.3	
	baz=334,slow=77,SNR=84								
H03N3	**Juan Fernandez**	**38.65**	**158**	T			T	13 45 29.5	
	baz=334,slow=77,SNR=43								
NVAR	**Mina Array Bea**	**41.83**	**332**	P			P	13 04 13.4	0.0
	1.8nm,0.8s,baz=162,slow=7.3,SNR=15								
NVAR				PcP			PcP	13 06 09.6	+0.1
	0.5nm,0.8s,baz=144,slow=3.2,SNR=4.0								
NVAR				LR			LR	13 19 13.7	
	comp=Z,290nm,19.4s,baz=149,slow=33								
PDAR	**Pinedale Array**	**42.35**	**344**	P			P	13 04 17.4	-0.2
	2.2nm,0.9s,baz=154,slow=8.2,SNR=12								
PDAR				LR			LR	13 21 18.6	
	comp=Z,1μm,19.6s,baz=163,slow=35								
ULM	**Lac du Bonnet**	**47.77**	**359**	LR			LR	13 26 21.1	
	comp=Z,159nm,18.7s,baz=150,slow=38								
PLCA	**Paso Flores**	**48.28**	**155**	LR			LR	13 20 43.7	
	comp=Z,352nm,20.4s,baz=343,slow=30								
SCHQ	**Schefferville**	**57.13**	**19**	LR			LR	13 32 13.3	
	comp=Z,173nm,18.5s,baz=216,slow=38								
PPT	**Papeete**	**57.35**	**248**	LR			LR	13 24 56.4	
	comp=Z,59nm,19.1s,baz=311,slow=30								
YKA	**Yellowknife Ar**	**61.81**	**350**	LR			LR	13 34 09.3	
	comp=Z,235nm,18.5s,baz=0.0,slow=37								
DLBC	**Dease Lake**	**62.35**	**340**	LR			LR	13 34 00.4	
	comp=Z,687nm,18.4s,baz=135,slow=36								
ILAR	**Eielson Array**	**72.53**	**339**	P			P	13 07 49.6	-0.4
	1.1nm,0.9s,baz=142,slow=4.5,SNR=9.3								
JMIC	**Jan Mayen**	**86.66**	**19**	LR			LR	13 45 41.9	
	comp=Z,74nm,20.5s,baz=310,slow=34								
ESDC	**Sonseca Array**	**89.28**	**51**	LR			LR	13 42 29.7	
	comp=Z,62nm,21.3s,baz=220,slow=31								
SPITS	**Spitsbergen Ar**	**92.04**	**11**	LR			LR	13 51 55.9	
	comp=Z,104nm,18.4s,baz=300,slow=36								
VNDA	**Vanda**	**95.10**	**192**	LR			LR	13 45 09.7	
	comp=Z,81nm,18.1s,baz=69,slow=31								
NOA	**NORSAR Array B**	**95.75**	**28**	LR			LR	13 52 22.9	
	comp=Z,25nm,18.1s,baz=85,slow=35								
H11N3	**WAKE ISLAND Hy**	**96.90**	**290**	T			T	14 57 14.4	
	baz=85,slow=75,SNR=8.2								
H11N2	**WAKE ISLAND Hy**	**96.91**	**290**	T			T	14 57 19.6	
	baz=85,slow=75,SNR=7.7								
H11N1	**WAKE ISLAND Hy**	**96.92**	**290**	T			T	14 57 23.8	
	baz=85,slow=75,SNR=10								
H11S2	**WAKE ISLAND Hy**	**97.20**	**289**	T			T	14 57 28.7	
	baz=86,slow=75,SNR=21								
H11S1	**WAKE ISLAND Hy**	**97.20**	**289**	T			T	14 57 31.2	
	baz=86,slow=75,SNR=12								
H11S3	**WAKE ISLAND Hy**	**97.22**	**289**	T			T	14 57 26.1	
	baz=86,slow=75,SNR=16								
ARCES	**ARCESS Array B**	**98.08**	**18**	LR			LR	13 56 42.9	
	comp=Z,45nm,18.9s,baz=333,slow=37								

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*BJI **15** 13:07:55.1±0.0, 61°.44N×13°.75E, h10km, mB5.1/19, mb4.9/25, Ms4.7/4, Ms7 4.4/4*
*BGS **15** 13:07:57.3±1.3, 61°.55N×14°.77E, h10km, ML4.5, ML4.5*
*MOS **15** 13:07:58.7±1.4, 61°.48N×14°.53E, h14km, mb4.7/38, Error ellipse: s-maj=8.9km s-min=3.4km az=94.4*
*NAO **15** 13:07:59.6±1.2, 61°.71N×14°.24E, h1km±11km, ML4.7*
*DNK **15** 13:07:59.2±3.8, 61°.69N×14°.29E, h1km±6km, mb4.8, ML4.6, Fault plane solution: NP1:φs=5.98000°, δ36.00000°, λ90.00000°., Hypocentre not reviewed by the ISC Probable volcanic*
*IEPN **15** 13:07:59.0, 61°.85N×14°.24E, h10km*
*NEIC **15** 13:08:00.9±1.9, 61°.55N±0°.07×14°.4E±0°.1, h16km±3km, mb4.6/123, Error ellipse: s-maj=10.4km s-min=7.8km az=179.0*
*HEL **15** 13:08:00.4, 61°.64N×14°.26E, h12km, ML4.2, Confirmed Earthquake*
*UPP **15** 13:08:00.4±0.3, 61°.66N×14°.31E, h6km, ML4.1, Confirmed Earthquake*
*BGR **15** 13:08:01.5±3.5, 61°.57N×14°.71E, h10km, Error ellipse: s-maj=76.7km s-min=20.0km az=178.0*
*BER **15** 13:08:01.7, 61°.66N×14°.20E, h6km, mb4.8, ML4.1, ML4.1(UPP), Confirmed Earthquake*
*IDC **15** 13:08:01.5±1.1, 61°.65N×14°.24E, h20km±8km, mb4.2/23, mb1 4.4/33, mb1mx4.2/59, mbtmp4.3/33, ML4.5/11, MS3.9/1, Ms1 3.9/1, ms1mx2.9/52, Error ellipse: s-maj=6.3km s-min=5.5km az=5.0*
*KOLA **15** 13:08:03.2, 61°.56N×15°.12E, h0km*

ISC 15 13:08:00.1±1.0, 61°.61N±0°.02×14°.34E±0°.01, h15km±6km, n615, σ2°.09/812, mb4.6/94, 31C-45D, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROTU	**Roteberg**	**0.73**	**105**	⇓		P	**Pb**	**13 08 14.5**	**0.0**
ROTU						S	**Sb**	**13 08 24.4**	**0.0**
ROTU	**Roteberg**	**0.73**	**105**	⇓	*e*	P	**Pb**	**13 08 14.5**	**0.0**
ROTU					*e*	S	**Sb**	**13 08 24.4**	**0.0**
ROTU	**Roteberg**	**0.73**	**105**	⇓		P	**Pb**	**13 08 14.5**	**0.0**
ROTU						S	**Sb**	**13 08 24.4**	**0.0**
HASU	**Hassela**	**1.21**	**62**	⇓		P	**Pn**	**13 08 22.0**	**-0.4**
HASU						S	**Sb**	**13 08 37.0**	**-0.9**
HASU	**Hassela**	**1.21**	**62**	⇓	*e*	P	**Pn**	**13 08 22.0**	**-0.4**
HASU					*e*	S	**Sb**	**13 08 37.0**	**-0.9**
HASU	**Hassela**	**1.21**	**62**	⇓		P	**Pn**	**13 08 22.0**	**-0.4**
HASU						S	**Sb**	**13 08 37.0**	**-0.9**
HUDU	**Hudiksvall**	**1.33**	**83**	⇓		P	**Pn**	**13 08 24.7**	**+0.5**
HUDU						S	**Sn**	**13 08 41.7**	**+0.1**
HUDU	**Hudiksvall**	**1.33**	**83**	⇓	*e*	P	**Pn**	**13 08 24.7**	**+0.5**
HUDU					*e*	S	**Sn**	**13 08 41.7**	**+0.1**
HUDU	**Hudiksvall**	**1.33**	**83**	⇓		P	**Pn**	**13 08 24.7**	**+0.5**
HUDU						S	**Sn**	**13 08 41.7**	**+0.1**
FALU	**Falun**	**1.34**	**146**			P	**Pb**	**13 08 25.5**	**+0.7**
FALU						S	**Sg**	**13 08 44.0**	**+0.9**
FALU	**Falun**	**1.34**	**146**		*e*	P	**Pb**	**13 08 25.5**	**+0.7**
FALU					*e*	S	**Sg**	**13 08 44.0**	**+0.9**
FALU	**Falun**	**1.34**	**146**			P	**Pb**	**13 08 25.5**	**+0.7**
FALU						S	**Sg**	**13 08 44.0**	**+0.9**
NC405	**NORSAR Array S**	**1.36**	**249**			Pn	**Pb**	**13 08 25.1**	**-0.1**
NC4	**NORSAR Subarra**	**1.37**	**248**			Pg	**Pn**	**13 08 24.9**	**+0.2**
NC4						Lg	Lg	13 08 44.6	
NC4	**NORSAR Subarra**	**1.37**	**248**			Pg	**Pn**	**13 08 24.9**	**+0.2**
NC4						Sg	**Sg**	**13 08 44.6**	**+0.3**
NC3	**NORSAR Subarra**	**1.45**	**257**			Pg	**Pn**	**13 08 26.0**	**+0.3**
NC3						Lg	Lg	13 08 45.5	
NC3	**NORSAR Subarra**	**1.45**	**257**			Pg	**Pn**	**13 08 26.0**	**+0.3**
NC3						Sg	**Sb**	**13 08 45.5**	**+0.5**
ARNU	**Arnoeviken**	**1.45**	**86**	⇓		P	**Pb**	**13 08 26.7**	**-0.1**
ARNU						S	**Sb**	**13 08 45.1**	**+0.1**
ARNU	**Arnoeviken**	**1.45**	**86**	⇓	*e*	P	**Pb**	**13 08 26.7**	**-0.1**
ARNU					*e*	S	**Sb**	**13 08 45.1**	**+0.1**
ARNU	**Arnoeviken**	**1.45**	**86**	⇓		P	**Pb**	**13 08 26.7**	**-0.1**
ARNU						S	**Sb**	**13 08 45.1**	**+0.1**
NC303	**NORSAR Array S**	**1.48**	**256**				**Pb**	**13 08 27.0**	**-0.3**
NC303	**NORSAR Array S**	**1.48**	**256**	⇓	*i*	P	**Pb**	**13 08 27.0**	**-0.3**
NC303					*e*	Sg	**Sg**	**13 08 46.9**	**-0.8**
NC303						IAML		13 08 50.8	
	comp=Z,4μm,0.5s								
HFC2	**Hagfors New Ar**	**1.52**	**192**		*e*	P	**Pb**	**13 08 28.6**	**+0.6**
HFC2					*e*	PN	**Pg**	**13 08 29.2**	**-0.1**
HFC2					*e*	SN	**Sg**	**13 08 50.2**	**+1.3**
HFS	**Hagfors**	**1.52**	**192**			Pg	**Pb**	**13 08 28.4**	**+0.5**
	baz=8.1,slow=14								
HFS						Lg	Lg	13 08 49.9	
	baz=8.1,slow=28								
HFS	**Hagfors**	**1.52**	**192**			Pn	**Pb**	**13 08 28.4**	**+0.5**
	comp=Z,368nm,0.3s,baz=7.4,slow=14,SNR=8284								
HFS						Lg	Lg	13 08 49.5	
	comp=Z,2μm,0.3s,baz=13,slow=29,SNR=33								
HFS						LR	LR	13 08 53.4	
	comp=Z,88nm,21.0s,baz=329,slow=34								
HFS	**Hagfors**	**1.52**	**192**			Pg	**Pb**	**13 08 28.4**	**+0.5**
	baz=8.1,slow=14								
HFS						Sg	**Sg**	**13 08 49.9**	**+0.9**
	baz=8.1,slow=28								
UDD	**Uddeholm**	**1.57**	**194**			P	**Pb**	**13 08 29.5**	**+0.7**
UDD						S	**Sg**	**13 08 52.0**	**+1.4**
UDD	**Uddeholm**	**1.57**	**194**		*e*	P	**Pb**	**13 08 29.5**	**+0.7**
UDD					*e*	S	**Sg**	**13 08 52.0**	**+1.4**
NB201	**NORSAR Array S**	**1.57**	**250**			Pn	**Pb**	**13 08 28.8**	**-0.1**
NB201	**NORSAR Array S**	**1.57**	**250**		*e*	P	**Pb**	**13 08 28.8**	**-0.1**
NB201					*e*	Sg	**Sg**	**13 08 50.6**	**-0.1**
NB201						IAML		13 08 52.1	
	comp=Z,5μm,0.5s								
NB2	**NORSAR Subarra**	**1.61**	**250**			Pg	**Pb**	**13 08 28.8**	**-0.8**
	baz=62,slow=18								
NB2						Lg	Lg	13 08 50.4	
	baz=66,slow=37								
NB2	**NORSAR Subarra**	**1.61**	**250**			Pg	**Pb**	**13 08 28.8**	**-0.8**
	baz=62,slow=18								
NB2						Sg	**Sb**	**13 08 50.4**	**+0.6**
	baz=66,slow=37								
NOA	**NORSAR Array B**	**1.61**	**250**			Pn	**Pb**	**13 08 29.4**	**-0.1**
	comp=Z,31nm,0.3s,baz=65,slow=19,SNR=4747								
NOA						Lg	Lg	13 08 51.7	
	comp=Z,134nm,0.3s,baz=56,slow=22,SNR=37								
NC602	**NORSAR Array S**	**1.62**	**238**				**Pb**	**13 08 29.8**	**+0.2**
NC602	**NORSAR Array S**	**1.62**	**238**		*e*	P	**Pb**	**13 08 29.7**	**+0.2**
NC602						IAML		13 08 53.7	
	comp=Z,5μm,0.5s								
NRA0	**NORESS Array S**	**1.62**	**238**			Pg	**Pb**	**13 08 29.8**	**+0.2**
	baz=45,slow=16								
NRA0						Lg	Lg	13 08 52.1	
	baz=52,slow=28								
NRA0	**NORESS Array S**	**1.62**	**238**			Pg	**Pb**	**13 08 29.8**	**+0.2**
	baz=45,slow=16								
NRA0						Sg	**Sg**	**13 08 52.1**	**0.0**
	baz=52,slow=28								
IGGU	**Iggoen**	**1.62**	**116**	⇓		P	**Pb**	**13 08 30.2**	**+0.6**
IGGU						S	**Sb**	**13 08 50.8**	**+0.9**
IGGU	**Iggoen**	**1.62**	**116**	⇓	*e*	P	**Pb**	**13 08 30.2**	**+0.6**
IGGU					*e*	S	**Sb**	**13 08 50.8**	**+0.9**
IGGU	**Iggoen**	**1.62**	**116**	⇓		P	**Pb**	**13 08 30.2**	**+0.6**
IGGU						S	**Sb**	**13 08 50.8**	**+0.9**
NC6	**NORSAR Subarra**	**1.64**	**239**			Pg	**Pb**	**13 08 29.6**	**-0.5**
NC6						Lg	Lg	13 08 51.9	
NC6	**NORSAR Subarra**	**1.64**	**239**			Pg	**Pb**	**13 08 29.6**	**-0.5**
NC6						Sg	**Sg**	**13 08 51.9**	**-1.0**
NC2	**NORSAR Subarra**	**1.72**	**260**

KONO	Kongsberg	3.06 232	eP	Pn	13 08 47.4	-0.5
KONO	Kongsberg	3.06 232c	iP	Pn	13 08 48.3	+0.5
KONO			pmax	pmax		
	comp=Z,63nm,1.3s					
KONO	Kongsberg	3.06 232	Pn	Pn	13 08 48.1	+0.3
KONO	Kongsberg	3.06 232	eP	Pn	13 08 48.6	+0.8
KONO			ePg	Pb	13 08 55.8	+1.7
KONO			eSg	Sg	13 09 35.0	-3.1
KONO			IAML		13 09 37.0	
	comp=Z,548nm,0.5s					
SKAR	Skarslia	3.07 255	eP	Pn	13 08 48.9	+0.8
SKAR			ePg	Pb	13 08 54.9	+0.4
SKAR			eSg	Sb	13 09 34.5	+2.8
SKAR			IAML		13 09 40.6	
	comp=Z,2µm,0.8s					
AAL	Aland	3.12 115	eP	Pn	13 08 49.9	+1.3
AAL			eS	Sn	13 09 26.6	+1.1
NSS	Namsos	3.12 341	eP	Pn	13 08 48.8	+0.1
NSS			eS	Sn	13 09 24.8	-0.9
NSS	Namsos	3.12 341	eP	Pn	13 08 49.1	+0.4
NSS			eSg	Sb	13 09 34.9	+1.9
NSS			IAML		13 09 36.6	
	comp=Z,7µm,0.4s					
MOL	Molde	3.33 290	Pn	Pn	13 08 53.2	+1.5
MOL			Pg	Pb	13 08 58.0	-0.8
MOL			Lg	Lg	13 09 41.2	
MOL	Molde	3.33 290	eP	Pn	13 08 52.3	+0.7
MOL			IAML		13 09 48.0	
	comp=N,2µm,0.7s					
MOL			IAML		13 09 48.5	
	comp=E,2µm,0.6s					
MOL	Molde	3.33 290	eP	Pn	13 08 53.4	+1.8
MOL			eS	Sn	13 09 29.8	-1.1
MOL	Molde	3.33 290	eP	Pn	13 08 53.7	+2.1
MOL			ePg	Pb	13 08 57.5	-1.3
MOL			e		13 08 58.3	
MOL			eSg	Sb	13 09 41.8	+2.7
MOL			IAML		13 09 44.9	
	comp=Z,1µm,0.3s					
AKN	Aaknes	3.52 282	Pn	Pn	13 08 54.5	+0.2
AKN			Lg	Lg	13 09 47.4	
AKN	Aaknes	3.52 282	eP	Pn	13 08 54.5	+0.2
AKN			eS	Sn	13 09 34.4	-1.1
AKN	Aaknes	3.52 282	eP	Pn	13 08 54.5	+0.2
AKN			eSg	Sb	13 09 47.3	+2.8
AKN			IAML		13 09 52.6	
	comp=Z,1µm,0.2s					
RAF	Rauma	3.63 96	eP	Pn	13 08 57.1	+1.4
RAF			eS	Sn	13 09 38.9	+0.8
RAF	Rauma	3.63 96	eP	Pn	13 08 56.5	+0.9
RAF			eSB	Sb	13 09 48.9	+1.3
RAF			MSG		13 09 53.9	
	comp=Z,2µm,0.3s					
UMAU	Umeaa	3.70 49	eP	Pn	13 08 57.6	+1.0
UMAU			eS	Sn	13 09 40.1	+0.2
TJOU	Tjoern	3.84 202	iP	Pn	13 09 00.4	+1.7
HYA	Hoyanger	3.95 267	eP	Pn	13 09 00.3	+0.3
HYA			ePg	Pb	13 09 09.4	+0.1
HYA			eS	Sn	13 09 47.2	+1.2
HYA			eSg	Sg	13 10 02.1	-4.5
HYA			IAML		13 10 04.3	
	comp=Z,2µm,0.5s					
BORU	Boraas	4.07 192⇑	iP	Pn	13 09 02.7	+0.9
VAF	Ylistaro	4.14 66	eP	Pn	13 09 04.3	+1.5
VAF			eS	Sn	13 09 51.1	+0.3
VAF			MSG		13 10 04.0	
	comp=Z,494nm,0.2s					
VAF	Ylistaro	4.14 66	eP	Pn	13 09 04.2	+1.5
VAF			eSB	Sb	13 10 02.2	-0.2
VAF			MSG		13 10 09.6	
	comp=Z,1µm,0.3s					
ODD1	Odda	4.15 249	eP	Pn	13 09 07.4	+4.5
ODD1			eSg	Sg	13 10 10.6	-2.6
ODD1			IAML		13 10 16.7	
	comp=Z,862nm,0.4s					
BURU	Burvik	4.37 44	eP	Pn	13 09 07.8	+1.9
BURU			eS	Sn	13 09 55.9	-0.6
FOO	Floro	4.44 274	eP	Pn	13 09 06.7	-0.1
FOO			IAML		13 10 19.8	
	comp=N,349nm,0.4s					
FOO			IAML		13 10 22.9	
	comp=E,246nm,0.7s					
FOO	Floro	4.44 274	eP	Pn	13 09 07.8	+1.0
FOO			eS	Sn	13 09 57.0	-1.1
FOO	Floro	4.44 274	eP	Pn	13 09 06.7	-0.1
FOO			ePg	Pb	13 09 17.7	+0.1
FOO			eSg	Sb	13 10 15.5	+4.6
FOO			IAML		13 10 21.0	
	comp=Z,1µm,0.6s					
HOMB	Homborsund	4.46 224	Pn	Pn	13 09 08.2	+1.2
HOMB			Sn	Sn	13 09 58.0	-0.6
HOMB			Lg	Lg	13 10 18.5	
HOMB	Homborsund	4.46 224	eP	Pn	13 09 07.3	+0.3
HOMB			eS	Sn	13 09 57.4	-1.1
HOMB	Homborsund	4.46 224	eP	Pn	13 09 07.8	+0.8
HOMB			eSg	Sg	13 10 17.9	-5.1
HOMB			IAML		13 10 21.6	
	comp=Z,420nm,0.3s					
BLS5	Blasjo	4.47 244	eP	Pn	13 09 08.5	+1.2
BLS5			eSg	Sb	13 10 14.8	+2.8
BLS5			IAML		13 10 22.9	
	comp=Z,912nm,0.7s					
BER	Bergen	4.55 258	eP	Pn	13 09 08.9	+0.5
BER			eS	Sn	13 10 00.2	-0.8
BER			IAML		13 10 31.2	
	comp=N,267nm,0.3s					
BER			IAML		13 10 31.2	
	comp=E,205nm,0.6s					
BER	Bergen	4.55 258	eP	Pn	13 09 08.8	+0.5
BER			eS	Sn	13 09 58.5	-2.4
BER	Bergen	4.55 258	eP	Pn	13 09 08.7	+0.3
BER			IAML		13 10 30.9	
	comp=Z,909nm,0.5s					
ASK	Askoy	4.59 260	eP	Pn	13 09 08.8	0.0
ASK			eS	Sn	13 10 00.5	-1.3
ASK			eSg	Sb	13 10 19.0	+3.8
ASK			IAML		13 10 25.4	
	comp=Z,648nm,0.4s					
SUE	Sulen	4.65 267	eP	Pn	13 09 09.5	-0.2
SUE			eS	Sn	13 10 01.0	-2.3
SUE	Sulen	4.65 267⇓	iP	Pn	13 09 09.4	-0.2
SUE			eSg	Sb	13 10 19.9	+3.0
SUE			IAML		13 10 25.9	
	comp=Z,777nm,0.5s					
STOK	Stokkvaagen	4.77 354	Pn	Pn	13 09 12.1	+0.7
STOK			Sn	Sn	13 10 07.0	+0.6
STOK			Lg	Lg	13 10 26.2	
STOK	Stokkvaagen	4.77 354	eP	Pn	13 09 12.2	+0.9
STOK			eSg	Sb	13 10 26.1	+5.6
STOK			IAML		13 10 29.9	
	comp=Z,101nm,0.3s					
SNART	Snartemo	4.86 231	eP	Pn	13 09 12.4	-0.2
SNART			eS	Sn	13 10 06.4	-2.1
SNART			eSg	Sg	13 10 31.3	-4.6
SNART			IAML		13 10 38.6	
	comp=Z,808nm,0.4s					
KONS	Konsvik	4.94 354	Pn	Pn	13 09 14.0	+0.4
KONS			Sn	Sn	13 10 11.3	+0.9
KONS			Lg	Lg	13 10 30.7	
KONS	Konsvik	4.94 354	eP	Pn	13 09 14.2	+0.6
KONS			eSg	Sb	13 10 30.6	+5.5
KONS			IAML		13 10 35.0	
	comp=Z,2µm,0.5s					
NBB40	Tonnes	4.95 354	eP	Pn	13 09 16.3	+2.5
NBB40			eSg	Sb	13 10 30.3	+4.7
KEF	Keuruu	5.01 79	eP	Pn	13 09 16.9	+2.2
KEF			eS	Sn	13 10 11.6	-0.7
KEF			MSG		13 10 33.2	
	comp=Z,894nm,0.2s					
KEF	Keuruu	5.01 79	eP	Pn	13 09 16.4	+1.7
KEF			eS	Sn	13 10 14.0	+1.7
KEF			MSG		13 10 33.9	
	comp=Z,980nm,0.2s					
MEF	Metsahovi	5.10 101	eP	Pn	13 09 17.2	+1.3
MEF			eS	Sn	13 10 14.4	-0.1
MEF			MSG		13 10 36.1	
	comp=Z,701nm,0.3s					
MEF	Metsahovi	5.10 101	eP	Pn	13 09 16.4	+0.5
MEF			eS	Sn	13 10 14.4	-0.1
MEF			eSB	Sb	13 10 35.0	+4.9
MEF			MSG		13 10 42.5	
	comp=Z,1µm,0.2s					
KMY	Karmoy	5.11 246	eP	Pn	13 09 17.1	+1.1
KMY			eSg	Sg	13 10 38.0	-5.9
KMY			IAML		13 10 47.2	
	comp=Z,365nm,0.7s					
DEL	Delary	5.17 183	iP	Pn	13 09 17.7	+0.9
NBB17	Glomfjord BÝr	5.23 358	eP	Pn	13 09 17.8	+0.2
NBB17			eSg	Sg	13 10 41.8	-5.8
NBB17			IAML		13 10 43.1	
	comp=Z,2µm,0.6s					
OBF0	Syolatti, Pyha	5.35 53	eP	Pn	13 09 20.1	+0.8
OBF0			eS	Sn	13 10 19.0	-1.6
OBF0			MSG		13 10 48.6	
	comp=Z,667nm,0.3s					
OBF0	Syolatti, Pyha	5.35 53	eP	Pn	13 09 19.2	0.0
OBF0			eS	Sn	13 10 18.6	-1.9
OBF0			MSG		13 10 54.3	
	comp=Z,1µm,0.4s					
NBB30	Finnes	5.39 357	eP	Pn	13 09 20.2	+0.4
NBB30			eSg	Sb	13 10 45.5	+7.3
NBB05	Inndyr	5.45 359	eP	Pn	13 09 21.1	+0.5
NBB05			eSg	Sb	13 10 47.5	+7.7
NBB05			IAML		13 10 50.9	
	comp=Z,2µm,0.5s					
OUF	Merijarvi	5.48 55	eP	Pn	13 09 21.6	+0.5
OUF			eS	Sn	13 10 22.3	-1.5
OUF	Merijarvi	5.48 55	eP	Pn	13 09 21.1	0.0
OUF			eS	Sn	13 10 22.1	-1.7
OUF			MSG		13 10 57.2	
	comp=Z,788nm,0.3s					
MTSE	Matsula	5.55 117	eP	Pn	13 09 23.2	+1.1
MTSE			eS	Sn	13 10 24.9	-0.6
MTSE	Matsula	5.55 117	eP	Pn	13 09 23.1	+1.0
MTSE			eS	Sn	13 10 25.6	0.0
NBB28	Valnes	5.60 0	eP	Pn	13 09 24.5	+1.8
NBB28			eSg	Sg	13 10 53.5	-6.1
FIA0	FINESS Array S	5.62 87	Pn	Pn	13 09 24.4	+1.4
	baz=289,slow=14					
FIA0			Sn	Sn	13 10 29.0	+1.7
	baz=280,slow=22					
FIA0			Lg	Lg	13 10 47.8	
	baz=281,slow=28					
FIA0	FINESS Array S	5.62 87	eP	Pn	13 09 25.0	+2.0
FIA0			eS	Sn	13 10 26.3	-0.9
FIA0	FINESS Array S	5.62 87	eP	Pn	13 09 24.4	+1.4
FIA0			Pn	Pn	13 09 24.4	+1.4
	baz=289,slow=14					
FIA0			eS	Sn	13 10 28.0	+0.8
FIA0			Sn	Sn	13 10 29.0	+1.7
	baz=280,slow=22					
FIA0			Sg	Sb	13 10 47.8	+2.9
	baz=281,slow=28					
FIA0			MSG		13 10 56.7	
	comp=Z,628nm,0.2s					
FINES	FINESS Array B	5.62 87	Pn	Pn	13 09 24.4	+1.4
	comp=Z,7.6nm,0.3s,baz=287,slow=13,SNR=108					
FINES			Pg	Pb	13 09 38.2	+0.5
	comp=Z,40nm,0.3s,baz=280,slow=12,SNR=20					
FINES			Sn	Sn	13 10 29.3	+2.1
	comp=Z,151nm,0.3s,baz=277,slow=19,SNR=17					
FINES			Lg	Lg	13 10 47.6	
	comp=Z,187nm,0.3s,baz=275,slow=23,SNR=10.0					
FINES	FINESS Array B	5.62 87		Pn	13 09 23.9	+0.9
FIA1	FINESS Array S	5.62 87	eP	Pn	13 09 25.0	+2.0
FIA1			eS	Sn	13 10 26.0	-1.3
FIA1	FINESS Array S	5.62 87	Pn	Pn	13 09 24.2	+1.2
SUF	Sumiainen	5.65 74	eP	Pn	13 09 24.8	+1.4
SUF			eS	Sn	13 10 26.4	-1.5
SUF			MSG		13 10 46.6	
	comp=Z,283nm,0.2s					
SLIT	Slitere, Latvi	5.68 131	eP	Pn	13 09 24.2	+0.4
SLIT			eS	Sn	13 10 30.5	+1.9
SLIT			IAML		13 11 10.1	
	comp=Z,7µm,0.6s					
SLIT	Slitere, Latvi	5.68 131	eP	Pn	13 09 24.6	+0.8
SLIT			eS	Sn	13 10 28.9	+0.3
KAF	Kangasniemi	5.69 80	eP	Pn	13 09 26.0	+2.1
KAF			eS	Sn	13 10 27.8	-1.0
KAF	Kangasniemi	5.69 80	eP	Pn	13 09 25.5	+1.6
KAF			eS	Sn	13 10 30.0	+1.1
KAF			MSG		13 10 57.0	
	comp=Z,642nm,0.2s					
PVF	Pernaja	5.70 96	eP	Pn	13 09 25.1	+1.0
PVF			eS	Sn	13 10 27.6	-1.5
PVF	Pernaja	5.70 96	MSG		13 10 59.7	
	comp=Z,677nm,0.3s					
N2ST	Straumen	5.79 5	eP	Pn	13 09 27.7	+2.5
N2ST			eS	Sn	13 10 31.6	+0.3
NBB08	Skaug oppvekst	5.80 1	e	Pn	13 09 10.6	-15
NBB08	Skaug oppvekst	5.80 1	eSg	Sb	13 10 58.3	+8.4
FAUS	Fauske	5.81 4	eP	Pn	13 09 25.1	-0.5
FAUS			eSg	Sb	13 10 57.2	+7.0
FAUS			i		13 16 17.4	
MUD	Monsted U'grnd	5.82 210	iP	Pn	13 09 26.8	+1.1
MUD	Monsted U'grnd	5.82 210	iP	Pn	13 09 26.8	+1.1
MUD			iS	Sn	13 10 33.9	+1.8
MUD	Monsted U'grnd	5.82 210	eP	Pn	13 09 26.7	+0.9
MUD			eS	Sn	13 10 30.3	-1.9
MUD	Monsted U'grnd	5.82 210	ePn	Pn	13 09 26.2	+0.4
MUD	Monsted U'grnd	5.82 210	eP	Pn	13 09 26.1	+0.4
MUD			iS	Sn	13 10 33.9	+1.8
MUD			IAML		13 11 21.5	
	comp=Z,203nm,0.5s					
OBF4	Vikkela, Lumij	5.83 52	eP	Pn	13 09 26.5	+0.6
OBF4			eS	Sn	13 10 30.5	-1.8
N2TV	TÝrnvik	5.99 3	eP	Pn	13 09 28.5	+0.5
N2TV			eS	Sn	13 10 36.5	+0.2
N2TV			eSg	Sg	13 11 06.0	-6.0
N2TV			IAML		13 11 12.1	
	comp=Z,1µm,0.4s					
N2RO	R¸st	6.00 352	eP	Pn	13 09 27.1	-1.1
N2RO			eS	Sn	13 10 33.3	-3.4
LUNU	Lund	6.02 185	iP	Pn	13 09 29.4	+0.9
COP	Copenhagen	6.03 190	iP	Pn	13 09 29.5	+0.9
COP			iS	Sn	13 10 35.9	-1.4
COP	Copenhagen	6.03 190	iP	Pn	13 09 29.5	+0.9
COP			iS	Sn	13 10 35.9	-1.4
COP	Copenhagen	6.03 190	ePn	Pn	13 09 30.0	+1.4
COP	Copenhagen	6.03 190	iP	Pn	13 09 29.5	+0.9
COP			iS	Sn	13 10 35.9	-1.4
COP			IAML		13 11 15.8	
	comp=Z,226nm,0.4s					
ERTU	Ertsjaerv	6.03 31	eP	Pn	13 09 29.5	+0.8
ERTU			eS	Sn	13 10 35.3	-2.1
N2VA	Vr¸y	6.12 354	eP	Pn	13 09 29.0	-0.7
N2VA			IAML		13 11 16.4	
	comp=Z,184nm,0.5s					
ARBE	Arbavere	6.15 106	eP	Pn	13 09 31.5	+1.2
ARBE			eS	Sn	13 10 39.1	-1.1
OUL	Oulu	6.26 51	eP	Pn	13 09 32.1	+0.4
OUL			eS	Sn	13 10 41.5	-1.3
OUL	Oulu	6.26 51	eP	Pn	13 09 30.9	-0.8
OUL			eS	Sn	13 10 39.3	-3.5
TOF	Tornio	6.29 40	eP	Pn	13 09 32.9	+0.8
TOF			eS	Sn	13 10 41.2	-2.4
STEI	Steigen	6.36 3	eP	Pn	13 09 33.0	-0.1
STEI			eS	Sn	13 10 42.1	-3.1
STEI	Steigen	6.36 3	eP	Pn	13 09 33.9	+0.8
STEI			eSg	Sg	13 11 15.9	-7.9
VJF	Virojoki	6.50 94	eP	Pn	13 09 36.4	+1.3
VJF			eS	Sn	13 10 48.0	-1.0
VJF			MSG		13 11 21.6	
	comp=Z,503nm,0.3s					
VJF	Virojoki	6.50 94	MSG		13 11 26.6	
	comp=Z,626nm,0.3s					
LOF	Lofoten	6.55 357	eP	Pn	13 09 35.6	-0.2
LOF			eS	Sn	13 10 45.3	-4.9
LOF			IAML		13 11 25.9	
	comp=Z,447nm,0.5s					
N2VI	Vinje	6.74 360	eP	Pn	13 09 38.4	+0.1
N2VI			IAML		13 11 32.4	
	comp=Z,580nm,0.7s					
PBUR	Paburge	6.85 142	eP	Pn	13 09 41.4	+1.5
PBUR			eS	Sn	13 10 59.8	+2.3
PBUR			IAML		13 12 24.4	
	comp=Z,606nm,0.8s					
VSU	Vasula	6.96 111	eP	Pn	13 09 41.7	+0.2
VSU			eS	Sn	13 10 58.0	-2.2
VSU			IAML		13 11 43.7	
	comp=Z,3µm,0.5s					
VSU	Vasula	6.96 111⇑	iP	Pn	13 09 41.4	0.0
VSU	Vasula	6.96 111	eP	Pn	13 09 41.6	+0.2
VSU			eS	Sn	13 10 58.7	-1.6
RGN	Rugen	7.11 185	eP	Pn	13 09 45.2	+1.7
RGN	Rugen	7.11 185	eP	Pn	13 09 43.8	+0.4
RGN			eS	Sn	13 11 01.4	-2.4
RGN	Rugen	7.11 185	ePn	Pn	13 09 45.4	+2.0
RGN	Rugen	7.11 185	Pn	Pn	13 09 45.1	+1.7
RNF	Rovaniemi	7.15 40	eP	Pn	13 09 43.9	-0.1
RNF			eS	Sn	13 11 01.5	-3.3
LANU	Lannavaara	7.23 23	eP	Pn	13 09 45.3	+0.1
LANU			eS	Sn	13 11 04.1	-2.8
KLNR	Kaliningrad	7.68 154	deP	Pn	13 09 52.1	+0.8
KLNR			pmax	pmax		
	comp=Z,125nm,0.8s					
LRW	Lerwick	7.71 266	eP	Pn	13 09 51.2	-0.5
LRW	Lerwick	7.71 266	eP	Pn	13 09 51.2	-0.5
MSF	Maaselka	7.80 50	eP	Pn	13 09 52.4	-0.5
MSF			eS	Sn	13 11 17.7	-3.2
SGF	Sodankyl	7.85 37	eP	Pn	13 09 52.9	-0.7
SGF			eS	Sn	13 11 18.2	-3.8
KIF	Kilpisjarvi	7.89 17	Pn	Pn	13 09 54.2	+0.1
KIF			Sn	Sn	13 11 17.4	-5.7
KIF			Lg	Lg	13 12 01.3	
KIF	Kilpisjarvi	7.89 17	eP	Pn	13 09 54.3	+0.1
KIF			eS	Sn	13 11 19.4	-3.6
KIF	Kilpisjarvi	7.89 17	eP	Pn	13 09 54.0	-0.2
PABE	Paberze	7.92 136	eP	Pn	13 09 56.3	+1.7
PABE			eS	Sn	13 11 24.4	+0.6
PABE			IAML		13 12 27.9	
	comp=Z,511nm,0.6s					
BSEG	Bad Segeberg	7.99 197	ePn	Pn	13 09 55.3	-0.2
PUL	Pulkovo	8.06 96⇑	eP	Pn	13 09 57.5	+1.1
PUL			pmax	pmax		
	comp=Z,183nm,0.8s					
KU6	Riekki	8.16 50	eP	Pn	13 09 57.1	-0.8
KU6			eS	Sn	13 11 26.1	-3.7
TRO	Tromso	8.27 11	eP	Pn	13 09 58.7	-0.6
TRO			eS	Sn	13 11 27.3	-5.0
TRO	Tromso	8.27 11	eP	Pn	13 10 00.1	+0.8
TRO			IAML		13 11 40.0	
	comp=Z,60nm,0.5s					
TRO			eSg	Sb	13 12 15.1	+14
GKP	Gorka Klasztor	8.51 168	eP	Pn	13 10 03.7	+1.1
IZAR	Zarasai	8.54 128	eP	Pn	13 10 06.5	+3.5
IZAR			eS	Sn	13 11 38.0	-0.9
IZAR			IAML		13 12 39.1	
	comp=Z,332nm,0.5s					
ISAL	Salakas	8.63 129	eP	Pn	13 10 06.1	+1.8
ISAL			IAML		13 12 41.1	
	comp=Z,259nm,0.6s					
IIGN	Ignalina	8.83 130	eP	Pn	13 10 08.9	+1.8
IIGN			IAML		13 12 39.1	
	comp=Z,320nm,0.6s					
SUW	Suwalki	8.96 144	eP	Pn	13 10 08.1	-0.7
SUW			eS	Sn	13 11 46.2	-3.0
SUW	Suwalki	8.96 144	P	Pn	13 10 08.6	-0.2
SUW	Suwalki	8.96 144	ePn	Pn	13 10 08.9	+0.1
SUW	Suwalki	8.96 144	Pn	Pn	13 10 08.6	-0.2
VRF	Varrio	8.96 40	eP	Pn	13 10 07.5	-1.3
VRF			eS	Sn	13 11 44.1	-5.1
IDID	Didziasalis	9.05 129	eP	Pn	13 10 12.2	+2.1
IDID			IAML		13 13 01.3	
	comp=Z,253nm,0.5s					
ARA0	ARCESS Array S	9.18 25	Pn	Pn	13 10 10.5	-1.3
	baz=211,slow=14					
ARA0			Sn	Sn	13 11 47.9	-6.8
	baz=215,slow=28					
ARA0			Lg	Lg	13 12 39.6	
	baz=218,slow=28					
ARA0	ARCESS Array S	9.18 25	Pn	Pn	13 10 10.5	-1.3
	baz=211,slow=14					
ARA0			Sn	Sn	13 11 47.9	-6.8
	baz=215,slow=28					
ARA0			Sg		13 12 39.6	
	baz=218,slow=28					
ARCES	ARCESS Array B	9.18 25	Pn	Pn	13 10 10.5	-1.3
	comp=Z,35nm,0.3s,baz=214,slow=14,SNR=377					
ARCES			Sn	Sn	13 11 48.5	-6.2
	comp=Z,48nm,0.3s,baz=215,slow=21,SNR=18					
ARCES			Lg	Lg	13 12 41.9	
	comp=Z,38nm,0.3s,baz=216,slow=29,SNR=17					
ARE0	ARCESS Array S	9.18 25	eP	Pn	13 10 10.3	-1.5
ARE0			eS	Sn	13 11 49.0	-5.7
ARE0	ARCESS Array S	9.18 25	Pn	Pn	13 10 10.6	-1.2
NACGM	Naroch	9.38 130	eP	Pn	13 10 14.0	-0.6
NACGM			eS	Sn	13 12 04.0	+4.3
NACGM			eLQ	LQ	13 12 46.0	
NACGM			eLR	LR	13 13 20.0	
NACGM			LRM	MLR	13 13 34.0	
	comp=Z,3.8nm,8.0s					
NRDL	Niedersach Rie	9.43 196	ePn	Pn	13 10 17.7	+2.5
KEV	Kevo	9.67 27	P	Pn	13 10 17.1	-1.4
KEV	Kevo	9.67 27	eP	Pn	13 10 17.5	-1.0
KEV			eS	Sn	13 12 01.5	-5.2
KEV	Kevo	9.67 27	Pn	Pn	13 10 17.1	-1.4
HAMF	Hammerfest	9.81 19	eP	Pn	13 10 17.9	-2.4
HAMF			eS	Sn	13 12 04.3	-5.8
HAMF	Hammerfest	9.81 19	eP	Pn	13 10 20.6	+0.3
APA0	Apatity Array	9.98 45	Pn	Pn	13 10 22.4	-0.3
	baz=244,slow=16					
APA0			Sn	Sn	13 12 07.2	-7.1
	baz=252,slow=28					
APA0			Lg	Lg	13 13 04.8	
	baz=234,slow=22					
APA0	Apatity Array	9.98 45	P	Pn	13 10 21.1	-1.6
APA0			S	Sn	13 12 05.7	-8.6
APA0	Apatity Array	9.98 45	Pn	Pn	13 10 22.4	-0.3
	baz=244,slow=16					
APA0			Sn	Sn	13 12 07.2	-7.1
	baz=252,slow=28					
APA0			Sg		13 13 04.8	
	baz=234,slow=22					
CLZ	Clausthal	10.03 194	ePn	Pn	13 10 23.0	-0.6
MICGM	Minsk	10.10 129⇓	eP	Pn	13 10 27.0	+2.6
MICGM			eS	Sn	13 12 22.0	+4.7
MICGM			eLR	LR	13 13 08.0	
MICGM			LRM	MLR	13 13 58.0	
	comp=Z,3.4nm,7.0s					
MNK	Minsk	10.10 129	eP	Pn	13 10 27.0	+2.6
MNK			eS	Sn	13 12 22.0	+4.7
MNK			MLR	MLR		
	comp=Z,3µm,7.0s					
APA	Apatity	10.10 46	P	Pn	13 10 23.4	-1.0
APA			S	Sn	13 12 09.1	-8.2
APA	Apatity	10.10 46⇓	iP	Pn	13 10 25.1	+0.7
APA			i		13 12 15.0	
APA			pmax	pmax		
	comp=Z,44nm,0.6s					
SLVR	Solovky	10.18 61	P	Pn	13 10 27.7	+2.3
SLVR			eS	Sn	13 12 12.8	-6.2
CLL	Collm	10.36 185	ePn	Pn	13 10 27.0	-1.0
CLL			e		13 10 41.0	
CLL			eSn	Sn	13 12 20.0	-3.7
CLL			e		13 12 46.0	
CLL			e(Sb)		13 13 06.0	
CLL			eSg		13 13 29.0	
CLL	Collm	10.36 185	eP	Pn	13 10 27.0	-1.0
CLL	Collm	10.36 185	ePn	Pn	13 10 27.2	-0.8
CLL	Collm	10.36 185	Pn	Pn	13 10 26.5	-1.5
ELO	Logie Almond	10.61 249	eP	Pn	13 10 31.8	+0.4
LVZ	Lovozero	10.68 45d	iP	Pn	13 10 32.1	-0.2
LVZ			pmax	pmax		
	comp=Z,136nm,2.5s					
FBE	Freiberg	10.73 183	ePn	Pn	13 10 32.8	-0.3
BRG	Berggiesshubel	10.77 181	PG	Pn	13 10 31.6	-2.1
BRG			SG	Sn	13 12 30.9	-2.8
	comp=Z,117nm,1.2s					
BRG	Berggiesshubel	10.77 181	P	Pn	13 10 31.5	-2.1
BRG					13 12 31.0	
BRG			smax	smax		
	comp=N,117nm,1.2s					
BRG	Berggiesshubel	10.77 181	ePn	Pn	13 10 34.5	+0.8
INVG	Invergeldie, C	10.79 249	eP	Pn	13 10 33.4	-0.4
KSP	Ksiaz	10.85 173	eP	Pn	13 10 34.8	0.0
KSP	Ksiaz	10.85 173	ePn	Pn	13 10 34.9	+0.2
KPL	Plockton	11.01 256	eP	Pn	13 10 38.1	+1.3
KPL	Plockton

EKA Sn **Sn** **13 12 36.9 -4.7**
baz=52,slow=24,SNR=9.5
EKA Eskdalemuir Ar 11.09 243 Pn **Pn** **13 10 37.5 -0.5**
CHVC Chvalec 11.09 174 *e*SN **Sn** **13 12 37.1 -4.7**
PVCC Panska Ves 11.11 179 *e*PN **Pn** **13 10 38.6 +0.3**
PVCC AMS AMS 13 15 10.0
comp=Z,1μm,9.4s
PVCC Panska Ves 11.11 179 *e*P **Pn** **13 10 38.6 +0.3**
PVCC MLR MLR
comp=Z,1μm,9.4s
ESK Eskdalemuir 11.12 243 *e*P **Pn** **13 10 38.8 +0.4**
ESK Eskdalemuir 11.12 243 P **Pn** **13 10 38.6 +0.2**
ESK Eskdalemuir 11.12 243 Pn **Pn** **13 10 38.6 +0.2**
UPC Upice 11.17 174 *e*SN **Sn** **13 12 39.0 -4.7**
TANN Tannenbergstha 11.28 186 *e*Pn **Pn** **13 10 40.1 -0.5**
DPC Dobruska-Polom 11.35 174 *e*PN **Pn** **13 10 40.8 -0.7**
DPC Dobruska-Polom 11.35 174 *e*P **Pn** **13 10 40.8 -0.7**
KRLC Kraliky 11.65 172 *e*PN **Pn** **13 10 44.6 -1.1**
KRLC *e*SN **Sn** **13 12 50.4 -4.9**
KRLC Kraliky 11.65 172 *e*P **Pn** **13 10 44.6 -1.1**
KRLC *e* 13 12 50.4
PRU Pruhonice 11.65 179 *e*PN **Pn** **13 10 46.8 +1.1**
PRU AMS AMS 13 15 20.0
comp=Z,800nm,12.1s
PRU Pruhonice 11.65 179 *e*P **Pn** **13 10 46.8 +1.1**
PRU MLR MLR
comp=Z,800nm,12.1s
GOPC GO Pecny, Ondr 11.73 179 *e*PN **Pn** **13 10 46.9 +0.1**
GOPC GO Pecny, Ondr 11.73 179 *e*P **Pn** **13 10 46.9 +0.1**
OJC Ojcow 11.82 163 *e*P **Pn** **13 10 45.7 -2.3**
OJC *e*S **Sn** **13 12 52.2 -7.3**
OJC Ojcow 11.82 163 P **Pn** **13 10 45.5 -2.5**
OJC Ojcow 11.82 163 *e*Pn **Pn** **13 10 46.3 -1.6**
OJC Ojcow 11.82 163 **Pn** **13 10 45.5 -2.5**
MORC Moravsky Berou 12.00 170 *e*PN **Pn** **13 10 49.0 -1.4**
MORC Moravsky Berou 12.00 170 P **Pn** **13 10 49.1 -1.4**
MORC Moravsky Berou 12.00 170 Pn **Pn** **13 10 49.1 -1.4**
KLMR Klimovskoe 12.13 82 *e*P **Pn** **13 10 48.6 -3.5**
KLMR *e*S Sn 13 12 56.6 -10
KLMR Klimovskoe 12.13 82 *e*P **Pn** **13 10 48.6 -3.5**
KLMR *e* 13 13 00.4
KLMR pmax pmax
comp=Z,21nm,0.5s
KLMR Klimovskoe 12.13 82 *e*Pn **Pn** **13 10 48.7 -3.5**
KLMR AMP 13 10 54.8
comp=Z,21nm,0.5s
KLMR *e*Sn **Sn** **13 13 00.4 -6.5**
KLMR *e*Sn **Sn** **13 13 00.4 -6.5**
KLMR ⇓Lg Lg 13 14 11.5
KLMR ⇓Lg Lg 13 14 11.5
KLMR ⇓Lg Lg 13 14 11.5
VRAC Vranov 12.40 173 Pn **Pn** **13 10 55.6 -0.3**
comp=Z,3.5nm,0.3s,baz=1.5,slow=13,SNR=14
VRAC Lg Lg 13 14 34.7
comp=Z,1.2nm,0.3s,baz=263,slow=14,SNR=3.8
VRAC LR LR 13 16 06.6
comp=Z,476nm,19.3s,baz=310,slow=39
VRAC Vranov 12.40 173 ⇓P **Pn** **13 10 56.1 +0.2**
VRAC Vranov 12.40 173 *e*PN **Pn** **13 10 55.5 -0.4**
KHC Kasperske Hory 12.52 182 *e*PN **Pn** **13 10 57.9 +0.3**
KHC *e*SN **Sn** **13 13 12.1 -4.6**
KHC Kasperske Hory 12.52 182 ⇓*e*P **Pn** **13 10 58.9 +1.3**
KHC pmax pmax
comp=Z,9.0nm,0.8s
KHC Kasperske Hory 12.52 182 Pn **Pn** **13 10 56.5 -1.1**
KRUC Moravsky 12.63 174 *e*PN **Pn** **13 10 59.2 +0.1**
NIE Niedzica 12.67 162 *e*P **Pn** **13 10 58.1 -1.6**
NIE Niedzica 12.67 162 *e*Pn **Pn** **13 10 57.9 -1.7**
GEC2 GERESS Array S 12.80 182 *e*Pn **Pn** **13 11 03.3 +1.8**
GEC2 GERESS Array S 12.80 182 Pn **Pn** **13 11 00.2 -1.3**
GERES GERESS Array B 12.80 182 Pn **Pn** **13 11 01.4 -0.1**
comp=Z,0.3nm,0.3s,baz=13,slow=14,SNR=15
GERES Lg Lg 13 14 48.3
comp=Z,0.9nm,0.3s,baz=350,slow=33,SNR=7.5
LANS Liptovska Anna 12.82 165 *e*P **Pn** **13 10 59.9 -1.8**
LANS Liptovska Anna 12.82 165 *e*PN **Pn** **13 10 59.9 -1.8**
KWP Kalwaria Pacla 12.89 155 *e*P **Pn** **13 11 00.9 -1.7**
KWP *e*S Sn 13 13 09.7 -16
KWP Kalwaria Pacla 12.89 155 P **Pn** **13 11 00.1 -2.5**
KWP Kalwaria Pacla 12.89 155 Pn **Pn** **13 11 00.1 -2.5**
JAVC Velka Javorina 12.92 170 *e*PN **Pn** **13 11 03.6 +0.5**
LVV L'vov 13.00 151 *e*P **Pn** **13 11 03.0 -1.1**
LVV *e*S **Sn** **13 13 27.1 -1.2**
LVV MLR MLR
comp=Z,700nm,9.7s
OBN Obninsk 13.31 109 Pn **Pn** **13 11 04.6 -3.7**
comp=Z,3.6nm,0.3s,baz=281,slow=16,SNR=10
OBN Sn **Sn** **13 13 28.0 -7.8**
comp=Z,4.9nm,0.3s,baz=60,slow=20,SNR=4.4
OBN Obninsk 13.31 109 ⇓*e*P **Pn** **13 11 08.0 -0.3**
OBN *e*S **Sn** **13 13 28.9 -6.9**
OBN pmax pmax
comp=Z,41nm,0.8s
OBN MLR MLR
comp=Z,229nm,17.0s
MODS Modra-Piesok 13.37 172 *e*P **Pn** **13 11 07.8 -1.4**
MODS Modra-Piesok 13.37 172 *e*PN **Pn** **13 11 07.8 -1.4**
VYHS Vyhne 13.39 167 *e*P **Pn** **13 11 08.3 -1.2**
VYHS Vyhne 13.39 167 *e*PN **Pn** **13 11 08.2 -1.2**
MOS Moscow 13.42 106 *e*P **Pn** **13 11 07.7 -2.0**
MOS *e*S **Sn** **13 13 31.7 -6.7**
MOS pmax pmax
comp=Z,54nm,0.7s
MOS MLR MLR
comp=Z,500nm,8.0s
KOLS Kolonicke sedl 13.47 157 *e*P **Pn** **13 11 07.1 -3.4**
KOLS Kolonicke sedl 13.47 157 *e*PN **Pn** **13 11 07.1 -3.4**
AKASG Malin Array Be 13.68 136 Pn **Pn** **13 11 09.1 -4.3**
comp=Z,7.4nm,0.3s,baz=328,slow=13,SNR=15
AKASG Sn **Sn** **13 13 38.0 -6.9**
comp=Z,8.9nm,0.3s,baz=330,slow=23,SNR=2.4
AKASG Lg Lg 13 15 07.4
comp=Z,23nm,0.3s,baz=332,slow=30,SNR=3.6
AKASG Malin Array Be 13.68 136 *i*P **Pn** **13 11 09.6 -3.7**
AKASG pmax pmax
comp=Z,8.0nm,0.4s
AKASG Malin Array Be 13.68 136 Pn Pn 13 11 08.0 -5.3
AKBB Malin Array Si 13.68 136 P Pn 13 11 08.2 -5.1
AKBB Malin Array Si 13.68 136 Pn Pn 13 11 08.2 -5.1
BFO Black Forest 13.74 197 *e*Pn **Pn** **13 11 16.0 +1.8**
CONA Conrad Observa 13.74 176 *i*Pn **Pn** **13 11 14.6 +0.3**
comp=Z,20nm,0.7s
CONA *i*Sn **Sn** **13 13 44.2 -2.4**
comp=Z,8.5nm,0.7s
UZH Uzhgorod 13.77 157 *e*P **Pn** **13 11 12.8 -1.7**
UZH *e*S **Sn** **13 13 44.6 -2.4**
UZH MLR MLR
comp=Z,500nm,10.0s
MOA Molln 13.79 180 *i*Pn **Pn** **13 11 14.8 -0.2**
comp=Z,5.9nm,0.5s
MOA *i*Sn **Sn** **13 13 49.7 +1.9**
comp=Z,1.0nm,0.1s
PSZ Piszkesteto 14.09 164 ⇑P **Pn** **13 11 16.7 -2.2**
PSZ Piszkesteto 14.09 164 P **Pn** **13 11 17.6 -1.4**
PSZ Piszkesteto 14.09 164 Pn **Pn** **13 11 17.6 -1.4**
RETA Reutte 14.30 190 *i*Pn **Pn** **13 11 23.1 +1.1**
comp=Z,8.0nm,1.0s
RETA *i*Sn **Sn** **13 13 59.7 -0.5**
comp=Z,0.4nm,0.2s
WATA Walderalm 14.40 188 *i*Pn **Pn** **13 11 24.1 +0.8**
comp=Z,16nm,0.8s
WATA *i*Sn **Sn** **13 14 02.0 -0.6**
comp=Z,1.0nm,0.1s
ARSA Arzberg 14.41 177 *i*Pn **Pn** **13 11 22.8 -0.6**
comp=Z,9.0nm,0.9s
ARSA *i*Sn **Sn** **13 14 03.6 +0.9**
comp=Z,1.4nm,0.3s
MOTA Moosalm 14.42 189 *i*Pn **Pn** **13 11 24.3 +0.7**
comp=Z,26nm,1.3s
MOTA *i*Sn **Sn** **13 14 00.4 -2.8**
comp=Z,2.4nm,0.4s
LSH Leshukonskoye 14.42 63 *e*P **Pn** **13 11 19.5 -3.8**
LSH *e*S Sn 13 13 50.9 -12
WTTA Wattenberg 14.46 187 *i*Pn **Pn** **13 11 24.8 +0.6**
comp=Z,26nm,1.4s
WTTA *i*Sn **Sn** **13 14 07.1 +2.8**
comp=Z,4.8nm,0.7s
SQTA Sankt Quirin 14.54 189 *i*Pn **Pn** **13 11 26.1 +0.9**
comp=Z,14nm,0.8s
SQTA *i*Sn **Sn** **13 14 04.3 -1.6**
comp=Z,3.1nm,0.4s
KBA Koelnbreinsper 14.58 183 *i*Pn **Pn** **13 11 27.3 +1.5**
comp=Z,29nm,1.2s,SNR=7.6
DAVA Damuels 14.58 192 *i*Pn **Pn** **13 11 25.3 -0.5**
comp=Z,31nm,1.1s,SNR=8.1
FETA Feichten 14.77 190 *i*Pn **Pn** **13 11 28.8 +0.4**
comp=Z,7.7nm,1.0s
PRGR Permogore 14.80 76 *e*P Pn 13 11 22.9 -5.6
PRGR *e*S Sn 13 13 56.7 -15
PRGR Permogore 14.80 76 *e*P Pn 13 11 23.0 -5.6
PRGR pmax pmax
comp=Z,120nm,0.9s
ABTA Abfaltersbach 14.93 185 *i*Pn **Pn** **13 11 31.5 +1.0**
comp=Z,19nm,0.9s
SOKA Soboth 14.97 178 *i*Pn **Pn** **13 11 32.6 +1.6**
comp=Z,21nm,0.7s,SNR=9.8
MYKA Terra Mystica 15.02 182 *i*Pn **Pn** **13 11 31.0 -0.7**
comp=Z,13nm,0.7s,SNR=6.9
DAVOX Davos/Dischmat 15.08 192 Pn **Pn** **13 11 33.7 +1.0**
comp=Z,1.0nm,0.3s,baz=357,slow=10,SNR=9.1
ZOU Zoufplan 15.11 184 P **P** **13 11 38.0 -0.2**
ZOU IAmb IAmb 13 11 41.5
comp=Z,26nm,0.8s
OBKA Obir 15.14 179 *i*Pn **Pn** **13 11 34.8 +1.6**
comp=Z,33nm,0.8s,SNR=13
FUORN Ofenpass-Fuorn 15.21 191 P **P** **13 11 40.4 +1.1**
PRED Cave del Predi 15.21 182 P **P** **13 11 38.4 -0.8**
PRED IAmb IAmb 13 11 45.5
comp=Z,27nm,0.9s
BUR08 Bucovina Ar. S 15.31 151 Pn **Pn** **13 11 30.7 -4.9**
BUR08 IAmb IAmb 13 11 49.4
comp=Z,28nm,0.7s
BURAR Bucovina Array 15.34 151 ⇑P **Pn** **13 11 32.2 -3.8**
BURAR Bucovina Array 15.34 151 Pn **Pn** **13 11 31.0 -5.0**
CIMO Cimolais 15.37 185 Pn **Pn** **13 11 36.5 +0.2**
CIMO IAmb IAmb 13 11 47.3
comp=Z,29nm,0.9s
STAL STALIGIAL 15.41 184 Pn **Pn** **13 11 36.7 -0.2**
TUE Stuetta 15.44 193 Pn **Pn** **13 11 37.5 0.0**
VNDS Vrh nad Dolski 15.54 179 *i*Pn **Pn** **13 11 38.2 -0.4**
VNDS *i*P **P** **13 11 44.8 +2.0**
LJU Ljubljana 15.60 180 *i*P **P** **13 11 45.7 +2.2**
LJU *i* 13 11 49.2
LJU Ljubljana 15.60 180 ⇑*i*P **P** **13 11 45.2 +1.8**
ARCR ARCALIA 15.65 154 ⇑P **Pn** **13 11 37.0 -2.9**
CTI Castel Tesino 15.67 187 P **Pn** **13 11 40.2 -0.1**
CTI pmax pmax
comp=Z,47nm,0.9s
CTI Castel Tesino 15.67 187 Pn **Pn** **13 11 40.2 -0.1**
CTI IAmb IAmb 13 11 48.3
comp=Z,47nm,0.9s
SORM Soroca 15.68 143 ⇑P **Pn** **13 11 35.5 -4.6**
CRES Cresnjev 15.83 177 ⇑*i*P **P** **13 11 47.1 +1.1**
VISS Visnje 15.84 179 *i*P **P** **13 11 47.8 +1.7**
VISS *i* 13 11 51.6
VISS *e* 13 16 36.1
CJR Cluj-Napoca 15.86 156 ⇓P **Pn** **13 11 40.3 -2.3**
CEY Cerknica 15.91 180 ⇑*i*P **P** **13 11 48.3 +1.5**
TRI Trieste 15.94 181 P **P** **13 11 47.5 +0.3**
TRI pmax pmax
comp=Z,60nm,0.9s
TRI Trieste 15.94 181 P **P** **13 11 47.5 +0.3**
TRI IAmb IAmb 13 11 49.9
comp=Z,60nm,0.9s
SIRR Siria 15.95 161 ⇑P **Pn** **13 11 41.8 -2.0**
LPSR Galich'ya Gora 16.02 113 *e*P **Pn** **13 11 40.8 -3.8**
LPSR pmax pmax
comp=Z,110nm,0.9s
LPSR MLR MLR
comp=Z,340nm,8.0s
KNDS Knezji Dol 16.12 180 *i*P **P** **13 11 51.0 +1.7**
SALO Salr 16.18 190 P **P** **13 11 50.5 +0.7**
SALO IAmb IAmb 13 11 56.1
comp=Z,43nm,1.0s
BORG Borgarnes 16.25 297 P **P** **13 11 51.3 +0.8**
BORG pmax pmax
comp=Z,130nm,1.5s
BORG Borgarnes 16.25 297 P **P** **13 11 51.3 +0.8**
BORG IAmb IAmb 13 11 57.7
comp=Z,130nm,1.4s
TEOL Teolo 16.36 187 P **P** **13 11 52.8 +1.0**
TEOL IAmb IAmb 13 11 54.7
comp=Z,59nm,1.0s
BZS Buzias 16.58 162 ⇓P **Pn** **13 11 49.7 -2.1**
SPA0 Spitsbergen Ar 16.66 1 P **P** **13 11 56.0 +1.0**
SPITS Spitsbergen Ar 16.66 1 Pn **Pn** **13 11 49.1 -3.5**
baz=202,slow=14,SNR=2.4
TESR Tescani 16.72 149 ⇑P **Pn** **13 11 49.7 -3.9**
FRGS Fruska Gora 16.80 166 *e*P **Pn** **13 11 53.3 -1.3**
VORR Voronezh 16.80 115 P **Pn** **13 11 52.0 -2.6**
VORR pmax pmax
comp=Z,250nm,1.0s
VASR Vaslui 16.89 147 ⇓P **Pn** **13 11 52.9 -2.8**
SCO Scoresbysund 16.91 317 P **P** **13 11 59.2 +1.5**
SCO pmax pmax
comp=Z,62nm,1.3s
SCO Scoresbysund 16.91 317 P **P** **13 11 59.2 +1.5**
SCO IAmb IAmb 13 12 24.8
comp=Z,62nm,1.3s
MILM Milestii Mici 16.91 144 ⇓P **Pn** **13 11 52.7 -3.3**
BLY Banja Luka 16.98 173 *e*P **P** **13 11 59.3 +0.6**
LOT Lotru 17.11 157 ⇓P **Pn** **13 11 57.4 -1.2**
VSR Storozhevoye 17.11 116 *e*P **Pn** **13 11 56.1 -2.4**
VSR pmax pmax
comp=Z,120nm,0.7s
VSR MLR MLR
comp=Z,180nm,5.0s
BNI Bardonecchia 17.19 199 P **P** **13 12 00.4 -0.8**
BNI pmax pmax
comp=Z,10.0nm,1.1s
BNI Bardonecchia 17.19 199 P **P** **13 12 00.4 -0.8**
PLOR Plostina 17.34 150 ⇓P **Pn** **13 11 58.1 -3.3**
SSB Saint Sauveur 17.34 204 P **Pn** **13 12 01.5 +0.1**
SSB pmax pmax
comp=Z,17nm,1.0s
SSB Saint Sauveur 17.34 204 **Pn** **13 12 01.5 +0.1**
VRI Vrincioaia 17.34 150 ⇑P **Pn** **13 11 58.5 -2.9**
ARR Arges 17.35 155 ⇓P **Pn** **13 12 00.0 -1.6**
VOIR 17.37 154 ⇑P **Pn** **13 11 59.0 -2.8**
MDVR Moldovita 17.41 162 ⇓P **Pn** **13 12 00.9 -1.4**
HERR Herculane 17.42 161 ⇑P **Pn** **13 12 01.5 -0.8**
MLR Muntele Rosu 17.51 152 Pn **Pn** **13 12 00.6 -3.0**
comp=Z,0.5nm,0.3s,baz=0.0,slow=8.1,SNR=6.7
MLR Lg Lg 13 17 16.8
baz=348,slow=20,SNR=2.0
MLR Muntele Rosu 17.51 152 ⇓P **Pn** **13 12 00.6 -3.0**
MLR Muntele Rosu 17.51 152 P **Pn** **13 12 01.0 -2.6**
MLR pmax pmax
comp=Z,34nm,1.0s
MLR Muntele Rosu 17.51 152 Pn **Pn** **13 12 01.0 -2.6**
MSSA Maissana 17.56 192 P **P** **13 12 06.8 +1.6**
KIRV Kirov 17.61 84 Pn **Pn** **13 12 02.0 -2.5**
comp=Z,16nm,0.3s,baz=311,slow=7.9,SNR=12
KIRV S Sn 13 15 09.1 -11
comp=Z,4.7nm,0.3s,baz=255,slow=20,SNR=2.9
VLC Villacollemand 17.64 189 P **Pn** **13 12 05.1 -0.1**
VLC IAmb IAmb 13 12 15.3
comp=Z,45nm,1.0s
NEHR Nehoiu 17.65 151 ⇑P **Pn** **13 12 03.3 -2.0**
DIVS Divibare 17.86 167 *e*P **Pn** **13 12 07.2 -0.7**
DIVS Divibare 17.86 167 **Pn** **13 12 06.9 -1.0**
ISR Istrita 18.00 151 ⇑P **Pn** **13 12 07.6 -2.0**
BBLS Lazići 18.03 168 ⇑*i*P **Pn** **13 12 08.6 -1.4**
OSSC Osservatorio P 18.21 187 P **Pn** **13 12 11.2 -1.0**
VRH Novokhopyorsk 18.24 112 *e*P **Pn** **13 12 09.6 -2.8**
VRH pmax pmax
comp=Z,30nm,0.5s
VRH MLR MLR
comp=Z,240nm,7.0s
CFR Carcaliu 18.34 148 ⇓P **Pn** **13 12 10.9 -2.7**
MURB Monte Urbino 18.41 184 P **P** **13 12 14.1 -0.5**
MURB IAmb IAmb 13 12 21.0
comp=Z,62nm,1.2s
UPM Unac-Piva 18.64 170 *e*P **Pn** **13 12 17.7 +0.2**
TOPG Topolog 18.68 147 ⇓P **P** **13 12 16.1 -1.4**
HARR Harsova 18.74 149 ⇓P **P** **13 12 16.8 -1.2**
NRCA Norcia 18.82 183 P **Pn** **13 12 19.4 -0.3**
BRY Bratogost 18.91 170 ⇑*i*P **Pn** **13 12 21.9 +1.1**
JURR Jurilovca 18.91 147 ⇓P **P** **13 12 19.1 -0.8**
CASP Castiglione de 18.97 188 **P** **13 12 20.9 +0.2**
TIRR Tirgusor 19.08 148 ⇑P **P** **13 12 20.4 -1.4**
TIRR Tirgusor 19.08 148 P **P** **13 12 20.7 -1.1**
TIRR pmax pmax
comp=Z,170nm,1.4s
TIRR Tirgusor 19.08 148 **P** **13 12 20.7 -1.1**
HCY Herceg Novi 19.36 171 *e*P **Pn** **13 12 25.4 -0.6**
PDG Podgorica 19.44 169 ⇑P **Pn** **13 12 27.5 +0.5**
PDG Podgorica 19.44 169 ⇑*i*P **Pn** **13 12 27.1 +0.2**
PDG Podgorica 19.44 169 **Pn** **13 12 26.6 -0.4**
PDG IAmb IAmb 13 12 32.9
comp=Z,25nm,0.7s
INTR Introdacqua 19.63 181 **P** **13 12 28.4 +0.4**
DRME Dracevica, Mon 19.67 169 ⇑*i*P **Pn** **13 12 29.7 -0.1**
VTS Vitosha 19.76 160 *e*P **Pn** **13 12 30.5 -0.4**
NEF NEVSHA 19.93 151 *e*P **Pn** **13 12 33.2 +0.4**
KKB Krupnik 20.47 161 *e*P **P** **13 12 38.0 +1.0**
TIR Tirane 20.57 168 P **P** **13 12 38.8 +0.7**
TIR pmax pmax
comp=Z,67nm,0.9s
TIR Tirane 20.57 168 P **P** **13 12 38.8 +0.7**
OHR Ohrid 20.90 166 *i*P Pn 13 12 43.0 -1.2
VAY Valandovo 20.93 162 *i*P Pn 13 12 43.8 -0.7
FNA Florina 21.29 165 P **P** **13 12 46.1 +0.1**
FNA pmax pmax
comp=Z,58nm,1.0s
FNA Florina 21.29 165 P **P** **13 12 46.1 +0.1**
ANN Anapa 21.59 131 *e*P **P** **13 12 49.9 +0.9**
ANN pmax pmax
comp=Z,67nm,1.3s
ANN MLR MLR
comp=Z,418nm,17.0s
NOR Nord 21.71 348 *i*P **P** **13 12 51.3 +1.3**
NOR Nord 21.71 348 *i*P **P** **13 12 51.3 +1.3**
NOR Nord 21.71 348 *i*P **P** **13 12 51.3 +1.3**
SCTE Santa Cesarea 21.72 171 P **P** **13 12 49.1 -1.3**
ALN Alexandroupoli 21.93 156 P **P** **13 12 51.4 -1.3**
ALN pmax pmax
comp=Z,98nm,1.4s
ALN Alexandroupoli 21.93 156 P **P** **13 12 51.4 -1.3**
LIT Litokhoron 22.11 163 P **P** **13 12 55.0 +0.3**
LIT pmax pmax
comp=Z,62nm,0.9s
LIT Litokhoron 22.11 163 P **P** **13 12 55.0 +0.3**
SUMG Summit 22.38 321 *i*P **P** **13 13 00.3 +2.5**
comp=Z,48nm,1.2s
SUMG Summit 22.38 321 *i*P **P** **13 13 00.3 +2.5**
SUMG pmax pmax
comp=Z,48nm,1.2s
SUMG Summit 22.38 321 P **P** **13 13 00.2 +2.5**
SUMG Summit 22.38 321 *i*P **P** **13 13 00.3 +2.5**
SUMG IAmb IAmb 13 13 03.0
comp=Z,48nm,1.2s
TIP Timpagrande 22.51 175 P **P** **13 12 58.8 -0.3**
TIP IAmb IAmb 13 13 06.1
comp=Z,45nm,1.5s
BZK Bozkurt 22.96 140 ⇑P **P** **13 13 04.1 +0.4**
ICESG Greenland Ices 22.97 312 *e*P **P** **13 13 09.8 +5.9**
ARU Arti 22.98 83 P **P** **13 13 03.1 -0.7**
comp=Z,6.1nm,0.4s,baz=289,slow=7.6,SNR=23
ARU S **S** **13 17 12.7 -0.6**
comp=Z,3.1nm,0.5s,baz=103,slow=22,SNR=1.7
ARU Arti 22.98 83*c* *i*P **P** **13 13 03.5 -0.2**
ARU PPP PPP 13 13 35.1
ARU S **S** **13 17 14.7 +1.4**
ARU SS **SnSn** **13 17 46.3 +1.4**
ARU pmax pmax
comp=Z,84nm,1.2s
ARU Arti 22.98 83 P **P** **13 13 03.2 -0.5**
CEL Celeste 23.40 177 P **P** **13 13 07.5 -0.7**
CEL IAmb IAmb 13 13 11.7
comp=Z,11nm,0.8s
SOC Sochi 23.48 129 *e*P **P** **13 13 04.3 -4.6**
SOC *e* 13 13 33.0
SOC *e*S **S** **13 17 19.2 -2.5**
SOC *e*SS **SnSn** **13 18 00.4 +3.0**
SOC MLR MLR
comp=Z,204nm,14.0s
GOF Gofitskoye 23.54 122 ⇑*e*P **P** **13 13 15.1 +5.6**
GOF *e*S **S** **13 17 22.2 -0.6**
GOF pmax pmax
comp=Z,77nm,1.1s
GOF smax smax
comp=N,57nm,0.9s
DIKM Dikmen 23.63 138 ⇑P **P** **13 13 12.0 +1.5**
ILGA Ilgaz 23.70 141 P **P** **13 13 12.6 +1.2**
SVE Sverdlovsk 23.75 81 *e*P **P** **13 13 14.8 +3.3**
SVE pmax pmax
comp=Z,26nm,0.9s
KIV Kislovodsk 24.31 124 *e*P **P** **13 13 14.2 -2.7**
KIV pmax pmax
comp=Z,38nm,1.0s
KBZ Khabaz 24.58 124 P **P** **13 13 20.4 +1.2**
comp=Z,7.3nm,0.8s,baz=324,slow=13,SNR=15
ESBB Sonseca Array 24.67 215 P **P** **13 13 20.1 -0.1**
ESDC Sonseca Array 24.67 215 P **P** **13 13 20.2 +0.1**
comp=Z,3.9nm,0.8s,baz=23,slow=8.5,SNR=23
ESDC Sonseca Array 24.67 215 P **P** **13 13 20.6 +0.5**
PAB San Pablo 24.89 216 P **P** **13 13 22.2 0.0**
PAB pmax pmax
comp=Z,12nm,1.3s
PAB San Pablo 24.89 216 P **P** **13 13 22.1 0.0**
BR131 Keskin Array S 24.90 143 P **P** **13 13 23.0 +0.6**
BR131 pmax pmax
comp=Z,4.0nm,0.6s
BR131 Keskin Array S 24.90 143 P **P** **13 13 23.0 +0.6**
BRTR Keskin Array B 24.90 143 P **P** **13 13 23.2 +0.8**
comp=Z,5.0nm,0.6s,baz=334,slow=6.0,SNR=9.9
BRTR Keskin Array B 24.90 143 *i*P **P** **13 13 27.2 +4.8**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
ITM Ithomi 24.92 166 P **P** **13 13 22.4 0.0**
ITM IAmb IAmb 13 13 29.6
comp=Z,30nm,1.1s
ZEI Tsey 25.77 123 *e*P **P** **13 13 32.8 +2.5**
ZEI pmax pmax
comp=Z,19nm,1.3s
KEST Kesra 26.10 189 P **P** **13 13 32.4 -0.7**
comp=Z,1.4nm,0.4s,baz=269,slow=5.8,SNR=2.1
KEST Kesra 26.10 189 P **P** **13 13 32.4 -0.7**
AKTO Aktyubinsk 26.32 95 P **P** **13 13 34.8 -0.1**
comp=Z,13nm,0.7s,baz=321,slow=10,SNR=26
ABKAR Akbulak array 28.04 95 P **P** **13 13 49.6 -0.8**
GEYT Alibeck 35.85 111 P **P** **13 15 00.1 +1.1**
comp=Z,5.7nm,0.8s,baz=260,slow=8.7,SNR=4.9
GEYT Alibeck 35.85 111 P **P** **13 14 59.6 +0.6**
KURK Kurchatov 35.91 78 ⇑*e*P **P** **13 14 59.2 -0.1**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 35.91 78 P **P** **13 14 59.0 -0.4**
ZAA0 Zalesovo Array 36.59 69 P **P** **13 15 04.5 -0.5**
ZAA0 IAmb IAmb 13 15 11.4
comp=Z,6.9nm,0.8s
ZALV Zalesovo Beam 36.59 69 P **P** **13 15 05.3 +0.2**
comp=Z,5.4nm,0.6s,baz=313,slow=9.4,SNR=27
ZALV Zalesovo Beam 36.59 69 *i*P **P** **13 15 05.6 +0.5**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 36.59 69 P **P** **13 15 05.0 -0.1**
KK31 Karatay Array 37.54 93 P **P** **13 15 14.7 +1.4**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KK31 Karatay Array 37.54 93 P **P** **13 15 14.7 +1.4**
KK31 IAmb IAmb 13 15 19.1
comp=Z,7.8nm,0.8s
KKAR Karatay Array 37.54 93 P **P** **13 15 14.9 +1.6**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 37.54 93 P **P** **13 15 14.9 +1.6**
KKAR IAmb IAmb 13 15 19.1
comp=Z,7.8nm,0.8s
KKAR Karatay Array 37.54 93 P **P** **13 15 14.3 +1.0**
AAK Ala-Archa 39.80 90 ⇓*e*P **P** **13 15 34.4 +2.0**
AAK pmax pmax
comp=Z,24nm,1.3s
BTK Batken 40.04 96 P **P** **13 15 35.4 +1.1**
BTK pmax pmax
comp=Z,20nm,0.6s
BTK Batken 40.04 96 P **P** **13 15 35.4 +1.1**
MAKZ Makanchi 40.24 79 P **P** **13 15 36.3 +0.4**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 40.24 79 P **P** **13 15 36.3 +0.4**
CHGR Chuyangaron 40.36 99 P **P** **13 15 37.9 +0.9**
MK31 Makanchi Array 40.40 79 P **P** **13 15 37.2 0.0**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 40.40 79 P **P** **13 15 37.2 0.0**
MKAR Makanchi Array 40.40 79 P **P** **13 15 37.7 +0.5**
comp=Z,3.6nm,0.7s,baz=316,slow=6.7,SNR=36
MKAR PP **PP** **13 17 10.1 +0.1**
comp=Z,2.3nm,0.8s,baz=307,slow=7.5,SNR=3.3
MKAR Makanchi Array 40.40 79 P **P** **13 15 36.9 -0.3**

MKAR						13 17 10.1	
MKAR	**Makanchi Array**	**40.40**	**79**	P	**P**	**13 15 36.9**	**-0.3**
GAR	**Garm**	**40.63**	**97**	P	**P**	**13 15 40.7**	**+1.4**
SCHQ	**Schefferville**	**40.63**	**299**	P	**P**	**13 15 38.3**	**-0.7**
	comp=Z,5.5nm,0.7s,baz=63,slow=7.3,SNR=5.8						
SCHQ	**Schefferville**	**40.63**	**299**	IAmb	IAmb	13 15 41.8	
	comp=Z,5.7nm,0.8s						
DGZ	**Jazzator, Alta**	**40.69**	**72**	⇑*i*P	**P**	**13 15 41.0**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TARG	**Taragay, Kyrgy**	**42.07**	**88**	P	**P**	**13 15 52.7**	**+1.2**
TARG				IAmb	IAmb	13 15 57.2	
	comp=Z,8.9nm,0.6s						
KSH	**Kashi**	**42.92**	**92**	P	**P**	**13 16 00.5**	**+2.5**
KSH				pP	pP	13 16 04.3	+1.5
KSH				PP	**PP**	**13 17 38.3**	**+0.9**
KSH				S	**S**	**13 22 21.6**	**-0.6**
KSH				pmax	pmax		
	comp=Z,51nm,1.3s						
KSH				pmax	pmax		
	comp=Z,130nm,5.5s						
KSH				LR	LR		
	comp=Z,170nm,8.3s						
KSH				LR	LR		
	comp=Z,220nm,7.1s						
KSH				LR	LR		
	comp=Z,170nm,7.6s						
WMQ	**Urumqi**	**45.16**	**78**	*e*P	**P**	**13 16 19.4**	**+3.5**
BOD	**Bodaibo**	**45.65**	**48**	*e*P	**P**	**13 16 19.2**	**-0.2**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
UOSS	**Minazif**	**46.25**	**123**	P	**P**	**13 16 24.8**	**+0.2**
D62A	**Allapoint, All**	**47.24**	**292**	P	**P**	**13 16 32.4**	**+0.3**
YAK	**Yakutsk**	**47.29**	**35**	*i* P	**P**	**13 16 34.2**	**+1.9**
YAK				pmax	pmax		
	comp=Z,12nm,1.7s						
E62A	**Clayton Lake**	**47.81**	**292**	P	**P**	**13 16 36.9**	**+0.4**
E62A				IAmb	IAmb	13 16 43.3	
	comp=Z,6.0nm,1.1s						
TOA0	**Torodi Ar. Sit**	**49.25**	**196**	P	**P**	**13 16 47.9**	**0.0**
TORD	**Torodi Ar. Bea**	**49.25**	**196**	P	**P**	**13 16 47.7**	**-0.2**
	comp=Z,15nm,0.8s,baz=1.8,slow=7.9,SNR=50						
TORD	**Torodi Ar. Bea**	**49.25**	**196**	P	**P**	**13 16 47.7**	**-0.2**
G62A	**West of Eustis**	**49.34**	**292**	P	**P**	**13 16 49.3**	**+1.0**
G62A				IAmb	IAmb	13 17 03.1	
	comp=Z,8.2nm,1.1s						
TOLK	**Toolik Lake Re**	**49.52**	**352**	P	**P**	**13 16 52.4**	**+3.0**
TOLK				IAmb	IAmb	13 16 53.7	
	comp=Z,6.7nm,0.9s						
YKA	**Yellowknife Ar**	**50.32**	**332**	P	**P**	**13 16 55.6**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=18,slow=10,SNR=5.6						
SONM	**Songino Array**	**50.39**	**61**	P	**P**	**13 16 57.5**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=310,slow=8.6,SNR=15						
SONM	**Songino Array**	**50.39**	**61**	P	**P**	**13 16 57.3**	**+0.8**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**50.39**	**61**	P	**P**	**13 16 57.3**	**+0.8**
ULN	**Ulaanbaatar**	**50.64**	**60**	⇓*e*P	**P**	**13 17 00.1**	**+1.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
COLD	**Coldfoot**	**50.96**	**352**	P	**P**	**13 17 01.8**	**+1.4**
COLD				IAmb	IAmb	13 17 04.4	
	comp=Z,6.4nm,0.8s						
D53A	**Lac Vacive, Po**	**50.98**	**298**	P	**P**	**13 17 01.4**	**+0.7**
COLA	**College**	**53.12**	**351**	⇓*e*P	**P**	**13 17 19.2**	**+2.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**53.15**	**350**	P	**P**	**13 17 17.8**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=356,slow=3.4,SNR=14						
ILAR				PcP	**PcP**	**13 18 25.1**	**+0.6**
	comp=Z,0.4nm,1.1s,baz=2.4,slow=4.0,SNR=4.4						
RIDG	**Independent Ri**	**53.98**	**349**	P	**P**	**13 17 24.0**	**+1.2**
RIDG				IAmb	IAmb	13 17 42.6	
	comp=Z,14nm,1.4s						
DOT	**Dot Lake**	**54.00**	**348**	P	**P**	**13 17 24.9**	**+2.0**
GTA	**Gaotai**	**54.22**	**72**	P	**P**	**13 17 25.8**	**+0.8**
GTA				pP	pP	13 17 30.8	+1.0
GTA				sP	sP	13 17 33.3	+1.6
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,83nm,6.7s						
GTA				LR	LR		
	comp=Z,140nm,20.0s						
GTA				LR	LR		
	comp=Z,170nm,20.4s						
GTA				LR	LR		
	comp=Z,220nm,19.3s						
E46A	**Sault Ste Mari**	**54.27**	**303**	P	**P**	**13 17 25.9**	**+0.9**
E43A	**Lone Tree Farm**	**55.33**	**304**	P	**P**	**13 17 33.2**	**+0.4**
E43A				IAmb	IAmb	13 17 36.1	
	comp=Z,8.7nm,0.8s						
ULM	**Lac du Bonnet**	**55.42**	**313**	P	**P**	**13 17 32.8**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=108,slow=2.9,SNR=3.5						
ULM	**Lac du Bonnet**	**55.42**	**313**	P	**P**	**13 17 32.8**	**-0.6**
ULM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULM	**Lac du Bonnet**	**55.42**	**313**	IAmb	IAmb	13 17 35.7	
	comp=Z,6.7nm,0.9s						
TTA	**Tatalina**	**55.56**	**355**	P	**P**	**13 17 37.0**	**+2.7**
TTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TTA	**Tatalina**	**55.56**	**355**	P	**P**	**13 17 37.0**	**+2.7**
SCM	**Sheep Creek Mo**	**56.08**	**350**	P	**P**	**13 17 41.1**	**+3.1**
SCM				pmax	pmax		
	comp=Z,15nm,1.0s						
SCM	**Sheep Creek Mo**	**56.08**	**350**	P	**P**	**13 17 41.1**	**+3.1**
SML	**Sawmill**	**56.19**	**350**	P	**P**	**13 17 42.0**	**+3.1**
SKT	**Skwentna**	**56.26**	**352**	P	**P**	**13 17 41.0**	**+1.8**
SKT				IAmb	IAmb	13 17 58.8	
	comp=Z,9.1nm,1.4s						
DBIC	**Dimbokro**	**56.66**	**203**	P	**P**	**13 17 41.5**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=342,slow=9.3,SNR=5.1						
DBIC	**Dimbokro**	**56.66**	**203**	P	**P**	**13 17 42.9**	**+0.4**
DBIC				pmax	pmax		
	comp=Z,22nm,1.5s						
DBIC	**Dimbokro**	**56.66**	**203**	P	**P**	**13 17 42.9**	**+0.4**
TIC	**Toumodi**	**56.71**	**203**	*e*P	**P**	**13 17 44.9**	**+1.9**
TIC	**Toumodi**	**56.71**	**203**	*e*P	**P**	**13 17 42.0**	**-1.0**
KIC	**Kosan Boka**	**56.94**	**203**	*e*P	**P**	**13 17 44.1**	**-0.4**
	comp=Z,41nm,1.0s						
KIC	**Kosan Boka**	**56.94**	**203**	*e*P	**P**	**13 17 44.2**	**-0.3**
	comp=Z,41nm,1.0s						
LIC	**Lamto**	**57.12**	**203**	*e*P	**P**	**13 17 45.6**	**-0.2**
	comp=Z,17nm,0.9s						
LIC	**Lamto**	**57.12**	**203**	*e*P	**P**	**13 17 45.6**	**-0.2**
	comp=Z,17nm,0.9s						
G40A	**Rib Lake**	**57.50**	**306**	P	**P**	**13 17 48.3**	**+0.1**
G40A				IAmb	IAmb	13 17 51.6	
	comp=Z,6.0nm,0.7s						
KAIM	**Kayak Island**	**57.69**	**348**	P	**P**	**13 17 51.7**	**+2.3**
HHC	**Hu-ho-hao-te**	**58.21**	**62**	*e*P	**P**	**13 17 56.8**	**+3.4**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,7.0s						
LZH	**Lanzhou**	**58.77**	**71**	*e*P	**P**	**13 17 58.3**	**+0.8**
LZH				pP	pP	13 18 03.5	+1.2
LZH				sP	sP	13 18 07.5	+3.3
LZH				PP	**PP**	**13 20 09.8**	**+2.8**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,86nm,5.3s						
KDAK	**Kodiak Island**	**60.50**	**352**	P	**P**	**13 18 12.3**	**+3.5**
KDAK				pmax	pmax		
	comp=Z,30nm,1.3s						
KDAK	**Kodiak Island**	**60.50**	**352**	P	**P**	**13 18 12.3**	**+3.5**
ECSD	**EROS Data Cent**	**61.23**	**309**	P	**P**	**13 18 14.0**	**-0.1**
ECSD				IAmb	IAmb	13 18 17.4	
	comp=Z,5.8nm,0.7s						
PETK	**Petropavlovsk-**	**61.99**	**24**	P	**P**	**13 18 18.9**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=12,slow=4.3,SNR=8.3						
PETK	**Petropavlovsk-**	**61.99**	**24**	P	**P**	**13 18 19.6**	**+0.6**
PETK	**Petropavlovsk-**	**61.99**	**24**	P	**P**	**13 18 19.6**	**+0.6**
JTMT	**Jette**	**63.45**	**324**	P	**P**	**13 18 29.5**	**+0.5**
JTMT				IAmb	IAmb	13 18 32.8	
	comp=Z,4.9nm,0.7s						
HRY	**Holter Researc**	**63.69**	**322**	P	**P**	**13 18 32.4**	**+1.9**
NEW	**Newport**	**63.76**	**326**	P	**P**	**13 18 31.3**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=50,slow=13,SNR=5.0						
NEW	**Newport**	**63.76**	**326**	P	**P**	**13 18 31.3**	**+0.4**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NEW	**Newport**	**63.76**	**326**	IAmb	IAmb	13 18 34.9	
	comp=Z,4.8nm,0.8s						
GCMT	**Greycliff**	**63.86**	**320**	P	**P**	**13 18 32.9**	**+1.2**
YSS	**Yuzh-Sakhalins**	**64.12**	**37**	⇓*e*P	**P**	**13 18 33.8**	**+0.6**
YSS				pmax	pmax		
	comp=Z,12nm,1.3s						
MSO	**Missoula**	**64.19**	**323**	P	**P**	**13 18 35.1**	**+1.2**
MSO				IAmb	IAmb	13 18 38.5	
	comp=Z,4.9nm,0.9s						
BOZ	**Bozeman (W)**	**64.63**	**321**	P	**P**	**13 18 37.4**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BOZ	**Bozeman (W)**	**64.63**	**321**	P	**P**	**13 18 37.4**	**+0.6**
BOZ				IAmb	IAmb	13 18 42.1	
	comp=Z,3.1nm,0.8s						
YNE	**Yellowstone No**	**64.67**	**320**	P	**P**	**13 18 37.7**	**+0.5**
LRM	**Limekiln Ridge**	**64.67**	**322**	P	**P**	**13 18 38.0**	**+0.8**
T42A	**Van Buren**	**64.85**	**302**	P	**P**	**13 18 39.8**	**+1.6**
PGC	**Sidney**	**64.99**	**331**	P	**P**	**13 18 40.2**	**+1.4**
PGC				IAmb	IAmb	13 18 42.8	
	comp=Z,12nm,1.4s						
YHH	**Holmes Hill**	**65.12**	**320**	P	**P**	**13 18 41.0**	**+0.8**
DLMT	**Dillon**	**65.13**	**322**	P	**P**	**13 18 41.3**	**+1.2**
DLMT				IAmb	IAmb	13 18 44.9	
	comp=Z,4.9nm,1.2s						
YHL	**Hebgen Lake**	**65.17**	**320**	P	**P**	**13 18 42.2**	**+1.7**
S39A	**Bolivar**	**65.18**	**304**	P	**P**	**13 18 41.1**	**+0.8**
S39A				IAmb	IAmb	13 18 44.3	
	comp=Z,3.3nm,0.8s						
D08A	**Wollman Farm,**	**65.35**	**327**	P	**P**	**13 18 42.1**	**+0.9**
K22A	**Casper**	**65.66**	**316**	P	**P**	**13 18 43.5**	**-0.1**
F10A	**Beach Ranch, E**	**65.89**	**325**	P	**P**	**13 18 47.0**	**+2.1**
F10A				IAmb	IAmb	13 18 48.5	
	comp=Z,4.9nm,0.8s						
IMW	**Indian Meadow**	**65.96**	**320**	P	**P**	**13 18 47.0**	**+1.4**
IMW				IAmb	IAmb	13 18 52.1	
	comp=Z,4.6nm,0.9s						
HAWA	**Hanford**	**66.12**	**327**	P	**P**	**13 18 47.3**	**+1.0**
HAWA				IAmb	IAmb	13 18 51.7	
	comp=Z,4.0nm,1.1s						
NLWA	**Neilton Lookou**	**66.27**	**330**	P	**P**	**13 18 48.7**	**+1.5**
NLWA				IAmb	IAmb	13 19 05.6	
	comp=Z,3.3nm,1.0s						
TPAW	**Teton Pass**	**66.33**	**320**	P	**P**	**13 18 49.2**	**+1.2**
TPAW				IAmb	IAmb	13 18 52.0	
	comp=Z,4.6nm,0.9s						
PD31	**Pinedale Array**	**66.54**	**318**	P	**P**	**13 18 49.6**	**+0.3**
PD31				IAmb	IAmb	13 18 53.0	
	comp=Z,5.8nm,1.3s						
PDAR	**Pinedale Array**	**66.54**	**318**	P	**P**	**13 18 49.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=46,slow=6.4,SNR=9.3						
PDAR	**Pinedale Array**	**66.54**	**318**	P	**P**	**13 18 49.5**	**+0.3**
BW06	**Boulder Array**	**66.55**	**318**	P	**P**	**13 18 49.7**	**+0.4**
BW06				IAmb	IAmb	13 18 53.0	
	comp=Z,6.3nm,1.3s						
BMO	**Blue Mountains**	**66.95**	**325**	P	**P**	**13 18 52.5**	**+0.8**
BMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BMO	**Blue Mountains**	**66.95**	**325**	P	**P**	**13 18 52.5**	**+0.8**
BMO				IAmb	IAmb	13 18 55.2	
	comp=Z,3.8nm,0.8s						
HLID	**Hailey**	**67.31**	**322**	P	**P**	**13 18 57.0**	**+2.9**
HLID				IAmb	IAmb	13 18 58.1	
	comp=Z,3.3nm,1.0s						
W39A	**Magazine**	**67.53**	**303**	P	**P**	**13 18 58.0**	**+2.7**
W39A				IAmb	IAmb	13 18 58.9	
	comp=Z,7.1nm,0.9s						
H04A	**Detroit Lake**	**68.39**	**328**	P	**P**	**13 19 01.4**	**+0.7**
H04A				IAmb	IAmb	13 19 04.9	
	comp=Z,4.0nm,0.7s						
NJ2	**Nanjing**	**68.76**	**62**	*e*P	**P**	**13 19 03.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PINE	**Pine Mountain**	**68.91**	**327**	P	**P**	**13 19 06.5**	**+2.3**
PINE				IAmb	IAmb	13 19 13.2	
	comp=Z,5.1nm,1.0s						
BGU	**Big Grassy Mou**	**69.30**	**320**	P	**P**	**13 19 07.7**	**+1.1**
K05A	**Summer Lake**	**69.89**	**326**	P	**P**	**13 19 11.9**	**+1.7**
PV22	**Blue Mesa, Par**	**70.11**	**316**	P	**P**	**13 19 12.8**	**+1.2**
S22A	**4UR Ranch, Cre**	**70.16**	**314**	P	**P**	**13 19 12.9**	**+0.8**
SRU	**San Rafael Swe**	**70.16**	**317**	P	**P**	**13 19 12.5**	**+0.6**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael Swe**	**70.16**	**317**	P	**P**	**13 19 12.5**	**+0.6**
TMUT	**Trail Mountain**	**70.21**	**318**	P	**P**	**13 19 13.4**	**+1.0**
MOD	**Modoc Plateau**	**70.50**	**326**	P	**P**	**13 19 15.4**	**+1.5**
HUMO	**Hull Mountain**	**70.53**	**328**	P	**P**	**13 19 14.5**	**+0.6**
HUMO				IAmb	IAmb	13 19 18.0	
	comp=Z,2.1nm,0.6s						
CHTO	**Chiang Mai**	**71.09**	**85**	P	**P**	**13 19 18.0**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,15nm,1.4s						
CHTO	**Chiang Mai**	**71.09**	**85**	P	**P**	**13 19 18.0**	**+0.4**
KBO	**Bosley Butte**	**71.22**	**329**	P	**P**	**13 19 19.7**	**+1.4**
MSU	**Marysvale**	**71.24**	**318**	P	**P**	**13 19 19.3**	**+0.7**
MSU	**Marysvale**	**71.24**	**318**	P	**P**	**13 19 19.3**	**+0.7**
MVU	**Marysvale**	**71.26**	**318**	P	**P**	**13 19 19.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**71.39**	**86**	P	**P**	**13 19 20.2**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=329,slow=7.3,SNR=7.1						
CMAR	**Chiang Mai Arr**	**71.39**	**86**	P	**P**	**13 19 19.9**	**+0.4**
MTPU	**Mount Pierson**	**71.67**	**318**	P	**P**	**13 19 22.8**	**+1.5**
MJAR	**Matsushiro Arr**	**72.17**	**45**	P	**P**	**13 19 23.4**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=313,slow=6.8,SNR=4.2						
MJAR	**Matsushiro Arr**	**72.17**	**45**	IAmb	IAmb	13 19 27.7	
	comp=Z,1.3nm,0.8s						
PAHR	**Pah Rah Range**	**72.29**	**324**	P	**P**	**13 19 26.3**	**+1.5**
PAHR				IAmb	IAmb	13 19 29.7	
	comp=Z,3.9nm,0.9s						
ANMO	**Albuquerque**	**72.55**	**312**	⇑*e*P	**P**	**13 19 28.6**	**+2.2**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
PNTR	**Pine Nut**	**72.93**	**324**	P	**P**	**13 19 31.2**	**+2.5**
PNTR				IAmb	IAmb	13 19 34.3	
	comp=Z,4.1nm,0.7s						
LCMT	**Little Creek M**	**72.95**	**318**	P	**P**	**13 19 30.0**	**+1.3**
KMRM	**Mail Ridge**	**72.97**	**328**	P	**P**	**13 19 30.0**	**+1.3**
KMRM				IAmb	IAmb	13 19 34.0	
	comp=Z,8.6nm,0.9s						
NVAR	**Mina Array Bea**	**73.17**	**323**	P	**P**	**13 19 31.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=11,slow=1.8,SNR=1.9						
U15A	**North Rim**	**73.18**	**317**	P	**P**	**13 19 31.3**	**+1.0**
AFDM	**Forest Hills D**	**73.44**	**325**	P	**P**	**13 19 32.8**	**+1.4**
AFDM				IAmb	IAmb	13 19 35.9	
	comp=Z,4.3nm,0.8s						
TXAR	**Lajitas Array**	**76.57**	**308**	P	**P**	**13 19 50.5**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=73,slow=6.0,SNR=2.6						
WRA	**Warramunga Arr**	**121.51**	**73**	PKP	**PKPdf**	**13 26 52.3**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=292,slow=8.4,SNR=2.1						
ASAR	**Alice Springs**	**124.53**	**75**	PKP	**PKPdf**	**13 26 57.9**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=334,slow=1.8,SNR=19						

*ECX **15** 13:08:53.3±0.8, 30°.51N×114°.36W, h0km±5km, MD3.3, ML3.5*
*MEX **15** 13:08:56.1±0.5, 30°.37N×114°.60W, h6km±6km, MD3.7*
ISC 15 13:08:51.1±1.4,**30°.50N**±0°.07×**114°.30W**±0°.05,**h18**km±6km,
n13,σ0°**65/21**,**1C-5D**,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.72**	**319**	*e*P	**Pb**	**13 09 05.0**	**0.0**
SFX				*e*S	**Sb**	**13 09 15.6**	**+1.0**
SPX	**San Pedro Mart**	**1.14**	**298**	*e*P	**Pn**	**13 09 12.6**	**+0.1**
SPX				*e*S	**Sb**	**13 09 25.7**	**-1.4**
SPX	**San Pedro Mart**	**1.14**	**298**	⇓*e*P	**Pn**	**13 09 12.6**	**+0.1**
SPX				*e*S	**Sg**	**13 09 28.7**	**+0.4**
SPX				IAML		13 09 32.7	
	comp=E,664nm,0.8s						
SPX				⇑*e*		13 09 32.7	
SPX				IAML		13 09 41.1	
	comp=N,832nm,0.9s						
SPX				⇓*e*		13 09 41.1	
SPIG	**San Pedro Mart**	**1.15**	**299**	*e*P	**Pg**	**13 09 13.6**	**+0.2**
SPIG				*i* S	**Sb**	**13 09 26.5**	**-0.7**
SPIG	**San Pedro Mart**	**1.15**	**299**	*e*P	**Pg**	**13 09 13.5**	**+0.2**
SPIG				*e*S	**Sn**	**13 09 27.9**	**0.0**
ECBX	**El Chinero**	**1.17**	**326**	*e*P	**Pb**	**13 09 12.8**	**+0.1**
PIX	**Pinacate**	**1.28**	**34**	⇓*e*P	**Pn**	**13 09 13.1**	**-1.0**
SQX	**San Quintin**	**1.36**	**274**	*e*P	**Pg**	**13 09 17.0**	**-0.4**
SQX				*e*S	**Sg**	**13 09 34.9**	**-0.3**
VTX	**Valle De La Tr**	**1.56**	**305**	*e*P	**Pb**	**13 09 20.2**	**+0.7**
VTX				*e*S	**Sg**	**13 09 41.2**	**-0.2**
SJX	**San Joaquin**	**1.90**	**312**	*e*P	**Pg**	**13 09 27.8**	**+0.2**
MBIG	**Mexicali**	**2.05**	**338**	*i* P	**Pb**	**13 09 28.1**	**+0.3**
CPBX	**Cerro Prieto**	**2.10**	**336**	*e*P	**Pb**	**13 09 28.9**	**+0.3**
CPBX				⇓*e*		13 10 27.6	
CPBX				IAML		13 10 27.6	
	comp=N,1μm,0.8s						
CPBX				IAML		13 10 31.9	
	comp=E,929nm,0.7s						
CPBX				⇓*e*		13 10 31.9	
HSIG		**3.26**	**116**	*i* P	**Pb**	**13 09 48.3**	**-0.1**
HSIG				*i* S	**Sb**	**13 10 28.9**	**+1.1**

*IDC **15** 13:27:24.4±1.4, 3°.22N×94°.74W, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/44, mbtmp4.0/6, MS3.7/14, Ms1 3.8/14, ms1mx3.6/31, Error ellipse: s-maj=92.1km s-min=19.8km az=50.0*
*NEIC **15** 13:27:24.6±1.8, 2°.82N±0°.06×95°.2W±0°.1, h10km±1km, mb4.5/79, Error ellipse: s-maj=20.5km s-min=4.9km az=297.0*
ISC 15 13:27:24.5±0.7,**2°.82N**±0°.09×**95°.2W**±0°.1,**h10**km,**n112**,
σ1**9/04/93**,**mb4.4/35**,**MS3.6/12**,**Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**12.14**	**16**	Pn	**Pn**	**13 30 17.6**	**-0.1**
JTS	**Las Juntas de**	**12.61**	**54**	LR	LR	13 33 55.8	
	comp=Z,521nm,20.2s,baz=323,slow=33						
OTAV	**Otavalo**	**16.96**	**98**		**Pn**	**13 31 24.4**	**+1.7**
TEIG	**Tepich**	**18.58**	**21**	P	**Pn**	**13 31 43.5**	**+1.4**
TEIG				IAmb	IAmb	13 32 01.5	
	comp=Z,70nm,1.5s						
ATAH	**Atahualpa**	**19.50**	**121**	LR	LR	13 37 41.6	
	comp=Z,326nm,21.6s,baz=303,slow=32						
ROSC	**El Rosal**	**20.96**	**84**	LR	LR	13 38 21.4	
	comp=Z,117nm,20.3s,baz=262,slow=32						
ROSC	**El Rosal**	**20.96**	**84**	P	**P**	**13 32 10.2**	**+1.9**
ROSC				IAmb	IAmb	13 32 17.8	
	comp=Z,37nm,1.3s						
NNA	**Nana**	**23.46**	**129**	LR	LR	13 39 34.5	
	comp=Z,115nm,18.4s,baz=292,slow=31						
SDV	**Santo Domingo**	**25.18**	**75**	LR	LR	13 41 09.3	
	comp=Z,175nm,21.7s,baz=253,slow=34						
TXAR	**Lajitas Array**	**27.56**	**344**	LR	LR	13 42 47.1	
	comp=Z,293nm,21.7s,baz=0.0,slow=34						
MSTX	**Muleshoe**	**31.78**	**348**	P	**P**	**13 33 50.5**	**+1.3**
MSTX				IAmb	IAmb	13 33 57.0	
	comp=Z,6.3nm,1.0s						
Y49A	**Blount Mountai**	**31.95**	**14**	P	**P**	**13 33 50.7**	**0.0**
Y49A				IAmb	IAmb	13 33 58.4	
	comp=Z,5.3nm,0.7s						
WHAR	**Wooly Hollow**	**32.42**	**4**	P	**P**	**13 33 55.5**	**+0.8**
RPN	**Rapa Nui**	**32.74**	**204**	P	**P**	**13 33 58.3**	**+0.7**
LPAZ	**La Paz**	**32.83**	**126**	P	**P**	**13 33 59.9**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=308,slow=6.8,SNR=6.3						
LPAZ				LR	LR	13 46 56.0	
	comp=Z,63nm,19.6s,baz=318,slow=36						
LPAZ	**La Paz**	**32.83**	**126**	P	**P**	**13 33 58.8**	**-0.5**
LPAZ				IAmb	IAmb	13 34 04.4	
	comp=Z,12nm,1.5s						
FCAR	**Ozark Folk Cen**	**33.03**	**5**	P	**P**	**13 33 60.0**	**-0.1**
FCAR				IAmb	IAmb	13 34 04.4	
	comp=Z,11nm,1.3s						
ANMO	**Albuquerque**	**33.62**	**343**	P	**P**	**13 34 05.7**	**+0.1**
V48A	**Smith Brothers**	**33.66**	**12**	P	**P**	**13 34 04.3**	**-1.4**
BG3	**Lake Jocassee**	**33.99**	**18**	P	**P**	**13 34 06.8**	**-1.6**
BG3				IAmb	IAmb	13 34 13.3	
	comp=Z,4.9nm,0.7s						
SAML	**Samuel**	**34.02**	**110**	P	**P**	**13 34 06.5**	**-2.4**
T42A	**Van Buren**	**34.25**	**6**	P	**P**	**13 34 10.6**	**-0.1**
T42A				IAmb	IAmb	13 34 18.2	
	comp=Z,5.1nm,0.8s						
T47A	**Sharon Grove**	**34.81**	**11**	P	**P**	**13 34 16.1**	**+0.6**
X16A	**Lo Mia Camp, P**	**34.87**	**336**	P	**P**	**13 34 14.9**	**-1.5**
X16A				IAmb	IAmb	13 34 41.8	
	comp=Z,3.9nm,0.8s						
S44A	**Carbondale**	**35.13**	**8**	P	**P**	**13 34 16.0**	**-2.3**
T25A	**Trinidad**	**35.18**	**347**	P	**P**	**13 34 20.3**	**+1.3**
T25A				IAmb	IAmb	13 34 27.0	
	comp=Z,5.2nm,1.1s						
R40A	**Maddies Statio**	**35.40**	**4**	P	**P**	**13 34 20.1**	**-0.5**
PTGA	**Pitinga**	**35.43**	**95**	P	**P**	**13 34 20.0**	**-1.2**
PTGA				IAmb	IAmb	13 34 21.0	
	comp=Z,7.9nm,0.9s						
WCI	**Wyandotte Cave**	**36.17**	**12**	P	**P**	**13 34 28.0**	**+0.7**
R49A	**Shelbyville**	**36.48**	**13**	P	**P**	**13 34 30.3**	**+0.5**
R49A				IAmb	IAmb	13 34 37.4	
	comp=Z,9.9nm,0.9s						
W13A	**Hualapai Mount**	**36.49**	**334**	P	**P**	**13 34 31.0**	**+0.7**
P40A	**Paris**	**36.65**	**4**	P	**P**	**13 34 31.7**	**+0.4**
P40A				IAmb	IAmb	13 34 33.3	
	comp=Z,9.1nm,0.9s						
U15A	**North Rim**	**36.96**	**337**	P	**P**	**13 34 34.7**	**+0.3**
U15A				IAmb	IAmb	13 34 49.9	
	comp=Z,10nm,1.5s						
T57A	**Hurt**	**37.05**	**21**	P

FXWY				IAmb	IAmb	13 35 32.0
	comp=Z,9.5nm,1.2s					
L59A	**Walton**	**43.16**	**22**	P	**P**	**13 35 25.8 +0.3**
L59A				IAmb	IAmb	13 35 29.1
	comp=Z,22nm,1.4s					
IMW	**Indian Meadow**	**43.21**	**343**	P	**P**	**13 35 26.4 +0.3**
K58A	**Earlville**	**43.44**	**21**	P	**P**	**13 35 28.3 +0.6**
GO05	**Huala**	**43.52**	**152**	P	**P**	**13 35 28.2 -0.3**
HLID	**Hailey**	**44.00**	**340**	P	**P**	**13 35 32.3 -0.1**
J58A	**Remsen**	**44.09**	**21**	P	**P**	**13 35 33.4 +0.5**
YHL	**Hebgen Lake**	**44.15**	**344**	P	**P**	**13 35 34.8 +1.1**
MFID	**Camas Ranch**	**44.37**	**338**	P	**P**	**13 35 35.7 +0.4**
MCMT	**McKenzie Canyo**	**44.62**	**342**	P	**P**	**13 35 38.4 +1.0**
GCMT	**Greycliff**	**44.62**	**346**	P	**P**	**13 35 37.4 +0.1**
MOD	**Modoc Plateau**	**44.94**	**333**	P	**P**	**13 35 40.5 +0.6**
MDND	**Maddock**	**45.01**	**356**	P	**P**	**13 35 39.8 -0.4**
DLMT	**Dillon**	**45.03**	**343**	P	**P**	**13 35 41.2 +0.7**
DLMT				IAmb	IAmb	13 35 42.5
	comp=Z,6.5nm,1.1s					
AGMN	**Agassiz Nation**	**45.30**	**359**	P	**P**	**13 35 42.6 +0.1**
LRM	**Limekiln Ridge**	**45.40**	**343**	P	**P**	**13 35 43.5 -0.1**
K05A	**Summer Lake**	**45.86**	**334**	P	**P**	**13 35 47.1 -0.2**
K05A				IAmb	IAmb	13 35 50.2
	comp=Z,6.1nm,1.1s					
YBH	**Yreka Blue Hor**	**45.92**	**331**	P	**P**	**13 35 46.9 -0.7**
	comp=Z,1.1nm,0.9s,baz=128,slow=12,SNR=2.6					
YBH	**Yreka Blue Hor**	**45.92**	**331**	P	**P**	**13 35 45.9 -1.7**
YBH				IAmb	IAmb	13 35 53.6
	comp=Z,5.5nm,1.5s					
HRY	**Holter Researc**	**46.04**	**344**	P	**P**	**13 35 48.7 +0.1**
DGMT	**Dagmar**	**46.12**	**352**	P	**P**	**13 35 48.8 -0.2**
CPUP	**Villa Florida**	**46.71**	**131**	LR	LR	13 54 56.1
	comp=Z,62nm,18.6s,baz=22,slow=35					
PINE	**Pine Mountain**	**46.73**	**334**	P	**P**	**13 35 54.6 +0.5**
PINE				IAmb	IAmb	13 36 01.8
	comp=Z,8.7nm,1.3s					
ULM	**Lac du Bonnet**	**47.26**	**359**	LR	LR	13 56 49.1
	comp=Z,67nm,18.5s,baz=136,slow=38					
JTMT	**Jette**	**47.68**	**343**	P	**P**	**13 36 01.5 +0.1**
JTMT				IAmb	IAmb	13 36 03.9
	comp=Z,9.6nm,1.3s					
PLCA	**Paso Flores**	**48.86**	**155**	LR	LR	13 52 20.4
	comp=Z,198nm,18.7s,baz=340,slow=30					
SCHQ	**Schefferville**	**56.75**	**19**	LR	LR	14 00 45.3
	comp=Z,87nm,18.5s,baz=266,slow=36					
DLBC	**Dease Lake**	**61.77**	**340**	P	**P**	**13 37 44.0 +0.7**
DLBC				IAmb	IAmb	13 37 45.2
	comp=Z,4.5nm,1.1s					
BCAR	**Beaver Creek A**	**69.12**	**339**	P	**P**	**13 38 27.7 -3.1**
RND	**Reindeer**	**71.92**	**338**	P	**P**	**13 38 46.8 -1.1**
ILAR	**Eielson Array**	**71.95**	**339**	P	**P**	**13 38 47.2 -0.7**
	comp=Z,2.1nm,1.0s,baz=146,slow=4.6,SNR=13					
ILAR	**Eielson Array**	**71.95**	**339**	P	**P**	**13 38 46.6 -1.4**
ESDC	**Sonseca Array**	**89.19**	**51**	LR	LR	14 13 06.0
	comp=Z,38nm,21.7s,baz=295,slow=31					
NOA	**NORSAR Array B**	**95.44**	**28**	LR	LR	14 23 11.5
	comp=Z,22nm,18.4s,baz=80,slow=35					
H11N3	**WAKE ISLAND Hy**	**96.45**	**290**	T	T	15 28 18.6
	baz=85,slow=75,SNR=6.6					
H11N2	**WAKE ISLAND Hy**	**96.46**	**290**	T	T	15 28 22.1
	baz=85,slow=75,SNR=5.3					
H11N1	**WAKE ISLAND Hy**	**96.47**	**290**	T	T	15 28 22.1
	baz=85,slow=75,SNR=8.8					
H11S2	**WAKE ISLAND Hy**	**96.75**	**289**	T	T	15 28 34.1
	baz=86,slow=75,SNR=24					
H11S1	**WAKE ISLAND Hy**	**96.76**	**289**	T	T	15 28 27.2
	baz=86,slow=75,SNR=13					
H11S3	**WAKE ISLAND Hy**	**96.77**	**289**	T	T	15 28 34.3
	baz=86,slow=75,SNR=12					
ASAR	**Alice Springs**	**128.23**	**242**	PKP	**PKiKP**	**13 46 35.8 +3.0**
	comp=Z,0.2nm,0.6s,baz=124,slow=2.6,SNR=2.0					

*TUL **15** 13:27:40.1±1.2, 36°.63N±0°.04×97°.98W±0°.05, h4km±7km, MLJ3.1, Error ellipse: s-maj=6.2km s-min=5.6km az=224.0*
*UNK **15** 13:27:40.1, 36°.63N×97°.98W, h4km*
*ANF **15** 13:27:41.1±1.1, 36°.65N×97°.96W, h10km±9km, ML4.0/7, Error ellipse: s-maj=6.5km s-min=2.9km az=160.0*

ISC 15 13:27:40.5±0.9, 36°.62N±0°.03×98°.00W±0°.03, h8km±8km, n54, σ0s77/62, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.11**	**173**		**Pg**	**13 27 43.1**	**0.0**
CROK				Sg	**Sg**	**13 27 44.8**	**-0.1**
KAN10	**Anthony SW Sta**	**0.51**	**352**		**Pg**	**13 27 50.2**	**-0.2**
KAN10				Sg	**Sg**	**13 27 57.1**	**0.0**
KAN13	**South Haven SW**	**0.58**	**47**	Pg	**Pg**	**13 27 51.2**	**-0.4**
KAN13				Sg	**Sg**	**13 27 58.8**	**-0.5**
U32A	**Winter Ranch,**	**0.84**	**254**	Pg	**Pg**	**13 27 56.5**	**-0.2**
OK029	**Liberty Lake**	**0.93**	**151**		**Pg**	**13 27 57.8**	**-0.5**
BCOK	**Bluff Creek, N**	**1.01**	**162**		**Pg**	**13 27 59.2**	**-0.7**
QUOK	**Quay**	**1.13**	**113**		**Pg**	**13 28 01.2**	**-1.0**
OK025	**Westminster Rd**	**1.17**	**152**		**Pg**	**13 28 02.1**	**-0.7**
T35A	**Sooner Cattle**	**1.23**	**76**		**Pg**	**13 28 03.0**	**-1.1**
OKCFA	**Oklahoma City**	**1.28**	**159**		**Pn**	**13 28 03.9**	**-0.8**
OKCSW	**OKLAHOMA CITY**	**1.29**	**159**		**Pn**	**13 28 04.2**	**-0.6**
FNO	**Franklin**	**1.44**	**160**		**Pn**	**13 28 06.9**	**0.0**
R32A	**Long Quarter,**	**1.89**	**343**		**Pn**	**13 28 13.9**	**+0.9**
TUL1	**Leonard**	**1.92**	**111**	P	**Pn**	**13 28 14.3**	**+0.9**
	baz=293						
TUL1				S	**Sb**	**13 28 39.7**	**-0.1**
	baz=293						
TUL1	**Leonard**	**1.92**	**111**		**Pn**	**13 28 14.2**	**+0.8**
WMOK	**Wichita Mounta**	**1.98**	**199**	P	**Pn**	**13 28 15.1**	**+0.8**
	baz=19						
WMOK				S	**Sb**	**13 28 42.0**	**+0.4**
	baz=19						
WMOK	**Wichita Mounta**	**1.98**	**199**	Pn	**Pn**	**13 28 14.6**	**+0.3**
X34A	**Smith Ranch, M**	**2.02**	**176**	Pn	**Pn**	**13 28 15.9**	**+1.2**
CBKS	**Cedar Bluff**	**2.59**	**328**		**Pn**	**13 28 22.6**	**-0.1**
KSU1	**Kansas State U**	**2.71**	**24**	P	**Pn**	**13 28 25.0**	**+0.7**
	baz=204						
KSU1	**Kansas State U**	**2.71**	**24**	Pn	**Pn**	**13 28 24.9**	**+0.5**
U38A	**Gravette**	**2.92**	**92**		**Pn**	**13 28 26.8**	**-0.4**
X37A	**Clayton**	**2.95**	**133**		**Pn**	**13 28 28.4**	**+0.8**
HHAR	**Hobbs**	**3.29**	**95**		**Pn**	**13 28 32.3**	**0.0**
Z35A	**Perchaven, San**	**3.34**	**169**	Pn	**Pn**	**13 28 33.7**	**+0.8**
AMTX	**Amarillo**	**3.46**	**241**	Pb	**Pb**	**13 28 42.7**	**+0.7**
	baz=59						
AMTX				Sb	**Sg**	**13 29 29.0**	**-2.5**
	baz=59						
AMTX	**Amarillo**	**3.46**	**241**	Pn	**Pn**	**13 28 35.4**	**+0.8**
W39A	**Magazine**	**3.71**	**111**	Pb	**Pb**	**13 28 47.0**	**+0.9**
	baz=294						
W39A				Sb	**Sb**	**13 29 33.7**	**+2.5**
	baz=294						
S39A	**Bolivar**	**3.89**	**73**	Pn	**Pn**	**13 28 40.4**	**-0.1**
N33A	**J Bar K, Exete**	**4.14**	**6**	Pn	**Pn**	**13 28 44.2**	**+0.2**
MIAR	**Mount Ida**	**4.16**	**119**		**Pn**	**13 28 45.3**	**+1.1**
U40A	**Yellville**	**4.16**	**92**	P	**Pn**	**13 28 44.4**	**+0.2**
	baz=275						
U40A				S	**Sn**	**13 29 32.1**	**-0.9**
	baz=275						
U40A	**Yellville**	**4.16**	**92**		**Pn**	**13 28 44.3**	**+0.1**
Z38A	**Mt. Pleasant**	**4.17**	**143**	Pn	**Pn**	**13 28 45.1**	**+0.8**
ABTX	**Abilene, Hawle**	**4.21**	**199**	Pn	**Pn**	**13 28 45.7**	**+0.8**
KSCO	**Kaye Shedlock'**	**4.37**	**305**	Pn	**Pn**	**13 28 46.8**	**-0.5**
N35A	**Tabor**	**4.62**	**23**	Pn	**Pn**	**13 28 49.8**	**-0.8**
P38A	**Dawn**	**4.63**	**48**	Pn	**Pn**	**13 28 49.5**	**-1.1**
WHTX	**Lake Whitney,**	**4.64**	**174**	P	**Pn**	**13 28 51.3**	**+0.5**
	baz=355						
WHTX	**Lake Whitney,**	**4.64**	**174**	Pn	**Pn**	**13 28 50.9**	**+0.1**
MSTX	**Muleshoe**	**4.71**	**237**	Pn	**Pn**	**13 28 51.8**	**-0.2**
X40A	**Basin Creek Fa**	**4.72**	**115**	Pn	**Pn**	**13 28 51.6**	**-0.3**
FCAR	**Ozark Folk Cen**	**4.80**	**97**	Pn	**Pn**	**13 28 53.5**	**+0.4**
WHAR	**Wooly Hollow**	**4.82**	**104**	Pn	**Pn**	**13 28 54.2**	**+0.9**
R40A	**Maddies Statio**	**4.86**	**68**		**Pn**	**13 28 53.5**	**-0.3**
237A	**Washetta, Mont**	**4.95**	**158**	Pn	**Pn**	**13 28 55.4**	**+0.4**
T25A	**Trinidad**	**5.17**	**278**	Pn	**Pn**	**13 28 58.1**	**-0.2**
T42A	**Van Buren**	**5.56**	**84**	Pn	**Pn**	**13 29 03.6**	**+0.1**
CCM	**Cathedral Cave**	**5.57**	**73**	P	**Pn**	**13 29 03.1**	**-0.6**
	baz=257						
CCM	**Cathedral Cave**	**5.57**	**73**	Pn	**Pn**	**13 29 03.1**	**-0.6**
N38A	**Joes South For**	**5.59**	**40**	Pn	**Pn**	**13 29 03.7**	**-0.3**
L40A	**Anamosa**	**7.56**	**42**	Pn	**Pn**	**13 29 30.3**	**-0.6**
MNTX	**Cornudas Mount**	**7.84**	**233**	Pn	**Pn**	**13 29 35.7**	**+0.9**
HDIL	**Hopedale**	**7.87**	**57**	Pn	**Pn**	**13 29 35.4**	**+0.2**

*IDC **15** 13:33:42.3±2.0, 6°.35S×147°.82E, h64km±19km, mb3.7/3, mb1 3.9/7, mb1mx3.4/40, mbtmp3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.6/39, Error ellipse: s-maj=30.6km s-min=14.8km az=108.0*

ISC 15 13:33:41.5±1.0, 6°.33S±0°.09×147°.8E±0°.1, h51km, n9, σ1s16/10, mb3.8/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**192**	P	**Pn**	**13 34 28.4**	**+0.2**
	7.0nm,0.3s,baz=10,slow=3.7,SNR=22						
PMG				S	**Sn**	**13 35 06.3**	**+2.0**
	18nm,0.3s,baz=15,slow=16,SNR=6.4						
KRVT	**Keravat (AS076**	**4.67**	**65**	P	**Pn**	**13 34 49.9**	**+0.4**
	7.9nm,0.3s,baz=235,slow=22,SNR=5.1						
JAY	**Jayapura**	**8.02**	**298**	P	**Pn**	**13 35 36.5**	**+1.0**
	0.6nm,0.3s,baz=127,slow=5.1,SNR=3.6						
SIJI	**Sorong**	**17.36**	**288**	LR	LR	13 46 52.1	
	comp=Z,82nm,18.5s,baz=82,slow=45						
WRA	**Warramunga Arr**	**18.82**	**223**	P	**P**	**13 37 55.7**	**-1.4**
	0.4nm,0.3s,baz=51,slow=11,SNR=34						
ASAR	**Alice Springs**	**21.81**	**216**	P	**P**	**13 38 29.0**	**-0.5**
	2.3nm,0.6s,baz=48,slow=8.9,SNR=43						
ASAR				S	**S**	**13 42 28.3**	**+0.3**
	0.5nm,0.7s,baz=32,slow=21,SNR=5.1						
FITZ	**Fitzroy Crossi**	**24.57**	**240**	P	**P**	**13 38 56.1**	**-0.8**
	2.0nm,0.4s,baz=1.3,slow=6.7,SNR=39						
STKA	**Stephens Creek**	**26.07**	**192**	P	**P**	**13 39 09.1**	**-1.2**
	1.0nm,0.6s,baz=2.3,slow=8.6,SNR=1.9						
TORD	**Torodi Ar. Bea**	**145.94**	**284**	PKPbc	**PKPab**	**13 53 16.8**	**-0.3**
	0.7nm,0.5s,baz=59,slow=4.2,SNR=2.1						

TAP 15 13:42:34.0, 23°.03N×120°.74E, h14km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGT	**Liugui**	**0.09**	**244**	*i* P	Pg	13 42 37.6	+0.5
	baz=244						
SLGT				*i* S	Sg	13 42 40.1	+0.9
	baz=244						
SGST	**Jiashian**	**0.15**	**289**	*e*P	Pb	13 42 38.8	+0.2
	baz=290						
SGST				*e*S	Sb	13 42 41.6	0.0
	baz=290						
WTP	**Ta-pu**	**0.24**	**332**	*e*P	Pb	13 42 40.0	-0.1
	baz=335						
CHN1	**Nanshi**	**0.24**	**308**	*e*P	Pb	13 42 41.0	+0.8
	baz=319						
TPUB	**Ta-pu**	**0.28**	**340**	*e*P	Pb	13 42 40.8	-0.1
	baz=340						
SSD	**Sandimen**	**0.30**	**198**	*e*P	Pb	13 42 41.2	0.0
	baz=192						
ELDTW	**Lidau**	**0.30**	**59**	*e*P	Pb	13 42 41.0	-0.3
	baz=60						
TWK	**Hsinying**	**0.33**	**316**	*e*P	Pb	13 42 41.8	+0.2
	baz=317						
TWK				*e*S	Sb	13 42 47.2	+0.5
	baz=317						
TWG	**Pinlang**	**0.38**	**124**	*e*P	Pb	13 42 42.3	-0.1
	baz=113						

TAP 15 13:42:38.6, 23°.04N×120°.78E, h8km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGT	**Liugui**	**0.13**	**248**	*i* P	Pg	13 42 42.2	+0.7
	baz=247						
SLGT				S	Sg	13 42 44.5	+1.0
	baz=247						
SGST	**Jiashian**	**0.18**	**282**	*e*S	Sg	13 42 46.1	+1.1
	baz=282						
WTP	**Ta-pu**	**0.25**	**323**	*e*P	Pb	13 42 44.7	-0.8
	baz=324						
WTP				*e*S	Sb	13 42 48.7	-1.3
	baz=324						
WTP	**Ta-pu**	**0.25**	**323**	*e*S	Sb	13 42 44.6	-0.8
	baz=335						
ELDTW	**Lidau**	**0.26**	**56**	*e*P	Pg	13 42 44.6	+0.8
	baz=58						
ELDTW				*e*S	Sg	13 42 48.1	+0.7
	baz=58						
CHN1	**Nanshi**	**0.27**	**301**	*e*P	Pb	13 42 45.4	-0.3
	baz=302						
CHN1				*e*S	Sb	13 42 50.3	-0.2
	baz=302						
TPUB	**Ta-pu**	**0.29**	**332**	*e*P	Pb	13 42 45.4	-0.7
	baz=332						
TPUB				*e*S	Sb	13 42 50.1	-1.0
	baz=332						
TPUB	**Ta-pu**	**0.29**	**332**	*e*S	Pb	13 42 45.6	-0.5
	baz=340						
SCST	**Cishan**	**0.31**	**239**	*e*P	Pb	13 42 46.4	0.0
	baz=239						
SSD	**Sandimen**	**0.33**	**205**	*e*P	Pg	13 42 45.8	+0.8
	baz=199						
SSD	**Sandimen**	**0.33**	**205**	*e*S	Pg	13 42 45.9	+0.9
	baz=192						
TWK	**Hsinying**	**0.35**	**310**	*e*S	Sb	13 42 53.0	+0.2
	baz=315						
TWG	**Pinlang**	**0.35**	**129**	*e*P	Pb	13 42 46.9	-0.2
	baz=129						
TWG				*e*S	Sb	13 42 52.2	-0.5
	baz=129						
LONT	**Longtian**	**0.35**	**113**	*e*P	Pb	13 42 46.6	-0.5
	baz=113						
LONT				*e*S	Sb	13 42 51.7	-1.1
	baz=113						
CHN4	**Tsaushan**	**0.35**	**331**	*e*S	Pb	13 42 47.0	-0.1
	baz=338						
CHN4	**Tsaushan**	**0.35**	**331**	*e*P	Pb	13 42 46.9	-0.2
	baz=330						
TWGBT	**Beinan**	**0.36**	**129**	*e*P	Pb	13 42 46.9	-0.3
	baz=129						
TWGBT				*e*S	Sb	13 42 52.2	-0.7
	baz=129						
MASBT	**Mashibuluo**	**0.45**	**198**	*e*P	Pb	13 42 48.2	-0.6
	baz=201						

*IDC **15** 13:50:25.6±1.9, 18°.81N×145°.40E, h352km±20km, mb3.2/10, mb1 3.4/11, mb1mx3.2/34, mbtmp4.0/11, Error ellipse: s-maj=26.9km s-min=14.7km az=89.0*
*NEIC **15** 13:50:25.5±1.3, 18°.84N±0°.10×145°.2E±0°.1, h349km±8km, mb4.1/29, Error ellipse: s-maj=19.1km s-min=14.2km az=87.0*

ISC 15 13:50:25.5±0.6, 18°.84N±0°.07×145°.2E±0°.1, h350km, n46, σ0s80/49, mb4.0/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.23**	**184**	P	**Pn**	**13 51 48.6**	**+0.9**
	2.7nm,0.3s,baz=21,slow=17,SNR=1.8						
GUMO				S	**S**	**13 52 53.4**	**-0.8**
	4.0nm,0.3s,baz=0.0,slow=20,SNR=1.1						
JHJ2	**Mitsune**	**15.02**	**342**		**P**	**13 53 40.4**	**+0.1**
JMN	**Monobe**	**17.95**	**328**	P	**P**	**13 54 12.0**	**0.0**
DLV	**T Lat**	**36.01**	**264**	P	**P**	**13 56 55.0**	**-0.1**
KMI	**Kunming**	**39.75**	**287**	P	**P**	**13 57 24.7**	**-1.4**
WB0	**Warramunga Arr**	**39.80**	**196**	P	**P**	**13 57 25.9**	**-0.3**
WR0	**Warramunga Arr**	**39.95**	**196**	P	**P**	**13 57 26.9**	**-0.4**
WRAB	**Tennant Creek**	**39.97**	**196**	P	**P**	**13 57 27.4**	**-0.1**
WB2	**Warramunga Arr**	**39.98**	**196**	P	**P**	**13 57 27.7**	**+0.1**
WRA	**Warramunga Arr**	**39.98**	**196**	P	**P**	**13 57 28.1**	**+0.4**
	0.3nm,0.2s,baz=20,slow=8.9,SNR=16						
WRA	**Warramunga Arr**	**39.98**	**196**	P	**P**	**13 57 27.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**41.43**	**209**	P	**P**	**13 57 39.0**	**-0.3**
SONM	**Songino Array**	**42.75**	**322**	P	**P**	**13 57 51.6**	**+1.9**
	0.8nm,0.6s,baz=135,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**43.66**	**195**	P	**P**	**13 57 56.5**	**-0.5**
	0.2nm,0.4s,baz=14,slow=6.2,SNR=11						
ASAR	**Alice Springs**	**43.66**	**195**	P	**P**	**13 57 55.9**	**-1.2**
AIN	**Ainahou**	**55.82**	**79**	P	**P**	**13 59 26.4**	**-1.7**
ZAA0	**Zalesovo Array**	**57.62**	**323**	P	**P**	**13 59 39.6**	**-0.4**
ZAA0				IAmb	IAmb	13 59 41.1	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**57.62**	**323**	P	**P**	**13 59 40.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=97,slow=7.6,SNR=6.0						
ZALV	**Zalesovo Beam**	**57.62**	**323**	P	**P**	**13 59 39.8**	**-0.1**
MKAR	**Makanchi Array**	**58.03**	**314**	P	**P**	**13 59 43.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=90,slow=8.3,SNR=8.4						
MKAR				PcP	**PcP**	**14 00 30.1**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=94,slow=3.6,SNR=3.6						
MKAR	**Makanchi Array**	**58.03**	**314**	P	**P**	**13 59 43.5**	**+0.5**
MKAR					**PcP**	**14 00 29.6**	**-1.0**
SKT	**Skwentna**	**61.05**	**29**	P	**P**	**14 00 02.6**	**-0.4**
SKT				IAmb	IAmb	14 00 03.3	
	comp=Z,8.8nm,1.3s						
IMAR	**Indian Mountai**	**61.28**	**24**	P	**P**	**14 00 05.8**	**+1.2**
NRIK	**Noril'sk**	**61.32**	**340**	P	**P**	**14 00 05.2**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=77,slow=4.9,SNR=3.5						
KTH	**Kantishna Hill**	**61.73**	**27**	P	**P**	**14 00 07.4**	**-0.2**
KTH				IAmb	IAmb	14 00 08.2	
	comp=Z,8.4nm,1.2s						
BPAW	**Bear Paw Mtn.**	**61.84**	**27**	P	**P**	**14 00 09.0**	**+0.8**
BPAW				IAmb	IAmb	14 00 09.7	
	comp=Z,2.9nm,0.6s						
GHO	**Glory Hole Cre**	**62.20**	**29**	P	**P**	**14 00 11.0**	**+0.3**
GHO				IAmb	IAmb	14 00 17.9	
	comp=Z,17nm,1.4s						
GLI	**Glacier Island**	**62.89**	**31**	P	**P**	**14 00 15.1**	**-0.1**
GLI				IAmb	IAmb	14 00 39.1	
	comp=Z,16nm,1.2s						
SCM	**Sheep Creek Mo**	**62.95**	**29**	P	**P**	**14 00 16.2**	**+0.5**
COLD	**Coldfoot**	**63.01**	**23**	P	**P**	**14 00 16.8**	**+0.9**
COLD				IAmb	IAmb	14 00 24.4	
	comp=Z,7.8nm,1.4s						
HIN	**Hinchinbrook I**	**63.10**	**31**	P	**P**	**14 00 16.9**	**+0.3**
WRH	**Wood River Hil**	**63.16**	**26**	P	**P**	**14 00 17.0**	**+0.1**
WRH				IAmb	IAmb	14 00 19.5	
	comp=Z,5.2nm,1.3s						
MDM	**Murphy Dome**	**63.21**	**26**	P	**P**	**14 00 17.6**	**+0.3**
MDM				IAmb	IAmb	14 00 40.9	
	comp=Z,2.0nm,1.2s						
IL31		**63.73**	**26**	P	**P**	**14 00 20.0**	**-0.5**
IL31				IAmb	IAmb	14 00 37.2	
	comp=Z,5.2nm,1.4s						
ILAR	**Eielson Array**	**63.73**	**26**	P	**P**	**14 00 19.5**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=245,slow=5.8,SNR=8.9						
PAX	**Paxson**	**64.01**	**28**	P	**P**	**14 00 22.8**	**+0.3**
PAX				IAmb	IAmb	14 00 26.4	
	comp=Z,6.2nm,1.4s						
DOT	**Dot Lake**	**64.74**	**28**	P	**P**	**14 00 27.3**	**+0.2**
DOT				IAmb	IAmb	14 00 28.0	
	comp=Z,2.9nm,0.8s						
BCAR	**Beaver Creek A**	**65.69**	**29**	P	**P**	**14 00 33.2**	**0.0**
BFZ	**Birch Farm**	**65.87**	**155**	P	**P**	**14 00 36.3**	**+1.8**
EGAK	**Eagle**	**66.15**	**27**	P	**P**	**14 00 36.8**	**+0.8**
EGAK				IAmb	IAmb	14 00 42.6	
	comp=Z,8.2nm,1.5s						
LTZ	**Lake Taylor**	**66.19**	**159**	P	**P**	**14 00 37.7**	**+1.1**
ABKAR	**Akbulak array**	**72.92**	**317**	P	**P**	**14 01 16.6**	**-0.7**
ARCES	**ARCESS Array B**	**82.22**	**342**	P	**P**	**14 02 08.2**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=87,slow=8.2,SNR=1.7						
NVAR	**Mina Array Bea**	**83.42**	**52**	P	**P**	**14 02 15.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=259,slow=6.1,SNR=7.4						
NVAR	**Mina Array Bea**	**83.42**	**52**	P	**P**	**14 02 14.7**	**-0.3**
FINES	**FINESS Array B**	**86.56**	**335**	P	**P**	**14 02 27.9**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=57,slow=7.0,SNR=4.2						

*DDA **15** 14:03:30.1, 36°.62N×28°.20E, h46km, ML2.8*
*ISK **15** 14:03:30.3, 36°.66N×28°.21E, h53km, ML3.1/17*
*NIC **15** 14:03:30.2±0.0, 36°.65N×28°.34E, h51km±5km, Ml3.2/3*
*THE **15** 14:03:31.6, 36°.63N×28°.19E, h53km±1km, ML2.7/5, Error ellipse: s-maj=1.7km s-min=0.6km az=111.0*
*ATH **15** 14:03:31.2, 36°.65N×27°.76E, h18km±2km, ML2.8/4, Error ellipse: s-maj=3.8km s-min=1.3km az=89.0*

ISC 15 14:03:30.8±1.2, 36°.63N±0°.02×28°.21E±0°.02, h54km±5km, n75, σ0s68/113, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.15**	**12**	PG	**Pn**	**14 03 38.9**	**-0.3**
TURN				SG	**Sn**	**14 03 44.9**	**-0.3**
TURN	**Turunc**	**0.15**	**12**	*i* P	**Pn**	**14 03 38.8**	**-0.4**
TURN				*i* S	**Sn**	**14 03 44.5**	**-0.7**
TURN				IAML		14 03 46.0	
	comp=N,1μm,0.2s						
TURN				IAML		14 03 46.0	
	comp=E,2μm,0.2s						
DALY	**Dalyan (Mula)**	**0.41**	**62**	PG	**Pn**	**14 03 41.1**	**-0.1**
DALY				SG	**Sn**	**14 03 48.5**	**-0.2**
DALY	**Dalyan (Mula)**	**0.41**	**62**	*i* P	**Pn**	**14 03 41.2**	**-0.1**
DALY				*i* S	**Sn**	**14 03 48.0**	**-0.7**
DALY				IAML		14 03 51.0	
	comp=N,441nm,0.4s						
DALY				IAML		14 03 52.0	
	comp=E,411nm,0.4s						
ARG	**Arkhangelos**	**0.42**	**189**	P	**Pn**	**14 03 41.7**	**+0.4**
ARG				S	**Sn**	**14 03 49.1**	**+0.2**
ARG	**Arkhangelos**	**0.42**	**189**	P	**Pn**	**14 03 41.7**	**+0.4**
ARG				S	**Sn**	**14 03 49.3**	**+0.4**
ARG				AML	AML	14 03 49.9	
	comp=N,3651μm,0.2s						
ARG				AML	AML	14 03 50.1	
	comp=E,10363μm,0.4s						
ARG	**Arkhangelos**	**0.42**	**189**	PG	**Pn**	**14 03 41.7**	**+0.4**
ARG				SG	**Sn**	**14 03 49.7**	**+0.8**
ARG	**Arkhangelos**	**0.42**	**189**	P	**Pn**	**14 03 41.7**	**+0.4**
ARG				S	**Sn**	**14 03 49.7**	**+0.8**
DATC	**

comp=E,485µm,0.3s
SMG AML AML 14 04 16.5
comp=N,448µm,0.4s
KORT Korkueli 1.76 77 PN **Pn 14 03 59.3 +0.3**
DGB zmir 1.77 324 *i* P **Pn 14 03 58.8 -0.1**
DGB *i* S **Sn 14 04 18.8 -1.5**
DGB IAML 14 04 24.0
comp=E,54nm,0.2s
DGB IAML 14 04 59.0
comp=N,42nm,1.8s
AMGA Amorgos Island 1.87 277 P **Pn 14 04 01.2 +0.9**
AMGA Amorgos Island 1.87 277 P **Pn 14 04 00.2 -0.2**
MANT Manisa 1.88 8 *i* P **Pn 14 04 00.9 +0.2**
MANT *i* S **Sn 14 04 23.2 -0.2**
MANT IAML 14 04 24.0
comp=N,59nm,0.5s
MANT IAML 14 04 25.0
comp=E,65nm,0.3s
KULA Kula-Manisa 1.92 11 P **Pn 14 04 01.5 +0.4**
KULA S **Sn 14 04 24.3 +0.2**
ANAF Anafi Island 1.98 263 P **Pn 14 04 02.0 +0.1**
ANAF Anafi Island 1.98 263 P **Pn 14 04 02.0 +0.1**
BLCB Balcova 1.98 333 P **Pn 14 04 01.5 -0.4**
BLCB S **Sn 14 04 25.7 +0.2**
BLCB Balcova 1.98 333 PN **Pn 14 04 01.9 0.0**
URLA Izmir 2.15 324 PN **Pn 14 04 04.6 +0.4**
URLA Izmir 2.15 324 *i* P **Pn 14 04 04.1 -0.1**
URLA *i* S **Sn 14 04 28.5 -1.2**
APE Apeiranthos 2.19 282 P **Pn 14 04 05.2 +0.4**
APE S **Sn 14 04 30.4 -0.3**
APE Apeiranthos 2.19 282 PN **Pn 14 04 05.4 +0.6**
APE Apeiranthos 2.19 282 P **Pn 14 04 05.4 +0.6**
ZKR Zakros 2.21 228 P **Pn 14 04 05.2 +0.2**
ZKR Zakros 2.21 228 P **Pn 14 04 05.9 +0.8**
ZKR Zakros 2.21 228 PN **Pn 14 04 05.6 +0.6**
STIA Sitia Lasithi 2.23 231 P **Pn 14 04 05.9 +0.6**
STIA S **Sn 14 04 32.1 +0.5**
AKS Akhisar 2.27 352 PN **Pn 14 04 06.1 +0.3**
CHOS Chios island 2.45 316 P **Pn 14 04 08.7 +0.4**
CHOS Chios island 2.45 316 PN **Pn 14 04 08.7 +0.4**
NPS Neapolis 2.51 238 P **Pn 14 04 09.6 +0.5**
NPS S **Sn 14 04 37.6 -0.9**
comp=E,120nm,0.2s
NPS Neapolis 2.51 238 P **Pn 14 04 09.4 +0.3**
NPS AML AML 14 04 39.0
comp=N,250µm,0.3s
NPS AML AML 14 04 39.3
comp=E,234µm,0.2s
LAST Lasithi 2.66 237 P **Pn 14 04 11.6 +0.5**
LAST S **Sn 14 04 41.2 -1.0**
comp=E,30nm,0.4s
LAST Lasithi 2.66 237 P **Pn 14 04 11.7 +0.5**
DURS Dursunbey 2.98 4 *i* P **Pn 14 04 16.4 +0.9**
DURS *i* S **Sn 14 04 49.1 -0.9**
DURS IAML 14 05 28.0
comp=N,21nm,0.4s
DURS IAML 14 05 31.0
comp=E,21nm,0.5s
IDI Anoyia 3.00 245 P **Pn 14 04 16.1 +0.2**
IDI S **Sn 14 04 50.0 -0.8**
comp=E,32nm,0.4s
IDI Anoyia 3.00 245 P **Pn 14 04 16.1 +0.2**
BALY Balya 3.14 352 *i* P **Pn 14 04 18.4 +0.6**
BALY IAML 14 05 06.0
comp=N,58nm,0.5s
BALY IAML 14 05 07.0
comp=E,36nm,0.4s
SIVA Sivas 3.19 241 P **Pn 14 04 19.0 +0.6**
BAYC CANAKKALE_Bayr 3.37 338 *i* P **Pn 14 04 21.3 +0.4**
BAYC IAML 14 05 00.0
comp=E,21nm,0.3s
BAYC IAML 14 05 01.0
comp=N,21nm,0.3s
VAM Vamos 3.47 251 P **Pn 14 04 22.9 +0.7**
IMMV Iera Moni Meta 3.62 252 P **Pn 14 04 24.8 +0.5**
AKMS Akamas 3.72 114 P **Pn 14 04 24.4 -1.3**
AKMS S **Sn 14 05 06.4 -1.8**
AKMS AML AML 14 05 11.6
comp=N,0.2nm,0.5s
AKMS AML AML 14 05 11.6
comp=N,0.2nm,0.5s
ALFC Alefka 3.86 111 P **Pn 14 04 27.1 -0.5**
ALFC S **Sn 14 05 10.1 -1.5**
ALFC AML AML 14 05 22.4
comp=N,0.2nm,0.6s
ALFC AML AML 14 05 22.4
comp=N,0.2nm,0.6s
NATA Nata 4.00 116 P **Pn 14 04 29.0 -0.6**
OSC1 CSNet OBS 1 4.01 140 P **Pn 14 04 29.2 -0.4**
SZAC Souni 4.24 115 P **Pn 14 04 32.4 -0.4**
SZAC S **Sn 14 05 19.8 -1.3**
ASGA Asgata 4.50 113 P **Pn 14 04 36.2 -0.1**

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*ATH **15** 14:04:16.9, 40.°36N×25.°74E, h28km±1km, ML2.2/9, Error ellipse: s-maj=1.9km s-min=1.4km az=290.0*
*ISK **15** 14:04:16.5, 40.°33N×25.°83E, h19km, ML2.8/13*
*THE **15** 14:04:17.4, 40.°32N×25.°80E, h15km, ML2.3/9, Error ellipse: s-maj=0.9km s-min=0.5km az=81.0*
*DDA **15** 14:04:18.6, 40.°31N×25.°96E, h7km±2km, ML2.4*
ISC 15 14:04:17.1±0.9, **40.°34N**±0.°02×**25.°81E**±0.°02, **h18**km±4km, **n61**, σ0.°57/89, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GOKC	**Gokceada-Canak**	**0.16**	**149**	PG	**Pg**	**Pg**	**14 04 21.4**	**0.0**
GOKC				SG	**Sg**	**Sg**	**14 04 24.1**	**-0.2**
GADA	**Gvkgeada**	**0.16**	**156**	P	**Pg**	**Pg**	**14 04 21.4**	**0.0**
GADA	**Gvkgeada**	**0.16**	**156**	PG	**Pg**	**Pg**	**14 04 21.6**	**+0.2**
GADA				SG	**Sg**	**Sg**	**14 04 24.4**	**0.0**
GOKA	**anakkale-Gk**	**0.16**	**153**	*i* P	**Pg**	**Pg**	**14 04 21.7**	**+0.3**
GOKA				*i* S	**Sg**	**Sg**	**14 04 24.5**	**+0.1**
GOKA				IAML			14 05 32.0	
comp=N,117nm,0.2s								
GOKA				IAML			14 05 32.0	
comp=E,137nm,0.3s								
GOKA	**anakkale-Gk**	**0.16**	**153**	*i* P	**Pg**	**Pg**	**14 04 21.8**	**+0.3**
GOKA				*i* S	**Sg**	**Sg**	**14 04 24.7**	**+0.3**
GOKA				IAML			14 04 25.0	
comp=N,2µm,0.3s								
GOKA				IAML			14 04 25.0	
comp=E,5µm,0.3s								
SMTH	**Samothraki Isl**	**0.26**	**302**	P	**Pg**	**Pg**	**14 04 22.9**	**0.0**
SMTH				S	**Sg**	**Sg**	**14 04 27.1**	**+0.2**
comp=E,1µm,0.2s								
SMTH	**Samothraki Isl**	**0.26**	**302**	P	**Pg**	**Pg**	**14 04 22.9**	**0.0**
SMTH				S	**Sg**	**Sg**	**14 04 26.7**	**-0.2**
SMTH				AML	AML	AML	14 04 26.7	
comp=E,3141µm,0.1s								
SMTH				AML	AML	AML	14 04 27.0	
comp=N,2663µm,0.2s								
ENEZ	**Enez**	**0.48**	**33**	P	**Pg**	**Pg**	**14 04 26.8**	**0.0**
ENEZ				S	**Sb**	**Sb**	**14 04 34.8**	**+1.1**
comp=N,595nm,0.3s								
ENEZ	**Enez**	**0.48**	**33**	PG	**Pg**	**Pg**	**14 04 26.9**	**+0.1**
ENEZ				SG	**Sg**	**Sg**	**14 04 34.1**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.51**	**83**	PG	**Pg**	**Pg**	**14 04 26.9**	**-0.4**
GELI				SG	**Sg**	**Sg**	**14 04 34.6**	**+0.4**
ALN	**Alexandroupoli**	**0.59**	**17**	P	**Pg**	**Pg**	**14 04 28.7**	**-0.1**
ALN				S	**Sg**	**Sg**	**14 04 37.1**	**+0.3**
comp=N,272nm,0.2s								
ALN	**Alexandroupoli**	**0.59**	**17**	P	**Pg**	**Pg**	**14 04 28.7**	**-0.1**
ALN				S	**Sg**	**Sg**	**14 04 37.0**	**+0.3**
ALN				AML	AML	AML	14 04 37.0	
comp=E,484µm,0.3s								
ALN				AML	AML	AML	14 04 37.3	
comp=N,244µm,0.2s								
ALN	**Alexandroupoli**	**0.59**	**17**	PG	**Pg**	**Pg**	**14 04 28.8**	**-0.1**
ALN				SG	**Sg**	**Sg**	**14 04 36.7**	**0.0**
ERIK	**Erikli-Kesan**	**0.63**	**58**	PG	**Pg**	**Pg**	**14 04 29.3**	**-0.3**
EZN	**Ezine**	**0.64**	**142**	P	**Pg**	**Pg**	**14 04 29.6**	**-0.2**
EZN				S	**Sg**	**Sg**	**14 04 38.6**	**+0.2**
comp=N,178nm,0.1s								
EZN	**Ezine**	**0.64**	**142**	PG	**Pg**	**Pg**	**14 04 29.4**	**-0.4**
EZN				SG	**Sb**	**Sb**	**14 04 38.8**	**+0.4**
LIA	**Limnos Island**	**0.65**	**228**	P	**Pg**	**Pg**	**14 04 30.1**	**+0.1**
LIA				S	**Sb**	**Sb**	**14 04 39.0**	**+0.4**
comp=N,288nm,0.4s								
LIA	**Limnos Island**	**0.65**	**228**	P	**Pg**	**Pg**	**14 04 30.0**	**+0.1**
LIA				S	**Sb**	**Sb**	**14 04 38.8**	**+0.2**
LIA				AML	AML	AML	14 04 39.6	
comp=E,545µm,0.3s								
LIA				AML	AML	AML	14 04 41.5	
comp=N,592µm,0.5s								
LPK	**Lapseki**	**0.72**	**87**	PG	**Pg**	**Pg**	**14 04 30.9**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.82**	**136**	*i* P	**Pg**	**Pg**	**14 04 32.9**	**-0.2**
BAYC				*i* S	**Sg**	**Sg**	**14 04 43.1**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.82**	**136**	*i* S	**Sg**	**Sg**	**14 04 43.3**	**-0.7**
KESN	**Edirne-Kesan**	**0.82**	**53**	*i* P	**Pg**	**Pg**	**14 04 33.2**	**-0.2**
KESN				IAML			14 05 26.0	
comp=N,22nm,0.4s								
KESN				IAML			14 06 04.0	
comp=E,20nm,0.4s								
KESN	**Edirne-Kesan**	**0.82**	**53**	*i* P	**Pg**	**Pg**	**14 04 33.1**	**-0.2**
KESN				*i* S	**Sg**	**Sg**	**14 04 44.3**	**+0.1**
KESN				IAML			14 04 46.0	
comp=N,237nm,0.5s								
KESN				IAML			14 04 46.0	
comp=E,416nm,0.2s								
RDO	**Rodhopi**	**0.84**	**346**	P	**Pg**	**Pg**	**14 04 33.2**	**-0.2**
RDO				S	**Sb**	**Sb**	**14 04 45.9**	**+1.9**
comp=E,250nm,0.3s								
RDO	**Rodhopi**	**0.84**	**346**	P	**Pg**	**Pg**	**14 04 33.2**	**-0.2**
RDO				AML	AML		14 04 46.2	
comp=E,574µm,0.3s								
RDO				AML	AML		14 04 46.7	
comp=N,417µm,0.3s								
RDO	**Rodhopi**	**0.84**	**346**	PG	**Pg**	**Pg**	**14 04 33.3**	**-0.2**
RDO				SG	**Sb**	**Sb**	**14 04 45.9**	**+1.9**
THAS	**Thassos island**	**0.88**	**288**	P	**Pg**	**Pg**	**14 04 33.7**	**-0.5**
THAS				S	**Sg**	**Sg**	**14 04 45.9**	**+0.1**
comp=N,172nm,0.2s								
THAS	**Thassos island**	**0.88**	**288**	P	**Pg**	**Pg**	**14 04 33.7**	**-0.5**
THAS				S	**Sg**	**Sg**	**14 04 44.7**	**-1.1**
THAS				AML	AML		14 04 48.1	
comp=E,372µm,0.2s								
THAS				AML	AML		14 04 48.2	
comp=N,316µm,0.2s								
UKOP	**Uzunkopru-Edir**	**1.01**	**38**	PG	**Pg**	**Pg**	**14 04 36.0**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.10**	**71**	PN	**Pb**	**Pb**	**14 04 36.9**	**-0.7**
SART	**Tekirdag**	**1.10**	**71**	*i* P	**Pb**	**Pb**	**14 04 36.9**	**-0.8**
SART				*i* S	**Sg**	**Sg**	**14 04 52.2**	**-0.7**
SART				IAML			14 06 45.0	
comp=E,36nm,3.3s								
SART	**Tekirdag**	**1.10**	**71**	*i* P	**Pb**	**Pb**	**14 04 37.5**	**-0.2**
SART				*i* S	**Sg**	**Sg**	**14 04 52.7**	**-0.2**
SIGR	**SIGRI**	**1.12**	**178**	P	**Pb**	**Pb**	**14 04 38.1**	**+0.1**
SIGR				S	**Sg**	**Sg**	**14 04 52.8**	**-0.7**
comp=E,142nm,0.5s								
SIGR	**SIGRI**	**1.12**	**178**	P	**Pb**	**Pb**	**14 04 38.3**	**+0.4**
SIGR				AML	AML		14 04 55.4	
comp=N,231µm,0.4s								
SIGR				AML	AML		14 04 56.5	
comp=E,334µm,0.5s								
SIGR	**SIGRI**	**1.12**	**178**	PN	**Pb**	**Pb**	**14 04 37.6**	**-0.4**
PRK	**Paraskevi**	**1.14**	**162**	P	**Pn**	**Pn**	**14 04 39.8**	**+1.6**
MAR6	**Marsite Statio**	**1.17**	**71**	PN	**Pb**	**Pb**	**14 04 38.2**	**-0.6**
KAVA	**Kavala**	**1.19**	**304**	P	**Pb**	**Pb**	**14 04 38.7**	**-0.4**
KAVA	**Kavala**	**1.19**	**304**	P	**Pb**	**Pb**	**14 04 38.8**	**-0.4**
KAVA				S	**Sb**	**Sb**	**14 04 53.9**	**-0.3**
KAVA				AML	AML		14 04 58.6	
comp=N,213µm,0.3s								
KAVA				AML	AML		14 04 59.5	
comp=E,136µm,0.3s								
MAR3	**Marsite Statio**	**1.20**	**70**	PN	**Pn**	**Pn**	**14 04 38.5**	**-0.5**
MAR2	**Marsite Statio**	**1.21**	**71**	PN	**Pn**	**Pn**	**14 04 38.7**	**-0.3**
MAR4	**Marsite Statio**	**1.22**	**68**	PN	**Pn**	**Pn**	**14 04 39.0**	**-0.4**
AYVA	**Ayvalik**	**1.23**	**146**	*i* S	**Sb**	**Sb**	**14 04 55.6**	**+0.4**
AYVA	**Ayvalik**	**1.23**	**146**	*i* P	**Pn**	**Pn**	**14 04 40.4**	**+1.1**
AYVA				*i* S	**Sb**	**Sb**	**14 04 56.2**	**+0.9**
AYVA				IAML			14 04 57.0	
comp=E,104nm,0.7s								
AYVA				IAML			14 04 58.0	
comp=N,121nm,0.5s								
KDZ	**Kurdzhali**	**1.35**	**347**	PN	**Pn**	**Pn**	**14 04 40.9**	**-0.2**
MRMT	**Marmara Adasi**	**1.39**	**78**	PN	**Pn**	**Pn**	**14 04 41.1**	**-0.5**
OUR	**Ouranopolis**	**1.40**	**271**	PN	**Pn**	**Pn**	**14 04 41.1**	**-0.6**
GONE	**Gonen-Balikesi**	**1.46**	**101**	PN	**Pn**	**Pn**	**14 04 42.2**	**-0.4**
MAR9	**Marsite Statio**	**1.47**	**78**	PN	**Pn**	**Pn**	**14 04 42.2**	**-0.5**
DKL	**Dikili**	**1.52**	**146**	PN	**Pn**	**Pn**	**14 04 42.9**	**-0.4**
EDC	**Edincik**	**1.57**	**89**	PN	**Pn**	**Pn**	**14 04 43.6**	**-0.5**
EDRB	**Edirne**	**1.67**	**25**	PN	**Pn**	**Pn**	**14 04 45.3**	**-0.1**
PAIG	**Paliouri**	**1.69**	**257**	P	**Pn**	**Pn**	**14 04 44.7**	**-1.0**
BALB	**Balikesir**	**1.73**	**113**	PN	**Pn**	**Pn**	**14 04 45.7**	**-0.6**
NVR	**Nevrokopi**	**1.79**	**305**	P	**Pn**	**Pn**	**14 04 47.3**	**+0.1**
NVR	**Nevrokopi**	**1.79**	**305**	P	**Pn**	**Pn**	**14 04 47.4**	**+0.1**
NVR				AML	AML		14 05 15.6	
comp=N,57µm,0.4s								
NVR				AML	AML		14 05 16.8	
comp=E,77µm,0.2s								
SRS	**Serrai**	**1.86**	**296**	P	**Pn**	**Pn**	**14 04 47.1**	**-1.0**
SRS				S	**Sn**	**Sn**	**14 05 11.8**	**+0.7**
comp=E,52nm,0.3s								
SRS	**Serrai**	**1.86**	**296**	P	**Pn**	**Pn**	**14 04 47.6**	**-0.5**
SRS				AML	AML		14 05 16.4	
comp=E,147µm,0.4s								
SRS				AML	AML		14 05 17.3	
comp=N,61µm,0.2s								
PLD	**Plovdiv**	**1.96**	**335**	PN	**Pn**	**Pn**	**14 04 49.7**	**+0.3**
HORT	**Hortiatis**	**2.09**	**278**	PN	**Pn**	**Pn**	**14 04 51.4**	**+0.1**
KNT	**Kendrikon**	**2.36**	**291**	PN	**Pn**	**Pn**	**14 04 55.2**	**+0.2**

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*IDC **15** 14:05:02.9±2.8, 7.°13S×128.°80E, h101km±33km, mb3.5/2, mb1 3.4/5, mb1mx3.1/38, mbtmp3.7/5, Error ellipse: s-maj=38.8km s-min=19.2km az=97.0*
ISC 15 14:05:01.8±0.9, **7.°21S**±0.°06×**129.°4E**±0.°1, **h100**km, **n7**, σ3.°66/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.56**	**17**	P	**Pn**	**Pn**	**14 06 37.0**	**+1.1**
0.4nm,0.3s,baz=6.9,slow=24,SNR=1.3								
SIJI				S	**Sn**	**Sn**	**14 07 44.2**	**-5.1**
0.9nm,0.3s,baz=243,slow=22,SNR=8.0								
FITZ	**Fitzroy Crossi**	**11.43**	**198**	P	**Pn**	**Pn**	**14 07 43.3**	**+1.4**
0.1nm,0.3s,baz=271,slow=23,SNR=14								
FITZ				S	**Sn**	**Sn**	**14 09 45.3**	**-2.3**
0.2nm,0.3s,baz=0.4,slow=7.9,SNR=2.1								
JAY	**Jayapura**	**12.19**	**68**	P	**P**	**P**	**14 08 01.9**	**+1.4**
0.3nm,0.3s,baz=246,slow=11,SNR=79								
WRA	**Warramunga Arr**	**13.54**	**160**	P	**Pn**	**Pn**	**14 08 11.3**	**+1.5**
0.4nm,0.3s,baz=337,slow=12,SNR=18								
WRA				S	**Sn**	**Sn**	**14 10 33.9**	**-5.0**
0.5nm,0.3s,baz=328,slow=22,SNR=9.1								
ASAR	**Alice Springs**	**16.93**	**166**	P	**P**	**P**	**14 08 56.2**	**+3.2**
0.3nm,0.3s,baz=338,slow=9.4,SNR=51								
ASAR				S	**Sn**	**Sn**	**14 11 56.1**	**-4.7**
0.1nm,0.3s,baz=322,slow=36,SNR=2.6								
STKA	**Stephens Creek**	**27.06**	**157**	P	**P**	**P**	**14 10 38.0**	**+3.1**
1.3nm,0.7s,baz=319,slow=12,SNR=2.8								
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**P**	**14 15 49.6**	**-1.1**
0.3nm,0.4s,baz=122,slow=7.9,SNR=5.3								

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*ISK **15** 14:10:40.2, 35.°70N×26.°07E, h17km, ML3.6/23*
*ATH **15** 14:10:41.3, 35.°62N×26.°09E, h54km±5km, ML3.7/10, Error ellipse: s-maj=5.6km s-min=1.0km az=192.0*
*THE **15** 14:10:42.5, 35.°62N×26.°10E, h60km±2km, ML3.5/16, Error ellipse: s-maj=2.2km s-min=0.4km az=162.0*
*DDA **15** 14:10:43.1, 35.°82N×26.°24E, h39km±4km, ML3.1*
*HLW **15** 14:10:44.2, 35.°13N×26.°52E, h15km±9km, Ml3.8*
ISC 15 14:10:41.5±1.2, **35.°58N**±0.°03×**26.°11E**±0.°02, **h63**km±8km, **n109**, σ1.°14/165, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STIA	**Sitia Lasithi**	**0.37**	**182**	P	**Pn**	**Pn**	**14 10 52.9**	**+0.4**
STIA				S	**Sn**	**Sn**	**14 11 01.4**	**+0.9**
ZKR	**Zakros**	**0.47**	**169**	P	**Pn**	**Pn**	**14 10 54.0**	**+0.6**
ZKR				S	**Sn**	**Sn**	**14 11 03.5**	**+1.4**
4µm,0.3s								
ZKR	**Zakros**	**0.47**	**169**	P	**Pn**	**Pn**	**14 10 54.0**	**+0.6**
ZKR				S	**Sn**	**Sn**	**14 11 02.9**	**+0.8**
ZKR				AML	AML	AML	14 11 04.7	
comp=N,6086µm,0.3s								
ZKR				AML	AML	AML	14 11 05.0	
comp=E,10164µm,0.3s								
ZKR	**Zakros**	**0.47**	**169**	PG	**Pn**	**Pn**	**14 10 52.9**	**-0.5**
ZKR				SG	**Sn**	**Sn**	**14 11 01.6**	**-0.5**
NPS	**Neapolis**	**0.51**	**233**	P	**Pn**	**Pn**	**14 10 53.7**	**-0.1**
NPS	**Neapolis**	**0.51**	**233**	P	**Pn**	**Pn**	**14 10 53.8**	**-0.1**
NPS				S	**Sn**	**Sn**	**14 11 02.0**	**-0.9**
NPS				AML	AML	AML	14 11 02.4	
comp=E,12625µm,0.3s								
NPS				AML	AML	AML	14 11 04.0	
comp=N,6766µm,0.2s								
FRMA	**Ierapetra Chan**	**0.64**	**209**	P	**Pn**	**Pn**	**14 10 55.5**	**+0.3**
FRMA				S	**Sn**	**Sn**	**14 11 05.8**	**+0.6**
comp=N,2µm,0.5s								
LAST	**Lasithi**	**0.66**	**231**	P	**Pn**	**Pn**	**14 10 55.7**	**+0.1**
LAST				S	**Sn**	**Sn**	**14 11 05.8**	**-0.1**
comp=N,3µm,0.3s								
LAST	**Lasithi**	**0.66**	**231**	P	**Pn**	**Pn**	**14 10 55.8**	**+0.1**
LAST				S	**Sn**	**Sn**	**14 11 05.5**	**-0.4**
LAST				AML	AML	AML	14 11 06.1	
comp=E,7186µm,0.3s								
LAST				AML	AML	AML	14 11 06.4	
comp=N,6636µm,0.4s								
ANAF	**Anafi Island**	**0.83**	**341**	P	**Pn**	**Pn**	**14 10 57.5**	**0.0**
ANAF				S	**Sn**	**Sn**	**14 11 08.8**	**-0.4**
ANAF	**Anafi Island**	**0.83**	**341**	P	**Pn**	**Pn**	**14 10 57.6**	**+0.1**
ANAF				S	**Sn**	**Sn**	**14 11 08.9**	**-0.4**
ANAF				AML	AML	AML	14 11 10.0	
comp=E,61181µm,0.3s								
ANAF				AML	AML	AML	14 11 10.9	
comp=N,49863µm,0.2s								
KARP	**Karpathos**	**0.86**	**92**	P	**Pn**	**Pn**	**14 10 58.4**	**+0.5**
KARP				S	**Sn**	**Sn**	**14 11 10.6**	**+0.5**
comp=N,3µm,0.4s								
KARP	**Karpathos**	**0.86**	**92**	P	**Pn**	**Pn**	**14 10 58.3**	**+0.3**
KARP				S	**Sn**	**Sn**	**14 11 10.5**	**+0.5**
KARP				AML	AML	AML	14 11 12.9	
comp=N,3829µm,0.3s								
KARP				AML	AML	AML	14 11 14.9	
comp=E,5523µm,0.3s								
KARP	**Karpathos**	**0.86**	**92**	PG	**Pn**	**Pn**	**14 10 58.5**	**+0.5**
KARP				SG	**Sn**	**Sn**	**14 11 10.5**	**+0.5**
HRKL	**Herakleio**	**0.86**	**253**	P	**Pn**	**Pn**	**14 10 57.9**	**0.0**
HRKL				S	**Sn**	**Sn**	**14 11 11.1**	**+1.1**
comp=E,4µm,0.5s								
HRKL	**Herakleio**	**0.86**	**253**	PG	**Pn**	**Pn**	**14 10 57.7**	**-0.2**
HRKL				SG	**Sn**	**Sn**	**14 11 10.5**	**+0.5**
IACM	**Heraklion**	**0.89**	**253**	P	**Pn**	**Pn**	**14 10 58.4**	**+0.2**
IACM				S	**Sn**	**Sn**	**14 11 11.1**	**+0.5**
IACM	**Heraklion**	**0.89**	**253**	P	**Pn**	**Pn**	**14 10 58.7**	**+0.5**
KSTL	**Kastelli Herak**	**0.89**	**253**	P	**Pn**	**Pn**	**14 10 56.4**	**-1.9**
KSTL				S	**Sn**	**Sn**	**14 11 07.4**	**-3.2**
SANT	**Santorini**	**0.95**	**327**	P	**Pn**	**Pn**	**14 10 58.8**	**-0.3**
SANT				S	**Sn**	**Sn**	**14 11 11.8**	**-0.3**
comp=E,3µm,0.2s								
SANT	**Santorini**	**0.95**	**327**	P	**Pn**	**Pn**	**14 10 58.9**	**-0.2**
SANT				AML	AML	AML	14 11 12.2	
comp=N,4256µm,0.6s								
SANT				AML	AML	AML	14 11 13.4	
comp=E,10192µm,0.2s								
SANT	**Santorini**	**0.95**	**327**	PG	**Pn**	**Pn**	**14 10 58.3**	**-0.8**
SAP1	**Santorini-Akro**	**0.97**	**324**	P	**Pn**	**Pn**	**14 10 59.2**	**-0.1**
SAP1	**Santorini-Akro**	**0.97**	**324**	P	**Pn**	**Pn**	**14 10 59.3**	**-0.1**
SAP2K	**Karterados**	**0.99**	**327**	P	**Pn**	**Pn**	**14 10 59.5**	**-0.1**
SNT1	**Gialos, Santor**	**1.00**	**327**	P	**Pn**	**Pn**	**14 10 59.6**	**-0.1**
THT2	**Imerovigli**	**1.02**	**327**	PG	**Pn**	**Pn**	**14 10 58.3**	**-1.7**
IDI	**Anoyia**	**1.04**	**254**	P	**Pn**	**Pn**	**14 10 59.9**	**-0.3**
IDI				S	**Sn**	**Sn**	**14 11 14.5**	**+0.4**
comp=E,2µm,0.3s								
IDI	**Anoyia**	**1.04**	**254**	P	**Pn**	**Pn**	**14 11 00.0**	**-0.2**
IDI				S	**Sn**	**Sn**	**14 11 13.0**	**-1.1**
IDI				AML	AML	AML	14 11 13.5	
comp=N,4111µm,0.3s								
IDI				AML	AML	AML	14 11 14.6	
comp=E,4476µm,0.3s								
IDI	**Anoyia**	**1.04**	**254**	PG	**Pn**	**Pn**	**14 10 59.9**	**-0.3**
CMBO	**Columbo, Santo**	**1.06**	**328**	P	**Pn**	**Pn**	**14 11 00.5**	**+0.1**
CMBO				S	**Sn**	**Sn**	**14 11 14.2**	**-0.3**
CMBO	**Columbo, Santo**	**1.06**	**328**	P	**Pn**	**Pn**	**14 11 00.2**	**-0.2**
CMBO				S	**Sn**	**Sn**	**14 11 14.3**	**-0.3**
CMBO				AML	AML	AML	14 11 15.0	
comp=N,20512µm,0.6s								
CMBO				AML	AML	AML	14 11 15.5	
comp=E,17486µm,0.6s								
SIVA	**Sivas**	**1.20**	**243**	P	**Pn**	**Pn**	**14 11 03.1**	**+0.8**
SIVA				S	**Sn**	**Sn**	**14 11 19.2**	**+1.4**
comp=E,2µm,0.6s								
SIVA	**Sivas**	**1.20**	**243**	P	**Pn**	**Pn**	**14 11 03.3**	**+1.0**
AMGA	**Amorgos Island**	**1.27**	**352**	P	**Pn**	**Pn**	**14 11 02.9**	**-0.3**
AMGA				S	**Sn**	**Sn**	**14 11 18.5**	**-0.9**
AMGA	**Amorgos Island**	**1.27**	**352**	P	**Pn**	**Pn**	**14 11 02.8**	**-0.4**
AMGA				S	**Sn**	**Sn**	**14 11 18.5**	**-0.9**
AMGA				AML	AML	AML	14 11 19.1	
comp=N,8150µm,0.2s								
AMGA				AML	AML	AML	14 11 19.7	
comp=E,10704µm,0.1s								
NISR	**Nisiros**	**1.32**	**38**	P	**Pn**	**Pn**	**14 11 04.0**	**+0.1**
NISR				S	**Sn**	**Sn**	**14 11 20.8**	**+0.1**
comp=E,2µm,0.3s								
NISR	**Nisiros**	**1.32**	**38**	P	**Pn**	**Pn**	**14 11 04.0**	**+0.1**
PRNS	**Prines Rethymn**	**1.33**	**261**	P	**Pn**	**Pn**	**14 11 05.0**	**+1.0**
PRNS				S	**Sn**	**Sn**	**14 11 22.9**	**+2.1**
KOSK	**Kos Island**	**1.37**	**31**	P	**Pn**	**Pn**	**14 11 04.7**	**+0.2**
KOSK				S	**Sn**	**Sn**	**14 11 21.6**	**-0.1**
comp=E,1µm,0.4s								
KOSK	**Kos Island**	**1.37**	**31**	PN	**Pn**	**Pn**	**14 11 03.9**	**-0.6**
KOSK				SN	**Sn**	**Sn**	**14 11 21.1**	**-0.6**
APE	**Apeiranthos**	**1.56**	**343**	P	**Pn**	**Pn**	**14 11 07.1**	**0.0**
APE				S	**Sn**	**Sn**	**14 11 25.9**	**-0.6**
comp=E,2µm,0.3s								
APE	**Apeiranthos**	**1.56**	**343**	P	**Pn**	**Pn**	**14 11 07.2**	**0.

DGB	**zmir**	**2.55**	**14**	*i* P	**Pn**	**14 11 20.6**	**+0.1**
DGB				*i* S	**Sn**	**14 11 49.2**	**-1.1**
KTHA	**Kythira Island**	**2.56**	**286**	PN	**Pn**	**14 11 21.4**	**+0.7**
FETY	**Fethiye**	**2.63**	**65**	PN	**Pn**	**14 11 22.7**	**+1.1**
FETY	**Fethiye**	**2.63**	**65**	*i* P	**Pn**	**14 11 22.8**	**+1.1**
FETY				*i* S	**Sn**	**14 11 53.4**	**+1.0**
CHOS	**Chios island**	**2.81**	**359**	PN	**Pn**	**14 11 24.0**	**-0.1**
URLA	**Izmir**	**2.81**	**8**	PN	**Pn**	**14 11 24.1**	**+0.1**
URLA	**Izmir**	**2.81**	**8**	*i* P	**Pn**	**14 11 23.7**	**-0.3**
URLA				*i* S	**Sn**	**14 11 55.6**	**-1.1**
BLCB	**Balcova**	**2.90**	**15**	PN	**Pn**	**14 11 25.4**	**+0.1**
AKAS	**Kas**	**2.91**	**76**	PN	**Pn**	**14 11 27.3**	**+1.7**
AKAS	**Kas**	**2.91**	**76**	*i* P	**Pn**	**14 11 25.9**	**+0.3**
AKAS				*i* S	**Sn**	**14 11 57.1**	**-2.4**
AKAS				IAML		14 12 09.0	
comp=N,60nm,0.4s							
TAVA	**DENIZLI_Tavas**	**2.94**	**49**	*i* P	**Pn**	**14 11 27.5**	**+1.6**
TAVA				*i* S	**Sn**	**14 12 02.4**	**+2.3**
GOLH	**Golhisar**	**3.24**	**58**	*i* P	**Pn**	**14 11 31.5**	**+1.5**
GOLH				*i* S	**Sn**	**14 12 07.2**	**-0.2**
GOLH				IAML		14 12 17.0	
comp=N,93nm,0.5s							
ELL	**Elmali**	**3.29**	**68**	PN	**Pn**	**14 11 32.3**	**+1.6**
ZEDA	**zmir-Bergama**	**3.47**	**13**	*i* P	**Pn**	**14 11 33.3**	**+0.2**
ZEDA				*i* S	**Sn**	**14 12 12.9**	**0.0**
MANT	**Manisa**	**3.51**	**33**	*i* P	**Pn**	**14 11 35.2**	**+1.4**
MANT				*i* S	**Sn**	**14 12 12.1**	**-2.0**
LTK	**Loutraki**	**3.51**	**315**	P	**Pn**	**14 11 35.0**	**+1.4**
AKUM	**Antalya-Kumluc**	**3.52**	**77**	*i* P	**Pn**	**14 11 33.6**	**-0.1**
AKUM				*i* S	**Sn**	**14 12 13.3**	**-0.7**
AKUM				IAML		14 12 18.0	
comp=N,48nm,0.4s							
AKUM				IAML		14 12 20.0	
comp=E,63nm,0.4s							
DKL	**Dikili**	**3.55**	**10**	PN	**Pn**	**14 11 34.8**	**+0.7**
KULA	**Kula-Manisa**	**3.57**	**34**	PN	**Pn**	**14 11 35.6**	**+1.1**
SIGR	**SIGRI**	**3.63**	**357**	PN	**Pn**	**14 11 35.8**	**+0.5**
KORT	**Korkueli**	**3.71**	**66**	PN	**Pn**	**14 11 38.2**	**+1.8**
KORT	**Korkueli**	**3.71**	**66**	*i* P	**Pn**	**14 11 39.1**	**+2.7**
KORT				*i* S	**Sn**	**14 12 19.0**	**0.0**
KORT				IAML		14 12 29.0	
comp=N,47nm,0.5s							
KORT				IAML		14 12 32.0	
comp=E,51nm,0.6s							
USAK	**Uak-Merkez**	**3.90**	**36**	*i* P	**Pn**	**14 11 40.7**	**+1.7**
USAK				*i* S	**Sn**	**14 12 22.3**	**-1.2**
USAK				IAML		14 12 23.0	
comp=E,182nm,0.3s							
DSF	**Desfina**	**4.03**	**316**	P	**Pn**	**14 11 42.3**	**+1.5**
SLUM	**Salum**	**4.14**	**191**	P	**Pn**	**14 11 42.1**	**-0.1**
baz=198							
SLUM				AMP		14 12 00.0	
baz=198							
SLUM				S	**Sn**	**14 12 22.5**	**-6.9**
baz=198							
KEPZ	**Antalya-Kepez**	**4.63**	**72**	*i* P	**Pn**	**14 11 50.8**	**+1.7**
KEPZ				*i* S	**Sn**	**14 12 40.4**	**-1.1**
KEPZ				IAML		14 12 47.0	
comp=N,21nm,0.6s							
KEPZ				IAML		14 12 48.0	
comp=E,28nm,0.7s							
TVSB	**Tavsanli**	**4.70**	**34**	PN	**Pn**	**14 11 51.5**	**+1.6**
SWA2		**6.34**	**185**	P	**Pn**	**14 12 11.2**	**-1.2**
baz=190							
SWA2				AMP		14 13 00.0	
baz=190							
HSAF	**As Saff**	**7.51**	**141**	P	**Pn**	**14 12 26.1**	**-2.3**
baz=140							
GLL	**Jalalah**	**7.62**	**140**	P	**Pn**	**14 12 27.7**	**-2.3**
baz=140							
RSH		**7.86**	**124**	P	**Pn**	**14 12 30.8**	**-2.4**
baz=122							
RSH				S	Sn	14 13 47.1	-14
baz=122							
SUZ	**Suez**	**8.05**	**133**	P	**Pn**	**14 12 33.2**	**-2.5**
baz=133							
HFRF	**Wahat Farafira**	**8.61**	**167**	P	**Pn**	**14 12 41.3**	**-2.1**
baz=168							

ECX ***15*** *14:13:59.5±0.9, 30°.49N×114°.34W, h7km±15km, MD3.2, ML3.4*
MEX ***15*** *14:14:02.7±0.5, 30°.97N×114°.29W, h15km±9km, MD4.0*
ISC 15 14:13:59.7±1.7,**30°.74N**±0°.09×**114°.33W**±0°.03,
h17km±12km,**n14,**σ1§**16**/24,**8D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.54**	**304**	⇓*e*P	**Pb**	**14 14 11.2**	**+0.5**
SFX				*e*S	**Sn**	**14 14 21.8**	**+0.6**
ECBX	**El Chinero**	**0.96**	**320**	*e*P	**Pg**	**14 14 18.4**	**0.0**
ECBX				*e*S	**Sn**	**14 14 34.0**	**+2.3**
SPX	**San Pedro Mart**	**1.02**	**287**	*e*P	**Pb**	**14 14 18.3**	**-0.8**
SPX				*i* S	**Sb**	**14 14 30.6**	**-1.8**
SPX	**San Pedro Mart**	**1.02**	**287**	⇓*i* P	**Pb**	**14 14 18.3**	**-0.8**
SPX				*e*S	**Sn**	**14 14 34.4**	**+0.8**
SPX				IAML		14 14 40.9	
comp=N,638nm,0.7s							
SPX				⇓*e*		14 14 40.9	
SPX				⇓*e*		14 14 46.5	
SPX				IAML		14 14 46.5	
comp=E,643nm,1.1s							
SPIG	**San Pedro Mart**	**1.02**	**288**	*e*P	**Pb**	**14 14 19.3**	**+0.2**
SPIG				*i* S	**Sb**	**14 14 32.0**	**-0.4**
SPIG	**San Pedro Mart**	**1.02**	**288**	⇓*i*P	**Pb**	**14 14 19.4**	**+0.2**
SPIG				*e*S	**Sn**	**14 14 34.2**	**+0.5**
PIX	**Pinacate**	**1.11**	**42**	⇓*e*P	**Pb**	**14 14 18.9**	**-1.6**
SQX	**San Quintin**	**1.34**	**264**	⇓*e*P	**Pn**	**14 14 22.6**	**-1.0**
SQX				*e*S	**Sn**	**14 14 40.5**	**-0.5**
VTX	**Valle De La Tr**	**1.41**	**298**	*e*P	**Pb**	**14 14 25.2**	**-0.4**
VTX				*e*S	**Sg**	**14 14 46.1**	**+0.9**
CPBX	**Cerro Prieto**	**1.87**	**334**	IAML		14 15 34.0	
comp=N,951nm,1.3s							
CPBX				⇓*e*		14 15 47.3	
CPBX				IAML		14 15 47.3	
comp=E,938nm,1.3s							
HSIG		**3.40**	**119**	*i* P	**Pn**	**14 14 53.6**	**+1.6**
HSIG				*i* S	**Sn**	**14 15 34.2**	**+2.2**
HSIG		**3.40**	**119**	*e*P	**Pn**	**14 14 51.2**	**-0.8**
NZIG	**Nacozari, Sono**	**4.14**	**94**	*i* P	**Pn**	**14 15 03.5**	**+1.2**
NZIG				*i* S	**Sn**	**14 15 49.3**	**-1.1**
CGIG		**5.50**	**92**	*i* P	**Pn**	**14 15 21.2**	**+0.2**
CGIG				*i* S	**Sn**	**14 16 23.9**	**0.0**

BJI ***15*** *14:15:29.8±0.0, 42°.32N×144°.96E, h32km, mB5.1/23, mb4.5/32, Ms4.1/6, Ms7 3.9/4*
MOS ***15*** *14:15:31.5±0.9, 42°.20N×144°.83E, h42km, mb4.5/20, Error ellipse: s-maj=9.2km s-min=6.7km az=97.8*
NEIC ***15*** *14:15:31.6±1.3, 42°.23N±0°.05×144°.9E±0°.1, h29km±5km, mb4.3/23, Error ellipse: s-maj=12.5km s-min=4.0km az=119.0*
NIED ***15*** *14:15:32.4, 42°.27N×144°.81E, h28km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.36; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-0.87; $M_{r\theta}$0.51; $M_{\theta\phi}$-0.91; $M_{\phi r}$1.15; Fault plane solution: $M_0$1.95000×10¹⁵ NP1:ϕ_s28.00000°, δ65.00000°, λ80.00000°. NP2:ϕ_s232.00000°, δ27.00000°, λ112.00000°.*
SKHL ***15*** *14:15:32.4±0.5, 42°.15N×145°.00E, h57km±3km, mb4.6/8*
JMA ***15*** *14:15:32.4, 42°.27N×144°.81E, h28km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕ_s246.00000°, δ22.00000°, λ118.00000°. NP2: ϕ_s37.00000°, δ71.00000°, λ79.00000°. Principal axes: T Plg63.0000°, Azm290.0000°; N Plg10.0000°, Azm40.0000°; P Plg25.0000°, Azm135.0000°;*
IDC ***15*** *14:15:35.0±2.4, 42°.23N×144°.74E, h56km±19km, mb3.8/16, mb1 4.0/20, mb1mx3.8/48, mbtmp4.0/20, ML3.8/3, MS3.5/7, Ms1 3.6/7, ms1mx3.1/41 Error ellipse: s-maj=19.0km s-min=14.4km az=90.0*
ISC 15 14:15:32.4±0.7,**42°.22N**±0°.05×**144°.89E**±0°.05,**h35**km±6km,
n151,σ1§**23**/162,**mb4.2**/39,**MS3.9**/6,**10C-11D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.78**	**350**	⇓P	**Pn**	**14 15 46.2**	**-0.7**
JAK				*e*S	**Sn**	**14 15 57.2**	**-0.3**
JKHN	**Kushirohamanak**	**0.88**	**13**	⇓P	**Pn**	**14 15 48.4**	**+0.1**
JKHN				*e*S	**Sn**	**14 16 01.1**	**+1.2**
JOB	**Onbets**	**1.03**	**311**	⇓P	**Pn**	**14 15 50.1**	**-0.3**
JTHR	**Tokachihiroo**	**1.18**	**274**	⇑P	**Pn**	**14 15 52.7**	**+0.3**
JCH	**Churui**	**1.20**	**290**	⇑P	**Pn**	**14 15 52.7**	**+0.1**
NMR	**Nemuro--Hokkai**	**1.30**	**28**	*i* P	**Pn**	**14 15 54.1**	**+0.1**
NMR				*e*S	**Sn**	**14 16 10.0**	**-0.2**
NMR	**Nemuro--Hokkai**	**1.30**	**28**	⇑*i*PN	**Pn**	**14 15 54.1**	**+0.1**
NMR				*e*S	**Sn**	**14 16 10.0**	**-0.2**
NEM2	**Nemuro 2**	**1.30**	**29**	P	**Pn**	**14 15 54.1**	**+0.1**
NEM2				*e*S	**Sn**	**14 16 10.5**	**+0.3**
JEM	**Erimo**	**1.30**	**261**	P	**Pn**	**14 15 54.1**	**0.0**
ERM	**Erimo**	**1.31**	**261**	*d*PN	**Pn**	**14 15 55.0**	**+0.9**
ERM				pmax	pmax		
comp=Z,341nm,0.7s							
ERM	**Erimo**	**1.31**	**261**		**Pn**	**14 15 54.8**	**+0.7**
JAR	**Ashorobuto**	**1.35**	**323**	⇓P	**Pn**	**14 15 54.1**	**-0.7**
JAR				*e*S	**Sn**	**14 16 10.7**	**-0.8**
JNK	**Nakash**	**1.37**	**355**	⇓P	**Pn**	**14 15 54.3**	**-0.7**
JNK				*e*S	**Sn**	**14 16 10.9**	**-0.9**
GLVR	**Golovnino**	**1.58**	**17**	*e*P	**Pn**	**14 15 58.3**	**+0.4**
GLVR				AMB	AMB	14 16 03.1	
comp=Z,430nm,0.3s							
GLVR				*e*S	**Sn**	**14 16 17.4**	**+0.3**
GLVR				A	A	14 16 19.7	
comp=Z,3μm,0.4s							
GLVR				A	A	14 16 19.7	
comp=Z,4μm,0.4s							
GLVR	**Golovnino**	**1.58**	**17**	*e*PN	**Pn**	**14 15 58.0**	**+0.1**
GLVR				*e*S	**Sn**	**14 16 17.4**	**+0.3**
GLVR				pmax	pmax		
comp=Z,433nm,0.2s							
GLVR				pmax	pmax		
comp=N,74nm,0.1s							
GLVR				pmax	pmax		
comp=E,161nm,0.2s							
GLVR				smax	smax		
comp=N,3μm,0.3s							
GLVR				smax	smax		
comp=E,4μm,0.3s							
JNBK	**Urakawa-nobuka**	**1.59**	**273**	P	**Pn**	**14 15 57.6**	**-0.4**
GRPR	**Tuman**	**1.88**	**20**	*i* P	**Pn**	**14 16 02.3**	**+0.3**
GRPR				AMB	AMB	14 16 03.6	
comp=E,370nm,0.3s							
GRPR				*e*S	**Sn**	**14 16 23.9**	**-0.6**
GRPR				A	A	14 16 28.6	
comp=E,2μm,0.5s							
GRPR				A	A	14 16 28.6	
comp=E,5μm,0.5s							
GRPR	**Tuman**	**1.88**	**20**	*c i*PN	**Pn**	**14 16 02.0**	**0.0**
GRPR				*e*S	**Sn**	**14 16 23.1**	**-1.4**
GRPR				pmax	pmax		
comp=Z,368nm,0.3s							
GRPR				pmax	pmax		
comp=N,64nm,0.2s							
GRPR				pmax	pmax		
comp=E,77nm,0.3s							
GRPR				smax	smax		
comp=E,5μm,0.4s							
GRPR				smax	smax		
comp=N,2μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.94**	**21**	*i* P	**Pn**	**14 16 03.0**	**+0.1**
YUK				AMB	AMB	14 16 05.1	
comp=N,110nm,0.3s							
YUK				AMB	AMB	14 16 05.1	
comp=N,80nm,0.3s							
YUK				AMB	AMB	14 16 05.1	
comp=N,440nm,0.3s							
YUK				*e*S	**Sn**	**14 16 25.5**	**-0.5**
YUK				A	A	14 16 31.0	
comp=N,3μm,0.4s							
YUK				A	A	14 16 31.0	
comp=N,2μm,0.4s							
JKA	**Kamikawa-asahi**	**2.53**	**319**	*i* P	**Pn**	**14 16 11.6**	**+0.7**
JKA	**Kamikawa-asahi**	**2.53**	**319**	Pn	**Pn**	**14 16 11.6**	**+0.7**
JKA	**Kamikawa-asahi**	**2.53**	**319**		**Sn**	**14 16 43.1**	**+2.7**
ASAJ	**Asahikawa**	**2.53**	**319**	P	**Pn**	**14 16 11.6**	**+0.7**
comp=N,38nm,0.3s,baz=166,slow=14,SNR=144							
ASAJ				S	**Sn**	**14 16 43.1**	**+2.7**
comp=N,28nm,0.3s,baz=146,slow=31,SNR=6.0							
ASAJ				LR	LR	14 17 29.4	
comp=N,767nm,19.0s,baz=170,slow=46							
JEW	**Eniwo**	**2.62**	**285**		**Pn**	**14 16 12.5**	**+0.4**
JTM	**Tenmabayashi**	**3.21**	**245**		**Pn**	**14 16 20.1**	**-0.2**
KUR	**Kuril'sk**	**3.70**	**35**	*i* P	**Pn**	**14 16 28.5**	**+1.5**
KUR				AMB	AMB	14 16 29.3	
comp=N,110nm,0.5s							
KUR				*i* S	**Sn**	**14 17 09.1**	**-0.3**
KUR				A	A	14 17 18.6	
comp=N,270nm,0.4s							
KUR				A	A	14 17 18.6	
comp=N,130nm,0.4s							
KUR	**Kuril'sk**	**3.70**	**35**	⇓*i*PN	**Pn**	**14 16 28.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.97**	**343**	*e*P	**Pn**	**14 16 46.3**	**+1.9**
YSS				*e*S	**Sn**	**14 17 42.3**	**+1.7**
YSS				A	A	14 17 45.4	
comp=N,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.97**	**343**	*e*PN	**Pn**	**14 16 46.3**	**+1.9**
YSS				MLR	MLR		
comp=Z,500nm,15.0s							
YSS				MLR	MLR		
comp=N,200nm,12.0s							
YSS				MLR	MLR		
comp=E,300nm,15.0s							
JMM	**Marumori**	**5.37**	**217**	Pn	**Pn**	**14 16 48.1**	**-1.8**
JSD	**Sado**	**6.58**	**233**	Pn	**Pn**	**14 17 05.9**	**-0.7**
TEY	**Ternei**	**6.64**	**298**	*e*P	**Pn**	**14 17 11.8**	**+4.5**
JYT	**Yasato**	**7.01**	**213**	Pn	**Pn**	**14 17 10.5**	**-2.0**
JYT					**Sn**	**14 18 26.1**	**-4.8**
MAJO	**Matsushiro**	**7.68**	**225**	*d*PN	**Pn**	**14 17 21.7**	**0.0**
MAJO	**Matsushiro**	**7.68**	**225**	Pn	**Pn**	**14 17 21.5**	**-0.2**
MAT	**Matsushiro**	**7.68**	**225**	P	**Pn**	**14 17 21.6**	**-0.1**
MAT				*e*S	**Sn**	**14 18 46.6**	**-0.8**
MJAR	**Matsushiro Arr**	**7.68**	**225**	P	**Pn**	**14 17 21.8**	**+0.1**
comp=E,0.6nm,0.3s,baz=26,slow=15,SNR=34							
JGF	**Kuroka**	**8.84**	**224**	Pn	**Pn**	**14 17 37.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**9.63**	**286**	P	**Pn**	**14 17 47.9**	**-0.4**
baz=72,slow=14,SNR=4.2							
USRK	**Ussuriysk Ar.**	**9.63**	**286**	PN	**Pn**	**14 17 48.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**9.63**	**286**	Pn	**Pn**	**14 17 48.1**	**-0.2**
JWT	**Wachi**	**10.14**	**230**	Pn	**Pn**	**14 17 56.1**	**+0.7**
MDJ	**Mudanjiang**	**11.38**	**287**	P	**Pn**	**14 18 12.1**	**-0.3**
MDJ				pmax	pmax		
comp=E,7.0nm,0.9s							
MDJ				pmax	pmax		
comp=E,160nm,5.6s							
JHS	**Saijyo**	**11.69**	**236**	Pn	**Pn**	**14 18 16.5**	**-0.2**
JMN	**Monobe**	**12.13**	**229**	Pn	**Pn**	**14 18 22.9**	**+0.2**
EKMR	**Ekimchan**	**13.49**	**328**	*e*P	**Pn**	**14 18 43.0**	**+1.9**
EKMR				AMB	AMB	14 18 48.0	
comp=E,5.0nm,0.8s							
PETK	**Petropavlovsk-**	**13.87**	**34**	P	**Pn**	**14 18 44.6**	**-1.6**
comp=E,0.2nm,0.3s,baz=176,slow=4.5,SNR=1.7							
PETK				LR	LR	14 23 26.6	
comp=E,65nm,21.1s,baz=207,slow=34							
KSRS	**Korea Array**	**13.88**	**256**	P	**Pn**	**14 18 47.4**	**+1.0**
comp=E,0.1nm,0.3s,baz=254,slow=27,SNR=2.0							
KSRS				LR	LR	14 23 46.4	
comp=E,220nm,18.1s,baz=58,slow=36							
BMKR	**Bomnak**	**16.36**	**325**	*e*P	**Pn**	**14 19 19.0**	**-0.1**
BMKR				AMB	AMB	14 19 22.0	
comp=E,6.0nm,0.9s							
ZEA	**Zeya**	**16.44**	**321**	*e*P	**Pn**	**14 19 20.0**	**-0.2**
ZEA				AMB	AMB	14 19 22.4	
comp=E,10.0nm,0.9s							
ZEA	**Zeya**	**16.44**	**321**	*e*P	**P**	**14 19 21.4**	**-1.2**
ZEA				pmax	pmax		
comp=Z,19nm,0.9s							
SEY	**Seymchan**	**21.21**	**9**	P	**P**	**14 20 11.9**	**-2.8**
comp=Z,1.9nm,0.7s,baz=158,slow=10,SNR=5.4							
SEY	**Seymchan**	**21.21**	**9**	⇑*e*P	**P**	**14 20 15.6**	**+0.9**
SEY	**Seymchan**	**21.21**	**9**	⇑*e*P	**P**	**14 20 15.6**	**+0.9**
YAK	**Yakutsk**	**21.82**	**341**	*i* P	**P**	**14 20 16.8**	**-4.4**
NJ2	**Nanjing**	**23.02**	**252**	*e*P	**P**	**14 20 34.3**	**0.0**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**24.90**	**278**	*e*P	**P**	**14 20 52.8**	**+0.8**
HHC				pmax	pmax		
comp=Z,21nm,0.8s							
HHC				pmax	pmax		
comp=Z,130nm,6.6s							
ULN	**Ulaanbaatar**	**27.13**	**295**	*e*P	**P**	**14 21 13.1**	**+1.0**
ULN	**Ulaanbaatar**	**27.13**	**295**	⇑*e*P	**P**	**14 21 13.1**	**+1.0**
ULN				pmax	pmax		
comp=Z,7.0nm,1.0s							
ULN	**Ulaanbaatar**	**27.13**	**295**	P	**P**	**14 21 11.4**	**-0.7**
ULN				IAmb	IAmb	14 21 16.6	
comp=Z,6.4nm,1.0s							
SONM	**Songino Array**	**27.57**	**295**	P	**P**	**14 21 15.4**	**-0.7**
comp=Z,6.7nm,0.7s,baz=86,slow=8.9,SNR=26							
SONM	**Songino Array**	**27.57**	**295**	P	**P**	**14 21 16.0**	**-0.1**
SONM				pmax	pmax		
comp=Z,6.0nm,0.8s							
SONM	**Songino Array**	**27.57**	**295**	P	**P**	**14 21 16.0**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**29.14**	**134**	T	T	14 52 47.3	
baz=327,slow=75,SNR=292							
H11N1	**WAKE ISLAND Hy**	**29.15**	**134**	T	T	14 52 50.7	
baz=327,slow=75,SNR=203							
H11N3	**WAKE ISLAND Hy**	**29.16**	**134**	T	T	14 52 51.6	
baz=327,slow=75,SNR=152							
TLY	**Talaya**	**29.35**	**303**	*e*P	**P**	**14 21 33.0**	**+1.3**
TLY	**Talaya**	**29.35**	**303**	⇑*e*P	**P**	**14 21 33.0**	**+1.3**
TLY				pmax	pmax		
comp=Z,4.0nm,1.0s							
ZAK	**Zakamensk**	**29.55**	**300**	*e*P	**P**	**14 21 33.4**	**-0.3**
ZAK	**Zakamensk**	**29.55**	**300**	*e*P	**P**	**14 21 33.4**	**-0.3**
ZAK				pmax	pmax		
comp=Z,6.0nm,1.3s							
H11S1	**WAKE ISLAND Hy**	**30.05**	**135**	T	T	14 53 52.2	
baz=328,slow=76,SNR=284							
H11S3	**WAKE ISLAND Hy**	**30.05**	**135**	T	T	14 53 59.4	
baz=328,slow=76,SNR=164							
H11S2	**WAKE ISLAND Hy**	**30.06**	**135**	T	T	14 53 56.1	
baz=328,slow=76,SNR=171							
LZH	**Lanzhou**	**32.18**	**273**	*e*P	**P**	**14 21 58.5**	**+1.5**
LZH				pP	pP	14 22 04.8	-1.8
LZH				sP	pwP	14 22 07.3	-1.7
LZH				pmax	pmax		
comp=Z,33nm,1.1s							
LZH				pmax	pmax		
comp=Z,150nm,4.9s							
GTA	**Gaotai**	**33.93**	**281**	*e*P	**P**	**14 22 16.3**	**+4.1**
GTA				pP	pP	14 22 20.5	-1.4
GTA				sP	pwP	14 22 23.8	-0.4
GTA				pmax	pmax		
comp=Z,4.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,140nm,5.5s							
GTA				LR	LR		
comp=Z,120nm,14.5s							
GTA				LR	LR		
comp=Z,180nm,14.9s							
GTA				LR	LR		
comp=Z,89nm,16.7s							
DGZ	**Jazzator, Alta**	**39.77**	**301**	⇓*e*P	**P**	**14 23 02.9**	**+1.1**
DGZ				pmax	pmax		
comp=Z,4.0nm,0.9s							
ZAA0	**Zalesovo Array**	**40.61**	**308**	P	**P**	**14 23 08.1**	**-0.4**
ZAA0				IAmb	IAmb	14 23 20.4	
comp=Z,4.4nm,0.9s							
ZALV	**Zalesovo Beam**	**40.61**	**308**	P	**P**	**14 23 06.3**	**-2.2**
comp=Z,2.3nm,0.6s,baz=91,slow=8.0,SNR=10							
ZALV				PcP	**PcP**	**14 25 10.7**	**+0.8**
comp=Z,2.0nm,0.6s,baz=80,slow=2.7,SNR=5.8							
ZALV	**Zalesovo Beam**	**40.61**	**308**	*i* P	**P**	**14 23 08.8**	**+0.3**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**40.61**	**308**	P	**P**	**14 23 07.8**	**-0.7**
ZALV					**PcP**	**14 25 10.3**	**+0.4**
WMQ	**Urumqi**	**41.13**	**292**	*e*P	**P**	**14 23 14.3**	**+1.3**
COLA	**College**	**43.28**	**35**	⇓*e*P	**P**	**14 23 33.6**	**+3.5**
COLA				pmax	pmax		
comp=Z,2.0nm,0.9s							
IL31		**43.69**	**35**	P	**P**	**14 23 35.0**	**+1.6**
ILAR	**Eielson Array**	**43.69**	**35**	P	**P**	**14 23 34.4**	**+0.9**
comp=Z,1.8nm,0.9s,baz=268,slow=4.6,SNR=16							
ILAR	**Eielson Array**	**43.69**	**35**	P	**P**	**14 23 34.2**	**+0.7**
MK31	**Makanchi Array**	**43.83**	**298**	P	**P**	**14 23 34.4**	**-0.5**
MK31				pmax	pmax		
comp=Z,3.0nm,0.9s							
MK31	**Makanchi Array**	**43.83**	**298**	P	**P**	**14 23 34.4**	**-0.5**
MKAR	**Makanchi Array**	**43.83**	**298**	P	**P**	**14 23 34.5**	**-0.4**
comp=Z,2.1nm,0.7s,baz=80,slow=10.0,SNR=13							
MKAR	**Makanchi Array**	**43.83**	**298**	*e*P	**P**	**14 23 34.7**	**-0.2**
MKAR	**Makanchi Array**	**43.83**	**298**	*i* P	**P**	**14 23 34.7**	**-0.2**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**43.83**	**298**	P	**P**	**14 23 34.3**	**-0.6**
MAKZ	**Makanchi**	**44.03**	**298**	P	**P**	**14 23 36.0**	**-0.5**
MAKZ				pmax	pmax		
comp=Z,4.0nm,1.0s							
MAKZ	**Makanchi**	**44.03**	**298**	P	**P**	**14 23 36.0**	**-0.5**
MAKZ				IAmb	IAmb	14 23 51.9	
comp=Z,3.6nm,0.9s							
KURK	**Kurchatov**	**45.02**	**305**	*e*P	**P**	**14 23 43.6**	**-0.6**
KURK	**Kurchatov**	**45.02**	**305**	*c e*P	**P**	**14 23 43.6**	**-0.6**
KURK				pmax	pmax		
comp=Z,4.0nm,0.7s							
KURK	**Kurchatov**	**45.02**	**305**	P	**P**	**14 23 43.5**	**-0.7**
KURK				IAmb	IAmb	14 23 45.4	
comp=Z,4.4nm,0.8s							
CHTO	**Chiang Mai**	**45.26**	**253**	P	**P**	**14 23 46.9**	**+0.3**
CHTO				pmax	pmax		
comp=Z,4.0nm,1.0s							
CHTO	**Chiang Mai**	**45.26**	**253**	P	**P**	**14 23 46.9**	**+0.3**
CHTO				IAmb	IAmb	14 23 48.5	
comp=Z,4.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**45.50**	**253**	P	**P**	**14 23 49.6**	**+1.2**
comp=Z,1.2nm,0.6s,baz=35,slow=5.8,SNR=5.8							
CMAR				LR	LR	14 44 31.9	
comp=Z,59nm,18.4s,baz=195,slow=38							
CMAR	**Chiang Mai Arr**	**45.50**	**253**	P	**P**	**14 23 49.1**	**+0.7**
EGAK	**Eagle**	**46.13**	**35**	P	**P**	**14 23 53.3**	**+0.5**
EGAK				IAmb	IAmb	14 24 22.3	
comp=Z,4.6nm,1.0s							
HYT	**Haines Junctio**	**48.56**	**40**	P	**P**	**14 24 11.9**	**-0.1**
KKAR

NC204	NORSAR Array S	70.34	338	P	P	14 26 42.0	-0.1
NB201	NORSAR Array S	70.38	338	P	P	14 26 41.8	-0.5
NB2	NORSAR Subarra	70.41	338	P	P	14 26 42.4	-0.1
	comp=Z,1.2nm,0.5s,baz=34,slow=6.5						
NOA	NORSAR Array B	70.41	338	P	P	14 26 42.0	-0.5
	comp=Z,2.0nm,0.6s,baz=35,slow=6.2,SNR=9.8						
NOA				LR	LR	15 01 08.6	
	comp=Z,33nm,20.8s,baz=90,slow=39						
AKASG	Malin Array Be	71.81	323	P	P	14 26 49.8	-1.3
	comp=Z,1.3nm,0.5s,baz=41,slow=6.1,SNR=2.7						
UOSS	Minazif	72.76	288	P	P	14 26 57.5	+0.2
BURAR	Bucovina Array	75.86	323	P	P	14 27 15.0	0.0
BRTR	Keskin Array B	77.37	313	P	P	14 27 23.7	-0.1
	comp=Z,0.6nm,0.6s,baz=106,slow=4.4,SNR=3.6						
BRTR	Keskin Array B	77.37	313	*ce*P	P	14 27 24.1	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CLL	Collm	77.88	331	*e*P	P	14 27 27.0	+0.8
VYHS	Vyhne	77.93	327	*e*P	P	14 27 25.3	-1.2
VYHS	Vyhne	77.93	327	*e*P	P	14 27 25.3	-1.2
KHC	Kasperske Hory	79.47	330	*e*P	P	14 27 35.9	+0.9
KHC	Kasperske Hory	79.47	330	⇓*e*P	P	14 27 36.0	+0.9
KHC				pmax	pmax		
	comp=Z,13nm,2.5s						
KHC	Kasperske Hory	79.47	330	P	P	14 27 35.3	+0.3
GERES	GERESS Array B	79.66	330	P	P	14 27 35.8	-0.3
	comp=Z,0.6nm,0.5s,baz=48,slow=6.0,SNR=4.9						
GERES				LR	LR	15 06 15.9	
	comp=Z,63nm,19.6s,baz=12,slow=38						
TXAR	Lajitas Array	84.88	55	P	P	14 28 05.3	+1.5
	comp=Z,0.5nm,0.7s,baz=309,slow=4.2,SNR=6.6						
H03N2	Juan Fernandez	144.62	90	T	T	17 16 42.6	
	baz=301,slow=77,SNR=8.6						
H03N3	Juan Fernandez	144.63	90	T	T	17 16 46.7	
	baz=301,slow=77,SNR=8.0						
H03N1	Juan Fernandez	144.64	90	T	T	17 16 45.0	
	baz=301,slow=77,SNR=7.6						
SNAA	Sanae	146.50	198	PKPab	PKiKP	14 35 09.9	-1.6
VNA2	Neumayer--Watz	148.05	197	PKPbc	PKiKP	14 35 14.0	-0.7
VNA3	Neumayer Olymp	148.27	195	PKPab	PKiKP	14 35 14.1	-1.1

SNET ***15*** *14:23:50.7±0.7, 13°.19N×89°.14W, h59km±5km, ML4.5*
UCR ***15*** *14:23:50.9±1.0, 13°.19N×89°.13W, h64km±7km, ML4.4, mb4.2(NEIC)*
NEIC ***15*** *14:23:51.0±2.4, 13°.19N±0°.06×89°.03W±0°.07, h78km±6km, mb4.2/48, Md4.5(SNET), Error ellipse: s-maj=11.7km s-min=7.4km az=50.0*
IDC ***15*** *14:23:51.5±2.1, 13°.25N×89°.04W, h89km±14km, mb3.5/6, mb1 3.9/10, mb1mx3.6/36, mbtmp4.0/10, MS2.9/2, Ms1 2.9/2, ms1mx2.6/23, Error ellipse: s-maj=42.2km s-min=14.5km az=40.0*
INET ***15*** *14:23:51.6, 13°.14N×89°.02W, h15km, ML3.9*
ISC 15 14:23:49.8±0.8, 13°.17N±0°.06×89°.09W±0°.05, h72km±6km, n162, σ1°24/177, mb4.2/25, 2C-32D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.45	4	*e*P	Pn	14 24 02.4	-0.1
LFRS	El Faro	0.45	4	*e*P	Pn	14 24 02.4	-0.1
COEG	Centro de Oper	0.49	25	⇓*i*P	Pn	14 24 03.0	+0.2
COEG				IAML		14 24 04.1	
	comp=Z,15μm,0.4s						
COEG				*e*S	Sn	14 24 12.7	+0.3
COEG	Centro de Oper	0.49	25	⇓*i*P	Pn	14 24 03.0	+0.2
COEG				IAML		14 24 04.1	
	comp=Z,15μm,0.4s						
COEG				*e*S	Sn	14 24 12.7	+0.3
AEIL	Aeropuerto Ilo	0.53	357	*e*P	Pn	14 24 03.5	+0.4
AEIL				IAML		14 24 04.5	
	comp=Z,20μm,0.4s						
AEIL	Aeropuerto Ilo	0.53	357	*e*P	Pn	14 24 03.5	+0.4
AEIL				IAML		14 24 04.5	
	comp=Z,20μm,0.4s						
ALJI	Alcalda de J	0.53	73	⇓*i*P	Pn	14 24 03.9	+0.8
ALJI	Alcalda de J	0.53	73	⇓*i*P	Pn	14 24 03.9	+0.8
SNET	Serv Nac Est T	0.53	345	⇓*i*P	Pn	14 24 03.2	0.0
SNET				*e*S	Sn	14 24 13.1	+0.1
SNET				IAML		14 24 15.1	
	comp=Z,13μm,0.2s						
SNET	Serv Nac Est T	0.53	345	⇓*i*P	Pn	14 24 03.2	0.0
SNET				*e*S	Sn	14 24 13.1	+0.1
SNET				IAML		14 24 15.1	
	comp=Z,13μm,0.2s						
SNET	Serv Nac Est T	0.53	345		Pn	14 24 03.2	0.0
SNET				Sn	Sn	14 24 13.3	+0.2
UTEC	Universidad Te	0.54	349	*e*P	Pn	14 24 03.4	+0.1
UTEC				*e*S	Sn	14 24 13.1	0.0
UTEC	Universidad Te	0.54	349	*e*P	Pn	14 24 03.4	+0.1
UTEC				*e*S	Sn	14 24 13.1	0.0
IGN	Direccin Gen	0.55	352	⇓*i*P	Pn	14 24 03.7	+0.3
IGN				⇓*i*P		14 24 03.7	
IGN				*e*S	Sn	14 24 13.6	+0.3
IGN	Direccin Gen	0.55	352	⇓*i*P	Pn	14 24 03.7	+0.3
IGN				⇓*i*P		14 24 03.7	
IGN				*e*S	Sn	14 24 13.6	+0.3
SEMO	Seminario San	0.55	346	*e*P	Pn	14 24 03.3	0.0
SEMO				*e*P		14 24 03.5	
SEMO				*e*S	Sn	14 24 13.6	+0.3
UDBS	Universidad Do	0.55	354	⇓*i*P	Pn	14 24 03.7	+0.4
UDBS	Universidad Do	0.55	354	⇓*i*P	Pn	14 24 03.7	+0.4
UESV	Universidad de	0.55	33	⇓*i*P	Pn	14 24 03.9	+0.5
UESV	Universidad de	0.55	33	⇓*i*P	Pn	14 24 03.9	+0.5
PAVA	Las Pavas	0.56	16	⇓*i*P	Pn	14 24 04.0	+0.5
PAVA	Las Pavas	0.56	16	⇓*i*P	Pn	14 24 04.0	+0.5
UEES	Universidad Ev	0.56	345	⇓*i*P	Pn	14 24 03.7	+0.2
UEES	Universidad Ev	0.56	345	⇓*i*P	Pn	14 24 03.7	+0.2
LBRS	Las Brisas	0.57	5	*e*P	Pn	14 24 04.2	+0.6
LBRS	Las Brisas	0.57	5	*e*P	Pn	14 24 04.2	+0.6
LFU	La Fuente	0.58	358	⇓*e*P	Pn	14 24 04.2	+0.5
LFU	La Fuente	0.58	358	⇓*e*P	Pn	14 24 04.2	+0.5
BOQS	Boqueron	0.59	342	*e*P	Pn	14 24 04.2	+0.3
BOQS	Boqueron	0.59	342	*e*P	Pn	14 24 04.2	+0.3
COEB	Comit de Eme	0.64	59	*e*P	Pn	14 24 04.8	+0.6
COEB	Comit de Eme	0.64	59	*e*P	Pn	14 24 04.8	+0.6
TECA	Tecapa	0.66	61	*e*P	Pn	14 24 05.1	+0.5
TECA	Tecapa	0.66	61	*e*P	Pn	14 24 05.1	+0.5
QUEZ	Alcaldia de Qu	0.68	345	*e*P	Pn	14 24 05.0	+0.3
CEDA	San Andres	0.69	335	*e*P	Pn	14 24 05.1	+0.3
CEDA				IAML		14 24 20.0	
	comp=Z,16μm,0.4s						
CEDA	San Andres	0.69	335	*e*P	Pn	14 24 05.1	+0.3
CEDA				IAML		14 24 20.0	
	comp=Z,16μm,0.4s						
PACA	Pacayal	0.81	68	*e*P	Pn	14 24 07.5	+1.3
PACA	Pacayal	0.81	68	*e*P	Pn	14 24 07.5	+1.3
CEVE	Cerro Verde	0.83	322	*e*P	Pn	14 24 06.9	+0.2
CEVE				IAML		14 24 23.3	
	comp=Z,17μm,0.4s						
CEVE	Cerro Verde	0.83	322	*e*P	Pn	14 24 06.9	+0.2
CEVE				IAML		14 24 23.3	
	comp=Z,17μm,0.4s						
TACO	Tacachico	0.84	342	⇓*i*P	Pn	14 24 06.6	+0.1
TACO	Tacachico	0.84	342	⇓*i*P	Pn	14 24 06.6	+0.1
VSM	San Miguel	0.84	72	⇓*e*P	Pn	14 24 07.8	+1.2
VSM	San Miguel	0.84	72	⇓*e*P	Pn	14 24 07.8	+1.2
SBLS	San Blas	0.84	322	*e*P	Pn	14 24 07.0	+0.3
SBLS	San Blas	0.84	322	*e*P	Pn	14 24 07.0	+0.3
BLLM	Bellamira	0.88	72	⇑*e*P	Pn	14 24 08.0	+1.1
BLLM	Bellamira	0.88	72	⇑*e*P	Pn	14 24 08.0	+1.1
UNIC	Universidad Ca	0.92	331	*e*P	Pn	14 24 07.7	+0.2
UNIC				*e*S	Sn	14 24 21.2	+0.5
UNIC	Universidad Ca	0.92	331	*e*P	Pn	14 24 07.7	+0.2
UNIC				*e*S	Sn	14 24 21.2	+0.5
NUBE	Las Nubes	0.99	318	*e*P	Pn	14 24 08.6	+0.2
NUBE	Las Nubes	0.99	318	*e*P	Pn	14 24 08.6	+0.2
LLGN	La Laguna	1.00	8	*e*P	Pn	14 24 09.1	+0.6
LLGN	La Laguna	1.00	8	*e*P	Pn	14 24 09.1	+0.6
FAGO	Alcalda de S	1.09	61	⇓*i*P	Pn	14 24 10.4	+0.9
FAGO	Alcalda de S	1.09	61	⇓*i*P	Pn	14 24 10.4	+0.9
LCND	La Caada	1.18	83	⇓*i*P	Pn	14 24 11.8	+1.2
LCND				IAML		14 24 31.0	
	comp=Z,10μm,0.3s						
LCND	La Caada	1.18	83	⇓*i*P	Pn	14 24 11.8	+1.2
LCND				IAML		14 24 31.0	
	comp=Z,10μm,0.3s						
CNCH	Conchagua	1.23	85	⇓*i*P	Pn	14 24 12.5	+1.1
CNCH	Conchagua	1.23	85	⇓*i*P	Pn	14 24 12.5	+1.1
MTO3	Montecristo	1.25	348	⇓*i*P	Pn	14 24 12.5	+0.8
MTO3	Montecristo	1.25	348	⇓*i*P	Pn	14 24 12.5	+0.8
MTO3	Montecristo	1.25	348	Pn	Pn	14 24 12.5	+0.8
MTO3				Sn	Sn	14 24 28.9	+0.7
ESQI	Esquipulas	1.40	350	*e*P	Pn	14 24 14.8	+1.1
ESQI	Esquipulas	1.40	350		Pn	14 24 14.8	+1.1
TGUH	Tegucigalpa,Un	1.98	63	Pn	Pn	14 24 22.4	+1.1
CRIN	San Cristobal	2.04	103	Pn	Pn	14 24 23.6	+1.4
APG	El Apazote	2.26	324	P	Pn	14 24 26.4	+1.2
	comp=Z,7.3nm,0.3s,baz=125,slow=9.1,SNR=82						
APG				S	Sn	14 24 54.0	+1.8
	comp=Z,14nm,0.3s,baz=113,slow=21,SNR=6.3						
APG				LR	LR	14 25 02.6	
	comp=Z,70nm,18.1s,baz=126,slow=32						
RTAL	Retalhuleu	2.86	298	Pn	Pn	14 24 34.0	+0.8
MATN	Matagalpa	3.10	94	Pn	Pn	14 24 37.2	+0.8
BOAB	BOACO BROADBAN	3.42	102	Pn	Pn	14 24 41.1	+0.4
PETF	Flores	3.80	349	Pn	Pn	14 24 48.2	+2.3
ACON	Acoyapa	4.01	107		Pn	14 24 49.4	+0.6
CCIG	Comitan	4.27	317	Pn	Pn	14 24 55.6	+3.1
GB1A	Boringuen Arri	4.30	122	*e*P	Pn	14 24 54.7	+1.8
BUEV	Buena Vista	4.31	123	*e*P	Pn	14 24 54.8	+1.8
LIM1	Limonal	4.49	123	*e*P	Pn	14 24 58.5	+3.0
HORNC	Hornillas	4.54	122	*e*P	Pn	14 24 57.9	+1.8
CUI	Cuipilapa	4.58	123	*e*P	Pn	14 24 58.8	+2.1
PTEN	Parque Tenorio	4.70	121	*e*P	Pn	14 25 00.6	+2.3
ACAL	Aguas Claras	4.70	122	*e*P	Pn	14 24 59.7	+1.4
ESPN	Las Esperanzas	4.78	101	Pn	Pn	14 25 00.3	+1.0
JTS	Las Juntas de	4.96	125	P	Pn	14 25 04.3	+2.5
	comp=Z,3.6nm,0.3s,baz=354,slow=23,SNR=8.2						
JTS				S	Sn	14 25 55.7	-2.3
	baz=344,slow=20,SNR=0.7						
JTS	Las Juntas de	4.96	125	Pn	Pn	14 25 02.9	+1.0
CEDE	Laguna Cedeo	5.06	121	*e*P	Pn	14 25 05.9	+2.7
TEIG	Tepich	7.06	6	P	Pn	14 25 33.0	+2.6
	comp=Z,3.3nm,0.3s,baz=182,slow=1.9,SNR=14						
TEIG	Tepich	7.06	6	Pn	Pn	14 25 33.1	+2.6
SJCC	San Jacinto, C	14.02	102	*e*P	P	14 27 11.2	+0.5
ZARC	Zaragoza, Cauc	15.09	111	*e*P	P	14 27 22.3	-0.3
SMLC	San Martn de	15.37	105	*e*P	P	14 27 25.5	-0.2
GUY2C	Guyana, Caldas	15.67	119	*e*P	P	14 27 29.8	+0.2
BBAC	Balboa, Cauca	16.13	132	*e*P	P	14 27 38.3	+3.9
ORTC	Ortega, Tolima	16.48	122	*e*P	P	14 27 40.0	+1.8
KVTX	Kingsville	16.50	331		Pn	14 27 38.1	+1.4
MARP	Paez Belalcaza	16.55	127	*e*P	P	14 27 43.0	+3.8
SDV	Santo Domingo	18.61	101	P	P	14 28 01.5	-0.2
	comp=Z,1.6nm,0.3s,baz=347,slow=1.5,SNR=8.5						
SDV	Santo Domingo	18.61	101		P	14 28 01.3	-0.5
SDV				IAmb	IAmb	14 28 02.8	
	comp=Z,13nm,0.7s						
152A	Waverly Hall	19.82	11	Pn	Pn	14 28 16.4	-0.3
JCT	Junction City	19.87	332	P	P	14 28 15.8	+0.6
WHTX	Lake Whitney,	20.25	339	P	P	14 28 19.8	+0.5
WHTX				IAmb	IAmb	14 28 36.2	
	comp=Z,11nm,0.7s						
Y49A	Blount Mountai	20.74	6	P	P	14 28 25.8	+1.2
Y49A				IAmb	IAmb	14 28 28.7	
	comp=Z,8.2nm,0.8s						
GOGA	Godfrey	20.79	13	P	P	14 28 26.0	+0.9
GOGA				IAmb	IAmb	14 28 29.2	
	comp=Z,6.5nm,0.7s						
TX32	Lajitas Array	21.02	322	P	P	14 28 29.4	+1.7
TXAR	Lajitas Array	21.02	322	P	P	14 28 28.9	+1.2
	comp=Z,1.6nm,0.6s,baz=143,slow=11,SNR=19						
TXAR	Lajitas Array	21.02	322	P	P	14 28 29.6	+1.9
TX31	Lajitas Ar. Si	21.02	322	P	P	14 28 29.5	+1.8
ABTX	Abilene, Hawle	21.64	335	P	P	14 28 34.5	+0.4
MIAR	Mount Ida	21.67	350	P	P	14 28 35.2	+0.8
MIAR				IAmb	IAmb	14 28 38.5	
	comp=Z,7.4nm,0.8s						
FCAR	Ozark Folk Cen	22.79	354	P	P	14 28 47.1	+0.7
LCAR	Lake Charles	22.88	356	P	P	14 28 47.0	-0.4
LCAR				IAmb	IAmb	14 28 50.9	
	comp=Z,6.3nm,0.8s						
TKL	Tuckaleechee C	22.90	11	LR	LR	14 37 25.6	
	comp=Z,87nm,21.1s,baz=216,slow=36						
U40A	Yellville	23.34	352	P	P	14 28 52.5	+0.7
T42A	Van Buren	23.83	356	P	P	14 28 56.6	+0.5
T42A				IAmb	IAmb	14 28 59.5	
	comp=Z,7.6nm,1.0s						
U54A	Nelsons Funny	24.15	14	P	P	14 29 00.6	+1.4
U54A				IAmb	IAmb	14 29 01.7	
	comp=Z,11nm,0.9s						
MSTX	Muleshoe	24.16	331	P	P	14 28 59.5	+0.2
V58A	Windy Hill, Pi	24.26	20	P	P	14 29 00.3	+0.2
V58A				IAmb	IAmb	14 29 04.6	
	comp=Z,8.9nm,0.9s						
AMTX	Amarillo	24.44	334	P	P	14 29 02.8	+1.0
S39A	Bolivar	24.71	352	P	P	14 29 04.5	+0.3
S39A				IAmb	IAmb	14 29 06.8	
	comp=Z,7.0nm,0.8s						
CCM	Cathedral Cave	24.86	356	P	P	14 29 05.4	-0.1
CCM				IAmb	IAmb	14 29 06.5	
	comp=Z,7.3nm,0.8s						
P40A	Paris	26.39	355	P	P	14 29 19.6	+0.3
P40A				IAmb	IAmb	14 29 20.0	
	comp=Z,5.7nm,0.9s						
LENM	Lemitar	26.47	325	P	P	14 29 22.4	+2.0
O53A	New Philadelph	27.85	13	P	P	14 29 32.1	-0.4
O53A				IAmb	IAmb	14 29 57.2	
	comp=Z,10nm,1.2s						
S22A	4UR Ranch, Cre	29.14	330	P	P	14 29 45.6	+1.3
WUPA	West Chester U	29.19	22	P	P	14 29 42.7	-1.7
PSUB	Penn St. - Bra	29.24	22	P	P	14 29 42.8	-2.0
PV03	Paradox Valley	30.54	328	P	P	14 29 58.3	+1.6
PV12	Saucer Basin,	30.56	329	P	P	14 29 58.6	+1.8
PV12				IAmb	IAmb	14 29 59.9	
	comp=Z,5.2nm,0.6s						
PV18	Skein Mesa, Pa	30.56	328	P	P	14 29 58.5	+1.6
PV11	David Mesa, Pa	30.58	328	P	P	14 29 58.6	+1.6
PV11				IAmb	IAmb	14 30 00.5	
	comp=Z,4.3nm,0.6s						
PV17	East Wray Mesa	30.61	328	P	P	14 29 58.9	+1.6
PV16	Nyswonger Mesa	30.61	328	P	P	14 29 58.4	+1.1
PV16				IAmb	IAmb	14 30 00.5	
	comp=Z,2.9nm,0.7s						
PV20	West Nyswonger	30.66	328	P	P	14 29 58.3	+0.6
PV20				IAmb	IAmb	14 29 59.7	
	comp=Z,3.3nm,0.6s						
PV04	Paradox Valley	30.67	329	P	P	14 29 59.4	+1.7
PV04				IAmb	IAmb	14 30 01.0	
	comp=Z,4.6nm,0.6s						
PV14	Lion Creek, Pa	30.72	328	P	P	14 29 59.3	+1.1
PV14				IAmb	IAmb	14 30 00.2	
	comp=Z,2.5nm,0.7s						
PV23	Carpenter Ridg	30.77	328	P	P	14 30 00.2	+1.5
PV23				IAmb	IAmb	14 30 01.1	
	comp=Z,4.5nm,0.8s						
SRU	San Rafael Swe	32.05	328	P	P	14 30 11.4	+1.6
MTPU	Mount Pierson	32.18	324	P	P	14 30 14.0	+2.7
SAML	Samuel	33.84	129	P	P	14 30 24.9	-0.6
PDAR	Pinedale Array	34.40	333	P	P	14 30 31.0	+0.7
	comp=Z,0.3nm,0.4s,baz=41,slow=19,SNR=2.3						
PDAR				PcP	PcP	14 33 04.2	-0.4
	comp=Z,0.3nm,0.4s,baz=273,slow=2.8,SNR=1.9						
REDW	Red Top Meadow	35.45	332	P	P	14 30 41.1	+1.8
REDW				IAmb	IAmb	14 30 42.8	
	comp=Z,2.8nm,0.7s						
LOHW	Long Hollow	35.53	333	P	P	14 30 41.8	+1.7
TPAW	Teton Pass	35.59	332	P	P	14 30 42.2	+1.6
TPAW				IAmb	IAmb	14 30 43.7	
	comp=Z,2.1nm,0.7s						
NVAR	Mina Array Bea	36.11	319	P	P	14 30 46.8	+1.7
	comp=Z,0.3nm,0.5s,baz=198,slow=42,SNR=2.3						
NVAR				PcP	PcP	14 33 10.0	+0.3
	comp=Z,0.7nm,0.7s,baz=134,slow=2.4,SNR=5.6						
GCMT	Greycliff	36.89	336	P	P	14 30 52.2	+0.7
DGMT	Dagmar	37.36	343	P	P	14 30 56.1	+0.7
MCMT	McKenzie Canyo	37.49	332	P	P	14 30 58.1	+1.3
EGMT	Eagleton	38.78	338	P	P	14 31 08.0	+0.7
SCHQ	Schefferville	45.07	18	P	P	14 31 56.9	-1.6
	comp=Z,4.4nm,0.7s,baz=255,slow=7.8,SNR=3.0						
SCHQ	Schefferville	45.07	18	IAmb	IAmb	14 32 06.0	
	comp=Z,6.8nm,1.1s						
YKA	Yellowknife Ar	52.51	345	P	P	14 32 54.2	-1.0
	comp=Z,3.6nm,0.9s,baz=201,slow=5.6,SNR=3.7						
ILAR	Eielson Array	64.72	336	P	P	14 34 18.7	-1.4
	comp=Z,0.9nm,0.9s,baz=163,slow=4.6,SNR=7.7						
ILAR	Eielson Array	64.72	336	P	P	14 34 18.6	-1.5
RND	Reindeer	64.98	335	P	P	14 34 21.9	0.0
BPAW	Bear Paw Mtn.	66.11	335	P	P	14 34 28.4	-0.8
BPAW				IAmb	IAmb	14 34 28.9	
	comp=Z,2.1nm,0.7s						
PPLA	Purkeypile	66.23	333	P	P	14 34 29.0	-1.0
SUMG	Summit	66.30	15	P	P	14 34 28.2	-2.4
LZH	Lanzhou	129.51	346	*e*PKP	PKPdf	14 42 48.4	-2.6
LZH				pPKP	pPKPdf	14 43 13.4	+1.7
LZH				sPKP		14 43 26.8	
WRA	Warramunga Arr	137.92	255	PKP	PKPdf	14 43 05.2	-1.7
	comp=Z,0.3nm,0.5s,baz=91,slow=2.8,SNR=11						
ASAR	Alice Springs	138.03	249	PKP	PKPdf	14 43 04.9	-2.2
	comp=Z,0.3nm,0.9s,baz=96,slow=2.0,SNR=2.2						
CMAR	Chiang Mai Arr	147.59	346	PKPbc	PKPdf	14 43 24.2	+0.1
	comp=Z,1.6nm,0.8s,baz=343,slow=3.4,SNR=8.1						
CMAR	Chiang Mai Arr	147.59	346	PKPbc	PKPdf	14 43 25.9	+1.8

UPA ***15*** *14:46:31.4±1.3, 5°.24N×78°.43W, h34km±28km, MW3.8*
RSNC ***15*** *14:46:32.9±1.1, 5°.42N×78°.30W, h41km±20km, ML3.3, Mw3.5*
IDC ***15*** *14:46:48.9±3.6, 5°.33N×77°.13W, h171km±34km, mb3.0/2, mb1 3.2/3, mb1mx2.9/32, mbtmp3.6/3, Error ellipse: s-maj=55.1km s-min=47.1km az=161.0*
ISC 15 14:46:31.8±1.1, 5°.34N±0°.03×78°.41W±0°.03, h50km±14km, n56, σ1°89/92, 6C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	Pizarro, Choco	1.11	110	⇑*i*P	Pn	14 46 50.5	-0.6
PIZC				*e*S	Sn	14 47 03.4	-2.0
PIZC				*i*		14 47 07.3	
	comp=Z,678nm,0.3s						
SOLC	Bahia Solano	1.33	49	*e*P	Pn	14 46 52.9	-1.1
SOLC				*e*S	Sn	14 47 07.1	-3.5
SOLC				*i*		14 47 10.1	
	comp=Z,956nm,0.3s						
MALC	Bahia Malaga	1.70	141	⇑*i*P	Pn	14 46 59.9	+0.7
MALC				*e*S	Sn	14 47 19.8	+0.1
MALC				*i*		14 47 21.5	
	comp=Z,358nm,0.2s						
PTAC	Punta Ardita,	1.89	19	⇓*e*P	Pn	14 47 01.2	-0.5
PTAC				*e*S	Sn	14 47 21.1	-3.3
GR1C	Gorgona, Isla	2.34	174	*e*S	Sn	14 47 32.5	-2.9
CBOC	Ciudad Bolivar	2.45	78	*e*P	Pn	14 47 09.1	-0.3
CBOC				*e*S	Sn	14 47 35.8	-2.5
CBOC				*i*		14 47 37.2	
	comp=Z,160nm,0.5s						
YOTC	Yotoco, Valle	2.46	123	⇑*i*P	Pn	14 47 09.7	0.0
YOTC				*e*S	Sn	14 47 37.2	-1.4
YOTC				*i*		14 47 39.8	
	comp=Z,124nm,0.5s						
ACHO3	Achotines, Los	2.70	320	*e*P	Pn	14 47 13.3	+0.6
ACHO3				*e*S	Sn	14 47 44.6	+0.3
DBBC	Dabeiba	2.75	53	*e*P	Pn	14 47 14.8	+1.3
HELC	Santa Helena	2.99	74	*e*P	Pn	14 47 18.3	+1.3
HELC				*e*S	Sn	14 47 51.6	-0.3
HELC				*i*		14 47 55.1	
	comp=Z,54nm,0.2s						
HELC	Santa Helena	2.99	74	*i* P	Pn	14 47 18.4	+1.3
HELC				*i* S	Sn	14 47 52.6	+0.7
GUY2C	Guyana, Caldas	3.04	92	*e*P	Pn	14 47 18.8	+1.0
GUY2C				*e*S	Sn	14 47 53.9	+0.7
GUY2C				*i*		14 47 58.8	
	comp=Z,88nm,0.5s						
AZU	Azuero	3.05	323	*e*P	Pn	14 47 17.8	+0.2
AZU				*e*S	Sn	14 47 52.9	-0.1
AZU	Azuero	3.05	323	⇑*i*P	Pn	14 47 17.8	+0.2
AZU				*i* S	Sn	14 47 53.1	+0.2
ANIL	Santa Ana	3.12	106	*e*P	Pn	14 47 20.1	+1.3
ANIL				*e*S	Sn	14 47 54.9	0.0
ANIL				*i*		14 48 05.5	
	comp=Z,32nm,0.4s						
CACAO	El Cacao, Vera	3.14	309	*i* P	Pn	14 47 19.0	+0.2
CACAO				*i* S	Sn	14 47 55.2	+0.1
TOLC	Tolima	3.17	104	⇑*e*P	Pn	14 47 21.0	+1.5
TOLC				*e*S	Sn	14 47 55.2	-1.1
TOLC				*i*		14 48 06.6	
	comp=Z,154nm,0.6s						
UPD2	Meteti	3.21	7	*e*P	Pn	14 47 20.9	+1.2
UPD2				*e*S	Sn	14 47 57.0	+0.2
UPD2				*i*		14 48 03.4	
	comp=Z,289nm,0.3s						
UPD2	Meteti	3.21	7	⇑*e*P	Pn	14 47 20.4	+0.6
UPD2				*e*S	Sn	14 47 58.3	+1.6
POPC	Popayan, Colom	3.28	148	*e*P	Pn	14 47 21.7	+0.7

ASAR Alice Springs 143.95 236 PKPbc PKiKP 15 06 04.8 -1.3
comp=Z,1.0nm,0.6s,baz=117,slow=3.8,SNR=30
WRA Warramunga Arr 145.00 243 PKPbc PKiKP 15 06 08.5 +0.2
comp=Z,0.6nm,0.8s,baz=92,slow=2.8,SNR=5.8

*NEIC **15** 14:49:10.1±1.1,38.61S±0.07×175.8E±0.1,h200km±10km, Error ellipse: s-maj=15.1km s-min=5.3km az=126.0*
*IDC **15** 14:49:11.5±1.2,38.97S×176.04E,h178km±17km,mb3.0/2, mb1 3.4/3,mb1mx3.1/24,mbtmp3.7/3,Error ellipse: s-maj=53.7km s-min=16.3km az=128.0*
*WEL **15** 14:49:13.8,38°S±2°×17°E±°,h160km±4km,M3.6/43, MLv3.6/43,Error ellipse: s-maj=0.0km s-min=0.0km az=81.3*

ISC 15 14:49:10.8±0.8,38.58S±0.05×175.77E±0.04,h183km±5km, n182,σ1§28/209,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.10**	**26**	P	**Pn**	**14 49 35.4**	**+0.3**
WATZ	**Wairara**	**0.14**	**192**	P	**Pn**	**14 49 35.7**	**+0.6**
WHTZ	**Whakaora**	**0.17**	**121**	P	**Pn**	**14 49 35.8**	**+0.6**
RATZ	**Rangitukua**	**0.29**	**180**	P	**Pn**	**14 49 35.9**	**+0.5**
TLZ	**Tolley Road**	**0.31**	**324**	P	**Pn**	**14 49 35.9**	**+0.5**
TLZ				S	**Sn**	**14 49 52.7**	**-1.6**
WPRZ	**Whakapapatarin**	**0.31**	**80**	P	**Pn**	**14 49 35.6**	**+0.2**
GRRZ	**Galatos Road**	**0.35**	**50**	P	**Pn**	**14 49 35.8**	**+0.2**
KATZ	**Kakaramea**	**0.40**	**188**	P	**Pn**	**14 49 36.5**	**+0.7**
HATZ	**Hinemaiaia**	**0.40**	**141**	P	**Pn**	**14 49 36.0**	**+0.4**
HATZ				S	**Sn**	**14 49 52.4**	**-2.5**
RITZ	**Rihia Road**	**0.41**	**170**	P	**Pn**	**14 49 36.5**	**+0.9**
HRRZ	**Handcock Road**	**0.45**	**65**	P	**Pn**	**14 49 36.0**	**+0.2**
ALRZ	**Allen Road**	**0.45**	**88**	P	**Pn**	**14 49 35.8**	**0.0**
ALRZ				S	**Sn**	**14 49 53.0**	**-2.1**
HSRZ	**Hossack Road**	**0.46**	**55**	P	**Pn**	**14 49 36.1**	**+0.2**
PRRZ	**Plateau Road**	**0.49**	**81**	P	**Pn**	**14 49 35.9**	**-0.1**
UTU	**Utuhina**	**0.52**	**40**	P	**Pn**	**14 49 36.4**	**+0.3**
KRVZ	**Karewarewa**	**0.53**	**191**	P	**Pn**	**14 49 37.0**	**+0.7**
WTVZ	**West Tongariro**	**0.56**	**195**	P	**Pn**	**14 49 37.2**	**+0.9**
TWVZ	**Taurewa**	**0.56**	**208**	P	**Pn**	**14 49 37.3**	**+0.9**
HLRZ	**Highlands Stat**	**0.56**	**55**	P	**Pn**	**14 49 37.0**	**+0.7**
MRHZ	**Matea Rd**	**0.57**	**117**	P	**Pn**	**14 49 36.6**	**+0.3**
MRHZ				S	**Sn**	**14 49 53.3**	**-2.8**
NGRZ	**Ngongotaha**	**0.58**	**35**	P	**Pn**	**14 49 36.6**	**+0.2**
OTVZ	**Ofurere**	**0.59**	**188**	P	**Pn**	**14 49 37.6**	**+1.0**
OTVZ				S	**Sn**	**14 49 55.9**	**-0.8**
NGZ	**Ngauruhoe**	**0.61**	**192**	P	**Pn**	**14 49 37.5**	**+0.9**
RRRZ	**Republican Roa**	**0.63**	**68**	P	**Pn**	**14 49 36.7**	**+0.1**
RRRZ				S	**Sn**	**14 49 54.4**	**-2.1**
OMRZ	**Omania**	**0.67**	**45**	P	**Pn**	**14 49 36.8**	**0.0**
KARZ	**Kaharoa**	**0.67**	**34**	P	**Pn**	**14 49 36.9**	**+0.1**
TARZ	**Mount Tarawera**	**0.67**	**60**	P	**Pn**	**14 49 37.1**	**+0.2**
TUVZ	**Tukino**	**0.70**	**187**	P	**Pn**	**14 49 38.3**	**+1.2**
FWVZ	**Far West T-bar**	**0.70**	**194**	P	**Pn**	**14 49 38.1**	**+0.9**
MKRZ	**Makatiti**	**0.70**	**52**	P	**Pn**	**14 49 37.8**	**+0.7**
DRZ	**Dome Shelter**	**0.72**	**193**	P	**Pn**	**14 49 38.4**	**+1.0**
HIZ	**Hauiti**	**0.72**	**275**	P	**Pn**	**14 49 37.8**	**+0.8**
HIZ	**Hauiti**	**0.72**	**275**	Pn	**Pn**	**14 49 37.7**	**+0.7**
KMRZ	**Kaimai**	**0.74**	**11**	P	**Pn**	**14 49 37.3**	**+0.1**
WNVZ	**Wahianoa**	**0.76**	**190**	P	**Pn**	**14 49 38.7**	**+1.2**
PKVZ	**Pokaka**	**0.79**	**205**	P	**Pn**	**14 49 38.7**	**+1.2**
MUGZ	**Murupara**	**0.79**	**83**	P	**Pn**	**14 49 37.3**	**-0.2**
BKZ	**Black Stump Fm**	**0.82**	**136**	P	**Pn**	**14 49 38.5**	**+0.8**
BKZ				S	**Sn**	**14 49 55.9**	**-2.6**
BKZ	**Black Stump Fm**	**0.82**	**136**	Pn	**Pn**	**14 49 38.5**	**+0.8**
MOVZ	**Moawhango**	**0.83**	**181**	P	**Pn**	**14 49 38.7**	**+1.0**
MOVZ				S	**Sn**	**14 49 56.5**	**-2.3**
MTVZ	**Mangateitei**	**0.84**	**196**	P	**Pn**	**14 49 39.1**	**+1.2**
TOZ	**Tahuroa Road**	**0.87**	**346**	P	**Pn**	**14 49 38.3**	**+0.4**
TOZ				S	**Sn**	**14 49 57.2**	**-1.7**
MTHZ	**Maungataniwha**	**0.88**	**109**	P	**Pn**	**14 49 38.8**	**+0.7**
MTHZ				P	**Pn**	**14 49 38.8**	**+0.7**
MTHZ				S	**Sn**	**14 49 57.1**	**-2.1**
EDRZ	**Edgecumbe**	**0.90**	**59**	P	**Pn**	**14 49 38.2**	**0.0**
TGRZ	**Tauranga**	**0.93**	**25**	P	**Pn**	**14 49 38.4**	**0.0**
BHHZ	**Black Hill Sta**	**0.94**	**166**	P	**Pn**	**14 49 39.5**	**+1.0**
BHHZ				S	**Sn**	**14 49 57.8**	**-2.3**
RTZ	**Ruatahuna**	**0.95**	**93**	P	**Pn**	**14 49 39.0**	**+0.4**
RTZ				S	**Sn**	**14 49 57.9**	**-2.1**
OPRZ	**Ohinepanea**	**0.96**	**41**	P	**Pn**	**14 49 38.5**	**-0.1**
VRZ	**Vera Road**	**0.96**	**235**	P	**Pn**	**14 49 39.9**	**+1.4**
NMHZ	**Naumai**	**0.96**	**123**	P	**Pn**	**14 49 40.3**	**+1.6**
NMHZ				S	**Sn**	**14 50 00.4**	**+0.2**
KWHZ	**Kaweka Forest**	**0.99**	**149**	P	**Pn**	**14 49 40.2**	**+1.4**
RAHZ	**Arahi**	**1.08**	**109**	P	**Pn**	**14 49 40.8**	**+1.3**
RAHZ				S	**Sn**	**14 50 00.6**	**-1.1**
URZ	**Urewera**	**1.10**	**74**	P	**Pn**	**14 49 39.6**	**0.0**
URZ	69nm,0.3s,baz=290,slow=3.2,SNR=94						
URZ				S	**Sn**	**14 49 58.1**	**-3.7**
	212nm,0.3s,baz=109,slow=16,SNR=19						
URZ	**Urewera**	**1.10**	**74**	P	**Pn**	**14 49 39.4**	**-0.2**
URZ				S	**Sn**	**14 49 58.1**	**-3.7**
URZ	**Urewera**	**1.10**	**74**	Pn	**Pn**	**14 49 39.3**	**-0.2**
MCHZ	**McNeill Hill**	**1.13**	**140**	P	**Pn**	**14 49 41.8**	**+2.0**
MCHZ				S	**Sn**	**14 50 02.7**	**+0.3**
KRHZ	**Kereru**	**1.16**	**156**	P	**Pn**	**14 49 41.6**	**+1.5**
KRHZ				S	**Sn**	**14 50 01.9**	**-1.1**
ARHZ	**Aropaoanui**	**1.18**	**126**	P	**Pn**	**14 49 41.8**	**+1.6**
ARHZ				S	**Sn**	**14 50 02.2**	**-0.8**
MHEZ	**Mangahewa**	**1.23**	**246**	P	**Pn**	**14 49 42.7**	**+2.0**
SNGZ	**Shannon Statio**	**1.25**	**100**	P	**Pn**	**14 49 41.9**	**+1.1**
SNGZ				S	**Sn**	**14 50 02.4**	**-1.6**
WHHZ	**Waihua**	**1.25**	**114**	P	**Pn**	**14 49 42.2**	**+1.4**
WAZ	**Wanganui**	**1.32**	**207**	P	**Pn**	**14 49 43.1**	**+1.6**
DREZ	**Durham Road**	**1.37**	**243**	P	**Pn**	**14 49 43.9**	**+2.1**
PNHZ	**Pukenui**	**1.38**	**166**	P	**Pn**	**14 49 43.4**	**+1.4**
PNHZ				S	**Sn**	**14 50 05.3**	**-1.0**
LREZ	**Lake Rotokare**	**1.38**	**230**	P	**Pn**	**14 49 44.0**	**+2.1**
MWZ	**Matawai**	**1.40**	**81**	P	**Pn**	**14 49 42.4**	**+0.2**
MWZ				S	**Sn**	**14 50 03.2**	**-3.2**
PREZ	**Palmer Road**	**1.47**	**238**	P	**Pn**	**14 49 44.9**	**+2.1**
NEZ	**North Egmont**	**1.48**	**242**	P	**Pn**	**14 49 44.9**	**+2.0**
CKHZ	**Cape Kidnapper**	**1.48**	**137**	P	**Pn**	**14 49 44.7**	**+1.9**
CKHZ				S	**Sn**	**14 50 07.3**	**-0.5**
TSZ	**Takapari Road**	**1.49**	**174**	P	**Pn**	**14 49 44.5**	**+1.6**
KAHZ	**Kahuranaki**	**1.49**	**145**	P	**Pn**	**14 49 44.9**	**+1.9**
KAHZ				S	**Sn**	**14 50 07.6**	**-0.5**
PKE	**Pukeiti**	**1.52**	**246**	P	**Pn**	**14 49 45.1**	**+1.9**
KHEZ	**Kahui Hut**	**1.54**	**242**	P	**Pn**	**14 49 45.4**	**+1.9**
KNZ	**Kokohu**	**1.55**	**107**	P	**Pn**	**14 49 44.5**	**+1.0**
KNZ				S	**Sn**	**14 50 07.1**	**-1.8**
RIGZ	**Rimuhau**	**1.57**	**95**	P	**Pn**	**14 49 44.7**	**+1.0**
RIGZ				S	**Sn**	**14 50 07.3**	**-1.9**
WPHZ	**Waipukurau**	**1.57**	**161**	P	**Pn**	**14 49 45.4**	**+1.6**
RUGZ	**Raukumara Rang**	**1.62**	**68**	P	**Pn**	**14 49 43.7**	**-0.7**
NBEZ	**Newall Road No**	**1.64**	**244**	P	**Pn**	**14 49 46.2**	**+1.9**
TKGZ	**Te Karaka**	**1.64**	**86**	P	**Pn**	**14 49 45.2**	**+0.9**
OHWZ	**Ohakea**	**1.67**	**192**	P	**Pn**	**14 49 46.7**	**+2.1**
PXZ	**Pawanui**	**1.68**	**150**	P	**Pn**	**14 49 46.4**	**+1.6**
PRGZ	**Paritu Road**	**1.69**	**102**	P	**Pn**	**14 49 45.9**	**+1.0**
NMEZ	**Namu Road**	**1.69**	**240**	P	**Pn**	**14 49 46.8**	**+2.0**
DVHZ	**Dannevirke**	**1.75**	**170**	P	**Pn**	**14 49 46.8**	**+1.3**
ETAZ	**East Tamaki Re**	**1.75**	**337**	P	**Pn**	**14 49 46.0**	**+0.5**
AWAZ	**Awhitu Peninsu**	**1.75**	**329**	P	**Pn**	**14 49 46.3**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.77**	**110**	P	**Pn**	**14 49 47.1**	**+1.5**
HAZ	**Te Kaha**	**1.79**	**63**	P	**Pn**	**14 49 45.3**	**-0.5**
POWZ	**Post Office Ro**	**1.81**	**180**	P	**Pn**	**14 49 47.5**	**+1.4**
PRHZ	**Porangahau**	**1.82**	**159**	P	**Pn**	**14 49 47.8**	**+1.7**
KUZ	**Kuaotunu**	**1.83**	**359**	P	**Pn**	**14 49 46.6**	**+0.2**
WIAZ	**Waiheke Island**	**1.85**	**344**	P	**Pn**	**14 49 47.1**	**+0.6**
EPAZ	**Eden Park BICE**	**1.88**	**334**	P	**Pn**	**14 49 47.5**	**+0.7**
WTAZ	**Waiatarua**	**1.90**	**330**	P	**Pn**	**14 49 48.1**	**+1.1**
HBAZ	**Herne Bay Bore**	**1.91**	**334**	P	**Pn**	**14 49 47.8**	**+0.7**
CNGZ	**Carnagh Statio**	**1.92**	**88**	P	**Pn**	**14 49 48.3**	**+1.2**
MBAZ	**Motutapu North**	**1.93**	**339**	P	**Pn**	**14 49 47.9**	**+0.5**
ANWZ	**Angora Road**	**1.96**	**164**	P	**Pn**	**14 49 49.3**	**+1.7**
PRWZ	**Pori Road**	**1.98**	**176**	P	**Pn**	**14 49 49.4**	**+1.6**
PUZ	**Puketiti**	**2.02**	**76**	P	**Pn**	**14 49 48.5**	**+0.1**
RVAZ	**Riverhead Bore**	**2.04**	**332**	P	**Pn**	**14 49 49.2**	**+0.7**
MRZ	**Mangatainoka R**	**2.09**	**184**	P	**Pn**	**14 49 50.1**	**+1.1**
ABAZ	**Army Bay**	**2.11**	**339**	P	**Pn**	**14 49 50.1**	**+0.8**
BFZ	**Birch Farm**	**2.13**	**170**	P	**Pn**	**14 49 50.8**	**+1.3**
BFZ	**Birch Farm**	**2.13**	**170**	Pn	**Pn**	**14 49 50.6**	**+1.1**
TIWZ	**Tintock**	**2.20**	**178**	P	**Pn**	**14 49 51.6**	**+1.3**
WMGZ	**Waiomatatini S**	**2.22**	**71**	P	**Pn**	**14 49 50.7**	**+0.2**
MXZ	**Matakaoa Point**	**2.24**	**64**	P	**Pn**	**14 49 51.1**	**+0.3**
MXZ	**Matakaoa Point**	**2.24**	**64**		**Pn**	**14 49 51.0**	**+0.3**
OGWZ	**Otaki Gorge**	**2.29**	**191**	P	**Pn**	**14 49 52.4**	**+1.2**
HOWZ	**Holdsworth Sta**	**2.33**	**185**	P	**Pn**	**14 49 52.6**	**+0.9**
GRZ	**Great Barrier**	**2.33**	**354**	P	**Pn**	**14 49 52.5**	**+0.7**
CPWZ	**Castlepoint**	**2.35**	**172**	P	**Pn**	**14 49 53.6**	**+1.7**
KIW	**Kapiti Island**	**2.38**	**196**	P	**Pn**	**14 49 53.1**	**+0.9**
TMWZ	**Te Maipa**	**2.53**	**178**	P	**Pn**	**14 49 54.9**	**+0.9**
CAW	**Cannon Point**	**2.58**	**192**	P	**Pn**	**14 49 55.4**	**+0.8**
DUWZ	**D'Urville Isla**	**2.64**	**212**	P	**Pn**	**14 49 56.0**	**+0.7**
WEL	**Wellington**	**2.81**	**196**	P	**Pn**	**14 49 58.0**	**+0.8**
TRWZ	**Traveller**	**2.82**	**181**	P	**Pn**	**14 49 58.1**	**+0.7**
SNZO	**South Karori**	**2.85**	**196**		**Pn**	**14 49 58.1**	**+0.4**
MSWZ	**Moikau Station**	**2.86**	**188**	P	**Pn**	**14 49 58.4**	**+0.5**
MSWZ	**Moikau Station**	**2.86**	**188**		**Pn**	**14 49 58.3**	**+0.3**
WCZ	**Waipu Caves**	**2.87**	**336**	P	**Pn**	**14 49 59.1**	**+1.0**
TCW	**Tory Channel**	**2.87**	**203**	P	**Pn**	**14 49 58.6**	**+0.7**
BHW	**Baring Head**	**2.91**	**193**	P	**Pn**	**14 49 58.9**	**+0.5**
BHW	**Baring Head**	**2.91**	**193**		**Pn**	**14 49 58.8**	**+0.3**
PLWZ	**Palliser**	**3.02**	**187**	P	**Pn**	**14 50 00.1**	**-0.3**
PLWZ	**Palliser**	**3.02**	**187**	Pn	**Pn**	**14 49 60.0**	**+0.2**
TUWZ	**Tuamarina**	**3.18**	**206**	P	**Pn**	**14 50 01.9**	**+0.3**
TUWZ	**Tuamarina**	**3.18**	**206**		**Pn**	**14 50 01.7**	**0.0**
NNZ	**Nelson**	**3.21**	**214**	P	**Pn**	**14 50 02.4**	**+0.2**
NNZ	**Nelson**	**3.21**	**214**		**Pn**	**14 50 02.4**	**+0.2**
QRZ	**Quartz Range**	**3.36**	**227**	P	**Pn**	**14 50 03.7**	**-0.2**
QRZ	**Quartz Range**	**3.36**	**227**	Pn	**Pn**	**14 50 03.8**	**-0.2**
CMWZ	**Cape Campbell**	**3.39**	**200**	P	**Pn**	**14 50 05.5**	**+1.2**
CMWZ	**Cape Campbell**	**3.39**	**200**	Pn	**Pn**	**14 50 05.3**	**+1.1**
BSWZ	**Blackbirch Sta**	**3.46**	**204**	P	**Pn**	**14 50 05.6**	**+0.5**
BSWZ	**Blackbirch Sta**	**3.46**	**204**		**Pn**	**14 50 05.4**	**+0.3**
OUZ	**Omahuta**	**3.78**	**332**	P	**Pn**	**14 50 10.8**	**+1.6**
OUZ	**Omahuta**	**3.78**	**332**		**Pn**	**14 50 10.3**	**+1.1**
THZ	**Tophouse**	**3.87**	**214**	P	**Pn**	**14 50 10.2**	**-0.2**
THZ	**Tophouse**	**3.87**	**214**	Pn	**Pn**	**14 50 10.1**	**-0.2**
KHZ	**Kahutara**	**4.20**	**203**	P	**Pn**	**14 50 14.8**	**+0.4**
KHZ	**Kahutara**	**4.20**	**203**	Pn	**Pn**	**14 50 14.7**	**+0.3**
DSZ	**Denniston Nort**	**4.39**	**223**	P	**Pn**	**14 50 16.2**	**-0.7**
GVZ	**Greta Valley S**	**4.85**	**204**	P	**Pn**	**14 50 22.8**	**-0.1**
LTZ	**Lake Taylor**	**4.97**	**211**	P	**Pn**	**14 50 23.5**	**-1.0**
LTZ	**Lake Taylor**	**4.97**	**211**	Pn	**Pn**	**14 50 23.2**	**-1.2**
AMCZ	**Amberley**	**5.17**	**206**	P	**Pn**	**14 50 26.3**	**-0.6**
INZ	**Inchbonnie**	**5.29**	**217**	P	**Pn**	**14 50 27.3**	**-1.2**
OXZ	**Oxford**	**5.52**	**210**		**Pn**	**14 50 29.9**	**-1.7**
OKCZ	**Okains Bay**	**5.53**	**201**	P	**Pn**	**14 50 31.2**	**-0.5**
MQZ	**McQueen's Vall**	**5.64**	**204**	Pn	**Pn**	**14 50 31.5**	**-1.5**
AKCZ	**Akaroa Harbour**	**5.71**	**201**	P	**Pn**	**14 50 33.2**	**-0.8**
WVZ	**Waitaha Valley**	**5.89**	**219**	P	**Pn**	**14 50 35.8**	**-0.6**
WACZ	**Wakanui South**	**6.12**	**208**	P	**Pn**	**14 50 38.3**	**-1.0**
RPZ	**Rata Peaks**	**6.25**	**213**	P	**Pn**	**14 50 40.3**	**-0.6**
	12nm,0.3s,baz=256,slow=1.5,SNR=36						
RPZ				S	**Sn**	**14 51 47.1**	**-5.1**
	30nm,0.3s,baz=321,slow=23,SNR=18						
RPZ	**Rata Peaks**	**6.25**	**213**	P	**Pn**	**14 50 40.2**	**-0.8**
RPZ	**Rata Peaks**	**6.25**	**213**	Pn	**Pn**	**14 50 40.2**	**-0.8**
ARCZ	**Arundel**	**6.38**	**211**	P	**Pn**	**14 50 41.7**	**-1.1**
FOZ	**Fox Glacier**	**6.69**	**220**	P	**Pn**	**14 50 45.7**	**-1.1**
FOZ	**Fox Glacier**	**6.69**	**220**	Pn	**Pn**	**14 50 45.6**	**-1.1**
LBZ	**Lake Benmore**	**7.16**	**214**	P	**Pn**	**14 50 52.4**	**-0.5**
ODZ	**Otahua Downs**	**7.51**	**209**	P	**Pn**	**14 50 56.7**	**-0.9**
ODZ	**Otahua Downs**	**7.51**	**209**	Pn	**Pn**	**14 50 57.0**	**-0.5**
CTZ	**Chatham Island**	**7.71**	**134**	P	Pn	14 51 06.6	+6.4
WKZ	**Wanaka**	**8.03**	**217**	P	**Pn**	**14 51 03.5**	**-0.9**
WKZ	**Wanaka**	**8.03**	**217**	Pn	**Pn**	**14 51 03.2**	**-1.2**
HHSZ	**Highcliff Hill**	**8.25**	**206**	P	**Pn**	**14 51 07.4**	**+0.2**
MSZ	**Milford Sound**	**8.46**	**221**	P	**Pn**	**14 51 11.0**	**+1.0**
TUZ	**Tuapeka**	**8.66**	**210**	P	**Pn**	**14 51 12.8**	**+0.2**
MLZ	**Mavora Lakes**	**8.86**	**218**	P	**Pn**	**14 51 15.1**	**-0.1**
MLZ	**Mavora Lakes**	**8.86**	**218**	Pn	**Pn**	**14 51 14.7**	**-0.5**
WHZ	**Wether Hill Ro**	**9.33**	**216**	Pn	**Pn**	**14 51 20.3**	**-1.1**
SYZ	**Scrubby Hill**	**9.34**	**209**	P	**Pn**	**14 51 21.4**	**0.0**
APZ	**The Paps**	**10.04**	**212**	P	**Pn**	**14 51 29.7**	**-1.0**
MSVF	**Nonsavu**	**20.86**	**6**	P	**P**	**14 53 36.7**	**-1.9**
MSVF				IAmb	IAmb	14 53 44.4	
	comp=Z,23nm,1.3s						
ASAR	**Alice Springs**	**38.46**	**280**	P	**P**	**14 56 18.9**	**+3.9**
	comp=Z,0.7nm,0.8s,baz=117,slow=6.1,SNR=21						
WRA	**Warramunga Arr**	**40.23**	**285**	P	**P**	**14 56 32.5**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=122,slow=8.5,SNR=5.4						
NJ2	**Nanjing**	**87.97**	**315**	*eP*	**P**	**15 01 39.1**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**98.39**	**316**	*eP*	**P**	**15 02 27.3**	**-0.3**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,6.7s						
FINES	**FINESS Array B**	**150.43**	**331**	PKPbc	**PKiKP**	**15 08 41.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=64,slow=3.2,SNR=4.7						

*NIED **15** 15:14:43.7,37.16N×143.43E,h50km,MW3.6,Moment Tensor Solution. s2 Moment tensor: Scale 1014Nm; Mrr=2.45; Mθθ=1.31; Mφφ=1.14; Mrθ=1.28; Mθφ=1.05; Mφr=0.61; Fault plane solution: M0=2.76000×1014 NP1: φs=236.00000°,δ=60.00000°,λ=-82.00000°. NP2:φs=40.00000°, δ=30.00000°,λ=-103.00000°.*

JMA 15 15:14:43.6±0.2,37.16N×143.43E,h50km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.94**	**307**	P	Pn	15 15 14.8	+0.8
JIKH				*eS*	Sn	15 15 37.8	+0.6
JFK	**Kawauchi**	**2.05**	**277**	P	Pn	15 15 16.5	+0.9
JFK				*eS*	Sn	15 15 41.1	+1.1
JIO	**Ouri**	**2.09**	**309**	P	Pn	15 15 17.3	+1.1
JIO				*eS*	Sn	15 15 41.8	+0.7
JMST	**Minamisoumatoc**	**2.10**	**286**	P	Pn	15 15 17.1	+0.8
JMST				*eS*	Sn	15 15 42.0	+0.8
ONAJ	**Iwakimizuishiy**	**2.10**	**269**	P	Pn	15 15 17.0	+0.6
ONAJ				*eS*	Sn	15 15 42.0	+0.6
JMM	**Marumori**	**2.21**	**289**	P	Pn	15 15 18.8	+1.0
JMM				*eS*	Sn	15 15 45.6	+1.6
JFT	**Otama**	**2.49**	**279**	P	Pn	15 15 23.7	+2.0
JFT				*eS*	Sn	15 15 52.9	+2.0
JMK	**Ichinoseki**	**2.50**	**316**	P	Pn	15 15 22.7	+1.0
JMK				*eS*	Sn	15 15 52.2	+1.2
JOM	**Ohasama**	**2.86**	**325**	P	Pn	15 15 27.9	+1.2
JOM				*eS*	Sn	15 16 00.6	+0.8
JYK	**Kaneyama**	**2.99**	**307**	P	Pn	15 15 30.2	+1.7
JAG	**Ashikaga**	**3.27**	**258**	P	Pn	15 15 33.9	+1.5
JANG	**Nango**	**3.54**	**336**	P	Pn	15 15 37.0	+1.0
JANG				*eS*	Sn	15 16 16.2	-0.4
JRY	**Ryogami san**	**3.82**	**254**	P	Pn	15 15 41.1	+1.2
JRY				*eS*	Sn	15 16 22.7	-0.9
JOD2	**Odawara 2**	**3.99**	**243**	P	Pn	15 15 43.1	+0.9
JOD2				*eS*	Sn	15 16 26.9	-0.8
JOT	**Ohata**	**4.60**	**337**	P	Pn	15 15 52.4	+1.8
JKB	**Kayabe**	**5.07**	**339**	P	Pn	15 15 58.6	+1.6
JKB				*eS*	Sn	15 16 52.7	-1.6
JCH	**Churui**	**5.45**	**359**	P	Pn	15 16 01.6	-0.6
JCH				*eS*	Sn	15 16 59.3	-4.2

IDC 15 15:41:14.1±1.5,3.30S×130.56E,h0km,mb4.1/2, mb1 3.9/5,mb1mx3.5/42,mbtmp3.7/5,ML3.2/3,Error ellipse: s-maj=65.6km s-min=22.6km az=86.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.52**	**16**	Pn	Pn	15 41 56.1	-0.2
	2.2nm,0.3s,baz=28,slow=3.8,SNR=27						
SIJI				Sn	Sn	15 42 22.4	-5.3
	4.2nm,0.3s,baz=215,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**15.47**	**198**	Pn	Pn	15 44 52.6	-1.2
	0.1nm,0.3s,baz=358,slow=6.6,SNR=1.7						
FITZ				Sn	Sn	15 47 43.4	-2.8
	0.0nm,0.3s,baz=359,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**16.95**	**168**	Pn	Pn	15 45 11.0	-1.8
	0.1nm,0.3s,baz=340,slow=13,SNR=2.4						
WRA				Sn	Sn	15 48 10.5	-11
	0.1nm,0.3s,baz=354,slow=24,SNR=2.1						
ASAR	**Alice Springs**	**20.50**	**171**	P	P	15 45 55.0	+1.0
	5.8nm,0.5s,baz=351,slow=11,SNR=161						
ASAR				S	S	15 49 42.8	-1.6
	0.2nm,0.6s,baz=352,slow=16,SNR=2.0						
MKAR	**Makanchi Array**	**65.48**	**326**	P	P	15 51 59.2	+0.1
	0.7nm,0.5s,baz=122,slow=8.2,SNR=10.0						

*IDC **15** 15:44:46.9±1.3,36.07N×142.18E,h0km,mb3.4/5, mb1 3.5/7,mb1mx3.3/46,mbtmp3.4/7,ML3.2/2,Error ellipse: s-maj=31.5km s-min=23.0km az=93.0*
*JMA **15** 15:44:48.9±0.3,36.35N×142.27E,h71km,M3.0*

ISC 15 15:44:49.5±1.2,36.32N±0.05×142.38E±0.09,h35km,n28, σ1§41/26,mb3.5/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.38**	**244**	P	**Pn**	**15 45 11.8**	**-0.4**
JHYU	**Hitachinakayam**	**1.44**	**271**	P	**Pn**	**15 45 12.6**	**-0.5**
JHO	**Hitachi**	**1.48**	**282**	P	**Pn**	**15 45 12.7**	**-1.0**
JHO				*eS*	**Sn**	**15 45 31.3**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.49**	**302**	P	**Pn**	**15 45 12.7**	**-1.1**
JIHU	**Itakohorinouch**	**1.54**	**257**	P	**Pn**	**15 45 14.2**	**-0.2**
JMM	**Marumori**	**2.00**	**321**	P	**Pn**	**15 45 19.6**	**-1.1**
JMM				S	**Sn**	**15 45 43.1**	**-1.4**
BSO1	**Boso 1**	**2.02**	**215**	P	**Pn**	**15 45 20.5**	**0.0**
JFT	**Otama**	**2.02**	**307**	P	**Pn**	**15 45 20.8**	**-0.4**
JAG	**Ashikaga**	**2.36**	**273**	P	**Pn**	**15 45 25.2**	**-0.6**
JMK	**Ichinoseki**	**2.78**	**341**	P	**Pn**	**15 45 31.0**	**-0.6**
JRY	**Ryogami san**	**2.83**	**265**	P	**Pn**	**15 45 31.8**	**-0.4**
JYK	**Kaneyama**	**3.05**	**329**	P	**Pn**	**15 45 35.4**	**+0.2**
MJAR	**Matsushiro Arr**	**3.37**	**275**	Pn	**Pn**	**15 45 39.6**	**0.0**
	0.7nm,0.3s,baz=127,slow=7.8,SNR=30						
MAT	**Matsushiro**	**3.37**	**275**	P	**Pn**	**15 45 40.2**	**+0.6**
MAT				*eS*	**Sn**	**15 46 15.9**	**-2.5**
MAT	**Matsushiro**	**3.37**	**275**	P	**Pn**	**15 45 39.0**	**-0.6**
JHJ	**Hachijo jima 2**	**3.84**	**215**	Pn	**Pn**	**15 45 45.0**	**-1.2**
	21nm,0.3s,baz=320,slow=23,SNR=10						
JHJ				Sn	**Sn**	**15 46 27.3**	**-2.8**
	7.9nm,0.3s,baz=68,slow=23,SNR=1.4						
ASAJ	**Asahikawa**	**7.79**	**1**	Pn	**Pn**	**15 46 40.7**	**+0.4**
	0.8nm,0.3s,baz=200,slow=14,SNR=21						
ASAJ				Sn	**Sn**	**15 48 03.5**	**-3.7**
	0.1nm,0.3s,baz=293,slow=32,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**27.12**

comp=Z,37nm,0.9s
WR0 Warramunga Arr 44.39 260 P P 15 59 53.1 -0.5
WR0 IAmb IAmb 15 59 54.5
comp=Z,38nm,1.4s
WB0 Warramunga Arr 44.55 260 P P 15 59 54.1 -0.8
WB0 IAmb IAmb 15 59 55.4
comp=Z,31nm,0.8s
WB2 Warramunga Arr 44.57 260 P P 15 59 54.5 -0.4
WRAB Tennant Creek 44.57 260 P P 15 59 54.5 -0.5
WRAB IAmb IAmb 15 59 55.6
comp=Z,36nm,1.1s
WRA Warramunga Arr 44.58 260 P P 15 59 54.7 -0.4
comp=Z,24nm,0.6s,baz=95,slow=7.1,SNR=663
WRA PcP **PcP 16 01 24.3 -0.5**
comp=Z,1.6nm,0.4s,baz=95,slow=2.8,SNR=4.3
WRA S **S 16 05 43.3 -5.3**
comp=Z,0.8nm,0.8s,baz=99,slow=13,SNR=3.3
WRA Warramunga Arr 44.58 260 P P 15 59 54.0 -1.0
AS31 Alice Springs 44.72 254 P P 15 59 56.1 0.0
AS31 IAmb IAmb 15 59 57.6
comp=Z,20nm,0.5s
ASAR Alice Springs 44.72 254 P P 15 59 56.4 +0.3
comp=Z,84nm,0.7s,baz=87,slow=8.7,SNR=1285
ASAR PcP **PcP 16 01 24.6 -0.6**
comp=Z,3.8nm,0.5s,baz=104,slow=3.8,SNR=7.7
ASAR S **S 16 05 47.6 -2.9**
comp=Z,1.9nm,0.9s,baz=89,slow=15,SNR=12
ASAR Alice Springs 44.72 254 P P 15 59 55.8 -0.4
KDU Kakadu 47.54 269 P P 16 00 17.3 -0.2
baz=48,SNR=18
GUMO Guam 47.99 309 P P 16 00 21.7 +0.9
MTN Manton Dam 48.78 269 P P 16 00 26.1 -0.5
baz=49,SNR=16
MTN Manton Dam 48.78 269 P P 16 00 26.1 -0.5
MTN IAmb IAmb 16 00 26.9
comp=Z,26nm,0.8s
WRKA Warakurna 49.77 252 P P 16 00 33.8 0.0
baz=50,SNR=268
FORT Forrest 49.91 245 P P 16 00 34.3 -0.4
baz=50,SNR=35
FORT Forrest 49.91 245 P P 16 00 34.1 -0.6
KNRA Kununurra 50.45 264 P P 16 00 38.7 -0.2
baz=51,SNR=34
KNRA Kununurra 50.45 264 P P 16 00 38.4 -0.4
KNRA IAmb IAmb 16 00 39.6
comp=Z,24nm,0.7s
FAKI Fak Fak 50.60 281 P P 16 00 39.8 -0.2
FAKI IAmb IAmb 16 00 55.2
comp=Z,34nm,1.1s
FITZ Fitzroy Crossi 52.98 261 P P 16 00 57.1 +0.1
baz=53,SNR=11
FITZ Fitzroy Crossi 52.98 261 P P 16 00 56.9 -0.1
KMBL Kambalda 55.21 244 P P 16 01 11.8 -0.6
baz=55,SNR=6.6
SOEI Soe 56.05 270 P P 16 01 19.1 +0.5
comp=Z,74nm,0.8s
SOEI Soe 56.05 270 P P 16 01 19.8 +1.1
SOEI IAmb IAmb 16 01 20.9
comp=Z,46nm,0.7s
SANI Sanana 56.76 280 P P 16 01 23.5 +0.2
comp=Z,27nm,1.0s
PSA00 Pilbara Seismi 57.84 256 P P 16 01 29.9 -0.7
PSA00 IAmb IAmb 16 01 30.9
comp=Z,28nm,1.0s
PSA00 Pilbara Seismi 57.84 256 P P 16 01 29.0 -1.6
PSA00 IAmb IAmb 16 01 30.1
comp=Z,13nm,0.7s
MMRI Maumere 58.28 271 P P 16 01 33.0 -0.6
MMRI IAmb IAmb 16 01 51.7
comp=Z,49nm,1.2s
MEEK Meekatharra 58.35 249 P P 16 01 33.2 -0.7
baz=58,SNR=15
KLBR Kellerberrin 58.72 244 P P 16 01 35.7 -0.7
baz=59,SNR=15
EDFI Ende, Flores 58.77 271 P P 16 01 36.7 -0.4
comp=Z,16nm,0.8s
NWAO Narrogin (SRO) 59.10 242 P P 16 01 38.5 -0.3
baz=59,SNR=4.3
NWAO Narrogin (SRO) 59.10 242 P P 16 01 38.2 -0.7
NWAO IAmb IAmb 16 01 39.5
comp=Z,42nm,1.4s
NWAO Narrogin (SRO) 59.10 242 P P 16 01 38.2 -0.7
NWAO IAmb IAmb 16 01 39.5
comp=Z,34nm,1.4s
BLDU Ballidu 59.68 245 P P 16 01 42.1 -0.6
baz=60,SNR=18
MUN Mundaring 60.02 243 P P 16 01 45.0 0.0
baz=60,SNR=5.5
VNDA Vanda 60.24 185 P P 16 01 46.8 +1.2
comp=Z,1.9nm,0.6s,baz=357,slow=7.5,SNR=13
VNDA Vanda 60.24 185 P P 16 01 46.3 +0.7
MORW Morawa 60.38 246 P P 16 01 46.9 -0.5
baz=60,SNR=5.7
MORW Morawa 60.38 246 P P 16 01 46.5 -0.9
MORW IAmb IAmb 16 02 12.7
comp=Z,30nm,1.4s
GIRL Giralia 62.82 253 P P 16 02 04.3 +1.0
baz=63,SNR=4.5
GIRL Giralia 62.82 253 P P 16 02 04.0 +0.7
MPSI Mapaga 63.29 280 P P 16 02 06.4 -0.1
comp=Z,17nm,0.9s
CASY Casey 65.95 205 P P 16 02 22.4 +0.2
CASY IAmb IAmb 16 02 35.9
comp=Z,18nm,1.1s
JAGI Jajag, Banyuwa 66.02 269 P P 16 02 21.9 -1.7
JGF Kuroka 67.89 322 P P 16 02 34.6 0.0
MJAR Matsushiro Arr 68.06 323 P P 16 02 35.5 -0.1
comp=Z,4.2nm,0.7s,baz=150,slow=6.2,SNR=16
MJAR Matsushiro Arr 68.06 323 P P 16 02 35.1 -0.5
MAJO Matsushiro 68.06 323 P P 16 02 35.3 -0.4
MAT Matsushiro 68.06 323 P P 16 02 35.3 -0.3
KKM Kota Kinabalu 68.77 284 P P 16 02 40.3 -0.2
KKM IAmb IAmb 16 03 07.0
comp=Z,22nm,1.1s
JSD Sado 69.09 325 P P 16 02 41.6 -0.2
JSD IAmb IAmb 16 02 42.9
comp=Z,7.1nm,0.7s
AMKA Amchitka 69.22 358 P P 16 02 41.5 -0.6
UGM Wanagama 69.62 268 P P 16 02 45.2 -0.3
KIWB Kanaga Island 69.67 1 P P 16 02 47.1 +2.2
ADK Adak 69.71 1 P P 16 02 44.2 -0.9
JHS Saijyo 70.04 319 P P 16 02 48.0 +0.5
JHS IAmb IAmb 16 02 49.1
comp=Z,8.2nm,0.7s
ATKA Atka Island 70.11 3 P P 16 02 46.2 -1.3
NIKH Nikolski High 71.27 6 P P 16 02 53.2 -1.1
JKA Kamikawa-asahi 71.44 331 P P 16 02 56.7 +1.2
JKA IAmb IAmb 16 02 57.4
comp=Z,28nm,1.4s
YULB Yu-li 71.86 303 P P 16 02 57.0 -1.4
YULB IAmb IAmb 16 03 19.1
comp=Z,20nm,1.2s
QSPA South Pole Qui 71.94 180 P P 16 02 58.4 +0.1
QSPA IAmb IAmb 16 02 59.7
comp=Z,16nm,0.8s
SSLB Suanglung 72.33 303 P P 16 02 59.6 -1.5
SSLB IAmb IAmb 16 03 00.9
comp=Z,24nm,1.2s
TPUB Ta-pu 72.35 303 P P 16 03 00.2 -1.0
UNV Unalaska Valle 72.39 7 P P 16 02 59.6 -1.1
UNV IAmb IAmb 16 03 26.9
comp=Z,24nm,1.1s
KSM Kuching 72.69 277 P P 16 03 03.8 +0.4
KSM IAmb IAmb 16 03 04.8
comp=Z,19nm,0.8s
PEA0B Petropavlovsk- 73.87 345 P P 16 03 08.9 -0.3
PEA0B IAmb IAmb 16 03 09.9
comp=Z,9.9nm,0.8s
PETK Petropavlovsk- 73.87 345 P P 16 03 08.9 -0.3
comp=Z,7.5nm,0.6s,baz=112,slow=7.4,SNR=37
KSRS Korea Array 74.84 318 P P 16 03 14.4 -0.5
comp=Z,0.6nm,0.8s,baz=126,slow=6.2,SNR=4.5
SII Sitkinak Islan 77.12 13 P P 16 03 27.0 -0.1
KMRM Mail Ridge 77.18 40 P P 16 03 28.5 +0.6
KMRM IAmb IAmb 16 03 30.2
comp=Z,16nm,0.9s
SPX San Pedro Mart 77.72 51 P P 16 03 31.6 +0.2
KRMB Red Mountain 77.85 39 P P 16 03 32.8 +1.3
KRMB IAmb IAmb 16 03 33.8
comp=Z,17nm,1.4s
ESJX Sierra Juarez 77.85 50 P P 16 03 32.0 +0.1
OHAK Old Harbor 77.93 14 P P 16 03 31.2 -0.1
OHAK IAmb IAmb 16 03 46.0
comp=Z,44nm,1.3s
ISA Isabella, Lake 77.97 46 P P 16 03 33.2 +1.0

CMB Columbia Colle 78.00 43 P P 16 03 32.6 +0.3
NJ2 Nanjing 78.05 310 *e*P **P 16 03 34.0 +1.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
WDC Whiskeytown Da 78.11 40 P P 16 03 32.8 0.0
AFDM Forest Hills D 78.14 42 P P 16 03 33.4 +0.3
ORV Oroville 78.15 41 P P 16 03 33.8 +0.7
KDAK Kodiak Island 78.60 14 P P 16 03 34.8 -0.1
KDAK IAmb IAmb 16 03 58.2
comp=Z,44nm,1.4s
MDPB Devils Postpil 78.63 44 P P 16 03 36.2 +0.2
OMMB Old Mammoth Mi 78.67 44 P P 16 03 36.4 +0.1
YBH Yreka Blue Hor 78.69 39 P P 16 03 37.1 +1.1
comp=Z,5.4nm,0.6s,baz=198,slow=1.2,SNR=14
YBH Yreka Blue Hor 78.69 39 P P 16 03 36.8 +0.8
WAKR Walker 78.88 43 P P 16 03 37.9 +0.7
HUMO Hull Mountain 79.07 38 P P 16 03 38.5 +0.6
HUMO IAmb IAmb 16 03 40.0
comp=Z,13nm,1.3s
PNTR Pine Nut 79.10 43 P P 16 03 38.9 +0.5
PNTR IAmb IAmb 16 03 40.2
comp=Z,12nm,0.8s
YERR Yerington 79.27 43 P P 16 03 39.7 +0.5
YERR IAmb IAmb 16 03 40.4
comp=Z,7.3nm,0.7s
LHV Little Huntoon 79.35 44 P P 16 03 40.4 +1.0
PIX Pinacate 79.48 52 P P 16 03 39.8 -0.4
RYN Ryan 79.55 44 P P 16 03 41.2 +0.5
NVAR Mina Array Bea 79.58 44 P P 16 03 41.6 +0.7
comp=Z,4.1nm,0.7s,baz=225,slow=8.7,SNR=35
NVAR Mina Array Bea 79.58 44 P P 16 03 41.1 +0.2
PAHR Pah Rah Range 79.58 42 P P 16 03 41.1 +0.3
NV11 Mina Array Sit 79.68 44 P P 16 03 41.8 +0.4
KVN Kaiserville 80.05 43 P P 16 03 43.5 +0.2
TPH Tonopah 80.11 45 P P 16 03 43.8 +0.2
CN2 Changchun 80.17 322 *e*P **P 16 03 47.0 +3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
TPNV Topopah Spring 80.17 46 P P 16 03 44.4 +0.5
MOD Modoc Plateau 80.25 40 P P 16 03 44.5 +0.3
MOD IAmb IAmb 16 03 45.8
comp=Z,8.9nm,0.8s
K05A Summer Lake 80.37 39 P P 16 03 45.3 +0.5
K05A IAmb IAmb 16 03 46.9
comp=Z,14nm,1.0s
H04A Detroit Lake 80.76 37 P P 16 03 46.7 0.0
H04A IAmb IAmb 16 03 47.3
comp=Z,7.0nm,0.6s
PINE Pine Mountain 80.96 38 P P 16 03 48.5 +0.6
PINE IAmb IAmb 16 03 49.9
comp=Z,14nm,0.8s
PRN Pahroc Range 81.23 46 P P 16 03 49.8 +0.5
PRN IAmb IAmb 16 03 51.4
comp=Z,6.7nm,0.8s
NLWA Neilton Lookou 81.49 34 P P 16 03 50.8 +0.5
WVOR Wild Horse Val 81.57 40 P P 16 03 51.2 +0.2
WVOR IAmb IAmb 16 03 52.8
comp=Z,10nm,1.1s
BELA Belgrano 2 81.97 173 P P 16 03 51.6 -0.7
I07A Izee 81.97 39 P P 16 03 53.5 +0.5
I07A IAmb IAmb 16 03 54.7
comp=Z,7.9nm,0.8s
J08A Circle Bar Ran 82.19 40 P P 16 03 54.0 0.0
J08A IAmb IAmb 16 03 55.7
comp=Z,13nm,1.2s
LCMT Little Creek M 82.28 47 P P 16 03 55.1 +0.4
X16A Lo Mia Camp, P 82.33 50 P P 16 03 55.6 +0.6
BBB Bella Bella 82.50 29 P P 16 03 55.7 +0.5
comp=Z,4.5nm,0.7s,baz=349,slow=2.7,SNR=4.3
BBB Bella Bella 82.50 29 IAmb IAmb 16 03 56.4
comp=Z,8.5nm,0.9s
KNB Kanab 82.58 47 P P 16 03 56.9 +0.6
PSUT Pine Spring 82.61 46 P P 16 03 56.8 +0.3
U15A North Rim 82.67 48 P P 16 03 57.6 +0.7
U15A IAmb IAmb 16 03 59.0
comp=Z,7.6nm,0.8s
TTA Tatalina 82.67 10 P P 16 03 55.7 -0.2
TTA IAmb IAmb 16 03 57.0
comp=Z,11nm,1.1s
G08A Pilot Rock 82.98 38 P P 16 03 58.0 +0.1
GHO Glory Hole Cre 83.01 14 P P 16 03 57.0 -0.6
SCM Sheep Creek Mo 83.43 14 P P 16 03 59.2 -0.6
MAW Mawson 83.67 200 P P 16 04 00.9 +0.1
comp=Z,6.0nm,0.7s,baz=127,slow=5.1,SNR=21
MAW Mawson 83.67 200 P P 16 04 01.0 +0.1
baz=84,SNR=14
MAW Mawson 83.67 200 P P 16 04 00.8 -0.1
BMO Blue Mountains 83.71 39 P P 16 04 01.4 -0.2
MFID Camas Ranch 83.84 41 P P 16 04 02.3 +0.1
D08A Wollman Farm, 84.00 36 P P 16 04 03.1 +0.3
D08A IAmb IAmb 16 04 04.3
comp=Z,7.6nm,0.9s
KTH Kantishna Hill 84.18 12 P P 16 04 01.6 -1.8
KTH IAmb IAmb 16 04 02.7
comp=Z,8.8nm,0.9s
F10A Beach Ranch, E 84.37 38 P P 16 04 04.4 -0.4
F10A IAmb IAmb 16 04 05.8
comp=Z,8.4nm,0.8s
RND Reindeer 84.47 13 P P 16 04 03.7 -1.1
RND IAmb IAmb 16 04 05.1
comp=Z,15nm,0.8s
B08A Colville Reser 84.51 35 P P 16 04 04.7 -0.6
B08A IAmb IAmb 16 04 06.0
comp=Z,6.0nm,0.8s
MCK McKinley 84.74 13 P P 16 04 05.1 -1.0
MCK IAmb IAmb 16 04 06.1
comp=Z,15nm,1.1s
HLID Hailey 84.79 41 P P 16 04 07.3 +0.2
SRU San Rafael Swe 85.17 46 P P 16 04 09.1 +0.2
WRH Wood River Hil 85.57 13 P P 16 04 08.7 -1.3
WRH IAmb IAmb 16 04 10.7
comp=Z,21nm,1.3s
HDA Harding Lake 85.76 13 P P 16 04 09.6 -1.3
HDA IAmb IAmb 16 04 10.8
comp=Z,5.6nm,0.6s
DOT Dot Lake 85.76 15 P P 16 04 09.8 -1.3
DOT IAmb IAmb 16 04 11.4
comp=Z,10nm,1.1s
CCB Clear Creek Bu 85.78 13 P P 16 04 09.4 -1.6
CCB IAmb IAmb 16 04 10.2
comp=Z,7.3nm,0.6s
MDM Murphy Dome 85.97 12 P P 16 04 10.4 -1.5
MDM IAmb IAmb 16 04 11.6
comp=Z,11nm,1.1s
COLA College 85.97 13 P P 16 04 10.8 -1.1
COLA IAmb IAmb 16 04 11.6
comp=Z,12nm,0.7s
DLBC Dease Lake 86.02 23 P P 16 04 12.9 +0.5
comp=Z,1.1nm,0.6s,baz=226,slow=12,SNR=4.0
IL31 86.09 13 P P 16 04 11.2 -1.2
IL31 IAmb IAmb 16 04 11.8
comp=Z,5.3nm,0.9s
ILAR Eielson Array 86.09 13 P P 16 04 11.2 -1.3
comp=Z,3.2nm,0.7s,baz=232,slow=5.8,SNR=35
ILAR Eielson Array 86.09 13 P P 16 04 10.9 -1.6
TX31 Lajitas Ar. Si 86.12 58 P P 16 04 14.5 +0.9
TX31 IAmb IAmb 16 04 16.1
comp=Z,21nm,0.9s
TX32 Lajitas Array 86.12 58 P P 16 04 14.7 +1.1
TX32 IAmb IAmb 16 04 16.1
comp=Z,7.1nm,0.9s
TXAR Lajitas Array 86.12 58 P P 16 04 15.1 +1.5
comp=Z,3.9nm,0.7s,baz=217,slow=6.1,SNR=28
TXAR Lajitas Array 86.12 58 P P 16 04 14.0 +0.4
MCMT McKenzie Canyo 86.40 40 P P 16 04 15.1 +0.3
DLMT Dillon 86.82 40 P P 16 04 16.6 0.0
REDW Red Top Meadow 86.95 42 P P 16 04 17.4 +0.1
REDW IAmb IAmb 16 04 19.0
comp=Z,7.9nm,1.1s
IMW Indian Meadow 87.15 42 P P 16 04 18.7 +0.4
IMW IAmb IAmb 16 04 20.1
comp=Z,5.9nm,0.9s
HHC Hu-ho-hao-te 87.40 314 *e*P **P 16 04 20.8 +1.4**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,180nm,6.9s
EGAK Eagle 87.41 15 P P 16 04 18.1 -0.6
EGAK IAmb IAmb 16 04 19.2
comp=Z,4.8nm,0.7s
YHL Hebgen Lake 87.45 41 P P 16 04 20.2 +0.5
BW06 Boulder Array 87.51 43 P P 16 04 19.4 -0.6
PD31 Pinedale Array 87.51 43 P P 16 04 19.5 -0.5
PDAR Pinedale Array 87.51 43 P P 16 04 20.2 +0.3

comp=Z,2.4nm,0.6s,baz=228,slow=2.8,SNR=17
YNE Yellowstone No 88.26 41 P P 16 04 24.1 +0.6
CMAR Chiang Mai Arr 88.94 290 P P 16 04 27.9 +1.1
comp=Z,1.2nm,0.8s,baz=126,slow=3.4,SNR=6.8
SYO Syowa Base 88.95 193⇑*e*P **P 16 04 23.4 -2.5**
SNAA Sanae 90.40 179 P P 16 04 31.7 -1.0
SNAA Sanae 90.40 179 P P 16 04 31.8 -1.0
SNAA IAmb IAmb 16 04 32.7
comp=Z,11nm,1.4s
VNA3 Neumayer Olymp 90.54 176 P P 16 04 33.0 -0.3
VNA2 Neumayer--Watz 90.98 177 P P 16 04 34.9 -0.4
LZH Lanzhou 91.00 308 *e*P **P 16 04 37.0 +0.8**
LZH pP pP 16 06 51.3 +5.3
LZH PP **PP 16 08 27.3 +3.3**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,72nm,4.8s
VNA1 Neumayer--Stat 91.21 177 P P 16 04 36.1 -0.2
ZALV Zalesovo Beam 108.38 322 PKiKP **PKiKP 16 09 54.1 -1.4**
comp=Z,0.4nm,0.4s,baz=133,slow=8.3,SNR=2.2
MKAR Makanchi Array 109.26 314 PKiKP **PKiKP 16 09 55.9 -1.5**
comp=Z,0.3nm,0.5s,baz=100,slow=1.1,SNR=7.9
ARCES ARCESS Array B 126.51 350 PKP **PKPdf 16 10 28.6 -1.2**
comp=Z,7.6nm,1.1s,baz=30,slow=2.9,SNR=6.6
FINES FINESS Array B 133.38 344 PKP **PKPdf 16 10 42.4 -0.6**
comp=Z,0.6nm,0.5s,baz=11,slow=3.9,SNR=5.6
FINES SKPbc **SKPbc 16 13 16.8 +0.8**
comp=Z,2.9nm,0.9s,baz=30,slow=5.0,SNR=4.4
AKASG Malin Array Be 140.73 332 PKnKP PKPpre 16 10 49.8
comp=Z,0.5nm,0.3s,baz=42,slow=4.0,SNR=4.1
EKA Eskdalemuir Ar 142.67 4 PKhKP **PKPdf 16 10 56.0 -4.2**
comp=Z,0.5nm,0.4s,baz=69,slow=31,SNR=3.9
SORM Soroca 142.96 330 ⇑P **PKPdf 16 10 58.3 -2.5**
BSEG Bad Segeberg 143.61 351 *e*PKPbc PKPab 16 11 00.4 -0.5
baz=17,slow=2.8
BUR08 Bucovina Ar. S 144.77 332 PKPbc **PKPab 16 11 05.3 -0.4**
BURAR Bucovina Array 144.78 332 ⇓P **PKPab 16 11 05.4 -0.4**
BURAR Bucovina Array 144.78 332 PKPbc PKPbc 16 11 05.1 +0.3
BRTR Keskin Array B 144.91 315 PKP **PKPdf 16 11 04.4 -0.4**
comp=Z,1.0nm,0.6s,baz=131,slow=3.5,SNR=6.5
TESR Tescani 144.92 329 ⇑P PKPbc 16 11 05.4 +0.2
KOLS Kolonicke sedl 144.98 336 *e*PKP **PKPdf 16 11 04.5 +0.1**
CLZ Clausthal 145.63 350 *e*PKPbc **PKPbc 16 11 07.0 -0.1**
baz=17,slow=2.8
CLL Collm 145.66 347⇑*i*PKPbc **PKPbc 16 11 06.7 -0.4**
comp=Z,13nm,0.6s
CLL ⇓*i*PKPab **PKPab 16 11 08.3 -0.6**
comp=Z,7.0nm,0.7s
CLL Collm 145.66 347 *e*PKPbc **PKPbc 16 11 06.7 -0.4**
baz=17,slow=2.8
CLL Collm 145.66 347 PKPbc 16 11 06.4 -0.7
DPC Dobruska-Polom 145.74 343 *e*PKP **PKPbc 16 11 07.6 +0.1**
DPC *ex* x 16 11 09.8
KRLC Kraliky 145.85 342 *e*PKP **PKPbc 16 11 07.7 -0.1**
BRG Berggiesshubel 145.86 346 *e*PKP **PKPbc 16 11 07.1 -0.6**
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 145.86 346 *e*PKPbc **PKPbc 16 11 07.4 -0.3**
baz=17,slow=2.8
DOPR Dopca 145.92 330 ⇑P **PKPbc 16 11 08.2 +0.1**
FBE Freiberg 145.94 347 *e*PKPbc **PKPbc 16 11 08.0 0.0**
baz=17,slow=2.8
GTTG Gottingen 145.98 351 *e*PKPbc **PKPbc 16 11 08.1 +0.1**
baz=17,slow=2.8
NEUB Neuenburg 146.00 349 *e*PKPbc **PKPbc 16 11 08.0 -0.1**
baz=17,slow=2.8
PVCC Panska Ves 146.03 345 *e*PKP **PKPbc 16 11 08.2 0.0**
MMAI Mount Meron Ar 146.24 303 PKPbc **PKPbc 16 11 08.9 -0.5**
comp=Z,3.0nm,0.5s,baz=72,slow=6.4,SNR=6.3
VOIR 146.47 329 ⇓P **PKPbc 16 11 09.0 -0.7**
PRU Pruhonice 146.53 345 *e*PKP **PKPbc 16 11 09.4 -0.2**
VYHS Vyhne 146.60 339 *e*PKP **PKPbc 16 11 10.2 +0.3**
VYHS *e* 16 11 13.1
PLN Plauen 146.61 348 *e*PKPbc **PKPbc 16 11 09.5 -0.3**
baz=17,slow=2.8
GUNZ Gunzen 146.69 347 *e*PKPbc **PKPbc 16 11 10.2 +0.2**
baz=17,slow=2.8
ARR Arges 146.72 330 ⇑P **PKPbc 16 11 11.2 +0.9**
MANZ Manzenberg 147.09 347 *e*PKPbc **PKPbc 16 11 11.1 0.0**
baz=17,slow=2.8
MODS Modra-Piesok 147.22 341 *e*PKP **PKPbc 16 11 11.1 -0.4**
TNS Taunus Mts 147.49 352 *e*PKPbc **PKPbc 16 11 12.3 +0.1**
baz=17,slow=2.8
KHC Kasperske Hory 147.57 345 *e*PKP **PKPbc 16 11 12.2 -0.2**
KHC *ex* x 16 11 16.9
KHC Kasperske Hory 147.57 345 PKPbc 16 11 11.9 -0.5
GEC2 GERESS Array S 147.80 345 *e*PKPbc **PKPbc 16 11 12.7 -0.4**
baz=17,slow=2.8
GERES GERESS Array B 147.80 345 PKPbc **PKPbc 16 11 12.5 -0.6**
comp=Z,2.0nm,0.6s,baz=27,slow=3.3,SNR=18
GERES GERESS Array B 147.80 345 PKPbc 16 11 12.4 -0.7
BZS Buzias 147.90 333 ⇓P **PKPbc 16 11 12.9 -0.5**
HERR Herculane 148.12 331 ⇑P **PKPbc 16 11 12.6 -1.2**
WTTA Wattenberg 149.77 346 *e*PKPbc **PKPbc 16 11 17.3 -0.7**
baz=17,slow=2.8
DIVS Divibare 149.81 333 PKPbc 16 11 17.4 -0.7
PRED Cave del Predi 150.06 343 PKPab 16 11 25.7 -1.4
GBAS Gorenja Brezov 150.27 342 *i* PKPbc **PKPbc 16 11 18.2 -0.8**
CEY Cerknica 150.45 342 *i* PKPbc **PKPbc 16 11 18.8 -0.6**
DAVOX Davos/Dischmat 150.60 348 PKPbc **PKPbc 16 11 19.7 -0.3**
FUORN Ofenpass-Fuorn 150.68 348 PKPbc 16 11 19.4 -0.8
FUORN PKPab **PKPab 16 11 29.2 -0.7**

IDC ***15*** *15:57:45.4±7.5,2.45N±93.97W,h0km,mb3.8/4,mb1 4.3/4, mb1mx3.8/49,mbtmp3.8/4,MS3.6/12,Ms1 3.6/12, ms1mx3.4/33,Error ellipse: s-maj=248.0km s-min=142.4km az=71.0*

NEIC ***15*** *15:57:47.8±1.4,2.6N±0.2×94.0W±0.3,h10km±2km, mb4.3/19,Error ellipse: s-maj=51.8km s-min=28.5km az=259.0*

ISC 15 15:57:47.9±5.4,2.6N±0.7×94.0W±0.3,h10km,n45, σ0.9 79/26,mb4.1/14,MS3.6/11,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JTS	**Las Juntas de**	**11.79**	**49**	LR	LR	LR	16 04 03.6	
	comp=Z,170nm,19.1s,baz=312,slow=32							
ZAIG	**Zacatecas**	**21.72**	**338**	P		**P**	**16 02 38.7**	**-1.1**
ZAIG				IAmb		IAmb	16 02 41.0	
	comp=Z,13nm,1.4s							
SDV	**Santo Domingo**	**24.05**	**74**	LR		LR	16 11 39.7	
	comp=Z,156nm,21.8s,baz=238,slow=35							
TXAR	**Lajitas Array**	**28.14**	**342**	P		**P**	**16 03 40.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=164,slow=12,SNR=6.7							
TXAR				LR		LR	16 13 37.9	
	comp=Z,126nm,21.9s,baz=0.0,slow=34							
RPN	**Rapa Nui**	**33.05**	**206**	LR		LR	16 14 50.4	
	comp=Z,51nm,18.0s,baz=164,slow=31							
TKL	**Tuckaleechee C**	**34.24**	**15**	LR		LR	16 17 55.1	
	comp=Z,140nm,21.7s,baz=205,slow=35							
LVC	**Limon Verde**	**35.02**	**137**	LR		LR	16 14 33.0	
	comp=Z,50nm,21.0s,baz=296,slow=29							
WCI	**Wyandotte Cave**	**36.16**	**10**	P		**P**	**16 04 52.5**	**+1.9**
S51A	**Beattyville**	**36.16**	**14**	P		**P**	**16 04 51.3**	**+0.7**
S54A	**Dingess, Beckl**	**36.92**	**17**	P		**P**	**16 04 56.6**	**-0.5**
S54A				IAmb		IAmb	16 05 05.5	
	comp=Z,7.0nm,0.8s							
PFO	**Pinyon Flats O**	**37.34**	**328**	LR		LR	16 17 17.6	
	comp=Z,112nm,20.4s,baz=212,slow=31							
U15A	**North Rim**	**37.68**	**336**	P		**P**	**16 05 03.6**	**-0.3**
U15A				IAmb		IAmb	16 05 05.7	
	comp=Z,4.0nm,1.2s							
SFIN	**Lafayette**	**38.13**	**9**	P		**P**	**16 05 07.2**	**-0.1**
H03N2	**Juan Fernandez**	**38.55**	**160**	T		T	16 46 56.3	
	baz=334,slow=77,SNR=36							
H03N1	**Juan Fernandez**	**38.56**	**160**	T		T	16 46 54.5	
	baz=334,slow=77,SNR=39							
H03N3	**Juan Fernandez**	**38.57**	**160**	T		T	16 46 53.9	
	baz=334,slow=77,SNR=24							
H03S3	**Juan Fernandez**	**38.91**	**160**	T		T	16 47 24.4	
	baz=182,slow=74,SNR=15							
H03S2	**Juan Fernandez**	**38.92**	**160**	T		T	16 47 22.5	
	baz=182,slow=74,SNR=16							
H03S1	**Juan Fernandez**	**38.93**	**160**	T		T	16 47 24.1	
	baz=182,slow=74,SNR=15							
N51A	**Ashland**	**39.57**	**14**	P		**P**	**16 05 17.5**	**-1.9**
N51A				IAmb		IAmb	16 05 19.8	
	comp=Z,9.7nm,0.8s							
PSUT	**Pine Spring**	**40.12**	**336**	P		**P**	**16 05 23.5**	**-0.7**
DUG	**Dugway, Tooele**	**41.14**	**338**	P		**P**	**16 05 33.0**	**+0.4**
DUG				IAmb		IAmb	16 05 36.1	
	comp=Z,9.1nm,1.4s							
NV11	**Mina Array Sit**	**41.96**	**331**	P		**P**	**16 05 39.2**	**-0.2**

NVAR Mina Array Bea 42.03 331 P P 16 05 40.1 +0.1
comp=Z,1.3nm,0.7s,baz=152,slow=9.1,SNR=10.0
NVAR Mina Array Bea 42.03 331 P P 16 05 39.4 -0.6
BW06 Boulder Array 42.35 343 P P 16 05 42.9 +0.3
PD31 Pinedale Array 42.35 343 P P 16 05 43.2 +0.7
PDAR Pinedale Array 42.35 343 P P 16 05 42.6 0.0
comp=Z,1.4nm,0.8s,baz=156,slow=8.1,SNR=4.5
PDAR LR LR 16 22 52.6
comp=Z,166nm,18.5s,baz=162,slow=36
KVN Kaiserville 42.43 332 P P 16 05 42.9 -0.3
ELK Elko 42.56 336 P P 16 05 44.7 +0.4
ELK IAmb IAmb 16 05 45.8
comp=Z,3.7nm,1.1s
PNTR Pine Nut 43.18 331 P P 16 05 48.9 -0.4
PNTR IAmb IAmb 16 05 50.2
comp=Z,4.1nm,0.7s
FXWY Fox Creek 43.59 342 P P 16 05 52.7 +0.1
FXWY IAmb IAmb 16 05 54.4
comp=Z,3.3nm,1.0s
HRY Holter Researc 46.61 343 P P 16 06 16.4 -0.1
K05A Summer Lake 46.62 333 P P 16 06 16.4 -0.2
K05A IAmb IAmb 16 06 16.8
comp=Z,4.7nm,1.2s
MOQ Mont Orford 46.63 21 P P 16 06 15.6 -0.9
PINE Pine Mountain 47.48 334 P P 16 06 22.9 -0.5
PINE IAmb IAmb 16 06 24.1
comp=Z,4.5nm,1.2s
PLCA Paso Flores 48.14 156 LR LR 16 22 39.9
comp=Z,76nm,19.9s,baz=341,slow=31
BDFB Brasilia 48.94 113 LR LR 16 25 49.7
comp=Z,56nm,18.5s,baz=144,slow=34
FCC Fort Churchill 56.02 360 P P 16 07 27.9 +1.4
YKA Yellowknife Ar 61.71 349 LR LR 16 33 17.9
comp=Z,44nm,20.5s,baz=0.0,slow=34
ILAR Eielson Array 72.61 339 P P 16 09 15.3 0.0
comp=Z,0.9nm,0.9s,baz=142,slow=5.0,SNR=8.4
RAO Raoul Island 85.96 241 LR LR 16 42 04.7
comp=Z,41nm,21.0s,baz=119,slow=31
H11S2 WAKE ISLAND Hy 98.00 289 T T 17 58 43.7
baz=85,slow=74,SNR=7.5
H11S1 WAKE ISLAND Hy 98.01 289 T T 17 58 50.9
baz=85,slow=74,SNR=5.1
H11S3 WAKE ISLAND Hy 98.02 289 T T 17 58 50.2
baz=85,slow=74,SNR=5.3

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*GUC **15** 15:58:32.0±0.8, 21°.32S×69°.83W, h54km±2km, ML3.8*
*IDC **15** 15:58:40.9±3.2, 21°.04S×69°.26W, h130km±28km, mb3.6/3, mb1 3.4/5, mb1mx3.2/43, mbtmp3.8/5, MS3.1/3, Ms1 3.1/3, ms1mx2.9/20, Error ellipse: s-maj=48.3km s-min=26.6km az=109.0*
ISC 15 15:58:30.8±0.8, 21°.32S±0°.02×69°.89W±0°.05, h55km±6km, n41, σ1°41/46, mb4.0/3, 5C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**0.01**	**233**	*e*P	**Pn**	**15 58 40.0**	**+0.8**
PB02				*i* S	**Sn**	**15 58 45.9**	**+0.7**
PB07	**IPOC Station P**	**0.41**	**180**	⇑*i*P	**Pn**	**15 58 42.2**	**+0.6**
PB07				*i* S	**Sn**	**15 58 50.3**	**+0.8**
PB07				IAML		15 58 50.9	
comp=E,10μm,0.3s							
PB01	**IPOC Station P**	**0.46**	**54**	*i* P	**Pn**	**15 58 42.0**	**-0.1**
PB01				*i* S	**Sn**	**15 58 50.0**	**-0.2**
PB01				IAML		15 58 50.4	
comp=E,27μm,0.1s							
PATCX	**Punta Patache**	**0.55**	**333**	⇑*i*P	**Pn**	**15 58 43.5**	**+0.4**
PATCX				*i* S	**Sn**	**15 58 52.9**	**+1.0**
PATCX				IAML		15 58 53.8	
comp=N,5μm,0.2s							
PB03	**IPOC Station P**	**0.74**	**170**	⇑*i*P	**Pn**	**15 58 46.0**	**+0.4**
PB03				*i* S	**Sn**	**15 58 56.5**	**+0.4**
PB03				IAML		15 58 57.7	
comp=E,6μm,0.2s							
PB09	**IPOC Station P**	**0.77**	**129**	⇓*i*P	**Pn**	**15 58 46.3**	**+0.5**
PB09				*i* S	**Sn**	**15 58 56.9**	**+0.1**
PB09				IAML		15 58 58.0	
comp=E,10μm,0.2s							
TA01	**Diego Aracena**	**0.79**	**340**	⇑*i*P	**Pn**	**15 58 46.1**	**+0.1**
TA01				*i* S	**Sn**	**15 58 57.8**	**+0.7**
PB04	**IPOC Station P**	**1.04**	**193**	⇑*i*P	**Pn**	**15 58 49.8**	**+0.4**
PB04				*i* S	**Sn**	**15 59 04.6**	**+1.4**
PB04				IAML		15 59 08.8	
comp=N,3μm,0.2s							
TA02	**Huaiquique**	**1.06**	**348**	*e*P	**Pn**	**15 58 50.6**	**+1.1**
TA02				*i* S	**Sn**	**15 59 03.9**	**+0.5**
TA02				IAML		15 59 06.8	
PB08	**IPOC Station P**	**1.35**	**31**	⇓*i*P	**Pn**	**15 58 54.3**	**+0.5**
PB08				*i* S	**Sn**	**15 59 11.9**	**+0.9**
PB08				IAML		15 59 14.9	
comp=E,3μm,0.1s							
PB06	**IPOC Station P**	**1.42**	**168**	*e*P	**Pn**	**15 58 54.8**	**+0.4**
PB06				IAML		15 59 18.0	
comp=E,2μm,0.1s							
PB05	**IPOC Station P**	**1.56**	**191**	*e*P	**Pn**	**15 58 56.9**	**+0.6**
PB05				*e*S	**Sn**	**15 59 17.4**	**+1.9**
PB05				IAML		15 59 23.7	
comp=E,2μm,0.5s							
PB11	**IPOC Station P**	**1.56**	**8**	⇓*i*P	**Pn**	**15 58 57.1**	**+0.7**
PB11				*e*S	**Sn**	**15 59 17.0**	**+1.4**
PB11				IAML		15 59 20.9	
comp=E,2μm,0.5s							
LVC	**Limon Verde**	**1.58**	**145**	⇓*e*P	**Pn**	**15 58 58.3**	**+1.5**
LVC				*e*S	**Sn**	**15 59 17.9**	**+1.5**
PSGC	**Pisagua**	**1.72**	**353**	⇓*i*P	**Pn**	**15 58 58.7**	**+0.2**
PSGC				*i* S	**Sn**	**15 59 21.1**	**+1.6**
PSGC				IAML		15 59 27.1	
comp=E,742nm,0.5s							
GO01	**Chusmiza**	**1.76**	**22**	*e*P	**Pn**	**15 58 59.6**	**+0.2**
GO01				*i* S	**Sn**	**15 59 22.3**	**+1.3**
GO01				IAML		15 59 24.6	
comp=N,4μm,0.2s							
PB15	**IPOC Station P**	**1.92**	**168**	*e*P	**Pn**	**15 59 02.3**	**+0.9**
PB15				*i* S	**Sn**	**15 59 28.1**	**+3.6**
MNMC	**Minye Minye**	**2.19**	**7**	*e*P	**Pn**	**15 59 06.1**	**+1.0**
MNMC				*e*S	**Sn**	**15 59 33.1**	**+1.9**
MNMC				IAML		15 59 42.4	
comp=N,2μm,0.6s							
PB10	**IPOC Station P**	**2.27**	**196**	IAML		15 59 42.9	
comp=E,501nm,0.6s							
PB12	**IPOC Station P**	**2.72**	**351**	*e*P	**Pn**	**15 59 12.1**	**-0.1**
PB12				*e*S	**Sn**	**15 59 43.6**	**-0.3**
PB12				IAML		16 00 00.4	
comp=N,463nm,0.5s							
PB16	**IPOC Station P**	**2.99**	**7**	*e*P	**Pn**	**15 59 17.8**	**+1.6**
PB16				*e*S	**Sn**	**15 59 53.9**	**+2.8**
PB16				IAML		16 00 13.6	
comp=N,227nm,0.6s							
LPAZ	**La Paz**	**5.27**	**19**	P	**Pn**	**15 59 52.0**	**+4.4**
comp=N,1.2nm,0.3s,baz=190,slow=7.1,SNR=23							
CPUP	**Villa Florida**	**12.53**	**116**	LR	LR	16 06 17.4	
comp=N,59nm,21.9s,baz=260,slow=38							
H03N1	**Juan Fernandez**	**14.49**	**212**	T	T	16 16 43.4	
baz=35,slow=72,SNR=26							
H03N2	**Juan Fernandez**	**14.49**	**212**	T	T	16 16 43.4	
baz=35,slow=72,SNR=51							
H03N3	**Juan Fernandez**	**14.50**	**212**	T	T	16 16 45.3	
baz=35,slow=72,SNR=31							
ATAH	**Atahualpa**	**16.32**	**329**	LR	LR	16 08 30.6	
comp=N,133nm,19.2s,baz=292,slow=36							
PLCA	**Paso Flores**	**19.37**	**182**	P	Pn	16 03 01.1	+7.5
comp=N,0.1nm,0.3s,baz=3.4,slow=18,SNR=1.7							
BDFB	**Brasilia**	**21.49**	**78**	P	**P**	**16 03 13.1**	**-2.2**
comp=N,2.3nm,0.6s,baz=235,slow=12,SNR=1.9							
MDP	**Montagnes des**	**31.23**	**35**	LR	LR	16 18 16.2	
comp=N,30nm,19.6s,baz=265,slow=38							
TORD	**Torodi Ar. Bea**	**78.15**	**71**	P	**P**	**16 10 22.6**	**-2.2**
comp=N,1.1nm,0.7s,baz=256,slow=5.0,SNR=5.4							
MAW	**Mawson**	**84.77**	**164**	P	**P**	**16 10 59.1**	**+0.3**
comp=N,0.8nm,0.6s,baz=233,slow=5.1,SNR=2.1							
H11S2	**WAKE ISLAND Hy**	**126.95**	**278**	T	T	18 36 53.7	
baz=103,slow=75,SNR=39							
H11S1	**WAKE ISLAND Hy**	**126.96**	**278**	T	T	18 37 00.3	
baz=103,slow=75,SNR=38							
H11S3	**WAKE ISLAND Hy**	**126.97**	**278**	T	T	18 37 00.1	
baz=103,slow=75,SNR=40							
H11N3	**WAKE ISLAND Hy**	**127.03**	**279**	T	T	18 37 11.2	
baz=103,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hy**	**127.04**	**279**	T	T	18 37 07.9	
baz=103,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**127.04**	**279**	T	T	18 37 16.0	
baz=103,slow=75,SNR=11							
WRA	**Warramunga Arr**	**132.64**	**212**	PKP	**PKiKP**	**16 17 40.5**	**-1.0**
comp=N,0.2nm,0.6s,baz=169,slow=1.8,SNR=1.6							
ZALV	**Zalesovo Beam**	**142.17**	**24**	PKP	**PKPdf**	**16 17 57.3**	**+0.6**
comp=N,0.5nm,0.5s,baz=317,slow=7.9,SNR=2.7							
MKAR	**Makanchi Array**	**146.01**	**35**	PKPbc	**PKPbc**	**16 18 04.0**	**-0.5**
comp=N,1.1nm,0.6s,baz=328,slow=4.0,SNR=15							

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*IDC **15** 16:09:26.1±1.7, 13°.52N×91°.54W, h0km, mb3.7/2, mb1 4.1/5, mb1mx3.7/48, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=32.3km s-min=26.9km az=160.0*
*UCR **15** 16:09:29.3±1.5, 13°.59N×91°.31W, h10km±10km, ML3.9, mb4.1(NEIC)*
*SNET **15** 16:09:29.2±1.4, 13°.58N×91°.32W, h11km±9km, ML4.1*
*NEIC **15** 16:09:32.3±2.4, 13°.65N±0°.07×91°.33W±0°.07, h49km±8km, mb4.1/24, Error ellipse: s-maj=12.5km s-min=7.6km az=46.0*
ISC 15 16:09:26.5±1.8, 13°.55N±0°.06×91°.32W±0°.05, h9km±10km, n93, σ1°24/106, mb4.1/15, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.04**	**339**	*e*P	**Pn**	**16 09 47.1**	**-0.1**
RTAL				*e*S	**Sn**	**16 10 01.0**	**-0.7**
RTAL	**Retalhuleu**	**1.04**	**339**	Pn	**Pb**	**16 09 46.7**	**+0.1**
RTAL				Sn	**Sn**	**16 10 01.1**	**-0.7**
IXG	**Ixpaco**	**1.05**	**54**	*e*P	**Pn**	**16 09 48.1**	**+0.6**
IXG	**Ixpaco**	**1.05**	**54**	*e*P	**Pn**	**16 09 48.1**	**+0.6**
NUBE	**Las Nubes**	**1.54**	**77**	⇑*e*P	**Pg**	**16 09 55.8**	**-0.2**
NUBE				*e*S	**Sg**	**16 10 16.3**	**+0.3**
NUBE	**Las Nubes**	**1.54**	**77**	⇑*e*P	**Pg**	**16 09 55.8**	**-0.2**
NUBE				*e*S	**Sg**	**16 10 16.3**	**+0.3**
RTR	**El Retiro**	**1.66**	**78**	*e*P	**Pg**	**16 09 58.1**	**-0.3**
RTR	**El Retiro**	**1.66**	**78**	*e*P	**Pg**	**16 09 58.1**	**-0.3**
APG	**El Apazote**	**1.67**	**30**	Pn	**Pg**	**16 09 58.6**	**+0.1**
29nm,0.3s,baz=286,slow=8.7,SNR=261							
APG				Sn	**Sg**	**16 10 22.9**	**+2.7**
49nm,0.3s,baz=62,slow=21,SNR=5.6							
CEVE	**Cerro Verde**	**1.67**	**80**	*e*P	**Pb**	**16 09 58.2**	**+0.7**
CEVE				*e*S	**Sg**	**16 10 21.7**	**+1.4**
CEVE				IAML		16 10 25.2	
comp=Z,2μm,0.2s							
CEVE	**Cerro Verde**	**1.67**	**80**	*e*P	**Pb**	**16 09 58.2**	**+0.7**
CEVE				*e*S	**Sg**	**16 10 21.7**	**+1.4**
CEVE				IAML		16 10 25.2	
comp=Z,2μm,0.2s							
SBLS	**San Blas**	**1.67**	**80**	*e*P	**Pb**	**16 09 58.1**	**+0.5**
SBLS	**San Blas**	**1.67**	**80**	*e*P	**Pb**	**16 09 58.1**	**+0.5**
SNJE	**San Jose**	**1.69**	**79**	*e*P	**Pb**	**16 09 58.5**	**+0.6**
SNJE	**San Jose**	**1.69**	**79**	*e*P	**Pb**	**16 09 58.5**	**+0.6**
HUEH	**Huehuetenango**	**1.77**	**354**	*e*P	**Pg**	**16 09 60.0**	**-0.5**
HUEH	**Huehuetenango**	**1.77**	**354**		**Pg**	**16 09 55.7**	**-1.8**
UNIC	**Universidad Ca**	**1.77**	**76**	*e*P	**Pb**	**16 09 59.4**	**+0.2**
UNIC				*e*S	**Sg**	**16 10 22.4**	**-1.1**
UNIC	**Universidad Ca**	**1.77**	**76**	*e*P	**Pb**	**16 09 59.4**	**+0.2**
UNIC				*e*S	**Sg**	**16 10 22.4**	**-1.1**
CEDA	**San Andres**	**1.89**	**82**	*e*P	**Pb**	**16 10 01.2**	**+0.1**
CEDA				*e*S	**Sg**	**16 10 24.9**	**-2.3**
CEDA				IAML		16 10 37.7	
comp=Z,2μm,0.4s							
CEDA	**San Andres**	**1.89**	**82**	*e*P	**Pb**	**16 10 01.2**	**+0.1**
CEDA				*e*S	**Sg**	**16 10 24.9**	**-2.3**
CEDA				IAML		16 10 37.7	
comp=Z,2μm,0.4s							
TACO	**Tacachico**	**1.95**	**77**	*e*P	**Pb**	**16 10 02.3**	**+0.1**
TACO	**Tacachico**	**1.95**	**77**	*e*P	**Pb**	**16 10 02.3**	**+0.1**
BOQS	**Boqueron**	**1.99**	**84**	*e*P	**Pb**	**16 10 03.1**	**+0.1**
BOQS				*e*S	**Sg**	**16 10 29.8**	**-0.7**
BOQS	**Boqueron**	**1.99**	**84**	*e*P	**Pb**	**16 10 03.1**	**+0.1**
BOQS				*e*S	**Sg**	**16 10 29.8**	**-0.7**
UEES	**Universidad Ev**	**2.03**	**85**	*e*P	**Pb**	**16 10 03.0**	**-0.6**
UEES	**Universidad Ev**	**2.03**	**85**	*e*P	**Pb**	**16 10 03.0**	**-0.6**
SNET	**Serv Nac Est T**	**2.03**	**86**	*e*P	**Pb**	**16 10 03.7**	**0.0**
SNET				IAML		16 10 39.7	
comp=Z,912nm,0.3s							
SNET	**Serv Nac Est T**	**2.03**	**86**	*e*P	**Pb**	**16 10 03.7**	**0.0**
SNET				IAML		16 10 39.7	
comp=Z,912nm,0.3s							
SNET	**Serv Nac Est T**	**2.03**	**86**		**Pb**	**16 10 03.5**	**-0.2**
MTO3	**Montecristo**	**2.08**	**66**	*e*P	**Pb**	**16 10 04.2**	**-0.3**
MTO3	**Montecristo**	**2.08**	**66**	*e*P	**Pb**	**16 10 04.2**	**-0.3**
MTO3	**Montecristo**	**2.08**	**66**	Pn	**Pb**	**16 10 04.0**	**-0.6**
UDBS	**Universidad Do**	**2.11**	**85**	*e*S	**Sb**	**16 10 31.1**	**-0.2**
UDBS	**Universidad Do**	**2.11**	**85**	*e*S	**Sb**	**16 10 31.1**	**-0.2**
ESQI	**Esquipulas**	**2.17**	**62**	*e*P	**Pb**	**16 10 05.6**	**-0.3**
ESQI				*e*S	**Sg**	**16 10 34.8**	**-1.4**
ESQI	**Esquipulas**	**2.17**	**62**		**Pb**	**16 10 05.3**	**-0.6**
LFRS	**El Faro**	**2.19**	**88**	*e*P	**Pb**	**16 10 06.1**	**-0.4**
LFRS	**El Faro**	**2.19**	**88**	*e*P	**Pb**	**16 10 06.1**	**-0.4**
MRL	**Marmol**	**2.20**	**46**	*e*P	**Pb**	**16 10 06.1**	**-0.5**
MRL	**Marmol**	**2.20**	**46**	*e*P	**Pb**	**16 10 06.1**	**-0.5**
PAVA	**Las Pavas**	**2.32**	**86**	*e*P	**Pb**	**16 10 07.8**	**-0.7**
PAVA	**Las Pavas**	**2.32**	**86**	*e*P	**Pb**	**16 10 07.8**	**-0.7**
COEG	**Centro de Oper**	**2.37**	**88**	IAML		16 10 46.6	
comp=Z,1μm,0.4s							
COEG	**Centro de Oper**	**2.37**	**88**	IAML		16 10 46.6	
comp=Z,1μm,0.4s							
TECA	**Tecapa**	**2.74**	**91**	*e*P	**Pn**	**16 10 13.6**	**+2.9**
TECA	**Tecapa**	**2.74**	**91**	*e*P	**Pn**	**16 10 13.6**	**+2.9**
CCIG	**Comitan**	**2.83**	**344**		**Pb**	**16 10 14.9**	**-2.4**
LCND	**La Caada**	**3.34**	**94**	*e*P	**Pn**	**16 10 21.1**	**+2.2**
LCND	**La Caada**	**3.34**	**94**	*e*P	**Pn**	**16 10 21.1**	**+2.2**
PETF	**Flores**	**3.63**	**23**	Pn	**Pn**	**16 10 25.5**	**+2.7**
MATN	**Matagalpa**	**5.29**	**96**		**Pn**	**16 10 48.5**	**+2.8**
BOAB	**BOACO BROADBAN**	**5.62**	**101**		**Pn**	**16 10 52.7**	**+2.5**
JTS	**Las Juntas de**	**7.02**	**117**	Pn	Pn	16 11 14.6	+5.0
comp=Z,0.9nm,0.3s,baz=21,slow=21,SNR=1.9							
JTS				Sn	**Sn**	**16 12 27.6**	**-1.9**
comp=Z,1.0nm,0.3s,baz=207,slow=19,SNR=2.0							
TEIG	**Tepich**	**7.25**	**23**	Pn	**Pn**	**16 11 15.0**	**+2.4**
comp=Z,9.6nm,0.3s,baz=203,slow=1.1,SNR=27							
TEIG				Sn	**Sn**	**16 12 32.6**	**-2.5**
baz=210,slow=22,SNR=0.9							
TEIG	**Tepich**	**7.25**	**23**		**Pn**	**16 11 15.2**	**+2.6**
TLIG	**Tlapa**	**8.04**	**301**	Pn	**Pn**	**16 11 24.3**	**+0.6**
UNM	**Universidad Na**	**9.48**	**308**	Pn	**Pn**	**16 11 42.2**	**-1.2**
346A	**Big Creek Wild**	**17.84**	**5**		**P**	**16 13 35.9**	**+0.3**
TXAR	**Lajitas Array**	**19.44**	**326**	P	**P**	**16 13 53.7**	**+0.3**
comp=Z,0.1nm,0.3s,baz=152,slow=11,SNR=11							
TXAR	**Lajitas Array**	**19.44**	**326**	P	**Pn**	**16 13 55.2**	**+0.7**
Y49A	**Blount Mountai**	**20.70**	**12**	P	**P**	**16 14 07.8**	**+0.8**
BANI	**BANI**	**20.71**	**74**	P	**P**	**16 14 07.0**	**-0.4**
GOGA	**Godfrey**	**21.03**	**19**	P	**P**	**16 14 10.3**	**-0.2**
GOGA				IAmb	IAmb	16 14 27.7	
comp=Z,6.9nm,1.0s							
MNTX	**Cornudas Mount**	**22.20**	**327**		**P**	**16 14 24.8**	**+1.5**
MSTX	**Muleshoe**	**22.84**	**335**	P	**P**	**16 14 30.9**	**+0.9**
MSTX				IAmb	IAmb	16 14 32.3	
comp=Z,4.3nm,0.8s							
S39A	**Bolivar**	**24.11**	**356**	P	**P**	**16 14 41.9**	**-0.6**
CCM	**Cathedral Cave**	**24.41**	**0**	P	**P**	**16 14 44.1**	**-1.1**
CCM				IAmb	IAmb	16 14 45.0	
comp=Z,3.6nm,0.8s							
R40A	**Maddies Statio**	**24.66**	**358**	P	**P**	**16 14 45.3**	**-2.2**
V58A	**Windy Hill, Pi**	**24.72**	**24**	P	**P**	**16 14 47.2**	**-0.9**
BNM	**Barren Site**	**24.77**	**328**	P	**P**	**16 14 50.6**	**+1.7**
LENM	**Lemitar**	**24.96**	**328**	P	**P**	**16 14 53.1**	**+2.6**
TUC	**Tucson**	**25.80**	**320**	P	**P**	**16 14 58.3**	**+0.2**
TUC				IAmb	IAmb	16 14 60.0	
comp=Z,7.1nm,1.4s							
P40A	**Paris**	**25.89**	**359**	P	**P**	**16 14 58.3**	**-0.4**
P40A				IAmb	IAmb	16 14 58.8	
comp=Z,4.0nm,0.7s							
R53A	**Hurricane**	**26.05**	**17**	P	**P**	**16 15 00.2**	**+0.1**
MVL	**Millersville**	**29.45**	**24**	P	**P**	**16 15 29.7**	**-0.9**
MVL				IAmb	IAmb	16 15 30.1	
comp=Z,9.6nm,1.3s							
SHPR	**Sheep Range**	**31.29**	**321**	P	**P**	**16 15 47.3**	**+0.3**
J54A	**Appleton**	**31.57**	**18**	P	**P**	**16 15 49.9**	**+0.7**
BCX	**Boston College**	**33.57**	**28**	P	**P**	**16 16 05.7**	**-1.1**
NVAR	**Mina Array Bea**	**34.44**	**321**	P	**P**	**16 16 16.4**	**+1.8**
comp=Z,0.7nm,0.6s,baz=135,slow=9.0,SNR=4.7							
NVAR	**Mina Array Bea**	**34.44**	**321**	P	**P**	**16 16 15.8**	**+1.1**
PAHR	**Pah Rah Range**	**35.89**	**322**	P	**P**	**16 16 27.1**	**0.0**
PAHR				IAmb	IAmb	16 16 28.1	
comp=Z,1.7nm,0.7s							
MCMT	**McKenzie Canyo**	**36.16**	**334**	P	**P**	**16 16 30.9**	**+1.4**
DLMT	**Dillon**	**36.49**	**335**	P	**P**	**16 16 30.9**	**-1.2**
DLMT				IAmb	IAmb	16 16 31.2	
comp=Z,6.3nm,1.5s							
LRM	**Limekiln Ridge**	**36.80**	**335**	P	**P**	**16 16 35.3**	**+0.4**
J08A	**Circle Bar Ran**	**37.78**	**327**	P	**P**	**16 16 45.1**	**+2.0**
J08A				IAmb	IAmb	16 16 46.0	
comp=Z,4.4nm,0.8s							
HOPS	**Hopland Field**	**37.78**	**318**	P	**P**	**16 16 42.1**	**-1.0**
HOPS				IAmb	IAmb	16 16 44.2	
comp=Z,4.9nm,1.1s							
F10A	**Beach Ranch, E**	**39.02**	**331**	P	**P**	**16 16 54.2**	**+0.7**
F10A				IAmb	IAmb	16 16 56.0	
comp=Z,4.4nm,0.8s							
PINE	**Pine Mountain**	**39.40**	**326**	P	**P**	**16 16 57.9**	**+1.1**
PINE				IAmb	IAmb	16 16 59.2	
comp=Z,2.3nm,0.8s							
H04A	**Detroit Lake**	**40.66**	**326**	P	**P**	**16 17 07.9**	**+0.8**
H04A				IAmb	IAmb	16 17 09.4	
comp=Z,3.6nm,0.9s							
ILAR	**Eielson Array**	**63.51**	**337**	P	**P**	**16 19 56.6**	**-0.2**
comp=Z,0.3nm,0.5s,baz=142,slow=4.5,SNR=4.8							
WRA	**Warramunga Arr**	**135.92**	**255**	PKP	**PKPdf**	**16 28 48.5**	**-0.2**
comp=Z,0.4nm,0.9s,baz=89,slow=2.8,SNR=2.6							
CMAR	**Chiang Mai Arr**	**146.62**	**342**	PKPbc	**PKPdf**	**16 29 08.8**	**+0.9**
comp=Z,1.4nm,0.8s,baz=353,slow=3.1,SNR=9.0							

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*IDC **15** 16:10:49.3±3.1, 23°.23N×121°.71E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/49, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=264.9km s-min=23.7km az=63.0*
*JMA **15** 16:10:55.1, 23°.22N×121°.54E, h38km±2km, M3.4*
*TAP **15** 16:10:55.5, 23°.20N×121°.57E, h38km, ML3.8, C*
ISC 15 16:10:54.5±0.9, 23°.22N±0°.02×121°.64E±0°.02, h30km±8km, n144, σ1°14/242, mb3.3/4, 8C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.28**	**244**	⇑*i*P	**Pn**	**16 11 02.6**	**+0.1**
CHKT				S	**Sn**	**16 11 07.7**	**-0.1**
baz=241							
FULB	**Fuli**	**0.32**	**266**	⇑*i*P	**Pn**	**16 11 03.0**	**-0.1**
FULB				S	**Sn**	**16 11 10.6**	**+1.8**
baz=271							
EYUL	**Yuli**	**0.32**	**293**	⇑*i*P	**Pn**	**16 11 03.8**	**+0.7**
EYUL				*e*S	**Sn**	**16 11 11.3**	**+2.6**
baz=304							
HGSD	**Ruisui**	**0.33**	**324**	⇑*i*P	**Pn**	**16 11 03.5**	**+0.2**
HGSD				*e*S	**Sn**	**16 11 10.3**	**+1.2**
baz=339							
TWF1	**Yuli**	**0.34**	**292**	*i* P	**Pn**	**16 11 03.7**	**+0.3**
TWF1				*e*S	**Sn**	**16 11 09.2**	**-0.1**
baz=303							
YULB	**Yu-li**	**0.35**	**298**	⇑*i*P	**Pn**	**16 11 03.8**	**+0.2**
YULB				*e*S	**Sn**	**16 11 09.7**	**0.0**
baz=308							
EDH	**Donghe**	**0.40**	**231**	P	**Pn**	**16 11 04.0**	**-0.1**
EDH				S	**Sb**	**16 11 09.9**	**+0.6**
baz=224							
EHY	**Hungye**	**0.40**	**314**	⇑*i*P	**Pn**	**16 11 04.4**	**+0.2**
EHY				*e*S	**Sn**	**16 11 10.4**	**-0.5**
baz=311							
EGFH	**Guangfu**	**0.48**	**337**	⇑P	**Pn**	**16 11 05.8**	**+0.5**
EGFH				*e*S	**Sn**	**16 11 13.0**	**+0.2**
baz=332							
LONT	**Longtian**	**0.56**	**236**	P	**Pb**	**16 11 06.2**	**+0.3**
LONT				S	**Sb**	**16 11 13.8**	**0.0**
baz=244							
LDUT	**Ludao**	**0.57**	**196**	*i* P	**Pb**	**16 11 06.2**	**+0.1**
LDUT				S	**Sb**	**16 11 13.8**	**-0.2**
baz=190							
ELDTW	**Lidau**	**0.57**	**267**	⇑*i*P	**Pb**	**16 11 06.0**	**-0.1**
ELDTW				*e*S	**Sb**	**16 11 13.0**	**-1.1**
baz=269							
ESL	**Shilin**	**0.62**	**342**	P	**Pn**	**16 11 07.3**	**+0.1**
ESL				S	**Sn**	**16 11 15.6**	**-0.6**
baz=338							
TTN	**Taitung**	**0.65**	**224**	*e*P	**Pb**	**16 11 07.8**	**+0.4**
TTN				*e*S	**Sn**	**16 11 18.6**	**+1.7**
baz=233							
TWGBT	**Beinan**	**0.65**	**232**	P	**Pb**	**16 11 07.0**	**-0.4**
TWGBT				*e*S	**Sb**	**16 11 15.7**	**-0.6**
baz=241							
TWG	**Pinlang**	**0.66**	**233**	⇓P	**Pb**	**16 11 07.1**	**-0.4**
TWG				S	**Sb**	**16 11 15.6**	**-0.8**
baz=241							
YUS	**Yu-Shan**	**0.68**	**293**	P	**Pn**	**16 11 08.4**	**-0.2**
VWDT	**VWDT**	**0.70**	**319**	⇓*i*P	**Pn**	**16 11 08.8**	**+0.6**
VWDT				*e*S	**Sn**	**16 11 17.7**	**-0.4**
baz=324							
HWA	**Hwalien**	**0.75**	**358**	*e*P	**Pn**	**16 11 09.8**	**+0.8**
HWA				*e*S	**Sn**	**16 11 19.2**	**-0.1**
baz=10.0							
STYT	**Tauyuan**	**0.81**	**266**	P	**Pb**	**16 11 09.9**	**-0.2**
STYT				S	**Sb

TYC	baz=263 Yuchr	0.99 314	⇓iP	Pn	16 11 13.4	+1.1
TYC	baz=326		eS	Sn	16 11 26.4	+1.2
ETLH	baz=326 Xiulin Townshi	0.99 352	P	Pn	16 11 12.7	+0.2
ETLH	baz=355		eS	Sb	16 11 24.6	-1.2
CHN1	baz=355 Nanshi	1.02 268	⇓iP	Pn	16 11 13.9	+1.2
CHN1	baz=265		eS	Sn	16 11 27.6	+1.5
WJS	baz=265 Zhushan	1.03 306	eP	Pn	16 11 14.4	+1.6
WJS	baz=310		eS	Sn	16 11 27.8	+1.6
SSD	baz=310 Sandimen	1.04 243	P	Pn	16 11 13.0	0.0
SSD	baz=242		eS	Sb	16 11 27.1	-0.1
SNST	baz=242 Tainan City	1.05 270	P	Pn	16 11 14.3	+1.2
SNST	baz=272		eS	Sn	16 11 28.4	+1.6
TSMG	baz=272 Majia	1.05 241	eP	Pn	16 11 13.4	+0.3
TWK	baz=234 Hsinying	1.06 273	P	Pn	16 11 14.3	+1.0
TWK	baz=274		eS	Sn	16 11 28.5	+1.5
FUSS	baz=274 Fushou	1.08 341	P	Pn	16 11 14.8	+1.0
FUSS	baz=353		eS	Sn	16 11 27.8	-0.2
WGK	baz=353 Gukeng	1.09 295	eP	Pb	16 11 15.1	+0.4
WGK	baz=309		S	Sn	16 11 30.0	+2.3
WNT	baz=309 Mingjian	1.09 307	P	Pb	16 11 15.4	+0.6
WNT	baz=311		S	Sn	16 11 29.8	+2.0
TAW	baz=311 Tawu	1.10 219	eP	Pn	16 11 13.8	0.0
TAW	baz=222		eS	Sb	16 11 26.0	-2.9
SCST	baz=222 Cishan	1.11 253	eP	Pb	16 11 15.4	+0.4
SCST	baz=253		eS	Sn	16 11 30.3	+2.1
EAST	baz=253 Anshuo	1.11 221	eP	Pn	16 11 13.5	-0.5
EAST	baz=219		eS	Sb	16 11 26.3	-2.9
MASBT	baz=219 Mashibuluo	1.11 237	P	Pn	16 11 14.1	+0.1
MASBT	baz=232		eS	Sb	16 11 27.6	-1.5
TWT	baz=232 Tachien	1.11 338	eP	Pb	16 11 15.4	+0.2
TWT	baz=347		eS	Sn	16 11 29.8	+1.3
WDLH	baz=347 Douliu	1.11 295	P	Pb	16 11 15.8	+0.7
WDLH	baz=309		eS	Sn	16 11 29.6	+1.3
CHY	baz=309 Chiayi	1.15 284	P	Pb	16 11 15.4	-0.4
CHY	baz=287		eS	Sn	16 11 30.9	+1.7
SGLT	baz=287 Jiouru	1.17 245	eP	Pb	16 11 18.0	+1.9
SGLT	baz=245		eS	Sn	16 11 32.7	+3.0
CHN3	baz=245 Shinhua	1.18 263	eP	Pb	16 11 17.1	+0.9
CHN3	baz=264		eS	Sn	16 11 34.6	+4.6
LAY	baz=264 Lan-yu	1.18 184	eP	Pn	16 11 14.4	-0.6
TWM1	baz=172 Shoushan	1.19 251	P	Pb	16 11 17.8	+1.4
ENA	baz=250 Nanau	1.20 4	eP	Pb	16 11 16.2	-0.4
ENA	baz=18		eS	Sn	16 11 31.1	+0.6
NNSB	baz=18 Datong	1.22 349	P	Pb	16 11 16.7	-0.4
NNSB	baz=1.0		eS	Sb	16 11 31.3	-1.3
NNSH	baz=1.0 Datong	1.22 349	eP	Pb	16 11 16.7	-0.4
NNSH	baz=360		eS	Sn	16 11 31.6	+0.4
WHP	baz=360 Taichung City	1.23 329	eP	Pb	16 11 17.6	+0.5
WHP	baz=333		eS	Sn	16 11 34.5	+3.2
ENAH	baz=333 Nanao	1.23 7	eP	Pb	16 11 16.8	-0.4
SSPT	baz=10.0 Xinbi	1.23 233	eP	Pb	16 11 17.0	-0.1
NNS	baz=223 Nan Shan	1.23 349	P	Pb	16 11 16.9	-0.4
NNS	baz=1.0		eS	Sn	16 11 31.8	+0.2
WTK	baz=1.0 Tuku	1.24 292	eP	Pb	16 11 16.6	-0.6
WTK	baz=295		eS	Sb	16 11 33.4	+0.6
WLGB	baz=295 Puzi	1.25 282	eP	Pb	16 11 17.4	-0.2
WLGB	baz=284		eS	Sb	16 11 34.2	+0.8
ICHU	baz=284 Yijhu	1.26 276	P	Pb	16 11 17.4	-0.1
ICHU	baz=278		eS	Sb	16 11 33.1	-0.2
SCZT	baz=278 Fangliau	1.27 228	eP	Pn	16 11 16.9	+0.8
SLIU	baz=224 Shizi	1.27 218	eP	Pn	16 11 15.9	-0.2
TCU	baz=203 Taichung	1.27 316	eP	Pb	16 11 18.3	+0.4
TCU	baz=308		eS	Sb	16 11 34.8	+1.0
SNJT	baz=308 Kaohsiung City	1.29 249	P	Pb	16 11 18.8	+0.7
SNJT	baz=250		eS	Sb	16 11 36.2	+2.0
WCHH	baz=250 Zhanghua	1.31 311	eP	Pb	16 11 18.6	+0.2
WCHH	baz=315		eS	Sb	16 11 35.8	+1.0
CHN8	baz=315 Yiju	1.32 276	eP	Pb	16 11 18.1	-0.5
CHN8	baz=277		eS	Sb	16 11 35.4	+0.3
SCLT	baz=277 Jiali	1.33 268	eP	Pb	16 11 18.4	-0.4
SCLT	baz=269		eS	Sb	16 11 36.2	+0.7
RLNB	baz=269 Erlin	1.35 300	eP	Pb	16 11 18.7	-0.4
RLNB	baz=303		eS	Sb	16 11 36.4	+0.5
WSF	baz=303 Szhu	1.36 288	eP	Pb	16 11 18.3	-1.0
WSF	baz=290		eS	Sb	16 11 36.4	0.0
TWQ1	baz=290 Liyutan	1.37 325	eP	Pb	16 11 20.2	+0.6
TWQ1	baz=328		eS	Sb	16 11 37.9	+1.2
NDT	baz=328 Datong Townshi	1.38 355	eP	Pb	16 11 19.0	-0.6
TWC	baz=359 Suao	1.39 8	eP	Pb	16 11 19.1	-0.7
TWC	baz=10.0		eS	Sb	16 11 37.0	-0.2
WTCT	baz=10.0 Ta-ch'eng	1.40 297	eP	Pn	16 11 18.2	+0.2
WTCT	baz=301		eS	Sb	16 11 37.0	-0.4
ENTT	baz=301 Nioudou	1.41 357	eP	Pb	16 11 19.3	-0.9
ENTT	baz=352		eS	Sb	16 11 36.7	-1.2
NSY	baz=352 Sanyi	1.43 326	P	Pb	16 11 20.9	+0.4
NSY	baz=330		eS	Sb	16 11 40.4	+2.0
WDJ	baz=330 Dajia District	1.45 321	P	Pb	16 11 21.2	+0.4
WDJ	baz=325		eS	Sb	16 11 39.6	+0.9
YHNB	baz=325 Yeheng	1.46 351	P	Pb	16 11 20.5	-0.6
YHNB	baz=353		eS	Sn	16 11 37.5	+0.4
HEN	baz=353 Hengchun	1.47 215	eP	Pn	16 11 19.4	+0.5
HEN	baz=202		eS	Sn	16 11 37.5	+0.4
PTSB	baz=202 Yuanli	1.49 325	eP	Pb	16 11 21.2	-0.3
PTSB	baz=329		eS	Sb	16 11 40.1	+0.1
TWKBT	baz=329 Hengchun	1.49 211	eP	Pn	16 11 19.2	0.0
TWKBT	baz=199		eS	Sn	16 11 37.0	-0.5
TWK1	baz=199 Hengchun	1.49 211	eP	Pn	16 11 20.7	+1.5
TWK1	baz=199		eS	Sn	16 11 37.4	-0.2
TWE	baz=199 Neicheng	1.49 1	eP	Pb	16 11 20.7	-0.8
TWE	baz=355		eS	Sb	16 11 39.3	-0.8
NSTT	baz=355 Nanjuang	1.52 338	eP	Pb	16 11 22.0	0.0
NSTT	baz=340		eS	Sb	16 11 41.1	+0.3
NMLH	baz=340 Miaoli	1.52 330	P	Pb	16 11 22.0	0.0
NMLH	baz=345		eS	Sb	16 11 41.2	+0.3
ILA	baz=345 Ilan	1.54 4	eP	Pb	16 11 22.1	-0.2
NWLT	baz=358 Wulai	1.55 355	eP	Pb	16 11 21.7	-0.9
NWLT	baz=358		eS	Sb	16 11 40.2	-1.7
NTC	baz=358 Toucheng	1.63 6	eP	Pb	16 11 25.1	+1.1
NTC	baz=21		eS	Sb	16 11 45.1	+1.0
EGS	baz=21	1.64 9	eP	Pb	16 11 24.9	+0.9
SBCB	baz=13 Hsinchu	1.67 339	eP	Pn	16 11 22.2	+0.5
HSN	baz=343 Hsinchu	1.69 339	eS	Sb	16 11 46.2	+0.5
TATO	baz=343 Taipei	1.75 356	eP	Pb	16 11 25.1	-0.9
TIPB	baz=359 Shuangxi	1.75 6	eP	Pn	16 11 24.2	+1.4
TIPB	baz=357		eS	Sb	16 11 45.6	-1.9
TWA	baz=357 Mucha	1.75 358	eP	Pb	16 11 25.8	-0.2
TWA			eS	Sb	16 11 46.0	-1.6
YOJ	baz=57 Yonaguni jima	1.76 45	eP	Pb	16 11 24.9	-1.2
YOJ	baz=57		eS	Sb	16 11 46.7	-1.1
YOJ	baz=57 Yonaguni jima	1.76 45	P	Pb	16 11 25.4	-0.7
YOJ			eS	Sb	16 11 47.0	-0.8
NCUH	baz=348 Zhongli	1.79 347	eP	Pb	16 11 25.7	-0.8
NCUH	baz=348		eS	Sb	16 11 47.5	-1.0
TWB1	baz=13 Santiao Chiao	1.81 10	eP	Pb	16 11 26.1	-0.7
WDGT	baz=13 Dungji	1.82 272	eP	Pn	16 11 24.2	+0.5
TWS1	baz=272 Kuangyinshan	1.88 354	eP	Pb	16 11 27.2	-1.0
TWS1	baz=7.0		eS	Sb	16 11 49.3	-1.9
YM01	baz=7.0 YM01	1.92 358	eP	Pb	16 11 27.1	-1.7
PHUB	baz=1.0 P'eng-hu	1.92 279	eP	Pn	16 11 25.2	+0.1
PHUB	baz=280		eS	Sn	16 11 46.7	-1.5
YM04	baz=280 YM04	1.92 357	eP	Pb	16 11 27.5	-1.4
YM10	baz=1.0 YM10	1.93 358	eP	Pb	16 11 27.0	-1.9
YM05	baz=1.0 YM05	1.93 358	eP	Pn	16 11 26.6	+1.2
YM11	baz=1.0 YM11	1.93 358	eP	Pb	16 11 27.8	-1.3
NTST	baz=2.0 Danshui	1.94 355	eP	Pb	16 11 27.2	-1.9
PNG	baz=11 Penghu	1.94 281	P	Pn	16 11 25.9	+0.5
PNG	baz=268		eS	Sn	16 11 48.5	-0.3
YM03	baz=268 YM03	1.95 357	eP	Pb	16 11 27.8	-1.5
YM08	baz=1.0 YM08	1.96 359	eP	Pn	16 11 26.0	+0.4
ANP	baz=2.0 Anpu	1.96 357	eP	Pb	16 11 28.3	-1.2
TWY	Chenhua	2.04 359	eP	Pn	16 11 28.6	+1.8
HATJ	baz=2.0 Hateruma jima	2.15 67	P	Pn	16 11 30.3	+2.0
HATJ			S	Sn	16 11 56.3	+2.3
IRIF	Iriomote-Funau	2.21 60	P	Pn	16 11 31.4	+2.3
IRIF			eS	Sb	16 11 58.9	-1.9
JKRS	Kuro-shima	2.40 65	P	Pn	16 11 34.0	+2.4
JKRS			eS	Sn	16 12 02.5	+2.5
JIJ	Ishigaki jima	2.56 63	P	Pn	16 11 35.7	+1.8
JIJ			S	Sn	16 12 05.6	+1.5
VWUC	VWUC	2.66 312	eP	Pn	16 11 35.5	+0.2
JISG	baz=315 Ishigakijimahi	2.80 60	P	Pn	16 11 38.7	+1.5
JISG			S	Sn	16 12 10.7	+0.8
PTTC	Pingtan	2.83 323	eP	Pn	16 11 36.7	-1.0
PTMZ	baz=326 Houxiangcun	2.93 309	eP	Pn	16 11 39.2	+0.3
JTJ	baz=300 Tarama	3.14 63	P	Pn	16 11 43.9	+2.0
JTJ			eS	Sn	16 12 20.4	+2.1
KNM	Kinmen	3.17 293	eP	Pn	16 11 43.5	+1.3
KNMB	baz=292 Chin-men Tao	3.22 293	eP	Pn	16 11 42.6	-0.3
MATB	baz=294 Ma-tsu	3.30 333	eP	Pn	16 11 43.5	-0.5
JIRB	baz=335 Irabujima	3.60 63	eS	Sn	16 12 31.6	+1.8
ZPLA	Ao Xicun	3.63 282	eP	Pn	16 11 48.8	+0.1
JMJ2	baz=282 Miyako jima3	3.70 65	P	Pn	16 11 52.1	+2.5
JMJ2			eS	Sn	16 12 34.2	+2.1
JMJ	Miyako jima 2	3.70 64	eP	Pn	16 11 51.6	+2.0
MHZQ	baz=65 Yeshan	3.72 321	eP	Pn	16 11 49.9	+0.1
LYJJ	baz=323 Jianjiangzhen	3.73 333	eP	Pn	16 11 49.8	-0.2
AXDP	baz=336 Jialang	3.75 297	eP	Pn	16 11 51.1	+0.9
ZZJH	baz=298 Jiuhuzhen	3.87 289	eP	Pn	16 11 51.1	-0.8
XPSS	baz=290 Dashiqiu	3.92 341	eP	Pn	16 11 52.3	-0.3
DAV	baz=343 Davao City (W)	16.50 166	LR	LR	16 20 17.2	
	comp=Z,69nm,18.6s,baz=342,slow=34					
MKAR	Makanchi Array	39.32 317	P	P	16 18 20.4	-0.4
	0.4nm,0.6s,baz=99,slow=9.4,SNR=5.2					
ZALV	Zalesovo Beam	41.27 328	P	P	16 18 36.3	-0.5
	0.9nm,0.4s,baz=107,slow=8.0,SNR=4.9					
WRA	Warramunga Arr	44.66 163	P	P	16 19 03.3	-1.3
	0.2nm,0.9s,baz=346,slow=8.7,SNR=1.4					
ASAR	Alice Springs	48.11 165	P	P	16 19 31.2	-0.5
	0.1nm,0.5s,baz=341,slow=7.1,SNR=4.5					

KRSC 15 16:11:50.6±1.8, 55°27N×160°87E, h191km±17km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	0.28 257		eP	Pn	16 12 17.5	+1.5
TUMD				eS	Sn	16 12 36.0	+0.5
KZV	Kizimen	0.37 245		eP	Pn	16 12 16.2	-0.2
KZV				eS	Sn	16 12 36.6	+0.4
TUMR	Tumrok	0.42 273		eP	Pn	16 12 18.1	+1.6
TUMR				eS	Sn	16 12 37.5	+1.1
KMNR	Kamenistaya	0.61 324		eP	Pn	16 12 18.4	+1.2
KMNR				eS	Sn	16 12 38.2	+0.3
BZGR	Bezymyannyi-Gr	0.68 352		eP	Pn	16 12 18.6	+1.1
BZGR				eS	Sn	16 12 39.0	+0.4
BZMR	Bezymyannaya	0.70 342		eP	Pn	16 12 18.5	+0.8
BZMR				eS	Sn	16 12 38.5	-0.3
BZWR	Bezymyannyi-We	0.73 343		eP	Pn	16 12 18.5	+0.6
BZWR				eS	Sn	16 12 36.6	-2.5
KIRR	Kirishev	0.75 337		eP	Pn	16 12 19.0	+1.0
KIRR				eS	Sn	16 12 39.2	-0.1
ZLN	Zelenaya	0.75 357		eP	Pn	16 12 19.8	+1.9
KPT	Kopyto	0.79 332		eP	Pn	16 12 18.7	+0.6
KPT				eS	Sn	16 12 38.9	-0.7
LGNR	Loginova	0.82 353		eP	Pn	16 12 20.3	+1.8
LGNR				eS	Sn	16 12 41.8	+1.5
CIRR	Tsirk	0.85 355		eP	Pn	16 12 20.2	+1.7
CIRR				eS	Sn	16 12 41.8	+1.4
KRSR	Krestovskiy	0.97 350		eP	Pn	16 12 20.5	+1.3
KRSR				eS	Sn	16 12 42.2	+0.6
KOZ	Kozyrevsk	0.97 325		eP	Pn	16 12 19.5	+0.3
KOZ				eS	Sn	16 12 39.9	-1.6
KLY	Klyuchi	1.06 353		eP	Pn	16 12 20.9	+1.2
KLY				eS	Sn	16 12 43.3	+0.9
SRDR	Sredinnyy	1.24 329		eP	Pn	16 12 20.9	-0.3
SRDR				eS	Sn	16 12 42.9	-2.2
BDR	Baidarnaya	1.32 8		eP	Pn	16 12 23.6	+1.7
BDR				eS	Sn	16 12 48.4	+2.1
SMKR	Semkarok	1.36 14		eS	Sn	16 12 48.5	+1.5
ESO	Esso	1.40 299		eP	Pn	16 12 21.7	-0.8
SRKR	Sorokina	1.40 7		eP	Pn	16 12 24.1	+1.5
SRKR				eS	Sn	16 12 49.0	+1.4
KBG	Krutoberegovo	1.43 45		eP	Pn	16 12 25.3	+2.6
KBG				eS	Sn	16 12 50.3	+2.5
KBTR	Krutoberegovo	1.45 49		eP	Pn	16 12 25.7	+2.8
KBTR				eS	Sn	16 12 50.7	+2.6
SPN	Mys Shipunski	2.23 193		eP	Pn	16 12 31.9	+1.0
SPN				eS	Sn	16 13 01.6	-0.6
NLC	Nalytchevo	2.28 204		eP	Pn	16 12 33.0	+1.6
NLC				eS	Sn	16 13 03.6	+0.4
SDLR	Sedlovina	2.31 211		eP	Pn	16 12 33.7	+1.8
KRX	Arik	2.31 215		eP	Pn	16 12 34.1	+2.1
KRX				eS	Sn	16 13 05.3	+1.2
KRER	Koryakskii	2.33 213		eP	Pn	16 12 34.3	+2.1
KRER				eS	Sn	16 13 06.3	+1.8
SMAR	Somma	2.35 212		eP	Pn	16 12 34.3	+1.9
SMAR				eS	Sn	16 13 06.8	+1.9
AVH	Avacha	2.37 213		eP	Pn	16 12 34.5	+2.0
AVH				eS	Sn	16 13 06.8	+1.8
KOK	Koryaka	2.37 214		eP	Pn	16 12 34.9	+2.3
KOK				eS	Sn	16 13 07.0	+1.8
UGLR	Uglovaya	2.39 211		eP	Pn	16 12 34.7	+2.0
UGLR				eS	Sn	16 13 06.6	+1.1
DALK	Dalny	2.56 210		eP	Pn	16 12 36.1	+1.5
DALK				eS	Sn	16 13 08.3	-0.5
PET	Petropavlovsk	2.60 211		eP	Pn	16 12 36.6	+1.6
PET				eS	Sn	16 13 09.7	+0.1
BKI	Bering	2.92 89		eP	Pn	16 12 43.7	+5.0
BKI				eS	Sn	16 13 20.8	+4.5
KRMR	Karymshinskiy	2.93 215		eP	Pn	16 12 41.4	+2.5
KRMR				eS	Sn	16 13 18.5	+2.0
RUS	Russkaya	3.17 207		eP	Pn	16 12 42.5	+0.8
RUS				eS	Sn	16 13 20.8	-0.8
GRL	Gorelyy	3.19 212		eP	Pn	16 12 44.2	+2.1
GRL				eS	Sn	16 13 23.1	+0.9
MTVR	Mutnovka	3.21 211		eP	Pn	16 12 44.2	+1.8
MTVR				eS	Sn	16 13 23.8	+0.9
ASAK	Asacha	3.38 213		eP	Pn	16 12 46.2	+1.7
ASAK				eS	Sn	16 13 27.0	+0.5
KDTR	Khodutka, Kamc	3.84 207		eP	Pn	16 12 50.3	+0.3
KDTR				eS	Sn	16 13 33.4	-3.2
MIPR	Malaya Ipel'ka	3.87 221		eP	Pn	16 12 51.5	+1.2
SKR	Severo-Kuril's	5.42 214		eP	Pn	16 13 10.5	+0.4

*SOME **15** 16:44:03.3, 41°83N×82°63E, h15km*
*NNC **15** 16:44:05.5±1.1, 41°86N×82°47E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=9.2km s-min=5.3km az=166.0
ISC 15 16:44:07.5±1.9, 41°95N±0°09×82°37E±0°06, h13km, n42, σ2s22/62, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	2.46 300		eP	Pn	16 44 48.5	+1.0
SHLS	65nm,0.3s			eS	Sb	16 45 22.0	-0.1
SHLS	157nm,0.5s Shalkode	2.46 300		Pg	Pn	16 44 48.5	+1.0
SHLS	65nm,0.3s			Lg	Lg	16 45 22.0	
PDGK	157nm,0.5s Podgornoye	2.53 304		Pg	Pb	16 44 53.3	+0.4
PDGK	8.4nm,0.3s			Lg	Lg	16 45 30.1	
PDGK	25nm,0.8s Podgornoye	2.53 304		⇑Pg	Pb	16 44 52.6	-0.3
PDGK	19nm,0.7s			⇑Lg	Lg	16 45 28.4	
UZB	64nm,0.6s Uzynbulak	2.75 297		eP	Pb	16 44 57.0	+0.5
UZB	5.9nm,0.3s			eS	Sg	16 45 36.6	+0.8
UZB	36nm,0.5s Uzynbulak	2.75 297		Pg	Pb	16 44 57.1	+0.5
UZB	5.9nm,0.3s			Lg	Lg	16 45 36.6	
DJR	36nm,0.5s Jarkent	3.04 322		eP	Pb	16 45 02.7	+1.2
DJR	11nm,0.5s			eS	Sg	16 45 46.2	+1.1
DJR	22nm,0.4s Jarkent	3.04 322		Pg	Pb	16 45 02.7	+1.2
DJR	11nm,0.5s			Lg	Lg	16 45 46.2	
KPKS	22nm,0.4s Kokpek	3.11 300		eP	Pb	16 45 03.7	+1.0
KPKS	20nm,0.3s			eS	Sg	16 45 47.8	+0.4
SATY	94nm,0.4s Saty	3.13 292		eP	Pb	16 45 04.3	+1.1
SATY	7.3nm,0.3s			eS	Sg	16 45 48.7	+0.5
SATY	32nm,0.3s Saty	3.13 292		Pg	Pb	16 45 04.3	+1.1
SATY	7.3nm,0.3s			Lg	Lg	16 45 48.7	
MNBS	32nm,0.3s Baschi	3.60 307		eP	Pb	16 45 12.9	+1.7
MNBS	0.2nm,0.5s			eS	Sg	16 46 03.4	+0.2
MNBS	0.6nm,0.5s Baschi	3.60 307		Pg	Pb	16 45 12.9	+1.7
MNBS	0.2nm,0.5s			Lg	Lg	16 46 03.4	
KAPS	0.6nm,0.5s Kapalarasan	3.98 328		eP	Pb	16 45 19.5	+1.9
KAPS	11nm,0.6s			eS	Sg	16 46 14.0	-1.4
ARXS	14nm,0.7s Arharly	4.02 306		eP	Pb	16 45 20.6	+2.3
ARXS	11nm,0.6s			eS	Sg	16 46 16.6	-0.1
KOTS	15nm,0.7s Kotyrbulak	4.09 290		eP	Pb	16 45 21.4	+1.9
KOTS	20nm,0.6s			eS	Sg	16 46 17.8	-1.1
KOTS	29nm,0.5s Kotyrbulak	4.09 290		Pg	Pb	16 45 21.4	+1.9
KOTS	20nm,0.6s			Lg	Lg	16 46 17.8	
MDOK	29nm,0.5s Medeo	4.12 289		eP	Pb	16 45 22.1	+2.3
MDOK	4.1nm,0.5s			eS	Sg	16 46 18.8	-0.8
MDOK	12nm,0.7s Medeo	4.12 289		Pg	Pb	16 45 22.1	+2.3
MDOK	4.1nm,0.5s			Lg	Lg	16 46 18.8	
	12nm,0.7s						

TDK	**Taldyqorghan**	**4.20 318**	*eP*		**Pb**	**16 45 24.4**	**+3.2**
	32nm,0.5s						
TDK			*eS*		**Sg**	**16 46 22.9**	**+0.7**
	34nm,0.7s						
TDK	**Taldyqorghan**	**4.20 318**	Pg		**Pb**	**16 45 24.4**	**+3.2**
	32nm,0.5s						
TDK			Lg		Lg	16 46 22.9	
	34nm,0.7s						
CHKK	**Chushkaly**	**4.39 297**	*eP*		**Pb**	**16 45 27.6**	**+3.1**
	3.7nm,0.3s						
CHKK			*eS*		**Sg**	**16 46 28.5**	**+0.2**
	14nm,0.4s						
CHKK	**Chushkaly**	**4.39 297**	Pg		**Pb**	**16 45 27.6**	**+3.1**
	1.6nm,0.1s						
CHKK			Lg		Lg	16 46 28.9	
IZV	**Izvestkoviy**	**4.39 286**	*eP*		**Pb**	**16 45 26.9**	**+2.3**
	5.0nm,0.5s						
IZV			*eS*		**Sg**	**16 46 27.1**	**-1.5**
	11nm,0.7s						
IZV	**Izvestkoviy**	**4.39 286**	Pg		**Pb**	**16 45 26.9**	**+2.3**
	5.0nm,0.5s						
IZV			Lg		Lg	16 46 27.1	
	11nm,0.7s						
KTBS	**Karatobe**	**4.54 295**	*eP*		**Pb**	**16 45 30.1**	**+3.0**
	2.9nm,0.4s						
KTBS			*eS*		**Sg**	**16 46 32.6**	**-0.6**
	20nm,0.8s						
KTBS	**Karatobe**	**4.54 295**	Pg		**Pb**	**16 45 30.1**	**+3.0**
	2.9nm,0.4s						
KTBS			Lg		Lg	16 46 32.6	
	20nm,0.8s						
MTBS	**Maitube**	**4.55 287**	*eP*		**Pb**	**16 45 29.5**	**+2.3**
	2.6nm,0.1s						
MTBS			*eS*		**Sg**	**16 46 31.5**	**-2.0**
	8.6nm,0.5s						
MTBS	**Maitube**	**4.55 287**	Pg		**Pb**	**16 45 29.5**	**+2.3**
	2.6nm,0.1s						
MTBS			Lg		Lg	16 46 31.5	
	8.6nm,0.5s						
KUU	**Kurty**	**4.84 296**	*eP*		**Pb**	**16 45 34.8**	**+2.7**
	1.7nm,0.5s						
KUU			*eS*		**Sg**	**16 46 41.0**	**-1.7**
	8.8nm,0.5s						
KUU	**Kurty**	**4.84 296**	Pg		**Pb**	**16 45 34.8**	**+2.7**
KUU			Lg		Lg	16 46 41.0	
	8.8nm,0.5s						
MK31	**Makanchi Array**	**4.84 359**	⇓Pn		**Pn**	**16 45 21.9**	**+1.8**
	0.7nm,0.3s,baz=188,slow=12,SNR=43						
MK31			⇓Pg		**Pb**	**16 45 35.2**	**+3.1**
	2.1nm,0.5s,baz=170,slow=16,SNR=9.8						
MK31			⇑Lg		Lg	16 46 37.8	
	18nm,1.0s,baz=176,slow=26,SNR=5.5						
MAKZ	**Makanchi**	**4.86 357**	⇑Pn		**Pn**	**16 45 22.1**	**+1.8**
	1.9nm,0.8s						
MAKZ			⇑Lg		Lg	16 46 40.0	
	11nm,1.0s						
KST	**Kastek**	**4.86 285**	*eP*		**Pb**	**16 45 35.9**	**+3.3**
	8.5nm,0.5s						
KST			*eS*		**Sg**	**16 46 43.5**	**-0.1**
	8.2nm,0.8s						
KST	**Kastek**	**4.86 285**	Pg		**Pb**	**16 45 35.9**	**+3.3**
	8.5nm,0.5s						
KST			Lg		Lg	16 46 43.5	
	8.2nm,0.8s						
DGS	**Degeres**	**5.04 287**	*eP*		**Pb**	**16 45 39.1**	**+3.5**
	4.7nm,0.4s						
DGS			*eS*		**Sg**	**16 46 48.1**	**-1.2**
	11nm,0.7s						
DGS	**Degeres**	**5.04 287**	Pg		**Pb**	**16 45 39.1**	**+3.5**
	4.7nm,0.4s						
DGS			Lg		Lg	16 46 48.1	
	11nm,0.7s						
TKM2	**Tokmak 2**	**5.11 283**	⇑Pg		**Pb**	**16 45 40.3**	**+3.5**
	3.7nm,0.6s						
TKM2			⇓Lg		Lg	16 46 49.5	
	9.5nm,0.7s						
ZSN	**Zaisan**	**5.78 17**	*eP*		**Pb**	**16 45 50.2**	**+2.1**
	2.5nm,0.4s						
ZSN			*eS*		**Sg**	**16 47 07.8**	**-5.0**
	12nm,0.8s						
ZSN	**Zaisan**	**5.78 17**	Pg		**Pb**	**16 45 50.2**	**+2.1**
	2.5nm,0.4s						
ZSN			Lg		Lg	16 47 07.8	
	12nm,0.8s						
AAK	**Ala-Archa**	**5.88 279**	⇓Pg		**Pg**	**16 45 56.4**	**-3.8**
	2.9nm,0.9s						
AAK			⇓Lg		Lg	16 47 14.1	
	11nm,1.3s						
SGDS	**Sogindy**	**5.90 287**	Pg		**Pg**	**16 45 56.6**	**-3.9**
	2.2nm,0.7s						
SGDS			Lg		Lg	16 47 17.9	
	4.3nm,0.5s						

*IDC **15** 16:55:36.2±1.0, 32°.52N×95°.30E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/51, mbtmp3.7/9, ML3.7/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/47, Error ellipse: s-maj=64.1km s-min=17.6km az=59.0*
*BJI **15** 16:55:38.0±0.0, 32°.82N×95°.83E, h13km, mb3.9/3, ML3.7/4*
*NEIC **15** 16:55:42.6±1.3, 33°.0N±0°.1×96°.0E±0°.1, h41km±7km, mb4.0/14, Error ellipse: s-maj=16.7km s-min=13.0km az=145.0*

ISC 15 16:55:42.2±0.6, 32°.93N±0°.07×95°.98E±0°.10, h35km, n35, σ1§18/32, mb3.8/9, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.24 233**		P	**Pn**	**16 56 59.5**	**+1.0**
LSA				pmax	pmax		
	comp=Z,34nm,0.9s						
LSA	**Lhasa**	**5.24 233**		Pn	**Pn**	**16 56 59.2**	**+0.8**
GTA	**Gaotai**	**7.17 25**		⇓Pn	Pn	16 57 29.5	+4.8
WMQ	**Urumqi**	**12.66 332**		*eP*	**Pn**	**16 58 40.1**	**+0.4**
CHTO	**Chiang Mai**	**14.31 169**		Pn	**Pn**	**16 59 02.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**14.66 169**		Pn	**Pn**	**16 59 05.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=342,slow=10,SNR=7.5						
CMAR				LR	LR	17 05 33.7	
	comp=Z,44nm,18.5s,baz=5.0,slow=42						
CMAR	**Chiang Mai Arr**	**14.66 169**		Pn	**Pn**	**16 59 07.5**	**+0.5**
PRZ	**Przheval'sk**	**16.84 310**			**P**	**16 59 36.4**	**-0.8**
PRZ				IAmb	IAmb	16 59 50.6	
	comp=Z,32nm,1.2s						
SONM	**Songino Array**	**16.84 25**		P	**P**	**16 59 41.1**	**+4.0**
	comp=Z,0.3nm,0.3s,baz=209,slow=15,SNR=11						
SONM	**Songino Array**	**16.84 25**		P	**P**	**16 59 37.1**	**0.0**
ULN	**Ulaanbaatar**	**17.11 26**		Pn	**Pn**	**16 59 38.7**	**0.0**
ULN				IAmb	IAmb	16 59 45.4	
	comp=Z,5.4nm,1.2s						
MK31	**Makanchi Array**	**17.34 327**			**Pn**	**16 59 41.8**	**+0.3**
MKAR	**Makanchi Array**	**17.34 327**		P	**Pn**	**16 59 40.5**	**-1.0**
	baz=132,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**17.34 327**		P	**Pn**	**16 59 41.0**	**-0.4**
MAKZ	**Makanchi**	**17.50 326**			**Pn**	**16 59 43.3**	**-0.1**
GAR	**Garm**	**21.60 294**		P	**P**	**17 00 28.8**	**-0.4**
GAR				IAmb	IAmb	17 00 36.0	
	comp=Z,11nm,1.0s						
KURBB	**Kurchatov Arra**	**21.86 329**		P	**P**	**17 00 29.5**	**-2.1**
	comp=Z,0.4nm,0.2s,baz=181,slow=37,SNR=1.3						
KKAR	**Karatay Array**	**22.41 304**		P	**P**	**17 00 37.3**	**-0.4**
KBL	**Kabul**	**22.44 282**		P	**P**	**17 00 37.0**	**-1.3**
ZALV	**Zalesovo Beam**	**22.46 343**		P	**P**	**17 00 39.5**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=313,slow=42,SNR=2.0						
GEYT	**Alibeck**	**31.11 290**		P	**P**	**17 01 58.7**	**+1.4**
DAV	**Davao City (W)**	**37.64 127**		LR	LR	17 18 35.6	
	comp=Z,79nm,18.9s,baz=186,slow=36						
KBZ	**Khabaz**	**42.36 301**		LR	LR	17 24 21.7	
	comp=Z,41nm,18.2s,baz=32,slow=41						
FINES	**FINESS Array B**	**52.17 325**		P	**P**	**17 04 48.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=98,slow=4.2,SNR=1.7						
ARCES	**ARCESS Array B**	**52.75 335**		P	**P**	**17 04 53.5**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=310,slow=30,SNR=1.7						
NOA	**NORSAR Array B**	**59.34 326**		P	**P**	**17 05 40.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=78,slow=6.6,SNR=1.9						
KIWB	**Kanaga Island**	**63.07 44**		P	**P**	**17 06 05.2**	**-0.6**
WRA	**Warramunga Arr**	**64.09 140**		P	**P**	**17 06 12.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=333,slow=7.2,SNR=8.5						
WB2	**Warramunga Arr**	**64.10 140**		P	**P**	**17 06 13.4**	**+0.4**
WR0	**Warramunga Arr**	**64.22 139**		P	**P**	**17 06 14.7**	**+1.0**
SENIN	**Lac Senin/Sane**	**66.19 311**		P	**P**	**17 06 26.1**	**-0.5**
AS31	**Alice Springs**	**66.90 142**		P	**P**	**17 06 31.1**	**+0.1**
AS31				IAmb	IAmb	17 07 04.6	
	comp=Z,2.3nm,1.6s						
ASAR	**Alice Springs**	**66.90 142**		P	**P**	**17 06 30.4**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=323,slow=6.3,SNR=14						
ILAR	**Eielson Array**	**71.07 24**		P	**P**	**17 06 56.7**	**+0.3**
BCAR	**Beaver Creek A**	**73.89 24**		P	**P**	**17 07 10.8**	**-2.5**

WEL 15 16:59:36.3, 38°S±4°×17°E±°, h201km±5km, M2.5/25, MLv2.5/25, Error ellipse: s-maj=0.0km s-min=0.0km az=159.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMRZ	**Omania**	**0.20 150**		P	Pn	17 00 02.9	+0.2
RRRZ	**Republican Roa**	**0.46 153**		P	Pn	17 00 03.5	+0.2
WPRZ	**Whakapapatarin**	**0.59 187**		P	Pn	17 00 04.1	+0.3
TOZ	**Tahuroa Road**	**0.62 289**		P	Pn	17 00 04.5	+0.5
MUGZ	**Murupara**	**0.68 143**		P	Pn	17 00 03.9	-0.3
URZ	**Urewera**	**0.75 116**		P	Pn	17 00 04.1	-0.5
URZ				S	S	17 00 24.7	-1.8
RTZ	**Ruatahuna**	**0.89 140**		P	Pn	17 00 05.3	-0.2
RTZ				S	S	17 00 27.7	-0.4
MTHZ	**Maungataniwha**	**1.03 153**		P	Pn	17 00 06.2	-0.1
MTHZ				S	S	17 00 28.2	-1.4
MWZ	**Matawai**	**1.08 112**		P	Pn	17 00 06.6	-0.2
MWZ				S	S	17 00 28.7	-1.4
RUGZ	**Raukumara Rang**	**1.13 92**		P	Pn	17 00 06.3	-0.9
RUGZ				S	S	17 00 28.2	-2.6
RAHZ	**Arahi**	**1.18 146**		P	Pn	17 00 07.7	+0.3
RAHZ				S	S	17 00 30.8	-0.7
SNGZ	**Shannon Statio**	**1.21 135**		P	Pn	17 00 07.9	+0.3
SNGZ				S	S	17 00 31.0	-0.8
HAZ	**Te Kaha**	**1.23 82**		P	Pn	17 00 07.3	-0.5
HAZ				S	S	17 00 30.1	-1.6
HIZ	**Hauiti**	**1.24 242**		P	Pn	17 00 07.7	-0.1
NMHZ	**Naumai**	**1.24 160**		P	Pn	17 00 08.7	+0.8
NMHZ				S	S	17 00 32.5	+0.1
BKZ	**Black Stump Fm**	**1.24 171**		P	Pn	17 00 07.6	-0.4
BKZ				S	S	17 00 30.7	-1.7
TKGZ	**Te Karaka**	**1.36 112**		P	Pn	17 00 09.0	+0.3
WHHZ	**Waihua**	**1.38 146**		P	Pn	17 00 09.5	+0.6
RIGZ	**Rimuhau**	**1.42 123**		P	Pn	17 00 09.8	+0.5
ETAZ	**East Tamaki Re**	**1.44 313**		P	Pn	17 00 09.9	+0.4
ARHZ	**Aropaoanui**	**1.45 156**		P	Pn	17 00 09.9	+0.4
KWHZ	**Kaweka Forest**	**1.49 175**		P	Pn	17 00 10.0	0.0
MCHZ	**McNeill Hill**	**1.55 167**		P	Pn	17 00 10.9	+0.5
BHHZ	**Black Hill Sta**	**1.56 185**		P	Pn	17 00 10.0	-0.6
KNZ	**Kokohu**	**1.56 135**		P	Pn	17 00 10.6	+0.1
CNGZ	**Carnagh Statio**	**1.64 110**		P	Pn	17 00 12.1	+0.9
KRHZ	**Kereru**	**1.71 177**		P	Pn	17 00 11.7	-0.3
WMGZ	**Waiomatatini S**	**1.72 87**		P	Pn	17 00 12.1	+0.1
MHGZ	**Mahia Peninsul**	**1.78 134**		P	Pn	17 00 13.0	+0.4
KAHZ	**Kahuranaki**	**1.92 165**		P	Pn	17 00 14.0	0.0
TSZ	**Takapari Road**	**2.13 186**		P	Pn	17 00 15.4	-0.8
PXZ	**Pawanui**	**2.15 167**		P	Pn	17 00 15.7	-0.6
PRHZ	**Porangahau**	**2.35 173**		P	Pn	17 00 18.1	-0.4
MRZ	**Mangatainoka R**	**2.77 191**		P	Pn	17 00 21.4	-1.8
OGWZ	**Otaki Gorge**	**3.00 196**		P	Pn	17 00 24.0	-1.8
KIW	**Kapiti Island**	**3.10 199**		P	Pn	17 00 24.8	-2.3
CAW	**Cannon Point**	**3.30 196**		P	Pn	17 00 27.2	-2.2
MSWZ	**Moikau Station**	**3.56 192**		P	Pn	17 00 29.9	-2.7
TCW	**Tory Channel**	**3.61 204**		P	Pn	17 00 30.6	-2.6
PLWZ	**Palliser**	**3.71 192**		P	Pn	17 00 31.7	-2.8
TUWZ	**Tuamarina**	**3.92 206**		P	Pn	17 00 34.2	-2.8
NNZ	**Nelson**	**3.96 213**		P	Pn	17 00 34.0	-3.4
THZ	**Tophouse**	**4.61 213**		P	Pn	17 00 43.1	-2.6
KHZ	**Kahutara**	**4.93 204**		P	Pn	17 00 46.8	-2.9
DSZ	**Denniston Nort**	**5.12 221**		P	Pn	17 00 50.0	-2.1
GVZ	**Greta Valley S**	**5.59 205**		P	Pn	17 00 54.7	-3.5
LTZ	**Lake Taylor**	**5.71 211**		P	Pn	17 00 56.0	-3.8
INZ	**Inchbonnie**	**6.03 216**		P	Pn	17 00 58.4	-5.4
OKCZ	**Okains Bay**	**6.27 202**		P	Pn	17 01 03.1	-3.9
MQZ	**McQueen's Vall**	**6.38 204**		P	Pn	17 01 03.4	-4.9
ARCZ	**Arundel**	**7.13 211**		P	Pn	17 01 14.0	-4.1
ODZ	**Otahua Downs**	**8.25 209**		P	Pn	17 01 28.9	-3.7

*SOME **15** 17:07:09.6, 42°.40N×82°.93E, h10km*
*NNC **15** 17:07:14.5±2.2, 42°.14N×82°.43E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=18.6km s-min=10.0km az=163.0*

ISC 15 17:07:01.9±2.7, 42°.0N±0°.1×83°.04E±0°.07, h10km, n30, σ1§58/44, 7C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.87 294**		*eP*	**Pb**	**17 07 54.9**	**+1.6**
	43nm,0.4s						
SHLS				*eS*	**Sb**	**17 08 27.6**	**-1.0**
	145nm,0.5s						
PDGK	**Podgornoye**	**2.92 297**		Pg	**Pg**	**17 07 58.2**	**+0.4**
	8.3nm,0.5s						
PDGK				Lg	Lg	17 08 33.6	
	21nm,0.8s						
PDGK	**Podgornoye**	**2.92 297**		⇓Pg	**Pg**	**17 07 58.3**	**+0.4**
	17nm,0.7s						
PDGK				⇓Lg	Lg	17 08 33.6	
	50nm,0.8s						
UZB	**Uzynbulak**	**3.17 292**		*eP*	**Pg**	**17 08 03.7**	**+1.1**
	5.3nm,0.5s						
UZB				*eS*	**Sg**	**17 08 43.1**	**-0.5**
	37nm,0.5s						
UZB	**Uzynbulak**	**3.17 292**		Pg	**Pg**	**17 08 04.5**	**+1.9**
UZB				Lg	Lg	17 08 44.5	
DJR	**Jarkent**	**3.30 315**		*eP*	**Pg**	**17 08 04.5**	**-0.8**
	4.5nm,0.5s						
DJR				*eS*	**Sb**	**17 08 44.2**	**+3.2**
	19nm,0.3s						
DJR	**Jarkent**	**3.30 315**		Pg	**Pg**	**17 08 04.4**	**-0.8**
	4.5nm,0.5s						
DJR				Lg	Lg	17 08 44.2	
	19nm,0.3s						
KPKS	**Kokpek**	**3.51 295**		*eP*	**Pg**	**17 08 09.7**	**+0.5**
	15nm,0.2s						
KPKS				*eS*	**Sg**	**17 08 53.1**	**-1.6**
	50nm,0.6s						
MNBS	**Baschi**	**3.96 303**		*eP*	**Pg**	**17 08 18.1**	**+0.2**
	14nm,0.5s						
MNBS				*eS*	**Sg**	**17 09 07.7**	**-1.5**
	18nm,0.6s						
KAPS	**Kapalarasan**	**4.20 322**		*eP*	**Pb**	**17 08 17.8**	**+1.8**
	8.6nm,0.6s						
KAPS				*eS*	**Sb**	**17 09 07.3**	**+0.5**
	10nm,0.5s						
ARXS	**Arharly**	**4.39 301**		*eP*	**Pg**	**17 08 26.6**	**+0.6**
	9.8nm,0.4s						
ARXS				*eS*	**Sg**	**17 09 22.3**	**-0.7**
	14nm,0.5s						
ARXS	**Arharly**	**4.39 301**		Pg	**Pg**	**17 08 26.6**	**+0.6**
	9.8nm,0.4s						
ARXS				Lg	Lg	17 09 22.3	
	14nm,0.5s						
MDOK	**Medeo**	**4.56 286**		*eP*	**Pg**	**17 08 28.9**	**-0.4**
	4.5nm,0.3s						
MDOK				*eS*	**Sg**	**17 09 26.0**	**-2.5**
	10nm,0.8s						
MDOK	**Medeo**	**4.56 286**		Pg	**Pg**	**17 08 28.9**	**-0.4**
	4.5nm,0.3s						
MDOK				Lg	Lg	17 09 26.0	
	11nm,0.6s						
MK31	**Makanchi Array**	**4.78 354**		⇑Pn	**Pb**	**17 08 27.5**	**+1.7**
	0.4nm,0.3s,baz=187,slow=11,SNR=32						
MK31				⇑Pg	Pg	17 08 39.1	+5.6
	1.6nm,0.5s,baz=174,slow=15,SNR=8.0						
MK31				⇓Lg	Lg	17 09 43.7	
	13nm,0.8s,baz=176,slow=27,SNR=4.8						
CHKK	**Chushkaly**	**4.80 294**		*eP*	**Pg**	**17 08 33.2**	**-0.6**
	1.5nm,0.2s						
CHKK				*eS*	**Sg**	**17 09 33.3**	**-2.7**
	12nm,0.4s						
CHKK	**Chushkaly**	**4.80 294**		Pg	**Pg**	**17 08 33.2**	**-0.6**
	1.5nm,0.2s						
CHKK				Lg	Lg	17 09 33.3	
	12nm,0.4s						
MAKZ	**Makanchi**	**4.83 351**		⇑Pn	**Pb**	**17 08 28.7**	**+2.1**
	1.8nm,0.7s						
MAKZ				⇑Lg	Lg	17 09 45.1	
	12nm,1.1s						
KTBS	**Karatobe**	**4.96 292**		*eP*	**Pg**	**17 08 35.5**	**-1.5**
	2.6nm,0.3s						
KTBS				*eS*	**Sg**	**17 09 37.5**	**-3.7**
	18nm,0.5s						
KTBS	**Karatobe**	**4.96 292**		Pg	**Pg**	**17 08 35.5**	**-1.5**
	2.6nm,0.3s						
KTBS				Lg	Lg	17 09 37.5	
	19nm,0.7s						
KUU	**Kurty**	**5.25 293**		*eP*	**Pg**	**17 08 41.5**	**-1.1**
	4.8nm,0.1s						
KUU				*eS*	**Sg**	**17 09 47.5**	**-3.1**
	8.1nm,0.5s						
KUU	**Kurty**	**5.25 293**		Pg	**Pg**	**17 08 41.5**	**-1.1**
KUU				Lg	Lg	17 09 47.6	
KST	**Kastek**	**5.33 283**		*eP*	**Pg**	**17 08 44.0**	**0.0**
	4.7nm,0.4s						
KST				*eS*	**Sg**	**17 09 52.1**	**-0.8**
	14nm,0.8s						
KST	**Kastek**	**5.33 283**		Pg	**Pg**	**17 08 43.9**	**0.0**
	4.7nm,0.4s						
KST				Lg	Lg	17 09 52.1	
	14nm,0.8s						
DGS	**Degeres**	**5.50 285**		*eP*	**Pg**	**17 08 46.9**	**-0.2**
	4.7nm,0.5s						
DGS				*eS*	**Sg**	**17 09 57.0**	**-1.3**
	6.7nm,0.7s						
DGS	**Degeres**	**5.50 285**		Pg	**Pg**	**17 08 46.9**	**-0.2**
	4.7nm,0.5s						
DGS				Lg	Lg	17 09 57.0	
	6.7nm,0.7s						
ZSN	**Zaisan**	**5.56 13**		*eP*	**Pg**	**17 08 47.8**	**-0.7**
	2.2nm,0.3s						
ZSN				*eS*	**Sg**	**17 09 59.0**	**-1.5**
	6.0nm,0.8s						
ZSN	**Zaisan**	**5.56 13**		Pg	**Pg**	**17 08 46.3**	**-2.2**
	2.2nm,0.3s						
ZSN				Lg	Lg	17 09 55.9	
	4.4nm,0.5s						
TKM2	**Tokmak 2**	**5.58 282**		⇑Pg	**Pg**	**17 08 49.8**	**+1.1**
	2.1nm,0.7s						
TKM2				⇑Lg	Lg	17 09 59.6	
	8.9nm,0.7s						
AAK	**Ala-Archa**	**6.36 278**		⇓Pg	**Pg**	**17 09 00.9**	**-2.9**
	2.0nm,0.9s						
AAK				⇑Lg	Lg	17 10 23.8	
	6.4nm,1.1s						

*NEIC **15** 17:27:59.6±1.4, 21°.3S±0°.2×179°.2W±0°.1, h612km±9km, mb4.4/27, Error ellipse: s-maj=23.0km s-min=19.1km az=160.0*
*IDC **15** 17:28:02.5±2.5, 21°.18S×179°.43W, h642km±32km, mb3.3/13, mb1 3.5/14, mb1mx3.3/29, mbtmp4.3/14, Error ellipse: s-maj=21.8km s-min=14.4km az=162.0*

ISC 15 17:27:58.6±0.5, 21°.28S±0°.08×179°.19W±0°.07, h600km, n59, σ1§16/60, mb4.3/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.38 323**		P	**P**	**17 29 29.9**	**+2.9**
NIUE	**Niue**	**8.97 77**		P	**P**	**17 30 08.3**	**+1.0**
AFI	**Afiamalu**	**10.18 45**		S	**S**	**17 32 12.0**	**-2.8**
	2.5nm,0.3s,baz=68,slow=23,SNR=6.5						
AFI	**Afiamalu**	**10.18 45**		P	**P**	**17 30 18.6**	**-0.8**
DZM	**Mont Dzumac**	**13.38 264**		P	**P**	**17 30 51.3**	**-0.1**
	0.8nm,0.3s,baz=119,slow=13,SNR=10.0						
DZM	**Mont Dzumac**	**13.38 264**		P	**P**	**17 30 51.6**	**+0.2**
SANVU	**Saraoutou**	**14.15 292**		P	**P**	**17 30 58.9**	**-0.1**
URZ	**Urewera**	**17.22 190**		P	**P**	**17 31 24.6**	**-2.3**
	1.4nm,0.3s,baz=258,slow=2.9,SNR=7.1						
URZ	**Urewera**	**17.22 190**		P	**P**	**17 31 24.8**	**-2.1**
BKZ	**Black Stump Fm**	**18.21 191**		P	**P**	**17 31 33.8**	**-2.2**
BKZ				IAmb	IAmb	17 31 55.0	
	comp=Z,13nm,1.2s						
QRZ	**Quartz Range**	**20.72 198**		P	**P**	**17 31 58.1**	**-0.5**
KHZ	**Kahutara**	**21.94 195**		P	**P**	**17 32 07.6**	**-1.9**
WHZ	**Wether Hill Ro**	**26.71 200**		P	**P**	**17 32 52.8**	**+1.2**
EIDS	**Eidsvold**	**27.57 256**		P	**P**	**17 32 59.5**	**0.0**
EIDS				IAmb	IAmb	17 33 00.5	
	comp=Z,7.1nm,0.6s						
ARMA	**Armidale**	**27.73 245**		P	**P**	**17 33 01.3**	**+0.5**
ARMA				IAmb	IAmb	17 33 03.2	
	comp=Z,10nm,1.4s						
CTA	**Charters Tower**	**32.31 266**		P	**P**	**17 33 40.7**	**+0.6**
	comp=Z,11nm,0.4s,baz=90,slow=11,SNR=12						
CTAO	**Charters Tower**	**32.31 266**		P	**P**	**17 33 40.8**	**+0.6**
PMG	**Port Moresby**	**34.45 285**		P	**P**	**17 33 58.0**	**-0.1**
	comp=Z,29nm,1.0s,baz=84,slow=3.4,SNR=4.7						
PMG	**Port Moresby**	**34.45 285**		P	**P**	**17 33 58.2**	**+0.1**
STKA	**Stephens Creek**	**36.45 245**		P	**P**	**17 34 14.3**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=91,slow=12,SNR=14						
STKA	**Stephens Creek**	**36.45 245**		P	**P**	**17 34 14.5**	**+0.1**
COEN	**Coen**	**36.53 275**		P	**P**	**17 34 16.1**	**+0.8**
COEN				IAmb	IAmb	17 34 33.1	
	comp=Z,18nm,1.4s						
BBOO	**Buckleboo**	**41.20 244**		P	**P**	**17 34 52.5**	**-0.1**
BBOO				IAmb	IAmb	17 35 14.0	
	comp=Z,28nm,1.5s						
WR0	**Warramunga Arr**	**43.21 263**		P	**P**	**17 35 07.9**	**-0.5**
AS31	**Alice Springs**	**43.26 258**		P	**P**	**17 35 08.5**	**-0.3**
ASAR	**Alice Springs**	**43.26 258**		P	**P**	**17 35 08.7**	**-0.2**
	comp=Z,11nm,0.8s,baz=90,slow=7.8,SNR=248						
ASAR				ScP	**ScP**	**17 39 39.9**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=105,slow=4.7,SNR=8.3						
ASAR				S	**S**	**17 40 50.1**	**-3.8**
	comp=Z,0.8nm,0.8s,baz=95,slow=16,SNR=8.7						
ASAR	**Alice Springs**	**43.26 258**		P	**P**	**17 35 08.3**	**-0.6**
ASAR					**ScP**	**17 39 39.9**	**+0.9**
WB0	**Warramunga Arr**	**43.38 263**		P	**P**	**17 35 08.9**	**-0.8**
WB0				IAmb	IAmb	17 35 09.8	
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**43.38 263**		P	**P**	**17 35 09.1**	**-0.7**
WB2				IAmb	IAmb	17 35 10.0	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**43.39 263**		P

WRA	**Warramunga Arr**	**36.51**	**123**	P	P	17 44 43.6	+1.1
	0.1nm,0.3s,baz=304,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**37.94**	**128**	P	P	17 44 54.8	+0.1
	0.3nm,0.7s,baz=298,slow=7.8,SNR=9.0						
STKA	**Stephens Creek**	**48.01**	**133**	P	P	17 46 15.9	-0.3
	2.4nm,1.1s,baz=317,slow=8.1,SNR=2.2						

*THR **15** 17:59:49.5±0.4, 32°.52N×47°.47E, h18km±3km, ML3.7*
*TEH **15** 17:59:51.4, 32°.68N×47°.78E, h8km, ML3.6*
*ISN **15** 17:59:51.8±1.5, 32°.66N×47°.77E, h15km±6km, ML3.4*
ISC 15 17:59:51.9±1.3, 32°.68N±0°.03×47°.75E±0°.03, h4km±12km, n57, σ1§05/63, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.40**	**271**	*e*Pg	**Pg**	**17 59 59.8**	**+0.2**
IKFM	**Kafar-mosalman**	**0.85**	**5**	*e*Pg	**Pg**	**18 00 07.6**	**-0.6**
IKMR	**Kamar-syah**	**0.99**	**32**	*e*		18 00 31.0	
IKMR				*e*Pg	**Pg**	**18 00 09.9**	**-1.0**
SHGR	**Shooshtar-Gavs**	**1.05**	**122**	*e*Pg	**Pg**	**18 00 11.9**	**-0.2**
SHGR				IAML		18 00 32.5	
	comp=N,1μm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.05**	**122**	*e*Pg	**Pg**	**18 00 11.9**	**-0.2**
IDOB	**Doab**	**1.16**	**18**	*e*Pg	**Pn**	**18 00 15.0**	**-0.2**
BMDN	**Meydan**	**1.34**	**42**	*e*Pg	**Pb**	**18 00 17.1**	**-0.6**
BMDN				*e*		18 00 40.7	
IKOM	**Komasi**	**1.51**	**352**	*e*Pg	**Pb**	**18 00 20.8**	**+0.2**
IKOM				*e*		18 00 24.4	
AHWZ	**Ahwaz**	**1.54**	**150**	*e*Pg	**Pn**	**18 00 21.3**	**+1.2**
AHWZ				*e*Sg	**Sg**	**18 00 43.3**	**+1.9**
IBDR	**Badra**	**1.59**	**286**	*e*Pg	**Pn**	**18 00 21.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**18 00 42.0**	**0.0**
IBDR				AML	AML	18 00 48.5	
	comp=N,300nm,0.7s						
IBDR				AML	AML	18 00 56.3	
	comp=E,205nm,0.3s						
HSAM	**Samen**	**1.69**	**25**	*e*Pg	**Pg**	**18 00 23.7**	**-0.6**
HSAM				*e*		18 00 51.8	
KCHF	**Cheshme Sefid,**	**1.70**	**340**	*e*Pg	**Pg**	**18 00 24.4**	**-0.2**
KCHF				*e*		18 00 55.2	
KER	**Kermanshah**	**1.78**	**343**	*e*Pg	**Pg**	**18 00 25.4**	**-0.7**
IBZA	**Bozab**	**1.79**	**3**	*e*Pg	**Pg**	**18 00 26.1**	**-0.2**
IBZA				*e*		18 00 58.1	
IGHG	**Ghaleghazi**	**1.92**	**329**	*e*Pn	**Pb**	**18 00 27.1**	**-0.6**
IGHG				*e*		18 01 09.3	
IVIS	**Veis**	**2.00**	**338**	*e*Pn	**Pb**	**18 00 27.6**	**-1.2**
KHMZ	**Khomeyn**	**2.13**	**60**	*e*Pn	**Pb**	**18 00 30.3**	**-0.9**
KHMZ	**Khomeyn**	**2.13**	**60**	*e*Pn	**Pb**	**18 00 30.3**	**-0.9**
NSR	**Nassriya**	**2.15**	**220**	*e*Pn	**Pn**	**18 00 28.0**	**-0.6**
NSR				*e*Sn	**Sn**	**18 00 55.0**	**-0.8**
NSR				AML	AML	18 01 10.0	
	comp=E,798nm,0.2s						
IALM	**Almabolaq**	**2.21**	**9**	*e*Pn	**Pb**	**18 00 31.0**	**-1.5**
IDHR	**Dehrash**	**2.32**	**331**	*e*Pn	**Pn**	**18 00 32.1**	**+1.0**
IDHR				*e*		18 01 13.8	
HAGD	**Aghdareh**	**2.43**	**28**	*e*Pn	**Pn**	**18 00 33.9**	**+1.2**
HAGD				*e*		18 00 40.1	
SNGE	**Sanandaj**	**2.44**	**352**	*e*Pn	**Pn**	**18 00 32.4**	**-0.3**
SNGE				*e*Sg	**Sg**	**18 01 10.3**	**+0.2**
SNGE	**Sanandaj**	**2.44**	**352**	*e*Pn	**Pn**	**18 00 32.4**	**-0.3**
JHBN	**Jahan bin**	**2.50**	**99**	*e*Pn	**Pn**	**18 00 34.3**	**+0.6**
JHBN				*e*		18 01 19.3	
HSRG	**Sareghieh**	**2.60**	**10**	*e*Pn	**Pn**	**18 00 36.4**	**+1.4**
HSRG				*e*		18 01 26.0	
IPIR	**Pirpir**	**2.65**	**89**	*e*Pn	**Pn**	**18 00 36.0**	**+0.3**
IPIR				*e*		18 01 22.7	
ROKH	**ROKH**	**2.79**	**96**	*e*Pn	**Pn**	**18 00 38.3**	**+0.7**
ROKH				*e*		18 01 25.8	
BHD	**Baghdad**	**2.90**	**283**	*e*Pn	**Pn**	**18 00 39.0**	**+0.2**
BHD				*e*Sn	**Sn**	**18 01 15.0**	**+0.9**
BHD				AML	AML	18 01 57.1	
	comp=E,351nm,0.5s						
QAM	**Ghamsar**	**3.27**	**70**	*e*Pn	**Pn**	**18 00 46.0**	**+1.8**
QAM				*e*		18 01 40.2	
IKLH	**Kolahrood**	**3.28**	**78**	*e*Pn	**Pn**	**18 00 46.5**	**+2.2**
IKLH				*e*		18 01 36.3	
QABG	**Abgarm-Qazvin**	**3.38**	**26**	*e*Pn	**Pn**	**18 00 46.9**	**+1.2**
GHVR	**GHOM**	**3.46**	**58**	*e*Pn	**Pn**	**18 00 48.4**	**+1.7**
GHVR	**GHOM**	**3.46**	**58**	*e*Pn	**Pn**	**18 00 48.4**	**+1.7**
IGAR	**Gharneh**	**3.63**	**93**	*e*Pn	**Pn**	**18 00 49.7**	**+0.6**
IGAR				*e*		18 00 50.2	
KLNJ	**Kolanjah**	**3.66**	**116**	*e*Pn	**Pn**	**18 00 49.2**	**-0.5**
KLNJ				*e*		18 01 58.5	
IZEF	**Zefreh**	**3.86**	**86**	*e*Pn	**Pn**	**18 00 53.4**	**+1.1**
KRSH	**Karshahi**	**3.89**	**69**	*e*Pn	**Pn**	**18 00 53.6**	**+1.0**
QSDN	**Sirdan**	**4.00**	**17**	*e*Pn	**Pn**	**18 00 56.3**	**+2.2**
IRAM	**Ramesheh**	**4.01**	**101**	*e*Pn	**Pn**	**18 00 54.0**	**-0.4**
ZNJK	**Zanjan**	**4.06**	**11**	*e*Pn	**Pn**	**18 00 56.1**	**+1.1**
ZNJK	**Zanjan**	**4.06**	**11**	*e*Pn	**Pn**	**18 00 56.1**	**+1.1**
CHTH	**Charan**	**4.26**	**40**	*e*Pn	**Pn**	**18 00 59.7**	**+1.9**
CHTH	**Charan**	**4.26**	**40**	*e*Pn	**Pn**	**18 00 59.7**	**+1.9**
QALM	**Alamut, Qazvin**	**4.44**	**32**	*e*Pn	**Pn**	**18 01 01.8**	**+1.5**
IDMV	**Damavand**	**4.58**	**50**	*e*Pn	**Pn**	**18 01 03.2**	**+1.0**
AHBU	**AHRAM**	**4.87**	**140**	*e*Pn	**Pn**	**18 01 04.8**	**-1.1**
ANAR	**Anarak**	**5.05**	**83**	*e*Pn	**Pn**	**18 01 09.1**	**+0.5**
ISAD	**Sadrabad**	**5.08**	**97**	*e*Pn	**Pn**	**18 01 09.2**	**+0.1**
IFIR	**Firoozkooh**	**5.09**	**53**	*e*Pn	**Pn**	**18 01 10.3**	**+1.0**
MSL	**Mosul**	**5.34**	**315**	*e*Pn	**Pn**	**18 01 13.0**	**+0.6**
MSL				*e*Sn	**Sn**	**18 02 14.0**	**-0.3**
IALA	**Alasht**	**5.39**	**49**	*e*Pn	**Pn**	**18 01 15.1**	**+1.8**
ISHM	**Shahmirzad**	**5.55**	**54**	*e*Pn	**Pn**	**18 01 16.1**	**+0.6**
IMEH	**Mehriz**	**5.96**	**101**	*e*Pn	**Pn**	**18 01 20.5**	**-0.7**
IGLO	**Ghaloghah**	**6.30**	**51**	*e*Pn	**Pn**	**18 01 26.6**	**+0.8**
TPRV	**Parvadeh(Tabas**	**7.52**	**85**	*e*Pn	**Pn**	**18 01 42.9**	**+0.4**
TKDS	**Koohdasht(Taba**	**7.91**	**81**	*e*Pn	**Pn**	**18 01 47.2**	**-0.7**

*IDC **15** 18:01:09.3±2.7, 30°.32S×177°.33W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/37, mbtmp3.8/3, Error ellipse: s-maj=53.6km s-min=26.9km az=90.0*
*NEIC **15** 18:01:16.2±0.3, 30°.05±0°.2×177°.3W±0°.3, h48km±12km, mb4.3/6, Error ellipse: s-maj=47.1km s-min=10.6km az=49.0*
ISC 15 18:01:15.0±1.4, 30°.3S±0°.1×177°.4W±0°.2, h35km, n14, σ1§21/15, mb4.2/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.11**	**334**	Pn	**Pn**	**18 01 32.9**	**-1.2**
	189nm,0.3s,baz=78,slow=10,SNR=9.5						
RAO				Sn	**Sn**	**18 01 50.6**	**+2.4**
	374nm,0.3s,baz=266,slow=22,SNR=8.4						
RAO	**Raoul Island**	**1.11**	**334**		**Pn**	**18 01 32.7**	**-1.4**
CTA	**Charters Tower**	**34.32**	**279**	P	**P**	**18 07 58.3**	**-0.1**
	3.4nm,1.0s,baz=135,slow=4.3,SNR=1.9						
ASAR	**Alice Springs**	**43.66**	**267**	P	**P**	**18 09 14.9**	**-1.7**
	0.2nm,0.5s,baz=106,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**43.66**	**267**	P	**P**	**18 09 17.7**	**+1.2**
WR0	**Warramunga Arr**	**44.46**	**272**	P	**P**	**18 09 22.9**	**0.0**
WR0				IAmb	IAmb	18 09 34.5	
	comp=Z,8.7nm,1.4s						
WB2	**Warramunga Arr**	**44.63**	**272**	P	**P**	**18 09 24.8**	**+0.5**
WB2				IAmb	IAmb	18 09 43.6	
	comp=Z,5.5nm,1.2s						
WRAB	**Tennant Creek**	**44.63**	**272**	P	**P**	**18 09 24.4**	**0.0**
WRAB				IAmb	IAmb	18 09 38.1	
	comp=Z,8.0nm,1.3s						
WRA	**Warramunga Arr**	**44.64**	**272**	P	**P**	**18 09 24.9**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=110,slow=8.1,SNR=22						
WRA	**Warramunga Arr**	**44.64**	**272**	P	**P**	**18 09 24.6**	**+0.2**
WB0	**Warramunga Arr**	**44.66**	**272**	P	**P**	**18 09 24.7**	**+0.1**
PMSA	**Palmer Station**	**72.16**	**156**	P	**P**	**18 12 36.9**	**+1.2**
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc	**PKPbc**	**18 20 47.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=60,slow=3.9,SNR=10						
FINES	**FINESS Array B**	**145.20**	**340**		**PKPbc**	**18 20 46.4**	**-1.4**

IDC 15 18:12:12.4±2.8, 6°.39S×130°.25E, h113km±36km, mb3.5/1, mb1 3.3/5, mb1mx3.0/37, mbtmp3.6/5, Error ellipse: s-maj=71.6km s-min=21.0km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.58**	**11**	P	Pn	18 13 33.3	+0.2
	3.7nm,0.3s,baz=156,slow=19,SNR=19						
FITZ	**Fitzroy Crossi**	**12.47**	**201**	P	Pn	18 15 06.2	+0.1
	0.5nm,0.3s,baz=1.4,slow=10.0,SNR=26						
FITZ				S	Sn	18 17 17.3	-6.1
	0.1nm,0.3s,baz=179,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**14.04**	**164**	P	Pn	18 15 24.6	-1.9
	0.1nm,0.3s,baz=347,slow=13,SNR=13						
WRA				S	Sn	18 17 52.2	-9.2
	0.4nm,0.3s,baz=342,slow=21,SNR=9.0						
ASAR	**Alice Springs**	**17.53**	**169**	P	Pn	18 16 10.7	+0.9
	0.1nm,0.3s,baz=357,slow=11,SNR=17						
ASAR				S	Sn	18 19 16.9	-8.5
	0.1nm,0.3s,baz=347,slow=25,SNR=5.0						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	18 22 58.5	-0.1
	0.4nm,0.4s,baz=118,slow=7.2,SNR=11						

*MOS **15** 18:14:11.7±1.9, 46°.91N×141°.79E, h8km, mb4.2/5, Error ellipse: s-maj=10.5km s-min=6.7km az=93.2*
MOS Felt (IV) at Nevel'sk;(III-IV) at Gornozavodsk; (II) at Shebunino.
*IDC **15** 18:14:12.6±0.7, 46°.72N×141°.75E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.7/40, mbtmp3.6/15, ML3.8/2, MS3.1/3, Ms1 3.1/3, ms1mx2.5/57, Error ellipse: s-maj=17.9km s-min=12.9km az=87.0*
*NIED **15** 18:14:12.3, 46°.91N×141°.74E, h14km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.72; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-0.75; $M_{r\theta}$0.09; $M_{\theta\phi}$-0.00; $M_{\phi r}$-0.91; Fault plane solution: $M_0$1.17000×10¹⁵ NP1: ϕ_s176.00000°, δ71.00000°, λ87.00000°. NP2:ϕ_s5.00000°, δ20.00000°, λ99.00000°.*
*JMA **15** 18:14:12.2±0.4, 46°.91N×141°.74E, h14km, M4.2*
*SKHL **15** 18:14:13.3±0.8, 46°.81N×141°.74E, h10km, mb4.9/11, Ms3.5/2*
SKHL Felt (IV)at Nevel'sk, (III-IV) at Gornozavodsk, (III) at Shebunino.
*NEIC **15** 18:14:14.2±0.8, 46°.76N±0°.09×141°.77E±0°.09, h10km±1km, mb4.6/18, Error ellipse: s-maj=16.5km s-min=8.8km az=339.0*
ISC 15 18:14:14.4±1.2, 46°.78N±0°.03×141°.78E±0°.04, h12km±8km, n98, σ1§37/100, mb4.0/26, 7C-5D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.69**	**75**	*i* Pg	**Pg**	**18 14 27.8**	**-0.1**
YSS				AMB	AMB	18 14 28.0	
	200nm,0.6s						
YSS				*e*Sg	**Sb**	**18 14 38.1**	**+0.2**
YSS				A	A	18 14 40.1	
	6μm,0.3s						
YSS				A	A	18 14 40.1	
	7μm,0.3s						
YSS				AMS	AMS	18 15 40.8	
	5μm,13.0s						
YSS				AMS	AMS	18 15 40.8	
	2μm,13.0s						
YSS				AMS	AMS	18 15 40.8	
	3μm,13.0s						
YSS	**Yuzh-Sakhalins**	**0.69**	**75**	*e i*PN	**Pg**	**18 14 27.9**	**+0.1**
YSS				*e*		18 14 38.4	
YSS				smax	smax		
	comp=N,5μm,0.5s						
YSS				smax	smax		
	comp=E,5μm,0.8s						
YSS				pmax	pmax		
	comp=E,2μm,0.3s						
YSS				pmax	pmax		
	comp=N,3μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.69**	**75**		**Pg**	**18 14 27.7**	**-0.1**
JRBN	**Rebuntou**	**1.45**	**200**	P	**Pn**	**18 14 39.3**	**-1.0**
JRBN				*e*S	**Sn**	**18 14 58.1**	**-1.1**
JWK2	**Keihoku**	**1.47**	**177**	P	**Pn**	**18 14 40.4**	**-0.2**
JWK2				*e*S	**Sg**	**18 15 00.6**	**-1.0**
JRR	**Rishiri**	**1.68**	**191**	P	**Pn**	**18 14 43.7**	**+0.2**
JRR				*e*S	**Sg**	**18 15 06.6**	**-1.6**
JSE	**Soyaes**	**1.91**	**163**	P	**Pn**	**18 14 46.3**	**-0.4**
JSE				*e*S	**Sn**	**18 15 11.2**	**+0.6**
UGL	**Uglegorsk**	**2.31**	**5**	*i* Pg	**Pg**	**18 14 58.7**	**+0.2**
UGL				AMB	AMB	18 15 03.5	
	comp=N,140nm,0.8s						
UGL				*e*Sg	**Sg**	**18 15 31.0**	**+2.6**
UGL				A	A	18 15 35.6	
	comp=N,700nm,0.8s						
UGL				A	A	18 15 35.6	
	comp=N,840nm,0.8s						
UGL	**Uglegorsk**	**2.31**	**5**	⇑*i*PN	**Pg**	**18 14 59.2**	**+0.7**
UGL				*e*S	**Sb**	**18 15 23.7**	**-0.6**
UGL				pmax	pmax		
	comp=Z,249nm,0.8s						
UGL				pmax	pmax		
	comp=E,316nm,0.7s						
UGL				smax	smax		
	comp=E,847nm,0.8s						
UGL				smax	smax		
	comp=N,700nm,0.7s						
JYG	**Yagishiri**	**2.37**	**186**	P	**Pn**	**18 14 53.9**	**+0.9**
JYG				*e*S	**Sb**	**18 15 23.9**	**-2.1**
JSS	**Shosan**	**2.38**	**179**	P	**Pn**	**18 14 53.3**	**+0.1**
ASAJ	**Asahikawa**	**2.73**	**167**	Pn	**Pn**	**18 14 58.3**	**+0.3**
	comp=N,18nm,0.3s,baz=360,slow=13,SNR=209						
ASAJ				Lg	Lg	18 15 38.2	
	comp=N,26nm,0.3s,baz=170,slow=30,SNR=9.3						
ASAJ	**Asahikawa**	**2.73**	**167**	P	**Pn**	**18 14 58.2**	**+0.3**
JKA	**Kamikawa-asahi**	**2.73**	**167**		**Pn**	**18 14 58.3**	**+0.4**
JKK2	**Kamakawa 2**	**2.99**	**166**	P	**Pn**	**18 15 01.8**	**+0.3**
JMP	**Maruseppu**	**2.99**	**158**	P	**Pn**	**18 15 00.8**	**-0.8**
JTKR	**Abashiri--Toko**	**3.19**	**151**	P	**Pn**	**18 15 03.3**	**-0.9**
GRPR	**Tuman**	**3.96**	**133**	*i* P	**Pg**	**18 15 33.7**	**+3.5**
GRPR				AMB	AMB	18 15 34.5	
	comp=N,10.0nm,0.6s						
GRPR				*e*S	Sg	18 16 37.5	+16
GRPR				A	A	18 16 38.1	
	comp=N,10.0nm,0.5s						
GRPR	**Tuman**	**3.96**	**133**	*e*PN	**Pn**	**18 15 15.4**	**+0.5**
GRPR				pmax	pmax		
	comp=Z,75nm,0.2s						
TEY	**Ternei**	**4.01**	**246**	*e*P	**Pn**	**18 15 16.3**	**+0.7**
TEY				AMB	AMB	18 15 17.4	
	comp=Z,14nm,0.5s						
TEY				*e*S	**Sn**	**18 16 02.6**	**+0.2**
TEY				A	A	18 16 03.7	
	comp=Z,60nm,0.7s						
TEY				A	A	18 16 03.7	
	comp=Z,40nm,0.7s						
TEY				AMS	AMS	18 17 17.3	
	comp=Z,860nm,14.0s						
TEY				AMS	AMS	18 17 17.3	
	comp=Z,460nm,14.0s						
TEY	**Ternei**	**4.01**	**246**	⇑*e*PN	**Pn**	**18 15 15.5**	**-0.1**
TEY				pmax	pmax		
	comp=E,20nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
GLVR	**Golovnino**	**4.03**	**138**	*e*P	**Pn**	**18 15 16.4**	**+0.6**
GLVR				AMB	AMB	18 15 18.3	
	comp=Z,50nm,0.3s						
GLVR				*e*S	**Sn**	**18 16 03.3**	**+0.4**
GLVR				A	A	18 16 05.1	
	comp=Z,40nm,0.4s						
GLVR				A	A	18 16 05.1	
	comp=Z,80nm,0.4s						
GLVR	**Golovnino**	**4.03**	**138**	*e*PN	**Pn**	**18 15 16.4**	**+0.6**
GLVR				pmax	pmax		
	comp=Z,51nm,0.3s						
NMR	**Nemuro--Hokkai**	**4.41**	**139**	⇑*i*PN	**Pn**	**18 15 21.2**	**+0.1**
KUR	**Kuril'sk**	**4.52**	**108**	PN	**Pn**	**18 15 22.6**	**+0.1**
KUR				pmax	pmax		
	comp=Z,28nm,0.5s						
KUR				pmax	pmax		
	comp=N,17nm,0.4s						
ERM	**Erimo**	**4.87**	**168**	*d i*PN	**Pn**	**18 15 31.7**	**+4.4**
ERM	**Erimo**	**4.87**	**168**		Pn	18 15 31.9	+4.6
GRNR	**Gornyy**	**5.33**	**320**	⇓*i*PN	**Pn**	**18 15 33.7**	**0.0**
GRNR				*e*S	**Sn**	**18 16 37.5**	**+2.5**
GRNR				pmax	pmax		
	comp=E,7.0nm,0.5s						
GRNR				pmax	pmax		
	comp=N,5.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GRNR				smax	smax		
	comp=N,7.0nm,0.5s						
GRNR				MLR	MLR		
	comp=E,90nm,18.0s						
GRNR				MLR	MLR		
	comp=N,170nm,17.0s						
GRNR				MLR	MLR		
	comp=Z,170nm,13.0s						
USRK	**Ussuriysk Ar.**	**7.35**	**253**	Pn	**Pn**	**18 16 01.6**	**+0.2**
	baz=70,slow=14,SNR=4.1						
USRK				Lg	Lg	18 18 04.2	
	baz=61,slow=29,SNR=4.9						
EKMR	**Ekimchan**	**8.48**	**321**	*e*P	Pn	18 16 24.0	+7.0
EKMR				AMB	AMB	18 16 33.9	
	comp=Z,10.0nm,0.5s						
EKMR				*e*Sg	Sg	18 18 54.0	+7.7
EKMR				A	A	18 19 02.5	
	comp=Z,18nm,0.8s						
EKMR				A	A	18 19 02.5	
	comp=Z,10.0nm,0.8s						
JMM	**Marumori**	**8.94**	**185**	Pn	**Pn**	**18 16 22.8**	**-0.4**
JSD	**Sado**	**9.12**	**198**		**Pn**	**18 16 28.8**	**+3.1**
MJA0	**Matsu Arr-Jizo**	**10.56**	**196**	*e*PN	Pn	18 16 51.5	+5.9
MAJO	**Matsushiro**	**10.57**	**196**	PN	**Pn**	**18 16 46.3**	**+0.7**
MAJO	**Matsushiro**	**10.57**	**196**	Pn	**Pn**	**18 16 46.3**	**+0.7**
MJAR	**Matsushiro Arr**	**10.57**	**196**	Pn	**Pn**	**18 16 44.8**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=354,slow=10,SNR=1.2						
MJAR	**Matsushiro Arr**	**10.57**	**196**	PN	**Pn**	**18 16 45.3**	**-0.3**
MJAR	**Matsushiro Arr**	**10.57**	**196**		**Pn**	**18 16 45.3**	**-0.3**
BMKR	**Bomnak**	**11.39**	**319**	*e*Sg		18 20 24.0	
BMKR				A	A	18 20 25.0	
	comp=Z,4.0nm,0.5s						
PETK	**Petropavlovsk-**	**12.04**	**52**	LR	LR	18 22 43.9	
	comp=Z,74nm,18.6s,baz=331,slow=42						
PETK	**Petropavlovsk-**	**12.04**	**52**	*e*PN	Pn	18 16 57.9	-7.7
JWT	**Wachi**	**12.45**	**205**		**Pn**	**18 17 14.1**	**+2.8**
PET	**Petropavlovsk**	**12.53**	**54**	*i* PN	**Pn**	**18 17 10.2**	**-2.1**
KSRS	**Korea Array**	**13.86**	**233**	LR	LR	18 23 01.9	
	comp=Z,59nm,18.2s,baz=254,slow=38						
MA2	**Magadan**	**13.88**	**19**	⇑*e*P	**Pn**	**18 17 26.8**	**-3.9**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SEY	**Seymchan**	**17.26**	**16**	P	**P**	**18 18 17.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=250,slow=15,SNR=3.1						
SEY	**Seymchan**	**17.26**	**16**	⇑*e*P	**Pn**	**18 18 09.7**	**-5.2**
SONM	**Songino Array**	**23.89**	**286**	P	**P**	**18 19 28.5**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=344,slow=42,SNR=2.5						
SONM				LR	LR	18 28 59.6	
	comp=Z,46nm,19.5s,baz=206,slow=37						
SONM	**Songino Array**	**23.89**	**286**	P	**P**	**18 19 27.7**	**-0.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.5s						
SONM	**Songino Array**	**23.89**	**286**	P	**P**	**18 19 27.6**	**-0.1**
ZAK	**Zakamensk**	**25.52**	**292**	*e*P	P	18 19 50.7	+8.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
IMAR	**Indian Mountai**	**38.37**	**37**	P	**P**	**18 21 35.0**	**+0.1**
MK31	**Makanchi Array**	**39.86**	**293**	P	**P**	**18 21 48.0**	**+0.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**39.86**	**293**	P	**P**	**18 21 48.0**	**+0.4**
MKAR	**Makanchi Array**	**39.86**	**293**	P	**P**	**18 21 48.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=75,slow=8.3,SNR=7.0						
MKAR				PcP	**PcP**	**18 23 53.5**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=122,slow=31,SNR=2.3						
MKAR	**Makanchi Array**	**39.86**	**293**	P	**P**	**18 21 47.7**	**+0.1**
MAKZ	**Makanchi**	**40.06**	**293**	P	**P**	**18 21 49.7**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MAKZ	**Makanchi**	**40.06**	**293**	P	**P**	**18 21 49.7**	**+0.5**
CNPM	**China Poot**	**40.36**	**46**	P	**P**	**18 21 52.0**	**+0.5**
KURK	**Kurchatov**	**40.71**	**300**	⇓*e*P	**P**	**18 21 50.2**	**-4.3**
MDM	**Murphy Dome**	**40.76**	**38**	P	**P**	**18 21 56.1**	**+1.3**
COLA	**College**	**40.93**	**38**	⇑*e*P	**P**	**18 21 52.2**	**-4.0**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CCB	**Clear Creek Bu**	**40.99**	**38**	P	**P**	**18 21 57.1**	**+0.5**
CCB				IAmb	IAmb	18 22 02.8	
	comp=Z,12nm,1.7s						
GHO	**Glory Hole Cre**	**41.01**	**43**	P	**P**	**18 21 58.0**	**+1.0**
GHO				IAmb	IAmb	18 21 58.2	
	comp=Z,11nm,0.7s						
IL31		**41.36**	**38**	P	**P**	**18 21 59.5**	**-0.1**
ILAR	**Eielson Array**	**41.36**	**38**	P	**P**	**18 21 60.0**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=283,slow=8.3,SNR=22						
HDA	**Harding Lake**	**41.39**	**38**	P	**P**	**18 22 00.3**	**+0.3**
HDA				IAmb	IAmb	18 22 10.4	
	comp=Z,11nm,1.6s						
SCM	**Sheep Creek Mo**	**41.74**	**42**	P	**P**	**18 22 03.7**	**+0.8**
SCM				pmax	pmax		
	comp=Z,53nm,1.7s						
SCM	**Sheep Creek Mo**	**41.74**	**42**	P	**P**	**18 22 03.7**	**+0.8**
BMAR	**Burnt Mountain**	**41.85**	**34**	P	**P**	**18 22 05.1**	**+1.3**
RIDG	**Independent Ri**	**42.43**	**39**	P	**P**	**18 22 08.1**	**-0.4**
RIDG				IAmb	IAmb	18 23 40.2	
	comp=Z,23nm,1.7s						
DOT	**Dot Lake**	**42.79**	**39**	P	**P**	**18 22 10.8**	**-0.7**
DOT				IAmb	IAmb	18 22 52.2	
	comp=Z,12nm,1.6s						
EGAK	**Eagle**	**43.76**	**37**	P	**P**	**18 22 19.4**	**+0.3**
EGAK				IAmb	IAmb	18 22 25.3	
	comp=Z,7.2nm,0.8s						
BCAR	**Beaver Creek A**	**43.93**	**40**	P	**P**	**18 22 21.7**	**+1.0**
AAK	**Ala-Archa**	**46.68**	**291**	⇑*e*P	P	18 22 37.3	-5.6
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**48.98**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN				S	Sn	18 25 58.4	-0.6
JJT3	Tamagusuku3	1.47	65	P	Pn	18 25 44.7	+1.1
JJT3				eS	Sn	18 26 03.7	+2.0
JTJ	Tarama	1.70	239	P	Pn	18 25 46.2	-0.7
JTJ				eS	Sn	18 26 07.8	+0.3
JNTH	Nagotoyohara	1.83	57	P	Pn	18 25 47.4	-1.2
JISG	Ishigakijimahi	2.04	243	P	Pn	18 25 50.6	-0.9
JISG				eS	Sn	18 26 16.1	+0.4
JIH	Iheya	2.12	44	P	Pn	18 25 51.8	-0.7
JOW	Kunigami	2.19	53	P	Pn	18 25 52.1	-1.5
JIJ	Ishigaki jima	2.28	240	P	Pn	18 25 54.6	-0.2
JYRO	Yoronjima	2.44	52	P	Pn	18 25 56.2	-0.7
JKRS	Kuro-shima	2.45	239	P	Pn	18 25 56.9	-0.2
IRIF	Iriomote-Funau	2.62	244	P	Pn	18 25 59.3	-0.2
JOKE	Okinoerabujima	2.73	47	P	Pn	18 25 58.9	-2.1
YOJ	Yonaguni jima	3.17	251	Pn	Pn	18 26 05.7	-1.3
NACB	Ningancliiao	4.49	254	Pn	Pn	18 26 23.2	-1.9
YHNB	Yeheng	4.55	260	Pn	Pn	18 26 24.6	-1.4
YULB	Yu-li	5.04	246	Pn	Pn	18 26 29.2	-3.4
SSLB	Suanglung	5.17	252	Pn	Pn	18 26 32.7	-1.8
TPUB	Ta-pu	5.63	248	Pn	Pn	18 26 39.8	-1.0
KSRS	Korea Array	11.97	6	LR	LR	18 33 02.7	
	comp=Z,46nm,18.6s,baz=235,slow=36						
SONM	Songino Array	27.25	330	P	P	18 31 02.2	+3.3
	0.9nm,0.5s,baz=146,slow=11,SNR=8.7						
SONM	Songino Array	27.25	330	P	P	18 30 59.4	+0.5
MK31	Makanchi Array	40.73	313	P	P	18 32 55.6	+0.2
MKAR	Makanchi Array	40.73	313	P	P	18 32 55.5	+0.2
	1.1nm,0.4s,baz=98,slow=9.2,SNR=37						
MAKZ	Makanchi	40.94	313	P	P	18 32 57.2	+0.1
MAKZ				IAmb	IAmb	18 33 05.1	
	comp=Z,2.4nm,1.4s						
ZALV	Zalesovo Beam	41.78	324	P	P	18 33 03.2	-0.6
	comp=Z,0.6nm,0.5s,baz=107,slow=9.7,SNR=4.0						
ZALV	Zalesovo Beam	41.78	324	P	P	18 33 03.5	-0.3
KURK	Kurchatov	44.16	318	P	P	18 33 23.4	+0.3
KURK				IAmb	IAmb	18 33 45.3	
	comp=Z,3.9nm,1.4s						
KURBB	Kurchatov Arra	44.19	317	P	P	18 33 23.6	+0.3
	comp=Z,0.6nm,0.3s,baz=108,slow=9.0,SNR=7.8						
WRA	Warramunga Arr	45.86	169	P	P	18 33 35.0	-1.9
	comp=Z,0.1nm,0.6s,baz=354,slow=8.5,SNR=1.3						
WRA	Warramunga Arr	45.86	169	P	P	18 33 34.9	-2.0
WR0	Warramunga Arr	45.91	169	P	P	18 33 34.7	-2.5
WR0				IAmb	IAmb	18 33 42.6	
	comp=Z,4.4nm,1.2s						
ABKAR	Akbulak array	55.87	314	P	P	18 34 52.1	+0.2
FIA1	FINESS Array S	72.62	330	P	P	18 36 42.2	+0.9
FINES	FINESS Array B	72.62	330	P	P	18 36 41.8	+0.5
	comp=Z,0.5nm,0.3s,baz=53,slow=5.8,SNR=13						
AKASG	Malin Array Be	74.94	319	P	P	18 36 55.4	+0.4
	comp=Z,0.4nm,0.4s,baz=67,slow=6.2,SNR=3.5						
AKASG	Malin Array Be	74.94	319	P	P	18 36 55.8	+0.7
BURAR	Bucovina Array	78.58	317	P	P	18 37 17.3	+1.4
NB2	NORSAR Subarra	79.17	333	P	P	18 37 18.8	+0.1
	comp=Z,0.4nm,0.5s,baz=54,slow=5.6						
NOA	NORSAR Array B	79.17	333	P	P	18 37 18.8	+0.1
	comp=Z,0.7nm,0.6s,baz=56,slow=5.7,SNR=4.5						
NOA				LR	LR	19 14 43.2	
	comp=Z,118nm,20.0s,baz=275,slow=37						

ANF ***15*** *18:27:05.7±2.6, 29°.22N×114°.19W, h0km, ML5.3/12, Error ellipse: s-maj=32.0km s-min=9.2km az=10.0*

NEIC ***15*** *18:27:20.7, 30°.43N×114°.26W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=6.41; Mθθ=0.18; Mφφ=6.23; Mrθ=1.56; Mθφ=1.98; Mφr=-2.46; Fault plane solution: M0=7.23000×10^16 NP1:φs=359.55000°, δ=55.59000°, λ=-110.57000°. NP2:φs=213.14000°, δ=39.43000°, λ=-62.84000°. Principal axes: T 7.1008, Plg8.0000°, Azm104.0000°; N 0.2603, Plg17.0000°, Azm12.0000°; P -7.3610, Plg71.0000°, Azm220.0000°;*

UNK ***15*** *18:27:20.8, 30°.44N×114°.27W, h10km*

NEIC ***15*** *18:27:20.6±2.0, 30°.42N±0°.07×114°.28W±0°.07, h10km±1km, mb4.9/231, Mwr5.2/62, Mww5.4, Mwc5.4(GCMT), Error ellipse: s-maj=12.4km s-min=8.3km az=210.0*

MEX ***15*** *18:27:23.2±0.5, 30°.21N×114°.32W, h5km±18km, MD5.2*

IDC ***15*** *18:27:23.3±0.7, 30°.49N×114°.25W, h0km, mb4.5/23, mb1 4.6/28, mb1mx4.4/47, mbtmp4.4/28, ML4.2/5, MS4.8/37, Ms1 4.8/37, ms1mx4.8/44, Error ellipse: s-maj=18.2km s-min=8.9km az=43.0*

ECX ***15*** *18:27:23.4±0.6, 30°.56N×114°.20W, h16km±3km, MD4.9, ML5.1, Fault plane solution: NP1:φs0.00000°, δ90.00000°, λ0.00000°.*

GCMT ***15*** *18:27:25.6±0.1, 30°.48N±0°.01×114°.27W±0°.01, h12km, MW5.3/157, Moment Tensor Solution. s96,c146; s157,c327; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=1.15±.01; Mθθ=0.03±.01; Mφφ 1.18±.01; Mrθ=0.22±.04; Mθφ 0.33±.01; Mφr=0.56±.04; Best double couple: M0=1.34600×10^17 NP1:φs=190.00000°, δ32.00000°, λ=96.00000°. NP2:φs=18.00000°, δ58.00000°, λ=86.00000°. Principal axes: T 1.4000, Plg13.0000°, Azm105.0000°; N -0.1090, Plg3.0000°, Azm196.0000°; P -1.2930, Plg76.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *18:27:26, 30°.50N×114°.32W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=1.23; Mθθ=0.11; Mφφ 1.34; Mrθ=0.18; Mθφ 0.31; Mφr=0.08; Fault plane solution: M0=1.34000×10^17 NP1:φs=183.00000°, δ43.00000°, λ=102.00000°. NP2:φs=20.00000°, δ48.00000°, λ=79.00000°. Principal axes: T 1.4090, Plg2.0000°, Azm102.0000°; N -0.1495, Plg8.0000°, Azm192.0000°; P -1.2595, Plg81.0000°, Azm356.0000°;*

NEIC ***15*** *18:27:28, 30°.43N×114°.26W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=1.21; Mθθ=0.04; Mφφ 1.17; Mrθ=0.43; Mθφ=0.43; Mφr=0.09; Fault plane solution: M0=1.34000×10^17 NP1:φs=3.00000°, δ42.00000°, λ=115.00000°. NP2:φs=215.00000°, δ52.00000°, λ=68.00000°. Principal axes: T 1.3372, Plg5.0000°, Azm290.0000°; N 0.0074, Plg17.0000°, Azm22.0000°; P -1.3447, Plg73.0000°, Azm183.0000°;*

ISC 15 18:27:21.0±0.9, 30°.49N±0°.03×114°.21W±0°.02, h4km±5km, n582, σ1$90/522, mb4.9/107, MS4.9/38, 4C-8D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.78	315	Pg	Pg	18 27 35.9	0.0
SFX	San Felipe	0.78	315	⇓eP	Pg	18 27 36.1	+0.2
SFX				eS	Sg	18 27 46.7	+0.7
SFX				IAML		18 27 49.3	
	comp=E,77μm,0.7s						
SFX				⇓e		18 27 49.3	
SPX	San Pedro Mart	1.21	297	eP	Pb	18 27 43.5	-1.2
SPX	San Pedro Mart	1.21	297	Pn	Pb	18 27 43.3	-1.4
SPX	San Pedro Mart	1.21	297	⇓eP	Pb	18 27 43.5	-1.2
SPX				eS	Sb	18 28 00.2	-0.6
SPX				IAML		18 28 05.9	
	comp=N,27μm,0.9s						
SPIG	San Pedro Mart	1.22	298	eP	Pb	18 27 44.4	-0.4
SPIG	San Pedro Mart	1.22	298	⇓eP	Pb	18 27 44.5	-0.2
SPIG				eS	Sb	18 28 00.6	-0.4
PIX	Pinacate	1.25	31		Pn	18 27 43.9	-1.4
PIX	Pinacate	1.25	31	⇓eP	Pn	18 27 43.9	-1.4
SQX	San Quintin	1.44	274	⇓eP	Pb	18 27 48.0	-0.4
SQX				eS	Sg	18 28 06.9	-0.4
SQX				IAML		18 28 16.8	
	comp=N,40μm,0.6s						
SQX				⇓e		18 28 16.8	
214A	Organ Pipe Nat	1.89	39	P	Pn	18 27 54.1	0.0
	baz=220,SNR=385						
214A	Organ Pipe Nat	1.89	39		Pn	18 27 53.8	-0.3
GUVIX	Guadalupe Vict	1.96	338		Pn	18 27 55.0	+0.1
ESJX	Sierra Juarez	2.12	316	Pn	Pn	18 27 55.9	-1.5
CPBX	Cerro Prieto	2.14	334	Pn	Pn	18 27 56.4	-1.1
CPBX	Cerro Prieto	2.14	334	eP	Pn	18 27 57.6	+0.1
CPBX				IAML		18 29 18.6	
	comp=N,33μm,1.4s						
CPBX				⇑e		18 29 18.6	
113A	Mohawk Valley,	2.30	9	Pn	Pn	18 27 59.0	-0.7
UABX	UABC, Campus M	2.38	334		Pn	18 28 01.3	+0.5
CCX	Cicese	2.51	304	Pn	Pn	18 28 02.2	-0.4
GLA	Glamis	2.61	349	P	Pn	18 28 04.6	+0.6
	baz=170,SNR=68						
GLA	Glamis	2.61	349		Pn	18 28 03.9	-0.1
RMX	La Rumorosa	2.64	323		Pn	18 28 03.3	-1.2
IKP	In-Ko-Pah, Jac	2.70	324	P	Pn	18 28 05.1	-0.1
	baz=144,SNR=20						
IKP				S	Sg	18 28 48.7	+1.0
	baz=144						
SWSC	Sam W. Stewart	2.80	331	P	Pn	18 28 06.3	-0.3
	baz=152,SNR=28						
TJIG	Tijuana	2.86	313	iP	Pn	18 28 09.0	+1.5
TJIG				iS	Sn	18 28 44.0	+1.5
TKX	Tecate	2.91	316	Pn	Pn	18 28 07.3	-0.9
BAR	Barrett	3.03	317	Pn	Pn	18 28 09.8	0.0
MONP2	Monument Peak	3.05	322	P	Pn	18 28 09.4	-0.8
	baz=143,SNR=31						
MONP2				S	Sg	18 29 00.1	+1.1
	baz=143						
TJX	Tijuana	3.16	310		Pn	18 28 09.4	-2.1
HSIG		3.19	116	eP	Pn	18 28 11.0	-1.0
HSIG				iS	Sn	18 28 48.0	-2.5
HSIG		3.19	116	Pn	Pn	18 28 12.6	+0.6
HSIG		3.19	116	⇑eP	Pn	18 28 12.8	+0.8
BC3	Big Chuckawall	3.33	342	P	Pn	18 28 14.4	+0.4
	baz=162,SNR=44						
109C	Camp Elliot, M	3.44	315	P	Pn	18 28 13.7	-1.6
	baz=135,SNR=10						
109C				S	Sb	18 29 09.1	+4.5
	baz=135						
109C	Camp Elliot, M	3.44	315	Pn	Pn	18 28 15.8	+0.4
TUC	Tucson	3.45	57	Pn	Pn	18 28 15.9	+0.3
Y14A	Wickenburg	3.59	16		Pn	18 28 18.2	+0.7
SRIG	Santa Rosalia	3.60	151	iP	Pn	18 28 14.6	-3.0
SRIG				iS	Sn	18 28 54.2	-6.4
SRIG	Santa Rosalia	3.60	151		Pn	18 28 18.6	+1.1
XPFO	Pion Flat	3.65	329	Pn	Pn	18 28 17.6	-0.8
PFO	Pinyon Flats O	3.65	329	Pn	Pn	18 28 18.8	+0.4
	comp=N,4.2nm,0.3s,baz=146,slow=12,SNR=25						
PFO				Lg	Lg	18 29 19.3	
	comp=N,40nm,0.3s,baz=168,slow=9.6,SNR=5.9						
PFO				LR	LR	18 29 51.6	
	comp=N,22μm,19.5s,baz=164,slow=41						
PFO	Pinyon Flats O	3.65	329	P	Pn	18 28 18.2	-0.3
	baz=149,SNR=18						
PFO	Pinyon Flats O	3.65	329		Pn	18 28 18.1	-0.3
IRM	Iron Mountain	3.74	348	P	Pn	18 28 20.5	+0.9
	baz=168,SNR=29						
PDMCI	Parker Dam,Lak	3.80	1	P	Pn	18 28 21.5	+1.1
	baz=182,SNR=41						
BELC	Belle Mtn. Jos	3.82	337	P	Pn	18 28 21.3	+0.6
	baz=157,SNR=11						
GUYB	Guaymas	3.90	131	eP	Pn	18 28 23.0	+1.4
MURC	Murrieta	4.01	322	P	Pn	18 28 22.3	-0.9
	baz=141,SNR=31						
MURC				S	Sb	18 29 26.1	+5.1
	baz=141						
NEE2	Needles Airpor	4.28	355	P	Pn	18 28 29.3	+2.3
	baz=176						
GMRC	Granite Mounta	4.46	344	P	Pn	18 28 30.0	+0.5
	baz=164,SNR=15						
X16A	Lo Mia Camp, P	4.56	30		Pn	18 28 31.7	+0.7
W13A	Hualapai Mount	4.61	3	Pn	Pn	18 28 33.6	+2.0
MWC	Mount Wilson	4.95	320		Pn	18 28 41.5	+5.2
RRX	Edison Barstow	4.96	332	P	Pn	18 28 35.7	-0.7
	baz=152						
PASC	Pasadena Art C	4.98	319		Pn	18 28 36.8	+0.2
DECC	Green Verdugo	5.12	318	P	Pn	18 28 35.0	-3.6
	baz=137						
TUQ	Turquoise Moun	5.14	344	P	Pn	18 28 40.4	+1.5
	baz=164						
GSC	Goldstone, Bar	5.27	336	P	Pn	18 28 42.1	+1.5
	baz=156						
GSC	Goldstone, Bar	5.27	336		Pn	18 28 41.0	+0.3
CGIG		5.38	90	eP	Pn	18 28 44.2	+1.9
CGIG				iS	Sn	18 29 45.8	+1.0
EDW2	Edwards Air Fo	5.42	325	P	Pn	18 28 41.7	-0.9
	baz=144,SNR=19						
WUAZ	Wupatki	5.55	25	P	Pn	18 28 46.5	+2.0
	baz=206,SNR=55						
WUAZ	Wupatki	5.55	25	Pn	Pn	18 28 44.6	0.0
OSI	Osito Audit: C	5.61	318		Pn	18 28 44.4	-0.8
LRMC	Laurel Mtn Rad	5.77	331	P	Pn	18 28 50.0	+2.4
	baz=149						
121A	Cookes Peak, D	5.85	68	Pn	Pn	18 28 49.9	+1.2
W18A	Petrified Fore	5.96	38	P	Pn	18 28 51.3	+1.1
	baz=220,SNR=98						
W18A	Petrified Fore	5.96	38		Pn	18 28 50.9	+0.7
SHPR	Sheep Range	6.05	353	Pn	Pn	18 28 51.9	+0.4
U15A	North Rim	6.14	15		Pn	18 28 56.0	+3.3
MPMC	Manual Prospec	6.20	335	P	Pn	18 28 56.1	+2.7
	baz=154						
ISA	Isabella, Lake	6.28	326	P	Pn	18 28 55.7	+1.2
	baz=145						
ISA	Isabella, Lake	6.28	326	Pn	Pn	18 28 54.0	-0.4
FURC	Furnace Creek,	6.36	340	P	Pn	18 28 59.3	+3.8
	baz=160						
PKM	Mcpherson Peak	6.45	314	P	Pn	18 28 56.4	-0.5
	baz=132						
LCMT	Little Creek M	6.56	7		Pn	18 29 00.3	+2.0
KNB	Kanab	6.61	10	Pn	Pn	18 29 01.9	+2.8
TPNV	Topopah Spring	6.66	346	P	Pn	18 29 02.0	+2.1
	baz=165,SNR=31						
TPNV	Topopah Spring	6.66	346	Pn	Pn	18 29 01.6	+1.8
VES	Vestal, Richgr	6.72	324	P	Pn	18 29 02.6	+2.1
	baz=142						
CWC	Cottonwood Cre	6.76	332	P	Pn	18 29 02.8	+1.6
	baz=151						
SMMC	Simmler	6.84	316	P	Pn	18 29 01.5	-0.7
	baz=134						
PRN	Pahroc Range	6.94	354	Pn	Pn	18 29 05.4	+1.8
CCUT	Cedar City	7.08	5	Pn	Pn	18 29 09.0	+3.4
PKCU	Pink Cliffs	7.12	12		Pn	18 29 09.3	+3.2
Y22D	IRIS PASSCAL I	7.13	58	Pn	Pn	18 29 06.6	+0.3
LENM	Lemitar	7.14	57		Pn	18 29 05.5	-0.9
SZCU	Shurtz Canyon	7.15	7		Pn	18 29 10.1	+3.5
PAGB	Antelope Grade	7.28	317	Pn	Pn	18 29 08.5	+0.3
BNM	Barren Site	7.38	58	Pn	Pn	18 29 11.2	+1.4
MNTX	Cornudas Mount	7.67	79	P	Pn	18 28 59.3	-14
	baz=263						
MNTX	Cornudas Mount	7.67	79	Pn	Pn	18 29 16.3	+2.8
MTPU	Mount Pierson	7.72	12	Pn	Pn	18 29 18.9	+4.4
ANMO	Albuquerque	7.90	54	P	Pn	18 29 13.0	-3.9
	baz=238						
ANMO	Albuquerque	7.90	54	Pn	Pn	18 29 18.7	+1.8
R11A	Troy Canyon, C	7.92	352	P	Pn	18 29 19.5	+2.3
	baz=172,SNR=19						
R11A	Troy Canyon, C	7.92	352	Pn	Pn	18 29 20.1	+3.0
PMPB	Monarch Peak	7.94	318	Pn	Pn	18 29 16.0	-1.2
TPH	Tonopah	7.97	343		Pn	18 29 17.6	-0.2
PSUT	Pine Spring	8.03	2	Pn	Pn	18 29 19.8	+1.1
OMMB	Old Mammoth Mi	8.14	332	Pn	Pn	18 29 20.8	+0.6
MVU	Marysvale	8.16	11		Pn	18 29 21.2	+0.7
MSU	Marysvale	8.18	11	Pn	Pn	18 29 20.6	-0.1
MDPB	Devils Postpil	8.19	332	Pn	Pn	18 29 22.8	+1.9
MVCO	Mesa Verde	8.21	34	P	Pn	18 29 20.7	-0.5
	baz=217,SNR=18						
MVCO	Mesa Verde	8.21	34	Pn	Pn	18 29 24.8	+3.5
TCRU	Three Creeks R	8.23	10	Pn	Pn	18 29 19.0	-2.4
LHV	Little Huntoon	8.52	337		Pn	18 29 29.1	+4.0
NV11	Mina Array Sit	8.57	339		Pn	18 29 25.4	-0.5
GDL2	Guadalupe Moun	8.59	76	Pn	Pn	18 29 23.7	-2.6
NVAR	Mina Array Bea	8.61	338	Pn	Pn	18 29 34.6	+8.0
	comp=N,0.3nm,0.3s,baz=164,slow=14,SNR=21						
NVAR				Lg	Lg	18 32 07.9	
	comp=N,0.1nm,0.3s,baz=166,slow=34,SNR=2.0						
NVAR				LR	LR	18 32 51.5	
	comp=N,3μm,19.1s,baz=148,slow=38						
NVAR	Mina Array Bea	8.61	338	Pn	Pn	18 29 24.9	-1.7
SAO	San Andreas Ge	8.69	318	Pn	Pn	18 29 26.1	-1.4
Q16A	Castle Valley	8.77	16		Pn	18 29 29.0	+0.2
PV13	Radium Mtn., P	8.85	29		Pn	18 29 29.0	-1.0
RYN	Ryan	8.86	338	Pn	Pn	18 29 33.7	+3.7
PV18	Skein Mesa, Pa	8.89	28	Pn	Pn	18 29 33.1	+2.7
PV17	East Wray Mesa	8.90	28		Pn	18 29 30.3	-0.3
PV19	Morning Glory	8.91	28	Pn	Pn	18 29 29.3	-1.5
PV03	Paradox Valley	8.92	28		Pn	18 29 35.0	+4.1
PV02	Paradox Valley	8.93	29		Pn	18 29 30.7	-0.3
PV01	Paradox Valley	8.94	30		Pn	18 29 29.9	-1.3
PV16	Nyswonger Mesa	8.94	28		Pn	18 29 33.0	+1.8
PV20	West Nyswonger	8.95	28	Pn	Pn	18 29 31.4	+0.1
PV11	David Mesa, Pa	8.95	28		Pn	18 29 31.4	+0.1
PV10	Paradox Valley	8.95	27	Pn	Pn	18 29 32.3	+1.0
PV14	Lion Creek, Pa	8.95	27		Pn	18 29 36.2	+4.8
PV12	Saucer Basin,	8.99	28		Pn	18 29 34.0	+2.1
PV04	Paradox Valley	9.02	28		Pn	18 29 34.7	+2.5
PV23	Carpenter Ridg	9.03	27		Pn	18 29 32.8	+0.5
WAKR	Walker	9.08	333		Pn	18 29 31.6	-1.5
CMB	Columbia Colle	9.10	327		Pn	18 29 31.9	-1.2
SRU	San Rafael Swe	9.12	18		Pn	18 29 36.6	+3.0
KVN	Kaiserville	9.12	341	Pn	Pn	18 29 38.1	+4.5
TMUT	Trail Mountain	9.13	15		Pn	18 29 35.2	+1.4
PV21	Cone Mtn., Par	9.14	27		Pn	18 29 35.7	+1.9
PV15	Paradox Valley	9.15	30		Pn	18 29 36.9	+2.8
PV07	Paradox Valley	9.16	29		Pn	18 29 36.4	+2.2
PV22	Blue Mesa, Par	9.19	28		Pn	18 29 36.8	+2.3
TX31	Lajitas Ar. Si	9.22	95		Pn	18 29 34.9	-0.1
TX32	Lajitas Array	9.22	95		Pn	18 29 34.9	0.0
TXAR	Lajitas Array	9.22	95	Pn	Pn	18 29 37.9	+3.0
	comp=N,2.1nm,0.3s,baz=265,slow=15,SNR=25						
TXAR				Lg	Lg	18 32 21.3	
	comp=N,2.6nm,0.3s,baz=241,slow=28,SNR=5.2						
TXAR	Lajitas Array	9.22	95	Pn	Pn	18 29 35.0	+0.1
P17A	Butcher Ranch,	9.40	17		Pn	18 29 38.0	+0.5
YERR	Yerington	9.43	335		Pn	18 29 36.5	-1.4
S22A	4UR Ranch, Cre	9.47	38	P	Pn	18 29 36.5	-2.0
	baz=222,SNR=6.3						
S22A	4UR Ranch, Cre	9.47	38	Pn	Pn	18 29 35.5	-3.0
NLU	North Lily Min	9.61	10	Pn	Pn	18 29 39.9	-0.4
PNTR	Pine Nut	9.65	334		Pn	18 29 39.5	-1.4
DUG	Dugway, Tooele	9.75	6	P	Pn	18 29 45.8	+3.6
	baz=187,SNR=12						
DUG	Dugway, Tooele	9.75	6	Pn	Pn	18 29 46.1	+3.9
RUBR	Rubicon Trail	9.84	332	Pn	Pn	18 29 47.2	+3.7
AFDM	Forest Hills D	10.11	328	Pn	Pn	18 29 48.1	+1.2
PAHR	Pah Rah Range	10.12	337	Pn	Pn	18 29 51.6	+4.3
SDCO	Great Sand Dun	10.22	43	P	Pn	18 29 46.2	-2.6
	baz=227,SNR=16						
SDCO	Great Sand Dun	10.22	43	Pn	Pn	18 29 50.8	+2.1
ELK	Elko	10.27	356	Pn	Pn	18 29 51.2	+1.9
MSTX	Muleshoe	10.29	67	Pn	Pn	18 29 51.0	+1.5
JLU	Jordanelle	10.34	12	Pn	Pn	18 29 54.4	+4.1
CTU	Camp Tracy	10.38	10	Pn	Pn	18 29 49.7	-1.1
BGU	Big Grassy Mou	10.46	5	Pn	Pn	18 29 53.5	+1.6
T25A	Trinidad	10.50	48	P	Pn	18 29 49.5	-3.1
	baz=234,SNR=38						
T25A	Trinidad	10.50	48	Pn	Pn	18 29 56.6	+4.0
RDMU	Red Mountain	10.74	19		Pn	18 29 59.4	+3.6
O20A	White River Ci	10.79	25	Pn	Pn	18 30 00.9	+4.5
ORV	Oroville	10.84	329		Pn	18 29 57.5	+0.6
TCUT	Toone Canyon	10.85	11	Pn	Pn	18 29 56.3	-1.0
SPUT	South Promonto	10.89	7		Pn	18 29 58.0	+0.2
GDXM	Geysers	10.90	322	Pn	Pn	18 29 55.5	-2.3
HWUT	Hardware Ranch	11.30	10		Pn	18 30 03.2	-0.2
HVU	Hansel Valley	11.33	5	Pn	Pn	18 30 02.7	-1.0
AMTX	Amarillo	11.43	64	Pn	Pn	18 30 05.6	+0.5
ISCO	Idaho Springs	11.65	35	Pn	Pn	18 30 06.7	-1.6
KCPM	Cahto Peak	11.96	323		Pn	18 30 11.1	-1.3
WDC	Whiskeytown Da	12.13	328	Pn	Pn	18 30 11.0	-3.6
N23A	Red Feather La	12.36	31	Pn	Pn	18 30 16.8	-1.3
MOD	Modoc Plateau	12.40	338	Pn	Pn	18 30 20.3	+1.8
KMRM	Mail Ridge	12.42	324		Pn	18 30 20.9	+2.2
JCT	Junction City	12.43	86	Pn	Pn	18 30 21.3	+2.5
WVOR	Wild Horse Val	12.44	345		Pn	18 30 22.0	+3.1
AHID	Auburn Hatcher	12.50	11		Pn	18 30 22.8	+2.9
RWWY	Rawlins	12.52	25		Pn	18 30 22.3	+2.1
ABTX	Abilene, Hawle	12.61	77	Pn	Pn	18 30 21.3	+0.1
KSCO	Kaye Shedlock'	12.76	45	Pn	Pn	18 30 20.8	-2.5
BW06	Boulder Array	12.81	16		Pn	18 30 22.2	-1.9
PD31	Pinedale Array	12.81	16		Pn	18 30 22.2	-1.9
PDAR	Pinedale Array	12.81	16	Pn	Pn	18 30 31.5	+7.4
	comp=N,0.2nm,0.3s,baz=200,slow=11,SNR=9.8						
PDAR	Pinedale Array	12.81	16	Pn	Pn	18 30 27.4	+3.3
PHWY	Pilot Hill	12.90	31	Pn	Pn	18 30 25.7	+0.2
KHMM	Horse Mountain	12.92	326		Pn	18 30 24.0	-1.6
M02C	Callahan	12.93	330	P	Pn	18 30 25.8	+0.2
	baz=145,SNR=7.2						
ZAIG	Zacatecas	12.94	124	Pn	Pn	18 30 30.8	+4.9
MFID	Camas Ranch	12.97	355	Pn	Pn	18 30 29.1	+3.0
HLID	Hailey	13.05	359	P	Pn	18 30 32.1	+4.8
	baz=179,SNR=16						
HLID	Hailey	13.05	359	Pn	Pn	18 30 29.1	+1.8
833A	Chaparral WMA,	13.10	96	Pn	Pn	18 30 29.0	+1.1
REDW	Red Top Meadow	13.13	11		Pn	18 30 28.6	+0.2
YBH	Yreka Blue Hor	13.15	331	Pn	Pn	18 30 32.4	+3.8
	comp=N,0.1nm,0.3s,baz=141,slow=11,SNR=11						
YBH	

comp=Z,102nm,1.6s
QUOK Quay 15.68 64 P **P 18 31 06.6 -0.4**
GCMT Greycliff 15.69 12 P **P 18 31 06.2 -1.0**
G05D Wamic, OR 15.75 341 P **Pn 18 31 06.1 +2.4**
baz=157,SNR=8.2
237A Washetta, Mont 15.81 80 **P 18 31 08.3 -0.1**
RSSD Black Hills 15.81 28 P **Pn 18 31 05.9 +1.2**
baz=214
RSSD Black Hills 15.81 28 **P 18 31 08.5 -0.2**
HKT Hockley 15.90 87 Pn **Pn 18 31 06.2 +0.7**
F07A Phinny Hill Vi 16.02 345 P **Pn 18 31 08.3 +1.2**
F07A IAmb IAmb 18 31 18.7
comp=Z,171nm,1.8s
T35A Sooner Cattle 16.05 62 P **Pn 18 31 08.8 +1.1**
HRY Holter Researc 16.30 6 P **P 18 31 14.7 +0.7**
MSO Missoula 16.32 1 P **Pn 18 31 13.3 +2.2**
baz=181,SNR=13
MSO Missoula 16.32 1 **Pn 18 31 11.7 +0.6**
G03D McMinnville, O 16.33 337 P **Pn 18 31 10.7 -0.4**
baz=151
TUL1 Leonard 16.33 66 P **Pn 18 31 11.1 0.0**
X37A Clayton 16.40 71 P **Pn 18 31 13.3 +1.2**
HAWA Hanford 16.41 347 P **Pn 18 31 13.4 +1.3**
E08A Dider Farm, El 16.42 348 P **Pn 18 31 12.1 -0.1**
Z38A Mt. Pleasant 16.56 75 P **Pn 18 31 12.8 -1.4**
Z38A IAmb IAmb 18 31 32.5
comp=Z,224nm,1.6s
E07A Sunnyside 16.63 346 **Pn 18 31 14.5 -0.5**
E07A IAmb IAmb 18 31 24.4
comp=Z,190nm,1.8s
F04A Amboy 16.70 340 P **Pn 18 31 15.7 -0.1**
NATX Nacogdoches 16.79 81 P **Pn 18 31 14.4 -2.7**
NATX IAmb IAmb 18 31 45.8
comp=Z,163nm,1.6s
KSU1 Kansas State U 16.80 55 P **Pn 18 31 18.1 +1.0**
KSU1 IAmb IAmb 18 31 26.7
comp=Z,96nm,1.3s
BGNE Belgrade 16.94 46 Pn **Pn 18 31 17.9 -1.0**
BGNE IAmb IAmb 18 31 40.5
comp=Z,275nm,1.8s
D08A Wollman Farm, 16.94 349 P **Pn 18 31 19.7 +0.9**
F03A Seaside 17.06 337 P **Pn 18 31 20.6 +0.3**
F03A IAmb IAmb 18 31 31.4
comp=Z,64nm,0.9s
JTMT Jette 17.23 360 P **Pn 18 31 22.5 -0.2**
JTMT IAmb IAmb 18 31 49.7
comp=Z,156nm,1.9s
E04D Cinebar 17.31 340 P **Pn 18 31 24.4 +1.0**
baz=155
K31A O'Neill 17.31 41 P **Pn 18 31 23.1 -0.5**
K31A IAmb IAmb 18 31 33.3
comp=Z,159nm,1.3s
LAO LASA Array 17.32 19 P **Pn 18 31 24.3 +0.6**
baz=204,SNR=22
LAO LASA Array 17.32 19 P **Pn 18 31 22.6 -1.1**
LAO IAmb IAmb 18 31 33.4
comp=Z,150nm,1.2s
LTY Liberty 17.47 345 P **Pn 18 31 26.6 +1.0**
U38A Gravette 17.56 65 P **Pn 18 31 24.1 -2.6**
C09A Chrisman Ranch 17.57 351 P **Pn 18 31 24.9 -1.9**
E03A Lebam 17.60 338 P **P 18 31 30.0 +1.8**
D05A Enumclaw 17.73 342 P **Pn 18 31 27.0 -1.6**
W39A Magazine 17.79 69 P **Pn 18 31 29.3 -0.2**
EGMT Eagleton 17.84 10 P **P 18 31 32.7 +1.7**
baz=193,SNR=18
EGMT Eagleton 17.84 10 **Pn 18 31 31.1 +0.9**
MIAR Mount Ida 17.86 72 P Pn 18 31 17.8 -13
baz=262,SNR=7.4
MIAR Mount Ida 17.86 72 P **Pn 18 31 29.4 -1.0**
NEW Newport 17.89 354 P **P 18 31 34.2 +2.7**
comp=Z,0.3nm,0.3s,baz=170,slow=13,SNR=12
NEW LR LR 18 38 45.0
comp=Z,2µm,19.3s,baz=180,slow=38
NEW Newport 17.89 354 P **Pn 18 31 28.9 -1.9**
N35A Tabor 18.26 50 **Pn 18 31 33.4 -1.9**
B08A Colville Reser 18.27 349 **Pn 18 31 34.6 -0.8**
D03D Eldon 18.34 341 P **P 18 31 35.6 -0.7**
baz=155,SNR=7.0
L34A Svendsen Farm, 18.35 47 P **P 18 31 33.3 -3.3**
Z41A Richland Creek 18.39 76 P **P 18 31 36.1 -0.9**
Z41A IAmb IAmb 18 32 04.9
comp=Z,164nm,1.6s
SUSD Miller 18.41 37 P **P 18 31 35.2 -1.9**
SUSD IAmb IAmb 18 31 46.1
comp=Z,53nm,0.8s
NLWA Neilton Lookou 18.45 339 P **P 18 31 35.0 -2.6**
X40A Basin Creek Fa 18.46 72 P **P 18 31 35.1 -2.6**
WALA Waterton Lakes 18.55 1 **P 18 31 36.2 -2.6**
S39A Bolivar 18.71 62 P **P 18 31 38.4 -2.1**
U40A Yellville 18.75 66 P **P 18 31 39.2 -1.7**
342A Flagon Creek P 18.80 82 **P 18 31 41.3 -0.2**
342A IAmb IAmb 18 31 48.6
comp=Z,112nm,1.1s
B06A Marblemount 18.84 345 P **P 18 31 39.4 -2.5**
UALR University of 18.90 71 P **P 18 31 41.3 -1.3**
WHAR Wooly Hollow 19.01 70 **P 18 31 43.5 -0.3**
W41B Gary Mavity, V 19.03 70 P **P 18 31 42.6 -1.3**
E28A Huff 19.18 29 P **P 18 31 44.8 -0.9**
P38A Dawn 19.19 56 P **P 18 31 45.5 -0.3**
ECSD EROS Data Cent 19.23 42 P **P 18 31 40.9 -5.3**
baz=232
ECSD EROS Data Cent 19.23 42 P **Pn 18 31 50.5 +3.4**
ECSD IAmb IAmb 18 31 56.3
comp=Z,150nm,1.9s
MGMO Mountain Grove 19.38 64 **P 18 31 46.8 -1.1**
PGC Sidney 19.46 341 P **P 18 31 47.9 -0.6**
PGC IAmb IAmb 18 32 00.5
comp=Z,142nm,1.8s
DGMT Dagmar 19.52 20 P **P 18 31 48.2 -1.1**
baz=207,SNR=11
DGMT Dagmar 19.52 20 P **P 18 31 50.7 +1.4**
R40A Maddies Statio 19.68 61 P **P 18 31 51.2 +0.1**
N38A Joes South For 19.86 53 Pn **P 18 31 54.2 +1.1**
N38A IAmb IAmb 18 32 01.7
comp=Z,65nm,0.8s
LCAR Lake Charles 20.05 68 P **P 18 31 53.0 -2.1**
344A Westbrook Farm 20.15 81 P **P 18 31 54.5 -1.8**
344A IAmb IAmb 18 32 09.5
comp=Z,73nm,1.1s
P40A Paris 20.23 58 P **P 18 31 57.0 -0.1**
P40A IAmb IAmb 18 32 06.7
comp=Z,92nm,1.1s
T42A Van Buren 20.27 65 P **P 18 31 57.7 +0.1**
VBMS Vicksburg 20.30 79 P **P 18 31 55.3 -2.6**
VBMS IAmb IAmb 18 32 10.8
comp=Z,89nm,1.1s
SCIA State Center 20.36 50 P **P 18 31 55.1 -3.4**
CCM Cathedral Cave 20.39 62 P **P 18 31 56.5 -2.4**
MDND Maddock 20.65 29 P **P 18 31 59.4 -2.1**
PBMO Poplar Bluff 20.74 66 P **P 18 32 00.6 -2.1**
F33A 5 Mile Ranch, 20.75 37 P **P 18 32 01.8 -0.8**
K38A Parkersburg 21.00 49 P **P 18 32 03.4 -2.0**
K38A IAmb IAmb 18 32 23.7
comp=Z,126nm,1.5s
FVM French Village 21.00 63 P **P 18 32 03.4 -2.1**
FVM IAmb IAmb 18 32 14.6
comp=Z,81nm,1.9s
Y45A Yeager Farm, C 21.14 74 **P 18 32 05.3 -1.6**
346A Big Creek Wild 21.24 81 P **P 18 32 05.3 -2.7**
I37A Lemond, Waseca 21.29 45 P **P 18 32 09.9 +1.3**
SLM Saint Louis 21.31 61 P **P 18 32 10.5 +1.8**
HALT Halls 21.48 69 P **P 18 32 12.3 +1.7**
N41A Harden Midland 21.50 55 P **P 18 32 13.0 +2.2**
N41A IAmb IAmb 18 32 17.1
comp=Z,69nm,1.1s
W45A Hickory Valley 21.52 71 P **P 18 32 10.2 -0.8**
W45A IAmb IAmb 18 32 52.7
comp=Z,39nm,0.5s
146A Union 21.53 78 P **P 18 32 08.3 -2.8**
146A IAmb IAmb 18 32 44.7
comp=Z,75nm,1.1s
L40A Anamosa 21.77 52 P **P 18 32 10.8 -2.8**
L40A IAmb IAmb 18 32 23.0
comp=Z,82nm,1.2s
S44A Carbondale 21.84 64 P **P 18 32 13.9 -0.6**
S44A IAmb IAmb 18 32 21.4
comp=Z,65nm,1.4s
F36A Milaca 22.27 41 P **P 18 32 18.3 -0.7**
SPMN Marine on St. 22.31 43 P **P 18 32 17.2 -2.3**
SPMN IAmb IAmb 18 32 29.8
comp=Z,60nm,1.6s
Z47A Carrollton 22.35 76 P **P 18 32 16.9 -3.1**
PLAL Pickwick Lake 22.41 72 P **P 18 32 17.1 -3.5**
HDIL Hopedale 22.56 57 P **P 18 32 20.1 -2.2**
HDIL IAmb IAmb 18 32 32.9
comp=Z,71nm,1.1s
AGMN Agassiz Nation 22.65 33 P **P 18 32 24.0 +1.0**
AGMN IAmb IAmb 18 32 32.7
comp=Z,39nm,1.2s
WVT Waverly 22.72 69 P **P 18 32 21.5 -2.4**
WVT IAmb IAmb 18 32 25.4
comp=Z,29nm,0.8s
JFWS Jewell Farm 22.78 50 P **P 18 32 22.7 -1.8**
JFWS IAmb IAmb 18 32 37.1
comp=Z,42nm,1.1s
L42A Oliver, Polo 22.81 53 P **P 18 32 23.3 -1.5**
L42A IAmb IAmb 18 32 30.8
comp=Z,46nm,1.1s
OLIL Olney 22.95 62 P **P 18 32 28.1 +1.7**
I40A Norwalk 22.97 48 P **P 18 32 25.1 -1.5**
I40A IAmb IAmb 18 32 37.0
comp=Z,38nm,1.2s
O44A Mansfield 23.04 58 P **P 18 32 24.7 -2.6**
O44A IAmb IAmb 18 32 33.9
comp=Z,84nm,1.5s
USIN University of 23.13 64 P **P 18 32 28.7 +0.5**
USIN IAmb IAmb 18 32 35.3
comp=Z,96nm,1.6s
X48A Hartselle 23.23 73 P **P 18 32 32.9 +3.6**
X48A IAmb IAmb 18 32 37.0
comp=Z,103nm,1.6s
LRAL Lakeview Retre 23.25 77 P **P 18 32 31.6 +2.1**
BRAL Brewton 23.32 81 P **P 18 32 30.6 +0.5**
T47A Sharon Grove 23.41 67 P **P 18 32 33.5 +2.5**
T47A IAmb IAmb 18 32 38.3
comp=Z,62nm,1.4s
V48A Smith Brothers 23.49 70 P **P 18 32 32.0 +0.1**
B35A Bob, Littlefor 23.73 35 P **P 18 32 32.9 -1.2**
B35A IAmb IAmb 18 32 41.3
comp=Z,36nm,1.4s
M44A Midewin, Midew 23.73 56 P **P 18 32 32.5 -1.6**
M44A IAmb IAmb 18 32 41.7
comp=Z,69nm,1.4s
Y49A Blount Mountai 23.74 75 P **P 18 32 35.3 +1.0**
Y49A IAmb IAmb 18 33 18.8
comp=Z,44nm,1.6s
E38A The Farm, Brul 23.81 41 P **P 18 32 37.3 +2.4**
E38A IAmb IAmb 18 33 11.2
comp=Z,29nm,1.1s
P46A Rosedale 23.84 60 P **P 18 32 34.7 -0.5**
P46A IAmb IAmb 18 32 45.1
comp=Z,42nm,1.1s
G40A Rib Lake 23.90 45 P **P 18 32 37.9 +2.2**
G40A IAmb IAmb 18 32 42.4
comp=Z,39nm,1.2s
250A Grady 23.92 79 P **P 18 32 34.9 -1.2**
CLTN Cedars of Leba 23.92 69 P **P 18 32 34.2 -1.8**
CLTN IAmb IAmb 18 32 43.5
comp=Z,51nm,1.4s
BBB Bella Bella 23.98 339 P **P 18 32 40.1 +3.7**
comp=Z,8.3nm,0.9s,baz=155,slow=8.2,SNR=8.6
BBB LR LR 18 42 13.8
comp=Z,3µm,20.2s,baz=164,slow=37
BBB Bella Bella 23.98 339 P **P 18 32 36.3 0.0**
BBB IAmb IAmb 18 32 43.4
comp=Z,88nm,1.6s
ULM Lac du Bonnet 24.06 30 P **P 18 32 40.1 +2.8**
comp=Z,30nm,1.1s,baz=231,slow=9.7,SNR=12
ULM Lac du Bonnet 24.06 30 P **P 18 32 39.0 +1.7**
I42A Draeger Farm, 24.07 49 P **P 18 32 39.3 +1.8**
I42A IAmb IAmb 18 32 44.2
comp=Z,68nm,1.7s
SFIN Lafayette 24.11 58 P **P 18 32 35.8 -2.1**
SWET Sewanee 24.18 71 P **P 18 32 36.6 -1.9**
SWET IAmb IAmb 18 33 10.0
comp=Z,20nm,0.9s
WCI Wyandotte Cave 24.24 64 P **P 18 32 36.0 -3.1**
BLO Bloomington 24.25 62 P **P 18 32 40.8 +1.7**
FPAL Fort Paine 24.41 73 P **P 18 32 37.2 -3.5**
FPAL IAmb IAmb 18 32 51.6
comp=Z,22nm,0.9s
W50A Signal Mountai 24.69 71 P **P 18 32 39.9 -3.3**
W50A IAmb IAmb 18 32 49.9
comp=Z,30nm,1.1s
Z51A Franklin 24.78 76 P **P 18 32 42.6 -1.4**
COWI Conover 24.96 44 P **P 18 32 47.2 +1.7**
X51A Calhoun 25.04 73 P **P 18 32 46.3 0.0**
352A Blakely 25.09 80 P **P 18 32 48.7 +1.9**
R49A Shelbyville 25.12 64 P **P 18 32 47.8 +0.8**
R49A IAmb IAmb 18 32 57.5
comp=Z,72nm,1.8s
P48A Milroy 25.14 61 P **P 18 32 49.5 +2.3**
P48A IAmb IAmb 18 32 57.7
comp=Z,35nm,1.2s
L46A Eue Claire 25.17 55 P **P 18 32 46.3 -1.0**
152A Waverly Hall 25.18 77 P **P 18 32 50.0 +2.3**
152A IAmb IAmb 18 32 55.6
comp=Z,43nm,1.1s
T50A Nancy 25.21 67 P **P 18 32 50.5 +2.7**
T50A IAmb IAmb 18 32 55.3
comp=Z,58nm,1.8s
N47A Urbana 25.28 58 P **P 18 32 50.3 +1.9**
N47A IAmb IAmb 18 32 53.6
comp=Z,25nm,1.1s
CPCT Cooper Cave 25.34 71 P **P 18 32 51.8 +2.8**
CPCT IAmb IAmb 18 32 56.4
comp=Z,28nm,1.2s
TEIG Tepich 25.51 108 LR LR 18 44 08.4
comp=Z,1µm,21.4s,baz=290,slow=39
Y52A Lilburn 25.69 75 P **P 18 32 51.6 -0.7**
Y52A IAmb IAmb 18 32 59.6
comp=Z,27nm,1.2s
P49A Miami Univ. Ec 25.70 61 P **P 18 32 52.3 +0.1**
P49A IAmb IAmb 18 33 02.0
comp=Z,80nm,1.8s
FFC Flin Flon 25.77 16 P **P 18 32 50.2 -2.5**
FFC IAmb IAmb 18 32 57.9
comp=Z,36nm,1.4s
R50A Paris 25.78 64 P **P 18 32 52.1 -0.9**
R50A IAmb IAmb 18 33 00.7
comp=Z,53nm,1.9s
TKL Tuckaleechee C 25.96 70 P **P 18 32 58.1 +3.4**
comp=Z,4.7nm,0.6s,baz=235,slow=8.3,SNR=8.5
TKL LR LR 18 43 47.9
comp=Z,7µm,18.4s,baz=264,slow=38
TKL Tuckaleechee C 25.96 70 P **P 18 32 58.3 +3.6**
TKL IAmb IAmb 18 33 00.9
comp=Z,64nm,1.8s
PETF Flores 25.99 116 P **P 18 32 58.5 +3.5**
V52A Sevierville 26.12 70 P **P 18 32 56.3 +0.2**
V52A IAmb IAmb 18 33 19.9
comp=Z,49nm,1.6s
TZTN Tazewell 26.20 68 P **P 18 32 52.5 -4.3**
TZTN IAmb IAmb 18 33 03.2
comp=Z,44nm,1.6s
N49A Columbus Grove 26.40 59 P **P 18 32 59.0 +0.4**
N49A IAmb IAmb 18 33 41.4
comp=Z,26nm,1.2s
J47A Sunmer 26.59 53 P **P 18 33 00.0 -0.2**
J47A IAmb IAmb 18 33 06.4
comp=Z,54nm,1.3s
BG3 Lake Jocassee 26.63 72 P **P 18 33 00.4 -0.4**
APG El Apazote 26.69 120 P **P 18 33 05.5 +3.8**
comp=Z,8.6nm,1.1s,baz=312,slow=9.2,SNR=3.5
APG LR LR 18 44 17.7
comp=Z,4µm,19.5s,baz=299,slow=38
V53A Saluda 26.75 70 P **P 18 33 05.8 +4.0**
P51A Williamsport 26.95 62 P **P 18 33 03.2 -0.3**
P51A IAmb IAmb 18 33 10.0
comp=Z,61nm,1.6s
ACSO Alum Creek Sta 27.14 60 P **P 18 33 04.8 -0.4**
HODGE Hodges 27.19 74 P **P 18 33 08.2 +2.5**
HODGE IAmb IAmb 18 33 15.3
comp=Z,28nm,1.4s
R53A Hurricane 27.64 65 P **P 18 33 08.8 -1.0**
P52A Corning 27.68 62 P **P 18 33 11.6 +1.5**
P52A IAmb IAmb 18 33 16.9
comp=Z,48nm,1.6s
KMSC Kings Mountain 27.94 72 P **P 18 33 13.0 +0.5**
KMSC IAmb IAmb 18 33 21.7
comp=Z,40nm,1.4s
JSC Jenkinsville 28.01 74 P **P 18 33 12.6 -0.5**
JSC IAmb IAmb 18 33 19.6
comp=Z,26nm,1.6s
BIRD Birdtown, Kers 28.66 73 P **P 18 33 19.5 +0.6**
BIRD IAmb IAmb 18 33 25.0
comp=Z,38nm,1.5s
N53A Lisbon 28.85 60 P **P 18 33 18.9 -1.7**
WRAK Wrangell Islan 28.89 339 P **P 18 33 22.8 +2.2**
W57A Gilead 29.04 72 P **P 18 33 20.4 -1.8**
W57A IAmb IAmb 18 33 28.0
comp=Z,60nm,1.9s
R55A Marlinton 29.07 65 P **P 18 33 21.5 -1.1**
N54A Moraine State 29.51 60 P **P 18 33 25.6 -0.8**
N54A IAmb IAmb 18 33 33.9
comp=Z,30nm,1.2s
DLBC Dease Lake 29.98 343 P P 18 33 34.7 +4.3
comp=Z,10nm,1.0s,baz=168,slow=6.1,SNR=13
DLBC LR LR 18 46 26.5
comp=Z,3µm,18.9s,baz=166,slow=38
DLBC Dease Lake 29.98 343 P **P 18 33 30.0 -0.4**
DLBC IAmb IAmb 18 33 39.2
comp=Z,16nm,1.1s
O56A Blue Knob Stat 30.48 62 P **P 18 33 34.7 -0.3**
M55A Ridgway 30.51 59 P **P 18 33 34.7 -0.6**
M55A IAmb IAmb 18 33 42.5
comp=Z,13nm,0.7s
P57A Homestead Farm 30.82 63 P **P 18 33 36.2 -1.8**
P57A IAmb IAmb 18 33 44.9
comp=Z,29nm,1.6s
SADO Sadowa 30.95 53 LR LR 18 46 19.7
comp=Z,1µm,20.4s,baz=266,slow=37
J55A Hilton 31.53 56 P **P 18 33 42.5 -1.7**
M57A Sunshine Farm, 31.71 60 P **P 18 33 47.6 +1.8**
M57A IAmb IAmb 18 33 51.5
comp=Z,14nm,0.9s
PAGS Pennsylvania G 31.88 62 P P 18 33 51.3 +4.0
PAGS IAmb IAmb 18 33 53.8
comp=Z,15nm,1.2s
YKA Yellowknife Ar 32.02 360 LR LR 18 48 35.0
comp=Z,3µm,18.2s,baz=0.0,slow=40
J56A Wolcott 32.22 56 P **P 18 33 48.3 -2.0**
J56A IAmb IAmb 18 33 56.1
comp=Z,27nm,1.1s
PECO Prince Edward 32.25 55 P **P 18 33 48.9 -1.7**
PECO IAmb IAmb 18 33 56.4
comp=Z,19nm,0.9s
SKAG Skagway 32.30 340 P **P 18 33 51.9 +1.1**
PLVO Plevna 32.44 53 P **P 18 33 53.1 +0.9**
PLVO IAmb IAmb 18 34 01.3
comp=Z,16nm,1.1s
D53A Lac Vacive, Po 32.57 49 P **P 18 33 53.0 -0.3**
D53A IAmb IAmb 18 33 58.9
comp=Z,26nm,1.3s
BINY Binghamton 32.67 58 P **P 18 33 51.0 -3.3**
J57A Williamstown 32.86 56 P **P 18 33 55.0 -0.9**
J57A IAmb IAmb 18 34 01.6
comp=Z,22nm,1.1s
LUPA Lehigh Univers 32.94 61 P **P 18 33 55.3 -1.4**
LUPA IAmb IAmb 18 34 03.9
comp=Z,12nm,1.0s
K58A Earlville 33.01 57 P P 18 34 01.2 +4.0
K58A IAmb IAmb 18 34 02.9
comp=Z,17nm,1.0s
WHY Whitehorse 33.16 341 P **P 18 33 57.5 -1.0**
WHY IAmb IAmb 18 34 07.9
comp=Z,22nm,1.3s
L59A Walton 33.37 59 P **P 18 33 59.8 -0.6**
JTS Las Juntas de 33.83 120 LR LR 18 48 56.3
comp=Z,2µm,18.5s,baz=9.0,slow=38
J59A Piesco 33.94 56 P **P 18 34 04.7 -0.7**
J59A IAmb IAmb 18 34 11.0
comp=Z,14nm,0.9s
NCB Newcomb 34.23 56 P **P 18 34 07.3 -0.5**
ACCN Adirondack Com 34.53 57 P P 18 34 14.3 +3.8
ACCN IAmb IAmb 18 34 16.1
comp=Z,26nm,1.1s
BALM Baldy 35.76 337 P **P 18 34 21.4 +0.5**
BALM IAmb IAmb 18 34 28.0
comp=Z,32nm,1.2s
LBNH Lisbon 35.90 56 P **P 18 34 20.5 -1.7**
LBNH IAmb IAmb 18 35 11.8
comp=Z,15nm,1.1s
I62A Tamworth 36.28 56 P P 18 34 30.9 +5.4
GLB Gilahina Butte 36.54 337 P P 18 34 33.0 +5.5
I63A Otisfield 36.84 56 P **P 18 34 33.0 +2.7**
MENT Mentasta 37.58 338 P **P 18 34 34.8 -1.5**
MENT IAmb IAmb 18 34 43.4
comp=Z,27nm,1.4s
KDAK Kodiak Island 37.92 327 LR LR 18 47 52.9
comp=Z,3µm,20.3s,baz=123,slow=32
DOT Dot Lake 38.20 339 P **P 18 34 39.5 -2.0**
EGAK Eagle 38.20 342 P P 18 34 45.5 +4.0
EGAK IAmb IAmb 18 34 49.0
comp=Z,44nm,1.4s
KNK Knik Glacier 38.20 334 P **P 18 34 39.5 -2.1**
KNK IAmb IAmb 18 34 50.1
comp=Z,44nm,1.2s
SML Sawmill 38.40 335 P **P 18 34 42.0 -1.3**
SML IAmb IAmb 18 34 50.7
comp=Z,56nm,1.6s
RIDG Independent Ri 38.51 339 P **P 18 34 43.5 -0.7**
GHO Glory Hole Cre 38.60 334 P **P 18 34 43.4 -1.6**
E63A Oxbow 38.65 53 P **P 18 34 45.1 -0.4**
HDA Harding Lake 39.64 338 P **P 18 34 52.8 -0.8**
HDA IAmb IAmb 18 35 02.8
comp=Z,46nm,1.7s
MCK McKinley 39.84 337 P **P 18 34 54.8 -0.6**
MCK IAmb IAmb 18 35 03.4
comp=Z,61nm,1.6s
IL31 39.87 339 P **P 18 34 54.8 -0.6**
ILAR Eielson Array 39.87 339 P P 18 34 59.9 +4.4
comp=Z,6.4nm,0.7s,baz=151,slow=7.0,SNR=48
ILAR LR LR 18 52 20.5
comp=Z,459nm,20.6s,baz=138,slow=38
WRH Wood River Hil 40.05 338 P **P 18 34 58.2 +1.3**
WRH IAmb IAmb 18 35 04.0
comp=Z,37nm,1.7s
CCB Clear Creek Bu 40.07 338 P **P 18 34 58.4 +1.3**
TRF Thorofare Moun 40.14 336 P **P 18 34 58.2 +0.2**
TRF IAmb IAmb 18 35 05.7
comp=Z,26nm,1.0s
BWN Browne 40.31 337 P **P 18 34 58.4 -0.7**
BWN IAmb IAmb 18 35 14.7
comp=Z,44nm,1.2s
MDM Murphy Dome 40.42 338 P P 18 35 04.0 +4.0
MDM IAmb IAmb 18 35 07.8
comp=Z,43nm,2.0s
KTH Kantishna Hill 40.42 336 P **P 18 35 00.3 +0.1**
PPLA Purkeypile 40.50 334 P **P 18 34 59.0 -1.9**
BPAW Bear Paw Mtn. 40.78 336 P **P 18 35 06.2 +3.1**
BPAW IAmb IAmb 18 35 09.1
comp=Z,19nm,1.0s
SVW2 Sparrevohn 40.89 331 P **P 18 35 04.4 +0.4**
SCHQ Schefferville 41.41 40 P **P 18 35 11.2 +2.8**
comp=Z,3.1nm,0.6s,baz=256,slow=6.6,SNR=4.3
SCHQ LR LR 18 51 11.2
comp=Z,1µm,18.3s,baz=258,slow=34
SCHQ Schefferville 41.41 40 P **P 18 35 06.4 -2.0**
TTA Tatalina 41.99 333 P **P 18 35 12.4 -0.6**
TTA IAmb IAmb 18 35 19.7
comp=Z,44nm,1.7s
DR12 Loma Pena Alta 42.13 95 P P 18 35 18.9 +4.2
COLD Coldfoot 42.53 340 P **P 18 35 16.7 -0.6**
COLD IAmb IAmb 18 35 25.1
comp=Z,34nm,1.4s
TOLK Toolik Lake Re 43.31 342 P P 18 35 27.7 +4.0
CBOC Ciudad Bolivar 43.44 117 *eP* P 18 35 32.3 +6.8
PTBC PUERTO BERRIO, 44.23 114 *eP* **P 18 35 31.5 -0.3**
PTBC *eP* **P 18 35 32.3 +0.6**
GUY2C Guyana, Caldas 44.34 117 *eP* P 18 35 37.6 +4.5
TOLC Tolima 44.78 117 *eP* P 18 35 41.1 +4.7
BBAC Balboa, Cauca 45.01 122 *eP* P 18 35 42.9 +4.7
POPC Popayan, Colom 45.08 121 *eP* **P 18 35 40.3 +1.5**
POPC *eP* **P 18 35 40.3 +1.5**
BARC Barichara 45.21 113 *eP* P 18 35 45.5 +5.7
ORTC Ortega, Tolima 45.27 118 *eP* P 18 35 42.9 +2.9
OTAV Otavalo 45.37 125 *eP* **P 18 35 42.9 +1.6**
OTAV Otavalo 45.37 125 P **P 18 35 40.3 -1.0**
ROSC El Rosal 45.39 116 P P 18 35 46.2 +4.8
comp=Z,8.9nm,0.4s,baz=0.8,slow=7.4,SNR=8.4
ROSC LR LR 18 56 00.6
comp=Z,1µm,19.6s,baz=335,slow=38
PRAC Prado 45.66 118 *eP* **P 18 35 43.8 +0.6**
RUSC La Rusia 45.71 114 *eP* **P 18 35 46.4 +2.4**
MTP Monte Pirata 45.72 94 P **P 18 35 42.0 -1.5**
SDV Santo Domingo 45.94 109 *eP* **P 18 35 48.2 +2.6**
SDV Santo Domingo 45.94 109 P **P 18 35 42.5 -3.0**
RDOG Red Dog Mine 47.00 337 P **P 18 35 52.2 -0.7**
SFJD Kangerlussuaq 52.04 27 P **P 18 36 34.6 +3.2**
comp=Z,6.6nm,0.7s,baz=311,slow=5.7,SNR=4.5
SFJD LR LR 18 58 05.9
comp=Z,795nm,18.1s,baz=252,slow=35

SFJD	**Kangerlussuaq**	**52.04**	**27**	P	**P**	**18 36 30.3**	**-1.1**
SUMG	**Summit**	**56.95**	**20**	*i* P	**P**	**18 37 10.8**	**+3.3**
	comp=Z,98nm,1.2s						
SUMG	**Summit**	**56.95**	**20**	P	**P**	**18 37 06.1**	**-1.4**
PPT	**Papeete**	**58.66**	**220**	LR	LR	18 57 21.7	
	comp=Z,661nm,18.2s,baz=30,slow=31						
PPT2	**Papeete2**	**58.68**	**220**	*e*S	**S**	**18 45 31.6**	**+6.2**
	comp=Z,839nm,24.5s						
PPT2				*e*LR	LR	18 54 43.1	
	comp=Z,1μm,24.2s,baz=27						
SAML	**Samuel**	**62.72**	**120**	P	**P**	**18 37 46.0**	**-1.5**
TBI	**Tubuai**	**63.33**	**216**	*e*S	S	18 46 31.7	+7.4
	comp=Z,633nm,33.8s						
TBI	**Tubuai**	**63.33**	**216**	*e*LR	LR	18 56 46.5	
	comp=Z,765nm,25.8s,baz=26						
LPAZ	**La Paz**	**64.26**	**130**	P	**P**	**18 38 00.5**	**+2.2**
	comp=Z,1.9nm,1.0s,baz=333,slow=8.2,SNR=4.4						
LPAZ				LR	LR	19 04 59.7	
	comp=Z,787nm,19.1s,baz=322,slow=35						
SEY	**Seymchan**	**64.82**	**330**	P	P	18 38 04.2	+3.6
	comp=Z,2.1nm,0.6s,baz=86,slow=8.2,SNR=6.0						
SEY				LR	LR	19 03 45.7	
	comp=Z,1μm,21.0s,baz=76,slow=34						
PETK	**Petropavlovsk-**	**65.16**	**318**	P	**P**	**18 38 06.0**	**+2.9**
	comp=Z,3.7nm,0.9s,baz=75,slow=10,SNR=11						
PETK				LR	LR	19 01 25.5	
	comp=Z,338nm,21.2s,baz=66,slow=31						
PETK	**Petropavlovsk-**	**65.16**	**318**	P	**P**	**18 38 02.2**	**-0.9**
JMIC	**Jan Mayen**	**66.40**	**20**	LR	LR	19 06 47.3	
	comp=Z,4μm,19.5s,baz=334,slow=36						
TIXI	**Tiksi**	**69.20**	**342**	LR	LR	19 12 42.5	
	comp=Z,737nm,18.6s,baz=354,slow=39						
CO03	**El Pedregal**	**73.69**	**142**	P	**P**	**18 38 55.9**	**-0.2**
YAK	**Yakutsk**	**74.57**	**334**	LR	LR	19 12 04.0	
	comp=Z,692nm,18.7s,baz=60,slow=36						
ROC1	**El Roble**	**75.20**	**143**	P	**P**	**18 39 03.4**	**-1.7**
VA03	**San Esteban**	**75.27**	**143**	P	**P**	**18 39 01.4**	**-3.9**
PEL	**Peldehue**	**75.50**	**143**	P	**P**	**18 39 06.1**	**-0.4**
ARCES	**ARCESS Array B**	**76.06**	**14**	P	**P**	**18 39 12.0**	**+2.7**
	comp=Z,14nm,0.8s,baz=318,slow=5.2,SNR=13						
ARCES				LR	LR	19 15 49.8	
	comp=Z,609nm,19.3s,baz=338,slow=38						
NC204	**NORSAR Array S**	**78.29**	**24**	P	P	18 39 26.6	+4.6
CPUP	**Villa Florida**	**78.43**	**130**	P	P	18 39 26.1	+2.9
	comp=Z,5.0nm,0.9s,baz=312,slow=7.8,SNR=4.5						
CPUP				LR	LR	19 15 10.9	
	comp=Z,175nm,18.1s,baz=340,slow=36						
CPUP	**Villa Florida**	**78.43**	**130**	P	**P**	**18 39 20.7**	**-2.4**
CPUP				IAmb	IAmb	18 39 28.7	
	comp=Z,27nm,1.5s						
BDFB	**Brasilia**	**78.44**	**116**	P	P	18 39 27.7	+4.2
	comp=Z,5.2nm,0.7s,baz=296,slow=9.5,SNR=4.7						
BDFB	**Brasilia**	**78.44**	**116**	P	**P**	**18 39 20.6**	**-2.9**
BDFB				IAmb	IAmb	18 39 30.8	
	comp=Z,20nm,1.3s						
NC303	**NORSAR Array S**	**78.53**	**24**	P	**P**	**18 39 21.1**	**-2.2**
NB2	**NORSAR Subarra**	**78.61**	**24**	P	P	18 39 27.2	+3.4
	comp=Z,32nm,1.4s,baz=312,slow=5.6						
NB2	**NORSAR Subarra**	**78.61**	**24**	P	P	18 39 27.2	+3.4
	baz=312,slow=5.6						
NOA	**NORSAR Array B**	**78.61**	**24**	P	**P**	**18 39 26.9**	**+3.1**
	comp=Z,4.4nm,1.0s,baz=315,slow=5.8,SNR=8.3						
KONO	**Kongsberg**	**78.99**	**25**	P	**P**	**18 39 25.1**	**-0.7**
NRIK	**Noril'sk**	**79.20**	**352**	P	P	18 39 30.7	+3.9
	comp=Z,2.3nm,0.5s,baz=27,slow=2.3,SNR=4.0						
NRIK				LR	LR	19 16 20.5	
	comp=Z,378nm,20.9s,baz=23,slow=37						
PLCA	**Paso Flores**	**81.58**	**148**	LR	LR	19 08 43.8	
	comp=Z,843nm,20.5s,baz=334,slow=30						
FIA1	**FINESS Array S**	**82.90**	**18**	P	**P**	**18 39 50.0**	**+3.3**
FINES	**FINESS Array B**	**82.90**	**18**	P	P	18 39 50.4	+3.8
	comp=Z,6.6nm,0.7s,baz=20,slow=6.1,SNR=17						
FINES				LR	LR	19 19 24.0	
	comp=Z,320nm,18.1s,baz=327,slow=38						
BMRD	**Maredsous**	**83.16**	**34**	PcP	**PcP**	**18 39 51.8**	**-0.9**
DOU	**Dourbes**	**83.20**	**35**	PcP	**PcP**	**18 39 51.6**	**-1.4**
BGES	**Gesves**	**83.26**	**34**	PcP	**PcP**	**18 39 52.5**	**-0.7**
BCLA	**Clavier**	**83.34**	**34**	P	**P**	**18 39 46.2**	**-2.9**
BCLA				PcP	pP	18 39 50.8	+0.4
CLF	**Chambon-Foret**	**83.34**	**37**	P	P	18 39 53.4	+4.2
BSTI	**Sart Tilman**	**83.36**	**34**	PcP	**PcP**	**18 39 53.2**	**-0.5**
MEM	**Membach**	**83.55**	**34**	PcP	**PcP**	**18 39 54.0**	**-0.5**
BHOU	**Houvegnez**	**83.72**	**34**	PcP	**PcP**	**18 39 55.2**	**-0.1**
WLF	**Walferdange**	**84.25**	**34**	PcP	**PcP**	**18 39 56.6**	**-1.0**
WLF	**Walferdange**	**84.25**	**34**	P	**P**	**18 39 56.8**	**+3.0**
USRK	**Ussuriysk Ar.**	**84.25**	**319**	LR	LR	19 17 54.6	
	comp=Z,176nm,18.1s,baz=46,slow=36						
USRK	**Ussuriysk Ar.**	**84.25**	**319**	P	**P**	**18 39 52.4**	**-1.6**
ESDC	**Sonseca Array**	**84.81**	**47**	P	**P**	**18 40 00.2**	**+3.2**
	comp=Z,2.0nm,0.9s,baz=301,slow=5.3,SNR=9.8						
ESDC				LR	LR	19 16 59.2	
	comp=Z,996nm,19.4s,baz=295,slow=35						
ESDC	**Sonseca Array**	**84.81**	**47**	P	**P**	**18 39 55.3**	**-1.6**
MJAR	**Matsushiro Arr**	**84.88**	**310**	P	**P**	**18 39 58.9**	**+1.6**
	comp=Z,5.8nm,0.9s,baz=55,slow=4.4,SNR=8.8						
MJAR				LR	LR	19 11 17.0	
	comp=Z,845nm,20.9s,baz=90,slow=31						
MJAR	**Matsushiro Arr**	**84.88**	**310**	P	**P**	**18 39 55.4**	**-1.9**
MOX	**Moxa**	**86.12**	**31**	*e*L	L	19 19 45.6	
	comp=Z,688nm,18.8s						
CLL	**Collm**	**86.26**	**30**	*e*(P)	**P**	**18 40 06.0**	**+2.2**
CLL				*e*S	**S**	**18 50 42.0**	**+2.4**
CLL				*e*SS	**SS**	**18 56 24.0**	**+6.7**
CLL				*e*		19 00 54.0	
CLL				*e*SSSS		19 02 48.0	
CLL				Lm	MLR	19 23 00.0	
	comp=Z,600nm,20.2s						
KLMR	**Klimovskoe**	**86.49**	**13**	*e*	**P**	**18 40 07.4**	**+2.7**
KLMR				AMP		18 40 11.4	
	comp=Z,32nm,1.4s						
GRF	**Grafenberg Arr**	**86.62**	**32**	*e*P	P	18 40 09.5	+3.8
	comp=Z,5.5nm,1.0s,baz=315,slow=4.3						
GRF				*e*L	L	19 19 36.8	
	comp=Z,720nm,19.7s						
BRG	**Berggiesshubel**	**86.98**	**30**	*e*P	**P**	**18 40 10.6**	**+3.3**
	comp=Z,5.3nm,1.2s						
GERES	**GERESS Array B**	**88.36**	**31**	P	**P**	**18 40 16.4**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=329,slow=9.8,SNR=4.6						
GERES				LR	LR	19 21 29.4	
	comp=Z,537nm,18.1s,baz=302,slow=37						
GERES	**GERESS Array B**	**88.36**	**31**	P	**P**	**18 40 13.5**	**-0.7**
SMOL	**Smolenice**	**90.25**	**30**	*e*P	**P**	**18 40 25.2**	**+2.3**
MODS	**Modra-Piesok**	**90.29**	**30**	*e*P	P	18 40 27.0	+3.9
VYHS	**Vyhne**	**90.86**	**29**	*e*P	**P**	**18 40 28.0**	**+2.2**
KSRS	**Korea Array**	**90.88**	**315**	LR	LR	19 16 33.3	
	comp=Z,294nm,20.2s,baz=66,slow=32						
DZM	**Mont Dzumac**	**92.33**	**246**	*e*LR	LR	19 10 09.7	
	comp=Z,762nm,24.7s						
AKASG	**Malin Array Be**	**92.94**	**22**	P	**P**	**18 40 37.7**	**+2.4**
	comp=Z,2.0nm,0.9s,baz=322,slow=3.7,SNR=11						
AKASG	**Malin Array Be**	**92.94**	**22**	P	**P**	**18 40 35.6**	**+0.3**
SONM	**Songino Array**	**93.93**	**334**	P	P	18 40 44.5	+4.4
	comp=Z,1.5nm,1.2s,baz=43,slow=1.4,SNR=7.7						
SONM				LR	LR	19 22 44.7	
	comp=Z,612nm,20.6s,baz=24,slow=35						
SONM	**Songino Array**	**93.93**	**334**	P	**P**	**18 40 36.2**	**-3.9**
ZALV	**Zalesovo Beam**	**94.31**	**349**	P	P	18 40 45.4	+3.8
	comp=Z,0.9nm,0.8s,baz=11,slow=0.8,SNR=5.4						
ZALV				LR	LR	19 29 33.2	
	comp=Z,227nm,19.3s,baz=20,slow=40						
ZALV	**Zalesovo Beam**	**94.31**	**349**	P	**P**	**18 40 41.5**	**-0.1**
KEST	**Kesra**	**95.43**	**43**	LR	LR	19 21 23.3	
	comp=Z,486nm,21.9s,baz=282,slow=34						
HHC	**Hu-ho-hao-te**	**97.34**	**327**	*e*P	**P**	**18 40 55.1**	**-0.7**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,6.7s						
HHC				LR	LR		
	comp=N,290nm,17.0s						
HHC				LR	LR		
	comp=E,410nm,16.2s						
HHC				LR	LR		
	comp=Z,430nm,16.2s						
NJ2	**Nanjing**	**100.01**	**316**	*e*P	**Pdif**	**18 41 05.3**	**-2.5**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
WRA	**Warramunga Arr**	**117.92**	**262**	PKP	**PKiKP**	**18 46 11.4**	**+1.9**
	comp=Z,0.9nm,1.0s,baz=65,slow=1.7,SNR=5.2						
ASAR	**Alice Springs**	**119.77**	**259**	PKP	**PKiKP**	**18 46 15.4**	**+2.4**
	comp=Z,0.5nm,0.9s,baz=75,slow=1.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**121.81**	**322**	PKP	**PKiKP**	**18 46 19.3**	**+2.1**
	comp=Z,1.2nm,0.9s,baz=327,slow=2.1,SNR=10						
VNA3	**Neumayer Olymp**	**123.22**	**158**	PKiKP	**PKiKP**	**18 46 20.6**	**+2.3**
VNA1	**Neumayer--Stat**	**123.71**	**157**	PKiKP	**PKiKP**	**18 46 23.0**	**+3.8**
VNA2	**Neumayer--Watz**	**123.98**	**158**	PKiKP	**PKiKP**	**18 46 20.1**	**+0.2**
SNAA	**Sanae**	**125.34**	**159**	PKiKP	**PKiKP**	**18 46 24.7**	**+2.0**
SYO	**Syowa Base**	**138.59**	**166**	*e*X	**PKPdf**	**18 46 41.0**	**-6.2**
MAW	**Mawson**	**142.81**	**178**	PKhKP	**PKPdf**	**18 46 54.4**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=195,slow=9.1,SNR=4.5						
BOSA	**Boshof**	**144.82**	**97**	PKP	**PKPdf**	**18 47 01.3**	**+1.6**
	comp=Z,7.9nm,1.0s,baz=164,slow=0.4,SNR=6.4						

ECX ***15*** *18:37:13.5±0.7,30.47N×114.32W,h8km±22km, MD3.9, ML4.3*
IDC ***15*** *18:37:16.7±2.6,31.02N×113.78W,h0km, mb4.2/3, mb1 4.0/6,mb1mx3.6/58,mbtmp3.7/6,ML4.3/2,Error ellipse: s-maj=55.1km s-min=18.0km az=37.0*
NEIC ***15*** *18:37:16.6±1.6,30.83N±0.04×113.86W±0.06,h10km±1km, mb4.5/4,Error ellipse: s-maj=8.7km s-min=7.6km az=81.0*
ISC 15 18:37:15.0±1.0,30.71N±0.09×114.13W±0.04,h10km,n65, σ1$88/65,mb4.3/5,1C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.70**	**298**	*e*P	**Pg**	**18 37 26.1**	**-2.5**
SFX				*e*S	**Sg**	**18 37 36.6**	**-1.2**
SFX				IAML		18 37 38.1	
	comp=N,23μm,0.5s						
SFX				⇓*e*		18 37 38.1	
PIX	**Pinacate**	**1.02**	**34**		**Pg**	**18 37 31.1**	**-3.5**
SPX	**San Pedro Mart**	**1.20**	**286**	*e*P	Pn	18 37 32.8	-5.3
SPX				*e*		18 37 51.2	
SPX				IAML		18 37 51.2	
	comp=N,4μm,0.5s						
SPX				IAML		18 37 52.5	
	comp=E,3μm,0.7s						
SPX				*e*		18 37 52.5	
SPIG	**San Pedro Mart**	**1.20**	**287**	*e*P	Pn	18 37 33.9	-4.2
SPIG				*e*S	**Sb**	**18 37 49.4**	**-4.4**
SQX	**San Quintin**	**1.51**	**265**	*e*P	Pn	18 37 36.7	-5.4
SQX				*e*S	Sn	18 37 54.7	-7.2
SQX				⇑*e*		18 37 58.5	
SQX				IAML		18 37 58.5	
	comp=E,8μm,0.2s						
214A	**Organ Pipe Nat**	**1.68**	**42**		**Pn**	**18 37 44.1**	**-0.3**
GUVIX	**Guadalupe Vict**	**1.79**	**333**	Pn	**Pn**	**18 37 45.8**	**-0.1**
CPBX	**Cerro Prieto**	**1.98**	**330**		**Pb**	**18 37 51.3**	**+0.2**
ESJX	**Sierra Juarez**	**2.02**	**310**		**Pn**	**18 37 50.3**	**+0.9**
ESJX				Sn	**Sn**	**18 38 18.2**	**+3.4**
113A	**Mohawk Valley,**	**2.08**	**8**	Pn	**Pn**	**18 37 50.1**	**+0.3**
GLA	**Glamis**	**2.41**	**346**	Pn	**Pn**	**18 37 55.0**	**+0.5**
CCX	**Cicese**	**2.46**	**299**	Pn	**Pb**	**18 37 59.0**	**-0.3**
RMX	**La Rumorosa**	**2.52**	**319**	Pn	**Pn**	**18 37 58.3**	**+2.2**
TKX	**Tecate**	**2.81**	**312**	Pn	**Pn**	**18 38 03.0**	**+2.9**
BAR	**Barrett**	**2.93**	**313**	Pn	**Pn**	**18 38 00.2**	**-1.4**
TJX	**Tijuana**	**3.08**	**306**	Pn	**Pb**	**18 38 09.8**	**0.0**
HSIG		**3.23**	**121**	Pn	**Pn**	**18 38 05.1**	**-0.7**
109C	**Camp Elliot, M**	**3.34**	**311**	Pn	**Pb**	**18 38 13.5**	**-0.8**
Y14A	**Wickenburg**	**3.36**	**16**		**Pn**	**18 38 09.1**	**+1.5**
PFO	**Pinyon Flats O**	**3.51**	**326**	Pn	**Pn**	**18 38 10.4**	**+0.7**
X16A	**Lo Mia Camp, P**	**4.34**	**31**		**Pn**	**18 38 18.6**	**-2.6**
W13A	**Hualapai Mount**	**4.38**	**3**	Pn	**Pn**	**18 38 21.5**	**-0.3**
PASC	**Pasadena Art C**	**4.87**	**316**	Pn	**Pn**	**18 38 27.2**	**-1.1**
GSC	**Goldstone, Bar**	**5.10**	**335**	Pn	**Pn**	**18 38 34.2**	**+2.6**
WUAZ	**Wupatki**	**5.32**	**25**	Pn	**Pn**	**18 38 33.5**	**-1.1**
OSI	**Osito Audit: C**	**5.50**	**316**	Pn	**Pn**	**18 38 35.9**	**-1.1**
121A	**Cookes Peak, D**	**5.71**	**70**	Pn	**Pn**	**18 38 40.5**	**+0.6**
W18A	**Petrified Fore**	**5.74**	**39**		**Pn**	**18 38 43.0**	**+2.5**
U15A	**North Rim**	**5.91**	**15**		**Pn**	**18 38 45.8**	**+3.0**
ISA	**Isabella, Lake**	**6.14**	**325**		**Pn**	**18 38 47.8**	**+2.0**
LCMT	**Little Creek M**	**6.33**	**6**		**Pn**	**18 38 50.9**	**+2.4**
KNB	**Kanab**	**6.38**	**9**	Pn	**Pn**	**18 38 51.6**	**+2.3**
PRN	**Pahroc Range**	**6.72**	**354**	Pn	**Pn**	**18 38 56.6**	**+2.7**
CCUT	**Cedar City**	**6.85**	**5**	Pn	**Pn**	**18 38 57.5**	**+1.8**
PKCU	**Pink Cliffs**	**6.88**	**12**	Pn	**Pn**	**18 38 54.0**	**-2.3**
SZCU	**Shurtz Canyon**	**6.92**	**7**	Pn	**Pn**	**18 38 58.2**	**+1.5**
LENM	**Lemitar**	**6.96**	**58**	Pn	**Pn**	**18 38 55.5**	**-1.7**
BNM	**Barren Site**	**7.21**	**60**	Pn	**Pn**	**18 38 58.1**	**-2.5**
MTPU	**Mount Pierson**	**7.49**	**12**	Pn	**Pn**	**18 39 02.0**	**-2.6**
MNTX	**Cornudas Mount**	**7.55**	**80**	Pn	**Pn**	**18 39 04.2**	**-1.0**
R11A	**Troy Canyon, C**	**7.72**	**351**	Pn	**Pn**	**18 39 08.5**	**+0.9**
MSU	**Marysvale**	**7.95**	**11**	Pn	**Pn**	**18 39 09.3**	**-1.4**
NVAR	**Mina Array Bea**	**8.44**	**337**	Pn	**Pn**	**18 39 19.5**	**+2.0**
	comp=E,0.1nm,0.3s,baz=161,slow=14,SNR=3.0						
NVAR	**Mina Array Bea**	**8.44**	**337**		**Pn**	**18 39 18.6**	**+1.2**
PV13	**Radium Mtn., P**	**8.62**	**29**	Pn	**Pn**	**18 39 20.1**	**0.0**
PV10	**Paradox Valley**	**8.72**	**27**	Pn	**Pn**	**18 39 19.0**	**-2.4**
TX31	**Lajitas Ar. Si**	**9.17**	**96**	Pn	**Pn**	**18 39 25.9**	**-1.5**
TX32	**Lajitas Array**	**9.17**	**96**	Pn	**Pn**	**18 39 26.0**	**-1.4**
TXAR	**Lajitas Array**	**9.17**	**96**	Pn	**Pn**	**18 39 28.0**	**+0.6**
	comp=E,0.4nm,0.3s,baz=266,slow=14,SNR=4.1						
TXAR	**Lajitas Array**	**9.17**	**96**		**Pn**	**18 39 27.4**	**-0.1**
MOD	**Modoc Plateau**	**12.23**	**338**		**Pn**	**18 40 11.9**	**+2.7**
PD31	**Pinedale Array**	**12.58**	**16**	Pn	**Pn**	**18 40 11.8**	**-2.4**
PDAR	**Pinedale Array**	**12.58**	**16**	Pn	**Pn**	**18 40 15.7**	**+1.5**
	comp=E,0.3nm,0.3s,baz=187,slow=6.4,SNR=1.1						
ILAR	**Eielson Array**	**39.69**	**339**	P	**P**	**18 44 49.0**	**+2.0**
	comp=E,1.5nm,0.7s,baz=152,slow=7.8,SNR=20						
ILAR	**Eielson Array**	**39.69**	**339**	P	**P**	**18 44 48.6**	**+1.6**
BPAW	**Bear Paw Mtn.**	**40.61**	**336**	P	**P**	**18 44 57.0**	**+2.3**
BMAR	**Burnt Mountain**	**40.94**	**343**	P	**P**	**18 44 59.1**	**+1.7**
IMAR	**Indian Mountai**	**42.68**	**337**	P	**P**	**18 45 12.9**	**+1.4**
TOLK	**Toolik Lake Re**	**43.13**	**342**	P	**P**	**18 45 18.0**	**+2.8**
TOLK				IAmb	IAmb	18 45 20.0	
	comp=Z,10nm,0.9s						
GAMB	**Gambell**	**48.67**	**330**	P	**P**	**18 46 01.1**	**+2.2**
PTGA	**Pitinga**	**60.14**	**111**	P	**P**	**18 47 22.9**	**-0.2**
PTGA				IAmb	IAmb	18 47 23.4	
	comp=Z,2.4nm,0.8s						
ARCES	**ARCESS Array B**	**75.83**	**14**	P	**P**	**18 49 01.8**	**+0.9**
	comp=Z,4.4nm,0.9s,baz=355,slow=7.6,SNR=2.2						
ARCES	**ARCESS Array B**	**75.83**	**14**	P	**P**	**18 49 01.4**	**+0.5**
FINES	**FINESS Array B**	**82.67**	**18**	P	**P**	**18 49 39.3**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=253,slow=1.5,SNR=5.8						
FINES	**FINESS Array B**	**82.67**	**18**	P	**P**	**18 49 38.9**	**+0.6**

ANF ***15*** *18:39:58.2±0.7,29.92N×113.76W,h0km, ML4.9/13,Error ellipse: s-maj=12.8km s-min=4.0km az=27.0*
GCMT ***15*** *18:40:03.7±0.4,30.47N±0.06×114.42W±0.03,h12km, MW4.8/84,Moment Tensor Solution. s3,c3; s84,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.63±.07; Mθθ0.09±.08; Mφφ1.54±.06; Mrθ-0.07±.57; Mφθ0.24±.06; Mφr0.59±.30; Best double couple: M0 1.71200×10^16 NP1:φs184.00000°,δ55.00000°,λ-96.00000°. Principal axes: T 1.6790, Plg10.0000°, Azm278.0000°; N 0.0610, Plg5.0000°, Azm187.0000°; P -1.7450, Plg79.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***15*** *18:40:04.7±0.9,30.47N×114.19W,h0km,mb4.4/14, mb1 4.4/19,mb1mx4.2/55,mbtmp4.2/19,ML3.7/5,MS4.0/5, Ms1 4.0/5,ms1mx3.7/38 Error ellipse: s-maj=24.2km s-min=11.4km az=41.0*
UNK ***15*** *18:40:05.7,30.63N×114.23W,h10km*
ECX ***15*** *18:40:05.2±0.8,30.56N×114.30W,h1km±7km, MD4.0, ML4.4*
NEIC ***15*** *18:40:05.7±1.8,30.63N±0.07×114.23W±0.07,h10km±1km, mb4.7/78,Error ellipse: s-maj=13.5km s-min=8.4km az=212.0*
MEX ***15*** *18:40:05.8±0.3,30.31N×114.32W,h10km,MD4.6*
ISC 15 18:40:05.8±1.8,30.38N±0.05×114.35W±0.04, h12km±11km,n223,σ2$06/215,mb4.6/39,MS4.3/3,2D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.79**	**327**		Pg	18 40 16.9	-4.1
SFX	**San Felipe**	**0.79**	**327**	*e*P	Pg	18 40 17.5	-3.5
SFX				⇓*e*		18 40 37.8	
SFX				IAML		18 40 37.8	
	comp=N,18μm,0.6s						
SPX	**San Pedro Mart**	**1.16**	**305**	*e*P	**Pb**	**18 40 25.1**	**-3.0**
SPX				*i* S	**Sb**	**18 40 40.2**	**-3.1**
SPX	**San Pedro Mart**	**1.16**	**305**	Pn	**Pb**	**18 40 24.9**	**-3.2**
SPX	**San Pedro Mart**	**1.16**	**305**	*e*P	**Pb**	**18 40 24.9**	**-3.2**
SPX				*e*S	**Sb**	**18 40 40.1**	**-3.1**
SPX				IAML		18 40 43.6	
	comp=E,9μm,1.3s						
SPX				IAML		18 40 46.5	
	comp=N,9μm,1.1s						
SPX				⇓*e*		18 40 46.5	
SPIG	**San Pedro Mart**	**1.17**	**305**	*e*P	**Pb**	**18 40 25.7**	**-2.5**
SPIG				*i* S	**Sb**	**18 40 41.3**	**-2.2**
SPIG	**San Pedro Mart**	**1.17**	**305**	*e*P	**Pb**	**18 40 24.9**	**-3.2**
SPIG				*e*S	**Sb**	**18 40 41.1**	**-2.3**
SQX	**San Quintin**	**1.33**	**279**	*e*P	**Pn**	**18 40 29.4**	**-0.8**
SQX				*e*S	**Sb**	**18 40 47.8**	**0.0**
PIX	**Pinacate**	**1.41**	**33**	Pn	Pn	18 40 25.4	-5.9
PIX	**Pinacate**	**1.41**	**33**	*e*P	Pn	18 40 26.1	-5.2
PIX				*e*S	**Sn**	**18 40 43.9**	**-5.9**
214A	**Organ Pipe Nat**	**2.06**	**40**	P	Pn	18 40 35.6	-4.7
	baz=223						
214A				S	**Sn**	**18 41 03.7**	**-2.2**
	baz=223						
214A	**Organ Pipe Nat**	**2.06**	**40**	Pn	Pn	18 40 35.5	-4.8
ESJX	**Sierra Juarez**	**2.12**	**320**	Pn	**Pn**	**18 40 37.7**	**-3.6**
CPBX	**Cerro Prieto**	**2.19**	**338**	Pn	Pn	18 40 37.9	-4.2
CPBX	**Cerro Prieto**	**2.19**	**338**	IAML		18 41 44.3	
	comp=E,10μm,0.5s						
113A	**Mohawk Valley,**	**2.44**	**12**		Pn	18 40 41.4	-4.0
CCX	**Cicese**	**2.48**	**307**		**Pn**	**18 40 44.8**	**-1.2**
RMX	**La Rumorosa**	**2.67**	**327**	Pn	**Pn**	**18 40 46.2**	**-2.5**
GLA	**Glamis**	**2.70**	**351**	P	**Pn**	**18 40 50.9**	**+1.8**
	baz=168						
GLA				S	**Sb**	**18 41 29.3**	**+2.1**
	baz=168						
GLA	**Glamis**	**2.70**	**351**	Pn	**Pn**	**18 40 46.6**	**-2.5**
IKP	**In-Ko-Pah, Jac**	**2.72**	**327**	P	**Pb**	**18 40 53.9**	**-0.5**
	baz=141,SNR=7.7						
IKP				S	**Sb**	**18 41 30.2**	**+2.4**
	baz=141						
SWSC	**Sam W. Stewart**	**2.84**	**335**	Pb	**Pg**	**18 41 00.9**	**+0.6**
	baz=150,SNR=5.1						
TKX	**Tecate**	**2.91**	**319**	Pn	**Pn**	**18 40 50.5**	**-1.5**
BAR	**Barrett**	**3.03**	**320**	Pn	**Pn**	**18 40 52.0**	**-1.7**
MONP2	**Monument Peak**	**3.07**	**325**	P	**Pb**	**18 40 59.0**	**-1.5**
	baz=140,SNR=18						
MONP2				S	**Sb**	**18 41 39.8**	**+1.8**
	baz=140						
TJX	**Tijuana**	**3.14**	**313**	Pn	**Pn**	**18 40 54.6**	**-0.6**
HSIG		**3.25**	**114**	Pn	**Pn**	**18 40 56.4**	**-0.3**
HSIG		**3.25**	**114**	*e*P	**Pn**	**18 40 58.1**	**+1.4**
109C	**Camp Elliot, M**	**3.43**	**318**	P	**Pn**	**18 41 03.8**	**+4.6**
	baz=132						
109C				S	**Sb**	**18 41 50.5**	**+2.2**
	baz=132						
109C	**Camp Elliot, M**	**3.43**	**318**	Pn	**Pn**	**18 40 58.0**	**-1.1**
TUC	**Tucson**	**3.61**	**57**	S	Sn	18 41 35.5	-8.8
	baz=241						
TUC	**Tucson**	**3.61**	**57**	Pn	**Pn**	**18 40 58.4**	**-3.3**
TPFO	**Pinon Flats**	**3.68**	**332**	Pb	**Pg**	**18 41 15.3**	**-1.0**
	baz=147						
XPFO	**Pion Flat**	**3.69**	**332**	Pn	**Pn**	**18 41 01.2**	**-1.6**
PFO	**Pinyon Flats O**	**3.69**	**332**	Pn	**Pn**	**18 41 01.1**	**-1.7**
	comp=E,1.3nm,0.3s,baz=147,slow=14,SNR=1.2						
PFO				Lg	Lg	18 41 60.0	
	comp=E,20nm,0.3s,baz=78,slow=16,SNR=2.0						
PFO	**Pinyon Flats O**	**3.69**	**332**	Pb	**Pg**	**18 41 15.4**	**-1.0**
	baz=147						
PFO	**Pinyon Flats O**	**3.69**	**332**		**Pn**	**18 41 00.9**	**-1.9**
Y14A	**Wickenburg**	**3.73**	**17**	Pn	**Pn**	**18 41 00.0**	**-3.3**
BELC	**Belle Mtn. Jos**	**3.87**	**339**	S	**Sb**	**18 41 58.9**	**-2.2**
	baz=156						
MURC	**Murrieta**	**4.02**	**324**	Pb	**Pb**	**18 41 20.0**	**+3.4**
	baz=139						
MURC			

KSU1	Kansas State U	16.96	54		Pn	18 44 04.3	+1.3
KSU1				IAmb	IAmb	18 44 07.4	
comp=Z,95nm,1.6s							
F03A	Seaside	17.11	338	P	P	18 44 07.3	+0.8
F03A				IAmb	IAmb	18 44 20.4	
comp=Z,80nm,1.3s							
JTMT	Jette	17.35	0	P	P	18 44 09.7	+0.5
E04D	Cinebar	17.37	341	P	Pn	18 44 09.6	+1.6
baz=155							
LAO	LASA Array	17.47	19	P	Pn	18 44 06.0	-3.3
baz=204,SNR=9.2							
LAO	LASA Array	17.47	19	P	Pn	18 44 10.6	+1.3
LAO				IAmb	IAmb	18 44 22.8	
comp=Z,56nm,1.1s							
LTY	Liberty	17.55	346	P	P	18 44 12.4	+1.0
C09A	Chrisman Ranch	17.66	351	P	P	18 44 13.5	+1.0
E03A	Lebam	17.66	339		P	18 44 14.1	+1.6
E03A				IAmb	IAmb	18 44 17.3	
comp=Z,78nm,1.1s							
U38A	Gravette	17.72	65	P	Pn	18 44 11.8	-0.7
D05A	Enumclaw	17.80	343	P	P	18 44 15.6	+1.6
D05A				IAmb	IAmb	18 44 44.5	
comp=Z,79nm,1.4s							
EGMT	Eagleton	17.97	10	P	Pn	18 44 15.9	+0.3
baz=193,SNR=9.2							
EGMT	Eagleton	17.97	10	P	P	18 44 17.5	+1.4
EGMT				IAmb	IAmb	18 44 18.8	
comp=Z,64nm,1.5s							
NEW	Newport	17.99	354	P	Pn	18 44 16.6	+0.9
comp=Z,0.3nm,0.3s,baz=171,slow=10,SNR=4.7							
NEW	Newport	17.99	354	P	Pn	18 44 16.4	+0.6
baz=172							
NEW	Newport	17.99	354		P	18 44 17.5	+1.3
HHAR	Hobbs	18.03	66	P	Pn	18 44 16.5	+0.2
B08A	Colville Reser	18.36	349		P	18 44 19.2	-1.0
D03D	Eldon	18.41	341	P	P	18 44 20.9	+0.1
baz=155							
NLWA	Neilton Lookou	18.51	339	P	P	18 44 19.5	-2.4
S39A	Bolivar	18.87	62	P	P	18 44 23.5	-2.5
S39A				IAmb	IAmb	18 44 53.2	
comp=Z,58nm,1.9s							
E28A	Huff	19.34	29	P	P	18 44 29.7	-1.4
ECSD	EROS Data Cent	19.39	42	P	P	18 44 26.6	-5.0
baz=233,SNR=8.6							
ECSD	EROS Data Cent	19.39	42	P	P	18 44 32.5	+0.8
A04D	Lummi Island	19.40	343	P	P	18 44 33.2	+1.6
baz=157							
DGMT	Dagmar	19.67	20	P	P	18 44 32.6	-2.0
baz=207							
DGMT	Dagmar	19.67	20	P	P	18 44 34.0	-0.6
R40A	Maddies Statio	19.84	61	P	P	18 44 34.7	-1.9
N38A	Joes South For	20.03	53	P	P	18 44 35.8	-2.8
N38A				IAmb	IAmb	18 44 45.0	
comp=Z,39nm,1.1s							
P40A	Paris	20.39	57	P	P	18 44 41.2	-1.3
P40A				IAmb	IAmb	18 44 46.7	
comp=Z,47nm,1.1s							
T42A	Van Buren	20.43	65	P	P	18 44 42.5	-0.5
CCM	Cathedral Cave	20.55	62		P	18 44 41.6	-2.7
CCM				IAmb	IAmb	18 45 27.3	
comp=Z,52nm,1.9s							
F33A	5 Mile Ranch,	20.91	37	P	P	18 44 45.6	-2.5
FVM	French Village	21.16	63	P	P	18 44 50.5	-0.4
FVM				IAmb	IAmb	18 44 54.9	
comp=Z,36nm,1.4s							
Y45A	Yeager Farm, C	21.28	74	P	P	18 44 51.6	-0.6
I37A	Lemond, Waseca	21.46	45	P	P	18 44 51.2	-2.8
I37A				IAmb	IAmb	18 44 57.9	
comp=Z,20nm,0.8s							
N41A	Harden Midland	21.66	55	P	P	18 44 53.3	-2.9
N41A				IAmb	IAmb	18 45 00.5	
comp=Z,37nm,1.1s							
L40A	Anamosa	21.93	52	P	P	18 44 56.2	-3.0
S44A	Carbondale	22.00	64		P	18 44 59.1	-0.8
S44A				IAmb	IAmb	18 45 04.2	
comp=Z,31nm,1.2s							
P43A	Skaggs, Pawnee	22.28	59	P	P	18 45 00.3	-2.6
F36A	Milaca	22.43	41	P	P	18 45 03.4	-1.0
Q44A	Meyer Farm, Va	22.46	61	P	P	18 45 03.7	-1.1
PLAL	Pickwick Lake	22.56	71	P	P	18 45 04.4	-1.6
HDIL	Hopedale	22.73	57	P	P	18 45 04.5	-3.2
WVT	Waverly	22.87	68	P	P	18 44 59.5	-10
baz=264							
WVT	Waverly	22.87	68	P	P	18 45 06.4	-2.8
WVT				IAmb	IAmb	18 45 16.8	
comp=Z,35nm,1.6s							
JFWS	Jewell Farm	22.94	50	P	P	18 45 07.0	-2.9
JFWS				IAmb	IAmb	18 45 15.3	
comp=Z,28nm,1.1s							
L42A	Oliver, Polo	22.97	53		P	18 45 09.7	-0.5
OLIL	Olney	23.12	62	P	P	18 45 11.2	-0.5
OLIL				IAmb	IAmb	18 45 14.7	
comp=Z,34nm,1.1s							
X48A	Hartselle	23.38	73	P	P	18 45 14.0	-0.4
X48A				IAmb	IAmb	18 45 17.1	
comp=Z,35nm,1.4s							
250A	Grady	24.06	79	P	P	18 45 21.6	+0.7
G40A	Rib Lake	24.06	45	P	P	18 45 21.2	+0.3
G40A				IAmb	IAmb	18 45 23.2	
comp=Z,24nm,1.3s							
CLTN	Cedars of Leba	24.08	69	P	P	18 45 21.8	+0.7
CLTN				IAmb	IAmb	18 45 27.0	
comp=Z,41nm,1.6s							
ULM	Lac du Bonnet	24.22	30	P	P	18 45 21.2	-1.1
comp=Z,8.1nm,0.8s,baz=216,slow=10,SNR=8.3							
ULM	Lac du Bonnet	24.22	30	P	P	18 45 21.7	-0.6
U49A	Red Boiling Sp	24.56	68	P	P	18 45 25.5	-0.1
U49A				IAmb	IAmb	18 45 30.2	
comp=Z,21nm,1.4s							
FPAL	Fort Paine	24.57	73	P	P	18 45 25.9	+0.3
FPAL				IAmb	IAmb	18 45 30.4	
comp=Z,9.7nm,0.8s							
W50A	Signal Mountai	24.84	71	P	P	18 45 29.1	+0.9
W50A				IAmb	IAmb	18 45 33.3	
comp=Z,24nm,1.1s							
152A	Waverly Hall	25.33	77	P	P	18 45 33.0	+0.4
152A				IAmb	IAmb	18 45 38.2	
comp=Z,25nm,1.1s							
FFC	Flin Flon	25.91	17	P	P	18 45 38.0	+0.5
FFC				IAmb	IAmb	18 45 42.3	
comp=Z,23nm,1.2s							
TKL	Tuckaleechee C	26.11	70	P	P	18 45 42.2	+2.5
comp=Z,3.3nm,0.8s,baz=271,slow=11,SNR=3.7							
TKL	Tuckaleechee C	26.11	70	P	P	18 45 39.6	0.0
O49A	Covington	26.28	60	P	P	18 45 41.3	+0.2
O49A				IAmb	IAmb	18 45 41.9	
comp=Z,11nm,0.8s							
APG	El Apazote	26.75	120	LR	LR	18 57 08.2	
comp=Z,905nm,18.9s,baz=338,slow=38							
T53A	Wise	27.20	67	P	P	18 45 39.8	-10
baz=266							
DLBC	Dease Lake	30.05	344	P	P	18 46 16.8	+2.1
comp=Z,4.6nm,0.9s,baz=166,slow=6.4,SNR=7.2							
DLBC	Dease Lake	30.05	344	P	P	18 46 16.9	+2.3
DLBC				IAmb	IAmb	18 46 18.2	
comp=Z,12nm,1.1s							
BCAR	Beaver Creek A	37.13	340	P	P	18 47 18.1	+2.0
K27K	Chicken	37.95	341	P	P	18 47 22.6	-0.3
baz=139,SNR=6.9							
DOT	Dot Lake	38.26	339	P	P	18 47 27.2	+1.5
EGAK	Eagle	38.27	342	P	P	18 47 28.3	+2.7
EGAK				IAmb	IAmb	18 47 29.0	
comp=Z,19nm,1.2s							
SCRK	Sand Creek	38.47	339	P	P	18 47 27.1	-0.5
baz=136,SNR=7.2							
EPYK	Eagle Plains	38.50	346	P	P	18 47 29.6	+1.9
HDA	Harding Lake	39.70	339	P	P	18 47 36.8	-0.9
baz=133							
IL31		39.93	339	P	P	18 47 40.6	+1.1
IL31				IAmb	IAmb	18 47 42.6	
comp=Z,16nm,1.2s							
ILAR	Eielson Array	39.93	339	P	P	18 47 41.0	+1.5
comp=Z,5.3nm,0.8s,baz=152,slow=7.4,SNR=38							
POKR	Poker Plat Res	40.34	339	P	P	18 47 42.4	-0.6
baz=133							
KTH	Kantishna Hill	40.48	336	P	P	18 47 45.7	+1.5
KTH				IAmb	IAmb	18 47 59.7	
comp=Z,26nm,1.5s							
MDM	Murphy Dome	40.48	339	P	P	18 47 45.8	+1.7
NEA2	Nenana	40.50	338	P	P	18 47 44.0	-0.3
baz=130							
PPLA	Purkeypile	40.55	334	P	P	18 47 47.0	+2.1
BPAW	Bear Paw Mtn.	40.84	336	P	P	18 47 48.5	+1.4
BPAW				IAmb	IAmb	18 47 49.8	
comp=Z,19nm,1.2s							
SVW2	Sparrevohn	40.93	331	P	P	18 47 49.5	+1.6
SVW2				IAmb	IAmb	18 48 30.4	
comp=Z,40nm,1.9s							
BMAR	Burnt Mountain	41.20	343	P	P	18 47 52.3	+2.2
SCHQ	Schefferville	41.58	40	LR	LR	19 06 39.0	
comp=Z,361nm,18.9s,baz=212,slow=38							
COLD	Coldfoot	42.60	340	P	P	18 48 01.6	+0.2
baz=131,SNR=5.4							
COLD	Coldfoot	42.60	340	P	P	18 47 59.5	-1.9
COLD				IAmb	IAmb	18 48 05.1	
comp=Z,14nm,1.2s							
IMAR	Indian Mountai	42.91	338	P	P	18 48 05.2	+1.2
TOLK	Toolik Lake Re	43.38	342	P	P	18 48 07.4	-0.4
baz=133							
TOLK	Toolik Lake Re	43.38	342	P	P	18 48 10.0	+2.2
TOLK				IAmb	IAmb	18 48 11.5	
comp=Z,21nm,1.0s							
SDV	Santo Domingo	46.02	108	P	P	18 48 30.1	+0.3
comp=Z,3.9nm,0.3s,baz=314,slow=11,SNR=5.0							
SUMG	Summit	57.10	20	P	P	18 49 52.3	+0.2
PPT	Papeete	58.50	220	LR	LR	19 10 37.8	
comp=Z,106nm,18.2s,baz=352,slow=31							
PTGA	Pitinga	60.21	110	P	P	18 50 14.8	+0.7
SAML	Samuel	62.77	120	P	P	18 50 29.6	-1.8
PETK	Petropavlovsk-	65.16	318	P	P	18 50 47.0	+0.4
comp=Z,2.8nm,1.0s,baz=75,slow=14,SNR=6.3							
ARCES	ARCESS Array B	76.19	14	P	P	18 51 53.3	-0.3
comp=Z,6.1nm,0.8s,baz=306,slow=7.7,SNR=7.9							
EKA	Eskdalemuir Ar	76.44	33	P	P	18 51 54.5	-0.6
comp=Z,2.0nm,0.9s,baz=337,slow=7.0,SNR=3.5							
CPUP	Villa Florida	78.45	130	P	P	18 52 07.5	+0.7
comp=Z,3.7nm,0.9s,baz=343,slow=5.8,SNR=4.9							
CPUP	Villa Florida	78.45	130	IAmb	IAmb	18 52 08.9	
comp=Z,21nm,1.4s							
BDFB	Brasilia	78.50	116	P	P	18 52 08.5	+1.1
comp=Z,3.3nm,0.6s,baz=0.0,slow=2.0,SNR=2.5							
BDFB	Brasilia	78.50	116	IAmb	IAmb	18 52 13.6	
comp=Z,14nm,1.3s							
NB2	NORSAR Subarra	78.76	24	P	P	18 52 08.8	+0.7
comp=Z,0.8nm,0.8s,baz=311,slow=5.6							
NOA	NORSAR Array B	78.76	24	P	P	18 52 08.5	+0.4
comp=Z,2.1nm,0.9s,baz=312,slow=5.4,SNR=5.2							
FINES	FINESS Array B	83.04	18	P	P	18 52 29.4	-1.5
USRK	Ussuriysk Ar.	84.25	319	P	P	18 52 37.4	-0.1
comp=Z,1.9nm,0.9s,baz=108,slow=3.2,SNR=3.0							
MJAR	Matsushiro Arr	84.85	310	P	P	18 52 41.2	+0.6
comp=Z,2.9nm,0.8s,baz=60,slow=3.1,SNR=8.7							
MJAR	Matsushiro Arr	84.85	310	P	P	18 52 40.6	-0.1
ESDC	Sonseca Array	84.98	47	P	P	18 52 40.9	-0.3
comp=Z,1.5nm,0.9s,baz=308,slow=6.5,SNR=9.1							
ESDC	Sonseca Array	84.98	47	P	P	18 52 40.8	-0.5
AKASG	Malin Array Be	93.09	22	P	P	18 53 19.0	-0.5
comp=Z,0.2nm,0.2s,baz=316,slow=4.4,SNR=2.2							
AKASG	Malin Array Be	93.09	22	P	P	18 53 18.9	-0.6
SONM	Songino Array	93.97	334	P	P	18 53 25.2	+1.4
comp=Z,0.3nm,0.6s,baz=45,slow=57,SNR=3.2							
CMAR	Chiang Mai Arr	121.82	322	PKP	PKiKP	18 59 01.6	+0.9
comp=Z,0.7nm,0.8s,baz=316,slow=2.2,SNR=7.1							
BOSA	Boshof	144.93	97	PKP	PKPbc	18 59 43.0	+0.4
comp=Z,5.3nm,0.9s,baz=219,slow=2.0,SNR=5.9							

*IDC **15** 18:40:31.8±1.9, 30°.22S×177°.05W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/36, mbtmp3.7/2, MS4.6/1, Ms1 4.8/1, ms1mx3.0/28, Error ellipse: s-maj=46.1km s-min=29.9km az=63.0*

*NEIC **15** 18:40:33.2±0.9, 30°.27S±0°.08×177°.13W±0°.05, h10km±2km, mb4.4/5, Error ellipse: s-maj=13.2km s-min=8.0km az=165.0*

ISC 15 18:40:35.6±1.6, 30°.2S±0°.1×177°.1W±0°.3, h24km, n12, σ1§16/12, mb4.2/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.21	324	Pn	Pn	18 40 56.1	-0.9
150nm,0.3s,baz=264,slow=23,SNR=5.7							
RAO				Sn	Sb	18 41 14.6	+1.7
288nm,0.3s,baz=312,slow=22,SNR=6.7							
RAO				LR	LR	18 41 23.2	
comp=Z,248nm,19.4s,baz=116,slow=42							
RAO	Raoul Island	1.21	324		Pn	18 40 55.9	-1.1
WHZ	Wether Hill Ro	19.51	213	P	P	18 45 00.2	-0.9
ASAR	Alice Springs	43.88	266	P	P	18 48 40.9	+0.5
0.5nm,0.5s,baz=106,slow=7.3,SNR=9.6							
WB2	Warramunga Arr	44.85	272	P	P	18 48 47.5	-0.6
WB2				IAmb	IAmb	18 48 51.2	
comp=Z,7.5nm,1.4s							
WRA	Warramunga Arr	44.86	272	P	P	18 48 48.0	-0.2
comp=Z,0.6nm,0.3s,baz=111,slow=7.9,SNR=12							
WRA	Warramunga Arr	44.86	272	P	P	18 48 47.9	-0.3
WB0	Warramunga Arr	44.88	272	P	P	18 48 48.3	-0.1
WB0				IAmb	IAmb	18 49 08.2	
comp=Z,8.5nm,1.4s							
SNAA	Sanae	78.30	178	P	P	18 52 35.2	+2.0
CMAR	Chiang Mai Arr	94.07	289	LR	LR	19 36 55.3	
comp=Z,248nm,20.1s,baz=87,slow=36							
FINES	FINESS Array B	145.25	341	PKPbc	PKPdf	19 00 10.2	-0.3
comp=Z,1.3nm,0.4s,baz=48,slow=3.5,SNR=19							
AKASG	Malin Array Be	151.63	324	PKPbc	PKiKP	19 00 26.6	-1.3
comp=Z,0.2nm,0.3s,baz=57,slow=3.0,SNR=1.7							

*IDC **15** 18:41:33.7±1.9, 42°.24N×145°.27E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.6/64, mbtmp3.8/11, ML3.5/2, MS3.9/3, Ms1 3.9/3, ms1mx3.0/40, Error ellipse: s-maj=39.2km s-min=29.8km az=117.0*

*MOS **15** 18:41:38.9±1.5, 42°.18N×144°.87E, h44km, mb4.3/1, Error ellipse: s-maj=19.7km s-min=10.4km az=81.7*

*NIED **15** 18:41:40.2, 42°.27N×144°.81E, h28km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}4.18; $M_{\theta\theta}$-2.03; $M_{\phi\phi}$-2.15; $M_{r\theta}$1.28; $M_{\theta\phi}$-2.02; $M_{\phi r}$3.47; Fault plane solution: $M_0$5.55000×10^14^ NP1:ϕ_s29.00000°, δ66.00000°, λ78.00000°. NP2:ϕ_s237.00000°, δ27.00000°, λ115.00000°.*

*JMA **15** 18:41:40.2, 42°.27N×144°.81E, h28km±1km, M3.8*

*SKHL **15** 18:41:40.5±0.3, 42°.29N×144°.60E, h50km±5km, mb4.3/4*

ISC 15 18:41:38.1±1.4, 42°.33N±0°.06×144°.86E±0°.04, h14km±8km, n39, σ1§24/45, mb3.6/9, 3C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.68	350	⇓P	Pn	18 41 54.0	+0.8
JAK				eS	Sn	18 42 05.1	+1.5
JKHN	Kushirohamanak	0.79	16	⇓P	Pn	18 41 56.2	+1.5
JKHN				eS	Sn	18 42 08.9	+2.6
JOB	Onbets	0.95	308	⇓P	Pg	18 41 57.9	+1.5
JCH	Churui	1.14	285	⇑P	Pg	18 42 00.5	+0.4
JTHR	Tokachihiroo	1.16	269	⇑P	Pg	18 42 00.5	+0.2
NMR	Nemuro--Hokkai	1.22	31	iP	Pg	18 42 01.9	+0.3
NMR				eS	Sg	18 42 18.3	+0.8
NMR	Nemuro--Hokkai	1.22	31	cPN	Pg	18 42 01.9	+0.3
NMR				eS	Sg	18 42 18.3	+0.8
NEM2	Nemuro 2	1.22	32	P	Pg	18 42 01.9	+0.3
NEM2				eS	Sg	18 42 18.3	+0.7
JAR	Ashorobuto	1.26	321	⇓P	Pg	18 42 01.9	-0.3
JNK	Nakash	1.26	355	⇓P	Pg	18 42 02.1	-0.2
JNK				eS	Sg	18 42 18.7	0.0
JEM	Erimo	1.30	257	P	Pb	18 42 02.4	+0.1
GLVR	Golovnino	1.49	19	eP	Pb	18 42 05.4	-0.1
GLVR				AMB	AMB	18 42 08.8	
180nm,0.4s							
GLVR				eS	Sg	18 42 25.5	-0.6
GLVR				A	A	18 42 30.6	
750nm,0.4s							
GLVR				A	A	18 42 30.6	
640nm,0.4s							
GLVR	Golovnino	1.49	19	ePN	Pb	18 42 05.4	-0.1
GLVR				eS	Sg	18 42 25.5	-0.6
GLVR				pmax	pmax		
comp=N,61nm,0.1s							
GLVR				pmax	pmax		
comp=E,62nm,0.1s							
GLVR				pmax	pmax		
comp=Z,183nm,0.1s							
GLVR				smax	smax		
comp=N,1μm,0.3s							
GLVR				smax	smax		
comp=E,1μm,0.3s							
JNBK	Urakawa-nobuka	1.56	269	P	Pn	18 42 05.7	+0.3
GRPR	Tuman	1.79	22	eP	Pb	18 42 09.7	-1.0
GRPR				AMB	AMB	18 42 12.6	
comp=E,130nm,0.4s							
GRPR				eS	Sn	18 42 31.4	+0.3
GRPR				A	A	18 42 38.7	
comp=E,1μm,0.5s							
GRPR				A	A	18 42 38.7	
comp=E,230nm,0.5s							
GRPR	Tuman	1.79	22	PN	Pn	18 42 07.7	-0.8
GRPR				eS	Sn	18 42 31.4	+0.3
GRPR				pmax	pmax		
comp=Z,128nm,0.2s							
GRPR				smax	smax		
comp=N,1μm,0.4s							
GRPR				smax	smax		
comp=E,231nm,0.2s							
YUK	Yuzh-Kuril'sk	1.86	23	iP	Pb	18 42 10.9	-0.8
YUK				AMB	AMB	18 42 12.9	
comp=E,160nm,0.4s							
YUK				eS	Sb	18 42 33.6	-1.2
YUK				A	A	18 42 38.9	
comp=E,810nm,0.6s							
YUK				A	A	18 42 38.9	
comp=E,750nm,0.6s							
ASAJ	Asahikawa	2.43	318	Pn	Pb	18 42 19.8	-1.8
comp=E,12nm,0.3s,baz=177,slow=12,SNR=115							
ASAJ				Sn	Sb	18 42 52.1	+0.7
comp=E,16nm,0.3s,baz=186,slow=27,SNR=15							
ASAJ				LR	LR	18 43 37.2	
comp=E,224nm,18.6s,baz=166,slow=46							
KUR	Kuril'sk	3.63	36	eP	Pn	18 42 36.9	+3.1
KUR				AMB	AMB	18 42 46.2	
comp=E,20nm,0.3s							
KUR				eS	Sn	18 43 18.7	+2.3
KUR				A	A	18 43 26.5	
comp=E,80nm,0.4s							
KUR				A	A	18 43 26.5	
comp=E,50nm,0.4s							
KUR	Kuril'sk	3.63	36	PN	Pb	18 42 38.6	-3.4
KUR				eS	Sn	18 43 18.9	+2.5
KUR				pmax	pmax		
comp=Z,34nm,0.5s							
KUR				smax	smax		
comp=N,79nm,0.4s							
KUR				smax	smax		
comp=E,48nm,0.5s							
MJAR	Matsushiro Arr	7.74	224	Pn	Pn	18 43 29.5	-0.7
comp=E,0.2nm,0.3s,baz=27,slow=15,SNR=8.9							
SONM	Songino Array	27.50	295	P	P	18 47 24.7	+0.7
comp=E,1.8nm,0.7s,baz=86,slow=8.2,SNR=13							
H11N2	WAKE ISLAND Hy	29.23	134	T	T	19 18 51.0	
baz=327,slow=75,SNR=107							
H11N1	WAKE ISLAND Hy	29.24	134	T	T	19 18 55.8	
baz=327,slow=75,SNR=60							
H11N3	WAKE ISLAND Hy	29.25	134	T	T	19 18 57.7	
baz=327,slow=75,SNR=54							
H11S1	WAKE ISLAND Hy	30.14	135	T	T	19 20 03.3	
baz=328,slow=76,SNR=81							
H11S3	WAKE ISLAND Hy	30.14	135	T	T	19 20 07.1	
baz=328,slow=76,SNR=51							
H11S2	WAKE ISLAND Hy	30.15	135	T	T	19 20 04.4	
baz=328,slow=76,SNR=50							
ZALV	Zalesovo Beam	40.53	308	P	P	18 49 16.3	-0.1
comp=E,0.5nm,0.4s,baz=97,slow=6.4,SNR=4.3							
MKAR	Makanchi Array	43.76	298	P	P	18 49 42.5	-0.5
comp=E,0.4nm,0.6s,baz=76,slow=10,SNR=5.3							
CMAR	Chiang Mai Arr	45.51	253	P	P	18 49 57.4	+0.2
comp=E,0.3nm,0.5s,baz=47,slow=6.9,SNR=3.1							
FINES	FINESS Array B	65.36	332	P	P	18 52 18.8	-0.7
comp=E,1.5nm,0.5s,baz=40,slow=6.9,SNR=14							
NOA	NORSAR Array B	70.31	338	P	P	18 52 49.7	-0.9
comp=E,0.4nm,0.5s,baz=34,slow=6.4,SNR=3.6							
HFS	Hagfors	70.33	336	P	P	18 52 49.7	-1.0
comp=E,0.6nm,0.4s,baz=55,slow=8.7,SNR=5.2							
AKASG	Malin Array Be	71.71	323	LR	LR	19 27 06.8	
comp=E,396nm,19.5s,baz=325,slow=38							
BRTR	Keskin Array B	77.29	313	LR	LR	19 33 44.0	
comp=E,151nm,19.2s,baz=305,slow=40							
EKA	Eskdalemuir Ar	78.98	342	P	P	18 53 40.3	-0.7
comp=E,0.3nm,0.4s,baz=16,slow=4.5,SNR=4.1							
GERES	GERESS Array B	79.56	330	P	P	18 53 44.0	-0.4
comp=E,0.2nm,0.4s,baz=26,slow=7.0,SNR=1.9							
GERES	GERESS Array B	79.56	330	P	P	18 53 44.0	-0.4

*TRN **15** 18:42:45.7, 18°.13N×64°.01W, h27km, MD3.5*

*NEIC **15** 18:42:48.0±0.8, 18°.16N±0°.08×63°.95W±0°.04, h42km±25km, Error ellipse: s-maj=11.6km s-min=5.0km az=198.0*

*RSPR **15** 18:42:48.0, 18°.59N×63°.91W, h46km±2km*

ISC 15 18:42:47.4±1.2, 18°.11N±0°.07×64°.00W±0°.03, h26km±14km, n25, σ0§68/36, 4C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.66	298	⇑iP	Pn	18 43 00.6	-0.5
TBVI	Tortola	0.66	298	⇑iP	Pn	18 43 00.6	-0.5
TBVI				eS	Sn	18 43 10.4	-0.2
TBVI	Tortola	0.66	298		Pn	18 43 00.6	-0.5
TBVI					Sn	18 43 10.4	-0.2
CDVI	St. Croix	0.81	244	eP	Pn	18 43 02.2	-0.9
CDVI				eS	Sn	18 43 14.8	+0.4
CDVI	St. Croix	0.81	244		Pn	18 43 02.2	-0.9
SABA	Saba	0.87	124	eP	Pn	18 43 03.7	-0.3
SABA				eS	Sn	18 43 16.1	+0.4
SABA	Saba	0.87	124	Pn	Pn	18 43 02.7	-1.2
SMRT	St. Maarten	0.88	94	eP	Pb	18 43 03.8	-0.2
SMRT				eS	Sn	18 43 15.5	-0.6
SMRT	St. Maarten	0.88	94	Pn	Pn	18 43 03.4	-0.7
STVI	Saint Thomas	0.94	285	⇑eP	Pb	18 43 04.9	-0.1
STVI	Saint Thomas	0.94	285	⇑eP	Pb	18 43 04.9	-0.1
STVI				eS	Sb	18 43 18.1	+1.0
STVI	Saint Thomas	0.94	285		Pb	18 43 04.9	-0.1
STVI					Sb	18 43 18.1	+1.0
SEUS	St. Eustatius	1.15	122	eS	Sn	18 43 23.0	+0.4
CUPR	Culebra, Puert	1.24	279	⇑eP	Pb	18 43 09.2	-0.8
CUPR	Culebra, Puert	1.24	279	eS	Sb	18 43 25.7	+0.1
CUPR	Culebra, Puert	1.24	279		Pb	18 43 09.2	-0.8
CUPR					Sb	18 43 25.7	+0.1
SKI	Saint Kitts	1.43	123	eP	Pn	18 43 12.0	+0.4
SKI				eS	Sb	18 43 31.0	-0.1
S

0.5nm,0.3s,baz=262,slow=22,SNR=2.9
DZM Mont Dzumac 13.26 264 P P 19 26 28.7 0.0
BHW Baring Head 20.62 193 P P 19 27 36.6 +0.5
QRZ Quartz Range 20.64 198 P P 19 27 36.8 +0.5
NNZ Nelson 20.77 196 P P 19 27 38.2 +0.6
THZ Tophouse 21.41 196 P P 19 27 43.5 +0.2
MLZ Mavora Lakes 26.11 200 P P 19 28 25.7 +0.9
WHZ Wether Hill Ro 26.63 200 P P 19 28 30.1 +0.7
EIDS Eidsvold 27.45 256 P P 19 28 36.5 -0.3
EIDS IAmb IAmb 19 28 38.9
comp=Z,15nm,1.4s
ARMA Armidale 27.61 245 P P 19 28 37.8 -0.5
ARMA IAmb IAmb 19 28 54.8
comp=Z,20nm,1.4s
CTA Charters Tower 32.20 266 P P 19 29 18.8 +1.1
comp=Z,9.4nm,0.5s,baz=93,slow=10,SNR=28
CTAO Charters Tower 32.20 266 P P 19 29 18.8 +1.1
CTAO IAmb IAmb 19 29 19.4
comp=Z,13nm,0.9s
STKA Stephens Creek 36.33 245 P P 19 29 53.0 +1.1
comp=Z,1.8nm,0.5s,baz=104,slow=12,SNR=8.0
STKA Stephens Creek 36.33 245 P P 19 29 53.0 +1.1
COEN Coen 36.42 275 P P 19 29 54.2 +1.3
COEN IAmb IAmb 19 29 55.0
comp=Z,10nm,0.8s
BBOO Buckleboo 41.08 244 P P 19 30 30.5 +0.4
BBOO IAmb IAmb 19 30 58.0
comp=Z,12nm,1.1s
WR0 Warramunga Arr 43.09 263 P P 19 30 45.7 -0.3
AS31 Alice Springs 43.14 258 P P 19 30 46.9 +0.5
ASAR Alice Springs 43.14 258 P P 19 30 46.8 +0.4
comp=Z,8.3nm,0.8s,baz=97,slow=7.8,SNR=132
ASAR PcP **PcP 19 32 22.0 -0.2**
comp=Z,0.5nm,0.6s,baz=120,slow=3.5,SNR=2.8
ASAR ScP **ScP 19 35 17.5 +0.5**
comp=Z,0.7nm,0.7s,baz=103,slow=4.5,SNR=7.1
ASAR S **S 19 36 28.8 -1.9**
comp=Z,1.0nm,0.7s,baz=95,slow=16,SNR=11
ASAR Alice Springs 43.14 258 P P 19 30 46.1 -0.3
WB0 Warramunga Arr 43.26 263 P P 19 30 47.2 -0.1
WB0 IAmb IAmb 19 30 47.9
comp=Z,7.6nm,0.6s
WB2 Warramunga Arr 43.27 263 P P 19 30 47.0 -0.4
WB2 IAmb IAmb 19 30 48.5
comp=Z,11nm,1.1s
WRAB Tennant Creek 43.27 263 P P 19 30 46.8 -0.7
WRAB IAmb IAmb 19 30 47.8
comp=Z,4.2nm,0.8s
WRA Warramunga Arr 43.28 263 P P 19 30 47.1 -0.4
comp=Z,3.7nm,0.5s,baz=95,slow=7.1,SNR=136
WRA ScP **ScP 19 35 17.0 -0.6**
comp=Z,0.3nm,0.7s,baz=85,slow=3.7,SNR=2.4
WRA S **S 19 36 29.8 -2.8**
comp=Z,0.4nm,0.9s,baz=97,slow=14,SNR=3.9
WRA Warramunga Arr 43.28 263 P P 19 30 47.0 -0.5
FORT Forrest 47.84 247 P P 19 31 21.4 -0.6
FORT IAmb IAmb 19 31 42.5
comp=Z,17nm,1.2s
KNRA Kununurra 49.39 267 P P 19 31 33.2 -0.3
KNRA IAmb IAmb 19 31 34.1
comp=Z,7.1nm,0.7s
FITZ Fitzroy Crossi 51.71 263 P P 19 31 50.6 +0.3
comp=Z,1.2nm,0.4s,baz=124,slow=0.4,SNR=18
FITZ Fitzroy Crossi 51.71 263 P P 19 31 50.6 +0.3
VNDA Vanda 56.99 185 P P 19 32 27.8 +1.6
comp=Z,0.8nm,0.5s,baz=356,slow=8.1,SNR=4.5
QSPA South Pole Qui 68.75 180 P P 19 33 42.6 +0.7
comp=Z,6.3nm,0.9s,baz=317,slow=0.7,SNR=31
QSPA South Pole Qui 68.75 180 P P 19 33 42.3 +0.4
QSPA IAmb IAmb 19 33 43.3
comp=Z,6.6nm,0.9s
BELA Belgrano 2 78.90 173 P P 19 34 38.2 -0.7
MAW Mawson 80.37 200 P P 19 34 46.2 -0.5
comp=Z,1.3nm,0.6s,baz=65,slow=12,SNR=3.6
MAW Mawson 80.37 200 P P 19 34 46.3 -0.4
NVAR Mina Array Bea 82.47 44 P P 19 34 58.4 +0.3
comp=Z,0.6nm,0.6s,baz=223,slow=8.9,SNR=5.6
NVAR Mina Array Bea 82.47 44 P P 19 34 58.5 +0.4
SNAA Sanae 87.22 179 P P 19 35 19.1 -1.3
VNA3 Neumayer Olymp 87.40 177 P P 19 35 20.0 -1.2
VNA2 Neumayer--Watz 87.82 177 P P 19 35 22.4 -0.8
VNA1 Neumayer--Stat 88.06 177 P P 19 35 23.9 -0.3
TXAR Lajitas Array 88.53 58 P P 19 35 27.8 +0.5
comp=Z,0.9nm,0.8s,baz=202,slow=4.6,SNR=7.5
TXAR Lajitas Array 88.53 58 P P 19 35 27.7 +0.4
ILAR Eielson Array 89.39 13 P P 19 35 29.0 -1.3
comp=Z,0.3nm,0.7s,baz=216,slow=6.1,SNR=4.6
PDAR Pinedale Array 90.40 44 P P 19 35 35.6 -0.2
comp=Z,0.6nm,0.4s,baz=183,slow=1.8,SNR=2.1
ARCES ARCESS Array B 129.50 349 PKP PKPdf 19 41 36.6 -1.4
comp=Z,3.5nm,0.8s,baz=54,slow=1.6,SNR=5.0
ARCES ARCESS Array B 129.50 349 PKPdf 19 41 37.3 -0.6
AKASG Malin Array Be 143.12 330 PKP PKPab 19 42 00.5 -1.0
comp=Z,0.2nm,0.3s,baz=46,slow=4.3,SNR=5.9
GERES GERESS Array B 150.64 342 PKPbc **PKPbc 19 42 20.6 -1.7**
comp=Z,0.4nm,0.5s,baz=26,slow=2.5,SNR=4.3
GERES GERESS Array B 150.64 342 PKPbc 19 42 20.9 -1.4

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*BJI **15** 19:30:18.0±0.0, 15°.00S×175°.40W, h289km, mB5.0/18, mb4.5/23*
*UNK **15** 19:30:20.0, 15°.01S×175°.39W, h297km*
*NEIC **15** 19:30:20.1±1.1, 15°.00S±0°.09×175°.39W±0°.10, h299km±5km, mb4.9/278, Error ellipse: s-maj=14.1km s-min=12.6km az=138.0*
*IDC **15** 19:30:20.3±0.9, 14°.90S×175°.41W, h296km±9km, mb4.2/28, mb1 4.3/30, mb1mx4.2/43, mbtmp4.8/30, Error ellipse: s-maj=12.4km s-min=7.6km az=148.0*
*BGR **15** 19:30:21.4±0.0, 15°.54S×175°.53W, h313km*
*GCMT **15** 19:30:23.1±0.8, 14°.96S±0°.06×175°.25W±0°.06, h319km±3km, MW5.0/49, Moment Tensor Solution. s49,c54; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.79±.32; Mθθ2.83±.54; Mφφ1.96±.62; Mrθ-2.62±.60; Mθφ0.00±.54; Mφr0.92±.68; Best double couple: M0=4.69700×10^16^ NP1:φs=274.00000°, δ=27.00000°, λ=-97.00000°. NP2:φs=103.00000°, δ=63.00000°, λ=-86.00000°. Principal axes: T 3.6890, Plg18.0000°, Azm190.0000°; N 2.0160, Plg3.0000°, Azm281.0000°; P -5.7050, Plg72.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 15 19:30:20.1±0.3,**15°.00S**±0°.06×**175°.36W**±0°.05,**h300km, n605,** σ0=**77**/604,**mb4.8**/158,**10C-13D,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.63**	**73**	P	**Pn**	**19 31 23.1**	**+0.6**
62nm,0.3s,baz=79,slow=0.5,SNR=78							
AFI				S	**S**	**19 32 12.9**	**+0.5**
34nm,0.3s,baz=278,slow=22,SNR=9.4							
AFI	**Afiamalu**	**3.63**	**73**	Pn	**Pn**	**19 31 22.4**	**-0.1**
NIUE	**Niue**	**6.59**	**129**	Pn	**Pn**	**19 31 56.5**	**0.0**
MSVF	**Nonsavu**	**6.89**	**246**	Pn	**Pn**	**19 32 03.0**	**+2.7**
FUNA	**Funafuti**	**8.35**	**320**	Pn	**Pn**	**19 32 18.6**	**+0.4**
KNTN	**Kanton**	**12.66**	**17**	P	**Pn**	**19 33 10.2**	**-0.6**
RAR	**Rarotonga**	**16.05**	**115**	P	**Pn**	**19 33 49.9**	**-0.9**
0.6nm,0.3s,baz=247,slow=13,SNR=3.9							
RAR	**Rarotonga**	**16.05**	**115**	P	**P**	**19 33 48.3**	**-0.4**
RAR				IAmb	IAmb	19 33 55.0	
comp=Z,54nm,1.3s							
DZM	**Mont Dzumac**	**18.63**	**245**	P	**P**	**19 34 16.7**	**+0.1**
comp=Z,0.4nm,0.3s,baz=87,slow=20,SNR=2.0							
OUZ	**Omahuta**	**22.45**	**204**	P	**P**	**19 34 55.0**	**+0.9**
URZ	**Urewera**	**24.11**	**195**	P	**P**	**19 35 06.3**	**-2.9**
comp=Z,16nm,0.7s,baz=333,slow=6.1,SNR=7.9							
URZ	**Urewera**	**24.11**	**195**	P	**P**	**19 35 06.6**	**-2.6**
XMAS	**Kiritimati**	**24.52**	**48**	P	**P**	**19 35 13.5**	**+0.4**
BKZ	**Black Stump Fm**	**25.12**	**195**	P	**P**	**19 35 16.8**	**-1.6**
QRZ	**Quartz Range**	**27.81**	**200**	P	**P**	**19 35 41.4**	**-0.8**
THZ	**Tophouse**	**28.54**	**199**	P	**P**	**19 35 47.7**	**-1.0**
THZ				IAmb	IAmb	19 35 57.4	
comp=Z,77nm,1.5s							
KHZ	**Kahutara**	**28.95**	**197**	P	**P**	**19 35 50.4**	**-1.9**
KHZ				IAmb	IAmb	19 36 09.7	
comp=Z,32nm,1.2s							
RPZ	**Rata Peaks**	**30.89**	**199**	P	**P**	**19 36 06.3**	**-2.9**
comp=Z,8.7nm,0.7s,baz=120,slow=20,SNR=2.0							
FOZ	**Fox Glacier**	**31.14**	**201**	P	**P**	**19 36 10.9**	**-0.5**
WKZ	**Wanaka**	**32.55**	**201**	P	**P**	**19 36 23.3**	**-0.4**
EIDS	**Eidsvold**	**33.06**	**246**	P	**P**	**19 36 28.1**	**-0.3**
MLZ	**Mavora Lakes**	**33.33**	**201**	P	**P**	**19 36 30.3**	**-0.2**
MLZ				IAmb	IAmb	19 36 34.8	
comp=Z,28nm,1.1s							
KRVT	**Keravat (AS076**	**33.81**	**285**	P	**P**	**19 36 34.6**	**-0.3**
comp=Z,56nm,0.7s,baz=352,slow=23,SNR=3.6							
WHZ	**Wether Hill Ro**	**33.85**	**201**	P	**P**	**19 36 34.2**	**-0.6**
WHZ				IAmb	IAmb	19 36 35.9	
comp=Z,28nm,0.9s							
CTA	**Charters Tower**	**36.90**	**256**	P	**P**	**19 37 01.1**	**0.0**
comp=Z,6.3nm,0.5s,baz=83,slow=9.3,SNR=14							
CTAO	**Charters Tower**	**36.90**	**256**	P	**P**	**19 37 00.7**	**-0.3**
HMH	**Humu'ula Sheep**	**39.55**	**30**	P	**P**	**19 37 23.2**	**-0.1**
HMH				IAmb	IAmb	19 37 25.5	
comp=Z,62nm,0.9s							
COEN	**Coen**	**40.12**	**266**	P	**P**	**19 37 28.9**	**+1.1**
HLK	**Haleakala**	**40.19**	**28**	P	**P**	**19 37 29.7**	**+1.3**
HLK				IAmb	IAmb	19 37 30.3	
comp=Z,59nm,0.8s							
STKA	**Stephens Creek**	**42.61**	**239**	P	**P**	**19 37 48.2**	**+0.6**
comp=Z,8.1nm,0.6s,baz=82,slow=9.4,SNR=32							
STKA	**Stephens Creek**	**42.61**	**239**	P	**P**	**19 37 48.1**	**+0.4**
JAY	**Jayapura**	**45.06**	**282**	P	**P**	**19 38 07.3**	**+0.1**
comp=Z,5.2nm,0.5s,baz=199,slow=2.7,SNR=9.7							
BBOO	**Buckleboo**	**47.39**	**239**	P	**P**	**19 38 24.5**	**-0.5**
WR0	**Warramunga Arr**	**47.91**	**257**	P	**P**	**19 38 28.2**	**-0.9**
WB0	**Warramunga Arr**	**48.06**	**257**	P	**P**	**19 38 29.1**	**-1.2**
WB2	**Warramunga Arr**	**48.09**	**257**	P	**P**	**19 38 29.9**	**-0.7**
WRAB	**Tennant Creek**	**48.09**	**257**	P	**P**	**19 38 29.5**	**-1.0**
WRA	**Warramunga Arr**	**48.10**	**257**	P	**P**	**19 38 29.9**	**-0.7**
comp=Z,4.1nm,0.9s,baz=94,slow=6.3,SNR=83							
WRA				PcP	**PcP**	**19 39 53.5**	**+0.2**
comp=Z,3.9nm,1.0s,baz=87,slow=3.9,SNR=6.3							
WRA	**Warramunga Arr**	**48.10**	**257**	P	**P**	**19 38 29.2**	**-1.5**
AS31	**Alice Springs**	**48.44**	**252**	P	**P**	**19 38 32.5**	**-0.7**
ASAR	**Alice Springs**	**48.44**	**252**	P	**P**	**19 38 32.9**	**-0.4**
comp=Z,32nm,0.5s,baz=86,slow=8.2,SNR=448							
ASAR				PcP	**PcP**	**19 39 54.6**	**+0.2**
comp=Z,1.6nm,0.4s,baz=98,slow=4.0,SNR=4.6							
ASAR				ScP	**ScP**	**19 43 22.8**	**+2.6**
comp=Z,1.0nm,0.9s,baz=89,slow=4.9,SNR=4.8							
ASAR				S	**S**	**19 45 08.9**	**-2.0**
comp=Z,1.5nm,1.1s,baz=82,slow=14,SNR=9.2							
ASAR	**Alice Springs**	**48.44**	**252**	P	**P**	**19 38 32.1**	**-1.1**
ASAR					**PcP**	**19 39 54.5**	**0.0**
MTN	**Manton Dam**	**51.88**	**265**	P	**P**	**19 38 58.2**	**-0.8**
KNRA	**Kununurra**	**53.76**	**261**	P	**P**	**19 39 12.1**	**-0.5**
FORT	**Forrest**	**53.92**	**243**	P	**P**	**19 39 12.4**	**-1.1**
SIJI	**Sorong**	**54.53**	**280**	P	**P**	**19 39 18.6**	**+0.5**
comp=Z,34nm,0.7s,baz=85,slow=5.0,SNR=9.7							
FITZ	**Fitzroy Crossi**	**56.44**	**258**	P	**P**	**19 39 32.1**	**+0.5**
comp=Z,1.1nm,0.5s,baz=5.7,slow=3.5,SNR=16							
SOEI	**Soe**	**59.06**	**268**	P	**P**	**19 39 50.7**	**+0.8**
comp=Z,61nm,1.0s							
SOEI	**Soe**	**59.06**	**268**	P	**P**	**19 39 50.5**	**+0.6**
SANI	**Sanana**	**59.24**	**277**	P	**P**	**19 39 50.2**	**-0.8**
comp=Z,23nm,1.1s							
BATI	**Baumata**	**59.55**	**267**	P	**P**	**19 39 54.5**	**+1.3**
comp=Z,12nm,0.5s,baz=274,slow=16,SNR=2.1							
MMRI	**Maumere**	**61.25**	**268**	P	**P**	**19 40 03.7**	**-0.9**
MMRI				IAmb	IAmb	19 40 05.3	
comp=Z,53nm,1.2s							
PSA00	**Pilbara Seismi**	**61.51**	**253**	P	**P**	**19 40 05.7**	**-0.5**
EDFI	**Ende, Flores**	**61.76**	**268**	P	**P**	**19 40 07.4**	**-0.7**
comp=Z,331nmcomp=Z,38nm,1.0s							
VNDA	**Vanda**	**63.59**	**185**	P	**P**	**19 40 20.5**	**+1.6**
comp=Z,4.5nm,0.8s,baz=13,slow=5.2,SNR=15							
VNDA	**Vanda**	**63.59**	**185**	P	**P**	**19 40 19.4**	**+0.5**
MPSI	**Mapaga**	**65.75**	**277**	P	**P**	**19 40 33.4**	**-0.5**
comp=Z,14nm,0.8s							
JYT	**Yasato**	**66.02**	**322**	P	**P**	**19 40 34.7**	**-0.4**
JYT				IAmb	IAmb	19 40 36.2	
comp=Z,28nm,1.1s							
TWSI	**Taliwang, Sumb**	**66.40**	**267**	P	**P**	**19 40 37.3**	**-0.7**
comp=Z,44nm,1.0s							
JGF	**Kuroka**	**67.34**	**320**	P	**P**	**19 40 43.4**	**-0.1**
MJAR	**Matsushiro Arr**	**67.42**	**321**	P	**P**	**19 40 43.2**	**-0.8**
comp=Z,1.9nm,0.7s,baz=170,slow=4.8,SNR=7.0							
MJAR	**Matsushiro Arr**	**67.42**	**321**	P	**P**	**19 40 43.4**	**-0.5**
MAJO	**Matsushiro**	**67.43**	**321**	P	**P**	**19 40 43.7**	**-0.3**
MAT	**Matsushiro**	**67.43**	**321**	P	**P**	**19 40 43.1**	**-0.9**
NIKH	**Nikolski High**	**67.92**	**4**	P	**P**	**19 40 46.3**	**-0.3**
JMN	**Monobe**	**68.45**	**316**	P	**P**	**19 40 50.7**	**+0.3**
JMN				IAmb	IAmb	19 40 57.8	
comp=Z,30nm,1.3s							
UNV	**Unalaska Valle**	**68.98**	**6**	P	**P**	**19 40 52.4**	**-0.7**
JAGI	**Jajag, Banyuwa**	**69.09**	**267**	P	**P**	**19 40 53.2**	**-1.5**
AKUT	**Akutan**	**69.34**	**6**	P	**P**	**19 40 54.3**	**-0.9**
JHS	**Saijyo**	**69.71**	**317**	P	**P**	**19 40 57.9**	**-0.2**
JHS				IAmb	IAmb	19 40 59.2	
comp=Z,12nm,0.7s							
JNU	**Nakatsue**	**70.15**	**314**	P	**P**	**19 41 00.2**	**-0.6**
JNU				IAmb	IAmb	19 41 01.1	
comp=Z,11nm,0.7s							
ASAJ	**Asahikawa**	**70.22**	**329**	P	**P**	**19 41 02.0**	**+1.1**
comp=Z,6.4nm,0.7s,baz=169,slow=3.0,SNR=2.6							
KKM	**Kota Kinabalu**	**70.95**	**282**	P	**P**	**19 41 06.1**	**+0.1**
KKM				IAmb	IAmb	19 41 22.6	
comp=Z,24nm,1.2s							
PEA0B	**Petropavlovsk-**	**71.69**	**343**	P	**P**	**19 41 09.6**	**+0.1**
PETK	**Petropavlovsk-**	**71.69**	**343**	P	**P**	**19 41 09.3**	**-0.2**
comp=Z,10nm,0.8s,baz=13,slow=8.7,SNR=26							
PETK	**Petropavlovsk-**	**71.69**	**343**	P	**P**	**19 41 09.1**	**-0.4**
SBC	**Santa Barbara**	**72.18**	**46**	P	**P**	**19 41 13.9**	**+1.1**
baz=237							
SAO	**San Andreas Ge**	**72.31**	**43**	P	**P**	**19 41 13.4**	**-0.1**
SAO				IAmb	IAmb	19 41 15.6	
comp=Z,21nm,0.9s							
PKM	**Mcpherson Peak**	**72.36**	**45**	P	**P**	**19 41 15.5**	**+1.4**
baz=237							
PMPB	**Monarch Peak**	**72.43**	**44**	P	**P**	**19 41 14.5**	**+0.2**
PMPB				IAmb	IAmb	19 41 16.6	
comp=Z,43nm,1.3s							
SMMC	**Simmler**	**72.47**	**45**	P	**P**	**19 41 15.9**	**+1.4**
baz=236,SNR=6.4							
PAGB	**Antelope Grade**	**72.53**	**44**	P	**P**	**19 41 14.2**	**-0.6**
CIS	**Catalina Islan**	**72.54**	**47**	P	**P**	**19 41 15.5**	**+0.5**
baz=238							
HOPS	**Hopland Field**	**72.57**	**40**	P	**P**	**19 41 16.0**	**+1.0**
HOPS				IAmb	IAmb	19 41 17.2	
comp=Z,36nm,1.1s							
GDXM	**Geysers**	**72.63**	**41**	P	**P**	**19 41 16.1**	**+0.6**
KCPM	**Cahto Peak**	**72.67**	**39**	P	**P**	**19 41 16.8**	**+1.1**
KCPM				IAmb	IAmb	19 41 18.0	
comp=Z,26nm,1.3s							
KMRM	**Mail Ridge**	**72.92**	**39**	P	**P**	**19 41 17.4**	**+0.3**
OSI	**Osito Audit: C**	**72.96**	**46**	P	**P**	**19 41 18.0**	**+0.6**
baz=238							
ARVC	**Arvin**	**73.17**	**46**	P	**P**	**19 41 19.4**	**+0.8**
baz=237							
MWC	**Mount Wilson**	**73.22**	**47**	P	**P**	**19 41 19.6**	**+0.4**
MWC				IAmb	IAmb	19 41 20.8	
comp=Z,19nm,0.8s							
KHMM	**Horse Mountain**	**73.30**	**38**	P	**P**	**19 41 20.0**	**+0.5**
KHMM				IAmb	IAmb	19 41 21.8	
comp=Z,40nm,1.4s							
VES	**Vestal, Richgr**	**73.38**	**45**	P	**P**	**19 41 20.4**	**+0.6**
baz=237,SNR=6.3							
O02D	**Mt. Diablo Mer**	**73.45**	**39**	P	**P**	**19 41 21.7**	**+1.4**
baz=233,SNR=11							
MURC	**Murrieta**	**73.51**	**48**	P	**P**	**19 41 21.1**	**+0.4**
baz=239							
BFSC	**Mount Baldy Ra**	**73.51**	**47**	P	**P**	**19 41 21.3**	**+0.5**
baz=238							
KRMB	**Red Mountain**	**73.60**	**38**	P	**P**	**19 41 22.4**	**+1.3**
KRMB				IAmb	IAmb	19 41 23.0	
comp=Z,15nm,0.8s							
ESJX	**Sierra Juarez**	**73.61**	**50**	P	**P**	**19 41 22.1**	**+0.6**
EDW2	**Edwards Air Fo**	**73.61**	**46**	P	**P**	**19 41 22.0**	**+0.7**
baz=238,SNR=15							
ISA	**Isabella, Lake**	**73.70**	**45**	P	**P**	**19 41 22.7**	**+0.9**
baz=237,SNR=16							
ISA	**Isabella, Lake**	**73.70**	**45**	P	**P**	**19 41 22.4**	**+0.6**
ISA				IAmb	IAmb	19 41 23.8	
comp=Z,22nm,1.1s							
MONP2	**Monument Peak**	**73.70**	**49**	P	**P**	**19 41 23.0**	**+1.0**
baz=240,SNR=9.9							
CMB	**Columbia Colle**	**73.72**	**42**	P	**P**	**19 41 22.2**	**+0.4**
CMB				IAmb	IAmb	19 41 23.5	
comp=Z,24nm,1.1s							
RMX	**La Rumorosa**	**73.81**	**49**	P	**P**	**19 41 23.6**	**+1.0**
IKP	**In-Ko-Pah, Jac**	**73.81**	**49**	P	**P**	**19 41 23.5**	**+1.1**
baz=240,SNR=8.1							
WDC	**Whiskeytown Da**	**73.84**	**39**	P	**P**	**19 41 23.1**	**+0.7**
WDC				IAmb	IAmb	19 41 24.4	
comp=Z,20nm,1.1s							
AFDM	**Forest Hills D**	**73.87**	**41**	P	**P**	**19 41 22.9**	**+0.3**
ORV	**Oroville**	**73.89**	**41**	P	**P**	**19 41 22.8**	**+0.2**
N02D	**Trinity Center**	**73.98**	**39**	P	**P**	**19 41 24.5**	**+1.3**
baz=233,SNR=8.6							
PFO	**Pinyon Flats O**	**74.04**	**48**	P	**P**	**19 41 24.6**	**+0.7**
baz=239							
PFO	**Pinyon Flats O**	**74.04**	**48**	P	**P**	**19 41 24.4**	**+0.5**
XPFO	**Pion Flat**	**74.05**	**48**	P	**P**	**19 41 24.9**	**+1.0**
BBRC	**Big Bear Solar**	**74.05**	**47**	P	**P**	**19 41 24.7**	**+0.7**
baz=239							
O03E	**Paynes Creek**	**74.13**	**40**	P	**P**	**19 41 24.8**	**+0.6**
baz=234,SNR=12							
M02C	**Callahan**	**74.14**	**38**	P	**P**	**19 41 25.5**	**+1.3**
baz=233,SNR=14							
LRMC	**Laurel Mtn Rad**	**74.15**	**46**	P	**P**	**19 41 25.3**	**+0.9**
baz=238,SNR=5.6							
L02E	**Cave Junction**	**74.17**	**37**	P	**P**	**19 41 25.4**	**+1.2**
baz=232,SNR=5.5							
SWSC	**Sam W. Stewart**	**74.18**	**49**	P	**P**	**19 41 25.4**	**+0.9**
baz=240							
RRX	**Edison Barstow**	**74.31**	**47**	P	**P**	**19 41 25.9**	**+0.7**
baz=239							
MDPB	**Devils Postpil**	**74.36**	**43**	P	**P**	**19 41 26.3**	**+0.5**
MDPB				IAmb	IAmb	19 41 27.5	
comp=Z,26nm,1.2s							
CWC	**Cottonwood Cre**	**74.38**	**45**	P	**P**	**19 41 26.6**	**+0.8**
baz=238							
OMMB	**Old Mammoth Mi**	**74.40**	**43**	P	**P**	**19 41 26.5**	**+0.5**
OMMB				IAmb	IAmb	19 41 27.9	
comp=Z,25nm,1.4s							
YBH	**Yreka Blue Hor**	**74.44**	**38**	P	**P**	**19 41 26.8**	**+0.9**
YBH				IAmb	IAmb	19 41 28.1	
comp=Z,27nm,0.9s							
K02D	**Willamette Mer**	**74.46**	**37**	P	**P**	**19 41 26.8**	**+0.8**
baz=232,SNR=6.5							
KSRS	**Korea Array**	**74.56**	**316**	P	**P**	**19 41 27.5**	**+1.0**
comp=Z,2.7nm,0.9s,baz=138,slow=6.0,SNR=7.4							
BELC	**Belle Mtn. Jos**	**74.57**	**48**	P	**P**	**19 41 27.8**	**+0.9**
baz=240,SNR=13							
KSAR	**Wonju Array Be**	**74.58**	**316**	P	**P**	**19 41 26.8**	**+0.2**
MPMC	**Manual Prospec**	**74.59**	**45**	P	**P**	**19 41 27.9**	**+0.9**
baz=238,SNR=20							
J01E	**Myrtle Point**	**74.59**	**36**	P	**P**	**19 41 27.5**	**+0.9**
baz=232							
WAKR	**Walker**	**74.61**	**42**	P	**P**	**19 41 27.8**	**+0.7**
WAKR				IAmb	IAmb	19 41 29.1	
comp=Z,38nm,1.3s							
TIN	**Tinemaha, Big**	**74.61**	**44**	P	**P**	**19 41 27.9**	**+0.9**
baz=237							
GSC	**Goldstone, Bar**	**74.66**	**46**	P	**P**	**19 41 28.1**	**+0.8**
baz=239,SNR=8.9							
GSC	**Goldstone, Bar**	**74.66**	**46**	P	**P**	**19 41 27.9**	**+0.6**
HEC	**Hector,Ludlow**	**74.75**	**47**	P	**P**	**19 41 28.4**	**+0.6**
baz=239,SNR=22							
BC3	**Big Chuckawall**	**74.79**	**48**	P	**P**	**19 41 29.1**	**+1.0**
baz=240,SNR=8.6							
HUMO	**Hull Mountain**	**74.82**	**37**	P	**P**	**19 41 28.8**	**+0.9**
HUMO				IAmb	IAmb	19 41 30.4	
comp=Z,38nm,1.4s							
PNTR	**Pine Nut**	**74.83**	**42**	P	**P**	**19 41 28.5**	**+0.1**
VCNR	**Virginia City**	**74.91**	**42**	P	**P**	**19 41 28.7**	**-0.1**
VCNR				IAmb	IAmb	19 41 30.1	
comp=Z,23nm,1.1s							
KDAK	**Kodiak Island**	**74.92**	**12**	P	**P**	**19 41 28.3**	**+0.1**
comp=Z,14nm,0.7s,baz=244,slow=4.1,SNR=15							
KDAK	**Kodiak Island**	**74.92**	**12**	P	**P**	**19 41 28.2**	**+0.1**
KDAK				IAmb	IAmb	19 41 28.8	
comp=Z,22nm,0.8s							
GLA	**Glamis**	**74.95**	**49**	P	**P**	**19 41 30.1**	**+1.2**
baz=240							
GLA	**Glamis**	**74.95**	**49**	P	**P**	**19 41 30.5**	**+1.6**
GLA				IAmb	IAmb	19 41 31.4	
comp=Z,31nm,1.1s							
L04D	**Klamath Falls**	**74.97**	**38**	P	**P**	**19 41 29.7**	**+0.8**
baz=233,SNR=12							
M04C	**Macdoel**	**74.99**	**39**	P	**P**	**19 41 30.0**	**+1.0**
baz=234,SNR=6.3							
YERR	**Yerington**	**75.00**	**42**	P	**P**	**19 41 29.7**	**+0.4**
QSPA	**South Pole Qui**	**75.04**	**180**	P	**P**	**19 41 30.4**	**+1.4**
comp=Z,7.9nm,0.7s,baz=13,slow=1.1,SNR=51							
QSPA	**South Pole Qui**	**75.04**	**180**	P	**P**	**19 41 30.1**	**+1.1**
LHV	**Little Huntoon**	**75.08**	**43**	P	**P**	**19 41 30.8**	**+1.3**
LHV				IAmb	IAmb	19 41 31.8	
comp=Z,38nm,1.2s							
GRAC	**Grapevine Rang**	**75.17**	**45**	P	**P**	**19 41 31.2**	**+1.1**
baz=238,SNR=5.3							
GMRC	**Granite Mounta**	**75.21**	**47**	P	**P**	**19 41 31.1**	**+0.7**
baz=240,SNR=9.1							
FURC	**Furnace Creek,**	**75.23**	**45**	P	**P**	**19 41 31.3**	**+0.9**
baz=238,SNR=5.6							
I02D	**Swisshome**	**75.23**	**36**	P	**P**	**19 41 31.4**	**+1.2**
baz=231							
PIX	**Pinacate**	**75.25**	**51**	P	**P**	**19 41 30.0**	**-0.6**
PIX				IAmb	IAmb	19 41 31.4	
comp=Z,24nm,1.2s							
I03D	**Drain, OR**	**75.26**	**36**	P	**P**	**19 41 31.3**	**+0.9**
baz=232							
IRM	**Iron Mountain**	**75.26**	**48**	P	**P**	**19 41 31.7**	**+1.0**
baz=240,SNR=13							
KSM	**Kuching**	**75.27**	**276**	P	**P**	**19 41 31.7**	**+0.5**
KSM				IAmb	IAmb	19 41 33.0	
comp=

PINE	Pine Mountain	76.71	37	P	P	19 41 39.5	+0.7
I05D	Terrebonne, OR	76.80	37	P	P	19 41 39.9	+0.8
	baz=233						
E03A	Lebam	76.91	34	P	P	19 41 40.3	+0.8
F04D	Rainier, OR	76.92	34	P	P	19 41 40.5	+0.9
	baz=232						
PRN	Pahroc Range	76.96	45	P	P	19 41 40.9	+0.7
PRN				IAmb	IAmb	19 41 42.5	
	comp=Z,26nm,1.2s						
R11A	Troy Canyon, C	77.08	44	P	P	19 41 41.4	+0.4
	baz=239,SNR=12						
R11A	Troy Canyon, C	77.08	44	P	P	19 41 41.0	0.0
BRLK	Bradley Lake	77.09	12	P	P	19 41 40.7	+0.3
F04A	Amboy	77.16	35	P	P	19 41 41.2	+0.3
F04A				IAmb	IAmb	19 41 41.9	
	comp=Z,15nm,0.6s						
DIB	Dawson Inlet,	77.26	25	P	P	19 41 42.1	+0.8
NLWA	Neilton Lookou	77.28	33	P	P	19 41 42.5	+0.8
NLWA				IAmb	IAmb	19 41 43.6	
	comp=Z,19nm,1.1s						
WVOR	Wild Horse Val	77.31	39	P	P	19 41 42.5	+0.4
WVOR				IAmb	IAmb	19 41 43.8	
	comp=Z,23nm,1.1s						
G05D	Wamic, OR	77.35	36	P	P	19 41 42.7	+0.5
	baz=233						
RSO	Redoubt South	77.37	11	P	P	19 41 41.9	-0.1
E04D	Cinebar	77.46	34	P	P	19 41 43.6	+1.0
	baz=232,SNR=8.8						
SVW2	Sparrevohn	77.47	10	P	P	19 41 42.0	-0.4
SVW2				IAmb	IAmb	19 41 43.2	
	comp=Z,24nm,1.2s						
MDJ	Mudanjiang	77.56	323	P	P	19 41 43.8	+0.6
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,200nm,7.4s						
TUC	Tucson	77.61	52	P	P	19 41 45.3	+1.4
	baz=243						
TUC	Tucson	77.61	52	P	P	19 41 45.0	+1.1
TUC				IAmb	IAmb	19 41 46.5	
	comp=Z,27nm,1.1s						
F05D	White Salmon	77.66	35	P	P	19 41 44.3	+0.5
	baz=233						
I07A	Izee	77.72	38	P	P	19 41 44.9	+0.6
D04E	Lakebay	77.73	34	P	P	19 41 45.4	+1.4
	baz=232						
D03D	Eldon	77.78	33	P	P	19 41 45.2	+0.8
	baz=231,SNR=11						
Q23K	Middleton Isla	77.82	15	P	P	19 41 45.1	+0.8
	baz=209						
J08A	Circle Bar Ran	77.92	39	P	P	19 41 45.9	+0.4
CAPN	Captain Cook N	77.96	12	P	P	19 41 45.5	+0.5
	baz=204						
O22K	Cooper Landing	77.99	13	P	P	19 41 45.1	-0.1
	baz=205						
LCMT	Little Creek M	78.01	46	P	P	19 41 46.6	+0.6
X16A	Lo Mia Camp, P	78.08	49	P	P	19 41 47.7	+1.1
X16A				IAmb	IAmb	19 41 49.0	
	comp=Z,28nm,1.1s						
D05A	Enumclaw	78.16	34	P	P	19 41 47.5	+1.1
CCUT	Cedar City	78.19	46	P	P	19 41 47.5	+0.4
PGC	Sidney	78.29	32	P	P	19 41 47.2	+0.1
PGC				IAmb	IAmb	19 41 48.2	
	comp=Z,21nm,0.7s						
KNB	Kanab	78.31	46	P	P	19 41 48.5	+0.7
PSUT	Pine Spring	78.34	45	P	P	19 41 48.1	+0.1
BBB	Bella Bella	78.39	27	P	P	19 41 47.9	+0.4
	comp=Z,10nm,0.7s,baz=290,slow=3.4,SNR=11						
BBB	Bella Bella	78.39	27	P	P	19 41 47.6	0.0
BBB				IAmb	IAmb	19 41 49.1	
	comp=Z,19nm,1.1s						
U15A	North Rim	78.40	47	P	P	19 41 48.9	+0.4
SZCU	Shurtz Canyon	78.41	46	P	P	19 41 48.4	+0.1
NJ2	Nanjing	78.42	308	eP	P	19 41 48.8	+0.6
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
F07A	Phinny Hill Vi	78.53	36	P	P	19 41 48.6	+0.2
F07A				IAmb	IAmb	19 41 50.0	
	comp=Z,17nm,0.9s						
ELK	Elko	78.54	42	P	P	19 41 49.3	+0.2
ELK				IAmb	IAmb	19 41 50.5	
	comp=Z,17nm,1.2s						
WUAZ	Wupatki	78.63	48	P	P	19 41 50.4	+0.9
	baz=242						
WUAZ	Wupatki	78.63	48	P	P	19 41 50.6	+1.1
SUA	Susitna One	78.68	12	P	P	19 41 49.1	0.0
A04D	Lummi Island	78.72	32	P	P	19 41 50.4	+1.0
	baz=232,SNR=8.6						
G08A	Pilot Rock	78.73	37	P	P	19 41 50.0	+0.2
G08A				IAmb	IAmb	19 41 51.4	
	comp=Z,31nm,1.1s						
B05A	Bryant	78.76	33	P	P	19 41 50.3	+0.7
	baz=232,SNR=7.7						
LTY	Liberty	78.92	34	P	P	19 41 50.7	0.0
GLI	Glacier Island	78.93	14	P	P	19 41 50.2	-0.1
E07A	Sunnyside	78.95	35	P	P	19 41 51.5	+0.7
SKT	Skwentna	79.00	11	P	P	19 41 49.7	-1.0
SKT				IAmb	IAmb	19 41 50.7	
	comp=Z,29nm,1.5s						
HAWA	Hanford	79.04	36	P	P	19 41 51.7	+0.5
HAWA				IAmb	IAmb	19 41 52.9	
	comp=Z,29nm,1.1s						
KNK	Knik Glacier	79.10	13	P	P	19 41 51.5	+0.3
TTA	Tatalina	79.13	9	P	P	19 41 52.0	+0.5
MTPU	Mount Pierson	79.25	46	P	P	19 41 54.2	+1.1
GHO	Glory Hole Cre	79.33	12	P	P	19 41 52.3	-0.2
TCRU	Three Creeks R	79.34	45	P	P	19 41 53.4	0.0
E08A	Dider Farm, El	79.36	36	P	P	19 41 53.5	+0.5
MVU	Marysvale	79.45	45	P	P	19 41 55.2	+1.2
BMO	Blue Mountains	79.46	38	P	P	19 41 53.6	0.0
BMO				IAmb	IAmb	19 41 55.0	
	comp=Z,15nm,1.1s						
MSU	Marysvale	79.48	45	P	P	19 41 54.5	+0.4
MFID	Camas Ranch	79.57	40	P	P	19 41 54.4	0.0
MFID				IAmb	IAmb	19 41 55.8	
	comp=Z,19nm,1.1s						
CUT	Chulitna	79.63	12	P	P	19 41 53.6	-0.4
	baz=205						
W18A	Petrified Fore	79.64	49	P	P	19 41 55.8	+0.8
	baz=243						
W18A	Petrified Fore	79.64	49	P	P	19 41 55.2	+0.2
WRAK	Wrangell Islan	79.69	23	P	P	19 41 55.5	+1.0
WRAK				IAmb	IAmb	19 41 56.2	
	comp=Z,26nm,1.1s						
KLU	Klutina	79.74	14	P	P	19 41 55.3	+0.6
KLU				IAmb	IAmb	19 41 55.8	
	comp=Z,14nm,1.0s						
D08A	Wollman Farm,	79.77	35	P	P	19 41 55.5	+0.3
D08A				IAmb	IAmb	19 41 56.8	
	comp=Z,26nm,1.0s						
CRQM	Cirque	79.78	15	P	P	19 41 54.9	-0.3
YAH	Yahtse	79.81	16	P	P	19 41 56.0	+0.7
ISLE	Juniper Island	79.86	16	P	P	19 41 55.6	+0.1
TGL	Tana Glacier	79.86	16	P	P	19 41 55.5	0.0
DUG	Dugway, Tooele	79.86	44	P	P	19 41 56.3	+0.3
	baz=240						
DUG	Dugway, Tooele	79.86	44	P	P	19 41 56.0	-0.1
121A	Cookes Peak, D	79.99	52	P	P	19 41 58.2	+1.3
	baz=245						
121A	Cookes Peak, D	79.99	52	P	P	19 41 58.3	+1.3
121A				IAmb	IAmb	19 41 59.0	
	comp=Z,14nm,0.8s						
BGU	Big Grassy Mou	80.08	43	P	P	19 41 57.3	+0.1
VRDI	Verde Repeater	80.10	15	P	P	19 41 57.3	+0.4
F10A	Beach Ranch, E	80.12	37	P	P	19 41 57.1	-0.1
F10A				IAmb	IAmb	19 41 58.2	
	comp=Z,20nm,0.8s						
GLB	Gilahina Butte	80.20	15	P	P	19 41 57.3	+0.1
M24K	Tolsona, Glenn	80.22	13	P	P	19 41 57.9	+0.6
	baz=209						
BALM	Baldy	80.22	16	P	P	19 41 57.8	+0.4
NLU	North Lily Min	80.24	44	P	P	19 41 56.5	-1.7
B08A	Colville Reser	80.29	34	P	P	19 41 57.2	-0.8
B08A				IAmb	IAmb	19 41 58.7	
	comp=Z,15nm,0.8s						
MCARA	McCarthy VSAT	80.34	15	P	P	19 41 58.4	+0.5
JIS	Juneau Island	80.38	21		P	19 41 57.6	-0.4
BARN	Barnard Glacie	80.42	16	P	P	19 41 59.1	+0.5
BESE	Bessie Mountai	80.45	20	P	P	19 41 59.5	+0.9
ZAIG	Zacatecas	80.50	63	P	P	19 42 00.4	+0.5
TMUT	Trail Mountain	80.52	45	P	P	19 42 00.6	+0.9
HLID	Hailey	80.53	40	P	P	19 42 00.2	+0.8
	baz=239						
HLID	Hailey	80.53	40	P	P	19 42 00.1	+0.6
HLID				IAmb	IAmb	19 42 01.4	
	comp=Z,17nm,0.9s						
C09A	Chrisman Ranch	80.55	35	P	P	19 41 59.5	+0.2
C09A				IAmb	IAmb	19 42 00.6	
	comp=Z,11nm,0.8s						
KTH	Kantishna Hill	80.56	11	P	P	19 41 58.3	-0.8
KTH				IAmb	IAmb	19 42 00.1	
	comp=Z,16nm,1.0s						
TRF	Thorofare Moun	80.58	11	P	P	19 41 58.6	-0.7
TRF				IAmb	IAmb	19 41 59.7	
	comp=Z,20nm,0.9s						
SPUT	South Promonto	80.65	43	P	P	19 42 00.3	+0.2
HVU	Hansel Valley	80.67	42	P	P	19 42 00.6	+0.4
RND	Reindeer	80.82	12	P	P	19 42 00.8	+0.3
DHY	Denali Highway	80.82	12	P	P	19 42 00.3	-0.3
SRU	San Rafael Swe	80.90	45	P	P	19 42 02.1	+0.5
P17A	Butcher Ranch,	80.92	45	P	P	19 42 02.3	+0.6
JLU	Jordanelle	80.97	44	P	P	19 42 02.5	+0.5
SKAG	Skagway	80.98	19	P	P	19 42 02.1	+0.9
SKAG				IAmb	IAmb	19 42 03.4	
	comp=Z,24nm,1.0s						
BPAW	Bear Paw Mtn.	81.05	11	P	P	19 42 00.6	-1.0
MCK	McKinley	81.09	12	P	P	19 42 01.5	-0.3
TCUT	Toone Canyon	81.25	43	P	P	19 42 04.2	+0.7
LENM	Lemitar	81.29	51	P	P	19 42 04.2	+0.4
HWUT	Hardware Ranch	81.38	43	P	P	19 42 03.8	-0.2
HYT	Haines Junctio	81.39	18	P	P	19 42 04.1	+0.6
HYT				IAmb	IAmb	19 42 04.7	
	comp=Z,21nm,1.2s						
BWN	Browne	81.39	11	P	P	19 42 03.1	-0.2
PV05	Paradox Valley	81.42	47	P	P	19 42 05.5	+1.1
NEW	Newport	81.45	35	P	P	19 42 03.9	-0.2
	comp=Z,3.2nm,0.5s,baz=236,slow=5.6,SNR=4.5						
NEW	Newport	81.45	35	P	P	19 42 03.9	-0.2
	baz=236						
NEW	Newport	81.45	35	P	P	19 42 03.7	-0.4
MENT	Mentasta	81.51	14	P	P	19 42 04.6	+0.5
MENT				IAmb	IAmb	19 42 05.4	
	comp=Z,17nm,0.9s						
MNTX	Cornudas Mount	81.51	54	P	P	19 42 05.8	+1.1
	baz=246						
MNTX	Cornudas Mount	81.51	54	P	P	19 42 05.3	+0.6
MNTX				IAmb	IAmb	19 42 07.1	
	comp=Z,22nm,1.2s						
BNM	Barren Site	81.54	51	P	P	19 42 06.0	+0.9
PV10	Paradox Valley	81.60	47	P	P	19 42 05.7	+0.3
PV10				IAmb	IAmb	19 42 06.7	
	comp=Z,22nm,1.0s						
PV14	Lion Creek, Pa	81.61	47	P	P	19 42 05.7	+0.4
PV14				IAmb	IAmb	19 42 07.0	
	comp=Z,23nm,1.0s						
PV19	Morning Glory	81.61	47	P	P	19 42 05.4	+0.1
PV19				IAmb	IAmb	19 42 07.0	
	comp=Z,26nm,1.2s						
PV17	East Wray Mesa	81.61	47	P	P	19 42 05.6	+0.2
PV17				IAmb	IAmb	19 42 07.1	
	comp=Z,39nm,1.5s						
PV18	Skein Mesa, Pa	81.63	47	P	P	19 42 06.0	+0.5
PV18				IAmb	IAmb	19 42 07.1	
	comp=Z,25nm,1.3s						
PV20	West Nyswonger	81.63	47	P	P	19 42 05.4	0.0
PV20				IAmb	IAmb	19 42 07.1	
	comp=Z,22nm,1.0s						
PV23	Carpenter Ridg	81.65	47	P	P	19 42 06.2	+0.5
PV13	Radium Mtn., P	81.66	47	P	P	19 42 05.9	+0.3
PV13				IAmb	IAmb	19 42 07.3	
	comp=Z,19nm,1.3s						
PV16	Nyswonger Mesa	81.66	47	P	P	19 42 05.9	+0.3
PV16				IAmb	IAmb	19 42 07.4	
	comp=Z,18nm,1.2s						
PV03	Paradox Valley	81.68	47	P	P	19 42 05.8	+0.1
PV03				IAmb	IAmb	19 42 07.4	
	comp=Z,29nm,1.5s						
PV11	David Mesa, Pa	81.68	47	P	P	19 42 05.6	-0.1
PV11				IAmb	IAmb	19 42 08.1	
	comp=Z,29nm,1.3s						
PV04	Paradox Valley	81.70	47	P	P	19 42 06.4	+0.7
PV04				IAmb	IAmb	19 42 07.6	
	comp=Z,16nm,0.8s						
PV02	Paradox Valley	81.74	47	P	P	19 42 06.3	+0.3
PV02				IAmb	IAmb	19 42 07.7	
	comp=Z,14nm,1.0s						
PV12	Saucer Basin,	81.74	47	P	P	19 42 06.5	+0.5
PV12				IAmb	IAmb	19 42 07.3	
	comp=Z,16nm,0.9s						
PV01	Paradox Valley	81.82	47	P	P	19 42 06.8	+0.3
PV01				IAmb	IAmb	19 42 08.1	
	comp=Z,20nm,1.1s						
PV22	Blue Mesa, Par	81.85	47	P	P	19 42 07.9	+1.4
NEA2	Nenana	81.85	11	P	P	19 42 05.7	0.0
	baz=206,SNR=6.3						
PV07	Paradox Valley	81.90	47	P	P	19 42 07.1	+0.2
PV07				IAmb	IAmb	19 42 10.0	
	comp=Z,14nm,1.1s						
WRH	Wood River Hil	81.92	12	P	P	19 42 05.3	-0.8
RIDG	Independent Ri	81.95	13	P	P	19 42 06.0	-0.3
RIDG				IAmb	IAmb	19 42 07.3	
	comp=Z,30nm,1.1s						
TX31	Lajitas Ar. Si	81.97	57	P	P	19 42 08.8	+1.5
TX32	Lajitas Array	81.97	57	P	P	19 42 08.4	+1.2
TX32				IAmb	IAmb	19 42 09.8	
	comp=Z,28nm,1.4s						
TXAR	Lajitas Array	81.97	57	P	P	19 42 08.4	+1.2
	comp=Z,6.3nm,0.8s,baz=216,slow=7.8,SNR=47						
TXAR	Lajitas Array	81.97	57	P	P	19 42 07.8	+0.5
PV15	Paradox Valley	81.98	47	P	P	19 42 06.7	-0.6
PV15				IAmb	IAmb	19 42 08.9	
	comp=Z,14nm,0.9s						
ANMO	Albuquerque	82.00	51	P	P	19 42 08.3	+0.8
	baz=246						
ANMO	Albuquerque	82.00	51	P	P	19 42 07.8	+0.4
ANMO				IAmb	IAmb	19 42 09.5	
	comp=Z,32nm,1.4s						
DLBC	Dease Lake	82.03	22	P	P	19 42 07.1	+0.2
	comp=Z,5.0nm,0.6s,baz=152,slow=7.1,SNR=7.5						
DLBC	Dease Lake	82.03	22	P	P	19 42 07.6	+0.8
DLBC				IAmb	IAmb	19 42 09.4	
	comp=Z,23nm,1.4s						
DOT	Dot Lake	82.05	14	P	P	19 42 06.8	0.0
WHY	Whitehorse	82.05	19	P	P	19 42 07.2	+0.2
WHY				IAmb	IAmb	19 42 08.8	
	comp=Z,35nm,1.4s						
HDA	Harding Lake	82.09	12	P	P	19 42 06.8	-0.2
	baz=208,SNR=20						
HDA	Harding Lake	82.09	12	P	P	19 42 06.7	-0.2
CCB	Clear Creek Bu	82.14	12	P	P	19 42 06.5	-0.7
MCMT	McKenzie Canyo	82.14	40	P	P	19 42 08.5	+0.5
RDMU	Red Mountain	82.22	45	P	P	19 42 08.7	+0.3
AHID	Auburn Hatcher	82.23	42	P	P	19 42 09.2	+0.7
TCOL	CIGO, UAF Yank	82.33	11	P	P	19 42 07.7	-0.4
	baz=207						
COLA	College	82.33	11	P	P	19 42 07.9	-0.3
MDM	Murphy Dome	82.34	11	P	P	19 42 07.5	-0.8
SCRK	Sand Creek	82.35	13	P	P	19 42 08.5	+0.1
	baz=210,SNR=14						
IL31		82.43	12	P	P	19 42 08.0	-0.7
ILAR	Eielson Array	82.43	12	P	P	19 42 08.2	-0.5
	comp=Z,9.9nm,0.5s,baz=218,slow=5.3,SNR=140						
ILAR	Eielson Array	82.43	12	P	P	19 42 07.7	-1.0
MSO	Missoula	82.50	37	P	P	19 42 09.3	-0.3
	baz=239						
MSO	Missoula	82.50	37	P	P	19 42 09.0	-0.6
MSO				IAmb	IAmb	19 42 10.7	
	comp=Z,19nm,1.3s						
GDL2	Guadalupe Moun	82.50	54	P	P	19 42 10.2	+0.2
DLMT	Dillon	82.56	39	P	P	19 42 10.2	+0.1
DLMT				IAmb	IAmb	19 42 11.7	
	comp=Z,18nm,0.9s						
POKR	Poker Plat Res	82.63	12	P	P	19 42 09.5	-0.2
	baz=207,SNR=30						
TPAW	Teton Pass	82.67	41	P	P	19 42 10.2	-0.6
TPAW				IAmb	IAmb	19 42 11.6	
	comp=Z,21nm,0.8s						
REDW	Red Top Meadow	82.68	42	P	P	19 42 11.1	+0.3
FXWY	Fox Creek	82.70	41	P	P	19 42 11.3	+0.4
FXWY				IAmb	IAmb	19 42 13.5	
	comp=Z,12nm,0.8s						
JTMT	Jette	82.78	37	P	P	19 42 10.7	-0.3
SNOW	Snow King Moun	82.79	42	P	P	19 42 11.9	+0.6
K27K	Chicken	82.83	14	P	P	19 42 11.6	+0.9
	baz=212						
IMW	Indian Meadow	82.88	41	P	P	19 42 12.3	+0.5
LRM	Limekiln Ridge	82.88	39	P	P	19 42 12.1	+0.3
S22A	4UR Ranch, Cre	82.90	48	P	P	19 42 13.1	+1.0
	baz=245						
S22A	4UR Ranch, Cre	82.90	48	P	P	19 42 12.8	+0.7
S22A				IAmb	IAmb	19 42 14.2	
	comp=Z,26nm,1.0s						
O20A	White River Ci	82.93	45	P	P	19 42 12.5	+0.4
	baz=244						
O20A	White River Ci	82.93	45	P	P	19 42 12.3	+0.2
LOHW	Long Hollow	82.95	41	P	P	19 42 12.5	+0.3
LOHW				IAmb	IAmb	19 42 13.8	
	comp=Z,14nm,1.1s						
FLWY	Flagg Ranch	83.12	41	P	P	19 42 13.7	+0.7
FLWY				IAmb	IAmb	19 42 15.1	
	comp=Z,24nm,1.0s						
YHB	Horse Butte	83.13	40	P	P	19 42 14.1	+1.1
YHL	Hebgen Lake	83.18	40	P	P	19 42 14.5	+1.1
YMR	Madison River	83.23	40	P	P	19 42 14.9	+1.4
BW06	Boulder Array	83.24	43	P	P	19 42 13.7	+0.1
	baz=242						
BW06	Boulder Array	83.24	43	P	P	19 42 13.4	-0.2
BW06				IAmb	IAmb	19 42 14.6	
	comp=Z,16nm,0.9s						
PD31	Pinedale Array	83.24	43	P	P	19 42 13.2	-0.4
PD31				IAmb	IAmb	19 42 14.7	
	comp=Z,14nm,0.9s						
PDAR	Pinedale Array	83.24	43	P	P	19 42 13.6	0.0
	comp=Z,11nm,0.8s,baz=214,slow=3.2,SNR=80						
PDAR	Pinedale Array	83.24	43	P	P	19 42 13.2	-0.4
BOZ	Bozeman (W)	83.27	39	P	P	19 42 14.1	+0.5
	baz=241						
BOZ	Bozeman (W)	83.27	39	P	P	19 42 13.9	+0.3
BOZ				IAmb	IAmb	19 42 15.4	
	comp=Z,14nm,1.1s						
RDOG	Red Dog Mine	83.31	5	P	P	19 42 13.5	+0.3
RDOG				IAmb	IAmb	19 42 14.9	
	comp=Z,21nm,1.2s						
H17A	Grant Village	83.34	41	P	P	19 42 16.1	+1.9
	baz=242						
H17A	Grant Village	83.34	41	P	P	19 42 16.0	+1.9
H17A				IAmb	IAmb	19 42 17.0	
	comp=Z,12nm,0.8s						
YHH	Holmes Hill	83.36	40	P	P	19 42 15.0	+0.7
WALA	Waterton Lakes	83.67	36	P	P	19 42 15.5	-0.1
EGAK	Eagle	83.68	14	P	P	19 42 15.0	0.0
HRY	Holter Researc	83.69	38	P	P	19 42 15.9	+0.2
BJT	Baijiatuau	83.82	314	P	P	19 42 16.0	-0.4
BJT				IAmb	IAmb	19 42 18.3	
	comp=Z,22nm,1.2s						
BJI	Beijing	83.83	314	P	P	19 42 15.8	-0.5
BJI				pmax	pmax		
	comp=Z,15nm,1.3s						
SDCO	Great Sand Dun	83.85	48	P	P	19 42 17.3	+0.3
	baz=246						
SDCO	Great Sand Dun	83.85	48	P	P	19 42 16.7	-0.2
COLD	Coldfoot	84.05	10	P	P	19 42 17.7	+0.8
	baz=204,SNR=20						
COLD	Coldfoot	84.05	10	P	P	19 42 17.4	+0.6
RWWY	Rawlins	84.32	44	P	P	19 42 19.4	+0.2
RWWY				IAmb	IAmb	19 42 20.4	
	comp=Z,17nm,1.1s						
T25A	Trinidad	84.40	49	P	P	19 42 19.4	-0.3
	baz=246						
MSTX	Muleshoe	84.41	53	P	P	19 42 19.7	+0.1
	baz=248						
MSTX	Muleshoe	84.41	53	P	P	19 42 19.2	-0.4
MSTX				IAmb	IAmb	19 42 22.0	
	comp=Z,26nm,1.4s						
RLMT	Red Lodge	84.51	41	P	P	19 42 20.7	+0.8
	baz=242						
RLMT	Red Lodge	84.51	41	P	P	19 42 20.4	+0.4
RLMT				IAmb	IAmb	19 42 21.8	
	comp=Z,23nm,1.3s						
GCMT	Greycliff	84.57	40	P	P	19 42 20.3	+0.1
Q24A	Divide	84.60	47	P	P	19 42 20.8	+0.1
	baz=246						
ISCO	Idaho Springs	84.62	47	P	P	19 42 20.7	0.0
	baz=246						
BELA	Belgrano 2	84.65	172	P	P	19 42 20.3	+0.4
N23A	Red Feather La	84.84	45	P	P	19 42 22.5	+0.7
	baz=245						
N23A	Red Feather La	84.84	45	P	P	19 42 21.5	-0.3
833A	Chaparral WMA,	85.11	59	P	P	19 42 23.5	+0.5
	baz=250						
K22A	Casper	85.19	44	P	P	19 42 23.4	+0.1
	baz=245						
TOLK	Toolik Lake Re	85.44	9	P	P	19 42 24.3	+0.5
	baz=205						
TOLK	Toolik Lake Re	85.44	9	P	P	19 42 24.6	+0.8
TOLK				IAmb	IAmb	19 42 25.3	
	comp=Z,18nm,1.1s						
JCT	Junction City	85.51	57	P	P	19 42 24.8	-0.2
	baz=250						
JCT	Junction City	85.51	57	P	P	19 42 24.5	-0.5
EGMT	Eagleton	85.56	38	P	P	19 42 25.1	+0.1
	baz=242						
EGMT	Eagleton	85.56	38	P	P	19 42 24.8	-0.1
AMTX	Amarillo	85.59	52	P	P	19 42 24.9	-0.5
	baz=248						
EPYK	Eagle Plains	86.05	15	P	P	19 42 26.6	-0.2
	baz=217						
EPYK	Eagle Plains	86.05	15	P	P	19 42 27.0	+0.2
EPYK				IAmb	IAmb	19 42 27.4	
	comp=Z,15nm,1.1s						
ABTX	Abilene, Hawle	86.37	55	P	P	19 42 29.2	0.0
	baz=250						
ABTX	Abilene, Hawle	86.37	55	P	P	19 42 29.0	-0.1
ABTX				IAmb	IAmb	19 42 32.0	
	comp=Z,21nm,1.1s						
KSCO	Kaye Shedlock'	86.43	48	P	P	19 42 29.0	-0.4
	baz=248						
XAN	Xi'an	86.87	306	P	P	19 42 31.9	+0.4
XAN				pmax	pmax		
	comp=Z,20nm,1.2s						
XAN				pmax	pmax		
	comp=Z,400nm,6.8s						
XAN	Xi'an	86.87	306	P	P	19 42 32.3	+0.7
XAN				IAmb	IAmb	19 42 33.3	
	comp=Z,20nm,1.1s						
SLVN	Son La	87.02	293	P	P	19 42 33.9	+1.4
SLVN				IAmb	IAmb	19 42 35.4	
	comp=Z,25nm,1.3s						
LAO	LASA Array	87.11	40	P	P	19 42 33.2	+0.8
	baz=245						
LAO	LASA Array	87.11	40	P	P	19 42 33.3	+0.9
HHC	Hu-ho-hao-te	87.37	313	eP	P	19 42 34.4	+0.5
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,4.6s						
435B	Jarrell	87.41	57	P	P	19 42 34.2	+0.1
	baz=251						
RSSD	Black Hills	87.45	43	P	P	19 42 33.6	-0.7
	baz=246

	baz=253						
W39A	Magazine	91.81	54	P	P	19 42 54.8	+0.3
	baz=253						
ECSD	EROS Data Cent	92.31	45	P	P	19 42 56.0	-0.7
	baz=252						
ECSD	EROS Data Cent	92.31	45	P	P	19 42 56.3	-0.3
X40A	Basin Creek Fa	92.35	55	P	P	19 42 56.9	-0.1
	baz=254						
U40A	Yellville	92.86	53	P	P	19 42 59.0	-0.4
	baz=254						
U40A	Yellville	92.86	53	P	P	19 42 59.0	-0.4
S39A	Bolivar	92.88	52	P	P	19 42 59.4	-0.1
A36M	Sachs Harbour	92.96	14	P	P	19 42 59.0	+0.1
	baz=228						
W41B	Gary Mavity, V	93.01	55	P	P	19 43 00.1	+0.1
	baz=254						
SONM	Songino Array	93.29	319	P	P	19 43 00.6	-0.6
	comp=Z,0.7nm,0.7s,baz=116,slow=4.9,SNR=5.8						
SONM	Songino Array	93.29	319	P	P	19 43 00.7	-0.6
SNAA	Sanae	93.39	178	P	P	19 43 01.5	+0.3
VNA3	Neumayer Olymp	93.42	175	P	P	19 43 02.2	+0.9
MGMO	Mountain Grove	93.54	53	P	P	19 43 02.1	-0.4
R40A	Maddies Statio	93.85	52	P	P	19 43 03.4	-0.5
R40A				IAmb	IAmb	19 43 04.6	
	comp=Z,14nm,1.1s						
VNA2	Neumayer--Watz	93.89	176	P	P	19 43 04.1	+0.6
X43A	Marvell	93.91	55	P	P	19 43 04.0	-0.1
	baz=255						
VNA1	Neumayer--Stat	94.10	176	P	P	19 43 05.5	+1.2
SCIA	State Center	94.16	48	P	P	19 43 04.4	-0.7
	baz=254						
AGMN	Agassiz Nation	94.23	41	P	P	19 43 05.0	-0.3
	baz=252						
P40A	Paris	94.35	50	P	P	19 43 05.8	-0.4
P40A				IAmb	IAmb	19 43 06.7	
	comp=Z,17nm,1.4s						
CCM	Cathedral Cave	94.56	52	P	P	19 43 06.7	-0.4
	baz=255						
F36A	Milaca	95.05	44	P	P	19 43 08.6	-0.5
F36A				IAmb	IAmb	19 43 09.3	
	comp=Z,9.6nm,0.8s						
OXF	Oxford	95.08	56	P	P	19 43 09.4	-0.1
	baz=255						
SPMN	Marine on St.	95.36	45	P	P	19 43 10.4	-0.2
	baz=254						
GTA	Gaotai	95.46	309	*e*P	P	19 43 11.8	+0.5
GTA				pP	pP	19 44 26.3	+3.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
L40A	Anamosa	95.63	48	P	P	19 43 11.6	-0.3
JFWS	Jewell Farm	96.54	47	P	P	19 43 15.5	-0.5
	baz=256						
JFWS	Jewell Farm	96.54	47	P	P	19 43 15.1	-0.9
HDIL	Hopedale	96.66	50	P	P	19 43 16.1	-0.5
	baz=256						
ZALV	Zalesovo Beam	107.75	322	PKiKP	PKiKP	19 48 10.7	-0.9
	comp=Z,0.6nm,0.4s,baz=66,slow=2.0,SNR=5.2						
ZALV	Zalesovo Beam	107.75	322		PKiKP	19 48 10.5	-1.0
MKAR	Makanchi Array	109.20	315	PKiKP	PKiKP	19 48 13.4	-1.2
	comp=Z,1.1nm,0.5s,baz=160,slow=0.7,SNR=26						
MKAR	Makanchi Array	109.20	315		PKiKP	19 48 13.6	-1.0
J63A	Strafford	110.47	49	P	PKiKP	19 48 15.2	-1.8
	baz=268						
I63A	Otisfield	110.85	48	P	PKiKP	19 48 16.4	-1.2
	baz=269						
G62A	West of Eustis	110.90	47	P	PKiKP	19 48 16.3	-1.5
	baz=270						
H64A	Troy	111.83	48	P	PKiKP	19 48 17.0	-2.6
	baz=270						
ARCES	ARCESS Array B	123.94	351	PKP	PKPdf	19 48 41.9	-0.3
	comp=Z,2.5nm,0.5s,baz=349,slow=1.7,SNR=16						
ARCES	ARCESS Array B	123.94	351		PKPdf	19 48 41.6	-0.5
FINES	FINESS Array B	131.13	347	PKhKP	PKPpre	19 48 43.8	
	comp=Z,1.7nm,1.0s,baz=12,slow=1.3,SNR=6.6						
FINES				PKP	PKPdf	19 48 56.3	+0.3
	comp=Z,1.7nm,0.6s,baz=29,slow=2.8,SNR=13						
FINES	FINESS Array B	131.13	347		PKPdf	19 48 56.0	0.0
NB2	NORSAR Subarra	133.78	356	PKPdf	PKPdf	19 49 00.1	-1.0
	comp=Z,8.1nm,1.7s,baz=14,slow=1.8						
NOA	NORSAR Array B	133.78	356	PKP	PKPdf	19 49 00.3	-0.8
	comp=Z,0.7nm,0.8s,baz=13,slow=4.1,SNR=4.4						
AKASG	Malin Array Be	139.23	336	PKP	PKPdf	19 49 10.9	-0.5
	comp=Z,0.6nm,0.5s,baz=40,slow=1.7,SNR=7.4						
AKASG	Malin Array Be	139.23	336		PKPdf	19 49 10.7	-0.7
CLL	Collm	143.16	351	*i* PKPpre	PKPab	19 49 14.9	+0.1
	comp=Z,3.0nm,0.4s						
CLL				*i* PKPdf	PKPdf	19 49 18.9	+0.5
CLL				*i* PKiKP	PKiKP	19 49 21.7	-0.1
CLL				*i* PKSdf	PKSdf	19 52 55.7	+1.8
KOLS	Kolonicke sedl	143.19	341	*e*PKP	PKPbc	19 49 16.3	-0.2
BURAR	Bucovina Array	143.27	337	⇑P	PKPbc	19 49 17.0	+0.1
GTTG	Gottingen	143.29	354	*e*PKPbc	PKPab	19 49 15.5	+0.2
	baz=12,slow=3.1						
BRG	Berggiesshubel	143.44	350	*e*PKP	PKPdf	19 49 18.3	-0.7
	comp=Z,7.9nm,1.1s						
CRVS	Cervenica-Dubn	143.48	341	*e*PKP	PKPab	19 49 16.5	+0.3
DPC	Dobruska-Polom	143.49	347	*e*PKP	PKPbc	19 49 17.0	-0.3
BUG	Bochum--Univer	143.59	357	*e*PKPbc	PKPab	19 49 16.4	0.0
	baz=12,slow=3.1						
MORC	Moravsky Berou	143.75	346	*e*PKP	PKPab	19 49 17.6	+0.3
LANS	Liptovska Anna	143.84	343	*e*PKP	PKPbc	19 49 18.8	+0.5
KMBO	Kilima Mbogo	143.99	246	PKP	PKPdf	19 49 22.1	+0.8
	comp=Z,8.7nm,0.8s,baz=184,slow=13,SNR=10						
KMBO	Kilima Mbogo	143.99	246	PKPdf	PKPdf	19 49 21.1	-0.3
MOX	Moxa	144.00	352	*e*PKPbc	PKPab	19 49 18.2	0.0
	baz=12,slow=3.1						
ARCR	ARCALIA	144.04	337	⇑P	PKPbc	19 49 19.2	+0.2
VRI	Vrincioaia	144.06	333	⇓P	PKPbc	19 49 19.5	+0.5
PLN	Plauen	144.08	352	*e*PKPbc	PKPab	19 49 18.4	-0.1
	baz=12,slow=3.1						
PLOR	Plostina	144.11	333	⇓P	PKPbc	19 49 19.2	0.0
TANN	Tannenbergstha	144.11	351	*e*PKPbc	PKPab	19 49 18.6	-0.1
	baz=12,slow=3.1						
GUNZ	Gunzen	144.18	352	*e*PKPbc	PKPab	19 49 18.9	0.0
	baz=12,slow=3.1						
PRU	Pruhonice	144.18	349	*e*PKP	PKPab	19 49 18.6	-0.3
GOPC	GO Pecny, Ondr	144.21	349	*e*PKP	PKPbc	19 49 19.3	-0.1
WERN	Wernitzgruen	144.25	352	*e*PKPbc	PKPab	19 49 19.2	0.0
	baz=12,slow=3.1						
OZUR		144.28	335	⇑P	PKPbc	19 49 20.2	+0.4
VRAC	Vranov	144.41	347	⇓P	PKPbc	19 49 20.2	+0.3
VRAC	Vranov	144.41	347	*e*PKP	PKPab	19 49 19.5	-0.3
MEM	Membach	144.46	359	PKPdf	PKPbc	19 49 20.1	0.0
TLBR	Topalu	144.48	331	⇓P	PKPdf	19 49 21.1	+0.1
AHRW	Bad Neuenahr-A	144.49	357	*e*PKPbc	PKPab	19 49 19.9	-0.2
	baz=12,slow=3.1						
BSTI	Sart Tilman	144.50	359	PKPdf	PKPab	19 49 20.0	-0.1
DOPR	Dopca	144.55	335	⇑P	PKPdf	19 49 21.2	+0.2
JAVC	Velka Javorina	144.57	345	*e*PKP	PKPdf	19 49 21.4	+0.3
SNF	Seneffe	144.58	0	PKPdf	PKPab	19 49 20.4	0.0
NEHR	Nehoiu	144.59	333	⇑P	PKPdf	19 49 21.0	-0.2
VYHS	Vyhne	144.61	344	*e*PKP	PKPbc	19 49 20.7	+0.1
BRTR	Keskin Array B	144.64	320	PKP	PKPbc	19 49 21.1	0.0
	comp=Z,34nm,1.0s,baz=93,slow=2.5,SNR=79						
BRTR	Keskin Array B	144.64	320		PKPbc	19 49 20.7	-0.5
BCLA	Clavier	144.67	359	PKPbc	PKPbc	19 49 19.8	-0.9
KRUC	Moravsky	144.69	347	*e*PKP	PKPbc	19 49 20.5	-0.3
MLR	Muntele Rosu	144.70	334	⇓P	PKPdf	19 49 21.8	+0.3
BGES	Gesves	144.70	360	PKPdf	PKPbc	19 49 20.7	-0.1
BHOU	Houvegnez	144.72	358	PKPdf	PKPab	19 49 21.0	0.0
TNS	Taunus Mts	144.73	356	*e*PKPbc	PKPbc	19 49 20.8	-0.2
	baz=12,slow=3.1						
ROTZ	Rotzenmuhle	144.78	351	*e*PKPbc	PKPab	19 49 21.3	+0.1
	baz=12,slow=3.1						
BMRD	Maredsous	144.79	360	PKPdf	PKPbc	19 49 20.9	-0.1
SMOL	Smolenice	144.96	345	*e*PKP	PKPab	19 49 22.4	+0.5
GRF	Grafenberg Arr	144.98	353	*e*PKPbc	PKPab	19 49 22.0	0.0
	baz=12,slow=3.1						
DOU	Dourbes	144.99	0	PKPdf	PKPdf	19 49 21.6	-0.1
VOIR		145.12	335	⇑P	PKPab	19 49 23.0	+0.3
MODS	Modra-Piesok	145.12	345	*e*PKP	PKPdf	19 49 22.1	+0.1
RASA	Rasa	145.15	331	⇑P	PKPab	19 49 24.0	+1.2
KHC	Kasperske Hory	145.18	350	*e*PKP	PKPab	19 49 22.7	-0.1
WET	Wettzell	145.28	350	*e*PKPbc	PKPbc	19 49 22.9	+0.2
	baz=12,slow=3.1						
ARR	Arges	145.34	335	⇓P	PKPab	19 49 23.7	+0.1
WLF	Walferdange	145.40	358	PKPdf	PKPab	19 49 23.4	-0.1
WLF	Walferdange	145.40	358	*e*PKPbc	PKPab	19 49 23.5	-0.1
	baz=12,slow=3.1						
GEC2	GERESS Array S	145.43	349	*e*PKPbc	PKPbc	19 49 23.2	0.0
	baz=12,slow=3.1						
GERES	GERESS Array B	145.43	349	PKPbc	PKPdf	19 49 22.6	-0.1
	comp=Z,6.5nm,0.9s,baz=43,slow=2.5,SNR=44						
CONA	Conrad Observa	145.87	347	*i* PKPab	PKPbc	19 49 24.7	+0.2
	comp=Z,21nm,1.2s,SNR=15						
RAZG	Razgrad	145.95	331	⇑P	PKPbc	19 49 25.0	+0.2
STU	Stuttgart	146.11	355	*e*PKPbc	PKPbc	19 49 25.3	+0.2
	baz=12,slow=3.1						
MOA	Molln	146.28	348	*i* PKPab	PKPbc	19 49 25.6	-0.1
	comp=Z,12nm,0.7s,SNR=11						
MOA	Molln	146.28	348	*e*PKPbc	PKPbc	19 49 25.6	-0.1
	baz=12,slow=3.1						
BZS	Buzias	146.29	338	⇑P	PKPbc	19 49 25.8	+0.1
FUR	Furstenfeldbru	146.47	352	*e*PKPbc	PKPbc	19 49 26.2	0.0
	baz=12,slow=3.1						
ARSA	Arzberg	146.59	346	*i* PKPbc	PKPbc	19 49 26.1	-0.5
	comp=Z,15nm,1.1s,SNR=7.9						
ARSA	Arzberg	146.59	346	*e*PKPbc	PKPbc	19 49 26.4	-0.1
	baz=12,slow=3.1						
BFO	Black Forest	146.62	356	*e*PKPbc	PKPbc	19 49 26.4	-0.3
	baz=12,slow=3.1						
BFO				*ep*PKPbc	pPKPab	19 50 43.4	+3.7
HERR	Herculane	146.62	337	⇓P	PKPbc	19 49 26.0	-0.7
RJOB	Jochberg	146.66	350	*e*PKPbc	PKPdf	19 49 25.5	+0.8
	baz=12,slow=3.1						
RJOB				*ep*PKPbc	pPKPab	19 50 42.7	+2.5
MDVR	Moldovita	146.97	337	⇑P	PKPbc	19 49 27.6	-0.2
UBR	Ueberruh	147.10	353	*e*PKPbc	PKPbc	19 49 28.0	0.0
	baz=12,slow=3.1						
KBA	Koelnbreinsper	147.20	349	*e*PKPdf	PKPdf	19 49 25.1	-0.6
	comp=Z,1.5nm,0.9s						
KBA				*i* PKPbc	PKPbc	19 49 27.6	-0.8
	comp=Z,3.7nm,0.6s,SNR=6.5						
RETA	Reutte	147.21	352	*i* PKPdf	PKPdf	19 49 25.6	0.0
	comp=Z,4.0nm,2.0s						
RETA				*i* PKPbc	PKPbc	19 49 28.1	-0.2
	comp=Z,26nm,1.2s,SNR=13						
SOKA	Soboth	147.24	347	*i* PKPdf	PKPdf	19 49 25.3	-0.4
	comp=Z,2.8nm,1.4s						
SOKA				*i* PKPbc	PKPbc	19 49 27.7	-0.8
	comp=Z,22nm,1.3s,SNR=17						
WATA	Walderalm	147.24	351	*e*PKPdf	PKPdf	19 49 25.5	-0.3
	comp=Z,4.8nm,1.2s						
WATA				*i* PKPbc	PKPbc	19 49 28.2	-0.3
	comp=Z,24nm,1.3s,SNR=8.3						
PERS	Pernice	147.26	347	*i* PKPbc	PKPbc	19 49 27.7	-0.8
MOTA	Moosalm	147.30	352	*i* PKPdf	PKPdf	19 49 25.6	-0.3
	comp=Z,4.8nm,1.0s						
MOTA				*i* PKPbc	PKPbc	19 49 28.3	-0.4
	comp=Z,27nm,1.2s,SNR=8.8						
WTTA	Wattenberg	147.31	351	*e*PKPdf	PKPdf	19 49 25.8	-0.1
	comp=Z,4.7nm,1.1s						
WTTA				*i* PKPbc	PKPbc	19 49 28.5	-0.3
	comp=Z,28nm,1.3s,SNR=9.5						
FRGS	Fruska Gora	147.31	340	⇓*i*P	PKPbc	19 49 28.4	-0.2
SQTA	Sankt Quirin	147.41	352	*e*PKPdf	PKPdf	19 49 24.8	-1.2
	comp=Z,6.6nm,1.1s						
SQTA				*i* PKPbc	PKPbc	19 49 28.7	-0.2
	comp=Z,18nm,1.2s,SNR=6.4						
OBKA	Obir	147.51	347	*i* PKPbc	PKPbc	19 49 28.3	-0.9
	comp=Z,11nm,1.1s,SNR=5.2						
OBKA	Obir	147.51	347	*e*PKPbc	PKPbc	19 49 28.2	-0.9
	baz=12,slow=3.1						
DAVA	Damuels	147.51	353	*i* PKPdf	PKPdf	19 49 25.9	-0.3
	comp=Z,8.6nm,1.8s						
DAVA				*i* PKPbc	PKPbc	19 49 29.0	-0.2
	comp=Z,37nm,1.2s,SNR=13						
MYKA	Terra Mystica	147.58	348	*i* PKPdf	PKPdf	19 49 25.5	-0.7
	comp=Z,0.9nm,0.5s						
MYKA				*i* PKPbc	PKPbc	19 49 28.3	-1.0
	comp=Z,16nm,0.8s,SNR=8.1						
ABTA	Abfaltersbach	147.67	350	*e*PKPdf	PKPdf	19 49 26.0	-0.4
	comp=Z,6.7nm,1.0s						
ABTA				*i* PKPbc	PKPbc	19 49 28.8	-0.8
	comp=Z,30nm,1.1s,SNR=24						
FETA	Feichten	147.67	352	*i* PKPdf	PKPdf	19 49 26.7	+0.1
	comp=Z,6.2nm,1.0s						
FETA				*i* PKPbc	PKPbc	19 49 29.6	-0.1
	comp=Z,27nm,1.1s,SNR=20						
PDKS	Podkum	147.83	346	*i* PKPbc	PKPbc	19 49 29.3	-0.7
CRES	Cresnjev	147.95	346	⇓*i*P	PKPbc	19 49 29.5	-0.8
LJU	Ljubljana	147.95	347	*i* PKPbc	PKPbc	19 49 29.9	-0.4
LJU	Ljubljana	147.95	347	*e*P	PKPbc	19 49 29.6	-0.7
DIVS	Divibare	148.18	339	⇓*i*P	PKPbc	19 49 30.6	-0.4
CEY	Cerknica	148.26	347	⇓*i*P	PKPbc	19 49 30.5	-0.6
BLY	Banja Luka	148.49	343	*e*P	PKPbc	19 49 30.3	-1.4
BBLS	Lazići	148.59	339	⇓*i*P	PKPbc	19 49 31.1	-0.9
UPM	Unac-Piva	149.35	339	*e*P	PKPbc	19 49 33.2	-0.9
SKO	Skopje	149.45	335	*i* P	PKPbc	19 49 34.0	-0.1
VAY	Valandovo	149.51	333	*i* P	PKPbc	19 49 33.8	-0.4
BRY	Bratogost	149.74	340	⇓*i*P	PKPbc	19 49 34.0	-1.0
PDG	Podgorica	149.90	338	*e*P	PKPbc	19 49 33.9	-1.3
DRME	Dracevica, Mon	150.14	338	*e*P	PKPdf	19 49 33.1	+2.7
HCY	Herceg Novi	150.16	339	*e*P	PKPbc	19 49 34.8	-1.0
OHR	Ohrid	150.44	335	*i* P	PKPbc	19 49 36.6	0.0
PCAB	Cabril	151.21	20	*e*PKPbc	PKiKP	19 49 38.6	-0.2
PBRG	Braganca	151.53	18	*e*PKPbc	PKPbc	19 49 39.0	-0.1
PVRL	Vila Real	151.70	20	*e*PKPbc	PKiKP	19 49 39.9	+0.1
AQU	L'Aquila	151.71	346	*e*P	PKPbc	19 49 39.1	-0.4
MVO	Moncorvo	152.02	19	*e*PKPbc	PKiKP	19 49 40.6	+0.1
PVIS	Viseu	152.14	21	*e*PKPbc	PKPbc	19 49 40.6	+0.1
PCAS	Casmilo, Conde	152.52	22	*e*PKPbc	PKPbc	19 49 41.1	-0.2
PSBE	So Bento	152.88	23	*e*PKPbc	PKiKP	19 49 42.8	+0.5
PCBR	Castelo Branco	153.07	21	*e*PKPbc	PKPbc	19 49 42.5	0.0
PMRV	Marv??o	153.47	21	*e*PKPbc	PKiKP	19 49 43.5	0.0
PMTG	Montargil	153.48	23	*e*PKPbc	PKiKP	19 49 43.8	+0.3
PNCL	Nicolau / Gran	154.19	24	*e*PKPbc	PKiKP	19 49 45.0	0.0
ESDC	Sonseca Array	154.28	15	PKPbc	PKPbc	19 49 45.1	-0.1
	comp=Z,1.0nm,0.5s,baz=326,slow=2.7,SNR=15						
ESDC				PKPab	PKPab	19 50 00.8	+0.4
	comp=Z,3.1nm,0.7s,baz=327,slow=4.1,SNR=15						
DBIC	Dimbokro	167.53	131	PKP	PKPdf	19 49 50.5	-0.9
	comp=Z,8.1nm,1.1s,baz=206,slow=2.2,SNR=3.6						
DBIC	Dimbokro	167.53	131		PKPdf	19 49 50.7	-0.7
TORD	Torodi Ar. Bea	176.60	122	PKP	PKPdf	19 49 54.3	-1.1
	comp=Z,2.9nm,1.1s,baz=331,slow=2.0,SNR=6.3						
TORD				PKPab	PKPab	19 51 36.8	-2.4
	comp=Z,0.9nm,0.6s,baz=257,slow=2.6,SNR=4.0						
TORD	Torodi Ar. Bea	176.60	122		PKPdf	19 49 54.1	-1.3
TORD					PKPab	19 51 38.3	-0.9

IDC ***15*** *19:46:45.5±3.4, 33.°30S×69.°81W, h96km±31km, mb3.6/4, mb1 3.7/7, mb1mx3.5/31, mbtmp3.8/7, Error ellipse: s-maj=32.4km s-min=19.7km az=98.0*

GUC ***15*** *19:46:46.6±0.7, 33.°25S×70.°14W, h110km±3km, ML4.0*

NEIC ***15*** *19:46:47.2±1.7, 33.°30S±0.°05×70.°12W±0.°07, h109km±5km, Error ellipse: s-maj=8.9km s-min=7.4km az=122.0*

ISC 15 19:46:47.3±0.7, 33.°31S±0.°04×70.°15W±0.°07, h114km±5km, n60, σ1§01/71, mb4.1/7, 8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCH	Cerro Calan	0.33	255	⇑*i*P	Pn	19 47 03.6	-0.2
CLCH				*i* S	Sn	19 47 16.4	+0.1
CLCH				IAML		19 47 17.5	
	comp=N,15μm,0.5s						
MT03	Universidad Ad	0.35	239	⇑*i*P	Pn	19 47 03.6	-0.4
MT03				*i* S	Sn	19 47 16.6	+0.2
FSR	Penalolen	0.35	242	*e*P	Pn	19 47 04.9	+1.0
FSR				*i* S	Sn	19 47 17.8	+1.4
PEL	Peldehue	0.48	290	⇑*i*P	Pn	19 47 03.8	-0.8
PEL				*i* S	Sn	19 47 17.3	-0.2
PEL				IAML		19 47 19.2	
	comp=E,5μm,0.2s						
PEL	Peldehue	0.48	290	Pn	Pn	19 47 04.0	-0.6
MT05	Renca	0.50	261	⇑*i*P	Pn	19 47 04.5	-0.2
MT05				*i* S	Sn	19 47 18.1	+0.3
MT05	Renca	0.50	261	Pn	Pn	19 47 04.5	-0.2
LMEL	Las Melosas	0.54	185	⇓*i*P	Pn	19 47 04.7	-0.4
LMEL				*i* S	Sn	19 47 18.2	-0.2
LMEL				IAML		19 47 22.1	
	comp=E,4μm,0.3s						
VA03	San Esteban	0.64	328	⇑*i*P	Pn	19 47 05.3	-0.5
VA03				*i* S	Sn	19 47 19.4	-0.3
VA03				IAML		19 47 22.1	
	comp=E,9μm,0.3s						
VA03	San Esteban	0.64	328	Pn	Pn	19 47 05.2	-0.6
ROCH	El Roble	0.80	295	⇑*i*P	Pn	19 47 06.9	-0.3
ROCH				*i* S	Sn	19 47 22.1	-0.1
ROCH				IAML		19 47 23.4	
	comp=N,9μm,0.3s						
ROC1	El Roble	0.80	295		Pn	19 47 06.0	-1.3
MT02	Curacav	0.83	273	⇑*i*P	Pn	19 47 07.0	-0.3
MT02				*i* S	Sn	19 47 22.1	-0.1
MT02				IAML		19 47 25.5	
	comp=E,3μm,0.5s						
MT02	Curacav	0.83	273		Pn	19 47 06.9	-0.3
VA01	Torpederas	1.29	283	*e*P	Pn	19 47 11.9	0.0
VA01				*e*S	Sn	19 47 30.6	0.0
VA01				IAML		19 47 34.0	
	comp=N,2μm,0.3s						
VA01	Torpederas	1.29	283		Pn	19 47 11.6	-0.3
BO02	Sierra Bellavi	1.57	199	Pn	Pn	19 47 15.2	0.0
ZON	Zonda	2.16	36	Pn	Pn	19 47 21.8	-0.8
CO02	Combarbal	2.22	341	⇑*i*P	Pn	19 47 22.8	-0.7
CO02				*i* S	Sn	19 47 50.7	-0.3
CO02	Combarbal	2.22	341	Pn	Pn	19 47 22.7	-0.7
GO05	Huala	2.25	221	*e*P	Pn	19 47 22.6	-1.1
GO05				*i* S	Sn	19 47 50.4	-1.1
GO05				IAML		19 47 53.0	
	comp=E,692nm,0.5s						
GO05	Huala	2.25	221	Pn	Pn	19 47 22.4	-1.3
CO03	El Pedregal	2.51	349	*e*P	Pn	19 47 27.1	-0.1
CO03				*i* S	Sn	19 47 57.0	-0.6
CO03				IAML		19 47 58.4	
	comp=E,892nm,0.2s						
CO03	El Pedregal	2.51	349	Pn	Pn	19 47 27.2	0.0
GO04	Tololo Observa	3.18	350	*e*P	Pn	19 47 35.4	-0.7
GO04	Tololo Observa	3.18	350	Pn	Pn	19 47 35.0	-1.0
CO01	Juntas del Tor	3.32	1	Pn	Pn	19 47 38.5	+0.4
BI02	San Fabin de	3.47	195	*e*P	Pn	19 47 39.5	-0.2
BI02	San Fabin de	3.47	195		Pn	19 47 39.7	0.0
BI03	Tigo	4.24	213	Pn	Pn	19 47 47.7	-2.2
LCO	Las Campanas	4.31	354	Pn	Pn	19 47 49.9	-1.3
AC05	El Transito	4.46	359	Pn	Pn	19 47 52.6	-0.5
GO03	Copiap	5.70	359	Pn	Pn	19 48 09.9	+0.2
LC01	Cunco	5.75	194	Pn	Pn	19 48 08.7	-1.6
AC01	Pan de Azucar	7.15	357	Pn	Pn	19 48 26.2	-3.1
PLCA	Paso Flores	7.42	182	P	Pn	19 48 31.3	-1.6
	comp=E,0.2nm,0.3s,baz=2.8,slow=12,SNR=4.3						
PLCA	Paso Flores	7.42	182		Pn	19 48 31.1	-1.7
CPUP	Villa Florida	13.12	61	P	Pn	19 49 42.9	-6.4
	comp=E,0.2nm,0.3s,baz=182,slow=9.8,SNR=2.8						
CPUP	Villa Florida	13.12	61	P	Pn	19 49 43.2	-6.2
SIV	San Ignacio	19.10	28	P	P	19 50 59.6	-1.7
	comp=E,0.4nm,0.3s,baz=225,slow=14,SNR=7.5						
BDFB	Brasilia	26.65	54	P	P	19 52 13.5	-2.2
	comp=E,2.2nm,0.5s,baz=221,slow=18,SNR=4.2						
BDFB	Brasilia	26.65	54	P	P	19 52 13.8	-1.8
BDFB				IAmb	IAmb	19 52 14.5	
	comp=Z,7.8nm,1.1s						
SNAA	Sanae	51.63	158	P	P	19 55 41.9	+0.1
	comp=Z,0.2nm,0.3s,baz=143,slow=2.8,SNR=8.6						
SNAA	Sanae	51.63	158	P	P	19 55 41.8	0.0
SNAA				IAmb	IAmb	19 55 46.4	
	comp=Z,3.7nm,1.5s						
TEIG	Tepich	55.98	339	P	P	19 56 14.2	+0.3
QSPA	South Pole Qui	56.92	180	P	P	19 56 21.6	+1.3
QSPA				IAmb	IAmb	19 56 22.9	
	comp=Z,3.1nm,1.0s						
TX31	Lajitas Ar. Si	69.93	329	P	P	19 57 47.7	+1.4
TX31				IAmb	IAmb	19 58 11.3	
	comp=Z,11nm,1.3s						
TX32	Lajitas Array	69.93	329	P	P	19 57 47.5	+1.2
TXAR	Lajitas Array	69.93	329	P	P	19 57 47.6	+1.3
	comp=Z,1.0nm,0.6s,baz=154,slow=8.8,SNR=12						
TXAR	Lajitas Array	69.93	329	P	P	19 57 47.8	+1.5
LCAR	Lake Charles	71.76	342	P	P	19 57 57.1	+0.1

RDT	Redoubt	0.61	7		Pn	19 49 53.1	-0.3
NCT	North Crescent	0.62	343		Pn	19 49 53.1	-0.5
NCT					Sn	19 50 05.3	-1.4
DFR	Drift River	0.63	354		Pn	19 49 53.3	-0.3
DFR					Sn	19 50 05.8	-0.9
AU22	Augustine Moun	0.73	215		Pn	19 49 54.2	-0.1
AU22					Sn	19 50 07.4	-0.5
AU2	Augustine Isla	0.73	215		Pn	19 49 54.2	-0.1
AUL	Augustine Lava	0.74	218		Pn	19 49 54.3	-0.1
AUL					Sn	19 50 08.0	-0.2
AUP	Augustine Pinn	0.75	216		Pn	19 49 54.6	-0.1
AUQ	Augustine Qik'	0.76	216		Pn	19 49 54.5	-0.1
AUQ					Sn	19 50 08.0	-0.5
AUJK	Augustine Jueg	0.76	215		Pn	19 49 54.5	-0.1
CNPM	China Poot	0.80	123	Pn	Pn	19 49 55.5	+0.5
CNPM	China Poot	0.80	123		Sn	19 50 10.0	+0.8
BRLK	Bradley Lake	0.87	103	Pn	Pn	19 49 56.1	+0.5
BRLK	Bradley Lake	0.87	103		Sn	19 50 10.7	+0.4
BRSE	Bradley Lake S	0.94	103		Pn	19 49 57.0	+0.7
BRSE					Sn	19 50 12.2	+0.6
CAPN	Captain Cook N baz=223	1.06	40	P	Pn	19 49 59.8	+2.3
CAPN				S	Sn	19 50 17.9	+4.1
CAPN	Captain Cook N baz=223	1.06	40		Pn	19 49 59.8	+2.3
CKL	Chakachamna La	1.23	5		Pn	19 49 59.8	+0.2
CKL					Sn	19 50 17.1	-0.4
SPCR	Spurr Chakacha	1.25	8		Pn	19 49 59.9	+0.1
SPCR					Sn	19 50 17.0	-0.6
CKT	Bend	1.25	8		Pn	19 49 59.9	+0.2
SLKM	Skilak Lake	1.28	64		Pn	19 50 00.3	+0.3
SLKM					Sn	19 50 18.5	+0.2
SPBG	Spurr Blockage	1.30	4		Pn	19 50 00.6	+0.3
SPBG					Sn	19 50 18.2	-0.5
SPWE	Spurr West	1.31	360		Pn	19 50 00.9	+0.5
SPCP	Crater Peak Br	1.31	8		Pn	19 50 01.0	+0.4
SPCP					Sn	19 50 19.5	+0.4
CRP	Crater Peak	1.32	8		Pn	19 50 01.0	+0.4
CRP					Sn	19 50 19.6	+0.4
SPCG	Spurr Capps Gl	1.35	11		Pn	19 50 01.3	+0.3
SPCG					Sn	19 50 19.5	-0.4
SPNN	North Nagishla	1.40	357		Pn	19 50 01.8	+0.1
SPNN					Sn	19 50 21.3	+0.3
O22K	Cooper Landing baz=252	1.50	69	P	Pn	19 50 03.3	+0.7
O22K				S	Sn	19 50 22.5	-0.3
O22K	Cooper Landing baz=252	1.50	69		Pn	19 50 03.4	+0.7
O22K					Sn	19 50 23.0	+0.2
SEW	Seward	1.56	84	Pn	Pn	19 50 03.8	+0.4
SEW	Seward	1.56	84		Sn	19 50 24.2	+0.1
STLK	Strandline Lak	1.57	13		Pn	19 50 04.0	+0.4
FIS	Fire Island	1.65	43		Pn	19 50 06.3	+1.9
KAPH	Katmai Pasha	1.66	215		Pn	19 50 04.8	+0.2
SUA	Susitna One	1.74	30	Pn	Pn	19 50 06.6	+0.9
SUA	Susitna One	1.74	30		Sn	19 50 29.6	+1.3
KAHG	Katmai Hook Gl	1.80	216		Pn	19 50 06.8	+0.4
KAHC	Katmai Hardscr	1.83	225		Pn	19 50 06.8	0.0
SVW2	Sparrevohn	1.88	308	Pn	Pn	19 50 06.2	-1.0
SKT	Skwentna	2.08	13	Pn	Pn	19 50 09.9	0.0
KDAK	Kodiak Island 6.1nm,0.3s,baz=49,slow=9.4,SNR=147	2.19	180	P	Pn	19 50 10.5	-0.8
KDAK				S	Sn	19 50 36.8	-1.5
KCE	24nm,0.3s,baz=291,slow=23,SNR=27 Katmai Mt Cerb	2.20	219		Pn	19 50 12.3	+0.9
KABU	Katmai Buttres	2.21	221		Pn	19 50 12.0	+0.4
PWL	Port Wells	2.27	65		Pn	19 50 12.1	-0.3
PWL					Sn	19 50 39.0	-1.2
MGLS	Mageik Landsli	2.28	217		Pn	19 50 13.0	+0.6
PMR	Palmer	2.34	44	Pn	Pn	19 50 12.9	-0.2
PMR	Palmer	2.34	44		Sn	19 50 40.3	-1.3
CAHL	Cahill	2.39	218		Pn	19 50 14.7	+0.8
KNK	Knik Glacier	2.48	53		Pn	19 50 14.8	-0.2
KNK	Knik Glacier	2.48	53		Sn	19 50 44.1	-0.9
GHO	Glory Hole Cre	2.53	43	Pn	Pn	19 50 15.6	-0.2
GHO	Glory Hole Cre	2.53	43		Sn	19 50 44.9	-1.4
CUT	Chulitna baz=206	2.68	23	P	Pn	19 50 18.2	+0.6
CUT	Chulitna	2.68	23		Pn	19 50 18.3	+0.6
CUT					Sn	19 50 50.0	+0.3
SML	Sawmill	2.77	46		Pn	19 50 18.6	-0.2
SML	Sawmill	2.77	46		Sn	19 50 50.3	-1.4
OHAK	Old Harbor	2.78	188		Pn	19 50 17.8	-1.2
GLI	Glacier Island	2.86	69	Pn	Pn	19 50 19.7	-0.3
PPLA	Purkeypile	2.94	3	Pn	Pn	19 50 22.2	+0.9
PLK1	Peulik 1	3.03	226		Pn	19 50 23.0	+0.8
HIN	Hinchinbrook I	3.05	79	Pn	Pn	19 50 23.6	+1.0
FID	Port Fidalgo	3.12	73		Sn	19 50 57.0	-3.0
FID	Port Fidalgo	3.12	73	Pn	Pn	19 50 23.2	-0.2
SCM	Sheep Creek Mo	3.16	52		Pn	19 50 24.1	0.0
Q23K	Middleton Isla baz=283	3.19	97	P	Pn	19 50 25.4	+1.0
Q23K	Middleton Isla	3.19	97		Pn	19 50 25.4	+1.0
MID	Middleton Isla	3.20	97	Pn	Pn	19 50 25.1	+0.7
VMT	TAPS Tl Valdez	3.25	67		Sn	19 51 01.2	-2.0
HUR	Hurricane	3.33	24		Pn	19 50 27.4	+1.1
WAT7	Susitna Watana	3.38	30		Pn	19 50 27.8	+0.7
TT01	Tatalina	3.38	332		Pn	19 50 26.9	-0.1
EYAK	Cordova Ski Ar	3.44	77	Pn	Pn	19 50 28.1	+0.4
WAT6	Susitna Watana	3.50	39		Pn	19 50 29.1	+0.3
SII	Sitkinak Islan	3.53	195	Pn	Pn	19 50 28.1	-0.9
DIV	Divide	3.54	68		Pn	19 50 29.1	-0.1
WAT2	Susitna Watana	3.56	31		Pn	19 50 30.1	+0.7
KLU	Klutina	3.60	62		Pn	19 50 29.5	-0.4
KLU	Klutina	3.60	62		Sn	19 51 09.9	-1.6
TRF	Thorofare Moun	3.66	16	Pn	Pn	19 50 30.9	+0.2
KTH	Kantishna Hill	3.68	11	Pn	Pn	19 50 30.8	-0.1
M24K	Tolsona, Glenn baz=238	3.77	53	P	Pn	19 50 32.8	+0.5
M24K				S	Sn	19 51 15.9	+0.2
M24K	Tolsona, Glenn baz=238	3.77	53		Pn	19 50 32.7	+0.5
M24K					Sn	19 51 16.4	+0.7
RND	Reindeer	3.87	25	Pn	Pn	19 50 33.8	+0.2
CHUM	Lake Minchumin	3.93	2		Pn	19 50 34.5	+0.2
RAGM	Ragged Mountai	3.96	81	Pn	Pn	19 50 35.3	+0.6
DHY	Denali Highway	3.98	36	Pn	Pn	19 50 35.3	+0.2
DHY	Denali Highway	3.98	36		Sn	19 51 19.3	-1.6
BMRM	Bremner River	4.06	72		Pn	19 50 36.9	+0.8
KAIM	Kayak Island	4.09	87	Pn	Pn	19 50 37.3	+0.8
MCK	McKinley	4.15	23	Pn	Pn	19 50 38.1	+0.9
BPAW	Bear Paw Mtn.	4.21	9	Pn	Pn	19 50 37.9	-0.2
BWN	Browne	4.46	18		Pn	19 50 42.2	+0.8
PAX	Paxson	4.54	45		Pn	19 50 42.6	+0.1
GLB	Gilahina Butte	4.54	67	Pn	Pn	19 50 42.4	-0.2
GLB	Gilahina Butte	4.54	67		Sn	19 51 32.2	-2.0
CRQM	Cirque	4.74	76	Pn	Pn	19 50 46.4	+1.0
SNH	Sunshine Point	4.87	83		Pn	19 50 48.1	+1.0
SNH					Sn	19 51 40.1	-2.1
TGL	Tana Glacier	4.89	77	Pn	Pn	19 50 47.9	+0.6
MCARA	McCarthy VSAT	4.89	69	Pn	Pn	19 50 48.0	+0.7
NEA2	Nenana baz=201	4.92	18	P	Pn	19 50 47.6	0.0
NEA2	Nenana	4.92	18		Pn	19 50 47.4	-0.1
KULT	Kultieth River	4.93	83		Pn	19 50 48.8	+1.0
WRH	Wood River Hil	4.98	23	Pn	Pn	19 50 48.1	-0.3
BARK	Barkley Ridge	5.04	81		Pn	19 50 50.5	+1.1
BARK					Sn	19 51 43.8	-2.6
ISLE	Juniper Island	5.12	78	Pn	Pn	19 50 51.5	+1.0
PTPK	Patty Peak	5.12	72		Pn	19 50 50.7	+0.1
PTPK					Sn	19 51 47.5	-1.0
KIAG	Kiagna River	5.14	75		Pn	19 50 51.5	+0.7
BALM	Baldy	5.16	74	Pn	Pn	19 50 51.7	+0.7
HDA	Harding Lake baz=213	5.17	28	P	Pn	19 50 51.1	+0.1
HDA	Harding Lake	5.17	28		Pn	19 50 51.0	0.0
CCB	Clear Creek Bu	5.19	23	Pn	Pn	19 50 50.9	-0.3
RIDG	Independent Ri	5.25	41	Pn	Pn	19 50 52.8	+0.6
TCOL	CIGO, UAF Yank baz=206	5.38	22	P	Pn	19 50 54.2	+0.4
TCOL	CIGO, UAF Yank	5.38	22		Pn	19 50 54.1	+0.4
COLA	College	5.38	22		Pn	19 50 54.1	+0.3
MDM	Murphy Dome	5.39	20		Pn	19 50 54.0	-0.1
YAH	Yahtse	5.41	81	Pn	Pn	19 50 55.5	+1.0
GRNC	Granite Creek	5.42	77		Pn	19 50 54.7	+0.2
DOT	Dot Lake	5.46	44	Pn	Pn	19 50 55.4	+0.4
IL31		5.49	26		Pn	19 50 55.0	-0.3
ILAR	Eielson Array 4.1nm,0.3s,baz=215,slow=14,SNR=133	5.49	26	P	Pn	19 50 55.0	-0.3
ILAR				S	Sn	19 51 56.4	-0.7
	0.4nm,0.3s,baz=206,slow=25,SNR=1.6						
ILAR	Eielson Array	5.49	26	Pn	Pn	19 50 54.8	-0.5
BARN	Barnard Glacie	5.49	74		Pn	19 50 57.1	+1.6
RKAV	Rock Avalanche	5.61	82		Pn	19 50 58.2	+1.0
CTGM	Chitina Glacie	5.64	75	Pn	Pn	19 50 58.8	+1.3
POKR	Poker Plat Res baz=207	5.68	22	P	Pn	19 50 58.2	+0.3
POKR	Poker Plat Res	5.68	22		Pn	19 50 58.3	+0.3
SCRK	Sand Creek baz=229	5.70	41	P	Pn	19 50 57.8	-0.5
SCRK	Sand Creek	5.70	41		Pn	19 50 57.7	-0.5
LOGN	Logan Glacier	5.79	77		Pn	19 51 00.7	+1.2
BC03		6.01	54		Pn	19 51 02.6	+0.3
BCAR	Beaver Creek A	6.01	54	Pn	Pn	19 51 02.0	-0.5
IM03		6.06	355		Pn	19 51 03.3	+0.3
IMAR	Indian Mountai	6.06	355	Pn	Pn	19 51 02.9	-0.1
PCA	Pinnacle	6.17	84	Pn	Pn	19 51 06.1	+1.5
YUK3	Moose Creek	6.18	68		Pn	19 51 05.6	+0.7
BCPM	Bancas Point	6.49	85		Pn	19 51 10.3	+1.4
PNL	Peninsula	6.64	87		Pn	19 51 11.9	+0.9
DT1	Dutton Round H	7.15	231		Pn	19 51 18.1	+0.3
EGAK	Eagle	7.16	43	Pn	Pn	19 51 17.6	-0.3
COLD	Coldfoot	7.36	7	Pn	Pn	19 51 20.4	-0.2
PLBC	Pleasant Camp	8.20	87		Pn	19 51 33.6	+1.5
BM03	Burnt Mountain	8.26	22		Pn	19 51 32.6	-0.2
WHY	Whitehorse	8.80	78	Pn	Pn	19 51 41.9	+1.6
SIT	Sitka	9.47	100	Pn	Pn	19 51 50.5	+1.2
DLBC	Dease Lake 1.9nm,0.3s,baz=223,slow=11,SNR=11	11.63	88	P	P	19 52 24.6	-3.0
DLBC	Dease Lake	11.63	88	Pn	Pn	19 52 19.3	+0.7
PETK	Petropavlovsk- 0.3nm,0.4s,baz=65,slow=12,SNR=2.1	27.69	278	P	P	19 55 13.1	-0.6
KSRS	Korea Array 0.9nm,0.6s,baz=45,slow=6.2,SNR=3.4	53.41	283	P	P	19 58 45.5	+1.1
SONM	Songino Array 0.7nm,0.5s,baz=35,slow=6.2,SNR=8.4	54.99	306	P	P	19 58 57.7	+1.7
ZALV	Zalesovo Beam 0.7nm,0.4s,baz=37,slow=7.1,SNR=4.2	57.53	324	P	P	19 59 14.4	+0.7
MKAR	Makanchi Array 0.3nm,0.5s,baz=33,slow=6.7,SNR=5.3	64.60	322	P	P	20 00 01.8	+0.2

IDC 15 19:56:52.5±4.3, 18°.93S×178°.84W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/32, mbtmp3.7/3, Error ellipse: s-maj=310.0km s-min=31.3km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.3nm,0.3s,baz=94,slow=8.1,SNR=28	44.05	261	P	P	20 05 03.0	+0.5
ASAR	Alice Springs 0.3nm,0.6s,baz=92,slow=8.2,SNR=8.4	44.13	255	P	P	20 05 02.2	-0.9
NVAR	Mina Array Bea 1.1nm,0.4s,baz=230,slow=5.4,SNR=5.0	80.44	44	P	P	20 09 06.6	+0.1

IDC 15 20:01:43.1±3.1, 15°.36S×173°.41W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/44, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=196.0km s-min=21.3km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 7.7nm,0.3s,baz=205,slow=5.7,SNR=8.5	2.14	48	Pn	Pn	20 02 21.0	+0.8
AFI				Sn	Sn	20 02 46.7	-0.9
STKA	17nm,0.3s,baz=141,slow=20,SNR=9.9 Stephens Creek 1.2nm,0.8s,baz=101,slow=14,SNR=2.8	44.05	240	P	P	20 09 54.1	+1.2
WRA	Warramunga Arr 0.2nm,0.4s,baz=95,slow=6.8,SNR=15	49.84	257	P	P	20 10 38.5	+0.1
ASAR	Alice Springs 3.0nm,0.6s,baz=89,slow=8.1,SNR=76	50.11	252	P	P	20 10 39.4	-1.2

*ATH **15** 20:06:52.3, 40°.35N×25°.73E, h27km±1km, ML2.5/8, Error ellipse: s-maj=1.9km s-min=1.0km az=314.0*
*ISK **15** 20:06:52.2, 40°.36N×25°.75E, h9km, ML2.8/25*
*DDA **15** 20:06:53.9, 40°.35N×25°.80E, h12km, ML2.8*
*THE **15** 20:06:53.2, 40°.37N×25°.75E, h14km, ML2.5/12, Error ellipse: s-maj=1.0km s-min=0.5km az=356.0*
ISC 15 20:06:52.9±0.8, 40°.36N±0°.02×25°.75E±0°.02, h17km±5km, n82, σ0°88/116, 4C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	Samothraki Isl 2μm,0.1s	0.20	303	P	Pg	20 06 57.9	+0.1
SMTH				S	Sg	20 07 01.3	+0.3
SMTH	Samothraki Isl	0.20	303	P	Pg	20 06 57.9	+0.1
SMTH				S	Sg	20 07 01.4	+0.3
SMTH				AML	AML	20 07 01.4	
SMTH	comp=N,4399μm,0.1s comp=E,2791μm,0.1s			AML	AML	20 07 01.4	
GADA	Gvkgeada	0.21	147	PG	Pg	20 06 57.5	-0.3
GADA				SG	Sg	20 07 00.4	-0.7
GOKC	Gokceada-Canak	0.21	142	PG	Pg	20 06 57.2	-0.6
GOKC				SG	Sg	20 07 00.2	-1.0
GOKA	anakkale-Gk	0.21	145	*i* P	Pg	20 06 57.8	-0.1
GOKA				*i* S	Sg	20 07 00.7	-0.6
ENEZ	Enez	0.48	39	PG	Pg	20 07 02.4	-0.2
GELI	Tayfur-Gelibol	0.55	86	PG	Pg	20 07 03.4	-0.5
ALN	Alexandroupoli	0.58	23	P	Pg	20 07 04.2	-0.2
ALN				S	Sg	20 07 12.2	+0.1
ALN	comp=E,445nm,0.3s Alexandroupoli	0.58	23	P	Pg	20 07 04.3	-0.2
ALN				S	Sg	20 07 12.4	+0.3
ALN				AML	AML	20 07 12.8	
ALN	comp=E,679μm,0.3s			AML	AML	20 07 13.2	
ALN	comp=N,460μm,0.4s Alexandroupoli	0.58	23	PG	Pg	20 07 04.2	-0.2
ALN				SG	Sg	20 07 12.4	+0.3
LIA	Limnos Island	0.64	223	P	Pg	20 07 05.3	-0.1
LIA				S	Sb	20 07 14.8	+0.7
LIA	comp=N,550nm,0.4s Limnos Island	0.64	223	P	Pg	20 07 05.4	-0.1
LIA				S	Sg	20 07 14.2	+0.4
LIA				AML	AML	20 07 17.0	
LIA	comp=N,1049μm,0.4s			AML	AML	20 07 17.5	
ERIK	comp=E,1135μm,0.4s Erikli-Kesan	0.66	62	PG	Pg	20 07 05.3	-0.5
EZN	Ezine	0.69	140	PG	Pg	20 07 05.7	-0.8
LPK	Lapseki	0.77	89	PG	Pg	20 07 07.3	-0.7
RDO	Rodhopi	0.80	348	P	Pg	20 07 08.6	+0.1
RDO				S	Sg	20 07 19.2	+0.1
RDO	comp=E,312nm,0.2s Rodhopi	0.80	348	P	Pg	20 07 08.7	+0.1
RDO				S	Sg	20 07 19.5	+0.4
RDO				AML	AML	20 07 20.2	
RDO	comp=E,577μm,0.3s			AML	AML	20 07 23.3	
RDO	comp=N,580μm,0.2s Rodhopi	0.80	348	PG	Pg	20 07 08.4	-0.1
THAS	Thassos island	0.82	288	P	Pg	20 07 08.7	-0.2
THAS				S	Sb	20 07 20.6	+1.1
THAS	comp=N,222nm,0.2s Thassos island	0.82	288	P	Pg	20 07 08.5	-0.4
THAS				S	Sg	20 07 19.5	-0.3
THAS				AML	AML	20 07 22.1	
THAS	comp=N,575μm,0.2s			AML	AML	20 07 22.5	
THAS	comp=E,313μm,0.2s						
KESN	Edirne-Kesan	0.85	57	*i* P	Pg	20 07 08.4	-1.0
KESN				*i* S	Sg	20 07 19.5	-1.1
KESN				IAML		20 07 22.0	
KESN	comp=E,971nm,0.3s			IAML		20 07 22.0	
BAYC	comp=N,383nm,0.3s CANAKKALE_Bayr	0.87	135	*i* P	Pg	20 07 09.0	-0.8
BAYC				*i* S	Sg	20 07 20.3	-1.1
EFSA	Agios Efstrati	1.01	216	P	Pb	20 07 11.4	-0.4
UKOP	Uzunkopru-Edir	1.02	41	PG	Pb	20 07 12.5	+0.5
KAVA	Kavala	1.13	304	P	Pb	20 07 14.1	+0.1
KAVA	Kavala	1.13	304	P	Pb	20 07 14.2	+0.1
KAVA				AML	AML	20 07 33.4	
KAVA	comp=E,193μm,0.2s			AML	AML	20 07 34.0	
RKY	comp=N,175μm,0.1s Sarkoy-Tekirda	1.14	73	PN	Pb	20 07 14.3	+0.2
SIGR	SIGRI	1.15	176	P	Pb	20 07 14.1	-0.2
SIGR				S	Sb	20 07 29.6	+0.6
	comp=N,348nm,0.5s						
SIGR	SIGRI	1.15	176	P	Pb	20 07 13.7	-0.6
SIGR				S	Sb	20 07 29.8	+0.8
SIGR				AML	AML	20 07 30.6	
	comp=E,732μm,0.7s						
SIGR				AML	AML	20 07 33.6	
	comp=N,668μm,0.4s						
SIGR	SIGRI	1.15	176	PN	Pb	20 07 14.1	-0.2
PRK	Paraskevi	1.19	160	P	Pb	20 07 14.6	0.0
PRK				S	Sg	20 07 31.5	+0.2
	comp=N,430nm,0.3s						
PRK	Paraskevi	1.19	160	P	Pb	20 07 15.4	+0.5
PRK				S	Sg	20 07 31.3	+0.1
PRK				AML	AML	20 07 32.2	
	comp=N,933μm,0.4s						
PRK				AML	AML	20 07 32.4	
	comp=E,772μm,0.3s						
KVLA	Kavala	1.19	299	P	Pn	20 07 15.4	+0.7
MAR6	Marsite Statio	1.20	73	PN	Pn	20 07 15.6	+0.7
MAR3	Marsite Statio	1.24	72	PN	Pn	20 07 16.0	+0.6
MAR2	Marsite Statio	1.24	73	PN	Pn	20 07 16.2	+0.8
MAR4	Marsite Statio	1.25	70	PN	Pn	20 07 16.4	+0.7
AYVA	Ayvalik	1.28	145	*i* P	Pn	20 07 16.2	+0.3
AYVA				*i* S	Sb	20 07 32.1	-0.5
AYVA				IAML		20 07 35.0	
	comp=E,170nm,0.3s						
AYVA				IAML		20 07 35.0	
	comp=N,317nm,0.6s						
KDZ	Kurdzhali	1.31	349	PN	Pn	20 07 17.2	+0.8
OUR	Ouranopolis	1.35	269	P	Pn	20 07 16.5	-0.4
OUR				S	Sn	20 07 34.9	+0.4
	comp=N,242nm,0.4s						
OUR	Ouranopolis	1.35	269	PN	Pn	20 07 16.8	-0.1
MRMT	Marmara Adasi	1.43	80	PN	Pn	20 07 18.6	+0.5
MAR9	Marsite Statio	1.51	80	PN	Pn	20 07 19.7	+0.6
GONE	Gonen-Balikesi	1.52	101	PN	Pn	20 07 19.8	+0.6
BALY	Balya	1.56	113	*i* P	Pn	20 07 20.7	+0.8
BALY				*i* S	Sn	20 07 40.4	+0.6
DKL	Dikili	1.57	145	PN	Pn	20 07 20.5	+0.6
EDC	Edincik	1.61	90	PN	Pn	20 07 21.3	+0.7
PAIG	Paliouri	1.65	255	P	Pn	20 07 20.4	-0.6
PAIG				S	Sn	20 07 42.0	+0.3
PAIG	Paliouri	1.65	255	P	Pn	20 07 20.7	-0.3
EDRB	Edirne	1.66	27	PN	Pn	20 07 22.2	+1.0
CRLT	Corlu	1.69	62	PN	Pn	20 07 22.9	+1.3
ZEDA	zmir-Bergama	1.73	143	*i* P	Pn	20 07 23.1	+1.0
ZEDA				*i* S	Sn	20 07 43.9	+0.1
ZEDA				IAML		20 07 49.0	
	comp=E,63nm,0.4s						
ZEDA				IAML		20 07 49.0	
	comp=N,110nm,0.3s						
NVR	Nevrokopi	1.74	305	P	Pn	20 07 22.5	+0.2
NVR	Nevrokopi	1.74	305	P	Pn	20 07 22.7	+0.3
PLG	Polygyros	1.76	271	P	Pn	20 07 22.1	-0.5
PLG				S	Sn	20 07 46.1	+1.4
	comp=N,105nm,0.5s						
PLG	Polygyros	1.76	271	P	Pn	20 07 22.6	0.0
BALB	Balikesir	1.79	113	PN	Pn	20 07 23.6	+0.7
SRS	Serrai	1.81	295	P	Pn	20 07 23.1	-0.1
SRS				S	Sn	20 07 47.1	+1.4
	comp=N,42nm,0.5s						
SRS	Serrai	1.81	295	P	Pn	20 07 23.0	-0.2
STEP	BALIKESIR_Sava	1.81	122	*i* P	Pn	20 07 24.5	+1.2
STEP				*i* S	Sn	20 07 46.0	+0.2
CHOS	Chios island	1.99	173	P	Pn	20 07 26.0	+0.2
CHOS				S	Sn	20 07 51.5	+1.2
	comp=N,85nm,0.5s						
CHOS	Chios island	1.99	173	P	Pn	20 07 25.6	-0.2
CHOS	Chios island	1.99	173	PN	Pn	20 07 26.4	+0.6
SLVT	Silivri	2.06	64	PN	Pn	20 07 27.7	+1.0
URLA	Izmir	2.10	162	PN	Pn	20 07 28.1	+0.7
URLA	Izmir	2.10	162	*i* P	Pn	20 07 28.1	+0.7
URLA				*i* S	Sn	20 07 52.2	-0.9
KYMI	Kymi, Euboea I	2.15	217	P	Pn	20 07 27.4	-0.5
ELBA	Catalca	2.18	68	*i* P	Pn	20 07 28.9	+0.6
XOR	Xorichti	2.21	244	P	Pn	20 07 27.7	-1.0
XOR				S	Sn	20 07 56.3	+0.7
BLCB	Balcova	2.21	153	PN	Pn	20 07 29.7	+0.9
DURS	Dursunbey	2.23	109	*i* P	Pn	20 07 29.4	+0.3
DURS				*i* S	Sn	20 07 55.4	-0.8
DURS				IAML		20 08 04.0	
	comp=E,46nm,0.4s						
DURS				IAML		20 08 04.0	
	comp=N,40nm,0.3s						
KNT	Kendrikon	2.31	291	P	Pn	20 07 30.5	+0.4
KNT				S	Sn	20 07 59.1	+1.0
	comp=N,30nm,0.4s						
DGB	zmir	2.47	159	*i* P	Pn	20 07 31.9	-0.4
IGD	Bursa	2.64	91	*i* P	Pb	20 07 40.5	+0.8
IGD				*i* S	Sb	20 08 11.2	-0.7
MANT	Manisa	2.87	130	*i* P	Pb	20 07 46.1	+2.4
RAZG	Razgrad	3.25	10	⇑S	Sn	20 08 22.3	+0.9
VLAD	Vladila	3.77	345	⇓S	Sb	20 08 42.3	-1.9
BLKB	Belogradchik	3.98	326	⇓S	Sg	20 08 56.8	-3.9
VOIR		5.10	354	⇑P	Pn	20 08 06.3	-2.2
MLR	Muntele Rosu	5.13	2	⇑P	Pn	20 08 05.2	-3.7
MDVR	Moldovita	5.33	327	⇓P	Pn	20 08 12.3	+0.7
BZS	Buzias	6.06	331	⇑P	Pn	20 08 22.3	+0.6

*ECX **15** 20:08:02.6±1.0, 30°.51N×114°.26W, h2km±8km, MD3.6, ML3.8*
*MEX **15** 20:08:05.8±0.4, 30°.51N×114°.33W, h10km±9km, MD4.1*
ISC 15 20:08:01.1±2.6, 30°.6N±0°.1×114°.20W±0°.08, h14km±12km, n12, σ0°68/17, 1C-3D, Gulf of California

| Code

Error ellipse: s-maj=2.2km s-min=1.8km az=173.0
ISC 15 20:08:03.0±0.9, 35°85N±0'03×97°43W±0'03, h8km±6km, n224, σ1§22/241, mb4.0/3, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.06**	**198**		**Pg**	**20 08 04.5**	**-0.4**
BCOK	**Bluff Creek, N**	**0.24**	**216**		**Pg**	**20 08 07.8**	**0.0**
BCOK				Sg	**Sg**	**20 08 11.4**	**+0.2**
OK009	**Oakdale Elemen**	**0.27**	**178**		**Pg**	**20 08 08.2**	**-0.2**
OK009				Sg	**Sg**	**20 08 12.4**	**+0.4**
OK005	**Luther M Schoo**	**0.28**	**135**	Pg	**Pg**	**20 08 08.3**	**-0.2**
OK025	**Westminster Rd**	**0.28**	**164**		**Pg**	**20 08 08.6**	**-0.1**
OK001	**Jones High Sch**	**0.31**	**158**	Pg	**Pg**	**20 08 09.1**	**-0.1**
OK001				Sg	**Sg**	**20 08 13.6**	**+0.2**
OKCFA	**Oklahoma City**	**0.44**	**182**		**Pg**	**20 08 11.4**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.45**	**181**		**Pg**	**20 08 11.5**	**-0.2**
FNO	**Franklin**	**0.59**	**178**	Pg	**Pg**	**20 08 14.7**	**+0.2**
QUOK	**Quay**	**0.67**	**61**	Pg	**Pg**	**20 08 16.5**	**+0.6**
OK011	**Prague**	**0.71**	**121**		**Pg**	**20 08 16.9**	**+0.2**
CROK	**Carrier**	**0.79**	**326**		**Pb**	**20 08 19.0**	**0.0**
W35A	**Tecumseh**	**0.83**	**147**		**Pg**	**20 08 18.3**	**-0.8**
KAN13	**South Haven SW**	**1.16**	**358**		**Pb**	**20 08 25.8**	**+0.5**
X34A	**Smith Ranch, M**	**1.29**	**195**	Pn	**Pg**	**20 08 27.3**	**-0.5**
T35A	**Sooner Cattle**	**1.29**	**35**		**Pg**	**20 08 27.8**	**-0.1**
TUL1	**Leonard**	**1.33**	**87**	P	**Pn**	**20 08 27.4**	**-0.5**
TUL1	baz=266,SNR=252			S	**Sg**	**20 08 45.5**	**-0.4**
TUL1	**Leonard**	**1.33**	**87**		**Pn**	**20 08 26.8**	**-1.1**
U32A	**Winter Ranch,**	**1.38**	**293**	Pn	**Pn**	**20 08 28.9**	**+0.4**
KAN10	**Anthony SW Sta**	**1.38**	**337**	Pn	**Pb**	**20 08 29.4**	**+0.3**
KAN12	**Harper NE Stat**	**1.51**	**343**		**Pb**	**20 08 31.7**	**+0.4**
WMOK	**Wichita Mounta**	**1.57**	**225**	P	**Pn**	**20 08 31.3**	**+0.2**
WMOK	baz=45,SNR=1000			S	**Sn**	**20 08 51.8**	**+0.2**
WMOK	**Wichita Mounta**	**1.57**	**225**	Pn	**Pn**	**20 08 31.6**	**+0.4**
X37A	**Clayton**	**2.11**	**126**		**Pn**	**20 08 39.3**	**+0.7**
Z35A	**Perchaven, San**	**2.52**	**177**		**Pn**	**20 08 45.3**	**+1.0**
U38A	**Gravette**	**2.53**	**76**		**Pn**	**20 08 46.1**	**+1.6**
R32A	**Long Quarter,**	**2.76**	**339**		**Pn**	**20 08 49.6**	**+2.0**
HHAR	**Hobbs**	**2.86**	**80**		**Pn**	**20 08 50.5**	**+1.6**
W39A	**Magazine**	**3.05**	**101**	P	**Pn**	**20 08 52.2**	**+0.7**
W39A	baz=283,SNR=67			S	**Sn**	**20 09 29.7**	**+1.6**
W39A	**Magazine**	**3.05**	**101**		**Pn**	**20 08 52.3**	**+0.9**
Z38A	**Mt. Pleasant**	**3.28**	**141**		**Pn**	**20 08 55.1**	**+0.4**
KSU1	**Kansas State U**	**3.31**	**11**	P	**Pn**	**20 08 56.3**	**+1.2**
KSU1	baz=191,SNR=5.8 **Kansas State U**	**3.31**	**11**	Pn	**Pn**	**20 08 56.3**	**+1.2**
MIAR	**Mount Ida**	**3.42**	**111**	P	**Pn**	**20 08 57.6**	**+1.1**
MIAR	baz=293,SNR=53			S	**Sn**	**20 09 38.7**	**+1.5**
MIAR	**Mount Ida**	**3.42**	**111**	Pn	**Pn**	**20 08 57.6**	**+1.1**
CBKS	**Cedar Bluff**	**3.48**	**329**	P	**Pn**	**20 08 59.0**	**+1.5**
CBKS	baz=148,SNR=10 **Cedar Bluff**	**3.48**	**329**	Pn	**Pn**	**20 08 59.5**	**+2.0**
AMTX	**Amarillo**	**3.60**	**256**	P	**Pn**	**20 09 00.1**	**+0.9**
AMTX	baz=74 **Amarillo**	**3.60**	**256**	Pn	**Pn**	**20 09 00.6**	**+1.4**
ABTX	**Abilene, Hawle**	**3.71**	**210**	P	**Pn**	**20 09 00.6**	**+0.1**
ABTX	baz=29,SNR=34 **Abilene, Hawle**	**3.71**	**210**	Pn	**Pn**	**20 09 00.9**	**+0.3**
U40A	**Yellville**	**3.74**	**81**	P	**Pn**	**20 09 01.6**	**+0.5**
U40A	baz=263,SNR=26 **Yellville**	**3.74**	**81**	Pn	**Pn**	**20 09 02.2**	**+1.2**
S39A	**Bolivar**	**3.77**	**60**	Pn	**Pn**	**20 09 02.6**	**+1.1**
WHTX	**Lake Whitney,**	**3.85**	**180**	P	**Pn**	**20 09 03.0**	**+0.5**
WHTX	baz=0.4,SNR=22 **Lake Whitney,**	**3.85**	**180**	Pn	**Pn**	**20 09 03.7**	**+1.1**
X40A	**Basin Creek Fa**	**4.00**	**109**	P	**Pn**	**20 09 05.0**	**+0.3**
X40A	baz=291,SNR=13 **Basin Creek Fa**	**4.00**	**109**		**Pn**	**20 09 05.8**	**+1.1**
237A	**Washetta, Mont**	**4.07**	**160**	Pn	**Pn**	**20 09 05.7**	**+0.1**
WLAR	**White Oak Lake**	**4.16**	**120**	Pn	**Pn**	**20 09 07.3**	**+0.5**
WHAR	**Wooly Hollow**	**4.23**	**96**		**Pn**	**20 09 08.6**	**+0.9**
W41B	**Gary Mavity, V**	**4.28**	**98**	P	**Pn**	**20 09 09.1**	**+0.6**
W41B	baz=280,SNR=33			S	**Sn**	**20 09 59.7**	**+1.1**
W41B	**Gary Mavity, V**	**4.28**	**98**		**Pn**	**20 09 09.4**	**+0.9**
UALR	**University of**	**4.30**	**103**	Pn	**Pn**	**20 09 09.6**	**+0.9**
FCAR	**Ozark Folk Cen**	**4.31**	**88**		**Pn**	**20 09 10.3**	**+1.5**
MGMO	**Mountain Grove**	**4.36**	**71**	Pn	**Pn**	**20 09 11.5**	**+2.0**
Z41A	**Richland Creek**	**4.61**	**123**	P	**Pn**	**20 09 13.6**	**+0.6**
NATX	baz=305 **Nacogdoches**	**4.69**	**150**	Pn	**Pn**	**20 09 14.8**	**+0.7**
MSTX	**Muleshoe**	**4.77**	**248**	P	**Pn**	**20 09 15.6**	**+0.3**
MSTX	baz=66,SNR=17 **Muleshoe**	**4.77**	**248**	Pn	**Pn**	**20 09 15.9**	**+0.6**
R40A	**Maddies Statio**	**4.79**	**58**		**Pn**	**20 09 16.2**	**+0.7**
P38A	**Dawn**	**4.87**	**38**		**Pn**	**20 09 18.2**	**+1.7**
CCAR	**Cane Creek**	**5.04**	**111**	Pn	**Pn**	**20 09 19.7**	**+0.8**
435B	**Jarrell**	**5.06**	**181**	P	**Pn**	**20 09 19.7**	**+0.6**
435B	baz=1.5,SNR=5.6 **Jarrell**	**5.06**	**181**		**Pn**	**20 09 19.8**	**+0.6**
LCAR	**Lake Charles**	**5.10**	**86**		**Pn**	**20 09 20.6**	**+1.0**
N35A	**Tabor**	**5.19**	**15**	Pn	**Pn**	**20 09 22.0**	**+1.0**
KSCO	**Kaye Shedlock'**	**5.20**	**309**	P	**Pn**	**20 09 21.9**	**+0.8**
KSCO	baz=126			S	**Sn**	**20 10 21.5**	**+0.1**
KSCO	**Kaye Shedlock'**	**5.20**	**309**		**Pn**	**20 09 23.2**	**+2.1**
T42A	**Van Buren**	**5.24**	**75**		**Pn**	**20 09 23.7**	**+2.1**
CCM	**Cathedral Cave**	**5.42**	**64**	P	**Pn**	**20 09 25.1**	**+1.0**
CCM	baz=248 **Cathedral Cave**	**5.42**	**64**	Pn	**Pn**	**20 09 26.3**	**+2.2**
HBAR	**Harrisburg**	**5.52**	**91**	Pn	**Pn**	**20 09 27.3**	**+1.9**
BGNE	**Belgrade**	**5.58**	**354**	P	**Pn**	**20 09 26.3**	**+0.1**
BGNE	baz=174			S	**Sn**	**20 10 28.7**	**-1.8**
BGNE	**Belgrade**	**5.58**	**354**	Pn	**Pn**	**20 09 27.6**	**+1.3**
P40A	**Paris**	**5.63**	**48**		**Pn**	**20 09 28.5**	**+1.6**
JCT	**Junction City**	**5.71**	**201**	P	**Pn**	**20 09 28.3**	**+0.1**
JCT	baz=20			S	**Sn**	**20 10 32.9**	**-1.1**
JCT	**Junction City**	**5.71**	**201**	Pn	**Pn**	**20 09 29.0**	**+0.8**
T25A	**Trinidad**	**5.77**	**285**	P	**Pn**	**20 09 29.8**	**+0.7**
T25A	baz=101,SNR=30			S	**Sn**	**20 10 35.7**	**+0.2**
T25A	**Trinidad**	**5.77**	**285**	Pn	**Pn**	**20 09 29.9**	**+0.9**
N38A	**Joes South For**	**5.93**	**33**		**Pn**	**20 09 32.2**	**+1.1**
CPRX	**Cap Rock**	**6.01**	**244**		**Pn**	**20 09 33.2**	**+0.8**
SLM	**Saint Louis**	**6.38**	**62**	Pn	**Pn**	**20 09 38.1**	**+0.9**
CLNB	**Carlsbad**	**6.44**	**238**	Pn	**Pn**	**20 09 39.1**	**+0.9**
OXF	**Oxford**	**6.71**	**99**	P	**Pn**	**20 09 41.9**	**+0.2**
OXF	baz=284,SNR=6.5			S	**Sn**	**20 10 57.2**	**-1.1**
OXF	**Oxford**	**6.71**	**99**		**Pn**	**20 09 42.9**	**+1.1**
SDCO	**Great Sand Dun**	**6.74**	**289**	P	**Pn**	**20 09 43.5**	**+0.9**
SDCO	baz=104,SNR=122 **Great Sand Dun**	**6.74**	**289**	Pn	**Pn**	**20 09 44.2**	**+1.7**
W45A	**Hickory Valley**	**6.76**	**93**	Pn	**Pn**	**20 09 43.7**	**+1.2**
GDL2	**Guadalupe Moun**	**6.81**	**240**	Pn	**Pn**	**20 09 44.1**	**+0.8**
S44A	**Carbondale**	**6.81**	**72**	Pn	**Pn**	**20 09 44.8**	**+1.5**
SCIA	**State Center**	**6.88**	**27**	Pn	**Pn**	**20 09 44.8**	**+0.6**
Q24A	**Divide**	**6.88**	**299**	P	**Pn**	**20 09 44.9**	**+0.5**
Q24A	baz=115,SNR=7.9 **Divide**	**6.88**	**299**		**Pn**	**20 09 45.3**	**+0.8**
N41A	**Harden Midland**	**7.09**	**45**	Pn	**Pn**	**20 09 48.1**	**+1.1**
Q44A	**Meyer Farm, Va**	**7.36**	**63**		**Pn**	**20 09 51.8**	**+1.1**
ANMO	**Albuquerque**	**7.43**	**266**	P	**Pn**	**20 09 52.2**	**+0.3**
ISCO	baz=81 **Idaho Springs**	**7.58**	**304**	P	**Pn**	**20 09 54.8**	**+0.8**
ISCO	baz=119,SNR=17			S	**Sn**	**20 11 19.2**	**-1.0**
ISCO	**Idaho Springs**	**7.58**	**304**	Pn	**Pn**	**20 09 55.0**	**+0.9**
K38A	**Parkersburg**	**7.69**	**27**		**Pn**	**20 09 56.1**	**+0.9**
833A	**Chaparral WMA,**	**7.69**	**193**	P	**Pn**	**20 09 56.0**	**+0.8**
PLAL	baz=12 **Pickwick Lake**	**7.69**	**94**	Pn	**Pn**	**20 09 55.8**	**+0.6**
S22A	**4UR Ranch, Cre**	**7.77**	**287**	Pn	**Pn**	**20 09 58.0**	**+1.4**
WVT	**Waverly**	**7.79**	**85**	P	**Pn**	**20 09 57.0**	**+0.4**
WVT	baz=270 **Waverly**	**7.79**	**85**	Pn	**Pn**	**20 09 56.6**	**0.0**
MNTX	**Cornudas Mount**	**7.81**	**240**	P	**Pn**	**20 09 56.9**	**0.0**
L40A	baz=56,SNR=31 **Anamosa**	**7.86**	**36**	Pn	**Pn**	**20 09 56.8**	**-0.8**
ECSD	**EROS Data Cent**	**7.90**	**4**	P	**Pn**	**20 09 57.6**	**-0.5**
ECSD	baz=185,SNR=11			S	**Sn**	**20 11 24.4**	**-3.2**
ECSD	**EROS Data Cent**	**7.90**	**4**	Pn	**Pn**	**20 09 57.5**	**-0.5**
HDIL	**Hopedale**	**7.94**	**51**	P	**Pn**	**20 09 58.7**	**0.0**
HDIL	baz=236,SNR=25			S	**Sn**	**20 11 26.1**	**-2.6**
HDIL	**Hopedale**	**7.94**	**51**		**Pn**	**20 09 58.5**	**-0.1**
O44A	**Mansfield**	**8.28**	**56**	Pn	**Pn**	**20 10 03.8**	**+0.5**
PHWY	**Pilot Hill**	**8.31**	**313**		**Pn**	**20 10 04.5**	**+0.4**
TX31	**Lajitas Ar. Si**	**8.36**	**221**	Pn	**Pn**	**20 10 03.1**	**-1.5**
TX32	**Lajitas Array**	**8.36**	**221**	Pn	**Pn**	**20 10 03.1**	**-1.5**
TXAR	**Lajitas Array**	**8.36**	**221**	Pn	**Pn**	**20 10 02.6**	**-2.0**
TXAR	1.0nm,0.3s,baz=41,slow=11,SNR=45			Pg	**Pb**	**20 10 32.1**	**+4.0**
TXAR	4.1nm,0.3s,baz=42,slow=15,SNR=16			Lg	Lg	20 12 23.2	
TXAR	**Lajitas Array**	**8.36**	**221**	Pn	**Pn**	**20 10 03.1**	**-1.5**
N23A	**Red Feather La**	**8.37**	**310**	P	**Pn**	**20 10 06.0**	**+1.2**
N23A	baz=124,SNR=40 **Red Feather La**	**8.37**	**310**	Pn	**Pn**	**20 10 06.0**	**+1.2**
T47A	**Sharon Grove**	**8.40**	**79**		**Pn**	**20 10 06.4**	**+1.4**
L42A	**Oliver, Polo**	**8.62**	**42**		**Pn**	**20 10 08.6**	**+0.7**
I37A	**Lemond, Waseca**	**8.72**	**20**	Pn	**Pn**	**20 10 08.1**	**-1.3**
P46A	**Rosedale**	**8.93**	**62**		**Pn**	**20 10 13.2**	**+1.0**
JFWS	**Jewell Farm**	**8.98**	**36**	P	**Pn**	**20 10 13.2**	**+0.3**
JFWS	baz=220,SNR=11 **Jewell Farm**	**8.98**	**36**		**Pn**	**20 10 13.9**	**+1.0**
CLTN	**Cedars of Leba**	**9.00**	**85**	Pn	**Pn**	**20 10 14.5**	**+1.3**
M44A	**Midewin, Midew**	**9.19**	**50**		**Pn**	**20 10 17.2**	**+1.4**
SFIN	**Lafayette**	**9.31**	**58**	P	**Pn**	**20 10 18.3**	**+0.8**
SFIN	baz=244 **Lafayette**	**9.31**	**58**		**Pn**	**20 10 19.0**	**+1.6**
PV13	**Radium Mtn., P**	**9.39**	**288**	Pn	**Pn**	**20 10 19.9**	**+1.1**
PV03	**Paradox Valley**	**9.44**	**288**	Pn	**Pn**	**20 10 20.0**	**+0.6**
PV22	**Blue Mesa, Par**	**9.45**	**290**	Pn	**Pn**	**20 10 19.9**	**+0.3**
PV11	**David Mesa, Pa**	**9.46**	**288**	Pn	**Pn**	**20 10 20.8**	**+1.0**
PV18	**Skein Mesa, Pa**	**9.48**	**288**	Pn	**Pn**	**20 10 20.4**	**+0.4**
PV16	**Nyswonger Mesa**	**9.50**	**288**	Pn	**Pn**	**20 10 21.1**	**+0.8**
PV20	**West Nyswonger**	**9.54**	**288**	Pn	**Pn**	**20 10 21.2**	**+0.3**
I40A	**Norwalk**	**9.58**	**31**		**Pn**	**20 10 20.9**	**-0.3**
RWWY	**Rawlins**	**9.60**	**310**	Pn	**Pn**	**20 10 23.1**	**+1.4**
RSSD	**Black Hills**	**9.69**	**331**	Pn	**Pn**	**20 10 24.4**	**+1.6**
L44A	**Lake County Fo**	**9.73**	**47**	Pn	**Pn**	**20 10 24.0**	**+0.7**
K22A	**Casper**	**9.78**	**317**	P	**Pn**	**20 10 24.5**	**+0.4**
K22A	baz=131,SNR=11 **Casper**	**9.78**	**317**		**Pn**	**20 10 25.1**	**+1.0**
K43A	**Burlington**	**9.82**	**43**	Pn	**Pn**	**20 10 25.0**	**+0.5**
SPMN	**Marine on St.**	**10.00**	**19**		**Pn**	**20 10 26.5**	**-0.4**
F33A	**5 Mile Ranch,**	**10.01**	**5**		**Pn**	**20 10 25.7**	**-1.4**
P48A	**Milroy**	**10.18**	**66**		**Pn**	**20 10 30.1**	**+0.7**
T50A	**Nancy**	**10.21**	**80**	Pn	**Pn**	**20 10 31.0**	**+1.1**
I42A	**Draeger Farm,**	**10.35**	**37**	Pn	**Pn**	**20 10 31.0**	**-0.8**
F36A	**Milaca**	**10.43**	**15**	Pn	**Pn**	**20 10 31.0**	**-1.8**
R50A	**Paris**	**10.75**	**73**	Pn	**Pn**	**20 10 37.5**	**+0.3**
G40A	**Rib Lake**	**10.89**	**28**		**Pn**	**20 10 38.2**	**-0.9**
TKL	**Tuckaleechee C**	**11.10**	**87**	Pn	**Pn**	**20 10 42.9**	**+0.9**
TKL	0.6nm,0.3s,baz=280,slow=11,SNR=3.2			Sn	**Sn**	**20 12 48.3**	**+2.0**
TKL	0.6nm,0.3s,baz=341,slow=18,SNR=1.4			Lg	Lg	20 13 47.3	
P17A	**Butcher Ranch,**	**11.15**	**293**	Pn	**Pn**	**20 10 43.3**	**+0.5**
O49A	**Covington**	**11.20**	**63**	Pn	**Pn**	**20 10 43.0**	**-0.3**
V52A	**Sevierville**	**11.23**	**86**	Pn	**Pn**	**20 10 44.5**	**+0.6**
S51A	**Beattyville**	**11.25**	**77**		**Pn**	**20 10 45.2**	**+1.2**
H43A	**Windswept, Lux**	**11.34**	**38**	Pn	**Pn**	**20 10 44.2**	**-1.0**
Q16A	**Castle Valley**	**11.35**	**290**	Pn	**Pn**	**20 10 43.7**	**-1.9**
N49A	**Columbus Grove**	**11.56**	**60**		**Pn**	**20 10 47.7**	**-0.6**
BW06	**Boulder Array**	**11.65**	**310**		**Pn**	**20 10 49.9**	**+0.2**
PD31	**Pinedale Array**	**11.65**	**310**		**Pn**	**20 10 50.4**	**+0.7**
PDAR	**Pinedale Array**	**11.65**	**310**	Pn	**Pn**	**20 10 48.3**	**-1.4**
PDAR	0.5nm,0.3s,baz=112,slow=16,SNR=13			Pg		20 11 42.9	
PDAR	2.1nm,0.3s,baz=117,slow=15,SNR=8.3			Lg	Lg	20 14 06.6	
PDAR	1.2nm,0.3s,baz=120,slow=30,SNR=3.2			LR	LR	20 16 18.4	
PDAR	comp=Z,48nm,21.7s,baz=23,slow=43 **Pinedale Array**	**11.65**	**310**	Pn	**Pn**	**20 10 50.1**	**+0.4**
L48A	**N Adams**	**11.81**	**55**		**Pn**	**20 10 52.0**	**+0.3**
P51A	**Williamsport**	**11.95**	**68**	P	**Pn**	**20 10 53.5**	**-0.2**
P51A	baz=257 **Williamsport**	**11.95**	**68**		**Pn**	**20 10 53.6**	**0.0**
COWI	**Conover**	**11.99**	**29**		**Pn**	**20 10 53.6**	**-0.6**
T53A	**Wise**	**12.06**	**80**	P	**Pn**	**20 10 55.4**	**+0.2**
ACSO	baz=269 **Alum Creek Sta**	**12.20**	**65**		**Pn**	**20 10 56.6**	**-0.4**
J47A	**Sunmer**	**12.20**	**49**		**Pn**	**20 10 56.4**	**-0.6**
Q52A	**Bidwell**	**12.45**	**71**	P	**Pn**	**20 11 00.5**	**+0.1**
U54A	baz=260 **Nelsons Funny**	**12.63**	**82**	P	**Pn**	**20 11 04.7**	**+1.6**
P52A	baz=271 **Corning**	**12.68**	**68**	P	**Pn**	**20 11 03.6**	**-0.1**
P52A	baz=257 **Corning**	**12.68**	**68**	Pn	**Pn**	**20 11 04.0**	**+0.3**
LOHW	**Long Hollow**	**12.75**	**311**		**Pn**	**20 11 05.2**	**+0.5**
B35A	**Bob, Littlefor**	**12.79**	**11**	Pn	**Pn**	**20 11 02.2**	**-2.9**
N51A	**Ashland**	**12.85**	**62**	P	**Pn**	**20 11 05.5**	**-0.4**
N51A	baz=251 **Ashland**	**12.85**	**62**	Pn	**Pn**	**20 11 03.0**	**-2.8**
EYMN	**Ely**	**12.86**	**18**	P	**Pn**	**20 11 03.2**	**-2.9**
EYMN	baz=202 **Ely**	**12.86**	**18**		**Pn**	**20 11 03.3**	**-2.7**
TPAW	**Teton Pass**	**12.90**	**310**		**Pn**	**20 11 05.9**	**-1.0**
RLMT	**Red Lodge**	**12.90**	**319**	P	**Pn**	**20 11 05.7**	**-1.2**
RLMT	baz=132 **Red Lodge**	**12.90**	**319**	Pn	**Pn**	**20 11 03.9**	**-2.9**
Q53A	**Leroy**	**13.01**	**72**	Pn	**Pn**	**20 11 07.9**	**-0.2**
D41A	baz=261,SNR=5.6 **Chassel**	**13.01**	**28**	Pn	**Pn**	**20 11 05.6**	**-2.5**
S54A	**Dingess, Beckl**	**13.06**	**77**		**Pn**	**20 11 08.6**	**-0.3**
E43A	**Lone Tree Farm**	**13.12**	**34**	Pn	**Pn**	**20 11 07.3**	**-2.2**
V55A	**Taylorsville**	**13.16**	**85**	Pn	**Pn**	**20 11 10.6**	**+0.4**
P53A	**Whipple**	**13.22**	**69**	P	**Pn**	**20 11 09.5**	**-1.4**
P53A	baz=259 **Whipple**	**13.22**	**69**		**Pn**	**20 11 10.6**	**-0.3**
YNM	**Yellowstone No**	**13.45**	**315**		**Pn**	**20 11 12.4**	**-1.8**
O53A	**New Philadelph**	**13.51**	**66**	P	**Pn**	**20 11 14.3**	**-0.7**
O53A	baz=256 **New Philadelph**	**13.51**	**66**		**Pn**	**20 11 14.8**	**-0.2**
Q54A	**Coxs Mills**	**13.56**	**72**	P	**Pn**	**20 11 15.6**	**0.0**
Q54A	baz=262 **Coxs Mills**	**13.56**	**72**	Pn	**Pn**	**20 11 14.8**	**-0.8**
P54A	**Burton**	**13.93**	**69**	P	**Pn**	**20 11 20.8**	**+0.1**
N53A	baz=260 **Lisbon**	**13.93**	**64**	Pn	**Pn**	**20 11 19.2**	**-1.4**
R55A	**Marlinton**	**14.04**	**75**	P	**Pn**	**20 11 21.4**	**-0.8**
O54A	baz=265 **Avella**	**14.12**	**67**	P	**P**	**20 11 32.5**	**+1.5**
ULM	**Lac du Bonnet**	**14.43**	**4**	Pn	**Pn**	**20 11 23.4**	**-4.1**
ULM	0.6nm,0.3s,baz=188,slow=12,SNR=1.8			Sn	Sn	20 13 55.6	-12
ULM	1.2nm,0.3s,baz=49,slow=14,SNR=2.5			Lg	Lg	20 15 30.5	
ULM	1.2nm,0.3s,baz=288,slow=22,SNR=3.9			LR	LR	20 17 05.4	
T57A	comp=Z,154nm,18.9s,baz=316,slow=38 **Hurt**	**14.68**	**80**	Pn	**Pn**	**20 11 30.7**	**-0.2**
S57A	**Dark Hollow, R**	**14.93**	**77**	Pn	**Pn**	**20 11 33.4**	**-0.9**
M55A	**Ridgway**	**15.61**	**63**	Pn	**Pn**	**20 11 41.5**	**-1.9**
SADO	**Sadowa**	**16.52**	**52**	Pn	**Pn**	**20 11 52.2**	**-2.8**
SADO	0.6nm,0.3s,baz=243,slow=6.8,SNR=2.4			Lg	Lg	20 16 37.1	
NVAR	1.3nm,0.3s,baz=165,slow=22,SNR=9.5 **Mina Array Bea**	**16.84**	**285**	Pn	**Pn**	**20 11 58.7**	**-0.6**
M58A	0.1nm,0.3s,baz=94,slow=10,SNR=3.1 **Price's Panora**	**17.28**	**65**	P	**Pn**	**20 12 04.3**	**-0.3**
F10A	baz=258,SNR=5.4 **Beach Ranch, E**	**18.01**	**310**	P	**P**	**20 12 14.8**	**+0.6**
J57A	**Williamstown**	**18.12**	**59**	Pn	**Pn**	**20 12 14.6**	**-0.4**
K58A	**Earlville**	**18.19**	**61**	Pn	**Pn**	**20 12 14.5**	**-1.4**
L59A	**Walton**	**18.49**	**63**	P	**Pn**	**20 12 22.2**	**+2.7**
D53A	**Lac Vacive, Po**	**18.50**	**47**	P	**P**	**20 12 18.7**	**-0.9**
J58A	**Remsen**	**18.61**	**60**	P	**P**	**20 12 19.6**	**-1.1**
VLDQ	**Val d'Or**	**19.18**	**44**	P	**P**	**20 12 26.1**	**-0.9**
K05A	**Summer Lake**	**19.38**	**298**		**Pn**	**20 12 32.2**	**+1.7**
NCB	**Newcomb**	**19.52**	**58**	P	**P**	**20 12 31.3**	**+0.6**
YBH	**Yreka Blue Hor**	**20.52**	**294**	P	**P**	**20 12 41.3**	**-0.4**
YBH	1.5nm,0.7s,baz=69,slow=5.7,SNR=13 **Yreka Blue Hor**	**20.52**	**294**	P	**P**	**20 12 42.4**	**+0.7**
MTO3	**Montecristo**	**22.56**	**159**	P	**P**	**20 12 59.6**	**-4.3**
SCHQ	**Schefferville**	**28.34**	**38**	P	**P**	**20 13 58.6**	**+1.5**
SCHQ	1.6nm,0.5s,baz=244,slow=11,SNR=4.6 **Schefferville**	**28.34**	**38**	P	**P**	**20 13 58.4**	**+1.2**
YKA	**Yellowknife Ar**	**28.74**	**343**	LR	LR	20 24 37.1	
ILAR	comp=Z,41nm,18.7s,baz=0.0,slow=35 **Eielson Array**	**41.13**	**330**	P	**P**	**20 15 48.1**	**+0.9**
FINES	0.6nm,0.7s,baz=113,slow=6.4,SNR=8.3 **FINESS Array B**	**72.79**	**25**	P	**P**	**20 19 33.8**	**+2.2**
FINES	0.8nm,0.6s,baz=329,slow=5.2,SNR=5.9 **FINESS Array B**	**72.79**	**25**	P	**P**	**20 19 33.1**	**+1.5**

TUL 15 20:14:12.5±1.5, 35°82N±0'02×97°43W±0'03, h5km±7km, ML3.2, Error ellipse: s-maj=3.6km s-min=2.3km az=81.0
NEIC 15 20:14:12.7±1.3, 35°85N±0'02×97°43W±0'04, h4km±5km, Error ellipse: s-maj=5.3km s-min=2.2km az=78.0
ANF 15 20:14:12.3±0.5, 35°77N×97°41W, h0km, ML3.6/7, Error ellipse: s-maj=6.7km s-min=3.9km az=175.0
UNK 15 20:14:12.5, 35°82N×97°43W, h5km
ISC 15 20:14:12.8±1.0, 35°84N±0'03×97°44W±0'03, h4km±9km, n42, σ0§85/49, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.05**	**198**		**Pg**	**20 14 13.8**	**-0.2**
BCOK	**Bluff Creek, N**	**0.23**	**217**		**Pg**	**20 14 17.2**	**-0.1**
BCOK				Sg	**Sg**	**20 14 20.6**	**+0.2**
OK009	**Oakdale Elemen**	**0.26**	**178**		**Pg**	**20 14 17.4**	**-0.4**
OK005	**Luther M Schoo**	**0.27**	**133**	Pg	**Pg**	**20 14 17.9**	**-0.2**
OK005				Sg	**Sg**	**20 14 21.9**	**+0.2**
OK025	**Westminster Rd**	**0.27**	**163**		**Pg**	**20 14 17.7**	**-0.4**
OK025				Sg	**Sg**	**20 14 21.8**	**+0.2**
OK001	**Jones High Sch**	**0.31**	**157**	Pg	**Pg**	**20 14 17.7**	**-1.0**
OKCFA	**Oklahoma City**	**0.43**	**182**		**Pg**	**20 14 20.6**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**0.44**	**180**		**Pg**	**20 14 20.7**	**-0.5**
FNO	**Franklin**	**0.59**	**177**		**Pg**	**20 14 24.0**	**-0.1**
QUOK	**Quay**	**0.68**	**61**	Pg	**Pg**	**20 14 25.5**	**-0.3**
CROK	**Carrier**	**0.80**	**326**		**Pg**	**20 14 28.1**	**+0.1**
W35A	**Tecumseh**	**0.83**	**146**		**Pg**	**20 14 27.5**	**-1.2**
KAN13	**South Haven SW**	**1.17**	**358**	Pg	**Pg**	**20 14 34.9**	**-0.3**
T35A	**Sooner Cattle**	**1.30**	**35**	Pn	**Pn**	**20 14 36.7**	**-1.2**
TUL1	**Leonard**	**1.34**	**87**	P	**Pn**	**20 14 36.6**	**-1.7**
TUL1	baz=267			S	**Sg**	**20 14 54.8**	**-0.9**
TUL1	**Leonard**	**1.34**	**87**	Pn	**Pn**	**20 14 36.8**	**-1.5**
U32A	**Winter Ranch,**	**1.38**	**293**	Pn	**Pn**	**20 14 38.0**	**-0.9**
KAN10	**Anthony SW Sta**	**1.38**	**338**	Pn	**Pn**	**20 14 38.4**	**-0.6**
KAN12	**Harper NE Stat**	**1.52**	**343**	Pn	**Pn**	**20 14 40.7**	**-0.1**
WMOK	**Wichita Mounta**	**1.56**	**225**	P	**Pn**	**20 14 40.8**	**-0.6**
WMOK	baz=45			S	**Sn**	**20 15 01.0**	**-1.0**
WMOK	**Wichita Mounta**	**1.56**	**225**	Pn	**Pn**	**20 14 40.7**	**-0.6**
X37A	**Clayton**	**2.10**	**126**	Pn	**Pn**	**20 14 48.9**	**+0.1**
Z35A	**Perchaven, San**	**2.51**	**176**	Pn	**Pn**	**20 14 54.5**	**+0.1**
U38A	**Gravette**	**2.54**	**76**	Pn	**Pn**	**20 14 56.1**	**+1.2**
R32A	**Long Quarter,**	**2.77**	**339**	Pn	**Pn**	**20 14 58.1**	**+0.1**
HHAR	**Hobbs**	**2.87**	**80**	Pn	**Pn**	**20 14 59.7**	**+0.4**
W39A	**Magazine**	**3.05**	**101**	P	**Pn**	**20

FINES	**FINESS Array B**	61.97 333	P		**P**	**20 27 50.3**	**-1.3**
	1.2nm,0.7s,baz=38,slow=9.6,SNR=8.4						
NOA	**NORSAR Array B**	66.40 339	P		**P**	**20 28 19.2**	**-1.0**
	0.2nm,0.4s,baz=30,slow=6.7,SNR=4.5						
PDAR	**Pinedale Array**	66.45 52	P		**P**	**20 28 21.9**	**+0.8**
	1.0nm,0.4s,baz=335,slow=1.3,SNR=7.2						
AKASG	**Malin Array Be**	69.17 324	P		**P**	**20 28 36.5**	**-0.9**
	1.3nm,0.4s,baz=38,slow=6.3,SNR=8.5						
TXAR	**Lajitas Array**	79.46 58	P		**P**	**20 29 38.0**	**+1.3**
	0.6nm,0.5s,baz=282,slow=4.2,SNR=5.4						

*IDC **15** 20:20:41.0±0.5, 1°.98S×139°.06E, h0km, mb4.2/15, mb1 4.4/21, mb1mx4.3/33, mbtmp4.3/21, ML4.4/5, MS4.3/27, Ms1 4.3/27, ms1mx4.2/34, Error ellipse: s-maj=14.8km s-min=10.1km az=36.0*

*GCMT **15** 20:20:44.7±0.2, 1°.77S±0°.01×139°.05E±0°.01, h12km, MW5.0/98, Moment Tension Solution. s39,c49; s98,c155; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.59±.09; Mθθ=0.36±.08; Mφφ=0.22±.09; Mrθ=-1.19±.23; Mφφ=2.91±.06; Mφr=1.53±.23; Best double couple: M0=3.50000×10^16 NP1:φs=86.00000°, δ=66.00000°, λ=-20.00000°. NP2: φs=185.00000°, δ=72.00000°, λ=-154.00000°. Principal axes: T 3.2190, Plg4.0000°, Azm314.0000°; N 0.5620, Plg59.0000°, Azm218.0000°; P -3.7810, Plg31.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **15** 20:20:44.1±0.5, 2°S±3°×13°9E±°, h12km±3km, M4.7/43, mb4.8/43, mB5.2/12, MLv5.0/7, Mw(mB)4.5/12*

*NEIC **15** 20:20:46.7±1.1, 2°.02S±0°.09×139°.08E±0°.07, h37km±6km, mb4.7/38, Error ellipse: s-maj=13.7km s-min=9.6km az=188.0*

ISC 15 20:20:42.9±0.3, **2°.07S**±0°.05×**139°.06E**±0°.04, **h10**km, **n157**, σ1**36**/140, **mb4.7**/43, **MS4.3**/28, **1D**, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.36**	**283**	P	**Pb**	**20 20 51.9**	**+0.5**
GENI	**Genyem**	**1.22**	**115**	P	**Pg**	**20 21 07.1**	**+0.6**
JAY	**Jayapura**	**1.70**	**105**	Pg	**Pn**	**20 21 11.6**	**-1.1**
	53nm,0.3s,baz=286,slow=7.4,SNR=115						
JAY				Lg	Lg	20 21 34.5	
	154nm,0.3s,baz=108,slow=20,SNR=5.2						
JAY	**Jayapura**	**1.70**	**105**	P	**Pn**	**20 21 12.5**	**-0.3**
SRPI	**Serui, Papua**	**2.82**	**274**	P	**Pn**	**20 21 28.8**	**+0.7**
SRPI				S	**Sn**	**20 22 04.1**	**+1.8**
KMPI	**Kaimana, Papua**	**5.58**	**253**	P	**Pn**	**20 22 06.4**	**+0.4**
	2.1nm5μm627nm,0.9s						
FAKI	**Fak Fak**	**6.86**	**263**		**Pn**	**20 22 25.2**	**+1.6**
SIJI	**Sorong**	**7.88**	**279**	Pn	**Pn**	**20 22 36.8**	**-0.9**
	1.5nm,0.3s,baz=97,slow=16,SNR=2.3						
SIJI				Sn	**Sn**	**20 24 09.2**	**+2.2**
	1.6nm,0.3s,baz=166,slow=20,SNR=1.3						
SIJI				LR	LR	20 26 00.7	
	comp=Z,3μm,18.7s,baz=32,slow=41						
MSAI	**Masohi**	**10.20**	**263**	P	**Pn**	**20 23 11.2**	**+1.7**
	229nm23nm,0.7s						
PMG	**Port Moresby**	**10.86**	**132**	Pn	**Pn**	**20 23 20.2**	**+1.6**
	0.3nm,0.3s,baz=335,slow=11,SNR=1.3						
PMG				LR	LR	20 28 50.9	
	comp=Z,3μm,21.5s,baz=334,slow=45						
NLAI	**Namlea**	**12.00**	**264**	P	**Pn**	**20 23 35.4**	**+1.2**
	50nm,1.3s						
KDU	**Kakadu**	**12.40**	**211**	P	**Pn**	**20 23 39.2**	**-0.4**
	baz=12,SNR=21						
COEN	**Coen**	**12.49**	**161**	P	**Pn**	**20 23 40.4**	**-0.5**
	baz=12,SNR=4.4						
SANI	**Sanana**	**13.06**	**270**	P	**Pn**	**20 23 49.4**	**+0.7**
	24nm,0.7s						
KRVT	**Keravat (AS076**	**13.14**	**100**	Pn	**Pn**	**20 23 51.1**	**+1.4**
	2.1nm,0.3s,baz=348,slow=11,SNR=2.7						
MTN	**Manton Dam**	**13.27**	**216**	P	**Pn**	**20 23 52.4**	**+0.9**
	baz=13,SNR=17						
MTN	**Manton Dam**	**13.27**	**216**	Pn	**Pn**	**20 23 51.8**	**+0.2**
DAV	**Davao City (W)**	**16.23**	**304**	LR	LR	20 30 21.8	
	comp=Z,642nm,20.3s,baz=118,slow=36						
SOEI	**Soe**	**16.57**	**242**	P	**Pn**	**20 24 35.1**	**-0.5**
	2μm212nm,1.2s						
SOEI	**Soe**	**16.57**	**242**		**Pn**	**20 24 35.8**	**+0.2**
GUMO	**Guam**	**16.59**	**20**	LR	LR	20 31 21.4	
	comp=Z,625nm,18.0s,baz=200,slow=39						
MTSU	**Mount Surprise**	**16.78**	**162**	P	**Pn**	**20 24 36.8**	**-1.4**
	baz=17,SNR=13						
KNRA	**Kununurra**	**16.91**	**216**	P	**Pn**	**20 24 39.6**	**-0.2**
	baz=17,SNR=50						
KNRA	**Kununurra**	**16.91**	**216**		**Pn**	**20 24 39.8**	**0.0**
KNRA				IAmb	IAmb	20 24 48.8	
	comp=Z,66nm,0.6s						
BATI	**Baumata**	**17.30**	**242**	P	**Pn**	**20 24 43.4**	**-1.4**
	comp=Z,2.6nm,0.3s,baz=180,slow=4.2,SNR=4.7						
BATI				S	**Sn**	**20 27 57.5**	**0.0**
	comp=Z,1.3nm,0.3s,baz=102,slow=20,SNR=1.3						
BATI	**Baumata**	**17.30**	**242**	P	**Pn**	**20 24 45.5**	**+0.7**
	comp=Z,136nm,0.9s						
WB0	**Warramunga Arr**	**18.17**	**194**	P	**Pn**	**20 24 55.1**	**-0.4**
WB0				IAmb	IAmb	20 25 07.8	
	comp=Z,30nm,0.7s						
WR0	**Warramunga Arr**	**18.32**	**194**	P	**Pn**	**20 24 56.8**	**-0.5**
WRAB	**Tennant Creek**	**18.34**	**194**	P	**P**	**20 24 57.7**	**0.0**
WRAB				IAmb	IAmb	20 25 11.1	
	comp=Z,37nm,0.7s						
WB2	**Warramunga Arr**	**18.35**	**194**	P	**P**	**20 24 58.2**	**+0.5**
WB2				IAmb	IAmb	20 25 11.7	
	comp=Z,36nm,0.8s						
WRA	**Warramunga Arr**	**18.35**	**194**	P	**P**	**20 24 57.1**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=13,slow=11,SNR=77						
WRA				S	**Sn**	**20 28 15.8**	**-7.1**
	comp=Z,0.6nm,0.3s,baz=12,slow=22,SNR=5.3						
WRA	**Warramunga Arr**	**18.35**	**194**	P	**P**	**20 24 58.0**	**+0.2**
QIS	**Mount Isa**	**18.38**	**178**	P	**Pn**	**20 24 59.2**	**+1.1**
	baz=18,SNR=9.9						
BNSI	**Bone**	**19.06**	**263**	P	**Pn**	**20 25 08.1**	**+1.7**
	comp=Z,50nm,1.0s						
BKSI	**Bulukumba**	**19.17**	**260**	P	**Pn**	**20 25 09.1**	**+1.4**
	comp=Z,787nmcomp=Z,47nm,1.4s						
CTA	**Charters Tower**	**19.24**	**159**	P	**Pn**	**20 25 09.8**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=351,slow=13,SNR=4.6						
CTAO	**Charters Tower**	**19.24**	**159**	P	**Pn**	**20 25 09.4**	**+0.9**
SPSI	**Sidrap Palu**	**19.35**	**264**	P	**P**	**20 25 09.5**	**+0.7**
	comp=Z,826nmcomp=Z,32nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.66**	**219**	P	**P**	**20 25 22.4**	**-0.7**
	comp=Z,6.7nm,0.9s,baz=0.0,slow=9.3,SNR=17						
FITZ				S	**S**	**20 29 09.2**	**-5.0**
	comp=Z,21nm,1.0s,baz=180,slow=2.1,SNR=9.4						
FITZ				LR	LR	20 34 11.9	
	comp=Z,637nm,20.2s,baz=271,slow=39						
FITZ	**Fitzroy Crossi**	**20.66**	**219**	P	**P**	**20 25 24.6**	**+1.5**
	baz=21,SNR=8.2						
FITZ	**Fitzroy Crossi**	**20.66**	**219**		**P**	**20 25 24.5**	**+1.5**
HNR	**Honiara**	**22.02**	**110**	P	**P**	**20 25 38.5**	**+0.8**
	comp=Z,56nm,0.8s,baz=180,slow=4.3,SNR=4.6						
HNR	**Honiara**	**22.02**	**110**	IAmb	IAmb	20 25 42.0	
	comp=Z,61nm,0.8s						
AS31	**Alice Springs**	**22.04**	**193**	P	**P**	**20 25 38.8**	**+0.9**
ASAR	**Alice Springs**	**22.04**	**193**	P	**P**	**20 25 38.9**	**+1.0**
	comp=Z,46nm,1.0s,baz=24,slow=9.5,SNR=143						
ASAR				S	**S**	**20 29 40.8**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=6.5,slow=25,SNR=4.5						
ASAR	**Alice Springs**	**22.04**	**193**	P	**P**	**20 25 38.4**	**+0.4**
TGY	**Tagaytay City**	**24.10**	**312**	LR	LR	20 33 29.3	
	comp=Z,977nm,21.9s,baz=112,slow=32						
MTKI	**Muara Teweh, K**	**24.18**	**272**	P	**P**	**20 26 00.7**	**+0.9**
	comp=Z,11nm,0.6s						
KKM	**Kota Kinabalu**	**24.19**	**290**	P	**P**	**20 25 60.0**	**0.0**
BBKI	**Banjar Baru**	**24.23**	**266**	P	**P**	**20 26 00.7**	**+0.5**
	comp=Z,70nm,1.4s						
WRKA	**Warakurna**	**25.08**	**204**	P	**P**	**20 26 08.9**	**+1.0**
	baz=25,SNR=46						
KMMI	**Kalianget**	**25.49**	**258**	P	**P**	20 26 25.3	+14
EIDS	**Eidsvold**	**25.90**	**154**	P	**P**	**20 26 17.3**	**+2.0**
	baz=26,SNR=8.3						
EIDS	**Eidsvold**	**25.90**	**154**	P	**P**	**20 26 16.0**	**+0.7**
EIDS				IAmb	IAmb	20 26 22.3	
	comp=Z,56nm,1.3s						
RMQ	**Roma**	**26.00**	**160**	P	**P**	**20 26 18.0**	**+1.8**
	baz=26,SNR=5.4						
PSA00	**Pilbara Seismi**	**26.94**	**223**	P	**P**	**20 26 24.1**	**-0.6**
PSA00				IAmb	IAmb	20 26 30.9	
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**29.74**	**176**	P	**P**	**20 26 50.7**	**+1.1**
	comp=Z,3.3nm,0.6s,baz=346,slow=8.6,SNR=16						
STKA				LR	LR	20 40 21.8	
	comp=Z,2μm,18.6s,baz=351,slow=40						
STKA	**Stephens Creek**	**29.74**	**176**	P	**P**	**20 26 51.6**	**+2.0**
	baz=30,SNR=11						
STKA	**Stephens Creek**	**29.74**	**176**	P	**P**	**20 26 51.3**	**+1.7**
CMSA	**Cobar Meteorol**	**29.97**	**169**	P	**P**	**20 26 53.5**	**+1.9**
	baz=30,SNR=6.2						
FORT	**Forrest**	**30.39**	**199**	P	**P**	**20 26 57.6**	**+2.2**
	baz=30,SNR=13						
FORT	**Forrest**	**30.39**	**199**	P	**P**	**20 26 57.0**	**+1.6**
BBOO	**Buckleboo**	**30.71**	**185**	P	**P**	**20 26 59.3**	**+1.1**
HTT	**Hallett**	**31.20**	**180**	P	**P**	**20 27 04.1**	**+1.6**
	baz=31,SNR=12						
DZM	**Mont Dzumac**	**33.23**	**129**	LR	LR	20 40 50.3	
	comp=Z,800nm,20.6s,baz=308,slow=36						
DZM	**Mont Dzumac**	**33.23**	**129**	*e*S	**S**	**20 32 38.0**	**-2.8**
	comp=Z,214nm,30.9s						
DZM				*e*LR	LR	20 36 07.9	
	comp=Z,1μm,23.1s						
H11S3	**WAKE ISLAND Hy**	**34.01**	**52**	T	T	21 03 06.0	
	baz=236,slow=75,SNR=427						
H11S2	**WAKE ISLAND Hy**	**34.02**	**52**	T	T	21 03 10.2	
	baz=236,slow=75,SNR=311						
H11S1	**WAKE ISLAND Hy**	**34.03**	**52**	T	T	21 03 08.6	
	baz=236,slow=75,SNR=276						
ARPS	**Mount Arapiles**	**34.62**	**176**	P	**P**	**20 27 34.3**	**+2.0**
	baz=35,SNR=9.1						
MORW	**Morawa**	**34.66**	**217**	P	**P**	**20 27 34.4**	**+1.7**
	baz=35,SNR=3.5						
MORW	**Morawa**	**34.66**	**217**	P	**P**	**20 27 33.7**	**+0.9**
H11N1	**WAKE ISLAND Hy**	**34.86**	**50**	T	T	21 04 11.8	
	baz=233,slow=76						
H11N2	**WAKE ISLAND Hy**	**34.88**	**50**	T	T	21 04 15.5	
	baz=233,slow=76						
H11N3	**WAKE ISLAND Hy**	**34.88**	**50**	T	T	21 04 25.3	
	baz=233,slow=76						
MDSI	**Maura Dua**	**34.90**	**265**	P	**P**	**20 27 34.0**	**-1.1**
	comp=Z,18nm,1.3s						
BLDU	**Ballidu**	**35.41**	**214**	P	**P**	**20 27 40.9**	**+1.7**
	baz=35,SNR=5.4						
KLBR	**Kellerberrin**	**35.59**	**212**	P	**P**	**20 27 42.4**	**+1.6**
	baz=36,SNR=7.0						
SDSI	**Sungai Dareh**	**37.63**	**271**	P	**P**	**20 27 58.6**	**+0.1**
	comp=Z,14nm,1.6s						
MAT	**Matsushiro**	**38.42**	**359**	P	**P**	**20 28 04.9**	**+0.1**
IPM	**Ipoh**	**38.56**	**280**	P	**P**	**20 28 06.1**	**-0.2**
NJ2	**Nanjing**	**38.97**	**332**	*e*P	**P**	**20 28 11.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
MNSI	**Mandailing Nat**	**39.57**	**274**	P	**P**	**20 28 16.8**	**+2.0**
	comp=Z,12nm,0.4s						
KSRS	**Korea Array**	**40.66**	**346**	P	**P**	**20 28 22.3**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=162,slow=11,SNR=2.1						
KSRS				LR	LR	20 45 25.3	
	comp=Z,358nm,18.2s,baz=164,slow=37						
GSI	**Gunungsitoli**	**41.61**	**274**	P	**P**	**20 28 31.0**	**-0.7**
GSI	**Gunungsitoli**	**41.61**	**274**	P	**P**	**20 28 30.6**	**-1.1**
CM31	**Chiang Mai Arr**	**44.43**	**299**	P	**P**	**20 28 54.5**	**+0.1**
CM31				IAmb	IAmb	20 29 01.9	
	comp=Z,11nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.43**	**299**	P	**P**	**20 28 53.5**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=118,slow=6.7,SNR=11						
CMAR				LR	LR	20 46 06.6	
	comp=Z,237nm,21.8s,baz=168,slow=34						
CMAR	**Chiang Mai Arr**	**44.43**	**299**	P	**P**	**20 28 54.0**	**-0.4**
XAN	**Xi'an**	**45.76**	**324**	P	**P**	**20 29 08.8**	**+4.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,610nm,4.1s						
USRK	**Ussuriysk Ar.**	**46.50**	**353**	P	**P**	**20 29 06.9**	**-3.5**
	comp=Z,1.6nm,0.8s,baz=163,slow=10,SNR=4.7						
USRK				LR	LR	20 45 11.5	
	comp=Z,310nm,20.6s,baz=156,slow=32						
USRK	**Ussuriysk Ar.**	**46.50**	**353**	P	**P**	**20 29 10.5**	**+0.1**
BJI	**Beijing**	**46.85**	**336**	P	**P**	**20 29 12.8**	**-0.4**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**46.95**	**317**	P	**P**	**20 29 14.3**	**+0.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
RAO	**Raoul Island**	**49.01**	**128**	LR	LR	20 47 42.5	
	comp=Z,351nm,21.8s,baz=330,slow=33						
HHC	**Hu-ho-hao-te**	**49.53**	**333**	*e*P	**P**	**20 29 34.8**	**+0.8**
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,280nm,5.8s						
HHC				LR	LR		
	comp=Z,490nm,15.3s						
HHC				LR	LR		
	comp=Z,470nm,16.2s						
HHC				LR	LR		
	comp=Z,510nm,14.5s						
URZ	**Urewera**	**50.09**	**141**	LR	LR	20 51 32.9	
	comp=Z,763nm,19.1s,baz=315,slow=37						
LZH	**Lanzhou**	**50.19**	**323**	*e*P	**P**	**20 29 40.1**	**+0.9**
LZH				pP	sP	20 29 53.4	+10
LZH				sP	pP	20 29 58.0	+16
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,69nm,4.3s						
RPZ	**Rata Peaks**	**50.26**	**150**	LR	LR	20 49 48.8	
	comp=Z,957nm,21.4s,baz=324,slow=35						
SHL	**Shillong**	**53.26**	**304**	P	**P**	**20 30 02.1**	**-0.3**
SHL				IAmb	IAmb	20 30 07.3	
	comp=Z,8.3nm,0.9s						
GTA	**Gaotai**	**54.77**	**323**	⇓P	**P**	**20 30 12.9**	**-0.2**
GTA				PcP	**PcP**	**20 31 15.1**	**-0.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,100nm,4.2s						
GTA				LR	LR		
	comp=Z,170nm,15.3s						
GTA				LR	LR		
	comp=Z,170nm,15.6s						
GTA				LR	LR		
	comp=Z,220nm,15.6s						
LSA	**Lhasa**	**55.59**	**308**	P	**P**	**20 30 19.4**	**-0.3**
LSA				IAmb	IAmb	20 30 28.6	
	comp=Z,4.2nm,0.6s						
ULN	**Ulaanbaatar**	**57.04**	**335**	P	**P**	**20 30 29.1**	**-0.2**
ULN				IAmb	IAmb	20 30 34.2	
	comp=Z,5.7nm,0.9s						
PETK	**Petropavlovsk-**	**57.16**	**13**	P	**P**	**20 30 29.2**	**-0.6**
	comp=Z,2.4nm,1.1s,baz=212,slow=9.9,SNR=1.7						
SONM	**Songino Array**	**57.30**	**334**	P	**P**	**20 30 30.7**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=144,slow=6.1,SNR=9.2						
SONM				LR	LR	20 53 45.0	
	comp=Z,500nm,21.2s,baz=140,slow=35						
SONM	**Songino Array**	**57.30**	**334**	P	**P**	**20 30 30.7**	**-0.4**
ODAN	**Odare**	**57.48**	**304**	*e*P	**P**	**20 30 32.6**	**-0.3**
ODAN	**Odare**	**57.48**	**304**	*e*P	**P**	**20 30 32.6**	**-0.3**
PKI	**Pulchoki**	**59.38**	**304**	*e*P	**P**	**20 30 46.4**	**+0.1**
	comp=Z,33nm,1.4s						
PKI	**Pulchoki**	**59.38**	**304**	*e*P	**P**	**20 30 46.4**	**+0.1**
	comp=Z,33nm,1.4s						
PKIN	**Phulchoki**	**59.40**	**304**	*e*P	**P**	**20 30 46.4**	**+0.1**
PKIN	**Phulchoki**	**59.40**	**304**	*e*P	**P**	**20 30 46.4**	**+0.1**
DMN	**Daman**	**59.65**	**304**	*e*P	**P**	**20 30 48.1**	**+0.1**
	comp=Z,25nm,0.9s						
DMN	**Daman**	**59.65**	**304**	*e*P	**P**	**20 30 48.1**	**+0.1**
	comp=Z,25nm,0.9s						
GKN	**Gorkha**	**60.17**	**304**	*e*P	**P**	**20 30 51.4**	**-0.1**
	comp=Z,43nm,1.0s						
GKN	**Gorkha**	**60.17**	**304**	*e*P	**P**	**20 30 51.4**	**-0.1**
	comp=Z,43nm,1.0s						
PYUN	**Piuthan**	**61.58**	**304**	*e*P	**P**	**20 31 00.8**	**-0.3**
	comp=Z,45nm,0.8s						
PYUN	**Piuthan**	**61.58**	**304**	*e*P	**P**	**20 31 00.8**	**-0.3**
	comp=Z,45nm,0.8s						
WMQ	**Urumqi**	**64.73**	**321**	*e*P	**P**	**20 31 22.5**	**+0.9**
WMQ				pP	sP	20 31 36.3	+10
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.7s						
WMQ				LR	LR		
	comp=Z,130nm,16.7s						
MK31	**Makanchi Array**	**69.50**	**322**	P	**P**	**20 31 51.5**	**-0.3**
MK31				IAmb	IAmb	20 32 07.6	
	comp=Z,7.6nm,1.1s						
MKAR	**Makanchi Array**	**69.50**	**322**	P	**P**	**20 31 51.2**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=101,slow=8.4,SNR=16						
MKAR				LR	LR	21 04 11.3	
	comp=Z,120nm,18.9s,baz=96,slow=38						
MAKZ	**Makanchi**	**69.70**	**322**	P	**P**	**20 31 52.0**	**-1.1**
MAKZ				IAmb	IAmb	20 32 08.8	
	comp=Z,8.2nm,0.9s						
KSH	**Kashi**	**70.90**	**313**	P	**P**	**20 32 02.4**	**+1.7**
KSH				sP	PcP	20 32 21.0	-0.2
KSH				S	**S**	**20 41 12.3**	**-4.2**
KSH				sS	SKiKP	20 41 34.5	-9.1
KSH				pmax	pmax		
	comp=Z,12nm,1.1s						
KSH				pmax	pmax		
	comp=Z,100nm,5.4s						
KSH				LR	LR		
	comp=Z,120nm,7.4s						
KSH				LR	LR		
	comp=Z,160nm,7.8s						
KSH				LR	LR		
	comp=Z,71nm,7.0s						
NIL	**Nilore**	**71.23**	**307**	P	**P**	**20 32 02.1**	**-0.6**
NIL				IAmb	IAmb	20 32 09.5	
	comp=Z,13nm,0.9s						
ZAA0	**Zalesovo Array**	**71.56**	**330**		**P**	**20 32 03.4**	**-0.8**
ZALV	**Zalesovo Beam**	**71.56**	**330**	P	**P**	**20 32 02.5**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=126,slow=7.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**71.56**	**330**	P	**P**	**20 32 03.1**	**-1.0**
PPT	**Papeete**	**71.62**	**108**	LR	LR	21 01 04.9	
	comp=Z,89nm,20.3s,baz=265,slow=34						
PPT2	**Papeete2**	**71.62**	**108**	*e*LR	LR	20 53 51.3	
	comp=Z,504nm,24.0s						
TBI	**Tubual**	**72.19**	**114**	*e*LR	LR	20 54 07.1	
	comp=Z,431nm,34.5s						
KURK	**Kurchatov**	**73.40**	**325**	P	**P**	**20 32 14.8**	**-0.4**
KURK				IAmb	IAmb	20 32 21.6	
	comp=Z,8.4nm,0.9s						
BTK	**Batken**	**74.85**	**312**	P	**P**	**20 32 23.9**	**-0.2**
BTK				IAmb	IAmb	20 32 35.6	
	comp=Z,14nm,1.4s						
GAR	**Garm**	**74.94**	**311**	P	**P**	**20 32 24.4**	**-0.3**
CHGR	**Chuyangaron**	**75.72**	**311**	P	**P**	**20 32 28.8**	**-0.3**
KKAR	**Karatay Array**	**75.92**	**315**	P	**P**	**20 32 29.9**	**-0.1**
KKAR	**Karatay Array**	**75.92**	**315**	P	**P**	**20 32 29.8**	**-0.3**
KKAR				IAmb	IAmb	20 32 42.0	
	comp=Z,3.5nm,0.9s						
VNDA	**Vanda**	**76.38**	**175**	P	**P**	**20 32 32.2**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=315,slow=5.8,SNR=15						
VNDA				LR	LR	21 08 00.5	
	comp=Z,235nm,18.1s,baz=354,slow=37						
VNDA	**Vanda**	**76.38**	**175**	P	**P**	**20 32 32.5**	**+0.4**
NRIK	**Noril'sk**	**79.21**	**344**	P	**P**	**20 32 47.4**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=151,slow=5.3,SNR=4.8						
NRIK				LR	LR	21 07 16.5	
	comp=Z,101nm,22.0s,baz=196,slow=35						
KDAK	**Kodiak Island**	**80.38**	**30**	LR	LR	21 05 02.6	
	comp=Z,349nm,19.6s,baz=252,slow=33						
MAW	**Mawson**	**82.84**	**202**	P	**P**	**20 33 07.5**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=106,slow=7.4,SNR=6.9						
MAW				LR	LR	21 09 45.3	
	comp=Z,261nm,18.1s,baz=60,slow=36						
GEYT	**Alibeck**	**84.12**	**308**	P	**P**	**20 33 14.3**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=131,slow=5.9,SNR=1.7						
GEYT				LR	LR	21 12 46.1	
	comp=Z,192nm,21.5s,baz=25,slow=37						
ABKAR	**Akbulak array**	**84.46**	**320**	P	**P**	**20 33 15.9**	**0.0**
CCB	**Clear Creek Bu**	**84.70**	**24**	P	**P**	**20 33 16.6**	**-0.2**
CCB				IAmb	IAmb	20 33 26.1	
	comp=Z,11nm,1.4s						
IL31		**85.11**	**24**	P	**P**	**20 33 19.2**	**+0.3**
IL31				IAmb	IAmb	20 33 22.0	
	comp=Z,4.0nm,1.0s						
ILAR	**Eielson Array**	**85.11**	**24**	P	**P**	**20 33 17.8**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=255,slow=5.1,SNR=9.8						
ILAR				LR	LR	21 05 30.9	
	comp=Z,92nm,21.8s,baz=207,slow=32						
ILAR	**Eielson Array**	**85.11**	**24**	P	**P**	**20 33 17.7**	**-1.2**
QSPA	**South Pole Qui**	**87.87**	**180**	P	**P**	**20 33 32.5**	**-0.1**
QSPA				IAmb	IAmb	20 33 45.0	
	comp=Z,8.6nm,1.1s						
KBZ	**Khabaz**	**95.88**	**314**	LR	LR	21 24 57.8	
	comp=Z,56nm,18.0s,baz=60,slow=40						
KVAR	**Kislovodsk Arr**	**96.02**	**314**	LR	LR	21 22 57.5	
	comp=Z,65nm,19.5s,baz=253,slow=39						
ATD	**Arta Tunnel**	**96.49**	**281**	LR	LR	21 18 54.9	
	comp=Z,51nm,18.4s,baz=29,slow=36						
YKA	**Yellowknife Ar**	**99.34**	**27**	LR	LR	21 15 15.1	
	comp=Z,189nm,21.8s,baz=0.0,slow=33						
CLL	**Collm**	**113.40**	**326**	*e*SS	SS	20 56 06.0	+8.3
CLL				LmV		21 31 00.0	
	comp=Z,300nm,19.7s						
TORD	**Torodi Ar. Bea**	**136.41**	**287**	PKP	**PKPdf**	**20 40 06.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=69,slow=2.7,SNR=2.8						
DBIC	**Dimbokro**	**143.74**	**278**	PKP	PKPab	20 40 16.6	+0.3
	comp=Z,3.8nm,0.8s,baz=90,slow=4.8,SNR=8.5						
LPAZ	**La Paz**	**147.53**	**125**	PKPbc	**PKPbc**	**20 40 28.7**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=255,slow=3.5,SNR=3.8						
CPUP	**Villa Florida**	**147.63**	**152**	PKPbc	**PKPbc**	**20 40 27.8**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=60,slow=16,SNR=3.0						

IDC 15 20:39:39.9±58.0, **22°.84S**×**178°.38W**, **h0**km, **mb3.9**/3, **mb1 4.0**/3, **mb1mx3.6**/24, **mbtmp3.9**/3, **Error ellipse: s-maj=1063.0km s-min=159.3km az=86.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.50**	**247**	P	P	20 46 47.8	+0.7
	1.4n

DKL				SG	Sb	21 02 58.9	+1.3
LPK	**Lapseki**	0.92	35	PG	Pg	21 02 47.3	-0.2
SMTH	**Samothraki Isl**	0.95	334	P	Pg	21 02 47.7	-0.2
SMTH				S	Sb	21 03 01.1	+0.5
	comp=N,122nnm,0.4s						
SMTH	**Samothraki Isl**	0.95	334	P	Pg	21 02 47.7	-0.2
SMTH				S	Sb	21 03 00.8	+0.2
ZEDA	**zmir-Bergama**	1.02	129	*i* P	Pb	21 02 48.8	-0.4
ZEDA				*i* S	Sb	21 03 01.6	-0.9
ZEDA				IAML		21 03 04.0	
	comp=N,194nnm,0.4s						
ERIK	**Erikli-Kesan**	1.11	18	PN	Pb	21 02 50.0	-0.7
ENEZ	**Enez**	1.12	3	PN	Pb	21 02 51.0	+0.1
PSRA	**Psara**	1.14	200	P	Pb	21 02 50.0	-1.3
BALY	**Balya**	1.20	84	*i* P	Pn	21 02 52.0	-0.3
BALY				*i* S	Sb	21 03 08.0	+0.1
CHOS	**Chios island**	1.23	180	P	Pn	21 02 51.6	-1.1
CHOS				S	Sg	21 03 09.6	+0.4
	comp=N,102nnm,0.2s						
CHOS	**Chios island**	1.23	180	P	Pn	21 02 51.2	-1.5
CHOS	**Chios island**	1.23	180	PN	Pn	21 02 52.9	+0.2
CHOS				SN	Sg	21 03 10.7	+1.5
ALN	**Alexandroupoli**	1.28	359	P	Pn	21 02 53.2	-0.1
ALN				S	Sg	21 03 11.1	+0.2
	comp=N,65nnm,0.4s						
ALN	**Alexandroupoli**	1.28	359	P	Pn	21 02 53.0	-0.3
ALN	**Alexandroupoli**	1.28	359	PN	Pn	21 02 53.2	-0.1
KESN	**Edirne-Kesan**	1.30	21	*i* P	Pn	21 02 52.5	-1.4
KESN				IAML		21 03 12.0	
	comp=E,107nnm,0.4s						
KESN				IAML		21 03 16.0	
	comp=N,63nnm,0.5s						
STEP	**BALIKESIR_Sava**	1.30	100	*i* P	Pn	21 02 53.0	-0.6
STEP				*i* S	Sb	21 03 10.2	-0.5
GONE	**Gonen-Balikesi**	1.32	70	PN	Pn	21 02 54.1	+0.2
URLA	**Izmir**	1.32	162	PN	Pn	21 02 53.4	-0.5
URLA	**Izmir**	1.32	162	*i* P	Pn	21 02 52.4	-1.6
RKY	**Sarkoy-Tekirda**	1.37	38	PN	Pb	21 02 55.1	-0.1
SART	**Tekirdag**	1.37	38	*i* P	Pn	21 02 53.6	-1.1
SART				*i* S	Sb	21 03 12.6	-0.1
SART				IAML		21 03 13.0	
	comp=E,61nnm,0.6s						
BALB	**Balikesir**	1.40	88	PN	Pn	21 02 55.1	+0.1
MAR6	**Marsite Statio**	1.42	40	PN	Pn	21 02 55.8	+0.5
THAS	**Thassos island**	1.43	314	P	Pn	21 02 54.7	-0.7
THAS				S	Sn	21 03 14.0	-0.1
	comp=E,28nnm,0.3s						
THAS	**Thassos island**	1.43	314	P	Pn	21 02 54.5	-0.9
BLCB	**Balcova**	1.45	148	PN	Pn	21 02 56.1	+0.5
MAR2	**Marsite Statio**	1.46	41	PN	Pn	21 02 56.1	+0.4
MAR3	**Marsite Statio**	1.47	39	PN	Pb	21 02 56.6	-0.3
MAR4	**Marsite Statio**	1.50	39	PN	Pb	21 02 57.3	-0.2
MRMT	**Marmara Adasi**	1.53	49	PN	Pn	21 02 57.1	+0.2
EDC	**Edincik**	1.56	62	PN	Pn	21 02 57.6	+0.4
UKOP	**Uzunkopru-Edir**	1.57	16	PN	Pb	21 02 58.4	-0.2
RDO	**Rodhopi**	1.58	345	P	Pn	21 02 57.2	-0.3
RDO				S	Sb	21 03 19.0	+0.3
RDO	**Rodhopi**	1.58	345	P	Pn	21 02 58.0	+0.5
RDO	**Rodhopi**	1.58	345	PN	Pn	21 02 58.2	+0.7
MAR9	**Marsite Statio**	1.60	51	PN	Pb	21 02 58.8	-0.4
DGB	**zmir**	1.69	158	*i* P	Pb	21 02 58.1	-0.8
OUR	**Ouranopolis**	1.76	295	PN	Pb	21 03 01.4	-0.4
KAVA	**Kavala**	1.82	320	P	Pn	21 03 00.3	-0.5
DURS	**Dursunbey**	1.86	90	*i* P	Pn	21 03 00.5	-0.9
CRLT	**Corlu**	1.98	40	PN	Pn	21 03 03.9	+1.0
SMG	**Samos**	2.00	162	P	Pn	21 03 03.4	+0.2
SMG				S	Sn	21 03 29.0	+0.8
	comp=E,45nnm,0.9s						
KDZ	**Kurdzhali**	2.09	346	PN	Pn	21 03 05.8	+1.3
MANT	**Manisa**	2.24	119	*i* P	Pg	21 03 12.5	-0.1
EDRB	**Edirne**	2.29	13	PN	Pn	21 03 08.6	+1.4
SLVT	**Silivri**	2.30	45	PN	Pn	21 03 08.4	+1.1

TUN 15 21:02:49.4, 35°72N×9°85E, h6km±1km, MD3.2, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROT	**Trozza**	0.26	233	*i* P		Pb	21 02 58.1	+1.6
TROT	**Trozza**	0.26	233	*i* P		Pb	21 02 58.1	+1.6
HANT	**Hania**	0.43	74	*i* P		Pn	21 03 03.2	+1.2
HANT	**Hania**	0.43	74	*i* P		Pn	21 03 03.2	+1.2
KRIT	**Krib**	0.89	315	*i* P		Pn	21 03 12.6	+4.3
KRIT				*i* S		Sn	21 03 29.1	+7.6
KRIT	**Krib**	0.89	315	*i* P		Pn	21 03 12.6	+4.3
KRIT				*i* S		Sn	21 03 29.1	+7.6
THTN	**Thala**	0.96	261	*i* P		Pn	21 03 13.2	+3.8
THTN	**Thala**	0.96	261	*i* P		Pn	21 03 13.2	+3.8
BLIT	**Baltah**	1.23	324	*i* P		Pn	21 03 17.5	+4.4
BLIT	**Baltah**	1.23	324	*i* P		Pn	21 03 17.5	+4.4
SYA	**Sidi Yaiche**	1.29	222	*i* P		Pg	21 03 18.4	+4.2
SYA	**Sidi Yaiche**	1.29	222	*i* P		Pg	21 03 18.4	+4.2
TAMR	**Tamra**	1.46	336	*i* P		Pg	21 03 20.3	+3.0
TAMR	**Tamra**	1.46	336	*i* P		Pg	21 03 20.3	+3.0
GHAT	**Ghardimaou**	1.48	302	*i* P		Pg	21 03 20.6	+3.0
GHAT	**Ghardimaou**	1.48	302	*i* P		Pg	21 03 20.6	+3.0
OAR	**Oum El Arais**	1.68	226	*i* P		Pg	21 03 26.9	+5.4
OAR	**Oum El Arais**	1.68	226	*i* P		Pg	21 03 26.9	+5.4

OMAN ***15*** *21:08:30.3±56.0, 26°67N×53°09E, h24km±341km, mb5.2/2, ml3.6/9, Mwp4.9/3, Error ellipse: s-maj=339.2km s-min=44.3km az=273.0*
IDC ***15*** *21:08:32.0±1.7, 26°43N×53°48E, h0km, mb3.8/8, mb1 3.8/10, mb1mx3.6/43, mbtmp3.8/10, ML2.8/2, Error ellipse: s-maj=34.1km s-min=23.7km az=2.0*
THR ***15*** *21:08:32.6±0.4, 26°18N×53°50E, h14km±8km, ML3.7*
TEH ***15*** *21:08:34.3, 26°39N×53°51E, h16km, ML3.9*

ISC 15 21:08:33.6±0.7, 26°38N±0°04×53°46E±0°05, h10km, n64, σ1§27/70, mb3.7/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	0.99	345	*e*Pg	Pg	21 08 53.1	+0.3
LMD1				*e*		21 09 16.0	
LAR1	**LAR**	1.52	32	*e*Pg	Pn	21 09 01.9	+0.9
LAR1				*e*		21 09 27.8	
JRN	**Qarnain Island**	1.53	201	*e*Pn	Pg	21 09 03.5	+0.5
JHRM	**Jahrom**	2.12	3	*e*Pn	Pn	21 09 10.9	+1.6
JHRM				*e*		21 09 49.6	
UMQ	**Umm Al-Quwin**	2.16	113	P	Pn	21 09 11.5	+1.9
AJN	**Ajban**	2.27	142	P	Pn	21 09 13.1	+1.8
AJN				P	Pn	21 09 13.1	+1.8
AJN	**Ajban**	2.27	142	*e*Pn	Pn	21 09 12.9	+1.7
NAZ	**Nazwa, Dubai**	2.42	124	P	Pn	21 09 14.9	+1.6
NAZ	**Nazwa, Dubai**	2.42	124	*e*Pn	Pn	21 09 14.9	+1.6
SHME	**Shamm**	2.43	97	*e*Pn	Pn	21 09 12.9	-0.6
GHWR	**Ruwais**	2.46	193	*e*Pn	Pn	21 09 15.5	+1.7
BANOM	**Banah**	2.59	99	P	Pn	21 09 16.0	+0.3
	SNR=12						
BANOM				P	Pn	21 09 16.0	+0.3
	SNR=12						
BANOM	**Banah**	2.59	99	*e*Pn	Pn	21 09 15.6	-0.1
BNDS	**Bandar-Abbas**	2.63	67	*e*Pn	Pn	21 09 17.5	+1.2
BNDS				Sn	Sn	21 09 50.4	+2.1
GENO	**Geno**	2.63	67	*e*Pn	Pn	21 09 16.8	+0.5
MZWR	**Madinat Zayed**	2.63	172	*e*Pn	Pn	21 09 18.3	+2.1
MSFE	**Esma-Masafi**	2.63	112	*e*Pn	Pn	21 09 17.5	+1.2
MDH	**Madha**	2.77	112	*e*Pn	Pn	21 09 18.4	+0.2
SLWR	**Sila**	2.80	215	*e*Pn	Pn	21 09 20.1	+1.6
UOSS	**Minazif**	2.86	119	*e*Pn	Pn	21 09 18.9	-0.4
HATD	**Hatta, Dubai**	2.87	122	P	Pn	21 09 20.5	+1.1
HATD	**Hatta, Dubai**	2.87	122	*e*Pn	Pn	21 09 19.9	+0.5
ASHO	**Ashiyiah**	2.89	125	P	Pn	21 09 21.0	+1.2
	SNR=16						
ASHO				S	Sb	21 10 01.3	+0.5
ASHO	**Ashiyiah**	2.89	125	*e*Pn	Pn	21 09 20.5	+0.7
ALNE	**Al Ain**	3.11	138	*e*Pn	Pn	21 09 24.0	+1.3
SOHO	**SOHO**	3.57	128	*e*Pn	Pn	21 09 29.6	+0.5
KAZ1	**Kazerun**	3.61	334	*e*Pn	Pn	21 09 31.2	+1.4
UMZA	**Um Al Zommool**	3.96	157	*e*Pn	Pn	21 09 36.4	+1.9
ARQ	**Araqi**	4.11	137	P	Pn	21 09 37.4	+0.8
	SNR=8.4						
NGRK	**Negar Kerman**	4.35	41	*e*Pn	Pn	21 09 41.9	+1.7
NGRK				*e*		21 10 40.7	
HOQ	**Hoqain**	4.47	128	P	Pn	21 09 43.0	+1.6
	SNR=7.6						
KRBR	**Kerman**	4.62	38	*e*Pn	Pn	21 09 46.1	+2.2
TVBK	**TV Kerman**	4.63	38	*e*Pn	Pn	21 09 45.5	+1.5
TVBK				*e*		21 09 47.5	
KHGB	**Koh Gabri**	4.79	33	*e*Pn	Pn	21 09 47.9	+1.8
KLNJ	**Kolanjah**	4.90	341	*e*Pn	Pn	21 09 47.9	+0.2
CHMN	**Cheshme madani**	5.00	45	*e*Pn	Pn	21 09 51.0	+1.9
CHMN				*e*		21 09 52.3	
IMEH	**Mehriz**	5.10	11	*e*Pn	Pn	21 09 52.1	+1.8
IRAM	**Ramesheh**	5.50	350	*e*Pn	Pn	21 09 56.8	+1.0
ISAD	**Sadrabad**	5.52	2	*e*Pn	Pn	21 09 57.7	+1.5
WSAR	**Wadi Sarin**	5.64	123	Pn	Pn	21 09 57.9	+0.3
	0.3nm,0.3s,baz=298,slow=17,SNR=1.6						
WSAR				Sn	Sn	21 10 59.4	-3.1
	0.5nm,0.3s,baz=162,slow=16,SNR=2.5						
ICHK	**Chekchek**	5.91	8	*e*Pn	Pn	21 10 02.6	+1.2
IGAR	**Gharneh**	6.13	346	*e*Pn	Pn	21 10 06.2	+1.7
WBK	**Wadi Bani Khal**	6.26	126	P	Pn	21 10 07.4	+1.2
	SNR=13						
WBK				P	Pn	21 10 07.4	+1.2
	SNR=13						
IZEF	**Zefreh**	6.57	352	*e*Pn	Pn	21 10 10.3	-0.3
IPIR	**Pirpir**	6.67	341	*e*Pn	Pn	21 10 12.8	+0.8
ANAR	**Anarak**	6.79	2	*e*Pn	Pn	21 10 13.9	+0.4
IKLH	**Kolahrood**	7.11	347	*e*Pn	Pn	21 10 18.5	+0.5
WHFO	**Wadi Hawf**	8.42	178	P	Pn	21 10 36.0	+0.1
	SNR=14						
IMON	**Monand**	8.67	37	*e*Pn	Pn	21 10 41.3	+1.9
IDOB	**Doab**	8.69	329	*e*Pn	Pn	21 10 40.8	+1.2
HSAM	**Samen**	8.86	333	*e*Pn	Pn	21 10 42.0	-0.1
IANJ	**Anjilo**	9.07	2	*e*Pn	Pn	21 10 45.9	+1.0
IKOM	**Komasi**	9.32	328	*e*Pn	Pn	21 10 47.8	-0.4
ILIN	**Lien**	10.18	328	*e*Pn	Pn	21 11 00.1	0.0
IDHR	**Dehrash**	10.29	325	*e*Pn	Pn	21 11 01.4	-0.2
KBZ	**Khabaz**	19.32	336	P	P	21 12 59.1	+0.2
	0.0nm,0.3s,baz=156,slow=9.1,SNR=2.0						
BRTR	**Keskin Array B**	21.23	314	P	P	21 13 20.8	+0.9
	2.0nm,0.7s,baz=134,slow=13,SNR=8.8						
AKTO	**Aktyubinsk**	24.28	7	P	P	21 13 50.1	-0.9
	1.1nm,0.5s,baz=128,slow=12,SNR=3.4						
IDI	**Anoyia**	26.02	297	P	P	21 14 07.6	+0.6
	5.0nm,1.0s,baz=102,slow=19,SNR=2.0						
MKAR	**Makanchi Array**	30.57	41	P	P	21 14 47.7	+0.3
	1.0nm,1.0s,baz=246,slow=9.2,SNR=3.2						
ZALV	**Zalesovo Beam**	35.98	32	P	P	21 15 33.5	-0.9
	2.2nm,0.5s,baz=239,slow=9.6,SNR=11						
FINES	**FINESS Array B**	39.62	340	P	P	21 16 03.9	-1.2
	0.8nm,0.5s,baz=152,slow=9.5,SNR=6.4						
NOA	**NORSAR Array B**	44.83	332	P	P	21 16 46.3	-1.4
	0.4nm,0.7s,baz=129,slow=8.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	50.16	265	P	P	21 17 29.2	-0.5
	0.9nm,0.7s,baz=64,slow=9.0,SNR=2.7						

MOS ***15*** *21:09:05.5±0.8, 14°34N×60°15W, h10km, mb5.1/25, MS4.3/6, Error ellipse: s-maj=7.1km s-min=6.2km az=70.5*
IDC ***15*** *21:09:05.5±0.4, 14°31N×60°16W, h0km, mb4.8/36, mb1 4.9/39, mb1mx4.9/45, mbtmp4.8/39, ML4.0/3, MS4.3/28, Ms1 4.3/28, ms1mx4.2/41, Error ellipse: s-maj=11.7km s-min=9.7km az=136.0*
NEIC ***15*** *21:09:06.3, 14°36N×60°13W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.29; $M_{\theta\theta}$-2.43; $M_{\phi\phi}$2.13; $M_{r\theta}$1.00; $M_{\theta\phi}$2.50; $M_{\phi r}$-1.71; Fault plane solution: $M_0$3.93000×10^{16} NP1:ϕ_s158.06000°, δ89.84000°, λ149.89000°. NP2:ϕ_s248.15000°, δ59.89000°, λ0.19000°. Principal axes: T 3.6862, Plg21.0000°, Azm109.0000°; N 0.4525, Plg60.0000°, Azm338.0000°; P -4.1387, Plg21.0000°, Azm207.0000°;*
NEIC ***15*** *21:09:06.5±1.1, 14°35N±0°04×60°14W±0°05, h6km±3km, mb5.3/180, Mwr5.0/21, Mww5.2, Md5.0(TRN) Error ellipse: s-maj=8.1km s-min=4.0km az=49.0*
UNK ***15*** *21:09:08.2, 14°44N×60°09W, h15km*
TRN ***15*** *21:09:08.0, 14°36N×60°29W, h21km, MD5.3*
TRN Felt St. Vincent MMI II and Saint Lucia II, I II.
BJI ***15*** *21:09:08.0±0.0, 14°30N×60°20W, h10km, Ms5.4/2, Ms7 5.2/3*
NEIC ***15*** *21:09:09, 14°44N×60°09W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.93; $M_{\theta\theta}$-6.20; $M_{\phi\phi}$3.27; $M_{r\theta}$-0.82; $M_{\theta\phi}$7.34; $M_{\phi r}$0.58; Fault plane solution: $M_0$9.16000×10^{16} NP1:ϕ_s73.00000°, δ86.00000°, λ-2.00000°. NP2:ϕ_s164.00000°, δ88.00000°, λ-175.00000°. Principal axes: T 7.2762, Plg2.0000°, Azm299.0000°; N 3.0034, Plg85.0000°, Azm189.0000°; P -10.2795, Plg4.0000°, Azm29.0000°;*
GCMT ***15*** *21:09:11.3±0.1, 14°34N±0°01×60°14W±0°01, h16km, MW5.2/124, Moment Tensor Solution. s76,c109; s124,c210; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.56±.13; $M_{\theta\theta}$-4.63±.13; $M_{\phi\phi}$4.07±.13; $M_{r\theta}$3.41±.47; $M_{\theta\phi}$4.76±.12; $M_{\phi r}$-1.64±.38; Best double couple: $M_0$7.25400×10^{16} NP1:ϕ_s246.00000°, δ73.00000°, λ-16.00000°. NP2:ϕ_s341.00000°, δ75.00000°, λ-162.00000°. Principal axes: T 6.1720, Plg2.0000°, Azm113.0000°; N 2.1610, Plg67.0000°, Azm20.0000°; P -8.3370, Plg23.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 21:09:06.9±0.9, 14°36N±0°02×60°23W±0°03, h6km±5km, n962, σ1§04/983, mb5.2/169, MS4.4/36, 31C-34D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPOM	**Morne Pois Mar**	0.61	278	*e*P	Pn	21 09 21.4	-0.6
MPOM				*e*S	Sn	21 09 31.2	-1.0
MVM	**Montagne Vaucl**	0.67	287	‖*e*P	Pn	21 09 22.3	-0.6
LPMF	**Morne Lapointe**	0.74	287	*e*P	Pb	21 09 23.2	+1.0
ILAM	**Ilet Lapin Mar**	0.74	304	*e*P	Pn	21 09 23.4	-0.5
ILAM				*e*S	Sb	21 09 34.2	+1.6
SLW	**Petit Monier**	0.76	244	*e*P	Pn	21 09 24.4	+0.1
SLAC	**Saint Lucia, A**	0.79	234	*e*P	Pb	21 09 23.9	+0.9
SLAC				*e*S	Sn	21 09 35.8	-1.0
SLBI	**Saint Lucia, B**	0.79	245	*e*P	Pb	21 09 23.6	+0.6
SLBI				*e*S	Sb	21 09 35.2	+1.1
ZAM	**Aeronautique**	0.80	285	‖*e*P	Pb	21 09 24.1	+0.9
TRMF	**Trois Ilets**	0.81	282	‖*e*P	Pn	21 09 24.4	-0.4
BIM	**Bigot**	0.83	281	*e*P	Pn	21 09 25.0	-0.1
BIM				*e*S	Sn	21 09 37.0	-0.6
SLPA	**Patience**	0.84	233	*e*P	Pn	21 09 25.5	+0.3
MCLT	**Moule a Chique**	0.94	227	*e*P	Pb	21 09 25.6	0.0
MCLT				*e*S	Sb	21 09 38.3	-0.2
MCLT	**Moule a Chique**	0.94	227		Pg	21 09 25.3	+0.2
SLB	**Belfond**	0.95	236	*e*P	Pn	21 09 26.9	+0.2
FDF	**Fort de France**	0.96	293	*e*P	Pb	21 09 26.4	+0.4
FDF				*e*S	Sn	21 09 40.5	-0.5
FDF	**Fort de France**	0.96	293	P	Pb	21 09 26.4	+0.4
FDF						21 09 40.2	
FDF	**Fort de France**	0.96	293		Pb	21 09 26.4	+0.4
FDF				Sg	Sb	21 09 40.2	+1.2
SLDE	**Delcer**	0.97	235	*e*P	Pg	21 09 25.7	+0.1
SLDE	**Delcer**	0.97	235	*e*	Pn	21 09 36.5	+9.4
BAMF	**Morne Balai**	0.99	297	‖*e*P	Pb	21 09 27.1	+0.5
GBMF	**Grand Be**	1.00	296	‖*e*P	Pb	21 09 27.1	+0.5
CXM	**Morne La Croix**	1.01	296	‖*e*P	Pb	21 09 27.5	+0.6
PML	**Morne Lenard**	1.01	294	‖*e*P	Pb	21 09 27.3	+0.5
SVN	**Savane Anatole**	1.02	298	‖*e*P	Pb	21 09 27.5	+0.5
PCM	**Pelee Case Pet**	1.05	296	‖*e*P	Pg	21 09 26.9	-0.2
PCM	**Pelee Case Pet**	1.05	296	‖*e*P	Pb	21 09 27.9	+0.4
BCHC	**Barbados, Cave**	1.35	154	*e*P	Pn	21 09 32.0	-0.2
BCHC				*e*S	Sn	21 09 52.2	+1.7
BHS	**Barnard House**	1.37	219	*e*P	Pn	21 09 32.6	+0.1
DLPL	**La Plaine**	1.38	315	*e*P	Pn	21 09 32.8	+0.1
DLPL				*e*S	Sb	21 09 50.7	-0.2
DLPL	**La Plaine**	1.38	315	Pn	Pn	21 09 32.6	0.0
DLPL				Sn	Sg	21 09 51.9	+0.7
BBGH	**Gun Hill**	1.38	152	*e*P	Pn	21 09 32.6	0.0
BBGH				*e*S	Sg	21 09 52.8	+1.6
BBGH	**Gun Hill**	1.38	152		Pn	21 09 32.2	-0.4
BBGH					Sb	21 09 49.3	-1.6
SVCV	**St. Vincent, C**	1.40	219	*e*P	Pn	21 09 32.3	-0.6
SVCV				*e*S	Sb	21 09 51.6	+0.1
SVV	**Soufriere Volc**	1.41	223	*e*P	Pb	21 09 33.6	0.0
DPMT	**Pointe Michel**	1.42	309	*e*P	Pn	21 09 33.4	+0.1
BBSP	**Saint Philip**	1.46	149	*e*P	Pg	21 09 35.6	+0.7
BBSP				*e*S	Sg	21 09 55.1	+1.2
SVB	**Belmont**	1.47	223	*e*P	Pn	21 09 33.4	-0.5
SVB				*e*S	Sn	21 09 53.2	-0.2
SVB	**Belmont**	1.47	223		Pn	21 09 33.0	-0.8
MDN	**Morne-Daniel**	1.47	310	*e*P	Pn	21 09 34.4	+0.4
MDN				*e*S	Sn	21 09 53.6	+0.2
DSLB	**Salisbury**	1.57	313	*e*P	Pn	21 09 35.9	+0.6
DSLB				*e*S	Sn	21 09 56.3	+0.3
MAGL	**Barre de l'ile**	1.88	327	*e*P	Pn	21 09 38.7	-0.8
MAGL				*e*S	Sn	21 10 02.2	-1.2
TDBA	**Terre de Bas,**	2.01	318	*e*P	Pn	21 09 41.5	+0.2
TDBA				*e*S	Sn	21 10 05.9	-0.8
TBG	**Guadaloupe-3**	2.02	318	*e*P	Pn	21 09 41.6	+0.2
TBG				*e*S	Sn	21 10 06.1	-0.8
CBE	**Ff, Capester**	2.15	322	*e*P	Pn	21 09 43.5	+0.1
CBE				*e*S	Sn	21 10 09.3	-1.1
GCMP	**Grenada, Carri**	2.20	212	*e*P	Pn	21 09 43.9	0.0
GCMP				*e*S	Sn	21 10 10.2	-1.2
ABD	**La Joyeuse, An**	2.42	330	*e*P	Pn	21 09 46.8	-0.3
ABD				*e*S	Sn	21 10 15.9	-1.1
GRSS	**Sisters**	2.45	213	*e*P	Pn	21 09 48.1	+0.7
GRHS	**Sauteurs**	2.53	213	*e*P	Pn	21 09 49.6	+1.1
GRGR	**Grenville**	2.61	212	*e*P	Pn	21 09 50.4	+0.8
GRGR				*e*S	Sn	21 10 22.4	+0.7
GRGR	**Grenville**	2.61	212		Pn	21 09 50.1	+0.4
MLYT	**Lee's Yard**	3.01	321	*e*P	Pn	21 09 56.4	+1.2
MLYT				*e*S	Sn	21 10 31.4	-0.1
TOSP	**Speyside**	3.06	186	*e*P	Pn	21 09 56.5	+0.7
TOSP	**Speyside**	3.06	186	Pn	Pn	21 09 55.7	0.0
ANWB	**Willy Bob**	3.61	336	*e*P	Pn	21 10 04.0	+0.7
ANWB				*e*S	Sn	21 10 45.1	-1.2
ANWB	**Willy Bob**	3.61	336		Pn	21 10 03.5	+0.2
SKOC	**St. Kitts, UWI**	3.78	321	*e*P	Pn	21 10 07.5	+1.8
SKOC				*e*S	Sn	21 10 50.2	-0.2
SKI	**Saint Kitts**	3.81	321	*e*P	Pn	21 10 07.1	+0.9
SKI				*e*S	Sn	21 10 51.0	-0.3
SKI	**Saint Kitts**	3.81	321	P	Pn	21 10 07.3	+1.1
SKI	**Saint Kitts**	3.81	321		Pn	21 10 07.3	+1.1
TRN	**Trinidad (W)**	3.86	197	*e*P	Pn	21 10 06.4	-0.4
SEUS	**St. Eustatius**	4.08	320	*e*P	Pn	21 10 11.7	+1.8
SEUS				*e*S	Sn	21 10 55.8	-2.2
SEUS	**St. Eustatius**	4.08	320	Pn	Pn	21 10 11.4	+1.5
SABA	**Saba**	4.34	319	*e*P	Pn	21 10 14.0	+0.5
SABA	**Saba**	4.34	319	Pn	Pn	21 10 15.1	+1.6
SMRT	**St. Maarten**	4.57	324	Pn	Pn	21 10 16.6	-0.1
CDVI	**St. Croix**	5.51	308	*e*P	Pn	21 10 28.5	-1.0
PLCV	**Puerto La Cruz**	5.96	226		Pn	21 10 36.9	+1.1
PCRV	**Puerto La Cruz**	5.99	226	Pn	Pn	21 10 36.9	+0.8
	13nm,0.3s,baz=55,slow=2.9,SNR=30						
PCRV				Sn	Sn	21 11 41.0	-4.0
	8.6nm,0.3s,baz=189,slow=13,SNR=0.9						
PCRV				LR	LR	21 13 25.2	
	comp=Z,6μm,19.9s,slow=44						
STVI	**Saint Thomas**	6.02	312		Pn	21 10 36.8	+0.2
CUPR	**Culebra, Puert**	6.24	310		Pn	21 10 40.4	+1.0
MTP	**Monte Pirata**	6.32	307		Pn	21 10 41.6	+1.0
PDPR	**Patillas Dam,**	6.64	304		Pn	21 10 45.9	+0.9
CBYP	**Canovanas**	6.65	307		Pn	21 10 46.3	+1.0
IGPR	**InterUniversit**	6.69	303		Pn	21 10 46.0	+0.3
GCPR	**Guaynabo City**	6.85	306		Pn	21 10 48.8

JTS pmax pmax
comp=Z,8.0nm,1.2s
JTS **Las Juntas de** **24.48 263** P **P** **21 14 26.8 -0.3**
ETMB **Extrema** **24.74 194** *e*P **P** **21 14 28.6 -0.7**
BOAB **BOACO BROADBAN** **24.81 269** P **P** **21 14 29.7 -0.3**
BOAB IAmb IAmb 21 14 43.3
comp=Z,126nm,1.4s
CZSB **Cruzeiro do Su** **25.20 210** *e*P **P** **21 14 32.7 -0.8**
Y60A **Bolivia** **25.45 323** P **P** **21 14 35.6 0.0**
baz=136
Y60A **Bolivia** **25.45 323** P **P** **21 14 35.3 -0.3**
Y60A IAmb IAmb 21 14 45.6
comp=Z,81nm,0.8s
CLDB **Colider** **25.45 170** *e*P **P** **21 14 34.2 -1.5**
W61A **Ground Anchor** **25.64 327** P **P** **21 14 37.9 +0.7**
baz=140
158A **Hollywood** **25.79 319** P **P** **21 14 39.6 +0.9**
baz=130
Y59A **Loris** **25.82 322** P **P** **21 14 39.1 +0.1**
baz=134
Y59A **Loris** **25.82 322** P **P** **21 14 39.1 +0.1**
CSU **Charleston Sou** **25.87 319** P **P** **21 14 39.2 -0.3**
V61A **Roper** **25.89 328** P **P** **21 14 40.5 +0.9**
baz=141
RGRS **Roger Stewart** **25.90 319** P **P** **21 14 39.8 +0.1**
W60A **Pink Hill** **25.93 326** P **P** **21 14 40.1 +0.2**
baz=138
Z58A **St. Stephen** **25.94 320** P **P** **21 14 40.6 +0.6**
baz=132
NHSC **New Hope** **26.02 319** P **P** **21 14 41.3 +0.5**
baz=131,SNR=5.5
X59A **McDuffie Farm,** **26.08 324** P **P** **21 14 42.0 +0.8**
baz=136
TGUH **Tegucigalpa,Un** **26.21 273** P **P** **21 14 42.6 -0.2**
TGUH IAmb IAmb 21 14 54.8
comp=Z,112nm,1.1s
V60A **Jim Taylor Roa** **26.23 327** P **P** **21 14 43.2 +0.5**
baz=140
V60A **Jim Taylor Roa** **26.23 327** P **P** **21 14 41.8 -0.8**
U61A **Possum Corner** **26.25 329** P **P** **21 14 43.4 +0.5**
baz=142
SMTB **Santa Maria do** **26.26 151** *e*P **P** **21 14 44.1 +1.0**
157A **Early Branch** **26.27 318** P **P** **21 14 43.1 +0.1**
baz=129,SNR=5.8
Z57A **Bowman** **26.48 319** P **P** **21 14 44.6 -0.4**
baz=130
X58A **Rowland** **26.49 323** P **P** **21 14 45.5 +0.4**
baz=134
X58A **Rowland** **26.49 323** P **P** **21 14 45.3 +0.3**
X58A IAmb IAmb 21 14 57.3
comp=Z,74nm,0.9s
U60A **Pendleton** **26.72 329** P **P** **21 14 47.0 0.0**
baz=141
V59A **Middlesex** **26.75 326** P **P** **21 14 48.2 +0.9**
baz=138,SNR=6.8
Y57A **Sumter** **26.76 321** P **P** **21 14 48.1 +0.7**
baz=132
Y57A **Sumter** **26.76 321** P **P** **21 14 48.0 +0.5**
Z56A **Williston** **26.92 318** P **P** **21 14 49.7 +0.8**
Z56A IAmb IAmb 21 14 59.4
comp=Z,81nm,0.8s
U59A **Littleton** **26.95 327** P **P** **21 14 50.6 +1.4**
baz=140
T60A **Surry** **27.03 330** P **P** **21 14 50.1 +0.2**
baz=142,SNR=6.0
VILB **Vilhena** **27.14 180** *e*P **P** **21 14 51.5 +0.4**
VILB *e*S **S** **21 19 31.1 +1.2**
BIRD **Birdtown, Kers** **27.22 321** P **P** **21 14 52.0 +0.4**
BIRD IAmb IAmb 21 15 02.0
comp=Z,43nm,0.9s
V58A **Windy Hill, Pi** **27.25 325** P **P** **21 14 53.2 +1.3**
baz=137
V58A **Windy Hill, Pi** **27.25 325** P **P** **21 14 52.5 +0.6**
V58A IAmb IAmb 21 15 04.8
comp=Z,56nm,1.0s
W57A **Gilead** **27.29 323** P **P** **21 14 53.2 +1.0**
baz=134
T59A **Double "B" Far** **27.31 329** P **P** **21 14 53.0 +0.6**
baz=141
TIGA **Tifton** **27.32 312** P **P** **21 14 53.8 +1.2**
baz=123,SNR=5.0
TEIG **Tepich** **27.38 286** P **P** **21 14 53.0 -0.2**
comp=Z,12nm,0.9s,baz=71,slow=14,SNR=2.0
U58A **Oxford** **27.38 327** P **P** **21 14 53.5 +0.4**
baz=138
X56A **White Oak** **27.47 321** P **P** **21 14 54.0 +0.2**
baz=132
JSC **Jenkinsville** **27.47 320** P **P** **21 14 54.0 +0.1**
JSC pmax pmax
comp=Z,20nm,1.1s
JSC **Jenkinsville** **27.47 320** P **P** **21 14 54.0 +0.1**
Y55A **Saluda** **27.63 319** P **P** **21 14 55.3 +0.1**
baz=129
W56A **Indian Trail** **27.63 322** P **P** **21 14 55.2 -0.1**
baz=133
V57A **Coltrane Farms** **27.69 324** P **P** **21 14 55.9 +0.1**
baz=136
T58A **Grand View Acr** **27.79 327** P **P** **21 14 56.6 -0.1**
baz=139
S59A **Mechanicsville** **27.80 330** P **P** **21 14 57.0 +0.3**
baz=142
X55A **Gracelyn & Ava** **27.83 320** P **P** **21 14 57.5 +0.4**
baz=131
U57A **Blanch** **27.84 326** P **P** **21 14 57.6 +0.5**
baz=137
ATAH **Atahualpa** **27.94 221** P **P** **21 14 57.3 -1.4**
comp=Z,28nm,0.8s,baz=85,slow=4.8,SNR=11
ATAH LR LR 21 27 49.2
comp=Z,2μm,20.1s,baz=47,slow=40
V56A **Mocksville** **28.05 323** P **P** **21 14 59.1 +0.1**
baz=134
S58A **Poland Farm, P** **28.05 329** P **P** **21 15 00.3 +1.3**
baz=141,SNR=8.2
R59A **King George, V** **28.06 331** P **P** **21 14 59.0 0.0**
baz=143
KMSC **Kings Mountain** **28.09 321** P **P** **21 15 00.1 +0.7**
baz=132
KMSC **Kings Mountain** **28.09 321** P **P** **21 14 59.5 +0.1**
KMSC IAmb IAmb 21 15 09.7
comp=Z,37nm,0.8s
ESQI **Esquipulas** **28.18 274** P **P** **21 15 01.3 +0.8**
CBN **Corbin Frederi** **28.19 331** P **P** **21 15 01.2 +1.0**
baz=143
MTO3 **Montecristo** **28.21 274** P **P** **21 15 01.0 +0.1**
MTO3 IAmb IAmb 21 15 13.2
comp=Z,68nm,1.1s
T57A **Hurt** **28.21 326** P **P** **21 15 01.2 +0.7**
baz=138
R58B **Mineral** **28.24 330** P **P** **21 15 01.1 +0.4**
baz=141
X54A **Belton** **28.34 319** P **P** **21 15 02.5 +0.9**
baz=130
GOGA **Godfrey** **28.36 316** P **P** **21 15 02.7 +0.9**
baz=126,SNR=5.5
V55A **Taylorsville** **28.50 322** P **P** **21 15 03.2 +0.2**
baz=133
V55A **Taylorsville** **28.50 322** P **P** **21 15 03.8 +0.7**
R58A **Rapidan** **28.57 330** P **P** **21 15 05.4 +1.8**
baz=142,SNR=7.6
W54A **Cherokee Point** **28.57 320** P **P** **21 15 04.3 +0.6**
baz=131
S57A **Dark Hollow, R** **28.62 328** P **P** **21 15 04.3 +0.2**
baz=139
T56A **Rocky Mt** **28.65 326** P **P** **21 15 04.7 +0.3**
baz=137
M64A **Tiverton** **28.72 343** P **P** **21 15 04.8 -0.1**
baz=157
P60A **Greenville** **28.73 335** P **P** **21 15 03.8 -1.2**
R57A **Stanardsville** **28.82 329** P **P** **21 15 05.7 -0.2**
baz=141
WUPA **West Chester U** **28.82 335** P **P** **21 15 06.1 +0.3**
PEXB **Peixe** **28.83 155** *e*P **P** **21 15 07.1 +1.0**
M63A **Gales Ferry** **28.84 341** P **P** **21 15 06.4 +0.5**
baz=156
U55A **TA2, Sparta** **28.85 324** P **P** **21 15 06.5 +0.3**
baz=134
V54A **Nebo** **28.88 321** P **P** **21 15 07.1 +0.6**
baz=132
P59A **Jarrettsville** **28.90 334** P **P** **21 15 06.6 0.0**
baz=146
Q58A **Fox Den Farm,** **28.92 331** P **P** **21 15 06.9 +0.2**
baz=143
L64A **Middleborough** **28.97 344** P **P** **21 15 07.1 0.0**
baz=158
BRNJ **Basking Ridge** **29.06 337** P **P** **21 15 08.1 +0.2**
BRNJ IAmb IAmb 21 15 19.8
comp=Z,57nm,1.2s

T55A **Pulaski** **29.13 325** P **P** **21 15 09.5 +0.8**
baz=136
M62A **Hamden** **29.14 340** P **P** **21 15 08.9 +0.3**
baz=154
P58A **Pank, Wackersv** **29.18 332** P **P** **21 15 10.4 +1.3**
baz=144,SNR=5.9
MVL **Millersville** **29.19 334** P **P** **21 15 09.0 -0.1**
MVL IAmb IAmb 21 15 20.1
comp=Z,56nm,1.0s
APG **El Apazote** **29.24 275** P **P** **21 15 08.9 -1.2**
comp=Z,15nm,1.0s,baz=125,slow=7.9,SNR=7.3
U54A **Nelsons Funny** **29.31 323** P **P** **21 15 10.8 +0.4**
baz=133
U54A **Nelsons Funny** **29.31 323** P **P** **21 15 10.8 +0.4**
U54A IAmb IAmb 21 15 21.1
comp=Z,43nm,1.1s
Q57A **Strasburg** **29.34 330** P **P** **21 15 11.7 +1.2**
baz=142,SNR=6.2
V53A **Saluda** **29.34 320** P **P** **21 15 11.2 +0.6**
R56A **Bull Pasture M** **29.35 328** P **P** **21 15 11.9 +1.2**
baz=139,SNR=6.7
O59A **Robesonia** **29.38 335** P **P** **21 15 12.1 +1.2**
baz=147,SNR=7.3
N60A **Cedar Hill Far** **29.42 337** P **P** **21 15 12.2 +1.1**
baz=149,SNR=8.9
S55A **Lewisburg** **29.45 326** P **P** **21 15 11.9 +0.3**
baz=137
P57A **Homestead Farm** **29.51 331** P **P** **21 15 12.0 0.0**
baz=143
O58A **Lewisberry** **29.54 333** P **P** **21 15 13.0 +0.8**
baz=145
T54A **Tazewell** **29.54 324** P **P** **21 15 12.9 +0.5**
baz=134,SNR=16
R55A **Marlinton** **29.62 327** P **P** **21 15 13.2 +0.1**
baz=138
M60A **Port Jervis** **29.64 338** P **P** **21 15 13.3 +0.2**
baz=151
PTLB **Pontes e Lacer** **29.64 178** *e*P **P** **21 15 13.7 +0.5**
W52A **Murphy** **29.68 318** **P** **21 15 14.5 +0.9**
HRV **Adam Dziewonsk** **29.70 343** P **P** **21 15 14.4 +0.8**
baz=157
Q56A **Snyder Ridge,** **29.72 329** P **P** **21 15 14.6 +0.7**
baz=140,SNR=5.6
N59A **State Game Lan** **29.72 336** P **P** **21 15 14.6 +0.7**
baz=148
P56A **Dayton Farm, R** **29.91 330** P **P** **21 15 16.4 +0.8**
baz=142
S54A **Dingess, Beckl** **29.91 325** P **P** **21 15 16.2 +0.6**
baz=136
O57A **Amberson** **29.92 333** P **P** **21 15 16.7 +1.0**
baz=144,SNR=5.8
TKL **Tuckaleechee C** **29.93 319** P **P** **21 15 14.7 -1.1**
comp=Z,6.3nm,0.9s,baz=114,slow=8.9,SNR=6.6
R54A **Victor** **30.01 326** P **P** **21 15 17.2 +0.7**
baz=136
L61A **Hillsdale 1, H** **30.03 340** P **P** **21 15 16.8 +0.3**
baz=153,SNR=5.3
N58A **Sunbury** **30.04 335** P **P** **21 15 17.6 +0.9**
baz=146
T53A **Wise** **30.04 323** P **P** **21 15 17.5 +0.6**
baz=132
L60A **Shokan** **30.08 339** P **P** **21 15 17.9 +0.9**
baz=152,SNR=5.8
M59A **Waymart** **30.13 337** P **P** **21 15 18.5 +1.0**
baz=149,SNR=9.5
Q55A **Buckhannon** **30.14 328** P **P** **21 15 19.1 +1.5**
baz=139
N57A **Milroy** **30.33 333** P **P** **21 15 19.6 +0.3**
baz=145,SNR=7.6
TZTN **Tazewell** **30.36 321** P **P** **21 15 20.3 +0.7**
baz=130
TZTN **Tazewell** **30.36 321** P **P** **21 15 19.6 0.0**
K61A **Williamstown** **30.37 341** P **P** **21 15 20.8 +1.2**
baz=154
SSPA **Standing Stone** **30.38 333** P **P** **21 15 20.7 +1.1**
baz=144
M58A **Price's Panora** **30.39 335** P **P** **21 15 20.3 +0.5**
baz=147
O56A **Blue Knob Stat** **30.39 332** P **P** **21 15 21.4 +1.5**
baz=143,SNR=7.3
V51A **Loudon** **30.39 319** P **P** **21 15 20.5 +0.7**
V51A IAmb IAmb 21 15 30.5
comp=Z,38nm,1.1s
P55A **Reedsville** **30.40 329** P **P** **21 15 21.1 +1.2**
baz=140
Q54A **Coxs Mills** **30.52 327** P **P** **21 15 22.1 +1.2**
baz=138
Q54A **Coxs Mills** **30.52 327** P **P** **21 15 21.6 +0.6**
Q54A IAmb IAmb 21 15 32.5
comp=Z,51nm,0.9s
MCWV **Mont Chateau** **30.52 329** P **P** **21 15 22.0 +1.1**
baz=140
L59A **Walton** **30.55 338** P **P** **21 15 22.5 +1.3**
baz=151
LRAL **Lakeview Retre** **30.62 312** P **P** **21 15 23.4 +1.6**
baz=121,SNR=8.3
SDBA **SAO DESIDERIO** **30.63 150** *e*P **P** **21 15 22.4 +0.3**
M57A **Sunshine Farm,** **30.63 335** P **P** **21 15 23.5 +1.7**
baz=146,SNR=8.7
M57A **Sunshine Farm,** **30.63 335** P **P** **21 15 22.6 +0.7**
R53A **Hurricane** **30.65 325** P **P** **21 15 23.2 +1.2**
baz=135
O55A **Ligonier** **30.69 331** P **P** **21 15 24.5 +2.1**
baz=141,SNR=6.1
L58A **Harry Jones Me** **30.72 337** P **P** **21 15 24.4 +1.7**
baz=149,SNR=6.4
J61A **Chester** **30.76 342** P **P** **21 15 23.7 +0.7**
baz=156
N56A **West Decatur** **30.79 333** P **P** **21 15 25.3 +2.0**
baz=144,SNR=6.3
Q53A **Leroy** **30.79 326** P **P** **21 15 24.6 +1.3**
baz=136
P54A **Burton** **30.80 329** P **P** **21 15 24.6 +1.1**
baz=139
CCIG **Comitan** **30.81 278** P **P** **21 15 23.8 -0.1**
BINY **Binghamton** **30.90 337** P **P** **21 15 26.7 +2.4**
baz=149,SNR=7.2
I62A **Tamworth** **30.91 344** P **P** **21 15 25.7 +1.4**
baz=158
NNA **Nana** **30.92 213** P **P** **21 15 23.6 -1.2**
NNA pmax pmax
comp=Z,27nm,0.9s
NNA **Nana** **30.92 213** P **P** **21 15 23.6 -1.2**
NNA IAmb IAmb 21 15 26.5
comp=Z,27nm,0.8s
J60A **Lant Hill Farm** **30.93 341** P **P** **21 15 27.1 +2.6**
baz=154,SNR=5.6
K59A **Cooperstown** **30.99 339** P **P** **21 15 26.6 +1.5**
baz=151
N55A **Marion Center** **30.99 332** P **P** **21 15 26.9 +1.8**
baz=143,SNR=5.4
H65A **Eastbrook** **30.99 349** P **P** **21 15 26.1 +1.1**
baz=165
ARAG **Araguaiana, MT** **31.01 164** *e*P **P** **21 15 26.3 +0.9**
L57A **Andrews Acres** **31.07 336** P **P** **21 15 28.3 +2.5**
baz=147,SNR=8.1
S51A **Beattyville** **31.11 322** P **P** **21 15 26.5 +0.3**
S51A IAmb IAmb 21 15 36.9
comp=Z,48nm,0.9s
O54A **Avella** **31.19 329** P **P** **21 15 27.6 +0.8**
baz=140
M56A **Emporium** **31.20 333** P **P** **21 15 27.5 +0.6**
baz=145
I61A **Oroboro, Fairl** **31.20 343** P **P** **21 15 27.2 +0.3**
baz=157
K58A **Earlville** **31.26 338** P **P** **21 15 29.3 +1.8**
baz=150,SNR=5.8
Q52A **Bidwell** **31.27 326** P **P** **21 15 28.0 +0.5**
baz=135
H63A **New Sharon** **31.33 346** P **P** **21 15 28.4 +0.4**
baz=161
G65A **Princeton** **31.36 350** P **P** **21 15 28.7 +0.5**
baz=166
RCBR **Riachuelo** **31.38 128** *c*e*P* **P** **21 15 30.5 +1.7**
RCBR pmax pmax
comp=Z,28nm,1.7s
RCBR **Riachuelo** **31.38 128** P **P** **21 15 27.6 -1.3**
RCBR IAmb IAmb 21 15 30.0
comp=Z,49nm,1.4s
RCBR **Riachuelo** **31.38 128** *e*P **P** **21 15 29.4 +0.6**
LBNH **Lisbon** **31.41 344** P **P** **21 15 30.1 +1.4**
baz=158
I60A **Shoreham** **31.43 342** P **P** **21 15 30.4 +1.5**
baz=155
LPAZ **La Paz** **31.44 195** P **P** **21 15 29.8 -0.1**
comp=Z,13nm,0.8s,baz=10,slow=9.5,SNR=29
LPAZ LR LR 21 28 37.4

comp=Z,970nm,21.5s,baz=351,slow=37
LPAZ **La Paz** **31.44 195** P **P** **21 15 29.4 -0.5**
LPAZ pmax pmax
comp=Z,31nm,1.1s
LPAZ **La Paz** **31.44 195** P **P** **21 15 29.4 -0.5**
LPAZ IAmb IAmb 21 15 37.5
comp=Z,30nm,1.1s
LPAZ **La Paz** **31.44 195** *e*P **P** **21 15 29.6 -0.3**
M55A **Ridgway** **31.44 333** P **P** **21 15 31.3 +2.2**
baz=144,SNR=7.0
L56A **Greenwood** **31.47 335** P **P** **21 15 31.8 +2.4**
baz=146,SNR=8.7
Z47A **Carrollton** **31.47 311** P **P** **21 15 29.9 +0.5**
J59A **Piesco** **31.48 340** P **P** **21 15 31.7 +2.3**
baz=153,SNR=5.6
H62A **Milan** **31.52 345** P **P** **21 15 31.6 +2.0**
baz=159
K57A **Scipio Center** **31.56 337** P **P** **21 15 32.0 +1.9**
baz=148,SNR=6.6
N54A **Moraine State** **31.60 331** P **P** **21 15 31.6 +1.1**
baz=141,SNR=5.9
N54A **Moraine State** **31.60 331** P **P** **21 15 31.8 +1.4**
G64A **Maxfield** **31.63 348** P **P** **21 15 32.0 +1.4**
baz=164
J58A **Remsen** **31.66 339** P **P** **21 15 32.5 +1.6**
baz=151,SNR=5.8
O53A **New Philadelph** **31.66 329** P **P** **21 15 31.3 +0.4**
baz=138
G63A **Kingsbury** **31.67 347** P **P** **21 15 31.9 +0.9**
baz=162
H61A **Lyndonville** **31.68 344** P **P** **21 15 32.6 +1.5**
baz=158
P52A **Corning** **31.68 327** P **P** **21 15 32.4 +1.3**
baz=136
U49A **Red Boiling Sp** **31.74 319** P **P** **21 15 32.1 +0.4**
U49A IAmb IAmb 21 15 42.5
comp=Z,33nm,1.1s
I58A **Old Forge** **31.84 340** P **P** **21 15 33.7 +1.2**
baz=152,SNR=7.6
CLTN **Cedars of Leba** **31.84 318** P **P** **21 15 33.7 +1.1**
K56A **Middlesex** **31.85 336** P **P** **21 15 34.5 +1.9**
baz=147,SNR=6.2
O52A **Adamsville** **31.88 328** P **P** **21 15 34.3 +1.4**
baz=137
L55A **Hinsdale** **31.88 334** P **P** **21 15 34.2 +1.3**
baz=145,SNR=6.8
M54A **Oil Creek Stat** **31.88 332** P **P** **21 15 34.6 +1.7**
baz=142,SNR=5.0
N53A **Lisbon** **31.89 330** P **P** **21 15 34.5 +1.5**
baz=140
H60A **Morristown** **31.92 343** P **P** **21 15 34.4 +1.2**
baz=156
146A **Union** **31.93 310** P **P** **21 15 33.8 +0.3**
J57A **Williamstown** **31.95 338** P **P** **21 15 34.3 +0.8**
baz=150,SNR=6.5
J57A **Williamstown** **31.95 338** P **P** **21 15 34.3 +0.8**
J57A IAmb IAmb 21 15 44.9
comp=Z,52nm,1.0s
V48A **Smith Brothers** **31.96 317** P **P** **21 15 34.0 +0.2**
V48A IAmb IAmb 21 15 45.6
comp=Z,73nm,1.4s
G62A **West of Eustis** **31.97 346** P **P** **21 15 34.4 +0.7**
baz=161
P51A **Williamsport** **32.07 326** P **P** **21 15 35.2 +0.6**
baz=135
P51A **Williamsport** **32.07 326** P **P** **21 15 35.1 +0.6**
P51A IAmb IAmb 21 15 45.4
comp=Z,57nm,1.0s
F63A **Nahmakanta, Br** **32.13 348** P **P** **21 15 36.0 +1.0**
baz=163
F64A **Sherman** **32.14 349** P **P** **21 15 35.8 +0.7**
baz=165
J56A **Wolcott** **32.16 337** P **P** **21 15 36.4 +1.1**
baz=148,SNR=7.8
BDFB **Brasilia** **32.16 157** P **P** **21 15 34.6 -1.1**
comp=Z,6.3nm,0.8s,baz=329,slow=13,SNR=5.5
BDFB **Brasilia** **32.16 157** P **P** **21 15 35.5 -0.2**
BDFB pmax pmax
comp=Z,12nm,1.0s
BDFB **Brasilia** **32.16 157** P **P** **21 15 35.5 -0.2**
K55A **Perry** **32.17 335** P **P** **21 15 36.5 +1.0**
baz=146,SNR=5.7
G61A **St-Isidore-de-** **32.27 345** P **P** **21 15 36.4 +0.1**
baz=159
H59A **Cadyville** **32.28 342** P **P** **21 15 37.5 +1.1**
baz=155
I57A **Carthage** **32.29 339** P **P** **21 15 37.8 +1.3**
baz=151,SNR=5.8
M53A **WI Miller and** **32.30 331** P **P** **21 15 37.5 +0.9**
baz=140
O51A **Pataskala** **32.30 327** P **P** **21 15 36.1 -0.6**
baz=136
L54A **Sinclairville** **32.30 333** P **P** **21 15 37.6 +1.0**
baz=143,SNR=6.3
G60A **Masonville** **32.31 344** P **P** **21 15 37.8 +1.2**
baz=157
N52A **McGinn's Farm,** **32.32 329** P **P** **21 15 38.0 +1.2**
baz=138
K54A **Basiliko Farm,** **32.34 334** P **P** **21 15 37.8 +0.9**
baz=145,SNR=5.5
J55A **Hilton** **32.52 336** P **P** **21 15 39.2 +0.7**
baz=147,SNR=5.2
G59A **Clarenceville** **32.53 343** P **P** **21 15 38.8 +0.3**
baz=156
LONY **Lake Ozonia** **32.54 341** P **P** **21 15 38.7 +0.1**
baz=153
ACSO **Alum Creek Sta** **32.56 327** P **P** **21 15 39.8 +0.9**
baz=136,SNR=5.6
E64A **Bridgewater** **32.59 350** P **P** **21 15 39.0 0.0**
baz=166
H57A **Richville** **32.66 340** P **P** **21 15 40.5 +0.8**
baz=152,SNR=5.8
N51A **Ashland** **32.74 328** P **P** **21 15 40.8 +0.3**
baz=137
G58A **Ormstown** **32.85 342** P **P** **21 15 41.7 +0.4**
baz=154
WVT **Waverly** **32.86 316** P **P** **21 15 41.9 +0.4**
WVT pmax pmax
comp=Z,48nm,1.2s
WVT **Waverly** **32.86 316** P **P** **21 15 42.0 +0.4**
baz=124
WVT **Waverly** **32.86 316** P **P** **21 15 41.9 +0.4**
WVT IAmb IAmb 21 15 51.9
comp=Z,48nm,1.1s
J54A **Appleton** **32.86 335** P **P** **21 15 42.1 +0.6**
baz=146,SNR=6.0
T47A **Sharon Grove** **32.88 318** P **P** **21 15 42.9 +1.2**
T47A IAmb IAmb 21 15 52.4
comp=Z,45nm,1.1s
M51A **Elyria** **32.95 329** P **P** **21 15 43.4 +1.1**
baz=138
P49A **Miami Univ. Ec** **33.03 324** P **P** **21 15 43.8 +0.7**
baz=132,SNR=9.2
H56A **Elgin** **33.07 339** P **P** **21 15 44.2 +0.9**
baz=150,SNR=7.0
E62A **Clayton Lake** **33.09 348** P **P** **21 15 44.3 +0.9**
baz=163
OXF **Oxford** **33.09 312** P **P** **21 15 44.5 +0.9**
baz=120,SNR=27
G57A **Newington** **33.10 341** P **P** **21 15 43.9 +0.4**
baz=153
E61A **Lac Etchemin** **33.11 347** P **P** **21 15 45.1 +1.4**
baz=161
WCI **Wyandotte Cave** **33.12 321** P **P** **21 15 44.8 +1.0**
WCI pmax pmax
comp=Z,46nm,1.0s
WCI **Wyandotte Cave** **33.12 321** P **P** **21 15 45.2 +1.5**
baz=129
WCI **Wyandotte Cave** **33.12 321** P **P** **21 15 44.8 +1.0**
WCI IAmb IAmb 21 15 54.9
comp=Z,46nm,0.9s
JANB **Januaria** **33.20 151** *e*P **P** **21 15 44.9 +0.1**
D63A **Stockholm** **33.23 350** P **P** **21 15 45.7 +1.0**
baz=166
E60A **Ste Agathe de** **33.27 346** P **P** **21 15 46.0 +1.1**
baz=160
I55A **Frankford** **33.27 337** P **P** **21 15 45.8 +0.8**
baz=148,SNR=5.9
H55A **Tweed** **33.37 338** P **P** **21 15 46.1 +0.2**
baz=149,SNR=7.7
P48A **Milroy** **33.39 323** P **P** **21 15 46.7 +0.5**
P48A IAmb IAmb 21 15 56.4
comp=Z,38nm,0.8s
D62A **Allapoint, All** **33.44 349** P **P** **21 15 48.1 +1.6**
baz=164
D60A **Saint Jean D'O** **33.66 347** P **P** **21 15 49.8 +1.4**
baz=161

PB16 IPOC Station P 33.75 196 P P 21 15 48.5 -1.6
H53A Bobcaygeon 33.92 336 P P 21 15 51.9 +1.2
baz=147,SNR=8.4
E57A Chemin Saint G 34.02 343 P P 21 15 53.2 +1.6
baz=155
PB12 IPOC Station P 34.24 197 P P 21 15 52.2 -1.6
PB12 IAmb IAmb 21 15 56.1
comp=Z,52nm,1.1s
IPMB Ipameri, GO 34.26 159 eP P 21 15 54.2 +0.3
SADO Sadowa 34.30 336 P P 21 15 55.3 +1.3
comp=Z,16nm,1.1s,baz=163,slow=6.6,SNR=4.7
D58A Chemin du LacG 34.30 345 P P 21 15 53.9 -0.1
baz=158
I51A Listowel 34.31 333 P P 21 15 53.8 -0.3
baz=142
G54A Lake Saint Pet 34.43 338 P P 21 15 55.2 +0.1
baz=148,SNR=5.6
D57A Chemin Vers le 34.50 343 P P 21 15 57.1 +1.4
baz=156
MNMC Minye Minye 34.53 196 P P 21 15 54.6 -2.0
MNMC IAmb IAmb 21 16 00.2
comp=Z,29nm,0.9s
LATQ La Tuque 34.55 345 P P 21 15 57.3 +1.3
baz=158
GDU01 Guandu, BA 34.59 143 eP P 21 15 56.8 0.0
D56A ZEC Mazanza, M 34.77 343 P P 21 15 59.1 +1.0
baz=155
MC01 Montes Claros 34.81 152 eP P 21 15 59.5 +0.7
DRLN Deer Lake 34.87 3 P P 21 15 58.2 -0.6
DRLN IAmb IAmb 21 16 08.3
comp=Z,33nm,1.1s
ALGO Algonquin Park 34.89 338 P P 21 16 00.1 +1.1
baz=149,SNR=5.9
GO01 Chusmiza 34.95 195 P P 21 15 58.4 -1.9
GO01 IAmb IAmb 21 16 01.0
comp=Z,30nm,0.9s
D55A Sainte-Anne-du 34.96 342 P P 21 15 59.7 0.0
baz=153
SFIN Lafayette 34.96 323 P P 21 16 00.2 +0.4
baz=130
Z41A Richland Creek 35.03 308 P P 21 16 00.9 +0.5
baz=114
PSGCX Pisagua 35.12 196 P P 21 15 59.0 -2.4
PSGCX IAmb IAmb 21 16 02.7
comp=Z,30nm,0.8s
PB11 IPOC Station P 35.15 196 P P 21 15 59.4 -2.3
ITRB Iturama 35.22 164 eP P 21 16 02.5 +0.4
Q44A Meyer Farm, Va 35.22 319 P P 21 16 02.6 +0.6
PB08 IPOC Station P 35.39 195 P P 21 16 02.2 -1.9
PB08 IAmb IAmb 21 16 05.0
comp=Z,32nm,0.9s
D54A Lac Fusel, La 35.45 341 P P 21 16 04.6 +0.7
baz=152,SNR=5.7
W41B Gary Mavity, V 35.46 312 P P 21 16 04.6 +0.5
baz=118,SNR=13
T42A Van Buren 35.55 315 P P 21 16 05.0 +0.1
X40A Basin Creek Fa 35.58 310 P P 21 16 06.0 +0.8
baz=116,SNR=10
D53A Lac Vacive, Po 35.73 339 P P 21 16 07.3 +0.9
baz=150,SNR=6.0
NATX Nacogdoches 35.90 305 P P 21 16 08.8 +0.9
baz=111
NATX Nacogdoches 35.90 305 P P 21 16 09.4 +1.5
MIAR Mount Ida 36.16 310 P P 21 16 10.8 +0.6
baz=115,SNR=28
CCM Cathedral Cave 36.20 316 P P 21 16 10.8 +0.4
CCM pmax pmax
comp=Z,68nm,1.1s
CCM Cathedral Cave 36.20 316 P P 21 16 10.3 -0.1
baz=122
CCM Cathedral Cave 36.20 316 P P 21 16 10.8 +0.4
CCM IAmb IAmb 21 16 20.6
comp=Z,68nm,1.1s
HKT Hockley 36.26 301 P P 21 16 11.9 +0.9
HKT pmax pmax
comp=Z,99nm,1.4s
HKT Hockley 36.26 301 P P 21 16 11.9 +0.9
HKT IAmb IAmb 21 16 21.6
comp=Z,99nm,1.4s
PB01 IPOC Station P 36.34 195 P P 21 16 10.5 -1.4
HDIL Hopedale 36.38 321 P P 21 16 12.1 +0.1
baz=127
HDIL Hopedale 36.38 321 P P 21 16 12.4 +0.4
HDIL IAmb IAmb 21 16 22.0
comp=Z,41nm,0.8s
MGMO Mountain Grove 36.43 314 P P 21 16 12.6 +0.2
U40A Yellville 36.45 313 P P 21 16 13.4 +0.7
baz=118,SNR=10
U40A Yellville 36.45 313 P P 21 16 12.9 +0.2
U40A IAmb IAmb 21 16 22.9
comp=Z,81nm,1.1s
W39A Magazine 36.59 311 P P 21 16 14.9 +1.1
baz=116,SNR=21
L44A Lake County Fo 36.60 325 P P 21 16 14.3 +0.5
baz=131
PCMB Pacaembu 36.81 166 eP P 21 16 15.8 0.0
237A Washetta, Mont 36.90 305 P P 21 16 17.3 +0.8
TLIG Tlapa 36.95 280 P P 21 16 17.7 +0.5
TLIG IAmb IAmb 21 16 35.3
comp=Z,54nm,1.4s
PB09 IPOC Station P 37.01 194 P P 21 16 17.0 -0.6
PB07 IPOC Station P 37.09 195 P P 21 16 16.9 -1.5
HHAR Hobbs 37.19 312 P P 21 16 19.3 +0.4
HHAR IAmb IAmb 21 16 29.2
comp=Z,70nm,1.0s
LSQQ Lebel-sur-Quev 37.24 342 P P 21 16 20.5 +1.3
baz=152
CHGQ Chibougamau 37.29 345 P P 21 16 20.1 +0.5
baz=157
P40A Paris 37.52 318 P P 21 16 21.8 +0.2
X37A Clayton 37.52 309 P P 21 16 23.0 +1.3
X37A IAmb IAmb 21 16 32.1
comp=Z,54nm,1.1s
TRCB Terra Rica 37.67 168 eP P 21 16 23.9 +0.8
LVC Limon Verde 37.71 193 P P 21 16 22.7 -1.2
comp=Z,16nm,0.7s,baz=10,slow=6.9,SNR=11
LVC Limon Verde 37.71 193 ceP P 21 16 23.6 -0.2
LVC pmax pmax
comp=Z,34nm,1.3s
LVC Limon Verde 37.71 193 P P 21 16 22.6 -1.2
LVC Limon Verde 37.71 193 eP P 21 16 23.0 -0.9
SJMB Sao Joao De Ma 37.84 150 eP P 21 16 24.9 +0.4
435B Jarrell 37.95 302 P P 21 16 25.9 +0.5
baz=107
435B Jarrell 37.95 302 P P 21 16 26.0 +0.5
PB06 IPOC Station P 37.96 194 P P 21 16 24.4 -1.3
MATQ Matagami 38.06 342 P P 21 16 26.5 +0.4
baz=152
BSFB Barra de Sao F 38.11 149 eP P 21 16 27.6 +0.8
WHTX Lake Whitney, 38.22 304 P P 21 16 27.6 -0.1
baz=108
BSCB Bom Sucesso 38.28 156 eP P 21 16 29.2 +0.8
TUL1 Leonard 38.38 310 P P 21 16 30.2 +1.3
baz=115,SNR=20
TUL1 Leonard 38.38 310 P P 21 16 29.1 +0.1
JFWS Jewell Farm 38.40 324 P P 21 16 29.4 +0.3
baz=128,SNR=5.7
P38A Dawn 38.54 317 P P 21 16 30.7 +0.4
P38A IAmb IAmb 21 16 40.5
comp=Z,56nm,1.0s
RIB01 Linhares ES 38.75 149 eP P 21 16 33.2 +1.0
833A Chaparral WMA, 38.85 297 P P 21 16 32.8 -0.3
baz=102
833A Chaparral WMA, 38.85 297 P P 21 16 33.2 +0.2
833A IAmb IAmb 21 16 43.6
comp=Z,79nm,1.5s
W35A Tecumseh 38.88 309 P P 21 16 32.7 -0.5
FRTB Fartura 38.90 164 eP P 21 16 34.2 +0.7
VAO Valinhos 39.34 161 eP P 21 16 36.5 -0.7
SCIA State Center 39.57 320 P P 21 16 38.7 -0.2
baz=124
PTGB Pitanga 39.65 168 eP P 21 16 40.2 +0.4
JCT Junction City 39.70 301 P P 21 16 40.0 -0.2
baz=105,SNR=9.1
ABTX Abilene, Hawle 40.17 304 P P 21 16 44.3 +0.2
baz=107,SNR=11
ABTX Abilene, Hawle 40.17 304 P P 21 16 43.9 -0.1
WMOK Wichita Mounta 40.18 307 P P 21 16 43.6 -0.6
baz=110,SNR=20
GO02 Mina Guanaco 40.33 193 P P 21 16 44.0 -1.6
GO02 IAmb IAmb 21 16 45.9
comp=Z,54nm,1.2s
KSU1 Kansas State U 40.36 315 P P 21 16 45.0 -0.5
baz=117
KSU1 Kansas State U 40.36 315 P P 21 16 45.2 -0.3
KSU1 IAmb IAmb 21 16 55.6
comp=Z,39nm,0.8s
PET01 Itanhaem-SP 40.45 162 eP P 21 16 47.1 +0.8
CPUP Villa Florida 40.55 176 P P 21 16 45.8 -1.3
comp=Z,20nm,0.9s,baz=354,slow=7.7,SNR=30
CPUP LR LR 21 36 01.7
comp=Z,588nm,18.8s,baz=352,slow=40
CPUP Villa Florida 40.55 176 P P 21 16 45.9 -1.2
CPUP pmax pmax
comp=Z,25nm,0.9s
CPUP Villa Florida 40.55 176 P P 21 16 45.9 -1.2
CPUP Villa Florida 40.55 176 eP P 21 16 46.0 -1.0
SCHQ Schefferville 40.71 354 P P 21 16 47.6 -0.5
comp=Z,19nm,1.0s,baz=162,slow=7.2,SNR=9.5
SCHQ LR LR 21 33 48.0
comp=Z,292nm,20.2s,baz=177,slow=36
SCHQ Schefferville 40.71 354 P P 21 16 48.3 +0.1
ZAIG Zacatecas 40.88 288 P P 21 16 50.6 +0.3
SPMN Marine on St. 41.27 325 P P 21 16 53.4 +0.5
baz=128
ITAB Concordia 42.09 169 eP P 21 17 00.4 +0.6
EYMN Ely 42.32 329 P P 21 17 01.2 -0.2
baz=132
EYMN Ely 42.32 329 P P 21 17 02.6 +1.1
CBKS Cedar Bluff 42.44 313 P P 21 17 02.7 +0.1
CBKS pmax pmax
comp=Z,123nm,1.0s
CBKS Cedar Bluff 42.44 313 P P 21 17 03.1 +0.5
baz=114,SNR=16
CBKS Cedar Bluff 42.44 313 P P 21 17 02.7 +0.1
AMTX Amarillo 42.48 306 P P 21 17 03.4 +0.3
baz=108
BGNE Belgrade 42.48 317 P P 21 17 03.1 +0.2
baz=118,SNR=6.2
BGNE Belgrade 42.48 317 P P 21 17 02.5 -0.4
ECSD EROS Data Cent 42.66 321 P P 21 17 04.4 0.0
baz=122,SNR=13
ECSD EROS Data Cent 42.66 321 P P 21 17 04.2 -0.2
ECSD IAmb IAmb 21 17 14.5
comp=Z,64nm,1.0s
TXAR Lajitas Array 42.72 298 P P 21 17 04.8 -0.3
comp=Z,2.2nm,0.8s,baz=120,slow=6.2,SNR=15
TXAR PcP PcP 21 18 58.3 +1.3
comp=Z,1.8nm,0.8s,baz=101,slow=3.8,SNR=3.5
TXAR ScP ScP 21 22 47.8 -0.8
comp=Z,0.7nm,0.9s,baz=99,slow=5.6,SNR=3.6
TXAR LR LR 21 37 46.2
comp=Z,252nm,21.7s,baz=0.0,slow=40
TX31 Lajitas Ar. Si 42.72 298 P P 21 17 05.0 -0.2
GO03 Copiap 42.82 193 P P 21 17 04.5 -1.2
GO03 IAmb IAmb 21 17 05.8
comp=Z,50nm,1.1s
MSTX Muleshoe 43.07 305 P P 21 17 07.5 -0.4
baz=106,SNR=34
MSTX Muleshoe 43.07 305 P P 21 17 07.6 -0.3
PMOZ Porto Moniz, M 43.16 57 eLR LR 21 29 05.0
comp=Z,332nm,20.0s
AC05 El Transito 44.03 193 P P 21 17 14.5 -1.1
AC05 IAmb IAmb 21 17 25.5
comp=Z,49nm,1.1s
LCO Las Campanas 44.29 193 P P 21 17 16.8 -1.1
LCO pmax pmax
comp=Z,50nm,1.5s
LCO Las Campanas 44.29 193 P P 21 17 16.8 -1.1
LCO IAmb IAmb 21 17 35.1
comp=Z,50nm,1.4s
CNLB Canela 44.35 168 eP P 21 17 18.1 -0.1
SUSD Miller 44.47 320 P P 21 17 19.0 +0.1
baz=120,SNR=5.9
KSCO Kaye Shedlock' 44.59 312 P P 21 17 20.1 0.0
baz=111,SNR=6.9
MNTX Cornudas Mount 44.64 301 P P 21 17 20.5 0.0
baz=102,SNR=31
MNTX Cornudas Mount 44.64 301 P P 21 17 20.4 0.0
AGMN Agassiz Nation 44.81 326 P P 21 17 21.8 +0.3
baz=127,SNR=22
CO01 Juntas del Tor 45.09 192 P P 21 17 23.8 -0.5
T25A Trinidad 45.28 308 P P 21 17 25.8 0.0
baz=108,SNR=8.9
ULM Lac du Bonnet 46.00 329 P P 21 17 30.6 -0.3
comp=Z,11nm,0.8s,baz=130,slow=9.2,SNR=6.0
ULM LR LR 21 35 28.6
comp=Z,282nm,21.5s,baz=128,slow=34
CO03 El Pedregal 46.05 193 P P 21 17 30.6 -1.0
BNM Barren Site 46.21 304 P P 21 17 33.9 +0.7
ANMO Albuquerque 46.26 305 dP P 21 17 34.5 +1.0
ANMO pmax pmax
comp=Z,13nm,1.1s
ANMO Albuquerque 46.26 305 P P 21 17 32.9 -0.7
baz=104
ANMO Albuquerque 46.26 305 P P 21 17 33.9 +0.4
SDCO Great Sand Dun 46.30 309 P P 21 17 33.9 0.0
baz=108,SNR=10
SDCO Great Sand Dun 46.30 309 P P 21 17 33.7 -0.2
PLTB Pedras Altas 46.30 172 eP P 21 17 32.4 -1.1
ZON Zonda 46.36 190 P P 21 17 32.8 -1.2
ZON pmax pmax
comp=Z,33nm,0.9s
ZON Zonda 46.36 190 P P 21 17 32.8 -1.2
ZON IAmb IAmb 21 17 38.2
comp=Z,33nm,0.9s
Q24A Divide 46.42 311 P P 21 17 34.8 0.0
baz=109,SNR=5.3
MDND Maddock 46.62 324 P P 21 17 36.1 +0.2
baz=122
121A Cookes Peak, D 46.81 301 P P 21 17 38.6 +0.8
baz=101,SNR=6.5
ISCO Idaho Springs 47.03 311 P P 21 17 40.1 +0.5
ISCO pmax pmax
comp=Z,45nm,1.1s
ISCO Idaho Springs 47.03 311 P P 21 17 40.5 +0.9
baz=109,SNR=12
ISCO Idaho Springs 47.03 311 P P 21 17 40.1 +0.5
S22A 4UR Ranch, Cre 47.30 308 P P 21 17 42.3 +0.6
baz=106,SNR=17
S22A 4UR Ranch, Cre 47.30 308 P P 21 17 42.0 +0.3
S22A IAmb IAmb 21 17 52.2
comp=Z,33nm,0.9s
RSSD Black Hills 47.56 318 P P 21 17 44.2 +0.6
RSSD pmax pmax
comp=Z,27nm,1.1s
RSSD Black Hills 47.56 318 P P 21 17 44.2 +0.6
baz=114
RSSD Black Hills 47.56 318 P P 21 17 44.2 +0.6
RSSD IAmb IAmb 21 17 54.0
comp=Z,27nm,1.1s
N23A Red Feather La 47.64 313 P P 21 17 45.2 +0.9
baz=110,SNR=6.1
VA03 San Esteban 47.89 192 P P 21 17 45.7 -0.2
MVCO Mesa Verde 48.43 307 P P 21 17 51.4 +0.9
baz=105
K22A Casper 48.67 315 P P 21 17 53.2 +1.1
baz=111,SNR=6.8
RWWY Rawlins 48.81 313 P P 21 17 53.6 +0.3
W18A Petrified Fore 48.92 304 P P 21 17 54.7 +0.5
baz=102
TUC Tucson 49.27 300 P P 21 17 57.2 +0.4
baz=99
DGMT Dagmar 49.59 323 P P 21 17 59.7 +0.8
baz=118
DGMT Dagmar 49.59 323 P P 21 17 58.9 -0.1
BO02 Sierra Bellavi 49.90 191 P P 21 18 00.9 -0.5
BO02 IAmb IAmb 21 18 04.2
comp=Z,31nm,0.9s
LAO LASA Array 50.04 320 P P 21 18 03.2 +0.9
baz=114,SNR=8.6
X16A Lo Mia Camp, P 50.16 303 P P 21 18 03.7 0.0
X16A IAmb IAmb 21 18 15.0
comp=Z,52nm,1.1s
WUAZ Wupatki 50.31 304 P P 21 18 05.3 +0.5
baz=101,SNR=8.2
H10N3 ASCENSION HYDR 50.44 113 T T 22 13 22.1
baz=296,slow=75,SNR=572
H10N2 ASCENSION HYDR 50.45 113 T T 22 13 23.6
baz=296,slow=75,SNR=500
SRU San Rafael Swe 50.46 309 P P 21 18 06.2 +0.3
SRU pmax pmax
comp=Z,64nm,1.0s
SRU San Rafael Swe 50.46 309 P P 21 18 06.2 +0.3
H10N1 ASCENSION HYDR 50.46 113 T T 22 13 24.7
baz=296,slow=75,SNR=497
P17A Butcher Ranch, 50.72 309 P P 21 18 08.3 +0.5
BW06 Boulder Array 50.81 314 P P 21 18 09.0 +0.5
baz=108,SNR=26
BW06 Boulder Array 50.81 314 P P 21 18 08.8 +0.3
PD31 Pinedale Array 50.81 314 P P 21 18 08.5 0.0
PDAR Pinedale Array 50.81 314 P P 21 18 08.5 0.0
comp=Z,9.7nm,0.8s,baz=114,slow=9.6,SNR=48
PDAR LR LR 21 41 26.1
comp=Z,616nm,20.8s,baz=120,slow=38
PDAR Pinedale Array 50.81 314 P P 21 18 08.3 -0.2
Q16A Castle Valley 50.90 309 P P 21 18 09.4 +0.2
PTEO Sao Teotonio 51.02 53 eP P 21 18 09.3 -0.6
PNCL Nicolau / Gran 51.30 52 eP P 21 18 12.3 +0.4
comp=Z,59nm,2.2s
RLMT Red Lodge 51.40 317 P P 21 18 13.7 +0.8
baz=110,SNR=37
PMTG Montargil 51.75 51 eP P 21 18 15.5 +0.2
comp=Z,48nm,1.6s
PVAQ Vaqueiros 51.78 54 eSn S 21 25 42.6 +4.5
PVAQ eLR LR 21 32 30.5
comp=Z,202nm,18.0s
PCAS Casmilo, Conde 51.78 50 eP P 21 18 15.8 +0.3
BI02 San Fabin de 51.81 191 P P 21 18 15.0 -0.7
PDMCI Parker Dam,Lak 52.35 302 P P 21 18 20.1 +0.3
baz=98
PVIS Viseu 52.39 49 eP P 21 18 20.0 -0.1
comp=Z,30nm,1.7s
PGAV Gavieira, Arco 52.44 48 eP P 21 18 20.6 0.0
comp=Z,60nm,1.8s
PGAV Gavieira, Arco 52.44 48 eLR LR 21 32 26.4
comp=Z,256nm,18.0s
DUG Dugway, Tooele 52.44 310 P P 21 18 21.5 +0.8
baz=104,SNR=36
PMRV Marv??o 52.46 51 eP P 21 18 20.3 -0.3
comp=Z,23nm,1.7s
PMRV Marv??o 52.46 51 eLR LR 21 31 36.3
comp=Z,242nm,20.0s
SFX San Felipe 52.55 298 P P 21 18 21.8 +0.5
SFX IAmb IAmb 21 18 28.8
comp=Z,39nm,1.3s
PVRL Vila Real 52.66 49 eP P 21 18 22.1 0.0
comp=Z,36nm,1.4s
GLA Glamis 52.74 301 P P 21 18 22.7 -0.2
baz=97
EGMT Eagleton 52.77 320 P P 21 18 23.9 +1.1
baz=112,SNR=38
NEE2 Needles Airpor 52.80 303 P P 21 18 23.6 +0.3
baz=98
BOZ Bozeman (W) 53.13 317 P P 21 18 25.9 +0.3
BOZ pmax pmax
comp=Z,44nm,1.1s
BOZ Bozeman (W) 53.13 317 P P 21 18 25.6 0.0
baz=109,SNR=13
BOZ Bozeman (W) 53.13 317 P P 21 18 25.9 +0.3
BOZ IAmb IAmb 21 18 36.5
comp=Z,44nm,1.1s
MVO Moncorvo 53.14 49 eSn S 21 26 02.3 +5.5
MVO eLR LR 21 33 27.0
comp=Z,195nm,18.0s
IRM Iron Mountain 53.15 302 P P 21 18 26.6 +0.8
baz=98,SNR=11
BC3 Big Chuckawall 53.34 301 P P 21 18 27.4 0.0
baz=97,SNR=5.8
SHPR Sheep Range 53.51 305 P P 21 18 28.8 +0.2
SWSC Sam W. Stewart 53.55 300 P P 21 18 28.8 +0.1
baz=96
ESJX Sierra Juarez 53.57 299 P P 21 18 29.2 +0.1
ESJX IAmb IAmb 21 18 39.4
comp=Z,23nm,1.1s
PRN Pahroc Range 53.58 306 P P 21 18 29.4 +0.3
GMRC Granite Mounta 53.66 303 P P 21 18 29.8 +0.2
baz=98
IKP In-Ko-Pah, Jac 53.77 300 P P 21 18 30.8 +0.3
baz=96
BELC Belle Mtn. Jos 53.83 302 P P 21 18 31.1 +0.1
baz=97,SNR=7.2
TUQ Turquoise Moun 53.96 303 P P 21 18 32.2 +0.3
baz=98
MONP2 Monument Peak 54.06 300 P P 21 18 32.9 +0.2
baz=96,SNR=7.5
LC01 Cunco 54.09 191 P P 21 18 30.9 -1.6
R11A Troy Canyon, C 54.16 307 P P 21 18 33.7 +0.3
baz=100,SNR=14
R11A Troy Canyon, C 54.16 307 P P 21 18 33.6 +0.3
R11A IAmb IAmb 21 18 44.6
comp=Z,50nm,1.4s
TPFO Pinon Flats 54.16 301 P P 21 18 33.0 -0.4
baz=96
PFO Pinyon Flats O 54.17 301 P P 21 18 33.4 0.0
PFO pmax pmax
comp=Z,15nm,1.1s
PFO Pinyon Flats O 54.17 301 P P 21 18 33.0 -0.4
baz=96
PFO Pinyon Flats O 54.17 301 P P 21 18 33.4 0.0
CBX Cerro Bola 54.20 300 P P 21 18 34.4 +0.7
HEC Hector,Ludlow 54.21 303 P P 21 18 34.0 +0.3
baz=97,SNR=6.1
SHOC Shoshone, Teco 54.31 304 P P 21 18 35.2 +0.9
baz=98,SNR=5.1
HLID Hailey 54.44 314 P P 21 18 36.1 +0.7
baz=105,SNR=18
TPNV Topopah Spring 54.45 305 P P 21 18 36.0 +0.6
baz=99,SNR=37
109C Camp Elliot, M 54.63 300 P P 21 18 37.2 +0.5
baz=95
GSC Goldstone, Bar 54.66 303 P P 21 18 37.1 +0.2
baz=97
TIC Toumodi 54.72 92 eP P 21 18 37.0 -0.6
MURC Murrieta 54.78 301 P P 21 18 38.1 +0.4
baz=96
PAB San Pablo 54.79 52 P P 21 18 37.0 -0.8
PAB pmax pmax
comp=Z,12nm,1.3s
PAB San Pablo 54.79 52 P P 21 18 37.0 -0.8
LIC Lamto 54.80 92 eP P 21 18 36.8 -1.4
comp=Z,37nm,0.7s
FURC Furnace Creek, 54.86 305 P P 21 18 38.3 +0.1
baz=98
DBIC Dimbokro 54.87 92 P P 21 18 37.1 -1.5
comp=Z,24nm,0.9s,baz=264,slow=8.1,SNR=19
DBIC LR LR 21 37 24.6
comp=Z,479nm,22.0s,baz=254,slow=31
DBIC Dimbokro 54.87 92 P P 21 18 36.9 -1.7
DBIC pmax pmax
comp=Z,39nm,1.1s
DBIC Dimbokro 54.87 92 P P 21 18 36.9 -1.7
DBIC IAmb IAmb 21 18 38.6
comp=Z,39nm,1.1s
MSO Missoula 55.04 318 P P 21 18 39.9 +0.5
baz=108,SNR=5.5
KIC Kosan Boka 55.05 92 eP P 21 18 38.6 -1.4
comp=Z,73nm,1.2s
ESDC Sonseca Array 55.10 51 P P 21 18 38.9 -1.2
comp=Z,3.0nm,0.8s,baz=260,slow=7.3,SNR=21
ESDC LR LR 21 38 38.2
comp=Z,100nm,20.0s,baz=240,slow=32
ESDC Sonseca Array 55.10 51 P P 21 18 38.2 -1.8
ESBB Sonseca Array 55.11 51 P P 21 18 39.8 -0.3
BFSC Mount Baldy Ra 55.23 302 P P 21 18 41.8 +0.7
baz=96
MPMC Manual Prospec 55.31 304 P P 21 18 41.8 +0.1
baz=97,SNR=9.0
LRMC Laurel Mtn Rad 55.39 303 P P 21 18 42.3 0.0
baz=97
EDW2 Edwards Air Fo 55.57 303 P P 21 18 44.1 +0.6
baz=96,SNR=9.1
PLCA Paso Flores 55.64 189 P P 21 18 43.2 -0.6
comp=Z,30nm,0.9s,baz=3.5,slow=9.0,SNR=29
PLCA Paso Flores 55.64 189 P P 21 18 43.5 -0.3
PLCA pmax pmax
comp=Z,40nm,1.0s
PLCA Paso Flores 55.64 189 P P 21 18 43.5 -0.3
PLCA IAmb IAmb 21 18 46.9
comp=Z,40nm,0.9s
PLCA Paso Flores 55.64 189 eP P 21 18 43.8 +0.1
CWC Cottonwood Cre 55.83 304 P P 21 18 44.6 -0.8
baz=97
ISA Isabella, Lake 56.05 303 P P 21 18 47.1 +0.2
baz=96
NV11 Mina Array Sit 56.17 307 P P 21 18 48.0 +0.2
NVAR Mina Array Bea 56.28 307 P P 21 18 49.5 +0.8
comp=Z,6.7nm,0.7s,baz=106,slow=6.2,SNR=34
NVAR LR LR 21 48 16.6
comp=Z,378nm,18.2s,baz=100,slow=42
NVAR Mina Array Bea 56.28 307 P P 21 18 48.9 +0.1
RYN Ryan 56.48 307 P P 21 18 50.0 -0.1
RYN IAmb IAmb 21 19 00.7
comp=Z,42nm,1.0s
VES Vestal, Richgr 56.56 304 P P 21 18 51.1 +0.6
baz=96
SBC Santa Barbara 56.94 302 P P 21 18 53.6 +0.4
baz=95

PKM	Mcpherson Peak	57.06	302	P	P	21 18 54.9	+0.6
	baz=95						
SMMC	Simmler	57.25	303	P	P	21 18 56.0	+0.6
	baz=95						
NEW	Newport	57.51	318	LR	LR	21 46 17.8	
	comp=Z,492nm,19.5s,baz=76,slow=39						
NEW	Newport	57.51	318	P	P	21 18 57.2	+0.1
NEW				pmax	pmax		
	comp=Z,83nm,1.0s						
NEW	Newport	57.51	318	P	P	21 18 57.2	+0.1
	baz=106,SNR=23						
NEW	Newport	57.51	318	P	P	21 18 57.2	+0.1
I07A	Izee	58.15	313	P	P	21 19 01.8	+0.1
I07A				IAmb	IAmb	21 19 12.2	
	comp=Z,38nm,0.9s						
O03E	Paynes Creek	59.22	308	P	P	21 19 09.3	0.0
	baz=97						
J05D	Fort Rock, OR	59.24	312	P	P	21 19 08.7	-0.6
	baz=99,SNR=6.8						
M04C	Macdoel	59.45	310	P	P	21 19 11.1	+0.3
	baz=98						
SUMG	Summit	59.59	7	*i* P	P	21 19 11.4	-0.2
	comp=Z,103nm,1.1s						
SUMG	Summit	59.59	7	*i* P	P	21 19 11.4	-0.2
SUMG				pmax	pmax		
	comp=Z,100nm,1.1s						
SUMG	Summit	59.59	7	P	P	21 19 11.3	-0.2
SUMG				IAmb	IAmb	21 19 22.9	
	comp=Z,40nm,1.1s						
G05D	Wamic, OR	59.63	314	P	P	21 19 12.4	+0.5
	baz=100						
ESK	Eskdalemuir	59.75	34	P	P	21 19 12.0	-0.5
ESK				pmax	pmax		
	comp=Z,15nm,1.1s						
ESK	Eskdalemuir	59.75	34	P	P	21 19 12.0	-0.5
F05D	White Salmon	59.85	315	P	P	21 19 14.0	+0.6
	baz=101						
L04D	Klamath Falls	59.85	311	P	P	21 19 13.5	-0.2
	baz=98						
O02D	Mt. Diablo Mer	59.96	308	P	P	21 19 14.8	+0.5
	baz=96						
N02D	Trinity Center	59.99	309	P	P	21 19 13.7	-0.8
	baz=97,SNR=5.4						
TOA0	Torodi Ar. Sit	60.00	83	P	P	21 19 12.9	-2.0
TOA0				IAmb	IAmb	21 19 14.5	
	comp=Z,23nm,1.0s						
TORD	Torodi Ar. Bea	60.00	83	P	P	21 19 13.0	-1.8
	comp=Z,16nm,0.9s,baz=285,slow=6.5,SNR=30						
TORD				LR	LR	21 41 40.0	
	comp=Z,855nm,21.6s,baz=270,slow=33						
TORD	Torodi Ar. Bea	60.00	83	P	P	21 19 13.1	-1.8
YBH	Yreka Blue Hor	60.09	310	P	P	21 19 14.4	-0.8
YBH				pmax	pmax		
	comp=Z,20nm,1.0s						
YBH	Yreka Blue Hor	60.09	310	P	P	21 19 14.4	-0.8
YBH				IAmb	IAmb	21 19 24.3	
	comp=Z,20nm,1.0s						
M02C	Callahan	60.15	310	P	P	21 19 14.9	-0.7
	baz=97						
I04A	Tendick Farm,	60.16	312	P	P	21 19 15.9	+0.3
	baz=99						
H04D	Lebanon	60.51	313	P	P	21 19 17.9	0.0
	baz=99						
E04D	Cinebar	60.73	316	P	P	21 19 18.9	-0.4
	baz=100						
B05A	Bryant	60.74	318	P	P	21 19 18.9	-0.5
	baz=102						
L02E	Cave Junction	60.80	310	P	P	21 19 19.6	-0.4
	baz=97						
I03D	Drain, OR	60.82	312	P	P	21 19 19.5	-0.5
	baz=98						
K02D	Willamette Mer	60.92	311	P	P	21 19 20.9	+0.1
	baz=97						
KRMB	Red Mountain	60.95	310	P	P	21 19 21.2	0.0
KRMB				IAmb	IAmb	21 19 32.7	
	comp=Z,34nm,1.4s						
G03D	McMinnville, O	60.99	314	P	P	21 19 21.6	+0.5
	baz=99						
CLF	Chambon-Foret	61.11	43	P	P	21 19 21.7	-0.2
J01E	Myrtle Point	61.17	312	P	P	21 19 22.9	+0.5
	baz=97						
A04D	Lummi Island	61.23	318	P	P	21 19 22.5	-0.1
	baz=101						
I02D	Swisshome	61.23	313	P	P	21 19 23.0	+0.2
	baz=98						
D03D	Eldon	61.26	317	P	P	21 19 23.4	+0.5
	baz=100						
YKA	Yellowknife Ar	61.29	335	P	P	21 19 23.1	+0.3
	comp=Z,3.6nm,0.7s,baz=109,slow=7.8,SNR=5.6						
YKA				LR	LR	21 44 59.8	
	comp=Z,349nm,21.6s,baz=0.0,slow=35						
SSB	Saint Sauveur	62.21	46	P	P	21 19 28.6	-0.9
SSB				pmax	pmax		
	comp=Z,29nm,1.4s						
SSB	Saint Sauveur	62.21	46	P	P	21 19 28.6	-0.9
SSB				IAmb	IAmb	21 19 45.7	
	comp=Z,29nm,1.4s						
BMRD	Maredsous	63.14	41	P	P	21 19 35.0	-0.5
RES	Resolute Bay	63.29	350	LR	LR	21 45 43.2	
	comp=Z,190nm,19.4s,baz=148,slow=35						
BGES	Gesves	63.36	41	P	P	21 19 37.0	0.0
BCLA	Clavier	63.50	41	P	P	21 19 37.4	-0.5
BSTI	Sart Tilman	63.69	40	P	P	21 19 39.0	-0.1
BSTI				PcP	PcP	21 20 14.2	-1.1
WLF	Walferdange	63.92	42	P	P	21 19 40.5	-0.1
	comp=Z,19nm,1.4s						
WLF				PcP	PcP	21 20 14.5	-1.7
WLF	Walferdange	63.92	42	P	P	21 19 39.7	-1.0
WLF				pmax	pmax		
	comp=Z,25nm,1.1s						
WLF	Walferdange	63.92	42	P	P	21 19 39.7	-1.0
WLF				IAmb	IAmb	21 19 56.1	
	comp=Z,25nm,1.1s						
BHOU	Houvegnez	63.93	41	P	P	21 19 40.9	+0.2
MEM	Membach	63.97	40	P	P	21 19 41.0	0.0
ECH	Echery	64.38	43	P	P	21 19 43.2	-0.6
ECH				pmax	pmax		
	comp=Z,37nm,1.3s						
ECH	Echery	64.38	43	P	P	21 19 43.2	-0.6
ECH				IAmb	IAmb	21 19 58.9	
	comp=Z,37nm,1.3s						
KEST	Kesra	65.26	57	P	P	21 19 49.7	-0.1
	comp=Z,10nm,0.9s,baz=257,slow=2.5,SNR=10						
KEST				LR	LR	21 45 35.8	
	comp=Z,177nm,20.8s,baz=203,slow=34						
KEST	Kesra	65.26	57	P	P	21 19 49.5	-0.3
KEST				IAmb	IAmb	21 19 51.2	
	comp=Z,19nm,1.1s						
SUE	Sulen	65.50	29	*e*P	P	21 19 51.0	+0.3
BER	Bergen	65.60	30	*e*P	P	21 19 51.7	+0.3
TUE	Stuetta	65.68	45	P	P	21 19 52.3	-0.1
TUE				IAmb	IAmb	21 20 09.5	
	comp=Z,16nm,1.0s						
FOO	Floro	65.78	28	*e*P	P	21 19 52.8	+0.3
STU	Stuttgart	65.79	43	P	P	21 19 52.5	-0.4
STU				pmax	pmax		
	comp=Z,19nm,0.7s						
STU	Stuttgart	65.79	43	P	P	21 19 52.5	-0.4
STU				IAmb	IAmb	21 20 11.6	
	comp=Z,19nm,0.7s						
BLS5	Blasjo	65.93	31	*e*P	P	21 19 53.8	+0.2
SNART	Snartemo	66.08	32	*e*P	P	21 19 54.5	0.0
DAVA	Damuels	66.11	44	*i* pP	P	21 19 55.3	+0.1
	comp=Z,20nm,0.7s,SNR=12						
HYA	Hoyanger	66.20	29	*e*P	P	21 19 55.7	+0.5
FETA	Feichten	66.67	45	*i* pP	P	21 19 58.8	+0.1
	comp=Z,24nm,0.7s,SNR=28						
RETA	Reutte	66.72	44	*i* pP	P	21 19 58.7	-0.3
	comp=Z,19nm,1.4s,SNR=8.4						
AKN	Aaknes	66.82	28	*e*P	P	21 19 59.5	+0.3
OSSC	Osservatorio P	66.85	49	P	P	21 19 58.9	-0.9
OSSC				IAmb	IAmb	21 20 15.6	
	comp=Z,22nm,1.3s						
MOTA	Moosalm	66.94	44	*i* pP	P	21 20 00.1	-0.4
	comp=Z,12nm,0.6s,SNR=12						
SQTA	Sankt Quirin	67.01	45	*i* pP	P	21 20 00.7	-0.2
	comp=Z,22nm,0.6s,SNR=17						
SKAR	Skarslia	67.10	30	*e*P	P	21 20 02.0	+0.9
MOL	Molde	67.16	28	*e*P	P	21 20 01.9	+0.6
CTI	Castel Tesino	67.25	46	P	P	21 20 01.5	-0.9
CTI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTI	Castel Tesino	67.25	46	P	P	21 20 01.4	-0.9
WATA	Walderalm	67.27	44	*i* P	P	21 20 01.9	-0.6
	comp=Z,12nm,1.2s,SNR=7.0						
WTTA	Wattenberg	67.30	45	*i* P	P	21 20 02.3	-0.6
	comp=Z,19nm,1.4s,SNR=7.4						
KONO	Kongsberg	67.54	31⇓	*e*P	P	21 20 03.7	-0.1
KONO				pmax	pmax		
	comp=Z,13nm,1.3s						
KONO	Kongsberg	67.54	31	*e*P	P	21 20 04.2	+0.4
DOMB	Dombas	67.74	28	*e*P	P	21 20 05.9	+0.8
CIMO	Cimolais	67.81	46	P	P	21 20 04.8	-1.0
ABTA	Abfaltersbach	67.87	45	*i* P	P	21 20 05.7	-0.6
	comp=Z,10nm,0.8s,SNR=11						
ZOU	Zoufplan	68.18	45	P	P	21 20 07.4	-1.0
CLTB	Caltabellotta	68.34	55	P	P	21 20 08.7	-0.7
CLTB				IAmb	IAmb	21 20 24.8	
	comp=Z,19nm,1.2s						
NAO01	NORSAR Array S	68.38	30	P	P	21 20 09.0	-0.1
AQU	L'Aquila	68.42	50⇑	*i*P	P	21 20 09.3	-0.5
CLL	Collm	68.45	40	*e*P	P	21 20 08.0	-1.7
	comp=Z,17nm,1.2s						
CLL				*i*		21 20 23.5	
	comp=Z,26nm,1.2s						
CLL				LmV		21 49 00.0	
	comp=Z,200nm,18.4s						
CLL	Collm	68.45	40	*e*P	P	21 20 08.0	-1.7
CLL				pmax	pmax		
	comp=Z,17nm,1.2s						
KBA	Koelnbreinsper	68.46	45	*i* P	P	21 20 09.5	-0.6
	comp=Z,28nm,1.3s,SNR=17						
NB2	NORSAR Subarra	68.57	30	P	P	21 20 10.4	+0.1
	comp=Z,18nm,1.4s,baz=260,slow=7.9						
NB2	NORSAR Subarra	68.57	30	P	P	21 20 10.4	+0.1
	baz=260,slow=7.9						
NOA	NORSAR Array B	68.57	30	P	P	21 20 10.4	+0.1
	comp=Z,3.1nm,0.8s,baz=262,slow=6.2,SNR=18						
NOA				LR	LR	21 47 16.2	
	comp=Z,70nm,18.9s,baz=245,slow=33						
MYKA	Terra Mystica	68.65	45	*i* P	P	21 20 10.5	-0.7
	comp=Z,11nm,0.8s,SNR=8.2						
NC303	NORSAR Array S	68.67	30	P	P	21 20 11.2	+0.3
NC602	NORSAR Array S	68.68	30	P	P	21 20 11.2	+0.2
NC602	NORSAR Array S	68.68	30	*e*P	P	21 20 11.6	+0.6
KHC	Kasperske Hory	68.69	43	*e*P	P	21 20 11.1	-0.3
KHC				AMS	AMS	21 49 10.0	
	comp=Z,100nm,16.4s						
KHC	Kasperske Hory	68.69	43	*e*P	P	21 20 11.1	-0.3
KHC				MLR	MLR		
	comp=Z,100nm,16.4s						
KHC	Kasperske Hory	68.69	43	P	P	21 20 10.9	-0.5
CADS	Cadrg	68.70	46	*i* P	P	21 20 10.8	-0.6
GEC2	GERESS Array S	68.76	43	P	P	21 20 11.1	-0.7
GEC2				IAmb	IAmb	21 20 26.7	
	comp=Z,21nm,1.1s						
GERES	GERESS Array B	68.76	43	P	P	21 20 11.1	-0.7
	comp=Z,7.4nm,0.8s,baz=257,slow=5.3,SNR=38						
GERES				LR	LR	21 44 54.7	
	comp=Z,113nm,21.3s,baz=273,slow=31						
GERES	GERESS Array B	68.76	43	P	P	21 20 11.0	-0.9
BRG	Berggiesshubel	69.01	41	*e*P	P	21 20 12.8	-0.5
	comp=Z,13nm,1.2s						
BRG				*i*		21 20 26.9	
	comp=Z,24nm,1.3s						
	comp=N,88nm,17.0s						
	comp=E,218nm,16.6s						
	comp=Z,229nm,13.9s						
BRG	Berggiesshubel	69.01	41	*e*P	P	21 20 12.8	-0.5
BRG				pmax	pmax		
	comp=Z,13nm,1.2s						
BRG				pmax	pmax		
	comp=Z,24nm,1.3s						
BRG				MLR	MLR		
	comp=N,88nm,17.0s						
BRG				MLR	MLR		
	comp=E,218nm,16.6s						
BRG				MLR	MLR		
	comp=Z,229nm,13.9s						
MOA	Molln	69.11	44	*i* P	P	21 20 13.3	-0.7
	comp=Z,17nm,1.6s,SNR=10.0						
CEY	Cerknica	69.18	46⇑	*i*P	P	21 20 13.9	-0.5
LJU	Ljubljana	69.25	46	*i* P	P	21 20 14.7	-0.2
LJU	Ljubljana	69.25	46⇑	*i*P	P	21 20 14.6	-0.2
OBKA	Obir	69.27	45	*i* P	P	21 20 14.5	-0.6
	comp=Z,17nm,0.9s,SNR=12						
PAOL	Paolisi	69.30	51	P	P	21 20 14.7	-0.6
PRU	Pruhonice	69.36	42	*e*P	P	21 20 15.5	+0.1
PRU				AMS	AMS	21 49 20.0	
	comp=Z,200nm,15.6s						
PRU	Pruhonice	69.36	42	*e*P	P	21 20 15.5	+0.1
PRU				MLR	MLR		
	comp=Z,200nm,15.6s						
VNDS	Vrh nad Dolski	69.37	46	*i* P	P	21 20 15.4	-0.2
VNDS				*e*		21 20 27.4	
GBRS	Gornja Briga	69.44	46	*i* P	P	21 20 15.9	-0.2
NSS	Namsos	69.49	26	*e*P	P	21 20 13.6	-2.4
SOKA	Soboth	69.61	45	*i* P	P	21 20 16.0	-1.1
	comp=Z,6.3nm,0.8s,SNR=6.7						
NOR	Nord	69.69	6	*i* P	P	21 20 17.0	+0.1
	comp=Z,2.7nm,0.8s						
NOR	Nord	69.69	6	*i* P	P	21 20 17.0	+0.1
NOR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CRES	Cresnjev	69.90	46⇑	*i*P	P	21 20 18.2	-0.6
ARSA	Arzberg	69.95	45	*i* P	P	21 20 18.3	-0.9
	comp=Z,9.5nm,0.8s,SNR=6.1						
TREC	Trest	69.95	42	*e*P	P	21 20 19.0	-0.1
TREC	Trest	69.95	42	*e*P	P	21 20 19.0	-0.1
CONA	Conrad Observa	70.18	44	*i* P	P	21 20 20.1	-0.5
	comp=Z,16nm,1.4s,SNR=7.8						
CHVC	Chvalec	70.34	41	*e*P	P	21 20 21.4	-0.1
OSTC	Ostas	70.45	41	*e*P	P	21 20 22.0	-0.1
KSP	Ksiaz	70.50	41	*e*P	P	21 20 17.1	-5.4
DPC	Dobruska-Polom	70.51	41	*e*P	P	21 20 22.2	-0.4
DPC	Dobruska-Polom	70.51	41	*e*P	P	21 20 22.2	-0.4
KRUC	Moravsky	70.54	43	*e*P	P	21 20 22.2	-0.5
VRAC	Vranov	70.68	42	⇓P	P	21 20 23.7	+0.1
VRAC	Vranov	70.68	42	*e*P	P	21 20 23.1	-0.4
KRLC	Kraliky	70.80	42	*e*P	P	21 20 24.5	+0.2
KRLC				*ex*	x	21 20 38.4	
KRLC	Kraliky	70.80	42	*e*P	P	21 20 24.5	+0.2
KRLC				*e*		21 20 38.4	
TIP	Timpagrande	71.06	53	⇓P	P	21 20 25.1	-1.0
MGRS	Mrkonjic Grad	71.07	48	*e*P	P	21 20 35.9	+10
MODS	Modra-Piesok	71.13	43	*e*P	P	21 20 25.1	-1.2
MODS				pmax	pmax		
	comp=Z,40nm,1.3s						
MODS	Modra-Piesok	71.13	43	*e*P	P	21 20 25.1	-1.2
BLY	Banja Luka	71.13	47⇑	*i*P	P	21 20 25.7	-0.7
SMOL	Smolenice	71.23	43	*e*P	P	21 20 26.8	-0.1
SMOL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SMOL	Smolenice	71.23	43	*e*P	P	21 20 26.8	-0.1
FAUS	Fauske	71.28	23	*e*P	P	21 20 27.1	+0.4
MORC	Moravsky Berou	71.29	42	⇓P	P	21 20 27.6	+0.3
MORC	Moravsky Berou	71.29	42	*e*P	P	21 20 27.1	-0.3
MORC	Moravsky Berou	71.29	42	P	P	21 20 27.0	-0.3
MORC				pmax	pmax		
	comp=Z,17nm,1.3s						
MORC	Moravsky Berou	71.29	42	P	P	21 20 26.9	-0.4
STEI	Steigen	71.33	23	*e*P	P	21 20 27.7	+0.6
JAVC	Velka Javorina	71.39	43	*e*P	P	21 20 28.1	+0.2
SRO	Srobarova	71.83	44	*e*P	P	21 20 30.3	-0.2
SRO				pmax	pmax		
	comp=Z,25nm,1.2s						
SRO	Srobarova	71.83	44	*e*P	P	21 20 30.3	-0.2
SRO2	Moca	71.89	44	*e*P	P	21 20 29.9	-1.0
SRO2				pmax	pmax		
	comp=Z,22nm,1.2s						
SRO2	Moca	71.89	44	*e*P	P	21 20 29.9	-1.0
VYHS	Vyhne	72.16	43	*e*P	P	21 20 32.2	-0.4
VYHS				pmax	pmax		
	comp=Z,20nm,1.4s						
VYHS	Vyhne	72.16	43	*e*P	P	21 20 32.2	-0.4
VYHS				*e*S	S	21 29 54.4	-1.1
BRY	Bratogost	72.19	49⇑	*i*P	P	21 20 32.2	-0.8
UPM	Unac-Piva	72.44	49	*e*P	P	21 20 34.8	+0.3
LANS	Liptovska Anna	72.56	43	*e*P	P	21 20 36.3	+1.3
LANS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LANS	Liptovska Anna	72.56	43	*e*P	P	21 20 36.3	+1.3
DRME	Dracevica, Mon	72.71	50⇑	*i*P	P	21 20 36.4	+0.5
OJC	Ojcow	72.74	41	*e*P	P	21 20 36.3	+0.4
PDG	Podgorica	72.75	50	⇓P	P	21 20 36.3	+0.2
PDG	Podgorica	72.75	50⇑	*i*P	P	21 20 36.1	0.0
PDG	Podgorica	72.75	50	P	P	21 20 36.2	0.0
PDG				IAmb	IAmb	21 20 52.6	
	comp=Z,27nm,1.1s						
BBLS	Lazići	72.77	48⇑	*i*P	P	21 20 36.5	+0.2
TRO	Tromso	72.86	21	*e*P	P	21 20 36.6	+0.4
PSZ	Piszkesteto	72.89	44	⇑P	P	21 20 36.9	-0.1
FRGS	Fruska Gora	72.98	47⇑	*i*P	P	21 20 37.1	-0.4
NIE	Niedzica	73.10	42	*e*P	P	21 20 39.1	+0.9
DIVS	Divibare	73.17	48⇑	*i*P	P	21 20 38.8	+0.1
BEL	Belsk	73.31	40	*e*P	P	21 20 29.0	-10
BCAR	Beaver Creek A	73.48	332	P	P	21 20 41.2	+1.0
CRVS	Cervenica-Dubn	73.88	43	*e*P	P	21 20 43.7	+1.0
CRVS				pmax	pmax		
	comp=Z,41nm,1.4s						
CRVS	Cervenica-Dubn	73.88	43	*e*P	P	21 20 43.7	+1.0
SIRR	Siria	74.20	46	⇓P	P	21 20 45.0	+0.4
BZS	Buzias	74.22	46	⇓P	P	21 20 45.2	+0.5
MDVR	Moldovita	74.35	47	⇓P	P	21 20 45.8	+0.2
KOLS	Kolonicke sedl	74.42	43	*e*P	P	21 20 45.1	-0.7
KOLS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KOLS	Kolonicke sedl	74.42	43	*e*P	P	21 20 45.1	-0.7
UZH	Uzhgorod	74.45	43⇑	*i*P	P	21 20 46.5	+0.5
UZH				*e*		21 20 50.3	
FNA	Florina	74.47	51	P	P	21 20 46.3	-0.1
FNA				pmax	pmax		
	comp=Z,20nm,0.9s						
FNA	Florina	74.47	51	P	P	21 20 46.3	-0.1
FNA				IAmb	IAmb	21 20 47.6	
	comp=Z,20nm,0.9s						
SCRK	Sand Creek	74.47	333	P	P	21 20 45.7	-0.3
	baz=89,SNR=11						
KWP	Kalwaria Pacla	74.65	42	*e*P	P	21 20 48.5	+1.3
SUW	Suwalki	74.66	37	*e*P	P	21 20 46.7	-0.4
HERR	Herculane	74.84	47	⇓P	P	21 20 48.2	-0.1
DEV	Deva	75.09	46	⇓P	P	21 20 49.9	+0.1
ARCES	ARCESS Array B	75.16	21	P	P	21 20 49.8	0.0
	comp=Z,5.1nm,0.7s,baz=289,slow=3.7,SNR=10						
ARCES				LR	LR	21 48 04.9	
	comp=Z,92nm,21.7s,baz=286,slow=31						
ARE0	ARCESS Array S	75.16	21	P	P	21 20 49.9	+0.1
ARE0	ARCESS Array S	75.16	21	*e*P	P	21 20 49.8	+0.1
M24K	Tolsona, Glenn	75.54	331	P	P	21 20 51.9	-0.2
	baz=86						
IL31		75.70	334	P	P	21 20 53.3	+0.4
IL31				IAmb	IAmb	21 21 03.9	
	comp=Z,27nm,1.1s						
ILAR	Eielson Array	75.70	334	P	P	21 20 53.6	+0.7
	comp=Z,4.8nm,0.9s,baz=94,slow=4.1,SNR=23						
ILAR	Eielson Array	75.70	334	P	P	21 20 53.5	+0.5
ILAR	Eielson Array	75.70	334	P	P	21 20 53.5	+0.5
LOT	Lotru	75.74	46	⇓P	P	21 20 53.5	-0.2
FINES	FINESS Array B	75.75	30	P	P	21 20 53.0	-0.3
	comp=Z,5.0nm,0.7s,baz=279,slow=3.7,SNR=21						
FINES				LR	LR	21 49 19.0	
	comp=Z,75nm,21.4s,baz=278,slow=32						
FINES	FINESS Array B	75.75	30	P	P	21 20 53.0	-0.3
FIA1	FINESS Array S	75.75	30	P	P	21 20 53.3	+0.1
FIA1				IAmb	IAmb	21 21 11.6	
	comp=Z,32nm,1.1s						
POKR	Poker Plat Res	75.92	334	P	P	21 20 53.7	-0.5
	baz=86						
ARCR	ARCALIA	75.97	45	⇓P	P	21 20 55.1	+0.3
CCB	Clear Creek Bu	76.11	334	P	P	21 20 55.2	0.0
COLA	College	76.11	334	*de*P	P	21 20 57.4	+2.2
COLA				pmax	pmax		
	comp=Z,12nm,1.1s						
ISAL	Salakas	76.24	36	*e*P	P	21 20 56.2	0.0
IZAR	Zarasai	76.29	36	*e*P	P	21 20 56.5	0.0
VSU	Vasula	76.31	33	*e*P	P	21 20 56.1	-0.4
VSU	Vasula	76.31	33	*d i*P	P	21 20 56.3	-0.2
VSU				pmax	pmax		
	comp=Z,33nm,0.9s						
IIGN	Ignalina	76.32	36	*e*P	P	21 20 57.1	+0.5
ARR	Arges	76.35	46	⇓P	P	21 20 57.4	+0.2
BURAR	Bucovina Array	76.50	44	⇓P	P	21 20 58.9	+1.0
BURAR	Bucovina Array	76.50	44	P	P	21 20 58.3	+0.4
TOLK	Toolik Lake Re	76.50	338	P	P	21 20 57.3	-0.2
	baz=85						
IDID	Didziasalis	76.61	36	*e*P	P	21 20 58.9	+0.6
VOIR		76.64	46	⇓P	P	21 20 58.7	-0.1
NEA2	Nenana	76.65	334	P	P	21 20 57.9	-0.5
	baz=85,SNR=13						
HUMR	Humele	76.70	47	⇓P	P	21 20 59.2	+0.3
DOPR	Dopca	76.81	46	⇓P	P	21 20 60.0	+0.3
COLD	Coldfoot	76.86	336	P	P	21 20 59.8	+0.3
	baz=84						
OZUR		77.07	45	⇓P	P	21 21 01.3	+0.2
PRAR	RASCA	77.21	44	⇓P	P	21 21 02.0	+0.2
MLR	Muntele Rosu	77.25	46	P	P	21 21 02.4	+0.2
	comp=Z,17nm,1.0s,baz=272,slow=5.4,SNR=17						
MLR	Muntele Rosu	77.25	46	⇓P	P	21 21 02.8	+0.5
MLR	Muntele Rosu	77.25	46	P	P	21 21 02.3	0.0
MLR				pmax	pmax		
	comp=Z,54nm,1.3s						
MLR	Muntele Rosu	77.25	46	P	P	21 21 02.2	0.0
MLR				IAmb	IAmb	21 21 18.1	
	comp=Z,54nm,1.3s						
CUT	Chulitna	77.42	332	P	P	21 21 03.1	+0.4
	baz=83						
NEHR	Nehoiu	77.51	46	⇓P	P	21 21 03.5	-0.1
BPAW	Bear Paw Mtn.	77.54	333	P	P	21 21 03.4	+0.1
BPAW				IAmb	IAmb	21 21 14.3	
	comp=Z,38nm,1.0s						
KTH	Kantishna Hill	77.58	333	P	P	21 21 04.2	+0.6
TESR	Tescani	77.60	45	⇓P	P	21 21 04.1	0.0
VRI	Vrincioaia	77.75	46	⇓P	P	21 21 03.5	-1.4
BISRR	Bisoca	77.78	46	⇓P	P	21 21 05.1	-0.1
IDI	Anoyia	77.93	56	P	P	21 21 06.2	0.0
	comp=Z,28nm,1.0s,baz=330,slow=4.6,SNR=10						
IDI	Anoyia	77.93	56	⇑P	P	21 21 06.0	-0.2
IDI	Anoyia	77.93	56	P	P	21 21 06.1	0.0
CAPN	Captain Cook N	78.05	330	P	P	21 21 05.4	-0.8
	baz=82						
SANT	Santorini	78.21	55	⇓P	P	21 21 07.3	-0.4
APA	Apatity	78.23	23⇑	*i*P	P	21 20 58.8	-8.3
APA				pmax	pmax		
	comp=Z,12nm,1.2

comp=Z,5.0nm,0.8s
LPSR Galich'ya Gora 84.19 37 *e*P P 21 21 38.6 -0.5
LPSR pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 84.72 39 *e*P P 21 21 40.9 -0.9
VSR pmax pmax
comp=Z,20nm,1.2s
PRGR Permogore 84.83 27 *e*P P 21 21 41.6 -0.5
PRGR pmax pmax
comp=Z,222nm,1.5s
VRH Novokhopyorsk 86.26 38 *e*P P 21 21 49.0 -0.4
VRH pmax pmax
comp=Z,10.0nm,1.3s
MMAI Mount Meron Ar 86.92 57 P P 21 21 53.6 +0.3
comp=Z,4.2nm,0.7s,baz=1.4,slow=3.4,SNR=6.4
SOC Sochi 87.27 46 *e*P P 21 21 54.1 -0.5
SOC *e* 21 25 18.8
SOC *e*PPP PPP 21 27 11.5
SOC *e*S **SKSac** 21 32 21.6 -1.3
SOC *e*SSS SSS 21 41 50.5
SOC pmax pmax
comp=Z,20nm,1.2s
SOC MLR MLR
comp=Z,51nm,10.0s
EIL Elat 87.41 60 P P 21 21 55.9 +0.3
comp=Z,8.8nm,0.8s,baz=308,slow=3.7,SNR=7.3
ASF Jabal al Asfar 88.36 57 P P 21 22 00.2 0.0
comp=Z,4.5nm,1.0s,baz=308,slow=3.1,SNR=6.0
GOF Gofitskoye 89.08 44⇑*e*P P 21 22 03.3 +0.1
GOF pmax pmax
comp=Z,27nm,0.9s
KIV Kislovodsk 89.20 45 *e*P P 21 22 04.2 +0.3
KIV pmax pmax
comp=Z,33nm,1.0s
KIV MLR MLR
comp=Z,161nm,20.0s
KIV Kislovodsk 89.20 45 P **P 21 22 03.9 0.0**
KIV IAmb IAmb 21 22 22.6
comp=Z,16nm,1.0s
KVAR Kislovodsk Arr 89.20 45 P **P 21 22 04.0 0.0**
comp=Z,4.5nm,1.1s,baz=342,slow=6.4,SNR=2.5
KBZ Khabaz 89.42 45 P **P 21 22 04.9 +0.1**
comp=Z,5.2nm,1.1s,baz=353,slow=1.4,SNR=8.3
KBZ LR LR 21 59 35.8
comp=Z,63nm,19.9s,baz=302,slow=34
ARTV Artvin 89.56 48 P **P 21 22 04.8 -1.1**
AKH Akhalkalaki 90.60 47 ⇑P **P 21 22 11.6 +0.9**
VNA1 Neumayer--Stat 91.91 165 P **P 21 22 16.8 +1.2**
VNA3 Neumayer Olymp 91.95 166 P **P 21 22 17.1 +1.2**
VNA2 Neumayer--Watz 92.31 165 P **P 21 22 21.0 +3.5**
BOSA Boshof 92.89 119 LR LR 21 57 35.8
comp=Z,198nm,21.2s,baz=346,slow=31
BELA Belgrano 2 93.22 175 P **P 21 22 22.2 +0.6**
NRIK Noril'sk 93.47 11 LR LR 22 03 52.4
comp=Z,114nm,22.0s,baz=18,slow=35
PPT2 Papeete2 93.64 253 *e*LR LR 21 52 33.3
comp=Z,268nm,24.5s
SNAA Sanae 93.93 165 P **P 21 22 28.7 +3.7**
TBI Tubuai 94.88 247 *e*LR LR 21 53 07.7
comp=Z,189nm,29.2s
AKTO Aktyubinsk 95.96 34 P **P 21 22 34.5 -0.3**
comp=Z,1.4nm,0.6s,baz=342,slow=6.0,SNR=5.4
KMBO Kilima Mbogo 97.53 89 LR LR 22 06 45.3
comp=Z,202nm,19.4s,baz=277,slow=36
WMQ Urumqi 115.11 25 *e*PKP PKiKP 21 27 48.6 -0.8
WMQ LR LR
comp=Z,160nm,16.9s
WMQ LR LR
comp=Z,250nm,23.5s
CN2 Changchun 121.89 355 *e*PKP PKiKP 21 28 04.0 +1.5
HHC Hu-ho-hao-te 124.55 8 *e*PKP PKiKP 21 28 09.4 +1.4
MAT Matsushiro 126.46 342 PKP **PKiKP 21 28 19.3 +7.5**
MJAR Matsushiro Arr 126.46 342 PKP **PKPdf 21 28 11.4 +0.1**
comp=Z,0.5nm,0.4s,baz=46,slow=1.6,SNR=2.4
LZH Lanzhou 127.61 16 *e*PKP PKPdf 21 28 10.5 -3.3
LZH LR LR
comp=Z,550nm,18.3s
LZH LR LR
comp=Z,630nm,17.9s
LZH LR LR
comp=Z,590nm,20.1s
NJ2 Nanjing 133.84 1 *e*PKP PKPdf 21 28 24.1 -1.3
CMAR Chiang Mai Arr 141.47 33 PKP **PKPdf 21 28 37.9 -2.0**
comp=Z,0.5nm,0.4s,baz=339,slow=3.9,SNR=1.9
CMAR Chiang Mai Arr 141.47 33 PKIKP **PKPdf 21 28 39.5 -0.3**
CMAR Chiang Mai Arr 141.47 33 PKPdf 21 28 39.5 -0.3
ARMA Armidale 146.64 236 PKPab 21 28 51.4 +0.1
STKA Stephens Creek 153.50 225 PKPbc **PKiKP 21 29 08.0 +1.0**
comp=Z,8.0nm,0.9s,baz=113,slow=3.1,SNR=12
STKA Stephens Creek 153.50 225 PKiKP 21 29 08.7 +1.7
CTAO Charters Tower 154.09 254 PKP2 **PKPab 21 29 21.9 -0.1**
CTAO Charters Tower 154.09 254 PKPab **PKPab 21 29 21.9 -0.1**
FORT Forrest 161.97 204 PKPab **PKPab 21 29 55.2 -0.3**
ASAR Alice Springs 163.75 233 PKP **PKPdf 21 29 10.8 -0.9**
comp=Z,2.4nm,1.0s,baz=95,slow=1.3,SNR=14
ASAR PKPab **PKPab 21 30 03.2 -0.6**
comp=Z,1.1nm,0.7s,baz=105,slow=3.6,SNR=5.3
ASAR Alice Springs 163.75 233 PKIKP **PKPdf 21 29 11.1 -0.7**
ASAR Alice Springs 163.75 233 PKPdf 21 29 11.1 -0.7
WRA Warramunga Arr 165.01 246 PKP **PKPdf 21 29 11.6 -1.3**
comp=Z,2.5nm,1.0s,baz=60,slow=0.7,SNR=10
WRA PKPab **PKPab 21 30 07.9 -1.6**
comp=Z,1.6nm,0.6s,baz=104,slow=4.2,SNR=14
WRA Warramunga Arr 165.01 246 PKIKP **PKPdf 21 29 12.0 -0.9**
WRA Warramunga Arr 165.01 246 PKPdf 21 29 11.9 -0.9

*GUC **15** 21:09:13.7±0.8, 21°.20S×67°.65W, h193km±7km, ML4.0*
*IDC **15** 21:09:15.9±8.9, 20°.87S×67°.11W, h197km±78km, mb3.9/1, mb1 3.8/2, mb1mx3.3/27, mbtmp4.3/2, Error ellipse: s-maj=115.4km s-min=93.0km az=71.0*
ISC 15 21:09:13.2±1.1, 21°.18S±0°.04×67°.8W±0°.1, h208km±10km, n25, σ0ˢ85/48, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.46**	**245**	*e*P	**Pn**	**21 09 47.8**	**+0.4**
PB09				*e*S	**S**	**21 10 14.2**	**+0.4**
PB09				IAML		21 10 16.4	
comp=N,316nm,0.4s							
PB01	**IPOC Station P**	**1.56**	**275**	*e*P	**Pn**	**21 09 47.8**	**-0.4**
PB01				*e*S	**S**	**21 10 14.4**	**-0.7**
PB01				IAML		21 10 17.1	
comp=N,539nm,0.2s							
PB08	**IPOC Station P**	**1.62**	**309⇓**	*i*P	**Pn**	**21 09 49.2**	**+0.1**
PB08				*e*S	**S**	**21 10 16.4**	**-0.2**
PB08				IAML		21 10 21.1	
comp=N,132nm,0.5s							
LVC	**Limon Verde**	**1.75**	**215**	*e*P	**Pn**	**21 09 49.8**	**-0.4**
LVC				*e*S	**S**	**21 10 17.9**	**-0.9**
PB02	**IPOC Station P**	**1.94**	**265**	*e*P	**Pn**	**21 09 52.2**	**+0.4**
PB02				*e*S	**S**	**21 10 21.1**	**-0.4**
PB02				IAML		21 10 27.9	
comp=E,930nm,0.3s							
GO01	**Chusmiza**	**1.98**	**319**	*e*P	**Pn**	**21 09 52.8**	**+0.1**
GO01				*e*S	**S**	**21 10 23.0**	**+0.2**
PB03	**IPOC Station P**	**2.00**	**244**	*e*P	**Pn**	**21 09 52.7**	**+0.3**
PB03				*e*S	**S**	**21 10 22.1**	**-0.5**
PB03				IAML		21 10 23.3	
comp=E,646nm,0.1s							
PB07	**IPOC Station P**	**2.00**	**254⇑**	*e*P	**Pn**	**21 09 52.9**	**+0.4**
PB07				*e*S	**S**	**21 10 22.6**	**-0.1**
PB07				IAML		21 10 24.2	
comp=N,841nm,0.4s							
PATCX	**Punta Patache**	**2.21**	**279**	*e*P	**Pn**	**21 09 55.0**	**+0.5**
PATCX				*i*S	**S**	**21 10 26.8**	**+0.6**
PATCX				IAML		21 10 29.3	
comp=E,535nm,0.4s							
PB11	**IPOC Station P**	**2.22**	**309**	*e*P	**Pn**	**21 09 54.6**	**-0.2**
PB11				*e*S	**S**	**21 10 26.3**	**-0.4**
PB11				IAML		21 10 28.9	
comp=N,414nm,0.2s							
PB06	**IPOC Station P**	**2.23**	**227⇑**	*i*P	**Pn**	**21 09 54.9**	**+0.1**
PB06				*e*S	**S**	**21 10 26.4**	**-0.4**
PB06				IAML		21 10 28.0	
comp=E,1μm,0.1s							
TA01	**Diego Aracena**	**2.29**	**285**	*e*P	**Pn**	**21 09 55.2**	**-0.1**
TA01				*i*S	**S**	**21 10 27.1**	**-0.5**
TA02	**Huaiquique**	**2.34**	**292**	*e*P	**Pn**	**21 09 55.5**	**-0.4**
TA02				*e*S	**S**	**21 10 28.1**	**-0.6**
TA02				IAML		21 10 32.5	
comp=E,1μm,0.2s							
PB04	**IPOC Station P**	**2.45**	**242**	*e*P	**Pn**	**21 09 57.6**	**+0.4**
PB04				*e*S	**S**	**21 10 31.5**	**+0.4**
PB04				IAML		21 10 38.0	
comp=N,340nm,0.2s							
PB15	**IPOC Station P**	**2.53**	**217⇑**	*i*P	**Pn**	**21 09 58.4**	**+0.2**
PB15				*e*S	**S**	**21 10 32.2**	**-0.7**
MNMC	**Minye Minye**	**2.63**	**320⇑**	*e*P	**Pn**	**21 09 59.7**	**+0.3**
MNMC				*e*S	**S**	**21 10 35.5**	**+0.6**
MNMC				IAML		21 10 37.0	
comp=E,330nm,0.5s							
PSGC	**Pisagua**	**2.67**	**306**	*e*P	**Pn**	**21 09 59.0**	**-0.6**
PSGC				*e*S	**S**	**21 10 34.6**	**-0.8**
PB05	**IPOC Station P**	**2.77**	**232⇑**	*i*P	**Pn**	**21 10 01.3**	**+0.6**
PB05				*e*S	**S**	**21 10 37.0**	**-0.4**
PB05				IAML		21 10 39.6	
comp=E,223nm,0.3s							
PB16	**IPOC Station P**	**3.24**	**330⇑**	*i*P	**Pn**	**21 10 07.6**	**+0.9**
PB16				*e*S	**S**	**21 10 49.0**	**+0.9**
PB16				IAML		21 10 50.5	
comp=E,123nm,0.5s							
PB10	**IPOC Station P**	**3.44**	**227**	*e*P	**Pn**	**21 10 08.7**	**+0.3**
PB10				*i*S	**S**	**21 10 49.1**	**-2.2**
PB12	**IPOC Station P**	**3.47**	**317**	*i*P	**Pn**	**21 10 07.8**	**-1.1**
PB12				*i*S	**S**	**21 10 49.8**	**-2.4**
PB14	**IPOC Station P**	**4.18**	**214**	*e*P	**Pn**	**21 10 17.6**	**-0.2**
PB14				*i*S	**S**	**21 11 06.4**	**-1.8**
LPAZ	**La Paz**	**4.87**	**357**	P	**Pn**	**21 10 26.5**	**-0.4**
comp=E,7.1nm,0.3s,baz=144,slow=5.9,SNR=118							
LPAZ				S	**S**	**21 11 22.6**	**-1.9**
baz=298,slow=20,SNR=2.0							
TORD	**Torodi Ar. Bea**	**76.29**	**70**	P	**P**	**21 20 39.5**	**-0.2**
comp=E,1.4nm,0.4s,baz=259,slow=5.5,SNR=8.1							
MKAR	**Makanchi Array**	**144.78**	**36**	PKP	**PKPdf**	**21 28 27.1**	**+1.9**
comp=E,0.8nm,0.7s,baz=323,slow=2.7,SNR=6.9							

TRN 15 21:31:45.1, 10°.22N×62°.43W, h32km, MD3.7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.10**	**67**	*e*P	Pn	21 32 04.0	-0.2
TRN				*e*S	Sn	21 32 18.0	-0.3
GRGR	**Grenville**	**2.05**	**22**	*e*P	Pn	21 32 18.6	+1.2
GRGR				*e*S	Sn	21 32 41.1	-0.8
TOSP	**Speyside**	**2.15**	**60**	*e*P	Pn	21 32 18.5	-0.2
TOSP				*e*S	Sn	21 32 45.4	+1.1
GRSS	**Sisters**	**2.22**	**21**	*e*P	Pn	21 32 20.7	+1.1
GRSS				*e*S	Sn	21 32 46.2	+0.2
GCMP	**Grenada, Carri**	**2.46**	**24**	*e*P	Pn	21 32 22.8	-0.2
GCMP				*e*S	Sn	21 32 51.8	-0.2
SVB	**Belmont**	**3.25**	**21**	*e*P	Pn	21 32 34.2	+0.3
SVB				*e*S	Sn	21 33 11.6	+0.2
SVCV	**St. Vincent, C**	**3.29**	**22**	*e*P	Pn	21 32 34.9	+0.5
SVCV				*e*S	Sn	21 33 11.8	-0.6
SVV	**Soufriere Volc**	**3.30**	**21**	*e*P	Pn	21 32 35.3	+0.7
SVV				*e*S	Sn	21 33 11.0	-1.8
MCLT	**Moule a Chique**	**3.76**	**23**	*e*P	Pn	21 32 42.4	+1.5
MCLT				*e*S	Sn	21 33 22.6	-1.6
SLBI	**Saint Lucia, B**	**4.04**	**20**	*e*P	Pn	21 32 45.8	+1.0
SLBI				*e*S	Sn	21 33 30.3	-0.7
MPOM	**Morne Pois Mar**	**4.47**	**20**	*e*P	Pn	21 32 52.6	+1.9
MPOM	**Morne Pois Mar**	**4.47**	**20**	*e*S	Sn	21 33 40.3	-1.4
BIM	**Bigot**	**4.47**	**17**	*e*P	Pn	21 32 51.1	+0.4
BIM	**Bigot**	**4.47**	**17**	*e*S	Sn	21 33 40.1	-1.7
PML	**Morne Lenard**	**4.70**	**15**	*e*P	Pn	21 32 53.5	-0.3
GBMF	**Grand Be**	**4.72**	**15**	*e*P	Pn	21 32 54.7	+0.6
PCM	**Pelee Case Pet**	**4.72**	**14**	*e*P	Pn	21 32 53.9	-0.3
BAMF	**Morne Balai**	**4.74**	**15**	*e*P	Pn	21 32 54.6	+0.2
BAUV	**El Baul**	**5.68**	**258**	*e*P	Pn	21 33 07.1	-0.2
BAUV	**El Baul**	**5.68**	**258**	*e*S	Sn	21 34 09.9	-1.5

IDC 15 21:32:08.3±4.6, 13°.78S×167°.11E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/46, mbtmp4.0/5, Error ellipse: s-maj=126.8km s-min=37.7km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.50**	**228**	P	P	21 38 14.5	+0.1
1.4nm,0.5s,baz=51,slow=8.7,SNR=8.6							
WRA	**Warramunga Arr**	**31.91**	**254**	P	P	21 38 36.2	+0.2
1.1nm,0.6s,baz=86,slow=9.4,SNR=22							
ASAR	**Alice Springs**	**32.88**	**248**	P	P	21 38 44.0	-0.3
1.2nm,0.4s,baz=76,slow=9.3,SNR=26							
SONM	**Songino Array**	**81.64**	**324**	P	P	21 44 28.8	+0.2
0.3nm,0.4s,baz=140,slow=4.1,SNR=2.2							
MKAR	**Makanchi Array**	**96.41**	**316**	P	P	21 45 38.9	-0.6
0.5nm,0.6s,baz=90,slow=7.5,SNR=2.3							

IDC 15 21:34:57.4±5.6, 7°.00S×155°.30E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.6/41, mbtmp3.8/5, Error ellipse: s-maj=168.8km s-min=41.6km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.07**	**236**	P	P	21 40 15.1	+0.4
1.9nm,1.4s,baz=61,slow=9.8,SNR=3.1							
SONM	**Songino Array**	**69.50**	**327**	P	P	21 46 09.2	+1.2
0.5nm,0.7s,baz=137,slow=6.6,SNR=3.6							
MKAR	**Makanchi Array**	**83.61**	**319**	P	P	21 47 28.3	+0.5
1.5nm,0.7s,baz=103,slow=6.1,SNR=11							
ZALV	**Zalesovo Beam**	**84.35**	**326**	P	P	21 47 30.3	-1.1
1.2nm,0.6s,baz=112,slow=6.0,SNR=5.8							
KURBB	**Kurchatov Arra**	**87.06**	**322**	P	P	21 47 44.0	-0.9
0.3nm,0.5s,baz=103,slow=4.8,SNR=4.9							

*NEIC **15** 21:38:59.5±2.1, 24°.53N±0°.08×94°.75E±0°.05, h90km±9km, mb4.3/14, Error ellipse: s-maj=12.2km s-min=5.0km az=160.0*
*NDI **15** 21:39:00.2±2.1, 24°.61N×94°.77E, h39km±29km, ML3.7, mb4.3(NEIC)*
*IDC **15** 21:39:01.3±3.7, 24°.60N×95°.01E, h109km±35km, mb3.7/10, mb1 3.6/11, mb1mx3.4/54, mbtmp3.9/11, Error ellipse: s-maj=48.7km s-min=12.7km az=60.0*
ISC 15 21:39:00.2±0.6, 24°.58N±0°.06×94°.70E±0°.06, h100km, n40, σ1ˢ74/46, mb4.2/16, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.74**	**292**	*e*P	**Pn**	**21 39 42.3**	**-0.3**
SHL				*e*S	**Sn**	**21 40 13.7**	**-1.6**
SHL				IAML		21 40 15.6	
comp=N,519nm,0.1s							
SHL				IAML		21 40 15.7	
comp=E,611nm,0.1s							
SHL	**Shillong**	**2.74**	**292**		**Pn**	**21 39 42.4**	**-0.2**
SHL				Sn	**Sn**	**21 40 13.8**	**-1.4**
DIBR	**DIBRUGARH**	**2.88**	**4**	*e*S	**Sn**	**21 40 14.9**	**-3.5**
DIBR				IAML		21 40 28.6	
comp=E,926nm,0.5s							
DIBR				IAML		21 40 29.1	
comp=N,623nm,0.4s							
ZIRO	**ZIRO**	**3.03**	**346**	*e*P	**Pn**	**21 39 45.0**	**-1.6**
ZIRO				*e*S	**Sn**	**21 40 18.4**	**-3.9**
ZIRO				IAML		21 40 20.6	
comp=E,731nm,0.6s							
ZIRO				IAML		21 40 22.7	
comp=N,918nm,0.4s							
GUWA	**GUWAHATI**	**3.16**	**301**	*e*P	**Pn**	**21 39 47.3**	**-0.8**
GUWA				*e*S	**Sn**	**21 40 22.3**	**-2.7**
GUWA				IAML		21 40 24.2	
comp=E,267nm,0.0s							
GUWA				IAML		21 40 24.2	
comp=N,216nm,0.0s							
AGT	**Agartala**	**3.22**	**258**	*e*S	**Sn**	**21 40 23.6**	**-2.9**
BELO	**BELONIA**	**3.26**	**247**	*e*P	**Pn**	**21 39 49.5**	**+0.1**
BELO				*e*x	x	21 40 10.1	
BELO				*i*x	x	21 40 29.2	
LSA	**Lhasa**	**6.00**	**329**		**Pn**	**21 40 28.4**	**+1.4**
GTK	**Tadong**	**6.13**	**298**	*e*P	**Pn**	**21 40 30.2**	**+1.8**
GTK				*e*S	**Sn**	**21 41 32.8**	**-4.4**
GTK				IAML		21 41 42.5	
comp=E,37nm,0.1s							
GTK				IAML		21 41 42.7	
comp=N,32nm,0.3s							
CHTO	**Chiang Mai**	**6.96**	**145**	Pn	**Pn**	**21 40 39.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**7.26**	**146**	P	**Pn**	**21 40 42.9**	**-0.8**
comp=N,0.3nm,0.3s,baz=79,slow=12,SNR=2.1							
BOK	**Bokaro**	**8.09**	**266**	*e*S	**Sn**	**21 42 20.2**	**-4.5**
ENH	**Enshi**	**14.30**	**63**	Pn	**Pn**	**21 42 18.3**	**+0.2**
BOOM	**Boomskoye usch**	**23.65**	**324**	P	**P**	**21 44 04.5**	**+1.8**
BOOM				IAmb	IAmb	21 44 12.5	
comp=Z,24nm,1.2s							
MK31	**Makanchi Array**	**24.29**	**339**	P	**P**	**21 44 10.2**	**+2.0**
MK31				IAmb	IAmb	21 44 10.6	
comp=Z,5.9nm,0.5s							
MKAR	**Makanchi Array**	**24.29**	**339**	P	**P**	**21 44 09.8**	**+1.7**
comp=Z,6.7nm,0.5s,baz=150,slow=9.1,SNR=136							
MAKZ	**Makanchi**	**24.41**	**339**	P	**P**	**21 44 10.7**	**+1.5**
SONM	**Songino Array**	**25.00**	**19**	P	**P**	**21 44 14.0**	**-0.7**
comp=Z,1.0nm,0.6s,baz=195,slow=9.6,SNR=8.8							
SONM	**Songino Array**	**25.00**	**19**	P	**P**	**21 44 14.6**	**-0.2**
GAR	**Garm**	**25.12**	**311**	P	**P**	**21 44 17.4**	**+1.5**
KURBB	**Kurchatov Arra**	**28.86**	**338**	P	**P**	**21 44 50.1**	**+1.0**
comp=Z,1.3nm,0.6s,baz=151,slow=7.9,SNR=18							
KURBB				PcP	**PcP**	**21 47 56.3**	**+0.2**
comp=Z,0.3nm,0.5s,baz=177,slow=2.4,SNR=4.7							
KURK	**Kurchatov**	**28.90**	**339**	P	**P**	**21 44 50.3**	**+0.8**
ZALV	**Zalesovo Beam**	**30.25**	**348**	P	**P**	**21 45 01.2**	**-0.2**
comp=Z,0.5nm,0.3s,baz=165,slow=7.5,SNR=2.8							
ZALV	**Zalesovo Beam**	**30.25**	**348**	P	**P**	**21 45 01.8**	**+0.4**
ABKAR	**Abkulak array**	**36.62**	**321**	P	**P**	**21 45 58.4**	**+1.7**
ARU	**Arti**	**41.20**	**330**	P	**P**	**21 46 36.1**	**+1.3**
comp=Z,0.6nm,0.3s,baz=136,slow=21,SNR=5.4							
ARU	**Arti**	**41.20**	**330**	P	**P**	**21 46 36.1**	**+1.3**
ARU				IAmb	IAmb	21 46 36.7	
comp=Z,2.2nm,0.6s							
TIXI	**Tiksi**	**50.88**	**13**	P	**P**	**21 47 50.0**	**-0.5**
TIXI				IAmb	IAmb	21 47 50.1	
comp=Z,2.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**52.05**	**142**	P	**P**	**21 47 58.9**	**-0.9**
FITZ				IAmb	IAmb	21 47 59.1	
comp=Z,2.1nm,0.9s							
MLR	**Muntele Rosu**	**58.26**	**310**	P	**P**	**21 48 45.7**	**+1.2**
FINES	**FINESS Array B**	**58.52**	**328**	P	**P**	**21 48 46.5**	**+0.7**
comp=Z,1.2nm,0.7s,baz=117,slow=4.8,SNR=8.8							
WB0	**Warramunga Arr**	**58.62**	**135**	P	**P**	**21 48 46.0**	**-1.0**
WB0				IAmb	IAmb	21 49 04.7	
comp=Z,6.8nm,1.5s							
WRA	**Warramunga Arr**	**58.71**	**135**	P	**P**	**21 48 46.4**	**-1.3**
comp=Z,0.9nm,0.5s,baz=324,slow=7.4,SNR=22							
WB2	**Warramunga Arr**	**58.72**	**135**	P	**P**	**21 48 46.7**	**-1.1**
WB2				IAmb	IAmb	21 48 47.4	
comp=Z,3.8nm,1.1s							
ARCES	**ARCESS Array B**	**59.94**	**338**	P	**P**	**21 48 56.5**	**+1.0**
comp=Z,3.6nm,1.0s,baz=101,slow=7.4,SNR=1.7							
ASAR	**Alice Springs**	**61.20**	**139**	P	**P**	**21 49 03.7**	**-1.0**
comp=Z,1.2nm,0.5s,baz=321,slow=6.8,SNR=22							
ASAR	**Alice Springs**	**61.20**	**139**	P	**P**	**21 49 04.0**	**-0.7**
NOA	**NORSAR Array B**	**65.69**	**328**	P	**P**	**21 49 34.1**	**+0.3**
comp=Z,0.2nm,0.4s,baz=98,slow=5.8,SNR=1.6							
NC204	**NORSAR Array S**	**65.88**	**328**	P	**P**	**21 49 35.5**	**+0.4**
SUMG	**Summit**	**78.06**	**347**	P	**P**	**21 50 48.4**	**+0.4**

*NEIC **15** 21:40:57.5±1.6, 18°.90N±0°.08×145°.5E±0°.2, h122km±7km, mb4.0/6, Error ellipse: s-maj=25.0km s-min=11.5km az=87.0*
*IDC **15** 21:40:58.9±16.0, 18°.97N×145°.38E, h132km±147km, mb3.3/5, mb1 3.6/5, mb1mx3.1/44, mbtmp3.7/5, Error ellipse: s-maj=69.3km s-min=26.2km az=112.0*
ISC 15 21:40:55.6±0.7, 19°.00N±0°.08×145°.5E±0°.2, h100km, n14, σ1ˢ34/16, mb3.7/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.42**	**187**	Pn	**Pn**	**21 42 14.7**	**+0.5**
GUMO				Sn	**Sn**	**21 43 17.4**	**+2.2**
PATS	**Pohnpei**	**17.34**	**133**		**P**	**21 44 50.9**	**-0.5**
JGF	**Kuroka**	**18.05**	**338**	Pn	**Pn**	**21 45 02.3**	**+2.3**
JGF				IAmb	IAmb	21 45 11.4	
comp=Z,5.1nm,1.1s							
WB2	**Warramunga Arr**	**40.23**	**196**	P	**P**	**21 48 21.2**	**-1.5**
WB2				IAmb	IAmb	21 48 32.7	
comp=Z,4.2nm,1.1s							
WRA	**Warramunga Arr**	**40.23**	**196**	P	**P**	**21 48 22.2**	**-0.5**
comp=Z,0.7nm,0.6s,baz=19,slow=9.1,SNR=12							
WRA				PcP	**PcP**	**21 50 23.3**	**-1.7**
comp=Z,0.1nm,0.5s,baz=14,slow=3.1,SNR=1.4							
WRA	**Warramunga Arr**	**40.23**	**196**	P	**P**	**21 48 20.9**	**-1.9**
ASAR	**Alice Springs**	**43.90**	**195**	P	**P**	**21 48 51.7**	**-0.8**
comp=Z,0.3nm,0.6s,baz=19,slow=8.9,SNR=7.6							
TLY	**Talaya**	**46.23**	**325**	P	**P**	**21 49 10.1**	**-0.6**
TLY				IAmb	IAmb	21 49 27.7	
comp=Z,4.3nm,1.1s							
WRH	**Wood River Hil**	**62.87**	**26**	P	**P**	**21 51 11.7**	**+0.9**
ILAR	**Eielson Array**	**63.44**	**26**	P	**P**	**21 51 14.6**	**+0.1**
comp=Z,0.5nm,0.5s,baz=260,slow=5.1,SNR=5.5							
NVAR	**Mina Array Bea**	**83.07**	**52**	P	**P**	**21 53 11.6**	**+0.9**
comp=Z,0.2nm,0.5s,baz=292,slow=4.8,SNR=2.4							
NVAR	**Mina Array Bea**	**83.07**	**52**	P	**P**	**21 53 10.9**	**+0.2**
FINES	**FINESS Array B**	**86.55**	**335**	P	**P**	**21 53 26.7**	**-0.6**
comp=Z,0.5nm,0.6s,baz=83,slow=5.7,SNR=6.7							
FINES	**FINESS Array B**	**86.55**	**335**	P	**P**	**21 53 26.4**	**-0.9**

IDC 15 21:54:11.4±12.0, 17°.83S×178°.26W, h567km±114km, mb3.1/4, mb1 3.4/4, mb1mx3.0/36, mbtmp4.1/4, Error ellipse: s-maj=141.2km s-min=46.6km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.79**	**241**	P	P	22 00 48.2	-0.2
2.0nm,0.7s,baz=84,slow=11,SNR=4.3							
WRA	**Warramunga Arr**	**44.78**	**259**	P	P	22 01 35.3	-0.4
0.8nm,0.3s,baz=96,slow=7.4,SNR=44							
WRA				PcP	PcP	22 03 04.9	-0.6
0.2nm,0.3s,baz=90,slow=3.6,SNR=2.2							
ASAR	**Alice Springs**	**44.95**	**254**	P	P	22 01 37.0	+0.1
5.1nm,0.6s,baz=86,slow=8.9,SNR=66							
ASAR				PcP	PcP	22 03 05.2	-0.8
0.5nm,0.4s,baz=104,slow=3.9,SNR=6.6							
ILAR	**Eielson Array**	**85.78**	**13**	P	P	22 05 50.3	-0.5
0.2nm,0.4s,baz=215,slow=5.2,SNR=2.9							
BRTR	**Keskin Array B**	**144.82**	**315**	PKP	PKPdf	22 12 45.0	+0.2
0.9nm,0.8s,baz=87,slow=2.8,SNR=4.4							
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	PKPbc	22 12 52.2	-0.3
0.3nm,0.6s,baz=35,slow=3.6,SNR=5.7							

*ANF **15** 22:01:11.2±0.8, 30°.56N×114°.37W, h0km, ML4.6/20, Error ellipse: s-maj=11.5km s-min=3.6km az=23.0*
*IDC **

SPX eS Sb 22 01 48.4 +0.2
SPX ⇓e 22 01 51.3
SPX IAML 22 01 51.3
comp=N,12µm,1.1s
SPX IAML 22 01 51.4
comp=E,8µm,0.9s
SPX ⇓e 22 01 51.4
SPIG San Pedro Mart 1.07 299 eP Pb 22 01 32.7 -1.6
SPIG eS Sg 22 01 49.1 +0.6
SPIG San Pedro Mart 1.07 299 eP Pb 22 01 32.7 -1.6
SPIG i S Sb 22 01 48.5 +0.1
ECBX El Chinero 1.10 328 eP Pb 22 01 32.0 -2.7
ECBX eS Sb 22 01 47.5 -1.6
PIX Pinacate 1.29 37 Pn Pn 22 01 33.0 -4.5
PIX Pinacate 1.29 37⇓eP Pn 22 01 33.2 -4.3
SQX San Quintin 1.30 272 eP Pn 22 01 36.4 -1.2
SQX i S Sn 22 01 54.8 -0.1
SJX San Joaquin 1.83 312 eP Pn 22 01 44.4 -0.6
SJX eS Sg 22 02 11.9 -0.8
SJX IAML 22 02 24.9
comp=E,3µm,0.7s
SJX ⇓e 22 02 24.9
SJX IAML 22 02 25.7
comp=N,3µm,0.9s
SJX ⇑e 22 02 25.7
GUVIX Guadalupe Vict 1.87 341 Pn 22 01 46.1 +0.7
214A Organ Pipe Nat 1.95 43 P Pn 22 01 42.4 -4.3
baz=224,SNR=195
214A S Sn 22 02 10.7 -0.3
baz=224
214A Organ Pipe Nat 1.95 43 Pn Pn 22 01 42.3 -4.3
ESJX Sierra Juarez 2.00 318 Pn Pn 22 01 44.3 -3.0
MBIG Mexicali 2.00 340 eP Pg 22 01 52.6 +0.5
MBIG eS Sg 22 02 23.7 +5.7
CPBX Cerro Prieto 2.04 337 Pn 22 01 44.8 -3.1
CPBX Cerro Prieto 2.04 337⇑e 22 03 06.4
CPBX IAML 22 03 06.4
comp=E,14µm,1.7s
UABX UABC, Campus M 2.28 337 Pn 22 01 50.7 -0.5
113A Mohawk Valley, 2.29 13 Pn Pn 22 01 48.2 -3.0
CCX Cicese 2.37 305 Pn 22 01 51.4 -0.9
RMX La Rumorosa 2.53 325 Pn 22 01 52.3 -2.3
GLA Glamis 2.54 351 P Pn 22 01 52.2 -2.6
baz=169,SNR=44
GLA Glamis 2.54 351 Pn 22 01 52.9 -1.9
IKP In-Ko-Pah, Jac 2.58 325 P Pn 22 01 53.3 -2.0
baz=142,SNR=27
CBX Cerro Bola 2.65 313 Pn 22 01 54.7 -1.5
CBX Cerro Bola 2.65 313 e 22 02 46.7
CBX IAML 22 02 46.7
comp=E,7µm,1.1s
SWSC Sam W. Stewart 2.70 334 P Pn 22 01 54.2 -2.6
baz=151,SNR=11
TKX Tecate 2.79 317 Pn 22 01 56.0 -2.1
BAR Barrett 2.91 318 Pn Pn 22 01 58.4 -1.4
MONP2 Monument Peak 2.93 324 P Pn 22 01 58.5 -1.7
baz=141,SNR=9.0
MONP2 Sb Sb 22 02 44.7 +2.9
baz=141
TJX Tijuana 3.02 311 Pn Pn 22 02 02.1 +0.8
BC3 Big Chuckawall 3.25 344 P Pn 22 02 02.5 -2.0
baz=162,SNR=33
109C Camp Elliot, M 3.31 316 P Pn 22 02 01.2 -4.0
baz=133
109C Sb Sb 22 02 55.8 +3.3
baz=133
109C Camp Elliot, M 3.31 316 Pn Pn 22 02 04.2 -1.1
HSIG 3.33 116 Pn 22 02 04.8 -0.8
HSIG 3.33 116 eP Pn 22 02 03.2 -2.4
TUC Tucson 3.54 59 P Pn 22 02 03.8 -4.8
baz=241
TUC Tucson 3.54 59 Pn 22 02 04.7 -3.9
PFO Pinyon Flats O 3.55 331 Pn Pn 22 02 08.0 -0.6
comp=E,0.9nm,0.3s,baz=145,slow=13,SNR=14
PFO LR LR 22 02 50.0
comp=E,277nm,21.4s,baz=152,slow=27
PFO Lg Lg 22 03 06.9
comp=E,36nm,0.3s,baz=223,slow=15,SNR=9.8
PFO Pinyon Flats O 3.55 331 P Pn 22 02 05.0 -3.6
baz=148
PFO Pinyon Flats O 3.55 331 Pn Pn 22 02 07.0 -1.7
Y14A Wickenburg 3.59 18 Pn 22 02 07.2 -2.0
IRM Iron Mountain 3.67 350 P Pn 22 02 07.5 -2.9
baz=168,SNR=8.8
SRIG Santa Rosalia 3.71 149 Pn Pn 22 02 09.6 -1.1
BELC Belle Mtn. Jos 3.72 339 P Pn 22 02 08.4 -2.7
baz=156
PDMCI Parker Dam,Lak 3.77 3 P Pn 22 02 09.9 -1.7
baz=182,SNR=39
MURC Murrieta 3.89 323 Sb Sb 22 03 12.6 +3.4
baz=140
NZIG Nacozari, Sono 4.16 91 eP Pb 22 02 28.9 +1.9
NZIG i S Sg 22 03 28.8 +1.4
NEE2 Needles Airpor 4.23 357 P Pn 22 02 17.2 -0.7
baz=176
GMRC Granite Mounta 4.38 346 P Pn 22 02 18.6 -1.4
baz=164
HEC Hector,Ludlow 4.59 339 P Pn 22 02 21.1 -1.9
baz=157
BFSC Mount Baldy Ra 4.62 324 Sb Sb 22 03 34.3 +3.8
baz=141
MWC Mount Wilson 4.83 321 Pn 22 02 26.7 +0.5
PASC Pasadena Art C 4.86 319 Pn 22 02 28.2 +1.6
DECC Green Verdugo 5.00 319 P Pn 22 02 26.4 -2.1
baz=136
DECC Sb Sb 22 03 46.5 +5.3
baz=136
TUQ Turquoise Moun 5.06 345 P Pn 22 02 28.3 -1.2
baz=164
GSC Goldstone, Bar 5.18 337 P Pn 22 02 30.1 -0.9
baz=155
GSC Goldstone, Bar 5.18 337 Pn Pn 22 02 30.7 -0.3
OSI Osito Audit: C 5.48 319 Pn 22 02 35.3 +0.1
CGIG 5.52 90 eP Pb 22 02 48.4 -1.8
CGIG i S Sb 22 04 02.8 +6.3
WUAZ Wupatki 5.57 26 P Pn 22 02 35.2 -1.3
baz=207,SNR=39
WUAZ Wupatki 5.57 26 Pn Pn 22 02 36.0 -0.5
121A Cookes Peak, D 5.97 69 P Pn 22 02 39.2 -2.8
baz=252,SNR=19
121A Cookes Peak, D 5.97 69 Pn Pn 22 02 39.4 -2.5
SHPR Sheep Range 6.00 354 Pn Pn 22 02 41.5 -0.8
W18A Petrified Fore 6.01 39 P Pn 22 02 40.5 -2.1
baz=222,SNR=14
W18A Petrified Fore 6.01 39 Pn 22 02 41.2 -1.3
MPMC Manual Prospec 6.10 335 P Pn 22 02 42.6 -1.2
baz=153
U15A North Rim 6.13 16 Pn 22 02 43.4 -0.9
ISA Isabella, Lake 6.17 327 Pn Pn 22 02 44.6 0.0
FURC Furnace Creek, 6.28 341 P Pn 22 02 44.3 -1.7
baz=159
TPNV Topopah Spring 6.59 347 P Pn 22 02 49.3 -1.2
baz=165,SNR=10
TPNV Topopah Spring 6.59 347 Pn Pn 22 02 50.9 +0.5
KNB Kanab 6.60 11 Pn Pn 22 02 50.9 +0.3
PRN Pahroc Range 6.88 355 Pn Pn 22 02 54.9 +0.4
PKCU Pink Cliffs 7.10 13 Pn 22 02 58.1 +0.4
SZCU Shurtz Canyon 7.13 8 Pn 22 02 57.8 -0.1
PAGB Antelope Grade 7.15 318 Pn 22 02 58.4 +0.3
Y22D IRIS PASSCAL I 7.23 59 P Pn 22 02 57.6 -1.7
baz=243
Y22D IRIS PASSCAL I 7.23 59 Pn Pn 22 02 57.4 -1.9
BNM Barren Site 7.48 59 Pn Pn 22 03 00.3 -2.5
MNTX Cornudas Mount 7.79 79 P Pn 22 03 04.9 -2.0
baz=264,SNR=8.9
MNTX Cornudas Mount 7.79 79 Pn Pn 22 03 04.7 -2.2
PMPB Monarch Peak 7.81 318 Pn Pn 22 03 06.7 -0.5
R11A Troy Canyon, C 7.86 353 P Pn 22 03 08.9 +0.9
baz=172,SNR=17
R11A Troy Canyon, C 7.86 353 Pn Pn 22 03 07.3 -0.7
TPH Tonopah 7.88 343 Pn 22 03 09.2 +0.9
ANMO Albuquerque 7.99 54 P Pn 22 03 08.5 -1.2
baz=239
ANMO Albuquerque 7.99 54 Pn Pn 22 03 07.7 -2.0
PSUT Pine Spring 8.00 3 Pn Pn 22 03 09.4 -0.4
OMMB Old Mammoth Mi 8.04 333 Pn Pn 22 03 10.9 +0.3
MVU Marysvale 8.15 12 Pn 22 03 11.6 -0.4
TCRU Three Creeks R 8.21 11 Pn 22 03 13.8 +1.0
MVCO Mesa Verde 8.26 35 P Pn 22 03 13.2 -0.2
baz=218,SNR=5.3
MVCO Mesa Verde 8.26 35 Pn Pn 22 03 12.7 -0.8
LHV Little Huntoon 8.42 337 Pn Pn 22 03 16.2 +0.7
NV11 Mina Array Sit 8.48 339 Pn 22 03 18.0 +1.6
NVAR Mina Array Bea 8.52 339 Pn Pn 22 03 18.8 +1.7
comp=E,0.1nm,0.3s,baz=159,slow=14,SNR=15
NVAR Lg Lg 22 05 42.5
baz=161,slow=29,SNR=1.9
NVAR Mina Array Bea 8.52 339 Pn Pn 22 03 17.9 +0.9
SAO San Andreas Ge 8.57 318 Pn Pn 22 03 18.9 +1.4
GDL2 Guadalupe Moun 8.72 76 Pn Pn 22 03 20.5 +0.8
RYN Ryan 8.77 338 Pn 22 03 21.5 +1.1
PV19 Morning Glory 8.94 28 Pn 22 03 22.7 -0.1
WAKR Walker 8.98 334 Pn Pn 22 03 23.8 +0.4
CMB Columbia Colle 8.98 328 Pn Pn 22 03 25.2 +1.9
YERR Yerington 9.33 336 Pn Pn 22 03 29.1 +1.0
TX32 Lajitas Array 9.36 95 Pn 22 03 26.8 -1.7
TXAR Lajitas Array 9.37 95 Pn Pn 22 03 26.6 -2.0
comp=E,0.9nm,0.3s,baz=264,slow=14,SNR=21
TXAR Lg Lg 22 06 02.2
comp=E,0.3nm,0.3s,baz=263,slow=29,SNR=2.1
TXAR LR LR 22 07 21.1
comp=E,3µm,18.1s,baz=0.0,slow=40
TXAR Lajitas Array 9.37 95 Pn 22 03 27.7 -0.9
P17A Butcher Ranch, 9.40 17 Pn 22 03 29.8 +0.7
DUG Dugway, Tooele 9.73 7 Pn Pn 22 03 34.2 +0.7
PAHR Pah Rah Range 10.03 337 Pn 22 03 38.8 +1.2
ELK Elko 10.22 356 Pn Pn 22 03 41.0 +0.7
SDCO Great Sand Dun 10.28 43 P Pn 22 03 40.2 -1.1
baz=228,SNR=8.0
SDCO Great Sand Dun 10.28 43 Pn 22 03 41.2 0.0
MSTX Muleshoe 10.40 68 P Pn 22 03 42.0 -0.8
baz=254
MSTX Muleshoe 10.40 68 Pn Pn 22 03 43.0 +0.2
T25A Trinidad 10.58 49 P Pn 22 03 45.2 0.0
baz=234,SNR=17
T25A Trinidad 10.58 49 Pn Pn 22 03 46.3 +1.0
ORV Oroville 10.73 329 Pn Pn 22 03 49.0 +1.9
O20A White River Ci 10.81 26 P Pn 22 03 49.3 +1.0
baz=209
O20A White River Ci 10.81 26 Pn Pn 22 03 49.7 +1.4
TCUT Toone Canyon 10.83 12 Pn Pn 22 03 49.3 +0.5
HWUT Hardware Ranch 11.28 11 Pn 22 03 56.1 +1.3
HVU Hansel Valley 11.30 6 Pn 22 03 55.9 +0.9
AMTX Amarillo 11.54 65 P Pn 22 03 57.5 -0.8
baz=252
AMTX Amarillo 11.54 65 Pn Pn 22 03 57.5 -0.8
ISCO Idaho Springs 11.69 35 Pn Pn 22 04 01.3 +0.8
MOD Modoc Plateau 12.31 339 Pn Pn 22 04 11.5 +2.7
WVOR Wild Horse Val 12.36 345 Pn 22 04 11.6 +2.1
N02D Trinity Center 12.42 329 P Pn 22 04 09.4 -0.8
baz=144
AHID Auburn Hatcher 12.49 11 Pn 22 04 11.6 +0.3
RWWY Rawlins 12.54 25 Pn Pn 22 04 12.3 +0.2
JCT Junction City 12.57 87 P Pn 22 04 10.7 -1.6
baz=274
JCT Junction City 12.57 87 Pn Pn 22 04 12.3 0.0
ABTX Abilene, Hawle 12.73 77 P Pn 22 04 13.0 -1.5
baz=265
ABTX Abilene, Hawle 12.73 77 Pn Pn 22 04 13.7 -0.9
BW06 Boulder Array 12.80 16 Pn 22 04 15.0 -0.7
PDAR Pinedale Array 12.80 16 Pn Pn 22 04 18.7 +3.0
comp=E,0.3nm,0.3s,baz=195,slow=11,SNR=12
PDAR Lg Lg 22 07 56.7
comp=E,0.2nm,0.3s,baz=168,slow=31,SNR=2.4
PDAR Pinedale Array 12.80 16 Pn 22 04 15.2 -0.5
KHMM Horse Mountain 12.81 326 Pn Pn 22 04 16.1 +0.4
M02C Callahan 12.82 330 P Pn 22 04 17.4 +1.6
baz=145,SNR=5.1
KSCO Kaye Shedlock' 12.83 46 Pn Pn 22 04 15.9 -0.1
HLID Hailey 13.01 360 P Pn 22 04 19.1 +0.7
baz=180,SNR=8.8
HLID Hailey 13.01 360 Pn Pn 22 04 20.8 +2.4
YBH Yreka Blue Hor 13.04 331 Pn Pn 22 04 22.6 +3.8
baz=165,slow=13,SNR=5.1
YBH Lg Lg 22 07 54.3
baz=97,slow=8.1,SNR=1.4
YBH Yreka Blue Hor 13.04 331 Pn Pn 22 04 20.7 +1.9
REDW Red Top Meadow 13.11 11 Pn 22 04 20.7 +0.8
J08A Circle Bar Ran 13.21 347 Pn 22 04 22.0 +0.8
FXWY Fox Creek 13.35 11 Pn 22 04 23.3 +0.1
K22A Casper 13.63 25 P Pn 22 04 27.7 +0.8
baz=210,SNR=5.6
K22A Casper 13.63 25 Pn 22 04 27.5 +0.6
WMOK Wichita Mounta 13.79 68 P Pn 22 04 28.2 -0.8
baz=257
WMOK Wichita Mounta 13.79 68 Pn Pn 22 04 28.2 -0.8
PINE Pine Mountain 14.23 340 Pn Pn 22 04 37.7 +2.6
MCMT McKenzie Canyo 14.32 4 Pn 22 04 37.3 +0.9
OGNE Ogallala 14.42 41 Pn 22 04 38.6 +1.0
435B Jarrell 14.45 85 Pn 22 04 38.8 +0.7
QLMT Earthquake Lak 14.46 8 Pn Pn 22 04 39.3 +1.0
BMO Blue Mountains 14.48 352 Pn 22 04 40.3 +1.8
YHH Holmes Hill 14.50 10 Pn 22 04 40.2 +1.2
WHTX Lake Whitney, 14.54 80 P Pn 22 04 38.0 -1.3
baz=269
WHTX Lake Whitney, 14.54 80 Pn 22 04 38.5 -0.8
CBKS Cedar Bluff 14.59 52 P Pn 22 04 39.4 -0.5
baz=240
CBKS Cedar Bluff 14.59 52 Pn 22 04 39.1 -0.9
I04A Tendick Farm, 14.70 336 P Pn 22 04 42.3 +1.0
baz=151,SNR=5.9
Z35A Perchaven, San 14.80 75 Pn 22 04 41.1 -1.7
RLMT Red Lodge 15.11 14 P Pn 22 04 46.9 -0.2
baz=197
RLMT Red Lodge 15.11 14 Pn 22 04 48.1 +1.1
RLMT IAmb IAmb 22 04 56.2
comp=Z,23nm,1.2s
R32A Long Quarter, 15.11 54 Pn 22 04 47.3 +0.3
BOZ Bozeman (W) 15.19 7 Pn 22 04 49.0 +0.9
BOZ IAmb IAmb 22 04 57.7
comp=Z,19nm,1.2s
RSSD Black Hills 15.84 28 P Pn 22 04 56.5 -0.2
baz=214
RSSD Black Hills 15.84 28 Pn Pn 22 04 56.1 -0.6
RSSD IAmb IAmb 22 05 03.2
comp=Z,39nm,1.1s
T35A Sooner Cattle 16.16 62 Pn 22 04 59.5 -1.0
HRY Holter Researc 16.28 6 Pn 22 05 02.7 +0.6
MSO Missoula 16.28 1 P Pn 22 05 03.2 +1.0
baz=181,SNR=14
TUL1 Leonard 16.44 66 P Pn 22 05 02.9 -1.2
baz=256
TUL1 Leonard 16.44 66 Pn 22 05 03.7 -0.5
Z38A Mt. Pleasant 16.69 76 Pn Pn 22 05 06.7 -0.7
Z38A IAmb IAmb 22 05 11.9
comp=Z,46nm,1.1s
KSU1 Kansas State U 16.89 55 P Pn 22 05 09.2 -0.6
baz=245
KSU1 Kansas State U 16.89 55 P Pn 22 05 08.9 -0.9
KSU1 IAmb IAmb 22 05 14.2
comp=Z,88nm,1.4s
NATX Nacogdoches 16.92 81 Pn Pn 22 05 09.4 -0.8
NATX IAmb IAmb 22 05 23.1
comp=Z,79nm,1.5s
BGNE Belgrade 17.01 46 Pn Pn 22 05 11.2 -0.1
BGNE IAmb IAmb 22 05 16.0
comp=Z,65nm,1.2s
E04D Cinebar 17.22 341 P Pn 22 05 14.4 +0.5
baz=155,SNR=5.7
LAO LASA Array 17.33 19 P Pn 22 05 15.3 -0.1
baz=204,SNR=7.5
E03A Lebam 17.51 339 P 22 05 18.4 -0.2
E03A IAmb IAmb 22 05 24.0
comp=Z,63nm,0.9s
D05A Enumclaw 17.64 343 P Pn 22 05 19.4 +0.2
D05A IAmb IAmb 22 05 32.6
comp=Z,65nm,1.3s
U38A Gravette 17.67 65 Pn Pn 22 05 18.9 -0.8
EGMT Eagleton 17.82 10 P P 22 05 22.2 0.0
baz=193,SNR=16
EGMT Eagleton 17.82 10 P P 22 05 22.2 0.0
EGMT IAmb IAmb 22 05 25.5
comp=Z,84nm,1.4s
NEW Newport 17.84 354 P P 22 05 23.0 +0.7
comp=Z,0.4nm,0.3s,baz=168,slow=13,SNR=11
NEW LR LR 22 12 48.5
comp=Z,359nm,18.0s,baz=212,slow=39
NEW Newport 17.84 354 P Pn 22 05 22.0 +0.4
baz=172,SNR=6.5
NEW Newport 17.84 354 Pn 22 05 22.0 +0.4
W39A Magazine 17.90 70 P Pn 22 05 21.9 -0.6
baz=261
W39A Magazine 17.90 70 Pn 22 05 22.3 -0.2
MIAR Mount Ida 17.98 72 P Pn 22 05 22.7 -0.7
baz=263
HHAR Hobbs 17.99 66 P Pn 22 05 22.7 -0.9
B08A Colville Reser 18.20 349 P 22 05 27.0 +0.7
D03D Eldon 18.26 341 P Pn 22 05 25.8 -0.9
baz=155
NLWA Neilton Lookou 18.36 339 P Pn 22 05 28.4 +0.4
L34A Svendsen Farm, 18.42 47 P P 22 05 27.6 -1.2
L34A IAmb IAmb 22 05 30.3
comp=Z,26nm,0.9s
SUSD Miller 18.46 37 P P 22 05 28.9 -0.3
WALA Waterton Lakes 18.51 1 P Pn 22 05 30.1 +0.2
Z41A Richland Creek 18.51 76 P P 22 05 29.8 0.0
Z41A IAmb IAmb 22 05 46.1
comp=Z,75nm,1.4s
X40A Basin Creek Fa 18.58 72 P P 22 05 29.5 -1.0
baz=264
U40A Yellville 18.86 66 P P 22 05 31.6 -2.0
baz=258
U40A Yellville 18.86 66 P P 22 05 32.7 -0.9
WHAR Wooly Hollow 19.13 70 P P 22 05 36.1 -0.5
W41B Gary Mavity, V 19.14 70 P P 22 05 34.9 -1.8
baz=262
ECSD EROS Data Cent 19.29 42 P P 22 05 38.4 +0.1
baz=233,SNR=15
ECSD EROS Data Cent 19.29 42 P 22 05 38.2 -0.1
ECSD IAmb IAmb 22 05 40.9
comp=Z,32nm,1.1s
MGMO Mountain Grove 19.49 64 P P 22 05 40.1 -0.5
DGMT Dagmar 19.53 21 P P 22 05 41.1 +0.3
baz=207
R40A Maddies Statio 19.78 61 P P 22 05 43.2 -0.4
R40A IAmb IAmb 22 05 44.9
comp=Z,22nm,0.8s
N38A Joes South For 19.95 53 P P 22 05 45.1 -0.4
T42A Van Buren 20.38 65 P P 22 05 49.6 -0.7
VBMS Vicksburg 20.43 79 P P 22 05 50.6 -0.2
VBMS IAmb IAmb 22 05 52.9
comp=Z,32nm,0.8s
CCM Cathedral Cave 20.50 62 P P 22 05 50.4 -1.1
baz=256
CCM Cathedral Cave 20.50 62 P 22 05 51.1 -0.3
CCM IAmb IAmb 22 05 53.5
comp=Z,22nm,1.2s
MDND Maddock 20.68 29 P P 22 05 52.4 -1.0
baz=218
MDND Maddock 20.68 29 P P 22 05 53.2 -0.2
F33A 5 Mile Ranch, 20.80 38 P P 22 05 54.4 -0.2
F33A IAmb IAmb 22 05 55.6
comp=Z,23nm,1.1s
PBMO Poplar Bluff 20.86 66 P P 22 05 55.0 -0.4
FVM French Village 21.11 63 P P 22 05 57.6 -0.5
N41A Harden Midland 21.59 56 P P 22 06 02.6 -0.6
L40A Anamosa 21.85 52 P P 22 06 05.8 -0.2
S44A Carbondale 21.95 64 P P 22 06 07.0 -0.1
S44A IAmb IAmb 22 06 08.2
comp=Z,35nm,1.2s
Q44A Meyer Farm, Va 22.40 61 P P 22 06 11.5 -0.4
Q44A IAmb IAmb 22 06 12.9
comp=Z,36nm,1.1s
PLAL Pickwick Lake 22.53 72 P P 22 06 12.9 -0.5
PLAL IAmb IAmb 22 06 19.6
comp=Z,16nm,1.1s
HDIL Hopedale 22.66 57 P P 22 06 13.7 -0.9
baz=252
HDIL Hopedale 22.66 57 P P 22 06 14.3 -0.4
AGMN Agassiz Nation 22.69 33 P P 22 06 14.2 -0.7
baz=225
AGMN Agassiz Nation 22.69 33 P P 22 06 14.2 -0.7
AGMN IAmb IAmb 22 06 21.8
comp=Z,23nm,1.1s
WVT Waverly 22.83 69 P P 22 06 15.8 -0.8
baz=264
WVT Waverly 22.83 69 P P 22 06 16.4 -0.2
WVT IAmb IAmb 22 06 31.4
comp=Z,25nm,1.3s
JFWS Jewell Farm 22.86 51 P P 22 06 16.1 -0.7
baz=245
JFWS Jewell Farm 22.86 51 P P 22 06 16.2 -0.7
JFWS IAmb IAmb 22 06 19.4
comp=Z,40nm,1.3s
X48A Hartselle 23.35 73 P P 22 06 21.2 -0.7
X48A IAmb IAmb 22 06 27.0
comp=Z,12nm,1.2s
LRAL Lakeview Retre 23.38 77 P P 22 06 20.0 -2.2
baz=271
T47A Sharon Grove 23.52 67 P P 22 06 23.0 -0.5
T47A IAmb IAmb 22 06 25.9
comp=Z,16nm,1.1s
B35A Bob, Littlefor 23.77 36 P P 22 06 25.7 -0.2
B35A IAmb IAmb 22 06 26.8
comp=Z,30nm,1.4s
BBB Bella Bella 23.89 339 LR LR 22 15 21.0
comp=Z,358nm,19.7s,baz=174,slow=35
ULM Lac du Bonnet 24.09 30 P P 22 06 27.8 -1.1
comp=Z,30nm,1.1s,baz=232,slow=9.6,SNR=16
ULM LR LR 22 14 44.9
comp=Z,49nm,19.9s,baz=242,slow=34
ULM Lac du Bonnet 24.09 30 P P 22 06 28.3 -0.6
SFIN Lafayette 24.21 59 P P 22 06 29.0 -1.1
baz=255
BLO Bloomington 24.35 62 P P 22 06 31.2 -0.2
EYMN Ely 24.68 39 P P 22 06 31.7 -2.6
baz=233
W50A Signal Mountai 24.80 71 P P 22 06 34.9 -0.7
W50A IAmb IAmb 22 06 37.4
comp=Z,18nm,1.1s
FFC Flin Flon 25.76 17 P P 22 06 44.6 +0.6
FFC IAmb IAmb 22 06 45.4
comp=Z,17nm,1.1s
TKL Tuckaleechee C 26.08 71 LR LR 22 17 13.7
comp=Z,463nm,21.2s,baz=266,slow=37
APG El Apazote 26.84 120 LR LR 22 16 48.4
comp=Z,572nm,18.2s,baz=279,slow=35
ACSO Alum Creek Sta 27.24 61 P P 22 06 57.1 -0.5
DLBC Dease Lake 29.90 343 LR LR 22 19 02.9
comp=Z,372nm,19.4s,baz=191,slow=36
O56A Blue Knob Stat 30.58 62 P P 22 07 26.1 -1.3
baz=263
M55A Ridgway 30.61 59 P P 22 07 26.4 -1.1
baz=261
N56A West Decatur 30.88 60 P P 22 07 29.2 -0.7
baz=262
SADO Sadowa 31.04 53 LR LR 22 21 56.9
comp=Z,225nm,18.8s,baz=266,slow=40
N57A Milroy 31.41 61 P P 22 07 34.2 -0.4
baz=263
L56A Greenwood 31.61 58 P P 22 07 35.2 -1.1
baz=261
J55A Hilton 31.62 56 P P 22 07 36.0 -0.3
baz=259
M57A Sunshine Farm, 31.81 60 P P 22 07 37.0 -1.0
baz=262
O58A Lewisberry 31.82 62 P P 22 07 36.9 -1.3
baz=264
YKA Yellowknife Ar 31.97 360 LR LR 22 22 38.7
comp=Z,148nm,21.1s,baz=0.0,slow=40
ALGO Algonquin Park 32.10 51 P P 22 07 38.9 -1.6
baz=254
L57A Andrews Acres 32.11 59 P P 22 07 38.8 -1.9
baz=261
J56A Wolcott 32.31 56 P P 22 07 41.4 -1.0
baz=259,SNR=5.8
K57A Scipio Center 32.47 57 P P 22 07 41.2 -2.6
baz=261
D53A Lac Vacive, Po 32.65 49 P P 22 07 43.2 -2.2
baz=253
S61A Accomac 32.65 67 P P 22 07 42.1 -3.3
baz=269
BINY Binghamton 32.77 58 P P 22 07 45.1 -1.4
baz=262
N59A State Game Lan 32.77 61 P P 22 07 45.3 -1.3
baz=264
P60A Greenville 32.78 63 P P 22 07 45.3 -1.3
baz=266
G55A Calabogie 32.82 53 P P 22 07 45.9 -1.0
baz=256
L58A Harry Jones Me 32.85 59 P P 22 07 45.0 -2.2
baz=262
J57A Williamstown 32.95 56 P P 22 07 46.8 -1.3
baz=260
O60A Telford 32.99 62 P P 22 07 46.6 -1.8
baz=265
H56A Elgin 33.00 54 P P 22 07 47.6 -0.8
baz=258
M59A Waymart 33.10 60 P P 22 07 48.2 -1.2
baz=263
K58A Earlville 33.10 58 P P 22 07 49.1 -0.4
baz=261
F55A Otter Lake 33.21 52 P P 22 07 50.1 -0.2
baz=256

N60A	Cedar Hill Far	33.27	61	P		P	22 07 50.1	-0.8
	baz=265							
I57A	Carthage	33.29	55	P		P	22 07 50.0	-1.0
	baz=260							
J58A	Remsen	33.46	57	P		P	22 07 51.8	-0.7
	baz=261							
L59A	Walton	33.47	59	P		P	22 07 51.5	-1.1
	baz=263							
H57A	Richville	33.58	55	P		P	22 07 52.9	-0.6
	baz=259							
M60A	Port Jervis	33.68	60	P		P	22 07 53.5	-1.0
	baz=264							
K59A	Cooperstown	33.68	58	P		P	22 07 53.8	-0.7
	baz=262							
I58A	Old Forge	33.74	56	P		P	22 07 54.6	-0.4
	baz=260							
J59A	Piesco	34.04	56	P		P	22 07 57.1	-0.5
	baz=261,SNR=6.6							
J59A	Piesco	34.04	56	P		P	22 07 57.3	-0.3
L60A	Shokan	34.05	59	P		P	22 07 56.4	-1.2
	baz=264							
D55A	Sainte-Anne-du	34.10	50	P		P	22 07 56.7	-1.3
	baz=255							
LONY	Lake Ozonia	34.18	54	P		P	22 07 57.4	-1.4
	baz=259							
H58A	Gabriels	34.42	55	P		P	22 07 59.5	-1.4
	baz=260							
I59A	Olmsteadville	34.54	56	P		P	22 07 59.9	-2.0
	baz=261							
L61A	Hillsdale 1, H	34.56	59	P		P	22 08 01.1	-1.0
	baz=264							
D56A	ZEC Mazanza, M	34.58	50	P		P	22 08 01.0	-1.2
	baz=256							
G58A	Ormstown	34.64	54	P		P	22 08 02.7	-0.1
	baz=259							
J60A	Lant Hill Farm	34.79	57	P		P	22 08 02.0	-2.0
	baz=262							
H59A	Cadyville	34.81	55	P		P	22 08 01.5	-2.7
	baz=260							
I60A	Shoreham	34.96	56	P		P	22 08 05.6	+0.1
	baz=262							
M62A	Hamden	34.98	60	P		P	22 08 04.6	-1.1
	baz=265							
D57A	Chemin Vers le	35.15	50	P		P	22 08 07.3	+0.2
	baz=257							
G59A	Clarenceville	35.24	54	P		P	22 08 07.6	-0.2
	baz=260							
E58A	La Victoria	35.42	52	P		P	22 08 07.1	-2.3
	baz=258							
J61A	Chester	35.43	57	P		P	22 08 06.6	-2.9
	baz=263							
H60A	Morristown	35.49	55	P		P	22 08 09.8	-0.3
	baz=261							
K62A	Royalston	35.59	58	P		P	22 08 08.3	-2.6
	baz=264							
CHGQ	Chibougamau	35.61	46	P		P	22 08 10.3	-0.7
	baz=252							
G60A	Masonville	35.83	54	P		P	22 08 11.0	-2.0
	baz=261							
D58A	Chemin du LacG	35.84	51	P		P	22 08 09.8	-3.2
	baz=258							
L63A	North Scituate	35.98	60	P		P	22 08 10.3	-3.9
	baz=266							
LBNH	Lisbon	35.99	56	P		P	22 08 14.7	+0.3
	baz=262,SNR=5.1							
H61A	Lyndonville	36.03	55	P		P	22 08 12.4	-2.4
	baz=262							
HRV	Adam Dziewonsk	36.07	59	P		P	22 08 12.4	-2.6
	baz=265							
K63A	Dunstable	36.10	58	P		P	22 08 14.8	-0.5
	baz=265							
F60A	Warwick	36.24	53	P		P	22 08 15.9	-0.6
	baz=260							
BCAR	Beaver Creek A	36.98	340	P		P	22 08 24.5	+1.9
KDAK	Kodiak Island	37.81	327	LR		LR	22 21 39.8	
	comp=Z,297nm,20.1s,baz=117,slow=32							
E62A	Clayton Lake	38.01	52	P		P	22 08 31.7	+0.2
E62A				IAmb		IAmb	22 08 33.1	
	comp=Z,12nm,1.1s							
KNK	Knik Glacier	38.11	334	P		P	22 08 33.3	+1.1
EGAK	Eagle	38.12	342	P		P	22 08 33.8	+1.7
EGAK				IAmb		IAmb	22 08 35.9	
	comp=Z,18nm,1.1s							
F63A	Nahmakanta, Br	38.17	54	P		P	22 08 31.4	-1.5
	baz=263							
SCRK	Sand Creek	38.32	339	P		P	22 08 34.7	+0.6
	baz=136,SNR=6.0							
G64A	Maxfield	38.36	54	P		P	22 08 33.4	-1.1
	baz=264							
GHO	Glory Hole Cre	38.50	334	P		P	22 08 36.8	+1.3
GHO				IAmb		IAmb	22 08 39.2	
	comp=Z,20nm,1.1s							
HMH	Humu'ula Sheep	38.61	263	P		P	22 08 38.7	+1.5
H65A	Eastbrook	38.66	55	P		P	22 08 35.5	-1.5
	baz=265							
F64A	Sherman	38.72	54	P		P	22 08 36.2	-1.3
	baz=263							
E63A	Oxbow	38.74	53	P		P	22 08 36.3	-1.3
	baz=262							
E64A	Bridgewater	39.14	53	P		P	22 08 39.7	-1.3
	baz=263							
HDA	Harding Lake	39.55	338	P		P	22 08 44.5	+0.3
	baz=133							
IL31		39.78	339	P		P	22 08 47.6	+1.6
IL31				IAmb		IAmb	22 08 49.4	
	comp=Z,8.7nm,0.8s							
ILAR	Eielson Array	39.78	339	P		P	22 08 48.4	+2.3
	comp=Z,4.9nm,0.8s,baz=152,slow=7.4,SNR=50							
ILAR	Eielson Array	39.78	339	P		P	22 08 47.8	+1.7
POKR	Poker Plat Res	40.19	339	P		P	22 08 49.9	+0.5
	baz=133							
NEA2	Nenana	40.35	338	P		P	22 08 51.3	+0.5
	baz=131							
PPLA	Purkeypile	40.40	334	P		P	22 08 53.6	+2.2
PPLA				IAmb		IAmb	22 08 55.0	
	comp=Z,21nm,1.2s							
BPAW	Bear Paw Mtn.	40.69	336	P		P	22 08 54.9	+1.3
BPAW				IAmb		IAmb	22 08 56.7	
	comp=Z,13nm,1.1s							
COLD	Coldfoot	42.44	340	P		P	22 09 09.2	+1.2
	baz=131							
IMAR	Indian Mountai	42.76	338	P		P	22 09 12.2	+1.7
TOLK	Toolik Lake Re	43.23	342	P		P	22 09 13.4	-0.9
	baz=133							
OTAV	Otavalo	45.51	125	P		P	22 09 33.8	+0.1
ROSC	El Rosal	45.53	116	LR		LR	22 29 50.5	
	comp=Z,198nm,18.3s,baz=340,slow=38							
ROSC	El Rosal	45.53	116	P		P	22 09 33.5	-0.4
SDV	Santo Domingo	46.09	108	P		P	22 09 37.3	-0.7
RDOG	Red Dog Mine	46.91	337	P		P	22 09 44.7	+1.1
SUMG	Summit	56.96	20	*i* P		P	22 10 59.7	+0.8
	comp=Z,30nm,1.1s							
PTGA	Pitinga	60.28	111	P		P	22 11 21.6	-0.8
PTGA				IAmb		IAmb	22 11 22.6	
	comp=Z,5.2nm,0.8s							
LPAZ	La Paz	64.39	130	LR		LR	22 38 48.6	
	comp=Z,76nm,18.3s,baz=320,slow=35							
PETK	Petropavlovsk-	65.03	318	P		P	22 11 54.1	+0.6
	comp=Z,1.3nm,0.5s,baz=70,slow=9.3,SNR=3.8							
PETK				LR		LR	22 37 18.5	
	comp=Z,49nm,20.9s,baz=80,slow=33							
PETK	Petropavlovsk-	65.03	318	P		P	22 11 54.2	+0.7
RAR	Rarotonga	67.45	226	LR		LR	22 34 54.1	
	comp=Z,65nm,20.6s,baz=134,slow=30							
AFI	Afiamalu	70.69	240	LR		LR	22 36 38.1	
	comp=Z,100nm,20.3s,baz=66,slow=30							
ARCES	ARCESS Array B	76.05	14	P		P	22 13 00.4	-0.1
	comp=Z,12nm,0.8s,baz=352,slow=7.4,SNR=11							
ARCES				LR		LR	22 47 12.8	
	comp=Z,117nm,21.2s,baz=328,slow=36							
ARCES	ARCESS Array B	76.05	14	P		P	22 13 00.7	+0.2
ARE0	ARCESS Array S	76.05	14	P		P	22 13 00.6	+0.1
CPUP	Villa Florida	78.56	130	LR		LR	22 47 42.4	
	comp=Z,61nm,19.6s,baz=349,slow=36							
BDFB	Brasilia	78.58	116	LR		LR	22 51 13.3	
	comp=Z,54nm,19.1s,baz=303,slow=38							
NB2	NORSAR Subarra	78.63	24	P		P	22 13 15.4	+0.3
	comp=Z,1.1nm,0.8s,baz=314,slow=5.6							
NOA	NORSAR Array B	78.63	24	P		P	22 13 15.6	+0.5
	comp=Z,2.2nm,0.8s,baz=315,slow=5.8,SNR=8.0							
FIA1	FINESS Array S	82.90	18	P		P	22 13 38.2	+0.3
FINES	FINESS Array B	82.90	18	P		P	22 13 38.5	+0.7
	comp=Z,5.8nm,0.7s,baz=352,slow=3.9,SNR=19							
FINES				LR		LR	22 49 11.9	
	comp=Z,96nm,20.4s,baz=324,slow=35							
FINES	FINESS Array B	82.90	18	P		P	22 13 38.2	+0.4
BMRD	Maredsous	83.20	34	P		P	22 13 40.4	+0.8
BMRD				PcP		PcP	22 13 44.4	+0.2
WLF	Walferdange	84.29	34	P		P	22 13 46.5	+1.3
MJAR	Matsushiro Arr	84.74	309	P		P	22 13 47.9	+0.1
	comp=Z,1.2nm,0.8s,baz=47,slow=4.5,SNR=4.4							
MJAR				LR		LR	22 44 42.9	
	comp=Z,98nm,21.2s,baz=60,slow=31							
MAJO	Matsushiro	84.74	310	P		P	22 13 48.0	+0.1
MAJO				IAmb		IAmb	22 13 49.0	
	comp=Z,4.1nm,0.9s							
ESDC	Sonseca Array	84.88	47	P		P	22 13 48.5	-0.1
	comp=Z,1.4nm,0.8s,baz=317,slow=5.5,SNR=9.5							
ESDC				LR		LR	22 50 35.8	
	comp=Z,150nm,19.1s,baz=290,slow=35							
ESDC	Sonseca Array	84.88	47	P		P	22 13 49.0	+0.4
GERES	GERESS Array B	88.40	31	P		P	22 14 05.2	-0.4
	comp=Z,0.4nm,0.4s,baz=353,slow=2.4,SNR=4.3							
KSRS	Korea Array	90.75	315	LR		LR	22 50 11.8	
	comp=Z,46nm,18.5s,baz=24,slow=32							
HNR	Honiara	91.04	260	LR		LR	22 45 58.6	
	comp=Z,78nm,20.5s,baz=48,slow=30							
AKASG	Malin Array Be	92.95	22	P		P	22 14 26.4	-0.2
	comp=Z,0.4nm,0.5s,baz=335,slow=3.4,SNR=5.1							
SONM	Songino Array	93.83	334	LR		LR	22 58 23.5	
	comp=Z,79nm,18.4s,baz=31,slow=36							
ZALV	Zalesovo Beam	94.24	349	LR		LR	23 02 32.9	
	comp=Z,30nm,18.1s,baz=36,slow=39							
HHC	Hu-ho-hao-te	97.23	327	*e*P		Pdif	22 14 47.4	+0.8
HHC				pmax		pmax		
	comp=Z,15nm,0.7s							
HHC				pmax		pmax		
	comp=Z,310nm,4.9s							
NJ2	Nanjing	99.89	316	*e*P		Pdif	22 14 58.3	-0.1
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							

*IDC **15** 22:13:09.2±0.8, 53°.48S×24°.84E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/34, mbtmp4.1/8, MS3.4/5, Ms1 3.4/5, ms1mx3.1/26, Error ellipse: s-maj=39.1km s-min=18.8km az=85.0*

*NEIC **15** 22:13:10.8±0.9, 53°.4S±0°.1×25°.0E±0°.3, h10km±1km, mb4.5/12, Error ellipse: s-maj=35.4km s-min=7.5km az=243.0*

ISC 15 22:13:10.9±0.7, 53°.45S±0°.09×25°.1E±0°.2, h10km, n30, σ0s87/26, mb4.2/11, MS3.4/5, 1C-1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SYO	Syowa Base	17.01	162	⇑*i*	P		Pn	22 17 06.5	-2.0
SYO	Syowa Base	17.01	162	‖*i*	P		P	22 17 10.3	-0.1
SUR	Sutherland	21.29	350	P			P	22 17 57.8	+0.2
	10nm,0.9s,baz=180,slow=4.3,SNR=3.2								
SUR				LR			LR	22 24 29.8	
	comp=Z,123nm,19.3s,baz=232,slow=32								
SUR	Sutherland	21.29	350	P			P	22 17 56.3	-1.4
SUR				IAmb			IAmb	22 18 00.3	
	comp=Z,33nm,1.2s								
SNAA	Sanae	21.96	203	P			P	22 18 04.8	+0.3
	comp=Z,15nm,0.9s,baz=54,slow=9.8,SNR=21								
SNAA				LR			LR	22 24 47.3	
	comp=Z,41nm,21.5s,baz=241,slow=32								
SNAA	Sanae	21.96	203	P			P	22 18 04.5	0.0
SNAA				IAmb			IAmb	22 18 07.6	
	comp=Z,17nm,0.9s								
BOSA	Boshof	24.82	0	P			P	22 18 32.2	-1.0
BOSA				IAmb			IAmb	22 18 35.8	
	comp=Z,17nm,1.4s								
LBTB	Lobatse	28.40	1	P			P	22 19 07.0	+1.4
	comp=Z,2.5nm,0.8s,baz=191,slow=23,SNR=3.6								
LBTB				LR			LR	22 29 53.4	
	comp=Z,85nm,18.8s,baz=232,slow=35								
LBTB	Lobatse	28.40	1	P			P	22 19 05.4	-0.1
BELA	Belgrano 2	32.11	200	P			P	22 19 38.8	+1.1
QSPA	South Pole Qui	36.77	180	P			P	22 20 17.5	-0.8
	comp=Z,3.3nm,0.8s,baz=207,slow=1.6,SNR=14								
QSPA	South Pole Qui	36.77	180	P			P	22 20 18.4	+0.1
VNDA	Vanda	46.57	168	P			P	22 21 38.1	0.0
	comp=Z,0.8nm,0.8s,baz=209,slow=3.8,SNR=3.9								
VNDA				LR			LR	22 42 41.5	
	comp=Z,38nm,18.4s,baz=191,slow=38								
VNDA	Vanda	46.57	168	P			P	22 21 38.9	+0.7
H01W2	Cape Leeuwin H	62.30	112	T			T	23 31 55.5	
	baz=222,slow=75,SNR=11								
H01W3	Cape Leeuwin H	62.31	112	T			T	23 31 54.9	
	baz=222,slow=75,SNR=8.9								
H01W1	Cape Leeuwin H	62.31	112	T			T	23 31 57.2	
	baz=222,slow=75,SNR=8.9								
TOA0	Torodi Ar. Sit	69.30	336	P			P	22 24 17.4	-0.8
TOA0				IAmb			IAmb	22 24 20.2	
	comp=Z,2.1nm,0.9s								
TORD	Torodi Ar. Bea	69.30	336	P			P	22 24 17.2	-1.0
	comp=Z,0.8nm,0.7s,baz=174,slow=6.9,SNR=2.8								
TORD	Torodi Ar. Bea	69.30	336	P			P	22 24 18.5	+0.3
FORT	Forrest	72.98	119	P			P	22 24 41.3	+0.8
ASAR	Alice Springs	81.76	119	P			P	22 25 30.8	+0.9
	comp=Z,0.9nm,0.7s,baz=206,slow=5.2,SNR=8.3								
ASAR	Alice Springs	81.76	119	P			P	22 25 30.2	+0.3
WRA	Warramunga Arr	85.04	117	P			P	22 25 47.0	+0.2
	comp=Z,1.7nm,1.0s,baz=207,slow=3.8,SNR=7.6								
WRA	Warramunga Arr	85.04	117	P			P	22 25 47.0	+0.2
WB2	Warramunga Arr	85.05	117	P			P	22 25 47.0	+0.2
WB0	Warramunga Arr	85.21	117	P			P	22 25 48.0	+0.3
WB0				IAmb			IAmb	22 26 06.4	
	comp=Z,5.2nm,1.4s								
BRTR	Keskin Array B	93.09	7	LR			LR	23 10 10.9	
	comp=Z,25nm,18.2s,baz=296,slow=37								
PDAR	Pinedale Array	148.41	269	PKPbc			PKPdf	22 32 54.7	+1.1
	comp=Z,0.2nm,0.4s,baz=145,slow=3.3,SNR=2.1								
NVAR	Mina Array Bea	150.84	254	PKPbc			PKPbc	22 33 02.2	-1.0
	comp=Z,0.2nm,0.3s,baz=159,slow=3.9,SNR=2.2								

*IDC **15** 22:23:57.5±3.9, 8°.27S×158°.65E, h59km±46km, mb3.6/6, mb1 3.7/8, mb1mx3.5/30, mbtmp3.9/8, ML3.6/2, Error ellipse: s-maj=31.4km s-min=22.4km az=146.0*

ISC 15 22:23:55.4±0.9, 8°.2S±0°.1×158°.6E±0°.1, h35km, n9, σ1s09/10, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.82	134	P			Pn	22 24 24.3	+0.1
	170nm,0.3s,baz=262,slow=5.5,SNR=35								
HNR				S			Sn	22 24 46.5	+0.3
	368nm,0.3s,baz=342,slow=23,SNR=18								
CTA	Charters Tower	16.84	224	P			Pn	22 27 50.6	+1.9
	0.1nm,0.3s,baz=50,slow=12,SNR=1.4								
JAY	Jayapura	18.69	287	P			P	22 28 11.5	+0.6
	0.2nm,0.3s,baz=164,slow=19,SNR=2.5								
WRA	Warramunga Arr	26.25	241	P			P	22 29 27.9	+0.3
	0.3nm,0.2s,baz=66,slow=9.3,SNR=5.7								
ASAR	Alice Springs	28.25	234	P			P	22 29 44.4	-1.1
	0.3nm,0.5s,baz=60,slow=10.0,SNR=4.6								
STKA	Stephens Creek	28.41	212	P			P	22 29 45.7	-1.1
	0.7nm,0.3s,baz=69,slow=8.7,SNR=2.9								
PETK	Petropavlovsk-	61.04	359	P			P	22 34 05.9	+0.4
	0.8nm,0.5s,baz=152,slow=6.5,SNR=2.3								
SONM	Songino Array	72.28	326	P			P	22 35 18.0	+0.5
	1.9nm,0.7s,baz=139,slow=5.5,SNR=8.9								
MKAR	Makanchi Array	86.66	318	P			P	22 36 34.6	-1.0
	0.6nm,0.6s,baz=98,slow=6.1,SNR=6.9								

*ECX **15** 23:05:34.8±0.7, 30°.57N×114°.26W, h20km±5km, MD3.2, ML3.4*

*MEX **15** 23:05:38.1±0.5, 30°.72N×114°.45W, h5km±15km, MD3.9*

ISC 15 23:05:35.5±1.2, 30°.78N±0°.08×114°.41W±0°.04, h10km, n12, σ1s57/18, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.46	305	*e*P			Pn	23 05 47.2	-0.9
SFX				*e*S			Sb	23 05 56.8	+4.3
ECBX	El Chinero	0.89	322	*e*P			Pn	23 05 53.4	-0.6
ECBX				*e*S			Sn	23 06 09.1	+2.2
SPX	San Pedro Mart	0.94	286	*e*P			Pb	23 05 53.5	-0.6
SPX				*i* S			Sb	23 06 06.0	-0.8
SPX	San Pedro Mart	0.94	286	*e*P			Pb	23 05 53.5	-0.6
SPX				*e*S			Sn	23 06 09.2	+0.4
SPIG	San Pedro Mart	0.95	287	*e*P			Pn	23 05 54.5	-0.6
SPIG				*i* S			Sb	23 06 07.0	+0.1
SPIG	San Pedro Mart	0.95	287	*e*P			Pn	23 05 54.2	-0.9
SPIG				*e*S			Sn	23 06 10.2	+1.3
PIX	Pinacate	1.13	46	*e*P			Pb	23 05 55.0	-2.1
SQX	San Quintin	1.28	261	*e*P			Pn	23 05 58.1	-1.3
SQX				*e*S			Sg	23 06 16.4	-0.3
CPBX	Cerro Prieto	1.81	335	IAML				23 06 58.5	
	comp=E,688nm,0.3s								
CPBX				⇑*e*				23 07 09.7	
CPBX				IAML				23 07 09.7	
	comp=N,688nm,0.5s								
CBX	Cerro Bola	2.46	309	*i* P			Pn	23 06 16.0	+0.2
CBX				*i* S			Sn	23 06 45.4	-0.5
CBX	Cerro Bola	2.46	309	IAML				23 07 12.6	
	comp=E,268nm,1.1s								
CBX				⇑*e*				23 07 16.4	
CBX				IAML				23 07 16.4	
	comp=N,271nm,1.2s								
HSIG		3.48	119	*i* P			Pn	23 06 31.0	+1.4

UPP 15 23:17:43.4±0.1, 67°.82N×20°.20E, h0km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	21	P			Pg	23 17 46.3	+0.2
KUA				S			Sg	23 17 48.4	+0.5
RATU	Laukkuluspa	0.23	270	P			Pg	23 17 48.0	+0.2
RATU				S			Sg	23 17 51.4	+0.6
KOVU	Salmi	0.40	358	P			Pg	23 17 51.1	0.0
KOVU				S			Sg	23 17 56.4	+0.1
LANU	Lannavaara	0.71	71	P			Pg	23 17 56.8	-0.2
LANU				S			Sg	23 18 06.7	+0.5
ERTU	Ertsjaerv	1.49	148	P			Pn	23 18 10.7	-0.7
ERTU				S			Sg	23 18 30.6	-0.7
HARU	Harads	1.70	169	P			Pn	23 18 14.0	-0.1

*HEL **15** 23:18:33.8, 67°.80N×20°.18E, h0km, ML2.1, Explosion*

UPP 15 23:18:33.5±0.2, 67°.83N×20°.31E, h1km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOVU	Salmi	0.40	352	P			Pg	23 18 41.1	-0.1
KOVU				S			Sg	23 18 46.5	+0.2
KOVU	Salmi	0.40	352	*i* P			Pg	23 18 41.1	-0.1
KOVU				*i* S			Sg	23 18 46.5	+0.2
LANU	Lannavaara	0.67	70	*e*P			Pg	23 18 46.8	+0.5
LANU				*e*S			Sg	23 18 56.2	+1.3
KIF	Kilpisjarvi	1.20	8	*e*P			Pg	23 18 56.4	+0.1
	baz=193								
KIF				MSG				23 19 12.2	
	comp=Z,17nm,0.2s								
KIF				*e*SB			Sb	23 19 13.1	+0.2
KIF	Kilpisjarvi	1.20	8	*e*P			Pg	23 18 56.2	-0.1
ERTU	Ertsjaerv	1.48	149	P			Pn	23 19 00.6	-0.6
ERTU	Ertsjaerv	1.48	149	*e*P			Pn	23 19 00.5	-0.7
ERTU				*e*SB			Sg	23 19 20.6	-0.2
HARU	Harads	1.69	171	P			Pn	23 19 04.1	-0.1
HARU				S			Sb	23 19 27.2	0.0
HARU	Harads	1.69	171	*e*P			Pn	23 19 04.1	-0.1
HARU				*e*S			Sb	23 19 27.2	0.0
FAUS	Fauske	1.98	259	*e*P			Pn	23 19 08.6	+0.5
TOF	Tornio	2.36	136	*e*PB			Pb	23 19 15.1	-1.6
TOF				MSG				23 19 44.3	
	comp=Z,7.6nm,0.2s								
TOF				*e*SB			Sb	23 19 46.6	+0.2
SJUU	Sjulsmark	2.39	167	P			Pn	23 19 14.6	+0.9
SJUU				S			Sn	23 19 44.1	+0.5
SJUU	Sjulsmark	2.39	167	*e*P			Pn	23 19 14.6	+0.9
SJUU				*e*S			Sn	23 19 44.1	+0.5
SGF	Sodankyl	2.41	96	*e*PB			Pb	23 19 16.2	-1.4
	baz=284								
SGF				*e*SG			Sg	23 19 49.7	-1.0
RNF	Rovaniemi	2.53	116	*e*PB			Pb	23 19 18.1	-1.7
RNF				*e*SB			Sb	23 19 51.9	+0.5
ARE0	ARCESS Array S	2.56	46	*e*P			Pn	23 19 17.2	+1.1
	baz=227								
ARE0				*e*SB			Sb	23 19 52.0	0.0
BURU	Burvik	3.29	172	*e*P			Pn	23 19 27.6	+1.5
	baz=354								
OUL	Oulu	3.55	138	*e*PG			Pb	23 19 37.3	+0.3
MSF	Maaselka	3.94	115	*e*P			Pn	23 19 36.5	+1.4
UMAU	Umeaa	3.97	178	*e*P			Pn	23 19 37.8	+2.4
KU6	Riekki	4.18	111	*e*P			Pn	23 19 40.2	+1.9
	baz=299								
KU6				*e*SG			Sg	23 20 44.4	-3.3

*IDC **15** 23:22:12.8±0.8, 26°.69S×176°.32W, h0km, mb4.1/7, mb1 4.4/9, mb1mx4.1/22, mbtmp4.2/9, ML4.3/2, MS3.3/6, Ms1 3.3/6, ms1mx3.2/21, Error ellipse: s-maj=30.5km s-min=20.6km az=117.0*

*NEIC **15** 23:22:13.4±1.9, 26°.69S±0°.08×176°.05W±0°.10, h10km±1km, mb4.5/16, Error ellipse: s-maj=17.9km s-min=10.6km az=131.0*

ISC 15 23:22:14.7±0.6, 26°.80S±0°.08×176°.1W±0°.1, h10km, n53, σ1s85/47, mb4.4/13, MS3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.92	213	P			Pn	23 23 00.6	-0.6
	143nm,0.3s,baz=94,slow=19,SNR=5.6								
RAO				Sn			Sn	23 23 37.8	+1.5
	199nm,0.3s,baz=74,slow=21,SNR=3.3								
RAO				LR			LR	23 23 50.7	
	comp=Z,266nm,19.0s,baz=80,slow=34								
RAO	Raoul Island	2.92	213				Pn	23 23 00.8	-0.3
RAO				Sn			Sn	23 23 37.3	+1.0
NIUE	Niue	9.57	38	Pn			Pn	23 24 28.6	-3.9
URZ	Urewera	12.77	205	Pn			Pn	23 25 15.6	-0.7
	0.5nm,0.3s,baz=90,slow=1.0,SNR=2.3								
URZ				Sn			Sn	23 27 28.6	-10
	0.7nm,0.3s,baz=81,slow=19,SNR=1.5								
URZ	Urewera	12.77	205				Pn	23 25 15.3	-1.1
AFI	Afiamalu	13.45	18	Pn			Pn	23 25 20.6	-5.2
	1

comp=Z,0.6nm,0.7s,baz=113,slow=3.7,SNR=2.6
WRA Warramunga Arr 45.76 268 P P 23 30 34.4 -2.2
FITZ Fitzroy Crossi 54.13 266 P P 23 31 39.2 -1.1
FITZ IAmb IAmb 23 31 41.6
comp=Z,8.1nm,1.2s
CASY Casey 59.09 207 P P 23 32 14.8 0.0
QSPA South Pole Qui 63.30 180 P P 23 32 43.9 +0.3
BELA Belgrano 2 73.12 172 P P 23 33 44.1 -0.7
MAW Mawson 76.25 200 P P 23 34 02.1 -1.0
comp=Z,0.8nm,0.6s,baz=112,slow=19,SNR=1.9
MAW Mawson 76.25 200 P P 23 34 02.7 -0.4
MJAR Matsushiro Arr 76.28 324 P P 23 34 01.4 -2.3
comp=Z,1.4nm,0.4s,baz=156,slow=6.6,SNR=4.6
MJAR Matsushiro Arr 76.28 324 P P 23 34 01.1 -2.5
JHS Saijyo 77.99 319 P 23 34 12.1 -1.2
SNAA Sanae 81.69 178 P P 23 34 32.9 -0.1
SNAA Sanae 81.69 178 P P 23 34 32.6 -0.4
VNA3 Neumayer Olymp 81.77 176 P P 23 34 33.0 -0.3
VNA2 Neumayer--Watz 82.22 176 P P 23 34 35.8 +0.1
VNA1 Neumayer--Stat 82.44 176 P P 23 34 37.0 +0.2
NVAR Mina Array Bea 84.47 42 P P 23 34 47.9 -0.1
comp=Z,0.6nm,0.8s,baz=222,slow=8.0,SNR=5.2
NVAR Mina Array Bea 84.47 42 P P 23 34 46.5 -1.5
CMAR Chiang Mai Arr 93.80 289 P P 23 35 31.8 -0.8
comp=Z,0.8nm,0.6s,baz=140,slow=3.4,SNR=5.6
CMAR Chiang Mai Arr 93.80 289 P P 23 35 32.2 -0.3
ILAR Eielson Array 94.06 12 P P 23 35 31.2 -1.5
comp=Z,0.5nm,0.9s,baz=214,slow=6.4,SNR=2.8
MKAR Makanchi Array 116.69 311 PKP PKPdf 23 40 58.2 -0.9
comp=Z,0.5nm,0.8s,baz=89,slow=2.1,SNR=2.9
NB2 NORSAR Subarra145.41 354 PKP PKPbc 23 41 52.1 -0.2
comp=Z,1.2nm,0.8s,baz=8.6,slow=3.8
NOA NORSAR Array B 145.41 354 PKPbc PKPbc 23 41 51.3 -1.0
comp=Z,2.4nm,0.9s,baz=9.1,slow=2.6,SNR=9.5
AKASG Malin Array Be 149.29 328 PKPbc PKPdf 23 42 03.0 +3.9
comp=Z,1.2nm,0.5s,baz=43,slow=3.3,SNR=5.0
BRTR Keskin Array B 152.12 305 PKPbc PKPbc 23 42 10.1 -0.6
comp=Z,0.6nm,0.7s,baz=82,slow=2.7,SNR=4.1
BRTR PKPab **sPKPbc 23 42 19.0 +5.4**
comp=Z,0.6nm,0.6s,baz=90,slow=3.7,SNR=4.4
BRTR Keskin Array B 152.12 305 PKPdf 23 42 09.5 +5.4
BRTR **sPKPbc 23 42 19.3 +5.7**
DBIC Dimbokro 158.32 156 PKPab PKPab 23 42 48.0 +1.0
comp=Z,3.4nm,1.0s,baz=211,slow=5.9,SNR=2.4
TORD Torodi Ar. Bea 166.27 171 PKPab PKPab 23 43 21.2 -0.5
comp=Z,1.5nm,0.9s,baz=180,slow=3.0,SNR=3.8
TORD Torodi Ar. Bea 166.27 171 PKPab 23 43 21.4 -0.3

TAP 16 00:10:45.5,23°.16N×120°.84E,h7km,ML1.8,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.07**	**272**	P	Pg	00 10 47.9	+0.3
STYT	baz=269			S	Sg	00 10 49.2	+0.2
ELDTW	**Lidau**	**0.17**	**80**	P	Pg	00 10 49.8	+0.8
WTP	**Ta-pu**	**0.22**	**292**	P	Pg	00 10 51.2	+1.2
TPUB	**Ta-pu**	**0.24**	**306**	*eP*	Pg	00 10 51.2	+0.9
SLGT	**Liugui**	**0.24**	**227**	*eP*	Pg	00 10 51.5	+1.2
CHN1	**Nanshi**	**0.29**	**275**	*eP*	Pb	00 10 52.6	-0.4
CHN4	**Tsaushan**	**0.29**	**310**	*eP*	Pb	00 10 52.5	-0.7
LONT	**Longtian**	**0.37**	**133**	*eP*	Pb	00 10 53.8	-0.6
CHN5	**Tsauling**	**0.46**	**341**	*eP*	Pg	00 10 55.1	+0.6
TWF1	**Yuli**	**0.46**	**66**	*eP*	Pg	00 10 55.3	+0.7
YULB	**Yu-li**	**0.48**	**61**	*eP*	Pg	00 10 55.2	+0.4

TAP 16 00:10:48.6,23°.17N×120°.85E,h4km±1km,ML1.8,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.09**	**269**	P	Pg	00 10 51.2	+0.8
STYT	baz=266			S	Sg	00 10 52.5	+0.8
ELDTW	**Lidau**	**0.16**	**81**	*eP*	Pg	00 10 53.2	+1.4
ELDTW	baz=82			S	Sg	00 10 55.8	+1.9
WTP	**Ta-pu**	**0.23**	**290**	*eP*	Pg	00 10 54.5	+1.3
WTP	baz=290			S	Sg	00 10 58.0	+1.8
WTP	**Ta-pu**	**0.23**	**290**	S	Pg	00 10 54.7	+1.6
TPUB	**Ta-pu**	**0.24**	**304**	P	Pg	00 10 54.8	+1.4
TPUB	baz=303			S	Sg	00 10 58.2	+1.6
TPUB	**Ta-pu**	**0.24**	**304**	S	Pg	00 10 54.8	+1.4
SLGT	**Liugui**	**0.25**	**228**	*eP*	Pb	00 10 54.9	-0.9
SLGT	baz=227			S	Sb	00 10 59.0	-1.5
SLGT	**Liugui**	**0.25**	**228**	*eS*	Pg	00 10 54.9	+1.4
SGST	**Jiashian**	**0.26**	**251**	*eP*	Pg	00 10 54.4	+0.7
SGST	baz=250			*eS*	Sg	00 10 58.6	+1.5
CHN1	**Nanshi**	**0.30**	**274**	*eP*	Pb	00 10 55.9	-0.7
CHN1	baz=273			*eS*	Sb	00 11 00.6	-1.2
CHN1	**Nanshi**	**0.30**	**274**	*eS*	Pb	00 10 56.2	-0.3
CHN4	**Tsaushan**	**0.30**	**308**	*eP*	Pb	00 10 55.8	-0.9
CHN4	baz=308			*eS*	Sb	00 11 00.3	-1.6
SNST	**Tainan City**	**0.33**	**280**	*eP*	Pb	00 10 56.1	-1.0
SNST	baz=279			*eS*	Sb	00 11 02.5	-0.2
ALS	**Alishan**	**0.35**	**353**	*eP*	Pg	00 10 56.2	+0.8
ALS	baz=354			*eS*	Sb	00 11 02.6	-1.0
TWK	**Hsinying**	**0.35**	**287**	*eP*	Pb	00 10 56.9	-0.5
TWK	baz=287			*eS*	Sb	00 11 02.6	-0.8
LONT	**Longtian**	**0.36**	**135**	*eP*	Pb	00 10 57.4	-0.3
LONT	baz=135			*eS*	Sb	00 11 02.7	-1.0
TWG	**Pinlang**	**0.40**	**149**	*eS*	Sb	00 11 04.0	-0.7
TWGBT	**Beinan**	**0.41**	**148**	*eS*	Sb	00 11 04.1	-0.9
FULB	**Fuli**	**0.41**	**85**	*eP*	Pb	00 10 58.3	-0.2
FULB	baz=85			*eS*	Sb	00 11 05.2	+0.1
TWF1	**Yuli**	**0.45**	**66**	*eP*	Pb	00 10 58.5	-0.7
TWF1	baz=66			*eS*	Sb	00 11 05.3	-1.0
CHN5	**Tsauling**	**0.46**	**340**	*eP*	Pb	00 10 59.8	+0.4
CHN5	baz=339			*eS*	Sb	00 11 06.0	-0.6
YULB	**Yu-li**	**0.47**	**61**	*eP*	Pg	00 10 58.6	+0.9
YULB	baz=61			*eS*	Sg	00 11 05.2	+1.4
HGSD	**Ruisui**	**0.62**	**58**	*eP*	Pb	00 11 02.5	+0.5
HGSD	baz=58			*eS*	Sb	00 11 11.8	+0.7
VWDT	**VWDT**	**0.64**	**24**	*eP*	Pb	00 11 02.1	-0.3
VWDT	baz=24			*eS*	Sb	00 11 13.1	+1.2
TYC	**Yuchr**	**0.74**	**0**	*eP*	Pb	00 11 04.5	+0.4
TYC	baz=1.0			*eS*	Sb	00 11 15.8	+1.3
CHGB	**Renai**	**0.94**	**18**	*eP*	Pg	00 11 07.0	+0.3
CHGB	baz=18			*eS*	Sn	00 11 22.2	-0.7
SLIU	**Shizi**	**0.94**	**183**	*eP*	Pb	00 11 07.6	0.0
WHF	**Hehuan Shan**	**1.05**	**21**	*eP*	Pb	00 11 09.8	+0.2
WHF	baz=21			*eS*	Sn	00 11 25.5	-0.3
WHP	**Taichung City**	**1.11**	**5**	*eP*	Pn	00 11 11.3	+0.2
WHP	baz=4.0			*eS*	Sn	00 11 26.4	-0.5
TDCB	**Techi**	**1.12**	**15**	*eP*	Pg	00 11 10.2	+0.1
TDCB	baz=14			*eS*	Sn	00 11 28.0	+0.8
TWT	**Tachien**	**1.12**	**15**	*eP*	Pn	00 11 11.3	0.0
TWT	baz=14			*eS*	Sn	00 11 28.4	+1.0
FUSS	**Fushou**	**1.14**	**18**	*eP*	Pn	00 11 12.0	+0.4
FUSS	baz=18			*eS*	Sn	00 11 28.4	+0.7
NACB	**Ninganchiao**	**1.21**	**34**	*eP*	Pn	00 11 12.7	+0.3
NACB	baz=34			*eS*	Sn	00 11 30.0	+0.7

JMA ***16*** *00:18:53.5±0.1,24°.16N×122°.59E,h0km,M2.7*
TAP ***16*** *00:18:54.9,24°.46N×122°.53E,h22km±1km,ML2.7,C*
ISC 16 00:18:53.1±1.1,24°.42N±0°.03×122°.57E±0°.02,h19km±3km, n47,σ0°60/88,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.34**	**85**	P	**Pn**	**00 19 02.5**	**-0.6**
JYNG				S	**Sn**	**00 19 08.6**	**-0.8**
YOJ	**Yonaguni jima**	**0.40**	**84**	*eP*	**Pn**	**00 19 03.2**	**-0.7**
YOJ	baz=86			*eS*	**Sn**	**00 19 10.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.40**	**84**	P	**Pn**	**00 19 03.5**	**-0.4**
YOJ				S	**Sn**	**00 19 10.8**	**-0.1**
TWC	**Suao**	**0.69**	**286**	P	**Pg**	**00 19 06.9**	**+0.2**
TWC	baz=283			S	**Sb**	**00 19 15.1**	**-0.4**
ENAH	**Nanao**	**0.69**	**272**	*eP*	**Pn**	**00 19 07.4**	**-0.5**
ENAH	baz=278			*eS*	**Sg**	**00 19 16.6**	**+0.4**
ENA	**Nanau**	**0.76**	**271**	*eP*	**Pn**	**00 19 08.7**	**-0.1**
ENA	baz=275			S	**Sg**	**00 19 17.8**	**-0.3**
TWB1	**Santiao Chiao**	**0.79**	**318**	*eP*	**Pn**	**00 19 09.4**	**+0.2**
TWB1	baz=330			*eS*	**Sg**	**00 19 19.1**	**-0.1**
NTC	**Toucheng**	**0.80**	**303**	*eP*	**Pn**	**00 19 09.7**	**+0.3**
NTC	baz=302			S	**Sg**	**00 19 19.5**	**0.0**
TIPB	**Shuangxi**	**0.87**	**309**	*eP*	**Pn**	**00 19 10.8**	**+0.3**
TIPB	baz=308			S	**Sg**	**00 19 21.2**	**-0.6**
TWE	**Neicheng**	**0.88**	**290**	P	**Pn**	**00 19 10.8**	**+0.3**
TWE	baz=289			S	**Sb**	**00 19 21.0**	**0.0**
NACB	**Ninganchiao**	**0.93**	**255**	*eP*	**Pg**	**00 19 11.7**	**+0.5**
NACB	baz=257			S	**Sn**	**00 19 25.0**	**+1.1**
ENTT	**Nioudou**	**0.94**	**284**	*eP*	**Pg**	**00 19 12.6**	**+1.1**
ENTT	baz=293			S	**Sn**	**00 19 24.2**	**-0.1**
NWF	**Wu-fen Shan**	**0.97**	**312**	*eP*	**Pg**	**00 19 12.7**	**+0.7**
NWF	baz=312			*eS*	**Sg**	**00 19 24.5**	**-0.3**
WFSB	**Wu-fen Shan**	**0.97**	**312**	*eP*	**Pg**	**00 19 12.5**	**+0.5**
WFSB	baz=312			*eS*	**Sn**	**00 19 24.7**	**-0.2**
NDT	**Datong Townshi**	**0.98**	**281**	*eP*	**Pg**	**00 19 12.6**	**+0.3**
NDT	baz=290			*eS*	**Sn**	**00 19 25.4**	**+0.1**
ETLH	**Xiulin Townshi**	**1.02**	**258**	*eP*	**Pg**	**00 19 13.8**	**+0.8**
ETLH	baz=256			*eS*	**Sg**	**00 19 27.6**	**+1.2**
NWLT	**Wulai**	**1.04**	**290**	*eP*	**Pg**	**00 19 14.1**	**+0.8**
NWLT	baz=289			S	**Sb**	**00 19 25.7**	**0.0**
TWA	**Mucha**	**1.06**	**302**	*eP*	**Pg**	**00 19 14.5**	**+0.8**
IRIF	**Iriomote-Funau**	**1.06**	**94**	P	**Pg**	**00 19 14.4**	**+0.7**
IRIF				*eS*	**Sg**	**00 19 28.9**	**+1.2**
NNSB	**Datong**	**1.08**	**271**	*eP*	**Pg**	**00 19 14.5**	**+0.3**
NNSB	baz=274			*eS*	**Sn**	**00 19 27.8**	**-0.1**
NNSH	**Datong**	**1.08**	**271**	*eP*	**Pg**	**00 19 14.8**	**+0.6**
NNSH	baz=274			S	**Sg**	**00 19 27.9**	**-0.6**
NNS	**Nan Shan**	**1.09**	**271**	*eP*	**Pg**	**00 19 15.4**	**+1.0**
NNS	baz=275			*eS*	**Sg**	**00 19 28.7**	**-0.1**
YHNB	**Yeheng**	**1.12**	**283**	*eP*	**Pg**	**00 19 15.4**	**+0.6**
YHNB	baz=294			*eS*	**Sn**	**00 19 28.6**	**-0.1**
YM11	**YM11**	**1.17**	**309**	*eP*	**Pg**	**00 19 15.7**	**-0.2**
YM10	**YM10**	**1.17**	**309**	*eP*	**Pg**	**00 19 15.5**	**-0.4**
YM10	baz=309			*eS*	**Sn**	**00 19 30.0**	**-0.1**
YM05	**YM05**	**1.18**	**309**	*eP*	**Pg**	**00 19 15.7**	**-0.3**
HATJ	**Hateruma jima**	**1.18**	**108**	P	**Pb**	**00 19 15.1**	**+0.2**
YM04	**YM04**	**1.19**	**308**	*eP*	**Pg**	**00 19 15.9**	**-0.3**
YM04	baz=308			*eS*	**Sb**	**00 19 29.0**	**-1.1**
FUSS	**Fushou**	**1.22**	**262**	*eP*	**Pg**	**00 19 17.2**	**+0.3**
WHF	**Hehuan Shan**	**1.22**	**257**	*eP*	**Pg**	**00 19 17.3**	**+0.4**
WHF	baz=256			*eS*	**Sg**	**00 19 32.5**	**-0.5**
JKRS	**Kuro-shima**	**1.32**	**98**	P	**Pg**	**00 19 18.6**	**-0.1**
JKRS				*eS*	**Sg**	**00 19 36.0**	**-0.1**
CHGB	**Renai**	**1.33**	**255**	*eP*	**Pg**	**00 19 18.9**	**0.0**
CHGB	baz=237			*eS*	**Sg**	**00 19 35.2**	**-1.0**
HGSD	**Ruisui**	**1.40**	**229**	*eP*	**Pb**	**00 19 19.2**	**+0.5**
HGSD	baz=214			*eS*	**Sg**	**00 19 37.8**	**-0.7**
JIJ	**Ishigaki jima**	**1.43**	**92**	P	**Pb**	**00 19 19.9**	**+0.7**
JIJ				*eS*	**Sg**	**00 19 39.7**	**+0.1**
NSTT	**Nanjuang**	**1.45**	**279**	*eP*	**Pg**	**00 19 21.0**	**0.0**
NSTT	baz=289			*eS*	**Sg**	**00 19 39.6**	**-0.4**
VWDT	**VWDT**	**1.47**	**243**	*eP*	**Pg**	**00 19 20.5**	**-1.0**
VWDT	baz=228			*eS*	**Sg**	**00 19 39.4**	**-1.2**
WHP	**Taichung City**	**1.49**	**265**	*eP*	**Pg**	**00 19 22.4**	**+0.5**
WHP	baz=264			*eS*	**Sg**	**00 19 41.4**	**0.0**
YULB	**Yu-li**	**1.55**	**229**	*eP*	**Pn**	**00 19 20.3**	**+0.5**
YULB	baz=216			*eS*	**Sb**	**00 19 40.3**	**-0.2**
TWF1	**Yuli**	**1.58**	**228**	*eP*	**Pb**	**00 19 21.5**	**-0.3**
TWF1	baz=214			*eS*	**Sb**	**00 19 41.8**	**+0.5**
JISG	**Ishigakijimahi**	**1.59**	**84**	P	**Pb**	**00 19 21.7**	**-0.2**
SSLB	**Suanglung**	**1.61**	**247**	*eP*	**Pb**	**00 19 22.5**	**+0.3**
SSLB	baz=246			*eS*	**Sb**	**00 19 43.0**	**+0.8**
SMLT	**Sun Moon Lake**	**1.62**	**251**	*eP*	**Pb**	**00 19 22.3**	**-0.2**
SMLT	baz=237			*eS*	**Sg**	**00 19 44.4**	**-1.1**
TYC	**Yuchr**	**1.65**	**252**	*eP*	**Pg**	**00 19 23.8**	**-1.1**
TYC	baz=238			*eS*	**Sg**	**00 19 45.0**	**-1.4**
FULB	**Fuli**	**1.69**	**224**	*eP*	**Pn**	**00 19 21.6**	**-0.1**
FULB	baz=210			*eS*	**Sb**	**00 19 44.0**	**-0.4**
EDH	**Donghe**	**1.85**	**219**	*eP*	**Pn**	**00 19 24.3**	**+0.4**
EDH	baz=218			*eS*	**Sn**	**00 19 46.5**	**-0.2**
CHN4	**Tsaushan**	**2.10**	**240**	*eP*	**Pb**	**00 19 30.9**	**+0.3**
CHN4	baz=229			*eS*	**Sb**	**00 19 57.5**	**+1.2**
WTP	**Ta-pu**	**2.14**	**237**	*eP*	**Pb**	**00 19 31.2**	**-0.2**
WTP	baz=237			*eS*	**Sb**	**00 19 58.4**	**+0.8**

THR ***16*** *00:39:43.7±0.7,35°.98N×53°.20E,h6km±6km,ML4.1*
NEIC ***16*** *00:39:44.9±2.1,35°.88N±0°.07×53°.24E±0°.05,h8km±2km, Error ellipse: s-maj=10.3km s-min=5.3km az=164.0*
TEH ***16*** *00:39:44.2,35°.90N×53°.22E,h8km,ML4.1*
IDC ***16*** *00:39:44.8±2.2,35°.96N×53°.21E,h0km,mb3.4/6, mb1 3.6/11,mb1mx3.5/39,mbtmp3.5/11,ML3.3/5,MS3.0/3, Ms1 3.0/3,ms1mx2.5/32,Error ellipse: s-maj=29.3km s-min=15.1km az=172.0*
ISC 16 00:39:45.9±0.6,35°.93N±0°.03×53°.19E±0°.03,h10km,n126, σ1°34/129,mb3.5/7,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IALA	**Alasht**	**0.34**	**297**	*eP*g	**Pg**	**00 39 52.2**	**-0.6**
IALA				*eS*g	**Sg**	**00 39 57.9**	**+0.5**
IALA				*e*		00 39 58.5	
IALA	**Alasht**	**0.34**	**297**	Pg	**Pg**	**00 39 52.1**	**-0.7**
IALA				Sg	**Sg**	**00 39 57.9**	**+0.5**
IFIR	**Firoozkooh**	**0.46**	**231**	*eP*g	**Pg**	**00 39 53.5**	**-1.3**
IFIR				*eS*g	**Sg**	**00 40 00.5**	**-0.4**
IFIR				*e*		00 40 01.1	
IFIR	**Firoozkooh**	**0.46**	**231**	Pg	**Pg**	**00 39 53.5**	**-1.3**
IFIR				Sg	**Sg**	**00 40 00.4**	**-0.4**
ILAS	**Lasjerd**	**0.58**	**199**	*eP*g	**Pg**	**00 39 56.0**	**-1.2**
ILAS	**Lasjerd**	**0.58**	**199**	Pg	**Pg**	**00 39 55.9**	**-1.2**
IANJ	**Anjilo**	**0.75**	**128**	*eP*g	Pg	00 39 58.4	-2.0
IANJ	**Anjilo**	**0.75**	**128**	Pg	Pg	00 39 58.3	-2.1
IPRN	**Peran**	**0.76**	**295**	*eP*g	**Pg**	**00 39 59.4**	**-1.1**
IPRN				*e*		00 40 01.1	
IPRN	**Peran**	**0.76**	**295**	Pg	**Pg**	**00 39 59.4**	**-1.1**
IGLO	**Ghaloghah**	**0.77**	**42**	*eP*g	**Pg**	**00 39 59.4**	**-1.4**
IGLO	**Ghaloghah**	**0.77**	**42**	Pg	**Pg**	**00 39 59.4**	**-1.4**
IDMV	**Damavand**	**1.00**	**250**	*e*		00 40 24.7	
IDMV				*eP*g	**Pg**	**00 40 03.4**	**-1.8**
DAMV	**Damavand**	**1.03**	**254**	*eP*g	**Pg**	**00 40 04.5**	**-1.3**
DAMV	**Damavand**	**1.03**	**254**	*eP*g	**Pg**	**00 40 04.5**	**-1.3**
DAMV	**Damavand**	**1.03**	**254**	Pg	**Pg**	**00 40 04.4**	**-1.3**
TEH	**Tehran**	**1.48**	**263**	*eP*g	**Pn**	**00 40 12.9**	**+0.2**
IHSB	**Hasanabad**	**1.63**	**253**	*eP*g	**Pn**	**00 40 14.9**	**+0.1**
IHSB				*e*		00 40 18.1	
IHSB	**Hasanabad**	**1.63**	**253**		**Pn**	**00 40 14.9**	**+0.1**
CHTH	**Charan**	**1.67**	**270**	*eP*g	**Pn**	**00 40 15.9**	**+0.4**
CHTH				*eS*g	**Sn**	**00 40 39.6**	**+2.5**
CHTH	**Charan**	**1.67**	**270**	*eP*g	**Pn**	**00 40 15.9**	**+0.4**
CHTH	**Charan**	**1.67**	**270**		**Pn**	**00 40 15.9**	**+0.4**
THKV	**Tehran--Karaj**	**1.88**	**270**	IAML		00 40 26.8	
	comp=N,2μm,0.4s						
QALM	**Alamut, Qazvin**	**2.12**	**284**	*eP*n	**Pn**	**00 40 23.3**	**+1.7**
QALM				*e*		00 40 57.4	
QALM	**Alamut, Qazvin**	**2.12**	**284**	Pn	**Pn**	**00 40 23.2**	**+1.7**
GHVR	**GHOM**	**2.12**	**228**	*eP*n	**Pn**	**00 40 22.9**	**+1.4**
GHVR	**GHOM**	**2.12**	**228**	*eP*n	**Pn**	**00 40 22.9**	**+1.4**
GHVR	**GHOM**	**2.12**	**228**	Pn	**Pn**	**00 40 22.8**	**+1.4**
KRSH	**Karshahi**	**2.14**	**204**	*eP*n	**Pn**	**00 40 21.4**	**-0.4**
KRSH	**Karshahi**	**2.14**	**204**	Pn	**Pn**	**00 40 21.4**	**-0.4**
IMND	**Minoodasht**	**2.22**	**53**	*eP*n	**Pn**	**00 40 22.9**	**+0.1**
IMND				*e*		00 40 57.7	
IMND	**Minoodasht**	**2.22**	**53**	Pn	**Pn**	**00 40 22.8**	**0.0**
QAM	**Ghamsar**	**2.60**	**214**	*eP*n	**Pn**	**00 40 28.3**	**+0.2**
ANAR	**Anarak**	**2.77**	**171**	*eP*n	**Pn**	**00 40 29.9**	**-0.5**
IKLH	**Kolahrood**	**2.92**	**207**	*eP*n	**Pn**	**00 40 32.8**	**+0.2**
IKLH				*e*		00 40 38.7	
ASAO	**Ashtian**	**2.93**	**243**	*eP*n	**Pn**	**00 40 33.2**	**+0.4**
ASAO	**Ashtian**	**2.93**	**243**	*eP*n	**Pn**	**00 40 33.2**	**+0.4**
QABG	**Abgarm-Qazvin**	**2.94**	**267**	*eP*n	**Pn**	**00 40 33.6**	**+0.8**
QABG				*e*		00 41 31.1	
IZEF	**Zefreh**	**3.11**	**193**	*eP*n	**Pn**	**00 40 35.2**	**0.0**
QSDN	**Sirdan**	**3.30**	**281**	*eP*n	**Pn**	**00 40 39.3**	**+1.5**
TNSJ	**Nastanj**	**3.43**	**124**	*eP*n	**Pn**	**00 40 39.8**	**+0.4**
HAGD	**Aghdareh**	**3.49**	**253**	*eP*n	**Pn**	**00 40 41.7**	**+1.3**
IGAR	**Gharneh**	**3.64**	**195**	*eP*n	**Pn**	**00 40 43.5**	**+1.0**
ZNJK	**Zanjan**	**3.71**	**283**	*eP*n	**Pn**	**00 40 44.3**	**+0.8**
ZNJK	**Zanjan**	**3.71**	**283**	*eP*n	**Pn**	**00 40 44.3**	**+0.8**
IPIR	**Pirpir**	**3.75**	**211**	*eP*n	**Pn**	**00 40 45.9**	**+1.8**
IPIR				*e*		00 41 57.1	
ICHK	**Chekchek**	**3.81**	**164**	*eP*n	**Pn**	**00 40 44.9**	**0.0**
TABS	**Tabas**	**3.95**	**124**	*eP*n	**Pn**	**00 40 47.0**	**+0.3**
TABS	**Tabas**	**3.95**	**124**	*eP*n	**Pn**	**00 40 47.0**	**+0.3**
TKDS	**Koohdasht(Taba**	**3.98**	**124**	*eP*n	**Pn**	**00 40 47.5**	**+0.5**
ROKH	**ROKH**	**4.00**	**207**	*eP*n	**Pn**	**00 40 48.3**	**+0.9**
ISAD	**Sadrabad**	**4.03**	**174**	*eP*n	**Pn**	**00 40 47.6**	**-0.3**
ISFR	**Sfrayin**	**4.04**	**72**	*eP*n	**Pn**	**00 40 49.4**	**+1.4**
HSRG	**Sareghieh**	**4.06**	**262**	*eP*n	**Pn**	**00 40 49.4**	**+1.1**
TPRV	**Parvadeh(Tabas**	**4.09**	**134**	*eP*n	**Pn**	**00 40 48.7**	**+0.2**
HSAM	**Samen**	**4.13**	**247**	*eP*n	**Pn**	**00 40 51.8**	**+2.5**
IRAM	**Ramesheh**	**4.17**	**190**	*eP*n	**Pn**	**00 40 50.9**	**+1.2**
BMDN	**Meydan**	**4.24**	**239**	*eP*n	**Pn**	**00 40 53.2**	**+2.5**
IALM	**Almabolaq**	**4.24**	**257**	*eP*n	**Pn**	**00 40 52.4**	**+1.7**
JHBN	**Jahan bin**	**4.24**	**210**	*eP*n	**Pn**	**00 40 52.5**	**+1.7**
IKRD	**Kardeh**	**4.38**	**77**	*eP*n	**Pb**	**00 41 04.9**	**+1.8**
GEYT	**Alibeck**	**4.42**	**62**	Pn	**Pn**	**00 40 54.4**	**+1.3**
	comp=N,5.4nm,0.3s,baz=242,slow=16,SNR=53						
GEYT				Sn	**Sn**	**00 41 46.6**	**+2.0**
	comp=N,1.9nm,0.3s,baz=259,slow=18,SNR=1.4						
GEYT				LR	LR	00 42 32.7	
	comp=N,54nm,18.9s,baz=240,slow=38						
GEYT	**Alibeck**	**4.42**	**62**		**Pn**	**00 40 54.0**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**4.42**	**62**		**Pn**	**00 40 53.9**	**+0.8**
IAKL	**Akhelmad**	**4.55**	**80**	*eP*n	**Pn**	**00 40 55.5**	**+0.5**
IBZA	**Bozab**	**4.60**	**253**	*eP*n	**Pn**	**00 40 58.1**	**+2.4**
ASHT	**Ashkhabad**	**4.62**	**63**	Pn	**Pn**	**00 40 56.7**	**+1.0**
IKMR	**Kamar-syah**	**4.63**	**240**	*eP*n	**Pn**	**00 40 58.0**	**+2.1**
IEMG	**Emamgholi**	**4.64**	**70**	*eP*n	**Pn**	**00 40 57.5**	**+1.3**
IDOB	**Doab**	**4.64**	**244**	*eP*n	**Pn**	**00 40 57.9**	**+1.7**
IMEH	**Mehriz**	**4.68**	**165**	*eP*n	**Pn**	**00 40 56.9**	**+0.1**
IPAY	**Payeh**	**4.73**	**82**	*eP*n	**Pn**	**00 40 57.5**	**+0.1**
IBAF	**Bafgh**	**4.76**	**155**	*eP*n	**Pn**	**00 40 58.2**	**+0.4**
ISRB	**Sarab**	**4.81**	**295**	*eP*n	**Pn**	**00 41 00.5**	**+1.9**
IKOM	**Komasi**	**4.98**	**251**	*eP*n	**Pn**	**00 41 02.4**	**+1.6**
IKFM	**Kafar-mosalman**	**5.01**	**243**	*eP*n	**Pn**	**00 41 02.8**	**+1.7**
KLNJ	**Kolanjah**	**5.09**	**196**	*eP*n	**Pn**	**00 41 04.8**	**+2.3**
GRMI	**Germi**	**5.10**	**306**	*eP*n	**Pn**	**00 41 02.5**	**+0.1**
GRMI	**Germi**	**5.10**	**306**	*eP*n	**Pn**	**00 41 02.6**	**+0.1**
ILIN	**Lien**	**5.18**	**261**	*eP*n	**Pn**	**00 41 05.5**	**+1.8**
IHSH	**Hashtrud**	**5.30**	**298**	*eP*n	**Pn**	**00 41 02.7**	**-2.6**
AFRZ	**Afriz**	**5.41**	**116**	*eP*n	**Pn**	**00 41 07.6**	**+0.8**
IHRS	**Heris**	**5.46**	**298**	*eP*n	**Pn**	**00 41 08.7**	**+1.2**
ITEG	**Tejag**	**5.50**	**122**	*eP*n	**Pn**	**00 41 09.1**	**+1.1**
AHAR	**Ahar**	**5.52**	**299**	*eP*n	**Pn**	**00 41 09.8**	**+1.5**
IMYA	**Miami**	**5.61**	**84**	*eP*n	**Pn**	**00 41 10.8**	**+1.3**

IGHG	Ghaleghazi	5.66	256	*e*Pn	Pn	00 41 13.3	+3.1
IDHR	Dehrash	5.70	260	*e*Pn	Pn	00 41 12.3	+1.6
IKOO	Kooshah	5.95	124	*e*Pn	Pn	00 41 14.6	+0.3
IMON	Monand	6.00	115	*e*Pn	Pn	00 41 15.9	+0.9
IAZR	Azarshahr	6.04	289	*e*Pn	Pn	00 41 17.7	+2.2
KHGB	Koh Gabri	6.19	153	*e*Pn	Pn	00 41 17.3	-0.2
IDAH	Dahanechah	6.38	118	*e*Pn	Pn	00 41 20.8	+0.7
IMRD	Marand	6.58	297	*e*Pn	Pn	00 41 25.7	+2.9
NHDN	Nehbandan	7.29	126	*e*Pn	Pn	00 41 33.1	+0.5
HRA	Herat	7.58	99	Pn	Pn	00 41 37.5	+1.0
AKH	Akhalkalaki	9.35	309	Pn	Pn	00 42 00.9	+0.1
MARD	Mardin	10.07	282	Pn	Pn	00 42 11.5	+0.9
KBZ	Khabaz	11.10	318	Pn	Pn	00 42 26.6	+2.1
	comp=N,0.2nm,0.3s,baz=217,slow=5.1,SNR=2.0						
KBZ				Sn	Sn	00 44 29.2	+0.7
	comp=N,0.4nm,0.3s,baz=216,slow=7.8,SNR=2.0						
KVAR	Kislovodsk Arr	11.36	318	Pn	Pn	00 42 31.3	+3.1
	baz=129,slow=18,SNR=1.4						
KVAR				Sn	Sn	00 44 31.3	-3.8
	baz=198,slow=9.6,SNR=3.4						
KIV	Kislovodsk	11.36	318	Pn	Pn	00 42 29.0	+0.8
TOKA	Tokat	13.86	293		Pn	00 43 04.1	+1.7
GAR	Garm	13.95	72	Pn	Pn	00 43 00.9	-2.7
ABKAR	Akbulak array	14.21	18		Pn	00 43 04.5	-2.5
BTK	Batken	14.50	68	Pn	Pn	00 43 09.7	-1.5
AKTO	Aktyubinsk	14.91	12	Pn	Pn	00 43 13.5	-3.2
	comp=N,0.3nm,0.3s,baz=161,slow=13,SNR=4.3						
AKTO				Sn	Sn	00 45 53.0	-8.9
	comp=N,0.6nm,0.3s,baz=77,slow=18,SNR=7.5						
KK31	Karatay Array	15.15	57	Pn	Pn	00 43 19.0	-0.9
KKAR	Karatay Array	15.15	57	Pn	Pn	00 43 18.9	-1.0
BR131	Keskin Array S	15.90	290	Pn	Pn	00 43 28.4	-1.5
BRTR	Keskin Array B	15.90	290	Pn	Pn	00 43 33.1	+3.3
	comp=N,0.0nm,0.3s,baz=101,slow=11,SNR=6.0						
BRTR	Keskin Array B	15.90	290	Pn	Pn	00 43 29.6	-0.3
EIL	Elat	16.55	253	LR	LR	00 51 06.4	
	comp=N,64nm,20.9s,baz=92,slow=41						
ARU	Arti	20.83	8	P	P	00 44 27.4	0.0
	comp=N,0.7nm,0.4s,baz=166,slow=18,SNR=3.2						
ARU	Arti	20.83	8	P	P	00 44 27.2	-0.1
BRVK	Borovoye	20.93	30	P	P	00 44 28.7	+0.2
BRVK				IAmb	IAmb	00 44 32.1	
	comp=Z,4.0nm,1.0s						
BVAR	Borovoye Array	20.95	30	P	P	00 44 28.6	-0.1
	comp=Z,2.0nm,0.7s,baz=199,slow=13,SNR=14						
BVAR				S	S	00 48 23.1	+1.1
	comp=Z,0.4nm,0.6s,baz=222,slow=25,SNR=3.8						
AKASG	Malin Array Be	22.71	318	P	P	00 44 48.0	+0.4
	comp=Z,0.6nm,0.4s,baz=118,slow=12,SNR=3.2						
KURBB	Kurchatov Arra	23.43	43	P	P	00 44 55.2	+0.2
	comp=Z,0.6nm,1.1s,baz=240,slow=11,SNR=4.1						
KURK	Kurchatov	23.52	43	P	P	00 44 55.6	-0.3
KURK				IAmb	IAmb	00 45 06.7	
	comp=Z,2.7nm,1.1s						
BURAR	Bucovina Array	23.77	308	P	P	00 44 57.4	-1.1
BUR08	Bucovina Ar. S	23.79	308	P	P	00 44 58.1	-0.6
BUR08				IAmb	IAmb	00 44 58.8	
	comp=Z,4.6nm,1.4s						
MK31	Makanchi Array	24.26	54	P	P	00 45 02.6	-0.5
MK31				IAmb	IAmb	00 45 11.6	
	comp=Z,3.0nm,1.2s						
MKAR	Makanchi Array	24.26	54	P	P	00 45 03.2	+0.1
	comp=Z,0.5nm,0.6s,baz=245,slow=7.9,SNR=4.9						
MKAR				LR	LR	00 56 09.7	
	comp=Z,69nm,18.4s,baz=238,slow=41						
MKAR	Makanchi Array	24.26	54	P	P	00 45 02.8	-0.3
FNA	Florina	25.33	291	P	P	00 45 12.0	-0.8
GERES	GERESS Array B	31.53	307	P	P	00 46 07.7	-0.5
	comp=Z,0.3nm,0.4s,baz=102,slow=9.3,SNR=4.5						

UNK ***16*** *01:08:18.2,20.˙93S×178.˙91W,h620km*
BJI ***16*** *01:08:18.8±0.0,20.˙65S×178.˙33W,h645km,mB5.3/33, mb5.3/56*
IDC ***16*** *01:08:18.4±0.6,20.˙92S×178.˙99W,h611km±6km,mb4.6/29, mb1 4.7/33,mb1mx4.6/37,mbtmp5.6/33,Error ellipse: s-maj=9.3km s-min=7.9km az=153.0*
NEIC ***16*** *01:08:18.2±1.1,20.˙93S±0.˙08×178.˙91W±0.˙09, h620km±5km,mb5.2/391,Error ellipse: s-maj=12.5km s-min=11.0km az=116.0*
BGR ***16*** *01:08:19.4±0.0,21.˙16S×178.˙70W,h629km*
GCMT ***16*** *01:08:22.2±0.5,20.˙64S±0.˙04×179.˙11W±0.˙04, h645km±3km,MW5.3/69,Moment Tensor Solution. s69,c93; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr-0.48±.03; Mθθ0.46±.05; Mφφ0.02±.06; Mrθ-0.75±.04; Mθφ0.20±.06; Mφr-0.50±.05; Best double couple: M0 1.03700×1017 NP1:φs261.00000°,δ16.00000°, λ-67.00000°. NP2:φs58.00000°,δ75.00000°,λ-96.00000°. Principal axes: T 1.0570, Plg30.0000°, Azm153.0000°; N -0.0380, Plg6.0000°, Azm59.0000°; P -1.0180, Plg59.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 16 01:08:18.1±0.3,**21.˙00S**±0.˙04×**178.˙88W**±0.˙04, **h618**km±3km,**h619**km:**pP-P,n975,**σ1s**37**/1034,**mb5.2**/248, **46C-31D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MSVF	**Nonsavu**	**4.35**	**318**	P	**P**	**01 09 48.5**		**+1.0**
MSVF				S	**S**	**01 11 01.7**		**+1.5**
RIZ	**Raoul Island**	**8.25**	**174**	P	**P**	**01 10 19.1**		**-1.2**
RIZ				S	**S**	**01 11 56.0**		**-4.5**
RAO	**Raoul Island**	**8.26**	**174**	P	**P**	**01 10 20.6**		**+0.3**
	100nm,0.3s,baz=90,slow=20,SNR=3.2							
RAO				S	**S**	**01 11 57.6**		**-3.1**
	185nm,0.3s,baz=281,slow=24,SNR=13							
RAO	**Raoul Island**	**8.26**	**174**	P	**P**	**01 10 20.2**		**-0.1**
RAO					**S**	**01 12 00.7**		**0.0**
GLKZ	**Green Lake**	**8.27**	**174**	P	**P**	**01 10 19.1**		**-1.3**
GLKZ				S	**S**	**01 11 55.2**		**-5.6**
NIUE	**Niue**	**8.63**	**79**	P	**P**	**01 10 24.9**		**+0.9**
	baz=8.6,SNR=10							
NIUE	**Niue**	**8.63**	**79**		**P**	**01 10 24.2**		**+0.2**
NIUE				S	**S**	**01 12 06.7**		**-0.5**
AFI	**Afiamalu**	**9.78**	**45**	P	**P**	**01 10 34.0**		**-1.2**
	28nm,0.3s,baz=55,slow=0.6,SNR=22							
AFI				S	**S**	**01 12 20.8**		**-6.9**
	13nm,0.3s,baz=224,slow=22,SNR=7.4							
AFI	**Afiamalu**	**9.78**	**45**	P	**P**	**01 10 34.1**		**-1.2**
AFI				S	**S**	**01 12 23.4**		**-4.3**
FUNA	**Funafuti**	**12.54**	**351**	P	**P**	**01 11 00.6**		**-1.6**
DZM	**Mont Dzumac**	**13.70**	**263**	P	**P**	**01 11 13.6**		**0.0**
	5.0nm,0.3s,baz=98,slow=8.8,SNR=40							
DZM				S	**S**	**01 13 38.3**		**+1.2**
	0.4nm,0.3s,baz=347,slow=18,SNR=3.1							
DZM	**Mont Dzumac**	**13.70**	**263**	*e*P	**P**	**01 11 13.9**		**+0.3**
	45nm,0.9s							
DZM	**Mont Dzumac**	**13.70**	**263**		**P**	**01 11 13.8**		**+0.3**
DZM					**S**	**01 13 36.5**		**-0.7**
SANVU	**Saraoutou**	**14.32**	**290**	P	**P**	**01 11 19.1**		**-0.4**
OUZ	**Omahuta**	**15.63**	**203**	P	**P**	**01 11 33.3**		**+2.2**
OUZ	**Omahuta**	**15.63**	**203**	P	**P**	**01 11 34.6**		**+3.5**
GRZ	**Great Barrier**	**15.98**	**197**	P	**P**	**01 11 37.7**		**+3.5**
WCZ	**Waipu Caves**	**16.02**	**200**	P	**P**	**01 11 36.8**		**+2.2**
KUZ	**Kuaotunu**	**16.38**	**196**	P	**P**	**01 11 40.3**		**+2.4**
WIAZ	**Waiheke Island**	**16.58**	**197**	P	**P**	**01 11 40.3**		**+0.6**
MXZ	**Matakaoa Point**	**16.68**	**188**	P	**P**	**01 11 41.2**		**+0.5**
MXZ	**Matakaoa Point**	**16.68**	**188**	P	**P**	**01 11 39.9**		**-0.8**
WMGZ	**Waiomatatini S**	**16.92**	**187**	P	**P**	**01 11 43.8**		**+1.0**
WMGZ				S	**S**	**01 14 23.7**		**-5.7**
HAZ	**Te Kaha**	**16.95**	**189**	P	**P**	**01 11 41.9**		**-1.2**
HAZ				S	**S**	**01 14 24.8**		**-4.9**
RUGZ	**Raukumara Rang**	**17.17**	**189**	P	**P**	**01 11 43.6**		**-1.7**
WHRZ	**Whale Island**	**17.18**	**191**	P	**P**	**01 11 47.6**		**+2.4**
PUZ	**Puketiti**	**17.19**	**188**	P	**P**	**01 11 46.0**		**+0.6**
PUZ				S	**S**	**01 14 30.6**		**-3.2**
TGRZ	**Tauranga**	**17.19**	**193**	P	**P**	**01 11 48.0**		**+2.7**
OPRZ	**Ohinepanea**	**17.25**	**192**	P	**P**	**01 11 47.2**		**+1.4**
TOZ	**Tahuroa Road**	**17.37**	**195**	P	**P**	**01 11 49.3**		**+2.3**
KMRZ	**Kaimai**	**17.38**	**194**	P	**P**	**01 11 49.8**		**+2.7**
URZ	**Urewera**	**17.55**	**191**	P	**P**	**01 11 46.8**		**-1.8**
	39nm,0.3s,baz=17,slow=6.3,SNR=57							
URZ				S	**S**	**01 14 34.6**		**-4.9**
	3.9nm,0.3s,baz=130,slow=21,SNR=6.1							
URZ	**Urewera**	**17.55**	**191**	P	**P**	**01 11 46.7**		**-1.8**
URZ				S	**S**	**01 14 32.7**		**-6.8**
URZ	**Urewera**	**17.55**	**191**	P	**P**	**01 11 46.5**		**-2.0**
URZ				IAmb	IAmb	01 11 55.1		
	comp=Z,138nm,0.9s							
URZ					**S**	**01 14 38.6**		**-0.8**
MWZ	**Matawai**	**17.55**	**189**	P	**P**	**01 11 47.6**		**-1.1**
MWZ				S	**S**	**01 14 34.4**		**-5.3**
TKGZ	**Te Karaka**	**17.61**	**189**	P	**P**	**01 11 50.3**		**+1.2**
TARZ	**Mount Tarawera**	**17.63**	**192**	P	**P**	**01 11 50.4**		**+1.0**
RRRZ	**Republican Roa**	**17.73**	**192**	P	**P**	**01 11 51.5**		**+1.2**
HSRZ	**Hossack Road**	**17.76**	**193**	P	**P**	**01 11 52.2**		**+1.7**
MUGZ	**Murupara**	**17.82**	**191**	P	**P**	**01 11 49.7**		**-1.3**
RAR	**Rarotonga**	**17.83**	**94**	P	**P**	**01 11 52.9**		**+1.5**
	comp=Z,1.6nm,0.3s,baz=231,slow=9.3,SNR=6.0							
RAR	**Rarotonga**	**17.83**	**94**	P	**P**	**01 11 51.9**		**+0.5**
RAR				IAmb	IAmb	01 11 56.8		
	comp=Z,52nm,1.1s							
RIGZ	**Rimutaua**	**17.88**	**189**	P	**P**	**01 11 52.0**		**+0.4**
HIZ	**Hauiti**	**18.27**	**196**	P	**P**	**01 11 58.2**		**+3.1**
HIZ	**Hauiti**	**18.27**	**196**	P	**P**	**01 11 56.3**		**+1.1**
HIZ				IAmb	IAmb	01 12 03.3		
	comp=Z,106nm,0.9s							
RATZ	**Rangitukua**	**18.39**	**193**	P	**P**	**01 11 56.8**		**+0.4**
RITZ	**Rihia Road**	**18.48**	**193**	P	**P**	**01 11 57.6**		**+0.5**
KATZ	**Kakaramea**	**18.51**	**193**	P	**P**	**01 11 59.0**		**+1.5**
BKZ	**Black Stump Fm**	**18.54**	**191**	P	**P**	**01 11 56.4**		**-1.2**
BKZ				IAmb	IAmb	01 12 00.3		
	comp=Z,56nm,0.5s							
BKZ					**S**	**01 14 56.4**		**+0.9**
TWVZ	**Taurewa**	**18.66**	**194**	P	**P**	**01 11 59.0**		**+0.2**
WTVZ	**West Tongariro**	**18.67**	**194**	P	**P**	**01 11 59.5**		**+0.6**
OTVZ	**Oturere**	**18.70**	**193**	P	**P**	**01 12 00.1**		**+0.8**
MCHZ	**McNeill Hill**	**18.77**	**191**	P	**P**	**01 11 59.1**		**-0.6**
MCHZ				S	**S**	**01 14 53.8**		**-5.3**
KWHZ	**Kaweka Forest**	**18.80**	**191**	P	**P**	**01 12 00.4**		**+0.4**
KWHZ				S	**S**	**01 14 53.4**		**-6.4**
WNVZ	**Wahianoa**	**18.87**	**193**	P	**P**	**01 12 00.4**		**-0.4**
VRZ	**Vera Road**	**18.87**	**195**	P	**P**	**01 12 03.1**		**+2.5**
CKHZ	**Cape Kidnapper**	**18.92**	**190**	P	**P**	**01 12 00.7**		**-0.2**
NEZ	**North Egmont**	**19.18**	**197**	P	**P**	**01 12 07.0**		**+3.5**
KHEZ	**Kahui Hut**	**19.23**	**197**	P	**P**	**01 12 08.0**		**+4.1**
PREZ	**Palmer Road**	**19.23**	**197**	P	**P**	**01 12 07.3**		**+3.3**
NBEZ	**Newall Road No**	**19.24**	**197**	P	**P**	**01 12 07.8**		**+3.9**
LREZ	**Lake Rotokare**	**19.28**	**196**	P	**P**	**01 12 06.3**		**+2.1**
PXZ	**Pawanui**	**19.32**	**190**	P	**P**	**01 12 04.0**		**-0.5**
PNHZ	**Pukenui**	**19.32**	**191**	P	**P**	**01 12 02.7**		**-1.9**
KNTN	**Kanton**	**19.41**	**22**	P	**P**	**01 12 05.6**		**-0.2**
KNTN				IAmb	IAmb	01 12 07.8		
	comp=Z,73nm,0.8s							
WAZ	**Wanganui**	**19.42**	**194**	P	**P**	**01 12 06.4**		**+0.9**
TSZ	**Takapari Road**	**19.50**	**192**	P	**P**	**01 12 05.9**		**-0.4**
BFZ	**Birch Farm**	**20.05**	**191**	P	**P**	**01 12 10.4**		**-0.9**
BFZ				IAmb	IAmb	01 12 24.1		
	comp=Z,93nm,0.9s							
MSWZ	**Moikau Station**	**20.95**	**192**	P	**P**	**01 12 18.7**		**-0.6**
SNZO	**South Karori**	**20.96**	**194**	P	**P**	**01 12 18.7**		**-0.7**
PLWZ	**Palliser**	**21.10**	**192**	P	**P**	**01 12 19.6**		**-1.1**
NNZ	**Nelson**	**21.20**	**196**	IAmb	IAmb	01 12 23.3		
	comp=Z,61nm,0.6s							
CMWZ	**Cape Campbell**	**21.49**	**194**	P	**P**	**01 12 24.2**		**+0.1**
BSWZ	**Blackbirch Sta**	**21.54**	**195**	P	**P**	**01 12 23.6**		**-0.9**
MQZ	**McQueen's Vall**	**23.72**	**195**	IAmb	IAmb	01 12 45.8		
	comp=Z,30nm,0.9s							
RPZ	**Rata Peaks**	**24.15**	**198**	P	**P**	**01 12 47.5**		**-0.2**
	comp=Z,42nm,0.5s,baz=16,slow=2.8,SNR=26							
RPZ	**Rata Peaks**	**24.15**	**198**	IAmb	IAmb	01 12 50.6		
	comp=Z,42nm,0.6s							
ODZ	**Otahua Downs**	**25.49**	**197**		**P**	**01 12 58.7**		**-0.8**
WKZ	**Wanaka**	**25.78**	**200**	P	**P**	**01 13 01.6**		**-0.5**
WKZ				IAmb	IAmb	01 13 11.3		
	comp=Z,44nm,0.6s							
MLZ	**Mavora Lakes**	**26.55**	**201**	P	**P**	**01 13 09.5**		**+0.6**
WHZ	**Wether Hill Ro**	**27.08**	**200**	P	**P**	**01 13 13.9**		**+0.6**
TBI	**Tubuai**	**27.32**	**100**	*e*P	**P**	**01 13 17.5**		**+1.7**
	comp=Z,175nm,1.1s							
PYZ	**Puysegur Point**	**27.74**	**202**	P	**P**	**01 13 20.1**		**+1.0**
PYZ				IAmb	IAmb	01 13 28.9		
	comp=Z,81nm,1.0s							
PPT	**Papeete**	**27.85**	**88**	P	**P**	**01 13 22.2**		**+1.6**
	comp=Z,45nm,0.8s,baz=218,slow=19,SNR=2.8							
EIDS	**Eidsvold**	**27.92**	**255**	P	**P**	**01 13 21.3**		**+0.3**
	baz=28,SNR=17							
EIDS	**Eidsvold**	**27.92**	**255**	IAmb	IAmb	01 13 22.3		
	comp=Z,28nm,0.6s							
TIAR	**Tiarei**	**28.07**	**88**	*e*P	**P**	**01 13 23.6**		**+1.2**
	comp=Z,23nm,0.9s							
ARMA	**Armidale**	**28.11**	**244**	P	**P**	**01 13 24.1**		**+1.5**
	baz=28,SNR=21							
ARMA	**Armidale**	**28.11**	**244**	P	**P**	**01 13 23.1**		**+0.4**
ARMA				IAmb	IAmb	01 13 25.0		
	comp=Z,25nm,0.7s							
PMOR	**Pomarlorio Ree**	**30.04**	**84**	*e*P	**P**	**01 13 40.2**		**+0.9**
	comp=Z,86nm,1.2s							
RMQ	**Roma**	**30.07**	**253**	P	**P**	**01 13 41.0**		**+1.5**
	baz=30,SNR=24							
VAH	**Vaihoa**	**30.22**	**84**	*e*P	**P**	**01 13 41.5**		**+0.6**
	comp=Z,45nm,0.9s							
XMAS	**Kiritimati**	**31.07**	**45**	P	**P**	**01 13 47.7**		**-0.4**
CNB	**Canberra Magne**	**31.26**	**236**	P	**P**	**01 13 50.4**		**+0.8**
	baz=31,SNR=6.9							
KWAJ	**Kwajalein Atol**	**32.45**	**335**	P	**P**	**01 13 59.1**		**-0.7**
CTA	**Charters Tower**	**32.62**	**265**	P	**P**	**01 14 01.9**		**+0.6**
	comp=Z,124nm,0.5s,baz=93,slow=12,SNR=31							
CTA				PcP	**PcP**	**01 16 28.9**		**+0.7**
	comp=Z,11nm,0.6s,baz=136,slow=3.9,SNR=4.7							
CTAO	**Charters Tower**	**32.62**	**265**	P	**P**	**01 14 01.4**		**+0.2**
KRVT	**Keravat (AS076**	**32.77**	**296**	P	**P**	**01 14 02.2**		**-0.4**
	comp=Z,68nm,0.6s,baz=135,slow=1.4,SNR=4.5							
CMSA	**Cobar Meteorol**	**33.33**	**244**	P	**P**	**01 14 07.2**		**+0.2**
	baz=33,SNR=41							
QLP	**Quilpie**	**34.12**	**253**	P	**P**	**01 14 13.1**		**-0.6**
	baz=34,SNR=3.4							
PMG	**Port Moresby**	**34.66**	**284**	P	**P**	**01 14 18.2**		**-0.1**
MTSU	**Mount Surprise**	**34.75**	**268**	P	**P**	**01 14 19.6**		**+0.6**
	baz=35,SNR=179							
TOO	**Toolangi**	**34.94**	**234**	P	**P**	**01 14 20.9**		**+0.6**
	baz=35,SNR=5.9							
TOO	**Toolangi**	**34.94**	**234**	P	**P**	**01 14 21.1**		**+0.8**
PATS	**Pohnpei**	**35.59**	**319**	P	**P**	**01 14 26.3**		**+0.3**
PATS				IAmb	IAmb	01 14 35.7		
	comp=Z,78nm,1.0s							
COEN	**Coen**	**36.80**	**275**	P	**P**	**01 14 35.8**		**0.0**
	baz=37,SNR=28							
COEN	**Coen**	**36.80**	**275**	P	**P**	**01 14 35.9**		**0.0**
COEN				IAmb	IAmb	01 14 37.5		
	comp=Z,70nm,0.9s							
STKA	**Stephens Creek**	**36.83**	**245**	P	**P**	**01 14 37.0**		**+1.0**
	comp=Z,33nm,0.8s,baz=92,slow=10,SNR=64							
STKA				PcP	**PcP**	**01 16 41.5**		**+0.9**
	comp=Z,6.5nm,0.4s,baz=70,slow=6.0,SNR=3.9							
STKA				ScP	**ScP**	**01 19 31.8**		**+2.1**
	comp=Z,7.6nm,0.8s,baz=78,slow=5.4,SNR=5.2							
STKA	**Stephens Creek**	**36.83**	**245**	P	**P**	**01 14 36.4**		**+0.5**
	baz=37,SNR=46							
STKA	**Stephens Creek**	**36.83**	**245**	P	**P**	**01 14 36.6**		**+0.6**
STKA					**PcP**	**01 16 40.2**		**-0.3**
MCQ	**Macquarie Isla**	**37.42**	**201**	P	**P**	**01 14 41.0**		**+0.7**
MCQ				IAmb	IAmb	01 14 43.5		
	comp=Z,62nm,0.8s							
ARPS	**Mount Arapiles**	**37.52**	**237**	P	**P**	**01 14 42.4**		**+0.9**
	baz=38,SNR=5.2							
QIS	**Mount Isa**	**38.74**	**263**	P	**P**	**01 14 51.3**		**-0.3**
	baz=39,SNR=21							
HTT	**Hallett**	**39.26**	**243**	P	**P**	**01 14 56.3**		**+0.7**
	baz=39,SNR=26							
BBOO	**Buckleboo**	**41.59**	**244**	P	**P**	**01 15 14.3**		**+0.4**
	baz=42,SNR=108							
BBOO	**Buckleboo**	**41.59**	**244**	P	**P**	**01 15 14.6**		**+0.6**
BBOO				IAmb	IAmb	01 15 15.2		
	comp=Z,66nm,0.7s							
WAKE	**Wake Island**	**42.47**	**340**	P	**P**	**01 15 20.5**		**-0.4**
JAY	**Jayapura**	**43.42**	**290**	P	**P**	**01 15 28.9**		**+0.3**
	comp=Z,173nm,0.5s,baz=122,slow=4.4,SNR=91							
JAY	**Jayapura**	**43.42**	**290**	P	**P**	**01 15 28.5**		**-0.1**
	comp=Z,1μmcomp=Z,165nm,0.8s							
WR0	**Warramunga Arr**	**43.53**	**263**	P	**P**	**01 15 29.0**		**-0.2**
WR0				IAmb	IAmb	01 15 30.5		
	comp=Z,61nm,0.8s							
AS31	**Alice Springs**	**43.60**	**257**	P	**P**	**01 15 29.4**		**-0.4**
AS31				IAmb	IAmb	01 15 30.9		
	comp=Z,38nm,0.7s							
AS31					**S**	**01 21 15.8**		**-0.3**
ASAR	**Alice Springs**	**43.60**	**257**	P	**P**	**01 15 30.1**		**+0.2**
	comp=Z,159nm,0.8s,baz=90,slow=8.3,SNR=1085							
ASAR				PcP	**PcP**	**01 17 03.5**		**+0.5**
	comp=Z,24nm,0.6s,baz=110,slow=3.6,SNR=13							
ASAR				ScP	**ScP**	**01 19 59.0**		**+2.3**
	comp=Z,5.5nm,0.6s,baz=102,slow=4.7,SNR=6.8							
ASAR				S	**S**	**01 21 13.7**		**-2.5**
	comp=Z,21nm,0.9s,baz=94,slow=16,SNR=45							
ASAR				PKiKP	**PKiKP**	**01 24 01.9**		**-0.9**
	comp=Z,0.6nm,0.5s,baz=74,slow=1.3,SNR=2.9							
ASAR	**Alice Springs**	**43.60**	**257**	P	**P**	**01 15 29.8**		**0.0**
ASAR					**PcP**	**01 17 03.0**		**-0.1**
ASAR					**ScP**	**01 19 56.5**		**-0.3**
WB0	**Warramunga Arr**	**43.70**	**263**	P	**P**	**01 15 30.4**		**-0.2**
WB2	**Warramunga Arr**	**43.70**	**263**	P	**P**	**01 15 30.5**		**-0.1**
WRAB	**Tennant Creek**	**43.71**	**263**	P	**P**	**01 15 30.0**		**-0.6**
WRA	**Warramunga Arr**	**43.72**	**263**	P	**P**	**01 15 30.5**		**-0.2**
	comp=Z,113nm,0.7s,baz=93,slow=4.9,SNR=601							
WRA				PcP	**PcP**	**01 17 04.0**		**+0.5**
	comp=Z,9.7nm,0.7s,baz=100,slow=4.0,SNR=7.9							
WRA				ScP	**ScP**	**01 19 59.4**		**+2.2**
	comp=Z,2.2nm,0.8s,baz=85,slow=4.6,SNR=4.9							
WRA				S	**S**	**01 21 13.4**		**-4.4**
	comp=Z,12nm,1.0s,baz=98,slow=13,SNR=14							
WRA				PKiKP	**PKiKP**	**01 24 01.9**		**-1.0**
	comp=Z,0.7nm,0.6s,baz=81,slow=0.3,SNR=4.6							
WRA	**Warramunga Arr**	**43.72**	**263**	P	**P**	**01 15 30.4**		**-0.3**
GENI	**Genyem**	**43.86**	**289**	P	**P**	**01 15 32.4**		**+0.5**
	comp=Z,3μmcomp=Z,248nm,1.0s							
KHU	**Kahuku**	**46.03**	**31**	P	**P**	**01 15 48.9**		**+0.4**
KHLU	**Kahalu`u**	**46.19**	**31**	P	**P**	**01 15 49.1**		**-0.5**
AIN	**Ainahou**	**46.22**	**31**	P	**P**	**01 15 48.8**		**-1.0**
AIN				IAmb	IAmb	01 15 52.6		
	comp=Z,38nm,0.8s							
MLOA	**Mauna Loa Obse**	**46.30**	**31**	P	**P**	**01 15 51.5**		**+0.8**
MLOA				IAmb	IAmb	01 15 53.3		
	comp=Z,62nm,1.0s							
HUH	**Hualalai**	**46.30**	**31**	P	**P**	**01 15 49.8**		**-0.8**
HUH				IAmb	IAmb	01 15 52.0		
	comp=Z,82nm,0.8s							
WRMHI	**West Rim**	**46.32**	**31**	P	**P**	**01 15 49.8**		**-0.8**
WRMHI				IAmb	IAmb	01 15 53.3		
	comp=Z,66nm,0.7s							
MLH	**Mauna Loa**	**46.35**	**31**	P	**P**	**01 15 52.3**		**+1.3**
MLH				IAmb	IAmb	01 15 53.4		
	comp=Z,85nm,0.8s							
HMH	**Humu`ula Sheep**	**46.40**	**31**	P	**P**	**01 15 50.5**		**-0.9**
HPAH	**Hawaii Prepara**	**46.66**	**31**	P	**P**	**01 15 52.6**		**-0.5**
KIP	**Kipapa**	**46.83**	**27**	P	**P**	**01 15 54.0**		**-0.2**
KIP				IAmb	IAmb	01 15 56.8		
	comp=Z,68nm,0.8s							
HLK	**Haleakala**	**47.03**	**29**	P	**P**	**01 15 55.5**		**-0.6**
OPA	**Opana**	**47.07**	**27**	P	**P**	**01 15 55.6**		**-0.3**
OPA				IAmb	IAmb	01 15 58.3		
	comp=Z,79nm,0.8s							
KDU	**Kakadu**	**47.14**	**272**	P	**P**	**01 15 56.6**		**-0.1**
	baz=47,SNR=21							
FORT	**Forrest**	**48.34**	**247**	P	**P**	**01 16 05.1**		**-0.3**
	baz=48,SNR=134							
FORT	**Forrest**	**48.34**	**247**	P	**P**	**01 16 05.5**		**+0.1**
MTN	**Manton Dam**	**48.34**	**271**	P	**P**	**01 16 05.0**		**-0.7**
	baz=48,SNR=123							
MTN	**Manton Dam**	**48.34**	**271**	P	**P**	**01 16 05.3**		**-0.3**
WRKA	**Warakurna**	**48.54**	**255**	P	**P**	**01 16 07.1**		**+0.1**
	baz=49,SNR=192							
GUMO	**Guam**	**49.49**	**311**	P	**P**	**01 16 14.2**		**+0.2**
	comp=Z,189nm,0.7s,baz=154,slow=

comp=Z,1µmcomp=Z,120nm,0.8s
CASY Casey 63.16 205 P P 01 17 48.0 +1.2
MPSI Mapaga 63.40 281 P P 01 17 49.2 0.0
comp=Z,1µmcomp=Z,136nm,0.8s
SRBI Singaraja 64.69 271 P P 01 17 58.3 +1.0
comp=Z,147nm,1.0s
KBKI Kotabaru 65.46 276 P P 01 18 04.3 +2.2
JAGI Jajag, Banyuwa 65.56 270 P P 01 18 01.8 -1.0
comp=Z,115nm,0.9s
JAGI Jajag, Banyuwa 65.56 270 P P 01 18 01.6 -1.1
JAGI IAmb IAmb 01 18 02.5
comp=Z,117nm,1.0s
GMJI Gumukmas 66.28 270 P P 01 18 07.4 +0.2
comp=Z,60nm,0.9s
BLJI Banyuglugur 66.31 271 P P 01 18 07.5 +0.1
comp=Z,2µmcomp=Z,133nm,0.9s
BBKI Banjar Baru 66.63 275 P P 01 18 10.9 +1.5
comp=Z,35nm,0.5s
MYLDM Lahad Datu 66.67 286 P P 01 18 09.0 -0.6
MYLDM IAmb IAmb 01 18 22.6
comp=Z,39nm,0.7s
JHJ2 Mitsune 66.71 323 P P 01 18 09.0 -0.4
PWJI Pagerwojo 67.90 270 P P 01 18 16.7 -0.4
comp=Z,80nm,0.7s
NGJI Ngawi 68.43 270 P P 01 18 21.4 +1.1
comp=Z,58nm,0.7s
TGY Tagaytay City 68.62 295 P P 01 18 22.3 +0.8
comp=Z,221nm,0.5s,baz=83,slow=8.1,SNR=1.7
WOJI Wonogiri, Jawa 68.78 270 P P 01 18 23.4 +1.0
comp=Z,111nm,1.4s
JYT Yasato 68.83 325 P P 01 18 21.3 -0.8
JYT IAmb IAmb 01 18 23.6
comp=Z,140nm,1.1s
QSPA South Pole Qui 69.07 180 P P 01 18 24.4 +1.0
QSPA IAmb IAmb 01 18 26.2
comp=Z,68nm,1.0s
KKM Kota Kinabalu 69.09 285 P P 01 18 23.9 -0.5
KKM IAmb IAmb 01 18 25.4
comp=Z,68nm,0.6s
UGM Wanagama 69.13 269 P P 01 18 24.0 -0.6
SMRI Semarang 69.49 270 P P 01 18 26.2 -0.5
JMM Marumori 69.76 327 P P 01 18 27.3 -0.4
JMM IAmb IAmb 01 18 29.1
comp=Z,75nm,1.0s
JGF Kuroka 69.91 323 P P 01 18 28.2 -0.5
JGF IAmb IAmb 01 18 29.7
comp=Z,44nm,0.6s
INU Inuyama 69.92 323 P P 01 18 28.9 +0.2
MJAR Matsushiro Arr 70.13 324 P P 01 18 29.8 -0.1
comp=Z,51nm,0.7s,baz=157,slow=5.4,SNR=100
MJAR Matsushiro Arr 70.13 324 P P 01 18 29.5 -0.4
MAJO Matsushiro 70.13 324 P P 01 18 29.5 -0.4
MAJO IAmb IAmb 01 18 31.0
comp=Z,56nm,0.8s
MAT Matsushiro 70.13 324 P P 01 18 29.7 -0.2
JMN Monobe 70.62 320 P P 01 18 32.5 -0.4
JMN IAmb IAmb 01 18 35.0
comp=Z,66nm,0.9s
JWT Wachi 70.80 322 P P 01 18 33.5 -0.3
JWT IAmb IAmb 01 18 35.4
comp=Z,61nm,0.8s
KPJI Karang Pucung 70.81 269 P P 01 18 33.8 -0.6
comp=Z,115nm,0.8s
JSD Sado 71.20 325 P P 01 18 36.6 +0.5
SBUM Sibu 71.28 280 P P 01 18 36.3 -0.9
JSU Suzuyama 71.30 316 P P 01 18 36.5 -0.4
JSU IAmb IAmb 01 18 38.3
comp=Z,82nm,0.7s
CISI Cisompet, Garu 71.78 269 P P 01 18 42.1 +1.9
comp=Z,104nm,1.1s
CISI Cisompet, Garu 71.78 269 P P 01 18 39.6 -0.5
CISI IAmb IAmb 01 18 39.7
comp=Z,62nm,0.6s
ERM Erimo 71.86 331 P P 01 18 39.8 -0.1
JTM Tenmabayashi 71.86 329 P P 01 18 40.8 +0.8
JTM IAmb IAmb 01 18 41.6
comp=Z,59nm,0.8s
JHS Saijyo 71.95 320 P P 01 18 40.1 -0.6
JNU Nakatsue 72.08 317 P P 01 18 41.7 +0.3
comp=Z,55nm,0.9s,baz=103,slow=3.8
JNU Nakatsue 72.08 317 P P 01 18 41.0 -0.4
JNU IAmb IAmb 01 18 43.3
comp=Z,58nm,0.8s
AMKA Amchitka 72.08 359 P P 01 18 41.1 +0.2
LEM Lembang 72.21 269 P P 01 18 43.2 +0.5
comp=Z,140nm,0.7s,baz=100,slow=6.1,SNR=20
YOJ Yonaguni jima 72.35 306 P P 01 18 42.8 -0.3
ADK Adak 72.59 1 P P 01 18 44.1 +0.3
KSM Kuching 72.67 278 P P 01 18 44.6 -0.6
KSM Kuching 72.67 278 P P 01 18 46.0 +0.8
TWG Pinlang 72.96 303 P P 01 18 45.5 -1.2
ATKA Atka Island 73.00 3 P P 01 18 46.1 0.0
CBJI Citeko 73.06 270 P P 01 18 47.0 -0.4
YULB Yu-li 73.09 304 IAmb IAmb 01 18 47.3
comp=Z,51nm,0.6s
JKA Kamikawa-asahi 73.78 332 IAmb IAmb 01 18 53.8
comp=Z,86nm,1.0s
CGJI Cibinong 74.08 269 P P 01 18 53.1 -0.1
comp=Z,162nm,1.3s
KLSI 75.63 270 P P 01 19 01.7 -0.2
comp=Z,10nm,0.8s
YSS Yuzh-Sakhalins 75.98 334 P P 01 19 03.2 +0.3
YSS IAmb IAmb 01 19 04.8
comp=Z,48nm,0.7s
LWLI Liwa 76.15 270 P P 01 19 06.1 +1.3
comp=Z,43µmcomp=Z,149nm,0.7s
MDSI Maura Dua 76.22 270 P P 01 19 03.8 -1.3
comp=Z,77nm,1.0s
PET Petropavlovsk 76.25 346 P P 01 19 04.6 +0.4
PET IAmb IAmb 01 19 04.7
comp=Z,45nm,0.5s
PEA0B Petropavlovsk- 76.55 346 IAmb IAmb 01 19 06.9
comp=Z,72nm,0.8s
PETK Petropavlovsk- 76.55 346 P P 01 19 06.2 +0.3
comp=Z,59nm,0.7s,baz=134,slow=6.5,SNR=253
PETK Petropavlovsk- 76.55 346 P P 01 19 06.4 +0.5
FALS False Pass 76.70 9 IAmb IAmb 01 19 08.0
comp=Z,78nm,0.6s
KSRS Korea Array 76.72 319 P P 01 19 08.1 +0.9
comp=Z,11nm,0.7s,baz=134,slow=6.2,SNR=30
KSAR Wonju Array Be 76.73 319 P P 01 19 07.2 -0.1
LHSI Lahat 77.06 271 P P 01 19 09.8 +0.1
comp=Z,78nm,0.9s
DSRI Dabo 77.27 274 P P 01 19 12.4 +1.6
CNBA Chernabura Isl 77.30 11 IAmb IAmb 01 19 10.5
comp=Z,50nm,0.6s
SDPT Sand Point 77.65 11 P P 01 19 12.0 +0.2
KSI Kapahiang 77.99 271 P P 01 19 14.3 -0.4
comp=Z,235nm,0.8s
SPIA Saint Paul Isl 78.21 5 P P 01 19 14.8 +0.1
DLV T Lat 78.48 288 P P 01 19 16.5 -0.9
DLV IAmb IAmb 01 19 19.7
comp=Z,73nm,0.9s
SCI2 San Clemente I 78.72 48 P P 01 19 19.9 +1.9
baz=236
SBC Santa Barbara 78.74 46 P P 01 19 20.5 +2.3
baz=235
USA0B Ussuriysk Arra 78.92 326 IAmb IAmb 01 19 21.3
comp=Z,79nm,0.8s
USRK Ussuriysk Ar. 78.92 326 P P 01 19 20.0 +1.2
comp=Z,55nm,0.7s,baz=126,slow=3.5,SNR=148
USRK Ussuriysk Ar. 78.92 326 P P 01 19 18.8 0.0
PKM Mcpherson Peak 78.93 46 P P 01 19 21.6 +2.2
baz=235
SAO San Andreas Ge 78.96 44 IAmb IAmb 01 19 22.5
comp=Z,45nm,1.0s
CHIR Chirikof Islan 79.03 13 P P 01 19 19.6 +0.5
CIS Catalina Islan 79.04 48 P P 01 19 21.7 +1.9
baz=236
SMMC Simmler 79.06 45 P P 01 19 22.0 +2.2
baz=234
BELA Belgrano 2 79.17 173 P P 01 19 20.8 +1.0
HOPS Hopland Field 79.29 41 IAmb IAmb 01 19 24.2
comp=Z,66nm,0.8s
KCPM Cahto Peak 79.41 40 IAmb IAmb 01 19 25.1
comp=Z,76nm,0.9s
NJ2 Nanjing 79.57 310 ⇓P P 01 19 23.8 +1.3
NJ2 pmax pmax
comp=Z,97nm,0.9s
109C Camp Elliot, M 79.67 49 P P 01 19 24.9 +1.8
baz=237
ARVC Arvin 79.73 46 P P 01 19 25.1 +1.7
baz=235
VES Vestal, Richgr 79.97 45 P P 01 19 25.9 +1.4
baz=235,SNR=14
MURC Murrieta 80.00 48 P P 01 19 26.5 +1.6
baz=237,SNR=7.3
ESJX Sierra Juarez 80.02 50 P P 01 19 25.4 +0.3
SII Sitkinak Islan 80.02 14 P P 01 19 24.6 +0.3
BFSC Mount Baldy Ra 80.03 47 P P 01 19 26.6 +1.5
baz=236,SNR=7.0
SDSI Sungai Dareh 80.04 273 P P 01 19 24.6 -0.9
comp=Z,1µmcomp=Z,39nm,0.9s
VOG Valley Oaks Go 80.04 45 P P 01 19 26.4 +1.5
baz=235
KHMM Horse Mountain 80.06 39 P P 01 19 25.6 +0.5
KHMM IAmb IAmb 01 19 28.7
comp=Z,64nm,1.0s
MONP2 Monument Peak 80.16 49 P P 01 19 28.0 +2.1
baz=237,SNR=17
EDW2 Edwards Air Fo 80.16 47 P P 01 19 27.6 +1.9
baz=236,SNR=21
O02D Mt. Diablo Mer 80.19 40 P P 01 19 28.5 +2.8
baz=232,SNR=42
RMX La Rumorosa 80.25 50 P P 01 19 26.9 +0.7
IKP In-Ko-Pah, Jac 80.25 50 P P 01 19 28.3 +2.1
baz=237,SNR=8.9
ISA Isabella, Lake 80.27 46 P P 01 19 28.2 +1.9
baz=236,SNR=26
ISA Isabella, Lake 80.27 46 P P 01 19 26.6 +0.3
ISA IAmb IAmb 01 19 29.4
comp=Z,40nm,0.9s
KRMB Red Mountain 80.36 39 P P 01 19 26.7 0.0
KRMB IAmb IAmb 01 19 30.3
comp=Z,74nm,1.1s
CMB Columbia Colle 80.39 43 P P 01 19 26.6 -0.1
MDJ Mudanjiang 80.46 325 P P 01 19 26.9 0.0
MDJ IAmb IAmb 01 19 29.2
comp=Z,69nm,0.9s
PFO Pinyon Flats O 80.52 49 P P 01 19 29.5 +1.9
baz=237,SNR=7.5
PFO Pinyon Flats O 80.52 49 P P 01 19 27.2 -0.4
BBRC Big Bear Solar 80.55 48 P P 01 19 29.5 +1.5
baz=237
WDC Whiskeytown Da 80.58 40 IAmb IAmb 01 19 30.9
comp=Z,61nm,1.0s
ORV Oroville 80.59 41 IAmb IAmb 01 19 30.7
comp=Z,40nm,0.9s
SWSC Sam W. Stewart 80.63 49 P P 01 19 30.1 +2.0
baz=238,SNR=9.6
LRMC Laurel Mtn Rad 80.70 46 P P 01 19 30.3 +1.8
baz=236,SNR=9.7
N02D Trinity Center 80.73 40 P P 01 19 31.1 +2.6
baz=232,SNR=54
MAW Mawson 80.81 200 P P 01 19 29.9 +1.5
comp=Z,1.7nm,0.4s,baz=150,slow=5.3,SNR=12
MAW pP pP 01 21 37.8 +1.2
comp=Z,3.2nm,0.9s,baz=128,slow=4.6,SNR=3.4
MAW Mawson 80.81 200 P P 01 19 29.4 +1.0
OHAK Old Harbor 80.83 14 P P 01 19 29.1 +0.6
OHAK IAmb IAmb 01 19 29.8
comp=Z,41nm,0.6s
RRX Edison Barstow 80.84 47 P P 01 19 31.1 +2.0
baz=236
O03E Paynes Creek 80.86 41 P P 01 19 30.9 +1.7
baz=233,SNR=52
M02C Callahan 80.90 39 P P 01 19 32.0 +2.7
baz=232,SNR=100
L02E Cave Junction 80.94 38 P P 01 19 31.9 +2.4
baz=231,SNR=17
PDSI Padang 80.95 272 P P 01 19 29.5 -0.7
comp=Z,3µmcomp=Z,38nm,0.8s
CWC Cottonwood Cre 80.97 45 P P 01 19 31.7 +1.7
baz=236
MDPB Devils Postpil 81.00 44 IAmb IAmb 01 19 33.1
comp=Z,38nm,1.0s
OMMB Old Mammoth Mi 81.04 44 P P 01 19 31.9 +1.4
BELC Belle Mtn. Jos 81.05 48 P P 01 19 32.5 +2.1
baz=237,SNR=25
MLAC Mammoth, Mammo 81.15 44 P P 01 19 33.0 +2.1
baz=235
PMSA Palmer Station 81.16 157 P P 01 19 31.3 +1.1
PMSA IAmb IAmb 01 19 35.3
comp=Z,48nm,1.1s
MPMC Manual Prospec 81.16 46 P P 01 19 32.9 +1.9
baz=236,SNR=41
YBH Yreka Blue Hor 81.19 39 IAmb IAmb 01 19 34.3
comp=Z,61nm,0.8s
GSC Goldstone, Bar 81.20 47 P P 01 19 32.8 +1.8
baz=237,SNR=21
GSC Goldstone, Bar 81.20 47 P P 01 19 32.4 +1.3
TIN Tinemaha, Big 81.22 45 P P 01 19 33.3 +2.1
baz=235,SNR=16
K02D Willamette Mer 81.24 38 P P 01 19 33.3 +2.2
baz=231,SNR=18
BC3 Big Chuckawall 81.25 49 P P 01 19 33.6 +2.2
baz=238,SNR=16
HEC Hector,Ludlow 81.27 48 P P 01 19 33.1 +1.7
baz=237,SNR=13
WAKR Walker 81.27 43 P P 01 19 33.2 +1.7
WAKR IAmb IAmb 01 19 34.7
comp=Z,81nm,1.2s
GLA Glamis 81.38 50 P P 01 19 34.5 +2.6
baz=238,SNR=32
GLA Glamis 81.38 50 P P 01 19 32.4 +0.5
GLA IAmb IAmb 01 19 35.5
comp=Z,54nm,0.8s
J01E Myrtle Point 81.39 37 P P 01 19 33.9 +2.2
baz=231,SNR=11
KDAK Kodiak Island 81.50 14 P P 01 19 32.7 +0.8
comp=Z,21nm,0.6s,baz=208,slow=5.9,SNR=22
KDAK Kodiak Island 81.50 14 P P 01 19 32.3 +0.5
DL2 Dalian 81.53 317 P P 01 19 33.3 +0.8
DL2 pmax pmax
comp=Z,29nm,0.9s
HUMO Hull Mountain 81.59 38 IAmb IAmb 01 19 36.4
comp=Z,92nm,1.1s
VCNR Virginia City 81.59 42 P P 01 19 33.2 0.0
VCNR IAmb IAmb 01 19 36.1
comp=Z,33nm,0.9s
YERR Yerington 81.67 43 IAmb IAmb 01 19 35.9
comp=Z,48nm,0.6s
GMRC Granite Mounta 81.71 48 P P 01 19 35.6 +1.9
baz=237,SNR=21
LHV Little Huntoon 81.72 44 IAmb IAmb 01 19 36.8
comp=Z,42nm,0.9s
L04D Klamath Falls 81.73 39 P P 01 19 35.8 +2.1
baz=232,SNR=42
IRM Iron Mountain 81.74 49 P P 01 19 36.0 +2.2
baz=238,SNR=27
M04C Macdoel 81.74 39 P P 01 19 35.9 +2.2
baz=232,SNR=15
GRAC Grapevine Rang 81.76 45 P P 01 19 36.0 +2.2
baz=236,SNR=25
FURC Furnace Creek, 81.80 46 P P 01 19 35.8 +1.8
baz=236,SNR=28
TUQ Turquoise Moun 81.88 47 P P 01 19 36.5 +1.9
baz=237,SNR=26
SHOC Shoshone, Teco 81.89 47 P P 01 19 36.2 +1.7
baz=237
NVAR Mina Array Bea 81.95 44 P P 01 19 36.7 +1.7
comp=Z,29nm,0.7s,baz=225,slow=7.9,SNR=255
NVAR PKKPbc **PKKPbc 01 38 01.8 +0.9**
comp=Z,1.0nm,0.7s,baz=83,slow=3.5,SNR=10
NVAR PKPPKP **P'P'df 01 46 05.1 +1.5**
comp=Z,1.2nm,0.9s,baz=90,slow=1.8,SNR=3.8
NVAR Mina Array Bea 81.95 44 P P 01 19 34.9 -0.1
PAHR Pah Rah Range 82.00 42 P P 01 19 36.2 +1.1
PAHR IAmb IAmb 01 19 37.9
comp=Z,50nm,0.9s
I02D Swisshome 82.03 37 P P 01 19 37.1 +2.2
baz=231
NV11 Mina Array Sit 82.05 44 IAmb IAmb 01 19 37.7
comp=Z,28nm,0.7s
I03D Drain, OR 82.05 37 P P 01 19 37.2 +2.2
baz=231,SNR=14
WHN Wuhan 82.08 307 P P 01 19 36.6 +1.1
WHN pmax pmax
comp=Z,180nm,1.4s
CN2 Changchun 82.19 323 *eP* **P 01 19 36.4 +0.6**
CN2 pmax pmax
comp=Z,50nm,0.9s
214A Organ Pipe Nat 82.27 52 P P 01 19 38.9 +2.4
baz=240
K04D Chiloquin, OR 82.30 39 P P 01 19 38.6 +2.1
baz=232,SNR=5.0
MNSI Mandailing Nat 82.38 274 P P 01 19 36.9 -0.5
comp=Z,4µmcomp=Z,100nm,0.7s
NEE2 Needles Airpor 82.43 48 P P 01 19 39.3 +2.2
baz=238,SNR=8.6
KVN Kaiserville 82.44 43 IAmb IAmb 01 19 40.0
comp=Z,58nm,1.1s
J04D Umpqua Nationa 82.47 38 P P 01 19 39.7 +2.2
baz=232,SNR=50
TPNV Topopah Spring 82.48 46 P P 01 19 39.5 +1.9
baz=237,SNR=74
TPNV Topopah Spring 82.48 46 IAmb IAmb 01 19 40.5
comp=Z,42nm,0.8s
PDMCI Parker Dam,Lak 82.52 49 P P 01 19 39.8 +2.2
baz=238,SNR=19
COR Corvallis 82.64 36 P P 01 19 38.1 +0.2
COR IAmb IAmb 01 19 41.2
comp=Z,57nm,0.9s
I04A Tendick Farm, 82.64 37 P P 01 19 39.7 +1.6
baz=232,SNR=23
MOD Modoc Plateau 82.73 40 IAmb IAmb 01 19 41.6
comp=Z,45nm,0.8s
H04D Lebanon 82.91 37 P P 01 19 41.4 +2.1
baz=231,SNR=11
TIA Tai'an 83.01 313 P P 01 19 40.8 +0.8
TIA pmax pmax
comp=Z,36nm,0.8s
J05D Fort Rock, OR 83.01 38 P P 01 19 42.4 +2.4
baz=233,SNR=80
KULM Kulim 83.02 278 IAmb IAmb 01 19 42.6
comp=Z,55nm,0.9s
G03D McMinnville, O 83.05 36 P P 01 19 42.0 +2.0
baz=231,SNR=6.7
H04A Detroit Lake 83.32 37 IAmb IAmb 01 19 43.5
comp=Z,46nm,0.6s
F03A Seaside 83.35 35 IAmb IAmb 01 19 44.1
comp=Z,42nm,0.8s
CNPM China Poot 83.38 14 IAmb IAmb 01 19 42.9
comp=Z,68nm,0.8s
HOM Homer 83.41 14 P P 01 19 44.0 +2.6
baz=206
I05D Terrebonne, OR 83.59 38 P P 01 19 44.6 +1.8
baz=232,SNR=9.2
RPSI Rantau Prapat 83.68 275 IAmb IAmb 01 19 44.7
comp=Z,58nm,0.8s
R11A Troy Canyon, C 83.69 45 P P 01 19 44.7 +1.1
baz=237,SNR=14
PSI Prapat 83.72 275 P P 01 19 43.9 -0.3
comp=Z,50nm,0.8s,baz=180,slow=2.2,SNR=36
F04D Rainier, OR 83.74 35 P P 01 19 45.9 +2.6
baz=231
TUC Tucson 83.94 52 P P 01 19 47.4 +2.6
baz=241
TUC Tucson 83.94 52 P P 01 19 44.8 0.0
TUC IAmb IAmb 01 19 48.5
comp=Z,30nm,0.9s
F04A Amboy 83.97 36 IAmb IAmb 01 19 46.7
comp=Z,39nm,0.6s
WVOR Wild Horse Val 84.04 40 IAmb IAmb 01 19 48.1
comp=Z,33nm,0.9s
MA2 Magadan 84.05 345 P P 01 19 44.9 +0.3
MA2 IAmb IAmb 01 19 45.5
comp=Z,45nm,0.9s
DIB Dawson Inlet, 84.09 26 P P 01 19 45.8 +0.9
DIB IAmb IAmb 01 19 49.6
comp=Z,47nm,1.2s
NLWA Neilton Lookou 84.11 34 P P 01 19 46.6 +1.3
NLWA IAmb IAmb 01 19 48.3
comp=Z,53nm,0.9s
G05D Wamic, OR 84.15 37 P P 01 19 47.3 +1.8
baz=232
E04D Cinebar 84.27 35 P P 01 19 47.9 +1.9
baz=231
SEW Seward 84.30 14 IAmb IAmb 01 19 47.0
comp=Z,57nm,0.9s
GSI Gunungsitoli 84.43 274 P P 01 19 48.7 +1.1
comp=Z,319nm,0.8s
F05D White Salmon 84.46 36 P P 01 19 48.7 +1.7
baz=232
I07A Izee 84.49 39 IAmb IAmb 01 19 50.3
comp=Z,54nm,1.1s
D04E Lakebay 84.55 35 P P 01 19 49.8 +2.5
baz=231,SNR=6.8
D03D Eldon 84.61 34 P P 01 19 49.6 +1.9
baz=231,SNR=20
J08A Circle Bar Ran 84.67 40 IAmb IAmb 01 19 51.7
comp=Z,23nm,0.7s
U15A North Rim 84.91 48 IAmb IAmb 01 19 52.9
comp=Z,55nm,0.7s
D05A Enumclaw 84.98 35 IAmb IAmb 01 19 54.4
comp=Z,73nm,1.0s
WUAZ Wupatki 85.09 49 P P 01 19 52.3 +1.8
baz=240
PGC Sidney 85.13 33 IAmb IAmb 01 19 52.7
comp=Z,51nm,0.8s
BBB Bella Bella 85.23 29 IAmb IAmb 01 19 53.1
comp=Z,38nm,0.8s
F07A Phinny Hill Vi 85.32 37 IAmb IAmb 01 19 54.0
comp=Z,25nm,0.8s
TPTI 85.50 275 P P 01 19 53.6 +0.9
comp=Z,36nm,0.7s
CRAG Craig 85.51 24 IAmb IAmb 01 19 54.6
comp=Z,41nm,0.8s
G08A Pilot Rock 85.52 38 IAmb IAmb 01 19 54.6
comp=Z,36nm,0.8s
SKT Skwentna 85.53 13 IAmb IAmb 01 19 52.0
comp=Z,31nm,1.0s
A04D Lummi Island 85.56 33 P P 01 19 54.2 +2.1
baz=231,SNR=19
FID Port Fidalgo 85.58 15 IAmb IAmb 01 19 53.2
comp=Z,75nm,1.0s
TTA Tatalina 85.58 10 IAmb IAmb 01 19 53.9
comp=Z,50nm,1.2s
EYAK Cordova Ski Ar 85.59 16 IAmb IAmb 01 19 54.0
comp=Z,44nm,0.8s
B05A Bryant 85.59 34 P P 01 19 54.1 +1.8
baz=232,SNR=27
BJT Baijiatuau 85.66 316 IAmb IAmb 01 19 54.2
comp=Z,26nm,0.7s
BJI Beijing 85.67 316 P P 01 19 53.8 +0.9
BJI pmax pmax
comp=Z,37nm,0.7s
PMR Palmer 85.70 14 IAmb IAmb 01 19 53.2
comp=Z,38nm,0.8s
LTY Liberty 85.73 35 IAmb IAmb 01 19 55.0
comp=Z,23nm,0.7s
E07A Sunnyside 85.76 36 IAmb IAmb 01 19 56.2
comp=Z,62nm,0.9s
HMT Hamilton 85.79 16 IAmb IAmb 01 19 54.8
comp=Z,58nm,0.9s
HAWA Hanford 85.84 37 IAmb IAmb 01 19 56.5
comp=Z,58nm,0.8s
SIT Sitka 85.90 22 P P 01 19 54.8 +1.3
SIT IAmb IAmb 01 19 56.1
comp=Z,42nm,1.2s
GHO Glory Hole Cre 85.90 14 P P 01 19 54.1 +0.6
C06D Leavenworth 86.01 35 P P 01 19 55.8 +1.5
baz=233
SYO Syowa Base 86.06 193⇓ *eP* **P 01 19 52.7 -1.5**
SYO Syowa Base 86.06 193⇓ *ePcP* **P 01 19 54.8 +0.6**
SYO Syowa Base 86.06 193⇑ *epP* pP 01 22 05.2 +0.3
W18A Petrified Fore 86.06 50 P P 01 19 56.8 +1.7
baz=241
B06A Marblemount 86.07 34 IAmb IAmb 01 19 56.8
comp=Z,31nm,0.8s
E08A Dider Farm, El 86.16 37 IAmb IAmb 01 19 57.9
comp=Z,45nm,0.8s
CUT Chulitna 86.18 13 P P 01 19 55.0 +0.3
baz=207
GYA Guiyang 86.18 300 *eP* **P 01 19 56.6 +0.8**
GYA pmax pmax
comp=Z,37nm,0.9s
BMO Blue Mountains 86.22 39 P P 01 19 55.7 +0.2
BMO IAmb IAmb 01 19 58.0
comp=Z,22nm,0.8s
121A Cookes Peak, D 86.27 53 P P 01 19 59.1 +3.0
baz=242
121A Cookes Peak, D 86.27 53 P P 01 19 56.3 +0.1
MESA MESA 86.29 18 P P 01 19 56.1 +0.5
MFID Camas Ranch 86.30 41 IAmb IAmb 01 19 58.7
comp=Z,37nm,1.0s
KLU Klutina 86.36 15 IAmb IAmb 01 19 57.3
comp=Z,37nm,0.8s
CRQM Cirque 86.44 17 IAmb IAmb 01 19 57.6
comp=Z,45nm,0.7s
DUG Dugway, Tooele 86.49 45 P P 01 19 58.2 +1.2
baz=239
WRAK Wrangell Islan 86.50 24 IAmb IAmb 01 19 59.1
comp=Z,54nm,0.9s
TGL Tana Glacier 86.53 17 IAmb IAmb 01 19 58.4
comp=Z,67nm,1.0s
D08A Wollman Farm, 86.57 36 P P 01 19 58.5 +1.5
MLSI Meulaboh, Aceh 86.59 276 P P 01 19 59.1 +1.3
comp=Z,69nm,0.9s
VRDI Verde Repeater 86.76 16 IAmb IAmb 01 19 59.0
comp=Z,36nm,0.8s

BCPM	Bancas Point	86.78	19	IAmb	IAmb	01 19 59.7		
	comp=Z,51nm,0.9s							
M24K	Tolsona, Glenn	86.83	15	P	P	01 19 59.1	+1.2	
	baz=210							
GLB	Gilahina Butte	86.85	16	IAmb	IAmb	01 19 59.6		
	comp=Z,51nm,0.7s							
TIY	Taiyuan	87.00	312	eP	P	01 20 00.4	+1.1	
TIY				pmax	pmax			
	comp=Z,47nm,0.6s							
PBKT	Sadao Pong	87.00	289	IAmb	IAmb	01 20 02.0		
	comp=Z,24nm,0.8s							
MCARA	McCarthy VSAT	87.00	16	IAmb	IAmb	01 20 01.3		
	comp=Z,84nm,1.1s							
KTH	Kantishna Hill	87.08	12	P	P	01 19 58.5	-0.6	
JIS	Juneau Island	87.15	22	IAmb	IAmb	01 20 01.3		
	comp=Z,18nm,0.8s							
BESE	Bessie Mountai	87.22	21	IAmb	IAmb	01 20 02.5		
	comp=Z,58nm,1.0s							
HLID	Hailey	87.24	41	P	P	01 20 02.5	+2.0	
	baz=238							
HLID	Hailey	87.24	41	P	P	01 20 00.1	-0.3	
HLID				IAmb	IAmb	01 20 03.5		
	comp=Z,33nm,0.9s							
SPUT	South Promonto	87.30	44	P	P	01 20 00.5	-0.3	
HVU	Hansel Valley	87.33	43	P	P	01 20 00.7	-0.2	
C09A	Chrisman Ranch	87.36	36	IAmb	IAmb	01 20 03.1		
	comp=Z,50nm,0.8s							
DHY	Denali Highway	87.40	14	IAmb	IAmb	01 20 01.4		
	comp=Z,22nm,0.6s							
SNAA	Sanae	87.53	179	P	P	01 20 01.4	+0.1	
SNAA	Sanae	87.53	179	P	P	01 20 01.2	-0.1	
SNAA				pP	pP	01 22 12.9	-0.1	
VNA3	Neumayer Olymp	87.70	177	P	P	01 20 02.3	+0.3	
MNTX	Cornudas Mount	87.71	55	P	P	01 20 04.7	+2.0	
	baz=244,SNR=24							
MNTX	Cornudas Mount	87.71	55	P	P	01 20 00.8	-1.9	
MNTX				IAmb	IAmb	01 20 05.8		
	comp=Z,23nm,0.8s							
MNTX					pP	01 22 14.0	-0.1	
SKAG	Skagway	87.74	21	IAmb	IAmb	01 20 07.4		
	comp=Z,22nm,0.8s							
XAN	Xi'an	87.78	308	⇑P	P	01 20 04.6	+1.6	
XAN				pmax	pmax			
	comp=Z,88nm,1.0s							
XAN				pmax	pmax			
	comp=Z,2μm,5.3s							
MVCO	Mesa Verde	87.94	49	P	P	01 20 05.0	+1.1	
	baz=242							
TX32	Lajitas Array	88.02	58	IAmb	IAmb	01 20 07.8		
	comp=Z,30nm,0.9s							
TXAR	Lajitas Array	88.02	58	P	P	01 20 06.6	+2.3	
	comp=Z,23nm,0.8s,baz=220,slow=6.0,SNR=202							
TXAR				pP	pP	01 22 15.8	-0.1	
	comp=Z,1.5nm,1.1s,baz=220,slow=4.1,SNR=2.5							
TXAR				PKKPbc	PKKPbc	01 37 46.6	+0.6	
	comp=Z,3.0nm,0.5s,baz=148,slow=1.8,SNR=6.4							
TXAR	Lajitas Array	88.02	58	P	P	01 20 04.2	-0.1	
TXAR					pP	01 22 16.0	+0.1	
HYT	Haines Junctio	88.11	19	IAmb	IAmb	01 20 06.2		
	comp=Z,37nm,0.9s							
PV10	Paradox Valley	88.12	48	IAmb	IAmb	01 20 06.9		
	comp=Z,30nm,1.2s							
VNA2	Neumayer--Watz	88.13	177	P	P	01 20 04.6	+0.6	
MENT	Mentasta	88.14	15	IAmb	IAmb	01 20 05.8		
	comp=Z,47nm,0.9s							
PV23	Carpenter Ridg	88.18	48	IAmb	IAmb	01 20 07.6		
	comp=Z,21nm,0.9s							
PV12	Saucer Basin,	88.26	48	IAmb	IAmb	01 20 08.6		
	comp=Z,25nm,1.2s							
NEW	Newport	88.26	36	P	P	01 20 05.9	+1.0	
	baz=235,SNR=9.7							
ANMO	Albuquerque	88.36	52	P	P	01 20 07.4	+1.5	
	baz=243							
ANMO	Albuquerque	88.36	52	P	P	01 20 05.6	-0.3	
ANMO				IAmb	IAmb	01 20 08.6		
	comp=Z,23nm,1.1s							
VNA1	Neumayer--Stat	88.36	177	P	P	01 20 05.7	+0.7	
NEA2	Nenana	88.38	12	P	P	01 20 04.4	-0.6	
	baz=208							
RIDG	Independent Ri	88.55	14	IAmb	IAmb	01 20 07.3		
	comp=Z,49nm,0.9s							
HIA	Hailar	88.62	325	IAmb	IAmb	01 20 07.8		
	comp=Z,19nm,0.7s							
HDA	Harding Lake	88.66	13	P	P	01 20 06.4	+0.1	
	baz=210							
BCAR	Beaver Creek A	88.73	16	P	P	01 20 06.9	+0.1	
IMAR	Indian Mountai	88.79	10	P	P	01 20 07.3	+0.4	
WHY	Whitehorse	88.80	20	P	P	01 20 07.3	+0.1	
WHY				IAmb	IAmb	01 20 09.5		
	comp=Z,31nm,0.8s							
RDMU	Red Mountain	88.82	45	P	P	01 20 07.5	-0.4	
DLBC	Dease Lake	88.83	23	P	P	01 20 07.7	+0.3	
DLBC				IAmb	IAmb	01 20 09.9		
	comp=Z,26nm,0.9s							
KMI	Kunming	88.84	297	⇑iP	P	01 20 10.4	+2.0	
KMI				pmax	pmax			
	comp=Z,55nm,0.8s							
KMI				pmax	pmax			
	comp=Z,360nm,5.5s							
KMI	Kunming	88.84	297	P	P	01 20 07.4	-1.0	
KMI				IAmb	IAmb	01 20 11.1		
	comp=Z,43nm,0.8s							
MCMT	McKenzie Canyo	88.87	41	P	P	01 20 07.8	-0.3	
MDM	Murphy Dome	88.87	13	P	P	01 20 07.0	-0.3	
COLA	College	88.87	13	P	P	01 20 07.5	+0.2	
AHID	Auburn Hatcher	88.90	43	P	P	01 20 08.0	-0.3	
AHID				IAmb	IAmb	01 20 11.6		
	comp=Z,34nm,0.9s							
SCRK	Sand Creek	88.95	15	P	P	01 20 08.5	+0.6	
	baz=212							
IL31		88.98	13	P	P	01 20 07.8	0.0	
IL31				IAmb	IAmb	01 20 08.6		
	comp=Z,45nm,1.1s							
ILAR	Eielson Array	88.98	13	P	P	01 20 07.7	-0.1	
	comp=Z,23nm,0.6s,baz=216,slow=5.1,SNR=267							
ILAR				pP	pP	01 22 20.2	-0.1	
	comp=Z,2.5nm,0.9s,baz=236,slow=6.0,SNR=2.9							
ILAR				PKiKP	PKiKP	01 25 01.9	-0.3	
	comp=Z,0.6nm,0.4s,baz=274,slow=2.9,SNR=5.7							
ILAR	Eielson Array	88.98	13	P	P	01 20 07.6	-0.3	
ILAR					pP	01 22 20.7	+0.4	
HHC	Hu-ho-hao-te	89.11	315	eP	P	01 20 11.8	+2.7	
HHC				pmax	pmax			
	comp=Z,32nm,1.1s							
HHC				pmax	pmax			
	comp=Z,190nm,5.8s							
POKR	Poker Plat Res	89.17	13	P	P	01 20 08.4	-0.3	
	baz=209							
MSO	Missoula	89.27	38	P	P	01 20 10.3	+0.5	
	baz=238,SNR=7.7							
MSO	Missoula	89.27	38	P	P	01 20 09.7	-0.1	
DLMT	Dillon	89.30	40	P	P	01 20 09.8	-0.2	
REDW	Red Top Meadow	89.36	43	P	P	01 20 10.1	-0.3	
REDW				IAmb	IAmb	01 20 13.1		
	comp=Z,54nm,1.1s							
TPAW	Teton Pass	89.36	42	P	P	01 20 09.6	-0.8	
TPAW				IAmb	IAmb	01 20 12.3		
	comp=Z,24nm,0.9s							
S22A	4UR Ranch, Cre	89.37	49	P	P	01 20 12.3	+1.7	
	baz=243,SNR=18							
S22A	4UR Ranch, Cre	89.37	49	P	P	01 20 10.1	-0.6	
S22A				IAmb	IAmb	01 20 14.2		
	comp=Z,21nm,1.1s							
FXWY	Fox Creek	89.39	42	P	P	01 20 10.3	-0.2	
LC01	Cunco	89.45	132	P	P	01 20 12.4	+1.6	
K27K	Chicken	89.45	15	P	P	01 20 11.3	+1.3	
	baz=214							
SNOW	Snow King Moun	89.47	43	P	P	01 20 10.4	-0.5	
SNOW				IAmb	IAmb	01 20 13.8		
	comp=Z,43nm,0.9s							
O20A	White River Ci	89.50	46	P	P	01 20 12.6	+1.5	
	baz=242,SNR=21							
O20A	White River Ci	89.50	46	P	P	01 20 11.0	-0.1	
O20A				IAmb	IAmb	01 20 13.6		
	comp=Z,28nm,0.8s							
CMAR	Chiang Mai Arr	89.51	290	P	P	01 20 13.2	+1.8	
	comp=Z,40nm,0.9s,baz=127,slow=3.1,SNR=133							
CMAR				PP	PP	01 23 51.7	-3.1	
	comp=Z,1.2nm,0.4s,baz=144,slow=6.4,SNR=1.5							
CMAR	Chiang Mai Arr	89.51	290	P	P	01 20 10.8	-0.5	
PLCA	Paso Flores	89.53	134	P	P	01 20 13.4	+2.2	
	comp=Z,5.1nm,0.7s,baz=225,slow=4.1,SNR=13							
PLCA				PKKPbc	PKKPbc	01 37 42.4	-0.2	
	comp=Z,1.5nm,0.8s,baz=117,slow=6.8,SNR=3.5							
PLCA	Paso Flores	89.53	134	P	P	01 20 11.6	+0.4	
RDOG	Red Dog Mine	89.57	6	P	P	01 20 11.1	+0.6	
RDOG				IAmb	IAmb	01 20 12.2		
	comp=Z,28nm,0.8s							
IMW	Indian Meadow	89.57	42	IAmb	IAmb	01 20 14.3		
	comp=Z,31nm,0.9s							
CHTO	Chiang Mai	89.64	290	P	P	01 20 11.4	-0.5	
LOHW	Long Hollow	89.64	42	IAmb	IAmb	01 20 13.8		
	comp=Z,13nm,0.8s							
FLWY	Flagg Ranch	89.81	42	IAmb	IAmb	01 20 15.6		
	comp=Z,35nm,1.1s							
BW06	Boulder Array	89.89	44	P	P	01 20 13.9	+1.0	
	baz=241,SNR=36							
BW06	Boulder Array	89.89	44	IAmb	IAmb	01 20 14.9		
	comp=Z,21nm,0.8s							
PD31	Pinedale Array	89.89	44	IAmb	IAmb	01 20 14.9		
	comp=Z,19nm,0.8s							
PDAR	Pinedale Array	89.89	44	P	P	01 20 13.9	+1.0	
	comp=Z,15nm,0.7s,baz=208,slow=3.1,SNR=89							
PDAR				PP	PP	01 23 55.5	-2.2	
	comp=Z,0.8nm,0.8s,baz=243,slow=6.5,SNR=4.1							
PDAR				PKKPbc	PKKPbc	01 37 41.5	-0.6	
	comp=Z,0.5nm,0.6s,baz=90,slow=4.4,SNR=6.0							
PDAR				PKPPKP	P'P'df	01 45 49.2	+0.3	
	comp=Z,0.2nm,0.4s,baz=18,slow=3.8,SNR=2.9							
PDAR	Pinedale Array	89.89	44	P	P	01 20 12.6	-0.3	
BOZ	Bozeman (W)	90.00	40	P	P	01 20 14.8	+1.6	
	baz=240,SNR=24							
BOZ	Bozeman (W)	90.00	40	IAmb	IAmb	01 20 15.9		
	comp=Z,19nm,1.0s							
BTO	Baotou	90.03	314	eP	P	01 20 13.3	-0.1	
H17A	Grant Village	90.05	42	P	P	01 20 16.4	+2.8	
	baz=240							
H17A	Grant Village	90.05	42	IAmb	IAmb	01 20 17.3		
	comp=Z,19nm,1.1s							
EGAK	Eagle	90.30	15	P	P	01 20 14.3	+0.4	
SDCO	Great Sand Dun	90.31	49	P	P	01 20 16.2	+1.2	
	baz=244,SNR=20							
SDCO	Great Sand Dun	90.31	49	P	P	01 20 14.5	-0.5	
CD2	Chengdu	90.37	303	eP	P	01 20 15.0	-0.1	
CD2				pmax	pmax			
	comp=Z,30nm,0.7s							
HRY	Holter Researc	90.45	39	P	P	01 20 15.3	+0.1	
WALA	Waterton Lakes	90.48	37	P	P	01 20 15.2	-0.1	
WALA				IAmb	IAmb	01 20 17.4		
	comp=Z,18nm,0.9s							
COLD	Coldfoot	90.52	11	P	P	01 20 15.8	+0.9	
	baz=207							
COLD	Coldfoot	90.52	11	P	P	01 20 15.2	+0.3	
COLD				IAmb	IAmb	01 20 16.9		
	comp=Z,34nm,1.0s							
MSTX	Muleshoe	90.67	54	P	P	01 20 17.6	+1.0	
	baz=245							
MSTX	Muleshoe	90.67	54	IAmb	IAmb	01 20 18.6		
	comp=Z,18nm,0.8s							
T25A	Trinidad	90.82	50	P	P	01 20 18.4	+1.1	
	baz=244,SNR=10							
T25A	Trinidad	90.82	50	P	P	01 20 17.1	-0.2	
T25A				IAmb	IAmb	01 20 19.3		
	comp=Z,14nm,0.8s							
BI02	San Fabin de	90.89	130	P	P	01 20 17.5	-0.1	
RWWY	Rawlins	90.92	45	IAmb	IAmb	01 20 19.8		
	comp=Z,39nm,1.1s							
833A	Chaparral WMA,	91.02	60	P	P	01 20 19.5	+1.3	
	baz=247							
Q24A	Divide	91.09	48	P	P	01 20 20.0	+1.4	
	baz=244,SNR=7.2							
ISCO	Idaho Springs	91.14	48	P	P	01 20 20.1	+1.3	
	baz=244,SNR=12							
RLMT	Red Lodge	91.21	42	P	P	01 20 20.5	+1.6	
	baz=241,SNR=7.7							
N23A	Red Feather La	91.41	46	P	P	01 20 21.5	+1.5	
	baz=243,SNR=13							
N23A	Red Feather La	91.41	46	IAmb	IAmb	01 20 23.1		
	comp=Z,21nm,1.0s							
JCT	Junction City	91.55	58	P	P	01 20 21.3	+0.7	
	baz=247							
JCT	Junction City	91.55	58	IAmb	IAmb	01 20 22.3		
	comp=Z,13nm,0.8s							
BMAR	Burnt Mountain	91.76	13	P	P	01 20 21.1	+0.4	
K22A	Casper	91.81	45	P	P	01 20 22.7	+1.1	
	baz=243,SNR=9.1							
K22A	Casper	91.81	45	IAmb	IAmb	01 20 23.9		
	comp=Z,24nm,1.1s							
TOLK	Toolik Lake Re	91.89	10	P	P	01 20 21.7	+0.4	
	baz=207							
EGMT	Eagleton	92.33	39	P	P	01 20 24.9	+1.2	
	baz=241							
LZH	Lanzhou	92.42	308	⇑P	P	01 20 26.3	+1.7	
LZH				pP	pP	01 22 37.9	+1.4	
LZH				pmax	pmax			
	comp=Z,29nm,1.0s							
LZH				pmax	pmax			
	comp=Z,130nm,5.0s							
ABTX	Abilene, Hawle	92.52	56	P	P	01 20 26.0	+1.1	
	baz=247							
EPYK	Eagle Plains	92.69	16	P	P	01 20 25.3	+0.4	
	baz=219							
EPYK	Eagle Plains	92.69	16	IAmb	IAmb	01 20 26.2		
	comp=Z,23nm,0.8s							
KSCO	Kaye Shedlock'	92.89	49	P	P	01 20 27.8	+1.2	
	baz=245							
KSCO	Kaye Shedlock'	92.89	49	IAmb	IAmb	01 20 29.0		
	comp=Z,27nm,0.8s							
LAO	LASA Array	93.82	41	P	P	01 20 32.5	+1.9	
	baz=243							
LAO	LASA Array	93.82	41	IAmb	IAmb	01 20 33.4		
	comp=Z,14nm,0.9s							
WHTX	Lake Whitney,	93.98	57	P	P	01 20 32.6	+1.0	
	baz=248							
RSSD	Black Hills	94.09	44	P	P	01 20 32.8	+0.8	
	baz=245							
RSSD	Black Hills	94.09	44	P	P	01 20 31.7	-0.4	
RSSD				IAmb	IAmb	01 20 34.1		
	comp=Z,12nm,0.7s							
ULN	Ulaanbaatar	95.20	319	P	P	01 20 36.5	-0.4	
R32A	Long Quarter,	95.46	51	IAmb	IAmb	01 20 41.2		
	comp=Z,17nm,0.8s							
SONM	Songino Array	95.59	319	P	P	01 20 38.7	0.0	
	comp=Z,1.3nm,0.4s,baz=110,slow=3.8,SNR=12							
SONM				PP	PP	01 24 36.9	-4.3	
	comp=Z,1.0nm,0.8s,baz=107,slow=7.7,SNR=4.1							
SONM				PKiKP	PKiKP	01 25 14.4	+0.1	
	comp=Z,0.6nm,0.5s,baz=81,slow=0.1,SNR=2.7							
SONM	Songino Array	95.59	319	P	P	01 20 38.3	-0.3	
DGMT	Dagmar	95.84	40	P	P	01 20 41.1	+1.5	
	baz=245							
DGMT	Dagmar	95.84	40	P	P	01 20 39.8	+0.2	
DGMT				IAmb	IAmb	01 20 42.0		
	comp=Z,17nm,0.8s							
GTA	Gaotai	96.65	310	eP	P	01 20 44.4	+0.8	
GTA				pmax	pmax			
	comp=Z,9.0nm,1.4s							
YKA	Yellowknife Ar	97.31	25	P	P	01 20 46.6	+0.8	
	comp=Z,4.3nm,0.7s,baz=257,slow=4.5,SNR=7.5							
OXF	Oxford	101.18	57	P	Pdif	01 21 04.3	+0.6	
	baz=252							
LPAZ	La Paz	102.63	113	PKKPbc	PKKPbc	01 37 07.5	-0.5	
	comp=Z,1.4nm,0.6s,baz=15,slow=2.8,SNR=8.1							
SIV	San Ignacio	108.77	116	PKKPbc	PKKPbc	01 36 47.1	-1.8	
	comp=Z,2.9nm,0.7s,baz=42,slow=2.2,SNR=12							
W57A	Gilead	108.82	59	P	PKiKP	01 25 38.3	-0.2	
	baz=257							
BLA	Blacksburg	108.92	57	P	PKiKP	01 25 38.8	0.0	
	baz=258							
Q54A	Coxs Mills	108.98	55	P	PKiKP	01 25 38.7	-0.1	
	baz=258							
V57A	Coltrane Farms	109.15	58	P	PKiKP	01 25 38.9	-0.2	
	baz=258							
P54A	Burton	109.37	54	P	PKiKP	01 25 39.2	-0.3	
	baz=258							
O54A	Avella	109.56	54	P	PKiKP	01 25 39.6	-0.2	
	baz=259							
V58A	Windy Hill, Pi	109.65	58	P	PKiKP	01 25 40.0	-0.1	
	baz=258							
N54A	Moraine State	110.00	53	P	PKiKP	01 25 40.8	+0.1	
	baz=259							
ZALV	Zalesovo Beam	110.36	321	PKiKP	PKiKP	01 25 39.9	-1.0	
	comp=Z,8.7nm,0.5s,baz=158,slow=0.9,SNR=46							
NRIK	Noril'sk	110.71	338	PKiKP	PKiKP	01 25 40.1	-1.0	
	comp=Z,6.7nm,0.7s,baz=83,slow=2.8,SNR=7.8							
L54A	Sinclairville	110.73	52	P	PKiKP	01 25 41.8	-0.2	
	baz=260							
MKAR	Makanchi Array	110.94	313	Pdiff	Pdif	01 21 48.1	+1.3	
	comp=Z,0.9nm,0.5s,baz=88,slow=7.1,SNR=11							
MKAR				PKiKP	PKiKP	01 25 41.4	-0.8	
	comp=Z,3.5nm,0.4s,baz=148,slow=0.7,SNR=45							
O56A	Blue Knob Stat	110.94	54	P	PKiKP	01 25 42.5	0.0	
	baz=260							
M55A	Ridgway	111.00	52	P	PKiKP	01 25 42.4	-0.1	
	baz=260							
R58A	Rapidan	111.02	56	P	PKiKP	01 25 42.6	0.0	
	baz=259							
T60A	Surry	111.80	57	P	PKiKP	01 25 44.1	0.0	
	baz=260							
L56A	Greenwood	112.00	52	P	PKiKP	01 25 43.9	-0.5	
	baz=261							
O58A	Lewisberry	112.16	54	P	PKiKP	01 25 44.5	-0.3	
	baz=261							
ALGO	Algonquin Park	112.19	48	P	PKiKP	01 25 44.1	-0.5	
	baz=262							
M57A	Sunshine Farm,	112.19	53	P	PKiKP	01 25 44.7	-0.1	
	baz=261							
N58A	Sunbury	112.43	53	P	PKiKP	01 25 45.1	-0.1	
	baz=261							
L57A	Andrews Acres	112.50	52	P	PKiKP	01 25 45.9	+0.5	
	baz=262							
J56A	Wolcott	112.68	51	P	PKiKP	01 25 45.6	0.0	
	baz=262							
M58A	Price's Panora	112.70	53	P	PKiKP	01 25 45.7	-0.1	
	baz=262							
O59A	Robesonia	112.75	54	P	PKiKP	01 25 45.6	-0.3	
	baz=261							
Q60A	Greensboro	112.80	55	P	PKiKP	01 25 45.9	-0.1	
	baz=261							
K57A	Scipio Center	112.85	51	P	PKiKP	01 25 46.0	0.0	
	baz=262							
MATQ	Matagami	112.91	44	P	PKiKP	01 25 44.7	-1.2	
	baz=264							
N59A	State Game Lan	113.15	53	P	PKiKP	01 25 46.4	-0.3	
	baz=262							
BINY	Binghamton	113.17	52	P	PKiKP	01 25 46.7	0.0	
	baz=262							
L58A	Harry Jones Me	113.24	52	P	PKiKP	01 25 47.1	+0.3	
	baz=262							
LSQQ	Lebel-sur-Quev	113.27	44	P	PKiKP	01 25 46.0	-0.6	
	baz=264							
H56A	Elgin	113.28	49	P	PKiKP	01 25 46.5	-0.3	
	baz=263							
D54A	Lac Fusel, La	113.29	47	P	PKiKP	01 25 46.0	-0.7	
	baz=264							
J57A	Williamstown	113.32	51	P	PKiKP	01 25 46.9	+0.1	
	baz=263							
M59A	Waymart	113.49	53	P	PKiKP	01 25 47.3	+0.1	
	baz=262							
I57A	Carthage	113.62	50	P	PKiKP	01 25 47.2	-0.2	
	baz=263							
E55A	Montcerf-Lytto	113.63	47	P	PKiKP	01 25 46.7	-0.7	
	baz=264							
N60A	Cedar Hill Far	113.64	54	P	PKiKP	01 25 47.0	-0.5	
	baz=262							
J58A	Remsen	113.83	51	P	PKiKP	01 25 47.5	-0.4	
	baz=263							
L59A	Walton	113.86	52	P	PKiKP	01 25 47.7	-0.3	
	baz=263							
ORIO	Orleans, Innes	113.90	49	P	PKiKP	01 25 47.5	-0.4	
	baz=264							
K59A	Cooperstown	114.07	51	P	PKPdf	01 25 47.9	-0.5	
	baz=263							
D55A	Sainte-Anne-du	114.08	47	P	PKPdf	01 25 47.5	-0.8	
	baz=265							
I58A	Old Forge	114.09	50	P	PKPdf	01 25 47.8	-0.6	
	baz=264							
G57A	Newington	114.23	49	P	PKPdf	01 25 48.0	-0.5	
	baz=264							
E56A	St. Veronique	114.34	47	P	PKPdf	01 25 48.3	-0.4	
	baz=265							
J59A	Piesco	114.40	51	P	PKPdf	01 25 48.5	-0.5	
	baz=264							
L60A	Shokan	114.44	52	P	PKPdf	01 25 48.7	-0.4	
	baz=263							
LONY	Lake Ozonia	114.47	49	P	PKPdf	01 25 48.9	-0.1	
	baz=264							
KSH	Kashi	114.50	305	PKP	PKiKP	01 25 50.1	+0.7	
D56A	ZEC Mazanza, M	114.58	47	P	PKPdf	01 25 49.1	-0.1	
	baz=265							
M61A	Granite Spring	114.70	53	P	PKPdf	01 25 49.3	-0.3	
	baz=263							
I59A	Olmsteadville	114.89	50	P	PKPdf	01 25 49.6	-0.3	
	baz=264							
G58A	Ormstown	114.89	49	P	PKPdf	01 25 49.5	-0.3	
	baz=265							
E57A	Chemin Saint G	114.94	48	P	PKPdf	01 25 49.8	-0.1	
	baz=265							
L61A	Hillsdale 1, H	114.96	52	P	PKPdf	01 25 49.6	-0.5	
	baz=264							
CHGQ	Chibougamau	115.03	44	P	PKPdf	01 25 48.9	-1.1	
	baz=267							
D57A	Chemin Vers le	115.17	47	P	PKPdf	01 25 49.8	-0.5	
	baz=266							
J60A	Lant Hill Farm	115.17	51	P	PKPdf	01 25 49.7	-0.7	
	baz=264							
K61A	Williamstown	115.22	52	P	PKiKP	01 25 50.7	+0.1	
	baz=264							
I60A	Shoreham	115.32	50	P	PKPdf	01 25 50.4	-0.3	
	baz=265							
M62A	Hamden	115.37	53	P	PKPdf	01 25 50.3	-0.5	
	baz=264							
E58A	La Victoria	115.54	48	P	PKPdf	01 25 50.4	-0.7	
	baz=266							
L61B	Northampton	115.63	52	P	PKPdf	01 25 51.2	-0.1	
	baz=264							
J61A	Chester	115.81	51	P	PKPdf	01 25 51.6	-0.1	
	baz=265							
F59A	Saint Guilaume	115.84	48	P	PKPdf	01 25 51.6	0.0	
	baz=266							
D58A	Chemin du LacG	115.86	47	P	PKPdf	01 25 51.0	-0.7	
	baz=266							
LATQ	La Tuque	115.94	47	P	PKPdf	01 25 51.5	-0.2	
	baz=267							
I61A	Oroboro, Fairl	116.11	50	P	PKiKP	01 25 52.5	+0.2	
	baz=266							
LBNH	Lisbon	116.33	50	P	PKPdf	01 25 52.6	-0.1	
	baz=266							
J62A	Henniker	116.33	51	P	PKiKP	01 25 52.9	+0.2	
	baz=265							
H61A	Lyndonville	116.35	50	P	PKPdf	01 25 52.6	-0.1	
	baz=266							
L63A	North Scituate	116.37	53	P	PKPdf	01 25 52.6	-0.2	
	baz=265							
F60A	Warwick	116.43	48	P	PKPdf	01 25 52.5	-0.2	
	baz=267							
HRV	Adam Dziewonsk	116.46	52	P	PKPdf	01 25 52.8	-0.1

E63A	Oxbow	118.90	48	P		PKPdf	01 25 57.3	-0.2
	baz=269							
KK31	Karatay Array	118.91	308		PKPdf	PKPdf	01 25 57.4	-0.3
KKAR	Karatay Array	118.91	308		PKPdf	PKPdf	01 25 57.2	-0.4
F64A	Sherman	118.94	48	P		PKPdf	01 25 57.4	-0.2
	baz=269							
BRVK	Borovoye	118.99	320			PKPdf	01 25 56.9	-0.6
D63A	Stockholm	119.12	47	P		PKPdf	01 25 57.2	-0.6
	baz=270							
PQI	Presque Isle	119.18	47			PKPdf	01 25 57.6	-0.4
E64A	Bridgewater	119.31	48	P		PKPdf	01 25 57.7	-0.5
	baz=270							
KBL	Kabul	119.40	299		PKPdf	PKPdf	01 25 58.3	-0.9
G65A	Princeton	119.48	49	P		PKiKP	01 25 58.7	0.0
	baz=269							
G65A	Princeton	119.48	49			PKPdf	01 25 58.5	-0.1
SCHQ	Schefferville	119.57	38		PKP	PKPdf	01 25 58.1	-0.5
	comp=Z,3.2nm,0.6s,baz=241,slow=2.8,SNR=5.8							
SCHQ	Schefferville	119.57	38			PKPdf	01 25 58.4	-0.1
BDFB	Brasilia	119.58	123		PKKPbc	PKKPbc	01 36 12.8	-0.3
	comp=Z,5.3nm,0.8s,baz=45,slow=2.9,SNR=6.4							
H66A	Whiting	119.65	50	P		PKPdf	01 25 58.9	-0.1
	baz=269							
CHGR	Chuyangaron	119.68	303		PKPdf	PKPdf	01 25 58.8	-0.6
SPA0	Spitsbergen Ar	122.31	356		PKPdf	PKiKP	01 26 03.8	+0.4
SPA0	Spitsbergen Ar	122.31	356		ePKPdf	PKPdf	01 26 03.1	-0.1
ILULI	Ilulissat	122.49	20		*i* P	PKPdf	01 26 03.2	-0.5
	comp=Z,45nm,0.7s							
DAG	Danmarks Havn	123.31	5		*i* P	PKPdf	01 26 04.4	-0.7
	comp=Z,24nm,0.7s							
HSPB	Hornsund (broa	123.50	356		ePKPdf	PKPdf	01 26 05.0	-0.5
GBN	Guysborough	123.74	49		PKPdf	PKPdf	01 26 06.9	+0.1
SUMG	Summit	123.83	13		*i* P	PKPdf	01 26 06.4	-0.3
	comp=Z,84nm,1.1s							
SUMG	Summit	123.83	13		PKPdf	PKiKP	01 26 07.0	0.0
HRA	Herat	124.99	298		PKPdf	PKPdf	01 26 09.2	-0.7
ARU	Arti	125.14	325			PKiKP	01 26 09.5	0.0
BOSA	Boshof	125.45	206		PKiKP	PKiKP	01 26 11.8	+0.5
	comp=Z,3.7nm,0.6s,baz=338,slow=0.8,SNR=8.7							
BOSA					PKKPbc	PKKPbc	01 35 51.0	-0.7
	comp=Z,1.7nm,0.6s,baz=325,slow=3.9,SNR=9.1							
ABKAR	Akbulak array	125.88	316		PKPdf	PKPdf	01 26 10.5	-0.3
GEYT	Alibeck	128.35	302		PKP	PKiKP	01 26 16.5	-0.2
	comp=Z,14nm,0.6s,baz=225,slow=1.3,SNR=29							
GEYT					PP	PP	01 28 29.6	-1.4
	comp=Z,1.8nm,0.7s,baz=103,slow=4.7,SNR=4.1							
GEYT	Alibeck	128.35	302		PKPdf	PKPdf	01 26 15.7	-0.3
HAMF	Hammerfest	128.58	351		ePKPdf	PKPdf	01 26 14.9	-0.4
ARCES	ARCESS Array B	129.26	349		PKP	PKPdf	01 26 16.6	-0.1
	comp=Z,31nm,0.6s,baz=12,slow=1.3,SNR=81							
ARCES					PP	pPKPdf	01 28 41.2	+2.8
	comp=Z,14nm,0.8s,baz=42,slow=5.6,SNR=12							
ARE0	ARCESS Array S	129.26	349		ePKPdf	PKPdf	01 26 16.6	-0.1
UOSS	Minazif	129.41	286		PKPdf	PKPdf	01 26 17.9	-0.4
TRO	Tromso	130.18	352		ePKPdf	PKPdf	01 26 17.5	-0.8
KLMR	Klimovskoe	132.00	336		*e*	PKPdf	01 26 21.9	-0.2
KLMR					AMP		01 26 23.2	
	comp=Z,27nm,0.7s							
LOF	Lofoten	132.24	354		ePKPdf	PKPdf	01 26 22.4	+0.1
STEI	Steigen	132.25	353		ePKPdf	PKPdf	01 26 22.7	+0.4
FAUS	Fauske	132.76	353		ePKPdf	PKPdf	01 26 22.8	-0.5
KONS	Konsvik	133.86	353		ePKPdf	PKPdf	01 26 25.4	0.0
MOR8	Moi Rana	134.02	353		ePKPdf	PKPdf	01 26 24.7	-1.0
NSS	Namsos	135.89	353		*e*	PKPpre	01 26 18.4	
FINES	FINESS Array B	136.01	343		PKhKP	PKPpre	01 26 16.4	
	comp=Z,2.4nm,0.4s,baz=49,slow=3.7,SNR=27							
FINES					PKP	PKPdf	01 26 28.9	-0.6
	comp=Z,21nm,0.6s,baz=87,slow=2.9,SNR=19							
FINES					SKPbc	SKPbc	01 29 05.1	+0.7
	comp=Z,11nm,0.6s,baz=48,slow=2.7,SNR=13							
FINES	FINESS Array B	136.01	343			PKPdf	01 26 28.7	-0.8
OBN	Obninsk	136.80	331			PKPdf	01 26 31.2	+0.1
TSUM	Tsumeb	136.91	203		PKPdf	PKPdf	01 26 32.5	-0.3
MOL	Molde	138.22	356		ePKPdf	PKPpre	01 26 25.4	
KMBO	Kilima Mbogo	138.38	243		PKhKP	PKPpre	01 26 30.7	
	comp=Z,2.2nm,0.4s,baz=74,slow=3.8,SNR=7.2							
KMBO					SKPbc	SKPbc	01 29 14.4	+1.3
	comp=Z,6.4nm,0.9s,baz=68,slow=0.8,SNR=7.1							
DOMB	Dombas	138.62	354		ePKPdf	PKPpre	01 26 26.7	
KBZ	Khabaz	138.64	313		PKhKP	PKPpre	01 26 24.9	
	comp=Z,1.1nm,0.6s,baz=95,slow=3.8,SNR=2.5							
KBZ					PKP	PKiKP	01 26 36.2	-1.0
	comp=Z,4.3nm,0.7s,baz=190,slow=3.2,SNR=9.7							
KBZ					PP	PP	01 29 35.9	+1.2
	comp=Z,3.8nm,0.9s,baz=91,slow=3.6,SNR=4.4							
AKN	Aaknes	138.65	356		ePKPdf	PKPdf	01 26 26.1	-8.3
KIV	Kislovodsk	138.70	313			PKPdf	01 26 35.0	-0.2
FOO	Floro	139.34	357		ePKPdf	PKPdf	01 26 35.5	-0.1
NB2	NORSAR Subarra	139.37	352		PKP	PKPpre	01 26 27.8	
	comp=Z,2.5nm,0.5s,baz=16,slow=3.2							
NB2	NORSAR Subarra	139.37	352		PKPab	PKPpre	01 26 27.8	
	comp=Z,2.5nm,0.5s,baz=16,slow=3.2							
NOA	NORSAR Array B	139.37	352		PKhKP	PKPpre	01 26 27.8	
	comp=Z,7.5nm,0.6s,baz=16,slow=4.6,SNR=59							
NOA					PKP	PKPdf	01 26 35.6	-0.2
	comp=Z,8.7nm,0.6s,baz=14,slow=3.9,SNR=15							
NOA					SKPbc	SKPbc	01 29 14.6	+0.6
	comp=Z,7.8nm,0.8s,baz=14,slow=4.4,SNR=11							
NOA					SKKPbc	SKKPbc	01 37 51.4	-2.9
	comp=Z,2.0nm,1.0s,baz=193,slow=4.4,SNR=6.4							
NC602	NORSAR Array S	139.63	352		ePKPdf	PKPpre	01 26 28.4	
SUE	Sulen	139.90	357		ePKPdf	PKPdf	01 26 29.3	-7.3
SKAR	Skarslia	140.03	354		ePKPdf	PKPdf	01 26 30.9	-6.1
BCA	Borcka	140.27	310		⇑P	PKPdf	01 26 32.5	-5.5
ASK	Askoy	140.45	357		ePKPdf	PKPdf	01 26 31.9	-5.7
OSL	Oslo	140.50	352		ePKPdf	PKPdf	01 26 31.5	-6.2
BER	Bergen	140.54	357		ePKPdf	PKPdf	01 26 31.6	-6.2
IZAR	Zarasai	140.55	338		*e*P	PKPdf	01 26 31.6	-6.4
IDID	Didziasalis	140.71	337		*e*P	PKPdf	01 26 32.2	-6.1
ISAL	Salakas	140.73	338		*e*P	PKPdf	01 26 32.4	-5.9
IIGN	Ignalina	140.87	337		*e*P	PKPdf	01 26 32.6	-6.0
KONO	Kongsberg	140.92	353		ePKPdf	PKPdf	01 26 33.1	-5.4
ODD1	Odda	140.93	356		*e*	PKPdf	01 26 37.5	-1.2
NACGM	Naroch	141.01	337		*e*	PKPdf	01 26 33.0	-5.8
BLS5	Blasjo	141.43	356		ePKPdf	PKPdf	01 26 35.3	-4.2
KMY	Karmoy	141.71	357		ePKPdf	PKPdf	01 26 35.5	-4.4
KTUT	Trabzon	141.74	310		⇑P	PKPdf	01 26 37.2	-3.4
FURI	Furi	141.87	257		PKPdf	PKPdf	01 26 41.1	-1.0
HOMB	Hombersund	142.39	354		ePKPdf	PKPdf	01 26 37.7	-3.5
SNART	Snartemo	142.44	355		ePKPdf	PKPdf	01 26 38.8	-2.5
SUW	Suwalki	143.01	338		*e*P	PKPbc	01 26 40.6	-0.2
AKASG	Malin Array Be	143.04	330		PKP	PKPab	01 26 40.4	-0.1
	comp=Z,153nm,0.4s,baz=42,slow=4.2,SNR=824							
AKASG					SKPbc	SKiKP	01 29 24.4	-0.1
	comp=Z,5.7nm,0.8s,baz=43,slow=2.6,SNR=9.0							
AKASG					SKKPbc	SKKPab	01 37 36.0	-2.3
	comp=Z,0.9nm,0.5s,baz=238,slow=3.5,SNR=4.3							
AKASG	Malin Array Be	143.04	330		PKPdf	PKPab	01 26 40.1	-0.4
MBAR	Mbarara	143.95	237			PKPbc	01 26 44.0	-1.1
MUD	Monsted U'grnd	144.09	352	⇓	*i* P	PKPdf	01 26 44.1	-0.1
	comp=Z,292nm,1.2s							
TOKA	Tokat	144.32	311			PKPbc	01 26 45.3	0.0
COP	Copenhagen	144.34	349		*i* P	PKPbc	01 26 44.7	0.0
	comp=Z,65nm,0.6s							
DIKM	Dikmen	144.63	313	⇓	P	PKPbc	01 26 46.4	+0.3
GKP	Gorka Klasztor	145.49	343		*e*P	PKPbc	01 26 49.0	+0.7
ESK	Eskdalemuir	145.58	4		PKPdf	PKPdf	01 26 47.5	+0.7
BEL	Belsk	145.62	338		*e*P	PKPbc	01 26 49.5	+0.8
SKMB	Sankelmark Bun	145.75	351		ePKPbc	PKPab	01 26 50.1	-0.8
	baz=17,slow=2.4							
BSEG	Bad Segeberg	146.38	350		ePKPbc	PKPbc	01 26 51.3	+0.6
	baz=17,slow=2.4							
VASR	Vaslui	146.46	326	⇓	P	PKPbc	01 26 52.1	+0.9
HLG	Helgoland	146.47	353		ePKPbc	PKPbc	01 26 51.8	+0.8
	baz=17,slow=2.4							
BRTR	Keskin Array B	146.56	311		PKP	PKPdf	01 26 48.8	-0.3
	comp=Z,36nm,0.7s,baz=140,slow=2.3,SNR=218							
BRTR					PKPbc	PKPbc	01 26 51.9	0.0
	comp=Z,39nm,0.7s,baz=138,slow=3.3,SNR=150							
BRTR					PP	PP	01 30 19.2	-2.8
	comp=Z,2.0nm,0.9s,baz=71,slow=5.2,SNR=2.7							
BRTR					SKKPbc	SKKPbc	01 37 23.4	-0.9
	comp=Z,1.0nm,0.8s,baz=216,slow=4.2,SNR=5.5							
BRTR	Keskin Array B	146.56	311		PKPdf	PKPdf	01 26 48.7	-0.5
BIR	Birlad	146.79	326		⇑P	PKiKP	01 26 53.4	-0.6
TLCR		146.82	323	⇓	P	PKPbc	01 26 52.7	+0.5
RCY	Rachaya	146.88	299		*e*P	PKPbc	01 26 53.2	+0.3
VARL	Varlezi	146.91	325		⇑P	PKiKP	01 26 53.5	-0.7
BHL	Bhannes	146.93	300		*e*P	PKPbc	01 26 53.1	+0.1
QRWL	Qaraoun	146.99	300		*e*P	PKPbc	01 26 53.5	+0.4
GHRR		147.04	325	⇓	P	PKiKP	01 26 54.1	-0.4
JURR	Jurilovca	147.04	322	⇑	P	PKiKP	01 26 54.7	+0.2
DQRL	Deir Qamar	147.04	300		*e*P	PKPbc	01 26 53.5	+0.2
BURAR	Bucovina Array	147.08	329		PKPdf	PKPdf	01 26 49.8	+0.1
RUE	Ruedersdorf	147.08	346		*e*PKPbc	PKPbc	01 26 53.2	+0.6
	baz=17,slow=2.4							
TESR	Tescani	147.14	327	⇓	P	PKPbc	01 26 53.4	+0.4
SCHL	Schela	147.17	324	⇑	P	PKiKP	01 26 54.1	-0.6
CFR	Carcaliu	147.21	324	⇑	P	PKPbc	01 26 53.8	+0.7
TOPG	Topolog	147.26	323	⇓	P	PKiKP	01 26 54.2	-0.8
OJC	Ojcow	147.32	338		*e*P	PKPbc	01 26 53.9	+0.6
ODBI	Odobesti	147.42	325	⇑	P	PKiKP	01 26 55.9	+0.7
TIRR	Tirgusor	147.49	322	⇑	P	PKPbc	01 26 54.6	+0.7
VRI	Vrincioaia	147.53	326	⇑	P	PKPbc	01 26 54.5	+0.5
PLOR	Plostina	147.58	326	⇑	P	PKPbc	01 26 54.5	+0.3
HARR	Harsova	147.62	323	⇑	P	PKiKP	01 26 55.1	-0.6
TLBR	Topalu	147.65	323	⇑	P	PKPbc	01 26 54.9	+0.6
MFTR	Murfatlar	147.65	322	⇓	P	PKiKP	01 26 55.5	-0.2
BISRR	Bisoca	147.74	325	⇑	P	PKiKP	01 26 55.6	-0.4
MANR	Mangalia	147.77	321	⇓	P	PKiKP	01 26 55.8	-0.2
CVDA	Cernavoda	147.78	322	⇑	P	PKiKP	01 26 55.7	-0.4
NRDL	Niedersach Rie	147.80	350		ePKPdf	PKPdf	01 26 50.8	+0.3
	baz=18,slow=1.5							
NRDL					*e*PKPbc	PKPbc	01 26 54.9	+0.5
	baz=17,slow=2.4							
OZUR		147.86	327	⇓	P	PKiKP	01 26 55.7	-0.5
KSP	Ksiaz	147.91	342		*e*P	PKiKP	01 26 56.0	-0.1
ASSE	Asse, Remlinge	148.05	349		ePKPbc	PKPbc	01 26 55.6	+0.6
	baz=17,slow=2.4							
PSN	Preselentsi	148.09	321		*i* P	PKiKP	01 26 56.3	-0.4
DOPR	Dopca	148.15	327	⇓	P	PKiKP	01 26 56.7	-0.1
MLR	Muntele Rosu	148.18	326	⇑	P	PKPbc	01 26 56.3	+0.5
OSTC	Ostas	148.19	342		ePKPDF	PKPdf	01 26 52.0	+0.7
OSTC				⇑	*e*PKP	PKiKP	01 26 56.4	-0.3
OKC	Ostrava-Krasne	148.21	339	⇑	ePKP	PKPbc	01 26 56.0	+0.4
OKC					ePKPAB	PKPab	01 27 02.1	+1.1
CHVC	Chvalec	148.21	342		ePKPDF	PKPdf	01 26 51.7	+0.3
CHVC				⇑	*e*PKP	PKiKP	01 26 56.7	-0.1
CHVC					ePKPAB	PKPab	01 27 01.9	+0.8
UPC	Upice	148.30	342	⇑	ePKP	PKiKP	01 26 56.4	-0.5
UPC					ePKPAB	PKPab	01 27 02.6	+1.2
LANS	Liptovska Anna	148.32	337		ePKP	PKPdf	01 26 53.0	+1.4
LANS					*e*		01 26 57.4	
LANS					*e*		01 27 03.4	
IBBN	Ibbenburen	148.33	352		*e*PKPdf	PKPdf	01 26 51.8	+0.3
	baz=18,slow=1.5							
IBBN					*e*PKPbc	PKPbc	01 26 56.3	+0.5
	baz=17,slow=2.4							
IBBN					*e*PKPab	PKPab	01 27 01.8	+0.4
	baz=16,slow=4.2							
DPC	Dobruska-Polom	148.34	341		*e*PKPDF	PKPdf	01 26 52.2	+0.6
DPC				⇑	*e*PKP	PKiKP	01 26 56.7	-0.4
DPC					*e*PKPAB	PKPab	01 27 02.8	+1.2
CLL	Collm	148.35	346		*e*PKPdf	PKPdf	01 26 52.0	+0.5
	comp=Z,14nm,1.2s							
CLL				⇓	*i* PKPbc	PKPbc	01 26 56.3	+0.5
	comp=Z,127nm,0.9s							
CLL					*e*PKiKP	PKiKP	01 26 59.0	+2.0
CLL					*i* PKPab	PKPab	01 27 01.8	+0.3
	comp=Z,49nm,0.7s							
CLL					*e*pPKPbc	pPKPab	01 29 19.0	+2.3
CLL					*i* PKSdf	PKSdf	01 30 28.3	+2.0
	comp=Z,18nm,1.6s							
CLL	Collm	148.35	346		*e*PKPbc	PKPbc	01 26 56.4	+0.5
	baz=17,slow=2.4							
CLL					*e*pPKPbc	pPKPab	01 29 18.7	+2.0
RASA	Rasa	148.35	323	⇓	P	PKiKP	01 26 56.8	-0.4
LEHL	Lehliu	148.38	324	⇓	P	PKiKP	01 26 56.9	-0.3
CLZ	Clausthal	148.38	349		ePKPdf	PKPdf	01 26 52.0	+0.4
	baz=18,slow=1.5							
CLZ					*e*PKPbc	PKiKP	01 26 56.8	-0.3
	baz=17,slow=2.4							
CLZ					*e*PKPab	PKPab	01 27 02.1	+0.3
	baz=16,slow=4.2							
SECR		148.42	325	⇑	P	PKiKP	01 26 57.1	-0.3
KRLC	Kraliky	148.45	341		ePKPDF	PKPdf	01 26 51.8	0.0
KRLC				⇑	*e*PKP	PKiKP	01 26 56.8	-0.5
KRLC					ePKPAB	PKPab	01 27 02.5	+0.4
MORC	Moravsky Berou	148.46	339	⇓	P	PKiKP	01 26 57.3	-0.1
MORC	Moravsky Berou	148.46	339		ePKP	PKPdf	01 26 52.1	+0.3
MORC					*e*		01 26 56.8	
MORC					*e*		01 27 02.9	
ORH	Orhaniye	148.47	315		*i* P	PKPab	01 27 01.8	-0.6
CJR	Cluj-Napoca	148.50	330	⇑	P	PKiKP	01 26 57.1	-0.4
BRG	Berggiesshubel	148.53	344		*i* PKP	PKPdf	01 26 52.2	+0.4
	comp=Z,21nm,1.5s							
BRG	Berggiesshubel	148.53	344		*i* PKP	PKPbc	01 26 56.7	+0.4
	comp=Z,70nm,0.7s							
BRG	Berggiesshubel	148.53	344		*i* PKP	PKPab	01 27 02.7	+0.4
	comp=Z,81nm,1.3s							
BRG					*e*pPKP	pPKPab	01 29 18.8	+1.4
	comp=Z,8.3nm,1.0s							
BRG	Berggiesshubel	148.53	344		ePKPdf	PKPdf	01 26 52.4	+0.5
	baz=18,slow=1.5							
BRG					*e*PKPbc	PKiKP	01 26 57.0	-0.4
	baz=17,slow=2.4							
BRG					*e*PKPab	PKPab	01 27 02.7	+0.4
	baz=16,slow=4.2							
BRG					*e*pPKPbc	pPKPab	01 29 19.5	+2.2
MDB	Medias	148.53	328	⇑	P	PKiKP	01 26 57.8	+0.2
FBE	Freiberg	148.63	345		ePKPbc	PKiKP	01 26 57.5	-0.1
	baz=17,slow=2.4							
FBE					*e*PKPab	PKPab	01 27 03.3	+0.6
	baz=16,slow=4.2							
PVCC	Panska Ves	148.68	343		ePKPDF	PKPdf	01 26 52.7	+0.6
PVCC				⇑	*e*PKP	PKiKP	01 26 57.4	-0.3
VOIR		148.69	327	⇑	P	PKiKP	01 26 57.5	-0.5
NEUB	Neuenburg	148.72	347		ePKPdf	PKPdf	01 26 52.5	+0.4
	baz=18,slow=1.5							
NEUB					*e*PKPbc	PKiKP	01 26 57.3	-0.4
	baz=17,slow=2.4							
NEUB					*e*PKPab	PKPab	01 27 03.3	+0.3
	baz=16,slow=4.2							
GTTG	Gottingen	148.74	349		ePKPbc	PKiKP	01 26 57.5	-0.2
	baz=17,slow=2.4							
GTTG					*e*PKPab	PKPab	01 27 03.7	+0.6
	baz=16,slow=4.2							
PRD	Provadia	148.83	321		*i* P	PKiKP	01 26 58.1	-0.1
NEF	NEVSHA	148.87	321		*i* P	PKiKP	01 26 58.4	+0.1
ARR	Arges	148.95	327	⇑	P	PKiKP	01 26 59.4	+0.9
RAZG	Razgrad	149.12	323	⇓	P	PKPbc	01 26 58.4	+0.3
PRA	Prague	149.13	343	⇑	ePKP	PKiKP	01 26 58.3	-0.3
PRA					ePKPAB	PKPab	01 27 02.1	-2.7
PSZ	Piszkesteto	149.17	335	⇑	P	PKiKP	01 26 58.8	-0.1
GOPC	GO Pecny, Ondr	149.18	343		ePKPDF	PKPdf	01 26 54.4	+1.5
GOPC				⇑	ePKP	PKiKP	01 26 58.6	-0.2
GOPC					ePKPAB	PKPab	01 27 06.0	+0.9
VRAC	Vranov	149.18	340	⇑	P	PKiKP	01 26 59.1	+0.3
VRAC	Vranov	149.18	340		ePKP	PKPdf	01 26 52.6	-0.3
VRAC					*e*		01 26 58.3	
VRAC					*e*		01 27 05.9	
PRU	Pruhonice	149.18	343		ePKPDF	PKPdf	01 26 53.2	+0.3
PRU				⇑	ePKP	PKPbc	01 26 58.3	+0.4
PRU					ePKPAB	PKPab	01 27 05.9	+0.9
JAVC	Velka Javorina	149.21	338		ePKP	PKPdf	01 26 54.1	+1.0
JAVC					*e*		01 26 59.1	
BUG	Bochum--Univer	149.24	352		ePKPdf	PKPdf	01 26 52.9	0.0
	baz=18,slow=1.5							
BUG					*e*PKPbc	PKPbc	01 26 58.3	+0.3
	baz=17,slow=2.4							
BUG					*e*PKPab	PKPab	01 27 05.2	0.0
	baz=16,slow=4.2							
MOX	Moxa	149.28	347		ePKPdf	PKPdf	01 26 53.0	-0.1
	baz=18,slow=1.5							
MOX					*e*PKPbc	PKiKP	01 26 58.7	-0.3
	baz=17,slow=2.4							
MOX					*e*PKPab	PKPab	01 27 05.5	+0.1
	baz=16,slow=4.2							
TANN	Tannenbergstha	149.31	346		ePKPdf	PKPdf	01 26 53.4	+0.2
	baz=18,slow=1.5							
TANN					*e*PKPbc	PKiKP	01 26 58.8	-0.3
	baz=17,slow=2.4							
TANN					*e*PKPab	PKPab	01 27 06.1	+0.4
	baz=16,slow=4.2							
PLN	Plauen	149.31	346		ePKPdf	PKPdf	01 26 53.2	0.0
	baz=18,slow=1.5							
PLN					*e*PKPbc	PKiKP	01 26 58.8	-0.2
	baz=17,slow=2.4							
PLN					*e*PKPab	PKPab	01 27 06.0	+0.4
	baz=16,slow=4.2							
WERD	Werda	149.31	346		ePKPbc	PKiKP	01 26 59.0	-0.1
	baz=17,slow=2.4							
WERD					*e*PKPab	PKPab	01 27 06.1	+0.5
	baz=16,slow=4.2							
LOT	Lotru	149.32	328	⇑	P	PKPbc	01 26 58.6	0.0
HUMR	Humele	149.34	325	⇑	P	PKPbc	01 26 58.5	0.0
GUNZ	Gunzen	149.39	346		ePKPbc	PKiKP	01 26 59.3	+0.1
	baz=17,slow=2.4							
GUNZ					*e*PKPab	PKPab	01 27 06.6	+0.7
	baz=16,slow=4.2							
UBBA	Unterbreizbach	149.43	349		ePKPbc	PKPbc	01 26 58.8	-0.3
	baz=17,slow=2.4							
DEV	Deva	149.43	329	⇓	P	PKiKP	01 26 59.1	-0.3
WERN	Wernitzgruen	149.45	346		ePKPdf	PKPdf	01 26 53.6	+0.2
	baz=18,slow=1.5							
WERN					*e*PKPbc	PKiKP	01 26 59.4	0.0
	baz=17,slow=2.4							
WERN					*e*PKPab	PKPab	01 27 07.0	+0.8
	baz=16,slow=4.2							
KRUC	Moravsky	149.46	340		ePKP	PKPdf	01 26 53.4	0.0
KRUC					*e*		01 26 59.1	
KRUC					*e*		01 27 07.1	
NKC	Novy Kostel	149.48	346		ePKPDF	PKPdf	01 26 53.6	+0.2
NKC				⇑	*e*PKP	PKiKP	01 26 59.2	-0.2
NKC					*e*PKPAB	PKPab	01 27 06.7	+0.4
TREC	Trest	149.53	341		ePKPDF	PKPdf	01 26 53.8	+0.3
TREC				⇑	*e*PKP	PKiKP	01 26 59.2	-0.3
SZH	Strazhica	149.64	323		*i* P	PKPbc	01 26 59.3	0.0
ZIMR		149.70	324	⇓	P	PKiKP	01 27 00.0	0.0
SIRR	Siria	149.72	331	⇓	P	PKiKP	01 27 00.2	+0.1
JMB	Yambol	149.75	321		*i* P	PKPbc	01 26 59.8	+0.2
MODS	Modra-Piesok	149.76	338		ePKP	PKPdf	01 26 53.6	-0.3
MODS					*e*		01 26 59.4	
MODS					*e*		01 27 08.0	
MANZ	Manzenberg	149.79	346		ePKPdf	PKPdf	01 26 54.0	+0.1
	baz=18,slow=1.5							
MANZ					*e*PKPbc	PKiKP	01 27 00.2	+0.1
	baz=17,slow=2.4							
ROTZ	Rotzenmuhle	149.97	346		ePKPdf	PKPdf	01 26 54.5	+0.3
	baz=18,slow=1.5							
ROTZ					*e*PKPbc	PKiKP	01 27 00.4	0.0
	baz=17,slow=2.4							
BEBN	Eben Emael	150.05	354		PKPbc	PKiKP	01 27 00.3	-0.2
BEBN					PKPab	PKPab	01 27 08.8	+0.2
AHRW	Bad Neuenahr-A	150.15	352		ePKPdf	PKPdf	01 26 55.1	+0.8
	baz=18,slow=1.5							
AHRW					*e*PKPbc	PKiKP	01 27 00.7	0.0
	baz=17,slow=2.4							
AHRW					*e*PKPab	PKPab	01 27 09.2	+0.2
	baz=16,slow=4.2							
UCC	Uccle	150.15	356		PKPdf	PKPdf	01 26 54.9	+0.5
UCC					PKPbc	PKiKP	01 27 00.6	-0.1
SRE	Strehaia	150.16

baz=17,slow=2.4
WTTA Wattenberg 152.44 344 *i* PKPdf **PKPdf 01 26 58.1 -0.1**
comp=Z,11nm,1.0s,SNR=6.8
WTTA *i* PKiKP **PKPbc 01 27 05.8 0.0**
comp=Z,48nm,0.4s
WTTA *i* PKPab **PKPab 01 27 19.5 +0.4**
comp=Z,36nm,0.6s
RETA Reutte 152.45 346 *i* PKPdf **PKPdf 01 26 57.7 -0.3**
comp=Z,3.9nm,1.0s
RETA *i* PKiKP **PKiKP 01 27 05.7 0.0**
comp=Z,11nm,0.5s,SNR=11
RETA *i* PKPab **PKPab 01 27 19.1 +0.1**
comp=Z,28nm,0.6s
MYKA Terra Mystica 152.47 341 *i* PKPbc **PKPbc 01 27 05.1 -0.6**
comp=Z,33nm,0.5s,SNR=15
MYKA *i* PKPab **PKPab 01 27 18.9 -0.2**
comp=Z,20nm,0.6s
MOTA Moosalm 152.50 345 *i* PKPdf **PKPdf 01 26 57.8 -0.5**
comp=Z,14nm,1.1s,SNR=7.0
MOTA *i* PKiKP **PKPbc 01 27 05.8 0.0**
comp=Z,46nm,1.0s
MOTA *i* PKPab **PKPab 01 27 19.6 +0.3**
comp=Z,58nm,1.0s
BBLS Lazići 152.59 330 ⇓*i* P **PKiKP 01 27 06.3 +0.2**
SQTA Sankt Quirin 152.59 345 *i* PKPdf **PKPdf 01 26 58.1 -0.2**
comp=Z,13nm,1.1s,SNR=6.5
SQTA *i* PKiKP **PKiKP 01 27 06.0 0.0**
comp=Z,38nm,0.7s
ABTA Abfaltersbach 152.69 343 *i* PKPdf **PKPdf 01 26 57.9 -0.6**
comp=Z,11nm,0.8s,SNR=12
ABTA *i* PKPbc **PKPbc 01 27 05.6 -0.6**
comp=Z,62nm,0.6s
ABTA *i* PKPab **PKPab 01 27 19.6 -0.4**
comp=Z,30nm,0.7s
RUDO Rudo 152.79 330 *e*P **PKPbc 01 27 05.8 -0.6**
VAY Valandovo 152.80 323 *i* P **PKPbc 01 27 06.0 -0.5**
DAVA Damuels 152.83 347 *i* PKPdf **PKPdf 01 26 58.5 -0.2**
comp=Z,5.3nm,0.8s
DAVA *i* PKiKP **PKiKP 01 27 06.7 +0.1**
comp=Z,39nm,1.0s,SNR=11
DAVA *i* PKPab **PKPab 01 27 20.8 +0.1**
comp=Z,42nm,0.8s
FETA Feichten 152.89 345 *i* PKPdf **PKPdf 01 26 58.8 0.0**
comp=Z,20nm,1.0s,SNR=12
FETA *i* PKiKP **PKiKP 01 27 07.0 +0.2**
comp=Z,26nm,0.7s
FETA *i* PKPab **PKPab 01 27 21.4 +0.4**
comp=Z,37nm,1.2s
SKO Skopje 152.97 325 *i* P **PKiKP 01 27 07.2 +0.3**
PDG Podgorica 153.75 329 ⇑P **PKiKP 01 27 08.6 +0.2**
PDG Podgorica 153.75 329 ⇓*i*P **PKPbc 01 27 08.1 -0.3**
SANT Santorini 153.82 311 ⇑P **PKPbc 01 27 07.9 -0.9**
OHR Ohrid 153.92 325 *i* P **PKPbc 01 27 08.8 -0.1**
DRME Dracevica, Mon 153.97 328 *e*P **PKPbc 01 27 08.6 -0.3**
IDI Anoyia 154.75 309 ⇑P **PKPdf 01 27 01.9 +0.3**
PBRG Braganca 158.22 16 *e*PKPab **PKPab 01 27 45.1 +1.1**
PVRL Vila Real 158.44 18 *e*PKPab **PKPab 01 27 46.5 +1.5**
MVO Moncorvo 158.74 17 *e*PKPdf **PKPdf 01 27 08.0 +1.5**
MVO Moncorvo 158.74 17 *e*PKPab **PKPab 01 27 47.1 +0.8**
PVIS Viseu 158.90 19 *e*PKPab **PKPab 01 27 47.8 +0.8**
COI Coimbra 159.20 21 *e*PKPdf **PKPdf 01 27 05.1 -1.8**
COI Coimbra 159.20 21 *e*PKPab **PKPab 01 27 47.1 -1.1**
PCAS Casmilo, Conde 159.31 21 *e*PKPab **PKPab 01 27 49.1 +0.4**
PSBE So Bento 159.68 23 *e*PKPab **PKPab 01 27 51.2 +0.8**
PCBR Castelo Branco 159.83 19 *e*PKPdf **PKPdf 01 27 09.1 +1.4**
PCBR Castelo Branco 159.83 19 *e*PKPab **PKPab 01 27 51.5 +0.5**
PMAFR Mafra 159.99 24 *e*PKPab **PKPab 01 27 52.6 +0.8**
PMRV Marv??o 160.24 20 *e*PKPdf **PKPdf 01 27 09.1 +0.9**
PMRV Marv??o 160.24 20 *e*PKPab **PKPab 01 27 53.2 +0.4**
PMTG Montargil 160.28 22 *e*PKPab **PKPab 01 27 52.8 -0.2**
PMPST Porto Santo, M 160.38 49 *e*PKPab **PKPab 01 27 52.8 -1.0**
ESDC Sonseca Array 160.88 12 PKP **PKPdf 01 27 09.2 +0.4**
comp=Z,2.3nm,1.0s,baz=334,slow=2.6,SNR=9.5
ESDC PKPab **PKPab 01 27 55.8 +0.1**
comp=Z,16nm,1.0s,baz=344,slow=4.4,SNR=35
ESDC PP PP 01 31 31.5 -8.5
comp=Z,0.7nm,0.9s,baz=340,slow=4.8,SNR=3.3
ESDC Sonseca Array 160.88 12 PKPdf 01 27 08.7 -0.2
ESDC **PKPab 01 27 55.2 -0.5**
PAB San Pablo 160.93 13 PKPdf **PKPdf 01 27 08.6 -0.4**
PAB **PKPab 01 27 55.4 -0.5**
PNCL Nicolau / Gran 161.02 24 *e*PKPdf **PKPdf 01 27 10.3 +1.3**
PNCL Nicolau / Gran 161.02 24 *e*PKPab **PKPab 01 27 56.9 +0.6**
PBEJ Beja 161.34 23 *e*PKPdf **PKPdf 01 27 11.2 +1.9**
PBEJ Beja 161.34 23 *e*PKPab **PKPab 01 27 58.4 +0.7**
PCVE Castro Verde 161.62 24 *e*PKPab **PKPab 01 27 59.8 +0.9**
PVAQ Vaqueiros 161.94 23 *e*PKPab **PKPab 01 28 01.4 +1.0**
KEST Kesra 163.65 336 PKP **PKPdf 01 27 11.8 0.0**
comp=Z,4.8nm,1.0s,baz=321,slow=2.4,SNR=3.9
KEST PKPab **PKPab 01 28 08.4 +0.4**
comp=Z,30nm,0.8s,baz=336,slow=1.0,SNR=28
LIC Lamto 164.15 157 *e*P **PKPab 01 28 11.8 +1.2**
comp=Z,32nm,1.0s
LIC Lamto 164.15 157 *e*P **PKPdf 01 27 11.6 -1.1**
comp=Z,71nm,1.2s
KIC Kosan Boka 164.38 158 *e*P **PKPab 01 28 12.7 +1.1**
comp=Z,18nm,0.8s
KIC Kosan Boka 164.38 158 *e*P **PKPdf 01 27 12.1 -0.8**
comp=Z,42nm,0.9s
TIC Toumodi 164.54 157 *e*P **PKPab 01 28 10.0 -2.3**
TIC Toumodi 164.54 157 *e*P **PKPdf 01 27 09.0 -4.1**
DBIC Dimbokro 164.62 157 PKP **PKPdf 01 27 12.8 -0.3**
comp=Z,9.2nm,0.7s,baz=200,slow=0.8,SNR=16
DBIC PKPab **PKPab 01 28 14.2 +1.5**
comp=Z,3.7nm,0.7s,baz=183,slow=4.8,SNR=4.2
DBIC Dimbokro 164.62 157 PKPdf 01 27 12.5 -0.6
TOA0 Torodi Ar. Sit 172.17 184 PKPdf 01 27 16.9 -1.0
TORD Torodi Ar. Bea 172.17 184 PKP **PKPdf 01 27 17.3 -0.7**
comp=Z,8.1nm,0.8s,baz=334,slow=1.2,SNR=25
TORD Torodi Ar. Bea 172.17 184 PKPdf 01 27 17.1 -0.9

IDC 16 01:25:08.8±2.6, 6°.71S×130°.05E, h160km±32km, mb3.5/1, mb1 3.3/5, mb1mx3.0/38, mbtmp3.8/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=58.9km s-min=17.5km az=83.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.92**	**12**	P	Pn	01 26 34.8	+0.1
	1.8nm,0.3s,baz=217,slow=20,SNR=1.4						
SIJI				S	Sn	01 27 36.8	-5.2
	4.3nm,0.3s,baz=102,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**12.11**	**200**	P	Pn	01 27 56.2	-0.1
	0.2nm,0.3s,baz=357,slow=9.8,SNR=7.8						
FITZ				S	Sn	01 30 02.9	-7.6
	0.6nm,0.3s,baz=181,slow=21,SNR=7.3						
WRA	**Warramunga Arr**	**13.80**	**163**	P	Pn	01 28 17.8	-0.2
	0.2nm,0.3s,baz=347,slow=13,SNR=3.1						
WRA				S	Sn	01 30 44.4	-6.7
	0.7nm,0.3s,baz=345,slow=19,SNR=12						
ASAR	**Alice Springs**	**17.27**	**168**	P	P	01 28 59.6	+0.1
	0.4nm,0.3s,baz=344,slow=9.3,SNR=20						
ASAR				S	S	01 32 12.1	+0.7
	0.2nm,0.3s,baz=0.2,slow=28,SNR=5.3						
LEM	**Lembang**	**22.27**	**268**	LR	LR	01 39 19.9	
	comp=Z,41nm,19.5s,baz=156,slow=38						
MKAR	**Makanchi Array**	**68.01**	**327**	P	P	01 35 50.9	0.0
	0.7nm,0.5s,baz=119,slow=8.4,SNR=7.2						

IDC 16 01:53:14.5±3.8, 30°.60S×177°.73W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/34, mbtmp3.5/2, Error ellipse: s-maj=86.8km s-min=35.3km az=120.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.35**	**353**	Pn	Pn	01 53 40.6	0.0
	34nm,0.3s,baz=283,slow=14,SNR=1.2						
RAO				Sn	Sg	01 53 54.3	-3.7
	221nm,0.3s,baz=336,slow=20,SNR=6.9						
ASAR	**Alice Springs**	**43.33**	**267**	P	P	02 01 17.4	-1.2
	0.2nm,0.5s,baz=99,slow=7.8,SNR=2.5						
WRA	**Warramunga Arr**	**44.34**	**272**	P	P	02 01 27.2	+0.6
	0.5nm,0.5s,baz=111,slow=8.1,SNR=8.5						
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc	PKPbc	02 12 52.8	-0.9
	1.1nm,0.7s,baz=116,slow=3.2,SNR=6.1						

*IDC **16** 02:05:01.1±3.8, 13°.19S×167°.24E, h202km±32km, mb3.5/8, mb1 3.7/8, mb1mx3.3/45, mbtmp4.0/8, Error ellipse: s-maj=26.1km s-min=21.5km az=117.0*

ISC 16 02:05:00.6±1.0, 13°.1S±0°.2×167°.3E±0°.2, h200km, n11, σ0°56/12, mb3.8/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.27**	**248**	P	P	02 09 32.2	+0.5
	1.9nm,0.7s,baz=41,slow=11,SNR=1.8						
STKA	**Stephens Creek**	**30.04**	**227**	P	P	02 10 51.4	+0.4
	1.9nm,0.6s,baz=22,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**32.24**	**253**	P	P	02 11 09.8	-0.6
	0.6nm,0.5s,baz=86,slow=9.1,SNR=9.3						
ASAR	**Alice Springs**	**33.26**	**247**	P	P	02 11 18.8	-0.6
	1.4nm,0.5s,baz=76,slow=8.9,SNR=24						
ASAR				ScP	ScP	02 17 21.6	-0.9
	0.5nm,0.7s,baz=61,slow=4.8,SNR=5.5						
VNDA	**Vanda**	**64.45**	**181**	P	P	02 15 15.5	+0.3
	0.3nm,0.3s,baz=11,slow=2.4,SNR=3.6						
QSPA	**South Pole Qui**	**76.88**	**180**	P	P	02 16 30.3	-0.3
	1.8nm,0.6s,baz=331,slow=1.3,SNR=15						
ILAR	**Eielson Array**	**85.02**	**18**	P	P	02 17 13.2	-0.1
	1.1nm,0.6s,baz=249,slow=4.6,SNR=12						
MKAR	**Makanchi Array**	**96.05**	**317**	P	P	02 18 06.0	+0.6
	0.4nm,0.5s,baz=100,slow=5.3,SNR=7.1						
ARCES	**ARCESS Array B**	**118.71**	**346**	PKP	**PKiKP**	02 23 23.9	-0.4
	3.2nm,1.0s,baz=50,slow=2.2,SNR=8.9						
FINES	**FINESS Array B**	**124.25**	**339**	PKP	**PKiKP**	02 23 35.6	+0.2
	1.1nm,0.9s,baz=66,slow=3.4,SNR=5.6						
KEST	**Kesra**	**149.97**	**322**	PKPbc	**PKiKP**	02 24 28.6	-0.1
	2.1nm,0.6s,baz=43,slow=1.6,SNR=5.8						

*IDC **16** 02:09:05.2±1.2, 40°.18S×173°.41E, h181km±15km, mb3.5/5, mb1 3.7/7, mb1mx3.5/38, mbtmp4.1/7, Error ellipse: s-maj=16.9km s-min=15.1km az=98.0*
*WEL **16** 02:09:07.8, 40°S±2°×17°3E±°, h191km±4km, M4.1/25, ML4.0/5, MLv4.1/25, Error ellipse: s-maj=0.0km s-min=0.0km az=61.7*

ISC 16 02:09:05.9±0.7, 40°.32S±0°.04×173°.37E±0°.04, h207km±5km, n131, σ1°22/150, mb3.7/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.64**	**139**	P	**Pn**	02 09 35.2	+0.9
DUWZ				S	**S**	02 09 55.1	-1.6
QRZ	**Quartz Range**	**0.81**	**231**	P	**Pn**	02 09 35.6	+0.5
QRZ				S	**S**	02 09 55.8	-2.2
NNZ	**Nelson**	**0.90**	**179**	P	**Pn**	02 09 36.3	+0.7
NNZ				S	**S**	02 09 57.2	-1.7
NMEZ	**Namu Road**	**0.99**	**24**	P	**Pn**	02 09 36.6	+0.3
NMEZ				S	**S**	02 09 59.3	-0.4
TCW	**Tory Channel**	**1.12**	**142**	P	**Pn**	02 09 38.3	+1.1
TCW				S	**S**	02 09 59.8	-1.6
PREZ	**Palmer Road**	**1.15**	**32**	P	**Pn**	02 09 38.0	+0.5
LREZ	**Lake Rotokare**	**1.17**	**43**	P	**Pn**	02 09 38.1	+0.5
LREZ				S	**S**	02 10 01.0	-1.0
TUWZ	**Tuamarina**	**1.19**	**159**	P	**Pn**	02 09 38.8	+1.1
TUWZ				S	**S**	02 10 01.1	-1.2
NEZ	**North Egmont**	**1.19**	**28**	P	**Pn**	02 09 37.9	+0.1
PKE	**Pukeiti**	**1.22**	**23**	P	**Pn**	02 09 38.2	+0.2
KIW	**Kapiti Island**	**1.29**	**115**	P	**Pn**	02 09 39.2	+0.7
KIW				S	**S**	02 10 01.5	-2.1
DREZ	**Durham Road**	**1.30**	**30**	P	**Pn**	02 09 39.0	+0.4
DREZ				S	**S**	02 10 02.4	-1.4
WAZ	**Wanganui**	**1.37**	**66**	P	**Pn**	02 09 40.2	+1.1
BSWZ	**Blackbirch Sta**	**1.44**	**165**	P	**Pn**	02 09 40.8	+1.1
MHEZ	**Mangahewa**	**1.45**	**31**	P	**Pn**	02 09 40.4	+0.6
OGWZ	**Otaki Gorge**	**1.46**	**110**	P	**Pn**	02 09 40.9	+1.1
THZ	**Tophouse**	**1.48**	**193**	P	**Pn**	02 09 40.8	+0.8
OHWZ	**Ohakea**	**1.50**	**86**	P	**Pn**	02 09 41.5	+1.4
CAW	**Cannon Point**	**1.51**	**122**	P	**Pn**	02 09 41.2	+0.9
CMWZ	**Cape Campbell**	**1.56**	**156**	P	**Pn**	02 09 42.2	+1.5
BHW	**Baring Head**	**1.57**	**134**	P	**Pn**	02 09 41.5	+0.7
BHW				S	**S**	02 10 06.0	-1.7
VRZ	**Vera Road**	**1.61**	**42**	P	**Pn**	02 09 41.0	-0.2
VRZ				S	**S**	02 10 06.5	-1.7
MRZ	**Mangatainoka R**	**1.72**	**102**	P	**Pn**	02 09 42.8	+0.7
MRZ				S	**S**	02 10 07.9	-2.1
HOWZ	**Holdsworth Sta**	**1.73**	**110**	P	**Pn**	02 09 43.2	+0.9
MSWZ	**Moikau Station**	**1.80**	**128**	P	**Pn**	02 09 43.7	+0.8
MSWZ				S	**S**	02 10 10.4	-1.0
POWZ	**Post Office Ro**	**1.84**	**93**	P	**Pn**	02 09 44.0	+0.7
PKVZ	**Pokaka**	**1.84**	**57**	P	**Pn**	02 09 43.6	+0.2
DSZ	**Denniston Nort**	**1.85**	**219**	P	**Pn**	02 09 44.0	+0.5
DSZ				S	**S**	02 10 10.5	-1.9
MTVZ	**Mangateitei**	**1.87**	**61**	P	**Pn**	02 09 43.9	+0.2
PAWZ	**Paruwai Farm**	**1.89**	**125**	P	**Pn**	02 09 44.4	+0.6
PAWZ				S	**S**	02 10 11.8	-1.1
PLWZ	**Palliser**	**1.90**	**132**	P	**Pn**	02 09 44.5	+0.6
PLWZ				S	**S**	02 10 11.8	-1.4
TIWZ	**Tintock**	**1.97**	**104**	P	**Pn**	02 09 45.6	+0.9
TIWZ				S	**S**	02 10 13.2	-1.2
WNVZ	**Wahianoa**	**1.98**	**61**	P	**Pn**	02 09 45.0	+0.1
DRZ	**Dome Shelter**	**1.99**	**59**	P	**Pn**	02 09 45.4	+0.2
FWVZ	**Far West T-bar**	**1.99**	**58**	P	**Pn**	02 09 45.0	-0.1
PRWZ	**Pori Road**	**2.00**	**98**	P	**Pn**	02 09 46.0	+1.1
TSZ	**Takapari Road**	**2.00**	**83**	P	**Pn**	02 09 45.4	+0.4
TWVZ	**Taurewa**	**2.03**	**53**	P	**Pn**	02 09 45.0	-0.4
MOVZ	**Moawhango**	**2.05**	**64**	P	**Pn**	02 09 45.2	-0.3
TUVZ	**Tukino**	**2.05**	**60**	P	**Pn**	02 09 45.9	+0.3
TRWZ	**Traveller**	**2.06**	**122**	P	**Pn**	02 09 46.4	+0.8
NGZ	**Ngauruhoe**	**2.07**	**57**	P	**Pn**	02 09 45.7	-0.1
TMWZ	**Te Maipa**	**2.07**	**113**	P	**Pn**	02 09 46.5	+0.8
WTVZ	**West Tongariro**	**2.10**	**56**	P	**Pn**	02 09 46.0	-0.1
KHZ	**Kahutara**	**2.10**	**176**	P	**Pn**	02 09 46.4	+0.6
OTVZ	**Oturere**	**2.12**	**58**	P	**Pn**	02 09 46.5	+0.2
KRVZ	**Karewarewa**	**2.14**	**56**	P	**Pn**	02 09 46.3	-0.2
DVHZ	**Dannevirke**	**2.14**	**90**	P	**Pn**	02 09 46.9	+0.6
HIZ	**Hauiti**	**2.14**	**33**	P	**Pn**	02 09 46.1	-0.4
ETVZ	**East Tongariro**	**2.16**	**58**	P	**Pn**	02 09 47.0	+0.2
TMVZ	**Te Maari**	**2.17**	**57**	P	**Pn**	02 09 47.1	+0.3
PNHZ	**Pukenui**	**2.21**	**80**	P	**Pn**	02 09 47.5	+0.4
BFZ	**Birch Farm**	**2.23**	**100**	P	**Pn**	02 09 47.9	+0.7
BHHZ	**Black Hill Sta**	**2.23**	**69**	P	**Pn**	02 09 47.1	-0.3
CPWZ	**Castlepoint**	**2.24**	**106**	P	**Pn**	02 09 48.7	+1.4
KATZ	**Kakaramea**	**2.25**	**54**	P	**Pn**	02 09 47.8	+0.1
RITZ	**Rihia Road**	**2.35**	**56**	P	**Pn**	02 09 49.1	+0.5
RATZ	**Rangitukua**	**2.36**	**53**	P	**Pn**	02 09 49.1	+0.4
WPHZ	**Waipukurau**	**2.37**	**85**	P	**Pn**	02 09 49.4	+0.6
ANWZ	**Angora Road**	**2.38**	**94**	P	**Pn**	02 09 49.8	+1.0
KRHZ	**Kereru**	**2.41**	**75**	P	**Pn**	02 09 49.3	+0.1
WATZ	**Wairara**	**2.44**	**49**	P	**Pn**	02 09 49.8	+0.2
PRHZ	**Porangahau**	**2.50**	**90**	P	**Pn**	02 09 51.1	+0.9
KWHZ	**Kaweka Forest**	**2.52**	**70**	P	**Pn**	02 09 51.2	+0.7
HATZ	**Hinemaiaia**	**2.54**	**57**	P	**Pn**	02 09 50.2	-0.5
LTZ	**Lake Taylor**	**2.59**	**198**	P	**Pn**	02 09 51.8	+0.6
TLZ	**Tolley Road**	**2.61**	**41**	P	**Pn**	02 09 50.9	-0.5
KUTZ	**Kaahu Road**	**2.64**	**47**	P	**Pn**	02 09 52.0	+0.2
GVZ	**Greta Valley S**	**2.66**	**185**	P	**Pn**	02 09 52.2	+0.4
BKZ	**Black Stump Fm**	**2.67**	**65**	P	**Pn**	02 09 51.9	-0.3
PXZ	**Pawanui**	**2.69**	**85**	P	**Pn**	02 09 52.8	+0.5
MCHZ	**McNeill Hill**	**2.71**	**72**	P	**Pn**	02 09 53.2	+0.7
KAHZ	**Kahuranaki**	**2.75**	**80**	P	**Pn**	02 09 53.7	+0.7
MRHZ	**Matea Rd**	**2.79**	**59**	P	**Pn**	02 09 52.7	-0.8
INZ	**Inchbonnie**	**2.80**	**210**	P	**Pn**	02 09 53.7	+0.2
AMCZ	**Amberley**	**2.90**	**190**	P	**Pn**	02 09 55.1	+0.4
CKHZ	**Cape Kidnapper**	**2.93**	**78**	P	**Pn**	02 09 54.8	-0.2
ARHZ	**Aropaoanui**	**2.99**	**70**	P	**Pn**	02 09 56.0	+0.3
MTHZ	**Maungataniwha**	**3.06**	**62**	P	**Pn**	02 09 56.3	-0.4
TOZ	**Tahuroa Road**	**3.08**	**33**	P	**Pn**	02 09 56.2	-0.6
OXZ	**Oxford**	**3.16**	**198**	P	**Pn**	02 09 57.5	-0.2
RAHZ	**Arahi**	**3.20**	**65**	P	**Pn**	02 09 58.3	0.0
MUGZ	**Murupara**	**3.22**	**56**	P	**Pn**	02 09 57.4	-1.0
WHHZ	**Waihua**	**3.23**	**69**	P	**Pn**	02 09 59.0	+0.4
RTZ	**Ruatahuna**	**3.28**	**60**	P	**Pn**	02 09 58.5	-0.8
WVZ	**Waitaha Valley**	**3.38**	**215**	P	**Pn**	02 10 00.2	-0.1
AWAZ	**Awhitu Peninsu**	**3.40**	**17**	P	**Pn**	02 10 01.3	+0.7
OKCZ	**Okains Bay**	**3.41**	**184**	P	**Pn**	02 10 00.7	+0.1
MQZ	**McQueen's Vall**	**3.42**	**189**	P	**Pn**	02 10 00.1	-0.7
SNGZ	**Shannon Statio**	**3.44**	**65**	P	**Pn**	02 10 00.9	-0.2
WTAZ	**Waiatarua**	**3.51**	**16**	P	**Pn**	02 10 03.1	+1.1
URZ	**Urewera**	**3.56**	**56**	P	**Pn**	02 10 00.2	-2.3
	21nm,0.3s,baz=235,slow=5.0,SNR=94						
URZ				S	**S**	02 10 42.0	-4.5
	21nm,0.3s,baz=244,slow=3.9,SNR=20						
URZ	**Urewera**	**3.56**	**56**	P	**Pn**	02 10 01.1	-1.5
AKCZ	**Akaroa Harbour**	**3.56**	**185**	P	**Pn**	02 10 02.5	0.0
KNZ	**Kokohu**	**3.57**	**70**	P	**Pn**	02 10 02.4	-0.2
MHGZ	**Mahia Peninsul**	**3.69**	**73**	P	**Pn**	02 10 04.3	+0.2
MBAZ	**Motutapu North**	**3.75**	**19**	P	**Pn**	02 10 06.2	+1.4
GCSZ	**Gaunt Creek Bo**	**3.76**	**216**	P	**Pn**	02 10 04.8	0.0
PRGZ	**Paritu Road**	**3.76**	**70**	P	**Pn**	02 10 04.7	-0.2
RIGZ	**Rimuhau**	**3.76**	**66**	P	**Pn**	02 10 04.8	-0.2
MWZ	**Matawai**	**3.79**	**60**	P	**Pn**	02 10 04.3	-1.0
WACZ	**Wakanui South**	**3.79**	**197**	P	**Pn**	02 10 05.6	+0.3
RPZ	**Rata Peaks**	**3.80**	**206**	P	**Pn**	02 10 05.2	-0.2
	14nm,0.3s,baz=34,slow=1.4,SNR=52						
RPZ				S	**S**	02 10 47.7	-4.2
	48nm,0.3s,baz=140,slow=24,SNR=20						
RPZ	**Rata Peaks**	**3.80**	**206**	P	**Pn**	02 10 05.2	-0.2
TKGZ	**Te Karaka**	**3.95**	**63**	P	**Pn**	02 10 06.8	-0.5
ARCZ	**Arundel**	**3.97**	**203**	P	**Pn**	02 10 06.9	-0.6
KUZ	**Kuaotunu**	**4.02**	**28**	P	**Pn**	02 10 08.2	0.0
RUGZ	**Raukumara Rang**	**4.10**	**56**	P	**Pn**	02 10 07.5	-1.7
FOZ	**Fox Glacier**	**4.16**	**218**	P	**Pn**	02 10 09.2	-0.6
CNGZ	**Carnagh Statio**	**4.17**	**65**	P	**Pn**	02 10 09.9	-0.1
HAZ	**Te Kaha**	**4.29**	**55**	P	**Pn**	02 10 09.5	-2.0
PUZ	**Puketiti**	**4.41**	**61**	P	**Pn**	02 10 11.9	-1.2
WCZ	**Waipu Caves**	**4.44**	**10**	P	**Pn**	02 10 14.3	+0.9
WMGZ	**Waiomatatini S**	**4.66**	**59**	P	**Pn**	02 10 14.7	-1.4
LBZ	**Lake Benmore**	**4.70**	**209**	P	**Pn**	02 10 16.0	-0.5
MXZ	**Matakaoa Point**	**4.74**	**56**	P	**Pn**	02 10 16.1	-1.0
JCZ	**Jackson Bay**	**5.06**	**221**	P	**Pn**	02 10 20.6	-0.7
ODZ	**Otahua Downs**	**5.13**	**202**	P	**Pn**	02 10 22.0	0.0
HHSZ	**Highcliff Hill**	**5.92**	**199**	P	**Pn**	02 10 33.0	+0.9
MSZ	**Milford Sound**	**5.92**	**221**	P	**Pn**	02 10 32.0	-0.1
TUZ	**Tuapeka**	**6.26**	**205**	P	**Pn**	02 10 37.2	+0.8
MLZ	**Mavora Lakes**	**6.35**	**216**	P	**Pn**	02 10 37.1	-0.5
APZ	**The Paps**	**7.59**	**209**	P	**Pn**	02 10 52.9	-0.7
ASAR	**Alice Springs**	**37.01**	**285**	P	**P**	02 15 57.4	+1.6
	0.8nm,0.4s,baz=128,slow=7.3,SNR=14						
VNDA	**Vanda**	**37.62**	**184**	P	**P**	02 16 02.8	+2.6
	1.2nm,0.5s,baz=189,slow=16,SNR=10.0						
WRA	**Warramunga Arr**	**38.98**	**290**	P	**P**	02 16 14.0	+1.7
	1.2nm,0.3s,baz=127,slow=7.9,SNR=34						
FITZ	**Fitzroy Crossi**	**46.51**	**284**	P	**P**	02 17 14.6	+1.9
	0.8nm,0.4s,baz=189,slow=6.8,SNR=8.5						
QSPA	**South Pole Qui**	**49.80**	**180**	P	**P**	02 17 40.5	+3.1
	1.3nm,0.3s,baz=212,slow=4.9,SNR=27						
BRTR	**Keskin Array B**	**149.34**	**282**	PKPbc	**PKPab**	02 28 31.6	-3.9
	0.2nm,0.5s,baz=139,slow=5.0,SNR=1.8						
FINES	**FINESS Array B**	**150.97**	**328**	PKPbc	**PKiKP**	02 28 33.8	+0.2
	0.7nm,0.6s,baz=45,slow=1.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**151.96**	**197**	PKPbc	**PKPab**	02 28 40.8	-5.8
	0.4nm,0.6s,baz=151,slow=3.3,SNR=1.9						

*MOS **16** 02:35:17.9±0.9, 6°.26S×151°.73E, h31km, mb5.6/54, MS4.9/25, Error ellipse: s-maj=7.4km s-min=5.4km az=108.0*
*NEIC **16** 02:35:17.6, 6°.32S×151°.74E, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.96; $M_{\theta\theta}$-1.42; $M_{\phi\phi}$0.46; $M_{r\theta}$-0.54; $M_{\theta\phi}$-0.03; $M_{\phi r}$0.43; Fault plane solution: $M_0$1.43000×10^{17} NP1:ϕ_s61.95000°, δ39.74000°, λ46.68000°. NP2:ϕ_s292.75000°, δ62.28000°, λ119.70000°. Principal axes: T 1.2898, Plg61.0000°, Azm249.0000°; N 0.2461, Plg26.0000°, Azm98.0000°; P -1.5360, Plg12.0000°, Azm2.0000°;*
*BJI **16** 02:35:17.3±0.0, 6°.14S×151°.83E, h25km, mB5.5/48, mb5.1/62, Ms5.2/46, Ms7 4.9/50*
*UNK **16** 02:35:18.0, 6°.31S×151°.71E, h25km*
*NEIC **16** 02:35:18.5±1.0, 6°.31S±0°.05×151°.72E±0°.06, h28km±3km, mb5.5/199, Ms_20 5.3/609, Mwb5.4/30, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=8.9km s-min=6.9km az=113.0*
*NEIC **16** 02:35:21, 6°.26S×151°.90E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.98; $M_{\theta\theta}$-1.65; $M_{\phi\phi}$0.66; $M_{r\theta}$-0.62; $M_{\theta\phi}$-1.23; $M_{\phi r}$1.16; Fault plane solution: $M_0$2.30000×10^{17} NP1:ϕ_s30.00000°, δ59.00000°, λ32.00000°. NP2:ϕ_s283.00000°, δ63.00

comp=Z,148nm,1.0s
KDU Kakadu 20.04 250 P Pn 02 39 50.9 -0.5
baz=20,SNR=213
RMQ Roma 20.27 188 P Pn 02 39 53.8 -0.3
baz=20,SNR=99
SAUI Saumlaki 20.37 264 P Pn 02 39 59.9 +4.6
SAUI Saumlaki 20.37 264 P **P 02 39 53.3 +0.2**
GUMO Guam 20.91 341 P Pn 02 40 00.5 -1.2
comp=Z,1μm,1.1s,baz=173,slow=11,SNR=33
GUMO Guam 20.91 341 P **P 02 39 58.6 -0.4**
GUMO pmax pmax
comp=Z,2μm,1.2s
GUMO Guam 20.91 341 P **P 02 39 58.6 -0.4**
DZM Mont Dzumac 21.14 139 P **P 02 40 01.3 -0.2**
comp=Z,31nm,0.8s,baz=300,slow=14,SNR=14
DZM LR LR 02 46 41.7
comp=Z,6μm,21.8s,baz=316,slow=32
DZM Mont Dzumac 21.14 139 *e*P **P 02 40 01.3 -0.2**
comp=Z,246nm,1.2s
DZM *e*S **S 02 43 49.7 -5.8**
comp=Z,4μm,24.2s
DZM *e*LR LR 02 45 03.4
comp=Z,9μm,22.8s
DZM Mont Dzumac 21.14 139 P **P 02 40 01.1 -0.5**
SIJI Sorong 21.14 284 P **P 02 40 04.6 +3.0**
comp=Z,82nm,0.7s,baz=88,slow=11,SNR=12
MTN Manton Dam 21.34 251 P **P 02 40 05.3 +1.6**
baz=21,SNR=36
MTN Manton Dam 21.34 251 P **P 02 40 03.4 -0.2**
MTN IAmb IAmb 02 40 12.7
comp=Z,230nm,0.6s
QLP Quilpie 21.40 199 P **P 02 40 05.5 +1.3**
baz=21,SNR=17
WB0 Warramunga Arr 21.54 230 P **P 02 40 05.8 +0.1**
WR0 Warramunga Arr 21.54 229 P **P 02 40 05.8 0.0**
WR0 IAmb IAmb 02 40 12.7
comp=Z,353nm,1.1s
WRAB Tennant Creek 21.67 230*c i*P **P 02 40 06.8 -0.3**
WRAB pmax pmax
comp=Z,644nm,1.7s
WRAB MLR MLR
comp=Z,5μm,20.0s
WRAB Tennant Creek 21.67 230 P **P 02 40 06.9 -0.2**
WRAB IAmb IAmb 02 40 13.9
comp=Z,443nm,1.1s
WB2 Warramunga Arr 21.67 230 P **P 02 40 07.2 0.0**
WB2 IAmb IAmb 02 40 14.7
comp=Z,277nm,1.1s
WRA Warramunga Arr 21.68 230 P **P 02 40 08.0 +0.7**
comp=Z,108nm,0.7s,baz=56,slow=10,SNR=174
WRA S **S 02 44 05.3 -0.7**
comp=Z,32nm,1.3s,baz=52,slow=18,SNR=8.6
WRA LR LR 02 48 44.4
comp=Z,5μm,19.2s,baz=55,slow=37
WRA Warramunga Arr 21.68 230 *i* P **P 02 40 07.6 +0.3**
WRA pmax pmax
comp=Z,108nm,0.7s
WRA Warramunga Arr 21.68 230 P **P 02 40 06.9 -0.3**
WRA S **S 02 44 04.2 -1.8**
KWAJ Kwajalein Atol 21.80 47 P **P 02 40 08.9 +0.4**
KWAJ pmax pmax
comp=Z,1μm,0.8s
KWAJ MLR MLR
comp=Z,5μm,20.0s
KWAJ Kwajalein Atol 21.80 47 P **P 02 40 08.9 +0.4**
BNDI Bandanaira 21.83 274 P **P 02 40 11.1 +2.2**
comp=Z,5μmcomp=Z,783nm,1.3s
MSAI Masohi 22.93 276 P **P 02 40 24.8 +4.1**
comp=Z,1μmcomp=Z,27nm,0.9s
ARMA Armidale 23.99 180 P **P 02 40 32.9 +1.9**
baz=24,SNR=6.6
ARMA Armidale 23.99 180 P **P 02 40 31.3 +0.3**
ARMA IAMs_20 IAMs_20 02 49 23.0
comp=Z,7μm,19.0s
AS31 Alice Springs 24.34 223 P **P 02 40 34.2 0.0**
AS31 IAmb IAmb 02 40 38.5
comp=Z,98nm,1.1s
ASAR Alice Springs 24.35 223 P **P 02 40 34.8 +0.5**
comp=Z,238nm,0.9s,baz=57,slow=8.3,SNR=352
ASAR LR LR 02 49 55.1
comp=Z,4μm,20.5s,baz=50,slow=36
ASAR Alice Springs 24.35 223 P **P 02 40 34.2 -0.1**
ASAR Alice Springs 24.35 223 P **P 02 40 34.2 -0.1**
ASAR **PcP 02 44 11.6 -2.0**
KNRA Kununurra 24.39 246 P **P 02 40 35.6 +0.9**
baz=24,SNR=78
KNRA Kununurra 24.39 246 P **P 02 40 34.8 +0.1**
NLAI Namlea 24.76 276 P **P 02 40 41.3 +3.2**
comp=Z,75nm,0.7s
CMSA Cobar Meteorol 25.74 192 P **P 02 40 46.5 -0.2**
baz=26,SNR=22
SANI Sanana 26.04 278 P **P 02 40 50.4 +0.7**
comp=Z,3μmcomp=Z,2μmcomp=Z,147nm,1.0s
STKA Stephens Creek 27.16 199 P **P 02 40 59.5 -0.1**
comp=Z,61nm,0.9s,baz=14,slow=9.6,SNR=19
STKA LR LR 02 52 18.0
comp=Z,3μm,18.3s,baz=15,slow=38
STKA Stephens Creek 27.16 199 P **P 02 40 59.2 -0.3**
baz=27,SNR=41
STKA Stephens Creek 27.16 199 P **P 02 40 59.3 -0.3**
STKA pmax pmax
comp=Z,32nm,1.0s
STKA MLR MLR
comp=Z,800nm,18.0s
STKA Stephens Creek 27.16 199 P **P 02 40 59.3 -0.3**
SOEI Soe 27.43 261 P **P 02 41 04.6 +2.2**
comp=Z,4μmcomp=Z,307nm,0.9s
SOEI Soe 27.43 261 P **P 02 41 02.4 0.0**
YNG Young 28.03 186 P **P 02 41 08.0 +0.7**
baz=28,SNR=7.4
FITZ Fitzroy Crossi 28.04 243 P **P 02 41 08.5 +0.9**
comp=Z,248nm,0.5s,baz=0,0,slow=4.1,SNR=1735
FITZ Fitzroy Crossi 28.04 243 P **P 02 41 08.2 +0.6**
baz=28,SNR=553
FITZ Fitzroy Crossi 28.04 243 P **P 02 41 07.8 +0.2**
BATI Baumata 28.06 260 P **P 02 41 10.7 +2.8**
comp=Z,173nm,0.9s,baz=148,slow=2.9,SNR=36
BATI Baumata 28.06 260 P **P 02 41 10.3 +2.4**
comp=Z,2μmcomp=Z,179nm,1.2s
MSVF Nonsavu 28.07 116⇓ *e*P **P 02 41 10.0 +2.0**
MSVF pmax pmax
comp=Z,37nm,0.9s
MSVF MLR MLR
comp=Z,2μm,16.0s
MSVF Nonsavu 28.07 116 P **P 02 41 08.3 +0.3**
MSVF IAmb IAmb 02 41 20.1
comp=Z,63nm,1.0s
KMSI Cibinong 28.55 283 P **P 02 41 13.8 +1.5**
comp=Z,347nm,0.5s
WRKA Warakurna 29.18 228 P **P 02 41 17.4 -0.4**
baz=29,SNR=85
MMRI Maumere 29.36 264 P **P 02 41 20.0 +0.6**
comp=Z,4μmcomp=Z,4μmcomp=Z,420nm,0.9s
MMRI Maumere 29.36 264 P **P 02 41 18.8 -0.6**
LUWI Luwuk 29.38 279 P **P 02 41 22.9 +3.2**
comp=Z,168nm,0.9s
LUWI Luwuk 29.38 279 P **P 02 41 19.4 -0.3**
LUWI IAmb IAmb 02 41 23.2
comp=Z,129nm,0.9s
HTT Hallett 29.50 202 P **P 02 41 20.3 -0.3**
baz=30,SNR=6.8
GTOI Gorontalo 29.51 282 P **P 02 41 22.4 +1.6**
comp=Z,382nmcomp=Z,41nm,1.3s
EDFI Ende, Flores 29.90 263 P **P 02 41 24.2 -0.2**
comp=Z,2μmcomp=Z,250nm,0.9s
BBOO Buckleboo 30.15 207 P **P 02 41 25.6 -0.6**
baz=30,SNR=12
BBOO Buckleboo 30.15 207 P **P 02 41 25.7 -0.5**
BBOO IAmb IAmb 02 41 43.0
comp=Z,81nm,1.1s
BBOO IAMs_20 IAMs_20 02 54 03.1
comp=Z,5μm,18.0s
BASI Baing, Sumba 31.09 261 P **P 02 41 37.9 +3.2**
comp=Z,8μmcomp=Z,932nm,1.3s
WSI Waingapu 31.32 262 P P 02 41 50.9 +14
BKSI Bulukumba 31.48 270 P **P 02 41 39.6 +1.4**
comp=Z,2μmcomp=Z,152nm,1.1s
BNSI Bone 31.57 272 P **P 02 41 40.9 +2.0**
comp=Z,2μmcomp=Z,218nm,0.9s
ARPS Mount Arapiles 31.65 195 P **P 02 41 39.3 -0.1**
baz=32,SNR=21
KAPI Kappang 31.87 271 P **P 02 41 41.4 -0.2**
KAPI pmax pmax
comp=Z,254nm,1.0s
KAPI MLR MLR
comp=Z,1μm,22.0s
KAPI Kappang 31.87 271 P **P 02 41 41.4 -0.2**

SPSI Sidrap Palu 31.94 273 P **P 02 41 43.4 +1.2**
comp=Z,1μmcomp=Z,147nm,1.0s
WBSI Waikabubak, Su 32.22 262 P **P 02 41 45.5 +0.8**
comp=Z,4μmcomp=Z,410nm,0.8s
MPSI Mapaga 32.48 281 P **P 02 41 46.8 -0.1**
comp=Z,2μmcomp=Z,54nm,0.8s
FORT Forrest 32.97 219 P **P 02 41 51.0 -0.1**
baz=33,SNR=72
FORT Forrest 32.97 219 P **P 02 41 50.0 -1.1**
PLAI Plampang 33.77 264 P **P 02 41 58.0 -0.3**
comp=Z,3μmcomp=Z,399nm,0.9s
PSAB2 Pilbara Seismi 34.36 241 IAMs_20 IAMs_20 02 56 18.7
comp=Z,4μm,21.0s
PSAA3 Pilbara Seismi 34.38 241 IAMs_20 IAMs_20 02 56 20.1
comp=Z,4μm,20.0s
PSAA2 Pilbara Seismi 34.38 241 IAMs_20 IAMs_20 02 56 29.1
comp=Z,4μm,19.0s
PSA00 Pilbara Seismi 34.38 241 P **P 02 42 03.0 -0.5**
PSA00 IAMs_20 IAMs_20 02 56 20.2
comp=Z,4μm,21.0s
PSAA1 Pilbara Seismi 34.39 241 IAMs_20 IAMs_20 02 56 18.5
comp=Z,5μm,22.0s
PSAC1 Pilbara Seismi 34.40 241 IAMs_20 IAMs_20 02 56 21.7
comp=Z,5μm,21.0s
PSAD3 Pilbara Seismi 34.47 241 IAMs_20 IAMs_20 02 56 22.4
comp=Z,4μm,21.0s
TWSI Taliwang, Sumb 34.65 264 P **P 02 42 06.2 +0.3**
comp=Z,2μmcomp=Z,67nm,1.0s
OUZ Omahuta 35.10 148 P **P 02 42 09.3 -0.2**
OUZ IAmb IAmb 02 42 21.4
comp=Z,75nm,1.1s
MYLDM Lahad Datu 35.11 288 P **P 02 42 08.4 -1.4**
MYLDM IAmb IAmb 02 42 13.7
comp=Z,58nm,1.1s
KBKI Kotabaru 35.58 273 P **P 02 42 16.0 +2.1**
comp=Z,63nm,0.8s
AFI Afiamalu 36.65 105 P **P 02 42 23.6 +0.5**
comp=Z,11nm,0.3s,baz=278,slow=16,SNR=2.5
AFI LR LR 02 55 29.8
comp=Z,2μm,18.7s,baz=278,slow=33
AFI Afiamalu 36.65 105 P **P 02 42 22.6 -0.5**
AFI pmax pmax
comp=Z,103nm,1.1s
AFI Afiamalu 36.65 105 P **P 02 42 22.6 -0.5**
AFI IAmb IAmb 02 42 30.4
comp=Z,103nm,1.1s
TAU Tasmania Unive 36.66 185 IAMs_20 IAMs_20 02 58 20.6
comp=Z,4μm,18.0s
BBKI Banjar Baru 36.88 273 P **P 02 42 27.4 +2.3**
comp=Z,4μmcomp=Z,162nm,1.4s
JAGI Jajag, Banyuwa 37.34 264 P **P 02 42 28.5 -0.5**
comp=Z,3μmcomp=Z,316nm,0.9s
JAGI Jajag, Banyuwa 37.34 264 P **P 02 42 27.9 -1.1**
KMBL Kambalda 37.46 224 P **P 02 42 29.5 -0.2**
baz=37,SNR=16
MEEK Meekatharra 37.48 234 P **P 02 42 30.1 +0.1**
baz=37,SNR=46
BLJI Banyuglugur 37.90 266 P **P 02 42 35.2 +1.6**
comp=Z,59nm,0.6s
GMJI Gumukmas 38.04 265 P P 02 42 44.7 +10
URZ Urewera 39.25 148 P **P 02 42 45.5 +0.9**
comp=Z,43nm,1.2s,baz=225,slow=5.7,SNR=3.4
URZ LR LR 02 57 19.9
comp=Z,1μm,18.9s,baz=310,slow=34
URZ Urewera 39.25 148 P **P 02 42 44.9 +0.3**
GIRL Giralia 39.64 242 P **P 02 42 49.5 +1.3**
baz=40,SNR=14
GIRL Giralia 39.64 242 P **P 02 42 47.7 -0.4**
GIRL IAmb IAmb 02 43 02.2
comp=Z,78nm,0.7s
PWJI Pagerwojo 39.67 265 P **P 02 42 48.9 +0.4**
comp=Z,149nm,1.0s
PBKI Pangkalan Bun 40.11 273 P **P 02 42 55.7 +3.5**
comp=Z,758nm,1.2s
SNZO South Karori 40.42 153 IAMs_20 IAMs_20 02 58 14.3
comp=Z,3μm,19.0s
SBUM Sibu 40.42 281 P **P 02 42 54.2 -0.6**
SBUM Sibu 40.42 281 P **P 02 42 56.0 +1.2**
KLBR Kellerberrin 40.53 227 P **P 02 42 55.0 -0.4**
baz=40,SNR=18
WOJI Wonogiri, Jawa 40.54 265 P **P 02 42 56.6 +0.8**
comp=Z,112nm,1.5s
MORW Morawa 40.60 232 P **P 02 42 56.1 +0.1**
baz=41,SNR=12
MORW Morawa 40.60 232 P **P 02 42 56.2 +0.1**
MORW IAmb IAmb 02 42 58.9
comp=Z,117nm,1.1s
LTZ Lake Taylor 40.60 157 IAMs_20 IAMs_20 02 58 58.1
comp=Z,3μm,18.0s
KHZ Kahutara 40.81 155 IAMs_20 IAMs_20 02 59 37.7
comp=Z,3μm,18.0s
BLDU Ballidu 40.81 229 P **P 02 42 57.9 +0.1**
baz=41,SNR=10
RPZ Rata Peaks 40.94 159 P **P 02 42 58.1 -0.6**
comp=Z,12nm,0.8s,baz=315,slow=13,SNR=1.8
RPZ LR LR 02 59 04.7
comp=Z,3μm,18.1s,baz=323,slow=35
RPZ Rata Peaks 40.94 159 P **P 02 42 58.9 +0.2**
RPZ IAMs_20 IAMs_20 02 58 35.0
comp=Z,4μm,20.0s
SMRI Semarang 41.03 267 P **P 02 43 04.0 +4.1**
comp=Z,8μmcomp=Z,163nm,0.8s
SMRI Semarang 41.03 267 P **P 02 42 59.2 -0.7**
SMRI IAmb IAmb 02 43 08.0
comp=Z,127nm,0.9s
LBZ Lake Benmore 41.22 160 IAMs_20 IAMs_20 02 59 17.4
comp=Z,4μm,20.0s
NWAO Narrogin (SRO) 41.60 226 P **P 02 43 04.3 0.0**
baz=42,SNR=4.8
NWAO Narrogin (SRO) 41.60 226 P **P 02 43 04.3 0.0**
NWAO pmax pmax
comp=Z,22nm,0.8s
NWAO MLR MLR
comp=Z,4μm,18.0s
NWAO Narrogin (SRO) 41.60 226 P **P 02 43 04.3 0.0**
NWAO Narrogin (SRO) 41.60 226 P **P 02 43 04.1 -0.2**
NWAO IAmb IAmb 02 43 08.0
comp=Z,17nm,0.8s
NWAO IAMs_20 IAMs_20 03 00 31.3
comp=Z,4μm,18.0s
MUN Mundaring 41.86 228 P **P 02 43 06.2 -0.1**
baz=42,SNR=4.8
YULB Yu-li 41.91 316 P **P 02 43 06.6 -0.2**
ODZ Otahua Downs 41.95 160 IAMs_20 IAMs_20 03 02 17.8
comp=Z,4μm,18.0s
KSM Kuching 42.09 279 P **P 02 43 08.2 -0.3**
KSM Kuching 42.09 279 P **P 02 43 09.0 +0.5**
SSLB Suanglung 42.41 316 P **P 02 43 10.8 -0.2**
KPJI Karang Pucung 42.52 266 P **P 02 43 14.3 +2.3**
comp=Z,3μmcomp=Z,238nm,0.7s
RKGY Rocky Gully 42.68 224 P **P 02 43 13.9 +0.8**
baz=43,SNR=5.5
CMJI Cimerak 42.99 265 P **P 02 43 17.3 +1.5**
comp=Z,271nm,0.8s
JMN Monobe 43.27 338 P **P 02 43 17.5 -0.3**
CISI Cisompet, Garu 43.63 266 P **P 02 43 21.2 +0.2**
comp=Z,4μmcomp=Z,317nm,0.7s
CISI Cisompet, Garu 43.63 266 P **P 02 43 20.4 -0.6**
JGF Kuroka 43.83 343 P **P 02 43 21.9 -0.4**
JNU Nakatsue 43.94 334 P **P 02 43 24.4 +1.2**
comp=Z,28nm,0.9s,baz=153,slow=4.5,SNR=12
JNU Nakatsue 43.94 334 P **P 02 43 22.8 -0.4**
JNU IAmb IAmb 02 43 41.0
comp=Z,43nm,0.9s
TPI Tanjungpandan 44.09 273 P **P 02 43 27.0 +2.3**
comp=Z,2μmcomp=Z,221nm,1.1s
JWT Wachi 44.14 341 P **P 02 43 24.1 -0.6**
CNJI Cibinong 44.31 266 P **P 02 43 27.6 +1.1**
comp=Z,5μmcomp=Z,489nm,1.2s
MJAR Matsushiro Arr 44.47 344 P **P 02 43 26.9 -0.5**
comp=Z,5.7nm,0.8s,baz=166,slow=7.1,SNR=13
MJAR ScP **ScP 02 49 00.0 -0.9**
comp=Z,0.8nm,0.4s,baz=174,slow=4.2,SNR=2.0
MJAR LR LR 03 01 12.6
comp=Z,771nm,20.2s,baz=280,slow=35
MJAR Matsushiro Arr 44.47 344 P **P 02 43 27.1 -0.3**
MJAR **ScP 02 49 01.5 +0.5**
MAJO Matsushiro 44.48 344*de*P **P 02 43 26.6 -0.8**
MAJO pmax pmax
comp=Z,9.0nm,1.1s
MAJO Matsushiro 44.48 344 P **P 02 43 27.1 -0.3**
MAT Matsushiro 44.48 344 P **P 02 43 26.2 -1.2**
MAT S **S 02 49 55.6 -5.2**
CBJI Citeko 44.62 267 P **P 02 43 32.4 +3.5**
comp=Z,10μmcomp=Z,164nm,0.7s
JHS Saijyo 44.69 338 P **P 02 43 28.9 -0.2**

SKJI Sukabumi 44.89 266 P P 02 43 36.1 +5.0
comp=Z,5μmcomp=Z,424nm,0.8s
PPBI Pangkal Pinang 45.67 273 P **P 02 43 41.0 +3.7**
comp=Z,92nm,1.4s
CGJI Cibinong 45.76 267 P **P 02 43 39.9 +1.9**
comp=Z,2μmcomp=Z,184nm,0.9s
XMIS Christmas Isla 45.77 262 P **P 02 43 37.7 -0.4**
KLSI Saibi 46.83 269 P **P 02 43 48.2 +1.8**
comp=Z,15nm,1.6s
MDSI Maura Dua 47.39 270 P **P 02 43 51.4 +0.6**
comp=Z,2μmcomp=Z,133nm,1.5s
DSRI Dabo 47.43 275 P **P 02 43 53.2 +2.1**
comp=Z,71nm,1.3s
LWLI Liwa 47.47 269 P **P 02 43 55.0 +3.4**
comp=Z,166nm,0.8s
JTM Tenmabayashi 47.88 349 P **P 02 43 54.6 +0.5**
JTM IAmb IAmb 02 43 55.2
comp=Z,67nm,0.9s
LHSI Lahat 48.09 271 P **P 02 43 58.3 +2.0**
comp=Z,158nm,1.4s
QIZ Qiongzhong 48.36 302 P **P 02 43 59.3 +1.1**
QIZ S **S 02 50 59.3 +2.2**
QIZ LR LR
comp=Z,3μm,5.3s
QIZ LR LR
comp=Z,3μm,4.5s
QIZ LR LR
comp=Z,3μm,5.3s
KSRS Korea Array 48.89 335 P **P 02 44 03.1 +1.2**
comp=Z,18nm,0.9s,baz=152,slow=8.5,SNR=39
KSRS LR LR 03 06 06.1
comp=Z,411nm,18.1s,baz=160,slow=38
KSAR Wonju Array Be 48.89 335 P **P 02 44 01.9 -0.1**
KSAR Wonju Array Be 48.89 335 P **P 02 44 01.9 -0.1**
KS19 Wonju Array Si 48.95 335 P **P 02 44 02.1 -0.3**
RAR Rarotonga 49.14 113 P **P 02 44 05.2 +1.0**
comp=Z,7.2nm,0.6s,baz=226,slow=8.1,SNR=2.6
RAR LR LR 03 01 24.0
comp=Z,291nm,20.9s,baz=264,slow=32
NJ2 Nanjing 49.38 323 *e*P **P 02 44 08.1 +2.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 LR LR
comp=Z,2μm,17.8s
INCN Inchon 49.47 334 P **P 02 44 06.1 -0.3**
INCN pmax pmax
comp=Z,92nm,1.1s
INCN Inchon 49.47 334 P **P 02 44 06.1 -0.3**
INCN IAmb IAmb 02 44 10.3
comp=Z,92nm,1.1s
KRJI Kerinci 50.32 273 P **P 02 44 16.2 +2.8**
comp=Z,440nm,1.0s
YUK Yuzh-Kuril'sk 50.39 354 *e* 02 46 07.6
YUK *e*PPP PPP 02 47 02.3
YUK pmax pmax
comp=Z,429nm,1.2s
SDSI Sungai Dareh 50.49 274 P **P 02 44 14.9 +0.3**
comp=Z,2μmcomp=Z,217nm,1.0s
JKA Kamikawa-asahi 50.86 352 P **P 02 44 16.4 -0.5**
ASAJ Asahikawa 50.87 351 P **P 02 44 17.6 +0.7**
comp=Z,16nm,0.6s,baz=210,slow=8.6,SNR=11
ASAJ Asahikawa 50.87 351 P **P 02 44 16.4 -0.4**
ASAJ pmax pmax
comp=Z,24nm,0.8s
BKNI Bangkinang 51.04 276 P **P 02 44 20.3 +1.5**
comp=Z,205nm,0.9s
BKNI Bangkinang 51.04 276 P **P 02 44 17.2 -1.5**
XMAS Kiritimati 51.39 82 IAMs_20 IAMs_20 03 01 59.2
comp=Z,3μm,20.0s
KUR Kuril'sk 51.42 356*c i*P P 02 44 07.3 -14
KUR *e* 02 45 36.5
KUR pmax pmax
comp=Z,136nm,1.0s
PDSI Padang 51.45 274 P **P 02 44 21.4 -0.4**
comp=Z,67nm,0.7s
IPM Ipoh 51.77 281 P **P 02 44 23.8 -0.4**
IPM IAmb IAmb 02 44 27.1
comp=Z,24nm,0.7s
KULM Kulim 52.30 282 P **P 02 44 27.8 -0.3**
KULM IAmb IAmb 02 44 31.0
comp=Z,28nm,0.8s
KULM Kulim 52.30 282 P **P 02 44 28.0 -0.2**
MNSI Mandailing Nat 52.55 276 P **P 02 44 30.5 +0.5**
SISI Saibi 52.76 273 P **P 02 44 33.8 +2.2**
comp=Z,97nm,1.6s
TIA Tai'an 53.32 325 P P 02 44 42.4 +7.1
TIA pmax pmax
comp=Z,7.0nm,0.7s
USA0B Ussuriysk Arra 53.34 342 P **P 02 44 35.2 -0.1**
USA0B pmax pmax
comp=Z,24nm,0.9s
USA0B Ussuriysk Arra 53.34 342 P **P 02 44 35.2 -0.1**
USRK Ussuriysk Ar. 53.34 342 P **P 02 44 36.4 +1.2**
comp=Z,16nm,0.8s,baz=175,slow=8.4,SNR=35
USRK LR LR 03 04 14.8
comp=Z,470nm,21.7s,baz=142,slow=32
USRK Ussuriysk Ar. 53.34 342 P **P 02 44 35.2 -0.1**
USRK Ussuriysk Ar. 53.34 342 P **P 02 44 35.2 -0.1**
RPSI Rantau Prapat 53.50 278 P **P 02 44 35.8 -1.2**
RPSI IAmb IAmb 02 44 38.9
comp=Z,35nm,1.0s
PSI Prapat 53.52 278 P **P 02 44 35.8 -1.5**
PSI pmax pmax
comp=Z,35nm,1.0s
YSS Yuzh-Sakhalins 53.62 352⇑ *e*P **P 02 44 37.8 +0.5**
YSS *e**SP **pwP 02 44 51.3 -2.1**
YSS *e*S **S 02 52 03.3 -5.7**
YSS pmax pmax
comp=Z,30nm,0.7s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS MLR MLR
comp=N,400nm,20.0s
ENH Enshi 54.44 314 P **P 02 44 42.4 -1.2**
ENH IAmb IAmb 02 45 01.5
comp=Z,37nm,0.9s
MDJ Mudanjiang 54.47 341 P **P 02 44 43.5 0.0**
MDJ IAmb IAmb 02 44 46.0
comp=Z,21nm,0.6s
GYA Guiyang 54.50 309 *e*P **P 02 44 45.1 +0.9**
GSI Gunungsitoli 54.61 276 P **P 02 44 45.0 -0.2**
comp=Z,292nm,1.4s
CN2 Changchun 55.25 337 *e*P P 02 44 41.8 -7.4
CN2 *e*S **S 02 52 32.4 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,160nm,4.0s
CN2 LR LR
comp=N,370nm,16.0s
CN2 LR LR
comp=E,460nm,16.0s
CN2 LR LR
comp=Z,660nm,19.0s
TPTI 55.31 278 P **P 02 44 52.1 +1.9**
comp=Z,24nm,0.9s
MLSI Meulaboh, Aceh 56.25 279 P **P 02 44 56.4 -0.6**
comp=Z,204nm,1.4s
BJI Beijing 56.58 328 P **P 02 45 00.8 +2.0**
BJI pP **sP 02 45 08.3 +0.5**
BJI S **S 02 52 47.6 -1.3**
BJI pmax pmax
comp=Z,8.0nm,1.6s
BJI pmax pmax
comp=Z,260nm,5.1s
BJI LR LR
comp=Z,490nm,18.9s
BJI LR LR
comp=Z,530nm,20.8s
BJI LR LR
comp=Z,850nm,24.3s
SKR Severo-Kuril's 56.88 3 *e*P **P 02 44 59.6 -1.1**
SKR *e* 02 46 00.5
SKR *e*S **S 02 52 47.8 -4.6**
SKR *e*SSS SSS 02 58 50.0
SKR pmax pmax
comp=Z,25nm,0.9s
SKR pmax pmax
comp=Z,200nm,4.6s
SKR pmax pmax
comp=Z,100nm,5.0s
SKR MLR MLR
comp=Z,400nm,18.0s
SKR MLR MLR
comp=Z,400nm,18.0s
KMI Kunming 56.98 305⇓ *e*P **P 02 45 04.1 +1.9**

KMI pmax pmax
comp=Z,19nm,0.7s
KMI pmax pmax
comp=Z,1μm,5.3s
KMI LR LR
comp=Z,730nm,5.6s
KMI LR LR
comp=Z,770nm,6.3s
KMI LR LR
comp=Z,1μm,14.0s
XAN Xi'an 57.01 318 P **P 02 45 02.3 +0.3**
XAN pmax pmax
comp=Z,21nm,1.4s
XAN pmax pmax
comp=Z,910nm,7.1s
XAN LR LR
comp=Z,1μm,16.3s
TYV Tymovskoe 57.48 353 *e*P **P 02 45 06.3 +1.4**
TYV *e*S **S 02 53 01.9 +1.6**
TYV pmax pmax
comp=Z,28nm,1.3s
TYV pmax pmax
comp=Z,200nm,4.9s
TYV smax smax
comp=E,300nm,9.2s
CMAR Chiang Mai Arr 57.59 296 P **P 02 45 07.8 +1.4**
comp=E,9.9nm,0.7s,baz=120,slow=5.4,SNR=24
CMAR LR LR 03 10 45.2
comp=E,317nm,18.9s,baz=152,slow=37
CMAR PKP2bc 03 15 03.9
comp=E,1.2nm,0.4s,baz=291,slow=3.6,SNR=8.2
CMAR Chiang Mai Arr 57.59 296 *ce*P **P 02 45 08.0 +1.6**
CMAR pmax pmax
comp=Z,10.0nm,0.7s
CMAR Chiang Mai Arr 57.59 296 P **P 02 45 06.1 -0.3**
CHTO Chiang Mai 57.72 297 P **P 02 45 06.6 -0.6**
CHTO pmax pmax
comp=Z,17nm,1.0s
CHTO Chiang Mai 57.72 297 P **P 02 45 06.6 -0.6**
PPT Papeete 58.28 107 LR LR 03 07 31.1
comp=Z,223nm,19.0s,baz=274,slow=33
PPT2 Papeete2 58.28 107 *e*S **S 02 53 15.3 +3.2**
comp=Z,704nm,24.0s
PPT2 *e*LQ LQ 02 59 57.4
comp=Z,2μm,29.8s
PPT2 *e*LR LR 03 02 02.2
comp=Z,926nm,28.5s
GRNR Gornyy 58.37 349 *e*P P 02 45 05.7 -5.5
TBI Tubuai 58.90 113 *e*S **S 02 53 21.6 +1.6**
comp=Z,842nm,27.8s
TBI *e*LQ LQ 03 00 17.8
comp=Z,3μm,32.5s
TBI *e*LR LR 03 02 49.4
comp=Z,2μm,34.2s
CD2 Chengdu 58.94 312 P **P 02 45 16.8 +1.2**
CD2 S **S 02 53 22.3 +2.0**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,710nm,4.8s
CD2 LR LR
comp=Z,1μm,16.2s
CD2 LR LR
comp=Z,2μm,15.7s
CD2 LR LR
comp=Z,2μm,19.6s
PET Petropavlovsk 59.39 5 *e*P **P 02 45 21.2 +3.0**
PET *e*S **S 02 53 28.2 +3.1**
PET *e*SS **SS 02 57 25.9 +5.3**
PET pmax pmax
comp=Z,109nm,0.8s
PET pmax pmax
comp=Z,200nm,14.0s
PET MLR MLR
comp=Z,400nm,15.0s
PET MLR MLR
comp=Z,500nm,16.0s
PEA0B Petropavlovsk- 59.40 4 P **P 02 45 18.9 +0.6**
PEA0B pmax pmax
comp=Z,20nm,0.9s
PEA0B Petropavlovsk- 59.40 4 P **P 02 45 18.9 +0.6**
PEA0B IAmb IAmb 02 45 20.5
comp=Z,20nm,0.8s
PETK Petropavlovsk- 59.40 4 P **P 02 45 19.0 +0.7**
comp=Z,14nm,0.8s,baz=170,slow=7.1,SNR=35
PETK LR LR 03 07 07.8
comp=Z,414nm,21.3s,baz=184,slow=32
PETK Petropavlovsk- 59.40 4 P **P 02 45 18.8 +0.5**
PETK Petropavlovsk- 59.40 4 P **P 02 45 18.8 +0.5**
HHC Hu-ho-hao-te 59.67 325 *e*P **P 02 45 23.3 +2.7**
HHC S **S 02 53 30.1 +0.5**
HHC sS sS 02 53 41.3 +0.4
HHC pmax pmax
comp=Z,31nm,1.1s
HHC pmax pmax
comp=Z,200nm,6.1s
HHC LR LR
comp=Z,890nm,18.4s
HHC LR LR
comp=Z,660nm,19.8s
HHC LR LR
comp=Z,1μm,18.6s
PMOR Pomariorio Ree 59.78 104 *e*P **P 02 45 24.6 +3.0**
comp=Z,158nm,1.2s
VAH Vaihoa 60.05 104 *e*P **P 02 45 26.2 +2.7**
comp=Z,45nm,1.3s
LZH Lanzhou 61.60 317 ⇑P **P 02 45 35.1 +1.2**
LZH pP sP 02 45 41.8 -1.1
LZH sP pwP 02 45 45.6 -4.5
LZH pmax pmax
comp=Z,22nm,1.2s
LZH pmax pmax
comp=Z,94nm,4.9s
LZH LR LR
comp=Z,680nm,15.2s
LZH LR LR
comp=Z,700nm,17.4s
LZH LR LR
comp=Z,890nm,15.7s
SMY Shemya 61.80 15 IAMs_20 IAMs_20 03 07 36.0
comp=Z,2μm,21.0s
HIA Hailar 61.99 337 P **P 02 45 36.4 +0.3**
HIA pmax pmax
comp=Z,33nm,0.8s
HIA Hailar 61.99 337 P **P 02 45 36.4 +0.3**
HIA IAmb IAmb 02 45 39.0
comp=Z,33nm,0.8s
AMKA Amchitka 62.14 19 P **P 02 45 37.2 +0.3**
ZEA Zeya 63.28 344 *e*P **P 02 45 46.2 +1.6**
ZEA *e*S **S 02 54 09.0 -5.7**
ZEA pmax pmax
comp=Z,71nm,1.2s
ZEA smax smax
comp=N,300nm,14.0s
ZEA MLR MLR
comp=N,600nm,18.0s
ZEA MLR MLR
comp=Z,600nm,18.0s
ADK Adak 63.94 21 P **P 02 45 48.7 -0.2**
ADK pmax pmax
comp=Z,171nm,0.9s
ADK Adak 63.94 21 P **P 02 45 48.7 -0.2**
ATKA Atka Island 65.11 22 P **P 02 45 57.1 +0.6**
ATKA IAMs_20 IAMs_20 03 08 50.6
comp=Z,1μm,21.0s
MA2 Magadan 65.67 359 *c i*P **P 02 46 00.4 +0.3**
MA2 pmax pmax
comp=Z,92nm,1.7s
MA2 MLR MLR
comp=Z,449nm,20.0s
MA2 Magadan 65.67 359 P **P 02 46 00.4 +0.3**
MA2 IAmb IAmb 02 46 02.6
comp=Z,35nm,0.7s
GTA Gaotai 66.06 318 *e*P **P 02 46 04.8 +1.6**
GTA pP sP 02 46 13.9 +1.6
GTA sP pwP 02 46 18.0 -1.5
GTA PcP **PcP 02 46 34.9 +1.3**
GTA S **S 02 54 50.3 +0.5**
GTA sS sS 02 55 08.1 +7.5
GTA SS **SS 02 59 09.0 +3.2**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,250nm,10.2s
GTA LR LR
comp=Z,270nm,17.4s
GTA LR LR
comp=Z,380nm,18.9s
GTA LR LR
comp=Z,620nm,20.4s
SHL Shillong 66.19 301 P **P 02 46 04.3 0.0**
SHL pmax pmax
comp=Z,58nm,1.0s
SHL Shillong 66.19 301 P **P 02 46 04.3 0.0**
SHL IAmb IAmb 02 46 07.0
comp=Z,58nm,1.0s
CASY Casey 66.28 197 P **P 02 46 04.1 +0.2**
CASY Casey 66.28 197 IAMs_20 IAMs_20 03 13 38.8
comp=Z,2μm,18.0s
ULN Ulaanbaatar 66.73 329⇓ *e*P **P 02 46 08.8 +1.5**
ULN pmax pmax
comp=Z,10.0nm,1.3s
ULN Ulaanbaatar 66.73 329 P **P 02 46 07.4 +0.1**
SONM Songino Array 67.05 329 P **P 02 46 10.6 +1.3**
comp=Z,5.0nm,0.7s,baz=142,slow=5.6,SNR=20
SONM LR LR 03 16 01.0
comp=Z,557nm,19.4s,baz=129,slow=36
SONM Songino Array 67.05 329 P **P 02 46 09.0 -0.3**
TAOE Nuku Hiva Isla 67.47 97 *e*LR LR 03 06 43.2
comp=Z,624nm,23.3s
LSA Lhasa 68.24 305 P **P 02 46 16.6 -1.0**
LSA pmax pmax
comp=Z,20nm,0.8s
LSA Lhasa 68.24 305 P **P 02 46 16.6 -1.0**
LSA IAmb IAmb 02 46 36.1
comp=Z,20nm,0.8s
SEY Seymchan 69.04 0 P **P 02 46 22.4 +1.1**
comp=Z,13nm,0.8s,baz=184,slow=7.7,SNR=5.0
SEY Seymchan 69.04 0 *d i*P **P 02 46 22.6 +1.3**
YAK Yakutsk 70.24 349 P **P 02 46 30.3 +1.6**
comp=Z,14nm,0.4s,baz=31,slow=2.2,SNR=9.2
YAK Yakutsk 70.24 349 *e*P **P 02 46 30.3 +1.6**
YAK *e**PP **sP 02 46 37.6 -0.3**
YAK *e* 02 46 50.6
YAK *e* 02 49 06.2
YAK *e*PPP PPP 02 50 42.1
YAK *e*S **S 02 55 40.8 +2.4**
YAK *e**SS **SKiKP 02 56 02.9 -9.3**
YAK *e* 02 56 27.6
YAK *e*SS **SS 03 00 13.7 +4.5**
YAK pmax pmax
comp=Z,102nm,1.5s
YAK pmax pmax
comp=N,59nm,1.3s
YAK pmax pmax
comp=E,22nm,1.5s
YAK pmax pmax
comp=Z,62nm,1.9s
YAK pmax pmax
comp=N,21nm,1.9s
YAK pmax pmax
comp=E,26nm,2.1s
YAK smax smax
comp=N,178nm,4.3s
YAK smax smax
comp=E,192nm,4.3s
YAK Yakutsk 70.24 349 P **P 02 46 29.4 +0.7**
YAK IAmb IAmb 02 46 32.4
comp=Z,50nm,0.8s
ZAK Zakamensk 70.24 329 *e*P **P 02 46 30.0 +0.9**
ZAK pmax pmax
comp=Z,33nm,1.1s
TAPN Taplejung 70.30 302 *e*P **P 02 46 30.3 +0.1**
comp=Z,77nm,1.0s
TAPN Taplejung 70.30 302 *e*P **P 02 46 30.3 +0.1**
comp=Z,77nm,1.0s
SPIA Saint Paul Isl 70.42 21 P **P 02 46 30.6 +0.8**
ODAN Odare 70.42 301 *e*P **P 02 46 31.5 +0.6**
ODAN Odare 70.42 301 *e*P **P 02 46 31.5 +0.6**
BOD Bodaibo 70.83 340 *e*P **P 02 46 32.9 +0.5**
BOD pmax pmax
comp=Z,44nm,1.6s
TLY Talaya 70.86 331 P **P 02 46 33.8 +1.0**
comp=Z,5.7nm,0.6s,baz=117,slow=6.8,SNR=1.3
RAMN Ramite 71.12 301 *e*P **P 02 46 35.8 +0.6**
comp=Z,20nm,0.6s
RAMN Ramite 71.12 301 *e*P **P 02 46 35.8 +0.6**
comp=Z,20nm,0.6s
CHLP Challavanipeta 71.12 292 *e*P **P 02 46 36.2 +1.2**
VNDA Vanda 71.38 178 P **P 02 46 35.6 +0.2**
comp=Z,17nm,1.1s,baz=339,slow=6.9,SNR=35
VNDA Vanda 71.38 178 P **P 02 46 36.1 +0.6**
VNDA pmax pmax
comp=Z,31nm,0.9s
VNDA Vanda 71.38 178 P **P 02 46 36.1 +0.6**
VNDA IAmb IAmb 02 46 47.8
comp=Z,31nm,0.9s
JIRN Jiri 71.68 302 *e*P **P 02 46 39.2 +0.5**
comp=Z,76nm,0.9s
JIRN Jiri 71.68 302 *e*P **P 02 46 39.2 +0.5**
comp=Z,76nm,0.9s
PALK Pallekele 72.16 280 P **P 02 46 41.2 -0.2**
PALK pmax pmax
comp=Z,67nm,1.0s
PALK Pallekele 72.16 280 P **P 02 46 41.2 -0.2**
PALK IAmb IAmb 02 46 44.9
comp=Z,67nm,1.0s
MOY Mondy 72.17 330 *e*P **P 02 46 42.3 +1.5**
MOY pmax pmax
comp=Z,49nm,2.2s
PKI Pulchoki 72.32 301 *e*P **P 02 46 42.6 +0.1**
comp=Z,63nm,0.9s
PKI Pulchoki 72.32 301 *e*P **P 02 46 42.6 +0.1**
comp=Z,63nm,0.9s
PKIN Phulchoki 72.33 301 *e*P **P 02 46 42.3 -0.2**
PKIN Phulchoki 72.33 301 *e*P **P 02 46 42.3 -0.2**
KKN Kakani 72.49 302 *e*P **P 02 46 43.8 +0.4**
comp=Z,85nm,0.9s
KKN Kakani 72.49 302 *e*P **P 02 46 43.8 +0.4**
comp=Z,85nm,0.9s
DMN Daman 72.58 301 *e*P **P 02 46 44.7 +0.7**
comp=Z,162nm,1.1s
DMN Daman 72.58 301 *e*P **P 02 46 44.7 +0.7**
comp=Z,162nm,1.1s
SDPT Sand Point 73.02 26 IAMs_20 IAMs_20 03 11 17.9
comp=Z,1μm,22.0s
CNBA Chernabura Isl 73.08 27 IAMs_20 IAMs_20 03 12 25.7
comp=Z,2μm,21.0s
GKN Gorkha 73.09 302 *e*P **P 02 46 47.2 +0.3**
comp=Z,69nm,0.8s
GKN Gorkha 73.09 302 *e*P **P 02 46 47.2 +0.3**
comp=Z,69nm,0.8s
PVM Polavaram 73.10 290 *e*P **P 02 46 47.3 +0.4**
KOLN Koldanda 73.91 301 *e*P **P 02 46 51.8 +0.1**
comp=Z,133nm,0.8s
KOLN Koldanda 73.91 301 *e*P **P 02 46 51.8 +0.1**
comp=Z,133nm,0.8s
MYLAV Mylavaram 73.93 289 *e*P **P 02 46 52.4 +0.7**
SKHT Srikalahasti 74.22 286 *e*P **P 02 46 53.9 +0.4**
ADKI Addanki 74.37 288 *e*P **P 02 46 54.9 +0.6**
PYUN Piuthan 74.52 301 *e*P **P 02 46 55.3 0.0**
comp=Z,184nm,0.8s
PYUN Piuthan 74.52 301 *e*P **P 02 46 55.3 0.0**
comp=Z,184nm,0.8s
GAMB Gambell 75.10 16 IAMs_20 IAMs_20 03 15 48.7
comp=Z,1μm,20.0s
NJS Nagarjunasagar 75.13 289 *e*P **P 02 46 59.1 +0.3**
CUPL Choutuppal 75.64 290 *e*P **P 02 47 01.7 0.0**
HYB Hyderabad 76.01 290 *i* P **P 02 47 04.0 +0.2**
comp=Z,150nm,1.0s
HYB *e*pP **sP 02 47 12.5 -0.7**
HYB *e* 02 47 20.0
HYBB Hyderabad (bro 76.01 290 *e*P **P 02 47 03.8 0.0**
WMQ Urumqi 76.15 318 *e*P **P 02 47 05.3 +1.2**
WMQ pP pP 02 47 11.9 +1.0
WMQ sP pwP 02 47 17.9 -2.6
WMQ pmax pmax
comp=Z,16nm,1.5s
WMQ pmax pmax
comp=Z,220nm,5.7s
WMQ LR LR
comp=Z,190nm,21.5s
WMQ LR LR
comp=Z,190nm,22.7s
SII Sitkinak Islan 76.58 27 P **P 02 47 07.7 +1.4**
URV Uravakonda 76.77 287 *e*P **P 02 47 07.6 -0.5**
OHAK Old Harbor 77.35 27 P **P 02 47 11.9 +1.4**
OHAK IAmb IAmb 02 47 20.1
comp=Z,84nm,0.8s
OHAK IAMs_20 IAMs_20 03 14 35.6
comp=Z,1μm,22.0s
ANM Nome 77.51 18 P **P 02 47 11.2 -0.1**
ANM pmax pmax
comp=Z,79nm,1.0s
ANM Nome 77.51 18 P **P 02 47 11.2 -0.1**
ANM IAmb IAmb 02 47 16.4
comp=Z,79nm,1.0s
ANM IAMs_20 IAMs_20 03 16 17.5
comp=Z,1μm,21.0s
KLRI Killari 77.96 290 *e*P **P 02 47 14.7 -0.2**
KDAK Kodiak Island 77.98 27 P **P 02 47 15.2 +1.2**
comp=Z,53nm,1.0s,baz=262,slow=2.1,SNR=12
KDAK Kodiak Island 77.98 27 P **P 02 47 15.6 +1.6**
KDAK pmax pmax
comp=Z,73nm,0.9s
KDAK Kodiak Island 77.98 27 P **P 02 47 15.6 +1.6**
KDAK IAmb IAmb 02 47 33.4
comp=Z,73nm,0.8s
KDAK Kodiak Island 77.98 27 IAMs_20 IAMs_20 03 14 45.2
comp=Z,2μm,22.0s
SVW2 Sparrevohn 78.61 23 P **P 02 47 17.9 +0.5**
SVW2 IAmb IAmb 02 47 37.4
comp=Z,78nm,0.9s
DGZ Jazzator, Alta 78.66 323 *d i*P **P 02 47 19.1 +0.9**
DGZ pmax pmax
comp=Z,15nm,0.9s
DGZ MLR MLR
comp=Z,849nm,20.0s
TIXI Tiksi 79.25 353 P **P 02 47 21.6 +0.9**
comp=Z,14nm,0.8s,baz=76,slow=2.3,SNR=7.0
TIXI Tiksi 79.25 353 *d i*P **P 02 47 21.4 +0.7**
TIXI pmax pmax
comp=Z,16nm,0.8s
TIXI MLR MLR
comp=Z,424nm,18.0s
TIXI Tiksi 79.25 353 P **P 02 47 21.4 +0.7**
ZSN Zaisan 79.36 321 *e*P **P 02 47 22.7 +0.8**
baz=321
ZSN Zaisan 79.36 321 *e*P **P 02 47 22.7 +0.8**
RSO Redoubt South 79.38 25 P **P 02 47 22.3 +0.4**
CNPM China Poot 79.51 26 P **P 02 47 22.5 0.0**
TTA Tatalina 79.54 22 P **P 02 47 23.0 +0.4**
TTA pmax pmax
comp=Z,69nm,0.9s
TTA Tatalina 79.54 22 P **P 02 47 23.0 +0.4**
TTA IAmb IAmb 02 47 27.9
comp=Z,69nm,0.9s
TTA IAMs_20 IAMs_20 03 17 57.2
comp=Z,1μm,22.0s
NDI New Delhi 79.59 301 *e*P P 02 47 14.0 -10
BRLK Bradley Lake 79.79 26 P **P 02 47 23.8 -0.2**
CAPN Captain Cook N 80.21 25 P **P 02 47 26.8 +0.7**
baz=238
SEW Seward 80.58 26 P **P 02 47 28.5 +0.3**
SEW IAmb IAmb 02 47 33.3
comp=Z,106nm,1.0s
POO Poona 80.61 290⇓ *i*P **P 02 47 28.0 -1.3**
comp=Z,700nm,1.0s
O22K Cooper Landing 80.66 25 P **P 02 47 29.2 +0.6**
baz=239
RDOG Red Dog Mine 80.70 16 P **P 02 47 29.2 +0.5**
RDOG IAMs_20 IAMs_20 03 18 39.7
comp=Z,1μm,21.0s
SKT Skwentna 80.71 24 P **P 02 47 29.6 +0.7**
SKT IAmb IAmb 02 47 46.8
comp=Z,23nm,0.8s
SUA Susitna One 80.75 24 P **P 02 47 29.3 +0.1**
SUA IAmb IAmb 02 47 48.5
comp=Z,69nm,0.8s
MK31 Makanchi Array 80.78 319 P **P 02 47 29.7 +0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 80.78 319 P **P 02 47 29.7 +0.1**
MKAR Makanchi Array 80.78 319 P **P 02 47 30.5 +0.9**
comp=Z,6.7nm,0.8s,baz=111,slow=5.7,SNR=42
MKAR Makanchi Array 80.78 319 P **P 02 47 29.3 -0.3**
MKAR Makanchi Array 80.78 319 P **P 02 47 29.3 -0.3**
PPLA Purkeypile 80.95 23 IAMs_20 IAMs_20 03 22 21.6
comp=Z,1μm,20.0s
MAKZ Makanchi 80.98 319 P **P 02 47 30.0 -0.7**
MAKZ pmax pmax
comp=Z,24nm,1.1s
MAKZ Makanchi 80.98 319 P **P 02 47 30.0 -0.7**
CUT Chulitna 81.44 24 P **P 02 47 33.2 +0.5**
baz=238
PMR Palmer 81.48 25 IAmb IAmb 02 47 48.7
comp=Z,44nm,1.0s
SHLS Shalkode 81.56 315 *e*P **P 02 47 33.1 -0.8**
comp=Z,8.7nm,0.7s,baz=315
SHLS Shalkode 81.56 315 *e*P **P 02 47 33.1 -0.8**
SHLS pmax pmax
comp=Z,9.0nm,0.7s
PDGK Podgornoye 81.58 315 P **P 02 47 34.5 +0.4**
GHO Glory Hole Cre 81.65 24 IAmb IAmb 02 47 44.9
comp=Z,53nm,0.8s
KTH Kantishna Hill 81.79 22 IAmb IAmb 02 47 38.6
comp=Z,59nm,0.9s
KTH IAMs_20 IAMs_20 03 19 26.7
comp=Z,1μm,20.0s
ZAA0 Zalesovo Array 81.83 327 IAmb IAmb 02 47 35.6
comp=Z,20nm,0.7s
ZALV Zalesovo Beam 81.83 327 P **P 02 47 35.0 +0.1**
comp=Z,20nm,0.6s,baz=110,slow=5.4,SNR=94
ZALV Zalesovo Beam 81.83 327 P **P 02 47 35.0 +0.1**
ZALV Zalesovo Beam 81.83 327 P **P 02 47 34.6 -0.3**
UZB Uzynbulak 81.86 315 *e*P **P 02 47 36.4 +0.8**
comp=Z,10nm,1.2s,baz=315
UZB *e*S **S 02 57 47.6 +0.1**
baz=315
UZB Uzynbulak 81.86 315 *e*P **P 02 47 36.3 +0.7**
UZB *e*S **S 02 57 47.6 +0.1**
UZB pmax pmax
comp=Z,10.0nm,1.2s
SML Sawmill 81.91 25 IAMs_20 IAMs_20 03 21 10.1
comp=Z,1μm,20.0s
TRF Thorofare Moun 81.98 23 IAmb IAmb 02 47 54.1
comp=Z,49nm,1.0s
TRF IAMs_20 IAMs_20 03 21 53.7
comp=Z,1μm,20.0s
GLI Glacier Island 81.98 26 IAMs_20 IAMs_20 03 18 26.8
comp=Z,1μm,22.0s
HIN Hinchinbrook I 82.01 26 IAMs_20 IAMs_20 03 19 56.7
comp=Z,976nm,20.0s
BPAW Bear Paw Mtn. 82.06 22 IAmb IAmb 02 47 40.1
comp=Z,29nm,0.9s
IMAR Indian Mountai 82.14 20 P **P 02 47 37.5 +1.1**
FID Port Fidalgo 82.19 26 IAMs_20 IAMs_20 03 17 41.7
comp=Z,1μm,22.0s
KPKS Kokpek 82.19 315 *e*P **P 02 47 37.8 +0.5**
comp=Z,23nm,1.6s,baz=315
KPKS Kokpek 82.19 315 *e*P **P 02 47 37.7 +0.5**
KPKS pmax pmax
comp=Z,23nm,1.6s
SATY Saty 82.27 315 *e*P **P 02 47 38.5 +0.7**
comp=Z,20nm,1.6s,baz=315
SATY Saty 82.27 315 *e*P **P 02 47 38.4 +0.7**
SATY pmax pmax
comp=Z,20nm,1.6s
MCK McKinley 82.64 23 IAMs_20 IAMs_20 03 23 04.2
comp=Z,1μm,20.0s
BWN Browne 82.67 22 IAMs_20 IAMs_20 03 21 58.5
comp=Z,1μm,20.0s
KLU Klutina 82.77 25 IAMs_20 IAMs_20 03 19 01.8
comp=Z,1μm,21.0s
TDK Taldyqorghan 82.81 317 *e*P **P 02 47 41.3 +1.0**
baz=317
TDK *e*S **S 02 57 57.7 +0.8**
baz=317
TDK LR LR 03 24 19.9
comp=Z,238nm,18.0s,baz=317
TDK Taldyqorghan 82.81 317 *e*P **P 02 47 41.3 +1.0**
TDK *e*S **S 02 57 57.6 +0.8**
TDK MLR MLR
comp=Z,238nm,18.0s
DHY Denali Highway 82.92 24 IAmb IAmb 02 47 49.9
comp=Z,43nm,0.9s
M24K Tolsona, Glenn 82.95 25 P **P 02 47 41.2 +0.5**
baz=242
HMT Hamilton 82.98 27 P **P 02 47 40.8 0.0**
NEA2 Nenana 83.03 22 P **P 02 47 40.9 -0.1**
baz=239,SNR=57
KSH Kashi 83.13 311⇓ *i*P **P 02 47 45.0 +2.8**
KSH S **S 02 58 04.1 +3.6**
KSH sS ScS 02 58 17.9 +3.3
KSH pmax pmax
comp=Z,130nm,1.4s
KSH pmax pmax
comp=Z,440nm,7.6s

KSH					LR	LR			
	comp=Z,190nm,8.7s								
KSH					LR	LR			
	comp=Z,170nm,8.1s								
KSH					LR	LR			
	comp=Z,160nm,12.5s								
MDOK	**Medeo**	**83.25**	**315**	*e*P		**P**		**02 47 43.5**	**+0.6**
	baz=315								
MDOK				*e*S		**S**		**02 58 01.4**	**-0.4**
	baz=315								
MDOK					LR	LR		03 25 48.5	
	comp=Z,134nm,18.9s,baz=315								
MDOK	**Medeo**	**83.25**	**315**	*e*P		**P**		**02 47 43.5**	**+0.6**
MDOK				*e*S		**S**		**02 58 01.3**	**-0.4**
MDOK					MLR	MLR			
	comp=Z,134nm,19.0s								
TNSS	**Tian-Shan**	**83.29**	**315**	*e*P		**P**		**02 47 44.3**	**+0.9**
	baz=315								
TNSS	**Tian-Shan**	**83.29**	**315**	*e*P		**P**		**02 47 44.2**	**+0.9**
WRH	**Wood River Hil**	**83.34**	**22**	IAMs_20		IAMs_20		03 21 27.5	
	comp=Z,978nm,21.0s								
AAA	**Alma-Ata**	**83.36**	**315**	LR		LR		03 25 48.5	
	comp=Z,126nm,15.8s,baz=315								
MDM	**Murphy Dome**	**83.53**	**22**	IAmb		IAmb		02 47 47.4	
	comp=Z,30nm,1.1s								
MDM				IAMs_20		IAMs_20		03 20 50.6	
	comp=Z,985nm,21.0s								
CCB	**Clear Creek Bu**	**83.53**	**22**	IAmb		IAmb		02 47 47.3	
	comp=Z,50nm,0.8s								
CCB				IAMs_20		IAMs_20		03 21 43.7	
	comp=Z,958nm,20.0s								
TCOL	**CIGO, UAF Yank**	**83.62**	**22**	P		**P**		**02 47 44.2**	**+0.1**
	baz=240								
COLA	**College**	**83.62**	**22***c*	*i*P		**P**		**02 47 43.7**	**-0.3**
COLA				pmax		pmax			
	comp=Z,56nm,0.8s								
COLA	**College**	**83.62**	**22**	P		**P**		**02 47 44.4**	**+0.4**
PAX	**Paxson**	**83.64**	**24**	IAMs_20		IAMs_20		03 19 18.7	
	comp=Z,1μm,22.0s								
GLB	**Gilahina Butte**	**83.66**	**26**	IAmb		IAmb		02 47 49.9	
	comp=Z,57nm,1.0s								
GLB				IAMs_20		IAMs_20		03 20 08.2	
	comp=Z,970nm,20.0s								
CRQM	**Cirque**	**83.66**	**27**	IAMs_20		IAMs_20		03 19 17.8	
	comp=Z,1μm,22.0s								
QSPA	**South Pole Qui**	**83.67**	**180**	P		**P**		**02 47 45.0**	**+0.5**
MTBS	**Maitube**	**83.69**	**315**	*e*P		**P**		**02 47 45.9**	**+0.9**
	baz=315								
MTBS	**Maitube**	**83.69**	**315**	*e*P		**P**		**02 47 45.9**	**+0.9**
HDA	**Harding Lake**	**83.74**	**23**	P		**P**		**02 47 44.2**	**-0.5**
	baz=241,SNR=26								
HDA	**Harding Lake**	**83.74**	**23**	IAmb		IAmb		02 47 55.3	
	comp=Z,28nm,0.9s								
HDA				IAMs_20		IAMs_20		03 22 29.2	
	comp=Z,976nm,20.0s								
MAW	**Mawson**	**83.79**	**203**	P		**P**		**02 47 45.1**	**+0.2**
	comp=Z,26nm,1.1s,baz=90,slow=7.3,SNR=30								
MAW				LR		LR		03 22 02.9	
	comp=Z,615nm,20.9s,baz=76,slow=33								
MAW	**Mawson**	**83.79**	**203**	P		**P**		**02 47 45.4**	**+0.4**
	baz=84,SNR=9.4								
MAW	**Mawson**	**83.79**	**203**	P		**P**		**02 47 45.3**	**+0.4**
MAW				pmax		pmax			
	comp=Z,4.0nm,1.1s								
MAW	**Mawson**	**83.79**	**203**	P		**P**		**02 47 45.3**	**+0.4**
TGL	**Tana Glacier**	**83.80**	**27**	IAMs_20		IAMs_20		03 18 26.0	
	comp=Z,1μm,22.0s								
BOOM	**Boomskoye usch**	**83.87**	**314**	IAmb		IAmb		02 47 49.9	
	comp=Z,22nm,1.0s								
POKR	**Poker Plat Res**	**83.90**	**22**	P		**P**		**02 47 45.2**	**-0.3**
	baz=241,SNR=6.2								
ILAR	**Eielson Array**	**83.94**	**22**	P		**P**		**02 47 45.6**	**-0.1**
	comp=Z,48nm,0.8s,baz=251,slow=5.3,SNR=138								
ILAR				PKKPbc		**PKKPbc**		**03 05 60.0**	**-4.1**
	comp=Z,0.5nm,0.9s,baz=355,slow=2.3,SNR=4.8								
ILAR				LR		LR		03 22 16.9	
	comp=Z,960nm,20.3s,baz=244,slow=34								
ILAR	**Eielson Array**	**83.94**	**22**	P		**P**		**02 47 45.5**	**-0.2**
KUU	**Kurty**	**83.94**	**315**	*e*P		**P**		**02 47 47.0**	**+0.7**
	comp=Z,116nm,1.7s,baz=315								
KUU				*e*S		**SKSac**		**02 58 06.2**	**-1.3**
	baz=315								
KUU	**Kurty**	**83.94**	**315**	*e*P		**P**		**02 47 46.9**	**+0.7**
KUU				*e*S		**SKSac**		**02 58 06.2**	**-1.3**
KUU				pmax		pmax			
	comp=Z,116nm,1.7s								
ISLE	**Juniper Island**	**83.95**	**27**	IAMs_20		IAMs_20		03 18 39.1	
	comp=Z,1μm,21.0s								
MESA	**MESA**	**83.96**	**27**	IAMs_20		IAMs_20		03 17 25.2	
	comp=Z,1μm,22.0s								
NIL	**Nilore**	**83.97**	**305**	P		**P**		**02 47 46.3**	**-0.3**
NIL				pmax		pmax			
	comp=Z,138nm,0.9s								
NIL	**Nilore**	**83.97**	**305**	P		**P**		**02 47 46.3**	**-0.3**
MCARA	**McCarthy VSAT**	**83.97**	**26**	IAmb		IAmb		02 47 55.8	
	comp=Z,63nm,0.9s								
MCARA				IAMs_20		IAMs_20		03 20 14.6	
	comp=Z,1μm,20.0s								
COLD	**Coldfoot**	**84.01**	**19**	P		**P**		**02 47 46.8**	**+0.8**
	baz=238								
YAH	**Yahtse**	**84.13**	**27**	IAMs_20		IAMs_20		03 17 08.6	
	comp=Z,1μm,22.0s								
BALM	**Baldy**	**84.13**	**27**	IAmb		IAmb		02 47 56.5	
	comp=Z,43nm,0.7s								
BALM				IAMs_20		IAMs_20		03 19 20.7	
	comp=Z,1μm,22.0s								
TKM2	**Tokmak 2**	**84.22**	**314**	P		**P**		**02 47 49.3**	**+1.4**
	SNR=19								
RIDG	**Independent Ri**	**84.24**	**24**	IAMs_20		IAMs_20		03 24 33.6	
	comp=Z,932nm,20.0s								
KZA	**Kyzart**	**84.27**	**313**	P		**P**		**02 47 50.6**	**+2.2**
	SNR=23								
KURK	**Kurchatov**	**84.31**	**322***c*	*i*P		**P**		**02 47 47.6**	**-0.3**
KURK				pmax		pmax			
	comp=Z,52nm,1.6s								
KURK	**Kurchatov**	**84.31**	**322**	P		**P**		**02 47 48.2**	**+0.4**
KURK				IAmb		IAmb		02 47 58.3	
	comp=Z,36nm,1.0s								
KURBB	**Kurchatov Arra**	**84.34**	**322**	P		**P**		**02 47 48.5**	**+0.5**
	comp=Z,9.7nm,0.8s,baz=112,slow=3.8,SNR=49								
MENT	**Mentasta**	**84.34**	**25**	IAmb		IAmb		02 48 02.5	
	comp=Z,31nm,0.8s								
BARN	**Barnard Glacie**	**84.44**	**27**	IAMs_20		IAMs_20		03 18 46.0	
	comp=Z,1μm,22.0s								
DOT	**Dot Lake**	**84.52**	**24**	IAMs_20		IAMs_20		03 20 31.7	
	comp=Z,945nm,21.0s								
CTGM	**Chitina Glacie**	**84.55**	**27**	IAMs_20		IAMs_20		03 18 59.8	
	comp=Z,1μm,22.0s								
KBK	**Karagaybulak**	**84.62**	**314**	P		**P**		**02 47 51.4**	**+1.5**
	SNR=6.2								
SCRK	**Sand Creek**	**84.69**	**24**	P		**P**		**02 47 49.5**	**-0.1**
	baz=244								
PCA	**Pinnacle**	**84.70**	**28**	IAMs_20		IAMs_20		03 20 02.1	
	comp=Z,1μm,21.0s								
UCH	**Uchtor**	**84.84**	**313**	P		**P**		**02 47 53.7**	**+2.4**
	SNR=6.9								
CHMS	**Chumysh**	**84.84**	**314**	P		**P**		**02 47 52.0**	**+1.2**
	SNR=16								
BCPM	**Bancas Point**	**84.94**	**28**	IAMs_20		IAMs_20		03 20 06.3	
	comp=Z,1μm,20.0s								
AAK	**Ala-Archa**	**84.95**	**314**	P		**P**		**02 47 52.8**	**+1.3**
	SNR=24								
AAK	**Ala-Archa**	**84.95**	**314***c*	*i*P		**P**		**02 47 52.3**	**+0.8**
AAK				pmax		pmax			
	comp=Z,202nm,1.7s								
TOLK	**Toolik Lake Re**	**84.96**	**18**	P		**P**		**02 47 50.8**	**-0.1**
	baz=238								
TOLK	**Toolik Lake Re**	**84.96**	**18**	IAmb		IAmb		02 48 10.2	
	comp=Z,46nm,0.7s								
TOLK				IAMs_20		IAMs_20		03 21 26.3	
	comp=Z,1μm,21.0s								
SGDS	**Sogindy**	**85.04**	**315**	*e*P		**P**		**02 47 52.6**	**+0.8**
	comp=Z,27nm,1.1s,baz=315								
SGDS				*e*S		**SKSac**		**02 58 13.7**	**-1.1**
	baz=315								
SGDS	**Sogindy**	**85.04**	**315**	*e*P		**P**		**02 47 52.6**	**+0.8**
SGDS				*e*S		**SKSac**		**02 58 13.6**	**-1.1**
SGDS				pmax		pmax			
	comp=Z,27nm,1.1s								
USP	**Ospenovka**	**85.09**	**314**	P		**P**		**02 47 53.2**	**+1.2**
	SNR=28								
AML	**Almayashu**	**85.41**	**313**	P		**P**		**02 47 56.3**	**+2.2**
	SNR=63								
EKS2	**Erkin-Say**	**85.47**	**314**	P		**P**		**02 47 56.1**	**+2.0**
	SNR=39								
K27K	**Chicken**	**85.47**	**24**	P		**P**		**02 47 54.2**	**+0.8**
	baz=246								
BTLS	**Baital**	**85.81**	**316**	*e*P		**P**		**02 47 56.3**	**+0.8**
	comp=Z,39nm,1.3s,baz=316								
BTLS				*e*S		**SKSac**		**02 58 18.5**	**-0.8**
	baz=316								
BTLS	**Baital**	**85.81**	**316**	*e*P		**P**		**02 47 56.3**	**+0.8**
BTLS				*e*S		**SKSac**		**02 58 18.5**	**-0.8**
BTLS				pmax		pmax			
	comp=Z,39nm,1.3s								
BMAR	**Burnt Mountain**	**86.01**	**20**	P		**P**		**02 47 56.6**	**+0.5**
EGAK	**Eagle**	**86.14**	**23**	IAMs_20		IAMs_20		03 22 20.8	
	comp=Z,1μm,21.0s								
DIB	**Dawson Inlet,**	**86.57**	**36**	IAmb		IAmb		02 48 06.7	
	comp=Z,69nm,1.2s								
BESE	**Bessie Mountai**	**86.79**	**30**	IAmb		IAmb		02 48 10.5	
	comp=Z,61nm,1.0s								
CRAG	**Craig**	**86.81**	**33**	IAmb		IAmb		02 48 10.6	
	comp=Z,38nm,1.0s								
SKAG	**Skagway**	**86.83**	**29**	IAmb		IAmb		02 48 14.0	
	comp=Z,66nm,1.2s								
NRIK	**Noril'sk**	**87.05**	**341**	P		**P**		**02 48 01.2**	**+0.1**
	comp=Z,15nm,0.8s,baz=103,slow=5.8,SNR=12								
BTK	**Batken**	**87.12**	**311**	IAmb		IAmb		02 48 05.4	
	comp=Z,18nm,0.9s								
DZA	**Taraz**	**87.28**	**313**	*e*P		**P**		**02 48 03.2**	**+0.4**
	comp=Z,35nm,1.0s,baz=314								
DZA				*e*S		**SKSac**		**02 58 27.1**	**-1.6**
	baz=314								
DZA	**Taraz**	**87.28**	**313**	*e*P		**P**		**02 48 03.2**	**+0.4**
DZA				*e*S		**SKSac**		**02 58 27.0**	**-1.6**
DZA				pmax		pmax			
	comp=Z,35nm,1.0s								
GAR	**Garm**	**87.31**	**310**	IAmb		IAmb		02 48 06.2	
	comp=Z,61nm,1.1s								
WHY	**Whitehorse**	**87.41**	**28**	IAmb		IAmb		02 48 13.2	
	comp=Z,44nm,0.8s								
WHY				IAMs_20		IAMs_20		03 21 42.5	
	comp=Z,1μm,20.0s								
KBL	**Kabul**	**87.56**	**305**	P		**P**		**02 48 03.9**	**-0.7**
KBL				pmax		pmax			
	comp=Z,19nm,0.9s								
KBL	**Kabul**	**87.56**	**305**	P		**P**		**02 48 03.9**	**-0.7**
KBL				IAmb		IAmb		02 48 05.0	
	comp=Z,18nm,0.8s								
KK31	**Karatay Array**	**87.91**	**314**	*i* P		**P**		**02 48 06.6**	**+0.8**
KK31	**Karatay Array**	**87.91**	**314**	IAmb		IAmb		02 48 07.6	
	comp=Z,54nm,1.1s								
KKAR	**Karatay Array**	**87.91**	**314**	P		**P**		**02 48 06.3**	**+0.5**
KKAR	**Karatay Array**	**87.91**	**314**	P		**P**		**02 48 06.3**	**+0.5**
KKAR	**Karatay Array**	**87.91**	**314**	IAmb		IAmb		02 48 07.6	
	comp=Z,54nm,1.1s								
EPYK	**Eagle Plains**	**88.44**	**22**	P		**P**		**02 48 08.1**	**+0.2**
	baz=251,SNR=22								
EPYK	**Eagle Plains**	**88.44**	**22**	IAMs_20		IAMs_20		03 23 12.6	
	comp=Z,1μm,21.0s								
DLBC	**Dease Lake**	**89.20**	**31**	P		**P**		**02 48 12.7**	**+1.0**
	comp=Z,16nm,1.1s,baz=192,slow=5.9,SNR=5.4								
DLBC	**Dease Lake**	**89.20**	**31**	IAmb		IAmb		02 48 26.5	
	comp=Z,26nm,1.0s								
KBO	**Bosley Butte**	**89.77**	**48**	IAMs_20		IAMs_20		03 20 34.3	
	comp=Z,1μm,22.0s								
BVAR	**Borovoye Array**	**89.82**	**323**	P		**P**		**02 48 14.6**	**+0.1**
	comp=Z,9.2nm,0.8s,baz=131,slow=8.6,SNR=50								
BRVK	**Borovoye**	**89.89**	**323**	P		**P**		**02 48 14.9**	**0.0**
BRVK				pmax		pmax			
	comp=Z,18nm,1.1s								
BRVK	**Borovoye**	**89.89**	**323**	P		**P**		**02 48 14.8**	**0.0**
BRVK				IAmb		IAmb		02 48 15.5	
	comp=Z,18nm,1.1s								
KRMB	**Red Mountain**	**89.91**	**48**	IAMs_20		IAMs_20		03 20 47.9	
	comp=Z,1μm,20.0s								
KHMM	**Horse Mountain**	**89.94**	**49**	IAMs_20		IAMs_20		03 21 25.9	
	comp=Z,1μm,20.0s								
J01E	**Myrtle Point**	**90.13**	**47**	P		**P**		**02 48 16.0**	**-0.3**
	baz=262								
HOPS	**Hopland Field**	**90.18**	**51**	IAMs_20		IAMs_20		03 22 30.3	
	comp=Z,1μm,20.0s								
MCCM	**Marconi Confer**	**90.21**	**52**	IAMs_20		IAMs_20		03 20 55.2	
	comp=Z,1μm,21.0s								
L02E	**Cave Junction**	**90.22**	**48**	P		**P**		**02 48 16.6**	**-0.1**
	baz=262								
K02D	**Willamette Mer**	**90.25**	**47**	P		**P**		**02 48 16.7**	**-0.3**
	baz=262								
O02D	**Mt. Diablo Mer**	**90.56**	**50**	P		**P**		**02 48 18.9**	**+0.4**
	baz=262								
I03D	**Drain, OR**	**90.63**	**46**	P		**P**		**02 48 19.4**	**+0.9**
	baz=262								
M02C	**Callahan**	**90.67**	**49**	P		**P**		**02 48 19.2**	**+0.2**
	baz=262,SNR=10								
N02D	**Trinity Center**	**90.73**	**49**	P		**P**		**02 48 19.9**	**+0.7**
	baz=262								
HUMO	**Hull Mountain**	**90.76**	**47**	IAmb		IAmb		02 48 30.0	
	comp=Z,23nm,0.9s								
COR	**Corvallis**	**90.78**	**45**	IAMs_20		IAMs_20		03 21 27.8	
	comp=Z,1μm,21.0s								
NLWA	**Neilton Lookou**	**90.79**	**43**	IAMs_20		IAMs_20		03 21 30.9	
	comp=Z,966nm,22.0s								
WDC	**Whiskeytown Da**	**90.80**	**49**	IAMs_20		IAMs_20		03 21 41.6	
	comp=Z,1μm,20.0s								
YBH	**Yreka Blue Hor**	**90.83**	**48**	P		**P**		**02 48 21.1**	**+1.5**
	comp=Z,4.5nm,1.2s,baz=116,slow=3.9,SNR=8.0								
YBH	**Yreka Blue Hor**	**90.83**	**48**	P		**P**		**02 48 19.6**	**-0.1**
YBH				pmax		pmax			
	comp=Z,14nm,1.0s								
YBH	**Yreka Blue Hor**	**90.83**	**48**	P		**P**		**02 48 19.6**	**-0.1**
E03A	**Lebam**	**90.88**	**43**	IAMs_20		IAMs_20		03 22 23.3	
	comp=Z,1μm,20.0s								
G03D	**McMinnville, O**	**90.90**	**45**	P		**P**		**02 48 20.7**	**+0.9**
	baz=262								
H04D	**Lebanon**	**91.17**	**46**	P		**P**		**02 48 21.9**	**+0.9**
	baz=262								
L04D	**Klamath Falls**	**91.19**	**48**	P		**P**		**02 48 22.0**	**+0.6**
	baz=263								
I04A	**Tendick Farm,**	**91.31**	**46**	P		**P**		**02 48 22.0**	**+0.2**
	baz=263								
O03E	**Paynes Creek**	**91.32**	**50**	P		**P**		**02 48 22.2**	**+0.2**
	baz=263,SNR=6.2								
D03D	**Eldon**	**91.34**	**42**	P		**P**		**02 48 21.8**	**0.0**
	baz=262								
J04D	**Umpqua Nationa**	**91.46**	**47**	P		**P**		**02 48 22.9**	**+0.2**
	baz=263								
ORV	**Oroville**	**91.46**	**51**	IAMs_20		IAMs_20		03 21 16.2	
	comp=Z,930nm,22.0s								
M04C	**Macdoel**	**91.48**	**48**	P		**P**		**02 48 23.6**	**+0.8**
	baz=263,SNR=5.7								
E04D	**Cinebar**	**91.56**	**44**	P		**P**		**02 48 23.4**	**+0.6**
	baz=263								
H04A	**Detroit Lake**	**91.59**	**45**	IAMs_20		IAMs_20		03 21 08.1	
	comp=Z,1μm,22.0s								
AFDM	**Forest Hills D**	**91.80**	**51**	IAMs_20		IAMs_20		03 20 51.2	
	comp=Z,970nm,21.0s								
SYO	**Syowa Base**	**91.91**	**200⇑**	*i*P		**P**		**02 48 22.4**	**-1.6**
SYO	**Syowa Base**	**91.91**	**200⇑**	*i*PcP		**P**		**02 48 24.0**	**0.0**
SYO	**Syowa Base**	**91.91**	**200⇑**	*ep*P		pP		02 48 32.0	+0.9
D05A	**Enumclaw**	**92.03**	**43**	IAMs_20		IAMs_20		03 21 23.3	
	comp=Z,1μm,22.0s								
J05D	**Fort Rock, OR**	**92.10**	**47**	P		**P**		**02 48 26.9**	**+1.3**
	baz=263								
LON	**Longmire**	**92.10**	**43**	IAMs_20		IAMs_20		03 22 10.6	
	comp=Z,1μm,21.0s								
I05D	**Terrebonne, OR**	**92.15**	**46**	P		**P**		**02 48 26.8**	**+1.1**
	baz=263								
CMB	**Columbia Colle**	**92.15**	**52**	IAMs_20		IAMs_20		03 22 07.6	
	comp=Z,1μm,21.0s								
G05D	**Wamic, OR**	**92.27**	**45**	P		**P**		**02 48 27.9**	**+1.7**
	baz=263								
PKM	**Mcpherson Peak**	**92.28**	**55**	P		**P**		**02 48 27.4**	**+0.7**
	baz=264								
K05A	**Summer Lake**	**92.28**	**47**	IAmb		IAmb		02 48 34.9	
	comp=Z,19nm,1.0s								
K05A				IAMs_20		IAMs_20		03 22 47.8	
	comp=Z,1μm,20.0s								
PINE	**Pine Mountain**	**92.37**	**46**	IAmb		IAmb		02 48 37.4	
	comp=Z,22nm,0.9s								
PINE				IAMs_20		IAMs_20		03 22 08.9	
	comp=Z,909nm,22.0s								
RUBR	**Rubicon Trail**	**92.44**	**51**	IAMs_20		IAMs_20		03 21 11.2	
	comp=Z,1μm,22.0s								
MOD	**Modoc Plateau**	**92.63**	**48**	IAmb		IAmb		02 48 36.8	
	comp=Z,12nm,1.0s								
VCNR	**Virginia City**	**92.86**	**51**	IAmb		IAmb		02 48 41.0	
	comp=Z,11nm,0.8s								
VCNR				IAMs_20		IAMs_20		03 21 14.2	
	comp=Z,1μm,22.0s								
PNTR	**Pine Nut**	**92.88**	**51**	IAmb		IAmb		02 48 41.2	
	comp=Z,18nm,0.8s								
PNTR				IAMs_20		IAMs_20		03 21 48.3	
	comp=Z,1μm,22.0s								
LTY	**Liberty**	**92.94**	**43**	IAMs_20		IAMs_20		03 23 21.7	
	comp=Z,1μm,21.0s								
WAKR	**Walker**	**92.94**	**52**	IAMs_20		IAMs_20		03 22 54.5	
	comp=Z,1μm,21.0s								
VES	**Vestal, Richgr**	**92.97**	**54**	P		**P**		**02 48 31.1**	**+1.5**
	baz=264								
PAHR	**Pah Rah Range**	**93.10**	**51**	IAMs_20		IAMs_20		03 21 32.6	
	comp=Z,1μm,22.0s								
HRA	**Herat**	**93.12**	**304**	IAmb		IAmb		02 48 33.3	
	comp=Z,34nm,0.9s								
MDPB	**Devils Postpil**	**93.14**	**53**	IAmb		IAmb		02 48 40.4	
	comp=Z,12nm,0.9s								
MDPB				IAMs_20		IAMs_20		03 21 53.8	
	comp=Z,1μm,22.0s								
YERR	**Yerington**	**93.14**	**51**	IAmb		IAmb		02 48 42.1	
	comp=Z,9.9nm,0.9s								
YERR				IAMs_20		IAMs_20		03 21 56.8	
	comp=Z,969nm,22.0s								
OMMB	**Old Mammoth Mi**	**93.20**	**53**	IAMs_20		IAMs_20		03 21 44.4	
	comp=Z,1μm,22.0s								
E07A	**Sunnyside**	**93.42**	**44**	IAmb		IAmb		02 48 42.5	
	comp=Z,12nm,0.9s								
I07A	**Izee**	**93.43**	**46**	IAmb		IAmb		02 48 42.0	
	comp=Z,17nm,1.2s								
I07A				IAMs_20		IAMs_20		03 22 45.0	
	comp=Z,819nm,21.0s								
ISA	**Isabella, Lake**	**93.44**	**55**	P		**P**		**02 48 33.1**	**+1.2**
	baz=265								
LHV	**Little Huntoon**	**93.65**	**52**	IAmb		IAmb		02 48 42.9	
	comp=Z,22nm,0.9s								
LHV				IAMs_20		IAMs_20		03 22 33.2	
	comp=Z,1μm,22.0s								
MWC	**Mount Wilson**	**93.65**	**56**	IAMs_20		IAMs_20		03 23 53.6	
	comp=Z,959nm,20.0s								
RYN	**Ryan**	**93.67**	**52**	IAmb		IAmb		02 48 42.7	
	comp=Z,13nm,0.9s								
RYN				IAMs_20		IAMs_20		03 23 06.7	
	comp=Z,1μm,21.0s								
EDW2	**Edwards Air Fo**	**93.77**	**55**	P		**P**		**02 48 34.8**	**+1.4**
	baz=265								
C36M	**Paulatuk**	**93.80**	**21**	P		**P**		**02 48 35.3**	**+2.8**
	baz=262								
C36M	**Paulatuk**	**93.80**	**21**	IAMs_20		IAMs_20		03 25 57.9	
	comp=Z,1μm,22.0s								
NVAR	**Mina Array Bea**	**93.83**	**52**	P		**P**		**02 48 35.1**	**+1.3**
	comp=Z,3.5nm,0.9s,baz=251,slow=6.4,SNR=24								
NVAR				PP		**PP**		**02 52 20.5**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=252,slow=8.4,SNR=5.0								
NVAR				LR		LR		03 23 37.2	
	comp=Z,1μm,21.5s,baz=272,slow=31								
NVAR	**Mina Array Bea**	**93.83**	**52**	P		**P**		**02 48 33.7**	**-0.1**
NVAR						**PP**		**02 52 17.6**	**-2.0**
CWC	**Cottonwood Cre**	**93.83**	**54**	P		**P**		**02 48 34.9**	**+1.2**
	baz=265								
G08A	**Pilot Rock**	**93.93**	**45**	IAMs_20		IAMs_20		03 23 39.1	
	comp=Z,1μm,21.0s								
NV11	**Mina Array Sit**	**93.94**	**52**	IAmb		IAmb		02 48 44.0	
	comp=Z,15nm,0.9s								
NV11				IAMs_20		IAMs_20		03 23 35.9	
	comp=Z,1μm,21.0s								
BFSC	**Mount Baldy Ra**	**93.98**	**56**	P		**P**		**02 48 36.5**	**+2.0**
	baz=265								
KVN	**Kaiserville**	**94.04**	**51**	IAmb		IAmb		02 48 46.2	
	comp=Z,12nm,0.8s								
KVN				IAMs_20		IAMs_20		03 22 46.3	
	comp=Z,864nm,21.0s								
LRMC	**Laurel Mtn Rad**	**94.07**	**55**	P		**P**		**02 48 34.9**	**0.0**
	baz=265								
D08A	**Wollman Farm,**	**94.10**	**43**	P		**P**		**02 48 34.5**	**-0.1**
D08A				IAMs_20		IAMs_20		03 23 13.6	
	comp=Z,1μm,21.0s								
J08A	**Circle Bar Ran**	**94.11**	**47**	IAMs_20		IAMs_20		03 26 37.1	
	comp=Z,815nm,19.0s								
MPMC	**Manual Prospec**	**94.27**	**54**	P		**P**		**02 48 35.7**	**-0.1**
	baz=265								
TJX	**Tijuana**	**94.35**	**58**	IAMs_20		IAMs_20		03 30 41.0	
	comp=Z,800nm,21.0s								
C09A	**Chrisman Ranch**	**94.60**	**43**	IAMs_20		IAMs_20		03 24 43.7	
	comp=Z,1μm,21.0s								
GSC	**Goldstone, Bar**	**94.77**	**55**	P		**P**		**02 48 37.5**	**-0.5**
	baz=266								
GSC	**Goldstone, Bar**	**94.77**	**55**	IAMs_20		IAMs_20		03 26 06.1	
	comp=Z,837nm,20.0s								
FURC	**Furnace Creek,**	**94.81**	**54**	P		**P**		**02 48 38.4**	**+0.4**
	baz=266								
MONP2	**Monument Peak**	**94.91**	**58**	P		**P**		**02

ARU				IAmb	IAmb	02 48 47.1		
	comp=Z,7.9nm,0.9s							
ARU				IAMs_20	IAMs_20	03 32 44.5		
	comp=Z,778nm,20.0s							
HLID	**Hailey**	**97.08**	**47**	P	Pdif	02 48 48.8	+0.3	
	baz=268							
HLID	**Hailey**	**97.08**	**47**	IAMs_20	IAMs_20	03 25 23.5		
	comp=Z,1μm,21.0s							
W13A	**Hualapai Mount**	**97.14**	**55**	IAmb	IAmb	02 49 01.3		
	comp=Z,8.1nm,0.9s							
AKTO	**Aktyubinsk**	**97.20**	**320**	P	**P**	**02 48 47.5**	**-1.1**	
	comp=Z,1.7nm,0.9s,baz=96,slow=5.1,SNR=7.3							
YKA	**Yellowknife Ar**	**97.23**	**28**	P	**P**	**02 48 48.5**	**+0.1**	
	comp=Z,2.5nm,0.9s,baz=275,slow=4.5,SNR=2.6							
YKA				LR	LR	03 26 43.7		
	comp=Z,1μm,21.9s,baz=0.0,slow=32							
PIX	**Pinacate**	**97.33**	**59**	IAMs_20	IAMs_20	03 31 27.1		
	comp=Z,720nm,20.0s							
WALA	**Waterton Lakes**	**97.56**	**41**	IAmb	IAmb	02 49 01.9		
	comp=Z,13nm,0.8s							
DUG	**Dugway, Tooele**	**98.17**	**50**	IAMs_20	IAMs_20	03 24 33.8		
	comp=Z,888nm,22.0s							
DLMT	**Dillon**	**98.41**	**45**	IAMs_20	IAMs_20	03 26 44.8		
	comp=Z,957nm,20.0s							
U15A	**North Rim**	**98.49**	**54**	IAmb	IAmb	02 49 08.0		
	comp=Z,8.3nm,0.8s							
NVL	**N'lazarevskaya**	**98.58**	**192**	*e*P	Pdif	02 48 54.4	0.0	
NVL				pmax	pmax			
	comp=Z,25nm,1.3s							
BOZ	**Bozeman (W)**	**99.09**	**45**	IAMs_20	IAMs_20	03 26 42.8		
	comp=Z,1μm,22.0s							
WUAZ	**Wupatki**	**99.21**	**55**	P	**Pdif**	**02 48 58.2**	**0.0**	
	baz=269,SNR=6.2							
IMW	**Indian Meadow**	**99.60**	**47**	IAMs_20	IAMs_20	03 27 17.2		
	comp=Z,1μm,22.0s							
TUC	**Tucson**	**99.63**	**58**	IAMs_20	IAMs_20	03 34 30.0		
	comp=Z,927nm,19.0s							
FLWY	**Flagg Ranch**	**99.77**	**46**	IAMs_20	IAMs_20	03 27 45.7		
	comp=Z,1μm,21.0s							
EGMT	**Eagleton**	**100.33**	**42**	IAMs_20	IAMs_20	03 28 12.3		
	comp=Z,1μm,20.0s							
SNAA	**Sanae**	**100.40**	**188**	P	**Pdif**	**02 49 01.7**	**-0.9**	
SNAA	**Sanae**	**100.40**	**188**	⇑*i*P	**Pdif**	**02 49 02.2**	**-0.4**	
SNAA				pmax	pmax			
	comp=Z,13nm,1.4s							
SNAA				MLR	MLR			
	comp=Z,855nm,20.0s							
SNAA	**Sanae**	**100.40**	**188**	IAMs_20	IAMs_20	03 32 47.3		
	comp=Z,976nm,21.0s							
BW06	**Boulder Array**	**100.62**	**48**	P	**Pdif**	**02 49 04.3**	**-0.1**	
	baz=271							
BW06	**Boulder Array**	**100.62**	**48**	IAMs_20	IAMs_20	03 27 13.4		
	comp=Z,930nm,21.0s							
PDAR	**Pinedale Array**	**100.62**	**48**	P	**Pdif**	**02 49 04.8**	**+0.3**	
	comp=Z,0.7nm,0.9s,baz=0.0,slow=0.6,SNR=7.4							
PDAR				PP	**PP**	**02 53 11.7**	**-0.1**	
	comp=Z,1.0nm,0.9s,baz=297,slow=4.0,SNR=2.2							
PDAR	**Pinedale Array**	**100.62**	**48**	Pdif	**Pdif**	**02 49 04.3**	**-0.1**	
RLMT	**Red Lodge**	**100.77**	**45**	IAMs_20	IAMs_20	03 28 09.1		
	comp=Z,988nm,21.0s							
PV10	**Paradox Valley**	**101.09**	**52**	IAMs_20	IAMs_20	03 35 26.3		
	comp=Z,865nm,22.0s							
PV16	**Nyswonger Mesa**	**101.19**	**52**	IAMs_20	IAMs_20	03 26 53.8		
	comp=Z,975nm,21.0s							
PV18	**Skein Mesa, Pa**	**101.20**	**52**	IAMs_20	IAMs_20	03 26 09.0		
	comp=Z,1μm,22.0s							
PV03	**Paradox Valley**	**101.25**	**52**	IAMs_20	IAMs_20	03 26 08.3		
	comp=Z,1μm,22.0s							
PV22	**Blue Mesa, Par**	**101.29**	**52**	IAMs_20	IAMs_20	03 26 35.4		
	comp=Z,1μm,22.0s							
VNA3	**Neumayer Olymp**	**101.63**	**186**	P	**Pdif**	**02 49 07.2**	**-0.8**	
VNA2	**Neumayer--Watz**	**101.68**	**187**	P	**Pdif**	**02 49 07.6**	**-0.6**	
KIRV	**Kirov**	**101.78**	**328**	P	**Pdif**	**02 49 08.2**	**-0.7**	
	comp=Z,3.5nm,0.6s,baz=98,slow=6.1,SNR=4.3							
VNA1	**Neumayer--Stat**	**102.04**	**187**	P	**Pdif**	**02 49 08.5**	**-1.3**	
RWWY	**Rawlins**	**102.40**	**49**	IAMs_20	IAMs_20	03 26 36.5		
	comp=Z,862nm,21.0s							
LAO	**LASA Array**	**102.81**	**44**	IAMs_20	IAMs_20	03 30 11.8		
	comp=Z,1μm,21.0s							
S22A	**4UR Ranch, Cre**	**102.85**	**53**	P	**Pdif**	**02 49 14.1**	**-0.4**	
	baz=272							
S22A	**4UR Ranch, Cre**	**102.85**	**53**	IAMs_20	IAMs_20	03 30 34.9		
	comp=Z,1μm,20.0s							
K22A	**Casper**	**102.86**	**48**	IAMs_20	IAMs_20	03 28 00.7		
	comp=Z,770nm,22.0s							
RSSD	**Black Hills**	**104.56**	**46**	P	**Pdif**	**02 49 22.9**	**+1.0**	
	baz=275							
RSSD	**Black Hills**	**104.56**	**46**	IAMs_20	IAMs_20	03 30 14.5		
	comp=Z,870nm,21.0s							
MAK	**Makhachkala**	**104.70**	**313**	*e*P	**Pdif**	**02 49 22.0**	**-0.2**	
MAK				*e*		02 53 39.6		
MAK				*e*PPP	PPP	02 55 53.9		
MAK				*e*		02 59 56.6		
MAK				*e*SS	SS	03 08 28.9	-3.7	
MAK				*e*SSS	SSS	03 12 31.0		
MAK				pmax	pmax			
	comp=Z,69nm,1.5s							
T25A	**Trinidad**	**104.80**	**53**	IAMs_20	IAMs_20	03 29 51.5		
	comp=Z,707nm,21.0s							
TXAR	**Lajitas Array**	**105.76**	**61**	PKiKP	**PKiKP**	**02 53 41.0**	**+0.7**	
	comp=Z,0.9nm,1.0s,baz=278,slow=3.7,SNR=3.7							
TXAR				PKKPbc	**PKKPbc**	**03 05 03.8**	**-0.5**	
	comp=Z,0.5nm,0.8s,baz=122,slow=3.4,SNR=3.8							
TMCR	**Tamitsa**	**105.86**	**335**	*i* P	**Pdif**	**02 49 25.9**	**-0.9**	
TMCR				pmax	pmax			
	comp=Z,25nm,0.9s							
KLMR	**Klimovskoe**	**106.22**	**332**	P	**Pdif**	**02 49 26.9**	**-1.6**	
KLMR				*e*		02 53 48.2		
KLMR				pmax	pmax			
	comp=Z,13nm,1.2s							
KLMR	**Klimovskoe**	**106.22**	**332**	Pdif	**Pdif**	**02 49 26.9**	**-1.6**	
KLMR				AMP		02 49 35.6		
	comp=Z,13nm,1.2s							
KLMR				*e*PP	**PP**	**02 53 48.3**	**-4.2**	
APA	**Apatity**	**106.37**	**339**	⇑*i*P	**Pdif**	**02 49 35.9**	**+6.8**	
APA				pmax	pmax			
	comp=Z,7.0nm,1.3s							
ARCES	**ARCESS Array B**	**107.99**	**343**	PKiKP	**PKiKP**	**02 53 43.1**	**-0.1**	
	comp=Z,2.1nm,0.8s,baz=64,slow=2.1,SNR=4.2							
SUSD	**Miller**	**108.14**	**45**	IAMs_20	IAMs_20	03 33 07.1		
	comp=Z,765nm,21.0s							
CBKS	**Cedar Bluff**	**108.34**	**51**	IAMs_20	IAMs_20	03 32 15.9		
	comp=Z,866nm,21.0s							
D32A	**Dogwood Acres,**	**108.99**	**42**	IAMs_20	IAMs_20	03 33 57.4		
	comp=Z,915nm,20.0s							
ABTX	**Abilene, Hawle**	**109.03**	**58**	IAMs_20	IAMs_20	03 36 28.8		
	comp=Z,640nm,20.0s							
ULM	**Lac du Bonnet**	**109.06**	**39**	IAMs_20	IAMs_20	03 33 41.8		
	comp=Z,812nm,21.0s							
R32A	**Long Quarter,**	**109.18**	**52**	IAMs_20	IAMs_20	03 33 23.3		
	comp=Z,842nm,21.0s							
BGNE	**Belgrade**	**109.19**	**48**	IAMs_20	IAMs_20	03 34 44.3		
	comp=Z,685nm,20.0s							
U32A	**Winter Ranch,**	**109.19**	**54**	IAMs_20	IAMs_20	03 32 42.8		
	comp=Z,680nm,20.0s							
833A	**Chaparral WMA,**	**109.55**	**62**	IAMs_20	IAMs_20	03 29 09.9		
	comp=Z,1μm,22.0s							
F33A	**5 Mile Ranch,**	**109.74**	**44**	IAMs_20	IAMs_20	03 36 08.3		
	comp=Z,861nm,20.0s							
SOC	**Sochi**	**110.24**	**314**	*i* PKIKP	**PKiKP**	**02 53 44.5**	**-3.6**	
SOC				*e*		02 54 21.0		
SOC				*e*PPP	PPP	02 56 38.2		
SOC				*e*PS	**PS**	**03 03 40.6**	**-12**	
SOC				*e*SS	SS	03 09 43.5	-4.2	
OKCFA	**Oklahoma City**	**110.56**	**55**	IAMs_20	IAMs_20	03 32 35.0		
	comp=Z,614nm,21.0s							
OK025	**Westminster Rd**	**110.63**	**54**	IAMs_20	IAMs_20	03 33 06.9		
	comp=Z,611nm,20.0s							
B35A	**Bob, Littlefor**	**110.88**	**40**	IAMs_20	IAMs_20	03 33 06.1		
	comp=Z,711nm,21.0s							
735A	**Kenedy**	**110.91**	**62**	IAMs_20	IAMs_20	03 38 40.8		
	comp=Z,793nm,18.0s							
WHTX	**Lake Whitney,**	**110.93**	**58**	IAMs_20	IAMs_20	03 39 41.1		
	comp=Z,539nm,18.0s							
Z35A	**Perchaven, San**	**110.96**	**57**	IAMs_20	IAMs_20	03 31 54.9		
	comp=Z,718nm,22.0s							
T35A	**Sooner Cattle**	**111.11**	**53**	IAMs_20	IAMs_20	03 33 52.5		
	comp=Z,739nm,21.0s							
N35A	**Tabor**	**111.15**	**49**	IAMs_20	IAMs_20	03 36 21.2		
	comp=Z,821nm,21.0s							
F36A	**Milaca**	**111.62**	**43**	IAMs_20	IAMs_20	03 34 23.1		
	comp=Z,823nm,20.0s							
FINES	**FINESS Array B**	**111.98**	**335**	Pdiff	**Pdif**	**02 49 53.9**	**-0.2**	
	comp=Z,1.3nm,0.6s,baz=65,slow=5.0,SNR=7.2							
FINES				PKiKP	**PKiKP**	**02 53 50.4**	**-0.4**	
	comp=Z,2.1nm,0.7s,baz=79,slow=2.9,SNR=8.4							
FINES	**FINESS Array B**	**111.98**	**335**	*c i*PKIKP	**PKiKP**	**02 53 51.0**	**+0.2**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**111.98**	**335**		**Pdif**	**02 49 54.1**	**0.0**	
X37A	**Clayton**	**112.36**	**55**	IAMs_20	IAMs_20	03 35 03.7		
	comp=Z,741nm,21.0s							
EYMN	**Ely**	**112.43**	**41**	IAMs_20	IAMs_20	03 34 49.1		
	comp=Z,741nm,21.0s							
E38A	**The Farm, Brul**	**112.76**	**42**	IAMs_20	IAMs_20	03 37 40.0		
	comp=Z,666nm,19.0s							
Z38A	**Mt. Pleasant**	**112.86**	**57**	IAMs_20	IAMs_20	03 33 16.0		
	comp=Z,619nm,21.0s							
U38A	**Gravette**	**112.88**	**53**	IAMs_20	IAMs_20	03 35 27.2		
	comp=Z,556nm,20.0s							
K38A	**Parkersburg**	**112.90**	**46**	IAMs_20	IAMs_20	03 36 18.1		
	comp=Z,775nm,20.0s							
N38A	**Joes South For**	**112.96**	**48**	IAMs_20	IAMs_20	03 36 34.9		
	comp=Z,747nm,21.0s							
P38A	**Dawn**	**112.97**	**50**	IAMs_20	IAMs_20	03 34 04.4		
	comp=Z,924nm,22.0s							
NATX	**Nacogdoches**	**113.32**	**58**	IAMs_20	IAMs_20	03 41 50.5		
	comp=Z,603nm,19.0s							
MIAR	**Mount Ida**	**113.83**	**55**	P	**PKiKP**	**02 53 55.0**	**-0.1**	
	baz=279							
MIAR	**Mount Ida**	**113.83**	**55**	IAMs_20	IAMs_20	03 38 45.7		
	comp=Z,743nm,19.0s							
U40A	**Yellville**	**114.11**	**53**	P	PKPdf	02 53 55.4	-0.2	
	baz=280							
U40A	**Yellville**	**114.11**	**53**	IAMs_20	IAMs_20	03 45 39.8		
	comp=Z,564nm,19.0s							
L40A	**Anamosa**	**114.15**	**47**	IAMs_20	IAMs_20	03 36 55.3		
	comp=Z,732nm,20.0s							
R40A	**Maddies Statio**	**114.20**	**51**	IAMs_20	IAMs_20	03 34 39.0		
	comp=Z,665nm,21.0s							
X40A	**Basin Creek Fa**	**114.44**	**55**	IAMs_20	IAMs_20	03 39 02.9		
	comp=Z,719nm,20.0s							
COWI	**Conover**	**114.51**	**42**	IAMs_20	IAMs_20	03 39 23.3		
	comp=Z,721nm,20.0s							
D41A	**Chassel**	**114.59**	**41**	IAMs_20	IAMs_20	03 35 10.3		
	comp=Z,983nm,22.0s							
Z41A	**Richland Creek**	**114.67**	**56**	IAMs_20	IAMs_20	03 42 42.9		
	comp=Z,585nm,18.0s							
N41A	**Harden Midland**	**114.74**	**48**	IAMs_20	IAMs_20	03 36 36.1		
	comp=Z,800nm,20.0s							
W41B	**Gary Mavity, V**	**114.80**	**54**	P	PKPdf	02 53 56.8	-0.2	
	baz=280							
CCM	**Cathedral Cave**	**115.04**	**51**	IAMs_20	IAMs_20	03 34 41.2		
	comp=Z,663nm,22.0s							
AKASG	**Malin Array Be**	**115.10**	**324**	PKP	**PKiKP**	**02 53 56.8**	**-0.3**	
	comp=Z,1.8nm,0.6s,baz=56,slow=2.6,SNR=9.5							
AKASG	**Malin Array Be**	**115.10**	**324**	*c i*PKIKP	**PKiKP**	**02 53 56.7**	**-0.4**	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**115.10**	**324**	PKiKP	**PKiKP**	**02 53 56.0**	**-1.0**	
F42A	**Maple Grove Fa**	**115.28**	**42**	IAMs_20	IAMs_20	03 35 20.1		
	comp=Z,814nm,21.0s							
L42A	**Oliver, Polo**	**115.28**	**46**	IAMs_20	IAMs_20	03 38 31.3		
	comp=Z,808nm,21.0s							
342A	**Flagon Creek P**	**115.35**	**58**	IAMs_20	IAMs_20	03 38 48.2		
	comp=Z,594nm,20.0s							
BRTR	**Keskin Array B**	**115.52**	**311**	PKP	**PKPdf**	**02 53 58.7**	**+0.2**	
	comp=Z,1.8nm,0.8s,baz=112,slow=1.8,SNR=9.2							
BRTR	**Keskin Array B**	**115.52**	**311**	*c i*PKIKP	**PKPdf**	**02 53 58.9**	**+0.4**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**115.52**	**311**	PKiKP	**PKiKP**	**02 53 57.4**	**-1.1**	
E43A	**Lone Tree Farm**	**115.83**	**41**	IAMs_20	IAMs_20	03 37 03.2		
	comp=Z,783nm,22.0s							
143A	**Socs Landing,**	**115.92**	**57**	IAMs_20	IAMs_20	03 43 31.1		
	comp=Z,596nm,19.0s							
HDIL	**Hopedale**	**115.93**	**48**	IAMs_20	IAMs_20	03 36 14.5		
	comp=Z,849nm,22.0s							
P43A	**Skaggs, Pawnee**	**115.99**	**49**	IAMs_20	IAMs_20	03 38 50.2		
	comp=Z,599nm,21.0s							
LPAR	**Lepanto**	**116.28**	**53**	IAMs_20	IAMs_20	03 36 43.5		
	comp=Z,683nm,22.0s							
GNAR	**Gosnell**	**116.43**	**53**	IAMs_20	IAMs_20	03 36 26.4		
	comp=Z,656nm,21.0s							
L44A	**Lake County Fo**	**116.49**	**46**	P	**PKiKP**	**02 54 00.5**	**+0.5**	
	baz=287							
PEBM	**Pemiscott Bayo**	**116.53**	**53**	IAMs_20	IAMs_20	03 37 31.8		
	comp=Z,680nm,20.0s							
Q44A	**Meyer Farm, Va**	**116.55**	**50**	IAMs_20	IAMs_20	03 37 09.0		
	comp=Z,916nm,22.0s							
SORM	**Soroca**	**116.59**	**321**	⇑P	**PKPdf**	**02 53 59.9**	**-0.1**	
SORM	**Soroca**	**116.59**	**321**	⇑PKIKP	**PKPdf**	**02 53 59.9**	**-0.1**	
M44A	**Midewin, Midew**	**116.62**	**47**	IAMs_20	IAMs_20	03 37 19.7		
	comp=Z,775nm,22.0s							
HQIL	**Hanson Quary C**	**116.64**	**46**	IAMs_20	IAMs_20	03 39 03.2		
	comp=Z,710nm,20.0s							
O44A	**Mansfield**	**116.64**	**48**	IAMs_20	IAMs_20	03 37 22.4		
	comp=Z,883nm,22.0s							
S44A	**Carbondale**	**116.65**	**51**	IAMs_20	IAMs_20	03 36 30.0		
	comp=Z,659nm,22.0s							
344A	**Westbrook Farm**	**116.68**	**58**	IAMs_20	IAMs_20	03 37 58.5		
	comp=Z,684nm,20.0s							
MILM	**Milestii Mici**	**116.74**	**320**	⇓P	**PKPdf**	**02 53 58.9**	**-1.5**	
LNXT	**Lenox**	**116.82**	**53**	IAMs_20	IAMs_20	03 38 02.7		
	comp=Z,806nm,22.0s							
HALT	**Halls**	**116.98**	**53**	IAMs_20	IAMs_20	03 37 47.9		
	comp=Z,725nm,22.0s							
SUW	**Suwalki**	**116.99**	**329**	*e*PKP	**PKiKP**	**02 54 00.9**	**+0.2**	
SUW	**Suwalki**	**116.99**	**329**	IAMs_20	IAMs_20	03 44 53.4		
	comp=Z,703nm,22.0s							
G45A	**Suttons Bay**	**117.16**	**42**	IAMs_20	IAMs_20	03 38 56.5		
	comp=Z,736nm,20.0s							
Y45A	**Yeager Farm, C**	**117.24**	**55**	IAMs_20	IAMs_20	03 36 30.9		
	comp=Z,622nm,20.0s							
T45A	**Paducah**	**117.28**	**52**	IAMs_20	IAMs_20	03 35 49.7		
	comp=Z,726nm,22.0s							
SFIN	**Lafayette**	**117.59**	**48**	IAMs_20	IAMs_20	03 38 01.5		
	comp=Z,752nm,21.0s							
P46A	**Rosedale**	**117.72**	**48**	IAMs_20	IAMs_20	03 38 07.0		
	comp=Z,862nm,21.0s							
146A	**Union**	**117.88**	**56**	IAMs_20	IAMs_20	03 43 59.9		
	comp=Z,480nm,19.0s							
BOSA	**Boshof**	**117.90**	**233**	PKP	**PKiKP**	**02 54 03.5**	**+0.1**	
	comp=Z,5.6nm,0.9s,baz=73,slow=0.7,SNR=7.7							
GLMI	**Grayling**	**117.93**	**42**	IAMs_20	IAMs_20	03 36 40.3		
	comp=Z,843nm,22.0s							
NB2	**NORSAR Subarra**	**117.96**	**340**	PKPdf	**PKPdf**	**02 54 01.4**	**-1.0**	
	comp=Z,8.0nm,2.0s,baz=44,slow=1.9							
NOA	**NORSAR Array B**	**117.96**	**340**	PKP	**PKPdf**	**02 54 02.1**	**-0.3**	
	comp=Z,1.1nm,0.6s,baz=47,slow=1.9,SNR=9.7							
WVT	**Waverly**	**118.13**	**52**	IAMs_20	IAMs_20	03 39 22.2		
	comp=Z,886nm,21.0s							
PLAL	**Pickwick Lake**	**118.19**	**54**	IAMs_20	IAMs_20	03 37 06.0		
	comp=Z,600nm,22.0s							
BLO	**Bloomington**	**118.35**	**49**	IAMs_20	IAMs_20	03 38 36.8		
	comp=Z,779nm,22.0s							
N47A	**Urbana**	**118.47**	**47**	IAMs_20	IAMs_20	03 39 58.5		
	comp=Z,676nm,20.0s							
T47A	**Sharon Grove**	**118.48**	**51**	IAMs_20	IAMs_20	03 39 39.5		
	comp=Z,623nm,20.0s							
BURAR	**Bucovina Array**	**118.73**	**322**	PKPdf	**PKPdf**	**02 54 03.9**	**-0.4**	
L48A	**N Adams**	**119.03**	**45**	IAMs_20	IAMs_20	03 38 28.3		
	comp=Z,687nm,22.0s							
P48A	**Milroy**	**119.08**	**48**	IAMs_20	IAMs_20	03 38 59.1		
	comp=Z,891nm,22.0s							
X48A	**Hartselle**	**119.14**	**54**	IAMs_20	IAMs_20	03 42 27.0		
	comp=Z,495nm,20.0s							
PLCA	**Paso Flores**	**119.19**	**144**	PKP	**PKPdf**	**02 54 05.4**	**-0.1**	
	comp=Z,1.0nm,0.7s,baz=243,slow=2.3,SNR=1.7							
PLCA	**Paso Flores**	**119.19**	**144**	PKIKP	**PKPdf**	**02 54 04.0**	**-1.5**	
PLCA	**Paso Flores**	**119.19**	**144**		**PKPdf**	**02 54 04.0**	**-1.5**	
DOPR	**Dopca**	**119.29**	**320**	⇓P	**PKiKP**	**02 54 05.9**	**+0.5**	
CLTN	**Cedars of Leba**	**119.31**	**52**	PKPdf	**PKiKP**	**02 54 05.9**	**+0.2**	
CLTN				IAMs_20	IAMs_20	03 42 52.5		
	comp=Z,635nm,20.0s							
KWP	**Kalwaria Pacla**	**119.35**	**325**	*e*PKP	**PKiKP**	**02 54 05.7**	**+0.3**	
MTO3	**Montecristo**	**119.48**	**77**	IAMs_20	IAMs_20	03 54 51.9		
	comp=Z,734nm,21.0s							
LRAL	**Lakeview Retre**	**119.49**	**56**	P	**PKPdf**	**02 54 06.1**	**0.0**	
	baz=283							
LRAL	**Lakeview Retre**	**119.49**	**56**	IAMs_20	IAMs_20	03 43 52.6		
	comp=Z,493nm,19.0s							
ESQI	**Esquipulas**	**119.50**	**77**	IAMs_20	IAMs_20	03 35 49.4		
	comp=Z,825nm,20.0s							
P49A	**Miami Univ. Ec**	**119.59**	**48**	P	**PKiKP**	**02 54 06.2**	**0.0**	
	baz=288							
P49A	**Miami Univ. Ec**	**119.59**	**48**	IAMs_20	IAMs_20	03 39 02.3		
	comp=Z,888nm,22.0s							
R49A	**Shelbyville**	**119.61**	**49**	IAMs_20	IAMs_20	03 41 05.2		
	comp=Z,604nm,20.0s							
O49A	**Covington**	**119.67**	**47**	IAMs_20	IAMs_20	03 40 56.3		
	comp=Z,556nm,20.0s							
VOIR		**119.72**	**319**	⇓P	**PKPdf**	**02 54 06.0**	**-0.3**	
VOIR		**119.72**	**319**	⇓PKIKP	**PKPdf**	**02 54 06.0**	**-0.3**	
Y49A	**Blount Mountai**	**119.79**	**55**	IAMs_20	IAMs_20	03 41 48.3		
	comp=Z,656nm,21.0s							
KOLS	**Kolonicke sedl**	**119.92**	**324**	*e*PKIKP	**PKPdf**	**02 54 06.3**	**-0.2**	
KOLS	**Kolonicke sedl**	**119.92**	**324**	*e*PKP	**PKPdf**	**02 54 06.3**	**-0.2**	
ARR	**Arges**	**120.02**	**320**	⇑P	**PKiKP**	**02 54 07.7**	**+0.7**	
LSZ	**Lusaka**	**120.13**	**248**	PKIKP	**PKPdf**	**02 54 07.1**	**-0.9**	
LSZ	**Lusaka**	**120.13**	**248**		**PKPdf**	**02 54 07.1**	**-0.9**	
MATQ	**Matagami**	**120.17**	**35**	P	**PKiKP**	**02 54 07.1**	**+0.1**	
	baz=299							
R50A	**Paris**	**120.25**	**49**	IAMs_20	IAMs_20	03 42 41.1		
	comp=Z,498nm,20.0s							
FPAL	**Fort Paine**	**120.27**	**54**	IAMs_20	IAMs_20	03 38 55.0		
	comp=Z,595nm,22.0s							
250A	**Grady**	**120.32**	**57**	IAMs_20	IAMs_20	03 43 22.7		
	comp=Z,600nm,21.0s							
ACSO	**Alum Creek Sta**	**120.63**	**47**	IAMs_20	IAMs_20	03 39 29.8		
	comp=Z,550nm,21.0s							
I51A	**Listowel**	**120.70**	**42**	P	**PKPdf**	**02 54 08.1**	**-0.1**	
	baz=293							
P51A	**Williamsport**	**120.82**	**47**	P	**PKiKP**	**02 54 08.9**	**+0.3**	
	baz=289							
P51A	**Williamsport**	**120.82**	**47**	IAMs_20	IAMs_20	03 38 42.9		
	comp=Z,566nm,21.0s							
NIE	**Niedzica**	**120.82**	**325**	*e*PKP	PKP	02 53 58.2		
X51A	**Calhoun**	**120.86**	**53**	IAMs_20	IAMs_20	03 39 55.8		
	comp=Z,572nm,21.0s							
LSQQ	**Lebel-sur-Quev**	**120.89**	**35**	P	**PKiKP**	**02 54 08.7**	**+0.3**	
	baz=300							
CPCT	**Cooper Cave**	**120.90**	**52**	IAMs_20	IAMs_20	03 40 46.6		
	comp=Z,561nm,21.0s							
Z51A	**Franklin**	**120.92**	**55**	IAMs_20	IAMs_20	03 41 04.3		
	comp=Z,592nm,22.0s							
O51A	**Pataskala**	**120.93**	**47**	P	**PKiKP**	**02 54 09.1**	**+0.3**	
	baz=290							
S51A	**Beattyville**	**121.00**	**50**	IAMs_20	IAMs_20	03 40 25.9		
	comp=Z,759nm,20.0s							
VLDQ	**Val d'Or**	**121.08**	**36**	PKPdf	**PKPdf**	**02 54 08.6**	**0.0**	
VLDQ				IAMs_20	IAMs_20	03 53 09.7		
	comp=Z,665nm,18.0s							
D53A	**Lac Vacive, Po**	**121.42**	**37**	P	**PKiKP**	**02 54 09.5**	**0.0**	
	baz=298							
152A	**Waverly Hall**	**121.44**	**56**	IAMs_20	IAMs_20	03 46 22.3		
	comp=Z,507nm,18.0s							
P52A	**Corning**	**121.45**	**47**	P	**PKiKP**	**02 54 10.0**	**+0.2**	
	baz=290							
P52A	**Corning**	**121.45**	**47**	IAMs_20	IAMs_20	03 43 09.5		
	comp=Z,574nm,19.0s							
W52A	**Murphy**	**121.46**	**53**	IAMs_20	IAMs_20	03 40 33.5		
	comp=Z,803nm,21.0s							
O52A	**Adamsville**	**121.50**	**46**	P	**PKPdf**	**02 54 09.6**	**-0.1**	
	baz=290							
O52A	**Adamsville**	**121.50**	**46**	IAMs_20	IAMs_20	03 52 41.7		
	comp=Z,586nm,20.0s							
V52A	**Sevierville**	**121.52**	**52**	IAMs_20	IAMs_20

BRG				SS	SS	03 12 46.0	+7.4	
BRG				pmax	pmax			
	comp=Z,18nm,1.1s							
BRG				MLR	MLR			
	comp=N,277nm,19.3s							
BRG				MLR	MLR			
	comp=E,108nm,11.1s							
BRG				MLR	MLR			
	comp=Z,416nm,23.3s							
BRG	**Berggiesshubel**	**123.44**	**329**	*e*PKPdf	**PKiKP**	**02 54 13.4**	**0.0**	
	baz=336,slow=1.9							
X55A	**Gracelyn & Ava**	**123.45**	**53**	P	**PKiKP**	**02 54 14.3**	**+0.4**	
	baz=287							
H56A	**Elgin**	**123.46**	**40**	P	**PKiKP**	**02 54 14.5**	**+0.8**	
	baz=298							
255A	**Hazlehurst**	**123.47**	**56**	IAMs_20	IAMs_20	03 42 57.9		
	comp=Z,594nm,21.0s							
KMSC	**Kings Mountain**	**123.49**	**52**	P	**PKPdf**	**02 54 13.7**	**-0.1**	
	baz=288							
KMSC	**Kings Mountain**	**123.49**	**52**	IAMs_20	IAMs_20	03 40 35.0		
	comp=Z,754nm,22.0s							
BLA	**Blacksburg**	**123.53**	**49**	P	**PKPdf**	**02 54 13.6**	**-0.2**	
	baz=290							
BLA	**Blacksburg**	**123.53**	**49**	IAMs_20	IAMs_20	03 43 25.8		
	comp=Z,764nm,20.0s							
M56A	**Emporium**	**123.55**	**44**	P	**PKPdf**	**02 54 13.4**	**-0.3**	
	baz=294							
TREC	**Trest**	**123.55**	**327**	*e*PKPDF	**PKiKP**	**02 54 13.9**	**+0.2**	
TREC				*ep*PKP	**sPKPdf**	**02 54 21.7**	**-1.3**	
TREC				AMS	AMS	03 46 30.0		
	comp=Z,400nm,16.8s							
TREC	**Trest**	**123.55**	**327**	*e*PKIKP	**PKiKP**	**02 54 13.9**	**+0.2**	
TREC				*e*		02 54 21.7		
TREC				MLR	MLR			
	comp=Z,400nm,16.8s							
GOPC	**GO Pecny, Ondr**	**123.57**	**328**	*e*PKPDF	**PKiKP**	**02 54 15.4**	**+1.7**	
GOPC				*ep*PKP	**sPKPdf**	**02 54 21.6**	**-1.4**	
GOPC				AMS	AMS	03 48 10.0		
	comp=Z,500nm,20.9s							
GOPC	**GO Pecny, Ondr**	**123.57**	**328**	*e*PKIKP	**PKiKP**	**02 54 15.4**	**+1.7**	
GOPC				*e*		02 54 21.6		
GOPC				MLR	MLR			
	comp=Z,500nm,20.9s							
CLL	**Collm**	**123.65**	**330**	*e*PKPdf	**PKiKP**	**02 54 14.0**	**+0.2**	
	comp=Z,14nm,1.0s							
CLL				*ep*PKPdf	**pPKPdf**	**02 54 21.0**	**+0.3**	
CLL				*e*PP	**PP**	**02 55 56.0**	**+0.6**	
CLL				*e*PS	**PS**	**03 05 50.0**	**-3.4**	
CLL				*e*PPS	PPS	03 07 17.0		
CLL				*e*SS	SS	03 12 37.0	-4.1	
CLL				*e*SSS	SSS	03 17 19.0		
CLL				*e*SSSS		03 20 48.0		
CLL				LmV		03 50 00.0		
	comp=Z,400nm,21.0s							
CLL	**Collm**	**123.65**	**330**	*e*PKIKP	**PKiKP**	**02 54 14.0**	**+0.2**	
CLL				*e*		02 54 21.0		
CLL				pmax	pmax			
	comp=Z,14nm,1.0s							
CLL				MLR	MLR			
	comp=Z,400nm,21.0s							
CLL	**Collm**	**123.65**	**330**	*e*PKPdf	**PKPdf**	**02 54 13.6**	**0.0**	
	baz=336,slow=1.9							
PRU	**Pruhonice**	**123.66**	**328**	*e*PKPDF	**PKiKP**	**02 54 14.1**	**+0.2**	
PRU				*ep*PKP	**sPKPdf**	**02 54 22.1**	**-1.0**	
PRU				AMS	AMS	03 49 50.0		
	comp=Z,400nm,16.8s							
PRU	**Pruhonice**	**123.66**	**328**	*e*PKIKP	**PKiKP**	**02 54 14.1**	**+0.2**	
PRU				*e*		02 54 22.1		
PRU				MLR	MLR			
	comp=Z,400nm,16.8s							
PRA	**Prague**	**123.67**	**328**	AMS	AMS	03 49 50.0		
	comp=Z,300nm,22.2s							
J56A	**Wolcott**	**123.67**	**41**	IAMs_20	IAMs_20	03 42 35.8		
	comp=Z,708nm,21.0s							
N56A	**West Decatur**	**123.70**	**44**	P	**PKiKP**	**02 54 14.3**	**0.0**	
	baz=294							
L56A	**Greenwood**	**123.70**	**43**	P	**PKiKP**	**02 54 14.3**	**0.0**	
	baz=295							
L56A	**Greenwood**	**123.70**	**43**	PKPdf	**PKPdf**	**02 54 13.5**	**-0.5**	
FBE	**Freiberg**	**123.71**	**330**	*e*PKPdf	**PKiKP**	**02 54 14.2**	**+0.3**	
	baz=336,slow=1.9							
D57A	**Chemin Vers le**	**123.71**	**36**	P	**PKiKP**	**02 54 14.2**	**+0.1**	
	baz=301							
O56A	**Blue Knob Stat**	**123.77**	**45**	P	**PKiKP**	**02 54 14.5**	**+0.1**	
	baz=293							
O56A	**Blue Knob Stat**	**123.77**	**45**	IAMs_20	IAMs_20	03 42 29.7		
	comp=Z,765nm,20.0s							
NRS	**Narsarsuaq**	**123.77**	**10**	IAMs_20	IAMs_20	03 45 57.6		
	comp=Z,790nm,20.0s							
Q56A	**Snyder Ridge,**	**123.79**	**47**	P	**PKiKP**	**02 54 14.8**	**+0.3**	
	baz=292							
Q56A	**Snyder Ridge,**	**123.79**	**47**	IAMs_20	IAMs_20	03 49 02.5		
	comp=Z,507nm,20.0s							
R56A	**Bull Pasture M**	**123.87**	**47**	P	**PKiKP**	**02 54 14.7**	**0.0**	
	baz=291							
E57A	**Chemin Saint G**	**123.87**	**37**	P	**PKiKP**	**02 54 15.0**	**+0.6**	
	baz=301							
T56A	**Rocky Mt**	**123.88**	**49**	P	**PKiKP**	**02 54 14.9**	**+0.1**	
	baz=290							
X56A	**White Oak**	**123.92**	**52**	P	**PKiKP**	**02 54 15.1**	**+0.2**	
	baz=288							
Z56A	**Williston**	**123.99**	**54**	IAMs_20	IAMs_20	03 43 27.6		
	comp=Z,693nm,22.0s							
S56A	**Natural Bridge**	**124.01**	**48**	P	**PKPdf**	**02 54 14.0**	**-0.7**	
	baz=291							
G57A	**Newington**	**124.02**	**38**	P	**PKiKP**	**02 54 14.7**	**0.0**	
	baz=299							
W56A	**Indian Trail**	**124.08**	**52**	P	**PKiKP**	**02 54 15.5**	**+0.3**	
	baz=288							
SSPA	**Standing Stone**	**124.10**	**44**	P	**PKPdf**	**02 54 14.8**	**+0.1**	
	baz=294							
SSPA	**Standing Stone**	**124.10**	**44**		**PKPdf**	**02 54 14.8**	**+0.1**	
SSPA	**Standing Stone**	**124.10**	**44**	IAMs_20	IAMs_20	03 42 31.4		
	comp=Z,732nm,20.0s							
CONA	**Conrad Observa**	**124.11**	**326**	*i* PKiKP	**PKiKP**	**02 54 15.0**	**+0.1**	
	comp=Z,10.0nm,1.0s,SNR=9.7							
PBCC	**Pribram**	**124.12**	**328**	*e*PKPDF	**PKiKP**	**02 54 15.1**	**+0.3**	
PBCC				*ep*PKP	**pPKPdf**	**02 54 22.6**	**+0.9**	
K57A	**Scipio Center**	**124.14**	**42**	P	**PKiKP**	**02 54 15.7**	**+0.6**	
	baz=296							
I57A	**Carthage**	**124.15**	**40**	P	**PKiKP**	**02 54 15.2**	**+0.2**	
	baz=298							
J57A	**Williamstown**	**124.18**	**41**	P	**PKiKP**	**02 54 15.6**	**+0.5**	
	baz=297							
L57A	**Andrews Acres**	**124.24**	**43**	P	**PKiKP**	**02 54 15.8**	**+0.5**	
	baz=296							
ASSE	**Asse, Remlinge**	**124.24**	**332**	*e*PKPdf	**PKiKP**	**02 54 15.1**	**+0.3**	
	baz=336,slow=1.9							
D58A	**Chemin du LacG**	**124.26**	**36**	P	**PKPdf**	**02 54 14.7**	**-0.2**	
	baz=302							
NRDL	**Niedersach Rie**	**124.26**	**333**	*e*PKPdf	**PKiKP**	**02 54 15.3**	**+0.5**	
	baz=336,slow=1.9							
N57A	**Milroy**	**124.28**	**44**	P	**PKiKP**	**02 54 15.8**	**+0.4**	
	baz=294							
NEUB	**Neuenburg**	**124.31**	**331**	*e*PKPdf	**PKiKP**	**02 54 15.0**	**-0.1**	
	baz=336,slow=1.9							
BIRD	**Birdtown, Kers**	**124.32**	**52**	IAMs_20	IAMs_20	03 41 11.1		
	comp=Z,510nm,22.0s							
M57A	**Sunshine Farm,**	**124.33**	**43**	P	**PKiKP**	**02 54 16.0**	**+0.6**	
	baz=295							
Q57A	**Strasburg**	**124.36**	**46**	P	**PKiKP**	**02 54 15.8**	**+0.2**	
	baz=292							
O57A	**Amberson**	**124.45**	**45**	P	**PKiKP**	**02 54 16.3**	**+0.5**	
	baz=294							
V57A	**Coltrane Farms**	**124.46**	**50**	P	**PKPdf**	**02 54 15.6**	**+0.1**	
	baz=289							
P57A	**Homestead Farm**	**124.47**	**46**	P	**PKPdf**	**02 54 15.3**	**-0.2**	
	baz=293							
P57A	**Homestead Farm**	**124.47**	**46**	IAMs_20	IAMs_20	03 54 36.3		
	comp=Z,482nm,19.0s							
TANN	**Tannenbergstha**	**124.47**	**330**	*e*PKPdf	**PKiKP**	**02 54 15.5**	**-0.1**	
	baz=336,slow=1.9							
LONY	**Lake Ozonia**	**124.50**	**39**	P	**PKiKP**	**02 54 16.2**	**+0.5**	
	baz=299							
LONY	**Lake Ozonia**	**124.50**	**39**		**PKiKP**	**02 54 16.4**	**+0.6**	
GUNZ	**Gunzen**	**124.56**	**330**	*e*PKPdf	**PKiKP**	**02 54 15.8**	**+0.1**	
	baz=336,slow=1.9							
GUNZ				*ep*PKPdf	**sPKPdf**	**02 54 24.2**	**-0.7**	
Y57A	**Sumter**	**124.57**	**53**	IAMs_20	IAMs_20	03 44 20.7		
	comp=Z,676nm,21.0s							
CLZ	**Clausthal**	**124.57**	**332**	*e*PKPdf	**PKiKP**	**02 54 15.9**	**+0.2**	
	baz=336,slow=1.9							
PLN	**Plauen**	**124.58**	**330**	*e*PKPdf	**PKiKP**	**02 54 15.6**	**-0.1**	
	baz=336,slow=1.9							
NKC	**Novy Kostel**	**124.59**	**329**	*e*PKPDF	**PKiKP**	**02 54 16.2**	**+0.5**	
NKC				*ep*PKP	**sPKPdf**	**02 54 23.7**	**-1.3**	
NKC				AMS	AMS	03 49 50.0		
	comp=Z,500nm,21.3s							
NKC	**Novy Kostel**	**124.59**	**329**	*e*PKIKP	**PKiKP**	**02 54 16.2**	**+0.5**	
NKC				*e*		02 54 23.7		
NKC				MLR	MLR			
	comp=Z,500nm,21.3s							
WERN	**Wernitzgruen**	**124.59**	**330**	*e*PKPdf	**PKiKP**	**02 54 15.9**	**+0.1**	
	baz=336,slow=1.9							
257A	**Skidaway Islan**	**124.64**	**55**	IAMs_20	IAMs_20	03 43 38.0		
	comp=Z,687nm,21.0s							
KHC	**Kasperske Hory**	**124.67**	**328**	*e*PKPDF	**PKiKP**	**02 54 16.2**	**+0.2**	
KHC				*ep*PKP	**sPKPdf**	**02 54 23.9**	**-1.3**	
KHC				AMS	AMS	03 47 10.0		
	comp=Z,400nm,19.8s							
KHC	**Kasperske Hory**	**124.67**	**328**	*d i*PKIKP	**PKiKP**	**02 54 15.8**	**-0.2**	
KHC				pmax	pmax			
	comp=Z,59nm,1.7s							
KHC				MLR	MLR			
	comp=Z,734nm,20.0s							
ARSA	**Arzberg**	**124.67**	**325**	*i* PKiKP	**PKPdf**	**02 54 15.7**	**0.0**	
	comp=Z,3.1nm,1.0s							
K58A	**Earlville**	**124.70**	**41**	IAMs_20	IAMs_20	03 41 53.9		
	comp=Z,692nm,21.0s							
MOX	**Moxa**	**124.75**	**330**	*e*PKPdf	**PKiKP**	**02 54 15.9**	**-0.1**	
	baz=336,slow=1.9							
MOX				*e*L	L	03 49 49.9		
	comp=Z,445nm,21.9s							
GEC2	**GERESS Array S**	**124.77**	**327**	*e*PKPdf	**PKPdf**	**02 54 16.0**	**0.0**	
	baz=336,slow=1.9							
GEC2	**GERESS Array S**	**124.77**	**327**	IAMs_20	IAMs_20	03 49 24.2		
	comp=Z,514nm,20.0s							
GERES	**GERESS Array B**	**124.77**	**327**	PKP	**PKiKP**	**02 54 16.2**	**-0.1**	
	comp=Z,6.3nm,0.8s,baz=64,slow=1.7,SNR=41							
M58A	**Price's Panora**	**124.77**	**43**	P	**PKiKP**	**02 54 16.6**	**+0.2**	
	baz=296							
PDG	**Podgorica**	**124.79**	**318**	⇑P	**PKiKP**	**02 54 16.2**	**-0.1**	
N58A	**Sunbury**	**124.83**	**44**	P	**PKPdf**	**02 54 16.2**	**0.0**	
	baz=295							
H58A	**Gabriels**	**124.85**	**39**	P	**PKPdf**	**02 54 16.2**	**+0.1**	
	baz=300							
MANZ	**Manzenberg**	**124.91**	**329**	*e*PKPdf	**PKiKP**	**02 54 16.4**	**0.0**	
	baz=336,slow=1.9							
GTTG	**Gottingen**	**124.96**	**332**	*e*PKPdf	**PKiKP**	**02 54 16.6**	**+0.2**	
	baz=336,slow=1.9							
P58A	**Pank, Wackersv**	**124.97**	**46**	P	**PKiKP**	**02 54 17.3**	**+0.5**	
	baz=294							
O58A	**Lewisberry**	**124.98**	**45**	P	**PKiKP**	**02 54 17.4**	**+0.6**	
	baz=294							
V58A	**Windy Hill, Pi**	**124.99**	**50**	P	**PKiKP**	**02 54 17.3**	**+0.4**	
	baz=290							
V58A	**Windy Hill, Pi**	**124.99**	**50**	IAMs_20	IAMs_20	03 40 40.8		
	comp=Z,722nm,22.0s							
ROTZ	**Rotzenmuhle**	**125.00**	**329**	*e*PKPdf	**PKiKP**	**02 54 16.4**	**-0.1**	
	baz=336,slow=1.9							
NHSC	**New Hope**	**125.01**	**54**	IAMs_20	IAMs_20	03 44 27.5		
	comp=Z,754nm,22.0s							
WET	**Wettzell**	**125.03**	**328**	*e*PKPdf	**PKiKP**	**02 54 16.7**	**0.0**	
	baz=336,slow=1.9							
MOA	**Molln**	**125.04**	**326**	*i* PKiKP	**PKPdf**	**02 54 16.1**	**-0.3**	
	comp=Z,4.0nm,1.1s							
NCB	**Newcomb**	**125.05**	**39**	IAMs_20	IAMs_20	03 43 10.8		
	comp=Z,510nm,20.0s							
J59A	**Piesco**	**125.11**	**40**	P	**PKiKP**	**02 54 17.7**	**+0.7**	
	baz=299							
J59A	**Piesco**	**125.11**	**40**		**PKPdf**	**02 54 16.7**	**0.0**	
J59A				IAMs_20	IAMs_20	03 52 27.7		
	comp=Z,588nm,19.0s							
R58B	**Mineral**	**125.15**	**47**	P	**PKPdf**	**02 54 16.7**	**-0.1**	
	baz=292							
S58A	**Poland Farm, P**	**125.15**	**48**	IAMs_20	IAMs_20	03 49 44.6		
	comp=Z,707nm,19.0s							
W58A	**Raeford**	**125.16**	**51**	P	**PKiKP**	**02 54 17.2**	**-0.1**	
	baz=289							
K59A	**Cooperstown**	**125.21**	**41**	P	**PKiKP**	**02 54 17.9**	**+0.7**	
	baz=298							
U58A	**Oxford**	**125.22**	**49**	P	**PKiKP**	**02 54 17.3**	**-0.1**	
	baz=291							
Z58A	**St. Stephen**	**125.23**	**53**	P	**PKiKP**	**02 54 17.4**	**-0.1**	
	baz=288							
SOKA	**Soboth**	**125.27**	**325**	*i* PKiKP	**PKPdf**	**02 54 16.5**	**-0.4**	
	comp=Z,16nm,1.0s,SNR=15							
I59A	**Olmsteadville**	**125.35**	**39**	P	**PKiKP**	**02 54 17.4**	**-0.1**	
	baz=300							
M59A	**Waymart**	**125.39**	**42**	P	**PKiKP**	**02 54 17.9**	**+0.3**	
	baz=297							
F60A	**Warwick**	**125.40**	**36**	P	**PKiKP**	**02 54 17.4**	**0.0**	
	baz=303							
O59A	**Robesonia**	**125.41**	**44**	P	**PKiKP**	**02 54 18.3**	**+0.7**	
	baz=295							
UBBA	**Unterbreizbach**	**125.42**	**331**	*e*PKPdf	**PKiKP**	**02 54 17.3**	**+0.1**	
	baz=336,slow=1.9							
CBN	**Corbin Frederi**	**125.42**	**47**	IAMs_20	IAMs_20	03 44 05.7		
	comp=Z,468nm,20.0s							
N59A	**State Game Lan**	**125.44**	**43**	P	**PKiKP**	**02 54 17.8**	**+0.1**	
	baz=296							
IBBN	**Ibbenburen**	**125.44**	**334**	*e*PKPdf	**PKiKP**	**02 54 17.4**	**+0.1**	
	baz=336,slow=1.9							
E60A	**Ste Agathe de**	**125.48**	**36**	P	**PKiKP**	**02 54 17.6**	**0.0**	
	baz=303							
LEGS	**Legarje**	**125.50**	**324**	*i* PKPdf	**PKiKP**	**02 54 17.4**	**-0.2**	
LEGS				*i* pPKPdf	**sPKPdf**	**02 54 25.8**	**-1.1**	
GRF	**Grafenberg Arr**	**125.54**	**330**	*e*PKPdf	**PKiKP**	**02 54 17.6**	**-0.1**	
	baz=336,slow=1.9							
GRF				*e*L	L	03 51 20.1		
	comp=Z,467nm,20.8s							
OBKA	**Obir**	**125.64**	**325**	*i* PKiKP	**PKPdf**	**02 54 17.3**	**-0.4**	
	comp=Z,5.3nm,0.8s							
I60A	**Shoreham**	**125.69**	**39**	P	**PKiKP**	**02 54 18.4**	**+0.3**	
	baz=300							
T59A	**Double "B" Far**	**125.76**	**48**	P	**PKiKP**	**02 54 18.4**	**0.0**	
	baz=292							
T59A	**Double "B" Far**	**125.76**	**48**	IAMs_20	IAMs_20	03 47 57.7		
	comp=Z,700nm,19.0s							
Y59A	**Loris**	**125.77**	**52**	IAMs_20	IAMs_20	03 49 42.2		
	comp=Z,451nm,19.0s							
U59A	**Littleton**	**125.80**	**49**	IAMs_20	IAMs_20	03 47 12.1		
	comp=Z,535nm,20.0s							
MOZS	**Mozjanca**	**125.82**	**325**	*i* PKPdf	**PKPdf**	**02 54 18.0**	**0.0**	
MOZS				*i* pPKPdf	**sPKPdf**	**02 54 26.2**	**-1.3**	
VISS	**Visnje**	**125.86**	**324**	*i* PKPdf	**PKiKP**	**02 54 18.4**	**0.0**	
VISS				*i* pPKPdf	**sPKPdf**	**02 54 26.5**	**-1.0**	
J60A	**Lant Hill Farm**	**125.91**	**40**	P	**PKiKP**	**02 54 18.8**	**+0.2**	
	baz=300							
LJU	**Ljubljana**	**125.91**	**324**	*e*PKPdf	**PKiKP**	**02 54 18.4**	**0.0**	
LJU				*i* pPKPdf	**sPKPdf**	**02 54 26.6**	**-1.0**	
O60A	**Telford**	**125.95**	**44**	P	**PKiKP**	**02 54 18.5**	**-0.2**	
	baz=296							
F61A	**St Evariste**	**125.96**	**36**	P	**PKiKP**	**02 54 18.8**	**+0.2**	
	baz=304							
WUPA	**West Chester U**	**125.98**	**44**	IAMs_20	IAMs_20	03 43 27.1		
	comp=Z,650nm,21.0s							
E61A	**Lac Etchemin**	**126.00**	**35**	P	**PKPdf**	**02 54 18.4**	**+0.2**	
	baz=304							
KBA	**Koelnbreinsper**	**126.00**	**326**	*i* PKPdf	**PKPdf**	**02 54 17.1**	**-1.3**	
	comp=Z,11nm,1.2s,SNR=7.2							
TRY	**Troy**	**126.00**	**40**	IAMs_20	IAMs_20	03 44 22.3		
	comp=Z,745nm,20.0s							
M60A	**Port Jervis**	**126.03**	**42**	P	**PKiKP**	**02 54 19.0**	**+0.2**	
	baz=297							
MYKA	**Terra Mystica**	**126.09**	**325**	*i* PKiKP	**PKPdf**	**02 54 18.3**	**-0.2**	
	comp=Z,5.6nm,1.2s							
LCO	**Las Campanas**	**126.14**	**133**	PKIKP	**PKPdf**	**02 54 17.9**	**-1.5**	
LCO	**Las Campanas**	**126.14**	**133**		**PKPdf**	**02 54 17.9**	**-1.5**	
S60A	**Water View**	**126.14**	**47**	P	**PKiKP**	**02 54 20.1**	**+0.9**	
	baz=293							
H61A	**Lyndonville**	**126.18**	**38**	P	**PKiKP**	**02 54 19.8**	**+0.8**	
	baz=302							
Q60A	**Greensboro**	**126.20**	**45**	P	**PKiKP**	**02 54 19.9**	**+0.7**	
	baz=295							
Q60A	**Greensboro**	**126.20**	**45**	IAMs_20	IAMs_20	03 47 42.2		
	comp=Z,559nm,21.0s							
BUG	**Bochum--Univer**	**126.26**	**333**	*e*PKPdf	**PKiKP**	**02 54 18.8**	**-0.1**	
	baz=336,slow=1.9							
I61A	**Oroboro, Fairl**	**126.32**	**39**	P	**PKiKP**	**02 54 19.7**	**+0.3**	
	baz=301							
LBNH	**Lisbon**	**126.34**	**38**	P	**PKiKP**	**02 54 20.0**	**+0.6**	
	baz=302							
HNH	**Hanover**	**126.39**	**39**	IAMs_20	IAMs_20	03 45 13.4		
	comp=Z,580nm,18.0s							
V60A	**Jim Taylor Roa**	**126.42**	**50**	P	**PKiKP**	**02 54 19.6**	**-0.2**	
	baz=291							
V60A	**Jim Taylor Roa**	**126.42**	**50**	IAMs_20	IAMs_20	03 44 01.3		
	comp=Z,530nm,20.0s							
D62A	**Allapoint, All**	**126.43**	**34**	P	**PKiKP**	**02 54 19.6**	**+0.2**	
	baz=306							
FUR	**Furstenfeldbru**	**126.47**	**328**	*e*PKPdf	**PKPdf**	**02 54 19.2**	**+0.1**	
	baz=336,slow=1.9							
TNS	**Taunus Mts**	**126.56**	**331**	*e*PKPdf	**PKiKP**	**02 54 19.6**	**-0.1**	
	baz=336,slow=1.9							
F62A	**Pittston Farm,**	**126.60**	**35**	P	**PKiKP**	**02 54 20.0**	**+0.1**	
	baz=305							
KSCT	**Kent School, K**	**126.60**	**41**	IAMs_20	IAMs_20	03 43 25.3		
	comp=Z,742nm,21.0s							
M61A	**Granite Spring**	**126.61**	**42**	P	**PKPdf**	**02 54 19.5**	**0.0**	
	baz=298							
H62A	**Milan**	**126.63**	**37**	IAMs_20	IAMs_20	03 48 59.5		
	comp=Z,600nm,21.0s							
G62A	**West of Eustis**	**126.65**	**36**	P	**PKiKP**	**02 54 19.8**	**-0.2**	
	baz=304							
ABTA	**Abfaltersbach**	**126.66**	**326**	*i* PKPdf	**PKPdf**	**02 54 18.8**	**-0.7**	
	comp=Z,19nm,1.1s,SNR=14							
PAL	**Palisades**	**126.66**	**42**	P	**PKiKP**	**02 54 20.6**	**+0.5**	
	baz=298							
WATA	**Walderalm**	**126.82**	**327**	*i* PKiKP	**PKPdf**	**02 54 20.0**	**+0.1**	
	comp=Z,22nm,1.1s,SNR=10							
U61A	**Possum Corner**	**126.82**	**49**	IAMs_20	IAMs_20	03 46 18.9		
	comp=Z,680nm,20.0s							
WTTA	**Wattenberg**	**126.83**	**327**	*i* PKiKP	**PKPdf**	**02 54 20.1**	**+0.1**	
	comp=Z,38nm,1.1s,SNR=17							
FFD	**Franklin Falls**	**126.91**	**39**	IAMs_20	IAMs_20	03 43 25.0		
	comp=Z,508nm,19.0s							
V61A	**Roper**	**126.92**	**49**	IAMs_20	IAMs_20	03 44 45.8		
	comp=Z,610nm,21.0s							
K62A	**Royalston**	**126.95**	**40**	P	**PKiKP**	**02 54 20.6**	**0.0**	
	baz=300							
CIMO	**Cimolais**	**126.95**	**326**	IAMs_20	IAMs_20	03 52 56.2		
	comp=Z,486nm,21.0s							
D63A	**Stockholm**	**126.97**	**33**	P	**PKiKP**	**02 54 20.4**	**-0.1**	
	baz=307							
AHRW	**Bad Neuenahr-A**	**126.98**	**332**	*e*PKPdf	**PKiKP**	**02 54 20.5**	**0.0**	
	baz=336,slow=1.9							
MOTA	**Moosalm**	**127.07**	**327**	*i* PKiKP	**PKiKP**	**02 54 20.9**	**-0.1**	
	comp=Z,26nm,1.0s,SNR=9.6							
QUA2	**Belchertown**	**127.07**	**40**	IAMs_20	IAMs_20	03 45 03.5		
	comp=Z,640nm,21.0s							
SQTA	**Sankt Quirin**	**127.09**	**327**	*i* PKiKP	**PKiKP**	**02 54 21.0**	**+0.1**	
	comp=Z,27nm,1.3s,SNR=8.2							
STU	**Stuttgart**	**127.15**	**330**	*e*PKPdf	**PKiKP**	**02 54 20.6**	**-0.2**	
	baz=336,slow=1.9							
RETA	**Reutte**	**127.16**	**328**	*i* PKiKP	**PKPdf**	**02 54 20.4**	**-0.1**	
	comp=Z,8.5nm,1.0s							
PQI	**Presque Isle**	**127.24**	**34**		**PKiKP**	**02 54 21.0**	**-0.1**	
I63A	**Otisfield**	**127.26**	**38**	P	**PKiKP**	**02 54 21.4**	**+0.2**	
	baz=303							
I63A	**Otisfield**	**127.26**	**38**	IAMs_20	IAMs_20	03 52 15.2		
	comp=Z,678nm,19.0s							
J63A	**Strafford**	**127.36**	**39**	P	**PKiKP**	**02 54 22.4**	**+1.0**	
	baz=302							
UBR	**Ueberruh**	**127.39**	**328**	*e*PKPdf	**PKPdf**	**02 54 20.8**	**-0.1**	
	baz=336,slow=1.9							
MEM	**Membach**	**127.42**	**333**	PKPdf	**PKPdf**	**02 54 20.8**	**0.0**	
MEM				PKiKP	**PKiKP**	**02 54 21.5**	**+0.2**	
MEM				pPKP	**sPKPdf**	**02 54 29.4**	**-0.9**	
HRV	**Adam Dziewonsk**	**127.46**	**40**	IAMs_20	IAMs_20	03 50 32.9		
	comp=Z,674nm,18.0s							
FETA	**Feichten**	**127.47**	**327**	*i* PKiKP	**PKPdf**	**02 54 21.1**	**-0.1**	
	comp=Z,19nm,1.4s,SNR=11							
WVL	**Waterville**	**127.53**	**37**	IAMs_20	IAMs_20	03 48 53.2		
	comp=Z,717nm,19.0s							
CTI	**Castel Tesino**	**127.55**	**326**	IAMs_20	IAMs_20	03 50 10.9		
	comp=Z,529nm,18.0s							
G64A	**Maxfield**	**127.66**	**35**	P	**PKiKP**	**02 54 23.1**	**+1.1**	
	baz=306							
H64A	**Troy**	**127.74**	**36**	P	**PKiKP**	**02 54 22.1**	**0.0**	
	baz=305							
DAVA	**Damuels**	**127.75**	**328**	*i* PKiKP	**PKPdf**	**02 54 21.9**	**+0.1**	
	comp=Z,17nm,1.1s,SNR=7.0							
L63A	**North Scituate**	**127.76**	**40**	P	**PKiKP**	**02 54 23.2**	**+0.9**	
	baz=300							
BCLA	**Clavier**	**127.87**	**333**	PKPdf	**PKiKP**	**02 54 21.9**	**-0.4**	
BCLA				pPKP	**sPKPdf**	**02 54 29.9**	**-1.3**	
BCLA				sPKP		02 54 33.1		
BFO	**Black Forest**	**127.88**	**330**	PKIKP	**PKiKP**	**02 54 22.0**	**-0.3**	
BFO			

SAML	**Samuel**	**142.02 113**		PKIKP	**PKPdf**	**02 54 47.6**	**-1.5**
SAML				MLR	MLR		
comp=Z,500nm,18.0s							
SAML	**Samuel**	**142.02 113**			**PKPdf**	**02 54 47.6**	**-1.5**
SAML				IAMs_20	IAMs_20	03 58 59.0	
comp=Z,487nm,18.0s							
PMRV	**Marv??o**	**142.04 333**		*e*PKPdf	**PKiKP**	**02 54 52.0**	**+0.6**
PSBE	**So Bento**	**142.58 335**		*e*PKPdf	**PKiKP**	**02 54 53.9**	**+1.4**
CDVI	**St. Croix**	**142.59 69**		PKPdf	**PKPdf**	**02 54 49.8**	**-0.2**
PMTG	**Montargil**	**142.71 334**		*e*PKPdf	**PKPdf**	**02 54 46.6**	**-3.0**
SMRT	**St. Maarten**	**144.08 68**		*e*P	**PKPab**	**02 54 47.8**	**-2.3**
SMRT	**St. Maarten**	**144.08 68**		IAMs_20	IAMs_20	03 56 14.1	
comp=Z,618nm,22.0s							
SEUS	**St. Eustatius**	**144.31 69**		*e*P	**PKiKP**	**02 54 56.1**	**-0.4**
SEUS	**St. Eustatius**	**144.31 69**		IAMs_20	IAMs_20	03 57 49.1	
comp=Z,544nm,19.0s							
MORF	**Marmelete**	**144.35 333**		*e*PKPdf	**PKPdf**	**02 54 52.4**	**-0.2**
MORF				AMS	AMS	04 07 16.7	
comp=E,654nm,25.3s							
MORF	**Marmelete**	**144.35 333**		*e*PKIKP	**PKPdf**	**02 54 52.4**	**-0.2**
SKI	**Saint Kitts**	**144.57 69**		*e*P	**PKPab**	**02 54 48.8**	**-3.2**
SKI	**Saint Kitts**	**144.57 69**		PKIKP	PKPbc	02 54 52.2	+0.1
SKI	**Saint Kitts**	**144.57 69**		PKPdf	PKPbc	02 54 52.2	0.0
MLYT	**Lee's Yard**	**145.22 70**		*e*P	**PKPbc**	**02 54 53.8**	**-0.5**
ANWB	**Willy Bob**	**145.37 68**		*e*P	**PKPab**	**02 54 55.0**	**+0.2**
CBE	**Ff, Capester**	**145.91 71**		*e*P	**PKPdf**	**02 54 55.0**	**-0.8**
ABD	**La Joyeuse, An**	**145.93 70**		*e*P	**PKPdf**	**02 54 55.0**	**-0.7**
TDBA	**Terre de Bas,**	**145.93 71**		*e*P	**PKPdf**	**02 54 56.2**	**+0.4**
DSLB	**Salisbury**	**146.22 72**		*e*P	**PKPdf**	**02 54 49.9**	**-6.4**
MDN	**Morne-Daniel**	**146.27 72**		*e*P	**PKPdf**	**02 54 53.6**	**-2.7**
DLPL	**La Plaine**	**146.41 72**		*e*P	**PKiKP**	**02 55 01.1**	**+0.1**
GRGR	**Grenville**	**146.54 78**		*e*P	**PKiKP**	**02 55 00.9**	**-0.3**
FDF	**Fort de France**	**146.62 73**		*e*P	**PKPdf**	**02 54 57.7**	**+0.7**
GCMP	**Grenada, Carri**	**146.71 77**		*e*P	**PKPbc**	**02 54 58.1**	**-0.7**
BIM	**Bigot**	**146.73 73**		*e*P	**PKPdf**	**02 54 54.4**	**-2.8**
SVB	**Belmont**	**146.77 75**		*e*P	**PKPdf**	**02 54 57.4**	**+0.1**
ILAM	**Ilet Lapin Mar**	**146.87 73**		*e*P	**PKPbc**	**02 54 59.1**	**-0.2**
SVCV	**St. Vincent, C**	**146.87 75**		*e*P	**PKPdf**	**02 54 55.0**	**-2.4**
SLBI	**Saint Lucia, B**	**146.91 74**		*e*P	**PKPbc**	**02 54 59.3**	**-0.1**
TRN	**Trinidad (W)**	**146.93 80**		*e*P	**PKPdf**	**02 54 56.9**	**-0.6**
MPOM	**Morne Pois Mar**	**146.95 73**		*e*P	**PKPdf**	**02 54 58.2**	**+0.7**
MCLT	**Moule a Chique**	**147.00 75**		*e*P	**PKPbc**	**02 54 59.6**	**0.0**
SLAC	**Saint Lucia, A**	**147.01 74**		*e*P	**PKiKP**	**02 55 02.3**	**+0.1**
TPR	**Prospect**	**147.50 79**		*e*P	**PKPbc**	**02 55 00.9**	**-0.2**
PTGA	**Pitinga**	**147.57 101**			**PKPdf**	**02 54 58.3**	**-0.4**
TOSP	**Speyside**	**147.72 79**		*e*P	**PKPbc**	**02 55 00.9**	**-0.7**
TOSP	**Speyside**	**147.72 79**		PKPbc	**PKPbc**	**02 55 01.1**	**-0.6**
BBGH	**Gun Hill**	**148.42 75**		*e*P	**PKPbc**	**02 55 03.6**	**+0.1**
TOC2	**Torodi Ar. Sit**	**149.72 285**		IAMs_20	IAMs_20	04 01 36.1	
comp=Z,577nm,20.0s							
TOA0	**Torodi Ar. Sit**	**149.74 285**		PKPdf	**PKPdf**	**02 55 02.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**149.74 285**		PKP	**PKPdf**	**02 55 01.7**	**-0.4**
comp=Z,21nm,1.0s,baz=24,slow=1.5,SNR=13							
TORD				PKPbc	**PKPbc**	**02 55 06.8**	**0.0**
comp=Z,77nm,1.3s,baz=80,slow=2.0,SNR=31							
TORD				PP	**PP**	**02 58 40.2**	**-0.4**
comp=Z,4.6nm,1.1s,baz=60,slow=3.6,SNR=4.4							
TORD	**Torodi Ar. Bea**	**149.74 285**		PKPdf	**PKPdf**	**02 55 00.4**	**-1.8**
TORD				PKPbc	**PKPbc**	**02 55 05.8**	**-1.1**
BDFB	**Brasilia**	**150.69 138**		PKP	**PKPdf**	**02 55 03.7**	**-0.1**
comp=Z,2.9nm,0.8s,baz=90,slow=1.0,SNR=3.6							
BDFB				PKPbc	**PKPbc**	**02 55 09.1**	**-0.2**
comp=Z,18nm,0.8s,baz=184,slow=2.3,SNR=18							
BDFB	**Brasilia**	**150.69 138**		PKIKP	**PKPdf**	**02 55 01.3**	**-2.5**
BDFB	**Brasilia**	**150.69 138**		PKPdf	**PKPdf**	**02 55 01.2**	**-2.5**
DBIC	**Dimbokro**	**156.76 272**		PKP	**PKPdf**	**02 55 12.1**	**-0.2**
comp=Z,4.2nm,0.9s,baz=233,slow=3.7,SNR=2.8							
DBIC				PKPbc	**sPKPdf**	**02 55 22.4**	**+0.6**
comp=Z,3.8nm,0.8s,baz=31,slow=4.2,SNR=4.8							
DBIC				PKPab	**PKPab**	**02 55 42.5**	**+0.7**
comp=Z,5.8nm,0.5s,baz=80,slow=4.8,SNR=14							
DBIC	**Dimbokro**	**156.76 272**		PKIKP	**PKPdf**	**02 55 09.6**	**-2.7**
DBIC						02 55 39.1	
DBIC	**Dimbokro**	**156.76 272**			**PKPdf**	**02 55 09.6**	**-2.7**
DBIC					**PKPab**	**02 55 39.1**	**-2.8**

*IDC **16** 02:41:55.4±2.5, 16°.70S×177°.58W, h366km±32km, mb3.3/5, mb1 3.6/6, mb1mx3.2/41, mbtmp4.1/6, Error ellipse: s-maj=92.5km s-min=17.8km az=149.0*

ISC 16 02:41:54.6±1.1, 16°.5S±0°.4×177°.8W±0°.2, h350km, n11, σ1°.09/11, mb3.7/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.32**	**67**	P	**Pn**	**02 43 29.8**	**+0.5**
5.8nm,0.3s,baz=225,slow=7.1,SNR=1.5							
STKA	**Stephens Creek**	**39.86**	**240**	P	**P**	**02 48 55.5**	**-0.2**
2.3nm,0.5s,baz=66,slow=10.0,SNR=4.1							
WRA	**Warramunga Arr**	**45.52**	**258**	P	**P**	**02 49 41.2**	**+0.4**
0.5nm,0.7s,baz=91,slow=7.3,SNR=7.3							
ASAR	**Alice Springs**	**45.78**	**253**	P	**P**	**02 49 42.8**	**-0.2**
3.5nm,0.5s,baz=88,slow=8.1,SNR=16							
ILAR	**Eielson Array**	**84.40**	**13**	P	**P**	**02 53 47.7**	**-0.3**
0.6nm,0.4s,baz=224,slow=5.4,SNR=14							
TXAR	**Lajitas Array**	**84.72**	**57**	P	**P**	**02 53 49.3**	**-1.2**
1.2nm,0.9s,baz=212,slow=3.2,SNR=5.0							
BRTR	**Keskin Array B**	**144.23**	**317**	PKP	**PKPab**	**03 00 48.7**	**0.0**
0.3nm,0.5s,baz=108,slow=1.8,SNR=2.3							
KBA	**Koelnbreinsper**	**148.17**	**346**	*i* PKPdf	**PKPdf**	**03 00 57.2**	**+1.1**
0.6nm,0.4s							
WTTA	**Wattenberg**	**148.37**	**348**	*i* PKPdf	**PKPdf**	**03 00 58.4**	**+1.9**
1.9nm,0.5s							
SQTA	**Sankt Quirin**	**148.50**	**348**	*i* PKPdf	**PKPdf**	**03 00 58.0**	**+1.4**
0.7nm,0.4s							
ABTA	**Abfaltersbach**	**148.67**	**346**	*i* PKPdf	**PKPbc**	**03 01 00.1**	**-0.9**
0.8nm,0.3s							

*IPEC **16** 02:53:33.6±0.1, 50°.24N×18°.86E, h1km, ML1.8/2, Error ellipse: s-maj=2.0km s-min=0.7km az=175.0*

PRU 16 02:53:34.0±0.0, 50°.21N×18°.81E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.64**	**89**	*e*Pg	Pg	02 53 45.1	-1.0
OJC				*e*Sg	Sg	02 53 53.3	-1.0
MORC	**Moravsky Berou**	**0.93**	**243**	*e*PG	Pg	02 53 51.8	+0.1
MORC				*e*SG	Sg	02 54 04.1	+0.4
MORC	**Moravsky Berou**	**0.93**	**243**	*e*Pg	Pg	02 53 51.8	+0.1
baz=61							
MORC				*e*Sg	Sg	02 54 04.0	+0.3
12nm,0.2s,baz=61							
ANAC	**Anensky vrch**	**0.93**	**262**	*e*Pg	Pg	02 53 51.9	+0.1
baz=79							
LIPC	**Lipinka**	**1.19**	**253**	*e*Pg	Pg	02 53 56.8	0.0
baz=70							
NIE	**Niedzica**	**1.25**	**129**	*e*Pg	Pg	02 53 57.5	-0.5
NIE				*e*Sg	Sb	02 54 15.3	+0.2
KRLC	**Kraliky**	**1.31**	**265**	*e*PG	Pg	02 53 57.8	-1.3
KRLC				*e*SG	Sg	02 54 16.4	+0.3
comp=Z,10nm,0.6s							
KRLC	**Kraliky**	**1.31**	**265**	*e*PKIKP	Pg	02 53 57.8	-1.3
DPC	**Dobruska-Polom**	**1.60**	**276**	*e*PG	Pn	02 54 03.5	-0.1
DPC				*e*SG	Sg	02 54 25.7	+0.3
comp=Z,4.9nm,0.7s							
DPC	**Dobruska-Polom**	**1.60**	**276**	*e*PKIKP	Pn	02 54 03.5	-0.1
OSTC	**Ostas**	**1.70**	**283**	*e*PG	Pn	02 54 05.1	+0.2
OSTC				*e*SG	Sg	02 54 28.5	0.0
comp=Z,8.4nm,0.9s							
VRAC	**Vranov**	**1.70**	**239**	*e*PN	Pn	02 54 05.1	+0.2
VRAC				*e*SG	Sb	02 54 27.8	-0.2
VRAC	**Vranov**	**1.70**	**239**	*e*Pn	Pn	02 54 05.1	+0.2
baz=57							
VRAC				*e*Sg	Sb	02 54 27.8	-0.2
6.5nm,0.3s,baz=57							
KSP	**Ksiaz**	**1.73**	**292**	*e*Pg	Pb	02 54 06.3	-0.3
KSP				*e*Sg	Sg	02 54 29.4	-0.1
KSP	**Ksiaz**	**1.73**	**292**	*e*PKP	Pb	02 54 06.5	-0.1
CHVC	**Chvalec**	**1.80**	**283**	*e*PG	Pb	02 54 07.4	-0.5
CHVC				*e*SG	Sg	02 54 32.4	+0.5
comp=Z,3.7nm,0.6s							
KRUC	**Moravsky**	**1.95**	**235**	*e*PN	Pn	02 54 08.6	+0.3
KRUC	**Moravsky**	**1.95**	**235**	*e*Pn	Pn	02 54 08.6	+0.3
baz=53							
TREC	**Trest**	**2.34**	**248**	*e*SG	Sg	02 54 48.1	-1.1
comp=Z,3.6nm,0.5s							
GOPC	**GO Pecny, Ondr**	**2.61**	**265**	*e*SG	Sg	02 54 56.6	-1.2
comp=Z,2.6nm,0.6s							
PRU	**Pruhonice**	**2.76**	**267**	*e*SG	Sg	02 55 01.6	-0.9
comp=Z,2.4nm,0.7s							
KHC	**Kasperske Hory**	**3.57**	**254**	*e*SG	Sg	02 55 27.5	-1.0
comp=Z,4.0nm,0.7s							

*IDC **16** 03:07:19.5±1.7, 54°.88N×110°.95E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/54, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=32.8km s-min=22.8km az=130.0*
*MOS **16** 03:07:19.5±1.5, 54°.84N×111°.09E, h10km, mb4.1/2, Error ellipse: s-maj=12.2km s-min=6.7km az=65.9*
MOS Felt (II-III) at Ulyunkhan.
*BYKL **16** 03:07:21.4±0.2, 54°.82N×111°.16E, h20km±3km, FELT I=III-IV MSK at Ulyunkhan*

ISC 16 03:07:20.6±0.7, 54°.80N±0°.02×111°.05E±0°.02, h17km±5km, n55, σ2°.31/96, mb3.7/5, 9C-10D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.10**	**39**	⇓*i*Pg	**Pg**	**03 07 25.1**	**+0.9**
YLYR				*e*Sg	**Sg**	**03 07 27.7**	**+1.1**
YLYR	**Ulyunkhan**	**0.10**	**39**	⇓*i*PG	**Pg**	**03 07 25.2**	**+1.0**
YLYR				*e*S	**Sg**	**03 07 27.4**	**+0.8**
KMO	**Kumora**	**1.10**	**5**	⇑*i*Pg	**Pb**	**03 07 40.9**	**-0.2**
KMO				Pmax		03 07 41.3	
2μm,0.3s							
KMO				*e*		03 07 46.7	
KMO				*e*Sg	**Sb**	**03 07 55.3**	**+0.1**
KMO				*e*Sb	**Sg**	**03 07 59.1**	**+2.9**
KMO				max		03 08 00.2	
3μm,1.0s							
KMO	**Kumora**	**1.10**	**5**	⇑*i*PG	**Pb**	**03 07 41.0**	**-0.2**
KMO				*e*		03 07 55.3	
KMO				pmax	pmax		
comp=Z,2μm,0.3s							
KMO				smax	smax		
comp=E,3μm,0.8s							
SYVR	**Suvo**	**1.29**	**209**	⇑*i*Pg	**Pg**	**03 07 45.9**	**+0.3**
SYVR				*e*		03 07 52.7	
SYVR				max		03 07 53.3	
comp=E,288nm,0.7s							
SYVR				*e*Sg	**Sg**	**03 08 04.6**	**+2.2**
SYVR				Smax		03 08 07.1	
comp=E,2μm,0.6s							
SYVR	**Suvo**	**1.29**	**209**	*e*PG	**Pg**	**03 07 46.1**	**+0.5**
SYVR				*e*		03 08 04.3	
SYVR				pmax	pmax		
comp=Z,240nm,0.5s							
SYVR				smax	smax		
comp=N,2μm,0.7s							
UKT	**Uakit**	**1.64**	**64**	⇓*i*Pg	**Pn**	**03 07 49.4**	**+0.7**
UKT				*e*		03 07 52.7	
UKT				max		03 07 53.3	
comp=N,316nm,0.6s							
UKT				Smax		03 08 07.1	
comp=N,3μm,0.9s							
UKT				*i* Sg	**Sb**	**03 08 10.4**	**-0.4**
UKT	**Uakit**	**1.64**	**64**	⇓*i*PN	**Pn**	**03 07 49.5**	**+0.7**
UKT				*e*		03 08 10.4	
UKT				pmax	pmax		
comp=Z,268nm,0.2s							
UKT				smax	smax		
comp=N,3μm,0.4s							
SVKR	**Severomuysk**	**1.95**	**46**	⇓*i*Pg	**Pb**	**03 07 55.9**	**+0.2**
SVKR				*e*		03 08 03.6	
SVKR				*e*Sg	**Sg**	**03 08 21.9**	**-1.4**
SVKR				Smax		03 08 23.3	
comp=N,4μm,0.4s							
SVKR				Pmax		03 08 56.1	
comp=N,618nm,0.3s							
SVKR	**Severomuysk**	**1.95**	**46**	*e*PN	**Pb**	**03 07 54.7**	**-1.0**
SVKR				*e*		03 07 55.8	
SVKR				*e*		03 08 21.8	
SVKR				pmax	pmax		
comp=Z,842nm,0.3s							
SVKR				smax	smax		
comp=N,4μm,0.6s							
OGRR	**Ongureny**	**2.33**	**242**	⇓*i*Pn	**Pb**	**03 08 01.9**	**-0.2**
OGRR				*e*Pg	**Pg**	**03 08 05.3**	**0.0**
OGRR				*e*PgPg	**PbPb**	**03 08 08.7**	**+3.4**
OGRR				*e*		03 08 11.8	
OGRR				max		03 08 12.2	
comp=N,173nm,0.7s							
OGRR				*e*Sn	**Sb**	**03 08 30.9**	**+0.2**
OGRR				*e*Sg	**Sg**	**03 08 37.2**	**+1.7**
OGRR				Smax		03 08 39.0	
comp=N,348nm,0.4s							
OGRR	**Ongureny**	**2.33**	**242**	⇓*i*PN	**Pb**	**03 08 02.0**	**-0.2**
OGRR				*e*		03 08 05.3	
OGRR				*e*		03 08 35.8	
OGRR				pmax	pmax		
comp=Z,170nm,0.8s							
OGRR				smax	smax		
comp=N,347nm,0.5s							
KELR	**Kotokel**	**2.69**	**222**	*e*Sg	**Sg**	**03 08 47.9**	**+0.8**
NLYR	**Nelyaty**	**3.14**	**55**	⇓*i*Pn	**Pn**	**03 08 09.9**	**+0.6**
NLYR				*e*Pg	**Pb**	**03 08 15.9**	**0.0**
NLYR				Pmax		03 08 16.4	
comp=N,76nm,0.5s							
NLYR				*e*Sg	**Sb**	**03 08 55.7**	**+1.8**
NLYR				Smax		03 09 11.4	
comp=N,671nm,1.6s							
NLYR	**Nelyaty**	**3.14**	**55**	*e*PN	**Pn**	**03 08 09.5**	**+0.2**
NLYR				*e*		03 08 18.0	
NLYR				*e*S	**Sn**	**03 08 44.3**	**-2.1**
NLYR				*e*		03 08 54.7	
NLYR				pmax	pmax		
comp=Z,90nm,0.3s							
NLYR				smax	smax		
comp=E,670nm,1.5s							
CIT	**Chita**	**3.16**	**151**	*e*Pn	**Pn**	**03 08 12.1**	**+2.5**
CIT				*e*Pg	**Pb**	**03 08 17.2**	**+0.9**
CIT				Pmax		03 08 19.1	
comp=E,286nm,0.4s							
CIT				*e*Sg	**Sb**	**03 08 57.9**	**+3.4**
CIT				Smax		03 09 01.9	
comp=E,872nm,0.2s							
CIT	**Chita**	**3.16**	**151**	*e*PN	**Pn**	**03 08 12.7**	**+3.1**
CIT				*e*		03 08 18.5	
CIT				*e*S	**Sn**	**03 08 47.7**	**+0.8**
CIT				*e*		03 08 58.0	
CIT				pmax	pmax		
comp=Z,285nm,0.6s							
CIT				smax	smax		
comp=E,935nm,0.3s							
BOD	**Bodaibo**	**3.45**	**27**	*e*Pn	**Pn**	**03 08 13.9**	**+0.4**
BOD				*e*Pg	**Pb**	**03 08 20.9**	**-0.3**
BOD				Pmax		03 08 31.6	
comp=E,69nm,0.8s							
BOD				*e*Sn	**Sn**	**03 08 54.2**	**+0.2**
BOD				*e*Sg	**Sb**	**03 09 04.6**	**+1.8**
BOD				Smax		03 09 11.1	
comp=E,493nm,1.4s							
BOD	**Bodaibo**	**3.45**	**27**	*e*PN	**Pn**	**03 08 13.6**	**+0.1**
BOD				*e*		03 08 21.0	
BOD				*e*		03 09 04.3	
BOD				pmax	pmax		
comp=Z,56nm,0.3s							
BOD				smax	smax		
comp=E,495nm,1.2s							
TRG	**Tyrgan**	**3.45**	**236**	*e*Pn	**Pn**	**03 08 15.4**	**+1.8**
TRG				*e*Pg	**Pb**	**03 08 23.3**	**+2.0**
TRG				Pmax		03 08 32.8	
comp=E,31nm,0.8s							
TRG				*e*Sn	**Sn**	**03 08 56.5**	**+2.3**
TRG				*e*Sg	**Sg**	**03 09 09.8**	**-1.6**
TRG				Smax		03 09 15.1	
comp=E,175nm,0.7s							
TRG	**Tyrgan**	**3.45**	**236**	*e*PN	**Pn**	**03 08 14.5**	**+0.9**
TRG				*e*		03 08 23.2	
TRG				*e*S	**Sn**	**03 08 56.2**	**+2.0**
TRG				*e*		03 09 10.1	
FFNB	**Fofonovo**	**3.76**	**225**	*e*Pn	**Pn**	**03 08 20.1**	**+2.3**
FFNB				*e*Pg	**Pg**	**03 08 30.8**	**-1.8**
FFNB				*e*Sg	**Sg**	**03 09 20.6**	**-0.7**
STDB	**Stepnoy Dvoret**	**3.84**	**229**	*e*Sg	**Sg**	**03 09 23.2**	**-0.6**
HRMR	**Khuramsha**	**4.01**	**219**	*e*Pn	**Pn**	**03 08 23.8**	**+2.5**
HRMR				*e*Pg	**Pg**	**03 08 35.3**	**-2.1**
HRMR				Pmax		03 08 44.0	
comp=E,105nm,0.5s							
HRMR				*e*Sg	**Sg**	**03 09 29.2**	**-0.2**
HRMR				Smax		03 09 41.6	
comp=E,834nm,0.9s							
BGT	**Bolshoye Golou**	**4.36**	**233**	*e*Pn	**Pn**	**03 08 27.4**	**+1.4**
BGT				*e*Pg	**Pg**	**03 08 40.2**	**-3.8**
BGT				*e*Sg	**Sg**	**03 09 37.5**	**-2.8**
CRS	**Chara**	**4.58**	**60**	*e*Pn	**Pn**	**03 08 29.7**	**+0.5**
CRS				*e*Pg	**Pb**	**03 08 42.4**	**+1.8**
CRS				Pmax		03 08 55.9	
comp=E,65nm,0.8s							
CRS				*e*		03 09 23.4	
CRS				*e*Sg	**Sb**	**03 09 41.3**	**+5.8**
CRS				Smax		03 09 48.5	
comp=E,338nm,1.2s							
VTMR	**Vitim**	**4.73**	**9**	*e*Pg	**Pb**	**03 08 46.0**	**+3.0**
VTMR				*e*Sg	**Sg**	**03 09 47.3**	**-5.0**
IRK	**Irkutsk**	**4.78**	**240**	*e*Sg	**Sg**	**03 09 51.0**	**-3.0**
IRK				Smax		03 09 54.9	
comp=E,382nm,0.5s							
IVK	**Ivanovka**	**4.98**	**236**	*e*Pn	**Pn**	**03 08 36.1**	**+1.5**
IVK				*e*Pg	**Pg**	**03 08 51.7**	**-4.2**
IVK				Pmax		03 08 51.7	
comp=E,12nm,0.4s							
IVK				*e*Sg	**Sg**	**03 09 56.5**	**-3.9**
IVK				Smax		03 10 10.1	
comp=E,92nm,1.2s							
KPC	**Khapcheranga**	**5.17**	**170**	*e*	**Pb**	**03 08 48.4**	**-2.1**
KPC				*e*Pg	Pg	03 08 54.2	-5.2
KPC				Pmax		03 08 58.4	
comp=E,19nm,0.3s							
KPC				*e*Sg	**Sg**	**03 10 01.7**	**-4.6**
KPC				Smax		03 10 08.5	
comp=E,370nm,1.3s							
KPC	**Khapcheranga**	**5.17**	**170**	*e*PN	**Pn**	**03 08 38.0**	**+0.8**
KPC				*e*		03 08 53.2	
KPC				*e*		03 09 59.9	
KPC				pmax	pmax		
comp=Z,18nm,0.3s							
KPC				smax	smax		
comp=E,369nm,1.1s							
TUP	**Tupik**	**5.19**	**90**	⇑*i*Pn	**Pn**	**03 08 37.7**	**+0.2**
TUP				*e*Pg	**Pb**	**03 08 53.6**	**+2.7**
TUP				Pmax		03 08 54.9	
comp=E,35nm,0.5s							
TUP				*e*Sn	**Sn**	**03 09 32.5**	**-4.5**
TUP				*e*Sg	**Sg**	**03 10 00.5**	**-6.6**
TUP				Smax		03 10 06.1	
comp=E,365nm,0.8s							
TUP	**Tupik**	**5.19**	**90**	*e*PN	**Pn**	**03 08 37.5**	**0.0**
TUP				*e*		03 08 52.4	
TUP				*e*S	**Sn**	**03 09 36.4**	**-0.6**
TUP				*e*		03 09 59.4	
TUP				pmax	pmax		
comp=Z,26nm,0.3s							
TUP				smax	smax		
comp=N,361nm,0.7s							
TLY	**Talaya**	**5.43**	**238**	Lg	Lg	03 10 10.6	
comp=N,0.1nm,0.3s,baz=280,slow=23,SNR=6.7							
TLY	**Talaya**	**5.43**	**238**	*e*Sg	**Sg**	**03 10 10.1**	**-4.7**
TLY				Smax		03 10 18.5	
comp=N,81nm,1.1s							
TLY	**Talaya**	**5.43**	**238**	*e*PN	**Pb**	**03 08 50.8**	**-4.2**
TLY				*e*P	Pg	03 08 56.8	-7.7
TLY				pmax	pmax		
comp=Z,12nm,0.7s							
ARS	**Arshan**	**5.91**	**244**	*e*	Pb	03 08 56.5	-6.7
ARS				*e*		03 09 01.1	
ARS				*e*Pg	Pg	03 09 08.5	-5.2
ARS				*e*		03 09 14.8	
ARS				max		03 09 18.4	
comp=Z,44nm,1.0s							
ARS				*e*Sg	**Sg**	**03 10 27.3**	**-2.9**
ARS				Smax		03 10 38.0	
comp=Z,284nm,0.6s							
YKLR	**Yuktali**	**6.26**	**69**	*e*Pn	**Pn**	**03 08 52.4**	**+0.2**
YKLR				*e*Sg	**Sg**	**03 10 34.6**	**-6.8**
ZAK	**Zakamensk**	**6.47**	**230**	*e*PG	**Pg**	**03 09 25.1**	**+0.7**
ZAK				*e*		03 10 46.1	
ZAK				pmax	pmax		
comp=Z,8.0nm,0.4s							
ZAK				smax	smax		
comp=N,46nm,0.7s							
MOY	**Mondy**	**6.80**	**247**	*e*PN	Pn	03 09 05.0	+5.3
MOY				*e*		03 09 26.9	
MOY				*e*S	**Sn**	**03 10 19.2**	**+2.5**
MOY				*e*		03 10 55.4	
MOY				pmax	pmax		
comp=Z,23nm,0.8s							
MOY				smax	smax		
comp=E,102nm,1.3s							
ORL	**Orlik**	**7.05**	**256**	*e*PN	**Pn**	**03 09 06.0**	**+2.9**
ORL				*e*		03 09 29.1	
ORL				*e*S	**Sn**	**03 10 24.7**	**+1.9**
ORL				*e*		03 11 02.0	
ORL				pmax	pmax		
comp=Z,19nm,0.6s							
ORL				smax	smax		
comp=N,134nm,1.2s							
SONM	**Songino Array**	**7.55**	**205**	Pn	**Pn**	**03 09 11.1**	**+1.1**
comp=N,0.6nm,0.3s,baz=14,slow=13,SNR=7.2							
SONM				Lg	Lg	03 11 21.3	
comp=N,4.5nm,0.3s,baz=16,slow=28,SNR=11							
KRAR	**Krasnoyarsk**	**10.41**	**284**	⇑*e*P	**Pn**	**03 09 51.4**	**+2.5**
YAK	**Yakutsk**	**12.13**	**46**	⇑*e*P	**Pn**	**03 10 11.6**	**-0.8**
YAK				pmax	pmax		
comp=Z,14nm,0.5s							
ZALV	**Zalesovo Beam**	**15.28**	**278**	Pn	**Pn**	**03 10 55.8**	**+0.4**
baz=88,slow=10,SNR=4.2							
ZALV				Lg	Lg	03 15 23.5	
comp=Z,0.1nm,0.3s,baz=77,slow=31,SNR=3.6							
ZALV	**Zalesovo Beam**	**15.28**	**278**	*i* P	**Pn**	**03 10 55.7**	**+0.4**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.2s							
DGZ	**Jazzator, Alta**	**15.30**	**260**	⇑*e*P	**P**	**03 10 58.1**	**-2.4**
DGZ				pmax	pmax		
comp=Z,1.0nm,0.4s							
TIXI	**Tiksi**	**18.57**	**18**

WRA	**Warramunga Arr**	**42.67 265**	P	P	03 30 50.9	+0.5
	5.3nm,0.4s,baz=98,slow=8.3,SNR=124					
TXAR	**Lajitas Array**	**89.55 58**	P	P	03 35 51.3	0.0
	0.7nm,0.7s,baz=216,slow=7.0,SNR=8.5					

IDC 16 03:24:00.7±3.6, 28°.89S×178°.57W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/26, mbtmp4.0/3, Error ellipse: s-maj=140.7km s-min=13.7km az=21.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.67**	**123**	Pn	Pn	03 24 17.6	+0.1
	374nm,0.3s,baz=94,slow=8.7,SNR=17						
RAO				Sn	Sn	03 24 29.4	+0.6
	852nm,0.3s,baz=81,slow=23,SNR=15						
STKA	**Stephens Creek**	**34.37**	**255**	P	P	03 30 48.7	-0.8
	1.6nm,0.6s,baz=89,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**42.72**	**266**	P	P	03 31 59.4	-0.4
	0.5nm,0.4s,baz=104,slow=7.4,SNR=3.3						
WRA	**Warramunga Arr**	**43.57**	**271**	P	P	03 32 07.2	+0.5
	1.9nm,0.5s,baz=110,slow=7.8,SNR=14						

*BJI **16** 03:28:23.4±0.0, 35°.95N×140°.35E, h50km, mB5.5/63, mb5.6/76, Ms5.2/80, Ms7 4.9/78*
*MOS **16** 03:28:28.6±0.9, 36°.15N×139°.79E, h45km, mb6.1/86, MS4.9/45, Error ellipse: s-maj=5.7km s-min=3.6km az=113.1*
*KEA **16** 03:28:28.1±0.0, 36°.30N×140°.50E, h45km, mB5.3/1*
*BGR **16** 03:28:29.8±0.0, 35°.62N×140°.48E, h58km±9km, mb6.0, Ms4.9*
*UNK **16** 03:28:30.6, 36°.08N×139°.85E, h52km*
*NEIC **16** 03:28:30.3±1.4, 36°.09N±0°.04×139°.85E±0°.06, h50km±2km, mb5.7/669, Ms_20 4.9/171, Mwb5.5/29, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=7.2km s-min=5.2km az=106.0*
*IDC **16** 03:28:30.5±1.0, 36°.08N×139°.72E, h48km±9km, mb5.5/37, mb1 5.5/39, mb1mx5.5/41, mbtmp5.7/39, ML4.9/1, MS4.7/34, Ms1 4.7/34, ms1mx4.6/40, Error ellipse: s-maj=11.3km s-min=7.3km az=75.0*
*NEIC **16** 03:28:30.5, 36°.10N×139°.81E, h51km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}2.30; $M_{\theta\theta}$-1.66; $M_{\phi\phi}$-0.64; $M_{r\theta}$0.93; $M_{\theta\phi}$-0.91; $M_{\phi r}$0.94; Fault plane solution: M_o2.61000×10^17^ NP1:ϕ_s246.12000°, δ30.48000°, λ101.88000°. NP2:ϕ_s52.40000°, δ60.24000°, λ83.09000°. Principal axes: T 2.6798, Plg74.0000°, Azm305.0000°; N -0.1403, Plg6.0000°, Azm56.0000°; P -2.5395, Plg15.0000°, Azm147.0000°;*
*NIED **16** 03:28:31.6, 36°.09N×139°.86E, h47km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^17^Nm; M_{rr}1.39; $M_{\theta\theta}$-1.09; $M_{\phi\phi}$-0.30; $M_{r\theta}$0.69; $M_{\theta\phi}$-0.78; $M_{\phi r}$0.98; Fault plane solution: M_o1.91000×10^17^ NP1:ϕ_s44.00000°, δ65.00000°, λ76.00000°. NP2:ϕ_s254.00000°, δ28.00000°, λ118.00000°.*
*JMA **16** 03:28:31.5±0.1, 36°.09N×139°.86E, h47km±1km, M5.6 Broadband fault plane solution: P waves. NP1: ϕ_s244.00000°, δ27.00000°, λ107.00000°. NP2: ϕ_s45.00000°, δ65.00000°, λ82.00000°. Principal axes: T Plg69.0000°, Azm298.0000°; N Plg8.0000°, Azm48.0000°; P Plg19.0000°, Azm141.0000°;*
*GCMT **16** 03:28:33.3±0.1, 36°.07N±0°.01×139°.85E±0°.01, h51km, MW5.5/157, Moment Tensor Solution. s140, c268; s157, c309; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; M_{rr}1.76±.03; $M_{\theta\theta}$-1.20±.02; $M_{\phi\phi}$-0.55±.02; $M_{r\theta}$0.84±.02; $M_{\theta\phi}$-0.75±.02; $M_{\phi r}$1.06±.02; Best double couple: M_o2.19300×10^17^ NP1:ϕ_s246.00000°, δ27.00000°, λ108.00000°. NP2:ϕ_s46.00000°, δ64.00000°, λ81.00000°. Principal axes: T 2.2570, Plg70.0000°, Azm298.0000°; N -0.1220, Plg8.0000°, Azm50.0000°; P -2.1290, Plg19.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **16** 03:28:34, 36°.16N×139°.87E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.54; $M_{\theta\theta}$-1.29; $M_{\phi\phi}$-0.26; $M_{r\theta}$0.61; $M_{\theta\phi}$-0.60; $M_{\phi r}$0.88; Fault plane solution: M_o1.89000×10^17^ NP1:ϕ_s260.00000°, δ31.00000°, λ117.00000°. NP2:ϕ_s49.00000°, δ62.00000°, λ75.00000°. Principal axes: T 1.9399, Plg69.0000°, Azm288.0000°; N -0.1097, Plg14.0000°, Azm57.0000°; P -1.8302, Plg16.0000°, Azm150.0000°;*
*NEIC **16** 03:28:34, 35°.98N×139°.91E, h57km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.99; $M_{\theta\theta}$-1.48; $M_{\phi\phi}$-0.51; $M_{r\theta}$0.69; $M_{\theta\phi}$-1.01; $M_{\phi r}$1.01; Fault plane solution: M_o2.39000×10^17^ NP1:ϕ_s250.00000°, δ32.00000°, λ111.00000°. NP2:ϕ_s46.00000°, δ60.00000°, λ78.00000°. Principal axes: T 2.3763, Plg72.0000°, Azm287.0000°; N 0.0332, Plg11.0000°, Azm52.0000°; P -2.4095, Plg15.0000°, Azm145.0000°;*

ISC 16 03:28:30.8±0.3, 36°.07N±0°.02×139°.92E±0°.03, h57km±2km, h57km:pP-P,n1750,σ1937/1588, mb5.7/535, MS4.9/165, 252C-67D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.27**	**53**	⇑P	**Pn**	**03 28 40.3**	**0.0**
JYT				S	**Sn**	**03 28 46.5**	**-0.7**
JYT	**Yasato**	**0.27**	**53**	Pn	**Pn**	**03 28 40.3**	**0.0**
TOK	**Tokyo**	**0.40**	**200**	P	**Pn**	**03 28 42.7**	**+1.3**
JIHU	**Itakohorinouch**	**0.50**	**101**	⇑P	**Pn**	**03 28 43.3**	**+0.9**
JAG	**Ashikaga**	**0.52**	**314**	⇓P	**Pn**	**03 28 42.3**	**-0.4**
JAG				S	**Sn**	**03 28 50.0**	**-1.4**
JSMT	**Sammumatsuo**	**0.60**	**135**	⇑P	**Pn**	**03 28 44.9**	**+1.3**
JHYU	**Hitachinakayam**	**0.60**	**63**	⇑P	**Pn**	**03 28 43.7**	**+0.1**
JHYU				S	**Sn**	**03 28 52.6**	**-0.4**
JSGW	**Sagamiharawaka**	**0.74**	**232**	⇑P	**Pn**	**03 28 45.6**	**+0.2**
JSGW				S	**Sn**	**03 28 56.0**	**0.0**
JHO	**Hitachi**	**0.75**	**44**	⇑P	**Pn**	**03 28 45.3**	**-0.2**
JRY	**Ryogami san**	**0.83**	**267**	⇓P	**Pn**	**03 28 46.1**	**-0.4**
JRY				S	**Sn**	**03 28 56.5**	**-1.5**
JKT	**Katashina**	**0.89**	**322**	⇓P	**Pn**	**03 28 46.7**	**-0.6**
JKT				*e*S	**Sn**	**03 28 58.1**	**-1.3**
JSB	**Shiboa**	**0.90**	**360**	⇓P	**Pn**	**03 28 47.6**	**+0.2**
JSB				S	**Sn**	**03 28 59.6**	**-0.1**
JKUC	**kamogawauchiur**	**0.93**	**166**	⇓P	**Pn**	**03 28 49.2**	**+1.4**
JOD2	**Odawara 2**	**1.05**	**221**	⇓P	**Pn**	**03 28 49.7**	**+0.3**
JOD2				S	**Sn**	**03 29 03.5**	**+0.4**
BSO4	**Boso 4**	**1.12**	**162**	⇓P	**Pn**	**03 28 51.6**	**+1.4**
JFFD	**Fukushimafurud**	**1.15**	**26**	⇓P	**Pn**	**03 28 50.7**	**+0.1**
JGK	**Kuni**	**1.15**	**296**	⇓P	**Pn**	**03 28 49.9**	**-0.8**
JGK				S	**Sn**	**03 29 04.2**	**-1.3**
AJI	**Ajiro2**	**1.22**	**214**	⇓P	**Pn**	**03 28 51.8**	**+0.2**
JYN	**Shimob**	**1.26**	**244**	⇑P	**Pn**	**03 28 52.9**	**+0.7**
JFNN	**Fujinakano**	**1.33**	**230**	S	**Sn**	**03 29 10.2**	**+0.4**
JHTM	**Izuhatsuma**	**1.33**	**214**	⇓P	**Pn**	**03 28 53.4**	**+0.3**
BSO3	**Boso 3**	**1.35**	**159**	⇓P	**Pn**	**03 28 53.8**	**+0.7**
JFY	**Yanaizu**	**1.35**	**353**	P	**Pn**	**03 28 53.7**	**+0.3**
JFY				S	**Sn**	**03 29 10.6**	**+0.3**
JHK	**Hiroka**	**1.39**	**329**	⇓P	**Pn**	**03 28 53.9**	**0.0**
JIM2	**Oshima 3**	**1.40**	**197**	⇓P	**Pn**	**03 28 54.2**	**+0.1**
JIM2				S	**Sn**	**03 29 11.4**	**-0.2**
JNT	**Takato**	**1.46**	**263**	⇓P	**Pn**	**03 28 56.0**	**+1.1**
MJAR	**Matsushiro Arr**	**1.46**	**289**	P	**Pn**	**03 28 53.6**	**-1.3**
	1μm,0.3s,baz=96,slow=15,SNR=6902						
MJAR				LR	LR	03 29 09.9	
	comp=Z,140μm,21.6s,baz=50,slow=31						
MJAR	**Matsushiro Arr**	**1.46**	**289**		**Pn**	**03 28 52.7**	**-2.2**
MAJO	**Matsushiro**	**1.47**	**289**	*d iP*	**Pn**	**03 28 54.0**	**-0.9**
MAJO	**Matsushiro**	**1.47**	**289**	Pn	**Pn**	**03 28 54.1**	**-0.8**
MAT	**Matsushiro**	**1.47**	**289**	P	**Pn**	**03 28 54.1**	**-0.8**
MAT				S	**Sn**	**03 29 13.1**	**0.0**
MAT	**Matsushiro**	**1.47**	**289**	P	**Pn**	**03 28 54.1**	**-0.8**
JFT	**Otama**	**1.49**	**13**	⇓P	**Pn**	**03 28 56.0**	**+0.8**
JFK	**Kawauchi**	**1.51**	**30**	⇓P	**Pn**	**03 28 55.9**	**+0.4**
JNG	**Nsakai**	**1.51**	**284**	⇓P	**Pn**	**03 28 55.4**	**-0.2**
JIZS	**Izushimoda**	**1.59**	**213**	⇓P	**Pn**	**03 28 57.1**	**+0.5**
JTHY	**Toshimahigashi**	**1.62**	**199**	P	**Pn**	**03 28 57.5**	**+0.5**
BSO1	**Boso 1**	**1.65**	**148**	⇓P	**Pn**	**03 28 57.4**	**+0.5**
SHZ3	**Shizuoka 3**	**1.72**	**235**	P	**Pn**	**03 28 59.9**	**+1.5**
SHZ3				S	**Sn**	**03 29 21.4**	**+2.2**
JJN	**Nakama**	**1.75**	**307**	⇓P	**Pn**	**03 28 59.5**	**+0.7**
JIZZ	**Izumozaki**	**1.76**	**327**	⇓P	**Pn**	**03 28 59.9**	**+1.0**
JNS	**Sasagawa**	**1.82**	**345**	⇓P	**Pn**	**03 29 00.0**	**+0.3**
JNY	**Yasuok**	**1.82**	**248**	⇑P	**Pn**	**03 29 01.3**	**+1.5**
JSKK	**Shikinejimakit**	**1.82**	**199**	⇓P	**Pn**	**03 29 00.2**	**+0.5**
JMST	**Minamisoumatoc**	**1.83**	**25**	⇓P	**Pn**	**03 29 00.4**	**+0.6**
JMM	**Marumori**	**1.93**	**21**	⇓P	**Pn**	**03 29 02.0**	**+0.8**
JMM	**Marumori**	**1.93**	**21**	Pn	**Pn**	**03 29 02.2**	**+1.0**
JMM				Sn	**Sn**	**03 29 25.3**	**+1.1**
JSG	**Sagara**	**1.98**	**226**		**Pn**	**03 29 01.7**	**-0.2**
JYZW	**Yoshizawa**	**2.08**	**240**	P	**Pn**	**03 29 04.4**	**+1.2**
JGN	**Niukaw**	**2.12**	**275**	⇓P	**Pn**	**03 29 04.9**	**+1.1**
JGF	**Kuroka**	**2.14**	**258**	⇑P	**Pn**	**03 29 05.7**	**+1.6**
JGF	**Kuroka**	**2.14**	**258**		**Pn**	**03 29 04.9**	**+0.8**
JGF				Sn	**Sn**	**03 29 29.8**	**+0.3**
JYS	**Shiratake**	**2.15**	**3**	⇓P	**Pn**	**03 29 05.6**	**+1.3**
JTT	**Ttatey**	**2.16**	**285**	⇓P	**Pn**	**03 29 05.5**	**+1.2**
HMMJ	**Hamamatsu 2**	**2.17**	**237**	⇑P	**Pn**	**03 29 05.9**	**+1.5**
JMKN	**Mikurajimanish**	**2.19**	**187**	⇓P	**Pn**	**03 29 04.6**	**-0.1**
JAO	**Obara**	**2.31**	**251**	⇑P	**Pn**	**03 29 07.9**	**+1.4**
JOU	**Okura**	**2.37**	**14**	⇓P	**Pn**	**03 29 08.7**	**+1.5**
JSD	**Sado**	**2.38**	**326**	⇓P	**Pn**	**03 29 07.1**	**-0.2**
JSD	**Sado**	**2.38**	**326**	Pn	**Pn**	**03 29 07.3**	**0.0**
JAW	**Awa shima**	**2.45**	**347**	P	**Pn**	**03 29 08.6**	**+0.4**
INU	**Inuyama**	**2.47**	**254**		**Pn**	**03 29 08.5**	**-0.1**
JSZ	**Suzu**	**2.48**	**305**	⇓P	**Pn**	**03 29 08.5**	**-0.1**
JIKH	**Ishinomakikobu**	**2.56**	**28**	P	**Pn**	**03 29 09.8**	**0.0**
JYTA	**Yamagatataniai**	**2.63**	**261**	⇑P	**Pn**	**03 29 12.2**	**+1.4**
JIO	**Ouri**	**2.64**	**25**	P	**Pn**	**03 29 11.2**	**+0.3**
JJH	**Hakui**	**2.67**	**290**	⇓P	**Pn**	**03 29 12.1**	**+0.8**
JAA	**Atsumi**	**2.69**	**239**	P	**Pn**	**03 29 12.6**	**+1.1**
JYK	**Kaneyama**	**2.87**	**7**	⇓P	**Pn**	**03 29 15.6**	**+1.6**
JKG	**Kaga**	**2.91**	**275**	⇓P	**Pn**	**03 29 15.9**	**+1.3**
JHJ	**Hachijo jima 2**	**2.94**	**182**	P	**Pn**	**03 29 15.4**	**+0.4**
JHJ				S	**Sn**	**03 29 49.2**	**+0.1**
	2μm,0.3s,baz=74,slow=21,SNR=7.1						
JHJ2	**Mitsune**	**2.95**	**182**	⇓P	**Pn**	**03 29 15.3**	**+0.2**
JHJ2	**Mitsune**	**2.95**	**182**	Pn	**Pn**	**03 29 15.4**	**+0.3**
JHG	**Hegura jima**	**2.99**	**307**	⇓P	**Pn**	**03 29 15.7**	**0.0**
TSUJ	**Tsu 2**	**3.17**	**246**	P	**Pn**	**03 29 19.2**	**+1.1**
JFM	**Mihama**	**3.25**	**262**	⇑P	**Pn**	**03 29 20.5**	**+1.3**
OFUJ	**Ofunato**	**3.31**	**24**	⇓P	**Pn**	**03 29 20.5**	**+0.4**
JKN2	**Miekihoku**	**3.50**	**240**	P	**Pn**	**03 29 23.6**	**+0.9**
JOM	**Ohasama**	**3.57**	**17**	P	**Pn**	**03 29 25.1**	**+1.5**
JAOM	**Aogashimamukai**	**3.59**	**182**	⇓P	**Pn**	**03 29 24.7**	**+0.7**
JHE	**Heguri**	**3.74**	**249**	⇑P	**Pn**	**03 29 26.5**	**+0.5**
JWT	**Wachi**	**3.76**	**259**	⇑P	**Pn**	**03 29 27.3**	**+1.0**
JWT	**Wachi**	**3.76**	**259**	Pn	**Pn**	**03 29 26.6**	**+0.3**
JKY	**Yasaka**	**3.94**	**265**	⇑P	**Pn**	**03 29 29.7**	**+1.0**
JAH	**Hinai**	**4.16**	**8**	⇓P	**Pn**	**03 29 34.1**	**+2.5**
JKSM	**Kasumi**	**4.30**	**265**	P	**Pn**	**03 29 34.4**	**+0.8**
JWM	**Minabe**	**4.36**	**241**	P	**Pn**	**03 29 34.7**	**+0.3**
JTM	**Tenmabayashi**	**4.80**	**10**		**Pn**	**03 29 39.8**	**-0.7**
JAD	**Aida**	**4.83**	**258**	P	**Pn**	**03 29 41.6**	**+0.7**
JAI	**Aioi**	**5.03**	**245**	P	**Pn**	**03 29 44.1**	**+0.4**
JOI	**OKI**	**5.40**	**274**	⇑P	**Pn**	**03 29 50.1**	**+1.4**
JMN	**Monobe**	**5.49**	**247**	Pn	**Pn**	**03 29 50.7**	**+0.8**
JHS	**Saijyo**	**5.65**	**261**		**Pn**	**03 29 52.1**	**-0.1**
JGT2	**ShimaneMisato**	**6.13**	**263**	P	**Pn**	**03 29 59.8**	**+1.1**
JKU	**Kubokawa**	**6.28**	**246**	P	**Pn**	**03 30 01.5**	**+0.7**
ERM	**Erimo**	**6.45**	**22**	*d iP*	**Pn**	**03 30 02.7**	**-0.4**
ERM				pmax	pmax		
	comp=Z,214nm,0.6s						
ERM	**Erimo**	**6.45**	**22**	Pn	**Pn**	**03 30 02.9**	**-0.2**
JHIK	**Hikimi**	**6.71**	**259**	⇑P	**Pn**	**03 30 08.0**	**+1.3**
JEW	**Eniwo**	**6.87**	**9**		**Pn**	**03 30 09.9**	**+1.1**
JKI	**Kunimi**	**7.28**	**253**	P	**Pn**	**03 30 16.3**	**+1.8**
JNU	**Nakatsue**	**8.02**	**251**	P	**Pn**	**03 30 25.7**	**+1.1**
	comp=Z,18nm,0.3s,baz=61,slow=7.6,SNR=60						
JNU				LR	LR	03 33 51.7	
	comp=Z,10μm,19.5s,baz=60,slow=41						
JNU	**Nakatsue**	**8.02**	**251**		**Pn**	**03 30 25.5**	**+0.9**
ASAJ	**Asahikawa**	**8.30**	**13**	P	**Pn**	**03 30 26.9**	**-1.4**
	comp=Z,16nm,0.3s,baz=226,slow=13,SNR=26						
ASAJ				LR	LR	03 34 04.4	
	comp=Z,4μm,21.5s,baz=202,slow=40						
ASAJ	**Asahikawa**	**8.30**	**13**	P	**Pn**	**03 30 28.0**	**-0.3**
JKA	**Kamikawa-asahi**	**8.30**	**13**	Pn	**Pn**	**03 30 28.0**	**-0.4**
NMR	**Nemuro--Hokkai**	**8.55**	**30**	⇑*i P*	**Pn**	**03 30 29.2**	**-2.6**
NMR				*e*S	**Sn**	**03 32 00.1**	**-6.7**
JTU	**Tsushima**	**8.74**	**263**	Pn	**Pn**	**03 30 32.7**	**-1.7**
JSU	**Suzuyama**	**9.10**	**243**		**Pn**	**03 30 38.8**	**-0.6**
GRPR	**Tuman**	**9.10**	**28**	*e*P	**Pn**	**03 30 37.6**	**-1.7**
GRPR				*i* S	**Sn**	**03 32 13.4**	**-6.7**
GRPR				pmax	pmax		
	comp=N,198nm,0.3s						
GRPR				pmax	pmax		
	comp=E,121nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,388nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,591nm,1.1s						
JCJ	**Chichijima**	**9.15**	**167**	P	**Pn**	**03 30 37.6**	**-2.5**
	comp=Z,191nm,0.3s,baz=310,slow=18,SNR=40						
JCJ				S	**Sn**	**03 32 14.0**	**-7.6**
	comp=Z,52nm,0.3s,baz=290,slow=22,SNR=3.0						
JCJ	**Chichijima**	**9.15**	**167**		**Pn**	**03 30 37.5**	**-2.6**
JCJ					**Sn**	**03 32 17.4**	**-4.2**
YUK	**Yuzh-Kuril'sk**	**9.17**	**28**	*c iP*	**Pn**	**03 30 39.8**	**-0.4**
YUK				*e*S	**Sn**	**03 32 16.1**	**-5.7**
YUK				pmax	pmax		
	comp=N,84nm,0.2s						
YUK				pmax	pmax		
	comp=Z,492nm,0.2s						
YUK				pmax	pmax		
	comp=E,88nm,0.1s						
TEY	**Ternei**	**9.31**	**345**	⇑*e*P	**Pn**	**03 30 45.1**	**+3.0**
TEY				*e*S	**Sn**	**03 32 29.3**	**+4.0**
TEY				pmax	pmax		
	comp=E,20nm,0.9s						
TEY				pmax	pmax		
	comp=N,60nm,1.0s						
TEY				pmax	pmax		
	comp=Z,60nm,0.8s						
TEY				pmax	pmax		
	comp=N,6μm,4.2s						
TEY				pmax	pmax		
	comp=Z,5μm,4.2s						
TEY				smax	smax		
	comp=E,2μm,3.1s						
TEY				smax	smax		
	comp=N,1μm,2.8s						
TEY				MLR	MLR		
	comp=Z,4μm,14.0s						
VLA	**Vladivostok**	**9.38**	**321**	*c iP*	**Pn**	**03 30 47.5**	**+4.3**
KSRS	**Korea Array**	**9.73**	**282**	P	**Pn**	**03 30 51.1**	**+3.2**
	comp=Z,37nm,0.3s,baz=94,slow=14,SNR=429						
KSRS				LR	LR	03 34 27.3	
	comp=Z,10μm,20.1s,baz=82,slow=37						
KSRS				ScP	**ScP**	**03 40 25.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=123,slow=0.7,SNR=10.0						
CHJN	**Chongjin**	**9.74**	**309**	P	**Pn**	**03 30 50.1**	**+2.0**
KS19	**Wonju Array Si**	**9.78**	**282**		**Pn**	**03 30 48.5**	**-0.2**
USA0B	**Ussuriysk Arra**	**10.14**	**326**	P	**Pn**	**03 30 52.5**	**-1.0**
USA0B	**Ussuriysk Arra**	**10.14**	**326**		**Pn**	**03 30 52.5**	**-1.0**
USRK	**Ussuriysk Ar.**	**10.14**	**326**	P	**Pn**	**03 30 54.4**	**+0.9**
	baz=153,slow=15,SNR=201						
USRK				LR	LR	03 34 32.9	
	comp=Z,4μm,21.3s,baz=134,slow=36						
USRK	**Ussuriysk Ar.**	**10.14**	**326**	P	**Pn**	**03 30 53.1**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.14**	**326**	Pn	**Pn**	**03 30 53.1**	**-0.4**
WOSN	**Wonsan**	**10.39**	**291**	P	**Pn**	**03 31 00.0**	**+3.1**
HHU	**Hamhung**	**10.51**	**295**	P	**Pn**	**03 31 01.1**	**+2.5**
HHU				sP		03 31 18.2	
INCN	**Inchon**	**10.76**	**281**	P	**Pn**	**03 31 02.8**	**+0.8**
INCN	**Inchon**	**10.76**	**281**		**Pn**	**03 31 02.8**	**+0.8**
KUR	**Kuril'sk**	**10.96**	**31**	*e*P	**Pn**	**03 31 03.7**	**-1.0**
KUR				*e*S	**Sn**	**03 33 01.1**	**-4.6**
KUR				pmax	pmax		
	comp=Z,243nm,0.5s						
KUR				pmax	pmax		
	comp=E,91nm,0.6s						
KUR				pmax	pmax		
	comp=N,84nm,0.3s						
KUR				pmax	pmax		
	comp=Z,692nm,1.1s						
YSS	**Yuzh-Sakhalins**	**11.08**	**10**	*αe*P	**Pn**	**03 31 06.0**	**-0.4**
YSS				*e*S	**Sn**	**03 33 07.5**	**-1.2**
YSS				pmax	pmax		
	comp=Z,2μm,0.8s						
YSS				pmax	pmax		
	comp=Z,300nm,3.8s						
YSS				smax	smax		
	comp=E,900nm,8.4s						
YSS				MLR	MLR		
	comp=Z,6μm,15.0s						
YSS				MLR	MLR		
	comp=N,4μm,19.0s						
YSS				MLR	MLR		
	comp=E,3μm,14.0s						
YSS	**Yuzh-Sakhalins**	**11.08**	**10**		**Pn**	**03 31 05.6**	**-0.8**
PYS	**Pyongsong**	**11.60**	**290**	P	**Pn**	**03 31 16.5**	**+3.1**
MDJ	**Mudanjiang**	**11.61**	**320**		**Pn**	**03 31 12.0**	**-1.7**
SUJ	**Sinuiju**	**12.80**	**293**	P	**Pn**	**03 31 31.2**	**+1.3**
SUJ				sP	**P**	**03 31 40.6**	**+1.5**
SUJ				S	**Sn**	**03 33 59.5**	**+8.7**
JOKE	**Okinoerabujima**	**12.98**	**231**	P	**P**	**03 31 40.4**	**-0.7**
UGL	**Uglegorsk**	**13.10**	**6**	*e*P	**P**	**03 31 38.3**	**-4.0**
UGL				S	**Sn**	**03 33 53.9**	**-3.9**
UGL				pmax	pmax		
	comp=Z,380nm,0.9s						
UGL				smax	smax		
	comp=E,139nm,0.8s						
UGL				MLR	MLR		
	comp=Z,3μm,15.0s						
UGL				MLR	MLR		
	comp=E,3μm,17.0s						
CN2	**Changchun**	**13.52**	**309**	*e*P	**Pn**	**03 31 40.3**	**+0.7**
CN2				*e*S	Sn	03 34 17.4	+9.3
CN2				pmax	pmax		
	comp=E,20nm,1.0s						
CN2				pmax	pmax		
	comp=E,760nm,5.0s						
CN2				LR	LR		
	comp=E,2μm,16.0s						
CN2				LR	LR		
	comp=E,3μm,16.0s						
CN2				LR	LR		
	comp=E,880nm,17.0s						
SNY	**Shenyang**	**13.95**	**299**	⇑P	**Pn**	**03 31 46.3**	**+0.8**
SNY				sP	P	03 32 02.3	+10
SNY				S	**Sn**	**03 34 23.4**	**+4.7**
SNY				pmax	pmax		
	comp=E,100nm,1.2s						
SNY				LR	LR		
	comp=E,4μm,15.0s						
SNY				LR	LR		
	comp=E,5μm,16.0s						
SNY				LR	LR		
	comp=E,6μm,15.7s						
DL2	**Dalian**	**14.80**	**287**	P	**Pn**	**03 31 58.3**	**+1.7**
DL2				pP	P	03 32 06.3	+5.0
DL2				sP		03 32 15.8	
DL2				S	**Sn**	**03 34 45.5**	**+6.2**
DL2				pmax	pmax		
	comp=E,450nm,0.6s						
DL2				pmax	pmax		
	comp=E,2μm,4.1s						
DL2				LR	LR		
	comp=E,800nm,13.4s						
DL2				LR	LR		
	comp=E,5μm,18.5s						
DL2				LR	LR		
	comp=E,6μm,17.3s						
GRNR	**Gornyy**	**14.91**	**351**	⇑*i P*	**Pn**	**03 31 55.5**	**-2.5**
GRNR				*e*S	**Sn**	**03 34 37.9**	**-4.1**
GRNR				pmax	pmax		
	comp=Z,20nm,0.7s						
GRNR				smax	smax		
	comp=N,9.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,1μm,16.0s						
GRNR				MLR	MLR		
	comp=N,1μm,15.0s						
GRNR				MLR	MLR		
	comp=Z,2μm,20.0s						
TYV	**Tymovskoe**	**14.92**	**7**	*e*P	**P**	**03 32 03.3**	**+0.8**
TYV				pmax	pmax		
	comp=Z,358nm,0.8s						
TYV				pmax	pmax		
	comp=Z,400nm,2.1s						
TYV				MLR	MLR		
	comp=N,3μm,24.0s						
TYV				MLR	MLR		
	comp=Z,4μm,24.0s						
SSE	**Sheshan**	**16.38**	**258**	P	**P**	**03 32 18.3**	**-0.5**
SSE				pmax	pmax		
	comp=Z,85nm,0.9s						
SSE				pmax	pmax		
	comp=Z,660nm,4.7s						
SSE				LR	LR		
	comp=Z,1μm,14.4s						
SSE				LR	LR		
	comp=Z,1μm,14.7s						
NKL	**Nikolayevsk**	**17.09**	**2**	*e*P	**Pn**	**03 32 20.9**	**-4.6**
NKL				*e*S	**Sn**	**03 35 37.1**	**+2.5**
NKL				pmax	pmax		
	comp=N,10.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,36nm,0.9s						
NKL				smax	smax		
	comp=N,19nm,2.5s						
NKL				MLR	MLR		
	comp=N,197nm,15.0s						
NKL				MLR	MLR		
	comp=Z,2μm,24.0s						
JTJ	**Tarama**	**17.36**	**233**	P	**P**	**03 32 29.7**	**0.0**
JISG	**Ishigakijimahi**	**17.65**	**234**	P	**Pn**	**03 32 31.7**	**-1.0**
NJ2	**Nanjing**	**17.91**	**263**	*e*P	**P**	**03 32 34.8**	**-0.9**
NJ2				pP	**pP**	**03 32 46.8**	**-1.3**
NJ2				PP	**PnPn**	**03 32 50.8**	**+2.9**
NJ2				sP	**sP**	**03 32 55.4**	**+0.1**
NJ2				S	**Sn**	**03 35 48.8**	**-5.8**
NJ2		

ZEA	**Zeya**	**19.77 337**	*e*P	**P**	**03 32 52.4**	**-3.5**
ZEA			*e*S	S	03 36 23.5	-12
ZEA			pmax	pmax		
	comp=N,73nm,0.8s					
ZEA			pmax	pmax		
	comp=E,62nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,150nm,0.8s					
ZEA			smax	smax		
	comp=N,2μm,7.0s					
ZEA			MLR	MLR		
	comp=Z,4μm,6.0s					
ZEA			MLR	MLR		
	comp=E,2μm,14.0s					
ZEA			MLR	MLR		
	comp=N,2μm,15.0s					
HIA	**Hailar**	**19.78 318**	P	**P**	**03 32 55.3**	**-0.8**
HIA			pmax	pmax		
	comp=Z,97nm,0.8s					
HIA	**Hailar**	**19.78 318**	P	**P**	**03 32 55.2**	**-0.8**
SSLB	**Suanglung**	**20.45 238**	P	**P**	**03 33 02.4**	**-1.2**
YULB	**Yu-li**	**20.48 237**	P	**P**	**03 33 03.0**	**-0.9**
TPUB	**Ta-pu**	**20.99 238**	P	**P**	**03 33 07.6**	**-1.9**
TWG	**Pinlang**	**21.02 236**	P	**P**	**03 33 08.9**	**-0.8**
PEA0B	**Petropavlovsk-**	**21.13 31**	P	**P**	**03 33 11.5**	**+0.8**
PEA0B			pmax	pmax		
	comp=Z,141nm,0.9s					
PEA0B			MLR	MLR		
	comp=Z,1μm,20.0s					
PEA0B	**Petropavlovsk-**	**21.13 31**	P	**P**	**03 33 11.5**	**+0.8**
PETK	**Petropavlovsk-**	**21.13 31**	P	**P**	**03 33 11.5**	**+0.8**
	comp=Z,35nm,0.7s,baz=208,slow=8.4,SNR=47					
PETK			PcP	**PcP**	**03 37 16.2**	**+1.6**
	comp=Z,11nm,0.9s,baz=142,slow=3.4,SNR=4.4					
PETK			ScP	**ScP**	**03 40 46.5**	**0.0**
	comp=Z,2.8nm,0.9s,baz=116,slow=6.8,SNR=3.7					
PETK			LR	LR	03 41 18.6	
	comp=Z,965nm,20.5s,baz=226,slow=36					
PETK	**Petropavlovsk-**	**21.13 31**	P	**P**	**03 33 11.6**	**+1.0**
PETK				**PcP**	**03 37 15.5**	**+0.9**
QZH	**Quanzhou**	**21.42 245**	⇓*i*P	**P**	**03 33 11.8**	**-2.1**
QZH			*e*S	**S**	**03 37 10.1**	**+1.6**
QZH			LR	LR		
	comp=Z,3μm,18.5s					
QZH			LR	LR		
	comp=Z,3μm,21.8s					
PET	**Petropavlovsk**	**21.47 32**	*e*P	**P**	**03 33 15.7**	**+1.4**
PET			*e**PP	**pP**	**03 33 29.7**	**+2.7**
PET			*e*S	**S**	**03 37 03.3**	**-5.8**
PET			pmax	pmax		
	comp=Z,500nm,10.1s					
PET			pmax	pmax		
	comp=Z,1μm,0.9s					
PET			MLR	MLR		
	comp=Z,900nm,13.0s					
PET			MLR	MLR		
	comp=Z,700nm,16.0s					
PET	**Petropavlovsk**	**21.47 32**	P	**P**	**03 33 14.7**	**+0.4**
PET			IAmb	IAmb	03 33 18.4	
	comp=Z,179nm,0.9s					
TIY	**Taiyuan**	**22.02 283**	*e*P	**P**	**03 33 17.3**	**-3.1**
TIY			LR	LR		
	comp=Z,1μm,12.6s					
TIY			LR	LR		
	comp=Z,3μm,14.9s					
TIY			LR	LR		
	comp=Z,4μm,16.3s					
WHN	**Wuhan**	**22.04 263**	⇓P	**P**	**03 33 19.1**	**-1.5**
WHN			pP	**pP**	**03 33 28.1**	**-5.2**
WHN			S	**S**	**03 37 19.8**	**-0.7**
WHN			pmax	pmax		
	comp=Z,140nm,0.8s					
WHN			LR	LR		
	comp=Z,7μm,15.0s					
WHN			LR	LR		
	comp=Z,11μm,15.6s					
WHN			LR	LR		
	comp=Z,10μm,15.1s					
HHC	**Hu-ho-hao-te**	**22.67 291**	⇑*i*P	**P**	**03 33 24.4**	**-3.0**
HHC			pP	pP	03 33 38.5	-1.6
HHC			sP	sP	03 33 46.0	-1.2
HHC			S	**S**	**03 37 23.3**	**-8.2**
HHC			pmax	pmax		
	comp=Z,41nm,1.3s					
HHC			pmax	pmax		
	comp=Z,570nm,6.2s					
HHC			LR	LR		
	comp=Z,1μm,14.7s					
HHC			LR	LR		
	comp=Z,3μm,15.0s					
HHC			LR	LR		
	comp=Z,3μm,15.7s					
GUMO	**Guam**	**22.82 168**	P	**P**	**03 33 28.9**	**-0.1**
	comp=Z,307nm,1.0s,baz=190,slow=5.9,SNR=7.9					
GUMO			LR	LR	03 42 11.4	
	comp=Z,898nm,19.6s,baz=19,slow=36					
GUMO	**Guam**	**22.82 168**	P	**P**	**03 33 29.3**	**+0.3**
GUMO			pmax	pmax		
	comp=Z,346nm,1.0s					
GUMO	**Guam**	**22.82 168**	P	**P**	**03 33 29.3**	**+0.3**
GUMO			IAmb	IAmb	03 33 30.0	
	comp=Z,346nm,0.9s					
BTO	**Baotou**	**23.83 290**	*e*P	**P**	**03 33 35.5**	**-3.1**
MA2	**Magadan**	**24.56 13**	*c i*P	**P**	**03 33 45.4**	**+0.4**
MA2			pmax	pmax		
	comp=Z,246nm,0.7s					
MA2	**Magadan**	**24.56 13**	P	**P**	**03 33 45.8**	**+0.8**
MA2			IAmb	IAmb	03 33 47.8	
	comp=Z,312nm,0.9s					
CIT	**Chita**	**24.58 319**	*e*P	**P**	**03 33 41.9**	**-3.4**
CIT			*e*		03 33 51.1	
CIT			*e*		03 34 21.1	
CIT			*e*		03 34 29.1	
CIT			pmax	pmax		
	comp=Z,257nm,1.0s					
XAN	**Xi'an**	**25.41 275**	P	**P**	**03 33 51.5**	**-1.5**
XAN			PcP	**PcP**	**03 37 25.1**	**+1.1**
XAN			S	**S**	**03 38 15.3**	**-0.5**
XAN			ScP	**ScP**	**03 40 58.3**	**0.0**
XAN			ScS	**ScS**	**03 44 45.5**	**-1.9**
XAN			pmax	pmax		
	comp=Z,140nm,0.5s					
XAN			pmax	pmax		
	comp=Z,1μm,5.1s					
XAN			LR	LR		
	comp=Z,2μm,18.4s					
XAN			LR	LR		
	comp=Z,2μm,16.3s					
XAN			LR	LR		
	comp=Z,3μm,17.4s					
XAN	**Xi'an**	**25.41 275**	P	**P**	**03 33 51.3**	**-1.7**
XAN			pmax	pmax		
	comp=Z,85nm,0.6s					
XAN			MLR	MLR		
	comp=Z,3μm,22.0s					
XAN	**Xi'an**	**25.41 275**	P	**P**	**03 33 51.3**	**-1.7**
XAN			IAmb	IAmb	03 33 52.6	
	comp=Z,85nm,0.6s					
XAN	**Xi'an**	**25.41 275**	IAMs_20	IAMs_20	03 43 50.5	
	comp=Z,3μm,22.0s					
ENH	**Enshi**	**26.06 266**	P	**P**	**03 33 57.3**	**-1.6**
ENH			IAMs_20	IAMs_20	03 43 37.8	
	comp=Z,3μm,21.0s					
YAK	**Yakutsk**	**26.77 349**	P	**P**	**03 34 03.9**	**-1.0**
	comp=Z,180nm,0.7s,baz=167,slow=3.0,SNR=40					
YAK			LR	LR	03 44 48.8	
	comp=Z,2μm,19.4s,baz=156,slow=37					
YAK	**Yakutsk**	**26.77 349**	⇑*i*P	**P**	**03 34 04.1**	**-0.8**
YAK			*e**PP	**pP**	**03 34 21.3**	**+2.3**
YAK			*e*		03 34 48.6	
YAK			*e*		03 37 25.5	
YAK			*e*S	**S**	**03 38 36.8**	**+0.2**
YAK			*e*SS	**SnSn**	**03 39 44.8**	**-0.4**
YAK			*e*		03 44 48.7	
YAK			pmax	pmax		
	comp=Z,230nm,0.9s					
YAK			pmax	pmax		
	comp=N,159nm,0.9s					
YAK			pmax	pmax		
	comp=E,43nm,0.9s					
YAK			pmax	pmax		
	comp=Z,107nm,1.5s					
YAK			pmax	pmax		
	comp=N,191nm,1.3s					
YAK			pmax	pmax		
	comp=E,85nm,1.2s					
YAK			smax	smax		
	comp=N,190nm,1.9s					
YAK			smax	smax		
	comp=E,496nm,2.1s					
YAK	**Yakutsk**	**26.77 349**	P	**P**	**03 34 04.4**	**-0.6**
ULN	**Ulaanbaatar**	**26.93 306**	P	**P**	**03 34 06.4**	**-0.3**
ULN			P	**P**	**03 34 06.4**	**-0.3**
ULN	**Ulaanbaatar**	**26.93 306**	*ce*P	**P**	**03 34 04.9**	**-1.8**
ULN			pmax	pmax		
	comp=Z,155nm,1.3s					
ULN	**Ulaanbaatar**	**26.93 306**	P	**P**	**03 34 05.3**	**-1.4**
ULN			IAmb	IAmb	03 34 09.3	
	comp=Z,88nm,0.8s					
SONM	**Songino Array**	**27.35 306**	P	**P**	**03 34 08.4**	**-2.1**
	comp=Z,93nm,0.8s,baz=110,slow=8.9,SNR=79					
SONM			PcP	**PcP**	**03 37 28.9**	**+0.5**
	comp=Z,8.7nm,0.7s,baz=110,slow=2.7,SNR=3.5					
SONM			ScP	**ScP**	**03 41 04.1**	**+0.2**
	comp=Z,8.1nm,0.9s,baz=126,slow=3.2,SNR=8.4					
SONM			P3KPbc		04 06 45.8	
	comp=Z,0.2nm,0.3s,baz=268,slow=4.5,SNR=4.0					
SONM	**Songino Array**	**27.35 306**	P	**P**	**03 34 08.8**	**-1.7**
SONM				**PcP**	**03 37 28.4**	**+0.1**
SONM			ScP	**ScP**	**03 41 03.6**	**-0.3**
TGY	**Tagaytay City**	**27.72 223**	LR	LR	03 42 49.9	
	comp=Z,464nm,21.3s,baz=38,slow=31					
BOD	**Bodaibo**	**27.73 330**	*e*P	**P**	**03 34 11.8**	**-1.8**
BOD			pmax	pmax		
	comp=Z,156nm,1.1s					
SEY	**Seymchan**	**27.98 12**	LR	LR	03 45 38.2	
	comp=Z,2μm,21.9s,baz=202,slow=37					
SEY	**Seymchan**	**27.98 12**	*c i*P	**P**	**03 34 16.5**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**28.73 117**	T	T	04 04 33.7	
	baz=308,slow=75,SNR=178					
H11N1	**WAKE ISLAND Hy**	**28.74 117**	T	T	04 04 23.0	
	baz=308,slow=75,SNR=387					
H11N3	**WAKE ISLAND Hy**	**28.75 117**	T	T	04 04 35.2	
	baz=308,slow=75,SNR=316					
WAKE	**Wake Island**	**28.84 118**	IAMs_20	IAMs_20	03 43 49.8	
	comp=Z,2μm,20.0s					
LZH	**Lanzhou**	**29.06 281**	*e*P	**P**	**03 34 23.8**	**-2.0**
LZH			pP	pP	03 34 39.3	-0.7
LZH			pmax	pmax		
	comp=Z,60nm,1.2s					
LZH			pmax	pmax		
	comp=Z,620nm,4.9s					
LZH			LR	LR		
	comp=Z,3μm,16.8s					
LZH			LR	LR		
	comp=Z,3μm,16.3s					
LZH			LR	LR		
	comp=Z,4μm,16.8s					
H11S1	**WAKE ISLAND Hy**	**29.39 119**	T	T	04 05 31.2	
	baz=314,slow=76,SNR=588					
H11S3	**WAKE ISLAND Hy**	**29.39 119**	T	T	04 05 31.3	
	baz=314,slow=76,SNR=327					
H11S2	**WAKE ISLAND Hy**	**29.40 119**	T	T	04 05 32.4	
	baz=314,slow=76,SNR=380					
GYA	**Guiyang**	**29.88 261**	⇓P	**P**	**03 34 31.8**	**-1.3**
GYA			pmax	pmax		
	comp=Z,190nm,1.0s					
GYA			pmax	pmax		
	comp=Z,1μm,4.2s					
IRK	**Irkutsk**	**29.88 314**	*e*P	**P**	**03 34 32.6**	**-0.2**
IRK			pmax	pmax		
	comp=Z,88nm,0.9s					
ZAK	**Zakamensk**	**29.95 310**	*e*P	**P**	**03 34 31.6**	**-1.9**
ZAK			pmax	pmax		
	comp=Z,37nm,1.0s					
TLY	**Talaya**	**30.08 313**	P	**P**	**03 34 33.6**	**-1.0**
	comp=Z,46nm,0.9s,baz=116,slow=6.1,SNR=46					
TLY			PcP	**PcP**	**03 37 36.3**	**+1.3**
	comp=Z,11nm,0.8s,baz=221,slow=6.2,SNR=3.9					
TLY			LR	LR	03 46 56.1	
	comp=Z,1μm,21.1s,baz=115,slow=37					
TLY	**Talaya**	**30.08 313**	*e*P	**P**	**03 34 34.8**	**+0.2**
TLY			*e*PPP	PPP	03 35 34.5	
TLY			*e*		03 35 53.2	
TLY			*e*S	**S**	**03 39 33.8**	**+4.9**
TLY			*e*SS	**SS**	**03 41 29.2**	**-9.4**
TLY			pmax	pmax		
	comp=Z,175nm,1.0s					
TLY			MLR	MLR		
	comp=Z,4μm,13.0s					
TLY	**Talaya**	**30.08 313**	P	**P**	**03 34 33.8**	**-0.8**
TLY				**PcP**	**03 37 34.7**	**-0.3**
CD2	**Chengdu**	**30.48 271**	P	**P**	**03 34 36.6**	**-1.7**
CD2			S	**S**	**03 39 34.3**	**-1.4**
CD2			sS	sS	03 39 57.3	-2.5
CD2			pmax	pmax		
	comp=Z,100nm,0.8s					
CD2			pmax	pmax		
	comp=Z,1μm,5.7s					
CD2			LR	LR		
	comp=Z,4μm,13.1s					
CD2			LR	LR		
	comp=Z,4μm,18.0s					
CD2			LR	LR		
	comp=Z,5μm,20.8s					
MOY	**Mondy**	**31.67 312**	*e*P	**P**	**03 34 48.3**	**-0.3**
MOY			pmax	pmax		
	comp=Z,33nm,1.2s					
DAV	**Davao City (W)**	**31.71 208**	IAMs_20	IAMs_20	03 47 13.2	
	comp=Z,2μm,22.0s					
GTA	**Gaotai**	**31.71 288**	*e*P	**P**	**03 34 47.8**	**-1.4**
GTA			pP	pP	03 35 01.5	-2.0
GTA			sP	sP	03 35 09.0	-1.2
GTA			PcP	**PcP**	**03 37 40.9**	**+1.2**
GTA			S	**S**	**03 39 52.9**	**-2.1**
GTA			sS	sS	03 40 22.8	+3.7
GTA			ScP	**ScP**	**03 41 18.3**	**+0.2**
GTA			PcS	**PcS**	**03 41 24.6**	**+0.2**
GTA			ScS	**ScS**	**03 45 14.0**	**-2.4**
GTA			pmax	pmax		
	comp=Z,26nm,0.8s					
GTA			pmax	pmax		
	comp=Z,240nm,10.2s					
GTA			LR	LR		
	comp=Z,1μm,16.0s					
GTA			LR	LR		
	comp=Z,2μm,18.5s					
GTA			LR	LR		
	comp=Z,2μm,19.6s					
PATS	**Pohnpei**	**33.62 146**	P	**P**	**03 35 06.9**	**+1.1**
PATS			IAMs_20	IAMs_20	03 45 56.0	
	comp=Z,4μm,22.0s					
KMI	**Kunming**	**33.63 262**	⇓*i*P	**P**	**03 35 05.3**	**-0.9**
KMI			pP	pP	03 35 20.5	0.0
KMI			pmax	pmax		
	comp=Z,170nm,0.9s					
KMI			pmax	pmax		
	comp=Z,780nm,4.3s					
KMI			LR	LR		
	comp=Z,1μm,8.7s					
KMI			LR	LR		
	comp=Z,1μm,13.2s					
KMI			LR	LR		
	comp=Z,2μm,13.0s					
KMI	**Kunming**	**33.63 262**	P	**P**	**03 35 05.1**	**-1.1**
KMI			pmax	pmax		
	comp=Z,144nm,0.9s					
KMI			MLR	MLR		
	comp=Z,2μm,20.0s					
KMI	**Kunming**	**33.63 262**	P	**P**	**03 35 05.1**	**-1.1**
KMI			IAmb	IAmb	03 35 06.5	
	comp=Z,144nm,0.9s					
KMI	**Kunming**	**33.63 262**	IAMs_20	IAMs_20	03 49 12.6	
	comp=Z,2μm,20.0s					
SLVN	**Son La**	**34.62 255**	P	**P**	**03 35 14.0**	**-0.6**
TIXI	**Tiksi**	**36.12 354**	P	**P**	**03 35 26.5**	**-0.3**
	comp=Z,74nm,0.6s,baz=142,slow=5.4,SNR=58					
TIXI	**Tiksi**	**36.12 354**	*c i*P	**P**	**03 35 26.3**	**-0.5**
TIXI			pmax	pmax		
	comp=Z,90nm,0.7s					
TIXI			MLR	MLR		
	comp=Z,1μm,18.0s					
TIXI	**Tiksi**	**36.12 354**	P	**P**	**03 35 26.6**	**-0.2**
TIXI			IAmb	IAmb	03 35 27.4	
	comp=Z,95nm,0.7s					
TIXI			IAMs_20	IAMs_20	03 51 12.0	
	comp=Z,1μm,19.0s					
MYLDM	**Lahad Datu**	**36.51 218**	P	**P**	**03 35 30.7**	**0.0**
KKM	**Kota Kinabalu**	**36.96 222**	P	**P**	**03 35 34.5**	**-0.2**
UBPT	**Khong Chiam**	**37.03 245**	P	**P**	**03 35 34.8**	**-0.5**
UBPT			IAmb	IAmb	03 35 35.7	
	comp=Z,55nm,0.7s					
KWAJ	**Kwajalein Atol**	**37.04 130**	IAMs_20	IAMs_20	03 45 57.0	
	comp=Z,2μm,19.0s					
DLV	**T Lat**	**37.15 238**	P	**P**	**03 35 35.8**	**-0.7**
DLV			IAmb	IAmb	03 35 37.0	
	comp=Z,74nm,0.8s					
SIJI	**Sorong**	**37.62 194**	LR	LR	03 49 58.6	
	comp=Z,2μm,20.5s,baz=358,slow=34					
KMSI	**Cibinong**	**38.29 206**	P	**P**	**03 35 45.0**	**-0.8**
	comp=Z,11μmcomp=Z,286nm,0.7s					
JAY	**Jayapura**	**38.39 179**	LR	LR	03 48 41.3	
	comp=Z,1μm,22.0s,baz=353,slow=32					
JAY	**Jayapura**	**38.39 179**	P	**P**	**03 35 48.1**	**+1.4**
	comp=Z,433nmcomp=Z,32nm,0.7s					
GENI	**Genyem**	**38.46 180**	P	**P**	**03 35 48.9**	**+1.7**
	comp=Z,3μmcomp=Z,196nm,1.0s					
GTOI	**Gorontalo**	**38.59 208**	P	**P**	**03 35 46.6**	**-1.7**
	comp=Z,577nmcomp=Z,57nm,0.9s					
FAKI	**Fak Fak**	**39.44 192**	P	**P**	**03 35 57.9**	**+2.5**
	comp=Z,1μmcomp=Z,120nm,0.7s					
FAKI	**Fak Fak**	**39.44 192**	P	**P**	**03 35 55.8**	**+0.4**
FAKI			IAmb	IAmb	03 36 09.1	
	comp=Z,92nm,0.7s					
FAKI			IAMs_20	IAMs_20	03 49 20.8	
	comp=Z,3μm,20.0s					
PBKT	**Sadao Pong**	**39.61 251**	P	**P**	**03 35 56.4**	**-0.5**
CHTO	**Chiang Mai**	**39.89 256**	P	**P**	**03 35 58.7**	**-0.6**
CHTO	**Chiang Mai**	**39.89 256**	P	**P**	**03 35 58.6**	**-0.6**
CHTO			pmax	pmax		
	comp=Z,31nm,1.0s					
CHTO			MLR	MLR		
	comp=Z,1μm,19.0s					
CHTO	**Chiang Mai**	**39.89 256**	P	**P**	**03 35 58.6**	**-0.7**
DGZ	**Jazzator, Alta**	**40.00 307**	*c i*P	**P**	**03 36 00.6**	**+0.6**
DGZ			pmax	pmax		
	comp=Z,457nm,0.8s					
SANI	**Sanana**	**40.09 202**	P	**P**	**03 35 59.5**	**-1.3**
	comp=Z,1μmcomp=Z,125nm,0.6s					
CMAR	**Chiang Mai Arr**	**40.09 255**	P	**P**	**03 36 00.1**	**-0.8**
	comp=Z,10.0nm,0.8s,baz=43,slow=7.4,SNR=27					
CMAR			PcP	**PcP**	**03 38 05.9**	**+1.2**
	comp=Z,14nm,0.9s,baz=5.5,slow=2.7,SNR=11					
CMAR			ScP	**ScP**	**03 41 49.3**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=27,slow=3.2,SNR=5.3					
CMAR			LR	LR	03 54 04.2	
	comp=Z,710nm,19.2s,baz=104,slow=38					
CMAR	**Chiang Mai Arr**	**40.09 255**	P	**P**	**03 36 00.0**	**-0.8**
CMAR			PcP	**PcP**	**03 38 03.8**	**-0.9**
CMAR				**ScP**	**03 41 49.4**	**+0.6**
MPSI	**Mapaga**	**40.12 212**	P	**P**	**03 36 02.5**	**+1.4**
	comp=Z,21nm,0.9s					
WMQ	**Urumqi**	**40.21 298**	P	**P**	**03 36 02.5**	**+0.8**
WMQ			pP	pP	03 36 17.3	+1.0
WMQ			sP	sP	03 36 23.0	0.0
WMQ			PcP	**PcP**	**03 38 05.5**	**+0.7**
WMQ			pmax	pmax		
	comp=Z,100nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,400nm,4.3s					
WMQ			LR	LR		
	comp=Z,620nm,20.1s					
WMQ			LR	LR		
	comp=Z,600nm,18.7s					
WMQ			LR	LR		
	comp=Z,570nm,24.1s					
WMQ	**Urumqi**	**40.21 298**	P	**P**	**03 36 01.3**	**-0.4**
WMQ			pmax	pmax		
	comp=Z,146nm,0.8s					
WMQ			MLR	MLR		
	comp=Z,1μm,19.0s					
WMQ	**Urumqi**	**40.21 298**	P	**P**	**03 36 01.3**	**-0.4**
WMQ			IAmb	IAmb	03 36 05.0	
	comp=Z,146nm,0.8s					
WMQ	**Urumqi**	**40.21 298**	IAMs_20	IAMs_20	03 53 02.9	
	comp=Z,1μm,19.0s					
LSA	**Lhasa**	**41.10 276**	P	**P**	**03 36 10.1**	**+0.4**
LSA			LR	LR		
	comp=Z,1μm,13.5s					
LSA			LR	LR		
	comp=Z,4μm,21.4s					
LSA			LR	LR		
	comp=Z,6μm,21.7s					
LSA	**Lhasa**	**41.10 276**	P	**P**	**03 36 08.7**	**-1.0**
LSA			pmax	pmax		
	comp=Z,231nm,0.8s					
LSA			MLR	MLR		
	comp=Z,900nm,18.0s					
LSA	**Lhasa**	**41.10 276**	P	**P**	**03 36 08.7**	**-1.0**
BNDI	**Bandanaira**	**41.45 195**	P	**P**	**03 36 13.7**	**+1.7**
	comp=Z,26μmcomp=Z,446nm,0.7s					
ZAA0	**Zalesovo Array**	**41.69 313**	P	**P**	**03 36 13.4**	**-0.2**
ZALV	**Zalesovo Beam**	**41.69 313**	P	**P**	**03 36 13.0**	**-0.6**
	comp=Z,483nm,0.6s,baz=92,slow=6.5,SNR=1130					
ZALV			PcP	**PcP**	**03 38 09.3**	**0.0**
	comp=Z,97nm,0.7s,baz=96,slow=3.0,SNR=14					
ZALV			ScP	**ScP**	**03 41 54.6**	**+0.1**
	comp=Z,13nm,0.8s,baz=92,slow=3.4,SNR=9.1					
ZALV			LR	LR	03 54 26.8	
	comp=Z,720nm,18.4s,baz=76,slow=37					
ZALV	**Zalesovo Beam**	**41.69 313**	P	**P**	**03 36 13.4**	**-0.2**
ZALV			PcP	**PcP**	**03 38 09.3**	**0.0**
ZALV			ScP	**ScP**	**03 41 54.2**	**-0.3**
KRVT	**Keravat (AS076**	**41.73 162**	LR	LR	03 51 00.9	
	comp=Z,464nm,20.8s,baz=337,slow=32					
ZSN	**Zaisan**	**41.80 303**	⇑*i*P	**P**	**03 36 15.3**	**+0.5**
	comp=Z,123nm,0.9s,baz=303					
ZSN			LR	LR	03 53 17.2	
	comp=Z,270nm,11.7s,baz=303					
ZSN	**Zaisan**	**41.80 303**	*c i*P	**P**	**03 36 15.2**	**+0.5**
ZSN			pmax	pmax		
	comp=Z,123nm,0.9s					
ZSN			MLR	MLR		
	comp=Z,269nm,12.0s					
SBUM	**Sibu**	**42.13 224**	P	**P**	**03 36 16.4**	**-1.2**
SBUM	**Sibu**	**42.13 224**	P	**P**	**03 36 17.0**	**-0.6**
SHL	**Shillong**	**42.20 269**	P	**P**	**03 36 17.2**	**-1.1**
SHL			P	**P**	**03 36 17.6**	**-0.8**
	SNR=35					
SHL	**Shillong**	**42.20 269**	P	**P**	**03 36 17.1**	**-1.2**
SHL			IAmb	IAmb	03 36 17.9	
	comp=Z,165nm,0.7s					
SHL			PcP	**PcP**	**03 38 11.5**	**-0.2**
SHL			IAMs_20	IAMs_20	03 55 36.7	
	comp=Z,2μm,19.0s					
BKB	**Balikpapan**	**42.89 215**	IAMs_20	IAMs_20	03 55 41.7	
	comp=Z,1μm,20.0s					
ANM	**Nome**	**43.05 31**	P	**P**	**03 36 25.5**	**+1.0**
ANM			pmax	pmax		
	comp=Z,50nm,0.9s					
ANM	**Nome**	**43.05 31**	P	**P**	**03 36 25.5**	**+1.0**
MK31	**Makanchi Array**	**43.62 303**	P	**P**	**03 36 29.1**	**-0.3**
MK31			pmax	pmax		
	comp=Z,146nm,0.8s					
MK31	**Makanchi Array**	**43.62 303**	P	**P**	**03 36 29.1**	**-0.3**
MK31			IAmb	IAmb	03 36 31.4	
	comp=Z,146nm,0.8s					
MKAR	**Makanchi Array**	**43.62 303**	P	**P**	**03 36 28.5**	**-0.9**
	comp=Z,170nm,0.6s,baz=86,slow=9.4,SNR=594					
MKAR			PcP	**PcP**	**03 38 16.2**	**+0.3**
	comp=Z,22nm,0.8s,baz=64,slow=3.4,SNR=4.2					
MKAR			ScP	**ScP**	**03 42 01.9**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=79,slow=6.3,SNR=3.9					
MKAR			LR	LR	03 55 17.9	
	comp=Z,2μm,18.4s,baz=84,slow=37					
MKAR	**Makanchi Array**	**43.62 303**	*i* P	**P**	**03 36 29.0**	**-0.4**
MKAR			pmax	pmax		
	comp=Z,170nm,0.6s					
MKAR	**Makanchi Array**	**43.62 303**	P	**P**	**03 36 29.2**	**-0.2**
MKAR				**PcP**	**03 38 16.1**	**+0.1**
MKAR				**ScP**	**03 42 01.9**	**-0.7**
NRIK	**Noril'sk**	**43.65 336**	P	**P**	**03 36 29.0**	**-0.3**
	comp=Z,152nm,0.8s,baz=107,slow=9.1,SNR=127					
NRIK			PcP	**PcP**	**03 38 16.6**	**+1.0**
	comp=Z,90nm,0.8s,baz=92,slow=4.5,SNR=5.2					
NRIK			LR	LR	03 55 52.2	
	comp=Z,2μm,18.1s,baz=106,slow=38					
MAKZ	**Makanchi**	**43.84 303**	P	**P**	**03 36 31.1**	**-0.1**
MAKZ			pmax	pmax		
	comp=Z,156nm,0.8s					
MAKZ			MLR	MLR		
	comp=Z,2μm,18.0s					
MAKZ	**Makanchi**	**43.84 303**	P	**P**	**03 36 31.1**	**-0.1**
MAKZ			IAmb	IAmb	03 36 33.2	
	comp=Z,156nm,0.8s					
KSM	**Kuching**	**44.02 225**	P	**P**	**03 36 32.6**	**-0.3**
KSM			IAmb	IAmb	03 36 34.8	
	comp=Z,113nm,0.7s					

KSM Kuching 44.02 225 P **P 03 36 33.0 +0.1**
SPSI Sidrap Palu 44.06 210 P **P 03 36 34.2 +1.0**
comp=Z,49nm,1.2s
BNSI Bone 44.33 209 P **P 03 36 37.1 +1.8**
comp=Z,70nm,0.8s
SDPT Sand Point 44.33 45 P **P 03 36 34.8 -0.2**
SDPT IAmb IAmb 03 36 38.6
comp=Z,77nm,0.9s
TAPN Taplejung 44.81 274 *e*P **P 03 36 39.3 -0.2**
comp=Z,251nm,0.5s
TAPN Taplejung 44.81 274 *e*P **P 03 36 39.3 -0.2**
comp=Z,251nm,0.5s
CNBA Chernabura Isl 44.85 46 P **P 03 36 40.4 +1.3**
CNBA IAmb IAmb 03 36 44.0
comp=Z,76nm,0.9s
RDOG Red Dog Mine 44.91 27 P **P 03 36 40.8 +1.4**
BKSI Bulukumba 45.16 208 P **P 03 36 42.1 +0.1**
comp=Z,48nm,0.8s
ODAN Odare 45.28 274 *e*P **P 03 36 42.8 -0.3**
comp=Z,437nm,0.9s
ODAN Odare 45.28 274 *e*P **P 03 36 42.8 -0.3**
comp=Z,437nm,0.9s
KURK Kurchatov 45.59 309 P **P 03 36 44.9 -0.1**
KURK Kurchatov 45.59 309*c i*P **P 03 36 44.6 -0.4**
KURK pmax pmax
comp=Z,1µm,1.3s
KURK MLR MLR
comp=Z,1µm,15.0s
KURK Kurchatov 45.59 309 P **P 03 36 45.3 +0.3**
KURK **PcP 03 38 22.8 +0.3**
KURK **S 03 43 23.0 -0.2**
KURK Kurchatov 45.59 309 IAms_20 IAms_20 03 56 21.8
comp=Z,1µm,22.0s
KURBB Kurchatov Arra 45.66 309 P **P 03 36 44.8 -0.7**
comp=Z,299nm,0.5s,baz=83,slow=7.9,SNR=1978
KURBB PcP **PcP 03 38 22.5 -0.3**
comp=Z,32nm,0.8s,baz=84,slow=3.8,SNR=4.8
KURBB S **S 03 43 23.3 -0.8**
comp=Z,9.9nm,1.3s,baz=92,slow=24,SNR=5.0
KURBB Kurchatov Arra 45.66 309 P **P 03 36 45.1 -0.4**
PMG Port Moresby 45.74 170 LR LR 03 55 25.6
comp=Z,636nm,19.4s,baz=349,slow=35
PMG Port Moresby 45.74 170⇓ *e*P **P 03 36 47.9 +1.4**
PMG pmax pmax
comp=Z,34nm,1.0s
PMG Port Moresby 45.74 170 P **P 03 36 47.2 +0.7**
RAMN Ramite 45.88 274 *e*P **P 03 36 47.6 -0.3**
comp=Z,970nm,0.8s
RAMN Ramite 45.88 274 *e*P **P 03 36 47.6 -0.3**
comp=Z,970nm,0.8s
JIRN Jiri 45.91 275 *e*P **P 03 36 48.6 +0.3**
comp=Z,2µm,0.9s
JIRN Jiri 45.91 275 *e*P **P 03 36 48.6 +0.3**
comp=Z,2µm,0.9s
GUN Gumba 46.06 276 *e*P **P 03 36 49.6 +0.2**
comp=Z,999nm,1.0s
GUN Gumba 46.06 276 *e*P **P 03 36 49.6 +0.2**
comp=Z,999nm,1.0s
TARA Tarawa 46.12 131 IAms_20 IAms_20 03 52 26.7
comp=Z,1µm,21.0s
PDGK Podgornoye 46.17 298 P **P 03 36 49.7 -0.2**
SHLS Shalkode 46.23 298⇑ *i*P **P 03 36 47.7 -2.6**
comp=Z,154nm,1.1s,baz=298
SHLS LR LR 03 56 26.3
comp=Z,391nm,13.0s,baz=298
SHLS Shalkode 46.23 298*c i*P **P 03 36 47.7 -2.6**
SHLS pmax pmax
comp=Z,154nm,1.1s
SHLS MLR MLR
comp=Z,391nm,13.0s
UZB Uzynbulak 46.55 298 *e*P **P 03 36 52.6 -0.3**
comp=Z,99nm,0.8s,baz=298
UZB LR LR 03 56 44.6
comp=Z,334nm,13.3s,baz=298
UZB Uzynbulak 46.55 298 *e*P **P 03 36 52.5 -0.3**
UZB pmax pmax
comp=Z,99nm,0.8s
UZB MLR MLR
comp=Z,334nm,13.0s
PKI Pulchoki 46.58 276 *e*P **P 03 36 53.1 -0.4**
comp=Z,499nm,0.7s
PKI Pulchoki 46.58 276 *e*P **P 03 36 53.1 -0.4**
comp=Z,499nm,0.7s
PKIN Phulchoki 46.59 276 *e*P **P 03 36 53.0 -0.5**
comp=Z,436nm,0.7s
PKIN Phulchoki 46.59 276 *e*P **P 03 36 53.0 -0.5**
comp=Z,436nm,0.7s
KKN Kakani 46.59 276 *e*P **P 03 36 53.3 -0.1**
comp=Z,858nm,0.9s
KKN Kakani 46.59 276 *e*P **P 03 36 53.3 -0.1**
comp=Z,858nm,0.9s
TDK Taldyqorghan 46.59 301 *i* P **P 03 36 53.5 +0.5**
comp=Z,217nm,0.7s,baz=300
TDK LR LR 03 56 48.9
comp=Z,2µm,16.9s,baz=300
TDK Taldyqorghan 46.59 301 *i* P **P 03 36 53.5 +0.5**
TDK pmax pmax
comp=Z,217nm,0.7s
TDK MLR MLR
comp=Z,2µm,17.0s
KPKS Kokpek 46.72 299⇑ *i*P **P 03 36 54.1 0.0**
comp=Z,120nm,1.0s,baz=298
KPKS LR LR 03 57 07.2
comp=Z,670nm,15.4s,baz=298
KPKS Kokpek 46.72 299*c i*P **P 03 36 54.1 0.0**
KPKS pmax pmax
comp=Z,120nm,1.0s
KPKS MLR MLR
comp=Z,670nm,15.0s
DMN Daman 46.81 276 *e*P **P 03 36 55.0 -0.2**
comp=Z,422nm,0.9s
DMN Daman 46.81 276 *e*P **P 03 36 55.0 -0.2**
comp=Z,422nm,0.9s
TTA Tatalina 46.90 34 P **P 03 36 56.3 +1.1**
TTA pmax pmax
comp=Z,21nm,0.9s
TTA Tatalina 46.90 34 P **P 03 36 56.3 +1.1**
SATY Saty 47.01 298⇑ *i*P **P 03 36 56.5 +0.1**
comp=Z,73nm,1.1s,baz=298
SATY LR LR 03 57 12.6
comp=Z,259nm,13.3s,baz=298
SATY Saty 47.01 298*c i*P **P 03 36 56.5 +0.1**
SATY pmax pmax
comp=Z,73nm,1.1s
SATY MLR MLR
comp=Z,259nm,13.0s
SVW2 Sparrevohn 47.02 37 P **P 03 36 57.3 +1.2**
SVW2 IAmb IAmb 03 36 60.0
comp=Z,47nm,0.8s
GKN Gorkha 47.02 277 *e*P **P 03 36 56.7 0.0**
comp=Z,2µm,0.8s
GKN Gorkha 47.02 277 *e*P **P 03 36 56.7 0.0**
comp=Z,2µm,0.8s
PRZ Przheval'sk 47.14 297 P **P 03 36 57.0 -0.5**
PRZ pmax pmax
comp=Z,481nm,0.9s
PRZ MLR MLR
comp=Z,1µm,18.0s
PRZ Przheval'sk 47.14 297 P **P 03 36 57.0 -0.5**
PRZ IAms_20 IAms_20 03 57 48.3
comp=Z,1µm,18.0s
KULM Kulim 47.29 239 P **P 03 36 58.5 -0.2**
KULM IAms_20 IAms_20 03 56 19.1
comp=Z,883nm,20.0s
KULM Kulim 47.29 239 P **P 03 36 58.0 -0.7**
MMRI Maumere 47.48 204 P **P 03 37 00.5 +0.4**
comp=Z,75nm,0.8s
MMRI Maumere 47.48 204 P **P 03 37 00.3 +0.2**
MMRI IAmb IAmb 03 37 19.7
comp=Z,56nm,0.8s
IPM Ipoh 47.61 238 P **P 03 37 00.3 -0.9**
IPM Ipoh 47.61 238 P **P 03 37 00.0 -1.3**
TARG Taragay, Kyrgy 47.76 297 P **P 03 37 01.8 -0.8**
TARG IAms_20 IAms_20 03 58 24.5
comp=Z,1µm,18.0s
EDFI Ende, Flores 47.77 205 P **P 03 37 02.6 +0.1**
comp=Z,21nm,1.5s
CHKK Chushkaly 47.83 300⇑ *i*P **P 03 37 02.7 0.0**
baz=299
CHKK Chushkaly 47.83 300*c i*P **P 03 37 02.6 0.0**
SOEI Soe 47.91 201 P **P 03 37 04.6 +1.1**
comp=Z,1µmcomp=Z,151nm,0.8s
SOEI S **S 03 43 51.1 -5.9**
comp=Z,1µmcomp=Z,151nm,0.8s
SOEI Soe 47.91 201 P **P 03 37 02.8 -0.8**
SOEI IAmb IAmb 03 37 21.3
comp=Z,96nm,0.8s

MDOK Medeo 47.95 299 *i* P **P 03 37 04.4 +0.7**
baz=298
MDOK LR LR 03 57 51.4
comp=Z,844nm,16.1s,baz=298
MDOK Medeo 47.95 299 *i* P **P 03 37 04.4 +0.7**
MDOK MLR MLR
comp=Z,844nm,16.0s
KOLN Koldanda 47.95 277 *e*P **P 03 37 04.1 +0.1**
comp=Z,932nm,0.8s
KOLN Koldanda 47.95 277 *e*P **P 03 37 04.1 +0.1**
comp=Z,932nm,0.8s
KNDC Almaty 47.99 299 P **P 03 37 04.8 +0.8**
AAA Alma-Ata 48.03 299⇑ *i*P **P 03 37 05.1 +0.8**
comp=Z,160nm,0.8s,baz=298
AAA LR LR 03 57 59.5
comp=Z,745nm,15.5s,baz=298
AAA Alma-Ata 48.03 299*c i*P **P 03 37 05.0 +0.8**
AAA pmax pmax
comp=Z,160nm,0.8s
AAA MLR MLR
comp=Z,745nm,16.0s
TNSS Tian-Shan 48.05 299⇑ *i*P **P 03 37 05.6 +0.7**
baz=298
TNSS Tian-Shan 48.05 299*c i*P **P 03 37 05.5 +0.7**
IMAR Indian Mountai 48.09 30 P **P 03 37 05.5 +1.2**
KUU Kurty 48.28 300⇑ *i*P **P 03 37 05.9 -0.2**
comp=Z,288nm,1.0s,baz=300
KUU *i* S **S 03 44 01.3 -0.4**
baz=300
KUU Kurty 48.28 300*c i*P **P 03 37 05.9 -0.2**
KUU *i* S **S 03 44 01.3 -0.4**
KUU pmax pmax
comp=Z,288nm,1.0s
OHAK Old Harbor 48.28 42 P **P 03 37 06.9 +1.1**
OHAK IAmb IAmb 03 37 08.2
comp=Z,64nm,0.8s
PYUN Piuthan 48.30 277 *e*P **P 03 37 07.1 +0.3**
PYUN Piuthan 48.30 277 *e*P **P 03 37 07.1 +0.3**
MTBS Maitube 48.40 299⇑ *i*P **P 03 37 07.9 +0.7**
baz=298
MTBS Maitube 48.40 299*c i*P **P 03 37 07.8 +0.7**
RSO Redoubt South 48.40 38 P **P 03 37 08.0 +1.0**
BATI Baumata 48.51 202 LR LR 03 57 17.4
comp=Z,815nm,21.3s,baz=14,slow=36
BATI Baumata 48.51 202 P **P 03 37 09.0 +0.9**
comp=Z,875nmcomp=Z,96nm,0.9s
KDAK Kodiak Island 48.62 41 P **P 03 37 09.6 +1.2**
KDAK pmax pmax
comp=Z,138nm,0.7s
KDAK Kodiak Island 48.62 41 P **P 03 37 09.6 +1.2**
PPLA Purkeypile 48.65 34 P **P 03 37 09.8 +1.1**
PPLA IAmb IAmb 03 37 12.2
comp=Z,54nm,0.9s
ULHL Ulahol 48.75 298 P **P 03 37 10.6 +0.6**
SNR=14
BOOM Boomskoye usch 48.90 298 IAms_20 IAms_20 03 59 25.0
comp=Z,1µm,18.0s
TPI Tanjungpandan 48.98 225 P **P 03 37 11.9 +0.2**
comp=Z,820nmcomp=Z,125nm,0.9s
HNR Honiara 49.03 153 LR LR 03 56 59.4
comp=Z,363nm,20.9s,baz=320,slow=35
TKM2 Tokmak 2 49.04 299 P **P 03 37 12.8 +0.6**
SNR=456
BPAW Bear Paw Mtn. 49.19 33 IAmb IAmb 03 37 18.0
comp=Z,41nm,0.6s
CNPM China Poot 49.21 39 IAmb IAmb 03 37 20.2
comp=Z,56nm,1.0s
KTH Kantishna Hill 49.22 34 IAmb IAmb 03 37 17.6
comp=Z,92nm,1.0s
PLAI Plampang 49.28 209 P **P 03 37 14.0 0.0**
comp=Z,68nm,0.7s
MTN Manton Dam 49.35 191 P **P 03 37 14.5 +0.1**
SUA Susitna One 49.35 36 IAmb IAmb 03 37 20.0
comp=Z,74nm,0.8s
BRLK Bradley Lake 49.37 39 IAmb IAmb 03 37 20.4
comp=Z,60nm,0.8s
BRZS Berezniki 49.46 308⇑ *i*P **P 03 37 14.8 -0.4**
comp=Z,219nm,0.9s,baz=308
BRZS *e*S **S 03 44 17.6 -0.6**
baz=308
BRZS LR LR 03 58 27.5
comp=Z,334nm,13.4s,baz=308
BRZS Berezniki 49.46 308*c i*P **P 03 37 14.7 -0.4**
BRZS *e*S **S 03 44 17.6 -0.6**
BRZS pmax pmax
comp=Z,219nm,0.9s
BRZS MLR MLR
comp=Z,334nm,13.0s
TRF Thorofare Moun 49.50 34 IAmb IAmb 03 37 19.5
comp=Z,40nm,0.7s
KZA Kyzart 49.51 298 P **P 03 37 17.6 +1.5**
SNR=59
CUT Chulitna 49.54 35 P **P 03 37 16.8 +1.3**
baz=272,SNR=6.4
TWSI Taliwang, Sumb 49.56 211 P **P 03 37 16.0 -0.1**
comp=Z,50nm,0.8s
KBK Karagaybulak 49.57 299 P **P 03 37 17.0 +0.8**
SNR=127
COLD Coldfoot 49.58 29 P **P 03 37 17.8 +2.1**
baz=268,SNR=24
SGDS Sogindy 49.59 300⇑ *i*P **P 03 37 16.4 +0.1**
comp=Z,110nm,0.9s,baz=299
SGDS *e*S **S 03 44 20.5 +0.2**
baz=299
SGDS Sogindy 49.59 300*c i*P **P 03 37 16.3 +0.1**
SGDS *e*S **S 03 44 20.4 +0.2**
SGDS pmax pmax
comp=Z,110nm,0.9s
BTLS Baital 49.60 302⇑ *i*P **P 03 37 16.1 -0.1**
comp=Z,174nm,0.8s,baz=302
BTLS LR LR 03 58 21.1
comp=Z,471nm,17.6s,baz=302
BTLS Baital 49.60 302*c i*P **P 03 37 16.1 -0.1**
BTLS pmax pmax
comp=Z,174nm,0.8s
BTLS MLR MLR
comp=Z,471nm,18.0s
CHMS Chumysh 49.62 299 P **P 03 37 16.9 +0.4**
SNR=69
BWNR Bhubaneshwar 49.62 267 *ex* P 03 37 06.7 -10
SRBI Singaraja 49.69 213 P **P 03 37 18.4 +1.3**
comp=Z,119nm,0.7s
KSH Kashi 49.71 294⇑ *i*P **P 03 37 21.3 +4.1**
KSH S **S 03 44 25.6 +3.5**
KSH sS sS 03 44 54.4 +7.1
KSH pmax pmax
comp=Z,420nm,0.8s
KSH pmax pmax
comp=Z,640nm,4.4s
KSH LR LR
comp=Z,1µm,17.9s
KSH LR LR
comp=Z,1µm,17.8s
KSH LR LR
comp=Z,2µm,20.6s
USP Ospenovka 49.73 299 P **P 03 37 17.6 +0.4**
SNR=21
COEN Coen 49.84 176 P **P 03 37 19.0 +0.8**
COEN IAmb IAmb 03 37 21.3
comp=Z,82nm,1.1s
TOLK Toolik Lake Re 49.88 27 P **P 03 37 19.9 +1.9**
baz=267,SNR=14
TOLK Toolik Lake Re 49.88 27 IAmb IAmb 03 37 22.2
comp=Z,54nm,0.9s
AAK Ala-Archa 49.90 299 P **P 03 37 19.1 +0.4**
SNR=156
AAK Ala-Archa 49.90 299 *i* P **P 03 37 19.0 +0.4**
SNR=158
AAK Ala-Archa 49.90 299 P **P 03 37 19.0 +0.3**
AAK Ala-Archa 49.90 299*c i*P **P 03 37 18.8 +0.1**
AAK pmax pmax
comp=Z,706nm,0.8s
O22K Cooper Landing 49.90 38 P **P 03 37 19.4 +1.2**
baz=274
GRJI Gresik 49.92 217 P **P 03 37 19.1 +0.2**
comp=Z,147nm,0.9s
UCH Uchtor 49.99 298 P **P 03 37 20.8 +1.1**
SNR=33
NEA2 Nenana 50.02 32 P **P 03 37 21.1 +2.0**
baz=271,SNR=96
SEW Seward 50.06 38 IAmb IAmb 03 37 24.5
comp=Z,81nm,0.8s
MCK McKinley 50.10 33 IAmb IAmb 03 37 23.5
comp=Z,83nm,1.0s
PMR Palmer 50.12 36 IAmb IAmb 03 37 25.4
comp=Z,52nm,0.8s
RND Reindeer 50.15 34 IAmb IAmb 03 37 23.6
comp=Z,77nm,0.9s
GHO Glory Hole Cre 50.20 36 IAmb IAmb 03 37 24.4
comp=Z,89nm,0.8s
BVAR Borovoye Array 50.34 313 P **P 03 37 21.6 -0.1**
comp=Z,109nm,0.6s,baz=108,slow=9.5,SNR=236
BVAR PcP **PcP 03 38 40.0 +0.4**
comp=Z,33nm,0.7s,baz=139,slow=7.0,SNR=3.8
RPSI Rantau Prapat 50.34 238 P **P 03 37 20.3 -1.8**
RPSI IAmb IAmb 03 37 24.9
comp=Z,38nm,0.8s
RPSI PcP **PcP 03 38 39.7 -0.5**
BRVK Borovoye 50.40 313 P **P 03 37 22.1 0.0**
BRVK pmax pmax
comp=Z,113nm,0.8s
BRVK MLR MLR
comp=Z,900nm,18.0s
BRVK Borovoye 50.40 313 P **P 03 37 22.1 0.0**
BRVK Borovoye 50.40 313 IAms_20 IAms_20 03 59 58.4
comp=Z,885nm,18.0s
EKS2 Erkin-Say 50.40 299 P **P 03 37 22.9 +0.5**
SNR=55
WRH Wood River Hil 50.45 32 IAmb IAmb 03 37 27.9
comp=Z,50nm,0.8s
KNK Knik Glacier 50.45 36 IAmb IAmb 03 37 27.9
comp=Z,57nm,0.8s
SML Sawmill 50.48 36 IAmb IAmb 03 37 26.5
comp=Z,84nm,0.8s
JAGI Jajag, Banyuwa 50.51 214 P **P 03 37 26.9 +3.6**
comp=Z,53nm,0.9s
JAGI Jajag, Banyuwa 50.51 214 P **P 03 37 22.6 -0.7**
JAGI IAmb IAmb 03 37 28.1
comp=Z,45nm,0.9s
TCOL CIGO, UAF Yank 50.53 32 P **P 03 37 24.7 +1.8**
baz=272,SNR=21
COLA College 50.53 32*c i*P **P 03 37 24.6 +1.7**
COLA pmax pmax
comp=Z,53nm,0.8s
COLA College 50.53 32 P **P 03 37 24.0 +1.1**
AML Almayashu 50.60 298 P **P 03 37 25.4 +1.0**
SNR=158
BKNI Bangkinang 50.65 234 P **P 03 37 25.0 +0.5**
comp=Z,128nm,0.7s
GMJI Gumukmas 50.66 215 P **P 03 37 24.9 +0.5**
comp=Z,58nm,1.0s
POKR Poker Plat Res 50.70 31 P **P 03 37 26.6 +2.3**
baz=272,SNR=57
DHY Denali Highway 50.84 34 IAmb IAmb 03 37 31.3
comp=Z,40nm,0.9s
HDA Harding Lake 50.94 32 P **P 03 37 27.3 +1.2**
baz=273,SNR=60
HDA Harding Lake 50.94 32 IAmb IAmb 03 37 33.5
comp=Z,76nm,0.9s
ILAR Eielson Array 50.95 32 P **P 03 37 26.9 +0.8**
comp=Z,62nm,0.9s,baz=271,slow=6.1,SNR=519
ILAR LR LR 04 00 02.1
comp=Z,299nm,20.7s,baz=287,slow=37
ILAR Eielson Array 50.95 32 P **P 03 37 27.3 +1.2**
ILAR Eielson Array 50.95 32 P **P 03 37 27.3 +1.2**
SCM Sheep Creek Mo 50.95 36 IAmb IAmb 03 37 32.1
comp=Z,64nm,0.8s
SMRI Semarang 51.05 219 P **P 03 37 27.2 -0.2**
comp=Z,106nm,0.8s
PWJI Pagerwojo 51.21 217 P **P 03 37 27.0 -1.6**
comp=Z,252nm,0.8s
SDSI Sungai Dareh 51.35 233 P **P 03 37 28.8 -0.9**
comp=Z,2µmcomp=Z,74nm,0.7s
FID Port Fidalgo 51.47 37 IAmb IAmb 03 37 49.2
comp=Z,107nm,1.2s
M24K Tolsona, Glenn 51.47 35 P **P 03 37 32.6 +2.5**
baz=276,SNR=11
KLU Klutina 51.65 36 IAmb IAmb 03 37 40.7
comp=Z,42nm,0.7s
Q23K Middleton Isla 51.70 39 P **P 03 37 33.4 +1.7**
baz=278
EYAK Cordova Ski Ar 51.85 37 IAmb IAmb 03 37 39.1
comp=Z,59nm,0.8s
RIDG Independent Ri 51.92 33 IAmb IAmb 03 37 40.4
comp=Z,60nm,0.9s
CHLP Challavanipeta 51.95 266 *e*P **P 03 37 35.1 +0.9**
CHLP IVmB_BB 03 37 35.2
comp=Z,1µm,0.9s
DZA Taraz 52.06 300⇑ *i*P **P 03 37 35.2 +0.4**
comp=Z,128nm,0.7s,baz=300
DZA Taraz 52.06 300*c i*P **P 03 37 35.2 +0.4**
DZA pmax pmax
comp=Z,127nm,0.7s
KPJI Karang Pucung 52.08 220 P **P 03 37 33.7 -1.3**
comp=Z,180nm,0.9s
KRJI Kerinci 52.21 232 P **P 03 37 36.0 -0.2**
comp=Z,223nm,0.7s
KLSI 52.24 227 P **P 03 37 36.0 -0.3**
comp=Z,57nm,1.0s
SCRK Sand Creek 52.27 33 P **P 03 37 37.4 +1.3**
baz=276,SNR=83
GSI Gunungsitoli 52.27 238 P **P 03 37 35.8 -0.8**
comp=Z,201nm,0.9s
DOT Dot Lake 52.27 33 IAmb IAmb 03 37 39.3
comp=Z,53nm,0.8s
LHSI Lahat 52.28 228 P **P 03 37 36.5 -0.1**
comp=Z,15µmcomp=Z,285nm,0.9s
THN Thein Dam 52.34 286⇓ *i*P **P 03 37 36.5 -0.4**
LEM Lembang 52.35 222 LR LR 04 01 09.6
comp=Z,292nm,20.6s,baz=28,slow=38
MDSI Maura Dua 52.41 227 P **P 03 37 36.3 -1.2**
comp=Z,1µmcomp=Z,129nm,1.1s
KK31 Karatay Array 52.57 300 *i* P **P 03 37 38.6 +0.1**
KKAR Karatay Array 52.57 300 P **P 03 37 38.3 -0.2**
KKAR Karatay Array 52.57 300 P **P 03 37 38.3 -0.2**
KKAR Karatay Array 52.57 300 IAmb IAmb 03 37 40.0
comp=Z,445nm,0.9s
KAIM Kayak Island 52.59 38 IAmb IAmb 03 37 43.5
comp=Z,116nm,1.0s
HMT Hamilton 52.61 37 IAmb IAmb 03 37 49.1
comp=Z,49nm,0.9s
GLB Gilahina Butte 52.67 36 IAmb IAmb 03 37 56.4
comp=Z,71nm,1.2s
NDI New Delhi 52.68 281 *e*P **P 03 37 37.0 -2.5**
VRDI Verde Repeater 52.87 36 IAmb IAmb 03 37 56.2
comp=Z,58nm,1.1s
MCARA McCarthy VSAT 53.05 36 IAmb IAmb 03 37 48.1
comp=Z,69nm,0.8s
TGL Tana Glacier 53.24 37 IAmb IAmb 03 37 49.4
comp=Z,62nm,1.0s
EGAK Eagle 53.39 32 IAmb IAmb 03 37 51.7
comp=Z,44nm,0.8s
BALM Baldy 53.43 36 IAmb IAmb 03 37 47.8
comp=Z,58nm,1.1s
ISLE Juniper Island 53.51 37 IAmb IAmb 03 37 50.7
comp=Z,47nm,0.8s
BARN Barnard Glacie 53.75 36 IAmb IAmb 03 37 53.2
comp=Z,38nm,0.8s
NIL Nilore 53.78 288 P **P 03 37 47.6 +0.1**
NIL Nilore 53.78 288 P **P 03 37 47.0 -0.5**
NIL pmax pmax
comp=Z,320nm,0.8s
NIL Nilore 53.78 288 P **P 03 37 47.0 -0.5**
YAH Yahtse 53.84 37 IAmb IAmb 03 37 51.1
comp=Z,59nm,1.0s
CTGM Chitina Glacie 53.93 36 IAmb IAmb 03 37 54.3
comp=Z,43nm,0.8s
PVM Polavaram 54.58 266 *e*P **P 03 37 53.9 +0.4**
PVM IVmBBB 03 37 54.3
comp=Z,772nm,1.0s
PCA Pinnacle 54.62 37 IAmb IAmb 03 37 55.9
comp=Z,52nm,1.1s
NGP Nagpur 54.66 272 *e*P **P 03 37 53.6 -0.5**
BCPM Bancas Point 54.96 37 IAmb IAmb 03 38 00.1
comp=Z,44nm,0.8s
EPYK Eagle Plains 54.96 29 P **P 03 37 57.5 +1.9**
baz=281,SNR=36
SVE Sverdlovsk 55.08 319*d i*P **P 03 37 57.1 +0.5**
SVE *e*S **S 03 45 33.8 -1.0**
SVE pmax pmax
comp=Z,312nm,1.3s
SVE MLR MLR
comp=Z,943nm,17.0s
FITZ Fitzroy Crossi 55.54 197 IAmb IAmb 03 38 05.4
comp=Z,67nm,0.8s
MYLAV Mylavaram 55.65 266 *e*P **P 03 38 02.0 +0.8**
MYLAV IVmB_BB 03 38 02.2
comp=Z,1µm,1.3s
AJM Ajmer 55.69 280⇑ *i*P **P 03 38 01.0 -0.5**
HYT Haines Junctio 55.79 36 IAmb IAmb 03 38 07.1
comp=Z,56nm,0.8s
WRAB Tennant Creek 55.94 186*d i*P **P 03 38 03.6 +0.5**
WRAB pmax pmax
comp=Z,79nm,1.0s

WB2	Warramunga Arr	55.95 186	IAmb	IAmb	03 38 20.2		
	comp=Z,97nm,0.9s						
WR0	Warramunga Arr	55.95 186	IAmb	IAmb	03 38 18.9		
	comp=Z,91nm,0.8s						
WRA	Warramunga Arr	55.95 186	P	P	03 38 03.1	0.0	
	comp=Z,47nm,0.5s,baz=2.2,slow=7.6,SNR=425						
WRA			S	S	03 45 44.7	-2.3	
	comp=Z,9.8nm,1.0s,baz=356,slow=11,SNR=12						
WRA			LR	LR	04 01 34.3		
	comp=Z,819nm,21.2s,baz=0.0,slow=36						
WRA			PKPPKP	P'P'df	04 08 00.7	+3.0	
	comp=Z,1.1nm,0.8s,baz=174,slow=1.8,SNR=7.6						
WRA			PKP2bc		04 08 14.5		
	comp=Z,3.2nm,0.9s,baz=185,slow=1.6,SNR=10						
WRA	Warramunga Arr	55.95 186	*i* P	P	03 38 03.0	-0.2	
WRA			pmax	pmax			
	comp=Z,47nm,0.5s						
WRA	Warramunga Arr	55.95 186	P	P	03 38 03.2	0.0	
CTAO	Charters Tower	56.17 173	P	P	03 38 05.5	+0.8	
CTAO			pmax	pmax			
	comp=Z,13nm,0.8s						
CTAO	Charters Tower	56.17 173	P	P	03 38 05.5	+0.8	
CTAO	Charters Tower	56.17 173	IAms_20	IAms_20	03 59 17.9		
	comp=Z,1μm,21.0s						
ARU	Arti	56.29 319	P	P	03 38 05.3	+0.1	
	comp=Z,81nm,0.5s,baz=81,slow=4.0,SNR=197						
ARU	Arti	56.29 319	*c i* P	P	03 38 05.2	-0.1	
ARU			*PP	pP	03 38 21.4	+0.9	
ARU					03 39 00.7		
ARU					03 40 09.7		
ARU			PPP	PPP	03 41 25.6		
ARU			S	S	03 45 51.3	+0.4	
ARU			SS	SS	03 49 32.2	-5.5	
ARU			pmax	pmax			
	comp=Z,182nm,0.5s						
ARU			MLR	MLR			
	comp=Z,938nm,15.0s						
ARU	Arti	56.29 319	P	P	03 38 05.4	+0.1	
SRSP	Sriramsagar	56.36 270	*e*P	P	03 38 06.1	-0.2	
SRSP			IVmB_BB		03 38 06.6		
	comp=Z,1μm,1.4s						
KBL	Kabul	56.64 291	P	P	03 38 07.7	-0.7	
	SNR=96						
KBL			P	P	03 38 08.0	-0.4	
KBL	Kabul	56.64 291	P	P	03 38 07.8	-0.6	
KBL	Kabul	56.64 291	P	P	03 38 07.8	-0.6	
ADKI	Addanki	56.67 266	*e*P	P	03 38 09.0	+0.5	
ADKI			IVmBBB		03 38 09.5		
	comp=Z,346nm,1.8s						
CUPL	Choutuppal	56.74 268	*e*P	P	03 38 08.3	-0.7	
NJS	Nagarjunasagar	56.82 267	*e*P	P	03 38 09.5	-0.1	
NJS			IVmB_BB		03 38 09.9		
	comp=Z,588nm,1.8s						
HYB	Hyderabad	56.98 268	*i* P	P	03 38 10.0	-0.7	
	comp=Z,220nm,1.0s						
HYB			*e*		03 38 29.5		
HYBB	Hyderabad (bro	56.98 268	*e*P	P	03 38 10.5	-0.2	
HYBB			IVmB_BB		03 38 10.9		
	comp=Z,1μm,1.6s						
HYBB			IVmBBB		03 38 10.9		
	comp=Z,653nm,0.7s						
WHY	Whitehorse	57.08 36	IAmb	IAmb	03 38 14.2		
	comp=Z,37nm,0.9s						
SKAG	Skagway	57.19 37	IAmb	IAmb	03 38 15.8		
	comp=Z,84nm,1.2s						
SANVU	Saraoutou	57.37 148	P	P	03 38 14.2	+1.0	
A36M	Sachs Harbour	57.60 22	P	P	03 38 16.3	+2.1	
	baz=287,SNR=10						
ABKAR	Akbulak array	57.65 310	P	P	03 38 14.9	0.0	
BESE	Bessie Mountai	57.68 38	IAmb	IAmb	03 38 19.1		
	comp=Z,62nm,0.9s						
SIT	Sitka	57.90 40	IAmb	IAmb	03 38 27.0		
	comp=Z,36nm,1.0s						
JIS	Juneau Island	58.01 38	IAmb	IAmb	03 38 21.5		
	comp=Z,81nm,0.8s						
SKHT	Srikalahasti	58.03 264	*e*P	P	03 38 18.8	+0.7	
SKHT			IVmBBB		03 38 19.2		
	comp=Z,905nm,0.8s						
KLRI	Killari	58.22 270	*e*P	P	03 38 19.1	-0.4	
KLRI			IVmB_BB		03 38 20.0		
	comp=Z,1μm,0.7s						
AKTO	Aktyubinsk	58.43 312	P	P	03 38 20.1	-0.3	
	comp=Z,196nm,0.8s,baz=73,slow=5.9,SNR=235						
KHU	Kahuku	58.53 88	P	P	03 38 22.5	+0.7	
KHU			pmax	pmax			
	comp=Z,52nm,1.0s						
KHU	Kahuku	58.53 88	P	P	03 38 22.5	+0.7	
KHU			IAmb	IAmb	03 38 33.5		
	comp=Z,52nm,1.0s						
C36M	Paulatuk	58.81 24	P	P	03 38 24.2	+1.5	
	baz=290,SNR=22						
URV	Uravakonda	59.34 267	*e*P	P	03 38 26.6	-0.7	
URV			IVmB_BB		03 38 27.5		
	comp=Z,557nm,1.6s						
KNTN	Kanton	59.37 120	P	P	03 38 28.4	+1.0	
KNTN			IAmb	IAmb	03 38 31.0		
	comp=Z,81nm,0.9s						
CRAG	Craig	59.58 41	IAmb	IAmb	03 38 32.1		
	comp=Z,36nm,0.8s						
ASAR	Alice Springs	59.68 186	P	P	03 38 29.6	+0.2	
	comp=Z,13nm,0.5s,baz=9.9,slow=7.8,SNR=122						
ASAR			S	S	03 46 34.5	-1.3	
	comp=Z,6.1nm,0.8s,baz=20,slow=20,SNR=21						
ASAR			LR	LR	04 03 50.3		
	comp=Z,819nm,21.5s,baz=6.5,slow=36						
ASAR			PKPPKP	P'P'df	04 07 48.9	-3.1	
	comp=Z,1.2nm,0.9s,baz=152,slow=2.9,SNR=7.5						
ASAR			PKP2bc		04 08 08.3		
	comp=Z,12nm,0.8s,baz=155,slow=1.8,SNR=20						
ASAR	Alice Springs	59.68 186	P	P	03 38 29.9	+0.6	
ASAR			*PP	pP	03 38 43.5	-1.2	
ASAR	Alice Springs	59.68 186	P	P	03 38 29.9	+0.6	
ASAR				pP	03 38 43.5	-1.2	
DLBC	Dease Lake	60.12 37	IAmb	IAmb	03 38 35.8		
	comp=Z,45nm,0.9s						
POO	Poona	60.20 272	⇑*i* P	P	03 38 32.0	-1.2	
	comp=Z,140nm,1.8s						
KIRV	Kirov	60.30 323	P	P	03 38 33.3	+0.2	
	comp=Z,381nm,0.7s,baz=75,slow=2.9,SNR=146						
PSA00	Pilbara Seismi	60.39 202	IAmb	IAmb	03 38 38.0		
	comp=Z,40nm,0.8s						
KAD	Karad	60.57 271	⇑*i* P	P	03 38 35.4	-0.3	
HOPEN	Hopen	60.68 346	*e*P	P	03 38 36.7	+1.1	
DIB	Dawson Inlet,	60.75 44	IAmb	IAmb	03 38 41.0		
	comp=Z,46nm,0.9s						
PRGR	Permogore	60.92 327	⇑*i* P	P	03 38 37.3	0.0	
PRGR			pmax	pmax			
	comp=Z,602nm,1.5s						
PALK	Pallekele	60.98 257	P	P	03 38 39.0	+0.5	
PALK	Pallekele	60.98 257	P	P	03 38 38.0	-0.6	
PALK			pmax	pmax			
	comp=Z,103nm,0.8s						
PALK	Pallekele	60.98 257	P	P	03 38 38.0	-0.6	
SPA0	Spitsbergen Ar	61.24 349	IAmb	IAmb	03 38 44.1		
	comp=Z,45nm,0.8s						
SPA0	Spitsbergen Ar	61.24 349	*e*P	P	03 38 39.8	+0.4	
SPITS	Spitsbergen Ar	61.24 349	P	P	03 38 39.7	+0.4	
	comp=Z,41nm,0.6s,baz=112,slow=9.1,SNR=33						
SPITS			PcP	PcP	03 39 22.4	+1.0	
	comp=Z,32nm,0.7s,baz=116,slow=3.4,SNR=3.8						
KBS	Kingsbay	61.40 350	*c i* P	P	03 38 41.3	+0.9	
KBS			pmax	pmax			
	comp=Z,83nm,0.7s						
KBS	Kingsbay	61.40 350	P	P	03 38 41.2	+0.9	
KBS	Kingsbay	61.40 350	⇑*i* P	P	03 38 41.5	+1.1	
HRA	Herat	61.80 294	IAms_20	IAms_20	04 07 41.5		
	comp=Z,1μm,21.0s						
NOR	Nord	61.94 356	⇑*i* P	P	03 38 44.4	+0.4	
	comp=Z,41nm,0.7s						
NOR	Nord	61.94 356	⇑*i* P	P	03 38 44.4	+0.4	
NOR			pmax	pmax			
	comp=Z,41nm,0.7s						
HSPB	Hornsund (broa	62.14 348	⇑*i* P	P	03 38 46.3	+1.0	
LVZ	Lovozero	62.50 336	*d i* P	P	03 38 48.0	+0.1	
LVZ			pmax	pmax			
	comp=Z,151nm,1.7s						
LVZ			MLR	MLR			
	comp=Z,2μm,20.0s						
LVZ	Lovozero	62.50 336	P	P	03 38 48.3	+0.4	
LVZ			IAmb	IAmb	03 38 48.8		
	comp=Z,86nm,1.0s						
TMCR	Tamitsa	63.02 331	*e*P	P	03 38 48.9	-2.4	
TMCR			pmax	pmax			
	comp=Z,241nm,1.0s						
DZM	Mont Dzumac	63.03 152	*e*P	P	03 38 54.7	+2.7	
	comp=Z,103nm,1.2s						
DZM			*e*S	S	03 47 17.9	-0.5	
	comp=Z,1μm,37.4s						
DZM	Mont Dzumac	63.03 152	*e*LR	LR	03 57 44.9		
	comp=Z,3μm,31.8s						
DZM	Mont Dzumac	63.03 152	P	P	03 38 52.9	+0.9	
ASHT	Ashkhabad	63.05 299	IAMs_20	IAMs_20	04 08 00.4		
	comp=Z,1μm,18.0s						
APA	Apatity	63.07 336	⇑*i* P	P	03 38 50.7	-1.0	
APA			pmax	pmax			
	comp=Z,95nm,0.7s						
APA			MLR	MLR			
	comp=Z,2μm,20.0s						
GEYT	Alibeck	63.25 299	P	P	03 38 53.9	+0.4	
	comp=Z,135nm,0.8s,baz=37,slow=3.7,SNR=214						
GEYT			LR	LR	04 08 09.4		
	comp=Z,554nm,20.2s,baz=60,slow=38						
GEYT	Alibeck	63.25 299	P	P	03 38 53.2	-0.2	
GYA0	ALIBECK ARRAY	63.25 299	P	P	03 38 53.6	+0.2	
GYA0B	ALIBECK ARRAY	63.25 299	IAMs_20	IAMs_20	04 08 47.6		
	comp=Z,950nm,18.0s						
KEV	Kevo	63.92 339	P	P	03 38 57.9	+0.7	
KEV			pmax	pmax			
	comp=Z,87nm,0.9s						
KEV	Kevo	63.92 339	P	P	03 38 57.9	+0.7	
KEV			IAmb	IAmb	03 38 58.2		
	comp=Z,87nm,0.9s						
KLMR	Klimovskoe	63.93 328	*c i* P	P	03 38 57.3	-0.1	
KLMR			*e*		03 39 30.9		
KLMR			*e*		03 41 14.3		
KLMR			pmax	pmax			
	comp=Z,223nm,0.7s						
KLMR	Klimovskoe	63.93 328	⇑*i* P	P	03 38 57.3	-0.1	
KLMR			*i* P	P	03 38 57.3	-0.1	
KLMR			*i* P	P	03 38 57.3	-0.1	
KLMR			AMP		03 38 58.3		
	comp=Z,223nm,0.7s						
KLMR			*e*PcP	PcP	03 39 30.9	-1.7	
KLMR			*e*PP	PP	03 41 14.4	-3.7	
KLMR			LQ	LQ	04 01 40.7		
KLMR			LQ	LQ	04 01 40.7		
KLMR			LR	LR	04 05 02.2		
HAMF	Hammerfest	64.33 341	⇑*i* P	P	03 38 59.8	-0.1	
ARCES	ARCESS Array B	64.48 339	P	P	03 39 01.2	+0.3	
	comp=Z,71nm,0.8s,baz=51,slow=8.1,SNR=117						
ARCES			PP	PP	03 41 21.8	-1.0	
	comp=Z,25nm,0.8s,baz=43,slow=9.1,SNR=5.9						
ARCES			LR	LR	04 10 35.7		
	comp=Z,953nm,18.5s,baz=60,slow=39						
ARCES	ARCESS Array B	64.48 339	P	P	03 39 01.5	+0.6	
ARCES	ARCESS Array B	64.48 339	P	P	03 39 01.5	+0.6	
ARE0	ARCESS Array S	64.48 339	⇑*i* P	P	03 39 01.2	+0.3	
YKA	Yellowknife Ar	65.24 30	P	P	03 39 07.0	+1.0	
	comp=Z,28nm,0.9s,baz=302,slow=6.9,SNR=28						
YKA			LR	LR	04 11 02.1		
	comp=Z,90nm,18.7s,baz=0.0,slow=39						
YKA	Yellowknife Ar	65.24 30	P	P	03 39 07.0	+1.0	
TRO	Tromso	66.24 341	*e*P	P	03 39 12.3	+0.1	
DAG	Danmarks Havn	66.63 355	⇑*i* P	P	03 39 15.2	+0.5	
	comp=Z,113nm,0.8s						
DAG	Danmarks Havn	66.63 355	⇑*i* P	P	03 39 15.2	+0.5	
DAG			pmax	pmax			
	comp=Z,110nm,0.8s						
MOS	Moscow	67.31 323	*e*P	P	03 39 17.9	-1.4	
MOS			*e*PP	pP	03 39 36.6	+1.7	
MOS			*e*		03 39 44.7		
MOS			*e*		03 41 45.9		
MOS			*e*S	S	03 48 09.8	-0.2	
MOS			*e*SS	sS	03 48 37.7	+0.9	
MOS			pmax	pmax			
	comp=Z,355nm,0.9s						
MOS			pmax	pmax			
	comp=Z,500nm,1.2s						
MOS			MLR	MLR			
	comp=Z,1μm,14.0s						
FORT	Forrest	67.42 191	P	P	03 39 20.9	+0.8	
VRH	Novokhopyorsk	67.49 318	*e*P	P	03 39 20.2	-0.3	
VRH			*e*S	S	03 48 09.3	-3.0	
VRH			pmax	pmax			
	comp=Z,510nm,0.6s						
VRH			pmax	pmax			
	comp=Z,530nm,0.6s						
VRH			smax	smax			
	comp=E,40nm,0.9s						
VRH			MLR	MLR			
	comp=Z,840nm,14.0s						
STKA	Stephens Creek	67.61 178	P	P	03 39 22.2	+0.9	
	comp=Z,20nm,0.6s,baz=342,slow=7.0,SNR=41						
STKA			PKP2bc		04 07 45.1		
	comp=Z,3.7nm,0.9s,baz=163,slow=3.6,SNR=5.5						
STKA			LR	LR	04 08 04.3		
	comp=Z,713nm,21.9s,baz=0.2,slow=35						
MAK	Makhachkala	68.11 308	*e*P	P	03 39 23.2	-1.3	
MAK			*e*PP	pP	03 39 39.3	-0.9	
MAK			*e*SP	sP	03 39 46.7	+0.1	
MAK			*e*		03 41 50.7		
MAK			*e*PPP	PPP	03 43 32.5		
MAK			*e*S	S	03 48 19.5	-0.4	
MAK			*e*SS	sS	03 48 46.3	-0.2	
MAK			*e*SS	SS	03 52 42.9	+0.3	
MAK			pmax	pmax			
	comp=Z,142nm,1.0s						
MAK			MLR	MLR			
	comp=Z,1μm,17.0s						
OBN	Obninsk	68.15 323	P	P	03 39 24.4	-0.1	
	comp=Z,59nm,0.7s,baz=45,slow=2.2,SNR=66						
OBN	Obninsk	68.15 323	*c i* P	P	03 39 24.4	-0.1	
OBN			*e*PP	pP	03 39 37.6	-2.6	
OBN			*SP	sP	03 39 45.0	-1.6	
OBN					03 39 57.0		
OBN			*e*S	S	03 48 20.6	+0.6	
OBN			*i* *SS	sS	03 48 48.8	+2.1	
OBN			SS	SS	03 52 42.0	-0.7	
OBN			pmax	pmax			
	comp=Z,236nm,0.6s						
OBN			MLR	MLR			
	comp=Z,1μm,15.0s						
OBN	Obninsk	68.15 323	P	P	03 39 24.4	-0.1	
N2IH	Innhavet	68.17 340	*e*P	P	03 39 24.6	+0.1	
NLWA	Neilton Lookou	68.25 47	IAmb	IAmb	03 39 29.5		
	comp=Z,84nm,1.1s						
A04D	Lummi Island	68.26 45	P	P	03 39 27.4	+2.0	
	baz=300,SNR=7.4						
LPSR	Galich'ya Gora	68.27 320	*e*P	P	03 39 25.0	-0.4	
LPSR			*e*S	S	03 48 19.4	-2.2	
LPSR			pmax	pmax			
	comp=Z,470nm,0.8s						
LPSR			pmax	pmax			
	comp=Z,500nm,0.8s						
LPSR			smax	smax			
	comp=E,40nm,1.0s						
LPSR			MLR	MLR			
	comp=Z,1μm,15.0s						
STEI	Steigen	68.38 340	⇑*i* P	P	03 39 25.8	0.0	
N2VI	Vinje	68.38 341	*e*P	P	03 39 21.1	-4.7	
PUL	Pulkovo	68.41 329	*c i* P	P	03 39 26.1	0.0	
PUL			pmax	pmax			
	comp=Z,384nm,0.7s						
MORW	Morawa	68.58 202	P	P	03 39 28.1	+0.6	
MORW			IAmb	IAmb	03 39 28.8		
	comp=Z,51nm,0.9s						
VORR	Voronezh	68.61 319	⇑*i* P	P	03 39 26.0	-1.5	
VORR			pmax	pmax			
	comp=Z,700nm,1.0s						
BBOO	Buckleboo	68.61 183	P	P	03 39 28.4	+0.8	
D03D	Eldon	68.64 46	P	P	03 39 30.6	+2.8	
	baz=300,SNR=38						
N2TV	Tørnvik	68.67 340	⇑*i* P	P	03 39 28.0	+0.4	
AKT	Akhty	68.69 306	*e*P	P	03 39 28.3	-0.1	
AKT			*e*PP	pP	03 39 45.7	+1.7	
AKT			*e*		03 39 53.4		
AKT			pmax	pmax			
	comp=Z,180nm,0.6s						
N2ST	Straumen	68.69 340	⇑*i* P	P	03 39 27.8	0.0	
LOF	Lofoten	68.69 341	*e*P	P	03 39 27.2	-0.5	
FAUS	Fauske	68.75 340	⇑*i* P	P	03 39 28.4	+0.3	
B05A	Bryant	68.84 45	P	P	03 39 31.2	+2.2	
	baz=301,SNR=12						
E03A	Lebam	68.86 47	IAmb	IAmb	03 39 33.0		
	comp=Z,60nm,1.0s						
VSR	Storozhevoye	68.86 319	*e*P	P	03 39 28.9	-0.2	
VSR			*e*S	S	03 48 26.0	-2.7	
VSR			pmax	pmax			
	comp=Z,520nm,0.8s						
VSR			pmax	pmax			
	comp=Z,270nm,0.5s						
VSR			smax	smax			
	comp=N,40nm,1.1s						
VSR			MLR	MLR			
	comp=Z,690nm,13.0s						
VORD	Divnogorie	68.93 318	*e*P	P	03 39 29.4	-0.1	
VORD			*e*S	S	03 48 27.1	-2.3	
VORD			pmax	pmax			
	comp=Z,240nm,0.7s						
VORD			pmax	pmax			
	comp=Z,180nm,0.6s						
VORD			smax	smax			
	comp=N,70nm,1.0s						
NBB08	Skaug oppvekst	68.93 340	*e*P	P	03 39 29.6	+0.4	
D04E	Lakebay	69.00 46	P	P	03 39 33.0	+3.0	
	baz=301,SNR=6.9						
GROC	Groznyy	69.07 309	⇑*i* P	P	03 39 30.3	-0.3	
GROC			*e*PP	pP	03 39 47.8	+1.5	
GROC			S	S	03 48 32.6	+1.1	
GROC			pmax	pmax			
	comp=Z,97nm,0.8s						
FINES	FINESS Array B	69.11 332	P	P	03 39 30.4	-0.1	
	comp=Z,208nm,0.8s,baz=68,slow=6.6,SNR=463						
FINES	FINESS Array B	69.11 332	P	P	03 39 30.5	0.0	
NBB28	Valnes	69.12 340	⇑*i* P	P	03 39 30.6	+0.2	
F03A	Seaside	69.17 48	IAmb	IAmb	03 39 35.8		
	comp=Z,89nm,1.1s						
N2VA	Vr_y	69.25 341	⇑*i* P	P	03 39 31.3	+0.1	
NBB05	Inndyr	69.34 340	*e*P	P	03 39 32.0	+0.2	
F04D	Rainier, OR	69.42 48	P	P	03 39 35.1	+2.4	
	baz=301						
E04D	Cinebar	69.44 47	P	P	03 39 35.4	+2.6	
	baz=301,SNR=18						
NBB30	Finnes	69.47 340	⇑*i* P	P	03 39 32.9	+0.3	
N2RO	R st	69.51 341	*e*P	P	03 39 32.9	+0.1	
NBB17	Gl̀omfjord BŸr	69.52 340	*e*P	P	03 39 33.0	0.0	
C06D	Leavenworth	69.71 45	P	P	03 39 36.4	+2.0	
	baz=302						
G03D	McMinnville, O	69.72 48	P	P	03 39 36.8	+2.2	
	baz=301,SNR=6.6						
GOF	Gofitskoye	69.84 311	*c i* P	P	03 39 35.4	+0.1	
GOF			*e*S	S	03 48 44.5	+4.1	
GOF			pmax	pmax			
	comp=Z,381nm,0.7s						
F04A	Amboy	69.85 47	IAmb	IAmb	03 39 38.7		
	comp=Z,60nm,0.9s						
JLN	Jalan Bani Buh	69.91 283	P	P	03 39 37.0	+0.9	
	SNR=7.4						
I02D	Swisshome	69.93 50	P	P	03 39 38.7	+2.9	
	baz=301						
WSAR	Wadi Sarin	69.95 285	P	P	03 39 37.1	+0.8	
	SNR=10						
KONS	Konsvik	69.98 340	*e*P	P	03 39 35.6	-0.2	
NBB40	Tonnes	70.00 340	*e*P	P	03 39 34.8	-1.1	
WBK	Wadi Bani Khal	70.02 284	P	P	03 39 38.0	+1.2	
	SNR=18						
COR	Corvallis	70.02 49	P	P	03 39 37.4	+1.1	
COR			pmax	pmax			
	comp=Z,114nm,1.2s						
COR	Corvallis	70.02 49	P	P	03 39 37.4	+1.1	
COR			IAmb	IAmb	03 39 40.7		
	comp=Z,114nm,1.1s						
BIDO	Bidbid	70.20 285	P	P	03 39 39.1	+1.3	
	SNR=14						
KEBM	Edson Butte	70.26 51	IAmb	IAmb	03 39 42.0		
	comp=Z,148nm,1.1s						
J01E	Myrtle Point	70.36 51	P	P	03 39 41.2	+2.6	
	baz=301,SNR=5.7						
BANOM	Banah	70.37 288	*i* P	P	03 39 39.3	+0.4	
	SNR=7.7						
H04D	Lebanon	70.39 49	P	P	03 39 41.2	+2.5	
	baz=302,SNR=8.3						
SHME	Shamm	70.43 288	*i* P	P	03 39 39.6	+0.3	
	SNR=53						
I03D	Drain, OR	70.45 50	P	P	03 39 41.8	+2.8	
	baz=302,SNR=16						
F05D	White Salmon	70.45 47	P	P	03 39 41.3	+2.3	
	baz=302,SNR=11						
ZEI	Tsey	70.48 309	*e*P	P	03 39 36.9	-2.6	
ZEI			pmax	pmax			
	comp=Z,88nm,0.9s						
SMDO	Samad	70.50 285	P	P	03 39 41.0	+1.1	
	SNR=16						
KBZ	Khabaz	70.62 310	P	P	03 39 40.4	+0.4	
	comp=Z,230nm,0.9s,baz=64,slow=5.3,SNR=300						
KBZ			LR	LR	04 13 22.7		
	comp=Z,544nm,20.8s,baz=52,slow=38						
KIV	Kislovodsk	70.63 311	*e*P	P	03 39 40.6	+0.3	
KIV			*e*S	S	03 48 50.0	+0.1	
KIV			pmax	pmax			
	comp=Z,2μm,1.1s						
KIV			pmax	pmax			
	comp=Z,255nm,3.2s						
KIV			MLR	MLR			
	comp=Z,1μm,18.0s						
KIV	Kislovodsk	70.63 311	P	P	03 39 40.2	-0.1	
KIV			IAMs_20	IAMs_20	04 14 48.5		
	comp=Z,504nm,18.0s						
H04A	Detroit Lake	70.65 48	IAmb	IAmb	03 39 43.6		
	comp=Z,78nm,1.1s						
KBO	Bosley Butte	70.67 52	IAmb	IAmb	03 39 44.6		
	comp=Z,81nm,1.2s						
VSU	Vasula	70.67 329	*c i* P	P	03 39 40.2	+0.1	
VSU			pmax	pmax			
	comp=Z,718nm,0.8s						
MDH	Madha	70.70 288	P	P	03 39 40.9	0.0	
K02D	Willamette Mer	70.77 51	P	P	03 39 43.7	+2.5	
	baz=302,SNR=15						
MSFE	Esma-Masafi	70.77 288	*i* P	P	03 39 41.8	+0.4	
	SNR=23						
HOQ	Hoqain	70.81 286	P	P	03 39 42.0	+0.4	
	SNR=19						
JMDO	Jabal Madar	70.82 284	P	P	03 39 42.1	+0.4	
	SNR=15						
G05D	Wamic, OR	70.88 48	P	P	03 39 43.7	+2.0	
	baz=302,SNR=8.8						
UOSS	Minazif	70.95 287	*i* P	P	03 39 42.1	-0.3	
	SNR=20						
UOSS	Minazif	70.95 287	P	P	03 39 41.9	-0.5	
UOSS			IAmb	IAmb	03 39 43.4		
	comp=Z,100nm,0.8s						
UOSS	Minazif	70.95 287	IAMs_20	IAMs_20	04 14 37.2		
	comp=Z,581nm,21.0s						
I04A	Tendick Farm,	70.98 49	P	P	03 39 44.5	+2.2	
	baz=302,SNR=23						
UMQ	Umm Al-Quwin	71.07 288	P	P	03 39 44.1	+1.0	
HATD	Hatta, Dubai	71.07 287	*i* P	P	03 39 43.4	+0.3	
	SNR=35						
HATD	Hatta, Dubai	71.07 287	P	P	03 39 44.0	+0.8	
	SNR=12						
L02E	Cave Junction	71.09 51	P	P	03 39 45.5	+2.5	
	baz=302,SNR=11						
SOHO	SOHO	71.12 286	*i* P	P	03 39 43.4	0.0	
	SNR=54						
ASHO	Ashiyiah	71.20 287	*i* P	P	03 39 44.1	+0.1	
	SNR=39						
ASHO	Ashiyiah	71.20 287	P	P	03 39 45.0	+1.0	
	SNR=17						
BSY	Bisya	71.33 285	P	P	03 39 46.0	+1.2	
	SNR=21						
I05D	Terrebonne, OR	71.34 48	P	P	03 39 46.6	+2.1	
	baz=302,SNR=12						
F07A	Phinny Hill Vi	71.35 47	IAmb	IAmb	03 39 47.9		
	comp=Z,63nm,1.0s						
NAZ	Nazwa, Dubai	71.35 288	*i* P	P	03 39 45.0	+0.2	
	SNR=21						
NAZ	Nazwa, Dubai	71.35 288	P	P	03 39 45.0	+0.2	
	SNR=11						
J04D	Umpqua Nationa	71.46 50	P	P	03 39 47.9	+2.5	
	baz=302,SNR=20						
AKH	Akhalkalaki	71.46 308	⇑P	P	03 39 46.4	+0.9	
AKH	Akhalkalaki	71.46 308	IAmb	IAmb	03 39 47.5		
	comp=Z,114nm,0.9s						
JCC	Jacoby Creek,	71.53 53	IAmb	IAmb	03 39 49.

KHMM	**Horse Mountain**	71.69	53	IAmb	IAmb			03 39 50.9
	comp=Z,61nm,1.1s							
NSS	**Namsos**	71.76	339	⇑	*i*P		**P**	**03 39 46.4 -0.2**
ALNE	**Al Ain**	71.77	287		*i* P		**P**	**03 39 47.5 +0.1**
	SNR=17							
NWAO	**Narrogin (SRO)**	71.84	200		P		**P**	**03 39 47.9 +0.5**
NWAO					pmax		pmax	
	comp=Z,66nm,0.8s							
NWAO	**Narrogin (SRO)**	71.84	200		P		**P**	**03 39 47.9 +0.5**
NWAO					IAmb		IAmb	03 39 48.9
	comp=Z,66nm,0.8s							
PINE	**Pine Mountain**	71.88	49		IAmb		IAmb	03 39 51.9
	comp=Z,118nm,1.1s							
L04D	**Klamath Falls**	71.88	51		P		**P**	**03 39 50.1 +2.2**
	baz=302,SNR=34							
J05D	**Fort Rock, OR**	71.97	49		P		**P**	**03 39 51.1 +2.6**
	baz=303,SNR=43							
M02C	**Callahan**	71.97	52		P		**P**	**03 39 51.2 +2.8**
	baz=302,SNR=22							
K04D	**Chiloquin, OR**	72.01	50		P		**P**	**03 39 51.2 +2.5**
	baz=303							
AJN	**Ajban**	72.10	288		*i* P		**P**	**03 39 49.0 -0.3**
	SNR=5.8							
AJN	**Ajban**	72.10	288		P		**P**	**03 39 49.5 +0.3**
	SNR=12							
N02D	**Trinity Center**	72.29	52		P		**P**	**03 39 52.9 +2.6**
	baz=303,SNR=16							
M04C	**Macdoel**	72.41	51		P		**P**	**03 39 53.6 +2.5**
	baz=303,SNR=38							
KCPM	**Cahto Peak**	72.42	54		IAmb		IAmb	03 39 54.9
	comp=Z,66nm,1.0s							
K05A	**Summer Lake**	72.48	50		IAmb		IAmb	03 39 55.6
	comp=Z,110nm,1.2s							
DQM	**DQM**	72.56	282		P		**P**	**03 39 53.0 +0.8**
	SNR=7.1							
IZAR	**Zarasai**	72.57	327		*e*P		**P**	**03 39 51.7 +0.1**
ARTV	**Artvin**	72.58	308		IAmb		IAmb	03 39 53.9
	comp=Z,70nm,0.8s							
MICGM	**Minsk**	72.62	325	⇑	*e*P		**P**	**03 39 51.0 -0.9**
MICGM				⇑	*e*P		**P**	**03 39 51.0 -0.9**
MICGM					PM			03 39 52.0
	comp=Z,1.2nm,1.0s							
MICGM					PM			03 39 53.0
	comp=N,0.4nm,1.0s							
MICGM					*e*			03 40 24.0
MICGM					*e*			03 42 23.0
MICGM					*e*LR		LR	04 10 40.0
MNK	**Minsk**	72.62	325	*o*	*e*P		**P**	**03 39 51.0 -0.9**
MNK					pmax		pmax	
	comp=N,350nm,1.0s							
MNK					pmax		pmax	
	comp=Z,1μm,1.0s							
IDID	**Didziasalis**	72.63	327		*e*P		**P**	**03 39 52.3 +0.3**
BCA	**Borcka**	72.63	309	⇑	P		**P**	**03 39 52.6 +0.3**
SOC	**Sochi**	72.64	311		*e*P		**P**	**03 39 50.8 -1.4**
SOC					*e**PP		**pP**	**03 40 07.2 -0.8**
SOC					*e*			03 42 36.1
SOC					*e*S		**S**	**03 49 13.3 +0.4**
SOC					*e*SS		**SS**	**03 53 54.6 +2.3**
SOC					pmax		pmax	
	comp=Z,125nm,0.7s							
SOC					MLR		MLR	
	comp=Z,511nm,19.0s							
O02D	**Mt. Diablo Mer**	72.67	53		P		**P**	**03 39 55.1 +2.5**
	baz=303,SNR=14							
ISAL	**Salakas**	72.74	327		*e*P		**P**	**03 39 52.7 +0.1**
IIGN	**Ignalina**	72.84	327		*e*P		**P**	**03 39 53.1 0.0**
NACGM	**Naroch**	72.87	326		*e*P		**P**	**03 39 54.0 +0.7**
NACGM					PM			03 39 55.0
	comp=Z,1.1nm,1.0s							
SCO	**Scoresbysund**	72.95	354		*i* P		**P**	**03 39 54.5 +1.0**
	comp=Z,137nm,1.0s							
SCO	**Scoresbysund**	72.95	354		*i* P		**P**	**03 39 54.5 +1.0**
SCO					pmax		pmax	
	comp=Z,140nm,1.0s							
SCO	**Scoresbysund**	72.95	354		IAmb		IAmb	03 39 55.7
	comp=Z,121nm,0.9s							
TBLU	**Trondheim**	73.22	339	⇑	*i*P		**P**	**03 39 54.7 -0.6**
O03E	**Paynes Creek**	73.24	52		P		**P**	**03 39 57.5 +1.6**
	baz=303,SNR=41							
ANN	**Anapa**	73.33	313		*e*P		**P**	**03 39 56.0 -0.2**
ANN					*e**PP		**pP**	**03 40 11.3 -0.8**
ANN					*e*S		**S**	**03 49 19.3 -1.3**
ANN					pmax		pmax	
	comp=Z,444nm,1.5s							
ANN					MLR		MLR	
	comp=Z,877nm,23.0s							
GEVA	**Gevas**	73.40	305		IAmb		IAmb	03 39 59.1
	comp=Z,89nm,1.1s							
GEVA					IAMs_20		IAMs_20	04 15 07.0
	comp=Z,886nm,19.0s							
JTMT	**Jette**	73.52	43		IAmb		IAmb	03 40 00.8
	comp=Z,58nm,0.9s							
J08A	**Circle Bar Ran**	73.61	48		IAmb		IAmb	03 40 02.5
	comp=Z,68nm,1.2s							
MCCM	**Marconi Confer**	73.71	55		IAmb		IAmb	03 40 01.6
	comp=Z,55nm,0.8s							
KTUT	**Trabzon**	74.05	309	⇑	P		**P**	**03 40 00.6 0.0**
KOPT	**Kop Dagi**	74.13	308		IAmb		IAmb	03 40 04.9
	comp=Z,93nm,0.9s							
KOPT					IAMs_20		IAMs_20	04 15 26.1
	comp=Z,840nm,20.0s							
MSO	**Missoula**	74.25	43		P		**P**	**03 40 03.1 +1.3**
	baz=306,SNR=20							
AKASG	**Malin Array Be**	74.32	322		P		**P**	**03 40 01.7 -0.3**
	comp=Z,179nm,0.7s,baz=49,slow=6.3,SNR=321							
AKASG					LR		LR	04 15 59.4
	comp=Z,1μm,18.5s,baz=50,slow=38							
AKASG	**Malin Array Be**	74.32	322		P		**P**	**03 40 02.0 0.0**
DOMB	**Dombas**	74.50	338	⇑	*i*P		**P**	**03 40 03.1 +0.2**
MOL	**Molde**	74.54	339	⇑	*i*P		**P**	**03 40 03.5 +0.6**
NB2	**NORSAR Subarra**	74.61	337		P		**P**	**03 40 03.6 +0.1**
	comp=Z,120nm,0.7s,baz=40,slow=5.9							
NB2	**NORSAR Subarra**	74.61	337		P		**P**	**03 40 03.6 +0.1**
	baz=40,slow=5.9							
NOA	**NORSAR Array B**	74.61	337		P		**P**	**03 40 03.6 +0.1**
	comp=Z,111nm,0.9s,baz=43,slow=5.4,SNR=395							
NOA					PP		**PP**	**03 42 49.4 -0.8**
	comp=Z,26nm,0.9s,baz=42,slow=8.7,SNR=10							
NOA					LR		LR	04 15 49.3
	comp=Z,1μm,19.6s,baz=45,slow=38							
ILULI	**Ilulissat**	74.72	4		*i* P		**P**	**03 40 05.0 +1.1**
	comp=Z,137nm,0.8s							
ILULI	**Ilulissat**	74.72	4		*i* P		**P**	**03 40 05.0 +1.1**
ILULI					pmax		pmax	
	comp=Z,140nm,0.8s							
ILULI	**Ilulissat**	74.72	4		IAMs_20		IAMs_20	04 12 03.4
	comp=Z,529nm,20.0s							
NAO01	**NORSAR Array S**	74.86	337	⇑	*i*P		**P**	**03 40 04.9 -0.1**
AKN	**Aaknes**	75.01	339	⇑	*i*P		**P**	**03 40 06.5 +0.7**
SUW	**Suwalki**	75.05	327		*e*P		**P**	**03 40 06.0 -0.1**
SUW	**Suwalki**	75.05	327		IAMs_20		IAMs_20	04 10 37.9
	comp=Z,480nm,20.0s							
PAHR	**Pah Rah Range**	75.11	52		IAmb		IAmb	03 40 10.2
	comp=Z,61nm,0.9s							
SHAO	**Shalim**	75.12	282		*i* P		**P**	**03 40 07.3 +0.2**
	SNR=6.9							
FFC	**Flin Flon**	75.16	32		P		**P**	**03 40 07.9 +1.1**
FFC					pmax		pmax	
	comp=Z,61nm,0.9s							
FFC	**Flin Flon**	75.16	32		P		**P**	**03 40 07.9 +1.1**
FFC					IAmb		IAmb	03 40 09.1
	comp=Z,61nm,0.9s							
SIM	**Simferopol'**	75.17	315	*c*	*i*P		**P**	**03 40 06.0 -1.0**
SIM					pmax		pmax	
	comp=Z,313nm,0.8s							
PNTR	**Pine Nut**	75.32	52		IAmb		IAmb	03 40 11.9
	comp=Z,48nm,0.9s							
FCC	**Fort Churchill**	75.40	26		IAmb		IAmb	03 40 10.2
	comp=Z,101nm,1.1s							
CMB	**Columbia Colle**	75.41	54		IAmb		IAmb	03 40 11.9
	comp=Z,54nm,0.9s							
OSL	**Oslo**	75.61	336	⇑	*i*P		**P**	**03 40 09.6 +0.4**
YERR	**Yerington**	75.61	52		IAmb		IAmb	03 40 13.3
	comp=Z,81nm,0.9s							
EGMT	**Eagleton**	75.79	40		P		**P**	**03 40 12.2 +1.6**
	baz=308,SNR=41							
EGMT	**Eagleton**	75.79	40		IAmb		IAmb	03 40 13.5
	comp=Z,107nm,1.0s							
SKAR	**Skarslia**	75.80	338	⇑	*i*P		**P**	**03 40 11.2 +0.8**
DLMT	**Dillon**	75.87	44		IAmb		IAmb	03 40 14.3
	comp=Z,69nm,0.9s							
HLID	**Hailey**	75.91	46		P		**P**	**03 40 13.7 +2.2**
	baz=307,SNR=56							
KLNR	**Kaliningrad**	75.93	329	*c*	*i*P		**P**	**03 40 11.0 -0.1**
KLNR					pmax		pmax	
	comp=Z,189nm,0.9s							
FOO	**Floro**	76.03	340	⇑	*i*P		**P**	**03 40 12.1 +0.5**
HYA	**Hoyanger**	76.05	339	⇑	*i*P		**P**	**03 40 12.1 +0.4**
PMPB	**Monarch Peak**	76.16	55		P		**P**	**03 40 13.7 +0.8**
KONO	**Kongsberg**	76.19	337	*c*	*i*P		**P**	**03 40 12.4 -0.1**
KONO					pmax		pmax	
	comp=Z,78nm,1.0s							
KONO	**Kongsberg**	76.19	337		P		**P**	**03 40 13.0 +0.5**
KONO					IAmb		IAmb	03 40 13.9
	comp=Z,85nm,1.1s							
KONO	**Kongsberg**	76.19	337	⇑	*i*P		**P**	**03 40 12.7 +0.2**
BOZ	**Bozeman (W)**	76.27	43		P		**P**	**03 40 14.1 +0.6**
BOZ					pmax		pmax	
	comp=Z,48nm,1.0s							
BOZ	**Bozeman (W)**	76.27	43		P		**P**	**03 40 15.3 +1.8**
	baz=308,SNR=77							
BOZ	**Bozeman (W)**	76.27	43		P		**P**	**03 40 14.1 +0.6**
BOZ					IAmb		IAmb	03 40 16.6
	comp=Z,48nm,0.9s							
RYN	**Ryan**	76.27	52		IAmb		IAmb	03 40 17.1
	comp=Z,49nm,0.9s							
KVN	**Kaiserville**	76.30	52		IAmb		IAmb	03 40 17.3
	comp=Z,96nm,0.9s							
SORM	**Soroca**	76.37	320	⇑	P		**P**	**03 40 13.5 -0.2**
DIKM	**Dikmen**	76.45	312	⇑	P		**P**	**03 40 15.0 +0.7**
TOKA	**Tokat**	76.48	310		IAmb		IAmb	03 40 17.5
	comp=Z,126nm,0.9s							
LHV	**Little Huntoon**	76.50	52		IAmb		IAmb	03 40 18.8
	comp=Z,104nm,0.9s							
NVAR	**Mina Array Bea**	76.53	52		P		**P**	**03 40 17.4 +2.3**
	comp=Z,42nm,0.8s,baz=284,slow=5.9,SNR=317							
NVAR	**Mina Array Bea**	76.53	52		P		**P**	**03 40 15.8 +0.7**
SUE	**Sulen**	76.55	339	⇑	*i*P		**P**	**03 40 15.0 +0.5**
WHFO	**Wadi Hawf**	76.64	282		P		**P**	**03 40 16.0 +0.1**
	SNR=5.2							
MLAC	**Mammoth, Mammo**	76.65	53		P		**P**	**03 40 18.5 +2.7**
	baz=305,SNR=15							
PAGB	**Antelope Grade**	76.81	55		IAmb		IAmb	03 40 20.1
	comp=Z,73nm,0.9s							
KIS	**Kishinev**	76.84	319		*e*P		**P**	**03 40 15.6 -0.9**
	comp=Z,120nm,0.8s							
KIS	**Kishinev**	76.84	319		*e*P		**P**	**03 40 15.6 -0.9**
KIS					*e*PPP		PPP	03 44 58.0
KIS					pmax		pmax	
	comp=Z,12μm,0.8s							
ASK	**Askoy**	76.89	339	⇑	*i*P		**P**	**03 40 17.2 +0.7**
MILM	**Milestii Mici**	76.90	319	⇑	P		**P**	**03 40 16.2 -0.6**
ODD1	**Odda**	76.92	338	⇑	*i*P		**P**	**03 40 20.8 +4.0**
BER	**Bergen**	76.93	339	⇑	*i*P		**P**	**03 40 17.3 +0.7**
SFJD	**Kangerlussuaq**	76.94	4		*i* P		**P**	**03 40 17.7 +1.1**
SFJD	**Kangerlussuaq**	76.94	4		P		**P**	**03 40 17.7 +1.1**
SFJD					pmax		pmax	
	comp=Z,105nm,0.9s							
SFJD	**Kangerlussuaq**	76.94	4		P		**P**	**03 40 17.7 +1.1**
BZK	**Bozkurt**	77.02	313	⇑	P		**P**	**03 40 18.1 +0.6**
YHB	**Horse Butte**	77.03	44		P		**P**	**03 40 18.6 +0.8**
VOG	**Valley Oaks Go**	77.04	55		P		**P**	**03 40 19.3 +1.5**
	baz=305							
ELK	**Elko**	77.09	49		P		**P**	**03 40 18.9 +0.6**
ELK					pmax		pmax	
	comp=Z,30nm,0.9s							
ELK	**Elko**	77.09	49		P		**P**	**03 40 18.9 +0.6**
SMMC	**Simmler**	77.21	56		P		**P**	**03 40 21.2 +2.4**
	baz=305,SNR=7.4							
ABTO	**Aybut**	77.33	282		P		**P**	**03 40 20.0 +0.3**
	SNR=6.8							
BLS5	**Blasjo**	77.36	338	⇑	*i*P		**P**	**03 40 19.8 +0.6**
TIN	**Tinemaha, Big**	77.37	53		P		**P**	**03 40 22.3 +2.5**
	baz=306,SNR=7.8							
IAS	**Iasi**	77.38	320	⇑	P		**P**	**03 40 19.6 +0.2**
LVV	**L'vov**	77.44	323	⇓	*i*P		**P**	**03 40 20.0 +0.2**
LVV					*e*			03 50 49.6
LVV					MLR		MLR	
	comp=Z,800nm,19.0s							
VES	**Vestal, Richgr**	77.52	55		P		**P**	**03 40 21.7 +1.3**
	baz=306,SNR=29							
PKM	**Mcpherson Peak**	77.58	56		P		**P**	**03 40 23.5 +2.4**
	baz=305,SNR=8.4							
BEL	**Belsk**	77.59	326		*e*P		**P**	**03 40 21.5 +0.9**
H17A	**Grant Village**	77.60	44		P		**P**	**03 40 24.9 +3.8**
	baz=309,SNR=80							
VASR	**Vaslui**	77.61	319	⇑	P		**P**	**03 40 21.3 +0.5**
HOMB	**Homborsund**	77.62	336	⇑	*i*P		**P**	**03 40 20.8 +0.3**
IMW	**Indian Meadow**	77.70	44		P		**P**	**03 40 22.3 +0.6**
IMW					IAmb		IAmb	03 40 25.7
	comp=Z,45nm,0.9s							
CWC	**Cottonwood Cre**	77.83	54		P		**P**	**03 40 24.1 +1.7**
	baz=306							
GAZ	**Gaziantep**	77.86	307		P		**P**	**03 40 22.3 -0.2**
GAZ					IAMs_20		IAMs_20	04 18 19.1
	comp=Z,620nm,19.0s							
RLMT	**Red Lodge**	77.87	43		P		**P**	**03 40 24.6 +2.1**
	baz=309,SNR=39							
KMY	**Karmoy**	77.90	338	⇑	*i*P		**P**	**03 40 22.9 +0.8**
SBC	**Santa Barbara**	77.91	56		P		**P**	**03 40 24.2 +1.6**
	baz=306							
BIR	**Birlad**	77.94	319	⇓	P		**P**	**03 40 23.9 +1.3**
PRAR	**RASCA**	77.97	320	⇑	P		**P**	**03 40 23.0 +0.2**
GRAC	**Grapevine Rang**	77.97	53		P		**P**	**03 40 25.3 +2.3**
	baz=306,SNR=28							
SNART	**Snartemo**	77.99	337	⇑	*i*P		**P**	**03 40 23.1 +0.5**
TLCR		77.99	318	⇓	P		**P**	**03 40 23.3 +0.4**
ISA	**Isabella, Lake**	78.02	55		P		**P**	**03 40 24.5 +1.1**
	baz=306,SNR=14							
VARL	**Varlezi**	78.06	319	⇓	P		**P**	**03 40 24.2 +1.0**
SNOW	**Snow King Moun**	78.08	45		P		**P**	**03 40 24.4 +0.6**
REDW	**Red Top Meadow**	78.09	45		P		**P**	**03 40 24.4 +0.6**
ARVC	**Arvin**	78.10	55		P		**P**	**03 40 25.4 +1.6**
	baz=306,SNR=7.0							
GKP	**Gorka Klasztor**	78.12	329		*e*P		**P**	**03 40 23.8 +0.3**
GHRR		78.19	319	⇑	P		**P**	**03 40 25.0 +1.0**
KWP	**Kalwaria Pacla**	78.21	324		*e*P		**P**	**03 40 24.9 +0.9**
JURR	**Jurilovca**	78.22	317	⇓	P		**P**	**03 40 25.0 +0.8**
COP	**Copenhagen**	78.24	333	⇑	*i*P		**P**	**03 40 24.6 +0.6**
	comp=Z,122nm,0.7s							
COP	**Copenhagen**	78.24	333	⇑	*i*P		**P**	**03 40 24.6 +0.6**
COP					pmax		pmax	
	comp=Z,120nm,0.7s							
TESR	**Tescani**	78.30	320	⇑	P		**P**	**03 40 24.9 +0.3**
R11A	**Troy Canyon, C**	78.30	51		P		**P**	**03 40 27.2 +2.2**
	baz=307,SNR=99							
BUR08	**Bucovina Ar. S**	78.31	321		IAmb		IAmb	03 40 26.4
	comp=Z,94nm,0.9s							
BURAR	**Bucovina Array**	78.32	321	⇑	P		**P**	**03 40 25.5 +0.7**
BURAR	**Bucovina Array**	78.32	321		P		**P**	**03 40 25.0 +0.1**
DGMT	**Dagmar**	78.34	38		P		**P**	**03 40 25.9 +1.1**
	baz=312,SNR=10							
DGMT	**Dagmar**	78.34	38		IAmb		IAmb	03 40 27.4
	comp=Z,86nm,1.1s							
CFR	**Carcaliu**	78.37	318	⇑	P		**P**	**03 40 24.9 0.0**
TOPG	**Topolog**	78.43	318	⇑	P		**P**	**03 40 25.9 +0.5**
SPUT	**South Promonto**	78.43	47		P		**P**	**03 40 26.4 +0.8**
MPMC	**Manual Prospec**	78.44	54		P		**P**	**03 40 27.8 +2.0**
	baz=306,SNR=46							
BORG	**Borgarnes**	78.44	352		P		**P**	**03 40 25.9 +0.9**
BORG					pmax		pmax	
	comp=Z,110nm,1.0s							
BORG	**Borgarnes**	78.44	352		P		**P**	**03 40 25.9 +0.9**
BORG					IAmb		IAmb	03 40 31.9
	comp=Z,110nm,0.9s							
OSI	**Osito Audit: C**	78.47	56		P		**P**	**03 40 27.7 +1.9**
	baz=306							
LAO	**LASA Array**	78.49	40		P		**P**	**03 40 27.6 +1.9**
	baz=311,SNR=34							
LAO	**LASA Array**	78.49	40		IAmb		IAmb	03 40 28.9
	comp=Z,63nm,0.9s							
BR131	**Keskin Array S**	78.59	311		P		**P**	**03 40 26.9 +0.4**
	SNR=60							
BRTR	**Keskin Array B**	78.59	311		P		**P**	**03 40 26.6 +0.2**
	comp=Z,46nm,0.9s,baz=108,slow=4.0,SNR=177							
BRTR					PP		**PP**	**03 43 23.3 -1.0**
	comp=Z,18nm,0.9s,baz=69,slow=6.3,SNR=8.0							
BRTR	**Keskin Array B**	78.59	311	*i*	P		**P**	**03 40 26.7 +0.2**
BRTR					pmax		pmax	
	comp=Z,38nm,0.7s							
BRTR	**Keskin Array B**	78.59	311		P		**P**	**03 40 26.4 -0.1**
FURC	**Furnace Creek,**	78.61	53		P		**P**	**03 40 28.6 +2.2**
	baz=307,SNR=49							
LRMC	**Laurel Mtn Rad**	78.65	54		P		**P**	**03 40 28.6 +1.7**
	baz=306,SNR=7.1							
TIRR	**Tirgusor**	78.68	317	⇑	P		**P**	**03 40 26.8 +0.1**
VRI	**Vrincioaia**	78.68	319	⇑	P		**P**	**03 40 27.3 +0.6**
TPNV	**Topopah Spring**	78.72	52		P		**P**	**03 40 29.2 +1.9**
	baz=307,SNR=81							
TPNV	**Topopah Spring**	78.72	52		IAmb		IAmb	03 40 30.6
	comp=Z,62nm,0.9s							
PLOR	**Plostina**	78.73	319	⇓	P		**P**	**03 40 27.9 +0.8**
RGN	**Rugen**	78.76	332		*e*P		**P**	**03 40 28.6 +1.7**
	comp=Z,318nm,1.0s,baz=39,slow=5.1							
HWUT	**Hardware Ranch**	78.77	46		IAmb		IAmb	03 40 31.1
	comp=Z,75nm,1.1s							
HARR	**Harsova**	78.79	318	⇓	P		**P**	**03 40 27.6 +0.3**
EDW2	**Edwards Air Fo**	78.80	55		P		**P**	**03 40 29.8 +2.2**
	baz=306,SNR=20							
MUD	**Monsted U'grnd**	78.82	335	⇑	*i*P		**P**	**03 40 27.6 +0.4**
	comp=Z,104nm,1.0s							
MUD	**Monsted U'grnd**	78.82	335	⇑	*i*P		**P**	**03 40 27.6 +0.4**
MUD					pmax		pmax	
	comp=Z,100nm,1.0s							
KOLS	**Kolonicke sedl**	78.89	323		*e*P		**P**	**03 40 27.4 -0.4**
KOLS					pmax		pmax	
	comp=Z,64nm,1.0s							
KOLS	**Kolonicke sedl**	78.89	323		*e*P		**P**	**03 40 27.4 -0.4**
KOLS					*e*PP		**PP**	**03 43 26.3 -0.1**
BISRR	**Bisoca**	78.89	319	⇓	P		**P**	**03 40 29.4 +1.4**
DUG	**Dugway, Tooele**	78.89	48		P		**P**	**03 40 30.4 +2.2**
	baz=308,SNR=65							
DUG	**Dugway, Tooele**	78.89	48		IAmb		IAmb	03 40 31.7
	comp=Z,58nm,0.9s							
LRW	**Lerwick**	78.94	341	⇑	*e*P		**P**	**03 40 28.4 +0.6**
LRW					IAmb		IAmb	03 40 29.4
	comp=Z,121nm,1.3s							
DECC	**Green Verdugo**	78.94	56		P		**P**	**03 40 30.2 +1.8**
	baz=306,SNR=5.0							
WAL1	**Walls**	78.95	342	⇑	*e*P		**P**	**03 40 28.4 +0.5**
OZUR		79.03	320	⇑	P		**P**	**03 40 29.9 +1.3**
BR231	**Keskin MP Arra**	79.04	311		IAmb		IAmb	03 40 33.2
	comp=Z,82nm,0.7s							
UZH	**Uzhgorod**	79.09	323	⇓	*i*P		**P**	**03 40 28.8 -0.1**
UZH					*e*			03 40 39.7
UZH					*e*			03 40 45.8
ARCR	**ARCALIA**	79.11	321	⇑	P		**P**	**03 40 30.4 +1.3**
OJC	**Ojcow**	79.17	326		*e*P		**P**	**03 40 30.0 +0.7**
BW06	**Boulder Array**	79.20	45		P		**P**	**03 40 31.1 +1.2**
	baz=310,SNR=30							
PDAR	**Pinedale Array**	79.20	45		P		**P**	**03 40 31.1 +1.1**
	comp=Z,14nm,0.8s,baz=274,slow=2.8,SNR=132							
PDAR					PKKPbc		**PKKPbc**	**03 59 19.9 +0.4**
	comp=Z,0.5nm,0.7s,baz=114,slow=3.6,SNR=4.9							
PDAR	**Pinedale Array**	79.20	45		P		**P**	**03 40 30.6 +0.7**
ICOR	**Ion Corvin**	79.23	317	⇑	P		**P**	**03 40 31.1 +1.3**
ISR	**Istrita**	79.26	319	⇓	P		**P**	**03 40 31.4 +1.4**
FMP	**Fort Macarthur**	79.29	56		P		**P**	**03 40 32.2 +2.0**
	baz=306							
DOPR	**Dopca**	79.32	320	⇑	P		**P**	**03 40 31.4 +1.2**
SHOC	**Shoshone, Teco**	79.33	53		P		**P**	**03 40 32.2 +1.7**
	baz=307,SNR=16							
GSC	**Goldstone, Bar**	79.33	54		P		**P**	**03 40 32.6 +2.0**
	baz=307,SNR=24							
MLR	**Muntele Rosu**	79.34	319	⇑	P		**P**	**03 40 30.8 +0.3**
CIS	**Catalina Islan**	79.39	56		P		**P**	**03 40 32.5 +1.7**
	baz=306							
BFSC	**Mount Baldy Ra**	79.40	55		P		**P**	**03 40 32.6 +1.5**
	baz=307,SNR=15							
JLU	**Jordanelle**	79.46	47		P		**P**	**03 40 31.9 +0.5**
RRX	**Edison Barstow**	79.46	55		P		**P**	**03 40 33.1 +1.9**
	baz=307							
NLU	**North Lily Min**	79.49	48		P		**P**	**03 40 32.2 +0.7**
NIE	**Niedzica**	79.49	325		*e*P		**P**	**03 40 32.3 +1.1**
SCI2	**San Clemente I**	79.55	57		P		**P**	**03 40 33.3 +1.6**
	baz=306							
SECR		79.57	319	⇑	P		**P**	**03 40 32.4 +0.7**
SOCY	**Socotra**	79.68	278		P		**P**	**03 40 31.2 -1.5**
SOCY					IAmb		IAmb	03 40 32.2
	comp=Z,96nm,0.7s							
CJR	**Cluj-Napoca**	79.74	321	⇑	P		**P**	**03 40 33.7 +1.1**
TUQ	**Turquoise Moun**	79.83	54		P		**P**	**03 40 35.5 +2.1**
	baz=307,SNR=42							
VOIR		79.85	320	⇓	P		**P**	**03 40 33.6 +0.4**
BBRC	**Big Bear Solar**	79.88	55		P		**P**	**03 40 35.3 +1.6**
	baz=307,SNR=8.0							
HEC	**Hector,Ludlow**	79.93	54		P		**P**	**03 40 35.9 +2.1**
	baz=307,SNR=19							
ORH	**Orhaniye**	80.02	314		P		P	03 40 43.9 +10
PRD	**Provadia**	80.05	317		*i* P		**P**	**03 40 34.8 +0.6**
LANS	**Liptovska Anna**	80.07	325		*e*P		**P**	**03 40 35.8 +1.5**
LANS					pmax		pmax	
	comp=Z,55nm,0

baz=315,SNR=24
MDND Maddock 81.00 36 IAmb IAmb 03 40 41.8
comp=Z,96nm,0.9s
DQRL Deir Qamar 81.01 305 *e*P **P 03 40 40.2 +0.5**
SIRR Siria 81.03 322 ⇑P **P 03 40 39.8 +0.4**
QRWL Qaraoun 81.03 305 *e*P **P 03 40 40.2 +0.5**
MONP2 Monument Peak 81.03 56 P **P 03 40 41.8 +1.9**
baz=307,SNR=31
NEE2 Needles Airpor 81.09 53 P **P 03 40 41.5 +1.5**
baz=308
MLA1 Latheron 81.09 341 ⇑*e*P **P 03 40 40.1 +0.6**
TKX Tecate 81.10 56 IAmb IAmb 03 40 42.0
comp=Z,48nm,0.7s
JAVC Velka Javorina 81.11 326 ⇑*i*P **P 03 40 41.5 +1.6**
SHBL Chebaa 81.11 305 *e*P **P 03 40 40.8 +0.5**
IRM Iron Mountain 81.11 54 P **P 03 40 42.1 +1.9**
baz=308,SNR=28
BC3 Big Chuckawall 81.22 55 P **P 03 40 42.6 +1.9**
baz=308,SNR=45
CBX Cerro Bola 81.22 56 IAmb IAmb 03 40 44.0
comp=Z,66nm,0.8s
RWWY Rawlins 81.22 44 IAmb IAmb 03 40 43.5
comp=Z,59nm,0.8s
RWWY IAMs_20 IAMs_20 04 14 30.6
comp=Z,371nm,21.0s
PVCC Panska Ves 81.26 328 *e*P **P 03 40 40.9 +0.4**
PVCC *e*PCP **PcP 03 40 49.4 +2.8**
PVCC AMS AMS 04 24 10.0
comp=Z,700nm,16.6s
PVCC Panska Ves 81.26 328 *e*P **P 03 40 40.9 +0.4**
PVCC *e* 03 40 49.4
PVCC MLR MLR
comp=Z,700nm,16.6s
BRG Berggiesshubel 81.27 329 ⇑*i*P **P 03 40 40.8 +0.2**
comp=Z,80nm,0.9s
BRG *i* pP **pP 03 40 56.6 0.0**
comp=Z,41nm,0.8s
BRG *i* PP **PP 03 43 45.5 -0.5**
comp=Z,34nm,1.0s
BRG Berggiesshubel 81.27 329 ⇑*i*P **P 03 40 40.8 +0.2**
BRG *i* *PP **pP 03 40 56.6 0.0**
BRG *i* 03 43 45.5
BRG pmax pmax
comp=Z,80nm,0.9s
BRG pmax pmax
comp=Z,41nm,0.8s
BRG pmax pmax
comp=Z,34nm,1.0s
BRG Berggiesshubel 81.27 329 *e*P **P 03 40 40.7 +0.2**
comp=Z,96nm,1.1s,baz=39,slow=5.1
BRG *e*PP **PP 03 43 45.6 -0.4**
baz=42,slow=8.3
VRAC Vranov 81.27 326 ⇑P **P 03 40 41.5 +0.9**
VRAC Vranov 81.27 326 ⇑*i*P **P 03 40 41.4 +0.7**
VRAC *e*PP **PP 03 43 46.0 -0.1**
CLL Collm 81.33 329 ⇑*i*P **P 03 40 41.0 +0.1**
comp=Z,209nm,1.1s
CLL *i* PP **PP 03 43 46.2 -0.3**
comp=Z,52nm,0.9s
CLL Lm MLR 04 24 00.0
comp=Z,900nm,18.4s
CLL Collm 81.33 329 ⇑*i*P **P 03 40 41.0 +0.1**
CLL *i* 03 43 46.2
CLL pmax pmax
comp=Z,209nm,1.1s
CLL pmax pmax
comp=Z,52nm,0.9s
CLL MLR MLR
comp=Z,900nm,18.4s
CLL Collm 81.33 329 *e*P **P 03 40 40.7 -0.1**
comp=Z,209nm,1.1s,baz=39,slow=5.1
CLL *e*PP **PP 03 43 46.2 -0.3**
baz=42,slow=8.3
CLL Collm 81.33 329 IAMs_20 IAMs_20 04 23 51.9
comp=Z,644nm,19.0s
SRE Strehaia 81.34 320 ⇓P **P 03 40 42.5 +1.4**
RSSD Black Hills 81.35 41 P **P 03 40 42.1 +0.7**
RSSD pmax pmax
comp=Z,20nm,0.7s
RSSD Black Hills 81.35 41 P **P 03 40 42.5 +1.0**
baz=313
RSSD Black Hills 81.35 41 P **P 03 40 42.1 +0.7**
E28A Huff 81.37 37 IAmb IAmb 03 40 43.6
comp=Z,41nm,0.8s
IKP In-Ko-Pah, Jac 81.39 56 P **P 03 40 43.8 +2.1**
baz=308,SNR=31
SWSC Sam W. Stewart 81.42 55 P **P 03 40 43.3 +1.6**
baz=308,SNR=19
RMX La Rumorosa 81.44 56 IAmb IAmb 03 40 45.5
comp=Z,79nm,0.9s
SMOL Smolenice 81.47 325 *e*P **P 03 40 43.0 +1.3**
SMOL pmax pmax
comp=Z,80nm,1.1s
SMOL Smolenice 81.47 325 *e*P **P 03 40 43.0 +1.3**
FBE Freiberg 81.47 329 *e*P **P 03 40 42.1 +0.5**
comp=Z,246nm,1.2s,baz=39,slow=5.1
FBE *e*PP **PP 03 43 47.6 -0.1**
baz=42,slow=8.3
CCX Cicese 81.49 57 IAmb IAmb 03 40 45.0
comp=Z,78nm,0.8s
BZS Buzias 81.50 321 ⇑P **P 03 40 41.9 0.0**
KRUC Moravsky 81.54 326 ⇑*i*P **P 03 40 42.7 +0.6**
KRUC *e*PP **PP 03 43 47.2 -1.1**
U15A North Rim 81.55 51 IAmb IAmb 03 40 45.9
comp=Z,45nm,0.9s
NRDL Niedersach Rie 81.57 332 *e*P **P 03 40 42.2 +0.2**
comp=Z,63nm,0.9s,baz=39,slow=5.1
NRDL *e*pP **pP 03 40 57.4 -0.7**
HERR Herculane 81.60 320 ⇓P **P 03 40 42.6 +0.1**
GOPC GO Pecny, Ondr 81.62 328 *e*P **P 03 40 43.1 +0.6**
GOPC *e*PCP **PcP 03 40 46.8 -1.5**
GOPC AMS AMS 04 21 20.0
comp=Z,800nm,13.1s
GOPC GO Pecny, Ondr 81.62 328 *e*P **P 03 40 43.1 +0.6**
GOPC MLR MLR
comp=Z,800nm,13.1s
ASSE Asse, Remlinge 81.63 331 *e*P **P 03 40 42.5 +0.2**
comp=Z,83nm,1.2s,baz=39,slow=5.1
MODS Modra-Piesok 81.64 325 *e*P **P 03 40 42.8 +0.2**
MODS pmax pmax
comp=Z,119nm,1.1s
MODS Modra-Piesok 81.64 325 *e*P **P 03 40 42.8 +0.2**
O20A White River Ci 81.65 46 P **P 03 40 44.6 +1.5**
baz=311,SNR=25
O20A White River Ci 81.65 46 IAmb IAmb 03 40 45.8
comp=Z,51nm,0.9s
PRA Prague 81.66 328 *e*P **P 03 40 43.1 +0.5**
PRA AMS AMS 04 21 20.0
comp=Z,500nm,13.0s
PRA Prague 81.66 328 *e*P **P 03 40 43.1 +0.5**
PRA MLR MLR
comp=Z,500nm,13.0s
PRU Pruhonice 81.67 328 *e*P **P 03 40 43.0 +0.3**
PRU AMS AMS 04 21 00.0
comp=Z,900nm,15.0s
PRU Pruhonice 81.67 328 *e*P **P 03 40 43.0 +0.3**
PRU MLR MLR
comp=Z,900nm,15.0s
ISP Isparta 81.67 311 IAmb IAmb 03 40 43.8
comp=Z,43nm,0.7s
PDMCI Parker Dam,Lak 81.68 54 P **P 03 40 45.0 +1.9**
baz=308,SNR=36
MCD Coleburn Disti 81.69 341 ⇑*e*P **P 03 40 43.0 +0.3**
CSS Mathiatis 81.70 307 IAmb IAmb 03 40 47.8
comp=Z,81nm,0.7s
CSS IAMs_20 IAMs_20 04 23 48.7
comp=Z,409nm,21.0s
TREC Trest 81.77 327 *e*P **P 03 40 43.4 +0.1**
TREC AMS AMS 04 21 20.0
comp=Z,700nm,16.2s
TREC Trest 81.77 327 *e*P **P 03 40 43.4 +0.1**
TREC MLR MLR
comp=Z,700nm,16.2s
ESJX Sierra Juarez 81.89 56 IAmb IAmb 03 40 46.8
comp=Z,83nm,0.8s
LEF Lefka 81.89 308 ⇑P **P 03 40 43.9 -0.3**
NEUB Neuenburg 81.91 330 *e*P **P 03 40 44.0 +0.1**
comp=Z,212nm,1.1s,baz=39,slow=5.1
NEUB *e*PP **PP 03 43 50.3 -0.8**
baz=42,slow=8.3
CLZ Clausthal 81.97 331 *e*P **P 03 40 44.7 +0.4**
comp=Z,203nm,1.3s,baz=39,slow=5.1
GLA Glamis 82.00 55 P **P 03 40 46.9 +2.1**
baz=308,SNR=35
GLA Glamis 82.00 55 IAmb IAmb 03 40 48.2
comp=Z,93nm,0.8s

MDVR Moldovita 82.03 321 ⇑P **P 03 40 44.8 0.0**
LEWI Lewis, Hebride 82.10 343 ⇑*e*P **P 03 40 45.4 +0.5**
LEWI IAmb IAmb 03 40 47.1
comp=Z,78nm,0.9s
MDO Dochfour 82.11 341 *e*P **P 03 40 45.0 +0.1**
PBCC Pribram 82.13 328 *e*P **P 03 40 45.6 +0.4**
KDZ Kurdzhali 82.17 317 *i* P **P 03 40 46.7 +1.1**
TANN Tannenbergstha 82.23 329 *e*P **P 03 40 45.9 +0.2**
comp=Z,46nm,1.1s,baz=39,slow=5.1
TANN *e*PP **PP 03 43 52.9 -1.1**
baz=42,slow=8.3
PV21 Cone Mtn., Par 82.23 48 IAmb IAmb 03 40 49.5
comp=Z,66nm,0.8s
PGB Panagyurishte 82.26 318 *i* P **P 03 40 46.9 +0.9**
PLD Plovdiv 82.26 317 *i* P **P 03 40 46.4 +0.4**
WERD Werda 82.27 329 *e*P **P 03 40 46.0 +0.1**
comp=Z,69nm,1.4s,baz=39,slow=5.1
PV23 Carpenter Ridg 82.28 48 IAmb IAmb 03 40 49.3
comp=Z,70nm,0.9s
GUVIX Guadalupe Vict 82.29 56 IAMs_20 IAMs_20 04 17 18.6
comp=Z,598nm,20.0s
KAC Achnashellach 82.29 342 ⇑*e*P **P 03 40 46.6 +0.7**
PLN Plauen 82.30 329 *e*P **P 03 40 46.2 +0.2**
comp=Z,63nm,1.2s,baz=39,slow=5.1
PLN *e*PP **PP 03 43 54.5 0.0**
baz=42,slow=8.3
ALN Alexandroupoli 82.32 316 IAmb IAmb 03 40 47.2
comp=Z,42nm,1.0s
GUNZ Gunzen 82.32 329 *e*P **P 03 40 46.4 +0.2**
comp=Z,113nm,1.3s,baz=39,slow=5.1
PV14 Lion Creek, Pa 82.32 48 IAmb IAmb 03 40 50.0
comp=Z,98nm,0.9s
PV22 Blue Mesa, Par 82.36 48 IAmb IAmb 03 40 51.3
comp=Z,70nm,1.1s
WERN Wernitzgruen 82.36 329 *e*P **P 03 40 46.7 +0.3**
comp=Z,75nm,0.9s,baz=39,slow=5.1
WERN *e*PP **PP 03 43 55.1 +0.1**
baz=42,slow=8.3
GTTG Gottingen 82.36 331 *e*P **P 03 40 46.5 +0.2**
comp=Z,145nm,1.2s,baz=39,slow=5.1
GTTG *e*PP **PP 03 43 56.0 +1.0**
baz=42,slow=8.3
NKC Novy Kostel 82.37 329 *e*P **P 03 40 46.5 0.0**
NKC AMS AMS 04 24 50.0
comp=Z,900nm,15.9s
NKC Novy Kostel 82.37 329 *e*P **P 03 40 46.5 0.0**
NKC MLR MLR
comp=Z,900nm,15.9s
PV20 West Nyswonger 82.38 48 IAmb IAmb 03 40 50.3
comp=Z,79nm,0.9s
PV04 Paradox Valley 82.38 48 IAmb IAmb 03 40 50.5
comp=Z,86nm,1.1s
PV19 Morning Glory 82.39 48 IAmb IAmb 03 40 50.4
comp=Z,88nm,0.8s
MOX Moxa 82.40 330 *e*P **P 03 40 46.7 +0.2**
comp=Z,55nm,0.9s,baz=39,slow=5.1
MOX *e*PP **PP 03 43 55.0 -0.3**
baz=42,slow=8.3
MOX *e*L L 04 17 33.6
comp=Z,641nm,21.5s
AGMN Agassiz Nation 82.41 34 P **P 03 40 46.9 +0.2**
baz=318,SNR=20
PV17 East Wray Mesa 82.42 48 IAmb IAmb 03 40 50.0
comp=Z,87nm,0.9s
PV16 Nyswonger Mesa 82.43 48 IAmb IAmb 03 40 50.0
comp=Z,54nm,1.0s
PV11 David Mesa, Pa 82.46 48 IAmb IAmb 03 40 54.7
comp=Z,61nm,0.8s
N23A Red Feather La 82.47 44 P **P 03 40 49.4 +2.0**
baz=312,SNR=44
N23A Red Feather La 82.47 44 IAmb IAmb 03 40 50.9
comp=Z,76nm,1.1s
PV05 Paradox Valley 82.47 48 IAmb IAmb 03 40 51.7
comp=Z,88nm,0.8s
PV18 Skein Mesa, Pa 82.47 48 IAmb IAmb 03 40 50.2
comp=Z,66nm,1.0s
PV12 Saucer Basin, 82.49 48 IAmb IAmb 03 40 52.7
comp=Z,58nm,1.0s
PV03 Paradox Valley 82.51 48 IAmb IAmb 03 40 51.0
comp=Z,77nm,1.1s
PV07 Paradox Valley 82.51 48 IAMs_20 IAMs_20 04 13 58.8
comp=Z,626nm,21.0s
KPL Plockton 82.53 342 ⇑*e*P **P 03 40 47.8 +0.8**
KPL IAmb IAmb 03 40 48.7
comp=Z,131nm,0.7s
RZN Rozhen 82.54 317 *i* P **P 03 40 48.5 +0.8**
PV13 Radium Mtn., P 82.58 48 IAmb IAmb 03 40 51.4
comp=Z,97nm,1.1s
PV02 Paradox Valley 82.60 48 IAmb IAmb 03 41 05.1
comp=Z,51nm,1.0s
IBBN Ibbenburen 82.61 333 *e*P **P 03 40 47.5 -0.1**
comp=Z,130nm,0.7s,baz=39,slow=5.1
CONA Conrad Observa 82.61 326 *i* P **P 03 40 48.8 +1.0**
comp=Z,117nm,1.4s,SNR=85
CONA *i* PP **PP 03 43 56.7 -0.6**
comp=Z,35nm,1.2s
Y14A Wickenburg 82.65 53 IAmb IAmb 03 40 51.5
comp=Z,43nm,0.8s
WUAZ Wupatki 82.70 51 P **P 03 40 51.0 +2.3**
baz=310,SNR=48
WUAZ Wupatki 82.70 51 IAmb IAmb 03 40 52.2
comp=Z,63nm,0.9s
MANZ Manzenberg 82.70 329 *e*P **P 03 40 48.4 +0.3**
comp=Z,67nm,0.8s,baz=39,slow=5.1
VTS Vitosha 82.71 318 *i* P **P 03 40 49.4 +0.9**
FRGS Fruska Gora 82.73 322 ⇑*i*P **P 03 40 48.5 +0.1**
KHC Kasperske Hory 82.73 328 *e*P **P 03 40 48.0 -0.3**
KHC *e*PCP **PcP 03 40 53.1 -0.1**
KHC *e*x x 03 41 17.0
KHC *e*x x 03 43 44.5
KHC AMS AMS 04 21 40.0
comp=Z,1µm,16.0s
KHC Kasperske Hory 82.73 328 *e*P **P 03 40 48.0 -0.3**
KHC MLR MLR
comp=Z,1µm,16.0s
KHC Kasperske Hory 82.73 328 IAmb IAmb 03 40 50.1
comp=Z,48nm,1.1s
KHC IAMs_20 IAMs_20 04 22 44.0
comp=Z,420nm,19.0s
PV01 Paradox Valley 82.75 48 IAmb IAmb 03 40 51.6
comp=Z,49nm,1.1s
ELO Logie Almond 82.79 341 ⇑*e*P **P 03 40 48.9 +0.4**
ROTZ Rotzenmuhle 82.83 329 *e*P **P 03 40 49.4 +0.6**
comp=Z,75nm,0.9s,baz=39,slow=5.1
GEC2 GERESS Array S 82.89 328 *e*P **P 03 40 49.2 -0.1**
comp=Z,53nm,1.0s,baz=39,slow=5.1
GEC2 GERESS Array S 82.89 328 IAmb IAmb 03 40 50.5
comp=Z,56nm,1.1s
GEC2 IAMs_20 IAMs_20 04 18 54.3
comp=Z,796nm,21.0s
GERES GERESS Array B 82.89 328 P **P 03 40 49.3 0.0**
comp=Z,24nm,0.7s,baz=38,slow=5.0,SNR=188
GERES GERESS Array B 82.89 328 P **P 03 40 49.4 +0.1**
INVG Invergeldie, C 82.92 341 ⇑*e*P **P 03 40 49.5 +0.4**
INVG IAmb IAmb 03 40 50.2
comp=Z,60nm,0.6s
UBBA Unterbreizbach 82.92 331 *e*P **P 03 40 49.2 +0.1**
comp=Z,31nm,0.9s,baz=39,slow=5.1
EBH Black Hill 82.93 340 ⇑*e*P **P 03 40 49.5 +0.3**
ESY Stoneypath 82.97 340 ⇑*e*P **P 03 40 49.4 0.0**
WET Wettzell 83.02 328 *e*P **P 03 40 50.3 +0.5**
comp=Z,103nm,1.3s,baz=39,slow=5.1
NRS Narsarsuaq 83.02 3 *i* P **P 03 40 49.6 +0.1**
comp=Z,45nm,0.9s
NRS Narsarsuaq 83.02 3 *e*P **P 03 40 49.6 +0.1**
NRS pmax pmax
comp=Z,45nm,0.9s
NRS Narsarsuaq 83.02 3 IAmb IAmb 03 40 50.6
comp=Z,44nm,0.9s
MMB Musmiste 83.15 317 *i* P **P 03 40 51.4 +0.7**
EAB Aberfoyle 83.20 341 ⇑*e*P **P 03 40 50.7 +0.1**
EBL Broad Law 83.22 340 ⇑*e*P **P 03 40 50.9 +0.2**
SFX San Felipe 83.22 57 IAmb IAmb 03 40 54.3
comp=Z,68nm,0.9s
AKAS Kas 83.25 310 IAmb IAmb 03 40 53.4
comp=Z,30nm,0.7s
BEHE Becsehely 83.26 324 ⇑*i*P **P 03 40 54.0 +2.9**
ARSA Arzberg 83.27 326 *i* P **P 03 40 51.5 +0.4**
comp=Z,70nm,1.4s,SNR=28
ARSA *i* PP **PP 03 44 01.1 -1.5**
comp=Z,12nm,1.2s
GRA1 Grafenberg Arr 83.30 329 IAMs_20 IAMs_20 04 25 23.0
comp=Z,621nm,20.0s
GRF Grafenberg Arr 83.30 329 *e*P **P 03 40 51.8 +0.6**
comp=Z,183nm,0.9s,baz=39,slow=5.1
GRF *e*L L 04 22 05.8
comp=Z,541nm,19.6s

TEKS Tekeris 83.30 322 ⇑*i*P **P 03 40 51.9 +0.5**
KKB Krupnik 83.31 318 *i* P **P 03 40 52.1 +0.6**
B35A Bob, Littlefor 83.31 33 IAmb IAmb 03 40 53.2
comp=Z,45nm,0.9s
X16A Lo Mia Camp, P 83.35 52 IAmb IAmb 03 40 55.8
comp=Z,85nm,1.1s
ISCO Idaho Springs 83.38 45 P **P 03 40 54.1 +1.9**
baz=312,SNR=18
DIVS Divibare 83.39 321 ⇑*i*P **P 03 40 51.9 0.0**
DIVS Divibare 83.39 321 IAmb IAmb 03 40 56.0
comp=Z,63nm,1.0s
MOA Molln 83.39 327 *i* P **P 03 40 52.2 +0.4**
comp=Z,85nm,1.2s,SNR=48
MOA *i* PP **PP 03 44 01.6 -1.9**
comp=Z,17nm,1.7s
MVCO Mesa Verde 83.39 48 P **P 03 40 54.3 +2.1**
baz=311,SNR=39
MVCO Mesa Verde 83.39 48 IAmb IAmb 03 40 55.0
comp=Z,43nm,1.0s
LAWE Loch Awe, Argy 83.42 341 ⇑*e*P **P 03 40 52.2 +0.5**
LAWE IAmb IAmb 03 40 52.6
comp=Z,40nm,0.7s
BUG Bochum--Univer 83.48 332 *e*P **P 03 40 51.8 -0.2**
comp=Z,63nm,1.0s,baz=39,slow=5.1
KOGS Kog 83.52 325 *i* P **P 03 40 52.1 -0.3**
PGBU Glenifferbraes 83.58 341 ⇑*e*P **P 03 40 53.1 +0.6**
PGBU IAmb IAmb 03 40 54.1
comp=Z,109nm,0.8s
ESK Eskdalemuir 83.66 340 ⇑*e*P **P 03 40 53.2 +0.2**
ESK IAmb IAmb 03 40 56.9
comp=Z,50nm,1.1s
ESK Eskdalemuir 83.66 340 P **P 03 40 53.1 +0.2**
ESK pmax pmax
comp=Z,47nm,1.1s
ESK Eskdalemuir 83.66 340 P **P 03 40 53.1 +0.2**
ESK IAmb IAmb 03 40 57.1
comp=Z,47nm,1.1s
EDMD Edmundbyers 83.73 339 ⇑*e*P **P 03 40 53.4 +0.1**
SUSD Miller 83.74 38 P **P 03 40 54.6 +0.9**
baz=316,SNR=11
PIX Pinacate 83.83 55 IAmb IAmb 03 40 57.2
comp=Z,64nm,0.8s
BBLS Lazići 83.85 321 ⇑*i*P **P 03 40 54.9 +0.7**
GROS Grobnik 83.86 325 *i* P **P 03 40 54.2 -0.1**
PERS Pernice 83.91 325 *i* P **P 03 40 54.8 +0.3**
PERS *i* PcP **PcP 03 40 56.3 -2.2**
SOKA Soboth 83.92 325 *i* P **P 03 40 54.9 +0.3**
comp=Z,208nm,1.1s,SNR=144
SOKA *i* PP **PP 03 44 07.8 -0.1**
comp=Z,11nm,1.0s
VAY Valandovo 83.97 318 *i* P **P 03 40 55.3 +0.5**
W18A Petrified Fore 83.99 51 P **P 03 40 57.5 +2.2**
baz=310,SNR=14
TNS Taunus Mts 84.00 331 *e*P **P 03 40 55.0 +0.1**
comp=Z,72nm,1.3s,baz=39,slow=5.1
TNS *e*pP **pP 03 41 13.3 +2.3**
214A Organ Pipe Nat 84.01 55 P **P 03 40 57.2 +1.9**
baz=309,SNR=28
214A Organ Pipe Nat 84.01 55 P **P 03 40 55.0 -0.3**
214A IAmb IAmb 03 40 58.5
comp=Z,78nm,0.8s
F33A 5 Mile Ranch, 84.02 36 P **P 03 40 55.5 +0.5**
F33A IAmb IAmb 03 40 57.2
comp=Z,62nm,0.9s
RUDO Rudo 84.04 321 *e*P **P 03 40 55.5 +0.3**
S22A 4UR Ranch, Cre 84.04 47 P **P 03 40 58.0 +2.3**
baz=312,SNR=96
S22A 4UR Ranch, Cre 84.04 47 IAmb IAmb 03 40 59.4
comp=Z,59nm,1.0s
NEWG New Galloway 84.12 340 ⇑*e*P **P 03 40 55.5 +0.2**
NEWG IAmb IAmb 03 40 56.0
comp=Z,38nm,1.0s
SKO Skopje 84.12 319 *i* P **P 03 40 56.8 +1.2**
RJOB Jochberg 84.13 327 *e*P **P 03 40 55.0 -0.6**
comp=Z,94nm,1.1s,baz=39,slow=5.1
Q24A Divide 84.21 45 P **P 03 40 58.0 +1.5**
baz=313
PLE Pljevlja 84.24 321 ⇑*i*P **P 03 40 56.8 +0.5**
OBKA Obir 84.27 326 *i* P **P 03 40 56.3 -0.1**
comp=Z,34nm,0.8s,SNR=18
OBKA *i* PP **PP 03 44 08.6 -2.2**
comp=Z,18nm,1.0s
KESW Keswick, Cumbr 84.27 339 ⇑*e*P **P 03 40 56.6 +0.5**
KESW IAmb IAmb 03 40 57.6
comp=Z,116nm,1.3s
AHRW Bad Neuenahr-A 84.28 332 *e*P **P 03 40 56.3 +0.1**
comp=Z,116nm,1.2s,baz=39,slow=5.1
IVA Berane 84.30 320 ⇑*i*P **P 03 40 57.3 +0.7**
BLY Banja Luka 84.32 323 ⇑*i*P **P 03 40 56.6 +0.1**
CRES Cresnjev 84.35 325 ⇑*i*P **P 03 40 56.5 -0.2**
KBA Koelnbreinsper 84.38 327 *i* P **P 03 40 57.0 -0.1**
comp=Z,46nm,0.7s,SNR=33
KBA *i* PP **PP 03 44 12.1 +0.3**
comp=Z,37nm,1.1s
HPK Haverah Park 84.38 338 ⇑*e*P **P 03 40 57.1 +0.5**
HPK IAmb IAmb 03 40 57.6
comp=Z,73nm,0.8s
FUR Furstenfeldbru 84.45 328 *e*P **P 03 40 57.5 +0.3**
comp=Z,160nm,0.8s,baz=39,slow=5.1
PVY Plav 84.47 320 ⇑*i*P **P 03 40 57.8 +0.3**
GAL1 Galloway 84.47 340 ⇑*e*P **P 03 40 57.7 +0.6**
GAL1 IAmb IAmb 03 40 58.1
comp=Z,57nm,0.8s
KOME Kolasin 84.52 320 ⇑*i*P **P 03 40 58.0 +0.3**
UPM Unac-Piva 84.58 321 ⇑*i*P **P 03 40 57.9 -0.2**
UPM Unac-Piva 84.58 321 ⇑*i*P **P 03 40 57.8 -0.3**
MYKA Terra Mystica 84.59 326 *i* P **P 03 40 57.6 -0.3**
comp=Z,45nm,0.6s,SNR=38
MYKA *i* PP **PP 03 44 13.7 +0.3**
comp=Z,27nm,1.3s
EYMN Ely 84.59 32 P **P 03 40 58.6 +0.8**
baz=321,SNR=27
EYMN Ely 84.59 32 IAmb IAmb 03 40 59.8
comp=Z,70nm,0.9s
OGNE Ogallala 84.60 42 P **P 03 40 59.4 +1.3**
baz=314,SNR=14
OGNE Ogallala 84.60 42 IAmb IAmb 03 41 00.5
comp=Z,58nm,0.8s
MGRS Mrkonjic Grad 84.61 323 ⇑*i*P P 03 41 08.4 +10
LJU Ljubljana 84.62 325 *i* P **P 03 40 57.8 -0.3**
LJU *i* PcP **PcP 03 40 59.4 -2.1**
LJU *i* pP **pP 03 41 13.6 -0.6**
LJU Ljubljana 84.62 325 ⇑*i*P **P 03 40 57.7 -0.3**
MEM Membach 84.62 333 P **P 03 40 57.6 -0.3**
comp=Z,55nm,1.1s
MEM PcP **PcP 03 41 00.9 -0.5**
CLGH Cloghs, Cushen 84.65 341 ⇑*e*P **P 03 40 58.4 +0.4**
CLGH IAmb IAmb 03 40 59.5
comp=Z,251nm,1.4s
WACR West Acre 84.74 337 ⇑*e*P **P 03 40 58.1 -0.4**
WACR IAmb IAmb 03 40 59.4
comp=Z,322nm,1.3s
PRED Cave del Predi 84.76 326 IAmb IAmb 03 40 59.1
comp=Z,40nm,0.8s
BSTI Sart Tilman 84.81 333 P **P 03 40 58.7 -0.2**
NKY Niksic 84.81 321 ⇑*i*P **P 03 40 59.1 -0.1**
SDCO Great Sand Dun 84.83 46 P **P 03 41 01.5 +1.9**
baz=312,SNR=62
SDCO Great Sand Dun 84.83 46 IAmb IAmb 03 41 02.9
comp=Z,34nm,0.9s
BHOU Houvegnez 84.83 332 P **P 03 40 59.1 +0.1**
STU Stuttgart 84.85 330 *e*P **P 03 40 59.2 +0.1**
comp=Z,121nm,0.8s,baz=39,slow=5.1
STU Stuttgart 84.85 330 IAMs_20 IAMs_20 04 18 46.0
comp=Z,568nm,18.0s
LIT Litokhoron 84.85 317 IAMs_20 IAMs_20 04 20 36.6
comp=Z,527nm,21.0s
NKME Niksic 84.86 321 ⇑*i*P **P 03 40 59.3 -0.1**
LBWR Ladybower, Pea 84.89 338 ⇑*e*P **P 03 40 59.7 +0.5**
LBWR IAmb IAmb 03 41 00.6
comp=Z,237nm,1.0s
CEY Cerknica 84.90 325 ⇑*i*P **P 03 40 59.0 -0.5**
PMOR Pomariorio Ree 84.91 113 *e*P **P 03 41 00.6 +0.8**
comp=Z,72nm,1.2s
PMOR Pomariorio Ree 84.91 113 *e*T T 05 13 36.7
comp=Z,19nm,0.2s
VOJS Vojsko 84.93 326 *i* P **P 03 40 58.7 -1.0**
VOJS *i* pP **pP 03 41 14.4 -1.4**
ZOU Zoufplan 84.94 326 IAmb IAmb 03 41 04.3
comp=Z,47nm,0.7s
ZOU IAMs_20 IAMs_20 04 23 43.4
comp=Z,661nm,20.0s
PDG Podgorica 84.95 320 ⇑P **P 03 41 00.2 +0.4**
PDG Podgorica 84.95 320 ⇑*i*P **P 03 41 00.0 +0.2**
TTG Podgorica 84.95 320 ⇑*i*P **P 03 40 59.9 +0.2**

WATA Walderalm 84.97 328 *i* P **P 03 40 59.7 -0.2**
comp=Z,14nm,0.7s,SNR=17
WATA *i* PP **PP 03 44 17.1 +0.7**
comp=Z,9.8nm,0.9s
IOMK Kirk Michael 84.97 340 *e*P **P 03 40 59.8 +0.2**
IOMK IAmb IAmb 03 41 01.1
comp=Z,338nm,1.4s
BRY Bratogost 84.98 321⇑ *i*P **P 03 40 59.7 -0.4**
BRY Bratogost 84.98 321⇑ *i*P **P 03 40 59.6 -0.5**
FNA Florina 84.99 318 IAmb IAmb 03 41 00.9
comp=Z,78nm,1.1s
WTTA Wattenberg 84.99 328 *i* P **P 03 41 00.0 -0.1**
comp=Z,18nm,0.7s,SNR=14
WTTA *i* PP **PP 03 44 16.0 -0.8**
comp=Z,21nm,0.9s
ABTA Abfaltersbach 85.00 327 *i* P **P 03 40 59.0 -1.0**
comp=Z,75nm,1.1s,SNR=43
ABTA *i* PP **PP 03 44 16.1 -0.6**
comp=Z,9.9nm,1.2s
IDGL Inch Island, C 85.02 342⇑ *e*P **P 03 41 00.5 +0.7**
IDGL IAmb IAmb 03 41 01.4
comp=Z,266nm,1.4s
BCLA Clavier 85.04 333 P **P 03 40 59.8 -0.2**
BCLA PcP **PcP 03 41 02.8 -0.4**
CEME Cevo 85.04 321⇑ *i*P **P 03 41 00.1 -0.2**
OHR Ohrid 85.07 319 *i* P **P 03 41 00.8 +0.3**
UCC Uccle 85.08 334 P **P 03 40 59.5 -0.6**
UCC PcP **PcP 03 41 03.0 -0.3**
WIM Isle of Man 85.10 340⇑ *e*P **P 03 41 00.6 +0.3**
TUC Tucson 85.12 53 P **P 03 41 01.2 +0.3**
TUC pmax pmax
comp=Z,47nm,0.9s
TUC Tucson 85.12 53 P **P 03 41 02.9 +2.0**
baz=310
TUC Tucson 85.12 53 P **P 03 41 01.2 +0.3**
TUC IAmb IAmb 03 41 04.1
comp=Z,47nm,0.8s
BGES Gesves 85.15 333 P **P 03 41 00.3 -0.3**
comp=Z,43nm,1.2s
BGES PcP **PcP 03 41 03.1 -0.6**
DRME Dracevica, Mon 85.16 320⇑ *i*P **P 03 41 01.1 +0.3**
DRME Dracevica, Mon 85.16 320⇑ *i*P **P 03 41 01.1 +0.3**
MOTA Moosalm 85.16 328 *i* P **P 03 41 00.9 0.0**
comp=Z,54nm,1.2s,SNR=24
MOTA *i* PP **PP 03 44 13.9 -4.2**
comp=Z,15nm,1.1s
APE Apeiranthos 85.17 313 ⇑P **P 03 40 59.6 -1.4**
APE Apeiranthos 85.17 313 *d* *i*P **P 03 41 00.1 -0.9**
APE pmax pmax
comp=Z,64nm,1.0s
RETA Reutte 85.20 328 *i* PcP **P 03 41 01.1 +0.1**
comp=Z,68nm,0.8s,SNR=49
RETA *i* PP **PP 03 44 15.2 -3.0**
comp=Z,7.0nm,0.9s
SQTA Sankt Quirin 85.21 328 *i* P **P 03 41 01.1 -0.1**
comp=Z,22nm,0.6s,SNR=22
SQTA *i* PP **PP 03 44 18.8 +0.3**
comp=Z,41nm,1.2s
TRI Trieste 85.23 325 IAmb IAmb 03 41 01.4
comp=Z,68nm,0.9s
TRI IAMs_20 IAMs_20 04 22 42.2
comp=Z,455nm,22.0s
BUM Brajici-Budva 85.23 320⇑ *i*P **P 03 41 01.2 0.0**
SKDS Skadanscina 85.23 325 *e*P **P 03 41 00.4 -0.8**
PPT Papeete 85.29 116 LR LR 04 12 50.0
comp=Z,418nm,19.5s,baz=303,slow=31
ULC Ulcinj 85.29 320⇑ *i*P **P 03 41 01.3 -0.2**
PPT2 Papeete2 85.30 116 *e*S **S 03 51 24.2 -4.0**
comp=Z,553nm,25.2s
PPT2 Papeete2 85.30 116 *e*LR LR 04 07 43.5
comp=Z,3μm,32.5s,baz=313
PPT2 Papeete2 85.30 116 *e*T T 05 14 08.0
comp=Z,2.7nm,0.3s
STNC Stoke 85.31 338 *e*P **P 03 41 01.9 +0.5**
STNC IAmb IAmb 03 41 04.9
comp=Z,53nm,0.8s
UBR Ueberruh 85.33 329 *e*P **P 03 41 01.4 -0.2**
comp=Z,45nm,1.2s,baz=39,slow=5.1
HCY Herceg Novi 85.33 321⇑ *i*P **P 03 41 01.2 -0.5**
HCY Herceg Novi 85.33 321⇑ *i*P **P 03 41 01.1 -0.6**
BMRD Maredsous 85.33 333 P **P 03 41 01.4 -0.1**
comp=Z,80nm,1.3s
BMRD PcP **PcP 03 41 04.3 -0.2**
WLF Walferdange 85.33 332 P **P 03 41 01.6 +0.1**
comp=Z,74nm,1.7s
WLF Walferdange 85.33 332 *e*P **P 03 41 01.9 +0.4**
comp=Z,182nm,1.5s,baz=39,slow=5.1
WLF Walferdange 85.33 332 IAmb IAmb 03 41 14.2
comp=Z,32nm,0.8s
WLF IAMs_20 IAMs_20 04 21 18.8
comp=Z,688nm,21.0s
CWF Charnwood Fore 85.34 338⇑ *e*P **P 03 41 01.6 +0.1**
CWF IAmb IAmb 03 41 02.4
comp=Z,175nm,1.3s
SNF Seneffe 85.34 333 P **P 03 41 01.4 -0.1**
SNF PcP **PcP 03 41 04.6 +0.1**
GMM Mts of Mourne 85.36 341⇑ *e*P **P 03 41 01.9 +0.3**
CIMO Cimolais 85.37 327 IAmb IAmb 03 41 01.7
comp=Z,56nm,1.1s
TIR Tirane 85.40 319 ⇑P **P 03 41 02.2 +0.2**
ECSD EROS Data Cent 85.42 37 P **P 03 41 03.0 +0.9**
baz=318,SNR=56
ECSD EROS Data Cent 85.42 37 IAmb IAmb 03 41 04.0
comp=Z,41nm,0.8s
BFO Black Forest 85.55 330 P **P 03 41 02.6 -0.1**
BFO pmax pmax
comp=Z,74nm,0.9s
BFO MLR MLR
comp=Z,500nm,22.0s
BFO Black Forest 85.55 330 *e*P **P 03 41 02.6 -0.1**
comp=Z,230nm,1.6s,baz=39,slow=5.1
BFO *e*pP **pP 03 41 17.8 -1.0**
BFO Black Forest 85.55 330 P **P 03 41 02.6 -0.1**
BFO IAmb IAmb 03 41 03.4
comp=Z,74nm,0.9s
BFO IAMs_20 IAMs_20 04 18 40.5
comp=Z,532nm,22.0s
DOU Dourbes 85.57 333 P **P 03 41 02.5 -0.2**
DOU PcP **PcP 03 41 05.4 -0.1**
FETA Feichten 85.58 328 *i* PcP **P 03 41 03.0 0.0**
comp=Z,36nm,0.8s,SNR=28
FETA *i* PP **PP 03 44 14.9 -6.6**
comp=Z,12nm,1.1s
KSCO Kaye Shedlock' 85.61 44 P **P 03 41 04.5 +1.2**
baz=314,SNR=5.5
KSCO Kaye Shedlock' 85.61 44 IAmb IAmb 03 41 06.6
comp=Z,59nm,1.1s
ILTH Belurgan, Co L 85.66 341⇑ *e*P **P 03 41 03.0 0.0**
WME Myndd Eilian 85.66 339⇑ *e*P **P 03 41 03.2 +0.1**
SANT Santorini 85.68 313 ⇑P **P 03 41 01.5 -2.1**
WPS Cemaes, Angles 85.71 340⇑ *e*P **P 03 41 03.1 -0.1**
WPS IAmb IAmb 03 41 04.6
comp=Z,87nm,1.3s
DAVA Damuels 85.73 328 *i* PcP **P 03 41 03.8 0.0**
comp=Z,99nm,1.1s,SNR=36
DAVA *i* PP **PP 03 44 24.5 +1.8**
comp=Z,17nm,1.2s
WLF1 Llynfaes 85.78 339⇑ *e*P **P 03 41 03.8 +0.2**
WLF1 IAmb IAmb 03 41 08.2
comp=Z,278nm,1.3s
YLL Llanberis 85.84 339⇑ *e*P **P 03 41 04.4 +0.5**
YRC Rhoscolyn 85.86 340⇑ *e*P **P 03 41 04.2 +0.2**
T25A Trinidad 85.88 46 P **P 03 41 06.7 +2.0**
baz=313,SNR=70
ELSH Elham, Standar 85.91 335⇑ *e*P **P 03 41 04.0 -0.3**
ELSH IAmb IAmb 03 41 05.2
comp=Z,161nm,0.8s
CTI Castel Tesino 85.92 327 IAmb IAmb 03 41 07.9
comp=Z,57nm,1.1s
LLW Llanuwychllyn 85.95 339⇑ *e*P **P 03 41 05.0 +0.5**
LLW IAmb IAmb 03 41 06.0
comp=Z,49nm,1.1s
HLM1 Long Mynd 86.01 338⇑ *e*P **P 03 41 04.9 +0.1**
HLM1 IAmb IAmb 03 41 05.5
comp=Z,73nm,1.3s
FUORN Ofenpass-Fuorn 86.09 328 IAMs_20 IAMs_20 04 23 17.8
comp=Z,608nm,18.0s
SPMN Marine on St. 86.11 34 P **P 03 41 06.0 +0.6**
baz=320,SNR=13
SPMN Marine on St. 86.11 34 IAmb IAmb 03 41 07.5
comp=Z,40nm,1.0s
ECH Echery 86.11 331 IAmb IAmb 03 41 06.4
comp=Z,52nm,0.8s
ECH IAMs_20 IAMs_20 04 27 07.4
comp=Z,583nm,20.0s
ANMO Albuquerque 86.13 49 *c* *i*P **P 03 41 07.9 +1.9**
ANMO pmax pmax
comp=Z,48nm,1.3s
ANMO Albuquerque 86.13 49 P **P 03 41 07.8 +1.8**
baz=312
ANMO Albuquerque 86.13 49 P **P 03 41 06.6 +0.6**
ANMO IAmb IAmb 03 41 09.4
comp=Z,40nm,1.1s
BGNE Belgrade 86.34 40 P **P 03 41 07.4 +0.7**
baz=317,SNR=14
DSB Dublin 86.37 340 IAmb IAmb 03 41 07.6
comp=Z,53nm,0.7s
HMNX Herstmonceux 86.42 336⇑ *e*P **P 03 41 07.5 +0.7**
HMNX IAmb IAmb 03 41 08.3
comp=Z,519nm,1.4s
Y22D IRIS PASSCAL I 86.42 50 P **P 03 41 09.3 +1.8**
baz=312
STRD Stroud 86.44 338⇑ *e*P **P 03 41 07.1 +0.2**
STRD IAmb IAmb 03 41 08.2
comp=Z,902nm,1.7s
MCH1 Michaelchurch 86.50 338⇑ *e*P **P 03 41 07.5 +0.3**
MCH1 IAmb IAmb 03 41 08.0
comp=Z,84nm,0.8s
D41A Chassel 86.53 31 IAmb IAmb 03 41 10.6
comp=Z,51nm,0.8s
WOL Wolverton 86.54 337⇑ *e*P **P 03 41 07.6 +0.1**
SWN1 Swindon 86.55 337⇑ *e*P **P 03 41 07.6 +0.1**
SWN1 IAmb IAmb 03 41 08.8
comp=Z,381nm,1.3s
MONM Monmouth 86.58 338⇑ *e*P **P 03 41 07.8 +0.2**
MONM IAmb IAmb 03 41 08.8
comp=Z,269nm,1.4s
SCHQ Schefferville 86.59 15 P **P 03 41 08.8 +1.1**
comp=Z,52nm,0.8s,baz=0.9,slow=5.9,SNR=62
SCHQ LR LR 04 24 10.3
comp=Z,349nm,18.6s,baz=324,slow=39
SCHQ Schefferville 86.59 15 IAMs_20 IAMs_20 04 23 08.9
comp=Z,529nm,20.0s
MEH Mehetia 86.59 115 *e*T T 05 15 44.0
comp=Z,31nm,0.2s
TUE Stuetta 86.60 328 IAmb IAmb 03 41 15.6
comp=Z,30nm,0.7s
OLDB Oldbury-Upon-S 86.66 338⇑ *e*P **P 03 41 07.9 -0.1**
OLDB IAmb IAmb 03 41 08.4
comp=Z,47nm,0.8s
IDI Anoyia 86.75 312 IAMs_20 IAMs_20 04 21 41.2
comp=Z,506nm,22.0s
SALO Salr 86.75 327 IAmb IAmb 03 41 09.2
comp=Z,65nm,0.9s
121A Cookes Peak, D 86.90 52 P **P 03 41 11.8 +2.0**
baz=312,SNR=19
121A Cookes Peak, D 86.90 52 IAmb IAmb 03 41 13.2
comp=Z,45nm,1.1s
COWI Conover 87.05 32 P **P 03 41 10.4 +0.4**
COWI IAmb IAmb 03 41 12.0
comp=Z,43nm,0.9s
SCTE Santa Cesarea 87.05 319 IAmb IAmb 03 41 11.9
comp=Z,61nm,0.8s
N33A J Bar K, Exete 87.19 40 IAmb IAmb 03 41 12.3
comp=Z,64nm,1.0s
ITM Ithomi 87.20 315 IAMs_20 IAMs_20 04 18 54.8
comp=Z,794nm,22.0s
IWEX Carrickbyrne, 87.25 340⇑ *e*P **P 03 41 11.1 +0.3**
CBKS Cedar Bluff 87.36 42 P **P 03 41 12.3 +0.6**
baz=316,SNR=9.2
CBKS Cedar Bluff 87.36 42 IAmb IAmb 03 41 13.4
comp=Z,54nm,1.0s
PRMA PARMA 87.52 327 IAmb IAmb 03 41 14.1
comp=Z,74nm,1.0s
ZCCA Zocca 87.54 326 IAmb IAmb 03 41 19.7
comp=Z,58nm,0.9s
ZCCA IAMs_20 IAMs_20 04 18 01.3
comp=Z,648nm,22.0s
MATE Matera 87.56 320 ⇑P **P 03 41 12.2 -0.4**
E43A Lone Tree Farm 87.72 30 IAmb IAmb 03 41 15.3
comp=Z,54nm,0.8s
F42A Maple Grove Fa 87.74 31 IAmb IAmb 03 41 15.7
comp=Z,45nm,0.8s
AQU L'Aquila 87.94 323⇑ *i*P **P 03 41 14.5 +0.1**
OSSC Osservatorio P 88.06 325 IAmb IAmb 03 41 15.4
comp=Z,42nm,0.7s
OSSC IAMs_20 IAMs_20 04 25 27.0
comp=Z,494nm,19.0s
K38A Parkersburg 88.09 36 IAmb IAmb 03 41 16.7
comp=Z,26nm,0.8s
I40A Norwalk 88.13 34 IAmb IAmb 03 41 17.3
comp=Z,61nm,0.9s
CLF Chambon-Foret 88.14 333 IAmb IAmb 03 41 16.3
comp=Z,57nm,1.1s
MATQ Matagami 88.30 23 P **P 03 41 16.5 +0.6**
baz=330,SNR=10
PAOL Paolisi 88.36 322 IAmb IAmb 03 41 19.9
comp=Z,47nm,1.0s
SCIA State Center 88.44 37 P **P 03 41 18.2 +1.5**
baz=320,SNR=21
LATE Laterza 88.50 324 IAmb IAmb 03 41 17.8
comp=Z,46nm,1.1s
TIP Timpagrande 88.61 319 ⇑P **P 03 41 17.7 0.0**
TIP Timpagrande 88.61 319 IAmb IAmb 03 41 27.2
comp=Z,27nm,0.9s
JSA Saint Aubin 88.69 336⇑ *e*P **P 03 41 17.9 +0.1**
JSA IAmb IAmb 03 41 19.8
comp=Z,50nm,0.7s
CASP Castiglione de 88.80 325 IAmb IAmb 03 41 18.0
comp=Z,21nm,0.7s
CASP IAMs_20 IAMs_20 04 19 12.7
comp=Z,354nm,22.0s
KSU1 Kansas State U 88.83 40 P **P 03 41 19.5 +0.9**
baz=318,SNR=19
MNTX Cornudas Mount 88.97 51 P **P 03 41 21.0 +1.5**
baz=313,SNR=9.6
MSTX Muleshoe 89.02 48 P **P 03 41 21.0 +1.2**
baz=314
AMTX Amarillo 89.03 46 P **P 03 41 21.4 +1.6**
baz=315
AMTX Amarillo 89.03 46 IAmb IAmb 03 41 22.7
comp=Z,45nm,0.8s
JFWS Jewell Farm 89.06 34 P **P 03 41 20.3 +0.7**
baz=322,SNR=18
TBI Tubuai 89.07 120 *e*S **S 03 52 01.0 -3.1**
comp=Z,397nm,29.2s
TBI Tubuai 89.07 120 *e*LQ LQ 04 06 01.5
comp=Z,368nm,34.2s
TBI *e*LR LR 04 09 41.0
comp=Z,2μm,26.8s,baz=309
TBI Tubuai 89.07 120 *e*T T 05 18 52.5
comp=Z,26nm,0.3s
LSQQ Lebel-sur-Quev 89.12 23 P **P 03 41 20.6 +0.8**
baz=331
CHGQ Chibougamau 89.17 21 P **P 03 41 20.7 +0.7**
baz=333,SNR=26
U32A Winter Ranch, 89.50 44 IAmb IAmb 03 41 24.6
comp=Z,41nm,0.9s
SSB Saint Sauveur 89.55 330 IAMs_20 IAMs_20 04 22 39.3
comp=Z,748nm,22.0s
CEL Celeste 89.74 319 IAMs_20 IAMs_20 04 26 26.9
comp=Z,532nm,20.0s
VLDQ Val d'Or 89.80 24 IAmb IAmb 03 41 23.9
comp=Z,42nm,0.8s
P38A Dawn 90.02 38 IAmb IAmb 03 41 26.1
comp=Z,34nm,0.9s
T35A Sooner Cattle 90.48 42 IAmb IAmb 03 41 28.9
comp=Z,43nm,0.8s
D53A Lac Vacive, Po 90.61 25 P **P 03 41 27.6 +0.8**
baz=330,SNR=13
D53A Lac Vacive, Po 90.61 25 IAmb IAmb 03 41 28.4
comp=Z,30nm,0.8s
L44A Lake County Fo 90.70 33 P **P 03 41 28.1 +0.8**
baz=323
OK029 Liberty Lake 90.79 43 IAMs_20 IAMs_20 04 09 51.6
comp=Z,294nm,20.0s
WMOK Wichita Mounta 90.81 45 P **P 03 41 29.3 +1.2**
baz=316,SNR=36
WMOK Wichita Mounta 90.81 45 IAmb IAmb 03 41 30.5
comp=Z,29nm,0.9s
D54A Lac Fusel, La 90.90 24 P **P 03 41 28.7 +0.6**
baz=331,SNR=12
OKCFA Oklahoma City 91.07 43 IAMs_20 IAMs_20 04 21 14.1
comp=Z,494nm,22.0s
RAFF Raffo Rosso 91.32 319 IAmb IAmb 03 41 32.4
comp=Z,48nm,1.2s
HDIL Hopedale 91.35 35 P **P 03 41 31.6 +1.3**
baz=322,SNR=18
D55A Sainte-Anne-du 91.40 23 P **P 03 41 31.4 +0.9**
baz=332,SNR=11
ALGO Algonquin Park 91.47 25 P **P 03 41 31.4 +0.6**
baz=330,SNR=7.9
W35A Tecumseh 91.58 43 P **P 03 41 31.0 -0.5**
W35A **PcP 03 41 32.9 +0.5**
S39A Bolivar 91.59 39 IAmb IAmb 03 41 33.0
comp=Z,33nm,0.8s
D56A ZEC Mazanza, M 91.60 23 P **P 03 41 32.6 +1.2**
baz=333,SNR=22
TUL1 Leonard 91.62 42 P **P 03 41 32.9 +1.2**
baz=318,SNR=24
TX32 Lajitas Array 91.66 51 IAmb IAmb 03 41 34.6
comp=Z,24nm,0.9s
TXAR Lajitas Array 91.66 51 P **P 03 41 33.8 +1.7**
comp=Z,17nm,0.8s,baz=304,slow=3.0,SNR=168
TXAR PKKPbc **PKKPbc 03 58 51.2 +1.2**
comp=Z,0.4nm,0.5s,baz=142,slow=5.3,SNR=9.5
TXAR Lajitas Array 91.66 51 P **P 03 41 31.8 -0.3**
R40A Maddies Statio 91.67 38 IAmb IAmb 03 41 33.9
comp=Z,31nm,0.8s
E55A Montcerf-Lytto 91.71 24 P **P 03 41 32.9 +1.0**
baz=332,SNR=5.9
ABTX Abilene, Hawle 91.83 47 P **P 03 41 34.2 +1.4**
baz=316,SNR=20
ABTX Abilene, Hawle 91.83 47 IAmb IAmb 03 41 34.9
comp=Z,36nm,1.0s
D57A Chemin Vers le 91.90 22 P **P 03 41 34.1 +1.3**
baz=333,SNR=24
LATQ La Tuque 91.91 22 P **P 03 41 33.7 +0.9**
baz=334,SNR=5.1
G54A Lake Saint Pet 91.94 26 P **P 03 41 33.8 +0.8**
baz=330,SNR=7.8
E56A St. Veronique 91.96 23 P **P 03 41 34.1 +1.0**
baz=332,SNR=10
U38A Gravette 91.98 41 IAmb IAmb 03 41 35.3
comp=Z,41nm,0.8s
O44A Mansfield 92.06 35 IAmb IAmb 03 41 35.6
comp=Z,29nm,0.8s
VSL Villasalto 92.08 324 IAmb IAmb 03 41 37.8
comp=Z,17nm,0.9s
VSL IAMs_20 IAMs_20 04 25 32.5
comp=Z,579nm,21.0s
D58A Chemin du LacG 92.14 22 P **P 03 41 34.6 +0.7**
baz=334,SNR=8.0
F55A Otter Lake 92.16 24 P **P 03 41 34.5 +0.5**
baz=332
HHAR Hobbs 92.33 41 IAmb IAmb 03 41 36.8
comp=Z,24nm,0.8s
HHAR IAMs_20 IAMs_20 04 19 43.3
comp=Z,404nm,20.0s
E57A Chemin Saint G 92.36 23 P **P 03 41 36.0 +1.0**
baz=333,SNR=16
CCM Cathedral Cave 92.36 38 P **P 03 41 35.1 0.0**
CCM pmax pmax
comp=Z,38nm,0.9s
CCM Cathedral Cave 92.36 38 P **P 03 41 36.1 +0.9**
baz=321
CCM Cathedral Cave 92.36 38 P **P 03 41 35.1 0.0**
CCM IAmb IAmb 03 41 37.2
comp=Z,38nm,0.9s
SLM Saint Louis 92.41 37 IAMs_20 IAMs_20 04 23 55.9
comp=Z,389nm,19.0s
AAM Ann Arbor 92.43 31 P **P 03 41 36.6 +1.2**
baz=326
AAM Ann Arbor 92.43 31 IAmb IAmb 03 41 37.7
comp=Z,27nm,0.8s
K50A Casco 92.46 30 IAmb IAmb 03 41 37.8
comp=Z,33nm,0.8s
H53A Bobcaygeon 92.47 26 P **P 03 41 36.1 +0.6**
baz=330,SNR=6.1
SFIN Lafayette 92.51 34 P **P 03 41 36.9 +1.2**
baz=324,SNR=9.7
SFIN Lafayette 92.51 34 IAmb IAmb 03 41 37.9
comp=Z,38nm,0.8s
D59A Saint-Raymond 92.53 21 P **P 03 41 36.6 +1.0**
baz=335
G55A Calabogie 92.54 25 P **P 03 41 36.4 +0.6**
baz=331,SNR=5.8
MGMO Mountain Grove 92.54 39 IAmb IAmb 03 41 37.7
comp=Z,28nm,0.8s
PLVO Plevna 92.60 25 IAmb IAmb 03 41 38.9
comp=Z,16nm,0.8s
E58A La Victoria 92.67 22 P **P 03 41 37.3 +0.9**
baz=334,SNR=6.4
F57A Harrington 92.72 23 P **P 03 41 37.2 +0.6**
baz=333
ORIO Orleans, Innes 92.77 24 P **P 03 41 37.4 +0.6**
baz=332,SNR=12
D61A St Aubert, Com 92.82 20 P **P 03 41 37.8 +0.8**
baz=336
FVM French Village 92.83 38 IAmb IAmb 03 41 39.4
comp=Z,27nm,0.8s
U40A Yellville 92.85 40 P **P 03 41 38.2 +0.8**
baz=320,SNR=49
D60A Saint Jean D'O 92.88 21 P **P 03 41 38.1 +0.9**
baz=336,SNR=12
F58A St-Lin Laurent 92.95 23 P **P 03 41 38.5 +0.9**
baz=333
H55A Tweed 92.99 26 P **P 03 41 38.6 +0.7**
baz=331,SNR=8.7
I55A Frankford 93.11 26 P **P 03 41 38.9 +0.5**
baz=330
E60A Ste Agathe de 93.22 21 P **P 03 41 39.8 +0.9**
baz=335,SNR=7.2
T42A Van Buren 93.23 39 IAmb IAmb 03 41 40.6
comp=Z,20nm,0.9s
T42A IAMs_20 IAMs_20 04 17 50.9
comp=Z,422nm,20.0s
W39A Magazine 93.24 41 P **P 03 41 40.2 +1.0**
baz=319,SNR=9.3
W39A Magazine 93.24 41 IAmb IAmb 03 41 41.4
comp=Z,20nm,1.1s
D62A Allapoint, All 93.24 19 P **P 03 41 40.1 +1.1**
baz=337,SNR=8.3
D62A Allapoint, All 93.24 19 IAmb IAmb 03 41 41.3
comp=Z,23nm,0.8s
G57A Newington 93.25 24 P **P 03 41 39.9 +0.9**
baz=332,SNR=7.0
JCT Junction City 93.26 48 P **P 03 41 40.6 +1.2**
baz=316,SNR=12
JCT Junction City 93.26 48 IAmb IAmb 03 41 41.2
comp=Z,22nm,0.8s
H56A Elgin 93.28 25 P **P 03 41 40.0 +0.8**
baz=332
F59A Saint Guilaume 93.28 22 P **P 03 41 40.3 +1.2**
baz=334,SNR=8.4
F60A Warwick 93.43 22 P **P 03 41 40.8 +0.9**
baz=335
E61A Lac Etchemin 93.44 21 P **P 03 41 41.1 +1.1**
baz=336,SNR=8.0
G58A Ormstown 93.52 23 P **P 03 41 41.0 +0.8**
baz=333,SNR=5.8
D63A Stockholm 93.53 19 P **P 03 41 41.5 +1.2**
baz=338,SNR=8.8
E62A Clayton Lake 93.53 20 P **P 03 41 41.1 +0.7**
baz=337,SNR=7.0
E62A Clayton Lake 93.53 20 IAmb IAmb 03 41 42.5
comp=Z,23nm,1.0s
WHTX Lake Whitney, 93.56 46 P **P 03 41 42.0 +1.2**
baz=317
WHTX Lake Whitney, 93.56 46 IAmb IAmb 03 41 43.4
comp=Z,42nm,0.9s
J54A Appleton 93.58 27 P **P 03 41 41.5 +1.0**
baz=330
FCAR Ozark Folk Cen 93.58 40 IAmb IAmb 03 41 42.4
comp=Z,35nm,1.2s
PECO Prince Edward 93.60 26 IAMs_20 IAMs_20 04 19 41.2
comp=Z,397nm,21.0s
H57A Richville 93.69 25 P **P 03 41 41.7 +0.7**
baz=332,SNR=8.1
F61A St Evariste 93.71 21 P **P 03 41 42.7 +1.6**
baz=336,SNR=17
BLO Bloomington 93.74 34 IAmb IAmb 03 41 43.6
comp=Z,36nm,1.1s
PBMO Poplar Bluff 93.76 38 IAmb IAmb 03 41 43.7
comp=Z,39nm,0.9s
PBMO IAMs_20 IAMs_20 04 21 53.9
comp=Z,346nm,20.0s
FURI Furi 93.79 284 P **P 03 41 41.2 -1.2**
FURI IAmb IAmb 03 41 45.9
comp=Z,51nm,1.1s
LONY Lake Ozonia 93.81 24 P **P 03 41 42.3 +0.7**
baz=333
LONY Lake Ozonia 93.81 24 IAMs_20 IAMs_20 04 26 07.7
comp=Z,621nm,22.0s
MIAR Mount Ida 93.84 42 P **P 03 41 43.0 +1.0**
baz=319,SNR=32
MIAR Mount Ida 93.84 42 IAmb IAmb 03 41 45.1
comp=Z,30nm,0.8s
M51A Elyria 93.84 30 P **P 03 41 42.4 +0.5**
baz=327
G59A Clarenceville 93.85 23 P **P 03 41 42.7 +0.9**
baz=334,SNR=6.6

J55A	Hilton baz=330	93.89	27	P	P	03 41 42.7 +0.7
O49A	Covington comp=Z,28nm,0.8s	93.89	32	IAmb	IAmb	03 41 44.1
PQI	Presque Isle comp=Z,34nm,0.8s	93.89	19	IAmb	IAmb	03 41 44.0
WHAR	Wooly Hollow comp=Z,36nm,1.0s	93.96	40	IAmb	IAmb	03 41 44.4
P48A	Milroy comp=Z,21nm,1.1s	94.00	34	IAmb	IAmb	03 41 44.5
M52A	Chesterland baz=328	94.01	30	P	P	03 41 43.5 +0.9
E63A	Oxbow baz=337,SNR=8.5	94.02	19	P	P	03 41 43.6 +1.0
E63A	Oxbow comp=Z,36nm,1.0s	94.02	19	IAmb	IAmb	03 41 44.6
ERPA	Erie baz=329	94.06	29	P	P	03 41 43.9 +1.0
W41B	Gary Mavity, V baz=320	94.07	40	P	P	03 41 43.6 +0.6
F62A	Pittston Farm, baz=336,SNR=16	94.07	20	P	P	03 41 44.2 +1.4
F62A	Pittston Farm, comp=Z,42nm,0.9s	94.07	20	IAmb	IAmb	03 41 45.5
H59A	Cadyville baz=333,SNR=7.2	94.08	23	P	P	03 41 43.8 +0.9
L53A	Girard baz=329	94.09	29	P	P	03 41 44.1 +1.1
G60A	Masonville baz=334	94.10	22	P	P	03 41 43.5 +0.5
N51A	Ashland baz=327	94.11	31	P	P	03 41 43.7 +0.6
H58A	Gabriels baz=333,SNR=9.5	94.13	24	P	P	03 41 43.9 +0.8
K54A	Basiliko Farm, baz=330	94.13	28	P	P	03 41 44.2 +1.0
E64A	Bridgewater baz=338,SNR=11	94.18	19	P	P	03 41 44.4 +1.1
G61A	St-Isidore-de- baz=335,SNR=15	94.18	22	P	P	03 41 44.8 +1.5
L54A	Sinclairville baz=329	94.22	28	P	P	03 41 44.8 +1.2
J56A	Wolcott baz=331	94.22	26	P	P	03 41 44.2 +0.7
P49A	Miami Univ. Ec baz=325,SNR=13	94.26	33	P	P	03 41 44.7 +0.9
K55A	Perry baz=330	94.26	27	P	P	03 41 44.3 +0.5
X40A	Basin Creek Fa baz=320,SNR=7.8	94.28	41	P	P	03 41 44.9 +0.9
UALR	University of comp=Z,580nm,22.0s	94.32	41	IAMs_20	IAMs_20	04 18 45.9
WVNY	West Valley, N comp=Z,15nm,0.8s	94.34	28	IAmb	IAmb	03 41 45.9
435B	Jarrell baz=317	94.36	47	P	P	03 41 45.4 +1.0
435B	Jarrell comp=Z,17nm,0.8s	94.36	47	IAmb	IAmb	03 41 47.5
M53A	WI Miller and baz=328	94.36	29	P	P	03 41 45.1 +0.8
J57A	Williamstown baz=332,SNR=5.8	94.41	25	P	P	03 41 45.4 +1.0
J57A	Williamstown comp=Z,17nm,0.9s	94.41	25	IAmb	IAmb	03 41 46.0
ACSO	Alum Creek Sta baz=327,SNR=17	94.43	32	P	P	03 41 45.6 +1.0
H60A	Morristown baz=334,SNR=6.0	94.47	23	P	P	03 41 46.0 +1.3
N52A	McGinn's Farm, baz=328	94.48	30	P	P	03 41 45.4 +0.6
F63A	Nahmakanta, Br baz=337,SNR=7.3	94.49	20	P	P	03 41 45.8 +1.1
F63A	Nahmakanta, Br comp=Z,29nm,1.1s	94.49	20	IAmb	IAmb	03 41 47.2
I58A	Old Forge baz=332	94.51	25	P	P	03 41 45.5 +0.6
G62A	West of Eustis baz=336,SNR=10	94.53	21	P	P	03 41 46.3 +1.4
G62A	West of Eustis comp=Z,24nm,0.9s	94.53	21	IAmb	IAmb	03 41 47.2
F64A	Sherman baz=338,SNR=7.1	94.55	19	P	P	03 41 46.1 +1.1
F64A	Sherman comp=Z,19nm,0.8s	94.55	19	IAmb	IAmb	03 41 47.3
K56A	Middlesex baz=331	94.56	27	P	P	03 41 46.1 +1.0
L55A	Hinsdale baz=330	94.59	28	P	P	03 41 46.3 +1.0
GNAR	Gosnell comp=Z,418nm,21.0s	94.61	39	IAMs_20	IAMs_20	04 18 11.2
WCI	Wyandotte Cave	94.61	35	P	P	03 41 45.2 -0.2
WCI	comp=Z,40nm,0.8s			pmax	pmax	
WCI	Wyandotte Cave baz=324	94.61	35	P	P	03 41 46.4 +1.0
WCI	Wyandotte Cave	94.61	35	P	P	03 41 45.2 -0.2
VT1	Waterbury comp=Z,19nm,1.0s	94.66	23	IAmb	IAmb	03 41 48.7
O51A	Pataskala baz=327,SNR=6.9	94.66	31	P	P	03 41 46.7 +1.0
J58A	Remsen baz=332,SNR=5.3	94.69	25	P	P	03 41 46.7 +0.9
M54A	Oil Creek Stat baz=329	94.70	29	P	P	03 41 47.1 +1.2
H61A	Lyndonville baz=335,SNR=15	94.73	22	P	P	03 41 47.7 +1.7
WLAR	White Oak Lake comp=Z,36nm,0.9s	94.74	42	IAmb	IAmb	03 41 49.6
I59A	Olmsteadville baz=333,SNR=5.8	94.78	24	P	P	03 41 47.1 +1.0
K57A	Scipio Center baz=331	94.82	26	P	P	03 41 46.7 +0.4
N53A	Lisbon baz=328,SNR=5.3	94.83	30	P	P	03 41 47.5 +1.1
N53A	Lisbon comp=Z,23nm,0.8s	94.83	30	IAmb	IAmb	03 41 48.5
PKME	Peaks-Kenny Pk baz=337,SNR=6.6	94.84	20	P	P	03 41 48.0 +1.7
PKME	Peaks-Kenny Pk comp=Z,23nm,0.9s	94.84	20	IAmb	IAmb	03 41 49.0
J59A	Piesco baz=333,SNR=7.3	94.87	24	P	P	03 41 47.3 +0.7
G63A	Kingsbury baz=336,SNR=12	94.89	21	P	P	03 41 48.2 +1.6
I60A	Shoreham baz=334,SNR=7.5	94.93	23	P	P	03 41 47.9 +1.2
H62A	Milan baz=335,SNR=16	94.93	22	P	P	03 41 48.2 +1.4
L56A	Greenwood baz=330,SNR=6.6	94.96	27	P	P	03 41 48.0 +0.9
LBNH	Lisbon baz=335	95.00	22	P	P	03 41 48.5 +1.4
G64A	Maxfield baz=337,SNR=14	95.00	20	P	P	03 41 48.4 +1.3
O52A	Adamsville baz=327,SNR=9.0	95.01	31	P	P	03 41 48.2 +1.0
O52A	Adamsville comp=Z,24nm,0.8s	95.01	31	IAmb	IAmb	03 41 49.1
O52A	comp=Z,387nm,21.0s			IAMs_20	IAMs_20	04 15 02.0
P51A	Williamsport baz=326,SNR=10	95.02	32	P	P	03 41 47.8 +0.5
P51A	Williamsport comp=Z,32nm,0.8s	95.02	32	IAmb	IAmb	03 41 48.9
833A	Chaparral WMA, baz=316	95.04	50	P	P	03 41 49.4 +1.8
833A	Chaparral WMA, comp=Z,27nm,1.1s	95.04	50	IAmb	IAmb	03 41 50.6
N54A	Moraine State baz=329,SNR=6.2	95.04	29	P	P	03 41 48.5 +1.1
N54A	Moraine State comp=Z,18nm,0.8s	95.04	29	IAmb	IAmb	03 41 49.5
KEST	Kesra comp=Z,16nm,1.0s,baz=13,slow=1.5,SNR=12	95.05	322	P	P	03 41 47.5 -0.1
KEST	comp=Z,12nm,0.9s,baz=294,slow=1.9,SNR=5.5			PP	PP	03 45 36.8 0.0
M55A	Ridgway baz=330	95.08	28	P	P	03 41 48.8 +1.2
M55A	Ridgway comp=Z,15nm,0.9s	95.08	28	IAmb	IAmb	03 41 55.7
K58A	Earlville baz=332,SNR=7.4	95.10	25	P	P	03 41 48.7 +1.0
K58A	Earlville comp=Z,14nm,0.9s	95.10	25	IAmb	IAmb	03 41 49.3
O53A	New Philadelph baz=328,SNR=6.9	95.15	30	P	P	03 41 48.9 +0.9
O53A	New Philadelph comp=Z,28nm,0.8s	95.15	30	IAmb	IAmb	03 41 49.9
I61A	Oroboro, Fairl baz=334,SNR=6.9	95.19	23	P	P	03 41 49.7 +1.7
P52A	Corning baz=327,SNR=8.9	95.29	31	P	P	03 41 49.2 +0.6
P52A	Corning comp=Z,23nm,0.8s	95.29	31	IAmb	IAmb	03 41 50.1
M56A	Emporium baz=330,SNR=6.3	95.29	28	P	P	03 41 49.4 +0.9
M56A	Emporium comp=Z,16nm,0.9s	95.29	28	IAmb	IAmb	03 41 50.7
L57A	Andrews Acres baz=331	95.34	27	P	P	03 41 49.8 +1.1
K59A	Cooperstown baz=332,SNR=8.3	95.36	25	P	P	03 41 49.8 +0.9
G65A	Princeton baz=338,SNR=7.1	95.38	19	P	P	03 41 50.1 +1.3
G65A	Princeton comp=Z,33nm,0.9s	95.38	19	IAmb	IAmb	03 41 51.3
WVL	Waterville comp=Z,17nm,0.9s	95.38	21	IAmb	IAmb	03 41 50.8
J60A	Lant Hill Farm baz=334	95.42	24	P	P	03 41 50.0 +1.0
H64A	Troy baz=337,SNR=5.2	95.44	20	P	P	03 41 50.4 +1.4
R50A	Paris comp=Z,26nm,0.9s	95.46	33	IAmb	IAmb	03 41 51.4
LMN	Caledonia Moun comp=Z,33nm,0.8s	95.46	17	IAmb	IAmb	03 41 51.4
BINY	Binghamton baz=332,SNR=5.2	95.47	26	P	P	03 41 50.1 +0.8
BINY	Binghamton comp=Z,10nm,0.8s	95.47	26	IAmb	IAmb	03 41 52.5
I62A	Tamworth baz=335	95.51	22	P	P	03 41 50.8 +1.3
O54A	Avella baz=328,SNR=11	95.55	30	P	P	03 41 50.9 +1.2
O54A	Avella comp=Z,26nm,0.8s	95.55	30	IAmb	IAmb	03 41 51.9
WVT	Waverly	95.56	37	P	P	03 41 50.1 +0.3
WVT	comp=Z,16nm,0.8s			pmax	pmax	
WVT	Waverly baz=323	95.56	37	P	P	03 41 50.6 +0.7
WVT	Waverly	95.56	37	P	P	03 41 50.1 +0.3
WVT	comp=Z,16nm,0.8s			IAmb	IAmb	03 41 51.8
I63A	Otisfield baz=336,SNR=12	95.58	22	P	P	03 41 51.6 +1.8
I63A	Otisfield comp=Z,44nm,1.1s	95.58	22	IAmb	IAmb	03 41 52.9
N55A	Marion Center baz=329,SNR=6.6	95.59	29	P	P	03 41 50.8 +0.9
J61A	Chester baz=334	95.61	23	P	P	03 41 51.2 +1.3
GGN	Saint George comp=Z,17nm,0.8s	95.64	19	IAmb	IAmb	03 41 52.1
H65A	Eastbrook baz=338,SNR=8.4	95.66	20	P	P	03 41 51.3 +1.2
L58A	Harry Jones Me baz=332,SNR=7.5	95.66	26	P	P	03 41 51.3 +1.1
W45A	Hickory Valley comp=Z,41nm,1.1s	95.66	38	IAmb	IAmb	03 41 52.2
P53A	Whipple baz=328,SNR=6.7	95.72	31	P	P	03 41 51.5 +1.0
P53A	Whipple comp=Z,18nm,0.8s	95.72	31	IAmb	IAmb	03 41 52.5
N56A	West Decatur baz=330	95.74	28	P	P	03 41 51.4 +0.8
FFD	Franklin Falls comp=Z,19nm,1.1s	95.78	23	IAmb	IAmb	03 41 53.0
Q52A	Bidwell baz=327	95.79	32	P	P	03 41 51.3 +0.4
L59A	Walton baz=332,SNR=12	95.81	25	P	P	03 41 51.8 +0.9
L59A	Walton comp=Z,17nm,0.8s	95.81	25	IAmb	IAmb	03 41 53.9
M57A	Sunshine Farm, baz=331,SNR=9.5	95.81	27	P	P	03 41 51.8 +0.9
M57A	Sunshine Farm, comp=Z,20nm,0.8s	95.81	27	IAmb	IAmb	03 41 53.2
H66A	Whiting baz=338	95.83	19	P	P	03 41 51.9 +1.1
EMMW	East Machias comp=Z,22nm,0.9s	95.86	19	IAmb	IAmb	03 41 53.3
J62A	Henniker baz=335	95.95	23	P	P	03 41 53.2 +1.7
O55A	Ligonier baz=329	95.96	29	P	P	03 41 52.3 +0.7
I64A	Boothbay baz=336	95.98	21	P	P	03 41 52.5 +1.0
K61A	Williamstown baz=334	95.98	24	P	P	03 41 52.8 +1.2
P54A	Burton baz=328,SNR=11	96.00	30	P	P	03 41 52.6 +0.8
M58A	Price's Panora baz=331,SNR=5.3	96.03	27	P	P	03 41 52.7 +0.9
OXF	Oxford baz=322,SNR=7.2	96.05	39	P	P	03 41 52.7 +0.6
OXF	Oxford comp=Z,34nm,1.1s	96.05	39	IAmb	IAmb	03 41 53.9
J63A	Strafford baz=335,SNR=5.2	96.13	22	P	P	03 41 53.4 +1.1
SSPA	Standing Stone baz=330	96.14	28	P	P	03 41 53.4 +1.1
SSPA	Standing Stone	96.14	28	P	P	03 41 52.8 +0.4
N57A	Milroy baz=330,SNR=6.3	96.16	28	P	P	03 41 53.6 +1.1
O56A	Blue Knob Stat baz=330,SNR=5.5	96.19	29	P	P	03 41 53.8 +1.1
O56A	Blue Knob Stat comp=Z,11nm,0.8s	96.19	29	IAmb	IAmb	03 41 54.7
Q53A	Leroy baz=328,SNR=10	96.19	31	P	P	03 41 53.8 +1.1
MCWV	Mont Chateau baz=329	96.21	30	P	P	03 41 53.9 +1.2
M59A	Waymart baz=332	96.25	26	P	P	03 41 53.8 +0.9
L60A	Shokan baz=333	96.27	25	P	P	03 41 53.7 +0.7
L61A	Hillsdale 1, H baz=333	96.31	24	P	P	03 41 53.8 +0.7
CLTN	Cedars of Leba comp=Z,20nm,0.8s	96.32	36	IAmb	IAmb	03 41 55.3
K62A	Royalston baz=334	96.32	23	P	P	03 41 53.6 +0.5
P55A	Reedsville baz=329,SNR=6.5	96.35	30	P	P	03 41 54.4 +1.0
V48A	Smith Brothers comp=Z,21nm,0.9s	96.36	37	IAmb	IAmb	03 41 55.2
Q54A	Coxs Mills baz=328	96.38	31	P	P	03 41 54.6 +1.1
Q54A	Coxs Mills comp=Z,17nm,0.7s	96.38	31	IAmb	IAmb	03 41 55.7
N58A	Sunbury baz=331	96.40	27	P	P	03 41 54.4 +0.8
R53A	Hurricane baz=327	96.46	32	P	P	03 41 54.6 +0.8
Y45A	Yeager Farm, C comp=Z,19nm,0.8s	96.49	40	IAmb	IAmb	03 41 55.9
K63A	Dunstable baz=335	96.53	23	P	P	03 41 54.5 +0.5
O57A	Amberson baz=330	96.60	28	P	P	03 41 55.3 +0.8
N59A	State Game Lan baz=332	96.68	26	P	P	03 41 55.9 +1.0
Q55A	Buckhannon baz=328	96.68	30	P	P	03 41 55.9 +1.0
HRV	Adam Dziewonsk baz=335	96.68	23	P	P	03 41 56.5 +1.7
PBRG	Braganca comp=Z,35nm,1.1s	96.71	336	eP	P	03 41 54.9 -0.1
M60A	Port Jervis baz=333	96.72	25	P	P	03 41 56.0 +1.0
P56A	Dayton Farm, R baz=329,SNR=7.9	96.74	29	P	P	03 41 56.3 +1.1
WES	Weston comp=Z,16nm,1.1s	96.87	23	IAmb	IAmb	03 41 57.5
HAL	Halifax comp=Z,306nm,20.0s	96.89	17	IAMs_20	IAMs_20	04 17 46.5
O58A	Lewisberry baz=331	96.95	28	P	P	03 41 56.7 +0.7
N60A	Cedar Hill Far baz=332	96.96	26	P	P	03 41 57.1 +1.0
R54A	Victor baz=328,SNR=5.4	96.99	31	P	P	03 41 57.1 +0.7
Q56A	Snyder Ridge, baz=329	97.00	30	P	P	03 41 57.3 +0.9
M61A	Granite Spring baz=333	97.03	25	P	Pdif	03 41 57.3 +0.8
PGAV	Gavieira, Arco	97.07	337	eP	Pdif	03 41 56.8 0.0
P57A	Homestead Farm baz=330	97.08	29	P	Pdif	03 41 57.4 +0.6
S54A	Dingess, Beckl baz=328	97.18	32	P	Pdif	03 41 57.9 +0.6
S54A	Dingess, Beckl comp=Z,15nm,0.7s	97.18	32	IAmb	IAmb	03 41 59.0
SWET	Sewanee comp=Z,27nm,1.0s	97.21	36	IAmb	IAmb	03 41 58.8
PCAB	Cabril comp=Z,60nm,1.7s	97.22	336	eP	Pdif	03 41 57.7 +0.3
TZTN	Tazewell baz=326,SNR=10.0	97.24	34	P	Pdif	03 41 58.4 +0.9
TZTN	Tazewell comp=Z,18nm,0.8s	97.24	34	IAmb	IAmb	03 41 59.4
R55A	Marlinton baz=328,SNR=8.8	97.27	31	P	Pdif	03 41 58.5 +0.8
R55A	Marlinton comp=Z,18nm,0.8s	97.27	31	IAmb	IAmb	03 41 59.7
Q57A	Strasburg baz=330	97.32	29	P	Pdif	03 41 57.9 +0.1
T53A	Wise baz=327	97.33	33	P	Pdif	03 41 58.9 +0.9
P58A	Pank, Wackersv baz=331	97.36	28	P	Pdif	03 41 58.7 +0.8
MVO	Moncorvo comp=Z,40nm,1.2s	97.38	335	eP	P	03 41 58.0 -0.1
R56A	Bull Pasture M baz=329	97.46	30	P	Pdif	03 41 59.0 +0.4
V51A	Loudon comp=Z,19nm,0.8s	97.48	35	IAmb	IAmb	03 42 00.3
PVRL	Vila Real	97.51	336	eP	P	03 41 58.4 -0.2
S55A	Lewisburg baz=328,SNR=5.5	97.54	31	P	Pdif	03 41 59.6 +0.7
ES18	SONSECA Array comp=Z,523nm,20.0s	97.58	333	IAMs_20	IAMs_20	04 28 42.7
ES02	SONSECA Array comp=Z,533nm,20.0s	97.60	333	IAMs_20	IAMs_20	04 27 58.3
ES01	SONSECA Array comp=Z,312nm,20.0s	97.61	333	IAMs_20	IAMs_20	04 11 34.6
ES16	SONSECA Array comp=Z,529nm,19.0s	97.61	333	IAMs_20	IAMs_20	04 28 41.6
ESDC	Sonseca Array comp=Z,4.7nm,1.0s,baz=16,slow=3.9,SNR=14	97.61	333	P	P	03 41 58.7 -0.4
ESDC				PP	PP	03 45 58.3 +2.0
ESDC	comp=Z,12nm,1.1s,baz=25,slow=7.2,SNR=9.6			LR	LR	04 29 06.1
ESDC	comp=Z,509nm,21.9s,baz=35,slow=37 Sonseca Array	97.61	333	P	P	03 41 58.5 -0.6
ES13	SONSECA Array comp=Z,552nm,19.0s	97.63	333	IAMs_20	IAMs_20	04 28 40.2
ES12	SONSECA Array comp=Z,451nm,20.0s	97.64	333	IAMs_20	IAMs_20	04 29 38.3
Q58A	Fox Den Farm, baz=330	97.68	29	P	Pdif	03 41 59.8 +0.4
T54A	Tazewell baz=327,SNR=9.4	97.68	32	P	Pdif	03 42 00.4 +0.8
CPCT	Cooper Cave comp=Z,15nm,0.9s	97.69	35	IAmb	IAmb	03 42 01.2
P60A	Greenville baz=332	97.70	27	P	Pdif	03 41 59.6 +0.2
V52A	Sevierville comp=Z,14nm,0.7s	97.80	34	IAmb	IAmb	03 42 01.9
TKL	Tuckaleechee C comp=Z,19nm,0.7s	97.87	35	IAmb	IAmb	03 42 02.1
R57A	Stanardsville baz=330	97.91	30	P	Pdif	03 42 01.3 +0.9
FPAL	Fort Paine comp=Z,434nm,21.0s	97.92	36	IAMs_20	IAMs_20	04 15 31.6
T55A	Pulaski baz=328,SNR=8.8	97.98	32	P	Pdif	03 42 01.8 +1.0
S56A	Natural Bridge baz=329	98.01	31	P	Pdif	03 42 01.5 +0.5
U54A	Nelsons Funny baz=327,SNR=5.2	98.03	33	P	Pdif	03 42 01.9 +0.7
U54A	Nelsons Funny comp=Z,15nm,0.8s	98.03	33	IAmb	IAmb	03 42 02.8
BLA	Blacksburg baz=328	98.05	31	P	Pdif	03 42 01.9 +0.7
BLA	Blacksburg comp=Z,14nm,0.8s	98.05	31	IAmb	IAmb	03 42 03.0
R58A	Rapidan baz=330	98.11	29	P	Pdif	03 42 02.3 +1.0
S57A	Dark Hollow, R baz=329	98.19	30	P	Pdif	03 42 02.9 +1.2
X51A	Calhoun comp=Z,353nm,20.0s	98.25	36	IAMs_20	IAMs_20	04 15 35.5
CART	Cartagena comp=Z,513nm,22.0s	98.26	330	IAMs_20	IAMs_20	04 30 18.9
W52A	Murphy comp=Z,374nm,20.0s	98.26	35	IAMs_20	IAMs_20	04 16 09.5
T56A	Rocky Mt baz=328,SNR=6.8	98.37	31	P	Pdif	03 42 03.1 +0.6
U55A	TA2, Sparta baz=328	98.38	32	P	Pdif	03 42 03.6 +0.9
V54A	Nebo baz=327,SNR=5.6	98.59	33	P	Pdif	03 42 04.1 +0.5
COI	Coimbra comp=Z,600nm,20.0s	98.70	336	IAMs_20	IAMs_20	04 31 18.3
COI	Coimbra comp=Z,78nm,1.4s	98.70	336	eP	Pdif	03 42 04.2 +0.3
PCBR	Castelo Branco	98.72	335	eP	Pdif	03 42 04.3 +0.3
T57A	Hurt baz=329,SNR=5.5	98.72	31	P	Pdif	03 42 04.8 +0.7
U56A	King baz=328	98.80	32	P	Pdif	03 42 05.1 +0.6
U56A	King comp=Z,9.1nm,0.9s	98.80	32	IAmb	IAmb	03 42 05.7
BG3	Lake Jocassee comp=Z,14nm,0.7s	98.80	34	IAmb	IAmb	03 42 06.6
V55A	Taylorsville baz=328	98.86	33	P	Pdif	03 42 04.9 +0.2
PMRV	Marv??o	99.06	335	eP	Pdif	03 42 05.4 -0.2
W54A	Cherokee Point baz=327,SNR=6.3	99.06	34	P	Pdif	03 42 06.3 +0.6
U57A	Blanch baz=329,SNR=7.8	99.17	31	P	Pdif	03 42 07.0 +0.9
V56A	Mocksville baz=328	99.20	32	P	Pdif	03 42 07.1 +0.9
KMSC	Kings Mountain baz=327,SNR=6.6	99.40	33	P	Pdif	03 42 07.7 +0.6
X54A	Belton baz=327,SNR=5.8	99.43	34	P	Pdif	03 42 08.3 +1.1
T59A	Double "B" Far baz=330	99.44	30	P	Pdif	03 42 07.9 +0.6
V57A	Coltrane Farms baz=328	99.45	32	P	Pdif	03 42 07.9 +0.5
PSBE	So Bento	99.45	336	eP	Pdif	03 42 07.5 +0.2
U58A	Oxford baz=329,SNR=5.4	99.53	31	P	Pdif	03 42 08.3 +0.6
PMTG	Montargil	99.66	335	eP	Pdif	03 42 07.3 -0.9
W56A	Indian Trail baz=328	99.74	33	P	Pdif	03 42 09.4 +0.8
V58A	Windy Hill, Pi baz=329	99.81	31	P	Pdif	03 42 09.7 +0.8
X55A	Gracelyn & Ava baz=327	99.83	34	P	Pdif	03 42 09.8 +0.8
GOGA	Godfrey comp=Z,536nm,22.0s	99.86	36	IAMs_20	IAMs_20	04 14 05.0
U59A	Littleton baz=330	99.88	30	P	Pdif	03 42 10.5 +1.3
W57A	Gilead baz=328,SNR=6.4	99.98	32	P	Pdif	03 42 10.4 +0.7
X56A	White Oak baz=328	100.08	33	P	Pdif	03 42 11.0 +0.9
Y55A	Saluda baz=327,SNR=5.5	100.17	34	P	Pdif	03 42 11.8 +1.2
V59A	Middlesex baz=330	100.20	31	P	Pdif	03 42 11.4 +0.7
W58A	Raeford baz=329,SNR=5.6	100.42	32	P	Pdif	03 42 12.4 +0.8
X57A	Johnson Farm, baz=328	100.52	33	P	Pdif	03 42 13.0 +0.9
V60A	Jim Taylor Roa baz=330	100.60	30	P	Pdif	03 42 13.3 +0.9
PNCL	Nicolau / Gran	100.63	335	eP	Pdif	03 42 13.0 +0.5
W59A	Clinton baz=329	100.63	31	P	Pdif	03 42 13.7 +1.1
X58A	Rowland baz=329	100.77	32	P	Pdif	03 42 14.1 +0.9
KMBO	Kilima Mbogo comp=Z,2.6nm,0.9s,baz=50,slow=11,SNR=4.7	100.90	277	P	Pdif	03 42 15.4 +1.0
KMBO	comp=Z,1.9nm,0.5s,baz=40,slow=12,SNR=6.0			PP	PP	03 46 22.5 -0.5
W60A	Pink Hill baz=330	101.03	31	P	Pdif	03 42 15.1 +0.7
SFS	San Fernando	101.27	333	IAMs_20	IAMs_20	04 27 54.5

comp=Z,378nm,20.0s
TIGA Tifton 101.42 37 P **Pdif 03 42 17.8 +1.6**
baz=326
TEIG Tepich 107.80 47 IAMs_20 IAMs_20 04 36 47.7
comp=Z,336nm,21.0s
VNDA Vanda 114.12 175 PKP **PKiKP 03 47 03.3 +1.0**
comp=Z,1.1nm,0.6s,baz=319,slow=4.9,SNR=7.4
VNDA PKPbc **PKKPbc 03 57 44.9 -0.3**
comp=Z,0.8nm,0.6s,baz=141,slow=1.2,SNR=3.9
LSZ Lusaka 116.30 270 PKIKP **PKPdf 03 47 07.8 -0.6**
LSZ Lusaka 116.30 270 PKPdf 03 47 07.8 -0.6
ESPN Las Esperanzas 116.40 50 IAMs_20 IAMs_20 04 21 50.9
comp=Z,470nm,21.0s
TORD Torodi Ar. Bea 117.14 313 PKP **PKPdf 03 47 09.8 -0.2**
comp=Z,6.0nm,0.6s,baz=1.2,slow=2.3,SNR=14
TORD PP **PP 03 48 17.1 -2.7**
comp=Z,23nm,1.1s,baz=34,slow=7.3,SNR=9.6
TORD PKKPab **PKKPab 03 57 41.2 +0.9**
comp=Z,1.9nm,0.6s,baz=235,slow=3.1,SNR=6.2
TORD Torodi Ar. Bea 117.14 313 PKPdf **PKPdf 03 47 09.3 -0.7**
MAW Mawson 118.15 205 PKP **PKiKP 03 47 11.2 +0.9**
comp=Z,3.3nm,0.6s,baz=84,slow=1.1,SNR=18
MAW PKKPab **PKKPbc 03 57 30.8 0.0**
comp=Z,4.6nm,0.8s,baz=260,slow=7.0,SNR=12
MAW Mawson 118.15 205 PKIKP **PKiKP 03 47 11.5 +1.2**
MAW Mawson 118.15 205 PKPdf **PKiKP 03 47 11.5 +1.2**
OBIP Obispado Ponce 120.61 30 IAMs_20 IAMs_20 04 33 22.0
comp=Z,225nm,20.0s
SKI Saint Kitts 122.72 26 IAMs_20 IAMs_20 04 36 59.4
comp=Z,400nm,21.0s
SJCC San Jacinto, C 123.58 43 *eP* **PKiKP 03 47 23.4 +0.7**
MOTC Monterie, Cord 124.22 44 *eP* **PKiKP 03 47 24.2 +0.2**
SMLC San Martn de 125.09 42 *eP* **PKPdf 03 47 25.4 +0.1**
UREC San Jos de Ur 125.13 45 *eP* **PKiKP 03 47 25.8 0.0**
BOSA Boshof 125.21 258 PKP **PKiKP 03 47 25.8 +0.2**
comp=Z,16nm,0.8s,baz=61,slow=1.3,SNR=28
DBBC Dabeiba 125.34 46 *eP* **PKiKP 03 47 26.8 +0.6**
ZARC Zaragoza, Cauc 125.73 44 *eP* **PKiKP 03 47 27.3 +0.4**
QSPA South Pole Qui 125.81 180 PKPdf 03 47 24.9 -0.2
OCAC Ocana 125.97 42 *eP* **PKiKP 03 47 28.2 +0.6**
DBIC Dimbokro 126.15 315 PKP **PKPdf 03 47 27.3 0.0**
comp=Z,12nm,0.6s,baz=36,slow=2.0,SNR=27
TIC Toumodi 126.26 315 *eP* **PKiKP 03 47 32.1 +4.1**
KIC Kosan Boka 126.33 314 *eP* **PKPdf 03 47 27.4 -0.3**
comp=Z,70nm,1.1s
CBOC Ciudad Bolivar 126.38 46 *eP* **PKiKP 03 47 28.9 +0.4**
HELC Santa Helena 126.40 46 *eP* **PKPdf 03 47 27.0 -1.3**
LIC Lamto 126.61 315 *eP* **PKPdf 03 47 27.7 -0.5**
comp=Z,62nm,0.9s
BRRC Barranca, Sant 126.69 43 *eP* **PKiKP 03 47 29.8 +1.0**
PTBC PUERTO BERRIO 126.73 44 *eP* **PKPdf 03 47 28.7 +0.2**
SYO Syowa Base 126.81 206 *eP* **PKPdf PKPdf 03 47 26.4 -0.4**
SYO Syowa Base 126.81 206 *eP* **PKiKP PKiKP 03 47 29.4 +2.1**
SDV Santo Domingo 126.83 39 PKP **PKiKP 03 47 29.6 +0.3**
comp=Z,59nm,0.8s,baz=236,slow=0.5,SNR=7.0
SDV Santo Domingo 126.83 39 *eP* **PKiKP 03 47 29.8 +0.4**
SDV Santo Domingo 126.83 39 PKPdf **PKPdf 03 47 28.1 -0.8**
SDV Santo Domingo 126.83 39 *eP* **PKiKP 03 47 29.7 +0.3**
SACV Santiago Islan 126.91 340 PKPdf **PKiKP 03 47 29.8 +0.5**
TSUM Tsumeb 126.96 272 PKPdf **PKPdf 03 47 27.2 -1.6**
PLMC San Jos del P 126.99 47 *eP* **PKiKP 03 47 30.5 +1.0**
PAMC Pamplona, Colo 127.05 42 *eP* **PKPdf 03 47 29.4 -0.3**
GUY2C Guyana, Caldas 127.27 46 *eP* **PKiKP 03 47 30.5 -0.1**
NORC Norcasia 127.29 46 *eP* **PKPdf 03 47 29.9 +0.3**
BARC Barichara 127.40 43 *eP* **PKiKP 03 47 30.4 -0.2**
SPBC San Pablo de B 127.67 45 *eP* **PKiKP 03 47 31.3 +0.3**
YOTC Yotoco, Valle 127.68 48 *eP* **PKiKP 03 47 31.1 +0.1**
TOLC Tolima 127.81 47 *eP* **PKiKP 03 47 32.1 +0.6**
RUSC La Rusia 128.03 43 *eP* **PKPdf 03 47 31.3 -0.2**
ROSC El Rosal 128.19 46 PKP **PKiKP 03 47 33.6 +1.3**
comp=Z,79nm,1.2s,baz=120,slow=3.8,SNR=21
ROSC El Rosal 128.19 46 PKPdf **PKPdf 03 47 31.2 -0.5**
ORTC Ortega, Tolima 128.40 47 *eP* **PKPdf 03 47 31.9 +0.2**
POPC Popayan, Colom 128.61 50 *eP* **PKiKP 03 47 33.1 +0.1**
BBAC Balboa, Cauca 128.66 51 *eP* **PKPdf 03 47 32.7 +0.3**
CHIC Chingaza 128.70 45 *eP* **PKiKP 03 47 33.4 0.0**
PRAC Prado 128.77 47 *eP* **PKiKP 03 47 32.9 -0.2**
MARP Paez Belalcaza 128.82 49 *eP* **PKiKP 03 47 34.7 +1.2**
PCON Cinco Dias 128.95 50 *eP* **PKiKP 03 47 35.5 +1.4**
SOTA Rioblanco 128.97 50 *eP* **PKiKP 03 47 37.9 +3.9**
VILC Villavicencio, 129.14 45 *eP* **PKiKP 03 47 33.9 0.0**
GCUF Volcan Galeras 129.21 51 *eP* **PKiKP 03 47 35.7 +1.2**
BETC Betania 129.25 48 *eP* **PKiKP 03 47 34.9 +0.8**
OTAV Otavalo 129.25 53 *eP* **PKiKP 03 47 34.7 +0.1**
OTAV Otavalo 129.25 53 PKIKP **PKPdf 03 47 32.6 -1.2**
OTAV Otavalo 129.25 53 PKPdf **PKPdf 03 47 32.6 -1.2**
OTAV Otavalo 129.25 53 *eP* **PKPdf 03 47 33.9 0.0**
GARC Garzon, Huila 129.61 49 *eP* **PKiKP 03 47 35.3 +0.3**
FLOC Florencia 129.99 49 *eP* **PKiKP 03 47 36.1 +0.6**
PTLC Puerto Leguiza 131.62 50 *eP* **PKiKP 03 47 39.1 +0.3**
MDP Montagnes des 137.39 19 PKP **PKiKP 03 47 50.0 -0.5**
comp=Z,9.6nm,0.7s,baz=289,slow=2.0,SNR=7.6
SNAA Sanae 139.47 197 PKPdf PKPdf 03 47 41.9 -8.8
VNA2 Neumayer--Watz 141.05 196 PKPdf **PKPdf 03 47 47.3 -6.2**
VNA3 Neumayer Olymp 141.32 195 PKPdf **PKPdf 03 47 48.0 -5.9**
VNA1 Neumayer--Stat 141.45 196 PKPdf **PKPdf 03 47 48.6 -5.5**
MACA Manacapuru-AM 142.12 35 *eP* **PKPdf 03 47 55.7 -1.5**
MALB Monte Alegre 143.51 24 *eP* PKPbc 03 47 58.0 +1.1
ITTB Itaituba 145.31 28 *eP* **PKPdf 03 48 03.1 +0.4**
TMAB Tom-Au,PA,Br 145.66 14 *eP* **PKPab 03 48 04.6 +0.6**
SAML Samuel 145.78 44 PKP2 **PKPab 03 48 05.0 +0.6**
SAML Samuel 145.78 44 PKPab **PKPab 03 48 05.0 +0.6**
SAML Samuel 145.78 44 *eP* **PKPbc 03 48 04.0 0.0**
NBMO Morrinhos-CE 147.41 360 *eP* **PKPdf 03 48 06.7 +0.4**
PMSA Palmer Station 147.87 161 *eP* **PKPdf 03 48 06.7 +1.3**
NPGB Novo Progresso 147.91 29 *eP* **PKPdf 03 48 07.8 +0.8**
H03N2 Juan Fernandez 148.11 97 T T 06 33 37.8
baz=291,slow=76,SNR=155
H03N3 Juan Fernandez 148.12 97 T T 06 33 38.2
baz=291,slow=76,SNR=153
H03N1 Juan Fernandez 148.12 97 T T 06 33 39.0
baz=291,slow=76,SNR=170
LPAZ La Paz 148.22 59 PKP **PKPdf 03 48 09.8 +1.6**
comp=Z,31nm,0.9s,baz=2.4,slow=2.8,SNR=43
LPAZ PKPbc **PKiKP 03 48 12.8 -0.5**
comp=Z,27nm,0.6s,baz=275,slow=2.9,SNR=66
LPAZ La Paz 148.22 59 PKPbc **PKPbc 03 48 10.3 -1.3**
PRPB Paraua pebas 148.94 19 *eP* **PKPdf 03 48 09.4 +0.6**
RCBR Riachuelo 149.66 352 PKPbc **PKPbc 03 48 15.2 +0.5**
comp=Z,56nm,0.8s,baz=15,slow=0.7,SNR=9.7
RCBR Riachuelo 149.66 352 PKP2 **PKPbc 03 48 13.7 -1.0**
RCBR Riachuelo 149.66 352 PKPbc **PKPbc 03 48 13.7 -1.0**
VILB Vilhena 150.72 43 *eP* **PKPdf 03 48 13.9 +2.3**
CLDB Colider 151.16 33 *eP* **PKPdf 03 48 12.7 +0.4**
LVC Limon Verde 151.63 70 PKPbc **PKiKP 03 48 21.7 +1.8**
comp=Z,46nm,0.9s,baz=303,slow=2.2,SNR=8.5
LVC Limon Verde 151.63 70 PKIKP **PKPdf 03 48 13.5 +0.3**
LVC Limon Verde 151.63 70 PKPdf **PKPdf 03 48 13.4 +0.3**
LVC **PKiKP 03 48 21.1 +1.2**
SMTB Santa Maria do 152.07 16 *eP* **PKPdf 03 48 15.3 +1.7**
SIV San Ignacio 152.62 49 PKP **PKPdf 03 48 15.6 +1.3**
comp=Z,10nm,0.9s,baz=126,slow=1.0,SNR=43
SIV PKPbc **PKiKP 03 48 22.4 +0.8**
comp=Z,74nm,1.0s,baz=322,slow=1.3,SNR=65
LCO Las Campanas 153.32 83 PKIKP **PKiKP 03 48 23.5 +0.4**
LCO Las Campanas 153.32 83 PKPbc **PKiKP 03 48 23.4 +0.4**
PTLB Pontes e Lacer 153.33 45 *eP* **PKPdf 03 48 15.6 +0.3**
PEXB Peixe 155.01 19 *eP* **PKPdf 03 48 18.9 +1.1**
PLCA Paso Flores 155.73 110 PKP **PKPdf 03 48 18.7 +0.6**
comp=Z,5.4nm,1.0s,baz=242,slow=3.1,SNR=8.4
PLCA Paso Flores 155.73 110 *eP* **PKPdf 03 48 18.3 +0.2**
SDBA SAO DESIDERIO 156.05 12 *eP* **PKPdf 03 48 21.6 +2.3**
ARAG Araguaiana, MT 157.18 30 *eP* **PKPdf 03 48 21.9 +1.3**
BDFB Brasilia 158.46 21 PKP **PKPdf 03 48 23.2 +0.9**
comp=Z,4.9nm,1.0s,baz=344,slow=2.0,SNR=4.1
BDFB PKPab **PKPab 03 48 57.9 +0.9**
comp=Z,28nm,1.0s,baz=206,slow=2.4,SNR=16
BDFB Brasilia 158.46 21 PKPab 03 48 55.4 -1.6
JANB Januaria 158.74 11 *eP* **PKPdf 03 48 23.4 +0.8**
AQDB Aquidauana 159.29 46 *eP* **PKPdf 03 48 23.4 +0.3**
MC01 Montes Claros 160.41 11 *eP* **PKPdf 03 48 24.8 +0.3**
IPMB Ipameri, GO 160.60 24 *eP* **PKPdf 03 48 24.8 +0.2**
ITRB Iturama 161.36 32 *eP* **PKPdf 03 48 25.7 +0.3**
NAN01 Guarapari, ES 161.85 0 *eP* **PKPdf 03 48 26.9 +1.0**
CPUP Villa Florida 162.36 61 PKP **PKPdf 03 48 27.1 +0.9**
comp=Z,5.0nm,0.9s,baz=284,slow=3.3,SNR=6.2
CPUP PKPab **PKPab 03 49 14.9 +1.0**
comp=Z,4.3nm,0.7s,baz=293,slow=3.9,SNR=8.6
SJMB Sao Joao De Ma 162.68 4 *eP* **PKPdf 03 48 26.9 +0.2**
BSFB Barra de Sao F 162.82 2 *eP* **PKPdf 03 48 27.2 +0.4**
TRCB Terra Rica 162.86 43 *eP* **PKPdf 03 48 27.8 +1.0**
RIB01 Linhares ES 163.31 1 *eP* **PKPdf 03 48 28.1 +0.8**
FRTB Fartura 164.89 36 *eP* **PKPdf 03 48 30.2 +1.5**
PET01 Itanhaem-SP 166.72 30 *eP* **PKPdf 03 48 30.8 +0.7**
PLTB Pedras Altas 167.97 73 *eP* **PKPdf 03 48 31.7 +0.9**

IDC ***16*** *03:44:13.1±0.6,0.89N±28.30W,h0km, mb4.4/18, mb1 4.6/18,mb1mx4.3/40,mbtmp4.4/18,MS4.4/12, Ms1 4.4/12,ms1mx4.1/29,Error ellipse: s-maj=20.2km s-min=14.4km az=146.0*
NEIC ***16*** *03:44:13.9±0.4,0.9N±0.1×28.46W±0.10,h10km±1km, mb4.9/63,Error ellipse: s-maj=19.5km s-min=14.2km az=137.0*
GCMT ***16*** *03:44:16.9±0.2,1.05N±0.02×28.35W±0.01,h12km, MW5.0/108,Moment Tensor Solution. s28,c32; s108,c163; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.59±.11; Mθθ1.21±.13; Mφφ-0.61±.11; Mrθ-0.60±.34; Mθφ-3.50±.08; Mφr1.64±.34; Best double couple: Mo4.00000×10^16 NP1:φs262.00000°,δ64.00000°, λ-179.00000°. NP2:φs172.00000°,δ89.00000°, λ-26.00000°. Principal axes: T 4.3660, Plg17.0000°, Azm220.0000°; N -0.7330, Plg64.0000°, Azm349.0000°; P -3.6340, Plg19.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 03:44:13.3±0.4,0.91N±0.08×28.44W±0.07,h7km,n150, σ0.92/132,mb4.8/61,MS4.4/11,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.02**	**228**	Pn	**Pn**	**03 46 35.9**	**-2.0**
	2.7nm,0.3s,baz=34,slow=11,SNR=31						
RCBR				Sn	Sn	03 48 20.0	-11
	1.6nm,0.3s,baz=55,slow=3.3,SNR=3.9						
RCBR				LR	LR	03 49 42.1	
	comp=Z,3μm,18.6s,baz=64,slow=33						
SACV	**Santiago Islan**	**14.77**	**19**	Pn	**Pn**	**03 47 40.5**	**-2.4**
ROSB	**Rosrio**	**16.13**	**256**	*eP*	**P**	**03 48 04.9**	**+0.8**
H10N3	**ASCENSION HYDR**	**16.39**	**122**	T	T	04 04 52.4	
	baz=301,slow=74,SNR=452						
H10N2	**ASCENSION HYDR**	**16.39**	**122**	T	T	04 04 49.7	
	baz=301,slow=74,SNR=1185						
H10N1	**ASCENSION HYDR**	**16.41**	**122**	T	T	04 04 49.4	
	baz=301,slow=74,SNR=397						
H10S3	**ASCENSION HYDR**	**16.86**	**126**	T	T	04 05 25.8	
	baz=304,slow=74,SNR=716						
H10S2	**ASCENSION HYDR**	**16.88**	**126**	T	T	04 05 26.0	
	baz=276,slow=74,SNR=152						
GDU01	**Guandu, BA**	**18.25**	**217**	*eP*	**Pn**	**03 48 22.5**	**-4.9**
DBIC	**Dimbokro**	**24.20**	**76**	P	**P**	**03 49 30.8**	**-0.1**
	38nm,0.8s,baz=237,slow=11,SNR=13						
DBIC	**Dimbokro**	**24.20**	**76**	P	**P**	**03 49 29.8**	**-1.1**
BDFB	**Brasilia**	**25.39**	**229**	LR	LR	03 58 44.0	
	comp=Z,2μm,19.3s,baz=85,slow=34						
TOA0	**Torodi Ar. Sit**	**32.23**	**66**	P	**P**	**03 50 40.8**	**-1.9**
TORD	**Torodi Ar. Bea**	**32.23**	**66**	P	**P**	**03 50 42.0**	**-0.6**
	15nm,1.0s,baz=254,slow=8.4,SNR=17						
TORD				LR	LR	04 01 45.1	
	comp=Z,605nm,21.8s,baz=270,slow=33						
TORD	**Torodi Ar. Bea**	**32.23**	**66**	P	**P**	**03 50 40.6**	**-2.0**
H05S1	**Guadeloupe/Mar**	**34.73**	**294**	T	T	04 27 39.8	
	SNR=11						
PSMA	**Santa Maria**	**36.04**	**5**	*eT*	T	04 28 51.8	
PSMN	**Pico do Norte,**	**36.05**	**5**	*eT*	T	04 28 53.5	
SIV	**San Ignacio**	**36.34**	**241**	P	**P**	**03 51 19.5**	**+1.2**
	4.6nm,0.8s,baz=81,slow=6.7,SNR=3.0						
CMLA	**Cha da Macela**	**36.77**	**4**	*eT*	T	04 29 43.6	
GRON	**Grota Negra**	**36.78**	**4**	*eT*	T	04 29 46.0	
BART	**Pico Bartolome**	**36.81**	**4**	*eT*	T	04 29 56.1	
CPUP	**Villa Florida**	**38.86**	**224**	P	**P**	**03 51 40.6**	**+1.1**
	9.7nm,1.1s,baz=48,slow=9.0,SNR=4.5						
CPUP				LR	LR	04 07 31.7	
	comp=Z,2μm,18.1s,baz=58,slow=36						
CPUP	**Villa Florida**	**38.86**	**224**	P	**P**	**03 51 39.8**	**+0.3**
CPUP				IAmb	IAmb	03 51 56.8	
	comp=Z,34nm,1.6s						
TAM	**Tamanrasset**	**39.52**	**54**	P	**P**	**03 51 45.6**	**+0.3**
MTP	**Monte Pirata**	**40.25**	**297**	P	**P**	**03 51 48.6**	**-2.7**
MTP				IAmb	IAmb	03 52 03.2	
	comp=Z,56nm,1.9s						
LPAZ	**La Paz**	**42.74**	**245**	P	**P**	**03 52 13.6**	**+1.2**
	comp=Z,8.2nm,1.1s,baz=44,slow=7.4,SNR=3.9						
LPAZ				LR	LR	04 09 46.7	
	comp=Z,622nm,18.8s,baz=72,slow=36						
LPAZ	**La Paz**	**42.74**	**245**	P	**P**	**03 52 11.7**	**-0.7**
PAB	**San Pablo**	**44.29**	**27**	P	**P**	**03 52 24.5**	**+0.5**
ESDC	**Sonseca Array**	**44.57**	**27**	P	**P**	**03 52 26.7**	**+0.5**
	comp=Z,6.1nm,1.0s,baz=221,slow=8.3,SNR=16						
ESDC	**Sonseca Array**	**44.57**	**27**	P	**P**	**03 52 26.9**	**+0.7**
ESBB	**Sonseca Array**	**44.57**	**27**	P	**P**	**03 52 26.8**	**+0.6**
ESBB				IAmb	IAmb	03 52 28.3	
	comp=Z,23nm,1.4s						
ROSC	**El Rosal**	**45.98**	**276**	LR	LR	04 10 37.3	
	comp=Z,465nm,19.2s,baz=94,slow=34						
KEST	**Kesra**	**49.30**	**41**	P	**P**	**03 53 04.6**	**+1.4**
	comp=Z,5.8nm,1.0s,baz=310,slow=4.2,SNR=10						
KEST	**Kesra**	**49.30**	**41**	P	**P**	**03 53 03.8**	**+0.5**
TSUM	**Tsumeb**	**49.38**	**116**	P	**P**	**03 53 05.4**	**+1.2**
	comp=Z,6.9nm,0.9s,baz=278,slow=9.2,SNR=7.4						
TSUM	**Tsumeb**	**49.38**	**116**	P	**P**	**03 53 04.3**	**0.0**
SSB	**Saint Sauveur**	**52.89**	**29**	P	**P**	**03 53 30.5**	**+0.4**
CLTB	**Caltabellotta**	**52.91**	**41**	P	**P**	**03 53 30.8**	**+0.4**
CLTB				IAmb	IAmb	03 53 34.2	
	comp=Z,24nm,1.2s						
CORL	**Corleone**	**53.14**	**41**	P	**P**	**03 53 32.6**	**+0.6**
CORL				IAmb	IAmb	03 53 49.7	
	comp=Z,21nm,1.1s						
RAFF	**Raffo Rosso**	**53.48**	**42**	P	**P**	**03 53 35.0**	**+0.4**
RAFF				IAmb	IAmb	03 53 46.8	
	comp=Z,19nm,1.0s						
BNI	**Bardonecchia**	**53.78**	**30**	P	**P**	**03 53 37.3**	**+0.6**
CLF	**Chambon-Foret**	**53.93**	**25**	P	**P**	**03 53 38.1**	**+0.5**
CASP	**Castiglione de**	**54.54**	**35**	P	**P**	**03 53 42.7**	**+0.6**
CASP				IAmb	IAmb	03 53 43.6	
	comp=Z,26nm,1.5s						
ZCCA	**Zocca**	**55.59**	**34**	P	**P**	**03 53 50.4**	**+0.6**
AQU	**L'Aquila**	**55.76**	**37**	P	**P**	**03 53 51.6**	**+0.6**
AQU				IAmb	IAmb	03 54 04.1	
	comp=Z,11nm,0.8s						
TIP	**Timpagrande**	**56.11**	**42**	P	**P**	**03 53 54.1**	**+0.4**
TIP				IAmb	IAmb	03 53 55.0	
	comp=Z,15nm,1.4s						
PLCA	**Paso Flores**	**56.40**	**218**	LR	LR	04 18 10.1	
	comp=Z,455nm,18.8s,baz=46,slow=36						
DAVA	**Damuels**	**56.94**	**30**	*i* P	**P**	**03 53 59.5**	**0.0**
	comp=Z,14nm,1.6s						
FETA	**Feichten**	**57.19**	**31**	*i* P	**P**	**03 54 01.2**	**-0.1**
	comp=Z,5.1nm,0.9s						
RETA	**Reutte**	**57.52**	**31**	*i* P	**P**	**03 54 03.4**	**-0.1**
	comp=Z,7.6nm,1.4s						
SQTA	**Sankt Quirin**	**57.57**	**31**	*i* P	**P**	**03 54 03.5**	**-0.4**
	comp=Z,16nm,1.4s						
MOTA	**Moosalm**	**57.59**	**31**	*i* P	**P**	**03 54 04.4**	**+0.3**
	comp=Z,6.8nm,1.1s						
CIMO	**Cimolais**	**57.63**	**32**	P	**P**	**03 54 04.7**	**+0.5**
CIMO				IAmb	IAmb	03 54 07.5	
	comp=Z,15nm,1.4s						
STAL	**STALIGIAL**	**57.74**	**33**	P	**P**	**03 54 05.6**	**+0.6**
WTTA	**Wattenberg**	**57.82**	**31**	*i* P	**P**	**03 54 05.5**	**-0.2**
	comp=Z,5.6nm,0.9s						
WATA	**Walderalm**	**57.83**	**31**	*i* P	**P**	**03 54 06.0**	**+0.2**
	comp=Z,7.1nm,1.0s						
ABTA	**Abfaltersbach**	**57.95**	**32**	*i* P	**P**	**03 54 06.8**	**+0.3**
	comp=Z,17nm,1.4s,SNR=7.8						
ZOU	**Zoufplan**	**58.07**	**33**	P	**P**	**03 54 07.9**	**+0.4**
ZOU				IAmb	IAmb	03 54 14.2	
	comp=Z,15nm,1.3s						
LSZ	**Lusaka**	**58.21**	**109**	P	**P**	**03 54 09.0**	**0.0**
LBTB	**Lobatse**	**58.25**	**120**	P	**P**	**03 54 09.3**	**+0.2**
PRED	**Cave del Predi**	**58.32**	**33**	P	**P**	**03 54 09.8**	**+0.6**
PRED				IAmb	IAmb	03 54 15.1	
	comp=Z,11nm,1.2s						
MYKA	**Terra Mystica**	**58.48**	**33**	*i* P	**P**	**03 54 11.4**	**+1.2**
	comp=Z,7.6nm,1.0s,SNR=5.8						
KBA	**Koelnbreinsper**	**58.60**	**32**	*i* P	**P**	**03 54 11.6**	**+0.4**
	comp=Z,9.6nm,1.3s						
OBKA	**Obir**	**58.90**	**33**	*i* P	**P**	**03 54 15.4**	**+2.1**
	comp=Z,7.7nm,1.2s						
BOSA	**Boshof**	**59.13**	**124**	P	**P**	**03 54 14.6**	**-0.6**
	comp=Z,6.9nm,1.0s,baz=291,slow=6.7,SNR=8.1						
BOSA	**Boshof**	**59.13**	**124**	P	**P**	**03 54 15.3**	**+0.1**
BOSA				IAmb	IAmb	03 54 18.2	
	comp=Z,16nm,1.2s						
SOKA	**Soboth**	**59.27**	**33**	*i* P	**P**	**03 54 16.1**	**+0.3**
	comp=Z,12nm,1.5s,SNR=10.0						
MOA	**Molln**	**59.57**	**32**	*i* P	**P**	**03 54 17.5**	**-0.3**
	comp=Z,6.8nm,1.0s						
ARSA	**Arzberg**	**59.88**	**33**	*i* P	**P**	**03 54 20.1**	**+0.2**
	comp=Z,8.1nm,1.5s						
GEC2	**GERESS Array S**	**59.89**	**31**	P	**P**	**03 54 20.2**	**+0.2**
GEC2				IAmb	IAmb	03 54 21.2	
	comp=Z,14nm,1.4s						
GERES	**GERESS Array B**	**59.89**	**31**	P	**P**	**03 54 19.5**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=224,slow=3.7,SNR=16						
GERES	**GERESS Array B**	**59.89**	**31**	P	**P**	**03 54 19.9**	**-0.2**
FNA	**Florina**	**59.99**	**42**	P	**P**	**03 54 21.2**	**+0.4**
FNA				IAmb	IAmb	03 54 24.6	
	comp=Z,8.4nm,0.9s						
KHC	**Kasperske Hory**	**60.01**	**31**	*eP*	**P**	**03 54 20.3**	**-0.5**
KHC	**Kasperske Hory**	**60.01**	**31**	P	**P**	**03 54 21.2**	**+0.4**
CONA	**Conrad Observa**	**60.47**	**33**	*i* P	**P**	**03 54 24.5**	**+0.5**
	comp=Z,6.5nm,1.2s						
DIVS	**Divibare**	**60.73**	**38**	P	**P**	**03 54 26.4**	**+0.5**
WVNY	**West Valley, N**	**60.99**	**319**	P	**P**	**03 54 27.8**	**+0.2**
TREC	**Trest**	**61.09**	**31**	*eP*	**P**	**03 54 28.4**	**+0.3**
CLL	**Collm**	**61.13**	**28**	*eP*	**P**	**03 54 30.0**	**+1.7**
	comp=Z,8.0nm,1.3s						
BRG	**Berggiesshubel**	**61.30**	**29**	*eP*	**P**	**03 54 29.8**	**+0.2**
	comp=Z,15nm,1.7s						
	comp=N,388nm,24.2s						
	comp=E,475nm,12.9s						
	comp=Z,951nm,13.8s						
PVCC	**Panska Ves**	**61.39**	**30**	*eP*	**P**	**03 54 31.0**	**+0.9**
KRUC	**Moravsky**	**61.43**	**32**	*eP*	**P**	**03 54 30.3**	**-0.1**
MODS	**Modra-Piesok**	**61.50**	**33**	*eP*	**P**	**03 54 30.4**	**-0.5**
VRAC	**Vranov**	**61.68**	**32**	*eP*	**P**	**03 54 32.1**	**0.0**
JAVC	**Velka Javorina**	**61.99**	**33**	*eP*	**P**	**03 54 35.5**	**+1.2**
DPC	**Dobruska-Polom**	**62.16**	**31**	*eP*	**P**	**03 54 35.5**	**+0.1**
CHVC	**Chvalec**	**62.17**	**30**	*eP*	**P**	**03 54 36.1**	**+0.7**
KRLC	**Kraliky**	**62.24**	**31**	*eP*	**P**	**03 54 37.1**	**+1.2**
OSTC	**Ostas**	**62.24**	**30**	*eP*	**P**	**03 54 36.8**	**+1.0**
VYHS	**Vyhne**	**62.42**	**33**	*eP*	**P**	**03 54 37.1**	**0.0**
MORC	**Moravsky Berou**	**62.46**	**32**	*eP*	**P**	**03 54 37.9**	**+0.5**
MORC	**Moravsky Berou**	**62.46**	**32**	P	**P**	**03 54 37.9**	**+0.5**
MORC				IAmb	IAmb	03 54 39.2	
	comp=Z,16nm,1.5s						
PSZ	**Piszkesteto**	**62.69**	**34**	P	**P**	**03 54 39.5**	**+0.5**
FPAL	**Fort Paine**	**62.85**	**309**	P	**P**	**03 54 40.5**	**+0.3**
FPAL				IAmb	IAmb	03 54 50.2	
	comp=Z,14nm,1.2s						
LANS	**Liptovska Anna**	**63.13**	**33**	*eP*	**P**	**03 54 42.2**	**+0.3**
SWET	**Sewanee**	**63.32**	**309**	P	**P**	**03 54 43.8**	**+0.4**
SWET				IAmb	IAmb	03 54 52.1	
	comp=Z,11nm,1.0s						
U49A	**Red Boiling Sp**	**63.64**	**311**	P	**P**	**03 54 45.4**	**0.0**
OJC	**Ojcow**	**63.90**	**32**	P	**P**	**03 54 47.7**	**+0.8**
OJC				IAmb	IAmb	03 54 53.0	
	comp=Z,8.9nm,1.0s						
V48A	**Smith Brothers**	**64.18**	**310**	P	**P**	**03 54 49.1**	**+0.1**
V48A				IAmb	IAmb	03 54 57.4	
	comp=Z,7.6nm,0.8s						
Z47A	**Carrollton**	**64.38**	**307**	P	**P**	**03 54 50.5**	**+0.1**
Z47A				IAmb	IAmb	03 54 58.9	
	comp=Z,12nm,0.9s						
KOLS	**Kolonicke sedl**	**64.57**	**34**	*eP*	**P**	**03 54 50.9**	**-0.4**
T47A	**Sharon Grove**	**64.80**	**311**	P	**P**	**03 54 53.5**	**+0.5**
T47A				IAmb	IAmb	03 55 05.3	
	comp=Z,10nm,1.1s						
PLAL	**Pickwick Lake**	**64.92**	**309**	P	**P**	**03 54 54.2**	**+0.3**
PLAL				IAmb	IAmb	03 54 55.8	
	comp=Z,10.0nm,1.4s						
MLR	**Muntele Rosu**	**65.12**	**39**	P	**P**	**03 54 55.5**	**+0.4**
MLR				IAmb	IAmb	03 54 58.0	
	comp=Z,14nm,1.2s						
NB2	**NORSAR Subarra**	**67.14**	**20**	P	**P**	**03 55 07.5**	**-0.2**
	comp=Z,29nm,2.0s,baz=224,slow=6.5						
NOA	**NORSAR Array B**	**67.14**	**20**	P	**P**	**03 55 07.7**	**0.0**
	comp=Z,2.7nm,1.0s,baz=223,slow=6.5,SNR=3.2						
BR131	**Keskin Array S**	**68.21**	**47**	P	**P**	**03 55 15.3**	**+0.3**
BRTR	**Keskin Array B**	**68.21**	**47**	P	**P**	**03 55 15.0**	**0.0**
	comp=Z,3.0nm,0.8s,baz=234,slow=5.0,SNR=15						
BRTR				PP	**PP**	**03 57 44.3**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=218,slow=7.6,SNR=3.5						
BRTR	**Keskin Array B**	**68.21**	**47**	P	**P**

YUK			*e*S	**Sg**	**04 34 21.3**	**-0.4**
YUK			A	A	04 34 21.6	
	290nm,0.5s					
YUK			A	A	04 34 21.6	
	950nm,0.5s					
GRPR	**Tuman**	**1.32 300**	*e*P	**Pn**	**04 34 05.3**	**+0.7**
GRPR			AMB	AMB	04 34 05.9	
	50nm,0.2s					
GRPR			*e*S	**Sg**	**04 34 21.9**	**-0.9**
GRPR			A	A	04 34 22.0	
	1μm,0.5s					
GRPR			A	A	04 34 22.0	
	1μm,0.5s					
JKHN	**Kushirohamanak**	**1.62 262**	P	**Pn**	**04 34 09.5**	**+0.9**
JKHN			*e*S	**Sn**	**04 34 29.0**	**-0.5**
JRA	**Rausu**	**1.73 291**	P	**Pn**	**04 34 11.2**	**+1.1**
JRA			*e*S	**Sn**	**04 34 32.5**	**+0.4**
JNSB	**Nemuroshibetsu**	**1.76 285**	P	**Pn**	**04 34 11.7**	**+1.1**
JNSB			*e*S	**Sn**	**04 34 33.1**	**+0.1**
JNK	**Nakash**	**1.94 278**	P	**Pn**	**04 34 13.5**	**+0.5**
JNK			*e*S	**Sn**	**04 34 36.0**	**-1.2**
KUR	**Kuril'sk**	**1.94 11**	*e*P	**Pn**	**04 34 13.3**	**+0.3**
KUR			AMB	AMB	04 34 14.0	
	50nm,0.2s					
KUR			*e*S	**Sn**	**04 34 36.5**	**-0.7**
KUR			A	A	04 34 38.0	
	220nm,0.4s					
KUR			A	A	04 34 38.0	
	340nm,0.4s					
JAK	**Akkeshi**	**1.97 261**	P	**Pn**	**04 34 14.0**	**+0.5**
JAK			*e*S	**Sn**	**04 34 36.4**	**-1.7**
JTKR	**Abashiri--Toko**	**2.58 285**	P	**Pn**	**04 34 23.5**	**+1.7**
JOB	**Onbets**	**2.61 262**	P	**Pn**	**04 34 23.0**	**+0.8**
JAR	**Ashorobuto**	**2.62 270**	P	**Pn**	**04 34 23.5**	**+1.2**
JAR			*e*S	**Sn**	**04 34 53.7**	**-0.3**
JCH	**Churui**	**3.02 258**	P	**Pn**	**04 34 28.3**	**+0.5**
JCH			*e*S	**Sn**	**04 35 02.5**	**-1.4**
JNBK	**Urakawa-nobuka**	**3.54 254**	P	**Pn**	**04 34 35.8**	**+0.7**

TEH 16 05:05:46.4,38°.29N×56°.59E,h10km,ML3.6,
Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**1.40**	**223**	*e*Pg	Pg	05 06 13.3	+0.1
ISFR	**Sfrayin**	**1.67**	**137**	*e*Pg	Pb	05 06 17.8	+0.4
ISFR				*e*		05 06 45.7	
IEMG	**Emamgholi**	**1.85**	**118**	*e*Pn	Pb	05 06 20.9	+0.4
IEMG				*e*		05 06 22.8	
SBZV	**Sabzevar**	**2.07**	**157**	*e*Pn	Pb	05 06 24.4	+0.2
IKRD	**Kardeh**	**2.15**	**134**	*e*Pn	Pg	05 06 34.2	+6.5
IKRD				*e*		05 07 29.1	
IAKL	**Akhelmad**	**2.41**	**134**	*e*Pn	Pb	05 06 29.5	-0.6
IAKL				*e*		05 07 12.4	
IPAY	**Payeh**	**2.66**	**133**	*e*Pn	Pb	05 06 32.3	-1.9
IPAY				*e*		05 07 21.9	
IMYA	**Miami**	**3.41**	**124**	*e*Pn	Pn	05 06 42.6	+2.8
IMYA				*e*		05 06 57.3	
IANJ	**Anjilo**	**3.54**	**218**	*e*Pn	Pn	05 06 44.7	+3.0
IANJ				*e*		05 07 53.4	
ISHM	**Shahmirzad**	**3.62**	**228**	*e*Pn	Pb	05 06 46.9	-3.8
ISHM				*e*		05 07 32.1	
IALA	**Alasht**	**3.74**	**235**	*e*Pn	Pn	05 06 47.4	+3.0
IALA				*e*		05 07 50.8	
JRKH	**Jarkhoshk**	**3.83**	**127**	*e*Pn	Pn	05 06 48.1	+2.5
IPRN	**Peran**	**3.96**	**240**	*e*Pn	Pn	05 06 49.4	+2.0
IPRN				*e*		05 07 39.0	
IFIR	**Firoozkooh**	**4.05**	**230**	*e*Pn	Pn	05 06 52.2	+3.4
IFIR				*e*		05 08 00.9	
TNSJ	**Nastanj**	**4.32**	**180**	*e*Pn	Pn	05 06 54.7	+2.4
IDMV	**Damavand**	**4.55**	**235**	*e*Pn	Pn	05 06 58.8	+3.3
TKDS	**Koohdasht(Taba**	**4.69**	**175**	*e*Pn	Pn	05 07 00.1	+2.7
AFRZ	**Afriz**	**5.24**	**157**	*e*Pn	Pn	05 07 07.4	+2.4
TPRV	**Parvadeh(Tabas**	**5.25**	**179**	*e*Pn	Pn	05 07 07.3	+2.2
ANAR	**Anarak**	**5.60**	**205**	*e*Pn	Pn	05 07 11.8	+1.9
ITEG	**Tejag**	**5.66**	**161**	*e*Pn	Pn	05 07 13.2	+2.4
IMON	**Monand**	**5.67**	**153**	*e*Pn	Pn	05 07 13.4	+2.4
QABG	**Abgarm-Qazvin**	**6.17**	**247**	*e*Pn	Pn	05 07 19.5	+1.7

*JMA **16** 05:08:30.5±0.2,33°.78N×136°.98E,h360km±2km,M2.9*
*IDC **16** 05:08:30.4±2.9,33°.73N×137°.10E,h356km±55km,mb2.9/2,*
mb1 3.0/3,mb1mx2.6/42,mbtmp3.4/3,Error ellipse:
s-maj=201.4km s-min=26.5km az=80.0
ISC 16 05:08:30.7±1.1,33°.8N±0°.1×137°.0E±0°.1,h358km±9km,n12,
σ0§44/14,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.05**	**151**	P	**Pn**	**05 09 15.6**	**+0.5**
TTO1	**TONANKAI O.B.S**	**0.24**	**229**	P	**Pn**	**05 09 15.6**	**+0.4**
JIE	**Ise**	**0.66**	**338**	P	**Pn**	**05 09 16.2**	**0.0**
JIE				*e*S	**S**	**05 09 52.0**	**-0.7**
JTNC	**Tanabenakahech**	**1.16**	**272**	P	**Pn**	**05 09 18.1**	**+0.1**
JWY	**Kouya**	**1.25**	**291**	P	**Pn**	**05 09 18.8**	**+0.3**
JWT	**Wachi**	**2.00**	**319**	P	**Pn**	**05 09 23.0**	**+0.3**
JAI	**Aioi**	**2.12**	**271**	P	**Pn**	**05 09 23.8**	**+0.2**
JOD2	**Odawara 2**	**2.27**	**49**	P	**Pn**	**05 09 25.1**	**+0.4**
JOD2				*e*S	**S**	**05 10 08.1**	**0.0**
JRY	**Ryogami san**	**2.73**	**34**	P	**Pn**	**05 09 28.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.93**	**19**	P	**Pn**	**05 09 29.7**	**-0.3**
	0.2nm,0.3s,baz=196,slow=9.4,SNR=7.6						
WRA	**Warramunga Arr**	**53.48**	**183**	P	**P**	**05 17 15.0**	**-0.5**
	0.1nm,0.4s,baz=359,slow=7.6,SNR=4.8						
FINES	**FINESS Array B**	**69.98**	**331**	P	**P**	**05 19 04.3**	**+0.4**
	0.5nm,0.4s,baz=58,slow=5.2,SNR=6.6						

IDC 16 05:10:22.3±5.2,25°.36S×176°.98W,h0km,mb3.9/2,
mb1 4.2/2,mb1mx3.7/25,mbtmp3.9/2,MS3.4/2,Ms1 3.4/2,
ms1mx2.8/28,Error ellipse: s-maj=264.0km
s-min=53.3km az=155.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.53**	**279**	LR	LR	05 18 39.0	
	comp=Z,84nm,21.0s,baz=212,slow=32						
ASAR	**Alice Springs**	**44.52**	**261**	P	P	05 18 35.5	-0.6
	0.5nm,0.5s,baz=92,slow=6.8,SNR=9.6						
WRA	**Warramunga Arr**	**45.06**	**267**	P	P	05 18 40.5	+0.1
	1.4nm,0.4s,baz=106,slow=7.6,SNR=31						
PLCA	**Paso Flores**	**85.27**	**133**	LR	LR	05 51 44.1	
	comp=Z,34nm,19.9s,baz=160,slow=29						
NOA	**NORSAR Array B**	**143.90**	**353**	PKP	PKPbc	05 29 57.8	+0.9
	0.4nm,0.8s,baz=7.8,slow=2.5,SNR=3.5						
AKASG	**Malin Array Be**	**147.67**	**328**	PKPbc	PKPbc	05 30 08.4	-0.2
	0.2nm,0.4s,baz=42,slow=4.3,SNR=4.1						

OTT 16 05:22:06.2±2.2,32°.67N×63°.54W,h18km,ML4.9/2,
1242km south from Shelburne, Ns,North Atlantic
Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAL	**Halifax**	**11.95**	**360**	PN	Pn	05 24 52.1	-3.5
HAL				SN	Sn	05 26 59.3	-9.1
GGN	**Saint George**	**12.70**	**349**	PN	Pn	05 25 04.2	-1.5
GGN				SN	Sn	05 27 14.1	-12
GGN				Trac		05 27 23.0	
	comp=Z,173nm,2.4s						
GBN	**Guysborough**	**12.82**	**6**	PN	Pn	05 25 06.1	-1.3
GBN				SN	Sn	05 27 16.0	-14
GBN				Trac		05 27 23.4	
	comp=Z,132nm,1.5s						
WCNB	**Wards Creek**	**13.05**	**354**	SN	Sn	05 27 29.3	-6.0
LMN	**Caledonia Moun**	**13.20**	**356**	PN	Pn	05 25 11.5	-1.2
LMN				SN	Sn	05 27 26.9	-12
LMN				Trac		05 27 36.1	
	comp=Z,16nm,0.8s						
SRNB	**Snider Mountai**	**13.25**	**354**	SN	Sn	05 27 33.1	-7.0
LBNH	**Lisbon**	**13.28**	**333**	PN	Pn	05 25 09.8	-4.0
LBNH				SN	Sn	05 27 30.0	-11
PKME	**Peaks-Kenny Pk**	**13.35**	**342**	PN	Pn	05 25 14.5	-0.1
PKME				SN	Sn	05 27 33.5	-8.9
HKNB	**Havelock Quarr**	**13.37**	**354**	SN	Sn	05 27 37.2	-5.8
BINY	**Binghamton**	**13.71**	**317**	SN	Sn	05 27 38.5	-13
CHEG	**Cheticamp, Nov**	**14.29**	**8**	PN	Pn	05 25 27.6	-0.1
CHEG				SN	Sn	05 27 53.3	-12
BATG	**Bathurst New B**	**14.72**	**353**	PN	Pn	05 25 31.6	-1.8
BATG				SN	Sn	05 28 07.2	-8.8

*TEH **16** 05:27:41.4,38°.23N×56°.51E,h20km,ML3.8*
ISC 16 05:27:41.1±1.0,38°.35N±0°.07×56°.47E±0°.05,h10km,n35,
σ1§27/37,2C-1D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA0B	**ALIBECK ARRAY**	**1.37**	**107**	⇓P	**Pn**	**05 28 03.1**	**-3.1**
	baz=278,slow=18						
GYA0B				⇑S	**Sg**	**05 28 24.1**	**-1.0**
	baz=278,slow=41						
IMND	**Minoodasht**	**1.38**	**218**	*e*Sg	**Sb**	**05 28 23.4**	**-1.1**
IMND				*e*Pg	**Pn**	**05 28 06.0**	**-0.3**
ISFR	**Sfrayin**	**1.78**	**136**	*e*Pg	**Pn**	**05 28 11.0**	**-1.1**
ISFR				*e*		05 28 42.2	
IEMG	**Emamgholi**	**1.97**	**118**	*e*Pn	**Pn**	**05 28 13.7**	**-1.0**
IEMG				*e*		05 28 48.0	
SBZV	**Sabzevar**	**2.16**	**155**	*e*Pn	**Pn**	**05 28 16.6**	**-0.7**
IKRD	**Kardeh**	**2.26**	**133**	*e*Pn	**Pg**	**05 28 26.9**	**+2.4**
IKRD				*e*		05 29 21.6	
IAKL	**Akhelmad**	**2.52**	**133**	*e*Pn	**Pn**	**05 28 22.3**	**-0.1**
IAKL				*e*		05 29 09.8	
IPAY	**Payeh**	**2.77**	**133**	*e*Pn	**Pn**	**05 28 25.6**	**-0.1**
IPAY				*e*		05 29 18.1	
IGLO	**Ghalloghah**	**2.79**	**229**	*e*Pn	**Pn**	**05 28 26.2**	**+0.2**
IGLO				*e*		05 29 15.6	
IMYA	**Miami**	**3.52**	**124**	*e*Pn	**Pn**	**05 28 35.6**	**-0.4**
IMYA				*e*		05 29 51.3	
IANJ	**Anjilo**	**3.53**	**216**	*e*Pn	**Pn**	**05 28 37.0**	**+0.8**
IANJ				*e*		05 29 45.7	
ISHM	**Shahmirzad**	**3.59**	**226**	*e*Pn	**Pn**	**05 28 37.3**	**+0.3**
ISHM				*e*		05 29 25.1	
IALA	**Alasht**	**3.69**	**233**	*e*Pn	**Pn**	**05 28 40.0**	**+1.5**
IALA				*e*		05 29 43.9	
IPRN	**Peran**	**3.91**	**239**	*e*Pn	**Pn**	**05 28 42.0**	**+0.7**
JRKH	**Jarkhoshk**	**3.95**	**127**	*e*Pn	**Pn**	**05 28 41.2**	**-0.6**
IFIR	**Firoozkooh**	**4.02**	**229**	*e*	**Pg**	**05 28 56.9**	**-1.1**
TNSJ	**Nastanj**	**4.38**	**178**	*e*Pn	**Pn**	**05 28 47.0**	**-0.7**
TKDS	**Koohdasht(Taba**	**4.76**	**173**	*e*Pn	**Pn**	**05 28 52.4**	**-0.5**
QALM	**Alamut, Qazvin**	**5.01**	**249**	*e*Pn	**Pn**	**05 28 58.2**	**+1.6**
TPRV	**Parvadeh(Tabas**	**5.31**	**178**	*e*Pn	**Pn**	**05 29 00.0**	**-0.6**
AFRZ	**Afriz**	**5.33**	**156**	*e*Pn	**Pn**	**05 29 00.5**	**-0.4**
ANAR	**Anarak**	**5.61**	**204**	*e*Pn	**Pn**	**05 29 04.6**	**-0.1**
ITEG	**Tejag**	**5.75**	**160**	*e*Pn	**Pn**	**05 29 06.3**	**-0.4**
QSDN	**Sirdan**	**6.09**	**255**	*e*Pn	**Pn**	**05 29 12.3**	**+1.0**
GLBA	**Clilabad**	**6.37**	**281**	*e*Pn	**Pn**	**05 29 16.1**	**+1.2**
LRK	**Lerik**	**6.38**	**275**	*e*Pn	**Pn**	**05 29 14.6**	**-0.7**
YRD	**Yardimli**	**6.46**	**278**	*e*Pn	**Pn**	**05 29 16.2**	**-0.2**
ISRB	**Sarab**	**6.96**	**268**	*e*Pn	**Pn**	**05 29 25.4**	**+2.1**
XNQ	**Khinaliq**	**7.00**	**296**	*e*Pn	**Pn**	**05 29 26.2**	**+2.3**
IHRS	**Heris**	**7.41**	**273**	*e*Pn	**Pn**	**05 29 31.0**	**+1.6**
KHGB	**Koh Gabri**	**7.96**	**180**	*e*Pn	**Pn**	**05 29 36.8**	**-0.2**
ORD	**Ordubad**	**8.22**	**277**	*e*Pn	**Pn**	**05 29 42.5**	**+2.1**
SBZ	**Shahbuz**	**8.58**	**280**	*e*Pn	**Pn**	**05 29 46.9**	**+1.5**
GDB	**GEDABAY**	**8.61**	**289**	*e*Pn	**Pn**	**05 29 47.3**	**+1.4**
AKTO	**Aktyubinsk**	**12.13**	**5**	⇑Pn	**Pn**	**05 30 33.1**	**-0.8**
	2.8nm,0.7s						

*NEIC **16** 05:40:21.7±1.4,6°.08S±0°.05×151°.89E±0°.09,h54km±5km,*
mb4.6/25,Error ellipse: s-maj=12.8km s-min=7.8km
az=97.0
*DJA **16** 05:40:22.3±0.7,6°.S±5°×15°.2E±°,h46km±8km,M5.0/10,*
mb4.7/10,mB4.8/1,MLv5.1/2,Mw(mB)4.0/1
*IDC **16** 05:40:23.1±2.0,6°.08S×151°.79E,h62km±14km,mb4.1/12,*
mb1 4.2/13,mb1mx4.0/37,mbtmp4.4/13,MS3.4/8,
Ms1 3.4/8,ms1mx3.1/37,Error ellipse: s-maj=32.1km
s-min=8.4km az=118.0
ISC 16 05:40:20.1±0.6,6°.11S±0°.07×151°.9E±0°.1,h36km,n55,
σ1§12/55,mb4.6/25,MS3.3/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.79**	**3**	P	**Pn**	**05 40 50.0**	**+1.5**
	367nm,0.3s,baz=110,slow=2.0,SNR=212						
KRVT				S	**Sn**	**05 41 13.5**	**+3.5**
	997nm,0.3s,baz=341,slow=23,SNR=31						
KRVT				LR	LR	05 41 44.8	
	comp=Z,1μm,21.4s,baz=195,slow=46						
RABL	**Rabaul**	**1.92**	**7**	P	**Pn**	**05 40 51.3**	**+1.1**
PMG	**Port Moresby**	**5.76**	**235**	P	**Pn**	**05 41 44.9**	**+1.8**
	8.9nm,0.3s,baz=0.2,slow=4.7,SNR=15						
PMG				S	**Sn**	**05 42 50.0**	**+2.1**
	25nm,0.3s,baz=81,slow=9.1,SNR=5.1						
PMG				LR	LR	05 44 05.0	
	comp=Z,285nm,21.6s,baz=138,slow=39						
PMG	**Port Moresby**	**5.76**	**235**		**Pn**	**05 41 45.9**	**+2.8**
PMG					**Sn**	**05 42 49.4**	**+1.4**
HNR	**Honiara**	**8.60**	**113**	LR	LR	05 45 28.0	
	comp=Z,171nm,20.6s,baz=304,slow=35						
EIDS	**Eidsvold**	**19.17**	**182**	P	**P**	**05 44 41.0**	**+0.3**
EIDS				IAmb	IAmb	05 44 42.8	
	comp=Z,18nm,1.1s						
GUMO	**Guam**	**20.79**	**340**	LR	LR	05 53 58.3	
	comp=Z,31nm,18.5s,baz=125,slow=39						
DZM	**Mont Dzumac**	**21.18**	**140**	LR	LR	05 51 54.4	
	comp=Z,219nm,21.1s,baz=226,slow=32						
DZM	**Mont Dzumac**	**21.18**	**140**	P	**P**	**05 45 03.3**	**+0.7**
MTN	**Manton Dam**	**21.57**	**250**	P	**P**	**05 45 06.8**	**0.0**
MTN				IAmb	IAmb	05 45 11.9	
	comp=Z,15nm,0.5s						
WB0	**Warramunga Arr**	**21.80**	**230**	P	**P**	**05 45 08.9**	**-0.3**
WB0				IAmb	IAmb	05 45 22.2	
	comp=Z,13nm,1.0s						
WB2	**Warramunga Arr**	**21.93**	**230**	P	**P**	**05 45 11.7**	**+1.1**
WRA	**Warramunga Arr**	**21.94**	**230**	P	**P**	**05 45 09.8**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=57,slow=11,SNR=16						
WRA				PcP	**PcP**	**05 49 09.2**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=48,slow=1.8,SNR=9.2						
WRA				LR	LR	05 53 40.4	
	comp=Z,106nm,19.7s,baz=215,slow=36						
WRA	**Warramunga Arr**	**21.94**	**230**	P	**P**	**05 45 10.6**	**-0.2**
AS31	**Alice Springs**	**24.61**	**223**	P	**P**	**05 45 37.8**	**+0.5**
ASAR	**Alice Springs**	**24.61**	**223**	P	**P**	**05 45 36.7**	**-0.6**
	comp=Z,8.4nm,0.8s,baz=56,slow=9.1,SNR=77						
ASAR				LR	LR	05 55 03.0	
	comp=Z,100nm,18.6s,baz=84,slow=36						
ASAR	**Alice Springs**	**24.61**	**223**	P	**P**	**05 45 37.4**	**+0.1**
KNRA	**Kununurra**	**24.64**	**245**	P	**P**	**05 45 37.4**	**-0.1**
STKA	**Stephens Creek**	**27.40**	**199**	P	**P**	**05 46 03.3**	**+1.0**
	comp=Z,2.0nm,0.4s,baz=8.7,slow=10,SNR=8.0						
STKA				LR	LR	05 56 21.1	
	comp=Z,135nm,19.1s,baz=21,slow=35						
STKA	**Stephens Creek**	**27.40**	**199**	P	**P**	**05 46 01.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**28.29**	**243**	P	**P**	**05 46 09.6**	**-0.8**
	comp=Z,11nm,0.5s,baz=0.8,slow=4.0,SNR=98						
FITZ	**Fitzroy Crossi**	**28.29**	**243**	P	**P**	**05 46 09.8**	**-0.7**
EDFI	**Ende, Flores**	**30.10**	**263**	P	**P**	**05 46 25.0**	**-1.7**
	comp=Z,13nm,0.8s						
FORT	**Forrest**	**33.24**	**219**	P	**P**	**05 46 53.0**	**-0.9**
MJAR	**Matsushiro Arr**	**44.33**	**344**	LR	LR	06 05 39.9	
	comp=Z,39nm,20.3s,baz=95,slow=34						
CMAR	**Chiang Mai Arr**	**57.66**	**296**	P	**P**	**05 50 07.2**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=117,slow=6.8,SNR=4.3						
PETK	**Petropavlovsk-**	**59.19**	**4**	P	**P**	**05 50 17.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=182,slow=8.7,SNR=5.2						
SONM	**Songino Array**	**66.97**	**328**	P	**P**	**05 51 09.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=142,slow=5.1,SNR=4.6						
SONM	**Songino Array**	**66.97**	**328**	P	**P**	**05 51 07.9**	**-1.4**
CNPM	**China Poot**	**79.26**	**26**	P	**P**	**05 52 22.6**	**+1.1**
TTA	**Tatalina**	**79.29**	**22**	P	**P**	**05 52 22.0**	**+0.2**
TTA				IAmb	IAmb	05 52 24.4	
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**80.74**	**319**	P	**P**	**05 52 29.1**	**-0.7**
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**05 52 29.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=102,slow=5.8,SNR=7.1						
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**05 52 29.1**	**-0.8**
SML	**Sawmill**	**81.66**	**24**	P	**P**	**05 52 35.3**	**+0.9**
SML				IAmb	IAmb	05 52 36.1	
	comp=Z,11nm,0.9s						
ZAA0	**Zalesovo Array**	**81.76**	**327**	P	**P**	**05 52 33.8**	**-1.2**
ZAA0				IAmb	IAmb	05 52 34.6	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**81.76**	**327**	P	**P**	**05 52 33.2**	**-1.8**
	comp=Z,2.8nm,0.5s,baz=111,slow=4.5,SNR=12						
ZALV	**Zalesovo Beam**	**81.76**	**327**	P	**P**	**05 52 33.4**	**-1.6**
IMAR	**Indian Mountai**	**81.89**	**20**	P	**P**	**05 52 35.7**	**+0.2**
SCM	**Sheep Creek Mo**	**82.09**	**25**	P	**P**	**05 52 36.4**	**-0.3**
RND	**Reindeer**	**82.26**	**23**	P	**P**	**05 52 37.3**	**-0.3**
RND				IAmb	IAmb	05 52 39.4	
	comp=Z,7.1nm,0.8s						
WRH	**Wood River Hil**	**83.09**	**22**	P	**P**	**05 52 41.0**	**-0.8**
WRH				IAmb	IAmb	05 52 43.0	
	comp=Z,7.6nm,1.1s						
CCB	**Clear Creek Bu**	**83.28**	**22**	P	**P**	**05 52 42.1**	**-0.6**
CCB				IAmb	IAmb	05 52 44.2	
	comp=Z,4.5nm,0.8s						
IL31		**83.69**	**22**	P	**P**	**05 52 43.7**	**-1.1**
IL31				IAmb	IAmb	05 52 46.1	
	comp=Z,5.3nm,0.8s						
ILAR	**Eielson Array**	**83.69**	**22**	P	**P**	**05 52 44.0**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=250,slow=5.0,SNR=32						
ILAR	**Eielson Array**	**83.69**	**22**	P	**P**	**05 52 43.8**	**-1.0**
QSPA	**South Pole Qui**	**83.86**	**180**	P	**P**	**05 52 45.6**	**-0.4**
QSPA				IAmb	IAmb	05 52 53.0	
	comp=Z,4.9nm,0.8s						
KURK	**Kurchatov**	**84.27**	**322**	P	**P**	**05 52 47.2**	**-0.9**
KURK				IAmb	IAmb	05 52 48.4	
	comp=Z,7.2nm,1.1s						
BCAR	**Beaver Creek A**	**84.95**	**25**	P	**P**	**05 52 51.8**	**+0.5**
EGAK	**Eagle**	**85.89**	**23**	P	**P**	**05 52 56.4**	**+0.5**
EGAK				IAmb	IAmb	05 52 57.9	
	comp=Z,8.5nm,1.1s						
NRIK	**Noril'sk**	**86.92**	**341**	P	**P**	**05 53 00.5**	**-0.4**
	comp=Z,5.9nm,0.7s,baz=122,slow=4.8,SNR=8.9						
KKAR	**Karatay Array**	**87.90**	**314**	P	**P**	**05 53 05.5**	**-0.7**
NVAR	**Mina Array Bea**	**93.56**	**52**	P	**P**	**05 53 34.4**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=260,slow=5.4,SNR=5.7						
GERES	**GERESS Array B**	**124.70**	**328**	PKP	**PKPdf**	**05 59 15.7**	**-0.5**
	comp=Z,0.3nm,0.2s,baz=43,slow=2.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**149.86**	**286**	PKPbc	**PKPbc**	**06 00 06.5**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=78,slow=3.3,SNR=7.1						

*MAN **16** 06:12:18.7,6°.34N×126°.93E,h127km,mb4.8,ML3.7,*
MS3.7
*NEIC **16** 06:12:23.7±1.4,6°.20N±0°.08×126°.7E±0°.2,h134km±9km,*
mb4.3/8,Error ellipse: s-maj=29.1km s-min=6.9km
az=70.0
*IDC **16** 06:12:29.9±10.0,6°.05N×126°.43E,h190km±101km,*
mb3.4/9,mb1 3.5/9,mb1mx3.3/40,mbtmp3.9/9,Error
ellipse: s-maj=59.3km s-min=17.5km az=68.0
ISC 16 06:12:25.7±0.7,6°.16N±0°.07×126°.3E±0°.1,h150km,n28,
σ1§61/31,mb4.2/14,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.61**	**264**	*e*P	Pn	06 12 42.7	-4.9
DDMP				*e*S	**Sn**	**06 12 59.2**	**-5.1**
DAV	**Davao City (W)**	**1.17**	**320**	S	**Sn**	**06 13 11.0**	**-1.1**
	220nm,0.3s,baz=225,slow=21,SNR=14						
DAV				LR	LR	06 13 24.8	
	comp=Z,123nm,18.6s,baz=24,slow=42						
DAV	**Davao City (W)**	**1.17**	**320**		**Sn**	**06 13 12.4**	**+0.3**
KCP	**Kidapawan**	**1.49**	**304**	⇑*i*P	**Pn**	**06 12 52.9**	**-2.3**
KCP				*i* S	**Sn**	**06 13 18.2**	**+0.4**
SKMP	**Bagumbayan, Su**	**1.81**	**281**	*e*P	**Pn**	**06 12 56.4**	**-2.2**
SKMP				*e*S	**Sn**	**06 13 25.7**	**+1.8**
BUKP	**Musuan**	**2.12**	**324**	*e*P	**Pn**	**06 12 59.3**	**-2.9**
BUKP				*e*S	**Sn**	**06 13 28.2**	**-2.2**
GLSP	**General Luna,**	**3.60**	**357**	*e*P	Pn	06 13 13.5	-7.3
GLSP				*e*S	Sn	06 13 50.1	-14
LUWI	**Luwuk**	**7.99**	**206**	Pn	**Pn**	**06 14 19.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.12**	**182**	P	**P**	**06 17 26.4**	**-1.3**
	2.7nm,1.2s,baz=8.8,slow=5.4,SNR=2.1						
FITZ	**Fitzroy Crossi**	**24.12**	**182**	P	**P**	**06 17 27.1**	**-0.6**
WRA	**Warramunga Arr**	**27.11**	**163**	P	**P**	**06 17 54.8**	**0.0**
	0.1nm,0.4s,baz=342,slow=11,SNR=5.2						
WB2	**Warramunga Arr**	**27.12**	**163**	P	**P**	**06 17 53.3**	**-1.5**
WB2				IAmb	IAmb	06 18 04.2	
	comp=Z,5.5nm,1.4s						
ASAR	**Alice Springs**	**30.56**	**166**	P	**P**	**06 18 24.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=345,slow=6.7,SNR=4.5						
BBOO	**Buckleboo**	**39.85**	**167**	P	**P**	**06 19 44.6**	**0.0**
BBOO				IAmb	IAmb	06 19 56.9	
	comp=Z,16nm,1.4s						
SONM	**Songino Array**	**44.88**	**341**	P	**P**	**06 20 27.1**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=168,slow=7.4,SNR=4.0						
MK31	**Makanchi Array**	**55.35**	**325**	P	**P**	**06 21 45.0**	**+1.0**
MK31				IAmb	IAmb

	baz=267						
TUL1				S	Sb	06 17 12.5	-0.5
	baz=267						
TUL1	**Leonard**	**1.32**	**86**		**Pn**	06 16 54.6	-1.0
TUL1				Sn	**Sb**	06 17 12.9	-0.1
U32A	**Winter Ranch,**	**1.40**	**294**	Pn	**Pn**	06 16 56.1	-0.6
KAN10	**Anthony SW Sta**	**1.41**	**337**	Pn	**Pn**	06 16 56.4	-0.3
KAN12	**Harper NE Stat**	**1.54**	**343**	Pn	**Pn**	06 16 58.9	+0.3
WMOK	**Wichita Mounta**	**1.56**	**226**	P	**Pn**	06 16 58.6	-0.2
	baz=45						
WMOK				S	**Sn**	06 17 19.0	-0.2
	baz=45						
WMOK	**Wichita Mounta**	**1.56**	**226**	Pn	**Pn**	06 16 58.5	-0.3
X37A	**Clayton**	**2.08**	**126**		**Pn**	06 17 06.8	+0.8
Z35A	**Perchaven, San**	**2.49**	**177**		**Pn**	06 17 13.2	+1.5
U38A	**Gravette**	**2.53**	**75**		**Pn**	06 17 13.6	+1.4
R32A	**Long Quarter,**	**2.79**	**339**	Pn	**Pn**	06 17 16.0	+0.2
HHAR	**Hobbs**	**2.85**	**80**		**Pn**	06 17 16.7	0.0
W39A	**Magazine**	**3.03**	**101**	P	**Pn**	06 17 19.8	+0.8
	baz=283						
W39A	**Magazine**	**3.03**	**101**		**Pn**	06 17 20.1	+1.0
Z38A	**Mt. Pleasant**	**3.25**	**141**	Pn	**Pn**	06 17 22.1	+0.1
KSU1	**Kansas State U**	**3.33**	**11**	Pb	**Pb**	06 17 31.6	+1.5
	baz=191						
KSU1	**Kansas State U**	**3.33**	**11**	Pn	**Pn**	06 17 23.8	+0.5
MIAR	**Mount Ida**	**3.40**	**111**	P	**Pn**	06 17 25.1	+1.0
	baz=293						
MIAR	**Mount Ida**	**3.40**	**111**	Pn	**Pn**	06 17 24.7	+0.6
CBKS	**Cedar Bluff**	**3.51**	**329**	Pn	**Pn**	06 17 26.9	+1.2
AMTX	**Amarillo**	**3.61**	**256**	Pb	**Pb**	06 17 33.9	-1.0
	baz=74						
AMTX	**Amarillo**	**3.61**	**256**	Pn	**Pn**	06 17 27.3	+0.2
ABTX	**Abilene, Hawle**	**3.69**	**211**	P	**Pn**	06 17 27.8	-0.3
	baz=29						
ABTX	**Abilene, Hawle**	**3.69**	**211**	Pn	**Pn**	06 17 28.0	-0.1
U40A	**Yellville**	**3.73**	**80**	Pn	**Pn**	06 17 29.3	+0.6
S39A	**Bolivar**	**3.78**	**59**		**Pn**	06 17 29.9	+0.5
WHTX	**Lake Whitney,**	**3.82**	**180**	Sb	**Sb**	06 18 27.0	+2.0
	baz=0.4						
X40A	**Basin Creek Fa**	**3.98**	**108**		**Pn**	06 17 32.5	+0.4
237A	**Washetta, Mont**	**4.04**	**160**	Pn	**Pn**	06 17 31.7	-1.3
WLAR	**White Oak Lake**	**4.14**	**120**		**Sg**	06 18 43.2	-0.4
WHAR	**Wooly Hollow**	**4.22**	**96**		**Pn**	06 17 35.5	+0.2
W41B	**Gary Mavity, V**	**4.27**	**97**	P	**Pn**	06 17 37.0	+1.0
	baz=280						
W41B	**Gary Mavity, V**	**4.27**	**97**		**Pn**	06 17 36.4	+0.3
FCAR	**Ozark Folk Cen**	**4.30**	**88**		**Pn**	06 17 37.3	+0.8
MGMO	**Mountain Grove**	**4.36**	**71**	Pn	**Pn**	06 17 37.8	+0.5
MSTX	**Muleshoe**	**4.77**	**249**	P	**Pn**	06 17 43.5	+0.4
	baz=66						
R40A	**Maddies Statio**	**4.80**	**58**		**Pn**	06 17 42.9	-0.5
R40A					**Sn**	06 18 38.0	-1.1
P38A	**Dawn**	**4.89**	**38**	Pn	**Pn**	06 17 44.3	-0.3
CCAR	**Cane Creek**	**5.02**	**111**	Pn	**Pn**	06 17 46.7	+0.3
N35A	**Tabor**	**5.22**	**15**	Pn	**Pn**	06 17 49.2	0.0
T42A	**Van Buren**	**5.24**	**75**	Pn	**Pn**	06 17 49.5	+0.1
T42A					**Pb**	06 18 00.9	-1.7
CCM	**Cathedral Cave**	**5.42**	**64**	Pn	**Pn**	06 17 53.1	+1.1
HBAR	**Harrisburg**	**5.51**	**91**	Pn	**Pn**	06 17 53.4	+0.3
P40A	**Paris**	**5.64**	**47**	Pn	**Pn**	06 17 55.2	+0.3
JCT	**Junction City**	**5.69**	**201**	Pn	**Pn**	06 17 56.2	+0.5
T25A	**Trinidad**	**5.79**	**285**	Pn	**Pn**	06 17 57.0	-0.2
N38A	**Joes South For**	**5.95**	**32**	Pn	**Pn**	06 17 59.4	+0.2
N38A					**Sn**	06 19 08.5	+0.9
SDCO	**Great Sand Dun**	**6.76**	**289**	Pn	**Pn**	06 18 10.5	-0.2

*IDC **16** 06:23:02.5±9.9, 32°.70S×179°.57W, h171km±97km, mb3.3/2, mb1 3.6/3, mb1mx3.2/23, mbtmp3.9/3, Error ellipse: s-maj=94.1km s-min=39.5km az=5.0*
*WEL **16** 06:24:12.9, 37°.5S±6°.×17°.8E±1°.9, h36km±35km, M2.3/7, ML2.3/7, MLv2.3/7, Error ellipse: s-maj=0.1km s-min=0.0km az=165.7*

ISC 16 06:23:07.7±1.9, 33°.1S±0°.1×179°.6W±0°.3, h200km, n20, σ1§49/19, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.80**	**200**	P	**Pn**	06 24 19.8	+0.3
WMGZ	**Waiomatatini S**	**5.01**	**198**	P	**Pn**	06 24 22.4	+0.3
HAZ	**Te Kaha**	**5.15**	**204**	P	**Pn**	06 24 22.0	-1.8
PUZ	**Puketiti**	**5.29**	**199**	P	**Pn**	06 24 24.7	-1.1
RUGZ	**Raukumara Rang**	**5.37**	**204**	P	**Pn**	06 24 26.7	-0.2
CNGZ	**Carnagh Statio**	**5.70**	**198**	P	**Pn**	06 24 30.2	-0.7
OPRZ	**Ohinepanea**	**5.71**	**212**	P	**Pn**	06 24 31.9	+0.8
TKGZ	**Te Karaka**	**5.75**	**201**	P	Pn	06 24 23.3	-8.3
MWZ	**Matawai**	**5.76**	**203**	P	**Pn**	06 24 31.4	-0.3
URZ	**Urewera**	**5.84**	**207**	P	**Pn**	06 24 32.4	-0.4
	3.4nm,0.3s,baz=267,slow=3.3,SNR=18						
URZ				S	**Sn**	06 25 41.0	+0.9
	5.1nm,0.3s,baz=357,slow=20,SNR=10.0						
URZ	**Urewera**	**5.84**	**207**	P	**Pn**	06 24 32.4	-0.4
RIGZ	**Rimuhau**	**6.03**	**200**	P	**Pn**	06 24 34.8	-0.4
MUGZ	**Murupara**	**6.16**	**208**	P	**Pn**	06 24 37.4	+0.5
PRGZ	**Paritu Road**	**6.19**	**199**	P	**Pn**	06 24 37.3	-0.1
CTA	**Charters Tower**	**33.02**	**284**	P	**P**	06 29 26.5	+2.3
	2.3nm,0.5s,baz=118,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**41.71**	**271**	P	**P**	06 30 35.2	-1.9
	0.3nm,0.4s,baz=106,slow=7.7,SNR=6.7						
WRA	**Warramunga Arr**	**42.94**	**276**	P	**P**	06 30 43.9	-3.2
	2.1nm,0.6s,baz=112,slow=8.1,SNR=19						
ARCES	**ARCESS Array B**	**140.88**	**346**	PKhKP	PKPpre	06 42 05.9	
	2.0nm,0.8s,baz=47,slow=1.0,SNR=5.2						
FINES	**FINESS Array B**	**147.14**	**337**	PKPbc	**PKPdf**	06 42 22.9	-0.9
	3.6nm,0.3s,baz=55,slow=4.5,SNR=36						
NOA	**NORSAR Array B**	**151.15**	**349**	PKPbc	**PKPdf**	06 42 33.1	+2.8
	0.4nm,0.5s,baz=21,slow=4.5,SNR=3.2						

*KEA **16** 06:42:57.0±0.0, 36°.91N×121°.45E, h0km, ML4.1/9*
*BJI **16** 06:42:59.7±0.0, 36°.82N×121°.64E, h10km, mb4.3/2, ML4.2/12*

ISC 16 06:42:58.8±0.8, 37°.01N±0°.04×121°.80E±0°.03, h10km, n14, σ2§30/29, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.89**	**356**	Pn	**Pb**	06 43 33.4	**0.0**
DL2				Pg	**Pg**	06 43 35.0	-0.1
DL2				Sn	**Sb**	06 43 57.8	+0.6
DL2				Sg	**Sg**	06 43 59.3	-0.4
DL2				smax	smax		
	comp=N,3μm,0.5s						
DL2				smax	smax		
	comp=E,4μm,0.5s						
HJU	**Haeju**	**3.29**	**71**	Pg	**Pg**	06 44 02.0	+0.2
HJU				Sg	**Sg**	06 44 47.0	+2.6
PYAG	**Pyongyang**	**3.73**	**56**	Pg	**Pg**	06 44 10.5	+0.3
PYAG				Sg	**Sg**	06 45 00.5	+1.9
SUJ	**Sinuiju**	**3.74**	**34**	Pg	**Pg**	06 44 11.1	+0.7
SUJ				Sg	**Sg**	06 45 00.1	+1.3
TIA	**Tai'an**	**3.84**	**259**	Pg	**Pb**	06 44 05.5	-1.2
TIA				Sg	**Sb**	06 44 54.5	+1.2
TIA				smax	smax		
	comp=N,770nm,0.6s						
TIA				smax	smax		
	comp=E,440nm,0.6s						
PYS	**Pyongsong**	**3.90**	**54**	Pg	**Pg**	06 44 13.1	-0.4
PYS				Sg	**Sg**	06 45 06.2	+2.1
WOSN	**Wonsan**	**4.93**	**62**	Pg	**Pg**	06 44 32.9	-0.3
WOSN				Sg	**Sg**	06 45 38.8	+1.8
BJI	**Beijing**	**5.34**	**306**	Pn	**Pn**	06 44 19.3	+0.7
BJI				Sn	**Sn**	06 45 20.4	+0.2
BJI				Sg	**Sg**	06 45 56.3	+6.0
BJI				smax	smax		
	comp=N,120nm,1.1s						
BJI				smax	smax		
	comp=E,110nm,1.2s						
HHU	**Hamhung**	**5.36**	**55**	Pg	**Pg**	06 44 40.1	-1.2
HHU				Sg	**Sg**	06 45 52.7	+2.0
NJ2	**Nanjing**	**5.51**	**207**	*e*Pg	**Pb**	06 44 34.8	-0.3
NJ2				Sg	**Sb**	06 45 45.8	+4.5
NJ2				smax	smax		
	comp=N,240nm,0.5s						
NJ2				smax	smax		
	comp=E,180nm,0.5s						
CN2	**Changchun**	**7.33**	**21**	*e*Pg	**Pg**	06 45 17.3	-1.8
CN2				Sg	**Sg**	06 46 51.3	-2.6
CN2				smax	smax		
	comp=N,140nm,0.8s						
CN2				smax	smax		
	comp=E,180nm,0.8s						
WHN	**Wuhan**	**8.95**	**226**	P	**Pn**	06 45 04.5	-3.5
WHN				S	**Sn**	06 46 44.1	-4.7
XAN	**Xi'an**	**10.90**	**258**	P	**Pn**	06 45 35.8	+0.9
WMQ	**Urumqi**	**26.70**	**295**	*e*P	**P**	06 48 40.6	+2.4

*KEA **16** 06:43:27.7±0.0, 36°.26N×121°.77E, h0km, ML4.2/7*

ISC 16 06:43:34.5±2.1, 37°.0N±0°.1×121°.83E±0°.07, h10km, n8, σ1§99/16, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.95**	**355**	*e*Pg	**Pb**	06 44 10.3	+0.2
DL2				Sn	**Sn**	06 44 32.4	+0.2
DL2				Sg	**Sb**	06 44 33.9	-0.6
DL2				smax	smax		
	comp=N,3μm,0.5s						
DL2				smax	smax		
	comp=E,2μm,0.5s						
HJU	**Haeju**	**3.29**	**70**	Pg	**Pg**	06 44 36.5	-0.9
HJU				Sg	**Sg**	06 45 22.0	+2.0
PYAG	**Pyongyang**	**3.75**	**55**	Pg	**Pg**	06 44 45.3	-0.9
PYAG				Sg	**Sg**	06 45 38.1	+3.4
SUJ	**Sinuiju**	**3.77**	**33**	Pg	**Pg**	06 44 44.5	-2.3
SUJ				Sg	**Sg**	06 45 38.4	+2.7
PYS	**Pyongsong**	**3.92**	**53**	Pg	**Pg**	06 44 47.9	-1.6
PYS				Sg	**Sg**	06 45 39.4	-0.9
WOSN	**Wonsan**	**4.94**	**62**	Pg	**Pg**	06 45 06.5	-2.5
WOSN				Sg	**Sg**	06 46 13.4	+0.4
HHU	**Hamhung**	**5.37**	**55**	Pg	**Pg**	06 45 14.8	-2.5
HHU				Sg	**Sg**	06 46 28.6	+1.7
WMQ	**Urumqi**	**26.75**	**296**	*e*P	**P**	06 49 15.8	+1.5

*IDC **16** 07:31:19.6±1.3, 1°.57S×134°.97E, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.8/42, mbtmp3.9/7, ML3.8/3, Error ellipse: s-maj=26.2km s-min=19.4km az=52.0*
*DJA **16** 07:31:20.4±0.4, 2°.5±7°.×13°.5E±°., h10km, M4.3/5, MLv4.3/5*

ISC 16 07:31:21.0±0.9, 1°.6S±0°.1×134°.98E±0°.05, h10km, n10, σ0§65/12, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.81**	**276**	P	**Pg**	07 31 35.7	-0.8
RKPI				S	**Sg**	07 31 47.5	+0.4
SRPI	**Serui, Papua**	**1.29**	**102**	P	**Pn**	07 31 44.5	-0.5
SRPI				S	**Sb**	07 32 02.1	+0.2
FAKI	**Fak Fak**	**3.03**	**244**	P	**Pn**	07 32 08.8	-0.2
SIJI	**Sorong**	**3.78**	**281**	Pn	**Pn**	07 32 19.3	-0.1
	4.0nm,0.3s,baz=106,slow=18,SNR=3.9						
SIJI				Lg	Lg	07 33 18.3	
	12nm,0.3s,baz=127,slow=17,SNR=9.2						
WRA	**Warramunga Arr**	**18.24**	**182**	P	**Pn**	07 35 33.7	-0.8
	0.4nm,0.3s,baz=3.2,slow=12,SNR=41						
FITZ	**Fitzroy Crossi**	**18.79**	**209**	P	**P**	07 35 40.7	+0.1
	0.3nm,0.3s,baz=359,slow=14,SNR=8.9						
ASAR	**Alice Springs**	**21.96**	**183**	P	**P**	07 36 14.8	-0.3
	3.4nm,0.5s,baz=7.9,slow=11,SNR=78						
STKA	**Stephens Creek**	**30.76**	**169**	P	**P**	07 37 37.9	+1.3
	0.9nm,0.6s,baz=336,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**66.66**	**323**	P	**P**	07 42 12.3	+0.3
	0.4nm,0.6s,baz=116,slow=6.5,SNR=4.3						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	07 44 03.3	**0.0**
	0.6nm,0.8s,baz=270,slow=4.4,SNR=4.5						

WEL 16 07:31:31.6, 40°.5±5°.×17°.7E±°., h33km, M3.1/16, ML3.4/16, MLv3.1/16, Error ellipse: s-maj=0.0km s-min=0.0km az=80.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.54**	**291**	P	Pn	07 31 43.7	+0.7
PXZ	**Pawanui**	**0.54**	**323**	P	Pn	07 31 43.5	+0.5
PXZ				S	Sn	07 31 51.5	+0.6
ANWZ	**Angora Road**	**0.62**	**270**	P	Pb	07 31 44.8	+0.7
ANWZ				S	Sn	07 31 54.3	+1.4
KAHZ	**Kahuranaki**	**0.74**	**335**	P	Pn	07 31 45.9	+0.1
KAHZ				S	Sb	07 31 56.2	+0.2
WPHZ	**Waipukurau**	**0.76**	**301**	P	Pb	07 31 46.3	-0.2
WPHZ				S	Sn	07 31 56.5	0.0
CKHZ	**Cape Kidnapper**	**0.82**	**348**	P	Pn	07 31 46.8	0.0
CKHZ				S	Sn	07 31 57.2	-0.6
DVHZ	**Dannevirke**	**0.88**	**281**	P	Pn	07 31 47.2	-0.4
DVHZ				S	Sn	07 31 58.9	-0.2
PNHZ	**Pukenui**	**1.00**	**303**	P	Pn	07 31 49.4	0.0
PNHZ				S	Sn	07 32 00.9	-1.4
PRWZ	**Pori Road**	**1.01**	**264**	P	Pb	07 31 50.1	-0.5
PRWZ				S	Sn	07 32 02.7	+0.2
KRHZ	**Kereru**	**1.08**	**319**	P	Pn	07 31 50.2	-0.2
KRHZ				S	Sn	07 32 03.6	-0.7
TSZ	**Takapari Road**	**1.10**	**291**	P	Pn	07 31 50.6	0.0
TSZ				S	Sn	07 32 03.2	-1.4
MCHZ	**McNeill Hill**	**1.12**	**336**	P	Pn	07 31 51.0	+0.1
POWZ	**Post Office Ro**	**1.17**	**273**	P	Pn	07 31 52.2	+0.7
ARHZ	**Aropaoanui**	**1.22**	**349**	P	Pn	07 31 52.4	0.0
ARHZ				S	Sn	07 32 07.4	-0.3
KWHZ	**Kaweka Forest**	**1.24**	**327**	P	Pn	07 31 52.4	-0.2
KWHZ				S	Sn	07 32 06.9	-1.2
TMWZ	**Te Maipa**	**1.24**	**238**	P	Pn	07 31 52.7	0.0
TMWZ				S	Sn	07 32 08.2	0.0
MRZ	**Mangatainoka R**	**1.32**	**261**	P	Pn	07 31 53.7	0.0
MRZ				S	Sn	07 32 08.7	-1.4
BHHZ	**Black Hill Sta**	**1.36**	**316**	P	Pn	07 31 54.2	-0.1
BHHZ				S	Sn	07 32 09.0	-2.1
NMHZ	**Naumai**	**1.42**	**345**	P	Pn	07 31 55.1	0.0
NMHZ				S	Sn	07 32 11.1	-1.5
BKZ	**Black Stump Fm**	**1.44**	**334**	P	Pn	07 31 55.1	-0.3
BKZ				S	Sn	07 32 11.1	-1.9
KNZ	**Kokohu**	**1.47**	**12**	P	Pn	07 31 55.0	-0.7
KNZ				S	Sn	07 32 12.9	-0.9
MTW	**Mount Morrison**	**1.52**	**242**	P	Pn	07 31 56.3	-0.2
MTW				S	Sn	07 32 14.9	-0.3
RAHZ	**Arahi**	**1.56**	**354**	P	Pn	07 31 56.7	-0.2
RAHZ				S	Sn	07 32 14.4	-1.5
MOVZ	**Moawhango**	**1.59**	**311**	P	Pn	07 31 57.8	+0.3
MOVZ				S	Sn	07 32 14.9	-1.9
PRGZ	**Paritu Road**	**1.61**	**17**	P	Pn	07 31 57.1	-0.5
PRGZ				S	Sn	07 32 17.0	-0.3
MTHZ	**Maungataniwha**	**1.65**	**348**	P	Pn	07 31 57.7	-0.5
MTHZ				S	Sn	07 32 16.2	-2.1
OGWZ	**Otaki Gorge**	**1.65**	**257**	P	Pn	07 31 58.1	-0.1
OGWZ				S	Sn	07 32 16.5	-1.8
WNVZ	**Wahianoa**	**1.73**	**311**	P	Pn	07 32 00.3	+0.8
MRHZ	**Matea Rd**	**1.76**	**337**	P	Pn	07 32 00.1	+0.2
MTVZ	**Mangateitei**	**1.77**	**307**	P	Pn	07 32 00.9	+0.9
TRVZ	**Turoa**	**1.78**	**310**	P	Pn	07 32 00.8	+0.7
RIGZ	**Rimuhau**	**1.79**	**12**	P	Pn	07 31 59.7	-0.6
ETVZ	**East Tongariro**	**1.80**	**317**	P	Pn	07 32 01.0	+0.6
FWVZ	**Far West T-bar**	**1.80**	**312**	P	Pn	07 32 01.0	+0.5
OTVZ	**Oturere**	**1.81**	**316**	P	Pn	07 32 01.1	+0.6
CAW	**Cannon Point**	**1.81**	**248**	P	Pn	07 32 00.0	-0.4
TMVZ	**Te Maari**	**1.82**	**317**	P	Pn	07 32 01.1	+0.4
NGZ	**Ngauruhoe**	**1.83**	**314**	P	Pn	07 32 01.3	+0.5
RITZ	**Rihia Road**	**1.85**	**323**	P	Pn	07 32 01.6	+0.6
KIW	**Kapiti Island**	**1.85**	**257**	P	Pn	07 32 00.9	-0.1
KRVZ	**Karewarewa**	**1.87**	**317**	P	Pn	07 32 01.8	+0.5
WTVZ	**West Tongariro**	**1.88**	**315**	P	Pn	07 32 02.0	+0.5
PLWZ	**Palliser**	**1.90**	**234**	P	Pn	07 32 03.4	+1.8
PKHZ	**Pokaka**	**1.90**	**308**	P	Pn	07 32 02.3	+0.6
WAZ	**Wanganui**	**1.91**	**291**	P	Pn	07 32 03.0	+1.3
TWVZ	**Taurewa**	**2.00**	**314**	P	Pn	07 32 03.2	+0.1
MUGZ	**Murupara**	**2.03**	**348**	P	Pn	07 32 02.9	-0.5
ALRZ	**Allen Road**	**2.04**	**339**	P	Pn	07 32 03.4	-0.2
PRRZ	**Plateau Road**	**2.08**	**340**	P	Pn	07 32 04.0	-0.2
MWZ	**Matawai**	**2.14**	**5**	P	Pn	07 32 03.9	-1.1
RRRZ	**Republican Roa**	**2.21**	**344**	P	Pn	07 32 05.5	-0.5
URZ	**Urewera**	**2.21**	**356**	P	Pn	07 32 05.0	-0.9
HRRZ	**Handcock Road**	**2.21**	**339**	P	Pn	07 32 06.2	+0.2
TARZ	**Mount Tarawera**	**2.31**	**344**	P	Pn	07 32 07.1	-0.2
VRZ	**Vera Road**	**2.37**	**304**	P	Pn	07 32 09.0	+0.9
TCW	**Tory Channel**	**2.41**	**251**	P	Pn	07 32 07.9	-0.7
RUGZ	**Raukumara Rang**	**2.52**	**7**	P	Pn	07 32 09.2	-1.0
HIZ	**Hauiti**	**2.71**	**315**	P	Pn	07 32 12.6	-0.2
HAZ	**Te Kaha**	**2.73**	**8**	P	Pn	07 32 12.4	-0.7
NEZ	**North Egmont**	**2.73**	**295**	P	Pn	07 32 15.0	+1.8
KHZ	**Kahutara**	**3.43**	**234**	P	Pn	07 32 22.5	-0.1
AWAZ	**Awhitu Peninsu**	**3.98**	**328**	P	Pn	07 32 30.5	+0.3
LTZ	**Lake Taylor**	**4.42**	**237**	P	Pn	07 32 36.5	+0.2
CTZ	**Chatham Island**	**5.59**	**128**	P	Pn	07 32 54.5	+2.2
RPZ	**Rata Peaks**	**5.66**	**233**	P	Pn	07 32 52.6	-0.7

IDC 16 07:32:36.1±2.8, 52°.32N×174°.45E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.4/75, mbtmp3.7/4, ML2.9/2, Error ellipse: s-maj=139.8km s-min=34.4km az=179.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**10.20**	**281**	Pn	Pn	07 35 03.8	+0.1
	0.1nm,0.3s,baz=94,slow=16,SNR=4.9						
KDAK	**Kodiak Island**	**19.52**	**61**	P	P	07 37 04.6	-0.1
	0.2nm,0.3s,baz=270,slow=4.0,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**33.06**	**193**	T	T	08 13 55.3	
	baz=9.8						
H11N3	**WAKE ISLAND Hy**	**33.07**	**193**	T	T	08 14 32.6	
	baz=9.8						
H11N1	**WAKE ISLAND Hy**	**33.08**	**193**	T	T	08 14 05.8	
	baz=9.8						
NVAR	**Mina Array Bea**	**47.54**	**79**	P	P	07 41 14.0	+0.7
	0.1nm,0.4s,baz=300,slow=7.2,SNR=4.0						
TXAR	**Lajitas Array**	**62.58**	**77**	P	P	07 43 01.6	-0.5
	1.1nm,0.6s,baz=305,slow=5.2,SNR=12						

DJA 16 07:32:58.9±1.3, 0°.N±9°.×12°.6E±°., h66km±34km, M3.9/5, MLv3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.88**	**276**	P	Pn	07 33 29.1	+0.3
KMSI				S	Sn	07 33 53.3	+1.7
SANI	**Sanana**	**2.42**	**177**	P	Pn	07 33 35.0	-1.2
GTOI	**Gorontalo**	**2.85**	**275**	P	Pn	07 33 45.7	+3.7
GTOI				S	Sn	07 34 17.0	+1.7
GTOI	**Gorontalo**	**2.85**	**275**	S	Sn	07 34 16.2	+0.9
GTOI	**Gorontalo**	**2.85**	**275**	P	Pn	07 33 45.1	+3.1
LUWI	**Luwuk**	**3.39**	**245**	P	Pn	07 33 51.1	+1.7

*NEIC **16** 08:24:46.8±2.0, 4°.2S±0°.1×143°.1E±0°.1, h106km±9km, mb4.0/10, Error ellipse: s-maj=17.7km s-min=11.5km az=221.0*
*IDC **16** 08:24:46.5±2.2, 4°.23S×143°.04E, h95km±24km, mb3.3/3, mb1 3.7/6, mb1mx3.3/41, mbtmp3.9/6, Error ellipse: s-maj=28.0km s-min=16.8km az=65.0*

ISC 16 08:24:46.8±0.9, 4°.17S±0°.09×143°.1E±0°.1, h100km, n20, σ1§09/21, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.90**	**304**	P	**Pn**	**08 25 31.0**	**-0.3**
	15nm,0.3s,baz=134,slow=2.1,SNR=17						
JAY				S	**Sn**	**08 26 05.0**	**-0.5**
	13nm,0.3s,baz=215,slow=23,SNR=5.3						
PMG	**Port Moresby**	**6.58**	**142**	P	**Pn**	**08 26 20.7**	**-0.4**
	2.5nm,0.3s,baz=5.3,slow=3.9,SNR=6.6						
COEN	**Coen**	**9.73**	**180**	Pn	**Pn**	**08 27 04.2**	**+0.3**
MTN	**Manton Dam**	**14.64**	**233**	Pn	**Pn**	**08 28 07.0**	**-2.0**
WB0	**Warramunga Arr**	**17.68**	**208**	P	**P**	**08 28 45.9**	**-0.4**
WB0				IAmb	IAmb	08 28 59.9	
	comp=Z,9.8nm,1.2s						
WR0	**Warramunga Arr**	**17.78**	**207**	P	**P**	**08 28 46.1**	**-1.2**
WR0				IAmb	IAmb	08 29 03.2	
	comp=Z,10.0nm,0.8s						
WRAB	**Tennant Creek**	**17.84**	**208**	P	**Pn**	**08 28 48.5**	**-0.3**
WRAB				IAmb	IAmb	08 28 51.7	
	comp=Z,10nm,1.1s						
WB2	**Warramunga Arr**	**17.85**	**208**	P	**P**	**08 28 47.1**	**-1.1**
WB2				IAmb	IAmb	08 28 51.9	
	comp=Z,8.8nm,0.9s						
WRA	**Warramunga Arr**	**17.86**	**208**	P	**P**	**08 28 46.7**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=27						
WRA	**Warramunga Arr**	**17.86**	**208**	P	**P**	**08 28 46.3**	**-2.0**
KNRA	**Kununurra**	**18.16**	**230**	P	**Pn**	**08 28 53.0**	**+0.5**
AS31	**Alice Springs**	**21.32**	**204**	P	**P**	**08 29 26.7**	**+0.9**
ASAR	**Alice Springs**	**21.32**	**204**	P	**P**	**08 29 24.7**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=32,slow=11,SNR=14						
ASAR	**Alice Springs**	**21.32**	**204**	P	**P**	**08 29 26.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**21.99**	**230**	P	**P**	**08 29 32.9**	**0.0**
	comp=Z,1.9nm,0.8s,baz=359,slow=9.0,SNR=6.0						
FITZ	**Fitzroy Crossi**	**21.99**	**230**	P	**P**	**08 29 33.3**	**+0.3**
SMRI	**Semarang**	**32.62**

WRH	**Wood River Hil**	**6.70**	**112**	Pn		**Pn**	**09 06 58.8 +0.5**
CCB	**Clear Creek Bu**	**6.70**	**110**	Pn		**Pn**	**09 06 58.8 +0.4**
FYU	**Fort Yukon**	**6.83**	**91**	Pn		**Pn**	**09 07 00.1 -0.1**
MCK	**McKinley**	**6.86**	**119**	Pn		**Pn**	**09 07 00.7 0.0**
BMAR	**Burnt Mountain**	**6.87**	**84**			**Pn**	**09 07 01.0 +0.1**
IL31		**6.96**	**107**			**Pn**	**09 07 01.5 -0.5**
ILAR	**Eielson Array**	**6.96**	**107**	Pn		**Pn**	**09 07 01.9 -0.2**
	8.4nm,0.3s,baz=304,slow=14,SNR=316						
ILAR				Sn		**Sn**	**09 08 20.2 -1.0**
	2.4nm,0.3s,baz=305,slow=25,SNR=4.9						
ILAR	**Eielson Array**	**6.96**	**107**	Pn		**Pn**	**09 07 02.4 +0.4**
RND	**Reindeer**	**7.11**	**121**	Pn		**Pn**	**09 07 01.6 -2.6**
HDA	**Harding Lake**	**7.14**	**110**			**Pn**	**09 07 03.4 -1.1**
SVW2	**Sparrevohn**	**7.26**	**152**	Pn		**Pn**	**09 07 05.8 -0.4**
SKT	**Skwentna**	**7.39**	**136**	Pn		**Pn**	**09 07 09.2 +1.2**
DHY	**Denali Highway**	**7.83**	**119**	Pn		**Pn**	**09 07 10.8 -3.2**
RIDG	**Independent Ri**	**8.28**	**110**	Pn		**Pn**	**09 07 18.4 -1.8**
GHO	**Glory Hole Cre**	**8.30**	**129**	Pn		**Pn**	**09 07 20.6 +0.2**
PMR	**Palmer**	**8.38**	**130**	Pn		**Pn**	**09 07 23.9 +2.4**
RSO	**Redoubt South**	**8.41**	**145**			**Pn**	**09 07 19.5 -2.6**
SML	**Sawmill**	**8.45**	**128**	Pn		**Pn**	**09 07 22.7 +0.2**
PAX	**Paxson**	**8.54**	**116**			**Pn**	**09 07 22.6 -1.2**
DOT	**Dot Lake**	**8.62**	**109**	Pn		**Pn**	**09 07 24.8 +0.1**
SCM	**Sheep Creek Mo**	**8.74**	**125**	Pn		**Pn**	**09 07 24.9 -1.6**
EGAK	**Eagle**	**9.09**	**99**	Pn		**Pn**	**09 07 30.2 -1.0**
GLI	**Glacier Island**	**9.55**	**128**	Pn		**Pn**	**09 07 35.5 -2.0**
CNPM	**China Poot**	**9.59**	**143**	Pn		**Pn**	**09 07 37.9 -0.2**
BCAR	**Beaver Creek A**	**9.79**	**108**			**Pn**	**09 07 40.1 -0.7**
FID	**Port Fidalgo**	**9.83**	**127**	Pn		**Pn**	**09 07 40.3 -1.1**
EPYK	**Eagle Plains**	**10.14**	**85**	Pn		**Pn**	**09 07 44.6 -1.0**
GLB	**Gilahina Butte**	**10.16**	**119**	Pn		**Pn**	**09 07 43.7 -2.2**
KDAK	**Kodiak Island**	**10.91**	**151**	Pn		**Pn**	**09 07 59.2 +3.1**
	0.4nm,0.3s,baz=352,slow=6.1,SNR=6.1						
KDAK				LR		LR	09 12 19.4
	comp=Z,102nm,21.6s,baz=149,slow=38						
KDAK	**Kodiak Island**	**10.91**	**151**			**Pn**	**09 07 57.8 +1.7**
DLBC	**Dease Lake**	**17.17**	**107**	P		**Pn**	**09 09 20.7 +0.8**
	0.1nm,0.3s,baz=307,slow=11,SNR=6.1						
DLBC	**Dease Lake**	**17.17**	**107**	P		**Pn**	**09 09 20.2 +0.3**
YKA	**Yellowknife Ar**	**20.39**	**82**	P		**P**	**09 09 56.6 0.0**
	2.0nm,0.5s,baz=305,slow=10,SNR=5.9						
YKA				LR		LR	09 18 41.0
	comp=Z,55nm,19.6s,baz=0.0,slow=39						
PETK	**Petropavlovsk-**	**23.89**	**252**	P		**P**	**09 10 33.7 +0.2**
	1.8nm,0.7s,baz=62,slow=10,SNR=6.5						
PETK				LR		LR	09 20 56.7
	comp=Z,40nm,19.4s,baz=105,slow=39						
PETK	**Petropavlovsk-**	**23.89**	**252**	P		**P**	**09 10 31.6 -2.0**
JTMT	**Jette**	**31.39**	**105**	P		**P**	**09 11 39.1 -1.9**
JTMT				IAmb		IAmb	09 11 44.6
	comp=Z,3.4nm,1.0s						
HRY	**Holter Researc**	**33.17**	**103**	P		**P**	**09 11 55.3 -1.2**
BOZ	**Bozeman (W)**	**34.19**	**104**	P		**P**	**09 12 06.7 +1.2**
BOZ				IAmb		IAmb	09 12 08.6
	comp=Z,2.7nm,1.0s						
MCMT	**McKenzie Canyo**	**34.40**	**106**	P		**P**	**09 12 08.5 +1.1**
YHH	**Holmes Hill**	**35.17**	**104**	P		**P**	**09 12 14.6 +0.5**
YNE	**Yellowstone No**	**35.29**	**103**	P		**P**	**09 12 16.1 +1.0**
BW06	**Boulder Array**	**37.38**	**104**	P		**P**	**09 12 31.7 -1.2**
BW06				IAmb		IAmb	09 12 37.2
	comp=Z,4.6nm,1.4s						
PD31	**Pinedale Array**	**37.38**	**104**	P		**P**	**09 12 32.5 -0.4**
PD31				IAmb		IAmb	09 12 37.2
	comp=Z,4.3nm,1.4s						
PDAR	**Pinedale Array**	**37.38**	**104**	P		**P**	**09 12 34.1 +1.2**
	comp=Z,1.7nm,0.8s,baz=343,slow=6.9,SNR=13						
PDAR	**Pinedale Array**	**37.38**	**104**	P		**P**	**09 12 31.7 -1.2**
NVAR	**Mina Array Bea**	**38.10**	**117**	P		**P**	**09 12 41.0 +2.0**
	comp=Z,0.9nm,0.6s,baz=313,slow=6.9,SNR=12						
MSU	**Marysvale**	**40.16**	**110**	P		**P**	**09 12 58.2 +1.9**
PV01	**Paradox Valley**	**41.80**	**107**	P		**P**	**09 13 10.2 +0.5**
PV01				IAmb		IAmb	09 13 12.5
	comp=Z,5.7nm,0.8s						
MJAR	**Matsushiro Arr**	**45.16**	**257**	P		**P**	**09 13 37.2 +0.5**
	comp=Z,1.2nm,0.6s,baz=9.0,slow=9.8,SNR=4.9						
MJAR	**Matsushiro Arr**	**45.16**	**257**	P		**P**	**09 13 36.4 -0.2**
KSRS	**Korea Array**	**48.25**	**268**	P		**P**	**09 14 01.9 +1.1**
	comp=Z,1.5nm,0.9s,baz=22,slow=8.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**48.81**	**314**	P		**P**	**09 14 05.2 +0.3**
	comp=Z,1.2nm,0.7s,baz=16,slow=6.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**48.81**	**314**	P		**P**	**09 14 04.4 -0.4**
FINES	**FINESS Array B**	**51.02**	**355**	P		**P**	**09 14 21.5 0.0**
	comp=Z,1.7nm,0.7s,baz=12,slow=12,SNR=5.1						
FINES	**FINESS Array B**	**51.02**	**355**	P		**P**	**09 14 21.0 -0.5**
TXAR	**Lajitas Array**	**51.48**	**107**	P		**P**	**09 14 26.4 +0.9**
	comp=Z,3.5nm,0.9s,baz=330,slow=5.7,SNR=27						
TXAR	**Lajitas Array**	**51.48**	**107**	P		**P**	**09 14 26.6 +1.1**
MKAR	**Makanchi Array**	**55.95**	**311**	P		**P**	**09 14 57.8 -0.2**
	comp=Z,0.3nm,0.5s,baz=50,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**55.95**	**311**	P		**P**	**09 14 56.9 -1.1**
AKASG	**Malin Array Be**	**61.61**	**352**	P		**P**	**09 15 36.8 -0.4**
	comp=Z,2.0nm,0.5s,baz=6.3,slow=6.6,SNR=7.5						
AKASG				LR		LR	09 44 08.9
	comp=Z,35nm,19.7s,baz=300,slow=38						
AKBB	**Malin Array Si**	**61.61**	**352**	P		**P**	**09 15 36.6 -0.5**
ESDC	**Sonseca Array**	**71.74**	**17**	P		**P**	**09 16 42.7 +0.6**
	comp=Z,0.7nm,0.6s,baz=356,slow=7.2,SNR=4.0						

*ISN **16** 09:05:42.9±0.5, 32°.71N×47°.63E, h14km±3km, ML2.8*
*TEH **16** 09:05:43.7, 32°.78N×47°.53E, h17km, ML3.0*

ISC 16 09:05:43.9±0.9, 32°.76N±0°.04×47°.54E±0°.03, h10km, n31, σ1§02/35, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**249**	*eP*		**Pg**		**09 05 48.4**	**-0.3**
DHL1				*eSg*		**Sg**		**09 05 53.4**	**+1.5**
IKFM	**Kafar-mosalman**	**0.80**	**19**	*ePg*		**Pg**		**09 05 58.1**	**-1.3**
IKMR	**Kamar-syah**	**1.03**	**43**	*e*				09 06 20.0	
IKMR				*eP*		**Pg**		**09 06 03.5**	**-0.3**
IDOB	**Doab**	**1.15**	**27**	*ePg*		**Pg**		**09 06 05.7**	**-0.4**
IBDR	**Badra**	**1.40**	**285**	*ePg*		**Pb**		**09 06 10.0**	**-0.1**
IBDR				*eSg*		**Sg**		**09 06 30.0**	**+1.1**
IBDR				AML		AML		09 06 35.2	
	comp=N,109nm,0.3s								
IBDR				AML		AML		09 06 38.8	
	comp=E,185nm,0.6s								
BMDN	**Meydan**	**1.41**	**50**	*ePg*		**Pn**		**09 06 10.2**	**+0.4**
BMDN				*e*				09 06 36.9	
IKOM	**Komasi**	**1.41**	**359**	*ePg*		**Pg**		**09 06 10.8**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.56**	**345**	*ePg*		**Pb**		**09 06 13.1**	**0.0**
KCHF				*e*				09 06 37.5	
KER	**Kermanshah**	**1.65**	**348**	*ePg*		**Pg**		**09 06 15.5**	**-0.1**
HSAM	**Samen**	**1.69**	**31**	*ePg*		**Pb**		**09 06 15.4**	**0.0**
HSAM				*e*				09 06 17.5	
AHWZ	**Ahwaz**	**1.71**	**146**	*eSg*		**Sg**		**09 06 40.5**	**+1.6**
IBZA	**Bozab**	**1.72**	**9**	*ePg*		**Pb**		**09 06 15.9**	**+0.1**
IBZA				*e*				09 06 19.0	
IGHG	**Ghaleghazi**	**1.76**	**333**	*ePg*		**Pb**		**09 06 16.2**	**-0.2**
IGHG				*e*				09 06 50.1	
IVIS	**Veis**	**1.85**	**342**	*ePn*		**Pb**		**09 06 17.5**	**-0.4**
IVIS				*e*				09 06 52.8	
NSR	**Nassriya**	**2.12**	**215**	*ePn*		**Pn**		**09 06 19.0**	**-0.3**
NSR				*eSn*		**Sn**		**09 06 45.0**	**-0.7**
IDHR	**Dehrash**	**2.16**	**334**	*ePn*		**Pb**		**09 06 23.1**	**-0.1**
IDHR				*e*				09 06 57.9	
KHMZ	**Khomeyn**	**2.25**	**64**	*ePn*		**Pn**		**09 06 22.3**	**+0.9**
SNGE	**Sanandaj**	**2.33**	**356**	*ePn*		**Pn**		**09 06 23.7**	**+1.2**
HAGD	**Aghdareh**	**2.45**	**33**	*ePn*		**Pn**		**09 06 25.7**	**+1.5**
HSRG	**Sareghieh**	**2.55**	**14**	*ePn*		**Pb**		**09 06 28.0**	**-1.9**
JHBN	**Jahan bin**	**2.69**	**101**	*ePn*		**Pn**		**09 06 28.5**	**+0.9**
BHD	**Baghdad**	**2.70**	**282**	*ePn*		**Pn**		**09 06 29.0**	**+1.6**
BHD				*eSn*		**Sb**		**09 07 03.0**	**-2.5**
ASAO	**Ashtian**	**2.73**	**49**	*ePn*		**Pn**		**09 06 28.8**	**+0.7**
IPIR	**Pirpir**	**2.83**	**91**	*ePn*		**Pn**		**09 06 30.2**	**+0.8**
IRAZ	**Razeghan**	**3.30**	**36**	*ePn*		**Pn**		**09 06 37.1**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.39**	**29**	*ePn*		**Pn**		**09 06 38.0**	**+0.9**
GHVR	**GHOM**	**3.57**	**60**	*ePn*		**Pn**		**09 06 39.8**	**+0.3**
KLNJ	**Kolanjah**	**3.87**	**116**	*ePn*		**Pn**		**09 06 44.6**	**+0.8**
KRSH	**Karshahi**	**4.03**	**71**	*ePn*		**Pn**		**09 06 46.5**	**+0.6**
IZEF	**Zefreh**	**4.04**	**87**	*ePn*		**Pn**		**09 06 47.2**	**+1.2**
IRAM	**Ramesheh**	**4.21**	**102**	*ePn*		**Pn**		**09 06 48.6**	**+0.2**

*UPA **16** 09:25:40.3±1.6, 6°.91N×73°.04W, h0km±69km, MW4.8*
*VAO **16** 09:25:40.3±0.4, 6°.27N×72°.68W, h10km, mb4.4*
*UNK **16** 09:25:44.7, 6°.80N×73°.01W, h168km*
*NEIC **16** 09:25:45.0±2.6, 6°.79N±0°.06×73°.04W±0°.07, h158km±7km, mb4.4/177, Error ellipse: s-maj=10.4km s-min=8.0km az=126.0*

*IDC **16** 09:25:44.1±0.6, 6°.74N×72°.97W, h151km±6km, mb3.9/10, mb1 4.1/16, mb1mx3.8/39, mbtmp4.5/16, MS2.3/1, Ms1 2.3/1, ms1mx2.3/25, Error ellipse: s-maj=12.1km s-min=6.7km az=127.0*
*RSNC **16** 09:25:45.5±1.1, 6°.80N×73°.14W, h145km±4km, ML4.2, Mw4.4, Fault plane solution: NP1:φs78.00000°, δ71.00000°, λ-162.00000°.*

ISC 16 09:25:43.4±0.5, 6°.81N±0°.02×73°.12W±0°.03, h149km±4km, n474, σ1§94/558, mb4.4/85, 30C-14D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**195**	⇑*iP*			**Pn**	**09 26 05.3**	**+1.4**
BARC				*eS*			**Sn**	**09 26 20.0**	**+0.5**
BARC				*i*				09 26 23.9	
	comp=Z,7μm,0.4s								
BRRC	**Barranca, Sant**	**0.65**	**297**	⇑*iP*			**Pn**	**09 26 07.3**	**+1.8**
BRRC				*eS*			**Sn**	**09 26 23.9**	**+1.7**
BRRC				*i*				09 26 27.8	
	comp=Z,3μm,0.5s								
PAMC	**Pamplona, Colo**	**0.67**	**39**	⇑*iP*			**Pn**	**09 26 08.2**	**+2.1**
PAMC				*eS*			**Sn**	**09 26 24.9**	**+1.4**
PAMC				*i*				09 26 27.3	
	comp=Z,7μm,0.5s								
RUSC	**La Rusia**	**0.92**	**177**	⇓*iP*			**Pn**	**09 26 09.2**	**+1.3**
RUSC				*eS*			**Sn**	**09 26 27.5**	**+0.9**
RUSC				*i*				09 26 28.7	
	comp=Z,1μm,0.5s								
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	⇑*iP*			**Pn**	**09 26 12.1**	**+0.8**
PTBC				*eS*			**Sn**	**09 26 32.9**	**+0.3**
PTBC				*i*				09 26 36.0	
	comp=Z,2μm,0.3s								
TAMC	**Tame, Arauca**	**1.38**	**106**	⇓*iP*			**Pn**	**09 26 13.6**	**+2.0**
TAMC				*eS*			**Sn**	**09 26 34.5**	**+1.3**
TAMC				*i*				09 26 35.6	
	comp=Z,2μm,0.3s								
OCAC	**Ocana**	**1.43**	**352**	⇑*iP*			**Pn**	**09 26 13.7**	**+1.4**
OCAC				*eS*			**Sn**	**09 26 35.4**	**+0.9**
OCAC				*i*				09 26 42.0	
	comp=Z,3μm,0.4s								
SPBC	**San Pablo de B**	**1.49**	**219**	⇑*iP*			**Pn**	**09 26 14.4**	**+1.5**
SPBC				*eS*			**Sn**	**09 26 36.4**	**+1.1**
SPBC				*i*				09 26 42.0	
	comp=Z,2μm,0.4s								
CTAU	**Tausa, Cundina**	**1.84**	**210**	*eP*			**Pn**	**09 26 19.4**	**+2.3**
CTAU				*eS*			**Sn**	**09 26 49.9**	**+6.9**
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	⇓*iP*			**Pn**	**09 26 18.1**	**+1.4**
ZARC				*eS*			**Sn**	**09 26 43.7**	**+1.5**
ZARC				*i*				09 26 52.0	
	comp=Z,2μm,0.5s								
CTAB	**Cerro Tablazo,**	**2.09**	**211**	⇑*eP*			**Pn**	**09 26 22.8**	**+2.9**
CTAB				*eS*			**Sn**	**09 26 51.0**	**+3.0**
NORC	**Norcasia**	**2.13**	**235**	⇑*iP*			**Pn**	**09 26 21.2**	**+1.1**
NORC				*eS*			**Sn**	**09 26 48.9**	**+0.6**
NORC				*i*				09 26 51.5	
	comp=Z,952nm,0.5s								
SMLC	**San Martn de**	**2.19**	**335**	⇑*iP*			**Pn**	**09 26 21.3**	**+0.7**
SMLC				*eS*			**Sn**	**09 26 49.9**	**+0.5**
SMLC				*i*				09 26 52.6	
	comp=Z,2μm,0.3s								
CHIC	**Chingaza**	**2.25**	**196**	⇑*iP*			**Pn**	**09 26 23.4**	**+1.6**
CHIC				*eS*			**Sn**	**09 26 51.9**	**+0.4**
CHIC				*i*				09 26 56.1	
	comp=Z,763nm,0.6s								
ROSC	**El Rosal**	**2.29**	**211**	P			**Pn**	**09 26 25.2**	**+2.9**
	comp=Z,189nm,0.3s,baz=83,slow=12,SNR=369								
ROSC				S			**Sn**	**09 26 53.7**	**+1.5**
	comp=Z,387nm,0.3s,baz=157,slow=20,SNR=16								
ROSC				LR			LR	09 26 59.8	
	comp=Z,69nm,19.9s,baz=114,slow=33								
ROSC	**El Rosal**	**2.29**	**211**	*eS*			**Sn**	**09 26 55.1**	**+2.9**
ROSC	**El Rosal**	**2.29**	**211**				**Pn**	**09 26 24.6**	**+2.3**
ROSC					Sn		**Sn**	**09 26 56.3**	**+4.1**
CVER	**Cruz Verde, Cu**	**2.46**	**203**	⇑*eP*			**Pn**	**09 26 27.9**	**+3.4**
CVER				*eS*			**Sn**	**09 26 59.9**	**+3.8**
HELC	**Santa Helena**	**2.47**	**256**	*eP*			**Pn**	**09 26 25.7**	**+1.3**
HELC				*eS*			**Sn**	**09 26 56.4**	**+0.5**
HELC				*i*				09 27 05.7	
	comp=Z,901nm,0.4s								
HELC	**Santa Helena**	**2.47**	**256**	*eP*			**Pn**	**09 26 25.9**	**+1.5**
HELC				*eS*			**Sn**	**09 26 57.3**	**+1.4**
UREC	**San Jos de Ur**	**2.57**	**291**	⇓*iP*			**Pn**	**09 26 25.5**	**+0.2**
UREC				*eS*			**Sn**	**09 26 58.1**	**+0.5**
UREC				*i*				09 27 10.1	
	comp=Z,1μm,0.2s								
GUY2C	**Guyana, Caldas**	**2.73**	**235**	⇑*iP*			**Pn**	**09 26 29.5**	**+1.7**
GUY2C				*eS*			**Sn**	**09 27 03.4**	**+1.4**
GUY2C				*i*				09 27 18.1	
	comp=Z,657nm,0.5s								
VILC	**Villavicencio,**	**2.74**	**192**	⇑*iP*			**Pn**	**09 26 28.8**	**+1.2**
VILC				*eS*			**Sn**	**09 27 02.8**	**+1.1**
CBOC	**Ciudad Bolivar**	**3.02**	**252**	⇑*iP*			**Pn**	**09 26 33.3**	**+2.2**
CBOC				*eS*			**Sn**	**09 27 09.0**	**+1.0**
CBOC				*i*				09 27 13.0	
	comp=Z,427nm,0.6s								
DBBC	**Dabeiba**	**3.07**	**274**	⇓*iP*			**Pn**	**09 26 33.4**	**+1.7**
DBBC				*eS*			**Sn**	**09 27 10.0**	**+1.0**
TOLC	**Tolima**	**3.11**	**225**	*eP*			**Pn**	**09 26 34.1**	**+1.7**
TOLC				*eS*			**Sn**	**09 27 12.1**	**+1.7**
TOLC				*i*				09 27 20.9	
	comp=Z,2μm,0.6s								
MOTC	**Monteria, Cord**	**3.19**	**308**	⇓*iP*			**Pn**	**09 26 33.1**	**0.0**
MOTC				*eS*			**Sn**	**09 27 11.1**	**-0.5**
MOTC				*i*				09 27 28.7	
	comp=Z,530nm,0.6s								
SDV	**Santo Domingo**	**3.21**	**50**	P			**Pn**	**09 26 35.0**	**+1.4**
	comp=Z,131nm,0.3s,baz=238,slow=13,SNR=312								
SDV				S			**Sn**	**09 27 11.8**	**-0.7**
	comp=Z,236nm,0.3s,baz=235,slow=18,SNR=20								
SDV	**Santo Domingo**	**3.21**	**50**	⇑*iP*			**Pn**	**09 26 35.0**	**+1.4**
SDV				*eS*			**Sn**	**09 27 11.7**	**-0.8**
SDV				*i*				09 27 16.5	
	comp=Z,782nm,0.6s								
SDV	**Santo Domingo**	**3.21**	**50**				**Pn**	**09 26 35.0**	**+1.4**
SDV					Sn		**Sn**	**09 27 13.0**	**+0.5**
SDV	**Santo Domingo**	**3.21**	**50**	*eS*			**Sn**	**09 27 12.4**	**-0.1**
ARGC	**Ariguani, Magd**	**3.22**	**340**	⇑*iP*			**Pn**	**09 26 35.5**	**+1.9**
ARGC				*eS*			**Sn**	**09 27 14.0**	**+1.6**
ARGC				*i*				09 27 24.3	
	comp=Z,640nm,0.7s								
ANIL	**Santa Ana**	**3.23**	**225**	⇑*eP*			**Pn**	**09 26 35.8**	**+1.8**
ANIL				*eS*			**Sn**	**09 27 15.4**	**+2.3**
PRAC	**Prado**	**3.54**	**210**	⇑*iP*			**Pn**	**09 26 38.4**	**+0.7**
PRAC				*eS*			**Sn**	**09 27 20.8**	**+0.9**
PRAC				*i*				09 27 26.2	
	comp=Z,536nm,0.3s								
ORTC	**Ortega, Tolima**	**3.58**	**216**	⇑*iP*			**Pn**	**09 26 39.4**	**+1.3**
ORTC				*eS*			**Sn**	**09 27 21.3**	**+0.7**
ORTC				*i*				09 27 27.2	
	comp=Z,630nm,0.5s								
PLMC	**San Jos del P**	**3.67**	**239**	*eP*			**Pn**	**09 26 41.6**	**+2.2**
PLMC				*eS*			**Sn**	**09 27 22.0**	**-0.8**
SJCC	**San Jacinto, C**	**3.68**	**327**	⇓*iP*			**Pn**	**09 26 39.7**	**+0.2**
SJCC				*eS*			**Sn**	**09 27 21.1**	**-1.9**
SJCC	**San Jacinto, C**	**3.68**	**327**	*i P*			**Pn**	**09 26 39.8**	**+0.3**
SJCC				*eS*			**Sn**	**09 27 21.2**	**-1.9**
LCBC	**Los crdobas,**	**3.80**	**303**	⇑*eP*			**Pn**	**09 26 41.4**	**+0.4**
LCBC				*eS*			**Sn**	**09 27 28.0**	**+2.2**
LCBC				*i*				09 27 32.2	
	comp=Z,406nm,0.2s								
YOTC	**Yotoco, Valle**	**4.26**	**229**	⇑*iP*			**Pn**	**09 26 48.0**	**+0.8**
YOTC				*eS*			**Sn**	**09 27 35.9**	**-0.9**
GUVC	**San Jose del G**	**4.27**	**173**	*eP*			**Pn**	**09 26 47.3**	**+0.1**
GUVC				*eS*			**Sn**	**09 27 36.7**	**-0.1**
GUVC				*i*				09 27 42.7	
	comp=Z,673nm,0.2s								
SOLC	**Bahia Solano**	**4.30**	**262**	*eP*			**Pn**	**09 26 49.0**	**+1.5**
SOLC				*eS*			**Sn**	**09 27 32.8**	**-4.6**
SOLC				*i*				09 27 47.0	
	comp=Z,99nm,0.5s								
SMRC	**Santa Marta, M**	**4.46**	**346**	*eP*			**Pn**	**09 26 50.2**	**+0.6**
SMRC				*eS*			**Sn**	**09 27 38.5**	**-2.8**
SMRC				*i*				09 27 48.4	
	comp=Z,211nm,0.6s								
PTAC	**Punta Ardita,**	**4.66**	**274**	*eP*			**Pn**	**09 26 53.2**	**+0.9**
PTAC				*eS*			**Sn**	**09 27 44.9**	**-1.2**
MACC	**Macarena, Meta**	**4.69**	**189**	⇑*iP*			**Pn**	**09 26 52.5**	**-0.3**
MACC				*eS*			**Sn**	**09 27 43.9**	**-2.9**
MACC				*i*				09 27 51.0	
	comp=Z,288nm,0.5s								
BETC	**Betania**	**4.71**	**209**	⇑*eP*			**Pn**	**09 26 52.8**	**-0.3**
BETC				*eS*			**Sn**	**09 27 39.3**	**-7.9**
MARP	**Paez Belalcaza**	**4.85**	**216**	*eP*			**Pn**	**09 26 56.0**	**+0.9**
MARP				*eS*			**Sn**	**09 27 45.4**	**-5.4**
URIC	**Uribia, Colomb**	**4.99**	**13**	⇑*iP*			**Pn**	**09 26 56.1**	**-0.5**
URIC				*eS*			**Sn**	**09 27 50.6**	**-3.2**
URIC				*i*				09 27 54.1	
	comp=Z,139nm,0.6s								
MALC	**Bahia Malaga**	**5.03**	**237**	*eP*			**Pn**	**09 27 00.1**	**+2.9**
MALC				*eS*			**Sn**	**09 27 57.6**	**+2.8**
MALC				*i*				09 28 17.3	
	comp=Z,102nm,0.5s								
UPD2	**Meteti**	**5.14**	**290**	*eP*			**Pn**	**09 26 59.0**	**+0.3**
UPD2				*eS*			**Sn**	**09 27 59.0**	**+1.5**
GARC	**Garzon, Huila**	**5.17**	**207**	⇑*eP*			**Pn**	**09 26 59.5**	**+0.2**
GARC				*eS*			**Sn**	**09 27 54.1**	**-4.3**
GARC				*i*				09 28 03.5	
	comp=Z,184nm,0.2s								
PCON	**Cinco Dias**	**5.52**	**216**	*eP*			**Pn**	**09 27 06.2**	**+2.0**
PCON				*eS*			**Sn**	**09 28 07.9**	**+0.5**
POPC	**Popayan, Colom**	**5.53**	**220**	⇑*iP*			**Pn**	**09 27 05.0**	**+1.0**
POPC				⇑*iP*			**Pn**	**09 27 05.0**	**+1.0**
POPC				*eS*			**Sn**	**09 28 04.6**	**-2.4**
POPC				*eS*			**Sn**	**09 28 04.6**	**-2.4**
FLOC	**Florencia**	**5.78**	**206**	⇑*iP*			**Pn**	**09 27 07.5**	**+0.4**
FLOC				⇑*iP*			**Pn**	**09 27 07.5**	**+0.4**
FLOC				*eS*			**Sn**	**09 28 09.0**	**-3.7**
FLOC				*eS*			**Sn**	**09 28 09.0**	**-3.7**
FLOC				*i*				09 28 19.3	
	comp=Z,114nm,0.8s								
FLOC				*i*				09 28 19.3	
	comp=Z,114nm,0.8s								
SOTA	**Rioblanco**	**5.80**	**217**	*eS*			**Sn**	**09 28 10.7**	**-3.2**
SOTA				*eS*			**Sn**	**09 28 10.7**	**-3.2**
BBAC	**Balboa, Cauca**	**6.29**	**221**	⇓*eP*			**Pn**	**09 27 15.1**	**+1.0**
BBAC				⇓*eP*			**Pn**	**09 27 15.1**	**+1.0**
BBAC				*eS*			**Sn**	**09 28 22.3**	**-2.9**
BBAC				*eS*			**Sn**	**09 28 22.3**	**-2.9**
BBAC				*i*				09 28 30.4	
	comp=Z,94nm,0.8s								
BBAC				*i*				09 28 30.4	
	comp=Z,94nm,0.8s								
UPA	**Univ. de Panam**	**6.71**	**289**	*eP*			**Pn**	**09 27 18.6**	**-0.9**
UPA				*eS*			**Sn**	**09 28 37.8**	**+2.9**
PTLC	**Puerto Leguiza**	**6.80**	**194**	*eP*			**Pn**	**09 27 24.3**	**+3.4**
PTLC				*eP*			**Pn**	**09 27 24.3**	**+3.4**
PTLC				*i*				09 29 32.8	
	comp=Z,67nm,0.5s								
PTLC				*i*				09 29 32.8	
	comp=Z,67nm,0.5s								
GCUF	**Volcan Galeras**	**6.96**	**217**	*eP*			**Pn**	**09 27 25.6**	**+2.1**
GCUF				*eP*			**Pn**	**09 27 25.6**	**+2.1**
GCUF				*eS*			**Sn**	**09 28 41.1**	**-0.

PRPB Parauapebas 26.60 119 eP P 09 31 12.3 +4.3
TLIG Tlapa 27.03 296 P P 09 31 12.3 +0.3
152A Waverly Hall 27.90 339 P P 09 31 18.9 -0.5
152A IAmb IAmb 09 31 23.2
comp=Z,6.9nm,0.8s
PB01 IPOC Station P 27.91 173 P P 09 31 18.1 -1.7
PB01 IAmb IAmb 09 31 37.3
comp=Z,13nm,1.4s
GOGA Godfrey 28.15 341 P P 09 31 22.6 +0.9
baz=159
GOGA Godfrey 28.15 341 P P 09 31 22.1 +0.5
Y55A Saluda 28.18 344 P P 09 31 23.0 +1.1
baz=161
X55A Gracelyn & Ava 28.62 345 P P 09 31 27.0 +1.1
baz=162
Z51A Franklin 28.65 339 P P 09 31 26.9 +0.8
LRAL Lakeview Retre 29.10 336 P P 09 31 32.3 +2.3
baz=151
LRAL Lakeview Retre 29.10 336 P P 09 31 32.9 +2.8
KMSC Kings Mountain 29.19 346 P P 09 31 33.2 +2.4
baz=163
V58A Windy Hill, Pi 29.36 350 P P 09 31 34.0 +1.7
baz=168
Y49A Blount Mountai 29.59 337 P P 09 31 37.1 +2.7
Y49A IAmb IAmb 09 31 38.3
comp=Z,6.8nm,0.9s
Z47A Carrollton 29.70 334 P P 09 31 38.2 +2.9
Z47A IAmb IAmb 09 31 38.7
comp=Z,6.6nm,0.6s
V55A Taylorsville 29.84 347 P P 09 31 37.9 +1.3
baz=164
W52A Murphy 29.85 342 P P 09 31 39.4 +2.6
W52A IAmb IAmb 09 31 40.6
comp=Z,7.0nm,0.9s
U58A Oxford 29.86 351 P P 09 31 37.4 +0.6
baz=169
FPAL Fort Paine 29.90 339 P P 09 31 39.9 +2.7
V54A Nebo 29.94 346 P P 09 31 37.9 +0.4
baz=162
U57A Blanch 30.02 350 P P 09 31 39.1 +0.9
baz=167
VBMS Vicksburg 30.03 330 P P 09 31 39.4 +1.1
baz=144
X48A Hartselle 30.36 337 P P 09 31 42.0 +0.9
X48A IAmb IAmb 09 31 44.7
comp=Z,7.8nm,0.8s
CPCT Cooper Cave 30.37 341 P P 09 31 43.8 +2.5
T58A Grand View Acr 30.40 351 P P 09 31 42.9 +1.4
baz=169
U55A TA2, Sparta 30.43 347 P P 09 31 43.4 +1.6
baz=164
U54A Nelsons Funny 30.62 346 P P 09 31 44.8 +1.3
baz=163
U54A Nelsons Funny 30.62 346 P P 09 31 46.6 +3.0
U54A IAmb IAmb 09 31 47.3
comp=Z,8.8nm,0.9s
V51A Loudon 30.64 342 P P 09 31 42.1 -1.5
V51A IAmb IAmb 09 31 47.3
comp=Z,9.0nm,1.1s
ARAG Araguaiana, MT 30.76 137 eP P 09 31 49.9 +5.0
ARAG epP P 09 31 52.5 +7.6
Y45A Yeager Farm, C 30.91 333 P P 09 31 48.9 +2.8
T55A Pulaski 30.96 348 P P 09 31 48.5 +2.0
baz=165
PEXB Peixe 31.02 127 eP P 09 31 52.5 +5.2
PEXB epP P 09 31 55.1 +7.8
T54A Tazewell 31.08 347 P P 09 31 49.3 +1.7
baz=163
PLAL Pickwick Lake 31.23 336 P P 09 31 51.4 +2.5
PLAL IAmb IAmb 09 31 52.2
comp=Z,7.8nm,0.8s
T53A Wise 31.23 345 P P 09 31 50.4 +1.5
baz=162
S57A Dark Hollow, R 31.26 351 P P 09 31 51.0 +2.0
baz=169
OXF Oxford 31.40 334 P P 09 31 51.5 +1.2
baz=148
V48A Smith Brothers 31.42 338 P P 09 31 53.3 +2.9
S55A Lewisburg 31.54 349 P P 09 31 53.8 +2.2
baz=166
CLTN Cedars of Leba 31.55 339 P P 09 31 54.4 +2.7
CLTN IAmb IAmb 09 31 55.1
comp=Z,8.9nm,1.3s
W45A Hickory Valley 31.85 335 P P 09 31 55.8 +1.6
WVT Waverly 32.14 337 P P 09 31 58.6 +1.8
baz=152
WVT Waverly 32.14 337 P P 09 31 58.6 +1.8
WVT IAmb IAmb 09 31 59.7
comp=Z,11nm,1.0s
Q57A Strasburg 32.43 352 P P 09 32 01.6 +2.3
baz=170
833A Chaparral WMA, 32.79 314 P P 09 32 03.4 +0.9
baz=126
P56A Dayton Farm, R 32.95 352 P P 09 32 04.9 +1.0
baz=169
X40A Basin Creek Fa 33.01 329 P P 09 32 05.5 +1.1
baz=142,SNR=6.4
X40A Basin Creek Fa 33.01 329 P P 09 32 06.0 +1.6
X40A IAmb IAmb 09 32 07.3
comp=Z,6.3nm,0.9s
Q52A Bidwell 33.05 347 P P 09 32 06.0 +1.3
baz=163
435B Jarrell 33.08 319 P P 09 32 06.5 +1.4
baz=131
435B Jarrell 33.08 319 P P 09 32 06.8 +1.8
W41B Gary Mavity, V 33.26 331 P P 09 32 08.0 +1.5
baz=144
W41B Gary Mavity, V 33.26 331 P P 09 32 08.6 +2.1
O58A Lewisberry 33.34 355 P P 09 32 08.7 +1.5
baz=173
WHAR Wooly Hollow 33.37 331 P P 09 32 09.1 +1.6
WHAR IAmb IAmb 09 32 10.0
comp=Z,6.9nm,0.9s
MIAR Mount Ida 33.43 328 P P 09 32 09.3 +1.2
baz=141
WCI Wyandotte Cave 33.48 341 P P 09 32 10.4 +2.0
baz=156
LCAR Lake Charles 33.48 333 P P 09 32 10.5 +2.1
LCAR IAmb IAmb 09 32 11.2
comp=Z,4.9nm,0.6s
O57A Amberson 33.50 354 P P 09 32 10.2 +1.6
baz=172
P52A Corning 33.67 347 P P 09 32 10.3 +0.3
baz=164
P52A Corning 33.67 347 P P 09 32 12.6 +2.6
P52A IAmb IAmb 09 32 13.5
comp=Z,6.5nm,0.7s
O55A Ligonier 33.71 351 P P 09 32 12.3 +1.9
baz=169
PBMO Poplar Bluff 33.75 335 P P 09 32 12.8 +1.9
FCAR Ozark Folk Cen 33.78 332 P P 09 32 12.4 +1.4
FCAR IAmb IAmb 09 32 13.3
comp=Z,11nm,1.0s
WHTX Lake Whitney, 33.80 321 P P 09 32 13.1 +1.8
baz=133
WHTX Lake Whitney, 33.80 321 P P 09 32 11.5 +0.2
WHTX IAmb IAmb 09 32 14.0
comp=Z,6.2nm,0.8s
N60A Cedar Hill Far 33.96 357 P P 09 32 14.1 +1.5
baz=176
N57A Milroy 34.03 354 P P 09 32 14.4 +1.2
baz=172
W39A Magazine 34.05 329 P P 09 32 15.2 +1.9
baz=141,SNR=6.5
W39A Magazine 34.05 329 P P 09 32 15.2 +1.9
W39A IAmb IAmb 09 32 16.1
comp=Z,9.9nm,0.8s
S44A Carbondale 34.06 337 P P 09 32 15.2 +1.8
O52A Adamsville 34.07 348 P P 09 32 15.5 +2.0
baz=164
T42A Van Buren 34.25 334 P P 09 32 16.6 +1.5
T42A IAmb IAmb 09 32 17.6
comp=Z,7.2nm,0.7s
BLO Bloomington 34.41 341 P P 09 32 15.8 -0.7
BLO IAmb IAmb 09 32 19.7
comp=Z,10nm,0.8s
U40A Yellville 34.50 331 P P 09 32 19.0 +1.7
baz=144,SNR=20
U40A Yellville 34.50 331 P P 09 32 17.7 +0.4
M58A Price's Panora 34.54 356 P P 09 32 19.1 +1.5
baz=174
M64A Tiverton 34.63 3 P P 09 32 19.9 +1.6
baz=183
M59A Waymart 34.64 357 P P 09 32 20.8 +2.3
baz=176
N52A McGinn's Farm, 34.71 349 P P 09 32 20.6 +1.6
baz=165
FVM French Village 34.78 336 P P 09 32 21.4 +1.8
IPMB Ipameri, GO 34.81 135 eP P 09 32 25.9 +5.6
M56A Emporium 34.82 353 P P 09 32 22.4 +2.4
baz=171
MGMO Mountain Grove 34.88 333 P P 09 32 22.0 +1.4
MGMO IAmb IAmb 09 32 23.1
comp=Z,5.1nm,0.9s
HHAR Hobbs 34.97 330 P P 09 32 20.4 -1.0
HHAR IAmb IAmb 09 32 22.9
comp=Z,4.3nm,0.6s
P46A Rosedale 35.03 341 P P 09 32 22.0 +0.2
CCM Cathedral Cave 35.18 335 P P 09 32 24.3 +1.2
baz=148
CCM Cathedral Cave 35.18 335 P P 09 32 24.6 +1.6
U38A Gravette 35.32 330 P P 09 32 24.7 +0.4
U38A IAmb IAmb 09 32 26.0
comp=Z,5.9nm,1.1s
L56A Greenwood 35.40 354 P P 09 32 26.5 +1.6
baz=172
L61B Northampton 35.49 1 P P 09 32 27.2 +1.5
baz=181
ABTX Abilene, Hawle 35.61 320 P P 09 32 28.5 +1.6
baz=130,SNR=6.1
ABTX Abilene, Hawle 35.61 320 P P 09 32 25.8 -1.1
ABTX IAmb IAmb 09 32 29.4
comp=Z,7.3nm,0.8s
TUL1 Leonard 35.64 328 P P 09 32 27.8 +0.8
baz=139
SFIN Lafayette 35.69 342 P P 09 32 29.3 +2.0
baz=156,SNR=5.6
SFIN Lafayette 35.69 342 P P 09 32 28.5 +1.1
K63A Dunstable 35.76 2 P P 09 32 29.6 +1.7
baz=182
S39A Bolivar 35.80 332 P P 09 32 29.8 +1.4
S39A IAmb IAmb 09 32 31.1
comp=Z,5.0nm,0.6s
R40A Maddies Statio 35.81 334 P P 09 32 29.5 +1.0
X34A Smith Ranch, M 35.83 324 P P 09 32 30.6 +1.9
P43A Skaggs, Pawnee 35.86 338 P P 09 32 30.4 +1.6
P43A IAmb IAmb 09 32 31.1
comp=Z,11nm,0.9s
K58A Earlville 35.87 357 P P 09 32 31.0 +2.1
baz=176
K55A Perry 36.03 354 P P 09 32 32.2 +1.9
baz=172
FNO Franklin 36.05 325 P P 09 32 28.8 -1.7
QUOK Quay 36.33 327 P P 09 32 32.7 -0.3
TX31 Lajitas Ar. Si 36.47 312 P P 09 32 36.1 +1.8
TX32 Lajitas Array 36.47 312 P P 09 32 36.4 +2.1
TXAR Lajitas Array 36.47 312 P P 09 32 36.0 +1.7
comp=Z,3.5nm,0.6s,baz=127,slow=9.1,SNR=58
TXAR PcP PcP 09 34 57.5 +2.4
comp=Z,0.5nm,0.7s,baz=146,slow=5.6,SNR=5.2
WMOK Wichita Mounta 36.48 323 P P 09 32 35.0 +0.7
baz=134,SNR=8.9
WMOK Wichita Mounta 36.48 323 P P 09 32 35.2 +0.9
WMOK IAmb IAmb 09 32 35.8
comp=Z,4.7nm,0.7s
J57A Williamstown 36.54 356 P P 09 32 36.5 +2.0
baz=175
J57A Williamstown 36.54 356 P P 09 32 36.4 +1.9
J57A IAmb IAmb 09 32 37.9
comp=Z,8.7nm,0.9s
J54A Appleton 36.64 353 P P 09 32 37.0 +1.6
baz=171
P40A Paris 36.76 335 P P 09 32 37.6 +1.1
I58A Old Forge 36.77 358 P P 09 32 37.8 +1.2
baz=177
T35A Sooner Cattle 36.78 328 P P 09 32 37.5 +0.8
T35A IAmb IAmb 09 32 38.5
comp=Z,9.5nm,1.0s
I61A Orboro, Fairl 36.98 1 P P 09 32 39.7 +1.4
baz=181
I63A Otisfield 37.16 3 P P 09 32 41.4 +1.6
baz=184
LBNH Lisbon 37.30 1 P P 09 32 43.2 +2.2
baz=182
P38A Dawn 37.47 334 P P 09 32 43.5 +1.0
H57A Richville 37.55 357 P P 09 32 45.3 +2.2
baz=176
L44A Lake County Fo 37.58 342 P P 09 32 45.4 +2.0
baz=155
H60A Morristown 37.60 0 P P 09 32 45.5 +2.0
baz=180
H55A Tweed 37.76 355 P P 09 32 46.6 +1.8
baz=173
U32A Winter Ranch, 37.76 325 P P 09 32 45.1 +0.1
U32A IAmb IAmb 09 32 46.9
comp=Z,11nm,0.8s
H64A Troy 37.84 5 P P 09 32 47.4 +1.9
baz=186
G62A West of Eustis 38.33 3 P P 09 32 50.7 +1.1
baz=184
AMTX Amarillo 38.36 321 P P 09 32 51.4 +1.3
baz=130
AMTX Amarillo 38.36 321 P P 09 32 49.7 -0.4
G55A Calabogie 38.42 356 P P 09 32 51.5 +1.2
baz=174
MSTX Muleshoe 38.49 319 P P 09 32 51.7 +0.4
baz=128,SNR=5.6
MSTX Muleshoe 38.49 319 P P 09 32 52.6 +1.3
MSTX IAmb IAmb 09 32 54.0
comp=Z,7.0nm,0.8s
KSU1 Kansas State U 38.49 330 P P 09 32 51.7 +0.6
baz=140
KSU1 Kansas State U 38.49 330 P P 09 32 51.1 0.0
G65A Princeton 38.55 6 P P 09 32 53.2 +1.8
baz=189
L40A Anamosa 38.60 338 P P 09 32 52.6 +0.7
L40A IAmb IAmb 09 32 53.1
comp=Z,6.0nm,0.6s
MNTX Cornudas Mount 38.98 314 P P 09 32 57.2 +2.0
baz=123,SNR=15
MNTX Cornudas Mount 38.98 314 P P 09 32 57.3 +2.0
MNTX IAmb IAmb 09 32 58.7
comp=Z,9.2nm,0.8s
JFWS Jewell Farm 39.00 340 P P 09 32 56.2 +1.0
baz=152
JFWS Jewell Farm 39.00 340 P P 09 32 56.6 +1.3
ALGO Algonquin Park 39.23 355 P P 09 32 58.6 +1.5
baz=172
SCIA State Center 39.23 336 P P 09 32 58.8 +1.6
baz=147
SCIA State Center 39.23 336 P P 09 32 58.9 +1.6
TRQ Mont Tremblant 39.28 358 P P 09 32 59.1 +1.5
I42A Draeger Farm, 39.44 342 P P 09 33 00.7 +1.8
I42A IAmb IAmb 09 33 03.5
comp=Z,17nm,1.4s
E57A Chemin Saint G 39.46 359 P P 09 33 00.7 +1.6
baz=178
LMN Caledonia Moun 39.55 9 P P 09 33 00.8 +1.0
LMN IAmb IAmb 09 33 03.8
comp=Z,8.6nm,0.9s
E55A Montcerf-Lytto 39.58 357 P P 09 33 02.2 +2.3
baz=175
E63A Oxbow 39.67 5 P P 09 33 01.3 +0.5
baz=187
E62A Clayton Lake 39.78 4 P P 09 33 02.2 +0.5
baz=185
E62A Clayton Lake 39.78 4 P P 09 33 03.9 +2.2
E62A IAmb IAmb 09 33 05.5
comp=Z,7.0nm,1.0s
CBKS Cedar Bluff 39.90 327 P P 09 33 03.5 +0.6
baz=136
PQI Presque Isle 39.95 5 P P 09 33 05.2 +2.1
D60A Saint Jean D'O 40.00 2 P P 09 33 04.1 +0.7
baz=183
D57A Chemin Vers le 40.06 359 P P 09 33 04.6 +0.6
baz=179
D62A Allapoint, All 40.27 4 P P 09 33 07.5 +1.8
baz=186
D62A Allapoint, All 40.27 4 P P 09 33 08.1 +2.3
D62A IAmb IAmb 09 33 08.6
comp=Z,6.2nm,0.6s
D54A Lac Fusel, La 40.31 356 P P 09 33 08.1 +2.1
baz=174
D63A Stockholm 40.31 5 P P 09 33 08.1 +2.1
baz=188
D53A Lac Vacive, Po 40.31 355 P P 09 33 08.3 +2.3
baz=173
E46A Sault Ste Mari 40.57 348 P P 09 33 10.3 +2.1
L34A Svendsen Farm, 40.63 333 P P 09 33 10.7 +1.9
BATG Bathurst New B 40.77 7 P P 09 33 11.8 +2.0
BATG IAmb IAmb 09 33 12.2
comp=Z,15nm,1.2s
G40A Rib Lake 41.08 342 P P 09 33 14.3 +1.9
G40A IAmb IAmb 09 33 15.2
comp=Z,7.5nm,1.0s
121A Cookes Peak, D 41.15 313 P P 09 33 15.9 +2.5
baz=121
BNM Barren Site 41.19 316 P P 09 33 16.6 +2.8
BO02 Sierra Bellavi 41.44 177 P P 09 33 15.0 -0.5
BO02 IAmb IAmb 09 33 24.6
comp=Z,19nm,1.5s
T25A Trinidad 41.50 321 P P 09 33 17.7 +1.5
baz=129
ANMO Albuquerque 41.52 317 P P 09 33 17.8 +1.5
baz=125
ANMO Albuquerque 41.52 317 P P 09 33 18.8 +2.4
KSCO Kaye Shedlock' 41.65 325 P P 09 33 18.8 +1.4
baz=133
KSCO Kaye Shedlock' 41.65 325 P P 09 33 17.3 0.0
KSCO IAmb IAmb 09 33 19.8
comp=Z,7.7nm,0.8s
ECSD EROS Data Cent 42.15 334 P P 09 33 22.2 +1.0
baz=144,SNR=6.5
ECSD EROS Data Cent 42.15 334 P P 09 33 19.6 -1.5
ECSD IAmb IAmb 09 33 23.1
comp=Z,3.9nm,0.6s
LSQQ Lebel-sur-Quev 42.23 356 P P 09 33 23.3 +1.7
baz=174
K31A O'Neill 42.24 332 P P 09 33 22.5 +0.6
SDCO Great Sand Dun 42.55 321 P P 09 33 26.7 +1.9
baz=128,SNR=9.8
SDCO Great Sand Dun 42.55 321 P P 09 33 25.9 +1.1
F36A Milaca 42.72 339 P P 09 33 26.4 +0.8
Q24A Divide 43.10 323 P P 09 33 31.2 +2.0
baz=130
TUC Tucson 43.25 311 P P 09 33 32.0 +1.8
baz=118
TUC Tucson 43.25 311 P P 09 33 30.8 +0.5
S22A 4UR Ranch, Cre 43.39 320 P P 09 33 33.1 +1.6
baz=127,SNR=8.5
S22A 4UR Ranch, Cre 43.39 320 P P 09 33 32.5 +0.9
SUSD Miller 43.74 333 P P 09 33 34.7 +0.8
baz=141
SUSD Miller 43.74 333 P P 09 33 34.7 +0.8
W18A Petrified Fore 43.87 315 P P 09 33 36.6 +1.2
baz=121,SNR=5.5
W18A Petrified Fore 43.87 315 P P 09 33 36.9 +1.5
W18A IAmb IAmb 09 33 39.0
comp=Z,13nm,1.1s
EYMN Ely 43.88 342 P P 09 33 36.1 +1.2
baz=153
EYMN Ely 43.88 342 P P 09 33 35.1 +0.2
EYMN IAmb IAmb 09 33 36.7
comp=Z,8.6nm,0.6s
ISCO Idaho Springs 43.91 323 P P 09 33 37.3 +1.6
baz=130,SNR=9.8
ISCO Idaho Springs 43.91 323 P P 09 33 36.2 +0.5
MVCO Mesa Verde 44.16 318 P P 09 33 38.8 +1.1
baz=124
MVCO Mesa Verde 44.16 318 P P 09 33 39.7 +2.0
MVCO IAmb IAmb 09 33 40.6
comp=Z,14nm,1.4s
PV01 Paradox Valley 44.73 319 P P 09 33 44.6 +2.4
X16A Lo Mia Camp, P 44.73 313 P P 09 33 43.3 +1.1
PV15 Paradox Valley 44.80 320 P P 09 33 43.9 +1.2
PV15 IAmb IAmb 09 33 46.3
comp=Z,15nm,1.0s
N23A Red Feather La 44.81 324 P P 09 33 44.7 +1.9
baz=130
N23A Red Feather La 44.81 324 P P 09 33 44.7 +1.9
PV02 Paradox Valley 44.88 319 P P 09 33 45.8 +2.4
PV02 IAmb IAmb 09 33 46.7
comp=Z,6.8nm,0.7s
PV13 Radium Mtn., P 44.91 319 P P 09 33 45.7 +2.1
PV13 IAmb IAmb 09 33 46.8
comp=Z,8.2nm,0.7s
B35A Bob, Littlefor 44.95 341 P P 09 33 43.5 +0.1
PV07 Paradox Valley 44.96 320 P P 09 33 45.0 +1.1
PV07 IAmb IAmb 09 33 47.2
comp=Z,10.0nm,1.2s
PV03 Paradox Valley 44.98 319 P P 09 33 45.5 +1.4
PV12 Saucer Basin, 44.99 320 P P 09 33 45.3 +1.1
PV12 IAmb IAmb 09 33 47.5
comp=Z,6.7nm,0.7s
WUAZ Wupatki 45.23 315 P P 09 33 48.0 +1.9
baz=120,SNR=11
WUAZ Wupatki 45.23 315 P P 09 33 45.7 -0.3
WUAZ IAmb IAmb 09 33 50.0
comp=Z,13nm,0.9s
AGMN Agassiz Nation 45.63 339 P P 09 33 50.6 +1.8
baz=148
AGMN Agassiz Nation 45.63 339 P P 09 33 48.4 -0.5
AGMN IAmb IAmb 09 33 50.6
comp=Z,4.7nm,0.7s
Y14A Wickenburg 45.65 312 P P 09 33 51.7 +2.4
Y14A IAmb IAmb 09 33 52.4
comp=Z,8.2nm,0.8s
O20A White River Ci 45.70 322 P P 09 33 51.5 +1.8
baz=127
RSSD Black Hills 45.95 329 P P 09 33 53.4 +1.8
baz=135
E28A Huff 46.17 334 P P 09 33 53.3 +0.2
K22A Casper 46.28 326 P P 09 33 55.3 +1.1
baz=131
K22A Casper 46.28 326 P P 09 33 55.6 +1.4
U15A North Rim 46.32 315 P P 09 33 57.3 +2.5
U15A IAmb IAmb 09 33 58.4
comp=Z,9.9nm,1.1s
SRU San Rafael Swe 46.55 319 P P 09 33 57.6 +1.3
GLA Glamis 46.64 310 P P 09 33 58.7 +1.7
baz=115
GLA Glamis 46.64 310 P P 09 33 58.4 +1.4
GLA IAmb IAmb 09 34 00.1
comp=Z,7.8nm,0.8s
MDND Maddock 46.70 336 P P 09 33 59.5 +2.3
baz=142
RDMU Red Mountain 46.78 322 P P 09 33 59.4 +1.2
P17A Butcher Ranch, 46.89 320 P P 09 34 01.1 +2.1
KNB Kanab 46.98 316 P P 09 34 02.8 +3.0
MTPU Mount Pierson 47.07 317 P P 09 34 02.8 +2.1
TMUT Trail Mountain 47.09 319 P P 09 34 00.8 0.0
LCMT Little Creek M 47.28 315 P P 09 34 01.7 -0.3
ULM Lac du Bonnet 47.29 340 P P 09 34 02.2 +0.5
comp=Z,5.2nm,0.4s,baz=141,slow=8.1,SNR=7.0
ULM Lac du Bonnet 47.29 340 P P 09 34 01.9 +0.2
ULM IAmb IAmb 09 34 03.6
comp=Z,9.0nm,0.9s
MSU Marysvale 47.31 318 P P 09 34 04.4 +2.0
MVU Marysvale 47.33 318 P P 09 34 04.9 +2.4
SWSC Sam W. Stewart 47.34 309 P P 09 34 04.0 +1.6
baz=114
IRM Iron Mountain 47.34 311 P P 09 34 03.7 +1.3
baz=115
BC3 Big Chuckawall 47.36 310 P P 09 34 04.4 +1.7
baz=115
IKP In-Ko-Pah, Jac 47.46 309 P P 09 34 05.7 +2.3
baz=113
TCRU Three Creeks R 47.54 318 P P 09 34 04.0 -0.2
CCUT Cedar City 47.62 316 P P 09 34 06.9 +2.1
MONP2 Monument Peak 47.80 309 P P 09 34 07.9 +1.7
baz=113
BELC Belle Mtn. Jos 47.92 310 P P 09 34 08.5 +1.4
baz=114
PD31 Pinedale Array 48.08 324 P P 09 34 08.5 +0.2
PDAR Pinedale Array 48.08 324 P P 09 34 09.6 +1.3
comp=Z,2.1nm,0.7s,baz=128,slow=9.2,SNR=19
PDAR Pinedale Array 48.08 324 P P 09 34 09.3 +1.0
BW06 Boulder Array 48.08 324 P P 09 34 09.4 +1.2
baz=128,SNR=6.2
BW06 Boulder Array 48.08 324 P P 09 34 08.9 +0.6
SCHQ Schefferville 48.15 5 P P 09 34 10.0 +1.7
comp=Z,4.8nm,0.5s,baz=197,slow=7.3,SNR=14
SCHQ Schefferville 48.15 5 P P 09 34 09.9 +1.7
SCHQ IAmb IAmb 09 34 11.0
comp=Z,17nm,1.3s
TCUT Toone Canyon 48.23 321 P P 09 34 10.1 +0.6
SHPR Sheep Range 48.39 314 P P 09 34 12.2 +1.5
SHPR IAmb IAmb 09 34 14.0
comp=Z,9.2nm,1.4s
PSUT Pine Spring 48.45 317 P P 09 34 12.7 +1.6
TUQ Turquoise Moun 48.47 312 P P 09 34 13.3 +2.0
baz=116
HWUT Hardware Ranch 48.61 322 P P 09 34 12.2 0.0
HWUT IAmb IAmb 09 34 15.9
comp=Z,9.5nm,1.5s
DUG Dugway, Tooele 48.62 319 P P 09 34 14.3 +2.0
baz=122,SNR=5.5

DUG	Dugway, Tooele	48.62	319	P	P	09 34 13.3	+1.0
LAO	LASA Array	48.84	330	P	P	09 34 14.4	+0.7
	baz=134						
SHOC	Shoshone, Teco	48.93	313	P	P	09 34 16.9	+2.3
	baz=116						
AHID	Auburn Hatcher	48.99	323	P	P	09 34 16.2	+1.1
GSC	Goldstone, Bar	49.07	312	P	P	09 34 17.7	+2.0
	baz=115						
GSC	Goldstone, Bar	49.07	312	P	P	09 34 17.0	+1.3
BGU	Big Grassy Mou	49.15	320	P	P	09 34 17.7	+1.4
DGMT	Dagmar	49.16	333	P	P	09 34 17.9	+1.8
	baz=137,SNR=8.8						
DGMT	Dagmar	49.16	333	P	P	09 34 18.0	+1.9
REDW	Red Top Meadow	49.20	324	P	P	09 34 18.6	+1.8
REDW				IAmb	IAmb	09 34 19.4	
	comp=Z,7.5nm,0.6s						
SNOW	Snow King Moun	49.20	324	P	P	09 34 18.4	+1.6
SNOW				IAmb	IAmb	09 34 20.6	
	comp=Z,4.5nm,0.7s						
LOHW	Long Hollow	49.20	324	P	P	09 34 19.1	+2.3
LOHW				IAmb	IAmb	09 34 19.4	
	comp=Z,3.6nm,0.6s						
TPAW	Teton Pass	49.33	324	P	P	09 34 18.7	+0.8
TPAW				IAmb	IAmb	09 34 19.8	
	comp=Z,4.4nm,0.7s						
TPNV	Topopah Spring	49.37	314	P	P	09 34 20.6	+2.5
	baz=117,SNR=6.5						
TPNV	Topopah Spring	49.37	314	P	P	09 34 19.5	+1.4
RLMT	Red Lodge	49.39	327	P	P	09 34 20.0	+1.9
	baz=130						
R11A	Troy Canyon, C	49.55	316	P	P	09 34 21.6	+2.1
	baz=118,SNR=6.2						
R11A	Troy Canyon, C	49.55	316	P	P	09 34 21.8	+2.3
IMW	Indian Meadow	49.57	324	P	P	09 34 21.5	+1.8
IMW				IAmb	IAmb	09 34 22.1	
	comp=Z,3.9nm,0.7s						
FURC	Furnace Creek,	49.60	313	P	P	09 34 21.9	+2.2
	baz=116						
EDW2	Edwards Air Fo	49.78	311	P	P	09 34 22.4	+1.3
	baz=114						
LRMC	Laurel Mtn Rad	49.79	311	P	P	09 34 22.5	+1.2
	baz=114						
MPMC	Manual Prospec	49.89	312	P	P	09 34 23.1	+1.0
	baz=115						
YHH	Holmes Hill	50.06	325	P	P	09 34 26.1	+2.8
YHL	Hebgen Lake	50.28	325	P	P	09 34 27.7	+2.7
CWC	Cottonwood Cre	50.48	312	P	P	09 34 28.1	+1.6
	baz=115						
TPH	Tonopah	50.57	315	P	P	09 34 27.4	+0.2
VES	Vestal, Richgr	50.98	311	P	P	09 34 32.1	+2.0
	baz=113						
BOZ	Bozeman (W)	50.99	326	P	P	09 34 31.8	+1.7
	baz=127,SNR=5.4						
BOZ	Bozeman (W)	50.99	326	P	P	09 34 31.8	+1.7
MCMT	McKenzie Canyo	51.22	324	P	P	09 34 34.4	+2.4
NV11	Mina Array Sit	51.38	315	P	P	09 34 35.5	+2.3
DLMT	Dillon	51.39	325	P	P	09 34 35.4	+2.3
HLID	Hailey	51.44	322	P	P	09 34 35.4	+1.8
	baz=123,SNR=6.7						
HLID	Hailey	51.44	322	P	P	09 34 34.8	+1.2
SMMC	Simmler	51.47	310	P	P	09 34 35.4	+1.7
	baz=112						
NVAR	Mina Array Bea	51.49	315	P	P	09 34 36.0	+2.0
	comp=Z,2.1nm,0.8s,baz=125,slow=7.5,SNR=17						
NVAR				PcP	PcP	09 35 48.0	+1.8
	comp=Z,0.3nm,0.4s,baz=130,slow=5.9,SNR=4.2						
NVAR	Mina Array Bea	51.49	315	P	P	09 34 34.5	+0.4
EGMT	Eagleton	51.52	329	P	P	09 34 35.5	+1.6
	baz=131						
LRM	Limekiln Ridge	51.58	326	P	P	09 34 34.9	+0.2
KVN	Kaiserville	51.62	315	P	P	09 34 35.2	+0.2
MDPB	Devils Postpil	51.70	313	P	P	09 34 38.2	+2.5
RYN	Ryan	51.73	315	P	P	09 34 37.4	+1.6
HRY	Holter Researc	51.78	327	P	P	09 34 37.8	+1.9
MFID	Camas Ranch	52.23	321	P	P	09 34 38.8	-0.5
MFID				IAmb	IAmb	09 34 41.9	
	comp=Z,5.2nm,0.8s						
WAKR	Walker	52.32	314	P	P	09 34 42.5	+2.3
YERR	Yerington	52.39	315	P	P	09 34 42.4	+1.7
YERR				IAmb	IAmb	09 34 43.3	
	comp=Z,4.6nm,0.8s						
MSO	Missoula	53.01	326	P	P	09 34 46.2	+1.2
	baz=126						
WVOR	Wild Horse Val	53.53	319	P	P	09 34 50.1	+1.2
WVOR				IAmb	IAmb	09 34 53.0	
	comp=Z,5.4nm,0.9s						
JTMT	Jette	53.73	327	P	P	09 34 50.4	+0.1
JTMT				IAmb	IAmb	09 34 53.1	
	comp=Z,4.4nm,0.8s						
J08A	Circle Bar Ran	53.87	320	P	P	09 34 53.0	+1.7
F10A	Beach Ranch, E	54.43	323	P	P	09 34 56.2	+0.9
F10A				IAmb	IAmb	09 34 57.1	
	comp=Z,4.4nm,0.6s						
O03E	Paynes Creek	54.73	315	P	P	09 34 58.5	+0.9
	baz=114						
I07A	Izee	54.87	320	P	P	09 35 00.1	+1.6
I07A				IAmb	IAmb	09 35 01.1	
	comp=Z,3.6nm,0.8s						
G08A	Pilot Rock	55.12	322	P	P	09 35 01.8	+1.4
G08A				IAmb	IAmb	09 35 02.8	
	comp=Z,6.6nm,0.7s						
O02D	Mt. Diablo Mer	55.38	315	P	P	09 35 02.7	+0.5
	baz=113						
NEW	Newport	55.60	326	P	P	09 35 04.4	+0.8
	baz=123						
J05D	Fort Rock, OR	55.62	319	P	P	09 35 05.8	+1.8
	baz=116,SNR=7.9						
N02D	Trinity Center	55.63	316	P	P	09 35 04.0	0.0
	baz=114						
PINE	Pine Mountain	55.66	319	P	P	09 35 06.5	+2.2
L04D	Klamath Falls	55.87	317	P	P	09 35 06.8	+1.0
	baz=115						
M02C	Callahan	55.91	316	P	P	09 35 06.1	+0.2
	baz=114						
YBH	Yreka Blue Hor	55.94	317	P	P	09 35 06.6	+0.4
YBH				IAmb	IAmb	09 35 07.0	
	comp=Z,2.2nm,0.6s						
C09A	Chrisman Ranch	56.00	325	P	P	09 35 07.8	+1.3
KMRM	Mail Ridge	56.04	315	P	P	09 35 08.0	+1.0
KHMM	Horse Mountain	56.31	315	P	P	09 35 11.0	+2.1
KHMM				IAmb	IAmb	09 35 11.7	
	comp=Z,6.5nm,0.8s						
I04A	Tendick Farm,	56.61	319	P	P	09 35 12.1	+1.2
	baz=116						
L02E	Cave Junction	56.73	317	P	P	09 35 12.4	+0.7
	baz=114						
H04A	Detroit Lake	56.86	320	P	P	09 35 14.2	+1.7
H04A				IAmb	IAmb	09 35 18.0	
	comp=Z,10nm,1.2s						
B08A	Colville Reser	56.90	325	P	P	09 35 13.6	+0.7
B08A				IAmb	IAmb	09 35 14.5	
	comp=Z,2.9nm,0.7s						
K02D	Willamette Mer	56.98	317	P	P	09 35 14.4	+0.9
	baz=114						
LTY	Liberty	57.12	323	P	P	09 35 16.5	+2.0
LTY				IAmb	IAmb	09 35 17.0	
	comp=Z,4.0nm,0.7s						
I03D	Drain, OR	57.19	318	P	P	09 35 16.0	+1.1
	baz=115						
I02D	Swisshome	57.68	319	P	P	09 35 19.3	+1.0
	baz=114						
B05A	Bryant	58.45	324	P	P	09 35 24.1	+0.5
	baz=118						
YKA	Yellowknife Ar	63.27	340	P	P	09 35 57.0	+1.1
	comp=Z,4.3nm,0.7s,baz=106,slow=5.3,SNR=7.7						
EPYK	Eagle Plains	73.39	338	P	P	09 37 00.3	+1.5
	baz=112						
K27K	Chicken	74.76	335	P	P	09 37 07.9	+1.1
	baz=106						
SCRK	Sand Creek	75.56	335	P	P	09 37 13.0	+1.5
	baz=104						
HDA	Harding Lake	76.92	335	P	P	09 37 19.7	+0.7
	baz=102						
ILAR	Eielson Array	76.97	335	P	P	09 37 19.9	+0.6
	comp=Z,0.5nm,0.7s,baz=118,slow=4.8,SNR=5.6						
ILAR				pP	pP	09 37 57.6	+1.5
	comp=Z,0.4nm,0.7s,baz=66,slow=6.0,SNR=4.2						
ILAR	Eielson Array	76.97	335	P	P	09 37 20.3	+1.0
BPAW	Bear Paw Mtn.	78.61	334	P	P	09 37 29.9	+1.5
PPLA	Purkeypile	78.99	333	P	P	09 37 32.1	+1.4
PPLA				IAmb	IAmb	09 37 32.6	
	comp=Z,4.8nm,0.6s						
SVW2	Sparrevohn	80.43	331	P	P	09 37 38.8	+0.6
SVW2				IAmb	IAmb	09 37 50.5	
	comp=Z,8.9nm,1.4s						
VNA3	Neumayer Olymp	88.16	163	P	P	09 38 15.8	-1.1
VNA2	Neumayer--Watz	88.69	163	P	P	09 38 18.7	-0.7
SNAA	Sanae	90.33	163	P	P	09 38 26.3	-0.8
LZH	Lanzhou	137.23	4	*e*PKP	PKPdf	09 44 48.6	-1.2
LZH				pPKP	pPKPdf	09 45 29.3	-0.3
LZH				sPKP		09 45 47.8	
ASAR	Alice Springs	149.10	234	PKPbc	PKPbc	09 45 14.6	-0.4
	comp=Z,1.7nm,0.5s,baz=122,slow=3.0,SNR=17						
ASAR	Alice Springs	149.10	234		PKiKP	09 45 16.9	+0.8
WRA	Warramunga Arr	150.33	241	PKPbc	PKPbc	09 45 18.1	+0.1
	comp=Z,1.0nm,0.3s,baz=106,slow=3.0,SNR=65						

IDC 16 09:32:38.8±7.6, 6°.10S×125°.40E, h519km±107km, mb2.7/1, mb1 2.5/4, mb1mx2.4/47, mbtmp3.3/4, Error ellipse: s-maj=129.2km s-min=34.5km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.93	179	P	P	09 35 15.6	-1.0
	0.1nm,0.3s,baz=9.5,slow=6.7,SNR=3.0						
WRA	Warramunga Arr	16.28	149	P	P	09 36 00.6	-1.3
	0.2nm,0.3s,baz=327,slow=10,SNR=30						
ASAR	Alice Springs	19.29	156	P	P	09 36 30.7	+0.6
	0.1nm,0.3s,baz=343,slow=14,SNR=5.3						
MKAR	Makanchi Array	65.03	329	P	P	09 42 27.6	0.0
	0.3nm,0.4s,baz=120,slow=9.6,SNR=3.3						

*IDC **16** 09:34:51.0±1.3, 47°.55S×165°.36E, h0km, mb4.4/4, mb1 4.5/6, mb1mx4.1/26, mbtmp4.4/6, ML4.1/2, MS3.6/9, Ms1 3.6/9, ms1mx3.4/28, Error ellipse: s-maj=43.4km s-min=23.4km az=171.0*

*NEIC **16** 09:34:51.9±3.1, 47°.8S±0°.1×165°.2E±0°.1, h24km±5km, Error ellipse: s-maj=16.2km s-min=11.8km az=144.0*

ISC 16 09:34:53.0±1.3, 47°.79S±0°.08×165°.32E±0°.06, h28km±8km, n79, σ1°.73/91, mb4.5/9, MS3.6/8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	1.87	30	P	Pn	09 35 22.3	-0.9
PYZ				S	Sn	09 35 45.9	+0.1
PYZ	Puysegur Point	1.87	30		Pn	09 35 21.7	-1.4
PYZ				Sn	Sn	09 35 45.9	+0.1
APZ	The Paps	2.05	63	P	Pn	09 35 25.5	-0.2
APZ				S	Sn	09 35 50.5	+0.1
WHZ	Wether Hill Ro	2.62	45	P	Pn	09 35 33.1	-0.3
WHZ				S	Sn	09 36 04.7	+0.5
WHZ	Wether Hill Ro	2.62	45		Pn	09 35 33.2	-0.2
WHZ				Sn	Sn	09 36 06.5	+2.3
SYZ	Scrubby Hill	2.89	66	P	Pn	09 35 37.8	+0.7
SYZ				S	Sn	09 36 12.7	+1.7
MLZ	Mavora Lakes	3.10	40	P	Pn	09 35 41.7	+1.7
MLZ				S	Sn	09 36 18.6	+2.5
MLZ	Mavora Lakes	3.10	40		Pn	09 35 40.4	+0.3
MLZ				Sn	Sn	09 36 16.5	+0.4
TUZ	Tuapeka	3.48	60	P	Pn	09 35 46.0	+0.7
TUZ				S	Sn	09 36 26.1	+0.6
MSZ	Milford Sound	3.60	31	P	Pn	09 35 48.3	+1.4
WKZ	Wanaka	3.92	42	P	Pn	09 35 53.1	+1.8
WKZ	Wanaka	3.92	42	Pn	Pn	09 35 52.7	+1.4
WKZ				Sn	Sn	09 36 38.9	+2.6
HHSZ	Highcliff Hill	4.09	64	P	Pn	09 35 54.9	+1.2
JCZ	Jackson Bay	4.43	34	P	Pn	09 36 00.2	+1.8
ODZ	Otahua Downs	4.59	55	P	Pn	09 35 59.0	-1.5
ODZ	Otahua Downs	4.59	55	Pn	Pn	09 36 00.7	+0.1
ODZ				Sn	Sn	09 36 50.7	-2.2
LBZ	Lake Benmore	4.80	47	P	Pn	09 36 02.6	-0.8
FOZ	Fox Glacier	5.29	38	P	Pn	09 36 10.9	+0.8
FOZ	Fox Glacier	5.29	38	Pn	Pn	09 36 11.4	+1.2
FOZ				Sn	Sn	09 37 09.3	-0.9
GCSZ	Gaunt Creek Bo	5.69	40	P	Pn	09 36 16.2	+0.7
RPZ	Rata Peaks	5.72	47	Pn	Pn	09 36 13.8	-2.2
	5.0nm,0.3s,baz=205,slow=3.5,SNR=27						
RPZ				Sn	Sn	09 37 20.2	-0.5
	19nm,0.3s,baz=4.0,slow=18,SNR=7.8						
RPZ				LR	LR	09 38 41.1	
	comp=Z,918nm,19.9s,baz=202,slow=42						
RPZ	Rata Peaks	5.72	47	P	Pn	09 36 14.2	-1.8
RPZ	Rata Peaks	5.72	47		Pn	09 36 15.8	-0.2
RPZ				Sn	Sn	09 37 20.4	-0.3
WACZ	Wakanui South	5.96	52	P	Pn	09 36 19.3	+0.1
WVZ	Waitaha Valley	6.06	41	P	Pn	09 36 21.3	+0.7
OXZ	Oxford	6.49	49	P	Pn	09 36 26.5	-0.2
OXZ	Oxford	6.49	49		Pn	09 36 26.4	-0.2
OXZ				Sn	Sn	09 37 37.4	-2.4
MQZ	McQueen's Vall	6.56	54	P	Pn	09 36 26.2	-1.3
MQZ	McQueen's Vall	6.56	54	Pn	Pn	09 36 27.2	-0.3
MQZ				Sn	Sn	09 37 41.7	+0.4
AKCZ	Akaroa Harbour	6.59	56	P	Pn	09 36 27.8	-0.2
INZ	Inchbonnie	6.66	43	P	Pn	09 36 28.8	0.0
LTZ	Lake Taylor	7.00	47	Pn	Pn	09 36 35.9	+2.2
KHZ	Kahutara	7.91	50	Pn	Pn	09 36 50.0	+3.9
THZ	Tophouse	8.08	45	Pn	Pn	09 36 49.0	+0.4
THZ				Sn	Sn	09 38 16.2	-2.8
BSWZ	Blackbirch Sta	8.60	48	Pn	Pn	09 36 57.3	+1.8
QRZ	Quartz Range	8.67	39	Pn	Pn	09 36 57.0	+0.5
NNZ	Nelson	8.73	44	Pn	Pn	09 37 00.0	+2.7
TUWZ	Tuamarina	8.84	47	Pn	Pn	09 37 00.4	+1.5
URZ	Urewera	12.84	46	Pn	Pn	09 37 52.1	-1.4
	1.4nm,0.3s,baz=242,slow=8.5,SNR=6.6						
URZ				Sn	Sn	09 40 07.3	-8.0
	0.6nm,0.3s,baz=32,slow=8.8,SNR=3.2						
URZ				LR	LR	09 43 49.5	
	comp=Z,897nm,18.1s,baz=235,slow=43						
CAN	Canberra	17.40	310		Pn	09 38 52.1	-1.6
CAN				IAmb	IAmb	09 39 32.8	
	comp=Z,89nm,1.8s						
TOO	Toolangi	17.75	298	Pn	Pn	09 38 54.6	-3.4
STKA	Stephens Creek	24.03	303	P	P	09 40 07.9	+2.4
	comp=Z,2.9nm,0.7s,baz=120,slow=12,SNR=5.9						
STKA				LR	LR	09 47 49.4	
	comp=Z,43nm,18.4s,baz=201,slow=32						
STKA	Stephens Creek	24.03	303	P	P	09 40 04.5	-1.1
EIDS	Eidsvold	25.04	328	P	P	09 40 12.7	-2.1
DZM	Mont Dzumac	25.67	2	LR	LR	09 48 50.7	
	comp=Z,115nm,20.9s,baz=202,slow=33						
DZM	Mont Dzumac	25.67	2	*e*P	P	09 40 23.3	+2.7
	comp=Z,84nm,1.3s						
DZM				*e*LR	LR	09 46 46.4	
	comp=Z,164nm,24.2s						
DZM	Mont Dzumac	25.67	2	P	P	09 40 19.6	-1.0
VNDA	Vanda	29.87	182	LR	LR	09 50 29.1	
	comp=Z,120nm,19.2s,baz=3.0,slow=31						
AS31	Alice Springs	34.67	303	P	P	09 41 36.7	-3.5
AS31				IAmb	IAmb	09 41 42.0	
	comp=Z,3.3nm,0.7s						
ASAR	Alice Springs	34.67	303	P	P	09 41 41.2	+1.0
	comp=Z,6.4nm,0.6s,baz=133,slow=7.1,SNR=15						
ASAR				PcP	PcP	09 44 15.6	+1.7
	comp=Z,1.0nm,0.6s,baz=132,slow=3.8,SNR=6.8						
ASAR				LR	LR	09 56 25.3	
	comp=Z,110nm,18.1s,baz=133,slow=37						
ASAR	Alice Springs	34.67	303	P	P	09 41 38.5	-1.7
ASAR					PcP	09 44 15.5	+1.6
WR0	Warramunga Arr	37.29	307	P	P	09 42 02.8	+0.2
WR0				IAmb	IAmb	09 42 03.8	
	comp=Z,6.1nm,0.7s						
WB2	Warramunga Arr	37.40	307	P	P	09 42 03.6	0.0
WB2				IAmb	IAmb	09 42 04.8	
	comp=Z,6.8nm,0.7s						
WRA	Warramunga Arr	37.41	307	P	P	09 42 03.9	+0.3
	comp=Z,5.7nm,0.6s,baz=139,slow=7.8,SNR=88						
WRA				PcP	PcP	09 44 23.6	+1.6
	comp=Z,0.8nm,0.6s,baz=147,slow=3.1,SNR=11						
WRA	Warramunga Arr	37.41	307	P	P	09 42 03.1	-0.5
WRA					PcP	09 44 22.7	+0.7
WRAB	Tennant Creek	37.41	307	P	P	09 42 03.5	-0.2
WB0	Warramunga Arr	37.52	307	P	P	09 42 04.9	+0.3
WB0				IAmb	IAmb	09 42 08.2	
	comp=Z,6.1nm,1.1s						
H01W1	Cape Leeuwin H	39.81	270	T	T	10 24 31.6	
	baz=125,slow=75,SNR=218						
H01W2	Cape Leeuwin H	39.83	270	T	T	10 24 45.9	
	baz=125,slow=75,SNR=203						
H01W3	Cape Leeuwin H	39.83	270	T	T	10 24 30.9	
	baz=125,slow=75,SNR=209						
QSPA	South Pole Qui	42.34	180	P	P	09 42 41.6	-2.6
FITZ	Fitzroy Crossi	43.81	299	P	P	09 42 57.5	+1.1
	comp=Z,2.8nm,0.7s,baz=181,slow=5.3,SNR=11						
FITZ	Fitzroy Crossi	43.81	299	P	P	09 42 56.3	-0.1
FITZ				IAmb	IAmb	09 42 59.0	
	comp=Z,11nm,1.6s						
MTN	Manton Dam	44.99	309	P	P	09 43 07.0	+1.0
PPT2	Papeete2	47.49	66	*e*LR	LR	09 56 29.1	
	comp=Z,103nm,24.2s						
PPT	Papeete	47.50	66	LR	LR	09 59 53.4	
	comp=Z,64nm,20.9s,baz=276,slow=32						
MAW	Mawson	51.22	209	LR	LR	10 03 02.9	
	comp=Z,91nm,18.6s,baz=48,slow=33						
H08S2	Diego Garcia H	86.29	263	T	T	11 22 41.9	
	baz=138,slow=76,SNR=55						
H08S1	Diego Garcia H	86.31	263	T	T	11 22 42.9	
	baz=138,slow=76,SNR=76						
H08S3	Diego Garcia H	86.31	263	T	T	11 22 43.4	
	baz=138,slow=76,SNR=58						
MJAR	Matsushiro Arr	87.38	338	LR	LR	10 22 40.3	
	comp=Z,15nm,19.2s,baz=205,slow=33						
BRTR	Keskin Array B	144.67	275	PKP	PKPdf	09 54 27.3	+0.6
	comp=Z,1.7nm,0.8s,baz=134,slow=5.3,SNR=4.4						
SPITS	Spitsbergen Ar	147.31	349	PKPbc	PKPab	09 54 34.5	+0.3
	comp=Z,4.2nm,0.6s,baz=112,slow=6.5,SNR=7.0						
ARCES	ARCESS Array B	150.74	332	PKPbc	PKiKP	09 54 43.8	+2.0
	comp=Z,2.4nm,0.6s,baz=62,slow=3.2,SNR=14						
AKASG	Malin Array Be	151.50	292	PKPbc	PKiKP	09 54 45.5	+1.7
	comp=Z,5.0nm,0.5s,baz=76,slow=2.4,SNR=13						
MLR	Muntele Rosu	152.23	281	PKPbc	PKiKP	09 54 47.5	+1.7
	comp=Z,2.5nm,0.6s,baz=135,slow=1.4,SNR=3.3						
FINES	FINESS Array B	153.25	316	PKPbc	PKiKP	09 54 49.4	+2.2
	comp=Z,2.6nm,0.7s,baz=81,slow=6.0,SNR=11						
FINES	FINESS Array B	153.25	316	PKPdf	PKPdf	09 54 38.3	-1.2
FINES				PKPbc	PKPbc	09 54 46.8	-0.2
FINES				PKPab	sPKPbc	09 54 58.8	+0.8
NOA	NORSAR Array B	160.10	321	PKPab	PKPab	09 55 29.3	+0.6
	comp=Z,0.7nm,0.7s,baz=61,slow=4.6,SNR=4.0						

IDC 16 09:36:28.2±5.0, 71°.01N×132°.50W, h0km, mb3.2/2, mb1 3.8/4, mb1mx3.4/50, mbtmp3.4/4, ML3.7/2, Error ellipse: s-maj=79.0km s-min=27.4km az=178.0, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	8.26	228	Pn	Pn	09 38 27.8	-1.3
	0.3nm,0.3s,baz=29,slow=13,SNR=12						
ILAR				Sn	Sn	09 39 57.4	-5.6
	0.4nm,0.3s,baz=31,slow=24,SNR=6.1						
YKA	Yellowknife Ar	11.03	132	Pn	Pn	09 39 03.8	-3.2
	1.0nm,0.3s,baz=326,slow=13,SNR=29						
YKA				Sn	Sn	09 41 00.1	-11
	1.0nm,0.3s,baz=324,slow=23,SNR=8.3						
PDAR	Pinedale Array	30.54	146	P	P	09 42 43.0	-0.2
	0.2nm,0.6s,baz=13,slow=8.5,SNR=3.4						
NVAR	Mina Array Bea	33.47	160	P	P	09 43 08.9	0.0
	0.3nm,0.7s,baz=0.9,slow=11,SNR=3.2						

*IDC **16** 09:41:38.0±0.8, 37°.21N×23°.17E, h0km, mb3.8/13, mb1 3.8/17, mb1mx3.7/42, mbtmp3.8/17, ML3.6/4, MS2.7/5, Ms1 2.8/5, ms1mx2.5/47, Error ellipse: s-maj=17.8km s-min=15.0km az=49.0*

*THE **16** 09:41:40.8, 37°.19N×23°.01E, h5km, ML3.9/23, Error ellipse: s-maj=0.7km s-min=0.3km az=236.0*

*ATH **16** 09:41:40.2, 37°.18N×23°.00E, h25km±1km, ML3.9/21, Error ellipse: s-maj=1.2km s-min=0.7km az=252.0*

*NEIC **16** 09:41:42.0±2.5, 37°.19N±0°.07×23°.02E±0°.06, h35km±5km, Error ellipse: s-maj=9.8km s-min=6.0km az=196.0*

*DDA **16** 09:41:42.9, 37°.41N×23°.16E, h7km±4km, MW3.9*

*BEO **16** 09:41:45.3±1.2, 37°.53N×23°.26E, h0km, ML3.8/2*

ISC 16 09:41:40.5±0.7, 37°.19N±0°.02×22°.99E±0°.02, h16km±4km, n229, σ1°.34/269, mb4.0/19, 6C-7D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YDRA	Hydra	0.41	67	P	Pg	09 41 49.2	+0.4
YDRA				S	Sb	09 41 55.5	+0.2
YDRA				AML	AML	09 41 58.4	
	comp=N,31938μm,0.3s						
YDRA				AML	AML	09 41 59.1	
	comp=E,44833μm,0.5s						
VLI	Veliai	0.47	186	P	Pg	09 41 50.3	+0.2
VLI				S	Sg	09 41 56.4	0.0
	comp=E,15μm,0.5s						
VLI	Veliai	0.47	186	P	Pg	09 41 50.2	+0.2
VLI				S	Sg	09 41 56.5	0.0
VLI				AML	AML	09 41 59.6	
	comp=N,45919μm,0.4s						
VLI				AML	AML	09 42 01.0	
	comp=E,37697μm,0.4s						
MNVA	Monemvasia	0.51	176	P	Pg	09 41 50.7	+0.1
MNVA				S	Sb	09 41 58.8	+0.7
VLX	Vlachokerasia	0.52	290	P	Pg	09 41 51.2	+0.3
VLX				S	Sg	09 41 58.1	+0.1
	comp=E,33μm,0.3s						
VLX	Vlachokerasia	0.52	290	P	Pg	09 41 51.5	+0.5
VLX				S	Sg	09 41 58.4	+0.4
VLX				AML	AML	09 41 59.4	
	comp=N,53196μm,0.4s						
VLX				AML	AML	09 41 59.9	
	comp=E,76325μm,0.3s						
TRIP	Tripoli	0.67	300	P	Pg	09 41 54.0	+0.4
TRIP				S	Sg	09 42 02.9	+0.4
	comp=E,11μm,0.6s						
TRIP	Tripoli	0.67	300	P	Pg	09 41 54.0	+0.4
TRIP				S	Sg	09 42 02.6	+0.1
TRIP				AML	AML	09 42 05.2	
	comp=N,18413μm,0.4s						
TRIP				AML	AML	09 42 09.8	
	comp=E,23984μm,0.4s						
LTK	Loutraki	0.83	359	P	Pg	09 41 56.5	-0.2
LTK				S	Sb	09 42 09.2	+1.7
	comp=E,16μm,0.5s						
LTK	Loutraki	0.83	359	P	Pg	09 41 56.4	-0.3
ITM	Ithomi	0.85	270	P	Pg	09 41 57.4	+0.3
ITM				S	S

PYL	**PYLOS**	**1.04 254**	P	**Pg**	**09 42 00.7**	**0.0**
PYL			S	**Sb**	**09 42 15.4**	**+1.8**
comp=E,5μm,0.6s						
PYL	**PYLOS**	**1.04 254**	P	**Pg**	**09 42 00.5**	**-0.2**
PYL			S	**Sg**	**09 42 14.9**	**+0.5**
KLV	**Kalavryta, Ach**	**1.08 322**	P	**Pg**	**09 42 00.7**	**-0.8**
KLV			S	**Sb**	**09 42 16.5**	**+1.7**
comp=E,5μm,0.7s						
KLV	**Kalavryta, Ach**	**1.08 322**	P	**Pg**	**09 42 00.7**	**-0.8**
KLV			AML	AML	09 42 19.4	
comp=N,10676μm,0.4s						
KLV			AML	AML	09 42 24.0	
comp=E,8764μm,0.9s						
PTL	**Penteli**	**1.10 39**	P	**Pg**	**09 42 01.2**	**-0.6**
PTL			S	**Sb**	**09 42 17.0**	**+1.7**
comp=E,5μm,0.7s						
PTL	**Penteli**	**1.10 39**	P	**Pg**	**09 42 01.0**	**-0.8**
PTL			S	**Sb**	**09 42 16.8**	**+1.5**
PTL			AML	AML	09 42 19.3	
comp=N,8310μm,0.6s						
PTL			AML	AML	09 42 26.1	
comp=E,10506μm,0.8s						
DION	**Dionisos Attik**	**1.16 40**	P	**Pg**	**09 42 02.3**	**-0.5**
DION			S	**Sn**	**09 42 19.3**	**+1.8**
comp=E,10μm,0.5s						
DION	**Dionisos Attik**	**1.16 40**	P	**Pg**	**09 42 02.3**	**-0.5**
SERI	**Serifos**	**1.19 91**	P	**Pg**	**09 42 02.5**	**-1.0**
SERI			S	**Sb**	**09 42 19.5**	**+1.6**
comp=E,2μm,0.8s						
SERI	**Serifos**	**1.19 91**	P	**Pg**	**09 42 02.5**	**-1.0**
SERI			AML	AML	09 42 23.7	
comp=E,4311μm,0.4s						
SERI			AML	AML	09 42 28.2	
comp=N,5103μm,0.7s						
MHLA	**Plaka, Milos I**	**1.23 111**	P	**Pg**	**09 42 03.4**	**-0.8**
MHLO	**Agia Marina, M**	**1.23 114**	P	**Pg**	**09 42 03.6**	**-0.7**
MHLO	**Agia Marina, M**	**1.23 114**	P	**Pg**	**09 42 03.3**	**-1.0**
MHLO			AML	AML	09 42 27.1	
comp=N,23109μm,0.4s						
MHLO			AML	AML	09 42 29.1	
comp=E,23896μm,0.7s						
DSF	**Desfina**	**1.27 343**	P	**Pg**	**09 42 04.4**	**-0.7**
DSF			S	**Sb**	**09 42 22.2**	**+1.9**
comp=E,4μm,0.5s						
ALIK	**Aliki, Aigiali**	**1.28 327**	P	**Pn**	**09 42 04.5**	**+0.9**
DLFA	**Delphi**	**1.34 343**	P	**Pn**	**09 42 05.5**	**+0.9**
DLFA			AML	AML	09 42 26.8	
comp=E,11835μm,0.6s						
DLFA			AML	AML	09 42 27.9	
comp=N,6925μm,0.5s						
ANKY	**Antikythira Is**	**1.34 169**	P	**Pn**	**09 42 05.3**	**+0.7**
ANKY			S	**Sn**	**09 42 24.3**	**+2.2**
comp=N,3μm,0.5s						
ANKY	**Antikythira Is**	**1.34 169**	P	**Pn**	**09 42 05.1**	**+0.6**
ANKY			AML	AML	09 42 28.4	
comp=N,6077μm,0.5s						
ANKY			AML	AML	09 42 33.0	
comp=E,5607μm,0.5s						
KARY	**Karystos**	**1.42 53**	P	**Pn**	**09 42 05.7**	**+0.1**
KARY			S	**Sb**	**09 42 25.2**	**+0.8**
comp=E,2μm,0.7s						
KARY	**Karystos**	**1.42 53**	P	**Pn**	**09 42 05.7**	**+0.1**
KARY			AML	AML	09 42 28.2	
comp=E,3950μm,0.6s						
KARY			AML	AML	09 42 32.9	
comp=N,3113μm,0.8s						
LKR	**Lokris**	**1.46 0**	P	**Pn**	**09 42 07.1**	**+0.9**
LKR	**Lokris**	**1.46 0**	P	**Pn**	**09 42 07.0**	**+0.9**
RLS	**Riolos of Patr**	**1.49 306**	P	**Pn**	**09 42 07.9**	**+1.3**
RLS	**Riolos of Patr**	**1.49 306**	P	**Pn**	**09 42 07.8**	**+1.3**
RLS			AML	AML	09 42 37.2	
comp=E,3855μm,0.7s						
RLS			AML	AML	09 42 39.4	
comp=N,3187μm,0.5s						
EFP	**Efpalio**	**1.50 325**	P	**Pn**	**09 42 08.0**	**+1.2**
EFP			S	**Sn**	**09 42 28.0**	**+2.0**
comp=N,3μm,0.5s						
AXAR	**Agios Charalam**	**1.59 351**	P	**Pn**	**09 42 09.6**	**+1.6**
AXAR	**Agios Charalam**	**1.59 351**	P	**Pn**	**09 42 09.6**	**+1.6**
AXAR			AML	AML	09 42 42.0	
comp=N,12727μm,0.9s						
AXAR			AML	AML	09 42 43.5	
comp=E,16774μm,0.6s						
AXS	**Araxos**	**1.63 308**	P	**Pn**	**09 42 10.1**	**+1.6**
AXS			S	**Sb**	**09 42 32.3**	**+1.9**
comp=E,2μm,0.8s						
AXS	**Araxos**	**1.63 308**	P	**Pn**	**09 42 10.2**	**+1.7**
AXS			AML	AML	09 42 43.0	
comp=N,3742μm,0.9s						
AXS			AML	AML	09 42 44.8	
comp=E,2978μm,0.7s						
ANX	**Ano Chora**	**1.64 329**	P	**Pn**	**09 42 09.8**	**+1.1**
ANX			S	**Sn**	**09 42 31.6**	**+2.1**
comp=E,5μm,0.6s						
ANX	**Ano Chora**	**1.64 329**	P	**Pn**	**09 42 09.7**	**+1.1**
ANX			AML	AML	09 42 37.2	
comp=N,8585μm,0.4s						
ANX			AML	AML	09 42 39.8	
comp=E,10998μm,0.7s						
KYMI	**Kymi, Euboea I**	**1.68 31**	P	**Pn**	**09 42 09.7**	**+0.5**
KYMI			S	**Sn**	**09 42 32.9**	**+2.4**
comp=E,2μm,0.7s						
KYMI	**Kymi, Euboea I**	**1.68 31**	P	**Pn**	**09 42 09.7**	**+0.5**
KYMI			AML	AML	09 42 44.0	
comp=N,4521μm,0.7s						
KYMI			AML	AML	09 42 44.0	
comp=E,4990μm,0.7s						
RODP	**Rodopos**	**1.74 159**	P	**Pn**	**09 42 11.2**	**+1.2**
TNSA	**Tinos**	**1.76 78**	P	**Pn**	**09 42 10.7**	**+0.4**
CHAN	**Chania**	**1.87 153**	P	**Pn**	**09 42 12.8**	**+1.0**
CHAN			S	**Sn**	**09 42 36.7**	**+1.6**
IMMV	**Iera Moni Meta**	**1.90 155**	P	**Pn**	**09 42 13.1**	**+0.8**
IMMV	**Iera Moni Meta**	**1.90 155**	P	**Pn**	**09 42 12.8**	**+0.5**
EVR	**Evrytania**	**1.96 332**	P	**Pn**	**09 42 14.7**	**+1.6**
EVR	**Evrytania**	**1.96 332**	P	**Pn**	**09 42 15.1**	**+1.9**
VAM	**Vamos**	**2.03 151**	P	**Pn**	**09 42 14.7**	**+0.7**
VAM	**Vamos**	**2.03 151**	P	**Pn**	**09 42 14.7**	**+0.7**
APE	**Apeiranthos**	**2.03 93**	P	**Pn**	**09 42 14.3**	**+0.2**
APE	**Apeiranthos**	**2.03 93**	P	**Pn**	**09 42 14.3**	**+0.2**
APE	**Apeiranthos**	**2.03 93**	⇓P	**Pn**	**09 42 13.9**	**-0.1**
APE	**Apeiranthos**	**2.03 93**	⇓S	**Sn**	**09 42 41.0**	**+1.9**
APE	**Apeiranthos**	**2.03 93**	P	**Pn**	**09 42 14.5**	**+0.4**
SKY	**Skiros Island**	**2.08 36**	P	**Pn**	**09 42 15.0**	**+0.2**
NEO	**Neokhori**	**2.12 5**	P	**Pn**	**09 42 16.6**	**+1.3**
SANT	**Santorini**	**2.14 112**	*e*P	**Pn**	**09 42 15.9**	**+0.3**
SANT	**Santorini**	**2.14 112**	Pn	**Pn**	**09 42 14.5**	**-1.1**
XOR	**Xorichti**	**2.18 4**	P	**Pn**	**09 42 16.9**	**+0.9**
XOR	**Xorichti**	**2.18 4**	P	**Pn**	**09 42 17.0**	**+0.9**
VOL3	**Nea Ionia, Vol**	**2.18 359**	P	**Pn**	**09 42 16.3**	**+0.3**
ANAF	**Anafi Island**	**2.38 110**	P	**Pn**	**09 42 20.6**	**+1.7**
IDI	**Anoyia**	**2.44 141**	Pn	**Pn**	**09 42 19.6**	**-0.1**
comp=E,9.0nm,0.3s,baz=229,slow=8.8,SNR=32						
IDI			Sn	**Sn**	**09 42 49.4**	**+0.2**
comp=E,57nm,0.3s,baz=131,slow=7.1,SNR=11						
IDI			LR	LR	09 43 17.2	
comp=E,79nm,21.5s,baz=245,slow=42						
IDI	**Anoyia**	**2.44 141**	P	**Pn**	**09 42 20.1**	**+0.3**
IDI	**Anoyia**	**2.44 141**	P	**Pn**	**09 42 20.0**	**+0.3**
IDI	**Anoyia**	**2.44 141**	⇓P	**Pn**	**09 42 19.8**	**+0.1**
IDI	**Anoyia**	**2.44 141**	⇓S	**Sn**	**09 42 48.9**	**-0.4**
THL	**Klokotos Trika**	**2.49 342**	P	**Pn**	**09 42 21.9**	**+1.6**
THL	**Klokotos Trika**	**2.49 342**	P	**Pn**	**09 42 21.8**	**+1.4**
SIVA	**Sivas**	**2.62 145**	P	**Pn**	**09 42 24.5**	**+2.4**
CHOS	**Chios island**	**2.70 63**	P	**Pn**	**09 42 23.4**	**+0.1**
CHOS	**Chios island**	**2.70 63**	P	**Pn**	**09 42 23.5**	**+0.2**
CHOS	**Chios island**	**2.70 63**	*e*P	**Pn**	**09 42 23.8**	**+0.5**
PAIG	**Paliouri**	**2.78 11**	P	**Pn**	**09 42 25.1**	**+0.7**
PAIG	**Paliouri**	**2.78 11**	P	**Pn**	**09 42 25.0**	**+0.6**
LAST	**Lasithi**	**2.85 134**	P	**Pn**	**09 42 26.1**	**+0.7**
LAST			S	**Sn**	**09 43 01.5**	**+2.0**
comp=E,498nm,0.8s						
LAST	**Lasithi**	**2.85 134**	P	**Pn**	**09 42 25.9**	**+0.5**
LIT	**Litokhoron**	**2.93 352**	P	**Pn**	**09 42 28.0**	**+1.6**
LIT	**Litokhoron**	**2.93 352**		**Pn**	**09 42 28.3**	**+1.9**
SIGR	**SIGRI**	**3.02 47**	*e*P	**Pn**	**09 42 27.6**	**-0.1**
URLA	**Izmir**	**3.08 67**	*e*P	**Pn**	**09 42 29.3**	**+0.8**
URLA	**Izmir**	**3.08 67**	*i* P	**Pn**	**09 42 28.2**	**-0.4**
URLA			*i* S	**Sn**	**09 43 04.6**	**-0.5**
URLA			IAML		09 43 24.0	
comp=N,181nm,1.1s						
URLA			IAML		09 43 40.0	
comp=E,114nm,1.0s						
SMG	**Samos**	**3.10 79**	P	**Pn**	**09 42 29.4**	**+0.6**
IGT	**Igoumenitsa**	**3.14 319**	*e*Pn	**Pb**	**09 42 35.5**	**-0.4**
PLG	**Polygyros**	**3.20 6**	P	**Pn**	**09 42 30.8**	**+0.7**
DGB	**zmir**	**3.21 73**	*i* P	**Pn**	**09 42 31.0**	**+0.9**
DGB			*i* S	**Sn**	**09 43 06.5**	**-1.5**
DGB			IAML		09 43 36.0	
comp=N,63nm,0.7s						
DGB			IAML		09 43 41.0	
comp=E,52nm,1.9s						
OUR	**Ouranopolis**	**3.23 14**	P	**Pn**	**09 42 31.4**	**+0.9**
HORT	**Hortiatis**	**3.40 1**	P	**Pn**	**09 42 33.9**	**+0.9**
GCAM	**G?zelcaml?**	**3.41 80**	*e*P	**Pn**	**09 42 34.3**	**+1.3**
BLCB	**Balcova**	**3.42 68**	*e*P	**Pn**	**09 42 34.3**	**+1.2**
BODT	**Bodrum**	**3.45 91**	*e*P	**Pn**	**09 42 35.1**	**+1.5**
BOZC	**Bozcaada**	**3.57 41**	*e*P	**Pn**	**09 42 35.3**	**+0.1**
AYVA	**Ayvalik**	**3.60 53**	*i* P	**Pb**	**09 42 46.4**	**+2.7**
DKL	**Dikili**	**3.61 57**	*e*P	**Pn**	**09 42 37.1**	**+1.4**
ZEDA	**zmir-Bergama**	**3.68 60**	*i* P	**Pn**	**09 42 38.0**	**+1.3**
ZEDA			*i* S	**Sn**	**09 43 17.9**	**-1.8**
ZEDA			IAML		09 43 43.0	
comp=N,54nm,0.9s						
ZEDA			IAML		09 44 00.0	
comp=E,47nm,1.0s						
DAT	**Datca**	**3.70 96**	*e*P	**Pn**	**09 42 38.5**	**+1.4**
DAT	**Datca**	**3.70 96**	*i* P	**Pn**	**09 42 38.7**	**+1.6**
KARP	**Karpathos**	**3.74 115**		**Pn**	**09 42 38.1**	**+0.5**
FNA	**Florina**	**3.80 341**	*e*Pn	**Pn**	**09 42 41.7**	**+3.3**
FNA	**Florina**	**3.80 341**		**Pn**	**09 42 38.6**	**+0.2**
AYDN	**Tasoluk**	**3.92 82**	*i* P	**Pn**	**09 42 41.5**	**+1.5**
AYDN			IAML		09 43 55.0	
comp=E,44nm,0.7s						
AYDN			IAML		09 43 56.0	
comp=N,48nm,1.0s						
SRS	**Serrai**	**3.95 7**	P	**Pn**	**09 42 40.5**	**+0.2**
SRS	**Serrai**	**3.95 7**	*e*Pn	**Pn**	**09 42 40.6**	**+0.2**
SRS			*e*Sn	**Sn**	**09 43 24.7**	**-1.6**
KNT	**Kendrikon**	**3.96 359**	P	**Pn**	**09 42 42.2**	**+1.6**
AKHS	**Akhisar**	**4.16 65**	*i* P	**Pg**	**09 43 01.4**	**+1.2**
AKHS			*i* S	**Sg**	**09 43 55.5**	**+1.4**
GELI	**Tayfur-Gelibol**	**4.20 39**	*e*P	**Pn**	**09 42 44.1**	**+0.3**
NVR	**Nevrokopi**	**4.21 9**	P	**Pn**	**09 42 45.0**	**+1.0**
TURN	**Turunc**	**4.22 94**	*e*P	**Pn**	**09 42 46.2**	**+2.0**
YER	**Yerkesik**	**4.22 89**	*e*P	**Pn**	**09 42 45.9**	**+1.7**
ARG	**Arkhangelos**	**4.24 102**	*e*P	**Pn**	**09 42 45.9**	**+1.5**
OHR	**Ohrid**	**4.27 337**	*i* Pn	**Pb**	**09 42 54.6**	**-0.6**
OHR			*i* Sn	**Sn**	**09 43 37.6**	**+3.2**
STEP	**BALIKESIR_Sava**	**4.31 58**	*i* P	**Pn**	**09 42 45.9**	**+0.5**
STEP			*i* S	**Sb**	**09 43 53.8**	**+6.2**
STEP			IAML		09 44 14.0	
comp=N,109nm,1.5s						
STEP			IAML		09 44 24.0	
comp=E,96nm,0.9s						
LPK	**Lapseki**	**4.33 42**	*e*P	**Pn**	**09 42 46.2**	**+0.6**
ALN	**Alexandroupoli**	**4.40 32**	*e*P	**Pn**	**09 42 46.5**	**0.0**
ALN	**Alexandroupoli**	**4.40 32**		**Pn**	**09 42 44.8**	**-1.7**
MMB	**Musomiste**	**4.43 7**	*i* P	**Pn**	**09 42 47.8**	**+0.8**
DALY	**Dalyan (Mula)**	**4.54 93**	*e*P	**Pn**	**09 42 50.6**	**+2.0**
SCTE	**Santa Cesarea**	**4.56 310**		**Pn**	**09 42 46.7**	**-2.1**
KKB	**Krupnik**	**4.67 1**	*i* P	**Pn**	**09 42 51.9**	**+1.6**
RZN	**Rozhen**	**4.68 16**	*i* P	**Pn**	**09 42 52.1**	**+1.4**
RKY	**Sarkoy-Tekirda**	**4.78 42**	*e*P	**Pn**	**09 42 52.4**	**+0.6**
TIR	**Tirane**	**4.81 331**	⇑P	**Pn**	**09 42 53.8**	**+1.6**
TIR	**Tirane**	**4.81 331**	Pn	**Pn**	**09 42 51.7**	**-0.5**
KDZ	**Kurdzhali**	**4.83 22**	*i* P	**Pn**	**09 42 52.9**	**+0.4**
MAR4	**Marsite Statio**	**4.91 42**	*e*P	**Pn**	**09 42 54.5**	**+0.8**
MRMT	**Marmara Adasi**	**4.95 45**	*e*P	**Pn**	**09 42 55.2**	**+1.0**
TIP	**Timpagrande**	**5.30 294**		**Pn**	**09 43 00.5**	**+1.5**
BOSS	**Bosilegrad**	**5.31 356**	*e*Pn	**Pn**	**09 43 01.8**	**+2.7**
AKAS	**Kas**	**5.40 98**	Pn	**Pn**	**09 42 59.8**	**-0.7**
VTS	**Vitosha**	**5.42 2**	*i* P	**Pn**	**09 43 02.8**	**+2.0**
ELL	**Elmali**	**5.55 92**	Pn	**Pn**	**09 43 00.3**	**-2.3**
BARS	**Barje**	**5.69 351**	*e*Pn	**Pn**	**09 43 06.8**	**+2.5**
CEL	**Celeste**	**5.73 283**	Pn	**Pn**	**09 43 03.4**	**-1.5**
DRME	**Dracevica, Mon**	**5.79 331**	*e*Pn	**Pn**	**09 43 07.0**	**+1.3**
PDG	**Podgorica**	**5.97 332**	*e*Sn	**Sn**	**09 44 16.2**	**+0.1**
PDG	**Podgorica**	**5.97 332**	⇓P	**Pn**	**09 43 09.6**	**+1.4**
PDG	**Podgorica**	**5.97 332**	*e*Pn	Pn	09 43 04.7	-3.4
PDG	**Podgorica**	**5.97 332**		**Pn**	**09 43 07.5**	**-0.6**
MATE	**Matera**	**6.00 307**	⇓P	**Pn**	**09 43 09.9**	**+1.4**
ZAPS	**Zavoj**	**6.08 358**	*e*Pn	**Pn**	**09 43 11.6**	**+1.9**
SELS	**Selova**	**6.19 347**	*e*Pn	**Pn**	**09 43 13.9**	**+2.7**
HCY	**Herceg Novi**	**6.29 328**	*e*Pn	**Pn**	**09 43 10.2**	**-2.3**
SJES	**Sjenica**	**6.49 340**	*e*Pn	**Pn**	**09 43 17.3**	**+1.9**
BOVS	**Bovan**	**6.51 352**	*e*Pn	**Pn**	**09 43 17.8**	**+2.2**
ZAGS	**Zajecar**	**6.64 355**	*e*Pn	**Pn**	**09 43 19.1**	**+1.8**
BRY	**Bratogost**	**6.65 330**	*e*Pn	**Pn**	**09 43 17.3**	**-0.3**
UPM	**Unac-Piva**	**6.77 334**	*e*Pn	**Pn**	**09 43 19.0**	**-0.3**
RAFF	**Raffo Rosso**	**6.89 273**		**Pn**	**09 43 22.0**	**+1.2**
GRUS	**Gruza**	**6.91 346**	*e*Pn	**Pn**	**09 43 23.4**	**+2.3**
BBLS	**Lazići**	**7.21 339**	*e*Pn	**Pn**	**09 43 26.0**	**+0.8**
BBLS	**Lazići**	**7.21 339**	*e*Pn	**Pn**	**09 43 24.1**	**-1.1**
SGRT	**San Giovanni R**	**7.22 311**	Pn	**Pn**	**09 43 26.7**	**+1.2**
SGRT				**Sn**	**09 44 44.4**	**-2.8**
DIVS	**Divibare**	**7.27 343**	*e*Pn	**Pn**	**09 43 27.5**	**+1.5**
DIVS	**Divibare**	**7.27 343**	*e*Pn	**Pn**	**09 43 26.7**	**+0.7**
DIVS	**Divibare**	**7.27 343**		**Pn**	**09 43 27.5**	**+1.5**
TRUS	**Trudelj**	**7.29 345**	*e*Pn	**Pn**	**09 43 28.7**	**+2.4**
MDVR	**Moldovita**	**7.64 353**	⇑P	**Pn**	**09 43 32.0**	**+0.8**
CORL	**Corleone**	**7.73 278**	Pn	**Pn**	**09 43 32.6**	**+0.2**
CLTB	**Caltabellotta**	**7.79 276**	Pn	**Pn**	**09 43 35.8**	**+2.5**
ARR	**Arges**	**8.26 8**	⇓P	**Pn**	**09 43 41.2**	**+1.5**
VOIR		**8.38 10**	⇑P	**Pn**	**09 43 42.9**	**+1.6**
MLR	**Muntele Rosu**	**8.58 14**	Pn	**Pn**	**09 43 45.4**	**+1.4**
comp=E,0.3nm,0.3s,baz=172,slow=13,SNR=7.2						
MLR	**Muntele Rosu**	**8.58 14**	⇑P	**Pn**	**09 43 45.5**	**+1.4**
BRTR	**Keskin Array B**	**8.72 70**	Pn	**Pn**	**09 43 44.6**	**-1.5**
comp=E,0.1nm,0.3s,baz=264,slow=16,SNR=2.4						
BRTR			LR	LR	09 47 07.9	
comp=E,40nm,21.2s,baz=240,slow=38						
BRTR	**Keskin Array B**	**8.72 70**	Pn	**Pn**	**09 43 45.5**	**-0.6**
BLY	**Banja Luka**	**8.73 332**	*e*Pn	Pn	09 43 53.5	+7.5
DOPR	**Dopca**	**8.95 11**	⇑P	**Pn**	**09 43 51.1**	**+2.0**
VRI	**Vrincioaia**	**9.11 17**	⇑P	**Pn**	**09 43 52.9**	**+1.7**
NRCA	**Norcia**	**9.44 310**		**Pn**	**09 43 54.0**	**-1.8**
CRES	**Cresnjev**	**10.31 329**	*e*Pn	Pn	09 44 03.5	-4.1
BURAR	**Bucovina Array**	**10.54 8**	Pn	**Pn**	**09 44 11.4**	**+0.5**
BUR08	**Bucovina Ar. S**	**10.57 8**	Pn	**Pn**	**09 44 10.2**	**-1.2**
CEY	**Cerknica**	**10.68 326**	*e*Pn	**Pn**	**09 44 10.9**	**-1.9**
MMAI	**Mount Meron Ar**	**10.98 109**	Pn	**Pn**	**09 44 15.8**	**-1.2**
comp=E,0.8nm,0.3s,baz=268,slow=13,SNR=2.3						
EIL	**Elat**	**12.48 123**	LR	LR	09 50 50.2	
comp=E,29nm,19.1s,baz=240,slow=45						
GERES	**GERES Array B**	**13.47 333**	LR	LR	09 50 23.5	
comp=E,93nm,18.9s,baz=92,slow=39						
CLL	**Collm**	**15.80 336**	*e*pP	**Pn**	**09 45 24.0**	**+1.9**
CLL			*e*		09 45 27.0	
CLL			*e*PP	**sP**	**09 45 31.0**	**-1.4**
ESDC	**Sonseca Array**	**21.24 285**	P	**P**	**09 46 28.9**	**+3.2**
comp=E,1.0nm,0.9s,baz=74,slow=11,SNR=5.1						
HFS	**Hagfors**	**23.72 348**	P	**P**	**09 46 51.0**	**-0.5**
comp=E,2.0nm,0.5s,baz=161,slow=9.4,SNR=7.5						
FINES	**FINESS Array B**	**24.35 4**	P	**P**	**09 46 56.4**	**-1.0**
comp=E,0.4nm,0.4s,baz=175,slow=9.6,SNR=6.1						
FINES	**FINESS Array B**	**24.35 4**	P	**P**	**09 46 56.2**	**-1.2**
NAO01	**NORSAR Array S**	**24.89 346**	P	**P**	**09 46 59.2**	**-3.1**
NB2	**NORSAR Subarra**	**25.00 346**	P	**P**	**09 47 03.4**	**+0.1**
comp=Z,1.0nm,0.6s,baz=158,slow=10						
NOA	**NORSAR Array B**	**25.00 346**	P	**P**	**09 47 02.6**	**-0.7**
comp=Z,0.5nm,0.6s,baz=147,slow=9.7,SNR=3.6						
NOA			LR	LR	09 58 22.7	
comp=Z,23nm,18.1s,baz=270,slow=40						
NBO00	**NORSAR Array S**	**25.08 346**	P	**P**	**09 47 00.4**	**-3.6**
NBO00			IAmb	IAmb	09 47 20.4	
comp=Z,11nm,1.0s						
NC204	**NORSAR Array S**	**25.31 346**	P	**P**	**09 47 05.5**	**-0.6**
NC204			IAmb	IAmb	09 47 19.9	
comp=Z,14nm,1.1s						
EKA	**Eskdalemuir Ar**	**25.37 324**	P	**P**	**09 47 07.7**	**+1.1**
comp=Z,0.7nm,0.3s,baz=124,slow=9.2,SNR=6.9						
ESK	**Eskdalemuir**	**25.38 324**	P	**P**	**09 47 04.2**	**-2.6**
ESK			IAmb	IAmb	09 47 19.3	
comp=Z,7.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.59 224**	P	**P**	**09 47 53.6**	**-0.1**
comp=Z,0.6nm,0.7s,baz=33,slow=8.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.59 224**	P	**P**	**09 47 53.2**	**-0.5**
ARCES	**ARCESS Array B**	**32.43 2**	P	**P**	**09 48 09.1**	**-0.3**
comp=Z,0.7nm,0.6s,baz=174,slow=8.8,SNR=4.0						
ARCES	**ARCESS Array B**	**32.43 2**	P	**P**	**09 48 08.7**	**-0.7**
DBIC	**Dimbokro**	**39.57 227**	P	P	09 49 08.1	-2.9
DBIC			IAmb	IAmb	09 49 21.0	
comp=Z,23nm,1.5s						
MK31	**Makanchi Array**	**44.15 58**	P	**P**	**09 49 47.4**	**-0.9**
MKAR	**Makanchi Array**	**44.15 58**	P	**P**	**09 49 47.4**	**-0.9**
comp=Z,1.4nm,0.5s,baz=276,slow=7.0,SNR=16						
MKAR	**Makanchi Array**	**44.15 58**	P	**P**	**09 49 46.7**	**-1.5**
ZAA0	**Zalesovo Array**	**44.90 48**	P	**P**	**09 49 53.0**	**-1.0**
ZAA0			IAmb	IAmb	09 49 59.0	
comp=Z,3.6nm,0.4s						
ZALV	**Zalesovo Beam**	**44.90 48**	P	**P**	**09 49 53.0**	**-1.0**
comp=Z,2.5nm,0.4s,baz=264,slow=8.5,SNR=8.6						
ZALV	**Zalesovo Beam**	**44.90 48**	P	**P**	**09 49 52.9**	**-1.2**
SONM	**Songino Array**	**59.56 51**	P	**P**	**09 51 42.5**	**-0.8**
comp=Z,0.5nm,0.5s,baz=266,slow=7.3,SNR=3.4						
SONM	**Songino Array**	**59.56 51**	P	P	09 51 40.0	-3.2
SCHQ	**Schefferville**	**60.51 318**	P	**P**	**09 51 50.1**	**+0.6**
comp=Z,1.6nm,0.5s,baz=53,slow=7.4,SNR=6.4						
SCHQ	**Schefferville**	**60.51 318**	P	**P**	**09 51 48.8**	**-0.7**
ILAR	**Eielson Array**	**78.06 356**	P	**P**	**09 53 38.8**	**+0.8**
comp=Z,0.2nm,0.5s,baz=333,slow=3.4,SNR=3.1						
ILAR	**Eielson Array**	**78.06 356**	P	**P**	**09 53 35.9**	**-2.0**
KSRS	**Korea Array**	**78.42 52**	P	**P**	**09 53 39.4**	**-1.0**
comp=Z,0.6nm,0.6s,baz=315,slow=4.9,SNR=3.1						
WRH	**Wood River Hil**	**78.43 356**	P	**P**	**09 53 40.8**	**+0.8**
DHY	**Denali Highway**	**79.78 356**	P	**P**	**09 53 46.2**	**-1.4**
DHY			IAmb	IAmb	09 54 00.3	
comp=Z,4.9nm,1.2s						
WRA	**Warramunga Arr**	**118.52 94**	PKP	**PKPdf**	**10 00 27.0**	**-0.8**
comp=Z,0.2nm,0.4s,baz=314,slow=1.9,SNR=7.1						
ASAR	**Alice Springs**	**120.10 98**	PKP	**PKPdf**	**10 00 30.4**	**-0.3**
comp=Z,0.2nm,0.3s,baz=317,slow=1.7,SNR=8.8						
ASAR	**Alice Springs**	**120.10 98**		**PKPdf**	**10 00 30.2**	**-0.6**

MAN ***16*** *10:03:14.7, 15°.53N×118°.95E, h29km, mb4.6, ML3.5, MS3.3*
IDC ***16*** *10:03:15.5±1.9, 15°.39N×119°.76E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.5/49, mbtmp3.8/4, MS3.0/1, Ms1 3.2/1, ms1mx2.4/61, Error ellipse: s-maj=84.7km s-min=23.3km az=52.0*
NEIC ***16*** *10:03:16.0±1.5, 15°.34N±0°.06×119°.4E±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=27.0km s-min=9.5km az=100.0*

ISC 16 10:03:16.3±0.6, 15°.37N±0°.04×119°.42E±0°.06, h10km, n26, σ1§14/31, mb4.2/10, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.11**	**25**	*e*P	**Pb**	**10 03 36.2**	**-1.4**
BOLP				*e*S	**Sb**	**10 03 52.2**	**+0.1**
SMPP	**San Manuel, Pa**	**1.44**	**57**	*e*P	**Pb**	**10 03 43.2**	**0.0**
SMPP				*e*S	**Sg**	**10 04 03.1**	**+0.5**
LUBP	**Lubang**	**1.81**	**154**	*e*P	**Pb**	**10 03 49.3**	**-0.3**
BALP	**Baler**	**2.11**	**80**	*e*P	**Pg**	**10 03 56.0**	**-0.7**
BALP				*e*S	**Sg**	**10 04 24.4**	**+0.3**
LQP	**Lukban**	**2.40**	**121**	*e*P	**Pb**	**10 04 00.6**	**+0.9**
LQP				*i* S	**Sg**	**10 04 34.0**	**+0.5**
CAUP	**Cauayan**	**2.79**	**56**	*e*P	**Pn**	**10 04 01.8**	**+0.8**
APYP	**Conner**	**3.03**	**35**	*e*P	**Pn**	**10 04 05.7**	**+1.4**
APYP				*e*S	**Sn**	**10 04 41.9**	**+1.1**
ENPP	**El Nido**	**4.14**	**180**	*e*P	**Pn**	**10 04 19.5**	**0.0**
KKM	**Kota Kinabalu**	**9.79**	**199**	Pn	**Pn**	**10 05 36.4**	**-0.9**

	baz=8.9						
ISVA				S	Sn	10 36 52.4	-2.1
	baz=8.9						
IIEY	**Innrieyrar**	**0.68**	**203**	P	**Pg**	**10 36 42.0**	**-1.3**
	baz=205						
IKSK	**Karasker**	**0.72**	**141**	P	**Pg**	**10 36 42.2**	**-1.8**
	baz=138						
IVSH	**V-Sauoahnukur**	**0.77**	**83**	P	**Pb**	**10 36 44.0**	**-1.3**
	baz=79						
IVSH				S	**Sb**	**10 36 54.6**	**-1.0**
	baz=79						
IVAT	**Vatnsfell**	**0.81**	**229**	P	**Pb**	**10 36 44.7**	**-1.3**
	baz=232						
IADA	**Aoalbol**	**0.88**	**69**	P	**Pn**	**10 36 45.9**	**-2.1**
	baz=66						
IADA				S	**Sb**	**10 36 58.0**	**-0.7**
	baz=66						
IHVE	**Hveravellir**	**0.89**	**280**	P	**Pn**	**10 36 46.4**	**-1.9**
	baz=284						
IHVE				S	**Sn**	**10 36 59.2**	**-1.8**
	baz=284						
IMEL	**Melhnausar**	**0.93**	**23**	P	**Pn**	**10 36 47.5**	**-1.2**
	baz=21						
IFAG	**Fagurholsmyri**	**0.93**	**156**	P	**Pb**	**10 36 46.1**	**-1.9**
	baz=155						
IFAG				S	**Sb**	**10 36 58.3**	**-1.8**
	baz=155						
IREN	**Reynihlio**	**0.96**	**15**	P	**Pn**	**10 36 48.3**	**-1.0**
	baz=14						
IKVO	**Krokottuvotn**	**1.03**	**15**	P	**Pn**	**10 36 49.3**	**-0.9**
	baz=14						
IGRS	**Grimsstaoir**	**1.09**	**32**	P	**Pn**	**10 36 50.3**	**-0.7**
	baz=30						
ISNB	**Snabyli**	**1.10**	**207**	P	**Pb**	**10 36 49.5**	**-1.4**
	baz=208						
ISLY	**Slysaalda**	**1.14**	**219**	P	**Pn**	**10 36 50.2**	**-1.6**
	baz=220						
ISKI	**Skildingahlsh**	**1.17**	**10**	P	**Pn**	**10 36 51.7**	**-0.4**
	baz=9.2						
ISKI				S	**Sn**	**10 37 07.8**	**0.0**
	baz=9.2						
IFED	**Fedgar**	**1.18**	**235**	P	**Pg**	**10 36 51.4**	**-1.2**
	baz=237						
IGHA	**Grjothals**	**1.18**	**17**	P	**Pg**	**10 36 51.6**	**-1.1**
	baz=16						
IGHA				S	**Sn**	**10 37 07.4**	**-0.8**
	baz=16						
IGRA	**Granastaoir**	**1.20**	**359**	P	**Pg**	**10 36 52.1**	**-1.1**
	baz=359						
IRJU	**Rjupnafell**	**1.22**	**205**	P	**Pn**	**10 36 51.5**	**-1.3**
	baz=206						
IMJO	**Mjoaskard**	**1.23**	**231**	P	**Pb**	**10 36 51.8**	**-1.4**
	baz=233						
IGYG	**Gygjarholskot**	**1.25**	**250**	P	Pn	10 36 39.0	-14
	baz=253						
IDIM	**Dimmadalss**	**1.27**	**11**	P	**Pg**	**10 36 53.2**	**-1.2**
	baz=10						
IHLA	**Hella**	**1.28**	**344**	P	**Pg**	**10 36 53.7**	**-1.0**
	baz=344						
IHVO	**Lagu-Hvolar**	**1.34**	**207**	P	**Pn**	**10 36 53.4**	**-0.9**
	baz=208						
IHED	**Heoinshofoi**	**1.37**	**3**	P	**Pg**	**10 36 54.7**	**-1.6**
	baz=3.2						
IALF	**Alftagrof**	**1.44**	**211**	P	**Pn**	**10 36 54.9**	**-0.8**
	baz=213						
BORG	**Borgarnes**	**1.64**	**273**	Pn	**Pg**	**10 36 58.4**	**-3.0**
	23nm,0.3s,baz=102,slow=10,SNR=50						
BORG				Sn	**Sg**	**10 37 22.9**	**+0.2**
	8.4nm,0.3s,baz=0.8,slow=22,SNR=4.0						
SCO	**Scoresbysund**	**6.03**	**346**	Pn	Pn	10 38 03.0	+4.3
EKA	**Eskdalemuir Ar**	**11.80**	**136**	Pn	**Pn**	**10 39 19.7**	**+1.9**
	baz=322,slow=14,SNR=8.0						
ESK	**Eskdalemuir**	**11.80**	**136**	Pn	**Pn**	**10 39 19.8**	**+1.9**
NOA	**NORSAR Array B**	**13.54**	**93**	LR	LR	10 45 56.7	
	comp=Z,34nm,19.2s,baz=300,slow=41						
CLL	**Collm**	**20.73**	**116**	*e*P	Pn	10 41 14.0	+1.7
	comp=Z,13nm,1.6s						
ECH	**Echery**	**21.19**	**129**	P	**P**	**10 41 17.8**	**+2.9**
ECH				IAmb	IAmb	10 41 20.8	
	comp=Z,5.0nm,1.0s						
GERES	**GERESS Array B**	**22.99**	**119**	P	**P**	**10 41 39.0**	**+4.8**
	comp=Z,0.7nm,0.7s,baz=331,slow=9.0,SNR=4.3						
GERES	**GERESS Array B**	**22.99**	**119**	P	**P**	**10 41 37.2**	**+3.1**
ILAR	**Eielson Array**	**45.63**	**332**	P	P	10 44 54.3	+4.8
	comp=Z,0.9nm,1.0s,baz=22,slow=5.8,SNR=6.3						
IMAR	**Indian Mountai**	**45.80**	**337**	P	P	10 44 56.0	+5.2
KKAR	**Karatay Array**	**51.26**	**70**	P	P	10 45 37.2	+4.1
BW06	**Boulder Array**	**53.15**	**293**	P	P	10 45 50.1	+2.8
BW06				IAmb	IAmb	10 45 51.5	
	comp=Z,2.8nm,1.1s						
PD31	**Pinedale Array**	**53.15**	**293**	P	P	10 45 50.3	+2.9
PD31				IAmb	IAmb	10 45 51.5	
	comp=Z,2.6nm,1.1s						
PDAR	**Pinedale Array**	**53.15**	**293**	P	P	10 45 50.5	+3.1
	comp=Z,0.8nm,0.8s,baz=68,slow=8.2,SNR=7.6						
PDAR	**Pinedale Array**	**53.15**	**293**	P	**P**	**10 45 49.6**	**+2.2**
TORD	**Torodi Ar. Bea**	**53.20**	**156**	P	**P**	**10 45 49.5**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=334,slow=8.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**53.20**	**156**	P	**P**	**10 45 49.3**	**+1.7**
TXAR	**Lajitas Array**	**62.27**	**280**	P	P	10 46 55.8	+4.3
	comp=Z,0.5nm,1.0s,baz=79,slow=5.6,SNR=3.4						

*THE **16** 10:40:24.2,39.°10N×23.°19E,h10km,ML3.2/21,Error ellipse: s-maj=0.8km s-min=0.4km az=286.0*
*DDA **16** 10:40:25.8,39.°59N×23.°66E,h7km±5km,MW3.2*
*BEO **16** 10:40:29.7±1.3,39.°55N×22.°99E,h0km,ML2.8/2*
ATH 16 10:40:23.2,39.°11N×23.°20E,h24km±1km,ML3.3/19, 8C-1D,Error ellipse: s-maj=1.0km s-min=0.6km az=276.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.19**	**5**	P	Pb	10 40 29.0	+0.3
NEO				S	Sb	10 40 31.7	-0.8
	80μm,0.2s						
NEO	**Neokhori**	**0.19**	**5**	P	Pb	10 40 29.0	+0.3
NEO				S	Sb	10 40 31.8	-0.7
NEO				AML	AML	10 40 32.2	
NEO				AML	AML	10 40 32.3	
XOR	**Xorichti**	**0.25**	**358**	P	Pb	10 40 29.9	+0.4
XOR				S	Sb	10 40 33.5	-0.3
	29μm,0.3s						
XOR	**Xorichti**	**0.25**	**358**	P	Pb	10 40 29.8	+0.3
XOR				S	Sb	10 40 33.5	-0.3
XOR				AML	AML	10 40 33.7	
	comp=E,38331μm,0.3s						
XOR				AML	AML	10 40 34.0	
	comp=N,76007μm,0.3s						
VOL3	**Nea Ionia, Vol**	**0.33**	**321**	P	Pb	10 40 31.2	+0.6
VOL3				S	Sb	10 40 36.8	+1.1
LKR	**Lokris**	**0.49**	**199**	P	Pb	10 40 33.5	+0.3
LKR				S	Sb	10 40 40.2	+0.3
	comp=N,5μm,0.3s						
LKR	**Lokris**	**0.49**	**199**	P	Pb	10 40 33.5	+0.4
LKR				S	Sb	10 40 40.0	0.0
LKR				AML	AML	10 40 41.3	
	comp=N,9237μm,0.3s						
LKR				AML	AML	10 40 41.5	
	comp=E,11645μm,0.3s						
ALNA	**Alonissos**	**0.52**	**86**	P	Pn	10 40 34.4	-0.7
ALNA				S	Sb	10 40 40.9	+0.2
ALNA				AML	AML	10 40 42.4	
	comp=N,7740μm,0.5s						
ALNA				AML	AML	10 40 42.5	
	comp=E,6434μm,0.3s						
AXAR	**Agios Charalam**	**0.55**	**231**	P	Pb	10 40 34.4	+0.2
AXAR				S	Sb	10 40 42.7	+1.1
AXAR	**Agios Charalam**	**0.55**	**231**	P	Pb	10 40 34.6	+0.4
AXAR				S	Sb	10 40 42.6	+0.9
AXAR				AML	AML	10 40 44.4	
	comp=N,7606μm,0.2s						
AXAR				AML	AML	10 40 46.5	
	comp=E,7260μm,0.2s						
DLFA	**Delphi**	**0.84**	**221**	P	Pn	10 40 39.5	0.0
DLFA				AML	AML	10 40 52.1	
	comp=E,2770μm,0.6s						
DLFA				AML	AML	10 40 53.4	
	comp=N,1851μm,0.4s						
KYMI	**Kymi, Euboea I**	**0.85**	**124**	P	Pn	10 40 40.2	+0.6
KYMI				S	Sn	10 40 52.0	+0.7
	comp=N,898nm,0.5s						
KYMI	**Kymi, Euboea I**	**0.85**	**124**	P	Pn	10 40 40.1	+0.5
KYMI				S	Sn	10 40 51.5	+0.2
KYMI				AML	AML	10 40 54.5	
	comp=E,2168μm,0.7s						
KYMI				AML	AML	10 40 56.5	
	comp=N,1671μm,0.5s						
DSF	**Desfina**	**0.88**	**217**	P	Pb	10 40 39.9	+0.1
DSF				S	Sn	10 40 52.9	+0.8
	comp=N,2μm,0.2s						
DSF	**Desfina**	**0.88**	**217**	P	Pn	10 40 40.0	-0.1
DSF				S	Sn	10 40 52.5	+0.4
DSF				AML	AML	10 40 54.9	
	comp=E,4058μm,0.2s						
DSF				AML	AML	10 40 56.1	
	comp=N,3759μm,0.2s						
PAIG	**Paliouri**	**0.89**	**24**	P	Pn	10 40 41.8	+1.6
PAIG				S	Sn	10 40 54.3	+1.9
	comp=N,3μm,0.4s						
PAIG	**Paliouri**	**0.89**	**24**	P	Pn	10 40 41.4	+1.2
PAIG				S	Sn	10 40 53.5	+1.1
PAIG				AML	AML	10 40 55.8	
	comp=E,5463μm,0.5s						
PAIG				AML	AML	10 40 56.4	
	comp=N,4964μm,0.4s						
VIL2	**Platees**	**0.90**	**177**	P	Pn	10 40 41.3	+0.9
VIL2				S	Sn	10 40 54.6	+1.9
VIL2				AML	AML	10 40 57.6	
	comp=N,4022μm,0.4s						
VIL2				AML	AML	10 40 57.9	
	comp=E,5098μm,0.4s						
VILL	**Villia**	**0.95**	**175**	P	Pn	10 40 41.5	+0.4
VILL				S	Sn	10 40 55.0	+1.1
THL	**Klokotos Trika**	**1.02**	**296**	P	Pb	10 40 42.7	+0.5
THL				S	Sn	10 40 57.8	+2.2
	comp=E,740nm,0.4s						
THL	**Klokotos Trika**	**1.02**	**296**	P	Pb	10 40 42.7	+0.5
THL				S	Sn	10 40 57.0	+1.4
THL				AML	AML	10 41 00.9	
	comp=N,1510μm,0.4s						
THL				AML	AML	10 41 00.9	
	comp=E,1363μm,0.4s						
SKY	**Skiros Island**	**1.08**	**102**	P	Pb	10 40 44.7	+1.6
SKY	**Skiros Island**	**1.08**	**102**	P	Pb	10 40 44.5	+1.4
SKY				S	Sn	10 40 58.6	+1.7
SKY				AML	AML	10 41 01.4	
	comp=E,2990μm,0.2s						
SKY				AML	AML	10 41 01.7	
	comp=N,3740μm,0.3s						
EVR	**Evrytania**	**1.10**	**260**	P	Pb	10 40 45.3	+1.7
EVR				S	Sn	10 41 00.8	+3.1
	comp=N,592nm,0.7s						
EVR	**Evrytania**	**1.10**	**260**	P	Pb	10 40 45.0	+1.3
EVR				AML	AML	10 41 03.6	
	comp=E,886μm,0.4s						
EVR				AML	AML	10 41 06.1	
	comp=N,1093μm,0.5s						
LTK	**Loutraki**	**1.10**	**190**	P	Pb	10 40 44.2	+0.6
LTK				S	Sn	10 40 59.5	+1.9
	comp=N,2μm,0.3s						
LTK	**Loutraki**	**1.10**	**190**	P	Pb	10 40 44.1	+0.5
LTK				S	Sn	10 40 59.9	+2.3
LTK				AML	AML	10 41 04.4	
	comp=N,3200μm,0.3s						
LTK				AML	AML	10 41 07.0	
	comp=E,3499μm,0.5s						
ANX	**Ano Chora**	**1.13**	**243**	P	Pb	10 40 44.1	+0.1
ANX	**Ano Chora**	**1.13**	**243**	P	Pb	10 40 44.1	0.0
LIT	**Litokhoron**	**1.13**	**331**	P	Pb	10 40 45.2	+1.2
LIT	**Litokhoron**	**1.13**	**331**	P	Pb	10 40 45.3	+1.2
LIT	**Litokhoron**	**1.13**	**331**	*i* P	Pb	10 40 45.0	+1.0
LIT				*i* S	Sb	10 41 00.9	+2.6
DION	**Dionisos Attik**	**1.18**	**151**	P	Pb	10 40 46.1	+1.2
DION				S	Sb	10 41 02.1	+2.3
	comp=E,3μm,0.3s						
DION	**Dionisos Attik**	**1.18**	**151**	P	Pb	10 40 46.0	+1.1
DION				AML	AML	10 41 05.7	
	comp=N,5797μm,0.3s						
DION				AML	AML	10 41 06.3	
	comp=E,4655μm,0.3s						
PTL	**Penteli**	**1.18**	**154**	P	Pb	10 40 46.2	+1.2
PTL				S	Sb	10 41 02.1	+2.3
	comp=E,612nm,0.5s						
PTL	**Penteli**	**1.18**	**154**	P	Pb	10 40 46.2	+1.3
PTL				S	Sb	10 41 01.6	+1.7
PTL				AML	AML	10 41 04.7	
	comp=N,1356μm,0.6s						
PTL				AML	AML	10 41 06.7	
	comp=E,1100μm,0.5s						
ALIK	**Aliki, Aigiali**	**1.21**	**225**	P	Pb	10 40 46.5	+1.2
ATH	**Athens Observa**	**1.21**	**160**	P	Pb	10 40 46.6	+1.2
ATH				S	Sb	10 41 02.6	+2.1
	comp=E,1μm,0.5s						
ATH	**Athens Observa**	**1.21**	**160**	P	Pb	10 40 46.8	+1.4
ATH				AML	AML	10 41 04.5	
	comp=E,3327μm,0.5s						
ATH				AML	AML	10 41 06.8	
	comp=N,1533μm,0.2s						
EFP	**Efpalio**	**1.22**	**236**	P	Pb	10 40 46.2	+0.6
EFP	**Efpalio**	**1.22**	**236**	P	Pb	10 40 46.1	+0.5
PLG	**Polygyros**	**1.27**	**8**	P	Pb	10 40 47.3	+0.8
PLG				S	Sb	10 41 04.5	+2.1
	comp=N,1μm,0.4s						
PLG	**Polygyros**	**1.27**	**8**	P	Pb	10 40 47.2	+0.7
PLG				AML	AML	10 41 05.8	
	comp=N,1717μm,0.3s						
PLG				AML	AML	10 41 06.1	
	comp=E,2074μm,0.3s						
VLY	**Voula,Athens**	**1.34**	**160**	P	Pb	10 40 48.4	+0.8
VLY				S	Sb	10 41 05.9	+1.5
	comp=E,818nm,0.5s						
VLY	**Voula,Athens**	**1.34**	**160**	P	Pb	10 40 48.6	+1.0
KLV	**Kalavryta, Ach**	**1.35**	**218**	P	Pb	10 40 48.5	+0.7
KLV				S	Sb	10 41 06.6	+1.9
	comp=E,300nm,0.6s						
KLV	**Kalavryta, Ach**	**1.35**	**218**	P	Pb	10 40 48.6	+0.8
GUR	**Goura**	**1.36**	**210**	P	Pb	10 40 48.5	+0.6
GUR				S	Sb	10 41 06.9	+2.0
	comp=E,1μm,0.5s						
GUR	**Goura**	**1.36**	**210**	P	Pb	10 40 48.4	+0.5
OUR	**Ouranopolis**	**1.36**	**26**	P	Pb	10 40 48.8	+0.9
OUR				S	Sb	10 41 06.7	+1.8
	comp=E,670nm,0.5s						
KARY	**Karystos**	**1.45**	**138**	P	Pb	10 40 50.1	+0.6
KARY				S	Sb	10 41 08.5	+1.0
	comp=E,312nm,0.4s						
KARY	**Karystos**	**1.45**	**138**	P	Pb	10 40 50.0	+0.5
HORT	**Hortiatis**	**1.48**	**357**	P	Pb	10 40 50.5	+0.4
HORT				S	Sb	10 41 09.9	+1.3
	comp=E,652nm,0.4s						
HORT	**Hortiatis**	**1.48**	**357**	P	Pb	10 40 50.4	+0.3
HORT				S	Sb	10 41 09.5	+0.9
HORT				AML	AML	10 41 11.6	
	comp=N,1336μm,0.4s						
HORT				AML	AML	10 41 11.6	
	comp=E,1268μm,0.4s						
THE	**Thessaloniki**	**1.53**	**353**	P	Pb	10 40 50.4	-0.4
KZN	**Kozani**	**1.62**	**318**	P	Pb	10 40 53.0	+0.5
KZN	**Kozani**	**1.62**	**318**	P	Pb	10 40 53.2	+0.7
KPRO	**Kipourio**	**1.65**	**301**	P	Pb	10 40 53.6	+0.6
KPRO	**Kipourio**	**1.65**	**301**	P	Pb	10 40 53.4	+0.5
SOH	**Sokhos**	**1.71**	**4**	P	Pb	10 40 54.2	+0.3
SOH				S	Sb	10 41 15.8	+0.8
	comp=E,668nm,0.4s						
SOH	**Sokhos**	**1.71**	**4**	P	Pb	10 40 54.0	0.0
TRIP	**Tripoli**	**1.75**	**205**	P	Pb	10 40 53.5	-1.0
THAS	**Thassos island**	**1.89**	**38**	P	Pn	10 40 55.4	+1.4
THAS	**Thassos island**	**1.89**	**38**	P	Pn	10 40 55.4	+1.4
SRS	**Serrai**	**2.02**	**8**	P	Pn	10 40 57.1	+1.3
SRS	**Serrai**	**2.02**	**8**	*e*Pg	Pn	10 40 57.5	+1.7
SRS				*e*Sg	Sn	10 41 21.1	+0.8
SRS	**Serrai**	**2.02**	**8**	P	Pn	10 40 57.0	+1.2
KNT	**Kendrikon**	**2.06**	**354**	P	Pb	10 40 59.2	-0.7
KNT				S	Sb	10 41 25.1	+0.1
	comp=E,180nm,0.7s						
KNT	**Kendrikon**	**2.06**	**354**	P	Pb	10 40 59.3	-0.6
KAVA	**Kavala**	**2.13**	**28**	P	Pn	10 40 58.9	+1.6
KAVA	**Kavala**	**2.13**	**28**	P	Pn	10 40 58.9	+1.7
FNA	**Florina**	**2.18**	**320**	*e*Pg	Pb	10 41 01.1	-0.9
FNA	**Florina**	**2.18**	**320**	*i* P	Pb	10 41 00.8	-1.2
SERI	**Serifos**	**2.20**	**152**	P	Pn	10 41 00.1	+1.9
SERI	**Serifos**	**2.20**	**152**	P	Pn	10 40 59.8	+1.6
SMTH	**Samothraki Isl**	**2.25**	**52**	P	Pn	10 41 00.1	+1.3
IGT	**Igoumenitsa**	**2.27**	**282**	*e*Pg	Pb	10 41 06.2	+2.8
IGT				*e*Sg	Sb	10 41 34.3	+3.4
BOZC	**Bozcaada**	**2.32**	**71**	*i* P	Pn	10 40 59.7	-0.2
VLI	**Veliai**	**2.40**	**185**	P	Pb	10 41 03.4	-2.3
VLI	**Veliai**	**2.40**	**185**	P	Pb	10 41 03.3	-2.4
BAYC	**CANAKKALE_Bayr**	**2.67**	**75**	*i* P	Pn	10 41 07.1	+2.5
RDO	**Rodhopi**	**2.71**	**41**	P	Pn	10 41 06.9	+1.8
APE	**Apeiranthos**	**2.75**	**137**	⇑P	Pb	10 41 15.4	+3.8
APE	**Apeiranthos**	**2.75**	**137**	⇑S	Sb	10 41 48.7	+3.9
APE	**Apeiranthos**	**2.75**	**137**	*i* P	Pb	10 41 16.0	+4.4
URLA	**Izmir**	**2.76**	**105**	*i* P	Pb	10 41 16.8	+5.0
ALN	**Alexandroupoli**	**2.82**	**50**	*i* P	Pn	10 41 07.4	+0.7
BOSS	**Bosilegrad**	**3.42**	**351**	*e*Pn	Pn	10 41 18.1	+3.1
BALY	**Balya**	**3.48**	**78**	*i* P	Pn	10 41 16.9	+1.1
BARS	**Barje**	**3.84**	**345**	*e*Pn	Pn	10 41 24.3	+3.5
ZAPS	**Zavoj**	**4.18**	**354**	*e*Pn	Pn	10 41 27.8	+2.4
SELS	**Selova**	**4.39**	**340**	*e*Pn	Pn	10 41 31.7	+3.3
PDG	**Podgorica**	**4.47**	**319**	⇑P	Pn	10 41 30.9	+1.6
BLKB	**Belogradchik**	**4.52**	**355**	⇑S	Sn	10 42 24.2	+2.2
BOVS	**Bovan**	**4.66**	**346**	*e*Pn	Pn	10 41 34.2	+2.3
ZAGS	**Zajecar**	**4.75**	**351**	*e*Pn	Pn	10 41 35.8	+2.6
SJES	**Sjenica**	**4.81**	**331**	*e*Pn	Pn	10 41 37.3	+3.2
TIP	**Timpagrande**	**5.01**	**273**	⇑P	Pn	10 41 39.3	+2.4
GRUS	**Gruza**	**5.12**	**339**	*e*Pn	Pn	10 41 41.8	+3.4
TRUS	**Trudelj**	**5.52**	**339**	*e*Pn	Pn	10 41 45.8	+2.0
DIVS	**Divibare**	**5.53**	**335**	*e*Pn	Pn	10 41 46.6	+2.6
BBLS	**Lazići**	**5.54**	**330**	*e*Pn	Pn	10 41 47.3	+3.2
ARR	**Arges**	**6.34**	**9**	⇓P	Pn	10 41 57.9	+2.7
VOIR		**6.47**	**12**	⇑P	Pn	10 41 60.0	+3.1
TOPG	**Topolog**	**6.93**	**32**	⇑P	Pn	10 42 05.8	+2.6
PLOR	**Plostina**	**7.20**	**20**	⇑P	Pn	10 42 09.7	+2.8

*NEIC **16** 10:45:38.8±1.9,20.°8S±0.°1×178.°4W±0.°1,h555km±8km, mb4.7/50,Error ellipse: s-maj=19.2km s-min=13.9km az=133.0*
*IDC **16** 10:45:39.3±2.0,20.°66S×178.°60W,h554km±24km, mb3.3/11,mb1 3.6/12,mb1mx3.4/25,mbtmp4.2/12,Error ellipse: s-maj=21.2km s-min=12.8km az=138.0*
ISC 16 10:45:38.4±0.4,20.°87S±0.°06×178.°39W±0.°08,h550km, n122,σ1§70/131,mb4.4/32,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.59**	**312**	P	**P**	**10 47 08.8**	**+3.7**
GLKZ	**Green Lake**	**8.36**	**177**	P	**P**	**10 47 41.7**	**+2.1**
GLKZ				S	**S**	**10 49 19.6**	**+0.5**
AFI	**Afiamalu**	**9.37**	**43**	P	**P**	**10 47 50.1**	**0.0**
	9.8nm,0.3s,baz=299,slow=2.4,SNR=18						
AFI				S	**S**	**10 49 35.1**	**-3.0**
	3.7nm,0.3s,baz=53,slow=21,SNR=7.6						
DZM	**Mont Dzumac**	**14.17**	**262**	P	**P**	**10 48 39.8**	**+0.2**
SANVU	**Saraoutou**	**14.72**	**289**	P	**P**	**10 48 45.4**	**+0.3**
OUZ	**Omahuta**	**15.94**	**205**	P	**P**	**10 48 59.9**	**+2.7**
OUZ	**Omahuta**	**15.94**	**205**	P	**P**	**10 48 58.9**	**+1.7**
OUZ				IAmb	IAmb	10 49 01.6	
	comp=Z,48nm,0.8s						
GRZ	**Great Barrier**	**16.24**	**198**	P	**P**	**10 49 02.4**	**+2.3**
WCZ	**Waipu Caves**	**16.30**	**201**	P	**P**	**10 49 03.6**	**+3.0**
KUZ	**Kuaotunu**	**16.63**	**197**	P	**P**	**10 49 05.9**	**+2.3**
WIAZ	**Waiheke Island**	**16.84**	**198**	P	**P**	**10 49 08.8**	**+3.3**
MXZ	**Matakaoa Point**	**16.88**	**189**	P	**P**	**10 49 07.6**	**+1.7**
MXZ	**Matakaoa Point**	**16.88**	**189**	P	**P**	**10 49 07.5**	**+1.6**
RVAZ	**Riverhead Bore**	**16.99**	**200**	P	**P**	**10 49 09.8**	**+3.0**
HBAZ	**Herne Bay Bore**	**17.01**	**199**	P	**P**	**10 49 09.6**	**+2.6**
EPAZ	**Eden Park BICE**	**17.03**	**199**	P	**P**	**10 49 10.1**	**+2.9**
ETAZ	**East Tamaki Re**	**17.05**	**199**	P	**P**	**10 49 10.5**	**+3.1**
WTAZ	**Waiatarua**	**17.14**	**199**	P	**P**	**10 49 11.2**	**+2.9**
HAZ	**Te Kaha**	**17.15**	**190**	P	**P**	**10 49 08.6**	**+0.3**
AWAZ	**Awhitu Peninsu**	**17.24**	**199**	P	**P**	**10 49 12.0**	**+2.8**
RUGZ	**Raukumara Rang**	**17.37**	**190**	P	**P**	**10 49 13.6**	**+3.1**
TOZ	**Tahuroa Road**	**17.61**	**196**	P	**P**	**10 49 15.1**	**+2.5**
MWZ	**Matawai**	**17.76**	**191**	P	**P**	**10 49 13.2**	**-0.7**
MWZ				S	**S**	**10 52 04.3**	**-5.2**
URZ	**Urewera**	**17.76**	**192**	P	**P**	**10 49 13.1**	**-0.8**
	comp=Z,3.2nm,0.3s,baz=272,slow=2.3,SNR=13						
URZ	**Urewera**	**17.76**	**192**	P	**P**	**10 49 12.4**	**-1.5**
URZ				S	**S**	**10 52 11.2**	**+1.8**
URZ	**Urewera**	**17.76**	**192**	P	**P**	**10 49 12.9**	**-1.0**
URZ				IAmb	IAmb	10 49 14.7	
	comp=Z,34nm,0.9s						
TKGZ	**Te Karaka**	**17.80**	**190**	P	**P**	**10 49 15.3**	**+1.0**
TLZ	**Tolley Road**	**18.17**	**195**	P	**P**	**10 49 21.8**	**+4.1**
SNGZ	**Shannon Statio**	**18.22**	**191**	P	**P**	**10 49 18.0**	**-0.2**
KNZ	**Kokohu**	**18.40**	**190**	P	**P**	**10 49 20.0**	**+0.2**
KNZ				S	**S**	**10 52 12.4**	**-7.4**
HIZ	**Hauiti**	**18.52**	**197**	P	**P**	**10 49 24.8**	**+3.9**
WHHZ	**Waihua**	**18.53**	**191**	P	**P**	**10 49 21.0**	**0.0**
BKZ	**Black Stump Fm**	**18.76**	**192**	P	**P**	**10 49 22.1**	**-1.0**
BKZ				S	**S**	**10 52 22.4**	**-3.3**
BKZ	**Black Stump Fm**	**18.76**	**192**	P	**P**	**10 49 21.9**	**-1.2**
BKZ				IAmb	IAmb	10 50 02.8	
	comp=Z,85nm,1.8s						
OTVZ	**Oturere**	**18.93**	**194**	P	**P**	**10 49 25.9**	**+1.0**
MCHZ	**McNeill Hill**	**18.98**	**192**	P	**P**	**10 49 25.1**	**0.0**
VRZ	**Vera Road**	**19.12**	**196**	P	**P**	**10 49 28.5**	**+2.2**
KNTN	**Kanton**	**19.13**	**21**	P	**P**	**10 49 25.6**	**-1.1**
MOVZ	**Moawhango**	**19.14**	**194**	P	**P**	**10 49 27.3**	**+0.6**
BHHZ	**Black Hill Sta**	**19.16**	**193**	P	**P**	**10 49 25.7**	**-1.1**
TSZ	**Takapari Road**	**19.72**	**193**	P	**P**	**10 49 31.9**	**+0.1**
MSWZ	**Moikau Station**	**21.18**	**193**	P	**P**	**10 49 45.2**	**+0.2**
SNZO	**South Karori**	**21.20**	**195**	P	**P**	**10 49 44.1**	**-1.0**
BHW	**Baring Head**

FITZ	**Fitzroy Crossi**	**52.62**	**263**	P		**P**	**10 54 01.6**	**-0.2**
VNDA	**Vanda**	**57.51**	**185**	P		**P**	**10 54 37.5**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=355,slow=5.7,SNR=5.5							
VNDA				pP		**pP**	**10 56 20.0**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=17,slow=23,SNR=8.5							
CASY	**Casey**	**63.47**	**205**	P		**P**	**10 55 15.2**	**+0.8**
CASY				IAmb	IAmb		10 57 04.9	
	comp=Z,23nm,1.6s							
QSPA	**South Pole Qui**	**69.20**	**180**	P		**P**	**10 55 51.7**	**+1.6**
MJAR	**Matsushiro Arr**	**70.30**	**324**	P		**P**	**10 55 55.9**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=123,slow=8.4,SNR=4.1							
JHS	**Saijyo**	**72.15**	**320**	P		**P**	**10 56 07.7**	**-0.1**
JHS				IAmb	IAmb		10 57 45.2	
	comp=Z,34nm,1.5s							
PEA0B	**Petropavlovsk-**	**76.54**	**345**	P		**P**	**10 56 31.1**	**-0.9**
PEA0B				IAmb	IAmb		10 57 13.2	
	comp=Z,34nm,1.9s							
PETK	**Petropavlovsk-**	**76.54**	**345**	P		**P**	**10 56 31.6**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=141,slow=5.7,SNR=8.2							
PETK	**Petropavlovsk-**	**76.54**	**345**	P		**P**	**10 56 31.7**	**-0.4**
HOPS	**Hopland Field**	**78.89**	**41**	P		**P**	**10 56 45.6**	**+0.5**
YBH	**Yreka Blue Hor**	**80.81**	**39**	P		**P**	**10 56 56.9**	**+1.8**
NVAR	**Mina Array Bea**	**81.54**	**43**	P		**P**	**10 57 00.2**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=225,slow=8.5,SNR=15							
NVAR	**Mina Array Bea**	**81.54**	**43**	P		**P**	**10 56 59.8**	**+0.6**
KVN	**Kaiserville**	**82.03**	**43**	P		**P**	**10 57 02.1**	**+0.5**
TPNV	**Topopah Spring**	**82.06**	**46**	P		**P**	**10 57 02.6**	**+0.8**
MOD	**Modoc Plateau**	**82.33**	**40**	P		**P**	**10 57 04.2**	**+1.2**
K05A	**Summer Lake**	**82.48**	**39**	P		**P**	**10 57 05.0**	**+1.1**
K05A				IAmb	IAmb		10 57 15.6	
	comp=Z,18nm,1.7s							
H04A	**Detroit Lake**	**82.94**	**37**	P		**P**	**10 57 06.4**	**+0.5**
H04A				IAmb	IAmb		10 59 31.2	
	comp=Z,16nm,1.8s							
U15A	**North Rim**	**84.48**	**48**	P		**P**	**10 57 14.5**	**+0.5**
GHO	**Glory Hole Cre**	**85.67**	**14**	P		**P**	**10 57 18.5**	**-0.4**
GHO				IAmb	IAmb		10 57 33.0	
	comp=Z,24nm,1.5s							
SCM	**Sheep Creek Mo**	**86.08**	**14**	P		**P**	**10 57 21.0**	**+0.2**
SCM				IAmb	IAmb		10 59 04.5	
	comp=Z,84nm,2.0s							
F10A	**Beach Ranch, E**	**86.52**	**38**	P		**P**	**10 57 23.4**	**+0.1**
F10A				IAmb	IAmb		10 57 24.6	
	comp=Z,4.5nm,0.8s							
GLB	**Gilahina Butte**	**86.60**	**16**	P		**P**	**10 57 23.1**	**-0.2**
GLB				IAmb	IAmb		10 57 54.9	
	comp=Z,27nm,1.8s							
B08A	**Colville Reser**	**86.74**	**35**	P		**P**	**10 57 24.7**	**+0.4**
TRF	**Thorofare Moun**	**86.89**	**12**	P		**P**	**10 57 24.6**	**-0.2**
TRF				IAmb	IAmb		10 59 57.9	
	comp=Z,36nm,1.9s							
RND	**Reindeer**	**87.14**	**13**	P		**P**	**10 57 25.8**	**0.0**
RND				IAmb	IAmb		10 57 26.0	
	comp=Z,5.4nm,0.7s							
TXAR	**Lajitas Array**	**87.56**	**57**	P		**P**	**10 57 30.4**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=222,slow=6.0,SNR=14							
CCB	**Clear Creek Bu**	**88.46**	**13**	P		**P**	**10 57 31.0**	**-0.8**
CCB				IAmb	IAmb		10 57 31.1	
	comp=Z,2.6nm,0.6s							
ILAR	**Eielson Array**	**88.76**	**13**	P		**P**	**10 57 32.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=223,slow=5.5,SNR=9.7							
ILAR	**Eielson Array**	**88.76**	**13**	P		**P**	**10 57 32.5**	**-0.8**
PDAR	**Pinedale Array**	**89.48**	**43**	P		**P**	**10 57 37.4**	**0.0**
	comp=Z,1.2nm,0.6s,baz=214,slow=2.9,SNR=15							
PDAR	**Pinedale Array**	**89.48**	**43**	P		**P**	**10 57 37.7**	**+0.3**
MKAR	**Makanchi Array**	**111.19**	**313**	PKiKP		**PKiKP**	**11 03 08.2**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=48,slow=1.8,SNR=3.9							
BVAR	**Borovoye Array**	**119.13**	**320**	PKP		**PKPdf**	**11 03 23.3**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=134,slow=4.3,SNR=5.4							
ARCES	**ARCESS Array B**	**129.22**	**349**	PKP		**PKPdf**	**11 03 43.1**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=350,slow=2.1,SNR=6.0							
AKASG	**Malin Array Be**	**143.16**	**331**	PKhKP		PKPab	11 04 06.4	-1.3
	comp=Z,5.2nm,0.5s,baz=42,slow=4.4,SNR=14							
EKA	**Eskdalemuir Ar**	**145.41**	**5**	PKPbc		**PKPdf**	**11 04 13.7**	**0.0**
	comp=Z,1.8nm,0.8s,baz=340,slow=4.7,SNR=5.1							
BRTR	**Keskin Array B**	**146.82**	**312**	PKPbc		**PKPdf**	**11 04 18.1**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=127,slow=3.3,SNR=4.3							
BRTR	**Keskin Array B**	**146.82**	**312**			**PKPdf**	**11 04 18.3**	**+1.6**
BURAR	**Bucovina Array**	**147.21**	**330**	PKPbc		**PKPbc**	**11 04 20.7**	**+0.4**
CLL	**Collm**	**148.34**	**346**	*i* PKPbc		**PKPbc**	**11 04 22.0**	**-0.9**
	comp=Z,7.0nm,1.1s							
CLL				*i* PKPab		**PKPab**	**11 04 27.2**	**-0.9**
	comp=Z,5.0nm,0.7s							
GERES	**GERESS Array B**	**150.46**	**344**	PKPbc		**PKPbc**	**11 04 27.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=54,slow=2.3,SNR=5.0							

*BJI **16** 11:06:19.9±0.0, 25°.84N×99°.80E, h10km, ML3.7/9*
*NEIC **16** 11:06:20.6±1.7, 25°.91N±0°.05×99°.84E±0°.09, h35km±2km, mb4.3/6, Error ellipse: s-maj=14.3km s-min=7.4km az=74.0*
*IDC **16** 11:06:20.6±6.1, 25°.82N×99°.86E, h33km±50km, mb3.5/6, mb1 3.7/7, mb1mx3.4/56, mbtmp3.7/7, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/50, Error ellipse: s-maj=41.4km s-min=17.3km az=65.0*

ISC 16 11:06:18.7±0.6, 25°.68N±0°.06×99°.51E±0°.06, h10km, n26, σ2§27/25, mb3.9/9, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.98**	**100**	*i* Pn	**Pn**	**11 07 06.8**	**+0.6**
KMI				Sn	**Sn**	**11 07 44.6**	**+2.5**
KMI				smax	smax		
	comp=N,280nm,1.0s						
KMI				smax	smax		
	comp=E,220nm,0.8s						
KMI	**Kunming**	**2.98**	**100**	Pn	**Pn**	**11 07 04.1**	**-2.2**
SLVN	**Son La**	**5.92**	**136**	Pn	**Pn**	**11 07 44.9**	**-1.6**
CD2	**Chengdu**	**6.42**	**35**	*e* Pg	**Pb**	**11 08 12.8**	**+2.2**
CD2				Sg	**Sb**	**11 09 30.8**	**+3.4**
CD2				smax	smax		
	comp=N,60nm,1.5s						
CD2				smax	smax		
	comp=E,50nm,1.0s						
GYA	**Guiyang**	**6.48**	**82**	*e* Pn	**Pn**	**11 07 54.9**	**+0.5**
GYA				Sn	**Sn**	**11 09 05.0**	**-3.5**
CMAR	**Chiang Mai Arr**	**7.21**	**184**	Pn	**Pn**	**11 08 06.8**	**+2.6**
	0.5nm,0.3s,baz=5.2,slow=12,SNR=3.6						
CMAR				Pg	**Pg**	**11 08 38.5**	**+1.7**
	0.7nm,0.3s,baz=358,slow=18,SNR=15						
CMAR				Lg	Lg	11 10 15.4	
	1.3nm,0.3s,baz=360,slow=30,SNR=5.8						
CMAR	**Chiang Mai Arr**	**7.21**	**184**	Pn	**Pn**	**11 08 07.2**	**+3.0**
LSA	**Lhasa**	**8.42**	**300**	Pn	**Pn**	**11 08 22.9**	**+1.6**
XAN	**Xi'an**	**11.66**	**42**	P	**Pn**	**11 09 07.0**	**+1.7**
WMQ	**Urumqi**	**20.50**	**335**	*e* P	**P**	**11 10 56.1**	**-0.8**
SONM	**Songino Array**	**22.77**	**12**	P	**P**	**11 11 18.6**	**-2.8**
	1.1nm,0.9s,baz=187,slow=11,SNR=4.4						
SONM	**Songino Array**	**22.77**	**12**	P	P	11 11 15.8	-5.7
MK31	**Makanchi Array**	**25.13**	**331**	P	**P**	**11 11 39.6**	**-4.2**
MK31				IAmb	IAmb	11 11 43.7	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**25.13**	**331**	P	**P**	**11 11 42.7**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=138,slow=10,SNR=18						
MKAR	**Makanchi Array**	**25.13**	**331**	P	**P**	**11 11 43.0**	**-0.9**
SBUM	**Sibu**	**26.14**	**150**	P	**P**	**11 11 52.5**	**-0.6**
SBUM				IAmb	IAmb	11 11 54.4	
	comp=Z,4.8nm,0.4s						
KSRS	**Korea Array**	**26.80**	**57**	LR	LR	11 24 08.7	
	comp=Z,32nm,18.2s,baz=225,slow=40						
JNU	**Nakatsue**	**28.25**	**67**	LR	LR	11 22 39.8	
	comp=Z,37nm,18.4s,baz=224,slow=35						
ABKAR	**Akbulak array**	**38.61**	**318**	P	**P**	**11 13 41.5**	**-0.5**
WRA	**Warramunga Arr**	**56.59**	**140**	P	P	11 15 59.3	-2.6
	comp=Z,0.5nm,0.7s,baz=329,slow=7.6,SNR=7.6						
WRA	**Warramunga Arr**	**56.59**	**140**	P	**P**	**11 15 59.6**	**-2.3**
WB2	**Warramunga Arr**	**56.59**	**140**	P	**P**	**11 15 59.5**	**-2.4**
WB2				IAmb	IAmb	11 16 02.2	
	comp=Z,5.8nm,1.3s						
AKASG	**Malin Array Be**	**58.25**	**315**	P	**P**	**11 16 12.7**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=83,slow=6.2,SNR=3.5						
AKASG	**Malin Array Be**	**58.25**	**315**	IAmb	IAmb	11 16 16.0	
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**59.29**	**143**	P	**P**	**11 16 18.7**	**-2.2**
	comp=Z,0.5nm,0.9s,baz=324,slow=6.9,SNR=5.0						
GERES	**GERESS Array B**	**68.46**	**315**	P	**P**	**11 17 19.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=57,slow=3.6,SNR=3.4						

*IDC **16** 11:13:11.9±4.5, 22°.72S×176°.86W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.7/3, Error ellipse: s-maj=214.5km s-min=34.9km az=149.0*
*NEIC **16** 11:13:16.5±1.2, 22°.1S±0°.2×177°.86W±0°.05, h10km±2km, mb4.3/5, Error ellipse: s-maj=25.6km s-min=7.3km az=4.0*

ISC 16 11:13:15.4±1.1, 22°.2S±0°.1×177°.7W±0°.2, h10km, n16, σ1§86/14, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.98**	**317**	Pn	Pn	11 14 42.8	-1.2
NIUE	**Niue**	**7.89**	**68**	Pn	Pn	11 15 13.2	+2.9
AFI	**Afiamalu**	**9.96**	**35**	Pn	**Pn**	**11 15 40.0**	**+1.3**
FUNA	**Funafuti**	**13.91**	**347**	Pn	**Pn**	**11 16 31.2**	**-1.5**
ASAR	**Alice Springs**	**44.45**	**258**	P	**P**	**11 21 30.7**	**+3.7**
	0.7nm,0.7s,baz=101,slow=7.1,SNR=15						
ASAR	**Alice Springs**	**44.45**	**258**	P	**P**	**11 21 26.9**	**-0.1**
WR0	**Warramunga Arr**	**44.50**	**264**	P	**P**	**11 21 27.1**	**-0.3**
WR0				IAmb	IAmb	11 21 37.4	
	comp=Z,5.6nm,1.4s						
WC3	**Warramunga Arr**	**44.65**	**264**	P	**P**	**11 21 29.9**	**+1.4**
WB0	**Warramunga Arr**	**44.67**	**264**	P	**P**	**11 21 29.4**	**+0.6**
WB2	**Warramunga Arr**	**44.67**	**264**	P	**P**	**11 21 29.1**	**+0.3**
WB2				IAmb	IAmb	11 21 43.6	
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**44.69**	**264**	P	**P**	**11 21 32.2**	**+3.3**
	comp=Z,0.5nm,0.6s,baz=101,slow=8.7,SNR=9.9						
WRA	**Warramunga Arr**	**44.69**	**264**	P	**P**	**11 21 30.3**	**+1.4**
QSPA	**South Pole Qui**	**67.89**	**180**	P	**P**	**11 24 12.6**	**-1.4**
ILAR	**Eielson Array**	**89.88**	**13**	P	**P**	**11 26 14.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=222,slow=5.5,SNR=5.3						
ARCES	**ARCESS Array B**	**130.62**	**349**	PKP	**PKPdf**	**11 32 24.6**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=354,slow=2.7,SNR=3.4						
AKASG	**Malin Array Be**	**144.62**	**330**	PKPbc	**PKPab**	**11 32 49.7**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=46,slow=4.3,SNR=6.1						

*TAP **16** 11:15:43.0, 22°.09N×121°.27E, h28km, ML3.6, C*
*JMA **16** 11:15:43.1±0.1, 22°.23N×121°.19E, h53km±2km, M3.4*

ISC 16 11:15:42.8±0.9, 22°.10N±0°.03×121°.30E±0°.02, h32km±8km, n115, σ1§51/213, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.25**	**105**	*i* P	**Pb**	**11 15 49.9**	**+0.1**
	baz=92						
LAY				*i* S	**Sb**	**11 15 55.0**	**+0.4**
	baz=92						
TSEB	**Hengchuen, Pin**	**0.42**	**241**	P	**Pn**	**11 15 52.4**	**-0.1**
	baz=252						
TSEB				S	**Sn**	**11 15 59.0**	**-0.1**
	baz=252						
TAW	**Tawu**	**0.45**	**305**	P	**Pn**	**11 15 52.1**	**-0.9**
	baz=308						
TAW				S	**Sn**	**11 15 58.8**	**-1.2**
	baz=308						
TWKBT	**Hengchun**	**0.47**	**250**	*i* P	**Pb**	**11 15 52.4**	**-0.5**
	baz=256						
TWKBT				S	**Sb**	**11 15 59.1**	**-0.8**
	baz=256						
TWK1	**Hengchun**	**0.48**	**251**	P	**Pb**	**11 15 52.4**	**-0.6**
	baz=256						
TWK1				S	**Sb**	**11 15 59.0**	**-1.0**
	baz=256						
EAST	**Anshuo**	**0.50**	**304**	P	**Pb**	**11 15 52.9**	**-0.5**
	baz=313						
EAST				S	**Sn**	**11 15 59.7**	**-1.6**
	baz=313						
HEN	**Hengchun**	**0.53**	**260**	P	**Pb**	**11 15 52.7**	**-1.0**
	baz=263						
HEN				S	**Sn**	**11 16 00.9**	**-0.9**
	baz=263						
SNW	**Nanwan**	**0.53**	**255**	*e* P	**Pn**	**11 15 53.9**	**-0.1**
	baz=258						
SNW				S	**Sn**	**11 16 01.4**	**-0.4**
	baz=258						
ECL	**Taimali**	**0.59**	**327**	*i* P	**Pb**	**11 15 53.9**	**-0.8**
	baz=331						
ECL				*i* S	**Sb**	**11 16 02.0**	**-0.8**
	baz=331						
LDUT	**Ludao**	**0.59**	**16**	*i* P	**Pb**	**11 15 54.3**	**-0.5**
	baz=27						
LDUT				*e* S	**Sn**	**11 16 03.9**	**+0.4**
	baz=27						
TTN	**Taitung**	**0.66**	**348**	P	**Pn**	**11 15 56.6**	**+0.6**
	baz=351						
TTN				S	**Sn**	**11 16 07.8**	**+2.5**
	baz=351						
SCZT	**Fangliau**	**0.68**	**293**	*e* P	**Pn**	**11 15 55.8**	**-0.3**
	baz=295						
SCZT				S	**Sn**	**11 16 05.1**	**-0.6**
	baz=295						
TWGBT	**Beinan**	**0.74**	**344**	*i* P	**Pb**	**11 15 56.2**	**-1.1**
	baz=337						
TWGBT				S	**Sb**	**11 16 05.9**	**-1.2**
	baz=337						
TWG	**Pinlang**	**0.74**	**344**	P	**Pb**	**11 15 56.2**	**-1.2**
	baz=337						
TWG				*e* S	**Sb**	**11 16 06.3**	**-1.0**
	baz=337						
SSPT	**Xinbi**	**0.77**	**300**	P	**Pn**	**11 15 57.9**	**+0.4**
	baz=301						
SSPT				*e* S	**Sn**	**11 16 08.0**	**+0.1**
	baz=301						
MASBT	**Mashibuluo**	**0.80**	**310**	*i* P	**Pn**	**11 15 57.6**	**-0.2**
	baz=317						
MASBT				S	**Sb**	**11 16 07.4**	**-1.3**
	baz=317						
LONT	**Longtian**	**0.82**	**349**	P	**Pb**	**11 15 57.3**	**-1.2**
	baz=342						
LONT				*e* S	**Sb**	**11 16 08.0**	**-1.3**
	baz=342						
TSMG	**Majia**	**0.85**	**315**	*e* P	**Pn**	**11 15 58.4**	**-0.2**
	baz=321						
TSMG				S	**Sb**	**11 16 08.8**	**-1.5**
	baz=321						
EDH	**Donghe**	**0.87**	**1**	P	**Pb**	**11 15 58.5**	**-0.9**
	baz=350						
EDH				S	**Sb**	**11 16 10.3**	**-0.4**
	baz=350						
WLCH	**Liuqiu**	**0.88**	**287**	*e* P	**Pn**	**11 15 59.9**	**+1.0**
	baz=287						
SSD	**Sandimen**	**0.89**	**316**	P	**Pb**	**11 15 58.8**	**-0.9**
	baz=322						
SSD				*e* S	**Sb**	**11 16 09.4**	**-1.8**
	baz=322						
TWP	**Hsiaoliuchiu**	**0.90**	**286**	P	**Pn**	**11 16 02.0**	**+2.9**
	baz=287						
TWP				S	**Sn**	**11 16 14.4**	**+3.4**
	baz=287						
SGLT	**Jiouru**	**0.97**	**310**	*e* P	**Pn**	**11 16 02.9**	**+2.7**
	baz=312						
CHKT	**Chengkung**	**1.00**	**4**	*e* P	**Pb**	**11 16 00.5**	**-1.0**
	baz=352						
CHKT				*e* S	**Sb**	**11 16 13.5**	**-0.8**
	baz=352						
KAU	**Kaohsiung**	**1.02**	**297**	*e* S	**Sn**	**11 16 17.1**	**+3.0**
	baz=281						
SLGT	**Liugui**	**1.07**	**326**	P	**Pn**	**11 16 02.1**	**+0.5**
	baz=328						
SLGT				*e* S	**Sn**	**11 16 17.0**	**+1.6**
	baz=328						
SCST	**Cishan**	**1.08**	**317**	*e* P	**Pn**	**11 16 02.9**	**+1.3**
	baz=318						
SCST				*e* S	**Sn**	**11 16 19.0**	**+3.6**
	baz=318						
TWM1	**Shoushan**	**1.08**	**312**	*e* P	**Pn**	**11 16 03.4**	**+1.7**
	baz=313						
TWM1				*e* S	**Sn**	**11 16 18.9**	**+3.2**
	baz=313						
FULB	**Fuli**	**1.09**	**360**	*e* P	**Pb**	**11 16 01.8**	**-1.4**
	baz=349						
FULB				S	**Sn**	**11 16 17.1**	**+1.2**
	baz=349						
SNJT	**Kaohsiung City**	**1.10**	**306**	*e* P	**Pn**	**11 16 05.6**	**+3.7**
	baz=308						
ELDTW	**Lidau**	**1.11**	**347**	*e* P	**Pb**	**11 16 01.1**	**-2.5**
	baz=356						
ELDTW				*e* S	**Sb**	**11 16 16.3**	**-1.5**
	baz=356						
STYT	**Tauyuan**	**1.17**	**335**	P	**Pn**	**11 16 03.2**	**+0.3**
	baz=339						
STYT				*e* S	**Sn**	**11 16 19.4**	**+1.6**
	baz=339						
SGST	**Jiashian**	**1.18**	**326**	P	**Pb**	**11 16 04.1**	**-0.5**
	baz=328						
SGST				*e* S	**Sn**	**11 16 21.3**	**+3.3**
	baz=328						
EYUL	**Yuli**	**1.24**	**1**	*e* P	**Pn**	**11 16 03.9**	**0.0**
	baz=352						
EYUL				*e* S	**Sb**	**11 16 19.8**	**-1.5**
	baz=352						
TWF1	**Yuli**	**1.25**	**0**	*e* P	**Pn**	**11 16 03.3**	**-0.7**
	baz=351						
TWF1				S	**Sb**	**11 16 18.0**	**-3.4**
	baz=351						
YULB	**Yu-li**	**1.28**	**0**	*e* P	**Pn**	**11 16 03.5**	**-1.1**
	baz=351						
YULB				S	**Sn**	**11 16 18.9**	**-1.8**
	baz=351						
CHN1	**Nanshi**	**1.29**	**327**	*e* P	**Pb**	**11 16 06.5**	**0.0**
	baz=328						
CHN1				*e* S	**Sn**	**11 16 25.0**	**+4.2**
	baz=328						
CHN3	**Shinhua**	**1.30**	**319**	*e* P	**Pb**	**11 16 06.8**	**+0.2**
	baz=319						
CHN3				*e* S	**Sn**	**11 16 25.1**	**+4.2**
	baz=319						
WTP	**Ta-pu**	**1.30**	**331**	P	**Pb**	**11 16 06.5**	**-0.3**
	baz=333						
WTP				*e* S	**Sb**	**11 16 24.9**	**+1.7**
	baz=333						
SNST	**Tainan City**	**1.33**	**327**	P	**Pb**	**11 16 07.3**	**0.0**
	baz=328						
SNST				S	**Sb**	**11 16 25.4**	**+1.4**
	baz=328						
TPUB	**Ta-pu**	**1.34**	**333**	P	**Pb**	**11 16 07.2**	**-0.2**
	baz=334						
TPUB				S	**Sb**	**11 16 25.7**	**+1.4**
	baz=334						
TWK	**Hsinying**	**1.38**	**327**	*e* P	**Pb**	**11 16 07.9**	**-0.1**
	baz=329						
TWK				S	**Sb**	**11 16 27.2**	**+1.9**
	baz=329						
HGSD	**Ruisui**	**1.39**	**5**	*e* P	**Pn**	**11 16 06.3**	**+0.4**
	baz=17						
HGSD				*e* S	**Sn**	**11 16 24.4**	**+1.2**
	baz=17						
EHY	**Hungye**	**1.40**	**1**	P	**Pn**	**11 16 05.1**	**-1.0**
	baz=354						
EHY				S	**Sn**	**11 16 24.2**	**+0.7**
	baz=354						
CHN4	**Tsaushan**	**1.40**	**333**	*e* P	**Pb**	**11 16 08.1**	**-0.3**
	baz=334						
CHN4				*e* S	**Sb**	**11 16 26.6**	**+0.6**
	baz=334						
YUS	**Yu-Shan**	**1.42**	**347**	P	**Pn**	**11 16 07.3**	**+0.5**
	baz=355						
ALS	**Alishan**	**1.47**	**342**	P	**Pb**	**11 16 08.7**	**-1.0**
	baz=344						
ALS				*e* S	**Sb**	**11 16 27.9**	**-0.4**
	baz=344						
SCLT	**Jiali**	**1.48**	**317**	*e* S	**Sb**	**11 16 26.8**	**-1.2**
	baz=317						
EGFH	**Guangfu**	**1.56**	**4**	P	**Pn**	**11 16 09.6**	**+1.2**
	baz=354						
EGFH				*e* S	**Sn**	**11 16 28.3**	**+0.8**
	baz=354						
ICHU	**Yijhu**	**1.56**	**323**	P	**Pb**	**11 16 10.4**	**-0.7**
	baz=324						
ICHU				*e* S	**Sb**	**11 16 30.2**	**-0.3**
	baz=324						
CHN8	**Yiju**	**1.59**	**321**	*e* P	**Pb**	**11 16 10.1**	**-1.5**
	baz=322						
CHN8				*e* S	**Sb**	**11 16 30.4**	**-1.0**
	baz=322						
CHN5	**Tsauling**	**1.59**	**339**	*e* P	**Pb**	**11 16 10.8**	**-0.8**
	baz=340						
CHN5				*e* S	**Sb**	**11 16 31.1**	**-0.4**
	baz=340						
CHY	**Chiayi**	**1.61**	**330**	*e* P	**Pb**	**11 16 10.6**	**-1.2**
	baz=331						
CHY				*e* S	**Sb**	**11 16 30.2**	**-1.5**
	baz=331						
WHYT	**Xinyi Township**	**1.64**	**346**	P	**Pb**	**11 16 11.3**	**-1.1**
	baz=347						
WHYT				S	**Sb**	**11 16 31.6**	**-1.2**
	baz=347						
WLGB	**Puzi**	**1.65**	**326**	*e* S	**Sb**	**11 16 31.8**	**-1.2**
	baz=327						
VWDT	**VWDT**	**1.65**	**355**	*e* P	**Pn**	**11 16 10.2**	**+0.7**
	baz=8.0						
VWDT				*e* S	**Sn**	**11 16 30.6**	**+0.9**
	baz=8.0						
SSLB	**Suanglung**	**1.71**	**349**	P	**Pb**	**11 16 12.1**	**-1.5**
	baz=350						
SSLB				S	**Sb**	**11 16 34.2**	**-0.5**
	baz=350						
ESL	**Shilin**	**1.71**	**4**	*e* P	**Pb**	**11 16 12.5**	**-1.1**
	baz=356						
ESL				S	**Sn**	**11 16 29.5**	**-1.6**
	baz=356						
WGK	**Gukeng**	**1.72**	**337**	*e* P	**Pb**	**11 16 13.2**	**-0.5**
	baz=338						
WGK				S	**Sb**	**11 16 34.7**	**-0.2**
	baz=338						
WDLH	**Douliu**	**1.73**	**336**	P	**Pb**	**11 16 12.7**	**-1.2**
	baz=337						
WDLH				S	**Sb**	**11 16 35.0**	**-0.2**
	baz=337						
WTK	**Tuku**	**1.79**	**332**	*e* P	**Pn**	**11 16 12.3**	**+0.9**
	baz=333						
WTK				*e* S	**Sb**	**11 16 35.9**	**-1.0**
	baz=333						
WJS	**Zhushan**	**1.79**	**343**	P	**Pb**	**11 16 14.0**	**-0.9**
	baz=344						
WJS				S	**Sb**	**11 16 37.3**	**+0.2**
	baz=344						
SMLT	**Sun Moon Lake**	**1.81**	**348**	*e* P	**Pb**	**11 16 14.0**	**-1.3**
	baz=350						
SMLT				*e* S	**Sb**	**11 16 36.1**	**-1.7**
	baz=350						
WSF	**Szhu**	**1.82**	**327**	*e* P	**Pn**	**11 16 11.1**	**-0.8**
	baz=328						
WSF				S	**Sb**	**11 16 35.7**	**-2.2**
	baz=328						
TYC	**Yuchr**	**1.84**	**347**	*e* P	**Pn**	**11 16 13.9**	**+1.8**
	baz=349						
TYC				*e* S	**Sb**	**11 16 37.4**	**-1.0**
	baz=349						
WNT	**Mingjian**	**1.86**	**342**	P	**Pb**	**11 16 15.6**	**-0.5**
	baz=344						
WNT				S	**Sb**	**11 16 39.2**	**+0.3**
	baz=344						
WDGT	**Dungji**	**1.90**	**308**	P	**Pn**	**11 16 13.3**	**+0.3**
	baz=307						
WDGT				S	**Sn

WHP				S		Sb	11 16 48.1 -0.5
	baz=352						
TWQ1	**Liyutan**	**2.29**	**348**	P		**Pn**	**11 16 20.8 +2.4**
	baz=349						
TWQ1				*e*S		**Sb**	**11 16 48.1 -3.2**
	baz=349						
WDJ	**Dajia District**	**2.32**	**345**	*e*S		**Sb**	**11 16 49.3 -2.8**
	baz=346						
NNSB	**Datong**	**2.32**	**2**	*e*P		**Pn**	**11 16 19.0 +0.2**
	baz=11						
NNSB				*e*S		**Sn**	**11 16 47.2 +0.9**
	baz=11						
NNSH	**Datong**	**2.32**	**2**	*e*P		**Pn**	**11 16 19.7 +0.9**
	baz=11						
NNSH				*e*S		**Sn**	**11 16 48.1 +1.8**
	baz=11						
NNS	**Nan Shan**	**2.33**	**2**	*e*P		**Pn**	**11 16 21.6 +2.6**
	baz=11						
NNS				*e*S		**Sn**	**11 16 48.1 +1.5**
	baz=11						
ENA	**Nanau**	**2.35**	**10**	*e*P		**Pn**	**11 16 19.7 +0.5**
	baz=360						
ENA				*e*S		**Sn**	**11 16 49.5 +2.5**
	baz=360						
NSY	**Sanyi**	**2.36**	**348**	S		**Sb**	**11 16 51.7 -1.6**
	baz=349						
PTSB	**Yuanli**	**2.40**	**347**	*e*S		**Sb**	**11 16 51.4 -3.1**
	baz=348						
NDT	**Datong Townshi**	**2.50**	**5**	*e*P		**Pn**	**11 16 23.5 +2.3**
	baz=5.0						
NDT				*e*S		**Sn**	**11 16 53.6 +3.0**
	baz=5.0						
NSTT	**Nanjuang**	**2.53**	**354**	*e*P		**Pn**	**11 16 24.5 +2.9**
	baz=341						
NSTT				*e*S		**Sb**	**11 16 55.0 -3.4**
	baz=341						
ENTT	**Nioudou**	**2.54**	**6**	P		**Pn**	**11 16 22.3 +0.5**
	baz=6.0						
ENTT				S		**Sn**	**11 16 54.1 +2.5**
	baz=6.0						
TWC	**Suao**	**2.55**	**11**	*e*P		**Pn**	**11 16 25.2 +3.4**
	baz=24						
TWC				S		**Sn**	**11 16 53.8 +2.0**
	baz=24						
YHNB	**Yeheng**	**2.56**	**2**	*e*P		**Pn**	**11 16 23.7 +1.6**
	baz=13						
YHNB				*e*S		**Sn**	**11 16 52.6 +0.4**
	baz=13						
NSK	**Sanguang**	**2.56**	**1**	*e*P		**Pn**	**11 16 24.2 +2.0**
	baz=13						
NSK				*e*S		**Sn**	**11 16 55.0 +2.7**
	baz=13						
NWLT	**Wulai**	**2.67**	**4**	*e*P		**Pn**	**11 16 25.9 +2.3**
	baz=15						
NWLT				*e*S		**Sn**	**11 16 55.1 +0.3**
	baz=15						
YOJ	**Yonaguni jima**	**2.83**	**34**	*e*P		**Pn**	**11 16 27.6 +1.9**
	baz=44						
YOJ				*e*S		**Sn**	**11 17 00.8 +2.1**
	baz=44						
YOJ	**Yonaguni jima**	**2.83**	**34**	P		**Pn**	**11 16 27.4 +1.7**
YOJ				*e*S		**Sn**	**11 17 00.2 +1.5**
TIPB	**Shuangxi**	**2.90**	**10**	*e*P		**Pn**	**11 16 28.5 +1.8**
TIPB				*e*S		**Sn**	**11 17 01.9 +1.4**
NWF	**Wu-fen Shan**	**2.99**	**8**	*e*P		**Pn**	**11 16 30.0 +2.0**
	baz=9.0						
NWF				*e*S		**Sn**	**11 17 04.3 +1.5**
	baz=9.0						
WFSB	**Wu-fen Shan**	**2.99**	**8**	*e*P		**Pn**	**11 16 28.7 +0.7**
	baz=9.0						
WFSB				*e*S		**Sn**	**11 17 05.1 +2.4**
	baz=9.0						
HATJ	**Hateruma jima**	**3.02**	**49**	*e*S		**Sn**	**11 17 02.9 -0.6**
IRIF	**Iriomote-Funau**	**3.16**	**45**	P		**Pn**	**11 16 31.7 +1.5**
IRIF				S		**Sn**	**11 17 07.4 +0.6**
JKRS	**Kuro-shima**	**3.28**	**49**	P		**Pn**	**11 16 33.5 +1.6**
JKRS				*e*S		**Sn**	**11 17 09.5 -0.4**
JIJ	**Ishigaki jima**	**3.46**	**49**	P		**Pn**	**11 16 35.1 +0.8**
JIJ				*e*S		**Sn**	**11 17 12.9 -1.3**
KNMB	**Chin-men Tao**	**3.56**	**312**	*e*P		**Pn**	**11 16 36.9 +1.2**
	baz=311						
KNMB				*e*S		**Sn**	**11 17 17.5 +0.8**
	baz=311						
PTTC	**Pingtan**	**3.66**	**338**	*e*S		**Sn**	**11 17 20.1 +0.9**
	baz=338						
JISG	**Ishigakijimahi**	**3.72**	**48**	P		**Pn**	**11 16 38.6 +0.7**
JISG				*e*S		**Sn**	**11 17 20.4 -0.2**
ZPLA	**Ao Xicun**	**3.74**	**300**	*e*P		**Pn**	**11 16 39.5 +1.3**
	baz=299						
JTJ	**Tarama**	**4.02**	**50**	P		**Pn**	**11 16 43.7 +1.6**
JTJ				*e*S		**Sn**	**11 17 28.2 0.0**
ZZJH	**Jiuhuzhen**	**4.11**	**306**	*e*P		**Pn**	**11 16 44.3 +1.0**
	baz=304						
ZZJH				*e*S		**Sn**	**11 17 30.4 +0.1**
	baz=304						
AXDP	**Jialang**	**4.13**	**313**	*e*P		**Pn**	**11 16 44.5 +0.9**
	baz=313						
AXDP				*e*S		**Sn**	**11 17 32.1 +1.3**
	baz=313						
MATB	**Ma-tsu**	**4.22**	**343**	*e*P		**Pn**	**11 16 46.0 +1.2**
	baz=343						
MATB				*e*S		**Sn**	**11 17 32.7 -0.3**
	baz=343						
JIRB	**Irabujima**	**4.48**	**52**	*e*S		**Sn**	**11 17 39.5 +0.1**
MHZQ	**Yeshan**	**4.49**	**333**	*e*P		**Pn**	**11 16 49.0 +0.5**
	baz=344						
MHZQ				*e*S		**Sn**	**11 17 39.9 +0.3**
	baz=344						
JMJ2	**Miyako jima3**	**4.54**	**54**	P		**Pn**	**11 16 51.1 +1.8**
JMJ2				*e*S		**Sn**	**11 17 41.5 +0.5**
LYJJ	**Jianjiangzhen**	**4.64**	**343**	*e*S		**Sn**	**11 17 43.7 +0.2**
	baz=342						

BER 16 11:59:15.6±0.5, 60.75N×10.59E, h0km, ML1.4, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAO01	**NORSAR Array S**	**0.18**	**56**	*e*P		Pg	11 59 18.6 -0.4
NAO01				*e*S		Sg	11 59 21.1 -0.2
NBO00	**NORSAR Array S**	**0.30**	**18**	*e*P		Pg	11 59 20.7 -0.6
NBO00				*e*S		Sg	11 59 25.1 -0.2
NBO00				IAML			11 59 30.2
	comp=Z,43nm,0.8s						
NB201	**NORSAR Array S**	**0.46**	**48**	IAML			11 59 40.5
	comp=Z,31nm,1.0s						
NC602	**NORSAR Array S**	**0.47**	**91**	*e*P		Pg	11 59 23.9 -0.6
NC602				*e*S		Sg	11 59 30.2 -0.4
NC204	**NORSAR Array S**	**0.54**	**9**	*e*P		Pg	11 59 25.3 -0.7
NC204				*e*S		Sg	11 59 32.2 -0.7
NC303	**NORSAR Array S**	**0.61**	**38**	*e*P		Pg	11 59 26.5 -0.8
NC303				*e*S		Sg	11 59 35.2 -0.1
SKAR	**Skarslia**	**1.12**	**268**	*e*P		Pg	11 59 35.9 -1.2

PRU 16 11:59:24.6±0.0, 51.45N×16.17E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg		Pg	11 59 36.2 -0.1
KSP				*e*Sg		Sg	11 59 44.6 +0.4
CHVC	**Chvalec**	**0.87**	**185**	*e*PG		Pg	11 59 40.7 -0.5
CHVC				*e*SG		Sg	11 59 52.8 +0.4
	comp=Z,16nm,0.4s						
OSTC	**Ostas**	**0.90**	**178**	*e*PG		Pg	11 59 42.0 +0.3
OSTC				*e*SG		Sg	11 59 53.8 +0.5
	comp=Z,28nm,0.9s						
UPC	**Upice**	**0.95**	**186**	*e*PG		Pg	11 59 42.8 0.0
UPC				*e*SG		Sg	11 59 55.7 +0.7
	comp=Z,32nm,0.3s						
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*PG		Pg	11 59 45.0 -0.8
DPC				*e*SG		Sg	11 59 59.3 -0.8
	comp=Z,12nm,0.5s						
KRLC	**Kraliky**	**1.43**	**164**	*e*PG		Pn	11 59 50.8 -1.0
KRLC				*e*SG		Sg	12 00 10.5 0.0
	comp=Z,12nm,0.6s						
BRG	**Berggiesshubel**	**1.52**	**248**	PG		Pn	11 59 53.1 +0.1
BRG				SG		Sn	12 00 13.5 +0.1
	22nm,0.5s						
PRA	**Prague**	**1.77**	**219**	*e*SG		Sg	12 00 21.4 +0.1
	comp=Z,6.2nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.77**	**210**	*e*PG		Pb	11 59 57.3 -0.6
GOPC				*e*SG		Sb	12 00 20.9 +0.2
	comp=Z,7.8nm,0.5s						
PRU	**Pruhonice**	**1.79**	**216**	*e*PG		Pn	11 59 57.3 +0.5
PRU				*e*SG		Sb	12 00 21.3 0.0
	comp=Z,11nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**152**	*e*PN		Pn	11 59 56.9 -1.3
MORC				*e*SG		Sn	12 00 23.0 +0.3
CLL	**Collm**	**1.99**	**267**	*e*Pg		Pb	12 00 02.0 +0.4
CLL				*e*Sg		Sg	12 00 28.0 -0.5
	comp=Z,9.0nm,0.6s						
VRAC	**Vranov**	**2.16**	**173**	*e*PN		Pn	12 00 01.3 -0.6
PBCC	**Pribram**	**2.25**	**219**	*e*PG		Pb	12 00 05.9 -0.1
PBCC				*e*SG		Sg	12 00 36.0 -0.7
NKC	**Novy Kostel**	**2.66**	**244**	*e*SG		Sg	12 00 50.5 +0.6
	comp=Z,14nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PG		Pb	12 00 17.0 +0.6
KHC				*e*SN		Sn	12 00 44.5 -2.0
KHC				*e*SG		Sg	12 00 55.0 -1.3
	comp=Z,5.8nm,0.5s						

*DJA **16** 11:59:34.2±0.8, 9.5S±5.5×111.1E±.1°, h10km, M3.5/6, MLv3.5/6*
*IDC **16** 11:59:37.6±2.7, 9.36S×111.72E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=140.9km s-min=26.2km az=48.0*

ISC 16 11:59:32.3±3.6, 9.25S±0.09×110.70E±0.06, h14km±25km, n10, σ0.87/15, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.34**	**352**	P		**Pn**	**11 59 55.9 -0.7**
UGM				S		**Sn**	**12 00 13.8 -0.5**
WOJI	**Wonogiri, Jawa**	**1.42**	**9**	P		**Pn**	**11 59 57.7 0.0**
WOJI				S		**Sn**	**12 00 15.2 -1.0**
YOGI	**Yogyakarta**	**1.48**	**344**	P		**Pn**	**11 59 58.2 -0.3**
YOGI				S		**Sb**	**12 00 18.3 +0.1**
PWJI	**Pagerwojo**	**1.64**	**42**	P		**Pn**	**12 00 01.1 +0.4**
PWJI				S		**Sb**	**12 00 22.8 0.0**
NGJI	**Ngawi**	**2.02**	**22**	P		**Pb**	**12 00 09.5 +0.8**
NGJI				S		**Sn**	**12 00 31.7 +0.8**
KPJI	**Karang Pucung**	**2.59**	**317**	P		**Pb**	**12 00 17.8 -0.7**
KPJI				S		**Sn**	**12 00 46.8 +1.8**
CISI	**Cisompet, Garu**	**3.31**	**300**	P		**Pn**	**12 00 24.6 +0.8**
WRA	**Warramunga Arr**	**25.19**	**118**	P		**P**	**12 04 56.9 -0.8**
	0.8nm,0.8s,baz=291,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**26.41**	**126**	P		**P**	**12 05 08.3 -0.5**
	0.7nm,0.7s,baz=304,slow=9.5,SNR=7.4						
MKAR	**Makanchi Array**	**61.28**	**338**	P		P	12 09 57.8 +11
	0.2nm,0.3s,baz=145,slow=9.2,SNR=2.3						

WEL 16 12:04:34.6, 44.5S±5.5×17.0E±.1°, h5km±4km, M2.6/7, ML2.7/7, MLv2.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=67.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOZ	**Fox Glacier**	**0.24**	**326**	P		Pg	12 04 38.9 -0.4
GCSZ	**Gaunt Creek Bo**	**0.48**	**30**	P		Pb	12 04 45.4 0.0
LBZ	**Lake Benmore**	**0.67**	**169**	P		Pb	12 04 49.1 +0.3
RPZ	**Rata Peaks**	**0.77**	**89**	P		Pb	12 04 50.5 +0.1
WVZ	**Waitaha Valley**	**0.85**	**40**	P		Pn	12 04 53.0 -0.2
ARCZ	**Arundel**	**0.88**	**105**	P		Pn	12 04 54.1 +0.4
JCZ	**Jackson Bay**	**0.94**	**248**	P		Pb	12 04 53.3 -0.2
WKZ	**Wanaka**	**1.30**	**212**	P		Pg	12 05 01.9 +2.3
ODZ	**Otahua Downs**	**1.39**	**161**	P		Pg	12 05 02.1 +0.8
INZ	**Inchbonnie**	**1.46**	**47**	P		Pg	12 05 02.7 +0.2
LTZ	**Lake Taylor**	**1.91**	**61**	P		Pb	12 05 10.5 +0.5
MLZ	**Mavora Lakes**	**2.12**	**219**	P		Pg	12 05 15.3 +0.1

*INET **16** 12:08:43.5, 11.00N×86.72W, h8km, ML2.7*

UCR 16 12:08:46.7±1.6, 10.83N×86.77W, h15km, MD3.9, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.16**	**96**	*e*P		Pn	12 09 08.0 -0.3
LAPC	**Finca la Perla**	**1.31**	**93**	*i*P		Pn	12 09 09.4 -1.1
BUEV	**Buena Vista**	**1.34**	**91**	*i*P		Pn	12 09 09.9 -1.0
BUEV				*i*S		Sb	12 09 28.9 +0.3
GB1A	**Borinquen Arri**	**1.34**	**90**	*i*P		Pn	12 09 10.1 -1.0
ORTG	**Ortega, Santa**	**1.37**	**110**	*e*P		Pn	12 09 10.6 -0.7
HORNC	**Hornillas**	**1.57**	**94**	*i*P		Pb	12 09 15.9 +0.4
HORNC				*i*S		Sn	12 09 34.0 -0.2
CUI	**Cuipilapa**	**1.58**	**96**	*e*P		Pn	12 09 13.0 -1.3
CUI				*e*S		Sn	12 09 34.8 +0.2
ACAL	**Aguas Claras**	**1.71**	**96**	*i*S		Sb	12 09 39.1 -0.2
PTEN	**Parque Tenorio**	**1.75**	**94**	*i*P		Pb	12 09 18.3 -0.4
JTS	**Las Juntas de**	**1.86**	**107**	*e*P		Pn	12 09 18.6 +0.5
ARE1	**Arenal 1**	**2.05**	**100**	*e*P		Pn	12 09 22.1 +1.4
CEDE	**Laguna Cedeo**	**2.06**	**99**	*e*P		Pb	12 09 23.1 -0.7
LAFE	**Finca La Fe, P**	**2.09**	**119**	*e*P		Pn	12 09 20.4 -0.9

MAN 16 12:29:14.8, 12.66N×123.45E, h26km, mb4.6, ML3.5, MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.16**	**36**	*e*P		Pn	12 29 35.1 -0.3
PVCP				*e*S		Sb	12 29 50.8 -0.1
CNP	**Catarman**	**1.19**	**97**	*e*P		Pn	12 29 35.2 -0.6
OTRP	**Odiongan**	**1.43**	**258**	*e*P		Pn	12 29 38.9 -0.2
OTRP				*e*S		Sn	12 29 57.0 0.0
BOAC	**Boac**	**1.76**	**297**	*e*P		Pn	12 29 43.3 -0.3
BOAC				*e*S		Sn	12 30 02.1 -3.1
SJMP	**San Jose**	**2.29**	**265**	*e*P		Pb	12 29 53.5 -1.9
LQP	**Lukban**	**2.36**	**308**	*e*P		Pn	12 29 52.7 +0.6
LQP				*e*S		Sn	12 30 11.2 -9.1

*JMA **16** 12:40:47.4, 24.49N×121.96E, h19km, M2.4*
*TAP **16** 12:40:47.8, 24.53N×121.90E, h21km, ML2.9, B*

ISC 16 12:40:47.4±0.9, 24.50N±0.02×121.97E±0.02, h19km±2km, n70, σ0.44/117, 3C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.15**	**253**	⇓*i*P		**Pg**	**12 40 52.4 +0.5**
	baz=225						
ENAH				*i*S		**Sg**	**12 40 55.7 +0.9**
	baz=225						
TWC	**Suao**	**0.16**	**315**	⇓*i*P		**Pg**	**12 40 52.2 +0.2**
	baz=335						
TWC				*e*S		**Sg**	**12 40 55.1 +0.1**
	baz=335						
ENA	**Nanau**	**0.22**	**253**	⇓*i*P		**Pg**	**12 40 53.0 +0.3**
	baz=233						
ENA				*i*S		**Sg**	**12 40 57.0 +0.5**
	baz=233						
ILA	**Ilan**	**0.34**	**323**	*e*P		**Pb**	**12 40 55.0 +0.1**
	baz=330						
ILA				*i*S		**Sb**	**12 40 59.9 0.0**
	baz=330						
EGS		**0.35**	**354**	*i*P		**Pb**	**12 40 55.2 +0.2**
	baz=7.0						
EGS				*e*S		**Sb**	**12 41 00.2 0.0**
	baz=7.0						
TWE	**Neicheng**	**0.36**	**309**	⇑P		**Pg**	**12 40 54.8 -0.2**
	baz=313						
TWE				*i*S		**Sg**	**12 40 59.7 -0.5**
	baz=313						
NTC	**Toucheng**	**0.38**	**340**	*i*P		**Pg**	**12 40 55.4 0.0**
	baz=348						
NTC				*e*S		**Sg**	**12 41 00.9 0.0**
	baz=348						
ENTT	**Nioudou**	**0.40**	**291**	P		**Pg**	**12 40 55.7 -0.1**
	baz=290						
ENTT				*i*S		**Sg**	**12 41 00.8 -0.6**
	baz=290						
NDT	**Datong Townshi**	**0.43**	**284**	P		**Pg**	**12 40 56.2 -0.1**
	baz=281						
NDT				S		**Sg**	**12 41 02.0 -0.4**
	baz=281						
NACB	**Ninganchiao**	**0.47**	**227**	⇓P		**Pg**	**12 40 56.6 -0.4**
	baz=218						
NACB				*e*S		**Sg**	**12 41 03.5 +0.1**
	baz=218						
TIPB	**Shuangxi**	**0.49**	**344**	P		**Pg**	**12 40 57.3 -0.1**
	baz=351						
TIPB				*e*S		**Sg**	**12 41 04.0 -0.2**
	baz=351						
TWB1	**Santiao Chiao**	**0.51**	**2**	P		**Pb**	**12 40 58.0 +0.3**
	baz=10.0						
TWB1				*e*S		**Sg**	**12 41 04.3 -0.4**
	baz=10.0						
NWLT	**Wulai**	**0.51**	**303**	P		**Pg**	**12 40 57.4 -0.4**
	baz=304						
NWLT				*e*S		**Sg**	**12 41 03.6 -1.2**
	baz=304						
ETLH	**Xiulin Townshi**	**0.53**	**237**	*e*P		**Pg**	**12 40 57.8 -0.4**
	baz=229						
ETLH				*e*S		**Sg**	**12 41 05.5 +0.1**
	baz=229						
NNSB	**Datong**	**0.54**	**263**	*i*P		**Pg**	**12 40 58.0 -0.3**
	baz=258						
NNSB				*i*S		**Sg**	**12 41 05.7 -0.1**
	baz=258						
NNSH	**Datong**	**0.54**	**263**	⇓*i*P		**Pg**	**12 40 58.0 -0.3**
	baz=258						
NNSH				*i*S		**Sg**	**12 41 05.5 -0.2**
	baz=258						
NNS	**Nan Shan**	**0.55**	**264**	P		**Pb**	**12 40 58.2 -0.2**
	baz=259						
NNS				*e*S		**Sg**	**12 41 05.8 -0.1**
	baz=259						
YHNB	**Yeheng**	**0.57**	**288**	*e*P		**Pb**	**12 40 58.6 -0.1**
	baz=286						
YHNB				*e*S		**Sb**	**12 41 05.8 -0.7**
	baz=286						
NSK	**Sanguang**	**0.59**	**288**	*e*P		**Pb**	**12 40 58.7 -0.3**
	baz=286						
NSK				*e*S		**Sb**	**12 41 06.0 -1.0**
	baz=286						
NWF	**Wu-fen Shan**	**0.60**	**343**	P		**Pg**	**12 40 59.4 0.0**
	baz=348						
NWF				*e*S		**Sb**	**12 41 07.2 -0.1**
	baz=348						
TWA	**Mucha**	**0.60**	**324**	*e*P		**Pg**	**12 40 59.6 +0.3**
	baz=328						
TWA				*e*S		**Sg**	**12 41 07.5 0.0**
	baz=328						
WFSB	**Wu-fen Shan**	**0.60**	**343**	P		**Pg**	**12 40 59.5 +0.1**
	baz=348						
WFSB				*e*S		**Sb**	**12 41 07.1 -0.1**
	baz=348						
HWA	**Hwalien**	**0.62**	**213**	*e*P		**Pb**	**12 40 58.6 -0.8**
	baz=205						
TATO	**Taipei**	**0.65**	**317**	*e*P		**Pb**	**12 41 00.0 0.0**
	baz=320						
TATO				*e*S		**Sb**	**12 41 08.8 +0.1**
	baz=320						
FUSS	**Fushou**	**0.71**	**250**	⇑P		**Pb**	**12 41 01.1 -0.2**
	baz=244						
FUSS				*e*S		**Sb**	**12 41 10.7 0.0**
	baz=244						
WHF	**Hehuan Shan**	**0.73**	**242**	⇑P		**Pb**	**12 41 01.7 -0.1**
	baz=236						
WHF				S		**Sb**	**12 41 11.7 +0.1**
	baz=236						
YM01	**YM01**	**0.74**	**331**	*e*P		**Pg**	**12 41 01.9 -0.1**
	baz=334						
YM01				S		**Sb**	**12 41 11.6 +0.1**
	baz=334						
YM10	**YM10**	**0.76**	**330**	*e*P		**Pb**	**12 41 02.0 +0.1**
	baz=333						
YM10				S		**Sb**	**12 41 12.0 +0.1**
	baz=333						
YM11	**YM11**	**0.76**	**332**	*e*P		**Pg**	**12 41 02.3 0.0**
	baz=335						
YM11				*e*S		**Sg**	**12 41 12.6 +0.1**
	baz=335						
YM05	**YM05**	**0.76**	**331**	*e*P		**Pb**	**12 41 02.0 -0.1**
	baz=334						
YM05				*e*S		**Sb**	**12 41 11.6 -0.4**
	baz=334						
TWT	**Tachien**	**0.77**	**252**	P		**Pb**	**12 41 02.4 +0.2**
	baz=247						
TWT				S		**Sg**	**12 41 13.2 +0.4**
	baz=247						
YM04	**YM04**	**0.77**	**329**	*e*P		**Pb**	**12 41 02.1 0.0**
	baz=332						
YM04				S		**Sb**	**12 41 12.2 0.0**
	baz=332						
YM08	**YM08**	**0.77**	**333**	*e*P		**Pb**	**12 41 01.9 -0.3**
	baz=336						
YM08				*e*S		**Sb**	**12 41 12.5 +0.2**
	baz=336						
TDCB	**Techi**	**0.78**	**252**	P		**Pb**	**12 41 02.4 0.0**
	baz=247						
TDCB				*e*S		**Sg**	**12 41 13.1 -0.1**
	baz=247						
TWS1	**Kuangyinshan**	**0.79**	**320**	*e*P		**Pb**	**12 41 02.6 +0.2**
	baz=322						
YM03	**YM03**	**0.79**	**330**	*e*P		**Pb**	**12 41 02.5 0.0**
	baz=333						
YM03				*e*S		**Sb**	**12 41 12.9 +0.1**
	baz=333						
ESL	**Shilin**	**0.84**	**216**	*e*P		**Pg**	**12 41 03.8 0.0**
	baz=210						
ESL				*e*S		**Sn**	**12 41 15.6 -0.3**
	baz=210						
CHGB	**Renai**	**0.85**	**239**	P		**Pb**	**12 41 03.8 +0.2**
	baz=234						
CHGB				*e*S		**Sg**	**12 41 15.9 +0.6**
	baz=234						
NCUH	**Zhongli**	**0.86**	**303**	*e*P		**Pb**	**12 41 03.9 +0.3**
	baz=303						
JYNG	**Yonagunijimaku**	**0.89**	**93**	P		**Pb**	**12 41 04.3 +0.2**
JYNG				S		**Sg**	**12 41 16.3 -0.2**
NSTT	**Nanjuang**	**0.90**	**279**	*e*P		**Pb**	**12 41 04.3 0.0**
	baz=277						
NSTT				*e*S		**Sb**	**12 41 15.8 0.0**
	baz=277						
YOJ	**Yonaguni jima**	**0.95**	**92**	*e*P		**Pb**	**12 41 04.9 -0.2**
	baz=93						
YOJ	**Yonaguni jima**	**0.95**	**92**	P		**Pb**	**12 41 04.9 -0.2**
YOJ				*e*S		**Sb**	**12 41 17.7 +0.4**
EGFH	**Guangfu**	**0.96**	**211**	*e*P		**Pg**	**12 41 06.5 +0.4**
	baz=206						
EGFH				*e*S		**Sn**	**12 41 19.9 +0.9**
	baz=206						
WHP	**Taichung City**	**0.96**	**257**	*e*P		**Pb**	**12 41 05.8 +0.3**
	baz=253						
WHP				*e*S		**Sb**	**12 41 17.5 -0.3**
	baz=253						
VWDT	**VWDT**	**1.06**	**226**	*e*P		**Pn**	**12 41 07.5 +0.3**
	baz=221						
TWQ1	**Liyutan**	**1.10**	**263**	*e*P		**Pg**	**12 41 09.6 +0.8**
	baz=259						
HGSD	**Ruisui**	**1.12**	**207**	*e*P		**Pg**	**12 41 08.7 -0.4**
	baz=202						
EHY	**Hungye**	**1.15**	**211**	*e*P		**Pn**	**12 41 08.3 -0.1**
	baz=207						
SMLT	**Sun Moon Lake**	**1.15**	**238**	*e*P		**Pg**	**12 41 09.4 -0.4**
	baz=234						
SMLT				*e*S		**Sb**	**12 41 22.9 -0.5**
	baz=234						
SSLB	**Suanglung**	**1.17**	**233**	*e*P		**Pb**	**12 41 09.2 +0.2**
	baz=229						
TYC	**Yuchr**	**1.18**	**240**	*e*P		**Pb**	**12 41 09.7 +0.6**
	baz=236						
YULB	**Yu-li**	**1.26**	**210**	*e*P		**Pb**	**12 41 10.5 0.0**
	baz=205						
EYUL	**Yuli**	**1.29**	**208**	*e*P		**Pb**	**12 41 11.2 +0.2**
	baz=204						
TWF1	**Yuli**	**1.29**	**209**	*e*P		**Pb**	**12 41 11.4 +0.3**
	baz=204						
WHYT	**Xinyi Township**	**1.30**	**232**	*e*P		**Pg**	**12 41 12.1 -0.4**
	baz=229						
FULB	**Fuli**	**1.43**	**206**	*e*P		**Pb**	**12 41 13.8 +0.3**
	baz=202						
ALS	**Alishan**	**1.45**	**228**	*e*P		**Pb**	**12 41 14.1 +0.2**
	baz=224						
CHN5	**Tsauling**	**1.48**	**233**	*e*P		**Pb**	**12 41 15.1

JTJ	Tarama	2.49	86	P	Pn	12 41 27.9	+1.1
JTJ				eS	Sn	12 41 58.3	+1.6

*MOS **16** 13:00:17.9±0.8, 22°.13S×179°.58W, h559km, mb5.2/59, Error ellipse: s-maj=7.5km s-min=6.4km az=67.0*
*BJI **16** 13:00:18.7±0.0, 22°.00S×179°.16W, h579km, mB5.4/32, mb5.2/51*
*UNK **16** 13:00:21.0, 22°.15S×179°.60W, h590km*
*IDC **16** 13:00:20.2±0.5, 22°.17S×179°.55W, h575km±4km, mb4.7/28, mb1 4.8/31, mb1mx4.8/32, mbtmp5.6/31, Error ellipse: s-maj=8.3km s-min=7.4km az=173.0*
*NEIC **16** 13:00:20.8±1.7, 22°.17S±0°.08×179°.56W±0°.07, h587km±4km, mb5.3/401, Error ellipse: s-maj=11.9km s-min=8.9km az=166.0*
*BGR **16** 13:00:20.3±0.0, 22°.18S×179°.54W, h603km±12km*
*GCMT **16** 13:00:21.8±0.2, 22°.30S±0°.02×179°.54W±0°.01, h590km±1km, MW5.5/139, Moment Tensor Solution. s139, c236; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.57±.04; $M_{\theta\theta}$-0.17±.06; $M_{\phi\phi}$-2.40±.07; $M_{r\theta}$0.22±.07; $M_{\theta\phi}$-1.00±.06; $M_{\phi r}$0.16±.07; Best double couple: $M_0$2.69000×10^{17} NP1:ϕ_s197.00000°, δ43.00000°, λ85.00000°. NP2:ϕ_s24.00000°, δ48.00000°, λ95.00000°. Principal axes: T 2.5880, Plg86.0000°, Azm346.0000°; N 0.2030, Plg3.0000°, Azm201.0000°; P -2.7920, Plg2.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 16 13:00:20.1±0.3, **22°.30S**±0°.03×**179°.47W**±0°.03, **h585**km±3km, **h586**km:**pP-P, n1748**, σ**1**s**32**/2038, **mb5.3**/290, **84C-45D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.11**	**332**	*c iP*		**P**	**13 01 52.8**	**-0.4**
MSVF	**Nonsavu**	**5.11**	**332**	P		**P**	**13 01 52.8**	**-0.4**
RIZ	**Raoul Island**	**7.05**	**169**	P		**P**	**13 02 09.5**	**-0.3**
RIZ				S		**S**	**13 03 34.3**	**-5.4**
RAO	**Raoul Island**	**7.06**	**169**	P		**P**	**13 02 10.1**	**+0.2**
	470nm,0.3s,baz=151,slow=5.8,SNR=19							
RAO				S		**S**	**13 03 35.7**	**-4.2**
	283nm,0.3s,baz=99,slow=22,SNR=16							
RAO	**Raoul Island**	**7.06**	**169**	P		**P**	**13 02 09.7**	**-0.2**
RAO				S		**S**	**13 03 33.5**	**-6.4**
RAO	**Raoul Island**	**7.06**	**169**	P		**P**	**13 02 09.3**	**-0.6**
GLKZ	**Green Lake**	**7.07**	**169**	P		**P**	**13 02 09.9**	**0.0**
GLKZ				S		**S**	**13 03 33.3**	**-6.8**
NIUE	**Niue**	**9.49**	**72**	P		**P**	**13 02 32.9**	**-0.7**
	baz=9.4							
NIUE				S		**S**	**13 04 25.4**	**+2.3**
	baz=9.4							
NIUE	**Niue**	**9.49**	**72**	P		**P**	**13 02 32.6**	**-1.0**
NIUE	**Niue**	**9.49**	**72**	S		**S**	**13 04 25.7**	**+2.6**
NIUE	**Niue**	**9.49**	**72**	P		**P**	**13 02 32.6**	**-1.0**
AFI	**Afiamalu**	**11.10**	**43**	P		**P**	**13 02 46.3**	**-3.5**
	13nm,0.3s,baz=39,slow=1.6,SNR=24							
AFI				S		S	13 04 43.3	-9.5
	4.5nm,0.3s,baz=211,slow=23,SNR=7.7							
AFI	**Afiamalu**	**11.10**	**43**	P		**P**	**13 02 46.7**	**-3.2**
AFI				S		S	13 04 41.7	-11
DZM	**Mont Dzumac**	**13.05**	**268**	P		**P**	**13 03 08.9**	**-0.8**
	17nm,0.3s,baz=98,slow=9.8,SNR=95							
DZM				S		**S**	**13 05 35.6**	**+6.5**
	0.7nm,0.3s,baz=4.3,slow=16,SNR=2.1							
DZM	**Mont Dzumac**	**13.05**	**268**	*e*P		**P**	**13 03 08.8**	**-0.9**
DZM	**Mont Dzumac**	**13.05**	**268**	P		**P**	**13 03 08.4**	**-1.3**
NFK	**Norfolk Island**	**13.18**	**237**	P		**P**	**13 03 12.9**	**+2.1**
	baz=13,SNR=21							
NFK	**Norfolk Island**	**13.18**	**237**	P		**P**	**13 03 12.7**	**+1.9**
OUZ	**Omahuta**	**14.23**	**204**	P		**P**	**13 03 23.4**	**+2.2**
OUZ	**Omahuta**	**14.23**	**204**			**P**	**13 03 22.3**	**+1.1**
SANVU	**Saraoutou**	**14.33**	**296**	P		**P**	**13 03 19.9**	**-2.6**
MXZ	**Matakaoa Point**	**15.33**	**187**	P		**P**	**13 03 29.9**	**-1.8**
MXZ				IAmb		IAmb	13 03 34.4	
	comp=Z,130nm,1.1s							
TGRZ	**Tauranga**	**15.81**	**193**	P		**P**	**13 03 38.4**	**+2.3**
OPRZ	**Ohinepanea**	**15.86**	**192**	P		**P**	**13 03 36.9**	**+0.2**
TOZ	**Tahuroa Road**	**15.98**	**195**	P		**P**	**13 03 39.7**	**+2.0**
KMRZ	**Kaimai**	**15.99**	**193**	P		**P**	**13 03 40.2**	**+2.3**
LIRZ	**Lichensteins R**	**16.05**	**192**	P		**P**	**13 03 40.4**	**+2.0**
EDRZ	**Edgecumbe**	**16.09**	**191**	P		**P**	**13 03 39.6**	**+0.8**
KARZ	**Kaharoa**	**16.09**	**192**	P		**P**	**13 03 39.5**	**+0.7**
URZ	**Urewera**	**16.17**	**190**	P		**P**	**13 03 37.2**	**-2.3**
	comp=Z,66nm,0.3s,baz=280,slow=2.7,SNR=127							
URZ				S		**S**	**13 06 16.5**	**-5.5**
	comp=Z,14nm,0.3s,baz=356,slow=4.6,SNR=11							
URZ	**Urewera**	**16.17**	**190**	P		**P**	**13 03 37.2**	**-2.3**
URZ				S		**S**	**13 06 15.2**	**-6.9**
URZ	**Urewera**	**16.17**	**190**			**S**	**13 03 37.1**	**-2.5**
HLRZ	**Highlands Stat**	**16.30**	**192**	P		**P**	**13 03 42.1**	**+1.4**
HSRZ	**Hossack Road**	**16.38**	**192**	P		**P**	**13 03 42.7**	**+1.3**
GRRZ	**Galatos Road**	**16.44**	**192**	P		**P**	**13 03 43.6**	**+1.6**
MUGZ	**Murupara**	**16.44**	**190**	P		**P**	**13 03 40.0**	**-2.1**
MUGZ				S		**S**	**13 06 19.3**	**-7.2**
TLZ	**Tolley Road**	**16.54**	**194**	P		**P**	**13 03 45.3**	**+2.3**
ALRZ	**Allen Road**	**16.60**	**192**	P		**P**	**13 03 43.6**	**+0.1**
MTHZ	**Maungataniwha**	**16.80**	**190**	P		**P**	**13 03 45.1**	**-0.1**
MTHZ				S		**S**	**13 06 25.2**	**-7.1**
RAHZ	**Arahi**	**16.82**	**189**	P		**P**	**13 03 43.5**	**-1.9**
RAHZ				S		**S**	**13 06 27.7**	**-5.0**
KNZ	**Kokohu**	**16.84**	**188**	P		**P**	**13 03 44.5**	**-1.2**
KNZ				S		**S**	**13 06 28.0**	**-4.9**
WATZ	**Wairara**	**16.86**	**193**	P		**P**	**13 03 46.7**	**+0.8**
HIZ	**Hauiti**	**16.88**	**195**	P		**P**	**13 03 48.7**	**+2.7**
HIZ	**Hauiti**	**16.88**	**195**	P		**P**	**13 03 48.0**	**+2.1**
WHHZ	**Waihua**	**16.96**	**189**	P		**P**	**13 03 47.3**	**+0.6**
WHHZ				S		**S**	**13 06 28.0**	**-6.8**
RATZ	**Rangitukua**	**17.00**	**193**	P		**P**	**13 03 47.3**	**+0.1**
RITZ	**Rihia Road**	**17.09**	**192**	P		**P**	**13 03 48.0**	**0.0**
BKZ	**Black Stump Fm**	**17.16**	**191**	P		**P**	**13 03 47.1**	**-1.5**
BKZ				S		**S**	**13 06 28.4**	**-10**
BKZ	**Black Stump Fm**	**17.16**	**191**			**P**	**13 03 45.7**	**-2.9**
BKZ				IAmb		IAmb	13 03 51.7	
	comp=Z,121nm,0.7s							
ARHZ	**Aropaoanui**	**17.17**	**189**	P		**P**	**13 03 48.1**	**-0.5**
ARHZ				S		**S**	**13 06 34.9**	**-3.4**
KRVZ	**Karewarewa**	**17.25**	**193**	P		**P**	**13 03 47.9**	**-1.6**
TMVZ	**Te Maari**	**17.26**	**193**	P		**P**	**13 03 49.5**	**-0.1**
TWVZ	**Taurewa**	**17.27**	**193**	P		**P**	**13 03 50.2**	**+0.5**
ETVZ	**East Tongariro**	**17.28**	**193**	P		**P**	**13 03 49.7**	**-0.1**
WTVZ	**West Tongariro**	**17.28**	**193**	P		**P**	**13 03 49.3**	**-0.5**
OTVZ	**Oturere**	**17.31**	**193**	P		**P**	**13 03 49.2**	**-0.9**
NGZ	**Ngauruhoe**	**17.34**	**193**	P		**P**	**13 03 50.5**	**+0.2**
MCHZ	**McNeill Hill**	**17.40**	**190**	P		**P**	**13 03 49.5**	**-1.1**
MCHZ				S		**S**	**13 06 35.3**	**-6.8**
FWVZ	**Far West T-bar**	**17.43**	**193**	P		**P**	**13 03 50.6**	**-0.6**
VRZ	**Vera Road**	**17.48**	**195**	P		**P**	**13 03 53.8**	**+2.4**
WNVZ	**Wahianoa**	**17.48**	**193**	P		**P**	**13 03 50.5**	**-1.2**
WNVZ				S		**S**	**13 06 39.3**	**-4.4**
PKVZ	**Pokaka**	**17.50**	**193**	P		**P**	**13 03 51.9**	**+0.2**
MOVZ	**Moawhango**	**17.53**	**192**	P		**P**	**13 03 51.0**	**-1.0**
MOVZ				S		**S**	**13 06 39.3**	**-5.0**
MHEZ	**Mangahewa**	**17.54**	**196**	P		**P**	**13 03 56.7**	**+4.7**
CKHZ	**Cape Kidnapper**	**17.55**	**189**	P		**P**	**13 03 51.4**	**-0.7**
CKHZ				S		**S**	**13 06 40.0**	**-4.5**
BHHZ	**Black Hill Sta**	**17.55**	**192**	P		**P**	**13 03 48.3**	**-3.8**
BHHZ				S		**S**	**13 06 39.3**	**-5.3**
KRHZ	**Kereru**	**17.65**	**191**	P		**P**	**13 03 52.1**	**-0.9**
KRHZ				S		**S**	**13 06 42.5**	**-3.6**
DREZ	**Durham Road**	**17.68**	**196**	P		**P**	**13 03 57.5**	**+4.3**
KAHZ	**Kahuranaki**	**17.71**	**189**	P		**P**	**13 03 53.4**	**-0.3**
KAHZ				S		**S**	**13 06 43.7**	**-3.5**
PKE	**Pukeiti**	**17.74**	**197**	P		**P**	**13 03 58.6**	**+4.8**
NEZ	**North Egmont**	**17.78**	**197**	P		**P**	**13 03 59.0**	**+4.7**
KHEZ	**Kahui Hut**	**17.83**	**197**	P		**P**	**13 03 59.2**	**+4.5**
PREZ	**Palmer Road**	**17.83**	**196**	P		**P**	**13 03 59.7**	**+4.9**
NBEZ	**Newall Road No**	**17.84**	**197**	P		**P**	**13 03 58.9**	**+4.1**
LREZ	**Lake Rotokare**	**17.88**	**196**	P		**P**	**13 03 57.5**	**+2.4**
PNHZ	**Pukenui**	**17.94**	**191**	P		**P**	**13 03 54.4**	**-1.3**
PXZ	**Pawanui**	**17.95**	**189**	P		**P**	**13 03 54.8**	**-0.9**
NMEZ	**Namu Road**	**17.98**	**197**	P		**P**	**13 03 59.9**	**+4.0**
WAZ	**Wanganui**	**18.03**	**194**	P		**P**	**13 03 56.6**	**+0.2**
WPHZ	**Waipukurau**	**18.04**	**190**	P		**P**	**13 03 57.7**	**+1.1**
TSZ	**Takapari Road**	**18.12**	**191**	P		**P**	**13 03 56.6**	**-0.8**
PRHZ	**Porangahau**	**18.21**	**190**	P		**P**	**13 03 59.0**	**+0.9**
DVHZ	**Dannevirke**	**18.32**	**191**	P		**P**	**13 03 59.3**	**+0.2**
RAR	**Rarotonga**	**18.33**	**90**	P		**P**	**13 04 00.2**	**+0.7**
	comp=Z,4.7nm,0.3s,baz=241,slow=7.6,SNR=18							
OHWZ	**Ohakea**	**18.39**	**193**	P		**P**	**13 04 00.6**	**+0.9**
ANWZ	**Angora Road**	**18.43**	**190**	P		**P**	**13 04 00.1**	**+0.1**
BFZ	**Birch Farm**	**18.68**	**190**	P		**P**	**13 04 01.5**	**-0.9**
BFZ	**Birch Farm**	**18.68**	**190**			**P**	**13 04 01.1**	**-1.2**
TIWZ	**Tintock**	**18.83**	**191**	P		**P**	**13 04 04.2**	**+0.4**
OGWZ	**Otaki Gorge**	**19.01**	**193**	P		**P**	**13 04 05.2**	**-0.1**
OGWZ				S		**S**	**13 07 04.5**	**-3.5**
HOWZ	**Holdsworth Sta**	**19.02**	**192**	P		**P**	**13 04 04.7**	**-0.8**
MSWZ	**Moikau Station**	**19.57**	**192**	P		**P**	**13 04 09.2**	**-1.2**
SNZO	**South Karori**	**19.58**	**193**			**P**	**13 04 09.8**	**-0.7**
BHW	**Baring Head**	**19.64**	**193**	P		**P**	**13 04 10.2**	**-0.8**
QRZ	**Quartz Range**	**19.67**	**198**	P		**P**	**13 04 12.3**	**+1.0**
PLWZ	**Palliser**	**19.72**	**192**			**P**	**13 04 11.0**	**-0.8**
NNZ	**Nelson**	**19.80**	**196**	P		**P**	**13 04 12.1**	**-0.4**
TUWZ	**Tuamarina**	**19.86**	**195**	P		**P**	**13 04 11.8**	**-1.3**
CMWZ	**Cape Campbell**	**20.10**	**194**	P		**P**	**13 04 14.4**	**-0.8**
BSWZ	**Blackbirch Sta**	**20.15**	**195**			**P**	**13 04 15.8**	**+0.1**
THZ	**Tophouse**	**20.43**	**197**			**P**	**13 04 17.8**	**-0.6**
KNTN	**Kanton**	**20.82**	**22**	P		**P**	**13 04 20.3**	**-1.8**
KHZ	**Kahutara**	**20.89**	**195**			**P**	**13 04 21.6**	**-0.7**
LTZ	**Lake Taylor**	**21.55**	**197**	P		**P**	**13 04 27.1**	**-1.2**
OXZ	**Oxford**	**22.12**	**197**	P		**P**	**13 04 31.9**	**-1.4**
MQZ	**McQueen's Vall**	**22.32**	**195**	P		**P**	**13 04 34.1**	**-1.0**
MQZ				IAmb		IAmb	13 04 42.7	
	comp=Z,159nm,1.5s							
RPZ	**Rata Peaks**	**22.75**	**198**	P		**P**	**13 04 38.6**	**-0.4**
	comp=Z,68nm,0.6s,baz=32,slow=3.3,SNR=41							
RPZ	**Rata Peaks**	**22.75**	**198**	P		**P**	**13 04 38.2**	**-0.8**
RPZ				IAmb		IAmb	13 04 46.0	
	comp=Z,115nm,0.9s							
FOZ	**Fox Glacier**	**22.96**	**200**	P		**P**	**13 04 40.4**	**-0.4**
HNR	**Honiara**	**23.53**	**300**	P		**P**	**13 04 45.0**	**-1.3**
	comp=Z,76nm,0.7s,baz=219,slow=6.2,SNR=10.0							
HNR	**Honiara**	**23.53**	**300**	P		**P**	**13 04 45.0**	**-1.3**
HNR	**Honiara**	**23.53**	**300**	P		**P**	**13 04 44.5**	**-1.7**
WKZ	**Wanaka**	**24.38**	**200**	P		**P**	**13 04 52.6**	**-0.7**
WKZ				IAmb		IAmb	13 04 59.1	
	comp=Z,135nm,1.3s							
TARA	**Tarawa**	**24.66**	**342**	P		**P**	**13 04 55.0**	**-1.2**
MLZ	**Mavora Lakes**	**25.15**	**201**	P		**P**	**13 05 00.7**	**+0.5**
MLZ				IAmb		IAmb	13 05 03.7	
	comp=Z,74nm,0.7s							
WHZ	**Wether Hill Ro**	**25.67**	**201**	P		**P**	**13 05 05.4**	**+0.6**
ARMA	**Armidale**	**27.07**	**247**	P		**P**	**13 05 19.2**	**+1.8**
	baz=27,SNR=164							
ARMA	**Armidale**	**27.07**	**247**	P		**P**	**13 05 18.9**	**+1.5**
EIDS	**Eidsvold**	**27.08**	**258**	P		**P**	**13 05 18.0**	**+0.5**
	baz=27,SNR=80							
EIDS	**Eidsvold**	**27.08**	**258**	P		**P**	**13 05 17.6**	**+0.2**
TBI	**Tubuai**	**27.66**	**98**	*e*P		**P**	**13 05 23.7**	**+1.2**
TBI	**Tubuai**	**27.66**	**98**	*e*T		T	13 32 03.7	
	comp=Z,4.3nm,0.3s							
MGCD	**Mangrove Creek**	**28.12**	**241**	P		**P**	**13 05 28.5**	**+2.1**
	baz=28,SNR=18							
RIV	**Riverview**	**28.25**	**240**	P		**P**	**13 05 29.4**	**+1.9**
	baz=28,SNR=5.2							
PAE	**Paea**	**28.44**	**86**	*e*P		**P**	**13 05 29.7**	**+0.3**
	comp=Z,28nm,1.4s							
PAE	**Paea**	**28.44**	**86**	*e*T		T	13 31 53.6	
	comp=Z,4.1nm,0.3s							
PPT2	**Papeete2**	**28.46**	**86**	*e*P		**P**	**13 05 30.4**	**+0.7**
	comp=Z,111nm,1.2s							
PPT2	**Papeete2**	**28.46**	**86**	*e*T		T	13 31 59.6	
	comp=Z,3.6nm,0.3s							
PPT	**Papeete**	**28.47**	**86**	P		**P**	**13 05 31.0**	**+1.4**
	comp=Z,61nm,0.7s,baz=104,slow=4.2,SNR=14							
PPTF	**Pamatai, Papee**	**28.48**	**86**	P		**P**	**13 05 31.0**	**+1.2**
PPTF				IAmb		IAmb	13 05 38.0	
	comp=Z,114nm,1.0s							
TIAR	**Tiarei**	**28.69**	**86**	*e*P		**P**	**13 05 32.2**	**+0.7**
	comp=Z,66nm,1.4s							
TVO	**Taravao**	**28.72**	**86**	*e*P		**P**	**13 05 32.3**	**+0.5**
	comp=Z,64nm,1.4s							
RMQ	**Roma**	**29.19**	**255**	P		**P**	**13 05 37.3**	**+1.5**
	baz=29,SNR=150							
MEH	**Mehetia**	**29.79**	**87**	*e*P		**P**	**13 05 41.4**	**+0.3**
	comp=Z,55nm,1.3s							
CNB	**Canberra Magne**	**30.09**	**238**	P		**P**	**13 05 45.2**	**+1.7**
	baz=30,SNR=239							
CAN	**Canberra**	**30.38**	**238**	P		**P**	**13 05 46.9**	**+1.0**
CAN				pmax		pmax		
	comp=Z,125nm,0.7s							
CAN	**Canberra**	**30.38**	**238**	P		**P**	**13 05 46.9**	**+1.0**
YNG	**Young**	**30.58**	**240**	P		**P**	**13 05 49.6**	**+1.9**
	baz=31,SNR=17							
PMOR	**Pomariorio Ree**	**30.74**	**82**	*e*P		**P**	**13 05 49.7**	**+0.5**
	comp=Z,375nm,1.2s							
VAH	**Vaihoa**	**30.92**	**82**	*e*P		**P**	**13 05 51.0**	**+0.3**
	comp=Z,174nm,1.1s							
CTA	**Charters Tower**	**31.99**	**267**	P		**P**	**13 06 00.2**	**+0.4**
	comp=Z,146nm,0.4s,baz=92,slow=11,SNR=401							
CTA				PcP		**PcP**	**13 08 32.8**	**+1.1**
	comp=Z,28nm,0.6s,baz=113,slow=3.8,SNR=5.2							
CTA				S		**S**	**13 10 30.2**	**-1.1**
	comp=Z,12nm,1.0s,baz=286,slow=19,SNR=7.1							
CTA				ScP		**ScP**	**13 11 23.8**	**+3.4**
	comp=Z,15nm,0.9s,baz=141,slow=6.5,SNR=3.6							
CTA				ScS		**ScS**	**13 15 25.1**	**+4.2**
	comp=Z,2.6nm,0.9s,baz=160,slow=22,SNR=5.6							
CTAO	**Charters Tower**	**31.99**	**267**	P		**P**	**13 06 00.1**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,387nm,1.2s							
CTAO	**Charters Tower**	**31.99**	**267**	P		**P**	**13 06 00.1**	**+0.3**
CMSA	**Cobar Meteorol**	**32.28**	**246**	P		**P**	**13 06 03.1**	**+1.0**
	baz=32,SNR=193							
XMAS	**Kiritimati**	**32.37**	**44**	P		**P**	**13 06 03.3**	**+0.2**
RABL	**Rabaul**	**32.84**	**299**	P		**P**	**13 06 05.1**	**-2.0**
QLP	**Quilpie**	**33.24**	**255**	P		**P**	**13 06 10.8**	**+0.5**
	baz=33,SNR=143							
TOO	**Toolangi**	**33.74**	**235**	P		**P**	**13 06 15.7**	**+1.3**
	baz=34,SNR=111							
TOO	**Toolangi**	**33.74**	**235**	P		**P**	**13 06 15.4**	**+1.1**
TOO				pmax		pmax		
	comp=Z,72nm,0.6s							
TOO	**Toolangi**	**33.74**	**235**	P		**P**	**13 06 15.4**	**+1.1**
TOO				IAmb		IAmb	13 06 16.9	
	comp=Z,72nm,0.6s							
MTSU	**Mount Surprise**	**34.18**	**270**	P		**P**	**13 06 18.5**	**+0.2**
	baz=34,SNR=113							
MOO	**Moorlands**	**34.27**	**226**	P		**P**	**13 06 20.2**	**+1.6**
	baz=34,SNR=5.8							
TAU	**Tasmania Unive**	**34.39**	**225**	P		**P**	**13 06 20.7**	**+1.1**
TAU				pmax		pmax		
	comp=Z,34nm,0.6s							
TAU	**Tasmania Unive**	**34.39**	**225**	P		**P**	**13 06 20.6**	**+1.1**
TAU				IAmb		IAmb	13 06 21.5	
	comp=Z,34nm,0.6s							
PMG	**Port Moresby**	**34.47**	**286**	P		**P**	**13 06 20.8**	**+0.2**
	comp=Z,358nm,0.9s,baz=90,slow=5.7,SNR=65							
PMG				PcP		**PcP**	**13 08 39.6**	**+0.8**
	comp=Z,42nm,0.9s,baz=147,slow=6.8,SNR=3.6							
PMG				S		**S**	**13 11 07.6**	**-1.2**
	comp=Z,22nm,0.9s,baz=322,slow=19,SNR=7.1							
PMG				ScP		**ScP**	**13 11 32.1**	**+2.9**
	comp=Z,28nm,0.9s,baz=112,slow=5.4,SNR=3.4							
PMG	**Port Moresby**	**34.47**	**286**	*ce*P		**P**	**13 06 20.4**	**-0.3**
PMG				pmax		pmax		
	comp=Z,574nm,1.3s							
PMG	**Port Moresby**	**34.47**	**286**	P		**P**	**13 06 20.4**	**-0.3**
STKA	**Stephens Creek**	**35.79**	**246**	P		**P**	**13 06 32.5**	**+1.1**
	comp=Z,80nm,0.6s,baz=92,slow=10.0,SNR=256							
STKA				PcP		**PcP**	**13 08 44.0**	**+1.4**
	comp=Z,14nm,0.5s,baz=86,slow=4.9,SNR=3.3							
STKA				S		**S**	**13 11 27.5**	**-0.7**
	comp=Z,12nm,0.9s,baz=267,slow=20,SNR=6.5							
STKA				PKiKP		**PKiKP**	**13 16 00.3**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=106,slow=3.1,SNR=4.7							
STKA	**Stephens Creek**	**35.79**	**246**	P		**P**	**13 06 32.5**	**+1.1**
	baz=36,SNR=275							
STKA	**Stephens Creek**	**35.79**	**246**	P		**P**	**13 06 32.2**	**+0.8**
STKA							13 08 44.0	
STKA				S		**S**	**13 11 27.5**	**-0.7**
STKA				pmax		pmax		
	comp=Z,20nm,0.7s							
STKA	**Stephens Creek**	**35.79**	**246**	P		**P**	**13 06 32.2**	**+0.8**
MCQ	**Macquarie Isla**	**36.02**	**201**	P		**P**	**13 06 35.0**	**+2.2**
	baz=36,SNR=3.6							
PATS	**Pohnpei**	**36.22**	**321**	P		**P**	**13 06 35.5**	**+0.3**
	baz=36,SNR=5.4							
PATS	**Pohnpei**	**36.22**	**321**	P		**P**	**13 06 35.0**	**-0.2**
PATS				IAmb		IAmb	13 06 57.0	
	comp=Z,150nm,1.2s							
ARPS	**Mount Arapiles**	**36.36**	**238**	P		**P**	**13 06 37.0**	**+1.0**
	baz=36,SNR=20							
COEN	**Coen**	**36.38**	**277**	P		**P**	**13 06 36.8**	**+0.4**
	baz=36,SNR=80							
COEN	**Coen**	**36.38**	**277**	P		**P**	**13 06 36.8**	**+0.4**
QIS	**Mount Isa**	**38.05**	**265**	P		**P**	**13 06 49.6**	**-0.4**
	baz=38,SNR=39							
HTT	**Hallett**	**38.19**	**244**	P		**P**	**13 06 51.7**	**+0.6**
	baz=38,SNR=67							
TAOE	**Nuku Hiva Isla**	**40.03**	**77**	P		**P**	**13 07 06.7**	**+0.5**
TAOE				IAmb		IAmb	13 07 09.1	
	comp=Z,102nm,0.9s							
BBOO	**Buckleboo**	**40.53**	**245**	P		**P**	**13 07 10.0**	**+0.2**
	baz=41,SNR=121							
BBOO	**Buckleboo**	**40.53**	**245**	P		**P**	**13 07 09.7**	**-0.1**
BBOO				IAmb		IAmb	13 07 11.6	
	comp=Z,104nm,0.8s							
AS31	**Alice Springs**	**42.80**	**259**	P		**P**	**13 07 27.5**	**-0.3**
AS31				IAmb		IAmb	13 07 29.3	
	comp=Z,57nm,0.8s							
ASAR	**Alice Springs**	**42.80**	**259**	P		**P**	**13 07 27.9**	**+0.1**
	comp=Z,196nm,0.8s,baz=90,slow=8.3,SNR=976							
ASAR				PcP		**PcP**	**13 09 06.2**	**+0.8**
	comp=Z,32nm,0.7s,baz=102,slow=4.1,SNR=11							
ASAR				ScP		**ScP**	**13 12 05.0**	**+3.6**
	comp=Z,13nm,0.9s,baz=117,slow=4.4,SNR=5.4							
ASAR				S		**S**	**13 13 08.8**	**-1.9**
	comp=Z,49nm,1.1s,baz=94,slow=15,SNR=29							
ASAR				ScS		**ScS**	**13 16 24.5**	**+1.0**
	comp=Z,8.1nm,1.0s,baz=95,slow=6.6,SNR=4.0							
ASAR				P3KPbc			13 36 30.5	
	comp=Z,0.4nm,0.9s,baz=291,slow=4.2,SNR=5.5							
ASAR				P4KPbc			13 45 18.8	
	comp=Z,0.4nm,0.9s,baz=106,slow=4.6,SNR=4.5							
ASAR	**Alice Springs**	**42.80**	**259**	P		**P**	**13 07 27.3**	**-0.5**
ASAR							13 09 06.3	
ASAR							13 16 24.5	
ASAR	**Alice Springs**	**42.80**	**259**	P		**P**	**13 07 27.3**	**-0.5**
WR0	**Warramunga Arr**	**42.83**	**264**	P		**P**	**13 07 27.1**	**-1.0**
WR0				IAmb		IAmb	13 07 28.6	
	comp=Z,173nm,1.2s							
WB0	**Warramunga Arr**	**43.01**	**265**	P		**P**	**13 07 28.6**	**-0.8**
WB2	**Warramunga Arr**	**43.01**	**264**	P		**P**	**13 07 28.8**	**-0.7**
WRAB	**Tennant Creek**	**43.02**	**264**	*ce*P		**P**	**13 07 28.7**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,329nm,1.3s							
WRAB	**Tennant Creek**	**43.02**	**264**	P		**P**	**13 07 28.7**	**-0.8**
WRA	**Warramunga Arr**	**43.02**	**264**	P		**P**	**13 07 29.1**	**-0.4**
	comp=Z,68nm,0.4s,baz=94,slow=7.9,SNR=479							
WRA				PcP		**PcP**	**13 09 07.2**	**+0.9**
	comp=Z,15nm,0.8s,baz=97,slow=3.4,SNR=6.9							
WRA				PP		**PP**	**13 09 24.4**	**+2.0**
	comp=Z,6.3nm,0.5s,baz=104,slow=6.7,SNR=1.5							
WRA				ScP		**ScP**	**13 12 04.6**	**+2.3**
	comp=Z,27nm,1.0s,baz=100,slow=4.1,SNR=14							
WRA				S		**S**	**13 13 10.7**	**-3.2**
	comp=Z,24nm,0.9s,baz=99,slow=14,SNR=23							
WRA				ScS		**ScS**	**13 16 26.6**	**+1.6**
	comp=Z,3.3nm,1.0s,baz=100,slow=9.5,SNR=4.2							
WRA				P3KPbc			13 36 29.9	
	comp=Z,0.5nm,0.6s,baz=296,slow=3.1,SNR=11							
WRA				P4KPbc			13 45 18.3	
	comp=Z,0.2nm,0.8s,baz=271,slow=11,SNR=4.8						

comp=Z,480nmcomp=Z,25nm,1.2s
AAI Ambon 53.92 282 P **P 13 08 50.0 -0.3**
comp=Z,132nm,0.9s
NLAI Namlea 55.10 282 P **P 13 08 58.8 +0.3**
comp=Z,90nm,1.3s
SOEI Soe 55.21 274 P **P 13 09 00.8 +1.4**
comp=Z,3µmcomp=Z,273nm,1.2s
SOEI Soe 55.21 274 P **P 13 08 59.7 +0.3**
BATI Baumata 55.62 273 S **S 13 16 07.9 +3.0**
comp=Z,11nm,0.4s,baz=210,slow=20,SNR=1.3
BATI Baumata 55.62 273 P **P 13 09 03.3 +1.2**
comp=Z,60nm,0.8s
PSA00 Pilbara Seismi 55.94 258 P **P 13 09 03.8 -0.4**
PSA00 Pilbara Seismi 55.94 258 P **P 13 09 02.1 -2.1**
PSA00 IAmb IAmb 13 09 04.7
comp=Z,42nm,0.9s
VNDA Vanda 56.00 185 P **P 13 09 06.6 +2.9**
comp=Z,49nm,0.7s,baz=1.6,slow=7.4,SNR=366
VNDA PcP **PcP 13 09 55.0 +1.7**
comp=Z,18nm,0.7s,baz=157,slow=2.2,SNR=4.0
VNDA ScP **ScP 13 12 58.6 +1.9**
comp=Z,2.9nm,0.6s,baz=305,slow=8.8,SNR=2.1
VNDA Vanda 56.00 185 P **P 13 09 06.3 +2.6**
VNDA pmax pmax
comp=Z,63nm,0.8s
VNDA Vanda 56.00 185 P **P 13 09 06.2 +2.6**
MEEK Meekatharra 56.05 252 P **P 13 09 04.4 -0.5**
baz=56,SNR=15
KLBR Kellerberrin 56.06 246 P **P 13 09 05.3 +0.3**
baz=56,SNR=14
MBWA Marble Bar 56.14 259 P **P 13 09 05.3 -0.3**
NWAO Narrogin (SRO) 56.35 244 P **P 13 09 07.2 +0.4**
baz=56,SNR=9.4
NWAO Narrogin (SRO) 56.35 244 P **P 13 09 07.0 +0.2**
NWAO pmax pmax
comp=Z,44nm,1.1s
NWAO Narrogin (SRO) 56.35 244 P **P 13 09 07.0 +0.2**
RKGY Rocky Gully 56.39 242 P **P 13 09 07.5 +0.4**
baz=56,SNR=9.4
SANI Sanana 56.61 283 P **P 13 09 08.9 0.0**
comp=Z,800nmcomp=Z,78nm,1.1s
TNTI Ternate 56.62 287 P **P 13 09 09.5 +0.5**
comp=Z,1µmcomp=Z,111nm,1.2s
TNTI Ternate 56.62 287 P **P 13 09 08.3 -0.6**
BLDU Ballidu 57.08 247 P **P 13 09 12.0 +0.1**
baz=57,SNR=63
MUN Mundaring 57.32 245 P **P 13 09 14.0 +0.5**
baz=57,SNR=13
MMRI Maumere 57.48 274 P **P 13 09 16.1 +1.3**
comp=Z,2µmcomp=Z,136nm,1.2s
MMRI Maumere 57.48 274 P **P 13 09 14.3 -0.5**
MMRI IAmb IAmb 13 09 16.2
comp=Z,135nm,1.1s
MORW Morawa 57.89 249 P **P 13 09 17.7 +0.3**
baz=58,SNR=16
MORW Morawa 57.89 249 P **P 13 09 17.2 -0.2**
EDFI Ende, Flores 57.94 274 P **P 13 09 17.7 -0.4**
comp=Z,832nmcomp=Z,69nm,0.9s
H01W1 Cape Leeuwin H 58.67 242 P **P 13 09 24.2 +2.0**
baz=109,slow=7.1,SNR=3.0
H01W2 Cape Leeuwin H 58.69 242 P **P 13 09 24.1 +1.7**
baz=109,slow=7.1,SNR=4.2
H01W3 Cape Leeuwin H 58.69 242 P **P 13 09 24.4 +2.0**
baz=109,slow=7.1,SNR=4.7
KMSI Cibinong 59.55 285 P **P 13 09 28.9 +0.2**
comp=Z,3µmcomp=Z,43nm,0.5s
WBSI Waikabubak, Su 59.76 272 P **P 13 09 31.4 +1.2**
comp=Z,83nm,1.0s
LUWI Luwuk 59.95 282 P **P 13 09 30.9 -0.4**
comp=Z,104nm,1.3s
LUWI Luwuk 59.95 282 P **P 13 09 31.4 +0.1**
GTOI Gorontalo 60.45 284 P **P 13 09 35.6 +0.9**
comp=Z,548nmcomp=Z,42nm,1.0s
BKSI Bulukumba 60.65 277 P **P 13 09 36.3 +0.3**
comp=Z,544nmcomp=Z,43nm,0.8s
GIRL Giralia 60.76 256 P **P 13 09 37.1 +0.5**
baz=61,SNR=13
GIRL Giralia 60.76 256 P **P 13 09 37.8 +1.2**
GIRL IAmb IAmb 13 10 01.0
comp=Z,290nm,1.4s
BNSI Bone 61.02 278 P **P 13 09 39.1 +0.7**
comp=Z,51nm,1.8s
SPSI Sidrap Palu 61.49 278 P **P 13 09 41.2 -0.3**
comp=Z,36nm,1.3s
PLAI Plampang 61.54 272 P **P 13 09 42.5 +0.7**
comp=Z,2µmcomp=Z,148nm,1.0s
CASY Casey 61.75 206 P **P 13 09 43.1 +0.8**
CASY IAmb IAmb 13 09 44.6
comp=Z,160nm,1.0s
TWSI Taliwang, Sumb 62.40 272 P **P 13 09 48.3 +0.9**
comp=Z,892nmcomp=Z,44nm,1.3s
MPSI Mapaga 63.13 282 P **P 13 09 52.3 +0.2**
comp=Z,634nmcomp=Z,50nm,1.0s
JAGI Jajag, Banyuwa 65.02 271 P **P 13 10 04.3 +0.3**
comp=Z,2µmcomp=Z,76nm,1.2s
JAGI Jajag, Banyuwa 65.02 271 P **P 13 10 02.7 -1.3**
JAGI IAmb IAmb 13 10 04.6
comp=Z,142nm,1.4s
GMJI Gumukmas 65.74 271 P **P 13 10 09.1 +0.6**
comp=Z,53nm,0.7s
BLJI Banyuglugur 65.79 271 P **P 13 10 09.9 +1.1**
comp=Z,2µmcomp=Z,138nm,0.6s
BBKI Banjar Baru 66.22 276 P **P 13 10 12.0 +0.5**
comp=Z,33nm,1.5s
PWJI Pagerwojo 67.35 270 P **P 13 10 18.8 +0.4**
comp=Z,92nm,0.6s
JHJ2 Mitsune 67.42 324 P **P 13 10 18.1 -0.4**
JHJ Hachijo jima 2 67.44 324 P **P 13 10 18.9 +0.3**
comp=Z,109nm,0.7s,baz=210,slow=15,SNR=6.2
QSPA South Pole Qui 67.77 180 P **P 13 10 22.4 +2.2**
comp=Z,274nm,0.8s,baz=6.5,slow=0.8,SNR=1210
QSPA South Pole Qui 67.77 180 P **P 13 10 22.3 +2.0**
WOJI Wonogiri, Jawa 68.23 270 P **P 13 10 23.4 -0.4**
comp=Z,61nm,0.9s
UGM Wanagama 68.57 270 P **P 13 10 25.7 -0.2**
KKM Kota Kinabalu 68.92 286 P **P 13 10 27.9 -0.1**
JYT Yasato 69.59 326 P **P 13 10 31.2 -0.2**
KPJI Karang Pucung 70.25 270 P **P 13 10 36.1 +0.2**
comp=Z,111nm,0.6s
JMM Marumori 70.55 328 P **P 13 10 37.8 +0.7**
JGF Kuroka 70.62 324 P **P 13 10 37.2 -0.5**
INU Inuyama 70.63 323 P **P 13 10 37.8 +0.2**
MJAR Matsushiro Arr 70.87 325 P **P 13 10 38.7 -0.3**
comp=Z,17nm,0.7s,baz=158,slow=5.4,SNR=46
MJAR pP **pP 13 12 37.5 +0.3**
comp=Z,1.0nm,0.6s,baz=127,slow=7.8,SNR=2.0
MJAR Matsushiro Arr 70.87 325 P **P 13 10 37.9 -1.1**
MAJO Matsushiro *c i* **70.87 325** P **P 13 10 38.9 -0.1**
MAJO pmax pmax
comp=Z,7.0nm,0.5s
MAJO Matsushiro 70.87 325 P **P 13 10 38.8 -0.3**
MAT Matsushiro 70.87 325 P **P 13 10 38.5 -0.5**
MAT S **S 13 19 06.8 -1.7**
SBUM Sibu 70.97 281 P **P 13 10 39.9 -0.3**
SBUM Sibu 70.97 281 P **P 13 10 41.0 +0.9**
CISI Cisompet, Garu 71.21 269 P **P 13 10 40.6 -1.0**
CISI IAmb IAmb 13 10 41.4
comp=Z,61nm,0.7s
JMN Monobe 71.26 320 P **P 13 10 41.6 +0.2**
JWT Wachi 71.48 322 P **P 13 10 42.2 -0.4**
JSU Suzuyama 71.85 316 P **P 13 10 44.3 -0.6**
JSU IAmb IAmb 13 10 46.2
comp=Z,125nm,1.5s
KSM Kuching 72.32 279 P **P 13 10 48.1 +0.1**
KSM IAmb IAmb 13 10 49.1
comp=Z,44nm,0.6s
KSM Kuching 72.32 279 P **P 13 10 49.0 +1.0**
JHS Saijyo 72.60 321 P **P 13 10 49.6 +0.5**
JHS IAmb IAmb 13 10 50.5
comp=Z,52nm,0.7s
JNU Nakatsue 72.66 318 P **P 13 10 49.6 +0.1**
YOJ Yonaguni jima 72.67 306 P **P 13 10 48.7 -1.0**
YOJ pmax pmax
comp=Z,162nm,1.3s
YOJ Yonaguni jima 72.67 306 P **P 13 10 48.7 -1.0**
YOJ IAmb IAmb 13 10 51.7
comp=Z,162nm,1.3s
JTM Tenmabayashi 72.70 330 P **P 13 10 50.0 +0.5**
JTM IAmb IAmb 13 10 50.8
comp=Z,64nm,0.8s
ERM Erimo 72.73 332 P **P 13 10 51.3 +1.7**
ERM pmax pmax
comp=Z,20nm,0.8s
ERM Erimo 72.73 332 P **P 13 10 51.3 +1.7**
TWG Pinlang 73.22 304 P **P 13 10 51.9 -1.0**
TWG IAmb IAmb 13 10 52.5
comp=Z,46nm,0.6s
YUK Yuzh-Kuril'sk 73.26 335 *e*P P 13 10 45.9 -6.7
YUK *e**PP pP 13 12 45.4 -6.4
YUK 13 13 40.7
YUK *e*S **S 13 19 31.4 -3.2**
YUK *e* 13 20 09.9
YUK SS **SS 13 24 37.7 +4.1**
YULB Yu-li 73.36 305 P **P 13 10 52.1 -1.6**
AMKA Amchitka 73.37 359 P **P 13 10 52.5 -0.5**
NACB Ninganchiao 73.57 305 P **P 13 10 54.1 -0.7**
NACB IAmb IAmb 13 10 55.1
comp=Z,52nm,0.8s
TPUB Ta-pu 73.82 304 P **P 13 10 55.2 -1.1**
TPUB IAmb IAmb 13 10 56.8
comp=Z,235nm,1.5s
SSLB Suanglung 73.84 305 P **P 13 10 55.2 -1.2**
ADK Adak 73.91 2 P **P 13 10 55.4 -0.7**
ADK pmax pmax
comp=Z,128nm,0.8s
ADK Adak 73.91 2 P **P 13 10 55.4 -0.7**
ADK IAmb IAmb 13 10 56.6
comp=Z,128nm,0.8s
YHNB Yeheng 74.01 306 P **P 13 10 58.0 +0.5**
YHNB IAmb IAmb 13 11 11.6
comp=Z,126nm,1.5s
TATO Taipei 74.10 306 P **P 13 10 57.9 0.0**
TATO IAmb IAmb 13 10 58.7
comp=Z,76nm,0.9s
GSTR Great Sitkin T 74.14 2 P **P 13 10 56.9 -0.5**
JEW Eniwo 74.15 331 P **P 13 10 58.7 +1.0**
ATKA Atka Island 74.33 3 P **P 13 10 57.6 -0.8**
JTU Tsushima 74.52 318 P **P 13 11 00.0 +0.1**
JKA Kamikawa-asahi 74.67 333 P **P 13 11 00.7 +0.1**
ASAJ Asahikawa 74.67 333 P **P 13 11 00.7 +0.1**
ASAJ pmax pmax
comp=Z,42nm,0.8s
SMY Shemya 74.92 356 P **P 13 11 01.2 -0.5**
SMY pmax pmax
comp=Z,125nm,0.9s
SMY Shemya 74.92 356 P **P 13 11 01.2 -0.5**
SMY IAmb IAmb 13 11 02.4
comp=Z,125nm,0.9s
NIKH Nikolski High 75.52 7 P **P 13 11 04.6 -0.5**
MDSI Maura Dua 75.69 271 P **P 13 11 06.2 -0.8**
comp=Z,37nm,0.8s
SKR Severo-Kuril's 75.80 344 *e*P **P 13 11 04.9 -1.7**
SKR *e* 13 11 22.0
SKR *e**PP **pP 13 13 04.1 -3.2**
SKR *e* 13 13 54.8
SKR *e*S **S 13 19 56.8 -5.0**
SKR pmax pmax
comp=Z,36nm,0.7s
SKR pmax pmax
comp=Z,100nm,7.7s
UNV Unalaska Valle 76.66 8 P **P 13 11 10.2 -1.1**
YSS Yuzh-Sakhalins 76.90 334 *ce*P **P 13 11 14.0 +1.2**
YSS *e**PP **pP 13 13 15.3 +1.5**
YSS *e*S **S 13 20 17.0 +3.3**
YSS *e* 13 20 30.0
YSS *e* 13 20 42.2
YSS pmax pmax
comp=Z,200nm,4.6s
YSS pmax pmax
comp=Z,60nm,0.7s
YSS Yuzh-Sakhalins 76.90 334 P **P 13 11 13.2 +0.4**
TJN Taejon 76.98 318 *ce*P **P 13 11 14.5 +1.0**
AKUT Akutan 77.03 8 P **P 13 11 12.4 -0.9**
AKUT IAmb IAmb 13 11 18.7
comp=Z,134nm,1.2s
KSRS Korea Array 77.34 320 P **P 13 11 16.4 +0.9**
comp=Z,5.8nm,0.7s,baz=132,slow=5.7,SNR=24
KSAR Wonju Array Be 77.36 320 P **P 13 11 16.1 +0.6**
KSAR Wonju Array Be 77.36 320 P **P 13 11 16.1 +0.6**
PET Petropavlovsk 77.38 347 *e*P **P 13 11 15.0 -0.2**
PET *e**PP **pP 13 13 17.1 +0.7**
PET *e**SP **PP 13 14 19.7 -1.3**
PET *e*S **S 13 20 17.8 -0.7**
PET pmax pmax
comp=Z,86nm,0.6s
PET Petropavlovsk 77.38 347 P **P 13 11 14.5 -0.8**
KS19 Wonju Array Si 77.41 320 P **P 13 11 15.0 -0.8**
KSI Kapahiang 77.46 271 P **P 13 11 16.4 -0.4**
comp=Z,114nm,0.8s
PEA0B Petropavlovsk- 77.67 346 P **P 13 11 16.6 -0.2**
PEA0B pmax pmax
comp=Z,79nm,0.8s
PEA0B Petropavlovsk- 77.67 346 P **P 13 11 16.6 -0.2**
PEA0B IAmb IAmb 13 11 17.6
comp=Z,80nm,0.8s
PETK Petropavlovsk- 77.67 346 P **P 13 11 16.9 +0.1**
comp=Z,58nm,0.6s,baz=125,slow=4.6,SNR=308
PETK pP **pP 13 13 18.1 0.0**
comp=Z,8.4nm,0.9s,baz=130,slow=8.0,SNR=7.4
PETK PKiKP **PKiKP 13 16 49.2 -0.5**
comp=Z,1.9nm,0.7s,baz=92,slow=3.4,SNR=4.1
PETK Petropavlovsk- 77.67 346 P **P 13 11 16.6 -0.3**
BELA Belgrano 2 77.95 173 P **P 13 11 18.9 +0.8**
MYKOM Kota Tinggi 78.37 277 P **P 13 11 21.7 +0.1**
MYKOM Kota Tinggi 78.37 277 P **P 13 11 23.0 +1.5**
CNBA Chernabura Isl 78.68 12 P **P 13 11 21.8 -0.4**
VLA Vladivostok 78.98 326 *i* P **P 13 11 24.2 +0.1**
VLA pmax pmax
comp=Z,11nm,0.5s
SDPT Sand Point 79.02 11 P **P 13 11 23.4 -0.6**
SDPT IAmb IAmb 13 11 24.1
comp=Z,99nm,0.8s
MAW Mawson 79.41 200 P **P 13 11 27.6 +1.6**
comp=Z,63nm,0.7s,baz=125,slow=6.1,SNR=201
MAW Mawson 79.41 200 P **P 13 11 27.6 +1.6**
baz=79,SNR=110
MAW Mawson 79.41 200 P **P 13 11 27.3 +1.3**
MAW pmax pmax
comp=Z,17nm,0.9s
MAW Mawson 79.41 200 P **P 13 11 27.3 +1.3**
SPIA Saint Paul Isl 79.55 5 P **P 13 11 26.8 +0.1**
SPIA IAmb IAmb 13 11 28.2
comp=Z,143nm,1.0s
SDSI Sungai Dareh 79.56 273 P **P 13 11 27.1 -0.7**
comp=Z,22nm,1.3s
USA0B Ussuriysk Arra 79.69 327 P **P 13 11 28.7 +0.9**
USA0B pmax pmax
comp=Z,73nm,1.3s
USA0B Ussuriysk Arra 79.69 327 P **P 13 11 28.7 +0.9**
USRK Ussuriysk Ar. 79.69 327 P **P 13 11 28.8 +1.0**
comp=Z,22nm,0.9s,baz=131,slow=3.6,SNR=46
USRK pP **pP 13 13 29.1 -0.8**
comp=Z,4.1nm,0.9s,baz=151,slow=3.3,SNR=3.8
USRK Ussuriysk Ar. 79.69 327 P **P 13 11 28.4 +0.6**
NJ2 Nanjing 79.99 311 ⇑P **P 13 11 30.6 +1.0**
NJ2 pmax pmax
comp=Z,23nm,0.7s
SCI2 San Clemente I 79.99 48 P **P 13 11 30.9 +1.3**
baz=235
TYV Tymovskoe 80.13 337 *e*P **P 13 11 30.7 +0.8**
TYV pmax pmax
comp=Z,58nm,0.8s
TYV pmax pmax
comp=Z,200nm,3.0s
PMSA Palmer Station 80.18 157 P **P 13 11 31.7 +1.7**
PMSA IAmb IAmb 13 11 33.2
comp=Z,146nm,1.0s
MCCM Marconi Confer 80.22 42 P **P 13 11 31.7 +1.0**
PKM Mcpherson Peak 80.23 46 P **P 13 11 32.8 +1.7**
baz=234,SNR=9.3
SAO San Andreas Ge 80.27 44 P **P 13 11 32.3 +1.3**
SAO pmax pmax
comp=Z,47nm,1.0s
SAO San Andreas Ge 80.27 44 P **P 13 11 32.3 +1.3**
CIS Catalina Islan 80.32 48 P **P 13 11 32.4 +1.0**
baz=235
SMMC Simmler 80.36 46 P **P 13 11 33.3 +1.8**
baz=234,SNR=9.6
PMPB Monarch Peak 80.36 44 P **P 13 11 32.6 +1.1**
PAGB Antelope Grade 80.43 45 P **P 13 11 33.2 +1.3**
PDSI Padang 80.46 273 P **P 13 11 32.0 -0.6**
comp=Z,17nm,0.8s
FMP Fort Macarthur 80.58 48 P **P 13 11 34.1 +1.5**
baz=235
HOPS Hopland Field 80.62 41 P **P 13 11 34.0 +1.3**
HOPS IAmb IAmb 13 11 35.7
comp=Z,113nm,1.1s
GDXM Geysers 80.68 41 P **P 13 11 34.4 +1.2**
CCX Cicese 80.69 50 P **P 13 11 34.0 +0.7**
KCPM Cahto Peak 80.75 40 P **P 13 11 34.5 +0.9**
KCPM IAmb IAmb 13 11 36.7
comp=Z,140nm,1.1s
OSI Osito Audit: C 80.80 47 P **P 13 11 35.1 +1.2**
baz=235
DECC Green Verdugo 80.86 47 P **P 13 11 35.1 +0.9**
baz=235
PASC Pasadena Art C 80.91 47 P **P 13 11 35.2 +0.8**
CBX Cerro Bola 80.93 50 P **P 13 11 35.8 +1.1**
109C Camp Elliot, M 80.94 49 P **P 13 11 35.7 +1.1**
baz=236
109C Camp Elliot, M 80.94 49 P **P 13 11 35.5 +0.9**
KMRM Mail Ridge 81.01 40 P **P 13 11 36.5 +1.6**
ARVC Arvin 81.02 46 P **P 13 11 36.2 +1.2**
baz=235,SNR=6.2
MWC Mount Wilson 81.03 47 P **P 13 11 36.0 +0.8**
MWC pmax pmax
comp=Z,55nm,1.1s
MWC Mount Wilson 81.03 47 P **P 13 11 36.0 +0.8**
SPX San Pedro Mart 81.09 51 P **P 13 11 37.1 +1.3**
BAR Barrett 81.13 49 P **P 13 11 36.5 +1.0**
JCC Jacoby Creek, 81.20 39 P **P 13 11 37.0 +1.4**
JCC IAmb IAmb 13 11 38.9
comp=Z,161nm,1.3s
VES Vestal, Richgr 81.27 46 P **P 13 11 37.0 +0.9**
baz=235,SNR=20
ESJX Sierra Juarez 81.27 50 P **P 13 11 37.2 +0.7**
MURC Murrieta 81.27 48 P **P 13 11 37.5 +1.2**
baz=236,SNR=9.3
BFSC Mount Baldy Ra 81.31 48 P **P 13 11 37.5 +0.9**
baz=236,SNR=9.8
VOG Valley Oaks Go 81.35 45 P **P 13 11 37.3 +0.8**
baz=234
KHMM Horse Mountain 81.41 39 P **P 13 11 38.6 +1.6**
KHMM IAmb IAmb 13 11 40.3
comp=Z,124nm,1.0s
MONP2 Monument Peak 81.42 49 P **P 13 11 38.7 +1.4**
baz=237,SNR=31
EDW2 Edwards Air Fo 81.45 47 P **P 13 11 38.4 +1.2**
baz=235,SNR=26
LPIG La Paz 81.50 60 P **P 13 11 38.6 +1.0**
comp=Z,34nm,0.9s,baz=266,slow=4.7,SNR=4.7
RMX La Rumorosa 81.50 50 P **P 13 11 38.7 +1.1**
RMX IAmb IAmb 13 11 40.6
comp=Z,79nm,1.1s
IKP In-Ko-Pah, Jac 81.51 50 P **P 13 11 39.4 +1.8**
baz=237,SNR=22
O02D Mt. Diablo Mer 81.53 40 P **P 13 11 39.7 +2.2**
baz=232,SNR=123
SFX San Felipe 81.54 52 P **P 13 11 38.0 +0.4**
ISA Isabella, Lake 81.57 46 P **P 13 11 38.9 +1.1**
ISA pmax pmax
comp=Z,73nm,1.0s
ISA Isabella, Lake 81.57 46 P **P 13 11 39.1 +1.3**
baz=235,SNR=66
ISA Isabella, Lake 81.57 46 P **P 13 11 38.9 +1.1**
ISA IAmb IAmb 13 11 40.5
comp=Z,73nm,0.9s
CMB Columbia Colle 81.71 43 P **P 13 11 39.4 +1.0**
CMB pmax pmax
comp=Z,71nm,1.0s
CMB Columbia Colle 81.71 43 P **P 13 11 39.4 +1.0**
CMB IAmb IAmb 13 11 40.8
comp=Z,71nm,0.9s
KRMB Red Mountain 81.72 39 P **P 13 11 40.2 +1.7**
KRMB IAmb IAmb 13 11 41.9
comp=Z,121nm,1.1s
PFO Pinyon Flats O 81.79 49 P **P 13 11 40.4 +1.4**
comp=Z,13nm,0.8s,baz=246,slow=4.4,SNR=19
PFO Pinyon Flats O 81.79 49 P **P 13 11 40.0 +0.9**
PFO pmax pmax
comp=Z,20nm,0.9s
PFO Pinyon Flats O 81.79 49 P **P 13 11 40.5 +1.5**
baz=237,SNR=10
PFO Pinyon Flats O 81.79 49 P **P 13 11 40.0 +0.9**
BBRC Big Bear Solar 81.83 48 P **P 13 11 40.6 +1.2**
baz=236
SWSC Sam W. Stewart 81.89 50 P **P 13 11 40.9 +1.6**
baz=237,SNR=19
AFDM Forest Hills D 81.89 42 P **P 13 11 40.3 +1.0**
AFDM IAmb IAmb 13 11 41.7
comp=Z,62nm,1.0s
MNSI Mandailing Nat 81.92 274 P **P 13 11 39.6 -0.4**
comp=Z,59nm,0.6s
ORV Oroville 81.93 41 P **P 13 11 40.5 +1.0**
ORV pmax pmax
comp=Z,54nm,1.0s
ORV Oroville 81.93 41 P **P 13 11 40.5 +1.0**
WDC Whiskeytown Da 81.93 40 P **P 13 11 40.7 +1.3**
WDC pmax pmax
comp=Z,116nm,1.2s
WDC Whiskeytown Da 81.93 40 P **P 13 11 40.7 +1.3**
WDC IAmb IAmb 13 11 42.4
comp=Z,116nm,1.1s
KBO Bosley Butte 81.97 38 P **P 13 11 41.1 +1.4**
KBO IAmb IAmb 13 11 43.2
comp=Z,136nm,1.2s
LRMC Laurel Mtn Rad 82.00 47 P **P 13 11 41.5 +1.4**
baz=236,SNR=33
IPM Ipoh 82.01 278 P **P 13 11 40.8 +0.3**
IPM IAmb IAmb 13 11 42.1
comp=Z,52nm,0.7s
IPM Ipoh 82.01 278 P **P 13 11 41.0 +0.5**
N02D Trinity Center 82.08 40 P **P 13 11 42.2 +2.0**
baz=232,SNR=90
RRX Edison Barstow 82.12 47 P **P 13 11 41.9 +1.4**
baz=236
O03E Paynes Creek 82.20 41 P **P 13 11 42.0 +1.1**
baz=232,SNR=74
OHAK Old Harbor 82.22 14 P **P 13 11 40.5 +0.1**
OHAK IAmb IAmb 13 11 42.0
comp=Z,117nm,1.3s
M02C Callahan 82.25 39 P **P 13 11 43.3 +2.2**
baz=231,SNR=146
CWC Cottonwood Cre 82.28 46 P **P 13 11 42.8 +1.3**
baz=235
L02E Cave Junction 82.30 38 P **P 13 11 43.3 +2.0**
baz=231,SNR=27
MDPB Devils Postpil 82.31 44 P **P 13 11 42.6 +0.8**
MDPB IAmb IAmb 13 11 44.2
comp=Z,64nm,0.9s
BELC Belle Mtn. Jos 82.32 49 P **P 13 11 43.4 +1.6**
baz=237,SNR=44
KEBM Edson Butte 82.34 37 P **P 13 11 43.1 +1.6**
KEBM IAmb IAmb 13 11 44.7
comp=Z,166nm,1.3s
OMMB Old Mammoth Mi 82.35 44 P **P 13 11 42.9 +0.8**
MPMC Manual Prospec 82.45 46 P **P 13 11 43.8 +1.4**
baz=236,SNR=22
RUBR Rubicon Trail 82.46 42 P **P 13 11 43.5 +1.1**
RUBR IAmb IAmb 13 11 47.8
comp=Z,79nm,1.0s
MLAC Mammoth, Mammo 82.47 44 P **P 13 11 44.1 +1.6**
baz=235,SNR=10
GRNR Gornyy 82.48 334 ⇑*i*P **P 13 11 43.1 +1.1**
GRNR pmax pmax
comp=E,8.0nm,0.7s
GRNR pmax pmax
comp=N,9.0nm,0.9s
GRNR pmax pmax
comp=Z,40nm,0.8s
GRNR MLR MLR
comp=E,80nm,18.0s
GRNR MLR MLR
comp=N,60nm,19.0s
GRNR MLR MLR
comp=Z,70nm,19.0s
GSC Goldstone, Bar 82.49 47 P **P 13 11 43.4 +0.9**
GSC pmax pmax
comp=Z,69nm,1.2s
GSC Goldstone, Bar 82.49 47 P **P 13 11 43.6 +1.2**
baz=236,SNR=32
GSC Goldstone, Bar 82.49 47 P **P 13 11 43.4 +0.9**
BC3 Big Chuckawall 82.52 49 P **P 13 11 44.3 +1.6**
baz=237,SNR=22
TIN Tinemaha, Big 82.53 45 P **P 13 11 44.2 +1.5**
baz=235,SNR=17
HEC Hector,Ludlow 82.55 48 P **P 13 11 44.0 +1.2**
baz=236,SNR=29
YBH Yreka Blue Hor 82.55 39 P **P 13 11 44.0 +1.4**
YBH pmax pmax
comp=Z,59nm,0.9s
YBH Yreka Blue Hor 82.55 39 P **P 13 11 44.0 +1.4**
YBH IAmb IAmb 13 11 45.7
comp=Z,59nm,0.9s
WAKR Walker 82.59 43 P **P 13 11 44.4 +1.3**
WAKR IAmb IAmb 13 11 45.3

comp=Z,66nm,0.8s
K02D Willamette Mer 82.60 38 P P 13 11 44.8 +1.9
baz=231,SNR=32
GLA Glamis 82.63 50 P P 13 11 45.0 +1.8
GLA pmax pmax
comp=Z,119nm,1.0s
GLA Glamis 82.63 50 P P 13 11 45.1 +1.9
baz=238,SNR=32
GLA Glamis 82.63 50 P P 13 11 45.0 +1.8
GLA lAmb lAmb 13 11 46.5
comp=Z,118nm,1.0s
KULM Kulim 82.67 279 P P 13 11 44.2 +0.4
KULM Kulim 82.67 279 P P 13 11 45.0 +1.2
J01E Myrtle Point 82.75 37 P P 13 11 45.2 +1.8
baz=230,SNR=26
PIX Pinacate 82.83 52 P P 13 11 44.4 +0.2
PNTR Pine Nut 82.83 43 P P 13 11 45.6 +1.3
KDAK Kodiak Island 82.89 14 P P 13 11 44.1 +0.3
KDAK pmax pmax
comp=Z,32nm,0.9s
KDAK Kodiak Island 82.89 14 P P 13 11 44.1 +0.3
CN2 Changchun 82.90 323 ⇑P P 13 11 44.5 +0.3
CN2 *e*S S 13 21 17.8 +2.7
CN2 pmax pmax
comp=Z,60nm,1.2s
CN2 pmax pmax
comp=Z,370nm,4.0s
VCNR Virginia City 82.92 43 P P 13 11 45.5 +0.8
HUMO Hull Mountain 82.95 38 P P 13 11 46.2 +1.6
HUMO lAmb lAmb 13 11 47.9
comp=Z,186nm,1.4s
GMRC Granite Mounta 82.99 48 P P 13 11 46.5 +1.4
baz=237,SNR=32
YERR Yerington 83.00 43 P P 13 11 46.0 +0.9
YERR lAmb lAmb 13 11 47.4
comp=Z,72nm,0.7s
IRM Iron Mountain 83.00 49 P P 13 11 46.7 +1.7
baz=237,SNR=51
LHV Little Huntoon 83.04 44 P P 13 11 46.3 +1.3
LHV lAmb lAmb 13 11 47.9
comp=Z,76nm,1.0s
GRAC Grapevine Rang 83.06 45 P P 13 11 46.8 +1.5
baz=236,SNR=56
L04D Klamath Falls 83.09 39 P P 13 11 46.7 +1.3
baz=232,SNR=69
M04C Macdoel 83.09 40 P P 13 11 47.0 +1.6
baz=232,SNR=24
FURC Furnace Creek, 83.10 46 P P 13 11 46.6 +1.3
baz=236,SNR=21
TUQ Turquoise Moun 83.16 47 P P 13 11 47.1 +1.2
baz=237,SNR=37
SHOC Shoshone, Teco 83.18 47 P P 13 11 46.9 +1.1
baz=236,SNR=9.7
113A Mohawk Valley, 83.24 51 P P 13 11 47.5 +1.4
113A lAmb lAmb 13 11 49.2
comp=Z,63nm,1.1s
RYN Ryan 83.24 44 P P 13 11 47.0 +0.7
RPSI Rantau Prapat 83.25 276 P P 13 11 45.9 -0.8
RPSI Rantau Prapat 83.25 276 PP 13 15 08.0 -1.4
NVAR Mina Array Bea 83.27 44 P P 13 11 47.6 +1.1
comp=Z,38nm,0.9s,baz=224,slow=8.4,SNR=244
NVAR PKKP **PKKPbc 13 30 04.2 +1.1**
comp=Z,1.5nm,0.8s,baz=77,slow=3.3,SNR=11
NVAR PKPPKP **P'P'df 13 38 08.3 +1.9**
comp=Z,4.7nm,1.1s,baz=88,slow=2.2,SNR=9.7
NVAR Mina Array Bea 83.27 44 P P 13 11 47.3 +0.8
PSI Prapat 83.30 276 PP PP 13 15 08.0 -1.9
comp=Z,9.1nm,1.0s,baz=180,slow=6.4,SNR=3.5
PSI Prapat 83.30 276 P P 13 11 45.9 -1.2
PSI 13 15 08.0
PSI pmax pmax
comp=Z,29nm,0.8s
PAHR Pah Rah Range 83.33 42 P P 13 11 47.6 +0.9
PAHR lAmb lAmb 13 11 49.1
comp=Z,65nm,1.0s
NV11 Mina Array Sit 83.37 44 P P 13 11 47.7 +0.8
NV11 lAmb lAmb 13 11 49.3
comp=Z,61nm,1.0s
I02D Swisshome 83.40 37 P P 13 11 48.4 +1.7
baz=230,SNR=7.2
HSIG 83.41 55 P P 13 11 48.4 +1.3
HSIG lAmb lAmb 13 11 49.7
comp=Z,58nm,0.8s
I03D Drain, OR 83.42 37 P P 13 11 48.5 +1.7
baz=231,SNR=30
214A Organ Pipe Nat 83.50 52 P P 13 11 49.5 +1.9
baz=239,SNR=14
214A Organ Pipe Nat 83.50 52 P P 13 11 49.2 +1.6
K04D Chiloquin, OR 83.66 39 P P 13 11 49.6 +1.4
baz=232
NEE2 Needles Airpor 83.70 49 P P 13 11 50.0 +1.6
baz=238
KVN Kaiserville 83.76 43 P P 13 11 49.6 +0.8
KVN pmax pmax
comp=Z,54nm,1.0s
KVN Kaiserville 83.76 43 P P 13 11 49.6 +0.8
TPH Tonopah 83.77 45 P P 13 11 49.7 +0.8
TPH pmax pmax
comp=Z,376nm,1.1s
TPH Tonopah 83.77 45 P P 13 11 49.7 +0.8
TPNV Topopah Spring 83.78 46 P P 13 11 49.8 +0.8
TPNV pmax pmax
comp=Z,68nm,1.3s
TPNV Topopah Spring 83.78 46 P P 13 11 50.1 +1.2
baz=236,SNR=62
TPNV Topopah Spring 83.78 46 P P 13 11 49.8 +0.8
TPNV lAmb lAmb 13 11 51.5
comp=Z,68nm,1.2s
PDMCI Parker Dam,Lak 83.78 49 P P 13 11 50.5 +1.7
baz=238,SNR=43
J04D Umpqua Nationa 83.83 38 P P 13 11 50.8 +1.6
baz=232,SNR=20
GSI Gunungsitoli 83.97 274 P P 13 11 49.4 -0.9
comp=Z,101nm,0.7s
GSI Gunungsitoli 83.97 274 P P 13 11 51.0 +0.8
GSI lAmb lAmb 13 11 52.7
comp=Z,64nm,0.7s
COR Corvallis 84.00 37 P P 13 11 51.2 +1.6
COR pmax pmax
comp=Z,61nm,0.9s
COR Corvallis 84.00 37 P P 13 11 51.2 +1.6
COR lAmb lAmb 13 11 52.2
comp=Z,61nm,0.8s
I04A Tendick Farm, 84.01 38 P P 13 11 50.9 +1.1
baz=232,SNR=22
MOD Modoc Plateau 84.07 40 P P 13 11 51.3 +1.0
MOD lAmb lAmb 13 11 52.9
comp=Z,126nm,1.4s
K05A Summer Lake 84.22 39 P P 13 11 52.3 +1.3
K05A lAmb lAmb 13 11 54.0
comp=Z,156nm,1.2s
SHPR Sheep Range 84.27 47 P P 13 11 52.5 +1.1
H04D Lebanon 84.28 37 P P 13 11 52.7 +1.7
baz=231,SNR=15
J05D Fort Rock, OR 84.36 39 P P 13 11 53.4 +1.7
baz=232,SNR=126
W13A Hualapai Mount 84.38 49 P P 13 11 53.2 +1.2
Y14A Wickenburg 84.39 50 P P 13 11 53.1 +1.2
G03D McMinnville, O 84.42 36 P P 13 11 53.3 +1.6
baz=231,SNR=10
SYO Syowa Base 84.67 193 ⇓*i*P P 13 11 51.6 -1.0
SYO Syowa Base 84.67 193 ⇓*i*PcP PcP 13 11 55.0 +0.2
SYO Syowa Base 84.67 193 ⇓*i*pP pP 13 13 58.1 +1.3
H04A Detroit Lake 84.69 37 P P 13 11 53.9 +0.8
H04A lAmb lAmb 13 11 54.7
comp=Z,51nm,0.8s
F03A Seaside 84.72 35 P P 13 11 54.4 +1.2
F03A lAmb lAmb 13 11 55.9
comp=Z,91nm,1.1s
CNPM China Poot 84.77 14 P P 13 11 52.8 -0.2
CNPM lAmb lAmb 13 11 54.5
comp=Z,101nm,0.8s
PRN Pahroc Range 84.83 46 P P 13 11 55.2 +1.1
PINE Pine Mountain 84.84 38 P P 13 11 55.5 +1.4
I05D Terrebonne, OR 84.95 38 P P 13 11 55.6 +1.3
baz=232,SNR=33
R11A Troy Canyon, C 84.99 45 P P 13 11 55.6 +0.7
baz=237,SNR=17
R11A Troy Canyon, C 84.99 45 P P 13 11 55.0 +0.2
BRLK Bradley Lake 85.06 14 P P 13 11 54.2 -0.3
BRLK lAmb lAmb 13 11 55.7
comp=Z,116nm,1.0s
E03A Lebam 85.11 35 P P 13 11 56.0 +1.0
E03A lAmb lAmb 13 11 57.8
comp=Z,107nm,0.9s
F04D Rainier, OR 85.11 36 P P 13 11 57.1 +2.0
baz=231
MA2 Magadan 85.16 345 *ce*P P 13 11 54.7 -0.2
MA2 pmax pmax
comp=Z,56nm,1.0s
MA2 Magadan 85.16 345 P P 13 11 54.4 -0.6
MA2 lAmb lAmb 13 11 55.9
comp=Z,67nm,0.9s
TUC Tucson 85.16 52 P P 13 11 57.3 +1.6
TUC pmax pmax
comp=Z,67nm,1.0s
TUC Tucson 85.16 52 P P 13 11 57.9 +2.1
baz=240
TUC Tucson 85.16 52 P P 13 11 57.3 +1.6
TUC lAmb lAmb 13 11 59.1
comp=Z,67nm,0.9s
RSO Redoubt South 85.29 13 P P 13 11 54.6 -1.2
SVW2 Sparrevohn 85.32 11 P P 13 11 55.1 -0.6
F04A Amboy 85.34 36 P P 13 11 56.8 +0.7
F04A lAmb lAmb 13 11 58.0
comp=Z,54nm,0.8s
WVOR Wild Horse Val 85.39 40 P P 13 11 57.4 +0.8
WVOR pmax pmax
comp=Z,47nm,1.0s
WVOR Wild Horse Val 85.39 40 P P 13 11 57.4 +0.8
WVOR lAmb lAmb 13 11 59.2
comp=Z,47nm,0.9s
NLWA Neilton Lookou 85.49 34 P P 13 11 58.0 +1.1
NLWA lAmb lAmb 13 11 59.2
comp=Z,42nm,0.8s
DIB Dawson Inlet, 85.49 26 P P 13 11 57.5 +0.8
DIB lAmb lAmb 13 11 58.8
comp=Z,51nm,1.1s
H02S1 DAWSON INLET T 85.49 26 P P 13 11 57.4 +0.8
H02N1 VAN INLET T-PH 85.50 26 P P 13 11 57.6 +0.8
G05D Wamic, OR 85.52 37 P P 13 11 58.3 +1.3
baz=232
E04D Cinebar 85.65 35 P P 13 11 59.3 +1.7
baz=231,SNR=14
SEW Seward 85.69 15 P P 13 11 56.9 -0.5
SEW lAmb lAmb 13 11 58.5
comp=Z,64nm,1.0s
X16A Lo Mia Camp, P 85.75 50 P P 13 11 59.3 +0.7
X16A lAmb lAmb 13 12 01.7
comp=Z,53nm,1.2s
F05D White Salmon 85.83 36 P P 13 11 59.8 +1.3
baz=232,SNR=7.0
LCMT Little Creek M 85.83 47 P P 13 11 59.6 +0.7
I07A Izee 85.85 39 P P 13 11 59.6 +0.9
I07A lAmb lAmb 13 12 01.5
comp=Z,84nm,1.1s
CAPN Captain Cook N 85.90 14 P P 13 11 59.4 +1.0
baz=206
D04E Lakebay 85.93 35 P P 13 12 00.9 +2.0
baz=231,SNR=8.3
D03D Eldon 85.99 34 P P 13 12 00.7 +1.6
baz=231,SNR=5.6
J08A Circle Bar Ran 86.02 40 P P 13 12 00.4 +0.8
J08A lAmb lAmb 13 12 02.2
comp=Z,122nm,1.3s
CCUT Cedar City 86.04 47 P P 13 12 00.7 +0.7
KNB Kanab 86.12 47 P P 13 12 01.2 +0.9
KNB pmax pmax
comp=Z,69nm,1.3s
KNB Kanab 86.12 47 P P 13 12 01.2 +0.9
MLSI Meulaboh, Aceh 86.18 276 P P 13 12 00.3 -0.6
comp=Z,4μmcomp=Z,113nm,1.4s
LON Longmire 86.18 36 P P 13 12 00.7 +0.5
LON pmax pmax
comp=Z,29nm,0.9s
LON Longmire 86.18 36 P P 13 12 00.7 +0.5
U15A North Rim 86.18 48 P P 13 12 02.2 +1.4
U15A lAmb lAmb 13 12 03.7
comp=Z,76nm,0.9s
BJI Beijing 86.22 316 P P 13 12 01.3 +0.9
BJI SKS **SKSac 13 21 28.9 -2.3**
BJI S S 13 21 49.3 +2.1
BJI pmax pmax
comp=Z,29nm,0.6s
BJI pmax pmax
comp=Z,240nm,3.5s
PSUT Pine Spring 86.23 46 P P 13 12 01.5 +0.6
SNAA Sanae 86.25 179 P P 13 12 00.4 +0.1
SNAA Sanae 86.25 179 *ce*P P 13 12 00.4 +0.1
SNAA pmax pmax
comp=Z,25nm,0.9s
SNAA Sanae 86.25 179 P P 13 12 00.3 +0.1
SZCU Shurtz Canyon 86.25 47 P P 13 12 02.0 +1.0
D05A Enumclaw 86.35 35 P P 13 12 02.3 +1.4
WUAZ Wupatki 86.36 49 P P 13 12 02.9 +1.4
baz=240,SNR=19
WUAZ Wupatki 86.36 49 P P 13 12 02.4 +1.0
WUAZ lAmb lAmb 13 12 04.3
comp=Z,54nm,1.2s
GYA Guiyang 86.36 300 *e*P P 13 12 01.5 -0.1
GYA pmax pmax
comp=Z,15nm,1.3s
VNA3 Neumayer Olymp 86.44 177 P P 13 12 01.4 +0.3
PGC Sidney 86.51 33 P P 13 12 02.5 +0.9
ELK Elko 86.53 43 P P 13 12 02.7 +0.5
ELK pmax pmax
comp=Z,26nm,1.0s
ELK Elko 86.53 43 P P 13 12 02.7 +0.5
SUA Susitna One 86.62 13 P P 13 12 01.4 -0.6
BBB Bella Bella 86.63 29 P P 13 12 02.7 +0.6
BBB lAmb lAmb 13 12 04.6
comp=Z,97nm,1.1s
F07A Phinny Hill Vi 86.69 37 P P 13 12 03.3 +0.8
F07A lAmb lAmb 13 12 05.1
comp=Z,71nm,1.0s
PKCU Pink Cliffs 86.69 47 P P 13 12 04.9 +1.7
NVL N'lazarevskaya 86.84 184 *e*P P 13 12 02.6 -0.3
NVL pmax pmax
comp=Z,168nm,0.9s
VNA2 Neumayer--Watz 86.86 177 P P 13 12 03.7 +0.7
G08A Pilot Rock 86.88 38 P P 13 12 03.4 -0.2
PBKT Sadao Pong 86.90 289 P P 13 12 05.3 +1.2
SKT Skwentna 86.92 13 P P 13 12 01.7 -1.6
GLI Glacier Island 86.94 15 P P 13 12 03.2 -0.2
A04D Lummi Island 86.94 34 P P 13 12 05.3 +1.7
baz=231
TTA Tatalina 86.95 11 P P 13 12 03.3 -0.2
TTA pmax pmax
comp=Z,62nm,1.2s
TTA Tatalina 86.95 11 P P 13 12 03.3 -0.2
TTA lAmb lAmb 13 12 05.0
comp=Z,62nm,1.2s
B05A Bryant 86.97 34 P P 13 12 05.2 +1.4
baz=231,SNR=34
FID Port Fidalgo 86.97 16 P P 13 12 03.1 -0.4
FID lAmb lAmb 13 12 04.5
comp=Z,76nm,1.0s
EYAK Cordova Ski Ar 86.98 16 P P 13 12 03.5 0.0
EYAK lAmb lAmb 13 12 04.9
comp=Z,86nm,1.1s
LL01 San Ignacio de 87.02 135 P P 13 12 05.7 +1.4
LL01 lAmb lAmb 13 12 07.6
comp=Z,54nm,1.2s
KNK Knik Glacier 87.08 14 P P 13 12 03.9 -0.1
PMR Palmer 87.09 14 P P 13 12 03.7 -0.3
PMR pmax pmax
comp=Z,61nm,0.7s
PMR Palmer 87.09 14 P P 13 12 03.7 -0.3
PMR lAmb lAmb 13 12 04.5
comp=Z,61nm,0.7s
MTPU Mount Pierson 87.09 47 P P 13 12 06.5 +1.4
VNA1 Neumayer--Stat 87.09 177 P P 13 12 04.8 +0.7
LTY Liberty 87.11 36 P P 13 12 04.9 +0.3
LTY lAmb lAmb 13 12 06.7
comp=Z,70nm,0.9s
E07A Sunnyside 87.13 37 P P 13 12 05.7 +1.1
HAWA Hanford 87.21 37 P P 13 12 05.9 +0.9
TCRU Three Creeks R 87.21 46 P P 13 12 06.5 +1.0
ZAIG Zacatecas 87.22 64 P P 13 12 07.5 +1.5
GHO Glory Hole Cre 87.29 14 P P 13 12 04.7 -0.3
MVU Marysvale 87.31 46 P P 13 12 07.2 +1.3
W18A Petrified Fore 87.31 50 P P 13 12 07.3 +1.3
baz=240
MSU Marysvale 87.34 46 P P 13 12 06.9 +0.8
MSU Marysvale 87.34 46 P P 13 12 06.9 +0.8
C06D Leavenworth 87.39 35 P P 13 12 06.7 +0.9
baz=232,SNR=12
B06A Marblemount 87.45 34 P P 13 12 06.3 +0.3
B06A lAmb lAmb 13 12 08.0
comp=Z,78nm,1.0s
SML Sawmill 87.46 14 P P 13 12 05.4 -0.4
SML lAmb lAmb 13 12 16.3
comp=Z,40nm,0.9s
TIY Taiyuan 87.47 313 *e*P P 13 12 08.1 +1.6
TIY pmax pmax
comp=Z,48nm,0.5s
121A Cookes Peak, D 87.49 53 P P 13 12 08.8 +1.9
baz=242
121A Cookes Peak, D 87.49 53 P P 13 12 08.1 +1.2
121A lAmb lAmb 13 12 10.2
comp=Z,37nm,1.0s
E08A Dider Farm, El 87.53 37 P P 13 12 07.4 +1.0
E08A lAmb lAmb 13 12 09.0
comp=Z,88nm,1.0s
CUT Chulitna 87.56 13 P P 13 12 06.0 -0.2
baz=207,SNR=32
BMO Blue Mountains 87.57 39 P P 13 12 07.3 +0.5
BMO pmax pmax
comp=Z,37nm,1.0s
BMO Blue Mountains 87.57 39 P P 13 12 07.3 +0.5
BMO lAmb lAmb 13 12 08.5
comp=Z,37nm,0.9s
PPLA Purkeypile 87.62 12 P P 13 12 04.7 -2.0
MFID Camas Ranch 87.64 41 P P 13 12 08.0 +0.8
MFID lAmb lAmb 13 12 09.7
comp=Z,86nm,1.0s
SCM Sheep Creek Mo 87.71 15 P P 13 12 07.1 0.0
SCM pmax pmax
comp=Z,205nm,0.7s
SCM Sheep Creek Mo 87.71 15 P P 13 12 07.1 0.0
KLU Klutina 87.75 15 P P 13 12 07.0 -0.2
KLU lAmb lAmb 13 12 08.6
comp=Z,41nm,0.8s
DUG Dugway, Tooele 87.80 45 P P 13 12 08.3 +0.2
DUG pmax pmax
comp=Z,34nm,1.5s
DUG Dugway, Tooele 87.80 45 P P 13 12 08.8 +0.8
baz=238
DUG Dugway, Tooele 87.80 45 P P 13 12 08.3 +0.2
CRQM Cirque 87.84 17 P P 13 12 07.8 0.0
YAH Yahtse 87.90 18 P P 13 12 08.6 +0.5
WRAK Wrangell Islan 87.91 24 P P 13 12 08.4 +0.5
WRAK lAmb lAmb 13 12 10.4
comp=Z,72nm,0.9s
TGL Tana Glacier 87.93 17 P P 13 12 08.4 +0.3
ISLE Juniper Island 87.93 17 P P 13 12 08.5 +0.3
D08A Wollman Farm, 87.94 37 P P 13 12 09.4 +1.0
BGU Big Grassy Mou 88.04 44 P P 13 12 09.1 -0.1
PCA Pinnacle 88.11 18 P P 13 12 08.8 -0.2
PCA lAmb lAmb 13 12 10.5
comp=Z,56nm,0.8s
XAN Xi'an 88.14 308 P P 13 12 11.0 +1.3
XAN S S 13 22 07.4 +1.8
XAN pmax pmax
comp=Z,56nm,0.8s
XAN pmax pmax
comp=Z,1μm,4.9s
VRDI Verde Repeater 88.16 17 P P 13 12 09.1 -0.2
VRDI lAmb lAmb 13 12 10.8
comp=Z,82nm,1.1s
BCPM Bancas Point 88.18 19 P P 13 12 09.0 -0.1
Q16A Castle Valley 88.22 46 P P 13 12 11.1 +1.0
M24K Tolsona, Glenn 88.22 15 P P 13 12 10.0 +0.6
baz=211
GLB Gilahina Butte 88.24 16 P P 13 12 09.4 -0.1
F10A Beach Ranch, E 88.26 38 P P 13 12 10.4 +0.3
BALM Baldy 88.29 17 P P 13 12 09.9 0.0
TMUT Trail Mountain 88.39 46 P P 13 12 12.5 +1.4
MCARA McCarthy VSAT 88.40 17 P P 13 12 10.0 -0.1
KTH Kantishna Hill 88.46 12 P P 13 12 08.9 -1.6
TLIG Tlapa 88.48 70 P P 13 12 12.7 +0.9
TLIG lAmb lAmb 13 12 15.0
comp=Z,43nm,1.0s
B08A Colville Reser 88.49 35 P P 13 12 11.2 +0.2
TRF Thorofare Moun 88.50 13 P P 13 12 09.9 -0.9
BARN Barnard Glacie 88.50 17 P P 13 12 11.2 +0.3
CTGM Chitina Glacie 88.51 18 P P 13 12 11.0 +0.1
ZEA Zeya 88.54 332 *e*P P 13 12 11.4 +0.4
ZEA *e*S S 13 22 13.5 +5.3
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA smax smax
comp=N,400nm,9.0s
ZEA smax smax
comp=E,300nm,9.0s
JIS Juneau Island 88.56 22 P P 13 12 11.5 +0.6
JIS lAmb lAmb 13 12 13.2
comp=Z,60nm,1.3s
HLID Hailey 88.58 41 P P 13 12 13.2 +1.5
baz=237,SNR=81
HLID Hailey 88.58 41 P P 13 12 13.0 +1.3
HLID lAmb lAmb 13 12 14.4
comp=Z,49nm,0.9s
SPUT South Promonto 88.61 44 P P 13 12 13.0 +1.1
BESE Bessie Mountai 88.63 22 P P 13 12 12.3 +1.0
BESE lAmb lAmb 13 12 13.7
comp=Z,60nm,1.1s
HVU Hansel Valley 88.65 43 P P 13 12 13.5 +1.5
HVU pmax pmax
comp=Z,81nm,1.1s
HVU Hansel Valley 88.65 43 P P 13 12 13.5 +1.5
C09A Chrisman Ranch 88.73 36 P P 13 12 12.8 +0.8
C09A lAmb lAmb 13 12 14.2
comp=Z,61nm,1.0s
CTU Camp Tracy 88.75 45 P P 13 12 13.5 +1.0
RND Reindeer 88.75 13 P P 13 12 11.8 -0.1
RND pmax pmax
comp=Z,158nm,0.8s
RND Reindeer 88.75 13 P P 13 12 11.8 -0.1
SRU San Rafael Swe 88.75 47 P P 13 12 13.7 +1.1
SRU pmax pmax
comp=Z,90nm,1.0s
SRU San Rafael Swe 88.75 47 P P 13 12 13.7 +1.1
DHY Denali Highway 88.78 14 P P 13 12 11.7 -0.4
DHY lAmb lAmb 13 12 12.6
comp=Z,28nm,1.0s
P17A Butcher Ranch, 88.79 46 P P 13 12 14.1 +1.4
Y22D IRIS PASSCAL I 88.85 52 P P 13 12 14.8 +1.7
baz=242
Y22D IRIS PASSCAL I 88.85 52 P P 13 12 15.0 +1.9
LENM Lemitar 88.85 52 P P 13 12 14.1 +0.9
JLU Jordanelle 88.90 45 P P 13 12 14.0 +0.7
MNTX Cornudas Mount 88.91 55 P P 13 12 15.0 +1.6
baz=243
MNTX Cornudas Mount 88.91 55 P P 13 12 14.9 +1.6
BPAW Bear Paw Mtn. 88.94 12 P P 13 12 11.1 -1.5
KMI Kunming 88.95 298 ⇓*i*P P 13 12 15.8 +1.9
KMI pmax pmax
comp=Z,29nm,0.9s
KMI pmax pmax
comp=Z,670nm,4.6s
LC01 Cunco 89.00 132 P P 13 12 15.0 +1.3
LC01 lAmb lAmb 13 12 16.5
comp=Z,61nm,0.9s
PLCA Paso Flores 89.02 134 P P 13 12 16.0 +2.2
comp=Z,25nm,0.9s,baz=236,slow=4.7,SNR=62
PLCA PKKPbc **PKKPbc 13 29 48.6 -0.4**
comp=Z,2.3nm,0.9s,baz=125,slow=1.2,SNR=5.8
PLCA Paso Flores 89.02 134 P P 13 12 15.6 +1.8
PLCA pmax pmax
comp=Z,44nm,1.1s
PLCA Paso Flores 89.02 134 P P 13 12 15.6 +1.8
PLCA lAmb lAmb 13 12 17.2
comp=Z,44nm,1.1s
MCK McKinley 89.03 13 P P 13 12 12.6 -0.5
MCK pmax pmax
comp=Z,52nm,0.8s
MCK McKinley 89.03 13 P P 13 12 12.6 -0.5
MCK lAmb lAmb 13 12 14.8
comp=Z,52nm,0.8s
BNM Barren Site 89.10 52 P P 13 12 15.5 +1.1
PAX Paxson 89.13 15 P P 13 12 13.2 -0.5
PAX pmax pmax
comp=Z,38nm,1.2s
PAX Paxson 89.13 15 P P 13 12 13.2 -0.5
PAX lAmb lAmb 13 12 14.5
comp=Z,38nm,1.2s
TX31 Lajitas Ar. Si 89.18 58 P P 13 12 16.2 +1.5
TX32 Lajitas Array 89.18 58 P P 13 12 16.3 +1.6
TXAR Lajitas Array 89.18 58 P P 13 12 16.4 +1.7
comp=Z,38nm,0.9s,baz=216,slow=4.8,SNR=243
TXAR PKKPbc **PKKPbc 13 29 48.4 -0.1**
comp=Z,1.7nm,0.6s,baz=101,slow=2.5,SNR=16
TXAR PKPPKP **P'P'df 13 37 52.1 -4.2**

comp=Z,0.4nm,0.9s,baz=67,slow=3.2,SNR=4.1
TXAR Lajitas Array 89.18 58 P P 13 12 16.2 +1.6
TCUT Toone Canyon 89.19 44 P P 13 12 15.6 +0.9
MVCO Mesa Verde 89.21 49 P P 13 12 15.5 +0.7
baz=241,SNR=5.7
MVCO Mesa Verde 89.21 49 P P 13 12 15.2 +0.3
BWN Browne 89.31 13 P P 13 12 13.6 -0.7
HWUT Hardware Ranch 89.34 44 P P 13 12 15.7 +0.5
HWUT IAmb IAmb 13 12 17.1
comp=Z,35nm,0.8s
PV10 Paradox Valley 89.40 48 P P 13 12 15.9 +0.2
PV10 IAmb IAmb 13 12 17.5
comp=Z,30nm,1.0s
PV19 Morning Glory 89.41 48 P P 13 12 16.1 +0.4
PV19 IAmb IAmb 13 12 17.8
comp=Z,34nm,1.2s
PV17 East Wray Mesa 89.41 48 P P 13 12 16.0 +0.3
PV17 IAmb IAmb 13 12 17.8
comp=Z,55nm,1.4s
PV14 Lion Creek, Pa 89.41 48 P P 13 12 16.1 +0.4
PV14 IAmb IAmb 13 12 17.8
comp=Z,33nm,1.0s
PV18 Skein Mesa, Pa 89.42 48 P P 13 12 16.1 +0.3
CM31 Chiang Mai Arr 89.43 290 P P 13 12 17.8 +1.8
CM31 IAmb IAmb 13 12 19.3
comp=Z,60nm,0.9s
CMAR Chiang Mai Arr 89.43 290 P P 13 12 18.1 +2.1
comp=Z,34nm,0.8s,baz=134,slow=3.3,SNR=150
CMAR PP **PP 13 15 58.5 +0.2**
comp=Z,5.0nm,0.9s,baz=130,slow=5.6,SNR=6.2
CMAR PKKPbc **PKKPbc 13 29 48.7 +1.4**
comp=Z,3.6nm,0.6s,baz=282,slow=4.2,SNR=11
CMAR PKPPKP **P'P'df 13 37 55.4 -1.2**
comp=Z,0.3nm,0.3s,baz=267,slow=4.9,SNR=4.4
CMAR Chiang Mai Arr 89.43 290 P P 13 12 17.8 +1.8
CMAR Chiang Mai Arr 89.43 290 P P 13 12 17.8 +1.8
PV20 West Nyswonger 89.43 48 P P 13 12 16.2 +0.4
PV13 Radium Mtn., P 89.44 48 P P 13 12 16.1 +0.2
PV13 IAmb IAmb 13 12 18.0
comp=Z,33nm,1.2s
PV16 Nyswonger Mesa 89.45 48 P P 13 12 16.3 +0.4
PV16 IAmb IAmb 13 12 18.1
comp=Z,34nm,1.3s
PV23 Carpenter Ridg 89.45 48 P P 13 12 16.6 +0.6
PV23 IAmb IAmb 13 12 18.2
comp=Z,30nm,0.9s
PV03 Paradox Valley 89.47 48 P P 13 12 16.0 0.0
PV11 David Mesa, Pa 89.48 48 P P 13 12 16.0 0.0
PV11 IAmb IAmb 13 12 18.2
comp=Z,44nm,1.3s
PV04 Paradox Valley 89.50 48 P P 13 12 16.6 +0.5
PV04 IAmb IAmb 13 12 17.7
comp=Z,22nm,0.9s
HYT Haines Junctio 89.52 19 P P 13 12 15.8 +0.3
HYT IAmb IAmb 13 12 17.5
comp=Z,40nm,1.3s
PV02 Paradox Valley 89.53 48 P P 13 12 15.8 -0.4
MENT Mentasta 89.53 16 P P 13 12 15.5 +0.1
MENT IAmb IAmb 13 12 17.0
comp=Z,35nm,0.8s
PV12 Saucer Basin, 89.53 48 P P 13 12 16.8 +0.5
PV12 IAmb IAmb 13 12 18.6
comp=Z,79nm,1.4s
CHTO Chiang Mai 89.57 290 P P 13 12 16.9 +0.3
CHTO pmax pmax
comp=Z,55nm,0.8s
CHTO Chiang Mai 89.57 290 P P 13 12 16.9 +0.3
ANMO Albuquerque 89.59 52 *ce*P **P 13 12 17.7 +1.1**
ANMO pmax pmax
comp=Z,39nm,1.0s
ANMO Albuquerque 89.59 52 P P 13 12 17.9 +1.3
baz=242
ANMO Albuquerque 89.59 52 P P 13 12 17.3 +0.7
ANMO IAmb IAmb 13 12 19.0
comp=Z,40nm,0.9s
PV01 Paradox Valley 89.61 48 P P 13 12 17.0 +0.4
PV01 IAmb IAmb 13 12 18.5
comp=Z,28nm,1.0s
NEW Newport 89.63 36 P P 13 12 16.3 0.0
NEW pmax pmax
comp=Z,10.0nm,0.8s
NEW Newport 89.63 36 P P 13 12 16.7 +0.4
baz=235
NEW Newport 89.63 36 P P 13 12 16.3 0.0
HHC Hu-ho-hao-te 89.64 315 *e*P **P 13 12 18.0 +1.4**
HHC pmax pmax
comp=Z,43nm,1.2s
HHC pmax pmax
comp=Z,80nm,5.9s
PV22 Blue Mesa, Par 89.65 48 P P 13 12 18.1 +1.3
PV22 IAmb IAmb 13 12 20.2
comp=Z,31nm,1.1s
PV07 Paradox Valley 89.70 48 P P 13 12 17.3 +0.3
NEA2 Nenana 89.76 13 P P 13 12 15.4 -1.0
baz=208,SNR=15
PV15 Paradox Valley 89.77 48 P P 13 12 17.8 +0.4
PV15 IAmb IAmb 13 12 19.4
comp=Z,26nm,1.0s
WRH Wood River Hil 89.86 13 P P 13 12 16.0 -0.8
GDL2 Guadalupe Moun 89.90 55 P P 13 12 19.3 +1.2
RIDG Independent Ri 89.94 15 P P 13 12 17.0 -0.3
RIDG IAmb IAmb 13 12 18.5
comp=Z,51nm,1.0s
HDA Harding Lake 90.04 14 P P 13 12 17.2 -0.6
baz=210,SNR=36
HDA Harding Lake 90.04 14 P P 13 12 17.0 -0.7
HDA IAmb IAmb 13 12 18.9
comp=Z,34nm,0.7s
DOT Dot Lake 90.05 15 P P 13 12 17.5 -0.3
DOT IAmb IAmb 13 12 19.0
comp=Z,47nm,1.0s
CCB Clear Creek Bu 90.07 13 P P 13 12 16.9 -0.9
CCB IAmb IAmb 13 12 18.2
comp=Z,40nm,0.7s
RDMU Red Mountain 90.12 46 P P 13 12 19.3 +0.4
WHY Whitehorse 90.21 20 P P 13 12 18.8 +0.1
MCMT McKenzie Canyo 90.21 41 P P 13 12 20.0 +0.7
AHID Auburn Hatcher 90.22 43 P P 13 12 20.0 +0.6
AHID IAmb IAmb 13 12 22.4
comp=Z,52nm,0.8s
DLBC Dease Lake 90.24 24 P P 13 12 19.2 +0.3
DLBC IAmb IAmb 13 12 21.1
comp=Z,25nm,1.0s
MDM Murphy Dome 90.25 13 P P 13 12 17.6 -1.1
MDM IAmb IAmb 13 12 19.1
comp=Z,61nm,1.0s
TCOL CIGO, UAF Yank 90.26 13 *i*P **P 13 12 17.9 -0.8**
baz=209,SNR=28
COLA College 90.26 13 *c i*P **P 13 12 17.9 -0.7**
COLA pmax pmax
comp=Z,60nm,0.9s
COLA College 90.26 13 P P 13 12 17.6 -1.0
SCRK Sand Creek 90.34 15 P P 13 12 19.5 +0.2
baz=213,SNR=26
IL31 90.37 13 P P 13 12 18.1 -1.1
IL31 IAmb IAmb 13 12 19.2
comp=Z,23nm,0.9s
ILAR Eielson Array 90.37 13 P P 13 12 18.5 -0.7
comp=Z,13nm,0.8s,baz=221,slow=5.3,SNR=111
ILAR pP **pP 13 14 26.4 +0.7**
comp=Z,3.8nm,0.9s,baz=232,slow=6.6,SNR=5.6
ILAR PKiKP **PKiKP 13 17 09.3 -0.5**
comp=Z,0.7nm,0.6s,baz=328,slow=2.3,SNR=6.2
ILAR PKKPbc **PKKPdf 13 29 44.5 +1.5**
comp=Z,0.6nm,0.5s,baz=345,slow=2.6,SNR=8.8
ILAR PKPPKP **P'P'df 13 37 50.8 -0.5**
comp=Z,0.8nm,0.9s,baz=348,slow=4.0,SNR=5.1
ILAR Eielson Array 90.37 13 P P 13 12 18.2 -1.0
BI02 San Fabin de 90.47 130 P P 13 12 21.7 +1.1
BI02 IAmb IAmb 13 12 23.3
comp=Z,32nm,0.9s
BTO Baotou 90.53 314 *e*P **P 13 12 21.5 +0.8**
POKR Poker Plat Res 90.56 13 P P 13 12 19.4 -0.7
baz=210,SNR=6.5
CD2 Chengdu 90.61 303 *e*P **P 13 12 21.1 -0.1**
CD2 S **S 13 22 24.8 -3.2**
CD2 pmax pmax
comp=Z,20nm,1.0s
MSO Missoula 90.63 39 P P 13 12 21.0 0.0
baz=238
MSO Missoula 90.63 39 P P 13 12 20.7 -0.3
S22A 4UR Ranch, Cre 90.63 49 P P 13 12 22.8 +1.3
baz=242,SNR=62
S22A 4UR Ranch, Cre 90.63 49 P P 13 12 22.3 +0.8
S22A IAmb IAmb 13 12 24.0
comp=Z,41nm,1.1s
DLMT Dillon 90.64 40 P P 13 12 22.0 +0.9
CPRX Cap Rock 90.65 54 P P 13 12 22.2 +0.7
REDW Red Top Meadow 90.68 43 P P 13 12 22.3 +0.8
TPAW Teton Pass 90.69 43 P P 13 12 21.4 -0.1
TPAW IAmb IAmb 13 12 23.1
comp=Z,34nm,0.9s
FXWY Fox Creek 90.71 42 P P 13 12 22.3 +0.6
GO05 Huala 90.78 128 P P 13 12 23.0 +1.0
GO05 IAmb IAmb 13 12 24.3
comp=Z,46nm,1.0s
O20A White River Ci 90.79 47 P P 13 12 22.9 +0.8
baz=241,SNR=26
O20A White River Ci 90.79 47 P P 13 12 22.5 +0.5
O20A IAmb IAmb 13 12 24.1
comp=Z,34nm,0.8s
SNOW Snow King Moun 90.80 43 P P 13 12 23.0 +0.9
IMW Indian Meadow 90.90 42 P P 13 12 23.4 +0.9
IMW IAmb IAmb 13 12 25.0
comp=Z,48nm,1.1s
RDOG Red Dog Mine 90.92 6 P P 13 12 21.7 0.0
RDOG IAmb IAmb 13 12 23.1
comp=Z,31nm,0.9s
LOHW Long Hollow 90.97 43 P P 13 12 23.4 +0.7
LRM Limekiln Ridge 90.97 40 P P 13 12 23.1 +0.3
QLMT Earthquake Lak 91.07 41 P P 13 12 24.5 +1.2
FLWY Flagg Ranch 91.14 42 P P 13 12 24.6 +1.0
YPP Pitchstone Pla 91.17 42 P P 13 12 24.9 +1.1
YHB Horse Butte 91.18 41 P P 13 12 24.4 +0.6
BW06 Boulder Array 91.21 44 P P 13 12 24.4 +0.4
baz=241,SNR=44
BW06 Boulder Array 91.21 44 P P 13 12 24.2 +0.2
BW06 IAmb IAmb 13 12 25.7
comp=Z,32nm,1.1s
PD31 Pinedale Array 91.21 44 P P 13 12 23.9 0.0
PD31 IAmb IAmb 13 12 25.7
comp=Z,28nm,1.1s
PDAR Pinedale Array 91.21 44 P P 13 12 24.4 +0.5
comp=Z,18nm,0.9s,baz=204,slow=3.3,SNR=104
PDAR PP **PP 13 16 10.9 -1.1**
comp=Z,0.8nm,0.9s,baz=249,slow=4.1,SNR=4.1
PDAR PKKPbc **PKKPbc 13 29 43.9 -0.3**
comp=Z,1.7nm,0.7s,baz=94,slow=4.5,SNR=8.9
PDAR Pinedale Array 91.21 44 P P 13 12 24.1 +0.1
YHL Hebgen Lake 91.23 41 P P 13 12 25.2 +1.1
YMR Madison River 91.28 42 P P 13 12 25.4 +1.2
BOZ Bozeman (W) 91.34 41 P P 13 12 25.0 +0.6
BOZ pmax pmax
comp=Z,27nm,1.0s
BOZ Bozeman (W) 91.34 41 P P 13 12 25.4 +1.0
baz=239,SNR=16
BOZ Bozeman (W) 91.34 41 P P 13 12 25.0 +0.6
BOZ IAmb IAmb 13 12 26.6
comp=Z,27nm,1.0s
H17A Grant Village 91.38 42 P P 13 12 26.7 +2.0
baz=240,SNR=12
H17A Grant Village 91.38 42 P P 13 12 26.6 +1.9
YHH Holmes Hill 91.41 42 P P 13 12 25.8 +0.9
SDCO Great Sand Dun 91.56 50 P P 13 12 26.7 +0.9
baz=243,SNR=38
LKWY Lake 91.57 42 P P 13 12 27.3 +1.7
LKWY Lake 91.57 42 P P 13 12 27.3 +1.7
EGAK Eagle 91.69 15 P P 13 12 25.4 0.0
EGAK IAmb IAmb 13 12 26.5
comp=Z,33nm,0.7s
BO02 Sierra Bellavi 91.72 129 P P 13 12 27.2 +0.8
BO02 IAmb IAmb 13 12 28.8
comp=Z,49nm,1.2s
HRY Holter Researc 91.80 40 P P 13 12 26.9 +0.5
WALA Waterton Lakes 91.84 37 P P 13 12 26.8 +0.2
MSTX Muleshoe 91.88 54 P P 13 12 27.7 +0.6
baz=244
MSTX Muleshoe 91.88 54 P P 13 12 27.3 +0.2
MSTX IAmb IAmb 13 12 29.0
comp=Z,36nm,0.9s
COLD Coldfoot 91.89 11 P P 13 12 26.7 +0.5
baz=207
COLD Coldfoot 91.89 11 P P 13 12 26.3 +0.1
COLD IAmb IAmb 13 12 27.9
comp=Z,23nm,1.0s
YNE Yellowstone No 92.03 42 P P 13 12 28.6 +0.9
T25A Trinidad 92.07 51 P P 13 12 28.6 +0.6
baz=244
T25A Trinidad 92.07 51 P P 13 12 28.3 +0.3
T25A IAmb IAmb 13 12 29.8
comp=Z,27nm,0.9s
833A Chaparral WMA, 92.14 60 P P 13 12 29.3 +1.1
baz=246
833A Chaparral WMA, 92.14 60 P P 13 12 29.0 +0.7
833A IAmb IAmb 13 12 30.6
comp=Z,45nm,0.9s
RWWY Rawlins 92.22 46 P P 13 12 28.7 +0.1
RWWY IAmb IAmb 13 12 30.4
comp=Z,42nm,1.1s
Q24A Divide 92.36 49 P P 13 12 30.2 +0.8
baz=243,SNR=15
Q24A Divide 92.36 49 P P 13 12 29.7 +0.2
Q24A IAmb IAmb 13 12 31.6
comp=Z,19nm,0.9s
ISCO Idaho Springs 92.42 48 P P 13 12 30.1 +0.4
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO Idaho Springs 92.42 48 P P 13 12 30.4 +0.7
baz=243,SNR=12
ISCO Idaho Springs 92.42 48 P P 13 12 30.1 +0.4
RLMT Red Lodge 92.55 42 P P 13 12 31.0 +1.0
baz=241
PEL Peldehue 92.57 127 P P 13 12 31.5 +1.1
PEL pmax pmax
comp=Z,49nm,0.8s
PEL Peldehue 92.57 127 P P 13 12 31.5 +1.1
GCMT Greycliff 92.63 41 P P 13 12 31.0 +0.7
N23A Red Feather La 92.69 47 P P 13 12 31.9 +1.0
baz=243,SNR=7.5
N23A Red Feather La 92.69 47 P P 13 12 31.3 +0.4
N23A IAmb IAmb 13 12 33.1
comp=Z,22nm,1.1s
JCT Junction City 92.70 58 P P 13 12 31.1 +0.3
JCT pmax pmax
comp=Z,16nm,1.0s
JCT Junction City 92.70 58 P P 13 12 31.2 +0.3
baz=246
JCT Junction City 92.70 58 P P 13 12 31.1 +0.3
LZH Lanzhou 92.78 308 ⇑P **P 13 12 32.3 +1.1**
LZH pP pwP 13 14 40.4 -1.9
LZH sP sP 13 15 35.8 +0.9
LZH PP **PP 13 16 26.6 +2.3**
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,91nm,4.9s
AMTX Amarillo 93.08 54 P P 13 12 32.8 +0.2
baz=245
AMTX Amarillo 93.08 54 P P 13 12 33.1 +0.6
K22A Casper 93.12 45 P P 13 12 33.1 +0.5
baz=243,SNR=6.3
K22A Casper 93.12 45 P P 13 12 32.9 +0.3
K22A IAmb IAmb 13 12 34.5
comp=Z,25nm,1.1s
PHWY Pilot Hill 93.21 47 P P 13 12 32.8 -0.4
CO02 Combarbal 93.26 126 P P 13 12 34.6 +1.0
TOLK Toolik Lake Re 93.27 11 P P 13 12 32.6 +0.1
baz=208
YAK Yakutsk 93.27 339 S **SKSac 13 22 08.0 -2.5**
comp=Z,5.3nm,0.3s,baz=170,slow=23,SNR=6.9
YAK Yakutsk 93.27 339 *c i*P **P 13 12 32.1 -0.5**
YAK *e* 13 16 26.4
YAK *e*PPP PPP 13 18 32.5
YAK *e*S **SKSac 13 22 06.9 -3.6**
YAK *e* 13 22 49.2
YAK *e*SS **SS 13 29 22.6 -2.0**
YAK *e*SSS SSS 13 33 12.1
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=Z,33nm,1.9s
YAK pmax pmax
comp=N,20nm,1.8s
YAK pmax pmax
comp=E,25nm,1.8s
YAK smax smax
comp=E,71nm,1.9s
YAK smax smax
comp=N,175nm,2.0s
YAK Yakutsk 93.27 339 P P 13 12 32.0 -0.6
CO03 El Pedregal 93.67 125 P P 13 12 36.1 +0.7
CO03 IAmb IAmb 13 12 37.6
comp=Z,34nm,1.1s
EGMT Eagleton 93.68 39 P P 13 12 35.5 +0.5
baz=241
EGMT Eagleton 93.68 39 P P 13 12 35.5 +0.5
ABTX Abilene, Hawle 93.70 56 P P 13 12 35.8 +0.5
baz=246
ABTX Abilene, Hawle 93.70 56 P P 13 12 35.5 +0.2
ABTX IAmb IAmb 13 12 37.1
comp=Z,21nm,0.8s
GO04 Tololo Observa 93.90 125 P P 13 12 37.5 +0.8
EPYK Eagle Plains 94.08 16 P P 13 12 36.2 -0.1
baz=219,SNR=12
EPYK Eagle Plains 94.08 16 P P 13 12 35.9 -0.4
EPYK IAmb IAmb 13 12 37.3
comp=Z,22nm,0.8s
KSCO Kaye Shedlock' 94.15 50 P P 13 12 38.3 +0.9
baz=245
KSCO Kaye Shedlock' 94.15 50 P P 13 12 37.8 +0.5
435B Jarrell 94.57 59 P P 13 12 40.2 +0.9
baz=247
ZON Zonda 94.83 127 P P 13 12 41.8 +1.1
ZON pmax pmax
comp=Z,17nm,0.9s
ZON Zonda 94.83 127 P P 13 12 41.8 +1.1
ZON IAmb IAmb 13 12 43.2
comp=Z,17nm,0.9s
AC05 El Transito 94.94 124 P P 13 12 43.2 +1.9
AC05 IAmb IAmb 13 12 44.2
comp=Z,29nm,1.1s
WHTX Lake Whitney, 95.14 58 P P 13 12 42.0 +0.2
baz=247
LAO LASA Array 95.16 41 P P 13 12 43.1 +1.4
baz=243
LAO LASA Array 95.16 41 P P 13 12 42.9 +1.2
LAO IAmb IAmb 13 12 44.2
comp=Z,24nm,1.0s
WMOK Wichita Mounta 95.20 55 P P 13 12 42.6 +0.5
baz=247
RSSD Black Hills 95.40 44 P P 13 12 43.3 +0.3
RSSD pmax pmax
comp=Z,16nm,1.0s
RSSD Black Hills 95.40 44 P P 13 12 43.3 +0.3
baz=244
RSSD Black Hills 95.40 44 P P 13 12 43.3 +0.3
RSSD IAmb IAmb 13 12 44.4
comp=Z,16nm,0.9s
ULN Ulaanbaatar 95.83 320 *ce*P **P 13 12 44.6 -0.2**
ULN pmax pmax
comp=Z,15nm,2.5s
CBKS Cedar Bluff 96.12 51 P P 13 12 46.6 +0.4
baz=246
SONM Songino Array 96.21 319 P P 13 12 46.0 -0.5
comp=Z,1.0nm,0.5s,baz=107,slow=5.1,SNR=7.8
SONM S **SKSac 13 22 26.8 -0.2**
comp=Z,0.4nm,0.4s,baz=169,slow=9.8,SNR=3.7
SONM PKKPbc **PKKPbc 13 29 31.2 0.0**
comp=Z,2.7nm,0.6s,baz=277,slow=2.9,SNR=11
SONM Songino Array 96.21 319 P P 13 12 46.0 -0.5
SONM Songino Array 96.21 319 PKKPdf 13 29 30.0 -1.9
SONM Songino Array 96.21 319 IAmb IAmb 13 12 52.3
comp=Z,1.4nm,0.8s
W35A Tecumseh 96.81 55 P P 13 12 50.0 +0.8
GTA Gaotai 97.05 310 *e*P **P 13 12 50.9 +0.5**
GTA pP pP 13 14 58.9 +2.1
GTA pmax pmax
comp=Z,8.0nm,1.3s
DGMT Dagmar 97.18 40 P P 13 12 51.7 +1.1
baz=245,SNR=5.8
DGMT Dagmar 97.18 40 P P 13 12 51.5 +0.9
DGMT IAmb IAmb 13 12 52.7
comp=Z,26nm,1.1s
YKA Yellowknife Ar 98.72 25 P Pdif 13 12 57.0 0.0
comp=Z,4.3nm,0.8s,baz=246,slow=4.1,SNR=4.3
YKA PKKPbc **PKKPbc 13 29 22.9 -1.7**
comp=Z,1.6nm,0.5s,baz=32,slow=2.8,SNR=5.8
ZAK Zakamensk 99.15 321 *e*P **Pdif 13 13 00.8 +1.4**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
Z41A Richland Creek 99.26 58 P Pdif 13 13 01.2 +1.0
baz=250
ECSD EROS Data Cent 100.16 47 P Pdif 13 13 04.8 +0.8
baz=249
TAPN Taplejung 102.29 295 *e*P **PKiKP 13 17 32.6 +0.2**
comp=Z,11nm,0.5s
TAPN Taplejung 102.29 295 *e*P **PKiKP 13 17 32.6 +0.2**
comp=Z,11nm,0.5s
ODAN Odare 102.41 294 *e*P **PKiKP 13 17 32.6 +0.1**
comp=Z,30nm,0.8s
ODAN Odare 102.41 294 *e*P **PKiKP 13 17 32.6 +0.1**
comp=Z,30nm,0.8s
LPAZ La Paz 102.62 114 P Pdif 13 13 17.2 +0.9
comp=Z,1.7nm,0.9s,baz=187,slow=4.4,SNR=3.7
LPAZ PKKPbc **PKKPbc 13 29 12.9 -0.2**
comp=Z,2.2nm,0.7s,baz=217,slow=2.4,SNR=7.2
ULM Lac du Bonnet 102.89 41 PP PKiKP 13 17 41.0 +8.6
comp=Z,5.9nm,0.9s,baz=246,slow=6.5,SNR=3.2
RAMN Ramite 103.10 294 *e*P **PKiKP 13 17 33.6 -0.2**
comp=Z,20nm,0.7s
RAMN Ramite 103.10 294 *e*P **PKiKP 13 17 33.6 -0.2**
comp=Z,20nm,0.7s
JIRN Jiri 103.67 294 *e*P **PKiKP 13 17 35.1 +0.1**
comp=Z,37nm,0.6s
JIRN Jiri 103.67 294 *e*P **PKiKP 13 17 35.1 +0.1**
comp=Z,37nm,0.6s
GUN Gumba 104.01 295 *e*P **PKiKP 13 17 35.0 -0.6**
comp=Z,16nm,0.6s
GUN Gumba 104.01 295 *e*P **PKiKP 13 17 35.0 -0.6**
comp=Z,16nm,0.6s
PKI Pulchoki 104.30 294 *e*P **PKiKP 13 17 35.4 -0.7**
comp=Z,24nm,0.7s
PKI Pulchoki 104.30 294 *e*P **PKiKP 13 17 35.4 -0.7**
comp=Z,24nm,0.7s
PKIN Phulchoki 104.32 294 *e*P **PKiKP 13 17 35.1 -1.0**
comp=Z,18nm,0.7s
PKIN Phulchoki 104.32 294 *e*P **PKiKP 13 17 35.1 -1.0**
comp=Z,18nm,0.7s
GKN Gorkha 105.09 294 *e*P **PKiKP 13 17 36.1 -1.2**
comp=Z,12nm,0.7s
GKN Gorkha 105.09 294 *e*P **PKiKP 13 17 36.1 -1.2**
comp=Z,12nm,0.7s
KOLN Koldanda 105.89 294 *e*P **PKiKP 13 17 37.8 -1.1**
KOLN Koldanda 105.89 294 *e*P **PKiKP 13 17 37.8 -1.1**
PYUN Piuthan 106.51 294 *e*P **PKiKP 13 17 39.3 -0.7**
comp=Z,38nm,0.9s
PYUN Piuthan 106.51 294 *e*P **PKiKP 13 17 39.3 -0.7**
comp=Z,38nm,0.9s
GOGA Godfrey 106.73 60 P PKiKP 13 17 39.9 -0.1
baz=254
TZTN Tazewell 107.50 57 P PKiKP 13 17 41.5 +0.1
baz=255
Y55A Saluda 108.16 60 P PKiKP 13 17 42.6 0.0
baz=255
W54A Cherokee Point 108.19 59 P PKiKP 13 17 42.7 0.0
baz=255
KMSC Kings Mountain 108.89 59 P PKiKP 13 17 44.1 +0.1
baz=256
X56A White Oak 108.96 60 P PKiKP 13 17 43.9 -0.2
baz=256
V55A Taylorsville 109.15 58 P PKiKP 13 17 44.6 +0.1
baz=256
P52A Corning 109.33 54 P PKiKP 13 17 44.1 -0.6
baz=257
U55A TA2, Sparta 109.44 58 P PKiKP 13 17 44.9 -0.2
baz=256
W56A Indian Trail 109.48 59 P PKiKP 13 17 45.0 -0.1
baz=256
S54A Dingess, Beckl 109.54 56 P PKiKP 13 17 45.1 -0.1
baz=257
T55A Pulaski 109.79 57 P PKiKP 13 17 45.6 -0.1
baz=257
ZSN Zaisan 109.82 314 *e*PKiKP **PKiKP 13 17 45.2 -0.2**
baz=314
P53A Whipple 109.86 55 P PKiKP 13 17 45.5 -0.2
baz=257
R54A Victor 109.87 56 P PKiKP 13 17 45.7 -0.1
baz=257
N52A McGinn's Farm, 109.93 53 P PKiKP 13 17 45.4 -0.4
baz=258
W57A Gilead 109.95 59 P PKiKP 13 17 45.8 -0.2
baz=256
Z59A Georgetown, SC 110.07 61 P PKiKP 13 17 46.0 -0.2

baz=256
BLA Blacksburg 110.09 57 P PKiKP 13 17 46.3 0.0
baz=257
O53A New Philadelph 110.16 54 P PKiKP 13 17 46.0 -0.3
baz=258
Q54A Coxs Mills 110.17 55 P PKiKP 13 17 45.7 -0.6
baz=257
V57A Coltrane Farms 110.30 59 P PKiKP 13 17 46.2 -0.4
baz=257
T56A Rocky Mt 110.36 57 P PKiKP 13 17 46.4 -0.4
baz=257
W58A Raeford 110.53 60 P PKiKP 13 17 46.6 -0.4
baz=257
N53A Lisbon 110.56 53 P PKiKP 13 17 46.7 -0.3
baz=258
R55A Marlinton 110.56 56 P PKiKP 13 17 46.5 -0.6
baz=258
P54A Burton 110.57 55 P PKiKP 13 17 46.5 -0.6
baz=258
Q55A Buckhannon 110.75 55 P PKiKP 13 17 47.0 -0.4
baz=258
U57A Blanch 110.77 58 P PKiKP 13 17 46.9 -0.6
baz=257
O54A Avella 110.77 54 P PKiKP 13 17 46.9 -0.5
baz=258
V58A Windy Hill, Pi 110.80 59 P PKiKP 13 17 47.4 -0.1
baz=257
M53A Wl Miller and 110.81 53 P PKiKP 13 17 47.0 -0.4
baz=258
T57A Hurt 110.95 58 P PKiKP 13 17 47.4 -0.4
baz=258
ZALV Zalesovo Beam 111.03 321 PKiKP PKiKP 13 17 46.5 -0.9
comp=Z,8.6nm,0.6s,baz=158,slow=0.8,SNR=35
ZALV PKKPbc PKKPbc 13 28 47.0 -0.3
comp=Z,0.6nm,0.4s,baz=253,slow=4.4,SNR=2.4
ZALV Zalesovo Beam 111.03 321 PKiKP 13 17 46.1 -1.3
P55A Reedsville 111.05 55 P PKiKP 13 17 47.6 -0.4
baz=258
R56A Bull Pasture M 111.14 56 P PKiKP 13 17 47.5 -0.8
baz=258
N54A Moraine State 111.22 53 P PKiKP 13 17 47.6 -0.7
baz=259
U58A Oxford 111.38 58 P PKiKP 13 17 48.0 -0.6
baz=258
MKAR Makanchi Array 111.43 313 Pdiff Pdif 13 13 54.4 +0.4
comp=Z,0.5nm,0.5s,baz=101,slow=6.3,SNR=4.6
MKAR PKiKP PKiKP 13 17 47.7 -0.8
comp=Z,6.2nm,0.5s,baz=197,slow=0.8,SNR=36
MKAR S SKSac 13 23 35.0 -1.0
comp=Z,0.4nm,0.6s,baz=88,slow=2.8,SNR=4.5
MKAR PKKPbc PKKPbc 13 28 46.2 +0.3
comp=Z,4.9nm,0.8s,baz=279,slow=3.7,SNR=24
MKAR PKKPab PKKPab 13 28 57.5 +1.7
comp=Z,4.1nm,0.8s,baz=289,slow=3.7,SNR=11
MKAR P4KP 13 49 59.5
comp=Z,0.4nm,0.8s,baz=108,slow=4.0,SNR=3.5
MKAR Makanchi Array 111.43 313 PKiKP PKiKP 13 17 47.5 -1.0
MKAR SKSac 13 23 34.9 -1.0
MKAR PKKPbc PKKPbc 13 28 45.5 -0.4
MKAR PKKPab 13 28 57.1 +1.3
X60A Albert Glenn T 111.44 60 P PKiKP 13 17 48.3 -0.5
baz=257
Q56A Snyder Ridge, 111.44 55 P PKiKP 13 17 48.1 -0.7
baz=258
T58A Grand View Acr 111.51 58 P PKiKP 13 17 48.5 -0.4
baz=258
M54A Oil Creek Stat 111.57 53 P PKiKP 13 17 48.4 -0.5
baz=259
O55A Ligonier 111.58 54 P PKiKP 13 17 48.7 -0.3
baz=259
NRIK Noril'sk 111.70 338 PKiKP PKiKP 13 17 47.6 -0.7
comp=Z,2.7nm,0.4s,baz=94,slow=2.8,SNR=5.1
NRIK S SKSac 13 23 37.1 +1.2
comp=Z,0.8nm,0.4s,baz=242,slow=17,SNR=3.5
R57A Stanardsville 111.79 56 P PKiKP 13 17 48.9 -0.5
baz=258
P56A Dayton Farm, R 111.80 55 P PKiKP 13 17 48.4 -0.9
baz=259
N55A Marion Center 111.93 54 P PKiKP 13 17 49.1 -0.5
baz=259
S58A Poland Farm, P 112.02 57 P PKiKP 13 17 49.1 -0.7
baz=258
Q57A Strasburg 112.03 56 P PKiKP 13 17 49.1 -0.8
baz=259
O56A Blue Knob Stat 112.15 54 P PKiKP 13 17 49.7 -0.4
baz=259
M55A Ridgway 112.22 53 P PKiKP 13 17 49.7 -0.5
baz=260
T59A Double "B" Far 112.28 58 P PKiKP 13 17 49.6 -0.7
baz=258
P57A Homestead Farm 112.42 55 P PKiKP 13 17 50.3 -0.2
baz=259
N56A West Decatur 112.47 54 P PKiKP 13 17 50.0 -0.7
baz=260
K54A Basiliko Farm, 112.48 52 P PKiKP 13 17 49.8 -0.8
baz=260
Q58A Fox Den Farm, 112.57 56 P PKiKP 13 17 50.2 -0.7
baz=259
L55A Hinsdale 112.59 52 P PKiKP 13 17 50.5 -0.3
baz=260
J54A Appleton 112.64 51 P PKiKP 13 17 50.0 -0.8
baz=260
M56A Emporium 112.66 53 P PKiKP 13 17 50.0 -1.0
baz=260
SSPA Standing Stone 112.72 54 P PKiKP 13 17 50.2 -0.9
baz=260
SHLS Shalkode 112.78 309 *i* PKiKP PKiKP 13 17 50.3 -1.0
comp=Z,1.7nm,0.7s,baz=309
SHLS Shalkode 112.78 309 *i* PKIKP PKiKP 13 17 50.3 -1.0
SHLS pmax pmax
comp=Z,2.0nm,0.7s
O57A Amberson 112.84 54 P PKiKP 13 17 50.5 -0.8
baz=260
H53A Bobcaygeon 112.89 50 P PKiKP 13 17 50.5 -0.8
baz=261
K55A Perry 112.95 52 P PKiKP 13 17 50.5 -1.0
baz=260
T60A Surry 112.95 58 P PKiKP 13 17 51.0 -0.7
baz=259
P58A Pank, Wackersv 112.96 55 P PKiKP 13 17 51.0 -0.6
baz=260
N57A Milroy 113.00 54 P PKiKP 13 17 51.0 -0.7
baz=260
UZB Uzynbulak 113.10 309 *i* PKiKP PKiKP 13 17 51.5 -0.4
comp=Z,2.1nm,0.7s,baz=309
UZB Uzynbulak 113.10 309 *i* PKIKP PKiKP 13 17 51.5 -0.4
UZB pmax pmax
comp=Z,2.0nm,0.7s
L56A Greenwood 113.23 52 P PKiKP 13 17 51.5 -0.6
baz=261
O58A Lewisberry 113.36 55 P PKiKP 13 17 51.9 -0.5
baz=260
G54A Lake Saint Pet 113.36 49 P PKiKP 13 17 51.7 -0.5
baz=262
KPKS Kokpek 113.39 309 *i* PKiKP PKiKP 13 17 52.1 -0.4
comp=Z,3.3nm,0.4s,baz=309
KPKS Kokpek 113.39 309 *i* PKIKP PKiKP 13 17 52.0 -0.4
KPKS pmax pmax
comp=Z,3.0nm,0.4s
M57A Sunshine Farm, 113.41 53 P PKiKP 13 17 51.8 -0.6
baz=260
ALGO Algonquin Park 113.47 48 P PKiKP 13 17 51.8 -0.6
baz=262
I55A Frankford 113.47 50 P PKiKP 13 17 51.4 -1.0
baz=261
K56A Middlesex 113.49 52 P PKiKP 13 17 51.6 -0.9
baz=261
SATY Saty 113.53 309 *e*PKiKP PKiKP 13 17 52.5 -0.3
comp=Z,3.4nm,0.8s,baz=309
SATY Saty 113.53 309 *i* PKIKP PKiKP 13 17 52.4 -0.3
SATY pmax pmax
comp=Z,3.0nm,0.8s
N58A Sunbury 113.64 54 P PKiKP 13 17 52.1 -0.8
baz=261
P59A Jarrettsville 113.64 55 P PKiKP 13 17 52.4 -0.5
baz=260
L57A Andrews Acres 113.73 53 P PKiKP 13 17 52.0 -1.0
baz=261
TDK Taldyqorghan 113.82 311 *e*PKiKP PKiKP 13 17 52.1 -1.0
baz=311
TDK Taldyqorghan 113.82 311 *i* PKIKP PKiKP 13 17 52.1 -1.0
D53A Lac Vacive, Po 113.86 47 P PKiKP 13 17 52.3 -0.8
baz=263
H55A Tweed 113.88 50 P PKiKP 13 17 52.2 -1.0
baz=262
M58A Price's Panora 113.92 53 P PKiKP 13 17 52.6 -0.8
baz=261
J56A Wolcott 113.92 51 P PKiKP 13 17 52.4 -0.9
baz=262
O59A Robesonia 113.95 55 P PKiKP 13 17 53.1 -0.4
baz=261
Q60A Greensboro 113.99 56 P PKiKP 13 17 53.1 -0.4
baz=260
K57A Scipio Center 114.08 52 P PKPdf 13 17 52.6 -1.1
baz=262
MATQ Matagami 114.23 44 P PKPdf 13 17 53.0 -0.7
baz=264
R61A Willards 114.26 57 P PKPdf 13 17 53.0 -1.0
baz=260
P60A Greenville 114.28 55 P PKPdf 13 17 53.5 -0.6
baz=261
G55A Calabogie 114.30 49 P PKPdf 13 17 53.4 -0.6
baz=262
N59A State Game Lan 114.36 54 P PKPdf 13 17 53.6 -0.7
baz=261
KURK Kurchatov 114.38 317 *i* PKIKP PKPdf 13 17 53.0 -0.9
KURK Kurchatov 114.38 317 PKiKP PKPdf 13 17 52.4 -1.5
KURK Kurchatov 114.38 317 PKKPbc PKKPbc 13 28 36.3 +0.1
KURK PKKPab 13 28 44.3 +1.8
KURK Kurchatov 114.38 317 PP 13 18 59.9 -1.8
BINY Binghamton 114.39 53 P PKPdf 13 17 53.5 -0.8
baz=262
KURBB Kurchatov Arra 114.42 317 PKP PKPdf 13 17 53.2 -0.8
comp=Z,11nm,0.6s,baz=111,slow=1.7,SNR=102
KURBB PP PP 13 18 59.9 -2.1
comp=Z,1.1nm,0.8s,baz=105,slow=5.8,SNR=5.1
KURBB PKKPbc PKKPbc 13 28 36.5 +0.5
comp=Z,3.3nm,0.8s,baz=276,slow=4.0,SNR=12
KURBB PKKPab PKKPab 13 28 44.4 +2.0
comp=Z,4.7nm,0.8s,baz=277,slow=5.1,SNR=13
L58A Harry Jones Me 114.47 53 P PKPdf 13 17 53.8 -0.7
baz=262
MDOK Medeo 114.53 309 *i* PKP PKPdf 13 17 54.2 -0.5
baz=309
MDOK Medeo 114.53 309 *i* PKIKP PKPdf 13 17 54.1 -0.6
H56A Elgin 114.53 50 P PKPdf 13 17 54.1 -0.3
baz=262
J57A Williamstown 114.56 51 P PKPdf 13 17 53.9 -0.6
baz=262
D54A Lac Fusel, La 114.58 47 P PKPdf 13 17 53.1 -1.4
baz=263,SNR=5.2
LSQQ Lebel-sur-Quev 114.58 45 P PKPdf 13 17 53.4 -1.0
baz=264
TNSS Tian-Shan 114.58 308 *e*PKP PKPdf 13 17 54.8 -0.3
baz=308
TNSS Tian-Shan 114.58 308 *e*PKIKP PKPdf 13 17 54.8 -0.3
AAA Alma-Ata 114.63 309 *e*PKP PKPdf 13 17 54.3 -0.5
baz=309
AAA Alma-Ata 114.63 309 *e*PKIKP PKPdf 13 17 54.2 -0.6
M59A Waymart 114.70 53 P PKPdf 13 17 53.8 -1.1
baz=262,SNR=8.1
K58A Earlville 114.72 52 P PKPdf 13 17 54.1 -0.8
baz=262
K58A Earlville 114.72 52 PKPdf 13 17 54.4 -0.5
KSH Kashi 114.78 304 PKP PKiKP 13 17 55.5 +0.2
KSH SKS SKSdf 13 24 10.5 -2.1
N60A Cedar Hill Far 114.85 54 P PKPdf 13 17 54.3 -0.9
baz=262
I57A Carthage 114.87 51 P PKPdf 13 17 54.5 -0.7
baz=263
E55A Montcerf-Lytto 114.91 48 P PKPdf 13 17 54.1 -1.0
baz=264
MTBS Maitube 114.97 308 *i* PKP PKPdf 13 17 55.0 -0.5
baz=308
MTBS Maitube 114.97 308 *i* PKIKP PKPdf 13 17 55.0 -0.5
ULHL Ulahol 114.99 307 P PKiKP 13 17 56.0 +0.3
SNR=6.3
J58A Remsen 115.07 51 P PKPdf 13 17 54.8 -0.8
baz=263
J58A Remsen 115.07 51 PKPdf 13 17 54.9 -0.7
L59A Walton 115.09 53 P PKPdf 13 17 54.8 -0.8
baz=262
H57A Richville 115.13 50 P PKPdf 13 17 54.4 -1.1
baz=263
KUU Kurty 115.14 309 *i* PKP PKPdf 13 17 54.8 -0.9
comp=Z,8.7nm,1.4s,baz=309
KUU Kurty 115.14 309 *i* PKIKP PKPdf 13 17 54.8 -0.9
KUU pmax pmax
comp=Z,9.0nm,1.4s
ORIO Orleans, Innes 115.17 49 P PKPdf 13 17 55.0 -0.6
baz=263
BOOM Boomskoye usch 115.24 308 PKIKP PKPdf 13 17 55.5 -0.6
BOOM Boomskoye usch 115.24 308 PKPdf PKPdf 13 17 55.5 -0.6
M60A Port Jervis 115.27 54 P PKPdf 13 17 55.6 -0.4
baz=262
K59A Cooperstown 115.31 52 P PKPdf 13 17 55.3 -0.7
baz=263
I58A Old Forge 115.33 51 P PKPdf 13 17 55.2 -0.9
baz=263
D55A Sainte-Anne-du 115.37 47 P PKPdf 13 17 54.9 -1.1
baz=264,SNR=8.1
G57A Newington 115.50 49 P PKPdf 13 17 55.3 -0.9
baz=264
TKM2 Tokmak 2 115.55 308 P PKPdf 13 17 56.2 -0.6
SNR=19
E56A St. Veronique 115.62 48 P PKPdf 13 17 55.7 -0.8
baz=264
J59A Piesco 115.65 51 P PKPdf 13 17 55.9 -0.7
baz=263
J59A Piesco 115.65 51 PKPdf PKPdf 13 17 55.6 -1.0
L60A Shokan 115.66 53 P PKPdf 13 17 56.2 -0.5
baz=263
LONY Lake Ozonia 115.73 50 P PKPdf 13 17 56.3 -0.5
baz=264
PAL Palisades 115.77 54 P PKPdf 13 17 56.3 -0.6
baz=262
D56A ZEC Mazanza, M 115.86 47 P PKPdf 13 17 56.2 -0.8
baz=265,SNR=5.7
NCB Newcomb 115.91 51 PKPdf 13 17 56.5 -0.6
M61A Granite Spring 115.91 54 P PKPdf 13 17 56.7 -0.5
baz=263
NIL Nilore 115.94 298 PKIKP PKPdf 13 17 56.6 -1.0
NIL Nilore 115.94 298 PKPdf 13 17 56.6 -1.0
H58A Gabriels 115.99 50 P PKPdf 13 17 56.7 -0.6
baz=264
KBK Karagaybulak 115.99 308 P PKPdf 13 17 57.4 -0.2
SNR=8.0
I59A Olmsteadville 116.14 51 P PKPdf 13 17 57.1 -0.5
baz=264
G58A Ormstown 116.16 49 P PKPdf 13 17 57.1 -0.4
baz=264
CHMS Chumysh 116.17 308 P PKPdf 13 17 57.7 0.0
SNR=6.0
E57A Chemin Saint G 116.22 48 P PKPdf 13 17 57.0 -0.7
baz=265,SNR=5.3
SGDS Sogindy 116.31 309 *i* PKP PKPdf 13 17 57.5 -0.6
comp=Z,4.6nm,0.6s,baz=309
SGDS Sogindy 116.31 309 *i* PKIKP PKPdf 13 17 57.4 -0.6
SGDS pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 116.32 308 P PKPdf 13 17 58.1 -0.1
SNR=8.2
AAK Ala-Archa 116.32 308 *i* PKIKP PKPdf 13 17 57.9 -0.3
CHGQ Chibougamau 116.35 44 P PKPdf 13 17 56.7 -1.1
baz=266
USP Ospenovka 116.39 308 P PKPdf 13 17 57.8 -0.3
SNR=12
J60A Lant Hill Farm 116.40 52 P PKPdf 13 17 57.6 -0.5
baz=264
D57A Chemin Vers le 116.45 47 P PKPdf 13 17 57.3 -0.8
baz=265,SNR=5.5
K61A Williamstown 116.45 52 P PKPdf 13 17 57.8 -0.5
baz=264
I60A Shoreham 116.56 51 P PKPdf 13 17 58.0 -0.4
baz=264,SNR=6.0
M62A Hamden 116.58 54 P PKPdf 13 17 57.3 -1.1
baz=263
G59A Clarenceville 116.77 50 P PKPdf 13 17 58.1 -0.6
baz=265
E58A La Victoria 116.81 48 P PKPdf 13 17 57.9 -0.8
baz=265,SNR=5.0
EKS2 Erkin-Say 116.85 308 P PKPdf 13 17 59.1 -0.1
SNR=12
AML Almayashu 116.85 307 P PKiKP 13 17 59.7 +0.1
SNR=12
L61B Northampton 116.86 53 P PKPdf 13 17 58.4 -0.6
baz=264,SNR=6.8
BTLS Baital 116.90 310 *i* PKP PKPdf 13 17 58.5 -0.5
comp=Z,7.6nm,0.6s,baz=310
BTLS Baital 116.90 310 *i* PKIKP PKPdf 13 17 58.4 -0.5
BTLS pmax pmax
comp=Z,8.0nm,0.6s
VT1 Waterbury 117.00 50 PKPdf 13 17 58.8 -0.4
J61A Chester 117.05 52 P PKPdf 13 17 58.9 -0.4
baz=264,SNR=6.5
H60A Morristown 117.06 50 P PKPdf 13 17 58.8 -0.6
baz=265
QUA2 Belchertown 117.08 53 PKPdf 13 17 59.1 -0.3
F59A Saint Guilaume 117.11 49 P PKPdf 13 17 58.6 -0.7
baz=266
D58A Chemin du LacG 117.14 47 P PKPdf 13 17 58.5 -0.9
baz=266,SNR=14
K62A Royalston 117.21 52 P PKPdf 13 17 59.3 -0.3
baz=264
M63A Gales Ferry 117.21 54 P PKPdf 13 17 59.1 -0.6
baz=264
I61A Oroboro, Fairl 117.35 51 P PKPdf 13 17 59.8 -0.1
baz=265
J62A Henniker 117.57 52 P PKPdf 13 18 00.1 -0.2
baz=265,SNR=5.6
LBNH Lisbon 117.58 51 P PKPdf 13 17 59.9 -0.4
baz=265
L63A North Scituate 117.58 53 P PKPdf 13 17 59.9 -0.5
baz=264
H61A Lyndonville 117.61 50 P PKPdf 13 18 00.2 -0.2
baz=265
BRYW Bryant College 117.64 53 PKPdf 13 17 59.7 -0.8
HRV Adam Dziewonsk 117.69 53 P PKPdf 13 18 00.2 -0.3
baz=264
F60A Warwick 117.70 49 P PKPdf 13 17 59.9 -0.6
baz=266,SNR=6.4
K63A Dunstable 117.73 52 P PKPdf 13 18 00.2 -0.4
baz=265
D59A Saint-Raymond 117.85 48 P PKPdf 13 18 00.5 -0.3
baz=267
M64A Tiverton 117.85 54 P PKPdf 13 18 00.8 -0.1
baz=264
G61A St-Isidore-de- 117.95 49 P PKPdf 13 18 00.7 -0.3
baz=266
I62A Tamworth 117.97 51 P PKPdf 13 18 00.8 -0.3
baz=265
E60A Ste Agathe de 118.08 48 P PKPdf 13 18 00.7 -0.4
baz=267,SNR=7.2
J63A Strafford 118.11 52 P PKPdf 13 18 01.1 -0.2
baz=265
BRZS Berezniki 118.13 316 *i* PKP PKPdf 13 18 00.3 -1.0
comp=Z,15nm,0.6s,baz=316
BRZS Berezniki 118.13 316 *i* PKIKP PKPdf 13 18 00.2 -1.0
BRZS pmax pmax
comp=Z,15nm,0.6s
H62A Milan 118.16 50 P PKiKP 13 18 01.5 0.0
baz=266,SNR=5.1
H62A Milan 118.16 50 PKPdf 13 18 01.4 -0.1
L64A Middleborough 118.16 53 P PKPdf 13 18 01.2 -0.3
baz=265
F61A St Evariste 118.37 49 P PKPdf 13 18 01.8 0.0
baz=267
D60A Saint Jean D'O 118.47 48 P PKPdf 13 18 01.2 -0.7
baz=267
I63A Otisfield 118.53 51 P PKPdf 13 18 02.0 -0.1
baz=266,SNR=6.7
I63A Otisfield 118.53 51 PKPdf PKPdf 13 18 01.8 -0.3
G62A West of Eustis 118.64 50 P PKPdf 13 18 02.0 -0.4
baz=267,SNR=7.6
G62A West of Eustis 118.64 50 PKPdf PKPdf 13 18 01.9 -0.5
DZA Taraz 118.66 308 *i* PKP PKPdf 13 18 02.0 -0.5
baz=308
DZA Taraz 118.66 308 *i* PKIKP PKPdf 13 18 02.0 -0.5
E61A Lac Etchemin 118.74 48 P PKPdf 13 18 02.4 -0.1
baz=267,SNR=10
OPO Ambohidratompo 118.91 232 PKP PKiKP 13 18 04.9 +0.9
comp=Z,17nm,0.7s,baz=248,slow=0.6,SNR=25
D61A St Aubert, Com 118.98 47 P PKPdf 13 18 02.8 -0.1
baz=268
GAR Garm 119.06 303 PKPdf PKPdf 13 18 03.0 -0.5
F62A Pittston Farm, 119.08 49 P PKPdf 13 18 02.9 -0.3
baz=267
F62A Pittston Farm, 119.08 49 PKPdf 13 18 02.9 -0.3
I64A Boothbay 119.20 51 P PKPdf 13 18 03.2 -0.2
baz=267
KK31 Karatay Array 119.28 308 PKIKP PKPdf 13 18 03.0 -0.7
KK31 Karatay Array 119.28 308 PKPdf PKPdf 13 18 03.0 -0.7
KKAR Karatay Array 119.28 308 PKIKP PKPdf 13 18 03.0 -0.7
KKAR Karatay Array 119.28 308 PKPdf PKPdf 13 18 03.0 -0.7
KKAR Karatay Array 119.28 308 PKPdf PKPdf 13 18 03.0 -0.7
G63A Kingsbury 119.28 50 P PKPdf 13 18 03.0 -0.6
baz=267,SNR=6.2
BDFB Brasilia 119.32 124 PKP PKPdf 13 18 04.2 -0.5
comp=Z,10.0nm,0.7s,baz=192,slow=4.8,SNR=10
BDFB PKKPbc PKKPbc 13 28 19.0 -0.1
comp=Z,3.9nm,0.7s,baz=243,slow=7.8,SNR=3.9
E62A Clayton Lake 119.42 48 P PKPdf 13 18 03.2 -0.6
baz=268,SNR=7.9
E62A Clayton Lake 119.42 48 PKPdf 13 18 03.2 -0.6
PKME Peaks-Kenny Pk 119.52 50 P PKPdf 13 18 03.8 -0.2
baz=268,SNR=8.4
PKME Peaks-Kenny Pk 119.52 50 PKPdf 13 18 03.8 -0.2
KBL Kabul 119.53 298 PKiKP PKiKP 13 18 05.0 +0.3
SNR=16
KBL Kabul 119.53 298 PKIKP PKPdf 13 18 04.6 -0.1
KBL Kabul 119.53 298 PKPdf 13 18 04.6 -0.1
H64A Troy 119.54 50 P PKPdf 13 18 03.5 -0.5
baz=267,SNR=7.3
BVAR Borovoye Array 119.56 319 PKP PKPdf 13 18 03.3 -0.5
comp=Z,22nm,0.5s,baz=164,slow=5.5,SNR=117
IUG Iuzhnay 119.56 307 *i* PKP PKiKP 13 18 04.6 +0.1
comp=Z,14nm,0.5s,baz=307
IUG Iuzhnay 119.56 307 *i* PKIKP PKiKP 13 18 04.5 +0.1
IUG pmax pmax
comp=Z,14nm,0.5s
F63A Nahmakanta, Br 119.67 49 P PKPdf 13 18 04.0 -0.4
baz=268,SNR=6.0
F63A Nahmakanta, Br 119.67 49 PKPdf PKPdf 13 18 04.0 -0.4
D62A Allapoint, All 119.76 48 P PKPdf 13 18 03.6 -0.8
baz=269,SNR=8.1
D62A Allapoint, All 119.76 48 PKPdf PKPdf 13 18 03.4 -1.0
G64A Maxfield 119.90 50 P PKPdf 13 18 04.2 -0.5
baz=268,SNR=12
CHGR Chuyangaron 119.93 303 PKPdf PKPdf 13 18 05.0 -0.2
E63A Oxbow 120.17 48 P PKPdf 13 18 04.6 -0.7
baz=269,SNR=5.2
E63A Oxbow 120.17 48 PKPdf PKPdf 13 18 04.4 -0.8
F64A Sherman 120.21 49 P PKPdf 13 18 04.7 -0.6
baz=269,SNR=5.7
H65A Eastbrook 120.24 50 P PKPdf 13 18 04.8 -0.6
baz=268
D63A Stockholm 120.40 48 P PKPdf 13 18 04.9 -0.7
baz=269,SNR=6.7
PQI Presque Isle 120.46 48 PKPdf 13 18 04.8 -0.9
E64A Bridgewater 120.58 48 P PKPdf 13 18 05.4 -0.7
baz=269,SNR=6.2
G65A Princeton 120.74 50 P PKPdf 13 18 06.0 -0.3
baz=269,SNR=7.0
G65A Princeton 120.74 50 PKPdf 13 18 05.8 -0.6
H66A Whiting 120.91 50 P PKPdf 13 18 06.4 -0.3
baz=269
SCHQ Schefferville 120.93 38 PKP PKPdf 13 18 05.8 -0.7
comp=Z,7.8nm,0.8s,baz=359,slow=4.3,SNR=6.4
SCHQ PKKPbc PKKPbc 13 28 11.5 -1.9
comp=Z,3.0nm,0.5s,baz=54,slow=3.0,SNR=6.5
GGN Saint George 121.25 50 PKPdf PKPdf 13 18 06.5 -0.8
BATG Bathurst New B 121.80 47 PKPdf 13 18 07.6 -0.7
SUR Sutherland 122.27 200 PKP PKiKP 13 18 10.8 +0.4
comp=Z,47nm,0.8s,baz=171,slow=2.6,SNR=30
SUR Sutherland 122.27 200 PKPdf 13 18 10.2 +0.1
LMN Caledonia Moun 122.68 49 PKPdf 13 18 09.4 -0.7
HAL Halifax 123.56 50 PKIKP PKPdf 13 18 11.5 -0.3
HAL Halifax 123.56 50 PKPdf PKPdf 13 18 11.5 -0.3
SPA0 Spitsbergen Ar 123.57 356 PKPdf PKPdf 13 18 10.4 -0.6
SPA0 Spitsbergen Ar 123.57 356 *e*PKPdf PKPdf 13 18 10.7 -0.2
SPITS Spitsbergen Ar 123.57 356 PKP PKPdf 13 18 11.0 +0.1
comp=Z,48nm,0.7s,baz=140,slow=9.3,SNR=22
ILULI Ilulissat 123.89 20 PKIKP PKPdf 13 18 10.8 -0.9
ILULI Ilulissat 123.89 20 PKPdf 13 18 10.8 -0.9
BOSA Boshof 124.04 206 PKP PKiKP 13 18 14.1 +0.3
comp=Z,17nm,0.8s,baz=118,slow=2.2,SNR=25
BOSA PKKPbc PKKPbc 13 28 01.1 -1.2
comp=Z,4.8nm,0.7s,baz=329,slow=6.2,SNR=7.1
BOSA Boshof 124.04 206 PKPdf PKPdf 13 18 13.3 -0.2
SVE Sverdlovsk 124.67 325 *e*PKIKP PKPdf 13 18 13.7 +0.2
SVE pmax pmax
comp=Z,50nm,0.9s
GBN Guysborough 125.01 49 PKPdf PKPdf 13 18 14.5 0.0
SFJD Kangerlussuaq 125.12 22 PKP PKPdf 13 18 13.8 -0.2
comp=Z,12nm,0.6s,baz=190,slow=3.4,SNR=6.7
SUMG Summit 125.22 13 *i* P PKPdf 13 18 14.7 0.0
comp=Z,146nm,1.1s
SUMG Summit 125.22 13 *i* PKIKP PKPdf 13 18 14.7 0.0
SUMG pmax pmax
comp=Z,150nm,1.1s
SUMG Summit 125.22 13 PKPdf 13 18 14.6 0.0

ARU Arti 125.88 324 PKP PKPdf 13 18 16.1 +0.2
comp=Z,20nm,0.6s,baz=37,slow=0.7,SNR=47
ARU PKPbc **PKKPbc** 13 27 55.3 +0.8
comp=Z,2.9nm,0.6s,baz=240,slow=1.9,SNR=14
ARU Arti 125.88 324 *i* PKIKP **PKPdf 13 18 15.4 -0.4**
ARU 13 20 14.1
ARU 13 24 30.1
ARU Arti 125.88 324 PKPdf 13 18 15.5 -0.4
ARU **PKKPbc** 13 27 54.3 -0.1
ABKAR Akbulak array 126.42 315 PKPdf **PKPdf 13 18 16.4 -0.7**
WSAR Wadi Sarin 126.74 283 PKP **PKPdf 13 18 18.0 -0.5**
comp=Z,21nm,1.1s,baz=163,slow=1.2,SNR=5.7
MHTO MHTO 126.88 280 PKiKP **PKPdf 13 18 18.7 -0.1**
SNR=5.2
DQM DQM 127.03 279 PKiKP **PKiKP 13 18 19.7 0.0**
LBTB Lobatse 127.04 209 PKKPbc PKKPbc 13 27 50.5
comp=Z,0.6nm,0.4s,baz=284,slow=8.6,SNR=3.8
SMDO Samad 127.23 283 PKiKP **PKPdf 13 18 19.9 +0.3**
SNR=5.2
DRLN Deer Lake 127.32 44 PKPdf **PKPdf 13 18 18.2 -0.7**
AKTO Aktyubinsk 127.47 317 PKP **PKPdf 13 18 18.9 -0.2**
comp=Z,18nm,0.6s,baz=87,slow=3.8,SNR=57
GEYT Alibeck 128.57 301 PKP **PKPdf 13 18 21.6 -0.1**
comp=Z,18nm,0.7s,baz=222,slow=1.8,SNR=29
GEYT PP **PP 13 20 42.2 +5.2**
comp=Z,3.6nm,0.8s,baz=226,slow=9.9,SNR=4.7
GEYT Alibeck 128.57 301 PKPdf **PKPdf 13 18 21.2 -0.4**
GYA0B ALIBECK ARRAY 128.57 301 PKPdf **PKPdf 13 18 21.7 +0.1**
SOHO SOHO 128.79 284 PKiKP **PKPdf 13 18 22.4 0.0**
UOSS Minazif 129.22 285 PKiKP **PKPdf 13 18 23.4 +0.2**
UOSS Minazif 129.22 285 PKPdf **PKPdf 13 18 22.8 -0.4**
HATD Hatta, Dubai 129.26 284 PKiKP **PKPdf 13 18 23.6 +0.2**
ASHO Ashiyiah 129.31 284 PKPdf **PKPdf 13 18 23.3 -0.1**
HAMF Hammerfest 129.76 350 *e*PKPdf **PKPdf 13 18 22.3 -0.6**
ARCES ARCES Array B 130.43 349 PKhKP PKPpre 13 18 12.8
comp=Z,1.7nm,0.7s,baz=53,slow=0.6,SNR=8.1
ARCES PKP **PKPdf 13 18 23.9 -0.2**
comp=Z,28nm,0.6s,baz=20,slow=1.2,SNR=53
ARCES SKPbc **SKPab 13 20 55.3 +1.1**
comp=Z,29nm,0.9s,baz=18,slow=5.1,SNR=18
ARCES PKKP **PKKPdf 13 28 24.0 -3.3**
comp=Z,1.4nm,0.6s,baz=252,slow=1.2,SNR=7.2
ARCES ARCESS Array B 130.43 349 PKPdf **PKPdf 13 18 23.5 -0.7**
ARCES SKPbc **SKPab 13 20 54.8 +0.6**
ARE0 ARCESS Array S 130.43 349 PKPdf **PKPdf 13 18 23.6 -0.5**
ARE0 ARCESS Array S 130.43 349 *e*PKPdf **PKPdf 13 18 23.8 -0.4**
TRO Tromso 131.38 352 *e*PKPdf **PKPdf 13 18 25.2 -0.7**
KLMR Klimovskoe 132.95 335 *e*PKIKP **PKPdf 13 18 28.5 -0.6**
KLMR *e* 13 21 02.3
KLMR pmax pmax
comp=Z,24nm,0.7s
KLMR Klimovskoe 132.95 335 *e*PKPdf **PKPdf 13 18 28.5 -0.6**
KLMR AMP 13 18 30.4
comp=Z,24nm,0.7s
KLMR *e*PP **PP 13 21 02.3 -1.4**
STEI Steigen 133.46 352 *e*PKPdf **PKPdf 13 18 29.8 -0.1**
LSZ Lusaka 133.85 218 PKiKP **PKPdf 13 18 31.2 -1.2**
LSZ Lusaka 133.85 218 PKPdf **PKPdf 13 18 31.2 -1.2**
FAUS Fauske 133.97 352 *e*PKPdf **PKPdf 13 18 30.1 -0.8**
RCBR Riachuelo 134.69 124 SKKPbc SKKPbc 13 30 17.3 +0.8
comp=Z,11nm,0.9s,baz=79,slow=5.2,SNR=3.8
TSUM Tsumeb 135.51 203 PKhKP PKPpre 13 18 25.7
comp=Z,2.1nm,0.4s,baz=266,slow=15,SNR=3.9
TSUM PKP **PKPdf 13 18 35.3 -0.1**
comp=Z,14nm,0.8s,baz=140,slow=2.9,SNR=15
TSUM SKPbc **SKPbc 13 21 14.8 +2.3**
comp=Z,9.3nm,1.1s,baz=129,slow=8.5,SNR=4.6
TSUM Tsumeb 135.51 203 PKPdf **PKPdf 13 18 34.9 -0.5**
AKT Akhty 136.20 307 *e*PKIKP **PKPdf 13 18 36.0 0.0**
AKT *e* 13 21 23.9
AKT pmax pmax
comp=Z,28nm,0.7s
MOS Moscow 136.80 330 *e*PKIKP **PKPdf 13 18 34.5 -1.9**
MOS pmax pmax
comp=Z,50nm,0.7s
VRH Novokhopyorsk 137.03 323 *e*PKIKP **PKPdf 13 18 36.9 -0.1**
VRH pmax pmax
comp=Z,50nm,0.6s
FIA1 FINESS Array S 137.09 342 PKPdf **PKPdf 13 18 36.6 -0.2**
FINES FINESS Array B 137.09 342 PKhKP PKPpre 13 18 24.8
comp=Z,5.2nm,0.6s,baz=41,slow=4.1,SNR=14
FINES PKP **PKPdf 13 18 36.5 -0.3**
comp=Z,20nm,0.6s,baz=52,slow=3.1,SNR=22
FINES SKPbc **SKPbc 13 21 16.6 +1.1**
comp=Z,6.0nm,0.7s,baz=85,slow=4.0,SNR=8.0
FINES SKKPbc **SKKPbc 13 30 07.9 -3.0**
comp=Z,1.0nm,0.7s,baz=222,slow=2.6,SNR=3.5
FINES FINESS Array B 137.09 342 SKPdf **SKPdf 13 21 16.3 -0.5**
GROC Groznyy 137.22 310 *e*PKIKP **PKPdf 13 18 37.4 -0.2**
GROC pmax pmax
comp=Z,80nm,1.6s
KMBO Kilima Mbogo 137.29 242 PKhKP PKPpre 13 18 32.5
comp=Z,1.5nm,0.3s,baz=152,slow=2.4,SNR=6.8
KMBO PKP **PKPdf 13 18 39.4 +0.3**
comp=Z,9.1nm,0.7s,baz=338,slow=2.3,SNR=6.1
KMBO SKPbc **SKiKP 13 21 21.9 -0.3**
comp=Z,3.6nm,0.5s,baz=53,slow=2.5,SNR=6.2
OBN Obninsk 137.65 330⇑*e*PKIKP **PKPdf 13 18 36.9 -1.1**
OBN pmax pmax
comp=Z,48nm,1.3s
OBN pmax pmax
comp=Z,49nm,0.9s
LPSR Galich'ya Gora 137.87 326 *e*PKIKP **PKPdf 13 18 38.7 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ATD Arta Tunnel 138.25 262 PKP **PKPdf 13 18 40.2 -0.2**
comp=Z,3.9nm,0.3s,baz=186,slow=2.5,SNR=6.5
ATD SKPbc **SKiKP 13 21 23.9 0.0**
comp=Z,8.1nm,0.9s,baz=270,slow=7.2,SNR=4.7
VSR Storozhevoye 138.44 324 *e*PKIKP **PKPdf 13 18 37.8 -1.8**
VSR pmax pmax
comp=Z,50nm,1.4s
VORD Divnogorie 138.50 323 *e*PKIKP **PKPdf 13 18 38.5 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.7s
ZEI Tsey 138.67 310 *i* PKIKP **PKPdf 13 18 39.6 -1.0**
ZEI pmax pmax
comp=Z,18nm,1.0s
KBZ Khabaz 139.10 312 PKhKP PKPpre 13 18 34.7
comp=Z,3.0nm,0.8s,baz=133,slow=4.0,SNR=7.1
KBZ PKP **PKPdf 13 18 41.6 +0.6**
comp=Z,5.6nm,0.8s,baz=156,slow=3.8,SNR=8.1
KVAR Kislovodsk Arr 139.17 312 PKP **PKPdf 13 18 41.9 +0.5**
comp=Z,6.6nm,0.8s,baz=262,slow=19,SNR=1.9
KIV Kislovodsk 139.18 312 *i* PKIKP **PKiKP 13 18 42.9 -0.9**
KIV pmax pmax
comp=Z,54nm,1.1s
VSU Vasula 139.26 339 *e*P PKPdf 13 18 32.4 -8.5
AKH Akhalkalaki 139.32 308 ⇓P **PKPdf 13 18 35.0 -6.8**
AKH Akhalkalaki 139.32 308 PKIKP **PKPdf 13 18 41.7 -0.1**
AKH Akhalkalaki 139.32 308 PKPdf **PKPdf 13 18 41.6 -0.1**
MOL Molde 139.47 355 *e*PKPdf **PKPdf 13 18 34.0 -7.1**
DOMB Dombas 139.85 354 *e*PKPdf **PKPdf 13 18 35.5 -6.4**
AKN Aaknes 139.90 355 *e*PKPdf **PKPdf 13 18 35.9 -6.0**
GEVA Gevas 140.34 304 PKPpre 13 18 36.8
NC303 NORSAR Array S 140.38 352 PKPpre 13 18 35.9
NC303 PKPdf **PKiKP 13 18 44.9 -0.7**
AKDM Akdamar-Van 140.39 304 *e*P **PKPdf 13 18 43.9 +0.1**
NC204 NORSAR Array S 140.41 352 PKPpre 13 18 36.3
NC405 NORSAR Array S 140.44 351 PKPpre 13 18 36.3
ARTV Artvin 140.52 308 PKPpre 13 18 37.0
ARTV PKPdf **PKPdf 13 18 44.8 +0.7**
NB201 NORSAR Array S 140.56 352 **PKPdf 13 18 36.8 -6.4**
NB2 NORSAR Subarra 140.58 352 PKP **PKPdf 13 18 37.1 -6.2**
comp=Z,8.2nm,0.7s,baz=10,slow=3.2
NB2 NORSAR Subarra 140.58 352 PKPab **PKPdf 13 18 37.1 -6.2**
comp=Z,8.2nm,0.7s,baz=10,slow=3.2
NOA NORSAR Array B 140.58 352 PKhKP **PKPdf 13 18 37.2 -6.1**
comp=Z,3.6nm,0.6s,baz=0.0,slow=2.7,SNR=44
NOA SKPbc **SKiKP 13 21 26.5 -0.7**
comp=Z,9.1nm,0.9s,baz=14,slow=4.3,SNR=9.4
FOO Floro 140.61 357 *e*PKPdf **PKPdf 13 18 37.9 -5.3**
NBO00 NORSAR Array S 140.65 352 **PKPdf 13 18 37.0 -6.4**
NAO01 NORSAR Array S 140.81 352 **PKPdf 13 18 37.3 -6.3**
NC602 NORSAR Array S 140.83 351 **PKPdf 13 18 37.6 -6.0**
SUE Sulen 141.16 357 *e*PKPdf **PKPdf 13 18 39.6 -4.6**
SKAR Skarslia 141.27 354 *e*PKPdf **PKPdf 13 18 39.6 -4.9**
SLIT Slitere, Latvi 141.33 341 *e*P **PKPdf 13 18 39.4 -5.2**
LODK Lodwar 141.37 246 PKPdf **PKPdf 13 18 42.6 -3.6**
SNR=8.8
IZAR Zarasai 141.53 337 *e*P **PKPdf 13 18 41.9 -3.2**
IDID Didziasalis 141.68 336 *e*P **PKPdf 13 18 41.7 -3.6**
ISAL Salakas 141.71 337 *e*P **PKPdf 13 18 42.2 -3.2**
BER Bergen 141.80 356 *e*PKPdf **PKPdf 13 18 41.8 -3.6**

IIGN Ignalina 141.84 336 *e*P **PKPdf 13 18 42.0 -3.7**
KOPT Kop Dagi 141.88 307 PKPpre **PKPdf 13 18 43.9 -2.7**
NACGM Naroch 141.97 335 *e* **PKPdf 13 18 41.0 -4.9**
BNGB Bingl 142.00 305 *e*P **PKPdf 13 18 43.9 -2.7**
KONO Kongsberg 142.13 353 **PKPdf 13 18 42.0 -4.0**
KONO Kongsberg 142.13 353 *e*PKPdf **PKPdf 13 18 42.3 -3.7**
ODD1 Odda 142.18 355 *e* **PKPdf 13 18 46.3 +0.2**
MARD Mardin 142.30 303 PKPpre **PKPdf 13 18 44.4 -2.8**
ANN Anapa 142.39 316 *i* PKHKP **PKPdf 13 18 43.7 -3.2**
ANN pmax pmax
comp=Z,95nm,0.8s
DYBB Diyarbakir 142.66 304 *e*P **PKPdf 13 18 46.1 -1.6**
BLS5 Blasjo 142.67 355 *e*PKPdf **PKPdf 13 18 44.8 -2.2**
MBAR Mbarara 142.78 236 PKPdf **PKPdf 13 18 47.4 -1.3**
MBAR Mbarara 142.78 236 PKIKP **PKPdf 13 18 47.5 -1.3**
MBAR Mbarara 142.78 236 PKPdf **PKPdf 13 18 47.5 -1.3**
PBUR Paburge 142.78 340 *e*P **PKPdf 13 18 45.3 -2.0**
KMY Karmoy 142.97 356 *e*PKPbc **PKPdf 13 18 45.4 -2.0**
SVRC Sivrice-ELAZID 143.20 305 *e*P PKPbc 13 18 47.6 +0.3
HOMB Homborsund 143.61 353 *e*PKPab PKPbc 13 18 47.6 +0.1
ARPR Arapgir-MALATY 143.74 306 *e*P **PKPdf 13 18 50.5 +0.8**
LEWI Lewis, Hebride 143.80 7 *e*P PKPbc 13 18 47.9 -0.4
AKASG Malin Array Be 143.88 329 PKP PKPbc 13 18 48.1 -0.6
comp=Z,53nm,0.5s,baz=41,slow=4.2,SNR=148
AKASG SKPbc **SKiKP 13 21 34.7 +0.4**
comp=Z,13nm,0.9s,baz=46,slow=2.7,SNR=7.3
AKASG Malin Array Be 143.88 329 PKPbc 13 18 48.0 -0.7
AKBB Malin Array Si 143.88 329 PKIKP PKPbc 13 18 47.9 -0.8
AKBB Malin Array Si 143.88 329 PKPbc 13 18 47.9 -0.8
MALT Malatya 143.88 305 *e*P **PKPdf 13 18 50.2 +0.3**
SUW Suwalki 144.00 337 *e*PKP PKPbc 13 18 48.9 0.0
SUW Suwalki 144.00 337 PKIKP PKPab 13 18 49.1 -0.1
SUW Suwalki 144.00 337 PKPbc 13 18 49.1 +0.1
RSDY Resadiye-TOKAT 144.09 309 *e*P **PKPdf 13 18 51.0 +0.9**
SIM Simferopol' 144.44 318 *c i* PKIKP **PKPdf 13 18 50.3 -0.2**
SIM pmax pmax
comp=Z,183nm,0.5s
SVSK Karacayir 144.48 308 *e*P **PKPab 13 18 51.8 +0.3**
DARE Darende-Malaty 144.53 306 *e*P **PKPab 13 18 52.0 +0.1**
KAC Achnashellach 144.59 5 *e*P PKPbc 13 18 50.8 +0.1
TOKT Tokat 144.68 309 *e*P **PKPab 13 18 52.4 0.0**
KPL Plockton 144.71 6 *e*P **PKPdf 13 18 50.2 -0.3**
KVT Kavak 144.77 310 *e*P **PKPab 13 18 53.1 +0.4**
DIKM Dikmen 145.10 312 ⇑P **PKPdf 13 18 50.8 -0.9**
GAZ Gaziantep 145.11 303 *e*P **PKPab 13 18 54.1 -0.1**
GAZ Gaziantep 145.11 303 PKPdf **PKPdf 13 18 51.8 -0.2**
KMRS Kahramanmaras 145.26 304 *e*P **PKPab 13 18 54.1 -0.6**
MUD Monsted U'grnd 145.30 352⇑*i*P **PKPbc 13 18 52.8 0.0**
comp=Z,88nm,0.8s
MUD Monsted U'grnd 145.30 352⇑*i*PKIKP **PKPbc 13 18 52.8 0.0**
MUD pmax pmax
comp=Z,88nm,0.8s
SARI SarD1z-Kayseri 145.37 306 *e*P **PKPbc 13 18 54.4 +0.5**
COP Copenhagen 145.50 348 *i* P **PKPbc 13 18 52.9 -0.5**
comp=Z,69nm,0.6s
COP Copenhagen 145.50 348 *i* PKIKP **PKPbc 13 18 52.9 -0.5**
COP pmax pmax
comp=Z,69nm,0.6s
H10S3 ASCENSION HYDR 145.55 153 PKPbc **PKPbc 13 18 54.4 -0.1**
H10S2 ASCENSION HYDR 145.55 153 PKPbc **PKPab 13 18 55.5 -0.5**
BNN Bunyan 145.66 307 *e*P **PKPbc 13 18 54.7 0.0**
YOZ Yozgat 145.79 308 *e*P **PKPbc 13 18 54.1 -0.9**
LAWE Loch Awe, Argy 145.80 6 *e*P **PKPdf 13 18 52.2 -0.3**
BZK Bozkurt 145.84 313 ⇑P **PKPdf 13 18 51.4 -1.6**
BZK Bozkurt 145.84 313 *e*P **PKPbc 13 18 55.7 +0.9**
EAB Aberfoyle 145.97 5 *e*P **PKPdf 13 18 52.7 0.0**
SORM Soroca 145.97 326 ⇓P **PKPdf 13 18 52.3 -0.7**
SORM Soroca 145.97 326 ⇓PKIKP **PKPdf 13 18 52.3 -0.7**
KOZT Kozan 146.09 305 *e*P **PKPbc 13 18 56.2 +0.5**
CORM Corum 146.10 310 *e*P **PKPab 13 18 57.1 -1.0**
TAHT Tatacokopru-Hat 146.11 302 *e*P **PKPbc 13 18 56.8 +1.0**
PURM Purcari 146.13 323 ⇑P **PKPdf 13 18 53.1 -0.2**
YAYL Yayladag 146.25 302 *e*P **PKPbc 13 18 56.8 +0.4**
CEYT Ceyhan 146.28 304 *e*P **PKiKP 13 18 57.4 -1.1**
PGBU Glenifferbraes 146.33 5 *e*P **PKPdf 13 18 53.4 0.0**
ESY Stoneypath 146.35 3 *e*P **PKPdf 13 18 53.0 -0.4**
ILGA Ilgaz 146.41 312 PKPbc **PKPbc 13 18 56.1 -0.7**
YURE YUREGIR 146.42 303 *e*P **PKiKP 13 18 57.8 -1.0**
KIS Kishinev 146.43 324 *e*PKP **PKPdf 13 18 55.0 +1.2**
KIS Kishinev 146.43 324 *e*PKIKP **PKPdf 13 18 55.0 +1.2**
KIS *i* 13 21 06.0
MILM Milestii Mici 146.49 324 ⇑P **PKPdf 13 18 53.2 -0.7**
GKP Gorka Klasztor 146.56 342 *e*PKP **PKPbc 13 18 56.8 +0.4**
ASCN Ascension 146.60 152 **PKiKP 13 18 59.6 -0.2**
BEL Belsk 146.61 337 *e*PKP **PKPbc 13 18 57.3 +0.7**
H10N3 ASCENSION HYDR 146.62 152 PKPbc **PKiKP 13 18 58.7 -0.7**
H10N1 ASCENSION HYDR 146.62 152 PKPbc **PKiKP 13 18 59.2 -0.3**
CANT Cankiri 146.65 311 *e*P **PKPbc 13 18 57.3 +0.1**
CMRD Camardi-Nigde 146.67 305 *e*P **PKPbc 13 18 58.2 +0.8**
KARA Karaisali 146.74 304 *e*P **PKPbc 13 18 58.1 +0.6**
KURC Kurucasile-Bar 146.74 313 *e*P **PKPbc 13 18 57.0 -0.3**
LVV L'vov 146.88 332 *e*PKP2 **PKPbc 13 18 57.6 +0.2**
CLGH Cloghs, Cushen 146.89 7 *e*P **PKPdf 13 18 54.2 -0.1**
ESK Eskdalemuir 146.91 4 *e*P **PKPdf 13 18 54.1 -0.2**
ESK Eskdalemuir 146.91 4 PKIKP **PKPbc 13 18 57.0 -0.4**
ESK Eskdalemuir 146.91 4 PKPdf **PKPdf 13 18 54.2 -0.2**
ESK PKPbc **PKPbc 13 18 57.0 -0.4**
SKMB Sankelmark Bun 146.94 351 *e*PKPbc **PKPbc 13 18 58.3 +0.9**
baz=18,slow=2.3
BR131 Keskin Array S 146.97 309 PKIKP **PKPdf 13 18 54.8 -0.4**
BR131 Keskin Array S 146.97 309 PKPdf **PKPdf 13 18 54.8 -0.4**
BR131 PKPbc **PKPbc 13 18 58.0 -0.2**
BRTR Keskin Array B 146.97 309 PKPbc **PKPbc 13 18 58.2 0.0**
comp=Z,40nm,0.7s,baz=138,slow=4.1,SNR=89
BRTR pPKPbc **pPKPdf 13 21 09.3 -0.7**
comp=Z,4.7nm,1.1s,baz=125,slow=7.6,SNR=3.2
BRTR Keskin Array B 146.97 309 *e*P **PKPbc 13 18 57.8 -0.4**
BRTR Keskin Array B 146.97 309 PKP2 **PKPbc 13 18 58.1 -0.2**
BRTR Keskin Array B 146.97 309 PKPdf **PKPdf 13 18 54.6 -0.6**
BRTR PKPbc **PKPbc 13 18 58.1 -0.2**
IAS Iasi 146.98 325 ⇑P **PKPdf 13 18 54.6 -0.1**
IAS Iasi 146.98 325 ⇑PKIKP **PKPdf 13 18 54.6 -0.1**
GULA Gulagac 147.02 307 *e*P **PKPbc 13 18 58.1 -0.2**
NEWG New Galloway 147.04 5 *e*P **PKPdf 13 18 54.5 -0.1**
SHBL Chebaa 147.11 297 *e*P **PKiKP 13 18 59.9 -0.6**
YAYX Yaylak 147.13 308 *e*P **PKPbc 13 18 58.1 -0.5**
VASR Vaslui 147.21 324 ⇑P **PKPdf 13 18 55.2 +0.1**
GAL1 Galloway 147.25 6 *e*P **PKPdf 13 18 55.3 +0.4**
MERS Mersin 147.26 304 *e*P **PKPbc 13 18 59.4 +0.4**
AFSR Afar-Bala (An 147.49 309 *e*P **PKPbc 13 18 59.9 +0.4**
TLCR 147.51 321 ⇓P **PKPdf 13 18 56.4 +0.8**
TLCR 147.51 321 ⇓PKIKP **PKPdf 13 18 56.4 +0.8**
BIR Birlad 147.53 324 ⇑P **PKPdf 13 18 55.6 -0.1**
BIR Birlad 147.53 324 ⇑PKIKP **PKPdf 13 18 55.6 -0.1**
LOD Lodumlu 147.53 310 *e*P **PKPbc 13 18 59.9 +0.3**
MMLI Mount Malkishu 147.53 296 *e*P **PKiKP 13 19 01.2 -0.1**
BR231 Keskin MP Arra 147.54 310 **PKPbc 13 18 59.6 0.0**
BSEG Bad Segeberg 147.55 349 *e*PKPdf **PKPdf 13 18 55.8 +0.4**
baz=19,slow=1.5
BSEG *e*PKPbc **PKPbc 13 18 59.6 +0.6**
baz=18,slow=2.3
BSEG *e*PKPab **PKPab 13 19 03.6 +0.3**
baz=19,slow=4.2
PRAR RASCA 147.57 327 ⇓P **PKPdf 13 18 55.7 0.0**
KWP Kalwaria Pacla 147.59 333 *e*PKP **PKPbc 13 18 59.7 +0.4**
SULT Sultanhani-AKS 147.60 307 *e*P **PKPbc 13 18 59.9 +0.1**
VARL Varlezi 147.63 323 ⇓P **PKPdf 13 18 55.5 -0.3**
KIZK Mersin 147.66 303 *e*P **PKPbc 13 19 00.3 +0.4**
HLG Helgoland 147.68 352 *e*PKPbc **PKiKP 13 19 00.1 -0.7**
baz=18,slow=2.3
HLG *e*PKPab **PKPab 13 19 04.5 +0.7**
baz=19,slow=4.2
KULU Kulu 147.68 309 *e*P **PKPbc 13 19 00.5 +0.5**
JURR Jurilovca 147.71 321 ⇓P **PKPdf 13 18 56.9 +0.9**
GHRR 147.78 324 ⇑P **PKPdf 13 18 56.9 +0.5**
IOMK Kirk Michael 147.86 6 *e*P **PKPdf 13 18 55.3 -0.6**
SILI Silifke-Mersin 147.87 303 *e*P **PKPbc 13 19 01.0 +0.6**
BUR08 Bucovina Ar. S 147.89 328 **PKPdf 13 18 56.1 -0.3**
BUR08 PKPbc **PKiKP 13 19 01.0 -0.6**
BURAR Bucovina Array 147.90 328 ⇑P **PKPdf 13 18 56.5 +0.1**
BURAR Bucovina Array 147.90 328 ⇑PKHKP **PKPdf 13 18 56.5 +0.1**
BURAR Bucovina Array 147.90 328 PKPdf **PKPdf 13 18 55.4 -0.9**
BURAR PKPbc **PKPbc 13 19 00.7 +0.4**
EREN Erenkoy 147.90 302 *e*P **PKiKP 13 19 01.2 -0.6**
TESR Tescani 147.90 325 ⇓P **PKPdf 13 18 55.7 -0.6**
CFR Carcaliu 147.90 322 ⇓P **PKPdf 13 18 56.4 +0.1**
CFR Carcaliu 147.90 322 ⇓PKIKP **PKPdf 13 18 56.4 +0.1**
GDLE Glaisdale, N Y 147.91 1 *e*P **PKPdf 13 18 57.0 +1.0**
CHBY Cihanbeyli 147.93 308 *e*P **PKPbc 13 19 00.2 -0.5**
TOPG Topolog 147.94 321 ⇓P **PKPdf 13 18 55.9 -0.4**
KEBE Keben-Mersin 148.01 304 *e*P **PKPbc 13 19 01.5 +0.6**

IKL Isikli 148.09 303 *e*P **PKPbc 13 19 01.3 +0.3**
H07S1 FLORES T-PHASE 148.09 50 PKPbc **PKPbc 13 19 01.1 +0.2**
ODBI Odobesti 148.16 324 ⇓P **PKPdf 13 18 57.4 +0.8**
TIRR Tirgusor 148.16 321 ⇓P **PKPdf 13 18 56.7 0.0**
TIRR Tirgusor 148.16 321 ⇓PKHKP **PKPdf 13 18 56.7 0.0**
TIRR Tirgusor 148.16 321 **PKPbc 13 19 00.7 -0.1**
HRFI Mount Harif 148.18 291 *e*P **PKiKP 13 19 02.2 -0.4**
RUE Ruedersdorf 148.19 345 *e*P **PKPbc 13 19 00.7 +0.1**
RUE Ruedersdorf 148.19 345 *e*PKPbc **PKPbc 13 19 01.3 +0.6**
baz=18,slow=2.3
TEVE Tevekalti-Mers 148.22 304 *e*P **PKPbc 13 19 02.0 +0.6**
VRI Vrincioaia 148.27 324 ⇑P **PKPdf 13 18 57.1 +0.2**
VRI Vrincioaia 148.27 324 *e*P **PKPbc 13 19 00.7 -0.5**
VRI Vrincioaia 148.27 324 ⇑PKHKP **PKPdf 13 18 57.1 +0.2**
EIL Elat 148.28 291 PKPbc **PKiKP 13 19 02.8 -0.1**
comp=Z,76nm,0.7s,baz=54,slow=1.4,SNR=37
OJC Ojcow 148.29 336 *e*PKP **PKPbc 13 19 01.4 +0.4**
OJC Ojcow 148.29 336 PKIKP **PKPdf 13 18 56.3 -0.5**
OJC Ojcow 148.29 336 **PKPdf 13 18 56.3 -0.5**
OJC PKPbc **PKPbc 13 19 01.3 +0.2**
HARR Harsova 148.31 321 ⇓P **PKPdf 13 18 57.6 +0.6**
HARR Harsova 148.31 321 ⇓PKHKP **PKPdf 13 18 57.6 +0.6**
KOLS Kolonicke sedl 148.31 332 *e*PKIKP **PKPdf 13 18 56.4 -0.5**
KOLS *e* 13 19 07.6
KOLS Kolonicke sedl 148.31 332 *e*PKP **PKPdf 13 18 56.4 -0.5**
KOLS *e* 13 19 01.0
KOLS *e* 13 19 07.6
MFTR Murfatlar 148.31 320 ⇑P **PKPdf 13 18 57.1 +0.2**
PLOR Plostina 148.32 324 ⇓P **PKPdf 13 18 56.8 -0.2**
PLOR Plostina 148.32 324 ⇓PKIKP **PKPdf 13 18 56.8 -0.2**
TLBR Topalu 148.33 321 ⇑P **PKPdf 13 18 57.7 +0.7**
HPK Haverah Park 148.35 2 *e*P **PKPdf 13 18 56.9 +0.2**
MDUB Mudurnu 148.39 312 *e*P **PKPbc 13 19 02.0 +0.2**
MDUB Mudurnu 148.39 312 PKPdf **PKPdf 13 18 56.7 -0.7**
MDUB PKPbc **PKPbc 13 19 01.9 +0.2**
MANR Mangalia 148.42 319 ⇑P **PKPdf 13 18 56.0 -1.2**
CVDA Cernavoda 148.45 321 ⇑P **PKPdf 13 18 57.8 +0.6**
LADK Ladik-KONYA 148.46 307 *e*P **PKPbc 13 19 01.5 -0.5**
BISRR Bisoca 148.48 324 ⇓P **PKPdf 13 18 57.0 -0.3**
UZH Uzhgorod 148.53 332⇓*i*PKHKP **PKPbc 13 19 01.3 -0.3**
KONT Konya--Tatoy 148.55 307 *e*P **PKPbc 13 19 02.0 -0.1**
KIZT Kizilcal 148.56 309 *e*P **PKPbc 13 19 02.6 +0.4**
TEKE Tekeli-Mersin 148.56 303 *e*P **PKPbc 13 19 02.1 0.0**
AUSIV SIVRIHISAR 148.58 310 *e*P **PKPbc 13 19 02.5 +0.3**
SVRH Sivrihisar-ESK 148.59 310 *e*P **PKPbc 13 19 01.9 -0.3**
KZIT Kziot 148.62 293 *e*P **PKiKP 13 19 03.0 -0.5**
OZUR 148.63 325 ⇓P **PKPdf 13 18 58.2 +0.7**
DSB Dublin 148.66 8 PKPdf **PKPdf 13 18 57.0 -0.3**
DSB PKPbc **PKPbc 13 19 01.7 -0.1**
CRVS Cervenica-Dubn 148.68 333 *e*PKHKP **PKPdf 13 18 57.8 +0.3**
CRVS Cervenica-Dubn 148.68 333 *e*PKP **PKPdf 13 18 57.8 +0.3**
CRVS *e* 13 19 02.9
ARCR ARCALIA 148.69 328 ⇓P **PKPdf 13 18 58.6 +1.1**
CSS Mathiatis 148.71 301 *e*P **PKiKP 13 19 03.1 -0.5**
CSS Mathiatis 148.71 301 **PKPbc 13 19 02.5 -0.1**
WPS Cemaes, Angles 148.72 6 *e*P **PKPdf 13 18 57.2 -0.1**
WME Myndd Eilian 148.74 6 *e*P **PKPdf 13 18 56.8 -0.6**
NIE Niedzica 148.75 335 *e*PKP **PKiKP 13 19 03.5 +0.3**
NEHR Nehoiu 148.78 324 ⇓P **PKPdf 13 18 57.7 0.0**
WLF1 Llynfaes 148.84 6 *e*P **PKPdf 13 18 57.1 -0.4**
SAUV Serdivan-Sakar 148.86 313 *e*P **PKPbc 13 19 03.1 +0.4**
SPNC Sapanca-Adapaz 148.90 313 *e*P **PKiKP 13 19 03.6 -0.2**
LBWR Ladybower, Pea 148.90 3 *e*P **PKPdf 13 18 57.9 +0.3**
DOPR Dopca 148.92 325 ⇑P **PKPdf 13 18 59.1 +1.2**
MLR Muntele Rosu 148.93 324 ⇑P **PKPdf 13 18 58.5 +0.4**
MLR Muntele Rosu 148.93 324 ⇓P **PKPdf 13 18 58.6 +0.5**
MLR Muntele Rosu 148.93 324 PKPdf **PKPdf 13 18 58.0 -0.1**
MLR PKPbc **PKPbc 13 19 02.8 -0.2**
CIFT Cifteler, Eski 148.95 310 *e*P **PKPbc 13 19 03.3 +0.2**
KSP Ksiaz 148.96 340 *e*PKP **PKiKP 13 19 03.6 0.0**
SRCK Saricakaya, Es 148.97 312 *e*P **PKPbc 13 19 03.4 +0.4**
NRDL Niedersach Rie 148.97 349 *e*PKPdf **PKPdf 13 18 58.0 +0.3**
baz=19,slow=1.5
NRDL *e*PKPbc **PKiKP 13 19 03.1 -0.3**
baz=18,slow=2.3
NRDL *ep*PKPbc **pPKPab 13 21 19.8 +2.2**
baz=17,slow=2.8
ORH Orhaniye 148.98 313 *i* P **PKPab 13 19 08.6 -1.0**
YLL Llanberis 149.00 5 *e*P **PKPdf 13 18 57.0 -0.8**
LEF Lefka 149.02 302 ⇑P **PKPdf 13 18 57.9 -0.5**
LEF Lefka 149.02 302 *e*P **PKPbc 13 19 03.3 0.0**
LEHL Lehliu 149.08 322 ⇓P **PKPdf 13 18 58.1 -0.1**
SEYD Seydisehir-KON 149.12 306 *e*P **PKiKP 13 19 04.4 -0.1**
GAZI Gazipasa 149.15 304 *e*P **PKPbc 13 19 03.2 -0.4**
SECR 149.15 323 ⇓P **PKPdf 13 18 59.3 +0.9**
BORA Eskisehir 149.16 312 *e*P **PKPbc 13 19 03.6 0.0**
OKC Ostrava-Krasne 149.21 337⇑*e*PKP **PKiKP 13 19 03.7 -0.4**
ASSE Asse, Remlinge 149.21 348 *e*PKPdf **PKPdf 13 18 58.0 -0.1**
baz=19,slow=1.5
ASSE *e*PKPbc **PKiKP 13 19 03.7 -0.2**
baz=18,slow=2.3
OSTC Ostas 149.24 340 *e*PKPDF **PKPdf 13 18 58.9 +0.6**
OSTC ⇑*e*PKP **PKiKP 13 19 04.1 -0.1**
OSTC *ep*PKP **pPKPab 13 21 21.0 +2.2**
CHVC Chvalec 149.26 340⇑*e*PKP **PKiKP 13 19 03.9 -0.3**
HRT Hereke 149.27 314 *e*P **PKPbc 13 19 03.3 -0.5**
LANS Liptovska Anna 149.29 335 *e*PKP **PKPdf 13 18 59.5 +1.0**
LANS *e* 13 19 05.2
LANS *e* 13 19 11.0
BOLV Bolvadin 149.29 309 **PKPbc 13 19 04.0 0.0**
CJR Cluj-Napoca 149.32 328 ⇓P **PKPdf 13 19 00.0 +1.4**
MDB Medias 149.33 327 ⇓P **PKPdf 13 18 59.8 +1.2**
UPC Upice 149.34 340⇑*e*PKP **PKiKP 13 19 04.2 -0.2**
UPC *ep*PKP **pPKPab 13 21 23.5 +4.2**
DPC Dobruska-Polom 149.38 340 *e*PKPDF **PKPdf 13 18 59.6 +1.0**
DPC ⇑*e*PKP **PKiKP 13 19 04.8

CLZ *e*PKPbc **PKiKP** 13 19 04.8 0.0
baz=18,slow=2.3
CLZ *ep*PKPbc **pPKPab** 13 21 19.4 -0.7
baz=17,slow=2.8
ISK Istanbul-Kandi 149.56 315 *e*P **PKPbc** 13 19 04.4 0.0
CWF Charnwood Fore 149.58 2 *e*P **PKPdf** 13 18 58.5 -0.2
BRG Berggiesshubel 149.62 343 *i* PKP **PKPdf** 13 18 58.7 -0.1
comp=Z,22nm,1.2s
BRG Berggiesshubel 149.62 343 *i* PKP **PKiKP** 13 19 04.7 -0.3
comp=Z,218nm,0.7s
BRG *ep*PKP **pPKPbc** 13 21 17.0 -0.5
comp=Z,111nm,2.0s
BRG Berggiesshubel 149.62 343 *i* PKIKP **PKPdf** 13 18 58.7 -0.1
BRG pmax pmax
comp=Z,22nm,1.2s
BRG pmax pmax
comp=Z,218nm,0.7s
BRG pmax pmax
comp=Z,111nm,2.0s
BRG Berggiesshubel 149.62 343 *e*PKPdf **PKPdf** 13 18 58.8 -0.1
baz=19,slow=1.5
BRG *e*PKPbc **PKiKP** 13 19 04.9 0.0
baz=18,slow=2.3
WACR West Acre 149.63 360 *e*P **PKPdf** 13 18 59.2 +0.4
SHUT Suhut-Afyon 149.64 309 *e*P **PKPbc** 13 19 04.9 +0.1
BGKT Bogazkoy 149.69 315 *e*P **PKPbc** 13 19 04.3 -0.4
SGRR Singureni 149.71 322 ⇓P **PKPdf** 13 18 59.6 +0.5
ARR Arges 149.71 325 ⇑P **PKPdf** 13 19 00.1 +0.8
HLM1 Long Mynd 149.72 4 *e*P **PKPdf** 13 18 59.0 0.0
FBE Freiberg 149.73 344 *e*PKPdf **PKPdf** 13 18 59.3 +0.2
baz=19,slow=1.5
FBE *e*PKPbc **PKiKP** 13 19 05.5 +0.4
baz=18,slow=2.3
FBE *e*PKPab **PKPab** 13 19 12.9 +0.5
baz=19,slow=4.2
FBE *ep*PKPbc **pPKPab** 13 21 20.6 -0.2
baz=17,slow=2.8
PVCC Panska Ves 149.75 342 ⇑*e*PKP **PKiKP** 13 19 05.0 -0.2
PVCC *e*PKPAB **PKPab** 13 19 13.5 +1.0
GEMT Gemlik 149.77 313 *e*P **PKPbc** 13 19 04.3 -0.6
RAZG Razgrad 149.80 321 ⇑P **PKPdf** 13 18 59.4 0.0
NEUB Neuenburg 149.85 346 *e*PKPdf **PKPdf** 13 18 59.3 +0.1
baz=19,slow=1.5
NEUB *e*PKPbc **PKiKP** 13 19 05.3 0.0
baz=18,slow=2.3
NEUB *e*PKPab **PKPab** 13 19 13.2 +0.4
baz=19,slow=4.2
CTYL Yalikoy Yolu 149.85 316 *e*P **PKPbc** 13 19 05.1 0.0
GTTG Gottingen 149.90 348 *e*PKPdf **PKPdf** 13 18 59.4 +0.1
baz=19,slow=1.5
GTTG *e*PKPbc **PKiKP** 13 19 05.5 0.0
baz=18,slow=2.3
GTTG *e*PKPab **PKPab** 13 19 13.4 +0.4
baz=19,slow=4.2
ARMT Armutlu 149.93 314 *e*P **PKPbc** 13 19 05.3 0.0
ISP Isparta 149.95 308 *e*P **PKPbc** 13 19 05.2 -0.4
ISP Isparta 149.95 308 **PKPbc** 13 19 04.6 -1.0
BCK Bucak 150.03 307 *e*P **PKPbc** 13 19 04.3 -1.4
TVSB Tavsanli 150.03 311 *e*P **PKiKP** 13 19 06.2 -0.1
VYHS Vyhne 150.06 335 *e*PKIKP **PKPdf** 13 18 59.7 0.0
VYHS *e* 13 19 14.6
VYHS Vyhne 150.06 335 *e*PKP **PKPdf** 13 18 59.7 0.0
VYHS *e* 13 19 05.9
VYHS *e* 13 19 14.6
HUMR Humele 150.07 324 ⇑P **PKPdf** 13 19 00.6 +0.8
PSZ Piszkesteto 150.10 333 ⇑P **PKPdf** 13 19 00.3 +0.5
PSZ Piszkesteto 150.10 333 ⇑PKIKP **PKPdf** 13 19 00.3 +0.5
PSZ Piszkesteto 150.10 333 PKPdf **PKPdf** 13 18 59.4 -0.4
PSZ PKPbc **PKPbc** 13 19 05.5 -0.1
LOT Lotru 150.11 326 ⇓P **PKPdf** 13 19 02.2 +2.2
RSBS Rosebush, Pemb 150.12 7 *e*P **PKPdf** 13 18 59.0 -0.7
VRAC Vranov 150.20 339 ⇓P **PKPdf** 13 19 00.6 +0.7
VRAC Vranov 150.20 339 *e*PKP **PKPdf** 13 18 59.5 -0.3
VRAC *e* 13 19 06.0
VRAC *e* 13 21 23.3
VRAC Vranov 150.20 339 ⇓PKIKP **PKPdf** 13 19 00.6 +0.7
JAVC Velka Javorina 150.20 337 *e*PKP **PKPdf** 13 19 00.7 +0.8
JAVC *e* 13 19 07.0
PRA Prague 150.20 342 ⇑*e*PKP **PKiKP** 13 19 06.4 +0.3
PRA *e*PKPAB **PKPbc** 13 19 09.7 +4.1
PRA Prague 150.20 342 *e*PKIKP **PKiKP** 13 19 06.4 +0.3
MCH1 Michaelchurch 150.23 4 *e*P **PKPdf** 13 18 59.2 -0.5
GOPC GO Pecny, Ondr 150.24 341 *e*PKPDF **PKPdf** 13 19 00.4 +0.5
GOPC ⇑*e*PKP **PKiKP** 13 19 06.1 -0.2
GOPC *e*PKPAB **PKPab** 13 19 15.3 +0.7
GOPC *ep*PKP **pPKPbc** 13 21 18.8 -0.4
GOPC GO Pecny, Ondr 150.24 341 *e*PKIKP **PKPdf** 13 19 00.4 +0.5
GOPC *e* 13 19 15.3
PRU Pruhonice 150.25 342 *e*PKPDF **PKPdf** 13 19 00.6 +0.7
PRU ⇑*e*PKP **PKiKP** 13 19 06.1 -0.1
PRU *e*PKPAB **PKPab** 13 19 15.4 +0.9
PRU *ep*PKP **pPKPbc** 13 21 19.7 +0.5
PRU Pruhonice 150.25 342 *e*PKIKP **PKPdf** 13 19 00.6 +0.7
PRU *e* 13 19 15.4
GEDZ Gediz 150.25 311 *e*P **PKPbc** 13 19 06.2 0.0
DEV Deva 150.25 328 ⇓P **PKPdf** 13 19 01.7 +1.7
DEV Deva 150.25 328 ⇓PKIKP **PKPdf** 13 19 01.7 +1.7
SZH Strazhica 150.31 321 *i* P **PKPbc** 13 19 06.1 0.0
KORT Korkueli 150.38 306 *e*P **PKPbc** 13 19 06.8 +0.2
JMB Yambol 150.39 319 *i* P **PKiKP** 13 19 07.1 +0.3
MONM Monmouth 150.40 4 *e*P **PKPdf** 13 19 00.0 0.0
ZIMR 150.41 322 ⇑P **PKPdf** 13 19 01.7 +1.4
ZIMR 150.41 322 ⇑PKIKP **PKPdf** 13 19 01.7 +1.4
MOX Moxa 150.41 346 *e*PKPdf **PKPdf** 13 18 59.6 -0.5
baz=19,slow=1.5
MOX *e*PKPbc **PKiKP** 13 19 06.6 0.0
baz=18,slow=2.3
MOX *e*PKPab **PKPab** 13 19 15.4 +0.2
baz=19,slow=4.2
MOX *ep*PKPbc **pPKPab** 13 21 23.9 +0.2
baz=17,slow=2.8
TANN Tannenbergstha 150.42 344 *e*PKPdf **PKPdf** 13 19 00.1 -0.1
baz=19,slow=1.5
TANN *e*PKPbc **PKiKP** 13 19 06.7 +0.1
baz=18,slow=2.3
TANN *e*PKPab **PKPab** 13 19 15.6 +0.3
baz=19,slow=4.2
WERD Werda 150.43 345 *e*PKPbc **PKiKP** 13 19 06.9 +0.2
baz=18,slow=2.3
WERD *e*PKPab **PKPab** 13 19 15.8 +0.4
baz=19,slow=4.2
PLN Plauen 150.43 345 *e*PKPdf **PKPdf** 13 19 00.1 -0.1
baz=19,slow=1.5
PLN *e*PKPbc **PKiKP** 13 19 06.7 +0.1
baz=18,slow=2.3
PLN *e*PKPab **PKPab** 13 19 15.5 +0.2
baz=19,slow=4.2
PLN *ep*PKPbc **pPKPab** 13 21 24.0 +0.4
baz=17,slow=2.8
BUG Bochum--Univer 150.45 351 *e*PKPdf **PKPdf** 13 19 00.2 +0.2
baz=19,slow=1.5
BUG *e*PKPbc **PKiKP** 13 19 06.4 -0.2
baz=18,slow=2.3
BUG *ep*PKPbc **pPKPab** 13 21 23.7 0.0
baz=17,slow=2.8
ROSA Rosais 150.47 50 **PKiKP** 13 19 07.1 0.0
KRUC Moravsky 150.47 339 *e*PKP **PKPdf** 13 18 59.8 -0.5
KRUC *e* 13 19 06.6
KRUC *e* 13 21 23.1
GUNZ Gunzen 150.50 345 *e*PKPdf **PKPdf** 13 19 00.4 +0.1
baz=19,slow=1.5
GUNZ *e*PKPbc **PKiKP** 13 19 07.1 +0.3
baz=18,slow=2.3
GUNZ *e*PKPab **PKPab** 13 19 16.1 +0.5
baz=19,slow=4.2
GUNZ *ep*PKPbc **pPKPab** 13 21 24.4 +0.5
baz=17,slow=2.8
SIMA Simav-Kutahya 150.53 311 *e*P **PKPbc** 13 19 06.7 -0.2
WERN Wernitzgruen 150.56 344 *e*PKPdf **PKPdf** 13 19 00.7 +0.3
baz=19,slow=1.5
WERN *e*PKPbc **PKiKP** 13 19 07.2 +0.3
baz=18,slow=2.3
WERN *e*PKPab **PKPab** 13 19 16.3 +0.4
baz=19,slow=4.2
WERN *ep*PKPbc **pPKPab** 13 21 24.9 +0.7
baz=17,slow=2.8
TREC Trest 150.57 340 ⇑*e*PKP **PKiKP** 13 19 06.9 -0.1
TREC *e*PKPAB **PKPab** 13 19 16.4 +0.4
TREC Trest 150.57 340 *e*PKIKP **PKiKP** 13 19 06.9 -0.1
TREC *e* 13 19 16.4
SIRR Siria 150.57 329 ⇓P **PKPdf** 13 19 01.3 +0.8
SMOL Smolenice 150.58 337 *e*PKIKP **PKiKP** 13 19 07.7 +0.7
SMOL Smolenice 150.58 337 *e*PKP **PKiKP** 13 19 07.7 +0.7
SMOL *e* 13 19 17.3

UBBA Unterbreizbach 150.59 348 *e*PKPdf **PKPdf** 13 19 00.5 +0.2
baz=19,slow=1.5
UBBA *ep*PKPbc **pPKPab** 13 21 24.3 +0.1
baz=17,slow=2.8
NKC Novy Kostel 150.59 344 *e*PKPDF **PKPdf** 13 19 01.2 +0.8
NKC ⇑*e*PKP **PKiKP** 13 19 07.2 +0.2
NKC *e*PKPAB **PKPab** 13 19 16.4 +0.4
NKC *ep*PKP **pPKPab** 13 21 24.3 0.0
NKC Novy Kostel 150.59 344 *e*PKIKP **PKPdf** 13 19 01.2 +0.8
NKC *e* 13 19 16.4
EDRB Edirne 150.64 318 *e*P **PKPbc** 13 19 07.0 +0.1
PBCC Pribram 150.67 342 *e*PKPDF **PKPdf** 13 19 01.5 +0.9
PBCC ⇑*e*PKP **PKiKP** 13 19 07.1 -0.1
PBCC *e*PKPAB **PKPab** 13 19 16.6 +0.2
PBCC *ep*PKP **pPKPab** 13 21 24.5 -0.1
VLAD Vladila 150.73 323 ⇓P **PKPdf** 13 19 03.4 +2.6
MODS Modra-Piesok 150.75 337 *e*PKIKP **PKPdf** 13 19 00.0 -0.7
MODS Modra-Piesok 150.75 337 *e*PKP **PKPdf** 13 19 00.0 -0.7
MODS *e* 13 19 06.8
MRMT Marmara Adasi 150.75 315 *e*P **PKPbc** 13 19 06.7 -0.6
ELL Elmali 150.80 306 *e*P **PKiKP** 13 19 07.9 -0.1
ELL Elmali 150.80 306 PKIKP **PKPdf** 13 19 00.7 -0.6
ELL Elmali 150.80 306 PKPdf **PKPdf** 13 19 00.7 -0.6
ELL PKPbc **PKPbc** 13 19 07.6 0.0
SRO Srobarova 150.82 335 *e*PKIKP **PKiKP** 13 19 07.8 +0.3
SRO Srobarova 150.82 335 *e*PKP **PKiKP** 13 19 07.8 +0.3
MAR4 Marsite Statio 150.85 315 *e*P **PKPbc** 13 19 07.6 +0.1
MANZ Manzenberg 150.90 345 *e*PKPdf **PKPdf** 13 19 00.9 0.0
baz=19,slow=1.5
MANZ *e*PKPbc **PKiKP** 13 19 07.9 +0.2
baz=18,slow=2.3
MANZ *ep*PKPbc **pPKPab** 13 21 25.6 0.0
baz=17,slow=2.8
SRE Strehaia 150.94 325 ⇓P **PKPdf** 13 19 02.6 +1.5
SRE Strehaia 150.94 325 ⇓PKIKP **PKPdf** 13 19 02.6 +1.5
KULA Kula-Manisa 151.00 310 *e*P **PKPbc** 13 19 08.0 +0.1
BALB Balikesir 151.03 313 *e*P **PKPbc** 13 19 06.7 -1.1
BZS Buzias 151.07 329 ⇑P **PKPdf** 13 19 01.1 -0.2
BZS Buzias 151.07 329 ⇑PKIKP **PKPdf** 13 19 01.1 -0.2
ROTZ Rotzenmuhle 151.08 344 *e*PKPdf **PKPdf** 13 19 01.2 0.0
baz=19,slow=1.5
ROTZ *e*PKPbc **PKiKP** 13 19 08.1 +0.1
baz=18,slow=2.3
ROTZ *e*PKPab **PKPab** 13 19 18.5 +0.4
baz=19,slow=4.2
ROTZ *ep*PKPbc **pPKPab** 13 21 25.8 -0.5
baz=17,slow=2.8
MANT Manisa 151.09 310 **PKPbc** 13 19 08.2 -0.1
HERR Herculane 151.20 327 ⇑P **PKPdf** 13 19 03.9 +2.5
AKAS Kas 151.21 305 *e*P **PKPbc** 13 19 07.7 -0.9
AKAS Kas 151.21 305 **PKPbc** 13 19 08.0 -0.5
DIM Dimitrovgrad 151.27 319 *i* P **PKiKP** 13 19 09.0 +0.4
KHC Kasperske Hory 151.29 342 *e*PKPDF **PKPdf** 13 19 01.4 -0.2
KHC ⇑*e*PKP **PKiKP** 13 19 08.5 0.0
KHC *e*PKPAB **PKPab** 13 19 19.3 +0.3
KHC *ep*PKP **pPKPbc** 13 21 21.4 -0.5
KHC Kasperske Hory 151.29 342 *e*PKIKP **PKPdf** 13 19 01.4 -0.2
KHC *e* 13 19 19.3
KHC Kasperske Hory 151.29 342 PKPdf **PKPdf** 13 19 01.4 -0.2
KHC PKPbc **PKiKP** 13 19 08.6 +0.1
KHC PKPab **PKPab** 13 19 19.7 +0.6
AHRW Bad Neuenahr-A 151.35 351 *e*PKPdf **PKPdf** 13 19 01.4 -0.1
baz=19,slow=1.5
AHRW *e*PKPbc **PKiKP** 13 19 08.5 0.0
baz=18,slow=2.3
AHRW *ep*PKPbc **pPKPab** 13 21 26.3 -1.1
baz=17,slow=2.8
GRA1 Grafenberg Arr 151.39 345 **PKiKP** 13 19 08.8 +0.1
GRA1 PKPab **PKPab** 13 19 19.7 +0.3
GRF Grafenberg Arr 151.39 345 *e*PKPbc **PKiKP** 13 19 09.0 +0.3
baz=18,slow=2.3
GRF *e*PKPab **PKPab** 13 19 19.9 +0.6
baz=19,slow=4.2
UCC Uccle 151.40 355 PKIKP **PKiKP** 13 19 08.6 0.0
UCC Uccle 151.40 355 **PKiKP** 13 19 08.6 0.0
LPK Lapseki 151.41 315 *e*P **PKPbc** 13 19 08.3 -0.4
MEM Membach 151.42 353 PKPdf **PKPdf** 13 19 01.9 +0.3
MEM PKPbc **PKPbc** 13 19 08.5 +0.1
MEM PKPab **PKPab** 13 19 17.9 -1.5
TNS Taunus Mts 151.45 349 *e*PKPdf **PKPdf** 13 19 01.6 -0.1
baz=19,slow=1.5
TNS *e*PKPbc **PKiKP** 13 19 08.9 +0.1
baz=18,slow=2.3
TNS *e*PKPab **PKPab** 13 19 19.6 -0.1
baz=19,slow=4.2
BANR Banloc 151.47 329 ⇑P **PKPbc** 13 19 05.8 -2.8
WET Wettzell 151.48 343 *e*PKPdf **PKPdf** 13 19 02.0 +0.2
baz=19,slow=1.5
WET *e*PKPbc **PKiKP** 13 19 09.0 +0.1
baz=18,slow=2.3
WET *e*PKPab **PKPab** 13 19 20.6 +0.8
baz=19,slow=4.2
WET *ep*PKPbc **pPKPab** 13 21 27.0 -1.0
baz=17,slow=2.8
BSTI Sart Tilman 151.50 353 PKPbc **PKiKP** 13 19 08.9 +0.1
BSTI PKPab **PKPab** 13 19 17.6 -2.2
GEC2 GERESS Array S 151.51 342 *e*PKPdf **PKPdf** 13 19 01.8 -0.1
baz=19,slow=1.5
GEC2 *e*PKPbc **PKiKP** 13 19 09.0 0.0
baz=18,slow=2.3
GEC2 *e*PKPab **PKPab** 13 19 20.3 +0.2
baz=19,slow=4.2
GEC2 *ep*PKPbc **pPKPab** 13 21 26.7 -1.4
baz=17,slow=2.8
GEC2 GERESS Array S 151.51 342 PKPdf **PKPdf** 13 19 01.1 -0.9
GEC2 PKPbc **PKPbc** 13 19 08.6 -0.2
GEC2 PKPab **PKPab** 13 19 19.7 -0.4
GERES GERESS Array B 151.51 342 PKP **PKPdf** 13 19 02.1 +0.2
comp=Z,3.9nm,0.8s,baz=66,slow=1.6,SNR=27
GERES PKPbc **PKiKP** 13 19 09.1 0.0
comp=Z,36nm,0.8s,baz=48,slow=2.0,SNR=94
GERES pPKPbc **pPKPbc** 13 21 22.3 -0.1
comp=Z,4.8nm,0.9s,baz=79,slow=2.9,SNR=5.1
GERES GERESS Array B 151.51 342 PKPdf **PKPdf** 13 19 01.4 -0.5
GERES PKPbc **PKPbc** 13 19 08.8 0.0
GERES PKPab **PKPab** 13 19 20.3 +0.2
KDZ Kurdzhali 151.57 319 *e*P **PKPbc** 13 19 08.8 -0.2
KDZ Kurdzhali 151.57 319 *i* P **PKPbc** 13 19 08.9 -0.1
GELI Tayfur-Gelibol 151.59 315 *e*P **PKPbc** 13 19 08.5 -0.6
ALN Alexandroupoli 151.60 317 *e*P **PKPbc** 13 19 08.1 -1.0
ALN Alexandroupoli 151.60 317 PKIKP **PKPbc** 13 19 08.3 -0.8
ALN Alexandroupoli 151.60 317 **PKPbc** 13 19 08.3 -0.8
ENEZ Enez 151.62 316 *e*P **PKPbc** 13 19 08.9 -0.2
MDVR Moldovita 151.62 327 ⇑P **PKPdf** 13 19 02.5 +0.3
CONA Conrad Observa 151.63 338 *e*PKPdf **PKPdf** 13 19 01.7 -0.4
comp=Z,10nm,1.0s,SNR=11
CONA *e*PKIKP **PKiKP** 13 19 09.4 +0.1
comp=Z,38nm,0.7s
CONA *i* PKPab **PKPab** 13 19 21.2 +0.7
comp=Z,37nm,0.9s
CONA *ep*PKPbc **pPKPbc** 13 21 23.4 +0.6
comp=Z,35nm,1.3s
BCLA Clavier 151.69 354 PKPdf **PKPdf** 13 19 02.5 +0.5
BCLA PKPbc **PKiKP** 13 19 09.1 -0.1
BCLA PKPab **PKPab** 13 19 20.4 -0.2
SNF Seneffe 151.69 355 PKPbc **PKiKP** 13 19 09.2 0.0
SNF PKPab **PKPab** 13 19 20.6 0.0
DALY Dalyan (Mula) 151.71 307 *e*P **PKPbc** 13 19 09.3 -0.1
PLD Plovdiv 151.73 320 *i* P **PKPbc** 13 19 07.9 -1.4
BGES Gesves 151.74 354 PKPdf **PKPdf** 13 19 02.3 +0.2
BGES PKPbc **PKPbc** 13 19 09.0 -0.1
BGES PKPab **PKPab** 13 19 20.2 -0.6
PGB Panagyurishte 151.78 321 *i* P **PKPbc** 13 19 09.5 0.0
RDO Rodhopi 151.78 318 *e*P **PKPbc** 13 19 09.1 -0.4
YER Yerkesik 151.85 308 *e*P **PKPbc** 13 19 09.8 -0.1
BMRD Maredsous 151.86 354 PKPdf **PKPdf** 13 19 02.8 +0.6
BMRD PKPbc **PKPbc** 13 19 09.2 -0.1
BMRD PKPab **PKPab** 13 19 21.0 -0.3
DKL Dikili 151.97 313 *e*P **PKPbc** 13 19 09.7 -0.2
RZN Rozhen 151.97 319 *i* P **PKPbc** 13 19 10.0 -0.1
EZN Ezine 151.98 314 *e*P **PKPbc** 13 19 09.3 -0.6
TURN Turunc 152.03 307 *e*P **PKiKP** 13 19 10.4 +0.1
DOU Dourbes 152.08 354 PKPdf **PKPdf** 13 19 03.2 +0.6
DOU PKPbc **PKiKP** 13 19 10.1 +0.1
DOU PKPab **PKPab** 13 19 21.8 -0.4
BOZC Bozcaada 152.15 315 *e*P **PKPbc** 13 19 08.8 -1.5
BLCB Balcova 152.20 311 *e*P **PKPbc** 13 19 10.4 -0.1
MOA Molln 152.23 340 *i* PKPdf **PKPdf** 13 19 02.5 -0.5
comp=Z,14nm,1.6s
MOA *i* PKPbc **PKPbc** 13 19 10.3 0.0
comp=Z,12nm,0.6s,SNR=6.8
MOA *e*PKPab **PKPab** 13 19 23.7 +0.6
comp=Z,19nm,1.1s

MOA *ep*PKPbc **pPKPbc** 13 21 25.3 +1.2
comp=Z,23nm,1.4s
FRGS Fruska Gora 152.27 330 ⇑*i* P **PKPdf** 13 19 02.6 -0.5
VTS Vitosha 152.27 322 *i* P **PKPbc** 13 19 10.5 -0.2
ARSA Arzberg 152.33 338 *i* PKPdf **PKPdf** 13 19 02.7 -0.5
comp=Z,15nm,1.9s,SNR=5.2
ARSA *e*PKPbc **PKPbc** 13 19 10.4 -0.2
comp=Z,8.4nm,0.8s
ARSA *e*PKPab **PKPab** 13 19 23.9 +0.4
comp=Z,11nm,0.7s
ARSA *ep*PKPbc **pPKPbc** 13 21 25.2 +0.8
comp=Z,13nm,1.4s
WLF Walferdange 152.33 352 PKPdf **PKPdf** 13 19 04.2 +1.2
WLF PKPbc **PKiKP** 13 19 11.2 +0.7
WLF PKPab **PKPab** 13 19 23.8 +0.4
WLF Walferdange 152.33 352 PKIKP **PKPdf** 13 19 02.7 -0.3
WLF Walferdange 152.33 352 PKPdf **PKPdf** 13 19 02.7 -0.3
WLF PKPbc **PKiKP** 13 19 11.2 +0.7
WLF PKPab **PKPab** 13 19 23.6 +0.2
GCAM G?zelcaml? 152.37 310 *e*P **PKiKP** 13 19 11.2 +0.2
URLA Izmir 152.52 312 *e*P **PKPbc** 13 19 11.2 0.0
BEHE Becsehely 152.52 335 *e*P **PKiKP** 13 19 13.8 +2.7
BODT Bodrum 152.59 308 *e*P **PKPbc** 13 19 11.3 -0.1
MMB Musomiste 152.63 320 *i* P **PKPbc** 13 19 11.1 -0.3
STU Stuttgart 152.70 347 *e*PKPdf **PKPdf** 13 19 03.7 +0.1
baz=19,slow=1.5
STU *e*PKPbc **PKiKP** 13 19 11.8 +0.4
baz=18,slow=2.3
RJOB Jochberg 152.78 342 *e*PKPab **PKPab** 13 19 25.1 -0.3
baz=19,slow=4.2
FUR Furstenfeldbru 152.80 344 *e*PKPdf **PKPdf** 13 19 04.2 +0.4
baz=19,slow=1.5
FUR *e*PKPbc **PKiKP** 13 19 11.8 +0.2
baz=18,slow=2.3
FUR *e*PKPab **PKPab** 13 19 26.0 +0.6
baz=19,slow=4.2
KKB Krupnik 152.83 321 *i* P **PKPbc** 13 19 11.5 -0.3
TEKS Tekeris 152.86 329 *e*P **PKPbc** 13 19 11.6 -0.2
CHOS Chios island 152.88 312 *e*P **PKPbc** 13 19 11.4 -0.7
DIVS Divibare 152.97 328 ⇑*i* P **PKPdf** 13 19 03.5 -0.8
DIVS Divibare 152.97 328 PKPdf **PKPdf** 13 19 03.4 -0.8
DIVS PKPbc **PKiKP** 13 19 12.2 0.0
DIVS PKPab **PKPab** 13 19 25.9 -0.6
SOKA Soboth 152.99 338 *i* PKPdf **PKPdf** 13 19 03.4 -0.8
comp=Z,11nm,1.2s,SNR=13
SOKA *i* PKPbc **PKPbc** 13 19 11.6 -0.4
comp=Z,38nm,1.2s,SNR=6.1
SOKA *i* PKPab **PKPab** 13 19 26.6 +0.2
comp=Z,16nm,1.0s
SOKA *ep*PKPbc **pPKPbc** 13 21 25.6 -0.4
comp=Z,20nm,1.1s
PERS Pernice 153.00 338 *e*PKPdf **PKPdf** 13 19 03.4 -0.8
PERS *i* PKPbc **PKPbc** 13 19 11.5 -0.5
PERS *i* PKPab **PKPab** 13 19 26.6 +0.2
GROS Grobnik 153.01 337 *i* PKPdf **PKPdf** 13 19 03.5 -0.7
JSA Saint Aubin 153.09 4 *e*P **PKPdf** 13 19 04.1 0.0
KBA Koelnbreinsper 153.20 340 *e*PKPdf **PKPdf** 13 19 03.4 -1.2
comp=Z,15nm,1.3s,SNR=9.7
KBA *e*PKPbc **PKPbc** 13 19 11.9 -0.7
comp=Z,20nm,0.8s,SNR=5.5
KBA *i* PKPab **PKPab** 13 19 28.1 +0.7
comp=Z,27nm,0.7s
KBA *ep*PKPbc **pPKPbc** 13 21 26.0 -0.6
comp=Z,12nm,1.0s
BFO Black Forest 153.29 348 PKIKP **PKPbc** 13 19 12.5 -0.1
BFO 13 19 26.9
BFO Black Forest 153.29 348 *e*PKPdf **PKPdf** 13 19 04.2 -0.3
baz=19,slow=1.5
BFO *e*PKPbc **PKiKP** 13 19 12.7 +0.1
baz=18,slow=2.3
BFO *e*PKPab **PKPab** 13 19 27.4 -0.2
baz=19,slow=4.2
BFO *ep*PKPbc **pPKPbc** 13 21 30.9 +4.0
baz=17,slow=2.8
BFO Black Forest 153.29 348 **PKPdf** 13 19 03.3 -1.2
BFO **PKPbc** 13 19 12.5 -0.1
BFO PKPab **PKPab** 13 19 26.9 -0.6
OBKA Obir 153.31 338 *e*PKPdf **PKPdf** 13 19 03.8 -0.8
comp=Z,9.2nm,1.3s
OBKA *e*PKPbc **PKPbc** 13 19 12.1 -0.7
comp=Z,14nm,0.7s
OBKA *e*PKPab **PKPab** 13 19 27.3 -0.5
comp=Z,15nm,0.9s
OBKA *ep*PKiKP **pPKiKP** 13 21 31.2 +4.2
comp=Z,12nm,1.3s
KARP Karpathos 153.31 306 **PKPbc** 13 19 12.4 -0.6
BBLS Lazići 153.43 328 ⇑*i* P **PKPdf** 13 19 04.2 -0.7
WATA Walderalm 153.48 343 *i* PKPdf **PKPdf** 13 19 04.3 -0.7
comp=Z,20nm,1.0s,SNR=6.3
WATA *i* PKPbc **PKPbc** 13 19 12.9 -0.3
comp=Z,15nm,0.5s,SNR=4.3
WATA *i* PKPab **PKPab** 13 19 28.8 +0.3
comp=Z,29nm,0.6s
WATA *ep*PKPbc **pPKPbc** 13 21 27.1 -0.3
comp=Z,22nm,1.0s,SNR=6.1
MYKA Terra Mystica 153.50 339 *i* PKPdf **PKPdf** 13 19 03.8 -1.1
comp=Z,11nm,1.1s
MYKA *i* PKPbc **PKPbc** 13 19 12.4 -0.7
comp=Z,18nm,0.7s,SNR=5.1
MYKA *i* PKPab **PKPab** 13 19 28.0 -0.5
comp=Z,22nm,0.7s
MYKA *ep*PKiKP **pPKiKP** 13 21 30.5 +2.9
comp=Z,10nm,0.9s
WTTA Wattenberg 153.53 343 *e*PKPdf **PKPdf** 13 19 04.6 -0.5
comp=Z,23nm,0.9s,SNR=10
WTTA *i* PKiKP **PKPbc** 13 19 13.3 -0.1
comp=Z,26nm,0.6s
WTTA *i* PKPab **PKPab** 13 19 29.2 +0.4
comp=Z,46nm,0.6s,SNR=6.1
WTTA *ep*PKPbc **pPKPbc** 13 21 27.3 -0.1
comp=Z,28nm,1.4s,SNR=5.9
UBR Ueberruh 153.53 345 *e*PKPdf **PKPdf** 13 19 04.3 -0.6
baz=19,slow=1.5
UBR *e*PKPbc **PKPbc** 13 19 13.1 -0.1
baz=18,slow=2.3
UBR *ep*PKPbc **pPKPbc** 13 21 31.4 +4.2
baz=17,slow=2.8
RETA Reutte 153.56 344 *e*PKPdf **PKPdf** 13 19 04.3 -0.6
comp=Z,12nm,1.0s,SNR=7.6
RETA *i* PKPbc **PKPbc** 13 19 12.9 -0.3
comp=Z,21nm,0.9s
RETA *i* PKPab **PKPab** 13 19 28.8 +0.1
comp=Z,28nm,0.7s
RETA *ep*PKPbc **pPKPbc** 13 21 27.2 -0.1
comp=Z,12nm,1.1s
CRES Cresnjev 153.56 336 *i* PKPdf **PKPdf** 13 19 04.7 -0.2
CRES *e*PKPbc **PKPbc** 13 19 13.2 0.0
CRES Cresnjev 153.56 336 ⇑*i* P **PKPdf** 13 19 04.5 -0.4
MOTA Moosalm 153.60 344 *i* PKPdf **PKPdf** 13 19 04.5 -0.7
comp=Z,27nm,1.0s,SNR=12
MOTA *i* PKPbc **PKPbc** 13 19 13.1 -0.4
comp=Z,22nm,0.8s
MOTA *i* PKPab **PKPab** 13 19 28.9 -0.2
comp=Z,74nm,1.3s
MOTA *ep*PKPbc **pPKPbc** 13 21 27.4 -0.2
comp=Z,21nm,1.2s,SNR=5.4
HORT Hortiatis 153.60 319 *e*P **PKPab** 13 19 28.4 -0.8
ECH Echery 153.60 350 PKP2 **PKPab** 13 19 28.1 -0.8
ECH 14 19 03.7
ECH Echery 153.60 350 PKPdf **PKPdf** 13 19 03.6 -1.3
ECH **PKPbc** 13 19 12.6 -0.6
ECH PKPab **PKPab** 13 19 28.1 -0.8
SQTA Sankt Quirin 153.69 343 *i* PKPdf **PKPdf** 13 19 04.7 -0.5
comp=Z,24nm,0.8s,SNR=8.9
SQTA *i* PKiKP **PKPbc** 13 19 13.6 0.0
comp=Z,14nm,0.6s
SQTA *i* PKPab **PKPab** 13 19 29.6 +0.2
comp=Z,29nm,0.9s
SQTA *ep*PKPbc **pPKPbc** 13 21 27.6 -0.1
comp=Z,26nm,1.1s
PRED Cave del Predi 153.69 339 PKPdf **PKPdf** 13 19 04.0 -1.2
PRED PKPab **PKPab** 13 19 28.7 -0.7
SKO Skopje 153.70 323 *i* P **PKPbc** 13 19 13.6 0.0
LJU Ljubljana 153.72 338 *e*PKPdf **PKPdf** 13 19 04.9 -0.2
LJU *i* PKPbc **PKiKP** 13 19 13.7 +0.1
LJU *e*PKPab **PKPab** 13 19 29.4 0.0
LJU *ep*PKPdf **pPKPdf** 13 21 22.0 +1.3
LJU *e* 13 21 32.1
LJU Ljubljana 153.72 338 ⇑*i* P **PKPdf** 13 19 04.7 -0.4
ABTA Abfaltersbach 153.75 341 *e*PKPdf **PKPdf** 13 19 04.3 -1.0
comp=Z,33nm,1.0s,SNR=18
ABTA *i* PKPbc **PKPbc** 13 19 13.1 -0.6
comp=Z,26nm,0.8s
ABTA *i* PKPab **PKPab** 13 19 29.3 -0.4
comp=Z,23nm,0.8s

ABTA *e*pPKPbc **pPKPbc** 13 21 26.9 -1.0
comp=Z,37nm,1.1s
BLY Banja Luka 153.76 332 ⇑*i*P **PKPdf** 13 19 04.7 -0.5
ZOU Zoufplan 153.78 340 **PKPdf** 13 19 04.0 -1.4
DAVA Damuels 153.96 345 *i* PKPdf **PKPdf** 13 19 05.2 -0.4
comp=Z,18nm,1.1s,SNR=5.9
DAVA *i* PKiKP **PKPbc** 13 19 14.1 -0.1
comp=Z,14nm,0.9s
DAVA *i* PKPab **PKPab** 13 19 30.8 +0.3
comp=Z,27nm,0.7s,SNR=7.8
DAVA *e*pPKPbc **pPKPbc** 13 21 28.4 -0.3
comp=Z,25nm,1.2s
FETA Feichten 154.00 344 *i* PKPdf **PKPdf** 13 19 05.4 -0.2
comp=Z,34nm,0.8s,SNR=29
FETA *i* PKiKP **PKiKP** 13 19 14.5 +0.1
comp=Z,12nm,0.7s
FETA *i* PKPab **PKPab** 13 19 31.0 +0.2
comp=Z,18nm,0.7s
FETA *e*pPKPbc **pPKPbc** 13 21 28.4 0.0
comp=Z,23nm,1.2s
CEY Cerknica 154.01 337 ⇑*i*P **PKPdf** 13 19 05.3 -0.3
STAL STALIGIAL 154.13 340 **PKPdf** 13 19 04.6 -1.2
STAL PKPbc **PKPbc** 13 19 13.7 -0.8
STAL PKPab **PKPab** 13 19 30.1 -1.1
UPM Unac-Piva 154.16 328 *e*P **PKPdf** 13 19 04.4 -1.7
CIMO Cimolais 154.17 341 PKPdf **PKPdf** 13 19 04.6 -1.2
CIMO PKPbc **PKPbc** 13 19 13.9 -0.6
CIMO PKPab **PKPab** 13 19 30.3 -1.1
LIT Litokhoron 154.27 319 PKiKP **PKPdf** 13 19 05.0 -1.1
LIT 13 19 31.7
LIT Litokhoron 154.27 319 PKPdf **PKPdf** 13 19 05.0 -1.1
LIT PKPab **PKPab** 13 19 31.7 -0.4
CLF Chambon-Foret 154.30 357 PKPdf **PKPdf** 13 19 05.6 -0.2
CLF PKPbc **PKPbc** 13 19 15.4 +0.7
CLF PKPab **PKPab** 13 19 31.5 -0.2
SKDS Skadanscina 154.33 338 *e*PKPdf **PKPdf** 13 19 05.4 -0.6
SKDS *i* PKPbc **PKiKP** 13 19 14.6 -0.3
SKDS *e*PKPab **PKPab** 13 19 31.1 -1.0
FUORN Ofenpass-Fuorn 154.49 344 PKPdf **PKPdf** 13 19 05.9 -0.6
FUORN PKPbc **PKiKP** 13 19 15.4 0.0
FUORN PKPab **PKPab** 13 19 33.4 +0.4
FNA Florina 154.51 321 *e*P **PKiKP** 13 19 15.1 -0.3
FNA Florina 154.51 321 PKiKP **PKiKP** 13 19 14.7 -0.7
FNA 13 19 32.8
FNA Florina 154.51 321 **PKPdf** 13 19 05.6 -0.9
FNA PKPbc **PKiKP** 13 19 14.7 -0.7
FNA PKPab **PKPab** 13 19 32.8 -0.4
PDG Podgorica 154.55 326 ⇓P **PKPdf** 13 19 09.3 +3.0
PDG Podgorica 154.55 326 ⇑*i*P **PKiKP** 13 19 15.0 -0.3
PDG Podgorica 154.55 326 PKPdf **PKPdf** 13 19 05.5 -0.9
PDG **PKiKP** 13 19 14.8 -0.6
PDG PKPab **PKPab** 13 19 33.0 -0.1
BRY Bratogost 154.56 328 *e*P **PKPdf** 13 19 05.1 -1.5
OHR Ohrid 154.63 322 *i* P **PKPbc** 13 19 15.7 0.0
CTI Castel Tesino 154.64 342 PKP2 **PKPab** 13 19 32.9 -0.6
CTI 14 19 05.4
CTI Castel Tesino 154.64 342 PKPdf **PKPdf** 13 19 05.4 -1.1
CTI PKPbc **PKiKP** 13 19 15.1 -0.5
CTI PKPab **PKPab** 13 19 32.9 -0.6
DRME Dracevica, Mon 154.76 326 *e*P **PKiKP** 13 19 15.2 -0.6
TUE Stuetta 154.85 346 PKPdf **PKPdf** 13 19 06.0 -0.9
TUE PKPdif **PKPbc** 13 19 16.4 +0.2
TUE PKPab **PKPab** 13 19 34.5 +0.1
IDI Anoyia 155.11 307 PKP **PKPdf** 13 19 04.8 -2.7
comp=Z,24nm,1.0s,baz=162,slow=4.4,SNR=6.8
IDI Anoyia 155.11 307 ⇑P **PKPdf** 13 19 05.0 -2.5
SALO Salr 155.35 343 PKPdf **PKPdf** 13 19 06.5 -0.9
SALO PKPab **PKPab** 13 19 35.9 -0.6
SENIN Lac Senin/Sane 155.37 349 PKPdf **PKPdf** 13 19 07.0 -0.7
SENIN PKPab **PKPab** 13 19 36.4 -0.4
ZCCA Zocca 156.38 341 **PKPdf** 13 19 09.0 +0.2
VLC Villacollemand 156.73 342 **PKPab** 13 19 41.8 -0.6
BNI Bardonecchia 156.75 349 PKiKP **PKPdf** 13 19 09.0 -0.4
BNI Bardonecchia 156.75 349 PKPdf **PKPdf** 13 19 09.0 -0.4
BNI PKPab **PKPab** 13 19 42.9 +0.3
MSSA Maissana 156.82 343 **PKPdf** 13 19 08.5 -0.9
MSSA PKPab **PKPab** 13 19 42.0 -0.9
MURB Monte Urbino 156.84 337 **PKPdf** 13 19 08.9 -0.6
SSB Saint Sauveur 156.85 353 PKP2 **PKPab** 13 19 42.1 -0.8
SSB 14 19 09.1
SSB Saint Sauveur 156.85 353 PKPdf **PKPdf** 13 19 09.1 -0.2
SSB PKPab **PKPab** 13 19 42.1 -0.8
NRCA Norcia 156.99 336 PKPdf **PKPdf** 13 19 09.1 -0.6
NRCA **PKPab** 13 19 43.1 -0.6
OSSC Osservatorio P 157.04 340 **PKPdf** 13 19 08.2 -1.4
OSSC PKPab **PKPab** 13 19 42.7 -1.1
MATE Matera 157.16 327 ⇑P **PKPdf** 13 19 09.5 -0.3
INTR Introdacqua 157.37 333 PKPdf **PKPdf** 13 19 09.2 -0.9
LATE Laterza 157.66 338 PKPdf **PKPdf** 13 19 09.1 -1.4
LATE PKPab **PKPab** 13 19 45.4 -1.2
TIP Timpagrande 158.21 324 ⇑P **PKPdf** 13 19 11.0 -0.2
TIP Timpagrande 158.21 324 PKPdf **PKPdf** 13 19 10.5 -0.7
TIP PKPab **PKPab** 13 19 48.6 -0.5
CEL Celeste 159.33 324 **PKPab** 13 19 53.7 -0.3
PBRG Braganca 159.62 16 *e*PKPab **PKPab** 13 19 55.4 +0.3
MVO Moncorvo 160.14 17 *e*PKPdf **PKPdf** 13 19 14.6 +1.2
MVO Moncorvo 160.14 17 *e*PKPab **PKPab** 13 19 57.7 +0.2
PCAS Casmilo, Conde 160.71 21 *e*PKPdf **PKPdf** 13 19 14.8 +0.8
PCAS Casmilo, Conde 160.71 21 *e*PKPab **PKPab** 13 19 58.2 -1.7
RAFF Raffo Rosso 160.92 324 **PKPdf** 13 19 14.0 -0.2
PCBR Castelo Branco 161.24 19 *e*PKPdf **PKPdf** 13 19 14.2 -0.3
PCBR Castelo Branco 161.24 19 *e*PKPab **PKPab** 13 20 02.2 0.0
CLTB Caltabellotta 161.25 327 **PKPdf** 13 19 14.1 -0.7
PMTG Montargil 161.69 22 *e*PKPdf **PKPdf** 13 19 15.4 +0.4
PMTG Montargil 161.69 22 *e*PKPab **PKPab** 13 20 03.4 -0.8
ESBB Sonseca Array 162.26 11 PKPab **PKPab** 13 20 06.5 -0.2
ESDC Sonseca Array 162.26 11 PKP **PKPdf** 13 19 15.2 -0.4
comp=Z,3.2nm,1.1s,baz=348,slow=3.3,SNR=10
ESDC PKPab **PKPab** 13 20 07.0 +0.2
comp=Z,15nm,1.0s,baz=343,slow=4.2,SNR=26
ESDC Sonseca Array 162.26 11 **PKPab** 13 20 06.3 -0.5
PAB San Pablo 162.31 12 PKiKP **PKPdf** 13 19 15.9 +0.2
PAB San Pablo 162.31 12 PKPdf **PKPdf** 13 19 15.9 +0.2
PNCL Nicolau / Gran 162.42 24 *e*PKPdf **PKPdf** 13 19 17.6 +1.9
PNCL Nicolau / Gran 162.42 24 *e*PKPab **PKPab** 13 20 05.8 -1.7
PBEJ Beja 162.74 23 *e*PKPdf **PKPdf** 13 19 17.7 +1.6
PBEJ Beja 162.74 23 *e*PKPab **PKPab** 13 20 07.8 -1.1
MORF Marmelete 163.07 26 *e*PKPdf **PKPdf** 13 19 16.5 0.0
MORF Marmelete 163.07 26 *e*PKPdf **PKPdf** 13 19 17.6 +1.1
LIC Lamto 163.14 161 *e*PKIKP **PKPdf** 13 19 16.8 -0.3
comp=Z,248nm,1.3s
LIC Lamto 163.14 161 *e*P **PKPab** 13 20 12.3 +1.2
comp=Z,282nm,1.1s
PVAQ Vaqueiros 163.35 23 *e*PKPab **PKPab** 13 20 11.4 -0.2
KIC Kosan Boka 163.35 161 *e*PKIKP **PKPdf** 13 19 17.1 -0.3
comp=Z,172nm,1.2s
KIC Kosan Boka 163.35 161 *e*P **PKPab** 13 20 13.4 +1.3
comp=Z,201nm,0.9s
PBDV Barranco-do-Ve 163.41 24 *e*PKPdf **PKPdf** 13 19 19.5 +2.7
TIC Toumodi 163.54 160 *e*PKIKP **PKPdf** 13 19 17.4 -0.1
TIC Toumodi 163.54 160 *e*P **PKPab** 13 20 14.0 +1.1
DBIC Dimbokro 163.61 161 PKP **PKPdf** 13 19 17.6 0.0
comp=Z,33nm,0.8s,baz=148,slow=1.4,SNR=35
DBIC PKPab **PKPab** 13 20 14.6 +1.4
comp=Z,41nm,0.8s,baz=180,slow=5.1,SNR=18
DBIC PP **PP** 13 24 03.4 +4.4
comp=Z,11nm,1.1s,baz=199,slow=4.6,SNR=3.2
DBIC Dimbokro 163.61 161 **PKPdf** 13 19 17.1 -0.5
DBIC PKPab **PKPab** 13 20 14.2 +1.0
KEST Kesra 164.57 332 PKP **PKPdf** 13 19 17.0 -0.9
comp=Z,5.1nm,0.9s,baz=359,slow=5.6,SNR=4.9
KEST PKPab **PKPab** 13 20 16.3 -0.8
comp=Z,16nm,0.9s,baz=309,slow=3.9,SNR=7.7
KEST PP **PP** 13 24 05.1 +0.7
comp=Z,4.7nm,1.1s,baz=192,slow=9.3,SNR=2.4
KEST Kesra 164.57 332 PKPab **PKPab** 13 20 16.6 -0.6
RSA Sarsar 166.29 23 P **PKPdf** 13 19 22.0 +2.7
SNR=6.9
TAF Taforalt 167.27 11 P **PKPdf** 13 19 22.1 +2.0
SNR=9.3
JBK JBK 167.71 12 P **PKPdf** 13 19 22.0 +1.4
SNR=43
MDT Midelt 168.58 22 PKPab **PKPab** 13 20 35.8 +0.9
comp=Z,17nm,0.8s,baz=334,slow=1.7,SNR=9.2
MDT Midelt 168.58 22 P **PKPdf** 13 19 23.0 +2.0
SNR=6.7
ARF Arif 169.97 24 P **PKPdf** 13 19 24.0 +2.1
SNR=5.1
TOA0 Torodi Ar. Sit 170.83 187 **PKPdf** 13 19 21.8 -0.9
TOA0 PKPab **PKPab** 13 20 45.5 +0.5
TORD Torodi Ar. Bea 170.83 187 PKP **PKPdf** 13 19 22.2 -0.5
comp=Z,25nm,0.9s,baz=328,slow=0.8,SNR=71
TORD PKPab **PKPab** 13 20 46.0 +0.9
comp=Z,30nm,0.8s,baz=182,slow=3.5,SNR=34
TORD PP **PP** 13 24 36.0 +0.9
comp=Z,11nm,0.9s,baz=170,slow=3.7,SNR=11
TORD Torodi Ar. Bea 170.83 187 **PKPdf** 13 19 21.8 -0.8
TORD PKPab **PKPab** 13 20 45.3 +0.3
TAM Tamanrasset 175.36 277 PKIKP **PKPdf** 13 19 24.0 -0.4
TAM Tamanrasset 175.36 277 **PKPdf** 13 19 24.0 -0.4

*IDC **16** 13:16:07.1±0.8, 1°.68S×139°.16E, h0km, mb4.0/10, mb1 4.0/12, mb1mx3.8/41, mbtmp4.0/12, ML3.8/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/37, Error ellipse: s-maj=24.3km s-min=15.2km az=45.0*
*NEIC **16** 13:16:09.1±2.4, 1°.94S±0°.08×139°.01E±0°.04, h19km±5km, mb4.3/22, Error ellipse: s-maj=11.2km s-min=5.3km az=173.0*
*DJA **16** 13:16:09.2±1.8, 2°.5±7°.×13°.9E±°, h23km±15km, M4.6/9, mb4.7/9, mB5.2/3, MLv4.6/7, Mw(mB)4.5/3*
ISC 16 13:16:11.8±0.5, 1°.96S±0°.06×139°.04E±0°.05, h35km, n65, σ2.9°07/58, mb4.1/15, MS3.8/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.29**	**119**	P	**Pn**	**13 16 31.8**	**-1.5**
GENI				S	**Sn**	**13 16 51.6**	**+2.2**
JAY	**Jayapura**	**1.75**	**108**	Pn	**Pn**	**13 16 36.9**	**-2.8**
22nm,0.3s,baz=249,slow=9.7,SNR=66							
JAY				Sn	**Sn**	**13 17 02.2**	**+1.3**
96nm,0.3s,baz=104,slow=22,SNR=14							
JAY				LR	LR	13 17 30.3	
comp=Z,2μm,18.2s,baz=238,slow=48							
JAY	**Jayapura**	**1.75**	**108**	P	**Pn**	**13 16 36.9**	**-2.8**
WAMI	**Wamena**	**1.94**	**190**	P	Pn	13 16 48.1	+5.8
SRPI	**Serui, Papua**	**2.80**	**272**	P	**Pn**	**13 16 56.9**	**+2.8**
KMPI	**Kaimana, Papua**	**5.59**	**252**	P	**Pn**	**13 17 35.0**	**+2.5**
1.1nm3μm422nm,0.9s							
FAKI	**Fak Fak**	**6.85**	**262**	P	**Pn**	**13 17 50.6**	**+0.8**
0.2nm59nm,1.1s							
FAKI	**Fak Fak**	**6.85**	**262**		**Pn**	**13 17 49.3**	**-0.5**
SIJI	**Sorong**	**7.85**	**278**	Pn	**Pn**	**13 18 03.8**	**+0.3**
0.7nm,0.3s,baz=65,slow=8.5,SNR=4.8							
KRVT	**Keravat (AS076**	**13.17**	**101**	LR	LR	13 23 46.5	
comp=Z,270nm,21.0s,baz=267,slow=35							
MTN	**Manton Dam**	**13.35**	**216**	Pn	**Pn**	**13 19 20.6**	**+1.7**
GTOI	**Gorontalo**	**16.23**	**279**	P	**Pn**	**13 19 58.0**	**+0.7**
9.9nm,1.1s							
SOEI	**Soe**	**16.60**	**242**	P	**Pn**	**13 20 00.7**	**-1.4**
50nm,1.0s							
SOEI	**Soe**	**16.60**	**242**	P	**P**	**13 20 04.2**	**0.0**
KNRA	**Kununurra**	**16.98**	**216**	Pn	**Pn**	**13 20 03.9**	**-2.9**
KNRA				IAmb	IAmb	13 20 21.8	
comp=Z,15nm,0.7s							
BATI	**Baumata**	**17.34**	**241**	P	**P**	**13 20 14.6**	**+2.3**
comp=Z,8.1nm,0.3s,baz=126,slow=4.1,SNR=4.9							
BATI	**Baumata**	**17.34**	**241**	P	**P**	**13 20 13.8**	**+1.5**
comp=Z,43nm,0.7s							
WB0	**Warramunga Arr**	**18.27**	**194**	P	**P**	**13 20 21.6**	**-1.0**
WR0	**Warramunga Arr**	**18.42**	**194**	P	**P**	**13 20 23.1**	**-1.2**
WR0				IAmb	IAmb	13 20 41.7	
comp=Z,12nm,0.9s							
WR0				S	**S**	**13 23 51.8**	**-1.2**
WRAB	**Tennant Creek**	**18.44**	**194**	P	**P**	**13 20 23.1**	**-1.4**
WRAB				IAmb	IAmb	13 20 36.7	
comp=Z,12nm,0.8s							
WB2	**Warramunga Arr**	**18.45**	**194**	P	**P**	**13 20 23.3**	**-1.3**
WB2				IAmb	IAmb	13 20 49.4	
comp=Z,10nm,0.8s							
WRA	**Warramunga Arr**	**18.45**	**194**	P	**P**	**13 20 23.3**	**-1.3**
comp=Z,0.9nm,0.3s,baz=16,slow=12,SNR=24							
WRA				S	**Sn**	**13 23 42.8**	**-7.4**
comp=Z,0.1nm,0.3s,baz=8.6,slow=22,SNR=4.8							
WRA				LR	LR	13 28 51.6	
comp=Z,405nm,18.5s,baz=40,slow=41							
WRA	**Warramunga Arr**	**18.45**	**194**	P	**P**	**13 20 23.0**	**-1.6**
BNSI	**Bone**	**19.06**	**262**	P	Pn	13 20 55.9	+24
CTA	**Charters Tower**	**19.35**	**159**	P	**Pn**	**13 20 38.2**	**+2.5**
comp=Z,0.2nm,0.3s,baz=319,slow=11,SNR=2.6							
CTAO	**Charters Tower**	**19.35**	**159**	Pn	**Pn**	**13 20 37.2**	**+1.5**
FITZ	**Fitzroy Crossi**	**20.74**	**218**	P	Pn	13 20 52.3	+0.3
comp=Z,1.6nm,0.8s,baz=358,slow=8.1,SNR=1.5							
FITZ				S	**S**	**13 24 34.3**	**-5.0**
comp=Z,22nm,1.0s,baz=180,slow=9.8,SNR=13							
FITZ	**Fitzroy Crossi**	**20.74**	**218**	P	**P**	**13 20 49.9**	**+0.4**
FITZ				IAmb	IAmb	13 21 17.0	
comp=Z,9.2nm,1.1s							
AS31	**Alice Springs**	**22.14**	**193**		**P**	**13 21 02.3**	**-2.4**
ASAR	**Alice Springs**	**22.14**	**193**	P	**P**	**13 21 04.0**	**-0.6**
comp=Z,9.4nm,1.1s,baz=23,slow=9.6,SNR=24							
ASAR				S	**S**	**13 25 10.6**	**+3.7**
comp=Z,4.6nm,1.1s,baz=12,slow=25,SNR=4.4							
ASAR	**Alice Springs**	**22.14**	**193**		**P**	**13 21 02.0**	**-2.6**
BBKI	**Banjar Baru**	**24.22**	**266**	P	**P**	**13 21 28.1**	**+2.6**
comp=Z,37nm,1.0s							
EIDS	**Eidsvold**	**26.01**	**155**	P	**P**	**13 21 42.4**	**+0.7**
EIDS				IAmb	IAmb	13 21 59.6	
comp=Z,14nm,1.0s							
STKA	**Stephens Creek**	**29.86**	**176**	P	**P**	**13 22 18.3**	**+2.4**
comp=Z,2.8nm,0.8s,baz=337,slow=10,SNR=5.4							
STKA				LR	LR	13 35 45.1	
comp=Z,218nm,19.6s,baz=3.2,slow=39							
STKA	**Stephens Creek**	**29.86**	**176**	P	**P**	**13 22 15.7**	**-0.2**
FORT	**Forrest**	**30.49**	**199**	P	**P**	**13 22 22.2**	**+0.6**
ARMA	**Armidale**	**30.72**	**158**	P	**P**	**13 22 22.7**	**-1.0**
TPUB	**Ta-pu**	**30.85**	**326**	P	**P**	**13 22 23.4**	**-1.5**
NACB	**Ninganchiao**	**31.02**	**328**	P	**P**	**13 22 23.5**	**-2.8**
H11S3	**WAKE ISLAND Hy**	**33.96**	**52**	T	T	13 58 30.0	
baz=236,slow=75,SNR=256							
H11S2	**WAKE ISLAND Hy**	**33.97**	**52**	T	T	13 58 34.1	
baz=236,slow=75,SNR=365							
H11S1	**WAKE ISLAND Hy**	**33.98**	**52**	T	T	13 58 31.4	
baz=236,slow=75,SNR=214							
JHJ	**Hachijo jima 2**	**34.90**	**1**	LR	LR	13 34 04.5	
comp=Z,201nm,19.7s,baz=230,slow=31							
KULM	**Kulim**	**39.02**	**281**	P	**P**	**13 23 33.7**	**-1.7**
JMM	**Marumori**	**39.66**	**2**	P	**P**	**13 23 40.6**	**+0.3**
RPSI	**Rantau Prapat**	**40.37**	**276**	P	**P**	**13 23 46.2**	**-0.5**
PSI	**Prapat**	**40.38**	**277**	P	**P**	**13 23 46.2**	**-0.7**
comp=Z,4.5nm,0.4s,baz=180,slow=11,SNR=3.8							
KSRS	**Korea Array**	**40.55**	**346**	LR	LR	13 39 15.3	
comp=Z,79nm,20.0s,baz=150,slow=34							
CMAR	**Chiang Mai Arr**	**44.36**	**299**	P	**P**	**13 24 19.4**	**+0.3**
comp=Z,0.8nm,0.6s,baz=118,slow=7.2,SNR=5.2							
CMAR	**Chiang Mai Arr**	**44.36**	**299**	P	**P**	**13 24 17.7**	**-1.4**
OUZ	**Omahuta**	**46.10**	**140**	P	**P**	**13 24 32.7**	**+0.1**
SONM	**Songino Array**	**57.19**	**334**	LR	LR	13 50 27.9	
comp=Z,97nm,20.2s,baz=120,slow=36							
MKAR	**Makanchi Array**	**69.40**	**322**	P	**P**	**13 27 16.0**	**-0.3**
comp=Z,1.3nm,0.8s,baz=114,slow=5.9,SNR=7.2							
MKAR	**Makanchi Array**	**69.40**	**322**	P	**P**	**13 27 15.5**	**-0.8**
MAKZ	**Makanchi**	**69.60**	**322**	P	**P**	**13 27 16.4**	**-1.1**
MAKZ				IAmb	IAmb	13 27 26.3	
comp=Z,5.3nm,1.2s							
ZALV	**Zalesovo Beam**	**71.46**	**330**	P	**P**	**13 27 28.5**	**-0.1**
comp=Z,0.5nm,0.3s,baz=100,slow=4.4,SNR=2.4							
PPT	**Papeete**	**71.67**	**108**	LR	LR	13 55 11.1	
comp=Z,41nm,20.6s,baz=47,slow=33							
BOOM	**Boomskoye usch**	**71.84**	**316**	P	**P**	**13 27 29.9**	**-1.5**
BOOM				IAmb	IAmb	13 27 51.2	
comp=Z,4.5nm,1.1s							
KURK	**Kurchatov**	**73.30**	**325**	P	**P**	**13 27 39.4**	**-0.2**
KURK	**Kurchatov**	**73.30**	**325**	IAmb	IAmb	13 28 03.2	
comp=Z,5.1nm,1.2s							
KURBB	**Kurchatov Arra**	**73.31**	**325**	P	**P**	**13 27 39.4**	**-0.3**
comp=Z,0.7nm,0.5s,baz=110,slow=5.4,SNR=5.0							
VNDA	**Vanda**	**76.49**	**175**	P	**P**	**13 28 01.1**	**+3.4**
comp=Z,1.0nm,0.7s,baz=292,slow=5.0,SNR=3.8							
BVAR	**Borovoye Array**	**78.89**	**325**	P	**P**	**13 28 11.9**	**+0.4**
comp=Z,1.5nm,0.6s,baz=128,slow=9.7,SNR=5.8							
NRIK	**Noril'sk**	**79.10**	**344**	LR	LR	14 02 21.1	
comp=Z,62nm,21.4s,baz=14,slow=35							
ILAR	**Eielson Array**	**85.02**	**24**	P	**P**	**13 28 43.6**	**+0.2**
comp=Z,0.3nm,0.8s,baz=248,slow=4.8,SNR=2.5							

WEL 16 13:30:18.0, 44°.5±56°.×17°.3E±3°.0, h14km±61km, M2.2/6, ML2.3/6, MLv2.2/6, Error ellipse: s-maj=0.1km s-min=0.0km az=155.6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.08**	**153**	P	Pg	13 30 18.5	-2.4
AKCZ	**Akaroa Harbour**	**0.33**	**137**	P	Pb	13 30 26.2	+0.6
OKCZ	**Okains Bay**	**0.35**	**106**	P	Pb	13 30 26.2	+0.2
AMCZ	**Amberley**	**0.46**	**5**	P	Pb	13 30 28.3	+0.5
OXZ	**Oxford**	**0.51**	**306**	P	Pb	13 30 29.5	+0.8
WACZ	**Wakanui South**	**0.63**	**240**	P	Pn	13 30 33.1	+0.6
GVZ	**Greta Valley S**	**0.73**	**26**	P	Pn	13 30 33.4	-0.6
LTZ	**Lake Taylor**	**0.88**	**344**	P	Pn	13 30 35.8	-0.2
ARCZ	**Arundel**	**1.08**	**252**	P	Pg	13 30 40.8	+2.1

*IDC **16** 13:32:25.0±6.0, 51°.77N×178°.54E, h80km±57km, mb3.2/8, mb1 3.6/10, mb1mx3.3/41, mbtmp3.6/10, ML3.6/2, MS3.6/2, Ms1 3.6/2, ms1mx2.8/23, Error ellipse: s-maj=45.5km s-min=17.8km az=166.0*
*NEIC **16** 13:32:27.9±1.1, 51°.9N±0°.1×178°.33E±0°.08, h109km±5km, Error ellipse: s-maj=16.5km s-min=7.2km az=180.0*
*AEIC **16** 13:32:28±1.2, 51°.9N±0°.1×178°.30E±0°.07, h107km±4km, ML3.2, Error ellipse: s-maj=16.6km s-min=6.2km az=183.0*
ISC 16 13:32:27.6±0.7, 51°.9N±0°.1×178°.27E±0°.05, h108km±6km, n46, σ1.9°22/49, mb3.4/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.16**	**71**		**Pn**	**13 32 43.1**	**+0.5**
LSNW	**Little Sitkin**	**0.17**	**65**		**Pn**	**13 32 43.0**	**+0.4**
LSNW					**Sn**	**13 32 54.1**	**+0.2**
LSPA	**Little Sitkin**	**0.20**	**73**		**Pn**	**13 32 43.1**	**+0.4**
LSPA					**Sn**	**13 32 55.5**	**+1.4**
CETU	**Semis' Tuman**	**0.76**	**84**		**Pn**	**13 32 47.1**	**+0.8**
CESW	**Semis' Southwe**	**0.80**	**89**		**Pn**	**13 32 46.7**	**+0.1**
CEAP	**Semis' Anvil P**	**0.82**	**82**		**Pn**	**13 32 47.2**	**+0.4**
CEAP					**Sn**	**13 33 01.3**	**+0.1**
AMKA	**Amchitka**	**0.83**	**129**		**Pn**	**13 32 46.8**	**0.0**
AMKA					**Sn**	**13 33 01.0**	**-0.3**
CERB	**Semis' Cerberu**	**0.84**	**87**		**Pn**	**13 32 47.5**	**+0.5**
CERB					**Sn**	**13 33 02.1**	**+0.5**
CERAA	**Semis' Rag'd T**	**0.88**	**89**		**Pn**	**13 32 47.4**	**+0.1**
CERAA					**Sn**	**13 33 01.9**	**-0.3**
GALAA	**Gareloi Lava P**	**1.84**	**93**		**Pn**	**13 32 58.4**	**0.0**
GAEA	**Gareloi East**	**1.86**	**92**		**Pn**	**13 32 58.5**	**-0.1**
TANO	**Tanaga North**	**2.24**	**88**		**Pn**	**13 33 03.4**	**0.0**
TASE	**Tanaga Southea**	**2.29**	**90**		**Pn**	**13 33 03.9**	**-0.3**
TAFP	**Tanaga Falls P**	**2.32**	**88**		**Pn**	**13 33 04.3**	**-0.3**
TAFP					**Sn**	**13 33 32.1**	**-0.9**
SMY	**Shemya**	**2.69**	**290**		**Pn**	**13 33 09.6**	**+0.3**
KIMD	**Kanaga Island**	**2.79**	**91**		**Pn**	**13 33 10.3**	**-0.4**
KICM	**Kanaga Island**	**2.81**	**88**		**Pn**	**13 33 10.9**	**0.0**
KIKV	**Kanaga Island**	**2.83**	**89**		**Pn**	**13 33 10.8**	**-0.3**
ADK	**Adak**	**3.13**	**88**		**Pn**	**13 33 14.2**	**-0.9**
ADAG	**Mount Adagdak**	**3.18**	**87**		**Pn**	**13 33 15.3**	**-0.5**
GSTD	**Great Sitkin T**	**3.46**	**85**		**Pn**	**13 33 18.8**	**-0.8**
GSTR	**Great Sitkin T**	**3.51**	**85**		**Pn**	**13 33 19.2**	**-1.0**
GSMY	**Great Sitkin M**	**3.51**	**85**		**Pn**	**13 33 19.5**	**-0.8**
ATKA	**Atka Island**	**4.66**	**83**		**Pn**	**13 33 35.0**	**-0.6**
KOKL	**Mount Kliuchef**	**4.66**	**82**		**Pn**	**13 33 35.6**	**-0.1**
NIKH	**Nikolski High**	**7.95**	**77**	Pn	Pn	13 34 20.5	+0.3
SPIA	**Saint Paul Isl**	**8.51**	**47**	Pn	Pn	13 34 29.7	+1.9
UNV	**Unalaska Valle**	**9.41**	**72**	Pn	Pn	13 34 40.8	+0.8
AKUT	**Akutan**	**9.88**	**71**	Pn	**Pn**	**13 34 47.0**	**+0.7**
PET	**Petropavlovsk**	**12.02**	**283**	Pn	**Pn**	**13 35 16.4**	**+1.3**
PEA0B	**Petropavlovsk-**	**12.59**	**284**	Pn	**Pn**	**13 35 22.1**	**-0.5**
PETK	**Petropavlovsk-**	**12.59**	**284**	P	**Pn**	**13 35 24.1**	**+1.5**
0.4nm,0.3s,baz=100,slow=17,SNR=5.8							
PETK				S	**Sn**	**13 37 35.2**	**-5.7**
0.2nm,0.3s,baz=35,slow=24,SNR=1.7							
KDAK	**Kodiak Island**	**17.70**	**59**	P	**P**	**13 36 23.7**	**-2.5**
0.9nm,0.3s,baz=256,slow=3.9,SNR=18							
ILAR	**Eielson Array**	**22.01**	**41**	P	**P**	**13 37 11.8**	**-1.0**
0.2nm,0.6s,baz=236,slow=9.8,SNR=2.3							
DLBC	**Dease Lake**	**29.60**	**57**	LR	LR	13 50 11.6	
comp=Z,109nm,18.7s,baz=160,slow=36							
H11N2	**WAKE ISLAND Hy**	**33.32**	**200**	T	T	14 14 20.2	
baz=11							
H11N3	**WAKE ISLAND Hy**	**33.33**	**200**	T	T	14 14 32.8	
baz=11							
H11N1	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	14 14 37.7	
baz=11							
NVAR	**Mina Array Bea**	**45.29**	**81**	P	**P**	**13 40 34.9**	**+0.4**
0.3nm,0.4s,baz=295,slow=6.5,SNR=2.6							
GUMO	**Guam**	**46.67**	**227**	LR	LR	13 55 13.5	
comp=Z,75nm,21.4s,baz=303,slow=29							
PDAR	**Pinedale Array**	**47.88**	**71**	P	**P**	**13 40 53.5**	**-1.2**
0.2nm,0.5s,baz=304,slow=2.1,SNR=1.8							
MKAR	**Makanchi Array**	**58.27**	**307**	P	**P**	**13 42 12.6**	**+2.1**
0.1nm,0.5s,baz=47,slow=7.4,SNR=2.8							
TXAR	**Lajitas Array**	**60.37**	**79**	P	**P**	**13 42 24.9**	**-0.4**
0.3nm,0.5s,baz=305,slow=5.0,SNR=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB				IAmb	IAmb	13 47 04.4	
	comp=Z,8.6nm,1.4s						
WB2	**Warramunga Arr**	**55.98**	**186**	P	**P**	**13 46 52.0**	**-0.8**
WB2				IAmb	IAmb	13 47 15.3	
	comp=Z,2.5nm,1.0s						
WR0	**Warramunga Arr**	**55.98**	**186**	P	**P**	**13 46 51.8**	**-1.0**
WR0				IAmb	IAmb	13 47 02.4	
	comp=Z,8.0nm,1.4s						
WRA	**Warramunga Arr**	**55.98**	**186**	P	**P**	**13 46 52.0**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=0.9,slow=7.6,SNR=6.1						
ABKAR	**Akbulak array**	**57.61**	**310**	P	**P**	**13 47 03.5**	**-0.5**
BESE	**Bessie Mountai**	**57.67**	**38**	P	**P**	**13 47 03.8**	**-0.7**
BESE				IAmb	IAmb	13 47 05.5	
	comp=Z,8.6nm,1.2s						

*JMA **16** 13:55:03.0, 33.°11N×131.°20E, h8km±1km, M3.0*
JMA Felt II J1.
*IDC **16** 13:55:04.8±1.7, 33.°17N×131.°13E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.1/38, mbtmp3.3/3, ML2.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=17.4km s-min=8.4km az=150.0*
ISC 16 13:55:05.1±1.1, 33.°08N±0.°06×131.°19E±0.°04, h10km, n10, σ2s00/12, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.26**	**280**	Pg	**Pg**	**13 55 08.6**	**-1.9**
	431nm,0.3s,baz=73,slow=6.9,SNR=570						
JNU				Lg	Lg	13 55 12.0	
	418nm,0.3s,baz=281,slow=19,SNR=43						
JNU	**Nakatsue**	**0.26**	**280**	P	**Pg**	**13 55 08.6**	**-1.9**
JNU				*e*S	**Sg**	**13 55 12.2**	**-1.9**
JBEP	**Beppuamama**	**0.32**	**35**	P	**Pg**	**13 55 09.0**	**-2.5**
JUS	**Usuki**	**0.47**	**91**	P	**Pg**	**13 55 11.8**	**-2.5**
JTA	**Tamana**	**0.56**	**259**	P	**Pg**	**13 55 14.2**	**-1.8**
JIU3	**Izumi3**	**0.61**	**211**	P	**Pg**	**13 55 15.6**	**-1.4**
KSRS	**Korea Array**	**5.12**	**329**	Pn	**Pn**	**13 56 21.9**	**+0.1**
	0.2nm,0.3s,baz=148,slow=14,SNR=3.0						
KSRS				Pg	**Pb**	**13 56 36.3**	**+1.6**
	0.2nm,0.3s,baz=163,slow=19,SNR=4.2						
KSRS				Sn	**Sn**	**13 57 21.5**	**+0.6**
	0.2nm,0.3s,baz=154,slow=28,SNR=4.0						
KSRS				Lg	Lg	13 57 42.5	
	0.5nm,0.3s,baz=148,slow=30,SNR=5.6						
KSRS				LR	LR	13 58 12.8	
	comp=Z,53nm,20.1s,baz=120,slow=38						
MJAR	**Matsushiro Arr**	**6.73**	**57**	Pn	**Pn**	**13 56 46.0**	**+2.0**
	0.1nm,0.3s,baz=244,slow=14,SNR=8.0						
SONM	**Songino Array**	**23.80**	**316**	P	**P**	**14 00 19.2**	**+1.1**
	0.6nm,0.4s,baz=122,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	**71.26**	**27**	LR	LR	14 41 49.9	
	comp=Z,41nm,18.3s,baz=0.0,slow=39						

*HLW **16** 13:58:51.4, 36.°04N×27.°81E, h9km±16km, Md3.6, Ml3.7*
*ISK **16** 13:58:52.5, 36.°06N×27.°75E, h82km±1km, ML3.0/13*
*THE **16** 13:58:54.8, 36.°07N×27.°76E, h78km±2km, ML3.0/5, Error ellipse: s-maj=2.2km s-min=0.5km az=111.0*
*DDA **16** 13:58:54.6, 35.°97N×27.°86E, h42km±2km, ML2.9*
*ATH **16** 13:58:54.1, 36.°13N×27.°64E, h64km±6km, ML3.0/4, Error ellipse: s-maj=6.9km s-min=1.5km az=110.0*
*NIC **16** 13:58:54.9±0.0, 35.°80N×27.°99E, h58km±2km, Ml3.8/4*
ISC 16 13:58:52.1±1.2, 36.°02N±0.°03×27.°80E±0.°03, h88km±6km, n67, σ1s24/99, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.33**	**53**	P	**Pn**	**13 59 06.0**	**+0.5**
ARG				S	**Sn**	**13 59 15.1**	**-0.3**
	2μm,0.3s						
ARG	**Arkhangelos**	**0.33**	**53**	P	**Pn**	**13 59 05.9**	**+0.5**
ARG				S	**Sn**	**13 59 14.0**	**-1.4**
ARG				AML	AML	13 59 16.5	
	comp=N,2610μm,0.2s						
ARG				AML	AML	13 59 16.9	
	comp=E,3205μm,0.2s						
ARG	**Arkhangelos**	**0.33**	**53**	PG	**Pn**	**13 59 05.8**	**+0.3**
ARG				SG	**Sn**	**13 59 15.6**	**+0.2**
ARG	**Arkhangelos**	**0.33**	**53**	P	**Pn**	**13 59 05.9**	**+0.5**
ARG				S	**Sn**	**13 59 14.9**	**-0.5**
KARP	**Karpathos**	**0.70**	**228**	P	**Pn**	**13 59 09.2**	**+0.7**
KARP				S	**Sn**	**13 59 20.7**	**0.0**
	comp=E,1μm,0.2s						
KARP	**Karpathos**	**0.70**	**228**	P	**Pn**	**13 59 09.3**	**+0.7**
KARP				S	**Sn**	**13 59 20.6**	**0.0**
KARP				AML	AML	13 59 21.3	
	comp=N,1679μm,0.1s						
KARP				AML	AML	13 59 22.1	
	comp=E,2067μm,0.2s						
KARP	**Karpathos**	**0.70**	**228**	PG	**Pn**	**13 59 09.1**	**+0.6**
KARP				SG	**Sn**	**13 59 20.8**	**0.0**
KARP	**Karpathos**	**0.70**	**228**	P	**Pn**	**13 59 09.2**	**+0.7**
KARP				AML	AML	13 59 09.7	
	comp=E,5.7nm,0.1s						
KARP				AML	AML	13 59 09.7	
	comp=E,5.7nm,0.1s						
KARP				AML	AML	13 59 09.7	
	comp=E,3.5nm,0.1s						
KARP				AML	AML	13 59 09.7	
	comp=E,3.5nm,0.1s						
KARP				S	**Sn**	**13 59 20.8**	**0.0**
DAT	**Datca**	**0.73**	**346**	P	**Pn**	**13 59 08.8**	**-0.1**
DAT				S	**Sn**	**13 59 20.2**	**-1.1**
DAT	**Datca**	**0.73**	**346**	PG	**Pn**	**13 59 09.1**	**+0.2**
DAT				SG	**Sn**	**13 59 20.3**	**-1.1**
DAT	**Datca**	**0.73**	**346**	*i* P	**Pn**	**13 59 09.0**	**+0.2**
DAT				*i* S	**Sn**	**13 59 20.0**	**-1.4**
TURN	**Turunc**	**0.83**	**25**	PG	**Pn**	**13 59 10.5**	**+0.7**
TURN				SG	**Sn**	**13 59 23.1**	**+0.1**
TURN	**Turunc**	**0.83**	**25**	*i* P	**Pn**	**13 59 10.4**	**+0.6**
TURN				*i* S	**Sn**	**13 59 21.8**	**-1.3**
TURN				IAML		13 59 23.0	
	comp=N,721nm,0.3s						
TURN				IAML		13 59 24.0	
	comp=E,527nm,0.2s						
DALY	**Dalyan (Mula)**	**1.05**	**41**	PG	**Pn**	**13 59 13.1**	**+0.9**
DALY	**Dalyan (Mula)**	**1.05**	**41**	*i* P	**Pn**	**13 59 12.9**	**+0.7**
DALY				*i* S	**Sn**	**13 59 26.4**	**-1.0**
DALY				IAML		13 59 30.0	
	comp=N,277nm,0.4s						
BODT	**Bodrum**	**1.11**	**339**	P	**Pn**	**13 59 13.4**	**+0.4**
BODT				S	**Sn**	**13 59 28.0**	**-0.7**
BODT	**Bodrum**	**1.11**	**339**	PG	**Pn**	**13 59 13.2**	**+0.2**
YER	**Yerkesik**	**1.18**	**19**	P	**Pn**	**13 59 14.7**	**+0.9**
YER				S	**Sn**	**13 59 30.1**	**-0.1**
YER	**Yerkesik**	**1.18**	**19**	PN	**Pn**	**13 59 14.7**	**+0.9**
FETY	**Fethiye**	**1.20**	**59**	PN	**Pn**	**13 59 16.0**	**+1.9**
FETY	**Fethiye**	**1.20**	**59**	*i* P	**Pn**	**13 59 14.7**	**+0.6**
FETY				*i* S	**Sn**	**13 59 29.5**	**-1.2**
FETY				IAML		13 59 31.0	
	comp=N,168nm,0.6s						
KSL	**Kastellorizon**	**1.45**	**84**	P	**Pn**	**13 59 18.0**	**+1.0**
KSL				S	**Sn**	**13 59 35.4**	**-0.6**
AKAS	**Kas**	**1.48**	**81**	PN	**Pn**	**13 59 18.3**	**+0.8**
AKAS	**Kas**	**1.48**	**81**	*i* P	**Pn**	**13 59 17.9**	**+0.3**
AKAS				*i* S	**Sn**	**13 59 35.9**	**-0.9**
AKAS				IAML		13 59 38.0	
	comp=N,136nm,0.4s						
ZKR	**Zakros**	**1.58**	**236**	P	**Pn**	**13 59 20.7**	**+2.0**
ZKR				S	**Sn**	**13 59 40.6**	**+1.7**
	comp=N,152nm,0.5s						
ZKR	**Zakros**	**1.58**	**236**	P	**Pn**	**13 59 20.7**	**+2.0**
ZKR				AML	AML	13 59 41.9	
	comp=E,381μm,0.3s						
ZKR				AML	AML	13 59 43.0	
	comp=N,193μm,0.6s						
STIA	**Sitia Lasithi**	**1.61**	**240**	P	**Pn**	**13 59 20.5**	**+1.3**
AYDN	**Tasoluk**	**1.64**	**2**	*i* P	**Pn**	**13 59 20.5**	**+0.9**
AYDN				*i* S	**Sn**	**13 59 37.6**	**-2.8**
ANAF	**Anafi Island**	**1.68**	**282**	P	**Pn**	**13 59 20.8**	**+0.8**
ANAF				S	**Sn**	**13 59 39.1**	**-2.1**
ANAF				AML	AML	13 59 42.2	
	comp=N,2735μm,0.3s						
ANAF				AML	AML	13 59 42.7	
	comp=E,2339μm,0.3s						
TAVA	**DENIZLI_Tavas**	**1.70**	**31**	*i* P	**Pn**	**13 59 21.2**	**+0.8**
TAVA				*i* S	**Sn**	**13 59 41.4**	**-0.5**
TAVA				IAML		13 59 45.0	
	comp=N,129nm,0.2s						
TAVA				IAML		13 59 46.0	
	comp=E,97nm,0.3s						
GCAM	**G?zelcaml?**	**1.74**	**345**	PN	**Pn**	**13 59 21.5**	**+0.7**
GCAM	**G?zelcaml?**	**1.74**	**345**	*i* P	**Pn**	**13 59 20.1**	**-0.6**
GCAM				IAML		13 59 42.0	
	comp=E,116nm,0.3s						
AMGA	**Amorgos Island**	**1.74**	**298**	P	**Pn**	**13 59 20.9**	**+0.1**
ELL	**Elmali**	**1.85**	**66**	PN	**Pn**	**13 59 24.0**	**+1.6**
ELL				SN	**Sn**	**13 59 47.0**	**+1.6**
SMG	**Samos**	**1.86**	**336**	P	**Pn**	**13 59 22.9**	**+0.6**
SMG	**Samos**	**1.86**	**336**	P	**Pn**	**13 59 22.9**	**+0.6**
GOLH	**Golhisar**	**1.86**	**49**	*i* P	**Pn**	**13 59 24.1**	**+1.6**
GOLH				*i* S	**Sn**	**13 59 46.3**	**+0.6**
GOLH				IAML		13 59 48.0	
	comp=N,178nm,0.4s						
SANT	**Santorini**	**1.93**	**281**	P	**Pn**	**13 59 24.1**	**+0.8**
NPS	**Neapolis**	**1.94**	**248**	P	**Pn**	**13 59 24.9**	**+1.5**
NPS				S	**Sn**	**13 59 47.6**	**+0.3**
	comp=N,480nm,0.3s						
NPS	**Neapolis**	**1.94**	**248**	P	**Pn**	**13 59 24.4**	**+1.0**
AKUM	**Antalya-Kumluc**	**2.08**	**81**	*i* P	**Pn**	**13 59 26.5**	**+1.3**
AKUM				*i* S	**Sn**	**13 59 50.2**	**-0.3**
AKUM				IAML		13 59 54.0	
	comp=N,81nm,0.4s						
AKUM				IAML		13 59 54.0	
	comp=E,94nm,0.3s						
LAST	**Lasithi**	**2.08**	**246**	P	**Pn**	**13 59 26.7**	**+1.3**
LAST				S	**Sn**	**13 59 51.2**	**+0.5**
	comp=E,88nm,0.3s						
LAST	**Lasithi**	**2.08**	**246**	P	**Pn**	**13 59 26.6**	**+1.3**
APE	**Apeiranthos**	**2.11**	**300**	P	**Pn**	**13 59 26.8**	**+1.0**
APE	**Apeiranthos**	**2.11**	**300**	P	**Pn**	**13 59 26.7**	**+1.0**
APE	**Apeiranthos**	**2.11**	**300**	PN	**Pn**	**13 59 26.7**	**+1.0**
KORT	**Korkueli**	**2.27**	**64**	PN	**Pn**	**13 59 29.5**	**+1.5**
KORT	**Korkueli**	**2.27**	**64**	*i* P	**Pn**	**13 59 29.3**	**+1.3**
KORT				*i* S	**Sn**	**13 59 54.4**	**-1.0**
KORT				IAML		13 59 59.0	
	comp=E,74nm,0.6s						
BRDR	**BURDUR-Merkez**	**2.47**	**47**	*i* P	**Pn**	**13 59 31.8**	**+1.3**
BRDR				*i* S	Sn	13 59 47.5	-12
IDI	**Anoyia**	**2.48**	**254**	P	**Pn**	**13 59 32.1**	**+1.4**
IDI	**Anoyia**	**2.48**	**254**	P	**Pn**	**13 59 31.6**	**+0.9**
KULA	**Kula-Manisa**	**2.58**	**15**	PN	**Pn**	**13 59 32.4**	**+0.4**
SERI	**Serifos**	**2.90**	**294**	P	**Pn**	**13 59 37.6**	**+1.4**
VAM	**Vamos**	**3.00**	**259**	P	**Pn**	**13 59 39.8**	**+2.3**
IMMV	**Iera Moni Meta**	**3.16**	**261**	P	**Pn**	**13 59 42.3**	**+2.6**
OSC1	**CSNet OBS 1**	**3.81**	**130**	P	**Pn**	**13 59 48.8**	**+0.3**
OSC1				S	**Sn**	**14 00 29.9**	**-2.2**
AKMS	**Akamas**	**3.83**	**104**	P	**Pn**	**13 59 49.2**	**+0.4**
AKMS				AML	AML	14 00 31.4	
	comp=E,0.5nm,0.3s						
ALFC	**Alefka**	**4.00**	**101**	P	**Pn**	**13 59 53.0**	**+1.8**
ALFC				AML	AML	14 00 35.0	
	comp=E,0.5nm,0.3s						
ALFC				AML	AML	14 00 35.1	
	comp=E,0.4nm,0.4s						
NATA	**Nata**	**4.09**	**106**	P	**Pn**	**13 59 53.1**	**+0.8**
SZAC	**Souni**	**4.34**	**105**	P	**Pn**	**13 59 56.7**	**+1.0**
SZAC				AML	AML	14 00 44.8	
	comp=E,0.4nm,0.2s						
SZAC				AML	AML	14 00 46.5	
	comp=E,0.3nm,0.4s						
ASGA	**Asgata**	**4.62**	**104**	P	**Pn**	**14 00 00.4**	**+1.0**
CSS	**Mathiatis**	**4.63**	**102**	P	**Pn**	**14 00 00.8**	**+1.1**
MATC	**Matruh**	**4.69**	**186**	P	**Pn**	**14 00 01.0**	**+0.6**
	baz=187						
SLUM	**Salum**	**5.00**	**206**	P	**Pn**	**14 00 05.1**	**+0.4**
	baz=207						
SLUM				AMP		14 00 00.0	
	baz=207						
SLUM				S	**Sn**	**14 00 57.9**	**-3.4**
	baz=207						
SWA2		**7.04**	**197**	P	**Pn**	**14 00 32.6**	**+0.2**
	baz=197						
SWA2				S	**Sn**	**14 01 46.2**	**-4.8**
	baz=197						
GLL	**Jalalah**	**7.21**	**152**	P	**Pn**	**14 00 34.8**	**-0.2**
	baz=152						
SUZ	**Suez**	**7.47**	**144**	P	**Pn**	**14 00 39.2**	**+0.8**
	baz=144						

*IDC **16** 14:35:06.5±1.4, 51.°90N×173.°96W, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.3/70, mbtmp3.4/5, ML3.6/2, Error ellipse: s-maj=90.7km s-min=24.7km az=142.0*
*NEIC **16** 14:35:21.4±1.3, 52.°3N±0.°1×174.°1W±0.°1, h125km±4km, Error ellipse: s-maj=20.9km s-min=6.5km az=161.0*
*AEIC **16** 14:35:22±1.0, 52.°2N±0.°1×174.°0W±0.°1, h121km±4km, ML3.1, Error ellipse: s-maj=19.9km s-min=5.9km az=155.0*
ISC 16 14:35:21.1±0.9, 52.°3N±0.°2×174.°01W±0.°07, h126km±7km, n47, σ0s90/45, mb3.2/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.06**	**299**		**Pn**	**14 35 38.3**	**-0.1**
KOSE	**Korovin Southe**	**0.10**	**346**		**Pn**	**14 35 38.1**	**-0.3**
ATKA	**Atka Island**	**0.12**	**250**		**Pn**	**14 35 38.0**	**-0.3**
ATKA					**Sn**	**14 35 51.3**	**0.0**
KOKL	**Mount Kliuchef**	**0.14**	**304**		**Pn**	**14 35 38.7**	**+0.2**
KOKV	**Korovin Volcan**	**0.15**	**321**		**Pn**	**14 35 38.7**	**+0.2**
KONE	**Korovin Northe**	**0.16**	**336**		**Pn**	**14 35 38.4**	**-0.1**
KOWE	**Korovin West**	**0.19**	**309**		**Pn**	**14 35 38.5**	**-0.1**
GSTR	**Great Sitkin T**	**1.27**	**264**		**Pn**	**14 35 46.5**	**+0.1**
GSMY	**Great Sitkin M**	**1.28**	**262**		**Pn**	**14 35 46.3**	**-0.2**
GSMY					**Sn**	**14 36 06.1**	**+0.3**
GSTD	**Great Sitkin T**	**1.33**	**263**		**Pn**	**14 35 46.9**	**-0.2**
GSTD					**Sn**	**14 36 07.3**	**+0.4**
GSSP	**Great Sitkin S**	**1.34**	**264**		**Pn**	**14 35 47.2**	**+0.1**
ADAG	**Mount Adagdak**	**1.62**	**262**		**Pn**	**14 35 50.6**	**+0.3**
ADK	**Adak**	**1.69**	**259**		**Pn**	**14 35 51.0**	**-0.1**
KIKV	**Kanaga Island**	**1.98**	**261**		**Pn**	**14 35 55.0**	**+0.3**
KICM	**Kanaga Island**	**1.99**	**262**		**Pn**	**14 35 55.3**	**+0.5**
KIMD	**Kanaga Island**	**2.05**	**258**		**Pn**	**14 35 55.8**	**+0.3**
TAFP	**Tanaga Falls P**	**2.48**	**264**		**Pn**	**14 36 01.0**	**+0.2**
TASE	**Tanaga Southea**	**2.52**	**262**		**Pn**	**14 36 02.1**	**+0.6**
TANO	**Tanaga North**	**2.56**	**264**		**Pn**	**14 36 02.7**	**+0.9**
GALAA	**Gareloi Lava P**	**2.98**	**263**		**Pn**	**14 36 08.1**	**+0.8**
NIKH	**Nikolski High**	**3.23**	**75**		**Pn**	**14 36 11.1**	**+0.6**
CESW	**Semis' Southwe**	**3.98**	**268**		**Pn**	**14 36 20.8**	**+0.3**
AMKA	**Amchitka**	**4.24**	**261**		**Pn**	**14 36 24.1**	**+0.2**
MAPS	**Pakushin South**	**4.55**	**67**		**Pn**	**14 36 28.1**	**+0.2**
LSSE	**Little Sitkin**	**4.59**	**269**		**Pn**	**14 36 29.5**	**+1.0**
MREP	**Makushin Rep't**	**4.66**	**67**		**Pn**	**14 36 29.2**	**-0.3**
MNAT	**Makushin Natee**	**4.71**	**67**		**Pn**	**14 36 30.6**	**+0.4**
UNV	**Unalaska Valle**	**4.80**	**68**		**Pn**	**14 36 31.7**	**+0.3**
AKUT	**Akutan**	**5.30**	**66**	Pn	**Pn**	**14 36 38.6**	**+0.5**
SPIA	**Saint Paul Isl**	**5.40**	**22**	Pn	**Pn**	**14 36 39.4**	**0.0**
FALS	**False Pass**	**6.83**	**63**	Pn	**Pn**	**14 36 58.4**	**-0.2**
SMY	**Shemya**	**7.28**	**279**	Pn	**Pn**	**14 37 04.2**	**-0.5**
SDPT	**Sand Point**	**8.59**	**63**	Pn	**Pn**	**14 37 21.1**	**-1.2**
CNBA	**Chernabura Isl**	**8.97**	**68**	Pn	**Pn**	**14 37 26.3**	**-1.1**
SVW2	**Sparrevohn**	**13.42**	**41**	Pn	**Pn**	**14 38 25.6**	**-0.6**
KDAK	**Kodiak Island**	**13.46**	**57**	Pn	**Pn**	**14 38 22.8**	**-4.0**
	0.6nm,0.3s,baz=231,slow=1.3,SNR=23						
KDAK				Sn	**Sn**	**14 40 57.4**	**+2.4**
	0.2nm,0.3s,baz=83,slow=23,SNR=6.7						
CNPM	**China Poot**	**14.65**	**51**	Pn	**Pn**	**14 38 40.6**	**-1.4**
ILAR	**Eielson Array**	**18.73**	**37**	P	**P**	**14 39 29.4**	**-0.3**
	0.1nm,0.3s,baz=223,slow=9.2,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**35.71**	**212**	T	T	15 19 59.9	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**35.72**	**212**	T	T	15 20 04.9	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**35.73**	**212**	T	T	15 19 58.4	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**36.91**	**211**	T	T	15 21 38.3	
	baz=20,slow=76,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**36.93**	**211**	T	T	15 21 41.0	
	baz=20,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**36.93**	**211**	T	T	15 21 41.3	
	baz=20,slow=76,SNR=4.6						
TXAR	**Lajitas Array**	**55.60**	**85**	P	**P**	**14 44 44.2**	**+0.5**
	0.2nm,0.6s,baz=302,slow=5.2,SNR=2.4						
WRA	**Warramunga Arr**	**84.75**	**228**	P	**P**	**14 47 41.0**	**0.0**
	0.1nm,0.3s,baz=33,slow=5.8,SNR=1.5						
ASAR	**Alice Springs**	**88.19**	**226**	P	**P**	**14 47 58.5**	**+0.8**
	0.3nm,0.6s,baz=23,slow=5.3,SNR=5.7						

*IDC **16** 14:39:20.7±1.5, 10.°17N×126.°51E, h0km, mb3.8/7, mb1 3.8/7, mb1mx3.5/59, mbtmp3.8/7, Error ellipse: s-maj=167.7km s-min=17.0km az=66.0*
*NEIC **16** 14:39:26.5±1.7, 9.°95N±0.°10×126.°1E±0.°1, h35km±1km, mb4.1/16, Error ellipse: s-maj=25.3km s-min=15.4km az=109.0*
*MAN **16** 14:39:37.4, 9.°82N×125.°61E, h134km, mb5.0, ML3.9, MS3.9*
ISC 16 14:39:33.6±0.7, 9.°91N±0.°05×126.°10E±0.°09, h100km, n36, σ2s02/39, mb4.1/15, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.24**	**280**	*e*P	**Pn**	**14 40 00.3**	**+3.6**
MSLP				*e*S	**Sn**	**14 40 17.3**	**+3.1**
OCLP	**Ormoc**	**1.85**	**308**	*e*P	**Pn**	**14 40 08.9**	**+4.6**
LLP	**Lapu-Lapu**	**2.13**	**281**	⇑*i*P	**Pn**	**14 40 09.7**	**+1.8**
LLP				*i* S	**Sn**	**14 40 32.8**	**-1.4**
TBP	**Tagbilaran**	**2.21**	**265**	⇑*i*P	**Pn**	**14 40 11.2**	**+2.3**
TBP				*i* S	**Pn**	**14 40 13.7**	**+4.8**
BUKP	**Musuan**	**2.26**	**207**	*e*P	**Pn**	**14 40 11.9**	**+2.3**
BUKP				*e*S	**Sn**	**14 40 38.4**	**+1.1**
CNP	**Catarman**	**2.94**	**332**	*e*P	Pn	14 40 23.4	+4.8
CNP				*e*S	**Sn**	**14 40 57.1**	**+3.9**
KCP	**Kidapawan**	**3.05**	**199**	⇑*i*P	**Pn**	**14 40 23.8**	**+3.6**
CNOP	**Candoni, Negro**	**3.41**	**269**	*e*P	**Pn**	**14 40 24.1**	**-0.7**
GUIM	**Jordan**	**3.52**	**282**	*e*P	**Pn**	**14 40 26.3**	**0.0**
PVCP	**Virac**	**4.13**	**333**	*e*P	**Pn**	**14 40 37.2**	**+2.7**
MYKOM	**Kota Tinggi**	**23.54**	**251**	P	**P**	**14 44 33.7**	**-1.4**
IPM	**Ipoh**	**25.44**	**260**	P	**P**	**14 44 51.1**	**-1.3**
KS19	**Wonju Array Si**	**27.52**	**3**	P	**P**	**14 45 06.7**	**-4.0**
KS19				IAmb	IAmb	14 45 27.5	
	comp=Z,4.8nm,0.9s						
MAJO	**Matsushiro**	**28.70**	**21**	P	P	14 45 15.0	-6.2
MAJO				IAmb	IAmb	14 45 26.6	
	comp=Z,5.0nm,1.1s						
MJAR	**Matsushiro Arr**	**28.70**	**21**	P	P	14 45 14.5	-6.8
WB0	**Warramunga Arr**	**30.60**	**165**	P	**P**	**14 45 37.7**	**-0.5**
WRA	**Warramunga Arr**	**30.76**	**165**	P	**P**	**14 45 39.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=344,slow=9.1,SNR=1.8						
WRA				PcP	**PcP**	**14 48 35.1**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=336,slow=2.6,SNR=5.6						
WRA	**Warramunga Arr**	**30.76**	**165**	IAmb	IAmb	14 45 42.7	
	comp=Z,0.1nm,1.0s						
WB2	**Warramunga Arr**	**30.76**	**165**	P	**P**	**14 45 38.5**	**-1.2**
WB2				IAmb	IAmb	14 45 44.4	
	comp=Z,5.0nm,1.2s						
AS31	**Alice Springs**	**34.23**	**167**	P	**P**	**14 46 10.0**	**0.0**
ASAR	**Alice Springs**	**34.23**	**167**	P	**P**	**14 46 09.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=341,slow=7.2,SNR=15						
ASAR				PcP	**PcP**	**14 48 44.5**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=340,slow=2.7,SNR=4.8						
BBOO	**Buckleboo**	**43.53**	**168**	P	**P**	**14 47 27.8**	**+0.4**
STKA	**Stephens Creek**	**44.12**	**161**	P	**P**	**14 47 33.0**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=329,slow=15,SNR=5.5						
STKA	**Stephens Creek**	**44.12**	**161**	IAmb	IAmb	14 47 42.7	
	comp=Z,1.4nm,1.3s						
MK31	**Makanchi Array**	**52.21**	**323**	P	**P**	**14 48 34.5**	**+0.2**
MK31				IAmb	IAmb	14 48 35.0	
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**52.21**	**323**	P	**P**	**14 48 34.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=121,slow=8.4,SNR=20						
MKAR				PcP	**PcP**	**14 49 43.3**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=113,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**52.21**	**323**	P	**P**	**14 48 34.5**	**+0.2**
MAKZ	**Makanchi**	**52.40**	**323**	P	**P**	**14 48 35.3**	**-0.4**
MAKZ				IAmb	IAmb	14 48 38.0	
	comp=Z,3.1nm,1.4s						
KURK	**Kurchatov**	**56.27**	**326**	P	**P**	**14 49 03.6**	**0.0**
KURK				IAmb	IAmb	14 49 04.1	
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**56.27**	**326**	P	**P**	**14 49 03.4**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=124,slow=7.0,SNR=7.7						
KK31	**Karatay Array**	**58.38**	**315**	P	**P**	**14 49 18.2**	**-0.5**
KK31				IAmb	IAmb	14 49 37.3	
	comp=Z,2.8nm,1.4s						
KKAR	**Karatay Array**	**58.38**	**315**	P	**P**	**14 49 18.1**	**-0.5**
KKAR	**Karatay Array**	**58.38**	**315**	P	**P**	**14 49 18.1**	**-0.5**
KKAR				IAmb	IAmb	14 49 37.3	
	comp=Z,2.8nm,1.4s						
BVAR	**Borovoye Array**	**61.86**	**326**	P	**P**	**14 49 42.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=141,slow=9.3,SNR=5.7						
ABKAR	**Akbulak array**	**67.03**	**319**	P	**P**	**14 50 14.9**	**-1.1**
FINES	**FINESS Array B**	**86.12**	**332**	P	**P**	**14 52 02.6**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=97,slow=5.7,SNR=6.9						

*REY **16** 14:47:57.1, 64.°62N×17.°56W, h10km*
*MOS **16** 14:47:58.6±1.1, 64.°53N×17.°61W, h10km, mb4.6/41, Error ellipse: s-maj=11.4km s-min=7.7km az=111.4*
*IDC **16** 14:47:58.5

baz=206
IKVO Krokottuvotn 1.14 15 P **Pg 14 48 16.6 -4.7**
baz=14
IMJO Mjoaskard 1.15 234 P **Pg 14 48 17.6 -3.8**
baz=234
IGYG Gygjarholskot 1.19 255 P **Pg 14 48 18.1 -4.1**
baz=255
IGRS Grimsstaoir 1.19 30 P Pg 14 48 17.5 -4.8
baz=30
BORG Borgarnes 1.62 276 Pg **Pn 14 48 25.0 -3.5**
157nm,0.3s,baz=96,slow=7.5,SNR=359
BORG Lg Lg 14 48 47.7
56nm,0.3s,baz=215,slow=23,SNR=9.3
BORG LR LR 14 49 12.4
comp=Z,3μm,19.1s,baz=94,slow=47
BORG Borgarnes 1.62 276 Pn **Pn 14 48 24.7 -3.8**
BORG Sn **Sn 14 48 48.9 -0.8**
SCO Scoresbysund 6.12 346 *i* P **Pn 14 49 28.5 -1.8**
SCO *e*S **Sn 14 50 39.4 -1.2**
SCO Scoresbysund 6.12 346 *i* P **Pn 14 49 28.5 -1.8**
SCO *e*S **Sn 14 50 39.4 -1.2**
SCO Scoresbysund 6.12 346 Pn **Pn 14 49 29.5 -0.9**
JMIC Jan Mayen 7.25 24 LR LR 14 51 52.4
comp=Z,853nm,20.5s,baz=246,slow=32
SUMG Summit 10.96 326 P **Pn 14 50 37.5 +0.5**
SUMG Summit 10.96 326 Pn **Pn 14 50 37.5 +0.5**
EKA Eskdalemuir Ar 11.75 136 Pn **Pn 14 50 46.0 -1.4**
baz=326,slow=13,SNR=58
ESK Eskdalemuir 11.75 136 P **Pn 14 50 46.1 -1.3**
ESK Eskdalemuir 11.75 136 Pn **Pn 14 50 46.1 -1.3**
DSB Dublin 12.76 148 Pn **Pn 14 50 59.6 -1.7**
NC204 NORSAR Array S 13.26 92 **Pn 14 51 05.2 -2.9**
NBO00 NORSAR Array S 13.38 93 **Pn 14 51 06.6 -3.2**
NAO01 NORSAR Array S 13.52 93 Pn **Pn 14 51 11.4 -0.2**
NOA NORSAR Array B 13.57 92 Pn **Pn 14 51 09.6 -2.6**
0.0nm,0.3s,baz=303,slow=12,SNR=3.8
NOA LR LR 14 56 28.4
comp=Z,280nm,19.0s,baz=295,slow=38
SFJD Kangerlussuaq 13.65 295 LR LR 14 55 57.3
comp=Z,741nm,18.0s,baz=86,slow=35
HFS Hagfors 15.08 93 Pn **Pn 14 51 30.7 -2.1**
0.1nm,0.3s,baz=280,slow=9.9,SNR=2.8
HFS LR LR 14 57 15.5
comp=Z,275nm,19.8s,baz=295,slow=37
ARCES ARCESS Array B 17.17 54 P **Pn 14 51 59.6 -0.1**
0.4nm,0.3s,baz=279,slow=9.7,SNR=13
ARCES LR LR 14 57 07.1
comp=Z,154nm,18.7s,baz=298,slow=32
ARE0 ARCESS Array S 17.17 54 P **P 14 52 02.9 +1.5**
KEV Kevo 17.68 54 P **P 14 52 06.8 -0.1**
KEV pmax pmax
comp=Z,12nm,0.8s
KEV Kevo 17.68 54 **P 14 52 06.8 -0.1**
FIA1 FINESS Array S 19.75 79 P **P 14 52 29.5 -0.1**
FINES FINESS Array B 19.75 79 P **P 14 52 29.4 -0.2**
comp=Z,0.2nm,0.3s,baz=308,slow=9.4,SNR=11
FINES LR LR 14 59 37.5
comp=Z,270nm,19.1s,baz=289,slow=35
FINES FINESS Array B 19.75 79 P **P 14 52 29.3 -0.3**
CLL Collm 20.72 115 *i* P **P 14 52 40.5 +0.2**
comp=Z,4.0nm,0.7s
CLL *e*pP **sP 14 52 43.0 -0.1**
CLL *e* 14 52 47.0
CLL *e*S **S 14 56 32.0 +0.3**
CLL LmH 15 01 00.0
comp=N,200nm,21.9s
CLL LmH 15 01 00.0
comp=E,400nm,20.5s
CLL Collm 20.72 115 *i* P **P 14 52 40.5 +0.2**
CLL *e* 14 52 43.0
CLL *e*S **S 14 56 32.0 +0.3**
CLL pmax pmax
comp=Z,4.0nm,0.7s
ECH Echery 21.15 129 P **P 14 52 45.5 +0.5**
ECH pmax pmax
comp=Z,14nm,0.9s
ECH Echery 21.15 129 P **P 14 52 45.5 +0.5**
GRA1 Grafenberg Arr 21.34 121 P **P 14 52 47.3 +0.3**
GRA1 IAmb IAmb 14 52 58.3
comp=Z,15nm,0.7s
GRF Grafenberg Arr 21.34 121 P **P 14 52 47.3 +0.3**
GRF pmax pmax
comp=Z,15nm,0.7s
GRF Grafenberg Arr 21.34 121 *e*P **P 14 52 49.2 +2.2**
comp=Z,11nm,1.2s,baz=325,slow=9.0
NKC Novy Kostel 21.36 118 AMS AMS 15 03 10.0
comp=Z,500nm,9.6s
STU Stuttgart 21.37 125 P **P 14 52 46.5 -0.9**
STU pmax pmax
comp=Z,16nm,0.7s
STU Stuttgart 21.37 125 P **P 14 52 46.5 -0.9**
STU IAmb IAmb 14 52 55.6
comp=Z,16nm,0.7s
BRG Berggiesshubel 21.43 115 *e*P **P 14 52 47.1 -0.8**
comp=Z,7.4nm,0.9s
BRG S Sn 14 56 52.0 -1.3
BRG Berggiesshubel 21.43 115 *e*P **P 14 52 47.1 -0.8**
BRG S Sn 14 56 52.0 -1.3
BRG pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 21.45 127 P **P 14 52 47.8 -0.4**
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 21.45 127 P **P 14 52 47.8 -0.4**
VSU Vasula 21.61 86 *i* P **P 14 52 49.7 0.0**
VSU pmax pmax
comp=Z,50nm,0.8s
FRB Frobisher Bay 21.73 291 P **P 14 52 51.4 +0.4**
comp=Z,11nm,0.9s,baz=90,slow=7.1,SNR=2.5
FRB LR LR 15 00 03.1
comp=Z,242nm,21.0s,baz=54,slow=33
PVCC Panska Ves 21.94 115 AMS AMS 15 02 40.0
comp=Z,400nm,11.2s
SLVR Solovky 22.12 65 *e*P **P 14 52 53.7 -1.5**
comp=Z,18nm,0.3s
PRA Prague 22.25 116 AMS AMS 15 05 50.0
comp=Z,200nm,10.7s
PRU Pruhonice 22.36 116 AMS AMS 15 06 00.0
comp=Z,500nm,10.1s
KSP Ksiaz 22.38 112 *e*P **P 14 52 58.3 +0.2**
CHVC Chvalec 22.48 113 *e*P **P 14 52 58.4 -0.9**
CHVC AMS AMS 15 04 30.0
comp=Z,300nm,15.2s
GOPC GO Pecny, Ondr 22.52 115 AMS AMS 15 06 20.0
comp=Z,500nm,10.3s
UPC Upice 22.53 113 AMS AMS 15 02 40.0
comp=Z,300nm,17.3s
OSTC Ostas 22.57 112 AMS AMS 15 03 20.0
comp=Z,400nm,8.6s
KHC Kasperske Hory 22.68 118 *e*P **P 14 53 01.2 -0.2**
KHC AMS AMS 15 03 30.0
comp=Z,400nm,16.5s
KHC Kasperske Hory 22.68 118 *ce*P **P 14 53 00.5 -0.9**
KHC pmax pmax
comp=Z,16nm,1.0s
KHC Kasperske Hory 22.68 118 P **P 14 52 59.9 -1.5**
DPC Dobruska-Polom 22.77 113 *e*P **P 14 53 03.3 +0.9**
DPC AMS AMS 15 03 00.0
comp=Z,300nm,11.9s
DPC Dobruska-Polom 22.77 113 *e*P **P 14 53 03.3 +0.9**
DPC MLR MLR
comp=Z,300nm,11.9s
DAVA Damuels 22.88 126 *e*pP pP 14 53 04.9 -0.7
comp=Z,1.1nm,0.3s
SSB Saint Sauveur 22.94 137 P **P 14 53 04.7 +0.5**
SSB pmax pmax
comp=Z,24nm,1.5s
SSB Saint Sauveur 22.94 137 P **P 14 53 04.7 +0.5**
SSB IAmb IAmb 14 53 16.4
comp=Z,24nm,1.5s
GEC2 GERESS Array S 22.96 118 P **P 14 53 04.2 -0.2**
GERES GERESS Array B 22.96 118 P **P 14 53 05.0 +0.6**
comp=Z,2.6nm,0.9s,baz=339,slow=7.1,SNR=10
GERES LR LR 15 02 27.6
comp=Z,197nm,19.1s,baz=320,slow=38
GERES GERESS Array B 22.96 118 P **P 14 53 04.3 -0.2**
RETA Reutte 23.02 125 *e*P **P 14 53 05.2 +0.2**
comp=Z,3.4nm,0.7s
KRLC Kraliky 23.17 112 AMS AMS 15 06 50.0
comp=Z,400nm,12.0s
MOTA Moosalm 23.26 124 *e*pP pP 14 53 09.2 -0.4
comp=Z,6.5nm,1.2s
TREC Trest 23.28 115 AMS AMS 15 02 40.0
comp=Z,300nm,18.9s
DAVOX Davos/Dischmat 23.32 127 P **P 14 53 09.8 +1.6**
comp=Z,2.6nm,0.7s,baz=315,slow=9.8,SNR=3.1

TMCR Tamitsa 23.40 66 *e*P **P 14 53 09.4 +0.8**
TMCR Tamitsa 23.40 66 *e*P **P 14 53 09.2 +0.6**
TMCR pmax pmax
comp=Z,60nm,1.3s
TUE Stuetta 23.40 128 P **P 14 53 09.8 +0.7**
SQTA Sankt Quirin 23.41 124 *e*P **P 14 53 08.8 -0.2**
comp=Z,12nm,1.2s
FETA Feichten 23.41 125 *e*pP **P 14 53 11.2 +2.2**
comp=Z,8.7nm,1.2s
WTTA Wattenberg 23.52 124 *e*P **P 14 53 10.0 -0.3**
comp=Z,14nm,1.3s
FUORN Ofenpass-Fuorn 23.59 126 P **P 14 53 10.4 -0.6**
EUNU Eureka 23.70 336 P **P 14 53 12.4 +0.9**
VRAC Vranov 23.71 114 P **P 14 53 12.1 +0.3**
comp=Z,4.3nm,0.7s,baz=311,slow=12,SNR=6.9
VRAC LR LR 15 03 43.3
comp=Z,144nm,19.0s,baz=330,slow=40
MOA Molln 24.00 119 *e*pP **P 14 53 17.6 +2.9**
comp=Z,13nm,1.5s
CONA Conrad Observa 24.54 117 *e*P **P 14 53 19.8 +0.1**
comp=Z,5.4nm,0.9s
CTI Castel Tesino 24.57 125 P **P 14 53 20.0 0.0**
CTI pmax pmax
comp=Z,33nm,1.4s
CTI Castel Tesino 24.57 125 P **P 14 53 20.0 0.0**
CTI IAmb IAmb 14 53 38.5
comp=Z,33nm,1.4s
PRED Cave del Predi 24.92 122 P **P 14 53 23.3 +0.2**
ARSA Arzberg 24.97 118 *e*P **P 14 53 23.2 -0.4**
comp=Z,2.6nm,0.8s
NIE Niedzica 25.11 109 *e*P **P 14 53 25.6 +0.9**
VYHS Vyhne 25.25 112 *e*P **P 14 53 26.7 +0.7**
VYHS Vyhne 25.25 112 *e*P **P 14 53 26.7 +0.7**
SOKA Soboth 25.26 120 *e*P **P 14 53 24.7 -1.5**
comp=Z,2.1nm,0.7s
KLMR Klimovskoe 25.65 72 *e*P **P 14 53 28.3 -1.2**
comp=Z,22nm,1.6s
KLMR LQ LQ 15 00 43.4
KLMR LR LR 15 02 03.4
KLMR Klimovskoe 25.65 72 *e*P **P 14 53 28.3 -1.2**
KLMR pmax pmax
comp=Z,17nm,1.3s
KLMR Klimovskoe 25.65 72 *e*P **P 14 53 28.3 -1.2**
KLMR AMP 14 53 36.3
comp=Z,17nm,1.3s
KLMR LQ LQ 15 00 43.2
KLMR LQ LQ 15 00 43.2
KLMR LR LR 15 02 03.7
KWP Kalwaria Pacla 25.93 106 *e*P **P 14 53 32.6 +0.4**
SCHQ Schefferville 26.00 271 P **P 14 53 32.0 -0.8**
comp=Z,17nm,0.8s,baz=48,slow=8.9,SNR=13
SCHQ LR LR 15 02 57.3
comp=Z,159nm,18.9s,baz=14,slow=35
SCHQ Schefferville 26.00 271 P **P 14 53 32.5 -0.3**
SCHQ IAmb IAmb 14 53 35.5
comp=Z,20nm,0.9s
PSZ Piszkesteto 26.13 112 P **P 14 53 34.3 +0.2**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 26.13 112 P **P 14 53 34.3 +0.2**
ESDC Sonseca Array 26.23 156 P **P 14 53 34.4 -0.6**
comp=Z,1.3nm,0.7s,baz=351,slow=9.2,SNR=8.2
ESDC LR LR 15 03 51.5
comp=Z,449nm,18.1s,baz=330,slow=36
ESDC Sonseca Array 26.23 156 P **P 14 53 33.3 -1.7**
KOLS Kolonicke sedl 26.29 107 *e*P **P 14 53 34.8 -0.7**
KOLS Kolonicke sedl 26.29 107 *e*P **P 14 53 34.8 -0.7**
RES Resolute Bay 26.48 324 LR LR 15 03 55.7
comp=Z,257nm,18.5s,baz=55,slow=36
AKASG Malin Array Be 27.87 97 P **P 14 53 48.7 -0.9**
comp=Z,0.6nm,0.3s,baz=320,slow=9.5,SNR=7.3
AKASG LR LR 15 05 04.1
comp=Z,143nm,19.7s,baz=310,slow=37
AKASG Malin Array Be 27.87 97 *ce*P **P 14 53 51.4 +1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 27.87 97 IAmb IAmb 14 53 55.7
comp=Z,2.3nm,1.2s
OBN Obninsk 27.92 84 LR LR 15 04 42.8
comp=Z,34nm,18.2s,baz=355,slow=36
OBN Obninsk 27.92 84‖ *e*P **P 14 53 50.6 +0.6**
OBN *e**PP **sP 14 53 54.0 +1.0**
OBN *i* *SP **pP 14 53 58.2 +6.1**
OBN *i* 14 54 39.6
OBN SSS SSS 15 00 17.0
OBN pmax pmax
comp=Z,11nm,0.4s
OBN MLR MLR
comp=Z,146nm,14.0s
MLR Muntele Rosu 30.55 108 LR LR 15 08 18.0
comp=Z,251nm,18.4s,baz=303,slow=40
KIRV Kirov 31.03 69 LR LR 15 06 00.3
comp=Z,228nm,19.0s,baz=311,slow=35
KEST Kesra 33.15 138 LR LR 15 08 47.5
comp=Z,229nm,18.9s,baz=260,slow=38
PKME Peaks-Kenny Pk 34.16 261 P **P 14 54 44.8 -0.2**
TRQ Mont Tremblant 35.66 267 P **P 14 54 58.9 +0.8**
ARU Arti 36.13 66 LR LR 15 09 08.8
comp=Z,205nm,19.5s,baz=305,slow=35
FRNY Flat Rock 36.34 265 P **P 14 55 04.6 +0.8**
FRNY IAmb IAmb 14 55 06.5
comp=Z,12nm,1.2s
D53A Lac Vacive, Po 36.34 271 P **P 14 55 04.3 +0.4**
NRIK Noril'sk 36.52 35 LR LR 15 11 38.1
comp=Z,145nm,18.1s,baz=18,slow=39
GOF Gofitskoye 38.15 91‖ *e*P **P 14 55 20.7 +1.5**
GOF pmax pmax
comp=Z,15nm,0.9s
BRTR Keskin Array B 38.50 105 P **P 14 55 23.1 +0.7**
comp=Z,2.7nm,0.7s,baz=327,slow=6.5,SNR=7.5
BRTR Keskin Array B 38.50 105 *ce*P **P 14 55 23.5 +1.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 38.50 105 P **P 14 55 22.9 +0.6**
KIV Kislovodsk 38.88 92 *e*P **P 14 55 25.2 -0.2**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,250nm,16.0s
KBZ Khabaz 39.15 92 P **P 14 55 28.1 +0.5**
comp=Z,2.7nm,0.9s,baz=291,slow=11,SNR=4.7
KBZ LR LR 15 11 42.8
comp=Z,170nm,20.1s,baz=332,slow=36
YKA Yellowknife Ar 39.22 313 P **P 14 55 27.5 -0.4**
comp=Z,3.2nm,1.0s,baz=39,slow=9.9,SNR=2.9
E46A Sault Ste Mari 39.74 276 P **P 14 55 33.5 +1.0**
E46A IAmb IAmb 14 55 34.5
comp=Z,12nm,0.8s
AKTO Aktyubinsk 40.33 73 P **P 14 55 37.8 +0.4**
comp=Z,0.8nm,0.5s,baz=341,slow=13,SNR=6.7
WVNY West Valley, N 40.45 267 P **P 14 55 40.0 +1.5**
WVNY IAmb IAmb 14 55 40.8
comp=Z,21nm,1.0s
ULM Lac du Bonnet 41.58 289 LR LR 15 12 04.4
comp=Z,132nm,19.5s,baz=9.5,slow=35
MAK Makhachkala 41.75 89 *e*P **P 14 55 45.5 -3.6**
MAK *e* 14 57 22.4
MAK *e*S **S 15 02 01.8 -4.5**
MAK pmax pmax
comp=Z,92nm,1.1s
MAK MLR MLR
comp=Z,272nm,19.0s
ABKAR Akbulak array 42.04 73 P **P 14 55 51.4 +0.1**
AGMN Agassiz Nation 43.10 287 P **P 14 56 01.2 +1.2**
AGMN IAmb IAmb 14 56 02.6
comp=Z,7.9nm,0.9s
BVAR Borovoye Array 43.25 62 P **P 14 56 01.4 +0.2**
comp=Z,2.2nm,0.8s,baz=307,slow=5.4,SNR=11
O52A Adamsville 43.72 268 P **P 14 56 06.7 +1.5**
P53A Whipple 44.05 267 P **P 14 56 09.6 +1.8**
F36A Milaca 44.06 283 P **P 14 56 09.2 +1.4**
N49A Columbus Grove 44.07 271 P **P 14 56 08.0 +0.1**
COLD Coldfoot 44.15 336 P **P 14 56 09.9 +1.7**
Q54A Coxs Mills 44.23 266 P **P 14 56 10.5 +1.3**
Q54A IAmb IAmb 14 56 11.8
comp=Z,13nm,1.2s
P52A Corning 44.25 268 P **P 14 56 10.2 +0.8**
P52A IAmb IAmb 14 56 11.5
comp=Z,14nm,1.0s
K43A Burlington 44.40 276 P **P 14 56 12.0 +1.5**
O49A Covington 44.74 270 P **P 14 56 14.3 +1.1**
F33A 5 Mile Ranch, 45.23 285 P **P 14 56 18.4 +1.3**
F33A IAmb IAmb 14 56 20.9
comp=Z,16nm,1.3s
M44A Midewin, Midew 45.35 275 P **P 14 56 18.0 -0.1**

ILAR Eielson Array 45.71 332 P **P 14 56 21.8 +1.1**
comp=Z,3.5nm,1.1s,baz=27,slow=5.8,SNR=13
ILAR PcP **PcP 14 57 57.1 -1.2**
comp=Z,1.7nm,0.8s,baz=356,slow=3.1,SNR=12
ILAR LR LR 15 17 55.2
comp=Z,169nm,19.4s,baz=37,slow=39
SFIN Lafayette 45.77 273 P **P 14 56 21.9 +0.4**
P48A Milroy 45.81 271 P **P 14 56 21.9 +0.1**
L40A Anamosa 46.16 278 P **P 14 56 25.4 +0.9**
L40A IAmb IAmb 14 56 26.4
comp=Z,7.0nm,0.8s
U56A King 46.25 264 P **P 14 56 26.4 +1.2**
R50A Paris 46.32 269 P **P 14 56 26.6 +0.8**
R50A IAmb IAmb 14 56 27.8
comp=Z,7.2nm,0.9s
P46A Rosedale 46.45 272 P **P 14 56 27.8 +1.0**
P46A IAmb IAmb 14 56 28.7
comp=Z,7.7nm,0.8s
ECSD EROS Data Cent 47.08 284 P **P 14 56 32.6 +1.0**
ECSD IAmb IAmb 14 56 34.8
comp=Z,7.0nm,1.2s
WCI Wyandotte Cave 47.21 271 P **P 14 56 33.7 +0.9**
WCI pmax pmax
comp=Z,18nm,1.0s
WCI Wyandotte Cave 47.21 271 P **P 14 56 33.7 +0.9**
T50A Nancy 47.60 268 P **P 14 56 36.7 +0.9**
T50A IAmb IAmb 14 56 37.9
comp=Z,9.6nm,1.2s
ZAA0 Zalesovo Array 47.69 51 P **P 14 56 36.9 +0.6**
ZALV Zalesovo Beam 47.69 51 P **P 14 56 35.6 -0.6**
comp=Z,0.9nm,0.5s,baz=331,slow=8.8,SNR=4.6
ZALV Zalesovo Beam 47.69 51 *i* P **P 14 56 37.0 +0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 47.69 51 P **P 14 56 36.3 0.0**
Q44A Meyer Farm, Va 47.82 274 P **P 14 56 39.0 +1.5**
KURK Kurchatov 48.17 58 *ce*P **P 14 56 40.3 +0.3**
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 48.17 58 P **P 14 56 39.7 -0.3**
KURK IAmb IAmb 14 56 43.4
comp=Z,4.6nm,0.8s
KURBB Kurchatov Arra 48.21 58 P **P 14 56 40.2 -0.1**
comp=Z,3.2nm,0.9s,baz=324,slow=7.2,SNR=11
LAO LASA Array 48.58 293 P **P 14 56 45.5 +2.1**
T47A Sharon Grove 48.60 270 P **P 14 56 44.6 +1.0**
EGMT Eagleton 48.87 297 P **P 14 56 47.2 +1.7**
FVM French Village 49.20 274 P **P 14 56 48.2 +0.1**
FVM pmax pmax
comp=Z,7.0nm,0.9s
FVM French Village 49.20 274 P **P 14 56 48.2 +0.1**
FVM IAmb IAmb 14 56 49.7
comp=Z,7.1nm,0.9s
W50A Signal Mountai 49.34 268 P **P 14 56 50.1 +0.8**
V48A Smith Brothers 49.53 269 P **P 14 56 51.2 +0.5**
V48A IAmb IAmb 14 56 56.6
comp=Z,8.0nm,1.1s
T42A Van Buren 50.28 274 P **P 14 56 56.0 -0.4**
T42A IAmb IAmb 14 56 59.8
comp=Z,6.0nm,0.9s
GEYT Alibeck 50.47 83 P **P 14 56 58.7 +0.9**
comp=Z,0.9nm,0.5s,baz=303,slow=6.7,SNR=2.1
GEYT LR LR 15 20 38.7
comp=Z,101nm,18.9s,baz=190,slow=39
GEYT Alibeck 50.47 83 IAmb IAmb 14 57 01.9
comp=Z,3.5nm,1.3s
GCMT Greycliff 50.67 295 P **P 14 57 00.9 +1.5**
S39A Bolivar 50.69 276 P **P 14 56 59.4 0.0**
S39A IAmb IAmb 14 57 00.5
comp=Z,7.0nm,0.9s
PLAL Pickwick Lake 50.72 270 P **P 14 57 00.1 +0.4**
PLAL IAmb IAmb 14 57 00.6
comp=Z,8.0nm,1.2s
X48A Hartselle 50.72 269 P **P 14 57 00.1 +0.4**
X48A IAmb IAmb 14 57 00.8
comp=Z,9.6nm,1.1s
HRY Holter Researc 50.74 298 P **P 14 57 01.0 +1.1**
RLMT Red Lodge 51.08 295 P **P 14 57 03.8 +1.3**
RLMT IAmb IAmb 14 57 05.0
comp=Z,10nm,1.2s
KK31 Karatay Array 51.33 70 P **P 14 57 05.0 +0.8**
KK31 pmax pmax
comp=Z,7.0nm,1.4s
KK31 Karatay Array 51.33 70 P **P 14 57 05.0 +0.8**
KKAR Karatay Array 51.33 70 P **P 14 57 04.7 +0.5**
KKAR pmax pmax
comp=Z,7.0nm,1.4s
KKAR Karatay Array 51.33 70 P **P 14 57 04.7 +0.5**
KKAR Karatay Array 51.33 70 P **P 14 57 04.9 +0.7**
YAK Yakutsk 51.33 19 *i* P **P 14 57 05.3 +1.4**
YAK pmax pmax
comp=Z,4.0nm,0.9s
YNE Yellowstone No 51.46 295 P **P 14 57 06.6 +1.1**
BOZ Bozeman (W) 51.60 297 P **P 14 57 07.9 +1.5**
BOZ pmax pmax
comp=Z,10.0nm,1.0s
BOZ Bozeman (W) 51.60 297 P **P 14 57 07.9 +1.5**
BOZ IAmb IAmb 14 57 09.2
comp=Z,9.9nm,0.9s
U40A Yellville 51.61 275 P **P 14 57 06.6 +0.2**
U40A IAmb IAmb 14 57 07.6
comp=Z,4.2nm,0.8s
LRM Limekiln Ridge 51.72 297 P **P 14 57 09.2 +1.8**
YMP Mirror Lake PI 51.74 295 P **P 14 57 09.3 +1.7**
LRAL Lakeview Retre 51.91 268 P **P 14 57 08.5 -0.1**
LRAL IAmb IAmb 14 57 11.8
comp=Z,12nm,1.4s
YHH Holmes Hill 51.97 296 P **P 14 57 10.2 +0.8**
K22A Casper 52.05 291 P **P 14 57 10.2 +0.4**
K22A IAmb IAmb 14 57 10.8
comp=Z,17nm,1.4s
DGZ Jazzator, Alta 52.14 53‖ *e*P **P 14 57 12.8 +2.5**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
YPP Pitchstone Pla 52.39 295 P **P 14 57 14.7 +2.2**
FLWY Flagg Ranch 52.51 295 P **P 14 57 14.7 +1.4**
MAKZ Makanchi 52.65 58 P **P 14 57 15.1 +1.1**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
MAKZ Makanchi 52.65 58 P **P 14 57 15.1 +1.1**
MCMT McKenzie Canyo 52.71 297 P **P 14 57 16.4 +1.6**
PHWY Pilot Hill 52.75 289 P **P 14 57 15.4 +0.3**
PHWY IAmb IAmb 14 57 16.7
comp=Z,5.8nm,0.9s
IMW Indian Meadow 52.76 295 P **P 14 57 16.8 +1.6**
MK31 Makanchi Array 52.78 58 P **P 14 57 15.4 +0.4**
MK31 pmax pmax
comp=Z,5.0nm,1.4s
MK31 Makanchi Array 52.78 58 P **P 14 57 15.4 +0.4**
MKAR Makanchi Array 52.78 58 P **P 14 57 14.9 0.0**
comp=Z,3.9nm,1.2s,baz=347,slow=5.0,SNR=12
MKAR LR LR 15 21 34.2
comp=Z,58nm,20.6s,baz=340,slow=38
MKAR Makanchi Array 52.78 58 *ce*P **P 14 57 16.7 +1.7**
MKAR pmax pmax
comp=Z,4.0nm,1.2s
MKAR Makanchi Array 52.78 58 P **P 14 57 15.6 +0.6**
FXWY Fox Creek 53.01 295 P **P 14 57 17.1 +0.2**
TPAW Teton Pass 53.10 295 P **P 14 57 18.0 +0.3**
TPAW IAmb IAmb 14 57 19.2
comp=Z,6.7nm,1.1s
TOA0 Torodi Ar. Sit 53.11 156 P **P 14 57 17.0 -0.7**
TORD Torodi Ar. Bea 53.11 156 P **P 14 57 16.8 -0.8**
comp=Z,3.9nm,1.0s,baz=344,slow=7.3,SNR=8.1
TORD LR LR 15 19 47.0
comp=Z,102nm,19.2s,baz=190,slow=36
TORD Torodi Ar. Bea 53.11 156 P **P 14 57 16.9 -0.8**
RWWY Rawlins 53.13 291 P **P 14 57 18.9 +0.9**
RWWY IAmb IAmb 14 57 19.4
comp=Z,6.5nm,1.0s
BW06 Boulder Array 53.16 293 P **P 14 57 17.2 -0.9**
BW06 IAmb IAmb 14 57 19.8
comp=Z,10.0nm,0.9s
PD31 Pinedale Array 53.16 293 P **P 14 57 17.1 -1.0**
PD31 IAmb IAmb 14 57 19.8
comp=Z,9.0nm,0.9s
PDAR Pinedale Array 53.16 293 P **P 14 57 17.2 -0.9**
comp=Z,6.2nm,0.8s,baz=52,slow=7.1,SNR=42
PDAR LR LR 15 19 53.0
comp=Z,142nm,20.1s,baz=352,slow=36
PDAR Pinedale Array 53.16 293 P **P 14 57 17.0 -1.2**
REDW Red Top Meadow 53.17 295 P **P 14 57 19.3 +1.1**
REDW IAmb IAmb 14 57 22.2
comp=Z,8.6nm,1.2s
N23A Red Feather La 53.29 289 P **P 14 57 20.2 +1.1**

N23A IAmb IAmb 14 57 21.9
comp=Z,11nm,1.1s
AAK Ala-Archa 53.31 67 *ce*P **P 14 57 21.2 +2.1**
AAK pmax pmax
comp=Z,19nm,1.3s
MIAR Mount Ida 53.46 274 P **P 14 57 20.8 +0.7**
MIAR pmax pmax
comp=Z,4.0nm,1.0s
MIAR Mount Ida 53.46 274 P **P 14 57 20.8 +0.7**
BMO Blue Mountains 54.38 300 P **P 14 57 26.4 -0.4**
BMO pmax pmax
comp=Z,3.0nm,1.0s
BMO Blue Mountains 54.38 300 P **P 14 57 26.4 -0.4**
HWUT Hardware Ranch 54.94 294 P **P 14 57 31.5 +0.5**
RDMU Red Mountain 55.03 292 P **P 14 57 32.4 +0.7**
X34A Smith Ranch, M 55.23 278 P **P 14 57 34.1 +1.1**
TCUT Toone Canyon 55.29 294 P **P 14 57 34.7 +1.0**
TARG Taragay, Kyrgy 55.38 65 P **P 14 57 34.5 -0.1**
TARG IAmb IAmb 14 57 48.1
comp=Z,7.8nm,1.4s
WMOK Wichita Mounta 55.52 279 P **P 14 57 36.0 +0.9**
WMOK pmax pmax
comp=Z,9.0nm,1.3s
WMOK Wichita Mounta 55.52 279 P **P 14 57 36.0 +0.9**
WMOK IAmb IAmb 14 57 38.5
comp=Z,8.9nm,1.2s
JLU Jordanelle 55.75 293 P **P 14 57 37.5 +0.5**
S22A 4UR Ranch, Cre 56.32 288 P **P 14 57 42.2 +1.0**
MTP Monte Pirata 56.42 238 P **P 14 57 42.5 +0.8**
P17A Butcher Ranch, 56.43 292 P **P 14 57 42.9 +1.1**
PV22 Blue Mesa, Par 56.45 290 P **P 14 57 43.0 +1.0**
PV21 Cone Mtn., Par 56.50 290 P **P 14 57 41.8 -0.6**
PV21 IAmb IAmb 14 57 44.3
comp=Z,5.4nm,0.9s
ZAK Zakamensk 56.52 41 *eP* **P 14 57 43.0 +0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
KSH Kashi 56.55 68 P **P 14 57 45.8 +3.2**
KSH S **S 15 05 37.8 +3.4**
KSH pmax pmax
comp=Z,16nm,0.7s
KSH pmax pmax
comp=Z,92nm,4.1s
KSH LR LR
comp=N,140nm,7.1s
KSH LR LR
comp=E,130nm,6.6s
KSH LR LR
comp=Z,180nm,8.4s
PV23 Carpenter Ridg 56.61 290 P **P 14 57 44.1 +0.9**
PV04 Paradox Valley 56.61 290 P **P 14 57 43.9 +0.8**
PV04 IAmb IAmb 14 57 44.8
comp=Z,3.7nm,0.8s
DUG Dugway, Tooele 56.63 294 P **P 14 57 44.1 +0.9**
DUG pmax pmax
comp=Z,10.0nm,1.4s
DUG Dugway, Tooele 56.63 294 P **P 14 57 44.1 +0.9**
DUG IAmb IAmb 14 57 45.8
comp=Z,9.6nm,1.4s
PV12 Saucer Basin, 56.64 290 P **P 14 57 43.8 +0.5**
PV12 IAmb IAmb 14 57 45.1
comp=Z,7.1nm,1.1s
SRU San Rafael Swe 56.65 292 P **P 14 57 43.9 +0.5**
SRU pmax pmax
comp=Z,8.0nm,1.1s
SRU San Rafael Swe 56.65 292 P **P 14 57 43.9 +0.5**
PV14 Lion Creek, Pa 56.68 290 P **P 14 57 42.9 -0.7**
PV11 David Mesa, Pa 56.68 290 P **P 14 57 43.9 +0.3**
PV10 Paradox Valley 56.68 290 P **P 14 57 45.0 +1.3**
PV16 Nyswonger Mesa 56.69 290 P **P 14 57 44.4 +0.7**
PV16 IAmb IAmb 14 57 45.4
comp=Z,8.3nm,1.1s
PV01 Paradox Valley 56.70 289 P **P 14 57 45.1 +1.3**
PV01 IAmb IAmb 14 57 45.8
comp=Z,7.5nm,1.0s
PV02 Paradox Valley 56.70 290 P **P 14 57 44.7 +0.9**
PV03 Paradox Valley 56.71 290 P **P 14 57 44.6 +0.7**
PV03 IAmb IAmb 14 57 45.6
comp=Z,8.0nm,0.9s
PV19 Morning Glory 56.72 290 P **P 14 57 44.4 +0.5**
PV19 IAmb IAmb 14 57 45.5
comp=Z,5.6nm,0.9s
PV17 East Wray Mesa 56.73 290 P **P 14 57 44.4 +0.4**
PV17 IAmb IAmb 14 57 45.7
comp=Z,8.9nm,1.0s
PV18 Skein Mesa, Pa 56.74 290 P **P 14 57 44.7 +0.6**
TMUT Trail Mountain 56.77 292 P **P 14 57 45.4 +1.1**
PV13 Radium Mtn., P 56.78 290 P **P 14 57 44.0 -0.3**
MLPR Magueyes Islan 57.09 240 P **P 14 57 47.0 +0.6**
ELK Elko 57.11 296 P **P 14 57 47.0 +0.4**
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 57.11 296 P **P 14 57 47.0 +0.4**
WMQ Urumqi 57.29 56 *eP* **P 14 57 50.6 +2.9**
WMQ sP sP 14 57 58.5 +7.7
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,59nm,3.9s
MSU Marysvale 57.83 293 P **P 14 57 52.7 +1.0**
MSU Marysvale 57.83 293 P **P 14 57 52.7 +1.0**
MVU Marysvale 57.85 293 P **P 14 57 53.5 +1.6**
PSUT Pine Spring 58.47 294 P **P 14 57 57.9 +1.7**
DBIC Dimbokro 58.55 165 P **P 14 57 57.2 +0.5**
comp=Z,5.0nm,0.9s,baz=340,slow=5.4,SNR=4.5
DBIC LR LR 15 23 41.6
comp=Z,129nm,19.4s,baz=338,slow=37
DBIC Dimbokro 58.55 165 P **P 14 57 57.2 +0.5**
DBIC pmax pmax
comp=Z,16nm,1.3s
DBIC Dimbokro 58.55 165 IAmb IAmb 14 58 05.8
comp=Z,16nm,1.3s
TIC Toumodi 58.56 165 *e*PKP2 **P 14 57 59.1 +2.3**
ANMO Albuquerque 58.57 286 *ce*P **P 14 57 57.7 +0.8**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 58.57 286 **P 14 57 57.9 +1.0**
PKCU Pink Cliffs 58.80 292 P **P 14 59.5 +0.9**
KIC Kosan Boka 58.87 165 *e*PKP2 **P 14 57 57.4 -1.5**
comp=Z,9.9nm,0.7s
LIC Lamto 58.98 165 *e*PKP2 **P 14 57 58.1 -1.5**
comp=Z,34nm,1.2s
CCUT Cedar City 59.13 293 P **P 14 58 02.4 +1.5**
R11A Troy Canyon, C 59.31 295 P **P 14 58 03.2 +1.2**
R11A IAmb IAmb 14 58 04.4
comp=Z,5.4nm,1.1s
LENM Lemitar 59.46 286 P **P 14 58 05.6 +2.5**
LCMT Little Creek M 59.55 292 P **P 14 58 03.9 +0.3**
PAHR Pah Rah Range 59.59 299 P **P 14 58 04.2 +0.3**
PAHR IAmb IAmb 14 58 07.1
comp=Z,7.5nm,1.3s
JCT Junction City 59.62 277 P **P 14 58 04.7 +0.6**
JCT pmax pmax
comp=Z,8.0nm,1.0s
JCT Junction City 59.62 277 P **P 14 58 04.7 +0.6**
U15A North Rim 59.67 291 P **P 14 58 03.9 -0.8**
U15A IAmb IAmb 14 58 06.5
comp=Z,5.8nm,0.8s
KVN Kaiserville 59.67 298 P **P 14 58 05.6 +1.1**
KVN pmax pmax
comp=Z,5.0nm,1.1s
KVN Kaiserville 59.67 298 P **P 14 58 05.6 +1.1**
KVN IAmb IAmb 14 58 10.1
comp=Z,5.3nm,1.1s
SONM Songino Array 59.70 40 P **P 14 58 03.8 -0.7**
comp=Z,0.4nm,0.4s,baz=339,slow=7.9,SNR=4.9
SONM LR LR 15 27 25.3
comp=Z,120nm,19.1s,baz=348,slow=40
SONM Songino Array 59.70 40 P **P 14 58 04.9 +0.4**
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 59.70 40 P **P 14 58 04.9 +0.4**
ULN Ulaanbaatar 59.85 40 *ce*P **P 14 58 07.2 +1.6**
ULN pmax pmax
comp=Z,9.0nm,2.5s
PRN Pahroc Range 59.92 294 P **P 14 58 07.9 +1.7**
PRN IAmb IAmb 14 58 27.2
comp=Z,5.0nm,1.2s
WUAZ Wupatki 60.09 290 P **P 14 58 08.0 +0.6**
YERR Yerington 60.16 298 P **P 14 58 09.2 +1.3**
NVAR Mina Array Bea 60.29 297 P **P 14 58 09.0 +0.2**
comp=Z,0.9nm,0.8s,baz=52,slow=3.7,SNR=8.3
NVAR LR LR 15 24 09.4
comp=Z,120nm,20.5s,baz=358,slow=36

NVAR Mina Array Bea 60.29 297 P **P 14 58 09.0 +0.2**
WAKR Walker 60.66 298 P **P 14 58 12.5 +1.2**
WAKR IAmb IAmb 14 58 13.7
comp=Z,6.4nm,1.3s
SHPR Sheep Range 60.75 294 P **P 14 58 12.9 +1.1**
SHPR IAmb IAmb 14 58 14.5
comp=Z,8.6nm,1.2s
X16A Lo Mia Camp, P 61.07 290 P **P 14 58 14.9 +0.8**
X16A IAmb IAmb 14 58 16.6
comp=Z,4.4nm,0.8s
121A Cookes Peak, D 61.21 285 P **P 14 58 15.4 +0.4**
121A IAmb IAmb 14 58 20.4
comp=Z,7.1nm,1.1s
MDPB Devils Postpil 61.29 297 P **P 14 58 16.9 +1.2**
MDPB IAmb IAmb 14 58 19.2
comp=Z,3.6nm,1.0s
TX31 Lajitas Ar. Si 62.26 280 P **P 14 58 22.7 +0.7**
TX32 Lajitas Array 62.26 280 P **P 14 58 22.8 +0.7**
TX32 IAmb IAmb 14 58 24.7
comp=Z,5.4nm,1.1s
TXAR Lajitas Array 62.26 280 P **P 14 58 22.7 +0.6**
comp=Z,1.9nm,0.9s,baz=48,slow=4.1,SNR=13
TXAR LR LR 15 24 31.0
comp=Z,174nm,19.5s,baz=0.0,slow=35
TXAR Lajitas Array 62.26 280 P **P 14 58 22.1 0.0**
ISA Isabella, Lake 62.78 296 P **P 14 58 27.2 +1.7**
ISA pmax pmax
comp=Z,5.0nm,1.1s
ISA Isabella, Lake 62.78 296 P **P 14 58 27.2 +1.7**
ISA IAmb IAmb 14 58 27.9
comp=Z,5.0nm,1.1s
GTA Gaotai 65.36 49 *eP* **P 14 58 44.3 +1.9**
GTA pP sP 14 58 48.6 +3.0
GTA sP pP 14 58 51.4 +6.7
GTA pmax pmax
comp=Z,3.0nm,1.2s
HHC Hu-ho-hao-te 67.57 40 *eP* **P 14 58 56.9 +0.4**
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,140nm,6.1s
USRK Ussuriysk Ar. 68.92 23 LR LR 15 29 40.9
comp=Z,63nm,18.4s,baz=1.9,slow=36
LZH Lanzhou 69.69 47 *eP* **P 14 59 09.8 -0.1**
LZH pP sP 14 59 13.8 +0.8
LZH sP pP 14 59 16.9 +4.7
LZH PP **PP 15 01 37.5 -5.8**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,75nm,5.4s
LZH LR LR
comp=N,130nm,15.2s
LZH LR LR
comp=E,130nm,15.0s
LZH LR LR
comp=Z,210nm,17.5s
ROSC El Rosal 71.87 241 P **P 14 59 25.9 +2.3**
comp=Z,5.9nm,0.4s,baz=246,slow=22,SNR=4.1
ROSC El Rosal 71.87 241 IAmb IAmb 14 59 26.3
comp=Z,11nm,0.7s
KSRS Korea Array 74.71 28 LR LR 15 35 59.1
comp=Z,56nm,18.5s,baz=328,slow=38
NJ2 Nanjing 77.80 37 *eP* **P 14 59 57.3 0.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
SAML Samuel 80.88 226 P **P 15 00 14.5 +0.3**
SAML pmax pmax
comp=Z,4.0nm,1.2s
SAML Samuel 80.88 226 P **P 15 00 14.5 +0.3**
CMAR Chiang Mai Arr 84.19 59 P **P 15 00 32.2 +0.7**
comp=Z,0.9nm,0.8s,baz=317,slow=7.2,SNR=6.5
CMAR Chiang Mai Arr 84.19 59 *ce*P **P 15 00 33.5 +1.9**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 84.19 59 P **P 15 00 31.9 +0.4**
PALK Pallekele 87.03 79 LR LR 15 43 45.5
comp=Z,80nm,18.9s,baz=136,slow=38
BOSA Boshof 98.75 143 LR LR 15 48 29.3
comp=Z,156nm,18.9s,baz=3.0,slow=37
ASAR Alice Springs 135.02 38 PKP **PKiKP 15 07 20.3 -0.3**
comp=Z,0.8nm,0.9s,baz=349,slow=2.8,SNR=5.1
ASAR Alice Springs 135.02 38 **PKPdf 15 07 18.6 -0.5**
STKA Stephens Creek 144.78 32 PKP **PKPab 15 07 34.1 -1.3**
comp=Z,4.2nm,1.1s,baz=332,slow=6.3,SNR=4.2
STKA Stephens Creek 144.78 32 **PKPab 15 07 34.5 -0.9**

NEIC ***16*** *14:58:40.0±1.8, 10°.9S±0°.1×161°.71E±0°.09, h55km±10km, mb4.0/6, Error ellipse: s-maj=18.0km s-min=9.5km az=215.0*
IDC ***16*** *14:58:40.4±2.7, 10°.87S×161°.73E, h57km±23km, mb3.4/8, mb1 3.7/11, mb1mx3.6/33, mbtmp3.8/11, ML4.2/3, MS3.3/7, Ms1 3.3/7, ms1mx3.1/19, Error ellipse: s-maj=24.9km s-min=16.4km az=68.0*

ISC 16 14:58:39.5±0.7, 10°.92S±0°.09×161°.72E±0°.10, h50km, n24, σ1°31/22, mb3.7/9, MS3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.29**	**310**	P	**Pn**	**14 59 13.7**	**-1.1**
	200nm,0.3s,baz=156,slow=7.1,SNR=21						
HNR				S	**Sn**	**14 59 43.0**	**+1.2**
	202nm,0.3s,baz=12,slow=22,SNR=9.0						
HNR				LR	LR	15 00 26.5	
	comp=Z,376nm,21.4s,baz=222,slow=47						
HNR	**Honiara**	**2.29**	**310**		**Pn**	**14 59 13.1**	**-1.7**
SANVU	**Saraoutou**	**6.98**	**131**		**Pn**	**15 00 20.2**	**+1.0**
DZM	**Mont Dzumac**	**11.98**	**158**	P	**Pn**	**15 01 30.1**	**+2.4**
	0.8nm,0.3s,baz=47,slow=7.4,SNR=21						
DZM				S	**Sn**	**15 03 37.8**	**-2.2**
	0.1nm,0.3s,baz=326,slow=17,SNR=2.0						
DZM				LR	LR	15 05 47.3	
	comp=Z,89nm,18.8s,baz=13,slow=36						
PMG	**Port Moresby**	**14.41**	**275**	LR	LR	15 07 19.8	
	comp=Z,169nm,20.3s,baz=93,slow=36						
CTA	**Charters Tower**	**17.46**	**237**	P	**P**	**15 02 42.2**	**+2.0**
	0.3nm,0.3s,baz=61,slow=12,SNR=10						
CTAO	**Charters Tower**	**17.46**	**237**	P	**P**	**15 02 41.9**	**+1.7**
CTAO				IAmb	IAmb	15 02 46.3	
	comp=Z,6.7nm,0.8s						
EIDS	**Eidsvold**	**17.56**	**214**	Pn	**Pn**	**15 02 39.0**	**-1.7**
EIDS				IAmb	IAmb	15 02 47.0	
	comp=Z,8.3nm,0.8s						
AFI	**Afiamalu**	**26.05**	**99**	LR	LR	15 12 38.8	
	comp=Z,100nm,19.8s,baz=275,slow=32						
WB0	**Warramunga Arr**	**27.75**	**248**	P	**P**	**15 04 23.8**	**+0.1**
WB0				IAmb	IAmb	15 04 30.0	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**27.84**	**248**	P	**P**	**15 04 25.1**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=76,slow=9.2,SNR=5.7						
WRA				LR	LR	15 15 35.7	
	comp=Z,99nm,18.6s,baz=95,slow=36						
WRA	**Warramunga Arr**	**27.84**	**248**	IAmb	IAmb	15 04 33.0	
	comp=Z,0.2nm,0.7s						
AS31	**Alice Springs**	**29.36**	**241**	P	**P**	**15 04 37.9**	**-0.1**
ASAR	**Alice Springs**	**29.36**	**241**	P	**P**	**15 04 38.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=61,slow=9.8,SNR=5.2						
ASAR				LR	LR	15 16 00.4	
	comp=Z,104nm,18.7s,baz=72,slow=35						
ASAR	**Alice Springs**	**29.36**	**241**	P	**P**	**15 04 37.6**	**-0.4**
GUMO	**Guam**	**29.54**	**325**	LR	LR	15 16 21.7	
	comp=Z,39nm,18.1s,baz=188,slow=36						
CMWZ	**Cape Campbell**	**32.61**	**163**	P	**P**	**15 05 05.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**35.61**	**254**	P	**P**	**15 05 33.8**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=179,slow=8.1,SNR=3.6						
FITZ	**Fitzroy Crossi**	**35.61**	**254**	P	**P**	**15 05 33.0**	**+0.4**
VNDA	**Vanda**	**66.59**	**180**	P	**P**	**15 09 23.5**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=287,slow=2.9,SNR=5.6						
SONM	**Songino Array**	**76.27**	**325**	P	**P**	**15 10 22.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=131,slow=4.0,SNR=1.9						
ILAR	**Eielson Array**	**84.68**	**20**	P	**P**	**15 11 07.1**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=245,slow=5.2,SNR=4.4						
NVAR	**Mina Array Bea**	**88.98**	**51**	P	**P**	**15 11 31.0**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=230,slow=7.0,SNR=2.7						
MKAR	**Makanchi Array**	**90.74**	**318**	P	**P**	**15 11 36.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=119,slow=4.0,SNR=2.3						

IDC ***16*** *15:04:36.3±2.4, 13°.49N×120°.43E, h110km±27km, mb3.2/5, mb1 3.3/5, mb1mx3.1/34, mbtmp3.6/5, Error ellipse: s-maj=81.6km s-min=18.6km az=66.0*
MAN ***16*** *15:04:37.2, 13°.74N×120°.52E, h112km, mb4.7, ML3.6, MS3.5*

ISC 16 15:04:37.5±0.9, 13°.73N±0°.04×120°.55E±0°.06, h121km±6km, n21, σ1°25/31, mb3.6/5, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**272**	*eP*	**Pn**	**15 04 55.3**	**+0.8**
LUBP				*eS*	**Sn**	**15 05 06.8**	**-0.5**
PGP	**Puerto Galera**	**0.45**	**119**	⇓*eP*	**Pn**	**15 04 56.2**	**+0.9**
PGP				*eS*	**Sn**	**15 05 07.7**	**-1.1**
TGY	**Tagaytay City**	**0.53**	**45**	P	**Pn**	**15 04 56.0**	**+0.1**
	130nm,0.3s,baz=217,slow=9.0,SNR=8.3						
TGY				S	**Sn**	**15 05 11.0**	**+1.3**
	166nm,0.3s,baz=354,slow=18,SNR=16						
TGY	**Tagaytay City**	**0.53**	**45**	⇑*eP*	**Pn**	**15 04 52.3**	**-3.5**
TGY				*i* S	**Sn**	**15 05 10.6**	**+0.9**
LQP	**Lukban**	**1.04**	**68**	*i* P	**Pn**	**15 05 02.1**	**+1.9**
LQP				*i* S	**Sn**	**15 05 16.1**	**-1.2**
BOAC	**Boac**	**1.29**	**102**	*eP*	**Pn**	**15 05 03.1**	**+0.5**
BOAC				*eS*	**Sn**	**15 05 21.9**	**+0.3**
SJMP	**San Jose**	**1.38**	**156**	*eP*	**Pn**	**15 05 04.2**	**+0.6**
SJMP				*eS*	**Sn**	**15 05 22.9**	**-0.4**
POLP	**Polilio Island**	**1.68**	**53**	*eP*	**Pn**	**15 05 07.7**	**+0.6**
POLP				*eS*	**Sn**	**15 05 30.1**	**+0.5**
OTRP	**Odiongan**	**1.98**	**133**	*eP*	**Pn**	**15 05 10.9**	**+0.1**
OTRP				*eS*	**Sn**	**15 05 35.4**	**-0.7**
BALP	**Baler**	**2.24**	**26**	*eP*	**Pn**	**15 05 14.9**	**+0.9**
SMPP	**San Manuel, Pa**	**2.41**	**3**	*eP*	**Pn**	**15 05 15.5**	**-0.8**
SMPP				*eS*	**Sn**	**15 05 44.5**	**-1.6**
ENPP	**El Nido**	**2.73**	**204**	*eP*	**Pn**	**15 05 20.7**	**+0.3**
CUYO	**Cuyo Island**	**2.90**	**171**	*eP*	**Pn**	**15 05 23.1**	**+0.5**
CAUP	**Cauayan**	**3.43**	**21**	*eP*	**Pn**	**15 05 28.8**	**-0.7**
PVCP	**Virac**	**3.51**	**92**	*eP*	**Pn**	**15 05 30.4**	**-0.2**
APYP	**Conner**	**4.17**	**9**	*eP*	**Pn**	**15 05 40.2**	**+0.9**
SONM	**Songino Array**	**35.99**	**344**	P	**P**	**15 11 28.2**	**+1.3**
	0.5nm,0.4s,baz=165,slow=10.0,SNR=2.3						
WRA	**Warramunga Arr**	**36.10**	**158**	P	**P**	**15 11 26.7**	**-1.3**
	0.1nm,0.4s,baz=334,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**39.39**	**161**	P	**P**	**15 11 53.6**	**-2.0**
	0.3nm,1.0s,baz=336,slow=7.2,SNR=2.3						
MKAR	**Makanchi Array**	**45.92**	**324**	P	**P**	**15 12 50.1**	**+1.9**
	0.7nm,0.5s,baz=131,slow=9.0,SNR=9.1						
ZALV	**Zalesovo Beam**	**48.97**	**333**	P	**P**	**15 13 11.0**	**-0.5**
	1.1nm,0.3s,baz=133,slow=7.1,SNR=5.2						

TAP 16 15:10:18.6, 24°.33N×121°.61E, h24km, ML2.6, 3C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.15**	**50**	P	Pb	15 10 24.2	+0.5
	baz=52						
ENA				S	Sb	15 10 27.9	+0.9
	baz=52						
NACB	**Ninganchiao**	**0.15**	**186**	P	Pb	15 10 23.9	+0.2
	baz=185						
NACB				S	Sb	15 10 27.7	+0.7
	baz=185						
ETLH	**Xiulin Townshi**	**0.17**	**224**	⇑P	Pb	15 10 24.4	+0.5
	baz=224						
ETLH				*e*S	Sb	15 10 28.1	+0.6
	baz=224						
ENAH	**Nanao**	**0.22**	**56**	*e*P	Pb	15 10 25.0	+0.7
	baz=56						
ENAH				*e*S	Sb	15 10 28.9	+0.7
	baz=56						
NNSB	**Datong**	**0.23**	**295**	P	Pb	15 10 25.3	+0.6
	baz=295						
NNSB				S	Sb	15 10 29.6	+0.7
	baz=295						
NNSH	**Datong**	**0.23**	**295**	P	Pb	15 10 25.2	+0.5
	baz=295						
NNSH				*e*S	Sb	15 10 29.4	+0.6
	baz=295						
NNS	**Nan Shan**	**0.24**	**297**	⇑P	Pb	15 10 25.4	+0.5
	baz=297						
NNS				S	Sb	15 10 29.9	+0.8
	baz=297						
NDT	**Datong Townshi**	**0.29**	**342**	P	Pb	15 10 26.1	+0.7
	baz=341						
NDT				*e*S	Sb	15 10 30.9	+0.9
	baz=341						
ENTT	**Nioudou**	**0.31**	**352**	P	Pb	15 10 26.4	+0.6
	baz=353						
ENTT				S	Sb	15 10 31.6	+1.0
	baz=353						
FUSS	**Fushou**	**0.35**	**257**	P	Pb	15 10 26.9	+0.5
	baz=256						
FUSS				*e*S	Sb	15 10 32.2	+0.5
	baz=256						
HWA	**Hwalien**	**0.35**	**181**	P	Pb	15 10 27.0	+0.7
	baz=179						
HWA				S	Sn	15 10 33.0	-1.4
	baz=179						
TWC	**Suao**	**0.35**	**38**	P	Pb	15 10 27.0	+0.6
	baz=39						
TWC				*e*S	Sb	15 10 32.4	+0.7
	baz=39						
WHF	**Hehuan Shan**	**0.37**	**240**	⇑P	Pb	15 10 27.2	+0.3
	baz=239						
WHF				S	Sb	15 10 33.2	+0.7
	baz=239						
TWE	**Neicheng**	**0.39**	**7**	P	Pb	15 10 27.6	+0.5
	baz=9.0						
YHNB	**Yeheng**	**0.40**	**328**	P	Pb	15 10 27.8	+0.5
	baz=327						
YHNB				*e*S	Sb	15 10 33.8	+0.7
	baz=327						
TWT	**Tachien**	**0.41**	**259**	*e*P	Pn	15 10 28.2	-0.9
	baz=259						
TWT				*e*S	Sb	15 10 34.3	+1.1
	baz=259						
NSK	**Sanguang**	**0.42**	**326**	⇓P	Pb	15 10 27.9	+0.5
	baz=326						
NSK				*e*S	Sb	15 10 34.1	+0.7
	baz=326						
TDCB	**Techi**	**0.42**	**260**	P	Pb	15 10 28.3	+0.7
	baz=259						
TDCB				*e*S	Sb	15 10 34.1	+0.4
	baz=259						
NWLT	**Wulai**	**0.46**	**347**	P	Pb	15 10 28.7	+0.6
	baz=347						
NWLT				*e*S	Sb	15 10 34.8	+0.2
	baz=347						
CHGB	**Renai**	**0.48**	**236**	P	Pb	15 10 29.1	+0.5
	baz=236						
CHGB				S	Sb	15 10 36.5	+1.1
	baz=236						
ESL	**Shilin**	**0.54**	**198**	*e*P	Pb	15 10 29.1	-0.4
	baz=196						
ESL				*e*S	Sb	15 10 37.2	+0.4
	baz=196						
NTC	**Toucheng**	**0.56**	**21**	*e*P	Pb	15 10 30.1	+0.3
	baz=20						
NTC				*e*S	Sb	15 10 38.3	+0.9
	baz=20						
EGS		**0.59**	**29**	P	Pb	15 10 30.7	+0.4
	baz=30						
WHP	**Taichung City**	**0.61**	**265**	*e*P	Pn	15 10 31.4	-0.5
	baz=265						
WHP				*e*S	Sb	15 10 39.9	+1.0
	baz=265						
NSTT	**Nanjuang**	**0.63**	**298**	*e*P	Pn	15 10 31.9	-0.2
	baz=298						
NSTT				S	Sn	15 10 40.6	-0.8
	baz=298						
TWA	**Mucha**	**0.65**	**358**	S	Sn	15 10 41.1	-0.8
	baz=358						
TATO	**Taipei**	**0.65**	**350**	*e*P	Pn	15 10 32.1	-0.3
	baz=350						
TATO				S	Sn	15 10 41.5	-0.5
	baz=350						
TIPB	**Shuangxi**	**0.67**	**17**	*e*P	Pn	15 10 32.3	-0.3
	baz=16						
TIPB				*e*S	Sb	15 10 41.2	+0.7
	baz=16						
EGFH	**Guangfu**	**0.68**	**194**	P	Pb	15 10 31.8	0.0
	baz=194						
EGFH				*e*S	Sn	15 10 41.7	-0.8
	baz=194						
VWDT	**VWDT**	**0.72**	**217**	P	Pn	15 10 32.9	-0.4
	baz=216						
VWDT				S	Sn	15 10 43.2	-0.2
	baz=216						
WFSB	**Wu-fen Shan**	**0.76**	**12**	S	Sn	15 10 44.4	-0.1
	baz=11						
TWB1	**Santiao Chiao**	**0.76**	**27**	*e*S	Sn	15 10 44.3	-0.2

	baz=27					
TWQ1	**Liyutan**	**0.77 272**	*e*P	Pn	15 10 35.4	+1.5
	baz=271					
SMLT	**Sun Moon Lake**	**0.79 236**	*e*P	Pn	15 10 34.6	+0.3
	baz=235					
SSLB	**Suanglung**	**0.81 228**	P	Pn	15 10 34.3	-0.2
	baz=228					
SSLB			*e*S	Sn	15 10 45.9	+0.1
	baz=228					
YM01	**YM01**	**0.81 357**	*e*P	Pn	15 10 35.3	+0.7
	baz=357					
YM01			*e*S	Sn	15 10 46.0	0.0
	baz=357					
YM04	**YM04**	**0.82 355**	*e*P	Pn	15 10 35.4	+0.6
	baz=355					
YM04			*e*S	Sn	15 10 46.1	-0.1
	baz=355					
YM10	**YM10**	**0.82 357**	*e*P	Pn	15 10 35.5	+0.7
	baz=356					
YM10			*e*S	Sn	15 10 46.4	+0.2
	baz=356					
YM05	**YM05**	**0.83 357**	*e*P	Pn	15 10 35.1	+0.2
	baz=357					
YM05			*e*S	Sn	15 10 46.6	+0.1
	baz=357					
YM11	**YM11**	**0.83 358**	*e*P	Pn	15 10 35.5	+0.5
	baz=357					
YM03	**YM03**	**0.85 356**	*e*P	Pn	15 10 35.5	+0.4
	baz=355					
YM03			S	Sn	15 10 47.0	+0.1
	baz=355					
HGSD	**Ruisui**	**0.85 192**	*e*P	Pn	15 10 35.1	0.0
	baz=191					
HGSD			*e*S	Sn	15 10 47.5	+0.7
	baz=191					
YM08	**YM08**	**0.85 359**	*e*P	Pb	15 10 34.2	-0.6
	baz=358					
YM08			*e*S	Sn	15 10 47.1	+0.1
	baz=358					
ANP	**Anpu**	**0.86 354**	*e*P	Pn	15 10 35.7	+0.4
	baz=354					
ANP			*e*S	Sn	15 10 47.2	0.0
	baz=354					
EHY	**Hungye**	**0.86 198**	*e*P	Pb	15 10 35.0	+0.1
	baz=197					
EHY			*e*S	Sn	15 10 47.3	+0.2
	baz=197					
YULB	**Yu-li**	**0.98 197**	*e*P	Pn	15 10 36.4	-0.5
	baz=197					
EYUL	**Yuli**	**1.01 195**	*e*P	Pb	15 10 37.8	+0.3
	baz=195					
TWF1	**Yuli**	**1.01 197**	*e*P	Pb	15 10 37.6	+0.1
	baz=196					
ALS	**Alishan**	**1.10 222**	*e*P	Pb	15 10 40.3	+1.2
	baz=221					
CHN5	**Tsauling**	**1.12 230**	*e*P	Pb	15 10 40.6	+1.2
	baz=229					
WDLH	**Douliu**	**1.17 237**	*e*P	Pb	15 10 40.2	0.0
	baz=237					
ELDTW	**Lidau**	**1.26 206**	*e*P	Pn	15 10 40.0	-0.8
	baz=205					
CHN4	**Tsaushan**	**1.35 224**	*e*P	Pb	15 10 44.7	+1.5
	baz=223					
TPUB	**Ta-pu**	**1.36 222**	*e*P	Pb	15 10 44.3	+0.9
	baz=221					
STYT	**Tauyuan**	**1.40 214**	*e*P	Pb	15 10 45.5	+1.4
	baz=213					
WTP	**Ta-pu**	**1.41 220**	*e*P	Pb	15 10 45.7	+1.4
	baz=219					
TWK	**Hsinying**	**1.48 224**	*e*P	Pb	15 10 46.3	+0.9
	baz=223					
CHN1	**Nanshi**	**1.51 221**	*e*P	Pb	15 10 47.4	+1.4
	baz=221					
SLGT	**Liugui**	**1.60 214**	*e*P	Pb	15 10 47.9	+0.4
	baz=213					
MASBT	**Mashibuluo**	**1.93 208**	*e*P	Pb	15 10 51.6	-1.5
	baz=207					

JMA 16 15:11:17.3±0.4, 23°.82N×122°.91E, h51km, M1.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.65**	**8**	P	Pn	15 11 30.7	+0.3
YOJ				*e*S	Sn	15 11 38.9	-1.0
IRIF	**Iriomote-Funau**	**0.91**	**55**	P	Pn	15 11 34.2	+0.4
JIJ	**Ishigaki jima**	**1.25**	**64**	P	Pn	15 11 38.5	+0.1
JIJ				*e*S	Sn	15 11 54.0	-0.2
JISG	**Ishigakijimahi**	**1.49**	**59**	P	Pn	15 11 41.4	-0.3

NIC ***16*** *15:12:07.9±0.0, 35°.84N×31°.99E, h22km±1km, MI3.3/5*
DDA ***16*** *15:12:07.6, 35°.71N×31°.81E, h30km±3km, ML3.0*
HLW ***16*** *15:12:08.8, 35°.66N×31°.62E, h15km±10km, Md3.7, MI3.6*
ISK ***16*** *15:12:09.5, 35°.71N×31°.97E, h13km, ML3.4/30*
GII ***16*** *15:12:10.1±0.0, 35°.56N×31°.80E, h30km±2km, MD2.7/3*

ISC 16 15:12:08.4±1.1, 35°.69N±0°.03×31°.83E±0°.03, h27km±12km, n78, σ1$941/103, 1C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.68**	**36**	PG	**Pb**	**15 12 21.8**	**+0.1**
GAZI				SG	**Sb**	**15 12 30.3**	**-0.4**
GAZI	**Gazipasa**	**0.68**	**36**	*i* P	**Pb**	**15 12 21.3**	**-0.4**
GAZI				*i* S	**Sb**	**15 12 30.8**	**+0.1**
GAZI				IAML		15 12 31.0	
	comp=E,813nm,0.3s						
GAZI				IAML		15 12 31.0	
	comp=N,706nm,0.6s						
AKMS	**Akamas**	**0.79**	**148**	⇑P	**Pb**	**15 12 24.0**	**+0.5**
AKMS				S	**Sn**	**15 12 37.7**	**+3.0**
AKMS				AML	AML	15 12 40.4	
	comp=N,4.7nm,0.2s						
AKMS				AML	AML	15 12 40.4	
	comp=N,4.7nm,0.2s						
AKMS				AML	AML	15 12 42.7	
	comp=N,3.4nm,0.4s						
AKMS				AML	AML	15 12 42.7	
	comp=N,3.4nm,0.4s						
ALFC	**Alefka**	**0.83**	**130**	P	**Pb**	**15 12 24.4**	**+0.2**
ALFC				S	**Sn**	**15 12 37.5**	**+1.8**
ALFC				AML	AML	15 12 41.1	
	comp=N,4.1nm,0.3s						
ALFC				AML	AML	15 12 41.1	
	comp=N,4.1nm,0.3s						
ALFC				AML	AML	15 12 43.6	
	comp=N,3.5nm,0.3s						
ALFC				AML	AML	15 12 43.6	
	comp=N,3.5nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**1.01**	**112**	PG	**Pn**	**15 12 27.7**	**+0.9**
BOZY	**Bozyazi-Mersin**	**1.02**	**66**	PG	**Pn**	**15 12 27.3**	**+0.3**
BOZY				SG	**Sb**	**15 12 40.6**	**+0.1**
LEF	**Lefka**	**1.04**	**123**	PG	**Pn**	**15 12 27.9**	**+0.7**
LEF				SG	**Sb**	**15 12 41.4**	**+0.4**
LEF	**Lefka**	**1.04**	**123**	*i* P	**Pn**	**15 12 27.2**	**0.0**
LEF				*i* S	**Sb**	**15 12 39.9**	**-1.1**
LEF				IAML		15 12 48.0	
	comp=N,327nm,0.4s						
NATA	**Nata**	**1.09**	**146**	⇓P	**Pn**	**15 12 29.2**	**+1.2**
NATA				AML	AML	15 12 57.8	
	comp=N,6.3nm,0.8s						
TEKE	**Tekeli-Mersin**	**1.14**	**66**	PG	**Pn**	**15 12 29.1**	**+0.5**
KEPZ	**Antalya-Kepez**	**1.22**	**352**	*i* P	**Pn**	**15 12 29.5**	**-0.3**
KEPZ				*i* S	**Sn**	**15 12 42.1**	**-3.4**
SZAC	**Souni**	**1.27**	**137**	P	**Pn**	**15 12 31.7**	**+1.3**
SZAC				AML	AML	15 13 00.3	
	comp=N,1.9nm,0.4s						
SZAC				AML	AML	15 13 01.4	
	comp=N,1.9nm,0.7s						
ERMK	**Ermenek**	**1.30**	**42**	*i* P	**Pb**	**15 12 32.6**	**+0.3**
AKUM	**Antalya-Kumluc**	**1.36**	**298**	*i* P	**Pn**	**15 12 32.3**	**+0.7**
AKUM				*i* S	**Sb**	**15 12 50.8**	**+0.7**
AKUM				IAML		15 12 54.0	
	comp=N,205nm,0.6s						
AKUM				IAML		15 12 58.0	
	comp=E,147nm,0.5s						
YORU	**Yoruktepe-Mers**	**1.36**	**70**	PN	**Pn**	**15 12 32.9**	**+1.2**
ATHAL	**Athalassa**	**1.40**	**113**	S	**Sn**	**15 12 49.6**	**0.0**
OREN	**Orenkoy-Mersin**	**1.42**	**68**	PN	**Pb**	**15 12 34.2**	**-0.1**
CSS	**Mathiatis**	**1.43**	**120**	PN	**Pn**	**15 12 34.4**	**+1.8**
CSS	**Mathiatis**	**1.43**	**120**	Pn	**Pn**	**15 12 32.1**	**-0.5**
CSS	**Mathiatis**	**1.43**	**120**	P	**Pn**	**15 12 32.1**	**-0.5**
AKK1	**Akkuyu-Mersin**	**1.47**	**71**	PN	**Pn**	**15 12 34.1**	**+1.0**
AKK2	**Akkuyu-Mersin**	**1.47**	**72**	PN	**Pn**	**15 12 33.9**	**+0.8**
ASGA	**Asgata**	**1.47**	**127**	P	**Pn**	**15 12 34.2**	**+1.0**
ASGA				AML	AML	15 13 03.1	
	comp=E,1.5nm,0.6s						
ASGA				AML	AML	15 13 03.2	
	comp=E,1.4nm,0.4s						
AKKU	**Akkuyu-Mersin**	**1.48**	**71**	PN	**Pn**	**15 12 34.4**	**+1.2**
GULN	**MERSIN_Gulnar**	**1.48**	**70**	*i* P	**Pn**	**15 12 34.2**	**+0.9**
GULN				*i* S	**Sn**	**15 12 52.5**	**+0.7**
GULN				IAML		15 13 00.0	
	comp=E,155nm,0.6s						
TEPK	**Tepekoy-MERSIN**	**1.49**	**69**	PN	**Pb**	**15 12 35.3**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.51**	**60**	PN	**Pb**	**15 12 35.5**	**-0.3**
YESI	**Yesilovacik-Me**	**1.56**	**71**	PN	**Pn**	**15 12 36.0**	**+1.6**
TISA	**Tisan-Mersin**	**1.58**	**72**	PN	**Pn**	**15 12 36.4**	**+1.8**
IKL	**Isikli**	**1.61**	**69**	PN	**Pn**	**15 12 36.8**	**+1.8**
KARG	**Kargicak-Mersi**	**1.61**	**71**	PN	**Pn**	**15 12 36.8**	**+1.7**
MVOU	**Mavrovouni**	**1.62**	**114**	P	**Pn**	**15 12 34.4**	**-0.9**
MVOU				S	**Sn**	**15 12 54.5**	**-0.7**
KEBE	**Keben-Mersin**	**1.71**	**63**	PN	**Pn**	**15 12 38.4**	**+1.9**
SEYD	**Seydisehir-KON**	**1.71**	**0**	PN	**Pb**	**15 12 39.6**	**+0.3**
KORT	**Korkueli**	**1.77**	**318**	PN	**Pb**	**15 12 41.0**	**+0.7**
KORT	**Korkueli**	**1.77**	**318**	*i* P	**Pb**	**15 12 41.4**	**+1.1**
SILI	**Silifke-Mersin**	**1.83**	**68**	PN	**Pn**	**15 12 39.8**	**+1.7**
SLFK	**Silifke-Mersin**	**1.86**	**67**	PN	**Pn**	**15 12 40.3**	**+1.8**
ELL	**Elmali**	**1.88**	**305**	PN	**Pb**	**15 12 43.4**	**+1.3**
ELL	**Elmali**	**1.88**	**305**	P	**Pn**	**15 12 39.5**	**+0.6**
ELL				S	**Sn**	**15 13 03.4**	**+1.7**
EREN	**Erenkoy**	**1.92**	**94**	PN	**Pn**	**15 12 41.2**	**+1.9**
EREN	**Erenkoy**	**1.92**	**94**	*i* P	**Pn**	**15 12 40.8**	**+1.5**
EREN				*i* S	**Sn**	**15 13 00.5**	**-2.0**
EREN				IAML		15 13 10.0	
	comp=E,144nm,0.7s						
EREN				IAML		15 13 13.0	
	comp=N,134nm,0.4s						
PARAL	**Paralimni**	**1.94**	**110**	P	**Pn**	**15 12 38.0**	**-1.6**
KIZK	**Mersin**	**2.04**	**67**	PN	**Pn**	**15 12 42.9**	**+1.9**
KIZK	**Mersin**	**2.04**	**67**	*i* P	**Pn**	**15 12 43.0**	**+2.1**
KIZK				*i* S	**Sn**	**15 13 07.8**	**+2.3**
KMER	**Konya-Meram**	**2.12**	**12**	*i* P	**Pn**	**15 12 44.3**	**+2.0**
KMER				*i* S	**Sb**	**15 13 12.3**	**+0.1**
KMER				IAML		15 13 14.0	
	comp=N,76nm,0.8s						
KMER				IAML		15 13 18.0	
	comp=E,80nm,0.4s						
OSC1	**CSNet OBS 1**	**2.23**	**192**	P	**Pn**	**15 12 45.3**	**+1.7**
KONT	**Konya--Tatoy**	**2.29**	**11**	PN	**Pb**	**15 12 47.5**	**-1.6**
KONT	**Konya--Tatoy**	**2.29**	**11**	*i* P	**Pb**	**15 12 47.2**	**-1.9**
DOGA	**KONYA_Doganhis**	**2.42**	**357**	*i* P	**Pn**	**15 12 47.8**	**+1.5**
DOGA				*i* S	**Sb**	**15 13 18.7**	**-2.0**
MERS	**Mersin**	**2.48**	**61**	PN	**Pn**	**15 12 49.2**	**+2.1**
KERG	**Konya-Eregli**	**2.53**	**46**	*i* P	**Pn**	**15 12 50.8**	**+2.9**
LADK	**Ladik-KONYA**	**2.54**	**10**	PN	**Pb**	**15 12 51.2**	**-2.3**
YESY	**Yesilyurt**	**2.60**	**36**	PN	**Pn**	**15 12 51.3**	**+2.5**
GULE	**Gulek**	**2.86**	**55**	*i* P	**Pn**	**15 12 56.2**	**+3.7**
GULE				*i* S	**Sb**	**15 13 31.4**	**-2.1**
GULE				IAML		15 13 36.0	
	comp=E,101nm,0.7s						
GULE				IAML		15 13 36.0	
	comp=N,96nm,0.5s						
KRTS	**Karatas**	**3.01**	**72**	PN	**Pn**	**15 12 55.9**	**+1.6**
KARA	**Karaisali**	**3.04**	**58**	PN	**Pn**	**15 12 57.1**	**+2.3**
CMRD	**Camardi-Nigde**	**3.22**	**51**	PN	**Pn**	**15 12 59.9**	**+2.6**
HNTI	**Hanita**	**3.80**	**132**	Sn	**Sn**	**15 13 49.0**	**0.0**
MMA0B	**Mount Meron ar**	**3.98**	**131**	Pn	**Pn**	**15 13 08.8**	**+1.0**
MMA0B				Sn	**Sn**	**15 13 53.7**	**0.0**
GEM	**Giv'at Ha'Em**	**4.02**	**127**	Pn	**Pn**	**15 13 09.0**	**+0.8**
GEM				Sn	**Sn**	**15 13 54.8**	**+0.3**
OFRI	**`Ofer**	**4.03**	**139**	Pn	**Pn**	**15 13 08.5**	**+0.1**
OFRI				Sn	**Sn**	**15 13 53.6**	**-1.1**
NATI	**Neve Ativ**	**4.04**	**126**	Pn	**Pn**	**15 13 10.0**	**+1.6**
NATI				Sn	**Sn**	**15 13 55.1**	**+0.3**
MMLI	**Mount Malkishu**	**4.41**	**136**	Pn	**Pn**	**15 13 14.3**	**+0.7**
MMLI				Sn	**Sn**	**15 14 03.5**	**-0.6**
HMDT	**Nahal Hemdat**	**4.60**	**137**	Pn	**Pn**	**15 13 17.3**	**+1.0**
RSH		**4.98**	**161**	P	**Pn**	**15 13 21.3**	**-0.1**
	baz=158						
DSI	**Dead Sea**	**5.07**	**143**	Pn	**Pn**	**15 13 23.3**	**+0.7**
DSI				Sn	**Sn**	**15 14 19.7**	**-0.6**
KZIT	**Kziot**	**5.23**	**155**	Pn	**Pn**	**15 13 24.6**	**-0.3**
KZIT				Sn	**Sn**	**15 14 23.7**	**-0.7**
HBRG	**Burj al `Arab**	**5.37**	**199**	P	**Pn**	**15 13 25.1**	**-1.6**
	baz=197						
KOT	**Kottamia**	**5.75**	**180**	P	**Pn**	**15 13 31.4**	**-0.6**
	baz=178						
SUZ	**Suez**	**5.89**	**171**	P	**Pn**	**15 13 34.0**	**+0.1**
	baz=169						
PRNI	**Paran**	**5.95**	**152**	Pn	**Pn**	**15 13 34.7**	**-0.1**
PRNI				Sn	**Sn**	**15 14 40.9**	**-1.3**
HSAF	**As Saff**	**6.06**	**182**	P	**Pn**	**15 13 35.5**	**-0.8**
	baz=181						
GLL	**Jalalah**	**6.09**	**181**	P	**Pn**	**15 13 36.2**	**-0.6**
	baz=179						
MBRI	**Mt Berech**	**6.43**	**155**	Sn	**Sn**	**15 14 52.9**	**-1.0**
SLUM	**Salum**	**6.92**	**235**	P	**Pn**	**15 13 46.2**	**-1.9**
	baz=234						
SLUM				S	Sn	15 14 55.6	-10
	baz=234						
SLUM				AMP		15 15 00.0	
	baz=234						
NBNS	**Bani Suef**	**7.06**	**184**	P	**Pn**	**15 13 48.6**	**-1.4**
	baz=183						
NBNS				AMP		15 15 00.0	
	baz=183						
NBNS				S	Sn	15 15 01.6	-7.8
	baz=183						
HFRF	**Wahat Farafira**	**9.03**	**200**	P	**Pn**	**15 14 15.8**	**-1.2**
	baz=200						

IDC ***16*** *15:33:50.4±0.7, 25°.00N×98°.42E, h0km, mb3.8/15, mb1 3.9/16, mb1mx3.8/49, mbtmp3.8/16, ML4.3/1, MS3.4/15, Ms1 3.4/15, ms1mx3.2/43, Error ellipse: s-maj=28.0km s-min=12.9km az=65.0*
BJI ***16*** *15:33:52.5±0.0, 25°.00N×98°.48E, h9km, mB4.6/14, mb4.2/19, ML4.5/9, Ms4.2/14, Ms7 3.9/9*
NEIC ***16*** *15:33:59.8±1.8, 26°.23N±0°.07×98°.1E±0°.1, h10km±2km, mb4.3/8, Error ellipse: s-maj=18.9km s-min=9.5km az=240.0*

ISC 16 15:33:52.1±0.5, 24°.77N±0°.04×98°.27E±0°.04, h10km, n81, σ2$07/74, mb4.0/18, MS3.4/16, 1C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**3.35**	**320**	*ex*	**Pn**	**15 34 48.1**	**+3.5**
LKP				IAML		15 35 58.0	
	comp=N,245nm,0.6s						
LKP				IAML		15 36 13.0	
	comp=E,326nm,1.3s						
KMI	**Kunming**	**4.07**	**84**	⇑*i* Pg	**Pb**	**15 35 04.5**	**+0.4**
KMI				Sg	**Sb**	**15 35 53.3**	**-0.2**
KMI				smax	smax		
	comp=E,990nm,1.0s						
KMI				smax	smax		
	comp=E,1μm,0.9s						
KMI				LR	LR		
	comp=E,4μm,6.7s						
KMI				LR	LR		
	comp=E,2μm,4.6s						
KMI				LR	LR		
	comp=E,2μm,6.9s						
KMI	**Kunming**	**4.07**	**84**	Pn	**Pb**	**15 35 04.7**	**+0.6**
KMI				Sn	**Sb**	**15 35 53.5**	**0.0**
ITAN	**ITANAGAR**	**4.73**	**301**	*ex*	**Pb**	**15 35 12.1**	**-3.0**
ITAN				*ex*	**Sb**	**15 36 16.6**	**+4.6**
ITAN				IAML		15 36 17.6	
	comp=N,132nm,1.6s						
ITAN				IAML		15 36 17.7	
	comp=E,92nm,0.9s						
ZIRO	**ZIRO**	**4.83**	**306**	*ex*	**Pn**	**15 35 05.5**	**+0.5**
ZIRO				IAML		15 37 13.2	
	comp=N,171nm,0.7s						
ZIRO				IAML		15 37 21.2	
	comp=E,154nm,0.7s						
CRAI	**Chiangrai**	**4.92**	**156**	P	**Pn**	**15 35 08.2**	**+2.0**
SAIH	**SAIHA**	**5.35**	**246**	*ex*	Pn	15 35 20.6	+8.5
SAIH				IAML		15 37 13.7	
	comp=N,39nm,0.9s						
SAIH				IAML		15 37 19.1	
	comp=E,32nm,1.5s						
PAYA	**Payao**	**5.59**	**164**	P	**Pn**	**15 35 16.8**	**+1.5**
PAYA				S	**Sg**	**15 36 54.8**	**+3.3**
SHL	**Shillong**	**5.84**	**279**	Pn	**Pn**	**15 35 18.6**	**-0.3**
CHTO	**Chiang Mai**	**5.96**	**174**	Pn	**Pg**	**15 35 47.2**	**+0.8**
CMMT	**Chiang Mai**	**5.96**	**174**	P	Pn	15 35 26.1	+5.6
CMMT				S	**Sg**	**15 37 01.0**	**-2.6**
SLVN	**Son La**	**6.22**	**122**	Pn	**Pg**	**15 35 47.8**	**-3.4**
CM31	**Chiang Mai Arr**	**6.31**	**174**	Pn	**Pg**	**15 35 52.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**6.31**	**174**	Pn	**Pn**	**15 35 29.2**	**+3.9**
	comp=E,1.7nm,0.3s,baz=352,slow=13,SNR=26						
CMAR				Pg	**Pg**	**15 35 54.2**	**+1.1**
	comp=E,1.7nm,0.3s,baz=350,slow=16,SNR=6.9						
CMAR				Lg	Lg	15 37 18.7	
	comp=E,1.6nm,0.3s,baz=350,slow=28,SNR=7.8						
CMAR	**Chiang Mai Arr**	**6.31**	**174**	Pn	**Pg**	**15 35 53.7**	**+0.7**
CM09	**Chiang Mai Arr**	**6.33**	**174**	P	Pn	15 35 32.4	+6.8
CM02	**Chiang Mai Arr**	**6.34**	**174**	P	Pn	15 35 31.5	+5.9
CM13	**Chiang Mai Arr**	**6.35**	**175**	P	Pn	15 35 31.5	+5.8
CM05	**Chiang Mai Arr**	**6.37**	**174**	P	Pn	15 35 32.4	+6.3
PHRA	**Phrae**	**6.50**	**163**	P	**Pn**	**15 35 30.8**	**+2.9**
PHRA				S	**Sg**	**15 37 21.5**	**+0.6**
GYA	**Guiyang**	**7.76**	**76**	*e*Pn	**Pn**	**15 35 44.6**	**-0.7**
GYA				Sn	**Sn**	**15 37 14.1**	**+0.8**
GYA				smax	smax		
	comp=E,55nm,2.0s						
GYA				smax	smax		
	comp=E,55nm,2.9s						
GYA				LR	LR		
	comp=E,970nm,4.8s						
GYA				LR	LR		
	comp=E,1μm,5.6s						
GYA				LR	LR		
	comp=E,620nm,5.3s						
CD2	**Chengdu**	**7.81**	**37**	*e*Pn	Pn	15 35 52.4	+6.6
CD2				Pg	**Pb**	**15 36 10.8**	**+3.2**
CD2				Sg	**Sb**	**15 37 45.8**	**+5.1**
CD2				smax	smax		
	comp=N,60nm,1.6s						
CD2				smax	smax		
	comp=E,60nm,1.8s						
LSA	**Lhasa**	**8.01**	**309**	P	**Pn**	**15 35 51.0**	**+2.0**
LSA				pmax	pmax		
	comp=E,47nm,0.6s						
LSA	**Lhasa**	**8.01**	**309**	Pn	Pn	15 35 43.7	-5.4
PBKT	**Sadao Pong**	**8.54**	**162**	Pn	Pg	15 36 23.8	-12
TAPN	**Taplejung**	**9.84**	**287**	*e*P	**Pn**	**15 36 15.6**	**+1.7**
	comp=E,13nm,0.6s						
TAPN	**Taplejung**	**9.84**	**287**	*e*P	**Pn**	**15 36 15.6**	**+1.7**
	comp=E,13nm,0.6s						
ODAN	**Odare**	**10.02**	**284**	*e*P	**Pn**	**15 36 17.5**	**+1.1**
	comp=E,29nm,0.7s						
ODAN	**Odare**	**10.02**	**284**	*e*P	**Pn**	**15 36 17.5**	**+1.1**
	comp=E,29nm,0.7s						
RAMN	**Ramite**	**10.73**	**284**	*e*P	**Pn**	**15 36 26.4**	**+0.3**
	comp=E,27nm,0.9s						
RAMN	**Ramite**	**10.73**	**284**	*e*P	**Pn**	**15 36 26.4**	**+0.3**
	comp=E,27nm,0.9s						
JIRN	**Jiri**	**11.22**	**287**	*e*P	**Pn**	**15 36 33.6**	**+0.7**
JIRN	**Jiri**	**11.22**	**287**	*e*P	**Pn**	**15 36 33.6**	**+0.7**
PKI	**Pulchoki**	**11.88**	**286**	*e*P	**Pn**	**15 36 42.5**	**+0.6**
PKI	**Pulchoki**	**11.88**	**286**	*e*P	**Pn**	**15 36 42.5**	**+0.6**
PKIN	**Phulchoki**	**11.89**	**286**	*e*P	**Pn**	**15 36 42.9**	**+0.8**
	comp=E,13nm,0.5s						
PKIN	**Phulchoki**	**11.89**	**286**	*e*P	**Pn**	**15 36 42.9**	**+0.8**
	comp=E,13nm,0.5s						
DMN	**Daman**	**12.15**	**286**	*e*P	**Pn**	**15 36 46.2**	**+0.6**
DMN	**Daman**	**12.15**	**286**	*e*P	**Pn**	**15 36 46.2**	**+0.6**
LZH	**Lanzhou**	**12.26**	**22**	*e*P	**Pn**	**15 36 46.8**	**-0.1**
LZH				pP		15 36 54.3	
LZH				PP	**PnPn**	**15 36 57.3**	**+2.5**
LZH				sP		15 37 00.0	
LZH				pmax	pmax		
	comp=E,16nm,1.1s						
LZH				pmax	pmax		
	comp=E,62nm,4.9s						
LZH				LR	LR		
	comp=E,810nm,11.9s						
LZH				LR	LR		
	comp=E,550nm,10.2s						
GKN	**Gorkha**	**12.64**	**288**	*e*P	**Pn**	**15 36 52.4**	**+0.3**
GKN	**Gorkha**	**12.64**	**288**	*e*P	**Pn**	**15 36 52.4**	**+0.3**
XAN	**Xi'an**	**13.09**	**43**	P	**Pn**	**15 37 02.3**	**+4.2**
XAN				pmax	pmax		
	comp=E,6.0nm,1.0s						
KOLN	**Koldanda**	**13.50**	**286**	*e*P	**Pn**	**15 37 02.7**	**-1.2**
	comp=E,10.0nm,0.7s						
KOLN	**Koldanda**	**13.50**	**286**	*e*P	**Pn**	**15 37 02.7**	**-1.2**
	comp=E,10.0nm,0.7s						
PYUN	**Piuthan**	**14.08**	**287**	*e*P	**Pn**	**15 37 10.4**	**-1.5**
PYUN	**Piuthan**	**14.08**	**287**	*e*P	**Pn**	**15 37 10.4**	**-1.5**
SRIT	**Nakonsritamara**	**16.14**	**175**	Pn	P	15 38 04.7	+22
HHC	**Hu-ho-hao-te**	**19.50**	**32**	*e*P	**Pn**	**15 38 21.8**	**+1.0**
HHC				S	Sn	15 41 45.9	-14
HHC				pmax	pmax		
	comp=E,25nm,1.2s						
HHC				pmax	pmax		
	comp=E,150nm,5.5s						
HHC				LR	LR		
	comp=E,300nm,11.1s						
HHC				LR	LR		
	comp=E,280nm,9.6s						
HHC				LR	LR		
	comp=E,280nm,8.6s						
WMQ	**Urumqi**	**20.88**	**338**	*e*P	**P**	**15 38 33.8**	**-0.6**
WMQ				sP	sP	15 38 40.9	+1.7
WMQ				pmax	pmax		
	comp=E,13nm,1.1s						
WMQ				pmax	pmax		
	comp=E,64nm,4.7s						
WMQ				LR	LR		
	comp=E,140nm,12.5s						
WMQ				LR	LR		
	comp=E,170nm,11.3s						
NIL	**Nilore**	**23.52**	**298**	P	**P**	**15 39 01.8**	**-0.6**
NIL				IAmb	IAmb	15 39 17.5	
	comp=Z,9.7nm,0.9s						
SONM	**Songino Array**	**23.90**	**14**	P	**P**	**15 39 03.7**	**-2.5**
	comp=Z,1.1nm,0.8s,baz=196,slow=9.9,SNR=6.6						
SONM				LR	LR	15 49 44.3	
	comp=Z,106nm,20.3s,baz=194,slow=40						
TARG	**Taragay, Kyrgy**	**23.96**	**320**	P	**P**	**15 39 04.1**	**-2.9**
TARG				IAmb	IAmb	15 39 26.0	
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**25.42**	**334**	P	**P**	**15 39 14.3**	**-5.5**
MKAR	**Makanchi Array**	**25.42**	**334**	P	**P**	**15 39 19.2**	**-0.6**
	comp=Z,5.9nm,0.9s,baz=140,slow=9.8,SNR=35						
MKAR				LR	LR	15 49 34.2	
	comp=Z,67nm,18.0s,baz=301,slow=37						

comp=Z,43nm,18.9s,baz=315,slow=40
ASAR Alice Springs 59.26 142 P **P 15 43 54.6 +0.5**
comp=Z,0.4nm,0.7s,baz=324,slow=6.9,SNR=8.8
FINES FINESS Array B 60.06 328 P **P 15 43 57.5 -1.6**
comp=Z,1.3nm,0.9s,baz=91,slow=7.1,SNR=3.4
ARCES ARCESS Array B 61.00 337 P **P 15 44 04.0 -1.4**
comp=Z,1.2nm,0.7s,baz=81,slow=7.4,SNR=4.0
NB201 NORSAR Array S 67.21 328 P **P 15 44 44.9 -1.4**
NB2 NORSAR Subarra 67.25 328 P **P 15 44 45.2 -1.4**
comp=Z,0.7nm,0.7s,baz=78,slow=6.2
NOA NORSAR Array B 67.25 328 P **P 15 44 44.9 -1.7**
comp=Z,0.9nm,0.8s,baz=80,slow=6.3,SNR=4.9
NOA LR LR 16 15 36.6
comp=Z,31nm,18.4s,baz=270,slow=37
NC204 NORSAR Array S 67.42 328 P **P 15 44 46.1 -1.6**
GERES GERESS Array B 68.31 315 LR LR 16 19 06.3
comp=Z,54nm,19.1s,baz=82,slow=40
ILAR Eielson Array 77.72 23 P **P 15 45 48.9 0.0**
comp=Z,0.3nm,0.7s,baz=293,slow=9.4,SNR=2.7

IDC 16 15:41:19.0±8.4, 25°.82S×29°.03E, h0km, mb1 2.8/1, mb1mx2.8/35, mbtmp2.8/1, ML2.3/1, Error ellipse: s-maj=95.0km s-min=56.6km az=139.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**4.36**	**229**	Pn	Pn	15 42 26.2	-0.4
	0.1nm,0.3s,baz=56,slow=12,SNR=2.3						
BOSA				Pg	Pg	15 42 39.8	-2.8
	0.2nm,0.3s,baz=55,slow=17,SNR=1.5						
BOSA				Sn	Sn	15 43 18.7	+0.5
	0.2nm,0.3s,baz=359,slow=13,SNR=1.6						
BOSA				Lg	Lg	15 43 37.1	
	0.5nm,0.3s,baz=334,slow=20,SNR=8.7						
I47ZA	**BOSHOF INFRASO**	**4.38**	**230**	*i*		16 11 30.0	
	baz=50,slow=323,SNR=1.0						
I35NA	**TSUMEB INFRASO**	**12.46**	**300**	*i*		17 00 50.0	
	baz=125,slow=316,SNR=3.4						

NEIC ***16*** *15:51:51.8±2.1, 5°.2N±0°.1×126°.5E±0°.3, h76km±12km, mb4.3/14, Error ellipse: s-maj=48.9km s-min=8.4km az=73.0*
DJA ***16*** *15:52:25.7±0.6, 3°.N±6°×12°.8E±°, h131km±6km, M4.4/9, mB4.9/3, mb4.5/5, MLv4.3/9, Mw(mB)4.2/3*
IDC ***16*** *15:52:26.2±2.1, 2°.51N×128°.33E, h143km±20km, mb3.6/9, mb1 3.7/12, mb1mx3.5/40, mbtmp4.1/12, Error ellipse: s-maj=24.5km s-min=12.9km az=77.0*
ISC 16 15:52:22.2±0.6, 2°.62N±0°.07×128°.46E±0°.10, h100km, n38, σ1°73/35, mb4.0/13, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.14**	**211**	P	**Pn**	**15 52 57.0**	**+0.4**
TNTI	**Ternate**	**2.14**	**211**		**Pn**	**15 52 57.5**	**+0.8**
SIJI	**Sorong**	**4.46**	**141**	P	Pn	15 53 34.0	+6.3
	4.2nm,0.3s,baz=249,slow=22,SNR=12						
SIJI				S	**Sn**	**15 54 23.7**	**+5.3**
	3.3nm,0.3s,baz=198,slow=23,SNR=6.9						
KMSI	**Cibinong**	**4.92**	**246**	P	**Pn**	**15 53 34.3**	**+0.4**
KCP	**Kidapawan**	**5.51**	**323**	*eP*	Pn	15 53 47.0	+5.0
KCP				*i* S	**Sn**	**15 54 47.5**	**+3.5**
GTOI	**Gorontalo**	**5.79**	**250**	P	**Pn**	**15 53 47.3**	**+1.5**
	0.6nm,2μm137nm,0.6s						
LUWI	**Luwuk**	**6.75**	**237**	P	**Pn**	**15 54 00.0**	**+1.2**
	0.6nm,2μm28nm,0.8s						
KAPI	**Kappang**	**11.54**	**229**	P	**Pn**	**15 55 05.3**	**+1.4**
	2.2nm,0.3s,baz=169,slow=18,SNR=2.7						
BATI	**Baumata**	**13.61**	**200**	P	**Pn**	**15 55 32.6**	**+1.4**
	1.7nm,0.3s,baz=46,slow=2.0,SNR=1.8						
MTN	**Manton Dam**	**15.59**	**170**		**Pn**	**15 55 56.0**	**-0.5**
MTN				IAmb	IAmb	15 56 38.1	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**18.18**	**179**	P	**P**	**15 56 25.9**	**-1.3**
KNRA				IAmb	IAmb	15 56 28.4	
	comp=Z,10nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.77**	**188**	P	**P**	**15 56 53.0**	**-2.4**
	comp=Z,1.2nm,0.4s,baz=357,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**20.77**	**188**	P	**P**	**15 56 52.6**	**-2.7**
COEN	**Coen**	**22.00**	**139**	P	**P**	**15 57 09.9**	**+1.4**
COEN				IAmb	IAmb	15 58 04.3	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**23.00**	**166**	P	**P**	**15 57 17.6**	**-1.0**
WB0				IAmb	IAmb	15 57 19.4	
	comp=Z,13nm,1.0s						
WRAB	**Tennant Creek**	**23.14**	**166**	P	**P**	**15 57 19.1**	**-1.0**
WRAB				IAmb	IAmb	15 57 20.9	
	comp=Z,7.4nm,0.9s						
WRA	**Warramunga Arr**	**23.15**	**166**	P	**P**	**15 57 19.4**	**-0.8**
	comp=Z,2.8nm,0.4s,baz=343,slow=10,SNR=74						
WRA				PcP	**PcP**	**16 01 04.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=341,slow=2.1,SNR=4.9						
WRA	**Warramunga Arr**	**23.15**	**166**	P	**P**	**15 57 17.6**	**-2.5**
WB2	**Warramunga Arr**	**23.15**	**166**	P	**P**	**15 57 18.5**	**-1.6**
WB2				IAmb	IAmb	15 57 21.4	
	comp=Z,9.2nm,1.0s						
WR0	**Warramunga Arr**	**23.22**	**165**	P	**P**	**15 57 19.8**	**-0.9**
WR0				IAmb	IAmb	15 57 22.1	
	comp=Z,6.1nm,0.9s						
AS31	**Alice Springs**	**26.66**	**169**	P	**P**	**15 57 50.6**	**-1.3**
ASAR	**Alice Springs**	**26.66**	**169**	P	**P**	**15 57 50.8**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=350,slow=7.6,SNR=46						
ASAR				PcP	**PcP**	**16 01 12.2**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=355,slow=2.1,SNR=16						
MJAR	**Matsushiro Arr**	**34.94**	**14**	P	**P**	**15 59 04.3**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=183,slow=8.6,SNR=3.4						
BBOO	**Buckleboo**	**35.96**	**169**	P	**P**	**15 59 12.1**	**-1.3**
STKA	**Stephens Creek**	**36.50**	**161**	P	**P**	**15 59 17.6**	**-0.4**
	comp=Z,4.2nm,0.5s,baz=337,slow=8.7,SNR=25						
STKA	**Stephens Creek**	**36.50**	**161**	P	**P**	**15 59 17.3**	**-0.7**
ARMA	**Armidale**	**39.60**	**148**	P	**P**	**15 59 43.3**	**-0.9**
H11S3	**WAKE ISLAND Hy**	**40.62**	**64**	T	T	16 43 45.4	
	baz=251,slow=75,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**40.63**	**64**	T	T	16 43 37.1	
	baz=251,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**40.63**	**64**	T	T	16 43 34.4	
	baz=251,slow=75,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**41.19**	**63**	T	T	16 44 06.3	
	baz=250,slow=75,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**41.20**	**63**	T	T	16 44 07.6	
	baz=250,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**41.21**	**63**	T	T	16 44 07.7	
	baz=250,slow=75,SNR=8.9						
SONM	**Songino Array**	**48.91**	**340**	P	**P**	**16 00 58.7**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=170,slow=9.0,SNR=3.6						
PETK	**Petropavlovsk-**	**55.82**	**21**	P	**P**	**16 01 49.9**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=194,slow=5.2,SNR=1.3						
MKAR	**Makanchi Array**	**59.45**	**325**	P	**P**	**16 02 14.3**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=117,slow=8.1,SNR=25						
MKAR				PcP	**PcP**	**16 03 00.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=121,slow=4.8,SNR=6.1						
ZALV	**Zalesovo Beam**	**62.36**	**333**	P	**P**	**16 02 32.8**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=132,slow=7.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**124.91**	**288**	PKP	**PKPdf**	**16 11 09.5**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=54,slow=1.7,SNR=3.0						

INET ***16*** *16:49:00.8, 5°.41N×81°.27W, h15km, ML5.1*
IDC ***16*** *16:49:29.9±0.5, 7°.63N×82°.30W, h0km, mb4.7/29, mb1 4.8/34, mb1mx4.7/50, mbtmp4.7/34, ML2.6/2, MS4.1/21, Ms1 4.1/21, ms1mx3.9/33, Error ellipse: s-maj=19.7km s-min=9.2km az=48.0*
MOS ***16*** *16:49:30.2±0.8, 7°.75N×82°.35W, h10km, mb5.1/12, Error ellipse: s-maj=9.2km s-min=5.3km az=111.6*
UPA ***16*** *16:49:30.7±1.4, 7°.48N×82°.41W, h10km±9km, MW5.2*
UCR ***16*** *16:49:31.2±1.5, 7°.42N×82°.57W, h5km, mb5.1(NEIC)*
BJI ***16*** *16:49:35.0±0.0, 7°.70N×82°.40W, h30km, mB5.5/12, Ms5.1/2, Ms7 4.8/3*
GCMT ***16*** *16:49:35.6±0.2, 7°.56N±0°.02×82°.40W±0°.01, h15km±1km, MW5.1/111, Moment Tensor Solution. s41,c49; s111,c162; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.29±.14; $M_{\theta\theta}$0.86±.09; $M_{\phi\phi}$-3.15±.12; $M_{r\theta}$3.23±.44; $M_{\theta\phi}$2.17±.09; $M_{\phi r}$-1.98±.33; Best double couple: $M_0$5.17400×10^16 NP1:ϕ_s11.00000°, δ33.00000°, λ150.00000°. NP2:ϕ_s127.00000°, δ74.00000°, λ61.00000°. Principal axes: T 4.8900, Plg52.0000°, Azm3.0000°; N 0.5730, Plg28.0000°, Azm136.0000°; P -5.4590, Plg23.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *16:49:35.6±1.6, 7°.68N±0°.06×82°.32W±0°.06, h40km±4km, mb5.1/339 Error ellipse: s-maj=9.6km s-min=7.0km az=45.0*
UNK ***16*** *16:49:35.6, 7°.66N×82°.32W, h42km*
BGR ***16*** *16:49:38.5±0.0, 8°.15N×82°.02W, h33km, mb5.1*
ISC 16 16:49:33.5±0.7, 7°.59N±0°.04×82°.38W±0°.03, h25km±4km, n929, σ1°11/965, mb5.1/245, MS4.1/19, 16C-3D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REME3	**Remedios, Chir**	**0.83**	**40**	↑*iP*	**Pb**	**16 49 48.5**	**-0.9**
REME3				*eS*	**Sb**	**16 49 58.5**	**-1.7**
DVD	**David**	**0.84**	**355**	*i P*	**Pb**	**16 49 48.5**	**-1.2**
DVD				*eS*	**Sb**	**16 49 59.1**	**-1.5**
PVID3	**Puerto Vidal,**	**0.89**	**59**	↑*iP*	**Pb**	**16 49 48.6**	**-1.7**
LESP3	**La Esperanza,**	**0.91**	**333**	↑*iP*	**Pb**	**16 49 49.0**	**-1.8**
LESP3				*eS*	**Sn**	**16 50 03.0**	**-0.1**
CDITO	**Canoas**	**1.09**	**333**	*eP*	**Pn**	**16 49 52.0**	**-1.3**
PTAR3	**Potrerillos Ar**	**1.10**	**354**	↑*iP*	**Pn**	**16 49 52.8**	**-0.8**
GMAL	**Guarumal, Vera**	**1.15**	**81**	*eP*	**Pn**	**16 49 51.6**	**-2.3**
GMAL				*eS*	**Sn**	**16 50 07.6**	**-1.3**
BRU2	**Volcan**	**1.24**	**345**	↑*iP*	**Pn**	**16 49 54.2**	**-1.2**
BRU2				*eS*	**Sb**	**16 50 12.9**	**+0.9**
BRU2	**Volcan**	**1.24**	**345**	*eP*	**Pn**	**16 49 54.4**	**-1.0**
BRU2				*eS*	**Sb**	**16 50 13.8**	**+1.8**
MESA3	**La Mesa, Verag**	**1.30**	**65**	↓*eP*	**Pn**	**16 49 55.2**	**-0.9**
PTJ1	**Puerto Jimnez**	**1.31**	**316**	*eP*	**Pn**	**16 49 54.7**	**-1.6**
PTJ1				*eS*	**Sn**	**16 50 12.0**	**-1.1**
PTJ1	**Puerto Jimnez**	**1.31**	**316**	*eP*	**Pn**	**16 49 55.0**	**-1.3**
PTJ1				*eS*	**Sb**	**16 50 13.6**	**-0.4**
EDSV	**San Vito**	**1.36**	**334**	*eP*	**Pn**	**16 49 56.4**	**-0.7**
MARI3	**Mariato, Verag**	**1.38**	**87**	*eP*	**Pn**	**16 49 56.2**	**-0.9**
MARI3				*eS*	**Sb**	**16 50 16.9**	**+1.1**
PONU3	**Ponuga, Veragu**	**1.42**	**78**	*eP*	**Pn**	**16 49 57.2**	**-0.5**
CACAO	**El Cacao, Vera**	**1.52**	**99**	*eP*	**Pn**	**16 49 56.8**	**-2.3**
CACAO				*eS*	**Sn**	**16 50 16.1**	**-2.1**
SFRA3	**San Francisco,**	**1.54**	**65**	↓*eP*	**Pn**	**16 49 58.6**	**-0.8**
SFRA3				*eS*	**Sb**	**16 50 21.6**	**+1.1**
RIOS	**Rincon, Osa**	**1.58**	**314**	*eP*	**Pn**	**16 49 58.1**	**-1.8**
SAFE3	**Santa Fe, Vera**	**1.58**	**54**	↑*iP*	**Pn**	**16 49 58.9**	**-1.1**
EDPN	**Palmar Norte**	**1.73**	**322**	*eP*	**Pn**	**16 50 01.2**	**-0.9**
PESE3	**Pese, Herrera**	**1.77**	**80**	*eP*	**Pn**	**16 50 01.5**	**-1.2**
PESE3				*eS*	**Sb**	**16 50 26.2**	**-1.1**
EDBA	**Buenos Aires**	**1.80**	**330**	*eP*	**Pn**	**16 50 03.2**	**+0.2**
DRK0	**Durika**	**1.87**	**333**	*eP*	**Pn**	**16 50 03.3**	**-0.8**
DRK0				*eS*	**Sn**	**16 50 28.0**	**+0.9**
DRK0	**Durika**	**1.87**	**333**	*eP*	**Pn**	**16 50 03.8**	**-0.4**
EDLM	**Las Mercedes**	**2.06**	**325**	*eP*	**Pn**	**16 50 06.4**	**-0.3**
EDLM				*eS*	**Sb**	**16 50 34.0**	**-1.7**
AZU	**Azuero**	**2.09**	**84**	*eP*	**Pn**	**16 50 06.0**	**-1.0**
AZU				*eS*	**Sn**	**16 50 32.6**	**+0.4**
PEZE	**Perez Zeledon,**	**2.20**	**324**	*eP*	**Pn**	**16 50 08.1**	**-0.5**
PEZE				*eS*	**Sb**	**16 50 37.8**	**-1.8**
EDDO	**Dominical**	**2.21**	**318**	*eP*	**Pn**	**16 50 08.1**	**-0.6**
EDDO				*eS*	**Sn**	**16 50 36.4**	**+1.1**
PNME	**Penonome**	**2.22**	**66**	*eP*	**Pn**	**16 50 08.6**	**-0.1**
PNME				*eS*	**Sn**	**16 50 36.9**	**+1.6**
PCRI3	**Pocri, Los San**	**2.24**	**88**	*eP*	**Pn**	**16 50 08.6**	**-0.4**
PCRI3				*eS*	**Sb**	**16 50 39.3**	**-1.4**
CDM	**Cerro de Muert**	**2.39**	**325**	*eP*	**Pn**	**16 50 11.1**	**-0.4**
RIMA	**Rio Macho**	**2.62**	**326**	*eP*	**Pn**	**16 50 14.1**	**-0.3**
RIMA				*eS*	**Sn**	**16 50 48.0**	**+2.5**
LCR2	**La Lucha 2**	**2.68**	**323**	*eP*	**Pn**	**16 50 14.9**	**-0.3**
LCR2				*eS*	**Sn**	**16 50 49.0**	**+2.0**
BATAN	**Batan**	**2.68**	**338**	*eP*	**Pn**	**16 50 16.2**	**+1.1**
CVTR	**Volcan Turrial**	**2.78**	**331**	*eP*	**Pn**	**16 50 17.5**	**+0.7**
SJS	**Escuela Geolog**	**2.87**	**325**	*eP*	**Pn**	**16 50 18.5**	**+0.7**
HDC	**Heredia**	**2.95**	**324**	*eP*	**Pn**	**16 50 19.4**	**+0.5**
HDC	**Heredia**	**2.95**	**324**		**Pn**	**16 50 19.3**	**+0.3**
HDC3	**Heredia 3**	**2.95**	**325**	*eP*	**Pn**	**16 50 19.3**	**+0.4**
BCIP	**Isla Barro Col**	**2.96**	**58**	*eP*	**Pn**	**16 50 18.8**	**-0.2**
BCIP	**Isla Barro Col**	**2.96**	**58**	*eP*	**Pn**	**16 50 19.0**	**+0.1**
BCIP				*eS*	**Sb**	**16 51 00.8**	**-0.6**
BCIP	**Isla Barro Col**	**2.96**	**58**	P	**Pn**	**16 50 18.8**	**-0.2**
BCIP	**Isla Barro Col**	**2.96**	**58**	*eP*	**Pn**	**16 50 21.4**	**+2.4**
BCIP	**Isla Barro Col**	**2.96**	**58**	Pn	**Pn**	**16 50 18.8**	**-0.2**
UPA	**Univ. de Panam**	**3.13**	**64**	*eP*	**Pn**	**16 50 20.1**	**-1.2**
UPA	**Univ. de Panam**	**3.13**	**64**	*eP*	**Pn**	**16 50 20.4**	**-1.0**
UPA				*eS*	**Sb**	**16 51 08.4**	**+2.0**
UPA	**Univ. de Panam**	**3.13**	**64**	*eP*	**Pn**	**16 50 22.4**	**+1.1**
SRA1	**San Ramn**	**3.24**	**320**	*eP*	**Pn**	**16 50 22.7**	**-0.2**
LAFE	**Finca La Fe, P**	**3.34**	**312**	*eP*	**Pn**	**16 50 22.7**	**-1.5**
FORC	**Fortuna**	**3.65**	**322**	*i S*	**Sn**	**16 51 14.2**	**+3.5**
CEDE	**Laguna Cedeo**	**3.69**	**322**	*eP*	**Pn**	**16 50 30.1**	**+1.1**
COVE	**Coope Vega, Sa**	**3.70**	**327**	*eP*	**Pn**	**16 50 29.4**	**+0.2**
JTS	**Las Juntas de**	**3.70**	**317**	Pn	**Pn**	**16 50 28.2**	**-0.9**
	207nm,0.3s,baz=225,slow=4.2,SNR=248						
JTS				Sn	**Sn**	**16 51 11.3**	**-0.7**
	66nm,0.3s,baz=339,slow=23,SNR=6.7						
JTS				LR	LR	16 51 51.2	
	comp=Z,1μm,18.2s,baz=198,slow=38						
JTS	**Las Juntas de**	**3.70**	**317**	P	**Pn**	**16 50 27.9**	**-1.3**
JTS						16 51 11.3	
JTS	**Las Juntas de**	**3.70**	**317**	*eP*	**Pn**	**16 50 27.8**	**-1.4**
JTS	**Las Juntas de**	**3.70**	**317**		**Pn**	**16 50 27.9**	**-1.3**
DUNO	**Dulce Nombre,**	**3.95**	**309**	*eP*	**Pn**	**16 50 31.6**	**-1.0**
GRZA	**Playa Garza**	**3.97**	**306**	*eP*	**Pn**	**16 50 31.7**	**-1.1**
PTEN	**Parque Tenorio**	**4.04**	**320**	*i P*	**Pn**	**16 50 34.4**	**+0.5**
GUAI	**GUAI**	**4.09**	**311**	*i P*	**Pn**	**16 50 33.7**	**-0.8**
ORTG	**Ortega, Santa**	**4.11**	**312**	*eP*	**Pn**	**16 50 34.1**	**-0.7**
CUI	**Cuipilapa**	**4.11**	**318**	*i P*	**Pn**	**16 50 34.8**	**0.0**
HORNC	**Hornillas**	**4.16**	**318**	*i P*	**Pn**	**16 50 35.4**	**-0.2**
GUAB	**Guayabo de Bag**	**4.19**	**318**	*i P*	**Pn**	**16 50 36.7**	**+0.8**
LIM1	**Limonal**	**4.20**	**318**	*i P*	**Pn**	**16 50 36.8**	**+0.8**
GPS2	**Hotel Rincn d**	**4.30**	**317**	*i P*	**Pn**	**16 50 38.1**	**+0.6**
GPS1	**Guardaparques**	**4.32**	**317**	*i P*	**Pn**	**16 50 38.3**	**+0.5**
BUEV	**Buena Vista**	**4.37**	**317**	*eP*	**Pn**	**16 50 38.8**	**+0.3**
BUAI	**Buenos Aires**	**4.38**	**318**	*i P*	**Pn**	**16 50 39.1**	**+0.5**
GB1A	**Borinquen Arri**	**4.38**	**317**	*i P*	**Pn**	**16 50 39.4**	**+0.7**
GBS3	**Finca Las Img**	**4.39**	**316**	*i P*	**Pn**	**16 50 39.1**	**+0.4**
UPD2	**Meteti**	**4.42**	**77**	*eP*	**Pn**	**16 50 42.2**	**+3.1**
UPD2	**Meteti**	**4.42**	**77**	*eP*	**Pn**	**16 50 42.3**	**+3.3**
HZTE	**Horizontes, Gu**	**4.44**	**315**	*eP*	**Pn**	**16 50 39.9**	**+0.5**
PTAC	**Punta Ardita,**	**4.55**	**95**	*eP*	**Pn**	**16 50 38.6**	**-2.2**
ESPN	**Las Esperanzas**	**4.95**	**338**	*eP*	**Pn**	**16 50 46.6**	**+0.2**
ESPN	**Las Esperanzas**	**4.95**	**338**		**Pn**	**16 50 46.5**	**+0.2**
SOLC	**Bahia Solano**	**5.11**	**105**	*eP*	**Pn**	**16 50 45.5**	**-3.1**
ACON	**Acoyapa**	**5.15**	**328**	*eP*	**Pn**	**16 50 48.7**	**-0.4**
ACON	**Acoyapa**	**5.15**	**328**		**Pn**	**16 50 48.5**	**-0.6**
BOAB	**BOACO BROADBAN**	**5.82**	**326**	Pn	**Pn**	**16 50 58.2**	**0.0**
PRVC	**Isla de Provid**	**5.84**	**10**	*eP*	**Pn**	**16 50 59.0**	**+0.4**
LCBC	**Los crdobas,**	**6.08**	**78**	*eP*	Pn	16 51 07.8	+6.0
DBBC	**Dabeiba**	**6.14**	**95**	*eP*	**Pn**	**16 51 01.8**	**-1.0**
MATN	**Matagalpa**	**6.35**	**327**		**Pn**	**16 51 05.7**	**0.0**
CBOC	**Ciudad Bolivar**	**6.55**	**105**	*eP*	**Pn**	**16 51 07.1**	**-1.3**
PLMC	**San Jos del P**	**6.62**	**113**	*eP*	**Pn**	**16 51 13.8**	**+4.5**
UREC	**San Jos de Ur**	**6.78**	**88**	*eP*	**Pn**	**16 51 11.4**	**-0.2**
CRIN	**San Cristobal**	**6.85**	**318**		**Pn**	**16 51 13.1**	**+0.5**
HELC	**Santa Helena**	**6.94**	**101**	*eP*	**Pn**	**16 51 14.0**	**0.0**
YOTC	**Yotoco, Valle**	**6.99**	**121**	*eP*	**Pn**	**16 51 11.9**	**-2.5**
GUY2C	**Guyana, Caldas**	**7.35**	**108**	*eP*	**Pn**	**16 51 20.9**	**+1.1**
ZARC	**Zaragoza, Cauc**	**7.45**	**90**	*eP*	**Pn**	**16 51 20.6**	**-0.2**
SJCC	**San Jacinto, C**	**7.47**	**72**	*eP*	**Pn**	**16 51 21.3**	**+0.2**
BBAC	**Balboa, Cauca**	**7.53**	**137**	*eP*	**Pn**	**16 51 21.4**	**-0.6**
POPC	**Popayan, Colom**	**7.57**	**131**	*eP*	**Pn**	**16 51 24.6**	**+2.0**
ANIL	**Santa Ana**	**7.58**	**114**	*eP*	**Pn**	**16 51 26.9**	**+4.1**
TOLC	**Tolima**	**7.62**	**113**	*eP*	**Pn**	**16 51 23.8**	**+0.4**
NORC	**Norcasia**	**7.72**	**105**	*eP*	**Pn**	**16 51 25.6**	**+1.1**
PCON	**Cinco Dias**	**7.92**	**131**	*eP*	**Pn**	**16 51 30.7**	**+3.0**
PTBC	**PUERTO BERRIO,**	**7.93**	**97**	*eP*	**Pn**	**16 51 29.1**	**+1.8**
MARP	**Paez Belalcaza**	**7.94**	**126**	*eP*	**Pn**	**16 51 29.4**	**+1.7**
ORTC	**Ortega, Tolima**	**7.98**	**117**	*eP*	**Pn**	**16 51 29.4**	**+1.4**
TGUH	**Tegucigalpa,Un**	**8.03**	**324**	Pn	**Pn**	**16 51 29.5**	**+0.7**
GCUF	**Volcan Galeras**	**8.07**	**141**	*eP*	**Pn**	**16 51 30.6**	**+1.0**
OTAV	**Otavalo**	**8.29**	**152**	*eP*	**Pn**	**16 51 32.6**	**0.0**
OTAV	**Otavalo**	**8.29**	**152**	*ceP*	**Pn**	**16 51 35.3**	**+2.7**
OTAV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
OTAV	**Otavalo**	**8.29**	**152**	Pn	**Pn**	**16 51 33.1**	**+0.5**
OTAV	**Otavalo**	**8.29**	**152**	*eP*	**Pn**	**16 51 32.4**	**-0.2**
SMLC	**San Martn de**	**8.31**	**81**	*eP*	**Pn**	**16 51 35.1**	**+2.6**
ARGC	**Ariguani, Magd**	**8.35**	**74**	*eP*	**Pn**	**16 51 37.0**	**+4.0**
PRAC	**Prado**	**8.39**	**117**	*eP*	**Pn**	**16 51 34.3**	**+0.7**
BETC	**Betania**	**8.45**	**125**	*eP*	**Pn**	**16 51 37.8**	**+3.3**
ROSC	**El Rosal**	**8.46**	**108**	Pn	**Pn**	**16 51 34.1**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=56,slow=22,SNR=7.8						
ROSC				Sn	**Sn**	**16 53 11.8**	**+1.9**
	comp=Z,1.2nm,0.3s,baz=345,slow=23,SNR=1.8						
ROSC				LR	LR	16 54 17.1	
	comp=Z,2μm,20.3s,baz=322,slow=34						
ROSC	**El Rosal**	**8.46**	**108**	Pn	**Pn**	**16 51 36.3**	**+1.4**
SPBC	**San Pablo de B**	**8.47**	**103**	*eP*	**Pn**	**16 51 36.3**	**+1.5**
BRRC	**Barranca, Sant**	**8.61**	**93**	*eP*	**Pn**	**16 51 40.4**	**+3.8**
GARC	**Garzon, Huila**	**8.71**	**128**	*eP*	**Pn**	**16 51 42.7**	**+4.5**
SMRC	**Santa Marta, M**	**8.79**	**66**	*eP*	**Pn**	**16 51 42.3**	**+3.2**
OCAC	**Ocana**	**8.99**	**85**	*eP*	**Pn**	**16 51 46.1**	**+4.0**
CHIC	**Chingaza**	**9.08**	**108**	*eP*	**Pn**	**16 51 46.3**	**+2.8**
BARC	**Barichara**	**9.18**	**96**	*eP*	**Pn**	**16 51 45.3**	**+0.6**
VILC	**Villavicencio,**	**9.30**	**111**	*eP*	**Pn**	**16 51 50.3**	**+4.0**
RUSC	**La Rusia**	**9.38**	**100**	*eP*	**Pn**	**16 51 46.5**	**-1.1**
PAMC	**Pamplona, Colo**	**9.60**	**91**	*eP*	**Pn**	**16 51 55.0**	**+4.3**
MTO3	**Montecristo**	**9.63**	**315**		**Pn**	**16 51 52.2**	**+1.3**
ESQI	**Esquipulas**	**9.73**	**316**	Pn	**Pn**	**16 51 54.4**	**+2.2**
PTLC	**Puerto Leguiza**	**10.55**	**134**	*eP*	**Pn**	**16 52 07.0**	**+3.7**
TAMC	**Tame, Arauca**	**10.57**	**96**	*eP*	Pn	16 52 09.7	+6.2
APG	**El Apazote**	**10.82**	**314**	Pn	**Pn**	**16 52 07.6**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=134,slow=11,SNR=8.2						
APG				LR	LR	16 56 06.6	
	comp=Z,636nm,20.5s,baz=129,slow=37						
URIC	**Uribia, Colomb**	**11.02**	**67**	*eP*	**Pn**	**16 52 11.9**	**+2.2**
PAYG	**Puerto Ayora**	**11.38**	**224**		**Pn**	**16 52 17.4**	**+2.7**
MTDJ	**Mount Denham**	**11.58**	**24**	*eP*	**Pn**	**16 52 18.6**	**+1.2**
SDV	**Santo Domingo**	**11.69**	**83**	Pn	**Pn**	**16 52 18.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=269,slow=7.4,SNR=2.8						
SDV				Sn	**Sn**	**16 54 27.1**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=72,slow=20,SNR=1.8						
SDV				LR	LR	16 58 08.4	
	comp=Z,2μm,18.9s,baz=248,slow=45						
SDV	**Santo Domingo**	**11.69**	**83**	*eP*	**Pn**	**16 52 21.0**	**+1.9**
SDV	**Santo Domingo**	**11.69**	**83**	Pn	**Pn**	**16 52 19.3**	**+0.2**
SDV	**Santo Domingo**	**11.69**	**83**	*eP*	**Pn**	**16 52 19.2**	**+0.2**
SDV				*eS*	**Sn**	**16 54 32.9**	**+3.9**
TEIG	**Tepich**	**13.80**	**336**	Pn	**P**	**16 52 57.0**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=170,slow=10,SNR=24						
TEIG				LR	LR	16 58 26.7	
	comp=Z,1μm,18.3s,baz=200,slow=39

CPCT	Cooper Cave	27.80	356	P	P	16 55 19.5	-1.2
TKL	Tuckaleechee C	27.97	358	P	P	16 55 22.8	+0.6
	comp=Z,3.4nm,0.7s,baz=155,slow=9.3,SNR=4.0						
TKL				LR	LR	17 07 27.0	
	comp=Z,307nm,19.5s,baz=182,slow=39						
TKL	Tuckaleechee C	27.97	358	P	P	16 55 22.8	+0.6
TKL				pmax	pmax		
	comp=Z,18nm,1.5s						
JCT	Junction City	28.02	327	P	P	16 55 22.1	-0.7
JCT				pmax	pmax		
	comp=Z,39nm,1.2s						
JCT	Junction City	28.02	327	P	P	16 55 22.4	-0.4
	baz=141						
JCT	Junction City	28.02	327	P	P	16 55 22.1	-0.7
JCT				IAmb	IAmb	16 55 23.9	
	comp=Z,39nm,1.2s						
WHTX	Lake Whitney,	28.05	332	P	P	16 55 22.2	-0.8
	baz=147						
WHTX	Lake Whitney,	28.05	332	P	P	16 55 21.6	-1.3
WHTX				IAmb	IAmb	16 55 23.6	
	comp=Z,29nm,0.9s						
V56A	Mocksville	28.14	3	P	P	16 55 24.2	+0.5
	baz=184						
W45A	Hickory Valley	28.14	348	P	P	16 55 22.8	-0.9
W45A				IAmb	IAmb	16 55 24.9	
	comp=Z,52nm,1.1s						
V57A	Coltrane Farms	28.27	4	P	P	16 55 25.1	+0.2
	baz=185						
V59A	Middlesex	28.30	7	P	P	16 55 25.6	+0.5
	baz=188						
V48A	Smith Brothers	28.31	352	P	P	16 55 24.5	-0.8
V48A				IAmb	IAmb	16 55 26.5	
	comp=Z,31nm,1.1s						
X40A	Basin Creek Fa	28.45	342	P	P	16 55 25.7	-0.8
	baz=158						
X40A	Basin Creek Fa	28.45	342	P	P	16 55 24.8	-1.7
UALR	University of	28.57	343	P	P	16 55 26.6	-1.0
UALR				IAmb	IAmb	16 55 28.0	
	comp=Z,28nm,0.8s						
CLTN	Cedars of Leba	28.60	353	P	P	16 55 27.3	-0.5
PB16	IPOC Station P	28.72	154	P	P	16 55 30.7	+1.1
MIAR	Mount Ida	28.74	341	P	P	16 55 27.3	-1.8
MIAR				pmax	pmax		
	comp=Z,24nm,1.2s						
MIAR	Mount Ida	28.74	341	P	P	16 55 28.1	-1.0
	baz=156						
MIAR	Mount Ida	28.74	341	P	P	16 55 27.3	-1.8
U55A	TA2, Sparta	28.80	2	P	P	16 55 30.6	+0.9
	baz=183						
TZTN	Tazewell	28.84	358	P	P	16 55 30.5	+0.5
	baz=178						
TZTN	Tazewell	28.84	358	P	P	16 55 29.1	-0.8
TZTN					PcP	16 58 39.8	+0.5
WVT	Waverly	28.84	351	P	P	16 55 28.7	-1.2
WVT				pmax	pmax		
	comp=Z,13nm,1.0s						
WVT	Waverly	28.84	351	P	P	16 55 29.1	-0.8
	baz=169						
WVT	Waverly	28.84	351	P	P	16 55 28.7	-1.2
HALT	Halls	28.90	348	P	P	16 55 30.1	-0.4
W41B	Gary Mavity, V	28.91	343	P	P	16 55 29.9	-0.7
	baz=159						
W41B	Gary Mavity, V	28.91	343	P	P	16 55 29.8	-0.7
W41B				IAmb	IAmb	16 55 31.2	
	comp=Z,24nm,0.9s						
W41B					PcP	16 58 39.8	+0.3
U49A	Red Boiling Sp	28.96	354	P	P	16 55 30.1	-0.8
WHAR	Wooly Hollow	29.03	343	P	P	16 55 30.1	-1.5
WHAR				IAmb	IAmb	16 55 32.1	
	comp=Z,33nm,0.8s						
Z35A	Perchaven, San	29.09	334	P	P	16 55 31.9	-0.3
Z35A				IAmb	IAmb	16 55 33.0	
	comp=Z,36nm,0.8s						
ITTB	Itaituba	29.11	113	eP	P	16 55 32.8	+0.2
T50A	Nancy	29.38	356	P	P	16 55 34.2	-0.6
MNMC	Minye Minye	29.39	155	P	P	16 55 35.3	0.0
MNMC				IAmb	IAmb	16 55 40.4	
	comp=Z,23nm,0.9s						
W39A	Magazine	29.41	341	P	P	16 55 34.5	-0.4
	baz=156						
W39A	Magazine	29.41	341	P	P	16 55 34.3	-0.7
T57A	Hurt	29.41	5	P	P	16 55 34.7	-0.3
T55A	Pulaski	29.43	3	P	P	16 55 35.8	+0.6
	baz=183						
LCAR	Lake Charles	29.46	345	P	P	16 55 34.6	-0.8
LCAR				IAmb	IAmb	16 55 35.9	
	comp=Z,44nm,0.9s						
TXAR	Lajitas Array	29.48	320	P	P	16 55 35.9	0.0
	comp=Z,7.0nm,0.8s,baz=126,slow=9.0,SNR=11						
TXAR				PcP	PcP	16 58 42.7	+1.5
	comp=Z,1.8nm,0.7s,baz=156,slow=5.8,SNR=5.6						
TXAR				LR	LR	17 09 42.6	
	comp=Z,192nm,18.8s,baz=0.0,slow=41						
TXAR	Lajitas Array	29.48	320	P	P	16 55 36.6	+0.7
TXAR	Lajitas Array	29.48	320	P	P	16 55 36.6	+0.7
FCAR	Ozark Folk Cen	29.55	344	P	P	16 55 35.0	-1.2
FCAR				IAmb	IAmb	16 55 36.4	
	comp=Z,23nm,0.9s						
MALB	Monte Alegre	29.57	107	eP	P	16 55 37.6	+0.9
T47A	Sharon Grove	29.58	352	P	P	16 55 35.7	-0.8
T47A				IAmb	IAmb	16 55 37.2	
	comp=Z,31nm,1.2s						
T47A					PcP	16 58 40.8	-0.4
ABTX	Abilene, Hawle	29.63	330	P	P	16 55 36.3	-0.7
	baz=143						
ABTX	Abilene, Hawle	29.63	330	P	P	16 55 36.0	-1.1
MDP	Montagnes des	29.65	93	P	P	16 55 38.0	+0.6
	comp=Z,15nm,1.0s,baz=274,slow=13,SNR=5.4						
MDP				LR	LR	17 08 07.6	
	comp=Z,740nm,18.6s,baz=278,slow=38						
RCRC	Randolf Colleg	29.84	5	P	P	16 55 38.2	-0.6
H06E1	SOCORRO T-PHAS	29.89	295	T	T	17 27 03.6	
	SNR=21						
PB11	IPOC Station P	29.92	155	P	P	16 55 40.1	+0.2
PB11				IAmb	IAmb	16 56 05.7	
	comp=Z,18nm,0.9s						
S51A	Beattyville	29.93	358	P	P	16 55 39.5	-0.2
S51A				IAmb	IAmb	16 55 43.8	
	comp=Z,20nm,0.9s						
VILB	Vilhena	30.03	133	eP	P	16 55 40.7	0.0
GO01	Chusmiza	30.04	155	P	P	16 55 42.9	+1.6
GO01				IAmb	IAmb	16 55 57.7	
	comp=Z,29nm,1.1s						
U40A	Yellville	30.19	343	P	P	16 55 41.3	-0.7
	baz=159						
U40A	Yellville	30.19	343	P	P	16 55 40.9	-1.0
U40A				IAmb	IAmb	16 55 43.8	
	comp=Z,24nm,1.0s						
T42A	Van Buren	30.36	346	P	P	16 55 42.0	-1.4
T42A				IAmb	IAmb	16 55 43.5	
	comp=Z,26nm,0.9s						
S44A	Carbondale	30.61	349	P	P	16 55 44.4	-1.2
S44A				IAmb	IAmb	16 55 46.2	
	comp=Z,33nm,1.2s						
NPGB	Novo Progresso	30.62	118	eP	P	16 55 45.2	-0.7
R49A	Shelbyville	30.67	356	P	P	16 55 45.2	-0.9
R49A				IAmb	IAmb	16 55 47.0	
	comp=Z,35nm,1.3s						
WCI	Wyandotte Cave	30.71	354	P	P	16 55 45.5	-1.0
WCI				pmax	pmax		
	comp=Z,27nm,1.1s						
WCI	Wyandotte Cave	30.71	354	P	P	16 55 45.8	-0.7
	baz=172						
WCI	Wyandotte Cave	30.71	354	P	P	16 55 45.5	-1.0
WCI				IAmb	IAmb	16 55 47.3	
	comp=Z,27nm,1.1s						
MGMO	Mountain Grove	30.78	344	P	P	16 55 46.1	-1.0
MGMO				IAmb	IAmb	16 55 47.8	
	comp=Z,59nm,1.3s						
FNO	Franklin	30.80	336	P	P	16 55 46.9	-0.4
WMOK	Wichita Mounta	30.95	333	P	P	16 55 47.1	-1.6
WMOK				pmax	pmax		
	comp=Z,11nm,1.0s						
WMOK	Wichita Mounta	30.95	333	P	P	16 55 47.5	-1.2
	baz=147						
WMOK	Wichita Mounta	30.95	333	P	P	16 55 47.1	-1.6
FVM	French Village	31.13	348	P	P	16 55 48.4	-1.8
FVM				pmax	pmax		
	comp=Z,38nm,1.4s						
FVM	French Village	31.13	348	P	P	16 55 48.4	-1.8
FVM				IAmb	IAmb	16 55 50.7	
	comp=Z,38nm,1.4s						
Q53A	Leroy	31.14	1	P	P	16 55 50.7	+0.4
	baz=182						
MCPB	Macapa, AP	31.25	103	eP	P	16 55 51.9	+0.3
Q51A	Peebles	31.31	359	P	P	16 55 51.1	-0.7
Q51A				IAmb	IAmb	16 55 53.7	
	comp=Z,18nm,0.8s						
QUOK	Quay	31.32	337	P	P	16 55 50.4	-1.5
Q55A	Buckhannon	31.34	3	P	P	16 55 53.4	+1.4
	baz=184						
CCM	Cathedral Cave	31.38	346	P	P	16 55 51.0	-1.4
CCM				pmax	pmax		
	comp=Z,33nm,1.1s						
CCM	Cathedral Cave	31.38	346	P	P	16 55 51.1	-1.2
	baz=163						
CCM	Cathedral Cave	31.38	346	P	P	16 55 51.0	-1.4
CCM				IAmb	IAmb	16 55 52.5	
	comp=Z,33nm,1.1s						
OLIL	Olney	31.43	351	P	P	16 55 51.8	-1.0
Q56A	Snyder Ridge,	31.45	5	P	P	16 55 51.9	-1.1
SIV	San Ignacio	31.52	138	P	P	16 55 53.3	-0.7
	comp=Z,8.7nm,0.9s,baz=320,slow=8.4,SNR=36						
S39A	Bolivar	31.57	343	P	P	16 55 52.9	-1.2
S39A				IAmb	IAmb	16 55 54.2	
	comp=Z,25nm,0.9s						
S39A					PcP	16 58 46.0	-0.4
BLO	Bloomington	31.67	354	P	P	16 55 53.9	-1.0
BLO				pmax	pmax		
	comp=Z,95nm,1.3s						
BLO	Bloomington	31.67	354	P	P	16 55 53.9	-1.0
Q44A	Meyer Farm, Va	31.75	350	P	P	16 55 54.3	-1.3
Q44A				IAmb	IAmb	16 55 56.0	
	comp=Z,27nm,1.1s						
P53A	Whipple	31.77	1	P	P	16 55 55.9	+0.1
	baz=182						
P53A	Whipple	31.77	1	P	P	16 55 55.6	-0.3
P53A				IAmb	IAmb	16 56 14.5	
	comp=Z,26nm,1.2s						
P48A	Milroy	31.85	356	P	P	16 55 55.4	-1.1
P48A				IAmb	IAmb	16 55 56.7	
	comp=Z,59nm,1.5s						
P49A	Miami Univ. Ec	31.88	357	P	P	16 55 55.0	-1.7
T35A	Sooner Cattle	31.91	338	P	P	16 55 55.2	-1.8
T35A				IAmb	IAmb	16 55 58.1	
	comp=Z,17nm,0.9s						
GDL2	Guadalupe Moun	31.91	323	P	P	16 55 54.2	-3.1
CLDB	Colider	32.19	124	eP	P	16 55 58.0	-1.8
MSTX	Muleshoe	32.31	327	P	P	16 56 00.7	-0.1
MSTX				IAmb	IAmb	16 56 02.5	
	comp=Z,20nm,1.0s						
U32A	Winter Ranch,	32.43	334	P	P	16 56 00.7	-1.0
U32A				IAmb	IAmb	16 56 01.7	
	comp=Z,16nm,0.9s						
PTLB	Pontes e Lacer	32.47	135	eP	P	16 56 01.8	-0.3
O54A	Avella	32.50	3	P	P	16 56 01.7	-0.5
O54A				IAmb	IAmb	16 56 27.7	
	comp=Z,16nm,0.8s						
O49A	Covington	32.51	357	P	P	16 56 01.5	-0.8
O49A				IAmb	IAmb	16 56 02.7	
	comp=Z,22nm,1.3s						
O53A	New Philadelph	32.54	2	P	P	16 56 01.1	-1.4
P43A	Skaggs, Pawnee	32.55	350	P	P	16 56 01.4	-1.2
P43A				IAmb	IAmb	16 56 03.2	
	comp=Z,52nm,1.2s						
O58A	Lewisberry	32.76	8	P	P	16 56 04.4	-0.1
	baz=190						
LVC	Limon Verde	32.78	157	P	P	16 56 06.3	+1.0
	comp=Z,3.5nm,0.8s,baz=230,slow=20,SNR=2.8						
O44A	Mansfield	32.88	351	P	P	16 56 04.2	-1.4
O44A				IAmb	IAmb	16 56 05.7	
	comp=Z,52nm,1.2s						
SFIN	Lafayette	32.92	353	P	P	16 56 04.7	-1.2
	baz=171						
SFIN	Lafayette	32.92	353	P	P	16 56 03.4	-2.5
SFIN				IAmb	IAmb	16 56 05.5	
	comp=Z,23nm,1.1s						
SFIN					PcP	16 58 49.7	-0.3
SSPA	Standing Stone	33.15	6	P	P	16 56 08.8	+0.9
	baz=188						
SSPA	Standing Stone	33.15	6	P	P	16 56 07.2	-0.7
N51A	Ashland	33.19	0	P	P	16 56 07.4	-0.8
N51A				IAmb	IAmb	16 56 09.5	
	comp=Z,20nm,0.7s						
N47A	Urbana	33.28	355	P	P	16 56 07.6	-1.4
N47A				IAmb	IAmb	16 56 08.7	
	comp=Z,62nm,1.5s						
HDIL	Hopedale	33.40	350	P	P	16 56 08.9	-1.2
HDIL				IAmb	IAmb	16 56 09.9	
	comp=Z,24nm,0.8s						
N41A	Harden Midland	33.84	348	P	P	16 56 12.2	-1.6
M57A	Sunshine Farm,	33.93	7	P	P	16 56 15.6	+1.0
	baz=189						
M57A	Sunshine Farm,	33.93	7	P	P	16 56 13.4	-1.3
M57A				IAmb	IAmb	16 56 40.2	
	comp=Z,25nm,1.2s						
M56A	Emporium	33.96	6	P	P	16 56 15.6	+0.7
	baz=187						
M56A	Emporium	33.96	6	P	P	16 56 13.8	-1.1
M56A				IAmb	IAmb	16 56 36.3	
	comp=Z,13nm,0.9s						
M56A					PcP	16 58 52.8	-0.1
R32A	Long Quarter,	34.06	337	P	P	16 56 14.0	-1.9
N38A	Joes South For	34.45	345	P	P	16 56 17.8	-1.5
L57A	Andrews Acres	34.62	7	P	P	16 56 21.3	+0.7
	baz=190						
L58A	Harry Jones Me	34.80	9	P	P	16 56 23.3	+1.1
	baz=191						
L60A	Shokan	35.01	11	P	P	16 56 25.4	+1.4
	baz=194						
ANMO	Albuquerque	35.08	324	i P	P	16 56 25.7	+0.7
ANMO				pmax	pmax		
	comp=Z,30nm,0.9s						
ANMO	Albuquerque	35.08	324	P	P	16 56 26.3	+1.3
	baz=135						
N35A	Tabor	35.18	342	P	P	16 56 24.3	-1.2
N35A				IAmb	IAmb	16 56 25.0	
	comp=Z,19nm,0.8s						
L40A	Anamosa	35.22	349	P	P	16 56 23.8	-1.9
SCIA	State Center	35.50	346	P	P	16 56 27.0	-1.2
	baz=161						
SCIA	State Center	35.50	346	P	P	16 56 26.9	-1.4
T25A	Trinidad	35.59	329	P	P	16 56 30.1	+0.7
	baz=140						
T25A	Trinidad	35.59	329	P	P	16 56 29.0	-0.3
T25A				IAmb	IAmb	16 56 31.4	
	comp=Z,26nm,0.9s						
TMAB	Tom-Au,PA,Br	35.60	105	eP	P	16 56 30.7	+1.2
N33A	J Bar K, Exete	35.64	340	P	P	16 56 29.2	-0.3
K59A	Cooperstown	35.67	10	P	P	16 56 29.8	+0.1
	baz=193						
K61A	Williamstown	35.85	11	P	P	16 56 32.9	+1.6
	baz=195						
JFWS	Jewell Farm	35.86	350		PcP	16 58 58.1	-0.2
K62A	Royalston	36.06	13	P	P	16 56 33.7	+0.7
	baz=197						
K62A	Royalston	36.06	13	P	P	16 56 32.6	-0.4
K62A				IAmb	IAmb	16 56 35.1	
	comp=Z,24nm,1.2s						
K38A	Parkersburg	36.10	347	P	P	16 56 31.5	-1.9
J58A	Remsen	36.17	9	P	P	16 56 33.5	-0.5
J58A				IAmb	IAmb	16 56 56.6	
	comp=Z,15nm,0.9s						
I42A	Draeger Farm,	36.61	352	P	P	16 56 35.5	-2.2
I42A				IAmb	IAmb	16 56 37.4	
	comp=Z,26nm,1.0s						
SDCO	Great Sand Dun	36.61	329	P	P	16 56 39.1	+0.9
	baz=139						
SDCO	Great Sand Dun	36.61	329	P	P	16 56 37.5	-0.6
SDCO				IAmb	IAmb	16 56 40.4	
	comp=Z,21nm,1.0s						
J61A	Chester	36.65	12	P	P	16 56 39.6	+1.6
	baz=196						
J62A	Henniker	36.69	13	P	P	16 56 39.4	+1.0
	baz=198						
I55A	Frankford	36.72	6	P	P	16 56 38.5	-0.1
	baz=188						
I59A	Olmsteadville	36.83	10	P	P	16 56 40.1	+0.5
	baz=194						
I60A	Shoreham	36.98	11	P	P	16 56 42.4	+1.5
	baz=195						
H55A	Tweed	37.10	6	P	P	16 56 41.9	+0.1
	baz=188						
I61A	Oroboro, Fairl	37.28	12	P	P	16 56 44.8	+1.4
	baz=197						
Q24A	Divide	37.37	330	P	P	16 56 45.8	+1.2
	baz=141						
Q24A	Divide	37.37	330	P	P	16 56 43.6	-1.0
Q24A				IAmb	IAmb	16 56 46.4	
	comp=Z,17nm,1.0s						
LONY	Lake Ozonia	37.51	9	P	P	16 56 46.1	+0.8
	baz=193						
VT1	Waterbury	37.55	11	P	P	16 56 45.4	-0.4
VT1				IAmb	IAmb	16 57 08.6	
	comp=Z,19nm,0.8s						
PLVO	Plevna	37.59	6	P	P	16 56 45.2	-0.9
PLVO				IAmb	IAmb	16 57 10.4	
	comp=Z,18nm,1.1s						
LBNH	Lisbon	37.63	12	P	P	16 56 47.4	+1.0
	baz=197						
H59A	Cadyville	37.68	10	P	P	16 56 47.3	+0.5
	baz=194						
I63A	Otisfield	37.76	14	P	P	16 56 48.9	+1.5
	baz=199						
K31A	O'Neill	37.77	340	P	P	16 56 46.8	-0.8
H60A	Morristown	37.78	11	P	P	16 56 48.9	+1.2
	baz=196						
FRNY	Flat Rock	37.88	10		PcP	16 59 04.5	+0.1
ECSD	EROS Data Cent	38.10	343	P	P	16 56 48.5	-1.9
	baz=157						
ECSD	EROS Data Cent	38.10	343	P	P	16 56 48.4	-1.9
ECSD				IAmb	IAmb	16 56 50.0	
	comp=Z,32nm,1.2s						
ECSD					PcP	16 59 05.1	0.0
ARAG	Araguaiana, MT	38.11	127	eP	P	16 56 49.4	-1.4
G40A	Rib Lake	38.15	351	P	P	16 56 49.2	-1.5
G40A				IAmb	IAmb	16 56 50.1	
	comp=Z,28nm,1.4s						
ISCO	Idaho Springs	38.24	331	P	P	16 56 50.6	-1.4
ISCO				pmax	pmax		
	comp=Z,18nm,1.4s						
ISCO	Idaho Springs	38.24	331	P	P	16 56 52.6	+0.6
	baz=141						
ISCO	Idaho Springs	38.24	331	P	P	16 56 50.6	-1.4
SMTB	Santa Maria do	38.32	115	eP	P	16 56 52.6	-0.1
G60A	Masonville	38.37	11	P	P	16 56 53.2	+0.6
	baz=196						
ALGO	Algonquin Park	38.41	5	P	P	16 56 52.0	-0.8
	baz=187						
WUAZ	Wupatki	38.44	320	P	P	16 56 54.7	+1.1
	baz=129						
SPMN	Marine on St.	38.57	348	P	P	16 56 52.3	-2.0
	baz=163						
SPMN	Marine on St.	38.57	348	P	P	16 56 52.0	-2.3
SPMN				IAmb	IAmb	16 56 53.4	
	comp=Z,58nm,1.2s						
G62A	West of Eustis	38.87	13	P	P	16 56 58.1	+1.3
	baz=199						
H65A	Eastbrook	38.96	16	P	P	16 56 58.6	+1.1
	baz=202						
G63A	Kingsbury	38.99	14	P	P	16 56 59.1	+1.2
	baz=200						
TRQ	Mont Tremblant	39.08	9	P	P	16 56 57.5	-1.1
TRQ					PcP	16 59 08.4	+0.2
PEXB	Peixe	39.12	120	eP	P	16 56 59.0	-0.4
EMMW	East Machias	39.19	17	P	P	16 57 00.0	+0.6
PKME	Peaks-Kenny Pk	39.21	15	P	P	16 57 00.7	+1.1
	baz=201						
PKME	Peaks-Kenny Pk	39.21	15	P	P	16 57 00.5	+0.8
PKME				IAmb	IAmb	16 57 02.2	
	comp=Z,28nm,1.2s						
N23A	Red Feather La	39.25	331	P	P	16 57 00.3	-0.1
H66A	Whiting	39.30	17	P	P	16 57 01.7	+1.3
	baz=204						
F36A	Milaca	39.33	348	P	P	16 56 58.5	-2.1
F36A				IAmb	IAmb	16 56 59.6	
	comp=Z,39nm,1.3s						
G64A	Maxfield	39.34	15	P	P	16 57 01.7	+1.0
	baz=202						
PDMCI	Parker Dam,Lak	39.53	317	P	P	16 57 05.5	+3.1
	baz=125						
ROSB	Rosrio	39.56	104	eP	P	16 57 03.2	+0.2
G65A	Princeton	39.61	16	P	P	16 57 04.3	+1.3
	baz=203						
G65A	Princeton	39.61	16	P	P	16 57 03.4	+0.5
F63A	Nahmakanta, Br	39.67	15	P	P	16 57 04.8	+1.3
	baz=201						
F63A	Nahmakanta, Br	39.67	15	P	P	16 57 03.7	+0.2
F63A					PcP	16 59 10.0	0.0
D54A	Lac Fusel, La	39.72	6	P	P	16 57 03.3	-0.6
	baz=189						
D55A	Sainte-Anne-du	39.73	7	P	P	16 57 03.7	-0.2
	baz=191						
GGN	Saint George	39.74	17	P	P	16 57 02.7	-1.3
GGN				IAmb	IAmb	16 57 06.1	
	comp=Z,24nm,1.0s						
E60A	Ste Agathe de	39.77	12	P	P	16 57 05.0	+0.7
	baz=197						
D56A	ZEC Mazanza, M	39.86	8	P	P	16 57 04.9	-0.2
	baz=192						
F33A	5 Mile Ranch,	39.96	345	P	P	16 57 02.4	-3.5
F33A				IAmb	IAmb	16 57 05.0	
	comp=Z,30nm,0.9s						
F64A	Sherman	40.01	15	P	P	16 57 07.5	+1.2
	baz=202						
F64A	Sherman	40.01	15	P	P	16 57 06.4	+0.2
E62A	Clayton Lake	40.43	14	P	P	16 57 10.9	+1.2
	baz=200						
E62A	Clayton Lake	40.43	14	P	P	16 57 10.5	+0.8
RWWY	Rawlins	40.47	331	P	P	16 57 10.8	+0.3
RWWY				IAmb	IAmb	16 57 12.4	
	comp=Z,44nm,1.1s						
E63A	Oxbow	40.51	15	P	P	16 57 12.0	+1.6
	baz=202						
E63A	Oxbow	40.51	15	P	P	16 57 10.8	+0.4
E64A	Bridgewater	40.66	15	P	P	16 57 12.9	+1.2
	baz=202						
PQI	Presque Isle	40.84	15		PcP	16 59 13.1	-0.7
K22A	Casper	40.89	333	P	P	16 57 14.3	+0.4
	baz=142						
K22A	Casper	40.89	333	P	P	16 57 13.8	-0.1
D62A	Allapoint, All	40.97	14	P	P	16 57 13.6	-0.6
RSSD	Black Hills	41.01	336	P	P	16 57 14.9	0.0
RSSD				pmax	pmax		
	comp=Z,13nm,1.0s						
RSSD	Black Hills	41.01	336	P	P	16 57 15.3	+0.4
	baz=146						
RSSD	Black Hills	41.01	336	P	P	16 57 14.9	0.0
LMN	Caledonia Moun	41.03	19	P	P	16 57 15.3	+0.6
LMN				IAmb	IAmb	16 57 16.9	
	comp=Z,53nm,1.0s						
BDFB	Brasilia	41.12	124	P	P	16 57 15.0	-1.0
	comp=Z,5.6nm,0.8s,baz=326,slow=5.1,SNR=6.8						
BDFB				LR	LR	17 14 49.6	
	comp=Z,418nm,19.0s,baz=305,slow=37						
BDFB	Brasilia	41.12	124	P	P	16 57 15.2	-0.8
BDFB				pmax	pmax		
	comp=Z,14nm,1.2s						
BDFB	Brasilia	41.12	124	P	P	16 57 15.2	-0.8
D63A	Stockholm	41.16	15	P	P	16 57 16.8	+1.0
	baz=202						
CPUP	Villa Florida	41.57	145	P	P	16 57 18.3	-1.1
	comp=Z,2.6nm,0.9s,baz=319,slow=7.5,SNR=3.9						
CPUP				LR	LR	17 16 28.7	
	comp=Z,176nm,20.3s,baz=332,slow=39						
CPUP	Villa Florida	41.57	145	P	P	16 57 18.3	-1.1
CPUP				pmax	pmax		
	comp=Z,9.0nm,1.4s						
B35A	Bob, Littlefor	41.76	349		PcP	16 59 16.9	+0.2
GBN	Guysborough	41.78	22	P	P	16 57 21.6	+0.7
JLU	Jordanelle	41.86	326	P	P	16 57 21.2	-0.8
GSC	Goldstone, Bar	41.90	316	P	P	16 57 25.5	+3.3
	baz=123						
E28A	Huff	41.91	341	P	P	16 57 20.8	-1.2
E28A				IAmb	IAmb	16 57 22.3	
	comp=Z,42nm,0.9s						
CTU	Camp Tracy	42.09	326	P	P	16 57 24.1	+0.3
PCMB	Pacaembu	42.12	134	eP	P	16 57 22.4	-1.5
TCUT	Toone Canyon	42.20	327	P	P	16 57 24.3	-0.4
SDBA	SAO DESIDERIO	42.21	118	eP	P	16 57 24.6	-0.4

HWUT Hardware Ranch 42.62 327 P P 16 57 27.9 -0.2
HWUT IAmb IAmb 16 57 34.4
comp=Z,45nm,1.1s
MDND Maddock 42.71 343 P P 16 57 27.6 -0.9
baz=154
MDND Maddock 42.71 343 P P 16 57 27.4 -1.1
MPMC Manual Prospec 42.78 317 P P 16 57 32.1 +2.7
baz=123
R11A Troy Canyon, C 42.84 321 P P 16 57 32.8 +2.9
baz=127
SPUT South Promonto 42.90 326 P P 16 57 30.5 +0.2
BGU Big Grassy Mou 42.96 325 P P 16 57 31.4 +0.6
AHID Auburn Hatcher 43.20 329 P P 16 57 32.4 -0.4
GRAC Grapevine Rang 43.21 318 P P 16 57 36.2 +3.4
baz=124
ISA Isabella, Lake 43.24 316 P P 16 57 36.4 +3.3
baz=122
RPN Rapa Nui 43.28 216 LR LR 17 10 40.6
comp=Z,292nm,21.9s,baz=62,slow=29
CWC Cottonwood Cre 43.39 317 P P 16 57 37.4 +3.1
baz=123
HVU Hansel Valley 43.40 327 P P 16 57 34.3 0.0
HVU pmax pmax
comp=Z,17nm,1.0s
HVU Hansel Valley 43.40 327 P P 16 57 34.3 0.0
REDW Red Top Meadow 43.51 330 P P 16 57 34.9 -0.3
REDW IAmb IAmb 16 57 36.9
comp=Z,33nm,1.0s
SNOW Snow King Moun 43.53 330 P P 16 57 35.4 -0.1
SNOW IAmb IAmb 16 57 42.4
comp=Z,31nm,1.1s
LOHW Long Hollow 43.56 330 P P 16 57 35.2 -0.5
TPAW Teton Pass 43.65 330 P P 16 57 35.7 -0.7
FXWY Fox Creek 43.79 330 P P 16 57 37.2 -0.4
PKM Mcpherson Peak 43.80 314 P P 16 57 41.0 +3.3
baz=119
JANB Januaria 43.93 121 *e*P **P 16 57 37.4 -1.4**
IMW Indian Meadow 43.94 330 P P 16 57 38.3 -0.5
FLWY Flagg Ranch 43.96 330 P P 16 57 38.6 -0.2
FLWY IAmb IAmb 16 57 40.7
comp=Z,24nm,0.9s
ULM Lac du Bonnet 43.99 348 P P 16 57 36.9 -1.8
comp=Z,37nm,0.9s,baz=163,slow=8.1,SNR=19
ULM PcP **PcP 16 59 24.6 +0.5**
comp=Z,9.2nm,1.0s,baz=244,slow=2.8,SNR=3.7
ULM Lac du Bonnet 43.99 348 P P 16 57 36.6 -2.2
LAO LASA Array 44.00 336 P P 16 57 38.5 -0.4
baz=145
LAO LASA Array 44.00 336 P P 16 57 38.0 -1.0
RLMT Red Lodge 44.06 333 P P 16 57 39.5 -0.2
baz=140
RLMT Red Lodge 44.06 333 P P 16 57 39.1 -0.5
RLMT IAmb IAmb 16 57 40.8
comp=Z,26nm,0.9s
ELK Elko 44.11 324 P P 16 57 40.8 +0.6
comp=Z,8.2nm,0.8s,baz=143,slow=1.9,SNR=9.3
ELK PcP **PcP 16 59 26.3 +1.2**
comp=Z,6.7nm,0.9s,baz=184,slow=1.4,SNR=5.8
ELK Elko 44.11 324 P P 16 57 39.9 -0.3
ELK IAmb IAmb 16 57 43.4
comp=Z,27nm,1.1s
SMMC Simmler 44.14 314 P P 16 57 42.0 +1.8
baz=120
YPP Pitchstone Pla 44.15 331 P P 16 57 40.5 +0.1
YNE Yellowstone No 44.31 332 P P 16 57 41.1 -0.7
YMR Madison River 44.52 331 P P 16 57 43.6 +0.2
NV11 Mina Array Sit 44.53 319 P P 16 57 45.9 +2.4
YHH Holmes Hill 44.55 331 P P 16 57 44.1 +0.4
NVAR Mina Array Bea 44.63 319 P P 16 57 46.5 +2.2
comp=Z,23nm,0.8s,baz=127,slow=6.8,SNR=43
NVAR PcP **PP 16 59 29.0 +0.3**
comp=Z,3.2nm,0.9s,baz=126,slow=4.6,SNR=5.0
NVAR LR LR 17 20 34.8
comp=Z,293nm,18.2s,baz=134,slow=42
NVAR Mina Array Bea 44.63 319 P P 16 57 45.8 +1.5
OMMB Old Mammoth Mi 44.64 318 P P 16 57 46.1 +1.5
LHV Little Huntoon 44.66 319 P P 16 57 46.0 +1.7
YHB Horse Butte 44.69 331 P P 16 57 44.9 +0.2
DGMT Dagmar 44.73 339 P P 16 57 44.6 -0.1
baz=148
DGMT Dagmar 44.73 339 P P 16 57 44.2 -0.6
GCMT Greycliff 44.75 333 P P 16 57 44.5 -0.6
YHL Hebgen Lake 44.76 331 P P 16 57 45.8 +0.5
KVN Kaiserville 44.85 320 P P 16 57 47.3 +1.3
KVN pmax pmax
comp=Z,53nm,1.3s
KVN Kaiserville 44.85 320 P P 16 57 47.3 +1.3
KVN IAmb IAmb 16 57 49.2
comp=Z,53nm,1.3s
QLMT Earthquake Lak 44.86 331 P P 16 57 46.9 +0.9
RYN Ryan 44.88 319 P P 16 57 46.5 +0.3
RYN IAmb IAmb 16 57 49.8
comp=Z,53nm,1.2s
MC01 Montes Claros 45.03 123 *e*P **P 16 57 47.1 -0.5**
ITAB Concordia 45.35 141 *e*P **P 16 57 49.4 -0.5**
WAKR Walker 45.41 318 P P 16 57 52.3 +1.7
HLID Hailey 45.49 327 P P 16 57 51.9 +0.8
baz=132
HLID Hailey 45.49 327 P P 16 57 51.2 +0.1
HLID IAmb IAmb 16 57 57.0
comp=Z,14nm,0.8s
BOZ Bozeman (W) 45.52 331 P P 16 57 51.3 +0.1
BOZ pmax pmax
comp=Z,19nm,1.0s
BOZ Bozeman (W) 45.52 331 P P 16 57 51.8 +0.6
baz=137
BOZ Bozeman (W) 45.52 331 P P 16 57 51.3 +0.1
BOZ IAmb IAmb 16 57 53.0
comp=Z,19nm,1.0s
YERR Yerington 45.55 319 P P 16 57 53.5 +1.9
MCMT McKenzie Canyo 45.56 330 P P 16 57 51.8 +0.2
DLMT Dillon 45.82 330 P P 16 57 53.9 +0.3
LRM Limekiln Ridge 46.08 331 P P 16 57 55.7 0.0
MFID Camas Ranch 46.17 326 P P 16 57 56.2 -0.1
MFID IAmb IAmb 16 57 59.3
comp=Z,15nm,1.0s
HRY Holter Researc 46.44 332 P P 16 57 57.8 -0.6
DRLN Deer Lake 46.50 22 P P 16 57 59.0 +0.3
EGMT Eagleton 46.51 335 P P 16 57 58.9 0.0
baz=141
EGMT Eagleton 46.51 335 P P 16 57 58.9 0.0
EGMT IAmb IAmb 16 58 00.2
comp=Z,13nm,0.9s
WVOR Wild Horse Val 47.16 323 P P 16 58 04.8 +0.7
WVOR pmax pmax
comp=Z,87nm,1.1s
WVOR Wild Horse Val 47.16 323 P P 16 58 04.8 +0.7
ORV Oroville 47.33 318 P P 16 58 06.4 +1.1
ORV pmax pmax
comp=Z,94nm,1.1s
ORV Oroville 47.33 318 P P 16 58 06.4 +1.1
MSO Missoula 47.52 331 P P 16 58 07.0 +0.1
baz=135
MSO Missoula 47.52 331 P P 16 58 06.5 -0.3
MCCM Marconi Confer 47.54 316 P P 16 58 08.1 +1.1
J08A Circle Bar Ran 47.62 324 P P 16 58 08.4 +0.7
J08A IAmb IAmb 16 58 10.1
comp=Z,24nm,1.2s
GDXM Geysers 47.81 317 P P 16 58 10.6 +1.4
GDXM IAmb IAmb 16 58 14.2
comp=Z,13nm,1.0s
PLTB Pedras Altas 47.82 146 *e*P **P 16 58 09.0 -0.2**
MOD Modoc Plateau 47.85 322 P P 16 58 09.3 -0.3
BMO Blue Mountains 47.91 327 P P 16 58 09.1 -0.8
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 47.91 327 P P 16 58 09.1 -0.8
BMO IAmb IAmb 16 58 11.4
comp=Z,9.8nm,0.9s
O03E Paynes Creek 47.92 319 P P 16 58 10.8 +0.8
baz=122
HOPS Hopland Field 48.09 317 P P 16 58 12.4 +1.1
HOPS IAmb IAmb 16 58 14.8
comp=Z,28nm,1.2s
JTMT Jette 48.34 331 P P 16 58 12.8 -0.4
O02D Mt. Diablo Mer 48.50 318 P P 16 58 14.7 +0.2
baz=121
WDC Whiskeytown Da 48.55 319 P P 16 58 14.0 -0.7
WDC pmax pmax
comp=Z,14nm,1.1s
WDC Whiskeytown Da 48.55 319 P P 16 58 14.0 -0.7
WDC IAmb IAmb 16 58 15.2
comp=Z,14nm,1.1s
F10A Beach Ranch, E 48.59 328 P P 16 58 14.2 -0.9
F10A IAmb IAmb 16 58 22.2
comp=Z,13nm,0.8s
BSFB Barra de Sao F 48.64 123 *e*P **P 16 58 15.2 -0.5**
I07A Izee 48.66 325 P P 16 58 15.2 -0.5
I07A IAmb IAmb 16 58 17.7
comp=Z,14nm,0.9s
K05A Summer Lake 48.68 322 P P 16 58 15.7 -0.3
K05A IAmb IAmb 16 58 21.7
comp=Z,20nm,1.1s
SCHQ Schefferville 48.73 12 P P 16 58 14.9 -1.0
comp=Z,5.6nm,0.8s,baz=220,slow=6.5,SNR=5.0
SCHQ PcP **PcP 16 59 39.7 -1.1**
comp=Z,15nm,0.8s,baz=181,slow=1.7,SNR=7.4
SCHQ Schefferville 48.73 12 IAmb IAmb 16 58 35.8
comp=Z,14nm,1.1s
SCHQ **PcP 16 59 40.2 -0.5**
M04C Macdoel 48.74 321 P P 16 58 17.4 +1.0
baz=123
N02D Trinity Center 48.86 319 P P 16 58 16.7 -0.6
baz=122
G08A Pilot Rock 49.09 326 P P 16 58 19.2 +0.2
G08A IAmb IAmb 16 58 22.2
comp=Z,30nm,1.4s
WALA Waterton Lakes 49.11 333 P P 16 58 18.9 -0.2
KMRM Mail Ridge 49.13 318 P P 16 58 19.8 +0.4
M02C Callahan 49.17 320 P P 16 58 19.8 +0.1
baz=122
J05D Fort Rock, OR 49.20 323 P P 16 58 21.5 +1.5
baz=125
YBH Yreka Blue Hor 49.26 320 P P 16 58 20.5 +0.2
comp=Z,15nm,0.8s,baz=114,slow=4.7,SNR=45
YBH Yreka Blue Hor 49.26 320 P P 16 58 19.9 -0.4
YBH pmax pmax
comp=Z,17nm,0.9s
YBH Yreka Blue Hor 49.26 320 P P 16 58 19.9 -0.4
YBH IAmb IAmb 16 58 21.2
comp=Z,17nm,0.8s
L04D Klamath Falls 49.27 321 P P 16 58 21.1 +0.6
baz=123
PLCA Paso Flores 49.30 168 P P 16 58 21.2 +0.7
comp=Z,2.5nm,0.6s,baz=329,slow=8.1,SNR=6.4
PLCA Paso Flores 49.30 168 P P 16 58 21.1 +0.5
PLCA pmax pmax
comp=Z,12nm,1.2s
PLCA Paso Flores 49.30 168 P P 16 58 21.1 +0.5
PLCA Paso Flores 49.30 168 *e*P **P 16 58 20.6 0.0**
PINE Pine Mountain 49.32 323 P P 16 58 21.3 +0.4
PINE IAmb IAmb 16 58 23.5
comp=Z,21nm,0.9s
KHMM Horse Mountain 49.47 319 P P 16 58 22.7 +0.7
JCC Jacoby Creek, 49.64 319 P P 16 58 24.3 +1.2
J04D Umpqua Nationa 49.71 322 P P 16 58 25.9 +2.1
baz=124
HUMO Hull Mountain 49.88 321 P P 16 58 24.8 -0.2
E08A Dider Farm, El 49.90 327 P P 16 58 24.9 -0.1
E08A IAmb IAmb 16 58 26.8
comp=Z,15nm,1.1s
KRMB Red Mountain 49.92 319 P P 16 58 26.3 +1.0
F07A Phinny Hill Vi 50.00 326 P P 16 58 25.6 -0.1
F07A IAmb IAmb 16 58 33.7
comp=Z,34nm,1.2s
L02E Cave Junction 50.05 320 P P 16 58 27.0 +0.8
baz=122
NEW Newport 50.07 330 P P 16 58 26.5 +0.2
comp=Z,11nm,1.0s,baz=134,slow=5.5,SNR=6.4
NEW Newport 50.07 330 P P 16 58 25.9 -0.4
NEW pmax pmax
comp=Z,13nm,1.2s
NEW Newport 50.07 330 P P 16 58 26.5 +0.2
baz=132
NEW Newport 50.07 330 P P 16 58 25.9 -0.4
NEW IAmb IAmb 16 58 28.3
comp=Z,13nm,1.1s
HAWA Hanford 50.09 327 P P 16 58 26.0 -0.5
HAWA IAmb IAmb 16 58 29.4
comp=Z,13nm,1.0s
D08A Wollman Farm, 50.19 328 P P 16 58 27.1 0.0
D08A IAmb IAmb 16 58 29.4
comp=Z,13nm,1.0s
I04A Tendick Farm, 50.20 323 P P 16 58 28.0 +0.6
baz=124
C09A Chrisman Ranch 50.34 329 P P 16 58 27.7 -0.6
E07A Sunnyside 50.37 327 P P 16 58 28.2 -0.4
E07A IAmb IAmb 16 58 31.0
comp=Z,19nm,0.7s
K02D Willamette Mer 50.37 321 P P 16 58 29.7 +1.0
baz=122
G05D Wamic, OR 50.39 325 P P 16 58 30.7 +1.9
baz=126
H04A Detroit Lake 50.57 324 P P 16 58 30.6 +0.5
I03D Drain, OR 50.71 322 P P 16 58 32.3 +1.1
baz=123
J01E Myrtle Point 50.78 321 P P 16 58 33.4 +1.7
baz=122
H04D Lebanon 50.80 323 P P 16 58 32.9 +1.1
baz=124
KEBM Edson Butte 50.88 321 P P 16 58 31.8 -0.8
B08A Colville Reser 51.24 329 P P 16 58 35.0 -0.1
I02D Swisshome 51.24 322 P P 16 58 37.1 +2.0
baz=123
LTY Liberty 51.24 327 P P 16 58 35.1 -0.2
LTY IAmb IAmb 16 58 42.9
comp=Z,15nm,1.1s
LON Longmire 51.56 326 P P 16 58 37.9 +0.3
LON pmax pmax
comp=Z,13nm,0.8s
LON Longmire 51.56 326 P P 16 58 37.9 +0.3
LON IAmb IAmb 16 58 39.9
comp=Z,12nm,0.8s
C06D Leavenworth 51.77 328 P P 16 58 40.5 +1.3
baz=128
D05A Enumclaw 51.91 326 P P 16 58 40.3 +0.1
D05A IAmb IAmb 16 58 42.6
comp=Z,25nm,0.8s
B06A Marblemount 52.45 328 P P 16 58 44.0 0.0
B06A IAmb IAmb 16 58 45.7
comp=Z,16nm,0.7s
D03D Eldon 52.72 326 P P 16 58 46.7 +0.6
baz=126
BBB Bella Bella 58.04 329 P P 16 59 24.9 +0.7
comp=Z,6.4nm,0.6s,baz=98,slow=6.5,SNR=14
BBB Bella Bella 58.04 329 IAmb IAmb 16 59 27.0
comp=Z,49nm,1.5s
YKA Yellowknife Ar 59.63 343 P P 16 59 35.0 -0.2
comp=Z,25nm,0.8s,baz=137,slow=6.5,SNR=33
NRS Narsarsuaq 60.08 20 P P 16 59 37.0 -1.3
NRS pmax pmax
comp=Z,31nm,0.7s
NRS Narsarsuaq 60.08 20 P P 16 59 37.0 -1.3
DIB Dawson Inlet, 60.84 328 P P 16 59 44.6 +1.0
DIB IAmb IAmb 16 59 46.6
comp=Z,25nm,1.0s
WRAK Wrangell Islan 62.39 331 P P 16 59 53.9 -0.1
WRAK IAmb IAmb 16 59 58.0
comp=Z,9.0nm,0.9s
DLBC Dease Lake 62.43 334 P P 16 59 55.9 +1.4
comp=Z,30nm,1.0s,baz=121,slow=4.4,SNR=51
DLBC Dease Lake 62.43 334 P P 16 59 55.2 +0.8
JIS Juneau Island 64.29 332 P P 17 00 07.2 +0.6
JIS IAmb IAmb 17 00 09.0
comp=Z,27nm,1.0s
BESE Bessie Mountai 64.66 333 P P 17 00 09.3 +0.2
BESE IAmb IAmb 17 00 11.0
comp=Z,25nm,1.1s
MACI Morro de la Ar 65.21 62 P P 17 00 12.3 -1.1
SKAG Skagway 65.30 333 P P 17 00 13.0 -0.1
SKAG IAmb IAmb 17 00 15.5
comp=Z,40nm,1.4s
WHY Whitehorse 65.71 335 P P 17 00 16.2 +0.2
WHY IAmb IAmb 17 00 17.7
comp=Z,14nm,1.1s
HYT Haines Junctio 66.92 334 P P 17 00 24.5 +0.8
HYT IAmb IAmb 17 00 26.5
comp=Z,23nm,1.0s
PCA Pinnacle 67.81 333 P P 17 00 30.0 +0.7
PCA IAmb IAmb 17 00 31.6
comp=Z,25nm,0.9s
YAH Yahtse 68.60 333 P P 17 00 35.1 +0.6
CTGM Chitina Glacie 68.66 333 P P 17 00 35.6 +0.9
CTGM IAmb IAmb 17 00 37.6
comp=Z,21nm,0.9s
BARN Barnard Glacie 68.84 333 P P 17 00 36.8 +0.9
BARN IAmb IAmb 17 00 38.8
comp=Z,21nm,1.0s
ISLE Juniper Island 68.97 333 P P 17 00 37.4 +0.8
ISLE IAmb IAmb 17 00 39.1
comp=Z,28nm,1.0s
BALM Baldy 69.14 333 P P 17 00 38.5 +0.8
BALM IAmb IAmb 17 00 40.4
comp=Z,35nm,1.0s
TGL Tana Glacier 69.25 333 P P 17 00 39.2 +0.9
EPYK Eagle Plains 69.33 340 P P 17 00 40.0 +1.3
baz=120
CRQM Cirque 69.39 333 P P 17 00 39.9 +0.6
CRQM IAmb IAmb 17 00 41.7
comp=Z,32nm,1.0s
MCARA McCarthy VSAT 69.58 333 P P 17 00 40.9 +0.7
VRDI Verde Repeater 69.71 333 P P 17 00 41.9 +0.6
GLB Gilahina Butte 69.95 333 P P 17 00 43.3 +0.7
SUMG Summit 70.11 13⇑ *i*P **P 17 00 43.0 -0.8**
comp=Z,133nm,0.9s
SUMG Summit 70.11 13⇑ *i*P **P 17 00 43.0 -0.8**
SUMG pmax pmax
comp=Z,130nm,0.9s
SUMG Summit 70.11 13 P P 17 00 42.6 -1.2
EGAK Eagle 70.20 337 P P 17 00 44.1 +0.1
K27K Chicken 70.24 336 P P 17 00 45.7 +1.4
baz=114
MENT Mentasta 70.48 335 P P 17 00 45.5 -0.3
MENT IAmb IAmb 17 00 48.1
comp=Z,41nm,1.4s
DOT Dot Lake 70.90 335 P P 17 00 48.9 +0.6
PPT Papeete 70.91 249 LR LR 17 25 49.2
comp=Z,160nm,19.9s,baz=46,slow=31
PPT2 Papeete2 70.91 249 *e*S **S 17 10 02.7 -1.1**
comp=Z,103nm,27.2s
PPT2 Papeete2 70.91 249 *e*LR LR 17 22 26.9
comp=Z,326nm,26.8s
KLU Klutina 70.92 333 P P 17 00 48.9 +0.4
KLU IAmb IAmb 17 00 50.8
comp=Z,36nm,1.3s
FID Port Fidalgo 70.92 332 P P 17 00 49.1 +0.7
FID IAmb IAmb 17 01 10.1
comp=Z,30nm,1.0s
SCRK Sand Creek 70.99 336 P P 17 00 50.3 +1.3
baz=113
PAX Paxson 71.24 335 P P 17 00 50.5 +0.1
PAX pmax pmax
comp=Z,44nm,1.4s
PAX Paxson 71.24 335 P P 17 00 50.5 +0.1
PAX IAmb IAmb 17 00 52.5
comp=Z,44nm,1.4s
RIDG Independent Ri 71.26 335 P P 17 00 51.1 +0.6
SCM Sheep Creek Mo 71.66 333 P P 17 00 53.2 +0.2
SCM pmax pmax
comp=Z,47nm,1.2s
SCM Sheep Creek Mo 71.66 333 P P 17 00 53.2 +0.2
KNK Knik Glacier 72.04 332 P P 17 00 55.8 +0.5
DHY Denali Highway 72.09 334 P P 17 00 55.5 -0.2
SML Sawmill 72.11 333 P P 17 00 56.2 +0.5
SEW Seward 72.12 331 P P 17 00 55.8 +0.1
SEW IAmb IAmb 17 00 57.3
comp=Z,29nm,1.0s
TBI Tubuai 72.36 243 *e*S **S 17 10 21.0 +0.9**
comp=Z,124nm,27.5s
TBI Tubuai 72.36 243 *e*LR LR 17 23 08.7
comp=Z,225nm,35.8s
HDA Harding Lake 72.36 336 P P 17 00 57.7 +0.6
baz=110
HDA Harding Lake 72.36 336 P P 17 00 57.2 +0.2
GHO Glory Hole Cre 72.36 333 P P 17 00 57.4 +0.1
IL31 72.46 336 P P 17 00 57.9 +0.3
ILAR Eielson Array 72.46 336 P P 17 00 58.2 +0.6
comp=Z,17nm,0.8s,baz=108,slow=4.6,SNR=85
ILAR LR LR 17 34 37.4
comp=Z,105nm,21.6s,baz=120,slow=37
ILAR Eielson Array 72.46 336 P P 17 00 57.9 +0.3
ILAR Eielson Array 72.46 336 P P 17 00 57.9 +0.3
MORF Marmelete 72.50 53 *e*P **P 17 00 59.1 +0.6**
MORF AMb AMB 17 01 07.3
comp=Z,106nm,1.5s
MORF *e*S **S 17 10 20.5 -1.1**
MORF Marmelete 72.50 53 *e*P **P 17 00 59.1 +0.6**
MORF *e*S **S 17 10 20.4 -1.1**
MORF pmax pmax
comp=Z,106nm,1.5s
MORF Marmelete 72.50 53 *e*P **P 17 00 59.8 +1.3**
BRLK Bradley Lake 72.73 330 P P 17 00 59.6 +0.3
CCB Clear Creek Bu 72.79 336 P P 17 00 59.7 +0.1
POKR Poker Plat Res 72.80 336 P P 17 01 00.3 +0.7
baz=110
PCAS Casmilo, Conde 72.82 51 *e*P **P 17 01 01.7 +1.4**
RND Reindeer 72.83 334 P P 17 01 00.7 +0.7
RND pmax pmax
comp=Z,63nm,1.0s
RND Reindeer 72.83 334 P P 17 01 00.7 +0.7
CNPM China Poot 72.84 330 P P 17 01 00.7 +0.6
CNPM IAmb IAmb 17 01 01.6
comp=Z,24nm,0.9s
WRH Wood River Hil 72.85 336 P P 17 00 59.6 -0.3
COLA College 72.88 336 *i* P **P 17 01 00.5 +0.4**
COLA pmax pmax
comp=Z,23nm,1.1s
COLA College 72.88 336 P P 17 01 00.3 +0.2
COLA IAmb IAmb 17 01 01.9
comp=Z,20nm,0.8s
COI Coimbra 72.90 50 P P 17 01 00.4 -0.3
COI pmax pmax
comp=Z,66nm,1.1s
COI Coimbra 72.90 50 P P 17 01 00.4 -0.3
PMTG Montargil 72.95 52 *e*P **P 17 01 01.6 +0.5**
MCK McKinley 72.97 335 P P 17 01 00.8 +0.1
MCK pmax pmax
comp=Z,32nm,1.1s
MCK McKinley 72.97 335 P P 17 01 00.8 +0.1
MCK IAmb IAmb 17 01 02.8
comp=Z,32nm,1.1s
PCVE Castro Verde 73.01 53 *e*P **P 17 01 03.2 +1.8**
MDM Murphy Dome 73.06 336 P P 17 01 01.3 0.0
MDM IAmb IAmb 17 01 03.1
comp=Z,28nm,1.0s
PBDV Barranco-do-Ve 73.07 53 *e*P **P 17 01 03.2 +1.3**
SUA Susitna One 73.11 332 P P 17 01 01.2 -0.5
NEA2 Nenana 73.29 336 P P 17 01 03.1 +0.5
baz=108
BWN Browne 73.32 335 P P 17 01 02.8 +0.1
PVIS Viseu 73.33 50 *e*P **P 17 01 04.4 +1.0**
OHAK Old Harbor 73.36 328 P P 17 01 03.2 +0.2
OHAK IAmb IAmb 17 01 05.3
comp=Z,35nm,1.1s
TRF Thorofare Moun 73.46 334 P P 17 01 04.0 +0.2
TRF IAmb IAmb 17 01 05.1
comp=Z,15nm,0.9s
PCBR Castelo Branco 73.58 51 *e*P **P 17 01 05.8 +1.0**
SKT Skwentna 73.61 333 P P 17 01 04.6 +0.1
SKT IAmb IAmb 17 01 06.3
comp=Z,36nm,1.2s
PMRV Marv??o 73.62 51 *e*P **P 17 01 05.6 +0.5**
KTH Kantishna Hill 73.76 334 P P 17 01 05.5 0.0
KTH IAmb IAmb 17 01 07.0
comp=Z,21nm,1.0s
RSO Redoubt South 73.81 331 P P 17 01 06.3 +0.3
BPAW Bear Paw Mtn. 73.94 335 P P 17 01 06.7 +0.2
BPAW IAmb IAmb 17 01 08.1
comp=Z,25nm,0.9s
MVO Moncorvo 74.02 49 *e*P **P 17 01 08.4 +1.0**
PPLA Purkeypile 74.14 333 P P 17 01 07.7 0.0
PPLA IAmb IAmb 17 01 08.8
comp=Z,20nm,0.8s
PBRG Braganca 74.28 49 *e*P **P 17 01 09.6 +0.7**
COLD Coldfoot 74.54 338 P P 17 01 11.5 +1.7
baz=108
COLD Coldfoot 74.54 338 P P 17 01 10.9 +1.1
COLD IAmb IAmb 17 01 12.9
comp=Z,29nm,1.1s
TOLK Toolik Lake Re 74.76 340 P P 17 01 12.2 +1.1
baz=109
TOLK Toolik Lake Re 74.76 340 P P 17 01 12.0 +0.8
TOLK IAmb IAmb 17 01 13.1
comp=Z,19nm,1.1s
SVW2 Sparrevohn 75.30 331 P P 17 01 14.2 -0.2
SVW2 IAmb IAmb 17 01 14.9
comp=Z,16nm,0.9s
TTA Tatalina 75.85 333 P P 17 01 17.2 -0.4
TTA pmax pmax
comp=Z,14nm,1.0s
TTA Tatalina 75.85 333 P P 17 01 17.2 -0.4
TTA IAmb IAmb 17 01 18.8
comp=Z,14nm,1.0s
ESDC Sonseca Array 76.28 51 P P 17 01 21.5 +1.0
comp=Z,13nm,0.8s,baz=274,slow=5.6,SNR=50

ESDC LR LR 17 29 55.4
comp=Z,91nm,21.9s,baz=265,slow=32
ESDC Sonseca Array 76.28 51 P **P 17 01 21.1 +0.6**
ESBB Sonseca Array 76.28 51 P **P 17 01 21.0 +0.5**
ESBB IAmb IAmb 17 01 22.1
comp=Z,14nm,0.8s
TIC Toumodi 76.66 85 *e*P **P 17 01 23.0 -0.1**
LIC Lamto 76.70 85 *e*P **P 17 01 23.4 +0.1**
comp=Z,84nm,1.1s
DBIC Dimbokro 76.82 85 P **P 17 01 24.1 +0.2**
comp=Z,15nm,0.9s,baz=268,slow=6.9,SNR=12
DBIC Dimbokro 76.82 85 P **P 17 01 24.0 +0.1**
DBIC pmax pmax
comp=Z,19nm,1.0s
DBIC Dimbokro 76.82 85 P **P 17 01 23.9 +0.1**
DBIC IAmb IAmb 17 01 25.2
comp=Z,19nm,0.9s
KIC Kosan Boka 76.97 85 *e*P **P 17 01 24.9 +0.1**
comp=Z,62nm,1.2s
ESK Eskdalemuir 77.64 35 P **P 17 01 27.5 -0.2**
ESK pmax pmax
comp=Z,30nm,1.2s
ESK Eskdalemuir 77.64 35 P **P 17 01 27.5 -0.2**
ESK IAmb IAmb 17 01 28.5
comp=Z,30nm,1.2s
FALS False Pass 78.68 324 P **P 17 01 33.9 +0.5**
CLF Chambon-Foret 80.82 43 P **P 17 01 45.3 0.0**
DOU Dourbes 82.29 40 ⇑P **P 17 01 52.9 -0.1**
SSB Saint Sauveur 82.50 45 P **P 17 01 54.1 -0.2**
SSB pmax pmax
comp=Z,15nm,1.1s
SSB Saint Sauveur 82.50 45 P **P 17 01 54.1 -0.2**
SSB IAmb IAmb 17 01 56.2
comp=Z,15nm,1.1s
TOA0 Torodi Ar. Sit 82.56 78 P **P 17 01 54.9 -0.2**
TOA0 IAmb IAmb 17 01 56.0
comp=Z,15nm,1.0s
TORD Torodi Ar. Bea 82.56 78 P **P 17 01 55.4 +0.3**
comp=Z,7.4nm,0.9s,baz=282,slow=4.4,SNR=21
TORD LR LR 17 36 40.3
comp=Z,35nm,22.0s,baz=280,slow=34
TORD Torodi Ar. Bea 82.56 78 P **P 17 01 55.0 -0.1**
MEM Membach 83.17 40 P **P 17 01 56.6 -1.0**
WLF Walferdange 83.32 41 P **P 17 01 58.9 +0.5**
WLF Walferdange 83.32 41 *e*P **P 17 01 58.8 +0.5**
comp=Z,20nm,1.1s,baz=278,slow=5.0
AHRW Bad Neuenahr-A 83.85 40 *e*P **P 17 02 01.6 +0.5**
comp=Z,19nm,1.2s,baz=278,slow=5.0
BUG Bochum--Univer 83.91 39 *e*P **P 17 02 01.2 -0.1**
comp=Z,15nm,1.0s,baz=278,slow=5.0
BNI Bardonecchia 84.02 45 P **P 17 02 02.4 +0.2**
BNI pmax pmax
comp=Z,16nm,1.3s
BNI Bardonecchia 84.02 45 P **P 17 02 02.4 +0.2**
BNI IAmb IAmb 17 02 04.0
comp=Z,16nm,1.3s
ECH Echery 84.09 42 P **P 17 02 02.2 -0.2**
ECH pmax pmax
comp=Z,22nm,1.2s
ECH Echery 84.09 42 P **P 17 02 02.2 -0.2**
ECH IAmb IAmb 17 02 03.8
comp=Z,22nm,1.2s
IBBN Ibbenburen 84.14 38 *e*P **P 17 02 02.5 +0.1**
comp=Z,13nm,0.7s,baz=278,slow=5.0
SENIN Lac Senin/Sane 84.34 44 P **P 17 02 03.8 -0.1**
SENIN IAmb IAmb 17 02 05.3
comp=Z,13nm,1.1s
TNS Taunus Mts 84.76 40 *e*P **P 17 02 06.0 +0.2**
comp=Z,16nm,1.3s,baz=278,slow=5.0
BFO Black Forest 84.86 42 P **P 17 02 05.8 -0.5**
BFO pmax pmax
comp=Z,12nm,1.1s
BFO Black Forest 84.86 42 *e*P **P 17 02 05.9 -0.4**
comp=Z,14nm,1.1s,baz=278,slow=5.0
BFO Black Forest 84.86 42 P **P 17 02 05.8 -0.5**
BFO IAmb IAmb 17 02 07.2
comp=Z,12nm,1.1s
NC204 NORSAR Array S 84.91 29 P **P 17 02 06.1 -0.2**
NAO01 NORSAR Array S 85.02 29 P **P 17 02 06.5 -0.3**
NB2 NORSAR Subarra 85.16 29 P **P 17 02 07.6 +0.1**
comp=Z,61nm,1.7s,baz=278,slow=5.1
NB2 NORSAR Subarra 85.16 29 P **P 17 02 07.6 +0.1**
baz=278,slow=5.1
NOA NORSAR Array B 85.16 29 P **P 17 02 07.7 +0.2**
comp=Z,6.3nm,1.0s,baz=280,slow=4.7,SNR=8.2
TAM Tamanrasset 85.18 68 P **P 17 02 08.9 +0.4**
TAM pmax pmax
comp=Z,23nm,1.0s
TAM Tamanrasset 85.18 68 P **P 17 02 08.9 +0.4**
NB201 NORSAR Array S 85.20 29 P **P 17 02 07.5 -0.2**
NC303 NORSAR Array S 85.21 29 P **P 17 02 07.3 -0.4**
NC602 NORSAR Array S 85.35 29 P **P 17 02 08.5 +0.1**
STU Stuttgart 85.39 42 *e*P **P 17 02 08.9 0.0**
comp=Z,21nm,0.6s,baz=278,slow=5.0
NC405 NORSAR Array S 85.39 29 P **P 17 02 08.3 -0.4**
BSEG Bad Segeberg 85.51 36 *e*P **P 17 02 09.6 +0.3**
comp=Z,17nm,1.3s,baz=278,slow=5.0
NRDL Niedersach Rie 85.55 38 *e*P **P 17 02 10.1 +0.6**
comp=Z,28nm,1.4s,baz=278,slow=5.0
GTTG Gottingen 85.57 39 *e*P **P 17 02 10.1 +0.4**
comp=Z,17nm,1.3s,baz=278,slow=5.0
UBBA Unterbreizbach 85.68 39 *e*P **P 17 02 10.6 +0.4**
comp=Z,23nm,1.7s,baz=278,slow=5.0
TUE Stuetta 85.74 44 P **P 17 02 10.8 -0.2**
CLZ Clausthal 85.79 38 *e*P **P 17 02 11.3 +0.5**
comp=Z,21nm,1.3s,baz=278,slow=5.0
ASSE Asse, Remlinge 85.94 38 *e*P **P 17 02 12.1 +0.6**
comp=Z,24nm,1.4s,baz=278,slow=5.0
DAVA Damuels 86.01 43 *e*PcP **P 17 02 12.9 +0.7**
comp=Z,23nm,0.9s,SNR=8.9
UBR Ueberruh 86.12 43 *e*P **P 17 02 13.0 +0.4**
comp=Z,16nm,1.1s,baz=278,slow=5.0
FUORN Ofenpass-Fuorn 86.35 44 P **P 17 02 13.6 -0.4**
VSL Villasalto 86.58 51 P **P 17 02 14.8 -0.1**
RETA Reutte 86.58 43 *e*PcP **P 17 02 15.4 +0.5**
comp=Z,15nm,1.1s,SNR=8.5
GRA1 Grafenberg Arr 86.60 40 P **P 17 02 13.6 -1.2**
GRA1 IAmb IAmb 17 02 16.6
comp=Z,23nm,1.2s
GRF Grafenberg Arr 86.60 40 P **P 17 02 13.6 -1.2**
GRF pmax pmax
comp=Z,23nm,1.2s
GRF Grafenberg Arr 86.60 40 *e*P **P 17 02 15.2 +0.4**
comp=Z,59nm,1.8s,baz=278,slow=5.0
FETA Feichten 86.62 43 *e*PcP **P 17 02 15.6 +0.4**
comp=Z,15nm,1.0s,SNR=8.6
SALO Salr 86.66 45 P **P 17 02 15.0 -0.3**
MOX Moxa 86.72 40 *e*P **P 17 02 15.7 +0.2**
comp=Z,13nm,1.2s,baz=278,slow=5.0
NEUB Neuenburg 86.74 39 *e*P **P 17 02 15.8 +0.3**
comp=Z,13nm,0.9s,baz=278,slow=5.0
ADK Adak 86.75 322 P **P 17 02 15.8 +0.3**
ADK pmax pmax
comp=Z,102nm,1.3s
ADK Adak 86.75 322 P **P 17 02 15.8 +0.3**
VLC Villacollemand 86.75 46 P **P 17 02 14.8 -0.9**
MOTA Moosalm 86.83 43 *e*PcP **P 17 02 16.4 +0.2**
comp=Z,9.1nm,1.1s,SNR=5.8
FUR Furstenfeldbru 86.84 42 *e*P **P 17 02 16.4 +0.3**
comp=Z,15nm,0.6s,baz=278,slow=5.0
SQTA Sankt Quirin 86.92 43 *e*PcP **P 17 02 17.0 +0.4**
comp=Z,7.6nm,1.1s,SNR=6.1
KEST Kesra 87.02 55 P **P 17 02 18.9 +1.6**
comp=Z,3.8nm,0.8s,baz=90,slow=4.0,SNR=2.8
KEST LR LR 17 36 35.9
comp=Z,54nm,19.3s,baz=251,slow=32
PLN Plauen 87.08 40 *e*P **P 17 02 17.5 +0.3**
comp=Z,14nm,1.0s,baz=278,slow=5.0
MANZ Manzenberg 87.12 40 *e*P **P 17 02 17.9 +0.5**
comp=Z,8.3nm,1.0s,baz=278,slow=5.0
ZCCA Zocca 87.14 46 P **P 17 02 17.3 -0.4**
WATA Walderalm 87.15 43 *e*PcP **P 17 02 17.9 +0.1**
comp=Z,6.2nm,0.9s
WERD Werda 87.18 40 *e*P **P 17 02 18.0 +0.3**
comp=Z,17nm,1.3s,baz=278,slow=5.0
WTTA Wattenberg 87.20 43 *e*PcP **P 17 02 18.4 +0.3**
comp=Z,7.8nm,1.0s,SNR=6.0
GUNZ Gunzen 87.21 40 *e*P **P 17 02 18.3 +0.4**
comp=Z,42nm,1.9s,baz=278,slow=5.0
ROTZ Rotzenmuhle 87.22 40 *e*P **P 17 02 18.5 +0.6**
comp=Z,10.0nm,1.2s,baz=278,slow=5.0
WERN Wernitzgruen 87.25 40 *e*P **P 17 02 18.6 +0.5**
comp=Z,33nm,1.5s,baz=278,slow=5.0
CASP Castiglione de 87.28 47 P **P 17 02 17.4 -0.9**
TANN Tannenbergstha 87.29 40 *e*P **P 17 02 18.7 +0.4**
comp=Z,15nm,1.1s,baz=278,slow=5.0
NKC Novy Kostel 87.30 40 *e*P **P 17 02 18.5 +0.2**
NKC Novy Kostel 87.30 40 *e*P **P 17 02 18.5 +0.2**
CTI Castel Tesino 87.38 44 P **P 17 02 18.2 -0.7**
CTI pmax pmax
comp=Z,23nm,1.2s
CTI Castel Tesino 87.38 44 P **P 17 02 18.2 -0.7**
CTI IAmb IAmb 17 02 20.2
comp=Z,23nm,1.2s
CLL Collm 87.49 39⇑ *i*P **P 17 02 19.5 +0.4**
comp=Z,16nm,0.9s
CLL *i* sP **sP 17 02 29.8 -0.1**
CLL Collm 87.49 39⇑ *i*P **P 17 02 19.5 +0.4**
CLL pmax pmax
comp=Z,16nm,0.9s
CLL Collm 87.49 39 *e*P **P 17 02 19.4 +0.3**
comp=Z,16nm,0.9s,baz=278,slow=5.0
CLL Collm 87.49 39 P **P 17 02 18.6 -0.5**
CLL IAmb IAmb 17 02 20.1
comp=Z,12nm,0.8s
TEOL Teolo 87.49 45 P **P 17 02 19.2 -0.1**
WET Wettzell 87.75 41 *e*P **P 17 02 21.0 +0.6**
comp=Z,22nm,1.1s,baz=278,slow=5.0
FBE Freiberg 87.77 39 *e*P **P 17 02 21.1 +0.7**
comp=Z,14nm,1.0s,baz=278,slow=5.0
RUE Ruedersdorf 87.78 37 *e*P **P 17 02 20.6 +0.1**
comp=Z,17nm,0.5s,baz=278,slow=5.0
ABTA Abfaltersbach 87.87 43 *i* PcP **P 17 02 21.6 +0.4**
comp=Z,18nm,1.0s,SNR=11
CIMO Cimolais 87.89 44 P **P 17 02 20.8 -0.4**
CIMO IAmb IAmb 17 02 22.5
comp=Z,17nm,1.1s
RJOB Jochberg 87.91 42 *e*P **P 17 02 20.7 -0.6**
comp=Z,16nm,1.2s,baz=278,slow=5.0
LATE Laterza 87.98 47 P **P 17 02 21.5 -0.2**
LATE IAmb IAmb 17 02 23.5
comp=Z,14nm,1.4s
BRG Berggiesshubel 88.14 39 *e*P **P 17 02 22.4 +0.1**
comp=Z,14nm,1.1s
BRG Berggiesshubel 88.14 39 *e*P **P 17 02 22.4 +0.1**
BRG pmax pmax
comp=Z,14nm,1.1s
BRG Berggiesshubel 88.14 39 *e*P **P 17 02 22.8 +0.5**
comp=Z,14nm,1.1s,baz=278,slow=5.0
KHC Kasperske Hory 88.20 41 *e*P **P 17 02 23.0 +0.4**
KHC *e*pP **sP 17 02 33.3 -0.1**
KHC Kasperske Hory 88.20 41 *e*P **P 17 02 23.0 +0.4**
KHC Kasperske Hory 88.20 41 P **P 17 02 22.2 -0.4**
ZOU Zoufplan 88.21 43 P **P 17 02 21.9 -1.0**
ZOU IAmb IAmb 17 02 24.3
comp=Z,14nm,1.3s
GEC2 GERESS Array S 88.33 41 *e*P **P 17 02 23.6 +0.3**
comp=Z,11nm,1.2s,baz=278,slow=5.0
GEC2 GERESS Array S 88.33 41 P **P 17 02 22.3 -1.0**
GEC2 IAmb IAmb 17 02 24.8
comp=Z,9.6nm,1.1s
GERES GERESS Array B 88.33 41 P **P 17 02 23.6 +0.3**
comp=Z,3.6nm,0.9s,baz=274,slow=2.1,SNR=28
GERES LR LR 17 37 22.0
comp=Z,76nm,20.7s,baz=254,slow=32
GERES GERESS Array B 88.33 41 P **P 17 02 22.5 -0.8**
GERES GERESS Array B 88.33 41 P **P 17 02 22.5 -0.8**
PBCC Pribram 88.38 40 *e*P **P 17 02 24.0 +0.6**
KBA Koelnbreinsper 88.38 43 *e*PcP **P 17 02 23.9 +0.2**
comp=Z,12nm,1.1s,SNR=8.3
ROBS Robic 88.63 44 *e*P **P 17 02 24.3 -0.4**
PRED Cave del Predi 88.64 43 P **P 17 02 24.1 -0.6**
PRED IAmb IAmb 17 02 26.3
comp=Z,16nm,1.0s
MYKA Terra Mystica 88.66 43 *e*PcP **P 17 02 25.1 +0.2**
comp=Z,7.2nm,0.8s,SNR=5.1
CADS Cadrg 88.79 44 *e*P **P 17 02 25.7 +0.2**
MOA Molln 88.87 42 *e*PcP **P 17 02 26.0 +0.2**
comp=Z,3.2nm,0.9s
ARCES ARCESS Array B 89.10 20 P **P 17 02 25.7 -0.7**
comp=Z,4.4nm,0.9s,baz=275,slow=4.4,SNR=8.5
BELA Belgrano 2 89.27 171 P **P 17 02 26.4 -0.6**
OBKA Obir 89.29 43 *e*PcP **P 17 02 27.7 -0.2**
comp=Z,8.1nm,1.3s
AMKA Amchitka 89.30 322 P **P 17 02 27.5 -0.1**
LJU Ljubljana 89.36 44 *e*P **P 17 02 28.7 +0.6**
UPC Upice 89.50 39 *e*P **P 17 02 29.4 +0.7**
UPC Upice 89.50 39 *e*P **P 17 02 29.4 +0.7**
CHVC Chvalec 89.52 39 *e*P **P 17 02 29.0 +0.2**
SOKA Soboth 89.59 43 *e*PcP **P 17 02 29.3 0.0**
comp=Z,6.7nm,0.9s
OSTC Ostas 89.62 39 *e*P **P 17 02 29.6 +0.4**
DPC Dobruska-Polom 89.73 39 *e*P **P 17 02 30.2 +0.4**
DPC Dobruska-Polom 89.73 39 *e*P **P 17 02 30.2 +0.4**
ARSA Arzberg 89.81 42 *e*PcP **P 17 02 30.4 +0.2**
comp=Z,2.0nm,0.6s
CONA Conrad Observa 89.91 42 *e*PcP **P 17 02 31.2 +0.5**
comp=Z,7.2nm,0.9s,SNR=7.2
GROS Grobnik 89.95 43 *e*P **P 17 02 30.9 0.0**
KRUC Moravsky 90.03 41 *e*P **P 17 02 31.4 +0.2**
KRLC Kraliky 90.08 40 *e*P **P 17 02 32.2 +0.8**
KRLC *ex* x 17 02 38.4
KRLC Kraliky 90.08 40 *e*P **P 17 02 32.2 +0.8**
KRLC *e* 17 02 38.4
VRAC Vranov 90.11 40 *e*P **P 17 02 32.0 +0.4**
MORC Moravsky Berou 90.62 40 *e*P **P 17 02 34.3 +0.4**
MODS Modra-Piesok 90.75 41 *e*P **P 17 02 34.6 +0.1**
MODS Modra-Piesok 90.75 41 *e*P **P 17 02 34.6 +0.1**
JAVC Velka Javorina 90.90 41 *e*P **P 17 02 36.6 +1.3**
VNA3 Neumayer Olymp 91.65 162 P **P 17 02 37.5 -0.6**
VYHS Vyhne 91.73 41 *e*P **P 17 02 39.6 +0.5**
VYHS Vyhne 91.73 41 *e*P **P 17 02 39.6 +0.5**
VNA1 Neumayer--Stat 91.91 161 P **P 17 02 39.4 +0.1**
FINES FINESS Array B 92.05 27 P **P 17 02 39.5 -0.7**
comp=Z,4.9nm,1.1s,baz=352,slow=3.9,SNR=7.8
FINES FINESS Array B 92.05 27 P **P 17 02 39.4 -0.8**
FINES FINESS Array B 92.05 27 P **P 17 02 39.4 -0.8**
FIA1 FINESS Array S 92.05 27 P **P 17 02 39.1 -1.1**
FIA1 IAmb IAmb 17 02 42.8
comp=Z,9.9nm,1.2s
VNA2 Neumayer--Watz 92.26 161 P **P 17 02 39.7 -1.3**
baz=289,slow=4.0
APA Apatity 92.54 20⇓ *i*P **P 17 02 44.7 +2.3**
APA pmax pmax
comp=Z,5.0nm,0.9s
APA MLR MLR
comp=Z,300nm,19.0s
LVZ Lovozero 92.81 20 *i* P **P 17 02 43.5 -0.2**
VSU Vasula 93.38 30 *i* P **P 17 02 45.0 -1.4**
VSU pmax pmax
comp=Z,47nm,1.4s
DIVS Divibare 93.55 45 P **P 17 02 47.2 -0.5**
DIVS IAmb IAmb 17 02 49.7
comp=Z,4.6nm,0.9s
SNAA Sanae 93.87 162 P **P 17 02 48.3 -0.2**
SNAA Sanae 93.87 162 *i* P **P 17 02 50.9 +2.4**
SNAA pmax pmax
comp=Z,2.0nm,1.1s
SNAA Sanae 93.87 162 P **P 17 02 48.5 0.0**
QSPA South Pole Qui 97.59 180 P Pdif 17 03 06.0 +0.4
QSPA IAmb IAmb 17 03 10.4
comp=Z,11nm,1.4s
KLMR Klimovskoe 98.16 25 *e*P **P 17 03 06.4 -1.8**
KLMR *e* 17 07 05.4
KLMR pmax pmax
comp=Z,10.0nm,1.5s
KLMR Klimovskoe 98.16 25 *e*P **P 17 03 06.4 -1.8**
KLMR AMP 17 03 08.8
comp=Z,10.0nm,1.5s
KLMR *e*PP **PP 17 07 05.4 -1.7**
ZALV Zalesovo Beam 117.75 9 PKP **PKPdf 17 08 16.9 -0.7**
comp=Z,1.2nm,0.7s,baz=336,slow=3.3,SNR=6.6
ZALV Zalesovo Beam 117.75 9 PKIKP **PKPdf 17 08 16.4 -1.2**
ZALV Zalesovo Beam 117.75 9 **PKPdf 17 08 16.4 -1.2**
KURK Kurchatov 119.64 14 *c i*PKIKP **PKPdf 17 08 21.2 -0.1**
KURK pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 119.64 14 **PKPdf 17 08 20.2 -1.1**
GEYT Alibeck 121.64 36 PKP **PKPdf 17 08 25.3 -0.4**
comp=Z,2.7nm,0.6s,baz=269,slow=5.8,SNR=7.0
GEYT Alibeck 121.64 36 **PKPdf 17 08 24.9 -0.8**
MJAR Matsushiro Arr 121.91 322 PKP **PKPdf 17 08 25.1 -1.1**
comp=Z,1.0nm,0.8s,baz=49,slow=5.7,SNR=4.5
BTLS Baital 123.48 20 *e*PKP **PKPdf 17 08 28.7 -0.2**
comp=Z,1.2nm,1.6s,baz=20
BTLS Baital 123.48 20 *e*PKIKP **PKPdf 17 08 28.6 -0.3**
BTLS pmax pmax
comp=Z,1.0nm,1.6s
MAKZ Makanchi 124.08 13 PKIKP **PKPdf 17 08 28.6 -1.5**
MAKZ Makanchi 124.08 13 PKPdf **PKPdf 17 08 28.6 -1.5**
MK31 Makanchi Array 124.16 13 PKIKP **PKPdf 17 08 29.0 -1.3**
MK31 Makanchi Array 124.16 13 PKPdf **PKPdf 17 08 29.0 -1.3**
MKAR Makanchi Array 124.16 13 PKP **PKPdf 17 08 29.1 -1.1**
comp=Z,1.3nm,0.7s,baz=329,slow=2.2,SNR=13
MKAR Makanchi Array 124.16 13 PKIKP **PKPdf 17 08 28.8 -1.4**
MKAR Makanchi Array 124.16 13 **PKPdf 17 08 28.8 -1.4**
SONM Songino Array 124.28 353 PKP **PKPdf 17 08 30.3 -0.3**
comp=Z,4.9nm,0.9s,baz=327,slow=1.7,SNR=19
SONM PP **PP 17 10 14.4 -0.2**
comp=Z,1.0nm,1.0s,baz=20,slow=4.7,SNR=4.1
SONM Songino Array 124.28 353 PKIKP **PKPdf 17 08 30.0 -0.6**
SONM Songino Array 124.28 353 **PKPdf 17 08 30.0 -0.6**
DZA Taraz 124.35 23 *e*PKP **PKPdf 17 08 30.7 -0.1**
baz=23
DZA Taraz 124.35 23 *e*PKIKP **PKPdf 17 08 30.6 -0.1**
IUG Iuzhnay 124.45 25 *e*PKP **PKPdf 17 08 30.8 -0.3**
comp=Z,1.0nm,0.8s,baz=25
IUG Iuzhnay 124.45 25 *e*PKIKP **PKPdf 17 08 30.7 -0.3**
IUG pmax pmax
comp=Z,1.0nm,0.8s
SGDS Sogindy 125.08 20 *e*PKP **PKPdf 17 08 31.0 -1.2**
comp=Z,3.7nm,1.0s,baz=20
SGDS Sogindy 125.08 20 *e*PKIKP **PKPdf 17 08 30.9 -1.2**
SGDS pmax pmax
comp=Z,4.0nm,1.0s
KUU Kurty 125.25 19 *e*PKP **PKPdf 17 08 31.4 -1.1**
comp=Z,4.6nm,0.7s,baz=19
KUU Kurty 125.25 19 *e*PKIKP **PKPdf 17 08 31.3 -1.1**
KUU pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 125.75 21 *c i*PKIKP **PKiKP 17 08 34.4 +0.4**
AAK pmax pmax
comp=Z,33nm,1.3s
AAA Alma-Ata 126.05 19 *e*PKP **PKPdf 17 08 33.9 -0.1**
baz=19
AAA Alma-Ata 126.05 19 *e*PKIKP **PKPdf 17 08 33.9 -0.1**
MDOK Medeo 126.13 19 *e*PKP **PKPdf 17 08 34.2 -0.1**
baz=19
MDOK Medeo 126.13 19 *e*PKIKP **PKPdf 17 08 34.1 -0.1**
KPKS Kokpek 126.36 17 *e*PKP **PKPdf 17 08 33.8 -0.9**
comp=Z,2.4nm,0.7s,baz=17
KPKS Kokpek 126.36 17 *e*PKIKP **PKPdf 17 08 33.7 -0.9**
KPKS pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 126.38 20 PKIKP **PKPdf 17 08 34.4 -0.4**
BOOM Boomskoye usch 126.38 20 **PKPdf 17 08 34.4 -0.4**
BTK Batken 126.51 26 PKIKP **PKPdf 17 08 34.7 -0.3**
BTK Batken 126.51 26 **PKPdf 17 08 34.7 -0.3**
SATY Saty 126.64 17 *e*PKP **PKPdf 17 08 34.4 -0.9**
comp=Z,0.8nm,0.8s,baz=18
SATY Saty 126.64 17 *e*PKIKP **PKPdf 17 08 34.3 -0.9**
SATY pmax pmax
comp=Z,1.0nm,0.8s
UZB Uzynbulak 126.75 17 *e*PKP **PKPdf 17 08 34.8 -0.7**
comp=Z,2.6nm,0.8s,baz=17
UZB Uzynbulak 126.75 17 *e*PKIKP **PKPdf 17 08 34.7 -0.7**
UZB pmax pmax
comp=Z,3.0nm,0.8s
SHLS Shalkode 126.86 17 *e*PKP **PKPdf 17 08 34.9 -0.8**
baz=16
SHLS Shalkode 126.86 17 *e*PKIKP **PKPdf 17 08 34.8 -0.8**
CHGR Chuyangaron 126.92 28 PKPdf **PKPdf 17 08 35.4 -0.4**
KSRS Korea Array 126.99 330 PKP **PKiKP 17 08 36.1 -0.2**
comp=Z,4.5nm,0.8s,baz=30,slow=1.2,SNR=19
KSAR Wonju Array Be 127.02 330 PKIKP **PKPdf 17 08 35.4 -0.5**
KSAR Wonju Array Be 127.02 330 PKPdf **PKPdf 17 08 35.4 -0.5**
KDJ Kajisay 127.11 19 PKIKP **PKPdf 17 08 35.7 -0.5**
KDJ Kajisay 127.11 19 **PKPdf 17 08 35.7 -0.5**
GAR Garm 127.17 27 **PKPdf 17 08 36.4 0.0**
PRZ Przheval'sk 127.17 18 PKIKP **PKPdf 17 08 35.9 -0.4**
PRZ Przheval'sk 127.17 18 PKPdf **PKPdf 17 08 35.9 -0.4**
TARG Taragay, Kyrgy 127.67 19 PKPdf **PKPdf 17 08 36.7 -0.9**
WMQ Urumqi 128.05 9 *e*PKP **PKPdf 17 08 37.8 0.0**
WMQ AMB AMB
comp=Z,76nm,4.7s
WMQ LR LR
comp=Z,140nm,17.5s
WMQ LR LR
comp=Z,87nm,13.9s
KSH Kashi 129.02 22 PKP **PKiKP 17 08 40.8 +0.2**
KSH PP **PP 17 10 51.8 +5.5**
KSH SKKS 17 17 36.9
KSH AMB AMB
comp=Z,120nm,6.0s
BJI Beijing 129.60 342 PKP **PKPdf 17 08 38.6 -2.1**
HHC Hu-ho-hao-te 130.12 346 *e*PKP **PKPdf 17 08 41.8 -0.1**
GTA Gaotai 133.19 358 *e*PKP **PKPdf 17 08 47.6 -0.2**
GTA sPKP 17 09 02.8
NJ2 Nanjing 135.68 334 *e*PKP **PKPdf 17 08 51.0 -1.4**
LZH Lanzhou 136.16 353 *e*PKP **PKiKP 17 08 55.3 +0.2**
LZH sPKP 17 09 09.5
LZH LR LR
comp=Z,190nm,18.5s
LZH LR LR
comp=Z,190nm,18.3s
LZH LR LR
comp=Z,240nm,20.0s
XAN Xi'an 137.24 346 PKP **PKPdf 17 08 54.6 -0.8**
ASAR Alice Springs 141.73 241 PKhKP PKPpre 17 08 57.9
comp=Z,1.1nm,0.8s,baz=113,slow=3.4,SNR=17
WB2 Warramunga Arr 142.37 247 **PKPdf 17 09 03.5 -1.5**
WRAB Tennant Creek 142.38 247 *c i*PKIKP **PKiKP 17 09 07.6 -0.4**
WRAB pmax pmax
comp=Z,7.0nm,1.3s
WRA Warramunga Arr 142.38 247 PKhKP PKPpre 17 09 00.3
comp=Z,2.0nm,0.7s,baz=100,slow=3.1,SNR=19
WRA Warramunga Arr 142.38 247 PKHKP PKPpre 17 08 58.8
WRA Warramunga Arr 142.38 247 PKPpre 17 08 58.8
GYA Guiyang 145.04 346 PKP **PKPab 17 09 09.0 0.0**
SHL Shillong 146.57 9 PKIKP **PKPdf 17 09 10.9 -1.5**
SHL Shillong 146.57 9 **PKPdf 17 09 10.9 -1.5**
MTN Manton Dam 146.63 258 **PKPdf 17 09 13.0 +0.5**
KNRA Kununurra 148.50 252 **PKPbc 17 09 17.4 -1.7**
HYB Hyderabad 148.81 37 *i* PKP **PKPdf 17 09 16.0 -0.1**
H01W1 Cape Leeuwin H 148.86 207 T T 19 56 20.8
baz=149,slow=76,SNR=181
H01W2 Cape Leeuwin H 148.87 207 T T 19 56 21.4
baz=149,slow=76,SNR=192
H01W3 Cape Leeuwin H 148.88 207 T T 19 56 22.1
baz=149,slow=76,SNR=183
FITZ Fitzroy Crossi 150.80 246 **PKPbc 17 09 23.9 -0.9**
CM31 Chiang Mai Arr 154.09 357 **PKPbc 17 09 31.1 -1.0**
CMAR Chiang Mai Arr 154.09 357 PKP **PKPdf 17 09 24.6 +0.6**
comp=Z,2.5nm,0.8s,baz=313,slow=1.9,SNR=15
CMAR PKPbc **PKPbc 17 09 32.1 0.0**
comp=Z,5.8nm,0.7s,baz=329,slow=2.9,SNR=19
CMAR Chiang Mai Arr 154.09 357 PKIKP **PKPbc 17 09 31.3 -0.8**
CMAR Chiang Mai Arr 154.09 357 **PKPdf 17 09 23.1 -0.9**
CMAR PKPbc **PKPbc 17 09 31.3 -0.8**

INET 16 16:50:24.2, 12°.40N×86°.51W, h1km, MD1.8, Nicaragua

ANF ***16*** *16:51:04.3±1.6, 29°.99N×113°.87W, h0km, ML4.5/15, Error ellipse: s-maj=17.9km s-min=6.4km az=17.0*
IDC ***16*** *16:51:13.2±1.7, 30°.39N×114°.07W, h0km, mb4.2/6, mb1 4.2/12, mb1mx3.9/55, mbtmp3.9/12, ML3.3/5, MS3.7/12, Ms1 3.7/12, ms1mx3.5/33, Error ellipse: s-maj=32.7km s-min=14.9km az=36.0*
NEIC ***16*** *16:51:14.1±1.2, 30°.63N±0°.07×114°.27W±0°.06, h13km±7km, mb4.4/30, Error ellipse: s-maj=11.5km s-min=4.0km az=212.0*
UNK ***16*** *16:51:14.7, 30°.65N×114°.24W, h14km*
MEX ***16*** *16:51:14.1±0.8, 30°.08N×114°.59W, h8km±13km, MD4.6*
ISC 16 16:51:14.6±0.7, 30°.62N±0°.06×114°.25W±0°.04, h10km, n151, σ1°.56/150, mb4.4/10, MS3.9/6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.66**	**309**		**Pg**	**16 51 26.7**	**-0.8**
SPX	**San Pedro Mart**	**1.12**	**292**	*i* P	**Pg**	**16 51 33.4**	**-2.9**
SPX				*e*S	**Sg**	**16 51 49.0**	**-1.9**
SPX	**San Pedro Mart**	**1.12**	**292**	Pn	**Pg**	**16 51 33.6**	**-2.7**
SPIG	**San Pedro Mart**	**1.13**	**292**	*i* P	**Pg**	**16 51 34.4**	**-2.0**
SPIG				*e*S	**Sg**	**16 51 49.9**	**-1.2**
PIX	**Pinacate**	**1.16**	**36**		**Pb**	**16 51 34.6**	**-2.2**
214A	**Organ Pipe Nat**	**1.81**	**42**	Pb	**Pn**	**16 51 45.2**	**-0.8**
214A	baz=223			S	**Sb**	**16 52 08.8**	**-1.9**
214A	**Organ Pipe Nat**	**1.81**	**42**		**Pn**	**16 51 45.2**	**-0.8**

GUVIX	Guadalupe Vict	1.82	337	Pn	Pn	16 51 45.3	-0.7
ESJX	Sierra Juarez	2.00	314	Pn	Pn	16 51 46.1	-2.6
CPBX	Cerro Prieto	2.01	334		Pn	16 51 47.3	-1.3
113A	Mohawk Valley,	2.18	11	Pn	Pn	16 51 50.5	-0.5
CCX	Cicese	2.41	302		Pn	16 51 52.4	-1.7
GLA	Glamis	2.47	349	P	Pn	16 51 54.5	-0.6
	baz=168						
GLA	Glamis	2.47	349		Pn	16 51 54.9	-0.2
RMX	La Rumorosa	2.52	322	Pn	Pn	16 51 53.1	-2.7
IKP	In-Ko-Pah, Jac	2.57	322	P	Pn	16 51 54.9	-1.6
	baz=141,SNR=29						
IKP				S	Sg	16 52 37.4	+0.1
	baz=141						
CBX	Cerro Bola	2.66	310	eP	Pn	16 51 57.5	-0.2
CBX				eS	Sn	16 52 30.4	+0.2
CBX	Cerro Bola	2.66	310	Pn	Pn	16 51 56.6	-1.2
SWSC	Sam W. Stewart	2.67	331	P	Pn	16 51 56.2	-1.5
	baz=150,SNR=12						
TJIG	Tijuana	2.75	312	eP	Pn	16 51 57.5	-1.3
TJIG				i S	Sn	16 52 32.7	+0.6
TKX	Tecate	2.80	315	Pn	Pn	16 51 57.3	-2.2
BAR	Barrett	2.91	315		Pn	16 51 59.8	-1.3
MONP2	Monument Peak	2.92	321	P	Pn	16 52 01.4	0.0
	baz=140						
MONP2				S	Sg	16 52 47.0	-1.6
	baz=140						
TJX	Tijuana	3.04	309	Pn	Pn	16 52 01.9	-1.0
BC3	Big Chuckawall	3.19	342	P	Pn	16 52 04.6	-0.4
	baz=161,SNR=19						
BC3				S	Sg	16 52 53.9	-3.3
	baz=161						
HSIG		3.28	118	Pn	Pn	16 52 05.9	-0.3
109C	Camp Elliot, M	3.32	314	Pb	Pb	16 52 14.9	+1.3
	baz=132,SNR=8.0						
109C				S	Sb	16 52 56.4	+2.3
	baz=132						
109C	Camp Elliot, M	3.32	314	Pn	Pn	16 52 05.2	-1.4
TUC	Tucson	3.41	59	Pb	Pn	16 52 07.0	-0.9
	baz=242						
TUC	Tucson	3.41	59		Pn	16 52 07.2	-0.8
Y14A	Wickenburg	3.47	17		Pn	16 52 09.1	+0.3
TPFO	Pinon Flats	3.52	328	P	Pn	16 52 08.5	-1.0
	baz=147						
TPFO				S	Sb	16 53 01.2	+1.3
	baz=147						
XPFO	Pion Flat	3.52	328	Pn	Pn	16 52 08.6	-1.0
PFO	Pinyon Flats O	3.52	328	Pn	Pn	16 52 09.3	-0.2
	0.6nm,0.3s,baz=134,slow=14,SNR=9.6						
PFO				Pg	Pg	16 52 23.1	+1.0
	2.5nm,0.3s,baz=154,slow=8.8,SNR=14						
PFO				Lg	Lg	16 53 10.3	
	13nm,0.3s,baz=73,slow=15,SNR=6.8						
PFO	Pinyon Flats O	3.52	328	P	Pn	16 52 09.1	-0.4
	baz=147						
PFO				S	Sb	16 53 01.8	+1.8
	baz=147						
PFO	Pinyon Flats O	3.52	328	Pn	Pn	16 52 08.7	-0.9
IRM	Iron Mountain	3.61	348	P	Pn	16 52 11.6	+0.9
	baz=168,SNR=7.9						
PDMCI	Parker Dam,Lak	3.67	1	P	Pn	16 52 11.7	+0.2
	baz=181						
BELC	Belle Mtn. Jos	3.68	337	P	Pn	16 52 14.3	+2.5
	baz=156						
MURC	Murrieta	3.88	321	Pb	Pg	16 52 26.2	-2.9
	baz=139,SNR=18						
GMRC	Granite Mounta	4.32	344	P	Pn	16 52 21.5	+1.0
	baz=164						
X16A	Lo Mia Camp, P	4.47	31		Pn	16 52 21.5	-1.1
W13A	Hualapai Mount	4.48	4	Pn	Pn	16 52 21.9	-0.9
GSC	Goldstone, Bar	5.14	336		Pn	16 52 30.7	-1.1
EDW2	Edwards Air Fo	5.29	324	P	Pn	16 52 36.7	+2.9
	baz=142						
WUAZ	Wupatki	5.45	26	P	Pn	16 52 33.9	-2.2
	baz=207						
WUAZ	Wupatki	5.45	26		Pn	16 52 34.0	-2.1
LRMC	Laurel Mtn Rad	5.64	330	P	Pn	16 52 40.9	+2.3
	baz=148						
121A	Cookes Peak, D	5.84	69	P	Pn	16 52 33.4	-8.1
	baz=253						
121A	Cookes Peak, D	5.84	69	Pn	Pn	16 52 40.3	-1.2
W18A	Petrified Fore	5.88	39	Pn	Pn	16 52 42.9	+0.9
U15A	North Rim	6.02	15		Pn	16 52 46.7	+2.6
MPMC	Manual Prospec	6.06	334	P	Pn	16 52 46.8	+2.2
	baz=152						
LCMT	Little Creek M	6.43	7		Pn	16 52 48.8	-0.7
TPNV	Topopah Spring	6.53	346	P	Pn	16 52 51.5	+0.6
	baz=165						
TPNV	Topopah Spring	6.53	346		Pn	16 52 49.3	-1.6
SMMC	Simmler	6.72	316	P	Pn	16 52 55.1	+1.6
	baz=132						
PRN	Pahroc Range	6.80	355	Pn	Pn	16 52 53.9	-0.8
CCUT	Cedar City	6.95	6	Pn	Pn	16 52 55.4	-1.4
SZCU	Shurtz Canyon	7.02	8		Pn	16 52 57.0	-0.8
LENM	Lemitar	7.10	58	Pn	Pn	16 52 56.6	-2.2
BNM	Barren Site	7.34	59	Pn	Pn	16 53 01.3	-0.9
LPIG	La Paz	7.38	151	LR	LR	16 55 40.2	
	comp=Z,736nm,19.8s,baz=338,slow=38						
MTPU	Mount Pierson	7.60	12	Pn	Pn	16 53 05.2	-0.6
MNTX	Cornudas Mount	7.68	80	Pn	Pn	16 53 06.6	+0.1
R11A	Troy Canyon, C	7.79	352	P	Pn	16 53 10.2	+2.0
	baz=171						
R11A	Troy Canyon, C	7.79	352		Pn	16 53 08.9	+0.7
ANMO	Albuquerque	7.85	55	Pn	Pn	16 53 08.3	-0.8
MVU	Marysvale	8.04	12	Pn	Pn	16 53 12.8	+1.0
MSU	Marysvale	8.06	12	Pn	Pn	16 53 12.5	+0.6
LHV	Little Huntoon	8.38	336	Pn	Pn	16 53 15.3	-0.9
NVAR	Mina Array Bea	8.48	338	Pn	Pn	16 53 22.8	+5.1
	0.1nm,0.3s,baz=164,slow=13,SNR=11						
NVAR				LR	LR	16 56 52.4	
	comp=Z,231nm,20.8s,baz=149,slow=39						
PV02	Paradox Valley	8.83	30	Pn	Pn	16 53 20.4	-2.2
PV16	Nyswonger Mesa	8.84	28	Pn	Pn	16 53 20.4	-2.4
PV11	David Mesa, Pa	8.85	29	Pn	Pn	16 53 21.3	-1.5
PV14	Lion Creek, Pa	8.85	28	Pn	Pn	16 53 20.2	-2.7
SRU	San Rafael Swe	9.01	19	Pn	Pn	16 53 23.5	-1.5
PV21	Cone Mtn., Par	9.03	27	Pn	Pn	16 53 22.9	-2.4
TX31	Lajitas Ar. Si	9.27	95	Pn	Pn	16 53 26.8	-1.6
TX32	Lajitas Array	9.27	95	Pn	Pn	16 53 27.7	-0.8
TXAR	Lajitas Array	9.27	95	Pn	Pn	16 53 27.2	-1.3
	0.1nm,0.3s,baz=257,slow=15,SNR=4.8						
TXAR				Lg	Lg	16 56 08.2	
	0.3nm,0.3s,baz=256,slow=26,SNR=4.4						
TXAR				LR	LR	16 57 14.2	
	comp=Z,710nm,20.6s,baz=0.0,slow=40						
TXAR	Lajitas Array	9.27	95		Pn	16 53 27.1	-1.4
P17A	Butcher Ranch,	9.29	17	Pn	Pn	16 53 27.9	-0.8
ELK	Elko	10.13	356	Pn	Pn	16 53 44.8	+4.4
	0.1nm,0.3s,baz=191,slow=15,SNR=3.2						
AMTX	Amarillo	11.40	65	Pn	Pn	16 53 56.2	-1.5
ISCO	Idaho Springs	11.56	35	Pn	Pn	16 54 00.2	+0.2
PDAR	Pinedale Array	12.69	16	Pn	Pn	16 54 20.0	+4.6
	0.1nm,0.3s,baz=186,slow=13,SNR=7.6						
PDAR				LR	LR	16 59 11.4	
	comp=Z,56nm,21.1s,baz=348,slow=37						
YBH	Yreka Blue Hor	13.02	331	Pn	Pn	16 54 25.4	+5.7
	baz=153,slow=14,SNR=3.4						
YBH				LR	LR	17 00 12.7	
	comp=Z,149nm,18.8s,baz=154,slow=41						
FXWY	Fox Creek	13.24	10	Pn	Pn	16 54 20.5	-2.4
LOHW	Long Hollow	13.29	12	Pn	Pn	16 54 21.9	-1.6
K22A	Casper	13.51	25		Pn	16 54 26.8	+0.3
I07A	Izee	14.07	344	P	P	16 54 40.5	-1.5
PINE	Pine Mountain	14.18	340	P	P	16 54 41.6	-1.7
MCMT	McKenzie Canyo	14.23	4	P	P	16 54 42.8	-1.0
YHB	Horse Butte	14.31	9	P	P	16 54 43.4	-1.3
QLMT	Earthquake Lak	14.36	8	P	P	16 54 44.1	-1.2
X34A	Smith Ranch, M	14.39	70		P	16 54 44.5	-1.1
YHH	Holmes Hill	14.39	10		P	16 54 44.7	-1.1
BMO	Blue Mountains	14.41	351		P	16 54 44.6	-1.2
YHL	Hebgen Lake	14.41	9	P	P	16 54 45.0	-0.9
YMP	Mirror Lake Pl	14.46	12	P	P	16 54 45.9	-0.6
YNE	Yellowstone No	14.74	12	P	P	16 54 48.6	-1.0
DLMT	Dillon	14.78	5	P	P	16 54 48.4	-1.4
RLMT	Red Lodge	15.00	14	P	P	16 54 51.9	-0.5
BOZ	Bozeman (W)	15.09	7	P	P	16 54 52.0	-1.4
BOZ				IAmb	IAmb	16 54 59.7	
	comp=Z,11nm,1.2s						
G08A	Pilot Rock	15.10	347	P	P	16 54 52.1	-1.4
LRM	Limekiln Ridge	15.24	5		P	16 54 54.7	-0.4
W35A	Tecumseh	15.28	68	P	P	16 54 53.8	-1.5
GCMT	Greycliff	15.56	12	P	P	16 54 57.4	-1.2
RSSD	Black Hills	15.71	28	P	P	16 54 58.9	-1.4
RSSD				IAmb	IAmb	16 55 05.7	
	comp=Z,17nm,1.1s						
MSO	Missoula	16.19	1		P	16 55 04.0	-1.4
KSU1	Kansas State U	16.75	55	P	P	16 55 10.0	-1.6
KSU1				IAmb	IAmb	16 55 16.3	
	comp=Z,19nm,1.1s						
LON	Longmire	17.14	342		Pn	16 55 14.3	0.0
LAO	LASA Array	17.21	19		P	16 55 15.2	-1.6
LAO				IAmb	IAmb	16 55 22.8	
	comp=Z,34nm,1.2s						
LTY	Liberty	17.34	345	P	P	16 55 17.3	-0.9
NEW	Newport	17.76	354	P	P	16 55 25.7	+3.0
	comp=Z,0.0nm,0.3s,baz=151,slow=15,SNR=4.3						
NEW				LR	LR	17 01 37.7	
	comp=Z,127nm,21.1s,baz=228,slow=35						
NEW	Newport	17.76	354		Pn	16 55 20.4	-1.5
U40A	Yellville	18.73	67	P	Pn	16 55 33.2	-0.7
ECSD	EROS Data Cent	19.15	42	P	P	16 55 36.0	-2.1
PGC	Sidney	19.32	341	P	Pn	16 55 40.2	-0.7
PGC				IAmb	IAmb	16 55 46.0	
	comp=Z,20nm,1.1s						
P40A	Paris	20.19	58	P	P	16 55 47.8	-1.6
P40A				IAmb	IAmb	16 56 06.3	
	comp=Z,36nm,1.2s						
SCIA	State Center	20.30	51	P	P	16 55 49.1	-1.6
SCIA				IAmb	IAmb	16 55 58.7	
	comp=Z,16nm,0.9s						
MDND	Maddock	20.55	29	P	Pn	16 55 54.7	-0.7
MDND				IAmb	IAmb	16 56 23.3	
	comp=Z,32nm,1.2s						
N41A	Harden Midland	21.45	56	P	P	16 56 03.5	+0.4
N41A				IAmb	IAmb	16 56 13.8	
	comp=Z,50nm,1.0s						
L40A	Anamosa	21.71	52	P	P	16 56 03.4	-2.5
Q44A	Meyer Farm, Va	22.27	61	P	P	16 56 11.5	-0.3
L42A	Oliver, Polo	22.75	53	P	P	16 56 18.3	+1.3
X48A	Hartselle	23.22	73	P	P	16 56 23.4	+1.4
BBB	Bella Bella	23.84	339	LR	LR	17 05 14.2	
	comp=Z,244nm,19.1s,baz=160,slow=35						
ULM	Lac du Bonnet	23.97	30	P	P	16 56 30.6	+1.5
	comp=Z,4.1nm,0.5s,baz=238,slow=9.5,SNR=5.7						
ULM	Lac du Bonnet	23.97	30		P	16 56 27.5	-1.6
ULM				IAmb	IAmb	16 56 31.3	
	comp=Z,21nm,1.2s						
DLBC	Dease Lake	29.84	343	P	P	16 57 25.1	+3.1
	comp=Z,5.4nm,0.9s,baz=179,slow=6.4,SNR=10						
DLBC				LR	LR	17 10 46.5	
	comp=Z,153nm,18.5s,baz=156,slow=39						
DLBC	Dease Lake	29.84	343	P	P	16 57 23.3	+1.3
DLBC				IAmb	IAmb	16 57 26.5	
	comp=Z,8.6nm,1.0s						
SADO	Sadowa	30.90	53	LR	LR	17 09 55.8	
	comp=Z,274nm,21.0s,baz=309,slow=36						
SML	Sawmill	38.27	335	P	P	16 58 33.8	-1.1
IL31		39.73	339	P	P	16 58 49.5	+2.5
IL31				IAmb	IAmb	16 58 50.9	
	comp=Z,6.3nm,1.1s						
ILAR	Eielson Array	39.73	339	P	P	16 58 49.7	+2.7
	comp=Z,2.5nm,0.9s,baz=152,slow=7.4,SNR=24						
ILAR	Eielson Array	39.73	339	P	P	16 58 49.0	+2.0
BWN	Browne	40.17	337	P	P	16 58 52.7	+2.1
BPAW	Bear Paw Mtn.	40.65	336	P	P	16 58 56.1	+1.5
BPAW				IAmb	IAmb	16 58 58.3	
	comp=Z,15nm,1.4s						
SCHQ	Schefferville	41.34	40	LR	LR	17 18 02.9	
	comp=Z,192nm,21.9s,baz=206,slow=39						
COLD	Coldfoot	42.40	340	P	P	16 59 10.8	+1.9
COLD				IAmb	IAmb	16 59 15.3	
	comp=Z,9.8nm,1.4s						
ROSC	El Rosal	45.48	116	LR	LR	17 19 16.6	
	comp=Z,178nm,19.7s,baz=60,slow=37						
HUMP	Col San Antoni	45.49	94	P	P	16 59 37.4	+3.0
ARCES	ARCESS Array B	75.94	14	LR	LR	17 39 43.9	
	comp=Z,86nm,18.6s,baz=320,slow=38						
NOA	NORSAR Array B	78.50	24	P	P	17 03 16.2	+0.4
	comp=Z,0.6nm,0.8s,baz=318,slow=6.6,SNR=2.0						
FINES	FINESS Array B	82.78	18	P	P	17 03 40.7	+2.1
	comp=Z,2.7nm,0.9s,baz=1.6,slow=6.7,SNR=6.0						
MAT	Matsushiro	84.77	310	P	P	17 03 48.6	-0.8
MJAR	Matsushiro Arr	84.77	310	P	P	17 03 49.0	-0.4
	comp=Z,2.4nm,1.0s,baz=62,slow=5.4,SNR=4.9						
MJAR	Matsushiro Arr	84.77	310	IAmb	IAmb	17 03 50.3	
	comp=Z,3.8nm,1.3s						
HHC	Hu-ho-hao-te	97.21	327	eP	P	17 04 47.3	-0.6
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,240nm,5.1s						

UPA ***16*** *16:52:55.5±1.0, 7°.52N×82°.37W, h0km±10km, MW5.1*
IDC ***16*** *16:52:56.3±6.0, 7°.67N×82°.21W, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.8/45, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=210.5km s-min=31.3km az=23.0*
NEIC ***16*** *16:52:57.1±1.9, 7°.38N±0°.09×82°.55W±0°.09, h19km±6km, mb4.6/9, Error ellipse: s-maj=16.6km s-min=8.1km az=222.0*

ISC 16 16:52:56.0±1.9,**7°.48N**±0°.07×**82°.36W**±0°.05,**h9**km±10km,
n32,σ1**9**05/40,**mb4.2**/7,**South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR3	Chiriqui UPA,	0.91	2	eP	Pg	16 53 13.4	-0.1
CHIR3				eS	Sb	16 53 26.9	+0.8
PVID3	Puerto Vidal,	0.93	53	eP	Pg	16 53 13.7	-0.3
GUAL3	Gualaca, Chiri	1.04	3	eP	Pb	16 53 15.2	-1.1
GMAL	Guarumal, Vera	1.15	76	eP	Pn	16 53 17.9	-0.3
GMAL				eS	Sg	16 53 34.7	+1.5
PSOM3	Paja de Sombre	1.19	2	eP	Pn	16 53 18.0	-0.9
PSOM3				eS	Sb	16 53 34.1	-0.3
PTAR3	Potrerillos Ar	1.21	354	eP	Pn	16 53 18.0	-1.2
PTAR3				eS	Sb	16 53 33.0	-1.9
BCO2	Palmira	1.24	352	eS	Sn	16 53 36.6	+0.1
BRU2	Volcan	1.34	346	eP	Pb	16 53 20.7	-0.8
BRU2				eS	Sg	16 53 40.6	+1.3
PONU3	Ponuga, Veragu	1.43	74	eP	Pn	16 53 22.0	-0.1
PONU3				eS	Sn	16 53 41.9	+0.9
CACAO	El Cacao, Vera	1.49	95	eP	Pn	16 53 22.3	-0.7
CACAO				eS	Sn	16 53 40.9	-1.7
BCIP	Isla Barro Col	3.00	56	Pn	Pb	16 53 47.9	-1.9
HDC	Heredia	3.04	325	Pn	Pn	16 53 44.8	+0.3
JTS	Las Juntas de	3.79	318	Pn	Pn	16 53 54.2	-0.4
	17nm,0.3s,baz=247,slow=24,SNR=1.5						
JTS				Sn	Sn	16 54 36.7	-2.6
	7.6nm,0.3s,baz=357,slow=20,SNR=1.1						
JTS	Las Juntas de	3.79	318		Pn	16 53 54.1	-0.6
ESPN	Las Esperanzas	5.06	338	Pn	Pn	16 54 12.2	+0.2
ACON	Acoyapa	5.25	328	Pn	Pn	16 54 14.1	-0.6
BOAB	BOACO BROADBAN	5.91	327	Pn	Pn	16 54 23.7	-0.1
PB06	IPOC Station P	32.51	158	P	P	16 59 26.3	-1.2
P43A	Skaggs, Pawnee	32.66	350	P	P	16 59 28.1	-0.3
P43A				IAmb	IAmb	16 59 35.7	
	comp=Z,6.7nm,0.7s						
LVC	Limon Verde	32.68	157	P	P	16 59 28.9	-0.3
LMN	Caledonia Moun	41.12	19	P	P	17 00 41.0	+0.6
NVAR	Mina Array Bea	44.72	319	P	P	17 01 12.4	+2.5
	comp=Z,1.0nm,0.6s,baz=119,slow=6.8,SNR=3.9						
WVOR	Wild Horse Val	47.25	323	P	P	17 01 30.3	+0.5
BCAR	Beaver Creek A	69.83	335	P	P	17 04 07.6	+0.8
DOT	Dot Lake	71.00	335	P	P	17 04 14.7	+0.8
DOT				IAmb	IAmb	17 04 15.9	
	comp=Z,3.6nm,0.8s						
HDA	Harding Lake	72.46	336	P	P	17 04 23.4	+0.7
HDA				IAmb	IAmb	17 04 24.0	
	comp=Z,5.2nm,1.0s						
ILAR	Eielson Array	72.56	336	P	P	17 04 23.9	+0.6
	comp=Z,1.0nm,0.6s,baz=108,slow=4.9,SNR=4.9						
ILAR	Eielson Array	72.56	336	P	P	17 04 23.1	-0.2
ESDC	Sonseca Array	76.34	51	P	P	17 04 46.9	+1.0
	comp=Z,1.4nm,0.6s,baz=274,slow=6.1,SNR=6.3						
ESDC	Sonseca Array	76.34	51	P	P	17 04 45.9	0.0
TORD	Torodi Ar. Bea	82.57	78	P	P	17 05 20.4	+0.2
	comp=Z,0.9nm,0.7s,baz=294,slow=5.1,SNR=3.3						
TORD	Torodi Ar. Bea	82.57	78	P	P	17 05 20.1	0.0

INET ***16*** *17:06:20.6, 12°.42N×86°.51W, h4km, ML3.4*
UCR ***16*** *17:06:21.1±1.2, 12°.31N×86°.48W, h10km, ML3.8*
SNET ***16*** *17:06:21.0±1.3, 12°.29N×86°.49W, h10km, ML3.9*

ISC 16 17:06:20.1±4.5,**12°.3N**±0°.2×**86°.4W**±0°.2,**h10**km,**n22**,
σ0**9**70/24,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.70	305	eP	Pn	17 06 49.0	-0.9
CNCH				eS	Sn	17 07 11.8	0.0
CNCH				IAML		17 07 17.4	
	comp=Z,3μm,0.3s						
CNCH	Conchagua	1.70	305	eP	Pn	17 06 49.0	-0.9
CNCH				eS	Sn	17 07 11.8	0.0
CNCH				IAML		17 07 17.4	
	comp=Z,3μm,0.3s						
LCND	La Caada	1.76	305	eP	Pn	17 06 49.8	-0.9
LCND				eS	Sn	17 07 13.1	-0.2
LCND				IAML		17 07 17.4	
	comp=Z,841nm,0.4s						
LCND	La Caada	1.76	305	eP	Pn	17 06 49.8	-0.9
LCND				eS	Sn	17 07 13.1	-0.2
LCND				IAML		17 07 17.4	
	comp=Z,841nm,0.4s						
TGUH	Tegucigalpa,Un	1.94	334	eP	Pn	17 06 53.2	-0.1
TGUH	Tegucigalpa,Un	1.94	334	eP	Pn	17 06 53.2	-0.1
JUCU	Jucuarjn	2.03	298	IAML		17 07 22.5	
	comp=Z,687nm,0.5s						
JUCU	Jucuarjn	2.03	298	IAML		17 07 22.5	
	comp=Z,687nm,0.5s						
FAGO	Alcalda de S	2.16	310	eS	Sn	17 07 24.2	+1.1
FAGO	Alcalda de S	2.16	310	eS	Sn	17 07 24.2	+1.1
ALJI	Alcalda de J	2.34	296	eS	Sn	17 07 28.1	+0.4
ALJI	Alcalda de J	2.34	296	eS	Sn	17 07 28.1	+0.4
TECA	Tecapa	2.36	300	eP	Pn	17 06 59.3	+0.1
TECA	Tecapa	2.36	300	eP	Pn	17 06 59.3	+0.1
COEB	Comit de Eme	2.39	300	IAML		17 07 05.9	
	comp=Z,643nm,0.1s						
COEB	Comit de Eme	2.39	300	IAML		17 07 05.9	
	comp=Z,643nm,0.1s						
LFRS	El Faro	2.90	297	eP	Pn	17 07 07.3	+0.7
LFRS				eS	Sn	17 07 41.6	0.0
LFRS	El Faro	2.90	297	eP	Pn	17 07 07.3	+0.7
LFRS				eS	Sn	17 07 41.6	0.0
TACO	Tacachico	3.32	300	eP	Pn	17 07 12.7	+0.6
TACO	Tacachico	3.32	300	eP	Pn	17 07 12.7	+0.6
NUBE	Las Nubes	3.65	296	eS	Sn	17 07 59.1	-1.1
NUBE	Las Nubes	3.65	296	eS	Sn	17 07 59.1	-1.1

IDC ***16*** *17:25:25.4±1.3, 30°.08N×57°.69E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.4/56, mbtmp3.7/8, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/38, Error ellipse: s-maj=34.9km s-min=21.1km az=110.0*
TEH ***16*** *17:25:27.2, 30°.19N×57°.62E, h12km, ML4.2*
THR ***16*** *17:25:28.4±0.7, 30°.24N×57°.54E, h14km±5km, ML4.2*

ISC 16 17:25:27.3±1.1,**30°.16N**±0°.03×**57°.62E**±0°.03,**h11**km±8km,
n52,σ1**9**40/57,**mb3.6**/5,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.30	193	ePg	Pg	17 25 34.3	+0.7
CHMN				eSg	Sg	17 25 38.3	+0.5
CHMN				e		17 25 39.4	
TVBK	TV Kerman	0.76	257	ePg	Pg	17 25 42.1	0.0
TVBK				eSg	Sg	17 25 52.4	+0.3
TVBK				e		17 25 53.2	
KRBR	Kerman	0.76	257	ePg	Pg	17 25 42.2	+0.1
KRBR				eSg	Sg	17 25 52.4	+0.3
KRBR				IAML		17 25 52.9	
	comp=E,13μm,0.1s						
KRBR				IAML		17 25 53.1	
	comp=N,14μm,0.2s						
KRBR	Kerman	0.76	257	ePg	Pg	17 25 42.2	+0.1
NGRK	Negar Kerman	0.92	237	ePg	Pg	17 25 45.3	+0.1
NGRK				e		17 25 45.7	
NGRK				eSg	Sg	17 25 57.4	+0.1
KHGB	Koh Gabri	1.01	283	ePg	Pg	17 25 46.1	-0.7
KHGB				e		17 25 59.2	
KBAM	BAM	1.25	144	ePg	Pb	17 25 51.1	+0.1
KBAM				e		17 26 10.5	
KHNJ	Kahnooj	2.20	178	ePn	Pb	17 26 05.9	-1.3
BSRN	Basiran	2.22	35	ePn	Pb	17 26 06.4	-1.2
BSRN				eSg	Sg	17 26 37.4	-1.4
BSRN	Basiran	2.22	35	ePn	Pb	17 26 06.4	-1.2
IBAF	Bafgh	2.27	310	e		17 26 44.8	
IBAF				ePn	Pn	17 26 05.9	+1.0
NHDN	Nehbandan	2.43	59	ePn	Pn	17 26 08.2	+1.1
IKOO	Kooshah	2.55	27	e		17 26 58.8	
IKOO				ePn	Pn	17 26 09.4	+0.5
IMEH	Mehriz	2.86	296	ePn	Pn	17 26 14.7	+1.6
IMEH				e		17 27 01.3	
ITEG	Tejag	2.90	19	ePn	Pn	17 26 14.2	+0.6
ITEG				e		17 27 07.8	
SZD1	Zahaedan-tmp	2.90	102	ePn	Pn	17 26 15.5	+1.9
TPRV	Parvadeh(Tabas	2.97	345	ePn	Pn	17 26 15.7	+1.2
GENO	Geno	3.02	205	ePn	Pb	17 26 18.6	-2.7
GENO				e		17 26 26.8	
BNDS	Bandar-Abbas	3.02	205	ePn	Pb	17 26 18.9	-2.4
BNDS	Bandar-Abbas	3.02	205	ePn	Pb	17 26 18.9	-2.4
IDAH	Dahanechah	3.21	36	ePn	Pn	17 26 19.7	+1.7
IDAH				e		17 27 20.8	
YZKH	Yazd	3.41	311	ePn	Pn	17 26 22.6	+2.0
YZK

Ms1 4.0/26, ms1mx3.9/31, Error ellipse: s-maj=12.9km s-min=9.9km az=140.0
BJI ***16*** *18:39:39.4±0.0, 45°.03N×147°.64E, h30km, mB5.1/47, mb5.0/68, Ms4.7/53, Ms7 4.5/52*
SKHL ***16*** *18:39:43.1±0.2, 45°.03N×147°.21E, h40km±5km, mb5.4/2, Ms4.7/6*
SKHL Felt (III) at Gornyy, Goryachie Klyuchi, Kuril'sk, Kitovyy, Reidovo.
MOS ***16*** *18:39:43.9±0.9, 45°.09N×147°.00E, h38km, mb4.9/35, MS4.3/17, Error ellipse: s-maj=4.9km s-min=4.1km az=87.8*
MOS Felt (III) at Gornyy, Goryachiye Klyuchi, Kitovyy, Kuril'sk, Reydovo.
GCMT ***16*** *18:39:45.9±0.2, 45°.12N±0°.02×147°.06E±0°.02, h18km, MW5.0/109, Moment Tensor Solution. s56,c66; s109,c182; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.03±.13; Mθθ-1.02±.08; Mφφ-2.01±.08; Mrθ-1.29±.20; Mθφ-1.33±.05; Mφr-1.34±.18; Best double couple: M0 3.51400×10^16 NP1:φs30.00000°, δ29.00000°, λ82.00000°. NP2:φs219.00000°, δ61.00000°, λ94.00000°. Principal axes: T 3.5720, Plg74.0000°, Azm141.0000°; N -0.1160, Plg4.0000°, Azm37.0000°; P -3.4560, Plg16.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *18:39:45.9±1.2, 45°.10N±0°.07×147°.02E±0°.09, h39km±4km, mb5.2/540 Error ellipse: s-maj=10.4km s-min=8.7km az=134.0*
UNK ***16*** *18:39:46.2, 45°.10N×147°.03E, h42km*
BGR ***16*** *18:39:55.2±0.0, 46°.84N×146°.89E, h33km, mb4.8*
ISC 16 18:39:43.5±0.5, 45°.07N±0°.03×147°.11E±0°.03, h22km±3km, h23km:pP-P, n1420, σ0s95/1471, mb5.2/398, MS4.3/47, 34C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.56**	**73**	*i* P	**Pb**	**18 39 53.5**	**-1.1**
KUR				AMB	AMB	18 39 55.0	
	4μm,0.3s						
KUR				AMB	AMB	18 39 55.0	
	3μm,0.3s						
KUR				AMB	AMB	18 39 55.0	
	8μm,0.3s						
KUR				*i* S	**Sb**	**18 40 01.3**	**-0.8**
KUR				A	A	18 40 02.0	
	104μm,2.0s						
KUR				A	A	18 40 02.0	
	75μm,2.0s						
KUR				A	A	18 40 03.4	
	31μm,20.0s						
KUR				A	A	18 40 03.4	
	37μm,20.0s						
KUR	**Kuril'sk**	**0.56**	**73**	*d i* PN	**Pb**	**18 39 53.5**	**-1.1**
KUR				*i* S	**Sb**	**18 40 01.3**	**-0.8**
KUR				pmax	pmax		
	comp=N,4μm,0.3s						
KUR				pmax	pmax		
	comp=E,3μm,0.3s						
KUR				pmax	pmax		
	comp=Z,8μm,0.3s						
KUR				smax	smax		
	comp=N,104μm,2.1s						
KUR				smax	smax		
	comp=E,75μm,2.0s						
KUR				smax	smax		
	comp=N,20μm,0.2s						
KUR				smax	smax		
	comp=E,37μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**221**	*i* P	**Pn**	**18 40 05.4**	**-1.8**
YUK				AMB	AMB	18 40 10.3	
	comp=E,7μm,0.3s						
YUK				*i* S	**Sn**	**18 40 21.9**	**-2.8**
YUK				A	A	18 40 26.0	
	comp=E,42μm,0.5s						
YUK				A	A	18 40 26.0	
	comp=E,25μm,0.5s						
YUK				AMS	AMS	18 40 49.0	
	comp=E,81μm,8.0s						
YUK				AMS	AMS	18 40 49.0	
	comp=E,67μm,8.0s						
YUK				AMS	AMS	18 40 49.0	
	comp=E,54μm,8.0s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**221**	*c i* PN	**Pn**	**18 40 05.4**	**-1.8**
YUK				*i* S	**Sn**	**18 40 23.0**	**-1.7**
YUK				pmax	pmax		
	comp=Z,4μm,1.1s						
YUK				pmax	pmax		
	comp=Z,7μm,0.3s						
YUK				pmax	pmax		
	comp=E,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,2μm,0.1s						
YUK				smax	smax		
	comp=N,42μm,0.5s						
YUK				smax	smax		
	comp=E,25μm,0.4s						
GRPR	**Tuman**	**1.44**	**222**	*i* P	**Pn**	**18 40 06.4**	**-1.9**
GRPR				AMB	AMB	18 40 09.0	
	comp=E,1μm,0.3s						
GRPR				AMB	AMB	18 40 09.0	
	comp=E,520nm,0.3s						
GRPR				AMB	AMB	18 40 09.0	
	comp=E,2μm,0.3s						
GRPR				*i* S	**Sn**	**18 40 24.0**	**-2.5**
GRPR				A	A	18 40 31.0	
	comp=E,30μm,0.5s						
GRPR				A	A	18 40 31.0	
	comp=E,15μm,0.5s						
GRPR	**Tuman**	**1.44**	**222**	*d i* PN	**Pn**	**18 40 06.4**	**-1.9**
GRPR				*i* S	**Sn**	**18 40 26.5**	**0.0**
GRPR				pmax	pmax		
	comp=Z,966nm,1.3s						
GRPR				pmax	pmax		
	comp=N,1μm,0.3s						
GRPR				pmax	pmax		
	comp=E,517nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,2μm,0.3s						
GRPR				smax	smax		
	comp=N,49μm,1.4s						
GRPR				smax	smax		
	comp=E,23μm,0.9s						
GRPR				smax	smax		
	comp=N,30μm,0.5s						
GRPR				smax	smax		
	comp=E,15μm,0.5s						
GLVR	**Golovnino**	**1.76**	**221**	*i* P	**Pn**	**18 40 11.7**	**-0.8**
GLVR				AMB	AMB	18 40 17.0	
	comp=E,6μm,0.5s						
GLVR				*i* S	**Sn**	**18 40 33.0**	**-1.2**
GLVR				A	A	18 40 40.0	
	comp=E,27μm,0.3s						
GLVR				A	A	18 40 40.0	
	comp=E,14μm,0.3s						
GLVR	**Golovnino**	**1.76**	**221**	*c i* PN	**Pn**	**18 40 11.7**	**-0.8**
GLVR				*i* S	**Sn**	**18 40 34.0**	**-0.2**
GLVR				pmax	pmax		
	comp=Z,5μm,1.4s						
GLVR				pmax	pmax		
	comp=Z,6μm,0.5s						
GLVR				pmax	pmax		
	comp=N,912nm,0.3s						
GLVR				pmax	pmax		
	comp=E,721nm,0.3s						
GLVR				smax	smax		
	comp=N,36μm,1.1s						
GLVR				smax	smax		
	comp=E,15μm,0.8s						
GLVR				smax	smax		
	comp=N,27μm,0.3s						
GLVR				smax	smax		
	comp=E,14μm,0.3s						
JRA	**Rausu**	**1.82**	**232**	P	**Pn**	**18 40 12.1**	**-1.3**
NEM2	**Nemuro 2**	**1.97**	**211**	P	**Pn**	**18 40 13.6**	**-1.9**
NEM2				*e*S	**Sn**	**18 40 38.3**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.97**	**211**	*i* P	**Pn**	**18 40 13.6**	**-1.9**
NMR				*e*S	**Sn**	**18 40 36.5**	**-3.0**
NMR	**Nemuro--Hokkai**	**1.97**	**211**	⇑*i* PN	**Pn**	**18 40 13.6**	**-1.9**
NMR				*e*S	**Sn**	**18 40 38.2**	**-1.3**
JNSB	**Nemuroshibetsu**	**1.99**	**230**	P	**Pn**	**18 40 14.7**	**-1.1**
JNK	**Nakash**	**2.27**	**230**	P	**Pn**	**18 40 18.6**	**-1.1**
JKHN	**Kushirohamanak**	**2.44**	**216**	P	**Pn**	**18 40 20.6**	**-1.3**
JTKR	**Abashiri--Toko**	**2.54**	**245**	P	**Pn**	**18 40 22.1**	**-1.3**
JAK	**Akkeshi**	**2.71**	**221**	P	**Pn**	**18 40 24.8**	**-0.9**
JMP	**Maruseppu**	**2.89**	**250**	P	**Pn**	**18 40 27.6**	**-0.6**
JAR	**Ashorobuto**	**2.99**	**235**	P	**Pn**	**18 40 29.2**	**-0.3**
JSE	**Soyaes**	**3.21**	**270**	P	**Pn**	**18 40 32.2**	**-0.4**
JKK2	**Kamakawa 2**	**3.35**	**251**	P	**Pn**	**18 40 34.3**	**-0.2**
JKA	**Kamikawa-asahi**	**3.36**	**255**	*e*P	**Pn**	**18 40 34.5**	**-0.2**
JKA	**Kamikawa-asahi**	**3.36**	**255**	Pn	**Pn**	**18 40 34.7**	**+0.1**
JKA	**Kamikawa-asahi**	**3.36**	**255**		**Sn**	**18 41 12.7**	**-1.2**
ASAJ	**Asahikawa**	**3.37**	**255**	Pn	**Pn**	**18 40 34.5**	**-0.2**
	comp=E,81nm,0.3s,baz=64,slow=6.2,SNR=547						
ASAJ				Sn	**Sn**	**18 41 12.7**	**-1.2**
	comp=E,82nm,0.3s,baz=57,slow=25,SNR=5.2						
ASAJ				LR	LR	18 41 15.0	
	comp=E,1μm,19.8s,baz=328,slow=29						
YSS	**Yuzh-Sakhalins**	**3.57**	**303**	*e*P	**Pn**	**18 40 37.6**	**+0.1**
YSS				AMB	AMB	18 40 38.5	
	comp=E,1μm,0.5s						
YSS				*e*S	**Sn**	**18 41 17.1**	**-1.9**
YSS				A	A	18 41 17.8	
	comp=E,2μm,0.7s						
YSS				AMS	AMS	18 43 31.0	
	comp=E,2μm,9.0s						
YSS				AMS	AMS	18 43 31.0	
	comp=E,4μm,9.0s						
YSS				AMS	AMS	18 43 31.0	
	comp=E,5μm,9.0s						
YSS	**Yuzh-Sakhalins**	**3.57**	**303**	κ *i* PN	**Pn**	**18 40 37.6**	**+0.1**
YSS				*e*S	**Sn**	**18 41 16.3**	**-2.7**
YSS				pmax	pmax		
	comp=Z,2μm,0.6s						
YSS				smax	smax		
	comp=N,2μm,0.7s						
YSS				smax	smax		
	comp=E,2μm,0.6s						
YSS				MLR	MLR		
	comp=Z,5μm,10.0s						
YSS				MLR	MLR		
	comp=E,4μm,8.8s						
YSS	**Yuzh-Sakhalins**	**3.57**	**303**	Pn	**Pn**	**18 40 37.5**	**0.0**
JCH	**Churui**	**3.66**	**229**	P	**Pn**	**18 40 39.0**	**+0.3**
JWK2	**Keihoku**	**3.70**	**276**	P	**Pn**	**18 40 40.5**	**+1.3**
JFR	**Furan**	**3.77**	**241**	P	**Pn**	**18 40 40.6**	**+0.3**
ERM	**Erimo**	**4.20**	**225**	*c e*PN	**Pn**	**18 40 48.2**	**+2.1**
ERM				pmax	pmax		
	comp=Z,214nm,1.0s						
ERM	**Erimo**	**4.20**	**225**		**Pn**	**18 40 48.2**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.22**	**230**	P	**Pn**	**18 40 46.7**	**+0.3**
JRBN	**Rebuntou**	**4.29**	**277**	P	**Pn**	**18 40 47.6**	**+0.3**
JEW	**Eniwo**	**4.66**	**243**		**Pn**	**18 40 53.9**	**+1.5**
UGL	**Uglegorsk**	**5.29**	**321**	*e*P	**Pn**	**18 41 01.5**	**+0.4**
UGL				AMB	AMB	18 41 02.5	
	comp=Z,360nm,0.7s						
UGL				*e*S	**Sn**	**18 42 00.8**	**-0.4**
UGL				A	A	18 42 13.5	
	comp=Z,920nm,0.8s						
UGL				A	A	18 42 13.5	
	comp=Z,1μm,0.8s						
UGL				AMS	AMS	18 45 11.0	
	comp=Z,5μm,10.0s						
UGL				AMS	AMS	18 45 11.0	
	comp=Z,4μm,10.0s						
UGL				AMS	AMS	18 45 11.0	
	comp=Z,7μm,10.0s						
UGL	**Uglegorsk**	**5.29**	**321**	*e*PN	**Pn**	**18 41 01.3**	**+0.2**
UGL				pmax	pmax		
	comp=Z,360nm,0.7s						
UGL				MLR	MLR		
	comp=E,4μm,10.0s						
UGL				MLR	MLR		
	comp=Z,7μm,10.0s						
UGL				MLR	MLR		
	comp=N,5μm,9.0s						
JTM	**Tenmabayashi**	**6.17**	**228**	Pn	**Pn**	**18 41 13.5**	**+0.4**
TYV	**Tymovskoe**	**6.52**	**334**	*e*P	**Pn**	**18 41 18.5**	**+0.5**
TYV				AMB	AMB	18 41 20.1	
	comp=N,30nm,0.4s						
TYV				AMB	AMB	18 41 20.1	
	comp=N,100nm,2.0s						
TYV				*e*S	**Sn**	**18 42 31.0**	**-0.6**
TYV				A	A	18 42 33.2	
	comp=N,400nm,2.0s						
TYV				A	A	18 42 35.7	
	comp=N,280nm,0.8s						
TYV				A	A	18 42 35.7	
	comp=N,130nm,0.8s						
TYV				AMS	AMS	18 46 26.8	
	comp=N,2μm,10.0s						
TYV				AMS	AMS	18 46 26.8	
	comp=N,2μm,10.0s						
TYV	**Tymovskoe**	**6.52**	**334**	*e*PN	**Pn**	**18 41 18.5**	**+0.5**
TYV				pmax	pmax		
	comp=Z,32nm,0.4s						
TYV				pmax	pmax		
	comp=Z,100nm,2.0s						
TYV				MLR	MLR		
	comp=E,2μm,10.0s						
TYV				MLR	MLR		
	comp=Z,2μm,10.0s						
TEY	**Ternei**	**7.45**	**273**	*e*P	**Pn**	**18 41 33.2**	**+2.5**
TEY				AMB	AMB	18 41 34.2	
	comp=Z,20nm,0.5s						
TEY				AMS	AMS	18 45 15.3	
	comp=Z,200nm,11.0s						
TEY	**Ternei**	**7.45**	**273**	⇑*e*PN	**Pn**	**18 41 33.8**	**+3.1**
TEY				pmax	pmax		
	comp=E,20nm,0.5s						
TEY				pmax	pmax		
	comp=Z,20nm,0.5s						
TEY				MLR	MLR		
	comp=Z,200nm,11.0s						
SKR	**Severo-Kuril's**	**8.25**	**44**	*e*P	**Pn**	**18 41 43.0**	**+1.3**
SKR				AMB	AMB	18 41 49.1	
	comp=Z,600nm,2.0s						
SKR				AMB	AMB	18 41 50.0	
	comp=Z,140nm,1.0s						
SKR				*e*S	**Sn**	**18 43 10.5**	**-3.6**
SKR				A	A	18 43 34.0	
	comp=Z,20nm,0.9s						
SKR				A	A	18 43 34.0	
	comp=Z,20nm,0.9s						
SKR				AMS	AMS	18 45 06.0	
	comp=Z,900nm,14.0s						
SKR				AMS	AMS	18 45 06.0	
	comp=Z,2μm,14.0s						
SKR				AMS	AMS	18 45 06.0	
	comp=Z,2μm,14.0s						
SKR	**Severo-Kuril's**	**8.25**	**44**	*e*PN	**Pn**	**18 41 45.9**	**+4.2**
SKR				pmax	pmax		
	comp=Z,600nm,2.3s						
SKR				pmax	pmax		
	comp=Z,140nm,1.0s						
SKR				MLR	MLR		
	comp=E,1μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,13.0s						
SKR				MLR	MLR		
	comp=N,900nm,14.0s						
JMM	**Marumori**	**8.62**	**216**	Pn	**Pn**	**18 41 44.7**	**-2.1**
OKH	**Okha**	**8.91**	**344**	*e*P	**Pn**	**18 41 53.5**	**+2.7**
OKH				*e*S	**Sn**	**18 43 31.3**	**+0.9**
OKH				AMS	AMS	18 46 17.3	
	comp=N,2μm,14.0s						
OKH				AMS	AMS	18 46 17.3	
	comp=N,2μm,14.0s						
OKH				AMS	AMS	18 46 17.3	
	comp=N,700nm,14.0s						
PAU	**Pauzhetka**	**9.09**	**42**	*e*P	**Pn**	**18 41 56.1**	**+2.8**
PAU				AMB	AMB	18 41 59.4	
	comp=N,140nm,1.0s						
GRNR	**Gornyy**	**9.16**	**312**	*e*P	**Pn**	**18 41 58.3**	**+4.0**
GRNR				AMB	AMB	18 41 59.0	
	comp=N,200nm,0.7s						
GRNR				AMS	AMS	18 48 18.0	
	comp=N,100nm,10.0s						
GRNR				AMS	AMS	18 48 18.0	
	comp=N,500nm,10.0s						
GRNR				AMS	AMS	18 48 18.0	
	comp=N,800nm,10.0s						
GRNR	**Gornyy**	**9.16**	**312**	*e*PN	**Pn**	**18 41 58.3**	**+4.0**
GRNR				pmax	pmax		
	comp=Z,20nm,0.7s						
GRNR				MLR	MLR		
	comp=N,110nm,11.0s						
GRNR				MLR	MLR		
	comp=E,470nm,11.0s						
GRNR				MLR	MLR		
	comp=Z,750nm,10.0s						
JSD	**Sado**	**9.66**	**226**	Pn	**Pn**	**18 42 00.5**	**-0.6**
JYT	**Yasato**	**10.28**	**213**	Pn	**Pn**	**18 42 08.2**	**-1.3**
PEA0B	**Petropavlovsk-**	**10.61**	**37**	PN	**Pn**	**18 42 16.2**	**+2.1**
PEA0B	**Petropavlovsk-**	**10.61**	**37**	Pn	**Pn**	**18 42 16.2**	**+2.1**
PETK	**Petropavlovsk-**	**10.61**	**37**	Pn	**Pn**	**18 42 16.6**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=14						
PETK				LR	LR	18 46 10.1	
	comp=Z,793nm,19.6s,baz=198,slow=37						
PETK	**Petropavlovsk-**	**10.61**	**37**	PN	**Pn**	**18 42 16.0**	**+1.9**
PETK	**Petropavlovsk-**	**10.61**	**37**	Pn	**Pn**	**18 42 16.0**	**+1.9**
USA0B	**Ussuriysk Arra**	**10.82**	**271**	PN	**Pn**	**18 42 16.3**	**-0.6**
USA0B	**Ussuriysk Arra**	**10.82**	**271**	Pn	**Pn**	**18 42 16.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**10.82**	**271**	Pn	**Pn**	**18 42 17.3**	**+0.4**
	baz=81,slow=13,SNR=22						
USRK				LR	LR	18 46 10.6	
	comp=Z,902nm,18.5s,baz=78,slow=36						
USRK	**Ussuriysk Ar.**	**10.82**	**271**	PN	**Pn**	**18 42 19.6**	**+2.7**
USRK	**Ussuriysk Ar.**	**10.82**	**271**	Pn	**Pn**	**18 42 19.6**	**+2.7**
MJAR	**Matsushiro Arr**	**10.86**	**221**	Pn	**Pn**	**18 42 14.9**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=26						
MJAR				LR	LR	18 46 58.6	
	comp=Z,317nm,20.8s,baz=35,slow=40						
MJAR	**Matsushiro Arr**	**10.86**	**221**	PN	**Pn**	**18 42 16.5**	**-1.1**
MJAR	**Matsushiro Arr**	**10.86**	**221**		**Pn**	**18 42 16.5**	**-1.1**
MAJO	**Matsushiro**	**10.86**	**221**	‖ *i* PN	**Pn**	**18 42 16.4**	**-1.2**
MAJO	**Matsushiro**	**10.86**	**221**	Pn	**Pn**	**18 42 16.1**	**-1.5**
MAT	**Matsushiro**	**10.86**	**221**	P	**Pn**	**18 42 15.7**	**-1.9**
MAT				S	**Sn**	**18 44 19.1**	**+0.7**
PET	**Petropavlovsk**	**10.97**	**39**	*e*P	**Pn**	**18 42 18.7**	**-0.3**
PET	**Petropavlovsk**	**10.97**	**39**	*e*PN	**Pn**	**18 42 22.0**	**+3.0**
PET				pmax	pmax		
	comp=Z,600nm,10.0s						
PET				pmax	pmax		
	comp=Z,300nm,9.6s						
PET				pmax	pmax		
	comp=Z,153nm,1.0s						
PET				MLR	MLR		
	comp=Z,600nm,13.0s						
PET				MLR	MLR		
	comp=Z,600nm,12.0s						
PET	**Petropavlovsk**	**10.97**	**39**		**Pn**	**18 42 18.8**	**-0.3**
VLA	**Vladivostok**	**11.13**	**265**	*e*P	**Pn**	**18 42 21.4**	**+0.2**
VLA	**Vladivostok**	**11.13**	**265**	*i* PN	**Pn**	**18 42 21.4**	**+0.2**
JGF	**Kuroka**	**12.03**	**222**	Pn	**Pn**	**18 42 33.6**	**+0.1**
EKMR	**Ekimchan**	**12.24**	**316**	*e*P	**Pn**	**18 42 37.2**	**+0.8**
EKMR				AMB	AMB	18 42 48.5	
	comp=Z,40nm,0.9s						
INU	**Inuyama**	**12.39**	**222**	Pn	**Pn**	**18 42 38.8**	**+0.3**
MDJ	**Mudanjiang**	**12.45**	**274**		**Pn**	**18 42 44.0**	**+4.7**
JHJ2	**Mitsune**	**13.21**	**208**	Pn	**Pn**	**18 42 48.5**	**-1.2**
JHJ	**Hachijo jima 2**	**13.21**	**208**	Pn	**Pn**	**18 42 48.6**	**-1.1**
	comp=Z,8.8nm,0.3s,baz=48,slow=16,SNR=2.8						
JHJ				Sn	Sn	18 45 03.6	-12
	comp=Z,4.2nm,0.3s,baz=324,slow=21,SNR=1.5						
JWT	**Wachi**	**13.24**	**226**	Pn	**Pn**	**18 42 49.2**	**-0.9**
JHS	**Saijyo**	**14.68**	**232**		**Pn**	**18 43 10.6**	**+0.8**
MA2	**Magadan**	**14.70**	**7**	Pn	**Pn**	**18 43 08.9**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=194,slow=15,SNR=5.4						
MA2	**Magadan**	**14.70**	**7**	*c e*P	**Pn**	**18 43 10.0**	**+0.2**
MA2				pmax	pmax		
	comp=Z,147nm,1.7s						
MA2	**Magadan**	**14.70**	**7**		**Pn**	**18 43 09.1**	**-0.7**
BMKR	**Bomnak**	**15.18**	**316**	*e*P	**Pn**	**18 43 15.5**	**-0.8**
BMKR				AMB	AMB	18 43 28.0	
	comp=Z,100nm,1.0s						
JMN	**Monobe**	**15.24**	**227**	P	**P**	**18 43 20.4**	**-1.6**
ZEA	**Zeya**	**15.53**	**311**	*e*P	**Pn**	**18 43 20.2**	**-0.6**
ZEA				AMB	AMB	18 43 37.0	
	comp=Z,280nm,1.0s						
ZEA	**Zeya**	**15.53**	**311**	*e*P	**Pn**	**18 43 20.2**	**-0.6**
ZEA				MLR	MLR		
	comp=N,500nm,11.0s						
ZEA				MLR	MLR		
	comp=E,1μm,11.0s						
ZEA				MLR	MLR		
	comp=Z,900nm,11.0s						
CN2	**Changchun**	**15.53**	**273**	*e*P	**P**	**18 43 23.0**	**-2.1**
CN2				*e*S	**S**	**18 46 23.9**	**-3.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,230nm,6.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
KROS	**Kirovskiy**	**15.99**	**313**	*e*P	**Pn**	**18 43 25.0**	**-1.8**
KROS				AMB	AMB	18 43 31.0	
	comp=Z,50nm,1.0s						
KSRS	**Korea Array**	**16.29**	**249**	Pn	**Pn**	**18 43 29.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=16,slow=27,SNR=5.1						
KSRS				PcP	**PcP**	**18 48 24.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=52,slow=0.8,SNR=12						
KSRS				LR	LR	18 49 14.8	
	comp=Z,170nm,19.0s,baz=60,slow=35						
KS19	**Wonju Array Si**	**16.30**	**249**	P	**P**	**18 43 33.0**	**-0.8**
KSAR	**Wonju Array Be**	**16.32**	**249**	P	**Pn**	**18 43 31.3**	**+0.1**
KSAR	**Wonju Array Be**	**16.32**	**249**	Pn	**Pn**	**18 43 31.3**	**+0.1**
INCN	**Inchon**	**17.13**	**251**	P	**Pn**	**18 43 42.0**	**+0.6**
INCN				pmax	pmax		
	comp=Z,38nm,1.3s						
INCN	**Inchon**	**17.13**	**251**	P	**Pn**	**18 43 42.0**	**+0.6**
JTU	**Tsushima**	**17.18**	**238**	P	**P**	**18 43 44.0**	**+0.5**
JNU	**Nakatsue**	**17.32**	**232**	P	**Pn**	**18 43 44.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=110,slow=9.2,SNR=4.9						
JNU	**Nakatsue**	**17.32**	**232**	P	**P**	**18 43 44.9**	**-0.2**
SNY	**Shenyang**	**17.38**	**268**	⇑P	**P**	**18 43 49.5**	**+3.9**
SNY				S	**S**	**18 47 07.0**	**+1.7**
SNY				pmax	pmax		
	comp=Z,21nm,0.8s						
SNY				LR	LR		
	comp=Z,880nm,12.5s						
SNY				LR	LR		
	comp=Z,760nm,12.8s						
SNY				LR	LR		
	comp=Z,830nm,12.1s						
SEY	**Seymchan**	**18.15**	**8**	P	**P**	**18 43 56.2**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=192,slow=9.0,SNR=22						
JCJ	**Chichijima**	**18.37**	**194**	P	**Pn**	**18 43 57.8**	**+1.1**
	comp=Z,5.8nm,0.3s,baz=310,slow=21,SNR=2.7						
JCJ	**Chichijima**	**18.37**	**194**	P	**Pn**	**18 43 57.2**	**+0.5**
JSU	**Suzuyama**	**18.78**	**230**	P	**P**	**18 43 59.9**	**-1.3**
HIA	**Hailar**	**19.03**	**293**	P	**P**	**18 44 04.1**	**+0.3**
HIA				pmax	pmax		
	comp=Z,106nm,1.3s						
HIA	**Hailar**	**19.03**	**293**	P	**P**	**18 44 04.1**	**+0.3**
SMY	**Shemya**	**19.24**	**57**	P	**Pn**	**18 44 06.6**	**-0.4**
SMY				pmax	pmax		
	comp=Z,138nm,1.0s						
SMY	**Shemya**	**19.24**	**57**		**Pn**	**18 44 06.6**	**-0.4**
SMY				IAmb	IAmb	18 44 10.5	
	comp=Z,138nm,1.0s						
YAK	**Yakutsk**	**19.78**	**335**	P	**Pn**	**18 44 14.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=2.6,slow=0.7,SNR=42						
YAK				PcP	**PcP**	**18 48 28.5**	**-0.6**
	baz=264,slow=1.4,SNR=1.4						
YAK	**Yakutsk**	**19.78**	**335**	*e*P	**Pn**	**18 44 13.8**	**+0.4**
YAK	**Yakutsk**	**19.78**	**335**	*e*P	**Pn**	**18 44 13.8**	**+0.4**
YAK				*e*S	**Sn**	**18 47 55.4**	**+0.6**
YAK				pmax	pmax		
	comp=Z,143nm,0.9s						
YAK				pmax	pmax		
	comp=N,37nm,0.9s						
YAK				pmax	pmax		
	comp=E,42nm,1.1s						
YAK				pmax	pmax		
	comp=Z,106nm,1.2s						
YAK				pmax	pmax		
	comp=N,46nm,1.3s						
YAK				pmax	pmax		
	comp=E,39nm,1.2s						
YAK				smax	smax		
	comp=N,368nm,2.5s						
YAK				smax	smax		
	comp=E,174nm,2.2s						
YAK				MLR	MLR		
	comp=Z,208nm,16.0s						
YAK				MLR	MLR		
	comp=N,167nm,16.0s						
YAK				MLR	MLR		
	comp=E,66nm,15.0s						

YAK	**Yakutsk**	**19.78 335**	P	**Pn**	**18 44 13.4 -0.1**
DL2	**Dalian**	**19.88 261**	*e*P	**Pn**	**18 44 14.6 -0.2**
DL2			S	**Sn**	**18 48 02.4 +4.9**
DL2			pmax	pmax	
	comp=E,48nm,1.0s				
DL2			pmax	pmax	
	comp=E,240nm,5.3s				
DL2			LR	LR	
	comp=E,440nm,10.5s				
DL2			LR	LR	
	comp=E,590nm,15.0s				
DL2			LR	LR	
	comp=E,430nm,11.3s				
AMKA	**Amchitka**	**22.23 62**	P	**P**	**18 44 38.2 -0.1**
CIT	**Chita**	**23.13 300**	*e*P	**P**	**18 44 48.3 +0.4**
CIT			*e*		18 45 00.5
CIT			*e*		18 45 17.0
CIT			*e*		18 45 28.5
CIT			pmax	pmax	
	comp=Z,43nm,1.9s				
BJI	**Beijing**	**23.26 268**	P	**P**	**18 44 49.0 -0.2**
BJI			S	**S**	**18 48 58.8 -1.2**
BJI			pmax	pmax	
	comp=Z,17nm,0.9s				
BJI			pmax	pmax	
	comp=Z,42nm,3.8s				
BJI			LR	LR	
	comp=Z,410nm,13.6s				
BJI			LR	LR	
	comp=Z,430nm,11.7s				
BJI			LR	LR	
	comp=Z,260nm,12.7s				
BJT	**Baijiatuau**	**23.27 268**	P	**P**	**18 44 48.7 -0.7**
BJT			pmax	pmax	
	comp=Z,37nm,0.9s				
BJT	**Baijiatuau**	**23.27 268**	P	**P**	**18 44 48.7 -0.7**
BOD	**Bodaibo**	**23.98 314**	*e*P	**P**	**18 44 55.1 -0.9**
BOD	**Bodaibo**	**23.98 314**	*e*P	**P**	**18 44 55.1 -0.9**
BOD			pmax	pmax	
	comp=Z,54nm,1.3s				
TIA	**Tai'an**	**24.30 259**	P	**P**	**18 45 00.4 +1.1**
TIA			pmax	pmax	
	comp=Z,22nm,1.0s				
ADK	**Adak**	**24.75 61**	P	**P**	**18 45 02.6 -0.6**
ADK			pmax	pmax	
	comp=Z,61nm,1.0s				
ADK	**Adak**	**24.75 61**	P	**P**	**18 45 02.6 -0.6**
ADK			IAmb	IAmb	18 45 05.5
	comp=Z,61nm,0.9s				
GSTR	**Great Sitkin T**	**25.14 60**	P	**P**	**18 45 06.7 -0.1**
NJ2	**Nanjing**	**25.49 249**	⇓P	**P**	**18 45 10.6 +0.6**
NJ2			pP	**pP**	**18 45 16.5 +0.3**
NJ2			sP	**sP**	**18 45 19.1 +0.2**
NJ2			S	**S**	**18 49 37.8 +1.8**
NJ2			sS	**sS**	**18 49 46.8 +0.5**
NJ2			pmax	pmax	
	comp=Z,18nm,0.5s				
NJ2			pmax	pmax	
	comp=Z,510nm,3.7s				
NJ2			LR	LR	
	comp=Z,790nm,14.5s				
NJ2			LR	LR	
	comp=Z,1μm,12.2s				
NJ2			LR	LR	
	comp=Z,1μm,14.0s				
HHC	**Hu-ho-hao-te**	**26.22 273**	*e*P	**P**	**18 45 18.1 +1.4**
HHC			pP	pP	18 45 23.6 +0.6
HHC			sP	sP	18 45 27.0 +1.3
HHC			S	**S**	**18 49 47.0 -0.7**
HHC			pmax	pmax	
	comp=Z,31nm,1.1s				
HHC			pmax	pmax	
	comp=Z,260nm,5.6s				
HHC			LR	LR	
	comp=Z,980nm,12.4s				
HHC			LR	LR	
	comp=Z,770nm,14.1s				
HHC			LR	LR	
	comp=Z,990nm,15.5s				
ATKA	**Atka Island**	**26.29 60**	P	**P**	**18 45 18.7 +1.6**
ATKA			IAmb	IAmb	18 45 24.9
	comp=Z,117nm,1.5s				
TIY	**Taiyuan**	**26.88 266**	*e*P	**P**	**18 45 23.3 +0.6**
TIY			S	**S**	**18 50 03.8 +5.7**
TIY			pmax	pmax	
	comp=Z,18nm,0.6s				
TIY			LR	LR	
	comp=Z,430nm,5.6s				
TIY			LR	LR	
	comp=Z,280nm,8.7s				
BTO	**Baotou**	**27.40 274**	*e*P	**P**	**18 45 29.3 +1.9**
BTO			S	**S**	**18 50 13.5 +7.2**
ULN	**Ulaanbaatar**	**27.52 290**	*e*P	**P**	**18 45 27.5 -0.9**
ULN	**Ulaanbaatar**	**27.52 290**	*ce*P	**P**	**18 45 27.5 -0.9**
ULN			pmax	pmax	
	comp=Z,7.0nm,1.3s				
ULN	**Ulaanbaatar**	**27.52 290**	P	**P**	**18 45 27.9 -0.5**
SONM	**Songino Array**	**27.96 290**	P	**P**	**18 45 32.1 -0.3**
	comp=Z,3.8nm,0.7s,baz=83,slow=9.2,SNR=13				
SONM			PcP	**PcP**	**18 48 46.5 -0.5**
	comp=Z,3.1nm,0.8s,baz=137,slow=3.2,SNR=4.5				
SONM			LR	LR	18 57 34.2
	comp=Z,554nm,18.9s,baz=86,slow=38				
SONM	**Songino Array**	**27.96 290**	P	**P**	**18 45 31.9 -0.4**
TIXI	**Tiksi**	**28.06 348**	P	**P**	**18 45 32.0 -0.8**
TIXI			pmax	pmax	
	comp=Z,51nm,1.8s				
TIXI	**Tiksi**	**28.06 348**	P	**P**	**18 45 32.0 -0.8**
YHNB	**Yeheng**	**29.12 234**	P	**P**	**18 45 44.7 +2.0**
TLY	**Talaya**	**29.27 299**	*e*P	**P**	**18 45 43.4 -0.4**
TLY	**Talaya**	**29.27 299**	*e*P	**P**	**18 45 41.7 -2.1**
TLY			*e*		18 46 40.6
TLY			pmax	pmax	
	comp=Z,16nm,1.4s				
TLY			MLR	MLR	
	comp=Z,1μm,16.0s				
TLY	**Talaya**	**29.27 299**	P	**P**	**18 45 43.8 0.0**
WHN	**Wuhan**	**29.44 252**	P	**P**	**18 45 45.4 0.0**
ZAK	**Zakamensk**	**29.62 296**	*e*P	**P**	**18 45 46.7 -0.3**
ZAK			pmax	pmax	
	comp=Z,7.0nm,1.4s				
SSLB	**Suanglung**	**30.05 234**	P	**P**	**18 45 53.8 +2.9**
H11N2	**WAKE ISLAND Hy**	**30.13 141**	T	T	19 16 48.1
	baz=331,slow=75,SNR=2438				
H11N1	**WAKE ISLAND Hy**	**30.14 141**	T	T	19 16 46.5
	baz=331,slow=75,SNR=1567				
H11N3	**WAKE ISLAND Hy**	**30.14 141**	T	T	19 16 49.4
	baz=331,slow=75,SNR=1678				
YULB	**Yu-li**	**30.16 233**	P	**P**	**18 45 52.7 +0.8**
YULB			IAmb	IAmb	18 46 16.6
	comp=Z,112nm,2.0s				
WAKE	**Wake Island**	**30.41 141**	P	**P**	**18 45 54.9 +0.9**
TPUB	**Ta-pu**	**30.61 234**	P	**P**	**18 45 55.7 -0.1**
TWG	**Pinlang**	**30.74 232**	P	**P**	**18 45 55.9 -1.0**
H11S1	**WAKE ISLAND Hy**	**31.11 142**	T	T	19 17 55.8
	baz=333,slow=76,SNR=2523				
H11S3	**WAKE ISLAND Hy**	**31.12 142**	T	T	19 17 59.0
	baz=333,slow=76,SNR=1560				
H11S2	**WAKE ISLAND Hy**	**31.13 142**	T	T	19 18 00.5
	baz=333,slow=76,SNR=1217				
XAN	**Xi'an**	**31.17 263**	P	**P**	**18 46 00.5 -0.3**
XAN			pP	sP	18 46 13.6 +3.8
XAN			PcP	**PcP**	**18 48 56.5 +1.1**
XAN			pmax	pmax	
	comp=Z,12nm,1.2s				
XAN			pmax	pmax	
	comp=Z,350nm,3.9s				
XAN			LR	LR	
	comp=Z,760nm,14.1s				
XAN			LR	LR	
	comp=Z,650nm,13.0s				
XAN	**Xi'an**	**31.17 263**	P	**P**	**18 45 59.3 -1.5**
XAN			pmax	pmax	
	comp=Z,15nm,0.9s				
XAN	**Xi'an**	**31.17 263**	P	**P**	**18 45 59.3 -1.5**
ENH	**Enshi**	**32.92 256**	P	**P**	**18 46 15.3 -0.8**
LZH	**Lanzhou**	**33.73 270**	⇓P	**P**	**18 46 24.6 +1.3**
LZH			pP	pP	18 46 30.5 +0.9
LZH			sP	sP	18 46 32.8 +0.5
LZH			pmax	pmax	
	comp=Z,25nm,1.1s				
LZH			pmax	pmax	
	comp=Z,120nm,5.4s				
LZH			LR	LR	
	comp=Z,760nm,12.5s				
LZH			LR	LR	
	comp=Z,690nm,13.0s				
LZH			LR	LR	
	comp=Z,440nm,12.5s				
RDOG	**Red Dog Mine**	**34.40 31**	P	**P**	**18 46 28.9 +0.3**
GTA	**Gaotai**	**35.07 278**	*e*P	**P**	**18 46 35.8 +0.9**
GTA			pP	sP	18 46 42.8 -1.1
GTA			sP	pwP	18 46 45.8 +1.8
GTA			PcP	**PcP**	**18 49 07.8 +1.5**
GTA			PcS	**PcS**	**18 52 54.4 +1.2**
GTA			pmax	pmax	
	comp=Z,7.0nm,1.0s				
GTA			pmax	pmax	
	comp=Z,200nm,8.4s				
GTA			LR	LR	
	comp=Z,560nm,14.3s				
GTA			LR	LR	
	comp=Z,700nm,11.5s				
GTA			LR	LR	
	comp=Z,780nm,12.7s				
HKPS	**Hong Kong Po S**	**35.26 241**	P	**P**	**18 46 36.5 +0.1**
TTA	**Tatalina**	**36.43 40**	P	**P**	**18 46 47.0 +0.8**
TTA			pmax	pmax	
	comp=Z,40nm,1.0s				
TTA	**Tatalina**	**36.43 40**	P	**P**	**18 46 47.0 +0.8**
TTA			IAmb	IAmb	18 46 48.1
	comp=Z,40nm,1.0s				
CD2	**Chengdu**	**36.53 262**	P	**P**	**18 46 47.8 +0.4**
CD2			pP	pP	18 46 53.4 -0.4
CD2			pmax	pmax	
	comp=Z,60nm,0.7s				
SVW2	**Sparrevohn**	**36.61 43**	P	**P**	**18 46 48.5 +0.8**
CHIR	**Chirikof Islan**	**36.99 52**	P	**P**	**18 46 50.1 -0.8**
IMAR	**Indian Mountai**	**37.57 35**	P	**P**	**18 46 56.0 +0.3**
SII	**Sitkinak Islan**	**37.68 51**	P	**P**	**18 46 56.3 -0.5**
RSO	**Redoubt South**	**38.02 44**	P	**P**	**18 47 01.2 +1.4**
OHAK	**Old Harbor**	**38.08 50**	P	**P**	**18 47 00.1 0.0**
OHAK			IAmb	IAmb	18 47 00.9
	comp=Z,53nm,1.0s				
NRIK	**Noril'sk**	**38.09 330**	LR	LR	19 03 24.4
	comp=Z,185nm,20.2s,baz=200,slow=38				
PPLA	**Purkeypile**	**38.18 40**	P	**P**	**18 47 01.9 +0.8**
KDAK	**Kodiak Island**	**38.38 49**	P	**P**	**18 47 01.9 -0.8**
	comp=Z,42nm,1.0s,baz=302,slow=5.4,SNR=15				
KDAK	**Kodiak Island**	**38.38 49**	P	**P**	**18 47 02.2 -0.5**
KDAK			pmax	pmax	
	comp=Z,51nm,1.0s				
KDAK	**Kodiak Island**	**38.38 49**		**P**	**18 47 02.6 0.0**
KDAK	**Kodiak Island**	**38.38 49**	P	**P**	**18 47 02.2 -0.5**
KDAK			IAmb	IAmb	18 47 03.5
	comp=Z,51nm,1.0s				
SKT	**Skwentna**	**38.52 42**	P	**P**	**18 47 04.4 +0.6**
BPAW	**Bear Paw Mtn.**	**38.69 38**	P	**P**	**18 47 06.1 +0.8**
KTH	**Kantishna Hill**	**38.73 39**	P	**P**	**18 47 06.0 +0.4**
CNPM	**China Poot**	**38.87 46**		**P**	**18 47 06.8 0.0**
CNPM			IAmb	IAmb	18 47 14.7
	comp=Z,69nm,1.7s				
BRLK	**Bradley Lake**	**39.02 45**	P	**P**	**18 47 07.9 -0.2**
TRF	**Thorofare Moun**	**39.02 39**	P	**P**	**18 47 08.9 +0.7**
COLD	**Coldfoot**	**39.06 33**	P	**P**	**18 47 08.2 -0.1**
	baz=268,SNR=8.3				
COLD	**Coldfoot**	**39.06 33**	P	**P**	**18 47 08.3 +0.1**
CUT	**Chulitna**	**39.09 41**	P	**P**	**18 47 08.5 0.0**
	baz=274				
PATS	**Pohnpei**	**39.31 162**	P	**P**	**18 47 10.6 -0.2**
BWN	**Browne**	**39.36 38**	P	**P**	**18 47 12.1 +1.3**
TOLK	**Toolik Lake Re**	**39.36 31**	P	**P**	**18 47 10.6 -0.2**
	baz=267				
TOLK	**Toolik Lake Re**	**39.36 31**	P	**P**	**18 47 10.6 -0.2**
NEA2	**Nenana**	**39.52 37**	P	**P**	**18 47 12.7 +0.6**
	baz=272,SNR=31				
MCK	**McKinley**	**39.61 39**	P	**P**	**18 47 13.2 +0.2**
MCK			pmax	pmax	
	comp=Z,29nm,0.9s				
MCK	**McKinley**	**39.61 39**	P	**P**	**18 47 13.2 +0.2**
RND	**Reindeer**	**39.67 39**	P	**P**	**18 47 13.7 +0.2**
RND			pmax	pmax	
	comp=Z,31nm,1.0s				
RND	**Reindeer**	**39.67 39**	P	**P**	**18 47 13.7 +0.2**
SEW	**Seward**	**39.70 45**	P	**P**	**18 47 13.8 +0.3**
DGZ	**Jazzator, Alta**	**39.75 299**	*i*P	**P**	**18 47 14.3 -0.1**
DGZ			pmax	pmax	
	comp=Z,2.0nm,0.7s				
GHO	**Glory Hole Cre**	**39.77 42**	P	**P**	**18 47 14.5 +0.2**
GHO			IAmb	IAmb	18 47 15.8
	comp=Z,38nm,1.0s				
MDM	**Murphy Dome**	**39.86 37**	P	**P**	**18 47 15.9 +0.9**
WRH	**Wood River Hil**	**39.94 38**	P	**P**	**18 47 16.2 +0.6**
WRH			IAmb	IAmb	18 47 23.6
	comp=Z,38nm,1.0s				
TCOL	**CIGO, UAF Yank**	**40.02 37**	P	**P**	**18 47 16.8 +0.6**
	baz=273,SNR=8.5				
COLA	**College**	**40.03 37**	*c i*P	**P**	**18 47 17.0 +0.7**
COLA			pmax	pmax	
	comp=Z,68nm,1.0s				
COLA	**College**	**40.03 37**	P	**P**	**18 47 16.9 +0.6**
KNK	**Knik Glacier**	**40.03 42**	P	**P**	**18 47 16.9 +0.5**
KNK			IAmb	IAmb	18 47 17.9
	comp=Z,57nm,1.1s				
SML	**Sawmill**	**40.04 42**	P	**P**	**18 47 17.0 +0.4**
CCB	**Clear Creek Bu**	**40.06 37**	P	**P**	**18 47 16.6 +0.1**
POKR	**Poker Plat Res**	**40.19 37**	P	**P**	**18 47 18.5 +0.8**
	baz=273,SNR=15				
ZAA0	**Zalesovo Array**	**40.19 306**	P	**P**	**18 47 16.6 -1.2**
ZAA0				**PcP**	**18 49 21.6 +0.1**
ZALV	**Zalesovo Beam**	**40.19 306**	P	**P**	**18 47 17.2 -0.6**
	comp=Z,1.6nm,0.5s,baz=78,slow=6.8,SNR=8.1				
ZALV			PcP	**PcP**	**18 49 21.8 +0.3**
	comp=Z,12nm,0.7s,baz=91,slow=2.8,SNR=18				
ZALV			LR	LR	19 04 52.4
	comp=Z,278nm,18.6s,baz=75,slow=38				
ZALV	**Zalesovo Beam**	**40.19 306**	P	**P**	**18 47 15.4 -2.4**
ZALV				**PcP**	**18 49 21.4 -0.1**
KWAJ	**Kwajalein Atol**	**40.24 148**	P	**P**	**18 47 18.4 -0.2**
KWAJ			pmax	pmax	
	comp=Z,172nm,1.1s				
KWAJ	**Kwajalein Atol**	**40.24 148**	P	**P**	**18 47 18.4 -0.2**
DHY	**Denali Highway**	**40.36 40**	P	**P**	**18 47 19.3 0.0**
HDA	**Harding Lake**	**40.44 38**	P	**P**	**18 47 19.5 -0.3**
	baz=274,SNR=16				
HDA	**Harding Lake**	**40.44 38**	P	**P**	**18 47 19.5 -0.3**
IL31		**40.44 37**	P	**P**	**18 47 19.7 0.0**
IL31			IAmb	IAmb	18 47 21.6
	comp=Z,37nm,1.0s				
ILAR	**Eielson Array**	**40.44 37**	P	**P**	**18 47 19.6 -0.1**
	comp=Z,26nm,0.9s,baz=265,slow=7.0,SNR=133				
ILAR			LR	LR	19 05 12.6
	comp=Z,91nm,19.4s,baz=327,slow=38				
ILAR	**Eielson Array**	**40.44 37**	P	**P**	**18 47 19.4 -0.4**
SCM	**Sheep Creek Mo**	**40.52 42**	P	**P**	**18 47 20.5 0.0**
SCM			pmax	pmax	
	comp=Z,35nm,1.0s				
SCM	**Sheep Creek Mo**	**40.52 42**	P	**P**	**18 47 20.5 0.0**
SCM			IAmb	IAmb	18 47 22.8
	comp=Z,35nm,1.0s				
KMI	**Kunming**	**40.79 256**	⇓*e*P	**P**	**18 47 24.0 +0.6**
KMI			sP	sP	18 47 32.9 +0.5
KMI			pmax	pmax	
	comp=Z,31nm,0.8s				
KMI			pmax	pmax	
	comp=Z,240nm,3.9s				
M24K	**Tolsona, Glenn**	**41.02 41**	P	**P**	**18 47 25.4 +0.7**
	baz=278				
KLU	**Klutina**	**41.22 42**	P	**P**	**18 47 27.4 +1.0**
KLU			IAmb	IAmb	18 47 34.1
	comp=Z,48nm,1.0s				
BMAR	**Burnt Mountain**	**41.23 33**	P	**P**	**18 47 26.8 +0.5**
Q23K	**Middleton Isla**	**41.35 45**	P	**P**	**18 47 28.0 +0.7**
	baz=280				
RIDG	**Independent Ri**	**41.42 39**	P	**P**	**18 47 27.3 -0.6**
WMQ	**Urumqi**	**41.60 290**	*e*P	**P**	**18 47 30.8 +1.1**
WMQ			pP	pP	18 47 36.6 +0.7
WMQ			sP	pwP	18 47 40.1 +1.3
WMQ			pmax	pmax	
	comp=Z,23nm,1.1s				
WMQ			pmax	pmax	
	comp=Z,55nm,4.1s				
WMQ			LR	LR	
	comp=Z,240nm,15.9s				
WMQ			LR	LR	
	comp=Z,280nm,16.3s				
WMQ			LR	LR	
	comp=Z,200nm,19.3s				
WMQ	**Urumqi**	**41.60 290**	P	**P**	**18 47 28.5 -1.1**
WMQ			pmax	pmax	
	comp=Z,44nm,1.2s				
WMQ	**Urumqi**	**41.60 290**	P	**P**	**18 47 28.5 -1.1**
WMQ			IAmb	IAmb	18 47 45.1
	comp=Z,44nm,1.2s				
SCRK	**Sand Creek**	**41.77 38**	P	**P**	**18 47 30.5 -0.4**
	baz=277,SNR=32				
DOT	**Dot Lake**	**41.78 39**	P	**P**	**18 47 30.5 -0.4**
MENT	**Mentasta**	**42.03 40**	P	**P**	**18 47 33.6 +0.6**
ZSN	**Zaisan**	**42.09 296**	*e*P	**P**	**18 47 33.3 -0.2**
	baz=296				
ZSN			*e*S	**S**	**18 53 51.3 -0.2**
	baz=296				
ZSN	**Zaisan**	**42.09 296**	*e*P	**P**	**18 47 33.3 -0.2**
ZSN			*e*S	**S**	**18 53 51.3 -0.2**
HMT	**Hamilton**	**42.22 44**	P	**P**	**18 47 35.1 +0.7**
GLB	**Gilahina Butte**	**42.23 42**	P	**P**	**18 47 35.2 +0.6**
VRDI	**Verde Repeater**	**42.44 42**	P	**P**	**18 47 37.3 +0.9**
K27K	**Chicken**	**42.60 38**	P	**P**	**18 47 38.4 +0.9**
	baz=279,SNR=60				
MCARA	**McCarthy VSAT**	**42.62 42**	P	**P**	**18 47 38.9 +1.3**
MCARA			IAmb	IAmb	18 47 45.5
	comp=Z,54nm,1.1s				
CRQM	**Cirque**	**42.68 43**	P	**P**	**18 47 39.8 +1.4**
CRQM			IAmb	IAmb	18 47 40.8
	comp=Z,72nm,0.9s				
TGL	**Tana Glacier**	**42.83 43**	P	**P**	**18 47 40.4 +0.9**
TGL			IAmb	IAmb	18 47 47.8
	comp=Z,46nm,1.2s				
WAX	**Waxell Ridge**	**42.88 43**	P	**P**	**18 47 41.0 +1.1**
WAX			IAmb	IAmb	18 47 42.3
	comp=Z,47nm,0.8s				
EGAK	**Eagle**	**42.88 37**	P	**P**	**18 47 39.4 -0.4**
EGAK			IAmb	IAmb	18 47 40.9
	comp=Z,58nm,1.2s				
BCAR	**Beaver Creek A**	**42.88 39**	P	**P**	**18 47 40.9 +1.1**
BALM	**Baldy**	**43.01 42**	P	**P**	**18 47 41.4 +0.4**
BALM			IAmb	IAmb	18 47 43.0
	comp=Z,34nm,0.9s				
ISLE	**Juniper Island**	**43.10 43**	P	**P**	**18 47 42.5 +0.8**
ISLE			IAmb	IAmb	18 47 49.6
	comp=Z,36nm,0.8s				
BARN	**Barnard Glacie**	**43.33 42**	P	**P**	**18 47 44.6 +0.9**
BARN			IAmb	IAmb	18 47 51.9
	comp=Z,43nm,0.9s				
MESA	**MESA**	**43.38 43**	P	**P**	**18 47 45.5 +1.4**
MESA			IAmb	IAmb	18 47 52.3
	comp=Z,30nm,0.8s				
YAH	**Yahtse**	**43.44 43**	P	**P**	**18 47 45.9 +1.3**
YAH			IAmb	IAmb	18 47 46.9
	comp=Z,48nm,0.9s				
CTGM	**Chitina Glacie**	**43.50 42**	P	**P**	**18 47 46.0 +1.0**
CTGM			IAmb	IAmb	18 47 53.1
	comp=Z,49nm,1.0s				
MK31	**Makanchi Array**	**43.96 296**	P	**P**	**18 47 48.3 -0.5**
MK31			PcP	**PcP**	**18 49 34.3 +0.1**
MKAR	**Makanchi Array**	**43.96 296**	P	**P**	**18 47 48.7 -0.1**
	comp=Z,4.5nm,0.7s,baz=75,slow=8.1,SNR=44				
MKAR			PcP	**PcP**	**18 49 34.1 -0.1**
	comp=Z,6.2nm,0.7s,baz=59,slow=5.1,SNR=8.7				
MKAR			LR	LR	19 07 20.2
	comp=Z,678nm,18.2s,baz=48,slow=38				
MKAR	**Makanchi Array**	**43.96 296**	P	**P**	**18 47 48.3 -0.4**
MAKZ	**Makanchi**	**44.16 297**	P	**P**	**18 47 50.0 -0.2**
MAKZ			PcP	**PcP**	**18 49 34.6 -0.2**
PCA	**Pinnacle**	**44.22 43**	P	**P**	**18 47 51.3 +0.6**
EPYK	**Eagle Plains**	**44.44 34**	P	**P**	**18 47 53.2 +0.9**
	baz=281,SNR=14				
EPYK	**Eagle Plains**	**44.44 34**	P	**P**	**18 47 53.0 +0.7**
EPYK			IAmb	IAmb	18 47 54.9
	comp=Z,42nm,1.1s				
BCPM	**Bancas Point**	**44.56 43**	P	**P**	**18 47 54.1 +0.8**
KURK	**Kurchatov**	**44.78 303**	*e*P	**P**	**18 47 54.0 -1.1**
KURK	**Kurchatov**	**44.78 303**	*ce*P	**P**	**18 47 54.0 -1.1**
KURK			pmax	pmax	
	comp=Z,11nm,1.0s				
KURK	**Kurchatov**	**44.78 303**	P	**P**	**18 47 54.1 -1.1**
KURK			PcP	**PcP**	**18 49 36.8 -0.1**
HYT	**Haines Junctio**	**45.35 42**	P	**P**	**18 48 01.1 +1.3**
LSA	**Lhasa**	**46.14 270**	P	**P**	**18 48 08.0 +1.2**
LSA			pmax	pmax	
	comp=Z,36nm,0.7s				
LSA	**Lhasa**	**46.14 270**	*e*P	**P**	**18 48 06.5 -0.3**
LSA	**Lhasa**	**46.14 270**	P	**P**	**18 48 06.5 -0.3**
LSA			pmax	pmax	
	comp=Z,31nm,1.6s				
LSA	**Lhasa**	**46.14 270**	P	**P**	**18 48 06.5 -0.3**
WHY	**Whitehorse**	**46.64 42**	P	**P**	**18 48 11.4 +1.6**
SKAG	**Skagway**	**46.79 43**	P	**P**	**18 48 12.5 +1.6**
MYLDM	**Lahad Datu**	**46.94 221**	P	**P**	**18 48 13.7 +1.2**
MYLDM			IAmb	IAmb	18 48 15.2
	comp=Z,62nm,1.7s				
TDK	**Taldyqorghan**	**47.17 296**	*e*P	**P**	**18 48 14.4 +0.2**
	comp=Z,24nm,1.1s,baz=296				
TDK			LR	LR	19 08 40.0
	comp=Z,214nm,14.6s,baz=296				
TDK	**Taldyqorghan**	**47.17 296**	*e*P	**P**	**18 48 14.3 +0.2**
TDK			pmax	pmax	
	comp=Z,24nm,1.1s				
TDK			MLR	MLR	
	comp=Z,213nm,15.0s				
SHLS	**Shalkode**	**47.31 293**	*e*P	**P**	**18 48 13.3 -2.1**
	comp=Z,2.3nm,0.4s,baz=293				
SHLS	**Shalkode**	**47.31 293**	*e*P	**P**	**18 48 13.2 -2.1**
SHLS			pmax	pmax	
	comp=Z,2.0nm,0.4s				
BESE	**Bessie Mountai**	**47.31 44**	P	**P**	**18 48 15.8 +0.7**
BESE			IAmb	IAmb	18 48 23.7
	comp=Z,71nm,1.8s				
TNTI	**Ternate**	**47.44 207**	P	**P**	**18 48 17.8 +1.4**
	comp=Z,29nm,1.3s				
TNTI	**Ternate**	**47.44 207**	P	**P**	**18 48 17.1 +0.7**
UZB	**Uzynbulak**	**47.60 293**	⇑*i*P	**P**	**18 48 17.8 +0.2**
	comp=Z,5.3nm,0.9s,baz=293				
UZB			*e*S	**S**	**18 55 11.8 0.0**
	baz=293				
UZB			LR	LR	19 09 32.5
	comp=Z,59nm,10.2s,baz=293				
UZB	**Uzynbulak**	**47.60 293**	*c i*P	**P**	**18 48 17.8 +0.2**
UZB			*e*S	**S**	**18 55 11.7 0.0**
UZB			pmax	pmax	
	comp=Z,5.0nm,0.9s				
UZB			MLR	MLR	
	comp=Z,59nm,10.0s				
CHTO	**Chiang Mai**	**47.64 253**	P	**P**	**18 48 18.4 +0.4**
CHTO			pmax	pmax	
	comp=Z,33nm,0.8s				
CHTO	**Chiang Mai**	**47.64 253**	P	**P**	**18 48 18.4 +0.4**
JIS	**Juneau Island**	**47.65 44**	P	**P**	**18 48 19.1 +1.6**
JIS			IAmb	IAmb	18 48 20.4
	comp=Z,24nm,1.0s				
KPKS	**Kokpek**	**47.67 294**	*e*P	**P**	**18 48 18.5 +0.4**
	comp=Z,13nm,1.0s,baz=294				
KPKS			LR	LR	19 09 36.2
	comp=Z,172nm,12.5s,baz=294				
KPKS	**Kokpek**	**47.67 294**	*e*P	**P**	**18 48 18.5 +0.4**
KPKS			pmax	pmax	
	comp=Z,13nm,1.0s				
KPKS			MLR	MLR	
	comp=Z,172nm,12.0s				
JAY	**Jayapura**	**47.72 189**	P	**P**	**18 48 18.8 +0.2**
	comp=Z,21nm,0.9s				
GENI	**Genyem**	**47.86 189**	P	**P**	**18 48 18.4 -1.2**
	comp=Z,64nm,1.3s				
GENI			pP	**pP**	**18 48 25.7 -0.6**
	comp=Z,64nm,1.3s				
PBKT	**Sadao Pong**	**47.87 249**	P	**P**	**18 48 20.1 +0.4**
CM31	**Chiang Mai Arr**	**47.89 252**	P	**P**	**18 48 20.4 +0.5**
CM31			IAmb	IAmb	18 48 21.7
	comp=Z,18nm,0.8s				
CM31			PcP	**PcP**	**18 49 48.8 +0.5**
CMAR	**Chiang Mai Arr**	**47.89 252**	P	**P**	**18 48 19.9 0.0**
	comp=Z,12nm,0.8s,baz=40,slow=7.2,SNR=78				
CMAR			PcP	**PcP**	**18 49 49.0 +0.7**
	comp=Z,3.1nm,0.8s,baz=15,slow=2.2,SNR=5.4				
CMAR			LR	LR	19 08 51.4
	comp=Z,123nm,18.7s,baz=118,slow=37				
CMAR	**Chiang Mai Arr**	**47.89 252**	P	**P**	**18 48 20.4 +0.4**
CMAR					18 49 49.7
CMAR	**Chiang Mai Arr**	**47.89 252**	P	**P**	**18 48 20.4 +0.4**
CMAR				**PcP**	**18 49 49.7 +1.4**
SATY	**Saty**	**48.04 293**	*e*P	**P**	**18 48 21.5 +0.5**
	comp=Z,5.8nm,0.8s,baz=293				
SATY	**Saty**	**48.04 293**	*e*P	**P**	**18 48 21.5 +0.5**
SATY			pmax	pmax	
	comp=Z,6.0nm,0.8s				

SHL	**Shillong**	**48.10 265**	P	**P**	**18 48 21.4**	**-0.3**
SHL			IAmb	IAmb	18 48 31.8	
	comp=Z,16nm,0.8s					
SHL			PcP	**PcP**	**18 49 48.9**	**-0.4**
PRZ	**Przheval'sk**	**48.31 293**	P	**P**	**18 48 21.8**	**-1.4**
PRZ			pmax	pmax		
	comp=Z,23nm,1.0s					
PRZ	**Przheval'sk**	**48.31 293**	P	**P**	**18 48 21.8**	**-1.4**
PRZ			IAmb	IAmb	18 48 33.5	
	comp=Z,23nm,0.9s					
C36M	**Paulatuk**	**48.33 28**	P	**P**	**18 48 23.5**	**+0.8**
	baz=289					
BVAR	**Borovoye Array**	**48.65 308**	P	**P**	**18 48 24.3**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=93,slow=8.2,SNR=13					
BRVK	**Borovoye**	**48.70 309**	*e*P	**P**	**18 48 25.1**	**-0.7**
BRVK	**Borovoye**	**48.70 309**	P	**P**	**18 48 25.1**	**-0.7**
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.9s					
BRVK	**Borovoye**	**48.70 309**	P	**P**	**18 48 25.1**	**-0.7**
MDOK	**Medeo**	**48.87 294**	*e*P	**P**	**18 48 27.9**	**+0.4**
	baz=294					
MDOK			*e*S	**S**	**18 55 30.2**	**+0.4**
	baz=294					
MDOK			LR	LR	19 10 43.7	
	comp=Z,202nm,12.3s,baz=294					
MDOK	**Medeo**	**48.87 294**	*e*P	**P**	**18 48 27.9**	**+0.4**
MDOK			*e*S	**S**	**18 55 30.1**	**+0.4**
MDOK			MLR	MLR		
	comp=Z,202nm,12.0s					
AAA	**Alma-Ata**	**48.94 294**	*e*P	**P**	**18 48 28.3**	**+0.4**
	baz=294					
AAA	**Alma-Ata**	**48.94 294**	*e*P	**P**	**18 48 28.3**	**+0.4**
KUU	**Kurty**	**48.99 295**	*e*P	**P**	**18 48 27.7**	**-0.5**
	comp=Z,16nm,1.2s,baz=295					
KUU	**Kurty**	**48.99 295**	*e*P	**P**	**18 48 27.7**	**-0.5**
KUU			pmax	pmax		
	comp=Z,16nm,1.2s					
TARG	**Taragay, Kyrgy**	**49.06 292**	P	**P**	**18 48 28.7**	**-0.5**
TARG				**PcP**	**18 49 53.1**	**+0.3**
GTOI	**Gorontalo**	**49.11 213**	P	**P**	**18 48 28.1**	**-1.2**
	comp=Z,14nm,0.8s					
RABL	**Rabaul**	**49.25 173**	P	**P**	**18 48 30.8**	**+0.5**
KDJ	**Kajisay**	**49.27 293**	P	**P**	**18 48 30.2**	**-0.4**
KDJ	**Kajisay**	**49.27 293**	P	**P**	**18 48 30.2**	**-0.4**
MTBS	**Maitube**	**49.29 294**	*e*P	**P**	**18 48 31.1**	**+0.4**
	baz=294					
MTBS	**Maitube**	**49.29 294**	*e*P	**P**	**18 48 31.0**	**+0.4**
WRAK	**Wrangell Islan**	**49.36 46**	P	**P**	**18 48 31.6**	**+0.9**
WRAK			IAmb	IAmb	18 48 40.7	
	comp=Z,56nm,1.8s					
FAKI	**Fak Fak**	**49.59 200**	P	**P**	**18 48 31.7**	**-1.2**
	comp=Z,45nm,1.2s					
FAKI	**Fak Fak**	**49.59 200**	P	**P**	**18 48 32.3**	**-0.7**
DLBC	**Dease Lake**	**49.73 43**	P	**P**	**18 48 34.4**	**+0.7**
	comp=Z,7.8nm,0.8s,baz=295,slow=8.9,SNR=22					
DLBC	**Dease Lake**	**49.73 43**	P	**P**	**18 48 35.1**	**+1.4**
ULHL	**Ulahol**	**49.83 293**	P	**P**	**18 48 35.5**	**+0.6**
	SNR=14					
BOOM	**Boomskoye usch**	**49.91 294**	P	**P**	**18 48 36.2**	**+0.8**
BOOM			PcP	**PcP**	**18 49 56.4**	**+0.8**
BTLS	**Baital**	**49.91 298**	*e*P	**P**	**18 48 35.3**	**+0.1**
	baz=298					
BTLS	**Baital**	**49.91 298**	*e*P	**P**	**18 48 35.3**	**+0.1**
TKM2	**Tokmak 2**	**49.92 294**	P	**P**	**18 48 36.3**	**+0.7**
	SNR=20					
TAPN	**Taplejung**	**49.97 270**	*e*P	**P**	**18 48 36.9**	**+0.7**
TAPN	**Taplejung**	**49.97 270**	*e*P	**P**	**18 48 36.9**	**+0.7**
SGDS	**Sogindy**	**50.29 295⇑**	*i*P	**P**	**18 48 38.5**	**+0.2**
	comp=Z,8.1nm,0.9s,baz=296					
SGDS	**Sogindy**	**50.29 295**	*c i*P	**P**	**18 48 38.4**	**+0.2**
SGDS			pmax	pmax		
	comp=Z,8.0nm,0.9s					
USP	**Ospenovka**	**50.46 295**	P	**P**	**18 48 39.8**	**+0.3**
	SNR=16					
KBK	**Karagaybulak**	**50.47 294**	P	**P**	**18 48 40.3**	**+0.6**
	SNR=13					
ODAN	**Odare**	**50.49 270**	*e*P	**P**	**18 48 40.8**	**+0.7**
ODAN	**Odare**	**50.49 270**	*e*P	**P**	**18 48 40.8**	**+0.7**
SANI	**Sanana**	**50.54 208**	P	**P**	**18 48 38.6**	**-1.6**
	comp=Z,498nmcomp=Z,51nm,1.2s					
KZA	**Kyzart**	**50.56 294**	P	**P**	**18 48 42.0**	**+1.4**
	SNR=13					
FRU1	**Bishkek**	**50.60 295**	P	**P**	**18 48 40.8**	**+0.3**
FRU1			pmax	pmax		
	comp=Z,15nm,0.7s					
FRU1	**Bishkek**	**50.60 295**	P	**P**	**18 48 40.8**	**+0.3**
FRU1			IAmb	IAmb	18 48 48.1	
	comp=Z,15nm,0.7s					
DIB	**Dawson Inlet,**	**50.60 50**	P	**P**	**18 48 41.5**	**+1.2**
DIB			IAmb	IAmb	18 48 42.5	
	comp=Z,20nm,0.9s					
AAK	**Ala-Archa**	**50.77 295**	P	**P**	**18 48 42.4**	**+0.4**
	SNR=8.2					
AAK	**Ala-Archa**	**50.77 295**	*e*P	**P**	**18 48 41.9**	**0.0**
AAK	**Ala-Archa**	**50.77 295**	*ce*P	**P**	**18 48 41.9**	**0.0**
AAK			pmax	pmax		
	comp=Z,37nm,1.3s					
JIRN	**Jiri**	**50.86 272**	*e*P	**P**	**18 48 43.5**	**+0.5**
	comp=Z,82nm,0.7s					
JIRN	**Jiri**	**50.86 272**	*e*P	**P**	**18 48 43.5**	**+0.5**
	comp=Z,82nm,0.7s					
RAMN	**Ramite**	**50.99 271**	*e*P	**P**	**18 48 44.0**	**+0.1**
	comp=Z,41nm,0.6s					
RAMN	**Ramite**	**50.99 271**	*e*P	**P**	**18 48 44.0**	**+0.1**
	comp=Z,41nm,0.6s					
EKS2	**Erkin-Say**	**51.22 295**	P	**P**	**18 48 45.8**	**+0.5**
	SNR=17					
KSH	**Kashi**	**51.37 290**	P	**P**	**18 48 50.8**	**+4.4**
KSH			pP	pwP	18 48 56.9	+1.3
KSH			PcS	**PcS**	**18 54 02.8**	**+4.0**
KSH			S	**S**	**18 56 08.8**	**+4.3**
KSH			pmax	pmax		
	comp=Z,27nm,1.1s					
KSH			pmax	pmax		
	comp=Z,120nm,4.7s					
KSH			LR	LR		
	comp=Z,370nm,11.8s					
KSH			LR	LR		
	comp=Z,280nm,9.5s					
KSH			LR	LR		
	comp=Z,440nm,13.5s					
KKN	**Kakani**	**51.42 272**	*e*P	**P**	**18 48 47.2**	**+0.1**
KKN	**Kakani**	**51.42 272**	*e*P	**P**	**18 48 47.2**	**+0.1**
PKI	**Pulchoki**	**51.46 272**	*e*P	**P**	**18 48 47.4**	**-0.1**
	comp=Z,16nm,0.5s					
PKI	**Pulchoki**	**51.46 272**	*e*P	**P**	**18 48 47.4**	**-0.1**
	comp=Z,16nm,0.5s					
PKIN	**Phulchoki**	**51.47 272**	*e*P	**P**	**18 48 47.5**	**0.0**
	comp=Z,29nm,0.7s					
PKIN	**Phulchoki**	**51.47 272**	*e*P	**P**	**18 48 47.5**	**0.0**
	comp=Z,29nm,0.7s					
DMN	**Daman**	**51.65 272**	*e*P	**P**	**18 48 49.3**	**+0.5**
	comp=Z,52nm,0.7s					
DMN	**Daman**	**51.65 272**	*e*P	**P**	**18 48 49.3**	**+0.5**
	comp=Z,52nm,0.7s					
GKN	**Gorkha**	**51.75 273**	*e*P	**P**	**18 48 49.5**	**+0.1**
	comp=Z,31nm,0.5s					
GKN	**Gorkha**	**51.75 273**	*e*P	**P**	**18 48 49.5**	**+0.1**
	comp=Z,31nm,0.5s					
SVE	**Sverdlovsk**	**52.17 316**	*e*P	**P**	**18 48 51.4**	**-0.5**
SVE	**Sverdlovsk**	**52.17 316⇑**	*e*P	**P**	**18 48 51.4**	**-0.5**
SVE			pmax	pmax		
	comp=Z,15nm,0.9s					
SBUM	**Sibu**	**52.36 226**	P	**P**	**18 48 53.4**	**-0.5**
KOLN	**Koldanda**	**52.62 274**	*e*P	**P**	**18 48 56.2**	**+0.2**
	comp=Z,36nm,0.8s					
KOLN	**Koldanda**	**52.62 274**	*e*P	**P**	**18 48 56.2**	**+0.2**
	comp=Z,36nm,0.8s					
DZA	**Taraz**	**52.67 296**	*e*P	**P**	**18 48 56.3**	**+0.3**
	baz=296					
DZA	**Taraz**	**52.67 296**	*e*P	**P**	**18 48 56.2**	**+0.3**
PYUN	**Piuthan**	**52.86 274**	*e*P	**P**	**18 48 58.2**	**+0.5**
	comp=Z,34nm,0.4s					
PYUN	**Piuthan**	**52.86 274**	*e*P	**P**	**18 48 58.2**	**+0.5**
	comp=Z,34nm,0.4s					
KK31	**Karatay Array**	**53.08 297**	P	**P**	**18 48 58.8**	**-0.2**
KK31			pmax	pmax		
	comp=Z,17nm,0.8s					
KK31	**Karatay Array**	**53.08 297**	P	**P**	**18 48 58.8**	**-0.2**
KK31			IAmb	IAmb	18 49 06.0	
	comp=Z,17nm,0.8s					
KKAR	**Karatay Array**	**53.08 297**	P	**P**	**18 48 58.7**	**-0.3**
KKAR			pmax	pmax		
	comp=Z,17nm,0.8s					
KKAR	**Karatay Array**	**53.08 297**	P	**P**	**18 48 58.7**	**-0.3**
KKAR			IAmb	IAmb	18 49 06.0	
	comp=Z,17nm,0.8s					
KKAR	**Karatay Array**	**53.08 297**	P	**P**	**18 48 58.6**	**-0.3**
POHA	**Pohakuloa**	**53.34 99**	P	**P**	**18 49 02.0**	**+0.6**
ARU	**Arti**	**53.37 316**	*e*P	**P**	**18 48 59.4**	**-1.4**
ARU	**Arti**	**53.37 316**	*c i*P	**P**	**18 48 59.3**	**-1.5**
ARU					18 50 05.9	
ARU					18 50 56.3	
ARU			S	**S**	**18 56 31.2**	**0.0**
ARU			SS	**SS**	**19 00 03.0**	**-7.6**
ARU			pmax	pmax		
	comp=Z,16nm,0.9s					
ARU			MLR	MLR		
	comp=Z,299nm,16.0s					
ARU	**Arti**	**53.37 316**	P	**P**	**18 48 59.4**	**-1.5**
BBB	**Bella Bella**	**53.43 50**	P	**P**	**18 49 02.5**	**+1.2**
BBB			IAmb	IAmb	18 49 09.6	
	comp=Z,52nm,1.4s					
PUH	**Pauahi**	**53.81 99**	P	**P**	**18 49 05.0**	**+0.3**
IUG	**Iuzhnay**	**53.88 296**	*e*P	**P**	**18 49 05.3**	**+0.4**
	comp=Z,13nm,1.2s,baz=296					
IUG	**Iuzhnay**	**53.88 296**	*e*P	**P**	**18 49 05.3**	**+0.4**
IUG			pmax	pmax		
	comp=Z,13nm,1.2s					
MTKI	**Muara Teweh, K**	**53.99 221**	P	**P**	**18 49 05.1**	**-0.8**
	comp=Z,2μmcomp=Z,24nm,0.8s					
KSM	**Kuching**	**54.18 228**	P	**P**	**18 49 07.7**	**+0.5**
PMG	**Port Moresby**	**54.22 180**	P	**P**	**18 49 07.8**	**+0.4**
PMG			pmax	pmax		
	comp=Z,28nm,1.1s					
PMG	**Port Moresby**	**54.22 180**	P	**P**	**18 49 07.8**	**+0.4**
PMG			IAmb	IAmb	18 49 21.6	
	comp=Z,28nm,1.1s					
BTK	**Batken**	**54.47 294**	P	**P**	**18 49 09.2**	**0.0**
BTK			pmax	pmax		
	comp=Z,23nm,1.2s					
BTK	**Batken**	**54.47 294**	P	**P**	**18 49 09.2**	**0.0**
BTK			IAmb	IAmb	18 49 16.4	
	comp=Z,23nm,1.1s					
YKA	**Yellowknife Ar**	**54.72 34**	P	**P**	**18 49 10.7**	**+0.1**
	comp=Z,16nm,1.0s,baz=303,slow=7.3,SNR=13					
YKA			LR	LR	19 16 03.9	
	comp=Z,116nm,18.7s,baz=0.0,slow=40					
KAPI	**Kappang**	**55.55 214**	P	**P**	**18 49 16.8**	**-0.3**
KAPI			pmax	pmax		
	comp=Z,18nm,0.9s					
KAPI	**Kappang**	**55.55 214**	P	**P**	**18 49 16.8**	**-0.3**
KAPI			IAmb	IAmb	18 49 21.7	
	comp=Z,18nm,0.8s					
ABKAR	**Akbulak array**	**56.22 308**	P	**P**	**18 49 20.6**	**-1.0**
NIL	**Nilore**	**56.40 286**	P	**P**	**18 49 23.3**	**+0.2**
NIL			pmax	pmax		
	comp=Z,35nm,1.0s					
NIL	**Nilore**	**56.40 286**	P	**P**	**18 49 23.3**	**+0.2**
NIL			IAmb	IAmb	18 49 30.8	
	comp=Z,35nm,0.9s					
KULM	**Kulim**	**56.59 240**	P	**P**	**18 49 24.9**	**+0.3**
KULM			IAmb	IAmb	18 49 29.7	
	comp=Z,49nm,1.3s					
AKTO	**Aktyubinsk**	**56.66 310**	P	**P**	**18 49 24.2**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=57,slow=7.7,SNR=6.0					
AKTO			PcP	**PcP**	**18 50 20.9**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=358,slow=6.4,SNR=3.7					
APA	**Apatity**	**57.16 335⇓**	*i*P	P	18 49 20.1	-7.9
APA			pmax	pmax		
	comp=Z,4.0nm,1.2s					
APA			MLR	MLR		
	comp=Z,400nm,16.0s					
TMCR	**Tamitsa**	**57.81 331**	*e*P	**P**	**18 49 31.0**	**-1.5**
TMCR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
ARCES	**ARCESS Array B**	**58.00 339**	P	**P**	**18 49 32.7**	**-1.2**
	comp=Z,3.4nm,1.0s,baz=41,slow=7.2,SNR=6.5					
ARCES			PcP	**PcP**	**18 50 25.6**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=19,slow=7.9,SNR=5.0					
ARCES			LR	LR	19 17 13.8	
	comp=Z,151nm,18.8s,baz=14,slow=39					
A04D	**Lummi Island**	**58.18 51**	P	**P**	**18 49 35.4**	**0.0**
	baz=304					
EDFI	**Ende, Flores**	**58.27 210**	P	**P**	**18 49 35.3**	**-1.2**
	comp=Z,16nm,0.7s					
NLWA	**Neilton Lookou**	**58.27 53**	P	**P**	**18 49 37.2**	**+1.1**
NLWA			IAmb	IAmb	18 49 38.5	
	comp=Z,24nm,0.9s					
D03D	**Eldon**	**58.63 53**	P	**P**	**18 49 39.9**	**+1.3**
	baz=304,SNR=8.9					
KBL	**Kabul**	**58.72 289**	P	**P**	**18 49 39.1**	**-0.6**
KBL			pmax	pmax		
	comp=Z,19nm,0.7s					
KBL	**Kabul**	**58.72 289**	P	**P**	**18 49 39.1**	**-0.6**
KBL			IAmb	IAmb	18 49 45.7	
	comp=Z,20nm,0.7s					
B05A	**Bryant**	**58.77 51**	P	**P**	**18 49 40.5**	**+0.9**
	baz=304					
E03A	**Lebam**	**58.91 54**	P	**P**	**18 49 41.3**	**+0.8**
E03A			IAmb	IAmb	18 49 43.0	
	comp=Z,25nm,0.9s					
B06A	**Marblemount**	**58.97 51**	P	**P**	**18 49 41.4**	**+0.5**
B06A			IAmb	IAmb	18 49 42.5	
	comp=Z,18nm,0.9s					
D04E	**Lakebay**	**59.00 53**	P	**P**	**18 49 42.8**	**+1.6**
	baz=304					
F03A	**Seaside**	**59.26 54**	P	**P**	**18 49 44.0**	**+1.0**
KLMR	**Klimovskoe**	**59.31 327**	*e*P	**P**	**18 49 40.3**	**-2.8**
KLMR			*e*		18 51 51.9	
KLMR			pmax	pmax		
	comp=Z,11nm,1.2s					
KLMR	**Klimovskoe**	**59.31 327**	*e*P	**P**	**18 49 40.3**	**-2.8**
KLMR			AMP		18 49 49.2	
	comp=Z,11nm,1.2s					
KLMR			*e*PP	**PP**	**18 51 52.0**	**-1.7**
MTN	**Manton Dam**	**59.43 198**	P	**P**	**18 49 43.9**	**-0.5**
E04D	**Cinebar**	**59.47 53**	P	**P**	**18 49 45.9**	**+1.4**
	baz=305,SNR=7.3					
PSI	**Prapat**	**59.60 240**	P	**P**	**18 49 46.0**	**+0.2**
	comp=Z,11nm,0.7s,baz=0.8,slow=3.4,SNR=6.3					
PSI	**Prapat**	**59.60 240**	P	**P**	**18 49 45.8**	**0.0**
PSI			pmax	pmax		
	comp=Z,20nm,1.0s					
RPSI	**Rantau Prapat**	**59.68 240**	P	**P**	**18 49 45.8**	**-0.5**
RPSI			IAmb	IAmb	18 49 47.2	
	comp=Z,20nm,1.0s					
LON	**Longmire**	**59.79 53**	P	**P**	**18 49 47.3**	**+0.6**
LON			pmax	pmax		
	comp=Z,11nm,1.2s					
LON	**Longmire**	**59.79 53**	P	**P**	**18 49 47.3**	**+0.6**
G03D	**McMinnville, O**	**59.84 55**	P	**P**	**18 49 48.3**	**+1.3**
	baz=305					
F04A	**Anboy**	**59.91 54**	P	**P**	**18 49 48.6**	**+1.2**
TWSI	**Taliwang, Sumb**	**60.09 215**	P	**P**	**18 49 48.1**	**-0.8**
	comp=Z,19nm,0.9s					
I02D	**Swisshome**	**60.13 56**	P	**P**	**18 49 50.7**	**+1.7**
	baz=305					
LTY	**Liberty**	**60.14 52**	P	**P**	**18 49 49.5**	**+0.4**
COR	**Corvallis**	**60.18 55**	P	**P**	**18 49 50.5**	**+1.2**
COR	**Corvallis**	**60.18 55**	P	**P**	**18 49 50.5**	**+1.2**
B08A	**Colville Reser**	**60.23 50**	P	**P**	**18 49 50.1**	**+0.3**
B08A			IAmb	IAmb	18 49 51.5	
	comp=Z,18nm,0.9s					
BKNI	**Bangkinang**	**60.29 236**	P	**P**	**18 49 51.2**	**+0.8**
F05D	**White Salmon**	**60.49 53**	P	**P**	**18 49 52.6**	**+1.1**
	baz=306					
H04D	**Lebanon**	**60.54 55**	P	**P**	**18 49 53.4**	**+1.6**
	baz=306					
KEBM	**Edson Butte**	**60.56 58**	P	**P**	**18 49 54.0**	**+1.9**
J01E	**Myrtle Point**	**60.63 57**	P	**P**	**18 49 54.1**	**+1.7**
	baz=306					
I03D	**Drain, OR**	**60.66 56**	P	**P**	**18 49 54.3**	**+1.6**
	baz=306,SNR=7.7					
H04A	**Detroit Lake**	**60.77 55**	P	**P**	**18 49 54.6**	**+1.2**
G05D	**Wamic, OR**	**60.94 54**	P	**P**	**18 49 55.8**	**+1.2**
	baz=306,SNR=10					
E07A	**Sunnyside**	**61.00 52**	P	**P**	**18 49 56.0**	**+1.1**
E07A			IAmb	IAmb	18 49 57.2	
	comp=Z,27nm,1.1s					
KBO	**Bosley Butte**	**61.01 58**	P	**P**	**18 49 56.4**	**+1.3**
K02D	**Willamette Mer**	**61.06 57**	P	**P**	**18 49 56.8**	**+1.3**
	baz=306					
C09A	**Chrisman Ranch**	**61.14 50**	P	**P**	**18 49 56.5**	**+0.6**
C09A			IAmb	IAmb	18 49 57.5	
	comp=Z,20nm,0.8s					
I04A	**Tendick Farm,**	**61.16 56**	P	**P**	**18 49 57.3**	**+1.2**
	baz=306,SNR=19					
D08A	**Wollman Farm,**	**61.22 51**	P	**P**	**18 49 56.9**	**+0.5**
D08A			IAmb	IAmb	18 49 58.1	
	comp=Z,14nm,0.9s					
HAWA	**Hanford**	**61.28 52**	P	**P**	**18 49 57.8**	**+1.0**
HAWA			IAmb	IAmb	18 49 58.9	
	comp=Z,28nm,1.1s					
F07A	**Phinny Hill Vi**	**61.35 53**	P	**P**	**18 49 58.7**	**+1.5**
L02E	**Cave Junction**	**61.42 58**	P	**P**	**18 49 59.2**	**+1.3**
	baz=306					
I05D	**Terrebonne, OR**	**61.46 55**	P	**P**	**18 49 59.4**	**+1.2**
	baz=306,SNR=6.5					
E08A	**Dider Farm, El**	**61.48 52**	P	**P**	**18 49 59.2**	**+1.1**
E08A			IAmb	IAmb	18 50 00.1	
	comp=Z,26nm,1.0s					
NEW	**Newport**	**61.48 49**	P	**P**	**18 49 58.8**	**+0.6**
NEW			pmax	pmax		
	comp=Z,27nm,1.0s					
NEW	**Newport**	**61.48 49**	P	**P**	**18 49 58.7**	**+0.4**
	baz=307,SNR=12					
NEW	**Newport**	**61.48 49**	P	**P**	**18 49 58.8**	**+0.6**
NEW			IAmb	IAmb	18 50 00.0	
	comp=Z,27nm,1.0s					
HUMO	**Hull Mountain**	**61.54 57**	P	**P**	**18 49 59.5**	**+0.8**
HUMO			IAmb	IAmb	18 50 01.4	
	comp=Z,27nm,1.6s					
GSI	**Gunungsitoli**	**61.60 240**	P	**P**	**18 49 59.4**	**+0.1**
GSI			IAmb	IAmb	18 50 06.9	
	comp=Z,20nm,0.7s					
KRMB	**Red Mountain**	**61.61 59**	P	**P**	**18 50 00.3**	**+1.1**
PWJI	**Pagerwojo**	**61.65 221**	P	**P**	**18 49 59.8**	**+0.2**
	comp=Z,51nm,1.1s					
J04D	**Umpqua Nationa**	**61.66 56**	P	**P**	**18 50 01.1**	**+1.4**
	baz=307,SNR=7.4					
JCC	**Jacoby Creek,**	**61.95 59**	P	**P**	**18 50 03.1**	**+1.7**
PINE	**Pine Mountain**	**62.02 55**	P	**P**	**18 50 03.5**	**+1.4**
KHMM	**Horse Mountain**	**62.10 59**	P	**P**	**18 50 04.0**	**+1.3**
KHMM			IAmb	IAmb	18 50 05.5	
	comp=Z,28nm,1.0s					
J05D	**Fort Rock, OR**	**62.15 56**	P	**P**	**18 50 04.4**	**+1.5**
	baz=307,SNR=27					
L04D	**Klamath Falls**	**62.16 57**	P	**P**	**18 50 04.0**	**+1.1**
	baz=307					
YBH	**Yreka Blue Hor**	**62.20 58**	P	**P**	**18 50 04.6**	**+1.3**
YBH			pmax	pmax		
	comp=Z,17nm,0.9s					
YBH	**Yreka Blue Hor**	**62.20 58**	P	**P**	**18 50 04.6**	**+1.3**
YBH			IAmb	IAmb	18 50 05.9	
	comp=Z,17nm,0.9s					
G08A	**Pilot Rock**	**62.25 53**	P	**P**	**18 50 04.5**	**+0.9**
M02C	**Callahan**	**62.32 58**	P	**P**	**18 50 05.8**	**+1.8**
	baz=307					
KLSI		**62.33 229**	P	**P**	**18 50 05.0**	**+0.8**
	comp=Z,11nm,1.1s					
MDSI	**Maura Dua**	**62.46 230**	P	**P**	**18 50 03.2**	**-1.8**
KMRM	**Mail Ridge**	**62.51 60**	P	**P**	**18 50 07.0**	**+1.7**
KMRM			IAmb	IAmb	18 50 08.1	
	comp=Z,20nm,0.9s					
N02D	**Trinity Center**	**62.66 58**	P	**P**	**18 50 07.8**	**+1.5**
	baz=307					
I07A	**Izee**	**62.67 54**	P	**P**	**18 50 07.2**	**+0.9**
K05A	**Summer Lake**	**62.69 56**	P	**P**	**18 50 08.2**	**+1.6**
WALA	**Waterton Lakes**	**62.69 47**	P	**P**	**18 50 07.2**	**+0.8**
WALA			IAmb	IAmb	18 50 08.3	
	comp=Z,30nm,0.9s					
M04C	**Macdoel**	**62.70 57**	P	**P**	**18 50 07.9**	**+1.3**
	baz=307					
KNRA	**Kununurra**	**62.72 200**	P	**P**	**18 50 06.3**	**-0.4**
KNRA			IAmb	IAmb	18 50 13.2	
	comp=Z,14nm,0.7s					
HYB	**Hyderabad**	**62.79 268**	*i*P	**P**	**18 50 07.0**	**-0.4**
F10A	**Beach Ranch, E**	**62.81 51**	P	**P**	**18 50 07.9**	**+0.7**
F10A			IAmb	IAmb	18 50 14.7	
	comp=Z,16nm,0.9s					
KCPM	**Cahto Peak**	**62.91 60**	P	**P**	**18 50 09.2**	**+1.2**
KCPM			IAmb	IAmb	18 50 10.4	
	comp=Z,22nm,0.8s					
WDC	**Whiskeytown Da**	**63.00 59**	P	**P**	**18 50 09.6**	**+1.2**
WDC			pmax	pmax		
	comp=Z,18nm,1.0s					
WDC	**Whiskeytown Da**	**63.00 59**	P	**P**	**18 50 09.6**	**+1.2**
WDC			IAmb	IAmb	18 50 10.7	
	comp=Z,18nm,0.9s					
O02D	**Mt. Diablo Mer**	**63.09 59**	P	**P**	**18 50 10.6**	**+1.4**
	baz=308					
JTMT	**Jette**	**63.31 48**	P	**P**	**18 50 11.4**	**+0.8**
JTMT			IAmb	IAmb	18 50 12.8	
	comp=Z,26nm,1.0s					
HRA	**Herat**	**63.31 293**	P	**P**	**18 50 10.9**	**0.0**
BMO	**Blue Mountains**	**63.45 52**	P	**P**	**18 50 12.4**	**+0.9**
BMO			pmax	pmax		
	comp=Z,12nm,0.9s					
BMO	**Blue Mountains**	**63.45 52**	P	**P**	**18 50 12.4**	**+0.9**
MOD	**Modoc Plateau**	**63.53 56**	P	**P**	**18 50 13.0**	**+0.8**
MOD			IAmb	IAmb	18 50 14.3	
	comp=Z,19nm,0.8s					
O03E	**Paynes Creek**	**63.62 59**	P	**P**	**18 50 13.2**	**+0.6**
	baz=308					
FIA1	**FINESS Array S**	**63.69 333**	P	**P**	**18 50 10.9**	**-1.8**
FINES	**FINESS Array B**	**63.69 333**	P	**P**	**18 50 11.1**	**-1.5**
	comp=Z,7.0nm,0.7s,baz=45,slow=8.4,SNR=35					
FINES			LR	LR	19 21 06.4	
	comp=Z,186nm,19.0s,baz=46,slow=39					
FINES	**FINESS Array B**	**63.69 333**	P	**P**	**18 50 10.8**	**-1.8**
J08A	**Circle Bar Ran**	**63.71 54**	P	**P**	**18 50 14.3**	**+1.0**
J08A			IAmb	IAmb	18 50 15.7	
	comp=Z,29nm,1.1s					
GEYT	**Alibeck**	**63.79 298**	P	**P**	**18 50 13.5**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=348,slow=3.5,SNR=11					
GEYT			LR	LR	19 20 36.8	
	comp=Z,145nm,19.4s,baz=85,slow=39					
GEYT	**Alibeck**	**63.79 298**	P	**P**	**18 50 13.8**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**63.79 298**	P	**P**	**18 50 13.5**	**-0.2**
GDXM	**Geysers**	**63.93 60**	P	**P**	**18 50 15.9**	**+1.2**
GDXM			IAmb	IAmb	18 50 17.3	
	comp=Z,24nm,1.2s					
MSO	**Missoula**	**64.07 49**	P	**P**	**18 50 16.2**	**+0.7**
	baz=309,SNR=22					
MSO	**Missoula**	**64.07 49**	P	**P**	**18 50 16.2**	**+0.7**
WVOR	**Wild Horse Val**	**64.18 55**	P	**P**	**18 50 17.8**	**+1.4**
WVOR			pmax	pmax		
	comp=Z,23nm,1.0s					
WVOR	**Wild Horse Val**	**64.18 55**	P	**P**	**18 50 17.8**	**+1.4**
WVOR			IAmb	IAmb	18 50 18.6	
	comp=Z,23nm,0.9s					
OBN	**Obninsk**	**64.24 323**	*e*P	**P**	**18 50 14.8**	**-1.5**
OBN	**Obninsk**	**64.24 323⇑**	*e*P	**P**

DLMT Dillon 65.72 50 P P 18 50 27.1 +0.7
DLMT IAmb IAmb 18 50 29.1
comp=Z,25nm,1.0s
WR0 Warramunga Arr 65.72 193 P P 18 50 25.2 -1.2
WR0 IAmb IAmb 18 50 32.4
comp=Z,22nm,0.9s
WRAB Tennant Creek 65.73 193 *ce*P **P 18 50 25.0 -1.4**
WRAB pmax pmax
comp=Z,38nm,1.3s
WRAB Tennant Creek 65.73 193 P P 18 50 25.4 -1.0
WB2 Warramunga Arr 65.74 193 P P 18 50 25.4 -1.0
WRA Warramunga Arr 65.74 193 P P 18 50 25.5 -1.0
comp=Z,20nm,0.9s,baz=12,slow=6.7,SNR=103
WRA PKPPKP P'P'df 19 19 05.6 +8.1
comp=Z,1.0nm,0.8s,baz=195,slow=2.9,SNR=7.9
WRA Warramunga Arr 65.74 193 P P 18 50 25.0 -1.4
VORD Divnogorie 65.83 319 *e*P **P 18 50 25.5 -1.2**
VORD pmax pmax
comp=Z,10.0nm,1.4s
FITZ Fitzroy Crossi 65.84 202 P P 18 50 27.0 -0.1
FITZ IAmb IAmb 18 50 34.3
comp=Z,17nm,0.9s
HLID Hailey 65.88 52 P P 18 50 28.4 +0.9
baz=310,SNR=24
HLID Hailey 65.88 52 P P 18 50 28.1 +0.7
HLID IAmb IAmb 18 50 35.7
comp=Z,16nm,0.9s
CMB Columbia Colle 65.89 60 P P 18 50 28.2 +0.7
CMB pmax pmax
comp=Z,22nm,1.0s
CMB Columbia Colle 65.89 60 P P 18 50 28.2 +0.7
CMB IAmb IAmb 18 50 29.4
comp=Z,22nm,0.9s
MCMT McKenzie Canyo 65.93 50 P P 18 50 28.1 +0.3
YERR Yerington 65.98 58 P P 18 50 29.0 +0.8
BOZ Bozeman (W) 66.09 49 P P 18 50 29.6 +0.9
BOZ pmax pmax
comp=Z,36nm,0.9s
BOZ Bozeman (W) 66.09 49 P P 18 50 29.7 +0.9
baz=311,SNR=23
BOZ Bozeman (W) 66.09 49 P P 18 50 29.6 +0.9
WAKR Walker 66.17 59 P P 18 50 30.5 +1.0
WAKR IAmb IAmb 18 50 31.8
comp=Z,21nm,0.9s
KVN Kaiserville 66.63 58 P P 18 50 33.2 +0.9
KVN pmax pmax
comp=Z,33nm,0.9s
KVN Kaiserville 66.63 58 P P 18 50 33.2 +0.9
RYN Ryan 66.64 58 P P 18 50 33.4 +1.0
RYN IAmb IAmb 18 50 34.5
comp=Z,21nm,0.9s
QLMT Earthquake Lak 66.69 49 P P 18 50 33.8 +1.0
YHL Hebgen Lake 66.81 49 P P 18 50 34.7 +1.1
YHB Horse Butte 66.87 49 P P 18 50 35.1 +1.2
LHV Little Huntoon 66.89 59 P P 18 50 35.4 +1.6
MAK Makhachkala 66.90 308 *e*P **P 18 50 32.2 -1.5**
MAK *e* 18 52 59.9
MAK *e*S **S 18 59 24.7 -0.5**
MAK pmax pmax
comp=Z,106nm,1.5s
NVAR Mina Array Bea 66.90 58 P P 18 50 34.6 +0.4
comp=Z,18nm,0.8s,baz=287,slow=6.7,SNR=92
NVAR Mina Array Bea 66.90 58 P P 18 50 34.9 +0.7
NV11 Mina Array Sit 66.99 58 P P 18 50 35.5 +0.8
NV11 IAmb IAmb 18 50 36.8
comp=Z,21nm,1.0s
GCMT Greycliff 67.00 48 P P 18 50 35.9 +1.3
OMMB Old Mammoth Mi 67.00 59 P P 18 50 35.7 +0.8
YHH Holmes Hill 67.03 49 P P 18 50 35.7 +0.8
YMR Madison River 67.05 49 P P 18 50 36.3 +1.3
MLAC Mammoth, Mammo 67.09 59 P P 18 50 37.1 +1.7
baz=310
YNR Norris Junctio 67.17 49 P P 18 50 37.4 +1.6
ELK Elko 67.22 55 P P 18 50 37.3 +1.1
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 67.22 55 P P 18 50 37.3 +1.1
YPP Pitchstone Pla 67.40 50 P P 18 50 38.8 +1.5
LKWY Lake 67.42 49 P P 18 50 38.9 +1.5
LKWY pmax pmax
comp=Z,30nm,0.7s
LKWY Lake 67.42 49 P P 18 50 38.9 +1.5
PAGB Antelope Grade 67.44 62 P P 18 50 38.4 +1.1
PAGB IAmb IAmb 18 50 45.5
comp=Z,33nm,1.0s
YMP Mirror Lake Pl 67.44 49 P P 18 50 37.5 -0.1
H17A Grant Village 67.44 49 P P 18 50 40.1 +2.6
baz=312
H17A Grant Village 67.44 49 P P 18 50 40.0 +2.6
IMW Indian Meadow 67.57 50 P P 18 50 39.7 +1.3
IMW IAmb IAmb 18 50 41.2
comp=Z,27nm,1.0s
FLWY Flagg Ranch 67.58 50 P P 18 50 39.3 +0.9
FLWY IAmb IAmb 18 51 02.1
comp=Z,17nm,0.6s
RLMT Red Lodge 67.65 48 P P 18 50 40.0 +1.2
baz=312,SNR=14
RLMT Red Lodge 67.65 48 P P 18 50 39.8 +1.0
RLMT IAmb IAmb 18 50 41.2
comp=Z,47nm,1.4s
FXWY Fox Creek 67.70 50 P P 18 50 40.5 +1.4
FXWY IAmb IAmb 18 50 41.8
comp=Z,24nm,1.1s
AKT Akhty 67.74 307 *e*P **P 18 50 39.3 0.0**
AKT *e* 18 51 04.9
AKT pmax pmax
comp=Z,18nm,0.8s
TPH Tonopah 67.78 58 P P 18 50 40.8 +1.1
TPH pmax pmax
comp=Z,116nm,0.9s
TPH Tonopah 67.78 58 P P 18 50 40.8 +1.1
TIN Tinemaha, Big 67.83 59 P P 18 50 41.2 +1.3
baz=310
TPAW Teton Pass 67.84 50 P P 18 50 40.7 +0.6
SMMC Simmler 67.86 62 P P 18 50 41.3 +1.2
baz=310
GOF Gofitskoye 67.94 312 ⇓ *e*P **P 18 50 40.7 +0.4**
GOF pmax pmax
comp=Z,38nm,0.7s
DGMT Dagmar 67.94 43 P P 18 50 40.6 +0.3
baz=314,SNR=6.3
DGMT Dagmar 67.94 43 P P 18 50 41.1 +0.8
LOHW Long Hollow 67.94 50 P P 18 50 42.0 +1.3
LOHW IAmb IAmb 18 50 43.4
comp=Z,42nm,1.4s
HVU Hansel Valley 67.95 53 P P 18 50 41.8 +1.1
HVU pmax pmax
comp=Z,19nm,0.9s
HVU Hansel Valley 67.95 53 P P 18 50 41.8 +1.1
SNOW Snow King Moun 67.96 50 P P 18 50 41.7 +0.9
SNOW IAmb IAmb 18 50 43.6
comp=Z,30nm,1.1s
REDW Red Top Meadow 67.97 50 P P 18 50 42.1 +1.3
VES Vestal, Richgr 68.09 61 P P 18 50 41.8 +0.4
baz=310
LAO LASA Array 68.17 45 P P 18 50 42.3 +0.5
baz=313,SNR=9.2
LAO LASA Array 68.17 45 P P 18 50 42.6 +0.8
NC303 NORSAR Array S 68.17 339 P P 18 50 40.5 -1.0
NC303 IAmb IAmb 18 52 14.8
comp=Z,45nm,1.6s
NC405 NORSAR Array S 68.17 338 P P 18 50 40.0 -1.5
NC405 IAmb IAmb 18 50 41.1
comp=Z,25nm,0.9s
AHID Auburn Hatcher 68.24 51 P P 18 50 43.2 +0.8
PKM Mcpherson Peak 68.25 62 P P 18 50 43.7 +1.0
baz=311
NC204 NORSAR Array S 68.28 339 P P 18 50 40.5 -1.7
NC204 IAmb IAmb 18 50 41.9
comp=Z,34nm,1.2s
CWC Cottonwood Cre 68.32 60 P P 18 50 43.9 +0.8
baz=311
NB201 NORSAR Array S 68.33 339 P P 18 50 41.1 -1.5
NB201 IAmb IAmb 18 50 42.1
comp=Z,22nm,0.9s
NB2 NORSAR Subarra 68.36 339 P P 18 50 40.8 -1.9
comp=Z,11nm,0.9s,baz=31,slow=6.5
NOA NORSAR Array B 68.36 339 P P 18 50 41.1 -1.6
comp=Z,6.0nm,0.8s,baz=32,slow=6.2,SNR=28
NOA LR LR 19 25 11.2
comp=Z,116nm,18.1s,baz=20,slow=40
BGU Big Grassy Mou 68.37 53 P P 18 50 43.9 +0.6
GRAC Grapevine Rang 68.39 59 P P 18 50 44.5 +1.2
baz=311
SPUT South Promonto 68.45 53 P P 18 50 44.9 +1.1

NBO00 NORSAR Array S 68.48 339 P P 18 50 41.5 -2.0
NBO00 IAmb IAmb 18 50 43.0
comp=Z,20nm,0.9s
MSVF Nonsavu 68.55 148 P P 18 50 46.6 +2.2
MSVF pmax pmax
comp=Z,19nm,1.0s
MSVF Nonsavu 68.55 148 P P 18 50 46.6 +2.2
MSVF IAmb IAmb 18 50 47.7
comp=Z,19nm,1.0s
R11A Troy Canyon, C 68.58 57 P P 18 50 45.4 +0.7
baz=311
R11A Troy Canyon, C 68.58 57 P P 18 50 45.3 +0.6
ISA Isabella, Lake 68.58 61 P P 18 50 44.4 -0.2
ISA pmax pmax
comp=Z,14nm,1.1s
ISA Isabella, Lake 68.58 61 P P 18 50 44.6 0.0
baz=311
ISA Isabella, Lake 68.58 61 P P 18 50 44.4 -0.2
SBC Santa Barbara 68.60 62 P P 18 50 45.7 +1.1
baz=311
ARVC Arvin 68.71 61 P P 18 50 45.6 +0.3
baz=311
HWUT Hardware Ranch 68.75 52 P P 18 50 46.6 +0.9
HWUT IAmb IAmb 18 50 54.0
comp=Z,17nm,0.8s
KIV Kislovodsk 68.87 311 *e*P **P 18 50 47.1 +0.8**
KIV Kislovodsk 68.87 311 *e*P **P 18 50 47.1 +0.8**
KIV pmax pmax
comp=Z,72nm,1.0s
KIV MLR MLR
comp=Z,577nm,17.0s
KIV Kislovodsk 68.87 311 P P 18 50 46.8 +0.5
KIV IAmb IAmb 18 50 48.4
comp=Z,21nm,0.9s
KBZ Khabaz 68.91 311 P P 18 50 46.6 +0.3
comp=Z,11nm,0.9s,baz=194,slow=7.7,SNR=18
KBZ LR LR 19 25 47.8
comp=Z,263nm,18.3s,baz=36,slow=40
MPMC Manual Prospec 68.93 60 P P 18 50 47.6 +0.7
baz=311
DUG Dugway, Tooele 68.98 54 P P 18 50 48.0 +0.9
DUG pmax pmax
comp=Z,26nm,0.9s
DUG Dugway, Tooele 68.98 54 P P 18 50 48.1 +1.0
baz=312
DUG Dugway, Tooele 68.98 54 P P 18 50 48.0 +0.9
DUG IAmb IAmb 18 50 49.3
comp=Z,26nm,0.8s
ZEI Tsey 69.00 310 *e*P **P 18 50 46.2 -1.1**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
FURC Furnace Creek, 69.05 59 P P 18 50 48.2 +0.9
baz=311
BW06 Boulder Array 69.08 50 P P 18 50 48.2 +0.4
baz=313,SNR=28
BW06 Boulder Array 69.08 50 P P 18 50 48.2 +0.4
BW06 IAmb IAmb 18 50 49.5
comp=Z,30nm,1.1s
PD31 Pinedale Array 69.08 50 P P 18 50 47.9 +0.1
PD31 IAmb IAmb 18 50 49.5
comp=Z,27nm,1.1s
PDAR Pinedale Array 69.08 50 P P 18 50 48.3 +0.5
comp=Z,14nm,0.9s,baz=318,slow=2.0,SNR=93
PDAR Pinedale Array 69.08 50 P P 18 50 48.0 +0.2
TPNV Topopah Spring 69.10 58 P P 18 50 48.5 +0.6
TPNV pmax pmax
comp=Z,29nm,1.0s
TPNV Topopah Spring 69.10 58 P P 18 50 48.7 +0.8
baz=311
TPNV Topopah Spring 69.10 58 P P 18 50 48.5 +0.6
TPNV IAmb IAmb 18 50 49.9
comp=Z,30nm,0.9s
DZM Mont Dzumac 69.11 161 *e*P **P 18 50 49.8 +2.0**
comp=Z,60nm,1.1s
DZM Mont Dzumac 69.11 161 P P 18 50 48.4 +0.6
DZM IAmb IAmb 18 50 57.1
comp=Z,21nm,0.9s
OSI Osito Audit: C 69.11 62 P P 18 50 48.6 +0.7
baz=311
OSI Osito Audit: C 69.11 62 P P 18 50 48.5 +0.7
OSI IAmb IAmb 18 50 55.1
comp=Z,30nm,0.9s
TCUT Toone Canyon 69.16 52 P P 18 50 49.1 +0.8
LRMC Laurel Mtn Rad 69.19 60 P P 18 50 49.1 +0.7
baz=311
CTU Camp Tracy 69.25 53 P P 18 50 49.0 +0.2
EDW2 Edwards Air Fo 69.39 61 P P 18 50 50.6 +0.9
baz=311
AS31 Alice Springs 69.46 193 P P 18 50 49.5 -0.4
ASAR Alice Springs 69.46 193 P P 18 50 49.8 -0.1
comp=Z,6.0nm,0.9s,baz=12,slow=6.2,SNR=59
ASAR PKP2bc 19 18 55.9
comp=Z,0.8nm,0.8s,baz=188,slow=3.5,SNR=10.0
ASAR LR LR 19 21 23.7
comp=Z,33nm,18.7s,baz=32,slow=36
ASAR Alice Springs 69.46 193 P P 18 50 49.4 -0.5
ASAR Alice Springs 69.46 193 P P 18 50 49.4 -0.5
PSUT Pine Spring 69.48 56 P P 18 50 50.5 +0.2
JLU Jordanelle 69.48 53 P P 18 50 51.0 +0.7
PRN Pahroc Range 69.52 57 P P 18 50 51.1 +0.6
NLU North Lily Min 69.56 54 P P 18 50 51.5 +0.7
DECC Green Verdugo 69.59 62 P P 18 50 51.3 +0.5
baz=311
SHOC Shoshone, Teco 69.78 59 P P 18 50 52.6 +0.7
baz=312
MWC Mount Wilson 69.78 62 P P 18 50 52.5 +0.3
MWC pmax pmax
comp=Z,44nm,1.3s
MWC Mount Wilson 69.78 62 P P 18 50 52.5 +0.3
MWC IAmb IAmb 18 50 53.9
comp=Z,44nm,1.3s
GSC Goldstone, Bar 69.85 60 P P 18 50 53.0 +0.5
baz=312
SHPR Sheep Range 70.05 58 P P 18 50 54.6 +0.8
AKH Akhalkalaki 70.16 309 ⇓ P **P 18 50 55.4 +1.1**
AKH Akhalkalaki 70.16 309 P P 18 50 55.1 +0.7
AKH pmax pmax
comp=Z,9.0nm,1.2s
AKH Akhalkalaki 70.16 309 P P 18 50 55.1 +0.7
TCRU Three Creeks R 70.25 55 P P 18 50 56.5 +1.4
TUQ Turquoise Moun 70.30 59 P P 18 50 56.2 +0.9
baz=312
CCUT Cedar City 70.42 56 P P 18 50 57.1 +1.0
HEC Hector,Ludlow 70.45 60 P P 18 50 57.2 +1.0
baz=312
MVU Marysvale 70.46 55 P P 18 50 57.7 +1.3
ULM Lac du Bonnet 70.46 37 P P 18 50 55.9 0.0
comp=Z,17nm,0.8s,baz=308,slow=6.7,SNR=13
ULM LR LR 19 23 13.8
comp=Z,65nm,19.1s,baz=311,slow=37
ULM Lac du Bonnet 70.46 37 P P 18 50 55.3 -0.6
ULM pmax pmax
comp=Z,21nm,0.9s
ULM Lac du Bonnet 70.46 37 P P 18 50 55.3 -0.6
ULM IAmb IAmb 18 50 56.5
comp=Z,21nm,0.8s
MSU Marysvale 70.47 55 P P 18 50 57.1 +0.7
MSU Marysvale 70.47 55 P P 18 50 57.1 +0.7
TMUT Trail Mountain 70.50 54 P P 18 50 57.4 +0.8
AKASG Malin Array Be 70.50 323 P P 18 50 54.8 -1.2
comp=Z,5.2nm,0.8s,baz=38,slow=6.5,SNR=14
AKASG LR LR 19 23 12.3
comp=Z,121nm,19.8s,baz=20,slow=37
AKASG Malin Array Be 70.50 323 P P 18 50 54.9 -1.2
AKBB Malin Array Si 70.50 323 P P 18 50 54.4 -1.6
AKBB pmax pmax
comp=Z,9.0nm,1.1s
AKBB Malin Array Si 70.50 323 P P 18 50 54.4 -1.6
SZCU Shurtz Canyon 70.56 56 P P 18 50 57.1 +0.2
MDND Maddock 70.56 41 P P 18 50 56.7 +0.2
baz=316,SNR=6.4
MDND Maddock 70.56 41 P P 18 50 57.2 +0.7
RDMU Red Mountain 70.56 52 P P 18 50 57.7 +0.8
P17A Butcher Ranch, 70.65 53 P P 18 50 58.3 +0.9
SOC Sochi 70.68 313 *e*P **P 18 50 55.9 -1.4**
SOC *e* 18 53 34.5
SOC *e*PPP PPP 18 55 11.6
SOC *e*S **S 19 00 09.3 -0.8**
SOC MLR MLR
comp=Z,147nm,15.0s
Q16A Castle Valley 70.78 54 P P 18 50 59.1 +0.9
MTPU Mount Pierson 70.78 55 P P 18 50 59.5 +0.9
K22A Casper 70.79 49 P P 18 50 58.3 +0.1
baz=314,SNR=9.0
K22A Casper 70.79 49 P P 18 50 58.5 +0.3

PSA00 Pilbara Seismi 70.83 207 P P 18 50 57.8 -0.5
PSA00 IAmb IAmb 18 50 59.1
comp=Z,21nm,1.1s
LCMT Little Creek M 70.86 57 P P 18 50 59.7 +1.0
GMRC Granite Mounta 70.89 60 P P 18 50 59.5 +0.6
baz=312
E28A Huff 70.96 43 P P 18 50 59.3 +0.3
SRU San Rafael Swe 71.02 53 P P 18 51 00.2 +0.5
SRU pmax pmax
comp=Z,36nm,0.9s
SRU San Rafael Swe 71.02 53 P P 18 51 00.2 +0.5
RSSD Black Hills 71.06 46 P P 18 51 00.1 +0.2
RSSD pmax pmax
comp=Z,21nm,0.8s
RSSD Black Hills 71.06 46 P P 18 50 60.0 +0.1
baz=315
RSSD Black Hills 71.06 46 P P 18 51 00.1 +0.2
RSSD IAmb IAmb 18 51 01.2
comp=Z,21nm,0.8s
RWWY Rawlins 71.09 50 P P 18 51 00.4 +0.3
RWWY IAmb IAmb 18 51 01.7
comp=Z,34nm,1.0s
KNB Kanab 71.10 56 P P 18 51 01.5 +1.3
KNB pmax pmax
comp=Z,25nm,0.9s
KNB Kanab 71.10 56 P P 18 51 01.5 +1.3
PKCU Pink Cliffs 71.11 56 P P 18 51 01.3 +0.8
PFO Pinyon Flats O 71.18 61 P P 18 51 01.1 +0.4
baz=312
BELC Belle Mtn. Jos 71.21 61 P P 18 51 01.0 +0.2
baz=312
109C Camp Elliot, M 71.26 62 P P 18 51 01.5 +0.5
baz=312
109C Camp Elliot, M 71.26 62 P P 18 51 01.4 +0.4
109C IAmb IAmb 18 51 07.9
comp=Z,25nm,0.9s
O20A White River Ci 71.60 51 P P 18 51 03.4 +0.3
baz=314,SNR=6.3
O20A White River Ci 71.60 51 P P 18 51 03.7 +0.5
O20A IAmb IAmb 18 51 04.8
comp=Z,24nm,1.1s
IRM Iron Mountain 71.63 60 P P 18 51 04.3 +1.0
baz=312
BAR Barrett 71.67 62 P P 18 51 04.0 +0.5
MONP2 Monument Peak 71.68 62 P P 18 51 04.3 +0.5
baz=312
W13A Hualapai Mount 71.76 59 P P 18 51 04.6 +0.4
BC3 Big Chuckawall 71.77 61 P P 18 51 04.7 +0.4
baz=312
U15A North Rim 71.81 57 P P 18 51 05.8 +1.2
U15A IAmb IAmb 18 51 07.1
comp=Z,24nm,0.9s
SWSC Sam W. Stewart 72.04 61 P P 18 51 06.0 +0.3
baz=312
IKP In-Ko-Pah, Jac 72.04 62 P P 18 51 06.5 +0.7
baz=312
PDMCI Parker Dam,Lak 72.14 59 P P 18 51 07.1 +0.8
baz=313
PV21 Cone Mtn., Par 72.27 53 P P 18 51 08.0 +0.6
PV21 IAmb IAmb 18 51 09.2
comp=Z,27nm,0.8s
PHWY Pilot Hill 72.30 49 P P 18 51 07.9 +0.4
N23A Red Feather La 72.32 50 P P 18 51 08.5 +0.9
baz=315,SNR=12
N23A Red Feather La 72.32 50 P P 18 51 08.3 +0.7
N23A IAmb IAmb 18 51 09.7
comp=Z,36nm,1.3s
PV23 Carpenter Ridg 72.33 53 P P 18 51 08.2 +0.5
PV23 IAmb IAmb 18 51 09.6
comp=Z,36nm,1.0s
PV10 Paradox Valley 72.36 53 P P 18 51 08.9 +1.0
PV14 Lion Creek, Pa 72.38 53 P P 18 51 08.3 +0.4
PV14 IAmb IAmb 18 51 15.8
comp=Z,26nm,0.8s
PV22 Blue Mesa, Par 72.40 53 P P 18 51 09.5 +1.5
PV22 IAmb IAmb 18 51 11.1
comp=Z,32nm,0.9s
PV04 Paradox Valley 72.43 53 P P 18 51 08.8 +0.7
PV04 IAmb IAmb 18 51 10.2
comp=Z,31nm,0.9s
PV20 West Nyswonger 72.43 53 P P 18 51 08.8 +0.6
PV20 IAmb IAmb 18 51 10.1
comp=Z,28nm,0.9s
PV19 Morning Glory 72.44 53 P P 18 51 09.1 +0.8
PV19 IAmb IAmb 18 51 10.2
comp=Z,39nm,0.9s
PV17 East Wray Mesa 72.48 53 P P 18 51 09.2 +0.7
PV16 Nyswonger Mesa 72.48 53 P P 18 51 09.1 +0.6
PV16 IAmb IAmb 18 51 10.4
comp=Z,31nm,1.0s
PV11 David Mesa, Pa 72.51 53 P P 18 51 09.2 +0.6
PV11 IAmb IAmb 18 51 10.7
comp=Z,39nm,1.0s
PV18 Skein Mesa, Pa 72.53 53 P P 18 51 09.2 +0.3
PV18 IAmb IAmb 18 51 10.7
comp=Z,32nm,0.9s
PV12 Saucer Basin, 72.54 53 P P 18 51 09.7 +0.8
PV07 Paradox Valley 72.54 53 P P 18 51 09.2 +0.3
PV07 IAmb IAmb 18 51 10.7
comp=Z,22nm,1.0s
PV03 Paradox Valley 72.56 53 P P 18 51 09.7 +0.7
PV03 IAmb IAmb 18 51 10.9
comp=Z,23nm,0.9s
GLA Glamis 72.57 61 P P 18 51 09.7 +0.8
GLA pmax pmax
comp=Z,21nm,0.9s
GLA Glamis 72.57 61 P P 18 51 09.9 +1.0
baz=313
GLA Glamis 72.57 61 P P 18 51 09.7 +0.8
GLA IAmb IAmb 18 51 10.9
comp=Z,21nm,0.8s
ESJX Sierra Juarez 72.58 62 P P 18 51 08.9 -0.3
ESJX IAmb IAmb 18 51 10.0
comp=Z,28nm,1.2s
PV13 Radium Mtn., P 72.64 53 P P 18 51 10.2 +0.7
PV13 IAmb IAmb 18 51 11.4
comp=Z,32nm,0.8s
PV02 Paradox Valley 72.65 53 P P 18 51 09.9 +0.3
PV15 Paradox Valley 72.70 53 P P 18 51 10.3 +0.4
PV15 IAmb IAmb 18 51 17.7
comp=Z,26nm,1.0s
PV01 Paradox Valley 72.80 53 P P 18 51 11.0 +0.6
PV01 IAmb IAmb 18 51 12.4
comp=Z,71nm,1.8s
SORM Soroca 72.81 322 ⇓ P **P 18 51 08.9 -1.1**
SORM Soroca 72.81 322 ⇓ P **P 18 51 08.9 -1.1**
B35A Bob, Littlefor 72.81 38 P P 18 51 09.7 -0.3
B35A IAmb IAmb 18 51 10.6
comp=Z,25nm,0.9s
WUAZ Wupatki 72.98 57 P P 18 51 12.6 +1.1
baz=314
WUAZ Wupatki 72.98 57 P P 18 51 12.6 +1.1
WUAZ IAmb IAmb 18 51 13.8
comp=Z,23nm,1.1s
Y14A Wickenburg 73.08 59 P P 18 51 12.9 +0.9
Y14A IAmb IAmb 18 51 13.9
comp=Z,19nm,0.8s
ISCO Idaho Springs 73.27 50 P P 18 51 14.4 +1.1
ISCO pmax pmax
comp=Z,33nm,1.3s
ISCO Idaho Springs 73.27 50 P P 18 51 14.1 +0.8
baz=315,SNR=16
ISCO Idaho Springs 73.27 50 P P 18 51 14.4 +1.1
ISCO IAmb IAmb 18 51 15.6
comp=Z,33nm,1.3s
SUSD Miller 73.35 43 P P 18 51 13.2 -0.2
baz=318
SUSD Miller 73.35 43 P P 18 51 13.5 +0.2
UOSS Minazif 73.40 289 P P 18 51 13.7 -0.1
UOSS IAmb IAmb 18 51 23.4
comp=Z,25nm,0.9s
113A Mohawk Valley, 73.41 60 P P 18 51 14.3 +0.5
MVCO Mesa Verde 73.48 54 P P 18 51 15.2 +0.7
baz=314
MVCO Mesa Verde 73.48 54 P P 18 51 15.1 +0.6
F33A 5 Mile Ranch, 73.57 41 P P 18 51 14.6 0.0
F33A IAmb IAmb 18 51 15.5
comp=Z,21nm,0.8s
X16A Lo Mia Camp, P 73.69 58 P P 18 51 16.8 +1.1
X16A IAmb IAmb 18 51 18.1
comp=Z,23nm,0.8s
KWP Kalwaria Pacla 74.00 326 *e*P **P 18 51 17.3 +0.3**
S22A 4UR Ranch, Cre 74.05 52 P P 18 51 18.9 +1.0
baz=315
S22A 4UR Ranch, Cre 74.05 52 P P 18 51 18.8 +0.9

EYMN Ely 74.08 37 P P 18 51 17.1 -0.5
baz=321,SNR=6.6
EYMN Ely 74.08 37 P P 18 51 17.2 -0.3
EYMN IAmb IAmb 18 51 18.2
comp=Z,34nm,0.9s
Q24A Divide 74.12 51 P P 18 51 18.8 +0.5
baz=316
Q24A Divide 74.12 51 P P 18 51 18.4 +0.1
W18A Petrified Fore 74.22 56 P P 18 51 19.8 +1.1
baz=314
W18A Petrified Fore 74.22 56 P P 18 51 19.9 +1.1
OGNE Ogallala 74.36 47 P P 18 51 19.5 +0.1
baz=317,SNR=5.6
OGNE Ogallala 74.36 47 P P 18 51 19.6 +0.2
PIX Pinacate 74.43 61 P P 18 51 19.7 -0.1
PIX IAmb IAmb 18 51 20.4
comp=Z,23nm,1.0s
BUR08 Bucovina Ar. S 74.54 323 P P 18 51 20.0 -0.4
214A Organ Pipe Nat 74.56 60 P P 18 51 21.5 +0.9
baz=314
214A Organ Pipe Nat 74.56 60 P P 18 51 21.2 +0.6
BURAR Bucovina Array 74.56 323 ⇑P P 18 51 19.8 -0.6
BURAR Bucovina Array 74.56 323 ⇑P P 18 51 19.8 -0.6
BURAR Bucovina Array 74.56 323 P P 18 51 19.6 -0.8
OJC Ojcow 74.64 328 eP P 18 51 20.1 -0.6
OJC Ojcow 74.64 328 P P 18 51 20.2 -0.6
OJC pmax pmax
comp=Z,14nm,1.2s
OJC Ojcow 74.64 328 P P 18 51 20.2 -0.6
KOLS Kolonicke sedl 74.72 326 eP P 18 51 19.7 -1.6
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 74.72 326 eP P 18 51 19.7 -1.6
SDCO Great Sand Dun 74.79 52 P P 18 51 22.9 +0.7
baz=316
SDCO Great Sand Dun 74.79 52 P P 18 51 22.9 +0.7
K31A O'Neill 74.80 44 P P 18 51 22.2 +0.4
TESR Tescani 74.80 322 ⇑P P 18 51 21.0 -0.8
F36A Milaca 74.81 39 P P 18 51 21.1 -0.7
ECSD EROS Data Cent 75.00 42 P P 18 51 22.8 -0.2
baz=319,SNR=16
ECSD EROS Data Cent 75.00 42 P P 18 51 22.6 -0.4
ECSD IAmb IAmb 18 51 24.0
comp=Z,27nm,0.9s
E38A The Farm, Brul 75.10 38 P P 18 51 22.9 -0.6
NIE Niedzica 75.10 327 eP P 18 51 23.3 -0.2
VRI Vrincioaia 75.27 321 ⇑P P 18 51 25.6 +1.1
VRI Vrincioaia 75.27 321 ⇑P P 18 51 25.6 +1.1
KSP Ksiaz 75.40 330 eP P 18 51 24.9 -0.2
KSCO Kaye Shedlock' 75.45 49 P P 18 51 26.1 +0.3
baz=317
KSCO Kaye Shedlock' 75.45 49 P P 18 51 26.2 +0.3
KSCO IAmb IAmb 18 51 28.1
comp=Z,24nm,0.9s
OZUR 75.50 322 ⇓P P 18 51 20.4 -5.5
TUC Tucson 75.55 59 P P 18 51 26.9 +0.5
TUC pmax pmax
comp=Z,13nm,1.0s
TUC Tucson 75.55 59 P P 18 51 27.5 +1.1
baz=314
TUC Tucson 75.55 59 P P 18 51 26.9 +0.5
SPMN Marine on St. 75.63 39 P P 18 51 25.8 -0.7
baz=321
SPMN Marine on St. 75.63 39 P P 18 51 26.3 -0.2
LANS Liptovska Anna 75.64 328 eP P 18 51 27.0 +0.4
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 75.64 328 eP P 18 51 27.0 +0.4
OSTC Ostas 75.67 330 eP P 18 51 26.7 0.0
OSTC *ex* x 18 51 37.0
OSTC AMS AMS 19 28 30.0
comp=Z,200nm,9.3s
CHVC Chvalec 75.70 330 eP P 18 51 26.5 -0.4
CHVC *ex* x 18 51 34.3
CHVC AMS AMS 19 28 30.0
comp=Z,300nm,19.6s
DOPR Dopca 75.77 322 ⇑P P 18 51 28.4 +1.1
UPC Upice 75.78 330 AMS AMS 19 28 30.0
comp=Z,200nm,14.7s
DPC Dobruska-Polom 75.81 330 eP P 18 51 27.4 -0.1
DPC Dobruska-Polom 75.81 330 eP P 18 51 27.4 -0.1
T25A Trinidad 75.83 51 P P 18 51 28.7 +0.6
baz=316
T25A Trinidad 75.83 51 P P 18 51 28.7 +0.6
T25A IAmb IAmb 18 51 29.9
comp=Z,20nm,0.9s
MORC Moravsky Berou 75.84 329 ⇓P P 18 51 27.8 +0.1
MORC Moravsky Berou 75.84 329 eP P 18 51 27.3 -0.4
MORC Moravsky Berou 75.84 329 ⇓P P 18 51 27.8 +0.1
MORC Moravsky Berou 75.84 329 P P 18 51 27.3 -0.4
KRLC Kraliky 75.87 330 eP P 18 51 27.2 -0.7
KRLC *ex* x 18 51 33.0
KRLC AMS AMS 19 28 40.0
comp=Z,200nm,11.4s
KRLC Kraliky 75.87 330 eP P 18 51 27.2 -0.7
KRLC MLR MLR
comp=Z,200nm,11.4s
NRDL Niedersach Rie 76.03 335 eP P 18 51 27.7 -0.9
comp=Z,6.7nm,0.9s,baz=30,slow=5.7
CLL Collm 76.13 332 *i* P P 18 51 27.9 -1.4
comp=Z,14nm,0.9s
CLL *i* (pP) **pP 18 51 36.9 +1.0**
CLL *i* PP **PP 18 54 17.7 -1.8**
CLL Collm 76.13 332 P P 18 51 28.3 -0.9
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 76.13 332 eP P 18 51 28.1 -1.2
comp=Z,14nm,0.9s,baz=30,slow=5.7
CLL Collm 76.13 332 P P 18 51 28.3 -0.9
ASSE Asse, Remlinge 76.17 334 eP P 18 51 28.6 -0.7
comp=Z,10nm,1.2s,baz=30,slow=5.7
BRG Berggiesshubel 76.19 332 eP P 18 51 28.1 -1.5
comp=Z,4.8nm,1.2s
comp=N,232nm,18.4s
comp=E,360nm,15.1s
comp=Z,124nm,19.0s
BRG Berggiesshubel 76.19 332 eP P 18 51 28.1 -1.5
BRG pmax pmax
comp=Z,5.0nm,1.3s
BRG MLR MLR
comp=N,232nm,18.4s
BRG MLR MLR
comp=E,360nm,15.1s
BRG MLR MLR
comp=Z,124nm,19.0s
ANMO Albuquerque 76.25 54 *c*eP P 18 51 30.8 +0.3
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO Albuquerque 76.25 54 P P 18 51 31.5 +1.1
baz=316
ANMO Albuquerque 76.25 54 P P 18 51 31.6 +1.1
I37A Lemond, Waseca 76.29 40 P P 18 51 30.6 +0.2
VOIR 76.34 322 ⇓P P 18 51 31.0 +0.3
VOIR 76.34 322 ⇓P P 18 51 31.0 +0.3
FBE Freiberg 76.34 332 eP P 18 51 29.7 -0.7
comp=Z,9.6nm,1.1s,baz=30,slow=5.7
SCHQ Schefferville 76.38 19 LR LR 19 29 03.4
comp=Z,53nm,18.1s,baz=283,slow=39
VYHS Vyhne 76.42 328 eP P 18 51 30.8 -0.2
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 76.42 328 eP P 18 51 30.8 -0.2
L34A Svendsen Farm, 76.45 43 P P 18 51 30.9 -0.4
PSZ Piszkesteto 76.48 327 ⇑P P 18 51 31.7 +0.3
PSZ Piszkesteto 76.48 327 P P 18 51 31.5 +0.1
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 76.48 327 P P 18 51 31.5 +0.1
LENM Lemitar 76.50 55 P P 18 51 33.6 +1.6
CLZ Clausthal 76.51 334 eP P 18 51 30.8 -0.7
comp=Z,15nm,1.1s,baz=30,slow=5.7
COWI Conover 76.53 37 P P 18 51 31.4 -0.3
JAVC Velka Javorina 76.55 328 eP P 18 51 32.4 +0.6
ARR Arges 76.57 322 ⇓P P 18 51 32.1 +0.1
VRAC Vranov 76.58 329 ⇑P P 18 51 31.9 0.0
VRAC Vranov 76.58 329 eP P 18 51 31.7 -0.2
VRAC Vranov 76.58 329 ⇑P P 18 51 31.9 0.0
Y22D IRIS PASSCAL I 76.60 55 P P 18 51 33.5 +1.1
baz=316
NEUB Neuenburg 76.62 333 eP P 18 51 31.2 -0.8
comp=Z,14nm,0.8s,baz=30,slow=5.7
BRTR Keskin Array B 76.62 313 P P 18 51 32.4 0.0
comp=Z,1.1nm,0.8s,baz=271,slow=23,SNR=4.2
BRTR LR LR 19 30 00.7
comp=Z,59nm,19.5s,baz=36,slow=40

GOPC GO Pecny, Ondr 76.71 331 eP P 18 51 32.5 -0.1
GOPC *ex* x 18 51 37.3
GOPC GO Pecny, Ondr 76.71 331 eP P 18 51 32.5 -0.1
GOPC *e* 18 51 37.3
BNM Barren Site 76.72 55 P P 18 51 34.1 +0.9
PRU Pruhonice 76.73 331 eP P 18 51 32.4 -0.3
PRU AMS AMS 19 30 20.0
comp=Z,200nm,10.6s
PRU Pruhonice 76.73 331 eP P 18 51 32.4 -0.3
PRU MLR MLR
comp=Z,200nm,10.6s
G40A Rib Lake 76.74 38 P P 18 51 32.5 -0.4
G40A IAmb IAmb 18 51 33.5
comp=Z,24nm,0.9s
STKA Stephens Creek 76.75 185 P P 18 51 32.9 +0.1
comp=Z,9.6nm,0.9s,baz=337,slow=8.7,SNR=13
STKA Stephens Creek 76.75 185 P P 18 51 33.3 +0.5
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 76.75 185 P P 18 51 33.3 +0.5
KRUC Moravsky 76.85 329 eP P 18 51 33.0 -0.4
SMOL Smolenice 76.93 328 eP P 18 51 34.7 +0.8
SMOL Smolenice 76.93 328 eP P 18 51 34.7 +0.8
TANN Tannenbergstha 77.07 332 eP P 18 51 33.9 -0.8
comp=Z,6.0nm,1.3s,baz=30,slow=5.7
MODS Modra-Piesok 77.10 328 eP P 18 51 33.6 -1.2
MODS pmax pmax
comp=Z,8.0nm,1.2s
MODS Modra-Piesok 77.10 328 eP P 18 51 33.6 -1.2
SIRR Siria 77.11 325 ⇑P P 18 51 35.4 +0.5
CBKS Cedar Bluff 77.12 47 P P 18 51 34.6 -0.5
baz=318
MOX Moxa 77.15 333 eP P 18 51 34.2 -0.9
comp=Z,6.6nm,1.1s,baz=30,slow=5.7
GUNZ Gunzen 77.16 332 eP P 18 51 34.4 -0.7
comp=Z,3.8nm,0.9s,baz=30,slow=5.7
121A Cookes Peak, D 77.19 57 P P 18 51 37.1 +1.3
baz=316
121A Cookes Peak, D 77.19 57 P P 18 51 37.2 +1.3
121A IAmb IAmb 18 51 38.4
comp=Z,43nm,1.2s
E43A Lone Tree Farm 77.20 35 P P 18 51 35.0 -0.4
E43A IAmb IAmb 18 51 36.0
comp=Z,23nm,0.8s
WERN Wernitzgruen 77.21 332 eP P 18 51 35.0 -0.5
comp=Z,5.1nm,0.9s,baz=30,slow=5.7
NKC Novy Kostel 77.23 332 AMS AMS 19 29 40.0
comp=Z,200nm,16.9s
FORT Forrest 77.46 197 P P 18 51 36.8 0.0
FORT IAmb IAmb 18 51 44.1
comp=Z,29nm,0.8s
MANZ Manzenberg 77.56 332 eP P 18 51 36.6 -0.8
comp=Z,2.9nm,0.9s,baz=30,slow=5.7
I40A Norwalk 77.64 39 P P 18 51 37.5 -0.4
I40A IAmb IAmb 18 51 38.4
comp=Z,21nm,0.6s
K38A Parkersburg 77.64 41 P P 18 51 37.6 -0.4
K38A IAmb IAmb 18 51 38.0
comp=Z,22nm,1.0s
BZS Buzias 77.65 324 ⇑P P 18 51 37.3 -0.6
BZS Buzias 77.65 324 ⇑P P 18 51 37.3 -0.6
N35A Tabor 77.65 44 P P 18 51 38.2 +0.2
ROTZ Rotzenmuhle 77.71 332 eP P 18 51 37.8 -0.5
comp=Z,8.3nm,1.3s,baz=30,slow=5.7
KHC Kasperske Hory 77.79 331 eP P 18 51 38.2 -0.5
KHC *ex* x 18 51 47.2
KHC AMS AMS 19 33 20.0
comp=Z,200nm,8.7s
KHC Kasperske Hory 77.79 331⇓ eP P 18 51 37.8 -0.9
KHC pmax pmax
comp=Z,19nm,1.0s
KHC Kasperske Hory 77.79 331 P P 18 51 38.5 -0.2
MATQ Matagami 77.83 28 P P 18 51 38.1 -0.8
baz=329,SNR=5.3
GEC2 GERESS Array S 77.99 331 eP P 18 51 39.1 -0.8
comp=Z,4.0nm,0.9s,baz=30,slow=5.7
GEC2 GERESS Array S 77.99 331 P P 18 51 39.2 -0.7
GERES GERESS Array B 77.99 331 P P 18 51 39.4 -0.5
comp=Z,1.7nm,0.8s,baz=38,slow=5.0,SNR=17
GERES LR LR 19 30 09.0
comp=Z,78nm,21.4s,baz=24,slow=39
GERES GERESS Array B 77.99 331 P P 18 51 38.8 -1.1
CONA Conrad Observa 78.00 329 eP P 18 51 40.0 0.0
comp=Z,5.2nm,0.9s
SCIA State Center 78.01 42 P P 18 51 40.0 0.0
baz=321
SCIA State Center 78.01 42 P P 18 51 40.4 +0.4
WET Wettzell 78.02 331 eP P 18 51 39.8 -0.2
comp=Z,10nm,1.0s,baz=30,slow=5.7
GRA1 Grafenberg Arr 78.10 332 P P 18 51 40.2 -0.2
GRF Grafenberg Arr 78.10 332 P P 18 51 40.2 -0.2
GRF Grafenberg Arr 78.10 332 eP P 18 51 40.2 -0.2
comp=Z,14nm,0.8s,baz=30,slow=5.7
BBOO Buckleboo 78.16 189 P P 18 51 40.8 +0.1
BBOO IAmb IAmb 18 51 42.1
comp=Z,46nm,1.1s
E46A Sault Ste Mari 78.28 34 P P 18 51 40.8 -0.6
E46A IAmb IAmb 18 51 41.8
comp=Z,60nm,1.6s
I42A Draeger Farm, 78.39 38 P P 18 51 41.5 -0.6
I42A IAmb IAmb 18 51 42.7
comp=Z,28nm,0.9s
H43A Windswept, Lux 78.42 37 P P 18 51 42.1 -0.1
KSU1 Kansas State U 78.51 45 P P 18 51 42.1 -0.8
baz=320
KSU1 Kansas State U 78.51 45 P P 18 51 41.7 -1.2
KSU1 IAmb IAmb 18 51 43.1
comp=Z,28nm,1.1s
TNS Taunus Mts 78.52 334 eP P 18 51 42.0 -0.7
comp=Z,8.8nm,0.9s,baz=30,slow=5.7
JFWS Jewell Farm 78.58 39 P P 18 51 41.7 -1.5
JFWS pmax pmax
comp=Z,11nm,0.8s
JFWS Jewell Farm 78.58 39 P P 18 51 42.2 -0.9
baz=323
JFWS Jewell Farm 78.58 39 P P 18 51 41.7 -1.5
AHRW Bad Neuenahr-A 78.65 335 eP P 18 51 42.9 -0.5
comp=Z,12nm,1.0s,baz=30,slow=5.7
LSQQ Lebel-sur-Quev 78.66 28 P P 18 51 43.1 -0.3
baz=330
ARSA Arzberg 78.69 329 eP P 18 51 43.5 -0.2
comp=Z,6.2nm,1.2s
ARSA Arzberg 78.69 329 eP P 18 51 43.2 -0.5
comp=Z,8.0nm,1.2s,baz=30,slow=5.7
CHGQ Chibougamau 78.75 26 P P 18 51 43.3 -0.6
baz=332,SNR=8.8
L40A Anamosa 78.81 40 P P 18 51 43.7 -0.8
L40A IAmb IAmb 18 51 44.8
comp=Z,22nm,1.0s
N38A Joes South For 78.87 42 P P 18 51 44.6 -0.1
MEM Membach 78.91 336 P P 18 51 44.2 -0.6
comp=Z,8.7nm,1.0s
AMTX Amarillo 78.99 51 P P 18 51 46.4 +0.8
baz=318
AMTX Amarillo 78.99 51 P P 18 51 46.5 +0.8
AMTX IAmb IAmb 18 51 47.5
comp=Z,36nm,0.9s
MORW Morawa 79.03 207 P P 18 51 45.2 -0.3
MORW IAmb IAmb 18 51 52.4
comp=Z,63nm,1.6s
MSTX Muleshoe 79.05 53 P P 18 51 46.4 +0.4
baz=318
MSTX Muleshoe 79.05 53 P P 18 51 46.2 +0.2
MSTX IAmb IAmb 18 51 47.6
comp=Z,24nm,1.1s
KAN12 Harper NE Stat 79.17 47 P P 18 51 46.0 -0.4
MNTX Cornudas Mount 79.20 56 P P 18 51 47.4 +0.6
baz=317
MNTX Cornudas Mount 79.20 56 P P 18 51 47.5 +0.6
KAN10 Anthony SW Sta 79.25 48 P P 18 51 46.8 -0.2
RJOB Jocherg 79.25 331 eP P 18 51 45.8 -1.1
comp=Z,7.5nm,1.0s,baz=30,slow=5.7
BCLA Clavier 79.28 336 P P 18 51 46.1 -0.7
VLDQ Val d'Or 79.31 29 P P 18 51 45.7 -1.3
SOKA Soboth 79.36 329 eP P 18 51 47.2 -0.2
comp=Z,10.0nm,1.1s
PERS Pernice 79.36 329 eP P 18 51 47.0 -0.5
BGES Gesves 79.37 336 P P 18 51 46.7 -0.7
FUR Furstenfeldbru 79.41 332 eP P 18 51 47.2 -0.4
comp=Z,19nm,1.2s,baz=30,slow=5.7
GDL2 Guadalupe Moun 79.43 55 P P 18 51 48.7 +0.5
BMRD Maredsous 79.53 337 P P 18 51 47.2 -1.0
comp=Z,10nm,1.4s
DIVS Divibare 79.56 324 P P 18 51 47.9 -0.7
STU Stuttgart 79.56 333 eP P 18 51 47.9 -0.5

comp=Z,11nm,0.9s,baz=30,slow=5.7
L42A Oliver, Polo 79.57 39 P P 18 51 47.7 -0.8
L42A IAmb IAmb 18 51 48.7
comp=Z,21nm,0.9s
K43A Burlington 79.60 38 P P 18 51 48.3 -0.4
K43A IAmb IAmb 18 51 49.5
comp=Z,37nm,1.2s
KBA Koelnbreinsper 79.63 330 eP P 18 51 49.4 +0.4
comp=Z,14nm,0.9s,SNR=10
KBA Koelnbreinsper 79.63 330 eP P 18 51 48.9 -0.1
comp=Z,22nm,1.1s,baz=30,slow=5.7
P38A Dawn 79.63 43 P P 18 51 49.0 +0.1
P38A IAmb IAmb 18 51 50.0
comp=Z,34nm,0.9s
KAN13 South Haven SW 79.65 47 P P 18 51 48.9 -0.3
CROK Carrier 79.77 48 P P 18 51 49.4 -0.4
WATA Walderalm 80.02 331 eP P 18 51 50.5 -0.6
comp=Z,9.6nm,0.9s,SNR=5.8
N41A Harden Midland 80.05 41 P P 18 51 51.1 -0.1
WTTA Wattenberg 80.06 331 eP P 18 51 51.1 -0.3
comp=Z,7.8nm,0.9s
WTTA Wattenberg 80.06 331 eP P 18 51 51.1 -0.3
comp=Z,23nm,1.4s,baz=30,slow=5.7
PRED Cave del Predi 80.09 329 P P 18 51 50.8 -0.6
RETA Reutte 80.17 332 eP P 18 51 51.4 -0.4
comp=Z,6.1nm,1.2s
MOTA Moosalm 80.17 331 eP P 18 51 51.5 -0.4
comp=Z,17nm,1.1s,SNR=8.5
L44A Lake County Fo 80.20 38 P P 18 51 51.7 -0.3
baz=324
BFO Black Forest 80.22 334 P P 18 51 51.3 -0.8
BFO pmax pmax
comp=Z,8.0nm,1.1s
BFO Black Forest 80.22 334 eP P 18 51 51.2 -0.8
comp=Z,12nm,1.3s,baz=30,slow=5.7
BFO Black Forest 80.22 334 P P 18 51 51.3 -0.8
T35A Sooner Cattle 80.23 47 P P 18 51 52.5 +0.2
SQTA Sankt Quirin 80.25 331 eP P 18 51 52.0 -0.3
comp=Z,9.9nm,0.9s,SNR=5.3
VOJS Vojsko 80.33 329 eP P 18 51 48.7 -4.0
D54A Lac Fusel, La 80.42 29 P P 18 51 52.2 -0.8
baz=330
P40A Paris 80.42 42 P P 18 51 53.3 +0.1
P40A IAmb IAmb 18 51 54.4
comp=Z,47nm,1.1s
FETA Feichten 80.58 331 eP P 18 51 53.7 -0.5
comp=Z,8.3nm,1.2s
OK029 Liberty Lake 80.59 48 P P 18 51 54.7 +0.5
OK029 IAmb IAmb 18 52 01.9
comp=Z,38nm,1.1s
DAVA Damuels 80.64 332 eP P 18 51 54.1 -0.3
comp=Z,8.3nm,1.0s
DAVA Damuels 80.64 332 eP P 18 51 53.7 -0.7
comp=Z,15nm,1.3s,baz=30,slow=5.7
J47A Sunmer 80.66 36 P P 18 51 54.7 +0.3
J47A IAmb IAmb 18 51 55.6
comp=Z,41nm,0.9s
WMOK Wichita Mounta 80.68 50 P P 18 51 54.9 +0.2
WMOK pmax pmax
comp=Z,19nm,1.1s
WMOK Wichita Mounta 80.68 50 P P 18 51 55.0 +0.2
baz=319
WMOK Wichita Mounta 80.68 50 P P 18 51 54.9 +0.2
ECH Echery 80.69 334 P P 18 51 53.7 -0.9
ECH pmax pmax
comp=Z,6.0nm,0.9s
ECH Echery 80.69 334 P P 18 51 53.7 -0.9
QUOK Quay 80.69 47 P P 18 51 55.1 +0.3
M44A Midewin, Midew 80.78 39 P P 18 51 54.7 -0.4
M44A IAmb IAmb 18 51 55.8
comp=Z,40nm,1.0s
HDIL Hopedale 80.89 40 P P 18 51 55.5 -0.2
baz=324
HDIL Hopedale 80.89 40 P P 18 51 55.5 -0.2
D55A Sainte-Anne-du 80.93 28 P P 18 51 55.5 -0.3
baz=331,SNR=5.5
ALGO Algonquin Park 80.97 30 P P 18 51 55.0 -1.0
baz=330
FUORN Ofenpass-Fuorn 81.09 332 P P 18 51 56.6 -0.4
D56A ZEC Mazanza, M 81.14 28 P P 18 51 56.5 -0.5
baz=332,SNR=6.4
E55A Montcerf-Lytto 81.23 29 P P 18 51 56.5 -0.9
baz=331
PDG Podgorica 81.24 324 ⇑P P 18 51 56.6 -0.9
PDG Podgorica 81.24 324 P P 18 51 56.5 -0.9
S39A Bolivar 81.24 44 P P 18 51 57.1 -0.6
S39A IAmb IAmb 18 51 58.0
comp=Z,27nm,0.9s
R40A Maddies Statio 81.29 43 P P 18 51 57.6 -0.2
R40A IAmb IAmb 18 51 58.7
comp=Z,34nm,0.9s
X34A Smith Ranch, M 81.30 49 P P 18 51 58.2 +0.2
X34A IAmb IAmb 18 51 60.0
comp=Z,39nm,1.1s
TUL1 Leonard 81.37 47 P P 18 51 58.7 +0.3
baz=320
TUL1 Leonard 81.37 47 P P 18 51 58.6 +0.3
TUL1 IAmb IAmb 18 52 05.9
comp=Z,71nm,1.6s
W35A Tecumseh 81.39 48 P P 18 51 59.0 +0.5
G54A Lake Saint Pet 81.43 30 P P 18 51 57.6 -0.9
baz=330
D57A Chemin Vers le 81.45 27 P P 18 51 58.2 -0.4
baz=332,SNR=12
E56A St. Veronique 81.49 28 P P 18 51 58.2 -0.6
baz=331,SNR=5.5
P43A Skaggs, Pawnee 81.52 41 P P 18 51 58.9 -0.1
P43A IAmb IAmb 18 51 59.9
comp=Z,24nm,0.8s
TUE Stuetta 81.53 332 P P 18 51 58.6 -0.7
F55A Otter Lake 81.67 29 P P 18 51 58.6 -1.1
baz=331
FNA Florina 81.67 321 P P 18 51 59.0 -0.9
FNA pmax pmax
comp=Z,6.0nm,0.9s
FNA Florina 81.67 321 P P 18 51 59.0 -0.9
U38A Gravette 81.68 46 P P 18 51 60.0 -0.1
U38A IAmb IAmb 18 52 00.9
comp=Z,18nm,0.9s
D58A Chemin du LacG 81.70 26 P P 18 51 59.3 -0.6
baz=333
I51A Listowel 81.70 33 P P 18 52 00.1 +0.1
baz=328
ABTX Abilene, Hawle 81.80 52 P P 18 52 01.2 +0.4
baz=319
ABTX Abilene, Hawle 81.80 52 P P 18 52 01.5 +0.8
ABTX IAmb IAmb 18 52 08.5
comp=Z,37nm,1.4s
L48A N Adams 81.89 36 P P 18 52 00.9 0.0
L48A IAmb IAmb 18 52 01.9
comp=Z,39nm,1.1s
E57A Chemin Saint G 81.90 27 P P 18 52 00.3 -0.7
baz=332,SNR=5.9
AAM Ann Arbor 81.91 35 P P 18 52 01.0 -0.1
AAM pmax pmax
comp=Z,262nm,0.2s
AAM Ann Arbor 81.91 35 P P 18 52 01.4 +0.3
baz=326
AAM Ann Arbor 81.91 35 P P 18 52 01.0 -0.1
TRQ Mont Tremblant 81.93 28 P P 18 52 00.8 -0.5
TX31 Lajitas Ar. Si 81.94 56 P P 18 52 02.1 +0.5
TX32 Lajitas Array 81.94 56 P P 18 52 02.2 +0.6
TX32 IAmb IAmb 18 52 03.5
comp=Z,27nm,0.8s
TXAR Lajitas Array 81.94 56 P P 18 52 02.4 +0.9
comp=Z,20nm,0.7s,baz=297,slow=4.0,SNR=235
TXAR PKKPbc **PKKPbc 19 10 31.4 +1.9**
comp=Z,0.6nm,0.9s,baz=145,slow=3.1,SNR=5.2
TXAR Lajitas Array 81.94 56 P P 18 52 02.1 +0.5
TXAR Lajitas Array 81.94 56 P P 18 52 02.1 +0.5
H53A Bobcaygeon 81.96 31 P P 18 52 00.6 -0.7
baz=329
CCM Cathedral Cave 81.97 43 P P 18 52 01.5 0.0
CCM pmax pmax
comp=Z,33nm,0.9s
CCM Cathedral Cave 81.97 43 P P 18 52 01.5 0.0
baz=323
CCM Cathedral Cave 81.97 43 P P 18 52 01.4 0.0
CCM IAmb IAmb 18 52 02.5
comp=Z,33nm,0.8s
SFIN Lafayette 82.02 39 P P 18 52 01.3 -0.3
baz=325
SFIN Lafayette 82.02 39 P P 18 52 01.4 -0.3
SFIN IAmb IAmb 18 52 02.5
comp=Z,19nm,0.8s
HHAR Hobbs 82.03 46 P P 18 52 01.6 -0.3

G55A	Calabogie	82.04	30	P	P	18 52 00.8	-1.0	
	baz=330							
PLVO	Plevna	82.10	30	P	P	18 52 01.3	-0.7	
MGMO	Mountain Grove	82.18	44	P	P	18 52 02.1	-0.6	
MGMO				IAmb	IAmb	18 52 03.3		
	comp=Z,27nm,1.2s							
E58A	La Victoria	82.22	27	P	P	18 52 02.1	-0.5	
	baz=332							
N47A	Urbana	82.23	38	P	P	18 52 02.1	-0.6	
N47A				IAmb	IAmb	18 52 03.2		
	comp=Z,35nm,0.9s							
NWAO	Narrogin (SRO)	82.24	205	P	P	18 52 02.4	-0.2	
NWAO				pmax	pmax			
	comp=Z,133nm,1.9s							
NWAO	Narrogin (SRO)	82.24	205	P	P	18 52 02.4	-0.2	
NWAO	Narrogin (SRO)	82.24	205	P	P	18 52 02.5	-0.1	
NWAO				IAmb	IAmb	18 52 10.5		
	comp=Z,115nm,1.9s							
ORIO	Orleans, Innes	82.29	29	P	P	18 52 02.2	-0.8	
	baz=331							
Q44A	Meyer Farm, Va	82.34	41	P	P	18 52 03.5	0.0	
Q44A				IAmb	IAmb	18 52 04.4		
	comp=Z,20nm,0.8s							
FVM	French Village	82.42	42	P	P	18 52 03.8	0.0	
FVM				pmax	pmax			
	comp=Z,18nm,1.0s							
FVM	French Village	82.42	42	P	P	18 52 03.8	0.0	
FVM				IAmb	IAmb	18 52 04.4		
	comp=Z,18nm,1.0s							
D61A	St Aubert, Com	82.43	25	P	P	18 52 03.6	0.0	
	baz=334							
D60A	Saint Jean D'O	82.47	25	P	P	18 52 03.2	-0.6	
	baz=334							
H55A	Tweed	82.49	30	P	P	18 52 03.4	-0.7	
	baz=330							
U40A	Yellville	82.52	45	P	P	18 52 04.0	-0.4	
	baz=322							
U40A	Yellville	82.52	45	P	P	18 52 04.1	-0.4	
Z35A	Perchaven, San	82.57	50	P	P	18 52 04.8	+0.1	
P46A	Rosedale	82.59	39	P	P	18 52 04.6	-0.1	
I55A	Frankford	82.60	31	P	P	18 52 03.7	-0.9	
	baz=330							
X37A	Clayton	82.61	48	P	P	18 52 05.1	+0.2	
G57A	Newington	82.77	29	P	P	18 52 04.7	-0.8	
	baz=332							
H56A	Elgin	82.78	30	P	P	18 52 04.8	-0.7	
	baz=331							
E60A	Ste Agathe de	82.80	26	P	P	18 52 05.2	-0.4	
	baz=334							
F59A	Saint Guilaume	82.84	27	P	P	18 52 05.4	-0.4	
	baz=333							
N49A	Columbus Grove	82.84	37	P	P	18 52 05.5	-0.5	
N49A				IAmb	IAmb	18 52 06.8		
	comp=Z,26nm,1.1s							
T42A	Van Buren	82.86	43	P	P	18 52 05.8	-0.3	
T42A				IAmb	IAmb	18 52 07.0		
	comp=Z,20nm,1.0s							
D62A	Allapoint, All	82.87	24	P	P	18 52 05.6	-0.4	
	baz=335							
D62A	Allapoint, All	82.87	24	P	P	18 52 05.3	-0.7	
M50A	Fremont	82.91	36	P	P	18 52 06.0	-0.3	
M50A				IAmb	IAmb	18 52 07.0		
	comp=Z,21nm,0.8s							
W39A	Magazine	82.96	46	P	P	18 52 06.5	-0.1	
	baz=322							
W39A	Magazine	82.96	46	P	P	18 52 06.2	-0.5	
W39A				IAmb	IAmb	18 52 07.9		
	comp=Z,38nm,1.5s							
F60A	Warwick	83.00	26	P	P	18 52 06.0	-0.7	
	baz=333							
E61A	Lac Etchemin	83.03	25	P	P	18 52 06.5	-0.4	
	baz=334							
G58A	Ormstown	83.05	28	P	P	18 52 06.3	-0.7	
	baz=332							
J54A	Appleton	83.06	32	P	P	18 52 06.4	-0.6	
	baz=329							
E62A	Clayton Lake	83.15	24	P	P	18 52 06.9	-0.6	
	baz=335							
D63A	Stockholm	83.18	23	P	P	18 52 07.4	-0.2	
	baz=336							
H57A	Richville	83.20	29	P	P	18 52 07.0	-0.8	
	baz=331							
MURB	Monte Urbino	83.20	328	P	P	18 52 08.4	+0.5	
S44A	Carbondale	83.21	42	P	P	18 52 08.1	+0.2	
FCAR	Ozark Folk Cen	83.25	45	P	P	18 52 07.8	-0.3	
FCAR				IAmb	IAmb	18 52 08.8		
	comp=Z,20nm,0.8s							
F61A	St Evariste	83.29	26	P	P	18 52 08.3	+0.1	
	baz=334,SNR=7.4							
JCT	Junction City	83.32	53	P	P	18 52 08.6	-0.1	
JCT				pmax	pmax			
	comp=Z,31nm,1.0s							
JCT	Junction City	83.32	53	P	P	18 52 09.1	+0.4	
	baz=319							
JCT	Junction City	83.32	53	P	P	18 52 08.6	-0.1	
JCT				IAmb	IAmb	18 52 16.3		
	comp=Z,31nm,1.0s							
LONY	Lake Ozonia	83.33	29	P	P	18 52 07.6	-0.8	
	baz=332							
NRCA	Norcia	83.34	328	P	P	18 52 08.4	-0.2	
NRCA				IAmb	IAmb	18 52 09.5		
	comp=Z,56nm,1.9s							
J55A	Hilton	83.37	31	P	P	18 52 08.0	-0.6	
	baz=330							
PBMO	Poplar Bluff	83.38	43	P	P	18 52 09.0	+0.2	
O49A	Covington	83.38	37	P	P	18 52 08.4	-0.3	
G59A	Clarenceville	83.39	27	P	P	18 52 08.2	-0.5	
	baz=333							
M52A	Chesterland	83.48	34	P	P	18 52 08.7	-0.6	
	baz=328							
WHTX	Lake Whitney,	83.48	51	P	P	18 52 09.8	+0.3	
	baz=320							
WHTX	Lake Whitney,	83.48	51	P	P	18 52 10.0	+0.5	
WHTX				IAmb	IAmb	18 52 11.0		
	comp=Z,26nm,0.8s							
MOQ	Mont Orford	83.49	27	P	P	18 52 09.3	0.0	
P48A	Milroy	83.51	38	P	P	18 52 08.6	-0.8	
P48A				IAmb	IAmb	18 52 10.2		
	comp=Z,36nm,1.4s							
BATG	Bathurst New B	83.52	22	P	P	18 52 10.1	+0.8	
BATG				IAmb	IAmb	18 52 10.4		
	comp=Z,23nm,1.0s							
ERPA	Erie	83.53	33	P	P	18 52 09.2	-0.3	
	baz=329							
PQI	Presque Isle	83.54	24	P	P	18 52 08.6	-0.9	
L53A	Girard	83.57	34	P	P	18 52 09.4	-0.3	
	baz=328,SNR=5.8							
MIAR	Mount Ida	83.57	46	P	P	18 52 10.1	+0.2	
MIAR				pmax	pmax			
	comp=Z,24nm,1.0s							
MIAR	Mount Ida	83.57	46	P	P	18 52 10.0	+0.2	
	baz=322							
MIAR	Mount Ida	83.57	46	P	P	18 52 10.1	+0.2	
MIAR				IAmb	IAmb	18 52 11.4		
	comp=Z,24nm,1.0s							
LCAR	Lake Charles	83.59	44	P	P	18 52 09.6	-0.3	
LCAR				IAmb	IAmb	18 52 11.8		
	comp=Z,23nm,1.4s							
N51A	Ashland	83.59	35	P	P	18 52 09.5	-0.4	
	baz=327							
N51A	Ashland	83.59	35	P	P	18 52 09.7	-0.2	
N51A				IAmb	IAmb	18 54 53.5		
	comp=Z,22nm,0.7s							
K54A	Basiliko Farm,	83.61	32	P	P	18 52 09.4	-0.6	
	baz=329							
H59A	Cadyville	83.61	28	P	P	18 52 09.2	-0.7	
	baz=332							
WHAR	Wooly Hollow	83.64	45	P	P	18 52 10.3	+0.1	
E63A	Oxbow	83.65	24	P	P	18 52 09.3	-0.7	
	baz=336							
E63A	Oxbow	83.65	24	P	P	18 52 09.5	-0.5	
H58A	Gabriels	83.65	28	P	P	18 52 09.2	-0.9	
	baz=332							
G60A	Masonville	83.65	27	P	P	18 52 09.8	-0.3	
	baz=333							
F62A	Pittston Farm,	83.67	25	P	P	18 52 09.9	-0.2	
	baz=335,SNR=6.5							
F62A	Pittston Farm,	83.67	25	P	P	18 52 09.9	-0.2	
F62A				IAmb	IAmb	18 52 11.2		
	comp=Z,28nm,1.1s							
L54A	Sinclairville	83.69	33	P	P	18 52 10.0	-0.4	
	baz=329							
J56A	Wolcott	83.71	31	P	P	18 52 09.6	-0.7	
	baz=330							
K55A	Perry	83.74	32	P	P	18 52 10.0	-0.6	
	baz=330							
G61A	St-Isidore-de-	83.74	26	P	P	18 52 10.3	-0.2	
	baz=334,SNR=8.7							
W41B	Gary Mavity, V	83.75	45	P	P	18 52 10.5	-0.2	
	baz=322							
W41B	Gary Mavity, V	83.75	45	P	P	18 52 10.7	-0.1	
W41B				IAmb	IAmb	18 52 11.9		
	comp=Z,29nm,1.0s							
P49A	Miami Univ. Ec	83.76	38	P	P	18 52 10.3	-0.4	
	baz=326							
P49A	Miami Univ. Ec	83.76	38	P	P	18 52 10.5	-0.2	
P49A				IAmb	IAmb	18 52 11.5		
	comp=Z,20nm,0.8s							
MMNY	Mt. Morris Dam	83.80	32	P	P	18 52 10.2	-0.6	
MMNY				IAmb	IAmb	18 52 11.3		
	comp=Z,25nm,1.0s							
PMOR	Pomariorio Ree	83.80	118	*e*T	T	20 23 19.4		
	comp=Z,12nm,0.2s							
WVNY	West Valley, N	83.82	32	P	P	18 52 10.7	-0.3	
WVNY				IAmb	IAmb	18 52 11.8		
	comp=Z,30nm,1.0s							
E64A	Bridgewater	83.82	23	P	P	18 52 10.4	-0.5	
	baz=336							
Z38A	Mt. Pleasant	83.84	48	P	P	18 52 11.7	+0.5	
M53A	WI Miller and	83.84	34	P	P	18 52 11.0	-0.2	
	baz=328							
M53A	WI Miller and	83.84	34	P	P	18 52 11.1	0.0	
ALLY	Alegheny Colle	83.87	34	P	P	18 52 11.3	0.0	
ALLY				IAmb	IAmb	18 52 12.4		
	comp=Z,30nm,0.9s							
J57A	Williamstown	83.90	30	P	P	18 52 10.5	-0.8	
	baz=331							
ACSO	Alum Creek Sta	83.92	36	P	P	18 52 11.4	-0.2	
	baz=327							
ACSO	Alum Creek Sta	83.92	36	P	P	18 52 11.5	0.0	
ACSO				IAmb	IAmb	18 52 12.4		
	comp=Z,20nm,0.8s							
X40A	Basin Creek Fa	84.00	46	P	P	18 52 12.0	0.0	
	baz=322							
X40A	Basin Creek Fa	84.00	46	P	P	18 52 12.1	+0.1	
X40A				IAmb	IAmb	18 52 13.5		
	comp=Z,29nm,1.2s							
H60A	Morristown	84.01	27	P	P	18 52 11.4	-0.6	
	baz=333							
I58A	Old Forge	84.02	29	P	P	18 52 11.1	-0.9	
	baz=332							
LATE	Laterza	84.02	329	P	P	18 52 11.4	-0.7	
NCB	Newcomb	84.03	29	P	P	18 52 11.4	-0.6	
K56A	Middlesex	84.04	31	P	P	18 52 11.4	-0.8	
	baz=330							
L55A	Hinsdale	84.07	32	P	P	18 52 11.9	-0.5	
	baz=330							
F63A	Nahmakanta, Br	84.10	25	P	P	18 52 12.0	-0.4	
	baz=335							
F63A	Nahmakanta, Br	84.10	25	P	P	18 52 12.2	-0.2	
F63A				IAmb	IAmb	18 54 45.2		
	comp=Z,44nm,1.8s							
G62A	West of Eustis	84.11	26	P	P	18 52 12.5	0.0	
	baz=334							
G62A	West of Eustis	84.11	26	P	P	18 52 12.2	-0.3	
G62A				IAmb	IAmb	18 52 13.8		
	comp=Z,21nm,1.1s							
SSB	Saint Sauveur	84.12	334	P	P	18 52 12.2	-0.4	
SSB				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SSB	Saint Sauveur	84.12	334	P	P	18 52 12.2	-0.4	
WCI	Wyandotte Cave	84.14	39	P	P	18 52 12.8	+0.1	
WCI				pmax	pmax			
	comp=Z,21nm,0.8s							
WCI	Wyandotte Cave	84.14	39	P	P	18 52 12.7	+0.1	
	baz=325							
WCI	Wyandotte Cave	84.14	39	P	P	18 52 12.8	+0.1	
WCI				IAmb	IAmb	18 52 13.8		
	comp=Z,21nm,0.8s							
O51A	Pataskala	84.15	36	P	P	18 52 12.3	-0.4	
	baz=327							
F64A	Sherman	84.18	24	P	P	18 52 12.4	-0.3	
	baz=336							
M54A	Oil Creek Stat	84.18	33	P	P	18 52 12.5	-0.4	
	baz=329							
M54A	Oil Creek Stat	84.18	33	P	P	18 52 12.8	0.0	
M54A				IAmb	IAmb	18 52 13.8		
	comp=Z,31nm,1.1s							
J58A	Remsen	84.20	30	P	P	18 52 12.3	-0.6	
	baz=331							
J58A	Remsen	84.20	30	P	P	18 52 12.4	-0.6	
J58A				IAmb	IAmb	18 52 13.3		
	comp=Z,18nm,0.9s							
VT1	Waterbury	84.20	28	P	P	18 52 13.1	+0.1	
VT1				IAmb	IAmb	18 52 13.9		
	comp=Z,36nm,1.2s							
H61A	Lyndonville	84.29	27	P	P	18 52 13.6	+0.2	
	baz=334,SNR=9.6							
I59A	Olmsteadville	84.30	29	P	P	18 52 12.8	-0.7	
	baz=332							
K57A	Scipio Center	84.31	31	P	P	18 52 12.7	-0.8	
	baz=331							
N53A	Lisbon	84.31	35	P	P	18 52 13.3	-0.2	
	baz=328							
N53A	Lisbon	84.31	35	P	P	18 52 13.4	-0.2	
N53A				IAmb	IAmb	18 52 14.6		
	comp=Z,24nm,0.9s							
435B	Jarrell	84.33	51	P	P	18 52 13.8	0.0	
	baz=320							
J59A	Piesco	84.38	29	P	P	18 52 13.1	-0.7	
	baz=332							
J59A	Piesco	84.38	29	P	P	18 52 13.4	-0.4	
J59A				IAmb	IAmb	18 52 14.3		
	comp=Z,16nm,0.8s							
L56A	Greenwood	84.44	32	P	P	18 52 13.7	-0.5	
	baz=330							
PKME	Peaks-Kenny Pk	84.44	25	P	P	18 52 13.9	-0.2	
	baz=335							
I60A	Shoreham	84.45	28	P	P	18 52 13.7	-0.5	
	baz=333							
WLAR	White Oak Lake	84.48	47	P	P	18 52 15.3	+0.8	
G63A	Kingsbury	84.48	25	P	P	18 52 14.3	0.0	
	baz=335							
O52A	Adamsville	84.49	36	P	P	18 52 14.2	-0.2	
	baz=328							
O52A	Adamsville	84.49	36	P	P	18 52 14.3	-0.2	
O52A				IAmb	IAmb	18 52 15.3		
	comp=Z,28nm,0.9s							
H62A	Milan	84.50	26	P	P	18 52 14.3	-0.1	
	baz=334,SNR=8.2							
H62A	Milan	84.50	26	P	P	18 52 14.6	+0.2	
P51A	Williamsport	84.51	37	P	P	18 52 14.0	-0.6	
	baz=327							
N54A	Moraine State	84.52	34	P	P	18 52 14.5	-0.1	
	baz=329							
N54A	Moraine State	84.52	34	P	P	18 52 14.4	-0.2	
N54A				IAmb	IAmb	18 52 15.8		
	comp=Z,27nm,1.1s							
LBNH	Lisbon	84.55	27	P	P	18 52 14.7	0.0	
	baz=334							
M55A	Ridgway	84.56	33	P	P	18 52 14.7	-0.2	
	baz=329							
M55A	Ridgway	84.56	33	P	P	18 52 14.6	-0.2	
M55A				IAmb	IAmb	18 52 15.8		
	comp=Z,23nm,0.9s							
K58A	Earlville	84.59	30	P	P	18 52 14.4	-0.5	
	baz=331							
K58A	Earlville	84.59	30	P	P	18 52 14.6	-0.3	
K58A				IAmb	IAmb	18 52 15.7		
	comp=Z,24nm,1.0s							
G64A	Maxfield	84.61	25	P	P	18 52 14.8	-0.1	
	baz=336							
O53A	New Philadelph	84.63	35	P	P	18 52 15.0	-0.2	
	baz=328							
O53A	New Philadelph	84.63	35	P	P	18 52 15.1	0.0	
PPT	Papeete	84.72	121	LR	LR	19 27 13.9		
	comp=Z,77nm,20.1s,baz=356,slow=34							
I61A	Oroboro, Fairl	84.73	27	P	P	18 52 15.7	+0.1	
	baz=333							
ACCN	Adirondack Com	84.73	29	P	P	18 52 15.7	+0.1	
ACCN				IAmb	IAmb	18 52 16.3		
	comp=Z,18nm,0.9s							
PPT2	Papeete2	84.74	121	*e*LR	LR	19 18 32.0		
	comp=Z,230nm,25.0s							
H63A	New Sharon	84.77	26	P	P	18 52 15.5	-0.2	
	baz=335							
M56A	Emporium	84.77	32	P	P	18 52 15.3	-0.6	
	baz=330							
M56A	Emporium	84.77	32	P	P	18 52 15.4	-0.5	
M56A				IAmb	IAmb	18 52 16.6		
	comp=Z,17nm,1.0s							
P52A	Corning	84.77	36	P	P	18 52 15.2	-0.7	
	baz=328							
T47A	Sharon Grove	84.78	41	P	P	18 52 16.1	+0.1	
L57A	Andrews Acres	84.82	31	P	P	18 52 15.1	-1.1	
	baz=331							
K59A	Cooperstown	84.86	30	P	P	18 52 16.0	-0.4	
	baz=332							
HNH	Hanover	84.91	28	P	P	18 52 16.8	+0.3	
HNH				IAmb	IAmb	18 52 17.7		
	comp=Z,15nm,1.0s							
J60A	Lant Hill Farm	84.94	28	P	P	18 52 16.2	-0.4	
	baz=333							
BINY	Binghamton	84.97	31	P	P	18 52 16.1	-0.7	
	baz=331							
R50A	Paris	84.97	38	P	P	18 52 16.9	0.0	
R50A				IAmb	IAmb	18 52 18.1		
	comp=Z,21nm,1.2s							
Z41A	Richland Creek	84.98	47	P	P	18 52 17.0	+0.1	
	baz=322							
TIP	Timpagrande	84.99	324	P	P	18 52 16.4	-0.7	
G65A	Princeton	85.01	24	P	P	18 52 16.9	-0.1	
	baz=336							
G65A	Princeton	85.01	24	P	P	18 52 16.8	-0.1	
G65A				IAmb	IAmb	18 52 18.0		
	comp=Z,14nm,1.0s							
O54A	Avella	85.03	35	P	P	18 52 16.9	-0.3	
	baz=328							
O54A	Avella	85.03	35	P	P	18 52 17.0	-0.1	
O54A				IAmb	IAmb	18 52 18.4		
	comp=Z,19nm,0.8s							
H64A	Troy	85.03	25	P	P	18 52 17.0	0.0	
	baz=335							
I62A	Tamworth	85.07	27	P	P	18 52 17.0	-0.3	
	baz=334							
I62A	Tamworth	85.07	27	P	P	18 52 17.2	-0.1	
I62A				IAmb	IAmb	18 54 13.8		
	comp=Z,21nm,1.5s							
N55A	Marion Center	85.07	33	P	P	18 52 17.0	-0.4	
	baz=329							
WVT	Waverly	85.14	42	P	P	18 52 18.1	+0.3	
WVT				pmax	pmax			
	comp=Z,16nm,0.9s							
WVT	Waverly	85.14	42	P	P	18 52 17.8	+0.1	
	baz=325							
WVT	Waverly	85.14	42	P	P	18 52 18.1	+0.3	
WVT				IAmb	IAmb	18 52 19.1		
	comp=Z,16nm,0.8s							
J61A	Chester	85.14	28	P	P	18 52 17.7	0.0	
	baz=333,SNR=5.4							
I63A	Otisfield	85.15	26	P	P	18 52 18.2	+0.6	
	baz=334,SNR=7.4							
I63A	Otisfield	85.15	26	P	P	18 52 18.1	+0.5	
L58A	Harry Jones Me	85.15	31	P	P	18 52 17.3	-0.4	
	baz=331							
NATX	Nacogdoches	85.17	49	P	P	18 52 18.7	+0.6	
	baz=321							
NATX	Nacogdoches	85.17	49	P	P	18 52 19.0	+1.0	
833A	Chaparral WMA,	85.18	54	P	P	18 52 18.5	+0.4	
	baz=320							
P53A	Whipple	85.21	36	P	P	18 52 18.1	+0.1	
	baz=328							
N56A	West Decatur	85.22	33	P	P	18 52 18.1	-0.1	
	baz=330							
H65A	Eastbrook	85.27	24	P	P	18 52 18.1	-0.2	
	baz=336							
W45A	Hickory Valley	85.28	43	P	P	18 52 18.8	+0.3	
Q52A	Bidwell	85.28	36	P	P	18 52 18.1	-0.4	
	baz=328							
M57A	Sunshine Farm,	85.30	32	P	P	18 52 18.2	-0.3	
	baz=330							
M57A	Sunshine Farm,	85.30	32	P	P	18 52 18.5	+0.1	
M57A				IAmb	IAmb	18 52 19.4		
	comp=Z,20nm,0.8s							
L59A	Walton	85.31	30	P	P	18 52 18.2	-0.4	
	baz=332							
L59A	Walton	85.31	30	P	P	18 52 18.1	-0.5	
O55A	Ligonier	85.43	34	P	P	18 52 19.1	-0.1	
	baz=329							
H66A	Whiting	85.46	24	P	P	18 52 18.8	-0.4	
	baz=336							
P54A	Burton	85.48	35	P	P	18 52 19.7	+0.2	
	baz=328							
J62A	Henniker	85.49	27	P	P	18 52 19.8	+0.3	
	baz=334							
K61A	Williamstown	85.50	29	P	P	18 52 19.4	-0.1	
	baz=333							
M58A	Price's Panora	85.51	31	P	P	18 52 19.2	-0.4	
	baz=331							
I64A	Boothbay	85.56	26	P	P	18 52 19.6	-0.1	
	baz=335							
SSPA	Standing Stone	85.62	33	P	P	18 52 19.9	-0.2	
	baz=330							
SSPA	Standing Stone	85.62	33	P	P	18 52 20.1	+0.1	
SSPA				IAmb	IAmb	18 52 21.1		
	comp=Z,18nm,1.0s							
N57A	Milroy	85.64	32	P	P	18 52 20.1	-0.1	
	baz=330							
O56A	Blue Knob Stat	85.67	33	P	P	18 52 20.4	0.0	
	baz=330							
O56A	Blue Knob Stat	85.67	33	P	P	18 52 20.3	-0.1	
O56A				IAmb	IAmb	18 52 21.5		
	comp=Z,17nm,0.8s							
Q53A	Leroy	85.68	36	P	P	18 52 20.7	+0.2	
	baz=328							
J63A	Strafford	85.68	27	P	P	18 52 20.5	+0.2	
	baz=334							
MCWV	Mont Chateau	85.69	34	P	P	18 52 20.7	+0.3	
	baz=329							
MCWV	Mont Chateau	85.69	34	P	P	18 52 20.8	+0.3	
OXF	Oxford	85.69	44	P	P	18 52 20.7	+0.2	
OXF				pmax	pmax			
	comp=Z,47nm,0.9s							
OXF	Oxford	85.69	44	P	P	18 52 20.5	0.0	
	baz=324							
OXF	Oxford	85.69	44	P	P	18 52 20.7	+0.2	
M59A	Waymart	85.74	31	P	P	18 52 20.2	-0.5	
	baz=331							
L60A	Shokan	85.78	30	P	P	18 52 20.6	-0.3	
	baz=332							
U49A	Red Boiling Sp	85.78	40	P	P	18 52 21.2	+0.2	
T50A	Nancy	85.78	39	P	P	18 52 21.0	0.0	
S51A	Beattyville	85.82	38	P	P	18 52 21.1	-0.1	
S51A				IAmb	IAmb	18 52 22.1		
	comp=Z,17nm,0.8s							
P55A	Reedsville	85.82	35	P	P	18 52 21.6	+0.4	
	baz=329,SNR=8.7							
L61A	Hillsdale 1, H	85.83	29	P	P	18 52 21.0	-0.1	
	baz=333							
K62A	Royalston	85.85	28	P	P	18 52 21.4	+0.2	
	baz=333							
K62A	Royalston	85.85	28	P	P	18 52 21.6	+0.4	
K62A				IAmb	IAmb	18 52 22.5		
	comp=Z,12nm,0.9s							
Q54A	Coxs Mills	85.86	35	P	P	18 52 21.3	0.0	
	baz=328							
Q54A	Coxs Mills	85.86	35	P	P	18 52 21.6	+0.3	
CLTN	Cedars of Leba	85.87	41	P	P	18 52 21.6	+0.2	
N58A	Sunbury	85.88	32	P	P	18 52 21.1	-0.2	
	baz=331							
N58A	Sunbury	85.88	32	P	P	18 52 21.1	-0.2	
N58A				IAmb	IAmb	18 52 22.3		
	comp=Z,18nm,0.9s							
V48A	Smith Brothers	85.93	41	P	P	18 52 21.4	-0.4	
V48A				IAmb	IAmb	18 52 22.9		
	comp=Z,20nm,0.9s							
R53A	Hurricane	85.95	37	P	P	18 52 20.9	-0.8	
	baz=328							
PLAL	Pickwick Lake	85.95	43	P	P	18 52 21.5	-0.3	
PLAL				IAmb	IAmb	18 52 22.7		
	comp=Z,15nm,0.9s							
K63A	Dunstable	86.07	27	P	P	18 52 22.2	0.0	
	baz=334							
O57A	Amberson	86.08	33	P	P	18 52 22.4	0.0	
	baz=330							
Y45A	Yeager Farm, C	86.14	44	P	P	18 52 23.9	+1.1	
Q55A	Buckhannon	86.16	35	P	P	18 52 23.0	+0.2	
	baz=329							
N59A	State Game Lan	86.16	31	P	P	18 52 22.7	-0.1	
	baz=331							
N59A	State Game Lan	86.16	31	P	P	18 52 22.9	0.0	
N59A

HRV	Adam Dziewonsk	86.22	28	P	P	18 52 23.3 +0.3
P56A	Dayton Farm, R	86.22	34	P	P	18 52 23.2 +0.1
	baz=330					
L62A	Suffield	86.28	29	P	P	18 52 23.1 -0.2
	baz=333					
WES	Weston	86.41	27	P	P	18 52 24.3 +0.4
WES				pmax	pmax	
	comp=Z,21nm,0.9s					
WES	Weston	86.41	27	P	P	18 52 24.3 +0.4
WES				IAmb	IAmb	18 52 25.2
	comp=Z,21nm,0.9s					
PAGS	Pennsylvania G	86.41	32	P	P	18 52 23.9 -0.1
PAGS				IAmb	IAmb	18 52 24.8
	comp=Z,24nm,1.1s					
S53A	Williamson	86.42	37	P	P	18 52 23.9 -0.2
	baz=328					
O58A	Lewisberry	86.43	32	P	P	18 52 23.8 -0.3
	baz=331					
N60A	Cedar Hill Far	86.45	31	P	P	18 52 23.7 -0.5
	baz=332					
R54A	Victor	86.48	36	P	P	18 52 24.5 +0.1
	baz=328					
Q56A	Snyder Ridge,	86.48	34	P	P	18 52 24.3 -0.1
	baz=329					
Q56A	Snyder Ridge,	86.48	34	P	P	18 52 24.1 -0.3
Q56A				IAmb	IAmb	18 52 25.6
	comp=Z,19nm,1.1s					
M61A	Granite Spring	86.53	30	P	P	18 52 24.4 -0.2
	baz=332					
O59A	Robesonia	86.54	32	P	P	18 52 24.5 -0.1
	baz=331					
P57A	Homestead Farm	86.56	33	P	P	18 52 24.6 -0.1
	baz=330					
S54A	Dingess, Beckl	86.67	36	P	P	18 52 25.3 -0.1
	baz=328					
S54A	Dingess, Beckl	86.67	36	P	P	18 52 25.1 -0.2
S54A				IAmb	IAmb	18 52 26.5
	comp=Z,19nm,0.9s					
M62A	Hamden	86.72	29	P	P	18 52 24.7 -0.7
	baz=333					
R55A	Marlinton	86.75	35	P	P	18 52 26.0 +0.2
	baz=329					
R55A	Marlinton	86.75	35	P	P	18 52 26.1 +0.3
PAL	Palisades	86.75	30	P	P	18 52 25.5 -0.2
	baz=332					
TZTN	Tazewell	86.75	39	P	P	18 52 25.8 +0.1
	baz=327					
TZTN	Tazewell	86.75	39	P	P	18 52 26.0 +0.2
SWET	Sewanee	86.77	41	P	P	18 52 25.6 -0.3
L63A	North Scituate	86.78	28	P	P	18 52 25.6 -0.2
	baz=334					
Q57A	Strasburg	86.79	34	P	P	18 52 25.9 -0.1
	baz=330					
O60A	Telford	86.82	31	P	P	18 52 25.7 -0.3
	baz=332					
T53A	Wise	86.83	38	P	P	18 52 25.7 -0.5
	baz=327					
P58A	Pank, Wackersv	86.83	33	P	P	18 52 25.9 -0.2
	baz=330					
N61A	South Mountain	86.84	30	P	P	18 52 26.0 -0.1
	baz=332					
X48A	Hartselle	86.88	42	P	P	18 52 26.2 -0.2
X48A				IAmb	IAmb	18 52 26.6
	comp=Z,15nm,1.1s					
R56A	Bull Pasture M	86.94	35	P	P	18 52 26.5 -0.3
	baz=329					
L64A	Middleborough	86.97	27	P	P	18 52 26.8 +0.1
	baz=334					
VBMS	Vicksburg	86.97	46	P	P	18 52 27.8 +0.9
	baz=323					
VBMS	Vicksburg	86.97	46	P	P	18 52 27.6 +0.8
N62A	Caumsett State	86.98	30	P	P	18 52 26.4 -0.3
	baz=333					
V51A	Loudon	87.01	40	P	P	18 52 27.0 0.0
V51A				IAmb	IAmb	18 52 28.2
	comp=Z,26nm,1.1s					
S55A	Lewisburg	87.03	36	P	P	18 52 26.7 -0.5
	baz=329					
M63A	Gales Ferry	87.04	28	P	P	18 52 26.9 -0.2
	baz=334					
P59A	Jarrettsville	87.06	32	P	P	18 52 27.1 -0.1
	baz=331					
W50A	Signal Mountai	87.07	41	P	P	18 52 27.3 -0.1
W50A				IAmb	IAmb	18 52 28.5
	comp=Z,19nm,0.9s					
Q58A	Fox Den Farm,	87.16	33	P	P	18 52 27.6 -0.1
	baz=330					
T54A	Tazewell	87.18	37	P	P	18 52 27.9 0.0
	baz=328					
P60A	Greenville	87.18	32	P	P	18 52 27.5 -0.2
	baz=331					
M64A	Tiverton	87.19	28	P	P	18 52 27.8 0.0
	baz=334					
CPCT	Cooper Cave	87.23	40	P	P	18 52 28.4 +0.3
V52A	Sevierville	87.32	39	P	P	18 52 28.6 +0.1
146A	Union	87.37	45	P	P	18 52 30.1 +1.2
R57A	Stanardsville	87.38	34	P	P	18 52 28.9 +0.1
	baz=330					
TKL	Tuckaleechee C	87.39	39	P	P	18 52 29.3 +0.4
TKL				pmax	pmax	
	comp=Z,27nm,1.0s					
TKL	Tuckaleechee C	87.39	39	P	P	18 52 29.2 +0.4
Z47A	Carrollton	87.40	44	P	P	18 52 29.7 +0.7
T55A	Pulaski	87.47	36	P	P	18 52 29.4 +0.2
	baz=328					
FPAL	Fort Paine	87.48	41	P	P	18 52 29.3 -0.1
FPAL				IAmb	IAmb	18 52 30.4
	comp=Z,19nm,1.0s					
S56A	Natural Bridge	87.49	35	P	P	18 52 29.6 +0.2
	baz=329					
U54A	Nelsons Funny	87.53	37	P	P	18 52 29.7 +0.1
	baz=328					
U54A	Nelsons Funny	87.53	37	P	P	18 52 29.7 +0.1
U54A				IAmb	IAmb	18 52 30.8
	comp=Z,23nm,0.9s					
BLA	Blacksburg	87.54	36	P	P	18 52 29.9 +0.3
BLA				pmax	pmax	
	comp=Z,25nm,1.1s					
BLA	Blacksburg	87.54	36	P	P	18 52 29.8 +0.2
	baz=329					
BLA	Blacksburg	87.54	36	P	P	18 52 29.9 +0.3
BLA				IAmb	IAmb	18 52 30.9
	comp=Z,25nm,1.1s					
R58A	Rapidan	87.59	34	P	P	18 52 29.9 +0.2
	baz=330					
Q59A	Harwood	87.62	33	P	P	18 52 30.1 +0.2
	baz=331					
Y49A	Blount Mountai	87.66	42	P	P	18 52 30.0 -0.2
Y49A				IAmb	IAmb	18 52 31.2
	comp=Z,21nm,0.9s					
S57A	Dark Hollow, R	87.67	35	P	P	18 52 30.6 +0.5
	baz=330					
S57A	Dark Hollow, R	87.67	35	P	P	18 52 30.5 +0.3
S57A				IAmb	IAmb	18 52 31.6
	comp=Z,16nm,1.1s					
X51A	Calhoun	87.81	41	P	P	18 52 31.1 +0.3
Q60A	Greensboro	87.81	32	P	P	18 52 31.0 +0.2
	baz=331					
V53A	Saluda	87.81	39	P	P	18 52 31.2 +0.3
V53A				IAmb	IAmb	18 52 32.4
	comp=Z,26nm,1.4s					
T56A	Rocky Mt	87.86	36	P	P	18 52 31.2 +0.1
	baz=329					
U55A	TA2, Sparta	87.88	37	P	P	18 52 31.6 +0.3
	baz=328					
CBN	Corbin Frederi	87.92	34	P	P	18 52 31.5 +0.1
	baz=330					
R58B	Mineral	87.93	34	P	P	18 52 31.5 +0.1
	baz=330					
LRAL	Lakeview Retre	88.06	43	P	P	18 52 32.1 0.0
	baz=325					
LRAL	Lakeview Retre	88.06	43	P	P	18 52 31.7 -0.3
LRAL				IAmb	IAmb	18 52 33.0
	comp=Z,14nm,1.0s					
V54A	Nebo	88.10	38	P	P	18 52 32.5 +0.2
	baz=328					
Q61A	Milford	88.11	32	P	P	18 52 32.5 +0.3
	baz=332					
S58A	Poland Farm, P	88.16	34	P	P	18 52 32.6 +0.2
	baz=330					
T57A	Hurt	88.20	35	P	P	18 52 32.9 +0.2
	baz=329					
T57A	Hurt	88.20	35	P	P	18 52 32.9 +0.2
T57A				IAmb	IAmb	18 52 33.9
	comp=Z,16nm,1.1s					
U56A	King	88.29	37	P	P	18 52 33.7 +0.5
BG3	Lake Jocassee	88.33	39	P	P	18 52 33.8 +0.4
S59A	Mechanicsville	88.33	34	P	P	18 52 33.6 +0.3
	baz=330					
V55A	Taylorsville	88.36	37	P	P	18 52 33.5 0.0
	baz=328					
V55A	Taylorsville	88.36	37	P	P	18 52 33.6 +0.1
V55A				IAmb	IAmb	18 52 34.8
	comp=Z,21nm,1.2s					
T58A	Grand View Acr	88.54	35	P	P	18 52 34.4 0.0
	baz=330					
W54A	Cherokee Point	88.58	38	P	P	18 52 34.5 -0.1
	baz=328					
S60A	Water View	88.63	33	P	P	18 52 34.9 +0.2
	baz=331					
U57A	Blanch	88.65	36	P	P	18 52 34.8 -0.1
	baz=329					
Z51A	Franklin	88.69	41	P	P	18 52 35.1 0.0
V56A	Mocksville	88.70	37	P	P	18 52 35.1 0.0
	baz=329					
Y52A	Lilburn	88.75	40	P	P	18 52 35.9 +0.5
KMSC	Kings Mountain	88.90	38	P	P	18 52 35.8 -0.3
	baz=328					
KMSC	Kings Mountain	88.90	38	P	P	18 52 36.1 +0.1
KMSC				IAmb	IAmb	18 52 37.2
	comp=Z,18nm,0.9s					
T59A	Double "B" Far	88.91	34	P	P	18 52 35.9 -0.1
	baz=330					
T59A	Double "B" Far	88.91	34	P	P	18 52 36.2 +0.1
T59A				IAmb	IAmb	18 52 37.5
	comp=Z,20nm,1.1s					
V57A	Coltrane Farms	88.94	36	P	P	18 52 36.1 -0.1
	baz=329					
X54A	Belton	88.95	39	P	P	18 52 36.7 +0.4
	baz=328					
PAULI	Pauline	88.97	38	P	P	18 52 36.6 +0.2
U58A	Oxford	89.01	35	P	P	18 52 36.2 -0.3
	baz=330					
S61A	Accomac	89.03	33	P	P	18 52 36.3 -0.3
	baz=331					
T60A	Surry	89.09	34	P	P	18 52 37.0 +0.1
	baz=331					
W56A	Indian Trail	89.23	37	P	P	18 52 37.1 -0.5
	baz=329					
TBI	Tubuai	89.24	125	eLR	LR	19 20 20.9
	comp=Z,184nm,37.0s					
HODGE	Hodges	89.27	39	P	P	18 52 38.1 +0.3
250A	Grady	89.27	43	P	P	18 52 38.2 +0.4
V58A	Windy Hill, Pi	89.29	36	P	P	18 52 38.2 +0.3
	baz=329					
V58A	Windy Hill, Pi	89.29	36	P	P	18 52 38.1 +0.3
V58A				IAmb	IAmb	18 52 45.2
	comp=Z,12nm,0.8s					
X55A	Gracelyn & Ava	89.34	38	P	P	18 52 38.3 +0.1
	baz=328					
U59A	Littleton	89.35	35	P	P	18 52 38.3 +0.1
	baz=330					
U59A	Littleton	89.35	35	P	P	18 52 38.4 +0.3
GOGA	Godfrey	89.41	40	P	P	18 52 38.4 0.0
GOGA				pmax	pmax	
	comp=Z,13nm,1.0s					
GOGA	Godfrey	89.41	40	P	P	18 52 38.7 +0.2
	baz=327					
GOGA	Godfrey	89.41	40	P	P	18 52 38.4 0.0
GOGA				IAmb	IAmb	18 52 39.4
	comp=Z,13nm,1.0s					
TUWZ	Tuamarina	89.41	160	P	P	18 52 38.5 +0.6
152A	Waverly Hall	89.44	42	P	P	18 52 38.7 0.0
152A				IAmb	IAmb	18 52 39.7
	comp=Z,19nm,1.1s					
W57A	Gilead	89.47	37	P	P	18 52 38.8 +0.1
	baz=329					
W57A	Gilead	89.47	37	P	P	18 52 39.0 +0.3
U60A	Pendleton	89.50	34	P	P	18 52 39.1 +0.2
	baz=330					
BRAL	Brewton	89.55	44	P	P	18 52 39.9 +0.8
	baz=325					
X56A	White Oak	89.58	38	P	P	18 52 39.5 +0.2
	baz=328					
V59A	Middlesex	89.68	35	P	P	18 52 40.2 +0.5
	baz=330					
Y55A	Saluda	89.69	39	P	P	18 52 40.4 +0.7
	baz=328					
BIRD	Birdtown, Kers	89.70	37	P	P	18 52 40.0 +0.2
BIRD				IAmb	IAmb	18 52 41.1
	comp=Z,15nm,0.9s					
W58A	Raeford	89.91	36	P	P	18 52 41.1 +0.4
	baz=329					
U61A	Possum Corner	89.91	34	P	P	18 52 41.3 +0.6
	baz=331					
X57A	Johnson Farm,	90.02	37	P	P	18 52 41.5 +0.2
	baz=329					
V60A	Jim Taylor Roa	90.08	35	P	P	18 52 41.8 +0.2
	baz=330					
W59A	Clinton	90.11	36	P	P	18 52 42.2 +0.5
	baz=330					
Y57A	Sumter	90.27	38	P	P	18 52 42.7 +0.3
	baz=329					
V61A	Roper	90.33	34	P	P	18 52 43.0 +0.4
	baz=331					
Z56A	Williston	90.42	39	P	P	18 52 43.5 +0.3
	baz=328					
W60A	Pink Hill	90.51	35	P	P	18 52 44.0 +0.5
	baz=330					
X59A	McDuffie Farm,	90.56	36	P	P	18 52 44.0 +0.2
	baz=330					
Y58A	Scranton	90.67	37	P	P	18 52 44.2 -0.1
	baz=329					
X60A	Albert Glenn T	90.81	36	P	P	18 52 44.8 -0.2
	baz=330					
KEST	Kesra	90.95	327	LR	LR	19 38 13.2
	comp=Z,144nm,18.4s,baz=310,slow=39					
TIGA	Tifton	90.99	41	P	P	18 52 46.5 +0.6
	baz=327					
Z58A	St. Stephen	91.10	38	P	P	18 52 46.6 +0.3
	baz=329					
ESDC	Sonseca Array	91.72	338	P	P	18 52 48.5 -0.7
	comp=Z,1.4nm,0.9s,baz=16,slow=4.4,SNR=4.6					
ESDC				LR	LR	19 38 10.3
	comp=Z,110nm,20.6s,baz=5.0,slow=38					
TORD	Torodi Ar. Bea	114.13	323	PKP	PKiKP	18 58 20.6 -0.8
	comp=Z,0.5nm,0.5s,baz=70,slow=1.3,SNR=1.6					
VNDA	Vanda	122.66	176	PKP	PKiKP	18 58 35.9 0.0
	comp=Z,3.8nm,0.8s,baz=313,slow=3.8,SNR=29					
VNDA	Vanda	122.66	176	PKIKP	PKPdf	18 58 35.7 0.0
VNDA	Vanda	122.66	176	PKPdf	PKPdf	18 58 35.7 0.0
DBIC	Dimbokro	122.68	326	PKP	PKPdf	18 58 37.2 -0.5
	comp=Z,4.3nm,0.7s,baz=302,slow=3.8,SNR=5.7					
TIC	Toumodi	122.76	326	eP	PKPdf	18 58 37.4 -0.6
KIC	Koan Boka	122.91	326	eP	PKPdf	18 58 36.9 -1.3
	comp=Z,41nm,1.3s					
LIC	Lamto	123.15	326	eP	PKPdf	18 58 34.6 -4.1
	comp=Z,27nm,1.1s					
MAW	Mawson	128.65	209	PKP	PKPdf	18 58 46.9 -0.5
	comp=Z,1.5nm,0.8s,baz=352,slow=4.4,SNR=7.3					
MAW	Mawson	128.65	209	PKPdf	PKiKP	18 58 48.7 +0.7
PTGA	Pitinga	129.78	36		PKPdf	18 58 51.3 -0.1
BOSA	Boshof	131.68	269	PKP	PKPdf	18 58 54.8 +0.1
	comp=Z,1.9nm,0.8s,baz=0.0,slow=4.0,SNR=1.7					
QSPA	South Pole Qui	134.81	180	PKPdf	PKiKP	18 59 00.2 -0.5
SAML	Samuel	135.52	45	PKIKP	PKPdf	18 59 02.1 0.0
SAML	Samuel	135.52	45	PKPdf	PKPdf	18 59 02.1 0.0
SYO	Syowa Base	137.31	210	‖ ePKPdf	PKPdf	18 59 03.0 -0.7
LPAZ	La Paz	138.80	57	PKP	PKPdf	18 59 07.5 -1.3
	comp=Z,2.0nm,0.8s,baz=74,slow=3.6,SNR=5.7					
GO02	Mina Guanaco	144.41	69	PKPdf	PKPbc	18 59 17.3 +0.5
GO03	Copiap	145.59	72		PKPab	18 59 20.5 0.0
AC05	El Transito	146.36	74		PKPab	18 59 23.1 -0.3
NVL	N'lazarevskaya	146.37	205	ePKP2	PKPbc	18 59 20.4 -0.7
NVL				pmax	pmax	
	comp=Z,51nm,0.8s					
GO04	Tololo Observa	146.82	77		PKPbc	18 59 24.1 +0.1
BELA	Belgrano 2	147.08	179	PKPdf	PKPbc	18 59 22.4 -0.6
CO02	Combarbal	147.30	78		PKPbc	18 59 25.2 +0.1
BDFB	Brasilia	148.00	28	PKPbc	PKPbc	18 59 27.6 +0.2
	comp=Z,10nm,0.7s,baz=280,slow=0.4,SNR=13					
BDFB	Brasilia	148.00	28		PKPbc	18 59 27.9 +0.4
ROC1	El Roble	148.29	81		PKPbc	18 59 27.0 -1.0
MT02	Curacav	148.37	82		PKPbc	18 59 27.9 +0.1
VA03	San Esteban	148.50	80		PKPbc	18 59 28.6 +0.2
PEL	Peldehue	148.62	81	PKP2	PKPbc	18 59 28.3 -0.3
PEL	Peldehue	148.62	81		PKPbc	18 59 28.3 -0.3
ZON	Zonda	149.10	77	PKP2	PKPbc	18 59 30.2 +0.4
ZON	Zonda	149.10	77		PKPbc	18 59 30.2 +0.4
BO02	Sierra Bellavi	149.43	84		PKPbc	18 59 30.0 -0.6
SNAA	Sanae	149.70	198	PKPdf	PKPdf	18 59 25.6 +0.2
SNAA	Sanae	149.70	198	PKP2	PKPbc	18 59 30.1 0.0
SNAA	Sanae	149.70	198		PKPbc	18 59 30.1 0.0
BI02	San Fabin de	150.01	87		PKPbc	18 59 31.8 -0.1
VNA2	Neumayer--Watz	151.24	197	PKPbc	PKPbc	18 59 33.8 +0.1
	baz=121,slow=2.4					
VNA3	Neumayer Olymp	151.44	195	PKPbc	PKPbc	18 59 33.9 -0.3
LL01	San Ignacio de	151.50	99		PKiKP	18 59 35.5 0.0
VNA1	Neumayer--Stat	151.64	197	PKPbc	PKiKP	18 59 34.7 -0.2
PLCA	Paso Flores	152.24	94	PKPbc	PKiKP	18 59 37.1 -0.2
	comp=Z,17nm,0.7s,baz=242,slow=3.3,SNR=35					
PLCA	Paso Flores	152.24	94	PKIKP	PKPbc	18 59 36.9 -0.1
PLCA	Paso Flores	152.24	94		PKPbc	18 59 36.9 -0.1
CPUP	Villa Florida	152.90	55	PKPbc	PKiKP	18 59 39.0 +0.1
	comp=Z,3.8nm,0.8s,baz=253,slow=4.4,SNR=4.9					
CPUP	Villa Florida	152.90	55	PKIKP	PKiKP	18 59 38.9 -0.1
CPUP	Villa Florida	152.90	55		PKiKP	18 59 38.9 -0.1

TEH ***16*** *19:22:37.6,33°.26N×57°.44E,h7km,ML3.7*
THR ***16*** *19:22:38.9±0.6,33°.33N×57°.48E,h14km±5km,ML3.7*
ISC 16 19:22:39.5±0.9,33°.30N±0°.04×57°.45E±0°.04,h10km,n54,
σ1§26/56,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKDS	Koohdasht(Taba	0.42	319	ePg	Pg	19 22 46.3	-1.5
TABS	Tabas	0.45	322	ePg	Pg	19 22 47.5	-0.8
TABS				eSg	Sg	19 22 54.5	+0.2
TABS	Tabas	0.45	322	ePg	Pg	19 22 47.5	-0.8
TPRV	Parvadeh(Tabas	0.70	248	ePg	Pg	19 22 51.2	-1.8
TPRV				e		19 23 01.0	
TNSJ	Nastanj	0.97	314	ePg	Pg	19 22 56.9	-1.3
TNSJ				e		19 23 17.3	
ITEG	Tejag	1.16	110	ePg	Pb	19 23 00.8	-0.9
AFRZ	Afriz	1.31	84	ePg	Pn	19 23 03.6	-0.5
IKOO	Kooshah	1.57	123	e		19 23 32.1	
IKOO				ePg	Pn	19 23 06.9	-0.8
IMON	Monand	1.86	93	ePg	Pb	19 23 14.4	+0.7
IMON				e		19 23 44.6	
BSRN	Basiran	1.94	133	ePg	Pn	19 23 14.2	+1.6
BSRN	Basiran	1.94	133	ePg	Pn	19 23 14.2	+1.6
IDAH	Dahanechah	2.10	105	ePn	Pn	19 23 16.3	+1.3
IBAF	Bafgh	2.33	224	ePn	Pn	19 23 18.5	+0.5
SHRT	Shahrakht	2.40	81	ePn	Pn	19 23 19.7	+0.8
SHRT	Shahrakht	2.40	81	ePn	Pn	19 23 19.7	+0.8
YZKH	Yazd	2.57	250	ePn	Pn	19 23 23.1	+1.8
YZKH				eSg	Sb	19 24 00.5	+3.0
ICHK	Chekchek	2.77	249	ePn	Pn	19 23 24.2	0.0
NHDN	Nehbandan	2.90	130	ePn	Pn	19 23 26.0	+0.1
KHGB	Koh Gabri	3.03	196	ePn	Pn	19 23 28.6	+0.9
KHGB				e		19 23 37.3	
IMEH	Mehriz	3.06	232	ePn	Pn	19 23 28.5	+0.3
SBZV	Sabzevar	3.09	2	ePn	Pn	19 23 29.3	+0.8
ANAR	Anarak	3.12	269	ePn	Pn	19 23 28.8	-0.1
TVBK	TV Kerman	3.35	190	ePn	Pn	19 23 33.2	+0.9
KRBR	Kerman	3.36	190	ePn	Pn	19 23 33.8	+1.5
KRBR				IAML		19 24 28.4	
	comp=E,147nm,0.4s						
KRBR	Kerman	3.36	190	ePn	Pn	19 23 33.8	+1.5
IPAY	Payeh	3.39	22	ePn	Pn	19 23 34.8	+2.1
CHMN	Cheshme madani	3.42	179	ePn	Pn	19 23 34.6	+1.3
CHMN				e		19 24 31.1	
ISAD	Sadrabad	3.46	248	ePn	Pn	19 23 33.3	-0.5
ISAD				e		19 24 31.4	
IAKL	Akhelmad	3.47	18	ePn	Pn	19 23 35.7	+1.9
IKRD	Kardeh	3.58	14	ePn	Pb	19 23 40.2	-2.8
IANJ	Anjilo	3.64	307	ePn	Pn	19 23 37.5	+1.4
NGRK	Negar Kerman	3.69	190	ePn	Pn	19 23 37.8	+0.8
NGRK				e		19 24 41.1	
IMYA	Miami	3.74	35	ePn	Pn	19 23 38.4	+1.0
ISFR	Sfrayin	3.78	7	ePn	Pn	19 23 39.8	+1.8
IEMG	Emamgholi	4.23	13	ePn	Pn	19 23 45.6	+1.4
KBAM	BAM	4.24	168	ePn	Pn	19 23 44.0	-0.2
ISHM	Shahmirzad	4.25	307	ePn	Pn	19 23 46.3	+1.8
ILAS	Lasjerd	4.26	300	ePn	Pn	19 23 46.3	+1.6
IZEF	Zefreh	4.32	266	ePn	Pn	19 23 46.2	+0.7
KRSH	Karshahi	4.49	280	ePn	Pn	19 23 48.1	+0.4
IFIR	Firoozkooh	4.53	302	ePn	Pn	19 23 48.7	+0.3
IRAM	Ramesheh	4.53	252	ePn	Pn	19 23 49.3	+0.9
IGAR	Gharneh	4.64	260	ePn	Pn	19 23 50.8	+0.9
IALA	Alasht	4.73	307	ePn	Pn	19 23 52.3	+1.2
IKLH	Kolahrood	4.92	272	ePn	Pn	19 23 54.7	+1.0
IDMV	Damavand	5.02	298	ePn	Pn	19 23 55.4	+0.2
QAM	Ghamsar	5.04	277	ePn	Pn	19 23 55.9	+0.5
IPRN	Peran	5.13	306	ePn	Pn	19 23 58.1	+1.5
KLNJ	Kolanjah	5.47	247	ePn	Pn	19 24 02.2	+0.8
IHSB	Hasanabad	5.54	294	ePn	Pn	19 24 02.8	+0.7
QALM	Alamut, Qazvin	6.41	301	ePn	Pn	19 24 16.1	+1.9
QABG	Abgarm-Qazvin	6.93	293	ePn	Pn	19 24 21.3	0.0
HAGD	Aghdareh	7.07	285	ePn	Pn	19 24 24.5	+1.3
QSDN	Sirdan	7.52	298	ePn	Pn	19 24 29.9	+0.5

IDC 16 19:23:54.3±17.0,23°.60S×178°.84E,h576km±207km,
mb2.6/3,mb1 2.9/3,mb1mx2.6/17,mbtmp3.5/3,Error
ellipse: s-maj=235.9km s-min=73.8km az=168.0,South
of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	41.03	261	P	P	19 30 47.7	-0.9
	0.4nm,0.7s,baz=94,slow=7.3,SNR=4.7						
WRA	Warramunga Arr	41.36	266	P	P	19 30 51.5	+0.3
	0.3nm,0.4s,baz=102,slow=7.6,SNR=9.8						
TXAR	Lajitas Array	91.18	59	P	P	19 35 58.6	-0.2
	0.2nm,0.7s,baz=224,slow=3.8,SNR=3.7						
ARCES	ARCESS Array B	131.37	348	PKP	PKPdf	19 42 01.2	+0.2
	2.1nm,0.9s,baz=59,slow=3.5,SNR=2.2						
NB2	NORSAR Subarra	141.61	350	PKP	PKPdf	19 42 19.8	-0.3
	comp=Z,1.0nm,0.6s,baz=17,slow=3.4						
NOA	NORSAR Array B	141.61	350	PKP	PKPdf	19 42 19.3	-0.8
	comp=Z,0.5nm,0.6s,baz=22,slow=3.8,SNR=11						

WEL 16 19:28:42.2,40°.S±1°.×174°.8E±0°.8,h22km±4km,M3.8/30,
ML4.0/30,MLv3.8/30,Error ellipse: s-maj=0.0km
s-min=0.0km az=18.8,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	Ohakea	0.40	95	P	Pb	19 28 51.0	+0.6
OHWZ				S	Sb	19 28 57.6	+1.6
WAZ	Wanganui	0.44	19	P	Pb	19 28 51.3	0.0
KIW	Kapiti Island	0.69	173	P	Pb	19 28 55.7	+0.1
KIW				S	Sb	19 29 05.0	+0.3
OGWZ	Otaki Gorge	0.70	156	P	Pb	19 28 55.8	+0.1
OGWZ				S	Sb	19 29 05.8	+0.8
MRZ	Mangatainoka R	0.77	129	P	Pb	19 28 56.9	0.0
MRZ				S	Sb	19 29 07.5	+0.6
POWZ	Post Office Ro	0.77	107	P	Pb	19 28 56.7	-0.2
LREZ	Lake Rotokare	0.78	337	P	Pb	19 28 56.8	-0.1
LREZ				S	Sn	19 29 08.8	0.0
TSZ	Takapari Road	0.90	83	P	Pb	19 28 58.1	-1.0
TSZ				S	Sb

TUVZ	Tukino	1.12 36	P	Pn	19 29 01.0	-1.8
NBEZ	Newall Road No	1.16 321	P	Pn	19 29 03.0	0.0
MHEZ	Mangahewa	1.16 341	P	Pn	19 29 02.8	-0.2
PKE	Pukeiti	1.16 327	P	Pn	19 29 02.8	-0.4
NGZ	Ngauruhoe	1.17 32	P	Pn	19 29 01.5	-2.0
BHHZ	Black Hill Sta	1.19 55	P	Pn	19 29 01.5	-2.0
TWVZ	Taurewa	1.21 24	P	Pn	19 29 01.6	-2.3
OTVZ	Oturere	1.21 34	P	Pn	19 29 02.2	-1.7
BFZ	Birch Farm	1.22 115	P	Pn	19 29 03.0	-0.9
WTVZ	West Tongariro	1.22 30	P	Pn	19 29 02.1	-2.0
BHW	Baring Head	1.23 177	P	Pn	19 29 04.0	-0.1
TMWZ	Te Maipa	1.25 139	P	Pn	19 29 03.9	-0.5
ETVZ	East Tongariro	1.25 34	P	Pn	19 29 03.0	-1.6
KRVZ	Karewarewa	1.26 31	P	Pn	19 29 02.6	-1.9
WPHZ	Waipukurau	1.27 86	P	Pn	19 29 04.4	-0.2
TMVZ	Te Maari	1.27 34	P	Pn	19 29 03.0	-1.7
MSWZ	Moikau Station	1.29 165	P	Pb	19 29 05.3	-0.3
CPWZ	Castlepoint	1.30 125	P	Pn	19 29 05.0	0.0
ANWZ	Angora Road	1.31 103	P	Pn	19 29 04.5	-0.7
KRHZ	Kereru	1.32 67	P	Pn	19 29 04.8	-0.6
KATZ	Kakaramea	1.38 30	P	Pn	19 29 05.1	-1.2
TRWZ	Traveller	1.40 151	P	Pb	19 29 07.0	-0.6
PRHZ	Porangahau	1.41 94	P	Pn	19 29 06.3	-0.2
TUWZ	Tuamarina	1.41 207	P	Pn	19 29 06.0	-0.5
PLWZ	Palliser	1.44 166	P	Pn	19 29 06.9	0.0
RITZ	Rihia Road	1.45 35	P	Pn	19 29 06.7	-0.4
KWHZ	Kaweka Forest	1.46 60	P	Pn	19 29 07.8	+0.5
NNZ	Nelson	1.50 226	P	Pn	19 29 08.0	+0.3
RATZ	Rangitukua	1.51 30	P	Pn	19 29 07.6	-0.4
PXZ	Pawanui	1.59 85	P	Pn	19 29 08.1	-0.9
HATZ	Hinemaiaia	1.63 38	P	Pn	19 29 10.0	+0.5
CMWZ	Cape Campbell	1.63 196	P	Pb	19 29 11.5	-0.1
MCHZ	McNeill Hill	1.63 64	P	Pn	19 29 10.1	+0.4
WATZ	Wairara	1.63 27	P	Pn	19 29 09.0	-0.7
KAHZ	Kahuranaki	1.64 77	P	Pn	19 29 09.4	-0.4
BKZ	Black Stump Fm	1.65 53	P	Pn	19 29 09.3	-0.6
HIZ	Hauiti	1.66 2	P	Pn	19 29 08.8	-1.1
BSWZ	Blackbirch Sta	1.69 204	P	Pn	19 29 11.4	+0.9
CKHZ	Cape Kidnapper	1.83 74	P	Pn	19 29 11.9	-0.3
QRZ	Quartz Range	1.85 249	P	Pn	19 29 12.4	-0.2
KUTZ	Kaahu Road	1.86 26	P	Pn	19 29 14.0	+1.2
ARHZ	Aropaoanui	1.92 62	P	Pn	19 29 13.4	-0.2
TLZ	Tolley Road	1.93 18	P	Pn	19 29 11.6	-2.1
WPRZ	Whakapapatarin	1.96 33	P	Pn	19 29 15.2	+1.0
ALRZ	Allen Road	2.01 37	P	Pn	19 29 15.0	+0.3
MTHZ	Maungataniwha	2.06 51	P	Pn	19 29 15.1	-0.4
PRRZ	Plateau Road	2.08 37	P	Pn	19 29 16.3	+0.5
HRRZ	Handcock Road	2.12 33	P	Pn	19 29 17.5	+1.1
THZ	Tophouse	2.14 221	P	Pn	19 29 17.4	+0.8
WHHZ	Waihua	2.18 61	P	Pn	19 29 17.1	0.0
MUGZ	Murupara	2.28 43	P	Pn	19 29 18.2	-0.4
RTZ	Ruatahuna	2.30 48	P	Pn	19 29 19.1	+0.3
OMRZ	Omania	2.40 31	P	Pn	19 29 21.2	+0.9
SNGZ	Shannon Statio	2.41 56	P	Pn	19 29 19.9	-0.4
KHZ	Kahutara	2.43 203	P	Pn	19 29 20.7	+0.1
TOZ	Tahuroa Road	2.50 13	P	Pn	19 29 19.4	-2.1
KNZ	Kokohu	2.50 64	P	Pn	19 29 20.2	-1.3
MHGZ	Mahia Peninsul	2.61 68	P	Pn	19 29 21.7	-1.3
URZ	Urewera	2.62 44	P	Pn	19 29 22.6	-0.7
PRGZ	Paritu Road	2.69 63	P	Pn	19 29 22.5	-1.7
TGRZ	Tauranga	2.69 26	P	Pn	19 29 25.5	+1.3
OPRZ	Ohinepanea	2.70 31	P	Pn	19 29 24.5	+0.2
DSZ	Denniston Nort	2.76 234	P	Pn	19 29 25.5	+0.4
MWZ	Matawai	2.81 50	P	Pn	19 29 24.9	-0.9
TKGZ	Te Karaka	2.93 55	P	Pn	19 29 26.1	-1.4
GVZ	Greta Valley S	3.09 205	P	Pn	19 29 29.1	-0.5
AWAZ	Awhitu Peninsu	3.11 355	P	Pn	19 29 29.2	-0.6
RUGZ	Raukumara Rang	3.15 46	P	Pn	19 29 29.0	-1.5
ETAZ	East Tamaki Re	3.22 2	P	Pn	19 29 31.1	-0.3
LTZ	Lake Taylor	3.22 215	P	Pn	19 29 31.7	+0.1
WTAZ	Waiatarua	3.24 357	P	Pn	19 29 31.3	-0.4
MBAZ	Motutapu North	3.40 1	P	Pn	19 29 33.1	-0.8
KUZ	Kuaotunu	3.50 12	P	Pn	19 29 33.9	-1.4
ABAZ	Army Bay	3.57 0	P	Pn	19 29 35.6	-0.6
INZ	Inchbonnie	3.58 224	P	Pn	19 29 36.8	+0.4
WMGZ	Waiomatatini S	3.67 51	P	Pn	19 29 35.4	-2.2
OXZ	Oxford	3.77 212	P	Pn	19 29 38.1	-0.9
MQZ	McQueen's Vall	3.87 204	P	Pn	19 29 38.3	-2.1
AKCZ	Akaroa Harbour	3.95 200	P	Pn	19 29 40.4	-1.1
WVZ	Waitaha Valley	4.20 225	P	Pn	19 29 46.7	+1.8
WCZ	Waipu Caves	4.24 355	P	Pn	19 29 44.3	-1.2
GCSZ	Gaunt Creek Bo	4.59 225	P	Pn	19 29 51.2	+1.0
ARCZ	Arundel	4.63 214	P	Pn	19 29 50.8	-0.1
FOZ	Fox Glacier	5.01 226	P	Pn	19 29 56.4	+0.4
OUZ	Omahuta	5.04 349	P	Pn	19 29 55.7	-0.7
ODZ	Otahua Downs	5.73 214	P	Pn	19 30 05.0	-1.2
CTZ	Chatham Island	7.32 122	P	Pn	19 30 25.9	-1.8

IDC 16 19:46:43.1±2.8, 47°45S×165°31E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/21, mbtmp3.9/3, ML3.8/1, MS3.7/3, Ms1 3.8/3, ms1mx3.1/28, Error ellipse: s-maj=72.8km s-min=29.8km az=165.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	5.49	49	Pn	Pn	19 48 06.8	+0.7
	3.2nm,0.3s,baz=225,slow=7.1,SNR=11						
RPZ				Sn	Sn	19 49 10.5	+0.5
	5.0nm,0.3s,baz=44,slow=16,SNR=2.3						
RAO	Raoul Island	22.34	42	LR	LR	20 01 06.8	
	comp=Z,88nm,18.2s,baz=256,slow=39						
ASAR	Alice Springs	34.49	302	P	P	19 53 32.7	-0.1
	1.4nm,0.6s,baz=134,slow=7.3,SNR=36						
ASAR				PcP	PcP	19 56 07.5	-0.4
	0.3nm,0.9s,baz=145,slow=3.4,SNR=1.5						
WRA	Warramunga Arr	37.21	307	P	P	19 53 56.0	-0.1
	0.9nm,0.6s,baz=142,slow=8.2,SNR=18						
RPN	Rapa Nui	67.54	106	LR	LR	20 19 46.5	
	comp=Z,40nm,20.6s,baz=60,slow=29						
CPUP	Villa Florida	97.13	142	LR	LR	20 37 59.6	
	comp=Z,96nm,18.4s,baz=230,slow=32						
FINES	FINESS Array B	153.01	316	PKPbc	PKPbc	20 06 41.0	-0.2
	1.0nm,0.9s,baz=101,slow=1.4,SNR=4.8						

IDC 16 19:52:16.3±2.5, 42°87N×142°02E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/43, mbtmp3.7/5, Error ellipse: s-maj=80.3km s-min=32.7km az=64.0
JMA 16 19:52:35.1±0.1, 42°71N×141°16E, h137km±1km, M2.7
ISC 16 19:52:34.9±0.8, 42°71N±0°06×141°19E±0°04, h141km±6km, n22, σ0°56/36, mb3.4/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEW	Eniwo	0.23	56	P	Pn	19 52 54.2	+0.1
JEW				eS	Sn	19 53 08.4	-0.3
JNB	Noboribetsu	0.27	205	P	Pn	19 52 53.9	-0.3
JNB				eS	Sn	19 53 08.3	-0.5
JIAM	Iburiatsuma	0.55	99	P	Pn	19 52 55.7	+0.3
JIAM				eS	Sn	19 53 11.3	+0.4
JISS	Ishikarishitsu	0.59	17	P	Pn	19 52 55.8	+0.2
JISS				eS	Sn	19 53 11.7	+0.2
JSK	Shakotan	0.83	321	P	Pn	19 52 57.1	-0.2
JKB	Kayabe	0.83	188	P	Pn	19 52 57.2	-0.1
JKB				eS	Sn	19 53 14.2	-0.2
JSH	Shimam	0.85	266	P	Pn	19 52 57.4	0.0
JSH				eS	Sn	19 53 14.6	0.0
JYM2	Yakumo 2	0.85	226	P	Pn	19 52 57.5	0.0
JYM2				eS	Sn	19 53 13.8	-0.8
JBT2	Biratori 2	0.87	85	P	Pn	19 52 57.6	0.0
JBT2				eS	Sn	19 53 15.2	+0.3
JHST	Hiyamasetana	1.01	254	P	Pn	19 52 58.8	0.0
JHST				eS	Sn	19 53 17.0	0.0
JHR	Hokuryu	1.10	21	P	Pn	19 53 00.3	+0.6
JNBK	Urakawa-nobuka	1.23	110	P	Pn	19 53 01.0	+0.1
JNBK				eS	Sn	19 53 21.6	+0.8
JOT	Ohata	1.33	185	P	Pn	19 53 02.0	0.0
JOT				eS	Sn	19 53 23.3	+0.7
JOSM	Okushiri--Mats	1.42	244	P	Pn	19 53 02.7	-0.1
JCH	Churui	1.61	93	P	Pn	19 53 05.4	+0.6
JCH				eS	Sn	19 53 26.5	-1.3
JKK2	Kamakawa 2	1.63	44	P	Pn	19 53 05.4	+0.3
JKK2				eS	Sn	19 53 27.8	-0.5
JAR	Ashorobuto	1.98	72	P	Pn	19 53 09.0	-0.2
JAR				eS	Sn	19 53 34.2	-1.3
SONM	Songino Array	24.88	294	P	P	19 57 44.3	-0.1
	0.9nm,0.7s,baz=83,slow=7.5,SNR=7.0						
ZALV	Zalesovo Beam	38.15	307	P	P	19 59 40.2	+0.1
	2.5nm,0.4s,baz=93,slow=8.7,SNR=12						
MKAR	Makanchi Array	41.18	297	P	P	20 00 06.8	+1.5
	0.2nm,0.6s,baz=82,slow=9.4,SNR=4.1						
WRA	Warramunga Arr	62.66	187	P	P	20 02 44.2	-0.2
	0.3nm,0.8s,baz=7.1,slow=7.2,SNR=1.4						
FINES	FINESS Array B	63.74	331	P	P	20 02 50.4	-0.7
	0.7nm,0.6s,baz=44,slow=4.6,SNR=4.7						

REY 16 20:02:53.7, 64°68N×17°47W, h5km
IDC 16 20:02:53.6±1.1, 64°58N×17°81W, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/50, mbtmp3.4/6, ML3.1/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/47, Error ellipse: s-maj=31.8km s-min=12.6km az=14.0
ISC 16 20:02:54.3±0.6, 64°69N±0°02×17°52W±0°03, h10km, n55, σ2°12/55, mb3.6/5, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.10	262	P	Pg	20 02 56.2	-0.7
	baz=268						
IDYN	Dyngjuhals	0.12	32	P	Pg	20 02 56.6	-0.7
	baz=21						
IURH	Urdarhals	0.21	50	P	Pg	20 02 57.8	-0.8
	baz=44						
IDJK	Dyngjujokull	0.22	146	P	Pg	20 02 58.2	-0.7
	baz=150						
IGRF	Grimsfjall	0.30	159	P	Pg	20 02 59.2	-1.1
	baz=162						
IKVE	Kverkfjoll	0.36	91	P	Pg	20 03 00.2	-1.3
	baz=89						
ISKR	Skrokkalda	0.40	251	P	Pg	20 03 01.1	-0.9
	baz=254						
IBJK	Bruarjokull	0.40	123	P	Pg	20 03 00.4	-1.7
	baz=124						
IHUS	Husbondi	0.40	189	P	Pg	20 03 01.2	-1.0
	baz=192						
IVOT	Vottur	0.44	161	P	Pg	20 03 01.4	-1.5
	baz=163						
IJOK	Jokulheimar	0.48	220	P	Pg	20 03 02.6	-1.1
	baz=222						
IKRE	Kreppuhraun	0.50	78	P	Pg	20 03 02.3	-1.6
	baz=77						
IASK	Askja	0.52	45	P	Pg	20 03 02.9	-1.5
	baz=43						
IMKO	Mokollar	0.58	59	P	Pg	20 03 04.0	-1.6
	baz=58						
IMKO				S	Sg	20 03 12.8	-0.4
IIEY	Innrieyrar	0.65	204	P	Pg	20 03 05.2	-1.6
	baz=206						
ISVA	Svartarkot	0.66	10	P	Pg	20 03 05.6	-1.4
	baz=7.8						
ISVA				S	Sg	20 03 15.0	-0.7
	baz=7.8						
IKSK	Karasker	0.70	139	P	Pg	20 03 05.0	-2.7
	baz=140						
IKAL	Kalfafell	0.75	186	P	Pg	20 03 06.8	-1.9
	baz=187						
IVSH	V-Sauoahnukur	0.78	80	P	Pg	20 03 06.8	-2.4
	baz=79						
IVSH				S	Sg	20 03 17.6	-1.8
	baz=79						
IVAT	Vatnsfell	0.79	231	P	Pg	20 03 08.2	-1.3
	baz=233						
IADA	Aoalbol	0.89	67	P	Pg	20 03 08.8	-2.6
	baz=66						
IHVE	Hveravellir	0.90	283	P	Pg	20 03 09.8	-1.8
	baz=283						
IFAG	Fagurholsmyri	0.90	155	P	Pg	20 03 08.9	-2.6
	baz=156						
IMEL	Melhnausar	0.96	22	P	Pg	20 03 10.5	-2.1
	baz=21						
IREN	Reynihlio	1.00	15	P	Pg	20 03 11.2	-2.2
	baz=14						
IKVO	Krokottuvotn	1.06	14	P	Pg	20 03 12.3	-2.4
	baz=13						
ISNB	Snabyli	1.07	207	P	Pg	20 03 12.3	-2.6
	baz=209						
ISLY	Slysaalda	1.11	220	P	Pg	20 03 13.4	-2.2
	baz=221						
IGRS	Grimsstaoir	1.12	31	P	Pb	20 03 13.1	-2.7
	baz=30						
IFED	Fedgar	1.16	236	P	Pb	20 03 14.3	-2.0
	baz=237						
IRJU	Rjupnafell	1.19	206	P	Pb	20 03 14.7	-2.1
	baz=207						
IMJO	Mjoaskard	1.21	232	P	Pb	20 03 15.3	-1.9
	baz=233						
IGYG	Gygjarholskot	1.24	252	P	Pn	20 03 15.6	-2.0
	baz=253						
IHAU	Haukadalur	1.29	237	P	Pn	20 03 16.4	-1.8
	baz=238						
ISMJ	Smjorgil	1.38	224	P	Pn	20 03 18.3	-1.3
	baz=225						
IALF	Alftagrof	1.41	212	P	Pn	20 03 18.3	-1.6
	baz=213						
IESK	Eystri-Skogar	1.44	217	P	Pn	20 03 18.2	-2.2
	baz=218						
BORG	Borgarnes	1.64	274	Pg	Pn	20 03 21.4	-1.7
	11nm,0.3s,baz=98,slow=6.8,SNR=53						
BORG				Lg	Lg	20 03 42.1	
	6.1nm,0.3s,baz=83,slow=17,SNR=5.6						
EKA	Eskdalemuir Ar	11.78	136	Pn	Pn	20 05 43.1	+1.0
	baz=321,slow=13,SNR=13						
NOA	NORSAR Array B	13.54	92	Pn	Pn	20 06 07.5	+1.3
	0.0nm,0.3s,baz=302,slow=12,SNR=2.5						
CLL	Collm	20.72	116	*i* P	Pn	20 07 35.3	-1.5
CLL				*i*		20 07 38.6	
BRG	Berggiesshubel	21.43	115	*e*P	P	20 07 44.2	+2.1
	9.0nm,1.3s						
CHVC	Chvalec	22.48	113	*e*P	P	20 07 56.8	+3.3
OSTC	Ostas	22.57	113	*e*P	P	20 07 58.6	+4.2
KHC	Kasperske Hory	22.69	118	*e*P	P	20 07 59.7	+4.0
DPC	Dobruska-Polom	22.78	113	*e*P	P	20 07 59.2	+2.6
GERES	GERESS Array B	22.97	119	P	P	20 08 00.3	+1.6
	0.8nm,0.9s,baz=316,slow=6.9,SNR=6.9						
VRAC	Vranov	23.71	114	*e*P	P	20 08 09.5	+3.5
MORC	Moravsky Berou	23.71	112	*e*P	P	20 08 09.9	+3.8
KRUC	Moravsky	23.83	115	*e*P	P	20 08 10.7	+3.6
RES	Resolute Bay	26.44	324	LR	LR	20 18 54.2	
	comp=Z,63nm,19.6s,baz=94,slow=36						
ILAR	Eielson Array	45.66	332	P	P	20 11 15.5	+1.1
	0.7nm,0.9s,baz=30,slow=7.3,SNR=5.9						
TKL	Tuckaleechee C	48.32	266	LR	LR	20 30 34.5	
	comp=Z,55nm,19.4s,baz=166,slow=34						
MKAR	Makanchi Array	52.72	58	P	P	20 12 10.4	+1.8
	0.7nm,0.9s,baz=330,slow=8.3,SNR=5.0						
TORD	Torodi Ar. Bea	53.16	156	P	P	20 12 12.3	+0.1
	0.6nm,0.8s,baz=344,slow=9.3,SNR=2.5						

OSPL 16 20:03:44.4±0.3, 19°21N×64°33W, h38km±28km, ML3.8
NEIC 16 20:03:49.0±1.2, 19°19N±0°05×64°84W±0°05, h22km±8km, Error ellipse: s-maj=7.6km s-min=6.8km az=177.0
RSPR 16 20:03:50.1, 19°23N×64°77W, h25km±24km, MD3.7/19
ISC 16 20:03:48.7±1.8, 19°22N±0°07×64°87W±0°02, h16km±10km, n109, σ1°36/135, 12C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.84	163	*e*P	Pb	20 04 04.1	-0.8
TBVI	Tortola	0.84	163	*e*S	Sg	20 04 14.5	-1.5
TBVI	Tortola	0.84	163		Pb	20 04 04.1	-0.8
TBVI					Sg	20 04 14.5	-1.5
STVI	Saint Thomas	0.87	185	*e*P	Pb	20 04 04.6	-0.8
STVI	Saint Thomas	0.87	185	*e*S	Sb	20 04 15.9	-0.9
STVI	Saint Thomas	0.87	185		Pb	20 04 04.6	-0.8
STVI					Sb	20 04 15.9	-0.9
CUPR	Culebra, Puert	0.99	203	‖ *i*P	Pb	20 04 06.7	-0.8
CUPR	Culebra, Puert	0.99	203	*e*S	Sb	20 04 19.6	-0.6
CUPR	Culebra, Puert	0.99	203		Pb	20 04 06.7	-0.8
CUPR					Sb	20 04 19.6	-0.6
MTP	Monte Pirata	1.29	210	‖ *i*P	Pn	20 04 11.2	-0.9
MTP	Monte Pirata	1.29	210	*e*S	Sb	20 04 28.4	-0.6
MTP	Monte Pirata	1.29	210		Pn	20 04 11.2	-0.9
MTP					Sb	20 04 28.4	-0.6
CBYP	Canovanas	1.33	225	⇑ *e*P	Pn	20 04 11.7	-1.0
CBYP	Canovanas	1.33	225	*e*S	Sb	20 04 29.3	-0.8
CBYP	Canovanas	1.33	225		Pn	20 04 11.7	-1.0
CBYP					Sb	20 04 29.3	-0.8
HUMP	Col San Antoni	1.42	221	‖ *i*P	Pn	20 04 13.0	-0.9
HUMP	Col San Antoni	1.42	221	*e*S	Sn	20 04 31.1	-1.1
HUMP	Col San Antoni	1.42	221		Pn	20 04 13.0	-0.9
HUMP					Sn	20 04 31.1	-1.1
CDVI	St. Croix	1.47	176	‖ *e*P	Pn	20 04 14.5	0.0
CDVI	St. Croix	1.47	176	*e*S	Sn	20 04 32.3	-1.1
CDVI	St. Croix	1.47	176	*e*P	Pn	20 04 14.7	+0.2
CDVI				*e*S	Sb	20 04 34.8	+0.8
CDVI	St. Croix	1.47	176		Pn	20 04 14.5	0.0
CDVI					Sn	20 04 32.3	-1.1
PDPR	Patillas Dam,	1.62	222	⇑ *e*P	Pn	20 04 16.1	-0.6
PDPR	Patillas Dam,	1.62	222	*e*S	Sn	20 04 36.3	-0.8
PDPR	Patillas Dam,	1.62	222		Pn	20 04 16.1	-0.6
PDPR					Sn	20 04 36.3	-0.8
IGPR	InterUniversit	1.71	223	⇑ *e*P	Pn	20 04 17.3	-0.6
IGPR	InterUniversit	1.71	223	*e*S	Sn	20 04 38.2	-1.2
IGPR	InterUniversit	1.71	223		Pn	20 04 17.3	-0.6
EMPR	Esperanza - Ma	1.73	245	⇑ *e*P	Pn	20 04 18.0	-0.2
EMPR	Esperanza - Ma	1.73	245	*e*S	Sn	20 04 39.4	-0.7
EMPR	Esperanza - Ma	1.73	245		Pn	20 04 18.0	-0.2
EMPR					Sn	20 04 39.4	-0.7
CELP	Cerrillos	1.98	235	‖ *e*P	Pn	20 04 21.2	-0.4
CELP	Cerrillos	1.98	235	*e*S	Sn	20 04 45.8	-0.4
CELP	Cerrillos	1.98	235		Pn	20 04 21.2	-0.4
CELP					Sn	20 04 45.8	-0.4
AOPR	Arecibo Observ	1.98	244	⇑ *e*P	Pn	20 04 21.2	-0.5
AOPR	Arecibo Observ	1.98	244	*e*S	Sn	20 04 45.0	-1.2
AOPR	Arecibo Observ	1.98	244	*e*P	Pn	20 04 21.1	-0.6
AOPR				*e*S	Sn	20 04 42.7	-3.6
AOPR	Arecibo Observ	1.98	244		Pn	20 04 21.2	-0.5
AOPR					Sn	20 04 45.0	-1.2
OBIP	Obispado Ponce	2.02	235	⇑ *i*P	Pn	20 04 21.4	-0.8
OBIP	Obispado Ponce	2.02	235	*e*S	Sn	20 04 46.1	-1.0
OBIP	Obispado Ponce	2.02	235		Pn	20 04 21.4	-0.8
OBIP					Sn	20 04 46.1	-1.0
ICMP	Isla Caja de M	2.06	230	⇑ *e*P	Pn	20 04 22.8	+0.1
ICMP	Isla Caja de M	2.06	230	*e*S	Sn	20 04 47.0	-1.0
ICMP	Isla Caja de M	2.06	230		Pn	20 04 22.8	+0.1
ICMP					Sn	20 04 47.0	-1.0
SMRT	St. Maarten	2.06	124	*e*P	Pn	20 04 21.7	-1.1
SMRT	St. Maarten	2.06	124	*e*P	Pn	20 04 22.3	-0.5
SMRT				*e*S	Sn	20 04 47.6	-0.7
SMRT	St. Maarten	2.06	124	Pn	Pn	20 04 21.8	-1.1
SABA	Saba	2.22	136	*e*P	Pn	20 04 25.9	+0.9
SABA	Saba	2.22	136	*e*P	Pg	20 04 32.8	+1.5
SABA				*e*S	Sn	20 04 51.0	-1.1
SABA	Saba	2.22	136		Pn	20 04 25.0	0.0
AGPR	Aguadilla, PR	2.25	251	⇑ *e*P	Pn	20 04 25.0	-0.3
AGPR	Aguadilla, PR	2.25	251	*e*S	Sn	20 04 52.8	0.0
AGPR	Aguadilla, PR	2.25	251		Pn	20 04 25.0	-0.3
AGPR					Sn	20 04 52.8	0.0
AGPR	Aguadilla, PR	2.25	251	*i* P	Pn	20 04 24.9	-0.3
AGPR				IAML		20 05 08.0	
	comp=Z,314nm,0.8s						
GBPR	Guanica, Bosqu	2.27	237	‖ *e*P	Pn	20 04 25.9	+0.3
GBPR	Guanica, Bosqu	2.27	237	*e*S	Sn	20 04 53.5	+0.2
GBPR	Guanica, Bosqu	2.27	237		Pn	20 04 25.9	+0.3
GBPR					Sn	20 04 53.5	+0.2
LSP	Las Mesas	2.34	244	⇑ *e*P	Pn	20 04 27.2	+0.6
LSP	Las Mesas	2.34	244	*e*S	Sn	20 04 55.6	+0.5
LSP	Las Mesas	2.34	244		Pn	20 04 27.2	+0.6
LSP					Sn	20 04 55.6	+0.5
MPR	Mayaguez	2.37	245		Pn	20 04 26.8	-0.2
MPR	Mayaguez	2.37	245	*i* P	Pn	20 04 26.4	-0.6
MLPR	Magueyes Islan	2.41	239	⇑ *i*P	Pn	20 04 27.6	+0.1
MLPR	Magueyes Islan	2.41	239	*e*S	Sn	20 04 57.0	+0.3
MLPR	Magueyes Islan	2.41	239		Pn	20 04 27.6	+0.1
MLPR					Sn	20 04 57.0	+0.3
CRPR	Cabo Rojo, PR	2.44	241	⇑ *e*P	Pn	20 04 28.0	+0.1
CRPR	Cabo Rojo, PR	2.44	241		Pn	20 04 28.0	+0.1
SEUS	St. Eustatius	2.49	133	*e*P	Pn	20 04 24.9	-3.7
SEUS				*e*S	Sn	20 04 53.4	-5.3
SEUS	St. Eustatius	2.49	133	Pn	Pn	20 04 28.4	-0.2
SKI	Saint Kitts	2.76	132	*e*P	Pn	20 04 33.5	+1.1
SKI	Saint Kitts	2.76	132	*e*P	Pn	20 04 34.2	+1.7
SKI				*e*S	Sn	20 05 07.8	+2.2
SKI	Saint Kitts	2.76	132		Pn	20 04 32.3	-0.2
SKOC	St. Kitts, UWI	2.80	133	*e*P	Pn	20 04 34.9	+2.0
SKOC				*e*S	Sn	20 05 05.6	-0.7
ANWB	Willy Bob	3.31	117	*e*P	Pn	20 04 37.1	-2.8
ANWB	Willy Bob	3.31	117	*e*P	Pn	20 04 37.3	-2.6
ANWB				*e*S	Sn	20 05 16.2	-2.9
ANWB	Willy Bob	3.31	117	Pn	Pn	20 04 38.6	-1.4
PCDR	Punta Cana, DR	3.40	259	⇑ *e*P	Pn	20 04 41.9	+0.8
PCDR	Punta Cana, DR	3.40	259		Pn	20 04 41.9	+0.8
PCDR	Punta Cana, DR	3.40	259	*i* P	Pn	20 04 40.7	-0.4
PCDR				*e*S	Sn	20 05 22.3	+1.2
PCDR				IAML		20 05 42.1	

POPC eS Sn 20 13 50.5 -2.2
TUMC Tumaco 2.24 191 eP Pn 20 13 24.6 -0.9
TUMC eS Sn 20 13 51.6 -1.4
TUMC i 20 14 04.9
comp=Z,738nm,0.6s
BBAC Balboa, Cauca 2.27 152 eP Pn 20 13 25.1 -0.9
BBAC eS Sn 20 13 49.7 -4.4
SOLC Bahia Solano 2.35 22 eP Pn 20 13 24.6 -2.5
SOLC eS Sn 20 13 51.0 -4.9
SOTA Rioblanco 2.54 138 eS Sn 20 13 59.7 -1.6
PCON Cinco Dias 2.56 132⇑ eP Pn 20 13 30.7 +0.4
PCON eS Sn 20 13 58.9 -2.9
MARP Paez Belalcaza 2.63 117 eP Pn 20 13 31.6 +0.4
MARP eS Sn 20 14 02.2 -1.1
CBOC Ciudad Bolivar 2.92 52 eP Pn 20 13 33.2 -1.9
CBOC eS Sn 20 13 59.6 -11
ANIL Santa Ana 2.94 81⇑ eP Pn 20 13 35.3 -0.1
ANIL eS Sn 20 14 11.0 +0.2
ANIL i 20 14 13.8
comp=Z,151nm,0.5s
TOLC Tolima 3.03 80⇑ eP Pn 20 13 36.9 +0.2
TOLC eS Sn 20 14 14.2 +1.0
TOLC i 20 14 19.5
comp=Z,1µm,0.6s
ORTC Ortega, Tolima 3.06 92⇑ eP Pn 20 13 38.0 +1.1
ORTC eS Sn 20 14 13.5 0.0
ORTC i 20 14 16.8
comp=Z,629nm,0.6s
GUY2C Guyana, Caldas 3.17 68⇑ eP Pn 20 13 38.7 0.0
GUY2C eS Sn 20 14 16.0 -0.6
GUY2C i 20 14 19.0
comp=Z,715nm,0.6s
BETC Betania 3.17 115 eP Pn 20 13 40.6 +2.3
BETC eS Sn 20 14 16.4 +0.3
GARC Garzon, Huila 3.36 123 eP Pn 20 13 42.4 +1.2
GARC eS Sn 20 14 21.0 -0.2
PRAC Prado 3.43 95⇑ iP Sn 20 13 43.1 +1.1
PRAC eS Sn 20 14 23.5 +0.9
PRAC i 20 14 32.0
comp=Z,435nm,0.6s
HELC Santa Helena 3.50 52 eP Pn 20 13 42.9 -0.3
HELC eS Sn 20 14 19.8 -5.0
FLOC Florencia 3.60 132 eP Pn 20 13 45.6 +1.3
FLOC eS Sn 20 14 25.2 -1.7
CUSE Cuicocha Este 3.71 181 eP Pn 20 13 45.7 -0.4
CUSE eS Sn 20 14 25.9 -4.2
NORC Norcasia 3.75 66⇑ eP Pn 20 13 47.1 +0.8
NORC eS Sn 20 14 30.4 -0.1
NORC i 20 14 33.4
comp=Z,196nm,0.6s
PAC1 Pacto, Paraso 3.78 187 eP Pn 20 13 45.0 -1.9
PAC1 eS Sn 20 14 25.8 -5.5
OTAV Otavalo 3.78 182⇑ eP Pn 20 13 46.4 -0.7
OTAV eS Sn 20 14 26.9 -4.8
OTAV Otavalo 3.78 182 Sn 20 13 46.6 -0.4
OTAV Otavalo 3.78 182 eP Pn 20 13 47.0 -0.1
ROSC El Rosal 4.06 79 P Pn 20 13 53.5 +2.6
comp=Z,97nm,0.3s,baz=321,slow=3.2,SNR=78
ROSC S Sn 20 14 40.5 +1.9
comp=Z,27nm,0.3s,baz=151,slow=22,SNR=7.5
ROSC El Rosal 4.06 79 eS Sn 20 14 37.4 -1.2
ROSC El Rosal 4.06 79 Pn Pn 20 13 53.7 +2.8
AZU Azuero 4.21 332 eP Pn 20 13 52.1 -0.6
AZU eS Sn 20 14 37.9 -3.9
SPBC San Pablo de B 4.52 69 eP Pn 20 13 57.9 +0.9
PTBC PUERTO BERRIO, 4.57 57 eP Pn 20 13 58.4 +0.7
PTBC eS Sn 20 14 48.5 -2.4
PTBC i 20 14 56.7
comp=Z,78nm,0.5s
CHIC Chingaza 4.61 82 eP Pn 20 14 00.3 +1.9
CHIC eS Sn 20 14 52.6 +0.5
VILC Villavicencio, 4.61 89 eP Pn 20 14 00.5 +2.3
VILC eS Sn 20 14 51.8 0.0
VILC i 20 15 00.2
comp=Z,215nm,0.5s
UREC San Jos de Ur 4.61 37 eP Pn 20 13 58.9 +0.7
UREC eS Sn 20 14 50.7 -1.0
MACC Macarena, Meta 4.84 113 eP Pn 20 14 01.7 +0.4
MACC eS Sn 20 14 55.1 -2.2
MACC i 20 15 22.5
comp=Z,132nm,0.6s
ZARC Zaragoza, Cauc 4.86 45 eP Pn 20 14 02.6 +1.0
ZARC eS Sn 20 14 56.8 -0.9
RUSC La Rusia 5.53 70 eP Pn 20 14 13.3 +2.2
RUSC eS Sn 20 15 14.3 -0.7
RUSC i 20 15 30.0
comp=Z,43nm,0.8s
SDV Santo Domingo 9.02 57 P Pn 20 14 59.1 +0.2
comp=Z,4.6nm,0.3s,baz=118,slow=5.3,SNR=9.5
SDV S Sn 20 16 35.1 -5.5
comp=Z,3.5nm,0.3s,baz=38,slow=19,SNR=5.9
SDV LR LR 20 18 57.6
comp=Z,511nm,19.2s,baz=172,slow=41
SDV Santo Domingo 9.02 57 Pn Pn 20 14 59.8 +0.8
SDV Santo Domingo 9.02 57 eP Pn 20 14 59.1 +0.2
JTS Las Juntas de 9.05 314 LR LR 20 18 00.3
comp=Z,172nm,21.5s,baz=192,slow=33
ATAH Atahualpa 11.10 180 LR LR 20 20 16.9
comp=Z,563nm,21.2s,baz=356,slow=40
NNA Nana 15.99 175 P P 20 16 36.3 -0.8
comp=Z,2.0nm,0.3s,baz=0.0,slow=12,SNR=2.9
NNA Nana 15.99 175 IAmb IAmb 20 16 40.1
comp=Z,16nm,0.6s
APG El Apazote 16.19 313 P P 20 16 39.7 +0.2
comp=Z,0.5nm,0.3s,baz=126,slow=19,SNR=1.7
AOPR Arecibo Observ 18.17 38 P P 20 17 01.7 +0.5
ETMB Extrema 18.29 139 eP Pn 20 17 01.1 -1.3
PDPR Patillas Dam, 18.38 40 P Pn 20 17 04.4 +0.9
GCPR Guaynabo City 18.56 39 P P 20 17 05.0 -0.5
GCPR IAmb IAmb 20 17 09.5
comp=Z,44nm,0.8s
CBYP Canovanas 18.67 40 P P 20 17 07.0 +0.3
MTP Monte Pirata 18.74 41 P Pn 20 17 09.7 +1.8
TEIG Tepich 18.79 330 P Pn 20 17 10.5 +2.0
comp=Z,0.6nm,0.3s,baz=330,slow=19,SNR=2.6
TEIG Tepich 18.79 330 IAmb IAmb 20 17 27.0
comp=Z,77nm,1.8s
MACA Manacapuru-AM 19.01 112 eP P 20 17 10.4 -0.1
TOSP Speyside 19.03 67 P P 20 17 09.9 -0.7
CUPR Culebra, Puert 19.07 41 P Pn 20 17 12.6 +0.8
STVI Saint Thomas 19.32 42 P Pn 20 17 15.3 +0.5
SAML Samuel 19.85 131 P P 20 17 18.3 -1.3
SAML Samuel 19.85 131 eP P 20 17 19.1 -0.5
SMRT St. Maarten 20.41 46 P P 20 17 25.7 0.0
SMRT IAmb IAmb 20 17 38.3
comp=Z,34nm,1.1s
061Z Ochoppi 21.85 354 P P 20 17 43.0 +1.9
LPAZ La Paz 22.57 154 P P 20 17 50.0 +0.4
comp=Z,2.1nm,0.8s,baz=325,slow=10,SNR=5.2
LPAZ La Paz 22.57 154 P 20 17 48.6 -1.0
LPAZ La Paz 22.57 154 eP P 20 17 48.9 -0.7
PB16 IPOC Station P 23.86 159 P P 20 18 02.4 -0.3
ITTB Itaituba 24.05 110 eP P 20 18 02.4 -1.6
MNMC Minye Minye 24.57 160 P P 20 18 08.9 0.0
PB11 IPOC Station P 25.13 161 P P 20 18 14.4 +0.5
PB11 IAmb IAmb 20 18 30.8
comp=Z,17nm,0.9s
GO01 Chusmiza 25.20 159 P P 20 18 16.0 +1.1
GO01 IAmb IAmb 20 18 38.2
comp=Z,42nm,1.6s
MDP Montagnes des 25.61 87 P P 20 18 17.1 -1.0
comp=Z,2.7nm,0.5s,baz=258,slow=7.7,SNR=4.2
SIV San Ignacio 26.21 140 P P 20 18 23.1 -0.5
comp=Z,0.9nm,0.5s,baz=331,slow=13,SNR=2.9
SIV PcP PcP 20 21 49.7 -0.8
comp=Z,1.1nm,0.7s,baz=79,slow=10,SNR=2.7
CLDB Colider 26.86 124 eP P 20 18 29.6 +0.1
152A Waverly Hall 29.11 349 P P 20 18 50.8 +1.5
Z57A Bowman 29.20 356 P P 20 18 51.6 +1.6
baz=175
GOGA Godfrey 29.62 351 P P 20 18 55.3 +1.5
baz=170
GOGA Godfrey 29.62 351 P P 20 18 55.2 +1.5
GOGA IAmb IAmb 20 18 56.3
comp=Z,10.0nm,0.8s
Y55A Saluda 29.93 354 P P 20 18 58.4 +1.7
baz=173
LRAL Lakeview Retre 29.97 345 P P 20 18 58.4 +1.5
baz=162
LRAL Lakeview Retre 29.97 345 P P 20 18 58.2 +1.3
HODGE Hodges 30.27 354 P P 20 19 01.2 +1.6
HODGE IAmb IAmb 20 19 02.5
comp=Z,15nm,1.2s

X56A White Oak 30.41 356 P P 20 19 02.3 +1.5
baz=175
X55A Gracelyn & Ava 30.44 355 P P 20 19 02.8 +1.8
baz=173
BIRD Birdtown, Kers 30.52 357 P P 20 19 03.0 +1.2
BIRD IAmb IAmb 20 19 04.4
comp=Z,10nm,1.0s
X54A Belton 30.59 353 P P 20 19 04.2 +1.7
baz=172
W58A Raeford 30.84 359 P P 20 19 06.4 +1.8
baz=178
W57A Gilead 31.00 357 P P 20 19 07.3 +1.3
baz=177
KMSC Kings Mountain 31.08 355 P P 20 19 07.7 +1.0
BG3 Lake Jocassee 31.10 353 P P 20 19 08.6 +1.6
BG3 IAmb IAmb 20 19 09.9
comp=Z,13nm,0.9s
FPAL Fort Paine 31.10 348 P P 20 19 08.1 +1.2
FPAL IAmb IAmb 20 19 09.0
comp=Z,11nm,0.9s
W54A Cherokee Point 31.10 354 P P 20 19 08.9 +2.0
baz=172
W52A Murphy 31.34 351 P P 20 19 10.5 +1.5
Y45A Yeager Farm, C 31.47 342 P P 20 19 12.2 +2.0
V58A Windy Hill, Pi 31.61 359 P P 20 19 12.8 +1.4
baz=178
V58A Windy Hill, Pi 31.61 359 P P 20 19 12.4 +1.0
V58A IAmb IAmb 20 19 13.8
comp=Z,9.7nm,0.9s
V54A Nebo 31.76 354 P P 20 19 14.9 +2.1
baz=173
CPCT Cooper Cave 31.78 350 P P 20 19 14.4 +1.5
CPCT IAmb IAmb 20 19 15.1
comp=Z,7.7nm,0.8s
U58A Oxford 32.20 360 P P 20 19 18.1 +1.5
baz=180
U56A King 32.21 357 P P 20 19 18.6 +1.9
baz=176
U57A Blanch 32.25 358 P P 20 19 18.4 +1.4
baz=178
U54A Nelsons Funny 32.49 355 P P 20 19 21.2 +2.0
baz=174
U54A Nelsons Funny 32.49 355 P P 20 19 20.9 +1.7
U54A IAmb IAmb 20 19 22.1
comp=Z,20nm,1.0s
V48A Smith Brothers 32.51 347 P P 20 19 20.5 +1.2
V48A IAmb IAmb 20 19 21.4
comp=Z,17nm,0.8s
TZTN Tazewell 32.71 352 P P 20 19 21.2 +0.1
T58A Grand View Acr 32.75 360 P P 20 19 22.8 +1.4
baz=180
T59A Double "B" Far 32.78 1 P P 20 19 23.3 +1.7
baz=181
T57A Hurt 32.81 359 P P 20 19 23.6 +1.6
baz=178
T57A Hurt 32.81 359 P P 20 19 23.2 +1.2
T57A IAmb IAmb 20 19 24.4
comp=Z,14nm,0.8s
T56A Rocky Mt 32.87 357 P P 20 19 24.6 +2.1
baz=177
T60A Surry 32.98 2 P P 20 19 24.7 +1.4
baz=183
T55A Pulaski 33.00 356 P P 20 19 25.6 +1.9
baz=175
T54A Tazewell 33.00 355 P P 20 19 25.5 +1.8
baz=174
BLA Blacksburg 33.07 357 P P 20 19 25.9 +1.7
baz=176
WVT Waverly 33.12 346 P P 20 19 24.6 -0.1
baz=162
X40A Basin Creek Fa 33.17 338 P P 20 19 26.1 +1.0
baz=153
S56A Natural Bridge 33.50 358 P P 20 19 29.3 +1.3
baz=178
MIAR Mount Ida 33.50 337 P P 20 19 29.1 +1.1
baz=152
W41B Gary Mavity, V 33.56 339 P P 20 19 28.9 +0.4
baz=154
S55A Lewisburg 33.64 357 P P 20 19 31.2 +2.0
baz=176
S53A Williamson 33.67 355 P P 20 19 30.9 +1.5
baz=173
S54A Dingess, Beckl 33.72 356 P P 20 19 31.7 +1.8
baz=175
CBN Corbin Frederi 34.02 1 P P 20 19 34.1 +1.7
baz=182
R54A Victor 34.07 356 P P 20 19 34.8 +1.8
baz=175
R57A Stanardsville 34.10 360 P P 20 19 34.7 +1.6
baz=180
R58A Rapidan 34.10 0 P P 20 19 35.3 +2.1
baz=180
R55A Marlinton 34.12 357 P P 20 19 35.5 +2.0
baz=177
W39A Magazine 34.16 337 P P 20 19 34.5 +0.8
baz=152
R56A Bull Pasture M 34.22 358 P P 20 19 35.9 +1.6
baz=178
R50A Paris 34.52 352 P P 20 19 38.2 +1.4
R50A IAmb IAmb 20 19 39.0
comp=Z,27nm,1.5s
Q58A Fox Den Farm, 34.75 1 P P 20 19 40.8 +2.0
baz=181
Q53A Leroy 34.78 356 P P 20 19 40.6 +1.5
baz=174
TXAR Lajitas Array 34.79 319 P P 20 19 41.3 +1.8
comp=Z,1.4nm,0.9s,baz=148,slow=9.7,SNR=10
TXAR PcP PcP 20 22 13.7 +0.8
comp=Z,0.9nm,0.9s,baz=123,slow=4.8,SNR=4.3
TXAR Lajitas Array 34.79 319 P P 20 19 41.2 +1.7
Q55A Buckhannon 34.83 358 P P 20 19 41.9 +2.4
baz=177
Q57A Strasburg 34.84 360 P P 20 19 41.7 +2.2
baz=180
U40A Yellville 34.84 339 P P 20 19 39.7 +0.1
baz=154,SNR=7.0
U40A Yellville 34.84 339 P P 20 19 39.4 -0.2
U40A IAmb IAmb 20 19 41.0
comp=Z,11nm,0.8s
Q56A Snyder Ridge, 34.85 359 P P 20 19 41.6 +1.9
baz=178
Q54A Coxs Mills 34.86 357 P P 20 19 41.6 +1.8
baz=176
T42A Van Buren 34.87 342 P P 20 19 39.1 -0.7
T42A IAmb IAmb 20 19 40.5
comp=Z,10.0nm,0.7s
Q52A Bidwell 34.95 355 P P 20 19 42.1 +1.6
baz=173
P57A Homestead Farm 35.29 0 P P 20 19 45.8 +2.4
baz=180
P58A Pank, Wackersv 35.30 1 P P 20 19 45.4 +1.9
baz=182
P56A Dayton Farm, R 35.31 359 P P 20 19 45.9 +2.3
baz=179
P55A Reedsville 35.34 358 P P 20 19 45.6 +1.7
baz=177
P53A Whipple 35.40 356 P P 20 19 46.1 +1.7
baz=175
P54A Burton 35.46 357 P P 20 19 46.9 +1.9
baz=176
P52A Corning 35.60 355 P P 20 19 47.0 +0.8
baz=173
P52A Corning 35.60 355 P P 20 19 46.8 +0.7
BLO Bloomington 35.76 349 P P 20 19 47.8 +0.3
BDFB Brasilia 35.80 124 LR LR 20 36 41.4
comp=Z,130nm,19.7s,baz=259,slow=40
P49A Miami Univ. Ec 35.81 352 P P 20 19 47.8 -0.1
baz=169
P49A Miami Univ. Ec 35.81 352 P P 20 19 48.1 +0.2
CCM Cathedral Cave 35.86 342 P P 20 19 48.0 -0.4
baz=158
CCM Cathedral Cave 35.86 342 P P 20 19 48.0 -0.4
O58A Lewisberry 35.95 2 P P 20 19 51.1 +2.1
baz=182
WMOK Wichita Mounta 35.97 331 P P 20 19 49.8 +0.4
baz=144
O57A Amberson 36.02 1 P P 20 19 51.8 +2.1
baz=181
O55A Ligonier 36.02 359 P P 20 19 51.7 +2.0
baz=178
O54A Avella 36.03 357 P P 20 19 51.5 +1.7
baz=176
O54A Avella 36.03 357 P P 20 19 50.2 +0.4
O52A Adamsville 36.06 355 P P 20 19 51.6 +1.6
baz=174
O52A Adamsville 36.06 355 P P 20 19 51.6 +1.6
O56A Blue Knob Stat 36.07 360 P P 20 19 51.7 +1.5

baz=180
O53A New Philadelph 36.15 356 P P 20 19 52.3 +1.5
baz=175
O53A New Philadelph 36.15 356 P P 20 19 51.7 +0.9
O53A IAmb IAmb 20 19 53.5
comp=Z,17nm,0.9s
O51A Pataskala 36.16 354 P P 20 19 52.0 +1.2
baz=173
O59A Robesonia 36.16 3 P P 20 19 53.0 +2.0
baz=184
QUOK Quay 36.20 334 P P 20 19 51.9 +0.6
S39A Bolivar 36.20 340 P P 20 19 51.1 -0.2
S39A IAmb IAmb 20 19 52.1
comp=Z,7.7nm,0.8s
ITRB Iturama 36.22 132 eP P 20 19 52.0 +0.3
ACSO Alum Creek Sta 36.28 354 P P 20 19 53.1 +1.2
baz=172
R40A Maddies Statio 36.40 341 P P 20 19 52.2 -0.7
R40A IAmb IAmb 20 19 53.3
comp=Z,8.6nm,0.7s
SSPA Standing Stone 36.44 1 P P 20 19 55.2 +1.9
baz=181
N57A Milroy 36.56 1 P P 20 19 55.9 +1.5
baz=181
N55A Marion Center 36.59 359 P P 20 19 56.6 +2.0
baz=179,SNR=6.4
N58A Sunbury 36.67 2 P P 20 19 57.1 +1.9
baz=183
N53A Lisbon 36.68 357 P P 20 19 56.8 +1.4
baz=176
N56A West Decatur 36.72 0 P P 20 19 57.5 +1.9
baz=180
N52A McGinn's Farm, 36.74 356 P P 20 19 56.9 +1.0
baz=174
N59A State Game Lan 36.79 3 P P 20 19 58.6 +2.3
baz=184
N54A Moraine State 36.79 358 P P 20 19 58.2 +2.0
baz=177
N54A Moraine State 36.79 358 P P 20 19 58.3 +2.0
N51A Ashland 36.90 355 P P 20 19 58.1 +0.8
baz=173
SDBA SAO DESIDERIO 37.00 117 eP P 20 19 57.7 -0.8
SDBA epP pP 20 20 00.6 -0.4
PAL Palisades 37.02 6 P P 20 19 59.9 +1.7
baz=187
N49A Columbus Grove 37.10 353 P P 20 19 59.0 +0.1
N49A IAmb IAmb 20 20 00.4
comp=Z,16nm,1.1s
M57A Sunshine Farm, 37.15 1 P P 20 20 01.4 +2.1
baz=182
M57A Sunshine Farm, 37.15 1 P P 20 20 01.2 +1.9
M57A IAmb IAmb 20 20 02.1
comp=Z,13nm,0.9s
M58A Price's Panora 37.21 2 P P 20 20 01.9 +2.1
baz=183
M55A Ridgway 37.27 359 P P 20 20 01.9 +1.5
baz=179
M56A Emporium 37.28 0 P P 20 20 02.1 +1.6
baz=180,SNR=5.5
M56A Emporium 37.28 0 P P 20 20 02.1 +1.6
M53A WI Miller and 37.30 357 P P 20 20 02.0 +1.4
baz=176
M54A Oil Creek Stat 37.33 358 P P 20 20 02.6 +1.7
baz=178
M54A Oil Creek Stat 37.33 358 P P 20 20 02.6 +1.7
M61A Granite Spring 37.33 6 P P 20 20 03.2 +2.4
baz=187
KSPA Keystone Colle 37.43 3 P P 20 20 03.7 +2.0
KSPA IAmb IAmb 20 20 04.8
comp=Z,16nm,0.9s
M59A Waymart 37.43 4 P P 20 20 03.7 +1.9
baz=185
MNTX Cornudas Mount 37.47 320 P P 20 20 04.1 +1.9
baz=132,SNR=5.7
MNTX Cornudas Mount 37.47 320 P P 20 20 03.5 +1.3
MSTX Muleshoe 37.48 326 P P 20 20 03.6 +1.2
baz=137
M63A Gales Ferry 37.63 8 P P 20 20 05.4 +2.1
baz=190
L53A Girard 37.79 358 P P 20 20 06.0 +1.3
baz=177
L57A Andrews Acres 37.82 2 P P 20 20 06.9 +1.8
baz=182
M64A Tiverton 37.89 9 P P 20 20 07.7 +2.1
baz=192
L58A Harry Jones Me 37.91 3 P P 20 20 07.7 +1.9
baz=184
L56A Greenwood 37.94 1 P P 20 20 07.5 +1.4
baz=181
ERPA Erie 37.95 358 P P 20 20 07.4 +1.3
baz=177
L60A Shokan 37.96 5 P P 20 20 07.9 +1.7
baz=187
L55A Hinsdale 37.98 360 P P 20 20 08.1 +1.6
baz=180,SNR=5.4
L54A Sinclairville 38.04 359 P P 20 20 08.4 +1.5
baz=178
BINY Binghamton 38.05 3 P P 20 20 08.9 +1.9
baz=184
L59A Walton 38.10 4 P P 20 20 09.2 +1.8
baz=185
WVNY West Valley, N 38.20 360 P P 20 20 09.8 +1.6
L61A Hillsdale 1, H 38.23 6 P P 20 20 10.0 +1.5
baz=188
K54A Basiliko Farm, 38.41 360 P P 20 20 11.4 +1.4
baz=179
K56A Middlesex 38.51 1 P P 20 20 12.3 +1.4
baz=182
K55A Perry 38.53 0 P P 20 20 12.4 +1.4
baz=180
K57A Scipio Center 38.56 2 P P 20 20 12.9 +1.6
baz=183
K58A Earlville 38.63 3 P P 20 20 13.1 +1.2
baz=184
KSU1 Kansas State U 38.66 337 P P 20 20 12.1 0.0
baz=150
KSU1 Kansas State U 38.66 337 P P 20 20 12.1 0.0
K59A Cooperstown 38.70 4 P P 20 20 14.1 +1.6
baz=185
HRV Adam Dziewonsk 38.77 8 P P 20 20 14.9 +1.9
baz=191
K62A Royalston 38.84 7 P P 20 20 15.3 +1.7
baz=190
J55A Hilton 39.07 1 P P 20 20 16.8 +1.4
baz=181
J56A Wolcott 39.09 2 P P 20 20 16.9 +1.3
baz=182
J58A Remsen 39.25 3 P P 20 20 18.8 +1.8
baz=185
J58A Remsen 39.25 3 P P 20 20 18.4 +1.4
J58A IAmb IAmb 20 20 19.7
comp=Z,12nm,0.8s
J60A Lant Hill Farm 39.28 6 P P 20 20 19.4 +2.2
baz=188
J59A Piesco 39.41 4 P P 20 20 19.8 +1.4
baz=186,SNR=5.3
J59A Piesco 39.41 4 P P 20 20 19.8 +1.4
J59A IAmb IAmb 20 20 21.1
comp=Z,13nm,0.9s
J62A Henniker 39.45 7 P P 20 20 20.6 +1.9
baz=190
121A Cookes Peak, D 39.55 319 P P 20 20 23.1 +3.2
baz=130,SNR=12
121A Cookes Peak, D 39.55 319 P P 20 20 22.8 +2.8
121A IAmb IAmb 20 20 24.3
comp=Z,23nm,0.9s
I58A Old Forge 39.60 4 P P 20 20 21.5 +1.6
baz=185
J63A Strafford 39.60 8 P P 20 20 21.6 +1.7
baz=191
I51A Listowel 39.67 357 P P 20 20 21.0 +0.4
baz=176
MC01 Montes Claros 39.73 122 eP P 20 20 20.4 -1.0
I59A Olmsteadville 39.79 5 P P 20 20 23.3 +1.8
baz=187
I57A Carthage 39.80 3 P P 20 20 23.3 +1.6
baz=184
I60A Shoreham 39.89 6 P P 20 20 24.4 +2.1
baz=188
I55A Frankford 40.02 1 P P 20 20 24.6 +1.2
baz=181
LENM Lemitar 40.10 322 P P 20 20 27.1 +2.6
JFWS Jewell Farm 40.14 346 P P 20 20 23.5 -0.9
baz=161
ANMO Albuquerque 40.32 323 P P 20 20 28.5 +2.2
baz=134
ANMO Albuquerque 40.32 323 P P 20 20 28.1 +1.8

H57A	Richville	40.34	3	P	P	20 20 27.7 +1.7
	baz=184					
H55A	Tweed	40.36	1	P	P	20 20 27.4 +1.2
	baz=182					
H53A	Bobcaygeon	40.37	360	P	P	20 20 27.3 +1.0
	baz=180,SNR=5.6					
H58A	Gabriels	40.38	5	P	P	20 20 28.1 +1.7
	baz=186					
I63A	Otisfield	40.43	9	P	P	20 20 28.4 +1.6
	baz=192					
H56A	Elgin	40.43	2	P	P	20 20 28.1 +1.3
	baz=183					
LBNH	Lisbon	40.43	7	P	P	20 20 28.8 +1.9
	baz=190					
I64A	Boothbay	40.45	10	P	P	20 20 28.8 +1.8
	baz=193					
LONY	Lake Ozonia	40.55	4	P	P	20 20 29.0 +1.2
	baz=186					
SADO	Sadowa	40.57	359	P	P	20 20 27.7 -0.3
	comp=Z,18nm,1.1s,baz=217,slow=9.5,SNR=4.8					
SADO	Sadowa	40.57	359	P	P	20 20 28.6 +0.7
SADO				IAmb	IAmb	20 20 29.9
	comp=Z,23nm,1.1s					
H59A	Cadyville	40.65	5	P	P	20 20 30.2 +1.6
	baz=187					
T25A	Trinidad	40.72	327	P	P	20 20 31.7 +2.1
	baz=138					
T25A	Trinidad	40.72	327	P	P	20 20 30.7 +1.1
H61A	Lyndonville	40.72	7	P	P	20 20 30.9 +1.7
	baz=190					
PLVO	Plevna	40.85	1	P	P	20 20 31.5 +1.2
PLVO				IAmb	IAmb	20 20 32.1
	comp=Z,16nm,0.7s					
G57A	Newington	41.01	4	P	P	20 20 32.9 +1.4
	baz=185					
G55A	Calabogie	41.07	2	P	P	20 20 33.4 +1.3
	baz=182					
G59A	Clarenceville	41.12	6	P	P	20 20 34.4 +1.9
	baz=188					
G54A	Lake Saint Pet	41.20	0	P	P	20 20 34.2 +1.0
	baz=180,SNR=9.1					
TUC	Tucson	41.42	317	P	P	20 20 37.9 +2.6
	baz=126					
H65A	Eastbrook	41.45	11	P	P	20 20 37.2 +2.0
	baz=195					
G61A	St-Isidore-de-	41.51	7	P	P	20 20 37.6 +1.9
	baz=190					
G62A	West of Eustis	41.58	8	P	P	20 20 38.3 +2.1
	baz=192					
G62A	West of Eustis	41.58	8	P	P	20 20 38.4 +2.1
G62A				IAmb	IAmb	20 20 39.4
	comp=Z,16nm,1.2s					
G63A	Kingsbury	41.62	9	P	P	20 20 38.9 +2.3
	baz=193					
F55A	Otter Lake	41.67	2	P	P	20 20 38.3 +1.3
	baz=183					
H66A	Whiting	41.72	12	P	P	20 20 39.3 +1.9
	baz=196					
ALGO	Algonquin Park	41.75	0	P	P	20 20 38.7 +1.0
	baz=180					
SDCO	Great Sand Dun	41.75	327	P	P	20 20 39.7 +1.6
G64A	Maxfield	41.90	10	P	P	20 20 40.7 +1.8
	baz=194					
GGN	Saint George	42.13	12	P	P	20 20 42.1 +1.3
GGN				IAmb	IAmb	20 20 42.9
	comp=Z,13nm,0.9s					
F61A	St Evariste	42.26	8	P	P	20 20 43.5 +1.7
	baz=191					
E57A	Chemin Saint G	42.37	4	P	P	20 20 44.6 +1.9
	baz=186					
E58A	La Victoria	42.40	5	P	P	20 20 44.4 +1.5
	baz=187					
E56A	St. Veronique	42.44	3	P	P	20 20 44.4 +1.2
	baz=185					
W18A	Petrified Fore	42.45	321	P	P	20 20 46.4 +2.6
	baz=130,SNR=6.1					
W18A	Petrified Fore	42.45	321	P	P	20 20 46.0 +2.3
W18A				IAmb	IAmb	20 20 47.6
	comp=Z,16nm,1.1s					
S22A	4UR Ranch, Cre	42.48	326	P	P	20 20 46.0 +1.8
	baz=135					
F64A	Sherman	42.56	10	P	P	20 20 45.9 +1.7
	baz=195					
214A	Organ Pipe Nat	42.64	315	P	P	20 20 47.8 +2.6
	baz=124					
E61A	Lac Etchemin	42.77	8	P	P	20 20 47.7 +1.7
	baz=191					
D55A	Sainte-Anne-du	42.89	3	P	P	20 20 48.1 +1.2
	baz=184,SNR=6.0					
SPMN	Marine on St.	42.94	345	P	P	20 20 46.4 -1.0
	baz=159					
SPMN	Marine on St.	42.94	345	P	P	20 20 46.2 -1.2
SPMN				IAmb	IAmb	20 20 47.4
	comp=Z,9.7nm,0.8s					
D56A	ZEC Mazanza, M	42.96	4	P	P	20 20 48.7 +1.3
	baz=185					
D54A	Lac Fusel, La	42.97	2	P	P	20 20 48.6 +1.0
	baz=182					
D57A	Chemin Vers le	42.99	4	P	P	20 20 49.1 +1.4
	baz=186					
E63A	Oxbow	43.09	10	P	P	20 20 50.2 +1.7
	baz=194					
E63A	Oxbow	43.09	10	P	P	20 20 49.5 +1.0
E63A				IAmb	IAmb	20 20 57.0
	comp=Z,44nm,2.0s					
E62A	Clayton Lake	43.10	9	P	P	20 20 50.8 +2.1
X16A	Lo Mia Camp, P	43.12	319	P	P	20 20 51.6 +2.3
D58A	Chemin du LacG	43.15	5	P	P	20 20 50.7 +1.7
	baz=188					
E64A	Bridgewater	43.19	11	P	P	20 20 51.2 +1.9
	baz=195					
LATQ	La Tuque	43.45	5	P	P	20 20 52.9 +1.5
	baz=188					
LATQ	La Tuque	43.45	5	P	P	20 20 53.0 +1.6
D61A	St Aubert, Com	43.57	8	P	P	20 20 55.0 +2.6
	baz=192					
F36A	Milaca	43.72	345	P	P	20 20 52.5 -1.2
F36A				IAmb	IAmb	20 20 53.5
	comp=Z,9.3nm,0.8s					
D63A	Stockholm	43.74	10	P	P	20 20 54.8 +1.0
	baz=195					
WUAZ	Wupatki	43.74	320	P	P	20 20 56.5 +2.2
	baz=128					
WUAZ	Wupatki	43.74	320	P	P	20 20 56.2 +2.0
WUAZ				IAmb	IAmb	20 20 57.8
	comp=Z,11nm,1.1s					
PV18	Skein Mesa, Pa	44.01	325	P	P	20 20 58.4 +2.0
PV18				IAmb	IAmb	20 20 59.2
	comp=Z,8.7nm,0.8s					
LSQQ	Lebel-sur-Quev	44.87	1	P	P	20 21 03.6 +0.8
	baz=182					
U15A	North Rim	44.89	320	P	P	20 21 05.5 +2.0
PLCA	Paso Flores	45.12	172	P	P	20 21 05.5 +0.5
	comp=Z,1.7nm,0.7s,baz=352,slow=9.4,SNR=5.9					
PLCA	Paso Flores	45.12	172	IAmb	IAmb	20 21 20.2
	comp=Z,25nm,1.6s					
PLCA	Paso Flores	45.12	172	eP	P	20 21 06.4 +1.4
W13A	Hualapai Mount	45.14	318	P	P	20 21 07.9 +2.4
W13A				IAmb	IAmb	20 21 09.2
	comp=Z,15nm,1.9s					
EYMN	Ely	45.19	348	P	P	20 21 05.4 0.0
	baz=161					
IRM	Iron Mountain	45.48	316	P	P	20 21 10.4 +2.5
	baz=123					
MATQ	Matagami	45.56	1	P	P	20 21 08.5 +0.2
	baz=181					
MONP2	Monument Peak	45.72	314	P	P	20 21 13.6 +3.5
	baz=121					
CHGQ	Chibougamau	45.83	4	P	P	20 21 11.4 +0.9
	baz=185					
RSSD	Black Hills	45.91	334	P	P	20 21 13.0 +1.5
	baz=143					
BELC	Belle Mtn. Jos	45.99	315	P	P	20 21 15.3 +3.1
	baz=122					
PSUT	Pine Spring	47.16	322	P	P	20 21 23.6 +2.3
DUG	Dugway, Tooele	47.57	324	P	P	20 21 26.0 +1.6
	baz=130					
TPNV	Topopah Spring	47.77	318	P	P	20 21 28.4 +2.4
	baz=124					
TPNV	Topopah Spring	47.77	318	P	P	20 21 28.2 +2.2
EDW2	Edwards Air Fo	47.86	315	P	P	20 21 30.1 +3.4
	baz=121					
FURC	Furnace Creek,	47.91	317	P	P	20 21 29.6 +2.7
	baz=123					
LRMC	Laurel Mtn Rad	47.95	316	P	P	20 21 30.0 +2.5
	baz=122					
MPMC	Manual Prospec	48.12	317	P	P	20 21 31.3 +2.5
	baz=122					
R11A	Troy Canyon, C	48.14	320	P	P	20 21 31.1 +2.2
	baz=126					
ULM	Lac du Bonnet	48.38	345	P	P	20 21 28.1 -2.2
	comp=Z,10nm,0.6s,baz=149,slow=6.6,SNR=7.7					
ULM				LR	LR	20 41 57.2
	comp=Z,57nm,20.4s,baz=316,slow=36					
ULM	Lac du Bonnet	48.38	345	P	P	20 21 29.4 -0.9
ELK	Elko	49.36	323	P	P	20 21 39.6 +1.3
	comp=Z,1.1nm,0.7s,baz=125,slow=5.1,SNR=4.9					
ELK				PcP	PcP	20 23 00.0 -0.8
	comp=Z,0.5nm,0.4s,baz=298,slow=4.9,SNR=4.3					
ELK	Elko	49.36	323	P	P	20 21 39.7 +1.4
NVAR	Mina Array Bea	49.94	319	P	P	20 21 44.5 +1.7
	comp=Z,2.6nm,0.6s,baz=128,slow=7.1,SNR=19					
NVAR				PcP	PcP	20 23 03.0 0.0
	comp=Z,0.9nm,0.7s,baz=110,slow=5.0,SNR=3.1					
BOZ	Bozeman (W)	50.58	330	P	P	20 21 48.3 +0.9
	baz=135					
HLID	Hailey	50.66	326	P	P	20 21 49.2 +1.1
	baz=131					
MFID	Camas Ranch	51.36	325	P	P	20 21 55.6 +2.3
SCHQ	Schefferville	51.49	8	P	P	20 21 54.0 +0.1
	comp=Z,9.7nm,0.8s,baz=195,slow=5.3,SNR=7.3					
SCHQ				LR	LR	20 46 52.2
	comp=Z,42nm,18.2s,baz=276,slow=40					
SCHQ	Schefferville	51.49	8	P	P	20 21 54.9 +1.0
WVOR	Wild Horse Val	52.41	323	P	P	20 22 02.0 +0.9
WVOR				IAmb	IAmb	20 22 03.4
	comp=Z,17nm,1.4s					
MSO	Missoula	52.59	330	P	P	20 22 03.0 +0.7
	baz=133					
F10A	Beach Ranch, E	53.74	327	P	P	20 22 11.9 +1.0
F10A				IAmb	IAmb	20 22 12.8
	comp=Z,9.1nm,1.2s					
G08A	Pilot Rock	54.28	326	P	P	20 22 16.1 +1.2
G08A				IAmb	IAmb	20 22 17.2
	comp=Z,12nm,1.3s					
J05D	Fort Rock, OR	54.47	322	P	P	20 22 17.7 +1.4
	baz=124					
L04D	Klamath Falls	54.55	321	P	P	20 22 17.7 +0.8
	baz=122					
NEW	Newport	55.15	329	P	P	20 22 21.6 +0.6
	comp=Z,3.2nm,0.3s,baz=157,slow=5.5,SNR=4.8					
NEW	Newport	55.15	329	P	P	20 22 21.2 +0.2
	baz=130					
NEW	Newport	55.15	329	P	P	20 22 21.1 +0.2
NEW				IAmb	IAmb	20 22 22.6
	comp=Z,11nm,1.2s					
I04A	Tendick Farm,	55.46	322	P	P	20 22 23.8 +0.5
	baz=123					
G05D	Wamic, OR	55.61	324	P	P	20 22 26.1 +1.7
	baz=125					
K02D	Willamette Mer	55.66	321	P	P	20 22 27.0 +2.2
	baz=121					
I03D	Drain, OR	55.98	322	P	P	20 22 29.0 +2.0
	baz=122					
H04D	Lebanon	56.05	323	P	P	20 22 27.9 +0.4
	baz=123					
B08A	Colville Reser	56.35	328	P	P	20 22 30.4 +0.8
B08A				IAmb	IAmb	20 22 32.3
	comp=Z,5.5nm,0.9s					
LTY	Liberty	56.41	327	P	P	20 22 30.8 +0.7
LTY				IAmb	IAmb	20 22 32.3
	comp=Z,8.8nm,1.2s					
I02D	Swisshome	56.50	322	P	P	20 22 32.4 +1.7
	baz=122					
LON	Longmire	56.75	326	P	P	20 22 33.5 +1.0
LON				IAmb	IAmb	20 22 34.5
	comp=Z,6.1nm,1.0s					
B05A	Bryant	57.77	327	P	P	20 22 39.9 +0.2
	baz=125					
FRB	Frobisher Bay	60.01	5	P	P	20 22 54.0 -0.8
	comp=Z,11nm,0.8s,baz=194,slow=7.6,SNR=3.6					
BBB	Bella Bella	63.16	328	P	P	20 23 15.9 -0.4
	comp=Z,6.8nm,0.8s,baz=103,slow=6.1,SNR=5.7					
BBB	Bella Bella	63.16	328	P	P	20 23 17.5 +1.2
YKA	Yellowknife Ar	64.20	342	P	P	20 23 22.9 -0.1
	comp=Z,10nm,0.8s,baz=128,slow=6.8,SNR=15					
DLBC	Dease Lake	67.38	333	P	P	20 23 43.8 0.0
	comp=Z,13nm,0.8s,baz=92,slow=3.6,SNR=32					
DLBC	Dease Lake	67.38	333	P	P	20 23 44.8 +1.1
HYT	Haines Junctio	71.86	334	P	P	20 24 13.1 +1.7
SUMG	Summit	72.70	12	P	P	20 24 16.3 -0.3
SUMG				IAmb	IAmb	20 24 17.2
	comp=Z,12nm,0.8s					
TIC	Toumodi	72.97	84	eP	P	20 24 16.5 -2.3
LIC	Lamto	72.97	85	eP	P	20 24 17.8 -1.0
	comp=Z,19nm,0.7s					
DBIC	Dimbokro	73.13	84	P	P	20 24 18.5 -1.2
	comp=Z,2.8nm,0.6s,baz=248,slow=7.8,SNR=8.0					
DBIC				LR	LR	20 54 46.0
	comp=Z,51nm,19.3s,baz=258,slow=34					
DBIC	Dimbokro	73.13	84	IAmb	IAmb	20 24 19.1
	comp=Z,8.9nm,1.0s					
KIC	Kosan Boka	73.25	85	eP	P	20 24 19.6 -0.9
	comp=Z,12nm,1.0s					
BARN	Barnard Glacie	73.81	333	P	P	20 24 24.1 +1.0
BARN				IAmb	IAmb	20 24 25.6
	comp=Z,8.4nm,0.9s					
A36M	Sachs Harbour	73.84	346	P	P	20 24 22.0 -0.7
	baz=131					
EPYK	Eagle Plains	74.06	339	P	P	20 24 24.8 +0.6
	baz=118					
MCARA	McCarthy VSAT	74.55	333	P	P	20 24 28.8 +1.7
GLB	Gilahina Butte	74.92	333	P	P	20 24 30.4 +1.0
GLB				IAmb	IAmb	20 24 31.6
	comp=Z,16nm,1.1s					
EGAK	Eagle	75.03	337	P	P	20 24 30.6 +0.8
EGAK				IAmb	IAmb	20 24 31.7
	comp=Z,14nm,1.1s					
K27K	Chicken	75.11	336	P	P	20 24 31.5 +1.2
	baz=112					
ESDC	Sonseca Array	75.39	50	LR	LR	20 52 53.8
	comp=Z,20nm,21.9s,baz=285,slow=32					
ESDC	Sonseca Array	75.39	50	P	P	20 24 32.8 +0.3
DOT	Dot Lake	75.79	335	P	P	20 24 35.3 +1.0
SCRK	Sand Creek	75.88	336	P	P	20 24 35.6 +0.8
	baz=110,SNR=7.3					
RIDG	Independent Ri	76.15	335	P	P	20 24 37.5 +1.1
M24K	Tolsona, Glenn	76.20	333	P	P	20 24 37.6 +0.9
	baz=108					
SCM	Sheep Creek Mo	76.64	333	P	P	20 24 39.7 +0.5
KNK	Knik Glacier	77.04	332	P	P	20 24 41.9 +0.5
HDA	Harding Lake	77.24	336	P	P	20 24 42.6 +0.2
	baz=108					
HDA	Harding Lake	77.24	336	P	P	20 24 42.8 +0.3
HDA				IAmb	IAmb	20 24 43.6
	comp=Z,7.6nm,0.7s					
IL31		77.33	336	P	P	20 24 43.0 +0.1
ILAR	Eielson Array	77.33	336	P	P	20 24 43.0 +0.1
	comp=Z,2.7nm,0.7s,baz=105,slow=4.2,SNR=28					
ILAR	Eielson Array	77.33	336	P	P	20 24 42.9 -0.1
GHO	Glory Hole Cre	77.35	333	P	P	20 24 43.4 +0.2
RND	Reindeer	77.76	334	P	P	20 24 46.2 +0.8
RND				IAmb	IAmb	20 24 47.2
	comp=Z,13nm,0.9s					
MDM	Murphy Dome	77.93	336	P	P	20 24 46.6 +0.3
MDM				IAmb	IAmb	20 24 47.5
	comp=Z,12nm,1.4s					
NEA2	Nenana	78.17	335	P	P	20 24 47.9 +0.2
	baz=106					
EKA	Eskdalemuir Ar	78.26	34	P	P	20 24 47.8 -0.5
	comp=Z,2.6nm,0.7s,baz=254,slow=4.0,SNR=16					
SKT	Skwentna	78.60	333	P	P	20 24 50.0 -0.1
SKT				IAmb	IAmb	20 24 51.3
	comp=Z,11nm,1.0s					
RSO	Redoubt South	78.85	331	P	P	20 24 52.0 +0.2
BPAW	Bear Paw Mtn.	78.86	335	P	P	20 24 51.2 -0.3
BPAW				IAmb	IAmb	20 24 52.5
	comp=Z,9.4nm,1.0s					
PPLA	Purkeypile	79.10	333	P	P	20 24 53.1 +0.1
PPLA				IAmb	IAmb	20 24 53.9
	comp=Z,11nm,1.1s					
COLD	Coldfoot	79.33	338	P	P	20 24 54.8 +0.9
	baz=105					
TORD	Torodi Ar. Bea	79.37	77	P	P	20 24 54.1 -1.1
	comp=Z,1.8nm,0.6s,baz=290,slow=4.8,SNR=7.2					
TORD				LR	LR	20 59 49.6
	comp=Z,38nm,18.8s,baz=70,slow=36					
TORD	Torodi Ar. Bea	79.37	77	IAmb	IAmb	20 24 55.0
	comp=Z,9.9nm,1.8s					
A21K	Barrow	82.45	341	P	P	20 25 10.7 +0.2
	baz=100					
TAM	Tamanrasset	82.77	68	P	P	20 25 13.7 +0.3
KEST	Kesra	85.77	55	P	P	20 25 28.1 -0.2
	comp=Z,4.2nm,0.9s,baz=270,slow=2.7,SNR=5.0					
KEST	Kesra	85.77	55	IAmb	IAmb	20 25 31.2
	comp=Z,3.8nm,0.8s					
DAVOX	Davos/Dischmat	85.85	44	P	P	20 25 27.7 -0.9
	comp=Z,3.2nm,0.9s,baz=340,slow=7.9,SNR=3.8					
NC204	NORSAR Array S	86.04	29	P	P	20 25 29.6 +0.5
NB2	NORSAR Subarra	86.27	29	P	P	20 25 30.3 +0.1
	comp=Z,1.6nm,0.8s,baz=271,slow=5.1					
NOA	NORSAR Array B	86.27	29	P	P	20 25 30.3 +0.1
	comp=Z,3.5nm,0.9s,baz=270,slow=4.8,SNR=9.5					
NC602	NORSAR Array S	86.44	29	P	P	20 25 31.5 +0.6
VNA3	Neumayer Olymp	87.06	162	P	P	20 25 33.9 +0.1
CIMO	Cimolais	87.63	44	P	P	20 25 37.2 +0.1
CIMO				IAmb	IAmb	20 25 38.2
	comp=Z,6.3nm,0.9s					
VNA2	Neumayer--Watz	87.64	162	P	P	20 25 36.7 +0.2
	baz=302,slow=4.0					
KHC	Kasperske Hory	88.22	41	eP	P	20 25 40.0 +0.1
KHC	Kasperske Hory	88.22	41	P	P	20 25 40.7 +0.8
GEC2	GERESS Array S	88.32	41	P	P	20 25 41.3 +0.9
GEC2				IAmb	IAmb	20 25 41.9
	comp=Z,3.2nm,0.9s					
GERES	GERESS Array B	88.32	41	P	P	20 25 39.9 -0.6
	comp=Z,1.6nm,0.7s,baz=289,slow=4.1,SNR=14					
GERES				LR	LR	21 04 13.8
	comp=Z,27nm,18.1s,baz=280,slow=35					
BRG	Berggiesshubel	88.32	39	eP	P	20 25 40.9 +0.6
	comp=Z,5.8nm,1.2s					
SNAA	Sanae	89.27	162	P	P	20 25 44.9 +0.6
ARCES	ARCESS Array B	91.05	20	P	P	20 25 52.3 -0.3
	comp=Z,4.6nm,1.0s,baz=289,slow=3.7,SNR=6.6					
FINES	FINESS Array B	93.31	28	P	P	20 26 02.9 -0.3
	comp=Z,1.7nm,0.7s,baz=302,slow=3.6,SNR=7.7					
MLR	Muntele Rosu	97.07	43	P	P	20 26 20.3 -0.7
	comp=Z,2.1nm,0.7s,baz=340,slow=8.3,SNR=2.3					
MLR	Muntele Rosu	97.07	43	IAmb	IAmb	20 26 26.0
	comp=Z,20nm,1.8s					
KURK	Kurchatov	121.97	17		PKPdf	20 31 42.6 -0.5
KURBB	Kurchatov Arra	122.03	17	PKP	PKPdf	20 31 42.6 -0.6
	comp=Z,0.7nm,0.6s,baz=326,slow=2.1,SNR=8.9					
MKAR	Makanchi Array	126.56	17	PKP	PKPdf	20 31 50.5 -1.6
	comp=Z,0.6nm,0.8s,baz=347,slow=2.7,SNR=4.8					
SONM	Songino Array	128.18	356	PKP	PKPdf	20 31 55.1 -0.2
	comp=Z,0.7nm,0.6s,baz=337,slow=0.4,SNR=6.1					
WMQ	Urumqi	130.72	13	ePKP	PKPdf	20 32 00.0 -0.1
WMQ				AMB	AMB	
	comp=Z,39nm,5.5s					
HHC	Hu-ho-hao-te	134.42	350	ePKP	PKPdf	20 32 07.1 -0.2
LZH	Lanzhou	140.03	357	ePKP	PKPdf	20 32 18.5 +0.6
LZH				sPKP		20 32 28.3
NJ2	Nanjing	140.57	337	ePKP	PKPdf	20 32 18.6 -0.1
ASAR	Alice Springs	143.30	235	PKhKP	PKPab	20 32 19.9 +0.2
	comp=Z,1.1nm,0.8s,baz=115,slow=2.7,SNR=11					
WRA	Warramunga Arr	144.48	241	PKP	PKPbc	20 32 24.3 -0.2
	comp=Z,3.2nm,1.1s,baz=104,slow=3.1,SNR=21					
CMAR	Chiang Mai Arr	157.48	7	PKPab	PKPab	20 33 16.1 -1.1
	comp=Z,0.3nm,0.3s,baz=341,slow=5.2,SNR=4.2					

MEX 16 20:53:52.4±0.5, 29°.73N×114°.69W, h20km±16km, MD4.1
ECX 16 20:53:54.2±0.7, 30°.47N×114°.31W, h1km±6km, MD3.3, ML3.6

ISC 16 20:53:48.6±2.5, 30°.3N±0°.1×114°.15W±0°.06, h8km±11km, n13, σ1°38/23, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.94	321	eP	Pb	20 54 06.6	-0.6
SFX				eS	Sg	20 54 17.6	-1.4
SPX	San Pedro Mart	1.34	303	eP	Pg	20 54 15.0	+0.5
SPX				i S	Sg	20 54 32.3	+0.3
SPX	San Pedro Mart	1.34	303	eP	Pg	20 54 14.9	+0.5
SPX				eS	Sb	20 54 30.5	-1.3
SPX				IAML		20 54 35.0	
	comp=E,1μm,0.5s						
SPX				⇑e		20 54 35.0	
SPIG	San Pedro Mart	1.35	304	eP	Pg	20 54 15.1	+0.5
SPIG				eS	Sg	20 54 32.4	+0.3
SPIG	San Pedro Mart	1.35	304	eP	Pg	20 54 14.8	+0.2
PIX	Pinacate	1.39	25	eP	Pg	20 54 15.4	+0.2
PIX				eS	Sg	20 54 33.3	+0.1
ECBX	El Chinero	1.40	327	eP	Pb	20 54 13.9	-1.0
ECBX				eS	Sn	20 54 30.1	-2.9
SQX	San Quintin	1.51	281	eP	Pg	20 54 17.9	+0.3
SQX				eS	Sb	20 54 36.0	-0.2
SJX	San Joaquin	2.12	314	eP	Pb	20 54 26.5	-0.8
SJX				eS	Sb	20 54 54.5	+0.6
SJX				e		20 55 03.5	
SJX				IAML		20 55 03.5	
	comp=E,317nm,0.6s						
SJX				IAML		20 55 11.6	
	comp=N,323nm,0.6s						
MBIG	Mexicali	2.28	337	eP	Pg	20 54 33.0	+0.6
MBIG				eS	Sg	20 55 03.5	+1.7
CPBX	Cerro Prieto	2.33	335	IAML		20 55 19.3	
	comp=N,2μm,0.9s						
CPBX				⇓e		20 55 19.3	
CBX	Cerro Bola	2.94	314	eP	Pn	20 54 37.2	+1.5
CBX				i S	Sn	20 55 12.3	+1.1
TJIG	Tijuana	3.02	315	eP	Pb	20 54 39.9	-2.9
TJIG				i S	Sn	20 55 15.5	+2.2

IDC 16 21:09:11.3±2.7, 32°.99S×178°.29W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.8/30, mbtmp4.2/4, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/28, Error ellipse: s-maj=59.8km s-min=35.0km az=119.0
NEIC 16 21:09:12.1±0.6, 33°.0S±0°.1×178°.3W±0°.2, h10km±1km, mb4.2/8, Error ellipse: s-maj=26.4km s-min=19.9km az=94.0

ISC 16 21:09:12.1±1.2, 33°.0S±0°.1×178°.2W±0°.2, h10km, n23, σ0°75/23, mb4.1/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.44	215	Pn	Pn	21 10 48.0	+1.0
	2.5nm,0.3s,baz=113,slow=15,SNR=14						
URZ				Sn	Sn	21 12 00.5	-0.1
	3.7nm,0.3s,baz=35,slow=16,SNR=7.4						
URZ	Urewera	6.44	215		Pn	21 10 46.6	-0.3
BKZ	Black Stump Fm	7.46	213	Pn	Pn	21 11 01.4	+0.5
BFZ	Birch Farm	8.82	209	Pn	Pn	21 11 19.2	-0.4
MSWZ	Moikau Station	9.84	210	Pn	Pn	21 11 33.0	-0.6
DZM	Mont Dzumac	17.41	305	LR	LR	21 18 41.2	
	comp=Z,64nm,19.1s,baz=211,slow=33						
EIDS	Eidsvold	27.79	278	P	P	21 15 02.5	+1.2
CTA	Charters Tower	34.12	283	P	P	21 15 58.5	+1.3
	2.4nm,0.7s,baz=129,slow=11,SNR=5.7						
CTAO	Charters Tower	34.12	283	P	P	21 15 56.5	-0.7
CTAO				IAmb	IAmb	21 16 11.1	
	comp=Z,5.1nm,1.1s						
AS31	Alice Springs	42.84	270	P	P	21 17 10.2	-0.4
ASAR	Alice Springs	42.84	270	P	P	21 17 10.6	0.0
	comp=Z,1.6nm,0.6s,baz=108,slow=7.3,SNR=22						
ASAR	Alice Springs	42.84	270	P	P	21 17 09.8	-0.8
WR0	Warramunga Arr	43.89	275	P	P	21 17 18.7	-0.4
WR0				IAmb	IAmb	21 17 20.5	
	comp=Z,3.5nm,1.0s						
WRA	Warramunga Arr	44.07	275	P	P	21 17 20.2	-0.

Mw3.8, Fault plane solution: NP1:ϕ_s111.00000°, δ12.00000°, λ-133.00000°.

ISC 16 21:17:37.4±0.9, 6°88N±0°03×73°11W±0°04, h152km±6km, n35, σ1§17/62, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**195**	⇓*iP*	**Pn**	**21 17 58.5**	**0.0**
BARC				*eS*	**Sn**	**21 18 13.2**	**-1.3**
BARC				*i*		21 18 14.5	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.61**	**41**	⇓*eP*	**Pn**	**21 18 01.3**	**+1.1**
PAMC				*eS*	**Sn**	**21 18 18.3**	**+0.7**
PAMC				*i*		21 18 20.6	
	comp=Z,1μm,0.7s						
BRRC	**Barranca, Sant**	**0.64**	**291**	⇑*iP*	**Pn**	**21 18 00.4**	**+0.6**
BRRC				*eS*	**Sn**	**21 18 16.4**	**-0.4**
BRRC				*i*		21 18 20.9	
	comp=Z,938nm,0.1s						
RUSC	**La Rusia**	**0.98**	**179**	⇑*eP*	**Pn**	**21 18 02.6**	**-0.2**
RUSC				*eS*	**Sn**	**21 18 21.3**	**-0.9**
RUSC				*i*		21 18 23.1	
	comp=Z,386nm,0.2s						
OCAC	**Ocana**	**1.37**	**351**	*eP*	**Pn**	**21 18 06.6**	**+0.6**
OCAC				*eS*	**Sn**	**21 18 28.0**	**+0.1**
OCAC				*i*		21 18 33.3	
	comp=Z,597nm,0.2s						
TAMC	**Tame, Arauca**	**1.38**	**108**	⇓*iP*	**Pn**	**21 18 07.0**	**+1.1**
TAMC				*eS*	**Sn**	**21 18 28.5**	**+0.8**
PTBC	**PUERTO BERRIO,**	**1.38**	**256**	⇑*eP*	**Pn**	**21 18 05.0**	**-0.9**
PTBC				*eS*	**Sn**	**21 18 26.1**	**-1.7**
PTBC				*i*		21 18 31.3	
	comp=Z,506nm,0.2s						
SPBC	**San Pablo de B**	**1.55**	**218**	⇑*eP*	**Pn**	**21 18 07.5**	**-0.3**
SPBC				*eS*	**Sn**	**21 18 29.8**	**-1.2**
SPBC				*i*		21 18 35.7	
	comp=Z,527nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**289**	*eP*	**Pn**	**21 18 11.5**	**+0.6**
ZARC				*eS*	**Sn**	**21 18 36.5**	**0.0**
ZARC				*i*		21 18 42.3	
	comp=Z,578nm,0.4s						
CTAU	**Tausa, Cundina**	**1.91**	**209**	*eP*	**Pn**	**21 18 14.8**	**+2.6**
SMLC	**San Martn de**	**2.14**	**334**	*eP*	**Pn**	**21 18 14.4**	**+0.1**
SMLC				*eS*	**Sn**	**21 18 42.6**	**-0.1**
SMLC				*i*		21 18 46.8	
	comp=Z,510nm,0.1s						
CTAB	**Cerro Tablazo,**	**2.15**	**211**	*eP*	**Pn**	**21 18 16.4**	**+1.5**
NORC	**Norcasia**	**2.18**	**233**	*eP*	**Pn**	**21 18 14.5**	**-0.5**
NORC				*eS*	**Sn**	**21 18 42.5**	**-1.3**
NORC				*i*		21 18 50.0	
	comp=Z,227nm,0.2s						
CHIC	**Chingaza**	**2.32**	**196**	*eP*	**Pn**	**21 18 16.9**	**0.0**
CHIC				*eS*	**Sn**	**21 18 46.5**	**-0.8**
CHIC				*i*		21 18 50.9	
	comp=Z,119nm,0.3s						
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**21 18 18.4**	**+1.1**
	comp=Z,25nm,0.3s,baz=66,slow=20,SNR=59						
ROSC				S	**Sn**	**21 18 48.2**	**+0.2**
	comp=Z,23nm,0.3s,baz=123,slow=8.5,SNR=8.9						
ROSC	**El Rosal**	**2.36**	**211**	*eP*	**Pn**	**21 18 18.5**	**+1.1**
ROSC				*eS*	**Sn**	**21 18 50.0**	**+2.0**
HELC	**Santa Helena**	**2.50**	**254**	*eP*	**Pn**	**21 18 19.6**	**+0.6**
HELC				*eS*	**Sn**	**21 18 51.1**	**+0.1**
HELC				*i*		21 18 56.6	
	comp=Z,296nm,0.4s						
UREC	**San Jos de Ur**	**2.56**	**290**	*eP*	**Pn**	**21 18 19.0**	**-0.4**
UREC				*eS*	**Sn**	**21 18 49.7**	**-2.0**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	*eP*	**Pn**	**21 18 23.1**	**+0.5**
GUY2C				*eS*	**Sn**	**21 18 58.2**	**+0.7**
GUY2C				*i*		21 19 04.8	
	comp=Z,209nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.83**	**160**	*eP*	**Pn**	**21 18 22.0**	**-0.8**
PTGC				*eS*	**Sn**	**21 18 54.9**	**-3.0**
PTGC				*i*		21 18 58.0	
	comp=Z,111nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.06**	**251**	*eP*	**Pn**	**21 18 26.3**	**+0.6**
CBOC				*eS*	**Sn**	**21 19 02.5**	**-0.7**
CBOC				*i*		21 19 11.2	
	comp=Z,64nm,0.4s						
DBBC	**Dabeiba**	**3.08**	**273**	*eP*	**Pn**	**21 18 26.0**	**0.0**
SDV	**Santo Domingo**	**3.16**	**51**	P	**Pn**	**21 18 28.1**	**+1.0**
	comp=Z,33nm,0.3s,baz=243,slow=11,SNR=78						
SDV				S	**Sn**	**21 19 04.5**	**-1.0**
	comp=Z,23nm,0.3s,baz=253,slow=19,SNR=30						
SDV	**Santo Domingo**	**3.16**	**51**	*eP*	**Pn**	**21 18 27.8**	**+0.7**
SDV				*eS*	**Sn**	**21 19 05.0**	**-0.6**
TOLC	**Tolima**	**3.17**	**224**	*eP*	**Pn**	**21 18 28.3**	**+1.0**
TOLC				*eS*	**Sn**	**21 19 07.0**	**+1.1**
TOLC				*i*		21 19 14.3	
	comp=Z,470nm,0.7s						
ARGC	**Ariguani, Magd**	**3.17**	**339**	*eP*	**Pn**	**21 18 29.3**	**+2.2**
ARGC				*eS*	**Sn**	**21 19 06.1**	**+0.6**
ARGC				*i*		21 19 17.5	
	comp=Z,101nm,0.4s						
ANIL	**Santa Ana**	**3.29**	**224**	*eP*	**Pn**	**21 18 30.1**	**+1.2**
ANIL				*eS*	**Sn**	**21 19 11.0**	**+2.3**
PRAC	**Prado**	**3.61**	**209**	*eP*	**Pn**	**21 18 32.1**	**-0.6**
PRAC				*eS*	**Sn**	**21 19 14.4**	**-1.2**
PRAC				*i*		21 19 20.6	
	comp=Z,141nm,0.4s						
SJCC	**San Jacinto, C**	**3.63**	**326**	*eP*	**Pn**	**21 18 32.5**	**-0.6**
SJCC				*eS*	**Sn**	**21 19 13.6**	**-2.7**
SJCC				*i*		21 19 18.2	
	comp=Z,131nm,0.4s						
ORTC	**Ortega, Tolima**	**3.64**	**216**	*eP*	**Pn**	**21 18 32.9**	**-0.2**
ORTC				*eS*	**Sn**	**21 19 16.7**	**+0.4**
ORTC				*i*		21 19 22.9	
	comp=Z,112nm,0.7s						
PCRV	**Puerto La Cruz**	**9.00**	**68**	P	**Pn**	**21 19 44.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=307,slow=5.1,SNR=1.6						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**21 24 28.1**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=127,slow=9.6,SNR=3.4						
MKAR	**Makanchi Array**	**122.27**	**20**	PKP	**PKPdf**	**21 36 13.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=343,slow=2.4,SNR=1.7						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPdf**	**21 37 05.8**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=134,slow=3.6,SNR=1.8						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**21 37 10.6**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=107,slow=2.9,SNR=13						

*ISN **16** 21:27:08.3±1.3, 33°70N×45°56E, h0km±5km, ML3.3*
*TEH **16** 21:27:12.9, 33°73N×45°78E, h14km, ML2.8*

ISC 16 21:27:11.2±0.9, 33°70N±0°04×45°64E±0°04, h13km, n23, σ1§16/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.63**	**157**	*e*Pg	**Pg**	**21 27 23.3**	**-0.2**
IBDR				*e*Sg	**Sb**	**21 27 33.0**	**+0.2**
IGHG	**Ghaleghazi**	**1.00**	**50**	*e*Pg	**Pn**	**21 27 30.6**	**-0.5**
IGHG				*e*		21 27 33.5	
BHD	**Baghdad**	**1.14**	**248**	*e*Pg	**Pb**	**21 27 31.0**	**-1.7**
BHD				*e*Sg	**Sn**	**21 27 49.0**	**+0.8**
BHD				AML	AML	21 27 56.9	
	comp=E,795nm,0.3s						
IDHR	**Dehrash**	**1.18**	**32**	*e*Pg	**Pg**	**21 27 33.3**	**-0.6**
IDHR				*e*		21 27 53.9	
KCHF	**Cheshme Sefid,**	**1.30**	**63**	*e*Pg	**Pb**	**21 27 35.1**	**-0.5**
KCHF				*e*		21 27 57.6	
IVIS	**Veis**	**1.30**	**50**	*e*Pg	**Pg**	**21 27 35.7**	**-0.5**
IVIS				*e*		21 27 59.1	
KER	**Kermanshah**	**1.42**	**61**	*e*Pg	**Pg**	**21 27 37.6**	**-0.8**
IKOM	**Komasi**	**1.62**	**72**	*e*Pg	**Pg**	**21 27 41.6**	**-0.8**
IKOM				*e*		21 28 14.7	
ILIN	**Lien**	**1.64**	**42**	*e*Pg	**Pg**	**21 27 41.6**	**-1.1**
ILIN				*e*		21 27 42.4	
DHL1	**Dehloran**	**1.71**	**126**	*e*Pg	**Pg**	**21 27 43.8**	**-0.2**
DHL1				*e*Sg	**Sg**	**21 28 06.6**	**+0.5**
IKFM	**Kafar-mosalman**	**1.85**	**95**	*e*Pg	**Pb**	**21 27 45.0**	**+0.2**
IKFM				*e*		21 28 25.4	
IBZA	**Bozab**	**2.00**	**67**	*e*Pg	**Pb**	**21 27 46.7**	**-0.8**
IBZA				*e*		21 27 50.1	
IDOB	**Doab**	**2.12**	**87**	*e*Pn	**Pb**	**21 27 48.3**	**-1.2**
IKMR	**Kamar-syah**	**2.29**	**94**	*e*Pn	**Pb**	**21 27 51.1**	**-1.3**
IKMR				*e*		21 28 29.2	
IALM	**Almabolaq**	**2.39**	**60**	*e*Pn	**Pb**	**21 27 52.6**	**-1.7**
HSAM	**Samen**	**2.51**	**77**	*e*Pn	**Pn**	**21 27 53.2**	**+1.2**
HSAM				*e*		21 28 35.9	
BMDN	**Meydan**	**2.65**	**90**	*e*Pn	**Pn**	**21 27 54.8**	**+1.0**
BMDN				*e*		21 28 42.1	
HSRG	**Sareghieh**	**2.67**	**54**	*e*Pn	**Pn**	**21 27 56.0**	**+1.9**
HSRG				*e*		21 28 39.6	
NSR	**Nassriya**	**2.71**	**171**	*e*Pn	**Pn**	**21 27 55.0**	**+0.6**
NSR				*e*Sn	**Sn**	**21 28 27.0**	**-0.1**
NSR				AML	AML	21 28 36.9	
	comp=E,182nm,0.3s						
MAHB	**Mahabad**	**3.06**	**1**	*e*Pn	**Pn**	**21 28 02.2**	**+2.8**
MAHB				*e*		21 28 40.5	
HAGD	**Aghdareh**	**3.11**	**68**	*e*Pn	**Pn**	**21 28 02.0**	**+1.9**
HAGD				*e*		21 28 55.2	
QABG	**Abgarm-Qazvin**	**3.82**	**57**	*e*Pn	**Pn**	**21 28 10.6**	**+0.7**
IPIR	**Pirpir**	**4.52**	**101**	*e*Pn	**Pn**	**21 28 20.5**	**+0.9**

*REY **16** 21:34:12.7, 64°69N×17°38W, h8km*
*BGS **16** 21:34:12.8±2.0, 64°65N×17°49W, h5km, MS4.6*
*BJI **16** 21:34:13.0±0.0, 64°80N×17°30W, h5km, mB5.4/34, mb4.7/37, Ms4.9/24, Ms7 4.6/24*
*IDC **16** 21:34:13.2±0.4, 64°56N×17°50W, h0km, mb4.4/29, mb1 4.5/34, mb1mx4.3/54, mbtmp4.3/34, ML2.9/4, MS4.2/42, Ms1 4.2/42, ms1mx4.1/45, Error ellipse: s-maj=13.7km s-min=7.4km az=13.0*
*MOS **16** 21:34:13.2±0.9, 64°65N×17°43W, h9km, mb5.2/47, MS4.4/30, Error ellipse: s-maj=7.3km s-min=5.3km az=105.1*
*BGR **16** 21:34:14.1±2.0, 65°24N×17°29W, h10km, mb5.1, Ms4.2, Error ellipse: s-maj=37.8km s-min=31.1km az=5.0*
*NEIC **16** 21:34:14.5±1.3, 64°65N±0°07×17°5W±0°1, h5km±1km, mb5.1/192, Error ellipse: s-maj=12.3km s-min=8.8km az=185.0*
*IEPN **16** 21:34:14.0, 64°94N×17°88W, h10km*
*UNK **16** 21:34:15.2, 64°63N×17°30W, h5km*
*GCMT **16** 21:34:18.5±0.1, 64°56N±0°01×17°03W±0°02, h12km, MW5.1/134, Moment Tensor Solution. s74,c97; s134,c217; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-5.11±.07; $M_{\theta\theta}$2.72±.08; $M_{\phi\phi}$2.39±.07; $M_{r\theta}$-1.22±.26; $M_{\theta\phi}$-0.97±.06; $M_{\phi r}$-3.17±.26; Best double couple: $M_0$5.16400×10^16^ NP1:ϕ_s128.00000°, δ35.00000°, λ-122.00000°. NP2:ϕ_s345.00000°, δ61.00000°, λ-70.00000°. Principal axes: T 3.8210, Plg14.0000°, Azm60.0000°; N 2.6870, Plg18.0000°, Azm155.0000°; P -6.5080, Plg68.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **16** 21:34:20.1±7.8, 64°70N×17°78W, h26km±307km, Hypocentre not reviewed by the ISC*

ISC 16 21:34:14.0±0.6, 64°71N±0°02×17°48W±0°02, h3km±3km, n1019, σ1§62/1074, mb5.0/204, MS4.3/74, 29C-26D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.09**	**32**	P	**Pg**	**21 34 14.8**	**-1.2**
	baz=2.9						
IVON	**Vonarskard**	**0.12**	**252**	P	**Pg**	**21 34 16.7**	**+0.2**
	baz=263						
IURH	**Urdarhals**	**0.18**	**52**	P	**Pg**	**21 34 16.1**	**-1.5**
	baz=38						
IDJK	**Dyngjujokull**	**0.23**	**153**	P	**Pg**	**21 34 16.6**	**-1.9**
	baz=162						
IGRF	**Grimsfjall**	**0.32**	**163**	P	**Pg**	**21 34 18.8**	**-1.4**
	baz=170						
IKVE	**Kverkfjoll**	**0.35**	**95**	P	**Pg**	**21 34 19.0**	**-1.8**
	baz=92						
IBJK	**Bruarjokull**	**0.40**	**127**	P	**Pg**	**21 34 19.5**	**-2.2**
	baz=129						
ISKR	**Skrokkalda**	**0.42**	**249**	P	**Pg**	**21 34 20.7**	**-1.3**
	baz=254						
IHUS	**Husbondi**	**0.42**	**190**	P	**Pg**	**21 34 20.2**	**-2.0**
	baz=197						
IVOT	**Vottur**	**0.46**	**164**	P	**Pg**	**21 34 20.3**	**-2.6**
	baz=169						
IKRE	**Kreppuhraun**	**0.48**	**81**	P	**Pg**	**21 34 20.2**	**-2.9**
	baz=77						
IASK	**Askja**	**0.49**	**46**	P	**Pg**	**21 34 21.7**	**-1.8**
	baz=40						
IJOK	**Jokulheimar**	**0.51**	**219**	P	**Pg**	**21 34 21.6**	**-2.2**
	baz=224						
IMKO	**Mokollar**	**0.56**	**61**	P	**Pg**	**21 34 22.1**	**-2.6**
	baz=57						
ISVA	**Svartarkot**	**0.64**	**9**	P	**Pg**	**21 34 24.1**	**-2.1**
	baz=4.6						
IIEY	**Innrieyrar**	**0.68**	**205**	P	**Pg**	**21 34 24.2**	**-2.7**
	baz=209						
IKSK	**Karasker**	**0.70**	**141**	P	**Pg**	**21 34 23.7**	**-3.8**
	baz=143						
IVSH	**V-Sauoahnukur**	**0.76**	**82**	P	**Pg**	**21 34 25.0**	**-3.6**
	baz=80						
IKAL	**Kalfafell**	**0.77**	**187**	P	**Pg**	**21 34 25.6**	**-3.2**
	baz=190						
IVAT	**Vatnsfell**	**0.81**	**230**	P	**Pg**	**21 34 27.4**	**-2.2**
	baz=233						
IADA	**Aoalbol**	**0.87**	**68**	P	**Pg**	**21 34 27.4**	**-3.3**
	baz=66						
IHVE	**Hveravellir**	**0.91**	**281**	P	**Pg**	**21 34 28.5**	**-2.9**
	baz=282						
IFAG	**Fagurholsmyri**	**0.91**	**156**	P	**Pg**	**21 34 27.7**	**-3.8**
	baz=159						
IMEL	**Melhnausar**	**0.93**	**22**	P	**Pg**	**21 34 29.2**	**-2.6**
	baz=19						
IREN	**Reynihlio**	**0.97**	**14**	P	**Pg**	**21 34 29.4**	**-3.2**
	baz=12						
IKVO	**Krokottuvotn**	**1.04**	**14**	P	**Pg**	**21 34 30.6**	**-3.3**
	baz=11						
IGRS	**Grimsstaoir**	**1.09**	**31**	P	**Pg**	**21 34 32.0**	**-2.9**
	baz=29						
ISNB	**Snabyli**	**1.10**	**208**	P	**Pg**	**21 34 31.8**	**-3.3**
	baz=210						
ISLY	**Slysaalda**	**1.14**	**219**	P	**Pg**	**21 34 32.8**	**-3.1**
	baz=222						
IFED	**Fedgar**	**1.18**	**235**	P	**Pg**	**21 34 33.8**	**-2.9**
	baz=237						
IGRA	**Granastaoir**	**1.21**	**358**	P	**Pg**	**21 34 34.0**	**-3.2**
	baz=356						
IRJU	**Rjupnafell**	**1.22**	**206**	P	**Pg**	**21 34 33.5**	**-3.8**
	baz=208						
IMJO	**Mjoaskard**	**1.23**	**232**	P	**Pg**	**21 34 34.4**	**-3.2**
	baz=234						
IGYG	**Gygjarholskot**	**1.26**	**251**	P	**Pg**	**21 34 34.7**	**-3.5**
	baz=253						
IHAU	**Haukadalur**	**1.31**	**237**	P	**Pg**	**21 34 36.0**	**-3.2**
	baz=238						
IGOD	**Go??abunga**	**1.33**	**218**	P	**Pg**	**21 34 36.4**	**-3.1**
	baz=220						
IHVO	**Lagu-Hvolar**	**1.33**	**207**	P	**Pn**	**21 34 36.0**	**-3.4**
	baz=210						
IALF	**Alftagrof**	**1.44**	**212**	P	**Pn**	**21 34 37.4**	**-3.4**
	baz=214						
IESK	**Eystri-Skogar**	**1.47**	**217**	P	**Pn**	**21 34 37.6**	**-3.7**
	baz=219						
BORG	**Borgarnes**	**1.65**	**273**	Pg	**Pn**	**21 34 41.5**	**-2.3**
	52nm,0.3s,baz=95,slow=11,SNR=194						
BORG				Lg	Lg	21 35 05.4	
	117nm,0.3s,baz=188,slow=23,SNR=9.4						
BORG	**Borgarnes**	**1.65**	**273**	Pn	**Pn**	**21 34 40.9**	**-3.0**
BORG				Sn	**Sn**	**21 35 05.3**	**-0.2**
SCO	**Scoresbysund**	**6.04**	**346**	*i* P	**Pn**	**21 35 44.0**	**-0.1**
SCO	**Scoresbysund**	**6.04**	**346**	*i* P	**Pn**	**21 35 44.0**	**-0.1**
SCO	**Scoresbysund**	**6.04**	**346**	P	**Pn**	**21 35 44.5**	**+0.4**
SCO	**Scoresbysund**	**6.04**	**346**		**Pn**	**21 35 44.5**	**+0.4**
JMIC	**Jan Mayen**	**7.15**	**24**	LR	LR	21 38 19.4	
	comp=Z,2μm,18.4s,baz=248,slow=34						
LEWI	**Lewis, Hebride**	**8.31**	**137**	*e*P	**Pn**	**21 36 13.2**	**-2.1**
KAC	**Achnashellach**	**9.32**	**135**	*e*P	**Pn**	**21 36 26.6**	**-2.4**
KPL	**Plockton**	**9.35**	**137**	*e*P	**Pn**	**21 36 27.0**	**-2.4**
MCD	**Coleburn Disti**	**9.90**	**130**	*e*P	**Pn**	**21 36 36.5**	**-0.4**
LAWE	**Loch Awe, Argy**	**10.34**	**139**	*e*P	**Pn**	**21 36 41.6**	**-1.4**
INVG	**Invergeldie, C**	**10.59**	**135**	*e*P	**Pn**	**21 36 44.1**	**-2.4**
INVG				IAMs_20	IAMs_20	21 41 23.6	
	comp=Z,4μm,11.6s						
EAB	**Aberfoyle**	**10.71**	**137**	*e*P	**Pn**	**21 36 46.1**	**-2.0**
SUMG	**Summit**	**10.91**	**325**	*i* P	Pn	21 36 56.9	+5.8
SUMG	**Summit**	**10.91**	**325**	*e*P	Pn	21 36 56.9	+5.8
SUMG	**Summit**	**10.91**	**325**	Pn	**Pn**	**21 36 50.8**	**-0.3**
PGBU	**Glenifferbraes**	**10.99**	**138**	*e*P	**Pn**	**21 36 50.1**	**-1.7**
AKN	**Aaknes**	**11.22**	**92**	*e*P	**Pn**	**21 36 52.5**	**-2.6**
ASK	**Askoy**	**11.24**	**102**	*e*P	**Pn**	**21 36 54.0**	**-1.3**
EDI	**Edinburgh**	**11.28**	**135**	*e*P	**Pn**	**21 36 53.5**	**-2.3**
EBL	**Broad Law**	**11.45**	**135**	*e*P	**Pn**	**21 36 56.2**	**-1.9**
NEWG	**New Galloway**	**11.66**	**139**	*e*P	**Pn**	**21 36 59.5**	**-1.6**
NEWG				IAMs_20	IAMs_20	21 43 09.8	
	comp=Z,4μm,10.6s						
GAL1	**Galloway**	**11.75**	**141**	*e*P	**Pn**	**21 37 00.9**	**-1.4**
GAL1				IAMs_20	IAMs_20	21 42 34.0	
	comp=Z,5μm,12.8s						
EKA	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**21 36 59.1**	**-3.7**
	baz=326,slow=13,SNR=27						
ESK	**Eskdalemuir**	**11.79**	**136**	*e*P	**Pn**	**21 37 01.5**	**-1.3**
ESK				IAMs_20	IAMs_20	21 43 16.6	
	comp=Z,3μm,10.3s						
ESK	**Eskdalemuir**	**11.79**	**136**	P	**Pn**	**21 37 01.5**	**-1.3**
ESK	**Eskdalemuir**	**11.79**	**136**	Pn	**Pn**	**21 37 01.5**	**-1.3**
KMY	**Karmoy**	**11.98**	**107**	*e*P	**Pn**	**21 37 04.7**	**-0.8**
DAG	**Danmarks Havn**	**12.13**	**359**	*i* P	Pn	21 37 12.6	+5.2
DAG	**Danmarks Havn**	**12.13**	**359**	*i* P	Pn	21 37 12.6	+5.2
ODD1	**Odda**	**12.15**	**102**	*e*P	**Pn**	**21 37 10.9**	**+3.0**
DOMB	**Dombas**	**12.16**	**91**	*e*P	**Pn**	**21 37 06.6**	**-1.3**
BLS5	**Blasjo**	**12.36**	**104**	*e*P	**Pn**	**21 37 09.6**	**-1.1**
SKAR	**Skarslia**	**12.46**	**97**	*e*P	**Pn**	**21 37 10.5**	**-1.5**
DSB	**Dublin**	**12.82**	**149**	Pn	**Pn**	**21 37 15.8**	**-1.0**
NC204	**NORSAR Array S**	**13.22**	**92**	Pn	**Pn**	**21 37 19.0**	**-3.5**
NC204	**NORSAR Array S**	**13.22**	**92**	*e*P	**Pn**	**21 37 19.0**	**-3.5**
NBO00	**NORSAR Array S**	**13.35**	**93**		**Pn**	**21 37 20.7**	**-3.4**
NBO00	**NORSAR Array S**	**13.35**	**93**	*e*P	**Pn**	**21 37 22.0**	**-2.1**
YLL	**Llanberis**	**13.44**	**143**	*e*P	**Pn**	**21 37 24.2**	**-1.2**
NC303	**NORSAR Array S**	**13.51**	**92**		**Pn**	**21 37 24.5**	**-1.7**
NB2	**NORSAR Subarra**	**13.53**	**93**	Pn	**Pn**	**21 37 23.0**	**-3.6**
	comp=Z,193nm,3.3s,baz=298,slow=14						
NB2	**NORSAR Subarra**	**13.53**	**93**	P	**Pn**	**21 37 23.0**	**-3.6**
	baz=298,slow=14						
NOA	**NORSAR Array B**	**13.53**	**93**	Pn	**Pn**	**21 37 23.2**	**-3.4**
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=7.5						
NOA				LR	LR	21 42 36.1	
	comp=Z,752nm,20.0s,baz=295,slow=37						
SFJD	**Kangerlussuaq**	**13.65**	**294**	*i* P	**Pn**	**21 37 26.6**	**-1.6**
SFJD	**Kangerlussuaq**	**13.65**	**294**	*i* P	**Pn**	**21 37 26.6**	**-1.6**
LBWR	**Ladybower, Pea**	**13.88**	**137**	*e*P	**Pn**	**21 37 29.5**	**-1.8**
LBWR				IAMs_20	IAMs_20	21 43 49.0	
	comp=Z,4μm,12.2s						
HFS	**Hagfors**	**15.04**	**93**	Pn	**Pn**	**21 37 45.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=316,slow=10,SNR=2.3						
HFS				LR	LR	21 43 11.7	
	comp=Z,1μm,21.8s,baz=292,slow=36						
MUD	**Monsted U'grnd**	**15.37**	**110**	*i* P	**P**	**21 38 01.0**	**+4.7**
HLG	**Helgoland**	**16.52**	**118**	*e*P	**P**	**21 38 07.7**	**-1.3**
	comp=Z,272nm,1.2s						
KBS	**Kingsbay**	**16.60**	**19**	⇑*iP*	**Pn**	**21 38 03.4**	**-3.8**
KBS				*e*S	**Sn**	**21 41 05.1**	**-6.5**
KBS	**Kingsbay**	**16.60**	**19**	P	**P**	**21 38 11.3**	**+1.5**
KBS				pmax	pmax		
	comp=Z,142nm,1.6s						
KBS	**Kingsbay**	**16.60**	**19**	P	**P**	**21 38 11.3**	**+1.5**
SPA0	**Spitsbergen Ar**	**16.82**	**23**	P	**P**	**21 38 13.5**	**+1.2**
SPITS	**Spitsbergen Ar**	**16.82**	**23**	LR	LR	21 42 54.9	
	comp=Z,990nm,20.0s,baz=205,slow=31						
NOR	**Nord**	**16.98**	**0**	*i* P	**P**	**21 38 15.0**	**+0.9**
NOR	**Nord**	**16.98**	**0**	*i* P	**P**	**21 38 15.0**	**+0.9**
ARCES	**ARCESS Array B**	**17.09**	**55**	P	**P**	**21 38 14.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=271,slow=6.7,SNR=8.9						
ARCES				LR	LR	21 43 25.4	
	comp=Z,1μm,21.3s,baz=293,slow=32						
ARCES	**ARCESS Array B**	**17.09**	**55**	Pn	**Pn**	**21 38 12.0**	**-1.4**
ARE0	**ARCESS Array S**	**17.09**	**55**	Pn	**Pn**	**21 38 13.0**	**-0.5**
COP	**Copenhagen**	**17.23**	**108**	*i* P	**P**	**21 38 16.2**	**-0.7**
COP	**Copenhagen**	**17.23**	**108**	*e*P	**P**	**21 38 16.2**	**-0.7**
KEV	**Kevo**	**17.59**	**54**	P	**Pn**	**21 38 17.2**	**-2.5**
KEV				pmax	pmax		
	comp=Z,89nm,1.7s						
KEV	**Kevo**	**17.59**	**54**	Pn	**Pn**	**21 38 17.2**	**-2.5**
BSEG	**Bad Segeberg**	**17.65**	**115**	*e*P	**Pn**	**21 38 19.6**	**-0.9**
	comp=Z,592nm,2.8s						
IBBN	**Ibbenburen**	**17.95**	**122**	*e*P	**P**	**21 38 25.4**	**+0.6**
	comp=Z,142nm,1.6s						
UCC	**Uccle**	**18.02**	**130**	P	**Pn**	**21 38 23.0**	**-2.2**
UCC				pmax	pmax		
	comp=Z,102nm,1.9s						
UCC	**Uccle**	**18.02**	**130**	Pn	**Pn**	**21 38 23.0**	**-2.2**
RGN	**Rugen**	**18.39**	**109**	*e*P	**P**	**21 38 30.0**	**+0.2**
RGN				*e*S	**S**	**21 42 10.8**	**+11**
BEBN	**Eben Emael**	**18.46**	**128**	P	**P**	**21 38 28.5**	**-2.1**
BUG	**Bochum--Univer**	**18.48**	**124**	*e*P	**P**	**21 38 30.4**	**-0.3**
	comp=Z,128nm,1.6s						
BMRD	**Maredsous**	**18.58**	**130**	P	**P**	**21 38 28.4**	**-3.5**
BSTI	**Sart Tilman**	**18.61**	**129**	P	**P**	**21 38 30.9**	**-1.2**
BGES	**Gesves**	**18.62**	**130**	P	**P**	**21 38 31.0**	**-1.2**
BCLA	**Clavier

comp=Z,67nm,1.7s
FBE Freiberg 21.16 116 *e*P **P 21 39 00.4 +0.5**
comp=Z,742nm,2.8s
ECH Echery 21.18 129 P **P 21 38 59.6 -0.6**
ECH pmax pmax
comp=Z,37nm,1.1s
ECH Echery 21.18 129 P **P 21 38 59.6 -0.6**
GUNZ Gunzen 21.21 118 *e*P **P 21 39 01.0 +0.4**
comp=Z,859nm,2.9s
KLNR Kaliningrad 21.21 101 *i* P **P 21 39 02.9 +2.4**
KLNR pmax pmax
comp=Z,71nm,0.9s
TANN Tannenbergstha 21.22 118 *e*P **P 21 39 01.2 +0.5**
comp=Z,752nm,2.7s
WERN Wernitzgruen 21.29 118 *e*P **P 21 39 01.9 +0.4**
comp=Z,177nm,1.5s
GRA1 Grafenberg Arr 21.35 121 P **P 21 39 01.0 -1.0**
GRA1 IAmb IAmb 21 39 35.6
comp=Z,146nm,1.7s
GRF Grafenberg Arr 21.35 121 P **P 21 39 01.0 -1.0**
GRF pmax pmax
comp=Z,146nm,1.7s
GRF Grafenberg Arr 21.35 121 *e*P **P 21 39 02.9 +0.8**
GRF *e*L L 21 48 22.6
comp=Z,998nm,19.3s
NKC Novy Kostel 21.36 118 *e*P **P 21 39 03.2 +1.0**
NKC *e*S **S 21 43 02.3 +2.6**
NKC AMS AMS 21 50 00.0
comp=Z,2μm,11.4s
NKC Novy Kostel 21.36 118 *e*P **P 21 39 03.2 +1.0**
NKC *e*S **S 21 43 02.3 +2.6**
NKC MLR MLR
comp=Z,2μm,11.4s
STU Stuttgart 21.39 125 P **P 21 39 02.6 +0.1**
STU pmax pmax
comp=Z,58nm,1.1s
STU Stuttgart 21.39 125 *e*P **P 21 39 03.6 +1.2**
STU Stuttgart 21.39 125 P **P 21 39 02.6 +0.1**
BRG Berggiesshubel 21.43 115 *i* P **P 21 39 02.7 -0.1**
comp=Z,117nm,1.7s
BRG *e*PCP **PcP 21 43 09.2 +3.4**
comp=Z,8.3nm,1.8s
BRG Berggiesshubel 21.43 115 *i* P **P 21 39 02.7 -0.1**
BRG S Sn 21 43 07.0 -1.3
BRG pmax pmax
comp=Z,117nm,1.7s
BRG pmax pmax
comp=Z,8.0nm,1.8s
BRG MLR MLR
comp=N,1μm,10.6s
BRG MLR MLR
comp=E,1μm,12.7s
BRG MLR MLR
comp=Z,1μm,10.1s
BRG Berggiesshubel 21.43 115 *e*P **P 21 39 03.1 +0.3**
comp=Z,810nm,2.8s
MANZ Manzenberg 21.44 119 *e*P **P 21 39 02.8 -0.2**
BFO Black Forest 21.47 127 P **P 21 39 03.1 -0.2**
BFO pmax pmax
comp=Z,50nm,1.2s
BFO Black Forest 21.47 127 *e*P **P 21 39 03.9 +0.6**
BFO Black Forest 21.47 127 P **P 21 39 03.1 -0.2**
VSU Vasula 21.56 86 *e*P **P 21 39 02.9 -1.3**
VSU Vasula 21.56 86 *i* P **P 21 39 03.1 -1.0**
VSU pmax pmax
comp=Z,134nm,1.0s
ROTZ Rotzenmuhle 21.65 119 *e*P **P 21 39 05.0 -0.2**
FRB Frobisher Bay 21.74 291 LR LR 21 46 53.6
comp=Z,790nm,18.0s,baz=63,slow=35
PVCC Panska Ves 21.94 115 *e*P **P 21 39 14.0 +5.7**
PVCC *e*S **S 21 43 09.5 -1.4**
PVCC AMS AMS 21 49 10.0
comp=Z,900nm,12.0s
PVCC Panska Ves 21.94 115 *e*P **P 21 39 14.0 +5.7**
PVCC *e*S **S 21 43 09.5 -1.4**
PVCC MLR MLR
comp=Z,900nm,12.0s
SLVR Solovky 22.04 65 *e*P **P 21 39 07.3 -1.9**
comp=Z,93nm,1.6s
PABE Paberze 22.21 95 *e*P **P 21 39 11.5 +0.4**
PABE *e*S Sn 21 43 23.2 -3.7
PRA Prague 22.25 116 *e*P **P 21 39 11.9 +0.2**
PRA *e*S **S 21 43 20.3 +3.4**
PRA AMS AMS 21 51 10.0
comp=Z,600nm,11.6s
PRA Prague 22.25 116 *e*P **P 21 39 11.9 +0.2**
PRA *e*S **S 21 43 20.3 +3.4**
PRA MLR MLR
comp=Z,600nm,11.6s
PUL Pulkovo 22.35 80 *e*P **P 21 39 12.1 -0.5**
PRU Pruhonice 22.36 116 *e*P **P 21 39 13.0 +0.2**
PRU *e*S **S 21 43 24.5 +5.6**
PRU AMS AMS 21 48 50.0
comp=Z,1μm,14.8s
PRU Pruhonice 22.36 116 *e*P **P 21 39 13.0 +0.2**
PRU MLR MLR
comp=Z,1μm,14.8s
KSP Ksiaz 22.37 112 *e*P **P 21 39 11.3 -1.7**
KSP *e*S Sn 21 43 25.3 -5.7
PBCC Pribram 22.40 117 *e*P **P 21 39 14.1 +0.9**
WET Wettzell 22.42 119 *e*P **P 21 39 14.3 +0.8**
CHVC Chvalec 22.48 113 *e*P **P 21 39 14.1 0.0**
CHVC *e*S **S 21 43 23.2 +2.0**
CHVC AMS AMS 21 47 00.0
comp=Z,900nm,18.6s
GOPC GO Pecny, Ondr 22.52 116 *e*P **P 21 39 14.8 +0.3**
GOPC *e*S **S 21 43 25.8 +3.9**
GOPC AMS AMS 21 48 50.0
comp=Z,1μm,17.2s
GOPC GO Pecny, Ondr 22.52 116 *e*P **P 21 39 14.8 +0.3**
GOPC MLR MLR
comp=Z,1μm,17.2s
UPC Upice 22.52 113 *e*P **P 21 39 15.6 +1.0**
UPC *e*S **S 21 43 21.5 -0.5**
UPC AMS AMS 21 48 00.0
comp=Z,1μm,18.9s
UPC Upice 22.52 113 *e*P **P 21 39 15.6 +1.0**
UPC *e*S **S 21 43 21.5 -0.5**
UPC MLR MLR
comp=Z,1μm,18.9s
OSTC Ostas 22.57 113 *e*P **P 21 39 16.1 +1.0**
OSTC *e*S **S 21 43 26.5 +3.7**
OSTC AMS AMS 21 47 20.0
comp=Z,900nm,18.6s
UBR Ueberruh 22.64 126 *e*P **P 21 39 16.7 +0.8**
FUR Furstenfeldbru 22.64 123 *e*P **P 21 39 16.5 +0.6**
KHC Kasperske Hory 22.69 119 *e*P **P 21 39 16.0 -0.4**
KHC *e*x x 21 39 22.5
KHC *e*S **S 21 43 31.0 +5.9**
KHC AMS AMS 21 51 20.0
comp=Z,2μm,10.6s
KHC Kasperske Hory 22.69 119 *ce*P **P 21 39 15.5 -0.8**
KHC pmax pmax
comp=Z,106nm,1.7s
KHC Kasperske Hory 22.69 119 P **P 21 39 15.6 -0.8**
DPC Dobruska-Polom 22.77 113 *e*P **P 21 39 17.7 +0.4**
DPC *e*S **S 21 43 23.7 -2.9**
DPC AMS AMS 21 49 10.0
comp=Z,900nm,18.4s
DPC Dobruska-Polom 22.77 113 *e*P **P 21 39 17.7 +0.4**
DPC *e*S **S 21 43 23.7 -2.9**
DPC MLR MLR
comp=Z,900nm,18.4s
SENIN Lac Senin/Sane 22.85 132 P **P 21 39 17.9 -0.4**
SENIN IAmb IAmb 21 39 29.0
comp=Z,102nm,1.8s
SUW Suwalki 22.88 99 *e*P **P 21 39 16.1 -2.2**
SUW *e*S **S 21 43 32.3 +3.9**
SUW Suwalki 22.88 99 P **P 21 39 16.1 -2.2**
SUW pmax pmax
comp=Z,67nm,1.1s
SUW Suwalki 22.88 99 P **P 21 39 16.1 -2.2**
SUW IAmb IAmb 21 39 22.6
comp=Z,67nm,1.1s
DAVA Damuels 22.90 126 *e*P **P 21 39 19.1 +0.4**
comp=Z,30nm,1.4s,SNR=11
GEC2 GERESS Array S 22.97 119 *e*P **P 21 39 19.5 +0.1**
GEC2 GERESS Array S 22.97 119 P **P 21 39 18.8 -0.6**
GEC2 IAmb IAmb 21 39 40.2
comp=Z,86nm,1.6s
GERES GERESS Array B 22.97 119 P **P 21 39 19.0 -0.4**
comp=Z,8.2nm,1.1s,baz=324,slow=6.6,SNR=40
GERES LR LR 21 48 46.3
comp=Z,1μm,19.9s,baz=329,slow=38

GERES GERESS Array B 22.97 119 P **P 21 39 18.2 -1.2**
GERES GERESS Array B 22.97 119 P **P 21 39 18.1 -1.2**
SSB Saint Sauveur 22.98 137 P **P 21 39 17.6 -1.8**
SSB pmax pmax
comp=Z,59nm,1.5s
SSB Saint Sauveur 22.98 137 P **P 21 39 17.6 -1.8**
IZAR Zarasai 23.02 92 *e*P **P 21 39 19.1 -0.7**
RETA Reutte 23.04 125 *e*P **P 21 39 20.1 0.0**
comp=Z,49nm,1.8s,SNR=15
ISAL Salakas 23.09 93 *e*P **P 21 39 20.8 +0.3**
KRLC Kraliky 23.17 113 *e*P **P 21 39 20.5 -0.9**
KRLC *e*S **S 21 43 33.7 +0.2**
KRLC AMS AMS 21 49 10.0
comp=Z,900nm,14.1s
KRLC Kraliky 23.17 113 *e*P **P 21 39 20.5 -0.9**
KRLC *e*S **S 21 43 33.7 +0.2**
KRLC MLR MLR
comp=Z,900nm,14.1s
IIGN Ignalina 23.27 93 *e*P **P 21 39 22.1 -0.2**
MOTA Moosalm 23.28 125 *e*P **P 21 39 22.4 -0.2**
comp=Z,30nm,1.5s,SNR=20
TREC Trest 23.29 116 *e*P **P 21 39 24.4 +1.8**
TREC *e*S **S 21 43 35.9 +0.5**
TREC AMS AMS 21 49 00.0
comp=Z,1μm,18.4s
TREC Trest 23.29 116 *e*P **P 21 39 24.4 +1.8**
TREC *e*S **S 21 43 35.9 +0.5**
TREC MLR MLR
comp=Z,1μm,18.4s
TMCR Tamitsa 23.32 66 *e*P **P 21 39 21.6 -1.1**
TMCR Tamitsa 23.32 66 *e*P **P 21 39 21.8 -0.9**
TMCR pmax pmax
comp=Z,89nm,1.5s
DAVOX Davos/Dischmat 23.34 127 P **P 21 39 21.9 -1.4**
comp=Z,8.6nm,1.1s,baz=332,slow=11,SNR=11
DAVOX LR LR 21 49 15.0
comp=Z,661nm,18.4s,baz=332,slow=39
PGAV Gavieira, Arco 23.39 162 *e*S **S 21 43 44.3 +7.0**
SQTA Sankt Quirin 23.42 125 *e*P **P 21 39 23.9 -0.2**
comp=Z,20nm,1.1s,SNR=12
FETA Feichten 23.43 126 *e*pP **P 21 39 24.4 +0.3**
comp=Z,40nm,1.5s
TUE Stuetta 23.43 128 P **P 21 39 23.1 -1.1**
TUE IAmb IAmb 21 39 29.9
comp=Z,97nm,1.6s
BEL Belsk 23.45 105 *e*P **P 21 39 23.9 -0.2**
BEL *e*S **S 21 43 42.7 +4.8**
WATA Walderalm 23.45 124 *e*P **P 21 39 23.8 -0.6**
comp=Z,36nm,1.4s,SNR=16
IDID Didziasalis 23.52 93 *e*P **P 21 39 24.7 -0.1**
WTTA Wattenberg 23.54 124 *e*P **P 21 39 25.1 -0.2**
comp=Z,37nm,1.5s,SNR=14
RJOB Jochberg 23.56 122 *e*P **P 21 39 24.8 -0.5**
FUORN Ofenpass-Fuorn 23.61 127 P **P 21 39 25.2 -0.9**
FUORN IAmb IAmb 21 39 51.8
comp=Z,80nm,1.6s
EUNU Eureka 23.63 336 P **P 21 39 27.1 +1.3**
VRAC Vranov 23.71 114 P **P 21 39 25.2 -1.5**
comp=Z,5.2nm,0.9s,baz=327,slow=10,SNR=26
VRAC LR LR 21 50 17.7
comp=Z,853nm,18.0s,baz=334,slow=41
VRAC Vranov 23.71 114 ⇑P **P 21 39 28.7 +2.0**
VRAC Vranov 23.71 114 ⇓*i*P **P 21 39 26.3 -0.4**
VRAC *e*S **S 21 43 49.8 +7.7**
VRAC Vranov 23.71 114 ⇑P **P 21 39 28.7 +2.0**
MORC Moravsky Berou 23.71 112 ⇑P **P 21 39 28.6 +1.8**
MORC Moravsky Berou 23.71 112 ⇓*i*P **P 21 39 26.0 -0.8**
MORC *e*S **S 21 43 46.9 +4.7**
MORC Moravsky Berou 23.71 112 ⇑P **P 21 39 28.6 +1.8**
MORC Moravsky Berou 23.71 112 P **P 21 39 26.1 -0.8**
MORC IAmb IAmb 21 39 49.2
comp=Z,66nm,1.6s
PBRG Braganca 23.76 160 *e*P **P 21 39 30.3 +2.9**
NACGM Naroch 23.81 93 *e*P **P 21 39 28.0 +0.3**
NACGM *e*P **P 21 39 28.0 +0.3**
NACGM *e*PP PnPn 21 40 06.0 +11
NACGM *e*S **S 21 43 40.0 -3.7**
NACGM *e*SSS SSS 21 45 26.0
NACGM *e*LQ LQ 21 48 40.0
NACGM *e*LR LR 21 49 36.0
BNI Bardonecchia 23.82 134 P **P 21 39 26.9 -1.1**
BNI pmax pmax
comp=Z,75nm,1.7s
BNI Bardonecchia 23.82 134 P **P 21 39 26.9 -1.1**
BNI IAmb IAmb 21 40 18.9
comp=Z,74nm,1.7s
KRUC Moravsky 23.83 115 ⇓*i*P **P 21 39 27.0 -0.9**
KRUC *e*S **S 21 43 51.0 +7.0**
MOA Molln 24.01 119 *e*P **P 21 39 28.9 -0.8**
comp=Z,21nm,1.6s
PVRL Vila Real 24.14 162 *e*P **P 21 39 35.2 +4.2**
OJC Ojcow 24.27 109 *e*P **P 21 39 31.2 -0.8**
OJC *e*S **S 21 43 56.1 +5.0**
OJC Ojcow 24.27 109 P **P 21 39 31.4 -0.6**
OJC pmax pmax
comp=Z,76nm,1.7s
OJC Ojcow 24.27 109 P **P 21 39 31.4 -0.6**
OJC IAmb IAmb 21 39 46.5
comp=Z,76nm,1.7s
ABTA Abfaltersbach 24.29 123 *e*pP **P 21 39 32.8 +0.5**
comp=Z,20nm,1.8s,SNR=11
KBA Koelnbreinsper 24.31 122 P **P 21 39 32.8 +0.1**
comp=Z,15nm,1.6s,SNR=12
MVO Moncorvo 24.35 161 *e*P **P 21 39 36.3 +3.4**
MVO *e*S **S 21 43 58.6 +6.0**
JAVC Velka Javorina 24.49 113 ⇓*i*P **P 21 39 34.6 +0.5**
JAVC *e*S **S 21 43 59.1 +4.3**
CONA Conrad Observa 24.54 117 *e*P **P 21 39 34.4 -0.3**
comp=Z,12nm,1.0s,SNR=15
MICGM Minsk 24.56 93 *e*P **P 21 39 31.0 -3.6**
MICGM *e*S **S 21 43 46.0 -10**
MICGM *e*LR LR 21 51 35.0
CTI Castel Tesino 24.59 125 P **P 21 39 34.7 -0.4**
CTI pmax pmax
comp=Z,153nm,1.7s
CTI Castel Tesino 24.59 125 P **P 21 39 34.7 -0.4**
ZOU Zoufplan 24.62 123 P **P 21 39 34.9 -0.5**
CIMO Cimolais 24.64 124 P **P 21 39 34.7 -0.7**
CIMO IAmb IAmb 21 40 02.3
comp=Z,57nm,1.6s
PVIS Viseu 24.67 162 *e*P **P 21 39 35.4 -0.4**
SMOL Smolenice 24.67 114 *e*P **P 21 39 35.6 -0.1**
SMOL pmax pmax
comp=Z,67nm,2.0s
SMOL Smolenice 24.67 114 *e*P **P 21 39 35.6 -0.1**
MODS Modra-Piesok 24.73 115 *e*P **P 21 39 35.3 -0.9**
MODS pmax pmax
comp=Z,229nm,2.4s
MODS Modra-Piesok 24.73 115 *e*P **P 21 39 35.3 -0.9**
MODS Modra-Piesok 24.73 115 *e*S **S 21 44 07.6 +9.1**
MYKA Terra Mystica 24.80 122 *e*P **P 21 39 37.2 +0.3**
comp=Z,17nm,1.4s,SNR=8.6
PRED Cave del Predi 24.93 122 P **P 21 39 37.5 -0.6**
PRED IAmb IAmb 21 39 47.1
comp=Z,60nm,1.5s
LANS Liptovska Anna 24.97 111 *e*P **P 21 39 38.4 0.0**
LANS pmax pmax
comp=Z,7.0nm,0.9s
LANS Liptovska Anna 24.97 111 *e*P **P 21 39 38.4 0.0**
ARSA Arzberg 24.98 118 *e*P **P 21 39 38.4 -0.1**
comp=Z,11nm,1.0s,SNR=8.3
NIE Niedzica 25.10 109 *e*P **P 21 39 38.5 -1.1**
NIE *e*S **S 21 44 09.1 +4.6**
TEOL Teolo 25.19 126 P **P 21 39 39.0 -1.4**
OBKA Obir 25.23 121 *e*P **P 21 39 40.4 -0.5**
comp=Z,27nm,1.6s,SNR=5.9
VYHS Vyhne 25.24 113 *e*P **P 21 39 41.0 +0.1**
VYHS pmax pmax
comp=Z,87nm,1.6s
VYHS Vyhne 25.24 113 *e*P **P 21 39 41.0 +0.1**
VYHS *e*S S 21 44 22.4 +16
PRMA PARMA 25.25 129 P **P 21 39 40.1 -0.8**
SOKA Soboth 25.27 120 *es*P sP 21 39 42.8 -0.4
comp=Z,23nm,1.4s,SNR=11
MSSA Maissana 25.39 131 P **P 21 39 41.8 -0.5**
MSSA IAmb IAmb 21 40 03.8
comp=Z,78nm,1.9s
KLMR Klimovskoe 25.58 72 *e*P **P 21 39 42.2 -1.6**
comp=Z,56nm,1.5s
KLMR *e*PcP **PcP 21 43 14.8 +0.4**
KLMR *e*S **S 21 44 10.2 -1.7**
KLMR LQ LQ 21 46 25.3
KLMR LR LR 21 47 45.9
KLMR Klimovskoe 25.58 72 *e*P **P 21 39 42.2 -1.6**

KLMR *e* 21 43 14.7
KLMR *e*S **S 21 44 10.2 -1.7**
KLMR pmax pmax
comp=Z,56nm,1.5s
KLMR Klimovskoe 25.58 72 *e*P **P 21 39 42.3 -1.5**
KLMR AMP 21 39 47.3
comp=Z,56nm,1.5s
KLMR *e*PcP **PcP 21 43 14.7 +0.4**
KLMR *e*S **S 21 44 10.3 -1.6**
KLMR *e*S **S 21 44 10.3 -1.6**
KLMR LQ LQ 21 46 25.6
KLMR LQ LQ 21 46 25.6
KLMR LR LR 21 47 46.2
PCBR Castelo Branco 25.59 162 *e*P **P 21 39 47.5 +3.5**
SRO Srobarova 25.59 114 *e*P **P 21 39 44.4 +0.5**
SRO pmax pmax
comp=Z,51nm,1.4s
SRO Srobarova 25.59 114 *e*P **P 21 39 44.4 +0.5**
SRO2 Moca 25.66 114 *e*P **P 21 39 45.0 +0.4**
SRO2 pmax pmax
comp=Z,35nm,1.4s
SRO2 Moca 25.66 114 *e*P **P 21 39 45.0 +0.4**
VLC Villacollemand 25.81 129 P **P 21 39 46.2 +0.1**
ZCCA Zocca 25.84 128 P **P 21 39 47.0 +0.7**
ZCCA IAmb IAmb 21 40 05.0
comp=Z,84nm,1.5s
KECS Kecovo 25.91 110 *e*P **P 21 39 47.3 +0.4**
KECS pmax pmax
comp=Z,11nm,1.2s
KECS Kecovo 25.91 110 *e*P **P 21 39 47.3 +0.4**
KWP Kalwaria Pacla 25.91 106 *e*P **P 21 39 48.0 +1.0**
KWP Kalwaria Pacla 25.91 106 P **P 21 39 46.7 -0.3**
KWP pmax pmax
comp=Z,184nm,1.5s
KWP Kalwaria Pacla 25.91 106 P **P 21 39 46.7 -0.3**
LSH Leshukonskoye 25.94 61 *e*P **P 21 39 44.7 -2.3**
comp=Z,40nm,1.1s
LSH *e*S **S 21 44 13.6 -3.8**
CRVS Cervenica-Dubn 25.97 109 *e*P **P 21 39 47.9 +0.4**
CRVS pmax pmax
comp=Z,92nm,1.6s
CRVS Cervenica-Dubn 25.97 109 *e*P **P 21 39 47.9 +0.4**
PMRV Marv??o 26.00 162 *e*P **P 21 39 49.4 +1.6**
SCHQ Schefferville 26.05 271 P **P 21 39 47.5 -0.6**
comp=Z,20nm,0.9s,baz=45,slow=7.9,SNR=13
SCHQ LR LR 21 48 57.3
comp=Z,445nm,19.4s,baz=56,slow=34
SCHQ Schefferville 26.05 271 P **P 21 39 48.1 0.0**
PSZ Piszkesteto 26.13 112 ⇓P **P 21 39 51.0 +2.0**
PSZ Piszkesteto 26.13 112 ⇓P **P 21 39 51.0 +2.0**
PSZ Piszkesteto 26.13 112 P **P 21 39 48.9 -0.1**
DRLN Deer Lake 26.14 253 P **P 21 39 49.6 +0.7**
DRLN IAmb IAmb 21 39 54.4
comp=Z,52nm,1.2s
PMTG Montargil 26.25 164 *e*P **P 21 39 53.0 +3.0**
KOLS Kolonicke sedl 26.28 108 *e*P **P 21 39 49.9 -0.4**
KOLS pmax pmax
comp=Z,65nm,1.7s
KOLS Kolonicke sedl 26.28 108 *e*P **P 21 39 49.9 -0.4**
ESBB Sonseca Array 26.29 156 P **P 21 39 50.4 0.0**
ESDC Sonseca Array 26.29 156 P **P 21 39 49.8 -0.7**
comp=Z,6.2nm,0.9s,baz=347,slow=9.1,SNR=17
ESDC LR LR 21 49 33.3
comp=Z,310nm,18.3s,baz=0.0,slow=35
ESDC Sonseca Array 26.29 156 P **P 21 39 49.5 -1.0**
LVV L'vov 26.32 104 *e*P **P 21 39 50.4 -0.2**
LVV *e* 21 40 30.7
LVV *e*S **S 21 44 22.5 -1.2**
LVV pmax pmax
comp=Z,200nm,1.8s
LVV smax smax
comp=N,1μm,8.0s
LVV MLR MLR
comp=Z,600nm,14.0s
PAB San Pablo 26.35 157 P **P 21 39 50.6 -0.4**
PAB pmax pmax
comp=Z,96nm,2.0s
PAB San Pablo 26.35 157 P **P 21 39 50.6 -0.4**
PAB IAmb IAmb 21 40 11.4
comp=Z,96nm,2.0s
RES Resolute Bay 26.43 324 LR LR 21 50 23.5
comp=Z,387nm,20.6s,baz=62,slow=36
LIS Lisbon 26.49 165 *e*P **P 21 39 54.2 +2.0**
UZH Uzhgorod 26.53 108 *e*P **P 21 39 51.8 -0.6**
UZH *e* 21 40 34.7
UZH *e*S **S 21 44 20.6 -6.4**
UZH pmax pmax
comp=Z,8.0nm,1.0s
CASP Castiglione de 27.19 130 P **P 21 39 57.3 -1.2**
MURB Monte Urbino 27.32 127 P **P 21 39 59.2 -0.5**
MURB IAmb IAmb 21 40 06.6
comp=Z,47nm,1.3s
PRGR Permogore 27.60 67 *e*P **P 21 40 02.2 +0.2**
comp=Z,133nm,1.4s
PRGR *e*S **S 21 44 45.3 +1.6**
LATE Laterza 27.66 129 P **P 21 40 01.6 -1.2**
AKASG Malin Array Be 27.84 98 P **P 21 40 02.9 -1.3**
comp=Z,0.4nm,0.3s,baz=323,slow=9.4,SNR=17
AKASG LR LR 21 51 10.5
comp=Z,468nm,20.4s,baz=325,slow=37
AKASG Malin Array Be 27.84 98 *ce*P **P 21 40 04.0 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 27.84 98 P **P 21 40 03.5 -0.7**
AKBB pmax pmax
comp=Z,81nm,2.0s
AKBB Malin Array Si 27.84 98 P **P 21 40 03.5 -0.7**
AKBB IAmb IAmb 21 40 08.5
comp=Z,81nm,1.9s
OBN Obninsk 27.87 84 P **P 21 40 04.2 -0.2**
comp=Z,7.4nm,0.4s,baz=235,slow=12,SNR=6.9
OBN LR LR 21 51 36.3
comp=Z,106nm,18.4s,baz=350,slow=37
OBN Obninsk 27.87 84 *c i*P **P 21 40 05.0 +0.6**
OBN *e**PP **sP 21 40 07.4 +1.0**
OBN *e**SP **pP 21 40 10.1 +4.2**
OBN *i* S **S 21 44 51.8 +3.8**
OBN SS **SnSn 21 46 08.0 +7.5**
OBN pmax pmax
comp=Z,96nm,1.7s
OBN MLR MLR
comp=Z,569nm,15.0s
OBN Obninsk 27.87 84 P **P 21 40 04.0 -0.4**
MOS Moscow 27.91 82 *e*P **P 21 40 03.8 -1.0**
MOS *e* 21 40 51.6
MOS *e*PPP PPP 21 41 04.9
MOS *e*S **S 21 44 51.3 +2.7**
MOS *e*SS **SnSn 21 46 08.8 +7.5**
MOS *e* 21 50 53.7
MOS pmax pmax
comp=Z,30nm,0.7s
NRCA Norcia 27.91 127 P **P 21 40 04.8 -0.2**
NRCA IAmb IAmb 21 40 13.5
comp=Z,44nm,1.7s
PVAQ Vaqueiros 27.96 163 *e*S **S 21 44 57.0 +7.3**
SIRR Siria 28.17 112 ⇓P **P 21 40 09.0 +1.7**
BUR08 Bucovina Ar. S 28.50 106 P **P 21 40 09.6 -0.7**
BUR08 IAmb IAmb 21 40 12.6
comp=Z,43nm,1.9s
BURAR Bucovina Array 28.53 106 ⇑P **P 21 40 09.6 -0.9**
BURAR Bucovina Array 28.53 106 ⇑P **P 21 40 09.6 -0.9**
BURAR Bucovina Array 28.53 106 P **P 21 40 10.1 -0.5**
CJR Cluj-Napoca 28.59 109 ⇑P **P 21 40 13.1 +2.1**
CJR Cluj-Napoca 28.59 109 ⇑P **P 21 40 13.1 +2.1**
BZS Buzias 28.69 113 ⇓P **P 21 40 13.8 +1.9**
BZS Buzias 28.69 113 ⇓P **P 21 40 13.8 +1.9**
INTR Introdacqua 28.91 127 P **P 21 40 13.6 -0.3**
DIVS Divibare 29.33 116 P **P 21 40 16.6 -1.0**
MDVR Moldovita 29.42 114 ⇓P **P 21 40 19.6 +1.1**
HERR Herculane 29.62 113 ⇑P **P 21 40 22.1 +2.0**
IAS Iasi 29.84 104 ⇑P **P 21 40 22.4 +0.4**
IAS Iasi 29.84 104 ⇑P **P 21 40 22.4 +0.4**
DOPR Dopca 29.92 108 ⇓P **P 21 40 23.2 +0.4**
TESR Tescani 30.00 106 ⇓P **P 21 40 24.9 +1.4**
PAOL Paolisi 30.00 127 P **P 21 40 22.6 -1.0**
ARR Arges 30.10 110 ⇓P **P 21 40 25.1 +0.6**
VOIR 30.22 109 ⇓P **P 21 40 27.0 +1.5**
VOIR 30.22 109 ⇓P **P 21 40 27.0 +1.5**
PDG Podgorica 30.47 119 ⇓P **P 21 40 28.4 +0.8**
PDG Podgorica 30.47 119 P **P 21 40 27.3 -0.3**
KIS Kishinev 30.52 103 ⇓*i*P **P 21 40 25.8 -2.2**
comp=Z,130nm,3.6s
KIS Kishinev 30.52 103 *e*PP PP 21 41 22.0 -15

KIS Kishinev 30.52 103 *d iP* **P 21 40 25.8 -2.2**
KIS *e* 21 41 22.0
KIS *eS* **S 21 45 21.0 -8.8**
KIS *eS* S 21 45 27.0 -2.8
KIS *eSS* **SnSn 21 47 02.0 -3.1**
KIS pmax pmax
comp=Z,130nm,3.5s
MLR Muntele Rosu 30.54 108 P **P 21 40 28.4 0.0**
MLR pmax pmax
comp=Z,30nm,1.5s
MLR Muntele Rosu 30.54 108 P **P 21 40 28.4 0.0**
MLR IAmb IAmb 21 40 45.1
comp=Z,30nm,1.5s
VRI Vrincioaia 30.55 107 ⇓P **P 21 40 28.7 +0.3**
VRI Vrincioaia 30.55 107 ⇓P **P 21 40 28.7 +0.3**
LPSR Galich'ya Gora 30.62 86 *eP* **P 21 40 28.2 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR MLR MLR
comp=Z,430nm,11.0s
NEHR Nehoiu 30.73 108 ⇑P **P 21 40 31.8 +1.8**
HUMR Humele 30.93 110 ⇓P **P 21 40 32.6 +0.8**
MATE Matera 31.09 124 ⇑P **P 21 40 34.6 +1.5**
BATG Bathurst New B 31.25 260 P **P 21 40 35.1 +0.6**
TIR Tirane 31.63 119 P **P 21 40 37.0 -0.9**
TIR pmax pmax
comp=Z,14nm,0.7s
TIR Tirane 31.63 119 P **P 21 40 37.0 -0.9**
TIR IAmb IAmb 21 40 40.5
comp=Z,14nm,0.7s
CFR Carcaliu 31.69 106 ⇓P **P 21 40 38.8 +0.5**
CFR Carcaliu 31.69 106 ⇓P **P 21 40 38.8 +0.5**
SKO Skopje 31.69 117 *i* P **P 21 40 38.8 +0.4**
VSR Storozhevoye 31.72 88 *eP* **P 21 40 37.7 -0.9**
VSR pmax pmax
comp=Z,30nm,1.9s
VSR MLR MLR
comp=Z,720nm,15.0s
VTS Vitosha 31.84 114 P **P 21 40 38.4 -1.5**
VORD Divnogorie 31.96 88 *eP* **P 21 40 39.4 -1.3**
VORD pmax pmax
comp=Z,20nm,0.5s
OHR Ohrid 32.19 119 *i* P **P 21 40 41.2 -1.7**
D63A Stockholm 32.31 262 P **P 21 40 44.2 +0.4**
baz=38
SZH Strazhica 32.37 110 P **P 21 40 43.0 -1.3**
CORL Corleone 32.41 131 P **P 21 40 44.5 -0.3**
KKB Krupnik 32.42 115 P **P 21 40 44.0 -0.8**
CLTB Caltabellotta 32.66 131 P **P 21 40 46.6 -0.5**
D62A Allapoint, All 32.68 263 P **P 21 40 47.4 +0.4**
baz=39
E64A Bridgewater 32.68 261 P **P 21 40 46.3 -0.7**
baz=38
FNA Florina 32.69 118 P **P 21 40 46.8 -0.5**
FNA pmax pmax
comp=Z,22nm,1.3s
FNA Florina 32.69 118 P **P 21 40 46.8 -0.5**
FNA IAmb IAmb 21 40 48.9
comp=Z,22nm,1.3s
CHGQ Chibougamau 32.79 271 P **P 21 40 47.7 -0.4**
baz=42
VRH Novokhopyorsk 32.83 85 *eP* **P 21 40 48.2 -0.1**
VRH pmax pmax
comp=Z,30nm,1.4s
VRH MLR MLR
comp=Z,550nm,11.0s
MMB Musomiste 32.91 115 P **P 21 40 48.0 -1.1**
E63A Oxbow 32.93 261 P **P 21 40 48.5 -0.7**
baz=38
D61A St Aubert, Com 33.07 264 P **P 21 40 49.7 -0.7**
baz=39
KEST Kesra 33.19 138 P **P 21 40 51.9 +0.2**
comp=Z,7.6nm,1.1s,baz=338,slow=3.9,SNR=8.9
KEST LR LR 21 53 11.2
comp=Z,384nm,19.9s,baz=313,slow=34
KEST Kesra 33.19 138 P **P 21 40 51.9 +0.2**
RZN Rozhen 33.21 113 P **P 21 40 50.3 -1.6**
E62A Clayton Lake 33.24 262 P **P 21 40 52.7 +0.7**
baz=38
F64A Sherman 33.34 260 P **P 21 40 52.4 -0.4**
baz=37
KDZ Kurdzhali 33.52 113 P **P 21 40 52.8 -1.6**
G65A Princeton 33.54 259 P **P 21 40 54.8 +0.2**
baz=37
D60A Saint Jean D'O 33.61 264 P **P 21 40 55.2 +0.1**
baz=39
H66A Whiting 33.77 258 P **P 21 40 57.2 +0.7**
baz=36
F63A Nahmakanta, Br 33.79 261 P **P 21 40 55.8 -0.9**
baz=37
F63A Nahmakanta, Br 33.79 261 P **P 21 40 57.0 +0.3**
F63A IAmb IAmb 21 41 02.9
comp=Z,56nm,1.7s
E61A Lac Etchemin 33.80 263 P **P 21 40 56.9 0.0**
baz=38
G64A Maxfield 34.00 260 P **P 21 40 57.8 -0.8**
baz=37
F62A Pittston Farm, 34.00 262 P **P 21 40 58.2 -0.4**
baz=38
F62A Pittston Farm, 34.00 262 P **P 21 40 59.7 +1.1**
F62A IAmb IAmb 21 41 04.7
comp=Z,50nm,1.4s
LATQ La Tuque 34.04 266 P **P 21 40 59.7 +0.9**
PKME Peaks-Kenny Pk 34.22 261 P **P 21 41 00.8 +0.4**
baz=37
PKME Peaks-Kenny Pk 34.22 261 P **P 21 41 00.9 +0.4**
PKME IAmb IAmb 21 41 05.9
comp=Z,38nm,1.4s
H65A Eastbrook 34.23 259 P **P 21 41 00.5 0.0**
baz=36
E60A Ste Agathe de 34.26 264 P **P 21 41 01.5 +0.8**
baz=38
D58A Chemin du LacG 34.30 266 P **P 21 41 01.4 +0.2**
baz=39
MATQ Matagami 34.31 274 P **P 21 41 00.3 -0.9**
baz=41
F61A St Evariste 34.38 263 P **P 21 41 01.7 -0.2**
baz=38
G63A Kingsbury 34.48 261 P **P 21 41 01.2 -1.5**
baz=37
H64A Troy 34.69 260 P **P 21 41 03.4 -1.1**
baz=36
G62A West of Eustis 34.78 262 P **P 21 41 04.5 -0.8**
baz=37
F60A Warwick 34.79 264 P **P 21 41 04.2 -1.2**
baz=38
D57A Chemin Vers le 34.80 267 P **P 21 41 05.9 +0.4**
baz=39,SNR=7.7
H63A New Sharon 35.02 261 P **P 21 41 06.6 -0.7**
baz=36
E58A La Victoria 35.04 266 P **P 21 41 07.2 -0.3**
baz=38
D56A ZEC Mazanza, M 35.15 268 P **P 21 41 08.0 -0.4**
baz=39
G61A St-Isidore-de- 35.15 263 P **P 21 41 08.4 -0.2**
baz=37
A36M Sachs Harbour 35.17 329 P **P 21 41 06.9 -1.5**
baz=45
F59A Saint Guilaume 35.24 265 P **P 21 41 08.5 -0.8**
baz=38
E57A Chemin Saint G 35.38 267 P **P 21 41 09.9 -0.6**
baz=38,SNR=7.0
MOQ Mont Orford 35.44 264 P **P 21 41 11.4 +0.3**
I64A Boothbay 35.45 260 P **P 21 41 10.6 -0.4**
baz=36
D55A Sainte-Anne-du 35.48 269 P **P 21 41 10.9 -0.4**
baz=39
VLDQ Val d'Or 35.48 272 P **P 21 41 13.0 +1.7**
VLDQ IAmb IAmb 21 41 17.9
comp=Z,42nm,1.4s
H62A Milan 35.56 262 P **P 21 41 12.4 +0.3**
baz=37
G60A Masonville 35.65 264 P **P 21 41 13.1 +0.3**
baz=37
E56A St. Veronique 35.66 268 P **P 21 41 12.9 0.0**
baz=38
TRQ Mont Tremblant 35.71 267 P **P 21 41 14.3 +1.0**
I63A Otisfield 35.74 261 P **P 21 41 13.2 -0.4**
baz=36
ANN Anapa 35.91 97 *eP* **P 21 41 14.4 -0.6**
ANN pmax pmax
comp=Z,78nm,1.6s
ANN MLR MLR
comp=Z,637nm,15.0s
H61A Lyndonville 35.92 263 P **P 21 41 16.0 +0.9**
baz=37

G59A Clarenceville 36.02 264 P **P 21 41 17.0 +1.1**
baz=37
ITM Ithomi 36.05 121 P **P 21 41 15.2 -1.2**
ITM IAmb IAmb 21 41 18.3
comp=Z,48nm,1.5s
ARU Arti 36.06 66 *d iP* **P 21 41 16.6 +0.4**
ARU 21 42 37.5
ARU PPP PPP 21 42 52.9
ARU 21 43 41.0
ARU S **S 21 46 57.8 +2.3**
ARU SS **SnSn 21 49 21.3 +2.0**
ARU pmax pmax
comp=Z,27nm,1.7s
ARU MLR MLR
comp=Z,956nm,20.0s
ARU Arti 36.06 66 P **P 21 41 16.6 +0.4**
ARU IAmb IAmb 21 41 32.5
comp=Z,34nm,1.6s
LBNH Lisbon 36.16 262 P **P 21 41 18.6 +1.4**
baz=36
I62A Tamworth 36.20 261 P **P 21 41 17.8 +0.3**
baz=36
H60A Morristown 36.23 263 P **P 21 41 17.2 -0.6**
baz=37
G58A Ormstown 36.34 265 P **P 21 41 17.6 -1.1**
baz=37
FRNY Flat Rock 36.39 265 P **P 21 41 19.3 +0.1**
FRNY IAmb IAmb 21 41 25.7
comp=Z,49nm,1.4s
NRIK Noril'sk 36.42 35 P **P 21 41 20.1 +1.0**
comp=Z,6.9nm,1.0s,baz=325,slow=5.7,SNR=12
NRIK LR LR 21 58 05.4
comp=Z,254nm,18.1s,baz=14,slow=39
I61A Oroboro, Fairl 36.53 262 P **P 21 41 20.6 +0.3**
baz=36
J63A Strafford 36.58 261 P **P 21 41 20.7 0.0**
baz=36
SVE Sverdlovsk 36.59 64 *eP* **P 21 41 20.9 +0.2**
SVE *eS* **S 21 47 08.7 +5.1**
SVE pmax pmax
comp=Z,26nm,2.0s
SVE MLR MLR
comp=Z,873nm,20.0s
H59A Cadyville 36.59 264 P **P 21 41 20.7 -0.1**
baz=37
ORIO Orleans, Innes 36.72 267 P **P 21 41 22.3 +0.3**
baz=38
ORIO Orleans, Innes 36.72 267 P **P 21 41 22.6 +0.6**
G57A Newington 36.77 266 P **P 21 41 22.6 +0.2**
baz=37,SNR=7.0
C36M Paulatuk 36.79 325 P **P 21 41 21.6 -0.7**
baz=43
J62A Henniker 36.93 261 P **P 21 41 23.7 0.0**
baz=36
H58A Gabriels 36.98 265 P **P 21 41 24.1 -0.1**
baz=37
LONY Lake Ozonia 36.99 265 P **P 21 41 24.5 +0.2**
baz=37
I60A Shoreham 37.06 263 P **P 21 41 25.9 +1.0**
baz=36
J61A Chester 37.15 262 P **P 21 41 26.1 +0.5**
baz=36
K63A Dunstable 37.25 260 P **P 21 41 26.8 +0.3**
baz=35
I59A Olmsteadville 37.35 264 P **P 21 41 27.1 -0.2**
baz=36
G55A Calabogie 37.40 268 P **P 21 41 27.7 0.0**
baz=38
ILGA Ilgaz 37.40 104 P **P 21 41 27.5 -0.6**
ILGA IAmb IAmb 21 41 45.5
comp=Z,38nm,1.4s
HRV Adam Dziewonsk 37.41 260 P **P 21 41 28.0 +0.2**
baz=35
ALGO Algonquin Park 37.42 270 P **P 21 41 26.9 -0.9**
baz=38
H57A Richville 37.46 266 P **P 21 41 27.4 -0.8**
baz=37
MANT Manisa 37.47 112 P **P 21 41 28.6 0.0**
K62A Royalston 37.57 261 P **P 21 41 29.1 -0.1**
baz=35
L64A Middleborough 37.58 259 P **P 21 41 29.6 +0.4**
baz=34
J60A Lant Hill Farm 37.60 263 P **P 21 41 29.4 -0.1**
baz=36
H56A Elgin 37.73 267 P **P 21 41 30.4 -0.1**
baz=37
SOC Sochi 37.86 96 *eP* **P 21 41 31.9 +0.2**
SOC *e* 21 42 54.5
SOC *eS* **S 21 47 25.2 +1.9**
SOC pmax pmax
comp=Z,21nm,0.9s
SOC MLR MLR
comp=Z,430nm,16.0s
G54A Lake Saint Pet 37.87 269 P **P 21 41 31.3 -0.5**
baz=38
J59A Piesco 37.88 264 P **P 21 41 32.1 +0.2**
baz=36
I58A Old Forge 37.90 265 P **P 21 41 31.9 -0.2**
baz=36
L63A North Scituate 37.96 260 P **P 21 41 32.1 -0.4**
baz=34
I57A Carthage 38.00 266 P **P 21 41 31.7 -1.1**
baz=36
K61A Williamstown 38.00 262 P **P 21 41 33.1 +0.2**
baz=35
M64A Tiverton 38.05 259 P **P 21 41 32.4 -0.8**
baz=34
GOF Gofitskoye 38.11 91 ⇑ *iP* **P 21 41 35.0 +1.3**
GOF pmax pmax
comp=Z,103nm,1.3s
H55A Tweed 38.16 268 P **P 21 41 34.4 +0.3**
baz=37
J58A Remsen 38.30 265 P **P 21 41 35.2 -0.3**
baz=36
K60A Five Rivers En 38.31 263 P **P 21 41 35.3 -0.1**
baz=35
BR131 Keskin Array S 38.48 105 P **P 21 41 37.3 +0.2**
BR131 pmax pmax
comp=Z,28nm,1.7s
BR131 Keskin Array S 38.48 105 P **P 21 41 37.3 +0.2**
BRTR Keskin Array B 38.48 105 P **P 21 41 36.9 -0.3**
comp=Z,2.2nm,0.8s,baz=350,slow=6.6,SNR=8.0
BRTR LR LR 21 58 44.8
comp=Z,96nm,20.1s,baz=284,slow=38
BRTR Keskin Array B 38.48 105 *i* P **P 21 41 39.5 +2.4**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 38.48 105 P **P 21 41 36.7 -0.4**
L61A Hillsdale 1, H 38.52 262 P **P 21 41 37.3 +0.1**
baz=35
M63A Gales Ferry 38.53 260 P **P 21 41 36.4 -0.8**
baz=34
J57A Williamstown 38.57 265 P **P 21 41 37.7 +0.1**
baz=36
K59A Cooperstown 38.59 264 P **P 21 41 38.0 +0.1**
baz=36
I55A Frankford 38.64 268 P **P 21 41 38.1 -0.1**
baz=37
H53A Bobcaygeon 38.74 269 P **P 21 41 38.6 -0.5**
baz=37
SADO Sadowa 38.83 270 P **P 21 41 39.6 -0.1**
comp=Z,8.8nm,0.8s,baz=18,slow=6.4,SNR=4.1
KIV Kislovodsk 38.84 92 *eP* **P 21 41 41.4 +1.4**
KIV *e* 21 43 10.6
KIV *eS* **S 21 47 39.5 +1.3**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,988nm,16.0s
KIV Kislovodsk 38.84 92 P **P 21 41 40.8 +0.9**
KIV IAmb IAmb 21 41 57.5
comp=Z,55nm,1.8s
M62A Hamden 38.85 261 P **P 21 41 40.3 +0.3**
baz=34
K58A Earlville 38.94 265 P **P 21 41 40.5 -0.3**
baz=36
L60A Shokan 38.97 262 P **P 21 41 41.1 +0.1**
baz=35
J56A Wolcott 39.05 266 P **P 21 41 42.2 +0.6**
baz=36
KBZ Khabaz 39.11 93 P **P 21 41 42.5 +0.4**
comp=Z,5.8nm,0.9s,baz=308,slow=10.0,SNR=14
KBZ LR LR 21 57 59.7
comp=Z,597nm,21.7s,baz=328,slow=36
L59A Walton 39.15 263 P **P 21 41 41.7 -0.8**
baz=35
YKA Yellowknife Ar 39.19 313 P **P 21 41 43.3 +0.8**

comp=Z,5.4nm,1.0s,baz=39,slow=9.0,SNR=5.2
YKA LR LR 21 57 30.2
comp=Z,428nm,18.6s,baz=0.0,slow=36
M61A Granite Spring 39.33 261 P **P 21 41 43.4 -0.6**
baz=34
K57A Scipio Center 39.34 265 P **P 21 41 43.5 -0.6**
baz=36
J55A Hilton 39.46 267 P **P 21 41 44.5 -0.6**
baz=36
ELL Elmali 39.51 112 P **P 21 41 45.7 0.0**
ELL pmax pmax
comp=Z,277nm,1.9s
ELL Elmali 39.51 112 P **P 21 41 45.7 0.0**
N62A Caumsett State 39.52 261 P **P 21 41 45.2 -0.4**
baz=34
BINY Binghamton 39.55 264 P **P 21 41 45.7 -0.2**
baz=35
L58A Harry Jones Me 39.62 264 P **P 21 41 47.0 +0.6**
baz=35
PAL Palisades 39.64 261 P **P 21 41 46.2 -0.4**
baz=34
M60A Port Jervis 39.68 262 P **P 21 41 47.2 +0.2**
baz=34
K56A Middlesex 39.71 266 P **P 21 41 46.7 -0.6**
baz=36
E46A Sault Ste Mari 39.77 276 P **P 21 41 48.4 +0.7**
E46A IAmb IAmb 21 41 51.7
comp=Z,33nm,1.1s
J54A Appleton 39.81 268 P **P 21 41 47.6 -0.4**
baz=36
M59A Waymart 39.85 263 P **P 21 41 47.5 -0.9**
baz=35
K55A Perry 40.01 267 P **P 21 41 49.0 -0.6**
baz=36
L57A Andrews Acres 40.08 265 P **P 21 41 49.4 -0.9**
baz=35
N60A Cedar Hill Far 40.26 262 P **P 21 41 51.0 -0.8**
baz=34
AKTO Aktyubinsk 40.27 73 P **P 21 41 50.9 -0.8**
comp=Z,5.6nm,1.1s,baz=323,slow=8.9,SNR=21
L56A Greenwood 40.27 266 P **P 21 41 51.7 -0.2**
baz=35
ZEI Tsey 40.30 92 *eP* **P 21 41 53.4 +1.1**
ZEI pmax pmax
comp=Z,20nm,1.8s
K54A Basiliko Farm, 40.37 267 P **P 21 41 52.0 -0.6**
baz=36
I51A Listowel 40.41 270 P **P 21 41 52.4 -0.5**
baz=36
M58A Price's Panora 40.43 264 P **P 21 41 52.7 -0.5**
baz=35
WVNY West Valley, N 40.50 267 P **P 21 41 54.7 +1.0**
WVNY IAmb IAmb 21 42 00.5
comp=Z,84nm,1.4s
N59A State Game Lan 40.51 263 P **P 21 41 53.0 -0.8**
baz=34
L55A Hinsdale 40.61 267 P **P 21 41 53.4 -1.3**
baz=35
M57A Sunshine Farm, 40.74 265 P **P 21 41 55.5 -0.3**
baz=35
ARTV Artvin 40.77 96 P **P 21 41 56.4 +0.2**
GROC Groznyy 40.78 90 *eP* **P 21 41 55.9 -0.1**
GROC *e* 21 43 28.8
GROC *e* 21 43 55.4
GROC *eS* **S 21 48 04.6 -2.4**
GROC pmax pmax
comp=Z,44nm,1.5s
O60A Telford 40.85 262 P **P 21 41 55.8 -0.8**
baz=34
L54A Sinclairville 40.95 267 P **P 21 41 56.1 -1.3**
baz=35
N58A Sunbury 40.98 264 P **P 21 41 57.4 -0.2**
baz=34
I49A Point Hope 41.07 272 P **P 21 41 59.6 +1.2**
M56A Emporium 41.07 266 P **P 21 41 58.7 +0.2**
baz=35
KOPT Kop Dagi 41.12 98 P **P 21 41 59.4 +0.1**
KOPT IAmb IAmb 21 42 18.2
comp=Z,81nm,1.8s
O59A Robesonia 41.19 263 P **P 21 41 58.9 -0.5**
baz=34
AKH Akhalkalaki 41.25 94 P **P 21 42 00.9 +0.7**
AKH pmax pmax
comp=Z,47nm,1.5s
AKH Akhalkalaki 41.25 94 P **P 21 42 00.9 +0.7**
AKH IAmb IAmb 21 42 03.9
comp=Z,47nm,1.5s
ERPA Erie 41.33 268 P **P 21 42 01.5 +0.9**
baz=35
M55A Ridgway 41.34 266 P **P 21 42 00.7 +0.1**
baz=35
M55A Ridgway 41.34 266 P **P 21 42 01.3 +0.6**
P60A Greenville 41.37 262 P **P 21 42 00.4 -0.5**
baz=34
N57A Milroy 41.40 265 P **P 21 42 01.3 +0.1**
baz=34
EYMN Ely 41.58 283 P **P 21 42 01.9 -0.7**
baz=38
L53A Girard 41.58 268 P **P 21 42 02.5 -0.2**
baz=35
N56A West Decatur 41.59 265 P **P 21 42 03.0 +0.2**
baz=34
ULM Lac du Bonnet 41.59 289 LR LR 21 57 38.2
comp=Z,147nm,21.7s,baz=31,slow=34
ULM Lac du Bonnet 41.59 289 P **P 21 42 03.9 +1.2**
ULM pmax pmax
comp=Z,38nm,1.7s
ULM Lac du Bonnet 41.59 289 P **P 21 42 03.9 +1.2**
SSPA Standing Stone 41.65 265 P **P 21 42 02.9 -0.3**
baz=34
SSPA Standing Stone 41.65 265 P **P 21 42 04.4 +1.3**
O58A Lewisberry 41.66 263 P **P 21 42 02.8 -0.5**
baz=34
M54A Oil Creek Stat 41.69 267 P **P 21 42 03.1 -0.5**
baz=35,SNR=7.4
MAK Makhachkala 41.71 89 *eP* **P 21 42 00.0 -3.6**
MAK *e* 21 43 36.6
MAK *eS* **S 21 48 16.4 -4.4**
MAK *eSS* **SS 21 51 18.9 -6.8**
MAK pmax pmax
comp=Z,70nm,0.9s
MAK MLR MLR
comp=Z,395nm,16.0s
P59A Jarrettsville 41.88 263 P **P 21 42 04.9 -0.1**
baz=34
O57A Amberson 41.89 264 P **P 21 42 04.7 -0.5**
baz=34
K50A Casco 41.93 271 P **P 21 42 06.2 +0.7**
K50A IAmb IAmb 21 42 12.4
comp=Z,68nm,1.3s
ABKAR Akbulak array 41.97 73 P **P 21 42 05.5 -0.2**
TIXI Tiksi 41.99 15 P **P 21 42 06.8 +1.2**
TIXI pmax pmax
comp=Z,52nm,1.3s
TIXI Tiksi 41.99 15 P **P 21 42 06.8 +1.2**
TIXI IAmb IAmb 21 42 09.5
comp=Z,52nm,1.3s
N55A Marion Center 42.00 266 P **P 21 42 05.4 -0.7**
baz=34
EPYK Eagle Plains 42.11 328 P **P 21 42 05.1 -1.6**
baz=34
GAZ Gaziantep 42.13 104 P **P 21 42 07.5 +0.2**
M53A WI Miller and 42.18 268 P **P 21 42 07.1 -0.5**
baz=35
O56A Blue Knob Stat 42.24 265 P **P 21 42 08.3 +0.2**
baz=34
N54A Moraine State 42.28 267 P **P 21 42 08.8 +0.4**
baz=34,SNR=6.0
P58A Pank, Wackersv 42.35 263 P **P 21 42 08.6 -0.2**
baz=34
M52A Chesterland 42.39 269 P **P 21 42 09.4 +0.2**
baz=35
Q59A Harwood 42.59 262 P **P 21 42 11.1 +0.3**
baz=33
O55A Ligonier 42.61 266 P **P 21 42 10.9 -0.2**
baz=34
TOLK Toolik Lake Re 42.71 336 P **P 21 42 13.6 +2.0**
baz=28,SNR=13
TOLK Toolik Lake Re 42.71 336 P **P 21 42 13.3 +1.7**
N53A Lisbon 42.77 268 P **P 21 42 12.2 -0.2**
baz=34
N53A Lisbon 42.77 268 P **P 21 42 12.9 +0.6**
BMAR Burnt Mountain 42.86 333 P **P 21 42 12.8 0.0**
M51A Elyria 42.91 269 P **P 21 42 13.4 -0.1**
baz=35
Q58A Fox Den Farm, 42.97 263 P **P 21 42 14.2 +0.2**
baz=33

P56A Dayton Farm, R 42.99 265 P **P** **21 42 13.6 -0.5**
baz=34
R60A Leonardtown, M 43.06 262 P **P** **21 42 14.8 +0.1**
baz=33
O54A Avella 43.09 267 P **P** **21 42 15.2 +0.3**
baz=34,SNR=12
BRVK Borovoye 43.10 62 P **P** **21 42 14.7 -0.2**
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 43.10 62 P **P** **21 42 14.7 -0.2**
Q57A Strasburg 43.20 264 P **P** **21 42 15.7 -0.1**
baz=33
M50A Fremont 43.23 270 P **P** **21 42 16.3 +0.3**
MCWV Mont Chateau 43.29 266 P **P** **21 42 16.3 -0.3**
baz=34
N51A Ashland 43.34 269 P **P** **21 42 16.8 -0.1**
baz=34
N51A Ashland 43.34 269 P **P** **21 42 16.7 -0.2**
R59A King George, V 43.35 262 P **P** **21 42 16.5 -0.5**
baz=33
O53A New Philadelph 43.39 268 P **P** **21 42 17.6 +0.2**
baz=34
P55A Reedsville 43.41 266 P **P** **21 42 18.7 +1.1**
baz=34,SNR=6.0
CBN Corbin Frederi 43.45 262 P **P** **21 42 18.3 +0.5**
baz=33
MARD Mardin 43.51 100 P **P** **21 42 19.2 +0.7**
MARD IAmb IAmb 21 42 22.5
comp=Z,37nm,1.3s
Q56A Snyder Ridge, 43.53 265 P **P** **21 42 18.4 -0.1**
baz=33
S60A Water View 43.57 261 P **P** **21 42 18.9 +0.1**
baz=32
P54A Burton 43.61 266 P **P** **21 42 19.7 +0.6**
baz=34
GEVA Gevas 43.64 97 P **P** **21 42 19.7 +0.1**
R58A Rapidan 43.64 263 P **P** **21 42 20.0 +0.6**
baz=33
O52A Adamsville 43.77 268 P **P** **21 42 21.0 +0.6**
baz=34
S59A Mechanicsville 43.79 262 P **P** **21 42 21.6 +1.0**
baz=32
R57A Stanardsville 43.87 263 P **P** **21 42 20.7 -0.5**
baz=33
R58B Mineral 43.87 263 P **P** **21 42 20.6 -0.6**
baz=33
Q55A Buckhannon 43.95 265 P **P** **21 42 21.3 -0.6**
baz=33
O51A Pataskala 44.07 269 P **P** **21 42 22.7 -0.1**
baz=34,SNR=5.7
T60A Surry 44.08 261 P **P** **21 42 22.4 -0.5**
baz=32
COLD Coldfoot 44.08 336 P **P** **21 42 21.9 -0.7**
baz=27
F36A Milaca 44.08 283 P **P** **21 42 23.5 +0.7**
F36A IAmb IAmb 21 42 29.6
comp=Z,50nm,1.6s
P53A Whipple 44.10 267 P **P** **21 42 22.9 -0.2**
baz=34
R56A Bull Pasture M 44.15 264 P **P** **21 42 23.0 -0.6**
baz=33
ACSO Alum Creek Sta 44.16 269 P **P** **21 42 23.4 -0.2**
baz=34
S58A Poland Farm, P 44.24 262 P **P** **21 42 23.1 -1.1**
baz=32
Q54A Coxs Mills 44.28 266 P **P** **21 42 24.4 -0.2**
baz=33
SPMN Marine on St. 44.29 282 P **P** **21 42 25.5 +1.0**
SPMN IAmb IAmb 21 42 31.5
comp=Z,49nm,1.4s
P52A Corning 44.30 268 P **P** **21 42 24.5 -0.2**
baz=34
K43A Burlington 44.43 276 P **P** **21 42 26.1 +0.4**
EGAK Eagle 44.45 329 P **P** **21 42 26.1 +0.6**
S57A Dark Hollow, R 44.50 263 P **P** **21 42 25.8 -0.5**
baz=33
TAM Tamanrasset 44.55 149 P **P** **21 42 27.0 +0.1**
TAM pmax pmax
comp=Z,15nm,1.4s
TAM Tamanrasset 44.55 149 P **P** **21 42 27.0 +0.1**
R55A Marlinton 44.56 265 P **P** **21 42 25.1 -1.8**
baz=33
T59A Double "B" Far 44.57 262 P **P** **21 42 26.1 -0.8**
baz=32
L44A Lake County Fo 44.68 275 P **P** **21 42 27.5 -0.2**
baz=35
Q53A Leroy 44.68 267 P **P** **21 42 28.3 +0.6**
baz=33
P51A Williamsport 44.82 269 P **P** **21 42 28.7 -0.2**
baz=34
U60A Pendleton 44.83 261 P **P** **21 42 28.8 -0.1**
baz=32
Q52A Bidwell 44.91 267 P **P** **21 42 29.8 +0.2**
baz=33
MDND Maddock 45.00 289 P **P** **21 42 29.5 -0.7**
baz=37
T58A Grand View Acr 45.01 262 P **P** **21 42 29.5 -0.9**
baz=32
R54A Victor 45.02 266 P **P** **21 42 29.8 -0.6**
baz=33
JFWS Jewell Farm 45.08 278 P **P** **21 42 29.5 -1.3**
baz=35
S55A Lewisburg 45.15 265 P **P** **21 42 30.9 -0.7**
baz=33
V61A Roper 45.16 260 P **P** **21 42 31.4 -0.1**
baz=31
U59A Littleton 45.20 261 P **P** **21 42 31.0 -0.8**
baz=32
T57A Hurt 45.27 263 P **P** **21 42 31.6 -0.9**
baz=32
R53A Hurricane 45.30 267 P **P** **21 42 32.9 +0.2**
baz=33
POKR Poker Plat Res 45.45 333 P **P** **21 42 33.4 -0.1**
baz=27
V60A Jim Taylor Roa 45.47 260 P **P** **21 42 32.1 -1.9**
baz=31
S54A Dingess, Beckl 45.47 266 P **P** **21 42 31.3 -2.8**
baz=33
U58A Oxford 45.48 262 P **P** **21 42 33.6 -0.5**
baz=32
P49A Miami Univ. Ec 45.49 270 P **P** **21 42 32.9 -1.3**
baz=34
T56A Rocky Mt 45.58 264 P **P** **21 42 35.1 +0.2**
baz=32
BLA Blacksburg 45.59 264 P **P** **21 42 34.1 -0.9**
baz=32
ILAR Eielson Array 45.65 332 P **P** **21 42 36.3 +1.2**
comp=Z,7.3nm,1.0s,baz=24,slow=5.3,SNR=38
ILAR PcP **PcP** **21 44 12.9 -0.1**
comp=Z,4.3nm,1.0s,baz=358,slow=3.2,SNR=13
ILAR LR LR 22 03 50.8
comp=Z,251nm,19.3s,baz=5.0,slow=39
ILAR Eielson Array 45.65 332 P **P** **21 42 35.9 +0.8**
MDM Murphy Dome 45.74 333 P **P** **21 42 37.1 +1.1**
MDM IAmb IAmb 21 42 40.8
comp=Z,21nm,1.1s
COLA College 45.75 333 *i* P **P** **21 42 38.5 +2.7**
COLA pmax pmax
comp=Z,19nm,1.1s
COLA College 45.75 333 P **P** **21 42 36.6 +0.8**
COLA IAmb IAmb 21 42 39.5
comp=Z,15nm,0.8s
SCRK Sand Creek 45.76 330 P **P** **21 42 34.8 -1.3**
baz=29
U57A Blanch 45.78 263 P **P** **21 42 36.4 -0.1**
baz=32
SFIN Lafayette 45.81 273 P **P** **21 42 36.1 -0.5**
baz=34
IMAR Indian Mountai 45.82 337 P **P** **21 42 37.6 +1.2**
T55A Pulaski 45.82 265 P **P** **21 42 35.6 -1.3**
baz=32
P48A Milroy 45.85 271 P **P** **21 42 37.1 +0.1**
W61A Ground Anchor 45.86 260 P **P** **21 42 36.6 -0.4**
baz=31
V59A Middlesex 45.88 261 P **P** **21 42 37.1 -0.2**
baz=32
S53A Williamson 45.92 266 P **P** **21 42 37.3 -0.3**
baz=33
CCB Clear Creek Bu 45.94 333 P **P** **21 42 38.1 +0.7**
HDA Harding Lake 45.98 332 P **P** **21 42 36.5 -1.3**
baz=27
HDA Harding Lake 45.98 332 P **P** **21 42 38.4 +0.6**
HDA IAmb IAmb 21 42 46.5
comp=Z,20nm,1.3s
RIDG Independent Ri 46.15 331 P **P** **21 42 39.7 +0.6**
RIDG IAmb IAmb 21 42 43.0
comp=Z,16nm,1.1s

WRH Wood River Hil 46.16 333 P **P** **21 42 39.9 +0.8**
T54A Tazewell 46.21 265 P **P** **21 42 40.5 +0.5**
baz=32
V58A Windy Hill, Pi 46.23 262 P **P** **21 42 41.0 +1.0**
baz=32
NEA2 Nenana 46.23 333 P **P** **21 42 39.3 -0.4**
baz=26,SNR=9.4
U56A King 46.30 264 P **P** **21 42 41.1 +0.5**
baz=32
DGMT Dagmar 46.34 293 P **P** **21 42 41.2 +0.4**
baz=36
V57A Coltrane Farms 46.43 263 P **P** **21 42 41.6 -0.1**
baz=32
U55A TA2, Sparta 46.45 264 P **P** **21 42 42.3 +0.4**
baz=32
BRZS Berezniki 46.46 63 *e*P **P** **21 42 41.3 -0.4**
comp=Z,178nm,4.5s,baz=63
BRZS *e*PP **PP** **21 44 30.4 0.0**
baz=63
BRZS Berezniki 46.46 63 *e*P **P** **21 42 41.2 -0.4**
BRZS *e* 21 44 30.3
BRZS pmax pmax
comp=Z,178nm,4.5s
WHY Whitehorse 46.48 323 P **P** **21 42 42.6 +0.8**
O44A Mansfield 46.58 274 P **P** **21 42 43.4 +0.6**
HDIL Hopedale 46.60 275 P **P** **21 42 43.3 +0.4**
baz=34
T53A Wise 46.69 266 P **P** **21 42 44.6 +0.9**
baz=32
U54A Nelsons Funny 46.77 265 P **P** **21 42 44.5 +0.2**
baz=32
X60A Albert Glenn T 46.79 260 P **P** **21 42 44.3 -0.1**
baz=31
V56A Mocksville 46.81 263 P **P** **21 42 44.5 -0.1**
baz=32,SNR=7.4
HYT Haines Junctio 47.01 325 P **P** **21 42 47.3 +1.3**
HYT IAmb IAmb 21 42 53.2
comp=Z,31nm,1.7s
DLBC Dease Lake 47.05 318 P **P** **21 42 46.9 +0.6**
comp=Z,2.0nm,0.7s,baz=184,slow=25,SNR=4.3
X59A McDuffie Farm, 47.06 261 P **P** **21 42 46.8 +0.3**
baz=31
V55A Taylorsville 47.08 264 P **P** **21 42 46.6 -0.1**
baz=32
ECSD EROS Data Cent 47.09 284 P **P** **21 42 47.2 +0.5**
baz=35
ECSD EROS Data Cent 47.09 284 P **P** **21 42 47.6 +0.9**
W57A Gilead 47.15 263 P **P** **21 42 47.1 -0.1**
baz=31
SCIA State Center 47.16 279 P **P** **21 42 47.8 +0.5**
baz=35
WCI Wyandotte Cave 47.25 271 P **P** **21 42 48.5 +0.5**
WCI pmax pmax
comp=Z,138nm,1.9s
WCI Wyandotte Cave 47.25 271 P **P** **21 42 47.9 -0.1**
baz=33
WCI Wyandotte Cave 47.25 271 P **P** **21 42 48.5 +0.5**
X58A Rowland 47.38 261 P **P** **21 42 48.5 -0.6**
baz=31
W56A Indian Trail 47.42 263 P **P** **21 42 48.8 -0.5**
baz=31
V54A Nebo 47.45 265 P **P** **21 42 50.2 +0.6**
baz=32,SNR=9.0
P43A Skaggs, Pawnee 47.46 275 P **P** **21 42 50.3 +0.7**
SUSD Miller 47.49 286 P **P** **21 42 49.9 +0.1**
baz=35
TZTN Tazewell 47.49 267 P **P** **21 42 49.1 -0.8**
baz=32
ZAA0 Zalesovo Array 47.60 51 P **P** **21 42 51.1 +0.6**
ZAA0 IAmb IAmb 21 42 54.9
comp=Z,38nm,1.9s
ZALV Zalesovo Beam 47.60 51 P **P** **21 42 50.5 0.0**
comp=Z,1.6nm,0.6s,baz=331,slow=6.0,SNR=10
ZALV PcP **PcP** **21 44 20.9 +0.8**
comp=Z,7.2nm,1.2s,baz=316,slow=4.1,SNR=4.6
ZALV LR LR 22 05 42.5
comp=Z,208nm,18.2s,baz=314,slow=40
KMSC Kings Mountain 47.73 264 P **P** **21 42 52.0 +0.2**
baz=31
BIRD Birdtown, Kers 47.78 263 P **P** **21 42 52.6 +0.5**
M24K Tolsona, Glenn 47.88 330 P **P** **21 42 53.1 +0.4**
baz=27
KURK Kurchatov 48.08 58 *ce*P **P** **21 42 53.0 -1.3**
KURK pmax pmax
comp=Z,30nm,1.7s
KURK Kurchatov 48.08 58 P **P** **21 42 53.6 -0.6**
KURK IAmb IAmb 21 42 56.1
comp=Z,18nm,1.1s
W54A Cherokee Point 48.14 265 P **P** **21 42 54.8 -0.1**
baz=31
X56A White Oak 48.16 263 P **P** **21 42 55.2 +0.2**
baz=31
PAULI Pauline 48.21 264 P **P** **21 42 56.1 +0.6**
Y57A Sumter 48.29 262 P **P** **21 42 55.7 -0.4**
baz=31
TKL Tuckaleechee C 48.34 266 P **P** **21 42 55.1 -1.4**
comp=Z,7.1nm,0.9s,baz=121,slow=18,SNR=5.8
TKL Tuckaleechee C 48.34 266 P **P** **21 42 56.6 +0.1**
TKL pmax pmax
comp=Z,28nm,1.3s
TKL Tuckaleechee C 48.34 266 P **P** **21 42 56.6 +0.1**
TKL IAmb IAmb 21 43 03.1
comp=Z,28nm,1.2s
X55A Gracelyn & Ava 48.43 264 P **P** **21 42 57.5 +0.3**
baz=31
BG3 Lake Jocassee 48.54 265 P **P** **21 42 58.1 0.0**
BG3 IAmb IAmb 21 43 04.8
comp=Z,27nm,1.4s
LAO LASA Array 48.59 293 P **P** **21 42 58.5 +0.2**
baz=35,SNR=9.0
LAO LASA Array 48.59 293 P **P** **21 42 59.4 +1.1**
Z58A St. Stephen 48.63 261 P **P** **21 42 59.0 +0.3**
baz=30
X54A Belton 48.68 264 P **P** **21 42 59.0 -0.1**
baz=31
EGMT Eagleton 48.86 297 P **P** **21 43 00.1 -0.4**
baz=35,SNR=14
EGMT Eagleton 48.86 297 P **P** **21 43 00.9 +0.4**
Y56A Pelion 48.87 263 P **P** **21 43 00.5 -0.1**
baz=31
NHSC New Hope 48.98 261 P **P** **21 43 01.7 +0.3**
baz=30
Y55A Saluda 48.98 263 P **P** **21 43 01.6 +0.2**
baz=31
Z57A Bowman 49.04 262 P **P** **21 43 01.5 -0.4**
baz=30
SKT Skwentna 49.08 333 P **P** **21 43 02.4 +0.5**
SKT IAmb IAmb 21 43 04.2
comp=Z,18nm,1.3s
Z56A Williston 49.30 263 P **P** **21 43 03.8 -0.1**
baz=31
CCM Cathedral Cave 49.52 275 P **P** **21 43 05.7 +0.2**
CCM pmax pmax
comp=Z,34nm,1.8s
CCM Cathedral Cave 49.52 275 P **P** **21 43 05.3 -0.2**
baz=33
CCM Cathedral Cave 49.52 275 P **P** **21 43 05.7 +0.2**
CCM IAmb IAmb 21 43 10.3
comp=Z,34nm,1.8s
WALA Waterton Lakes 49.57 301 P **P** **21 43 06.6 +0.7**
WALA IAmb IAmb 21 43 16.5
comp=Z,34nm,1.9s
BGNE Belgrade 49.65 283 P **P** **21 43 06.6 +0.1**
baz=34
WVT Waverly 49.68 270 P **P** **21 43 06.4 -0.3**
WVT pmax pmax
comp=Z,42nm,2.0s
WVT Waverly 49.68 270 P **P** **21 43 06.6 -0.1**
baz=32
WVT Waverly 49.68 270 P **P** **21 43 06.4 -0.3**
WVT IAmb IAmb 21 43 12.7
comp=Z,42nm,2.0s
RSSD Black Hills 49.83 290 P **P** **21 43 08.6 +0.5**
RSSD Black Hills 49.83 290 P **P** **21 43 07.5 -0.6**
baz=34
RSSD Black Hills 49.83 290 P **P** **21 43 08.6 +0.5**
CAPN Captain Cook N 50.12 332 P **P** **21 43 09.3 -0.4**
baz=24
GOGA Godfrey 50.12 265 P **P** **21 43 10.6 +0.5**
GOGA pmax pmax
comp=Z,51nm,1.6s
GOGA Godfrey 50.12 265 P **P** **21 43 09.4 -0.7**
baz=31,SNR=8.0
GOGA Godfrey 50.12 265 P **P** **21 43 10.6 +0.5**
GOGA IAmb IAmb 21 43 16.6
comp=Z,51nm,1.6s
GEYT Alibeck 50.41 84 P **P** **21 43 13.0 +0.7**
comp=Z,3.3nm,0.8s,baz=316,slow=10,SNR=10
GEYT LR LR 22 07 16.3
comp=Z,295nm,19.0s,baz=315,slow=39
GEYT Alibeck 50.41 84 P **P** **21 43 12.7 +0.3**
GYA0B ALIBECK ARRAY 50.41 84 P **P** **21 43 12.8 +0.5**
GYA0B IAmb IAmb 21 43 14.9
comp=Z,30nm,1.6s
S39A Bolivar 50.72 276 P **P** **21 43 14.4 -0.2**
S39A IAmb IAmb 21 43 20.4
comp=Z,55nm,1.8s
KSU1 Kansas State U 50.93 280 P **P** **21 43 15.6 -0.6**
baz=33
KSU1 Kansas State U 50.93 280 P **P** **21 43 16.5 +0.3**
KSU1 IAmb IAmb 21 43 21.9
comp=Z,20nm,1.1s
BTLS Baital 51.04 66 *e*P **P** **21 43 16.9 0.0**
comp=Z,80nm,4.5s,baz=66
BTLS Baital 51.04 66 *e*P **P** **21 43 16.9 0.0**
BTLS pmax pmax
comp=Z,80nm,4.5s
RLMT Red Lodge 51.08 295 P **P** **21 43 17.3 -0.2**
baz=34,SNR=13
RLMT Red Lodge 51.08 295 P **P** **21 43 17.9 +0.5**
KK31 Karatay Array 51.25 70 P **P** **21 43 19.2 +0.6**
KK31 pmax pmax
comp=Z,30nm,1.5s
KK31 Karatay Array 51.25 70 P **P** **21 43 19.2 +0.6**
KK31 IAmb IAmb 21 43 21.4
comp=Z,30nm,1.4s
KKAR Karatay Array 51.25 70 P **P** **21 43 18.7 +0.1**
KKAR Karatay Array 51.25 70 P **P** **21 43 18.7 +0.1**
MSO Missoula 51.44 299 P **P** **21 43 20.6 +0.6**
baz=33
MSO Missoula 51.44 299 P **P** **21 43 19.5 -0.6**
BOZ Bozeman (W) 51.59 297 P **P** **21 43 21.6 +0.3**
BOZ pmax pmax
comp=Z,56nm,1.5s
BOZ Bozeman (W) 51.59 297 P **P** **21 43 21.8 +0.5**
baz=33,SNR=28
BOZ Bozeman (W) 51.59 297 P **P** **21 43 21.6 +0.3**
U40A Yellville 51.64 275 P **P** **21 43 22.0 +0.4**
baz=32
OGNE Ogallala 51.65 286 P **P** **21 43 21.7 +0.1**
baz=33
OXF Oxford 51.73 271 P **P** **21 43 22.8 +0.6**
baz=31
DZA Taraz 51.76 69 *e*P **P** **21 43 22.4 -0.1**
baz=69
DZA LR LR 22 04 30.6
comp=Z,145nm,14.9s,baz=69
DZA Taraz 51.76 69 *e*P **P** **21 43 22.3 -0.1**
DZA MLR MLR
comp=Z,145nm,15.0s
IUG Iuzhnay 51.86 71 *e*P **P** **21 43 23.5 +0.3**
comp=Z,135nm,4.3s,baz=71
IUG Iuzhnay 51.86 71 *e*P **P** **21 43 23.5 +0.3**
IUG pmax pmax
comp=Z,135nm,4.3s
TIGA Tifton 51.87 263 P **P** **21 43 24.0 +0.7**
baz=30
LRAL Lakeview Retre 51.96 268 P **P** **21 43 24.6 +0.7**
baz=31
DGZ Jazzator, Alta 52.05 53 *i* P **P** **21 43 24.9 +0.3**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
K22A Casper 52.05 291 P **P** **21 43 24.7 -0.1**
baz=33
K22A Casper 52.05 291 P **P** **21 43 24.4 -0.4**
B08A Colville Reser 52.12 304 P **P** **21 43 25.5 +0.5**
H17A Grant Village 52.19 295 P **P** **21 43 26.0 +0.1**
baz=33,SNR=8.4
TAS Tashkent 52.25 72 P **P** **21 43 26.2 +0.2**
TAS pmax pmax
comp=Z,29nm,0.4s
TAS Tashkent 52.25 72 P **P** **21 43 26.2 +0.2**
BOD Bodaibo 52.37 30 *e*P **P** **21 43 24.7 -2.0**
BOD pmax pmax
comp=Z,14nm,1.6s
W41B Gary Mavity, V 52.39 274 P **P** **21 43 27.3 +0.2**
baz=32
CBKS Cedar Bluff 52.49 283 P **P** **21 43 28.0 +0.1**
baz=32
MAKZ Makanchi 52.57 59 P **P** **21 43 28.9 +0.5**
MAKZ pmax pmax
comp=Z,34nm,1.7s
MAKZ Makanchi 52.57 59 P **P** **21 43 28.9 +0.5**
MAKZ IAmb IAmb 21 43 30.4
comp=Z,34nm,1.6s
SGDS Sogindy 52.60 66 *e*P **P** **21 43 28.8 0.0**
comp=Z,93nm,4.5s,baz=66
SGDS Sogindy 52.60 66 *e*P **P** **21 43 28.7 0.0**
SGDS pmax pmax
comp=Z,93nm,4.5s
MK31 Makanchi Array 52.70 58 P **P** **21 43 28.8 -0.5**
MK31 pmax pmax
comp=Z,33nm,1.8s
MK31 Makanchi Array 52.70 58 P **P** **21 43 28.8 -0.5**
MK31 IAmb IAmb 21 43 33.5
comp=Z,33nm,1.8s
MKAR Makanchi Array 52.70 58 P **P** **21 43 28.8 -0.5**
comp=Z,2.5nm,0.8s,baz=331,slow=7.0,SNR=17
MKAR LR LR 22 06 10.4
comp=Z,195nm,19.1s,baz=320,slow=36
USP Ospenovka 52.71 67 P **P** **21 43 27.1 -2.4**
SNR=6.6
TDK Taldyqorghan 52.76 62 *e*P **P** **21 43 30.0 +0.2**
baz=62
TDK *e*S **S** **21 50 58.6 +0.3**
baz=62
TDK Taldyqorghan 52.76 62 *e*P **P** **21 43 29.9 +0.2**
TDK *e*S **S** **21 50 58.5 +0.3**
KUU Kurty 52.90 65 *e*P **P** **21 43 30.4 -0.4**
comp=Z,243nm,4.6s,baz=65
KUU LR LR 22 04 58.0
comp=Z,245nm,12.4s,baz=65
KUU Kurty 52.90 65 *e*P **P** **21 43 30.4 -0.4**
KUU pmax pmax
comp=Z,243nm,4.6s
KUU MLR MLR
comp=Z,245nm,12.0s
EKS2 Erkin-Say 52.93 68 P **P** **21 43 33.2 +2.0**
SNR=14
W39A Magazine 53.02 275 P **P** **21 43 30.9 -0.9**
baz=32
CHMS Chumysh 53.03 67 P **P** **21 43 32.6 +0.8**
SNR=6.3
KAN13 South Haven SW 53.06 279 P **P** **21 43 32.5 +0.4**
ZSN Zaisan 53.07 56 *e*P **P** **21 43 31.8 -0.2**
comp=Z,116nm,4.9s,baz=56
ZSN *e*S **S** **21 51 02.4 0.0**
baz=56
ZSN Zaisan 53.07 56 *e*P **P** **21 43 31.8 -0.2**
ZSN *e*S **S** **21 51 02.4 0.0**
ZSN pmax pmax
comp=Z,116nm,4.9s
FRU1 Bishkek 53.14 67 P **P** **21 43 33.5 +0.8**
FRU1 pmax pmax
comp=Z,69nm,2.0s
FRU1 Bishkek 53.14 67 P **P** **21 43 33.5 +0.8**
BW06 Boulder Array 53.17 293 P **P** **21 43 32.8 -0.3**
baz=32,SNR=25
PD31 Pinedale Array 53.17 293 P **P** **21 43 32.4 -0.6**
PDAR Pinedale Array 53.17 293 P **P** **21 43 32.7 -0.4**
comp=Z,11nm,0.9s,baz=54,slow=6.3,SNR=49
PDAR LR LR 22 05 50.9
comp=Z,412nm,18.3s,baz=38,slow=36
TOA0 Torodi Ar. Sit 53.18 156 P **P** **21 43 32.2 -0.9**
TOA0 IAmb IAmb 21 43 46.5
comp=Z,31nm,1.4s
TORD Torodi Ar. Bea 53.18 156 P **P** **21 43 29.9 -3.2**
comp=Z,8.3nm,1.0s,baz=341,slow=8.9,SNR=17
TORD LR LR 22 07 48.5
comp=Z,76nm,18.1s,baz=355,slow=38
TORD Torodi Ar. Bea 53.18 156 P **P** **21 43 31.9 -1.2**
X40A Basin Creek Fa 53.22 274 P **P** **21 43 33.1 -0.1**
baz=31
AAK Ala-Archa 53.23 67 P **P** **21 43 34.6 +1.1**
SNR=10
AAK Ala-Archa 53.23 67 *ce*P **P** **21 43 34.1 +0.6**
AAK pmax pmax
comp=Z,77nm,1.7s
N23A Red Feather La 53.30 289 P **P** **21 43 33.9 -0.2**
baz=32,SNR=14
AML Almayashu 53.34 68 P **P** **21 43 35.7 +1.1**
SNR=6.8
TKM2 Tokmak 2 53.43 66 P **P** **21 43 37.9 +2.9**

SNR=9.3
MIAR Mount Ida 53.49 275 P P 21 43 36.2 +0.9
MIAR pmax pmax
comp=Z,39nm,1.6s
MIAR Mount Ida 53.49 275 P P 21 43 35.0 -0.2
baz=31
MIAR Mount Ida 53.49 275 P P 21 43 36.2 +0.9
MIAR IAmb IAmb 21 43 41.2
comp=Z,39nm,1.6s
KSCO Kaye Shedlock' 53.53 285 P P 21 43 35.6 0.0
baz=32
AAA Alma-Ata 53.70 65 *e*P **P 21 43 36.9 0.0**
baz=65
AAA *e*PP **PP 21 45 37.8 +0.6**
baz=65
AAA *e*S **S 21 51 11.5 +0.3**
baz=65
AAA LR LR 22 05 21.7
comp=Z,368nm,16.9s,baz=65
AAA Alma-Ata 53.70 65 *e*P **P 21 43 36.8 0.0**
AAA *e* 21 45 37.7
AAA *e*S **S 21 51 11.5 +0.3**
AAA MLR MLR
comp=Z,368nm,17.0s
MDOK Medeo 53.79 65 *e*P **P 21 43 37.8 +0.2**
baz=65
MDOK LR LR 22 05 20.6
comp=Z,321nm,16.3s,baz=65
MDOK Medeo 53.79 65 *e*P **P 21 43 37.8 +0.2**
MDOK MLR MLR
comp=Z,321nm,16.0s
BOOM Boomskoye usch 53.93 66 P **P 21 43 39.2 +0.6**
BOOM pmax pmax
comp=Z,20nm,1.4s
BOOM Boomskoye usch 53.93 66 P **P 21 43 39.2 +0.6**
BOOM IAmb IAmb 21 43 41.8
comp=Z,20nm,1.4s
BTK Batken 53.94 72 P **P 21 43 38.5 -0.1**
BTK pmax pmax
comp=Z,38nm,1.3s
BTK Batken 53.94 72 P **P 21 43 38.5 -0.1**
ISCO Idaho Springs 54.09 288 P **P 21 43 40.3 +0.4**
ISCO pmax pmax
comp=Z,13nm,1.4s
ISCO Idaho Springs 54.09 288 P **P 21 43 39.7 -0.3**
baz=32
ISCO Idaho Springs 54.09 288 P **P 21 43 40.3 +0.4**
KPKS Kokpek 54.17 63 *e*P **P 21 43 40.3 +0.1**
comp=Z,170nm,4.5s,baz=63
KPKS Kokpek 54.17 63 *e*P **P 21 43 40.3 +0.1**
KPKS pmax pmax
comp=Z,170nm,4.5s
Z41A Richland Creek 54.26 273 P **P 21 43 40.4 -0.5**
baz=31
BMO Blue Mountains 54.37 300 P **P 21 43 41.8 +0.1**
BMO pmax pmax
comp=Z,22nm,1.6s
BMO Blue Mountains 54.37 300 P **P 21 43 41.8 +0.1**
BMO IAmb IAmb 21 43 48.7
comp=Z,22nm,1.6s
HLID Hailey 54.38 297 P **P 21 43 41.5 -0.3**
baz=32,SNR=5.6
SATY Saty 54.41 64 *e*P **P 21 43 42.1 0.0**
comp=Z,88nm,4.5s,baz=64
SATY Saty 54.41 64 *e*P **P 21 43 42.0 0.0**
SATY pmax pmax
comp=Z,88nm,4.5s
UZB Uzynbulak 54.57 63 *e*P **P 21 43 43.2 0.0**
comp=Z,81nm,4.4s,baz=63
UZB Uzynbulak 54.57 63 *e*P **P 21 43 43.2 0.0**
UZB pmax pmax
comp=Z,81nm,4.4s
Q24A Divide 54.61 287 P **P 21 43 44.2 +0.5**
baz=32
MOY Mondy 54.62 42 *e*P **P 21 43 44.9 +1.5**
MOY pmax pmax
comp=Z,93nm,2.1s
KDJ Kajisay 54.72 65 P **P 21 43 44.6 +0.2**
KDJ pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay 54.72 65 P **P 21 43 44.6 +0.2**
SHLS Shalkode 54.73 63 *e*P **P 21 43 45.6 +1.2**
comp=Z,110nm,4.0s,baz=63
SHLS Shalkode 54.73 63 *e*P **P 21 43 45.5 +1.2**
SHLS pmax pmax
comp=Z,110nm,4.0s
E04D Cinebar 54.80 305 P **P 21 43 45.0 +0.4**
baz=30
O20A White River Ci 54.87 290 P **P 21 43 46.1 +0.6**
baz=32
IRK Irkutsk 55.03 40 *e*P **P 21 43 46.0 -0.2**
IRK pmax pmax
comp=Z,66nm,2.2s
HRA Herat 55.18 82 P **P 21 43 48.2 +0.4**
HRA IAmb IAmb 21 43 50.2
comp=Z,21nm,1.4s
TARG Taragay, Kyrgy 55.30 65 P **P 21 43 49.3 +0.4**
TARG IAmb IAmb 21 43 51.6
comp=Z,16nm,1.1s
TLY Talaya 55.36 40 *e*P **P 21 43 50.1 +1.4**
TLY *e* 21 45 54.9
TLY *e*PPP PPP 21 47 09.4
TLY *e*S S 21 51 50.2 +17
TLY pmax pmax
comp=Z,43nm,2.3s
TLY MLR MLR
comp=Z,699nm,17.0s
TLY Talaya 55.36 40 P **P 21 43 48.5 -0.1**
F04D Rainier, OR 55.36 305 P **P 21 43 49.4 +0.7**
baz=30
G05D Wamic, OR 55.49 304 P **P 21 43 49.5 -0.2**
baz=30
WMOK Wichita Mounta 55.55 279 P **P 21 43 49.7 -0.5**
baz=31,SNR=9.6
MA2 Magadan 55.71 7 *ce*P **P 21 43 52.8 +1.7**
MA2 pmax pmax
comp=Z,35nm,1.7s
MA2 Magadan 55.71 7 P **P 21 43 51.6 +0.6**
SDCO Great Sand Dun 55.79 287 P **P 21 43 52.5 +0.3**
baz=31,SNR=5.8
SDCO Great Sand Dun 55.79 287 P **P 21 43 53.0 +0.7**
SDCO IAmb IAmb 21 43 59.1
comp=Z,30nm,1.8s
T25A Trinidad 55.86 285 P **P 21 43 53.0 +0.3**
baz=31
S22A 4UR Ranch, Cre 56.33 288 P **P 21 43 55.8 -0.4**
baz=31,SNR=8.5
NATX Nacogdoches 56.34 274 P **P 21 43 55.5 -0.4**
baz=30
NATX Nacogdoches 56.34 274 P **P 21 43 56.6 +0.7**
ZAK Zakamensk 56.42 41 *e*P **P 21 43 56.7 +0.3**
ZAK pmax pmax
comp=Z,12nm,1.5s
KSH Kashi 56.48 68⇑ *i*P **P 21 44 00.5 +3.5**
KSH S **S 21 51 50.5 +1.9**
KSH sS sS 21 52 02.8 +12
KSH pmax pmax
comp=Z,45nm,1.1s
KSH pmax pmax
comp=Z,270nm,4.2s
KSH LR LR
comp=Z,420nm,13.9s
KSH LR LR
comp=Z,260nm,14.4s
KSH LR LR
comp=Z,460nm,16.5s
HUMP Col San Antoni 56.58 238 P **P 21 43 58.3 +0.6**
HUMP IAmb IAmb 21 44 03.0
comp=Z,27nm,1.3s
DUG Dugway, Tooele 56.64 294 P **P 21 43 58.2 +0.1**
baz=31,SNR=13
AMTX Amarillo 56.65 282 P **P 21 43 57.4 -0.8**
baz=31
PDPR Patillas Dam, 56.75 239 P **P 21 43 59.3 +0.4**
ELK Elko 57.11 296 P **P 21 44 02.0 +0.4**
ELK pmax pmax
comp=Z,18nm,0.6s
ELK Elko 57.11 296 P **P 21 44 02.0 +0.4**
J05D Fort Rock, OR 57.15 302 P **P 21 44 01.9 +0.2**
baz=30
MLPR Magueyes Islan 57.17 240 P **P 21 44 02.6 +0.7**
WMQ Urumqi 57.20 56 *e*P **P 21 44 03.6 +1.6**
WMQ pP sP 21 44 07.3 +3.2
WMQ sP pP 21 44 12.1 +8.6
WMQ PP **PP 21 46 11.8 +3.3**
WMQ S **S 21 52 03.6 +5.7**
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ pmax pmax
comp=Z,190nm,4.1s
WMQ LR LR
comp=Z,250nm,19.7s
WMQ LR LR
comp=Z,240nm,18.5s
WMQ LR LR
comp=Z,140nm,20.5s
WMQ Urumqi 57.20 56 P **P 21 44 02.5 +0.5**
WMQ pmax pmax
comp=Z,11nm,0.5s
WMQ Urumqi 57.20 56 P **P 21 44 02.5 +0.5**
WMQ IAmb IAmb 21 44 08.7
comp=Z,11nm,0.5s
WHTX Lake Whitney, 57.34 276 P **P 21 44 04.4 +1.4**
baz=30
I02D Swisshome 57.37 305 P **P 21 44 03.1 0.0**
baz=29
I03D Drain, OR 57.55 304 P **P 21 44 04.4 0.0**
baz=29
ABTX Abilene, Hawle 57.73 279 P **P 21 44 06.4 +0.6**
baz=30
SDDR Presa de Saban 57.86 244 P **P 21 44 07.3 +0.5**
SDDR IAmb IAmb 21 44 09.6
comp=Z,12nm,0.9s
MSTX Muleshoe 57.89 282 P **P 21 44 07.8 +0.8**
baz=30
KBL Kabul 57.91 77 P **P 21 44 07.3 0.0**
KBL pmax pmax
comp=Z,11nm,1.3s
KBL Kabul 57.91 77 P **P 21 44 07.3 0.0**
MOD Modoc Plateau 58.01 301 P **P 21 44 08.0 +0.1**
MOD IAmb IAmb 21 45 34.6
comp=Z,15nm,0.6s
J01E Myrtle Point 58.23 304 P **P 21 44 09.0 -0.1**
baz=29
435B Jarrell 58.44 276 P **P 21 44 10.7 -0.1**
baz=30
L04D Klamath Falls 58.47 303 P **P 21 44 10.1 -0.9**
baz=29
K02D Willamette Mer 58.54 304 P **P 21 44 10.9 -0.5**
baz=29
ANMO Albuquerque 58.58 286 *ce*P **P 21 44 13.3 +1.3**
ANMO pmax pmax
comp=Z,16nm,2.5s
ANMO Albuquerque 58.58 286 P **P 21 44 12.5 +0.5**
baz=30
ANMO Albuquerque 58.58 286 P **P 21 44 12.3 +0.4**
ANMO IAmb IAmb 21 44 19.3
comp=Z,30nm,1.8s
DBIC Dimbokro 58.63 165 P **P 21 44 11.6 -0.6**
comp=Z,8.3nm,0.9s,baz=3.9,slow=7.4,SNR=7.4
DBIC LR LR 22 08 09.0
comp=Z,69nm,18.6s,baz=347,slow=35
DBIC Dimbokro 58.63 165 P **P 21 44 11.5 -0.6**
DBIC pmax pmax
comp=Z,61nm,2.0s
DBIC Dimbokro 58.63 165 P **P 21 44 11.5 -0.6**
TIC Toumodi 58.64 165 *e*P **P 21 44 11.8 -0.4**
KIC Kosan Boka 58.95 165 *e*P **P 21 44 14.1 -0.3**
comp=Z,80nm,1.4s
L02E Cave Junction 58.99 304 P **P 21 44 14.8 +0.3**
baz=29
LIC Lamto 59.05 166 *e*P **P 21 44 14.6 -0.5**
comp=Z,32nm,0.8s
R11A Troy Canyon, C 59.31 295 P **P 21 44 18.1 +1.1**
baz=30,SNR=20
M02C Callahan 59.39 303 P **P 21 44 18.0 +0.6**
baz=29
SONM Songino Array 59.60 40 P **P 21 44 18.8 0.0**
comp=Z,2.0nm,0.9s,baz=321,slow=5.9,SNR=16
SONM LR LR 22 12 46.6
comp=Z,249nm,19.1s,baz=330,slow=39
SONM Songino Array 59.60 40 P **P 21 44 18.5 -0.3**
SONM pmax pmax
comp=Z,15nm,1.8s
SONM Songino Array 59.60 40 P **P 21 44 18.5 -0.3**
JCT Junction City 59.65 277 P **P 21 44 19.6 +0.4**
JCT pmax pmax
comp=Z,77nm,1.6s
JCT Junction City 59.65 277 P **P 21 44 19.5 +0.3**
baz=30
JCT Junction City 59.65 277 P **P 21 44 19.6 +0.4**
N02D Trinity Center 59.70 302 P **P 21 44 20.5 +1.0**
baz=29
ULN Ulaanbaatar 59.76 40 *ce*P **P 21 44 20.8 +1.0**
ULN pmax pmax
comp=Z,17nm,1.7s
ULN Ulaanbaatar 59.76 40 P **P 21 44 20.2 +0.4**
ULN IAmb IAmb 21 44 22.6
comp=Z,16nm,1.4s
W18A Petrified Fore 59.78 289 P **P 21 44 20.9 +0.7**
baz=30
O03E Paynes Creek 59.97 301 P **P 21 44 20.9 -0.4**
baz=29
WUAZ Wupatki 60.10 290 P **P 21 44 22.4 0.0**
baz=30,SNR=10
NV11 Mina Array Sit 60.23 297 P **P 21 44 24.1 +0.8**
NV11 IAmb IAmb 21 45 38.4
comp=Z,9.5nm,0.6s
NVAR Mina Array Bea 60.29 297 P **P 21 44 24.3 +0.6**
comp=Z,1.9nm,0.9s,baz=51,slow=4.8,SNR=11
NVAR LR LR 22 10 12.8
comp=Z,790nm,18.2s,baz=28,slow=36
NIL Nilore 60.43 74 P **P 21 44 24.3 -0.2**
NIL pmax pmax
comp=Z,40nm,1.5s
NIL Nilore 60.43 74 P **P 21 44 24.3 -0.2**
O02D Mt. Diablo Mer 60.43 302 P **P 21 44 24.1 -0.4**
baz=28
WAKR Walker 60.65 298 P **P 21 44 27.5 +1.4**
WAKR IAmb IAmb 21 44 34.5
comp=Z,26nm,1.6s
GRGR Grenville 60.67 231 P **P 21 44 27.0 +0.8**
TPNV Topopah Spring 60.79 295 P **P 21 44 27.7 +0.6**
baz=29
MNTX Cornudas Mount 60.95 283 P **P 21 44 27.4 -0.6**
baz=29
MNTX Cornudas Mount 60.95 283 P **P 21 44 28.6 +0.5**
MNTX IAmb IAmb 21 44 34.2
comp=Z,28nm,1.9s
121A Cookes Peak, D 61.22 285 P **P 21 44 29.1 -1.0**
baz=29
833A Chaparral WMA, 61.35 276 P **P 21 44 31.2 +0.4**
baz=29
FURC Furnace Creek, 61.45 295 P **P 21 44 31.7 +0.4**
baz=29
HIA Hailar 61.59 30 P **P 21 44 33.3 +1.2**
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 61.59 30 P **P 21 44 33.3 +1.2**
HIA IAmb IAmb 21 46 37.0
comp=Z,8.2nm,0.6s
SHOC Shoshone, Teco 61.71 294 P **P 21 44 33.7 +0.5**
baz=29
TUQ Turquoise Moun 61.98 294 P **P 21 44 35.5 +0.3**
baz=29
MPMC Manual Prospec 62.05 295 P **P 21 44 35.1 -0.5**
baz=29
PDMCI Parker Dam,Lak 62.27 292 P **P 21 44 37.4 +0.6**
baz=29
TX31 Lajitas Ar. Si 62.28 280 P **P 21 44 37.9 +0.7**
TX31 IAmb IAmb 21 44 40.2
comp=Z,19nm,1.1s
TXAR Lajitas Array 62.28 280 P **P 21 44 38.1 +1.0**
comp=Z,4.7nm,1.0s,baz=60,slow=4.9,SNR=14
TXAR LR LR 22 11 09.6
comp=Z,436nm,19.0s,baz=0.0,slow=36
TXAR Lajitas Array 62.28 280 P **P 21 44 37.6 +0.4**
GMRC Granite Mounta 62.45 293 P **P 21 44 38.1 -0.1**
baz=29
PEA0B Petropavlovsk- 62.46 3 P **P 21 44 38.6 +0.7**
PEA0B pmax pmax
comp=Z,34nm,1.5s
PEA0B Petropavlovsk- 62.46 3 P **P 21 44 38.6 +0.7**
PETK Petropavlovsk- 62.46 3 P **P 21 44 39.1 +1.2**
comp=Z,6.5nm,1.2s,baz=71,slow=6.4,SNR=6.6
PETK LR LR 22 10 53.1
comp=Z,50nm,19.8s,baz=6.6,slow=35
PETK Petropavlovsk- 62.46 3 P **P 21 44 38.1 +0.2**
LRMC Laurel Mtn Rad 62.63 295 P **P 21 44 40.2 +0.7**
baz=28
TUC Tucson 62.65 288 P **P 21 44 40.3 +0.7**
baz=29
HEC Hector,Ludlow 62.67 294 P **P 21 44 40.5 +0.8**
baz=28
ISA Isabella, Lake 62.78 296 P **P 21 44 40.8 +0.4**
baz=28
IRM Iron Mountain 62.79 292 P **P 21 44 40.9 +0.5**
baz=28
BELC Belle Mtn. Jos 63.27 293 P **P 21 44 45.2 +1.5**
baz=28
EDW2 Edwards Air Fo 63.28 295 P **P 21 44 45.2 +1.5**
baz=28
BC3 Big Chuckawall 63.36 292 P **P 21 44 45.4 +1.1**
baz=28
BBRC Big Bear Solar 63.40 294 P **P 21 44 44.8 +0.1**
baz=28
GLA Glamis 63.64 292 P **P 21 44 46.4 +0.4**
baz=28
BFSC Mount Baldy Ra 63.71 295 P **P 21 44 46.3 -0.4**
baz=28
214A Organ Pipe Nat 63.79 289 P **P 21 44 47.2 +0.2**
baz=28
PFO Pinyon Flats O 63.79 293 LR LR 22 12 36.8
comp=Z,492nm,18.8s,baz=27,slow=36
PFO Pinyon Flats O 63.79 293 P **P 21 44 47.1 -0.1**
baz=28
OSI Osito Audit: C 63.80 296 P **P 21 44 47.6 +0.4**
baz=28
TPFO Pinon Flats 63.80 293 P **P 21 44 46.7 -0.5**
baz=28
PKM Mcpherson Peak 63.97 297 P **P 21 44 48.0 -0.5**
baz=28
SWSC Sam W. Stewart 64.12 292 P **P 21 44 48.5 -0.6**
baz=28
MONP2 Monument Peak 64.41 293 P **P 21 44 50.8 -0.6**
baz=28
109C Camp Elliot, M 64.68 293 P **P 21 44 52.4 -0.5**
baz=28
GTA Gaotai 65.27 49 *e*P **P 21 44 57.3 +0.6**
GTA pP sP 21 45 01.0 +2.1
GTA sP pP 21 45 03.6 +5.3
GTA pmax pmax
comp=Z,9.0nm,1.6s
GTA pmax pmax
comp=Z,210nm,4.2s
GTA LR LR
comp=Z,240nm,18.5s
GTA LR LR
comp=Z,230nm,15.6s
GTA LR LR
comp=Z,280nm,17.4s
SDV Santo Domingo 66.85 239 P **P 21 45 07.5 +0.2**
HHC Hu-ho-hao-te 67.47 40 *e*P **P 21 45 15.0 +4.2**
HHC pmax pmax
comp=Z,24nm,1.2s
HHC pmax pmax
comp=Z,220nm,5.9s
ZAIG Zacatecas 67.58 276 P **P 21 45 12.2 +0.3**
ZAIG IAmb IAmb 21 45 16.3
comp=Z,9.7nm,0.9s
YSS Yuzh-Sakhalins 67.61 15 *e*P **P 21 45 11.3 -0.1**
YSS pmax pmax
comp=Z,400nm,8.9s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS MLR MLR
comp=E,100nm,13.0s
SJCC San Jacinto, C 67.64 244 *e*P **P 21 45 11.2 -0.9**
MDJ Mudanjiang 68.00 25 P **P 21 45 15.4 +1.5**
MDJ IAmb IAmb 21 46 38.5
comp=Z,23nm,1.5s
USRK Ussuriysk Ar. 68.82 23 LR LR 22 15 09.5
comp=Z,86nm,20.8s,baz=352,slow=36
BJI Beijing 69.45 36 P **P 21 45 24.9 +1.9**
BJI S **S 21 54 31.3 +0.6**
BJI pmax pmax
comp=Z,8.0nm,1.4s
BJI pmax pmax
comp=Z,130nm,3.5s
BJI LR LR
comp=Z,310nm,19.2s
BJI LR LR
comp=Z,160nm,16.1s
BJI LR LR
comp=Z,120nm,18.1s
BJT Baijiatuau 69.47 36 P **P 21 45 24.0 +0.8**
BJT pmax pmax
comp=Z,16nm,1.3s
BJT Baijiatuau 69.47 36 P **P 21 45 24.0 +0.8**
BJT IAmb IAmb 21 45 30.3
comp=Z,16nm,1.3s
LZH Lanzhou 69.59 48 *e*P **P 21 45 24.8 +0.6**
LZH pP sP 21 45 28.9 +2.6
LZH sP pP 21 45 31.3 +5.5
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,94nm,4.3s
LZH LR LR
comp=Z,260nm,16.3s
LZH LR LR
comp=Z,250nm,17.4s
LZH LR LR
comp=Z,290nm,16.8s
LPIG La Paz 69.67 283 LR LR 22 14 44.0
comp=Z,121nm,19.8s,baz=7.5,slow=35
ZARC Zaragoza, Cauc 69.72 243 *e*P **P 21 45 27.1 +2.1**
PTBC PUERTO BERRIO, 70.44 242 *e*P **P 21 45 27.1 -2.3**
YUK Yuzh-Kuril'sk 70.81 13 *e*P **P 21 45 27.3 -4.0**
YUK 21 48 06.1
YUK S **S 21 54 39.2 -7.2**
YUK *e* 21 55 36.0
YUK SS **SS 21 59 15.6 -1.7**
YUK MLR MLR
comp=Z,90nm,12.0s
LSA Lhasa 70.99 61 P **P 21 45 33.2 0.0**
LSA pmax pmax
comp=Z,26nm,1.8s
LSA Lhasa 70.99 61 P **P 21 45 33.2 0.0**
LSA IAmb IAmb 21 45 38.6
comp=Z,26nm,1.8s
SPBC San Pablo de B 71.11 241 *e*P **P 21 45 35.0 +1.4**
DL2 Dalian 71.85 33 *e*P P 21 45 46.6 +8.9
DL2 S **SKiKP 21 55 11.0 -4.8**
DL2 pmax pmax
comp=Z,52nm,9.8s
DL2 LR LR
comp=N,420nm,16.5s
DL2 LR LR
comp=E,250nm,18.0s
DL2 LR LR
comp=Z,340nm,17.1s
ROSC El Rosal 71.95 241 LR LR 22 12 23.2
comp=Z,74nm,21.9s,baz=39,slow=32
ROSC El Rosal 71.95 241 P **P 21 45 39.8 +0.8**
GUY2C Guyana, Caldas 72.00 242 *e*P **P 21 45 39.5 +0.1**
PTGA Pitinga 72.22 225 P **P 21 45 40.4 +0.2**
TOLC Tolima 72.56 242 *e*P **P 21 45 44.8 +2.1**
XAN Xi'an 73.05 44 P **P 21 45 45.7 +0.7**
XAN pmax pmax
comp=Z,26nm,1.6s
XAN Xi'an 73.05 44 P **P 21 45 45.7 +0.7**
XAN IAmb IAmb 21 45 49.0
comp=Z,26nm,1.6s
CD2 Chengdu 74.33 50 *e*P **P 21 45 53.8 +1.2**
KSRS Korea Array 74.61 28 LR LR 22 20 05.5
comp=Z,97nm,19.7s,baz=344,slow=37
SHL Shillong 74.99 62 P **P 21 45 56.9 +0.2**
SHL pmax pmax
comp=Z,16nm,0.3s
SHL Shillong 74.99 62 P **P 21 45 56.9 +0.2**
KMBO Kilima Mbogo 76.68 123 LR LR 22 22 44.1
comp=Z,65nm,18.4s,baz=291,slow=38
MJAR Matsushiro Arr 77.28 20 P **P 21 46 10.5 +1.1**
comp=Z,1.2nm,0.8s,baz=327,slow=6.8,SNR=2.6
MJAR Matsushiro Arr 77.28 20 P **P 21 46 10.0 +0.7**
NJ2 Nanjing 77.70 37 *e*P **P 21 46 12.3 +0.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
OTAV Otavalo 77.75 243 P **P 21 46 11.8 -0.9**
OTAV pmax pmax
comp=Z,26nm,1.7s
OTAV Otavalo 77.75 243 P **P 21 46 11.8 -0.9**
OTAV IAmb IAmb 21 46 19.4
comp=Z,26nm,1.6s
WHN Wuhan 77.91 41 *e*P P 21 46 06.8 -6.0
KMI Kunming 79.32 53⇑ *e*P **P 21 46 21.3 +0.3**
KMI pP sP 21 46 23.4 +0.3
KMI pmax pmax

comp=Z,11nm,1.2s
KMI pmax pmax
comp=Z,180nm,3.5s
SAML Samuel 80.98 226 P **P 21 46 29.7 +0.1**
SAML pmax pmax
comp=Z,29nm,1.9s
SAML Samuel 80.98 226 P **P 21 46 29.7 +0.1**
SAML IAmb IAmb 21 46 35.2
comp=Z,29nm,1.9s
BDFB Brasilia 83.43 210 LR LR 22 18 41.9
comp=Z,100nm,20.5s,baz=32,slow=32
CHTO Chiang Mai 83.78 59 P **P 21 46 44.3 -0.1**
CHTO pmax pmax
comp=Z,28nm,1.7s
CHTO Chiang Mai 83.78 59 P **P 21 46 44.3 -0.1**
CHTO IAmb IAmb 21 46 53.6
comp=Z,28nm,1.6s
CMAR Chiang Mai Arr 84.10 59 P **P 21 46 45.9 -0.2**
comp=Z,2.6nm,1.0s,baz=314,slow=6.4,SNR=11
CMAR LR LR 22 26 46.9
comp=Z,131nm,19.3s,baz=349,slow=38
CMAR Chiang Mai Arr 84.10 59 *i P* **P 21 46 47.5 +1.4**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 84.10 59 P **P 21 46 46.4 +0.3**
CPUP Villa Florida 95.88 215 LR LR 22 28 10.4
comp=Z,81nm,20.6s,baz=6.0,slow=34
PB14 IPOC Station P 97.96 227 P Pdif 21 47 52.2 +0.9
BOSA Boshof 98.79 143 LR LR 22 34 34.8
comp=Z,79nm,19.6s,baz=358,slow=37
WRA Warramunga Arr 131.48 36 PKP **PKPdf 21 53 26.6 -0.9**
comp=Z,2.8nm,1.2s,baz=340,slow=2.6,SNR=6.3
WRA Warramunga Arr 131.48 36 **PKiKP 21 53 28.2 -0.3**
ASAR Alice Springs 134.93 38 PKP **PKPdf 21 53 33.1 -0.8**
comp=Z,1.2nm,0.9s,baz=355,slow=2.4,SNR=9.7
ASAR Alice Springs 134.93 38 PKIKP **PKPdf 21 53 34.4 +0.5**
ASAR Alice Springs 134.93 38 **PKPdf 21 53 34.4 +0.5**
SNAA Sanae 136.48 173 PKIKP **PKPdf 21 53 35.0 -0.4**
SNAA Sanae 136.48 173 **PKPdf 21 53 35.0 -0.4**
SYO Syowa Base 139.31 152⇑ *e*PKPdf **PKPdf 21 53 39.6 -0.9**
SYO Syowa Base 139.31 152⇑ *e*PKIKP **PKiKP 21 53 45.7 +2.9**
STKA Stephens Creek 144.68 32 PKP **PKPab 21 53 49.1 -0.9**
comp=Z,2.3nm,0.7s,baz=358,slow=3.2,SNR=5.4
STKA Stephens Creek 144.68 32 PKIKP **PKPab 21 53 49.9 -0.1**
STKA Stephens Creek 144.68 32 **PKPab 21 53 49.9 -0.1**
QSPA South Pole Qui 154.63 180 **PKPdf 21 54 05.9 -0.1**

ATH 16 21:37:29.3,39°.24N×22°.71E, h1km±2km, ML1.3/2, Error ellipse: s-maj=2.6km s-min=1.4km az=185.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOL3	**Nea Ionia, Vol**	**0.22**	**52**	P	Pg	21 37 31.4	-2.2
VOL3				S	Sg	21 37 32.6	-3.8
VOL3				AML	AML	21 37 32.9	
	comp=N,490μm,0.4s						
VOL3				AML	AML	21 37 33.3	
	comp=E,1247μm,0.4s						
VOL2	**Volos**	**0.22**	**55**	P	Pg	21 37 35.3	+1.7
VOL2				S	Sg	21 37 39.7	+3.2
XOR	**Xorichti**	**0.39**	**71**	P	Pg	21 37 37.5	+0.6
XOR				S	Sg	21 37 43.0	+1.0

IDC 16 21:39:27.1±2.8, 6°.62S×129°.22E, h106km±38km, mb3.1/1, mb1 3.7/5, mb1mx3.2/31, mbtmp3.9/5, Error ellipse: s-maj=51.2km s-min=19.0km az=93.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.06**	**20**	P	Pn	21 40 54.1	-0.2
	4.5nm,0.3s,baz=213,slow=23,SNR=64						
SIJI				S	Sn	21 41 57.2	-5.2
	3.7nm,0.3s,baz=251,slow=23,SNR=8.9						
FITZ	**Fitzroy Crossi**	**11.94**	**197**	P	Pn	21 42 15.2	+1.3
	0.5nm,0.3s,baz=0.6,slow=8.5,SNR=15						
FITZ				S	Sn	21 44 26.2	+1.1
	0.2nm,0.3s,baz=0.0,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**14.15**	**160**	P	Pn	21 42 42.4	-0.5
	0.3nm,0.3s,baz=340,slow=12,SNR=31						
WRA				S	Sn	21 45 18.6	-0.4
	0.2nm,0.3s,baz=333,slow=20,SNR=6.4						
ASAR	**Alice Springs**	**17.54**	**166**	P	P	21 43 23.4	-1.2
	1.2nm,0.3s,baz=346,slow=11,SNR=96						
MKAR	**Makanchi Array**	**67.48**	**327**	P	P	21 50 11.9	+0.3
	0.2nm,0.3s,baz=116,slow=6.6,SNR=1.3						

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*VAO **16** 21:40:02.8±0.5, 24°.03S×67°.75W, h287km±4km, mb4.0*
*IDC **16** 21:40:07.0±1.5, 23°.45S×66°.58W, h196km±13km, mb3.0/3, mb1 3.3/8, mb1mx3.2/25, mbtmp3.7/8, MS2.5/1, Ms1 2.5/1, ms1mx2.3/6, Error ellipse: s-maj=22.6km s-min=17.7km az=150.0*
*GUC **16** 21:40:09.2±0.6, 23°.42S×67°.08W, h245km±7km, ML4.2*
ISC 16 21:40:07.3±0.7, 23°.44S±0°.05×67°.04W±0°.08, h245km±10km, n54, σ1§63/70, mb3.0/3, 12C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.91**	**295**	P	**Pn**	**21 40 50.0**	**+1.0**
	28nm,0.3s,baz=101,slow=7.3,SNR=605						
LVC				LR	LR	21 41 14.2	
	comp=Z,106nm,21.6s,baz=194,slow=29						
LVC				S	**S**	**21 41 21.4**	**-0.4**
	27nm,0.3s,baz=255,slow=23,SNR=19						
LVC	**Limon Verde**	**1.91**	**295**	*i P*	**Pn**	**21 40 50.0**	**+1.0**
LVC				*i* S	**S**	**21 41 21.2**	**-0.6**
LVC	**Limon Verde**	**1.91**	**295**	*e*S	**S**	**21 41 21.7**	**-0.1**
PB15	**IPOC Station P**	**2.25**	**275⇑**	*i P*	**Pn**	**21 40 53.4**	**+1.4**
PB15				*i* S	**S**	**21 41 27.3**	**+0.2**
PB06	**IPOC Station P**	**2.44**	**287⇑**	*i P*	**Pn**	**21 40 55.5**	**+1.7**
PB06				*i* S	**S**	**21 41 30.2**	**-0.3**
PB06				IAML		21 41 31.5	
	comp=N,776nm,0.2s						
PB09	**IPOC Station P**	**2.61**	**308⇑**	*i P*	**Pn**	**21 40 57.5**	**+1.9**
PB09				*i* S	**S**	**21 41 34.4**	**+0.7**
PB09				IAML		21 41 41.0	
	comp=N,234nm,0.3s						
PB03	**IPOC Station P**	**2.86**	**298⇑**	*i P*	**Pn**	**21 40 59.9**	**+1.7**
PB03				*i* S	**S**	**21 41 38.3**	**-0.1**
PB03				IAML		21 41 41.4	
	comp=E,651nm,0.2s						
GO02	**Mina Guanaco**	**2.89**	**233⇑**	*i P*	**Pn**	**21 40 59.4**	**+0.7**
GO02				*i* S	**S**	**21 41 38.6**	**-0.6**
PB05	**IPOC Station P**	**2.97**	**281⇑**	*i P*	**Pn**	**21 41 00.8**	**+1.5**
PB05				*i* S	**S**	**21 41 40.4**	**0.0**
PB05				IAML		21 41 43.7	
	comp=E,159nm,0.2s						
PB04	**IPOC Station P**	**3.07**	**290⇑**	*i P*	**Pn**	**21 41 02.3**	**+1.8**
PB04				*i* S	**S**	**21 41 42.9**	**+0.4**
PB07	**IPOC Station P**	**3.13**	**302⇑**	*i P*	**Pn**	**21 41 03.0**	**+1.7**
PB07				*i* S	**S**	**21 41 43.5**	**-0.2**
PB10	**IPOC Station P**	**3.23**	**268⇑**	*i P*	**Pn**	**21 41 03.9**	**+1.9**
PB10				*i* S	**S**	**21 41 45.1**	**-0.2**
PB01	**IPOC Station P**	**3.29**	**316**	*e P*	**Pn**	**21 41 04.4**	**+1.6**
PB01				*i* S	**S**	**21 41 46.7**	**-0.1**
PB14	**IPOC Station P**	**3.29**	**248⇑**	*i P*	**Pn**	**21 41 04.2**	**+1.1**
PB14				*i* S	**S**	**21 41 46.6**	**-0.6**
PB02	**IPOC Station P**	**3.38**	**308⇑**	*i P*	**Pn**	**21 41 05.3**	**+1.4**
PB02				*i* S	**S**	**21 41 47.9**	**-0.8**
PB08	**IPOC Station P**	**3.82**	**329⇓**	*i P*	**Pn**	**21 41 11.8**	**+2.4**
PB08				*i* S	**S**	**21 41 59.3**	**+1.0**
PATCX	**Punta Patache**	**3.89**	**311**	*e P*	**Pn**	**21 41 10.9**	**+1.1**
PATCX				*i* S	**S**	**21 41 57.8**	**-1.4**
TA01	**Diego Aracena**	**4.08**	**314**	*e P*	**Pn**	**21 41 13.8**	**+1.9**
TA01				*i* S	**S**	**21 42 02.0**	**-1.2**
AC01	**Pan de Azucar**	**4.21**	**229⇑**	*i P*	**Pn**	**21 41 13.2**	**-0.2**
AC01				*i* S	**S**	**21 42 03.2**	**-2.8**
LPAZ	**La Paz**	**7.19**	**352**	P	**Pn**	**21 41 53.1**	**+2.1**
	comp=E,0.7nm,0.3s,baz=161,slow=8.6,SNR=16						
LPAZ				S	**S**	**21 43 13.6**	**-0.4**
	comp=E,0.2nm,0.3s,baz=98,slow=5.7,SNR=2.5						
LPAZ	**La Paz**	**7.19**	**352**	*e P*	**Pn**	**21 41 53.8**	**+2.8**
SIV	**San Ignacio**	**9.30**	**38**	P	**Pn**	**21 42 14.1**	**-3.1**
	comp=E,0.6nm,0.3s,baz=226,slow=14,SNR=10.0						
TRCB	**Terra Rica**	**13.27**	**90**	*e P*	**P**	**21 43 08.6**	**+0.1**
PTGB	**Pitanga**	**13.74**	**98**	*e P*	**P**	**21 43 14.1**	**+0.4**
PCMB	**Pacaembu**	**14.70**	**86**	*e P*	**Pn**	**21 43 24.7**	**+0.6**
SAML	**Samuel**	**14.87**	**15**	*e P*	**Pn**	**21 43 27.5**	**+1.2**
TRQA	**Tornquist**	**15.20**	**165**	*e P*	P	21 43 18.5	-11
ITRB	**Iturama**	**15.95**	**80**	*e P*	**Pn**	**21 43 39.0**	**-0.3**
FRTB	**Fartura**	**16.05**	**93**	*e P*	**P**	**21 43 39.5**	**+0.4**
ARAG	**Araguaiana, MT**	**16.27**	**65**	*e P*	**Pn**	**21 43 43.0**	**+0.1**
TIJ01	**Guaruva-PR**	**16.54**	**100**	*e P*	**P**	**21 43 43.6**	**-0.9**
PLCA	**Paso Flores**	**17.50**	**189**	P	**Pn**	**21 43 58.5**	**+1.3**
	comp=E,0.1nm,0.3s,baz=10,slow=13,SNR=2.2						
SPB	**Sao Paulo**	**17.99**	**94**	*e P*	**P**	**21 43 59.6**	**-0.6**
IPMB	**Ipameri, GO**	**18.43**	**76**	*e P*	**P**	**21 44 04.9**	**-0.1**
VAO	**Valinhos**	**18.46**	**93**	*e P*	**P**	**21 44 04.4**	**-1.0**
BDFB	**Brasilia**	**19.52**	**70**	P	**P**	**21 44 15.6**	**-1.2**
	comp=E,0.5nm,0.3s,baz=255,slow=11,SNR=7.4						
NPGB	**Novo Progresso**	**19.79**	**36**	*e P*	**Pn**	**21 44 22.0**	**-2.4**
PEXB	**Peixe**	**21.08**	**61**	*e P*	**P**	**21 44 32.5**	**-0.7**
MAN01	**Angra dos Reis**	**21.23**	**93**	*e P*	**P**	**21 44 32.6**	**-2.0**
ITTB	**Itaituba**	**21.88**	**32**	*e P*	**P**	**21 44 41.0**	**+0.2**
MC01	**Montes Claros**	**22.69**	**77**	*e P*	**P**	**21 44 47.9**	**-0.4**
JANB	**Januaria**	**23.00**	**73**	*e P*	**P**	**21 44 50.0**	**-1.0**
PTGA	**Pitinga**	**23.59**	**18**	*e P*	**P**	**21 44 56.0**	**-0.4**
SMTB	**Santa Maria do**	**23.60**	**55**	*e P*	**P**	**21 44 56.8**	**+0.3**
SDBA	**SAO DESIDERIO**	**23.71**	**66**	*e P*	**P**	**21 44 57.4**	**-0.1**
PRPB	**Parauapebas**	**23.87**	**47**	*e P*	**P**	**21 44 59.2**	**+0.3**
SJMB	**Sao Joao De Ma**	**24.57**	**84**	*e P*	**P**	**21 45 03.7**	**-1.5**
OTAV	**Otavalo**	**26.02**	**333**	*e P*	**P**	**21 45 11.8**	**-6.9**
MCPB	**Macapa, AP**	**27.17**	**34**	*e P*	**P**	**21 45 26.4**	**-2.1**
TXAR	**Lajitas Array**	**63.20**	**324**	P	P	21 50 16.2	+6.4
	comp=E,0.1nm,0.5s,baz=161,slow=5.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**76.40**	**69**	P	**P**	**21 51 32.0**	**+1.8**
	comp=E,0.6nm,0.4s,baz=259,slow=5.3,SNR=4.9						
PDAR	**Pinedale Array**	**76.65**	**329**	P	P	21 51 37.9	+6.5
	comp=E,0.2nm,0.6s,baz=94,slow=7.3,SNR=2.0						
WRA	**Warramunga Arr**	**132.11**	**208**	PKP	**PKiKP**	**21 58 58.0**	**+4.2**
	comp=E,0.1nm,0.3s,baz=146,slow=1.6,SNR=2.1						
MKAR	**Makanchi Array**	**146.11**	**39**	PKPbc	**PKiKP**	**21 59 22.8**	**+1.4**
	comp=E,0.6nm,0.8s,baz=298,slow=2.6,SNR=4.9						

IDC 16 21:56:59.1±3.3, 8°.87S×158°.02E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.5/3, Error ellipse: s-maj=184.0km s-min=34.9km az=134.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.40**	**242**	P	P	22 02 28.7	+0.2
	0.7nm,0.8s,baz=69,slow=9.7,SNR=5.4						
ASAR	**Alice Springs**	**27.36**	**235**	P	P	22 02 46.0	-0.2
	0.4nm,0.8s,baz=67,slow=10,SNR=3.9						
ILAR	**Eielson Array**	**84.04**	**21**	P	P	22 09 31.3	+0.1
	0.3nm,0.6s,baz=233,slow=4.4,SNR=3.3						

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*NEIC **16** 22:05:58.6±1.4, 5°.75S±0°.06×146°.44E±0°.07, h112km±9km, mb4.1/14, Error ellipse: s-maj=12.7km s-min=6.1km az=130.0*
*IDC **16** 22:05:59.3±1.6, 5°.87S×146°.35E, h113km±16km, mb3.5/7, mb1 3.8/12, mb1mx3.6/31, mbtmp4.1/12, Error ellipse: s-maj=18.3km s-min=12.7km az=96.0*
ISC 16 22:05:58.6±0.6, 5°.82S±0°.06×146°.35E±0°.08, h100km, n34, σ1§27/39, mb3.8/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**167**	P	**Pn**	**22 06 53.7**	**+0.6**
	42nm,0.3s,baz=47,slow=5.3,SNR=54						
PMG				S	**Sn**	**22 07 34.9**	**-0.4**
	28nm,0.3s,baz=86,slow=18,SNR=14						
KRVT	**Keravat (AS076**	**5.85**	**75**	P	**Pn**	**22 07 24.8**	**+1.8**
	9.4nm,0.3s,baz=209,slow=4.8,SNR=3.9						
RABL	**Rabaul**	**6.01**	**75**	Pn	**Pn**	**22 07 24.8**	**-0.4**
JAY	**Jayapura**	**6.52**	**300**	P	**Pn**	**22 07 33.0**	**+0.9**
	3.6nm,0.3s,baz=104,slow=7.3,SNR=17						
COEN	**Coen**	**8.67**	**201**	Pn	**Pn**	**22 08 04.0**	**+2.7**
COEN					**Sn**	**22 09 38.3**	**+1.0**
CTA	**Charters Tower**	**14.18**	**180**	P	**P**	**22 09 19.5**	**+0.1**
	1.7nm,0.3s,baz=358,slow=14,SNR=19						
CTAO	**Charters Tower**	**14.18**	**180**		**P**	**22 09 19.7**	**+0.4**
FAKI	**Fak Fak**	**14.35**	**281**		**P**	**22 09 19.9**	**-1.4**
SIJI	**Sorong**	**15.84**	**288**	P	**Pn**	**22 09 35.6**	**-0.4**
	2.8nm,0.3s,baz=66,slow=7.9,SNR=4.2						
MTN	**Manton Dam**	**16.55**	**244**		**P**	**22 09 46.3**	**+0.6**
MTN				IAmb	IAmb	22 09 57.9	
	comp=Z,13nm,1.2s						
WB0	**Warramunga Arr**	**18.09**	**219**	P	**P**	**22 10 03.3**	**+0.6**
WB0				IAmb	IAmb	22 10 14.8	
	comp=Z,7.6nm,1.2s						
WB2	**Warramunga Arr**	**18.25**	**219**		**P**	**22 10 04.8**	**+0.4**
WB2				IAmb	IAmb	22 10 15.6	
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**18.26**	**219**	P	**P**	**22 10 05.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=41,slow=12,SNR=24						
WRA				S	**S**	**22 13 24.9**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=44,slow=25,SNR=1.6						
WRA				PcP	**PcP**	**22 14 32.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=18,slow=1.8,SNR=3.0						
WRA	**Warramunga Arr**	**18.26**	**219**	P	**P**	**22 10 04.8**	**+0.3**
KNRA	**Kununurra**	**19.84**	**239**	P	**P**	**22 10 21.6**	**-0.2**
KNRA				IAmb	IAmb	22 10 34.9	
	comp=Z,12nm,0.9s						
EIDS	**Eidsvold**	**19.96**	**167**	P	**P**	**22 10 21.8**	**-1.1**
EIDS				IAmb	IAmb	22 10 33.1	
	comp=Z,18nm,1.5s						
AS31	**Alice Springs**	**21.41**	**213**	P	**P**	**22 10 38.5**	**-0.1**
ASAR	**Alice Springs**	**21.41**	**213**	P	**P**	**22 10 39.9**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=50,slow=8.4,SNR=27						
ASAR	**Alice Springs**	**21.41**	**213**	P	**P**	**22 10 38.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.61**	**237**	P	**P**	**22 11 00.6**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=326,slow=0.2,SNR=17						
FITZ	**Fitzroy Crossi**	**23.61**	**237**	P	**P**	**22 11 01.2**	**+0.4**
FITZ				IAmb	IAmb	22 11 02.9	
	comp=Z,6.6nm,0.8s						
LUWI	**Luwuk**	**24.00**	**281**	P	**P**	**22 11 04.1**	**-0.2**
STKA	**Stephens Creek**	**26.30**	**189**	P	**P**	**22 11 25.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=4.1,slow=14,SNR=1.5						
STKA	**Stephens Creek**	**26.30**	**189**	P	**P**	**22 11 24.4**	**-0.6**
BBOO	**Buckleboo**	**28.52**	**198**	P	**P**	**22 11 44.5**	**-0.2**
PSA00	**Pilbara Seismi**	**30.05**	**236**	P	**P**	**22 11 58.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**52.60**	**298**	P	**P**	**22 15 02.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=123,slow=6.6,SNR=3.0						
CMAR				pP	**pP**	**22 15 29.9**	**+3.1**
	comp=Z,0.7nm,0.5s,baz=123,slow=7.7,SNR=2.7						
VNDA	**Vanda**	**72.13**	**176**	P	**P**	**22 17 11.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=330,slow=8.2,SNR=3.1						
VNDA	**Vanda**	**72.13**	**176**	P	**P**	**22 17 11.6**	**-0.3**
MKAR	**Makanchi Array**	**76.95**	**321**	pP	pP	22 18 08.3	+2.2
	comp=Z,0.5nm,0.8s,baz=134,slow=5.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**78.52**	**328**	P	**P**	**22 17 47.1**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=158,slow=1.6,SNR=1.8						
ZALV				pP	**pP**	**22 18 16.8**	**+2.1**
	comp=Z,0.7nm,0.5s,baz=32,slow=5.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**78.52**	**328**	P	**P**	**22 17 47.3**	**-1.5**
QSPA	**South Pole Qui**	**84.14**	**180**	P	**P**	**22 18 18.0**	**-0.5**
QSPA				IAmb	IAmb	22 18 19.4	
	comp=Z,2.5nm,1.2s						
ILAR	**Eielson Array**	**85.57**	**23**	P	**P**	**22 18 23.0**	**-2.5**
	comp=Z,0.8nm,0.6s,baz=247,slow=5.0,SNR=7.2						

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*TUL **16** 22:35:03.9±1.5, 36°.82N±0°.04×97°.72W±0°.07, h4km±7km, ML3.2, Error ellipse: s-maj=7.7km s-min=5.2km az=74.0*
*UNK **16** 22:35:03.9, 36°.82N×97°.72W, h4km*
*NEIC **16** 22:35:04.2±1.2, 36°.79N±0°.02×97°.73W±0°.07, h5km±2km, Error ellipse: s-maj=9.0km s-min=3.3km az=88.0*
*ANF **16** 22:35:05.0±1.1, 36°.82N×97°.75W, h9km±8km, ML4.1/13, Error ellipse: s-maj=3.3km s-min=2.4km az=32.0*
ISC 16 22:35:04.1±1.1, 36°.80N±0°.02×97°.73W±0°.03, h2km±10km, n77, σ0§89/84, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.29**	**43**		**Pg**	**22 35 09.7**	**0.0**
KAN13				Sg	**Sg**	**22 35 13.6**	**+0.1**
CROK	**Carrier**	**0.36**	**215**		**Pg**	**22 35 11.7**	**+0.6**
CROK				Sg	**Sg**	**22 35 16.8**	**+1.1**
KAN10	**Anthony SW Sta**	**0.44**	**317**		**Pg**	**22 35 12.7**	**+0.2**
KAN10				Sg	**Sg**	**22 35 18.7**	**+0.6**
KAN12	**Harper NE Stat**	**0.54**	**336**		**Pg**	**22 35 14.5**	**0.0**
KAN12				Sg	**Sg**	**22 35 21.9**	**+0.4**
T35A	**Sooner Cattle**	**0.98**	**83**		**Pg**	**22 35 22.4**	**-0.5**
OK029	**Liberty Lake**	**1.03**	**168**		**Pg**	**22 35 23.7**	**-0.1**
QUOK	**Quay**	**1.03**	**127**		**Pg**	**22 35 23.5**	**-0.4**
U32A	**Winter Ranch,**	**1.11**	**248**		**Pg**	**22 35 25.0**	**-0.4**
BCOK	**Bluff Creek, N**	**1.15**	**175**		**Pg**	**22 35 25.8**	**-0.3**
OK025	**Westminster Rd**	**1.26**	**165**		**Pg**	**22 35 27.8**	**-0.4**
OKCFA	**Oklahoma City**	**1.40**	**171**		**Pn**	**22 35 30.1**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.41**	**170**	Pn	**Pn**	**22 35 30.4**	**-0.5**
FNO	**Franklin**	**1.56**	**170**		**Pn**	**22 35 33.0**	**0.0**
W35A	**Tecumseh**	**1.79**	**157**		**Pn**	**22 35 36.2**	**+0.2**
R32A	**Long Quarter,**	**1.80**	**334**	Pn	**Pn**	**22 35 36.4**	**+0.2**
TUL1	**Leonard**	**1.80**	**119**	P	**Pn**	**22 35 36.5**	**+0.4**
	baz=301						
TUL1				S	**Sb**	**22 36 00.7**	**-0.1**
	baz=301						
TUL1	**Leonard**	**1.80**	**119**		**Pn**	**22 35 36.7**	**+0.5**
X34A	**Smith Ranch, M**	**2.20**	**182**		**Pn**	**22 35 42.4**	**+0.7**
WMOK	**Wichita Mounta**	**2.23**	**203**	P	**Pn**	**22 35 42.0**	**-0.1**
	baz=22						
WMOK				S	**Sn**	**22 36 11.2**	**+0.8**
	baz=22						
WMOK	**Wichita Mounta**	**2.23**	**203**		**Pn**	**22 35 42.0**	**-0.1**
KSU1	**Kansas State U**	**2.46**	**21**	P	**Pn**	**22 35 45.4**	**+0.2**
	baz=201						
KSU1	**Kansas State U**	**2.46**	**21**	Pn	**Pn**	**22 35 45.1**	**-0.1**
CBKS	**Cedar Bluff**	**2.56**	**322**	Sb	**Sb**	**22 36 23.5**	**+0.6**
	baz=141						
CBKS	**Cedar Bluff**	**2.56**	**322**		**Pn**	**22 35 47.1**	**+0.4**
U38A	**Gravette**	**2.71**	**97**		**Pn**	**22 35 49.3**	**+0.6**
X37A	**Clayton**	**2.92**	**138**		**Pn**	**22 35 51.8**	**+0.1**
HHAR	**Hobbs**	**3.09**	**99**		**Pn**	**22 35 54.0**	**+0.1**
Z35A	**Perchaven, San**	**3.49**	**173**	Pn	**Pn**	**22 35 59.3**	**0.0**
W39A	**Magazine**	**3.58**	**115**	Sb	**Sb**	**22 36 54.4**	**+2.5**
	baz=298						
S39A	**Bolivar**	**3.62**	**75**	Pn	**Pn**	**22 36 01.1**	**-0.2**
AMTX	**Amarillo**	**3.74**	**240**	Pb	**Pb**	**22 36 10.8**	**-0.1**
	baz=58						
AMTX	**Amarillo**	**3.74**	**240**	Pn	**Pn**	**22 36 03.5**	**+0.5**
U40A	**Yellville**	**3.95**	**95**	P	**Pn**	**22 36 06.8**	**+1.1**
	baz=278						
U40A				S	**Sn**	**22 36 53.6**	**+1.0**
	baz=278						
U40A	**Yellville**	**3.95**	**95**	Pn	**Pn**	**22 36 06.5**	**+0.7**
MIAR	**Mount Ida**	**4.06**	**122**	Sb	**Sg**	**22 37 11.5**	**-3.0**
	baz=305						
MIAR	**Mount Ida**	**4.06**	**122**	Pn	**Pn**	**22 36 07.5**	**+0.2**
Z38A	**Mt. Pleasant**	**4.19**	**147**	Pn	**Pn**	**22 36 08.4**	**-0.6**
P38A	**Dawn**	**4.34**	**48**		**Pn**	**22 36 11.2**	**+0.1**
N35A	**Tabor**	**4.37**	**21**	Pn	**Pn**	**22 36 12.1**	**+0.6**
ABTX	**Abilene, Hawle**	**4.46**	**201**	Pn	**Pn**	**22 36 12.4**	**-0.4**
KSCO	**Kaye Shedlock'**	**4.46**	**301**	P	**Pn**	**22 36 13.3**	**+0.5**
	baz=118						
KSCO	**Kaye Shedlock'**	**4.46**	**301**	Pn	**Pn**	**22 36 12.9**	**0.0**
R40A	**Maddies Statio**	**4.58**	**69**	Pn	**Pn**	**22 36 13.6**	**-0.9**
X40A	**Basin Creek Fa**	**4.61**	**119**	Pn	**Pn**	**22 36 13.9**	**-0.8**
BGNE	**Belgrade**	**4.61**	**356**	P	**Pn**	**22 36 14.7**	**-0.2**
	baz=176						
BGNE	**Belgrade**	**4.61**	**356**	Pn	**Pn**	**22 36 14.4**	**-0.5**
FCAR	**Ozark Folk Cen**	**4.61**	**100**	Pn	**Pn**	**22 36 15.2**	**+0.4**
WHAR	**Wooly Hollow**	**4.66**	**107**	Pn	**Pn**	**22 36 15.3**	**-0.2**
W41B	**Gary Mavity, V**	**4.73**	**108**	Sb	**Sb**	**22 37 29.5**	**+4.3**
	baz=292						
WHTX	**Lake Whitney,**	**4.80**	**177**	P	**Pn**	**22 36 18.1**	**+0.6**
	baz=358						
WHTX	**Lake Whitney,**	**4.80**	**177**	Pn	**Pn**	**22 36 17.1**	**-0.4**
WLAR	**White Oak Lake**	**4.89**	**128**	Pn	**Pn**	**22 36 18.8**	**+0.1**
MSTX	**Muleshoe**	**5.00**	**237**	Pn	**Pn**	**22 36 19.1**	**-1.2**
P40A	**Paris**	**5.24**	**57**		**Pn**	**22 36 22.6**	**-0.8**
L34A	**Svendsen Farm,**	**5.26**	**11**	Pn	**Pn**	**22 36 23.8**	**0.0**
CCM	**Cathedral Cave**	**5.31**	**74**	P	**Pn**	**22 36 24.9**	**+0.5**
	baz=258						
CCM	**Cathedral Cave**	**5.31**	**74**	Pn	**Pn**	**22 36 23.8**	**-0.6**
N38A	**Joes South For**	**5.31**	**40**	Pn	**Pn**	**22 36 24.1**	**-0.3**
T42A	**Van Buren**	**5.32**	**86**	Pn	**Pn**	**22 36 23.9**	**-0.6**
OGNE	**Ogallala**	**5.33**	**322**	Pn	**Pn**	**22 36 25.1**	**+0.3**
LCAR	**Lake Charles**	**5.35**	**96**	Pn	**Pn**	**22 36 24.6**	**-0.4**
T25A	**Trinidad**	**5.36**	**276**	Pn	**Pn**	**22 36 25.5**	**+0.1**
Q24A	**Divide**	**6.25**	**292**	S	**Sn**	**22 37 47.9**	**-2.1**
	baz=108						
SDCO	**Great Sand Dun**	**6.27**	**281**	Pn	**Pn**	**22 36 37.0**	**-1.0**
N41A	**Harden Midland**	**6.63**	**52**	Pn	**Pn**	**22 36 42

*IDC **16** 22:40:23.7±1.9, 6°67S×130°46E, h87km±19km, mb3.9/9, mb1 4.0/15, mb1mx3.8/38, mbtmp4.3/15, Error ellipse: s-maj=16.4km s-min=14.5km az=88.0*
*NEIC **16** 22:40:24.6±1.6, 6°64S±0°06×130°55E±0°07, h105km±5km, mb4.2/15, Error ellipse: s-maj=10.7km s-min=9.1km az=79.0*

ISC 16 22:40:24.4±0.5, 6°64S±0°05×130°58E±0°06, h100km, n48, σ1§76/52, mb4.1/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.52**	**152**	Pn	**Pn**	**22 40 52.6**	**+1.7**
SAUI				Sn	**Sn**	22 41 11.3	+0.3
FAKI	**Fak Fak**	**4.05**	**24**	Pn	**Pn**	**22 41 25.1**	**+0.8**
SIJI	**Sorong**	**5.77**	**7**	P	**Pn**	**22 41 47.5**	**-0.1**
	10nm,0.3s,baz=210,slow=20,SNR=26						
SIJI				S	**Sn**	**22 42 47.3**	**-5.2**
	15nm,0.3s,baz=260,slow=23,SNR=17						
MTN	**Manton Dam**	**6.19**	**175**	Pn	**Pn**	**22 41 53.4**	**+0.1**
SOEI	**Soe**	**6.97**	**243**	Pn	**Pn**	**22 42 04.9**	**+0.9**
BATI	**Baumata**	**7.70**	**242**	P	**Pn**	**22 42 12.6**	**-1.3**
	5.2nm,0.3s,baz=64,slow=6.3,SNR=2.4						
BATI				S	**Sn**	**22 43 36.4**	**-3.3**
	16nm,0.3s,baz=326,slow=7.3,SNR=12						
KNRA	**Kununurra**	**9.16**	**191**	Pn	**Pn**	**22 42 32.7**	**-1.0**
JAY	**Jayapura**	**10.89**	**68**	P	**Pn**	**22 42 58.1**	**+0.7**
	0.8nm,0.3s,baz=265,slow=13,SNR=7.8						
JAY				S	**Sn**	**22 44 54.1**	**-3.3**
	0.3nm,0.3s,baz=290,slow=15,SNR=1.2						
FITZ	**Fitzroy Crossi**	**12.37**	**202**	P	**Pn**	**22 43 14.7**	**-2.3**
	0.5nm,0.3s,baz=360,slow=12,SNR=15						
FITZ				S	Sn	22 45 19.6	-13
	1.3nm,0.3s,baz=360,slow=15,SNR=6.4						
WRA	**Warramunga Arr**	**13.72**	**165**	P	Pn	22 43 30.1	-4.7
	0.8nm,0.3s,baz=348,slow=13,SNR=30						
WRA				S	Sn	22 45 54.1	-12
	2.4nm,0.3s,baz=331,slow=24,SNR=11						
WR0	**Warramunga Arr**	**13.79**	**164**	Pn	**Pn**	**22 43 31.8**	**-3.9**
COEN	**Coen**	**14.37**	**121**		**Pn**	**22 43 41.9**	**-1.3**
PMG	**Port Moresby**	**16.65**	**101**	P	**P**	**22 44 13.7**	**+1.1**
	1.4nm,0.3s,baz=254,slow=19,SNR=3.0						
PMG	**Port Moresby**	**16.65**	**101**	Pn	**Pn**	**22 44 11.0**	**-0.9**
PMG				IAmb	IAmb	22 44 25.2	
	comp=Z,26nm,1.0s						
AS31	**Alice Springs**	**17.23**	**170**		**Pn**	**22 44 18.3**	**-0.6**
ASAR	**Alice Springs**	**17.23**	**170**	P	**Pn**	**22 44 18.6**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=350,slow=10,SNR=41						
ASAR				S	Sn	22 47 17.0	-14
	comp=Z,0.2nm,0.3s,baz=340,slow=17,SNR=4.7						
ASAR	**Alice Springs**	**17.23**	**170**		**Pn**	**22 44 17.4**	**-1.5**
PSA00	**Pilbara Seismi**	**18.11**	**214**	P	**P**	**22 44 28.5**	**-0.2**
PSA00				IAmb	IAmb	22 44 35.6	
	comp=Z,11nm,1.0s						
KKM	**Kota Kinabalu**	**19.08**	**311**		**Pn**	**22 44 39.9**	**-1.3**
KKM				IAmb	IAmb	22 44 47.4	
	comp=Z,34nm,1.5s						
CTA	**Charters Tower**	**20.26**	**133**	P	**P**	**22 44 53.7**	**+1.7**
	comp=Z,5.5nm,0.7s,baz=322,slow=12,SNR=8.0						
CTAO	**Charters Tower**	**20.26**	**133**	P	**P**	**22 44 52.0**	**0.0**
CTAO				IAmb	IAmb	22 44 57.7	
	comp=Z,8.3nm,0.9s						
BBOO	**Buckleboo**	**26.54**	**170**	P	**P**	**22 45 52.6**	**-0.3**
BBOO				IAmb	IAmb	22 45 56.1	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**27.14**	**159**	P	**P**	**22 45 58.3**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=333,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**27.14**	**159**	P	**P**	**22 45 58.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**39.94**	**309**	P	**P**	**22 47 49.8**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=135,slow=7.1,SNR=11						
CMAR	**Chiang Mai Arr**	**39.94**	**309**	P	**P**	**22 47 48.1**	**-1.1**
CHTO	**Chiang Mai**	**40.15**	**310**	P	**P**	**22 47 50.6**	**-0.3**
CHTO				IAmb	IAmb	22 47 52.3	
	comp=Z,4.4nm,0.8s						
JWT	**Wachi**	**41.94**	**6**	P	**P**	**22 48 05.2**	**-0.2**
LZH	**Lanzhou**	**49.36**	**331**	*eP*	**P**	**22 49 05.3**	**+1.3**
LZH				pP	pwP	22 49 32.8	+2.0
LZH				sP	sP	22 49 47.9	+10
LZH				PP	**PP**	**22 51 06.0**	**+7.0**
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				pmax	pmax		
	comp=Z,56nm,4.9s						
HHC	**Hu-ho-hao-te**	**50.38**	**341**	*eP*	**P**	**22 49 12.3**	**+0.7**
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,76nm,5.4s						
ULN	**Ulaanbaatar**	**58.10**	**342**	P	**P**	**22 50 07.9**	**+0.4**
SONM	**Songino Array**	**58.28**	**341**	P	**P**	**22 50 09.7**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=155,slow=5.9,SNR=8.4						
SONM	**Songino Array**	**58.28**	**341**	P	**P**	**22 50 09.1**	**+0.3**
WMQ	**Urumqi**	**63.41**	**327**	*eP*	**P**	**22 50 44.3**	**+0.8**
PETK	**Petropavlovsk-**	**63.80**	**18**	P	**P**	**22 50 47.2**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=186,slow=3.0,SNR=5.1						
PETK	**Petropavlovsk-**	**63.80**	**18**	P	**P**	**22 50 46.0**	**+0.2**
MKAR	**Makanchi Array**	**68.24**	**326**	P	**P**	**22 51 15.1**	**+0.7**
	comp=Z,6.3nm,0.4s,baz=114,slow=8.3,SNR=125						
MKAR	**Makanchi Array**	**68.24**	**326**	P	**P**	**22 51 14.3**	**-0.1**
MAKZ	**Makanchi**	**68.42**	**326**	P	**P**	**22 51 15.7**	**+0.2**
SEY	**Seymchan**	**71.35**	**10**	P	**P**	**22 51 33.9**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=183,slow=6.7,SNR=4.7						
ZAA0	**Zalesovo Array**	**71.51**	**333**	P	**P**	**22 51 33.8**	**-0.4**
ZAA0				IAmb	IAmb	22 51 34.6	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**71.51**	**333**	P	**P**	**22 51 33.8**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=120,slow=5.8,SNR=7.7						
ZALV	**Zalesovo Beam**	**71.51**	**333**	P	**P**	**22 51 33.3**	**-1.0**
KURK	**Kurchatov**	**72.51**	**328**	P	**P**	**22 51 40.1**	**-0.1**
KURK				IAmb	IAmb	22 51 41.3	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**73.45**	**319**	P	**P**	**22 51 46.0**	**-0.1**
MAW	**Mawson**	**75.50**	**201**	P	**P**	**22 51 58.4**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=49,slow=9.3,SNR=2.0						
MAW	**Mawson**	**75.50**	**201**	P	**P**	**22 51 58.4**	**+1.0**
ARCES	**ARCESS Array B**	**101.44**	**340**	P	**Pdif**	**22 54 05.7**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=80,slow=7.5,SNR=3.8						

*NEIC **16** 22:56:45.6±1.1, 30°00S±0°10×178°9W±0°71, h213km±5km, mb4.7/47, Error ellipse: s-maj=15.4km s-min=13.9km az=70.0*
*IDC **16** 22:56:46.4±0.8, 29°82S×178°84W, h218km±7km, mb4.1/17, mb1 4.3/18, mb1mx4.2/31, mbtmp4.6/18, Error ellipse: s-maj=12.3km s-min=11.9km az=94.0*

ISC 16 22:56:44.0±0.3, 30°15S±0°05×178°84W±0°07, h200km, n197, σ1§87/224, mb4.6/39, 1C-2D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.20**	**42**	P	**Pn**	**22 57 17.5**	**+2.3**
GLKZ				S	**Sn**	**22 57 42.9**	**+3.5**
RIZ	**Raoul Island**	**1.21**	**42**	P	**Pn**	**22 57 17.8**	**+2.5**
RIZ				S	**Sn**	**22 57 42.1**	**+2.7**
RAO	**Raoul Island**	**1.21**	**42**	P	**Pn**	**22 57 17.5**	**+2.2**
	2μm,0.3s,baz=211,slow=0.7,SNR=83						
RAO				S	**Sn**	**22 57 38.4**	**-1.1**
	2μm,0.3s,baz=205,slow=23,SNR=7.9						
RAO	**Raoul Island**	**1.21**	**42**		**Pn**	**22 57 17.5**	**+2.2**
RAO					**Sn**	**22 57 40.1**	**+0.6**
MXZ	**Matakaoa Point**	**7.76**	**197**	P	**Pn**	**22 58 32.8**	**-1.2**
MXZ				S	**Sn**	**23 00 00.3**	**-1.4**
WMGZ	**Waiomatatini S**	**7.98**	**196**	P	**Pn**	**22 58 36.5**	**-0.4**
WMGZ				S	**Sn**	**23 00 09.0**	**+2.2**
HAZ	**Te Kaha**	**8.09**	**199**	P	**Pn**	**22 58 38.1**	**-0.2**
HAZ				S	**Sn**	**23 00 09.7**	**+0.4**
PUZ	**Puketiti**	**8.26**	**196**	S	**Sn**	**23 00 12.5**	**-1.0**
RUGZ	**Raukumara Rang**	**8.31**	**199**	P	**Pn**	**22 58 40.2**	**-1.1**
RUGZ				S	**Sn**	**23 00 13.1**	**-1.7**
OPRZ	**Ohinepanea**	**8.57**	**205**	P	**Pn**	**22 58 44.4**	**-0.2**
CNGZ	**Carnagh Statio**	**8.66**	**196**	P	**Pn**	**22 58 45.5**	**-0.3**
MWZ	**Matawai**	**8.70**	**199**	P	**Pn**	**22 58 44.4**	**-1.9**
MWZ				S	**Sn**	**23 00 25.1**	**+1.2**
TKGZ	**Te Karaka**	**8.71**	**197**	P	**Pn**	**22 58 44.7**	**-1.6**
TKGZ				S	**Sn**	**23 00 24.2**	**+0.1**
URZ	**Urewera**	**8.75**	**201**	P	**Pn**	**22 58 45.9**	**-1.1**
	8.1nm,0.3s,baz=337,slow=4.3,SNR=16						
URZ				S	**Sn**	**23 00 23.0**	**-2.2**
	35nm,0.3s,baz=17,slow=2.5,SNR=4.0						
URZ	**Urewera**	**8.75**	**201**	P	**Pn**	**22 58 46.1**	**-0.9**
URZ				S	**Sn**	**23 00 25.3**	**+0.2**
URZ	**Urewera**	**8.75**	**201**	Pn	**Pn**	**22 58 46.1**	**-0.9**
RAGZ	**Rawiri**	**8.88**	**199**	S	**Sn**	**23 00 23.8**	**-4.5**
RIGZ	**Rimuhau**	**8.98**	**197**	S	**Sn**	**23 00 31.7**	**+1.1**
MUGZ	**Murupara**	**9.06**	**202**	S	**Sn**	**23 00 32.2**	**-0.4**
RTZ	**Ruatahuna**	**9.12**	**201**	P	**Pn**	**22 58 48.9**	**-2.9**
PRGZ	**Paritu Road**	**9.15**	**196**	P	**Pn**	**22 58 50.3**	**-1.9**
PRGZ				S	**Sn**	**23 00 32.3**	**-2.5**
SNGZ	**Shannon Statio**	**9.16**	**199**	S	**Sn**	**23 00 34.2**	**-0.8**
KNZ	**Kokohu**	**9.30**	**197**	P	**Pn**	**22 58 51.0**	**-3.1**
RAHZ	**Arahi**	**9.36**	**200**	P	**Pn**	**22 58 52.6**	**-2.4**
RAHZ				S	**Sn**	**23 00 39.8**	**+0.1**
MHGZ	**Mahia Peninsul**	**9.37**	**196**	P	**Pn**	**22 58 52.3**	**-2.7**
TLZ	**Tolley Road**	**9.39**	**208**	P	**Pn**	**22 58 57.2**	**+1.9**
WHHZ	**Waihua**	**9.47**	**199**	P	**Pn**	**22 58 53.8**	**-2.5**
WHHZ				S	**Sn**	**23 00 41.5**	**-0.7**
BKZ	**Black Stump Fm**	**9.78**	**202**	P	**Pn**	**22 58 58.5**	**-1.8**
BKZ				S	**Sn**	**23 00 48.4**	**-1.2**
BKZ	**Black Stump Fm**	**9.78**	**202**	Pn	**Pn**	**22 58 58.3**	**-2.0**
HIZ	**Hauiti**	**9.83**	**210**	P	**Pn**	**22 59 05.1**	**+4.2**
MCHZ	**McNeill Hill**	**9.97**	**200**	P	**Pn**	**22 59 01.2**	**-1.6**
MCHZ				S	**Sn**	**23 00 51.2**	**-2.8**
WTVZ	**West Tongariro**	**10.04**	**206**	P	**Pn**	**22 59 07.4**	**+3.5**
TWVZ	**Taurewa**	**10.06**	**206**	P	**Pn**	**22 59 05.3**	**+1.2**
NGZ	**Ngauruhoe**	**10.09**	**205**	P	**Pn**	**22 59 07.0**	**+2.5**
FWVZ	**Far West T-bar**	**10.18**	**205**	P	**Pn**	**22 59 04.2**	**-1.5**
BHHZ	**Black Hill Sta**	**10.21**	**203**	P	**Pn**	**22 59 03.2**	**-2.7**
BHHZ				S	**Sn**	**23 00 57.2**	**-2.8**
WNVZ	**Wahianoa**	**10.23**	**205**	P	**Pn**	**22 59 05.6**	**-0.7**
KAHZ	**Kahuranaki**	**10.24**	**199**	P	**Pn**	**22 59 04.3**	**-1.9**
MOVZ	**Moawhango**	**10.24**	**204**	P	**Pn**	**22 59 03.2**	**-3.2**
PKVZ	**Pokaka**	**10.29**	**206**	P	**Pn**	**22 59 07.0**	**0.0**
PXZ	**Pawanui**	**10.46**	**198**	P	**Pn**	**22 59 04.9**	**-4.3**
PXZ				S	**Sn**	**23 00 59.3**	**-6.6**
WPHZ	**Waipukurau**	**10.61**	**200**	P	**Pn**	**22 59 10.9**	**-0.2**
PRHZ	**Porangahau**	**10.74**	**199**	P	**Pn**	**22 59 10.0**	**-2.8**
TSZ	**Takapari Road**	**10.76**	**202**	P	**Pn**	**22 59 11.2**	**-1.8**
TSZ				S	**Sn**	**23 01 06.9**	**-6.0**
WAZ	**Wanganui**	**10.83**	**206**	P	**Pn**	**22 59 12.0**	**-1.9**
DVHZ	**Dannevirke**	**10.91**	**201**	P	**Pn**	**22 59 13.5**	**-1.4**
DVHZ				S	**Sn**	**23 01 11.2**	**-5.4**
ANWZ	**Angora Road**	**10.97**	**199**	P	**Pn**	**22 59 16.5**	**+0.9**
ANWZ				S	**Sn**	**23 01 11.1**	**-6.8**
POWZ	**Post Office Ro**	**11.12**	**202**	P	**Pn**	**22 59 15.7**	**-1.9**
PRWZ	**Pori Road**	**11.21**	**201**	P	**Pn**	**22 59 16.9**	**-1.8**
BFZ	**Birch Farm**	**11.24**	**200**	P	Pn	22 59 14.0	-5.1
MRZ	**Mangatainoka R**	**11.43**	**202**	P	**Pn**	**22 59 17.1**	**-4.4**
TIWZ	**Tintock**	**11.43**	**201**	P	**Pn**	**22 59 19.2**	**-2.4**
CPWZ	**Castlepoint**	**11.46**	**199**	P	**Pn**	**22 59 19.0**	**-2.9**
HOWZ	**Holdsworth Sta**	**11.66**	**202**	P	**Pn**	**22 59 20.1**	**-4.4**
OGWZ	**Otaki Gorge**	**11.70**	**203**	P	**Pn**	**22 59 20.4**	**-4.6**
TMWZ	**Te Maipa**	**11.74**	**200**	P	Pn	22 59 20.5	-4.9
CAW	**Cannon Point**	**12.00**	**203**	P	**Pn**	**22 59 24.1**	**-4.7**
MSWZ	**Moikau Station**	**12.21**	**201**	P	**Pn**	**22 59 27.2**	**-4.3**
MSVF	**Nonsavu**	**12.68**	**346**	Pn	**Pn**	**22 59 37.1**	**-0.6**
DZM	**Mont Dzumac**	**15.46**	**298**	P	**P**	**23 00 15.6**	**+3.5**
	5.5nm,0.3s,baz=175,slow=7.6,SNR=45						
DZM	**Mont Dzumac**	**15.46**	**298**	P	**P**	**23 00 15.1**	**+2.9**
DZM				IAmb	IAmb	23 00 18.4	
	comp=Z,24nm,0.6s						
RPZ	**Rata Peaks**	**15.74**	**208**	P	**P**	**23 00 11.3**	**-3.7**
	comp=Z,1.5nm,0.3s,baz=36,slow=19,SNR=6.3						
RPZ				S	S	23 02 56.5	-13
	comp=Z,5.6nm,0.3s,baz=106,slow=15,SNR=13						
RPZ	**Rata Peaks**	**15.74**	**208**	P	**P**	**23 00 13.5**	**-1.5**
RPZ				IAmb	IAmb	23 00 32.9	
	comp=Z,19nm,0.9s						
AFI	**Afiamalu**	**17.43**	**24**	P	P	23 00 26.7	-7.1
	comp=Z,14nm,0.3s,baz=217,slow=7.5,SNR=9.5						
AFI				S	S	23 03 26.2	-19
	comp=Z,4.7nm,0.3s,baz=233,slow=20,SNR=2.2						
AFI	**Afiamalu**	**17.43**	**24**		**P**	**23 00 29.3**	**-4.5**
RAR	**Rarotonga**	**19.34**	**67**	P	**P**	**23 00 53.5**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=225,slow=11,SNR=2.7						
RAR	**Rarotonga**	**19.34**	**67**	P	**P**	**23 00 54.1**	**-0.3**
RAR				IAmb	IAmb	23 00 58.4	
	comp=Z,24nm,0.8s						
ARMA	**Armidale**	**25.47**	**262**	P	**P**	**23 01 54.5**	**+0.6**
ARMA				IAmb	IAmb	23 02 00.7	
	comp=Z,13nm,1.1s						
EIDS	**Eidsvold**	**26.99**	**273**	P	**P**	**23 02 08.8**	**+1.4**
EIDS				IAmb	IAmb	23 02 12.6	
	comp=Z,9.8nm,0.7s						
CTAO	**Charters Tower**	**33.04**	**279**	P	**P**	**23 03 02.0**	**+1.2**
CTAO				IAmb	IAmb	23 03 03.8	
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**33.82**	**257**	P	**P**	**23 03 09.7**	**+2.3**
	comp=Z,11nm,0.8s,baz=101,slow=11,SNR=18						
STKA				PcP	**PcP**	**23 05 41.0**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=113,slow=7.7,SNR=2.1						
STKA	**Stephens Creek**	**33.82**	**257**	P	**P**	**23 03 09.1**	**+1.7**
BBOO	**Buckleboo**	**38.33**	**254**	P	**P**	**23 03 46.2**	**+0.6**
BBOO				IAmb	IAmb	23 03 48.6	
	comp=Z,10nm,0.8s						
AS31	**Alice Springs**	**42.39**	**267**	P	**P**	**23 04 18.7**	**-0.4**
ASAR	**Alice Springs**	**42.39**	**267**	P	**P**	**23 04 19.0**	**0.0**
	comp=Z,4.0nm,0.5s,baz=102,slow=7.4,SNR=64						
ASAR				PcP	**PcP**	**23 06 07.8**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=120,slow=3.7,SNR=8.4						
ASAR				ScP	**ScP**	**23 09 36.3**	**-3.8**
	comp=Z,2.2nm,0.8s,baz=111,slow=3.9,SNR=9.8						
ASAR	**Alice Springs**	**42.39**	**267**	P	**P**	**23 04 18.5**	**-0.6**
WR0	**Warramunga Arr**	**43.18**	**272**	P	**P**	**23 04 24.9**	**-0.4**
WR0				IAmb	IAmb	23 04 28.0	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**43.35**	**272**	P	**P**	**23 04 26.8**	**+0.1**
WB2				IAmb	IAmb	23 04 29.4	
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**43.36**	**272**	P	**P**	**23 04 26.9**	**+0.1**
	comp=Z,15nm,0.6s,baz=110,slow=8.0,SNR=70						
WRA				PcP	**PcP**	**23 06 11.5**	**-0.2**
	comp=Z,7.7nm,0.8s,baz=116,slow=3.8,SNR=6.7						
FORT	**Forrest**	**45.40**	**255**	P	**P**	**23 04 42.4**	**-0.5**
FORT				IAmb	IAmb	23 04 45.8	
	comp=Z,17nm,0.6s						
VNDA	**Vanda**	**48.27**	**186**	P	**P**	**23 05 08.3**	**+4.0**
	comp=Z,12nm,0.9s,baz=3.8,slow=8.0,SNR=76						
VNDA				ScP	**ScP**	**23 10 02.0**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=354,slow=7.0,SNR=3.6						
VNDA	**Vanda**	**48.27**	**186**	P	**P**	**23 05 07.9**	**+3.6**
MTN	**Manton Dam**	**49.22**	**279**	P	**P**	**23 05 12.4**	**0.0**
KNRA	**Kununurra**	**49.96**	**275**	P	**P**	**23 05 17.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**51.63**	**270**	P	**P**	**23 05 30.6**	**+0.2**
FAKI	**Fak Fak**	**53.57**	**291**	P	**P**	**23 05 44.8**	**+0.1**
FAKI				IAmb	IAmb	23 06 01.5	
	comp=Z,36nm,1.5s						
CASY	**Casey**	**55.02**	**208**	P	**P**	**23 05 55.5**	**+1.1**
MORW	**Morawa**	**55.90**	**254**	P	**P**	**23 06 01.0**	**-0.3**
MORW				IAmb	IAmb	23 06 01.3	
	comp=Z,22nm,1.4s						
GIRL	**Giralia**	**59.67**	**260**	P	**P**	**23 06 28.0**	**+0.4**
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**23 06 32.2**	**+3.2**
	comp=Z,45nm,0.7s,baz=34,slow=2.4,SNR=276						
QSPA				PcP	**pP**	**23 07 14.4**	**0.0**
	comp=Z,13nm,0.7s,baz=232,slow=2.6,SNR=4.1						
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**23 06 31.8**	**+2.7**
UGM	**Wanagama**	**69.34**	**273**	P	**P**	**23 07 30.8**	**+0.4**
BELA	**Belgrano 2**	**70.13**	**172**	P	**P**	**23 07 35.3**	**+1.1**
KKM	**Kota Kinabalu**	**71.79**	**288**	P	**P**	**23 07 44.5**	**-0.7**
KKM				IAmb	IAmb	23 07 45.9	
	comp=Z,18nm,0.8s						
MAW	**Mawson**	**72.28**	**201**	P	**P**	**23 07 48.4**	**+1.3**
	comp=Z,10nm,0.9s,baz=118,slow=7.6,SNR=26						
MAW	**Mawson**	**72.28**	**201**	P	**P**	**23 07 48.1**	**+1.0**
SBUM	**Sibu**	**73.15**	**283**	P	**P**	**23 07 53.0**	**-0.2**
MDSI	**Maura Dua**	**76.50**	**273**	P	**P**	**23 08 10.5**	**-1.9**
	comp=Z,30nm,0.8s						
SYO	**Syowa Base**	**77.19**	**193**	‖*pP*	**P**	**23 08 14.7**	**-0.6**
SYO	**Syowa Base**	**77.19**	**193**	‖*pPcP*	**PcP**	**23 08 26.0**	**+0.8**
SYO	**Syowa Base**	**77.19**	**193**	‖*pPP*	pP	23 09 05.2	+2.5
JGF	**Kuroka**	**77.30**	**325**	P	**P**	**23 08 15.5**	**-0.9**
JGF				IAmb	IAmb	23 08 16.2	
	comp=Z,7.5nm,0.7s						
MJAR	**Matsushiro Arr**	**77.62**	**326**	P	**P**	**23 08 16.7**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=163,slow=5.4,SNR=6.8						
JWT	**Wachi**	**78.05**	**323**	P	**P**	**23 08 19.4**	**-1.0**
JWT				IAmb	IAmb	23 08 29.8	
	comp=Z,25nm,1.3s						
SNAA	**Sanae**	**78.42**	**179**	P	**P**	**23 08 23.4**	**+1.2**
SNAA	**Sanae**	**78.42**	**179**	P	**P**	**23 08 23.4**	**+1.2**
VNA3	**Neumayer Olymp**	**78.60**	**176**	P	**P**	**23 08 24.2**	**+1.2**
SSLB	**Suanglung**	**78.82**	**306**	P	**P**	**23 08 23.1**	**-1.9**
SSLB				IAmb	IAmb	23 08 23.6	
	comp=Z,11nm,0.8s						
VNA2	**Neumayer-Watz**	**79.02**	**177**	P	**P**	**23 08 26.8**	**+1.5**
	baz=171,slow=5.4						
JHS	**Saijyo**	**79.04**	**322**	P	**P**	**23 08 25.6**	**-0.3**
JHS				IAmb	IAmb	23 08 26.8	
	comp=Z,12nm,0.8s						
VNA1	**Neumayer--Stat**	**79.26**	**177**	P	**P**	**23 08 28.1**	**+1.6**
DLV	**T Lat**	**81.39**	**289**	P	**P**	**23 08 39.2**	**+0.1**
ADK	**Adak**	**81.70**	**1**	P	**P**	**23 08 39.3**	**-0.3**
ADK				IAmb	IAmb	23 08 42.5	
	comp=Z,10nm,0.9s						
PLCA	**Paso Flores**	**83.21**	**133**	P	**P**	**23 08 49.8**	**+1.6**
	comp=Z,12nm,0.8s,baz=224,slow=5.4,SNR=30						
PLCA	**Paso Flores**	**83.21**	**133**	P	**P**	**23 08 49.7**	**+1.6**
PLCA				IAmb	IAmb	23 08 50.7	
	comp=Z,18nm,0.9s						
LC01	**Cunco**	**83.38**	**131**	P	**P**	**23 08 50.1**	**+1.2**
EFI	**East Falkland**	**83.39**	**147**	P	**P**	**23 08 50.1**	**+1.4**
KSRS	**Korea Array**	**83.69**	**320**	P	**P**	**23 08 50.1**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=144,slow=6.0,SNR=7.8						
KSAR	**Wonju Array Be**	**83.70**	**320**	P	**P**	**23 08 50.1**	**-0.2**
BI02	**San Fabin de**	**85.02**	**130**	P	**P**	**23 08 58.1**	**+0.8**
BI02				IAmb	IAmb	23 08 59.4	
	comp=Z,16nm,0.9s						
GSI	**Gunungsitoli**	**85.09**	**274**	P	**P**	**23 08 57.8**	**-0.1**
PEA0B	**Petropavlovsk-**	**85.39**	**346**	P	**P**	**23 08 58.0**	**-0.4**
PEA0B				IAmb	IAmb	23 09 12.7	
	comp=Z,17nm,1.4s						
PETK	**Petropavlovsk-**	**85.39**	**346**	P	**P**	**23 08 57.5**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=131,slow=8.1,SNR=11						
PETK	**Petropavlovsk-**	**85.39**	**346**	P	**P**	**23 08 57.7**	**-0.7**
NJ2	**Nanjing**	**85.53**	**311**	*eP*	**P**	**23 08 59.1**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
BO02	**Sierra Bellavi**	**86.40**	**128**	P	**P**	**23 09 05.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**86.55**	**327**	P	**P**	**23 09 04.4**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=156,slow=4.0,SNR=8.0						
ISA	**Isabella, Lake**	**86.64**	**45**	P	**P**	**23 09 04.7**	**-0.3**
MT02	**Curacav**	**87.02**	**127**	P	**P**	**23 09 07.2**	**+0.2**
MT02				IAmb	IAmb	23 09 08.6	
	comp=Z,18nm,1.0s						
KRMB	**Red Mountain**	**87.50**	**38**	P	**P**	**23 09 09.1**	**+0.1**
YBH	**Yreka Blue Hor**	**88.29**	**38**	P	**P**	**23 09 12.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=270,slow=4.7,SNR=3.9						
NVAR	**Mina Array Bea**	**88.56**	**43**	P	**P**	**23 09 14.0**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=222,slow=9.4,SNR=16						
PBKT	**Sadao Pong**	**90.00**	**289**	P	**P**	**23 09 21.8**	**+0.6**
PBKT				IAmb	IAmb	23 09 22.9	
	comp=Z,10.0nm,0.9s						
PINE	**Pine Mountain**	**90.65**	**38**	P	**P**	**23 09 23.5**	**-0.4**
PINE				IAmb	IAmb	23 09 25.2	
	comp=Z,7.7nm,1.1s						
U15A	**North Rim**	**91.00**	**48**	P	**P**	**23 09 26.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**92.63**	**290**	P	**P**	**23 09 34.1**	**+0.7**
	comp=Z,4.7nm,1.0s,ba

az=215.0
*NNC **16** 23:11:18.9±2.9, 36°.77N×70°.70E, h184km±29km, mb3.6, mpv4.8, Error ellipse: s-maj=28.1km s-min=15.5km az=159.0*
*IDC **16** 23:11:18.9±0.8, 36°.43N×70°.91E, h197km±7km, mb3.7/19, mb1 3.8/22, mb1mx3.5/60, mbtmp4.3/22, Error ellipse: s-maj=13.6km s-min=10.6km az=36.0*
ISC 16 23:11:18.0±0.4, **36°.56N**±0°.04×**70.96E**±0°.04, **h188**km, **n168**, σ1$69/183, **mb4.0/31, 13C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.55**	**218**	PN	**Pn**	**23 12 02.3**	**+0.4**
KBL	**Kabul**	**2.55**	**218**	Pn	**Pn**	**23 12 02.3**	**+0.4**
CEP	**Cherat**	**2.84**	**164**	P	**Pn**	**23 12 06.5**	**+1.2**
NIL	**Nilore**	**3.46**	**146**	PN	**Pn**	**23 12 13.4**	**+0.8**
NIL	**Nilore**	**3.46**	**146**	Pn	**Pn**	**23 12 13.4**	**+0.8**
BTK	**Batken**	**3.50**	**358**	PN	**Pn**	**23 12 14.7**	**+1.6**
BTK	**Batken**	**3.50**	**358**	Pn	**Pn**	**23 12 14.7**	**+1.6**
THW	**Thamme Wali**	**3.81**	**170**	P	**Pn**	**23 12 17.8**	**+0.8**
SARP	**Sargodha**	**4.84**	**162**	P	**Pn**	**23 12 30.1**	**0.0**
TAS	**Tashkent**	**4.93**	**345**	PN	**Pn**	**23 12 32.1**	**+1.0**
TAS	**Tashkent**	**4.93**	**345**	Pn	**Pn**	**23 12 32.1**	**+1.0**
KSH	**Kashi**	**4.94**	**52**	P	**Pn**	**23 12 28.5**	**-2.9**
KSH				S	**Sn**	**23 13 22.3**	**-6.9**
THN	**Thein Dam**	**5.69**	**135**	*e*P	**Pn**	**23 12 41.0**	**0.0**
THN				*e*S	**Sn**	**23 13 42.5**	**-4.0**
AML	**Almayashu**	**5.96**	**20**	P	**Pn**	**23 12 45.4**	**+0.6**
SNR=388							
DHRM	**DHARAMSHALA**	**6.16**	**133**	*e*P	**Pn**	**23 12 47.8**	**+0.4**
DHRM				*e*S	**Sn**	**23 13 55.0**	**-2.9**
DHRM				IAML		23 13 57.2	
comp=E,819nm,0.7s							
DHRM				IAML		23 13 57.4	
comp=N,620nm,0.9s							
UCH	**Uchtor**	**6.30**	**25**	P	**Pn**	**23 12 50.1**	**+0.9**
SNR=16							
KZA	**Kyzart**	**6.44**	**30**	P	**Pn**	**23 12 51.3**	**+0.2**
SNR=7.2							
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**23 12 52.0**	**+0.7**
SNR=229							
KK31	**Karatay Array**	**6.55**	**357**	P	**Pn**	**23 12 52.4**	**+0.3**
comp=N,36nm,0.5s,baz=186,slow=13,SNR=908							
KK31				⇓S	**Sn**	**23 14 02.3**	**-4.3**
comp=N,200nm,0.7s,baz=190,slow=24,SNR=6.1							
KK31	**Karatay Array**	**6.55**	**357**	PN	**Pn**	**23 12 52.1**	**0.0**
KK31	**Karatay Array**	**6.55**	**357**	Pn	**Pn**	**23 12 52.0**	**0.0**
KKAR	**Karatay Array**	**6.55**	**357**	PN	**Pn**	**23 12 52.4**	**+0.3**
KKAR	**Karatay Array**	**6.55**	**357**	Pn	**Pn**	**23 12 52.4**	**+0.3**
KKAR	**Karatay Array**	**6.55**	**357**	Pn	**Pn**	**23 12 52.1**	**0.0**
AAK	**Ala-Archa**	**6.66**	**23**	P	**Pn**	**23 12 54.7**	**+1.0**
SNR=94							
AAK	**Ala-Archa**	**6.66**	**23**	*ce*PN	**Pn**	**23 12 54.5**	**+0.8**
AAK				pmax	pmax		
comp=Z,183nm,0.8s							
KBK	**Karagaybulak**	**6.83**	**26**	P	**Pn**	**23 12 57.1**	**+1.1**
SNR=66							
BHK	**Bhakra**	**6.84**	**137**	*e*P	**Pn**	**23 12 56.0**	**-0.2**
BHK				*e*S	**Sn**	**23 14 09.2**	**-4.6**
FRU1	**Bishkek**	**6.86**	**23**	PN	**Pn**	**23 12 57.5**	**+1.3**
FRU1	**Bishkek**	**6.86**	**23**		**Pn**	**23 12 57.5**	**+1.3**
ULHL	**Ulahol**	**7.00**	**34**	P	**Pn**	**23 12 58.9**	**+0.7**
SNR=14							
CHMS	**Chumysh**	**7.06**	**23**	P	**Pn**	**23 12 59.4**	**+0.5**
SNR=64							
BOOM	**Boomskoye usch**	**7.07**	**32**	PN	**Pn**	**23 12 59.6**	**+0.5**
BOOM	**Boomskoye usch**	**7.07**	**32**	Pn	**Pn**	**23 12 59.6**	**+0.5**
USP	**Ospenovka**	**7.23**	**21**	P	**Pn**	**23 13 01.0**	**-0.1**
SNR=67							
TKM2	**Tokmak 2**	**7.29**	**28**	P	**Pn**	**23 13 02.8**	**+0.7**
SNR=280							
KDJ	**Kajisay**	**7.36**	**39**	PN	**Pn**	**23 13 03.8**	**+0.8**
KDJ	**Kajisay**	**7.36**	**39**		**Pn**	**23 13 03.8**	**+0.8**
TARG	**Taragay, Kyrgy**	**7.41**	**44**	Pn	**Pn**	**23 13 03.0**	**-0.9**
HRA	**Herat**	**7.43**	**256**	Pn	**Pn**	**23 13 04.3**	**+0.4**
SMLA	**Simla**	**7.48**	**135**	*e*P	**Pn**	**23 13 04.1**	**-0.4**
SMLA				*e*S	**Sn**	**23 14 24.6**	**-4.3**
SMLA				IAML		23 14 29.1	
comp=E,355nm,0.9s							
PRZ	**Przheval'sk**	**8.25**	**42**	PN	**Pn**	**23 13 14.1**	**-0.5**
PRZ	**Przheval'sk**	**8.25**	**42**		**Pn**	**23 13 14.1**	**-0.5**
DDI	**Dehra Dun**	**8.59**	**134**	*e*P	**Pn**	**23 13 19.2**	**+0.1**
DDI				*e*S	**Sn**	**23 14 50.8**	**-4.7**
PDGK	**Podgornoye**	**9.41**	**41**	⇓P	**Pn**	**23 13 30.0**	**+0.2**
comp=E,6.6nm,1.1s							
NDI	**New Delhi**	**9.46**	**144**	*e*P	**Pn**	**23 13 26.0**	**-4.4**
NDI				*e*S	Sn	23 15 04.0	-12
KUDL	**Kundal**	**9.60**	**149**	*e*P	**Pn**	**23 13 30.1**	**-2.1**
KUDL				*ex*	x	23 15 09.5	
SONA	**Sohna**	**9.77**	**146**	*e*P	**Pn**	**23 13 32.9**	**-1.5**
SONA				*e*S	Sn	23 15 14.1	-9.2
GEYT	**Alibeck**	**10.33**	**281**	P	**Pn**	**23 13 39.4**	**-2.2**
comp=E,1.2nm,0.3s,baz=107,slow=9.9,SNR=13							
GEYT				S	**Sn**	**23 15 30.6**	**-6.1**
comp=E,1.6nm,0.3s,baz=116,slow=15,SNR=2.0							
GEYT	**Alibeck**	**10.33**	**281**		**Pn**	**23 13 38.9**	**-2.7**
GYA0B	**ALIBECK ARRAY**	**10.33**	**281**	⇑P	**Pn**	**23 13 40.1**	**-1.5**
GYA0B				⇑S	**Sn**	**23 15 30.4**	**-6.3**
GYA0B	**ALIBECK ARRAY**	**10.33**	**281**	Pn	**Pn**	**23 13 40.1**	**-1.5**
AJM	**Ajmer**	**10.53**	**162**	⇑*i*P	**Pn**	**23 13 43.0**	**-1.3**
AJM				*i* x	x	23 15 36.0	
MAKZ	**Makanchi**	**13.13**	**35**	⇓P	**Pn**	**23 14 16.7**	**-0.6**
comp=E,6.1nm,0.6s							
MAKZ	**Makanchi**	**13.13**	**35**	P	**Pn**	**23 14 17.2**	**-0.1**
MAKZ	**Makanchi**	**13.13**	**35**	Pn	**Pn**	**23 14 17.2**	**-0.1**
PYUN	**Piuthan**	**13.21**	**126**	*e*P	**Pn**	**23 14 17.0**	**-1.7**
comp=E,47nm,0.3s							
PYUN	**Piuthan**	**13.21**	**126**	*e*P	**Pn**	**23 14 17.0**	**-1.7**
comp=E,47nm,0.3s							
MK31	**Makanchi Array**	**13.27**	**36**	⇓P	**Pn**	**23 14 18.2**	**-0.9**
comp=E,12nm,1.1s,baz=228,slow=10,SNR=28							
MK31	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**23 14 17.3**	**-1.8**
MK31	**Makanchi Array**	**13.27**	**36**		**Pn**	**23 14 17.3**	**-1.8**
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**23 14 19.6**	**+0.5**
comp=E,0.4nm,0.3s,baz=216,slow=10,SNR=31							
MKAR	**Makanchi Array**	**13.27**	**36**	*ce*P	**Pn**	**23 14 19.7**	**+0.6**
MKAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**13.27**	**36**		**Pn**	**23 14 18.3**	**-0.7**
KOLN	**Koldanda**	**13.83**	**126**	*e*P	**Pn**	**23 14 25.0**	**-1.4**
comp=Z,23nm,0.3s							
KOLN	**Koldanda**	**13.83**	**126**	*e*P	**Pn**	**23 14 25.0**	**-1.4**
comp=Z,23nm,0.3s							
GKN	**Gorkha**	**14.37**	**123**	*e*P	**Pn**	**23 14 32.8**	**-0.3**
comp=Z,67nm,0.5s							
GKN	**Gorkha**	**14.37**	**123**	*e*P	**Pn**	**23 14 32.8**	**-0.3**
comp=Z,67nm,0.5s							
BHPL	**Bhopal**	**14.40**	**155**	*e*P	**P**	**23 14 36.6**	**+1.5**
BHPL				*e*S	Sn	23 17 05.0	-9.2
WMQ	**Urumqi**	**14.69**	**55**	*e*P	**P**	**23 14 38.8**	**+0.6**
DMN	**Daman**	**14.94**	**123**	*e*P	**Pn**	**23 14 40.0**	**-0.2**
comp=Z,33nm,0.4s							
DMN	**Daman**	**14.94**	**123**	*e*P	**Pn**	**23 14 40.0**	**-0.2**
comp=Z,33nm,0.4s							
KKN	**Kakani**	**14.94**	**122**	*e*P	**Pn**	**23 14 40.6**	**+0.4**
comp=Z,52nm,0.6s							
KKN	**Kakani**	**14.94**	**122**	*e*P	**Pn**	**23 14 40.6**	**+0.4**
comp=Z,52nm,0.6s							
ABKAR	**Akbulak array**	**15.02**	**331**	Pn	**Pn**	**23 14 39.2**	**-1.5**
KURBB	**Kurchatov Arra**	**15.08**	**19**	P	**Pn**	**23 14 40.4**	**-1.1**
comp=Z,0.3nm,0.3s,baz=208,slow=10,SNR=16							
KURBB	**Kurchatov Arra**	**15.08**	**19**	⇓P	**Pn**	**23 14 39.9**	**-1.5**
comp=Z,9.0nm,0.7s							
PKIN	**Phulchoki**	**15.15**	**122**	*e*P	**Pn**	**23 14 43.0**	**+0.1**
comp=Z,114nm,0.6s							
PKIN	**Phulchoki**	**15.15**	**122**	*e*P	**Pn**	**23 14 43.0**	**+0.1**
comp=Z,114nm,0.6s							
PKI	**Pulchoki**	**15.17**	**122**	*e*P	**Pn**	**23 14 43.3**	**+0.2**
comp=Z,155nm,0.7s							
PKI	**Pulchoki**	**15.17**	**122**	*e*P	**Pn**	**23 14 43.3**	**+0.2**
comp=Z,155nm,0.7s							
KURK	**Kurchatov**	**15.19**	**19**	⇑P	**Pn**	**23 14 40.9**	**-1.9**
comp=Z,12nm,1.0s							
KURK	**Kurchatov**	**15.19**	**19**	*i* P	**Pn**	**23 14 42.1**	**-0.7**
KURK				pmax	pmax		
comp=Z,11nm,1.0s							
KURK	**Kurchatov**	**15.19**	**19**	Pn	**Pn**	**23 14 40.6**	**-2.1**
KURK				IAmb	IAmb	23 14 46.2	
comp=Z,8.1nm,0.8s							
JIRN	**Jiri**	**15.65**	**120**	*e*P	**P**	**23 14 49.7**	**+0.5**
comp=Z,88nm,0.4s							
JIRN	**Jiri**	**15.65**	**120**	*e*P	**P**	**23 14 49.7**	**+0.5**
comp=Z,88nm,0.4s							
RAMN	**Ramite**	**16.38**	**121**	*e*P	**Pn**	**23 14 57.8**	**+0.1**
comp=Z,26nm,0.3s							
RAMN	**Ramite**	**16.38**	**121**	*e*P	**Pn**	**23 14 57.8**	**+0.1**
comp=Z,26nm,0.3s							
BVAR	**Borovoye Array**	**16.47**	**359**	P	**Pn**	**23 14 58.4**	**+0.1**
comp=Z,2.4nm,0.3s,baz=187,slow=11,SNR=49							
BRVK	**Borovoye**	**16.51**	**359**	P	**Pn**	**23 14 59.0**	**+0.3**
BRVK				pmax	pmax		
comp=Z,19nm,0.8s							
BRVK	**Borovoye**	**16.51**	**359**	P	**Pn**	**23 14 59.0**	**+0.3**
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**Pn**	**23 15 01.9**	**+0.7**
comp=Z,4.7nm,0.3s,baz=141,slow=11,SNR=84							
AKTO				S	**S**	**23 18 01.5**	**-3.4**
comp=Z,0.2nm,0.3s,baz=128,slow=19,SNR=2.7							
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P	**Pn**	**23 15 01.4**	**+0.2**
comp=Z,38nm,0.7s							
AKTO				⇑S	**S**	**23 18 00.9**	**-4.0**
comp=Z,12nm,0.8s							
TAPN	**Taplejung**	**16.91**	**118**	*e*P	**Pn**	**23 15 05.1**	**+1.1**
comp=Z,43nm,0.4s							
TAPN	**Taplejung**	**16.91**	**118**	*e*P	**Pn**	**23 15 05.1**	**+1.1**
comp=Z,43nm,0.4s							
ODAN	**Odare**	**16.98**	**120**	*e*P	**Pn**	**23 15 05.9**	**+1.0**
comp=Z,58nm,0.8s							
ODAN	**Odare**	**16.98**	**120**	*e*P	**Pn**	**23 15 05.9**	**+1.0**
comp=Z,58nm,0.8s							
DGZ	**Jazzator, Alta**	**17.76**	**37**	⇓*i*P	**Pn**	**23 15 14.4**	**+0.7**
DGZ				pmax	pmax		
comp=Z,8.0nm,0.5s							
LSA	**Lhasa**	**18.23**	**106**	P	**P**	**23 15 18.0**	**+0.4**
LSA				pmax	pmax		
comp=Z,15nm,0.8s							
LSA	**Lhasa**	**18.23**	**106**	P	**P**	**23 15 18.0**	**+0.4**
AKT	**Akhty**	**18.68**	**292**	*e*P	**Pn**	**23 15 24.5**	**-0.1**
AKT				*e*S	**S**	**23 18 47.7**	**+2.8**
AKT				pmax	pmax		
comp=Z,5.0nm,0.5s							
AKT				smax	smax		
comp=N,10.0nm,0.6s							
AKT				smax	smax		
comp=E,5.0nm,0.4s							
ZAA0	**Zalesovo Array**	**19.88**	**25**	⇓P	**P**	**23 15 34.8**	**+0.3**
comp=E,1.0nm,0.6s							
ZAA0	**Zalesovo Array**	**19.88**	**25**	IAmb	IAmb	23 15 40.4	
comp=Z,8.7nm,0.7s							
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**23 15 35.9**	**+1.3**
comp=Z,7.4nm,0.5s,baz=223,slow=11,SNR=20							
ZALV				S	**S**	**23 19 05.7**	**-2.1**
comp=Z,1.8nm,0.7s,baz=213,slow=18,SNR=4.0							
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**23 15 35.1**	**+0.6**
SHL	**Shillong**	**20.97**	**116**	P	**P**	**23 15 47.5**	**+0.8**
SHL				pmax	pmax		
comp=Z,32nm,1.1s							
SHL	**Shillong**	**20.97**	**116**	P	**P**	**23 15 47.5**	**+0.8**
SVE	**Sverdlovsk**	**21.43**	**344**	*e*P	**P**	**23 15 52.3**	**+1.3**
SVE				pmax	pmax		
comp=Z,11nm,0.9s							
ARU	**Arti**	**21.57**	**341**	P	**P**	**23 15 52.7**	**+0.2**
comp=Z,1.3nm,0.4s,baz=158,slow=11,SNR=9.0							
ARU	**Arti**	**21.57**	**341**	*d i*P	**P**	**23 15 53.6**	**+1.1**
ARU				S	**S**	**23 19 40.0**	**+1.2**
ARU				pmax	pmax		
comp=Z,13nm,1.1s							
ARU	**Arti**	**21.57**	**341**	P	**P**	**23 15 53.9**	**+1.4**
ARU				IAmb	IAmb	23 15 55.8	
comp=Z,12nm,1.1s							
ZEI	**Tsey**	**21.68**	**295**	*e*P	**P**	**23 15 51.9**	**-2.2**
ZEI				pmax	pmax		
comp=Z,11nm,1.2s							
AKH	**Akhalkalaki**	**21.85**	**291**	P	**P**	**23 15 53.9**	**-1.8**
AKH				pmax	pmax		
comp=Z,26nm,1.1s							
AKH	**Akhalkalaki**	**21.85**	**291**	P	**P**	**23 15 53.9**	**-1.8**
GEVA	**Gevas**	**22.19**	**283**		**P**	**23 15 56.5**	**-2.6**
GOF	**Gofitskoye**	**22.68**	**301**	⇑*e*P	P	23 15 53.5	-10
KIV	**Kislovodsk**	**22.73**	**298**	*e*P	**P**	**23 16 03.6**	**-0.3**
KIV				*e*S	**S**	**23 19 57.8**	**-0.2**
KIV				pmax	pmax		
comp=Z,20nm,1.1s							
LZH	**Lanzhou**	**26.43**	**81**	*e*P	**P**	**23 16 36.8**	**-0.7**
LZH				pP	pP	23 17 18.9	+1.8
LZH				PP	**PnPn**	**23 17 26.8**	**-2.7**
LZH				pmax	pmax		
comp=Z,13nm,1.0s							
LZH				pmax	pmax		
comp=Z,54nm,5.4s							
SONM	**Songino Array**	**28.33**	**55**	P	**P**	**23 16 55.8**	**+1.5**
comp=Z,1.6nm,0.8s,baz=254,slow=11,SNR=7.9							
SONM	**Songino Array**	**28.33**	**55**	P	**P**	**23 16 55.8**	**+1.5**
SONM				pmax	pmax		
comp=Z,1.0nm,0.9s							
SONM	**Songino Array**	**28.33**	**55**	IAmb	IAmb	23 16 57.1	
comp=Z,0.8nm,0.9s							
ULN	**Ulaanbaatar**	**28.77**	**56**	*ce*P	**P**	**23 17 00.1**	**+1.9**
ULN				pmax	pmax		
comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**30.51**	**119**	P	**P**	**23 17 14.8**	**+1.2**
comp=Z,2.8nm,0.8s,baz=302,slow=8.5,SNR=12							
XAN	**Xi'an**	**30.96**	**83**	P	**P**	**23 17 19.4**	**+1.9**
XAN				pmax	pmax		
comp=Z,10.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**31.78**	**70**	*e*P	**P**	**23 17 25.3**	**+0.7**
HHC				pmax	pmax		
comp=Z,14nm,1.1s							
HHC				pmax	pmax		
comp=Z,94nm,5.9s							
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**23 17 34.8**	**+0.8**
comp=Z,1.7nm,0.5s,baz=81,slow=6.9,SNR=2.7							
AKASG	**Malin Array Be**	**32.88**	**309**	*ce*P	**P**	**23 17 35.2**	**+1.3**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
TMCR	**Tamitsa**	**33.98**	**335**	*e*P	P	23 17 35.7	-7.5
TMCR				pmax	pmax		
comp=Z,12nm,1.0s							
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**23 18 13.7**	**+1.2**
comp=Z,1.3nm,0.4s,baz=108,slow=9.2,SNR=2.0							
FINES				pP	**pP**	**23 18 55.5**	**+2.9**
comp=Z,1.9nm,0.7s,baz=120,slow=9.8,SNR=3.1							
VRAC	**Vranov**	**40.94**	**306**	P	**P**	**23 18 43.5**	**+1.6**
comp=Z,1.7nm,0.7s,baz=58,slow=9.9,SNR=3.8							
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**23 18 44.2**	**+1.4**
comp=Z,1.6nm,0.5s,baz=114,slow=8.2,SNR=23							
ARCES				pP	**pP**	**23 19 25.9**	**+2.3**
comp=Z,1.4nm,0.5s,baz=115,slow=8.0,SNR=2.9							
ARE0	**ARCESS Array S**	**41.08**	**338**	*e*P	**P**	**23 18 42.4**	**-0.3**
HAMF	**Hammerfest**	**42.16**	**339**	*e*P	**P**	**23 18 53.3**	**+1.9**
HFS	**Hagfors**	**43.00**	**322**	P	**P**	**23 18 59.1**	**+0.8**
comp=Z,2.9nm,0.5s,baz=108,slow=9.5,SNR=7.9							
HFS				pP	**pP**	**23 19 41.6**	**+2.2**
comp=Z,3.5nm,0.7s,baz=100,slow=12,SNR=3.9							
CLL	**Collm**	**43.13**	**309**	*e*P	**P**	**23 19 00.0**	**+0.5**
CLL	**Collm**	**43.13**	**309**	*e*P	**P**	**23 19 00.0**	**+0.5**
FAUS	**Fauske**	**43.73**	**332**	*e*P	**P**	**23 19 05.4**	**+1.3**
MOR8	**Moi Rana**	**43.75**	**331**	*e*P	**P**	**23 19 04.8**	**+0.5**
STEI	**Steigen**	**43.91**	**333**	*e*P	**P**	**23 19 05.5**	**0.0**
NC602	**NORSAR Array S**	**44.12**	**323**	*e*P	**P**	**23 19 07.7**	**+0.4**
NB2	**NORSAR Subarra**	**44.31**	**323**	P	**P**	**23 19 09.3**	**+0.4**
comp=Z,1.6nm,0.5s,baz=97,slow=7.9							
NB2	**NORSAR Subarra**	**44.31**	**323**	P	**P**	**23 19 09.3**	**+0.4**
baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**23 19 09.5**	**+0.6**
comp=Z,1.5nm,0.5s,baz=97,slow=7.7,SNR=13							
NOA				pP	**pP**	**23 19 52.0**	**+2.0**
comp=Z,2.0nm,0.7s,baz=96,slow=8.0,SNR=6.1							
LOF	**Lofoten**	**44.58**	**333**	*e*P	**P**	**23 19 10.9**	**+0.1**
ASK	**Askoy**	**47.24**	**322**	*e*P	**P**	**23 19 31.2**	**-0.5**
KMBO	**Kilima Mbogo**	**48.84**	**227**	P	**P**	**23 19 46.6**	**+1.7**
comp=Z,1.2nm,0.4s,baz=27,slow=10,SNR=7.0							
KMBO	**Kilima Mbogo**	**48.84**	**227**	*i* P	**P**	**23 19 49.2**	**+4.3**
KMBO				pmax	pmax		
comp=Z,1.0nm,0.4s							
KMBO	**Kilima Mbogo**	**48.84**	**227**	IAmb	IAmb	23 19 54.6	
comp=Z,17nm,1.8s							
EKA	**Eskdalemuir Ar**	**52.22**	**316**	P	**P**	**23 20 10.0**	**+0.7**
comp=Z,0.2nm,0.3s,baz=78,slow=6.8,SNR=4.8							
EKA				pP	**pP**	**23 20 52.5**	**+0.5**
comp=Z,1.6nm,0.7s,baz=96,slow=7.0,SNR=4.9							
MBAR	**Mbarara**	**52.51**	**234**	*ce*P	**P**	**23 20 13.2**	**+1.0**
MBAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
SEY	**Seymchan**	**54.39**	**34**	P	**P**	**23 20 26.4**	**+1.4**
comp=Z,0.9nm,0.4s,baz=6.5,slow=7.1,SNR=3.8							
ESDC	**Sonseca Array**	**57.40**	**298**	P	**P**	**23 20 46.7**	**-0.1**
comp=Z,0.6nm,0.7s,baz=55,slow=8.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P	**P**	**23 21 40.9**	**-1.6**
comp=Z,1.2nm,0.5s,baz=50,slow=6.0,SNR=8.4							
TORD	**Torodi Ar. Bea**	**65.68**	**269**	IAmb	IAmb	23 21 46.8	
comp=Z,2.0nm,1.0s							
IMAR	**Indian Mountai**	**72.13**	**18**	P	**P**	**23 22 21.9**	**+0.4**
ILAR	**Eielson Array**	**74.73**	**16**	P	**P**	**23 22 36.6**	**-0.1**
comp=Z,0.9nm,0.8s,baz=322,slow=5.7,SNR=11							
ILAR	**Eielson Array**	**74.73**	**16**	P	**P**	**23 22 36.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**74.95**	**127**	P	**P**	**23 22 38.3**	**-0.2**
FITZ				IAmb	IAmb	23 22 40.1	
comp=Z,4.1nm,0.8s							
KNRA	**Kununurra**	**75.29**	**123**	P	**P**	**23 22 38.7**	**-1.8**
BOSA	**Boshof**	**77.77**	**220**	P	**P**	**23 22 54.0**	**-0.3**
comp=Z,2.7nm,0.5s,baz=29,slow=3.8,SNR=11							
BOSA	**Boshof**	**77.77**	**220**	P	**P**	**23 22 54.1**	**-0.3**
BOSA				pmax	pmax		
comp=Z,40nm,1.8s							
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**23 23 13.7**	**+1.4**
comp=Z,1.9nm,0.4s,baz=352,slow=5.2,SNR=10							
WRA	**Warramunga Arr**	**82.05**	**122**	P	**P**	**23 23 16.4**	**-0.9**
comp=Z,5.3nm,0.6s,baz=324,slow=5.0,SNR=97							
WRAB	**Tennant Creek**	**82.05**	**122**	*ce*P	**P**	**23 23 17.1**	**-0.3**
WRAB				pmax	pmax		
comp=Z,27nm,2.5s							
AS31	**Alice Springs**	**84.32**	**125**	P	**P**	**23 23 28.3**	**-0.6**
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**23 23 28.2**	**-0.7**
comp=Z,6.7nm,0.6s,baz=310,slow=5.0,SNR=108							
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**23 23 27.1**	**-1.9**
PLCA	**Paso Flores**	**149.81**	**250**	PKPbc	**PKPbc**	**23 30 44.9**	**-0.6**
comp=Z,2.2nm,0.9s,baz=66,slow=10.0,SNR=4.5							

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*DDA **16** 23:18:10.0, 39°.02N×28°.74E, h18km±2km, MW3.9*
*ISK **16** 23:18:10.1, 39°.01N×28°.75E, h6km, ML3.9/60*
*NEIC **16** 23:18:11.6±2.3, 38°.95N±0°.03×28°.67E±0°.07, h12km±10km, Error ellipse: s-maj=7.7km s-min=3.6km az=99.0*
*THE **16** 23:18:11.5, 39°.03N×28°.72E, h4km±2km, ML3.4/3, Error ellipse: s-maj=3.0km s-min=0.8km az=71.0*
ISC 16 23:18:10.8±0.9, **39°.01N**±0°.02×**28°.75E**±0°.02, **h8**km±8km, **n155**, σ0$82/179, **13C-15D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.20**	**69**	PG	**Pg**	**23 18 14.7**	**-0.2**
SIMA				SG	**Sg**	**23 18 17.8**	**+0.2**
USAK	**Uak-Merkez**	**0.36**	**144**	*i* P	**Pg**	**23 18 17.7**	**-0.3**
USAK				*i* S	**Sg**	**23 18 20.9**	**-1.9**
SHAP	**Saphane-Kutahy**	**0.37**	**88**	PG	**Pg**	**23 18 17.9**	**-0.2**
SHAP				SG	**Sg**	**23 18 23.5**	**+0.5**
KULA	**Kula-Manisa**	**0.50**	**188**	PG	**Pg**	**23 18 20.2**	**-0.3**
GEDZ	**Gediz**	**0.52**	**86**	PG	**Pg**	**23 18 20.6**	**-0.2**
GEDZ				SG	**Sg**	**23 18 28.1**	**+0.5**
MANT	**Manisa**	**0.54**	**196**	*i* P	**Pg**	**23 18 21.0**	**-0.3**
MANT				*i* S	**Sg**	**23 18 27.5**	**-0.9**
MANT				IAML		23 18 29.0	
comp=N,6μm,0.5s							
MANT				IAML		23 18 29.0	
comp=E,7μm,0.2s							
MANT	**Manisa**	**0.54**	**196**	Pg	**Pg**	**23 18 21.0**	**-0.3**
DST	**Dursunbey**	**0.60**	**350**	PG	**Pg**	**23 18 22.1**	**-0.3**
DURS	**Dursunbey**	**0.62**	**340**	*i* P	**Pg**	**23 18 22.7**	**-0.2**
DURS				*i* S	**Sg**	**23 18 30.8**	**-0.3**
DURS				IAML		23 18 37.0	
comp=E,4μm,0.4s							
TVSB	**Tavsanli**	**0.71**	**52**	PG	**Pg**	**23 18 24.2**	**-0.2**
TVSB				SG	**Sg**	**23 18 33.5**	**-0.2**
GOMA	**Golmarmara-Man**	**0.72**	**245**	PG	**Pg**	**23 18 24.5**	**-0.1**
AKHS	**Akhisar**	**0.74**	**260**	*i* P	**Pg**	**23 18 24.9**	**-0.2**
AKS	**Akhisar**	**0.74**	**260**	PG	**Pg**	**23 18 24.9**	**-0.1

BOTS	Marmara Eregli	2.06	344	PN	Pn	23 18 46.1	+0.5
KAVV	Kandilli-Istan	2.06	7	PN	Pn	23 18 45.4	-0.3
RKY	Sarkoy-Tekirda	2.06	325	PN	Pn	23 18 46.3	+0.5
ISK	Istanbul-Kandi	2.06	7	P	Pn	23 18 44.9	-0.8
ISK	Istanbul-Kandi	2.06	7	PN	Pn	23 18 45.9	+0.2
MAR4	Marsite Statio	2.09	328	PN	Pn	23 18 46.8	+0.6
SAUV	Serdivan-Sakar	2.11	35	PN	Pn	23 18 46.3	0.0
BCK	Bucak	2.12	136	PN	Pn	23 18 46.7	+0.1
BGKT	Bogazkoy	2.17	1	PN	Pn	23 18 46.9	-0.2
DALY	Dalyan (Mula)	2.19	182	PN	Pn	23 18 47.9	+0.5
CHOS	Chios island	2.20	254	P	Pn	23 18 47.4	-0.2
SVRH	Sivrihisar-ESK	2.20	78	PN	Pn	23 18 48.1	+0.4
CTKS	Kestanelik-??a	2.23	355	PN	Pn	23 18 47.5	-0.5
GELI	Tayfur-Gelibol	2.23	309	PN	Pn	23 18 48.7	+0.7
BOZC	Bozcaada	2.25	293	PN	Pn	23 18 48.1	-0.1
KLYT	Kilyos	2.25	6	PN	Pn	23 18 49.3	+1.1
CRLT	Corlu	2.25	340	PN	Pn	23 18 49.1	+0.8
BODT	Bodrum	2.25	211	P	Pn	23 18 48.2	-0.1
BODT				S	Sn	23 19 16.9	+0.6
BODT	Bodrum	2.25	211	PN	Pn	23 18 49.1	+0.8
SIGR	SIGRI	2.26	276	P	Pn	23 18 48.2	-0.2
SIGR				S	Sn	23 19 15.8	-0.6
	comp=E,558nm,0.7s						
SIGR	SIGRI	2.26	276	PN	Pn	23 18 49.0	+0.6
TURN	Turunc	2.27	190	PN	Pn	23 18 48.9	+0.4
KORT	Korkueli	2.37	147	PN	Pn	23 18 50.5	+0.4
KORT	Korkueli	2.37	147	*i* P	Pn	23 18 49.9	-0.2
MDUB	Mudurnu	2.39	52	Pn	Pb	23 18 54.7	+0.7
ERIK	Erikli-Kesan	2.39	315	PN	Pn	23 18 50.9	+0.8
FETY	Fethiye	2.39	173	P	Pn	23 18 50.4	+0.2
FETY	Fethiye	2.39	173	PN	Pn	23 18 50.7	+0.5
ELL	Elmali	2.44	158	PN	Pn	23 18 51.7	+0.8
ELL	Elmali	2.44	158	Pn	Pn	23 18 51.8	+0.8
KIZT	Kizilcal	2.45	92	PN	Pn	23 18 51.6	+0.5
GADA	Gvkgeada	2.50	299	P	Pn	23 18 51.6	0.0
GADA				S	Sn	23 19 22.2	0.0
	comp=E,342nm,0.8s						
ANTB	Antalya	2.59	144	PN	Pn	23 18 53.3	+0.4
ENEZ	Enez	2.64	312	P	Pn	23 18 53.2	-0.4
ALN	Alexandroupoli	2.80	313	Pn	Pn	23 18 56.1	+0.2
AKAS	Kas	2.86	166		Pn	23 18 57.4	+0.7
SMTH	Samothraki Isl	2.88	301	P	Pn	23 18 56.9	0.0
LIA	Limnos Island	2.90	289	P	Pn	23 18 57.3	+0.2
KDZE	Karadeniz Ereo	3.09	41	⇑P	Pb	23 19 06.8	+0.8
APE	Apeiranthos	3.20	234	⇑P	Pb	23 19 07.9	+0.1
APE	Apeiranthos	3.20	234	⇑S	Sg	23 19 55.3	+1.8
KARP	Karpathos	3.68	201	Pn	Pn	23 19 07.9	-0.1
SANT	Santorini	3.71	226	⇓P	Pb	23 19 16.2	-0.3
SANT	Santorini	3.71	226	⇑S	Sg	23 20 12.5	+2.6
SANT	Santorini	3.71	226	Pn	Pn	23 19 07.1	-1.2
BR131	Keskin Array S	3.86	78	Pn	Pn	23 19 10.7	+0.2
BRTR	Keskin Array B	3.86	78		Pn	23 19 12.6	+2.1
ILGA	Ilgaz	4.33	60		Pn	23 19 16.3	-0.7
IDI	Anoyia	4.83	221	⇓P	Pn	23 19 22.8	-0.9
TIRR	Tirgusor	5.45	357	⇑P	Pn	23 19 32.2	0.0
TIRR	Tirgusor	5.45	357	⇓S	Sn	23 20 34.5	-0.5
TIRR	Tirgusor	5.45	357	Pn	Pn	23 19 32.5	+0.3
CSS	Mathiatis	5.46	136	Pn	Pn	23 19 30.5	-1.9
FNA	Florina	5.94	290	Pn	Pn	23 19 40.6	+1.6
TOKA	Tokat	6.11	75	Pn	Pn	23 19 43.6	+2.3
TLCR		6.17	0	⇓P	Pn	23 19 43.0	+0.9
CFR	Carcaliu	6.18	356	⇓P	Pn	23 19 42.6	+0.3
CFR	Carcaliu	6.18	356	⇓S	Sn	23 20 50.6	-2.4
NEHR	Nehoiu	6.66	345	⇑P	Pn	23 19 51.1	+2.2
MLR	Muntele Rosu	6.80	343	⇓P	Pn	23 19 51.7	+0.8
MLR	Muntele Rosu	6.80	343	Pn	Pn	23 19 51.9	+1.0
GAZ	Gaziantep	6.92	103	Pn	Pn	23 19 53.0	+0.5
VOIR		6.98	338	⇓P	Pn	23 19 53.7	+0.3
PLOR	Plostina	7.01	348	⇓P	Pn	23 19 56.2	+2.5
VRI	Vrincioaia	7.01	348	⇓P	Pn	23 19 55.0	+1.3
ARR	Arges	7.05	336	⇓P	Pn	23 19 54.8	+0.6
TIR	Tirane	7.19	292	Pn	Pn	23 19 55.9	-0.2
DOPR	Dopca	7.38	341	⇑P	Pn	23 19 59.5	+0.8
DOPR	Dopca	7.38	341	⇑S	Sn	23 21 22.8	+0.2
LOT	Lotru	7.42	332	⇓P	Pn	23 20 00.1	+0.7
LOT	Lotru	7.42	332	⇑S	Sn	23 21 13.3	-10
HERR	Herculane	7.53	323	⇑P	Pn	23 20 00.3	-0.4
HERR	Herculane	7.53	323	⇓S	Sn	23 21 22.9	-3.2
TESR	Tescani	7.65	349	⇑P	Pn	23 20 04.4	+2.0
MDVR	Moldovita	7.79	320	⇑P	Pn	23 20 04.8	+0.4
BZS	Buzias	8.45	324	⇓P	Pn	23 20 13.3	-0.1
BURAR	Bucovina Array	8.97	345	⇑P	Pn	23 20 22.0	+1.3
BURAR	Bucovina Array	8.97	345	Pn	Pn	23 20 22.0	+1.3
BUR08	Bucovina Ar. S	9.01	344		Pn	23 20 20.2	-1.0
SORM	Soroca	9.12	358	⇓P	Pn	23 20 22.7	+0.1

*IDC **16** 23:30:48.0±2.4, 24°.2S×115°.39W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/18, mbtmp3.7/5, MS3.8/7, Ms1 3.8/7, ms1mx3.5/24, Error ellipse: s-maj=80.9km s-min=29.1km az=53.0*

*NEIC **16** 23:30:50.5±1.4, 24°.2S±0°.2×115°.3W±0°.2, h10km±2km, mb4.2/9, Error ellipse: s-maj=38.9km s-min=11.9km az=215.0*

ISC 16 23:30:49.8±2.3, 24°.3S±0°.3×115°.4W±0°.4, h10km, n30, σ0°68/12, MS3.7/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAOE	Nuku Hiva Isla	28.22	299	eLR	LR	23 43 44.4	
	comp=Z,405nm,26.2s						
TBI	Tubuai	31.17	265	eLR	LR	23 44 59.3	
	comp=Z,122nm,26.0s						
PPT2	Papeete2	32.59	275	eLR	LR	23 45 38.2	
	comp=Z,218nm,27.2s						
H03N2	Juan Fernandez	33.02	114	T	T	00 12 29.9	
	baz=281,slow=75,SNR=24						
H03N3	Juan Fernandez	33.03	114	T	T	00 12 31.4	
	baz=281,slow=75,SNR=26						
H03N1	Juan Fernandez	33.04	114	T	T	00 12 31.3	
	baz=281,slow=75,SNR=27						
PLCA	Paso Flores	40.71	125	P	P	23 38 31.1	+0.3
	2.3nm,1.0s,baz=310,slow=11,SNR=3.9						
PLCA				LR	LR	23 51 06.5	
	comp=Z,244nm,19.4s,baz=266,slow=30						
LPAZ	La Paz	44.83	89	P	P	23 39 04.8	-0.4
	2.1nm,1.0s,baz=265,slow=6.3,SNR=3.6						
LPAZ				LR	LR	23 53 15.4	
	comp=Z,71nm,20.1s,baz=246,slow=30						
LPAZ	La Paz	44.83	89	IAmb	IAmb	23 39 12.9	
	comp=Z,3.3nm,1.1s						
APG	El Apazote	46.02	34	LR	LR	23 53 42.1	
	comp=Z,92nm,19.1s,baz=233,slow=30						
ROSC	El Rosal	49.35	60	LR	LR	23 54 42.7	
	comp=Z,90nm,21.2s,baz=82,slow=29						
CPUP	Villa Florida	52.10	105	LR	LR	23 57 30.4	
	comp=Z,72nm,19.4s,baz=218,slow=31						
TXAR	Lajitas Array	54.51	13	P	P	23 40 18.1	+0.1
	comp=Z,0.1nm,0.7s,baz=192,slow=7.7,SNR=2.3						
SHPR	Sheep Range	60.49	0	P	P	23 41 00.8	+0.7
R11A	Troy Canyon, C	62.33	360	P	P	23 41 11.5	-1.1
SDCO	Great Sand Dun	62.42	9	P	P	23 41 13.8	+0.4
NVAR	Mina Array Bea	62.47	357	P	P	23 41 12.9	-0.6
	comp=Z,0.6nm,0.8s,baz=190,slow=9.1,SNR=5.3						
NVAR	Mina Array Bea	62.47	357	P	P	23 41 14.4	+0.8
VNDA	Vanda	64.88	194	LR	LR	00 02 28.9	
	comp=Z,66nm,18.1s,baz=97,slow=29						
PD31	Pinedale Array	66.96	5	P	P	23 41 43.5	+0.7
PDAR	Pinedale Array	66.96	5	P	P	23 41 42.1	-0.6
	comp=Z,0.6nm,0.7s,baz=175,slow=7.4,SNR=4.9						
HLID	Hailey	67.54	1	P	P	23 41 46.2	-0.2
HLID				IAmb	IAmb	23 41 52.5	
	comp=Z,2.6nm,1.2s						
H11S2	WAKE ISLAND Hy	87.03	292	T	T	01 19 30.4	
	baz=118,slow=75,SNR=45						
H11S1	WAKE ISLAND Hy	87.04	292	T	T	01 19 34.3	
	baz=118,slow=75,SNR=63						
H11S3	WAKE ISLAND Hy	87.05	292	T	T	01 19 30.0	
	baz=118,slow=75,SNR=37						
H11N3	WAKE ISLAND Hy	87.41	293	T	T	01 20 00.0	
	baz=123,slow=74,SNR=21						
H11N1	WAKE ISLAND Hy	87.42	293	T	T	01 19 59.5	
	baz=123,slow=74,SNR=13						
H11N2	WAKE ISLAND Hy	87.42	293	T	T	01 20 00.0	
	baz=123,slow=74,SNR=39						
MAW	Mawson	88.36	179	LR	LR	00 18 26.9	
	comp=Z,78nm,19.8s,baz=238,slow=32						
MKAR	Makanchi Array	153.49	332	PKPbc	PKPbc	23 50 48.3	-0.3
	comp=Z,0.3nm,0.7s,baz=27,slow=1.6,SNR=2.3						

*IDC **17** 00:25:22.7±6.4, 5°.21S×146°.96E, h184km±69km, mb3.3/3, mb1 3.5/5, mb1mx3.1/34, mbtmp3.8/5, Error ellipse: s-maj=103.1km s-min=28.6km az=137.0*

*NEIC **17** 00:25:23.3±1.0, 5°.43S±0°.10×147°.1E±0°.1, h195km±16km, mb4.0/5, Error ellipse: s-maj=22.9km s-min=8.4km az=58.0*

ISC 17 00:25:23.5±1.4, 5°.4S±0°.1×147°.0E±0°.2, h195km, n11, σ1°19/12, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.98	178	P	Pn	00 26 26.3	+1.5
	3.7nm,0.3s,baz=294,slow=12,SNR=2.4						
PMG				S	Sn	00 27 11.4	-1.6
	9.0nm,0.3s,baz=45,slow=13,SNR=7.9						
SAUI	Saumlaki	15.80	260	P	P	00 28 54.3	-1.4
WR0	Warramunga Arr	18.87	219	P	P	00 29 29.6	+0.3
WR0				IAmb	IAmb	00 29 31.6	
	comp=Z,5.6nm,0.8s						
WB2	Warramunga Arr	18.98	219	P	P	00 29 30.5	+0.1
WB2				IAmb	IAmb	00 29 41.9	
	comp=Z,9.8nm,1.4s						
WRA	Warramunga Arr	18.99	219	P	P	00 29 31.7	+1.2
	comp=Z,0.7nm,0.3s,baz=41,slow=12,SNR=42						
EIDS	Eidsvold	20.23	169	P	P	00 29 42.8	-1.0
AS31	Alice Springs	22.11	214	P	P	00 30 03.5	+0.3
AS31				IAmb	IAmb	00 30 14.5	
	comp=Z,0.9nm,0.6s						
ASAR	Alice Springs	22.11	214	P	P	00 30 04.8	+1.5
	comp=Z,2.1nm,0.8s,baz=46,slow=8.2,SNR=24						
ASAR	Alice Springs	22.11	214	P	P	00 30 03.6	+0.3
FITZ	Fitzroy Crossi	24.38	237	P	P	00 30 25.0	+1.0
	comp=Z,2.3nm,0.5s,baz=359,slow=5.7,SNR=19						
ILAR	Eielson Array	84.34	23	P	P	00 37 36.0	-0.3
	comp=Z,0.3nm,0.7s,baz=238,slow=5.2,SNR=2.5						

*IDC **17** 00:46:00.7±2.3, 12°.33S×167°.06E, h245km±21km, mb3.9/20, mb1 4.0/21, mb1mx3.9/31, mbtmp4.5/21, Error ellipse: s-maj=15.5km s-min=11.3km az=93.0*

*NEIC **17** 00:46:00.8±1.5, 12°.30S±0°.09×167°.0E±0°.1, h250km±5km, mb4.4/39, Error ellipse: s-maj=16.0km s-min=13.0km az=103.0*

ISC 17 00:46:00.7±0.4, 12°.29S±0°.06×167°.05E±0°.09, h250km, n102, σ0°82/104, mb4.3/33, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	3.15	177	Pn	Pn	00 46 55.0	+0.2
DZM	Mont Dzumac	9.75	183	P	Pn	00 48 16.7	+0.5
	2.4nm,0.3s,baz=113,slow=23,SNR=26						
DZM				S	S	00 50 05.5	-0.5
	0.1nm,0.3s,baz=109,slow=23,SNR=1.2						
MSVF	Nonsavu	11.92	118	Pn	Pn	00 48 43.2	-0.3
TARA	Tarawa	14.75	24	P	P	00 49 15.5	-2.5
EIDS	Eidsvold	19.92	227	P	P	00 50 14.4	+0.5
CTA	Charters Tower	21.41	246	P	P	00 50 30.1	+0.7
	14nm,0.8s,baz=76,slow=10,SNR=22						
CTAO	Charters Tower	21.41	246	P	P	00 50 29.4	0.0
CTAO				IAmb	IAmb	00 50 30.9	
	comp=Z,13nm,0.8s						
ARMA	Armidale	23.01	216	P	P	00 50 45.2	+1.1
STKA	Stephens Creek	30.47	226	P	P	00 51 50.6	+0.1
	comp=Z,2.0nm,0.5s,baz=48,slow=9.9,SNR=6.6						
RPZ	Rata Peaks	31.50	174	P	P	00 52 00.6	+1.2
	comp=Z,6.6nm,0.6s,baz=50,slow=14,SNR=2.0						
RPZ	Rata Peaks	31.50	174	IAmb	IAmb	00 52 07.6	
	comp=Z,32nm,1.2s						
WR0	Warramunga Arr	32.10	252	P	P	00 52 03.6	-1.4
WR0				IAmb	IAmb	00 52 04.6	
	comp=Z,24nm,2.0s						
WB0	Warramunga Arr	32.21	252	P	P	00 52 05.5	-0.4
WRA	Warramunga Arr	32.29	252	P	P	00 52 06.1	-0.5
	comp=Z,0.9nm,0.4s,baz=83,slow=8.9,SNR=22						
AS31	Alice Springs	33.41	246	P	P	00 52 15.7	-0.6
ASAR	Alice Springs	33.41	246	P	P	00 52 15.6	-0.8
	comp=Z,2.4nm,0.7s,baz=71,slow=9.7,SNR=33						
ASAR				pP	pP	00 53 05.6	+0.1
	comp=Z,2.5nm,0.7s,baz=72,slow=9.7,SNR=7.2						
ASAR				ScP	ScP	00 58 13.4	+1.2
	comp=Z,0.9nm,0.9s,baz=69,slow=3.9,SNR=4.1						
GUMO	Guam	33.83	319	P	P	00 52 21.5	+1.7
	comp=Z,24nm,0.4s,baz=128,slow=18,SNR=4.3						
MJAR	Matsushiro Arr	55.66	332	P	P	00 55 10.7	-0.5
	comp=Z,6.0nm,0.7s,baz=169,slow=8.2,SNR=14						
MJAR	Matsushiro Arr	55.66	332	P	P	00 55 11.4	+0.2
MAJO	Matsushiro	55.66	332	P	P	00 55 10.9	-0.2
MAJO				IAmb	IAmb	00 55 11.9	
	comp=Z,10nm,0.9s						
JSU	Suzuyama	55.92	322	P	P	00 55 13.5	+0.4
SBUM	Sibu	56.39	281	P	P	00 55 15.2	-1.6
KSRS	Korea Array	61.62	325	P	P	00 55 53.1	+1.1
	comp=Z,1.8nm,0.6s,baz=138,slow=6.7,SNR=6.9						
USRK	Ussuriysk Ar.	64.63	333	P	P	00 56 13.3	+1.6
	comp=Z,2.5nm,0.6s,baz=113,slow=5.0,SNR=6.9						
USRK	Ussuriysk Ar.	64.63	333	P	P	00 56 12.9	+1.2
VNDA	Vanda	65.28	181	P	P	00 56 15.7	+0.2
	comp=Z,1.1nm,0.6s,baz=356,slow=7.3,SNR=16						
PETK	Petropavlovsk-	65.62	354	P	P	00 56 18.9	+1.0
	comp=Z,2.3nm,0.8s,baz=134,slow=6.4,SNR=5.3						
GSI	Gunungsitoli	70.26	276	P	P	00 56 45.3	-2.2
CM31	Chiang Mai Arr	73.78	293	P	P	00 57 06.7	-1.6
CMAR	Chiang Mai Arr	73.78	293	P	P	00 57 10.1	+1.8
	comp=Z,3.6nm,0.8s,baz=119,slow=4.3,SNR=14						
CMAR	Chiang Mai Arr	73.78	293	P	P	00 57 09.5	+1.2
CHTO	Chiang Mai	73.89	294	P	P	00 57 07.6	-1.3
KDAK	Kodiak Island	77.27	21	P	P	00 57 27.4	+0.2
	comp=Z,3.9nm,0.7s,baz=244,slow=3.4,SNR=4.5						
QSPA	South Pole Qui	77.72	180	P	P	00 57 29.1	-0.8
QSPA				IAmb	IAmb	00 57 30.7	
	comp=Z,4.1nm,0.7s						
ULN	Ulaanbaatar	80.05	324	P	P	00 57 42.9	+0.1
ULN				IAmb	IAmb	00 57 44.7	
	comp=Z,8.4nm,1.2s						
TTA	Tatalina	80.25	16	P	P	00 57 44.5	+1.1
SONM	Songino Array	80.42	323	P	P	00 57 45.5	+0.8
	comp=Z,1.1nm,0.5s,baz=133,slow=6.5,SNR=6.8						
SONM	Songino Array	80.42	323	IAmb	IAmb	00 57 46.0	
	comp=Z,2.6nm,1.2s						
SHL	Shillong	82.23	298	P	P	00 57 55.2	+0.4
TRF	Thorofare Moun	82.29	18	P	P	00 57 53.7	-0.5
TRF				IAmb	IAmb	00 57 55.2	
	comp=Z,8.6nm,1.0s						
IMAR	Indian Mountai	83.28	15	P	P	00 57 59.5	+0.6
WDC	Whiskeytown Da	83.53	46	P	P	00 58 01.3	+0.4
WDC				IAmb	IAmb	00 58 03.4	
	comp=Z,11nm,1.6s						
YBH	Yreka Blue Hor	83.85	45	P	P	00 58 02.9	+0.3
YBH				IAmb	IAmb	00 58 04.5	
	comp=Z,6.8nm,1.0s						
TLY	Talaya	83.86	326	P	P	00 58 02.7	+0.4
TLY				IAmb	IAmb	00 58 03.7	
	comp=Z,5.3nm,0.8s						
HUMO	Hull Mountain	84.02	44	P	P	00 58 03.5	+0.2
HUMO				IAmb	IAmb	00 58 05.3	
	comp=Z,7.2nm,1.0s						
MAW	Mawson	84.06	202	P	P	00 58 03.2	+0.2
	comp=Z,1.7nm,0.7s,baz=112,slow=5.7,SNR=7.6						
COLA	College	84.07	18	P	P	00 58 03.1	+0.2
LSA	Lhasa	84.09	302	P	P	00 58 03.1	-1.4
CMB	Columbia Colle	84.17	49	P	P	00 58 04.0	-0.2
ILAR	Eielson Array	84.28	18	P	P	00 58 03.9	-0.2
	comp=Z,13nm,0.6s,baz=227,slow=5.2,SNR=143						
ILAR	Eielson Array	84.28	18	P	P	00 58 03.6	-0.5
BCAR	Beaver Creek A	84.79	21	P	P	00 58 06.4	-0.3
COLD	Coldfoot	85.14	15	P	P	00 58 08.9	+0.5
MOD	Modoc Plateau	85.59	46	P	P	00 58 10.8	-0.5
MOD				IAmb	IAmb	00 58 12.8	
	comp=Z,6.7nm,1.2s						
NVAR	Mina Array Bea	85.85	49	P	P	00 58 13.5	+0.8
	comp=Z,1.1nm,0.6s,baz=238,slow=8.3,SNR=12						
NVAR				pP	pP	00 59 12.7	+0.8
	comp=Z,0.8nm,0.9s,baz=232,slow=7.4,SNR=3.2						
NVAR	Mina Array Bea	85.85	49	P	P	00 58 13.1	+0.3
BMAR	Burnt Mountain	86.81	17	P	P	00 58 17.3	+0.7
HAWA	Hanford	87.68	42	P	P	00 58 21.4	+0.3
HAWA				IAmb	IAmb	00 58 22.8	
	comp=Z,5.1nm,0.8s						
BELA	Belgrano 2	89.16	176	P	P	00 58 27.9	+0.3
MFID	Camas Ranch	89.20	45	P	P	00 58 28.0	-0.5
MFID				IAmb	IAmb	00 58 30.0	
	comp=Z,5.1nm,0.8s						
MK31	Makanchi Array	95.30	317	P	P	00 58 56.3	-0.1
MKAR	Makanchi Array	95.30	317	P	P	00 58 57.0	+0.6
	comp=Z,4.6nm,0.7s,baz=95,slow=6.4,SNR=39						
MKAR	Makanchi Array	95.30	317	P	P	00 58 56.6	+0.2
TXAR	Lajitas Array	95.30	61	P	P	00 58 57.2	+0.3
	comp=Z,0.5nm,0.6s,baz=232,slow=5.7,SNR=8.6						
ZAA0	Zalesovo Array	95.31	324	P	P	00 58 55.1	-1.1
ZAA0				IAmb	IAmb	00 58 56.4	
	comp=Z,3.1nm,1.2s						
ZALV	Zalesovo Beam	95.31	324	P	P	00 58 55.8	-0.4
	comp=Z,0.4nm,0.5s,baz=72,slow=4.8,SNR=3.8						
MAKZ	Makanchi	95.51	317	P	P	00 58 56.8	-0.6
SNAA	Sanae	95.96	183	P	P	00 58 57.8	-1.2
VNA3	Neumayer Olymp	96.64	181	P	P	00 59 01.1	-0.9
VNA2	Neumayer--Watz	96.90	182	P	P	00 59 02.6	-0.6
	baz=164,slow=7.0						
ARCES	ARCESS Array B	117.85	346	PKP	PKPdf	01 04 16.8	-0.1
	comp=Z,3.8nm,0.5s,baz=77,slow=1.9,SNR=59						
ARE0	ARCESS Array S	117.85	346	*e*PKPdf	PKPdf	01 04 16.9	0.0
TRO	Tromso	119.25	348	*e*PKPdf	PKPdf	01 04 18.6	-0.9
SCHQ	Schefferville	120.38	33	PKP	PKPdf	01 04 21.7	-0.5
	comp=Z,1.8nm,0.7s,baz=307,slow=5.1,SNR=1.6						
STEI	Steigen	121.42	348	*e*PKPdf	PKPdf	01 04 23.7	0.0
FAUS	Fauske	121.87	348	*e*PKPdf	PKPdf	01 04 22.5	-2.1
MOR8	Moi Rana	123.08	347	*e*PKPdf	PKPdf	01 04 26.3	-0.7
FINES	FINESS Array B	123.39	339	PKP	PKPdf	01 04 27.7	+0.1
	comp=Z,1.6nm,0.5s,baz=64,slow=2.3,SNR=20						
NB2	NORSAR Subarra	128.22	345	PKPdf	PKPdf	01 04 36.8	-0.2
	comp=Z,0.4nm,0.5s,baz=31,slow=1.9						
NB2	NORSAR Subarra	128.22	345	PKPdf	PKPdf	01 04 36.8	-0.2
	comp=Z,0.4nm,0.5s,baz=31,slow=1.9						
NOA	NORSAR Array B	128.22	345	PKP	PKPdf	01 04 37.5	+0.4
	comp=Z,1.1nm,0.6s,baz=30,slow=2.0,SNR=9.3						
CONA	Conrad Observa	137.09	332	*i* PKPdf	PKPdf	01 04 54.2	0.0
	comp=Z,2.0nm,0.8s						
GERES	GERESS Array B	137.38	334	PKP	PKPdf	01 04 55.6	+0.9
	comp=Z,1.1nm,0.7s,baz=48,slow=2.0,SNR=11						
GERES	GERESS Array B	137.38	334		PKPdf	01 04 53.7	-1.0
ARSA	Arzberg	137.74	331	*i* PKPdf	PKPdf	01 04 55.2	-0.1
	comp=Z,0.1nm,0.2s						
MOA	Molln	137.88	333	*i* PKPdf	PKPdf	01 04 55.7	+0.2
	comp=Z,3.8nm,1.5s						
WATA	Walderalm	139.45	334	*i* PKPdf	PKPdf	01 04 57.5	-1.1
	comp=Z,2.5nm,0.7s						
WTTA	Wattenberg	139.48	334	*i* PKPdf	PKPdf	01 04 58.3	-0.4
	comp=Z,3.0nm,0.6s						
ABTA	Abfaltersbach	139.50	333	*i* PKPdf	PKPdf	01 04 58.8	+0.2
	comp=Z,4.5nm,1.3s						
MOTA	Moosalm	139.64	335	*i* PKPdf	PKPdf	01 04 59.4	+0.4
	comp=Z,2.6nm,1.0s						
RETA	Reutte	139.67	335	*i* PKPdf	PKPdf	01 04 59.4	+0.5
	comp=Z,3.1nm,1.3s						
SQTA	Sankt Quirin	139.69	334	*i* PKiKP	PKPdf	01 04 59.7	+0.7
	comp=Z,1.7nm,0.7s						
FETA	Feichten	140.05	335	*i* PKiKP	PKiKP	01 05 02.9	+0.7
	comp=Z,3.2nm,1.3s						
DAVA	Damuels	140.19	336	*i* PKiKP	PKPdf	01 05 00.7	+0.8
	comp=Z,3.8nm,0.9s						
BNI	Bardonecchia	143.29	337	PKPdf	PKPbc	01 05 04.1	+0.8
CLTB	Caltabellotta	145.62	322	PKPbc	PKPbc	01 05 10.9	+0.5
VSL	Villasalto	146.46	328	PKPbc	PKPbc	01 05 13.4	+0.6
KEST	Kesra	149.17	323	PKPbc	PKiKP	01 05 21.0	-0.2
	comp=Z,8.9nm,0.8s,baz=180,slow=2.2,SNR=11						
KEST	Kesra	149.17	323		PKPbc	01 05 20.9	+0.8
ESDC	Sonseca Array	151.59	345	PKPbc	PKiKP	01 05 26.3	+0.3
	comp=Z,3.0nm,0.8s,baz=5.7,slow=3.2,SNR=16						
ESDC				PKPab	PKPab	01 05 36.0	+0.9
	comp=Z,2.6nm,0.8s,baz=9.4,slow=4.1,SNR=11						
ESDC	Sonseca Array	151.59	345	PKPdf	PKPdf	01 05 19.3	0.0
TORD	Torodi Ar. Bea	165.69	275	PKPab	PKPab	01 06 37.2	+0.2
	comp=Z,1.3nm,0.9s,baz=89,slow=

Ms1 3.2/1, ms1mx2.5/52, Error ellipse: s-maj=41.0km s-min=23.2km az=62.0
*NEIC **17** 01:10:47.7±1.1, 56°.59N±0°.10×151°.50W±0°.10, h27km±14km, ML3.3/88(AEIC), Error ellipse: s-maj=14.6km s-min=7.5km az=169.0*
*AEIC **17** 01:10:52.5±1.0, 56°.7N±0°.1×151°.5W±0°.1, h12km±8km, Error ellipse: s-maj=18.2km s-min=10.5km az=176.0*
ISC 17 01:10:47.6±0.9, 56°.70N±0°.07×151°.51W±0°.05, h21km, n110, σ1§03/106, mb3.9/5, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	1.11	299	Pn	Pn	01 11 06.4	-1.5
OHAK					Sb	01 11 21.7	-0.3
KDAK	Kodiak Island	1.24	332	Pn	Pn	01 11 09.9	+0.2
	10nm,0.3s,baz=154,slow=9.1,SNR=298						
KDAK	Kodiak Island	1.24	332		Sn	01 11 25.3	-0.4
KDAK	Kodiak Island	1.24	332	Pn	Pn	01 11 09.8	+0.1
SII	Sitkinak Islan	1.48	266		Pb	01 11 14.1	-0.4
KABR	Katmai Barrier	2.36	309		Pn	01 11 26.5	+1.3
KAHG	Katmai Hook Gl	2.44	319		Pb	01 11 28.7	-2.0
MGLS	Mageik Landsli	2.45	308		Pn	01 11 27.8	+1.4
KAWH	Katmai	2.45	315		Pn	01 11 28.0	+1.6
KAKN	Katmai Knife C	2.50	311		Pn	01 11 28.3	+1.2
KJL	Kejulik	2.59	303		Pn	01 11 29.4	+1.0
KAHC	Katmai Hardscr	2.71	318		Pn	01 11 31.6	+1.5
CNPM	China Poot	2.84	3		Pn	01 11 33.0	+1.2
AUQ	Augustine Qik'	2.85	340		Pn	01 11 34.5	+2.5
AUP	Augustine Pinn	2.86	340		Pn	01 11 34.9	+2.8
HOM	Homer	2.97	359		Pn	01 11 34.9	+1.4
BRSE	Bradley Lake S	3.08	7		Pn	01 11 35.7	+0.6
BRLK	Bradley Lake	3.10	6		Pn	01 11 35.9	+0.7
OPT	Oil Point	3.10	344		Pn	01 11 37.7	+2.4
ILS	Iliamna Low So	3.37	347		Pn	01 11 41.4	+2.2
IVE	Iliamna Volcan	3.43	347		Pn	01 11 41.5	+1.6
SEW	Seward	3.59	17	Pn	Pn	01 11 42.1	+0.2
RDSO	Redoubt South	3.83	351		Pn	01 11 46.6	+1.2
RSO	Redoubt South	3.83	351		Pn	01 11 46.8	+1.3
RDWB	Redoubt West	3.87	350		Pn	01 11 47.2	+1.3
Q23K	Middleton Isla	3.88	43		Pn	01 11 45.2	-0.7
MID	Middleton Isla	3.88	43		Pn	01 11 45.4	-0.6
SLKM	Skilak Lake	3.88	9		Pn	01 11 46.7	+0.6
O22K	Cooper Landing	3.91	13		Pn	01 11 46.7	+0.4
NCT	North Crescent	3.95	350		Pn	01 11 48.2	+1.2
PWL	Port Wells	4.49	20		Pn	01 11 54.5	+0.1
HIN	Hinchinbrook I	4.54	33		Pn	01 11 55.0	-0.1
SPCP	Crater Peak Br	4.60	356		Pn	01 11 57.0	+1.0
SPBG	Spurr Blockage	4.60	355		Pn	01 11 57.3	+1.3
SPCG	Spurr Capps Gl	4.62	357		Pn	01 11 57.7	+1.4
SPNN	North Nagishla	4.73	353		Pn	01 11 59.4	+1.6
GLI	Glacier Island	4.78	27		Pn	01 11 59.2	+0.8
FID	Port Fidalgo	4.84	31		Pn	01 11 58.5	-0.6
SVW2	Sparrevohn	4.89	336		Pn	01 12 01.3	+1.4
EYAK	Cordova Ski Ar	4.90	36		Pn	01 12 00.3	+0.4
KAIM	Kayak Island	4.95	46		Pn	01 12 01.6	+1.0
JPK	Jack Peak	5.06	28		Pn	01 12 02.4	+0.1
GHO	Glory Hole Cre	5.26	14		Pn	01 12 06.2	+1.2
HMT	Hamilton	5.27	43	Pn	Pn	01 12 05.1	0.0
SUCK	Suckling Hills	5.29	47		Pn	01 12 05.8	+0.4
SKT	Skwentna	5.30	360		Pn	01 12 06.4	+0.9
NICHA	Nichawak Mount	5.32	45		Pn	01 12 06.1	+0.3
DIV	Divide	5.35	31		Pn	01 12 06.2	0.0
BERG	Berg Lake	5.52	45		Pn	01 12 08.4	-0.1
SCM	Sheep Creek Mo	5.58	21		Pn	01 12 10.7	+1.3
BMRM	Bremner River	5.59	37		Pn	01 12 09.6	+0.1
GRIN	Grindle Hills	5.60	47		Pn	01 12 10.1	+0.5
KLU	Klutina	5.61	29		Pn	01 12 10.1	+0.4
SNH	Sunshine Point	5.74	49		Pn	01 12 12.0	+0.5
KULT	Kultieth River	5.83	49		Pn	01 12 13.5	+0.7
WAX	Waxell Ridge	5.89	47		Pn	01 12 14.0	+0.4
BARK	Barkley Ridge	6.01	48		Pn	01 12 15.6	+0.3
VRDI	Verde Repeater	6.16	39		Pn	01 12 17.7	+0.2
ISLE	Juniper Island	6.18	47		Pn	01 12 18.2	+0.4
GLB	Gilahina Butte	6.20	37		Pn	01 12 18.2	+0.4
PPLA	Purkeypile	6.23	357	Pn	Pn	01 12 19.2	+0.9
YAH	Yahtse	6.30	50	Pn	Pn	01 12 19.9	+0.6
WAT7	Susitna Watana	6.30	11		Pn	01 12 19.9	+0.6
KIAG	Kiagna River	6.37	44		Pn	01 12 20.7	+0.4
MCARA	McCarthy VSAT	6.42	39		Pn	01 12 21.9	+1.1
BALM	Baldy	6.44	44		Pn	01 12 21.6	+0.3
WAT2	Susitna Watana	6.46	12		Pn	01 12 22.7	+1.2
PTPK	Patty Peak	6.49	42		Pn	01 12 22.7	+0.7
GRNC	Granite Creek	6.49	47		Pn	01 12 22.5	+0.4
SAMH	Samovar Hills	6.60	54		Pn	01 12 24.4	+0.9
TT01	Tatalina	6.63	342		Pn	01 12 24.4	+0.7
TTA	Tatalina	6.65	342	Pn	Pn	01 12 24.9	+0.8
BARN	Barnard Glacie	6.72	45		Pn	01 12 25.7	+0.5
BARN					Sn	01 13 40.8	-0.3
DHY	Denali Highway	6.73	16		Pn	01 12 26.7	+1.4
PCA	Pinnacle	6.83	55		Pn	01 12 26.8	+0.3
LOGN	Logan Glacier	6.85	48		Pn	01 12 27.1	+0.1
RND	Reindeer	6.86	10		Pn	01 12 27.7	+0.7
KTH	Kantishna Hill	6.89	2	Pn	Pn	01 12 28.2	+0.9
BCPM	Bancas Point	7.05	57		Pn	01 12 29.4	-0.1
PNL	Peninsula	7.06	60		Pn	01 12 29.7	0.0
MCK	McKinley	7.18	9	Pn	Pn	01 12 32.0	+0.8
MENT	Mentasta	7.39	29		Pn	01 12 36.2	+2.1
BPAW	Bear Paw Mtn.	7.43	2		Pn	01 12 35.0	+0.2
YUK2	White River	7.48	43		Pn	01 12 36.4	+1.0
YUK3	Moose Creek	7.61	43		Pn	01 12 38.8	+1.4
RIDG	Independent Ri	7.80	22		Pn	01 12 41.3	+1.5
WRH	Wood River Hil	7.98	37	Pn	Pn	01 12 43.2	+1.0
YUK6	Outpost Mounta	8.04	53		Pn	01 12 44.1	+0.8
BC03		8.04	33		Pn	01 12 43.9	+1.0
CCB	Clear Creek Bu	8.18	11		Pn	01 12 45.1	+0.2
HYT	Haines Junctio	8.37	55	Pn	Pn	01 12 49.0	+1.4
IL31		8.41	14	Pn	Pn	01 12 48.9	+0.8
ILAR	Eielson Array	8.41	14	Pn	Pn	01 12 49.0	+0.9
	0.5nm,0.3s,baz=207,slow=14,SNR=17						
ILAR				Sn	Sn	01 14 21.5	-0.8
	baz=192,slow=11,SNR=1.3						
ILAR	Eielson Array	8.41	14		Pn	01 12 49.7	+1.5
MDM	Murphy Dome	8.44	10		Pn	01 12 49.4	+0.8
PLBC	Pleasant Camp	8.49	65		Pn	01 12 49.2	0.0
IM03		9.38	354		Pn	01 13 02.4	+1.0
WH3	Whitehorse	9.52	58		Pn	01 13 03.7	+0.3
NVAR	Mina Array Bea	28.50	116	P	P	01 16 42.0	+0.5
	0.3nm,0.7s,baz=307,slow=7.8,SNR=2.1						
TXAR	Lajitas Array	43.13	109	P	P	01 18 47.2	+0.8
	0.2nm,0.8s,baz=330,slow=5.3,SNR=2.1						
H11N2	WAKE ISLAND Hy	48.04	237	T	T	02 10 59.1	
	baz=29,slow=76,SNR=4.0						
H11N3	WAKE ISLAND Hy	48.05	237	T	T	02 11 03.8	
	baz=29,slow=76,SNR=5.2						
H11N1	WAKE ISLAND Hy	48.06	237	T	T	02 11 00.3	
	baz=29,slow=76,SNR=4.3						
H11S1	WAKE ISLAND Hy	49.20	237	T	T	02 12 27.7	
	baz=29,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	49.21	237	T	T	02 12 27.8	
	baz=29,slow=76,SNR=7.1						
H11S3	WAKE ISLAND Hy	49.21	237	T	T	02 12 28.2	
	baz=29,slow=76,SNR=5.7						
TLY	Talaya	55.62	313	LR	LR	01 46 34.8	
	comp=Z,24nm,21.7s,baz=11,slow=39						
FINES	FINESS Array B	62.19	1	P	P	01 21 07.5	+0.7
	1.6nm,0.8s,baz=353,slow=8.4,SNR=5.1						
MKAR	Makanchi Array	67.53	323	P	P	01 21 40.7	-1.2
	0.5nm,0.5s,baz=26,slow=6.5,SNR=6.6						
AKASG	Malin Array Be	72.97	360	P	P	01 22 15.0	0.0
	0.5nm,0.4s,baz=0.9,slow=5.7,SNR=2.1						

*IDC **17** 01:11:47.6±1.0, 24°.06N×46°.25W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/47, mbtmp3.9/6, MS3.6/17, Ms1 3.6/17, ms1mx3.4/35, Error ellipse: s-maj=34.2km s-min=23.0km az=113.0*
*NEIC **17** 01:11:47.9±0.7, 24°.1N±0°.1×46°.4W±0°.1, h10km±1km, mb4.5/8, Error ellipse: s-maj=26.0km s-min=18.5km az=157.0*
ISC 17 01:11:49.2±0.7, 24°.1N±0°.1×46°.4W±0°.1, h16km, n35, σ1§09/17, mb4.1/7, MS3.6/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	15.71	249	Pn	Pn	01 15 28.0	-1.9
ANWB				IAmb	IAmb	01 15 42.6	
	comp=Z,41nm,0.7s						
GCPR	Guaynabo City	19.21	256	Pn	P	01 16 13.5	+0.9
MDP	Montagnes des	19.77	199	LR	LR	01 21 57.6	
	comp=Z,68nm,21.7s,baz=52,slow=31						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	22.01	261	P	P	01 16 42.8	-0.2
SDV	Santo Domingo	27.62	241	LR	LR	01 26 55.9	
	comp=Z,85nm,21.8s,baz=57,slow=33						
ROSC	El Rosal	32.97	239	LR	LR	01 32 40.8	
	comp=Z,111nm,19.5s,baz=2.0,slow=38						
SCHQ	Schefferville	34.29	339	LR	LR	01 30 54.4	
	comp=Z,55nm,21.8s,baz=124,slow=33						
ESDC	Sonseca Array	38.89	56	LR	LR	01 31 03.5	
	comp=Z,60nm,21.9s,baz=255,slow=30						
BDFB	Brasilia	39.48	182	P	P	01 19 20.0	+0.9
	comp=Z,2.7nm,0.7s,baz=14,slow=12,SNR=4.3						
BDFB	Brasilia	39.48	182	P	P	01 19 19.6	+0.5
BDFB				IAmb	IAmb	01 19 30.8	
	comp=Z,40nm,2.0s						
DBIC	Dimbokro	43.41	107	LR	LR	01 35 23.7	
	comp=Z,109nm,19.7s,baz=274,slow=33						
H10N3	ASCENSION HYDR	44.43	132	T	T	02 07 07.9	
	baz=316,slow=75,SNR=8.5						
H10N2	ASCENSION HYDR	44.44	132	T	T	02 07 08.5	
	baz=316,slow=75,SNR=8.2						
H10N1	ASCENSION HYDR	44.45	132	T	T	02 07 12.8	
	baz=316,slow=75,SNR=7.7						
H10S3	ASCENSION HYDR	45.13	133	T	T	02 07 57.7	
	baz=316,slow=74,SNR=7.8						
H10S2	ASCENSION HYDR	45.15	133	T	T	02 07 58.7	
	baz=264,slow=74,SNR=5.7						
LPAZ	La Paz	45.36	210	P	P	01 20 09.0	+1.4
	comp=Z,1.4nm,0.9s,baz=59,slow=7.8,SNR=4.9						
LPAZ				LR	LR	01 38 16.1	
	comp=Z,55nm,18.9s,baz=23,slow=35						
LPAZ	La Paz	45.36	210	P	P	01 20 07.5	-0.1
LPAZ				IAmb	IAmb	01 20 11.2	
	comp=Z,2.5nm,1.0s						
ULM	Lac du Bonnet	46.20	317	LR	LR	01 37 50.1	
	comp=Z,81nm,18.4s,baz=160,slow=34						
TOA0	Torodi Ar. Sit	46.66	94	P	P	01 20 17.0	-0.3
TORD	Torodi Ar. Bea	46.66	94	P	P	01 20 17.4	0.0
	comp=Z,3.3nm,0.9s,baz=298,slow=7.6,SNR=8.8						
TORD				LR	LR	01 37 26.8	
	comp=Z,121nm,20.5s,baz=215,slow=33						
TORD	Torodi Ar. Bea	46.66	94		P	01 20 17.0	-0.3
TAM	Tamanrasset	47.44	81	P	P	01 20 21.8	-1.8
TAM				IAmb	IAmb	01 20 28.7	
	comp=Z,3.6nm,1.1s						
TXAR	Lajitas Array	51.01	289	LR	LR	01 41 59.5	
	comp=Z,48nm,20.0s,baz=0.0,slow=35						
CLL	Collm	52.59	43	e(P)	P	01 21 03.0	+1.0
GERES	GERESS Array B	52.76	46	P	P	01 21 03.1	-0.4
	comp=Z,0.8nm,0.9s,baz=266,slow=9.0,SNR=8.8						
NOA	NORSAR Array B	53.68	31	P	P	01 21 10.6	+0.6
	comp=Z,1.3nm,1.1s,baz=251,slow=7.4,SNR=4.2						
NOA				LR	LR	01 39 22.4	
	comp=Z,43nm,18.4s,baz=250,slow=31						
PDAR	Pinedale Array	54.68	306	LR	LR	01 42 13.7	
	comp=Z,78nm,20.4s,baz=158,slow=33						
PSUT	Pine Spring	58.24	302	P	P	01 21 42.2	-1.1
FINES	FINESS Array B	60.82	32	LR	LR	01 45 01.6	
	comp=Z,37nm,18.1s,baz=293,slow=33						
NVAR	Mina Array Bea	61.71	302	LR	LR	01 47 59.4	
	comp=Z,132nm,19.2s,baz=85,slow=35						
ILAR	Eielson Array	72.85	334	P	P	01 23 18.4	+1.5
	comp=Z,1.2nm,0.7s,baz=73,slow=4.3,SNR=11						
ILAR				LR	LR	01 56 07.8	
	comp=Z,58nm,18.8s,baz=152,slow=36						
ILAR	Eielson Array	72.85	334	P	P	01 23 17.9	+0.9
KMBO	Kilima Mbogo	84.66	94	LR	LR	02 00 15.9	
	comp=Z,44nm,20.6s,baz=254,slow=34						
BOSA	Boshof	86.57	123	LR	LR	01 58 33.3	
	comp=Z,29nm,19.4s,baz=290,slow=32						

*NEIC **17** 01:11:57.6±1.3, 5°.2S±0°.4×151°.0E±0°.4, h71km±14km, mb4.1/9, Error ellipse: s-maj=81.1km s-min=5.5km az=136.0*
*IDC **17** 01:11:57.5±3.5, 4°.82S×150°.74E, h63km±48km, mb3.8/3, mb1 4.1/3, mb1mx3.3/35, mbtmp4.1/3, Error ellipse: s-maj=83.8km s-min=26.7km az=139.0*
ISC 17 01:11:58.2±1.5, 5°.4S±0°.4×151°.4E±0°.5, h100km, n18, σ1§70/21, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.28	32	P	Pn	01 12 20.9	-0.9
	52nm,0.3s,baz=212,slow=1.9,SNR=12						
KRVT				S	Sn	01 12 37.8	-1.8
	59nm,0.3s,baz=100,slow=19,SNR=6.5						
RABL	Rabaul	1.45	34	Pn	Pn	01 12 22.5	-1.4
RABL					Sn	01 12 41.0	-2.3
PMG	Port Moresby	5.76	226	Pn	Pn	01 13 18.2	-3.1
PMG					Sn	01 14 25.4	-0.6
MTN	Manton Dam	21.28	248	P	P	01 16 39.2	+2.3
WB0	Warramunga Arr	21.83	228	P	P	01 16 43.3	+0.6
WR0	Warramunga Arr	21.84	227	P	P	01 16 43.2	+0.4
WR0				IAmb	IAmb	01 16 46.9	
	comp=Z,3.3nm,0.6s						
WB2	Warramunga Arr	21.97	227	P	P	01 16 44.9	+0.8
WB2				IAmb	IAmb	01 16 48.1	
	comp=Z,4.4nm,0.6s						
WRA	Warramunga Arr	21.98	227	P	P	01 16 45.8	+1.5
	comp=Z,3.1nm,0.4s,baz=50,slow=10,SNR=43						
WRA	Warramunga Arr	21.98	227	P	P	01 16 44.8	+0.5
KNRA	Kununurra	24.42	244		P	01 17 07.7	0.0
KNRA				IAmb	IAmb	01 17 13.5	
	comp=Z,10nm,0.8s						
AS31	Alice Springs	24.74	221	P	P	01 17 12.7	+2.1
ASAR	Alice Springs	24.75	221	P	P	01 17 12.9	+2.3
	comp=Z,2.2nm,0.6s,baz=52,slow=9.5,SNR=28						
ASAR	Alice Springs	24.75	221	P	P	01 17 12.2	+1.5
FITZ	Fitzroy Crossi	28.11	241	P	P	01 17 42.4	+1.5
	comp=Z,1.1nm,0.3s,baz=4.6,slow=5.5,SNR=13						
FITZ	Fitzroy Crossi	28.11	241	P	P	01 17 40.9	0.0
FITZ				IAmb	IAmb	01 17 52.2	
	comp=Z,4.4nm,1.1s						
FYU	Fort Yukon	84.69	21	P	P	01 24 23.3	+2.7
TORD	Torodi Ar. Bea	149.11	287	PKPbc	PKiKP	01 31 37.1	-0.2
	comp=Z,0.5nm,0.7s,baz=91,slow=2.1,SNR=2.3						
TORD	Torodi Ar. Bea	149.11	287		PKPbc	01 31 35.9	-0.2

IDC 17 01:23:12.7±10.0, 17°.81S×178°.20W, h522km±107km, mb2.8/4, mb1 3.2/4, mb1mx2.8/33, mbtmp3.7/4, Error ellipse: s-maj=198.5km s-min=28.2km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.85	259	P	P	01 30 40.1	-0.4
	0.3nm,0.4s,baz=98,slow=6.8,SNR=12						
WRA				PcP	PcP	01 32 11.0	-0.3
	0.6nm,1.0s,baz=90,slow=3.8,SNR=5.7						
ASAR	Alice Springs	45.01	254	P	P	01 30 41.9	0.0
	1.3nm,0.5s,baz=88,slow=8.3,SNR=28						
ASAR				PcP	PcP	01 32 11.7	-0.2
	0.5nm,0.5s,baz=108,slow=3.6,SNR=5.7						
NVAR	Mina Array Bea	79.21	44	P	P	01 34 23.6	-0.3
	0.2nm,0.3s,baz=244,slow=7.9,SNR=2.9						
TXAR	Lajitas Array	85.77	58	P	P	01 34 57.4	+0.3
	0.5nm,0.8s,baz=232,slow=4.2,SNR=5.9						

*IDC **17** 01:39:10.7±5.3, 36°.05N×71°.33E, h60km±46km, mb3.2/6, mb1 3.4/9, mb1mx3.1/40, mbtmp3.6/9, ML3.8/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/20, Error ellipse: s-maj=33.9km s-min=30.4km az=155.0*
*SOME **17** 01:39:13.0, 37°.78N×71°.48E, h30km*
*NNC **17** 01:39:24.3±5.5, 37°.00N×71°.56E, h211km±109km, mb2.8, mpv3.8, Error ellipse: s-maj=61.2km s-min=41.4km az=6.0*
ISC 17 01:39:15.3±0.7, 36°.43N±0°.05×71°.18E±0°.07, h100km, n20, σ2§45/28, mb3.6/5, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.66	167	P	Pn	01 39 57.2	+0.4
CEP				S	Sn	01 40 29.0	+0.4
THW	Thamme Wali	3.65	173	P	Pn	01 40 10.1	+0.2
SARP	Sargodha	4.66	164	P	Pn	01 40 21.9	-1.6
IUG	Iuzhnay	5.78	351	eP	Pn	01 40 41.0	+2.2
	28nm,0.1s						
IUG				eS	Sn	01 41 44.2	+0.5
	29nm,0.3s						
MRKS	Merke	6.51	13	eP	Pn	01 40 50.0	+1.4
	17nm,0.6s						
MRKS				eS	Sn	01 41 59.6	-1.7
	12nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday	6.68	351	eP	Pn	01 40 49.2	-1.6
	8.6nm,0.2s						
BRLS				eS	Sn	01 41 58.3	-7.0
	12nm,0.2s						
KK31	Karatay Array	6.69	356	P	Pn	01 40 52.8	+1.8
	6.3nm,0.3s,baz=175,slow=12,SNR=172						
KK31				⇑S	Sn	01 42 04.9	-0.8
	4.7nm,0.4s,baz=173,slow=17,SNR=6.3						
AAK	Ala-Archa	6.71	21	⇓P	Pn	01 40 52.8	+1.4
	4.8nm,0.6s						
AAK				⇓S	Sn	01 42 04.6	-1.8
	5.8nm,0.8s						
TKM2	Tokmak 2	7.33	26	⇑P	Pn	01 41 00.9	+1.1
	2.5nm,0.6s						
TKM2				⇓S	Sn	01 42 15.7	-5.7
	1.0nm,0.6s						
GEYT	Alibeck	10.53	282	P	Pn	01 41 42.5	-0.8
	0.5nm,0.3s,baz=113,slow=11,SNR=7.2						
GEYT				S	Sn	01 43 36.4	-2.9
	1.9nm,0.3s,baz=298,slow=26,SNR=4.5						
AB08	Akbulak array	15.21	331	⇑P	Pn	01 42 44.7	+0.1
	1.0nm,0.3s						
BVAR	Borovoye Array	16.61	358	P	P	01 43 02.8	+0.2
	0.2nm,0.3s,baz=188,slow=9.9,SNR=5.3						
AKTO	Aktyubinsk	16.92	330	P	P	01 43 07.8	+1.6
	0.6nm,0.3s,baz=131,slow=18,SNR=8.9						
ZALV	Zalesovo Beam	19.92	24	P	P	01 43 39.8	+0.8
	0.7nm,0.3s,baz=200,slow=9.1,SNR=4.9						
ZALV				LR	LR	01 51 59.6	
	comp=Z,19nm,21.1s,baz=69,slow=38						
FINES	FINESS Array B	37.63	326	P	P	01 46 23.2	+3.1
	0.3nm,0.4s,baz=120,slow=18,SNR=4.6						
ARCES	ARCESS Array B	41.27	338	P	P	01 46 53.0	+2.8
	1.6nm,1.0s,baz=106,slow=8.1,SNR=5.7						
NB2	NORSAR Subarra	44.53	323	P	P	01 47 19.1	+2.4
	comp=Z,0.5nm,0.5s,baz=98,slow=7.9						
NOA	NORSAR Array B	44.53	323	P	P	01 47 19.0	+2.3
	comp=Z,0.4nm,0.5s,baz=97,slow=7.9,SNR=5.2						
TORD	Torodi Ar. Bea	65.86	269	P	P	01 49 50.0	-0.5
	comp=Z,0.3nm,0.4s,baz=52,slow=5.1,SNR=4.6						
WRA	Warramunga Arr	81.83	122	P	P	01 51 22.4	-1.2
	comp=Z,0.2nm,0.7s,baz=327,slow=5.0,SNR=1.6						

*JMA **17** 01:45:27.2±0.1, 24°.26N×122°.03E, h7km±4km, M2.7*
*TAP **17** 01:45:28.5, 24°.34N×121°.91E, h8km, ML2.7, D*
ISC 17 01:45:27.8±1.0, 24°.30N±0°.02×122°.00E±0°.03, h16km±8km, n56, σ0§71/75, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	Nanao	0.23	310	P	Pg	01 45 32.2	-0.7
	baz=319						
ENAH				eS	Sg	01 45 37.7	+1.3
	baz=319						
ENA	Nanau	0.27	298	P	Pg	01 45 33.0	-0.6
	baz=300						
TWC	Suao	0.33	336	eP	Pg	01 45 34.0	-0.7
	baz=349						
TWC				eS	Sg	01 45 39.7	+0.2
	baz=349						
NACB	Ninganchiao	0.39	251	eP	Pg	01 45 35.5	-0.3
	baz=240						
NACB				S	Sb	01 45 41.5	-0.7
	baz=240						
ETLH	Xiulin Townshi	0.48	259	eP	Pg	01 45 37.0	-0.4
	baz=251						
ETLH				eS	Sb	01 45 44.3	-0.6
	baz=251						
TWE	Neicheng	0.51	324	P	Pb	01 45 38.3	-0.2
	baz=330						
TWE				eS	Sg	01 45 44.3	-0.7
	baz=330						
ENTT	Nioudou	0.52	310	P	Pg	01 45 37.8	-0.3
	baz=313						
ENTT				S	Sg	01 45 45.3	+0.2
	baz=313						
NDT	Datong Townshi	0.53	304	P	Pb	01 45 38.6	-0.3
	baz=305						
NDT				eS	Sg	01 45 45.1	-0.4
	baz=305						
EGS		0.54	354	P	Pg	01 45 38.1	-0.4
	baz=3.0						
EGS				eS	Sb	01 45 47.9	+1.3
	baz=3.0						
NTC	Toucheng	0.57	344	eP	Pg	01 45 39.4	+0.3
	baz=351						
NTC				eS	Sb	01 45 47.5	+0.1
	baz=351						
NNSB	Datong	0.58	283	eP	Pg	01 45 39.2	-0.1
	baz=280						
NNSB				eS	Sb	01 45 47.1	-0.6
	baz=280						
NNSH	Datong	0.58	283	eP	Pb	01 45 39.3	-0.4
	baz=280						
NNSH				eS	Sb	01 45 47.2	-0.4
	baz=280						
NNS	Nan Shan	0.59	283	P	Pg	01 45 39.1	-0.3
	baz=281						
NNS				eS	Sg	01 45 46.8	-0.5
	baz=281						
NWLT	Wulai	0.65	316	eP	Pb	01 45 41.1	+0.2
	baz=319						
NWLT				eS	Sb	01 45 49.9	0.0
	baz=319						
YHNB	Yeheng	0.68	303	P	Pg	01 45 40.7	-0.4
	baz=303						
TIPB	Sh

baz=289
YM03 YM03 0.97 334 *e*P **Pg 01 45 46.1 -0.5**
baz=337
ANP Anpu 0.98 334 *e*P **Pg 01 45 46.3 -0.6**
baz=337
EHY Hungye 1.01 218 P **Pn 01 45 48.2 +0.8**
baz=212
SSLB Suanglung 1.08 242 P **Pn 01 45 49.7 +1.2**
baz=237
SMLT Sun Moon Lake 1.09 248 *e*P **Pn 01 45 49.3 +0.8**
baz=243
YULB Yu-li 1.11 215 *e*P **Pg 01 45 48.1 -1.2**
baz=210
TWQ1 Liyutan 1.12 273 *e*P **Pg 01 45 48.1 -1.4**
baz=270
TWF1 Yuli 1.15 214 *e*P **Pg 01 45 49.5 -0.5**
baz=209
ALS Alishan 1.35 234 *e*P **Pg 01 45 54.4 +0.5**
baz=230
CHN5 Tsauling 1.40 240 *e*P **Pn 01 45 53.2 +0.4**
baz=236
ELDTW Lidau 1.43 219 *e*P **Pn 01 45 53.7 +0.4**
baz=215
IRIF Iriomote-Funau 1.58 89 P **Pn 01 45 54.4 -0.8**
HATJ Hateruma jima 1.67 98 P **Pn 01 45 58.0 +1.6**
JKRS Kuro-shima 1.83 92 P **Pn 01 45 58.5 -0.2**
JIJ Ishigaki jima 1.96 88 P **Pn 01 46 01.5 +1.1**

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*MEX **17** 01:51:19.6±0.8, 14°.57N×92°.77W, h50km±15km, MD4.1*
*SNET **17** 01:51:20.0±1.3, 14°.67N×92°.67W, h60km±20km, ML4.2*
*UCR **17** 01:51:20.0±1.4, 14°.68N×92°.68W, h57km±25km, ML4.0, mb4.1(NEIC)*
*NEIC **17** 01:51:20.8±1.8, 14°.83N±0°.05×92°.52W±0°.08, h84km±7km, Error ellipse: s-maj=10.5km s-min=7.4km az=88.0*
*IDC **17** 01:51:25.7±2.0, 14°.96N×92°.14W, h134km±19km, mb3.5/6, mb1 3.8/8, mb1mx3.4/34, mbtmp4.0/8, MS3.4/6, Ms1 3.4/6, ms1mx3.1/23, Error ellipse: s-maj=28.7km s-min=21.9km az=79.0*
ISC 17 01:51:19.2±0.8, 14°.78N±0°.05×92°.66W±0°.05, h76km±7km, n115, σ1§31/130, mb4.0/19, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.41**	**72**	*e*P	**Pn**	**01 51 30.7**	**-1.1**
THIG				*e*S	**Sn**	**01 51 39.7**	**-1.3**
RTAL	**Retalhuleu**	**0.97**	**105**	‖*e*P	**Pn**	**01 51 37.7**	**0.0**
RTAL				*e*S	**Sn**	**01 51 50.8**	**-0.6**
RTAL	**Retalhuleu**	**0.97**	**105**	Pn	**Pn**	**01 51 37.0**	**-0.7**
RTAL				Sn	**Sn**	**01 51 49.8**	**-1.6**
PCIG		**1.06**	**330**	*e*P	**Pn**	**01 51 38.7**	**-0.2**
PCIG				*i* S	**Sn**	**01 51 53.2**	**-0.3**
HUEH	**Huehuetenango**	**1.24**	**64**	*e*P	**Pn**	**01 51 42.7**	**+1.4**
HUEH				*e*S	**Sn**	**01 52 01.1**	**+3.3**
HUEH				IAML		01 52 09.4	
	comp=Z,9μm,0.6s						
HUEH	**Huehuetenango**	**1.24**	**64**		**Pn**	**01 51 42.6**	**+1.3**
CCIG	**Comitan**	**1.58**	**19**	*e*P	**Pn**	**01 51 47.5**	**+1.9**
CCIG				*e*S	**Sn**	**01 52 08.7**	**+3.1**
CCIG	**Comitan**	**1.58**	**19**		**Pn**	**01 51 46.2**	**+0.6**
TGIG		**2.04**	**348**	*e*P	**Pn**	**01 51 51.8**	**+0.2**
TGIG				*i* S	**Sn**	**01 52 17.7**	**+1.5**
APG	**El Apazote**	**2.14**	**84**	P	**Pn**	**01 51 54.3**	**+1.2**
	comp=Z,26nm,0.3s,baz=277,slow=12,SNR=224						
APG				S	**Sn**	**01 52 18.9**	**0.0**
	comp=Z,25nm,0.3s,baz=51,slow=12,SNR=11						
NUBE	**Las Nubes**	**2.93**	**107**	*e*P	**Pn**	**01 52 04.4**	**+0.7**
NUBE				*e*S	**Sn**	**01 52 38.4**	**+0.5**
NUBE				IAML		01 52 41.1	
	comp=Z,227nm,0.2s						
NUBE	**Las Nubes**	**2.93**	**107**	*e*P	**Pn**	**01 52 04.4**	**+0.7**
NUBE				*e*S	**Sn**	**01 52 38.4**	**+0.5**
NUBE				IAML		01 52 41.1	
	comp=Z,227nm,0.2s						
RTR	**El Retiro**	**3.05**	**106**	*e*P	**Pn**	**01 52 06.6**	**+1.2**
RTR	**El Retiro**	**3.05**	**106**	*e*P	**Pn**	**01 52 06.6**	**+1.2**
SBLS	**San Blas**	**3.09**	**107**	*e*P	**Pn**	**01 52 07.9**	**+1.9**
SBLS	**San Blas**	**3.09**	**107**	*e*P	**Pn**	**01 52 07.9**	**+1.9**
CEVE	**Cerro Verde**	**3.09**	**107**	*e*P	**Pn**	**01 52 07.0**	**+0.9**
CEVE				*e*S	**Sn**	**01 52 44.2**	**+2.1**
CEVE				IAML		01 52 48.7	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**3.09**	**107**	*e*P	**Pn**	**01 52 07.0**	**+0.9**
CEVE				*e*S	**Sn**	**01 52 44.2**	**+2.1**
CEVE				IAML		01 52 48.7	
	comp=Z,2μm,0.3s						
SNJE	**San Jose**	**3.10**	**107**	*e*P	**Pn**	**01 52 06.9**	**+0.9**
SNJE	**San Jose**	**3.10**	**107**	*e*P	**Pn**	**01 52 06.9**	**+0.9**
MTO3	**Montecristo**	**3.22**	**96**	*e*P	**Pn**	**01 52 08.5**	**+0.8**
MTO3	**Montecristo**	**3.22**	**96**	*e*P	**Pn**	**01 52 08.5**	**+0.8**
MTO3	**Montecristo**	**3.22**	**96**	Pn	**Pn**	**01 52 08.5**	**+0.8**
MTO3				Sn	**Sn**	**01 52 44.5**	**-0.6**
ESQI	**Esquipulas**	**3.22**	**93**		**Pn**	**01 52 08.6**	**+0.9**
TACO	**Tacachico**	**3.31**	**104**	*e*P	**Pn**	**01 52 09.1**	**+0.3**
TACO	**Tacachico**	**3.31**	**104**	*e*P	**Pn**	**01 52 09.1**	**+0.3**
PETF	**Flores**	**3.43**	**51**	*e*P	**Pn**	**01 52 11.6**	**+1.3**
PETF	**Flores**	**3.43**	**51**	Pn	**Pn**	**01 52 11.2**	**+0.9**
PETF				Sn	**Sn**	**01 52 49.2**	**-0.7**
BOQS	**Boqueron**	**3.44**	**107**	*e*P	**Pn**	**01 52 11.2**	**+0.4**
BOQS				*e*S	**Sn**	**01 52 53.4**	**+2.8**
BOQS	**Boqueron**	**3.44**	**107**	*e*P	**Pn**	**01 52 11.2**	**+0.4**
BOQS				*e*S	**Sn**	**01 52 53.4**	**+2.8**
LBRS	**Las Brisas**	**3.66**	**106**	*e*P	**Pn**	**01 52 14.9**	**+1.3**
LBRS	**Las Brisas**	**3.66**	**106**	*e*P	**Pn**	**01 52 14.9**	**+1.3**
LFRS	**El Faro**	**3.68**	**108**	*e*P	**Pn**	**01 52 15.7**	**+1.8**
LFRS				*e*S	**Sn**	**01 52 57.0**	**+0.9**
LFRS	**El Faro**	**3.68**	**108**	*e*P	**Pn**	**01 52 15.7**	**+1.8**
LFRS				*e*S	**Sn**	**01 52 57.0**	**+0.9**
PAVA	**Las Pavas**	**3.77**	**106**	*e*P	**Pn**	**01 52 16.6**	**+1.6**
PAVA	**Las Pavas**	**3.77**	**106**	*e*P	**Pn**	**01 52 16.6**	**+1.6**
COEG	**Centro de Oper**	**3.84**	**107**	*e*P	**Pn**	**01 52 17.1**	**+0.9**
COEG				IAML		01 53 06.7	
	comp=Z,281nm,0.4s						
COEG	**Centro de Oper**	**3.84**	**107**	*e*P	**Pn**	**01 52 17.1**	**+0.9**
COEG				IAML		01 53 06.7	
	comp=Z,281nm,0.4s						
TGUH	**Tegucigalpa,Un**	**5.27**	**97**	Pn	**Pn**	**01 52 36.3**	**+0.6**
TLIG	**Tlapa**	**6.31**	**297**		**Pn**	**01 52 52.6**	**+2.8**
MATN	**Matagalpa**	**6.80**	**105**		**Pn**	**01 52 57.5**	**+1.0**
TEIG	**Tepich**	**6.84**	**37**	P	**Pn**	**01 52 56.7**	**-0.3**
	comp=Z,64nm,0.3s,baz=231,slow=2.5,SNR=219						
TEIG				S	**Sn**	**01 54 10.2**	**-3.2**
	comp=Z,22nm,0.3s,baz=340,slow=22,SNR=16						
TEIG	**Tepich**	**6.84**	**37**	Pn	**Pn**	**01 52 56.4**	**-0.6**
TEIG				Sn	**Sn**	**01 54 11.9**	**-1.5**
BOAB	**BOACO BROADBAN**	**7.18**	**108**		**Pn**	**01 53 02.7**	**+1.0**
JTS	**Las Juntas de**	**8.75**	**120**	P	**Pn**	**01 53 24.9**	**+1.8**
	comp=Z,1.9nm,0.3s,baz=321,slow=7.8,SNR=4.0						
JTS	**Las Juntas de**	**8.75**	**120**		**Pn**	**01 53 23.6**	**+0.5**
HKT	**Hockley**	**15.38**	**350**	Pn	**Pn**	**01 54 52.3**	**+0.5**
435B	**Jarrell**	**16.56**	**345**	P	**P**	**01 55 09.0**	**+0.9**
435B				IAmb	IAmb	01 55 13.8	
	comp=Z,12nm,1.0s						
JCT	**Junction City**	**16.95**	**338**	Pn	**Pn**	**01 55 10.5**	**-1.1**
JCT					**Sn**	**01 58 20.1**	**+0.6**
TXAR	**Lajitas Array**	**17.70**	**327**	P	**Pn**	**01 55 23.1**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=147,slow=9.7,SNR=42						
TXAR	**Lajitas Array**	**17.70**	**327**	P	**Pn**	**01 55 22.1**	**+1.3**
TX31	**Lajitas Ar. Si**	**17.70**	**327**	P	**Pn**	**01 55 22.2**	**+1.4**
TX31				IAmb	IAmb	01 55 26.7	
	comp=Z,16nm,0.9s						
TX32	**Lajitas Array**	**17.70**	**327**	P	**Pn**	**01 55 21.8**	**+1.0**
352A	**Blakely**	**18.07**	**22**	P	**P**	**01 55 24.7**	**0.0**
250A	**Grady**	**18.09**	**18**	P	**P**	**01 55 25.1**	**+0.2**
250A				IAmb	IAmb	01 55 31.0	
	comp=Z,12nm,0.7s						
WLAR	**White Oak Lake**	**18.83**	**359**		**P**	**01 55 34.0**	**+1.1**
ABTX	**Abilene, Hawle**	**18.87**	**342**	P	**P**	**01 55 33.6**	**+0.2**
LRAL	**Lakeview Retre**	**18.89**	**15**	P	**P**	**01 55 34.2**	**+0.5**
LRAL				IAmb	IAmb	01 55 43.9	
	comp=Z,10.0nm,0.6s						
152A	**Waverly Hall**	**19.22**	**21**	P	**P**	**01 55 36.6**	**-0.7**
152A				IAmb	IAmb	01 55 41.8	
	comp=Z,11nm,1.1s						
MIAR	**Mount Ida**	**19.70**	**358**	P	**P**	**01 55 43.0**	**+0.5**
154A	**Montrose**	**19.77**	**24**	P	**Pn**	**01 55 46.2**	**+0.7**
Y49A	**Blount Mountai**	**19.82**	**15**	P	**P**	**01 55 44.1**	**+0.3**
Y49A				IAmb	IAmb	01 55 47.4	
	comp=Z,6.3nm,0.8s						
X37A	**Clayton**	**19.88**	**353**	P	**P**	**01 55 44.1**	**-0.3**
X37A				IAmb	IAmb	01 55 51.7	
	comp=Z,16nm,1.1s						
UALR	**University of**	**19.91**	**1**	P	**P**	**01 55 45.2**	**+0.4**
UALR				IAmb	IAmb	01 56 03.4	
	comp=Z,13nm,1.1s						
OTAV	**Otavalo**	**20.16**	**135**	P	**P**	**01 55 47.0**	**-1.1**
X48A	**Hartselle**	**20.23**	**14**	P	**P**	**01 55 48.9**	**+0.6**
X48A				IAmb	IAmb	01 55 54.9	
	comp=Z,13nm,1.0s						
W41B	**Gary Mavity, V**	**20.31**	**1**	P	**P**	**01 55 48.6**	**-0.5**
W41B				IAmb	IAmb	01 55 56.2	
	comp=Z,7.1nm,1.0s						
GOGA	**Godfrey**	**20.34**	**23**	P	**P**	**01 55 49.5**	**0.0**
GOGA				IAmb	IAmb	01 55 55.5	
	comp=Z,17nm,1.0s						
W39A	**Magazine**	**20.36**	**357**	P	**P**	**01 55 49.3**	**-0.3**
W39A				IAmb	IAmb	01 55 58.3	
	comp=Z,5.8nm,0.8s						
GDL2	**Guadalupe Moun**	**20.36**	**330**		**P**	**01 55 51.0**	**+1.1**
WHAR	**Wooly Hollow**	**20.43**	**1**		**P**	**01 55 50.7**	**+0.4**
MNTX	**Cornudas Mount**	**20.47**	**328**		**P**	**01 55 52.1**	**+1.2**
W45A	**Hickory Valley**	**20.53**	**8**	P	**P**	**01 55 51.3**	**-0.2**
Y52A	**Lilburn**	**20.54**	**21**	P	**P**	**01 55 50.4**	**-1.1**
WMOK	**Wichita Mounta**	**20.62**	**346**	P	**P**	**01 55 53.5**	**+0.9**
FPAL	**Fort Paine**	**20.68**	**17**	P	**P**	**01 55 52.9**	**-0.2**
FPAL				IAmb	IAmb	01 55 59.7	
	comp=Z,11nm,0.6s						
FCAR	**Ozark Folk Cen**	**21.03**	**1**	P	**P**	**01 55 57.0**	**+0.2**
MSTX	**Muleshoe**	**21.18**	**336**	P	**P**	**01 55 59.0**	**+0.3**
SWET	**Sewanee**	**21.23**	**15**	P	**P**	**01 56 01.3**	**+2.3**
SWET				IAmb	IAmb	01 56 18.3	
	comp=Z,8.3nm,0.8s						
LCAR	**Lake Charles**	**21.25**	**3**	P	**P**	**01 56 01.0**	**+1.9**
LCAR				IAmb	IAmb	01 56 06.2	
	comp=Z,6.2nm,1.0s						
BCOK	**Bluff Creek, N**	**21.26**	**349**	P	**P**	**01 56 02.4**	**+3.1**
W50A	**Signal Mountai**	**21.38**	**17**	P	**P**	**01 56 02.0**	**+1.3**
W50A				IAmb	IAmb	01 56 17.2	
	comp=Z,7.6nm,0.6s						
HHAR	**Hobbs**	**21.44**	**357**	P	**P**	**01 56 01.0**	**-0.3**
HHAR				IAmb	IAmb	01 56 19.6	
	comp=Z,6.1nm,1.0s						
NHSC	**New Hope**	**21.48**	**30**	P	**P**	**01 56 00.8**	**-0.9**
U40A	**Yellville**	**21.49**	**360**	P	**P**	**01 56 01.8**	**0.0**
U40A				IAmb	IAmb	01 56 20.1	
	comp=Z,9.9nm,1.1s						
HODGE	**Hodges**	**21.53**	**24**	P	**P**	**01 56 00.9**	**-1.3**
HODGE				IAmb	IAmb	01 56 09.1	
	comp=Z,7.7nm,1.1s						
QUOK	**Quay**	**21.61**	**351**	P	**P**	**01 56 03.5**	**+0.5**
QUOK				IAmb	IAmb	01 56 22.0	
	comp=Z,13nm,1.1s						
W52A	**Murphy**	**21.70**	**20**	P	**P**	**01 56 03.9**	**-0.1**
W52A				IAmb	IAmb	01 56 20.7	
	comp=Z,6.4nm,0.9s						
CPCT	**Cooper Cave**	**21.84**	**18**	P	**P**	**01 56 05.9**	**+0.3**
CPCT				IAmb	IAmb	01 56 22.1	
	comp=Z,6.8nm,0.6s						
CLTN	**Cedars of Leba**	**21.97**	**14**	P	**P**	**01 56 06.2**	**-0.6**
CLTN				IAmb	IAmb	01 56 14.8	
	comp=Z,5.1nm,0.9s						
TKL	**Tuckaleechee C**	**22.27**	**19**	P	**P**	**01 56 09.9**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=187,slow=13,SNR=2.8						
TKL	**Tuckaleechee C**	**22.27**	**19**	P	**P**	**01 56 09.4**	**-0.7**
TKL				IAmb	IAmb	01 56 28.2	
	comp=Z,9.1nm,0.8s						
SDV	**Santo Domingo**	**22.33**	**103**	LR	LR	02 06 54.3	
	comp=Z,68nm,18.0s,baz=238,slow=42						
U49A	**Red Boiling Sp**	**22.50**	**15**	P	**P**	**01 56 12.7**	**+0.1**
U49A				IAmb	IAmb	01 56 21.4	
	comp=Z,13nm,1.0s						
T47A	**Sharon Grove**	**22.67**	**12**	P	**P**	**01 56 13.3**	**-1.1**
T47A				IAmb	IAmb	01 56 33.1	
	comp=Z,6.9nm,0.8s						
BNM	**Barren Site**	**23.05**	**329**	P	**P**	**01 56 17.9**	**-0.7**
T25A	**Trinidad**	**24.60**	**337**	P	**P**	**01 56 31.7**	**-0.9**
HWUT	**Hardware Ranch**	**31.35**	**332**	P	**P**	**01 57 33.1**	**+0.3**
PDAR	**Pinedale Array**	**31.45**	**336**	LR	LR	02 12 56.7	
	comp=Z,44nm,18.6s,baz=316,slow=41						
SADO	**Sadowa**	**32.02**	**18**	LR	LR	02 10 50.1	
	comp=Z,69nm,20.4s,baz=254,slow=37						
NVAR	**Mina Array Bea**	**32.66**	**321**	P	**P**	**01 57 47.9**	**+3.5**
	comp=Z,1.4nm,0.7s,baz=136,slow=8.5,SNR=11						
NVAR	**Mina Array Bea**	**32.66**	**321**	P	**P**	**01 57 44.7**	**+0.2**
ULM	**Lac du Bonnet**	**35.47**	**356**	LR	LR	02 14 22.8	
	comp=Z,61nm,18.6s,baz=327,slow=39						
J08A	**Circle Bar Ran**	**36.04**	**327**	P	**P**	**01 58 14.6**	**+1.1**
SAML	**Samuel**	**37.55**	**127**	P	**P**	**01 58 26.7**	**+0.2**
SAML				IAmb	IAmb	01 58 27.4	
	comp=Z,1.5nm,0.8s						
NEW	**Newport**	**39.02**	**334**	LR	LR	02 16 19.0	
	comp=Z,71nm,18.1s,baz=312,slow=38						
PB11	**IPOC Station P**	**41.11**	**146**	P	**P**	**01 58 56.6**	**+0.4**
PB04	**IPOC Station P**	**42.98**	**149**	P	**P**	**01 59 10.4**	**-1.0**
SCHQ	**Schefferville**	**44.72**	**21**	P	**P**	**01 59 21.9**	**-2.9**
	comp=Z,2.0nm,0.7s,baz=216,slow=14,SNR=1.7						
ILAR	**Eielson Array**	**61.87**	**337**	P	**P**	**02 01 30.8**	**+0.4**
	comp=Z,1.3nm,1.1s,baz=140,slow=4.0,SNR=7.1						
ILAR	**Eielson Array**	**61.87**	**337**	P	**P**	**02 01 31.7**	**+1.3**
NOA	**NORSAR Array B**	**83.77**	**28**	LR	LR	02 40 07.7	
	comp=Z,14nm,18.0s,baz=305,slow=35						
ARCES	**ARCESS Array B**	**85.60**	**18**	P	**P**	**02 03 47.2**	**-1.9**
	comp=Z,1.3nm,0.9s,baz=289,slow=5.6,SNR=1.5						
FINES	**FINESS Array B**	**90.07**	**25**	P	**P**	**02 04 07.8**	**-2.7**
	comp=Z,0.5nm,0.7s,baz=305,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**134.96**	**256**	PKP	**PKiKP**	**02 10 30.6**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=46,slow=0.3,SNR=6.1						

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*IDC **17** 01:56:29.9±1.1, 1°.88S×139°.19E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/35, mbtmp3.8/6, ML3.9/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/27, Error ellipse: s-maj=24.0km s-min=13.5km az=31.0*
ISC 17 01:56:34.2±0.9, 1°.9S±0°.1×139°.2E±0°.2, h29km, n16, σ1§42/7, mb3.8/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.62**	**112**	Pg	**Pn**	**01 57 00.7**	**-0.2**
	11nm,0.3s,baz=225,slow=10,SNR=28						
JAY				Lg	Lg	01 57 21.1	
	16nm,0.3s,baz=121,slow=23,SNR=7.3						
PMG	**Port Moresby**	**10.87**	**134**	LR	LR	02 04 30.0	
	comp=Z,48nm,19.1s,baz=258,slow=44						
WRA	**Warramunga Arr**	**18.56**	**195**	P	**P**	**02 00 46.9**	**-2.0**
	0.4nm,0.3s,baz=19,slow=12,SNR=23						
WRA				LR	LR	02 09 17.2	
	comp=Z,40nm,20.2s,baz=25,slow=41						
FITZ	**Fitzroy Crossi**	**20.89**	**219**	LR	LR	02 10 51.4	
	comp=Z,60nm,18.8s,baz=276,slow=41						
ASAR	**Alice Springs**	**22.24**	**193**	P	**P**	**02 01 28.2**	**-0.7**
	2.7nm,0.6s,baz=23,slow=10,SNR=19						
STKA	**Stephens Creek**	**29.91**	**176**	P	**P**	**02 02 41.4**	**+1.8**
	1.9nm,0.7s,baz=9.9,slow=8.6,SNR=3.4						
H11S3	**WAKE ISLAND Hy**	**33.79**	**52**	T	T	02 38 49.4	
	baz=236,slow=75,SNR=126						
H11S2	**WAKE ISLAND Hy**	**33.80**	**52**	T	T	02 38 50.2	
	baz=236,slow=75,SNR=116						
H11S1	**WAKE ISLAND Hy**	**33.81**	**52**	T	T	02 38 50.7	
	baz=236,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**34.64**	**50**	T	T	02 39 55.9	
	baz=233,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**34.65**	**50**	T	T	02 39 57.0	
	baz=233,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**34.66**	**50**	T	T	02 39 57.1	
	baz=233,slow=75,SNR=5.0						
MJAR	**Matsushiro Arr**	**38.25**	**359**	LR	LR	02 18 11.7	
	comp=Z,34nm,19.2s,baz=190,slow=34						
SONM	**Songino Array**	**57.20**	**334**	P	**P**	**02 06 18.9**	**+0.1**
	0.5nm,0.5s,baz=115,slow=6.5,SNR=2.7						
MKAR	**Makanchi Array**	**69.45**	**322**	P	**P**	**02 07 40.2**	**+0.3**
	0.5nm,0.6s,baz=98,slow=8.8,SNR=5.8						
ILAR	**Eielson Array**	**84.89**	**24**	P	**P**	**02 09 05.6**	**-0.5**
	0.4nm,0.8s,baz=282,slow=4.2,SNR=2.7						

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*IDC **17** 01:57:40.5±1.1, 47°.74S×165°.18E, h0km, mb4.4/7, mb1 4.5/8, mb1mx4.2/31, mbtmp4.4/8, ML4.2/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/21, Error ellipse: s-maj=28.9km s-min=27.0km az=93.0*
*NEIC **17** 01:57:41.3, 47°.73S×165°.37E, h22km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.90; $M_{\theta\theta}$1.52; $M_{\phi\phi}$-2.43; $M_{r\theta}$2.86; $M_{\theta\phi}$3.53; $M_{\phi r}$-0.04; Fault plane solution: $M_0$5.01000×10^{15} NP1:ϕ_s107.83000°, δ79.95000°, λ35.03000°. NP2:ϕ_s10.86000°, δ55.58000°, λ167.79000°. Principal axes: T 5.0988, Plg32.0000°, Azm335.0000°; N -0.1774, Plg54.0000°, Azm122.0000°; P -4.9213, Plg16.0000°, Azm235.0000°;*
*NEIC **17** 01:57:41.8±1.6, 47°.73S±0°.08×165°.4E±0°.1, h16km±4km Error ellipse: s-maj=13.5km s-min=6.5km az=138.0*
ISC 17 01:57:42.0±4.3, 47°.72S±0°.06×165°.40E±0°.06, h14km±27km, n89, σ1§58/99, mb4.5/13, MS3.7/9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.79**	**30**	P	**Pn**	**01 58 12.5**	**+0.1**
PYZ				S	**Sn**	**01 58 34.3**	**-0.6**
PYZ	**Puysegur Point**	**1.79**	**30**		**Pn**	**01 58 11.5**	**-0.8**
PYZ				Sn	**Sn**	**01 58 35.0**	**+0.2**
APZ	**The Paps**	**1.98**	**64**	P	**Pn**	**01 58 15.1**	**+0.1**
APZ				S	**Sn**	**01 58 40.3**	**+0.7**
WHZ	**Wether Hill Ro**	**2.53**	**45**	P	**Pn**	**01 58 23.6**	**+1.0**
WHZ				S	**Sn**	**01 58 54.4**	**+1.2**
WHZ	**Wether Hill Ro**	**2.53**	**45**		**Pn**	**01 58 22.3**	**-0.4**
DCZ	**Deep Cove**	**2.56**	**29**	P	**Pn**	**01 58 22.7**	**-0.3**
DCZ	**Deep Cove**	**2.56**	**29**		**Pn**	**01 58 22.6**	**-0.3**
DCZ				Sn	**Sn**	**01 58 53.7**	**-0.2**
SYZ	**Scrubby Hill**	**2.81**	**67**	P	**Pn**	**01 58 27.9**	**+1.4**
SYZ				S	**Sn**	**01 59 00.1**	**-0.1**
MLZ	**Mavora Lakes**	**3.01**	**40**	P	**Pn**	**01 58 31.5**	**+2.3**
MLZ				S	**Sn**	**01 59 07.5**	**+2.4**
MLZ	**Mavora Lakes**	**3.01**	**40**		**Pn**	**01 58 28.9**	**-0.3**
MLZ				Sn	**Sn**	**01 59 06.6**	**+1.5**
TUZ	**Tuapeka**	**3.40**	**60**	P	**Pn**	**01 58 35.6**	**+1.1**
TUZ				S	**Sn**	**01 59 15.2**	**+0.6**
MSZ	**Milford Sound**	**3.52**	**31**	P	**Pn**	**01 58 38.3**	**+2.2**
MSZ				S	**Sn**	**01 59 17.8**	**+0.3**
WKZ	**Wanaka**	**3.83**	**42**	P	**Pn**	**01 58 43.2**	**+2.7**
WKZ				S	**Sn**	**01 59 27.6**	**+2.3**
WKZ	**Wanaka**	**3.83**	**42**	Pn	**Pn**	**01 58 41.6**	**+1.1**
WKZ				Sn	**Sn**	**01 59 24.8**	**-0.5**
HHSZ	**Highcliff Hill**	**4.01**	**65**	P	**Pn**	**01 58 44.5**	**+1.5**
HHSZ				S	**Sn**	**01 59 32.8**	**+3.0**
JCZ	**Jackson Bay**	**4.35**	**34**	P	**Pn**	**01 58 49.7**	**+2.0**
JCZ				S	**Sn**	**01 59 40.4**	**+2.3**
ODZ	**Otahua Downs**	**4.51**	**56**	P	**Pn**	**01 58 48.6**	**-1.3**
ODZ	**Otahua Downs**	**4.51**	**56**	Pn	**Pn**	**01 58 49.0**	**-0.8**
FOZ	**Fox Glacier**	**5.21**	**38**	Pn	**Pn**	**01 59 00.3**	**+0.9**
FOZ				Sn	**Sn**	**01 59 58.5**	**-0.7**
RPZ	**Rata Peaks**	**5.63**	**47**	Pn	**Pn**	**01 59 06.3**	**+1.0**
	6.4nm,0.3s,baz=227,slow=5.5,SNR=9.2						
RPZ				Sn	**Sn**	**02 00 07.6**	**-2.1**
	27nm,0.3s,baz=57,slow=18,SNR=12						
RPZ				LR	LR	02 01 31.1	
	comp=Z,765nm,21.3s,baz=218,slow=40						
RPZ	**Rata Peaks**	**5.63**	**47**	Pn	**Pn**	**01 59 03.5**	**-1.8**
RPZ					**Sn**	**02 00 06.1**	**-3.6**
OXZ	**Oxford**	**6.41**	**49**		**Pn**	**01 59 15.7**	**-0.2**
OXZ				Sn	**Sn**	**02 00 28.1**	**-0.7**
MQZ	**McQueen's Vall**	**6.47**	**54**	Pn	**Pn**	**01 59 15.5**	**-1.2**
LTZ	**Lake Taylor**	**6.92**	**47**		**Pn**	**01 59 23.0**	**0.0**
KHZ	**Kahutara**	**7.83**	**50**	Pn	**Pn**	**01 59 36.5**	**+1.1**
MCQ	**Macquarie Isla**	**7.90**	**208**	Pn	**Pn**	**01 59 34.8**	**-1.6**
THZ	**Tophouse**	**8.00**	**45**	P	**Pn**	**01 59 40.3**	**+2.5**
THZ				S	**Sn**	**02 01 05.8**	**-2.3**
THZ	**Tophouse**	**8.00**	**45**	Pn	**Pn**	**01 59 37.5**	**-0.3**
BSWZ	**Blackbirch Sta**	**8.51**	**48**	Pn	**Pn**	**01 59 45.6**	**+0.9**
QRZ	**Quartz Range**	**8.58**	**39**	P	**Pn**	**01 59 45.8**	**+0.1**
QRZ	**Quartz Range**	**8.58**	**39**		**Pn**	**01 59 44.6**	**-1.1**
NNZ	**Nelson**	**8.65**	**44**	P	**Pn**	**01 59 49.8**	**+3.2**
NNZ				S	**Sn**	**02 01 22.5**	**-1.4**
NNZ	**Nelson**	**8.65**	**44**	Pn	**Pn**	**01 59 47.3**	**+0.7**
DUWZ	**D'Urville Isla**	**9.23**	**45**	P	**Pn**	**01 59 56.8**	**+2.2**
SNZO	**South Karori**	**9.23**	**49**	Pn	**Pn**	**01 59 53.9**	**-0.7**
BHW	**Baring Head**	**9.24**	**50**	Pn	**Pn**	**01 59 55.1**	**+0.3**
MSWZ	**Moikau Station**	**9.44**	**52**	Pn	**Pn**	**01 59 58.6**	**+1.1**
NBEZ	**Newall Road No**	**10.44**	**39**	P	**Pn**	**02 00 12.8**	**+1.5**
KHEZ	**Kahui Hut**	**10

TORD Torodi Ar. Bea 142.94 207 PKhKP PKPpre 02 17 11.7
comp=Z,0.4nm,0.6s,baz=174,slow=2.9,SNR=2.0
BRTR Keskin Array B 144.72 275 PKP PKPbc 02 17 17.1 +0.3
comp=Z,2.0nm,0.8s,baz=91,slow=6.2,SNR=5.2
ARCES ARCESS Array B 150.71 332 PKPbc **PKiKP 02 17 32.8 -0.1**
comp=Z,4.2nm,0.7s,baz=68,slow=2.5,SNR=24
ARCES ARCESS Array B 150.71 332 PKPdf 02 17 29.6 +3.0
AKASG Malin Array Be 151.53 293 PKPbc **PKPbc 02 17 35.0 +0.4**
comp=Z,5.1nm,0.6s,baz=78,slow=2.5,SNR=31
AKASG Malin Array Be 151.53 293 PKiKP 02 17 35.1 +0.1
FINES FINESS Array B 153.24 316 PKPbc **PKiKP 02 17 38.8 +0.5**
comp=Z,2.2nm,0.7s,baz=90,slow=6.5,SNR=12
NOA NORSAR Array B 160.08 322 PKPab **PKPab 02 18 18.5 -1.2**
comp=Z,0.6nm,0.6s,baz=59,slow=4.3,SNR=3.8
GERES GERESS Array B 161.17 284 PKPab **PKPab 02 18 24.6 -0.3**
comp=Z,0.3nm,0.6s,baz=134,slow=2.8,SNR=2.6
GERES GERESS Array B 161.17 284 PKPab 02 18 25.3 +0.4

MOS ***17*** *02:29:47.0±0.9, 4°.52S×102°.55E, h37km, mb5.2/66, Error ellipse: s-maj=11.7km s-min=4.8km az=114.3*
UNK ***17*** *02:29:49.2, 4°.68S×102°.47E, h50km*
NEIC ***17*** *02:29:49.2±0.9, 4°.68S±0°.05×102°.47E±0°.05, h50km±1km, mb5.0/69, Error ellipse: s-maj=7.7km s-min=7.3km az=132.0*
BJI ***17*** *02:29:50.0±0.0, 4°.60S×102°.50E, h67km, mB5.1/33, mb5.0/47, Ms4.6/12, Ms7 4.4/10*
DJA ***17*** *02:29:51.7±0.2, 5°.5S±3°.3×10°.3E±°, h59km±2km, M4.9/29, mb4.9/29, mB5.4/12, MLv5.0/21, Mw(mB)4.9/12*
IDC ***17*** *02:29:52.9±2.2, 4°.37S×102°.68E, h64km±19km, mb4.4/23, mb1 4.5/26, mb1mx4.3/35, mbtmp4.7/26, MS3.6/14, Ms1 3.6/14, ms1mx3.4/28, Error ellipse: s-maj=19.6km s-min=9.7km az=54.0*
ISC 17 02:29:51.0±0.5, 4°.60S±0°.05×102°.55E±0°.05, h58km±24km, n490, σ1°19/506, mb5.0/113, MS3.9/14, 24C-12D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MNAI	**Manna**	**0.47**	**60**	P	**Pn**	**02 30 02.6**		**+0.1**
MNAI				S	**Sn**	**02 30 11.0**		**+1.0**
MNAI	**Manna**	**0.47**	**60**		**Pn**	**02 30 02.3**		**-0.2**
MNAI					**Sn**	**02 30 09.8**		**-1.1**
KSI	**Kapahiang**	**0.94**	**3**	P	**Pn**	**02 30 08.6**		**+0.3**
LHSI	**Lahat**	**1.24**	**52**	P	**Pn**	**02 30 12.8**		**+0.7**
MASI	**Maura Aman, Be**	**1.48**	**348**	P	**Pn**	**02 30 16.4**		**+0.9**
LWLI	**Liwa**	**1.56**	**106**	P	**Pn**	**02 30 17.4**		**+0.8**
LWLI				S	**Sn**	**02 30 36.7**		**+0.9**
MDSI	**Maura Dua**	**1.63**	**86**	P	**Pn**	**02 30 18.4**		**+1.0**
MDSI				S	**Sn**	**02 30 38.9**		**+1.6**
KLSI		**2.17**	**92**	P	**Pn**	**02 30 25.9**		**+1.1**
KRJI	**Kerinci**	**2.72**	**336**	P	**Pn**	**02 30 34.2**		**+1.8**
PMBI	**Palembang**	**2.77**	**53**	P	Pn	02 30 43.2		+10
PMBI	**Palembang**	**2.77**	**53**	Pn	**Pn**	**02 30 32.0**		**-1.0**
BLSI	**Bandar Lampung**	**2.79**	**106**	P	**Pn**	**02 30 35.2**		**+1.9**
PPSI	**Pulau Pagai**	**3.12**	**306**	P	**Pn**	**02 30 39.7**		**+1.9**
CGJI	**Cibinong**	**3.71**	**123**	P	**Pn**	**02 30 47.0**		**+1.1**
SDSI	**Sungai Dareh**	**3.81**	**343**	P	**Pn**	**02 30 49.0**		**+1.7**
SBJI	**Serang**	**3.87**	**113**	P	Pn	02 31 01.8		+14
PDSI	**Padang**	**4.21**	**330**	P	**Pn**	**02 30 54.3**		**+1.5**
DSRI	**Dabo**	**4.56**	**26**	P	**Pn**	**02 30 59.5**		**+1.9**
CBJI	**Citeko**	**4.65**	**113**	P	**Pn**	**02 31 03.3**		**+4.6**
SKJI	**Sukabumi**	**4.65**	**121**	P	Pn	02 31 13.2		+14
SISI	**Saibi**	**4.75**	**313**	P	**Pn**	**02 31 01.5**		**+1.4**
BKNI	**Bangkinang**	**5.12**	**343**	P	**Pn**	**02 31 07.1**		**+1.9**
	2.3nm4μm343nm,1.0s							
BKNI	**Bangkinang**	**5.12**	**343**	Pn	**Pn**	**02 31 03.4**		**-1.8**
BKNI				Sn	**Sn**	**02 32 01.6**		**-1.4**
CNJI	**Cibinong**	**5.29**	**121**	P	**Pn**	**02 31 07.7**		**+0.2**
	1.7nm5μm198nm,0.9s							
LEM	**Lembang**	**5.51**	**114**	P	**Pn**	**02 31 14.1**		**+3.5**
	7.1nm,0.3s,baz=345,slow=15,SNR=5.1							
LEM				S	**Sn**	**02 32 20.1**		**+7.4**
	14nm,0.3s,baz=14,slow=23,SNR=1.1							
LEM				LR	LR	02 33 41.7		
	comp=Z,511nm,21.0s,baz=322,slow=42							
CISI	**Cisompet, Garu**	**6.00**	**120**	P	**Pn**	**02 31 17.9**		**+0.5**
	1.9nm4μm162nm,0.7s							
CISI	**Cisompet, Garu**	**6.00**	**120**	Pn	**Pn**	**02 31 15.8**		**-1.5**
CISI				Sn	**Sn**	**02 32 22.6**		**-2.2**
MNSI	**Mandailing Nat**	**6.13**	**331**	P	**Pn**	**02 31 19.7**		**+0.7**
	0.7nm15μm55nm,0.8s							
XMIS	**Christmas Isla**	**6.60**	**152**	Pn	Pn	02 31 20.7		-4.8
CMJI	**Cimerak**	**6.66**	**119**	P	**Pn**	**02 31 27.4**		**+1.1**
	0.5nm78nm,0.6s							
GSI	**Gunungsitoli**	**7.69**	**320**	P	**Pn**	**02 31 41.0**		**+0.6**
	1.4nm115nm,0.9s							
GSI	**Gunungsitoli**	**7.69**	**320**	Pn	**Pn**	**02 31 38.9**		**-1.5**
PSI	**Prapat**	**8.20**	**334**	P	**Pn**	**02 31 45.9**		**-1.6**
	0.6nm,0.3s,baz=181,slow=4.4,SNR=4.1							
PSI				LR	LR	02 35 17.9		
	comp=Z,352nm,20.4s,baz=91,slow=41							
UGM	**Wanagama**	**8.58**	**113**	Pn	**Pn**	**02 31 52.6**		**0.0**
IPM	**Ipoh**	**9.14**	**350**	Pn	**Pn**	**02 32 00.3**		**-0.1**
COCO	**West Island**	**9.43**	**216**	P	**Pn**	**02 32 01.0**		**-3.2**
COCO	**West Island**	**9.43**	**216**		**Pn**	**02 32 01.0**		**-3.2**
PWJI	**Pagerwojo**	**9.80**	**111**	P	Pn	02 32 26.4		+17
KULM	**Kulim**	**10.01**	**349**	Pn	**Pn**	**02 32 10.5**		**-1.6**
SBUM	**Sibu**	**11.93**	**54**	Pn	**Pn**	**02 32 36.5**		**-2.0**
JAGI	**Jajag, Banyuwa**	**12.15**	**109**	P	**Pn**	**02 32 41.7**		**+0.2**
	66nm,0.6s							
JAGI	**Jajag, Banyuwa**	**12.15**	**109**	Pn	**Pn**	**02 32 40.0**		**-1.4**
BBKI	**Banjar Baru**	**12.31**	**85**	P	**P**	**02 32 58.1**		**+4.1**
KBKI	**Kotabaru**	**13.64**	**85**	P	**P**	**02 33 11.9**		**+3.1**
PLAI	**Plampang**	**15.69**	**106**	P	**P**	**02 33 30.3**		**-1.3**
	42nm,0.4s							
KAPI	**Kappang**	**17.14**	**92**	P	**Pn**	**02 33 47.1**		**+0.3**
	1.7nm,0.3s,baz=323,slow=9.6,SNR=5.4							
KAPI				LR	LR	02 40 39.2		
	comp=Z,208nm,20.3s,baz=264,slow=38							
KAPI	**Kappang**	**17.14**	**92**	P	**Pn**	**02 33 46.4**		**-0.4**
KAPI				pmax	pmax			
	comp=Z,19nm,1.0s							
KAPI	**Kappang**	**17.14**	**92**	P	**Pn**	**02 33 46.4**		**-0.4**
SPSI	**Sidrap Palu**	**17.18**	**89**	P	**P**	**02 33 48.6**		**+0.5**
	comp=Z,45nm,1.0s							
KKM	**Kota Kinabalu**	**17.26**	**52**		**Pn**	**02 33 47.1**		**-1.2**
WBSI	**Waikabubak, Su**	**17.44**	**108**	P	**Pn**	**02 33 49.8**		**-0.7**
	comp=Z,58nm,0.9s							
BNSI	**Bone**	**17.50**	**90**	P	**P**	**02 33 56.0**		**+4.3**
BKSI	**Bulukumba**	**17.52**	**93**	P	**P**	**02 33 53.1**		**+1.2**
	comp=Z,32nm,0.7s							
MPSI	**Mapaga**	**18.01**	**75**	P	**P**	**02 33 56.3**		**-1.0**
	comp=Z,443nmcomp=Z,40nm,0.7s							
MYLDM	**Lahad Datu**	**18.66**	**59**	P	**P**	**02 34 04.1**		**-0.2**
MYLDM				IAmb	IAmb	02 34 17.5		
	comp=Z,51nm,0.7s							
EDFI	**Ende, Flores**	**19.45**	**103**	P	**P**	**02 34 12.0**		**-1.2**
	comp=Z,10.0nm,0.5s							
MMRI	**Maumere**	**19.96**	**103**		**P**	**02 34 17.7**		**-0.9**
LUWI	**Luwuk**	**20.50**	**81**	P	**P**	**02 34 25.6**		**+1.1**
	comp=Z,4μmcomp=Z,96nm,1.0s							
LUWI	**Luwuk**	**20.50**	**81**	P	**P**	**02 34 24.2**		**-0.3**
LUWI				IAmb	IAmb	02 34 40.8		
	comp=Z,72nm,0.8s							
GTOI	**Gorontalo**	**21.09**	**76**	P	**P**	**02 34 30.4**		**-0.4**
	comp=Z,320nmcomp=Z,32nm,0.9s							
BATI	**Baumata**	**21.66**	**106**	P	**P**	**02 34 37.3**		**+0.3**
	comp=Z,50nm,0.3s,baz=217,slow=0.9,SNR=3.2							
BATI				S	**S**	**02 38 26.9**		**-6.9**
	comp=Z,18nm,0.5s,baz=356,slow=18,SNR=2.0							
BATI	**Baumata**	**21.66**	**106**	P	**P**	**02 34 36.8**		**-0.1**
SOEI	**Soe**	**22.14**	**105**	P	**P**	**02 34 46.8**		**+4.6**
SOEI	**Soe**	**22.14**	**105**	P	**P**	**02 34 41.5**		**-0.8**
CMAR	**Chiang Mai Arr**	**23.18**	**351**	P	**P**	**02 34 52.4**		**-0.5**
	comp=Z,32nm,0.9s,baz=184,slow=8.8,SNR=74							
CMAR				PcP	**PcP**	**02 38 41.6**		**+2.0**
	comp=Z,2.5nm,0.7s,baz=210,slow=3.3,SNR=6.5							
CMAR				LR	LR	02 43 47.0		
	comp=Z,140nm,18.0s,baz=204,slow=36							
CMAR	**Chiang Mai Arr**	**23.18**	**351**	P	**P**	**02 34 52.8**		**-0.2**
CMAR					**PcP**	**02 38 38.9**		**-0.8**
CHTO	**Chiang Mai**	**23.53**	**351**	P	**P**	**02 34 55.5**		**-0.7**
CHTO				pmax	pmax			
	comp=Z,21nm,0.9s							
CHTO	**Chiang Mai**	**23.53**	**351**	P	**P**	**02 34 55.5**		**-0.7**
DAV	**Davao City (W)**	**25.74**	**63**	LR	LR	02 46 00.5		
	comp=Z,54nm,18.9s,baz=226,slow=38							
FITZ	**Fitzroy Crossi**	**26.26**	**123**	P	**P**	**02 35 21.7**		**+0.6**
	comp=Z,15nm,0.8s,baz=0.1,slow=5.2,SNR=39							
FITZ	**Fitzroy Crossi**	**26.26**	**123**	P	**P**	**02 35 21.2**		**+0.2**
	baz=27,SNR=23							
FITZ	**Fitzroy Crossi**	**26.26**	**123**	P	**P**	**02 35 20.4**		**-0.6**

KNRA	**Kununurra**	**28.01**	**115**	P	**P**	**02 35 36.7**	**-0.1**
	baz=28,SNR=6.2						
KNRA	**Kununurra**	**28.01**	**115**	P	**P**	**02 35 36.4**	**-0.4**
SAUI	**Saumlaki**	**28.77**	**98**	P	**P**	**02 35 42.1**	**-1.5**
KMI	**Kunming**	**29.54**	**0⇓**	*e*P	**P**	**02 35 54.3**	**+3.8**
KMI				pP	pP	02 36 06.3	+1.3
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,180nm,5.2s						
KMI				LR	LR		
	comp=Z,440nm,4.4s						
KMI				LR	LR		
	comp=Z,440nm,6.2s						
KMI				LR	LR		
	comp=Z,220nm,5.4s						
H08S2	**Diego Garcia H**	**30.03**	**263**	T	T	03 07 47.7	
	baz=87,slow=75,SNR=39						
H08S3	**Diego Garcia H**	**30.04**	**263**	T	T	03 07 44.3	
	baz=87,slow=75,SNR=40						
H08S1	**Diego Garcia H**	**30.05**	**263**	T	T	03 07 43.8	
	baz=87,slow=75,SNR=24						
GYA	**Guiyang**	**31.13**	**7**	*e*P	**P**	**02 36 05.3**	**+0.9**
GYA				S	**S**	**02 41 08.8**	**+2.6**
GYA				pmax	pmax		
	comp=Z,14nm,1.0s						
GYA				pmax	pmax		
	comp=Z,450nm,3.9s						
GYA				LR	LR		
	comp=Z,470nm,6.4s						
GYA				LR	LR		
	comp=Z,960nm,4.1s						
GYA				LR	LR		
	comp=Z,380nm,5.5s						
SHL	**Shillong**	**31.72**	**341**	P	**P**	**02 36 08.3**	**-1.4**
SHL				pmax	pmax		
	comp=Z,12nm,0.6s						
SHL	**Shillong**	**31.72**	**341**	P	**P**	**02 36 08.3**	**-1.4**
SHL				IAmb	IAmb	02 36 09.6	
	comp=Z,12nm,0.6s						
H01W3	**Cape Leeuwin H**	**31.99**	**162**	T	T	03 10 01.0	
	baz=338,slow=76,SNR=104						
H01W2	**Cape Leeuwin H**	**32.00**	**162**	T	T	03 10 02.0	
	baz=338,slow=76,SNR=259						
H01W1	**Cape Leeuwin H**	**32.00**	**162**	T	T	03 09 58.6	
	baz=338,slow=76,SNR=116						
WRKA	**Warakurna**	**32.01**	**132**	P	**P**	**02 36 10.8**	**-1.3**
	baz=32,SNR=15						
WB0	**Warramunga Arr**	**34.48**	**119**	P	**P**	**02 36 33.1**	**-0.6**
WB0				IAmb	IAmb	02 36 35.9	
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**34.50**	**119**	P	**P**	**02 36 34.3**	**+0.4**
	comp=Z,4.7nm,0.4s,baz=304,slow=9.0,SNR=108						
WRA				PcP	**PcP**	**02 39 08.8**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=296,slow=2.4,SNR=5.9						
WRA				LR	LR	02 52 12.9	
	comp=Z,67nm,19.5s,baz=210,slow=39						
WRA	**Warramunga Arr**	**34.50**	**119**	P	**P**	**02 36 32.8**	**-1.1**
WRA				PcP	**PcP**	**02 39 07.2**	**-0.8**
WRAB	**Tennant Creek**	**34.51**	**119**	*c*eP	**P**	**02 36 34.0**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s						
WRAB	**Tennant Creek**	**34.51**	**119**	P	**P**	**02 36 33.4**	**-0.6**
WRAB				IAmb	IAmb	02 36 35.3	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**34.51**	**119**	P	**P**	**02 36 33.5**	**-0.5**
WB2				IAmb	IAmb	02 36 35.2	
	comp=Z,14nm,0.9s						
ODAN	**Odare**	**34.54**	**336**	*e*P	**P**	**02 36 34.9**	**+0.5**
	comp=Z,66nm,0.7s						
ODAN	**Odare**	**34.54**	**336**	*e*P	**P**	**02 36 34.9**	**+0.5**
	comp=Z,66nm,0.7s						
WR0	**Warramunga Arr**	**34.68**	**119**	P	**P**	**02 36 34.9**	**-0.6**
WR0				IAmb	IAmb	02 36 36.5	
	comp=Z,7.7nm,0.6s						
TAPN	**Taplejung**	**34.85**	**337**	*e*P	**P**	**02 36 37.7**	**+0.6**
	comp=Z,106nm,0.9s						
TAPN	**Taplejung**	**34.85**	**337**	*e*P	**P**	**02 36 37.7**	**+0.6**
	comp=Z,106nm,0.9s						
RAMN	**Ramite**	**34.95**	**335**	*e*P	**P**	**02 36 38.7**	**+0.8**
	comp=Z,17nm,0.3s						
RAMN	**Ramite**	**34.95**	**335**	*e*P	**P**	**02 36 38.7**	**+0.8**
	comp=Z,17nm,0.3s						
CD2	**Chengdu**	**35.33**	**2**	*e*P	**P**	**02 36 40.0**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
ASAR	**Alice Springs**	**35.68**	**125**	P	**P**	**02 36 45.0**	**+1.0**
	comp=Z,11nm,0.8s,baz=294,slow=7.9,SNR=115						
ASAR				PcP	**PcP**	**02 39 13.0**	**+1.5**
	comp=Z,2.9nm,0.5s,baz=307,slow=2.5,SNR=9.3						
ASAR				ScP	**ScP**	**02 42 52.6**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=312,slow=4.0,SNR=6.0						
ASAR				LR	LR	02 54 11.3	
	comp=Z,80nm,18.1s,baz=308,slow=41						
ASAR	**Alice Springs**	**35.68**	**125**	P	**P**	**02 36 43.2**	**-0.8**
ASAR						02 39 10.5	
ASAR	**Alice Springs**	**35.68**	**125**	P	**P**	**02 36 43.2**	**-0.8**
ASAR					**PcP**	**02 39 10.5**	**-0.9**
AS31	**Alice Springs**	**35.68**	**125**	P	**P**	**02 36 42.9**	**-1.1**
AS31				IAmb	IAmb	02 36 51.9	
	comp=Z,9.5nm,0.3s						
JIRN	**Jiri**	**35.75**	**335**	*e*P	**P**	**02 36 45.7**	**+0.8**
	comp=Z,178nm,0.8s						
JIRN	**Jiri**	**35.75**	**335**	*e*P	**P**	**02 36 45.7**	**+0.8**
	comp=Z,178nm,0.8s						
PKI	**Pulchoki**	**36.01**	**334**	*e*P	**P**	**02 36 47.5**	**+0.4**
	comp=Z,32nm,0.7s						
PKI	**Pulchoki**	**36.01**	**334**	*e*P	**P**	**02 36 47.5**	**+0.4**
	comp=Z,32nm,0.7s						
PKIN	**Phulchoki**	**36.02**	**334**	*e*P	**P**	**02 36 47.4**	**+0.3**
	comp=Z,43nm,0.9s						
PKIN	**Phulchoki**	**36.02**	**334**	*e*P	**P**	**02 36 47.4**	**+0.3**
	comp=Z,43nm,0.9s						
GUN	**Gumba**	**36.10**	**334**	*e*P	**P**	**02 36 48.6**	**+0.7**
GUN	**Gumba**	**36.10**	**334**	*e*P	**P**	**02 36 48.6**	**+0.7**
DMN	**Daman**	**36.18**	**333**	*e*P	**P**	**02 36 49.0**	**+0.6**
	comp=Z,58nm,0.9s						
DMN	**Daman**	**36.18**	**333**	*e*P	**P**	**02 36 49.0**	**+0.6**
	comp=Z,58nm,0.9s						
KKN	**Kakani**	**36.26**	**334**	*e*P	**P**	**02 36 49.7**	**+0.6**
	comp=Z,96nm,0.8s						
KKN	**Kakani**	**36.26**	**334**	*e*P	**P**	**02 36 49.7**	**+0.6**
	comp=Z,96nm,0.8s						
GKN	**Gorkha**	**36.73**	**333**	*e*P	**P**	**02 36 53.7**	**+0.7**
	comp=Z,127nm,0.9s						
GKN	**Gorkha**	**36.73**	**333**	*e*P	**P**	**02 36 53.7**	**+0.7**
	comp=Z,127nm,0.9s						
KOLN	**Koldanda**	**37.01**	**331**	*e*P	**P**	**02 36 56.5**	**+1.0**
	comp=Z,147nm,0.8s						
KOLN	**Koldanda**	**37.01**	**331**	*e*P	**P**	**02 36 56.5**	**+1.0**
	comp=Z,147nm,0.8s						
PYUN	**Piuthan**	**37.58**	**331**	*e*P	**P**	**02 37 01.1**	**+0.8**
	comp=Z,139nm,0.9s						
PYUN	**Piuthan**	**37.58**	**331**	*e*P	**P**	**02 37 01.1**	**+0.8**
	comp=Z,139nm,0.9s						
XAN	**Xi'an**	**38.90**	**8**	P	**P**	**02 37 10.6**	**-0.5**
XAN				pP	sP	02 37 30.3	-2.4
XAN				sP	pP	02 37 39.5	+14
XAN				pmax	pmax		
	comp=Z,41nm,0.9s						
XAN				pmax	pmax		
	comp=Z,350nm,4.0s						
XAN	**Xi'an**	**38.90**	**8**	P	**P**	**02 37 10.6**	**-0.5**
XAN				pmax	pmax		
	comp=Z,40nm,1.1s						
XAN	**Xi'an**	**38.90**	**8**	P	**P**	**02 37 10.6**	**-0.5**
XAN				IAmb	IAmb	02 37 11.8	
	comp=Z,40nm,1.1s						
QIS	**Mount Isa**	**39.35**	**117**	P	**P**	**02 37 15.7**	**+0.6**
	baz=40,SNR=14						
NJ2	**Nanjing**	**39.61**	**22**	*e*P	**P**	**02 37 19.9**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LZH	**Lanzhou**	**40.49**	**2**	*e*P	**P**	**02 37 24.8**	**+0.4**
LZH				sP	sP	02 37 45.5	-0.6
LZH				*e*PP	**PnPn**	**02 39 03.1**	**+0.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,5.8s						
LZH				LR	LR		
	comp=Z,380nm,13.5s						
LZH				LR	LR		
	comp=Z,390nm,13.7s						
LZH				LR	LR		
	comp=Z,520nm,16.6s						
COEN	**Coen**	**41.09**	**106**	P	**P**	**02 37 29.0**	**-0.6**

	baz=42,SNR=4.0						
NDI	**New Delhi**	**41.10**	**325**	*e*P	**P**	**02 37 25.5**	**-3.9**
BBOO	**Buckleboo**	**42.02**	**136**	P	**P**	**02 37 35.3**	**-1.7**
	baz=42,SNR=10						
MTSU	**Mount Surprise**	**42.97**	**112**	P	**P**	**02 37 45.9**	**+1.0**
	baz=44,SNR=27						
GTA	**Gaotai**	**43.86**	**357**	*e*P	**P**	**02 37 51.8**	**0.0**
GTA				pP	pP	02 38 04.0	-2.9
GTA				PcP	**PcP**	**02 39 37.8**	**+0.5**
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
GTA				pmax	pmax		
	comp=Z,47nm,5.5s						
GTA				LR	LR		
	comp=Z,130nm,13.8s						
GTA				LR	LR		
	comp=Z,140nm,12.7s						
GTA				LR	LR		
	comp=Z,190nm,17.1s						
CTAO	**Charters Tower**	**45.21**	**114**	P	**P**	**02 38 02.9**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,31nm,0.8s						
CTAO	**Charters Tower**	**45.21**	**114**	P	**P**	**02 38 02.9**	**+0.1**
STKA	**Stephens Creek**	**45.53**	**131**	P	**P**	**02 38 07.1**	**+1.9**
	comp=Z,23nm,0.6s,baz=307,slow=7.9,SNR=74						
STKA				LR	LR	02 59 08.4	
	comp=Z,52nm,19.6s,baz=230,slow=38						
STKA	**Stephens Creek**	**45.53**	**131**	P	**P**	**02 38 05.8**	**+0.7**
	baz=46,SNR=45						
STKA	**Stephens Creek**	**45.53**	**131**	P	**P**	**02 38 05.6**	**+0.5**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
STKA	**Stephens Creek**	**45.53**	**131**	P	**P**	**02 38 05.6**	**+0.5**
HHC	**Hu-ho-hao-te**	**45.98**	**10**	*e*P	**P**	**02 38 09.9**	**+1.4**
HHC				pmax	pmax		
	comp=Z,21nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,5.6s						
BJI	**Beijing**	**46.16**	**15**	P	**P**	**02 38 09.8**	**0.0**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NIL	**Nilore**	**47.06**	**326**	P	**P**	**02 38 16.3**	**-0.8**
NIL				pmax	pmax		
	comp=Z,45nm,0.7s						
NIL	**Nilore**	**47.06**	**326**	P	**P**	**02 38 16.3**	**-0.8**
KSAR	**Wonju Array Be**	**48.02**	**27**	P	**P**	**02 38 24.1**	**-0.3**
KSAR	**Wonju Array Be**	**48.02**	**27**	P	**P**	**02 38 24.1**	**-0.3**
KSRS	**Korea Array**	**48.05**	**27**	P	**P**	**02 38 24.2**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=221,slow=7.3,SNR=13						
KSRS				PcP	**PcP**	**02 39 51.6**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=216,slow=4.0,SNR=4.5						
CMSA	**Cobar Meteorol**	**48.51**	**129**	P	**P**	**02 38 27.7**	**-0.7**
	baz=49,SNR=10						
WMQ	**Urumqi**	**50.02**	**346**	*e*P	**P**	**02 38 40.8**	**+1.1**
WMQ				pP	pP	02 38 54.1	-1.0
WMQ				sP	sP	02 39 06.1	+4.4
WMQ				pmax	pmax		
	comp=Z,29nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,15nm,3.7s						
WMQ				LR	LR		
	comp=Z,170nm,29.0s						
WMQ				LR	LR		
	comp=Z,290nm,29.5s						
WMQ	**Urumqi**	**50.02**	**346**	P	**P**	**02 38 39.2**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,38nm,0.9s						
WMQ	**Urumqi**	**50.02**	**346**	P	**P**	**02 38 39.2**	**-0.5**
KBL	**Kabul**	**50.12**	**324**	P	**P**	**02 38 39.8**	**-1.0**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBL	**Kabul**	**50.12**	**324**	P	**P**	**02 38 39.8**	**-1.0**
KSH	**Kashi**	**50.27**	**333⇓**	*i*P	**P**	**02 38 41.0**	**-0.8**
KSH				S	**S**	**02 45 51.1**	**+0.9**
KSH				pmax	pmax		
	comp=Z,41nm,0.8s						
KSH				pmax	pmax		
	comp=Z,85nm,8.1s						
KSH				LR	LR		
	comp=Z,100nm,5.8s						
KSH				LR	LR		
	comp=Z,110nm,7.0s						
TARG	**Taragay, Kyrgy**	**51.33**	**336**	P	**P**	**02 38 49.0**	**-1.0**
TARG				IAmb	IAmb	02 38 50.9	
	comp=Z,9.9nm,0.9s						
PRZ	**Przheval'sk**	**51.74**	**337**	P	**P**	**02 38 50.2**	**-2.6**
PRZ				pmax	pmax		
	comp=Z,20nm,1.0s						
PRZ	**Przheval'sk**	**51.74**	**337**	P	**P**	**02 38 50.2**	**-2.6**
PRZ				IAmb	IAmb	02 38 55.2	
	comp=Z,20nm,0.9s						
KDJ	**Kajisay**	**51.92**	**336**	P	**P**	**02 38 53.6**	**-0.6**
KDJ				pmax	pmax		
	comp=Z,38nm,0.9s						
KDJ	**Kajisay**	**51.92**	**336**	P	**P**	**02 38 53.6**	**-0.6**
SHLS	**Shalkode**	**51.92**	**339⇑**	*i*P	**P**	**02 38 53.9**	**-0.3**
	comp=Z,18nm,0.7s,baz=339						
SHLS				*e*S	**S**	**02 46 12.1**	**-0.9**
	baz=339						
SHLS	**Shalkode**	**51.92**	**339***c*	*i*P	**P**	**02 38 53.8**	**-0.3**
SHLS				*e*S	**S**	**02 46 12.0**	**-0.9**
SHLS				pmax	pmax		
	comp

comp=Z,21nm,0.6s
MTBS Maitube 53.06 336 *e*P **P 02 39 02.5 0.0**
baz=336
MTBS Maitube 53.06 336 *e*P **P 02 39 02.4 0.0**
BTK Batken 53.16 330 P **P 02 39 02.2 -1.0**
BTK pmax pmax
comp=Z,11nm,1.0s
BTK Batken 53.16 330 P **P 02 39 02.2 -1.0**
BTK IAmb IAmb 02 39 04.8
comp=Z,11nm,1.0s
TKM2 Tokmak 2 53.23 335 P **P 02 39 04.2 +0.3**
SNR=32
KBK Karagaybulak 53.28 335 P **P 02 39 05.4 +1.2**
SNR=7.3
AML Almayashu 53.40 333 P **P 02 39 05.8 +0.5**
SNR=7.4
AAK Ala-Archa 53.46 334 P **P 02 39 06.2 +0.7**
SNR=5.3
AAK Ala-Archa 53.46 334*ce*P **P 02 39 06.0 +0.5**
AAK pmax pmax
comp=Z,18nm,0.8s
FRU1 Bishkek 53.54 335 P **P 02 39 06.4 +0.4**
FRU1 pmax pmax
comp=Z,35nm,0.5s
FRU1 Bishkek 53.54 335 P **P 02 39 06.4 +0.4**
KUU Kurty 53.73 337 *e*P **P 02 39 06.8 -0.6**
comp=Z,18nm,0.8s,baz=337
KUU Kurty 53.73 337 *e*P **P 02 39 06.7 -0.6**
KUU pmax pmax
comp=Z,18nm,0.8s
EKS2 Erkin-Say 53.79 334 P **P 02 39 08.7 +0.8**
SNR=40
TDK Taldyqorghan 53.90 339 *e*P **P 02 39 08.3 -0.3**
comp=Z,13nm,0.5s,baz=339
TDK Taldyqorghan 53.90 339 *e*P **P 02 39 08.2 -0.3**
TDK pmax pmax
comp=Z,13nm,0.5s
ZSN Zaisan 54.12 345⇑ *i*P **P 02 39 10.6 +0.6**
comp=Z,19nm,0.8s,baz=346
ZSN Zaisan 54.12 345*c i*P **P 02 39 10.6 +0.6**
ZSN pmax pmax
comp=Z,19nm,0.8s
MK31 Makanchi Array 54.22 343 P **P 02 39 10.2 -0.6**
MK31 pmax pmax
comp=Z,14nm,0.7s
MK31 Makanchi Array 54.22 343 P **P 02 39 10.2 -0.6**
MK31 IAmb IAmb 02 39 11.6
comp=Z,14nm,0.7s
MKAR Makanchi Array 54.22 343 P **P 02 39 10.6 -0.2**
comp=Z,20nm,0.7s,baz=146,slow=7.9,SNR=151
MKAR Makanchi Array 54.22 343*ce*P **P 02 39 10.6 -0.2**
MKAR pmax pmax
comp=Z,20nm,0.7s
MAKZ Makanchi 54.33 343 P **P 02 39 11.1 -0.5**
MAKZ pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 54.33 343 P **P 02 39 11.1 -0.5**
MAKZ IAmb IAmb 02 39 12.2
comp=Z,11nm,1.0s
ZAK Zakamensk 54.76 1 *e*P **P 02 39 14.9 +0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
TAS Tashkent 54.87 330 P **P 02 39 15.3 -0.3**
TAS pmax pmax
comp=Z,86nm,0.3s
TAS Tashkent 54.87 330 P **P 02 39 15.3 -0.3**
DZA Taraz 55.08 332 *e*P **P 02 39 16.6 -0.6**
baz=333
DZA Taraz 55.08 332 *e*P **P 02 39 16.5 -0.6**
IUG Iuzhnay 55.12 331⇑ *i*P **P 02 39 17.7 +0.2**
comp=Z,6.3nm,0.7s,baz=331
IUG Iuzhnay 55.12 331*c i*P **P 02 39 17.7 +0.2**
IUG pmax pmax
comp=Z,6.0nm,0.7s
USA0B Ussuriysk Arra 55.31 25 P **P 02 39 18.7 0.0**
USA0B pmax pmax
comp=Z,21nm,0.7s
USA0B Ussuriysk Arra 55.31 25 P **P 02 39 18.7 0.0**
USRK Ussuriysk Ar. 55.31 25 P **P 02 39 18.6 -0.2**
comp=Z,20nm,0.7s,baz=219,slow=5.7,SNR=50
USRK Ussuriysk Ar. 55.31 25 P **P 02 39 17.9 -0.8**
USRK Ussuriysk Ar. 55.31 25 P **P 02 39 17.9 -0.8**
BTLS Baital 55.61 336 *i*P **P 02 39 20.1 -0.8**
comp=Z,2.9nm,0.7s,baz=336
BTLS Baital 55.61 336 *i*P **P 02 39 20.0 -0.8**
BTLS pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 55.62 332 P **P 02 39 20.2 -0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 55.62 332 P **P 02 39 20.2 -0.8**
KKAR Karatay Array 55.62 332 P **P 02 39 20.2 -0.8**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 55.62 332 P **P 02 39 20.2 -0.8**
DGZ Jazzator, Alta 55.65 348 *i*P **P 02 39 21.1 -0.1**
DGZ pmax pmax
comp=Z,39nm,0.7s
MOY Mondy 56.06 359 *e*P **P 02 39 24.7 +0.6**
TLY Talaya 56.07 1 *i*P **P 02 39 24.7 +0.7**
TLY pmax pmax
comp=Z,16nm,0.9s
TLY Talaya 56.07 1 P **P 02 39 23.9 -0.1**
TLY IAmb IAmb 02 39 25.9
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 58.76 342 P **P 02 39 42.1 -0.9**
KURK Kurchatov 58.82 342*ce*P **P 02 39 43.0 -0.3**
KURK pmax pmax
comp=Z,30nm,0.8s
KURK Kurchatov 58.82 342 P **P 02 39 43.3 0.0**
GEYT Alibeck 59.06 320 P **P 02 39 45.4 0.0**
comp=Z,11nm,0.9s,baz=148,slow=8.7,SNR=20
GEYT Alibeck 59.06 320 P **P 02 39 44.6 -0.8**
GYA0 ALIBECK ARRAY 59.06 320 P **P 02 39 45.6 +0.2**
GYA0B ALIBECK ARRAY 59.06 320 P **P 02 39 44.5 -0.9**
GYA0B IAmb IAmb 02 39 46.9
comp=Z,12nm,0.9s
BRZS Berezniki 60.19 338 *e*P **P 02 39 52.5 -0.4**
baz=338
BRZS Berezniki 60.19 338 *e*P **P 02 39 52.4 -0.4**
ZAA0 Zalesovo Array 60.20 348 P **P 02 39 52.5 -0.3**
ZALV Zalesovo Beam 60.20 348 P **P 02 39 52.4 -0.4**
comp=Z,147nm,1.1s,baz=164,slow=4.9,SNR=143
ZALV LR LR 03 08 03.5
comp=Z,80nm,18.4s,baz=126,slow=38
ZALV Zalesovo Beam 60.20 348 P **P 02 39 52.2 -0.6**
ZEA Zeya 61.71 16 *e*P **P 02 40 03.1 +0.1**
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,31nm,0.8s
YSS Yuzh-Sakhalins 62.39 30⇑ *i*P **P 02 40 08.0 +0.3**
YSS *e* 02 40 14.6
BOD Bodaibo 62.90 7 *e*P **P 02 40 10.6 -0.3**
BOD pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 63.56 339 P **P 02 40 15.2 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 63.56 339 P **P 02 40 15.2 -0.2**
BRVK IAmb IAmb 02 40 16.2
comp=Z,9.4nm,0.8s
ABKAR Akbulak array 65.13 331 P **P 02 40 25.5 -0.3**
AKT Akhty 67.73 318 *e*P **P 02 40 43.1 +0.4**
AKT *e* 02 41 08.6
AKT pmax pmax
comp=Z,20nm,0.9s
MAW Mawson 68.44 195 P **P 02 40 50.2 +3.7**
comp=Z,1.3nm,0.8s,baz=14,slow=8.0,SNR=4.6
MAW LR LR 03 04 41.5
comp=Z,109nm,21.2s,baz=58,slow=30
MAW Mawson 68.44 195 P **P 02 40 45.0 -1.4**
MAW pmax pmax
comp=Z,1.0nm,1.0s
MAW Mawson 68.44 195 P **P 02 40 45.0 -1.4**
YAK Yakutsk 69.63 13 *e*P **P 02 40 52.8 -1.1**
YAK *e**PP **pP** 02 41 09.7 -0.3
YAK *e* 02 41 15.2
YAK *e*S **S 02 49 56.1 -1.6**
YAK *e**SS **sS 02 50 28.0 +2.8**
YAK *e* 02 50 49.2
YAK pmax pmax
comp=Z,26nm,1.2s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,11nm,1.3s
YAK smax smax
comp=E,44nm,2.9s
YAK smax smax
comp=N,27nm,2.3s
GROC Groznyy 69.80 319 P **P 02 40 55.2 -0.2**
GROC *e**SP **sP 02 41 18.2 +0.4**
GROC *e* 02 43 30.7
GROC pmax pmax
comp=Z,30nm,0.9s
SVE Sverdlovsk 70.05 337 *e*P **P 02 40 56.9 +0.3**
SVE pmax pmax
comp=Z,30nm,1.0s
ARU Arti 70.60 336*d i*P **P 02 40 59.6 -0.4**
ARU 02 41 17.6
ARU 02 43 36.0
ARU S **S 02 50 11.0 +1.8**
ARU pmax pmax
comp=Z,18nm,1.1s
ARU Arti 70.60 336 P **P 02 40 59.1 -0.8**
ARU IAmb IAmb 02 41 01.4
comp=Z,13nm,1.0s
ZEI Tsey 70.86 318 *e*P **P 02 41 02.2 +0.1**
ZEI pmax pmax
comp=Z,11nm,1.0s
MARD Mardin 70.86 312 P **P 02 41 00.8 -1.4**
MARD IAmb IAmb 02 41 04.4
comp=Z,18nm,0.8s
KBZ Khabaz 71.93 319 P **P 02 41 09.5 +1.3**
comp=Z,9.3nm,0.9s,baz=124,slow=6.3,SNR=14
KIV Kislovodsk 72.16 319 *e*P **P 02 41 10.7 +0.9**
KIV pmax pmax
comp=Z,23nm,1.0s
PETK Petropavlovsk- 73.75 31 P **P 02 41 17.8 -1.1**
comp=Z,2.5nm,0.7s,baz=178,slow=3.9,SNR=6.4
PETK Petropavlovsk- 73.75 31 P **P 02 41 19.0 +0.1**
PETK Petropavlovsk- 73.75 31 P **P 02 41 19.0 +0.1**
MA2 Magadan 74.37 23*ce*P **P 02 41 22.8 +0.5**
MA2 pmax pmax
comp=Z,6.0nm,1.3s
NRIK Noril'sk 74.50 355 P **P 02 41 22.1 -0.8**
comp=Z,5.4nm,0.4s,baz=165,slow=4.8,SNR=13
NRIK LR LR 03 15 57.3
comp=Z,59nm,19.6s,baz=188,slow=37
BKZ Black Stump Fm 74.67 129 P **P 02 41 23.5 -1.2**
TOKA Tokat 75.06 314 P **P 02 41 25.3 -1.6**
CSS Mathiatis 75.82 308 P **P 02 41 31.1 -0.1**
CSS IAmb IAmb 02 41 33.8
comp=Z,14nm,0.8s
VRH Novokhopyorsk 75.89 325 *e*P **P 02 41 31.0 -0.3**
VRH pmax pmax
comp=Z,30nm,0.7s
BOSA Boshof 76.66 242 LR LR 03 09 16.8
comp=Z,88nm,20.0s,baz=100,slow=31
BR131 Keskin Array S 76.94 312 P **P 02 41 37.4 -0.3**
BR131 pmax pmax
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 76.94 312 P **P 02 41 37.4 -0.3**
BRTR Keskin Array B 76.94 312 P **P 02 41 37.9 +0.1**
comp=Z,5.7nm,0.8s,baz=120,slow=7.3,SNR=15
BRTR Keskin Array B 76.94 312 P **P 02 41 37.1 -0.6**
VORD Divnogorie 77.18 325 *e*P **P 02 41 38.1 -0.4**
VORD pmax pmax
comp=Z,8.0nm,0.6s
VSR Storozhevoye 77.35 325 *e*P **P 02 41 38.7 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 78.05 326 *e*P **P 02 41 43.4 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MDUB Mudurnu 78.95 313 P **P 02 41 48.5 -0.3**
ELL Elmali 78.97 309 P **P 02 41 48.0 -1.0**
ELL pmax pmax
comp=Z,22nm,0.9s
ELL Elmali 78.97 309 P **P 02 41 48.0 -1.0**
ELL IAmb IAmb 02 41 51.6
comp=Z,22nm,0.9s
VNDA Vanda 79.14 169 P **P 02 41 51.1 +2.1**
comp=Z,0.4nm,0.6s,baz=307,slow=5.5,SNR=8.6
VNDA LR LR 03 17 31.4
comp=Z,50nm,18.2s,baz=305,slow=36
MOS Moscow 80.02 329 *e*P **P 02 41 53.5 -0.6**
MOS pmax pmax
comp=Z,30nm,0.8s
OBN Obninsk 80.33 328*de*P **P 02 41 56.5 +0.8**
OBN *e* 02 42 03.2
OBN *e* 02 44 59.5
OBN *e*PPP PPP 02 46 48.9
OBN pmax pmax
comp=Z,6.0nm,0.4s
MANT Manisa 80.42 310 P **P 02 41 55.1 -1.9**
KARP Karpathos 80.85 307 P **P 02 41 58.6 -0.5**
KLMR Klimovskoe 81.27 334 *e*P **P 02 41 58.4 -2.2**
KLMR pmax pmax
comp=Z,14nm,1.0s
KLMR Klimovskoe 81.27 334 *e*P **P 02 41 58.5 -2.2**
KLMR AMP 02 42 02.1
comp=Z,14nm,1.0s
IDI Anoyia 82.62 306⇑ P **P 02 42 10.4 +2.0**
SORM Soroca 82.95 319⇓ P **P 02 42 10.5 +0.7**
AKASG Malin Array Be 83.08 322 P **P 02 42 10.4 +0.1**
comp=Z,1.1nm,0.4s,baz=83,slow=4.9,SNR=17
AKASG Malin Array Be 83.08 322*ce*P **P 02 42 10.5 +0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 83.08 322 P **P 02 42 09.3 -1.0**
AKBB Malin Array Si 83.08 322 P **P 02 42 09.6 -0.8**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 83.08 322 P **P 02 42 09.6 -0.8**
VRI Vrincioaia 83.48 317⇓ P **P 02 42 14.3 +1.7**
TESR Tescani 83.68 318⇓ P **P 02 42 14.9 +1.4**
MLR Muntele Rosu 83.93 317⇓ P **P 02 42 16.5 +1.5**
MLR Muntele Rosu 83.93 317 P **P 02 42 14.9 -0.1**
MLR pmax pmax
comp=Z,17nm,1.0s
MLR Muntele Rosu 83.93 317 P **P 02 42 14.9 -0.1**
MLR IAmb IAmb 02 42 18.0
comp=Z,18nm,1.0s
PRAR RASCA 84.16 318⇑ P **P 02 42 16.7 +0.7**
BURAR Bucovina Array 84.88 318 P **P 02 42 20.7 +1.0**
BUR08 Bucovina Ar. S 84.90 319 P **P 02 42 21.0 +1.1**
BUR08 IAmb IAmb 02 42 22.8
comp=Z,7.5nm,0.8s
LIT Litokhoron 85.36 311 P **P 02 42 21.2 -1.0**
LIT pmax pmax
comp=Z,15nm,0.8s
LIT Litokhoron 85.36 311 P **P 02 42 21.2 -1.0**
LIT IAmb IAmb 02 42 23.6
comp=Z,15nm,0.8s
IDID Didziasalis 85.74 326 *e*P **P 02 42 25.4 +1.7**
IIGN Ignalina 86.03 326 *e*P **P 02 42 26.3 +1.1**
LVV L'vov 86.11 320 *e*P **P 02 42 25.8 +0.1**
IZAR Zarasai 86.12 327 *e*P **P 02 42 26.8 +1.2**
ISAL Salakas 86.14 326 *e*P **P 02 42 26.6 +0.9**
HERR Herculane 86.25 315⇓ P **P 02 42 28.2 +1.7**
VSU Vasula 86.52 329 *e*P **P 02 42 28.2 +0.7**
KWP Kalwaria Pacla 86.92 320 P **P 02 42 29.5 -0.2**
KWP pmax pmax
comp=Z,5.0nm,0.7s
KWP Kalwaria Pacla 86.92 320 P **P 02 42 29.5 -0.2**
KWP IAmb IAmb 02 42 31.5
comp=Z,4.6nm,0.7s
BZS Buzias 86.93 316⇓ P **P 02 42 31.2 +1.4**
SIRR Siria 87.01 317⇓ P **P 02 42 32.0 +1.7**
KOLS Kolonicke sedl 87.07 319 *e*P **P 02 42 31.4 +1.0**
KOLS pmax pmax
comp=Z,17nm,1.0s
KOLS Kolonicke sedl 87.07 319 *e*P **P 02 42 31.4 +1.0**
PABE Paberze 87.32 326 *e*P **P 02 42 32.2 +0.8**
SUW Suwalki 87.47 325 *e*P **P 02 42 33.1 +0.9**
SUW Suwalki 87.47 325 P **P 02 42 32.0 -0.2**
SUW pmax pmax
comp=Z,34nm,0.9s
SUW Suwalki 87.47 325 P **P 02 42 31.9 -0.2**
FIA1 FINESS Array S 87.58 332 P **P 02 42 32.3 -0.2**
FIA1 IAmb IAmb 02 42 34.2
comp=Z,11nm,1.1s
FINES FINESS Array B 87.58 332 P **P 02 42 33.3 +0.7**
comp=Z,3.9nm,0.6s,baz=106,slow=5.3,SNR=24
FINES FINESS Array B 87.58 332 P **P 02 42 32.0 -0.6**
DIVS Divibare 87.83 314 P **P 02 42 33.3 -1.0**
PDG Podgorica 88.13 313⇑ P **P 02 42 36.8 +1.2**
NIE Niedzica 88.43 320 *e*P **P 02 42 39.0 +2.1**
PSZ Piszkesteto 88.47 318 P **P 02 42 35.2 -2.0**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 88.47 318 P **P 02 42 35.2 -2.0**
VYHS Vyhne 89.25 319 *e*P **P 02 42 42.4 +1.6**
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 89.25 319 *e*P **P 02 42 42.4 +1.6**
SRO2 Moca 89.44 318 *e*P **P 02 42 42.5 +0.8**
SRO2 pmax pmax
comp=Z,10.0nm,0.9s
SRO2 Moca 89.44 318 *e*P **P 02 42 42.5 +0.8**
TIP Timpagrande 89.61 309⇑ P **P 02 42 45.1 +2.3**
ARCES ARCESS Array B 89.77 340 P **P 02 42 43.5 +0.7**
comp=Z,1.6nm,0.7s,baz=102,slow=5.6,SNR=14
ARCES ARCESS Array B 89.77 340 P **P 02 42 42.5 -0.3**
ARCES ARCESS Array B 89.77 340 P **P 02 42 42.5 -0.3**
OKC Ostrava-Krasne 89.87 320 *e*P **P 02 42 45.3 +1.7**
OKC Ostrava-Krasne 89.87 320 *e*P **P 02 42 45.3 +1.7**
JAVC Velka Javorina 90.06 319 *e*P **P 02 42 46.8 +2.2**
MORC Moravsky Berou 90.25 320⇓ P **P 02 42 47.3 +1.8**
MORC Moravsky Berou 90.25 320 *e*P **P 02 42 46.8 +1.3**
MORC Moravsky Berou 90.25 320 P **P 02 42 45.6 +0.1**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 90.25 320 P **P 02 42 45.6 +0.1**
MORC IAmb IAmb 02 42 48.0
comp=Z,4.9nm,0.8s
MODS Modra-Piesok 90.26 318 *e*P **P 02 42 46.2 +0.7**
MODS pmax pmax
comp=Z,9.0nm,1.2s
MODS Modra-Piesok 90.26 318 *e*P **P 02 42 46.2 +0.7**
KOGS Kog 90.75 316 *i*P **P 02 42 49.4 +1.6**
KRLC Kraliky 90.78 320 *e*P **P 02 42 48.9 +1.0**
KRLC Kraliky 90.78 320 *e*P **P 02 42 48.9 +1.0**
VRAC Vranov 90.81 319 *e*P **P 02 42 49.1 +1.0**
KRUC Moravsky 90.92 319 *e*P **P 02 42 49.7 +1.2**
DPC Dobruska-Polom 91.10 320 *e*P **P 02 42 51.3 +1.9**
DPC Dobruska-Polom 91.10 320 *e*P **P 02 42 51.3 +1.9**
GOLS Golise 91.14 316 *i*P **P 02 42 51.4 +1.7**
KSP Ksiaz 91.17 321 *e*P **P 02 42 51.8 +2.2**
OSTC Ostas 91.19 320 *e*P **P 02 42 51.1 +1.3**
CHVC Chvalec 91.29 320 *e*P **P 02 42 51.2 +0.9**
VNA2 Neumayer--Watz 92.10 198 P **P 02 42 57.3 +3.7**
baz=96,slow=4.6
VNA1 Neumayer--Stat 92.46 198 P **P 02 42 58.8 +3.6**
PRED Cave del Predi 92.60 316 P **P 02 42 53.9 -2.6**
PRED IAmb IAmb 02 42 58.5
comp=Z,5.1nm,0.9s
GERES GERESS Array B 92.67 319 P **P 02 42 58.0 +1.2**
comp=Z,1.1nm,0.7s,baz=95,slow=4.4,SNR=11
GERES GERESS Array B 92.67 319 P **P 02 42 56.7 -0.1**
GERES GERESS Array B 92.67 319 P **P 02 42 56.7 -0.1**
KHC Kasperske Hory 92.77 319 *e*P **P 02 42 56.1 -1.1**
KHC Kasperske Hory 92.77 319 *e*P **P 02 42 56.1 -1.1**
CLL Collm 93.27 321 *i*P **P 02 43 00.0 +0.6**
comp=Z,4.0nm,1.1s
CLL Collm 93.27 321 *i*P **P 02 43 00.0 +0.6**
CLL pmax pmax
comp=Z,4.0nm,1.1s
CIMO Cimolais 93.37 316 P **P 02 42 59.4 -0.5**
CIMO IAmb IAmb 02 43 02.0
comp=Z,7.6nm,0.9s
NB2 NORSAR Subarra 94.64 331 P **P 02 43 06.0 +0.5**
comp=Z,0.7nm,0.7s,baz=95,slow=5.3
NOA NORSAR Array B 94.64 331 P **P 02 43 05.8 +0.3**
comp=Z,1.3nm,0.8s,baz=93,slow=4.6,SNR=5.5
B08A Colville Reser 123.66 32 **PKPdf 02 48 41.1 -1.3**
I03D Drain, OR 123.92 39 P **PKiKP 02 48 44.1 +1.0**
baz=300
K02D Willamette Mer 124.22 40 P **PKiKP 02 48 45.0 +1.1**
baz=300
I04A Tendick Farm, 124.45 38 P **PKiKP 02 48 44.8 +0.5**
baz=301
HUMO Hull Mountain 124.71 40 PKPdf **PKPdf 02 48 44.2 -0.3**
J04D Umpqua Nationa 124.92 39 P **PKiKP 02 48 46.4 +0.9**
baz=301
L04D Klamath Falls 125.33 40 P **PKiKP 02 48 47.0 +0.8**
baz=301
J05D Fort Rock, OR 125.44 38 P **PKiKP 02 48 47.3 +0.9**
baz=302
M04C Macdoel 125.85 40 P **PKiKP 02 48 48.3 +1.0**
baz=301
MSO Missoula 127.46 31 P **PKiKP 02 48 50.4 +0.1**
baz=312
AFDM Forest Hills D 127.84 43 PKPdf **PKPdf 02 48 49.3 -1.3**
BOZ Bozeman (W) 129.47 31 P **PKiKP 02 48 55.0 +0.6**
baz=314
NVAR Mina Array Bea 129.90 42 PKP **PKiKP 02 48 56.4 +0.8**
comp=Z,0.5nm,0.5s,baz=252,slow=2.0,SNR=7.3
NVAR Mina Array Bea 129.90 42 PKPdf **PKPdf 02 48 54.0 -0.8**
R11A Troy Canyon, C 131.73 41 P **PKiKP 02 49 00.3 +1.1**
baz=304
R11A Troy Canyon, C 131.73 41 **PKPdf 02 48 57.1 -1.2**
PDAR Pinedale Array 132.50 32 PKP **PKPdf 02 48 59.8 +0.2**
comp=Z,0.8nm,0.9s,baz=56,slow=2.7,SNR=4.5
PDAR Pinedale Array 132.50 32 **PKPdf 02 48 59.0 -0.6**
GMRC Granite Mounta 133.62 45 P **PKiKP 02 49 04.4 +1.3**
baz=302
K22A Casper 134.15 30 P **PKiKP 02 49 03.7 -0.2**
baz=318
RSSD Black Hills 134.21 27 P **PKiKP 02 49 03.6 -0.5**
baz=322
W18A Petrified Fore 137.43 40 P **PKiKP 02 49 11.2 +0.3**
baz=308
SDCO Great Sand Dun 138.24 34 P **PKiKP 02 49 11.7 -0.9**
baz=315
E57A Chemin Saint G 138.25 357 P **PKPdf 02 49 10.3 +0.4**
baz=5.1
ANMO Albuquerque 139.60 38 PKIKP **PKPdf 02 49 12.4 -0.6**
ANMO Albuquerque 139.60 38 PKPdf **PKPdf 02 49 12.4 -0.6**
N57A Milroy 144.00 0 P PKPbc 02 49 18.4 0.0
baz=360
WMOK Wichita Mounta 144.08 31 P **PKPab 02 49 18.2 -0.2**
baz=322
CO03 El Pedregal 144.18 190 PKPdf PKPbc 02 49 20.2 +0.9
ACSO Alum Creek Sta 144.18 7 P **PKPab 02 49 18.6 +0.2**
baz=351
O51A Pataskala 144.31 7 P **PKPab 02 49 19.2 +0.2**
baz=351
O53A New Philadelph 144.35 5 P **PKPab 02 49 18.8 -0.3**
baz=354
CCM Cathedral Cave 144.40 19 P **PKPab 02 49 19.0 -0.4**
baz=336
O52A Adamsville 144.42 6 P **PKPab 02 49 19.0 -0.3**
baz=353
O59A Robesonia 144.43 358 P **PKPab 02 49 19.3 -0.1**
baz=2.3
O56A Blue Knob Stat 144.47 1 P **PKPdf 02 49 20.8 -0.6**
baz=358
TUL1 Leonard 144.55 26 P **PKPab 02 49 19.8 -0.2**
baz=327
BDFB Brasilia 144.59 235 PKP **PKPdf 02 49 23.3 +1.0**
comp=Z,7.4nm,0.7s,baz=138,slow=3.0,SNR=9.8
BDFB Brasilia 144.59 235 PKIKP PKPbc 02 49 21.4 +0.4
BDFB Brasilia 144.59 235 PKPbc 02 49 21.4 +0.4
P49A Miami Univ. Ec 144.60 10 P **PKPab 02 49 19.4 -0.6**
baz=348
O58A Lewisberry 144.63 359 P **PKPab 02 49 19.8 -0.3**
baz=1.0
MVL Millersville 144.74 359 PKPbc 02 49 21.1 +0.4
P52A Corning 144.87 6 P **PKPab 02 49 20.2 -0.9**
baz=352
P51A Williamsport 144.91 8 P **PKPab 02 49 20.1 -1.1**
baz=350
MCWV Mont Chateau 145.03 3 P **PKPab 02 49 21.7 +0.1**
baz=356
P54A Burton 145.05 4 P **PKPbc 02 49 21.5 -0.2**
baz=355
TX31 Lajitas Ar. Si 145.05 42 **PKPdf 02 49 22.8 +0.1**
TX32 Lajitas Array 145.05 42 **PKPbc 02 49 21.4 -0.8**
TXAR Lajitas Array 145.05 42 PKP **PKPdf 02 49 22.8 +0.1**
comp=Z,11nm,0.8s,baz=275,slow=1.4,SNR=118
TXAR Lajitas Array 145.05 42 PKIKP **PKPbc 02 49 21.4 -0.7**
TXAR Lajitas Array 145.05 42 **PKPbc 02 49 21.4 -0.7**
P53A Whipple 145.09 5 P **PKPbc 02 49 21.4 -0.4**
baz=353
P59A Jarrettsville 145.13 359 P **PKPbc 02 49 21.6 -0.3**
baz=1.9
P55A Reedsville 145.18 3 P **PKPbc 02 49 21.9 -0.2**
baz=356
P56A Dayton Farm, R 145.23 2 P **PKPbc 02 49 22.1 -0.2**

	baz=358							
ABTX	Abilene, Hawle	145.25	34	P	PKPab	02 49 22.7	0.0	
	baz=319							
P58A	Pank, Wackersv	145.27	360	P	PKPbc	02 49 22.1	-0.3	
	baz=0.4							
U40A	Yellville	145.36	22	P	PKPbc	02 49 22.3	-0.5	
	baz=332							
Q52A	Bidwell	145.51	7	P	PKPdf	02 49 22.6	-0.5	
	baz=352							
WCI	Wyandotte Cave	145.57	12	PKIKP	PKPdf	02 49 22.6	-0.6	
WCI	Wyandotte Cave	145.57	12	P	PKPdf	02 49 23.0	-0.1	
	baz=344							
WCI	Wyandotte Cave	145.57	12	PKPdf	PKPdf	02 49 22.6	-0.6	
Q54A	Coxs Mills	145.63	5	P	PKPdf	02 49 23.2	0.0	
	baz=354							
Q55A	Buckhannon	145.68	4	P	PKPdf	02 49 23.6	+0.1	
	baz=356							
Q56A	Snyder Ridge,	145.68	2	P	PKPdf	02 49 23.4	+0.1	
	baz=357							
Q53A	Leroy	145.70	6	P	PKPdf	02 49 23.5	+0.1	
	baz=353							
Q57A	Strasburg	145.71	1	P	PKPdf	02 49 23.6	+0.2	
	baz=358							
Q58A	Fox Den Farm,	145.81	0	P	PKPdf	02 49 23.8	+0.2	
	baz=360							
R53A	Hurricane	146.17	6	P	PKPbc	02 49 25.0	-0.3	
	baz=352							
R54A	Victor	146.42	5	P	PKPdf	02 49 25.2	+0.5	
	baz=354							
R57A	Stanardsville	146.44	2	P	PKPbc	02 49 26.2	+0.2	
	baz=358							
R58A	Rapidan	146.45	1	P	PKPbc	02 49 25.9	-0.2	
	baz=359							
MIAR	Mount Ida	146.66	25	PKP2	PKPdf	02 49 25.4	+0.3	
MIAR	Mount Ida	146.66	25	P	PKPbc	02 49 26.7	-0.1	
	baz=330							
MIAR	Mount Ida	146.66	25		PKPdf	02 49 25.4	+0.3	
JCT	Junction City	146.73	37	P	PKPbc	02 49 26.9	-0.2	
	baz=316							
R58B	Mineral	146.79	1	P	PKPbc	02 49 26.8	-0.2	
	baz=359							
S57A	Dark Hollow, R	146.97	2	P	PKPbc	02 49 27.7	+0.1	
	baz=357							
S59A	Mechanicsville	146.99	360	P	PKPbc	02 49 27.4	-0.2	
	baz=0.4							
S58A	Poland Farm, P	147.14	1	P	PKPbc	02 49 27.9	-0.1	
	baz=359							
WVT	Waverly	147.20	16	PKP2	PKPbc	02 49 27.8	-0.5	
WVT	Waverly	147.20	16	P	PKPbc	02 49 28.1	-0.2	
	baz=341							
WVT	Waverly	147.20	16		PKPbc	02 49 27.8	-0.5	
T54A	Tazewell	147.47	6	P	PKPbc	02 49 28.6	-0.5	
	baz=352							
T55A	Pulaski	147.49	5	P	PKPbc	02 49 28.6	-0.5	
	baz=354							
T56A	Rocky Mt	147.64	4	P	PKPbc	02 49 29.3	-0.2	
	baz=355							
T57A	Hurt	147.71	3	P	PKPbc	02 49 29.9	+0.3	
	baz=357							
TZTN	Tazewell	147.72	9	P	PKPbc	02 49 29.4	-0.3	
	baz=349							
T59A	Double "B" Far	147.78	0	P	PKPbc	02 49 29.8	0.0	
	baz=360							
T58A	Grand View Acr	147.79	2	P	PKPbc	02 49 30.1	+0.2	
	baz=358							
U54A	Nelsons Funny	147.98	7	P	PKPbc	02 49 29.9	-0.5	
	baz=352							
U55A	TA2, Sparta	148.08	5	P	PKPbc	02 49 30.4	-0.4	
	baz=353							
U57A	Blanch	148.27	3	P	PKPbc	02 49 31.0	-0.1	
	baz=357							
U60A	Pendleton	148.28	360	P	PKPbc	02 49 31.3	+0.2	
	baz=0.7							
U56A	King	148.29	5	P	PKPbc	02 49 30.9	-0.3	
	baz=355							
U58A	Oxford	148.34	2	P	PKPbc	02 49 31.5	+0.2	
	baz=358							
V52A	Sevierville	148.40	10		PKPbc	02 49 30.9	-0.7	
U59A	Littleton	148.40	1	P	PKPbc	02 49 31.8	+0.4	
	baz=360							
CPCT	Cooper Cave	148.61	11		PKPbc	02 49 31.6	-0.5	
V54A	Nebo	148.70	7	P	PKPbc	02 49 32.0	-0.3	
	baz=352							
V55A	Taylorsville	148.71	6	P	PKPbc	02 49 32.0	-0.3	
	baz=353							
V57A	Coltrane Farms	148.79	4	P	PKPbc	02 49 32.2	-0.3	
	baz=356							
V56A	Mocksville	148.81	5	P	PKPbc	02 49 32.6	0.0	
	baz=354							
V58A	Windy Hill, Pi	148.92	3	P	PKPbc	02 49 32.9	+0.1	
	baz=357							
V59A	Middlesex	148.98	1	P	PKPbc	02 49 33.2	+0.2	
	baz=359							
V60A	Jim Taylor Roa	148.99	360	P	PKPbc	02 49 33.5	+0.5	
	baz=0.5							
V60A	Jim Taylor Roa	148.99	360		PKPbc	02 49 32.4	-0.6	
W54A	Cherokee Point	149.35	8	P	PKPbc	02 49 33.8	-0.2	
	baz=351							
KMSC	Kings Mountain	149.40	6	P	PKPbc	02 49 34.0	-0.1	
	baz=353							
W56A	Indian Trail	149.48	5	P	PKPbc	02 49 34.3	0.0	
	baz=354							
X54A	Belton	149.85	8	P	PKPbc	02 49 35.2	0.0	
	baz=350							
X55A	Gracelyn & Ava	150.02	7	P	PKPbc	02 49 35.5	-0.1	
	baz=352							
X60A	Albert Glenn T	150.17	1	P	PKPbc	02 49 36.3	+0.4	
	baz=359							
Y55A	Saluda	150.52	7	P	PKPbc	02 49 36.9	+0.1	
	baz=351							
Y57A	Sumter	150.60	5	P	PKPbc	02 49 37.4	+0.4	
	baz=354							
GOGA	Godfrey	150.79	10	P	PKPbc	02 49 37.7	+0.2	
	baz=348							
Z57A	Bowman	151.29	6	P	PKPbc	02 49 38.8	+0.2	
	baz=353							

ECX ***17*** *03:08:50.3±0.7, 30.°48N×114.°29W, h4km±6km, MD3.4, ML3.6*
MEX ***17*** *03:08:55.2±0.4, 31.°32N×114.°31W, h24km±33km, MD3.9*
ISC 17 03:08:51.0±1.3, 30.°70N±0.°07×114.°32W±0.°05, h24km±17km, n12, σ2°52/19, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.57	307	eP	Pn	03 09 03.3	-0.4
SFX				eS	Sn	03 09 14.1	+1.7
ECBX	El Chinero	1.00	321	eP	Pn	03 09 10.5	+0.9
ECBX				eS	Sn	03 09 27.2	+4.2
SPX	San Pedro Mart	1.04	289	eP	Pn	03 09 11.1	+0.6
SPX				i S	Sb	03 09 24.0	-0.1
SPX	San Pedro Mart	1.04	289	eP	Pn	03 09 11.2	+0.7
SPX				eS	Sn	03 09 26.6	+2.0
SPX				⇓e		03 09 29.3	
SPX				IAML		03 09 29.3	
	comp=E,1μm,0.3s						
SPX				⇓e		03 09 29.3	
SPX				IAML		03 09 29.3	
	comp=N,1μm,0.3s						
SPIG	San Pedro Mart	1.05	290	eP	Pn	03 09 11.2	+0.6
SPIG				eS	Sb	03 09 24.0	-0.2
SPIG	San Pedro Mart	1.05	290	eP	Pn	03 09 11.1	+0.5
SPIG				eS	Sn	03 09 26.6	+1.9
PIX	Pinacate	1.13	40	eP	Pb	03 09 12.4	+0.5
SQX	San Quintin	1.35	265	eP	Pn	03 09 14.2	-0.2
SQX				eS	Sb	03 09 32.3	-0.2
CPBX	Cerro Prieto	1.91	334	IAML		03 10 16.4	
	comp=E,1μm,0.6s						
CPBX				⇑e		03 10 16.4	
CBX	Cerro Bola	2.57	309	i P	Pn	03 09 28.8	-2.6
CBX				eS	Sn	03 09 54.4	-7.6
CBX	Cerro Bola	2.57	309	IAML		03 10 26.2	
	comp=E,394nm,1.2s						
HSIG		3.37	119	i P	Pb	03 09 49.9	-0.1
HSIG				eS	Sb	03 10 30.5	-0.1

IDC ***17*** *03:11:30.0±0.6, 1.°90S×139.°17E, h0km, mb4.1/13, mb1 4.3/16, mb1mx4.2/30, mbtmp4.2/16, ML4.2/3, MS3.6/13, Ms1 3.5/13, ms1mx3.3/35, Error ellipse: s-maj=16.5km s-min=11.3km az=42.0*
DJA ***17*** *03:11:33.1±1.1, 2.°S±5.°×13.°9E±.°, h21km±8km, M4.4/11, mb4.4/11, mB4.6/1, MLv4.4/5, Mw(mB)3.8/1*
NEIC ***17*** *03:11:35.5±1.3, 1.°90S±0.°08×139.°21E±0.°05, h50km±5km, mb4.4/26, Error ellipse: s-maj=13.2km s-min=5.2km az=205.0*
ISC 17 03:11:33.3±0.4, 1.°92S±0.°05×139.°15E±0.°05, h29km, n79, σ1°38/67, mb4.4/21, MS3.4/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.22	123	P	Pb	03 11 55.7	0.0
GENI				S	Sb	03 12 14.1	+3.1
JAY	Jayapura	1.66	111	Pg	Pb	03 12 01.0	-2.3
	71nm,0.3s,baz=228,slow=11,SNR=100						
JAY				Lg	Lg	03 12 21.2	
	38nm,0.3s,baz=124,slow=22,SNR=4.4						
JAY	Jayapura	1.66	111	P	Pb	03 12 01.0	-2.3
SRPI	Serui, Papua	2.91	271	P	Pn	03 12 17.5	-0.1
FAKI	Fak Fak	6.96	262	P	Pn	03 13 13.1	-0.3
	0.2nm33nm,0.8s						
FAKI	Fak Fak	6.96	262	Pn	Pn	03 13 15.4	+2.0
FAKI				Sn	Sn	03 14 33.0	+1.2
SIJI	Sorong	7.95	277	LR	LR	03 16 51.2	
	comp=Z,291nm,19.7s,baz=153,slow=40						
PMG	Port Moresby	10.89	133	LR	LR	03 19 02.4	
	comp=Z,377nm,18.3s,baz=320,slow=42						
KRVT	Keravat (AS076	13.07	101	LR	LR	03 18 56.3	
	comp=Z,289nm,21.7s,baz=282,slow=34						
MTN	Manton Dam	13.44	216	Pn	Pn	03 14 42.7	+0.5
GTOI	Gorontalo	16.34	279	P	P	03 15 22.4	-1.0
	7.7nm,0.9s						
GUMO	Guam	16.42	20	LR	LR	03 21 27.1	
	comp=Z,195nm,18.6s,baz=206,slow=36						
SOEI	Soe	16.71	242	P	Pn	03 15 25.1	-0.6
	61nm,1.0s						
KNRA	Kununurra	17.08	216	Pn	Pn	03 15 31.3	+1.2
BATI	Baumata	17.45	241	P	P	03 15 37.3	+1.5
	3.9nm,0.3s,baz=42,slow=4.0,SNR=2.1						
BATI	Baumata	17.45	241	P	Pn	03 15 34.6	-0.1
	45nm,0.7s						
WB0	Warramunga Arr	18.33	194		Pn	03 15 46.5	+1.0
WB0				IAmb	IAmb	03 15 53.1	
	comp=Z,24nm,1.1s						
WR0	Warramunga Arr	18.48	194	P	Pn	03 15 47.8	+0.4
WRAB	Tennant Creek	18.50	194	P	Pn	03 15 48.5	+0.8
WRAB				IAmb	IAmb	03 15 55.1	
	comp=Z,20nm,0.9s						
WB2	Warramunga Arr	18.51	194		Pn	03 15 48.3	+0.6
WB2				IAmb	IAmb	03 15 55.3	
	comp=Z,20nm,0.9s						
WRA	Warramunga Arr	18.52	194	P	P	03 15 48.0	+0.5
	comp=Z,0.5nm,0.3s,baz=15,slow=11,SNR=37						
WRA				S	Sn	03 19 02.7	-11
	comp=Z,0.1nm,0.3s,baz=12,slow=22,SNR=5.2						
WRA				LR	LR	03 24 10.6	
	comp=Z,134nm,18.5s,baz=320,slow=41						
WRA	Warramunga Arr	18.52	194	P	P	03 15 47.0	-0.5
CTA	Charters Tower	19.34	159	P	Pn	03 15 59.2	+1.4
	comp=Z,0.2nm,0.3s,baz=351,slow=12,SNR=6.0						
CTAO	Charters Tower	19.34	159	P	Pn	03 15 57.5	-0.3
KAPI	Kappang	19.60	260	LR	LR	03 24 56.1	
	comp=Z,122nm,18.1s,baz=88,slow=41						
FITZ	Fitzroy Crossi	20.84	219	P	P	03 16 14.1	+1.2
	comp=Z,3.9nm,1.0s,baz=0.0,slow=7.2,SNR=7.3						
FITZ				S	S	03 19 58.2	-5.7
	comp=Z,15nm,1.0s,baz=180,slow=13,SNR=8.5						
FITZ				LR	LR	03 25 49.0	
	comp=Z,101nm,21.6s,baz=71,slow=41						
FITZ	Fitzroy Crossi	20.84	219	P	P	03 16 14.2	+1.4
AS31	Alice Springs	22.20	193	P	P	03 16 28.7	+1.2
ASAR	Alice Springs	22.20	193	P	P	03 16 28.2	+0.7
	comp=Z,13nm,1.0s,baz=23,slow=9.3,SNR=24						
ASAR				S	S	03 20 27.0	-3.6
	comp=Z,2.0nm,1.0s,baz=16,slow=24,SNR=4.3						
ASAR				LR	LR	03 25 53.1	
	comp=Z,163nm,21.2s,baz=16,slow=39						
ASAR	Alice Springs	22.20	193	P	P	03 16 28.7	+1.2
ASAR					S	03 20 29.9	-0.7
BBKI	Banjar Baru	24.33	266	P	P	03 16 40.7	-8.1
EIDS	Eidsvold	25.99	155	P	P	03 17 02.9	-0.9
EIDS				IAmb	IAmb	03 17 14.2	
	comp=Z,9.0nm,0.9s						
JCJ	Chichijima	29.00	6	P	P	03 17 28.9	-1.7
STKA	Stephens Creek	29.88	176	LR	LR	03 31 52.1	
	comp=Z,104nm,21.7s,baz=7.7,slow=41						
FORT	Forrest	30.56	199	P	P	03 17 45.2	+0.8
H11S3	WAKE ISLAND Hy	33.85	52	T	T	03 53 58.3	
	baz=236,slow=75,SNR=197						
H11S2	WAKE ISLAND Hy	33.86	52	T	T	03 53 51.8	
	baz=236,slow=75,SNR=224						
H11S1	WAKE ISLAND Hy	33.87	52	T	T	03 53 52.4	
	baz=236,slow=75,SNR=138						
H11N1	WAKE ISLAND Hy	34.70	50	T	T	03 54 59.5	
	baz=233,slow=75,SNR=33						
H11N2	WAKE ISLAND Hy	34.71	50	T	T	03 55 00.0	
	baz=233,slow=75,SNR=29						
H11N3	WAKE ISLAND Hy	34.72	50	T	T	03 55 00.6	
	baz=233,slow=75,SNR=22						
JNU	Nakatsue	35.72	348	P	P	03 18 29.6	+0.1
JNU				IAmb	IAmb	03 18 31.0	
	comp=Z,7.0nm,0.9s						
KULM	Kulim	39.12	281	P	P	03 18 58.6	0.0
KSRS	Korea Array	40.54	346	P	P	03 19 10.2	+0.2
	comp=Z,0.6nm,0.4s,baz=159,slow=7.8,SNR=2.6						
CMAR	Chiang Mai Arr	44.44	299	P	P	03 19 43.0	+0.9
	comp=Z,2.7nm,0.5s,baz=116,slow=6.5,SNR=9.5						
CMAR	Chiang Mai Arr	44.44	299	P	P	03 19 42.5	+0.5
CHTO	Chiang Mai	44.58	299	P	P	03 19 42.4	-0.8
ASAJ	Asahikawa	45.94	3	LR	LR	03 36 58.0	
	comp=Z,67nm,21.1s,baz=165,slow=33						
BJT	Baijiatuau	46.74	336	P	P	03 19 59.9	0.0
BJT				IAmb	IAmb	03 20 02.6	
	comp=Z,5.2nm,0.7s						
MDJ	Mudanjiang	47.12	351	P	P	03 20 02.9	+0.1
SHL	Shillong	53.26	304	P	P	03 20 49.6	-0.3
ULN	Ulaanbaatar	56.94	335	P	P	03 21 16.6	+0.5
ULN				IAmb	IAmb	03 21 19.0	
	comp=Z,5.1nm,0.9s						
PETK	Petropavlovsk-	57.00	13	P	P	03 21 17.6	+1.5
	comp=Z,1.4nm,0.7s,baz=209,slow=8.3,SNR=2.8						
PETK				LR	LR	03 48 37.5	
	comp=Z,21nm,18.3s,baz=183,slow=39						
PETK	Petropavlovsk-	57.00	13	P	P	03 21 16.0	-0.1
SONM	Songino Array	57.20	334	P	P	03 21 19.6	+1.7
	comp=Z,1.1nm,0.6s,baz=156,slow=4.0,SNR=7.5						
TLY	Talaya	61.28	336	P	P	03 21 46.3	+0.4
TLY				IAmb	IAmb	03 21 48.4	
	comp=Z,3.9nm,1.0s						
WMQ	Urumqi	64.67	321	P	P	03 22 07.1	-1.6
MK31	Makanchi Array	69.44	322	P	P	03 22 36.4	-2.5
MK31				IAmb	IAmb	03 22 41.0	
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	69.44	322	P	P	03 22 40.5	+1.6
	comp=Z,3.1nm,0.7s,baz=113,slow=7.6,SNR=25						
MKAR	Makanchi Array	69.44	322	P	P	03 22 38.6	-0.3
MAKZ	Makanchi	69.64	322	P	P	03 22 39.7	-0.4
MAKZ				IAmb	IAmb	03 22 42.6	
	comp=Z,7.5nm,0.8s						
ZALV	Zalesovo Beam	71.48	330	P	P	03 22 51.9	+0.8
	comp=Z,1.2nm,0.6s,baz=122,slow=7.2,SNR=5.3						
ZALV	Zalesovo Beam	71.48	330	P	P	03 22 51.1	0.0
BOOM	Boomskoye usch	71.89	316	P	P	03 22 52.7	-1.4
BOOM				IAmb	IAmb	03 22 56.3	
	comp=Z,3.0nm,0.8s						
KURK	Kurchatov	73.33	325	P	P	03 23 02.0	-0.2
KURK				IAmb	IAmb	03 23 04.5	
	comp=Z,5.9nm,1.0s						
VNDA	Vanda	76.52	175	P	P	03 23 20.4	+0.2
	comp=Z,0.7nm,0.6s,baz=314,slow=8.1,SNR=4.2						
NRIK	Noril'sk	79.09	344	P	P	03 23 35.9	+1.3
	comp=Z,2.3nm,0.6s,baz=117,slow=4.5,SNR=4.9						
MAW	Mawson	83.01	202	P	P	03 23 55.8	+0.3
	comp=Z,0.4nm,0.3s,baz=76,slow=4.2,SNR=1.9						
MAW				LR	LR	04 00 04.8	
	comp=Z,41nm,19.2s,baz=74,slow=35						
ILAR	Eielson Array	84.94	24	P	P	03 24 05.4	0.0
	comp=Z,1.1nm,0.9s,baz=246,slow=4.9,SNR=10.0						
ILAR	Eielson Array	84.94	24	P	P	03 24 05.2	-0.2
QSPA	South Pole Qui	88.02	180	P	P	03 24 21.3	+0.7
	comp=Z,1.5nm,0.8s,baz=149,slow=1.0,SNR=7.7						
QSPA	South Pole Qui	88.02	180	P	P	03 24 20.6	0.0
QSPA				IAmb	IAmb	03 24 29.2	
	comp=Z,2.4nm,0.9s						
YKA	Yellowknife Ar	99.17	27	LR	LR	04 07 35.8	
	comp=Z,52nm,20.9s,baz=0.0,slow=34						
DBIC	Dimbokro	143.81	279	PKhKP	PKPpre	03 31 05.5	
	comp=Z,3.6nm,0.7s,baz=94,slow=2.0,SNR=6.2						
DBIC	Dimbokro	143.81	279	PKPdf	PKPbc	03 31 04.8	+0.3
ROSC	El Rosal	146.47	84	PKPbc	PKiKP	03 31 15.2	-1.1
	comp=Z,3.9nm,0.4s,baz=120,slow=12,SNR=3.9						
ROSC	El Rosal	146.47	84		PKPdf	03 31 11.6	-0.4
LPAZ	La Paz	147.54	125	PKPbc	PKiKP	03 31 19.8	+1.1
	comp=Z,1.2nm,0.8s,baz=164,slow=2.8,SNR=4.6						
LPAZ	La Paz	147.54	125		PKPbc	03 31 15.1	-1.5

IDC ***17*** *03:23:54.7±3.5, 35.°93N×142.°04E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/45, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=94.2km s-min=34.0km az=56.0*
JMA ***17*** *03:23:57.7±0.2, 36.°20N×141.°87E, h67km±5km, M3.0*
ISC 17 03:23:57.9±1.4, 36.°17N±0.°06×142.°0E±0.°1, h23km, n13, σ1°26/15, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.03	244	P	Pn	03 24 15.8	-1.1
CHOJ				eS	Sb	03 24 29.4	-0.8
JHO	Hitachi	1.24	292	P	Pn	03 24 17.7	-2.0
JFK	Kawauchi	1.50	323	P	Pn	03 24 22.0	-1.4
BSO1	Boso 1	1.72	209	P	Pn	03 24 25.5	-0.4
BSO3	Boso 3	1.82	222	P	Pn	03 24 26.7	-0.8
JFT	Otama	1.90	316	P	Pn	03 24 28.3	-0.5
JMM	Marumori	1.95	331	P	Pn	03 24 28.2	-1.4
JAG	Ashikaga	2.07	278	P	Pn	03 24 30.1	-1.1
MJAR	Matsushiro Arr	3.08	278	Pn	Pn	03 24 45.5	+0.4
	0.6nm,0.3s,baz=100,slow=8.9,SNR=35						
MAT	Matsushiro	3.08	278	P	Pn	03 24 45.2	0.0
MAT				S	Sn	03 25 21.5	+0.2
SONM	Songino Array	28.66	305	P	P	03 29 54.8	+1.9
	0.6nm,0.5s,baz=93,slow=8.7,SNR=2.4						
MKAR	Makanchi Array	44.98	303	P	P	03 32 12.4	+1.1
	0.4nm,0.7s,baz=80,slow=9.9,SNR=2.5						
WRA	Warramunga Arr	56.27	189	P	P	03 33 35.3	-1.3
	0.4nm,0.9s,baz=5.1,slow=7.5,SNR=2.0						

WEL 17 03:26:50.5, 39.°S±2.°×17.°6E±.°, h157km±2km, M3.2/48, MLv3.2/48, Error ellipse: s-maj=0.0km s-min=0.0km az=113.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	Wairara	0.10	196	P	Pn	03 27 11.8	+0.2
KUTZ	Kaahu Road	0.13	19	P	Pn	03 27 11.9	+0.2
RATZ	Rangitukua	0.25	179	P	Pn	03 27 11.7	-0.2
WPRZ	Whakapapatarin	0.32	73	P	Pn	03 27 12.1	0.0
TLZ	Tolley Road	0.34	327	P	Pn	03 27 12.3	+0.2
KATZ	Kakaramea	0.37	189	P	Pn	03 27 12.5	+0.1
RITZ	Rihia Road	0.37	169	P	Pn	03 27 12.4	+0.2
GRRZ	Galatos Road	0.38	46	P	Pn	03 27 12.5	+0.2
HATZ	Hinemaiaia	0.38	138	P	Pn	03 27 11.9	-0.3
HATZ				S	Sn	03 27 28.1	-0.8
ALRZ	Allen Road	0.45	84	P	Pn	03 27 12.5	0.0
ALRZ				S	Sn	03 27 29.0	-0.2
HSRZ	Hossack Road	0.48	51	P	Pn	03 27 12.9	+0.2
KRVZ	Karewarewa	0.49	192	P	Pn	03 27 13.1	+0.3
WTVZ	West Tongariro	0.52	195	P	Pn	03 27 13.2	+0.2
TWVZ	Taurewa	0.53	209	P	Pn	03 27 13.1	+0.1
MRHZ	Matea Rd	0.55	114	P	Pn	03 27 12.9	-0.1
MRHZ				S	Sn	03 27 29.1	-1.1
OTVZ	Oturere	0.56	188	P	Pn	03 27 13.5	+0.3
NGZ	Ngauruhoe	0.58	193	P	Pn	03 27 13.3	0.0
TUVZ	Tukino	0.66	188	P	Pn	03 27 14.1	+0.3
FWVZ	Far West T-bar	0.66	195	P	Pn	03 27 13.8	0.0
DRZ	Dome Shelter	0.68	194	P	Pn	03 27 14.1	+0.1
KARZ	Kaharoa	0.70	32	P	Pn	03 27 13.9	0.0
HIZ	Hauiti	0.72	278	P	Pn	03 27 14.0	+0.1
WNVZ	Wahianoa	0.73	191	P	Pn	03 27 14.4	+0.2
PKVZ	Pokaka	0.75	206	P	Pn	03 27 14.4	+0.2
BKZ	Black Stump Fm	0.79	135	P	Pn	03 27 14.6	+0.1
BKZ				S	Sn	03 27 32.0	-0.9
MOVZ	Moawhango	0.79	181	P	Pn	03 27 14.4	-0.1
MOVZ				S	Sn	03 27 31.7	-1.3
MUGZ	Murupara	0.80	81	P	Pn	03 27 14.1	-0.4
MTVZ	Mangateitei	0.81	197	P	Pn	03 27 14.9	+0.3
MTHZ	Maungataniwha	0.87	106	P	Pn	03 27 15.2	+0.2
MTHZ				S	Sn	03 27 33.2	-0.6
TOZ	Tahuroa Road	0.90	346	P	Pn	03 27 15.4	+0.1
BHHZ	Black Hill Sta	0.91	165	P	Pn	03 27 15.3	0.0
BHHZ				S	Sn	03 27 32.7	-1.7
VRZ	Vera Road	0.94	237	P	Pn	03 27 15.7	+0.2
NMHZ	Naumai	0.94	121	P	Pn	03 27 16.6	+1.0
NMHZ				S	Sn	03 27 35.3	+0.4
RTZ	Ruatahuna	0.95	91	P	Pn	03 27 15.6	0.0
RTZ				S	Sn	03 27 34.2	-0.7
KWHZ	Kaweka Forest	0.96	148	P	Pn	03 27 16.1	+0.4
OPRZ	Ohinepanea	0.98	39	P	Pn	03 27 15.7	-0.2
OPRZ				S	Sn	03 27 35.1	-0.1
RAHZ	Arahi	1.07	107	P	Pn	03 27 17.3	+0.7
RAHZ				S	Sn	03 27 36.8	+0.2
MCHZ	McNeill Hill	1.10	139	P	Pn	03 27 17.8	+1.0
URZ	Urewera	1.11	72	P	Pn	03 27 16.3	-0.6
KRHZ	Kereru	1.13	156	P	Pn	03 27 17.4	+0.3
MHEZ	Mangahewa	1.22	247	P	Pn	03 27 17.7	-0.2
SNGZ	Shannon Statio	1.24	98	P	Pn	03 27 18.5	+0.4
PNHZ	Pukenui	1.34	166	P	Pn	03 27 19.1	0.0
PNHZ				S	Sn	03 27 40.0	-1.1
LREZ	Lake Rotokare	1.36	231	P	Pn	03 27 19.8	+0.6
MWZ	Matawai	1.41	79	P	Pn	03 27 19.4	-0.4
MWZ				S	Sn	03 27 40.0	-2.2
PREZ	Palmer Road	1.45	239	P	Pn	03 27 20.7	+0.5
TSZ	Tak

JCZ	Jackson Bay	7.57 222	P	Pn	03 28 33.4	-4.8
CTZ	Chatham Island	7.69 134	P	Pn	03 28 44.1	+4.4

NEIC ***17*** *03:29:27.3±1.0, 7.0S±0.1×155.8E±0.1, h100km±7km, mb4.2/11, Error ellipse: s-maj=20.0km s-min=14.1km az=155.0*
IDC ***17*** *03:29:29.2±3.0, 6.97S×155.66E, h106km±23km, mb3.9/11, mb1 4.0/15, mb1mx3.8/36, mbtmp4.3/15, MS3.2/6, Ms1 3.2/6, ms1mx3.0/33, Error ellipse: s-maj=23.6km s-min=14.9km az=83.0*
ISC 17 03:29:28.3±1.6, 6.98S±0.08×155.75E±0.09, h105km±14km, n45, σ0.72/46, mb4.1/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.56**	**305**	P	**Pn**	**03 30 35.4**	**+0.2**
	12nm,0.3s,baz=192,slow=13,SNR=2.0						
KRVT				S	**Sn**	**03 31 27.4**	**+0.2**
	9.7nm,0.3s,baz=190,slow=19,SNR=2.5						
KRVT				LR	LR	03 32 38.5	
	comp=Z,211nm,18.3s,baz=109,slow=42						
HNR	**Honiara**	**4.81**	**121**	LR	LR	03 32 37.0	
	comp=Z,215nm,20.6s,baz=146,slow=38						
PMG	**Port Moresby**	**8.84**	**254**	P	**Pn**	**03 31 33.7**	**+0.5**
	7.0nm,0.3s,baz=55,slow=9.8,SNR=8.5						
PMG				S	**Sn**	**03 33 10.0**	**-1.1**
	1.0nm,0.3s,baz=244,slow=21,SNR=4.6						
PMG				LR	LR	03 34 32.6	
	comp=Z,160nm,18.9s,baz=69,slow=35						
PMG	**Port Moresby**	**8.84**	**254**		**Pn**	**03 31 33.1**	**-0.2**
PMG					**Sn**	**03 33 11.5**	**+0.4**
COEN	**Coen**	**14.17**	**240**	Pn	**Pn**	**03 32 43.5**	**-0.9**
CTA	**Charters Tower**	**15.96**	**214**	P	**Pn**	**03 33 07.5**	**+0.6**
	0.6nm,0.3s,baz=24,slow=14,SNR=3.7						
DZM	**Mont Dzumac**	**18.21**	**147**	P	**Pn**	**03 33 34.8**	**+0.4**
	0.7nm,0.3s,baz=289,slow=9.7,SNR=9.1						
DZM	**Mont Dzumac**	**18.21**	**147**	P	**P**	**03 33 32.6**	**-0.6**
DZM				IAmb	IAmb	03 33 35.6	
	comp=Z,8.6nm,0.9s						
TARA	**Tarawa**	**19.03**	**65**	P	**P**	**03 33 41.4**	**-0.9**
GUMO	**Guam**	**23.12**	**332**	LR	LR	03 43 27.6	
	comp=Z,15nm,18.6s,baz=134,slow=36						
WR0	**Warramunga Arr**	**24.29**	**236**	P	**P**	**03 34 36.2**	**+0.1**
WR0				IAmb	IAmb	03 34 48.0	
	comp=Z,7.1nm,1.1s						
WB0	**Warramunga Arr**	**24.31**	**236**	P	**P**	**03 34 36.1**	**-0.2**
WB2	**Warramunga Arr**	**24.43**	**236**	P	**P**	**03 34 37.5**	**+0.1**
WRA	**Warramunga Arr**	**24.44**	**236**	P	**P**	**03 34 37.4**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=62,slow=9.9,SNR=26						
WRA				PcP	**PcP**	**03 38 15.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=64,slow=2.4,SNR=5.6						
WRA	**Warramunga Arr**	**24.44**	**236**	P	**P**	**03 34 37.1**	**-0.4**
WRA					**PcP**	**03 38 14.7**	**+0.8**
MTN	**Manton Dam**	**24.93**	**255**	P	**P**	**03 34 41.2**	**-0.7**
MTN				IAmb	IAmb	03 34 42.9	
	comp=Z,12nm,0.9s						
SIJI	**Sorong**	**25.16**	**283**	P	**P**	**03 34 44.9**	**+0.9**
	comp=Z,18nm,0.5s,baz=142,slow=20,SNR=4.3						
ASAR	**Alice Springs**	**26.75**	**229**	P	**P**	**03 34 57.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=60,slow=9.0,SNR=12						
ASAR				PcP	**PcP**	**03 38 20.5**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=90,slow=2.7,SNR=3.2						
ASAR	**Alice Springs**	**26.75**	**229**	P	**P**	**03 34 58.5**	**+0.2**
ASAR					**PcP**	**03 38 18.7**	**-0.5**
H11S3	**WAKE ISLAND Hy 27.52**		**23**	T	T	04 03 23.3	
	baz=203,slow=75,SNR=123						
H11S2	**WAKE ISLAND Hy 27.52**		**23**	T	T	04 03 26.1	
	baz=203,slow=75,SNR=229						
H11S1	**WAKE ISLAND Hy 27.54**		**23**	T	T	04 03 29.7	
	baz=203,slow=75,SNR=150						
STKA	**Stephens Creek**	**28.07**	**206**	LR	LR	03 46 13.8	
	comp=Z,84nm,18.1s,baz=18,slow=36						
H11N1	**WAKE ISLAND Hy 28.71**		**22**	T	T	04 05 01.1	
	baz=204,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy 28.72**		**22**	T	T	04 04 54.9	
	baz=204,slow=76,SNR=21						
H11N2	**WAKE ISLAND Hy 28.73**		**22**	T	T	04 04 59.2	
	baz=204,slow=76,SNR=11						
FITZ	**Fitzroy Crossi**	**31.34**	**247**	P	**P**	**03 35 38.3**	**-0.8**
	comp=Z,4.1nm,0.6s,baz=349,slow=1.1,SNR=18						
FITZ				PcP	**PcP**	**03 38 32.0**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=173,slow=0.6,SNR=2.5						
FITZ	**Fitzroy Crossi**	**31.34**	**247**	P	**P**	**03 35 38.6**	**-0.5**
FITZ				IAmb	IAmb	03 35 51.6	
	comp=Z,5.8nm,0.8s						
FITZ					**PcP**	**03 38 29.9**	**-0.9**
FORT	**Forrest**	**35.12**	**224**	P	**P**	**03 36 11.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**44.06**	**229**	LR	LR	03 55 41.1	
	comp=Z,78nm,18.1s,baz=165,slow=36						
CMAR	**Chiang Mai Arr**	**61.46**	**295**	P	**P**	**03 39 34.6**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=125,slow=5.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**61.46**	**295**	P	**P**	**03 39 33.6**	**-0.7**
SONM	**Songino Array**	**69.73**	**327**	P	**P**	**03 40 27.9**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=134,slow=7.1,SNR=5.2						
SONM	**Songino Array**	**69.73**	**327**	P	**P**	**03 40 26.7**	**-0.4**
VNDA	**Vanda**	**70.57**	**179**	P	**P**	**03 40 32.9**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=314,slow=6.9,SNR=5.1						
QSPA	**South Pole Qui**	**82.99**	**180**	P	**P**	**03 41 41.6**	**-0.1**
QSPA				IAmb	IAmb	03 41 45.2	
	comp=Z,3.2nm,0.9s						
ILAR	**Eielson Array**	**83.09**	**21**	P	**P**	**03 41 41.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=240,slow=5.7,SNR=4.2						
MKAR	**Makanchi Array**	**83.89**	**319**	P	**P**	**03 41 46.2**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=89,slow=6.0,SNR=10						
MAW	**Mawson**	**84.69**	**203**	P	**P**	**03 41 51.2**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=86,slow=6.5,SNR=8.6						
MAW	**Mawson**	**84.69**	**203**	P	**P**	**03 41 50.3**	**+0.2**
NRIK	**Noril'sk**	**88.97**	**341**	P	**P**	**03 42 10.7**	**0.0**
	comp=Z,2.0nm,0.6s,baz=104,slow=4.2,SNR=2.3						
GERES	**GERESS Array B**	**127.43**	**329**	PKP	**PKiKP**	**03 48 22.1**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=27,slow=3.3,SNR=5.1						
GERES	**GERESS Array B**	**127.43**	**329**		**PKPdf**	**03 48 20.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**153.75**	**286**	PKPbc	**PKPbc**	**03 49 16.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=51,slow=1.9,SNR=3.2						
TORD				PKPab	**PKPab**	**03 49 29.8**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=72,slow=3.4,SNR=6.7						
TORD	**Torodi Ar. Bea**	**153.75**	**286**		**PKPbc**	**03 49 15.9**	**-0.2**
TORD					**PKPab**	**03 49 28.4**	**-1.0**

IDC 17 03:59:43.0±1.8, 1.97S×139.11E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/24, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=32.5km s-min=15.2km az=15.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.68**	**109**	Pg	Pn	04 00 14.3	+0.5
	7.2nm,0.3s,baz=265,slow=23,SNR=24						
JAY				Lg	Lg	04 00 35.7	
	9.3nm,0.3s,baz=135,slow=21,SNR=10.0						
WRA	**Warramunga Arr**	**18.46**	**194**	P	P	04 04 00.9	+0.3
	0.2nm,0.3s,baz=18,slow=13,SNR=11						
ASAR	**Alice Springs**	**22.15**	**193**	P	P	04 04 41.1	+0.4
	2.1nm,1.1s,baz=22,slow=11,SNR=4.9						
H11S3	**WAKE ISLAND Hy 33.91**		**52**	T	T	04 42 06.0	
	baz=236,slow=75,SNR=58						
H11S2	**WAKE ISLAND Hy 33.92**		**52**	T	T	04 42 08.3	
	baz=236,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy 33.92**		**52**	T	T	04 42 10.2	
	baz=236,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy 34.75**		**50**	T	T	04 43 13.1	
	baz=236,slow=74						
H11N2	**WAKE ISLAND Hy 34.77**		**50**	T	T	04 43 23.2	
	baz=236,slow=74						
H11N3	**WAKE ISLAND Hy 34.77**		**50**	T	T	04 43 20.7	
	baz=236						
MKAR	**Makanchi Array**	**69.45**	**322**	P	P	04 10 52.7	-0.6
	0.2nm,0.5s,baz=125,slow=7.2,SNR=1.9						

NEIC ***17*** *04:10:30.0±1.7, 17.06N±0.09×94.62W±0.06, h122km±13km, Error ellipse: s-maj=13.6km s-min=7.6km az=198.0*
MEX ***17*** *04:10:31.9±0.9, 17.03N×94.66W, h120km±8km, MD3.9*
IDC ***17*** *04:10:32.2±3.6, 17.11N×94.28W, h130km±30km, mb3.4/3, mb1 3.7/7, mb1mx3.4/34, mbtmp4.0/7, MS4.0/1, Ms1 4.0/1, ms1mx2.9/19, Error ellipse: s-maj=36.1km s-min=17.4km az=79.0*
ISC 17 04:10:29.6±0.7, 17.01N±0.06×94.61W±0.03, h123km±7km, n61, σ1.21/75, mb3.7/7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.27**	**288**	*i* P	**Pn**	**04 10 47.4**	**+0.6**
CMIG				*i* S	**Sn**	**04 10 59.8**	**0.0**
TGIG		**1.45**	**99**	*e*P	**Pn**	**04 10 57.8**	**+1.2**
TGIG				*e*S	**Sn**	**04 11 17.4**	**+0.2**
PCIG		**1.86**	**134**	*e*P	**Pn**	**04 11 03.0**	**+1.5**
PCIG				*e*S	**Sn**	**04 11 27.5**	**+1.6**
HUIG	**Huatulco**	**1.89**	**230**	*i* P	**Pn**	**04 11 00.6**	**-1.3**
HUIG				*e*S	**Sn**	**04 11 25.7**	**-0.8**
VHO	**Vista Hermosa**	**2.03**	**272**	*i* P	**Pn**	**04 11 05.0**	**+1.2**
VHO				*e*S	**Sn**	**04 11 30.1**	**+0.2**
CCIG	**Comitan**	**2.48**	**106**	Pn	**Pn**	**04 11 10.9**	**+1.5**
CCIG				Sn	**Sn**	**04 11 41.1**	**+1.1**
TOIG	**Toxpalan**	**2.58**	**295**	*e*P	**Pn**	**04 11 11.2**	**+0.6**
TOIG				*e*S	**Sn**	**04 11 41.5**	**-0.6**
PEIG	**Puerto Escondi**	**2.63**	**248**	*e*P	**Pn**	**04 11 09.6**	**-1.6**
PEIG				*i* S	**Sn**	**04 11 42.0**	**-1.2**
YOIG	**Yosondua**	**2.81**	**267**	*e*P	**Pn**	**04 11 14.3**	**+0.5**
YOIG				*i* S	**Sn**	**04 11 46.4**	**-1.4**
TXIG	**Tlaxiaco**	**3.03**	**275**	*i* P	**Pn**	**04 11 17.5**	**+0.9**
TXIG				*i* S	**Sn**	**04 11 51.8**	**-1.1**
HLIG	**Huajuapan de L**	**3.15**	**286**	*e*P	**Pn**	**04 11 19.4**	**+1.2**
HLIG				*i* S	**Sn**	**04 11 54.5**	**-1.2**
HUEH	**Huehuetenango**	**3.43**	**119**	Pn	**Pn**	**04 11 21.3**	**-0.5**
HUEH				Sn	**Sn**	**04 12 02.0**	**-0.2**
RTAL	**Retalhuleu**	**3.74**	**131**	Pn	**Pn**	**04 11 28.3**	**+2.6**
TLIG	**Tlapa**	**3.82**	**279**	Pn	**Pn**	**04 11 27.8**	**+0.9**
TLIG				Sn	**Sn**	**04 12 09.4**	**-1.9**
APG	**El Apazote**	**4.46**	**116**	P	**Pn**	**04 11 35.8**	**+0.2**
	4.8nm,0.3s,baz=289,slow=10,SNR=75						
APG				S	**Sn**	**04 12 24.1**	**-2.6**
	70nm,0.3s,baz=26,slow=22,SNR=29						
PETF	**Flores**	**4.54**	**90**	Pn	**Pn**	**04 11 37.0**	**+0.5**
PETF				Sn	**Sn**	**04 12 27.2**	**-1.3**
UNM	**Universidad Na**	**4.92**	**299**	Pn	**Pn**	**04 11 41.4**	**-0.3**
ESQI	**Esquipulas**	**5.63**	**115**	Pn	**Pn**	**04 11 51.2**	**+0.1**
MTO3	**Montecristo**	**5.68**	**116**	Pn	**Pn**	**04 11 52.4**	**+0.3**
MTO3				Sn	**Sn**	**04 12 54.2**	**-2.0**
TEIG	**Tepich**	**6.81**	**61**	P	**Pn**	**04 12 05.8**	**-1.2**
	9.6nm,0.3s,baz=251,slow=11,SNR=42						
TEIG				S	**Sn**	**04 13 18.3**	**-4.8**
	10nm,0.3s,baz=66,slow=21,SNR=8.8						
TEIG	**Tepich**	**6.81**	**61**		**Pn**	**04 12 05.8**	**-1.2**
TEIG					**Sn**	**04 13 22.4**	**-0.8**
BOAB	**BOACO BROADBAN**	**10.77**	**116**	Pn	**Pn**	**04 12 48.1**	**+1.1**
ACON	**Acoyapa**	**10.42**	**117**	Pn	**Pn**	**04 12 57.1**	**+1.3**
JTS	**Las Juntas de**	**11.52**	**124**	P	**Pn**	**04 13 11.2**	**+0.7**
	2.7nm,0.3s,baz=13,slow=14,SNR=13						
JTS	**Las Juntas de**	**11.52**	**124**		**Pn**	**04 13 11.6**	**+1.1**
833A	**Chaparral WMA,**	**12.10**	**339**		**P**	**04 13 22.5**	**-3.0**
435B	**Jarrell**	**13.98**	**349**	P	**Pn**	**04 13 42.2**	**-0.2**
TXAR	**Lajitas Array**	**14.82**	**328**	P	**P**	**04 13 55.5**	**-0.3**
	baz=145,slow=14,SNR=5.4						
TXAR	**Lajitas Array**	**14.82**	**328**	P	**Pn**	**04 13 53.2**	**+0.1**
ABTX	**Abilene, Hawle**	**16.20**	**345**	P	**Pn**	**04 14 09.9**	**-0.3**
ABTX				IAmb	IAmb	04 14 20.0	
	comp=Z,6.1nm,0.6s						
MIAR	**Mount Ida**	**17.49**	**3**		**P**	**04 14 25.3**	**0.0**
X37A	**Clayton**	**17.52**	**358**	P	**Pn**	**04 14 26.8**	**+0.5**
X37A				IAmb	IAmb	04 14 37.7	
	comp=Z,20nm,1.1s						
WMOK	**Wichita Mounta**	**18.05**	**349**	P	**P**	**04 14 31.8**	**+0.4**
W39A	**Magazine**	**18.13**	**2**	IAmb	IAmb	04 14 46.6	
	comp=Z,7.9nm,0.6s						
FNO	**Franklin**	**18.35**	**353**	P	**P**	**04 14 34.7**	**+0.1**
BCOK	**Bluff Creek, N**	**18.77**	**352**	P	**P**	**04 14 38.8**	**-0.4**
OK029	**Liberty Lake**	**18.89**	**353**	P	**P**	**04 14 40.8**	**+0.3**
OK029				IAmb	IAmb	04 14 41.6	
	comp=Z,10nm,0.6s						
FCAR	**Ozark Folk Cen**	**18.94**	**6**	P	**P**	**04 14 41.3**	**+0.3**
FCAR				IAmb	IAmb	04 14 42.0	
	comp=Z,7.6nm,1.0s						
LCAR	**Lake Charles**	**19.24**	**9**	P	**P**	**04 14 44.4**	**+0.1**
LCAR				IAmb	IAmb	04 14 44.7	
	comp=Z,3.9nm,0.6s						
U40A	**Yellville**	**19.34**	**4**		**P**	**04 14 45.6**	**+0.2**
U40A				IAmb	IAmb	04 14 46.6	
	comp=Z,7.0nm,0.8s						
SWET	**Sewanee**	**19.72**	**21**	P	**P**	**04 14 49.4**	**-0.2**
T35A	**Sooner Cattle**	**19.90**	**356**	P	**P**	**04 14 51.8**	**+0.3**
T35A				IAmb	IAmb	04 15 09.6	
	comp=Z,9.4nm,0.8s						
PBMO	**Poplar Bluff**	**20.04**	**10**	P	**P**	**04 14 52.8**	**-0.2**
TKL	**Tuckaleechee C**	**20.93**	**25**	P	**P**	**04 15 01.5**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=192,slow=11,SNR=5.7						
TKL	**Tuckaleechee C**	**20.93**	**25**	P	**P**	**04 15 01.3**	**-1.3**
U49A	**Red Boiling Sp**	**20.95**	**20**	P	**P**	**04 15 01.7**	**-1.1**
U49A				IAmb	IAmb	04 15 03.5	
	comp=Z,6.6nm,0.5s						
T47A	**Sharon Grove**	**20.98**	**17**	P	**P**	**04 15 02.9**	**-0.1**
T47A				IAmb	IAmb	04 15 04.4	
	comp=Z,8.9nm,0.6s						
WCI	**Wyandotte Cave**	**22.37**	**17**	P	**P**	**04 15 16.4**	**-1.2**
WCI				IAmb	IAmb	04 15 16.9	
	comp=Z,9.5nm,0.7s						
N38A	**Joes South For**	**23.73**	**3**	P	**P**	**04 15 30.7**	**+0.2**
P48A	**Milroy**	**23.76**	**18**		**P**	**04 15 29.4**	**-1.3**
S54A	**Dingess, Beckl**	**23.79**	**27**	P	**P**	**04 15 30.3**	**-0.8**
S54A				IAmb	IAmb	04 15 49.3	
	comp=Z,5.4nm,0.7s						
SPMN	**Marine on St.**	**28.18**	**3**	P	**P**	**04 16 10.0**	**-0.4**
PDAR	**Pinedale Array**	**28.67**	**337**	pP	pP	04 16 45.1	+3.4
	comp=Z,0.4nm,0.8s,baz=163,slow=9.4,SNR=3.3						
SNOW	**Snow King Moun**	**29.72**	**336**	P	**P**	**04 16 25.8**	**+1.4**
SNOW				IAmb	IAmb	04 16 37.7	
	comp=Z,1.8nm,0.6s						
NVAR	**Mina Array Bea**	**29.76**	**321**	pP	pP	04 16 56.0	+4.5
	comp=Z,0.5nm,0.6s,baz=136,slow=3.9,SNR=4.9						
AGMN	**Agassiz Nation**	**31.23**	**358**	P	**P**	**04 16 37.2**	**-0.1**
LPAZ	**La Paz**	**42.14**	**140**	P	**P**	**04 18 11.3**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=333,slow=8.5,SNR=4.5						
LPAZ	**La Paz**	**42.14**	**140**	P	**P**	**04 18 11.5**	**+0.6**
KDAK	**Kodiak Island**	**58.85**	**328**	LR	LR	04 45 54.6	
	comp=Z,108nm,18.8s,baz=70,slow=36						
NB2	**NORSAR Subarra**	**82.71**	**28**	P	**P**	**04 22 40.8**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=292,slow=5.3						
NOA	**NORSAR Array B**	**82.71**	**28**	P	**P**	**04 22 40.5**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=291,slow=5.2,SNR=5.6						

IDC 17 04:18:53.2±1.3, 21.95N×143.65E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/51, mbtmp3.5/4, MS3.6/2, Ms1 3.6/2, ms1mx2.6/46, Error ellipse: s-maj=98.2km s-min=26.7km az=103.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**24.48**	**187**	LR	LR	04 33 40.1	
	comp=Z,214nm,18.9s,baz=288,slow=36						
WRA	**Warramunga Arr**	**42.62**	**193**	P	P	04 26 51.1	-0.3
	0.3nm,0.3s,baz=16,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**46.32**	**192**	P	P	04 27 21.2	+0.2
	0.1nm,0.4s,baz=19,slow=9.8,SNR=1.8						
ILAR	**Eielson Array**	**61.62**	**27**	P	P	04 29 12.5	+0.1
	0.5nm,0.8s,baz=263,slow=5.9,SNR=5.8						
PALK	**Pallekele**	**62.25**	**267**	LR	LR	04 54 02.6	
	comp=Z,30nm,21.5s,baz=216,slow=34						
FINES	**FINESS Array B**	**83.14**	**335**	P	P	04 31 20.5	-0.3
	0.3nm,0.4s,baz=60,slow=5.6,SNR=1.5						

IDC ***17*** *04:23:23.5±0.8, 0.95N×127.59E, h0km, mb4.1/9, mb1 4.2/11, mb1mx3.9/46, mbtmp4.1/11, ML3.9/2, MS3.4/16, Ms1 3.4/16, ms1mx3.2/44, Error ellipse: s-maj=34.0km s-min=15.1km az=75.0*
NEIC ***17*** *04:23:26.7±1.3, 0.82N±0.09×127.55E±0.06, h36km±5km, mb4.3/16, Error ellipse: s-maj=13.6km s-min=8.5km az=199.0*
DJA ***17*** *04:23:26.3±0.3, 1.1N±3.3×12.8E±.1, h10km, M4.4/12, mB5.3/1, mb4.6/3, MLv4.3/12, Mw(mB)4.7/1*
ISC 17 04:23:26.8±0.5, 0.86N±0.06×127.58E±0.05, h35km, n60, σ1.87/49, mb4.2/16, MS3.5/14, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.23**	**247**	P	**Pn**	**04 23 33.1**	**-0.8**
TNTI	**Ternate**	**0.23**	**247**		**Pn**	**04 23 33.3**	**-0.6**
TNTI					**Sn**	**04 23 38.0**	**-0.7**
LBMI	**Labuha**	**1.49**	**183**	P	**Pn**	**04 23 53.3**	**+2.1**
LBMI				S	**Sn**	**04 24 13.5**	**+4.1**
SANI	**Sanana**	**3.30**	**209**	P	**Pn**	**04 24 17.7**	**+1.7**
KMSI	**Cibinong**	**3.61**	**265**	P	Pn	04 24 24.6	+4.4
SIJI	**Sorong**	**4.07**	**115**	Pn	**Pn**	**04 24 27.7**	**+1.1**
	15nm,0.3s,baz=165,slow=22,SNR=12						
SIJI				Sn	**Sn**	**04 25 12.6**	**-0.6**
	3.1nm,0.3s,baz=53,slow=20,SNR=1.6						
NLAI	**Namlea**	**4.10**	**187**	P	**Pn**	**04 24 30.2**	**+3.1**
MSAI	**Masohi**	**4.39**	**162**	P	**Pn**	**04 24 30.9**	**-0.2**
GTOI	**Gorontalo**	**4.57**	**267**	P	Pn	04 24 38.7	+5.2
FAKI	**Fak Fak**	**6.00**	**129**	P	**Pn**	**04 24 54.3**	**+1.2**
	0.2nm34nm,1.0s						
FAKI	**Fak Fak**	**6.00**	**129**	Pn	**Pn**	**04 24 53.5**	**+0.4**
KCP	**Kidapawan**	**6.59**	**338**	*i* P	Pn	04 25 11.4	+10
MPSI	**Mapaga**	**7.70**	**266**	P	Pn	04 25 36.6	+20
BNSI	**Bone**	**9.11**	**235**	P	**Pn**	**04 25 39.4**	**+3.5**
	32nm,0.8s						
SPSI	**Sidrap Palu**	**9.16**	**238**	P	**Pn**	**04 25 40.5**	**+4.0**
KAPI	**Kappang**	**9.76**	**233**	Pn	**Pn**	**04 25 45.3**	**+0.6**
	0.5nm,0.3s,baz=67,slow=7.7,SNR=1.3						
KAPI				Sn	**Sn**	**04 27 31.8**	**-1.3**
	1.9nm,0.3s,baz=0.0,slow=20,SNR=2.3						
KAPI	**Kappang**	**9.76**	**233**		**Pn**	**04 25 44.0**	**-0.8**
KAPI					**Sn**	**04 27 32.5**	**-0.7**
MYLDM	**Lahad Datu**	**10.03**	**296**	Pn	**Pn**	**04 25 48.1**	**-0.3**
EDFI	**Ende, Flores**	**11.21**	**211**	P	Pn	04 26 20.5	+16
BATI	**Baumata**	**11.67**	**199**	LR	LR	04 32 12.9	
	comp=Z,216nm,20.2s,baz=321,slow=45						
SBUM	**Sibu**	**15.43**	**276**	Pn	**Pn**	**04 26 56.8**	**-5.2**
KNRA	**Kununurra**	**16.48**	**176**	Pn	**Pn**	**04 27 12.8**	**-2.6**
FITZ	**Fitzroy Crossi**	**18.94**	**186**	LR	LR	04 34 56.7	
	comp=Z,94nm,18.1s,baz=346,slow=36						
COEN	**Coen**	**21.35**	**134**	P	**P**	**04 28 06.4**	**-4.7**
COEN				IAmb	IAmb	04 28 18.2	
	comp=Z,4.9nm,1.0s						
WB0	**Warramunga Arr**	**21.57**	**162**	P	**P**	**04 28 12.8**	**-0.7**
WB0				IAmb	IAmb	04 28 21.7	
	comp=Z,23nm,1.0s						
WRAB	**Tennant Creek**	**21.71**	**163**	P	**P**	**04 28 13.8**	**-1.2**
WRAB				IAmb	IAmb	04 28 23.2	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**21.71**	**163**	P	**P**	**04 28 17.0**	**+1.9**
	comp=Z,6.7nm,0.6s,baz=338,slow=11,SNR=19						
WRA	**Warramunga Arr**	**21.71**	**163**	P	**P**	**04 28 14.9**	**-0.2**
WB2	**Warramunga Arr**	**21.72**	**163**	P	**P**	**04 28 14.4**	**-0.7**
WR0	**Warramunga Arr**	**21.79**	**162**	P	**P**	**04 28 15.3**	**-0.6**
WR0				IAmb	IAmb	04 28 26.4	
	comp=Z,13nm,0.7s						
PMG	**Port Moresby**	**22.01**	**118**	LR	LR	04 39 24.5	
	comp=Z,125nm,18.8s,baz=334,slow=44						
AS31	**Alice Springs**	**25.15**	**166**	P	**P**	**04 28 48.4**	**-0.5**
AS31				IAmb	IAmb	04 29 06.5	
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**25.15**	**166**	P	**P**	**04 28 52.2**	**+3.4**
	comp=Z,9.1nm,0.9s,baz=341,slow=9.4,SNR=51						
ASAR	**Alice Springs**	**25.15**	**166**	P	**P**	**04 28 50.2**	**+1.3**
JNU	**Nakatsue**	**32.24**	**5**	LR	LR	04 41 38.6	
	comp=Z,86nm,21.7s,baz=220,slow=34						
CMAR	**Chiang Mai Arr**	**33.10**	**304**	LR	LR	04 45 24.1	
	comp=Z,56nm,18.3s,baz=186,slow=40						
CMAR	**Chiang Mai Arr**	**33.10**	**304**	P	**P**	**04 29 59.4**	**-0.4**
JHJ	**Hachijo jima 2**	**34.08**	**18**	LR	LR	04 41 05.6	
	comp=Z,25nm,20.7s,baz=288,slow=31						
BBOO	**Buckleboo**	**34.44**	**167**	P	**P**	**04 30 12.8**	**+1.7**
BBOO				IAmb	IAmb	04 30 17.0	
	comp=Z,7.3nm,0.9s						
STKA	**Stephens Creek**	**35.17**	**159**	P	**P**	**04 30 18.8**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=295,slow=19,SNR=2.2						
STKA	**Stephens Creek**	**35.17**	**159**	P	**P**	**04 30 16.9**	**-0.6**
KSRS	**Korea Array**	**36.41**	**0**	P	**P**	**04 30 29.1**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=184,slow=10.0,SNR=6.7						
KSRS				LR	LR	04 50 07.6	
	comp=Z,21nm,18.4s,baz=194,slow=44						
MJAR	**Matsushiro Arr**	**36.84**	**14**	P	**P**	**04 30 32.1**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=194,slow=9.4,SNR=2.1						
MJAR				LR	LR	04 44 47.7	
	comp=Z,40nm,21.4s,baz=190,slow=35						
MJAR	**Matsushiro Arr**	**36.84**	**14**	P	**P**	**04 30 31.1**	**-0.7**
XAN	**Xi'an**	**37.34**	**334**	P	**P**	**04 30 35.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**43.33**	**5**	P	**P**	**04 31 26.6**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=143,slow=5.2,SNR=4.5						

NMR	**Nemuro--Hokkai**	**1.30**	**248**	⇓*i*PN	**Pn**	**04 28 42.8**	**+1.3**
GLVR	**Golovnino**	**1.35**	**265**	*i* P	**Pn**	**04 28 43.5**	**+1.4**
GLVR				AMB	AMB	04 28 47.0	
	comp=E,200nm,0.3s						
GLVR				*i* S	**Sn**	**04 28 59.5**	**+0.1**
GLVR				A	A	04 29 00.9	
	comp=E,2μm,0.3s						
GLVR				A	A	04 29 00.9	
	comp=E,760nm,0.3s						
GLVR	**Golovnino**	**1.35**	**265**	⇓*i*PN	**Pn**	**04 28 43.5**	**+1.4**
GLVR				*i* S	**Sn**	**04 29 00.0**	**+0.6**
GLVR				pmax	pmax		
	comp=E,106nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,197nm,0.2s						
GLVR				pmax	pmax		
	comp=N,56nm,0.1s						
GLVR				smax	smax		
	comp=E,757nm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
KUR	**Kuril'sk**	**1.40**	**14**	*e*P	**Pn**	**04 28 44.3**	**+1.6**
KUR				AMB	AMB	04 28 45.6	
	comp=N,80nm,0.2s						
KUR				*i* S	**Sn**	**04 29 01.7**	**+1.2**
KUR				A	A	04 29 02.6	
	comp=N,2μm,0.3s						
KUR				A	A	04 29 02.6	
	comp=N,2μm,0.3s						
KUR	**Kuril'sk**	**1.40**	**14**	*e*PN	**Pn**	**04 28 44.1**	**+1.4**
KUR				*i* S	**Sn**	**04 29 01.6**	**+1.1**
KUR				pmax	pmax		
	comp=N,71nm,0.2s						
KUR				pmax	pmax		
	comp=Z,163nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,2μm,0.2s						
JRA	**Rausu**	**1.63**	**273**	P	**Pn**	**04 28 47.2**	**+1.4**
JRA				*e*S	**Sn**	**04 29 06.8**	**+0.8**
JNSB	**Nemuroshibetsu**	**1.72**	**267**	P	**Pn**	**04 28 48.6**	**+1.6**
JNSB				*e*S	**Sn**	**04 29 09.2**	**+1.0**
JKHN	**Kushirohamanak**	**1.80**	**245**	P	**Pn**	**04 28 49.6**	**+1.5**
JKHN				*e*S	**Sn**	**04 29 10.4**	**+0.4**
JNK	**Nakash**	**1.95**	**262**	P	**Pn**	**04 28 51.0**	**+0.9**
JNK				*e*S	**Sn**	**04 29 13.2**	**-0.5**
JAK	**Akkeshi**	**2.15**	**247**	P	**Pn**	**04 28 53.8**	**+1.1**
JAK				*e*S	**Sn**	**04 29 17.9**	**-0.4**
JTKR	**Abashiri--Toko**	**2.51**	**273**	P	**Pn**	**04 28 58.5**	**+0.9**
JAR	**Ashorobuto**	**2.69**	**259**	P	**Pn**	**04 29 01.5**	**+1.4**
JAR				*e*S	**Sn**	**04 29 31.4**	**-0.1**
JOB	**Onbets**	**2.76**	**251**	P	**Pn**	**04 29 02.5**	**+1.4**
JOB				*e*S	**Sn**	**04 29 32.8**	**-0.5**
JCH	**Churui**	**3.20**	**248**	P	**Pn**	**04 29 08.0**	**+1.0**
JCH				*e*S	**Sn**	**04 29 43.7**	**-0.2**
JKA	**Kamikawa-asahi**	**3.46**	**276**	*e*P	**Pn**	**04 29 10.5**	**0.0**
ASAJ	**Asahikawa**	**3.46**	**276**	P	**Pn**	**04 29 10.4**	**-0.1**
	comp=E,2.2nm,0.3s,baz=78,slow=14,SNR=2.2						
ERM	**Erimo**	**3.62**	**240**	*i* PN	**Pn**	**04 29 15.3**	**+2.6**
JNBK	**Urakawa-nobuka**	**3.75**	**246**	P	**Pn**	**04 29 15.4**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.48**	**315**	*e*P	**Pn**	**04 29 24.7**	**+0.3**
YSS				AMB	AMB	04 29 25.2	
	comp=E,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.48**	**315**	⇓*e*PN	**Pn**	**04 29 24.7**	**+0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TYV	**Tymovskoe**	**7.69**	**337**	*e*P	**Pn**	**04 30 10.6**	**+2.4**
TYV	**Tymovskoe**	**7.69**	**337**	*e*PN	Pn	04 30 13.5	+5.2
TYV				pmax	pmax		
	comp=Z,300nm,2.7s						
TYV				pmax	pmax		
	comp=Z,22nm,1.2s						
MAJO	**Matsushiro**	**10.14**	**227**	*i* PN	**Pn**	**04 30 45.2**	**+3.3**
MA2	**Magadan**	**15.86**	**6**	*e*P	**Pn**	**04 31 57.0**	**-0.8**
MA2	**Magadan**	**15.86**	**6**	*i* P	**Pn**	**04 31 57.0**	**-0.8**
YAK	**Yakutsk**	**20.95**	**336**	*e*P	**P**	**04 32 57.4**	**+1.5**
YAK	**Yakutsk**	**20.95**	**336**	*i* P	**P**	**04 32 57.4**	**+1.5**
ULN	**Ulaanbaatar**	**28.13**	**292**	*e*P	**P**	**04 34 06.3**	**+1.8**
ULN	**Ulaanbaatar**	**28.13**	**292**	*i* P	**P**	**04 34 06.3**	**+1.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**29.09**	**140**	T	T	05 05 03.5	
	baz=330,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.10**	**140**	T	T	05 05 05.7	
	baz=330,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.11**	**140**	T	T	05 05 12.6	
	baz=330,slow=76						
H11S1	**WAKE ISLAND Hy**	**30.06**	**141**	T	T	05 06 15.7	
	baz=332,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.07**	**141**	T	T	05 06 16.5	
	baz=332,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.08**	**141**	T	T	05 06 18.0	
	baz=332,slow=76						
ILAR	**Eielson Array**	**41.28**	**36**	P	**P**	**04 35 56.5**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=278,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**44.67**	**298**	P	**P**	**04 36 22.6**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=69,slow=8.0,SNR=3.7						
WRA	**Warramunga Arr**	**64.62**	**194**	P	**P**	**04 38 48.6**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=12,slow=6.7,SNR=6.0						
FINES	**FINESS Array B**	**64.84**	**333**	P	P	04 38 45.9	-4.2
	comp=Z,0.4nm,0.5s,baz=46,slow=6.0,SNR=1.9						
OBN	**Obninsk**	**65.31**	**324**	*e*P	**P**	**04 38 56.2**	**+2.9**
OBN	**Obninsk**	**65.31**	**324**	*e*P	**P**	**04 38 56.2**	**+2.9**
OBN				*e*		04 39 27.5	
OBN				*e*		04 41 19.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**67.37**	**58**	P	**P**	**04 39 06.3**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=292,slow=7.4,SNR=5.5						
NOA	**NORSAR Array B**	**69.54**	**339**	P	**P**	**04 39 17.2**	**-2.9**
	comp=Z,0.2nm,0.4s,baz=33,slow=6.5,SNR=4.5						
PDAR	**Pinedale Array**	**69.70**	**50**	P	**P**	**04 39 20.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=15,slow=1.2,SNR=5.5						
CLL	**Collm**	**77.28**	**333**	*e*P	**P**	**04 40 06.0**	**+0.4**
CLL				*e*(pP)	**pP**	**04 40 22.0**	**-2.4**
CLL	**Collm**	**77.28**	**333**	*e*P	**P**	**04 40 06.0**	**+0.4**
CLL				*e**PP	**pP**	**04 40 22.0**	**-2.4**
TXAR	**Lajitas Array**	**82.44**	**56**	P	**P**	**04 40 33.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=297,slow=3.5,SNR=12						
H03N2	**Juan Fernandez**	**142.80**	**90**	T	T	07 27 08.9	
	baz=304,slow=77						
H03N3	**Juan Fernandez**	**142.81**	**90**	T	T	07 27 08.8	
	baz=304,slow=77						
H03N1	**Juan Fernandez**	**142.81**	**90**	T	T	07 27 10.0	
	baz=304,slow=77						

*IDC **17** 04:35:37.9±2.0, 17.°23S×178.°72W, h522km±29km, mb3.4/5, mb1 3.6/7, mb1mx3.1/37, mbtmp4.4/7, Error ellipse: s-maj=90.8km s-min=20.1km az=157.0*
*NEIC **17** 04:35:39.1±1.7, 17.°2S±0.°1×178.°6W±0.°1, h568km±9km, mb4.3/26, Error ellipse: s-maj=20.1km s-min=14.1km az=113.0*

ISC 17 04:35:37.9±0.7**, 17.°1S**±0.°1×**178.°7W**±0.°1**, h550**km**, n39, σ0.°87/39, mb4.2/16, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.20**	**259**	P	P	04 36 57.2	+2.9
AFI	**Afiamalu**	**7.37**	**65**	P	**P**	**04 37 29.1**	**-0.5**
	6.2nm,0.3s,baz=12,slow=23,SNR=5.7						
AFI	**Afiamalu**	**7.37**	**65**	P	**P**	**04 37 29.6**	**0.0**
DZM	**Mont Dzumac**	**14.87**	**248**	P	**P**	**04 38 45.8**	**-0.4**
	0.6nm,0.3s,baz=68,slow=19,SNR=7.1						
DZM	**Mont Dzumac**	**14.87**	**248**	P	**P**	**04 38 45.0**	**-1.1**
OUZ	**Omahuta**	**19.29**	**200**	P	**P**	**04 39 28.3**	**+1.0**
OUZ				IAmb	IAmb	04 39 46.1	
	comp=Z,7.3nm,1.0s						
QRZ	**Quartz Range**	**24.80**	**196**	P	**P**	**04 40 17.3**	**+0.6**
THZ	**Tophouse**	**25.59**	**195**	P	**P**	**04 40 23.3**	**-0.5**
THZ				IAmb	IAmb	04 40 33.8	
	comp=Z,15nm,1.1s						
LTZ	**Lake Taylor**	**26.70**	**195**	P	**P**	**04 40 32.1**	**-1.5**
LTZ				IAmb	IAmb	04 40 34.4	
	comp=Z,11nm,0.9s						
FOZ	**Fox Glacier**	**28.07**	**198**	P	**P**	**04 40 44.0**	**-1.4**
EIDS	**Eidsvold**	**29.31**	**249**	P	**P**	**04 40 56.6**	**0.0**
EIDS				IAmb	IAmb	04 40 57.7	
	comp=Z,6.8nm,1.1s						
WKZ	**Wanaka**	**29.48**	**198**	P	**P**	**04 40 55.8**	**-1.9**
ARMA	**Armidale**	**30.13**	**239**	P	**P**	**04 41 04.4**	**+0.8**
ARMA				IAmb	IAmb	04 41 09.0	
	comp=Z,5.2nm,1.1s						

MLZ	**Mavora Lakes**	**30.24**	**199**	P	**P**	**04 41 03.8**	**-0.5**
MLZ				IAmb	IAmb	04 41 05.3	
	comp=Z,10nm,0.9s						
CTA	**Charters Tower**	**33.34**	**259**	P	**P**	**04 41 32.1**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=77,slow=11,SNR=4.8						
CTAO	**Charters Tower**	**33.34**	**259**	P	**P**	**04 41 30.0**	**-1.1**
TOO	**Toolangi**	**37.47**	**230**	P	**P**	**04 42 04.9**	**-0.2**
STKA	**Stephens Creek**	**38.80**	**240**	P	**P**	**04 42 17.0**	**+1.1**
	comp=Z,3.9nm,0.4s,baz=95,slow=11,SNR=17						
STKA	**Stephens Creek**	**38.80**	**240**	P	**P**	**04 42 16.7**	**+0.8**
BBOO	**Buckleboo**	**43.57**	**240**	P	**P**	**04 42 54.1**	**+0.3**
BBOO				IAmb	IAmb	04 42 55.6	
	comp=Z,16nm,0.9s						
WR0	**Warramunga Arr**	**44.35**	**259**	P	**P**	**04 42 59.6**	**-0.3**
WB0	**Warramunga Arr**	**44.50**	**259**	P	**P**	**04 43 01.7**	**+0.6**
WB2	**Warramunga Arr**	**44.53**	**259**	P	**P**	**04 43 01.8**	**+0.4**
WB2				IAmb	IAmb	04 43 02.9	
	comp=Z,4.1nm,0.6s						
WRA	**Warramunga Arr**	**44.54**	**259**	P	**P**	**04 43 02.1**	**+0.7**
	comp=Z,2.1nm,0.4s,baz=96,slow=7.0,SNR=64						
WRA	**Warramunga Arr**	**44.54**	**259**	P	**P**	**04 43 01.0**	**-0.4**
AS31	**Alice Springs**	**44.77**	**254**	P	**P**	**04 43 04.4**	**+1.2**
AS31				IAmb	IAmb	04 43 04.9	
	comp=Z,7.7nm,0.5s						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**04 43 04.4**	**+1.2**
	comp=Z,18nm,0.4s,baz=89,slow=8.0,SNR=379						
ASAR				PcP	**PcP**	**04 44 34.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=101,slow=4.8,SNR=2.8						
ASAR				S	**S**	**04 48 59.3**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=86,slow=15,SNR=4.4						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**04 43 03.5**	**+0.3**
ASAR					**PcP**	**04 44 34.0**	**+0.6**
MTN	**Manton Dam**	**48.59**	**268**	P	**P**	**04 43 32.7**	**+0.7**
FORT	**Forrest**	**50.12**	**244**	P	**P**	**04 43 43.4**	**+0.3**
KNRA	**Kununurra**	**50.33**	**264**	P	**P**	**04 43 46.1**	**+1.3**
KNRA				IAmb	IAmb	04 43 47.0	
	comp=Z,5.6nm,0.6s						
PSA00	**Pilbara Seismi**	**57.87**	**255**	P	**P**	**04 44 38.0**	**+0.1**
PSA00				IAmb	IAmb	04 44 39.7	
	comp=Z,13nm,1.1s						
MORW	**Morawa**	**60.57**	**246**	P	**P**	**04 44 55.2**	**-0.6**
MORW				IAmb	IAmb	04 45 04.7	
	comp=Z,9.7nm,1.1s						
MJAR	**Matsushiro Arr**	**67.15**	**323**	P	**P**	**04 45 37.5**	**+0.1**
KSM	**Kuching**	**72.35**	**277**	P	**P**	**04 46 08.4**	**-0.5**
QSPA	**South Pole Qui**	**72.91**	**180**	P	**P**	**04 46 12.3**	**+1.0**
ENH	**Enshi**	**83.64**	**304**		pwP	04 49 14.4	+4.5
TXAR	**Lajitas Array**	**85.79**	**58**	P	P	04 47 23.6	+3.8
	comp=Z,0.1nm,0.5s,baz=216,slow=4.5,SNR=2.5						
TXAR	**Lajitas Array**	**85.79**	**58**	P	**P**	**04 47 19.4**	**-0.4**

RSNC 17 04:42:31.9±1.2**, 6.°82N**×**73.°15W, h146**km±5km**, ML2.6, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**188**	⇑*i*P	Pn	04 42 51.7	-0.4
BARC				*e*S	Sn	04 43 06.2	-1.3
BARC				*i*		04 43 07.9	
	comp=Z,147nm,0.3s						
BRRC	**Barranca, Sant**	**0.62**	**297**	*e*P	Pn	04 42 53.5	0.0
BRRC				*e*S	Sn	04 43 10.3	+0.4
BRRC				*i*		04 43 13.8	
	comp=Z,52nm,0.4s						
PAMC	**Pamplona, Colo**	**0.68**	**41**	*e*P	Pn	04 42 54.7	+0.2
PAMC				*e*S	Sn	04 43 11.7	+0.1
PAMC				*i*		04 43 13.9	
	comp=Z,92nm,0.5s						
RUSC	**La Rusia**	**0.93**	**176**	*e*P	Pn	04 42 55.6	-0.7
RUSC				*e*S	Sn	04 43 14.8	0.0
RUSC				*i*		04 43 15.5	
	comp=Z,43nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*e*P	Pn	04 42 58.3	-1.1
PTBC				*e*S	Sn	04 43 19.2	-1.2
PTBC				*i*		04 43 21.4	
	comp=Z,38nm,0.1s						
OCAC	**Ocana**	**1.42**	**353**	*e*P	Pn	04 42 59.6	-0.9
OCAC				*e*S	Sn	04 43 21.5	-0.8
OCAC				*i*		04 43 30.1	
	comp=Z,34nm,0.2s						
SPBC	**San Pablo de B**	**1.48**	**218**	*e*P	Pn	04 43 00.5	-0.6
SPBC				*e*S	Sn	04 43 23.0	-0.4
SPBC				*i*		04 43 27.2	
	comp=Z,50nm,0.2s						
NORC	**Norcasia**	**2.12**	**234**	*e*P	Pn	04 43 07.7	-0.6
NORC				*e*S	Sn	04 43 36.2	+0.1
NORC				*i*		04 43 43.6	
	comp=Z,31nm,0.1s						
SMLC	**San Martn de**	**2.17**	**335**	*e*P	Pn	04 43 07.9	-0.9
SMLC				*e*S	Sn	04 43 36.5	-0.6
SMLC				*i*		04 43 40.1	
	comp=Z,46nm,0.1s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	Pn	04 43 09.8	-0.5
CHIC				*e*S	Sn	04 43 39.4	-0.3
CHIC				*i*		04 43 42.8	
	comp=Z,30nm,0.5s						
HELC	**Santa Helena**	**2.44**	**255**	*e*P	Pn	04 43 12.6	0.0
HELC				*e*S	Sn	04 43 42.9	-0.8
HELC				*i*		04 43 49.7	
	comp=Z,23nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.72**	**234**	*e*P	Pn	04 43 16.4	+0.4
GUY2C				*e*S	Sn	04 43 50.0	+0.1
GUY2C				*i*		04 43 57.9	
	comp=Z,18nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.80**	**159**	*e*P	Pn	04 43 14.8	-1.8
PTGC				*e*S	Sn	04 43 48.3	-2.8
PTGC				*i*		04 43 50.1	
	comp=Z,23nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*e*P	Pn	04 43 20.0	+0.7
CBOC				*e*S	Sn	04 43 54.6	-1.2
TOLC	**Tolima**	**3.10**	**224**	*e*P	Pn	04 43 20.0	-0.7
TOLC				*e*S	Sn	04 43 57.7	-0.8
TOLC				*i*		04 44 05.2	
	comp=Z,42nm,0.5s						
MOTC	**Monteria, Cord**	**3.16**	**308**	*e*P	Pn	04 43 18.8	-2.4
MOTC				*e*S	Sn	04 43 57.2	-2.0
MOTC				*i*		04 44 12.6	
	comp=Z,8.2nm,0.6s						
ANIL	**Santa Ana**	**3.22**	**224**	*e*P	Pn	04 43 23.3	+1.0
ANIL				*e*S	Sn	04 44 02.2	+0.9
SDV	**Santo Domingo**	**3.23**	**50**	*e*P	Pn	04 43 21.2	-1.0
SDV				*e*S	Sn	04 43 59.0	-2.2
SDV				*i*		04 44 01.9	
	comp=Z,7.7nm,0.3s						
SDV	**Santo Domingo**	**3.23**	**50**	PKPab	Sn	04 43 59.0	-2.1
SDV	**Santo Domingo**	**3.23**	**50**	PKPdf	Pn	04 43 21.4	-0.8
PRAC	**Prado**	**3.54**	**209**	*e*P	Pn	04 43 25.6	-0.5
PRAC				*e*S	Sn	04 44 07.0	-1.2
PRAC				*i*		04 44 12.0	
	comp=Z,18nm,0.5s						
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P	Pn	04 43 25.9	-0.6
ORTC				*e*S	Sn	04 44 09.2	+0.3
ORTC				*i*		04 44 13.1	
	comp=Z,16nm,0.3s						
SJCC	**San Jacinto, C**	**3.65**	**327**	*e*P	Pn	04 43 25.5	-2.1
SJCC				*e*S	Sn	04 44 07.1	-3.8
SJCC				*i*		04 44 13.4	
	comp=Z,6.0nm,0.6s						

*IDC **17** 04:44:32.9±1.3, 35.°61N×70.°65E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.3/41, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=41.1km s-min=31.0km az=52.0*
*SOME **17** 04:44:51.9, 37.°85N×71.°83E, h30km*
*NNC **17** 04:44:58.2±12.0, 37.°18N×70.°60E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=126.5km s-min=68.6km az=155.0*

ISC 17 04:44:54.7±1.2**, 36.°60N**±0.°09×**70.°9E**±0.°1**, h188**km**, n14, σ2.°11/21, mb3.3/3, 5C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.58**	**354**	*e*P	**Pn**	**04 46 18.3**	**+1.9**
	64nm,0.2s						
IUG				*e*S	**Sn**	**04 47 20.2**	**-0.6**
	166nm,0.6s						
DZA	**Taraz**	**6.30**	**3**	*e*P	**Pn**	**04 46 27.9**	**+2.3**
	90nm,0.1s						
DZA				*e*S	**Sn**	**04 47 36.7**	**-0.8**
	167nm,0.3s						
MRKS	**Merke**	**6.40**	**16**	*e*P	**Pn**	**04 46 28.7**	**+1.7**
	14nm,0.3s						
MRKS				*e*S	**Sn**	**04 47 38.2**	**-1.9**
	42nm,0.5s						

BRLS	**Borolday**	**6.48**	**353**	*e*P	**Pn**	**04 46 25.8**	**-2.2**
	7.3nm,0.2s						
BRLS				*e*S	Sn	04 47 33.0	-8.7
	36nm,0.3s						
KK31	**Karatay Array**	**6.51**	**358**	P	**Pn**	**04 46 30.2**	**+1.9**
	3.1nm,0.4s,baz=178,slow=13,SNR=51						
KK31				⇑S	**Sn**	**04 47 39.7**	**-2.7**
	15nm,0.6s,baz=186,slow=21,SNR=3.9						
AAK	**Ala-Archa**	**6.65**	**24**	⇓P	**Pn**	**04 46 31.7**	**+1.4**
	1.5nm,0.4s						
AAK				⇑S	**Sn**	**04 47 46.2**	**+0.2**
	12nm,0.6s						
TKM2	**Tokmak 2**	**7.29**	**28**	⇑P	**Pn**	**04 46 39.2**	**+0.5**
	1.9nm,0.5s						
TKM2				⇑S	**Sn**	**04 47 56.5**	**-4.7**
	3.6nm,0.8s						
KST	**Kastek**	**7.54**	**30**	*e*P	**Pn**	**04 46 45.8**	**+3.9**
	2.6nm,0.4s						
KST				*e*S	**Sn**	**04 48 07.4**	**+0.5**
	6.9nm,0.4s						
AB09	**Akbulak array**	**14.96**	**331**	⇑P	**P**	**04 48 20.2**	**+2.4**
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**15.07**	**19**	Pn	**Pn**	**04 48 17.3**	**-0.7**
	0.0nm,0.3s,baz=216,slow=9.2,SNR=2.0						
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**P**	**04 48 36.2**	**0.0**
	0.4nm,0.3s,baz=146,slow=12,SNR=6.8						
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**04 55 18.0**	**-0.8**
	0.3nm,0.5s,baz=44,slow=5.0,SNR=1.9						
WRA	**Warramunga Arr**	**82.13**	**122**	P	**P**	**04 56 53.4**	**-1.1**
	0.2nm,0.5s,baz=323,slow=5.2,SNR=7.0						
ASAR	**Alice Springs**	**84.39**	**125**	P	**P**	**04 57 05.6**	**-0.5**
	0.4nm,0.6s,baz=309,slow=4.8,SNR=5.8						

*NNC **17** 04:48:39.9±8.7, 36.°48N×70.°93E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=77.8km s-min=59.7km az=152.0*
*SOME **17** 04:48:43.0, 37.°75N×71.°80E, h30km*
*MOS **17** 04:48:46.8±0.9, 36.°46N×71.°11E, h236km, mb4.3/19, Error ellipse: s-maj=8.7km s-min=4.9km az=90.0*
*NEIC **17** 04:48:47.5±0.9, 36.°45N±0.°06×71.°11E±0.°09, h233km±4km, mb4.3/30, Error ellipse: s-maj=10.3km s-min=9.1km az=116.0*
*BJI **17** 04:48:47.6±0.0, 36.°60N×71.°21E, h225km, mB4.4/7, mb4.5/12*
*IDC **17** 04:48:47.6±2.4, 36.°38N×71.°15E, h235km±23km, mb3.8/23, mb1 3.9/30, mb1mx3.7/55, mbtmp4.4/30, Error ellipse: s-maj=11.8km s-min=9.8km az=5.0*

ISC 17 04:48:47.9±0.3**, 36.°45N**±0.°04×**71.°20E**±0.°04**, h250**km**, n227, σ1.°79/221, mb4.2/42, 14C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.59**	**223**	PN	**Pn**	**04 49 34.6**	**-1.8**
KBL				S	**S**	**04 50 11.0**	**-3.6**
KBL	**Kabul**	**2.59**	**223**	Pn	**Pn**	**04 49 34.6**	**-1.8**
KBL				S	**S**	**04 50 11.0**	**-3.6**
CEP	**Cherat**	**2.68**	**167**	⇑P	**Pn**	**04 49 36.5**	**-0.8**
CEP				S	**S**	**04 50 13.0**	**-3.3**
NIL	**Nilore**	**3.26**	**148**	PN	**Pn**	**04 49 42.9**	**-0.5**
NIL	**Nilore**	**3.26**	**148**	Pn	**Pn**	**04 49 42.9**	**-0.5**
BTK	**Batken**	**3.62**	**355**	PN	**Pn**	**04 49 46.6**	**-0.7**
BTK	**Batken**	**3.62**	**355**	Pn	**Pn**	**04 49 46.6**	**-0.7**
THW	**Thamme Wali**	**3.67**	**173**	⇑P	**Pn**	**04 49 47.4**	**-0.7**
SARP	**Sargodha**	**4.68**	**164**	P	**Pn**	**04 49 58.9**	**-1.0**
KSH	**Kashi**	**4.86**	**49**	P	Pn	04 49 57.1	-4.9
KSH				S	S	04 50 48.0	-13
KSH				smax	smax		
	comp=N,740nm,0.7s						
KSH				smax	smax		
	comp=E,850nm,0.9s						
THN	**Thein Dam**	**5.47**	**136**	*e*P	**Pn**	**04 50 08.5**	**-1.1**
THN				*e*S	**S**	**04 51 10.5**	**-4.2**
IUG	**Iuzhnay**	**5.76**	**351**	*e*P	**Pn**	**04 50 11.8**	**-1.3**
	52nm,0.4s						
IUG				*e*S	**S**	**04 51 15.4**	**-5.8**
	681nm,0.6s						
IUG	**Iuzhnay**	**5.76**	**351**	*e*PN	**Pn**	**04 50 11.8**	**-1.3**
DHRM	**DHARAMSHALA**	**5.94**	**133**	*e*P	**Pn**	**04 50 15.8**	**+0.2**
DHRM				*e*S	**S**	**04 51 21.9**	**-3.8**
DHRM				IAML		04 51 25.3	
	comp=E,1μm,0.6s						
DHRM				IAML		04 51 26.4	
	comp=N,736nm,0.6s						
AML	**Almayashu**	**6.00**	**18**	P	**Pn**	**04 50 15.8**	**-0.5**
	SNR=76						
UCH	**Uchtor**	**6.32**	**23**	P	**Pn**	**04 50 20.3**	**-0.1**
	SNR=26						
DZA	**Taraz**	**6.44**	**1**	*e*P	**Pn**	**04 50 20.9**	**-0.5**
	comp=N,269nm,0.1s						
DZA				*e*S	**S**	**04 51 30.9**	**-5.5**
	comp=N,500nm,0.5s						
DZA	**Taraz**	**6.44**	**1**	*e*PN	**Pn**	**04 50 20.9**	**-0.5**
KZA	**Kyzart**	**6.44**	**28**	P	**Pn**	**04 50 20.9**	**-1.0**
	SNR=9.5						
MRKS	**Merke**	**6.48**	**13**	*e*P	**Pn**	**04 50 21.5**	**-0.6**
	comp=N,84nm,0.6s						
MRKS				*e*S	**S**	**04 51 32.1**	**-5.4**
	comp=N,327nm,0.4s						
MRKS	**Merke**	**6.48**	**13**	*e*PN	**Pn**	**04 50 21.5**	**-0.6**
EKS2	**Erkin-Say**	**6.52**	**17**	P	**Pn**	**04 50 22.6**	**0.0**
	SNR=34						
BHK	**Bhakra**	**6.63**	**138**	*e*P	**Pn**	**04 50 24.0**	**0.0**
BHK				*ex*	x	04 51 28.2	
BRLS	**Bo

baz=239,slow=45,SNR=1.6
GEYT Alibeck 10.54 282 Pn Pn 04 51 11.5 -1.8
GEYT S 04 53 09.9 -1.6
GYA0B ALIBECK ARRAY 10.54 282 Pn Pn 04 51 11.7 -1.6
PYUN Piuthan 12.98 127 *eP* **P 04 51 43.2 -2.5**
comp=N,82nm,0.3s
PYUN Piuthan 12.98 127 *eP* **P 04 51 43.2 -2.5**
comp=N,82nm,0.3s
MAKZ Makanchi 13.11 35 ⇑P **P 04 51 44.7 -1.9**
comp=N,21nm,0.4s
MAKZ Makanchi 13.11 35 P **P 04 51 45.1 -1.5**
MAKZ Makanchi 13.11 35 Pn **P 04 51 45.1 -1.5**
MKAR Makanchi Array 13.24 35 P **P 04 51 46.1 -2.1**
comp=N,1.2nm,0.3s,baz=216,slow=15,SNR=37
MKAR S **S 04 54 12.3 -1.2**
baz=220,slow=13,SNR=1.0
MKAR Makanchi Array 13.24 35 P 04 51 45.7 -2.5
MK31 Makanchi Array 13.24 35 ⇓P **P 04 51 46.1 -2.0**
comp=N,2.9nm,0.3s,baz=218,slow=16,SNR=85
MK31 Makanchi Array 13.24 35 P **P 04 51 46.9 -1.2**
MK31 Makanchi Array 13.24 35 Pn **P 04 51 46.9 -1.2**
KOLN Koldanda 13.60 126 *eP* **P 04 51 51.2 -1.4**
comp=N,41nm,0.3s
KOLN Koldanda 13.60 126 *eP* **P 04 51 51.2 -1.4**
comp=N,41nm,0.3s
GKN Gorkha 14.14 123 *eP* **P 04 51 58.1 -0.4**
comp=N,125nm,0.4s
GKN Gorkha 14.14 123 *eP* **P 04 51 58.1 -0.4**
comp=N,125nm,0.4s
BHPL Bhopal 14.22 156 *eP* **P 04 51 59.1 -0.2**
DMN Daman 14.71 123 *eP* **Pn 04 52 05.3 +0.3**
comp=N,61nm,0.3s
DMN Daman 14.71 123 *eP* **Pn 04 52 05.3 +0.3**
comp=N,61nm,0.3s
PKIN Phulchoki 14.93 122 *eP* **Pn 04 52 07.8 +0.2**
comp=N,96nm,0.4s
PKIN Phulchoki 14.93 122 *eP* **Pn 04 52 07.8 +0.2**
comp=N,96nm,0.4s
PKI Pulchoki 14.94 122 *eP* **Pn 04 52 08.0 +0.2**
comp=N,115nm,0.5s
PKI Pulchoki 14.94 122 *eP* **Pn 04 52 08.0 +0.2**
comp=N,115nm,0.5s
GUN Gumba 15.05 120 *eP* **Pn 04 52 09.3 +0.2**
comp=N,93nm,0.5s
GUN Gumba 15.05 120 *eP* **Pn 04 52 09.3 +0.2**
comp=N,93nm,0.5s
KURBB Kurchatov Arra 15.12 18 P **Pn 04 52 09.4 +0.1**
comp=N,0.2nm,0.3s,baz=207,slow=12,SNR=13
KURBB S **S 04 54 55.4 -0.3**
baz=200,slow=19,SNR=5.6
ABKAR Abkulak array 15.21 331 Pn 04 52 10.2 -0.1
AB09 Abkulak array 15.22 331 ⇑P **Pn 04 52 11.5 +0.9**
comp=N,2.7nm,0.4s
KURK Kurchatov 15.23 18 *ceP* **Pn 04 52 12.7 +2.1**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 15.23 18 Pn 04 52 11.1 +0.4
KURK IAmb IAmb 04 52 14.8
comp=Z,4.0nm,0.5s
JIRN Jiri 15.42 120 *eP* **Pn 04 52 14.5 +0.9**
comp=Z,148nm,0.3s
JIRN Jiri 15.42 120 *eP* **Pn 04 52 14.5 +0.9**
comp=Z,148nm,0.3s
RAMN Ramite 16.15 122 *eP* **Pn 04 52 22.8 +0.7**
comp=Z,58nm,0.3s
RAMN Ramite 16.15 122 *eP* **Pn 04 52 22.8 +0.7**
comp=Z,58nm,0.3s
BVAR Borovoye Array 16.59 358 P **Pn 04 52 26.5 -0.1**
comp=Z,2.0nm,0.3s,baz=163,slow=15,SNR=21
BRVK Borovoye 16.62 358 ⇑P **Pn 04 52 26.8 -0.3**
comp=Z,3.6nm,0.4s
BRVK Borovoye 16.62 358 P **Pn 04 52 26.1 -1.0**
BRVK pmax pmax
comp=Z,8.0nm,0.5s
BRVK Borovoye 16.62 358 P **Pn 04 52 26.1 -1.0**
BRVK IAmb IAmb 04 52 30.5
comp=Z,7.6nm,0.5s
TAPN Taplejung 16.68 118 *eP* **Pn 04 52 29.9 +1.5**
comp=Z,99nm,0.6s
TAPN Taplejung 16.68 118 *eP* **Pn 04 52 29.9 +1.5**
comp=Z,99nm,0.6s
ODAN Odare 16.75 120 *eP* **Pn 04 52 30.4 +1.2**
comp=Z,69nm,0.5s
ODAN Odare 16.75 120 *eP* **Pn 04 52 30.4 +1.2**
comp=Z,69nm,0.5s
AKTO Aktyubinsk 16.91 330 P **Pn 04 52 30.1 -0.3**
comp=Z,6.4nm,0.3s,baz=138,slow=11,SNR=83
AKTO S **S 04 55 31.8 +0.1**
comp=Z,0.4nm,0.3s,baz=318,slow=20,SNR=1.9
AKTO Aktyubinsk 16.91 330 ⇓P **Pn 04 52 30.0 -0.5**
comp=Z,33nm,0.8s
WSAR Wadi Sarin 17.07 223 P **Pn 04 52 31.6 -1.0**
comp=Z,0.6nm,0.3s,baz=81,slow=10,SNR=3.3
DGZ Jazzator, Alta 17.73 37 ⇓*iP* **Pn 04 52 39.9 -0.3**
DGZ pmax pmax
comp=Z,15nm,0.3s
BOK Bokaro 17.87 131 *eP* **Pn 04 52 42.6 +0.5**
LSA Lhasa 18.01 106 P **Pn 04 52 41.2 -2.9**
LSA pmax pmax
comp=Z,21nm,0.5s
LSA Lhasa 18.01 106 P **Pn 04 52 41.2 -2.9**
ZAA0 Zalesovo Array 19.89 24 P **Pn 04 53 01.8 -3.7**
ZAA0 IAmb IAmb 04 53 17.5
comp=Z,6.6nm,1.0s
ZALV Zalesovo Beam 19.89 24 P **Pn 04 53 01.6 -3.8**
comp=Z,2.2nm,0.3s,baz=221,slow=13,SNR=12
ZALV S **S 04 56 30.6 +0.3**
comp=Z,0.2nm,0.3s,baz=209,slow=18,SNR=2.3
ZALV Zalesovo Beam 19.89 24 *iP* **Pn 04 53 07.0 +1.5**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
SHL Shillong 20.74 116 P Pn 04 53 11.0 -4.9
SHL pmax pmax
comp=Z,32nm,0.7s
SHL Shillong 20.74 116 P Pn 04 53 11.0 -4.9
ARU Arti 21.73 341 P **P 04 53 20.4 +1.2**
comp=Z,3.4nm,0.4s,baz=166,slow=7.7,SNR=12
ARU Arti 21.73 341 *c iP* **P 04 53 21.0 +1.8**
ARU S S 04 57 09.6 +8.1
ARU pmax pmax
comp=Z,13nm,0.9s
ARU Arti 21.73 341 P **P 04 53 20.2 +1.1**
ZEI Tsey 21.91 295 *eP* **P 04 53 22.4 +1.2**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
AKH Akhalkalaki 22.07 291 P **P 04 53 23.1 +0.4**
AKH pmax pmax
comp=Z,12nm,0.9s
AKH Akhalkalaki 22.07 291 P **P 04 53 23.1 +0.4**
AKH IAmb IAmb 04 53 28.9
comp=Z,12nm,0.9s
GTA Gaotai 22.72 74 *eP* **P 04 53 32.3 +3.7**
GTA pmax pmax
comp=Z,10.0nm,0.6s
GTA pmax pmax
comp=Z,100nm,8.7s
GTA LR LR
comp=Z,100nm,14.5s
GTA LR LR
comp=Z,230nm,13.4s
GTA LR LR
comp=Z,97nm,10.5s
KBZ Khabaz 22.77 297 P **P 04 53 29.5 +0.8**
comp=Z,4.5nm,0.9s,baz=165,slow=3.4,SNR=6.0
KIRV Kirov 26.36 334 P **P 04 54 02.4 +1.5**
comp=Z,16nm,0.6s,baz=143,slow=5.1,SNR=5.3
TLY Talaya 27.56 46 *iP* **P 04 54 16.2 +4.4**
SONM Songino Array 28.23 55 P **P 04 54 19.6 +1.7**
comp=Z,1.1nm,0.8s,baz=252,slow=11,SNR=4.2
SONM Songino Array 28.23 55 P **P 04 54 19.3 +1.4**
ULN Ulaanbaatar 28.67 55 *ceP* P 04 54 25.1 +3.3
ULN pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 29.60 288 P **P 04 54 31.4 +1.3**
comp=Z,2.1nm,0.6s,baz=106,slow=9.1,SNR=7.6
BRTR Keskin Array B 29.60 288 *ceP* P 04 54 32.2 +2.1
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 29.60 288 P **P 04 54 30.5 +0.4**
OBN Obninsk 30.08 319 *eP* P 04 54 35.8 +1.9
OBN *e* 04 55 42.6
OBN *e* 04 57 32.8
OBN pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 30.29 119 P **P 04 54 38.3 +2.1**
comp=Z,1.1nm,0.3s,baz=303,slow=8.0,SNR=5.3
CMAR Chiang Mai Arr 30.29 119 *ceP* P 04 54 40.5 +4.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 30.29 119 P **P 04 54 37.8 +1.6**
XAN Xi'an 30.77 83 P P 04 54 43.1 +2.7
XAN pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 31.61 331 *eP* **P 04 54 47.3 +0.1**
KLMR pmax pmax
comp=Z,6.0nm,0.6s
KLMR Klimovskoe 31.61 331 *eP* **P 04 54 47.4 +0.2**
KLMR AMP 04 54 49.0
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 33.10 309 P **P 04 55 01.4 +1.1**
comp=Z,5.2nm,0.6s,baz=80,slow=7.0,SNR=15
AKASG Malin Array Be 33.10 309 P **P 04 55 01.2 +0.9**
AKBB Malin Array Si 33.10 309 P **P 04 55 01.2 +0.9**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
AKBB Malin Array Si 33.10 309 P **P 04 55 01.2 +0.9**
AKBB IAmb IAmb 04 55 02.2
comp=Z,5.4nm,0.9s
NRIK Noril'sk 34.15 10 P P 04 55 11.2 +2.1
comp=Z,2.4nm,0.5s,baz=208,slow=5.5,SNR=4.3
MLR Muntele Rosu 34.95 299 P **P 04 55 17.0 +0.6**
MLR pmax pmax
comp=Z,8.0nm,0.8s
MLR Muntele Rosu 34.95 299 P **P 04 55 17.0 +0.6**
MLR IAmb IAmb 04 55 20.9
comp=Z,8.1nm,0.8s
KOLS Kolonicke sedl 37.44 305 *eP* **P 04 55 38.3 +1.1**
KOLS Kolonicke sedl 37.44 305 *eP* **P 04 55 38.3 +1.1**
FIA1 FINESS Array S 37.62 326 P **P 04 55 39.7 +1.2**
FIA1 IAmb IAmb 04 55 41.1
comp=Z,9.0nm,0.8s
FINES FINESS Array B 37.62 326 P **P 04 55 40.3 +1.8**
comp=Z,7.5nm,0.5s,baz=120,slow=9.7,SNR=52
FINES FINESS Array B 37.62 326 *iP* **P 04 55 40.2 +1.7**
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 37.62 326 P **P 04 55 39.7 +1.2**
ARCES ARCESS Array B 41.25 338 P P 04 56 10.6 +2.2
comp=Z,8.3nm,0.4s,baz=115,slow=8.2,SNR=125
ARCES ARCESS Array B 41.25 338 P **P 04 56 09.8 +1.4**
ARE0 ARCESS Array S 41.25 338 P **P 04 56 09.8 +1.4**
ARE0 ARCESS Array S 41.25 338 *eP* P 04 56 10.6 +2.3
HAMF Hammerfest 42.33 339 *eP* P 04 56 19.8 +2.8
BRG Berggiesshubel 42.78 308 *eP* P 04 56 22.8 +1.9
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 42.78 308 *eP* P 04 56 22.8 +1.9
BRG pmax pmax
comp=Z,5.0nm,0.9s
GERES GERESS Array B 43.09 305 P **P 04 56 24.7 +1.1**
comp=Z,0.4nm,0.5s,baz=64,slow=6.7,SNR=3.4
GERES PcP **PP 04 58 10.0 +0.9**
comp=Z,0.5nm,0.5s,baz=83,slow=3.1,SNR=3.0
GERES GERESS Array B 43.09 305 P **P 04 56 24.3 +0.8**
GERES **PP 04 58 09.7 +0.7**
KHC Kasperske Hory 43.15 306 *ceP* **P 04 56 25.1 +1.2**
KHC pmax pmax
comp=Z,9.0nm,2.5s
TRO Tromso 43.38 336 *eP* P 04 56 27.4 +2.1
N2ST Straumen 43.80 332 *eP* P 04 56 30.8 +2.0
N2IH Innhavet 43.85 333 *eP* P 04 56 31.1 +2.0
FAUS Fauske 43.92 332 *eP* **P 04 56 31.6 +1.9**
MOR8 Moi Rana 43.94 331 *eP* **P 04 56 31.0 +1.1**
N2TV TΨrnvik 44.03 333 *eP* P 04 56 32.6 +2.1
STEI Steigen 44.09 333 *eP* P 04 56 33.0 +1.9
NBB28 Valnes 44.18 332 *eP* P 04 56 33.8 +2.0
CIMO Cimolais 44.26 302 P **P 04 56 33.6 +0.9**
NBB17 Glomfjord BΨr 44.28 332 *eP* P 04 56 34.6 +2.0
NC405 NORSAR Array S 44.28 323 P **P 04 56 33.9 +1.2**
NC405 IAmb IAmb 04 56 35.1
comp=Z,19nm,1.1s
NBB05 Inndyr 44.31 332 *eP* P 04 56 35.1 +2.4
NC602 NORSAR Array S 44.33 323 *eP* **P 04 56 34.2 +1.1**
NC303 NORSAR Array S 44.46 323 P **P 04 56 35.3 +1.2**
NC303 NORSAR Array S 44.46 323 *eP* **P 04 56 35.9 +1.8**
NB201 NORSAR Array S 44.48 323 P **P 04 56 35.6 +1.3**
NB201 IAmb IAmb 04 56 53.8
comp=Z,18nm,1.1s
NB201 NORSAR Array S 44.48 323 *eP* **P 04 56 35.6 +1.3**
NB2 NORSAR Subarra 44.52 323 P **P 04 56 35.9 +1.3**
comp=Z,2.4nm,0.5s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.52 323 P **P 04 56 35.9 +1.3**
baz=96,slow=7.9
NOA NORSAR Array B 44.52 323 P **P 04 56 35.2 +0.6**
comp=Z,2.0nm,0.4s,baz=106,slow=7.2,SNR=22
KONS Konsvik 44.53 331 *eP* P 04 56 36.5 +1.9
N2VI Vinje 44.58 334 *eP* P 04 56 36.9 +2.1
NBB40 Tonnes 44.58 331 *eP* **P 04 56 36.7 +1.7**
MURB Monte Urbino 44.75 298 pP 04 57 24.4 -5.0
NC204 NORSAR Array S 44.76 323 *eP* **P 04 56 38.0 +1.5**
LOF Lofoten 44.76 333 *eP* **P 04 56 37.7 +1.4**
N2SV S rvΨgen 44.90 333 *eP* **P 04 56 38.4 +1.0**
N2VA VΨry 44.96 333 *eP* **P 04 56 38.9 +1.1**
N2RO RΨst 45.14 332 *eP* **P 04 56 40.5 +1.2**
KONO Kongsberg 45.23 321 *eP* **P 04 56 41.8 +1.6**
SKAR Skarslia 45.92 322 *eP* **P 04 56 47.3 +1.7**
SPA0 Spitsbergen Ar 47.58 347 *eP* **P 04 56 58.4 +0.2**
SENIN Lac Senin/Sane 47.75 303 P **P 04 57 00.8 +0.6**
KMBO Kilima Mbogo 48.91 228 P **P 04 57 11.3 +1.9**
comp=Z,1.9nm,0.5s,baz=40,slow=14,SNR=4.4
KMBO Kilima Mbogo 48.91 228 P **P 04 57 09.8 +0.5**
KEST Kesra 49.20 289 P **P 04 57 12.9 +1.8**
comp=Z,2.5nm,0.7s,baz=348,slow=1.5,SNR=4.8
KEST Kesra 49.20 289 P **P 04 57 11.9 +0.7**
MBAR Mbarara 52.61 235 P **P 04 57 37.3 +0.5**
MBAR pmax pmax
comp=Z,6.0nm,0.8s
MBAR Mbarara 52.61 235 P **P 04 57 37.3 +0.5**
MBAR IAmb IAmb 04 57 39.5
comp=Z,6.2nm,0.8s
ESDC Sonseca Array 57.62 298 P **P 04 58 13.1 +1.0**
comp=Z,1.2nm,0.7s,baz=46,slow=7.3,SNR=7.3
ESDC Sonseca Array 57.62 298 P **P 04 58 12.9 +0.8**
SUMG Summit 61.16 341 *iP* P 04 58 39.0 +2.9
comp=Z,16nm,0.7s
SUMG Summit 61.16 341 *iP* P 04 58 39.0 +2.9
SUMG pmax pmax
comp=Z,16nm,0.7s
LSZ Lusaka 65.54 226 P **P 04 59 05.9 +0.8**
LSZ pmax pmax
comp=Z,6.0nm,0.7s
LSZ Lusaka 65.54 226 P **P 04 59 05.9 +0.8**
LSZ IAmb IAmb 04 59 07.7
comp=Z,5.7nm,0.7s
TOA0 Torodi Ar. Sit 65.88 269 P **P 04 59 07.0 -0.3**
TORD Torodi Ar. Bea 65.88 269 P **P 04 59 06.9 -0.4**
comp=Z,5.0nm,0.5s,baz=48,slow=6.1,SNR=50
TORD Torodi Ar. Bea 65.88 269 P **P 04 59 06.9 -0.4**
IMAR Indian Mountai 72.17 18 P **P 04 59 46.9 +1.9**
FITZ Fitzroy Crossi 74.73 127 P **P 05 00 02.1 +1.5**
comp=Z,1.1nm,0.4s,baz=175,slow=2.6,SNR=4.7
FITZ Fitzroy Crossi 74.73 127 P **P 05 00 02.2 +1.7**
ILAR Eielson Array 74.78 16 P **P 05 00 01.1 +0.9**
comp=Z,1.2nm,0.9s,baz=324,slow=5.4,SNR=9.7
ILAR Eielson Array 74.78 16 P **P 05 00 02.1 +1.8**
ILAR Eielson Array 74.78 16 P **P 05 00 02.1 +1.8**
DBIC Dimbokro 74.86 267 P **P 05 00 01.5 0.0**
comp=Z,2.6nm,0.5s,baz=29,slow=5.5,SNR=8.2
DBIC Dimbokro 74.86 267 P **P 05 00 02.2 +0.7**
DBIC pmax pmax
comp=Z,7.0nm,1.1s
DBIC Dimbokro 74.86 267 P **P 05 00 02.1 +0.7**
DBIC IAmb IAmb 05 00 13.6
comp=Z,6.7nm,1.1s
KIC Kosan Boka 74.94 267 *eP* **P 05 00 01.7 -0.3**
comp=Z,8.8nm,0.6s
TIC Toumodi 75.00 267 *eP* **P 05 00 01.7 -0.7**
LIC Lamto 75.25 267 *eP* **P 05 00 03.6 -0.2**
comp=Z,9.2nm,0.4s
BOSA Boshof 77.81 220 P **P 05 00 18.0 +0.2**
comp=Z,2.2nm,0.5s,baz=34,slow=3.0,SNR=5.4
BOSA Boshof 77.81 220 P **P 05 00 18.9 +1.1**
BOSA pmax pmax
comp=Z,6.0nm,1.2s
BOSA Boshof 77.81 220 P **P 05 00 18.9 +1.1**
BOSA IAmb IAmb 05 00 19.3
comp=Z,5.9nm,1.1s
YKA Yellowknife Ar 81.29 3 P **P 05 00 37.9 +2.0**
comp=Z,2.6nm,0.7s,baz=348,slow=5.3,SNR=12
WRA Warramunga Arr 81.83 122 P **P 05 00 40.3 +0.9**
comp=Z,2.3nm,0.4s,baz=325,slow=5.0,SNR=88
WRA Warramunga Arr 81.83 122 P **P 05 00 40.5 +1.1**
WRA Warramunga Arr 81.83 122 P **P 05 00 40.5 +1.1**
ASAR Alice Springs 84.09 125 P **P 05 00 52.0 +1.0**
comp=Z,3.2nm,0.6s,baz=310,slow=5.0,SNR=41
ASAR Alice Springs 84.09 125 P **P 05 00 52.2 +1.2**
ASAR Alice Springs 84.09 125 P **P 05 00 52.1 +1.2**
CPUP Villa Florida 135.37 268 PKP **PKiKP 05 07 39.0 -0.7**
comp=Z,2.4nm,0.7s,baz=106,slow=1.3,SNR=5.9
CPUP Villa Florida 135.37 268 PKIKP **PKiKP 05 07 39.3 -0.4**
CPUP Villa Florida 135.37 268 PKiKP 05 07 39.3 -0.4
PLCA Paso Flores 149.96 250 PKPbc **PKPab 05 08 10.2 -5.1**
comp=Z,5.2nm,0.9s,baz=3,slow=1.1,SNR=16
PLCA Paso Flores 149.96 250 PKPab 05 08 10.1 -5.2

INET ***17*** *04:50:40.4, 10°.48N×86°.66W, h15km, ML3.6*
IDC ***17*** *04:50:40.4±0.8, 11°.00N×86°.34W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/31, mbtmp4.0/11, ML2.8/2, MS3.2/4, Ms1 3.3/4, ms1mx2.9/31, Error ellipse: s-maj=30.5km s-min=10.6km az=38.0*
UCR ***17*** *04:50:41.1±3.7, 10°.67N×86°.63W, h19km±11km, ML3.4*
UNK ***17*** *04:50:45.2, 10°.79N×86°.40W, h50km*
NEIC ***17*** *04:50:45.3±0.9, 10°.79N±0°.06×86°.40W±0°.07, h50km±6km, mb4.4/106, Mwr4.6(UCR), Error ellipse: s-maj=11.9km s-min=6.9km az=52.0*
SNET ***17*** *04:50:47.4±0.9, 10°.99N×86°.97W, h127km±62km, ML3.6*
ISC 17 04:50:41.4±1.5,**10°.70N**±0°.05×**86°.59W**±0°.04,**h18**km±9km,
n315,σ1s**07**/316,**mb4.4**/60,**4C,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.97**	**89**	*eP*	**Pb**	**04 51 00.3**	**+0.5**
HZTE				*eS*	**Sn**	**04 51 14.4**	**+0.7**
GBS3	**Finca Las Img**	**1.11**	**86**	*iP*	**Pn**	**04 51 02.0**	**-0.3**
LAPC	**Finca la Perla**	**1.14**	**87**	*iP*	**Pn**	**04 51 02.2**	**-0.3**
GUAI	**GUAI**	**1.14**	**112**	*iP*	**Pn**	**04 51 01.4**	**-1.2**
GUAI				*iS*	**Sb**	**04 51 15.8**	**-1.5**
ORTG	**Ortega, Santa**	**1.16**	**107**	*eP*	**Pn**	**04 51 01.9**	**-1.0**
BUEV	**Buena Vista**	**1.16**	**85**	*eP*	**Pn**	**04 51 02.8**	**-0.2**
GB1A	**Borinquen Arri**	**1.17**	**84**	*eP*	**Pn**	**04 51 03.1**	**0.0**
GPS3	**Bodega del ICE**	**1.20**	**88**	*iP*	**Pn**	**04 51 03.5**	**0.0**
GPS1	**Guardaparques**	**1.22**	**87**	*iP*	**Pn**	**04 51 03.5**	**-0.2**
GPS1				*iS*	**Sb**	**04 51 20.2**	**+0.7**
GRZA	**Playa Garza**	**1.22**	**130**	*eP*	**Pn**	**04 51 01.8**	**-1.9**
GRZA				*eS*	**Sb**	**04 51 16.0**	**-3.5**
DUNO	**Dulce Nombre,**	**1.24**	**120**	*eP*	**Pn**	**04 51 02.4**	**-1.5**
LIM1	**Limonal**	**1.31**	**90**	*iP*	**Pn**	**04 51 04.9**	**-0.1**
GUAB	**Guayabo de Bag**	**1.33**	**90**	*iP*	**Pn**	**04 51 05.2**	**-0.1**
HORNC	**Hornillas**	**1.38**	**90**	*iP*	**Pn**	**04 51 06.0**	**-0.1**
ACAL	**Aguas Claras**	**1.53**	**92**	*iP*	**Pn**	**04 51 08.2**	**+0.3**
PTEN	**Parque Tenorio**	**1.57**	**89**	*iP*	**Pn**	**04 51 09.2**	**+0.6**
JTS	**Las Juntas de**	**1.66**	**104**	Pg	**Pn**	**04 51 08.6**	**-1.1**
	30nm,0.3s,baz=168,slow=21,SNR=140						
JTS				Lg	Lg	04 51 29.6	
	130nm,0.3s,baz=315,slow=18,SNR=7.1						
JTS	**Las Juntas de**	**1.66**	**104**	*eP*	**Pn**	**04 51 09.3**	**-0.4**
JTS	**Las Juntas de**	**1.66**	**104**	Pn	**Pn**	**04 51 09.5**	**-0.3**
JTS				Sn	**Sn**	**04 51 29.1**	**-1.5**
CEDE	**Laguna Cedeo**	**1.86**	**96**	*eP*	**Pn**	**04 51 13.3**	**+0.7**
ACON	**Acoyapa**	**1.87**	**48**		**Pn**	**04 51 12.3**	**-0.3**
ACON				Sn	**Sn**	**04 51 32.5**	**-3.3**
LAFE	**Finca La Fe, P**	**1.88**	**118**	*eP*	**Pn**	**04 51 11.1**	**-1.6**
BOAB	**BOACO BROADBAN**	**.95**	**27**		**Pn**	**04 51 14.5**	**+0.7**
COVE	**Coope Vega, Sa**	**2.15**	**89**	*eP*	**Pn**	**04 51 16.1**	**-0.3**
SRA1	**San Ramn**	**2.16**	**106**	*eP*	**Pn**	**04 51 17.4**	**+0.7**
MATN	**Matagalpa**	**2.30**	**16**		**Pn**	**04 51 19.1**	**+0.4**
HDC	**Heredia**	**2.53**	**106**	*eP*	**Pn**	**04 51 23.9**	**+2.0**
HDC	**Heredia**	**2.53**	**106**		**Pn**	**04 51 21.9**	**0.0**
HDC				Sn	**Sn**	**04 51 51.4**	**-0.9**
LCR2	**La Lucha 2**	**2.72**	**110**	*eP*	**Pn**	**04 51 25.1**	**+0.7**
CNCH	**Conchagua**	**2.83**	**335**	⇑*eP*	**Pn**	**04 51 26.9**	**+0.9**
CNCH				IAML		04 51 51.4	
	comp=Z,542nm,0.6s						
CNCH				*eS*	**Sn**	**04 51 59.0**	**-0.8**
CNCH	**Conchagua**	**2.83**	**335**	⇑*eP*	**Pn**	**04 51 26.9**	**+0.9**
CNCH				IAML		04 51 51.4	
	comp=Z,542nm,0.6s						
CNCH				*eS*	**Sn**	**04 51 59.0**	**-0.8**
RIMA	**Rio Macho**	**2.84**	**109**	*eP*	**Pn**	**04 51 27.2**	**+1.0**
CVTR	**Volcan Turrial**	**2.86**	**103**	*eP*	**Pn**	**04 51 29.2**	**+2.6**
LCND	**La Caada**	**2.89**	**334**	⇑*eP*	**Pn**	**04 51 27.3**	**+0.7**
LCND				*eS*	**Sn**	**04 51 58.8**	**-2.1**
LCND				IAML		04 52 18.5	
	comp=Z,147nm,0.5s						
LCND	**La Caada**	**2.89**	**334**	⇑*eP*	**Pn**	**04 51 27.3**	**+0.7**
LCND				*eS*	**Sn**	**04 51 58.8**	**-2.1**
LCND				IAML		04 52 18.5	
	comp=Z,147nm,0.5s						
CDM	**Cerro de Muert**	**3.01**	**112**	*eP*	**Pn**	**04 51 29.3**	**+0.7**
TECA	**Tecapa**	**3.35**	**326**	*eP*	**Pn**	**04 51 34.2**	**+1.1**
TECA	**Tecapa**	**3.35**	**326**	*eP*	**Pn**	**04 51 34.2**	**+1.1**
COEB	**Comit de Eme**	**3.37**	**326**	*eP*	**Pn**	**04 51 33.7**	**+0.4**
COEB				*eS*	**Sn**	**04 52 09.6**	**-3.3**
COEB	**Comit de Eme**	**3.37**	**326**	*eP*	**Pn**	**04 51 33.7**	**+0.4**
COEB				*eS*	**Sn**	**04 52 09.6**	**-3.3**
TGUH	**Tegucigalpa,Un**	**3.40**	**349**	*eP*	**Pn**	**04 51 35.2**	**+1.4**
TGUH	**Tegucigalpa,Un**	**3.40**	**349**	*eP*	**Pn**	**04 51 35.2**	**+1.4**
TGUH	**Tegucigalpa,Un**	**3.40**	**349**	Pn	**Pn**	**04 51 35.4**	**+1.6**
TGUH				Sn	**Sn**	**04 52 11.1**	**-2.7**
EDPN	**Palmar Norte**	**3.54**	**119**	*eP*	**Pn**	**04 51 37.7**	**+2.2**
DRK0	**Durika**	**3.59**	**113**	*eP*	**Pn**	**04 51 37.2**	**+0.8**
RIOS	**Rincon, Osa**	**3.62**	**123**	*eP*	**Pn**	**04 51 37.7**	**+1.0**
COEG	**Centro de Oper**	**3.66**	**322**	*eP*	**Pn**	**04 51 38.1**	**+0.7**
COEG				*eS*	**Sn**	**04 52 16.6**	**-3.6**
COEG				IAML		04 52 26.7	
	comp=Z,85nm,0.3s						
COEG	**Centro de Oper**	**3.66**	**322**	*eP*	**Pn**	**04 51 38.1**	**+0.7**
COEG				*eS*	**Sn**	**04 52 16.6**	**-3.6**
COEG				IAML		04 52 26.7	
	comp=Z,85nm,0.3s						
APG	**El Apazote**	**5.71**	**319**	Pn	**Pn**	**04 52 05.3**	**-0.2**
	baz=112,slow=5.4,SNR=1.1						
CCIG	**Comitan**	**7.74**	**316**		**Pn**	**04 52 36.4**	**+2.9**
TEIG	**Tepich**	**9.61**	**350**	Pn	**Pn**	**04 52 56.6**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=126,slow=17,SNR=2.0						
TEIG	**Tepich**	**9.61**	**350**		**Pn**	**04 53 00.5**	**+1.5**
ROSC	**El Rosal**	**13.47**	**115**	LR	LR	04 59 38.8	
	comp=Z,94nm,20.3s,baz=244,slow=40						
SDV	**Santo Domingo**	**15.82**	**95**	Pn	**Pn**	**04 54 22.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=264,slow=7.0,SNR=2.7						
SDV				LR	LR	05 01 21.1	
	comp=Z,40nm,19.8s,baz=259,slow=41						
SDV	**Santo Domingo**	**15.82**	**95**	Pn	**Pn**	**04 54 22.9**	**-0.9**
ATAH	**Atahualpa**	**19.51**	**155**	LR	LR	05 01 46.6	
	comp=Z,143nm,19.4s,baz=347,slow=34						
TIGA	**Tifton**	**20.82**	**7**	P	Pn	04 55 25.0	+0.5
	baz=188						
HKT	**Hockley**	**21.00**	**337**	P	**P**	**04 55 25.4**	**+1.5**
344A	**Westbrook Farm**	**21.00**	**350**	P	**P**	**04 55 24.1**	**0.0**
344A				IAmb	IAmb	04 55 30.6	
	comp=Z,16nm,0.7s						
PCRV	**Puerto La Cruz**	**21.59**	**89**	P	**P**	**04 55 31.1**	**+0.4**
	comp=Z,11nm,0.8s,baz=286,slow=6.3,SNR=3.9						
PLCV	**Puerto La Cruz**	**21.64**	**89**	P	**P**	**04 55 31.1**	**-0.1**
152A	**Waverly Hall**	**21.93**	**4**	P	**P**	**04 55 34.2**	**+0.2**
154A	**Montrose**	**22.04**	**8**	P	**P**	**04 55 35.3**	**+0.1**
LRAL	**Lakeview Retre**	**22.23**	**359**	P	**P**	**04 55 38.5**	**+1.3**
	baz=178						
LRAL	**Lakeview Retre**	**22.23**	**359**	P	**P**	**04 55 37.6**	**+0.4**
NATX	**Nacogdoches**	**22.25**	**342**	P	**P**	**04 55 39.9**	**+2.4**
	baz=158						
Z47A	**Carrollton**	**22.43**	**357**	P	**P**	**04 55 39.9**	**+0.5**
Z47A				IAmb	IAmb	04 55 47.6	
	comp=Z,14nm,1.1s						
435B	**Jarrell**	**22.44**	**335**	P	**P**	**04 55 40.8**	**+1.3**
435B				IAmb	IAmb	04 55 44.4	
	comp=Z,16nm,0.9s						
GOGA	**Godfrey**	**22.78**	**7**	P	**P**	**04 55 44.2**	**+1.0**
	baz=188,SNR=7.0						
GOGA	**Godfrey**	**22.78**	**7**	P	**P**	**04 55 43.2**	**+0.1**
GOGA				IAmb	IAmb	04 55 45.4	
	comp=Z,12nm,1.0s						
Y49A	**Blount Mountai**	**23.05**	**0**	P	**P**	**04 55 46.2**	**+0.3

Z58A	St. Stephen	23.37	14	P	P	04 55 49.8	+0.6
	baz=196						
WHTX	Lake Whitney,	23.45	336	P	P	04 55 51.2	+1.3
	baz=152						
WHTX	Lake Whitney,	23.45	336	P	P	04 55 49.4	-0.5
WHTX				IAmb	IAmb	04 55 51.9	
	comp=Z,14nm,0.8s						
Y55A	Saluda	23.53	10	P	P	04 55 50.9	+0.2
	baz=191						
FPAL	Fort Paine	23.74	2	IAmb	IAmb	04 55 55.8	
	comp=Z,6.9nm,0.8s						
HODGE	Hodges	23.75	9	P	P	04 55 52.5	-0.3
HODGE				IAmb	IAmb	04 55 54.0	
	comp=Z,9.8nm,0.7s						
X51A	Calhoun	23.80	4	P	P	04 55 53.0	-0.3
X51A				IAmb	IAmb	04 55 55.0	
	comp=Z,8.0nm,0.8s						
OXF	Oxford	23.84	354	P	P	04 55 53.2	-0.5
	baz=173						
OXF	Oxford	23.84	354	IAmb	IAmb	04 55 54.7	
	comp=Z,16nm,0.8s						
Y57A	Sumter	23.89	13	P	P	04 55 54.5	+0.3
	baz=195						
JSC	Jenkinsville	23.97	11	P	P	04 55 53.9	-1.0
JSC				IAmb	IAmb	04 55 56.7	
	comp=Z,9.0nm,1.0s						
X54A	Belton	24.04	9	P	P	04 55 55.6	0.0
	baz=190						
X55A	Gracelyn & Ava	24.09	10	P	P	04 55 56.4	+0.4
	baz=192						
PLAL	Pickwick Lake	24.20	357	P	P	04 55 56.2	-0.9
PLAL				IAmb	IAmb	04 55 58.1	
	comp=Z,7.5nm,0.8s						
X56A	White Oak	24.22	11	P	P	04 55 57.7	+0.5
	baz=193						
Y59A	Loris	24.23	16	P	P	04 55 57.5	+0.2
	baz=198						
X40A	Basin Creek Fa	24.35	347	P	P	04 55 58.3	-0.2
	baz=165						
PAULI	Pauline	24.40	10	P	P	04 55 58.2	-0.7
PAULI				IAmb	IAmb	04 56 00.1	
	comp=Z,18nm,1.0s						
W52A	Murphy	24.40	5	P	P	04 55 58.1	-0.9
W52A				IAmb	IAmb	04 56 00.1	
	comp=Z,9.4nm,0.8s						
BG3	Lake Jocassee	24.41	7	P	P	04 55 57.8	-1.2
BG3				IAmb	IAmb	04 56 00.7	
	comp=Z,8.6nm,0.8s						
SWET	Sewanee	24.41	1	P	P	04 55 57.8	-1.2
SWET				IAmb	IAmb	04 56 00.7	
	comp=Z,15nm,1.2s						
W50A	Signal Mountai	24.41	3	P	P	04 55 57.8	-1.3
W50A				IAmb	IAmb	04 56 01.4	
	comp=Z,8.8nm,0.8s						
Y60A	Bolivia	24.43	17	P	P	04 55 59.8	+0.7
	baz=200						
TXAR	Lajitas Array	24.46	322	P	P	04 56 00.8	+1.1
	comp=Z,3.9nm,0.7s,baz=136,slow=10.0,SNR=56						
TXAR				PcP	PcP	04 59 40.5	+2.1
	comp=Z,0.9nm,0.8s,baz=134,slow=5.2,SNR=7.6						
TXAR	Lajitas Array	24.46	322	P	P	04 55 60.0	+0.3
TXAR					PcP	04 59 37.7	-0.7
TX31	Lajitas Ar. Si	24.46	322	P	P	04 55 59.9	+0.3
TX31				IAmb	IAmb	04 56 01.9	
	comp=Z,13nm,0.8s						
TX32	Lajitas Array	24.46	322	P	P	04 55 59.3	-0.3
BIRD	Birdtown, Kers	24.48	12	P	P	04 55 58.6	-1.0
W54A	Cherokee Point	24.60	9	P	P	04 56 01.4	+0.7
	baz=190,SNR=8.7						
X58A	Rowland	24.65	14	P	P	04 56 01.3	+0.2
	baz=197						
CPCT	Cooper Cave	24.70	4	P	P	04 56 00.8	-0.9
CPCT				IAmb	IAmb	04 56 04.3	
	comp=Z,13nm,0.8s						
KMSC	Kings Mountain	24.79	10	P	P	04 56 02.7	+0.2
	baz=192,SNR=6.4						
KMSC	Kings Mountain	24.79	10	IAmb	IAmb	04 56 04.1	
	comp=Z,14nm,0.9s						
W41B	Gary Mavity, V	24.90	349	P	P	04 56 02.9	-0.5
	baz=166						
ABTX	Abilene, Hawle	24.91	333	P	P	04 56 05.1	+1.5
	baz=148						
W56A	Indian Trail	24.93	12	P	P	04 56 03.6	-0.1
	baz=194						
TKL	Tuckaleechee C	24.97	5	P	P	04 56 03.9	-0.2
	comp=Z,6.4nm,0.9s,baz=192,slow=15,SNR=6.6						
TKL	Tuckaleechee C	24.97	5	P	P	04 56 03.3	-0.8
TKL				IAmb	IAmb	04 56 07.0	
	comp=Z,11nm,1.1s						
WHAR	Wooly Hollow	25.02	349	P	P	04 56 03.7	-0.8
WHAR				IAmb	IAmb	04 56 05.5	
	comp=Z,11nm,1.0s						
W57A	Gilead	25.07	13	P	P	04 56 04.7	-0.2
	baz=195,SNR=5.4						
W57A	Gilead	25.07	13	IAmb	IAmb	04 56 05.7	
	comp=Z,12nm,0.7s						
V51A	Loudon	25.07	4	P	P	04 56 03.8	-1.1
V51A				IAmb	IAmb	04 56 06.1	
	comp=Z,7.1nm,0.8s						
V53A	Saluda	25.09	7	IAmb	IAmb	04 56 14.4	
	comp=Z,7.3nm,0.9s						
W58A	Raeford	25.12	14	P	P	04 56 05.2	-0.2
	baz=197						
W39A	Magazine	25.25	346	P	P	04 56 06.7	+0.1
	baz=163						
CLTN	Cedars of Leba	25.27	0	IAmb	IAmb	04 56 09.3	
	comp=Z,6.1nm,0.7s						
V54A	Nebo	25.31	9	P	P	04 56 07.4	+0.2
	baz=190						
WVT	Waverly	25.34	358	P	P	04 56 07.5	+0.1
	baz=177						
V55A	Taylorsville	25.51	10	IAmb	IAmb	04 56 12.6	
	comp=Z,7.2nm,0.8s						
V56A	Mocksville	25.60	12	P	P	04 56 09.9	+0.2
	baz=194						
V57A	Coltrane Farms	25.82	13	P	P	04 56 11.8	0.0
	baz=195,SNR=5.9						
TZTN	Tazewell	25.87	6	P	P	04 56 11.8	-0.5
	baz=186						
V58A	Windy Hill, Pi	25.88	14	P	P	04 56 12.1	-0.2
	baz=197,SNR=12						
V58A	Windy Hill, Pi	25.88	14	P	P	04 56 11.1	-1.3
U54A	Nelsons Funny	26.06	9	P	P	04 56 13.8	-0.3
	baz=190						
U54A	Nelsons Funny	26.06	9	P	P	04 56 13.1	-0.9
U54A				IAmb	IAmb	04 56 19.1	
	comp=Z,8.7nm,0.9s						
V59A	Middlesex	26.07	16	P	P	04 56 14.0	0.0
	baz=198						
U40A	Yellville	26.16	348	P	P	04 56 14.4	-0.5
	baz=166						
U40A	Yellville	26.16	348	P	P	04 56 14.2	-0.7
U40A				IAmb	IAmb	04 56 15.5	
	comp=Z,6.8nm,0.8s						
U55A	TA2, Sparta	26.17	10	P	P	04 56 15.1	+0.1
	baz=192						
V60A	Jim Taylor Roa	26.35	17	P	P	04 56 16.6	0.0
	baz=201						
WMOK	Wichita Mounta	26.39	337	P	P	04 56 18.4	+1.5
	baz=152,SNR=20						
WMOK	Wichita Mounta	26.39	337	P	P	04 56 16.8	-0.2
WMOK				IAmb	IAmb	04 56 20.9	
	comp=Z,12nm,0.9s						
U57A	Blanch	26.44	13	P	P	04 56 17.2	-0.2
	baz=196						
TUL1	Leonard	26.45	343	P	P	04 56 17.2	-0.2
	baz=159						
TUL1	Leonard	26.45	343	P	P	04 56 17.4	-0.1
TUL1				IAmb	IAmb	04 56 17.6	
	comp=Z,5.6nm,0.7s						
T42A	Van Buren	26.52	352	P	P	04 56 16.9	-1.2
U38A	Gravette	26.58	346	P	P	04 56 18.2	-0.4
U38A				IAmb	IAmb	04 56 19.1	
	comp=Z,7.7nm,1.1s						
U58A	Oxford	26.59	15	P	P	04 56 18.4	-0.4
	baz=198						
T54A	Tazewell	26.63	9	P	P	04 56 18.7	-0.5
	baz=191,SNR=5.8						
U59A	Littleton	26.75	16	P	P	04 56 20.2	0.0
	baz=199						
T55A	Pulaski	26.81	10	P	P	04 56 20.8	0.0
	baz=192						
T56A	Rocky Mt	26.87	12	P	P	04 56 21.4	+0.1
	baz=194						
BLA	Blacksburg	26.97	11	P	P	04 56 22.1	-0.1
	baz=193						
T57A	Hurt	27.00	13	P	P	04 56 22.4	-0.1
	baz=196						
T57A	Hurt	27.00	13	IAmb	IAmb	04 56 23.3	
	comp=Z,7.5nm,0.7s						
U60A	Pendleton	27.04	17	P	P	04 56 22.8	+0.1
	baz=200						
T58A	Grand View Acr	27.12	14	P	P	04 56 23.4	-0.1
	baz=197						
MNTX	Cornudas Mount	27.18	323	P	P	04 56 26.9	+2.8
	baz=136						
S54A	Dingess, Beckl	27.39	9	P	P	04 56 25.5	-0.5
	baz=191						
T59A	Double "B" Far	27.39	16	P	P	04 56 25.8	-0.2
	baz=199						
WCI	Wyandotte Cave	27.41	1	P	P	04 56 25.1	-1.0
	baz=180						
MSTX	Muleshoe	27.50	330	P	P	04 56 28.4	+1.4
	baz=143						
MSTX	Muleshoe	27.50	330	P	P	04 56 26.8	-0.3
S55A	Lewisburg	27.50	10	P	P	04 56 27.1	+0.1
	baz=193						
S39A	Bolivar	27.55	348	P	P	04 56 26.9	-0.5
S39A				IAmb	IAmb	04 56 27.5	
	comp=Z,5.8nm,0.8s						
CCM	Cathedral Cave	27.55	352	P	P	04 56 26.8	-0.6
	baz=170						
CCM	Cathedral Cave	27.55	352	P	P	04 56 26.9	-0.6
S56A	Natural Bridge	27.59	12	P	P	04 56 27.8	0.0
	baz=195						
AMTX	Amarillo	27.73	333	IAmb	IAmb	04 56 36.5	
	comp=Z,8.1nm,1.0s						
S57A	Dark Hollow, R	27.80	13	P	P	04 56 29.0	-0.6
	baz=196						
S57A	Dark Hollow, R	27.80	13	P	P	04 56 28.6	-1.1
S57A				IAmb	IAmb	04 56 30.4	
	comp=Z,5.5nm,0.7s						
R54A	Victor	27.82	9	P	P	04 56 29.6	-0.2
	baz=191						
R53A	Hurricane	27.82	8	P	P	04 56 29.3	-0.5
	baz=189						
S58A	Poland Farm, P	27.87	15	P	P	04 56 30.1	-0.2
	baz=198						
R55A	Marlinton	28.07	11	P	P	04 56 32.2	+0.1
	baz=193						
R55A	Marlinton	28.07	11	IAmb	IAmb	04 56 32.8	
	comp=Z,7.2nm,0.8s						
R58B	Mineral	28.25	15	P	P	04 56 33.5	0.0
	baz=198						
R56A	Bull Pasture M	28.33	12	P	P	04 56 33.6	-0.8
	baz=195						
Q51A	Peebles	28.35	5	P	P	04 56 33.9	-0.7
Q53A	Leroy	28.40	8	P	P	04 56 34.4	-0.6
	baz=190						
Q52A	Bidwell	28.40	7	P	P	04 56 34.5	-0.5
	baz=189						
R57A	Stanardsville	28.41	13	P	P	04 56 34.8	-0.3
	baz=196						
R58A	Rapidan	28.53	14	P	P	04 56 36.1	0.0
	baz=198						
Q54A	Coxs Mills	28.63	9	P	P	04 56 36.9	-0.1
	baz=192						
Q54A	Coxs Mills	28.63	9	IAmb	IAmb	04 56 37.7	
	comp=Z,9.6nm,0.7s						
Q55A	Buckhannon	28.77	11	P	P	04 56 38.5	+0.2
	baz=193						
Q56A	Snyder Ridge,	28.98	12	P	P	04 56 40.5	+0.4
	baz=195						
Q56A	Snyder Ridge,	28.98	12	IAmb	IAmb	04 56 41.7	
	comp=Z,9.8nm,0.8s						
P53A	Whipple	29.04	8	P	P	04 56 40.6	+0.1
	baz=190,SNR=6.5						
P53A	Whipple	29.04	8	P	P	04 56 39.2	-1.4
P52A	Corning	29.08	7	P	P	04 56 40.3	-0.8
	baz=189,SNR=7.8						
P52A	Corning	29.08	7	P	P	04 56 40.2	-0.8
Q57A	Strasburg	29.14	13	P	P	04 56 41.2	-0.4
	baz=196						
Q58A	Fox Den Farm,	29.22	14	P	P	04 56 42.2	0.0
	baz=198						
P54A	Burton	29.29	10	P	P	04 56 42.2	-0.6
	baz=192						
P55A	Reedsville	29.31	11	P	P	04 56 43.0	0.0
	baz=193						
MCWV	Mont Chateau	29.45	11	P	P	04 56 43.5	-0.8
	baz=193						
P38A	Dawn	29.46	349	IAmb	IAmb	04 56 43.8	
	comp=Z,5.2nm,0.6s						
P56A	Dayton Farm, R	29.50	12	P	P	04 56 44.8	+0.1
	baz=195						
O51A	Pataskala	29.54	6	P	P	04 56 44.0	-1.1
	baz=188						
SFIN	Lafayette	29.56	359	P	P	04 56 44.4	-0.8
	baz=179						
SFIN	Lafayette	29.56	359	IAmb	IAmb	04 56 45.0	
	comp=Z,11nm,1.1s						
ACSO	Alum Creek Sta	29.58	6	P	P	04 56 44.7	-0.8
	baz=187						
ACSO	Alum Creek Sta	29.58	6	IAmb	IAmb	04 56 45.6	
	comp=Z,9.5nm,0.8s						
O52A	Adamsville	29.59	7	P	P	04 56 45.0	-0.6
	baz=189,SNR=5.9						
KSU1	Kansas State U	29.66	344	P	P	04 56 45.9	-0.2
	baz=160						
P57A	Homestead Farm	29.66	13	P	P	04 56 46.0	-0.1
	baz=197						
P57A	Homestead Farm	29.66	13	P	P	04 56 44.9	-1.2
P57A				IAmb	IAmb	04 56 47.6	
	comp=Z,9.3nm,0.8s						
O53A	New Philadelph	29.81	8	P	P	04 56 46.8	-0.7
	baz=190,SNR=5.1						
O53A	New Philadelph	29.81	8	P	P	04 56 46.5	-1.0
P58A	Pank, Wackersv	29.84	15	P	P	04 56 47.7	0.0
	baz=198						
O54A	Avella	29.87	10	P	P	04 56 47.6	-0.4
	baz=192						
ANMO	Albuquerque	30.17	326	P	P	04 56 53.2	+2.2
	baz=138						
P59A	Jarrettsville	30.17	16	P	P	04 56 50.7	+0.1
	baz=200						
N49A	Columbus Grove	30.17	4	P	P	04 56 49.6	-1.0
O56A	Blue Knob Stat	30.29	12	P	P	04 56 51.8	0.0
	baz=195						
CBKS	Cedar Bluff	30.36	339	P	P	04 56 52.9	+0.5
	baz=153						
N53A	Lisbon	30.41	9	P	P	04 56 52.1	-0.7
	baz=191						
N53A	Lisbon	30.41	9	P	P	04 56 51.8	-0.9
O57A	Amberson	30.44	14	P	P	04 56 52.9	-0.1
	baz=197						
O58A	Lewisberry	30.53	15	P	P	04 56 54.0	+0.2
	baz=199						
PAGS	Pennsylvania G	30.68	15	P	P	04 56 54.0	-1.1
N55A	Marion Center	30.70	11	P	P	04 56 54.7	-0.6
	baz=194						
SSPA	Standing Stone	30.79	13	P	P	04 56 56.0	-0.1
	baz=196						
SSPA	Standing Stone	30.79	13	P	P	04 56 56.0	-0.1
SSPA				IAmb	IAmb	04 56 56.9	
	comp=Z,7.9nm,0.7s						
O59A	Robesonia	30.89	16	P	P	04 56 57.2	+0.2
	baz=200						
N56A	West Decatur	30.97	12	P	P	04 56 57.6	-0.2
	baz=196,SNR=5.9						
N57A	Milroy	30.98	13	P	P	04 56 57.5	-0.3
	baz=197						
M53A	WI Miller and	31.05	9	P	P	04 56 57.9	-0.6
	baz=191,SNR=5.1						
M53A	WI Miller and	31.05	9	P	P	04 56 57.3	-1.2
N58A	Sunbury	31.26	15	P	P	04 57 00.1	-0.1
	baz=199						
N58A	Sunbury	31.26	15	P	P	04 56 59.1	-1.1
N58A				IAmb	IAmb	04 57 01.0	
	comp=Z,8.2nm,0.8s						
M54A	Oil Creek Stat	31.28	10	P	P	04 57 00.3	-0.2
	baz=193						
M55A	Ridgway	31.41	11	P	P	04 57 01.2	-0.4
	baz=194						
L40A	Anamosa	31.50	353	IAmb	IAmb	04 57 02.7	
	comp=Z,8.4nm,0.9s						
M56A	Emporium	31.54	12	P	P	04 57 02.3	-0.4
	baz=196						
M56A	Emporium	31.54	12	P	P	04 57 01.7	-1.0
N59A	State Game Lan	31.57	16	P	P	04 57 03.0	0.0
	baz=200						
N59A	State Game Lan	31.57	16	P	P	04 57 01.4	-1.6
L53A	Girard	31.62	9	P	P	04 57 02.5	-0.9
	baz=192						
M57A	Sunshine Farm,	31.63	14	P	P	04 57 03.5	0.0
	baz=198						
SDCO	Great Sand Dun	31.84	331	P	P	04 57 06.8	+1.1
	baz=143						
SDCO	Great Sand Dun	31.84	331	P	P	04 57 05.3	-0.5
W18A	Petrified Fore	32.17	323	P	P	04 57 11.0	+2.4
	baz=133						
M59A	Waymart	32.24	16	P	P	04 57 08.9	-0.1
	baz=200						
JFWS	Jewell Farm	32.25	355	P	P	04 57 07.5	-1.4
	baz=173						
M60A	Port Jervis	32.27	17	P	P	04 57 08.9	-0.2
	baz=202						
L56A	Greenwood	32.30	13	P	P	04 57 09.1	-0.3
	baz=196						
L57A	Andrews Acres	32.32	14	P	P	04 57 09.2	-0.4
	baz=198						
LPAZ	La Paz	32.45	145	LR	LR	05 12 05.6	
	comp=Z,48nm,18.2s,baz=314,slow=40						
S22A	4UR Ranch, Cre	32.49	329	P	P	04 57 13.2	+1.7
	baz=140						
L58A	Harry Jones Me	32.61	15	P	P	04 57 11.8	-0.3
	baz=200						
BINY	Binghamton	32.72	15	P	P	04 57 12.9	-0.2
	baz=199						
K55A	Perry	32.76	12	P	P	04 57 12.7	-0.7
	baz=195						
K56A	Middlesex	32.88	13	P	P	04 57 14.0	-0.6
	baz=197						
L59A	Walton	32.95	16	P	P	04 57 15.0	-0.2
	baz=201						
MVCO	Mesa Verde	32.95	327	P	P	04 57 17.6	+2.1
	baz=137						
L60A	Shokan	33.00	17	P	P	04 57 15.2	-0.3
	baz=202						
K57A	Scipio Center	33.09	14	P	P	04 57 15.8	-0.5
	baz=198						
K58A	Earlville	33.33	15	P	P	04 57 17.8	-0.6
	baz=200						
K59A	Cooperstown	33.55	16	P	P	04 57 20.1	-0.3
	baz=201						
PV03	Paradox Valley	33.91	328	P	P	04 57 23.8	0.0
PV03				IAmb	IAmb	04 57 27.0	
	comp=Z,2.9nm,0.7s						
PV18	Skein Mesa, Pa	33.94	328	P	P	04 57 23.7	-0.3
J58A	Remsen	33.99	15	P	P	04 57 23.2	-0.9
	baz=200						
ECSD	EROS Data Cent	34.04	347	P	P	04 57 23.3	-1.3
	baz=162						
ECSD	EROS Data Cent	34.04	347	IAmb	IAmb	04 57 32.1	
	comp=Z,3.6nm,0.9s						
I58A	Old Forge	34.37	15	P	P	04 57 26.7	-0.8
	baz=200						
J60A	Lant Hill Farm	34.38	17	P	P	04 57 27.0	-0.5
	baz=203						
I57A	Carthage	34.44	14	P	P	04 57 27.3	-0.8
	baz=199						
H53A	Bobcaygeon	34.45	10	P	P	04 57 27.2	-0.9
	baz=194						
H55A	Tweed	34.69	12	P	P	04 57 29.3	-0.9
	baz=196						
I59A	Olmsteadville	34.76	16	P	P	04 57 29.8	-1.1
	baz=202						
SPMN	Marine on St.	34.81	352	P	P	04 57 29.8	-1.4
	baz=169						
J62A	Henniker	34.86	19	P	P	04 57 31.5	-0.1
	baz=206						
H56A	Elgin	34.92	13	P	P	04 57 31.5	-0.7
	baz=198						
G54A	Lake Saint Pet	35.33	10	P	P	04 57 34.6	-1.1
	baz=194						
LONY	Lake Ozonia	35.34	15	P	P	04 57 34.9	-1.0
	baz=200						
G55A	Calabogie	35.45	12	P	P	04 57 35.9	-0.8
	baz=197						
I62A	Tamworth	35.59	19	P	P	04 57 37.7	-0.3
	baz=206						
H60A	Morristown	35.80	17	P	P	04 57 39.3	-0.5
	baz=204						
P17A	Butcher Ranch,	35.81	327	P	P	04 57 40.2	0.0
ALGO	Algonquin Park	35.88	10	P	P	04 57 39.4	-1.0
	baz=194						
H64A	Troy	36.98	21	P	P	04 57 49.3	-0.5
	baz=209						
G62A	West of Eustis	37.05	19	P	P	04 57 50.1	-0.3
	baz=206						
D54A	Lac Fusel, La	37.29	11	P	P	04 57 50.9	-1.5
	baz=196						
F60A	Warwick	37.30	17	P	P	04 57 51.5	-1.0
	baz=204						
TPNV	Topopah Spring	37.38	319	P	P	04 57 56.3	+2.7
	baz=127						
BW06	Boulder Array	37.70	332	P	P	04 57 56.9	+0.6
	baz=141						
PDAR	Pinedale Array	37.70	332	P	P	04 57 57.1	+0.8
	comp=Z,0.9nm,0.7s,baz=124,slow=9.1,SNR=12						
PDAR				PcP	PcP	05 00 13.6	+0.3
	comp=Z,0.2nm,0.5s,baz=117,slow=5.2,SNR=2.1						
PDAR	Pinedale Array	37.70	332	P	P	04 57 56.2	-0.1
PDAR					PcP	05 00 11.8	-1.6
HWUT	Hardware Ranch	37.80	329	IAmb	IAmb	04 57 59.8	
	comp=Z,3.5nm,0.8s						
HWUT				PcP	PcP	05 00 12.2	-1.5
F63A	Nahmakanta, Br	37.95	20	P	P	04 57 57.7	-0.3
	baz=208						
REDW	Red Top Meadow	38.76	331	IAmb	IAmb	04 58 07.4	
	comp=Z,3.8nm,0.7s						
SNOW	Snow King Moun	38.80	332	IAmb	IAmb	04 58 07.9	
	comp=Z,3.5nm,0.8s						
E63A	Oxbow	38.81	20	P	P	04 58 04.5	-0.8
	baz=209						
E64A	Bridgewater	39.01	21	P	P	04 58 06.8	-0.1
	baz=210						
D62A	Allapoint, All	39.18	19	P	P	04 58 08.6	+0.3
	baz=208						
RLMT	Red Lodge	39.44	335	P	P	04 58 10.1	-0.7
	baz=143						
NVAR	Mina Array Bea	39.57	320	P	P	04 58 14.3	+2.3
	comp=Z,0.9nm,0.7s,baz=133,slow=8.1,SNR=9.3						
NVAR				PcP	PcP	05 00 21.1	+1.8
	comp=Z,1.3nm,0.7s,baz=133,slow=3.4,SNR=11						
NVAR	Mina Array Bea	39.57	320	P	P	04 58 13.1	+1.1
NVAR				PcP	PcP	05 00 17.6	-1.7
MATQ	Matagami	39.64	9	P	P	04 58 10.1	-2.0
	baz=194						
HLID	Hailey	40.66	329	P	P	04 58 22.9	+1.9
	baz=135						
BOZ	Bozeman (W)	40.84	333	P	P	04 58 23.0	+0.7
	baz=140						
I04A	Tendick Farm,	45.22	323	P	P	04 58 59.0	+1.2
	baz=126						
J01E	Myrtle Point	45.77	322	P	P	04 59 03.6	+1.5
	baz=124						
BDFB	Brasilia	46.30	124	P	P	04 59 07.1	+0.4
	comp=Z,2.3nm,0.8s,baz=259,slow=13,SNR=3.3						
BDFB	Brasilia	46.30	124	P	P	04 59 06.4	-0.3
SCHQ	Schefferville	46.71	16	P	P	04 59 06.2	-3.0
	comp=Z,2.3nm,0.7s,baz=239,slow=8.8,SNR=4.0						
SCHQ	Schefferville	46.71	16	P	P	04 59 07.4	-1.8
SCHQ				IAmb	IAmb	04 59 24.0	
	comp=Z,4.8nm,1.0s						
PLCA	Paso Flores	53.28	165	P	P	05 00 02.6	+3.2
	comp=Z,1.4nm,1.0s,baz=292,slow=8.5,SNR=3.1						
PLCA	Paso Flores	53.28	165	P	P	05 00 00.8	+1.3
ILAR	Eielson Array	67.95	336	P	P	05 01 38.5	-0.5
	comp=Z,0.3nm,0.7s,baz=136,slow=4.4,SNR=4.6						
ILAR	Eielson Array	67.95	336	P	P	05 01 39.6	+0.5
KSRS	Korea Array	122.19	328	PKP	PKiKP	05 09 37.8	+1.9
	comp=Z,0.6nm,0.3s,baz=339,slow=3.4,SNR=4.4						
ASAR	Alice Springs	139.38	246	PKP	PKPdf	05 10 09.4	+0.8
	comp=Z,0.4nm,0.8s,baz=100,slow=2.2,SNR=4.8						
ASAR	Alice Springs	139.38	246		PKPdf	05 10 08.8	+0.2
WRA	Warramunga Arr	139.57	252	PKP	PKiKP	05 10 10.8	-0.6
	comp=Z,0.6nm,0.8s,baz=96,slow=2.4,SNR=7.7						
WRA	Warramunga Arr	139.57	252		PKPdf	05 10 09.1	+0.1
CMAR	Chiang Mai Arr	150.51	349	PKP	PKPdf	05 10 28.4	+0.6
	comp=Z,1.2nm,0.3s,baz=247,slow=1.9,SNR=2.2						
CMAR				PKPbc	PKiKP	05 10 34.1	+0.2
	comp=Z,

MURB	**Monte Urbino**	**0.04**	**188**	P	Pg	04 56 36.3 +0.1
MURB				S	Sg	04 56 37.5 0.0
MURB	**Monte Urbino**	**0.04**	**188**	P	Pg	04 56 36.3 +0.2
ATFO	**Monte Foce - G**	**0.07**	**25**	P	Pg	04 56 36.6 +0.1
ATFO				S	Sg	04 56 38.1 +0.1
ATVO	**AVT- Monte Val**	**0.12**	**310**	P	Pg	04 56 37.5 +0.5
ATVO				S	Sg	04 56 39.9 +0.8
ATVO				AML	AML	
	comp=N,50μm,0.3s					
ATVO				AML	AML	
	comp=N,50μm,0.3s					
ATVO				AML	AML	
	comp=E,59μm,0.2s					
ATCC	**AVT- Casa Cast**	**0.14**	**147**	P	Pg	04 56 38.2 +0.8
ATCC				S	Sg	04 56 41.2 +1.6
ATCC				AML	AML	
	comp=E,74μm,0.3s					
ATCC				AML	AML	
	comp=N,44μm,0.3s					
ATCC				AML	AML	
	comp=E,74μm,0.3s					
ATCC				AML	AML	
	comp=N,44μm,0.3s					
FOSV	**Fossato di Vic**	**0.17**	**94**	P	Pg	04 56 38.3 +0.5
FOSV				S	Sg	04 56 41.3 +1.0
PIEI	**Pieia**	**0.23**	**0**	P	Pg	04 56 40.0 +1.0
PIEI				S	Sg	04 56 43.6 +1.5
PIEI				AML	AML	
	comp=E,28μm,0.3s					
PIEI				AML	AML	
	comp=N,19μm,0.3s					
ASSB	**Assisi San Ben**	**0.28**	**161**	P	Pg	04 56 40.4 +0.6
ASSB				S	Sb	04 56 45.2 -1.0
PP3	**Marolino**	**0.79**	**84**	P	Pn	04 56 52.4 +0.9

*IDC **17** 05:05:41.5±0.9, 27.°16N×103.°51E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/55, mbtmp3.7/10, MS3.2/5, Ms1 3.2/5, ms1mx2.8/47, Error ellipse: s-maj=40.2km s-min=17.2km az=58.0*

*NEIC **17** 05:05:43.2±1.5, 27.°13N±0.°06×103.°5E±0.°1, h10km±1km, mb4.5/9, Error ellipse: s-maj=23.6km s-min=3.5km az=294.0*

*BJI **17** 05:05:43.0±0.0, 27.°10N×103.°34E, h13km, mb3.8/1, ML3.7/16*

ISC 17 05:05:43.2±0.6, 27.°19N±0.°05×103.°47E±0.°06, h10km, n34, σ1°23/37, mb4.0/13, MS2.9/4, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.15**	**198**	⇑iPg	**Pn**	**05 06 19.5**	**+0.1**
KMI				Sg	**Sb**	**05 06 47.9**	**-1.5**
KMI				smax	smax		
	comp=N,190nm,0.8s						
KMI				smax	smax		
	comp=E,350nm,1.0s						
KMI	**Kunming**	**2.15**	**198**		**Pn**	**05 06 18.9**	**-0.5**
GYA	**Guiyang**	**2.95**	**103**	Pn	**Pb**	**05 06 33.8**	**-2.1**
GYA				Pg	**Pg**	**05 06 42.0**	**+2.3**
GYA				Sn	**Sn**	**05 07 06.6**	**+0.9**
GYA				Sg	**Sg**	**05 07 16.8**	**-1.1**
GYA				smax	smax		
	comp=N,260nm,1.1s						
GYA				smax	smax		
	comp=E,190nm,0.8s						
CD2	**Chengdu**	**3.72**	**4**	Pn	**Pn**	**05 06 43.8**	**+3.0**
CD2				Pg	**Pg**	**05 06 54.3**	**-0.2**
CD2				Sg	**Sg**	**05 07 42.4**	**-0.3**
CD2				smax	smax		
	comp=N,560nm,0.7s						
CD2				smax	smax		
	comp=E,640nm,1.3s						
ENH	**Enshi**	**6.12**	**58**		**Pn**	**05 07 14.3**	**+0.6**
XAN	**Xi'an**	**8.29**	**33**	P	**Pn**	**05 07 43.8**	**+0.2**
XAN				S	**Sn**	**05 09 15.8**	**-1.5**
XAN				smax	smax		
	comp=N,81nm,1.0s						
XAN				smax	smax		
	comp=E,72nm,1.0s						
XAN	**Xi'an**	**8.29**	**33**		**Pn**	**05 07 44.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**9.63**	**207**	LR	LR	05 12 08.8	
	comp=Z,66nm,19.2s,baz=25,slow=40						
SONM	**Songino Array**	**20.74**	**6**	P	**P**	**05 10 23.4**	**-0.7**
	0.5nm,0.4s,baz=187,slow=10,SNR=3.6						
SONM	**Songino Array**	**20.74**	**6**	P	**P**	**05 10 24.0**	**-0.1**
WMQ	**Urumqi**	**20.93**	**327**	*e*P	**P**	**05 10 24.6**	**-1.4**
WMQ				pP	Pn	05 10 28.6	0.0
WMQ				sP	sP	05 10 32.9	+1.9
WMQ				pmax	pmax		
	comp=Z,25nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,20nm,4.3s						
KSRS	**Korea Array**	**23.00**	**57**	P	**P**	**05 10 47.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=243,slow=9.6,SNR=2.2						
KSRS				LR	LR	05 19 54.2	
	comp=Z,29nm,18.7s,baz=155,slow=37						
TLY	**Talaya**	**24.46**	**0**	LR	LR	05 21 33.1	
	comp=Z,26nm,20.6s,baz=26,slow=39						
MKAR	**Makanchi Array**	**25.73**	**325**	P	**P**	**05 11 13.8**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=119,slow=10,SNR=7.4						
MKAR	**Makanchi Array**	**25.73**	**325**	P	**P**	**05 11 15.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**28.52**	**46**	LR	LR	05 23 56.4	
	comp=Z,39nm,18.7s,baz=245,slow=38						
ZALV	**Zalesovo Beam**	**30.07**	**338**	P	**P**	**05 11 54.4**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=148,slow=11,SNR=1.2						
MAJO	**Matsushiro**	**30.81**	**64**		**P**	**05 11 59.3**	**+0.1**
MJAR	**Matsushiro Arr**	**30.81**	**64**	P	**P**	**05 12 00.6**	**+1.3**
WRAB	**Tennant Creek**	**55.58**	**144**	P	**P**	**05 15 19.8**	**+0.6**
WRAB				IAmb	IAmb	05 15 23.3	
	comp=Z,5.9nm,1.3s						
WRA	**Warramunga Arr**	**55.58**	**144**	P	**P**	**05 15 18.2**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=333,slow=8.4,SNR=27						
WRA	**Warramunga Arr**	**55.58**	**144**	P	**P**	**05 15 17.5**	**-1.7**
WB2	**Warramunga Arr**	**55.59**	**144**	P	**P**	**05 15 18.9**	**-0.3**
WB2				IAmb	IAmb	05 15 22.6	
	comp=Z,8.0nm,1.1s						
WR0	**Warramunga Arr**	**55.70**	**144**	P	**P**	**05 15 19.8**	**-0.3**
WR0				IAmb	IAmb	05 15 38.5	
	comp=Z,5.6nm,1.3s						
ASAR	**Alice Springs**	**58.48**	**147**	P	**P**	**05 15 39.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=327,slow=6.4,SNR=12						
FINES	**FINESS Array B**	**60.53**	**327**	P	**P**	**05 15 53.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=111,slow=9.0,SNR=4.8						
FINES	**FINESS Array B**	**60.53**	**327**	P	**P**	**05 15 53.3**	**0.0**
ARCES	**ARCESS Array B**	**60.61**	**337**	P	**P**	**05 15 53.1**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=104,slow=7.5,SNR=3.7						
NOA	**NORSAR Array B**	**67.67**	**328**	P	**P**	**05 16 40.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=73,slow=6.2,SNR=3.6						
GERES	**GERESS Array B**	**69.91**	**315**	P	**P**	**05 16 54.2**	**-0.4**
	comp=Z,0.3nm,0.2s,baz=77,slow=6.5,SNR=1.6						
IMAR	**Indian Mountai**	**70.49**	**25**	P	**P**	**05 16 56.9**	**-0.8**
PPLA	**Purkeypile**	**72.37**	**28**	P	**P**	**05 17 09.8**	**+0.5**
PPLA				IAmb	IAmb	05 17 17.9	
	comp=Z,3.9nm,1.0s						
MDM	**Murphy Dome**	**73.01**	**25**	P	**P**	**05 17 15.8**	**+2.8**
RES	**Resolute Bay**	**77.68**	**5**	LR	LR	05 53 16.6	
	comp=Z,96nm,21.8s,baz=256,slow=37						

IDC 17 05:39:31.6±3.5, 2.°31S×139.°17E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/32, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=40.4km s-min=13.7km az=152.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.55**	**98**	Pg	Pn	05 39 59.3	-1.2
	9.9nm,0.3s,baz=222,slow=12,SNR=33						
JAY				Lg	Lg	05 40 21.1	
	4.3nm,0.3s,baz=156,slow=21,SNR=4.2						
WRA	**Warramunga Arr**	**18.15**	**195**	P	P	05 43 45.7	0.0
	0.1nm,0.3s,baz=18,slow=12,SNR=8.4						
WRA				S	Sn	05 47 09.6	+1.0
	0.0nm,0.3s,baz=18,slow=13,SNR=1.6						
CTA	**Charters Tower**	**18.98**	**159**	P	Pn	05 43 56.1	+0.7
	0.2nm,0.3s,baz=9.5,slow=6.1,SNR=1.9						
ASAR	**Alice Springs**	**21.84**	**193**	P	P	05 44 25.7	-0.1
	0.6nm,0.6s,baz=24,slow=9.6,SNR=6.5						
STKA	**Stephens Creek**	**29.50**	**176**	P	P	05 45 37.2	-0.5
	2.4nm,0.8s,baz=7.6,slow=19,SNR=3.0						

IDC 17 05:50:06.6±15.0, 18.°02S×177.°37W, h415km±143km, mb3.2/4, mb1 3.5/4, mb1mx3.0/35, mbtmp4.0/4, Error ellipse: s-maj=147.0km s-min=44.7km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.45**	**242**	P	P	05 56 59.0	-0.1
	2.2nm,0.9s,baz=66,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**45.59**	**259**	P	P	05 57 47.5	-0.5
	0.8nm,0.5s,baz=96,slow=6.7,SNR=21						
WRA				PcP	PcP	05 59 18.2	-0.2
	0.1nm,0.3s,baz=103,slow=3.3,SNR=1.8						
ASAR	**Alice Springs**	**45.72**	**254**	P	P	05 57 49.1	+0.1
	6.3nm,0.6s,baz=89,slow=8.4,SNR=67						
ASAR				PcP	PcP	05 59 18.5	-0.3
	0.4nm,0.4s,baz=116,slow=3.4,SNR=3.5						
ILAR	**Eielson Array**	**85.77**	**13**	P	P	06 02 00.0	0.0
	0.2nm,0.4s,baz=223,slow=5.9,SNR=5.5						

*BGR **17** 05:53:34.2±0.0, 17.°03S×173.°82W, h33km*

*NEIC **17** 05:53:44.7±1.5, 15.°35S±0.°03×174.°03W±0.°09, h89km±5km, mb4.5/70, Error ellipse: s-maj=12.8km s-min=4.2km az=100.0*

*IDC **17** 05:53:44.7±2.4, 15.°34S×174.°01W, h87km±21km, mb4.2/15, mb1 4.3/18, mb1mx4.1/42, mbtmp4.5/18, MS3.1/1, Ms1 3.1/1, ms1mx2.6/56, Error ellipse: s-maj=22.0km s-min=11.1km az=134.0*

ISC 17 05:53:45.1±0.4, 15.°34S±0.°07×173.°99W±0.°07, h94km, n145, σ0°87/122, mb4.4/46, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.57**	**57**	P	**Pn**	**05 54 24.6**	**-0.5**
	218nm,0.3s,baz=146,slow=0.8,SNR=120						
AFI				S	**Sn**	**05 54 51.4**	**-4.3**
	237nm,0.3s,baz=83,slow=12,SNR=4.2						
AFI				LR	LR	05 55 10.4	
	comp=Z,342nm,19.5s,baz=180,slow=33						
AFI	**Afiamalu**	**2.57**	**57**		**Pn**	**05 54 25.0**	**0.0**
NIUE	**Niue**	**5.37**	**134**	Pn	**Pn**	**05 55 02.4**	**-0.5**
MSVF	**Nonsavu**	**8.00**	**252**	Pn	**Pn**	**05 55 37.5**	**-1.2**
RAR	**Rarotonga**	**14.71**	**116**	P	**Pn**	**05 57 08.7**	**+0.3**
	0.6nm,0.3s,baz=297,slow=11,SNR=1.2						
RAR				S	Sn	05 59 39.7	-11
	0.4nm,0.3s,baz=128,slow=18,SNR=2.0						
DZM	**Mont Dzumac**	**19.70**	**247**	P	**Pn**	**05 58 08.5**	**-0.9**
	0.2nm,0.3s,baz=78,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**19.70**	**247**	P	**P**	**05 58 06.4**	**-0.8**
URZ	**Urewera**	**24.15**	**197**	P	**P**	**05 58 52.0**	**-0.3**
	3.6nm,0.3s,baz=225,slow=2.8,SNR=8.2						
URZ	**Urewera**	**24.15**	**197**	P	**P**	**05 58 51.9**	**-0.5**
CTAO	**Charters Tower**	**38.10**	**257**	P	**P**	**06 00 55.4**	**+0.2**
CTAO				IAmb	IAmb	06 00 57.1	
	comp=Z,8.2nm,1.2s						
STKA	**Stephens Creek**	**43.58**	**240**	P	**P**	**06 01 38.9**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=91,slow=10.0,SNR=5.0						
STKA	**Stephens Creek**	**43.58**	**240**	IAmb	IAmb	06 01 40.6	
	comp=Z,1.0nm,0.9s						
WR0	**Warramunga Arr**	**49.12**	**257**	P	**P**	**06 02 23.8**	**+0.3**
WB0	**Warramunga Arr**	**49.27**	**257**	P	**P**	**06 02 23.5**	**-1.2**
WB2	**Warramunga Arr**	**49.29**	**257**	P	**P**	**06 02 24.5**	**-0.4**
WRAB	**Tennant Creek**	**49.30**	**257**	P	**P**	**06 02 23.8**	**-1.1**
WRA	**Warramunga Arr**	**49.30**	**257**	P	**P**	**06 02 24.6**	**-0.4**
	comp=Z,8.3nm,0.7s,baz=95,slow=7.4,SNR=168						
WRA				PcP	**PcP**	**06 03 46.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=92,slow=3.6,SNR=4.7						
WRA	**Warramunga Arr**	**49.30**	**257**	P	**P**	**06 02 23.8**	**-1.2**
AS31	**Alice Springs**	**49.59**	**252**	P	**P**	**06 02 27.1**	**-0.1**
ASAR	**Alice Springs**	**49.59**	**252**	P	**P**	**06 02 27.3**	**+0.1**
	comp=Z,30nm,0.7s,baz=84,slow=8.5,SNR=312						
ASAR				PcP	**PcP**	**06 03 47.6**	**0.0**
	comp=Z,0.9nm,0.8s,baz=90,slow=5.6,SNR=0.9						
ASAR	**Alice Springs**	**49.59**	**252**	P	**P**	**06 02 24.9**	**-2.3**
MTN	**Manton Dam**	**53.17**	**265**	P	**P**	**06 02 53.9**	**-0.1**
FORT	**Forrest**	**54.94**	**243**	P	**P**	**06 03 05.5**	**-1.1**
KNRA	**Kununurra**	**55.01**	**261**	P	**P**	**06 03 07.0**	**-0.4**
SOEI	**Soe**	**60.36**	**267**	P	**P**	**06 03 46.8**	**+1.7**
PSA00	**Pilbara Seismi**	**62.68**	**253**	P	**P**	**06 04 00.5**	**+0.1**
VNDA	**Vanda**	**63.38**	**186**	P	**P**	**06 04 05.0**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=20,slow=8.9,SNR=17						
VNDA	**Vanda**	**63.38**	**186**	P	**P**	**06 04 05.3**	**+1.3**
KMRM	**Mail Ridge**	**72.36**	**38**	P	**P**	**06 05 03.2**	**+2.2**
KMRM				IAmb	IAmb	06 05 03.8	
	comp=Z,8.8nm,0.8s						
PETK	**Petropavlovsk-**	**72.40**	**343**	P	**P**	**06 05 01.7**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=132,slow=8.8,SNR=14						
AFDM	**Forest Hills D**	**73.26**	**41**	P	**P**	**06 05 06.9**	**+0.6**
AFDM				IAmb	IAmb	06 05 08.2	
	comp=Z,5.5nm,1.0s						
MDPB	**Devils Postpil**	**73.71**	**43**	IAmb	IAmb	06 05 11.2	
	comp=Z,4.5nm,0.9s						
YBH	**Yreka Blue Hor**	**73.89**	**37**	P	**P**	**06 05 11.5**	**+1.4**
	comp=Z,5.2nm,0.8s,baz=194,slow=2.0,SNR=23						
YBH	**Yreka Blue Hor**	**73.89**	**37**	P	**P**	**06 05 11.1**	**+1.0**
YBH				IAmb	IAmb	06 05 12.7	
	comp=Z,6.1nm,0.8s						
PNTR	**Pine Nut**	**74.21**	**41**	P	**P**	**06 05 13.8**	**+1.7**
VCNR	**Virginia City**	**74.30**	**41**	IAmb	IAmb	06 05 14.6	
	comp=Z,5.4nm,0.9s						
LHV	**Little Huntoon**	**74.43**	**42**	P	**P**	**06 05 13.8**	**+0.7**
LHV				IAmb	IAmb	06 05 15.5	
	comp=Z,5.8nm,0.9s						
RYN	**Ryan**	**74.63**	**42**	IAmb	IAmb	06 05 16.5	
	comp=Z,4.3nm,0.8s						
NVAR	**Mina Array Bea**	**74.66**	**42**	P	**P**	**06 05 15.8**	**+1.0**
	comp=Z,4.8nm,0.7s,baz=228,slow=10.0,SNR=46						
NVAR	**Mina Array Bea**	**74.66**	**42**	P	**P**	**06 05 15.3**	**+0.5**
QSPA	**South Pole Qui**	**74.70**	**180**	P	**P**	**06 05 14.9**	**+0.4**
NV11	**Mina Array Sit**	**74.76**	**42**	P	**P**	**06 05 15.6**	**+0.3**
NV11				IAmb	IAmb	06 05 17.2	
	comp=Z,8.3nm,1.1s						
KVN	**Kaiserville**	**75.14**	**42**	P	**P**	**06 05 17.6**	**+0.2**
KVN				IAmb	IAmb	06 05 19.3	
	comp=Z,4.9nm,0.9s						
TPH	**Tonopah**	**75.17**	**43**	P	**P**	**06 05 18.8**	**+1.1**
MOD	**Modoc Plateau**	**75.42**	**38**	P	**P**	**06 05 19.9**	**+1.0**
MOD				IAmb	IAmb	06 05 21.0	
	comp=Z,5.4nm,0.8s						
K05A	**Summer Lake**	**75.57**	**37**	P	**P**	**06 05 19.6**	**-0.2**
K05A				IAmb	IAmb	06 05 22.2	
	comp=Z,8.5nm,1.0s						
PINE	**Pine Mountain**	**76.19**	**37**	P	**P**	**06 05 24.4**	**+1.1**
PINE				IAmb	IAmb	06 05 25.7	
	comp=Z,9.1nm,1.0s						
I07A	**Izee**	**77.19**	**37**	P	**P**	**06 05 29.6**	**+0.8**
I07A				IAmb	IAmb	06 05 30.9	
	comp=Z,4.5nm,0.9s						
PSUT	**Pine Spring**	**77.66**	**44**	P	**P**	**06 05 31.9**	**+0.1**
U15A	**North Rim**	**77.67**	**47**	P	**P**	**06 05 32.9**	**+1.0**
U15A				IAmb	IAmb	06 05 34.4	
	comp=Z,8.4nm,1.2s						
ELK	**Elko**	**77.91**	**42**	P	**P**	**06 05 32.8**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=255,slow=5.4,SNR=15						
TTA	**Tatalina**	**79.27**	**8**	P	**P**	**06 05 41.2**	**+1.3**
TTA				IAmb	IAmb	06 05 42.4	
	comp=Z,6.3nm,1.0s						
F10A	**Beach Ranch, E**	**79.61**	**36**	P	**P**	**06 05 42.1**	**0.0**
HLID	**Hailey**	**79.94**	**40**	IAmb	IAmb	06 05 46.1	
	comp=Z,4.8nm,0.9s						
GLB	**Gilahina Butte**	**80.20**	**14**	P	**P**	**06 05 44.2**	**-0.6**
GLB				IAmb	IAmb	06 05 53.1	
	comp=Z,6.4nm,1.2s						
BARN	**Barnard Glacie**	**80.39**	**15**	P	P	06 05 41.6	-4.6
BARN				IAmb	IAmb	06 05 50.6	
	comp=Z,8.7nm,0.8s						
DHY	**Denali Highway**	**80.87**	**12**	P	**P**	**06 05 48.4**	**-0.2**
RND	**Reindeer**	**80.89**	**11**	IAmb	IAmb	06 05 50.9	
	comp=Z,16nm,1.3s						
TX31	**Lajitas Ar. Si**	**81.05**	**56**	IAmb	IAmb	06 06 00.5	
	comp=Z,12nm,1.4s						
TXAR	**Lajitas Array**	**81.05**	**56**	P	**P**	**06 05 51.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=224,slow=7.3,SNR=12						
TXAR	**Lajitas Array**	**81.05**	**56**	P	**P**	**06 05 51.4**	**+1.2**
DLBC	**Dease Lake**	**81.85**	**22**	P	**P**	**06 05 54.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=198,slow=5.1,SNR=4.5						
TPAW	**Teton Pass**	**82.06**	**41**	IAmb	IAmb	06 05 56.3	
	comp=Z,5.0nm,1.0s						
BCAR	**Beaver Creek A**	**82.08**	**14**	P	**P**	**06 05 55.4**	**+0.6**
S22A	**4UR Ranch, Cre**	**82.15**	**48**	IAmb	IAmb	06 05 58.3	
	comp=Z,7.7nm,1.1s						
HDA	**Harding Lake**	**82.16**	**11**	IAmb	IAmb	06 05 56.9	
	comp=Z,7.9nm,0.7s						
IMW	**Indian Meadow**	**82.27**	**41**	IAmb	IAmb	06 05 58.5	
	comp=Z,5.0nm,1.0s						
SEY	**Seymchan**	**82.31**	**345**	P	**P**	**06 05 56.1**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=119,slow=3.1,SNR=5.0						
MDM	**Murphy Dome**	**82.42**	**11**	IAmb	IAmb	06 05 57.2	
	comp=Z,5.5nm,1.0s						
IMAR	**Indian Mountai**	**82.49**	**8**	P	**P**	**06 05 57.8**	**+1.0**
IL31		**82.50**	**11**	IAmb	IAmb	06 05 59.0	
	comp=Z,4.6nm,1.0s						
ILAR	**Eielson Array**	**82.50**	**11**	P	**P**	**06 05 56.9**	**0.0**
	comp=Z,1.7nm,0.6s,baz=226,slow=6.2,SNR=28						
ILAR	**Eielson Array**	**82.50**	**11**	P	**P**	**06 05 55.7**	**-1.2**
FLWY	**Flagg Ranch**	**82.51**	**40**	IAmb	IAmb	06 05 59.9	
	comp=Z,6.2nm,0.8s						
BW06	**Boulder Array**	**82.60**	**42**	IAmb	IAmb	06 05 59.4	
	comp=Z,4.5nm,0.9s						
PD31	**Pinedale Array**	**82.60**	**42**	IAmb	IAmb	06 05 59.4	
	comp=Z,4.0nm,0.9s						
PDAR	**Pinedale Array**	**82.60**	**42**	P	**P**	**06 05 58.2**	**0.0**
	comp=Z,3.0nm,0.8s,baz=209,slow=2.7,SNR=28						
H17A	**Grant Village**	**82.74**	**40**	IAmb	IAmb	06 06 01.9	
	comp=Z,3.9nm,0.8s						
EGAK	**Eagle**	**83.69**	**14**	P	**P**	**06 06 04.1**	**+1.0**
EGAK				IAmb	IAmb	06 06 05.0	
	comp=Z,5.3nm,1.0s						
BELA	**Belgrano 2**	**84.14**	**172**	P	**P**	**06 06 04.9**	**-0.4**
FYU	**Fort Yukon**	**84.41**	**11**	P	**P**	**06 06 06.9**	**+0.3**
FYU				IAmb	IAmb	06 06 07.9	
	comp=Z,3.5nm,0.7s						
H03S2	**Juan Fernandez**	**85.71**	**124**	T	T	07 40 26.6	
	baz=254						
H03S1	**Juan Fernandez**	**85.72**	**124**	T	T	07 40 28.6	
	baz=254						
H03S3	**Juan Fernandez**	**85.72**	**124**	T	T	07 40 26.2	
	baz=254						
MAW	**Mawson**	**87.67**	**199**	P	**P**	**06 06 23.3**	**+0.5**
	comp=Z,6.9nm,0.7s,baz=150,slow=9.7,SNR=24						
VNA3	**Neumayer Olymp**	**92.97**	**175**	P	**P**	**06 06 48.0**	**+0.5**
SNAA	**Sanae**	**93.00**	**177**	P	**P**	**06 06 49.0**	**+1.2**
VNA2	**Neumayer--Watz**	**93.46**	**176**	P	**P**	**06 06 50.6**	**+0.8**
	baz=186,slow=4.1						
VNA1	**Neumayer--Stat**	**93.66**	**175**	P	**P**	**06 06 51.5**	**+0.8**
MKAR	**Makanchi Array**	**110.38**	**315**	PKiKP	**PKiKP**	**06 12 05.6**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=349,slow=1.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**112.78**	**319**	PKiKP	**PKiKP**	**06 12 09.7**	**-1.1**
	comp=Z,0.8nm,1.0s,baz=100,slow=1.7,SNR=6.3						
BVAR	**Borovoye Array**	**117.48**	**322**	PKP	**PKPdf**	**06 12 19.3**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=159,slow=4.6,SNR=5.4						
ARCES	**ARCESS Array B**	**124.47**	**352**	PKP	**PKPdf**	**06 12 32.5**	**-0.2**
	comp=Z,3.6nm,0.9s,baz=357,slow=2.6,SNR=9.8						
FINES	**FINESS Array B**	**131.76**	**347**	PKP	**PKPdf**	**06 12 47.4**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=348,slow=6.1,SNR=4.4						
AKASG	**Malin Array Be**	**140.06**	**337**	PKP	**PKPdf**	**06 13 01.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=49,slow=2.0,SNR=1.6						
OSTC	**Ostas**	**143.91**	**349**	*e*PKP	**PKPdf**	**06 13 09.7**	**+0.2**
BRG	**Berggiesshubel**	**143.98**	**351**	*e*PKPbc	PKPbc	06 13 08.4	+0.7
	baz=8.9,slow=2.9						
DPC	**Dobruska-Polom**	**144.09**	**349**	*e*PKP	PKPbc	06 13 08.7	+0.6
KRLC	**Kraliky**	**144.26**	**348**	*e*PKP	**PKPab**	**06 13 08.5**	**+0.3**
MORC	**Moravsky Berou**	**144.39**	**347**	*e*PKP	PKPbc	06 13 09.5	+0.5
MOX	**Moxa**	**144.49**	**354**	*e*PKPbc	PKPbc	06 13 09.5	+0.2
	baz=8.9,slow=2.9						
TANN	**Tannenbergstha**	**144.63**	**353**	*e*PKPbc	PKPbc	06 13 10.3	+0.6
	baz=8.9,slow=2.9						
GUNZ	**Gunzen**	**144.69**	**353**	*e*PKPbc	PKPbc	06 13 10.6	+0.7
	baz=8.9,slow=2.9						
PRU	**Pruhonice**	**144.75**	**350**	*e*PKP	**PKPdf**	**06 13 10.9**	**0.0**
WERN	**Wernitzgruen**	**144.76**	**353**	*e*PKPbc	**PKPdf**	**06 13 11.1**	**+0.1**
	baz=8.9,slow=2.9						
VRAC	**Vranov**	**145.03**	**348**	*e*PKP	**PKPdf**	**06 13 11.7**	**+0.2**
KMBO	**Kilima Mbogo**	**145.05**	**245**	PKPbc	**PKPdf**	**06 13 14.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=60,slow=3.8,SNR=6.3						
MANZ	**Manzenberg**	**145.09**	**353**	*e*PKPbc	**PKPab**	**06 13 11.6**	**+0.3**
	baz=8.9,slow=2.9						
TNS	**Taunus Mts**	**145.15**	**357**	*e*PKPbc	**PKPbc**	**06 13 11.6**	**+0.2**
	baz=8.9,slow=2.9						
JAVC	**Velka Javorina**	**145.23**	**346**	*e*PKP	**PKPdf**	**06 13 13.2**	**+1.3**
ROTZ	**Rotzenmuhle**	**145.29**	**353**	*e*PKPbc	**PKPab**	**06 13 12.5**	**+0.5**
	baz=8.9,slow=2.9						
KRUC	**Moravsky**	**145.31**	**348**	*e*PKP	**PKPab**	**06 13 12.5**	**+0.4**
GRF	**Grafenberg Arr**	**145.47**	**354**	*e*PKPbc	**PKPab**	**06 13 13.3**	**+0.6**
	baz=8.9,slow=2.9						
KHC	**Kasperske Hory**	**145.73**	**351**	*e*PKP	**PKPbc**	**06 13 13.4**	**+0.1**
BRTR	**Keskin Array B**	**145.75**	**321**	PKPbc	**PKPab**	**06 13 14.3**	**+0.1**
	comp=Z,8.7nm,0.7s,baz=112,slow=2.2,SNR=24						
WLF	**Walferdange**	**145.76**	**360**

LIM1 *i* S Sb 05 57 39.0 +0.1
GUAB Guayabo de Bag 1.22 81 *i* S Sb 05 57 39.2 -0.4
HORNC Hornillas 1.27 82 *i* P Pg 05 57 23.0 -0.7
HORNC *i* S Sb 05 57 40.9 -0.2
ACAL Aguas Claras 1.40 85 *i* P Pn 05 57 25.4 -0.7
LAFE Finca La Fe, P 1.68 115⇑*e*P Pn 05 57 28.1 -1.8
CEDE Laguna Cedeo 1.73 91 *e*P Pn 05 57 30.1 -0.5
COVE Coope Vega, Sa 2.03 84 *e*P Pg 05 57 37.8 -0.4
RIOS Rincon, Osa 3.42 122 *e*P Pn 05 57 54.6 +0.7

INET ***17*** *06:04:11.9, 11.′13N×86.′30W, h44km, ML2.2*
UCR 17 06:04:03.4±2.0, 10.′47N×86.′45W, h0km±26km, MD3.7, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.87**	**74**	*e*P	Pg	06 04 19.1	-1.0
HZTE				*e*S	Sn	06 04 35.7	-0.6
GUAI	**GUAI**	**0.94**	**102**	*i* P	Pb	06 04 22.8	+0.2
GUAI				*i* S	Sn	06 04 37.3	-0.7
GRZA	**Playa Garza**	**0.97**	**124**	*e*P	Pg	06 04 21.2	-0.8
GRZA				*e*S	Sb	06 04 37.0	+0.7
ORTG	**Ortega, Santa**	**0.98**	**96**	*e*P	Pb	06 04 23.0	-0.3
ORTG				*e*S	Sb	06 04 36.8	+0.1
DUNO	**Dulce Nombre,**	**1.01**	**112**	*e*P	Pg	06 04 22.4	-0.5
GBS3	**Finca Las Img**	**1.02**	**72**	*i* P	Pb	06 04 23.6	-0.5
BUEV	**Buena Vista**	**1.07**	**72**	*i* P	Pg	06 04 24.2	+0.2
GPS1	**Guardaparques**	**1.12**	**74**	*i* P	Pg	06 04 25.1	+0.2
LIM1	**Limonal**	**1.20**	**79**	*i* P	Pg	06 04 26.2	-0.2
LIM1				*i* S	Sb	06 04 43.5	+0.5
HORNC	**Hornillas**	**1.27**	**79**	*i* P	Pg	06 04 27.3	-0.5
ACAL	**Aguas Claras**	**1.40**	**83**	*i* P	Pg	06 04 29.8	-0.4
JTS	**Las Juntas de**	**1.48**	**97**	*e*P	Pn	06 04 30.5	-0.8

SOME ***17*** *06:11:28.3, 37.′75N×72.′20E, h30km*
IDC ***17*** *06:11:31.6±5.1, 36.′31N×71.′66E, h166km±37km, mb3.5/8, mb1 3.5/14, mb1mx3.3/61, mbtmp3.9/14, Error ellipse: s-maj=50.5km s-min=21.0km az=155.0*
NEIC ***17*** *06:11:35.7±2.6, 36.′70N±0.′06×71.′4E±0.′1, h184km±7km, mb4.0/4, Error ellipse: s-maj=13.0km s-min=8.3km az=89.0*
NNC ***17*** *06:11:37.3±4.8, 36.′80N×71.′52E, h181km±63km, mb3.4, mpv4.5, Error ellipse: s-maj=45.0km s-min=27.5km az=1.0*
ISC 17 06:11:35.6±0.6, 36.′66N±0.′05×71.′49E±0.′06, h200km, n62, σ1§86/74, mb3.8/8, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.85**	**173**	⇓P	**Pn**	**06 12 23.8**	**0.0**
CEP				S	**Sn**	**06 13 00.0**	**-1.3**
KBL	**Kabul**	**2.91**	**224**		**Pn**	**06 12 23.2**	**-1.2**
NIL	**Nilore**	**3.33**	**154**	Pn	**Pn**	**06 12 30.4**	**+1.1**
BTK	**Batken**	**3.43**	**351**		**Pn**	**06 12 30.3**	**-0.1**
THW	**Thamme Wali**	**3.86**	**177**	P	**Pn**	**06 12 35.8**	**0.0**
IUG	**Iuzhnay**	**5.59**	**349**	*e*P	**Pn**	**06 12 57.2**	**-0.5**
	42nm,0.3s						
IUG				*e*S	**Sn**	**06 13 59.6**	**-2.9**
	334nm,0.6s						
AML	**Almayashu**	**5.72**	**17**	P	**Pn**	**06 12 59.0**	**-0.6**
	SNR=39						
DHRM	**DHARAMSHALA**	**5.93**	**137**	*e*P	**Pn**	**06 13 03.0**	**+0.8**
DHRM				*e*S	**Sn**	**06 14 05.7**	**-4.9**
DHRM				IAML		06 14 10.8	
	comp=E,237nm,0.6s						
DHRM				IAML		06 14 14.5	
	comp=N,153nm,0.3s						
UCH	**Uchtor**	**6.03**	**22**	P	**Pn**	**06 13 03.5**	**-0.1**
	SNR=11						
KZA	**Kyzart**	**6.14**	**27**	P	**Pn**	**06 13 06.6**	**+1.6**
	SNR=6.1						
MRKS	**Merke**	**6.22**	**12**	*e*P	**Pn**	**06 13 05.1**	**-0.6**
	comp=N,51nm,0.6s						
MRKS				*e*S	**Sn**	**06 14 12.9**	**-4.2**
	comp=N,65nm,0.4s						
DZA	**Taraz**	**6.22**	**359**	*e*P	**Pn**	**06 13 05.7**	**0.0**
	comp=N,378nm,0.5s						
DZA				*e*S	**Sn**	**06 14 14.0**	**-3.1**
	comp=N,284nm,0.4s						
EKS2	**Erkin-Say**	**6.25**	**16**	P	**Pn**	**06 13 05.8**	**-0.3**
	SNR=34						
AAK	**Ala-Archa**	**6.40**	**20**	P	**Pn**	**06 13 08.1**	**0.0**
	SNR=48						
AAK	**Ala-Archa**	**6.40**	**20**	⇓P	**Pn**	**06 13 07.8**	**-0.3**
	comp=N,19nm,0.4s						
AAK				S	**Sn**	**06 14 19.7**	**-1.8**
	comp=N,25nm,0.8s						
KK31	**Karatay Array**	**6.48**	**354**	⇑P	**Pn**	**06 13 08.2**	**-0.8**
	comp=N,16nm,0.3s,baz=174,slow=11,SNR=399						
KK31				⇑S	**Sn**	**06 14 17.9**	**-5.2**
	comp=N,13nm,0.4s,baz=170,slow=22,SNR=4.0						
KK31	**Karatay Array**	**6.48**	**354**		**Pn**	**06 13 08.2**	**-0.8**
KKAR	**Karatay Array**	**6.48**	**354**		**Pn**	**06 13 08.3**	**-0.6**
KKAR	**Karatay Array**	**6.48**	**354**		**Pn**	**06 13 07.8**	**-1.2**
BRLS	**Borolday**	**6.49**	**349**	*e*P	**Pn**	**06 13 05.1**	**-4.0**
	comp=N,46nm,0.4s						
BRLS				*e*S	Sn	06 14 12.9	-10
	comp=N,71nm,0.6s						
KBK	**Karagaybulak**	**6.55**	**23**	P	**Pn**	**06 13 06.0**	**-4.1**
	SNR=12						
ULHL	**Ulahol**	**6.68**	**32**	P	**Pn**	**06 13 11.4**	**-0.4**
	SNR=5.2						
BOOM	**Boomskoye usch**	**6.76**	**29**		**Pn**	**06 13 12.0**	**-0.8**
CHMS	**Chumysh**	**6.81**	**21**	P	**Pn**	**06 13 13.0**	**-0.3**
	SNR=9.4						
USP	**Ospenovka**	**6.99**	**18**	P	**Pn**	**06 13 15.0**	**-0.7**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.00**	**26**	P	**Pn**	**06 13 15.8**	**-0.2**
	SNR=27						
TKM2	**Tokmak 2**	**7.00**	**26**	⇑P	**Pn**	**06 13 15.6**	**-0.4**
	comp=N,10.0nm,0.5s						
TKM2				⇑S	**Sn**	**06 14 35.3**	**-0.4**
	comp=N,11nm,0.7s						
KDJ	**Kajisay**	**7.01**	**37**		**Pn**	**06 13 15.4**	**-0.7**
TARG	**Taragay, Kyrgy**	**7.04**	**42**		**Pn**	**06 13 15.7**	**-1.1**
KST	**Kastek**	**7.24**	**27**	*e*P	**Pn**	**06 13 19.1**	**+0.1**
	comp=N,15nm,0.6s						
KST				*e*S	**Sn**	**06 14 37.6**	**-3.6**
	comp=N,14nm,0.8s						
SMLA	**Simla**	**7.26**	**138**	*e*P	**Pn**	**06 13 20.0**	**+0.7**
SMLA				*e*S	**Sn**	**06 14 36.9**	**-4.6**
SMLA				IAML		06 14 38.9	
	comp=N,36nm,0.5s						
SMLA				IAML		06 14 39.5	
	comp=E,53nm,0.6s						
DGS	**Degeres**	**7.35**	**25**	*e*P	**Pn**	**06 13 19.9**	**-0.5**
PRZ	**Przheval'sk**	**7.89**	**40**		**Pn**	**06 13 28.4**	**+0.9**
PDGK	**Podgornoye**	**9.05**	**40**	⇑P	**Pn**	**06 13 42.7**	**+0.1**
	comp=E,15nm,0.7s						
GEYT	**Alibeck**	**10.73**	**281**	P	**Pn**	**06 14 03.4**	**-0.9**
	comp=E,1.0nm,0.3s,baz=91,slow=13,SNR=2.4						
GEYT				S	**Sn**	**06 16 00.8**	**-3.3**
	comp=E,1.2nm,0.3s,baz=143,slow=17,SNR=4.1						
GEYT	**Alibeck**	**10.73**	**281**		**Pn**	**06 14 04.2**	**-0.1**
MK31	**Makanchi Array**	**12.93**	**35**	P	**Pn**	**06 14 32.6**	**+0.5**
	comp=E,1.0nm,0.5s,baz=223,slow=10.0,SNR=10						
MK31	**Makanchi Array**	**12.93**	**35**	P	**Pn**	**06 14 32.8**	**+0.7**
MKAR	**Makanchi Array**	**12.93**	**35**	P	**Pn**	**06 14 33.0**	**+0.9**
	comp=E,0.2nm,0.3s,baz=227,slow=15,SNR=15						
MKAR	**Makanchi Array**	**12.93**	**35**	Pn	**Pn**	**06 14 32.7**	**+0.6**
KURBB	**Kurchatov Arra**	**14.84**	**18**	P	**Pn**	**06 14 55.0**	**-0.7**
	comp=E,0.0nm,0.3s,baz=207,slow=11,SNR=6.7						
KURK	**Kurchatov**	**14.95**	**18**	P	**Pn**	**06 14 55.0**	**-2.0**
ABKAR	**Akbulak array**	**15.14**	**330**	P	**P**	**06 14 58.9**	**-0.9**
AB09	**Akbulak array**	**15.15**	**330**	⇓P	**P**	**06 15 00.9**	**+1.0**
	comp=E,2.1nm,0.4s						
BVAR	**Borovoye Array**	**16.38**	**358**	P	**Pn**	**06 15 14.5**	**+0.2**
	comp=E,0.4nm,0.3s,baz=178,slow=16,SNR=11						
BRVK	**Borovoye**	**16.42**	**357**	P	**Pn**	**06 15 14.4**	**+0.7**
BRVK				IAmb	IAmb	06 15 19.4	
	comp=Z,12nm,1.5s						
AKTO	**Aktyubinsk**	**16.84**	**329**	P	**Pn**	**06 15 20.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=141,slow=8.4,SNR=13						
AKTO				S	**S**	**06 18 21.5**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=12,slow=18,SNR=1.9						
AKTO	**Aktyubinsk**	**16.84**	**329**	⇑P	**Pn**	**06 15 20.4**	**+0.5**
	comp=Z,3.9nm,0.7s						
ZALV	**Zalesovo Beam**	**19.60**	**24**	P	**Pn**	**06 15 50.6**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=207,slow=11,SNR=7.3						
ZALV	**Zalesovo Beam**	**19.60**	**24**	P	**P**	**06 15 49.9**	**+1.4**
ARU	**Arti**	**21.61**	**340**	P	**P**	**06 16 11.6**	**+1.9**
	comp=Z,1.6nm,0.2s,baz=170,slow=12,SNR=3.6						
ARU	**Arti**	**21.61**	**340**	P	**P**	**06 16 10.4**	**+0.7**
ARU				IAmb	IAmb	06 16 13.7	
	comp=Z,5.2nm,1.0s						
AKASG	**Malin Array Be**	**33.15**	**309**	P	**P**	**06 17 54.9**	**+2.0**
	comp=Z,1.3nm,0.5s,baz=82,slow=6.9,SNR=6.3						
NRIK	**Noril'sk**	**33.90**	**10**	P	**P**	**06 18 01.1**	**+2.0**
	comp=Z,2.0nm,0.6s,baz=109,slow=0.6,SNR=3.5						
FINES	**FINESS Array B**	**37.57**	**326**	P	**P**	**06 18 32.5**	**+2.2**
	comp=Z,1.4nm,0.4s,baz=124,slow=10,SNR=13						
FINES	**FINESS Array B**	**37.57**	**326**	P	**P**	**06 18 32.2**	**+1.9**
ARCES	**ARCESS Array B**	**41.15**	**337**	P	**P**	**06 19 02.4**	**+2.6**
	comp=Z,2.2nm,0.7s,baz=114,slow=8.8,SNR=16						
ARCES	**ARCESS Array B**	**41.15**	**337**	P	**P**	**06 19 01.8**	**+2.0**
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**06 19 28.9**	**+2.1**
	comp=Z,1.6nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**06 19 29.0**	**+2.1**
	comp=Z,1.8nm,0.5s,baz=96,slow=7.8,SNR=12						
TORD	**Torodi Ar. Bea**	**66.12**	**269**	P	**P**	**06 22 02.0**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=41,slow=5.6,SNR=2.9						
ILAR	**Eielson Array**	**74.51**	**16**	P	**P**	**06 22 52.3**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=312,slow=5.9,SNR=2.9						

MOS ***17*** *06:11:46.5±1.0, 15.′99S×168.′02E, h176km, mb5.5/13, Error ellipse: s-maj=13.7km s-min=9.4km az=168.5*
NEIC ***17*** *06:11:48.5±1.4, 15.′97S±0.′08×167.′99E±0.′07, h180km±5km, mb5.4/81, Error ellipse: s-maj=11.6km s-min=10.1km az=192.0*
IDC ***17*** *06:11:48.3±1.6, 15.′93S×168.′03E, h180km±14km, mb5.0/14, mb1 4.9/19, mb1mx4.6/47, mbtmp5.5/19, Error ellipse: s-maj=11.6km s-min=8.6km az=46.0*
BJI ***17*** *06:11:52.2±0.0, 15.′77S×167.′37E, h182km, mb5.5/12*
ISC 17 06:11:48.6±0.3, 15.′98S±0.′05×167.′99E±0.′05, h177km, n300, σ1§28/268, mb5.5/96, 6C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.93**	**305**	Pn	**Pn**	**06 12 15.6**	**+0.2**
DZM	**Mont Dzumac**	**6.23**	**193**	P	**Pn**	**06 13 18.5**	**-0.2**
	32nm,0.3s,baz=319,slow=1.7,SNR=138						
DZM				S	**Sn**	**06 14 29.6**	**0.0**
	5.2nm,0.3s,baz=313,slow=22,SNR=7.1						
DZM	**Mont Dzumac**	**6.23**	**193**	Pn	**Pn**	**06 13 18.7**	**+0.1**
MSVF	**Nonsavu**	**9.79**	**102**	*c i*P	**Pn**	**06 14 08.3**	**+2.8**
MSVF				pmax	pmax		
	comp=Z,96nm,1.4s						
MSVF	**Nonsavu**	**9.79**	**102**	Pn	**Pn**	**06 14 07.1**	**+1.6**
HNR	**Honiara**	**10.20**	**309**	P	**Pn**	**06 14 09.2**	**-1.6**
	comp=Z,33nm,0.3s,baz=241,slow=5.1,SNR=1.9						
HNR				S	**Sn**	**06 16 03.9**	**-0.4**
	comp=Z,27nm,0.3s,baz=246,slow=9.8,SNR=1.9						
NFK	**Norfolk Island**	**13.00**	**180**	P	**Pn**	**06 14 47.7**	**+0.9**
	baz=13,SNR=3.9						
LHI	**Lord Howe Isla**	**17.48**	**206**	P	**P**	**06 15 39.5**	**-0.7**
LHI				IAmb	IAmb	06 15 43.5	
	comp=Z,325nm,1.7s						
EIDS	**Eidsvold**	**18.36**	**237**	P	**Pn**	**06 15 51.6**	**-0.5**
	baz=18,SNR=13						
EIDS	**Eidsvold**	**18.36**	**237**	Pn	**Pn**	**06 15 52.1**	**0.0**
EIDS				IAmb	IAmb	06 15 53.2	
	comp=Z,55nm,0.9s						
RAO	**Raoul Island**	**18.51**	**138**	P	**Pn**	**06 15 52.9**	**-0.9**
	comp=Z,22nm,0.3s,baz=73,slow=19,SNR=4.4						
RAO	**Raoul Island**	**18.51**	**138**	P	**P**	**06 15 51.3**	**-0.2**
RAO				pmax	pmax		
	comp=Z,698nm,0.9s						
RAO	**Raoul Island**	**18.51**	**138**	P	**P**	**06 15 51.3**	**-0.2**
GLKZ	**Green Lake**	**18.52**	**138**	P	**Pn**	**06 15 56.5**	**+2.6**
RABL	**Rabaul**	**19.48**	**305**	P	**P**	**06 16 02.8**	**+0.7**
RABL				IAmb	IAmb	06 16 06.7	
	comp=Z,305nm,1.1s						
KRVT	**Keravat (AS076**	**19.51**	**305**	P	**P**	**06 16 02.4**	**-0.1**
	comp=Z,16nm,0.3s,baz=330,slow=2.8,SNR=8.9						
AFI	**Afiamalu**	**19.66**	**87**	P	**P**	**06 16 04.0**	**-0.1**
	comp=Z,4.0nm,0.3s,baz=306,slow=8.0,SNR=7.1						
AFI	**Afiamalu**	**19.66**	**87**	P	**P**	**06 16 04.6**	**+0.5**
AFI				pmax	pmax		
	comp=Z,88nm,1.0s						
AFI	**Afiamalu**	**19.66**	**87**	P	**P**	**06 16 04.6**	**+0.5**
AFI				IAmb	IAmb	06 16 13.3	
	comp=Z,88nm,0.9s						
OUZ	**Omahuta**	**19.80**	**166**	P	**Pn**	**06 16 08.9**	**-0.1**
OUZ	**Omahuta**	**19.80**	**166**	P	**P**	**06 16 06.5**	**+1.1**
OUZ				IAmb	IAmb	06 16 11.3	
	comp=Z,85nm,0.8s						
WCZ	**Waipu Caves**	**20.67**	**165**	P	**P**	**06 16 16.0**	**+1.4**
RMQ	**Roma**	**20.73**	**237**	P	**P**	**06 16 16.8**	**+1.4**
	baz=21,SNR=40						
ARMA	**Armidale**	**20.76**	**223**	P	**P**	**06 16 16.9**	**+1.1**
	baz=21,SNR=9.9						
ARMA	**Armidale**	**20.76**	**223**	P	**P**	**06 16 15.9**	**0.0**
ARMA				IAmb	IAmb	06 16 19.4	
	comp=Z,68nm,1.2s						
CTA	**Charters Tower**	**21.07**	**256**	P	**P**	**06 16 19.9**	**+0.8**
	comp=Z,293nm,0.7s,baz=82,slow=12,SNR=196						
CTAO	**Charters Tower**	**21.07**	**256**	P	**P**	**06 16 19.9**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,343nm,0.7s						
CTAO	**Charters Tower**	**21.07**	**256**	P	**P**	**06 16 19.9**	**+0.8**
GRZ	**Great Barrier**	**21.25**	**163**	P	**P**	**06 16 21.5**	**+0.6**
NIUE	**Niue**	**21.28**	**102**	P	**P**	**06 16 21.3**	**0.0**
PMG	**Port Moresby**	**21.34**	**285**	P	**P**	**06 16 22.8**	**+0.9**
	comp=Z,382nm,0.9s,baz=88,slow=6.2,SNR=55						
PMG	**Port Moresby**	**21.34**	**285**	*c e*P	**P**	**06 16 21.9**	**-0.1**
PMG				pmax	pmax		
	comp=Z,407nm,0.9s						
PMG	**Port Moresby**	**21.34**	**285**	P	**P**	**06 16 22.1**	**+0.1**
ABAZ	**Army Bay**	**21.42**	**165**	P	**P**	**06 16 23.6**	**+1.0**
WTAZ	**Waiatarua**	**21.67**	**166**	P	**P**	**06 16 26.4**	**+1.1**
WIAZ	**Waiheke Island**	**21.68**	**164**	P	**P**	**06 16 25.5**	**+0.1**
KUZ	**Kuaotunu**	**21.79**	**163**	P	**P**	**06 16 26.0**	**-0.5**
AWAZ	**Awhitu Peninsu**	**21.81**	**166**	P	**P**	**06 16 27.7**	**+1.0**
TOZ	**Tahuroa Road**	**22.66**	**164**	P	**P**	**06 16 35.6**	**+0.9**
MTSU	**Mount Surprise**	**22.73**	**261**	P	**P**	**06 16 36.4**	**+0.7**
	baz=23,SNR=263						
TGRZ	**Tauranga**	**22.86**	**163**	P	**P**	**06 16 37.2**	**+0.7**
MGCD	**Mangrove Creek**	**22.96**	**219**	P	**P**	**06 16 38.4**	**+0.9**
	baz=23,SNR=14						
TLZ	**Tolley Road**	**23.23**	**165**	P	**P**	**06 16 40.7**	**+0.7**
HIZ	**Hauiti**	**23.24**	**166**	P	**P**	**06 16 41.2**	**+1.2**
HIZ	**Hauiti**	**23.24**	**166**	P	**P**	**06 16 41.3**	**+1.3**
OMRZ	**Omania**	**23.24**	**163**	P	**P**	**06 16 41.3**	**+1.2**
HAZ	**Te Kaha**	**23.35**	**160**	P	**P**	**06 16 41.0**	**0.0**
MXZ	**Matakaoa Point**	**23.35**	**159**	P	**P**	**06 16 40.2**	**-0.8**
MXZ	**Matakaoa Point**	**23.35**	**159**	P	**P**	**06 16 40.9**	**-0.1**
URZ	**Urewera**	**23.60**	**162**	P	**P**	**06 16 43.2**	**0.0**
	comp=Z,141nm,0.7s,baz=344,slow=2.7,SNR=47						
URZ				S	**S**	**06 20 44.5**	**+0.1**
	comp=Z,8.4nm,0.7s,baz=359,slow=18,SNR=2.1						
URZ	**Urewera**	**23.60**	**162**	P	**P**	**06 16 43.5**	**+0.2**
URZ	**Urewera**	**23.60**	**162**	P	**P**	**06 16 43.4**	**+0.1**
URZ				IAmb	IAmb	06 16 45.7	
	comp=Z,161nm,0.7s						
MWZ	**Matawai**	**23.80**	**161**	P	**P**	**06 16 44.7**	**-0.4**
VRZ	**Vera Road**	**23.81**	**167**	P	**P**	**06 16 46.1**	**+0.9**
COEN	**Coen**	**24.06**	**271**	P	**P**	**06 16 48.0**	**+0.3**
	baz=24,SNR=100						
COEN	**Coen**	**24.06**	**271**	P	**P**	**06 16 47.9**	**+0.1**
SNGZ	**Shannon Statio**	**24.15**	**162**	P	**P**	**06 16 48.1**	**-0.3**
BKZ	**Black Stump Fm**	**24.27**	**164**	P	**P**	**06 16 49.5**	**0.0**
BKZ				IAmb	IAmb	06 16 53.6	
	comp=Z,124nm,0.6s						
KNZ	**Kokohu**	**24.47**	**162**	P	**P**	**06 16 49.3**	**-1.9**
QLP	**Quilpie**	**24.48**	**241**	P	**P**	**06 16 52.3**	**+0.8**
	baz=25,SNR=7.6						
PATS	**Pohnpei**	**24.61**	**336**	P	**P**	**06 16 52.3**	**-0.4**
	baz=25,SNR=8.3						
QRZ	**Quartz Range**	**25.07**	**172**	P	**P**	**06 16 57.3**	**+0.8**
QRZ				IAmb	IAmb	06 16 58.6	
	comp=Z,151nm,1.0s						
PXZ	**Pawanui**	**25.18**	**164**	P	**P**	**06 16 56.7**	**-0.9**
CNB	**Canberra Magne**	**25.46**	**217**	P	**P**	**06 17 00.8**	**+0.5**
	baz=26,SNR=9.7						
CMSA	**Cobar Meteorol**	**25.54**	**229**	P	**P**	**06 17 01.0**	**0.0**
	baz=26,SNR=18						
NNZ	**Nelson**	**25.57**	**171**	P	**P**	**06 17 01.6**	**+0.5**
NNZ				IAmb	IAmb	06 17 07.8	
	comp=Z,220nm,1.7s						
BFZ	**Birch Farm**	**25.63**	**165**	P	**P**	**06 17 00.4**	**-1.3**
BFZ	**Birch Farm**	**25.63**	**165**	P	**P**	**06 17 00.8**	**-0.9**
BFZ				IAmb	IAmb	06 17 04.3	
	comp=Z,98nm,0.7s						
CAN	**Canberra**	**25.68**	**218**	P	**P**	**06 17 02.3**	**0.0**
CAN				pmax	pmax		
	comp=Z,25nm,1.1s						
CAN	**Canberra**	**25.68**	**218**	P	**P**	**06 17 02.3**	**0.0**
TCW	**Tory Channel**	**25.72**	**169**	P	**P**	**06 17 01.4**	**-1.1**
TUWZ	**Tuamarina**	**25.87**	**170**	P	**P**	**06 17 03.4**	**-0.5**
SNZO	**South Karori**	**25.90**	**168**	P	**P**	**06 17 02.8**	**-1.3**
MTW	**Mount Morrison**	**25.92**	**167**	P	**P**	**06 17 02.8**	**-1.4**
BHW	**Baring Head**	**26.02**	**168**	P	**P**	**06 17 04.1**	**-1.1**
THZ	**Tophouse**	**26.04**	**172**	P	**P**	**06 17 05.2**	**-0.2**
THZ				IAmb	IAmb	06 17 08.0	
	comp=Z,62nm,0.7s						
MSWZ	**Moikau Station**	**26.11**	**168**	P	**P**	**06 17 04.7**	**-1.3**
BSWZ	**Blackbirch Sta**	**26.14**	**170**	P	**P**	**06 17 06.8**	**+0.5**
CMWZ	**Cape Campbell**	**26.23**	**169**	P	**P**	**06 17 07.0**	**-0.1**
PLWZ	**Palliser**	**26.26**	**168**	P	**P**	**06 17 06.1**	**-1.3**
KHZ	**Kahutara**	**26.77**	**171**	P	**P**	**06 17 10.3**	**-1.5**
KHZ	**Kahutara**	**26.77**	**171**	P	**P**	**06 17 10.6**	**-1.2**
KHZ				IAmb	IAmb	06 17 12.8	
	comp=Z,60nm,0.8s						
LTZ	**Lake Taylor**	**26.96**	**173**	P	**P**	**06 17 13.6**	**0.0**
QIS	**Mount Isa**	**27.32**	**256**	P	**P**	**06 17 17.2**	**+0.1**
	baz=27,SNR=24						
OXZ	**Oxford**	**27.47**	**174**	P	**P**	**06 17 17.4**	**-0.7**
OXZ	**Oxford**	**27.47**	**174**	P	**P**	**06 17 17.9**	**-0.2**
FOZ	**Fox Glacier**	**27.50**	**177**	P	**P**	**06 17 18.6**	**+0.3**
RPZ	**Rata Peaks**	**27.76**	**175**	P	**P**	**06 17 20.6**	**-0.2**
	comp=Z,129nm,0.6s,baz=295,slow=1.8,SNR=92						
RPZ	**Rata Peaks**	**27.76**	**175**	P	**P**	**06 17 20.6**	**-0.2**
MQZ	**McQueen's Vall**	**27.92**	**173**	P	**P**	**06 17 21.5**	**-0.5**
MQZ				IAmb	IAmb	06 17 22.2	
	comp=Z,44nm,0.8s						
STKA	**Stephens Creek**	**28.74**	**232**	P	**P**	**06 17 30.3**	**+0.7**
	comp=Z,38nm,0.9s,baz=65,slow=8.3,SNR=42						
STKA				PcP	**PcP**	**06 20 35.1**	**-0.3**
	comp=Z,11nm,0.7s,baz=28,slow=4.2,SNR=5.7						
STKA	**Stephens Creek**	**28.74**	**232**	P	**P**	**06 17 30.2**	**+0.6**
	baz=29,SNR=26						
STKA	**Stephens Creek**	**28.74**	**232**	P	**P**	**06 17 29.5**	**-0.1**
WKZ	**Wanaka**	**28.77**	**178**	P	**P**	**06 17 29.1**	**-0.5**
WKZ				IAmb	IAmb	06 17 34.6	
	comp=Z,124nm,1.4s						
ODZ	**Otahua Downs**	**29.06**	**176**	P	**P**	**06 17 31.4**	**-0.7**
ODZ				IAmb	IAmb	06 17 31.8	
	comp=Z,57nm,0.9s						
TOO	**Toolangi**	**29.28**	**218**	P	**P**	**06 17 34.9**	**+0.6**
	baz=29,SNR=4.6						
TOO	**Toolangi**	**29.28**	**218**	P	**P**	**06 17 34.0**	**-0.3**
TOO				pmax	pmax		
	comp=Z,23nm,1.0s						
TOO	**Toolangi**	**29.28**	**218**	P	**P**	**06 17 34.0**	**-0.3**
MLZ	**Mavora Lakes**	**29.29**	**180**	P	**P**	**06 17 34.2**	**-0.1**
MLZ				IAmb	IAmb	06 17 35.1	
	comp=Z,75nm,1.0s						
DCZ	**Deep Cove**	**29.40**	**181**	P	**P**	**06 17 35.0**	**-0.1**
DCZ				IAmb	IAmb	06 17 36.1	
	comp=Z,97nm,0.9s						
WHZ	**Wether Hill Ro**	**29.82**	**180**	P	**P**	**06 17 38.2**	**-0.7**
WHZ				IAmb	IAmb	06 17 38.7	
	comp=Z,46nm,0.9s						
JAY	**Jayapura**	**30.01**	**294**	P	**P**	**06 17 40.6**	**-0.4**
	comp=Z,46nm,0.8s,baz=134,slow=4.4,SNR=30						
JAY	**Jayapura**	**30.01**	**294**	P	**P**	**06 17 40.5**	**-0.5**
	comp=Z,153μmcomp=Z,53μmcomp=Z,34nm,0.9s						
PYZ	**Puysegur Point**	**30.11**	**182**	P	**P**	**06 17 39.5**	**-2.0**
PYZ				IAmb	IAmb	06 17 47.5	
	comp=Z,39nm,0.7s						
GENI	**Genyem**	**30.45**	**293**	P	**P**	**06 17 45.3**	**+0.5**
	comp=Z,374μmcomp=Z,256μmcomp=Z,375nm,1.0s						
RAR	**Rarotonga**	**30.96**	**105**	P	**P**	**06 17 48.2**	**-1.0**
	comp=Z,10nm,0.7s,baz=246,slow=9.4,SNR=3.2						
RAR	**Rarotonga**	**30.96**	**105**	P	**P**	**06 17 48.4**	**-0.8**
RAR				pmax	pmax		
	comp=Z,72nm,1.9s						
RAR	**Rarotonga**	**30.96**	**105**	P	**P**	**06 17 48.4**	**-0.8**
R

BASI Baing, Sumba 46.46 271 P **P 06 19 59.8 +1.7**
comp=Z,11μmcomp=Z,2μmcomp=Z,192nm,1.1s
MEEK Meekatharra 46.96 248 P **P 06 20 02.0 0.0**
baz=47,SNR=83
LUWI Luwuk 46.97 284 P **P 06 20 03.5 +1.3**
comp=Z,143μmcomp=Z,51μmcomp=Z,7μm,0.8s
WBSI Waikabubak, Su 47.72 271 P **P 06 20 07.8 -0.2**
comp=Z,16μmcomp=Z,2μmcomp=Z,266nm,0.9s
BKSI Bulukumba 48.11 277 P **P 06 20 10.4 -0.5**
comp=Z,44μmcomp=Z,7μmcomp=Z,115nm,0.9s
KLBR Kellerberrin 48.12 242 P **P 06 20 10.1 -0.7**
baz=48,SNR=35
BNSI Bone 48.39 278 P **P 06 20 13.3 +0.2**
comp=Z,80μmcomp=Z,13μmcomp=Z,218nm,1.2s
KAPI Kappang 48.55 278 P **P 06 20 14.7 +0.4**
KAPI pmax pmax
comp=Z,190nm,0.9s
KAPI Kappang 48.55 278 P **P 06 20 14.7 +0.4**
KAPI IAmb IAmb 06 20 15.6
comp=Z,190nm,0.8s
NWAO Narrogin (SRO) 48.72 240 P **P 06 20 15.0 -0.3**
baz=49,SNR=36
NWAO Narrogin (SRO) 48.72 240 P **P 06 20 15.1 -0.3**
NWAO pmax pmax
comp=Z,78nm,0.8s
NWAO Narrogin (SRO) 48.72 240 P **P 06 20 15.1 -0.3**
NWAO IAmb IAmb 06 20 15.8
comp=Z,78nm,0.8s
NWAO Narrogin (SRO) 48.72 240 IAmb IAmb 06 20 15.8
comp=Z,62nm,0.8s
SPSI Sidrap Palu 48.85 279 P **P 06 20 15.5 -1.0**
comp=Z,87μmcomp=Z,7μmcomp=Z,434nm,0.5s
BLDU Ballidu 48.91 243 P **P 06 20 16.1 -0.7**
baz=49,SNR=16
RKGY Rocky Gully 49.17 238 P **P 06 20 19.3 +0.6**
baz=49,SNR=5.3
MORW Morawa 49.37 245 P **P 06 20 20.1 -0.3**
baz=50,SNR=30
MORW Morawa 49.37 245 P **P 06 20 20.0 -0.3**
MORW IAmb IAmb 06 20 21.0
comp=Z,78nm,0.8s
PLAI Plampang 49.46 272 P **P 06 20 20.8 -0.4**
comp=Z,20μmcomp=Z,3μmcomp=Z,270nm,0.8s
MUN Mundaring 49.47 241 P **P 06 20 20.6 -0.4**
baz=50,SNR=8.2
TWSI Taliwang, Sumb 50.34 272 P **P 06 20 27.7 -0.1**
comp=Z,12μmcomp=Z,5μmcomp=Z,416nm,1.0s
GIRL Giralia 50.95 254 P **P 06 20 33.3 +1.1**
baz=51,SNR=6.0
SRBI Singaraja 52.10 272 P **P 06 20 41.6 +0.7**
comp=Z,42μmcomp=Z,30μmcomp=Z,145nm,0.9s
KBKI Kotabaru 52.47 278 P **P 06 20 43.8 +0.1**
comp=Z,650nmcomp=Z,132nm,0.6s
JAGI Jajag, Banyuwa 53.03 271 P **P 06 20 46.3 -1.5**
comp=Z,29μmcomp=Z,12μmcomp=Z,231nm,0.8s
ABJI Asem Bagus 53.11 272 P **P 06 20 48.6 +0.3**
comp=Z,31μmcomp=Z,116nm,0.9s
BBKI Banjar Baru 53.69 278 P **P 06 20 53.0 +0.4**
BLJI Banyuglugur 53.73 272 P **P 06 20 53.6 +0.7**
comp=Z,33μmcomp=Z,182nm,1.0s
GMJI Gumukmas 53.75 271 P **P 06 20 52.2 -0.8**
comp=Z,30μmcomp=Z,20μmcomp=Z,97nm,0.9s
PWJI Pagerwojo 55.39 271 P **P 06 21 04.2 -0.6**
comp=Z,25μmcomp=Z,32μmcomp=Z,147nm,1.0s
NGJI Ngawi 55.88 272 P **P 06 21 10.6 +2.3**
comp=Z,59μmcomp=Z,19μmcomp=Z,141nm,0.9s
WOJI Wonogiri, Jawa 56.28 271 P **P 06 21 11.1 -0.1**
comp=Z,23μmcomp=Z,12μmcomp=Z,235nm,0.9s
YOGI Yogyakarta 56.89 271 P **P 06 21 16.5 +1.0**
comp=Z,23μmcomp=Z,20μmcomp=Z,351nm,0.9s
SMRI Semarang 56.94 272 P **P 06 21 16.4 +0.6**
comp=Z,63μmcomp=Z,29μmcomp=Z,244nm,1.0s
KPJI Karang Pucung 58.32 271 P **P 06 21 25.4 0.0**
comp=Z,47μmcomp=Z,19μmcomp=Z,305nm,0.8s
CISI Cisompet, Garu 59.34 271 P **P 06 21 31.5 -1.1**
comp=Z,32μmcomp=Z,12μmcomp=Z,283nm,0.8s
KSM Kuching 59.53 281 P **P 06 21 34.0 +0.2**
KSM Kuching 59.53 281 P **P 06 21 34.0 +0.2**
CNJI Cibinong 60.06 271 P **P 06 21 36.7 -0.7**
comp=Z,12μmcomp=Z,347nm,0.8s
DBJI Dramaga 60.61 271 P P 06 21 35.9 -5.3
TPI Tanjungpandan 60.76 276 P **P 06 21 42.7 +0.6**
comp=Z,61μmcomp=Z,19μmcomp=Z,571nm,1.4s
CGJI Cibinong 61.61 271 P **P 06 21 46.6 -1.3**
comp=Z,38μmcomp=Z,18μmcomp=Z,391nm,0.8s
VNDA Vanda 61.63 182 P **P 06 21 47.0 0.0**
comp=Z,21nm,0.9s,baz=357,slow=7.3,SNR=113
VNDA Vanda 61.63 182 P **P 06 21 47.0 0.0**
VNDA pmax pmax
comp=Z,170nm,1.9s
VNDA Vanda 61.63 182 P **P 06 21 47.0 0.0**
VNDA IAmb IAmb 06 21 48.4
comp=Z,170nm,1.9s
LWLI Liwa 63.59 272 P P 06 22 07.4 +6.3
MDSI Maura Dua 63.61 273 P **P 06 21 59.1 -2.1**
comp=Z,42μmcomp=Z,25μmcomp=Z,69nm,0.7s
KSI Kapahiang 65.36 273 P **P 06 22 11.7 -0.9**
comp=Z,36μmcomp=Z,25μmcomp=Z,122nm,0.7s
NJ2 Nanjing 67.06 316 *e*P **P 06 22 23.3 +0.4**
NJ2 pmax pmax
comp=Z,100nm,1.2s
SDSI Sungai Dareh 67.24 276 P **P 06 22 23.1 -1.3**
comp=Z,28μmcomp=Z,366nm,1.2s
BKNI Bangkinang 67.98 277 P **P 06 22 29.8 +0.7**
comp=Z,53μmcomp=Z,13μmcomp=Z,612nm,1.2s
PDSI Padang 68.17 276 P **P 06 22 28.5 -1.8**
comp=Z,30μmcomp=Z,7μmcomp=Z,229nm,0.9s
MNSI Mandailing Nat 69.51 277 P **P 06 22 37.6 -0.9**
comp=Z,45μmcomp=Z,12μmcomp=Z,274nm,1.2s
ATKA Atka Island 69.64 12 pP pP 06 23 20.6 +0.1
KULM Kulim 69.89 282 P **P 06 22 41.0 +0.2**
KULM Kulim 69.89 282 P **P 06 22 41.0 +0.2**
RPSI Rantau Prapat 70.70 279 P **P 06 22 44.7 -1.1**
RPSI IAmb IAmb 06 22 45.7
comp=Z,55nm,0.9s
RPSI Rantau Prapat 70.70 279 P **P 06 22 44.7 -1.1**
PSI Prapat 70.73 279 P **P 06 22 44.7 -1.4**
comp=Z,48nm,0.9s,baz=179,slow=1.4,SNR=28
GSI Gunungsitoli 71.57 277 P **P 06 22 51.4 +0.3**
comp=Z,54μmcomp=Z,15μmcomp=Z,811nm,1.2s
GSI Gunungsitoli 71.57 277 IAmb IAmb 06 22 51.8
comp=Z,89nm,0.8s
GSI **PcP 06 23 08.8 -0.5**
MLSI Meulaboh, Aceh 73.58 279 P **P 06 23 02.5 -0.4**
comp=Z,45μmcomp=Z,14μmcomp=Z,506nm,1.6s
QSPA South Pole Qui 74.05 180 P **P 06 23 04.8 -0.1**
QSPA IAmb IAmb 06 23 05.8
comp=Z,73nm,0.9s
KMI Kunming 75.56 302 *e*P **P 06 23 16.1 +1.8**
KMI sP sP 06 24 15.6 0.0
KMI pmax pmax
comp=Z,130nm,1.2s
KMI LR LR
comp=Z,12μm,19.1s
KMI LR LR
comp=Z,14μm,17.6s
KMI LR LR
comp=Z,22μm,17.9s
HHC Hu-ho-hao-te 76.99 320 *e*P **P 06 23 23.9 +2.0**
HHC pmax pmax
comp=Z,62nm,1.2s
LZH Lanzhou 79.67 312 ||P **P 06 23 39.5 +2.7**
LZH pmax pmax
comp=Z,35nm,2.0s
MAW Mawson 80.99 202 P **P 06 23 42.9 -0.1**
comp=Z,7.6nm,0.9s,baz=109,slow=5.0,SNR=17
MAW Mawson 80.99 202 P **P 06 23 43.6 +0.5**
TTA Tatalina 83.53 16 P **P 06 23 56.8 +0.5**
TTA pmax pmax
comp=Z,20nm,1.4s
TTA Tatalina 83.53 16 P P **06 23 56.8 +0.5**
KTH Kantishna Hill 85.42 17 pP pP 06 24 48.5 -0.6
WDC Whiskeytown Da 85.43 46 pwP 06 24 52.7 -0.6
ORV Oroville 85.72 47 pwP 06 24 54.2 -0.5
YBH Yreka Blue Hor 85.81 45 P **P 06 24 07.0 -1.2**
comp=Z,0.9nm,0.8s,baz=283,slow=6.9,SNR=3.1
YBH Yreka Blue Hor 85.81 45 P **P 06 24 07.0 -1.2**
YBH pmax pmax
comp=Z,11nm,2.0s
YBH Yreka Blue Hor 85.81 45 IAmb IAmb 06 24 10.2
comp=Z,11nm,1.9s
YBH pwP 06 24 54.0 -1.3
BPAW Bear Paw Mtn. 85.82 17 pP pP 06 24 50.8 -0.1
AFDM Forest Hills D 85.85 48 pwP 06 24 54.9 -0.5
RND Reindeer 85.90 18 pP 06 24 52.1 +0.6
MCK McKinley 86.12 18 pP pP 06 24 53.1 +0.6

RDOG Red Dog Mine 86.43 11 pP 06 24 55.5 +1.1
BARN Barnard Glacie 86.59 22 pP 06 24 56.4 +0.8
IMAR Indian Mountai 86.59 15 P **P 06 24 11.4 +0.1**
IMAR **pP 06 24 53.6 -1.4**
CTGM Chitina Glacie 86.65 22 pP 06 24 56.6 +0.9
WRH Wood River Hil 86.93 18 pP 06 24 56.0 -0.4
CCB Clear Creek Bu 87.14 17 pP pP 06 24 57.3 -0.2
HDA Harding Lake 87.22 18 pP 06 24 58.0 +0.1
H04A Detroit Lake 87.43 42 pwP 06 25 02.0 -0.2
K05A Summer Lake 87.45 44 pwP 06 25 02.6 -0.9
IL31 87.50 18 pP 06 24 58.8 -0.7
ILAR Eielson Array 87.50 18 P **P 06 24 13.3 -2.4**
comp=Z,1.2nm,0.6s,baz=239,slow=4.9,SNR=13
ILAR Eielson Array 87.50 18 P **P 06 24 13.4 -2.4**
ILAR *PP **pP 06 24 58.2 -1.3**
ILAR Eielson Array 87.50 18 pP pP 06 24 58.2 -1.3
NVAR Mina Array Bea 87.56 49 P **P 06 24 16.8 -0.2**
comp=Z,1.3nm,0.9s,baz=234,slow=8.3,SNR=9.5
NVAR PKKPbc **PKKPbc 06 42 05.9 -0.3**
comp=Z,0.9nm,0.7s,baz=94,slow=2.7,SNR=3.8
NVAR Mina Array Bea 87.56 49 P **P 06 24 16.5 -0.5**
SYO Syowa Base 87.71 196||*e*P **P 06 24 14.2 -2.6**
SYO Syowa Base 87.71 196||*i*PcP **P 06 24 17.3 +0.5**
SYO Syowa Base 87.71 196||*e*PKiKP **PKiKP 06 29 18.4 -0.3**
BCAR Beaver Creek A 87.90 21 pP 06 25 00.0 -1.6
D05A Enumclaw 88.62 40 pwP 06 25 08.3 +0.2
PALK Pallekele 89.39 278 P **P 06 24 26.0 +0.1**
comp=Z,8.0nm,0.6s,baz=226,slow=1.7,SNR=5.6
PALK Pallekele 89.39 278 P **P 06 24 26.0 +0.1**
PALK pmax pmax
comp=Z,11nm,0.7s
PALK Pallekele 89.39 278 IAmb IAmb 06 24 27.3
comp=Z,11nm,0.7s
HAWA Hanford 89.83 41 pwP 06 25 13.9 +0.1
ELK Elko 90.61 48 P **P 06 24 30.4 -0.8**
comp=Z,0.4nm,0.5s,baz=257,slow=14,SNR=4.0
MFID Camas Ranch 91.14 45 pwP 06 25 19.7 -0.2
F10A Beach Ranch, E 91.15 42 pP 06 25 17.5 +0.7
NVL N'lazarevskaya 91.91 188 *e*P P 06 24 28.2 -8.2
NVL pmax pmax
comp=Z,13nm,0.7s
DUG Dugway, Tooele 92.17 49 pwP 06 25 25.7 0.0
SNAA Sanae 92.34 183 P **P 06 24 37.2 -1.3**
SNAA Sanae 92.34 183 P **P 06 24 37.3 -1.3**
comp=Z,6.8nm,0.8s,baz=186,slow=5.7
SNAA Sanae 92.34 183 *c i*P **P 06 24 37.0 -1.5**
SNAA pmax pmax
comp=Z,25nm,1.6s
SNAA Sanae 92.34 183 IAmb IAmb 06 24 38.5
comp=Z,39nm,1.6s
VNA3 Neumayer Olymp 92.98 181 P **P 06 24 40.0 -1.4**
VNA2 Neumayer--Watz 93.25 182 P **P 06 24 41.5 -1.2**
baz=178,slow=4.0
VNA1 Neumayer--Stat 93.55 181 P **P 06 24 42.8 -1.2**
WMQ Urumqi 94.10 314 *e*P **P 06 24 50.4 +3.4**
WMQ sP sP 06 25 52.8 +3.7
WMQ PP **PP 06 28 39.4 +3.3**
WMQ S **S 06 35 44.8 +2.3**
WMQ LR LR
comp=Z,3μm,15.7s
WMQ LR LR
comp=Z,2μm,19.1s
WMQ LR LR
comp=Z,1μm,15.7s
HYB Hyderabad 94.15 287 *i* P **P 06 24 47.0 -0.8**
PDAR Pinedale Array 95.28 47 PKKPbc PKKPbc 06 41 44.5 -2.1
comp=Z,1.0nm,0.8s,baz=79,slow=6.5,SNR=2.5
TXAR Lajitas Array 96.26 61 P **P 06 24 56.7 -0.5**
comp=Z,0.3nm,0.9s,baz=251,slow=3.8,SNR=3.8
ARCES ARCESS Array B 121.63 345 PKP **PKPdf 06 30 19.3 -1.2**
comp=Z,9.4nm,0.9s,baz=60,slow=2.2,SNR=0.9
KLMR Klimovskoe 122.11 333 *e*PKPdf **PKiKP 06 30 24.0 +2.1**
KLMR AMP 06 30 25.7
comp=Z,106nm,1.3s
MAK Makhachkala 122.96 311 *e*P **Pdif 06 26 56.3 +0.7**
MAK *i* 06 30 23.4
MAK *e* 06 32 04.7
MAK *e*PPP PPP 06 34 42.0
MAK *e* 06 37 07.8
MAK *e*PS **PS 06 42 04.3 +0.6**
MAK *e*SS SS 06 48 29.3 -5.9
MAK *e*SSS SSS 06 53 08.8
MAK pmax pmax
comp=Z,306nm,1.8s
AKASG Malin Array Be 132.16 326 PKP **PKPdf 06 30 38.6 -2.6**
comp=Z,1.2nm,0.4s,baz=49,slow=4.2,SNR=4.3
AKASG Malin Array Be 132.16 326 *e*PKiKP **PKiKP 06 30 45.6 +3.4**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
EZN Ezine 139.08 313 *e*P **Pdif 06 28 06.2 -1.2**
CLL Collm 139.48 336 *e*PKPdf **PKPdf 06 30 51.0 -3.8**
CLL *ep*PKiKP **pPKiKP 06 31 44.0 +1.4**
SIGR SIGRI 139.66 313 *e*P **Pdif 06 28 12.4 +2.4**
KHC Kasperske Hory 140.91 333 *e*PKP **PKPdf 06 30 54.5 -3.0**
GERES GERESS Array B 141.07 333 PKhKP PKPpre 06 30 53.0
comp=Z,1.5nm,0.7s,baz=38,slow=2.4,SNR=3.7
IDI Anoyia 141.87 307 PKhKP PKPpre 06 30 56.0
comp=Z,3.2nm,0.3s,baz=201,slow=18,SNR=2.4
KBA Koelnbreinsper 142.54 331 *i* PKPdf **PKPdf 06 30 56.9 -3.8**
comp=Z,16nm,1.1s
RODP Rodopos 142.63 308 *e*P **Pdif 06 28 13.4 -10**
MYKA Terra Mystica 142.73 330 *i* PKPdf **PKPdf 06 30 56.4 -4.5**
comp=Z,11nm,1.0s
WATA Walderalm 143.14 333 *i* PKPdf PKPab 06 30 58.2 +0.6
comp=Z,11nm,1.0s
ABTA Abfaltersbach 143.17 332 *i* PKPdf PKPab 06 30 58.3 +0.6
comp=Z,32nm,0.8s,SNR=8.4
WTTA Wattenberg 143.17 333 *i* PKPdf PKPbc 06 30 59.1 -0.1
comp=Z,28nm,1.2s,SNR=5.1
MOTA Moosalm 143.34 333 *i* PKPdf PKPbc 06 30 59.5 -0.2
comp=Z,32nm,1.1s,SNR=7.1
RETA Reutte 143.38 334 *i* PKPdf PKPbc 06 30 59.9 +0.2
comp=Z,15nm,1.3s
SQTA Sankt Quirin 143.39 333 *i* PKPdf PKPbc 06 30 59.5 -0.3
comp=Z,21nm,1.0s,SNR=5.3
BFO Black Forest 143.67 337 PKPbc 06 31 00.6 +0.2
FETA Feichten 143.75 333 *i* PKPdf PKPbc 06 31 01.2 +0.3
comp=Z,34nm,1.0s,SNR=8.3
DAVA Damuels 143.90 334 *i* PKPdf PKPbc 06 31 01.7 +0.4
comp=Z,27nm,1.1s
SCTE Santa Cesarea 144.25 318 PKPdf PKPbc 06 31 02.3 -0.1
INTR Introdacqua 145.81 325 **PKPdf 06 31 06.7 +0.3**
RCBR Riachuelo 147.92 131 PKPbc **PKPdf 06 31 11.9 +1.2**
comp=Z,14nm,0.9s,baz=245,slow=7.4,SNR=5.8
KEST Kesra 152.61 320 PKPbc **PKPbc 06 31 23.8 -0.8**
comp=Z,6.3nm,0.7s,baz=277,slow=2.0,SNR=7.9
KEST Kesra 152.61 320 **PKiKP 06 31 24.9 +0.1**
TAM Tamanrasset 162.14 295 PKPab **PKPab 06 32 17.9 +0.5**
TOA0 Torodi Ar. Sit 166.44 260 PKPab **PKPab 06 32 35.8 -0.6**
TORD Torodi Ar. Bea 166.44 260 PKP **PKPdf 06 31 32.6 -1.0**
comp=Z,1.9nm,0.8s,baz=60,slow=1.7,SNR=5.0
TORD PKPab **PKPab 06 32 35.8 -0.6**
comp=Z,5.3nm,0.8s,baz=88,slow=3.7,SNR=14
DBIC Dimbokro 168.39 218 PKPab **PKPab 06 32 44.6 -0.2**
comp=Z,4.5nm,0.7s,baz=119,slow=2.6,SNR=4.9

BJI **17** *06:14:45.9±0.0, 13°.70N×144°.40E, h150km, mB7.1/80, mb6.3/83*
NEIC **17** *06:14:45.4±1.7, 13°.76N±0°.06×144°.43E±0°.06, h130km±1km, mb6.6/523, Mwb6.8/86, Mwc6.7/76, Mww6.7, Mwc6.8(GCMT), Error ellipse: s-maj=10.5km s-min=10.1km az=112.0*
NEIC **17** *06:14:45.8, 13°.76N×144°.40E, h138km, Moment Tension Solution. Moment tensor: Scale 10¹⁹Nm; Mrr=1.58; Mθθ=1.10; Mφφ=0.48; Mrθ=0.86; Mθφ=-0.26; Mφr=-0.49; Fault plane solution: M0=1.74000×10¹⁹ NP1:φs=86.08000°, δ=61.43000°, λ=-106.36000°. NP2:φs=297.62000°, δ=32.57000°, λ=-62.65000°. Principal axes: T 1.3694, Plg15.0000°, Azm188.0000°; N 0.5905, Plg14.0000°, Azm94.0000°; P -1.9600, Plg69.0000°, Azm322.0000°;*
MOS **17** *06:14:45.2±0.9, 13°.76N×144°.45E, h145km, mb6.3/71, MS5.9/27 Error ellipse: s-maj=7.3km s-min=4.4km az=112.2*
IDC **17** *06:14:46.1±0.4, 13°.78N×144°.48E, h137km±3km, mb5.8/47, mb1 5.9/52, mb1mx5.8/54, mbtmp6.3/52, MS6.2/34, Ms1 6.2/34, ms1mx6.1/44, Error ellipse: s-maj=7.6km s-min=5.4km az=66.0*
UNK **17** *06:14:46.2, 13°.76N×144°.40E, h137km*
GCMT **17** *06:14:49.4±0.0, 13°.54N×144°.51E, h140km, MW6.8/176, Moment Tensor Solution. s176,c493; s175,c866; Duration: 5±8 Moment tensor: Scale 10¹⁹Nm; Mrr=1.51±.01; Mθθ1.24±.01; Mφφ0.27±.01; Mrθ=0.81±.01; Mθφ=-0.42±.01; Mφr=-0.42±.00; Best double couple: M0=1.69600×10¹⁹ NP1:φs=306.00000°, δ36.00000°, λ=-60.00000°. NP2:φs=90.00000°, δ60.00000°, λ=-110.00000°. Principal axes: T 1.5340, Plg13.0000°, Azm194.0000°; N 0.3250, Plg17.0000°, Azm100.0000°; P -1.8590, Plg69.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
DJA **17** *06:14:49.5±0.5, 14°N±3°×14°4E±°, h157km±5km, M6.5/124, mB6.8/121, mb6.2/124, Mw6.7/33, Mw(mB)6.6/121, Mwp6.4/111*
NEIC **17** *06:14:50, 13°.58N×144°.53E, h140km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr=1.52; Mθθ1.26; Mφφ0.26; Mrθ=0.84; Mθφ=-0.38; Mφr=-0.45; Fault plane solution: M0=1.74000×10¹⁹ NP1:φs=304.00000°, δ35.00000°, λ=-60.00000°. NP2:φs=88.00000°, δ60.00000°, λ=-109.00000°. Principal axes: T 1.5468, Plg13.0000°, Azm192.0000°; N 0.3435, Plg17.0000°, Azm98.0000°; P -1.8902, Plg68.0000°, Azm319.0000°;*
NEIC **17** *06:14:50, 13°.74N×144°.29E, h140km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr=1.47; Mθθ1.09; Mφφ0.38; Mrθ=0.80; Mθφ=-0.44; Mφr=-0.42; Fault plane solution: M0=1.66000×10¹⁹ NP1:φs=310.00000°, δ36.00000°, λ=-58.00000°. NP2:φs=93.00000°, δ59.00000°, λ=-110.00000°. Principal axes: T 1.4195, Plg12.0000°, Azm198.0000°; N 0.4069, Plg18.0000°, Azm104.0000°; P -1.8263, Plg68.0000°, Azm321.0000°;*
NEIC **17** *06:15:03.6, 13°.89N×144°.15E, h137km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr=1.38; Mθθ1.14; Mφφ0.23; Mrθ=0.62; Mθφ=-0.41; Mφr=-0.54; Fault plane solution: M0=1.54000×10¹⁹ NP1:φs=308.86000°, δ39.97000°, λ=-56.45000°. NP2:φs=87.99000°, δ57.63000°, λ=-114.85000°. Principal axes: T 1.3614, Plg9.0000°, Azm196.0000°; N 0.3597, Plg21.0000°, Azm102.0000°; P -1.7211, Plg67.0000°, Azm308.0000°;*
ISC 17 06:14:46.2±0.2, 13°.82N±0°.02×144°.47E±0°.03, h142km±1km, h143km; pP-P, n2070, σ1s83/2333, mb6.4/445, 34C-200D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.45**	**121**	P	**Pn**	**06 15 05.6**	**-0.9**
	3μm,0.3s,baz=178,slow=7.9,SNR=1338						
GUMO				S	**Sn**	**06 15 26.7**	**+5.0**
	5μm,0.3s,baz=73,slow=21,SNR=9.4						
I39PW	**PALAU INFRASON**	**11.58**	**238**	P	**Pn**	**06 17 27.0**	**-0.3**
	baz=70,slow=12						
JCJ	**Chichijima**	**13.38**	**351**	P	**Pn**	**06 17 52.8**	**+2.2**
	136nm,0.3s,baz=163,slow=7.4,SNR=130						
JCJ	**Chichijima**	**13.38**	**351**		**P**	**06 17 53.8**	**-1.2**
PATS	**Pohnpei**	**15.28**	**116**	Pn	**Pn**	**06 18 14.4**	**-0.2**
JAY	**Jayapura**	**16.65**	**193**	P	**Pn**	**06 18 31.6**	**+0.1**
	12nm,0.3s,baz=352,slow=7.5,SNR=91						
JAY				S	**S**	**06 21 32.0**	**-5.4**
	baz=90,slow=24,SNR=6.4						
JAY	**Jayapura**	**16.65**	**193**	P	**Pn**	**06 18 31.8**	**+0.3**
	164μm53μm1μm,0.9s						
GENI	**Genyem**	**16.86**	**195**	P	**Pn**	**06 18 35.1**	**+1.2**
	374μm256μm6μm,1.7s						
JMZ	**Minamidaito 2**	**17.24**	**316**	Pn	**Pn**	**06 18 40.6**	**+2.1**
JMZ				IAmb	IAmb	06 18 45.7	
	comp=Z,4μm,1.0s						
SRPI	**Serui, Papua**	**17.59**	**208**	P	**Pn**	**06 18 42.7**	**-0.1**
	comp=Z,262μmcomp=Z,81μmcomp=Z,2μm,1.4s						
RKPI	**Ransiki, Papua**	**18.33**	**215**	P	**P**	**06 18 50.5**	**+0.7**
	comp=Z,67μmcomp=Z,3μm,1.5s						
WAMI	**Wamena**	**18.50**	**198**	P	**Pn**	**06 18 54.3**	**+0.9**
	comp=Z,319μmcomp=Z,97μmcomp=Z,4μm,0.9s						
RABL	**Rabaul**	**19.45**	**156**	P	**P**	**06 19 01.9**	**-0.1**
KRVT	**Keravat (AS076**	**19.51**	**157**	P	**Pn**	**06 19 04.1**	**-1.2**
	comp=Z,26nm,0.3s,baz=168,slow=7.6,SNR=57						
SIJI	**Sorong**	**19.60**	**223**	P	**Pn**	**06 19 05.3**	**-1.1**
	comp=Z,14nm,0.3s,baz=30,slow=12,SNR=55						
SIJI				S	**S**	**06 22 41.8**	**+4.5**
	comp=Z,2.0nm,0.3s,baz=289,slow=20,SNR=8.2						
JHJ2	**Mitsune**	**19.67**	**348**	P	**P**	**06 19 05.2**	**+1.0**
JHJ2				IAmb	IAmb	06 19 14.8	
	comp=Z,4μm,0.9s						
JHJ	**Hachijo jima 2**	**19.68**	**348**	P	**P**	**06 19 04.9**	**+0.6**
	comp=Z,124nm,0.3s,baz=197,slow=17,SNR=33						
JHJ				S	**Sn**	**06 22 44.5**	**-5.0**
	comp=Z,18nm,0.3s,baz=84,slow=17,SNR=3.4						
DAV	**Davao City (W)**	**19.74**	**252**	P	**P**	**06 19 06.4**	**+1.3**
	comp=Z,86nm,0.3s,baz=68,slow=3.4,SNR=29						
DAV				S	**S**	**06 22 43.5**	**+3.3**
	comp=Z,79nm,0.3s,baz=122,slow=10,SNR=1.5						
DAV	**Davao City (W)**	**19.74**	**252**	P	**P**	**06 19 05.9**	**+0.7**
DAV				IAmb	IAmb	06 19 40.9	
	comp=Z,5μm,1.2s						
DAV	**Davao City (W)**	**19.74**	**252**	||*i*P	**P**	**06 19 06.3**	**+1.2**
FAKI	**Fak Fak**	**20.58**	**217**	P	**P**	**06 19 15.1**	**+1.0**
	comp=Z,241μmcomp=Z,71μmcomp=Z,3μm,0.9s						
FAKI	**Fak Fak**	**20.58**	**217**	P	**P**	**06 19 14.6**	**+0.5**
TNTI	**Ternate**	**21.32**	**234**	P	**P**	**06 19 20.8**	**-1.3**
	comp=Z,136μmcomp=Z,20μmcomp=Z,1μm,0.9s						
TNTI	**Ternate**	**21.32**	**234**	P	**P**	**06 19 21.1**	**-1.0**
TNTI				IAmb	IAmb	06 19 53.1	
	comp=Z,6μm,2.0s						
JSG	**Sagara**	**21.53**	**346**	P	**P**	**06 19 24.7**	**+0.6**
I30JP	**ISUMI INFRASON**	**21.72**	**351**	P	**P**	**06 19 31.0**	**+4.9**
	baz=164,slow=19,SNR=4.1						
JSU	**Suzuyama**	**21.80**	**326**	P	**P**	**06 19 28.8**	**+1.8**
JSU				IAmb	IAmb	06 19 36.1	
	comp=Z,2μm,1.1s						
H11S3	**WAKE ISLAND Hy**	**21.83**	**75**	T	T	06 42 17.3	
	baz=262,slow=75						
H11S1	**WAKE ISLAND Hy**	**21.85**	**75**	T	T	06 42 18.3	
	baz=262,slow=75						
H11S2	**WAKE ISLAND Hy**	**21.85**	**75**	T	T	06 42 17.6	
	baz=262,slow=75						
WAKE	**Wake Island**	**21.94**	**73**	P	**P**	**06 19 29.6**	**+1.1**
JMN	**Monobe**	**22.03**	**336**	P	**P**	**06 19 30.7**	**+1.3**
LBMI	**Labuha**	**22.11**	**231**	P	**P**	**06 19 30.4**	**0.0**
	comp=Z,195μmcomp=Z,47μmcomp=Z,1μm,1.0s						
H11N1	**WAKE ISLAND Hy**	**22.24**	**72**	T	T	06 42 48.3	
	baz=251,slow=75						
H11N2	**WAKE ISLAND Hy**	**22.25**	**72**	T	T	06 42 40.5	
	baz=251,slow=75						
H11N3	**WAKE ISLAND Hy**	**22.26**	**72**	T	T	06 42 47.8	
	baz=251,slow=75						
INU	**Inuyama**	**22.47**	**344**	P	**P**	**06 19 34.5**	**+0.9**
JGF	**Kuroka**	**22.61**	**345**	P	**P**	**06 19 35.6**	**+0.5**
JYT	**Yasato**	**22.64**	**351**	P	**P**	**06 19 36.2**	**+0.9**
YOJ	**Yonaguni jima**	**22.84**	**301**	P	**P**	**06 19 38.2**	**+0.9**
YOJ				pmax	pmax		
	comp=Z,3μm,0.8s						
YOJ	**Yonaguni jima**	**22.84**	**301**	P	**P**	**06 19 38.2**	**+0.9**
YOJ				IAmb	IAmb	06 19 41.5	
	comp=Z,3μm,0.8s						
TGY	**Tagaytay City**	**22.84**	**274**	P	**P**	**06 19 38.8**	**+1.3**
	comp=Z,7μm,0.8s,baz=81,slow=1.2,SNR=72						
TGY				ScP	**ScP**	**06 26 49.9**	**+1.2**
	comp=Z,1μm,1.1s,baz=166,slow=8.1,SNR=5.8						
JNU	**Nakatsue**	**22.86**	**329**	P	**P**	**06 19 39.1**	**+1.6**
	comp=Z,690nm,0.7s,baz=130,slow=3.0,SNR=243						
JNU				ScP	**ScP**	**06 26 49.5**	**+1.0**
	comp=Z,64nm,0.9s,baz=111,slow=7.0,SNR=5.5						
JNU				LR	LR	06 27 39.0	
	comp=Z,54μm,20.7s,baz=126,slow=34						
JNU	**Nakatsue**	**22.86**	**329**	P	**P**	**06 19 38.6**	**+1.1**
JWT	**Wachi**	**22.88**	**341**	IAmb	IAmb	06 19 45.6	
	comp=Z,4μm,1.6s						
KWAJ	**Kwajalein Atol**	**23.22**	**100**	P	**P**	**06 19 42.1**	**+1.1**
KWAJ				pmax	pmax		
	comp=Z,6μm,1.6s						
KWAJ	**Kwajalein Atol**	**23.22**	**100**	P	**P**	**06 19 42.1**	**+1.1**
KWAJ				IAmb	IAmb	06 20 18.1	
	comp=Z,6μm,1.6s						
PMG	**Port Moresby**	**23.23**	**173**	P	**P**	**06 19 40.7**	**-0.2**
	comp=Z,947nm,1.0s,baz=354,slow=8.5,SNR=30						
PMG				PcP	**PcP**	**06 23 25.8**	**+1.1**
	comp=Z,373nm,0.9s,baz=224,slow=2.7,SNR=4.9						
PMG				ScP	**ScP**	**06 26 50.0**	**+0.4**
	comp=Z,140nm,1.1s,baz=23,slow=6.0,SNR=4.9						
PMG	**Port Moresby**	**23.23**	**173** *c i*P		**P**	**06 19 38.1**	**-2.8**

comp=Z,205μmcomp=Z,83μmcomp=Z,1μm,1.6s
MJAR Matsushiro Arr 23.31 347 P **P** **06 19 42.2 +0.7**
comp=Z,2μm,0.7s,baz=173,slow=7.7,SNR=427
MJAR ScP **ScP** **06 26 49.7 +0.2**
comp=Z,40nm,1.0s,baz=155,slow=3.7,SNR=7.3
MJAR P3KPbc 06 53 04.8
comp=Z,13nm,1.0s,baz=340,slow=4.6,SNR=15
MJAR P3KP 06 53 57.6
comp=Z,8.6nm,1.1s,baz=345,slow=3.8,SNR=4.7
MJAR Matsushiro Arr 23.31 347 P **P** **06 19 41.5 -0.1**
MAJO Matsushiro 23.32 347 *d* iP **P** **06 19 41.7 +0.1**
MAJO pmax pmax
comp=Z,8μm,1.3s
MAJO Matsushiro 23.32 347 P **P** **06 19 42.2 +0.7**
MAT Matsushiro 23.32 347 P **P** **06 19 41.9 +0.3**
MAT S **S** **06 23 44.0 +0.6**
MJB9 Matsu-Tunnel 23.32 347 P **P** **06 19 42.6 +1.0**
JHS Saijyo 23.45 336 P **P** **06 19 44.1 +1.3**
JHS IAmb IAmb 06 19 48.4
comp=Z,7μm,1.8s
YULB Yu-li 23.91 297 IAmb IAmb 06 19 51.1
comp=Z,2μm,0.7s
TWG Pinlang 23.92 295 P **P** **06 19 47.4 +0.2**
TWG IAmb IAmb 06 19 52.1
comp=Z,2μm,0.7s
NACB Ninganchiao 23.92 299 IAmb IAmb 06 19 54.8
comp=Z,2μm,1.3s
NLAI Namlea 24.17 227 P **P** **06 19 52.7 +3.2**
comp=Z,133μmcomp=Z,15μmcomp=Z,344nm,1.6s
KMSI Cibinong 24.18 239 P **P** **06 19 49.5 -0.1**
comp=Z,3μmcomp=Z,43μmcomp=Z,5μm,0.8s
YHNB Yeheng 24.29 300 P **P** **06 19 51.5 +0.8**
YHNB IAmb IAmb 06 19 58.4
comp=Z,1μm,0.8s
SSLB Suanglung 24.34 297 P **P** **06 19 51.6 +0.6**
TPUB Ta-pu 24.46 296 P **P** **06 19 52.0 -0.1**
TPUB IAmb IAmb 06 19 57.9
comp=Z,1μm,0.7s
JTU Tsushima 24.72 329 IAmb IAmb 06 20 00.9
comp=Z,4μm,2.0s
GTOI Gorontalo 24.96 240 P **P** **06 19 56.4 -0.3**
comp=Z,77μmcomp=Z,14μmcomp=Z,677nm,0.7s
SAUI Saumlaki 25.30 212 P **P** **06 20 01.1 +1.3**
comp=Z,206μmcomp=Z,73μmcomp=Z,3μm,0.9s
SAUI Saumlaki 25.30 212 P **P** **06 19 59.9 +0.1**
SAUI IAmb IAmb 06 20 06.5
comp=Z,2μm,0.8s
LUWI Luwuk 26.09 237 P **P** **06 20 06.4 -0.5**
QZH Quanzhou 26.75 298 ⇓ *i* P **P** **06 20 13.1 +0.3**
QZH pP **pP** **06 20 44.0 +2.4**
QZH S **S** **06 24 35.8 -2.4**
QZH ScP **ScP** **06 27 00.5 +1.0**
QZH pmax pmax
comp=Z,440nm,1.0s
QZH pmax pmax
comp=Z,25μm,8.1s
QZH LR LR
comp=Z,16μm,12.3s
QZH LR LR
comp=Z,28μm,16.6s
QZH LR LR
comp=Z,35μm,16.1s
KNMB Chin-men Tao 26.77 297 P **P** **06 20 13.4 +0.5**
KNMB IAmb IAmb 06 20 20.0
comp=Z,650nm,0.7s
MYLDM Lahad Datu 26.99 254 P **P** **06 20 16.8 +1.8**
MYLDM IAmb IAmb 06 20 21.5
comp=Z,4μm,1.5s
JTM Tenmabayashi 27.03 354 IAmb IAmb 06 20 22.1
comp=Z,2μm,0.8s
TJN Taejon 27.20 329 *d* iP **P** **06 20 17.6 +1.0**
SSE Sheshan 27.45 313 P **P** **06 20 20.3 +1.4**
SSE S **S** **06 24 50.5 +1.5**
SSE pmax pmax
comp=Z,380nm,1.5s
SSE LR LR
comp=Z,3μm,11.1s
SSE LR LR
comp=Z,6μm,21.0s
SSE Sheshan 27.45 313 IAmb IAmb 06 20 22.2
comp=Z,3μm,1.8s
COEN Coen 27.63 183 P **P** **06 20 20.3 -0.3**
HNR Honiara 27.74 146 P **P** **06 20 22.9 +1.3**
comp=Z,560nm,1.0s,baz=237,slow=2.0,SNR=4.2
HNR Honiara 27.74 146 P **P** **06 20 22.9 +1.3**
HNR pmax pmax
comp=Z,2μm,1.2s
HNR Honiara 27.74 146 IAmb IAmb 06 20 57.1
comp=Z,2μm,1.2s
MPSI Mapaga 27.77 243 P **P** **06 20 21.5 -0.5**
KSRS Korea Array 27.78 331 P **P** **06 20 23.2 +1.5**
comp=Z,182nm,0.5s,baz=132,slow=11,SNR=376
KSRS PcP **PcP** **06 23 36.6 +1.9**
comp=Z,102nm,1.1s,baz=154,slow=2.8,SNR=6.6
KSRS ScP **ScP** **06 27 03.0 +0.8**
comp=Z,54nm,1.2s,baz=146,slow=2.8,SNR=8.0
KSRS LR LR 06 30 15.0
comp=Z,63μm,21.5s,baz=124,slow=33
KSRS ScS **ScS** **06 30 55.7 +1.1**
comp=Z,1.1nm,0.7s,baz=131,slow=3.4,SNR=1.7
KSRS PKiKP **PKiKP** **06 31 10.8 -0.1**
comp=Z,4.8nm,0.9s,baz=106,slow=0.5,SNR=4.8
KSRS P3KPbc 06 52 46.4
comp=Z,11nm,0.9s,baz=330,slow=4.1,SNR=16
KSAR Wonju Array Be 27.79 331 P **P** **06 20 22.5 +0.7**
KSAR Wonju Array Be 27.79 331 P **P** **06 20 22.5 +0.7**
ERM Erimo 28.12 358 *d* iP **P** **06 20 26.4 +1.7**
ERM pmax pmax
comp=Z,2μm,2.8s
ERM Erimo 28.12 358 P **P** **06 20 27.2 +2.5**
INCN Inchon 28.43 329 P **P** **06 20 29.1 +1.5**
INCN pmax pmax
comp=Z,2μm,2.0s
INCN Inchon 28.43 329 P **P** **06 20 29.1 +1.5**
INCN IAmb IAmb 06 20 31.7
comp=Z,2μm,1.9s
KKM Kota Kinabalu 28.86 257 P **P** **06 20 31.1 -0.7**
SPMM Sapulut 29.05 255 P **P** **06 20 34.0 +0.6**
HJU Haeju 29.31 329 P **P** **06 20 36.9 +1.5**
WOSN Wonsan 29.39 332 P **P** **06 20 38.8 +2.8**
MTN Manton Dam 29.61 207 P **P** **06 20 37.5 -0.6**
MTN IAmb IAmb 06 21 43.4
comp=Z,966nm,1.4s
NJ2 Nanjing 29.64 312 ⇓ *i* P **P** **06 20 39.8 +1.5**
NJ2 pP **pwP** **06 21 11.3 -1.2**
NJ2 PcP **PcP** **06 23 42.4 +2.9**
NJ2 S **S** **06 25 27.6 +4.2**
NJ2 sS **sS** **06 26 16.4 +1.1**
NJ2 ScP **ScP** **06 27 09.3 +1.0**
NJ2 pmax pmax
comp=Z,470nm,2.0s
NJ2 pmax pmax
comp=Z,20μm,5.6s
NJ2 LR LR
comp=Z,66μm,16.9s
NJ2 LR LR
comp=Z,29μm,16.9s
NJ2 LR LR
comp=Z,96μm,21.5s
HHU Hamhung 29.97 333 P **P** **06 20 42.3 +1.2**
HHU pP **sP** **06 21 21.9 -4.2**
HHU S **S** **06 25 29.1 +0.7**
HKC Hong Kong Obse 29.97 291 ⇑ P **P** **06 20 43.0 +1.6**
PYAG Pyongyang 30.08 330 P **P** **06 20 45.0 +2.9**
PYAG pP **pwP** **06 21 18.0 +1.3**
PYAG pP **sP** **06 21 20.3 -6.8**
PYAG PP **PP** **06 21 52.0 -0.8**
PYAG S **S** **06 25 33.0 +2.9**
YUK Yuzh-Kuril'sk 30.14 2 *c* iP **P** **06 20 41.1 -1.4**
YUK *i* 06 21 44.5
YUK *i* S **S** **06 25 25.4 -5.5**
YUK *i* *SS **sS** **06 26 24.4 +1.7**
YUK *i* 06 27 28.4
YUK *i* SS **SS** **06 27 45.9 +0.5**
YUK pmax pmax
comp=Z,4μm,4.2s
YUK pmax pmax
comp=Z,1μm,1.3s
YUK pmax pmax
comp=N,296nm,0.7s
YUK pmax pmax
comp=E,524nm,1.2s
PYS Pyongsong 30.19 330 P **P** **06 20 44.6 +1.5**
JKA Kamikawa-asahi 30.24 357 IAmb IAmb 06 20 48.2
comp=Z,4μm,1.9s

SMKI Samarinda 30.50 245 P **P** **06 20 49.5 +3.4**
CHJN Chongjin 30.66 338 P **P** **06 20 45.1 -2.1**
TARA Tarawa 30.75 111 P **P** **06 20 49.5 +1.2**
TARA IAmb IAmb 06 20 51.8
comp=Z,509nm,0.7s
SOEI Soe 30.83 222 P **P** **06 20 48.5 -0.7**
comp=Z,73μmcomp=Z,18μmcomp=Z,1μm,0.9s
SOEI Soe 30.83 222 IAmb IAmb 06 21 04.1
comp=Z,830nm,0.8s
KAPI Kappang 30.86 234 P **P** **06 20 49.1 -0.2**
KAPI pmax pmax
comp=Z,433nm,0.8s
KAPI Kappang 30.86 234 P **P** **06 20 49.1 -0.2**
GZH Guangzhou 30.88 292 ⇓ *i* P **P** **06 20 49.8 +0.4**
GZH sP **sP** **06 21 33.4 -1.1**
GZH PcP **PcP** **06 23 43.9 +1.0**
GZH S **S** **06 25 41.6 -1.4**
GZH pmax pmax
comp=Z,20μm,5.4s
GZH LR LR
comp=Z,39μm,16.5s
GZH LR LR
comp=Z,42μm,16.1s
VLA Vladivostok 31.15 342 *d* iP **P** **06 20 53.8 +2.4**
VLA pmax pmax
comp=Z,3μm,1.3s
BKB Balikpapan 31.17 243 P **P** **06 20 54.2 +2.2**
BKB Balikpapan 31.17 243 P **P** **06 20 51.8 -0.2**
BKB IAmb IAmb 06 21 56.4
comp=Z,881nm,1.2s
BKB **PcP** **06 23 45.8 +2.0**
KGE Kanggye 31.20 333 P **P** **06 20 54.9 +2.9**
MMRI Maumere 31.38 226 P **P** **06 20 53.9 0.0**
comp=Z,62μmcomp=Z,21μmcomp=Z,1μm,1.1s
MMRI Maumere 31.38 226 IAmb IAmb 06 21 01.3
comp=Z,1μm,1.0s
KUR Kuril'sk 31.44 5 *d* iP **P** **06 20 54.6 +0.6**
KUR *e* 06 23 52.0
KUR *i* S **S** **06 25 49.6 -1.7**
KUR *e* 06 26 47.7
KUR pmax pmax
comp=Z,24μm,6.3s
KUR pmax pmax
comp=Z,1μm,1.4s
KUR pmax pmax
comp=E,486nm,1.2s
KUR pmax pmax
comp=N,559nm,1.6s
KUR MLR MLR
comp=Z,17μm,14.0s
SUJ Sinuiju 31.51 330 P **P** **06 20 56.1 +1.4**
SUJ pP **pwP** **06 21 32.1 +2.7**
SUJ S **S** 06 25 43.2 -9.3
BATI Baumata 31.56 222 P **P** **06 20 54.6 -0.8**
comp=Z,38μmcomp=Z,8μmcomp=Z,471nm,0.8s
TEY Ternei 31.82 349 ⇓ *i* P **P** **06 20 59.2 +1.8**
TEY *e* S **S** **06 25 53.8 -3.4**
TEY pmax pmax
comp=N,300nm,1.9s
TEY pmax pmax
comp=E,80nm,1.8s
TEY pmax pmax
comp=Z,510nm,1.9s
TEY pmax pmax
comp=Z,24μm,5.8s
TEY pmax pmax
comp=N,14μm,5.2s
TEY pmax pmax
comp=E,5μm,6.1s
TEY smax smax
comp=E,23μm,9.5s
TEY smax smax
comp=N,13μm,11.9s
EDFI Ende, Flores 31.84 227 P **P** **06 20 57.2 -0.8**
comp=N,41μmcomp=N,8μmcomp=N,366nm,0.9s
USA0B Ussuriysk Arra 32.10 343 IAmb IAmb 06 21 04.9
comp=Z,3μm,1.8s
USRK Ussuriysk Ar. 32.10 343 P **P** **06 21 01.8 +1.9**
comp=Z,243nm,0.6s,baz=156,slow=9.3,SNR=116
USRK ScP **ScP** **06 27 17.3 +1.1**
comp=Z,96nm,1.3s,baz=186,slow=3.8,SNR=7.1
USRK P3KPbc 06 52 26.3
comp=Z,39nm,1.1s,baz=336,slow=3.2,SNR=26
USRK Ussuriysk Ar. 32.10 343 P **P** **06 21 00.8 +1.0**
DL2 Dalian 32.12 325 P **P** **06 21 02.1 +2.1**
DL2 pP **pP** **06 21 31.4 +2.0**
DL2 sP **sP** **06 21 47.1 +1.8**
DL2 PcP **PcP** **06 23 47.6 +1.7**
DL2 S **S** **06 26 07.1 +5.1**
DL2 ScP **ScP** **06 27 16.9 +0.5**
DL2 pmax pmax
comp=Z,880nm,1.5s
DL2 pmax pmax
comp=Z,24μm,7.9s
WHN Wuhan 32.34 306 ⇓ *i* P **P** **06 21 04.1 +2.0**
WHN PP **PP** **06 22 15.8 -2.2**
WHN S **S** **06 26 04.3 -1.3**
WHN ScP **ScP** **06 27 19.4 +2.1**
WHN pmax pmax
comp=Z,9μm,1.8s
WHN pmax pmax
comp=Z,36μm,5.2s
WHN LR LR
comp=Z,74μm,15.1s
WHN LR LR
comp=Z,75μm,15.1s
WHN LR LR
comp=Z,87μm,18.8s
MTKI Muara Teweh, K 32.77 246 P **P** **06 21 06.9 +0.9**
KBKI Kotabaru 32.83 241 P **P** **06 21 06.7 +0.2**
comp=Z,651nmcomp=Z,132nm,0.6s
YSS Yuzh-Sakhalins 33.06 358 *d* iP **P** **06 21 09.6 +1.5**
YSS *e** PP **pwP** **06 21 41.4 -1.1**
YSS *e* 06 22 24.0
YSS *e* 06 23 47.0
YSS *e* S **S** **06 26 14.9 -1.5**
YSS *e* SS **SnSn** **06 28 21.0 -11**
YSS pmax pmax
comp=Z,490nm,1.6s
YSS pmax pmax
comp=Z,24μm,5.7s
YSS MLR MLR
comp=Z,23μm,17.0s
YSS MLR MLR
comp=N,24μm,15.0s
YSS MLR MLR
comp=E,23μm,14.0s
YSS Yuzh-Sakhalins 33.06 358 P **P** **06 21 09.7 +1.6**
YSS IAmb IAmb 06 21 10.7
comp=Z,1μm,1.6s
TIA Tai'an 33.13 317 P **P** **06 21 10.4 +1.4**
TIA S **S** **06 26 23.5 +5.7**
TIA pmax pmax
comp=Z,470nm,1.6s
TIA pmax pmax
comp=Z,22μm,8.8s
TIA LR LR
comp=Z,28μm,20.6s
TIA LR LR
comp=Z,65μm,16.7s
TIA LR LR
comp=Z,94μm,17.6s
KNRA Kununurra 33.17 208 P **P** **06 21 09.4 0.0**
KNRA IAmb IAmb 06 21 12.1
comp=Z,842nm,0.9s
MDJ Mudanjiang 33.21 340 IAmb IAmb 06 21 17.5
comp=Z,650nm,0.9s
SNY Shenyang 33.28 331 ⇓ P **P** **06 21 11.3 +1.2**
SNY S **S** **06 26 23.4 +3.4**
SNY pmax pmax
comp=Z,440nm,2.5s
SNY pmax pmax
comp=Z,23μm,5.3s
SNY LR LR
comp=Z,34μm,19.2s
SNY LR LR
comp=Z,51μm,16.3s
SNY LR LR
comp=Z,87μm,18.4s
WSI Waingapu 33.47 227 P **P** **06 21 14.8 +2.8**
comp=Z,75μmcomp=Z,5μm,0.5s
QIZ Qiongzhong 33.58 284 P **P** **06 21 13.0 -0.1**
QIZ pP **pP** **06 21 40.9 -1.6**
QIZ S **S** **06 26 26.0 +0.8**
QIZ sS **sS** **06 27 16.1 -1.3**

QIZ pmax pmax
comp=Z,20μm,3.6s
QIZ LR LR
comp=Z,7μm,17.6s
QIZ LR LR
comp=Z,16μm,19.9s
QIZ LR LR
comp=Z,26μm,18.6s
BASI Baing, Sumba 33.65 226 P **P** **06 21 11.6 -2.0**
comp=Z,31μmcomp=Z,13μmcomp=Z,971nm,1.2s
CTA Charters Tower 33.74 177 P **P** **06 21 14.1 -0.3**
comp=Z,106nm,0.6s,baz=359,slow=9.5,SNR=38
CTA S **S** **06 26 24.9 -2.6**
comp=Z,12nm,0.7s,baz=198,slow=16,SNR=3.0
CTA ScP **ScP** **06 27 22.4 +0.1**
comp=Z,117nm,1.1s,baz=350,slow=8.5,SNR=6.4
CTA P3KPbc 06 52 21.8
comp=Z,2.8nm,0.7s,baz=106,slow=10,SNR=5.0
CTAO Charters Tower 33.74 177 P **P** **06 21 14.4 +0.1**
CTAO pmax pmax
comp=Z,1μm,2.0s
CTAO Charters Tower 33.74 177 P **P** **06 21 14.4 +0.1**
CTAO IAmb IAmb 06 21 20.8
comp=Z,1μm,1.9s
SBUM Sibu 33.81 253 P **P** **06 21 15.2 +0.1**
SBUM IAmb IAmb 06 21 19.4
comp=Z,1μm,1.5s
SBUM Sibu 33.81 253 P **P** **06 21 16.0 +0.9**
SBUM Sibu 33.81 253 P **P** **06 21 16.0 +0.9**
CN2 Changchun 34.04 335 ⇓ P **P** **06 21 18.1 +1.4**
CN2 *e*pP pP 06 21 48.6 +2.5
CN2 *e*sP sP 06 22 05.0 +3.1
CN2 PP **PP** **06 22 41.3 +4.7**
CN2 *e*S **S** **06 26 32.0 +0.4**
CN2 ScP **ScP** **06 27 22.9 -0.1**
CN2 *e*SS **SnSn** **06 28 49.5 -6.1**
CN2 pmax pmax
comp=Z,200nm,1.1s
CN2 pmax pmax
comp=Z,24μm,5.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,20μm,20.0s
CN2 LR LR
comp=Z,49μm,20.0s
WBSI Waikabubak, Su 34.10 228 P **P** **06 21 16.0 -1.6**
comp=Z,45μmcomp=Z,6μmcomp=Z,695nm,0.8s
WB0 Warramunga Arr 34.82 197 P **P** **06 21 22.6 -1.0**
WB0 IAmb IAmb 06 21 28.6
comp=Z,706nm,0.7s
WR0 Warramunga Arr 34.96 196 P **P** **06 21 24.4 -0.5**
WR0 IAmb IAmb 06 21 29.9
comp=Z,582nm,0.8s
WRAB Tennant Creek 34.99 197 *d* iP **P** **06 21 24.3 -0.8**
WRAB pmax pmax
comp=Z,859nm,0.7s
WRAB Tennant Creek 34.99 197 P **P** **06 21 24.7 -0.4**
WRAB IAmb IAmb 06 21 30.7
comp=Z,898nm,0.8s
WB2 Warramunga Arr 35.00 197 P **P** **06 21 25.3 +0.1**
WB2 IAmb IAmb 06 21 30.8
comp=Z,1μm,0.8s
WRA Warramunga Arr 35.00 197 P **P** **06 21 25.2 0.0**
comp=Z,744nm,0.8s,baz=20,slow=9.4,SNR=101
WRA PcP **PcP** **06 23 54.7 +0.3**
comp=Z,92nm,0.6s,baz=11,slow=3.2,SNR=6.8
WRA S **S** **06 26 44.2 -2.6**
comp=Z,66nm,1.0s,baz=16,slow=17,SNR=8.3
WRA ScP **ScP** **06 27 27.0 +0.2**
comp=Z,204nm,1.1s,baz=14,slow=3.7,SNR=8.7
WRA PKiKP **PKiKP** **06 31 15.8 -0.6**
comp=Z,8.2nm,0.6s,baz=323,slow=1.3,SNR=16
WRA LR LR 06 37 30.0
comp=Z,43μm,18.4s,baz=25,slow=39
WRA P3KPbc 06 52 14.5
comp=Z,4.3nm,0.6s,baz=201,slow=3.9,SNR=27
WRA P3KP 06 53 35.3
comp=Z,7.0nm,1.0s,baz=130,slow=2.1,SNR=8.4
WRA PKP2ab 06 56 09.9
comp=Z,4.2nm,1.1s,baz=196,slow=2.7,SNR=4.9
WRA Warramunga Arr 35.00 197 *i* P **P** **06 21 24.2 -1.0**
WRA pmax pmax
comp=Z,744nm,0.8s
WRA Warramunga Arr 35.00 197 P **P** **06 21 23.9 -1.4**
DLV T Lat 35.11 271 P **P** **06 21 27.2 +0.7**
DLV IAmb IAmb 06 21 29.8
comp=Z,884nm,1.2s
TWSI Taliwang, Sumb 35.39 232 P **P** **06 21 30.2 +1.6**
comp=Z,30μmcomp=Z,6μmcomp=Z,360nm,0.8s
STKI Sintang 35.41 250 P **P** **06 21 31.0 +2.1**
KSM Kuching 35.94 253 IAmb IAmb 06 21 36.5
comp=Z,2μm,1.3s
BJI Beijing 36.03 322 P **P** **06 21 35.3 +1.5**
BJI PP **PnPn** **06 23 00.8 +1.1**
BJI S **S** **06 27 00.3 -1.8**
BJI ScP **ScP** **06 27 31.4 +1.1**
BJI pmax pmax
comp=Z,890nm,1.6s
BJI pmax pmax
comp=Z,28μm,7.1s
BJI LR LR
comp=Z,28μm,17.5s
BJI LR LR
comp=Z,48μm,17.1s
BJI LR LR
comp=Z,33μm,19.6s
SRBI Singaraja 36.29 235 P **P** **06 21 37.6 +1.3**
comp=Z,59μmcomp=Z,30μmcomp=Z,951nm,0.9s
PBKI Pangkalan Bun 36.44 246 P **P** **06 21 39.3 +1.7**
comp=Z,31μmcomp=Z,1μm,1.6s
KMMI Kalianget 36.70 237 P **P** **06 21 42.9 +3.1**
comp=Z,12μmcomp=Z,374nm,0.8s
FITZ Fitzroy Crossi 36.75 211 P3KPbc 06 52 07.9
comp=Z,1.3nm,0.6s,baz=183,slow=3.6,SNR=3.6
FITZ Fitzroy Crossi 36.75 211 P **P** **06 21 40.2 +0.1**
FITZ IAmb IAmb 06 21 43.0
comp=Z,638nm,0.9s
SANVU Saraoutou 36.76 141 P **P** **06 21 40.3 +0.1**
SANVU IAmb IAmb 06 21 42.6
comp=Z,1μm,1.2s
ABJI Asem Bagus 36.91 236 P **P** **06 21 44.1 +2.6**
comp=Z,72μmcomp=Z,31μmcomp=Z,1μm,1.8s
TYV Tymovskoe 36.97 358 *e*P **P** **06 21 43.5 +1.9**
TYV *e*S **S** **06 27 19.1 +2.9**
TYV pmax pmax
comp=Z,655nm,1.7s
TYV pmax pmax
comp=Z,26μm,4.8s
TYV smax smax
comp=N,21μm,8.8s
TYV smax smax
comp=E,133nm,1.9s
BWJI Bawean 37.14 240 P P 06 21 54.7 +11
JAGI Jajag, Banyuwa 37.36 235 P **P** **06 21 44.3 -1.1**
comp=E,53μmcomp=E,18μmcomp=E,924nm,0.8s
JAGI Jajag, Banyuwa 37.36 235 P **P** **06 21 44.1 -1.4**
JAGI IAmb IAmb 06 21 56.0
comp=Z,691nm,0.9s
BLJI Banyuglugur 37.40 237 P **P** **06 21 46.9 +1.2**
comp=Z,33μmcomp=Z,1μm,1.3s
GRNR Gornyy 37.43 352 ⇓ *i* P **P** **06 21 48.0 +2.5**
GRNR *e*S **S** **06 27 29.3 +6.1**
GRNR pmax pmax
comp=E,110nm,0.6s
GRNR pmax pmax
comp=N,210nm,0.7s
GRNR pmax pmax
comp=Z,570nm,0.6s
GRNR smax smax
comp=N,20nm,1.0s
GRNR MLR MLR
comp=E,9μm,13.0s
GRNR MLR MLR
comp=N,8μm,16.0s
GRNR MLR MLR
comp=Z,14μm,17.0s
GYA Guiyang 37.52 296 ⇓ P **P** **06 21 48.8 +2.1**
GYA PP **PnPn** **06 23 20.9 +3.0**
GYA S **S** **06 27 24.6 -0.8**
GYA ScP **ScP** **06 27 37.8 +1.5**
GYA ScS **ScS** **06 31 46.3 +1.0**
GYA pmax pmax
comp=Z,850nm,1.5s
GYA pmax pmax
comp=Z,25μm,5.5s

GYA LR LR
comp=Z,15μm,17.0s
GYA LR LR
comp=Z,37μm,18.9s
GYA LR LR
comp=Z,55μm,19.6s
GMJI Gumukmas 37.82 236 P **P 06 21 49.2 0.0**
comp=Z,49μmcomp=Z,20μmcomp=Z,890nm,1.0s
GRJI Gresik 37.85 239 P **P 06 21 51.4 +1.9**
comp=Z,2μmcomp=Z,8μmcomp=Z,927nm,0.8s
XAN Xi'an 37.95 308 P **P 06 21 51.3 +1.1**
XAN pP pwP 06 22 26.1 +1.0
XAN sP sP 06 22 42.0 +6.0
XAN PP **PP 06 23 22.4 +2.6**
XAN PcP **PcP 06 24 05.8 +2.6**
XAN S **S 06 27 32.8 +1.2**
XAN ScP **ScP 06 27 39.6 +1.9**
XAN pmax pmax
comp=Z,890nm,0.8s
XAN pmax pmax
comp=Z,35μm,8.4s
XAN LR LR
comp=Z,13μm,13.0s
XAN LR LR
comp=Z,46μm,16.3s
XAN LR LR
comp=Z,70μm,18.4s
XAN Xi'an 37.95 308 IAmb IAmb 06 21 55.2
comp=Z,664nm,0.9s
SKR Severo-Kuril's 37.97 12*d iP* **P 06 21 49.6 -0.3**
SKR *e* 06 23 58.7
SKR *eS* **S 06 27 26.4 -4.8**
SKR pmax pmax
comp=Z,7μm,5.2s
SKR pmax pmax
comp=Z,196nm,1.5s
SKR MLR MLR
comp=Z,14μm,16.0s
SKR MLR MLR
comp=Z,13μm,17.0s
MIDW Midway 38.21 62 P **P 06 21 54.6 +2.2**
TBJI Tambak Boyo 38.33 240 P **P 06 21 56.2 +2.7**
comp=Z,34μmcomp=Z,17μmcomp=Z,375nm,1.2s
AS31 Alice Springs 38.66 196 P **P 06 21 55.8 -0.3**
ASAR Alice Springs 38.66 196 P **P 06 21 55.5 -0.7**
comp=Z,200nm,0.4s,baz=3.1,slow=4.8,SNR=105
ASAR PP **PP 06 23 29.6 +1.9**
comp=Z,132nm,1.0s,baz=18,slow=12,SNR=7.0
ASAR PcP **PcP 06 24 07.5 +2.0**
comp=Z,77nm,0.8s,baz=18,slow=2.7,SNR=3.1
ASAR ScP **ScP 06 27 40.1 -0.3**
comp=Z,75nm,0.9s,baz=15,slow=4.0,SNR=12
ASAR PKiKP **PKiKP 06 31 18.6 -0.7**
comp=Z,7.6nm,0.9s,baz=34,slow=1.4,SNR=6.1
ASAR LR LR 06 37 27.9
comp=Z,38μm,20.0s,baz=7.5,slow=35
ASAR P3KPbc 06 51 58.8
comp=Z,3.5nm,0.5s,baz=188,slow=4.1,SNR=36
ASAR P3KP 06 53 27.6
comp=Z,1.2nm,0.9s,baz=150,slow=1.2,SNR=4.2
ASAR Alice Springs 38.66 196 P **P 06 21 55.9 -0.3**
NGJI Ngawi 38.95 239 P **P 06 22 01.3 +2.6**
comp=Z,93μmcomp=Z,19μmcomp=Z,528nm,1.0s
PWJI Pagerwojo 39.02 238 P **P 06 21 58.4 -0.8**
comp=Z,55μmcomp=Z,32μmcomp=Z,3μm,0.8s
HHC Hu-ho-hao-te 39.35 319 ⇓*iP* **P 06 22 04.0 +2.2**
HHC pP pwP 06 22 35.4 -1.3
HHC sP sP 06 22 51.5 +3.7
HHC S **S 06 27 54.1 +1.5**
HHC sS sS 06 28 48.8 +3.1
HHC pmax pmax
comp=Z,1μm,1.5s
HHC pmax pmax
comp=Z,21μm,6.0s
HHC LR LR
comp=Z,33μm,15.9s
HHC LR LR
comp=Z,44μm,17.3s
HHC LR LR
comp=Z,66μm,17.5s
NKL Nikolayevsk 39.35 356 *eP* **P 06 22 02.5 +1.0**
NKL *e* 06 24 12.5
NKL *eS* **S 06 27 59.8 +7.9**
NKL pmax pmax
comp=N,11nm,0.8s
NKL pmax pmax
comp=Z,804nm,1.6s
NKL pmax pmax
comp=Z,2μm,2.5s
NKL smax smax
comp=N,25nm,7.7s
NKL MLR MLR
comp=N,181nm,18.0s
NKL MLR MLR
comp=Z,24μm,18.0s
SMRI Semarang 39.64 241 P **P 06 22 05.9 +1.5**
comp=Z,65μmcomp=Z,29μmcomp=Z,487nm,0.9s
SMRI Semarang 39.64 241 P **P 06 22 04.5 0.0**
WOJI Wonogiri, Jawa 39.65 239 P **P 06 22 04.6 +0.1**
comp=Z,29μmcomp=Z,12μmcomp=Z,485nm,1.1s
TPI Tanjungpandan 40.05 248 P **P 06 22 08.1 +0.2**
comp=Z,61μmcomp=Z,19μmcomp=Z,571nm,1.4s
YOGI Yogyakarta 40.16 240 P **P 06 22 09.1 +0.4**
comp=Z,23μmcomp=Z,20μmcomp=Z,2μm,1.2s
BTO Baotou 40.20 318 *eP* **P 06 22 12.0 +3.1**
PEA0B Petropavlovsk- 40.58 12 P **P 06 22 12.4 +0.7**
PEA0B pmax pmax
comp=Z,311nm,1.2s
PEA0B Petropavlovsk- 40.58 12 P **P 06 22 12.4 +0.7**
PETK Petropavlovsk- 40.58 12 P **P 06 22 12.1 +0.4**
comp=Z,46nm,0.5s,baz=175,slow=6.8,SNR=48
PETK PcP **PcP 06 24 12.0 +1.0**
comp=Z,244nm,0.8s,baz=150,slow=2.4,SNR=15
PETK ScP **ScP 06 27 46.7 -0.7**
comp=Z,82nm,0.9s,baz=169,slow=3.3,SNR=8.3
PETK ScS **ScS 06 32 00.7 -1.3**
comp=Z,4.8nm,1.0s,baz=44,slow=4.4,SNR=2.0
PETK LR LR 06 36 34.5
comp=Z,52μm,21.7s,baz=198,slow=32
PETK Petropavlovsk- 40.58 12 P **P 06 22 11.9 +0.2**
PET Petropavlovsk 40.71 13*d iP* **P 06 22 12.7 +0.1**
PET *e**SP **sP 06 22 59.0 0.0**
PET *eS* **S 06 28 14.7 +2.6**
PET pmax pmax
comp=Z,13μm,13.4s
PET pmax pmax
comp=Z,581nm,1.3s
PET MLR MLR
comp=Z,19μm,19.0s
PET MLR MLR
comp=Z,18μm,18.0s
PET Petropavlovsk 40.71 13 P **P 06 22 14.9 +2.2**
KMI Kunming 40.77 292 ⇓*iP* **P 06 22 15.9 +2.0**
KMI pP pP 06 22 45.3 +1.1
KMI PP **PP 06 23 49.5 -1.3**
KMI S **S 06 28 14.1 -0.3**
KMI sS sS 06 29 08.6 +0.9
KMI pmax pmax
comp=Z,540nm,1.1s
KMI pmax pmax
comp=Z,22μm,5.5s
KMI LR LR
comp=Z,37μm,16.6s
KMI LR LR
comp=Z,23μm,15.5s
KMI LR LR
comp=Z,31μm,28.5s
HIA Hailar 40.77 335 IAmb IAmb 06 22 21.2
comp=Z,1μm,1.0s
FUNA Funafuti 41.00 121 P **P 06 22 16.8 +1.3**
FUNA IAmb IAmb 06 22 49.9
comp=Z,2μm,1.6s
CD2 Chengdu 41.05 301 P **P 06 22 17.3 +1.4**
CD2 pP pwP 06 22 48.8 -2.6
CD2 PP **PP 06 23 55.1 +1.6**
CD2 S **S 06 28 17.9 -0.1**
CD2 sS sS 06 29 10.8 -0.6
CD2 SS **SS 06 31 21.8 -4.3**
CD2 pmax pmax
comp=Z,2μm,0.9s
CD2 pmax pmax
comp=Z,33μm,7.5s
CD2 LR LR
comp=Z,29μm,16.9s
CD2 LR LR
comp=Z,39μm,14.9s
CD2 LR LR
comp=Z,35μm,14.5s
KPJI Karang Pucung 41.06 241 P **P 06 22 16.5 +0.4**
comp=Z,58μmcomp=Z,19μmcomp=Z,903nm,0.8s
PPBI Pangkal Pinang 41.19 250 P **P 06 22 18.5 +1.3**
comp=Z,52μmcomp=Z,159nm,2.2s
JCJI Jatiwangi 41.21 243 P **P 06 22 19.2 +1.8**
comp=Z,58μmcomp=Z,43μmcomp=Z,2μm,1.0s
TPRI Tanjung Pinang 41.55 255 P **P 06 22 20.4 +0.3**
comp=Z,52μmcomp=Z,53μmcomp=Z,416nm,1.0s
DZM Mont Dzumac 41.67 149 *eP* **P 06 22 21.8 +0.8**
comp=Z,2μm,1.1s
DZM Mont Dzumac 41.67 149 P **P 06 22 21.8 +0.8**
DZM IAmb IAmb 06 22 24.5
comp=Z,861nm,1.1s
CMJI Cimerak 41.70 241 P **P 06 22 20.6 -0.8**
comp=Z,28μmcomp=Z,6μmcomp=Z,253nm,0.6s
MYKOM Kota Tinggi 41.90 257 IAmb IAmb 06 22 27.4
comp=Z,2μm,1.1s
DSRI Dabo 41.99 253 P **P 06 22 23.7 0.0**
comp=Z,32μmcomp=Z,13μmcomp=Z,402nm,1.5s
PBKT Sadao Pong 42.01 279 IAmb IAmb 06 22 28.2
comp=Z,1μm,0.7s
ZEA Zeya 42.09 345*d iP* **P 06 22 24.7 +0.8**
ZEA *e**PP **pwP 06 23 00.5 +1.0**
ZEA *i* 06 23 12.0
ZEA *e* 06 24 02.0
ZEA *e*PPP PPP 06 24 38.0
ZEA *eS* **S 06 28 30.0 -2.5**
ZEA *eSS* **SS 06 31 41.0 -4.6**
ZEA *e*SSS SSS 06 32 11.0
ZEA pmax pmax
comp=N,990nm,1.2s
ZEA pmax pmax
comp=Z,2μm,1.4s
ZEA pmax pmax
comp=Z,33μm,6.0s
ZEA pmax pmax
comp=E,8μm,8.0s
ZEA pmax pmax
comp=N,19μm,6.0s
ZEA pmax pmax
comp=E,4μm,5.0s
ZEA pmax pmax
comp=N,7μm,4.0s
ZEA smax smax
comp=N,22μm,11.0s
CISI Cisompet, Garu 42.13 242 P **P 06 22 23.4 -1.5**
comp=N,50μmcomp=N,12μmcomp=N,850nm,0.6s
CISI Cisompet, Garu 42.13 242 IAmb IAmb 06 22 29.0
comp=Z,546nm,0.5s
CBJI Citeko 42.41 244 P **P 06 22 28.2 +1.1**
comp=Z,58μmcomp=Z,24μmcomp=Z,528nm,1.4s
TNG Tangerang 42.48 245 P **P 06 22 30.2 +2.6**
comp=Z,58μmcomp=Z,47μmcomp=Z,2μm,1.1s
DBJI Dramaga 42.56 244 P **P 06 22 29.4 +1.0**
comp=Z,25μmcomp=Z,247nm,1.0s
LZH Lanzhou 42.58 309 ⇓*iP* **P 06 22 30.4 +2.0**
LZH pP pP 06 22 59.0 0.0
LZH sP sP 06 23 18.1 +3.5
LZH PP **PP 06 24 11.8 +1.8**
LZH ScP **ScP 06 27 56.3 +0.4**
LZH S **S 06 28 44.3 +3.7**
LZH sS sS 06 29 34.8 +0.5
LZH SS **SS 06 31 52.8 -3.2**
LZH ScS **ScS 06 32 16.1 +0.9**
LZH pmax pmax
comp=Z,1μm,1.2s
LZH pmax pmax
comp=Z,31μm,6.0s
LZH LR LR
comp=Z,61μm,15.0s
LZH LR LR
comp=Z,45μm,15.3s
LZH LR LR
comp=Z,53μm,16.5s
CNJI Cibinong 42.60 243 P **P 06 22 27.9 -0.7**
comp=Z,12μmcomp=Z,440nm,1.0s
PSA00 Pilbara Seismi 42.68 215 P **P 06 22 28.8 -0.3**
PSA00 IAmb IAmb 06 22 32.5
comp=Z,774nm,0.8s
PSA00 Pilbara Seismi 42.68 215 P **P 06 22 28.5 -0.6**
PSA00 IAmb IAmb 06 22 31.6
comp=Z,312nm,0.9s
PMBI Palembang 42.74 250 P **P 06 22 32.9 +3.1**
comp=Z,56μmcomp=Z,57μmcomp=Z,630nm,0.9s
PMBI Palembang 42.74 250 P **P 06 22 29.6 -0.2**
PMBI IAmb IAmb 06 22 33.2
comp=Z,2μm,1.3s
SBJI Serang 42.91 245 P **P 06 22 31.7 +0.6**
comp=Z,50μmcomp=Z,26μmcomp=Z,930nm,1.8s
BLSI Bandar Lampung 43.35 247 P **P 06 22 34.7 0.0**
comp=Z,49μmcomp=Z,24μmcomp=Z,1μm,1.2s
KLSI 43.51 248 P **P 06 22 35.4 -0.6**
comp=Z,16μmcomp=Z,10μmcomp=Z,468nm,1.7s
CGJI Cibinong 43.52 245 P **P 06 22 34.0 -2.0**
comp=Z,40μmcomp=Z,18μmcomp=Z,973nm,0.8s
IPM Ipoh 43.82 262 P **P 06 22 36.8 -1.7**
IPM Ipoh 43.82 262 P **P 06 22 37.0 -1.5**
CHTO Chiang Mai 43.89 283 P **P 06 22 39.7 +0.7**
CHTO pmax pmax
comp=Z,143nm,0.8s
CHTO Chiang Mai 43.89 283 P **P 06 22 39.7 +0.7**
CM31 Chiang Mai Arr 43.89 282 P **P 06 22 40.6 +1.5**
CM31 IAmb IAmb 06 22 42.7
comp=Z,576nm,0.8s
CMAR Chiang Mai Arr 43.89 282 P **P 06 22 40.4 +1.4**
comp=Z,392nm,0.6s,baz=83,slow=6.2,SNR=362
CMAR PcP **PP 06 24 23.9 -0.3**
comp=Z,49nm,0.6s,baz=97,slow=1.4,SNR=9.1
CMAR ScP **ScP 06 28 02.2 +0.8**
comp=Z,16nm,0.9s,baz=83,slow=2.1,SNR=3.1
CMAR LR LR 06 38 42.3
comp=Z,18μm,21.4s,baz=145,slow=33
CMAR Chiang Mai Arr 43.89 282 P **P 06 22 38.9 -0.1**
CMAR 06 24 23.9
CMAR Chiang Mai Arr 43.89 282 P **P 06 22 38.9 -0.1**
MDSI Maura Dua 43.92 248 P **P 06 22 38.4 -0.9**
comp=Z,42μmcomp=Z,25μmcomp=Z,1μm,1.2s
KULM Kulim 43.97 263 P **P 06 22 40.0 +0.3**
KULM IAmb IAmb 06 22 44.1
comp=Z,2μm,1.5s
LHSI Lahat 44.24 250 P **P 06 22 41.6 -0.2**
comp=Z,70μmcomp=Z,40μmcomp=Z,1μm,1.3s
LWLI Liwa 44.26 248 P **P 06 22 41.6 -0.5**
comp=Z,26μmcomp=Z,2μm,0.7s
JOHN Johnston Islan 44.40 80 P **P 06 22 44.9 +1.9**
ARMA Armidale 44.52 171 P **P 06 22 43.7 -0.1**
ARMA IAmb IAmb 06 22 49.8
comp=Z,2μm,2.0s
MNAI Manna 44.98 249 P **P 06 22 47.1 -0.6**
comp=Z,52μmcomp=Z,57μmcomp=Z,3μm,1.3s
MNAI Manna 44.98 249 P **P 06 22 46.5 -1.2**
KSI Kapahiang 45.02 250 P **P 06 22 47.2 -0.9**
comp=Z,41μmcomp=Z,24μmcomp=Z,1μm,0.7s
BKNI Bangkinang 45.03 256 P **P 06 22 48.4 +0.3**
comp=Z,53μmcomp=Z,13μmcomp=Z,610nm,1.2s
BKNI Bangkinang 45.03 256 P **P 06 22 47.2 -0.8**
BKNI IAmb IAmb 06 23 25.4
comp=Z,798nm,1.0s
SDSI Sungai Dareh 45.09 255 P **P 06 22 47.6 -0.9**
comp=Z,366nm,1.2s
SMY Shemya 45.42 25 P **P 06 22 52.4 +1.9**
SMY pmax pmax
comp=Z,901nm,1.2s
SMY Shemya 45.42 25 P **P 06 22 52.4 +1.9**
SMY IAmb IAmb 06 22 56.3
comp=Z,901nm,1.2s
CIT Chita 45.45 334 *eP* **P 06 22 52.5 +1.6**
CIT *e* 06 23 29.0
CIT *e* 06 24 42.4
CIT *e* 06 25 21.8
CIT *e* 06 29 22.1
CIT *e* 06 30 17.7
CIT pmax pmax
comp=Z,5μm,2.4s
XMIS Christmas Isla 45.45 240 P **P 06 22 49.4 -2.0**
XMIS IAmb IAmb 06 22 52.6
comp=Z,1μm,1.1s
KRJI Kerinci 45.47 253 P **P 06 22 52.1 +0.4**
comp=Z,54μmcomp=Z,50μmcomp=Z,2μm,1.2s
STKA Stephens Creek 45.52 183 P **P 06 22 50.9 -0.7**
comp=Z,534nm,0.7s,baz=349,slow=8.6,SNR=154
STKA ScP **ScP 06 28 07.9 +0.3**
comp=Z,33nm,0.9s,baz=320,slow=5.6,SNR=3.7
STKA S **S 06 29 17.4 -5.5**
comp=Z,56nm,1.1s,baz=102,slow=18,SNR=4.7
STKA PKPPKP **P'P'df 06 54 16.4 -4.2**
comp=Z,2.5nm,0.7s,baz=337,slow=8.0,SNR=2.8
STKA Stephens Creek 45.52 183 P **P 06 22 50.9 -0.7**
STKA pmax pmax
comp=Z,134nm,0.7s
STKA Stephens Creek 45.52 183 P **P 06 22 50.9 -0.7**
MSVF Nonsavu 45.61 132*d iP* **P 06 22 53.9 +1.2**
MSVF pmax pmax
comp=Z,561nm,1.0s
MSVF Nonsavu 45.61 132 P **P 06 22 53.8 +1.1**
MA2 Magadan 45.91 4 LR LR 06 39 23.5
comp=Z,22μm,21.3s,baz=192,slow=32
MA2 Magadan 45.91 4*d iP* **P 06 22 54.4 0.0**
MA2 pmax pmax
comp=Z,1μm,2.4s
MA2 Magadan 45.91 4 P **P 06 22 54.9 +0.5**
ULN Ulaanbaatar 45.98 325*ceP* **P 06 22 57.0 +1.8**
ULN pmax pmax
comp=Z,1μm,1.7s
ULN Ulaanbaatar 45.98 325 P **P 06 22 57.1 +1.9**
ULN IAmb IAmb 06 22 59.7
comp=Z,2μm,1.7s
PDSI Padang 45.99 255 P **P 06 22 53.7 -2.0**
comp=Z,30μmcomp=Z,8μmcomp=Z,229nm,0.9s
MNSI Mandailing Nat 46.26 258 P **P 06 22 57.7 -0.1**
comp=Z,45μmcomp=Z,12μmcomp=Z,275nm,1.2s
PSI Prapat 46.29 261 P **P 06 22 58.0 -0.1**
comp=Z,368nm,0.9s,baz=1.0,slow=1.5,SNR=61
PSI Prapat 46.29 261 P **P 06 22 58.1 -0.1**
PSI pmax pmax
comp=Z,545nm,1.1s
RPSI Rantau Prapat 46.32 260 P **P 06 22 58.1 -0.1**
SONM Songino Array 46.32 325 P **P 06 22 59.7 +1.7**
comp=Z,174nm,0.6s,baz=134,slow=5.5,SNR=377
SONM ScP **ScP 06 28 11.2 +0.1**
comp=Z,28nm,1.0s,baz=108,slow=1.6,SNR=3.8
SONM PKiKP **PKiKP 06 31 25.3 -0.4**
comp=Z,6.5nm,0.9s,baz=178,slow=1.6,SNR=5.6
SONM LR LR 06 44 31.8
comp=Z,26μm,18.1s,baz=118,slow=36
SONM P3KP 06 53 13.8
comp=Z,1.5nm,0.9s,baz=197,slow=4.5,SNR=3.5
SONM PKP2ab 06 55 23.7
comp=Z,10.0nm,1.1s,baz=263,slow=2.5,SNR=5.2
SONM Songino Array 46.32 325 P **P 06 22 58.3 +0.3**
KNTN Kanton 46.46 107 P **P 06 23 00.4 +1.0**
KNTN IAmb IAmb 06 23 03.1
comp=Z,799nm,0.9s
GTA Gaotai 46.73 312 ⇓*iP* **P 06 23 03.1 +1.8**
GTA pP pwP 06 23 35.0 -2.3
GTA sP sP 06 23 52.1 +4.3
GTA ScP **ScP 06 28 15.9 +3.0**
GTA S **S 06 29 39.8 -0.7**
GTA sS sS 06 30 34.3 -0.6
GTA ScS **ScS 06 32 40.4 -1.2**
GTA SS **SS 06 33 02.6 -6.1**
GTA pmax pmax
comp=Z,630nm,1.5s
GTA pmax pmax
comp=Z,20μm,11.3s
GTA LR LR
comp=Z,31μm,17.1s
GTA LR LR
comp=Z,22μm,18.2s
GTA LR LR
comp=Z,31μm,17.4s
GIRL Giralia 46.81 220 P **P 06 23 02.0 +0.2**
GIRL IAmb IAmb 06 23 05.4
comp=Z,870nm,1.1s
BBOO Buckleboo 47.06 190 IAmb IAmb 06 23 06.0
comp=Z,1μm,0.8s
PPSI Pulau Pagai 47.07 253 P **P 06 23 03.5 -0.5**
comp=Z,22μmcomp=Z,845nm,1.5s
FORT Forrest 47.07 199 P **P 06 23 03.6 -0.1**
FORT IAmb IAmb 06 23 06.9
comp=Z,1μm,0.8s
LKP Lekhapani 47.19 294 ⇓*iP* **P 06 23 05.3 +0.5**
LKP IAmb IAmb 06 23 09.6
comp=Z,1μm,1.4s
SISI Saibi 47.42 255 P **P 06 23 05.0 -1.7**
comp=Z,30μmcomp=Z,11μmcomp=Z,762nm,1.2s
SISI pP **pwP 06 23 41.3 -1.3**
comp=Z,30μmcomp=Z,11μmcomp=Z,762nm,1.2s
LHMI Lhok Sumawe 47.56 264 P **P 06 23 09.3 +1.4**
comp=Z,90μmcomp=Z,41μmcomp=Z,1μm,1.0s
LHMI Lhok Sumawe 47.56 264 IAmb IAmb 06 23 49.6
comp=Z,1μm,1.0s
TPTI 47.84 262 P **P 06 23 09.2 -0.8**
comp=Z,9μmcomp=Z,270nm,1.1s
GSI Gunungsitoli 48.01 259 P **P 06 23 11.3 -0.1**
comp=Z,54μmcomp=Z,15μmcomp=Z,811nm,1.2s
ITAN ITANAGAR 49.05 294 ⇓*iP* **P 06 23 20.4 +1.3**
ADK Adak 49.06 31 P **P 06 23 18.8 0.0**
ADK pmax pmax
comp=Z,574nm,1.1s
ADK Adak 49.06 31 P **P 06 23 18.8 0.0**
YAK Yakutsk 49.30 351 P **P 06 23 21.2 +0.8**
comp=Z,427nm,0.6s,baz=156,slow=1.4,SNR=97
YAK ScP **ScP 06 28 24.2 +1.1**
comp=Z,14nm,0.4s,baz=129,slow=5.0,SNR=4.1
YAK Yakutsk 49.30 351*d iP* **P 06 23 21.4 +1.0**
YAK *e* 06 24 40.3
YAK *e* 06 25 15.9
YAK *eS* **S 06 30 14.6 -1.0**
YAK *e**SS **sS 06 31 11.5 +1.0**
YAK *e* 06 32 51.9
YAK *eSS* **SS 06 33 48.1 -0.8**
YAK pmax pmax
comp=Z,1μm,1.0s
YAK pmax pmax
comp=E,284nm,1.3s
YAK pmax pmax
comp=N,1μm,1.1s
YAK pmax pmax
comp=Z,7μm,4.1s
YAK pmax pmax
comp=E,2μm,3.5s
YAK pmax pmax
comp=N,6μm,3.7s
YAK smax smax
comp=E,8μm,5.7s
YAK smax smax
comp=N,7μm,3.2s
YAK Yakutsk 49.30 351 P **P 06 23 21.7 +1.3**
SEY Seymchan 49.37 5 LR LR 06 42 14.5
comp=N,33μm,20.3s,baz=228,slow=33
SEY Seymchan 49.37 5*d iP* **P 06 23 21.5 +0.6**
ZAK Zakamensk 49.43 326 *eP* **P 06 23 23.4 +1.6**
ZAK pmax pmax
comp=Z,358nm,1.7s
BOD Bodaibo 49.57 339 *eP* **P 06 23 23.7 +1.2**
BOD pmax pmax
comp=Z,829nm,2.0s
IRK Irkutsk 49.95 329 *eP* **P 06 23 25.8 +0.2**
IRK *e* 06 30 30.2
IRK pmax pmax
comp=Z,2μm,1.8s
TLY Talaya 49.96 328 P **P 06 23 27.4 +1.7**
comp=Z,270nm,0.6s,baz=141,slow=6.2,SNR=140
TLY Talaya 49.96 328*d iP* **P 06 23 27.8 +2.2**
TLY *e* 06 25 22.3
TLY *eS* **S 06 30 26.1 +0.9**
TLY *eSS* **SS 06 34 03.8 +4.0**
TLY pmax pmax
comp=Z,2μm,1.8s
TLY MLR MLR
comp=Z,51μm,19.0s
TLY Talaya 49.96 328 P **P 06 23 27.4 +1.7**
DGPR DIGLIPUR 50.04 276 ⇓*iP* **P 06 23 25.7 -1.1**
DGPR IAmb IAmb 06 23 29.8
comp=Z,312nm,0.6s
SHL Shillong 50.59 292 ⇓*iP* **P 06 23 31.1 +0.1**
SHL IAmb IAmb 06 23 34.2
comp=Z,340nm,0.6s
SHL Shillong 50.59 292 P **P 06 23 30.6 -0.4**
BELO BELONIA 50.91 289 ⇓*iP* **P 06 23 34.4 +1.2**
AGT Agartala 51.10 290 ⇓*iP* **P 06 23 36.6 +2.0**
TOO Toolangi 51.12 179 IAmb IAmb 06 23 38.7
comp=Z,986nm,0.8s
AFI Afiamalu 51.34 121 P **P 06 23 37.2 +0.7**
comp=Z,265nm,0.9s,baz=240,slow=4.3,SNR=24
AFI Afiamalu 51.34 121 P **P 06 23 37.9 +1.4**
AFI pmax pmax
comp=Z,240nm,0.8s
AFI Afiamalu 51.34 121 P **P 06 23 37.9 +1.4**

MOY	**Mondy**	**51.34 327**	*e*P	**P**	**06 23 36.7 +0.6**
MOY			pmax	pmax	
	comp=Z,2μm,4.4s				
LSA	**Lhasa**	**51.55 297**	P	**P**	**06 23 40.3 +1.8**
LSA			S	**S**	**06 30 48.3 -0.4**
LSA			pmax	pmax	
	comp=Z,76μm,11.0s				
LSA			LR	LR	
	comp=Z,16μm,16.4s				
LSA			LR	LR	
	comp=Z,44μm,15.3s				
LSA			LR	LR	
	comp=Z,63μm,18.9s				
LSA	**Lhasa**	**51.55 297**	IAmb	IAmb	06 23 46.8
	comp=Z,480nm,0.7s				
NWAO	**Narrogin (SRO)**	**53.27 209**	P	**P**	**06 23 49.6 -0.9**
NWAO			pmax	pmax	
	comp=Z,135nm,0.9s				
NWAO	**Narrogin (SRO)**	**53.27 209**	P	**P**	**06 23 49.6 -0.9**
NIKH	**Nikolski High**	**53.69 33**	IAmb	IAmb	06 23 56.5
	comp=Z,886nm,1.3s				
COCO	**West Island**	**53.83 244**	P	**P**	**06 23 56.4 +1.6**
COCO			pmax	pmax	
	comp=Z,661nm,1.3s				
COCO	**West Island**	**53.83 244**	P	**P**	**06 23 56.4 +1.6**
COCO			IAmb	IAmb	06 24 35.5
	comp=Z,661nm,1.2s				
TAPN	**Taplejung**	**54.40 294**	*e*P	**P**	**06 24 00.3 +1.1**
	comp=Z,1μm,1.1s				
TAPN	**Taplejung**	**54.40 294**	*e*P	**P**	**06 24 00.3 +1.1**
	comp=Z,1μm,1.1s				
ODAN	**Odare**	**54.67 293**	*e*P	**P**	**06 24 02.1 +1.0**
	comp=Z,2μm,1.4s				
ODAN	**Odare**	**54.67 293**	*e*P	**P**	**06 24 02.1 +1.0**
	comp=Z,2μm,1.4s				
OPA	**Opana**	**55.08 73**	P	**P**	**06 24 05.8 +2.0**
OPA			pmax	pmax	
	comp=Z,4μm,1.4s				
OPA	**Opana**	**55.08 73**	P	**P**	**06 24 05.8 +2.0**
KIP	**Kipapa**	**55.09 73**	*d i*P	**P**	**06 24 05.9 +2.0**
KIP			pmax	pmax	
	comp=Z,3μm,1.0s				
KIP	**Kipapa**	**55.09 73**	P	**P**	**06 24 05.5 +1.7**
HON	**Honolulu**	**55.10 74**	P	**P**	**06 24 06.6 +2.6**
HON			pmax	pmax	
	comp=Z,3μm,0.9s				
HON	**Honolulu**	**55.10 74**	P	**P**	**06 24 06.6 +2.6**
SPIA	**Saint Paul Isl**	**55.16 28**	IAmb	IAmb	06 25 06.4
	comp=Z,1μm,1.6s				
UNV	**Unalaska Valle**	**55.34 33**	IAmb	IAmb	06 24 12.1
	comp=Z,609nm,1.3s				
RAMN	**Ramite**	**55.38 293**	*e*P	**P**	**06 24 07.2 +1.0**
	comp=Z,415nm,0.8s				
RAMN	**Ramite**	**55.38 293**	*e*P	**P**	**06 24 07.2 +1.0**
	comp=Z,415nm,0.8s				
NIUE	**Niue**	**55.55 125**	IAmb	IAmb	06 24 47.6
	comp=Z,1μm,1.5s				
JIRN	**Jiri**	**55.76 294**	*e*P	**P**	**06 24 10.2 +1.1**
	comp=Z,2μm,1.0s				
JIRN	**Jiri**	**55.76 294**	*e*P	**P**	**06 24 10.2 +1.1**
	comp=Z,2μm,1.0s				
AKUT	**Akutan**	**55.86 33**	P	**P**	**06 24 09.8 +1.0**
AKUT			IAmb	IAmb	06 24 15.0
	comp=Z,536nm,0.7s				
BOK	**Bokaro**	**56.01 289** ⇓	*i*P	**P**	**06 24 11.5 +1.0**
BOK			IAmb	IAmb	06 24 13.6
	comp=Z,466nm,0.8s				
GUN	**Gumba**	**56.05 294**	*e*P	**P**	**06 24 12.2 +1.1**
	comp=Z,2μm,0.9s				
GUN	**Gumba**	**56.05 294**	*e*P	**P**	**06 24 12.2 +1.1**
	comp=Z,2μm,0.9s				
RAO	**Raoul Island**	**56.14 140**	P	**P**	**06 24 11.9 +0.7**
	comp=Z,980nm,0.9s,baz=308,slow=4.5,SNR=8.2				
RAO	**Raoul Island**	**56.14 140**	P	**P**	**06 24 12.3 +1.1**
RAO			pmax	pmax	
	comp=Z,944nm,0.9s				
RAO	**Raoul Island**	**56.14 140**	P	**P**	**06 24 12.3 +1.1**
RAO			IAmb	IAmb	06 24 15.5
	comp=Z,944nm,0.9s				
BWNR	**Bhubaneshwar**	**56.22 285**	IAmb	IAmb	06 24 06.2
	comp=Z,141nm,0.9s				
PKI	**Pulchoki**	**56.45 294**	*e*P	**P**	**06 24 14.5 +0.5**
	comp=Z,317nm,0.6s				
PKI	**Pulchoki**	**56.45 294**	*e*P	**P**	**06 24 14.5 +0.5**
	comp=Z,317nm,0.6s				
PKIN	**Phulchoki**	**56.47 294**	*e*P	**P**	**06 24 14.4 +0.4**
	comp=Z,514nm,0.8s				
PKIN	**Phulchoki**	**56.47 294**	*e*P	**P**	**06 24 14.4 +0.4**
	comp=Z,514nm,0.8s				
TAU	**Tasmania Unive**	**56.51 177**	P	**P**	**06 24 14.1 +0.7**
TAU			pmax	pmax	
	comp=Z,447nm,0.9s				
TAU	**Tasmania Unive**	**56.51 177**	P	**P**	**06 24 14.1 +0.7**
TAU			IAmb	IAmb	06 24 17.0
	comp=Z,447nm,0.9s				
KKN	**Kakani**	**56.57 294**	*e*P	**P**	**06 24 15.4 +0.7**
	comp=Z,647nm,0.9s				
KKN	**Kakani**	**56.57 294**	*e*P	**P**	**06 24 15.4 +0.7**
	comp=Z,647nm,0.9s				
WMQ	**Urumqi**	**56.70 314**	P	**P**	**06 24 17.5 +2.4**
WMQ			pP	pwP	06 24 55.0 +2.5
WMQ			ScP	**ScP**	**06 28 54.9 -1.0**
WMQ			S	**S**	**06 31 59.6 +2.9**
WMQ			sS	sS	06 32 56.6 +4.7
WMQ			pmax	pmax	
	comp=Z,530nm,2.1s				
WMQ			pmax	pmax	
	comp=Z,11μm,3.6s				
WMQ			LR	LR	
	comp=Z,25μm,20.3s				
WMQ			LR	LR	
	comp=Z,11μm,21.1s				
WMQ			LR	LR	
	comp=Z,12μm,24.3s				
WMQ	**Urumqi**	**56.70 314**	IAmb	IAmb	06 24 23.3
	comp=Z,621nm,0.7s				
DMN	**Daman**	**56.72 294**	*e*P	**P**	**06 24 16.6 +0.8**
	comp=Z,903nm,0.9s				
DMN	**Daman**	**56.72 294**	*e*P	**P**	**06 24 16.6 +0.8**
	comp=Z,903nm,0.9s				
GKN	**Gorkha**	**57.15 294**	*e*P	**P**	**06 24 19.2 +0.6**
	comp=Z,2μm,1.1s				
GKN	**Gorkha**	**57.15 294**	*e*P	**P**	**06 24 19.2 +0.6**
	comp=Z,2μm,1.1s				
FALS	**False Pass**	**57.41 33**	IAmb	IAmb	06 24 24.7
	comp=Z,782nm,0.8s				
POHA	**Pohakuloa**	**57.50 75**	P	**P**	**06 24 23.2 +1.9**
SBLHI	**Steaming Bluff**	**57.77 76**	P	**P**	**06 24 24.4 +1.4**
KKO	**Keanakako`i**	**57.78 76**	P	**P**	**06 24 24.9 +1.8**
BYL	**Byron's Ledge**	**57.78 76**	P	**P**	**06 24 25.0 +1.8**
STCH	**Steam Cracks**	**57.91 76**	P	**P**	**06 24 26.1 +2.1**
NPOC	**North of Pu'u**	**57.92 76**	P	**P**	**06 24 26.0 +1.9**
CHLP	**Challavanipeta**	**57.99 283**	*e*P	**P**	**06 24 25.7 +1.2**
CHLP			IVmB_BB		06 24 26.9
	comp=Z,9μm,3.5s				
KOLN	**Koldanda**	**58.06 294**	*e*P	**P**	**06 24 25.8 +0.7**
	comp=Z,1μm,0.9s				
KOLN	**Koldanda**	**58.06 294**	*e*P	**P**	**06 24 25.8 +0.7**
	comp=Z,1μm,0.9s				
DGZ	**Jazzator, Alta**	**58.42 320**	*d i*P	**P**	**06 24 28.7 +1.6**
DGZ			pmax	pmax	
	comp=Z,300nm,0.6s				
XMAS	**Kiritimati**	**58.55 96**	P	**P**	**06 24 31.0 +2.6**
TIXI	**Tiksi**	**58.57 354**	*d i*P	**P**	**06 24 27.4 -0.1**
TIXI			pmax	pmax	
	comp=Z,366nm,1.1s				
TIXI	**Tiksi**	**58.57 354**	P	**P**	**06 24 27.8 +0.2**
PYUN	**Piuthan**	**58.60 295**	*e*P	**P**	**06 24 29.5 +0.6**
	comp=Z,468nm,0.5s				
PYUN	**Piuthan**	**58.60 295**	*e*P	**P**	**06 24 29.5 +0.6**
	comp=Z,468nm,0.5s				
SDPT	**Sand Point**	**59.16 33**	IAmb	IAmb	06 24 36.2
	comp=Z,823nm,0.8s				
TGRZ	**Tauranga**	**59.33 151**	P	**P**	**06 24 34.9 +1.6**
CNBA	**Chernabura Isl**	**59.44 34**	IAmb	IAmb	06 25 23.2
	comp=Z,1μm,1.7s				
ZSN	**Zaisan**	**59.48 317** ⇓	*i*P	**P**	**06 24 35.9 +1.5**
	comp=Z,181nm,1.8s,baz=317				
ZSN			*e*S	**S**	**06 32 33.9 +1.3**
	comp=Z,746nm,4.0s,baz=317				
ZSN	**Zaisan**	**59.48 317**	*d i*P	**P**	**06 24 35.8 +1.5**
ZSN			*e*S	**S**	**06 32 33.9 +1.3**
ZSN			pmax	pmax	
	comp=Z,181nm,1.8s				
ZSN			smax	smax	
	comp=N,746nm,4.0s				
TLZ	**Tolley Road**	**59.48 152**	P	**P**	**06 24 35.9 +1.5**
OMRZ	**Omania**	**59.69 151**	P	**P**	**06 24 38.2 +2.4**
HSRZ	**Hossack Road**	**59.79 151**	P	**P**	**06 24 39.2 +2.7**
TARZ	**Mount Tarawera**	**59.85 151**	P	**P**	**06 24 39.7 +2.7**
HRRZ	**Handcock Road**	**59.87 151**	P	**P**	**06 24 38.6 +1.6**
PRRZ	**Plateau Road**	**60.01 151**	P	**P**	**06 24 38.8 +0.9**
TWVZ	**Taurewa**	**60.04 152**	P	**P**	**06 24 40.2 +2.0**
WTVZ	**West Tongariro**	**60.14 152**	P	**P**	**06 24 40.5 +1.5**
URZ	**Urewera**	**60.16 151**	P	**P**	**06 24 38.4 -0.5**
	comp=N,207nm,0.9s,baz=5.2,slow=0.3,SNR=49				
URZ	**Urewera**	**60.16 151**	P	**P**	**06 24 38.7 -0.2**
URZ	**Urewera**	**60.16 151**	IAmb	IAmb	06 25 13.9
	comp=Z,869nm,1.6s				
PKVZ	**Pokaka**	**60.17 153**	P	**P**	**06 24 41.3 +2.1**
MXZ	**Matakaoa Point**	**60.19 149**	P	**P**	**06 24 39.6 +0.5**
RUGZ	**Raukumara Rang**	**60.20 150**	P	**P**	**06 24 39.0 -0.4**
NGZ	**Ngauruhoe**	**60.20 152**	P	**P**	**06 24 40.8 +1.4**
OTVZ	**Oturere**	**60.22 152**	P	**P**	**06 24 41.2 +1.7**
FWVZ	**Far West T-bar**	**60.24 153**	P	**P**	**06 24 41.0 +1.2**
QRZ	**Quartz Range**	**60.27 156**	IAmb	IAmb	06 24 45.9
	comp=Z,501nm,1.0s				
WNVZ	**Wahianoa**	**60.32 153**	P	**P**	**06 24 42.0 +1.8**
MWZ	**Matawai**	**60.42 150**	P	**P**	**06 24 41.3 +0.6**
PVM	**Polavaram**	**60.42 282**	*e*P	**P**	**06 24 41.9 +0.7**
PVM			IVmB_BB		06 24 43.3
	comp=Z,8μm,4.9s				
WMGZ	**Waiomatatini S**	**60.44 149**	P	**P**	**06 24 40.1 -0.7**
MOVZ	**Moawhango**	**60.45 152**	P	**P**	**06 24 41.2 +0.1**
TKGZ	**Te Karaka**	**60.65 150**	P	**P**	**06 24 43.3 +1.0**
RAHZ	**Arahi**	**60.67 151**	P	**P**	**06 24 43.4 +1.0**
MK31	**Makanchi Array**	**61.06 316**	*e*P	**P**	**06 24 46.5 +1.4**
MKAR	**Makanchi Array**	**61.06 316**	P	**P**	**06 24 46.2 +1.2**
	comp=Z,296nm,0.6s,baz=93,slow=8.1,SNR=290				
MKAR			pP	**pP**	**06 25 19.6 +2.0**
	comp=Z,51nm,0.5s,baz=98,slow=8.7,SNR=1.5				
MKAR			LR	LR	06 52 03.6
	comp=Z,17μm,19.4s,baz=92,slow=37				
MKAR	**Makanchi Array**	**61.06 316**	P	**P**	**06 24 45.2 +0.1**
MKAR	**Makanchi Array**	**61.06 316**	P	**P**	**06 24 45.2 +0.1**
PNHZ	**Pukenui**	**61.06 152**	P	**P**	**06 24 45.1 0.0**
TSZ	**Takapari Road**	**61.08 153**	P	**P**	**06 24 45.1 -0.1**
ZAA0	**Zalesovo Array**	**61.21 324**	P	**P**	**06 24 46.8 +0.8**
ZAA0			IAmb	IAmb	06 24 47.7
	comp=Z,824nm,1.9s				
ZALV	**Zalesovo Beam**	**61.21 324**	P	**P**	**06 24 46.6 +0.7**
	comp=Z,55nm,0.4s,baz=109,slow=7.5,SNR=40				
ZALV			pP	**pP**	**06 25 19.7 +1.3**
	comp=Z,60nm,0.8s,baz=107,slow=7.9,SNR=2.8				
ZALV			S	**S**	**06 32 57.2 +2.9**
	comp=Z,10nm,1.0s,baz=106,slow=14,SNR=4.0				
ZALV			LR	LR	06 50 30.1
	comp=Z,21μm,21.9s,baz=96,slow=35				
ZALV			PKPPKP	**P'P'df**	**06 53 59.9 -0.9**
	comp=Z,53nm,1.0s,baz=298,slow=3.1,SNR=13				
MAKZ	**Makanchi**	**61.27 316**	P	**P**	**06 24 47.6 +1.1**
MAKZ			pmax	pmax	
	comp=Z,412nm,0.7s				
MAKZ	**Makanchi**	**61.27 316**	P	**P**	**06 24 47.6 +1.1**
MAKZ			IAmb	IAmb	06 24 51.3
	comp=Z,412nm,0.7s				
MYLAV	**Mylavaram**	**61.42 282**	*e*P	**P**	**06 24 48.9 +0.9**
MYLAV			IVmB_BB		06 24 50.2
	comp=Z,7μm,5.3s				
SNZO	**South Karori**	**61.56 154**	P	**P**	**06 24 47.5 -0.9**
SNZO			IAmb	IAmb	06 24 52.1
	comp=Z,1μm,1.4s				
CHIR	**Chirikof Islan**	**61.91 34**	IAmb	IAmb	06 24 55.7
	comp=Z,880nm,1.2s				
ADKI	**Addanki**	**62.17 281**	*e*P	**P**	**06 24 53.6 +0.7**
ADKI			IVmB_BB		06 24 55.0
	comp=Z,7μm,5.1s				
RPZ	**Rata Peaks**	**62.19 158**	P	**P**	**06 24 52.4 -0.1**
	comp=Z,476nm,0.8s,baz=262,slow=0.4,SNR=77				
RPZ	**Rata Peaks**	**62.19 158**	IAmb	IAmb	06 24 56.9
	comp=Z,463nm,0.8s				
OXZ	**Oxford**	**62.22 158**	IAmb	IAmb	06 24 54.1
	comp=Z,349nm,0.9s				
MDRS	**Chennai**	**62.30 278** ⇓	*i*P	**P**	**06 24 54.6 +0.8**
MDRS			IAmb	IAmb	06 24 56.6
	comp=Z,203nm,0.6s				
DCZ	**Deep Cove**	**62.48 162**	P	**P**	**06 24 54.1 -0.2**
SHLS	**Shalkode**	**62.48 312** ⇓	*i*P	**P**	**06 24 53.6 -1.2**
	comp=Z,196nm,1.7s,baz=312				
SHLS			*i*S	**S**	**06 33 08.0 -3.0**
	comp=Z,694nm,5.5s,baz=312				
SHLS	**Shalkode**	**62.48 312**	*d i*P	**P**	**06 24 53.5 -1.2**
SHLS			*i*S	**S**	**06 33 08.0 -3.0**
SHLS			pmax	pmax	
	comp=Z,196nm,1.7s				
SHLS			smax	smax	
	comp=N,694nm,5.5s				
PDGK	**Podgornoye**	**62.48 312**	P	**P**	**06 24 54.1 -0.7**
MLZ	**Mavora Lakes**	**62.68 161**	P	**P**	**06 24 55.6 -0.2**
SKHT	**Srikalahasti**	**62.71 278**	*e*P	**P**	**06 24 56.6 +0.1**
SKHT			IVmB_BB		06 24 58.4
	comp=Z,6μm,5.3s				
UZB	**Uzynbulak**	**62.80 312** ⇓	*i*P	**P**	**06 24 58.0 +1.0**
	comp=Z,139nm,1.8s,baz=312				
UZB			*e*S	**S**	**06 33 16.0 +0.9**
	comp=Z,653nm,5.0s,baz=312				
UZB	**Uzynbulak**	**62.80 312**	*d i*P	**P**	**06 24 57.9 +1.0**
UZB			*e*S	**S**	**06 33 15.9 +0.9**
UZB			pmax	pmax	
	comp=Z,139nm,1.8s				
UZB			smax	smax	
	comp=E,653nm,5.0s				
PALK	**Pallekele**	**62.88 271**	P	**P**	**06 24 57.8 0.0**
	comp=E,101nm,0.6s,baz=179,slow=7.3,SNR=30				
PALK			LR	LR	06 52 02.6
	comp=E,5μm,19.1s,baz=172,slow=36				
PALK			PKPPKP	**P'P'df**	**06 53 56.8 -3.0**
	comp=E,18nm,1.0s,baz=249,slow=1.6,SNR=3.7				
PALK	**Pallekele**	**62.88 271**	P	**P**	**06 24 56.6 -1.2**
PALK	**Pallekele**	**62.88 271**	P	**P**	**06 24 58.1 +0.3**
PALK			pmax	pmax	
	comp=Z,275nm,1.0s				
PALK	**Pallekele**	**62.88 271**	P	**P**	**06 24 58.1 +0.3**
SII	**Sitkinak Islan**	**62.90 33**	IAmb	IAmb	06 25 01.7
	comp=Z,580nm,0.5s				
DDI	**Dehra Dun**	**62.92 297** ⇓	*i*P	**P**	**06 24 58.2 +0.4**
DDI			IAmb	IAmb	06 25 02.9
	comp=Z,386nm,0.7s				
PYZ	**Puysegur Point**	**62.98 163**	P	**P**	**06 24 58.6 +0.9**
CUPL	**Chuutuppal**	**62.98 283**	*e*P	**P**	**06 24 58.5 +0.1**
KPKS	**Kokpek**	**63.08 312** ⇓	*i*P	**P**	**06 24 59.4 +0.6**
	comp=Z,194nm,1.8s,baz=312				
KPKS	**Kokpek**	**63.08 312**	*d i*P	**P**	**06 24 59.3 +0.6**
KPKS			pmax	pmax	
	comp=Z,194nm,1.8s				
SRLM	**Srisailam**	**63.16 281**	*e*P	**P**	**06 24 59.5 -0.1**
SRLM			IVmBBB		06 25 03.1
	comp=Z,7μm,4.2s				
ODZ	**Otahua Downs**	**63.21 159**	P	**P**	**06 24 59.8 +0.5**
SATY	**Saty**	**63.24 311** ⇓	*i*P	**P**	**06 25 01.0 +1.1**
	comp=Z,172nm,1.4s,baz=311				
SATY			*e*S	**S**	**06 33 21.6 +1.2**
	comp=Z,182nm,3.2s,baz=311				
SATY	**Saty**	**63.24 311**	*d i*P	**P**	**06 25 00.9 +1.1**
SATY			*e*S	**S**	**06 33 21.6 +1.2**
SATY			pmax	pmax	
	comp=Z,172nm,1.4s				
SATY			smax	smax	
	comp=N,182nm,3.2s				
HYB	**Hyderabad**	**63.32 283**	*i* P	**P**	**06 25 01.0 +0.4**
	comp=N,590nm,1.0s				
HYB			*e*PcP	**pP**	**06 25 34.0 +0.4**
HYB			*e*sP	**sP**	**06 25 45.0 -3.6**
HYB			*e*S	**S**	**06 33 22.0 0.0**
HYB			*e*PKPPKP	**P'P'df**	**06 53 53.0 -6.1**
HYB	**Hyderabad**	**63.32 283** ⇓	*i*P	**P**	**06 24 60.0 -0.7**
HYBB	**Hyderabad (bro**	**63.32 283**	*e*P	**P**	**06 25 00.5 -0.2**
HYBB			IVmB_BB		06 25 01.8
	comp=Z,8μm,5.5s				
SRSP	**Sriramsagar**	**63.34 284**	*e*P	**P**	**06 25 00.0 -0.7**
SRSP			IVmB_BB		06 25 01.9
	comp=Z,6μm,5.0s				
TDK	**Taldyqorghan**	**63.46 314**	*i* P	**P**	**06 25 02.3 +1.2**
	comp=Z,341nm,0.8s,baz=314				
TDK			*e*S	**S**	**06 33 24.0 +1.0**
	baz=314				
TDK	**Taldyqorghan**	**63.46 314**	*i* P	**P**	**06 25 02.3 +1.2**
TDK			*e*S	**S**	**06 33 23.9 +1.0**
TDK			pmax	pmax	
	comp=Z,341nm,0.8s				
TARG	**Taragay, Kyrgy**	**63.55 310**	IAmb	IAmb	06 25 44.7
	comp=Z,960nm,1.9s				
OHAK	**Old Harbor**	**63.56 33**	P	**P**	**06 25 03.3 +1.9**
OHAK			IAmb	IAmb	06 25 06.4
	comp=Z,635nm,1.4s				
SMLA	**Simla**	**63.67 298** ⇓	*i*P	**P**	**06 25 02.7 0.0**
SMLA			IAmb	IAmb	06 25 05.9
	comp=Z,242nm,0.7s				
BHPL	**Bhopal**	**63.80 289** ⇓	*i*P	**P**	**06 25 03.7 0.0**
KDJ	**Kajisay**	**64.05 310**	P	**P**	**06 25 06.4 +1.2**
KDJ			pmax	pmax	
	comp=Z,912nm,1.6s				
KDJ	**Kajisay**	**64.05 310**	P	**P**	**06 25 06.4 +1.2**
KDJ			IAmb	IAmb	06 25 08.9
	comp=Z,912nm,1.6s				
KDAK	**Kodiak Island**	**64.08 32**	P	**P**	**06 25 04.8 0.0**
	comp=Z,65nm,0.4s,baz=272,slow=2.1,SNR=104				
KDAK			S	**S**	**06 33 32.8 +2.8**
	comp=Z,28nm,0.9s,baz=137,slow=19,SNR=8.6				
KDAK	**Kodiak Island**	**64.08 32**	P	**P**	**06 25 05.9 +1.1**
TTA	**Tatalina**	**64.12 26**	IAmb	IAmb	06 25 08.0
	comp=Z,869nm,2.0s				
KURK	**Kurchatov**	**64.16 320**	*d i*P	**P**	**06 25 06.0 +0.5**
KURK			pmax	pmax	
	comp=Z,828nm,0.9s				
KURK	**Kurchatov**	**64.16 320**	P	**P**	**06 25 06.2 +0.7**
KURK			IAmb	IAmb	06 25 11.9
	comp=Z,730nm,0.9s				
KURBB	**Kurchatov Arra**	**64.20 320**	P	**P**	**06 25 06.2 +0.4**
	comp=Z,425nm,0.6s,baz=100,slow=6.6,SNR=406				
KURBB			PP	**PP**	**06 27 28.5 -0.1**
	comp=Z,154nm,1.1s,baz=101,slow=6.5,SNR=4.4				
KURBB			S	**S**	**06 33 34.0 +2.2**
	comp=Z,16nm,1.1s,baz=99,slow=10,SNR=6.9				
MDOK	**Medeo**	**64.24 311**	*i* P	**P**	**06 25 07.4 +1.0**
	baz=311				
MDOK			*e*S	**S**	**06 33 33.6 +0.7**
	baz=311				
MDOK	**Medeo**	**64.24 311**	*i* P	**P**	**06 25 07.4 +1.0**
MDOK			*e*S	**S**	**06 33 33.6 +0.7**
TNSS	**Tian-Shan**	**64.30 311**	*e*P	**P**	**06 25 08.9 +1.8**
	baz=311				
TNSS	**Tian-Shan**	**64.30 311**	*e*P	**P**	**06 25 08.9 +1.8**
AAA	**Alma-Ata**	**64.34 311** ⇓	*i*P	**P**	**06 25 08.7 +1.7**
	comp=Z,387nm,1.7s,baz=311				
AAA			*e*S	**S**	**06 33 34.8 +0.9**
	baz=311				
AAA	**Alma-Ata**	**64.34 311**	*d i*P	**P**	**06 25 08.6 +1.7**
AAA			*e*S	**S**	**06 33 34.8 +0.9**
AAA			pmax	pmax	
	comp=Z,387nm,1.7s				
CHKK	**Chushkaly**	**64.34 312**	*e*P	**P**	**06 25 08.1 +1.1**
	baz=312				
CHKK	**Chushkaly**	**64.34 312**	*e*P	**P**	**06 25 08.0 +1.1**
DHRM	**DHARAMSHALA**	**64.40 299** ⇓	*i*P	**P**	**06 25 07.6 -0.1**
DHRM			IAmb	IAmb	06 25 17.1
	comp=Z,301nm,1.0s				
MTBS	**Maitube**	**64.69 311**	*e*P	**P**	**06 25 10.7 +1.4**
	baz=311				
MTBS	**Maitube**	**64.69 311**	*e*P	**P**	**06 25 10.6 +1.4**
ULHL	**Ulahol**	**64.75 310**	P	**P**	**06 25 11.9 +2.0**
	SNR=20				
KSH	**Kashi**	**64.80 307**	P	**P**	**06 25 13.8 +3.7**
KSH			pP	pwP	06 25 48.8 +0.7
KSH			PP	**PP**	**06 27 41.6 +7.3**
KSH			S	**S**	**06 33 44.8 +5.0**
KSH			sS	sS	06 34 42.1 +5.5
KSH			pmax	pmax	
	comp=Z,390nm,0.8s				
KSH			pmax	pmax	
	comp=Z,18μm,7.7s				
KSH			LR	LR	
	comp=Z,30μm,18.1s				
KSH			LR	LR	
	comp=Z,17μm,16.6s				
KSH			LR	LR	
	comp=Z,8μm,17.8s				
KUU	**Kurty**	**64.81 312** ⇓	*i*P	**P**	**06 25 10.7 +0.7**
	baz=312				
KUU			*e*S	**S**	**06 33 40.2 +0.5**
	comp=Z,1μm,5.6s,baz=312				
KUU	**Kurty**	**64.81 312**	*d i*P	**P**	**06 25 10.6 +0.7**
KUU			*e*S	**S**	**06 33 40.2 +0.5**
KUU			smax	smax	
	comp=N,1μm,5.6s				
RAR	**Rarotonga**	**64.87 122**	LR	LR	06 48 09.3
	comp=N,14μm,21.4s,baz=296,slow=31				
RAR	**Rarotonga**	**64.87 122**	P	**P**	**06 25 12.3 +1.8**
RAR			pmax	pmax	
	comp=Z,180nm,1.1s				
RAR	**Rarotonga**	**64.87 122**	P	**P**	**06 25 12.3 +1.8**
URV	**Uravakonda**	**64.88 280**	*e*P	**P**	**06 25 10.4 -0.4**
URV			IVmB_BB		06 25 11.8
	comp=Z,6μm,4.7s				
BOOM	**Boomskoye usch**	**65.00 311**	P	**P**	**06 25 12.8 +1.4**
BOOM			pmax	pmax	
	comp=Z,195nm,0.6s				
BOOM	**Boomskoye usch**	**65.00 311**	P	**P**	**06 25 12.8 +1.4**
HOM	**Homer**	**65.07 30**	P	**P**	**06 25 10.6 -0.6**
	baz=254,SNR=6.6				
HOM			S	**S**	**06 33 37.6 -4.5**
	baz=254				
KLRI	**Killari**	**65.09 284**	*e*P	**P**	**06 25 11.5 -0.7**
KLRI			IVmB_BB		06 25 12.9
	comp=Z,8μm,4.7s				
TKM2	**Tokmak 2**	**65.28 311**	P	**P**	**06 25 13.8 +0.6**
	SNR=74				
BRLK	**Bradley Lake**	**65.46 30**	IAmb	IAmb	06 25 19.3
	comp=Z,278nm,0.6s				
KZA	**Kyzart**	**65.48 310**	P	**P**	**06 25 17.0 +2.2**
	SNR=46				
CAPN	**Captain Cook N**	**65.61 29**	P	**P**	**06 25 15.2 +0.6**
	baz=254				
CAPN			S	**S**	**06 33 43.3 -5.3**
	baz=254				
KBK	**Karagaybulak**	**65.74 311**	P	**P**	**06 25 17.7 +1.6**
	SNR=6.8				
PPLA	**Purkeypile**	**65.75 27**	IAmb	IAmb	06 25 19.9
	comp=Z,2μm,2.0s				
SKT	**Skwentna**	**65.77 28**	P	**P**	**06 25 15.4 -0.4**
NRIK	**Noril'sk**	**65.79 341**	P	**P**	**06 25 16.2 +0.5**
	comp=Z,171nm,0.8s,baz=117,slow=6.8,SNR=114				
NRIK			S	**S**	**06 33 53.3 +2.7**
	comp=Z,8.2nm,0.9s,baz=217,slow=24,SNR=5.5				
NRIK			LR	LR	06 55 43.3
	comp=Z,17μm,19.3s,baz=116,slow=37				
CHMS	**Chumysh**	**65.90 311**	P	**P**	**06 25 17.6 +0.6**
	SNR=33				
SGDS	**Sogindy**	**66.02 312** ⇓	*i*P	**P**	**06 25 17.8 0.0**
	baz=312				
SGDS	**Sogindy**	**66.02 312**	*d i*P	**P**	**06 25 17.8 0.0**
UCH	**Uchtor**	**66.03 310**	P	**P**	**06 25 20.4 +2.0**
	SNR=19				
AAK	**Ala-Archa**	**66.07 311**	P	**P**	**06 25 19.7 +1.4**
	SNR=11				
AAK	**Ala-Archa**	**66.07 311**	*i* P	**P**	**06 25 18.9 +0.7**
	SNR=40				
AAK	**Ala-Archa**	**66.07 311**	*d i*P	**P**	**06 25 19.2 +1.0**
AAK			pmax	pmax	
	comp=Z,656nm,1.9s				
USP	**Ospenovka**	**66.10 311**	P

comp=Z,877nm,1.0s
NIL Nilore 66.94 301 P **P 06 25 24.4 +0.7**
NIL IAmb IAmb 06 26 06.4
comp=Z,877nm,1.0s
KNK Knik Glacier 67.04 29 P **P 06 25 24.0 +0.1**
KNK IAmb IAmb 06 25 30.4
comp=Z,547nm,1.0s
SML Sawmill 67.19 28 IAmb IAmb 06 25 29.4
comp=Z,504nm,0.8s
A21K Barrow 67.28 17 P **P 06 25 25.7 +0.6**
baz=244,SNR=6.2
A21K S **S 06 34 03.6 -4.8**
baz=244
BWN Browne 67.29 26 IAmb IAmb 06 25 30.2
comp=Z,706nm,0.9s
RND Reindeer 67.35 27 P **P 06 25 25.6 -0.2**
RND pmax pmax
comp=Z,240nm,1.0s
RND Reindeer 67.35 27 P **P 06 25 25.6 -0.2**
MCK McKinley 67.40 26 P **P 06 25 25.6 -0.5**
MCK pmax pmax
comp=Z,851nm,1.8s
MCK McKinley 67.40 26 P **P 06 25 25.6 -0.5**
MCK IAmb IAmb 06 25 29.1
comp=Z,851nm,1.8s
GLI Glacier Island 67.56 29 P **P 06 25 27.8 +0.7**
GLI IAmb IAmb 06 25 30.7
comp=Z,847nm,1.5s
NEA2 Nenana 67.57 25 P **P 06 25 26.6 -0.5**
baz=254,SNR=52
NEA2 S **S 06 34 07.3 -4.9**
baz=254
POO Poona 67.62 285⇓ *i*P **P 06 25 27.5 -0.8**
POO IAmb IAmb 06 25 30.0
comp=Z,224nm,0.5s
Q23K Middleton Isla 67.64 31 P **P 06 25 28.3 +0.7**
baz=259,SNR=6.0
Q23K S **S 06 34 12.7 -0.3**
baz=259
MID Middleton Isla 67.64 31 P **P 06 25 29.1 +1.5**
MID pmax pmax
comp=Z,453nm,0.9s
MID Middleton Isla 67.64 31 P **P 06 25 29.1 +1.5**
MID IAmb IAmb 06 25 32.5
comp=Z,453nm,0.9s
SCM Sheep Creek Mo 67.66 28 IAmb IAmb 06 25 32.2
comp=Z,1μm,1.2s
HIN Hinchinbrook I 67.75 30 IAmb IAmb 06 25 32.3
comp=Z,2μm,1.9s
BRZS Berezniki 67.84 319⇓ *i*P **P 06 25 29.3 +0.1**
comp=Z,204nm,1.8s,baz=318
BRZS Berezniki 67.84 319*d i*P **P 06 25 29.2 +0.1**
BRZS pmax pmax
comp=Z,204nm,1.8s
COLD Coldfoot 67.88 22 P **P 06 25 29.9 +0.9**
baz=252,SNR=109
COLD S **S 06 34 13.0 -2.9**
baz=252
GOA Goa 68.08 281⇓ *i*P **P 06 25 29.9 -1.2**
TCOL CIGO, UAF Yank 68.15 25 P **P 06 25 29.9 -0.8**
baz=256,SNR=51
TCOL S **S 06 34 13.1 -5.9**
baz=256
COLA College 68.15 25*d i*P **P 06 25 29.3 -1.4**
COLA pmax pmax
comp=Z,190nm,0.9s
COLA College 68.15 25 P **P 06 25 30.3 -0.3**
KLU Klutina 68.24 29 IAmb IAmb 06 25 35.6
comp=Z,796nm,1.5s
M24K Tolsona, Glenn 68.25 28 P **P 06 25 32.2 +0.7**
baz=258,SNR=57
M24K S **S 06 34 17.8 -2.7**
baz=258
POKR Poker Plat Res 68.38 25 P **P 06 25 31.3 -0.8**
baz=256,SNR=38
POKR S **S 06 34 16.4 -5.5**
baz=256
DZA Taraz 68.41 311 *e*P **P 06 25 32.8 -0.1**
baz=311
DZA Taraz 68.41 311 *e*P **P 06 25 32.7 -0.1**
HDA Harding Lake 68.42 26 P **P 06 25 31.2 -1.2**
baz=257,SNR=34
HDA S **S 06 34 16.3 -6.0**
baz=257
HDA S **S 06 34 16.3 -6.0**
baz=257
IL31 68.53 25 IAmb IAmb 06 25 35.9
comp=Z,627nm,1.2s
ILAR Eielson Array 68.53 25 P **P 06 25 32.4 -0.7**
comp=Z,182nm,0.5s,baz=251,slow=5.7,SNR=264
ILAR PKPPKP **P'P'df 06 53 46.2 -2.0**
comp=Z,28nm,1.2s,baz=62,slow=0.7,SNR=7.6
ILAR LR LR 06 54 00.5
comp=Z,9μm,20.3s,baz=262,slow=34
ILAR P4KPbc 07 02 18.6
comp=Z,6.7nm,1.1s,baz=272,slow=3.2,SNR=21
ILAR Eielson Array 68.53 25 P **P 06 25 30.9 -2.2**
TOLK Toolik Lake Re 68.54 21 P **P 06 25 34.2 +1.1**
baz=252,SNR=116
TOLK S **S 06 34 19.6 -4.1**
baz=252
TOLK Toolik Lake Re 68.54 21 IAmb IAmb 06 25 38.5
comp=Z,894nm,1.4s
KAIM Kayak Island 68.69 31 IAmb IAmb 06 25 39.6
comp=Z,445nm,0.8s
PAX Paxson 68.75 27 IAmb IAmb 06 25 38.3
comp=Z,1000nm,1.6s
HMT Hamilton 68.83 30 IAmb IAmb 06 25 39.2
comp=Z,979nm,1.6s
KK31 Karatay Array 69.01 311 *i* P **P 06 25 36.6 +0.1**
SUCK Suckling Hills 69.03 31 IAmb IAmb 06 25 42.1
comp=Z,1μm,1.8s
MCQ Macquarie Isla 69.16 171 P **P 06 25 38.2 +1.3**
MCQ pmax pmax
comp=Z,509nm,1.1s
MCQ Macquarie Isla 69.16 171 P **P 06 25 38.2 +1.3**
IUG Iuzhnay 69.36 310⇓ *i*P **P 06 25 39.3 +0.4**
baz=310
IUG *e*S **S 06 34 34.7 +0.3**
baz=310
IUG Iuzhnay 69.36 310*d i*P **P 06 25 39.2 +0.4**
IUG *e*S **S 06 34 34.7 +0.3**
CRQM Cirque 69.45 30 IAmb IAmb 06 25 43.5
comp=Z,1μm,1.4s
DOT Dot Lake 69.50 27 P **P 06 25 38.8 -0.4**
BVAR Borovoye Array 69.51 322 P **P 06 25 40.1 +0.8**
comp=Z,261nm,0.6s,baz=126,slow=11,SNR=119
BVAR pP **pP 06 26 14.0 +1.4**
comp=Z,60nm,0.5s,baz=120,slow=9.0,SNR=2.0
MENT Mentasta 69.53 28 P **P 06 25 39.7 +0.4**
WAX Waxell Ridge 69.54 30 IAmb IAmb 06 25 43.8
comp=Z,951nm,1.5s
BRVK Borovoye 69.58 322 P **P 06 25 40.8 +1.1**
BRVK pmax pmax
comp=Z,1μm,1.8s
BRVK Borovoye 69.58 322 P **P 06 25 40.8 +1.1**
BRVK IAmb IAmb 06 26 17.3
comp=Z,1μm,1.8s
MCARA McCarthy VSAT 69.60 29 P **P 06 25 40.1 +0.4**
TGL Tana Glacier 69.60 30 P **P 06 25 40.3 +0.4**
ISLE Juniper Island 69.81 30 IAmb IAmb 06 25 50.0
comp=Z,791nm,1.5s
BALM Baldy 69.87 30 P **P 06 25 41.8 +0.2**
MESA MESA 69.95 31 IAmb IAmb 06 25 47.0
comp=Z,480nm,0.9s
BMAR Burnt Mountain 70.04 23 P **P 06 25 42.6 +0.2**
YAH Yahtse 70.08 31 IAmb IAmb 06 25 47.4
comp=Z,1μm,1.6s
MNCY Minicoy 70.13 274⇓ *i*P **pP 06 26 15.1 -2.2**
MNCY IAmb IAmb 06 26 19.2
comp=Z,235nm,1.0s
CTGM Chitina Glacie 70.35 30 P **P 06 25 45.6 +1.1**
KBL Kabul 70.39 302 P **P 06 25 45.8 +0.4**
KBL Kabul 70.39 302 P **P 06 25 44.9 -0.5**
KBL pmax pmax
comp=Z,184nm,1.0s
KBL Kabul 70.39 302 P **P 06 25 44.9 -0.5**
BCAR Beaver Creek A 70.42 28 P **P 06 25 44.1 -0.7**
K27K Chicken 70.43 27 P **P 06 25 45.7 +0.9**
baz=261,SNR=148
K27K S **S 06 34 42.8 -3.1**
baz=261
BHUJ Bhuj 70.90 290⇓ *i*P **P 06 25 48.4 0.0**
BHUJ IAmb IAmb 06 25 52.7
comp=Z,116nm,0.5s
BHUJ *i* pP **pP 06 26 22.5 +0.6**

EGAK Eagle 70.94 26 P **P 06 25 48.8 +0.9**
EGAK IAmb IAmb 06 25 50.5
comp=Z,1μm,1.9s
BCPM Bancas Point 71.08 31 IAmb IAmb 06 25 53.0
comp=Z,1μm,1.8s
PPT Papeete 72.16 114 P **P 06 25 57.8 +1.8**
comp=Z,816nm,1.0s,baz=13,slow=4.9,SNR=23
PPT LR LR 06 51 31.2
comp=Z,26μm,21.1s,baz=264,slow=31
PPT2 Papeete2 72.16 114 *e*P **P 06 25 58.5 +2.5**
comp=Z,701nm,1.0s
PPT2 Papeete2 72.16 114 *e*T T 07 44 45.8
comp=Z,3.2nm,0.3s
PPTF Pamatai, Papee 72.17 114 IAmb IAmb 06 26 04.1
comp=Z,845nm,1.0s
PAE Paea 72.19 114 *e*P **P 06 25 58.4 +2.3**
comp=Z,72nm,1.0s
PAE Paea 72.19 114 *e*T T 07 44 46.0
comp=Z,2.6nm,0.2s
TIAR Tiarei 72.36 114 *e*P **P 06 25 59.6 +2.5**
comp=Z,224nm,0.9s
TIAR Tiarei 72.36 114 *e*T T 07 44 59.5
comp=Z,2.0nm,0.2s
TVO Taravao 72.52 114 *e*P **P 06 26 00.0 +1.8**
comp=Z,274nm,1.0s
TVO Taravao 72.52 114 *e*T T 07 45 11.1
comp=Z,1.4nm,0.3s
PMOR Pomariorio Ree 72.77 111 *e*P **P 06 26 01.5 +1.9**
comp=Z,874nm,1.0s
PMOR Pomariorio Ree 72.77 111 *e*T T 07 45 30.1
comp=Z,18nm,0.2s
EPYK Eagle Plains 72.95 24 P **P 06 26 00.4 +0.6**
baz=265,SNR=140
EPYK S **S 06 35 11.6 -3.2**
baz=265
EPYK Eagle Plains 72.95 24 IAmb IAmb 06 26 02.7
comp=Z,3μm,2.0s
VAH Vaihoa 73.09 111 *e*P **P 06 26 03.2 +1.7**
comp=Z,484nm,1.1s
SKAG Skagway 73.23 32 IAmb IAmb 06 26 05.1
comp=Z,2μm,2.0s
BESE Bessie Mountai 73.46 33 IAmb IAmb 06 26 07.4
comp=Z,2μm,1.7s
WHY Whitehorse 73.48 30 P **P 06 26 02.9 -0.2**
WHY IAmb IAmb 06 26 07.8
comp=Z,1μm,1.6s
MEH Mehetia 73.61 114 *e*P **P 06 26 06.8 +2.3**
comp=Z,173nm,1.0s
MEH Mehetia 73.61 114 *e*T T 07 46 33.0
comp=Z,10nm,0.2s
JIS Juneau Island 73.71 33 IAmb IAmb 06 26 08.8
comp=Z,2μm,1.8s
TBI Tubuai 74.42 119 *e*P **P 06 26 11.2 +2.1**
comp=Z,1μm,0.9s
TBI Tubuai 74.42 119 *e*T T 07 47 32.8
comp=Z,45nm,0.3s
CRAG Craig 74.44 36 IAmb IAmb 06 26 12.2
comp=Z,2μm,1.9s
DGAR Diego Garcia 74.52 258 P **P 06 26 11.8 +2.0**
DGAR pmax pmax
comp=Z,563nm,1.0s
DGAR Diego Garcia 74.52 258 P **P 06 26 11.8 +2.0**
WRAK Wrangell Islan 74.85 35 IAmb IAmb 06 26 16.0
comp=Z,679nm,1.1s
SVE Sverdlovsk 75.19 326*c i*P **P 06 26 13.5 +0.5**
SVE *e* 06 29 00.3
SVE *e* 06 30 50.6
SVE *e*S **S 06 35 38.7 -1.3**
SVE *e* 06 36 36.5
SVE pmax pmax
comp=Z,385nm,1.4s
DLBC Dease Lake 76.00 33 P **P 06 26 18.6 +1.0**
comp=Z,212nm,0.6s,baz=254,slow=3.1,SNR=196
DLBC PKKPbc **PKKPbc 06 45 33.6 -0.7**
comp=Z,9.8nm,1.2s,baz=77,slow=1.6,SNR=6.6
DLBC Dease Lake 76.00 33 IAmb IAmb 06 26 22.9
comp=Z,1μm,1.4s
ABKAR Akbulak array 76.11 318 P **P 06 26 17.6 -0.8**
ARU Arti 76.36 325 P **P 06 26 19.8 +0.2**
comp=Z,20nm,0.5s,baz=104,slow=2.8,SNR=32
ARU LR LR 07 01 31.2
comp=Z,18μm,20.4s,baz=82,slow=37
ARU Arti 76.36 325*d i*P **P 06 26 19.4 -0.2**
ARU *PP **pP 06 26 53.2 -0.4**
ARU 06 29 08.8
ARU S **S 06 35 53.5 +0.6**
ARU *SS **sS 06 36 48.9 -2.8**
ARU SSS SSS 06 44 10.0
ARU pmax pmax
comp=Z,680nm,4.0s
ARU Arti 76.36 325 P **P 06 26 19.4 -0.2**
A36M Sachs Harbour 77.05 19 P **P 06 26 23.8 +0.6**
baz=275,SNR=20
A36M S **S 06 35 56.0 -3.8**
baz=275
AKTO Aktyubinsk 77.24 319 P **P 06 26 24.4 -0.3**
comp=Z,18nm,0.5s,baz=85,slow=7.1,SNR=25
BBB Bella Bella 77.64 39 P **P 06 26 27.3 +0.5**
comp=Z,336nm,1.1s,baz=271,slow=6.0,SNR=46
C36M Paulatuk 77.69 21 P **P 06 26 26.7 -0.1**
baz=276,SNR=38
C36M S **S 06 36 00.5 -6.3**
baz=276
C36M Paulatuk 77.69 21 P **P 06 26 27.0 +0.2**
C36M IAmb IAmb 06 26 30.2
comp=Z,3μm,1.9s
TAOE Nuku Hiva Isla 78.11 102 *e*P **P 06 26 31.4 +1.1**
comp=Z,591nm,1.1s
TAOE Nuku Hiva Isla 78.11 102 *e*T T 07 52 10.6
comp=Z,105nm,0.2s
TAOE Nuku Hiva Isla 78.11 102 P **P 06 26 31.1 +0.8**
GEYT Alibeck 78.81 306 P **P 06 26 34.0 +0.4**
comp=Z,47nm,0.8s,baz=90,slow=1.9,SNR=18
GEYT pP **pP 06 27 09.5 +1.7**
comp=Z,45nm,0.8s,baz=253,slow=2.5,SNR=2.9
GEYT PP **PP 06 29 34.9 +1.1**
comp=Z,167nm,1.4s,baz=79,slow=30,SNR=2.5
GEYT PKPPKP **P'P'df 06 53 35.0 +3.4**
comp=Z,4.0nm,0.9s,baz=203,slow=1.1,SNR=4.0
GEYT LR LR 07 05 45.1
comp=Z,15μm,20.0s,baz=40,slow=39
GEYT Alibeck 78.81 306 P **P 06 26 34.4 +0.7**
JLN Jalan Bani Buh 80.42 290 P **P 06 26 42.4 -0.2**
SNR=13
JLN Jalan Bani Buh 80.42 290 P **P 06 26 42.4 -0.2**
SNR=13
WBK Wadi Bani Khal 80.73 291 P **P 06 26 44.3 0.0**
SNR=15
WBK Wadi Bani Khal 80.73 291 P **P 06 26 44.3 0.0**
SNR=15
WSAR Wadi Sarin 80.91 292 P **P 06 26 45.2 -0.1**
comp=Z,22nm,0.6s,baz=114,slow=4.6,SNR=21
WSAR PKKPbc **PKKPbc 06 45 23.0 +0.9**
comp=Z,22nm,1.0s,baz=243,slow=3.7,SNR=10
WSAR PKPPKP **P'P'df 06 53 25.8 -2.5**
comp=Z,5.8nm,0.8s,baz=314,slow=1.6,SNR=3.8
WSAR Wadi Sarin 80.91 292 P **P 06 26 45.5 +0.2**
SNR=15
WSAR Wadi Sarin 80.91 292 P **P 06 26 45.5 +0.2**
SNR=15
KIRV Kirov 80.95 328 P **P 06 26 45.2 +0.6**
comp=Z,185nm,0.5s,baz=85,slow=4.4,SNR=64
KIRV LR LR 07 04 07.7
comp=Z,24μm,19.6s,baz=85,slow=37
NLWA Neilton Lookou 81.08 43 IAmb IAmb 06 26 51.0
comp=Z,905nm,1.1s
BIDO Bidbid 81.31 292 P **P 06 26 47.7 +0.3**
SNR=36
BIDO Bidbid 81.31 292 P **P 06 26 47.7 +0.3**
SNR=36
E03A Lebam 81.44 44 IAmb IAmb 06 26 54.6
comp=Z,1μm,1.0s
SMDO Samad 81.47 292 P **P 06 26 48.3 0.0**
SNR=16
SMDO Samad 81.47 292 P **P 06 26 48.3 0.0**
SNR=16
JMDO Jabal Madar 81.56 291 P **P 06 26 48.6 0.0**
SNR=9.4
JMDO Jabal Madar 81.56 291 P **P 06 26 48.6 0.0**
SNR=9.4
F03A Seaside 81.56 45 P **P 06 26 49.6 +1.4**
D03D Eldon 81.57 43 P **P 06 26 50.0 +1.8**
baz=281,SNR=519
A04D Lummi Island 81.59 42 P **P 06 26 49.8 +1.5**
baz=281,SNR=59
KEBM Edson Butte 81.60 48 IAmb IAmb 06 26 54.4
comp=Z,2μm,1.1s

I02D Swisshome 81.72 47 P **P 06 26 50.9 +1.9**
baz=281,SNR=135
KBO Bosley Butte 81.81 49 P **P 06 26 51.2 +1.5**
KBO IAmb IAmb 06 26 54.6
comp=Z,2μm,1.4s
J01E Myrtle Point 81.84 48 P **P 06 26 51.3 +1.7**
baz=281,SNR=155
D04E Lakebay 81.86 43 P **P 06 26 51.6 +2.0**
baz=282,SNR=80
G03D McMinnville, O 81.91 46 P **P 06 26 51.5 +1.4**
baz=281,SNR=128
F04D Rainier, OR 81.91 45 P **P 06 26 51.6 +1.6**
baz=281,SNR=22
MHTO MHTO 81.96 290 P **P 06 26 50.5 -0.3**
SNR=45
MHTO MHTO 81.96 290 P **P 06 26 50.5 -0.3**
SNR=45
COR Corvallis 82.00 46 P **P 06 26 51.4 +0.9**
COR pmax pmax
comp=Z,1μm,1.1s
COR Corvallis 82.00 46 P **P 06 26 51.4 +0.9**
COR IAmb IAmb 06 26 55.4
comp=Z,1μm,1.1s
HOQ Hoqain 82.04 292 P **P 06 26 51.2 +0.1**
SNR=40
HOQ Hoqain 82.04 292 P **P 06 26 51.2 +0.1**
SNR=40
B05A Bryant 82.08 42 P **P 06 26 52.3 +1.5**
baz=282,SNR=298
E04D Cinebar 82.12 44 P **P 06 26 52.8 +1.7**
baz=282,SNR=187
K02D Willamette Mer 82.12 48 P **P 06 26 52.8 +1.5**
baz=282,SNR=345
I03D Drain, OR 82.15 47 P **P 06 26 52.9 +1.7**
baz=282,SNR=212
KRMB Red Mountain 82.18 49 IAmb IAmb 06 26 56.9
comp=Z,570nm,1.0s
JCC Jacoby Creek, 82.23 50 IAmb IAmb 06 26 56.6
comp=Z,3μm,1.4s
L02E Cave Junction 82.27 49 P **P 06 26 53.8 +1.8**
baz=282,SNR=535
BSY Bisya 82.31 291 P **P 06 26 52.9 +0.4**
SNR=13
BSY Bisya 82.31 291 P **P 06 26 52.9 +0.4**
SNR=13
F04A Amboy 82.34 45 IAmb IAmb 06 26 56.9
comp=Z,1μm,1.1s
D05A Enumclaw 82.38 43 IAmb IAmb 06 26 57.1
comp=Z,2μm,1.3s
H04D Lebanon 82.41 46 P **P 06 26 54.2 +1.5**
baz=282,SNR=243
B06A Marblemount 82.43 42 IAmb IAmb 06 26 57.6
comp=Z,838nm,1.1s
KHMM Horse Mountain 82.44 50 IAmb IAmb 06 27 01.7
comp=Z,1μm,1.0s
BANOM Banah 82.47 295 *i* P **P 06 26 53.5 +0.1**
SNR=18
BANOM Banah 82.47 295 P **P 06 26 53.6 +0.2**
SNR=6.2
BANOM Banah 82.47 295 P **P 06 26 53.6 +0.2**
SNR=6.2
DQM DQM 82.57 289 P **P 06 26 54.1 +0.1**
SNR=9.0
DQM DQM 82.57 289 P **P 06 26 54.1 +0.1**
SNR=9.0
SHME Shamm 82.58 295 *i* P **P 06 26 53.9 0.0**
SNR=26
KMRM Mail Ridge 82.58 51 IAmb IAmb 06 26 59.2
comp=Z,1μm,1.0s
MDH Madha 82.59 294 *i* P **P 06 26 53.0 -1.0**
SNR=23
MDH Madha 82.59 294 P **P 06 26 54.4 +0.4**
SNR=5.1
SOHO SOHO 82.62 293 *i* P **P 06 26 53.6 -0.5**
SNR=27
HUMO Hull Mountain 82.65 48 IAmb IAmb 06 26 59.1
comp=Z,799nm,1.0s
EUNU Eureka 82.69 8 IAmb IAmb 06 26 57.8
comp=Z,616nm,0.7s
MSFE Esma-Masafi 82.70 294 *i* P **P 06 26 54.5 -0.1**
SNR=24
UOSS Minazif 82.75 294 *i* P **P 06 26 53.8 -1.0**
SNR=38
UOSS Minazif 82.75 294 P **P 06 26 54.8 0.0**
SNR=38
H04A Detroit Lake 82.77 46 IAmb IAmb 06 26 59.0
comp=Z,1μm,1.1s
I04A Tendick Farm, 82.79 47 P **P 06 26 55.6 +0.9**
baz=282
ARQ Araqi 82.80 292 P **P 06 26 55.4 +0.3**
SNR=19
ARQ Araqi 82.80 292 P **P 06 26 55.4 +0.3**
SNR=19
YKA Yellowknife Ar 82.83 27 P **P 06 26 54.3 -0.1**
comp=Z,543nm,1.1s,baz=288,slow=4.5,SNR=99
YKA PKiKP **PKiKP 06 32 14.1 +1.2**
comp=Z,5.2nm,0.6s,baz=300,slow=1.6,SNR=6.0
YKA PKKPbc **PKKPbc 06 45 16.3 -2.9**
comp=Z,2.5nm,0.5s,baz=110,slow=2.2,SNR=12
YKA LR LR 07 03 40.7
comp=Z,10μm,20.3s,baz=0.0,slow=35
HATD Hatta, Dubai 82.84 294 *i* P **P 06 26 55.0 -0.3**
SNR=43
HATD Hatta, Dubai 82.84 294 P **P 06 26 55.7 +0.4**
SNR=16
HATD Hatta, Dubai 82.84 294 P **P 06 26 55.7 +0.4**
SNR=16
ASHO Ashiyiah 82.93 294 *i* P **P 06 26 55.7 -0.1**
SNR=31
ASHO Ashiyiah 82.93 294 P **P 06 26 56.2 +0.4**
SNR=11
ASHO Ashiyiah 82.93 294 P **P 06 26 56.2 +0.4**
SNR=11
C06D Leavenworth 82.94 42 P **P 06 26 56.5 +1.2**
baz=283,SNR=90
M02C Callahan 82.98 49 P **P 06 26 57.9 +2.1**
baz=282,SNR=890
F05D White Salmon 83.01 45 P **P 06 26 57.1 +1.4**
baz=283,SNR=220
YBH Yreka Blue Hor 83.01 49 P **P 06 26 57.1 +1.1**
comp=Z,769nm,0.9s,baz=360,slow=4.2,SNR=349
YBH Yreka Blue Hor 83.01 49 IAmb IAmb 06 27 01.0
comp=Z,1μm,1.1s
UMQ Umm Al-Quwin 83.11 295 *i* P **P 06 26 58.0 +1.4**
SNR=15
J04D Umpqua Nationa 83.13 47 P **P 06 26 58.1 +1.4**
baz=282,SNR=610
N02D Trinity Center 83.18 50 P **P 06 26 58.7 +1.9**
baz=282,SNR=612
HOPEN Hopen 83.19 348⇓ *i*P **P 06 26 55.6 -0.4**
HOPEN IVmB_BB 06 26 58.0
comp=Z,18μm,3.1s
HOPEN *e*PP **PP 06 30 10.1 +1.2**
HOPEN *e*SKSac **SKSac 06 37 04.2 -0.2**
HOPEN IVMs_BB IVMs_BB 07 03 10.1
comp=Z,9μm,17.6s
L04D Klamath Falls 83.20 48 P **P 06 26 58.5 +1.5**
baz=282,SNR=651
NAZ Nazwa, Dubai 83.22 294 *i* P **P 06 26 57.1 -0.1**
SNR=35
LTY Liberty 83.24 43 IAmb IAmb 06 27 00.8
comp=Z,968nm,1.4s
G05D Wamic, OR 83.25 45 P **P 06 26 58.4 +1.3**
baz=283,SNR=202
O02D Mt. Diablo Mer 83.28 50 P **P 06 26 59.5 +2.1**
baz=282,SNR=970
HOPS Hopland Field 83.32 52 IAmb IAmb 06 27 04.5
comp=Z,1μm,1.1s
FAQ Al Faqa, Dubai 83.33 294 *i* P **P 06 26 57.3 -0.5**
SNR=19
ALNE Al Ain 83.34 293 *i* P **P 06 26 58.0 +0.1**
SNR=69
WDC Whiskeytown Da 83.38 50 IAmb IAmb 06 27 02.7
comp=Z,723nm,1.0s
I05D Terrebonne, OR 83.43 46 P **P 06 26 59.2 +1.2**
baz=283,SNR=345
K04D Chiloquin, OR 83.51 48 P **P 06 26 60.0 +1.4**
baz=283,SNR=317
GDXM Geysers 83.57 52 P **P 06 27 00.3 +1.5**
GDXM IAmb IAmb 06 27 04.2
comp=Z,957nm,1.1s
M04C Macdoel 83.64 49 P **P 06 27 00.7 +1.5**
baz=283,SNR=807
J05D Fort Rock, OR 83.74 47 P **P 06 27 01.3 +1.6**
baz=283,SNR=397
CASY Casey 83.74 193 P **P 06 26 58.4 -0.4**
SPA0 Spitsbergen Ar 83.76 351 IAmb IAmb 06 27 02.0
comp=Z,1μm,1.8s
SPA0 Spitsbergen Ar 83.76 351 *i* P **P 06 26 58.9 -0.1**

SPA0 IVmBBB 06 27 02.2
comp=Z,15μm,2.5s
SPA0 *e*PP **PP** **06 30 15.0 +1.5**
SPA0 *e*SKSac **SKSac** **06 37 07.1 -1.1**
SPA0 IVMs_BB IVMs_BB 07 00 48.0
comp=Z,5μm,20.0s
SPITS Spitsbergen Ar 83.76 351 LR LR 07 07 30.9
comp=Z,10μm,19.0s,baz=35,slow=38
SPITS Spitsbergen Ar 83.76 351 P **P** **06 26 58.1 -0.9**
comp=Z,52nm,0.6s,baz=116,slow=9.8,SNR=54
SPITS Spitsbergen Ar 83.76 351 P **P** **06 26 58.1 -0.9**
B08A Colville Reser 83.86 42 P **P** **06 26 59.9 -0.2**
B08A IAmb IAmb 06 27 04.5
comp=Z,1μm,1.2s
AJN Ajban 83.91 294 *i* P **P** **06 27 00.2 -0.6**
SNR=34
KBS Kingsbay 83.92 352 *d i*P **P** **06 26 59.8 +0.1**
KBS pmax pmax
comp=Z,1μm,4.1s
KBS Kingsbay 83.92 352 P **P** **06 27 00.5 +0.7**
KBS Kingsbay 83.92 352 ⇓*i*P **P** **06 26 59.9 +0.2**
KBS IVmB_BB 06 27 01.8
comp=Z,15μm,4.0s
KBS *e*PP **PP** **06 30 16.0 +1.2**
KBS *e*SKSac **SKSac** **06 37 09.9 +0.8**
KBS *e*SS **SS** **06 42 45.5 +4.0**
KBS IVMs_BB IVMs_BB 07 00 48.0
comp=Z,4μm,20.9s
E07A Sunnyside 83.94 44 IAmb IAmb 06 27 05.2
comp=Z,783nm,1.1s
O03E Paynes Creek 84.00 50 P **P** **06 27 02.0 +1.0**
baz=283,SNR=1000
F07A Phinny Hill Vi 84.05 44 P **P** **06 27 01.9 +0.9**
F07A IAmb IAmb 06 27 05.3
comp=Z,526nm,1.1s
K05A Summer Lake 84.11 48 IAmb IAmb 06 27 06.6
comp=Z,974nm,0.9s
HAWA Hanford 84.20 44 IAmb IAmb 06 27 06.4
comp=Z,1μm,1.3s
NOR Nord 84.28 357 ⇓*i*P **P** **06 27 01.9 +0.3**
NOR Nord 84.28 357 ⇓*i*P **P** **06 27 01.9 +0.3**
ORV Oroville 84.39 51 IAmb IAmb 06 27 07.2
comp=Z,727nm,0.9s
RES Resolute Bay 84.42 13 P **P** **06 27 02.4 +0.1**
RES pmax pmax
comp=Z,621nm,1.0s
RES Resolute Bay 84.42 13 P **P** **06 27 02.4 +0.1**
RES IAmb IAmb 06 27 08.5
comp=Z,621nm,0.9s
D08A Wollman Farm, 84.45 43 IAmb IAmb 06 27 07.1
comp=Z,1μm,1.4s
E08A Dider Farm, El 84.49 44 IAmb IAmb 06 27 07.4
comp=Z,550nm,1.0s
LVZ Lovozero 84.55 339 *d i*P **P** **06 27 02.1 -1.0**
LVZ pmax pmax
comp=Z,357nm,2.8s
LVZ Lovozero 84.55 339 P **P** **06 27 01.5 -1.7**
HSPB Hornsund (broa 84.66 350 *e*PKP **P** **06 27 04.2 +0.7**
HSPB *e*pP **pP** **06 27 38.0 -0.1**
HSPB *e*PP **PP** **06 30 19.6 -1.2**
HSPB Hornsund (broa 84.66 350 ⇓*i*P **P** **06 27 03.5 0.0**
HSPB IVmB_BB 06 27 05.5
comp=Z,17μm,2.9s
HSPB *e*PP **PP** **06 30 22.1 +1.3**
HSPB *e*SKSac **SKSac** **06 37 12.4 -1.6**
HSPB IVMs_BB IVMs_BB 07 01 33.0
comp=Z,5μm,25.0s
TMCR Tamitsa 84.67 335 *e*P **P** **06 27 02.0 -1.7**
TMCR *e*S **SKSac** **06 37 10.0 -4.3**
TMCR pmax pmax
comp=Z,249nm,1.0s
C09A Chrisman Ranch 84.69 42 IAmb IAmb 06 27 09.3
comp=Z,2μm,1.4s
MOD Modoc Plateau 84.73 48 IAmb IAmb 06 27 08.8
comp=Z,591nm,0.9s
I07A Izee 84.77 46 P **P** **06 27 05.0 +0.2**
I07A IAmb IAmb 06 27 08.3
comp=Z,1μm,1.7s
AFDM Forest Hills D 84.93 51 IAmb IAmb 06 27 10.3
comp=Z,524nm,1.0s
SAO San Andreas Ge 85.07 54 IAmb IAmb 06 27 11.6
comp=Z,487nm,1.0s
APA Apatity 85.11 339 ⇓*i*P **P** **06 27 04.7 -1.2**
APA *i* *PP **pP** **06 27 36.8 -3.6**
APA pmax pmax
comp=Z,61nm,0.6s
KLMR Klimovskoe 85.17 332 *d i*P **P** **06 27 05.3 -1.0**
KLMR *e**PP **pP** **06 27 42.5 +1.7**
KLMR *e*SS SS 06 43 00.4 0.0
KLMR pmax pmax
comp=Z,175nm,1.3s
KLMR Klimovskoe 85.17 332 ⇓*i*P **P** **06 27 05.3 -1.0**
KLMR *i* P **P** **06 27 05.3 -1.0**
KLMR *i* P **P** **06 27 05.3 -1.0**
KLMR AMP 06 27 11.8
comp=Z,175nm,1.3s
KLMR *e*pP **pP** **06 27 42.6 +1.7**
KLMR *e*pS **pS** **06 38 06.4 -0.9**
KLMR *e*pS **pS** **06 38 06.4 -0.9**
KLMR *e*pS **pS** **06 38 06.4 -0.9**
KLMR *e*SS **SS** **06 43 00.5 +0.1**
KLMR *e*SS **SS** **06 43 00.5 +0.1**
I56US NEWPORT INFRAS 85.31 42 P **P** **06 27 08.0 +0.6**
baz=315,slow=10
NEW Newport 85.31 42 P **P** **06 27 07.9 +0.5**
comp=Z,1μm,1.0s,baz=280,slow=4.2,SNR=357
NEW Newport 85.31 42 P **P** **06 27 08.4 +1.0**
baz=285,SNR=1000
NEW Newport 85.31 42 IAmb IAmb 06 27 12.3
comp=Z,1μm,0.9s
RUBR Rubicon Trail 85.52 51 IAmb IAmb 06 27 13.2
comp=Z,1μm,1.3s
BJO1 Bjornoya 85.58 347 ⇓*i*P **P** **06 27 06.8 -1.3**
BJO1 IVmB_BB 06 27 09.2
comp=Z,10μm,4.9s
BJO1 *e*PP **PP** **06 30 28.2 0.0**
BJO1 *e*SKSac **SKSac** **06 37 20.9 +1.1**
BJO1 IVMs_BB IVMs_BB 07 07 23.2
comp=Z,7μm,16.3s
CMB Columbia Colle 85.59 52 IAmb IAmb 06 27 13.6
comp=Z,708nm,1.0s
J08A Circle Bar Ran 85.68 47 P **P** **06 27 10.3 +1.0**
J08A IAmb IAmb 06 27 16.2
comp=Z,892nm,1.1s
PMPB Monarch Peak 85.70 54 IAmb IAmb 06 27 19.6
comp=Z,1μm,1.3s
MAK Makhachkala 85.72 313 *e*P **P** **06 27 06.9 -2.5**
MAK *e**PP **pP** **06 27 45.5 +1.5**
MAK *e**SP **sP** **06 28 00.7 +2.1**
MAK *e* 06 30 28.2
MAK *e*PPP PPP 06 32 23.2
MAK *e* 06 37 17.0
MAK *e**SS **sS** **06 38 24.3 -5.9**
MAK *e*SS **SS** **06 43 07.8 -1.7**
MAK *e*SSS SSS 06 46 41.4
MAK pmax pmax
comp=Z,122nm,0.8s
MAK pmax pmax
comp=Z,16μm,9.2s
VCNR Virginia City 85.84 51 P **P** **06 27 11.3 +0.9**
VCNR IAmb IAmb 06 27 16.6
comp=Z,720nm,1.0s
F10A Beach Ranch, E 85.85 44 P **P** **06 27 10.0 -0.2**
F10A IAmb IAmb 06 27 15.2
comp=Z,1μm,1.3s
PNTR Pine Nut 85.93 51 IAmb IAmb 06 27 17.8
comp=Z,1μm,0.9s
AKT Akhty 85.93 312 *e*P **P** **06 27 09.8 -0.9**
AKT *e**PP **pP** **06 27 45.5 +0.2**
AKT *e**SP **sP** **06 28 03.9 +4.0**
AKT *e* 06 30 33.2
AKT pmax pmax
comp=Z,72nm,0.9s
PAHR Pah Rah Range 85.94 50 IAmb IAmb 06 27 17.4
comp=Z,714nm,1.1s
RBK Rabkut 86.18 287 P **P** **06 27 11.8 -0.4**
SNR=11
RBK Rabkut 86.18 287 P **P** **06 27 11.8 -0.4**
SNR=11
KEV Kevo 86.18 342 P **P** **06 27 10.3 -0.8**
KEV pmax pmax
comp=Z,81nm,0.7s
KEV Kevo 86.18 342 P **P** **06 27 10.3 -0.8**
WAKR Walker 86.20 51 P **P** **06 27 12.9 +0.7**
YERR Yerington 86.23 51 IAmb IAmb 06 27 16.6
comp=Z,2μm,1.4s
WHFO Wadi Hawf 86.49 287 P **P** **06 27 13.1 -0.7**
SNR=7.3
WHFO Wadi Hawf 86.49 287 P **P** **06 27 13.1 -0.7**
SNR=7.3
SMMC Simmler 86.56 55 P **P** **06 27 15.7 +1.9**
baz=284,SNR=314
SMMC S **S** **06 37 39.8 +0.9**
baz=284
HAMF Hammerfest 86.68 343 ⇓*i*P **P** **06 27 12.2 -1.4**
HAMF IVmB_BB 06 27 14.5
comp=Z,10μm,3.9s
HAMF *e*PP **PP** **06 30 39.1 +2.0**
HAMF *e*SKSac **SKSac** **06 37 25.5 -1.2**
HAMF IVMs_BB IVMs_BB 07 09 01.8
comp=Z,5μm,13.9s
MDPB Devils Postpil 86.69 52 P **P** **06 27 15.3 +0.6**
MDPB IAmb IAmb 06 27 19.3
comp=Z,470nm,1.1s
ARCES ARCESS Array B 86.75 342 P **P** **06 27 13.5 -0.4**
comp=Z,45nm,0.6s,baz=81,slow=7.1,SNR=56
ARCES PKiKP **PKiKP** **06 32 20.9 +1.7**
comp=Z,5.4nm,0.7s,baz=115,slow=1.6,SNR=6.0
ARCES PKKPbc **PKKPbc** **06 45 07.7 -2.6**
comp=Z,3.4nm,0.5s,baz=241,slow=3.0,SNR=12
ARCES PKPPKP 06 53 11.8
comp=Z,3.0nm,0.7s,baz=204,slow=2.0,SNR=5.5
ARCES LR LR 07 08 22.6
comp=Z,19μm,20.0s,baz=62,slow=37
ARE0 ARCESS Array S 86.75 342 ⇓*i*P **P** **06 27 13.9 0.0**
ARE0 IVmB_BB 06 27 15.3
comp=Z,10μm,3.8s
ARE0 *e*PP **PP** **06 30 39.6 +1.8**
ARE0 *e*SKSac **SKSac** **06 37 27.2 0.0**
ARE0 IVMs_BB IVMs_BB 07 08 09.3
comp=Z,7μm,20.0s
OMMB Old Mammoth Mi 86.76 52 IAmb IAmb 06 27 20.4
comp=Z,668nm,1.2s
VOG Valley Oaks Go 86.79 54 P **P** **06 27 15.9 +1.1**
baz=285,SNR=41
VOG S **S** **06 37 39.9 -0.9**
baz=285
PKM Mcpherson Peak 86.81 55 P **P** **06 27 16.9 +1.7**
baz=285,SNR=335
PKM S **S** **06 37 41.3 -0.3**
baz=285
RYN Ryan 86.86 51 IAmb IAmb 06 27 19.7
comp=Z,722nm,1.0s
GROC Groznyy 86.86 314 *e*P **P** **06 27 14.7 -0.3**
GROC *e* 06 30 42.5
GROC *e*S **SKSac** **06 37 28.6 -0.3**
GROC pmax pmax
comp=Z,112nm,1.3s
MLAC Mammoth, Mammo 86.88 52 P **P** **06 27 17.2 +1.7**
baz=285,SNR=386
MLAC S **S** **06 37 42.5 +0.3**
baz=285
LHV Little Huntoon 86.97 51 P **P** **06 27 16.4 +0.8**
LHV IAmb IAmb 06 27 22.5
comp=Z,1μm,1.0s
SBC Santa Barbara 87.00 55 P **P** **06 27 17.6 +1.7**
baz=285,SNR=27
SBC S **S** **06 37 43.2 +0.2**
baz=285
ABTO Aybut 87.06 287 PcP **P** **06 27 17.1 +0.5**
SNR=9.3
ABTO Aybut 87.06 287 P **P** **06 27 17.1 +0.5**
SNR=9.3
KVN Kaiserville 87.07 51 IAmb IAmb 06 27 21.1
comp=Z,890nm,0.9s
NVAR Mina Array Bea 87.08 51 P **P** **06 27 17.4 +0.9**
comp=Z,739nm,0.9s,baz=263,slow=6.4,SNR=456
NVAR PP **PP** **06 30 43.2 +1.6**
comp=Z,28nm,1.0s,baz=272,slow=7.3,SNR=3.7
NVAR PKKP **PKKPdf** **06 44 57.6 -4.2**
comp=Z,1.1nm,0.7s,baz=148,slow=2.9,SNR=5.0
NVAR PKKPbc **PKKPbc** **06 45 09.0 +0.4**
comp=Z,5.9nm,0.7s,baz=127,slow=2.9,SNR=17
NVAR PKPPKP 06 53 11.4
comp=Z,1.0nm,0.7s,baz=98,slow=5.3,SNR=5.3
NVAR Mina Array Bea 87.08 51 P **P** **06 27 15.8 -0.6**
WALA Waterton Lakes 87.13 40 P **P** **06 27 17.3 +0.9**
VES Vestal, Richgr 87.15 54 P **P** **06 27 17.2 +0.6**
baz=285,SNR=498
VES S **S** **06 37 42.9 -1.4**
baz=285
VRH Novokhopyorsk 87.16 322 *e*P **P** **06 27 14.7 -1.5**
VRH *e* 06 30 39.3
VRH *e*S **SKSac** **06 37 33.2 +2.9**
VRH pmax pmax
comp=Z,70nm,0.7s
VRH smax smax
comp=E,3μm,9.2s
NV11 Mina Array Sit 87.19 51 P **P** **06 27 18.1 +1.2**
NV11 IAmb IAmb 06 27 23.8
comp=Z,1μm,1.1s
TIN Tinemaha, Big 87.50 53 P **P** **06 27 19.8 +1.5**
baz=285,SNR=233
TIN S **S** **06 37 47.4 -0.5**
baz=285
ARVC Arvin 87.53 55 P **P** **06 27 19.7 +1.3**
baz=285,SNR=233
ARVC S **S** **06 37 48.5 +0.4**
baz=285
ISA Isabella, Lake 87.67 54 P **P** **06 27 18.6 -0.6**
ISA pmax pmax
comp=Z,454nm,1.1s
ISA Isabella, Lake 87.67 54 P **P** **06 27 19.9 +0.7**
baz=285,SNR=385
ISA S **S** **06 37 47.3 -2.3**
baz=285
ISA Isabella, Lake 87.67 54 P **P** **06 27 18.6 -0.6**
ISA IAmb IAmb 06 27 23.3
comp=Z,454nm,1.1s
TULEG Thule 87.68 7 IAmb IAmb 06 27 24.3
comp=Z,1μm,1.5s
OSI Osito Audit: C 87.75 55 P **P** **06 27 20.9 +1.4**
baz=285,SNR=36
OSI S **S** **06 37 48.9 -1.4**
baz=285
OSI Osito Audit: C 87.75 55 IAmb IAmb 06 27 24.4
comp=Z,811nm,1.1s
CWC Cottonwood Cre 87.77 53 P **P** **06 27 20.6 +0.8**
baz=286
CWC S **S** **06 37 49.0 -1.7**
baz=286
MSO Missoula 87.79 42 P **P** **06 27 19.6 +0.1**
baz=288,SNR=196
MSO S **S** **06 37 47.1 -3.2**
baz=288
MSO Missoula 87.79 42 IAmb IAmb 06 27 28.8
comp=Z,401nm,1.2s
TPH Tonopah 87.99 51 P **P** **06 27 22.0 +1.2**
TPH pmax pmax
comp=Z,5μm,0.9s
TPH Tonopah 87.99 51 P **P** **06 27 22.0 +1.2**
DECC Green Verdugo 88.15 55 P **P** **06 27 22.7 +1.3**
baz=285,SNR=81
DECC S **S** **06 37 53.3 -0.7**
baz=285
GRAC Grapevine Rang 88.18 52 P **P** **06 27 23.0 +1.5**
baz=286,SNR=77
GRAC S **S** **06 37 52.8 -1.5**
baz=286
GOF Gofitskoye 88.22 316 ⇓*i*P **P** **06 27 20.2 -1.3**
GOF *e*S **SKSac** **06 37 39.8 +2.7**
GOF pmax pmax
comp=Z,162nm,1.1s
EDW2 Edwards Air Fo 88.26 55 P **P** **06 27 23.4 +1.5**
baz=286,SNR=425
EDW2 S **S** **06 37 54.8 -0.3**
baz=286
PASC Pasadena Art C 88.29 55 P **P** **06 27 22.9 +0.8**
ZEI Tsey 88.31 314 *e*P **P** **06 27 21.3 -0.9**
ZEI *e* 06 30 48.4
ZEI *e*S **SKSac** **06 37 31.9 -6.3**
ZEI *e* 06 37 52.5
ZEI *e**SS **sS** **06 38 54.9 -1.1**
ZEI pmax pmax
comp=Z,100nm,1.4s
ZEI MLR MLR
comp=Z,18μm,20.0s
ZEI MLR MLR
comp=N,9μm,17.0s
ZEI MLR MLR
comp=E,11μm,16.0s
CIS Catalina Islan 88.31 56 P **P** **06 27 23.1 +1.0**
baz=285,SNR=95
CIS S **S** **06 37 54.1 -1.5**
baz=285
SCI2 San Clemente I 88.32 57 P **P** **06 27 22.9 +0.8**
baz=285,SNR=18
SCI2 S **S** **06 37 54.7 -0.8**
baz=285
LPSR Galich'ya Gora 88.32 324 *e*P **P** **06 27 20.4 -1.3**
LPSR *e*S **SKSac** **06 37 39.8 +2.5**
LPSR pmax pmax
comp=Z,150nm,0.8s
LPSR smax smax
comp=E,2μm,9.1s
FMP Fort Macarthur 88.33 56 P **P** **06 27 23.4 +1.2**
baz=286,SNR=26
FMP S **S** **06 37 53.8 -1.8**
baz=286
MPMC Manual Prospec 88.34 53 P **P** **06 27 24.0 +1.6**
baz=286,SNR=1000
MPMC S **S** **06 37 54.8 -1.3**
baz=286
LRMC Laurel Mtn Rad 88.34 54 P **P** **06 27 23.8 +1.4**
baz=286,SNR=495
LRMC S **S** **06 37 55.1 -0.9**
baz=286
MWC Mount Wilson 88.38 55 P **P** **06 27 23.5 +0.8**
MWC pmax pmax
comp=Z,5μm,2.0s
MWC Mount Wilson 88.38 55 P **P** **06 27 23.5 +0.8**
HLID Hailey 88.46 46 P **P** **06 27 24.2 +1.3**
baz=288,SNR=1000
HLID S **S** **06 37 55.3 -1.6**
baz=288
TRO Tromso 88.59 343 ⇓*i*P **P** **06 27 22.3 -0.3**
TRO IVmB_BB 06 27 23.4
comp=Z,8μm,4.1s
TRO *e*PP **PP** **06 30 52.6 +0.2**
TRO *e*SKSac **SKSac** **06 37 36.7 -1.6**
TRO IVMs_BB IVMs_BB 06 59 59.9
comp=Z,4μm,39.8s
VSR Storozhevoye 88.67 323 *e*P **P** **06 27 21.7 -1.7**
VSR *e*S **SKSac** **06 37 42.7 +3.3**
VSR pmax pmax
comp=Z,100nm,1.1s
VSR smax smax
comp=N,1μm,10.7s
VORD Divnogorie 88.68 322 *e*P **P** **06 27 21.4 -2.1**
VORD pmax pmax
comp=Z,50nm,0.9s
BFSC Mount Baldy Ra 88.70 55 P **P** **06 27 25.0 +0.9**
baz=286,SNR=172
BFSC S **S** **06 37 58.7 -0.7**
baz=286
OBN Obninsk 88.70 327 P **P** **06 27 22.2 -1.3**
comp=Z,8.2nm,0.4s,baz=61,slow=2.4,SNR=18
OBN LR LR 07 07 49.9
comp=Z,5μm,19.3s,baz=64,slow=36
OBN Obninsk 88.70 327 *d i*P **P** **06 27 21.8 -1.6**
OBN *i* *PP **pP** **06 27 57.4 -0.8**
OBN *e**SP **sP** **06 28 11.0 -1.7**
OBN *e*S **SKSac** **06 37 37.8 -1.6**
OBN *e*SS **SS** **06 43 53.9 +1.7**
OBN *e*SSS SSS 06 47 29.7
OBN pmax pmax
comp=Z,257nm,1.5s
OBN Obninsk 88.70 327 IAmb IAmb 06 28 01.7
comp=Z,747nm,1.8s
ELK Elko 88.71 48 P **P** **06 27 24.9 +0.7**
comp=Z,1μm,1.0s,baz=284,slow=4.9,SNR=302
ELK PP **PP** **06 30 55.7 +1.0**
comp=Z,50nm,1.0s,baz=258,slow=5.7,SNR=5.1
ELK Elko 88.71 48 P **P** **06 27 24.9 +0.7**
ELK pmax pmax
comp=Z,1μm,0.9s
ELK Elko 88.71 48 IAmb IAmb 06 27 31.0
comp=Z,1μm,0.9s
FURC Furnace Creek, 88.71 53 P **P** **06 27 25.7 +1.7**
baz=286,SNR=220
FURC S **S** **06 37 58.4 -0.7**
baz=286
KBZ Khabaz 88.73 315 P **P** **06 27 23.4 -0.5**
comp=Z,10nm,0.8s,baz=87,slow=4.2,SNR=14
KBZ PKKPbc **PKKPbc** **06 45 04.1 -0.4**
comp=Z,3.4nm,0.7s,baz=228,slow=4.3,SNR=4.3
KBZ PKPPKP 06 53 12.8
comp=Z,11nm,1.1s,baz=262,slow=4.9,SNR=5.6
KBZ LR LR 07 11 32.9
comp=Z,14μm,19.3s,baz=58,slow=38
KVAR Kislovodsk Arr 88.80 315 P **P** **06 27 24.8 +0.4**
comp=Z,6.1nm,0.5s,baz=67,slow=7.7,SNR=1.9
KIV Kislovodsk 88.80 315 P **P** **06 27 23.2 -1.2**
KIV Kislovodsk 88.80 315 *e*P **P** **06 27 23.2 -1.2**
KIV Kislovodsk 88.80 315 *e*P **P** **06 27 22.9 -1.5**
KIV *e**PP **pP** **06 28 01.4 +2.2**
KIV *e* 06 30 54.3
KIV *e* 06 37 37.4
KIV *e*SS SS 06 43 53.6 -1.0
KIV pmax pmax
comp=Z,111nm,1.1s
KIV pmax pmax
comp=Z,6μm,4.6s
TASB TASBURUN-IGDIR 88.89 311 *e*P **P** **06 27 24.0 -0.8**
AKH Akhalkalaki 89.01 312 *e*P **P** **06 27 24.9 -0.6**
DAG Danmarks Havn 89.03 356 ⇓*i*P **P** **06 27 23.8 -0.8**
comp=Z,226nm,0.9s
DAG *i* 06 30 56.7
DAG Danmarks Havn 89.03 356 ⇓*i*P **P** **06 27 23.8 -0.8**
DAG *i* 06 30 56.7
DAG pmax pmax
comp=Z,230nm,0.9s
RRX Edison Barstow 89.05 54 P **P** **06 27 27.4 +1.8**
baz=286,SNR=45
RRX S **S** **06 38 02.5 +0.1**
baz=286
TPNV Topopah Spring 89.05 52 P **P** **06 27 27.2 +1.5**
baz=287,SNR=1000
TPNV S **S** **06 38 02.5 -0.2**
baz=287
GSC Goldstone, Bar 89.08 54 P **P** **06 27 26.8 +0.9**
GSC pmax pmax
comp=Z,935nm,0.9s
GSC Goldstone, Bar 89.08 54 P **P** **06 27 27.4 +1.6**
baz=286,SNR=855
GSC S **S** **06 38 02.7 -0.2**
baz=286
GSC Goldstone, Bar 89.08 54 P **P** **06 27 26.8 +0.9**
LRM Limekiln Ridge 89.08 43 P **P** **06 27 26.4 +0.6**
R11A Troy Canyon, C 89.15 51 P **P** **06 27 27.8 +1.6**
baz=287,SNR=1000
R11A S **S** **06 38 01.7 -1.9**
baz=287
HRY Holter Researc 89.20 42 P **P** **06 27 26.8 +0.6**
MURC Murrieta 89.24 56 P **P** **06 27 27.7 +1.1**
baz=286,SNR=175
MURC S **S** **06 38 03.1 -1.2**
baz=286
BBRC Big Bear Solar 89.28 55 P **P** **06 27 27.9 +0.9**
baz=286,SNR=115
BBRC S **S** **06 38 03.6 -1.4**
baz=286
SHOC Shoshone, Teco 89.33 53 P **P** **06 27 28.4 +1.5**
baz=287,SNR=377
SHOC S **S** **06 38 04.1 -0.8**
baz=287
CLDR Caldiran 89.38 310 *e*P **P** **06 27 26.4 -0.9**
109C Camp Elliot, M 89.51 56 P **P** **06 27 29.2 +1.4**
baz=286,SNR=207
109C S **S** **06 38 04.7 -2.0**
baz=286
KARS Kars 89.55 312 *e*P **P** **06 27 27.5 -0.5**
HEC Hector,Ludlow 89.58 54 P **P** **06 27 29.7 +1.6**
baz=286,SNR=422
HEC S **S** **06 38 06.0 -1.6**
baz=286
BOZ Bozeman (W) 89.70 43 P **P** **06 27 29.7 +1.1**
baz=290,SNR=369
BOZ S **S** **06 38 06.7 -1.7**
baz=290
TUQ Turquoise Moun 89.73 54 P **P** **06 27 30.4 +1.5**
baz=287,SNR=414
TUQ S **S** **06 38 08.2 -0.8**
baz=287
PUL Pulkovo 89.79 333 *e*P **P** **06 27 25.3 -3.1**
PUL Pulkovo 89.79 333 *de*P **P** **06 27 28.6 +0.1**
PUL pmax pmax
comp=Z,140nm,1.2s

PFO	Pinyon Flats O	89.83	55	P	P	06 27 30.1	+0.8
	comp=Z,739nm,1.0s,baz=279,slow=4.2,SNR=186						
PFO				PP	PP	06 31 03.8	+0.2
	comp=Z,69nm,1.3s,baz=288,slow=6.6,SNR=4.1						
PFO	Pinyon Flats O	89.83	55	P	P	06 27 30.7	+1.2
	baz=286,SNR=502						
PFO				S	S	06 38 08.1	-1.9
	baz=286						
PFO	Pinyon Flats O	89.83	55	P	P	06 27 30.2	+0.8
PRN	Pahroc Range	89.83	52	IAmb	IAmb	06 27 35.1	
	comp=Z,760nm,1.1s						
TPFO	Pinon Flats	89.83	56	P	P	06 27 30.6	+1.1
	baz=286,SNR=563						
TPFO				S	S	06 38 08.1	-1.9
	baz=286						
BAR	Barrett	89.92	56	P	P	06 27 30.2	+0.5
AGRB	Hanur-Agry	89.93	311	eP	P	06 27 28.9	-1.0
VANB	Van	89.94	310	eP	P	06 27 28.7	-1.1
SHPR	Sheep Range	90.02	52	IAmb	IAmb	06 27 37.6	
	comp=Z,600nm,0.9s						
CBX	Cerro Bola	90.03	57	P	P	06 27 31.6	+1.3
CBX				IAmb	IAmb	06 27 35.0	
	comp=Z,319nm,0.9s						
MONP2	Monument Peak	90.06	56	P	P	06 27 32.1	+1.5
	baz=286,SNR=393						
MONP2				S	S	06 38 12.0	-0.3
	baz=286						
EGMT	Eagleton	90.08	40	P	P	06 27 30.6	+0.4
	baz=291,SNR=94						
EGMT				S	S	06 38 07.5	-4.1
	baz=291						
EGMT	Eagleton	90.08	40	P	P	06 27 29.5	-0.7
EGMT				IAmb	IAmb	06 27 31.9	
	comp=Z,1μm,2.0s						
BELC	Belle Mtn. Jos	90.09	55	P	P	06 27 31.9	+1.2
	baz=287,SNR=623						
BELC				S	S	06 38 09.9	-2.5
	baz=287						
SENK	Senkaya-Erzuru	90.10	312	eP	P	06 27 30.0	-0.6
GMRC	Granite Mounta	90.13	54	P	P	06 27 32.4	+1.6
	baz=287,SNR=923						
GMRC				S	S	06 38 11.3	-1.4
	baz=287						
CCX	Cicese	90.15	57	P	P	06 27 32.1	+1.3
CCX				IAmb	IAmb	06 27 35.8	
	comp=Z,453nm,1.0s						
CUKT	Cukurca	90.18	308	eP	P	06 27 29.4	-1.6
ARTV	Artvin	90.20	313	P	P	06 27 30.4	-0.8
BATM	Batumi	90.24	313	⇑P	P	06 27 31.5	+0.5
BATM	Batumi	90.24	313	eP	P	06 27 29.4	-1.6
BATM	Batumi	90.24	313	⇑P	P	06 27 31.5	+0.5
AKDM	Akdamar-Van	90.32	310	eP	P	06 27 30.7	-1.0
BCA	Borcka	90.34	313	⇓P	P	06 27 30.1	-1.4
BCA	Borcka	90.34	313	⇑P	PKKPbc	06 45 01.2	+0.6
BCA	Borcka	90.34	313	eP	P	06 27 30.0	-1.5
IKP	In-Ko-Pah, Jac	90.38	56	P	P	06 27 33.5	+1.5
	baz=287,SNR=202						
IKP				S	S	06 38 13.8	-1.2
	baz=287						
MLAZ	Malazgirt-MUS	90.39	310	eP	P	06 27 31.9	-0.1
N2IH	Innhavet	90.49	343	⇓iP	P	06 27 30.6	-0.9
YHH	Holmes Hill	90.49	44	P	P	06 27 33.7	+1.1
SWSC	Sam W. Stewart	90.55	56	P	P	06 27 33.7	+1.1
	baz=287,SNR=217						
SWSC				S	S	06 38 16.4	+0.2
	baz=287						
BC3	Big Chuckawall	90.62	55	P	P	06 27 34.6	+1.5
	baz=287,SNR=564						
BC3				S	S	06 38 16.4	-0.7
	baz=287						
KOPR	Koprukoy-ERZUR	90.64	311	eP	P	06 27 31.8	-1.3
DUG	Dugway, Tooele	90.64	48	P	P	06 27 34.5	+1.4
	baz=289,SNR=870						
DUG				S	S	06 38 17.4	+0.2
	baz=289						
DUG	Dugway, Tooele	90.64	48	IAmb	IAmb	06 27 37.8	
	comp=Z,614nm,0.9s						
STEI	Steigen	90.71	343	⇓iP	P	06 27 31.6	-1.0
STEI				IVmB_BB		06 27 33.7	
	comp=Z,10μm,3.2s						
STEI				eSKSac	SKSac	06 37 51.2	+0.5
STEI				IVMs_BB	IVMs_BB	07 09 00.3	
	comp=Z,7μm,20.0s						
IRM	Iron Mountain	90.72	55	P	P	06 27 35.0	+1.6
	baz=287,SNR=767						
IRM				S	S	06 38 17.5	-0.4
	baz=287						
IMW	Indian Meadow	90.74	44	P	P	06 27 34.8	+1.2
IMW				IAmb	IAmb	06 27 40.8	
	comp=Z,592nm,1.0s						
N2VI	Vinje	90.74	344	⇓iP	P	06 27 31.1	-1.6
YUF	Upper Falls	90.75	44	P	P	06 27 35.5	+1.8
FINES	FINESS Array B	90.79	335	P	P	06 27 32.2	-0.9
	comp=Z,53nm,0.5s,baz=68,slow=3.9,SNR=74						
FINES				PP	PP	06 31 10.2	+0.1
	comp=Z,31nm,0.9s,baz=52,slow=9.9,SNR=4.1						
FINES				PKKPbc	PKKPbc	06 44 58.4	-1.7
	comp=Z,3.0nm,0.5s,baz=293,slow=5.6,SNR=8.9						
FINES				PKPPKP		06 53 08.4	
	comp=Z,3.4nm,0.9s,baz=129,slow=5.2,SNR=5.3						
FINES				LR	LR	07 10 34.8	
	comp=Z,17μm,19.8s,baz=52,slow=37						
FINES	FINESS Array B	90.79	335	iP	P	06 27 31.5	-1.6
FINES				pmax	pmax		
	comp=Z,39nm,0.6s						
FINES	FINESS Array B	90.79	335	P	P	06 27 30.8	-2.3
H17A	Grant Village	90.81	44	P	P	06 27 36.1	+2.2
	baz=290,SNR=898						
H17A				S	S	06 38 18.2	-0.7
	baz=290						
TPAW	Teton Pass	90.87	45	IAmb	IAmb	06 27 37.7	
	comp=Z,653nm,1.2s						
LKWY	Lake	90.87	44	IAmb	IAmb	06 27 41.4	
	comp=Z,803nm,1.1s						
NEE2	Needles Airpor	90.95	54	P	P	06 27 36.2	+1.7
	baz=288,SNR=147						
NEE2				S	S	06 38 20.2	+0.3
	baz=288						
SOC	Sochi	90.96	315	diP	P	06 27 32.2	-2.1
SOC				e*PP	pP	06 28 06.2	-3.0
SOC				e*SP	sP	06 28 26.3	+2.6
SOC				e		06 31 09.9	
SOC				eS	SKSac	06 37 49.3	-3.8
SOC				eSS	SS	06 44 29.1	+3.6
SOC				pmax	pmax		
	comp=Z,31nm,0.9s						
GURO	Guroymak-BITLI	90.96	310	eP	P	06 27 33.8	-0.8
SIRT	Sirnak	90.98	309	eP	P	06 27 33.3	-1.4
N2TV	TÝrnvik	90.99	343	⇓iP	P	06 27 32.1	-1.8
N2ST	Straumen	90.99	342	⇓iP	P	06 27 33.1	-0.8
LOF	Lofoten	91.05	344	eP	P	06 27 34.4	+0.2
LOF				IVmB_BB		06 27 34.9	
	comp=Z,7μm,3.9s						
LOF				ePP	PP	06 31 13.3	+1.4
LOF				eSKSac	SKSac	06 37 52.2	-0.5
LOF				eSS	SS	06 44 25.7	+0.3
LOF				IVMs_BB	IVMs_BB	07 10 26.4	
	comp=Z,5μm,17.9s						
FAUS	Fauske	91.06	343	⇓iP	P	06 27 32.2	-2.0
FAUS				IVmB_BB		06 27 35.1	
	comp=Z,7μm,3.7s						
FAUS				ePP	PP	06 31 13.2	+1.2
FAUS				eSKSac	SKSac	06 37 53.5	+0.8
FAUS				ePS	PnS	06 39 48.4	+1.1
FAUS				IVMs_BB	IVMs_BB	07 01 08.5	
	comp=Z,6μm,41.4s						
LOHW	Long Hollow	91.06	45	IAmb	IAmb	06 27 39.3	
	comp=Z,307nm,1.1s						
CPBX	Cerro Prieto	91.10	56	IAmb	IAmb	06 27 41.2	
	comp=Z,687nm,1.1s						
VRTB	Varto-Mus	91.19	311	eP	P	06 27 35.4	-0.3
CTU	Camp Tracy	91.25	48	P	P	06 27 36.5	+0.6
NBB08	Skaug oppvekst	91.25	343	⇓iP	P	06 27 34.3	-0.8
NLU	North Lily Min	91.25	48	P	P	06 27 36.6	+0.6
SZCU	Shurtz Canyon	91.26	51	P	P	06 27 37.6	+1.5
GLA	Glamis	91.30	56	P	P	06 27 37.9	+1.8
	baz=287,SNR=282						
GLA				S	S	06 38 23.7	+0.5
	baz=287						
N2SV	S rvÝgen	91.36	344	⇓iP	P	06 27 34.5	-1.1
W13A	Hualapai Mount	91.43	53	IAmb	IAmb	06 27 42.0	
	comp=Z,363nm,0.9s						
NBB28	Valnes	91.43	343	⇓iP	P	06 27 35.0	-0.9
RLMT	Red Lodge	91.43	43	P	P	06 27 38.5	+1.8
	baz=291,SNR=69						
RLMT				S	S	06 38 23.2	-1.1
	baz=291						
PDMCI	Parker Dam,Lak	91.47	54	P	P	06 27 38.5	+1.6
	baz=288,SNR=523						
PDMCI				S	S	06 38 25.1	+0.5
	baz=288						
N2VA	Vr,y	91.61	343	⇓iP	P	06 27 36.0	-0.7
NBB05	Inndyr	91.66	343	⇓iP	P	06 27 36.2	-0.7
SVAN	Silvan-Diyarba	91.71	310	eP	P	06 27 36.7	-1.3
VNDA	Vanda	91.72	176	P	P	06 27 37.1	+0.2
	comp=Z,142nm,1.0s,baz=327,slow=5.5,SNR=123						
VNDA				PKKP	PKKPbc	06 44 58.7	-0.2
	comp=Z,9.8nm,1.0s,baz=248,slow=2.1,SNR=13						
VNDA				PKPPKP		06 53 03.3	
	comp=Z,2.3nm,1.0s,baz=231,slow=2.2,SNR=6.0						
VNDA				LR	LR	07 08 33.5	
	comp=Z,11μm,19.0s,baz=350,slow=35						
VNDA	Vanda	91.72	176	IAmb	IAmb	06 27 43.2	
	comp=Z,220nm,0.9s						
BAYT	Aydintepe-Bayb	91.74	312	eP	P	06 27 37.3	-0.9
YEDI	Yedisu-Bingol	91.77	311	eP	P	06 27 37.0	-1.4
NBB30	Finnes	91.79	343	⇓iP	P	06 27 37.0	-0.6
KTUT	Trabzon	91.81	313	eP	P	06 27 36.7	-1.6
BNGB	Bingl	91.82	311	eP	P	06 27 37.6	-0.9
FFC	Flin Flon	91.82	32	P	P	06 27 38.5	+0.5
FFC				pmax	pmax		
	comp=Z,300nm,1.1s						
FFC	Flin Flon	91.82	32	P	P	06 27 38.5	+0.5
FFC				IAmb	IAmb	06 27 41.9	
	comp=Z,300nm,1.1s						
NBB17	Glomfjord BÝr	91.83	342	⇓iP	P	06 27 36.7	-1.1
N2RO	R st	91.87	343	⇓iP	P	06 27 37.5	-0.5
VSU	Vasula	92.05	332	eP	P	06 27 38.0	-1.0
VSU				epP	pP	06 28 13.1	-0.7
VSU	Vasula	92.05	332	diP	P	06 27 37.6	-1.4
VSU				pmax	pmax		
	comp=Z,240nm,0.8s						
ANN	Anapa	92.06	317	diP	P	06 27 37.2	-2.1
ANN				i *PP	pP	06 28 12.0	-2.3
ANN				i		06 31 16.4	
ANN				eS	SKSac	06 37 55.6	-3.6
ANN				pmax	pmax		
	comp=Z,143nm,1.1s						
ANN				pmax	pmax		
	comp=N,64nm,1.3s						
ANN				pmax	pmax		
	comp=N,528nm,3.0s						
ANN				pmax	pmax		
	comp=Z,2μm,4.3s						
ANN				MLR	MLR		
	comp=Z,12μm,16.0s						
BW06	Boulder Array	92.08	45	P	P	06 27 40.3	+0.5
	baz=291,SNR=305						
BW06				S	S	06 38 26.2	-4.1
	baz=291						
BW06	Boulder Array	92.08	45	IAmb	IAmb	06 27 42.3	
	comp=Z,904nm,1.7s						
PD31	Pinedale Array	92.08	45	P	P	06 27 40.0	+0.2
PD31				IAmb	IAmb	06 27 42.3	
	comp=Z,884nm,1.8s						
PDAR	Pinedale Array	92.08	45	P	P	06 27 39.8	-0.1
	comp=Z,66nm,0.6s,baz=220,slow=2.1,SNR=280						
PDAR				PP	PP	06 31 20.8	-0.4
	comp=Z,32nm,1.1s,baz=292,slow=4.3,SNR=7.6						
PDAR				PKiKP	PKiKP	06 32 30.5	+1.4
	comp=Z,4.4nm,0.7s,baz=79,slow=1.9,SNR=1.5						
PDAR				PKKPbc	PKKPbc	06 44 55.2	-1.3
	comp=Z,1.6nm,0.5s,baz=105,slow=4.3,SNR=10						
PDAR				PKPPKP		06 52 58.1	
	comp=Z,1.4nm,0.9s,baz=131,slow=4.1,SNR=5.4						
PDAR	Pinedale Array	92.08	45	P	P	06 27 40.0	+0.2
MOR8	Moi Rana	92.12	342	⇓eP	P	06 27 37.2	-2.0
MOR8				IVmB_BB		06 27 38.8	
	comp=Z,5μm,3.8s						
MOR8				ePP	PP	06 31 20.9	+0.4
MOR8				eSKSac	SKSac	06 37 58.3	-0.5
MOR8				eSS	SS	06 44 39.2	-1.7
MOR8				IVMs_BB	IVMs_BB	07 02 13.8	
	comp=Z,7μm,38.8s						
U15A	North Rim	92.24	52	P	P	06 27 42.0	+1.3
U15A				IAmb	IAmb	06 27 48.3	
	comp=Z,461nm,0.9s						
KONS	Konsvik	92.29	342	eP	P	06 27 38.4	-1.6
NBB40	Tonnes	92.31	343	⇓iP	P	06 27 39.4	-0.6
ERZN	Erzincan	92.32	312	eP	P	06 27 39.8	-1.1
P17A	Butcher Ranch,	92.39	49	P	P	06 27 42.1	+0.9
STOK	Stokkvaagen	92.43	342	eP	P	06 27 40.6	+0.1
Y14A	Wickenburg	92.48	54	IAmb	IAmb	06 27 47.1	
	comp=Z,579nm,0.9s						
MAZI	Mazidag	92.50	309	eP	P	06 27 40.1	-1.6
DYBB	Diyarbakir	92.56	310	eP	P	06 27 40.9	-1.0
ESPY	Espiye-Giresun	92.57	313	eP	P	06 27 39.4	-2.5
LAO	LASA Array	92.80	41	P	P	06 27 43.8	+0.9
	baz=294,SNR=1000						
LAO				S	S	06 38 32.0	-4.2
	baz=294						
PIX	Pinacate	92.85	57	IAmb	IAmb	06 27 46.6	
	comp=Z,1μm,1.8s						
SVRC	Sivrice-ELAZID	93.04	311	eP	P	06 27 43.3	-1.0
WUAZ	Wupatki	93.24	52	P	P	06 27 46.8	+1.6
	baz=289,SNR=529						
WUAZ				S	S	06 38 40.4	-0.3
	baz=289						
214A	Organ Pipe Nat	93.25	56	P	P	06 27 46.8	+1.6
	baz=288,SNR=209						
214A				S	S	06 38 38.9	-1.7
	baz=288						
DGMT	Dagmar	93.33	38	P	P	06 27 45.3	+0.2
	baz=295,SNR=149						
DGMT				S	S	06 38 36.2	-4.4
	baz=295						
DGMT	Dagmar	93.33	38	IAmb	IAmb	06 27 49.2	
	comp=Z,458nm,1.1s						
JMIC	Jan Mayen	93.41	351	LR	LR	07 09 13.2	
	comp=Z,3μm,21.8s,baz=26,slow=35						
JMIC	Jan Mayen	93.41	351	eP	P	06 27 44.8	-0.2
JMIC				ePP	PP	06 31 26.6	-3.7
MICGM	Minsk	93.49	328	⇓eP	P	06 27 45.0	-0.7
MICGM				PM		06 27 46.0	
MICGM				PM		06 27 47.0	
MICGM				epP	pP	06 28 21.0	+0.4
MICGM				ePP	PP	06 31 19.0	-12
MICGM				ePPP	PPP	06 33 32.0	
MICGM				eSKS	SKSac	06 37 58.0	-8.7
MICGM				eS	SKKSac	06 38 34.0	+7.2
MICGM				esS	pS	06 39 32.0	+5.3
MICGM				eSS	SS	06 44 05.0	-56
MICGM				eSSS	SSS	06 47 48.0	
MICGM				eLR	LR	07 00 05.0	
MICGM				LRM	MLR	07 10 01.0	
	comp=Z,32nm,18.0s						
MICGM				LRM	MLR	07 10 08.0	
	comp=Z,44nm,16.0s						
MNK	Minsk	93.49	328	⇓eP	P	06 27 45.0	-0.7
MNK				e*PP	pP	06 28 21.0	+0.4
MNK				ePPP	PPP	06 33 32.0	
MNK				e		06 37 58.0	
MNK				eS	S	06 38 34.0	-7.6
MNK				pmax	pmax		
	comp=Z,9μm,6.0s						
MNK				pmax	pmax		
	comp=Z,250nm,2.0s						
MNK				MLR	MLR		
	comp=Z,33μm,18.0s						
MNK				MLR	MLR		
	comp=Z,44μm,16.0s						
ARPR	Arapgir-MALATY	93.50	312	eP	P	06 27 45.6	-0.7
FCC	Fort Churchill	93.53	26	IAmb	IAmb	06 27 49.2	
	comp=Z,435nm,1.1s						
X16A	Lo Mia Camp, P	93.55	53	IAmb	IAmb	06 27 50.8	
	comp=Z,926nm,1.9s						
IDID	Didziasalis	93.65	330	eP	P	06 27 47.9	+1.5
IZAR	Zarasai	93.67	330	eP	P	06 27 44.6	-1.9
MALT	Malatya	93.71	311	eP	P	06 27 46.5	-0.7
URFA	Urfa	93.72	310	eP	P	06 27 45.9	-1.4
RSDY	Resadiye-TOKAT	93.75	313	eP	P	06 27 45.9	-1.4
SUMG	Summit	93.78	1	⇓iP	P	06 27 47.1	-0.1
	comp=Z,28μm,22.0s						
SUMG	Summit	93.78	1	⇓iP	P	06 27 47.1	-0.1
SUMG				MLR	MLR		
	comp=Z,28μm,22.0s						
SUMG	Summit	93.78	1	IAmb	IAmb	06 27 53.1	
	comp=Z,240nm,1.0s						
ISAL	Salakas	93.82	330	eP	P	06 27 45.3	-1.9
NACGM	Naroch	93.84	329	eP	P	06 27 46.0	-1.3
NACGM				epP	pP	06 28 22.0	-0.2
NACGM				ePP	PP	06 31 38.0	+3.8
NACGM				ePPP	PPP	06 33 40.0	
NACGM				eSKS	SKSac	06 37 56.0	-13
NACGM				eSKKS	SKKSac	06 38 26.0	-3.4
NACGM				eS	S	06 38 38.0	-6.7
NACGM				eSPP	SPP	06 40 59.0	
NACGM				ePPS	PPS	06 41 23.0	
NACGM				eSS	SS	06 45 20.0	+14
NACGM				eSSS	SSS	06 49 04.0	
NACGM				eLQ	LQ	07 02 05.0	
NACGM				eLR	LR	07 07 48.0	
NACGM				LRM	MLR	07 14 01.0	
	comp=Z,32nm,20.0s						
IIGN	Ignalina	93.89	330	eP	P	06 27 46.6	-0.9
O20A	White River Ci	93.95	47	P	P	06 27 48.9	+0.4
	baz=292,SNR=229						
O20A				S	S	06 38 42.7	-4.1
	baz=292						
NSS	Namsos	94.00	341	⇓iP	P	06 27 46.2	-1.6
NSS				IVmB_BB		06 27 48.1	
	comp=Z,5μm,5.5s						
NSS				ePP	PP	06 31 36.3	+1.2
NSS				eSKSac	SKSac	06 38 08.6	-0.6
NSS				eSS	SS	06 45 10.2	+2.5
NSS				IVMs_BB	IVMs_BB	07 01 35.1	
	comp=Z,8μm,47.5s						
PV05	Paradox Valley	94.07	49	IAmb	IAmb	06 27 55.5	
	comp=Z,463nm,1.2s						
PV19	Morning Glory	94.08	49	IAmb	IAmb	06 27 53.2	
	comp=Z,521nm,1.0s						
PV04	Paradox Valley	94.10	49	IAmb	IAmb	06 27 55.0	
	comp=Z,438nm,0.9s						
PV17	East Wray Mesa	94.11	49	IAmb	IAmb	06 27 54.8	
	comp=Z,408nm,0.9s						
PV16	Nyswonger Mesa	94.12	49	IAmb	IAmb	06 27 53.4	
	comp=Z,351nm,0.9s						
PV22	Blue Mesa, Par	94.14	49	IAmb	IAmb	06 27 56.7	
	comp=Z,538nm,1.3s						
PV18	Skein Mesa, Pa	94.15	49	IAmb	IAmb	06 27 55.5	
	comp=Z,415nm,1.0s						
SVSK	Karacayir	94.17	313	eP	P	06 27 48.1	-1.0
K22A	Casper	94.19	44	P	P	06 27 50.2	+0.7
	baz=293,SNR=304						
K22A				S	S	06 38 46.2	-2.5
	baz=293						
PV03	Paradox Valley	94.20	49	IAmb	IAmb	06 27 53.6	
	comp=Z,260nm,0.7s						
PV12	Saucer Basin,	94.21	49	IAmb	IAmb	06 27 54.4	
	comp=Z,495nm,0.9s						
PV13	Radium Mtn., P	94.25	49	IAmb	IAmb	06 27 56.0	
	comp=Z,408nm,1.0s						
PV07	Paradox Valley	94.28	49	IAmb	IAmb	06 27 55.5	
	comp=Z,204nm,0.9s						
PV02	Paradox Valley	94.29	49	IAmb	IAmb	06 27 55.6	
	comp=Z,353nm,1.0s						
DARE	Darende-Malaty	94.31	311	eP	P	06 27 49.1	-0.9
TOKT	Tokat	94.34	313	eP	P	06 27 48.4	-1.6
KVT	Kavak	94.40	314	eP	P	06 27 49.3	-1.0
PV15	Paradox Valley	94.43	49	IAmb	IAmb	06 27 56.8	
	comp=Z,262nm,1.0s						
PV01	Paradox Valley	94.44	49	IAmb	IAmb	06 27 56.3	
	comp=Z,282nm,1.0s						
SLIT	Slitere, Latvi	94.49	333	eP	P	06 27 47.9	-2.3
SLIT				epP	pP	06 28 23.8	-1.3
AKASG	Malin Array Be	94.61	325	P	P	06 27 48.8	-2.2
	comp=Z,4.3nm,0.5s,baz=50,slow=5.0,SNR=26						
AKASG				PP	PP	06 31 43.4	+3.1
	comp=Z,18nm,0.9s,baz=55,slow=8.1,SNR=5.8						
AKASG				PKKPbc	PKKPdf	06 44 47.7	-0.7
	comp=Z,3.5nm,0.5s,baz=260,slow=2.8,SNR=9.7						
AKASG				PKPPKP		06 52 58.1	
	comp=Z,0.7nm,0.3s,baz=255,slow=1.6,SNR=7.9						
AKASG				LR	LR	07 14 08.4	
	comp=Z,16μm,19.9s,baz=55,slow=38						
AKASG	Malin Array Be	94.61	325	iP	P	06 27 48.9	-2.0
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	Malin Array Be	94.61	325	P	P	06 27 49.6	-1.3
AKBB	Malin Array Si	94.61	325	P	P	06 27 49.3	-1.6
AKBB				pmax	pmax		
	comp=Z,81nm,1.4s						
AKBB	Malin Array Si	94.61	325	P	P	06 27 49.3	-1.6
W18A	Petrified Fore	94.63	52	P	P	06 27 53.3	+1.6
	baz=290,SNR=132						
W18A				S	S	06 38 52.1	-0.8
	baz=290						
W18A	Petrified Fore	94.63	52	IAmb	IAmb	06 27 56.6	
	comp=Z,421nm,1.2s						
DIKM	Dikmen	94.73	315	eP	P	06 27 50.1	-1.6
TUC	Tucson	94.77	55	P	P	06 27 53.8	+1.6
TUC				pmax	pmax		
	comp=Z,1μm,1.8s						
TUC	Tucson	94.77	55	P	P	06 27 53.9	+1.7
	baz=290						
TUC				S	S	06 38 54.9	+1.0
	baz=290						
TUC	Tucson	94.77	55	P	P	06 27 53.8	+1.6
MVCO	Mesa Verde	94.83	50	P	P	06 27 53.4	+0.8
	baz=291,SNR=160						
MVCO				S	S	06 38 53.9	-0.7
	baz=291						
PABE	Paberze	94.90	331	eP	P	06 27 49.3	-2.8
GAZ	Gaziantep	95.02	310	eP	P	06 27 51.8	-1.4
KMRS	Kahramanmaras	95.13	310	eP	P	06 27 52.1	-1.6
SARI	SarD1z-Kayseri	95.14	311	eP	P	06 27 52.5	-1.4
RSSD	Black Hills	95.26	42	P	P	06 27 54.1	-0.3
RSSD				pmax	pmax		
	comp=Z,491nm,1.2s						
RSSD	Black Hills	95.26	42	P	P	06 27 54.6	+0.3
	baz=295						
RSSD				S	S	06 38 53.2	-4.8
	baz=295						
RSSD	Black Hills	95.26	42	P	P	06 27 54.1	-0.3
RSSD				IAmb	IAmb	06 27 57.4	
	comp=Z,491nm,1.2s						
N23A	Red Feather La	95.28	46	P	P	06 27 55.9	+1.3
	baz=293,SNR=337						
N23A				S	S	06 38 55.9	-2.6
	baz=293						
SCO	Scoresbysund	95.38	355	iP	P	06 27 54.1	+0.1
SCO	Scoresbysund	95.38	355	iP	P	06 27 54.1	+0.1
BNN	Bunyan	95.39	312	eP	P	06 27 53.4	-1.6
TBLU	Trondheim	95.44	341	⇓iP	P	06 27 52.7	-1.7
TBLU				IVmB_BB		06 27 54.2	
	comp=Z,4μm,5.7s						
TBLU				ePP	PP	06 31 46.0	-0.3
TBLU				eSKSac	SKSac	06 38 16.6	-0.3
TBLU				IVMs_BB	IVMs_BB	07 02 33.1	
	comp=Z,7μm,52.6s						
BZK	Bozkurt	95.47	315	eP	P	06 27 53.8	-1.2
YOZ	Yozgat	95.47	313	eP	P	06 27 53.5	-1.8
PBUR	Paburge	95.56	332	eP	P	06 27 51.9	-3.2
PBUR				epP	pP	06 28 30.0	-0.1
CORM	Corum	95.75	314	eP	P	06 27 55.4	-1.1
S22A	4UR Ranch, Cre	95.86	49	P	P	06 27 58.4	+1.0
	baz=292,SNR=297						
S22A				S	S	06 39 00.1	-3.6
	baz=292						
S22A	4UR Ranch, Cre	95.86	49	IAmb	IAmb	06 28 01.8	
	comp=

NC405	**NORSAR Array S**	**96.47**	**339**	IAmb	IAmb	06 31 16.5	
	comp=Z,498nm,1.6s						
NC303	**NORSAR Array S**	**96.52**	**339**	IAmb	IAmb	06 31 16.7	
	comp=Z,509nm,1.8s						
KARA	**Karaisali**	**96.58**	**311**	*eP*	**P**	**06 27 57.8**	**-2.4**
KIS	**Kishinev**	**96.59**	**322**	⇓*iP*	**P**	**06 27 57.0**	**-3.0**
	comp=Z,3μm,18.0s						
KIS				*epP*	**pP**	**06 28 30.0**	**-5.0**
KIS				*esP*	**pwP**	**06 28 42.0**	**+1.5**
KIS	**Kishinev**	**96.59**	**322**	*ePP*	**PP**	**06 31 50.0**	**-5.7**
KIS	**Kishinev**	**96.59**	**322**	*d iP*	**P**	**06 27 57.0**	**-3.0**
KIS				*e*PP*	**pP**	**06 28 30.0**	**-5.0**
KIS				*e*		06 38 18.0	
KIS				pmax	pmax		
	comp=Z,3μm,18.0s						
KIS				MLR	MLR		
	comp=Z,20μm,19.0s						
KIS				MLR	MLR		
	comp=N,11μm,17.0s						
KIS				MLR	MLR		
	comp=E,18μm,18.0s						
Q24A	**Divide**	**96.61**	**47**	P	**P**	**06 28 01.3**	**+0.6**
	baz=294,SNR=47						
Q24A				S	**S**	**06 39 07.5**	**-2.6**
	baz=294						
Q24A	**Divide**	**96.61**	**47**	IAmb	IAmb	06 28 07.0	
	comp=Z,141nm,1.1s						
BRTR	**Keskin Array B**	**96.62**	**313**	P	**P**	**06 27 58.9**	**-1.7**
	comp=Z,6.3nm,0.8s,baz=75,slow=3.6,SNR=9.7						
BRTR				PP	**PP**	**06 31 52.6**	**-3.9**
	comp=Z,19nm,1.0s,baz=102,slow=5.7,SNR=3.8						
BRTR				PKKPbc	**PKKPdf**	**06 44 45.0**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=205,slow=3.8,SNR=7.9						
BRTR				LR	LR	07 17 20.7	
	comp=Z,2μm,18.8s,baz=34,slow=39						
BRTR	**Keskin Array B**	**96.62**	**313**	*eP*	**P**	**06 27 58.4**	**-2.2**
BRTR	**Keskin Array B**	**96.62**	**313**	P	**P**	**06 27 58.2**	**-2.4**
BRTR	**Keskin Array B**	**96.62**	**313**	P	**P**	**06 27 58.2**	**-2.4**
NB201	**NORSAR Array S**	**96.67**	**339**	IAmb	IAmb	06 31 17.4	
	comp=Z,445nm,1.6s						
NC204	**NORSAR Array S**	**96.69**	**339**	IAmb	IAmb	06 31 14.8	
	comp=Z,615nm,1.9s						
NB2	**NORSAR Subarra**	**96.70**	**339**	P	**P**	**06 27 58.6**	**-1.7**
	comp=Z,3μm,5.0s,baz=50,slow=4.8						
NB2	**NORSAR Subarra**	**96.70**	**339**	P	**P**	**06 27 58.6**	**-1.7**
	baz=50,slow=4.8						
NOA	**NORSAR Array B**	**96.70**	**339**	P	**P**	**06 27 59.1**	**-1.2**
	comp=Z,19nm,0.8s,baz=46,slow=4.5,SNR=28						
NOA				PP	**PP**	**06 31 57.8**	**+1.6**
	comp=Z,14nm,0.9s,baz=39,slow=6.9,SNR=7.5						
NOA				PKKP	**PKKPbc**	**06 44 43.4**	**-1.4**
	comp=Z,2.5nm,0.6s,baz=226,slow=3.0,SNR=12						
NOA				LR	LR	07 13 29.8	
	comp=Z,8μm,21.5s,baz=45,slow=36						
DOMB	**Dombas**	**96.70**	**341**	⇓*iP*	**P**	**06 27 59.0**	**-1.3**
DOMB				*ePP*	**PP**	**06 31 58.3**	**+2.3**
DOMB				*e*SKSac	**SKSac**	**06 38 24.3**	**+0.7**
DOMB				*e*SS	**SS**	**06 45 48.2**	**+2.2**
DOMB				IVMs_BB	IVMs_BB	07 04 44.2	
	comp=Z,7μm,37.6s						
GULA	**Gulagac**	**96.75**	**312**	*eP*	**P**	**06 27 58.9**	**-2.2**
MOL	**Molde**	**96.79**	**341**	⇓*iP*	**P**	**06 27 60.0**	**-0.6**
MOL				IVmB_BB		06 28 01.5	
	comp=Z,4μm,4.3s						
MOL				*ePP*	**PP**	**06 31 57.8**	**+1.2**
MOL				*e*SKSac	**SKSac**	**06 38 21.7**	**-2.2**
MOL				IVMs_BB	IVMs_BB	07 02 47.1	
	comp=Z,6μm,59.8s						
NC602	**NORSAR Array S**	**96.80**	**339**	IAmb	IAmb	06 31 18.0	
	comp=Z,235nm,1.6s						
SDCO	**Great Sand Dun**	**96.84**	**49**	P	**P**	**06 28 02.5**	**+0.7**
	baz=293,SNR=188						
SDCO				S	**S**	**06 39 08.3**	**-3.8**
	baz=293						
SDCO	**Great Sand Dun**	**96.84**	**49**	IAmb	IAmb	06 28 04.5	
	comp=Z,348nm,1.8s						
NBO00	**NORSAR Array S**	**96.86**	**339**	IAmb	IAmb	06 31 16.6	
	comp=Z,253nm,1.6s						
NAO01	**NORSAR Array S**	**96.95**	**339**	⇓*iP*	**P**	**06 27 59.7**	**-1.7**
NAO01				IVmB_BB		06 28 01.2	
	comp=Z,3μm,5.7s						
NAO01				*ePP*	**PP**	**06 31 60.0**	**+2.0**
NAO01				*e*SKSac	**SKSac**	**06 38 25.1**	**+0.2**
NAO01				IVMs_BB	IVMs_BB	07 09 04.5	
	comp=Z,6μm,17.6s						
SERE	**Sereflikochisa**	**96.99**	**313**	*eP*	**P**	**06 28 00.1**	**-2.1**
ASF	**Jabal al Asfar**	**97.06**	**305**	P	**P**	**06 28 01.7**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=31,slow=2.0,SNR=14						
ASF				PP	**PP**	**06 31 56.5**	**-3.6**
	comp=Z,28nm,1.1s,baz=41,slow=1.8,SNR=6.2						
121A	**Cookes Peak, D**	**97.07**	**54**	P	Pdif	06 28 04.6	+1.8
	baz=291,SNR=106						
121A				S	**S**	**06 39 15.0**	**+1.0**
	baz=291						
MERS	**Mersin**	**97.12**	**311**	*eP*	**P**	**06 28 00.4**	**-2.4**
AFSR	**Afar-Bala (An**	**97.14**	**313**	*eP*	**P**	**06 28 01.6**	**-1.2**
LOD	**Lodumlu**	**97.17**	**314**	*eP*	**P**	**06 28 01.5**	**-1.4**
Y22D	**IRIS PASSCAL I**	**97.18**	**52**	P	Pdif	06 28 05.0	+1.7
	baz=292,SNR=9.4						
Y22D	**IRIS PASSCAL I**	**97.18**	**52**	IAmb	IAmb	06 28 11.4	
	comp=Z,163nm,1.0s						
KLNR	**Kaliningrad**	**97.19**	**331**	*d iP*	**P**	**06 28 00.7**	**-1.8**
KLNR				pmax	pmax		
	comp=Z,111nm,1.7s						
ANMO	**Albuquerque**	**97.20**	**51**	*d iP*	Pdif	06 28 04.2	+0.8
ANMO				pmax	pmax		
	comp=Z,185nm,1.8s						
ANMO	**Albuquerque**	**97.20**	**51**	P	Pdif	06 28 04.2	+0.7
	baz=292						
ANMO				S	**S**	**06 39 12.8**	**-2.3**
	baz=292						
ANMO	**Albuquerque**	**97.20**	**51**	P	Pdif	06 28 04.4	+1.0
AKN	**Aaknes**	**97.25**	**341**	⇓*iP*	**P**	**06 28 02.2**	**-0.5**
AKN				IVmB_BB		06 28 03.9	
	comp=Z,4μm,4.1s						
AKN				*ePP*	**PP**	**06 32 01.4**	**+1.2**
AKN				*e*SKSac	**SKSac**	**06 38 27.7**	**+1.2**
AKN				*e*PS	PS	06 40 56.3	+2.2
AKN				*e*SS	**SS**	**06 45 52.8**	**-1.0**
AKN				IVMs_BB	IVMs_BB	07 03 06.3	
	comp=Z,6μm,51.6s						
ULM	**Lac du Bonnet**	**97.27**	**34**	P	**P**	**06 28 02.7**	**-0.3**
	comp=Z,81nm,0.8s,baz=304,slow=4.7,SNR=31						
ULM				PKIKP	**PKiKP**	**06 32 36.8**	**-0.8**
	comp=Z,5.7nm,0.6s,baz=282,slow=4.3,SNR=1.5						
ULM				LR	LR	07 13 20.2	
	comp=Z,9μm,18.1s,baz=318,slow=36						
ULM	**Lac du Bonnet**	**97.27**	**34**	IAmb	IAmb	06 28 05.7	
	comp=Z,109nm,0.9s						
SULT	**Sultanhani-AKS**	**97.33**	**312**	*eP*	**P**	**06 28 01.7**	**-2.0**
YESY	**Yesilyurt**	**97.33**	**312**	*eP*	**P**	**06 28 01.7**	**-2.1**
KULU	**Kulu**	**97.35**	**313**	*eP*	**P**	**06 28 02.2**	**-1.6**
BNM	**Barren Site**	**97.37**	**52**	P	Pdif	06 28 04.9	+0.6
KIZK	**Mersin**	**97.56**	**310**	*eP*	**P**	**06 28 02.1**	**-2.5**
CHBY	**Cihanbeyli**	**97.62**	**313**	*eP*	**P**	**06 28 02.7**	**-2.3**
OSL	**Oslo**	**97.65**	**338**	⇓*iP*	**P**	**06 28 02.3**	**-2.2**
OSL				IVmB_BB		06 28 04.7	
	comp=Z,3μm,6.0s						
OSL				*ePP*	**PP**	**06 32 04.1**	**+0.7**
OSL				*e*SKSac	**SKSac**	**06 38 27.0**	**-1.4**
OSL				*e*SS	**SS**	**06 46 02.8**	**+3.4**
OSL				IVMs_BB	IVMs_BB	07 03 19.0	
	comp=Z,6μm,46.7s						
SILI	**Silifke-Mersin**	**97.76**	**310**	*eP*	**P**	**06 28 02.8**	**-2.8**
LPIG	**La Paz**	**97.86**	**63**	P	Pdif	06 28 07.0	+0.8
	comp=Z,168nm,1.1s,baz=91,slow=0.9,SNR=12						
LPIG				PP	**PP**	**06 32 07.2**	**+1.0**
	comp=Z,154nm,1.3s,baz=66,slow=2.6,SNR=12						
T25A	**Trinidad**	**97.87**	**49**	P	Pdif	06 28 07.3	+0.9
	baz=294,SNR=105						
T25A				S	**S**	**06 39 19.8**	**-1.0**
	baz=294						
T25A	**Trinidad**	**97.87**	**49**	P	Pdif	06 28 06.9	+0.5
T25A				IAmb	IAmb	06 28 11.2	
	comp=Z,116nm,0.9s						
KEBE	**Keben-Mersin**	**97.89**	**310**	*eP*	**P**	**06 28 04.2**	**-2.0**
EREN	**Erenkoy**	**97.91**	**309**	*eP*	**P**	**06 28 04.2**	**-2.0**
MMAI	**Mount Meron Ar**	**97.93**	**307**	P	**P**	**06 28 05.8**	**-0.7**
	comp=Z,8.1nm,0.8s,baz=108,slow=4.5,SNR=4.5						
MMAI				pP	**pP**	**06 28 41.2**	**-0.3**
	comp=Z,10.0nm,0.8s,baz=56,slow=5.1,SNR=3.2						
MMAI				PP	**PP**	**06 32 06.8**	**+0.2**
	comp=Z,44nm,1.1s,baz=64,slow=6.6,SNR=7.0						
LVV	**L'vov**	**97.93**	**326**	*c iP*	**P**	**06 28 04.6**	**-1.4**
LVV				*e*PP*	**pwP**	**06 28 45.4**	**-1.0**
LVV				*e*		06 38 26.2	
LVV				*i S*	**S**	**06 39 25.4**	**+5.2**
LVV				pmax	pmax		
	comp=Z,200nm,2.8s						
SKAR	**Skarslia**	**97.95**	**340**	⇓*iP*	**P**	**06 28 04.8**	**-1.1**
SKAR				IVmB_BB		06 28 06.8	
	comp=Z,3μm,5.5s						
SKAR				*ePP*	**PP**	**06 32 07.0**	**+1.3**
SKAR				*e*SKSac	**SKSac**	**06 38 29.2**	**-0.9**
SKAR				*e*PS	PS	06 41 04.2	+2.5
SKAR				*e*SS	**SS**	**06 46 07.6**	**+3.9**
SKAR				IVMs_BB	IVMs_BB	07 03 25.4	
	comp=Z,7μm,49.2s						
OGNE	**Ogallala**	**97.96**	**45**	P	Pdif	06 28 06.6	+0.1
	baz=296,SNR=34						
OGNE				S	**S**	**06 39 17.9**	**-3.1**
	baz=296						
OGNE	**Ogallala**	**97.96**	**45**	IAmb	IAmb	06 28 09.4	
	comp=Z,213nm,1.1s						
IKL	**Isikli**	**97.99**	**310**	*eP*	**P**	**06 28 04.2**	**-2.4**
MDUB	**Mudurnu**	**98.01**	**315**	*eP*	**P**	**06 28 05.0**	**-1.7**
TEVE	**Tevekalti-Mers**	**98.09**	**311**	*eP*	**P**	**06 28 05.0**	**-2.2**
AKKU	**Akkuyu-Mersin**	**98.12**	**310**	*eP*	**P**	**06 28 05.4**	**-1.8**
MMLI	**Mount Malkishu**	**98.13**	**306**	*eP*	**P**	**06 28 05.9**	**-1.5**
TESR	**Tescani**	**98.13**	**322**	⇓*iP*	Pdif	06 28 09.3	+2.3
LADK	**Ladik-KONYA**	**98.16**	**312**	*eP*	**P**	**06 28 04.8**	**-2.7**
KIZT	**Kizilcal**	**98.22**	**313**	*eP*	**P**	**06 28 05.8**	**-1.9**
AUSIV	**SIVRIHISAR**	**98.22**	**314**	*eP*	**P**	**06 28 05.6**	**-2.1**
SVRH	**Sivrihisar-ESK**	**98.23**	**314**	*eP*	**P**	**06 28 05.4**	**-2.3**
KONO	**Kongsberg**	**98.26**	**339**	*d iP*	**P**	**06 28 05.5**	**-1.7**
KONO				pmax	pmax		
	comp=Z,147nm,4.8s						
KONO	**Kongsberg**	**98.26**	**339**	*eP*	**P**	**06 28 05.3**	**-1.9**
KONO				IVmB_BB		06 28 07.4	
	comp=Z,3μm,5.2s						
KONO				*ePP*	**PP**	**06 32 09.2**	**+1.3**
KONO				*e*SKSac	**SKSac**	**06 38 30.4**	**-1.1**
KONO				*e*SS	**SS**	**06 46 09.7**	**+1.9**
KONO				IVMs_BB	IVMs_BB	07 03 33.6	
	comp=Z,6μm,59.2s						
KONT	**Konya--Tatoy**	**98.27**	**312**	*eP*	**P**	**06 28 04.9**	**-2.9**
HYA	**Hoyanger**	**98.28**	**341**	*e*Pdif	Pdif	06 28 07.9	+0.7
HYA				*ePP*	**PP**	**06 32 09.4**	**+1.4**
HYA				*e*SKSac	**SKSac**	**06 38 32.7**	**+1.1**
HYA				*e*SS	**SS**	**06 46 11.5**	**+3.6**
BERE	**Bereket-Mersin**	**98.29**	**311**	*eP*	**P**	**06 28 05.9**	**-2.2**
FOO	**Floro**	**98.30**	**342**	*e*Pdif	Pdif	06 28 07.4	0.0
FOO				IVmB_BB		06 28 08.3	
	comp=Z,4μm,4.4s						
FOO				*ePP*	**PP**	**06 32 07.5**	**-0.7**
FOO				*e*SKSac	**SKSac**	**06 38 32.1**	**+0.4**
FOO				*e*ScS	**ScS**	**06 39 23.9**	**+1.1**
FOO				*e*SS	**SS**	**06 46 10.0**	**+1.7**
FOO				IVMs_BB	IVMs_BB	07 05 32.2	
	comp=Z,6μm,31.0s						
AGMN	**Agassiz Nation**	**98.30**	**36**	P	**P**	**06 28 07.2**	**-0.5**
	baz=302,SNR=41						
AGMN				S	**S**	**06 39 18.1**	**-5.4**
	baz=302						
ATD	**Arta Tunnel**	**98.32**	**284**	P	**P**	**06 28 07.2**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=271,slow=23,SNR=1.0						
ATD				PP	**PP**	**06 32 11.2**	**+1.0**
	comp=Z,5.9nm,0.4s,baz=82,slow=4.3,SNR=4.4						
ATD				PKKP	**PKKPdf**	**06 44 42.5**	**+0.8**
	comp=Z,15nm,1.0s,baz=217,slow=1.4,SNR=4.4						
ATD				PKPPKP		06 52 54.4	
	comp=Z,11nm,0.8s,baz=105,slow=2.4,SNR=8.4						
ATD	**Arta Tunnel**	**98.32**	**284**	*eP*	**P**	**06 28 05.8**	**-2.8**
ATD	**Arta Tunnel**	**98.32**	**284**	*i P*	**P**	**06 28 05.8**	**-2.8**
SUSD	**Miller**	**98.37**	**40**	P	**P**	**06 28 07.7**	**-0.4**
	baz=299,SNR=50						
SUSD				S	**S**	**06 39 17.8**	**-6.4**
	baz=299						
KSCO	**Kaye Shedlock'**	**98.38**	**47**	P	Pdif	06 28 09.1	+0.6
	baz=295,SNR=60						
KSCO				S	**S**	**06 39 21.7**	**-3.1**
	baz=295						
KSCO	**Kaye Shedlock'**	**98.38**	**47**	IAmb	IAmb	06 28 13.1	
	comp=Z,412nm,1.4s						
VRI	**Vrincioaia**	**98.41**	**321**	⇑*iP*	Pdif	06 28 13.0	+4.7
VRI	**Vrincioaia**	**98.41**	**321**	⇓*iP*	**PKKPbc**	**06 44 39.2**	**-0.4**
VRI	**Vrincioaia**	**98.41**	**321**	*eP*	**P**	**06 28 06.9**	**-1.4**
VRI	**Vrincioaia**	**98.41**	**321**	⇑*iP*	Pdif	06 28 13.0	+4.7
BURAR	**Bucovina Array**	**98.42**	**323**	⇑*iP*	Pdif	06 28 08.7	+0.3
BURAR	**Bucovina Array**	**98.42**	**323**	⇑*iP*	**PKKPbc**	**06 44 39.2**	**-0.6**
BURAR	**Bucovina Array**	**98.42**	**323**	⇑*iP*	Pdif	06 28 08.7	+0.3
BURAR	**Bucovina Array**	**98.42**	**323**	P	**P**	**06 28 07.4**	**-1.0**
TEKE	**Tekeli-Mersin**	**98.45**	**310**	*eP*	**P**	**06 28 06.2**	**-2.5**
PLOR	**Plostina**	**98.46**	**321**	⇑*iP*	Pdif	06 28 10.3	+1.7
PLOR	**Plostina**	**98.46**	**321**	⇓*iP*	**PKKPbc**	**06 44 39.3**	**-0.1**
PLOR	**Plostina**	**98.46**	**321**	⇑*iP*	Pdif	06 28 10.3	+1.7
GULT	**Gulveren**	**98.50**	**315**	*eP*	**P**	**06 28 06.9**	**-2.0**
BEL	**Belsk**	**98.52**	**329**	*e*PKP	**P**	**06 28 08.3**	**-0.3**
BEL				*ePP*	**PP**	**06 32 12.4**	**+2.2**
BEL				*e*SKS	S	06 39 35.7	+11
SPNC	**Sapanca-Adapaz**	**98.53**	**315**	*eP*	**P**	**06 28 07.1**	**-1.8**
CIFT	**Cifteler, Eski**	**98.59**	**314**	*eP*	**P**	**06 28 07.2**	**-2.1**
SRCK	**Saricakaya, Es**	**98.59**	**315**	*eP*	**P**	**06 28 07.2**	**-2.0**
FRB	**Frobisher Bay**	**98.61**	**14**	PKKPbc	PKKPbc	06 44 36.6	-2.9
	comp=Z,13nm,0.9s,baz=103,slow=7.1,SNR=5.3						
ORH	**Orhaniye**	**98.61**	**316**	P	Pdif	06 28 21.1	+12
SFJD	**Kangerlussuaq**	**98.65**	**6**	LR	LR	07 11 08.8	
	comp=Z,7μm,21.7s,baz=350,slow=34						
SFJD	**Kangerlussuaq**	**98.65**	**6**	⇓*iP*	**P**	**06 28 07.9**	**-0.9**
SFJD	**Kangerlussuaq**	**98.65**	**6**	⇓*iP*	**P**	**06 28 07.9**	**-0.9**
SFJD	**Kangerlussuaq**	**98.65**	**6**	P	**P**	**06 28 08.7**	**-0.1**
KWP	**Kalwaria Pacla**	**98.75**	**326**	*e*PKP	**P**	**06 28 09.4**	**-0.4**
KWP				*ePP*	**PP**	**06 32 16.6**	**+4.5**
KWP				*e*SKS	S	06 39 38.2	+11
KWP	**Kalwaria Pacla**	**98.75**	**326**	IAmb	IAmb	06 31 34.6	
	comp=Z,230nm,1.6s						
CSS	**Mathiatis**	**98.77**	**309**	*eP*	**P**	**06 28 08.1**	**-2.0**
BORA	**Eskisehir**	**98.78**	**315**	*eP*	**P**	**06 28 07.7**	**-2.5**
SUE	**Sulen**	**98.81**	**341**	*e*Pdif	**P**	**06 28 08.6**	**-1.0**
SUE				IVmB_BB		06 28 10.8	
	comp=Z,4μm,4.4s						
SUE				*e*SKSac	**SKSac**	**06 38 34.5**	**+0.3**
SUE				*e*SP	SP	06 40 55.2	+2.7
SUE				*e*SS	**SS**	**06 46 18.8**	**+3.4**
SUE				IVMs_BB	IVMs_BB	07 14 57.2	
	comp=Z,5μm,17.3s						
OZUR		**98.86**	**322**	⇓*iP*	**PKKPbc**	**06 44 38.7**	**+0.3**
HRT	**Hereke**	**98.90**	**316**	*eP*	**P**	**06 28 09.0**	**-1.6**
GAZI	**Gazipasa**	**99.00**	**311**	*eP*	**Pdif**	**06 28 08.2**	**-3.0**
ADVT	**Abdulvahap**	**99.03**	**315**	*eP*	**Pdif**	**06 28 09.4**	**-1.7**
LEF	**Lefka**	**99.03**	**309**	*eP*	**Pdif**	**06 28 09.1**	**-2.2**
AUBOZ	**BOZOYUK**	**99.06**	**315**	*eP*	**Pdif**	**06 28 09.0**	**-2.4**
CAVI	**Cavuskoy**	**99.06**	**315**	*eP*	**Pdif**	**06 28 09.7**	**-1.6**
MLR	**Muntele Rosu**	**99.07**	**321**	P	**Pdif**	**06 28 09.8**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=145,slow=22,SNR=1.4						
MLR				PKKPbc	**PKKPbc**	**06 44 37.7**	**-0.1**
	comp=Z,27nm,0.9s,baz=177,slow=1.4,SNR=8.2						
MLR				LR	LR	07 15 33.9	
	comp=Z,19μm,21.4s,baz=57,slow=37						
MLR	**Muntele Rosu**	**99.07**	**321**	⇓*iP*	**Pdif**	**06 28 15.8**	**+4.4**
MLR	**Muntele Rosu**	**99.07**	**321**	⇓*iP*	**PKKPbc**	**06 44 37.4**	**-0.5**
MLR	**Muntele Rosu**	**99.07**	**321**	⇓*iP*	**Pdif**	**06 28 15.8**	**+4.4**
ODD1	**Odda**	**99.08**	**340**	⇓*iP*	**Pdif**	**06 28 11.9**	**+0.9**
ODD1				IVmB_BB		06 28 15.3	
	comp=Z,3μm,4.9s						
ODD1				*ePP*	**PP**	**06 32 15.7**	**+1.4**
ODD1				*e*SKSac	**SKSac**	**06 38 35.8**	**0.0**
ASK	**Askoy**	**99.11**	**341**	*e*Pdif	**Pdif**	**06 28 11.3**	**+0.3**
ASK				*ePP*	**PP**	**06 32 14.3**	**-0.1**
KLYT	**Kilyos**	**99.13**	**316**	*eP*	**Pdif**	**06 28 10.6**	**-0.9**
BER	**Bergen**	**99.14**	**341**	*e*Pdif	**Pdif**	**06 28 10.7**	**-0.5**
BER				IVmB_BB		06 28 11.8	
	comp=Z,3μm,4.9s						
BER				*ePP*	**PP**	**06 32 08.1**	**-6.6**
BER				*e*SKSac	**SKSac**	**06 38 35.9**	**-0.1**
BER				*e*PS	PS	06 41 17.3	+3.0
BER				*e*SS	**SS**	**06 46 23.1**	**+3.0**
BER				IVMs_BB	IVMs_BB	07 05 35.3	
	comp=Z,5μm,31.5s						
DOPR	**Dopca**	**99.16**	**322**	⇓*iP*	**PKKPbc**	**06 44 37.0**	**-0.4**
MNTX	**Cornudas Mount**	**99.27**	**54**	P	**Pdif**	**06 28 13.7**	**+1.3**
	baz=293,SNR=264						
PRD	**Provadia**	**99.29**	**319**	*i P*	**Pdif**	**06 28 11.2**	**-1.0**
SHUT	**Suhut-Afyon**	**99.30**	**313**	*eP*	**Pdif**	**06 28 10.6**	**-1.9**
HRFI	**Mount Harif**	**99.33**	**304**	*eP*	**Pdif**	**06 28 11.2**	**-1.5**
BGKT	**Bogazkoy**	**99.34**	**316**	*eP*	**Pdif**	**06 28 10.9**	**-1.6**
KOLS	**Kolonicke sedl**	**99.38**	**326**	*eP*	**Pdif**	**06 28 13.7**	**+1.2**
KOLS	**Kolonicke sedl**	**99.38**	**326**	*e*PDIFF	**Pdif**	**06 28 13.7**	**+1.2**
GKP	**Gorka Klasztor**	**99.40**	**331**	*e*PKP	**Pdif**	**06 28 11.3**	**-1.1**
GKP				*e*PP	**PP**	**06 32 21.0**	**+4.1**
GKP				*e*SKS	S	06 39 42.7	+10
GEMT	**Gemlik**	**99.40**	**316**	*eP*	**Pdif**	**06 28 10.9**	**-1.9**
MAW	**Mawson**	**99.49**	**203**	P	**Pdif**	**06 28 12.4**	**0.0**
	comp=Z,32nm,1.1s,baz=78,slow=6.1,SNR=27						
MAW				PP	**PP**	**06 32 18.0**	**+0.2**
	comp=Z,15nm,0.9s,baz=64,slow=12,SNR=4.5						
MAW				PKKPbc	**PKKPbc**	**06 44 35.8**	**-1.8**
	comp=Z,30nm,0.9s,baz=218,slow=1.9,SNR=24						
MAW				PKPPKP		06 52 51.7	
	comp=Z,4.1nm,0.9s,baz=291,slow=6.5,SNR=6.6						
MAW				LR	LR	07 10 41.8	
	comp=Z,10μm,19.3s,baz=68,slow=34						
MAW	**Mawson**	**99.49**	**203**	P	**Pdif**	**06 28 12.4**	**0.0**
MAW				pmax	pmax		
	comp=Z,37nm,1.8s						
MAW	**Mawson**	**99.49**	**203**		**Pdif**	**06 28 12.4**	**0.0**
CTKS	**Kestanelik-??a**	**99.49**	**317**	*eP*	**Pdif**	**06 28 12.4**	**-0.8**
BLS5	**Blasjo**	**99.51**	**340**	*e*Pdif	**Pdif**	**06 28 10.8**	**-2.1**
BLS5				⇓*e*Pdif	**Pdif**	**06 28 11.0**	**-1.8**
BLS5				IVmB_BB		06 28 13.6	
	comp=Z,3μm,5.8s						
BLS5				*ePP*	**PP**	**06 32 18.0**	**+0.5**
BLS5				*e*SKSac	**SKSac**	**06 38 38.5**	**+0.6**
BLS5				*e*SS	**SS**	**06 46 28.9**	**+3.6**
BLS5				IVMs_BB	IVMs_BB	07 13 34.1	
	comp=Z,7μm,16.0s						
KZIT	**Kziot**	**99.51**	**305**	*eP*	**Pdif**	**06 28 11.8**	**-1.7**
CTYL	**Yalikoy Yolu**	**99.53**	**317**	*eP*	**Pdif**	**06 28 11.7**	**-1.6**
EIL	**Elat**	**99.53**	**304**	P	**Pdif**	**06 28 11.8**	**-1.9**
	comp=Z,10.0nm,0.9s,baz=50,slow=1.7,SNR=7.7						
EIL	**Elat**	**99.53**	**304**	*eP*	**Pdif**	**06 28 12.4**	**-1.2**
UZH	**Uzhgorod**	**99.53**	**325**	⇓*iP*	**Pdif**	**06 28 13.0**	**-0.2**
UZH				*e*PP*	**pP**	**06 28 50.7**	**+2.5**
UZH				*e*		06 32 16.2	
UZH				*e*PPP	PPP	06 34 31.4	
UZH				*e*S	**S**	**06 39 27.4**	**-6.3**
UZH				*e*SS	**SS**	**06 46 20.7**	**-5.7**
UZH				*e*SSS	SSS	06 50 14.3	
UZH				pmax	pmax		
	comp=Z,330nm,1.2s						
ARMT	**Armutlu**	**99.56**	**316**	*eP*	**Pdif**	**06 28 11.3**	**-2.3**
ISP	**Isparta**	**99.63**	**313**	*eP*	**Pdif**	**06 28 11.2**	**-2.8**
MDNY	**Mudanya-Bursa**	**99.64**	**316**	*eP*	**Pdif**	**06 28 11.9**	**-1.9**
HOMB	**Homborsund**	**99.65**	**338**	⇓*e*Pdif	**Pdif**	**06 28 12.0**	**-1.5**
HOMB				IVmB_BB		06 28 13.7	
	comp=Z,2μm,5.7s						
HOMB				*ePP*	**PP**	**06 32 19.9**	**+1.4**
HOMB				*e*SKSac	**SKSac**	**06 38 38.1**	**-0.4**
HOMB				IVMs_BB	IVMs_BB	07 17 42.8	
	comp=Z,6μm,17.3s						
TVSB	**Tavsanli**	**99.66**	**315**	*eP*	**Pdif**	**06 28 12.5**	**-1.6**
BCK	**Bucak**	**99.74**	**312**	*eP*	**Pdif**	**06 28 11.6**	**-2.9**
CRVS	**Cervenica-Dubn**	**99.84**	**326**	*eP*	**Pdif**	**06 28 14.4**	**-0.2**
CRVS	**Cervenica-Dubn**	**99.84**	**326**	*e*PDIFF	**Pdif**	**06 28 14.4**	**-0.2**
ARR	**Arges**	**99.93**	**322**	⇑*iP*	**Pdif**	**06 28 16.0**	**+0.9**
ARR	**Arges**	**99.93**	**322**	⇓*iP*	**PKKPbc**	**06 44 36.1**	**+0.7**
COP	**Copenhagen**	**99.95**	**335**	⇓*iP*	**Pdif**	**06 28 13.7**	**-1.1**

KRLC			*e*PKKP	**PKKPbc**	**06 44 24.7**	**-6.0**
KRLC			*ex*	x	06 44 33.8	
KRLC			AMS	AMS	07 18 50.0	
	comp=Z,19μm,17.8s					
KRLC	**Kraliky**	**101.61 329**	*e*P	**Pdif**	**06 28 19.2**	**-3.3**
KRLC			*e*		06 32 34.9	
KRLC			MLR	MLR		
	comp=Z,19μm,17.8s					
CHVC	**Chvalec**	**101.65 329**	*e*PDIFF	**Pdif**	**06 28 19.9**	**-2.7**
CHVC			*e*PP	**PP**	**06 32 35.4**	**+1.4**
CHVC			AMS	AMS	07 10 00.0	
	comp=Z,14μm,18.5s					
DPC	**Dobruska-Polom**	**101.67 329**	*e*PDIFF	**Pdif**	**06 28 18.5**	**-4.2**
DPC			*e*PP	**PP**	**06 32 35.6**	**+1.5**
DPC			*e*PKKP	**PKKPdf**	**06 44 33.9**	**-1.9**
DPC			*ex*	x	06 44 53.8	
DPC			AMS	AMS	07 15 20.0	
	comp=Z,17μm,16.2s					
DPC	**Dobruska-Polom**	**101.67 329**	*e*P	**Pdif**	**06 28 18.5**	**-4.2**
DPC			*e*		06 32 35.6	
DPC			MLR	MLR		
	comp=Z,17μm,16.2s					
PGB	**Panagyurishte**	**101.67 319**	*i* P	**Pdif**	**06 28 22.2**	**-0.7**
UPC	**Upice**	**101.72 329**	*e*PDIFF	**Pdif**	**06 28 16.4**	**-6.5**
UPC			*e*PP	**PP**	**06 32 35.5**	**+1.0**
UPC			AMS	AMS	07 10 00.0	
	comp=Z,15μm,18.4s					
UPC	**Upice**	**101.72 329**	*e*P	**Pdif**	**06 28 16.4**	**-6.5**
UPC			*e*		06 32 35.5	
UPC			MLR	MLR		
	comp=Z,15μm,18.4s					
SPMN	**Marine on St.**	**101.72 37**	P	**Pdif**	**06 28 23.1**	**+0.1**
	baz=304,SNR=15					
TURN	**Turunc**	**101.72 313**	*e*P	**Pdif**	**06 28 21.6**	**-1.6**
RZN	**Rozhen**	**101.76 318**	*i* P	**Pdif**	**06 28 22.3**	**-1.2**
BLCB	**Balcova**	**101.83 315**	*e*P	**Pdif**	**06 28 21.2**	**-2.4**
JAVC	**Velka Javorina**	**101.89 327**	‖ *i*PDIFF	**Pdif**	**06 28 24.1**	**+0.3**
JAVC			*e*SKS	**SKSac**	**06 38 50.1**	**+0.1**
JAVC			*e*SDIFF	**Sdif**	**06 39 53.6**	**0.0**
JAVC			*e*PKKP	**PKKPbc**	**06 44 29.0**	**-0.9**
MDVR	**Moldovita**	**101.99 322**	‖P	**Pdif**	**06 28 23.3**	**-1.0**
MDVR	**Moldovita**	**101.99 322**	‖P	**PKKPbc**	**06 44 29.3**	**-0.1**
GCAM	**G?zelcaml?**	**102.01 314**	*e*P	**Pdif**	**06 28 23.1**	**-1.4**
VOI	**Vohitsoka**	**102.04 250**	Pdiff	**Pdif**	**06 28 23.5**	**-1.5**
	SNR=5.5					
VOI	**Vohitsoka**	**102.04 250**	P	**Pdif**	**06 28 23.5**	**-1.5**
	SNR=5.5					
BSEG	**Bad Segeberg**	**102.05 334**	*e*PP	**PP**	**06 32 35.3**	**-1.4**
	baz=47,slow=7.5					
ARG	**Arkhangelos**	**102.06 312**	*e*P	**Pdif**	**06 28 22.7**	**-2.0**
URLA	**Izmir**	**102.14 315**	*e*P	**Pdif**	**06 28 22.9**	**-2.2**
VRAC	**Vranov**	**102.18 328**	‖ *i*PDIFF	**Pdif**	**06 28 23.6**	**-1.4**
VRAC			*e*PP	PP	06 32 29.0	-8.9
VRAC			*e*SKS	**SKSac**	**06 38 52.6**	**+1.4**
VRAC			*e*SDIFF	SKKSac	06 39 50.6	+20
VRAC			*e*PKKP	**PKKPbc**	**06 44 27.5**	**-1.5**
VTS	**Vitosha**	**102.22 320**	*i* P	**Pdif**	**06 28 25.1**	**-0.4**
BODT	**Bodrum**	**102.26 313**	*e*P	**Pdif**	**06 28 23.1**	**-2.5**
MODS	**Modra-Piesok**	**102.40 327**	*e*P	**Pdif**	**06 28 25.7**	**-0.3**
MODS	**Modra-Piesok**	**102.40 327**	*e*PDIFF	**Pdif**	**06 28 25.7**	**-0.3**
PVCC	**Panska Ves**	**102.42 330**	*e*PDIFF	**Pdif**	**06 28 22.6**	**-3.4**
PVCC			*e*PP	**PP**	**06 32 40.7**	**+1.1**
PVCC			AMS	AMS	07 15 20.0	
	comp=Z,14μm,15.9s					
PVCC	**Panska Ves**	**102.42 330**	*e*P	**Pdif**	**06 28 22.6**	**-3.4**
PVCC			*e*		06 32 40.7	
PVCC			MLR	MLR		
	comp=Z,14μm,15.9s					
KRUC	**Moravsky**	**102.43 328**	‖ *i*PDIFF	**Pdif**	**06 28 25.6**	**-0.5**
KRUC			*e*PP	**PP**	**06 32 35.7**	**-4.1**
KRUC			*e*SKS	**SKSac**	**06 38 53.6**	**+1.2**
KRUC			*e*SDIFF	**Sdif**	**06 39 57.1**	**-0.9**
KRUC			*e*PKKP	**PKKPbc**	**06 44 27.1**	**-1.1**
MMB	**Musomiste**	**102.45 319**	*i* P	**Pdif**	**06 28 25.1**	**-1.3**
BRG	**Berggiesshubel**	**102.49 330**	PDIFF	**Pdif**	**06 28 24.0**	**-2.3**
BRG			sPDIFF		06 30 39.0	
BRG			PP	**PP**	**06 32 37.0**	**-3.2**
BRG			SKS	**SKSac**	**06 38 48.0**	**-4.6**
BRG			SDIFF	**SKKSac**	**06 39 38.0**	**+5.7**
BRG			*e*PKKP	**PKKPbc**	**06 44 27.1**	**-1.0**
	comp=Z,34nm,1.8s					
BRG			SS	**SS**	**06 47 05.0**	**-2.1**
BRG			*e*PKPPKP		06 52 44.4	
	comp=Z,12nm,1.4s					
	comp=N,19μm,18.8s					
	comp=E,12μm,17.4s					
	comp=Z,22μm,19.9s					
BRG	**Berggiesshubel**	**102.49 330**	P	**Pdif**	**06 28 24.0**	**-2.3**
BRG					06 32 37.0	
BRG					06 38 48.0	
BRG			S	**SKKSac**	**06 39 38.0**	**+5.7**
BRG			SS	**SS**	**06 47 05.0**	**-2.1**
BRG			pmax	pmax		
	comp=Z,34nm,1.8s					
BRG			pmax	pmax		
	comp=Z,12nm,1.4s					
BRG			MLR	MLR		
	comp=N,19μm,18.8s					
BRG			MLR	MLR		
	comp=E,12μm,17.4s					
BRG			MLR	MLR		
	comp=Z,22μm,19.9s					
BRG	**Berggiesshubel**	**102.49 330**	*e*PP	**PP**	**06 32 39.9**	**-0.3**
	baz=47,slow=7.5					
KSU1	**Kansas State U**	**102.50 44**	P	**Pdif**	**06 28 26.6**	**0.0**
	baz=300,SNR=16					
CLL	**Collm**	**102.65 331**	*e*Pdif	**Pdif**	**06 28 25.0**	**-2.0**
CLL			*e*(pPdif)		06 29 05.0	
CLL			*e*		06 31 24.0	
CLL			*e*		06 31 38.0	
CLL			*e*		06 32 33.0	
CLL			*i* PP	**PP**	**06 32 41.4**	**0.0**
	comp=Z,266nm,1.9s					
CLL			*i* PKiKP	**PKiKP**	**06 32 48.9**	**+1.7**
CLL			*ep*PP		06 33 16.0	
CLL			*es*PP		06 33 32.0	
CLL			*e*PPP	PPP	06 34 50.0	
CLL			*es*PPP		06 35 35.0	
CLL			*e*PPPP		06 36 38.0	
CLL			*es*PPPP		06 37 19.0	
CLL			*e*SKSac	**SKSac**	**06 38 50.0**	**-3.3**
CLL			*e*Sdif	SKKSac	06 39 56.0	+23
CLL			*e*PS	PS	06 41 48.0	-3.9
CLL			*e*PPS	PPS	06 42 42.0	
CLL			*es*PPS		06 43 24.0	
CLL			*e*PKKPbc	**PKKPbc**	**06 44 26.0**	**-1.7**
CLL			*e*		06 44 49.0	
CLL			*es*PKKPdf		06 45 23.0	
CLL			*es*SS		06 48 12.0	
CLL			*e*SSS	SSS	06 51 06.0	
CLL			*e*PKPPKPd	**P'P'df**	**06 52 41.0**	**-4.8**
CLL			*e*		06 53 00.0	
CLL			*e*		06 53 09.0	
CLL			*e*		06 55 54.0	
CLL			*e*PPPPrev		06 57 06.0	
CLL			Lm	MLR	07 18 00.0	
	comp=N,13μm,21.8s					
CLL			Lm	MLR	07 18 00.0	
	comp=E,9μm,21.0s					
CLL			Lm	MLR	07 18 00.0	
	comp=Z,22μm,19.8s					
CLL	**Collm**	**102.65 331**	*e*P	**Pdif**	**06 28 25.0**	**-2.0**
CLL			*i*		06 32 41.4	
CLL			*e*		06 38 50.0	
CLL			*e*S	**Sdif**	**06 39 56.0**	**-3.7**
CLL			pmax	pmax		
	comp=Z,266nm,1.9s					
GOPC	**GO Pecny, Ondr**	**102.70 329**	*e*PDIFF	**Pdif**	**06 28 23.3**	**-4.0**
GOPC			*e*PP	**PP**	**06 32 42.9**	**+1.0**
GOPC			AMS	AMS	07 17 30.0	
	comp=Z,16μm,16.2s					
GOPC	**GO Pecny, Ondr**	**102.70 329**	*e*P	**Pdif**	**06 28 23.3**	**-4.0**
GOPC			*e*		06 32 42.9	
GOPC			MLR	MLR		
	comp=Z,16μm,16.2s					
KKB	**Krupnik**	**102.72 319**	*i* P	**Pdif**	**06 28 25.7**	**-1.8**
FBE	**Freiberg**	**102.74 331**	*e*PP	**PP**	**06 32 42.1**	**0.0**
	baz=47,slow=7.5					
TREC	**Trest**	**102.75 329**	*e*PDIFF	**Pdif**	**06 28 21.9**	**-5.6**
TREC			*e*PP	**PP**	**06 32 42.2**	**0.0**
TREC			AMS	AMS	07 15 50.0	
	comp=Z,21μm,16.5s					
TREC	**Trest**	**102.75 329**	*e*P	**Pdif**	**06 28 21.9**	**-5.6**
TREC			*e*		06 32 42.2	
TREC			MLR	MLR		
	comp=Z,21μm,16.5s					
PRA	**Prague**	**102.78 330**	*e*PDIFF	**Pdif**	**06 28 23.3**	**-4.3**
PRA			*e*PP	**PP**	**06 32 44.8**	**+2.4**
PRA			AMS	AMS	07 15 20.0	
	comp=Z,8μm,17.8s					
PRA	**Prague**	**102.78 330**	*e*P	**Pdif**	**06 28 23.3**	**-4.3**
PRA			*e*		06 32 44.8	
PRA			MLR	MLR		
	comp=Z,8μm,17.8s					
PRU	**Pruhonice**	**102.78 330**	*e*PDIFF	**Pdif**	**06 28 24.7**	**-2.9**
PRU			*e*PP	**PP**	**06 32 44.4**	**+2.0**
PRU			*e*PKKP	**PKKPbc**	**06 44 26.3**	**-0.9**
PRU			AMS	AMS	07 16 30.0	
	comp=Z,16μm,16.1s					
PRU	**Pruhonice**	**102.78 330**	*e*P	**Pdif**	**06 28 24.7**	**-2.9**
PRU			*e*		06 32 44.4	
PRU			MLR	MLR		
	comp=Z,16μm,16.1s					
AAE	**Adis Abeba**	**102.87 283**	*e*P	**Pdif**	**06 28 27.7**	**-1.5**
AAE	**Adis Abeba**	**102.87 283**	*i* P	**Pdif**	**06 28 25.1**	**-4.0**
FURI	**Furi**	**102.99 283**	*e*P	**Pdif**	**06 28 30.6**	**+0.9**
FURI	**Furi**	**102.99 283**	*i* P	**Pdif**	**06 28 27.1**	**-2.6**
WMOK	**Wichita Mounta**	**103.03 49**	P	**Pdif**	**06 28 29.4**	**+0.3**
	baz=297,SNR=71					
KARP	**Karpathos**	**103.07 312**	*e*P	**Pdif**	**06 28 27.3**	**-2.0**
NRDL	**Niedersach Rie**	**103.15 333**	*e*PP	**PP**	**06 32 44.9**	**0.0**
	baz=47,slow=7.5					
ASSE	**Asse, Remlinge**	**103.16 333**	*e*PP	**PP**	**06 32 44.9**	**-0.1**
	baz=47,slow=7.5					
KNT	**Kendrikon**	**103.20 319**	*e*P	**Pdif**	**06 28 28.1**	**-1.6**
PBCC	**Pribram**	**103.24 329**	*e*PDIFF	**Pdif**	**06 28 27.4**	**-2.3**
PBCC			*e*PP	**PP**	**06 32 47.2**	**+1.3**
SCIA	**State Center**	**103.28 40**	P	**Pdif**	**06 28 30.0**	**0.0**
	baz=303,SNR=7.1					
NEUB	**Neuenburg**	**103.29 332**	*e*PP	**PP**	**06 32 45.7**	**-0.4**
	baz=47,slow=7.5					
ABTX	**Abilene, Hawle**	**103.33 51**	P	**Pdif**	**06 28 31.3**	**+0.8**
	baz=296,SNR=64					
HORT	**Hortiatis**	**103.37 318**	*e*P	**Pdif**	**06 28 28.1**	**-2.5**
CONA	**Conrad Observa**	**103.42 327**	*i* pPdiff	pPdif	06 29 04.0	-1.6
	comp=Z,15nm,1.4s					
CONA	**Conrad Observa**	**103.42 327**	*e*Pdiff	**Pdif**	**06 28 28.9**	**-1.7**
	comp=Z,6.9nm,0.9s					
CONA			*i* pPdiff	**pPdif**	**06 29 04.0**	**-1.6**
	comp=Z,15nm,1.4s					
CONA			*i* PKiKP	**PP**	**06 32 47.8**	**+0.5**
	comp=Z,66nm,1.6s					
CONA			*i* PKKPbc	**PKKPbc**	**06 44 23.4**	**-2.0**
	comp=Z,10nm,0.9s					
CLZ	**Clausthal**	**103.49 333**	*e*PP	**PP**	**06 32 47.8**	**+0.1**
	baz=47,slow=7.5					
TANN	**Tannenbergstha**	**103.50 331**	*e*PP	**PP**	**06 32 48.0**	**+0.1**
	baz=47,slow=7.5					
WERD	**Werda**	**103.56 331**	*e*PP	**PP**	**06 32 47.9**	**-0.3**
	baz=47,slow=7.5					
GUNZ	**Gunzen**	**103.60 331**	*e*PP	**PP**	**06 32 48.7**	**+0.1**
	baz=47,slow=7.5					
PLN	**Plauen**	**103.60 331**	*e*PP	**PP**	**06 32 48.5**	**0.0**
	baz=47,slow=7.5					
WERN	**Wernitzgruen**	**103.63 331**	*e*PP	**PP**	**06 32 49.0**	**+0.2**
	baz=47,slow=7.5					
NKC	**Novy Kostel**	**103.63 331**	*e*PDIFF	**Pdif**	**06 28 28.1**	**-3.4**
NKC			*e*PP	**PP**	**06 32 48.8**	**+0.1**
NKC			AMS	AMS	07 18 50.0	
	comp=Z,20μm,16.8s					
NKC	**Novy Kostel**	**103.63 331**	*e*P	**Pdif**	**06 28 28.1**	**-3.4**
NKC			*e*		06 32 48.8	
NKC			MLR	MLR		
	comp=Z,20μm,16.8s					
QSPA	**South Pole Qui**	**103.66 180**	Pdiff	**Pdif**	**06 28 32.1**	**+0.9**
	comp=Z,24nm,1.0s,baz=164,slow=1.5,SNR=23					
QSPA			PKiKP	**PP**	**06 32 49.4**	**+0.1**
	comp=Z,75nm,0.9s,baz=286,slow=3.3,SNR=16					
MOX	**Moxa**	**103.75 331**	*e*PP	**PP**	**06 32 49.6**	**0.0**
	baz=47,slow=7.5					
KHC	**Kasperske Hory**	**103.81 329**	*e*PDIFF	**Pdif**	**06 28 29.8**	**-2.5**
KHC			*e*PP	**PP**	**06 32 50.7**	**+0.6**
KHC			*e*PKKP	**PKKPbc**	**06 44 21.6**	**-2.6**
KHC			*ex*	x	06 44 44.0	
KHC			AMS	AMS	07 15 10.0	
	comp=Z,18μm,19.4s					
KHC	**Kasperske Hory**	**103.81 329**	*e*P	**Pdif**	**06 28 29.8**	**-2.5**
KHC			*e*		06 32 50.7	
KHC			MLR	MLR		
	comp=Z,18μm,19.4s					
GTTG	**Gottingen**	**103.88 333**	*e*PP	**PP**	**06 32 50.4**	**0.0**
	baz=47,slow=7.5					
GEC2	**GERESS Array S**	**103.94 329**	*e*PP	**PP**	**06 32 51.4**	**+0.3**
	baz=47,slow=7.5					
GERES	**GERESS Array B**	**103.94 329**	Pdiff	**Pdif**	**06 28 32.6**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=41,slow=4.3,SNR=5.3					
GERES			PKiKP	**PP**	**06 32 51.8**	**+0.6**
	comp=Z,5.4nm,0.6s,baz=72,slow=1.9,SNR=7.5					
GERES			PKKPbc	**PKKPbc**	**06 44 22.8**	**-1.2**
	comp=Z,7.2nm,0.9s,baz=202,slow=1.4,SNR=7.7					
MANZ	**Manzenberg**	**103.96 331**	*e*PP	**PP**	**06 32 51.4**	**+0.2**
	baz=47,slow=7.5					
ARSA	**Arzberg**	**104.02 327**	*i* pPdiff	pPdif	06 29 07.8	-0.4
	comp=Z,15nm,1.2s					
ARSA	**Arzberg**	**104.02 327**	*e*Pdiff	**Pdif**	**06 28 31.0**	**-2.2**
	comp=Z,5.7nm,0.9s					
ARSA			*i* pPdiff	**pPdif**	**06 29 07.8**	**-0.4**
	comp=Z,15nm,1.2s					
ARSA			*i* PP	**PP**	**06 32 50.8**	**-1.0**
	comp=Z,84nm,1.8s					
ARSA			*i* PKKPbc	**PKKPbc**	**06 44 18.7**	**-4.8**
	comp=Z,7.7nm,0.8s					
ROTZ	**Rotzenmuhle**	**104.06 330**	*e*PP	**PP**	**06 32 52.2**	**+0.3**
	baz=47,slow=7.5					
JCT	**Junction City**	**104.14 53**	P	**Pdif**	**06 28 34.6**	**+0.5**
	baz=296,SNR=30					
WET	**Wettzell**	**104.15 330**	*e*PP	**PP**	**06 32 53.2**	**+0.6**
	baz=47,slow=7.5					
IBBN	**Ibbenburen**	**104.29 334**	*e*PP	**PP**	**06 32 52.8**	**-0.7**
	baz=47,slow=7.5					
MOA	**Molln**	**104.30 328**	*e*Pdiff	**Pdif**	**06 28 32.6**	**-1.8**
	comp=Z,0.5nm,0.3s					
MOA			*i* PP	**PP**	**06 32 52.0**	**-1.7**
	comp=Z,34nm,1.5s					
MOA			*i* PKKPbc	**PKKPbc**	**06 44 22.1**	**-0.7**
	comp=Z,8.5nm,0.6s					
UBBA	**Unterbreizbach**	**104.37 332**	*e*PP	**PP**	**06 32 54.1**	**+0.1**
	baz=47,slow=7.5					
FNA	**Florina**	**104.38 319**	*e*P	**Pdif**	**06 28 31.0**	**-4.0**
JFWS	**Jewell Farm**	**104.55 38**	P	**Pdif**	**06 28 35.4**	**-0.3**
	baz=305,SNR=8.9					
GRF	**Grafenberg Arr**	**104.58 331**	*e*PP	**PP**	**06 32 56.2**	**+0.4**
	baz=47,slow=7.5					
PERS	**Pernice**	**104.62 327**	*i* Pdiff	**Pdif**	**06 28 35.1**	**-0.9**
PERS			*ep*Pdiff	**pPdif**	**06 29 08.5**	**-2.5**
PERS			*e*		06 31 43.9	
PERS			*e*PP	**PP**	**06 32 57.7**	**+1.4**
PERS			*ep*PP		06 33 34.9	
PERS			*e*		06 33 46.1	
PERS			*e*		06 35 13.0	
PERS			*e*SKSac	**SKSac**	**06 39 00.7**	**-2.1**
PERS			*e*		06 47 54.7	
PERS			*e*		06 52 18.6	
PERS			*e*		06 58 03.7	
TUL1	**Leonard**	**104.63 47**	P	**Pdif**	**06 28 36.3**	**+0.2**
	baz=299,SNR=16					
SOKA	**Soboth**	**104.64 327**	*i* pPdiff	pPdif	06 29 09.0	-2.1
	comp=Z,18nm,1.4s					
SOKA	**Soboth**	**104.64 327**	*e*Pdiff	**Pdif**	**06 28 34.0**	**-2.1**
	comp=Z,6.9nm,1.3s					
SOKA			*i* pPdiff	**pPdif**	**06 29 09.0**	**-2.1**
	comp=Z,18nm,1.4s					
SOKA			*i* PP	**PP**	**06 32 56.7**	**+0.2**
	comp=Z,40nm,1.4s					
SOKA			*i* PKKPbc	**PKKPbc**	**06 44 21.3**	**-0.4**
	comp=Z,11nm,1.2s					
IDI	**Anoyia**	**104.82 313**	Pdiff	**Pdif**	**06 28 35.0**	**-2.1**
	comp=Z,7.2nm,1.0s,baz=52,slow=10,SNR=3.5					
IDI			PKiKP	**PKiKP**	**06 32 53.3**	**+1.5**
	comp=Z,11nm,0.5s,baz=67,slow=7.8,SNR=9.4					
IDI			PKKPbc	**PKKPbc**	**06 44 22.0**	**+1.2**
	comp=Z,17nm,0.9s,baz=197,slow=8.3,SNR=7.0					
IDI	**Anoyia**	**104.82 313**	⇑P	**PKKPbc**	**06 44 23.8**	**+3.1**
NRS	**Narsarsuaq**	**104.86 5**	*i* P	**Pdif**	**06 28 35.2**	**-1.4**
	comp=Z,12μm,21.0s					
NRS	**Narsarsuaq**	**104.86 5**	*i* P	**Pdif**	**06 28 35.2**	**-1.4**
NRS			MLR	MLR		
	comp=Z,12μm,21.0s					
KPL	**Plockton**	**104.91 344**	*e*P	**Pdif**	**06 28 34.8**	**-2.1**
KPL			IAMs_20	IAMs_20	07 06 13.6	
	comp=Z,39μm,54.7s					
OBKA	**Obir**	**105.01 327**	*e*Pdiff	**Pdif**	**06 28 36.4**	**-1.3**
	comp=Z,7.2nm,1.2s					
OBKA			*i* PP	**PP**	**06 32 58.8**	**-0.4**
	comp=Z,73nm,1.6s					
OBKA			*i* PKKPbc	**PKKPbc**	**06 44 20.5**	**-0.1**
	comp=Z,17nm,1.3s					
RJOB	**Jochberg**	**105.12 329**	*e*PP	**PP**	**06 33 02.6**	**+2.7**
	baz=47,slow=7.5					
BUG	**Bochum--Univer**	**105.13 334**	*e*PP	**PP**	**06 32 59.2**	**-0.5**
	baz=47,slow=7.5					
INVG	**Invergeldie, C**	**105.24 342**	*e*P	**Pdif**	**06 28 36.0**	**-2.4**
INVG			IAMs_20	IAMs_20	07 06 19.4	
	comp=Z,43μm,49.9s					
KBA	**Koelnbreinsper**	**105.27 328**	*e*Pdiff	**Pdif**	**06 28 36.8**	**-2.2**
	comp=Z,0.8nm,0.4s					
KBA			*i* PP	**PP**	**06 32 58.3**	**-2.8**
	comp=Z,100nm,1.3s					
KBA			*i* SKSac	**SKSac**	**06 39 09.1**	**+3.1**
	comp=Z,13nm,1.4s					
KBA			*i* PKKPbc	**PKKPbc**	**06 44 16.2**	**-3.8**
	comp=Z,6.0nm,1.0s					
LJU	**Ljubljana**	**105.31 326**	*i* Pdiff	**Pdif**	**06 28 38.2**	**-0.8**
LJU			*i* pPdiff	**pPdif**	**06 29 11.2**	**-2.7**
LJU			*i*		06 30 57.3	
LJU			*i*		06 31 48.2	
LJU			*i* PP	**PP**	**06 33 02.0**	**+0.7**
LJU			*ep*PP		06 33 38.0	
LJU			*e*		06 33 50.0	
LJU			*e*SKSac	**SKSac**	**06 39 04.6**	**-1.2**
LJU			*e*		06 40 11.6	
LJU			*e*		06 40 30.4	
LJU			*e*PS	PS	06 42 23.6	+3.7
LJU			*e*		06 43 03.4	
LJU			*e*		07 06 17.5	
IMMV	**Iera Moni Meta**	**105.39 313**	*e*P	**Pdif**	**06 28 35.2**	**-4.3**
MYKA	**Terra Mystica**	**105.41 327**	*e*Pdiff	**Pdif**	**06 28 37.1**	**-2.4**
	comp=Z,0.8nm,0.3s					
MYKA			*i* PP	**PP**	**06 32 59.2**	**-2.9**
	comp=Z,72nm,1.6s					
MYKA			*i* PKKPbc	**PKKPbc**	**06 44 18.3**	**-1.1**
	comp=Z,9.4nm,0.6s					
TNS	**Taunus Mts**	**105.49 332**	*e*PP	**PP**	**06 33 02.6**	**+0.1**
	baz=47,slow=7.5					
FUR	**Furstenfeldbru**	**105.59 330**	*e*PP	**PP**	**06 33 03.5**	**+0.2**
	baz=47,slow=7.5					
KTHA	**Kythira Island**	**105.63 314**	*e*P	**Pdif**	**06 28 36.0**	**-4.6**
JAVS	**Javornik**	**105.66 326**	*e*Pdiff	**Pdif**	**06 28 39.1**	**-1.6**
JAVS			*e*PP	**PP**	**06 33 01.8**	**-2.2**
JAVS			*e*		06 35 21.4	
JAVS			*e*SKSac	**SKSac**	**06 39 06.9**	**-0.7**
JAVS			*e*		06 40 13.0	
JAVS			*e*PS	PS	06 42 26.3	+2.7
JAVS			*e*		06 43 06.0	
ROBS	**Robic**	**105.73 327**	*i* Pdiff	**Pdif**	**06 28 39.0**	**-1.8**
ROBS			*e*		06 30 57.6	
LAWE	**Loch Awe, Argy**	**105.78 343**	*e*P	**Pdif**	**06 28 36.4**	**-4.4**
LAWE			IAMs_20	IAMs_20	07 06 37.3	
	comp=Z,36μm,48.4s					
AHRW	**Bad Neuenahr-A**	**105.87 333**	*e*PP	**PP**	**06 33 05.2**	**0.0**
	baz=47,slow=7.5					
PGBU	**Glenifferbraes**	**105.90 342**	*e*P	**Pdif**	**06 28 36.4**	**-5.0**
PGBU			IAMs_20	IAMs_20	07 06 37.5	
	comp=Z,43μm,51.1s					
GDLE	**Glaisdale, N Y**	**105.91 340**	*e*P	**Pdif**	**06 28 39.1**	**-2.3**
GDLE			IAMs_20	IAMs_20	07 06 28.0	
	comp=Z,73μm,68.2s					
ABTA	**Abfaltersbach**	**105.92 328**	*e*Pdiff	**Pdif**	**06 28 38.8**	**-3.0**
	comp=Z,0.7nm,0.3s					
ABTA			*i* PP	**PP**	**06 33 00.8**	**-5.0**
	comp=Z,13nm,0.6s					
ABTA			*i* SKSac	**SKSac**	**06 39 07.9**	**-0.7**
	comp=Z,16nm,1.0s					
ABTA			*i* PKKPbc	**PKKPbc**	**06 44 15.6**	**-2.3**
	comp=Z,12nm,1.0s					
ITM	**Ithomi**	**105.94 316**	*e*P	**Pdif**	**06 28 38.5**	**-3.5**
WATA	**Walderalm**	**106.01 329**	*e*Pdiff	**Pdif**	**06 28 40.2**	**-2.0**
	comp=Z,2.6nm,0.5s					
WATA			*i* PP	**PP**	**06 33 01.7**	**-4.8**
	comp=Z,48nm,1.3s					
WATA			*i* PKKPbc	**PKKPbc**	**06 44 15.2**	**-2.5**
	comp=Z,3.8nm,0.6s					
WTTA	**Wattenberg**	**106.03 329**	*e*Pdiff	**Pdif**	**06 28 41.1**	**-1.3**
	comp=Z,1.9nm,0.9s					
WTTA			*i* PP	**PP**	**06 33 03.3**	**-3.3**
	comp=Z,68nm,1.5s					
WTTA			*i* SKSac	**SKSac**	**06 39 10.5**	**+1.2**
	comp=Z,37nm,2.0s					
WTTA			*i* PKKPbc	**PKKPbc**	**06 44 14.8**	**-2.9**
	comp=Z,22nm,1.2s					
STU	**Stuttgart**	**106.18 331**	*e*PP	**PP**	**06 33 07.4**	**-0.2**
	baz=47,slow=7.5					
MOTA	**Moosalm**	**106.24 329**	*e*Pdiff	**Pdif**	**06 28 41.2**	**-2.1**
	comp=Z,2.1nm,0.4s					
MOTA			*i* PP	**PP**	**06 33 02.7**	**-5.5**
	comp=Z,47nm,1.1s					
MOTA			*i* SKSac	**SKSac**	**06 39 10.3**	**+0.1**
	comp=Z,35nm,1.5s					
MOTA			*i* PKKPbc	**PKKPbc**	**06 44 14.6**	**-2.4**
	comp=Z,11nm,1.0s					
SQTA	**Sankt Quirin**	**106.27 329**	*e*Pdiff	**Pdif**	**06 28 41.5**	**-1.9**
	comp=Z,1.5nm,0.6s					
SQTA			*i* PP	**PKiKP**	**06 33 01.0**	**+6.9**
	comp=Z,84nm,1.6s					
SQTA			*i* PKKPbc	**PKKPbc**	**06 44 14.0**	**-2.9**
	comp=Z,16nm,1.2s					
MEM	**Membach**	**106.28 334**	PP	**PP**	**06 33 09.2**	**+1.0**
BEBN	**Eben Emael**	**106.28 334**	PP	**PP**	**06 33 10.0**	**+1.9**
BEBN			pPKiKP	PKiKP	06 33 29.9	+36
BEBN			sPKiKP	pPKiKP	06 33 44.6	+14
RETA	**Reutte**	**106.31 329**	*e*Pdiff	**Pdif**	**06 28 42.2**	**-1.3**
	comp=Z,0.7nm,0.4s					
RETA			*i* PP	**PP**	**06 33 03.1**	**-5.5**
	com

WLF	Walferdange	106.92	333	PKiKP	PKiKP	06 32 57.3	+2.2
WLF				PP	PP	06 33 14.5	+1.7
WLF	Walferdange	106.92	333	ePP	PP	06 33 13.0	+0.1
	baz=47,slow=7.5						
KMBO	Kilima Mbogo	106.99	273	Pdiff	Pdif	06 28 47.6	+0.2
	comp=Z,1.2nm,0.2s,baz=45,slow=5.7,SNR=4.9						
KMBO				PKiKP	PKiKP	06 32 58.9	+2.3
	comp=Z,4.7nm,0.8s,baz=52,slow=1.7,SNR=6.1						
KMBO	Kilima Mbogo	106.99	273	eP	Pdif	06 28 46.4	-1.0
KMBO	Kilima Mbogo	106.99	273	i P	Pdif	06 28 46.4	-1.0
CLGH	Cloghs, Cushen	107.00	343	eP	Pdif	06 28 41.9	-4.4
CLGH				IAMs_20	IAMs_20	07 07 04.7	
	comp=Z,48µm,59.0s						
BMRD	Maredsous	107.04	334	PKiKP	PKiKP	06 32 55.7	+0.4
BMRD				PP	PP	06 33 14.7	+1.0
BMRD				sPKiKP	sPKiKP	06 33 45.5	-0.6
LBWR	Ladybower, Pea	107.05	340	eP	Pdif	06 28 42.8	-3.8
LBWR				IAMs_20	IAMs_20	07 07 04.4	
	comp=Z,59µm,59.6s						
SNF	Seneffe	107.08	335	PKiKP	PKiKP	06 32 56.0	+0.6
SNF				PP	PP	06 33 14.6	+0.6
SNF				sPKiKP	sPKiKP	06 33 46.4	+0.3
DOU	Dourbes	107.27	334	PP	PP	06 33 15.9	+0.5
DOU				pPKiKP	sPKiKP	06 33 34.9	-12
DOU				sPKiKP	PKiKP	06 33 48.5	+53
CWF	Charnwood Fore	107.46	339	eP	Pdif	06 28 44.1	-4.2
CWF				IAMs_20	IAMs_20	07 07 43.6	
	comp=Z,48µm,50.3s						
STNC	Stoke	107.47	340	eP	Pdif	06 28 45.6	-2.9
STNC				IAMs_20	IAMs_20	07 07 14.5	
	comp=Z,65µm,60.0s						
ELSH	Elham, Standar	107.85	337	eP	Pdif	06 28 47.3	-2.8
ELSH				IAMs_20	IAMs_20	07 07 28.1	
	comp=Z,51µm,51.9s						
WLF1	Llynfaes	108.02	341	eP	Pdif	06 28 47.8	-3.1
WLF1				IAMs_20	IAMs_20	07 07 32.3	
	comp=Z,130µm,63.0s						
SYO	Syowa Base	108.14	201⇑	ePdiff	Pdif	06 28 52.4	+1.6
SYO	Syowa Base	108.14	201 ‖	/PKiKP	PKiKP	06 32 54.0	-2.7
HLM1	Long Mynd	108.18	340	eP	Pdif	06 28 49.9	-1.7
HLM1				IAMs_20	IAMs_20	07 07 34.5	
	comp=Z,62µm,60.0s						
STRD	Stroud	108.55	339	eP	Pdif	06 28 49.1	-4.1
STRD				IAMs_20	IAMs_20	07 07 40.3	
	comp=Z,82µm,73.7s						
WOL	Wolverton	108.59	338	eP	Pdif	06 28 51.1	-2.3
WOL				IAMs_20	IAMs_20	07 08 13.9	
	comp=Z,53µm,58.5s						
MCH1	Michaelchurch	108.65	339	eP	Pdif	06 28 48.7	-5.0
MCH1				IAMs_20	IAMs_20	07 07 44.7	
	comp=Z,73µm,65.5s						
RSBS	Rosebush, Pemb	109.27	340	eP	Pdif	06 28 54.1	-2.3
RSBS				IAMs_20	IAMs_20	07 08 37.0	
	comp=Z,40µm,44.1s						
SADO	Sadowa	109.53	31	PKiKP	PKiKP	06 33 00.7	+0.5
	comp=Z,15nm,0.5s,baz=298,slow=3.5,SNR=10.0						
SADO				PKKPbc	PKKPbc	06 44 06.0	-0.4
	comp=Z,10nm,0.8s,baz=155,slow=3.3,SNR=7.5						
E55A	Montcerf-Lytto	109.81	29	P	PKiKP	06 32 59.9	-0.7
	baz=318						
OXF	Oxford	109.81	45	P	PKiKP	06 33 00.6	-0.4
	baz=304						
P49A	Miami Univ. Ec	109.91	38	P	PKiKP	06 33 00.7	-0.3
	baz=309						
H53A	Bobcaygeon	109.96	31	P	PKiKP	06 33 00.7	-0.3
	baz=315						
D56A	ZEC Mazanza, M	109.96	27	P	PKiKP	06 33 00.2	-0.7
	baz=319						
WVT	Waverly	109.97	43	P	PKiKP	06 33 00.4	-0.8
	baz=305						
F55A	Otter Lake	110.14	29	P	PKiKP	06 33 00.5	-0.7
	baz=318						
E56A	St. Veronique	110.22	28	P	PKiKP	06 33 01.0	-0.4
	baz=319						
M51A	Elyria	110.24	36	P	PKiKP	06 33 01.1	-0.5
	baz=311						
D57A	Chemin Vers le	110.37	27	P	PKiKP	06 33 01.2	-0.5
	baz=320						
G55A	Calabogie	110.39	30	P	PKiKP	06 33 01.0	-0.7
	baz=317						
N51A	Ashland	110.40	36	P	PKiKP	06 33 01.4	-0.5
	baz=311						
RPN	Rapa Nui	110.43	114	PKiKP	PKiKP	06 33 03.6	+1.3
	comp=Z,68nm,0.9s,baz=358,slow=4.3,SNR=2.8						
ACSO	Alum Creek Sta	110.50	37	P	PKiKP	06 33 01.6	-0.5
	baz=310						
LATQ	La Tuque	110.57	26	P	PKiKP	06 33 01.1	-0.9
	baz=321						
M52A	Chesterland	110.57	35	P	PKiKP	06 33 01.7	-0.5
	baz=312						
I55A	Frankford	110.66	31	P	PKiKP	06 33 01.8	-0.5
	baz=316						
H55A	Tweed	110.67	31	P	PKiKP	06 33 01.9	-0.4
	baz=316						
E57A	Chemin Saint G	110.72	27	P	PKiKP	06 33 02.0	-0.4
	baz=320						
D58A	Chemin du LacG	110.75	26	P	PKiKP	06 33 01.9	-0.5
	baz=321						
O51A	Pataskala	110.77	37	P	PKiKP	06 33 02.4	-0.3
	baz=311						
ORIO	Orleans, Innes	110.81	29	P	PKiKP	06 33 02.4	-0.1
	baz=318						
N52A	McGinn's Farm,	110.87	36	P	PKiKP	06 33 02.0	-0.9
	baz=312						
L53A	Girard	110.90	34	P	PKiKP	06 33 02.2	-0.6
	baz=313						
F57A	Harrington	110.92	28	P	PKiKP	06 33 02.5	-0.3
	baz=319						
ERPA	Erie	110.93	34	P	PKiKP	06 33 02.4	-0.5
	baz=313						
P51A	Williamsport	110.93	38	P	PKiKP	06 33 02.4	-0.5
	baz=310						
M53A	Wi Miller and	111.02	35	P	PKiKP	06 33 02.9	-0.2
	baz=313						
H56A	Elgin	111.09	30	P	PKiKP	06 33 02.8	-0.3
	baz=317						
E58A	La Victoria	111.14	27	P	PKiKP	06 33 03.0	-0.2
	baz=320						
L54A	Sinclairville	111.21	33	P	PKiKP	06 33 03.2	-0.3
	baz=314						
O52A	Adamsville	111.24	37	P	PKiKP	06 33 03.5	-0.1
	baz=311						
D59A	Saint-Raymond	111.26	26	P	PKiKP	06 33 03.3	0.0
	baz=322,SNR=6.0						
J55A	Hilton	111.28	32	P	PKiKP	06 33 03.4	-0.1
	baz=316						
F58A	St-Lin Laurent	111.28	28	P	PKiKP	06 33 02.7	-0.7
	baz=320						
K54A	Basiliko Farm,	111.28	33	P	PKiKP	06 33 03.1	-0.5
	baz=315						
G57A	Newington	111.32	29	P	PKiKP	06 33 03.1	-0.4
	baz=319						
N53A	Lisbon	111.35	35	P	PKiKP	06 33 03.6	-0.2
	baz=312						
P52A	Corning	111.38	37	P	PKiKP	06 33 03.1	-0.8
	baz=311,SNR=9.6						
O53A	New Philadelph	111.51	36	P	PKiKP	06 33 04.1	0.0
	baz=312						
K55A	Perry	111.53	32	P	PKiKP	06 33 03.8	-0.3
	baz=315						
M54A	Oil Creek Stat	111.53	34	P	PKiKP	06 33 04.1	0.0
	baz=314,SNR=7.1						
H57A	Richville	111.61	30	P	PKiKP	06 33 03.5	-0.5
	baz=318						
L55A	Hinsdale	111.72	33	P	PKiKP	06 33 03.7	-0.8
	baz=315						
D60A	Saint Jean D'O	111.72	25	P	PKiKP	06 33 03.7	-0.5
	baz=323						
G58A	Ormstown	111.72	28	P	PKiKP	06 33 03.5	-0.7
	baz=320,SNR=6.1						
N54A	Moraine State	111.72	35	P	PKiKP	06 33 04.0	-0.4
	baz=313						
Q52A	Bidwell	111.74	38	P	PKiKP	06 33 03.9	-0.7
	baz=310,SNR=7.5						
J56A	Wolcott	111.75	31	P	PKiKP	06 33 04.1	-0.3
	baz=316						
F59A	Saint Guilaume	111.76	27	P	PKiKP	06 33 04.0	-0.3
	baz=321						
D61A	St Aubert, Com	111.79	25	P	PKiKP	06 33 03.9	-0.5
	baz=324						
I57A	Carthage	111.87	30	P	PKiKP	06 33 04.3	-0.3
	baz=318,SNR=5.3						
LONY	Lake Ozonia	111.87	29	P	PKiKP	06 33 04.3	-0.3
	baz=319						
P53A	Whipple	111.91	37	P	PKiKP	06 33 04.2	-0.6
	baz=311,SNR=9.5						
E60A	Ste Agathe de	111.93	26	P	PKiKP	06 33 03.9	-0.7
	baz=322,SNR=5.6						
K56A	Middlesex	111.93	32	P	PKiKP	06 33 04.3	-0.5
	baz=316						
O54A	Avella	112.03	36	P	PKiKP	06 33 05.1	0.0
	baz=312,SNR=7.0						
M55A	Ridgway	112.04	34	P	PKiKP	06 33 04.9	-0.2
	baz=314,SNR=6.9						
J57A	Williamstown	112.09	31	P	PKiKP	06 33 04.4	-0.7
	baz=317,SNR=5.4						
G59A	Clarenceville	112.17	28	P	PKiKP	06 33 04.8	-0.3
	baz=320						
L56A	Greenwood	112.21	33	P	PKiKP	06 33 05.1	-0.3
	baz=316,SNR=6.7						
H58A	Gabriels	112.22	29	P	PKiKP	06 33 05.3	0.0
	baz=319,SNR=12						
Q53A	Leroy	112.25	37	P	PKiKP	06 33 05.0	-0.4
	baz=311						
H59A	Cadyville	112.27	28	P	PKiKP	06 33 05.3	-0.1
	baz=320						
E61A	Lac Etchemin	112.28	25	P	PKiKP	06 33 04.9	-0.4
	baz=323,SNR=18						
LRAL	Lakeview Retre	112.30	45	P	PKiKP	06 33 05.7	-0.1
	baz=305,SNR=32						
K57A	Scipio Center	112.32	31	P	PKiKP	06 33 04.8	-0.7
	baz=317,SNR=6.7						
R53A	Hurricane	112.34	38	P	PKiKP	06 33 05.4	-0.2
	baz=311						
M56A	Emporium	112.34	33	P	PKiKP	06 33 05.7	0.0
	baz=315,SNR=7.4						
D62A	Allapoint, All	112.34	24	P	PKiKP	06 33 05.0	-0.4
	baz=325,SNR=12						
P54A	Burton	112.36	36	P	PKiKP	06 33 05.7	0.0
	baz=312,SNR=7.6						
I58A	Old Forge	112.38	30	P	PKiKP	06 33 05.2	-0.4
	baz=318						
N55A	Marion Center	112.40	34	P	PKiKP	06 33 05.2	-0.6
	baz=314						
F61A	St Evariste	112.44	26	P	PKiKP	06 33 05.6	-0.1
	baz=323,SNR=9.1						
J58A	Remsen	112.48	30	P	PKiKP	06 33 05.9	+0.1
	baz=318,SNR=18						
TZTN	Tazewell	112.49	40	P	PKiKP	06 33 05.6	-0.4
	baz=309,SNR=9.1						
E62A	Clayton Lake	112.53	25	P	PKiKP	06 33 05.0	-0.8
	baz=324,SNR=9.2						
G60A	Masonville	112.54	27	P	PKiKP	06 33 05.6	-0.2
	baz=321						
Q54A	Coxs Mills	112.57	37	P	PKiKP	06 33 05.3	-0.8
	baz=312						
O55A	Ligonier	112.62	35	P	PKiKP	06 33 06.1	-0.1
	baz=313,SNR=6.3						
S53A	Williamson	112.65	39	P	PKiKP	06 33 06.3	-0.1
	baz=310						
L57A	Andrews Acres	112.68	32	P	PKiKP	06 33 06.2	-0.1
	baz=316,SNR=6.7						
N56A	West Decatur	112.68	34	P	PKiKP	06 33 06.2	-0.1
	baz=314,SNR=12						
MCWV	Mont Chateau	112.69	36	P	PKiKP	06 33 05.9	-0.4
	baz=313						
K58A	Earlville	112.74	31	P	PKiKP	06 33 06.3	-0.1
	baz=317						
D63A	Stockholm	112.75	24	P	PKiKP	06 33 05.6	-0.6
	baz=326						
G61A	St-Isidore-de-	112.75	27	P	PKiKP	06 33 05.9	-0.3
	baz=322						
J59A	Piesco	112.78	30	P	PKiKP	06 33 06.1	-0.3
	baz=319,SNR=14						
H60A	Morristown	112.79	28	P	PKiKP	06 33 06.2	-0.1
	baz=321						
P55A	Reedsville	112.80	36	P	PKiKP	06 33 06.3	-0.2
	baz=313						
I59A	Olmsteadville	112.83	29	P	PKiKP	06 33 06.5	+0.1
	baz=319,SNR=7.2						
T53A	Wise	112.85	39	P	PKiKP	06 33 06.9	+0.1
	baz=310,SNR=6.6						
TKL	Tuckaleechee C	112.90	41	Pdiff	Pdif	06 29 13.9	+0.9
TKL				PKiKP	PKiKP	06 33 07.2	+0.3
	comp=Z,55nm,0.5s,baz=150,slow=5.9,SNR=72						
TKL				SKP	SKPdf	06 36 30.8	+1.6
	comp=Z,9.2nm,0.8s,baz=342,slow=3.2,SNR=2.6						
TKL				PKKPbc	PKKPbc	06 43 55.0	-0.1
	comp=Z,2.1nm,0.7s,baz=69,slow=8.5,SNR=1.7						
F62A	Pittston Farm,	112.93	25	P	PKiKP	06 33 06.3	-0.3
	baz=324						
BINY	Binghamton	112.98	32	P	PKiKP	06 33 07.0	+0.2
	baz=317,SNR=5.7						
O56A	Blue Knob Stat	112.98	35	P	PKiKP	06 33 06.5	-0.4
	baz=314						
Q55A	Buckhannon	113.00	36	P	PKiKP	06 33 06.9	-0.1
	baz=312,SNR=12						
R54A	Victor	113.01	38	P	PKiKP	06 33 06.5	-0.5
	baz=311,SNR=8.2						
M57A	Sunshine Farm,	113.01	33	P	PKiKP	06 33 06.7	-0.2
	baz=316,SNR=8.0						
S54A	Dingess, Beckl	113.06	38	P	PKiKP	06 33 06.7	-0.4
	baz=311,SNR=13						
I60A	Shoreham	113.07	29	P	PKiKP	06 33 06.8	-0.1
	baz=320,SNR=15						
SSPA	Standing Stone	113.10	34	P	PKiKP	06 33 07.0	-0.1
	baz=315						
K59A	Cooperstown	113.12	30	P	PKiKP	06 33 07.0	-0.1
	baz=318						
L58A	Harry Jones Me	113.16	32	P	PKiKP	06 33 06.7	-0.4
	baz=317,SNR=5.1						
H61A	Lyndonville	113.16	27	P	PKiKP	06 33 07.3	+0.2
	baz=321,SNR=11						
N57A	Milroy	113.19	34	P	PKiKP	06 33 07.2	-0.1
	baz=315						
G62A	West of Eustis	113.23	26	P	PKiKP	06 33 07.0	-0.2
	baz=323,SNR=7.9						
BRAL	Brewton	113.32	47	P	PKiKP	06 33 07.6	-0.1
	baz=304						
M58A	Price's Panora	113.33	32	P	PKiKP	06 33 06.9	-0.7
	baz=316,SNR=5.7						
P56A	Dayton Farm, R	113.36	35	P	PKiKP	06 33 07.5	-0.1
	baz=314,SNR=8.4						
E64A	Bridgewater	113.37	24	P	PKiKP	06 33 07.1	-0.3
	baz=326,SNR=6.0						
T54A	Tazewell	113.39	39	P	PKiKP	06 33 07.6	-0.2
	baz=310,SNR=12						
LBNH	Lisbon	113.39	28	P	PKiKP	06 33 07.2	-0.4
	baz=321,SNR=11						
F63A	Nahmakanta, Br	113.44	25	P	PKiKP	06 33 07.6	0.0
	baz=324						
R55A	Marlinton	113.45	37	P	PKiKP	06 33 07.0	-0.9
	baz=312,SNR=6.6						
L59A	Walton	113.46	31	P	PKiKP	06 33 07.4	-0.3
	baz=318						
J60A	Lant Hill Farm	113.46	29	P	PKiKP	06 33 07.4	-0.2
	baz=320						
H62A	Milan	113.47	27	P	PKiKP	06 33 07.6	0.0
	baz=322,SNR=7.9						
Q56A	Snyder Ridge,	113.48	36	P	PKiKP	06 33 07.5	-0.4
	baz=313						
I61A	Oroboro, Fairl	113.50	28	P	PKiKP	06 33 07.4	-0.4
	baz=321						
O57A	Amberson	113.53	34	P	PKiKP	06 33 07.6	-0.3
	baz=315						
S55A	Lewisburg	113.57	38	P	PKiKP	06 33 07.3	-0.8
	baz=312						
N58A	Sunbury	113.58	33	P	PKiKP	06 33 07.4	-0.5
	baz=316,SNR=8.2						
U54A	Nelsons Funny	113.58	39	P	PKiKP	06 33 08.3	+0.1
	baz=310						
F64A	Sherman	113.62	24	P	PKiKP	06 33 07.7	-0.2
	baz=325,SNR=8.7						
G63A	Kingsbury	113.70	26	P	PKiKP	06 33 07.9	-0.2
	baz=324,SNR=11						
K60A	Five Rivers En	113.71	30	P	PKiKP	06 33 08.4	+0.2
	baz=319						
PKME	Peaks-Kenny Pk	113.72	25	P	PKiKP	06 33 07.9	-0.2
	baz=324,SNR=11						
M59A	Waymart	113.74	32	P	PKiKP	06 33 08.2	-0.1
	baz=317,SNR=9.5						
R56A	Bull Pasture M	113.78	37	P	PKiKP	06 33 08.5	0.0
	baz=313,SNR=14						
J61A	Chester	113.79	29	P	PKiKP	06 33 08.2	-0.1
	baz=320						
T55A	Pulaski	113.83	38	P	PKiKP	06 33 08.5	-0.1
	baz=311,SNR=11						
P57A	Homestead Farm	113.83	35	P	PKiKP	06 33 08.4	-0.1
	baz=314						
H63A	New Sharon	113.89	26	P	PKiKP	06 33 08.3	-0.1
	baz=323,SNR=9.9						
Q57A	Strasburg	113.92	35	P	PKiKP	06 33 08.0	-0.7
	baz=314,SNR=5.0						
I62A	Tamworth	113.94	28	P	PKiKP	06 33 08.5	0.0
	baz=322,SNR=6.1						
G64A	Maxfield	113.95	25	P	PKiKP	06 33 08.4	-0.1
	baz=324						
K61A	Williamstown	113.97	30	P	PKiKP	06 33 08.8	+0.2
	baz=320,SNR=13						
V54A	Nebo	113.98	40	P	PKPdf	06 33 08.7	
	baz=310,SNR=11						
O58A	Lewisberry	113.98	34	P	PKPdf	06 33 08.7	
	baz=316,SNR=5.6						
BLA	Blacksburg	113.98	38	P	PKPdf	06 33 07.9	
	baz=312,SNR=10						
L60A	Shokan	114.02	31	P	PKPdf	06 33 08.7	-0.1
	baz=318						
N59A	State Game Lan	114.02	32	P	PKiKP	06 33 08.9	0.0
	baz=317						
U55A	TA2, Sparta	114.07	39	P	PKiKP	06 33 09.1	0.0
	baz=311,SNR=7.8						
I63A	Otisfield	114.14	27	P	PKiKP	06 33 09.3	+0.3
	baz=322,SNR=6.2						
S56A	Natural Bridge	114.18	37	P	PKPdf	06 33 08.9	-0.4
	baz=312						
L61A	Hillsdale 1, H	114.19	30	P	PKiKP	06 33 09.1	-0.1
	baz=319						
P58A	Pank, Wackersv	114.22	34	P	PKPdf	06 33 08.9	-0.3
	baz=315,SNR=11						
J62A	Henniker	114.23	28	P	PKPdf	06 33 09.6	+0.4
	baz=321,SNR=8.7						
O59A	Robesonia	114.24	33	P	PKiKP	06 33 09.2	-0.1
	baz=316,SNR=7.1						
H64A	Troy	114.25	26	P	PKiKP	06 33 08.8	-0.3
	baz=324,SNR=7.4						
W54A	Cherokee Point	114.27	41	P	PKPdf	06 33 08.8	-0.6
	baz=309,SNR=11						
M60A	Port Jervis	114.31	31	P	PKiKP	06 33 08.7	-0.6
	baz=318						
T56A	Rocky Mt	114.34	38	P	PKiKP	06 33 09.5	-0.1
	baz=312,SNR=13						
R57A	Stanardsville	114.37	36	P	PKPdf	06 33 09.7	+0.1
	baz=314						
V55A	Taylorsville	114.39	40	P	PKiKP	06 33 09.4	-0.3
	baz=310,SNR=10						
Q58A	Fox Den Farm,	114.40	35	P	PKiKP	06 33 09.4	-0.2
	baz=314,SNR=12						
N60A	Cedar Hill Far	114.40	32	P	PKiKP	06 33 09.0	-0.5
	baz=317						
L61B	Northampton	114.42	29	P	PKiKP	06 33 09.5	0.0
	baz=320,SNR=13						
K62A	Royalston	114.47	29	P	PKPdf	06 33 09.9	+0.3
	baz=320,SNR=11						
GOGA	Godfrey	114.47	43	P	PKiKP	06 33 09.2	-0.6
	baz=308,SNR=16						
G65A	Princeton	114.48	24	P	PKiKP	06 33 09.0	-0.5
	baz=326,SNR=18						
S57A	Dark Hollow, R	114.48	37	P	PKiKP	06 33 09.7	-0.1
	baz=313						
X54A	Belton	114.48	41	P	PKPdf	06 33 10.0	+0.2
	baz=309,SNR=17						
J63A	Strafford	114.52	28	P	PKPdf	06 33 09.8	+0.1
	baz=322,SNR=10						
U56A	King	114.58	39	P	PKiKP	06 33 10.0	-0.1
	baz=311						
P59A	Jarrettsville	114.61	34	P	PKiKP	06 33 09.8	-0.2
	baz=316,SNR=11						
H65A	Eastbrook	114.61	25	P	PKiKP	06 33 09.5	-0.3
	baz=325,SNR=20						
O60A	Telford	114.65	33	P	PKiKP	06 33 09.6	-0.4
	baz=317,SNR=9.2						
I64A	Boothbay	114.66	26	P	PKPdf	06 33 10.0	+0.1
	baz=323,SNR=11						
R58A	Rapidan	114.66	36	P	PKiKP	06 33 09.4	-0.7
	baz=314,SNR=6.2						
L62A	Suffield	114.75	30	P	PKiKP	06 33 09.8	-0.4
	baz=320						
M61A	Granite Spring	114.75	31	P	PKiKP	06 33 10.1	-0.1
	baz=319,SNR=14						
KMSC	Kings Mountain	114.77	40	P	PKiKP	06 33 10.1	-0.3
	baz=310,SNR=18						
K63A	Dunstable	114.78	29	P	PKPdf	06 33 10.5	+0.3
	baz=321,SNR=11						
T57A	Hurt	114.82	38	P	PKiKP	06 33 10.2	-0.3
	baz=312						
V56A	Mocksville	114.86	39	P	PKiKP	06 33 10.3	-0.3
	baz=311,SNR=12						
P60A	Greenville	114.89	33	P	PKiKP	06 33 10.1	-0.4
	baz=316,SNR=9.2						
N61A	South Mountain	114.90	32	P	PKiKP	06 33 10.4	-0.1
	baz=318						
HRV	Adam Dziewonsk	114.91	29	P	PKPdf	06 33 10.7	+0.3
	baz=321						
PAL	Palisades	114.91	31	P	PKiKP	06 33 10.3	-0.2
	baz=318						
H66A	Whiting	114.92	24	P	PKiKP	06 33 10.1	-0.3
	baz=326,SNR=11						
R58B	Mineral	114.96	36	P	PKiKP	06 33 10.2	-0.5
	baz=314,SNR=13						
KEST	Kesra	114.97	321	PKP	PKPdf	06 33 11.3	+0.5
	comp=Z,5.4nm,0.5s,baz=295,slow=5.3,SNR=3.6						
KEST				PKKPbc	PKKPbc	06 43 49.4	+1.1
	comp=Z,20nm,1.0s,baz=258,slow=2.9,SNR=12						
X55A	Gracelyn & Ava	115.01	41	P	PKiKP	06 33 10.6	-0.3
	baz=310,SNR=22						
Q59A	Harwood	115.02	35	P	PKiKP	06 33 10.4	-0.3
	baz=315						
CBN	Corbin Frederi	115.08	35	P	PKiKP	06 33 10.8	-0.1
	baz=314,SNR=9.0						
CBN	Corbin Frederi	115.08	35		PKPdf	06 33 10.9	0.0
M62A	Hamden	115.08	30	P	PKiKP	06 33 10.4	-0.4
	baz=320						
S58A	Poland Farm, P	115.11	36	P	PKPdf	06 33 11.0	0.0
	baz=314,SNR=7.7						
S58A	Poland Farm, P	115.11	36		PKPdf	06 33 10.9	0.0
U57A	Blanch	115.15	38	P	PKiKP	06 33 10.7	-0.4
	baz=312,SNR=19						
N62A	Caumsett State	115.19	31	P	PKiKP	06 33 11.0	-0.1
	baz=319						
Y55A	Saluda	115.20	42	P	PKPdf	06 33 11.3	0.0
	baz=309,SNR=14						
R59A	King George, V	115.23	35	P	PKiKP	06 33 11.1	-0.1
	baz=315						
W56A	Indian Trail	115.24	40	P	PKiKP	06 33 11.1	-0.2
	baz=311,SNR=9.7						
V57A	Coltrane Farms	115.25	39	P	PKiKP	06 33 11.0	-0.3
	baz=312,SNR=26						
O61A	Allentown	115.26	32	P	PKiKP	06 33 10.6	-0.5
	baz=318						
T58A	Grand View Acr	115.28	37	P	PKiKP	06 33 11.0	-0.4
	baz=313,SNR=12						
JSC	Jenkinsville	115.36	41	PKIKP	PKPdf	06 33 12.4	+0.8
JSC	Jenkinsville	115.36	41		PKPdf	06 33 12.4	+0.8
Q60A	Greensboro	115.36	34	P	PKPdf	06 33 11.7	+0.2
	baz=316,SNR=6.2						
Q60A	Greensboro	115.36	34		PKPdf	06 33 12.1	+0.7
BRYW	Bryant College	115.37	29		PKPdf	06 33 11.6	+0.2
X56A	White Oak	115.38	41	P	PKPdf	06 33 11.7

Z56A Williston 115.90 42 P **PKiKP 06 33 13.0 +0.4**
baz=309,SNR=22
Z56A Williston 115.90 42 PKiKP 06 33 13.2 +0.6
L65A Cape Cod Natio 115.97 28 P **PKPdf 06 33 12.4 -0.1**
baz=322
X57A Johnson Farm, 115.98 40 P **PKiKP 06 33 13.0 +0.3**
baz=311
M65A Busby, Falmout 116.07 29 P **PKPdf 06 33 12.6 -0.1**
baz=322
Y57A Sumter 116.09 41 P **PKiKP 06 33 13.2 +0.3**
baz=310,SNR=13
R61A Willards 116.12 34 P **PKiKP 06 33 12.9 0.0**
baz=316
U59A Littleton 116.12 37 P **PKPdf 06 33 12.7 -0.3**
baz=314,SNR=5.2
W58A Raeford 116.15 39 P **PKPdf 06 33 12.6 -0.4**
baz=312,SNR=14
T60A Surry 116.19 36 P **PKPdf 06 33 11.9 -1.2**
baz=315
NVL N'lazarevskaya 116.23 196 *i* PKIKP **PKPdf 06 33 10.1 -2.0**
NVL *e* 06 34 17.3
NVL *e* 06 39 42.5
NVL *e*PS **PKKPbc 06 43 41.8 -2.9**
NVL *e*SS SS 06 50 06.0 -5.2
NVL MLR MLR
comp=Z,17μm,20.0s
V59A Middlesex 116.26 38 P **PKiKP 06 33 13.3 +0.1**
baz=313,SNR=12
Z57A Bowman 116.35 42 P **PKiKP 06 33 13.7 +0.2**
baz=310,SNR=30
X58A Rowland 116.40 40 P **PKiKP 06 33 13.6 0.0**
baz=312,SNR=7.8
S61A Accomac 116.40 35 P **PKiKP 06 33 14.3 +0.9**
baz=316
U60A Pendleton 116.41 37 P **PKPdf 06 33 13.2 -0.3**
baz=314,SNR=6.8
W59A Clinton 116.54 39 P **PKPdf 06 33 13.6 -0.2**
baz=312,SNR=7.3
157A Early Branch 116.55 42 P **PKiKP 06 33 14.8 +0.9**
baz=309,SNR=7.4
NHSC New Hope 116.81 41 P **PKiKP 06 33 14.9 +0.6**
baz=310,SNR=8.0
NHSC New Hope 116.81 41 PKiKP 06 33 16.2 +1.8
CNNC Cliffs of the 116.82 38 P **PKiKP 06 33 14.5 +0.1**
baz=313,SNR=7.8
V60A Jim Taylor Roa 116.84 37 P **PKPdf 06 33 14.0 -0.3**
baz=314,SNR=8.9
X59A McDuffie Farm, 116.84 39 P **PKPdf 06 33 14.2 -0.2**
baz=312,SNR=15
Z58A St. Stephen 116.89 41 P **PKPdf 06 33 14.2 -0.3**
baz=311,SNR=29
U61A Possum Corner 116.92 36 P **PKPdf 06 33 14.3 -0.2**
baz=315
158A Hollywood 117.04 42 P **PKiKP 06 33 15.3 +0.4**
baz=310
W60A Pink Hill 117.06 38 P **PKPdf 06 33 14.6 -0.2**
baz=313,SNR=5.5
Y59A Loris 117.06 40 P **PKPdf 06 33 14.3 -0.6**
baz=312
456A Hilliard 117.08 45 PKiKP 06 33 15.7 +0.7
X60A Albert Glenn T 117.22 39 P **PKPdf 06 33 14.9 -0.2**
baz=313,SNR=10
V61A Roper 117.22 37 P **PKiKP 06 33 15.2 +0.1**
baz=314
V61A Roper 117.22 37 PKiKP 06 33 16.1 +1.1
Z59A Georgetown, SC 117.30 41 P **PKiKP 06 33 15.3 0.0**
baz=311
W61A Ground Anchor 117.40 38 P **PKPdf 06 33 14.9 -0.5**
baz=314
Y60A Bolivia 117.45 39 P **PKiKP 06 33 15.7 +0.1**
baz=312
HUEH Huehuetenango 117.53 64 PKiKP 06 33 17.3 +0.8
V62A Hyde County Ai 117.74 37 P **PKiKP 06 33 16.1 0.0**
baz=315
TEIG Tepich 118.08 58 PKP **PKiKP 06 33 17.1 0.0**
comp=Z,34nm,0.6s,baz=1.3,slow=0.8,SNR=26
TEIG PP **PP 06 34 31.7 -1.7**
comp=Z,19nm,1.0s,baz=293,slow=11,SNR=6.3
TEIG PKKPbc **PKKPbc 06 43 37.7 +0.9**
comp=Z,22nm,0.7s,baz=81,slow=2.2,SNR=16
TEIG Tepich 118.08 58 PKiKP 06 33 17.6 +0.5
LSZ Lusaka 118.51 260 PKP **PKiKP 06 33 19.0 +0.7**
comp=Z,124nm,0.7s,baz=82,slow=1.6,SNR=45
LSZ SKP **SKPdf 06 36 42.3 +1.8**
comp=Z,24nm,0.7s,baz=79,slow=1.5,SNR=5.9
LSZ Lusaka 118.51 260 *i* P **PKiKP 06 33 18.6 +0.4**
LSZ Lusaka 118.51 260 PKiKP 06 33 18.9 +0.7
LSZ Lusaka 118.51 260 *i* P **PKiKP 06 33 18.6 +0.4**
APG El Apazote 118.57 64 PKP **PKPdf 06 33 18.4 0.0**
comp=Z,26nm,0.4s,baz=250,slow=5.0,SNR=23
APG PP **PP 06 34 34.6 -2.8**
comp=Z,31nm,1.2s,baz=309,slow=6.9,SNR=7.8
APG PKKPbc **PKKPbc 06 43 35.3 +0.1**
comp=Z,6.8nm,0.5s,baz=99,slow=5.8,SNR=4.9
PBRG Braganca 118.61 336 *e*PKPdf **PKiKP 06 33 18.5 +0.8**
PBRG Braganca 118.61 336 *e*PP PP 06 34 38.2 +2.2
BLWY Bulawayo 118.65 254 *i* P **PKiKP 06 33 19.0 +0.6**
BLWY Bulawayo 118.65 254 *i* P **PKiKP 06 33 18.8 +0.4**
MATP Matopo 118.77 254 PKP **PKiKP 06 33 18.6 -0.1**
comp=Z,23nm,0.4s,baz=111,slow=1.5,SNR=40
MATP PP **PP 06 34 36.8 -2.2**
comp=Z,20nm,0.8s,baz=85,slow=6.2,SNR=4.1
MATP PKKPbc **PKKPbc 06 43 33.6 -0.8**
comp=Z,29nm,0.6s,baz=260,slow=1.7,SNR=31
SNAA Sanae 118.94 191 PKPdf **PKPdf 06 33 17.0 -0.4**
SNAA Sanae 118.94 191 PKP **PKPdf 06 33 17.0 -0.4**
comp=Z,83nm,0.7s,baz=164,slow=1.9,SNR=3.0
SNAA PKKPbc **PKKPab 06 43 34.4 0.0**
comp=Z,46nm,1.0s,baz=298,slow=8.3,SNR=22
PCAB Cabril 119.20 337 *e*PKPdf **PKiKP 06 33 20.7 +1.8**
PCAB Cabril 119.20 337 *e*PP PP 06 34 41.5 +1.5
ESBB Sonseca Array 119.20 332 PKiKP 06 33 20.4 +1.5
ESDC Sonseca Array 119.20 332 PKP **PKiKP 06 33 19.2 +0.3**
comp=Z,8.3nm,0.8s,baz=3.1,slow=2.9,SNR=21
ESDC PP **PP 06 34 40.6 +0.5**
comp=Z,10nm,0.7s,baz=31,slow=6.8,SNR=11
ESDC PKKPbc **PKKPbc 06 43 30.8 -2.7**
comp=Z,8.9nm,0.8s,baz=228,slow=3.1,SNR=5.4
MVO Moncorvo 119.27 336 *e*PKPdf **PKiKP 06 33 19.2 +0.1**
MVO Moncorvo 119.27 336 *e*PP PP 06 34 42.5 +2.0
MVO Moncorvo 119.27 336 *e*LR LR 07 12 20.1
comp=Z,10μm,20.0s
CART Cartagena 119.45 329 PKP **PKPdf 06 33 14.1 -5.3**
CART Cartagena 119.45 329 PP PP 06 34 41.5 -0.3
PVRL Vila Real 119.45 336 *e*PKPdf **PKiKP 06 33 20.8 +1.4**
PVRL Vila Real 119.45 336 *e*PP PP 06 34 43.0 +1.3
PAB San Pablo 119.48 333 PKIKP **PKiKP 06 33 20.7 +1.2**
PAB San Pablo 119.48 333 PKiKP 06 33 20.7 +1.2
PVIS Viseu 120.00 336 *e*PKPdf **PKiKP 06 33 22.4 +1.9**
PVIS Viseu 120.00 336 *e*PP PP 06 34 46.9 +1.4
VNA2 Neumayer--Watz 120.38 190 PKPdf **PKiKP 06 33 20.3 +0.1**
baz=141,slow=0.7
VNA3 Neumayer Olymp 120.49 189 PKPdf **PKPdf 06 33 20.1 -0.2**
PCBR Castelo Branco 120.57 335 *e*PKPdf **PKiKP 06 33 22.6 +1.1**
PCBR Castelo Branco 120.57 335 *e*PP PP 06 34 50.9 +1.5
COI Coimbra 120.64 336 *e*PKPdf **PKiKP 06 33 22.9 +1.3**
COI Coimbra 120.64 336 *e*PP PP 06 34 50.1 +0.3
ITZ Itezhi-Tezhi 120.65 260 *e*P **Pdif 06 29 42.0 -5.8**
ITZ Itezhi-Tezhi 120.65 260 *e*P **PKPdf 06 33 18.9 -3.3**
VNA1 Neumayer--Stat 120.77 190 PKPdf **PKPdf 06 33 20.8 0.0**
PCAS Casmilo, Conde 120.80 336 *e*PKPdf **PKPdf 06 33 21.9 0.0**
PCAS Casmilo, Conde 120.80 336 *e*PP PP 06 34 51.1 +0.2
PMRV Marv??o 120.89 335 *e*PKPdf **PKiKP 06 33 22.2 0.0**
PMRV Marv??o 120.89 335 *e*PP PP 06 34 52.3 +0.8
PMRV Marv??o 120.89 335 *e*LR LR 07 12 43.0
comp=Z,9μm,20.0s
PSBE So Bento 121.38 336 *e*PKPdf **PKiKP 06 33 26.4 +3.2**
PSBE So Bento 121.38 336 *e*PP PP 06 34 55.4 +0.5
PMTG Montargil 121.53 335 *e*PKPdf **PKPdf 06 33 21.6 -1.7**
PMTG Montargil 121.53 335 *e*PP PP 06 34 56.0 +0.1
LBTB Lobatse 121.70 249 PKP **PKiKP 06 33 24.4 +0.1**
comp=Z,52nm,0.6s,baz=142,slow=2.2,SNR=7.4
LBTB PKKPbc **PKKPab 06 43 24.9 +1.0**
comp=Z,21nm,1.0s,baz=262,slow=5.7,SNR=9.9
LBTB Lobatse 121.70 249 *i* P **PKPdf 06 33 23.6 -0.4**
LBTB Lobatse 121.70 249 *i* P **PKiKP 06 33 24.6 +0.4**
TGUH Tegucigalpa,Un 121.76 64 PKPdf 06 33 24.4 -0.2
EMAL Malaga-Limoner 121.77 331 PKP **PKPdf 06 33 22.0 -1.8**
EMAL Malaga-Limoner 121.77 331 PP PP 06 34 57.0 -0.7
EVO Evora 121.90 335 PKP **PKPdf 06 33 22.6 -1.4**
EVO Evora 121.90 335 PP PP 06 34 56.8 -1.7
EVO Evora 121.90 335 *e*PKPdf **PKiKP 06 33 24.5 +0.3**
EVO Evora 121.90 335 *e*PP PP 06 34 58.5 +0.1
BOSA Boshof 122.00 245 PKP **PKiKP 06 33 24.8 0.0**
comp=Z,41nm,0.7s,baz=99,slow=1.9,SNR=36
BOSA PKKPbc **PKKPbc 06 43 22.6 0.0**
comp=Z,22nm,0.9s,baz=278,slow=3.7,SNR=14
BOSA SKKP 06 47 10.3
comp=Z,12nm,1.0s,baz=236,slow=2.4,SNR=3.9
BOSA Boshof 122.00 245 *i* P **PKiKP 06 33 24.7 -0.1**
BOSA Boshof 122.00 245 PKPdf 06 33 24.1 -0.5
BOSA Boshof 122.00 245 *i* P **PKiKP 06 33 25.4 +0.6**
LIS Lisbon 122.21 336 *e*Pdif **Pdif 06 29 54.2 -0.1**
LIS *e*PKPdf **PKiKP 06 33 24.7 -0.1**
LIS *e*PP **PP 06 35 01.9 +1.5**
LIS Lisbon 122.21 336 *e*PP PP 06 35 02.5 +2.1
MELI Melilla 122.21 329 PKP **PKPdf 06 33 23.5 -1.2**
MELI Melilla 122.21 329 PP PP 06 34 58.0 -2.7
PBEJ Beja 122.27 334 *e*PKPdf **PKiKP 06 33 26.2 +1.2**
PBEJ Beja 122.27 334 *e*PP PP 06 35 02.6 +1.7
GOG Mont Gurugu 122.30 329 P **PP 06 35 04.0 +2.6**
SNR=15
GOG P **PP 06 35 04.0 +2.6**
SNR=15
TAF Taforalt 122.32 328 P **PP 06 35 04.0 +2.4**
SNR=13
TAF P **PP 06 35 04.0 +2.4**
SNR=13
PNCL Nicolau / Gran 122.47 335 *e*PKPdf **PKiKP 06 33 25.7 +0.4**
PNCL Nicolau / Gran 122.47 335 *e*PP PP 06 35 03.0 +0.7
PCVE Castro Verde 122.67 334 *e*PKPdf **PKiKP 06 33 26.2 +0.4**
PCVE Castro Verde 122.67 334 *e*PP PP 06 35 04.3 +0.6
PVAQ Vaqueiros 122.73 334 P **PP 06 35 06.5 +2.5**
SNR=7.2
PVAQ Vaqueiros 122.73 334 *e*PKPdf **PKiKP 06 33 26.5 +0.6**
PVAQ Vaqueiros 122.73 334 *e*PP PP 06 35 04.7 +0.7
PVAQ Vaqueiros 122.73 334 *e*LR LR 07 13 39.5
comp=Z,9μm,22.0s
JBK JBK 122.77 328 P **PP 06 35 10.0 +5.2**
SNR=7.0
JBK P **PP 06 35 10.0 +5.2**
SNR=7.0
PALE Palemas 122.77 329 P **PP 06 35 07.0 +2.5**
SNR=16
PALE P **PP 06 35 07.0 +2.5**
SNR=16
SFS San Fernando 122.84 332 PKP **PKiKP 06 33 26.8 +0.7**
SFS San Fernando 122.84 332 PP PP 06 35 03.6 -1.2
CEU Ceuta 122.92 331 PKP **PKPdf 06 33 23.4 -2.7**
CEU Ceuta 122.92 331 PP PP 06 35 02.6 -2.8
PBDV Barranco-do-Ve 122.96 334 *e*PKPdf **PKiKP 06 33 27.3 +0.9**
PBDV Barranco-do-Ve 122.96 334 *e*PP PP 06 35 06.3 +0.7
PVLZ Peæn de 122.98 330 PKP **PKPdf 06 33 23.5 -2.7**
PVLZ Peæn de 122.98 330 PP PP 06 35 05.1 -0.8
PTEO Sao Teotonio 123.03 335 *e*PKPdf **PKiKP 06 33 28.2 +1.7**
PTEO Sao Teotonio 123.03 335 *e*PP PP 06 35 07.7 +1.6
MORF Marmelete 123.21 334 *e*Pdif **Pdif 06 29 58.6 -0.2**
MORF *e*PKPdf **PKPdf 06 33 26.6 0.0**
MORF *e*PP **PP 06 35 08.6 +1.3**
MORF Marmelete 123.21 334 *e*PKPdf **PKiKP 06 33 27.2 +0.3**
MORF Marmelete 123.21 334 *e*PP PP 06 35 07.6 +0.3
PFVI Vila Bisbo 123.43 335 *e*PKPdf **PKiKP 06 33 27.9 +0.6**
PFVI Vila Bisbo 123.43 335 *e*PP PP 06 35 09.4 +0.7
RSA Sarsar 123.95 331 P **PP 06 35 15.0 +2.5**
SNR=16
RSA P **PP 06 35 15.0 +2.5**
SNR=16
FSCY Frank Sound, G 124.28 55 PKiKP 06 33 29.5 +0.1
PAYG Puerto Ayora 124.28 81 PKiKP 06 33 31.1 +1.5
IFR Ifrane 124.72 329 PKP **PKPdf 06 33 29.6 -0.2**
IFR Ifrane 124.72 329 PP PP 06 35 16.3 -1.5
BUEV Buena Vista 124.81 66 ||*i*P **PKPdf 06 33 29.7 -0.6**
ORTG Ortega, Santa 124.95 67 ||*e*P **PKiKP 06 33 31.1 +0.1**
LCCY Blossom Villag 124.95 54 PKiKP 06 33 30.8 +0.1
GRZA Playa Garza 124.97 67 ||*e*P **PKiKP 06 33 30.8 -0.1**
MDT Midelt 125.01 328 PKKPbc PKKPbc 06 43 11.5 +0.2
comp=Z,14nm,0.9s,baz=232,slow=3.8,SNR=14
MDT Midelt 125.01 328 P **PP 06 35 24.6 +4.9**
SNR=14
DUNO Dulce Nombre, 125.03 67 ||*e*P **PKiKP 06 33 31.4 +0.4**
CBCY The Bluff, Cay 125.17 53 PKPdf 06 33 30.9 +0.1
RTC Rabat Centre 125.18 331 P **PP 06 35 25.0 +4.5**
SNR=14
JTS Las Juntas de 125.43 67 PKP **PKiKP 06 33 31.6 -0.2**
comp=Z,65nm,0.5s,baz=89,slow=4.8,SNR=47
JTS PP **PP 06 35 21.1 -2.6**
comp=Z,16nm,0.6s,baz=28,slow=8.4,SNR=6.8
JTS Las Juntas de 125.43 67 PKIKP **PKPdf 06 33 31.2 -0.2**
JTS Las Juntas de 125.43 67 ||*e*P **PKPdf 06 33 31.1 -0.4**
JTS Las Juntas de 125.43 67 PKPdf 06 33 31.2 -0.2
PMSA Palmer Station 125.47 165 PKP **PKiKP 06 33 30.5 +0.2**
comp=Z,46nm,0.7s,baz=178,slow=4.3,SNR=8.4
PMSA Palmer Station 125.47 165 PKPdf 06 33 29.6 -0.4
PMSA Palmer Station 125.47 165 *e*P **PKPdf 06 33 29.9 0.0**
CEDE Laguna Cedeo 125.57 66 ||*e*P **PKPdf 06 33 30.6 -1.2**
SUR Sutherland 125.60 240 *i* P **PKiKP 06 33 32.8 +0.9**
SUR Sutherland 125.60 240 PKiKP 06 33 33.1 +1.3
SUR Sutherland 125.60 240 *i* P **PKiKP 06 33 32.6 +0.7**
LAFE Finca La Fe, P 125.67 67 ||*e*P **PKiKP 06 33 32.5 +0.3**
AVE Averroes 126.01 331 PKP **PKPdf 06 33 30.8 -1.3**
AVE Averroes 126.01 331 PP PP 06 35 26.7 +0.6
GOLM Goulmima 126.07 328 P **PP 06 35 32.0 +5.2**
SNR=6.9
BBSR BB Station 126.25 31 PKiKP 06 33 32.8 -0.2
HDC Heredia 126.30 66 ||*e*P **PKiKP 06 33 33.8 +0.1**
LCR2 La Lucha 2 126.51 67 ||*e*P **PKiKP 06 33 34.3 +0.1**
H07N1 FLORES T-PHASB 126.61 356 *e*PKP **PKiKP 06 33 35.8 +2.2**
CDM Cerro de Muert 126.80 67 ||*i*P **PKiKP 06 33 35.4 +0.3**
PEZE Perez Zeledon, 126.95 67 ||*e*P **PKiKP 06 33 35.0 +0.1**
PGRA Graciosa 126.96 353 *e*PKP **PKPdf 06 33 33.7 0.0**
SRBC Serra Branca 126.96 353 *e*PKP **PKPdf 06 33 33.9 +0.2**
EDLM Las Mercedes 127.07 67 ||*e*P **PKiKP 06 33 35.9 +0.7**
TZRR Tazzarine 127.12 327 P **PP 06 35 39.0 +5.3**
SNR=7.9
PRVC Isla de Provid 127.17 61 *e*P **PKiKP 06 33 35.4 +0.2**
PSCM Serra do Cume 127.17 352 *e*PKP **PKiKP 06 33 36.1 +1.4**
ADH Angra Heroismo 127.23 352 *e*PKP **PKPdf 06 33 34.3 +0.1**
ROSA Rosais 127.30 353 *e*PKP **PKPdf 06 33 34.6 +0.2**
PMAN Manadas 127.36 353 *e*PKP **PKiKP 06 33 36.7 +1.7**
RIOS Rincon, Osa 127.38 68 ||*e*P **PKiKP 06 33 36.6 +0.9**
DRKO Durika 127.39 67 ||*e*P **PKiKP 06 33 36.4 +0.4**
MBJ Montego Bay 127.40 54 ||*i*P **PKiKP 06 33 36.8 +1.1**
EDBA Buenos Aires 127.40 67 ||*e*P **PKiKP 06 33 36.4 +0.6**
PCED Cedros 127.44 353 *e*PKP **PKiKP 06 33 35.4 +0.2**
OUZM OUZ 127.63 329 P **PP 06 35 43.0 +5.9**
SNR=9.4
ZGR Zagora 127.67 327 P **PP 06 35 43.0 +5.6**
SNR=7.3
BART Pico Bartolome 127.76 350 *e*PKP **PKiKP 06 33 36.1 +0.1**
MCJ Malvern 127.81 54 ⇑*i*P **PKPdf 06 33 36.1 +0.1**
MCJ *i* S **PP 06 35 37.1 -2.0**
PSET Sete Cidades 127.81 350 *e*PKP **PKPdf 06 33 35.5 +0.1**
EDSV San Vito 127.82 67 ||*e*P **PKiKP 06 33 37.6 +0.9**
CMLA Cha da Macela 127.84 350 *e*PKP **PKPdf 06 33 35.0 -0.5**
BBJ Bamboo Saint A 127.87 53 ⇑*i*P **PKiKP 06 33 36.5 -0.1**
OUK Oukaimeden 127.94 330 P **PP 06 35 45.0 +5.7**
SNR=12
BRU2 Volcan 128.08 67 ||*i*P **PKiKP 06 33 38.0 +0.7**
BNJ Bonny Gate 128.16 53 *i* P **PKiKP 06 33 39.0 +1.8**
PCJ Portland Cotta 128.32 54 ⇑*i*P **PKiKP 06 33 37.8 +0.3**
EAH EAH 128.39 332 P **PP 06 35 48.0 +6.2**
SNR=9.1
EAH P **PP 06 35 48.0 +6.2**
SNR=9.1
STH Stony Hill 128.41 53 ⇑*i*P **PKiKP 06 33 38.1 +0.5**
STH *i* S **PP 06 35 40.3 -2.6**
HOJ Hope 128.49 53 *i* P **PKiKP 06 33 38.0 +0.2**
PSMN Pico do Norte, 128.50 349 *e*PKP **PKPdf 06 33 36.5 -0.2**
PSMA Santa Maria 128.52 349 *e*PKP **PKPdf 06 33 36.5 -0.2**
GTBY Guantanamo Bay 128.61 50 PKPdf **PKPdf 06 33 37.3 0.0**
CMJ Castle Mountai 128.71 53 ⇑*i*P **PKiKP 06 33 38.7 +0.4**
TTIG Tnine Tigouga, 128.76 330 P **PP 06 35 49.0 +4.6**
SNR=14
TTIG P **PP 06 35 49.0 +4.6**
SNR=14
TSUM Tsumeb 128.95 256 PKhKP PKPpre 06 33 27.1
comp=Z,5.6nm,0.8s,baz=124,slow=2.6,SNR=1.7
TSUM PKP **PKiKP 06 33 38.8 -0.1**
comp=Z,27nm,1.1s,baz=82,slow=2.3,SNR=5.9
TSUM SKKPbc 06 36 47.9
comp=Z,49nm,0.8s,baz=80,slow=3.7,SNR=8.9
PMPST Porto Santo, M 129.89 339 *e*PKPdf **PKiKP 06 33 40.2 -0.1**
PMPST Porto Santo, M 129.89 339 *e*PP PP 06 35 53.9 +2.6
PMPS Porto Santo 129.91 339 *e*PKPdf **PKiKP 06 33 40.3 0.0**
PMAR Madeira 130.41 339 *e*PKPdf **PKiKP 06 33 41.7 +0.1**
PMOZ Porto Moniz, M 130.42 340 *e*PKPdf **PKiKP 06 33 41.8 +0.3**
PMOZ Porto Moniz, M 130.42 340 *e*PP PP 06 35 57.5 +2.7
PMOZ Porto Moniz, M 130.42 340 *e*LR LR 07 16 47.9
comp=Z,4μm,18.0s
BCIP Isla Barro Col 130.45 65 *e*P **PKPdf 06 33 41.2 +0.2**
USHA Ushuaia 131.72 155 PKP **PKiKP 06 33 43.4 +0.2**
comp=Z,80nm,0.8s,baz=265,slow=2.9,SNR=7.8
USHA SKPbc **SKPbc 06 36 54.0 -0.8**
comp=Z,56nm,0.8s,baz=223,slow=4.5,SNR=5.1
SDDR Presa de Saban 132.00 48 PKPdf **PKPdf 06 33 44.2 +0.3**
CAPC Capurgana 132.88 64 *e*P **PKPdf 06 33 43.6 -2.0**
SDD Santo Domingo 133.33 47 PKPdf 06 33 46.5 +0.2
LCBC Los crdobas, 133.63 63 *e*P **PKPdf 06 33 47.0 0.0**
SOLC Bahia Solano 133.91 67 *e*P **PKPdf 06 33 48.0 +0.5**
SJCC San Jacinto, C 134.14 61 *e*P PKPpre 06 33 35.6
MOTC Monteria, Cord 134.27 63 *e*P **PKPdf 06 33 46.8 -1.4**
SMRC Santa Marta, M 134.29 59 *e*P **PKPdf 06 33 46.6 -1.6**
PCDR Punta Cana, DR 134.38 46 PKPpre 06 33 39.6
TORD Torodi Ar. Bea 134.42 304 PKhKP PKPpre 06 33 33.9
comp=Z,1.0nm,0.4s,baz=75,slow=2.8,SNR=6.0
TORD PKP **PKPdf 06 33 48.5 +0.1**
comp=Z,59nm,0.6s,baz=28,slow=2.7,SNR=28
TORD SKPbc **SKPbc 06 37 04.7 -0.5**
comp=Z,175nm,1.0s,baz=37,slow=3.3,SNR=19
TUMC Tumaco 134.45 73 *e*P **PKPdf 06 33 49.0 +0.4**
PIZC Pizarro, Choco 134.49 69 *e*P **PKPdf 06 33 48.9 +0.3**
GR1C Gorgona, Isla 134.53 72 *e*P **PKPdf 06 33 49.1 +0.4**
DBBC Dabeiba 134.62 65 *e*P PKPpre 06 33 36.2
UREC San Jos de Ur 134.88 64 *e*P **PKPdf 06 33 48.7 -0.6**
MALC Bahia Malaga 134.90 70 *e*P **PKPdf 06 33 49.1 -0.3**
PAC1 Pacto, Paraso 134.93 75 *e*P **PKPdf 06 33 49.1 -0.6**
ARGC Ariguani, Magd 134.95 61 *e*P **PKPdf 06 33 48.6 -0.9**
OTAV Otavalo 135.26 75 *e*P PKPpre 06 33 45.3
OTAV Otavalo 135.26 75 PKHKP PKPpre 06 33 37.8
OTAV Otavalo 135.26 75 PKPpre 06 33 37.8
CUSE Cuicocha Este 135.29 75 *e*P **PKPdf 06 33 49.7 -1.0**
CBOC Ciudad Bolivar 135.31 67 *e*P PKPpre 06 33 39.8
ZARC Zaragoza, Cauc 135.59 64 *e*P PKPpre 06 33 38.9
HELC Santa Helena 135.60 66 *e*P PKPpre 06 33 40.0
SMLC San Martn de 135.63 62 *e*P PKPpre 06 33 38.3
BBAC Balboa, Cauca 135.75 72 *e*P **PKPdf 06 33 48.6 -2.7**
YOTC Yotoco, Valle 135.81 69 *e*P PKPpre 06 33 38.9
URIC Uribia, Colomb 135.84 57 *e*P PKPpre 06 33 37.6
GCUF Volcan Galeras 135.95 73 *e*P PKPpre 06 33 42.8
POPC Popayan, Colom 136.08 71 *e*P **PKPdf 06 33 49.8 -2.1**
VA04 Juan Fernndez 136.11 124 *e*P **PKPdf 06 33 51.1 0.0**
GUY2C Guyana, Caldas 136.17 67 *e*P PKPpre 06 33 41.5
PTBC PUERTO BERRIO 136.38 65 *e*P PKPpre 06 33 40.3
PCON Cinco Dias 136.42 72 *e*P PKPpre 06 33 45.5
ANIL Santa Ana 136.45 68 *e*P PKPpre 06 33 46.8
NORC Norcasia 136.46 66 *e*P PKPpre 06 33 39.6
TOLC Tolima 136.49 68 *e*P PKPpre 06 33 40.4
OCAC Ocana 136.56 62 *e*P PKPpre 06 33 43.2
MARP Paez Belalcaza 136.63 71 *e*P PKPpre 06 33 44.3
BRRC Barranca, Sant 136.77 64 *e*P PKPpre 06 33 42.4
ORTC Ortega, Tolima 136.84 69 *e*P PKPpre 06 33 40.8
PUAC Puerto Asis, P 136.92 74 *e*P PKPpre 06 33 53.5
SPBC San Pablo de B 137.13 66 *e*P PKPpre 06 33 42.8
BETC Betania 137.16 70 *e*P PKPpre 06 33 46.8
PRAC Prado 137.25 69 *e*P PKPpre 06 33 44.6
ROSC El Rosal 137.27 67 PKhKP PKPpre 06 33 44.9
comp=Z,15nm,0.5s,baz=30,slow=3.4,SNR=11
ROSC PKP **PKPdf 06 33 53.5 -0.8**
comp=Z,126nm,0.7s,baz=136,slow=22,SNR=16
ROSC PP **PP 06 36 41.7 +1.2**
comp=Z,139nm,1.4s,baz=323,slow=6.5,SNR=6.3
ROSC El Rosal 137.27 67 *e*P PKPpre 06 33 44.9
GARC Garzon, Huila 137.31 71 *e*P PKPpre 06 33 43.6
LL01 San Ignacio de 137.32 139 ||*i*P **PKPdf 06 33 53.7 +0.7**
ATAH Atahualpa 137.38 86 PKhKP PKPpre 06 33 46.4
comp=Z,41nm,0.9s,baz=326,slow=4.1,SNR=11
ATAH PKP **PKiKP 06 33 55.9 -0.5**
comp=Z,504nm,1.1s,baz=268,slow=0.7,SNR=23
ATAH SKPbc **SKiKP 06 37 17.6 -1.8**
comp=Z,78nm,0.8s,baz=228,slow=1.2,SNR=9.5
FLOC Florencia 137.39 72 *e*P PKPpre 06 33 43.3
BARC Barichara 137.48 64 *e*P PKPpre 06 33 45.0
PAMC Pamplona, Colo 137.53 63 *e*P PKPpre 06 33 44.7
CHIC Chingaza 137.89 67 *e*P PKPpre 06 33 45.3
RUSC La Rusia 137.89 65 *e*P PKPpre 06 33 44.7
VILC Villavicencio, 138.15 67 *e*P PKPpre 06 33 46.9
SMRT St. Maarten 138.27 41 *e*P PKPpre 06 33 45.4
SABA Saba 138.48 42 *e*P PKPpre 06 33 44.2
SDV Santo Domingo 138.49 59 PKhKP PKPpre 06 33 47.3
comp=Z,63nm,0.8s,baz=173,slow=2.0,SNR=30
SDV PKP **PKPdf 06 33 56.6 +0.3**
comp=Z,405nm,1.0s,baz=94,slow=1.2,SNR=23
SDV PP **PP 06 36 45.8 -1.7**
comp=Z,66nm,1.1s,baz=316,slow=7.1,SNR=5.8
SDV SKPbc **SKPbc 06 37 18.8 +0.9**
comp=Z,33nm,0.7s,baz=280,slow=9.4,SNR=2.7
SDV Santo Domingo 138.49 59 *e*P PKPpre 06 33 45.9
SDV Santo Domingo 138.49 59 PKPpre 06 33 46.7
PTLC Puerto Leguiza 138.71 74 *e*P PKPpre 06 33 48.6
SEUS St. Eustatius 138.74 42 *e*P PKPpre 06 33 44.9
TAMC Tame, Arauca 138.76 63 *e*P PKPpre 06 33 46.6
MACC Macarena, Meta 138.83 70 *e*P PKPpre 06 33 47.9
SKI Saint Kitts 139.02 42 *e*P PKPpre 06 33 45.6
PLCA Paso Flores 139.36 138 PKhKP PKPpre 06 33 48.4
comp=Z,7.1nm,0.6s,baz=234,slow=4.5,SNR=32
PLCA PKP **PKiKP 06 33 58.1 -1.2**
comp=Z,208nm,1.0s,baz=221,slow=2.7,SNR=24
PLCA SKPbc **SKPbc 06 37 20.1 +0.9**
comp=Z,85nm,1.0s,baz=267,slow=2.9,SNR=7.8
PLCA PKKP 1 **PKKPdf 06 43 24.4 -0.6**
comp=Z,3.8nm,0.9s,baz=26,slow=3.5,SNR=5.1
PLCA Paso Flores 139.36 138 *e*P PKPpre 06 33 49.0
PLCA Paso Flores 139.36 138 PKPdf 06 33 54.6 -2.3
ANWB Willy Bob 139.38 40 *e*P PKPpre 06 33 46.4
BI03 Tigo 139.46 131 *e*P PKPpre 06 33 51.8
PTGC Puerto Gaitan, 139.51 66 *e*P PKPpre 06 33 48.0
HOPE Hope Point 139.62 179 PKHKP PKPpre 06 33 49.5
HOPE Hope Point 139.62 179 PKPpre 06 33 49.5
NNA Nana 139.72 92 PKhKP PKPpre 06 33 50.3
comp=Z,12nm,0.3s,baz=37,slow=10,SNR=12
NNA PKP **PKPdf 06 33 58.8 +0.5**
comp=Z,213nm,1.0s,baz=294,slow=3.6,SNR=26
NNA SKPbc **SKPbc 06 37 20.2 -0.8**
comp=Z,83nm,1.1s,baz=297,slow=1.9,SNR=6.8
NNA Nana 139.72 92 PKIKP **PKPdf 06 33 55.0 -3.3**
NNA Nana 139.72 92 PKPdf 06 33 55.0 -3.3
MLYT Lee's Yard 139.82 42 *e*P PKPpre 06 33 49.1
ABD La Joyeuse, An 140.45 41 *e*P PKPpre 06 33 48.8
CBE Ff, Capester 140.68 42 *e*P PKPpre 06 33 49.4
TBG Guadaloupe-3 140.81 42 *e*P PKPpre 06 33 54.5
BI02 San Fabin de 140.81 132 ⇑*i*P PKPpre 06 33 53.7
TDBA Terre de Bas, 140.82 42 *e*P PKPpre 06 33 49.6
MAGL Barre de l'ile 140.97 42 *e*P PKPpre 06 33 48.7
GO05 Huala 141.02 129 ⇑*i*P PKPpre 06 33 54.1
DSLB Salisbury 141.26 42 *e*P PKPpre 06 33 52.3
MDN Morne-Daniel 141.37 42 *e*P PKPpre 06 33 53.8
DLPL La Plaine 141.45 42 *e*P PKPpre 06 33 55.9
FDF Fort de France 141.95 43 *e*P PKPpre 06 33 55.0
BO02 Sierra Bellavi 141.97 130 *i* P PKPpre 06 33 56.6
ILAM Ile Lapin Mar 142.10 42 *e*P PKPpre 06 33 03.2
BIM Bigot 142.16 43 *e*P **PKPdf 06 34 02.7 0.0**
MT02 Curacav 142.31 127 ||*i*P **PKPdf 06 33 57.4 -5.0**
MPOM Morne Pois Mar 142.35 43 *e*P PKPdf 06 33 55.0 -7.9
PCRV Puerto La Cruz 142.55 52 PKhKP PKPpre 06 33 56.3
comp=Z,60nm,0.5s,baz=293,slow=3.6,SNR=53
MT05 Renca 142.56 127 ||*i*P **PKPdf 06 33 58.8 -4.1**
SLBI Saint Lucia, B 142.58 43 *e*P **PKPdf 06 33 56.3 -7.1**
SLW Petit Monier 142.61 43 *e* **PKPdf 06 34 00.4 -3.0**
**MT03 Universidad

CO03	El Pedregal	143.53	124	⇓*i*P	PKPbc	06 34 02.1	-0.4
GO04	Tololo Observa	143.66	122	⇓*i*P	PKPbc	06 34 02.7	-0.3
LIC	Lamto	143.76	301	*e*PKP1	PKPab	06 34 02.3	-0.4
	comp=Z,856nm,0.5s						
AC04	Llanos de Chal	144.02	119	⇓*i*P	**PKPab**	**06 34 01.3**	**-2.0**
LCO	Las Campanas	144.10	121	PKIKP	**PKPdf**	**06 34 05.2**	**-0.8**
LCO	Las Campanas	144.10	121		**PKPdf**	**06 34 05.2**	**-0.8**
BCHC	Barbados, Cave	144.12	43	*e*P	**PKPdf**	**06 34 06.5**	**+0.4**
BBGH	Gun Hill	144.16	43	*e*P	**PKPdf**	**06 34 05.4**	**-0.8**
BBSP	Saint Philip	144.25	43	*e*P	**PKPdf**	**06 34 06.8**	**+0.5**
CO01	Juntas del Tor	144.30	122	⇓*i*P	**PKPdf**	**06 34 05.8**	**-0.5**
AC05	El Transito	144.51	121	⇓*i*P	**PKPdf**	**06 34 06.3**	**-0.3**
AC05	El Transito	144.51	121		**PKPdf**	**06 34 06.7**	**+0.1**
TRN	Trinidad (W)	144.65	48	*e*P	**PKPab**	**06 34 03.4**	**-2.6**
TPR	Prospect	144.72	46	*e*P	**PKPdf**	**06 34 07.2**	**0.0**
BOT	Bacolet	144.78	46	*e*P	**PKPdf**	**06 34 07.2**	**0.0**
TOSP	Speyside	144.82	46	*e*P	**PKPab**	**06 34 05.0**	**-1.6**
TOSP	Speyside	144.82	46		**PKPdf**	**06 34 07.3**	**0.0**
GO03	Copiap	144.90	119	⇓*i*P	**PKPdf**	**06 34 07.4**	**+0.2**
GO03	Copiap	144.90	119		**PKPdf**	**06 34 06.9**	**-0.2**
AC01	Pan de Azucar	144.95	116	⇓*i*P	**PKPdf**	**06 34 07.3**	**0.0**
PB14	IPOC Station P	145.45	113	⇓*i*P	**PKPab**	**06 34 09.5**	**+0.3**
PB10	IPOC Station P	145.53	111	⇓*i*P	**PKPab**	**06 34 09.7**	**+0.6**
GO02	Mina Guanaco	146.06	115	⇓*i*P	**PKPab**	**06 34 11.1**	**-0.3**
PB15	IPOC Station P	146.56	111	⇓*i*P	**PKPbc**	**06 34 11.7**	**-0.3**
PB15	IPOC Station P	146.56	111		**PKPbc**	**06 34 11.8**	**-0.3**
PB11	IPOC Station P	146.84	105		**PKPdf**	**06 34 11.5**	**+0.7**
PB01	IPOC Station P	146.86	107		**PKPbc**	**06 34 11.8**	**-1.0**
MNMC	Minye Minye	146.94	104		**PKPbc**	**06 34 12.6**	**-0.7**
LVC	Limon Verde	147.17	110	PKPbc	**PKPbc**	**06 34 13.3**	**-0.6**
	comp=Z,687nm,1.0s,baz=269,slow=1.6,SNR=104						
LVC				SKPbc	**SKiKP**	**06 37 40.2**	**+0.9**
	comp=Z,62nm,1.0s,baz=312,slow=3.4,SNR=2.4						
LVC	Limon Verde	147.17	110		**PKPbc**	**06 34 13.0**	**-1.0**
LVC	Limon Verde	147.17	110	*e*P	**PKPdf**	**06 34 11.1**	**-0.5**
GO01	Chusmiza	147.28	105		**PKPdf**	**06 34 12.8**	**+0.8**
TCA	Tanti	148.14	128	⇓*i*P	**PKPdf**	**06 34 13.3**	**+0.7**
LPAZ	La Paz	148.44	99	PKPbc	**PKPdf**	**06 34 15.8**	**+1.7**
	comp=Z,173nm,0.9s,baz=330,slow=1.8,SNR=174						
LPAZ	La Paz	148.44	99	*e*P	**PKPdf**	**06 34 13.4**	**-0.7**
TRIS	Tristan da Cun	148.93	218		**PKiKP**	**06 34 18.6**	**-0.4**
SACV	Santiago Islan	149.06	337		**PKPdf**	**06 34 16.4**	**+2.0**
ETMB	Extrema	149.72	86	*e*P	**PKPdf**	**06 34 14.6**	**-0.8**
SLA	San Lorenzo	149.76	116	⇓*i*P	**PKPdf**	**06 34 16.4**	**+0.9**
LPA	La Plata	150.85	140	*d i*PKP	**PKPab**	**06 34 32.1**	**+2.1**
LPA				PKIKS		06 37 48.2	
LPA				PP	PP	06 38 08.4	+8.3
LPA				SKIKS		06 41 04.5	
LPA				PPP	PPP	06 48 03.9	
SAML	Samuel	152.47	83	PKIKP	**PKPdf**	**06 34 20.0**	**+0.3**
SAML	Samuel	152.47	83		**PKPdf**	**06 34 20.0**	**+0.3**
SAML	Samuel	152.47	83	*e*P	**PKPdf**	**06 34 18.7**	**-0.9**
PTGA	Pitinga	152.54	64		**PKPdf**	**06 34 20.4**	**+0.6**
PTGA	Pitinga	152.54	64	*e*P	**PKPdf**	**06 34 19.2**	**-0.7**
MACA	Manacapuru-AM	153.00	69	*e*P	**PKPdf**	**06 34 19.8**	**-0.7**
MDP	Montagnes des	154.66	43	PKP	**PKPdf**	**06 34 23.9**	**+1.1**
	comp=Z,163nm,1.1s,baz=331,slow=1.7,SNR=7.0						
MDP				PKPbc	**PKiKP**	**06 34 32.2**	**+0.7**
	comp=Z,166nm,0.7s,baz=275,slow=2.1,SNR=26						
MDP				PKPab	**PKPab**	**06 34 46.5**	**-0.1**
	comp=Z,384nm,1.1s,baz=329,slow=6.3,SNR=10						
SIV	San Ignacio	155.22	98	PKP	**PKPdf**	**06 34 24.3**	**+0.8**
	comp=Z,100nm,1.0s,baz=241,slow=1.3,SNR=75						
SIV				PKPab	**PKPab**	**06 34 50.0**	**+0.9**
	comp=Z,315nm,1.0s,baz=269,slow=5.5,SNR=17						
SIV				PP	**PP**	**06 38 27.3**	**+0.9**
	comp=Z,31nm,1.0s,baz=292,slow=7.6,SNR=3.4						
PLTB	Pedras Altas	155.64	140	*e*P	**PKPdf**	**06 34 22.8**	**-0.8**
VILB	Vilhena	155.98	91	*e*P	**PKPdf**	**06 34 24.0**	**-0.6**
CPUP	Villa Florida	156.08	125	PKP	**PKPdf**	**06 34 24.8**	**+0.4**
	comp=Z,42nm,0.9s,baz=247,slow=0.7,SNR=33						
CPUP				PKPab	**PKPab**	**06 34 53.2**	**+0.7**
	comp=Z,165nm,0.9s,baz=252,slow=5.7,SNR=11						
PTLB	Pontes e Lacer	157.10	97	*e*P	**PKPdf**	**06 34 25.4**	**-0.5**
ITTB	Itaituba	157.97	67	*e*P	**PKPdf**	**06 34 28.4**	**+1.2**
MALB	Monte Alegre	157.99	59	*e*P	**PKPdf**	**06 34 26.6**	**-0.6**
MCPB	Macapa, AP	158.87	52	*e*P	**PKPdf**	**06 34 28.1**	**-0.2**
CNLB	Canela	159.04	140	*e*P	**PKPdf**	**06 34 28.4**	**+0.3**
NPGB	Novo Progresso	159.38	73	*e*P	**PKPdf**	**06 34 28.4**	**-0.5**
ITAB	Concordia	159.54	133	*e*P	**PKPdf**	**06 34 27.8**	**-0.9**
AQDB	Aquidauana	159.63	112	*e*P	**PKPdf**	**06 34 28.6**	**-0.2**
CLDB	Colider	159.99	84	*e*P	**PKPdf**	**06 34 30.4**	**+0.9**
PTGB	Pitanga	161.02	127	*e*P	**PKPdf**	**06 34 29.8**	**-0.6**
TRCB	Terra Rica	161.48	121	*e*P	**PKPdf**	**06 34 31.6**	**+0.7**
TIJ01	Guaruva-PR	162.92	134	*e*P	**PKPdf**	**06 34 31.9**	**-0.5**
PCMB	Pacaembu	163.14	120	*e*P	**PKPdf**	**06 34 32.8**	**+0.2**
TMAB	Tom-Au,PA,Br	163.16	49	*e*P	**PKPdf**	**06 34 32.8**	**0.0**
FRTB	Fartura	163.68	128	*e*P	**PKPdf**	**06 34 33.0**	**0.0**
PRPB	Parauapebas	164.02	63	*e*P	**PKPdf**	**06 34 33.0**	**-0.6**
ARAG	Araguaiana, MT	164.14	99	*e*P	**PKPdf**	**06 34 34.5**	**+0.9**
ITRB	Iturama	164.64	114	*e*P	**PKPdf**	**06 34 33.0**	**-0.9**
PET01	Itanhaem-SP	164.79	135	*e*P	**PKPdf**	**06 34 34.8**	**+0.8**
SPB	Sao Paulo	165.12	133		**PKPdf**	**06 34 35.5**	**+1.3**
SPB	Sao Paulo	165.12	133	*e*P	**PKPdf**	**06 34 35.4**	**+1.1**
RCLB	Rio Claro- Sao	165.75	129	*e*P	**PKPdf**	**06 34 33.6**	**-1.3**
VAO	Valinhos	165.82	132	*e*P	**PKPdf**	**06 34 34.5**	**-0.5**
ROSB	Rosrio	166.22	39	*e*P	**PKPdf**	**06 34 35.4**	**-0.1**
PARB	Paraibuna	166.55	136	*e*P	**PKPdf**	**06 34 36.3**	**+0.7**
IPMB	Ipameri, GO	167.12	110	*e*P	**PKPdf**	**06 34 37.2**	**+1.1**
SMTB	Santa Maria do	167.19	69	*e*P	**PKPdf**	**06 34 36.0**	**-0.2**
PEXB	Peixe	167.43	84	*e*P	**PKPdf**	**06 34 36.9**	**+0.5**
BDFB	Brasilia	167.79	100	PKP	**PKPdf**	**06 34 37.6**	**+0.9**
	comp=Z,203nm,1.1s,baz=290,slow=1.1,SNR=34						
BDFB				PKPab	**PKPab**	**06 35 45.8**	**+1.6**
	comp=Z,223nm,1.0s,baz=264,slow=2.6,SNR=14						
BDFB				PP	**PP**	**06 39 34.4**	**+0.9**
	comp=Z,14nm,1.1s,baz=223,slow=12,SNR=1.7						
MAN01	Angra dos Reis	167.96	140	*e*P	**PKPdf**	**06 34 36.9**	**+0.3**
NBMO	Morrinhos-CE	168.65	24	*e*P	**PKPdf**	**06 34 37.2**	**-0.1**
BSCB	Bom Sucesso	168.65	130	*e*P	**PKPdf**	**06 34 37.5**	**+0.4**
VAS01	Vassouras-RJ	168.71	139	*e*P	**PKPdf**	**06 34 37.8**	**+0.7**
SDBA	SAO DESIDERIO	170.76	82	*e*P	**PKPdf**	**06 34 38.3**	**-0.1**
MC01	Montes Claros	171.39	111	*e*P	**PKPdf**	**06 34 37.8**	**-1.0**
JANB	Januaria	171.40	99	*e*P	**PKPdf**	**06 34 39.2**	**+0.5**
RCBR	Riachuelo	172.05	3	PKP	**PKPdf**	**06 34 39.2**	**0.0**
	comp=Z,34nm,1.0s,baz=4.5,slow=1.0,SNR=14						
RCBR				PKPab	**PKPab**	**06 36 03.0**	**+0.4**
	comp=Z,29nm,0.9s,baz=326,slow=6.6,SNR=2.9						
RCBR				PP	**PP**	**06 39 52.7**	**+0.5**
	comp=Z,25nm,1.1s,baz=352,slow=7.5,SNR=5.6						
RCBR	Riachuelo	172.05	3		**PKPdf**	**06 34 39.8**	**+0.6**
RCBR	Riachuelo	172.05	3	*e*P	**PKPdf**	**06 34 39.5**	**+0.4**
SJMB	Sao Joao De Ma	172.71	133	*e*P	**PKPdf**	**06 34 40.7**	**+1.5**
RIB01	Linhares ES	172.81	140	*e*P	**PKPdf**	**06 34 39.8**	**+0.6**
BSFB	Barra de Sao F	172.87	135	*e*P	**PKPdf**	**06 34 40.4**	**+1.1**
NAN01	Guarapari, ES	174.03	133	*e*P	**PKPdf**	**06 34 40.4**	**+0.7**
GDU01	Guandu, BA	176.07	89	*e*P	**PKPdf**	**06 34 41.0**	**+0.6**

SOME ***17*** *06:18:21.7, 37°.42N×72°.03E, h30km*
IDC ***17*** *06:18:23.5±4.0, 35°.85N×71°.57E, h53km±36km, mb4.1/11, mb1 4.1/15, mb1mx3.9/48, mbtmp4.3/15, ML4.3/4, Error ellipse: s-maj=21.5km s-min=20.0km az=1.0*
NNC ***17*** *06:18:25.4±3.4, 35°.89N×71°.67E, h96km±34km, mb4.2, mpv4.6, Error ellipse: s-maj=26.8km s-min=23.1km az=177.0*
MOS ***17*** *06:18:26.3±1.1, 36°.07N×71°.72E, h84km, mb4.5/8, Error ellipse: s-maj=9.1km s-min=4.0km az=79.7*
NEIC ***17*** *06:18:28.0±2.4, 36°.05N±0°.06×71°.53E±0°.08, h91km±7km, mb4.6/23, Error ellipse: s-maj=10.6km s-min=6.8km az=54.0*
BJI ***17*** *06:18:28.1±0.0, 36°.07N×72°.03E, h80km, mB4.6/4, mb4.8/8, Ms4.2/4, Ms7 4.4/4*
ISC 17 06:18:28.6±0.4, 36°.00N±0°.04×71°.72E±0°.05, h100km, n176, σ1§48/164, mb4.6/28, 6C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.18**	**176**	P	**Pn**	**06 19 04.1**	**+0.5**
CEP				S	**Sn**	**06 19 32.0**	**+1.6**
KBL	**Kabul**	**2.63**	**237**	PN	Pn	06 19 07.8	-1.8
KBL	**Kabul**	**2.63**	**237**	Pn	Pn	06 19 07.8	-1.8
NIL	**Nilore**	**2.66**	**151**	PN	**Pn**	**06 19 11.1**	**+1.2**
NIL	**Nilore**	**2.66**	**151**	Pn	**Pn**	**06 19 11.1**	**+1.2**
THW	**Thamme Wali**	**3.20**	**180**	P	**Pn**	**06 19 16.1**	**-0.9**
BTK	**Batken**	**4.11**	**350**	PN	**Pn**	**06 19 29.0**	**-0.3**
BTK	**Batken**	**4.11**	**350**	Pn	**Pn**	**06 19 29.0**	**-0.3**
SARP	**Sargodha**	**4.15**	**169**	P	**Pn**	**06 19 29.2**	**-0.5**
THN	**Thein Dam**	**4.86**	**136**	*e*P	**Pn**	**06 19 39.5**	**+0.1**
THN				*e*S	**Sn**	**06 20 32.5**	**-1.9**
DHRM	**DHARAMSHALA**	**5.33**	**133**	*e*P	**Pn**	**06 19 46.8**	**+0.8**
DHRM				*e*S	**Sn**	**06 20 44.8**	**-1.5**
DHRM				*e*S		06 20 46.9	
DHRM				IAML		06 20 48.9	
	comp=E,882nm,0.2s						
DHRM				IAML		06 20 50.6	
	comp=N,779nm,0.2s						
BHK	**Bhakra**	**6.02**	**138**	*e*P	**Pn**	**06 19 55.4**	**+0.3**
BHK				*e*S	**Sn**	**06 21 02.8**	**+0.1**
IUG	**Iuzhnay**	**6.28**	**348**	*e*P	**Pn**	**06 19 57.5**	**-1.2**
	comp=N,42nm,0.2s						
IUG				*e*S	**Sn**	**06 21 06.6**	**-2.3**
	comp=N,216nm,0.7s						
IUG	**Iuzhnay**	**6.28**	**348**	*e*PN	**Pn**	**06 19 57.5**	**-1.2**
AML	**Almayashu**	**6.31**	**13**	P	**Pn**	**06 19 58.7**	**-0.7**
	SNR=54						
UCH	**Uchtor**	**6.58**	**18**	P	**Pn**	**06 20 02.8**	**-0.4**
	SNR=11						
SMLA	**Simla**	**6.65**	**135**	*e*P	**Pn**	**06 20 04.2**	**+0.4**
SMLA				*e*S	**Sn**	**06 21 15.2**	**-2.9**
SMLA				IAML		06 21 21.3	
	comp=E,332nm,0.2s						
SMLA				IAML		06 21 21.6	
	comp=N,264nm,0.5s						
KZA	**Kyzart**	**6.66**	**23**	P	**Pn**	**06 20 03.4**	**-0.7**
	SNR=9.6						
MRKS	**Merke**	**6.83**	**9**	*e*P	**Pn**	**06 20 05.3**	**-0.9**
	comp=N,46nm,0.5s						
MRKS				*e*S	**Sn**	**06 21 20.5**	**-2.0**
	comp=N,52nm,0.4s						
MRKS	**Merke**	**6.83**	**9**	*e*PN	**Pn**	**06 20 05.3**	**-0.9**
EKS2	**Erkin-Say**	**6.84**	**13**	P	**Pn**	**06 20 05.9**	**-0.4**
	SNR=40						
DZA	**Taraz**	**6.89**	**358**	*e*P	**Pn**	**06 20 05.5**	**-1.3**
DZA	**Taraz**	**6.89**	**358**	*e*P	**Pn**	**06 20 05.4**	**-1.5**
	comp=N,46nm,0.6s,baz=357						
DZA	**Taraz**	**6.89**	**358**	*e*PN	**Pn**	**06 20 05.4**	**-1.5**
DZA				pmax	pmax		
	comp=Z,46nm,0.6s						
AAK	**Ala-Archa**	**6.97**	**17**	P	**Pn**	**06 20 08.0**	**-0.1**
	SNR=58						
AAK	**Ala-Archa**	**6.97**	**17**	*i* P	**Pn**	**06 20 08.0**	**-0.1**
	SNR=72						
AAK	**Ala-Archa**	**6.97**	**17**	⇑P	**Pn**	**06 20 07.2**	**-0.8**
	comp=Z,31nm,0.7s						
AAK				⇓S	**Sn**	**06 21 26.4**	**+0.6**
	comp=Z,42nm,0.8s						
AAK	**Ala-Archa**	**6.97**	**17**	*d i*PN	**Pn**	**06 20 07.8**	**-0.3**
KBK	**Karagaybulak**	**7.10**	**20**	P	**Pn**	**06 20 10.7**	**+0.8**
	SNR=19						
KK31	**Karatay Array**	**7.15**	**353**	P	**Pn**	**06 20 08.8**	**-1.7**
	comp=Z,18nm,0.4s,baz=178,slow=13,SNR=266						
KK31				⇓S	**Sn**	**06 21 29.5**	**-0.6**
	comp=Z,18nm,0.3s,baz=171,slow=23						
KK31	**Karatay Array**	**7.15**	**353**	PN	**Pn**	**06 20 08.8**	**-1.7**
KK31	**Karatay Array**	**7.15**	**353**	Pn	**Pn**	**06 20 08.8**	**-1.7**
KKAR	**Karatay Array**	**7.15**	**353**	PN	**Pn**	**06 20 08.8**	**-1.7**
KKAR	**Karatay Array**	**7.15**	**353**	Pn	**Pn**	**06 20 08.8**	**-1.7**
KKAR	**Karatay Array**	**7.15**	**353**		**Pn**	**06 20 08.4**	**-2.1**
ULHL	**Ulahol**	**7.16**	**28**	P	**Pn**	**06 20 11.5**	**+0.8**
	SNR=9.5						
FRU1	**Bishkek**	**7.16**	**17**	PN	**Pn**	**06 20 10.8**	**+0.2**
FRU1	**Bishkek**	**7.16**	**17**		**Pn**	**06 20 10.8**	**+0.2**
BRLS	**Borolday**	**7.17**	**349**	*e*P	Pn	06 20 05.4	-5.3
	comp=Z,9.5nm,0.6s						
BRLS				*e*S	Sn	06 21 20.8	-10
	comp=Z,21nm,0.2s						
BRLS	**Borolday**	**7.17**	**349**	*e*PN	Pn	06 20 05.4	-5.3
BOOM	**Boomskoye usch**	**7.26**	**26**	PN	**Pn**	**06 20 11.4**	**-0.7**
BOOM	**Boomskoye usch**	**7.26**	**26**		**Pn**	**06 20 11.4**	**-0.7**
CHMS	**Chumysh**	**7.37**	**18**	P	**Pn**	**06 20 13.1**	**-0.4**
	SNR=26						
TARG	**Taragay, Kyrgy**	**7.43**	**38**	Pn	**Pn**	**06 20 13.1**	**-1.5**
KDJ	**Kajisay**	**7.45**	**33**	PN	**Pn**	**06 20 14.9**	**+0.3**
KDJ	**Kajisay**	**7.45**	**33**		**Pn**	**06 20 14.9**	**+0.3**
TKM2	**Tokmak 2**	**7.53**	**22**	P	**Pn**	**06 20 16.8**	**+1.0**
	SNR=39						
TKM2	**Tokmak 2**	**7.53**	**22**	⇓P	**Pn**	**06 20 14.9**	**-0.9**
	comp=Z,18nm,0.6s						
TKM2				⇓S	**Sn**	**06 21 40.5**	**+0.9**
	comp=Z,18nm,0.8s						
USP	**Ospenovka**	**7.56**	**16**	P	**Pn**	**06 20 14.8**	**-1.3**
	SNR=6.9						
KST	**Kastek**	**7.76**	**24**	*e*P	**Pn**	**06 20 18.3**	**-0.5**
KST	**Kastek**	**7.76**	**24**	*e*PN	**Pn**	**06 20 18.3**	**-0.5**
SGDS	**Sogindy**	**7.77**	**16**	*e*P	**Pn**	**06 20 16.6**	**-2.3**
	comp=Z,14nm,1.0s,baz=15						
SGDS	**Sogindy**	**7.77**	**16**	*e*PN	**Pn**	**06 20 16.6**	**-2.3**
SGDS				pmax	pmax		
	comp=Z,14nm,1.0s						
HRA	**Herat**	**7.92**	**261**		Pn	06 20 19.4	-1.8
MDOK	**Medeo**	**8.25**	**28**	*e*P	**Pn**	**06 20 23.6**	**-1.9**
	baz=28						
MDOK	**Medeo**	**8.25**	**28**	*e*PN	**Pn**	**06 20 23.6**	**-1.9**
PRZ	**Przheval'sk**	**8.29**	**37**	PN	**Pn**	**06 20 26.2**	**+0.1**
PRZ	**Przheval'sk**	**8.29**	**37**		**Pn**	**06 20 26.1**	**+0.1**
SATY	**Saty**	**8.73**	**34**	*e*P	**Pn**	**06 20 29.6**	**-2.5**
	comp=Z,6.3nm,0.6s,baz=34						
SATY	**Saty**	**8.73**	**34**	*e*PN	**Pn**	**06 20 29.5**	**-2.5**
SATY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CHKK	**Chushkaly**	**8.82**	**26**	*e*P	**Pn**	**06 20 31.4**	**-1.8**
	baz=25						
CHKK	**Chushkaly**	**8.82**	**26**	*e*PN	**Pn**	**06 20 31.3**	**-1.8**
UZB	**Uzynbulak**	**9.09**	**36**	*e*P	**Pn**	**06 20 34.6**	**-2.4**
	comp=Z,4.6nm,0.8s,baz=36						
UZB	**Uzynbulak**	**9.09**	**36**	*e*P	**Pn**	**06 20 34.5**	**-2.4**
UZB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KPKS	**Kokpek**	**9.18**	**34**	*e*P	**Pn**	**06 20 36.0**	**-2.2**
	comp=Z,17nm,0.7s,baz=33						
KPKS	**Kokpek**	**9.18**	**34**	*e*P	**Pn**	**06 20 35.9**	**-2.2**
KPKS				pmax	pmax		
	comp=Z,17nm,0.7s						
SHLS	**Shalkode**	**9.31**	**38**	*e*P	**Pn**	**06 20 41.0**	**+1.1**
	baz=39						
SHLS	**Shalkode**	**9.31**	**38**	*e*P	**Pn**	**06 20 41.0**	**+1.1**
PDGK	**Podgornoye**	**9.45**	**37**	⇑P	**Pn**	**06 20 39.4**	**-2.4**
	comp=Z,18nm,0.8s						
PDGK	**Podgornoye**	**9.45**	**37**	P	**Pn**	**06 20 39.4**	**-2.4**
AJM	**Ajmer**	**9.82**	**164**	*e*P	**Pn**	**06 20 45.0**	**-1.8**
AJM				*i* S	Sn	06 22 28.0	-7.2
GEYT	**Alibeck**	**11.05**	**284**	P	Pn	06 20 57.8	-5.7
	comp=Z,2.6nm,0.3s,baz=113,slow=13,SNR=14						
GEYT				S	Sn	06 22 55.3	-10
	comp=Z,2.4nm,0.3s,baz=130,slow=14,SNR=3.1						
GEYT	**Alibeck**	**11.05**	**284**		Pn	06 20 58.9	-4.7
GYA0B	**ALIBECK ARRAY**	**11.05**	**284**		Pn	06 20 58.5	-5.0
PYUN	**Piuthan**	**12.38**	**126**	*e*P	**Pn**	**06 21 19.7**	**-1.8**
	comp=Z,91nm,0.3s						
PYUN	**Piuthan**	**12.38**	**126**	*e*P	**Pn**	**06 21 19.7**	**-1.8**
	comp=Z,91nm,0.3s						
KOLN	**Koldanda**	**13.00**	**126**	*e*P	**Pn**	**06 21 27.4**	**-2.3**
	comp=Z,21nm,0.4s						
KOLN	**Koldanda**	**13.00**	**126**	*e*P	**Pn**	**06 21 27.4**	**-2.3**
	comp=Z,21nm,0.4s						
MAKZ	**Makanchi**	**13.24**	**32**	⇓P	Pn	06 21 28.6	-3.9
	comp=Z,21nm,1.3s						
MAKZ	**Makanchi**	**13.24**	**32**	P	**Pn**	**06 21 30.6**	**-1.9**
MAKZ	**Makanchi**	**13.24**	**32**		**Pn**	**06 21 30.6**	**-1.9**
MK31	**Makanchi Array**	**13.37**	**33**	⇓P	**Pn**	**06 21 33.1**	**-1.1**
	comp=Z,7.9nm,0.6s,baz=219,slow=14,SNR=62						
MK31	**Makanchi Array**	**13.37**	**33**	P	**Pn**	**06 21 31.7**	**-2.5**
MK31	**Makanchi Array**	**13.37**	**33**	Pn	**Pn**	**06 21 33.6**	**-0.5**
MKAR	**Makanchi Array**	**13.37**	**33**	P	**Pn**	**06 21 32.8**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=219,slow=13,SNR=18						
MKAR	**Makanchi Array**	**13.37**	**33**	*i* P	**Pn**	**06 21 32.7**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GKN	**Gorkha**	**13.54**	**122**	*e*P	Pn	06 21 33.2	-3.5
	comp=Z,26nm,0.3s						
GKN	**Gorkha**	**13.54**	**122**	*e*P	Pn	06 21 33.2	-3.5
	comp=Z,26nm,0.3s						
DMN	**Daman**	**14.12**	**123**	*e*P	Pn	06 21 41.4	-2.8
	comp=Z,12nm,0.2s						
DMN	**Daman**	**14.12**	**123**	*e*P	Pn	06 21 41.4	-2.8
	comp=Z,12nm,0.2s						
KKN	**Kakani**	**14.12**	**122**	*e*P	Pn	06 21 40.4	-3.9
KKN	**Kakani**	**14.12**	**122**	*e*P	Pn	06 21 40.4	-3.9
PKIN	**Phulchoki**	**14.34**	**122**	*e*P	**Pn**	**06 21 45.2**	**-1.9**
PKIN	**Phulchoki**	**14.34**	**122**	*e*P	**Pn**	**06 21 45.2**	**-1.9**
PKI	**Pulchoki**	**14.35**	**122**	*e*P	**Pn**	**06 21 44.9**	**-2.4**
PKI	**Pulchoki**	**14.35**	**122**	*e*P	**Pn**	**06 21 44.9**	**-2.4**
GUN	**Gumba**	**14.46**	**120**	*e*P	Pn	06 21 45.1	-3.7
	comp=Z,41nm,0.5s						
GUN	**Gumba**	**14.46**	**120**	*e*P	Pn	06 21 45.1	-3.7
	comp=Z,41nm,0.5s						
WMQ	**Urumqi**	**14.52**	**53**	*e*P	**Pn**	**06 21 50.9**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,44nm,4.1s						
WMQ				LR	LR		
	comp=Z,470nm,23.3s						
WMQ				LR	LR		
	comp=Z,2μm,23.3s						
WMQ				LR	LR		
	comp=Z,2μm,21.7s						
JIRN	**Jiri**	**14.83**	**120**	*e*P	Pn	06 21 50.5	-3.0
	comp=Z,45nm,0.3s						
JIRN	**Jiri**	**14.83**	**120**	*e*P	Pn	06 21 50.5	-3.0
	comp=Z,45nm,0.3s						
KURBB	**Kurchatov Arra**	**15.42**	**17**	P	**Pn**	**06 21 56.2**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=14						
KURK	**Kurchatov**	**15.53**	**17**	⇑P	Pn	06 21 53.8	-7.9
	comp=Z,42nm,1.1s						
KURK	**Kurchatov**	**15.53**	**17**	*d i*P	**Pn**	**06 22 03.1**	**+1.4**
RAMN	**Ramite**	**15.56**	**121**	*e*P	**Pn**	**06 22 00.7**	**-1.9**
	comp=Z,21nm,0.4s						
RAMN	**Ramite**	**15.56**	**121**	*e*P	**Pn**	**06 22 00.7**	**-1.9**
	comp=Z,21nm,0.4s						
ABKAR	**Akbulak array**	**15.80**	**331**		**Pn**	**06 22 01.7**	**-3.5**
AB09	**Akbulak array**	**15.82**	**331**	⇓P	**Pn**	**06 22 02.0**	**-3.4**
	comp=Z,3.5nm,0.4s						
TAPN	**Taplejung**	**16.10**	**118**	*e*P	**Pn**	**06 22 07.2**	**-2.1**
TAPN	**Taplejung**	**16.10**	**118**	*e*P	**Pn**	**06 22 07.2**	**-2.1**
ODAN	**Odare**	**16.17**	**120**	*e*P	**Pn**	**06 22 07.8**	**-2.3**
	comp=Z,36nm,0.5s						
ODAN	**Odare**	**16.17**	**120**	*e*P	**Pn**	**06 22 07.8**	**-2.3**
	comp=Z,36nm,0.5s						
BANOM	**Banah**	**16.59**	**237**	*i* P	**Pn**	**06 22 14.6**	**-0.5**
	SNR=9.6						
SHME	**Shamm**	**16.62**	**238**	P	**Pn**	**06 22 15.5**	**0.0**
BVAR	**Borovoye Array**	**17.05**	**357**	P	**Pn**	**06 22 18.8**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=171,slow=19,SNR=15						
BRVK	**Borovoye**	**17.08**	**357**	P	**Pn**	**06 22 20.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BRVK	**Borovoye**	**17.08**	**357**	P	**Pn**	**06 22 20.6**	**

TORD	Torodi Ar. Bea	66.29	269	P	P	06 29 04.9	-1.6
LBTB	Lobatse	74.70	223	P	P	06 29 58.9	+1.4
LBTB				pmax	pmax		
	comp=Z,11nm,1.1s						
LBTB	Lobatse	74.70	223	P	P	06 29 58.9	+1.4
LBTB				IAmb	IAmb	06 29 59.5	
	comp=Z,11nm,1.1s						
DBIC	Dimbokro	75.26	268	P	P	06 29 59.5	-1.3
	comp=Z,1.7nm,0.6s,baz=51,slow=6.5,SNR=3.6						
DBIC	Dimbokro	75.26	268	P	P	06 30 00.0	-0.9
DBIC				pmax	pmax		
	comp=Z,22nm,1.5s						
DBIC	Dimbokro	75.26	268	P	P	06 29 60.0	-0.9
BOSA	Boshof	77.75	221	P	P	06 30 14.6	-0.1
	comp=Z,7.7nm,0.8s,baz=7.5,slow=5.9,SNR=7.1						
BOSA	Boshof	77.75	221	P	P	06 30 15.3	+0.6
BOSA				pmax	pmax		
	comp=Z,12nm,1.2s						
BOSA	Boshof	77.75	221	P	P	06 30 15.3	+0.6
BOSA				IAmb	IAmb	06 30 30.2	
	comp=Z,12nm,1.2s						
WRA	Warramunga Arr	81.23	122	P	P	06 30 34.3	+0.6
	comp=Z,4.2nm,0.9s,baz=326,slow=5.1,SNR=5.6						
ASAR	Alice Springs	83.49	125	P	P	06 30 46.3	+1.0
	comp=Z,3.2nm,1.0s,baz=313,slow=4.7,SNR=1.5						

IDC 17 06:45:37.0±1.3, 16°.48S×178°.13W, h0km, mb4.3/8, mb1 4.5/8, mb1mx4.1/45, mbtmp4.3/8, Error ellipse: s-maj=68.5km s-min=19.5km az=154.0
NEIC 17 06:46:37.5±1.5, 17°.2S±0°.4×178°.9W±0°.2, h618km±9km, mb4.3/9, Error ellipse: s-maj=54.9km s-min=16.6km az=156.0
ISC 17 06:46:36.9±1.0, 16°.7S±0°.3×179°.2W±0°.2, h600km, n26, σ1§25/26, mb4.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.84	249		P	06 47 56.0	+0.8
DZM	Mont Dzumac	14.57	246	P	P	06 49 41.5	+0.3
COEN	Coen	36.39	269	P	P	06 52 49.4	-3.0
COEN				IAmb	IAmb	06 52 52.9	
	comp=Z,9.6nm,0.9s						
STKA	Stephens Creek	38.58	240	P	P	06 53 10.2	+0.2
	comp=Z,2.3nm,0.5s,baz=96,slow=10,SNR=6.4						
JAY	Jayapura	41.89	285	P	P	06 53 36.8	+0.2
	comp=Z,45nm,1.1s,baz=180,slow=7.4,SNR=12						
JAY	Jayapura	41.89	285	P	P	06 53 36.8	+0.2
BBOO	Buckleboo	43.35	240	P	P	06 53 47.2	-0.5
BBOO				IAmb	IAmb	06 53 53.9	
	comp=Z,13nm,1.2s						
WR0	Warramunga Arr	43.95	258	P	P	06 53 54.8	+2.3
WB0	Warramunga Arr	44.10	259	P	P	06 53 54.8	+1.1
WC3	Warramunga Arr	44.11	258	P	P	06 53 55.2	+1.5
WB2	Warramunga Arr	44.13	258	P	P	06 53 54.6	+0.7
WB2				IAmb	IAmb	06 53 58.3	
	comp=Z,7.9nm,0.8s						
WRA	Warramunga Arr	44.14	258	P	P	06 53 55.8	+1.8
	comp=Z,1.7nm,0.3s,baz=89,slow=7.7,SNR=34						
WRA	Warramunga Arr	44.14	258	P	P	06 53 54.4	+0.4
AS31	Alice Springs	44.42	253		P	06 53 57.2	+1.1
AS31				IAmb	IAmb	06 53 58.9	
	comp=Z,6.2nm,0.5s						
ASAR	Alice Springs	44.42	253	P	P	06 53 58.0	+1.9
	comp=Z,20nm,0.5s,baz=88,slow=8.4,SNR=212						
ASAR	Alice Springs	44.42	253	P	P	06 53 56.7	+0.6
FORT	Forrest	49.86	244	P	P	06 54 36.1	-0.5
FITZ	Fitzroy Crossi	52.51	260	P	P	06 54 56.6	+0.7
NVAR	Mina Array Bea	79.09	44	P	P	06 57 40.9	+0.3
	comp=Z,0.5nm,0.7s,baz=227,slow=8.7,SNR=5.0						
NVAR	Mina Array Bea	79.09	44	P	P	06 57 40.9	+0.3
ILAR	Eielson Array	84.92	13	P	P	06 58 10.5	+1.4
	comp=Z,0.4nm,0.8s,baz=225,slow=5.1,SNR=1.6						
ILAR	Eielson Array	84.92	13	P	P	06 58 10.5	+1.4
TXAR	Lajitas Array	85.99	58	P	P	06 58 14.3	-0.9
	comp=Z,0.5nm,0.8s,baz=222,slow=7.0,SNR=6.8						
TXAR	Lajitas Array	85.99	58	P	P	06 58 14.3	-0.9
PDAR	Pinedale Array	87.01	44	P	P	06 58 18.9	-1.0
	comp=Z,0.3nm,0.5s,baz=216,slow=4.2,SNR=3.9						
PDAR	Pinedale Array	87.01	44	P	P	06 58 18.9	-1.0

IDC 17 06:54:48.1±1.1, 1°.99S×139°.07E, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.8/43, mbtmp3.9/8, ML4.3/3, Error ellipse: s-maj=21.0km s-min=13.1km az=19.0
DJA 17 06:54:48.2±0.7, 2°.5±6°.×13°.9E±°.1, h10km, M4.5/6, mb4.7/1, MLv4.4/6
NEIC 17 06:54:53.9±1.6, 2°.12S±0°.09×139°.01E±0°.06, h42km±9km, mb4.0/10, Error ellipse: s-maj=13.4km s-min=8.5km az=168.0
ISC 17 06:54:52.1±0.7, 2°.12S±0°.07×139°.03E±0°.04, h29km, n35, σ1§45/33, mb3.9/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.34	292	P	Pb	06 54 58.4	-1.7
SMPI				S	Sn	06 55 07.6	+0.5
GENI	Genyem	1.23	112	P	Pb	06 55 14.0	-0.9
GENI				S	Sb	06 55 33.0	+2.6
JAY	Jayapura	1.72	103	Pg	Pn	06 55 19.2	-1.1
	34nm,0.3s,baz=229,slow=11,SNR=90						
JAY				Lg	Lg	06 55 42.5	
	50nm,0.3s,baz=75,slow=21,SNR=8.4						
JAY	Jayapura	1.72	103	P	Pn	06 55 19.1	-1.1
JAY				S	Sb	06 55 42.4	-2.1
SRPI	Serui, Papua	2.79	275	P	Pn	06 55 34.6	-0.3
FAKI	Fak Fak	6.81	263	P	Pn	06 56 30.7	+0.4
FAKI	Fak Fak	6.81	263	Pn	Pn	06 56 31.3	+1.0
PMG	Port Moresby	10.85	132	Pn	Pn	06 57 26.5	+0.8
	baz=315,slow=18,SNR=1.3						
PMG	Port Moresby	10.85	132		Pn	06 57 26.9	+1.2
MTN	Manton Dam	13.21	216		Pn	06 57 57.9	0.0
KNRA	Kununurra	16.84	216	P	Pn	06 58 46.5	+0.5
BATI	Baumata	17.25	242	P	P	06 58 51.2	-1.2
	3.7nm,0.3s,baz=131,slow=16,SNR=1.3						
WB0	Warramunga Arr	18.11	194	P	Pn	06 59 02.7	+1.0
WB0				IAmb	IAmb	06 59 07.2	
	comp=Z,7.9nm,0.8s						
WR0	Warramunga Arr	18.26	194	P	Pn	06 59 05.6	+2.0
WR0				IAmb	IAmb	06 59 09.2	
	comp=Z,10nm,1.1s						
WB2	Warramunga Arr	18.29	194	P	Pn	06 59 04.8	+0.8
WB2				IAmb	IAmb	06 59 16.9	
	comp=Z,18nm,1.2s						
WRA	Warramunga Arr	18.30	194	P	Pn	06 59 04.7	+0.7
	comp=Z,1.0nm,0.3s,baz=18,slow=12,SNR=26						
WRA				S	Sn	07 02 22.8	-4.8
	comp=Z,0.1nm,0.3s,baz=352,slow=25,SNR=4.2						
WRA	Warramunga Arr	18.30	194	P	Pn	06 59 06.0	+2.1
CTA	Charters Tower	19.20	159	P	Pn	06 59 15.8	+0.8
	comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=3.6						
FITZ	Fitzroy Crossi	20.61	219	P	Pn	06 59 30.8	-0.7
	comp=Z,1.5nm,0.8s,baz=14,slow=2.6,SNR=2.4						
FITZ				S	S	07 03 16.5	-1.7
	comp=Z,3.5nm,0.8s,baz=179,slow=12,SNR=5.6						
FITZ	Fitzroy Crossi	20.61	219	P	P	06 59 29.8	+0.6
AS31	Alice Springs	21.98	193		P	06 59 45.0	+0.9
ASAR	Alice Springs	21.98	193	P	P	06 59 45.0	+1.0
	comp=Z,5.4nm,0.8s,baz=24,slow=10,SNR=32						
ASAR				S	S	07 03 44.7	-0.6
	comp=Z,0.8nm,0.9s,baz=13,slow=25,SNR=3.8						
ASAR	Alice Springs	21.98	193		P	06 59 44.4	+0.4
BBOO	Buckleboo	30.66	185	P	P	07 01 04.7	+0.5
H11S3	WAKE ISLAND Hy	34.07	52	T	T	07 37 13.4	
	baz=236,slow=75,SNR=24						
H11S2	WAKE ISLAND Hy	34.08	52	T	T	07 37 15.6	
	baz=236,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	34.09	52	T	T	07 37 13.4	
	baz=236,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	34.92	50	T	T	07 38 21.8	
	baz=232						
H11N2	WAKE ISLAND Hy	34.93	50	T	T	07 38 21.3	
	baz=232						
H11N3	WAKE ISLAND Hy	34.94	50	T	T	07 38 17.6	
	baz=232						
SONM	Songino Array	57.33	334	P	P	07 04 38.3	+0.6
	comp=Z,0.2nm,0.4s,baz=151,slow=6.6,SNR=2.6						
SONM	Songino Array	57.33	334	IAmb	IAmb	07 04 42.7	
	comp=Z,1.5nm,1.0s						
MKAR	Makanchi Array	69.52	322	P	P	07 05 57.5	-0.7
	comp=Z,1.1nm,0.9s,baz=111,slow=6.3,SNR=3.6						
VNDA	Vanda	76.33	175	P	P	07 06 38.6	+0.6
VNDA				IAmb	IAmb	07 06 47.3	
	comp=Z,1.9nm,1.1s						
ILAR	Eielson Array	85.17	24	P	P	07 07 25.4	0.0
	comp=Z,0.3nm,0.8s,baz=243,slow=5.7,SNR=1.9						

KRNET 17 06:58:50.8±0.1, 43°.06N×76°.63E, h18km, mb2.6
NNC 17 06:58:51.0±0.3, 43°.11N×76°.63E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=4.3km s-min=1.3km az=161.0
SOME 17 06:58:51.2, 43°.10N×76°.62E, h10km
ISC 17 06:58:51.0±0.8, 43°.08N±0°.02×76°.64E±0°.01, h14km±4km, n39, σ0§57/76, 20C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZV	Izvestkoviy	0.04	203	eP	Pg	06 58 53.8	-0.1
	baz=10.0						
IZV				eS	Sg	06 58 55.3	-0.5
	baz=10.0						
IZV	Izvestkoviy	0.04	203	eP	Pg	06 58 53.8	-0.1
	21nm,0.1s						
IZV				eS	Sg	06 58 55.3	-0.5
	378nm,0.1s						
IZV	Izvestkoviy	0.04	203	P	Pg	06 58 53.8	-0.1
	21nm,0.1s						
IZV				S	Sg	06 58 55.2	-0.5
	378nm,0.1s						
MTBS	Maitube	0.16	290	eP	Pg	06 58 55.0	-0.1
	baz=95						
MTBS				eS	Sg	06 58 57.9	+0.1
	baz=95						
MTBS	Maitube	0.16	290	eP	Pg	06 58 55.0	-0.1
	33nm,0.1s						
MTBS				eS	Sg	06 58 57.9	+0.1
	59nm,0.1s						
MTBS	Maitube	0.16	290	P	Pg	06 58 55.0	-0.1
	33nm,0.1s						
MTBS				S	Sg	06 58 58.0	+0.1
	89nm,0.2s						
TNSS	Tian-Shan	0.23	100	eP	Pg	06 58 56.0	-0.4
	baz=95						
TNSS				eS	Sg	06 58 59.3	-0.7
	baz=95						
TNSS	Tian-Shan	0.23	100	eP	Pg	06 58 56.0	-0.4
	12nm,0.1s						
TNSS				eS	Sg	06 58 59.3	-0.7
	26nm,0.1s						
TNSS	Tian-Shan	0.23	100	P	Pg	06 58 56.0	-0.4
	16nm,0.1s						
TNSS				S	Sg	06 58 59.4	-0.6
	61nm,0.3s						
KNDC	Almaty	0.28	60	⇑P	Pg	06 58 56.4	-0.6
	12nm,0.3s						
KNDC				⇓S	Sg	06 59 00.2	-0.8
	16nm,0.3s						
MDOK	Medeo	0.31	74	eP	Pg	06 58 57.4	-0.2
	baz=71						
MDOK				eS	Sg	06 59 01.9	-0.2
	baz=71						
MDOK	Medeo	0.31	74	eP	Pg	06 58 57.4	-0.2
	6.3nm,0.1s						
MDOK				eS	Sg	06 59 01.9	-0.2
	20nm,0.2s						
MDOK	Medeo	0.31	74	Pg	Pg	06 58 57.4	-0.2
	7.3nm,0.4s						
MDOK				Lg	Lg	06 59 02.1	
	18nm,0.2s						
KST	Kastek	0.49	266	eP	Pg	06 59 00.4	-0.4
	baz=68						
KST				eS	Sg	06 59 07.2	-0.2
	baz=68						
KST	Kastek	0.49	266	eP	Pg	06 59 00.4	-0.4
	7.7nm,0.1s						
KST				eS	Sg	06 59 07.2	-0.2
	2.7nm,0.1s						
KST	Kastek	0.49	266	P	Pg	06 59 00.4	-0.4
	7.7nm,0.2s						
KST				S	Sg	06 59 07.2	-0.2
	4.3nm,0.1s						
KTBS	Karatobe	0.64	3	eP	Pb	06 59 03.5	-0.5
	baz=3.0						
KTBS				eS	Sb	06 59 12.2	-0.6
	baz=3.0						
KTBS	Karatobe	0.64	3	eP	Pb	06 59 03.5	-0.5
	1.5nm,0.1s						
KTBS				eS	Sb	06 59 12.1	-0.6
	17nm,0.2s						
KTBS	Karatobe	0.64	3	P	Pg	06 59 03.3	-0.2
	1.3nm,0.2s						
KTBS				S	Sb	06 59 12.1	-0.6
	16nm,0.2s						
DGS	Degeres	0.65	285	eP	Pg	06 59 03.6	-0.2
	baz=86						
DGS				eS	Sg	06 59 12.3	-0.2
	baz=86						
DGS	Degeres	0.65	285	eP	Pg	06 59 03.6	-0.2
	3.4nm,0.1s						
DGS				eS	Sg	06 59 12.3	-0.2
	7.0nm,0.1s						
DGS	Degeres	0.65	285	P	Pg	06 59 03.5	-0.4
	3.0nm,0.1s						
DGS				S	Sg	06 59 12.2	-0.2
	7.9nm,0.1s						
BOOM	Boomskoye usch	0.78	221	⇑iP	Pg	06 59 05.1	-1.1
	baz=22						
BOOM				⇑iS	Sg	06 59 15.4	-1.0
	baz=22						
TKM2	Tokmak 2	0.78	259	⇑iP	Pg	06 59 05.6	-0.6
	baz=60						
TKM2				⇑iS	Sg	06 59 16.2	-0.2
	baz=60						
TKM2	Tokmak 2	0.78	259	⇑P	Pg	06 59 05.5	-0.6
	1.1nm,0.3s						
TKM2				⇑S	Sg	06 59 16.4	-0.1
	1.4nm,0.2s						
ANVS	Anan'yevo	0.81	111	⇑iP	Pg	06 59 06.5	-0.3
	baz=10.0						
ANVS				⇑iS	Sg	06 59 16.7	-0.8
	baz=10.0						
CHKK	Chushkaly	0.82	18	P	Pg	06 59 06.6	-0.3
	1.8nm,0.0s						
CHKK				S	Sb	06 59 17.7	-0.3
	16nm,0.2s						
KDJ	Kajisay	1.03	157	⇑iP	Pg	06 59 10.1	-0.8
	baz=56						
KDJ				⇑iS	Sg	06 59 23.7	-0.6
	baz=56						
CHMS	Chumysh	1.38	267	⇑iP	Pn	06 59 16.2	+0.2
	baz=68						
CHMS				⇑iS	Sb	06 59 34.5	+0.3
	baz=68						
ARXS	Arharly	1.43	37	eP	Pb	06 59 17.5	0.0
	2.9nm,0.2s						
ARXS				eS	Sg	06 59 36.3	-0.8
	12nm,0.1s						
ARXS	Arharly	1.43	37	P	Pb	06 59 17.5	0.0
	2.9nm,0.2s						
ARXS				S	Sg	06 59 36.3	-0.8
	12nm,0.1s						
PRZ	Przheval'sk	1.43	114	⇑iP	Pn	06 59 17.2	+0.5
	baz=13						
PRZ				⇑iS	Sb	06 59 36.8	+1.2
	baz=13						
KPKS	Kokpek	1.55	75	eP	Pb	06 59 19.3	-0.2
	baz=74						
KPKS				eS	Sb	06 59 39.6	+0.6
	baz=74						
KPKS	Kokpek	1.55	75	eP	Pb	06 59 19.3	-0.2
	4.4nm,0.1s						
KPKS				eS	Sb	06 59 39.6	+0.6
	3.8nm,0.1s						
AAK	Ala-Archa	1.63	255	⇑P	Pb	06 59 21.4	+0.4
	7.3nm,1.2s						
AAK				⇑S	Sg	06 59 44.2	+0.5
	3.3nm,0.9s						
UZB	Uzynbulak	1.75	87	P	Pb	06 59 22.8	-0.2
	0.6nm,0.1s						
UZB				S	Sb	06 59 45.8	+1.0
	2.1nm,0.2s						
ARLS	Aral	2.10	235	⇑iP	Pn	06 59 27.6	+1.7
	baz=36						
ARLS				⇑iS	Sb	06 59 54.5	-0.4
	baz=36						
PDGK	Podgornoye	2.10	82	⇓Pg	Pn	06 59 27.5	+1.6
	3.6nm,1.2s						
PDGK				⇑Lg	Lg	06 59 54.7	
	9.3nm,1.5s						
EKS2	Erkin-Say	2.14	260	⇓iP	Pb	06 59 28.7	-1.0
	baz=60						
EKS2				⇓iS	Sb	06 59 55.7	-0.4
	baz=60						

ECX 17 07:15:00.7±0.9, 30°.46N×114°.35W, h2km±6km, MD3.4, ML3.6
MEX 17 07:15:04.7±0.4, 30°.72N×114°.34W, h16km±6km, MD3.9
ISC 17 07:15:00.9±2.1, 30°.6N±0°.1×114°.32W±0°.05, h34km±3km, n13, σ1§00/20, 3C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.65	315	⇓eP	Pb	07 15 13.3	-0.6
SFX				eS	Sn	07 15 23.3	+0.7
SPX	San Pedro Mart	1.09	295	eP	Pn	07 15 20.3	+0.3
SPX				iS	Sn	07 15 33.1	-0.9
SPX	San Pedro Mart	1.09	295	eP	Pn	07 15 20.0	0.0
SPX				⇑e		07 15 40.0	
SPX				IAML		07 15 40.0	
	comp=E,1μm,0.5s						
ECBX	El Chinero	1.09	325	eP	Pn	07 15 20.4	+0.7
ECBX				eS	Sb	07 15 36.2	+0.9
SPIG	San Pedro Mart	1.09	296	eP	Pn	07 15 20.9	+0.8
SPIG				iS	Sn	07 15 33.2	-1.0
SPIG	San Pedro Mart	1.09	296	eP	Pn	07 15 21.3	+1.2
PIX	Pinacate	1.23	37	eP	Pn	07 15 21.6	0.0
PIX				eS	Sb	07 15 39.1	+0.1
SQX	San Quintin	1.34	270	eP	Pn	07 15 23.9	+0.7
SQX				eS	Sb	07 15 42.0	-0.5
214A	Organ Pipe Nat	1.89	43	eP	Pn	07 15 32.0	+1.3
214A				iS	Sn	07 15 52.7	-0.7
MBIG	Mexicali	1.97	338	eP	Pn	07 15 32.4	+0.6
MBIG				iS	Sn	07 15 53.6	-1.8
CPBX	Cerro Prieto	2.02	336	IAML		07 16 25.4	
	comp=E,1μm,0.6s						
CPBX				⇑e		07 16 25.4	
CPBX				e		07 16 25.6	
CPBX				IAML		07 16 25.6	
	comp=N,1μm,0.5s						
CBX	Cerro Bola	2.65	311	eP	Pn	07 15 43.0	+1.7
CBX				iS	Sn	07 16 11.9	-0.4
CBX	Cerro Bola	2.65	311	IAML		07 16 38.2	
	comp=N,522nm,0.6s						
CBX				⇓e		07 16 38.2	
CBX				⇑e		07 16 39.2	
CBX				IAML		07 16 39.2	
	comp=E,430nm,0.8s						

NNC 17 07:38:37.0±0.3, 50°.01N×78°.72E, h0km, mb3.5, mpv3.1, 9C-13D, Error ellipse: s-maj=10.2km s-min=1.7km az=79.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.59	348	⇑P	Pg	07 38 48.6	+0.2
KUR07				⇓S	Sg	07 38 57.4	+1.4
KUR06	Kurchatov Arra	0.61	348	⇑P	Pg	07 38 49.1	+0.4
KUR06				⇓S	Sg	07 38 58.0	+1.4
KUR14	Kurchatov Arra	0.61	353	⇓P	Pg	07 38 48.9	+0.1
KUR14				⇑S	Sg	07 38 57.5	+0.8
KUR15	Kurchatov Arra	0.62	351	⇑P	Pg	07 38 49.1	+0.2
KUR15				⇓S	Sg	07 38 57.6	+0.6
KURBB	Kurchatov Arra	0.63	349	⇓P	Pg	07 38 49.1	+0.1
	17nm,0.4s						
KURBB				⇓S	Sg	07 38 58.3	+1.1
	15nm,0.4s						
KUR16	Kurchatov Arra	0.64	348	⇑P	Pg	07 38 49.3	+0.1
KUR16				⇓S	Sg	07 38 57.9	+0.4
KUR17	Kurchatov Arra	0.65	346	⇓P	Pg	07 38 49.8	+0.4
KUR17				⇓S	Sg	07 38 59.1	+1.3
KUR05	Kurchatov Arra	0.65	350	⇓P	Pg	07 38 49.5	+0.1
KUR05				⇑S	Sg	07 38 58.8	+1.0
KUR04	Kurchatov Arra	0.67	351	⇓P	Pg	07 38 49.9	+0.1
KUR04				⇓S	Sg	07 38 59.6	+1.1
KURK	Kurchatov	0.71	355	⇑P	Pg	07 38 50.5	-0.2
	6.7nm,0.4s						
KURK				⇑S	Sg	07 39 01.1	+1.1
	13nm,0.5s						
MAKZ	Makanchi	3.87	145	⇑Lg	Lg	07 40 35.9	
	5.1nm,0.6s						
MK31	Makanchi Array	4.00	142	⇓Pn	Pn	07 39 41.3	+1.7
	0.1nm,0.2s,baz=322,slow=10,SNR=11						
MK31				Pg	Pg	07 39 51.0	-2.6
	0.6nm,0.4s,baz=325,slow=14,SNR=12						
MK31				Lg	Lg	07 40 44.7	
	3.1nm,0.5s,baz=329,slow=27,SNR=16						
KAPS	Kapalarasan	4.74	175	Pg	Pb	07 40 02.8	+1.8
	0.6nm,0.6s						
KAPS				Lg	Lg	07 41 06.8	
	6.5nm,0.6s						
DJR	Jarkent	5.72	172	Pg	Pg	07 40 22.2	-4.4
DJR				Lg	Lg	07 41 39.4	
ARXS	Arharly	5.83	186	Pg	Pb	07 40 23.2	+3.7
	3.1nm,0.5s						
ARXS				Lg	Lg	07 41 40.7	
	6.9nm,0.7s						
KUU	Kurty	6.33	196	Pg	Pb	07 40 31.8	+3.9
	1.0nm,0.3s						
KUU				Lg	Lg	07 41 56.3	
	5.1nm,0.6s						
DGS	Degeres	7.06	198	Pg	Pb	07 40 46.0	+5.5
	1.7nm,0.5s						
DGS				Lg	Lg	07 42 19.8	
	4.5nm,0.6s						

IDC 17 08:00:06.0±2.8, 52°.53N×35°.92E, h0km, mb1 3.4/3, mb1mx3.1/44, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=35.3km s-min=11.6km az=120.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	Obninsk	2.62	8	Pg	Pb	08 00 54.1	+0.5
	3.8nm,0.3s,baz=270,slow=4.0,SNR=3.0						
OBN				Lg	Lg	08 01 31.4	
	2.5nm,0.3s,baz=265,slow=22,SNR=2.1						
I43RU	DUBNA INFRASON	4.26	10	i		08 27 30.0	
	baz=195,slow=327,SNR=3.4						
AKASG	Malin Array Be	4.56	249	Pn	Pn	08 01 14.2	-1.9
	1.2nm,0.3s,baz=63,slow=15,SNR=2.7						
AKASG				Pg	Pb	08 01 25.0	-1.7
	2.5nm,0.3s,baz=58,slow=15,SNR=5.7						
AKASG				Sn	Sn	08 01 57.6	-12
	1.9nm,0.3s,baz=60,slow=20,SNR=4.1						
FINES	FINESS Array B	10.41	333	Pn	Pn	08 02 30.2	-6.0
	0.2nm,0.3s,baz=143,slow=14,SNR=5.8						
FINES				Sn	Sn	08 04 21.2	-12
	0.2nm,0.3s,baz=150,slow=24,SNR=2.3						
I26DE	FREYUNG INFRAS	14.53	264	i		09 36 00.0	
	baz=69,slow=317,SNR=1.4						
ARCES	ARCESS Array B	17.74	348	Pn	Pn	08 04 09.9	-4.1
	0.2nm,0.3s,baz=158,slow=9.7,SNR=6.8						
I37NO	I37NO	18.49	340	i		10 04 30.0	
	baz=141,slow=329,SNR=1.5						

DJA 17 08:07:47.3±1.6, 9°.5±7°.×12°.5E±1°.2, h10km, M3.1/5, MLv3.1/5
IDC 17 08:07:47.9±4.4, 9°.69S×125°.48E, h80km±50km, mb3.5/1, mb1 3.6/4, mb1mx3.2/38, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=50.9km s-min=14.8km az=37.0
ISC 17 08:07:44.1±1.4, 9°.5S±0°.1×125°.63E±0°.09, h35km, n8, σ2§41/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.37	258	P	Pn	08 08 07.5	+0.7
SOEI				S	Sn	08 08 21.8	-1.9
BATI	Baumata	2.06	249	P	Pn	08 08

ASAR	**Alice Springs**	**16.18**	**152**	P	**Pn**	**08 11 30.9**	**+2.0**
	0.3nm,0.3s,baz=321,slow=10,SNR=19						
ASAR				S	**Sn**	**08 14 21.7**	**-5.6**
	0.1nm,0.3s,baz=316,slow=18,SNR=5.7						
MKAR	**Makanchi Array**	**68.03**	**329**	P	**P**	**08 18 39.4**	**-0.5**
	0.6nm,0.6s,baz=132,slow=6.8,SNR=5.4						

*IDC **17** 08:39:52.7±0.8, 7°.55N×82°.40W, h0km, mb3.8/8, mb1 4.1/12, mb1mx4.0/29, mbtmp3.9/12, ML2.8/3, Error ellipse: s-maj=35.0km s-min=13.8km az=46.0*
*UPA **17** 08:39:53.9±1.4, 7°.42N×82°.39W, h25km±19km, MW4.7*
*UCR **17** 08:39:54.5±1.6, 7°.48N×82°.63W, h5km, MD4.4, mb4.3(NEIC)*
*NEIC **17** 08:39:54.6±1.7, 7°.51N±0°.10×82°.41W±0°.08, h10km±1km, mb4.3/33, Error ellipse: s-maj=18.3km s-min=10.4km az=208.0*

ISC 17 08:39:53.6±1.5, 7°.53N±0°.05×82°.37W±0°.03, h7km±9km, n140, σ1.977/161, mb4.2/22, 26C-6D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR3	**Chiriqui UPA,**	**0.86**	**3**	⇑*iP*	**Pg**	**08 40 10.4**	**+0.2**
DVD	**David**	**0.91**	**355**	⇓*iP*	**Pg**	**08 40 11.0**	**-0.1**
DVD				*eS*	**Sn**	**08 40 24.5**	**-1.7**
PVID3	**Puerto Vidal,**	**0.92**	**55**	⇓*iP*	**Pb**	**08 40 10.8**	**-1.0**
PVID3				*eS*	**Sg**	**08 40 20.8**	**-2.4**
GMAL	**Guarumal, Vera**	**1.15**	**78**	⇑*eP*	**Pn**	**08 40 13.1**	**-3.1**
GMAL				*eS*	**Sb**	**08 40 29.8**	**-1.3**
RSUS3	**Rio de Jesus,**	**1.28**	**69**	⇓*iP*	**Pn**	**08 40 16.0**	**-2.1**
RSUS3				*eS*	**Sb**	**08 40 33.1**	**-1.8**
BRU2	**Volcan**	**1.30**	**346**	⇑*iP*	**Pn**	**08 40 16.8**	**-1.6**
BRU2				*eS*	**Sg**	**08 40 35.9**	**+0.4**
BRU2	**Volcan**	**1.30**	**346**	⇑*eP*	**Pn**	**08 40 16.8**	**-1.6**
BRU2				*eS*	**Sg**	**08 40 36.9**	**+1.5**
PTJ1	**Puerto Jimnez**	**1.36**	**318**	*eP*	**Pn**	**08 40 17.5**	**-1.6**
PTJ1				*eS*	**Sb**	**08 40 34.7**	**-2.4**
PTJ1	**Puerto Jimnez**	**1.36**	**318**	⇑*iP*	**Pn**	**08 40 17.6**	**-1.6**
MARI3	**Mariato, Verag**	**1.38**	**85**	⇓*iP*	**Pn**	**08 40 17.5**	**-1.7**
MARI3				*eS*	**Sn**	**08 40 37.9**	**+0.2**
EDSV	**San Vito**	**1.42**	**335**	⇑*iP*	**Pn**	**08 40 18.7**	**-1.3**
PONU3	**Ponuga, Veragu**	**1.43**	**75**	*eP*	**Pn**	**08 40 18.6**	**-1.4**
PONU3				*eS*	**Sn**	**08 40 35.1**	**-4.0**
STIA3	**Santiago, Vera**	**1.50**	**68**	⇓*iP*	**Pn**	**08 40 19.3**	**-1.7**
STIA3				*eS*	**Sn**	**08 40 37.5**	**-3.4**
CACAO	**El Cacao, Vera**	**1.51**	**97**	⇓*iP*	**Pn**	**08 40 18.6**	**-2.5**
CACAO				*eS*	**Sn**	**08 40 37.5**	**-3.5**
SFRA3	**San Francisco,**	**1.56**	**63**	⇑*eP*	**Pn**	**08 40 20.5**	**-1.4**
SFRA3				*eS*	**Sn**	**08 40 41.0**	**-1.3**
RIOS	**Rincon, Osa**	**1.62**	**316**	⇑*iP*	**Pn**	**08 40 20.5**	**-2.2**
PESE3	**Pese, Herrera**	**1.79**	**78**	*eP*	**Pn**	**08 40 23.8**	**-1.1**
PESE3				*eS*	**Sn**	**08 40 46.7**	**-1.2**
EDPN	**Palmar Norte**	**1.79**	**323**	⇑*iP*	**Pn**	**08 40 23.5**	**-1.4**
EDPN				*eS*	**Sn**	**08 40 45.9**	**-2.0**
EDBA	**Buenos Aires**	**1.86**	**331**	⇑*iP*	**Pn**	**08 40 25.6**	**-0.4**
TOSI3	**Tonosi**	**1.92**	**93**	*eP*	**Pn**	**08 40 24.6**	**-2.2**
TOSI3				*eS*	**Sg**	**08 40 59.1**	**+3.7**
DRK0	**Durika**	**1.93**	**333**	⇑*iP*	**Pn**	**08 40 26.0**	**-1.0**
DRK0				*eS*	**Sn**	**08 40 47.3**	**-4.5**
DRK0	**Durika**	**1.93**	**333**	⇑*eP*	**Pn**	**08 40 26.1**	**-1.0**
RGM0	**Gandoca**	**2.06**	**354**	⇑*iP*	**Pn**	**08 40 29.6**	**+0.9**
RGM0				*eS*	**Sg**	**08 40 59.9**	**-0.2**
RGM0	**Gandoca**	**2.06**	**354**	⇑*iP*	**Pb**	**08 40 30.0**	**-1.5**
RGM0				*eS*	**Sg**	**08 40 58.6**	**-1.4**
AZU	**Azuero**	**2.10**	**83**	*eP*	**Pn**	**08 40 28.0**	**-1.2**
AZU				*eS*	**Sn**	**08 40 53.0**	**-2.6**
EDLM	**Las Mercedes**	**2.12**	**325**	⇑*iP*	**Pn**	**08 40 28.7**	**-0.8**
EDLM				*eS*	**Sb**	**08 40 56.5**	**-2.5**
PCRI3	**Pocri, Los San**	**2.24**	**86**	*eP*	**Pn**	**08 40 30.6**	**-0.6**
PNME	**Penonome**	**2.24**	**65**	*eP*	**Pn**	**08 40 30.5**	**-0.7**
PNME				*eS*	**Sn**	**08 40 55.0**	**-4.1**
PEZE	**Perez Zeledon,**	**2.25**	**325**	⇑*iP*	**Pn**	**08 40 30.4**	**-1.0**
PEZE				*eS*	**Sn**	**08 40 58.5**	**-1.1**
CDM	**Cerro de Muert**	**2.44**	**326**	⇑*iP*	**Pn**	**08 40 33.5**	**-0.8**
RIMA	**Rio Macho**	**2.67**	**327**	⇑*iP*	**Pn**	**08 40 36.3**	**-1.0**
LCR2	**La Lucha 2**	**2.73**	**324**	⇑*iP*	**Pn**	**08 40 37.5**	**-0.6**
SJS	**Escuela Geolog**	**2.92**	**325**	*eP*	**Pn**	**08 40 39.9**	**-0.7**
BCIP	**Isla Barro Col**	**2.99**	**57**	*eP*	**Pn**	**08 40 42.0**	**+0.5**
BCIP				*eS*	**Sb**	**08 41 23.6**	**-0.5**
BCIP				*i*		08 41 30.6	
	comp=Z,312nm,0.5s						
BCIP	**Isla Barro Col**	**2.99**	**57**	*eP*	**Pn**	**08 40 43.3**	**+1.8**
BCIP				*eS*	**Sb**	**08 41 22.8**	**-1.3**
BCIP	**Isla Barro Col**	**2.99**	**57**	Pn	**Pn**	**08 40 42.8**	**+1.3**
HDC	**Heredia**	**3.00**	**325**	⇑*iP*	**Pn**	**08 40 41.6**	**-0.2**
HDC				*eS*	**Sn**	**08 41 18.1**	**0.0**
HDC	**Heredia**	**3.00**	**325**	⇑*iP*	**Pn**	**08 40 41.5**	**-0.3**
HDC	**Heredia**	**3.00**	**325**	Pn	**Pn**	**08 40 42.3**	**+0.5**
UPA	**Univ. de Panam**	**3.16**	**63**	*eP*	**Pn**	**08 40 45.9**	**+2.1**
UPA				*eS*	**Sn**	**08 41 23.4**	**+1.6**
SRA1	**San Ramn**	**3.29**	**321**	*eP*	**Pn**	**08 40 43.9**	**-1.8**
LAFE	**Finca La Fe, P**	**3.38**	**312**	⇑*iP*	**Pn**	**08 40 45.1**	**-1.8**
CEDE	**Laguna Cedeo**	**3.74**	**322**	*eP*	**Pn**	**08 40 53.0**	**+1.2**
JTS	**Las Juntas de**	**3.75**	**317**	Pn	**Pn**	**08 40 50.6**	**-1.4**
	comp=Z,58nm,0.3s,baz=225,slow=3.3,SNR=192						
JTS				Sn	**Sn**	**08 41 33.4**	**-3.0**
	comp=Z,13nm,0.3s,baz=127,slow=23,SNR=5.8						
JTS				Lg	Lg	08 41 51.2	
	baz=46,slow=22,SNR=1.3						
JTS	**Las Juntas de**	**3.75**	**317**	⇑*eP*	**Pn**	**08 40 50.4**	**-1.6**
COVE	**Coope Vega, Sa**	**3.75**	**328**	*eP*	**Pn**	**08 40 51.5**	**-0.5**
DUNO	**Dulce Nombre,**	**3.99**	**310**	⇑*eP*	**Pn**	**08 40 54.0**	**-1.3**
GRZA	**Playa Garza**	**4.01**	**307**	*eP*	**Pn**	**08 40 54.1**	**-1.3**
GUAI	**GUAI**	**4.13**	**312**	*iP*	**Pn**	**08 40 56.6**	**-0.6**
ORTG	**Ortega, Santa**	**4.15**	**313**	⇑*iP*	**Pn**	**08 40 56.9**	**-0.6**
HORNC	**Hornillas**	**4.21**	**319**	*iP*	**Pn**	**08 40 58.5**	**+0.2**
LIM1	**Limonal**	**4.25**	**318**	*iP*	**Pn**	**08 40 59.2**	**+0.3**
GPS2	**Hotel Rincn d**	**4.35**	**318**	*iP*	**Pn**	**08 41 00.6**	**+0.3**
LAPC	**Finca la Perla**	**4.42**	**317**	*iP*	**Pn**	**08 41 01.2**	**0.0**
BUEV	**Buena Vista**	**4.42**	**318**	*eP*	**Pn**	**08 41 01.1**	**-0.2**
UPD2	**Meteti**	**4.43**	**76**	*eS*	**Sb**	**08 42 07.3**	**+1.7**
HZTE	**Horizontes, Gu**	**4.49**	**315**	*eP*	**Pn**	**08 41 02.2**	**+0.1**
ESPN	**Las Esperanzas**	**5.01**	**338**		**Pn**	**08 41 09.8**	**+0.4**
CAPC	**Capurgana**	**5.09**	**77**	*eP*	**Pn**	**08 41 11.8**	**+1.4**
CAPC				*i*		08 42 19.0	
	comp=Z,16nm,0.7s						
SOLC	**Bahia Solano**	**5.09**	**104**	*eP*	**Pn**	**08 41 07.1**	**-3.3**
ACON	**Acoyapa**	**5.21**	**328**		**Pn**	**08 41 11.2**	**-0.8**
BOAB	**BOACO BROADBAN**	**5.87**	**327**		**Pn**	**08 41 21.0**	**-0.1**
PRVC	**Isla de Provid**	**5.90**	**10**	*eP*	**Pn**	**08 41 20.7**	**-0.8**
DBBC	**Dabeiba**	**6.13**	**94**	*eP*	**Pn**	**08 41 23.9**	**-1.0**
MATN	**Matagalpa**	**6.41**	**327**		**Pn**	**08 41 29.1**	**+0.5**
CBOC	**Ciudad Bolivar**	**6.53**	**104**	*eP*	**Pn**	**08 41 28.8**	**-1.6**
CBOC				*eS*	Sn	08 42 36.2	-9.1
CBOC				*i*		08 42 44.0	
	comp=Z,8.7nm,0.4s						
MOTC	**Monteria, Cord**	**6.76**	**79**	*eP*	**Pn**	**08 41 35.7**	**+2.4**
UREC	**San Jos de Ur**	**6.78**	**88**	*eP*	**Pn**	**08 41 33.6**	**-0.1**
HELC	**Santa Helena**	**6.92**	**101**	*eP*	**Pn**	**08 41 35.4**	**-0.5**
HELC				*eS*	**Sn**	**08 42 48.3**	**-7.0**
YOTC	**Yotoco, Valle**	**6.95**	**120**	*eP*	**Pn**	**08 41 33.6**	**-2.5**
GUY2C	**Guyana, Caldas**	**7.33**	**108**	*eP*	**Pn**	**08 41 40.2**	**-1.4**
ZARC	**Zaragoza, Cauc**	**7.45**	**90**	*eP*	**Pn**	**08 41 41.8**	**-1.1**
BBAC	**Balboa, Cauca**	**7.48**	**137**	*eP*	**Pn**	**08 41 42.4**	**-1.0**
BBAC				*eS*	**Sn**	**08 43 01.9**	**-6.9**
BBAC				*i*		08 43 20.1	
	comp=Z,5.2nm,0.3s						
SJCC	**San Jacinto, C**	**7.49**	**71**	*eP*	**Pn**	**08 41 43.0**	**-0.4**
POPC	**Popayan, Colom**	**7.53**	**131**	*eP*	**Pn**	**08 41 44.3**	**+0.2**
TOLC	**Tolima**	**7.60**	**112**	*eP*	**Pn**	**08 41 45.1**	**-0.1**
NORC	**Norcasia**	**7.71**	**104**	*eP*	**Pn**	**08 41 46.8**	**+0.4**
PCON	**Cinco Dias**	**7.88**	**131**	*eP*	**Pn**	**08 41 49.5**	**+0.3**
PTBC	**PUERTO BERRIO,**	**7.92**	**97**	*eP*	**Pn**	**08 41 46.2**	**-3.1**
ORTC	**Ortega, Tolima**	**7.95**	**116**	*eP*	Pn	08 41 45.6	-4.1
GCUF	**Volcan Galeras**	**8.02**	**141**	*eP*	**Pn**	**08 41 50.2**	**-0.9**
SMLC	**San Martn de**	**8.31**	**81**	*eP*	**Pn**	**08 41 54.0**	**-0.7**
PRAC	**Prado**	**8.36**	**117**	*eP*	**Pn**	**08 41 55.8**	**+0.4**
ROSC	**El Rosal**	**8.44**	**108**	Pn	**Pn**	**08 41 58.2**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=312,slow=20,SNR=1.9						
ROSC	**El Rosal**	**8.44**	**108**		**Pn**	**08 41 57.5**	**+0.8**
SPBC	**San Pablo de B**	**8.45**	**102**	*eP*	Pn	08 41 47.1	-10
BRRC	**Barranca, Sant**	**8.60**	**92**	*eP*	Pn	08 41 53.7	-5.0
FLOC	**Florencia**	**8.93**	**131**	⇑*eP*	**Pn**	**08 42 04.9**	**+1.8**
OCAC	**Ocana**	**9.00**	**85**	*eP*	**Pn**	**08 42 04.1**	**-0.1**
CHIC	**Chingaza**	**9.06**	**108**	*eP*	**Pn**	**08 42 07.0**	**+1.7**
VILC	**Villavicencio,**	**9.28**	**111**	*eP*	**Pn**	**08 42 11.6**	**+3.5**
RUSC	**La Rusia**	**9.37**	**99**	*eP*	**Pn**	**08 42 08.3**	**-1.3**
ESQI	**Esquipulas**	**9.78**	**316**	Pn	**Pn**	**08 42 16.8**	**+1.9**
APG	**El Apazote**	**10.87**	**314**	Pn	**Pn**	**08 42 28.9**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=110,slow=15,SNR=2.3						
MTDJ	**Mount Denham**	**11.63**	**23**	Pn	**Pn**	**08 42 41.6**	**+1.3**
SDV	**Santo Domingo**	**11.70**	**83**	Pn	**Pn**	**08 42 42.2**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=303,slow=17,SNR=1.8						
SDV				Sn	**Sn**	**08 44 58.2**	**+5.8**
	comp=Z,0.4nm,0.3s,baz=148,slow=23,SNR=1.9						
SDV	**Santo Domingo**	**11.70**	**83**		**Pn**	**08 42 43.1**	**+1.8**
SDDR	**Presa de Saban**	**15.68**	**42**	P	**Pn**	**08 43 37.6**	**+2.4**
PTGA	**Pitinga**	**23.80**	**109**	P	**P**	**08 45 08.1**	**+0.7**
PTGA				IAmb	IAmb	08 45 08.4	
	comp=Z,5.2nm,0.8s						
SAML	**Samuel**	**25.17**	**130**	P	**P**	**08 45 18.7**	**-1.2**
LPAZ	**La Paz**	**27.54**	**149**	P	**P**	**08 45 42.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=326,slow=12,SNR=6.0						
LPAZ	**La Paz**	**27.54**	**149**	IAmb	IAmb	08 45 42.8	
	comp=Z,2.2nm,1.1s						
TXAR	**Lajitas Array**	**29.53**	**320**	P	**P**	**08 45 58.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=123,slow=8.8,SNR=9.7						
TXAR				PcP	**PcP**	**08 49 05.9**	**+1.5**
	comp=Z,0.1nm,0.6s,baz=142,slow=4.6,SNR=1.4						
H06E1	**SOCORRO T-PHAS**	**29.92**	**295**	T	T	09 17 26.4	
	SNR=7.8						
MNTX	**Cornudas Mount**	**32.23**	**321**	P	**P**	**08 46 23.2**	**+0.5**
MNTX				IAmb	IAmb	08 46 23.7	
	comp=Z,2.9nm,1.0s						
ANMO	**Albuquerque**	**35.14**	**324**	P	**P**	**08 46 48.1**	**-0.2**
SDCO	**Great Sand Dun**	**36.67**	**329**	P	**P**	**08 47 01.3**	**-0.2**
MVCO	**Mesa Verde**	**37.90**	**325**	P	**P**	**08 47 11.3**	**-0.6**
MVCO				IAmb	IAmb	08 47 14.0	
	comp=Z,6.9nm,1.2s						
PV13	**Radium Mtn., P**	**38.75**	**326**	P	**P**	**08 47 19.3**	**+0.2**
PV13				IAmb	IAmb	08 47 21.6	
	comp=Z,6.9nm,1.2s						
PV03	**Paradox Valley**	**38.84**	**326**	P	**P**	**08 47 20.2**	**+0.5**
PV03				IAmb	IAmb	08 47 22.2	
	comp=Z,8.0nm,1.3s						
PV12	**Saucer Basin,**	**38.85**	**326**	P	**P**	**08 47 20.3**	**+0.4**
PV12				IAmb	IAmb	08 47 22.1	
	comp=Z,12nm,1.3s						
W13A	**Hualapai Mount**	**39.86**	**318**	P	**P**	**08 47 29.1**	**+0.8**
W13A				IAmb	IAmb	08 47 31.1	
	comp=Z,5.6nm,1.1s						
SRU	**San Rafael Swe**	**40.37**	**325**	P	**P**	**08 47 31.5**	**-0.9**
SHPR	**Sheep Range**	**41.53**	**319**	P	**P**	**08 47 41.7**	**-0.3**
SHPR				IAmb	IAmb	08 47 44.5	
	comp=Z,5.6nm,1.2s						
PDAR	**Pinedale Array**	**42.48**	**330**	P	**P**	**08 47 49.1**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=111,slow=8.1,SNR=4.7						
PDAR				PcP	**PcP**	**08 49 43.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=111,slow=2.0,SNR=1.9						
PDAR	**Pinedale Array**	**42.48**	**330**	P	**P**	**08 47 47.9**	**-2.0**
HWUT	**Hardware Ranch**	**42.68**	**327**	P	**P**	**08 47 51.1**	**-0.2**
R11A	**Troy Canyon, C**	**42.89**	**321**	P	**P**	**08 47 54.1**	**+0.9**
SPUT	**South Promonto**	**42.95**	**326**	P	**P**	**08 47 54.4**	**+0.8**
TPH	**Tonopah**	**43.77**	**319**	P	**P**	**08 48 01.4**	**+1.1**
NV11	**Mina Array Sit**	**44.58**	**319**	P	**P**	**08 48 07.4**	**+0.7**
NV11				IAmb	IAmb	08 48 09.6	
	comp=Z,9.6nm,1.2s						
NVAR	**Mina Array Bea**	**44.68**	**319**	P	**P**	**08 48 07.9**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=127,slow=7.1,SNR=29						
NVAR	**Mina Array Bea**	**44.68**	**319**	P	**P**	**08 48 08.3**	**+0.7**
OMMB	**Old Mammoth Mi**	**44.69**	**318**	P	**P**	**08 48 08.2**	**+0.5**
OMMB				IAmb	IAmb	08 48 10.7	
	comp=Z,8.7nm,1.3s						
LHV	**Little Huntoon**	**44.71**	**319**	P	**P**	**08 48 09.1**	**+1.6**
KVN	**Kaiserville**	**44.90**	**320**	P	**P**	**08 48 10.8**	**+1.5**
KVN				IAmb	IAmb	08 48 11.6	
	comp=Z,6.7nm,1.3s						
RYN	**Ryan**	**44.93**	**319**	IAmb	IAmb	08 48 12.1	
	comp=Z,11nm,1.4s						
PAHR	**Pah Rah Range**	**46.09**	**320**	P	**P**	**08 48 20.3**	**+1.6**
PAHR				IAmb	IAmb	08 48 25.6	
	comp=Z,6.2nm,1.3s						
ORV	**Oroville**	**47.38**	**318**	P	**P**	**08 48 30.6**	**+2.0**
KMRM	**Mail Ridge**	**49.18**	**318**	P	**P**	**08 48 44.8**	**+2.2**
PLCA	**Paso Flores**	**49.24**	**168**	P	**P**	**08 48 43.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=354,slow=10.0,SNR=6.8						
PLCA	**Paso Flores**	**49.24**	**168**	IAmb	IAmb	08 48 43.2	
	comp=Z,2.3nm,0.8s						
H04A	**Detroit Lake**	**50.62**	**324**	IAmb	IAmb	08 48 55.0	
	comp=Z,3.9nm,0.8s						
BCAR	**Beaver Creek A**	**69.78**	**335**	P	**P**	**08 51 05.1**	**+0.6**
ILAR	**Eielson Array**	**72.52**	**336**	P	**P**	**08 51 20.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=111,slow=4.9,SNR=15						
ESDC	**Sonseca Array**	**76.32**	**51**	P	**P**	**08 51 44.1**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=270,slow=6.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**82.58**	**78**	P	**P**	**08 52 17.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=291,slow=8.1,SNR=4.1						
H01W1	**Cape Leeuwin H**	**148.81**	**207**	T	T	11 46 40.3	
	baz=143,slow=76,SNR=49						
H01W2	**Cape Leeuwin H**	**148.81**	**207**	T	T	11 46 39.5	
	baz=143,slow=76,SNR=38						
H01W3	**Cape Leeuwin H**	**148.83**	**207**	T	T	11 46 41.6	
	baz=143,slow=76,SNR=52						

WEL 17 08:42:28.9, 41°.S±1°.×17°.3E±°, h5km±1km, M2.9/16, ML3.1/16, MLv2.9/16, Error ellipse: s-maj=0.0km s-min=0.0km az=39.9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.16**	**331**	P	Pg	08 42 33.7	+1.6
QRZ				S	Sg	08 42 35.9	+1.7
NNZ	**Nelson**	**0.62**	**114**	P	Pb	08 42 42.2	0.0
NNZ				S	Sb	08 42 51.6	+0.4
THZ	**Tophouse**	**0.82**	**166**	P	Pb	08 42 45.7	-0.1
THZ				S	Sb	08 42 57.4	+0.2
DUWZ	**D'Urville Isla**	**0.99**	**81**	P	Pb	08 42 48.9	+0.3
DUWZ				S	Sb	08 43 02.3	+0.4
DSZ	**Denniston Nort**	**1.00**	**218**	P	Pb	08 42 49.0	+0.3
DSZ				S	Sb	08 43 02.4	+0.2
TUWZ	**Tuamarina**	**1.09**	**116**	P	Pb	08 42 50.4	+0.1
BSWZ	**Blackbirch Sta**	**1.20**	**129**	P	Pn	08 42 53.2	+0.9
TCW	**Tory Channel**	**1.27**	**102**	P	Pn	08 42 53.5	+0.3
TCW				S	Sn	08 43 10.7	+0.1
CMWZ	**Cape Campbell**	**1.43**	**124**	P	Pg	08 42 58.3	+2.1
KHZ	**Kahutara**	**1.60**	**155**	P	Pg	08 43 00.8	+1.2
WEL	**Wellington**	**1.65**	**102**	P	Pg	08 43 01.3	+0.8
WEL				S	Sg	08 43 22.7	+0.9
KIW	**Kapiti Island**	**1.73**	**87**	P	Pg	08 43 01.8	-0.2
KIW				S	Sg	08 43 24.1	-0.4
BHW	**Baring Head**	**1.75**	**105**	P	Pg	08 43 02.2	-0.1
LTZ	**Lake Taylor**	**1.84**	**188**	P	Pb	08 43 03.1	+0.1
CAW	**Cannon Point**	**1.85**	**95**	P	Pg	08 43 03.7	-0.6
OGWZ	**Otaki Gorge**	**1.93**	**86**	P	Pg	08 43 05.9	0.0
NBEZ	**Newall Road No**	**1.94**	**30**	P	Pn	08 43 03.4	+0.9
INZ	**Inchbonnie**	**1.97**	**206**	P	Pn	08 43 03.9	+1.0
KHEZ	**Kahui Hut**	**1.98**	**33**	P	Pn	08 43 04.1	+1.0
PREZ	**Palmer Road**	**2.00**	**36**	P	Pb	08 43 05.0	-0.7
LREZ	**Lake Rotokare**	**2.02**	**43**	P	Pg	08 43 07.5	-0.1
GVZ	**Greta Valley S**	**2.02**	**172**	P	Pb	08 43 06.5	+0.3
MSWZ	**Moikau Station**	**2.03**	**104**	P	Pb	08 43 06.3	+0.1
NEZ	**North Egmont**	**2.03**	**34**	P	Pn	08 43 05.0	+1.2
PKE	**Pukeiti**	**2.05**	**31**	P	Pn	08 43 05.1	+1.1
PLWZ	**Palliser**	**2.07**	**108**	P	Pb	08 43 06.6	-0.3
PAWZ	**Paruwai Farm**	**2.15**	**102**	P	Pb	08 43 07.6	-0.7
WAZ	**Wanganui**	**2.17**	**57**	P	Pb	08 43 07.3	-1.3
HOWZ	**Holdsworth Sta**	**2.19**	**89**	P	Pb	08 43 08.8	-0.1
MRZ	**Mangatainoka R**	**2.26**	**83**	P	Pb	08 43 10.2	+0.1
OXZ	**Oxford**	**2.40**	**190**	P	Pb	08 43 11.1	-1.5
VRZ	**Vera Road**	**2.46**	**42**	P	Pn	08 43 10.6	+1.0
TMWZ	**Te Maipa**	**2.47**	**94**	P	Pg	08 43 15.0	-1.2
TIWZ	**Tintock**	**2.47**	**87**	P	Pb	08 43 12.8	-1.1
WVZ	**Waitaha Valley**	**2.54**	**213**	P	Pn	08 43 12.4	+1.6
PKVZ	**Pokaka**	**2.67**	**52**	P	Pn	08 43 14.3	+1.7
MHCZ	**Mount Hutt**	**2.69**	**197**	P	Pn	08 43 14.2	+1.4
TSZ	**Takapari Road**	**2.69**	**71**	P	Pn	08 43 15.2	+2.3
WNVZ	**Wahianoa**	**2.80**	**55**	P	Pb	08 43 17.0	-2.5
FWVZ	**Far West T-bar**	**2.82**	**54**	P	Pn	08 43 16.7	+2.0
TUVZ	**Tukino**	**2.87**	**55**	P	Pn	08 43 17.7	+2.3
NGZ	**Ngauruhoe**	**2.90**	**53**	P	Pn	08 43 18.0	+2.2
PNHZ	**Pukenui**	**2.92**	**70**	P	Pb	08 43 20.0	-1.4
WTVZ	**West Tongariro**	**2.93**	**52**	P	Pb	08 43 20.6	-1.0
ETVZ	**East Tongariro**	**2.99**	**53**	P	Pn	08 43 19.8	+2.7
HIZ	**Hauiti**	**2.99**	**36**	P	Pn	08 43 17.3	+0.3
BHHZ	**Black Hill Sta**	**3.01**	**62**	P	Pb	08 43 21.5	-1.5
KRHZ	**Kereru**	**3.15**	**66**	P	Pb	08 43 24.5	-0.9
FOZ	**Fox Glacier**	**3.31**	**218**	P	Pn	08 43 22.0	+0.7
TLZ	**Tolley Road**	**3.46**	**41**	P	Pn	08 43 24.3	+0.8
BKZ	**Black Stump Fm**	**3.46**	**60**	P	Pb	08 43 28.2	-2.5
KMRZ	**Kaimai**	**4.03**	**41**	P	Pb	08 43 39.8	-0.7
AWAZ	**Awhitu Peninsu**	**4.20**	**23**	P	Pn	08 43 34.2	+0.7
JCZ	**Jackson Bay**	**4.21**	**221**	P	Pn	08 43 35.5	+1.6
HHSZ	**Highcliff Hill**	**5.14**	**196**	P	Pn	08 43 51.9	+5.5
WCZ	**Waipu Caves**	**5.19**	**16**	P	Pn	08 43 47.4	+0.1

*SOME **17** 08:57:01.2, 42°.45N×80°.77E, h0km*
*KRNET **17** 08:57:01.6±0.1, 42°.51N×80°.88E, h17km, mb2.6*

ISC 17 08:57:04.3±2.6, 42°.63N±0°.07×80°.7E±0°.1, h9km±14km, n11, σ2.947/20, 6C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.07**	**300**	*eP*	Pn	08 57 20.1	-5.4
	baz=12						
SHLS				*eS*	**Sb**	**08 57 33.9**	**-5.2**
	baz=12						
SHLS	**Shalkode**	**1.07**	**300**	*eP*	Pn	08 57 20.1	-5.5
	10nm,0.2s						
SHLS				*eS*	**Sb**	**08 57 33.9**	**-5.2**
	30nm,0.2s						
UZB	**Uzynbulak**	**1.35**	**293**	*eP*	**Pn**	**08 57 29.2**	**-0.3**
	baz=95						
UZB				*eS*	**Sg**	**08 57 49.7**	**+1.9**
	baz=95						
UZB	**Uzynbulak**	**1.35**	**293**	*eP*	**Pn**	**08 57 29.1**	**-0.3**
	1.3nm,0.2s						
UZB				*eS*	**Sg**	**08 57 49.6**	**+1.9**
	3.8nm,0.1s						
KPKS	**Kokpek**	**1.71**	**300**	*eP*	**Pb**	**08 57 35.5**	**-0.4**
	14nm,0.3s						
KPKS				*eS*	**Sb**	**08 57 59.9**	**+2.2**
	14nm,0.2s						
PRZ	**Przheval'sk**	**1.72**	**266**	⇓*iP*	**Pb**	**08 57 35.4**	**-0.8**
	baz=70						
PRZ				⇓*iS*	**Sg**	**08 57 59.6**	**0.0**
	baz=70						
DJR	**Jarkent**	**1.83**	**339**	*eP*	**Pg**	**08 57 39.0**	**-0.5**
	1.6nm

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.91**	**72**	*i* P	**Pb**	**09 49 22.2**	**-1.1**
HAKT				*i* S	**Sn**	**09 49 37.9**	**0.0**
MSL	**Mosul**	**0.97**	**156**	*e*Pg	**Pn**	**09 49 24.0**	**-1.0**
	baz=342						
MSL				*e*Sg	**Sn**	**09 49 38.0**	**-0.9**
MSL				AML	AML	09 49 44.0	
	comp=N,238nm,0.6s						
MSL				AML	AML	09 49 45.1	
	comp=E,233nm,0.6s						
AKDM	**Akdamar-Van**	**1.08**	**16**	PG	**Pg**	**09 49 25.2**	**-0.5**
AKDM				SG	**Sn**	**09 49 41.1**	**-0.8**
GEVA	**Gevas**	**1.08**	**19**	*i* P	**Pg**	**09 49 24.7**	**-1.1**
GEVA				*i* S	**Sn**	**09 49 41.1**	**-0.9**
BLIS	**Bitlis-Merkez**	**1.19**	**341**	*i* P	**Pb**	**09 49 27.1**	**-0.9**
BTMN	**Batman**	**1.22**	**300**	*i* P	**Pg**	**09 49 29.2**	**+0.7**
BTMN				*i* S	**Sn**	**09 49 48.3**	**+3.0**
BTMN				IAML		09 49 49.0	
	comp=N,258nm,0.9s						
BTMN				IAML		09 49 49.0	
	comp=E,222nm,0.8s						
GURO	**Guroymak-BITLI**	**1.34**	**340**	PN	**Pb**	**09 49 30.2**	**-0.3**
GURO				SN	**Sg**	**09 49 49.6**	**+1.4**
YOVA	**Hakkari_Yksek**	**1.37**	**77**	*i* P	**Pg**	**09 49 30.9**	**-0.4**
YOVA				IAML		09 49 55.0	
	comp=N,79nm,0.5s						
YOVA				IAML		09 49 55.0	
	comp=E,86nm,0.5s						
YOVA				*i* S	**Sg**	**09 49 55.1**	**+6.0**
SVAN	**Silvan-Diyarba**	**1.41**	**308**	PN	**Pb**	**09 49 31.3**	**-0.4**
SVAN				SN	**Sg**	**09 49 51.3**	**+0.8**
MARD	**Mardin**	**1.46**	**272**	*i* P	**Pg**	**09 49 32.8**	**-0.2**
MARD				*i* S	**Sg**	**09 49 54.4**	**+2.4**
MARD				IAML		09 49 56.0	
	comp=E,376nm,0.8s						
MARD				IAML		09 49 57.0	
	comp=N,388nm,0.5s						
MAZI	**Mazidag**	**1.73**	**276**	PN	**Pb**	**09 49 36.2**	**-1.0**
DYBB	**Diyarbakir**	**2.07**	**289**	PN	**Pn**	**09 49 40.6**	**+0.4**
DIYA	**Diyarbakir**	**2.08**	**289**	*i* P	**Pb**	**09 49 43.1**	**+0.1**
DIYA				*i* S	**Sb**	**09 50 07.5**	**-1.5**
DIYA				IAML		09 50 23.0	
	comp=E,54nm,0.7s						
DIYA				IAML		09 50 43.0	
	comp=N,41nm,0.4s						
AGRB	**Hanur-Agry**	**2.30**	**7**	PN	**Pn**	**09 49 44.0**	**+0.5**
SANL	**SANLIURFA_Merk**	**2.89**	**269**	*i* P	**Pg**	**09 49 59.4**	**-1.0**
SANL				*i* S	**Sg**	**09 50 41.6**	**+3.7**
PTK	**Pertek**	**3.00**	**303**	PN	**Pn**	**09 49 54.6**	**+1.5**
URFA	**Urfa**	**3.02**	**274**	PN	**Pn**	**09 49 54.2**	**+0.9**
ELZG	**Elazig**	**3.11**	**294**	*i* P	**Pn**	**09 49 54.3**	**-0.3**
ELZG				*i* S	**Sg**	**09 50 45.8**	**+0.8**
ELZG				IAML		09 50 56.0	
	comp=N,18nm,0.9s						
ELZG				IAML		09 50 56.0	
	comp=E,27nm,0.8s						
SURC	**SANLIURFA_SURC**	**3.22**	**264**	*i* P	**Pb**	**09 50 01.9**	**-0.6**
SURC				*i* S	**Sg**	**09 50 47.3**	**-1.2**

*IDC **17** 09:51:38.5±2.2, 13°.77N×91°.39W, h50km±19km, mb3.5/7, mb1 3.9/9, mb1mx3.6/42, mbtmp3.8/9, ML4.6/3, MS3.5/2, Ms1 3.5/2, ms1mx3.1/23, Error ellipse: s-maj=20.4km s-min=12.8km az=71.0*

*NEIC **17** 09:51:38.1±1.5, 13°.76N±0°.07×91°.32W±0°.04, h57km±9km, mb4.3/60, Error ellipse: s-maj=11.8km s-min=1.8km az=206.0*

*SNET **17** 09:51:39.2±1.1, 13°.86N×91°.11W, h13km±3km, ML4.4*

*INET **17** 09:51:39.0, 13°.65N×91°.04W, h0km, ML4.3*

*UCR **17** 09:51:39.2±1.0, 13°.86N×91°.11W, h12km±5km, ML4.3, mb4.3(NEIC)*

ISC 17 09:51:38.2±0.8, 13°.84N±0°.06×91°.29W±0°.05, h50km±7km, n171, σ0°.99/206, mb4.2/25, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.79**	**330**		**Pn**	**09 51 53.4**	**+0.3**
RTAL					**Sn**	**09 52 06.2**	**+2.2**
APG	**El Apazote**	**1.41**	**34**	P	**Pn**	**09 52 02.8**	**+1.1**
	184nm,0.3s,baz=201,slow=14,SNR=664						
APG				S	Sn	09 52 22.5	+3.2
	118nm,0.3s,baz=192,slow=18,SNR=22						
NUBE	**Las Nubes**	**1.47**	**87**	*e*P	**Pn**	**09 52 02.1**	**-0.3**
NUBE				*e*S	**Sn**	**09 52 19.9**	**-0.7**
NUBE				IAML		09 52 22.3	
	comp=Z,2μm,0.1s						
NUBE	**Las Nubes**	**1.47**	**87**	*e*P	**Pn**	**09 52 02.1**	**-0.3**
NUBE				*e*S	**Sn**	**09 52 19.9**	**-0.7**
NUBE				IAML		09 52 22.3	
	comp=Z,2μm,0.1s						
HUEH	**Huehuetenango**	**1.49**	**352**		**Pn**	**09 52 04.4**	**+1.6**
HUEH					**Sn**	**09 52 24.8**	**+3.6**
RTR	**El Retiro**	**1.60**	**88**	*e*P	**Pn**	**09 52 04.3**	**+0.1**
RTR	**El Retiro**	**1.60**	**88**	*e*P	**Pn**	**09 52 04.3**	**+0.1**
CEVE	**Cerro Verde**	**1.62**	**90**	*e*P	**Pn**	**09 52 04.7**	**+0.2**
CEVE				*e*S	**Sn**	**09 52 24.9**	**+0.4**
CEVE				IAML		09 52 31.3	
	comp=Z,16μm,0.5s						
CEVE	**Cerro Verde**	**1.62**	**90**	*e*P	**Pn**	**09 52 04.7**	**+0.2**
CEVE				*e*S	**Sn**	**09 52 24.9**	**+0.4**
CEVE				IAML		09 52 31.3	
	comp=Z,16μm,0.5s						
SBLS	**San Blas**	**1.62**	**90**	*e*P	**Pn**	**09 52 04.8**	**+0.3**
SBLS	**San Blas**	**1.62**	**90**	*e*P	**Pn**	**09 52 04.8**	**+0.3**
SNJE	**San Jose**	**1.64**	**89**	*e*P	**Pn**	**09 52 04.9**	**+0.1**
SNJE	**San Jose**	**1.64**	**89**	*e*P	**Pn**	**09 52 04.9**	**+0.1**
UNIC	**Universidad Ca**	**1.70**	**85**	*e*P	**Pn**	**09 52 06.0**	**+0.5**
UNIC				*e*S	**Sn**	**09 52 26.5**	**+0.4**
UNIC	**Universidad Ca**	**1.70**	**85**	*e*P	**Pn**	**09 52 06.0**	**+0.5**
UNIC				*e*S	**Sn**	**09 52 26.5**	**+0.4**
CEDA	**San Andres**	**1.84**	**91**	*e*P	**Pn**	**09 52 07.7**	**+0.3**
CEDA				*e*S	**Sn**	**09 52 30.5**	**+0.9**
CEDA				IAML		09 52 50.0	
	comp=Z,6μm,0.5s						
CEDA	**San Andres**	**1.84**	**91**	*e*P	**Pn**	**09 52 07.7**	**+0.3**
CEDA				*e*S	**Sn**	**09 52 30.5**	**+0.9**
CEDA				IAML		09 52 50.0	
	comp=Z,6μm,0.5s						
BOQS	**Boqueron**	**1.96**	**93**	*e*P	**Pn**	**09 52 09.5**	**+0.4**
BOQS				*e*S	**Sn**	**09 52 33.5**	**+0.9**
BOQS	**Boqueron**	**1.96**	**93**	*e*P	**Pn**	**09 52 09.5**	**+0.4**
BOQS				*e*S	**Sn**	**09 52 33.5**	**+0.9**
QUEZ	**Alcaldia de Qu**	**1.96**	**90**	*e*P	**Pn**	**09 52 09.6**	**+0.6**
QUEZ				*e*S	**Sn**	**09 52 33.4**	**+0.9**
ITCA	**Escuela Especi**	**1.96**	**94**	*e*P	**Pn**	**09 52 09.8**	**+0.7**
ITCA				*e*S	**Sn**	**09 52 32.6**	**0.0**
ITCA	**Escuela Especi**	**1.96**	**94**	*e*P	**Pn**	**09 52 09.8**	**+0.7**
ITCA				*e*S	**Sn**	**09 52 32.6**	**0.0**
UEES	**Universidad Ev**	**2.00**	**93**	*e*P	**Pn**	**09 52 10.0**	**+0.4**
UEES	**Universidad Ev**	**2.00**	**93**	*e*P	**Pn**	**09 52 10.0**	**+0.4**
SNET	**Serv Nac Est T**	**2.01**	**94**	*e*P	**Pn**	**09 52 09.7**	**0.0**
SNET				*e*S	**Sn**	**09 52 33.8**	**+0.1**
SNET				IAML		09 52 37.8	
	comp=Z,4μm,0.2s						
SNET	**Serv Nac Est T**	**2.01**	**94**	*e*P	**Pn**	**09 52 09.7**	**0.0**
SNET				*e*S	**Sn**	**09 52 33.8**	**+0.1**
SNET				IAML		09 52 37.8	
	comp=Z,4μm,0.2s						
SNET	**Serv Nac Est T**	**2.01**	**94**		**Pn**	**09 52 10.1**	**+0.4**
SEMO	**Seminario San**	**2.01**	**93**	*e*P	**Pn**	**09 52 09.9**	**+0.2**
ESQI	**Esquipulas**	**2.02**	**69**		**Pn**	**09 52 10.2**	**+0.2**
ESQI				Sn	**Sn**	**09 52 36.9**	**+2.7**
UESS	**Universidad de**	**2.03**	**93**	*e*P	**Pn**	**09 52 10.8**	**+0.8**
UESS	**Universidad de**	**2.03**	**93**	*e*P	**Pn**	**09 52 10.8**	**+0.8**
UTEC	**Universidad Te**	**2.04**	**94**	*e*P	**Pn**	**09 52 10.6**	**+0.6**
UTEC	**Universidad Te**	**2.04**	**94**	*e*P	**Pn**	**09 52 10.6**	**+0.6**
IGN	**Direccin Gen**	**2.06**	**93**	*e*P	**Pn**	**09 52 11.2**	**+0.8**
IGN				*e*P	**Pn**	**09 52 11.2**	**+0.8**
IGN				*e*S	**Sn**	**09 52 36.3**	**+1.3**
IGN	**Direccin Gen**	**2.06**	**93**	*e*P	**Pn**	**09 52 11.2**	**+0.8**
IGN				*e*P	**Pn**	**09 52 11.2**	**+0.8**
IGN				*e*S	**Sn**	**09 52 36.3**	**+1.3**
UDBS	**Universidad Do**	**2.08**	**93**	*e*P	**Pn**	**09 52 11.3**	**+0.7**
UDBS	**Universidad Do**	**2.08**	**93**	*e*P	**Pn**	**09 52 11.3**	**+0.7**
AEIL	**Aeropuerto Ilo**	**2.12**	**93**	*e*P	**Pn**	**09 52 12.6**	**+1.4**
AEIL				IAML		09 52 46.6	
	comp=Z,10μm,0.5s						
AEIL	**Aeropuerto Ilo**	**2.12**	**93**	*e*P	**Pn**	**09 52 12.6**	**+1.4**
AEIL				IAML		09 52 46.6	
	comp=Z,10μm,0.5s						
LFU	**La Fuente**	**2.12**	**92**	*e*P	**Pn**	**09 52 12.3**	**+1.1**
LFU				*e*S	**Sn**	**09 52 37.4**	**+1.1**
LFU	**La Fuente**	**2.12**	**92**	*e*P	**Pn**	**09 52 12.3**	**+1.1**
LFU				*e*S	**Sn**	**09 52 37.4**	**+1.1**
LFRS	**El Faro**	**2.18**	**95**	*e*P	**Pn**	**09 52 12.6**	**+0.5**
LFRS	**El Faro**	**2.18**	**95**	*e*P	**Pn**	**09 52 12.6**	**+0.5**
LBRS	**Las Brisas**	**2.19**	**92**	*e*P	**Pn**	**09 52 13.0**	**+0.9**
LBRS	**Las Brisas**	**2.19**	**92**	*e*P	**Pn**	**09 52 13.0**	**+0.9**
PAVA	**Las Pavas**	**2.29**	**93**	*e*P	**Pn**	**09 52 14.2**	**+0.6**
PAVA				IAML		09 52 55.5	
	comp=Z,2μm,0.6s						
PAVA	**Las Pavas**	**2.29**	**93**	*e*P	**Pn**	**09 52 14.2**	**+0.6**
PAVA				IAML		09 52 55.5	
	comp=Z,2μm,0.6s						
COEG	**Centro de Oper**	**2.35**	**95**	*e*P	**Pn**	**09 52 15.2**	**+0.8**
COEG				IAML		09 52 54.8	
	comp=Z,4μm,0.5s						
COEG	**Centro de Oper**	**2.35**	**95**	*e*P	**Pn**	**09 52 15.2**	**+0.8**
COEG				IAML		09 52 54.8	
	comp=Z,4μm,0.5s						
CCIG	**Comitan**	**2.57**	**342**		**Pn**	**09 52 20.1**	**+2.6**
COEB	**Comit de Eme**	**2.70**	**97**	*e*P	**Pn**	**09 52 19.8**	**+0.5**
COEB				IAML		09 53 06.7	
	comp=Z,2μm,0.4s						
COEB	**Comit de Eme**	**2.70**	**97**	*e*P	**Pn**	**09 52 19.8**	**+0.5**
COEB				IAML		09 53 06.7	
	comp=Z,2μm,0.4s						
TECA	**Tecapa**	**2.73**	**97**	*e*P	**Pn**	**09 52 20.3**	**+0.5**
TECA				*e*S	**Sn**	**09 52 52.6**	**+0.9**
TECA	**Tecapa**	**2.73**	**97**	*e*P	**Pn**	**09 52 20.3**	**+0.5**
TECA				*e*S	**Sn**	**09 52 52.6**	**+0.9**
PACA	**Pacayal**	**2.91**	**97**	*e*P	**Pn**	**09 52 23.6**	**+1.5**
PACA	**Pacayal**	**2.91**	**97**	*e*P	**Pn**	**09 52 23.6**	**+1.5**
RANC	**El Ranchito**	**2.95**	**97**	*e*P	**Pn**	**09 52 23.8**	**+1.2**
RANC	**El Ranchito**	**2.95**	**97**	*e*P	**Pn**	**09 52 23.8**	**+1.2**
VSM	**San Miguel**	**2.96**	**98**	*e*P	**Pn**	**09 52 24.2**	**+1.3**
VSM	**San Miguel**	**2.96**	**98**	*e*P	**Pn**	**09 52 24.2**	**+1.3**
BLLM	**Bellamira**	**2.99**	**97**	*e*P	**Pn**	**09 52 24.4**	**+1.2**
BLLM				*e*S	**Sn**	**09 52 58.5**	**+0.6**
BLLM	**Bellamira**	**2.99**	**97**	*e*P	**Pn**	**09 52 24.4**	**+1.2**
BLLM				*e*S	**Sn**	**09 52 58.5**	**+0.6**
LCND	**La Caada**	**3.35**	**99**	*e*P	**Pn**	**09 52 28.5**	**+0.5**
LCND				IAML		09 53 17.1	
	comp=Z,1μm,0.4s						
LCND	**La Caada**	**3.35**	**99**	*e*P	**Pn**	**09 52 28.5**	**+0.5**
LCND				IAML		09 53 17.1	
	comp=Z,1μm,0.4s						
PETF	**Flores**	**3.36**	**24**	*e*P	**Pn**	**09 52 29.5**	**+1.4**
PETF	**Flores**	**3.36**	**24**		**Pn**	**09 52 29.6**	**+1.4**
CNCH	**Conchagua**	**3.41**	**99**	*e*P	**Pn**	**09 52 29.4**	**+0.4**
CNCH	**Conchagua**	**3.41**	**99**	*e*P	**Pn**	**09 52 29.4**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.91**	**86**	Pn	**Pn**	**09 52 36.1**	**+0.3**
CRIN	**San Cristobal**	**4.28**	**105**	Pn	**Pn**	**09 52 42.0**	**+1.1**
CRIN				Sn	**Sn**	**09 53 31.1**	**+1.5**
MATN	**Matagalpa**	**5.30**	**99**		**Pn**	**09 52 55.0**	**+0.1**
MATN				Sn	**Sn**	**09 53 55.4**	**+0.7**
BOAB	**BOACO BROADBAN**	**5.65**	**103**	Pn	**Pn**	**09 52 59.7**	**0.0**
ACON	**Acoyapa**	**6.25**	**107**		**Pn**	**09 53 08.1**	**+0.3**
HZTE	**Horizontes, Gu**	**6.37**	**119**	*e*P	**Pn**	**09 53 11.6**	**+2.1**
BUEV	**Buena Vista**	**6.49**	**117**	*e*P	**Pn**	**09 53 12.8**	**+1.5**
ORTG	**Ortega, Santa**	**6.67**	**121**	*e*P	**Pn**	**09 53 15.4**	**+1.7**
GRZA	**Playa Garza**	**6.77**	**125**	*e*P	**Pn**	**09 53 16.5**	**+1.5**
DUNO	**Dulce Nombre,**	**6.79**	**123**	*e*P	**Pn**	**09 53 16.6**	**+1.4**
TEIG	**Tepich**	**6.98**	**24**	P	**Pn**	**09 53 18.3**	**+0.5**
	comp=Z,36nm,0.3s,baz=190,slow=14,SNR=236						
TEIG				S	**Sn**	**09 54 37.7**	**+1.8**
	baz=227,slow=22,SNR=1.2						
TEIG	**Tepich**	**6.98**	**24**	Pn	**Pn**	**09 53 19.1**	**+1.3**
TEIG					**Sn**	**09 54 37.1**	**+1.2**
ESPN	**Las Esperanzas**	**7.00**	**103**		**Pn**	**09 53 18.9**	**+0.7**
JTS	**Las Juntas de**	**7.13**	**119**	P	**Pn**	**09 53 21.8**	**+1.8**
	comp=Z,5.6nm,0.3s,baz=349,slow=16,SNR=30						
JTS				S	**Sn**	**09 54 42.1**	**+2.4**
	comp=Z,2.5nm,0.3s,baz=356,slow=21,SNR=1.3						
JTS	**Las Juntas de**	**7.13**	**119**	*e*P	**Pn**	**09 53 22.0**	**+2.0**
JTS	**Las Juntas de**	**7.13**	**119**	Pn	**Pn**	**09 53 21.1**	**+1.1**
LAFE	**Finca La Fe, P**	**7.42**	**122**	*e*P	**Pn**	**09 53 25.4**	**+1.5**
TLIG	**Tlapa**	**7.93**	**299**	Pn	**Pn**	**09 53 31.1**	**+0.1**
TLIG				Sn	**Sn**	**09 55 00.2**	**+0.9**
RIMA	**Rio Macho**	**8.32**	**118**	*e*P	**Pn**	**09 53 39.0**	**+2.5**
CDM	**Cerro de Muert**	**8.51**	**119**	*e*P	**Pn**	**09 53 42.1**	**+2.9**
MOIG	**Morelia**	**11.12**	**303**	Pn	**Pn**	**09 54 15.3**	**+0.6**
ZAIG	**Zacatecas**	**13.91**	**311**	Pn	**Pn**	**09 54 53.8**	**+0.9**
MTDJ	**Mount Denham**	**13.92**	**70**	Pn	**Pn**	**09 54 53.4**	**+0.5**
553A	**Crawfordville**	**17.46**	**20**	P	**P**	**09 55 38.8**	**0.0**
344A	**Westbrook Farm**	**17.54**	**2**	P	**P**	**09 55 39.7**	**0.0**
344A				IAmb	IAmb	09 55 46.5	
	comp=Z,42nm,1.2s						
346A	**Big Creek Wild**	**17.55**	**5**	P	**P**	**09 55 39.7**	**0.0**
VBMS	**Vicksburg**	**18.31**	**2**	P	**Pn**	**09 55 48.8**	**+0.3**
VBMS				IAmb	IAmb	09 56 04.2	
	comp=Z,22nm,0.8s						
JCT	**Junction City**	**18.33**	**336**	P	**Pn**	**09 55 49.5**	**+0.7**
250A	**Grady**	**18.64**	**13**	P	**Pn**	**09 55 52.0**	**-0.5**
WHTX	**Lake Whitney,**	**18.93**	**344**	P	**Pn**	**09 55 55.6**	**-0.4**
TX31	**Lajitas Ar. Si**	**19.22**	**325**	P	**Pn**	**09 55 59.6**	**0.0**
TX32	**Lajitas Array**	**19.22**	**325**	P	**Pn**	**09 55 59.8**	**+0.2**
TXAR	**Lajitas Array**	**19.22**	**325**	P	**Pn**	**09 56 00.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=32						
TXAR				PcP	**PcP**	**10 00 20.1**	**0.0**
	comp=Z,0.0nm,0.3s,baz=159,slow=3.9,SNR=3.4						
TXAR				LR	LR	10 04 24.7	
	comp=Z,134nm,18.4s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**19.22**	**325**	P	**Pn**	**09 55 59.1**	**-0.4**
Z47A	**Carrollton**	**19.50**	**8**	P	**Pn**	**09 56 01.5**	**-1.2**
Z47A				IAmb	IAmb	09 56 06.7	
	comp=Z,15nm,0.9s						
LRAL	**Lakeview Retre**	**19.51**	**11**		**Pn**	**09 56 01.9**	**-1.0**
LRAL				IAmb	IAmb	09 56 07.0	
	comp=Z,10nm,1.0s						
152A	**Waverly Hall**	**19.68**	**17**	P	**Pn**	**09 56 04.0**	**-1.0**
152A				IAmb	IAmb	09 56 10.4	
	comp=Z,8.7nm,0.4s						
ABTX	**Abilene, Hawle**	**20.20**	**339**	P	**P**	**09 56 08.6**	**-0.3**
Y49A	**Blount Mountai**	**20.42**	**12**	P	Pn	09 56 12.4	-1.3
Y49A				IAmb	IAmb	09 56 35.4	
	comp=Z,6.7nm,0.8s						
SDV	**Santo Domingo**	**20.84**	**101**	P	Pn	09 56 18.4	-0.6
	comp=Z,1.3nm,0.4s,baz=292,slow=16,SNR=2.0						
SDV				LR	LR	10 04 36.5	
	comp=Z,118nm,21.1s,baz=52,slow=37						
GDL2	**Guadalupe Moun**	**21.85**	**329**	P	**P**	**09 56 27.0**	**+0.4**
MNTX	**Cornudas Mount**	**21.98**	**326**	P	**P**	**09 56 28.4**	**+0.4**
MNTX				IAmb	IAmb	09 56 30.5	
	comp=Z,13nm,0.9s						
U40A	**Yellville**	**22.47**	**357**	P	**P**	**09 56 32.8**	**-0.4**
MSTX	**Muleshoe**	**22.59**	**334**	P	**P**	**09 56 34.4**	**-0.2**
MSTX				IAmb	IAmb	09 56 36.5	
	comp=Z,5.9nm,0.8s						
CLTN	**Cedars of Leba**	**22.61**	**10**	P	**P**	**09 56 35.0**	**+0.4**
TKL	**Tuckaleechee C**	**22.76**	**16**	P	**P**	**09 56 35.7**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=179,slow=11,SNR=9.1						
AMTX	**Amarillo**	**22.96**	**338**	P	**P**	**09 56 38.9**	**+0.5**
AMTX				IAmb	IAmb	09 56 40.5	
	comp=Z,6.6nm,0.9s						
121A	**Cookes Peak, D**	**23.95**	**324**	P	**P**	**09 56 47.5**	**-0.5**
121A				IAmb	IAmb	09 56 53.7	
	comp=Z,16nm,1.3s						
U54A	**Nelsons Funny**	**24.13**	**19**	P	**P**	**09 56 49.2**	**-0.3**
R40A	**Maddies Statio**	**24.37**	**358**	P	**P**	**09 56 51.3**	**-0.3**
BNM	**Barren Site**	**24.54**	**328**	P	**P**	**09 56 53.9**	**+0.4**
ANMO	**Albuquerque**	**25.09**	**330**	P	**P**	**09 56 59.2**	**+0.9**
X16A	**Lo Mia Camp, P**	**27.43**	**322**	P	**P**	**09 57 18.4**	**-1.1**
WUAZ	**Wupatki**	**28.16**	**324**	P	**P**	**09 57 25.3**	**-0.7**
WUAZ				IAmb	IAmb	09 57 30.2	
	comp=Z,5.5nm,0.9s						
PV12	**Saucer Basin,**	**28.91**	**331**	P	**P**	**09 57 34.1**	**+1.4**
PV12				IAmb	IAmb	09 57 36.7	
	comp=Z,3.7nm,0.8s						
AAM	**Ann Arbor**	**29.12**	**12**	P	**P**	**09 57 33.5**	**-0.7**
AAM				IAmb	IAmb	09 57 52.0	
	comp=Z,10nm,1.0s						
FDF	**Fort de France**	**29.21**	**85**	P	**P**	**09 57 34.4**	**-1.0**
KNB	**Kanab**	**30.04**	**324**	P	**P**	**09 57 41.2**	**-1.5**
LCMT	**Little Creek M**	**30.28**	**324**	P	**P**	**09 57 44.0**	**-0.8**
MTPU	**Mount Pierson**	**30.42**	**326**	P	**P**	**09 57 45.5**	**-0.7**
BRNJ	**Basking Ridge**	**30.49**	**26**	P	**P**	**09 57 45.6**	**-0.7**
SZCU	**Shurtz Canyon**	**30.60**	**325**	P	**P**	**09 57 47.1**	**-0.6**
CCUT	**Cedar City**	**30.72**	**324**	P	**P**	**09 57 47.4**	**-1.4**
KSPA	**Keystone Colle**	**30.75**	**23**	P	**P**	**09 57 48.1**	**-0.5**
KSPA				IAmb	IAmb	09 57 53.2	
	comp=Z,8.7nm,1.3s						
MSU	**Marysvale**	**30.76**	**327**	P	**P**	**09 57 49.1**	**0.0**
BBGH	**Gun Hill**	**30.85**	**87**	P	**P**	**09 57 48.0**	**-1.9**
I49A	**Point Hope**	**30.87**	**12**	P	**P**	**09 57 49.0**	**-0.7**
SHPR	**Sheep Range**	**31.08**	**321**	P	**P**	**09 57 51.0**	**-0.9**
PSUT	**Pine Spring**	**31.69**	**325**	P	**P**	**09 57 55.9**	**-1.4**
TCUT	**Toone Canyon**	**32.35**	**331**	P	**P**	**09 58 01.9**	**-1.2**
HWUT	**Hardware Ranch**	**32.81**	**331**	P	**P**	**09 58 06.8**	**-0.2**
HWUT				IAmb	IAmb	09 58 09.4	
	comp=Z,3.2nm,0.9s						
PDAR	**Pinedale Array**	**32.86**	**335**	P	**P**	**09 58 07.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=140,slow=13,SNR=3.0						
PDAR				ScP	**ScP**	**10 04 32.4**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=153,slow=6.1,SNR=2.5						
PDAR	**Pinedale Array**	**32.86**	**335**	P	**P**	**09 58 06.4**	**-1.0**
SPUT	**South Promonto**	**33.00**	**330**	P	**P**	**09 58 08.2**	**-0.5**
REDW	**Red Top Meadow**	**33.89**	**334**	P	**P**	**09 58 15.8**	**-0.6**
REDW				IAmb	IAmb	09 58 18.1	
	comp=Z,8.2nm,1.3s						
REDW				pP	**pP**	**09 58 29.1**	**-0.4**
SNOW	**Snow King Moun**	**33.93**	**334**	P	**P**	**09 58 16.9**	**0.0**
SNOW				IAmb	IAmb	09 58 19.2	
	comp=Z,4.2nm,0.8s						
LOHW	**Long Hollow**	**33.99**	**335**	P	**P**	**09 58 16.5**	**-0.7**
TPAW	**Teton Pass**	**34.03**	**334**	P	**P**	**09 58 17.1**	**-0.7**
TPAW				IAmb	IAmb	09 58 18.1	
	comp=Z,2.7nm,1.1s						
NV11	**Mina Array Sit**	**34.14**	**321**	P	**P**	**09 58 17.9**	**-0.7**
NV11				IAmb	IAmb	09 58 21.6	
	comp=Z,7.1nm,1.2s						
NVAR	**Mina Array Bea**	**34.23**	**321**	P	**P**	**09 58 21.3**	**+1.9**
	comp=Z,2.3nm,0.8s,baz=135,slow=8.4,SNR=18						
NVAR				PcP	**PcP**	**10 00 55.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=131,slow=3.4,SNR=4.4						
NVAR				ScP	**ScP**	**10 04 37.7**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=144,slow=5.2,SNR=2.9						
NVAR	**Mina Array Bea**	**34.23**	**321**	P	**P**	**09 58 18.4**	**-1.1**
MDPB	**Devils Postpil**	**34.24**	**319**	P	**P**	**09 58 19.0**	**-0.5**
MDPB				IAmb	IAmb	09 58 22.3	
	comp=Z,8.1nm,1.5s						
LHV	**Little Huntoon**	**34.25**	**320**	P	**P**	**09 58 18.3**	**-1.0**
LHV				IAmb	IAmb	09 58 22.2	
	comp=Z,2.7nm,0.8s						
GCMT	**Greycliff**	**35.44**	**338**	P	**P**	**09 58 28.8**	**-0.9**
GCMT				pP	**pP**	**09 58 40.4**	**-2.4**
HLID	**Hailey**	**35.65**	**331**	P	**P**	**09 58 31.3**	**-0.3**
HLID				IAmb	IAmb	09 58 33.5	
	comp=Z,3.5nm,1.2s						
J08A	**Circle Bar Ran**	**37.55**	**327**	P	**P**	**09 58 47.0**	**-0.7**
I07A	**Izee**	**38.59**	**327**	P	**P**	**09 58 55.4**	**-1.1**
I07A				IAmb	IAmb	09 58 57.2	
	comp=Z,2.8nm,1.0s						
F10A	**Beach Ranch, E**	**38.79**	**331**	P	**P**	**09 58 58.0**	**0.0**
PINE	**Pine Mountain**	**39.18**	**325**	P	**P**	**09 59 01.2**	**-0.2**
PINE				IAmb	IAmb	09 59 02.4	
	comp=Z,4.2nm,1.0s						
H04A	**Detroit Lake**	**40.44**	**326**	P	**P**	**09 59 12.1**	**+0.4**
C09A	**Chrisman Ranch**	**40.62**	**332**	P	**P**	**09 59 13.8**	**+0.7**
LON	**Longmire**	**41.59**	**328**	P	**P**	**09 59 21.5**	**+0.4**
LON				IAmb	IAmb	09 59 22.2	
	comp=Z,4.1nm,0.8s						
SIV	**San Ignacio**	**42.08**	**134**	P	**P**	**09 59 25.7**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=328,slow=13,SNR=5.3		

comp=Z,2.9nm,0.2s
FLYU Flymyra 3.24 301 P **Pn 09 57 33.5 +0.9**
VIKU Vikbolandet 3.53 272 P **Pn 09 57 37.1 +0.5**
KAF Kangasniemi 3.83 21 *e*P **Pn 09 57 41.5 +0.8**
KAF MSG 09 58 39.4
comp=Z,1.0nm,0.1s
IGGU Iggoen 3.86 309 P **Pn 09 57 41.6 +0.5**
ARNU Arnoeviken 4.35 319 P **Pn 09 57 48.1 +0.2**
NOA NORSAR Array B 6.64 297 Pn **Pn 09 58 18.3 -1.1**
comp=Z,0.0nm,0.3s,baz=112,slow=13,SNR=7.6
NOA Sn **Sn 09 59 34.3 -1.4**
comp=Z,0.0nm,0.3s,baz=265,slow=18,SNR=1.4
ARCES ARCESS Array B 11.04 4 Pn **Pn 09 59 17.7 -1.9**
comp=Z,0.1nm,0.3s,baz=181,slow=15,SNR=7.1

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*DJA **17** 09:57:28.4±0.7,2°S±5°×13°9E±°, h11km±4km, M4.4/6, mb4.4/6, MLv4.4/6*
*IDC **17** 09:57:28.7±0.5, 1°89S×139°15E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/46, mbtmp4.1/17, ML4.1/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/43, Error ellipse: s-maj=16.5km s-min=10.7km az=46.0*
*NEIC **17** 09:57:32.6±1.5, 1°92S±0°08×139°17E±0°04, h35km±2km, mb4.5/42, Error ellipse: s-maj=15.1km s-min=5.8km az=199.0*
ISC 17 09:57:32.1±0.4, 1°88S±0°06×139°14E±0°04, h29km, n91, σ1°05/88, mb4.4/33, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.45**	**256**	P	**Pb**	**09 57 40.0**	**-1.7**
GENI	**Genyem**	**1.24**	**125**	P	**Pn**	**09 57 53.9**	**+0.3**
GENI				S	**Sb**	**09 58 11.4**	**+0.8**
JAY	**Jayapura**	**1.68**	**112**	Pg	**Pn**	**09 57 59.1**	**-0.6**
	43nm,0.3s,baz=247,slow=8.6,SNR=83						
JAY				Lg	Lg	09 58 20.5	
	90nm,0.3s,baz=123,slow=21,SNR=9.0						
JAY	**Jayapura**	**1.68**	**112**	P	**Pn**	**09 57 59.0**	**-0.6**
JAY				S	**Sb**	**09 58 22.7**	**-0.6**
SRPI	**Serui, Papua**	**2.90**	**270**	P	**Pn**	**09 58 16.2**	**-0.2**
SRPI				S	**Sn**	**09 58 51.0**	**+0.6**
FAKI	**Fak Fak**	**6.96**	**261**	P	**Pn**	**09 59 12.5**	**+0.2**
	0.2nm46nm,1.1s						
FAKI				S	**Sn**	**10 00 30.6**	**0.0**
	0.2nm46nm,1.1s						
FAKI	**Fak Fak**	**6.96**	**261**		**Pn**	**09 59 12.6**	**+0.2**
FAKI				Sn	**Sn**	**10 00 32.8**	**+2.2**
COEN	**Coen**	**12.64**	**162**	Pn	**Pn**	**10 00 29.4**	**-0.7**
KRVT	**Keravat (AS076**	**13.09**	**101**	LR	LR	10 05 13.9	
	comp=Z,351nm,18.8s,baz=282,slow=36						
MTN	**Manton Dam**	**13.47**	**216**	Pn	**Pn**	**10 00 41.3**	**-0.2**
GUMO	**Guam**	**16.39**	**20**	P	**P**	**10 01 22.1**	**-0.8**
SOEI	**Soe**	**16.73**	**242**	P	**Pn**	**10 01 25.7**	**+1.0**
	52nm,0.9s						
SOEI	**Soe**	**16.73**	**242**	P	**Pn**	**10 01 26.1**	**+1.4**
KNRA	**Kununurra**	**17.11**	**216**		**Pn**	**10 01 28.9**	**-0.3**
KNRA				IAmb	IAmb	10 01 39.0	
	comp=Z,21nm,0.9s						
WB0	**Warramunga Arr**	**18.37**	**194**	P	**P**	**10 01 43.2**	**-1.6**
WR0	**Warramunga Arr**	**18.52**	**194**	P	**P**	**10 01 46.1**	**-0.3**
WRAB	**Tennant Creek**	**18.54**	**194**	P	**P**	**10 01 46.6**	**-0.1**
WB2	**Warramunga Arr**	**18.55**	**194**	P	**P**	**10 01 47.0**	**+0.2**
WB2				IAmb	IAmb	10 02 09.6	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**18.55**	**194**	P	**P**	**10 01 46.1**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=15,slow=12,SNR=14						
WRA	**Warramunga Arr**	**18.55**	**194**	P	**P**	**10 01 47.1**	**+0.4**
CTA	**Charters Towers**	**19.38**	**159**	P	**Pn**	**10 01 58.8**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=343,slow=9.1,SNR=5.1						
KAPI	**Kappang**	**19.60**	**260**	P	**P**	**10 01 58.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.86**	**219**	P	**P**	**10 02 11.4**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=7.7,slow=0.3,SNR=4.1						
FITZ				LR	LR	10 12 11.7	
	comp=Z,163nm,19.2s,baz=271,slow=42						
FITZ	**Fitzroy Crossi**	**20.86**	**219**	P	**P**	**10 02 11.5**	**-0.4**
MYLDM	**Lahad Datu**	**21.78**	**289**	P	**P**	**10 02 21.3**	**-0.6**
MYLDM				IAmb	IAmb	10 02 31.9	
	comp=Z,34nm,1.4s						
AS31	**Alice Springs**	**22.24**	**193**	P	**P**	**10 02 26.3**	**-0.4**
ASAR	**Alice Springs**	**22.24**	**193**	P	**P**	**10 02 26.5**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=22,slow=10.0,SNR=34						
ASAR	**Alice Springs**	**22.24**	**193**	P	**P**	**10 02 26.6**	**-0.2**
KKM	**Kota Kinabalu**	**24.21**	**289**	P	**P**	**10 02 46.2**	**-0.5**
KKM				IAmb	IAmb	10 02 49.3	
	comp=Z,16nm,0.9s						
BBKI	**Banjar Baru**	**24.33**	**266**	P	P	10 02 56.3	+8.7
EIDS	**Eidsvold**	**26.03**	**155**		**P**	**10 03 02.6**	**-0.4**
EIDS				IAmb	IAmb	10 03 13.7	
	comp=Z,16nm,1.0s						
PSA00	**Pilbara Seismi**	**27.13**	**222**	P	**P**	**10 03 11.1**	**-1.9**
PSA00				IAmb	IAmb	10 03 35.2	
	comp=Z,15nm,1.1s						
SBUM	**Sibu**	**27.26**	**279**	P	**P**	**10 03 12.8**	**-1.4**
PBKI	**Pangkalan Bun**	**27.46**	**268**	P	**P**	**10 03 14.4**	**-1.6**
STKA	**Stephens Creek**	**29.92**	**176**	P	**P**	**10 03 39.4**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=332,slow=5.9,SNR=4.2						
STKA	**Stephens Creek**	**29.92**	**176**	P	**P**	**10 03 36.0**	**-1.7**
FORT	**Forrest**	**30.60**	**199**	P	**P**	**10 03 42.5**	**-1.1**
H11S3	**WAKE ISLAND Hy**	**33.83**	**52**	T	T	10 39 50.8	
	baz=237,slow=76,SNR=320						
H11S2	**WAKE ISLAND Hy**	**33.84**	**52**	T	T	10 39 51.3	
	baz=237,slow=76,SNR=447						
H11S1	**WAKE ISLAND Hy**	**33.85**	**52**	T	T	10 39 51.7	
	baz=237,slow=76,SNR=336						
H11N1	**WAKE ISLAND Hy**	**34.68**	**50**	T	T	10 40 54.7	
	baz=233,slow=75,SNR=38						
H11N2	**WAKE ISLAND Hy**	**34.69**	**50**	T	T	10 40 55.8	
	baz=233,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**34.69**	**50**	T	T	10 41 08.8	
	baz=233,slow=75,SNR=19						
MYKOM	**Kota Tinggi**	**35.48**	**276**	P	**P**	**10 04 26.2**	**-0.3**
JNU	**Nakatsue**	**35.68**	**348**	P	**P**	**10 04 27.6**	**-0.5**
KSRS	**Korea Array**	**40.50**	**346**	P	**P**	**10 05 09.0**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=152,slow=7.4,SNR=5.8						
KS19	**Wonju Array Si**	**40.56**	**346**	P	**P**	**10 05 05.3**	**-3.7**
INCN	**Inchon**	**40.85**	**345**	P	**P**	**10 05 09.7**	**-1.7**
ENH	**Enshi**	**42.69**	**321**	P	**P**	**10 05 25.4**	**-1.3**
ENH				IAmb	IAmb	10 05 28.3	
	comp=Z,12nm,0.8s						
CM31	**Chiang Mai Arr**	**44.41**	**299**	P	**P**	**10 05 41.4**	**+0.7**
CM31				IAmb	IAmb	10 06 03.7	
	comp=Z,11nm,1.2s						
CMAR	**Chiang Mai Arr**	**44.41**	**299**	P	**P**	**10 05 41.1**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=115,slow=6.8,SNR=6.7						
CMAR	**Chiang Mai Arr**	**44.41**	**299**	P	**P**	**10 05 40.7**	**0.0**
USRK	**Ussuriysk Ar.**	**46.32**	**353**	P	**P**	**10 05 56.3**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=179,slow=9.5,SNR=4.1						
USRK	**Ussuriysk Ar.**	**46.32**	**353**	P	**P**	**10 05 55.8**	**+0.4**
BJT	**Baijiatuan**	**46.70**	**336**	P	**P**	**10 05 58.7**	**+0.2**
BJT				IAmb	IAmb	10 06 01.1	
	comp=Z,10nm,1.2s						
PETK	**Petropavlovsk-**	**56.96**	**13**	P	**P**	**10 07 16.9**	**+2.1**
	comp=Z,4.2nm,1.1s,baz=204,slow=3.2,SNR=5.5						
PETK	**Petropavlovsk-**	**56.96**	**13**	P	**P**	**10 07 15.2**	**+0.4**
PET	**Petropavlovsk**	**57.11**	**14**	P	**P**	**10 07 16.2**	**+0.4**
SONM	**Songino Array**	**57.16**	**334**	P	**P**	**10 07 17.8**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=154,slow=4.8,SNR=7.7						
SONM	**Songino Array**	**57.16**	**334**	P	**P**	**10 07 17.0**	**+0.5**
TLY	**Talaya**	**61.24**	**336**	P	**P**	**10 07 44.5**	**-0.1**
TLY				IAmb	IAmb	10 08 05.4	
	comp=Z,4.1nm,0.7s						
YAK	**Yakutsk**	**64.15**	**355**	P	**P**	**10 08 04.0**	**+0.3**
MK31	**Makanchi Array**	**69.41**	**322**	P	**P**	**10 08 37.2**	**-0.3**
MK31				IAmb	IAmb	10 08 39.8	
	comp=Z,6.1nm,1.3s						
MKAR	**Makanchi Array**	**69.41**	**322**	P	**P**	**10 08 38.7**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=112,slow=7.8,SNR=18						
MKAR	**Makanchi Array**	**69.41**	**322**	P	**P**	**10 08 38.0**	**+0.5**
MAKZ	**Makanchi**	**69.60**	**322**	P	**P**	**10 08 38.7**	**0.0**
MAKZ				IAmb	IAmb	10 08 40.9	
	comp=Z,6.7nm,0.8s						
KDJ	**Kajisay**	**70.88**	**316**	P	**P**	**10 08 47.0**	**+0.2**
KDJ				IAmb	IAmb	10 08 49.3	
	comp=Z,2.6nm,0.8s						
ZAA0	**Zalesovo Array**	**71.44**	**330**	P	**P**	**10 08 50.4**	**+0.6**
ZALV	**Zalesovo Beam**	**71.44**	**330**	P	**P**	**10 08 49.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=123,slow=5.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**71.44**	**330**	P	**P**	**10 08 50.1**	**+0.3**
KURK	**Kurchatov**	**73.30**	**325**	P	**P**	**10 09 00.4**	**-0.4**
KURK				IAmb	IAmb	10 09 02.8	
	comp=Z,5.9nm,1.1s						
KURBB	**Kurchatov Arra**	**73.31**	**325**	P	**P**	**10 09 01.8**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=111,slow=5.6,SNR=12						
FALS	**False Pass**	**73.48**	**31**	P	**P**	**10 09 00.8**	**-1.0**
KBL	**Kabul**	**74.79**	**306**	P	**P**	**10 09 08.9**	**-1.3**
KBL				IAmb	IAmb	10 09 28.6	
	comp=Z,3.3nm,0.7s						
BTK	**Batken**	**74.79**	**312**	P	**P**	**10 09 10.2**	**+0.2**
BTK				IAmb	IAmb	10 09 30.4	
	comp=Z,3.7nm,1.1s						
KK31	**Karatay Array**	**75.85**	**315**	P	**P**	**10 09 15.3**	**-0.6**
KK31				IAmb	IAmb	10 09 28.1	
	comp=Z,5.7nm,1.5s						
KKAR	**Karatay Array**	**75.85**	**315**	P	**P**	**10 09 14.2**	**-1.7**
KKAR	**Karatay Array**	**75.85**	**315**	P	**P**	**10 09 15.1**	**-0.9**
KKAR				IAmb	IAmb	10 09 28.1	
	comp=Z,5.7nm,1.5s						
VNDA	**Vanda**	**76.56**	**175**	P	**P**	**10 09 19.6**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=328,slow=6.8,SNR=5.1						
VNDA	**Vanda**	**76.56**	**175**	P	**P**	**10 09 18.8**	**-0.5**
BVAR	**Borovoye Array**	**78.89**	**325**	P	**P**	**10 09 34.3**	**+1.6**
	comp=Z,2.7nm,0.7s,baz=129,slow=12,SNR=16						
BRVK	**Borovoye**	**78.96**	**325**	P	**P**	**10 09 31.6**	**-1.4**
BRVK				IAmb	IAmb	10 09 35.2	
	comp=Z,6.5nm,1.0s						
NRIK	**Noril'sk**	**79.06**	**344**	P	**P**	**10 09 34.6**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=106,slow=4.4,SNR=4.1						
MAW	**Mawson**	**83.05**	**202**	P	**P**	**10 09 57.0**	**+2.5**
	comp=Z,2.0nm,0.8s,baz=67,slow=7.7,SNR=5.3						
ABKAR	**Akbulak array**	**84.37**	**320**	P	**P**	**10 10 02.1**	**+0.3**
IL31		**84.91**	**24**	P	**P**	**10 10 03.5**	**-0.6**
IL31				IAmb	IAmb	10 10 04.8	
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**84.91**	**24**	P	**P**	**10 10 04.1**	**0.0**
	comp=Z,1.4nm,1.0s,baz=249,slow=5.2,SNR=8.4						
ILAR	**Eielson Array**	**84.91**	**24**	P	**P**	**10 10 03.6**	**-0.5**
TXAR	**Lajitas Array**	**114.50**	**59**	PKP	**PKiKP**	**10 16 12.1**	**+1.8**
	comp=Z,0.2nm,0.8s,baz=238,slow=1.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**136.44**	**287**	PKP	**PKPdf**	**10 16 53.3**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=52,slow=1.4,SNR=3.5						
LPAZ	**La Paz**	**147.57**	**125**	PKPbc	**PKiKP**	**10 17 18.5**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=207,slow=4.5,SNR=7.6						

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*ECX **17** 10:00:46.9±0.9, 30°58N×114°21W, h10km±18km, MD3.1, ML3.3*
*MEX **17** 10:00:52.1±0.6, 31°26N×114°40W, h39km±54km, MD3.8*
ISC 17 10:00:45.2±2.1, 30°7N±0°1×114°25W±0°05, h8km±12km, n13, σ2°08/17, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.62**	**304**	*e*P	**Pb**	**10 00 59.8**	**+1.5**
SFX				*e*S	**Sb**	**10 01 08.9**	**+1.6**
ECBX	**El Chinero**	**1.04**	**319**	*e*P	**Pn**	**10 01 06.8**	**+0.7**
ECBX				*e*S	**Sn**	**10 01 22.0**	**+1.2**
PIX	**Pinacate**	**1.10**	**38**	*e*P	**Pg**	**10 01 07.2**	**+0.9**
SPX	**San Pedro Mart**	**1.10**	**289**	*e*P	**Pb**	**10 01 07.3**	**+0.5**
SPX				*i* S	**Sg**	**10 01 18.9**	**-1.9**
SPX	**San Pedro Mart**	**1.10**	**289**	*e*P	**Pb**	**10 01 07.3**	**+0.5**
SPX				*e*S	**Sn**	**10 01 22.9**	**+0.1**
SPX				⇓*e*		10 01 35.8	
SPX				IAML		10 01 35.8	
	comp=N,602nm,0.7s						
SPIG	**San Pedro Mart**	**1.11**	**289**	*e*P	**Pn**	**10 01 07.9**	**+0.6**
SPIG				*i* S	**Sg**	**10 01 18.6**	**-2.3**
SPIG	**San Pedro Mart**	**1.11**	**289**	*e*P	**Pn**	**10 01 08.2**	**+0.9**
SPIG				*e*S	**Sn**	**10 01 23.1**	**+0.1**
SQX	**San Quintin**	**1.41**	**266**	*e*P	**Pb**	**10 01 11.9**	**+0.2**
214A	**Organ Pipe Nat**	**1.76**	**44**	*e*P	**Pn**	**10 01 17.6**	**+1.6**
214A				*i* S	**Sn**	**10 01 34.0**	**-4.7**
MBIG	**Mexicali**	**1.90**	**335**	*i* P	Pn	10 01 12.8	-5.0
MBIG				*i* S	Sn	10 01 28.1	-14
CPBX	**Cerro Prieto**	**1.95**	**333**	IAML		10 02 16.7	
	comp=N,452nm,1.1s						
CBX	**Cerro Bola**	**2.62**	**309**	*i* P	**Pn**	**10 01 24.3**	**-3.6**
CBX				*i* S	Sn	10 01 49.1	-11
CBX	**Cerro Bola**	**2.62**	**309**	IAML		10 02 26.6	
	comp=N,192nm,0.6s						

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*NDI **17** 10:04:38.7±4.1, 23°42N×94°73E, h76km±108km, ML3.7, mb4.3(NEIC)*
*NEIC **17** 10:04:40.6±0.9, 23°1N±0°1×94°3E±0°1, h90km±5km, mb4.3/20, Error ellipse: s-maj=22.9km s-min=8.8km az=51.0*
*IDC **17** 10:04:40.5±4.7, 23°02N×94°14E, h88km±40km, mb3.6/9, mb1 3.8/10, mb1mx3.5/58, mbtmp3.9/10, MS3.9/2, Ms1 3.9/2, ms1mx3.0/51, Error ellipse: s-maj=115.3km s-min=13.8km az=56.0*
ISC 17 10:04:40.9±0.5, 23°19N±0°06×94°23E±0°06, h100km, n69, σ2°70/93, mb4.1/18, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**1.34**	**239**	*e*P	**Pn**	**10 05 09.2**	**+3.9**
SAIH				*e*S	**Sn**	**10 05 30.2**	**+6.4**
SAIH				IAML		10 05 33.3	
	comp=E,740nm,0.4s						
SAIH				IAML		10 05 33.5	
	comp=N,477nm,0.4s						
SILR	**SILCHAR**	**2.05**	**321**	*e*S	**Sn**	**10 05 41.6**	**+2.0**
SILR				IAML		10 05 42.5	
	comp=E,857nm,0.4s						
SILR				IAML		10 05 42.9	
	comp=N,652nm,0.4s						
SHL	**Shillong**	**3.19**	**318**	*e*P	**Pn**	**10 05 31.2**	**+1.8**
SHL				*e*S	**Sn**	**10 06 05.5**	**-1.2**
SHL				IAML		10 06 07.0	
	comp=E,628nm,0.2s						
SHL				IAML		10 06 07.1	
	comp=N,959nm,0.2s						
SHL	**Shillong**	**3.19**	**318**	Pn	**Pn**	**10 05 30.4**	**+1.0**
SHL				Sn	**Sn**	**10 06 05.5**	**-1.2**
TEZP	**TEZPUR**	**3.65**	**340**	*e*P	Pn	10 05 28.9	-6.5
TEZP				*ex*	Pn	10 05 29.1	-6.3
TEZP				*i* pP	**Pn**	**10 05 35.0**	**-0.4**
TEZP				*i* x	**Pn**	**10 05 35.7**	**+0.3**
GUWA	**GUWAHATI**	**3.78**	**323**	*e*P	**Sn**	**10 05 37.2**	**+0.2**
GUWA				*e*S	**Sn**	**10 06 16.9**	**-3.8**
GUWA				IAML		10 06 19.3	
	comp=E,216nm,0.2s						
ZIRO	**ZIRO**	**4.34**	**356**	IAML		10 05 47.1	
	comp=N,122nm,0.3s						
ZIRO				*ex*	**Pn**	**10 05 45.7**	**+0.9**
ZIRO				IAML		10 05 47.1	
	comp=E,82nm,0.2s						
CHTO	**Chiang Mai**	**6.19**	**134**		**Pn**	**10 06 08.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**6.45**	**136**	P	**Pn**	**10 06 11.9**	**-1.5**
	comp=E,1.5nm,0.3s,baz=312,slow=13,SNR=12						
CMAR				S	**Sn**	**10 07 26.5**	**+1.0**
	baz=309,slow=26,SNR=1.5						
CMAR	**Chiang Mai Arr**	**6.45**	**136**		**Pn**	**10 06 11.2**	**-2.1**
GTK	**Tadong**	**6.55**	**310**	*e*P	**Pn**	**10 06 16.9**	**+2.1**
GTK				*e*S	**Sn**	**10 07 26.9**	**-1.1**
GTK				IAML		10 07 32.4	
	comp=N,117nm,0.5s						
GTK				IAML		10 07 32.5	
	comp=E,104nm,0.2s						
LSA	**Lhasa**	**7.05**	**338**		**Pn**	**10 06 23.4**	**+1.5**
LSA				Sn	**Sn**	**10 07 41.8**	**+1.1**
ODAN	**Odare**	**7.20**	**302**	*e*Pn	**Pn**	**10 06 25.3**	**+1.6**
ODAN				*e*Sn	**Sn**	**10 07 39.6**	**-4.5**
	comp=E,263nm,0.5s						
ODAN	**Odare**	**7.20**	**302**	*e*Pn	**Pn**	**10 06 25.3**	**+1.6**
ODAN				*e*Sn	**Sn**	**10 07 39.6**	**-4.5**
	comp=E,263nm,0.5s						
TAPN	**Taplejung**	**7.21**	**306**	*e*Pn	**Pn**	**10 06 25.8**	**+1.9**
TAPN				*e*Sn	**Sn**	**10 07 41.7**	**-2.7**
	comp=E,224nm,0.5s						
TAPN	**Taplejung**	**7.21**	**306**	*e*Pn	**Pn**	**10 06 25.8**	**+1.9**
TAPN				*e*Sn	**Sn**	**10 07 41.7**	**-2.7**
	comp=E,224nm,0.5s						
BOK	**Bokaro**	**7.68**	**276**	*e*P	**Pn**	**10 06 32.5**	**+2.4**
BOK				*e*S	**Sn**	**10 07 55.6**	**+0.2**
RAMN	**Ramite**	**7.86**	**300**	*e*Pn	**Pn**	**10 06 34.4**	**+1.6**
RAMN				*e*Sn	**Sn**	**10 07 55.4**	**-4.9**
	comp=E,73nm,0.3s						
RAMN	**Ramite**	**7.86**	**300**	*e*Pn	**Pn**	**10 06 34.4**	**+1.6**
RAMN				*e*Sn	**Sn**	**10 07 55.4**	**-4.9**
	comp=E,73nm,0.3s						
JIRN	**Jiri**	**8.52**	**303**	*e*Pn	**Pn**	**10 06 43.0**	**+1.2**
JIRN				*e*Sn	**Sn**	**10 08 11.8**	**-4.6**
	comp=E,242nm,0.3s						
JIRN	**Jiri**	**8.52**	**303**	*e*Pn	**Pn**	**10 06 43.0**	**+1.2**
JIRN				*e*Sn	**Sn**	**10 08 11.8**	**-4.6**
	comp=E,242nm,0.3s						
GUN	**Gumba**	**8.88**	**304**	*e*Pn	**Pn**	**10 06 48.4**	**+1.7**
GUN				*e*Sn	**Sn**	**10 08 20.6**	**-4.6**
	comp=E,348nm,0.8s						
GUN	**Gumba**	**8.88**	**304**	*e*Pn	**Pn**	**10 06 48.4**	**+1.7**
GUN				*e*Sn	**Sn**	**10 08 20.6**	**-4.6**
	comp=E,348nm,0.8s						
PKI	**Pulchoki**	**9.09**	**301**	*e*Pn	**Pn**	**10 06 50.4**	**+0.9**
PKI	**Pulchoki**	**9.09**	**301**	*e*Pn	**Pn**	**10 06 50.4**	**+0.9**
PKIN	**Phulchoki**	**9.10**	**301**	*e*Pn	**Pn**	**10 06 50.3**	**+0.7**
PKIN				*e*Sn	**Sn**	**10 08 25.4**	**-5.0**
	comp=E,54nm,0.2s						
PKIN	**Phulchoki**	**9.10**	**301**	*e*Pn	**Pn**	**10 06 50.3**	**+0.7**
PKIN				*e*Sn	**Sn**	**10 08 25.4**	**-5.0**
	comp=E,54nm,0.2s						
DMN	**Daman**	**9.35**	**300**	*e*Sn	**Sn**	**10 08 31.1**	**-5.3**
	comp=E,82nm,0.7s						
DMN	**Daman**	**9.35**	**300**	*e*Sn	**Sn**	**10 08 31.1**	**-5.3**
	comp=E,82nm,0.7s						
GKN	**Gorkha**	**9.89**	**301**	*e*Pn	**Pn**	**10 07 01.0**	**+0.7**
GKN				*e*Sn	**Sn**	**10 08 44.2**	**-5.4**
	comp=E,134nm,0.4s						
GKN	**Gorkha**	**9.89**	**301**	*e*Pn	**Pn**	**10 07 01.0**	**+0.7**
GKN				*e*Sn	**Sn**	**10 08 44.2**	**-5.4**
	comp=E,134nm,0.4s						
KOLN	**Koldanda**	**10.63**	**298**	*e*Pn	**Pn**	**10 07 10.5**	**+0.2**
KOLN				*e*Sn	**Sn**	**10 09 01.0**	**-6.5**
	comp=E,90nm,0.4s						
KOLN	**Koldanda**	**10.63**	**298**	*e*Pn	**Pn**	**10 07 10.5**	**+0.2**
KOLN				*e*Sn	**Sn**	**10 09 01.0**	**-6.5**
	comp=E,90nm,0.4s						
DLV	**T Lat**	**17.59**	**127**	P	**P**	**10 08 35.6**	**-4.0**
DLV				IAmb	IAmb	10 08 45.9	
	comp=Z,38nm,1.4s						
KDJ	**Kajisay**	**23.64**	**327**	P	**P**	**10 09 46.4**	**+3.1**
KDJ				IAmb	IAmb	10 09 48.2	
	comp=Z,5.4nm,0.7s						
BOOM	**Boomskoye usch**	**24.54**	**326**	P	**P**	**10 09 53.3**	**+2.0**
BOOM				IAmb	IAmb	10 09 56.6	
	comp=Z,8.0nm,0.8s						
MK31	**Makanchi Array**	**25.44**	**341**	P	**P**	**10 10 00.9**	**+1.6**
MKAR	**Makanchi Array**	**25.44**	**341**	P	**P**	**10 10 01.4**	**+2.1**
	comp=Z,6.5nm,0.7s,baz=147,slow=10,SNR=31						
MKAR	**Makanchi Array**	**25.44**	**341**	P	**P**	**10 10 00.7**	**+1.3**
MAKZ	**Makanchi**	**25.55**	**340**	P	**P**	**10 10 01.6**	**+1.3**
BTK	**Batken**	**25.96**	**316**	P	**P**	**10 10 05.9**	**+1.7**
BTK				IAmb	IAmb	10 10 08.8	
	comp=Z,5.8nm,0.9s						
YOJ	**Yonaguni jima**	**26.34**	**81**	P	**P**	**10 10 07.1**	**-0.6**
YOJ				IAmb	IAmb	10 10 07.6	
	comp=Z,23nm,0.9s						
SONM	**Songino Array**	**26.45**	**19**	pP	pP	10 10 32.6	+1.9
	comp=Z,0.7nm,0.7s,baz=207,slow=12,SNR=2.7						
SONM	**Songino Array**	**26.45**	**19**	P	**P**	**10 10 09.6**	**+1.1**
KURBB	**Kurchatov Arra**	**30.00**	**340**	P	**P**	**10 10 41.8**	**+1.9**
	comp=Z,1.5nm,0.7s,baz=152,slow=8.7,SNR=10						
ZAA0	**Zalesovo Array**	**31.53**	**349**	P	**P**	**10 10 55.0**	**+1.7**
BVAR	**Borovoye Array**	**34.87**	**335**	P	**P**	**10 11 24.3**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=147,slow=14,SNR=2.4						
XMIS	**Christmas Isla**	**35.28**	**160**	P	**P**	**10 11 25.7**	**-0.5**
ABKAR	**Akbulak array**	**37.45**	**323**	P	**P**	**10 11 46.6**	**+2.2**
FAKI	**Fak Fak**	**45.24**	**120**	P	**P**	**10 12 46.8**	**-1.8**
YSS	**Yuzh-Sakhalins**	**45.36**	**46**	P	**P**	**10 12 48.8**	**-0.3**
KVAR	**Kislovodsk Arr**	**46.83**	**309**	LR	LR	10 38 42.4	
	comp=Z,148nm,18.4s,baz=263,slow=44						
KIRV	**Kirov**	**47.51**	**330**	LR	LR	10 33 41.1	
	comp=Z,93nm,19.6s,baz=359,slow=36						
KNRA	**Kununurra**	**51.31**	**136**	P	**P**	**10 13 34.9**	**-0.2**
KNRA				IAmb	IAmb	10 13 38.3	
	comp=Z,4.1nm,1.1s						
ANTO	**Ankara**	**53.94**	**303**	P	**P**	**10 13 53.9**	**-0.5**
WB0	**Warramunga Arr**	**57.95**	**134**	P	**P**	**10 14 23.1**	**0.0**
WB0				IAmb	IAmb	10 14 31.6	
	comp=Z,5.7nm,1.5s						
WRA	**Warramunga Arr**	**58.04**	**134**	P	**P**	**10 14 24.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=323,slow=7.5,SNR=22						
WRA				pP	**pP**	**10 14 47.4**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=323,slow=7.4,SNR=2.8						
WRA	**Warramunga Arr**	**58.04**	**134**	P	**P**

B05A			S		Sb	10 06 39.9	0.0
	baz=221						
OBC	Olympics--Boni	0.89	299	P	Pg	10 06 29.6	+0.2
JCW	Jim Creek	0.89	48	P	Pb	10 06 29.0	-0.2
SOKB	Sooke	0.94	328	P	Pb	10 06 29.1	-0.8
SOKB			S		Sb	10 06 41.9	-0.1
CMW	Cultus Mountai	0.98	33	P	Pb	10 06 30.7	-0.1
MCW	Mount Constitu	1.08	3	P	Pb	10 06 32.0	-0.4
E04D	Cinebar	1.08	167	P	Pb	10 06 30.7	-1.6
	baz=344,SNR=426						
E04D			S		Sb	10 06 44.7	-1.4
	baz=344						
FMW	Mount Fremont	1.09	128	P	Pb	10 06 31.3	-1.4
PA12	PA12 Sannich	1.10	342	P	Pb	10 06 31.8	-0.8
B009	North Saanich	1.10	342	P	Pb	10 06 31.8	-0.9
B009			S		Sb	10 06 46.8	+0.1
B011	North Saanich	1.10	342	P	Pb	10 06 31.8	-0.9
B011			S		Sb	10 06 46.2	-0.5
B010	North Saanich	1.10	342	P	Pb	10 06 31.8	-0.9
B010			S		Sb	10 06 47.1	+0.3
PA03	PA03 Flamable	1.10	342	P	Pb	10 06 32.0	-0.7
PA04	PA04 Cage	1.10	342	P	Pb	10 06 31.9	-0.8
PGC	Sidney	1.10	342	P	Pb	10 06 31.9	-0.9
PGC			S		Sb	10 06 47.0	+0.2
PGC	Sidney	1.10	342		Pb	10 06 31.9	-0.9
PA02	PA02 Ocean	1.10	342	P	Pb	10 06 32.0	-0.8
PA01	PA01 North	1.10	342	P	Pb	10 06 32.0	-0.8
A04D	Lummi Island	1.12	7	P	Pn	10 06 32.4	-0.7
	baz=190,SNR=36						
LON	Longmire	1.15	138	P	Pn	10 06 31.9	-1.6
LON			S		Sb	10 06 46.4	-1.7
LON	Longmire	1.15	138		Pn	10 06 31.8	-1.7
E03A	Lebam	1.15	203	P	Pn	10 06 31.6	-1.7
E03A	Lebam	1.15	203	Pn	Pn	10 06 31.6	-1.7
SNB	Saturna Island	1.18	352	P	Pn	10 06 33.7	-0.2
SNB			S		Sg	10 06 50.3	-0.1
RPW	Rockport	1.27	48	P	Pn	10 06 35.5	+0.3
GPW	Glacier Peak	1.31	66	P	Pn	10 06 35.9	0.0
B06A	Marblemount	1.33	46	P	Pn	10 06 36.3	+0.4
B06A			S		Sn	10 06 52.8	-0.3
B06A	Marblemount	1.33	46		Pn	10 06 36.2	+0.4
OCP	Olym-Cheeka Pk	1.33	302	P	Pn	10 06 36.1	+0.1
MBW	Mount Baker	1.36	30	P	Pn	10 06 37.1	+0.5
GOBB	Galiano Island	1.40	344	P	Pn	10 06 37.1	+0.3
PFB	Port Renfrew	1.40	314	P	Pn	10 06 36.7	-0.3
PFB			S		Sn	10 06 54.8	-0.2
C06D	Leavenworth	1.41	76	P	Pn	10 06 37.2	+0.2
	baz=256,SNR=160						
C06D			S		Sn	10 06 55.3	+0.2
	baz=256						
B926	Mesachie Lake	1.46	327	P	Pn	10 06 37.8	+0.1
B926			S		Sn	10 06 56.6	+0.3
VDB	Vedder Mountai	1.52	21	P	Pn	10 06 39.2	+0.6
F04D	Rainier, OR	1.52	182	P	Pn	10 06 37.7	-0.9
	baz=0.0,SNR=104						
F04D			S		Sn	10 06 57.9	-0.1
	baz=0.0						
LTY	Liberty	1.57	102	P	Pn	10 06 39.8	+0.5
LTY			S		Sn	10 06 59.8	+0.5
LTY	Liberty	1.57	102		Pn	10 06 39.9	+0.6
LTY			Sn		Sb	10 07 00.2	-0.1
HNBB	Haney	1.70	8	P	Pn	10 06 42.0	+1.0
HNBB			S		Sb	10 07 04.3	+0.3
F04A	Amboy	1.71	168	Pn	Pn	10 06 40.5	-0.6
F04A			Sn		Sn	10 07 01.9	-0.6
F03A	Seaside	1.73	195		Pn	10 06 40.9	-0.5
NLLB	Nanaimo Lost L	1.77	337	P	Pn	10 06 42.5	+0.6
NLLB			S		Sn	10 07 05.1	+1.1
BIB	Bowen Island	1.82	352	P	Pn	10 06 43.6	+1.0
MGB	Mount Grey	1.83	320	P	Pn	10 06 43.1	+0.2
MGB			S		Sn	10 07 06.0	+0.4
GHNB	Nanoose	1.91	333	P	Pb	10 06 45.6	-0.9
GHNB			Sg		Sb	10 07 11.5	+1.4
B928	Bamfield	1.92	311	P	Pn	10 06 43.8	-0.2
B928			Sg		Sb	10 07 11.9	+1.7
BFSB	Bamfield	1.92	311	P	Pn	10 06 43.6	-0.4
BFSB			Sg		Sb	10 07 11.7	+1.4
F05D	White Salmon	2.00	149	P	Pn	10 06 45.9	+0.8
	baz=328,SNR=108						
F05D			S		Sn	10 07 11.2	+1.5
	baz=328						
B927	Port Alberni	2.04	323	P	Pn	10 06 46.2	+0.5
HOPB	Hope	2.04	29	P	Pb	10 06 48.4	-0.4
WPB	Watts Point	2.06	355	P	Pn	10 06 47.4	+1.4
SHB	Sechelt	2.09	343	P	Pn	10 06 47.6	+1.1
OZB	Mount Ozzard	2.19	309	P	Pn	10 06 47.2	-0.6
OZB			Sg		Sb	10 07 18.2	+0.2
B012	Ucluelet	2.19	308	P	Pn	10 06 49.5	+1.8
B012			Sg		Sb	10 07 19.6	+1.6
TXB	Texada	2.32	335	P	Pn	10 06 50.7	+1.2
E07A	Sunnyside	2.35	115		Pn	10 06 50.7	+0.8
G03D	McMinnville, O	2.41	186	P	Pn	10 06 51.2	+0.5
	baz=4.2,SNR=41						
TOFB	Tofino	2.52	309	P	Pn	10 06 52.7	+0.5
WSLR	Whistler	2.52	0	P	Pn	10 06 54.3	+1.9
B08A	Colville Reser	2.53	71	P	Pn	10 06 52.8	+0.4
B08A			Sg		Sb	10 07 28.2	+0.3
B08A	Colville Reser	2.53	71	Pn	Pn	10 06 52.9	+0.4
BTB	Buttle Lake	2.54	318	P	Pn	10 06 52.9	+0.2
G05D	Wamic, OR	2.61	154	P	Pn	10 06 55.1	+1.5
	baz=334						
HAWA	Hanford	2.62	116	Pn	Pn	10 06 54.3	+0.7
F07A	Phinny Hill Vi	2.68	129		Pn	10 06 54.9	+0.4
D08A	Wollman Farm,	2.78	100	Pn	Pn	10 06 56.0	+0.1
PNT	Penticton	2.79	51	P	Pn	10 06 57.2	+1.2
PNT			Sg		Sb	10 07 37.4	+2.0
E08A	Dider Farm, El	2.87	111		Pn	10 06 57.5	+0.4
SPLB	Strathcona Par	2.91	323	P	Pn	10 06 59.2	+1.5
CBB	Campbell River	2.92	327	P	Pn	10 06 59.0	+1.3
H04A	Detroit Lake	2.97	170		Pn	10 06 59.5	+1.0
GDR	Gold River	3.00	318	P	Pn	10 06 60.0	+1.2
COR	Corvallis	3.03	185		Pn	10 07 00.7	+1.4
LLLB	Lillooet	3.08	12	P	Pn	10 07 02.1	+2.0
LLLB			Sg		Sg	10 07 48.2	-3.0
H04D	Lebanon	3.09	177	P	Pn	10 07 01.3	+1.2
	baz=357						
C09A	Chrisman Ranch	3.15	85	P	Pn	10 07 01.2	+0.3
C09A			Sg		Sb	10 07 48.0	+2.4
C09A	Chrisman Ranch	3.15	85		Pn	10 07 01.2	+0.3
I05D	Terrebonne, OR	3.45	161	P	Pn	10 07 06.4	+1.3
	baz=341						
NCRB	Newcastle Ridg	3.48	325	P	Pn	10 07 07.0	+1.5
WOSB	Woss	3.51	318	P	Pn	10 07 07.3	+1.3
I02D	Swisshome	3.56	191	P	Pn	10 07 06.8	+0.2
	baz=9.3						
G08A	Pilot Rock	3.59	129	Pn	Pn	10 07 07.8	+0.7
I04A	Tendick Farm,	3.83	174	P	Pn	10 07 11.7	+1.4
	baz=354						
I03D	Drain, OR	3.92	184	P	Pn	10 07 12.2	+0.7
	baz=3.4						
MAYB	Maynard	3.96	317	P	Pn	10 07 14.1	+2.0
NEW	Newport	3.96	78	Pn	Pn	10 07 12.0	0.0
	7.5nm,0.3s,baz=260,slow=11,SNR=92						
NEW			Lg		Lg	10 08 13.1	
	6.0nm,0.3s,baz=66,slow=20,SNR=8.7						
NEW	Newport	3.96	78	P	Pn	10 07 12.0	0.0
	baz=262						
NEW	Newport	3.96	78		Pn	10 07 12.3	+0.2
PINE	Pine Mountain	4.06	159		Pn	10 07 16.4	+2.8
F10A	Beach Ranch, E	4.24	111		Pn	10 07 16.9	+0.9
I07A	Izee	4.26	145		Pn	10 07 18.2	+1.9
PHC	Port Hardy	4.29	318	P	Pn	10 07 18.2	+1.7
J05D	Fort Rock, OR	4.48	164	P	Pn	10 07 21.1	+1.7
	baz=344						
J05D			Sb		Sb	10 08 27.8	+3.5
	baz=344						
J01E	Myrtle Point	4.50	189	P	Pn	10 07 19.4	-0.1
	baz=8.1						
SLEB	Sale Mountain	4.74	40	P	Pn	10 07 25.7	+2.7
BMO	Blue Mountains	4.77	123		Pn	10 07 24.2	+0.8
KEBM	Edson Butte	4.84	192	Pn	Pn	10 07 24.2	0.0
K02D	Willamette Mer	4.94	186	P	Pn	10 07 25.9	+0.3
	baz=5.2						
HUMO	Hull Mountain	5.00	180		Pn	10 07 28.4	+2.0
BLBC	Blue River	5.04	27	P	Pn	10 07 30.2	+3.1
J08A	Circle Bar Ran	5.28	142		Pn	10 07 32.4	+2.1
BHMT	Big Hole Peak	5.34	87	P	Pn	10 07 31.2	0.0
L04D	Klamath Falls	5.41	175	P	Pn	10 07 33.4	+1.3
	baz=355						
L04D			Sb		Sb	10 08 54.6	+3.8
	baz=355						
MNB	Mounoet Dainar	5.45	31	P	Pn	10 07 35.3	+2.5
L02E	Cave Junction	5.47	185	P	Pn	10 07 34.2	+1.3
	baz=4.2						
BSMT	Bassoo Peak	5.50	84	P	Pn	10 07 33.0	-0.3
BBB	Bella Bella	5.68	326	Pn	Pn	10 07 37.6	+2.0
	0.2nm,0.3s,baz=138,slow=12,SNR=9.1						
BBB			Lg		Lg	10 09 06.9	
	0.9nm,0.3s,baz=30,slow=20,SNR=6.1						
BBB	Bella Bella	5.68	326	Sg	Sg	10 09 07.4	-6.8
FBMT	Ferry Basin	5.77	89	P	Pn	10 07 36.7	-0.3
JTMT	Jette	5.84	85	P	Pn	10 07 37.7	-0.3
JTMT	Jette	5.84	85		Pn	10 07 38.2	+0.1
YBH	Yreka Blue Hor	5.88	178	Pn	Pn	10 07 42.7	+4.2
	0.2nm,0.3s,baz=8.2,slow=15,SNR=6.6						
YBH	Yreka Blue Hor	5.88	178		Pn	10 07 38.5	+0.1
MOD	Modoc Plateau	6.00	161		Pn	10 07 39.4	-0.9
YBMT	Yellow Bay	6.02	84	P	Pn	10 07 40.0	-0.5
SWMT	Swartz Lake	6.04	88	P	Pn	10 07 40.3	-0.5
MSO	Missoula	6.17	94	P	Pn	10 07 42.2	-0.3
	baz=280						
MSO	Missoula	6.17	94	Pn	Pn	10 07 43.5	+0.9
WALA	Waterton Lakes	6.18	73	P	Pn	10 07 43.5	+0.8
WALA	Waterton Lakes	6.18	73		Pn	10 07 43.8	+1.1
SLMT	Seeley Lake	6.41	98	P	Pn	10 07 45.5	-0.4
MFID	Camas Ranch	6.51	127		Pn	10 07 48.1	+0.8
PRDA	Priddis	6.53	57	Sg	Sg	10 09 35.6	-5.9
BPMT	Black Pine Rid	6.59	97	P	Pn	10 07 48.7	+0.3
OVMT	Ovando	6.77	91	P	Pn	10 07 50.3	-0.5
JCC	Jacoby Creek,	6.83	187	Pn	Pn	10 07 51.5	0.0
ELMT	Elliston	7.21	95	P	Pn	10 07 57.5	+0.6
HLID	Hailey	7.21	121	P	Pn	10 07 57.6	+0.7
	baz=307						
HLID	Hailey	7.21	121		Pn	10 07 57.8	+0.9
LYMT	Lyon Mountain	7.26	91	P	Pn	10 07 57.9	+0.2
HBMT	Mount Humbug	7.32	101	P	Pn	10 07 59.0	+0.5
LRM	Limekiln Ridge	7.42	100	P	Pn	10 07 59.5	-0.2
LRM	Limekiln Ridge	7.42	100		Pn	10 08 00.2	+0.4
DLMT	Dillon	7.48	104		Pn	10 08 01.1	+0.6
MCMT	McKenzie Canyo	7.52	108		Pn	10 08 02.1	+0.9
HRY	Holter Researc	7.62	93	P	Pn	10 08 02.4	0.0
HRY	Holter Researc	7.62	93		Pn	10 08 02.8	+0.4
BOZ	Bozeman (W)	8.04	100	P	Pn	10 08 07.9	-0.3
	baz=288						
BOZ	Bozeman (W)	8.04	100		Pn	10 08 08.2	0.0
YHL	Hebgen Lake	8.60	104		Pn	10 08 16.9	+0.9
YHB	Horse Butte	8.63	105		Pn	10 08 17.6	+1.3
ELK	Elko	8.80	138	Pn	Pn	10 08 28.1	+9.4
	0.1nm,0.3s,baz=332,slow=11,SNR=12						
YMR	Madison River	8.81	105		Pn	10 08 21.1	+2.2
YHH	Holmes Hill	8.84	104		Pn	10 08 20.2	+0.9
EGMT	Eagleton	8.88	82	P	Pn	10 08 20.3	+0.7
	baz=272						
EGMT	Eagleton	8.88	82	Pn	Pn	10 08 21.0	+1.4
YPP	Pitchstone Pla	9.08	107		Pn	10 08 25.2	+2.6
IMW	Indian Meadow	9.16	109	Pn	Pn	10 08 26.5	+2.7
GCMT	Greycliff	9.29	96	Pn	Pn	10 08 25.6	+0.2
YNE	Yellowstone No	9.31	101	Pn	Pn	10 08 26.8	+1.0
TPAW	Teton Pass	9.35	112	Pn	Pn	10 08 27.8	+1.4
MCCM	Marconi Confer	9.46	180	Pn	Pn	10 08 27.2	-0.3
REDW	Red Top Meadow	9.48	112	Pn	Pn	10 08 28.2	+0.2
LOHW	Long Hollow	9.51	110	Pn	Pn	10 08 29.4	+0.9
RLMT	Red Lodge	9.77	100	P	Pn	10 08 33.4	+1.4
	baz=289						
RLMT	Red Lodge	9.77	100	Pn	Pn	10 08 32.3	+0.4
NVAR	Mina Array Bea	9.77	158	Pn	Pn	10 08 38.0	+5.9
	0.1nm,0.3s,baz=339,slow=13,SNR=8.3						
NVAR	Mina Array Bea	9.77	158	Pn	Pn	10 08 31.6	-0.4
PDAR	Pinedale Array	10.60	112	Pn	Pn	10 08 48.5	+5.1
	0.1nm,0.3s,baz=301,slow=10,SNR=4.3						
PSUT	Pine Spring	11.23	141	Pn	Pn	10 08 51.8	-0.1
LAO	LASA Array	11.42	88	Pn	Pn	10 08 55.0	+0.7
ILAR	Eielson Array	21.53	332	P	P	10 11 03.1	+3.1
	0.5nm,0.9s,baz=141,slow=8.8,SNR=4.3						
TXAR	Lajitas Array	23.56	134	P	P	10 11 22.1	+0.3
	0.6nm,0.8s,baz=327,slow=8.5,SNR=8.6						

*IDC **17** 10:14:17.7±1.1, 13°.72N×144°.59E, h138km±31km, mb3.2/4, mb1 3.4/4, mb1mx3.0/41, mbtmp3.6/4, Error ellipse: s-maj=149.4km s-min=26.4km az=82.0*
*NEIC **17** 10:14:19.5±0.4, 13°.4N±0°.3×144°.6E±0°.6, h135km±18km, mb4.1/7, Error ellipse: s-maj=92.0km s-min=31.7km az=69.0*

ISC 17 10:14:17.4±2.1, 13°.8N±0°.2×144°.9E±0°.7, h150km, n13, σ0°51/14, mb3.8/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.19	193	P	Pn	10 14 37.8	+0.1
	218nm,0.3s,baz=276,slow=3.8,SNR=411						
GUMO				S	Sn	10 14 52.2	-0.9
	60nm,0.3s,baz=83,slow=22,SNR=5.7						
GUMO	Guam	0.19	193		Pn	10 14 38.1	+0.4
GUMO				Sn	Sn	10 14 52.5	-0.7
WB0	Warramunga Arr	34.90	197	P	P	10 20 50.2	-4.6
WR0	Warramunga Arr	35.04	197	P	P	10 20 55.9	-0.1
WR0				IAmb	IAmb	10 21 09.7	
	comp=Z,6.0nm,1.4s						
WRAB	Tennant Creek	35.07	197	P	P	10 20 55.9	-0.4
WRAB				IAmb	IAmb	10 21 01.1	
	comp=Z,2.9nm,0.9s						
WB2	Warramunga Arr	35.08	197	P	P	10 20 56.3	-0.1
WB2				IAmb	IAmb	10 21 12.9	
	comp=Z,3.6nm,1.2s						
WRA	Warramunga Arr	35.08	197	P	P	10 20 56.6	+0.2
	comp=Z,0.5nm,0.5s,baz=20,slow=9.5,SNR=12						
WRA	Warramunga Arr	35.08	197	P	P	10 20 55.5	-0.9
ASAR	Alice Springs	38.74	196	P	P	10 21 27.6	+0.3
	comp=Z,0.2nm,0.4s,baz=25,slow=9.3,SNR=10.0						
STKA	Stephens Creek	45.50	184	P	P	10 22 21.9	0.0
	comp=Z,2.7nm,1.1s,baz=356,slow=13,SNR=3.2						
STKA	Stephens Creek	45.50	184	P	P	10 22 22.2	+0.4
BBOO	Buckleboo	47.09	190	P	P	10 22 34.7	+0.4
KURBB	Kurchatov Arra	64.51	320	P	P	10 24 38.2	+0.1
	comp=Z,0.2nm,0.5s,baz=96,slow=6.4,SNR=2.8						

*JMA **17** 10:24:52.4±0.6, 45°.34N×150°.38E, h30km, M4.0*
*SKHL **17** 10:24:53.8±0.4, 45°.21N×150°.33E, h64km±8km, mb4.7/2*

ISC 17 10:24:51.7±4.2, 44°.9N±0°.1×150°.6E±0°.2, h39km, n21, σ2°45/33, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.94	281	*i* P	Pn	10 25 20.4	-1.6
KUR				AMB	AMB	10 25 21.0	
	220nm,0.3s						
KUR				*i* S	Sn	10 25 40.4	-4.7
KUR				A	A	10 25 42.3	
	300nm,0.4s						
KUR				A	A	10 25 42.3	
	200nm,0.4s						
YUK	Yuzh-Kuril'sk	3.47	257	*i* P	Pn	10 25 45.0	+2.0
YUK				AMB	AMB	10 25 49.3	
	160nm,0.7s						
YUK				*e*S	Sn	10 26 23.0	+0.2
YUK				A	A	10 26 36.1	
	200nm,0.7s						
YUK				A	A	10 26 36.1	
	250nm,0.7s						
GRPR	Tuman	3.54	257	*e*P	Pn	10 25 46.2	+2.1
GRPR				*e*S	Sn	10 26 25.6	+1.0
GRPR				A	A	10 26 30.0	
	90nm,0.3s						
GRPR				A	A	10 26 30.0	
	110nm,0.3s						
NEM2	Nemuro 2	3.78	248	P	Pn	10 25 49.0	+1.6
NEM2				*e*S	Sn	10 26 30.4	-0.2
NMR	Nemuro--Hokkai	3.79	248	*e*P	Pn	10 25 49.0	+1.5
GLVR	Golovnino	3.79	254	*e*P	Pn	10 25 49.8	+2.3
GLVR				*e*S	Sn	10 26 32.2	+1.4
JRA	Rausu	4.01	258	P	Pn	10 25 53.4	+2.9
JNK	Nakash	4.39	255	P	Pn	10 25 58.1	+2.3
JNK				*e*S	Sn	10 26 46.6	+1.0
JAK	Akkeshi	4.63	248	P	Pn	10 26 00.6	+1.5
JAK				*e*S	Sn	10 26 51.2	-0.3
JAR	Ashorobuto	5.14	254	P	Pn	10 26 08.8	+2.8
JAR				*e*S	Sn	10 27 06.6	+2.6
JOB	Onbets	5.24	250	P	Pn	10 26 09.8	+2.3
JOB				*e*S	Sn	10 27 07.0	+0.4
JCH	Churui	5.68	249	P	Pn	10 26 15.1	+1.6
JCH				*e*S	Sn	10 27 17.0	-0.4
JKK2	Kamakawa 2	5.69	263	P	Pn	10 26 16.3	+2.7
JNBK	Urakawa-nobuka	6.24	248	P	Pn	10 26 22.5	+1.4
JBT2	Biratori 2	6.29	253	P	Pn	10 26 24.1	+2.3
JNB	Noboribetsu	7.31	254	P	Pn	10 26 36.9	+1.1
JKB	Kayabe	7.55	250	P	Pn	10 26 40.1	+0.9
JKB				*e*S	Sn	10 27 59.8	-3.7
JYM2	Yakumo 2	7.90	253	P	Pn	10 26 44.8	+0.8
JANG	Nango	8.04	239	P	Pn	10 26 45.8	-0.1
JANG				*e*S	Sn	10 28 09.7	-5.8
JTH	Tanohata	8.11	235	*e*S	Sn	10 28 12.5	-4.6
OFUJ	Ofunato	8.79	232	*e*S	Sn	10 28 31.2	-2.8

*IDC **17** 10:29:07.9±1.3, 27°.66N×88°.06E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.6/64, mbtmp3.8/7, ML3.2/1, Error ellipse: s-maj=60.0km s-min=19.3km az=62.0*
*NDI **17** 10:29:13.8±3.1, 27°.64N×87°.75E, h10km, ML3.7*
*DMN **17** 10:29:13.5±0.3, 27°.76N×88°.04E, h40km, Ml4.6/4, Error ellipse: s-maj=6.2km s-min=3.2km az=68.0*

ISC 17 10:29:14.4±1.1, 27°.80N±0°.07×87°.91E±0°.07, h49km±11km, n60, σ1°21/88, mb4.0/6, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	0.48	202	*e*Pg	Pn	10 29 25.0	-0.8
TAPN				*e*Sg	Sn	10 29 33.4	-0.5
	14μm,0.3s						
TAPN				*e*Sg	Sn	10 29 33.6	-0.3
TAPN	Taplejung	0.48	202	*e*Pg	Pn	10 29 25.0	-0.8
TAPN	Taplejung	0.48	202	*e*Pg	Pn	10 29 25.0	-0.8
TAPN				*e*Sg	Sn	10 29 33.4	-0.5
	14μm,0.3s						
TAPN				*e*Sg	Sn	10 29 33.6	-0.3
TAPN	Taplejung	0.48	202	*e*Pg	Pn	10 29 25.0	-0.8
ODAN	Odare	1.05	207	*e*Pg	Pn	10 29 33.1	+0.1
ODAN				*e*Sg	Sn	10 29 45.9	-0.8
	2μm,0.2s						
ODAN	Odare	1.05	207	*e*Pg	Pn	10 29 33.1	+0.1
ODAN	Odare	1.05	207	*e*Pg	Pn	10 29 33.1	+0.1
ODAN				*e*Sg	Sn	10 29 45.9	-0.8
	2μm,0.2s						
ODAN	Odare	1.05	207	*e*Pg	Pn	10 29 33.1	+0.1
RAMN	Ramite	1.44	234	*e*Pg	Pn	10 29 38.3	-0.1
RAMN	Ramite	1.44	234	*e*Pg	Pn	10 29 38.6	+0.2
RAMN	Ramite	1.44	234	*e*Pg	Pn	10 29 38.3	-0.1
RAMN	Ramite	1.44	234	*e*Pg	Pn	10 29 38.6	+0.2
JIRN	Jiri	1.53	265	*e*Pg	Pn	10 29 40.5	+0.8
JIRN	Jiri	1.53	265	*e*Pg	Pn	10 29 40.5	+0.8
JIRN	Jiri	1.53	265	*e*Pg	Pn	10 29 40.5	+0.8
JIRN	Jiri	1.53	265	*e*Pg	Pn	10 29 40.5	+0.8
GUN	Gumba	1.80	274	*e*Pg	Pn	10 29 44.0	+0.6
GUN	Gumba	1.80	274	*e*Pg	Pn	10 29 44.0	+0.6
GUN	Gumba	1.80	274	*e*Pg	Pn	10 29 44.0	+0.6
GUN	Gumba	1.80	274	*e*Pg	Pn	10 29 44.0	+0.6
PKI	Pulchoki	2.23	265	*e*Pg	Pn	10 29 49.4	+0.1
PKI				*e*Sn	Sn	10 30 15.7	-0.1
	496nm,0.4s						
PKI	Pulchoki	2.23	265	*e*Pg	Pn	10 29 49.4	+0.1
PKI				*e*Sg	Sn	10 30 16.3	+0.5
	798nm,0.4s						
PKI	Pulchoki	2.23	265	*e*Pg	Pn	10 29 49.4	+0.1
PKI				*e*Sn	Sn	10 30 15.7	-0.1
	496nm,0.4s						
PKI	Pulchoki	2.23	265	*e*Pg	Pn	10 29 49.4	+0.1
PKI				*e*Sg	Sn	10 30 16.3	+0.5
	798nm,0.4s						
PKIN	Phulchoki	2.24	265	*e*Pg	Pn	10 29 49.4	0.0
PKIN	Phulchoki	2.24	265	*e*Pg	Pn	10 29 49.4	0.0
PKIN				*e*Sg	Sn	10 30 16.2	+0.2
	2μm,0.4s						
PKIN	Phulchoki	2.24	265	*e*Pg	Pn	10 29 49.4	0.0
PKIN	Phulchoki	2.24	265	*e*Pg	Pn	10 29 49.4	0.0
PKIN				*e*Sg	Sn	10 30 16.2	+0.2
	2μm,0.4s						
KKN	Kakani	2.33	270	*e*Pn	Pn	10 29 51.1	+0.6
KKN	Kakani	2.33	270	*e*Pg	Pn	10 29 51.1	+0.6
KKN				*e*Sg	Sn	10 30 18.8	+0.7
	521nm,0.2s						
KKN	Kakani	2.33	270	*e*Pn	Pn	10 29 51.1	+0.6
KKN	Kakani	2.33	270	*e*Pg	Pn	10 29 51.1	+0.6
KKN				*e*Sg	Sn	10 30 18.8	+0.7
	521nm,0.2s						
DMN	Daman	2.50	266	*e*Pn	Pn	10 29 52.8	-0.1
DMN	Daman	2.50	266	*e*Pg	Pn	10 29 52.7	-0.1
DMN				*e*Sg	Sn	10 30 22.8	+0.6
	1μm,0.6s						
DMN	Daman	2.50	266	*e*Pn	Pn	10 29 52.8	-0.1
DMN	Daman	2.50	266	*e*Pg	Pn	10 29 52.7	-0.1
DMN				*e*Sg	Sn	10 30 22.8	+0.6
	1μm,0.6s						
GKN	Gorkha	2.91	275	*e*Pn	Pn	10 29 58.5	+0.1
GKN				*e*Sn	Sn	10 30 31.9	-0.3
	516nm,0.4s						
GKN	Gorkha	2.91	275	*e*Pg	Pn	10 29 58.5	+0.1
GKN				*e*Sg	Sn

Ms1 3.9/27, ms1mx3.7/59, Error ellipse: s-maj=13.7km s-min=7.8km az=76.0
NEIC ***17*** *10:36:47.9±1.3, 6°.59N±0°.07×126°.88E±0°.08, h67km±2km, mb5.0/115, Error ellipse: s-maj=12.5km s-min=8.9km az=59.0*
MAN ***17*** *10:36:48.2, 6°.54N×126°.79E, h26km, MS5.0*
UNK ***17*** *10:36:48.2, 6°.56N×126°.98E, h66km*
ISC 17 10:36:46.9±0.6, 6°.59N±0°.03×126°.95E±0°.05, h59km±4km, n418, σ1$31/424, mb4.9/132, MS4.0/31, 14C-12D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.77**	**297**	*eP*	**Pn**	**10 37 00.9**	**-1.2**
MATI				*eS*	**Sn**	**10 37 13.1**	**0.0**
DDMP	**Don Marcelino,**	**1.32**	**249**	*eP*	**Pn**	**10 37 09.2**	**-0.1**
DDMP				*eS*	**Sn**	**10 37 28.3**	**+2.4**
DAV	**Davao City (W)**	**1.44**	**289**	P	**Pn**	**10 37 11.4**	**+0.6**
	902nm,0.3s,baz=123,slow=1.8,SNR=186						
DAV				S	**Sn**	**10 37 32.9**	**+4.2**
	1μm,0.3s,baz=282,slow=23,SNR=30						
DAV				LR	LR	10 38 01.0	
	comp=Z,9μm,18.1s,baz=106,slow=52						
DAV	**Davao City (W)**	**1.44**	**289**		**Pn**	**10 37 11.9**	**+1.1**
DAV	**Davao City (W)**	**1.44**	**289**	*eP*	**Pn**	**10 37 10.8**	**-0.1**
BIP	**Bislig**	**1.76**	**337**	*iP*	**Pn**	**10 37 15.2**	**0.0**
BIP				*i* S	**Sn**	**10 37 38.3**	**+1.7**
KCP	**Kidapawan**	**1.89**	**283**	*iP*	**Pn**	**10 37 18.0**	**+1.0**
BUKP	**Musuan**	**2.27**	**304**	*eP*	**Pn**	**10 37 23.9**	**+1.8**
SKMP	**Bagumbayan, Su**	**2.39**	**268**	*eP*	**Pn**	**10 37 23.1**	**-0.7**
SKMP				*eS*	**Sn**	**10 37 55.4**	**+3.5**
PAGZ	**Pagadian**	**3.75**	**290**	*eP*	**Pn**	**10 37 43.1**	**+0.8**
PAGZ				*eS*	**Sn**	**10 38 18.7**	**-6.6**
TBP	**Tagbilaran**	**4.34**	**315**	*eP*	**Pn**	**10 37 54.1**	**+3.7**
LLP	**Lapu-Lapu**	**4.73**	**322**	*eP*	**Pn**	**10 37 58.0**	**+2.2**
LLP				*eS*	**Sn**	**10 38 56.5**	**+7.1**
CNOP	**Candoni, Negro**	**5.34**	**307**	*eP*	**Pn**	**10 38 04.9**	**+0.8**
CNOP				*eS*	Sn	10 38 48.1	-16
TNTI	**Ternate**	**5.80**	**176**	P	**Pn**	**10 38 10.3**	**-0.1**
	1.1nm2μm193nm,0.7s						
TNTI	**Ternate**	**5.80**	**176**	Pn	**Pn**	**10 38 10.8**	**+0.4**
TNTI				Sn	**Sn**	**10 39 16.1**	**+0.5**
GUIM	**Jordan**	**5.88**	**313**	*eP*	**Pn**	**10 38 12.1**	**+0.5**
CNP	**Catarman**	**6.30**	**339**	*eP*	Pn	10 38 21.9	+4.7
CNP				*eS*	**Sn**	**10 39 30.3**	**+2.5**
KMSI	**Cibinong**	**6.67**	**206**	P	**Pn**	**10 38 25.1**	**+2.7**
	1.5nm4μm277nm,0.7s						
GTOI	**Gorontalo**	**7.10**	**214**	P	**Pn**	**10 38 27.7**	**-0.6**
	0.6nm1μm194nm,0.8s						
MYLDM	**Lahad Datu**	**8.52**	**261**	Pn	**Pn**	**10 38 51.8**	**+4.0**
SIJI	**Sorong**	**8.57**	**150**	P	**Pn**	**10 38 47.3**	**-1.2**
	21nm,0.3s,baz=328,slow=18,SNR=26						
SIJI				S	Sn	10 40 14.0	-10
	1.0nm,0.3s,baz=188,slow=23,SNR=1.5						
SIJI				LR	LR	10 42 45.7	
	comp=Z,800nm,18.4s,baz=252,slow=42						
SANI	**Sanana**	**8.64**	**186**	P	**Pn**	**10 38 45.2**	**-4.1**
	874nm85nm,0.6s						
LUWI	**Luwuk**	**8.65**	**209**	P	**Pn**	**10 38 52.8**	**+3.2**
	4μm346nm,1.2s						
LUWI	**Luwuk**	**8.65**	**209**	Pn	**Pn**	**10 38 53.0**	**+3.4**
LQP	**Lukban**	**9.17**	**325**	*eP*	Pn	10 39 02.3	+5.5
MPSI	**Mapaga**	**9.38**	**229**	P	**Pn**	**10 39 02.1**	**+2.5**
	439nm82nm,0.8s						
TGY	**Tagaytay City**	**9.52**	**322**	LR	LR	10 43 01.7	
	comp=Z,869nm,19.2s,baz=138,slow=39						
NLAI	**Namlea**	**9.77**	**179**	P	**Pn**	**10 39 01.9**	**-2.9**
	61nm,0.6s						
FAKI	**Fak Fak**	**10.83**	**151**	P	**Pn**	**10 39 17.1**	**-2.2**
	61nm,1.0s						
FAKI	**Fak Fak**	**10.83**	**151**	Pn	**Pn**	**10 39 18.2**	**-1.2**
SPSI	**Sidrap Palu**	**12.70**	**215**	P	**Pn**	**10 39 48.5**	**+3.6**
	620nm44nm,0.8s						
BNSI	**Bone**	**12.88**	**212**	P	**Pn**	**10 39 45.9**	**-1.4**
	43nm,1.1s						
KAPI	**Kappang**	**13.58**	**212**	P	**Pn**	**10 39 56.9**	**0.0**
	1.1nm,0.3s,baz=14,slow=8.6,SNR=12						
KAPI				LR	LR	10 46 23.9	
	comp=Z,338nm,18.7s,baz=36,slow=42						
KAPI	**Kappang**	**13.58**	**212**	P	**Pn**	**10 39 57.0**	**0.0**
MTKI	**Muara Teweh, K**	**14.17**	**239**	P	**P**	**10 40 07.7**	**-2.8**
	31nm,0.9s						
KBKI	**Kotabaru**	**14.57**	**228**	P	P	10 40 25.0	+10
SBUM	**Sibu**	**15.24**	**255**	P	**P**	**10 40 23.2**	**+0.7**
SBUM				IAmb	IAmb	10 40 26.9	
	comp=Z,84nm,0.8s						
BBKI	**Banjar Baru**	**15.68**	**231**	P	P	10 40 35.3	+8.0
MMRI	**Maumere**	**15.84**	**197**	Pn	**Pn**	**10 40 27.1**	**+0.8**
MMRI				IAmb	IAmb	10 40 48.4	
	comp=Z,50nm,0.6s						
GENI	**Genyem**	**16.05**	**124**	P	**P**	**10 40 36.3**	**+4.9**
EDFI	**Ende, Flores**	**16.12**	**199**	P	**P**	**10 40 32.2**	**-0.1**
	comp=Z,22nm,0.8s						
JAY	**Jayapura**	**16.45**	**123**	P	**Pn**	**10 40 32.7**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=257,slow=6.8,SNR=3.8						
JAY				LR	LR	10 45 38.9	
	comp=Z,381nm,21.3s,baz=322,slow=32						
JAY	**Jayapura**	**16.45**	**123**	P	**P**	**10 40 37.2**	**+1.3**
SOEI	**Soe**	**16.46**	**189**	P	P	10 40 45.4	+9.3
SOEI	**Soe**	**16.46**	**189**		**Pn**	**10 40 33.9**	**-0.4**
SOEI				IAmb	IAmb	10 41 02.9	
	comp=Z,79nm,0.8s						
BATI	**Baumata**	**17.01**	**191**	P	**P**	**10 40 42.6**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=56,slow=3.6,SNR=2.0						
BATI				LR	LR	10 49 27.3	
	comp=Z,503nm,18.3s,baz=12,slow=45						
BATI	**Baumata**	**17.01**	**191**	P	**P**	**10 40 42.4**	**+0.3**
	comp=Z,804nmcomp=Z,69nm,0.9s						
KSM	**Kuching**	**17.36**	**254**	P	**P**	**10 40 46.9**	**+1.0**
WBSI	**Waikabubak, Su**	**17.80**	**205**	P	P	10 41 01.2	+10
TWSI	**Taliwang, Sumb**	**18.24**	**214**	P	**Pn**	**10 40 56.3**	**+0.2**
	comp=Z,33nm,0.9s						
DLV	**T Lat**	**18.97**	**288**	P	**P**	**10 41 03.6**	**-0.4**
DLV				IAmb	IAmb	10 41 07.4	
	comp=Z,84nm,0.7s						
MTN	**Manton Dam**	**19.75**	**168**	P	**P**	**10 41 11.5**	**-0.7**
	baz=20,SNR=18						
MTN	**Manton Dam**	**19.75**	**168**	P	**P**	**10 41 11.5**	**-0.7**
KDU	**Kakadu**	**19.93**	**164**	P	**P**	**10 41 13.1**	**-1.0**
	baz=20,SNR=12						
QIZ	**Qiongzhong**	**20.73**	**308**	P	Pn	10 41 24.3	-1.4
QIZ				S	**S**	**10 45 13.0**	**+1.8**
QIZ				LR	LR		
	comp=Z,930nm,7.8s						
QIZ				LR	LR		
	comp=Z,830nm,11.8s						
KNRA	**Kununurra**	**22.20**	**175**	P	**P**	**10 41 38.0**	**-0.5**
	baz=22,SNR=82						
KNRA	**Kununurra**	**22.20**	**175**	P	**P**	**10 41 38.4**	**-0.2**
KNRA				IAmb	IAmb	10 42 07.2	
	comp=Z,72nm,0.7s						
PPBI	**Pangkal Pinang**	**22.52**	**248**	P	**P**	**10 41 42.1**	**0.0**
	comp=Z,17μmcomp=Z,33nm,0.8s						
KPJI	**Karang Pucung**	**22.68**	**233**	P	**P**	**10 41 44.7**	**+1.0**
	comp=Z,35nm,0.7s						
DSRI	**Dabo**	**23.40**	**253**	P	**P**	**10 41 51.2**	**+0.2**
	comp=Z,1μmcomp=Z,31nm,0.9s						
CBJI	**Citeko**	**23.86**	**238**	P	P	10 42 04.8	+10
FITZ	**Fitzroy Crossi**	**24.57**	**183**	P	**P**	**10 42 00.7**	**-0.8**
	comp=Z,14nm,0.8s,baz=357,slow=6.7,SNR=43						
FITZ	**Fitzroy Crossi**	**24.57**	**183**	P	**P**	**10 42 01.3**	**-0.1**
	baz=25,SNR=36						
FITZ	**Fitzroy Crossi**	**24.57**	**183**	P	**P**	**10 42 00.5**	**-1.0**
KLSI		**24.85**	**244**	P	**P**	**10 42 06.7**	**+2.5**
	comp=Z,17nm,0.8s						
JCJ	**Chichijima**	**25.01**	**34**	P	**P**	**10 42 06.0**	**+0.5**
	comp=Z,175nm,0.4s,baz=186,slow=3.6,SNR=41						
JCJ	**Chichijima**	**25.01**	**34**	P	**P**	**10 42 06.0**	**+0.5**
MDSI	**Maura Dua**	**25.25**	**245**	P	**P**	**10 42 08.8**	**+1.0**
	comp=Z,27nm,0.9s						
LHSI	**Lahat**	**25.57**	**247**	P	**P**	**10 42 14.1**	**+3.4**
	comp=Z,110nm,0.6s						
PMG	**Port Moresby**	**25.66**	**128**	LR	LR	10 54 20.4	
	comp=Z,212nm,19.5s,baz=289,slow=41						
IPM	**Ipoh**	**25.89**	**267**	P	**P**	**10 42 14.0**	**+0.4**
KULM	**Kulim**	**26.19**	**269**	P	**P**	**10 42 16.2**	**-0.1**
KULM				IAmb	IAmb	10 42 40.8	
	comp=Z,34nm,1.0s						
NJ2	**Nanjing**	**26.43**	**344**	*eP*	**P**	**10 42 21.0**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,14nm,0.7s						
SDSI	**Sungai Dareh**	**26.54**	**255**	P	**P**	**10 42 18.9**	**-0.6**
	comp=Z,29nm,1.1s						
WHN	**Wuhan**	**26.60**	**335**	P	**P**	**10 42 23.3**	**+3.5**
JNU	**Nakatsue**	**26.65**	**7**	P	**P**	**10 42 19.7**	**-0.5**
	comp=Z,12nm,0.8s,baz=173,slow=9.7,SNR=7.3						
JNU				LR	LR	10 52 06.6	
	comp=Z,197nm,21.6s,baz=174,slow=34						
JNU	**Nakatsue**	**26.65**	**7**	P	**P**	**10 42 20.1**	**-0.2**
WB0	**Warramunga Arr**	**27.20**	**165**	P	**P**	**10 42 24.5**	**-0.9**
WB0				IAmb	IAmb	10 42 34.4	
	comp=Z,28nm,0.8s						
KRVT	**Keravat (AS076**	**27.28**	**113**	LR	LR	10 51 09.6	
	comp=Z,209nm,21.3s,baz=298,slow=32						
WRAB	**Tennant Creek**	**27.35**	**165**	*ceP*	**P**	**10 42 25.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,16nm,1.3s						
WRAB	**Tennant Creek**	**27.35**	**165**	P	**P**	**10 42 26.4**	**-0.3**
WRA	**Warramunga Arr**	**27.35**	**165**	P	**P**	**10 42 25.7**	**-1.0**
	comp=Z,4.4nm,0.6s,baz=350,slow=9.9,SNR=53						
WRA				S	**S**	**10 46 57.4**	**-5.2**
	comp=Z,2.8nm,1.0s,baz=343,slow=14,SNR=4.9						
WRA				ScP	**ScP**	**10 49 20.7**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=344,slow=3.5,SNR=5.6						
WRA				LR	LR	10 56 49.2	
	comp=Z,188nm,18.4s,baz=0.0,slow=44						
WRA	**Warramunga Arr**	**27.35**	**165**	P	**P**	**10 42 26.4**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**27.35**	**165**	P	**P**	**10 42 26.4**	**-0.3**
WB2	**Warramunga Arr**	**27.36**	**165**	P	**P**	**10 42 25.9**	**-0.9**
WR0	**Warramunga Arr**	**27.42**	**164**	P	**P**	**10 42 26.3**	**-1.0**
PDSI	**Padang**	**27.46**	**255**	P	**P**	**10 42 30.2**	**+2.4**
	comp=Z,9μmcomp=Z,23nm,0.8s						
GYA	**Guiyang**	**27.64**	**318**	*eP*	**P**	**10 42 29.8**	**+0.5**
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
JMN	**Monobe**	**27.76**	**12**	P	**P**	**10 42 31.1**	**+0.9**
JMN				IAmb	IAmb	10 42 32.5	
	comp=Z,58nm,0.8s						
PSI	**Prapat**	**28.18**	**264**	P	**P**	**10 42 35.3**	**+1.0**
	comp=Z,6.2nm,0.5s,baz=358,slow=1.1,SNR=4.1						
PSI				LR	LR	10 56 23.8	
	comp=Z,288nm,18.0s,baz=90,slow=42						
RPSI	**Rantau Prapat**	**28.19**	**263**	P	**P**	**10 42 35.3**	**+1.0**
ENH	**Enshi**	**28.71**	**327**	P	**P**	**10 42 38.5**	**-0.2**
JHS	**Saijyo**	**28.84**	**11**	P	**P**	**10 42 40.1**	**+0.3**
PSA00	**Pilbara Seismi**	**28.84**	**194**	P	**P**	**10 42 39.1**	**-0.9**
PSA00				IAmb	IAmb	10 43 01.8	
	comp=Z,28nm,0.8s						
PSA00	**Pilbara Seismi**	**28.84**	**194**	P	**P**	**10 42 39.5**	**-0.5**
PSA00				IAmb	IAmb	10 43 02.0	
	comp=Z,12nm,0.9s						
JHJ	**Hachijo jima 2**	**28.96**	**23**	LR	LR	10 53 43.5	
	comp=Z,227nm,20.6s,baz=206,slow=35						
JWT	**Wachi**	**29.59**	**14**	P	**P**	**10 42 46.9**	**+0.4**
KMI	**Kunming**	**29.59**	**311**	*eP*	**P**	**10 42 50.5**	**+3.6**
KMI				pP	pP	10 43 00.3	-0.2
KMI				sP	sP	10 43 14.1	+7.1
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
KMI				pmax	pmax		
	comp=Z,98nm,5.1s						
KMI				LR	LR		
	comp=Z,330nm,11.3s						
KMI				LR	LR		
	comp=Z,260nm,9.1s						
KMI				LR	LR		
	comp=Z,500nm,17.3s						
QIS	**Mount Isa**	**29.71**	**156**	P	**P**	**10 42 47.1**	**-0.6**
	baz=30,SNR=23						
CMAR	**Chiang Mai Arr**	**29.72**	**296**	P	**P**	**10 42 48.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=130,slow=8.0,SNR=7.8						
CMAR				PcP	**PcP**	**10 45 52.3**	**+1.5**
	comp=Z,2.5nm,0.7s,baz=117,slow=1.6,SNR=8.6						
CMAR				LR	LR	10 55 22.6	
	comp=Z,348nm,19.4s,baz=166,slow=38						
CMAR	**Chiang Mai Arr**	**29.72**	**296**	*i* P	**P**	**10 42 49.9**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.72**	**296**	P	**P**	**10 42 47.2**	**-0.6**
GSI	**Gunungsitoli**	**29.76**	**261**	P	**P**	**10 42 46.7**	**-1.5**
GSI				IAmb	IAmb	10 42 53.3	
	comp=Z,36nm,0.9s						
MTSU	**Mount Surprise**	**29.96**	**145**	P	**P**	**10 42 49.8**	**-0.2**
	baz=30,SNR=7.6						
INU	**Inuyama**	**30.08**	**17**	P	**P**	**10 42 51.7**	**+0.9**
JGF	**Kuroka**	**30.41**	**17**	P	**P**	**10 42 54.0**	**+0.2**
JGF				IAmb	IAmb	10 42 56.3	
	comp=Z,28nm,0.9s						
KSRS	**Korea Array**	**30.73**	**2**	P	**P**	**10 42 56.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=174,slow=10.0,SNR=9.5						
KSRS				LR	LR	10 54 03.0	
	comp=Z,126nm,21.6s,baz=182,slow=34						
AS31	**Alice Springs**	**30.83**	**167**	P	**P**	**10 42 57.1**	**-0.5**
ASAR	**Alice Springs**	**30.83**	**167**	P	**P**	**10 42 56.6**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=348,slow=7.1,SNR=31						
ASAR				PcP	**PcP**	**10 45 53.9**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=350,slow=2.4,SNR=9.8						
ASAR				S	**S**	**10 47 56.5**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=352,slow=19,SNR=4.8						
ASAR				ScP	**ScP**	**10 49 31.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=339,slow=2.9,SNR=4.1						
ASAR				LR	LR	10 57 22.0	
	comp=Z,212nm,19.5s,baz=303,slow=40						
ASAR	**Alice Springs**	**30.83**	**167**	P	**P**	**10 42 56.9**	**-0.7**
ASAR	**Alice Springs**	**30.83**	**167**	P	**P**	**10 42 56.9**	**-0.7**
WRKA	**Warakurna**	**31.47**	**178**	P	**P**	**10 43 02.9**	**-0.2**
	baz=32,SNR=28						
MAJO	**Matsushiro**	**31.54**	**17**	*c iP*	**P**	**10 43 03.0**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,18nm,0.6s						
MAJO	**Matsushiro**	**31.54**	**17**	P	**P**	**10 43 03.5**	**-0.2**
MAJO				IAmb	IAmb	10 43 05.1	
	comp=Z,23nm,0.7s						
MAT	**Matsushiro**	**31.54**	**17**	P	**P**	**10 43 02.9**	**-0.8**
MAT				S	**S**	**10 48 02.6**	**-5.5**
MJAR	**Matsushiro Arr**	**31.54**	**17**	P	**P**	**10 43 02.9**	**-0.8**
	comp=Z,19nm,0.8s,baz=196,slow=9.1,SNR=54						
MJAR				LR	LR	10 54 55.9	
	comp=Z,248nm,20.4s,baz=195,slow=34						
MJAR	**Matsushiro Arr**	**31.54**	**17**	P	**P**	**10 43 02.9**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MJAR	**Matsushiro Arr**	**31.54**	**17**	P	**P**	**10 43 02.9**	**-0.8**
XAN	**Xi'an**	**32.00**	**331**	P	**P**	**10 43 06.3**	**-1.5**
XAN				PcP	**PcP**	**10 45 56.8**	**+0.1**
XAN				pmax	pmax		
	comp=Z,29nm,0.7s						
XAN	**Xi'an**	**32.00**	**331**	P	**P**	**10 43 06.6**	**-1.2**
XAN				pmax	pmax		
	comp=Z,18nm,0.7s						
XAN	**Xi'an**	**32.00**	**331**	P	**P**	**10 43 06.6**	**-1.2**
XAN				IAmb	IAmb	10 43 08.4	
	comp=Z,18nm,0.7s						
CD2	**Chengdu**	**32.52**	**321**	P	**P**	**10 43 12.5**	**+0.1**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
CD2				LR	LR		
	comp=Z,700nm,11.9s						
CD2				LR	LR		
	comp=Z,530nm,13.9s						
CD2				LR	LR		
	comp=Z,510nm,17.3s						
CTA	**Charters Tower**	**32.61**	**145**	P	**P**	**10 43 13.2**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=335,slow=9.5,SNR=3.5						
JSD	**Sado**	**32.94**	**17**	P	**P**	**10 43 15.8**	**-0.1**
JSD				IAmb	IAmb	10 43 16.6	
	comp=Z,34nm,0.9s						
JMM	**Marumori**	**33.58**	**20**	P	**P**	**10 43 22.2**	**+0.8**
MEEK	**Meekatharra**	**34.01**	**193**	P	**P**	**10 43 24.9**	**-0.4**
	baz=34,SNR=11						
BJI	**Beijing**	**34.68**	**345**	P	**P**	**10 43 29.9**	**-1.0**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LZH	**Lanzhou**	**36.19**	**327**	*eP*	**P**	**10 43 44.8**	**+0.6**
LZH				pP	pwP	10 44 05.9	+2.1
LZH				*e*PP	**PP**	**10 45 07.8**	**+0.3**
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,6.0s						
LZH				LR	LR		
	comp=Z,400nm,12.3s						
LZH				LR	LR		
	comp=Z,430nm,13.2s						
LZH				LR	LR		
	comp=Z,390nm,16.5s						
JTM	**Tenmabayashi**	**36.31**	**18**	P	**P**	**10 43 44.7**	**-0.2**
HNR	**Honiara**	**36.53**	**115**	LR	LR	10 59 38.0	
	comp=Z,88nm,18.9s,baz=340,slow=38						
HHC	**Hu-ho-hao-te**	**36.78**	**340**	*eP*	**P**	**10 43 51.8**	**+2.7**
HHC				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC				pmax	pmax		
	comp=Z,99nm,6.0s						
HHC				LR	LR		
	comp=Z,340nm,18.4s						
HHC				LR	LR		
	comp=Z,180nm,17.6s						
HHC				LR	LR		
	comp=Z,320nm,16.1s						
MORW	**Morawa**	**36.98**	**196**	P	**P**	**10 43 50.8**	**+0.1**
MORW				IAmb	IAmb	10 44 13.7	
	comp=Z,35nm,1.2s						
QLP	**Quilpie**	**36.99**	**154**	P	**P**	**10 43 50.1**	**-0.8**
	baz=37,SNR=4.1						
FORT	**Forrest**	**37.17**	**178**	P	**P**	**10 43 52.4**	**0.0**
	baz=37,SNR=39						
FORT	**Forrest**	**37.17**	**178**	P	**P**	**10 43 52.2**	**-0.2**
USA0B	**Ussuriysk Arra**	**37.72**	**6**	P	**P**	**10 43 57.6**	**+0.8**
USA0B				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**37.72**	**6**	P	**P**	**10 43 57.6**	**+0.8**
USA0B				IAmb	IAmb	10 43 58.4	
	comp=Z,9.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**37.72**	**6**	P	**P**	**10 43 57.5**	**+0.6**
	comp=Z,7.0nm,0.5s,baz=199,slow=6.9,SNR=18						
USRK				LR	LR	10 58 16.9	
	comp=Z,116nm,20.9s,baz=200,slow=34						
MDJ	**Mudanjiang**	**37.95**	**3**	P	**P**	**10 43 59.9**	**+1.2**
MDJ				IAmb	IAmb	10 44 01.8	
	comp=Z,18nm,0.8s						
KMBL	**Kambalda**	**38.05**	**187**	P	**P**	**10 43 59.9**	**+0.1**
	baz=38,SNR=5.3						
ERM	**Erimo**	**38.10**	**20**	*deP*	**P**	**10 44 02.6**	**+2.5**
ERM				pmax	pmax		
	comp=Z,46nm,1.1s						
ERM	**Erimo**	**38.10**	**20**	P	**P**	**10 44 01.0**	**+0.9**
BLDU	**Ballidu**	**38.27**	**194**	P	**P**	**10 44 01.5**	**-0.2**
	baz=38,SNR=9.2						
SHL	**Shillong**	**38.43**	**303**	P	**P**	**10 44 02.8**	**-0.5**
SHL				pmax	pmax		
	comp=Z,29nm,1.0s						
SHL	**Shillong**	**38.43**	**303**	P	**P**	**10 44 02.8**	**-0.5**
SHL				IAmb	IAmb	10 44 19.1	
	comp=Z,29nm,1.0s						
KLBR	**Kellerberrin**	**38.97**	**193**	P	**P**	**10 44 07.8**	**+0.3**
	baz=39,SNR=13						
RMQ	**Roma**	**39.10**	**148**	P	**P**	**10 44 07.5**	**-1.2**
	baz=39,SNR=4.8						
TEY	**Ternei**	**39.21**	**11**	*eP*	P	10 44 00.0	-9.3
MUN	**Mundaring**	**39.70**	**194**	P	**P**	**10 44 14.0**	**+0.4**
	baz=40,SNR=7.8						
ASAJ	**Asahikawa**	**39.81**	**18**	P	**P**	**10 44 15.9**	**+1.5**
	comp=Z,12nm,0.4s,baz=229,slow=8.6,SNR=32						
ASAJ	**Asahikawa**	**39.81**	**18**	P	**P**	**10 44 14.7**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,26nm,0.8s						
JKA	**Kamikawa-asahi**	**39.81**	**18**	P	**P**	**10 44 14.7**	**+0.3**
JKA				IAmb	IAmb	10 44 40.2	
	comp=Z,26nm,0.8s						
BBOO	**Buckleboo**	**40.13**	**168**	P	**P**	**10 44 17.3**	**+0.1**
	baz=40,SNR=18						
BBOO	**Buckleboo**	**40.13**	**168**	P	**P**	**10 44 17.4**	**+0.2**
BBOO				IAmb	IAmb	10 44 38.7	
	comp=Z,14nm,0.7s						
NWAO	**Narrogin (SRO)**	**40.37**	**193**	P	**P**	**10 44 19.7**	**+0.5**
	comp=Z,33nm,0.9s,baz=17,slow=7.7,SNR=19						
NWAO				LR	LR	11 02 32.0	
	comp=Z,113nm,18.1s,baz=74,slow=38						
NWAO	**Narrogin (SRO)**	**40.37**	**193**	P	**P**	**10 44 20.0**	**+0.8**
	baz=40,SNR=14						
NWAO	**Narrogin (SRO)**	**40.37**	**193**	P	**P**	**10 44 18.9**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,55nm,1.2s						
NWAO	**Narrogin (SRO)**	**40.37**	**193**	P	**P**	**10 44 18.9**	**-0.3**
NWAO	**Narrogin (SRO)**	**40.37**	**193**	P	**P**	**10 44 18.7**	**-0.4**
NWAO				IAmb	IAmb	10 44 41.6	
	comp=Z,40nm,1.1s						
STKA	**Stephens Creek**	**40.73**	**161**	P	**P**	**10 44 21.8**	**-0.3**
	comp=Z,4.8nm,0.5s,baz=337,slow=8.8,SNR=22						
STKA	**Stephens Creek**	**40.73**	**161**	P	**P**	**10 44 21.8**	**-0.3**
	baz=41,SNR=22						
STKA	**Stephens Creek**	**40.73**	**161**	P	**P**	**10 44 21.4**	**-0.7**
STKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STKA	**Stephens Creek**	**40.73**	**161**	P	**P**	**10 44 21.4**	**-0.7**
GTA	**Gaotai**	**40.79**	**327**	*eP*	**P**	**10 44 23.0**	**+0.2**
GTA				pP	sP	10 44 39.0	-3.7
GTA				sP	pwP	10 44 45.5	+3.0
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
GTA				pmax	pmax		
	comp=Z,100nm,11.3s						
GTA				LR	LR		
	comp=Z,250nm,20.7s						
GTA				LR	LR		
	comp=Z,280nm,20.7s						
GTA				LR	LR		
	comp=Z,360nm,20.7s						
HTT	**Hallett**	**41.39**	**165**	P	**P**	**10 44 27.7**	**+0.1**
	baz=42,SNR=4.0						
CMSA	**Cobar Meteorol**	**41.93**	**156

GRNR MLR MLR
comp=Z,170nm,16.0s
DMN Daman 44.82 303 *eP* **P 10 44 55.2 -0.5**
comp=Z,40nm,0.8s
DMN Daman 44.82 303 *eP* **P 10 44 55.2 -0.5**
comp=Z,40nm,0.8s
ARPS Mount Arapiles 45.34 163 P **P 10 45 00.1 +0.8**
baz=45,SNR=8.9
GKN Gorkha 45.34 303 *eP* **P 10 44 59.0 -0.7**
comp=Z,27nm,0.9s
GKN Gorkha 45.34 303 *eP* **P 10 44 59.0 -0.7**
comp=Z,27nm,0.9s
KOLN Koldanda 46.13 302 *eP* **P 10 45 05.6 -0.4**
comp=Z,90nm,0.8s
KOLN Koldanda 46.13 302 *eP* **P 10 45 05.6 -0.4**
comp=Z,90nm,0.8s
PYUN Piuthan 46.75 303 *eP* **P 10 45 10.7 -0.2**
comp=Z,92nm,0.8s
PYUN Piuthan 46.75 303 *eP* **P 10 45 10.7 -0.2**
comp=Z,92nm,0.8s
ZEA Zeya 47.01 0 *eP* **P 10 45 11.3 -0.9**
ZEA pmax pmax
comp=Z,12nm,1.0s
DZM Mont Dzumac 48.05 128 P **P 10 45 21.4 +0.5**
comp=Z,4.6nm,0.7s,baz=273,slow=12,SNR=5.2
HYB Hyderabad 48.41 287 *i P* **P 10 45 24.0 +0.3**
TLY Talaya 48.90 341 P **P 10 45 27.4 +0.5**
comp=Z,2.0nm,0.3s,baz=86,slow=7.7,SNR=3.5
TLY Talaya 48.90 341⇓ *eP* **P 10 45 27.1 +0.2**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY Talaya 48.90 341 P **P 10 45 27.1 +0.2**
MOY Mondy 49.79 339 *eP* **P 10 45 33.8 0.0**
MOY pmax pmax
comp=Z,14nm,1.8s
WMQ Urumqi 50.54 324 *eP* **P 10 45 38.8 -0.8**
WMQ pP pwP 10 46 01.8 +2.2
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ pmax pmax
comp=Z,81nm,3.8s
WMQ LR LR
comp=Z,130nm,13.5s
WMQ LR LR
comp=Z,170nm,19.7s
WMQ LR LR
comp=Z,96nm,25.1s
BOD Bodaibo 52.08 351 *eP* **P 10 45 50.1 -0.6**
BOD pmax pmax
comp=Z,7.0nm,1.1s
MOO Moorlands 52.17 161 P **P 10 45 49.8 -1.9**
baz=52,SNR=4.2
PEA0B Petropavlovsk- 52.72 23 P **P 10 45 56.2 +0.6**
PEA0B pmax pmax
comp=Z,17nm,0.7s
PEA0B Petropavlovsk- 52.72 23 P **P 10 45 56.2 +0.6**
PEA0B IAmb IAmb 10 45 58.1
comp=Z,17nm,0.7s
PETK Petropavlovsk- 52.72 23 P **P 10 45 57.0 +1.5**
comp=Z,15nm,0.6s,baz=185,slow=2.7,SNR=90
PETK Petropavlovsk- 52.72 23 P **P 10 45 56.5 +0.9**
PETK Petropavlovsk- 52.72 23 P **P 10 45 56.5 +0.9**
DGZ Jazzator, Alta 54.24 329 *c i P* **P 10 46 07.0 0.0**
DGZ pmax pmax
comp=Z,4.0nm,0.5s
SHLS Shalkode 55.32 319 *eP* **P 10 46 13.1 -1.8**
comp=Z,8.5nm,0.9s,baz=319
SHLS *eS* **S 10 53 50.7 -4.1**
baz=319
SHLS Shalkode 55.32 319 *eP* **P 10 46 13.1 -1.8**
SHLS *eS* **S 10 53 50.7 -4.1**
SHLS pmax pmax
comp=Z,9.0nm,0.9s
YAK Yakutsk 55.36 2 *eP* **P 10 46 14.6 0.0**
YAK *e*PP* **sP 10 46 30.5 -3.9**
YAK *e* 10 47 14.4
YAK *e* 10 48 16.8
YAK *eS* **S 10 53 56.7 +2.3**
YAK *e* 10 55 57.1
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=Z,60nm,2.9s
YAK pmax pmax
comp=N,26nm,2.5s
YAK pmax pmax
comp=E,50nm,2.8s
YAK smax smax
comp=N,37nm,2.0s
YAK smax smax
comp=E,21nm,2.5s
YAK Yakutsk 55.36 2 P **P 10 46 15.1 +0.5**
MK31 Makanchi Array 55.36 324 *eP* **P 10 46 14.8 -0.2**
MK31 Makanchi Array 55.36 324 P **P 10 46 14.7 -0.2**
MK31 IAmb IAmb 10 46 15.8
comp=Z,12nm,0.6s
MKAR Makanchi Array 55.36 324 P **P 10 46 14.9 -0.1**
comp=Z,17nm,0.5s,baz=118,slow=8.0,SNR=194
MKAR Makanchi Array 55.36 324 *i P* **P 10 46 14.8 -0.2**
MKAR pmax pmax
comp=Z,17nm,0.5s
MKAR Makanchi Array 55.36 324 P **P 10 46 14.8 -0.2**
MAKZ Makanchi 55.55 324 P **P 10 46 16.4 0.0**
MAKZ pmax pmax
comp=Z,14nm,0.6s
MAKZ Makanchi 55.55 324 P **P 10 46 16.4 0.0**
MAKZ IAmb IAmb 10 46 16.7
comp=Z,14nm,0.6s
UZB Uzynbulak 55.60 319⇑ *i P* **P 10 46 16.9 0.0**
comp=Z,6.9nm,0.6s,baz=319
UZB Uzynbulak 55.60 319 *c i P* **P 10 46 16.9 0.0**
UZB pmax pmax
comp=Z,7.0nm,0.6s
PRZ Przheval'sk 55.72 318 P **P 10 46 18.2 +0.4**
PRZ pmax pmax
comp=Z,27nm,0.8s
PRZ Przheval'sk 55.72 318 P **P 10 46 18.2 +0.4**
TARG Taragay, Kyrgy 55.80 317 P **P 10 46 18.4 -0.3**
MA2 Magadan 55.89 14 *c i P* **P 10 46 19.2 +0.7**
MA2 pmax pmax
comp=Z,6.0nm,0.7s
MA2 Magadan 55.89 14 P **P 10 46 19.5 +1.0**
MA2 IAmb IAmb 10 46 20.3
comp=Z,12nm,0.7s
KPKS Kokpek 55.96 319 *eP* **P 10 46 19.5 0.0**
comp=Z,13nm,0.7s,baz=319
KPKS Kokpek 55.96 319 *eP* **P 10 46 19.4 0.0**
KPKS pmax pmax
comp=Z,13nm,0.7s
SATY Saty 55.97 318⇑ *i P* **P 10 46 19.7 +0.2**
comp=Z,10.0nm,0.7s,baz=318
SATY Saty 55.97 318 *c i P* **P 10 46 19.6 +0.1**
SATY pmax pmax
comp=Z,10.0nm,0.7s
NIL Nilore 56.39 306 P **P 10 46 22.4 -0.2**
NIL pmax pmax
comp=Z,31nm,0.8s
NIL Nilore 56.39 306 P **P 10 46 22.4 -0.2**
KDJ Kajisay 56.39 317 P **P 10 46 22.7 +0.1**
KDJ Kajisay 56.39 317 P **P 10 46 22.7 +0.1**
TDK Taldyqorghan 56.84 321 *eP* **P 10 46 25.4 -0.1**
comp=Z,10nm,0.5s,baz=321
TDK Taldyqorghan 56.84 321 *eP* **P 10 46 25.4 -0.1**
TDK pmax pmax
comp=Z,10.0nm,0.5s
MDOK Medeo 56.91 318 *eP* **P 10 46 26.3 0.0**
baz=318
MDOK Medeo 56.91 318 *eP* **P 10 46 26.2 0.0**
TNSS Tian-Shan 56.92 318 *eP* **P 10 46 26.8 +0.1**
baz=318
TNSS Tian-Shan 56.92 318 *eP* **P 10 46 26.8 +0.1**
AAA Alma-Ata 57.02 318 *eP* **P 10 46 27.1 +0.2**
baz=318
AAA Alma-Ata 57.02 318 *eP* **P 10 46 27.1 +0.2**
KUU Kurty 57.68 319 *eP* **P 10 46 31.2 -0.3**
comp=Z,20nm,1.0s,baz=319
KUU Kurty 57.68 319 *eP* **P 10 46 31.2 -0.3**
KUU pmax pmax
comp=Z,20nm,1.0s
TKM2 Tokmak 2 57.78 317 *i P* **P 10 46 31.4 -1.1**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
ZAA0 Zalesovo Array 58.16 332 P **P 10 46 33.4 -1.2**
ZAA0 IAmb IAmb 10 46 34.0
comp=Z,6.2nm,0.5s
ZALV Zalesovo Beam 58.16 332 P **P 10 46 33.5 -1.1**
comp=Z,5.1nm,0.4s,baz=130,slow=6.8,SNR=14
ZALV Zalesovo Beam 58.16 332 P **P 10 46 33.3 -1.4**
AAK Ala-Archa 58.42 317 *deP* **P 10 46 37.6 +0.7**
AAK pmax pmax
comp=Z,8.0nm,0.7s
SGDS Sogindy 58.64 318 *eP* **P 10 46 37.7 -0.7**
baz=318
SGDS Sogindy 58.64 318 *eP* **P 10 46 37.6 -0.7**
KURK Kurchatov 59.47 327 *c i P* **P 10 46 43.4 -0.4**
KURK pmax pmax
comp=Z,22nm,0.7s
KURK Kurchatov 59.47 327 P **P 10 46 43.4 -0.4**
KURBB Kurchatov Arra 59.48 326 P **P 10 46 43.5 -0.3**
comp=Z,16nm,0.7s,baz=126,slow=6.2,SNR=103
BTLS Baital 59.65 319⇑ *i P* **P 10 46 44.5 -0.6**
comp=Z,3.3nm,0.7s,baz=319
BTLS Baital 59.65 319 *c i P* **P 10 46 44.5 -0.6**
BTLS pmax pmax
comp=Z,3.0nm,0.7s
KBL Kabul 59.99 306 P **P 10 46 47.7 -0.3**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 59.99 306 P **P 10 46 47.7 -0.3**
KBL IAmb IAmb 10 46 48.2
comp=Z,13nm,0.8s
BTK Batken 60.13 313 P **P 10 46 48.8 +0.2**
BTK pmax pmax
comp=Z,15nm,1.2s
BTK Batken 60.13 313 P **P 10 46 48.8 +0.2**
BTK IAmb IAmb 10 47 04.5
comp=Z,15nm,1.2s
DZA Taraz 60.68 316 *eP* **P 10 46 51.9 -0.5**
baz=316
DZA Taraz 60.68 316 *eP* **P 10 46 51.8 -0.5**
KK31 Karatay Array 61.32 316 P **P 10 46 56.2 -0.4**
KK31 pmax pmax
comp=Z,11nm,1.0s
KK31 Karatay Array 61.32 316 P **P 10 46 56.1 -0.4**
KK31 IAmb IAmb 10 46 57.1
comp=Z,11nm,0.9s
KKAR Karatay Array 61.32 316 P **P 10 46 56.1 -0.5**
KKAR pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 61.32 316 P **P 10 46 56.2 -0.4**
KKAR IAmb IAmb 10 46 57.1
comp=Z,11nm,0.9s
KKAR Karatay Array 61.32 316 P **P 10 46 56.1 -0.5**
IUG Iuzhnay 61.34 315 *eP* **P 10 46 56.3 -0.7**
comp=Z,5.6nm,0.9s,baz=315
IUG Iuzhnay 61.34 315 *eP* **P 10 46 56.2 -0.7**
IUG pmax pmax
comp=Z,6.0nm,0.9s
AMKA Amchitka 62.02 34 P **P 10 47 01.6 +0.5**
RPZ Rata Peaks 63.98 146 P **P 10 47 15.1 +0.9**
comp=Z,7.4nm,0.9s,baz=270,slow=5.1,SNR=2.1
RPZ Rata Peaks 63.98 146 IAmb IAmb 10 47 39.3
comp=Z,14nm,0.9s
TIXI Tiksi 65.00 1⇓ *eP* **P 10 47 20.1 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 65.06 326 P **P 10 47 20.8 -0.4**
comp=Z,14nm,0.7s,baz=139,slow=12,SNR=61
BRVK Borovoye 65.14 326 P **P 10 47 21.4 -0.2**
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 65.14 326 P **P 10 47 21.4 -0.2**
BRVK IAmb IAmb 10 47 22.3
comp=Z,26nm,0.9s
ATKA Atka Island 66.04 35 P **P 10 47 27.9 +0.4**
WSAR Wadi Sarin 67.52 292 P **P 10 47 36.8 -0.7**
comp=Z,3.9nm,0.6s,baz=110,slow=3.2,SNR=4.4
NRIK Noril'sk 67.72 346 P **P 10 47 37.2 -0.6**
comp=Z,6.9nm,0.8s,baz=128,slow=6.0,SNR=6.2
NRIK LR LR 11 20 38.5
comp=Z,163nm,19.0s,baz=204,slow=39
GEYT Alibeck 69.30 308 P **P 10 47 48.8 +0.4**
comp=Z,6.6nm,0.7s,baz=129,slow=4.7,SNR=9.7
GEYT Alibeck 69.30 308 P **P 10 47 48.5 +0.1**
ABKAR Abkulak array 70.10 320 P **P 10 47 52.2 -0.8**
UNV Unalaska Valle 70.96 35 P **P 10 47 59.1 +1.0**
AKUT Akutan 71.46 35 P **P 10 48 02.2 +1.1**
AKTO Aktyubinsk 71.57 321 LR LR 11 22 00.8
comp=Z,168nm,19.4s,baz=107,slow=38
SVE Sverdlovsk 71.66 328 *eP* **P 10 48 02.0 -0.3**
SVE pmax pmax
comp=Z,27nm,1.1s
ARU Arti 72.66 327 LR LR 11 20 22.2
comp=Z,109nm,21.7s,baz=104,slow=36
ARU Arti 72.66 327 *d i P* **P 10 48 07.4 -0.9**
ARU S **S 10 57 26.2 -2.6**
ARU pmax pmax
comp=Z,21nm,1.3s
ARU Arti 72.66 327 P **P 10 48 07.5 -0.7**
ARU IAmb IAmb 10 48 08.2
comp=Z,41nm,1.5s
KDAK Kodiak Island 79.37 33 P **P 10 48 45.6 -0.8**
KDAK pmax pmax
comp=Z,51nm,0.6s
KDAK Kodiak Island 79.37 33 P **P 10 48 45.6 -0.8**
RSO Redoubt South 79.51 30 P **P 10 48 48.2 +0.7**
IMAR Indian Mountai 79.66 24 P **P 10 48 48.8 +1.0**
PPLA Purkeypile 80.00 27 P **P 10 48 50.5 +0.5**
SKT Skwentna 80.23 28 P **P 10 48 51.8 +0.7**
SKT IAmb IAmb 10 48 52.1
comp=Z,14nm,0.9s
ZEI Tsey 80.46 312 *eP* **P 10 48 51.7 -1.2**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
SUA Susitna One 80.57 29 P **P 10 48 54.1 +1.1**
KTH Kantishna Hill 80.62 27 P **P 10 48 53.6 +0.3**
BPAW Bear Paw Mtn. 80.64 26 P **P 10 48 54.0 +0.8**
BPAW IAmb IAmb 10 48 55.3
comp=Z,23nm,0.8s
AKH Akhalkalaki 80.77 311 P **P 10 48 55.5 +0.9**
AKH pmax pmax
comp=Z,12nm,0.6s
AKH Akhalkalaki 80.77 311 P **P 10 48 55.5 +0.9**
AKH IAmb IAmb 10 48 56.3
comp=Z,12nm,0.6s
KBZ Khabaz 81.19 313 LR LR 11 30 23.2
comp=Z,95nm,19.3s,baz=55,slow=40
COLD Coldfoot 81.19 23 P **P 10 48 57.7 +1.6**
baz=266
COLD Coldfoot 81.19 23 P **P 10 48 57.1 +1.0**
COLD IAmb IAmb 10 48 58.5
comp=Z,9.8nm,0.7s
BWN Browne 81.31 26 P **P 10 48 58.1 +1.4**
KIV Kislovodsk 81.34 313 *eP* **P 10 48 56.1 -1.3**
KIV pmax pmax
comp=Z,36nm,1.1s
PMR Palmer 81.35 29 P **P 10 48 57.6 +0.7**
PMR pmax pmax
comp=Z,14nm,0.8s
PMR Palmer 81.35 29 P **P 10 48 57.6 +0.7**
PMR IAmb IAmb 10 48 58.2
comp=Z,14nm,0.8s
GHO Glory Hole Cre 81.45 29 P **P 10 48 58.4 +0.8**
GHO IAmb IAmb 10 49 13.0
comp=Z,16nm,0.9s
NEA2 Nenana 81.50 26 P **P 10 48 58.8 +1.1**
baz=267
MCK McKinley 81.52 27 P **P 10 48 58.7 +0.8**
MCK pmax pmax
comp=Z,30nm,0.8s
MCK McKinley 81.52 27 P **P 10 48 58.7 +0.8**
TOLK Toolik Lake Re 81.52 22 P **P 10 48 59.3 +1.5**
baz=266
TOLK Toolik Lake Re 81.52 22 P **P 10 48 58.6 +0.7**
TOLK IAmb IAmb 10 49 00.2
comp=Z,16nm,0.8s
RND Reindeer 81.55 27 P **P 10 48 58.3 +0.2**
RND pmax pmax
comp=Z,10.0nm,0.7s
RND Reindeer 81.55 27 P **P 10 48 58.3 +0.2**
RND IAmb IAmb 10 48 59.2
comp=Z,10nm,0.7s
SML Sawmill 81.73 29 P **P 10 49 00.2 +1.1**
SML IAmb IAmb 10 49 00.8
comp=Z,25nm,0.9s
MDM Murphy Dome 81.87 25 P **P 10 49 00.4 +0.6**
WRH Wood River Hil 81.92 26 P **P 10 49 00.3 +0.3**
ARTV Artvin 81.96 311 P **P 10 49 01.5 +0.6**
TCOL CIGO, UAF Yank 82.03 25 P **P 10 49 00.6 +0.1**
baz=268
COLA College 82.03 25 *d i P* **P 10 49 00.7 +0.2**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 82.03 25 P **P 10 49 01.0 +0.5**
COLA IAmb IAmb 10 49 02.7
comp=Z,10.0nm,0.8s
CCB Clear Creek Bu 82.05 26 P **P 10 49 01.0 +0.4**
DHY Denali Highway 82.20 27 P **P 10 49 02.5 +0.8**
POKR Poker Plat Res 82.22 25 P **P 10 49 03.2 +1.7**
baz=269
HDA Harding Lake 82.41 26 P **P 10 49 02.3 -0.3**
baz=269
HDA Harding Lake 82.41 26 P **P 10 49 02.6 +0.1**
HDA IAmb IAmb 10 49 03.8
comp=Z,15nm,0.8s
IL31 82.44 26 P **P 10 49 02.2 -0.5**
ILAR Eielson Array 82.44 26 P **P 10 49 02.2 -0.5**
comp=Z,5.9nm,0.6s,baz=242,slow=5.0,SNR=57
ILAR Eielson Array 82.44 26 P **P 10 49 02.0 -0.7**
ILAR Eielson Array 82.44 26 P **P 10 49 02.0 -0.7**
KLU Klutina 82.88 29 P **P 10 49 05.7 +0.6**
KLMR Klimovskoe 83.03 330 *eP* **P 10 49 03.9 -1.9**
KLMR pmax pmax
comp=Z,22nm,1.1s
KLMR Klimovskoe 83.03 330 *eP* **P 10 49 03.9 -1.9**
KLMR AMP 10 49 06.1
comp=Z,22nm,1.1s
BMAR Burnt Mountain 83.37 23 P **P 10 49 08.1 +0.6**
TMCR Tamitsa 83.64 334 *eP* **P 10 49 08.2 -0.6**
DOT Dot Lake 83.69 27 P **P 10 49 09.3 +0.1**
DOT IAmb IAmb 10 49 10.9
comp=Z,11nm,0.9s
MENT Mentasta 83.87 27 P **P 10 49 10.8 +0.7**
MENT IAmb IAmb 10 49 12.4
comp=Z,13nm,0.8s
GLB Gilahina Butte 83.90 29 P **P 10 49 11.2 +0.9**
VRDI Verde Repeater 84.08 29 P **P 10 49 11.7 +0.3**
VRDI IAmb IAmb 10 49 13.5
comp=Z,17nm,0.7s
MOS Moscow 84.22 325 *eP* **P 10 49 10.4 -1.6**
CRQM Cirque 84.25 30 P **P 10 49 13.6 +1.2**
MCARA McCarthy VSAT 84.28 29 P **P 10 49 12.5 +0.3**
MCARA IAmb IAmb 10 49 17.1
comp=Z,19nm,0.8s
TGL Tana Glacier 84.41 30 P **P 10 49 13.5 +0.5**
WAX Waxell Ridge 84.42 30 P **P 10 49 13.7 +0.7**
K27K Chicken 84.55 26 P **P 10 49 15.5 +2.0**
baz=274
BALM Baldy 84.63 29 P **P 10 49 15.2 +1.1**
BALM IAmb IAmb 10 49 16.5
comp=Z,21nm,0.8s
ISLE Juniper Island 84.66 30 P **P 10 49 14.2 -0.1**
BCAR Beaver Creek A 84.75 27 P **P 10 49 14.5 -0.1**
OBN Obninsk 84.86 325 LR LR 11 29 16.8
comp=Z,36nm,20.7s,baz=184,slow=37
OBN Obninsk 84.86 325 *eP* **P 10 49 15.0 -0.2**
OBN *e*PP* **pwP 10 49 34.9 -2.7**
OBN *e* 10 52 29.6
OBN *eS* **S 10 59 34.4 -4.5**
OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,123nm,19.0s
EGAK Eagle 84.89 25 P **P 10 49 15.3 0.0**
EGAK IAmb IAmb 10 49 17.2
comp=Z,11nm,0.7s
BARN Barnard Glacie 84.96 29 P **P 10 49 17.1 +1.3**
YAH Yahtse 84.97 30 P **P 10 49 16.2 +0.3**
CTGM Chitina Glacie 85.12 29 P **P 10 49 17.9 +1.3**
PCA Pinnacle 85.73 30 P **P 10 49 20.2 +0.6**
PCA IAmb IAmb 10 49 22.3
comp=Z,10nm,0.7s
VNDA Vanda 86.22 173 P **P 10 49 21.5 0.0**
comp=Z,2.7nm,0.7s,baz=316,slow=6.0,SNR=19
VNDA LR LR 11 28 09.3
comp=Z,69nm,19.6s,baz=305,slow=36
VNDA Vanda 86.22 173 P **P 10 49 21.6 0.0**
MAW Mawson 86.50 200 P **P 10 49 23.5 +0.5**
comp=Z,1.5nm,0.9s,baz=17,slow=14,SNR=2.8
MAW Mawson 86.50 200 P **P 10 49 23.5 +0.5**
MAW pmax pmax
comp=Z,1.0nm,1.1s
EPYK Eagle Plains 86.55 24 P **P 10 49 24.1 +0.6**
baz=278
EPYK Eagle Plains 86.55 24 P **P 10 49 23.4 -0.1**
EPYK IAmb IAmb 10 49 25.6
comp=Z,24nm,1.5s
HYT Haines Junctio 87.00 29 P **P 10 49 26.1 +0.2**
HYT IAmb IAmb 10 49 30.1
comp=Z,6.2nm,0.7s
MMAI Mount Meron Ar 87.75 303 LR LR 11 34 35.6
comp=Z,50nm,19.4s,baz=140,slow=40
ARCES ARCESS Array B 87.85 340 P **P 10 49 28.6 -1.1**
comp=Z,4.0nm,0.7s,baz=92,slow=6.1,SNR=10
ARCES ARCESS Array B 87.85 340 P **P 10 49 29.1 -0.6**
ARCES ARCESS Array B 87.85 340 P **P 10 49 29.1 -0.6**
SKAG Skagway 88.29 30 P **P 10 49 32.7 +0.8**
BRTR Keskin Array B 88.37 310 P **P 10 49 31.6 -1.3**
comp=Z,1.8nm,0.7s,baz=134,slow=3.6,SNR=4.5
FINES FINESS Array B 89.43 332 P **P 10 49 36.2 -1.0**
comp=Z,1.8nm,0.6s,baz=82,slow=3.3,SNR=8.5
FINES FINESS Array B 89.43 332 *i P* **P 10 49 38.4 +1.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 89.43 332 P **P 10 49 37.3 +0.2**
VSU Vasula 89.75 329⇓ *eP* **P 10 49 37.8 -0.9**
VSU pmax pmax
comp=Z,21nm,0.8s
AKASG Malin Array Be 89.82 321 P **P 10 49 38.0 -1.3**
comp=Z,3.6nm,0.7s,baz=66,slow=5.0,SNR=9.3
WRAK Wrangell Islan 90.44 33 P **P 10 49 42.6 +0.6**
WRAK IAmb IAmb 10 49 45.3
comp=Z,5.4nm,0.8s
BURAR Bucovina Array 93.02 318 P **P 10 49 53.8 -0.5**
SYO Syowa Base 95.16 201⇑ *eP* **P 10 50 02.6 -0.8**
IDI Anoyia 95.98 306 LR LR 11 39 32.4
comp=Z,42nm,19.2s,baz=80,slow=39
NB2 NORSAR Subarra 96.33 334 P **P 10 50 07.4 -1.7**
comp=Z,3.9nm,1.1s,baz=64,slow=4.4
NB2 NORSAR Subarra 96.33 334 P **P 10 50 07.4 -1.7**
baz=64,slow=4.4
NOA NORSAR Array B 96.33 334 P **P 10 50 07.8 -1.3**
comp=Z,0.8nm,0.7s,baz=64,slow=4.5,SNR=3.9
NOA LR LR 11 37 29.6
comp=Z,68nm,18.7s,baz=115,slow=38
QSPA South Pole Qui 96.48 180 P **P 10 50 09.6 -0.1**
QSPA IAmb IAmb 10 50 19.3
comp=Z,8.6nm,1.3s
D03D Eldon 98.39 40 P Pdif 10 50 20.2 +1.5
baz=289
GERES GERESS Array B 99.99 322 P **Pdif 10 50 25.7 -0.2**
comp=Z,0.3nm,0.4s,baz=70,slow=5.8,SNR=5.0
NEW Newport 101.85 38 P **Pdif 10 50 35.2 +1.1**
baz=294
BOSA Boshof 103.38 242 Pdiff **Pdif 10 50 39.5 -1.8**
comp=Z,3.1nm,0.8s,baz=120,slow=11,SNR=3.2
NVAR Mina Array Bea 104.84 48 Pdiff **Pdif 10 50 49.1 +1.2**
comp=Z,0.4nm,0.5s,baz=263,slow=5.6,SNR=9.4
NVAR PKKPbc **PKKPbc 11 06 32.5 +0.5**
comp=Z,0.3nm,0.6s,baz=151,slow=4.1,SNR=4.5
PDAR Pinedale Array 109.06 41 PKKPab PKKPab 11 06 28.6 -2.9
comp=Z,0.4nm,0.6s,baz=122,slow=6.9,SNR=5.9
TXAR Lajitas Array 119.66 51 PKP **PKiKP 10 55 31.6 +0.4**
comp=Z,0.1nm,0.4s,baz=92,slow=1.2,SNR=5.2
TXAR PKKPbc **PKKPbc 11 05 41.9 -0.4**
comp=Z,0.1nm,0.3s,baz=190,slow=4.6,SNR=3.8
S39A Bolivar 122.13 37 **PKPdf 10 55 35.5 0.0**
TOA0 Torodi Ar. Sit 122.19 290 PKPdf **PKPdf 10 55 35.7 -0.5**
TORD Torodi Ar. Bea 122.19 290 PKP **PKPdf 10 55 35.8 -0.4**
comp=Z,4.3nm,0.6s,baz=47,slow=2.1,SNR=25
TORD PKKPbc **PKKPbc 11 05 32.5 +0.2**
comp=Z,0.8nm,0.7s,baz=282,slow=2.4,SNR=3.8
U40A Yellville 123.29 38 P **PKPdf 10 55 37.6 -0.2**
baz=310
U40A Yellville 123.29 38 PKPdf **PKPdf 10 55 37.3 -0.5**
PLCA Paso Flores 142.58 158 PKhKP PKPpre 10 56 10.7
comp=Z,1.3nm,0.6s,baz=192,slow=5.3,SNR=5.0
BI02 San Fabin de 145.75 153 **PKPab 10 56 21.2 +0.9**
BO02 Sierra Bellavi 147.52 152 **PKPbc 10 56 25.6 +0.4**
TRQA Tornquist 147.65 167 PKP2 **PKPdf 10 56 24.0 +1.4**
TRQA Tornquist 147.65 167 PKPbc **PKPdf 10 56 24.0 +1.4**
MT02 Curacav 148.60 150 **PKPbc 10 56 28.3 +0.4**
PEL Peldehue 148.91 151 PKP2 **PKPbc 10 56 29.1 +0.3**
PEL Peldehue 148.91 151 **PKPbc 10 56 29.1 +0.3**

VA03	San Esteban	149.29	150		PKPbc	10 56 30.7	+0.9
CO01	Juntas del Tor	151.75	148		PKiKP	10 56 36.9	+0.5
AC05	El Transito	152.53	146		PKiKP	10 56 38.6	+0.7
SDV	Santo Domingo	156.69	49	PKPab	PKPab	10 57 06.3	+0.2
CPUP	Villa Florida	159.95	169	PKPab	PKPab	10 57 20.8	+1.2
	comp=Z,2.2nm,0.9s,baz=231,slow=4.8,SNR=4.0						
LPAZ	La Paz	162.37	124	PKPab	PKPab	10 57 33.9	+2.4
	comp=Z,3.9nm,0.7s,baz=224,slow=5.2,SNR=14						
SIV	San Ignacio	167.79	141	PKP	PKPdf	10 56 47.3	-0.4
	comp=Z,0.8nm,0.5s,baz=257,slow=8.8,SNR=5.6						

NEIC ***17*** *10:40:50.2±0.8, 4°.3S±0°.1×152°.38E±0°.08, h151km±5km, mb4.6/15, Error ellipse: s-maj=18.3km s-min=8.0km az=146.0*
IDC ***17*** *10:40:50.7±0.9, 4°.52S×152°.18E, h137km±6km, mb3.8/5, mb1 4.0/5, mb1mx3.4/40, mbtmp4.2/5, Error ellipse: s-maj=31.8km s-min=23.0km az=42.0*
ISC 17 10:40:50.3±0.6, 4°.33S±0°.10×152°.37E±0°.10, h150km, n27, σ0s95/30, mb4.5/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.25	305		Pn	10 41 10.9	+0.2
RABL				Sn	Sn	10 41 26.2	0.0
KRVT	Keravat (AS076	0.34	275	P	Pn	10 41 10.3	-0.7
	227nm,0.3s,baz=202,slow=0.2,SNR=154						
KRVT				S	Sn	10 41 25.3	-1.4
	123nm,0.3s,baz=5.3,slow=21,SNR=34						
PMG	Port Moresby	7.22	225	S	Sn	10 43 51.7	-2.5
	3.0nm,0.3s,baz=338,slow=7.1,SNR=6.2						
PMG	Port Moresby	7.22	225	Pn	Pn	10 42 33.7	+0.3
PMG					Sn	10 43 54.4	+0.2
DZM	Mont Dzumac	22.30	144	P	P	10 45 36.9	+1.2
	8.7nm,0.5s,baz=270,slow=3.0,SNR=18						
DZM	Mont Dzumac	22.30	144	P	P	10 45 37.1	+1.4
DZM				IAmb	IAmb	10 45 39.7	
	comp=Z,41nm,1.5s						
MTN	Manton Dam	22.62	247	P	P	10 45 38.3	-0.4
MTN				IAmb	IAmb	10 45 40.1	
	comp=Z,22nm,1.2s						
WB0	Warramunga Arr	23.29	227	P	P	10 45 44.9	0.0
WR0	Warramunga Arr	23.30	227	P	P	10 45 45.0	0.0
WR0				IAmb	IAmb	10 45 46.1	
	comp=Z,12nm,0.9s						
WRAB	Tennant Creek	23.42	227	P	P	10 45 45.5	-0.7
WRAB				IAmb	IAmb	10 45 46.1	
	comp=Z,9.3nm,0.6s						
WB2	Warramunga Arr	23.43	227	P	P	10 45 46.0	-0.2
WB2				IAmb	IAmb	10 45 47.0	
	comp=Z,51nm,1.5s						
WRA	Warramunga Arr	23.44	227	P	P	10 45 45.8	-0.5
	comp=Z,7.6nm,0.5s,baz=53,slow=9.6,SNR=14						
WRA	Warramunga Arr	23.44	227	P	P	10 45 46.8	+0.5
KNRA	Kununurra	25.80	242	P	P	10 46 07.5	-0.2
KNRA				IAmb	IAmb	10 46 09.0	
	comp=Z,33nm,1.5s						
ASAR	Alice Springs	26.21	221	P	P	10 46 10.9	-0.4
	comp=Z,0.5nm,0.4s,baz=52,slow=9.2,SNR=4.2						
STKA	Stephens Creek	29.21	199	P	P	10 46 38.9	+1.0
FITZ	Fitzroy Crossi	29.51	240	P	P	10 46 39.2	-1.5
	comp=Z,3.1nm,0.8s,baz=360,slow=3.7,SNR=6.2						
AFI	Afiamalu	36.61	107	P	P	10 47 41.3	-1.2
SLVN	Son La	53.89	300	P	P	10 49 58.6	0.0
SLVN				IAmb	IAmb	10 50 14.8	
	comp=Z,9.7nm,1.3s						
KIP	Kipapa	54.92	60	P	P	10 50 05.2	-0.7
CMAR	Chiang Mai Arr	57.29	295	P	P	10 50 24.7	+1.8
	comp=Z,1.9nm,0.8s,baz=116,slow=6.4,SNR=6.8						
CHTO	Chiang Mai	57.40	295	P	P	10 50 23.0	-0.6
CHTO				IAmb	IAmb	10 50 48.1	
	comp=Z,11nm,1.4s						
PTCN	Pitcairn Islan	76.89	115	P	P	10 52 26.2	-0.4
MKAR	Makanchi Array	79.69	319	P	P	10 52 41.5	+0.1
ZALV	Zalesovo Beam	80.53	326	P	P	10 52 46.9	+1.1
DLBC	Dease Lake	87.21	31	P	P	10 53 19.8	+0.2
TORD	Torodi Ar. Bea	149.75	289	PKPbc	PKPbc	11 00 23.7	+0.1
	comp=Z,1.5nm,0.7s,baz=63,slow=2.3,SNR=5.6						

THR ***17*** *10:42:59.8±0.5, 32°.45N×49°.46E, h18km±8km, ML3.2*
TEH 17 10:42:54.7, 32°.06N×49°.89E, h12km, ML3.2, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHBN	Jahan bin	0.68	75	*e*Pg	Pg	10 43 08.3	+0.3
SHGR	Shooshtar-Gavs	0.93	273	*e*Pg	Pg	10 43 12.4	-0.2
SHGR				IAML		10 43 34.6	
	comp=E,548nm,0.4s						
SHGR	Shooshtar-Gavs	0.93	273	*e*Pg	Pg	10 43 12.4	-0.2
ROKH	ROKH	1.01	73	*e*Pg	Pg	10 43 13.4	-0.9
IPIR	Pirpir	1.05	53	*e*Pg	Pg	10 43 14.6	-0.4
IPIR						10 43 36.1	
IBRJ	Brojen	1.17	97	*e*Pg	Pn	10 43 17.2	0.0
KHMZ	Khomeyn	1.68	2	*e*Pn	Pb	10 43 25.7	+0.1
KHMZ	Khomeyn	1.68	2	*e*Pn	Pb	10 43 25.7	0.0
KLNJ	Kolanjah	1.79	125	*e*Pn	Pb	10 43 27.4	-0.3
KLNJ				*e*		10 43 57.7	
BMDN	Meydan	1.84	331	*e*Pn	Pb	10 43 27.6	-0.8
BMDN				*e*		10 44 03.2	
IGAR	Gharneh	1.86	79	*e*Pg	Pb	10 43 29.0	+0.3
IGAR				*e*		10 43 58.4	
IKLH	Kolahrood	1.90	48	*e*Pn	Pb	10 43 29.9	+0.4
IKLH				*e*		10 44 03.7	
IKMR	Kamar-syah	1.93	319	*e*Pn	Pb	10 43 28.9	-1.0
IKMR				*e*		10 43 58.4	
IRAM	Ramesheh	2.13	96	*e*Pn	Pb	10 43 32.5	-0.9
IRAM				*e*		10 44 07.5	
QAM	Ghamsar	2.14	37	*e*Pn	Pb	10 43 33.1	-0.5
QAM				*e*		10 44 13.2	
IZEF	Zefreh	2.22	67	*e*Pn	Pb	10 43 33.5	-1.5
IZEF				*e*		10 44 06.0	
IDOB	Doab	2.25	321	*e*Pn	Pn	10 43 33.4	+1.5
IKFM	Kafar-mosalman	2.26	311	*e*Pn	Pb	10 43 34.1	-1.3
HSAM	Samen	2.40	334	*e*Pn	Pn	10 43 35.8	+1.7
HSAM				*e*		10 44 20.2	
ASAO	Ashtian	2.49	3	*e*Pn	Pn	10 43 37.1	+1.9
ASAO				IAML		10 44 23.0	
	comp=N,338nm,0.9s						
ASAO	Ashtian	2.49	3	*e*Pn	Pn	10 43 37.1	+1.9
KRSH	Karshahi	2.68	44	*e*Pn	Pn	10 43 40.0	+2.1
KRSH				*e*		10 44 34.3	
GHVR	GHOM	2.69	26	*e*Pn	Pb	10 43 41.6	-1.2
GHVR	GHOM	2.69	26	*e*Pn	Pb	10 43 41.6	-1.2
HAGD	Aghdareh	2.83	347	*e*Pn	Pn	10 43 42.1	+2.2
HAGD				*e*		10 44 30.0	
IKOM	Komasi	2.91	317	*e*Pn	Pn	10 43 42.9	+2.0
IKOM				*e*		10 44 34.0	
IQOM	Qom	2.95	19	*e*Pn	Pn	10 43 43.5	+1.9
ISAD	Sadrabad	3.23	92	*e*Pn	Pn	10 43 47.4	+1.9
IVRN	Varamin	3.31	27	*e*Pn	Pn	10 43 47.8	+1.4
IRAZ	Razeghan	3.34	1	*e*Pn	Pn	10 43 49.6	+2.7
ANAR	Anarak	3.43	70	*e*Pn	Pn	10 43 50.4	+2.3
HSRG	Sareghieh	3.45	338	*e*Pn	Pn	10 43 50.3	+1.8
HSRG				*e*		10 44 58.6	
QABG	Abgarm-Qazvin	3.65	356	*e*Pn	Pn	10 43 52.6	+1.4
SNGE	Sanandaj	3.70	326	*e*Pn	Pn	10 43 50.8	-1.0
SNGE				*e*Sg	Sn	10 44 38.7	+3.2
IDMV	Damavand	3.94	26	*e*Pn	Pn	10 43 56.8	+1.6
IDHR	Dehrash	3.94	313	*e*Pn	Pn	10 43 56.2	+1.0
DAMV	Damavand	3.96	25	*e*Pn	Pn	10 43 59.9	+4.4
DAMV	Damavand	3.96	25	*e*Pn	Pn	10 43 59.9	+4.4
CHTH	Charan	3.98	15	*e*Pn	Pn	10 43 58.7	+3.0
CHTH	Charan	3.98	15	*e*Pn	Pn	10 43 58.7	+3.0
YZKH	Yazd	4.00	84	*e*Pn	Pb	10 44 07.1	+1.9
GHIR	Ghir-Karzin	4.62	144	*e*P	Pb	10 44 18.6	+2.9

TUL ***17*** *11:09:05.2±1.6, 36°.85N±0°.03×97°.88W±0°.06, h6km±6km, ML3.2, Error ellipse: s-maj=6.7km s-min=3.5km az=93.0*
UNK ***17*** *11:09:05.7, 36°.84N×97°.88W, h5km*
ANF ***17*** *11:09:05.7±0.3, 36°.81N×97°.92W, h0km, ML4.0/14, Error ellipse: s-maj=3.9km s-min=2.9km az=40.0*
NEIC ***17*** *11:09:05.7±1.4, 36°.83N±0°.03×97°.88W±0°.06, h4km±6km, Error ellipse: s-maj=7.0km s-min=3.6km az=95.0*
ISC 17 11:09:05.8±0.8, 36°.83N±0°.02×97°.90W±0°.03, h10km, n53, σ1s40/62, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN10	Anthony SW Sta	0.33	332		Pg	11 09 12.2	-0.2
KAN10				Sg	Sg	11 09 16.8	0.0
CROK	Carrier	0.33	191		Pg	11 09 12.3	-0.1
CROK				Sg	Sg	11 09 17.4	+0.6
KAN13	South Haven SW	0.39	62		Pg	11 09 12.7	-0.7
KAN13				Sg	Sg	11 09 17.7	-0.9
KAN12	Harper NE Stat	0.47	351		Pg	11 09 14.6	-0.5
KAN12				Sg	Sg	11 09 21.1	-0.2
U32A	Winter Ranch,	0.99	243		Pg	11 09 24.4	-0.5
OK029	Liberty Lake	1.09	161		Pg	11 09 25.9	-0.9
T35A	Sooner Cattle	1.12	85		Pb	11 09 26.0	-1.3
QUOK	Quay	1.17	124	Pg	Pb	11 09 27.2	-0.8
BCOK	Bluff Creek, N	1.20	168		Pb	11 09 27.6	-0.9
OK025	Westminster Rd	1.33	160		Pn	11 09 30.1	-0.3
OKCFA	Oklahoma City	1.46	165		Pn	11 09 32.1	-0.1
OKCSW	OKLAHOMA CITY	1.47	165		Pb	11 09 32.6	-0.6
FNO	Franklin	1.62	165		Pb	11 09 35.3	-0.6
R32A	Long Quarter,	1.71	338		Pb	11 09 36.4	-1.0
R32A				Sn	Sb	11 09 59.0	0.0
TUL1	Leonard	1.94	118	P	Pb	11 09 40.0	-1.2
	baz=300						
TUL1				S	Sb	11 10 05.5	+0.2
	baz=300						
TUL1	Leonard	1.94	118		Pb	11 09 39.9	-1.3
WMOK	Wichita Mounta	2.21	199	P	Pn	11 09 43.0	+0.5
	baz=19						
WMOK	Wichita Mounta	2.21	199		Pn	11 09 43.2	+0.7
X34A	Smith Ranch, M	2.23	178	Pn	Pn	11 09 44.0	+1.3
CBKS	Cedar Bluff	2.46	324	P	Pn	11 09 46.9	+0.9
	baz=143						
CBKS				S	Sb	11 10 20.7	+0.3
	baz=143						
CBKS	Cedar Bluff	2.46	324		Pn	11 09 46.8	+0.9
KSU1	Kansas State U	2.49	24	P	Pn	11 09 47.3	+1.0
	baz=204						
KSU1				S	Sb	11 10 21.0	-0.3
	baz=204						
KSU1	Kansas State U	2.49	24		Pn	11 09 47.0	+0.7
U38A	Gravette	2.86	97		Pn	11 09 52.2	+0.7
X37A	Clayton	3.04	137		Pn	11 09 54.6	+0.6
HHAR	Hobbs	3.24	99	Pn	Pn	11 09 57.5	+0.8
Z35A	Perchaven, San	3.53	171		Pn	11 10 00.7	-0.1
AMTX	Amarillo	3.63	239	Sb	Sg	11 10 59.7	-2.7
	baz=56						
AMTX	Amarillo	3.63	239		Pn	11 10 04.7	+2.6
W39A	Magazine	3.72	115	Pb	Pb	11 10 12.8	+1.3
	baz=298						
W39A	Magazine	3.72	115		Pn	11 10 05.7	+2.4
S39A	Bolivar	3.75	75		Pn	11 10 04.1	+0.3
N33A	J Bar K, Exete	3.92	5	Pn	Pn	11 10 05.8	-0.2
U40A	Yellville	4.09	95	P	Pn	11 10 09.9	+1.5
	baz=278						
U40A	Yellville	4.09	95		Pn	11 10 09.0	+0.6
MIAR	Mount Ida	4.20	122	Pb	Pb	11 10 21.2	+1.5
	baz=304						
MIAR				Sb	Sg	11 11 15.8	-4.7
	baz=304						
MIAR	Mount Ida	4.20	122	Pn	Pn	11 10 11.4	+1.6
Z38A	Mt. Pleasant	4.29	145	Pn	Pn	11 10 11.0	-0.2
KSCO	Kaye Shedlock'	4.32	302	P	Pn	11 10 12.5	+0.8
	baz=119						
KSCO	Kaye Shedlock'	4.32	302		Pn	11 10 12.2	+0.5
BGNE	Belgrade	4.58	358	P	Pn	11 10 15.3	+0.3
	baz=177						
X40A	Basin Creek Fa	4.74	118		Pn	11 10 18.7	+1.3
FCAR	Ozark Folk Cen	4.76	100		Pn	11 10 19.2	+1.6
WHAR	Wooly Hollow	4.80	107		Pn	11 10 19.8	+1.7
WHTX	Lake Whitney,	4.84	175	P	Pn	11 10 18.9	+0.2
	baz=356						
WHTX	Lake Whitney,	4.84	175	Pn	Pn	11 10 18.7	0.0
W41B	Gary Mavity, V	4.87	108	Sb	Sb	11 11 35.3	+5.3
	baz=292						
W41B	Gary Mavity, V	4.87	108		Pn	11 10 20.2	+1.1
T25A	Trinidad	5.22	275	P	Pn	11 10 24.7	+0.5
	baz=91						
T25A	Trinidad	5.22	275		Pn	11 10 24.6	+0.5
OGNE	Ogallala	5.22	323	P	Pn	11 10 25.8	+1.8
	baz=140						
OGNE	Ogallala	5.22	323	Pn	Pn	11 10 25.5	+1.5
L34A	Svendsen Farm,	5.26	13	Pn	Pn	11 10 26.0	+1.5

UPP ***17*** *11:17:07.9±0.1, 57°.79N×11°.49E, h0km, ML2.7, Explosion*
DNK ***17*** *11:17:08.0±0.7, 57°.79N×11°.42E, h2km±6km, ML2.1, Hypocentre not reviewed by the ISC Explosion*
IDC ***17*** *11:17:08.6±2.3, 57°.82N×11°.21E, h0km, mb1 3.2/5, mb1mx3.1/44, mbtmp3.1/5, ML2.7/5, Error ellipse: s-maj=25.0km s-min=16.7km az=171.0*
BER ***17*** *11:17:09.3±1.2, 57°.82N×11°.49E, h0km, ML1.6, Suspected explosion*
ISC 17 11:17:06.8±0.9, 57°.79N±0°.03×11°.38E±0°.05, h0km, n29, σ0s97/41, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TJOU	Tjoern	0.28	28	P	Pg	11 17 13.1	+0.9
TJOU				S	Sg	11 17 16.7	+0.9
TJOU	Tjoern	0.28	28	*i* P	Pg	11 17 12.6	+0.5
ONAU	Onsala	0.49	143	P	Pg	11 17 16.6	+0.5
ONAU				S	Sg	11 17 22.7	+0.3
ONAU	Onsala	0.49	143	*i* P	Pg	11 17 16.9	+0.8
BORU	Boraas	0.76	101	P	Pg	11 17 21.2	-0.2
BORU				S	Sg	11 17 30.7	-0.6
VANU	Vaenersborg	0.80	27	P	Pg	11 17 22.4	+0.4
VANU				S	Sg	11 17 33.4	+1.0
STRU	Stroemstad	1.26	355	P	Pg	11 17 31.1	+0.3
STRU				S	Sb	11 17 48.1	+0.1
STRU	Stroemstad	1.26	355	*e*P	Pg	11 17 31.1	+0.3
STRU				*e*S	Sg	11 17 47.9	+0.8
HOMB	Homborsund	1.60	289	*i* P	Pn	11 17 36.7	+0.4
HOMB				IAML		11 18 04.4	
	comp=Z,4.5nm,0.3s						
DEL	Delary	1.90	133	P	Pn	11 17 41.1	+0.8
DEL	Delary	1.90	133	*i* P	Pn	11 17 41.0	+0.6
KONO	Kongsberg	2.09	334	*e*P	Pn	11 17 44.5	+1.5
KONO				*e*Sg	Sg	11 18 13.6	-0.1
VXJU	Vaexsjoe	2.12	113	P	Pn	11 17 44.7	+1.3
LNKU	Linkoeping	2.24	77	P	Pn	11 17 46.4	+1.3
SNART	Snartemo	2.28	286	*i* P	Pn	11 17 47.4	+1.7
SNART				IAML		11 18 26.7	
	comp=Z,7.7nm,0.3s						
LUNU	Lund	2.44	151	P	Pn	11 17 48.7	+0.8
LUNU	Lund	2.44	151	*i* P	Pn	11 17 48.9	+1.0
HFS	Hagfors	2.64	26	Pn	Pn	11 17 51.5	+0.9
	comp=Z,2.2nm,0.3s,baz=211,slow=16,SNR=30						
HFS				Pg	Pb	11 17 54.3	-0.7
	comp=Z,2.2nm,0.3s,baz=204,slow=16,SNR=13						
HFS				Sn	Sn	11 18 24.7	+1.3
	comp=Z,1.3nm,0.3s,baz=212,slow=27,SNR=5.4						
HFS				Lg	Lg	11 18 29.9	
	comp=Z,3.7nm,0.3s,baz=211,slow=34,SNR=8.1						
NC602	NORSAR Array S	2.96	2	*e*P	Pn	11 17 55.4	+0.4
NC602				*e*Sg	Sb	11 18 38.1	+1.1
NC602				IAML		11 18 44.6	
	comp=Z,6.1nm,0.3s						
NAO01	NORSAR Array S	3.08	356	*e*P	Pn	11 17 57.3	+0.7
NOA	NORSAR Array B	3.27	359	Pn	Pn	11 17 59.6	+0.4
	comp=Z,0.1nm,0.3s,baz=182,slow=13,SNR=16						
NOA				Lg	Lg	11 18 43.7	
	comp=Z,0.2nm,0.3s,baz=212,slow=21,SNR=5.8						
NBO00	NORSAR Array S	3.27	355	*e*P	Pn	11 17 59.8	+0.5
NB201	NORSAR Array S	3.27	359	*e*P	Pn	11 17 59.5	+0.2
SKAR	Skarslia	3.30	333	*e*P	Pn	11 18 00.7	+0.9
SKAR				*e*S	Sn	11 18 38.2	-1.5
SKAR				IAML		11 18 55.7	
	comp=Z,8.7nm,0.4s						
NC303	NORSAR Array S	3.45	360	*e*P	Pn	11 18 02.2	+0.5
NC204	NORSAR Array S	3.51	355	*e*P	Pn	11 18 03.2	+0.5
FINES	FINESS Array B	8.30	58	Pn	Pn	11 19 07.8	-0.4
	comp=Z,0.4nm,0.3s,baz=255,slow=12,SNR=11						
FINES				Sn	Sn	11 20 39.9	-2.7
	comp=Z,0.3nm,0.3s,baz=251,slow=22,SNR=6.0						
FINES				Lg	Lg	11 21 25.1	
	comp=Z,0.4nm,0.3s,baz=259,slow=27,SNR=3.4						
EKA	Eskdalemuir Ar	8.40	259	Pn	Pn	11 19 09.1	-0.5
	baz=66,slow=14,SNR=1.6						
ARCES	ARCESS Array B	13.30	22	Pn	Pn	11 20 15.1	-1.5
	comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=1.8						

IDC 17 11:27:59.4±3.7, 1°.22N×98°.13E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/45, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=149.1km s-min=29.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.15	3	P	P	11 32 01.7	-0.7
	0.3nm,0.3s,baz=190,slow=11,SNR=4.3						
H08S2	Diego Garcia H	27.05	251	T	T	12 01 45.9	
	baz=72,slow=75,SNR=5.0						
H08S3	Diego Garcia H	27.05	251	T	T	12 01 27.8	
	baz=72,slow=75,SNR=3.7						
H08S1	Diego Carcia H	27.07	251	T	T	12 01 25.7	
	baz=72,slow=75,SNR=4.2						
WRA	Warramunga Arr	41.25	123	P	P	11 35 46.7	0.0
	0.1nm,0.3s,baz=302,slow=9.0,SNR=5.4						
MKAR	Makanchi Array	47.46	345	P	P	11 36 36.2	+0.2
	0.3nm,0.4s,baz=151,slow=9.0,SNR=5.1						
ZALV	Zalesovo Beam	53.69	350	P	P	11 37 22.1	-0.9
	0.4nm,0.3s,baz=152,slow=6.4,SNR=2.2						

UPP ***17*** *11:39:05.6±0.1, 57°.78N×11°.48E, h0km, ML2.2, Explosion*
DNK ***17*** *11:39:05.8±1.8, 57°.79N×11°.41E, h0km±21km, ML2.3, Hypocentre not reviewed by the ISC Explosion*
IDC ***17*** *11:39:06.8±1.8, 57°.86N×11°.18E, h0km, mb1 3.3/5, mb1mx3.1/54, mbtmp3.2/5, ML2.7/4, Error ellipse: s-maj=18.8km s-min=13.3km az=148.0*
HEL ***17*** *11:39:06.8±0.4, 57°.79N×11°.51E, h0km, ML2.2(UPP), Explosion*
BER ***17*** *11:39:07.0±2.6, 57°.84N×11°.51E, h0km, ML1.9, ML2.3(NAO), Suspected explosion*
NAO ***17*** *11:39:07.2±1.6, 57°.93N×11°.34E, ML2.3*
ISC 17 11:39:03.9±0.8, 57°.75N±0°.03×11°.48E±0°.04, h0km, n67, σ1s67/94, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TJOU	Tjoern	0.29	16	P	Pg	11 39 10.8	+1.4
TJOU				S	Sg	11 39 14.5	+1.3
TJOU	Tjoern	0.29	16	*e*P	Pg	11 39 10.8	+1.4
TJOU				*e*S	Sg	11 39 14.5	+1.3
TJOU	Tjoern	0.29	16	*i* P	Pg	11 39 10.8	+1.4
ONAU	Onsala	0.43	146	P	Pb	11 39 14.3	0.0
ONAU	Onsala	0.43	146	*e*P	Pb	11 39 14.3	0.0
ONAU	Onsala	0.43	146	*i* P	Pb	11 39 14.2	-0.2
BORU	Boraas	0.70	99	P	Pb	11 39 19.0	-0.1
BORU				S	Sb	11 39 28.7	-0.6
BORU	Boraas	0.70	99	*e*P	Pb	11 39 19.0	-0.1
BORU				*e*S	Sb	11 39 28.7	-0.6
VANU	Vaenersborg	0.81	23	P	Pg	11 39 20.2	+0.9
VANU	Vaenersborg	0.81	23	*e*P	Pg	11 39 20.2	+0.9
STRU	Stroemstad	1.29	353	P	Pg	11 39 28.9	+0.2
STRU				S	Sg	11 39 46.1	+0.7
STRU	Stroemstad	1.29	353	*e*P	Pg	11 39 28.9	+0.2
STRU				*e*S	Sg	11 39 46.1	+0.7
STRU	Stroemstad	1.29	353	*e*P	Pg	11 39 29.0	+0.3
STRU				*e*S	Sg	11 39 46.1	+0.7
HOMB	Homborsund	1.66	289	Pg	Pn	11 39 34.3	+0.1
HOMB	Homborsund	1.66	289	IAML		11 40 07.4	
	comp=Z,8.6nm,0.3s						
DEL	Delary	1.83	134	P	Pb	11 39 38.8	+0.6
DEL	Delary	1.83	134	*e*P	Pb	11 39 38.8	+0.6
DEL	Delary	1.83	134	*i* P	Pb	11 39 38.5	+0.3
VXJU	Vaexsjoe	2.06	113	P	Pb	11 39 42.4	+0.4
VXJU	Vaexsjoe	2.06	113	*e*P	Pb	11 39 42.4	+0.4
EKSU	Eksjoe	2.06	93	P	Pb	11 39 42.5	+0.3
EKSU	Eksjoe	2.06	93	*e*P	Pb	11 39 42.5	+0.3
KON	Kongsberg	2.14	334	Pn	Pn	11 39 41.1	+0.3
KON				Sn	Sn	11 40 08.1	+0.1
KONO	Kongsberg	2.14	334	*e*P	Pn	11 39 41.5	+0.7
KONO				*e*Sg	Sb	11 40 11.2	+0.7
KONO				IAML		11 40 26.0	
	comp=Z,14nm,0.5s						
LNKU	Linkoeping	2.20	76	P	Pb	11 39 44.1	-0.3
LNKU	Linkoeping	2.20	76	*e*P	Pb	11 39 44.1	-0.3
SNART	Snartemo	2.34	286	*e*P	Pn	11 39 44.6	+1.0
SNART				*e*P	Pn	11 39 44.7	+1.0
SNART				IAML		11 40 26.0	
	comp=Z,10nm,0.3s						
LUNU	Lund	2.39	152	*i* P	Pb	11 39 48.7	+1.0
HFS	Hagfors	2.65	25	Pn	Pn	11 39 49.3	+1.5
	baz=209,slow=12						
HFS				Sn	Sn	11 40 18.5	-2.1
	baz=197,slow=22						
HFS				Lg	Lg	11 40 25.8	
	baz=203,slow=28						
HFS	Hagfors	2.65	25	Pn	Pn	11 39 49.0	+1.2
	comp=Z,3.1nm,0.3s,baz=212,slow=12,SNR=30						
HFS				Pg	Pb	11 39 52.1	-0.1
	comp=Z,3.5nm,0.3s,baz=210,slow=18,SNR=13						
HFS				Sn	Sn	11 40 22.1	+1.5
	comp=Z,2.3nm,0.3s,baz=211,slow=25,SNR=2.7						
HFS				Lg	Lg	11 40 28.3	
	comp=Z,4.6nm,0.3s,baz=212,slow=38,SNR=5.7						
HFS	Hagfors	2.65	25	Pn	Pn	11 39 49.3	+1.5
	baz=209,slow=12						
HFS				Sn	Sn	11 40 18.5	-2.1
	baz=197,slow=22						
HFS				Sg	Sb	11 40 25.8	+0.6
	baz=203,slow=28						
NC602	NORSAR Array S	2.99	1	*e*Sg	Sb	11 40 36.2	+1.2
NRA0	NORESS Array S	2.99	1	Pn	Pn	11 39 53.1	+

FINES	**FINESS Array B**	**8.27**	**57**	Pn	**Pn**	**11 41 06.2**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=254,slow=11,SNR=11						
FINES				Sn	**Sn**	**11 42 37.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=248,slow=22,SNR=2.5						
FINES				Lg	Lg	11 43 26.2	
	comp=Z,0.7nm,0.3s,baz=234,slow=27,SNR=5.8						
FIA1	**FINESS Array S**	**8.28**	**57**	*eP*	**Pn**	**11 41 07.5**	**+2.5**
FIA1				*eS*	**Sn**	**11 42 35.4**	**-3.6**
EKA	**Eskdalemuir Ar**	**8.44**	**260**	Pn	**Pn**	**11 41 06.4**	**-0.9**
	baz=69,slow=13,SNR=1.3						
EKA				Sn	**Sn**	**11 42 43.3**	**+0.1**
	baz=72,slow=27,SNR=2.5						
ARA0	**ARCESS Array S**	**13.31**	**22**	Pn	**Pn**	**11 42 10.4**	**-3.4**
	baz=198,slow=16						
ARA0	**ARCESS Array S**	**13.31**	**22**	Pn	**Pn**	**11 42 10.4**	**-3.4**
	baz=198,slow=16						
ARCES	**ARCESS Array B**	**13.31**	**22**	Pn	**Pn**	**11 42 12.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=206,slow=14,SNR=2.0						

*IDC **17** 11:41:18.0±1.3, 11°.76N×85°.26W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/38, mbtmp3.5/3, MS3.8/1, Ms1 3.7/1, ms1mx2.8/22, Error ellipse: s-maj=50.5km s-min=17.9km az=68.0*
*UCR **17** 11:41:19.4±1.8, 10°.53N×86°.54W, h15km, MD4.2*
*INET **17** 11:41:30.0, 11°.40N×86°.31W, h50km, ML3.1*

ISC 17 11:41:17.5±2.3, 10°.6N±0°.1×86°.53W±0°.08, h4km±13km, n25, σ1§00/32, mb3.3/3, 2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.93**	**80⇑**	*eP*	**Pn**	**11 41 37.0**	**-0.4**
HZTE				*eS*	**Sn**	**11 41 52.9**	**+1.6**
GUAI	**GUAI**	**1.05**	**106**	*i P*	**Pb**	**11 41 38.1**	**0.0**
GUAI				*i S*	**Sn**	**11 41 52.8**	**-1.2**
ORTG	**Ortega, Santa**	**1.07**	**100**	*eP*	**Pb**	**11 41 38.6**	**-0.1**
GRZA	**Playa Garza**	**1.09**	**126**	*eP*	**Pn**	**11 41 38.5**	**-1.0**
GRZA				*eS*	**Sb**	**11 41 52.9**	**-0.6**
LAPC	**Finca la Perla**	**1.10**	**79**	*i P*	**Pg**	**11 41 38.8**	**+0.2**
BUEV	**Buena Vista**	**1.13**	**78**	*i P*	**Pg**	**11 41 39.6**	**+0.4**
GB1A	**Borinquen Arri**	**1.15**	**77**	*i P*	**Pg**	**11 41 39.9**	**+0.4**
GPS3	**Bodega del ICE**	**1.16**	**80**	*i P*	**Pg**	**11 41 40.3**	**+0.5**
GPS2	**Hotel Rincn d**	**1.18**	**80**	*i P*	**Pg**	**11 41 40.3**	**+0.2**
GPS1	**Guardaparques**	**1.18**	**79**	*i P*	**Pg**	**11 41 40.5**	**+0.3**
BUAI	**Buenos Aires**	**1.22**	**75**	*i P*	**Pg**	**11 41 41.4**	**+0.5**
LIM1	**Limonal**	**1.27**	**84**	*i P*	**Pg**	**11 41 41.8**	**0.0**
LIM1				*i S*	**Sg**	**11 41 58.5**	**+0.3**
HORNC	**Hornillas**	**1.34**	**83**	*i P*	**Pb**	**11 41 42.9**	**-0.3**
HORNC				*i S*	**Sg**	**11 42 00.6**	**0.0**
JTS	**Las Juntas de**	**1.58**	**100**	Pn	**Pn**	**11 41 46.1**	**-0.2**
	6.7nm,0.3s,baz=353,slow=22,SNR=46						
JTS				Sn	**Sb**	**11 42 06.4**	**-1.2**
	19nm,0.3s,baz=5.7,slow=21,SNR=8.7						
JTS	**Las Juntas de**	**1.58**	**100⇑**	*eP*	**Pn**	**11 41 46.1**	**-0.2**
ARE1	**Arenal 1**	**1.79**	**93**	*eP*	**Pb**	**11 41 50.1**	**-0.7**
CEDE	**Laguna Cedeo**	**1.80**	**92**	*eP*	**Pb**	**11 41 49.8**	**-1.2**
LCR2	**La Lucha 2**	**2.62**	**108**	*eP*	**Pn**	**11 42 02.6**	**+1.9**
RIMA	**Rio Macho**	**2.74**	**106**	*eP*	**Pn**	**11 42 03.7**	**+1.2**
CDM	**Cerro de Muert**	**2.90**	**110**	*eP*	**Pn**	**11 42 06.5**	**+1.6**
TXAR	**Lajitas Array**	**24.60**	**322**	P	**P**	**11 46 37.8**	**-1.3**
	1.4nm,0.7s,baz=136,slow=10,SNR=25						
TXAR				PcP	**PcP**	**11 50 18.7**	**+1.6**
	0.2nm,0.9s,baz=156,slow=4.6,SNR=2.7						
PDAR	**Pinedale Array**	**37.85**	**332**	P	**P**	**11 48 33.8**	**-2.0**
	0.3nm,0.6s,baz=141,slow=10,SNR=4.2						
NVAR	**Mina Array Bea**	**39.71**	**320**	P	**P**	**11 48 51.6**	**+0.2**
	0.6nm,0.8s,baz=127,slow=10,SNR=4.5						
NVAR				PcP	**PcP**	**11 50 59.4**	**+1.3**
	0.2nm,0.6s,baz=149,slow=3.7,SNR=3.9						
BDFB	**Brasilia**	**46.18**	**124**	LR	LR	12 10 09.6	
	comp=Z,101nm,19.9s,baz=138,slow=38						
WRA	**Warramunga Arr**	**139.57**	**252**	PKP	**PKiKP**	**12 00 50.2**	**+0.5**
	0.4nm,0.9s,baz=93,slow=2.3,SNR=2.5						

IDC 17 11:44:50.7±2.8, 26°.49S×137°.37E, h0km, mb1 2.7/3, mb1mx2.7/29, mbtmp2.5/3, ML2.4/3, Error ellipse: s-maj=44.6km s-min=21.4km az=53.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**4.22**	**311**	Pn	Pn	11 45 56.9	+0.6
	0.2nm,0.3s,baz=136,slow=13,SNR=22						
ASAR				Sn	Sn	11 46 42.6	-3.7
	0.4nm,0.3s,baz=138,slow=23,SNR=6.8						
ASAR				Lg	Lg	11 47 04.8	
	0.6nm,0.3s,baz=135,slow=26,SNR=5.9						
STKA	**Stephens Creek**	**6.51**	**146**	Pn	Pn	11 46 28.0	+0.2
	0.1nm,0.3s,baz=322,slow=14,SNR=1.1						
STKA				Sn	Sn	11 47 34.9	-8.0
	0.2nm,0.3s,baz=2.1,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**7.09**	**336**	Pn	Pn	11 46 34.8	-0.9
	0.0nm,0.3s,baz=160,slow=12,SNR=1.1						
WRA				Sn	Sn	11 47 55.1	-2.0
	0.1nm,0.3s,baz=153,slow=22,SNR=1.6						
WRA				Lg	Lg	11 48 35.7	
	0.2nm,0.3s,baz=155,slow=30,SNR=3.2						

*DJA **17** 11:48:48.6±0.3, 3°.5S×12°.9E±°, h10km, M3.8/9, MLv3.8/9*
*IDC **17** 11:48:52.3±3.4, 3°.03S×129°.53E, h54km±33km, mb3.5/5, mb1 3.7/8, mb1mx3.4/40, mbtmp3.8/8, ML3.8/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/29, Error ellipse: s-maj=31.4km s-min=12.5km az=85.0*

ISC 17 11:48:49.4±0.7, 3°.01S±0°.06×129°.29E±0°.05, h28km, n15, σ1§64/18, mb4.0/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.49**	**228**	P	**Pb**	**11 49 00.3**	**+0.7**
MSAI				S	**Sn**	**11 49 09.8**	**+1.6**
AAI	**Ambon**	**1.29**	**238**	P	**Pb**	**11 49 13.8**	**+0.9**
BNDI	**Bandanaira**	**1.62**	**158**	P	**Pb**	**11 49 20.8**	**+2.2**
NLAI	**Namlea**	**2.20**	**264**	P	**Pn**	**11 49 25.4**	**+1.3**
SIJI	**Sorong**	**2.90**	**43**	P	**Pn**	**11 49 34.0**	**+0.3**
	28nm,0.3s,baz=270,slow=14,SNR=155						
SIJI				S	**Sn**	**11 50 07.0**	**-0.7**
	28nm,0.3s,baz=188,slow=23,SNR=15						
FAKI	**Fak Fak**	**2.95**	**88**	P	**Pn**	**11 49 35.5**	**+1.1**
SANI	**Sanana**	**3.44**	**286**	P	**Pn**	**11 49 40.0**	**-1.1**
KAPI	**Kappang**	**9.72**	**258**	LR	LR	11 55 22.3	
	comp=Z,118nm,20.7s,baz=104,slow=39						
FITZ	**Fitzroy Crossi**	**15.42**	**193**	P	**P**	**11 52 28.1**	**-1.2**
	0.2nm,0.3s,baz=356,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**17.54**	**164**	P	**Pn**	**11 52 50.7**	**-1.2**
	0.4nm,0.3s,baz=348,slow=12,SNR=18						
WRA				S	**Sn**	**11 56 02.3**	**-4.3**
	0.1nm,0.3s,baz=336,slow=22,SNR=2.5						
WRA				LR	LR	11 59 59.2	
	comp=Z,69nm,18.3s,baz=275,slow=38						
ASAR	**Alice Springs**	**21.01**	**168**	P	**P**	**11 53 31.1**	**+0.2**
	3.5nm,0.6s,baz=347,slow=10,SNR=32						
ASAR				S	**S**	**11 57 22.3**	**-1.5**
	0.8nm,0.8s,baz=344,slow=20,SNR=6.5						
PETK	**Petropavlovsk-**	**60.79**	**19**	P	**P**	**11 58 58.1**	**-0.6**
	1.0nm,0.8s,baz=211,slow=4.5,SNR=2.6						
MKAR	**Makanchi Array**	**64.53**	**326**	P	**P**	**11 59 23.9**	**0.0**
	0.3nm,0.5s,baz=130,slow=8.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**68.77**	**328**	P	**P**	**11 59 51.3**	**+0.5**
	0.4nm,0.3s,baz=126,slow=5.5,SNR=1.8						
BVAR	**Borovoye Array**	**74.34**	**328**	P	**P**	**12 00 26.1**	**+1.8**
	0.4nm,0.5s,baz=121,slow=4.3,SNR=2.3						

*TUL **17** 12:02:55.1±1.1, 36°.15N±0°.01×96°.81W±0°.02, h7km±7km, ML3.2, Error ellipse: s-maj=2.2km s-min=2.0km az=106.0*
*UNK **17** 12:02:55.4, 36°.14N×96°.83W, h5km*
*ANF **17** 12:02:55.5±0.5, 36°.13N×96°.79W, h1km±3km, ML4.0/12, Error ellipse: s-maj=2.6km s-min=1.7km az=12.0*
*NEIC **17** 12:02:55.8±0.7, 36°.14N±0°.01×96°.81W±0°.02, h1km±5km, Error ellipse: s-maj=2.3km s-min=1.8km az=100.0*

ISC 17 12:02:55.2±1.1, 36°.15N±0°.02×96°.84W±0°.02, h1km±11km, n50, σ0§88/64, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.11**	**78**		**Pg**	**12 02 57.5**	**+0.2**
QUOK				Sg	**Sg**	**12 02 59.2**	**+0.5**
OK005	**Luther M Schoo**	**0.57**	**210**		**Pg**	**12 03 06.4**	**+0.2**
OK029	**Liberty Lake**	**0.61**	**235**		**Pg**	**12 03 07.2**	**+0.2**
OK029				Sg	**Sg**	**12 03 15.8**	**+0.9**
OK025	**Westminster Rd**	**0.70**	**216**		**Pg**	**12 03 08.5**	**-0.1**
OK025				Sg	**Sg**	**12 03 18.5**	**+0.8**
BCOK	**Bluff Creek, N**	**0.80**	**232**		**Pg**	**12 03 10.5**	**0.0**
BCOK				Sg	**Sg**	**12 03 21.7**	**+0.8**
T35A	**Sooner Cattle**	**0.81**	**19**	Pg	**Pg**	**12 03 10.5**	**-0.2**
T35A				Sg	**Sg**	**12 03 21.2**	**0.0**
TUL1	**Leonard**	**0.88**	**105**	P	**Pg**	**12 03 11.4**	**-0.7**
	baz=286						
TUL1				S	**Sg**	**12 03 22.9**	**-0.6**
	baz=286						
TUL1	**Leonard**	**0.88**	**105**		**Pg**	**12 03 11.4**	**-0.7**
TUL1				Sg	**Sg**	**12 03 22.9**	**-0.6**
OKCFA	**Oklahoma City**	**0.89**	**214**		**Pg**	**12 03 11.7**	**-0.5**
OKCFA				Sg	**Sg**	**12 03 24.1**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**0.89**	**214**		**Pg**	**12 03 11.8**	**-0.4**
CROK	**Carrier**	**0.99**	**291**		**Pg**	**12 03 14.3**	**0.0**
W35A	**Tecumseh**	**0.99**	**182**		**Pg**	**12 03 13.4**	**-0.9**
W35A				Sg	**Sg**	**12 03 27.2**	**0.0**
FNO	**Franklin**	**1.00**	**207**		**Pg**	**12 03 14.0**	**-0.4**
KAN13	**South Haven SW**	**1.00**	**329**		**Pg**	**12 03 14.5**	**0.0**
KAN13				Sg	**Sg**	**12 03 28.0**	**+0.5**
KAN10	**Anthony SW Sta**	**1.40**	**314**		**Pn**	**12 03 21.4**	**-0.5**
KAN12	**Harper NE Stat**	**1.48**	**321**		**Pn**	**12 03 22.7**	**-0.3**
X34A	**Smith Ranch, M**	**1.75**	**208**	Pn	**Pn**	**12 03 26.6**	**-0.1**
U32A	**Winter Ranch,**	**1.76**	**278**		**Pn**	**12 03 27.2**	**+0.3**
X37A	**Clayton**	**1.96**	**142**		**Pn**	**12 03 29.3**	**-0.3**
U38A	**Gravette**	**2.00**	**81**		**Pn**	**12 03 29.9**	**-0.2**
WMOK	**Wichita Mounta**	**2.12**	**229**	P	**Pn**	**12 03 31.9**	**+0.1**
	baz=48						
WMOK				S	**Sb**	**12 04 00.7**	**-0.6**
	baz=48						
WMOK	**Wichita Mounta**	**2.12**	**229**	Pn	**Pn**	**12 03 32.4**	**+0.6**
HHAR	**Hobbs**	**2.35**	**86**		**Pn**	**12 03 34.8**	**-0.1**
W39A	**Magazine**	**2.66**	**110**	P	**Pn**	**12 03 39.7**	**+0.5**
	baz=292						
W39A	**Magazine**	**2.66**	**110**		**Pn**	**12 03 38.6**	**-0.6**
R32A	**Long Quarter,**	**2.72**	**327**		**Pn**	**12 03 40.0**	**0.0**
Z35A	**Perchaven, San**	**2.83**	**187**		**Pn**	**12 03 41.7**	**+0.1**
KSU1	**Kansas State U**	**2.95**	**3**	Sb	**Sg**	**12 04 28.0**	**-2.0**
	baz=183						
KSU1	**Kansas State U**	**2.95**	**3**		**Pn**	**12 03 43.9**	**+0.7**
MIAR	**Mount Ida**	**3.11**	**120**	P	**Pn**	**12 03 45.5**	**+0.1**
	baz=302						
MIAR	**Mount Ida**	**3.11**	**120**		**Pn**	**12 03 45.3**	**0.0**
S39A	**Bolivar**	**3.21**	**60**		**Pn**	**12 03 46.7**	**0.0**
U40A	**Yellville**	**3.23**	**85**	P	**Pn**	**12 03 46.9**	**-0.1**
	baz=267						
U40A				Sb	**Sb**	**12 04 35.0**	**+1.9**
	baz=267						
U40A	**Yellville**	**3.23**	**85**	Pn	**Pn**	**12 03 46.5**	**-0.5**
Z38A	**Mt. Pleasant**	**3.26**	**152**	Pn	**Pn**	**12 03 47.5**	**0.0**
CBKS	**Cedar Bluff**	**3.52**	**320**	Pb	**Pb**	**12 03 59.8**	**+1.5**
	baz=138						
CBKS				Sb	**Sg**	**12 04 46.0**	**-2.3**
	baz=138						
CBKS	**Cedar Bluff**	**3.52**	**320**	Pn	**Pn**	**12 03 50.8**	**-0.3**
X40A	**Basin Creek Fa**	**3.67**	**116**	P	**Pn**	**12 03 53.1**	**+0.1**
	baz=298						
X40A	**Basin Creek Fa**	**3.67**	**116**		**Pn**	**12 03 52.8**	**-0.3**
WHAR	**Wooly Hollow**	**3.80**	**102**	Pn	**Pn**	**12 03 54.8**	**0.0**
MGMO	**Mountain Grove**	**3.81**	**73**		**Pn**	**12 03 54.9**	**-0.1**
W41B	**Gary Mavity, V**	**3.86**	**103**	P	**Pn**	**12 03 55.6**	**-0.1**
	baz=286						
W41B				S	**Sn**	**12 04 41.3**	**-0.4**
	baz=286						
W41B	**Gary Mavity, V**	**3.86**	**103**	Pn	**Pn**	**12 03 55.5**	**-0.1**
AMTX	**Amarillo**	**4.15**	**254**	Sb	**Sg**	**12 05 04.1**	**-4.4**
	baz=71						
WHTX	**Lake Whitney,**	**4.18**	**187**	Pb	**Pb**	**12 04 09.9**	**+0.3**
	baz=7.0						
R40A	**Maddies Statio**	**4.23**	**58**		**Pn**	**12 04 00.5**	**-0.2**
P38A	**Dawn**	**4.34**	**36**		**Pn**	**12 04 02.4**	**+0.1**
Z41A	**Richland Creek**	**4.40**	**130**	S	**Sn**	**12 04 54.3**	**-0.7**
	baz=312						
MSTX	**Muleshoe**	**5.33**	**248**	Pn	**Pn**	**12 04 16.4**	**+0.4**
KSCO	**Kaye Shedlock'**	**5.41**	**304**	Pn	**Pn**	**12 04 18.4**	**+1.2**

*SOME **17** 12:25:53.7, 43°.75N×69°.68E*

NNC 17 12:25:57.8±2.2, 43°.66N×69°.87E, h0km, mb4.0, mpv3.4, 4C, Error ellipse: s-maj=14.1km s-min=6.3km az=131.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.73**	**140**	P	Pg	12 26 10.7	-1.1
	1.5nm,0.2s,baz=316,slow=18,SNR=158						
KK31				S	Sg	12 26 22.3	+1.1
	20nm,0.3s,baz=325,slow=31,SNR=130						
MRKS	**Merke**	**2.62**	**109**	Pg	Pb	12 26 45.9	+0.2
	13nm,0.2s						
MRKS				Lg	Lg	12 27 23.5	
	26nm,0.4s						
BTLS	**Baital**	**3.29**	**64**	Pg	Pb	12 26 59.0	+1.8
	20nm,0.5s						
BTLS				Lg	Lg	12 27 44.8	
	9.3nm,0.4s						
AAK	**Ala-Archa**	**3.53**	**105**	⇑Pg	Pb	12 27 01.5	+0.2
	4.7nm,0.4s						
AAK				⇑Lg	Lg	12 27 52.8	
	4.2nm,0.4s						
TKM2	**Tokmak 2**	**4.24**	**98**	⇑Pg	Pb	12 27 14.1	+0.6
	2.6nm,0.5s						
TKM2				⇑Lg	Lg	12 28 14.0	
	3.8nm,0.5s						
DGS	**Degeres**	**4.32**	**94**	Pg	Pb	12 27 17.4	+2.8
	5.2nm,0.5s						
DGS				Lg	Lg	12 28 16.8	
	14nm,0.5s						
KST	**Kastek**	**4.48**	**96**	Pg	Pb	12 27 19.4	+1.9
	6.0nm,0.3s						
KST				Lg	Lg	12 28 20.6	
	10nm,0.3s						
IZV	**Izvestkoviy**	**4.96**	**95**	Pg	Pg	12 27 29.2	-3.6
	2.0nm,0.3s						
IZV				Lg	Lg	12 28 37.4	
	14nm,0.7s						

VIE 17 12:30:13.5±0.3, 47°.16N×13°.65E, h8km, mb0.5/2, ml1.5/4, Error ellipse: s-maj=3.0km s-min=2.4km az=46.0 4 km NW of Mauternndorf, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBA	**Koelnbreinsper**	**0.22**	**248**	*i* Pg	Pg	12 30 18.2	+0.2
	3.5nm,0.1s						
KBA				*i* Sg	Sg	12 30 21.3	+0.2
	63nm,0.1s						
MYKA	**Terra Mystica**	**0.53**	**180**	*e*Pg	Pb	12 30 24.6	-0.5
	0.9nm,0.1s						
MYKA				*e*Sg	Sg	12 30 30.5	-0.3
	1.9nm,0.1s						
OBKA	**Obir**	**0.90**	**136**	*e*Pg	Pn	12 30 32.0	-0.5
	0.9nm,0.2s						
OBKA				*e*Sg	Sn	12 30 45.2	-0.6
	1.3nm,0.1s						
SOKA	**Soboth**	**1.07**	**117**	*i* Pg	Pg	12 30 33.9	0.0
	0.2nm,0.1s						
SOKA				*e*Sg	Sg	12 30 48.1	+0.3
	1.0nm,0.2s						
WTTA	**Wattenberg**	**1.37**	**275**	Pg	Pg	12 30 41.3	+1.5
	0.8nm,0.2s						
WTTA				Sg	Sg	12 31 02.0	+4.4
	2.8nm,0.3s						

*SKO **17** 12:33:20.4, 40°.65N×21°.19E, h15km*
*ATH **17** 12:33:22.7, 40°.78N×21°.26E, h17km±1km, ML4.2/16, Error ellipse: s-maj=1.5km s-min=0.9km az=140.0*
*PRU **17** 12:33:22.1±0.0, 40°.52N×21°.32E, h0km, M4.6*
*TIR **17** 12:33:22.6, 40°.83N×21°.37E, h24km±3km, Md4.6*
*THE **17** 12:33:23.1, 40°.79N×21°.21E, h2km±1km, ML4.2/14, Error ellipse: s-maj=1.3km s-min=0.7km az=206.0*
*SOF **17** 12:33:23.6, 40°.74N×21°.24E, h20km, MD4.1*
*PDG **17** 12:33:23.7±0.4, 40°.77N×21°.29E, h9km, MD4.0/6, ML4.2/13, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*MED_RC **17** 12:33:23.0±0.6, 40°.79N×21°.21E, h11km±2km, MW4.2/8, Moment Tensor Solution. Mantle waves: s8, c11; Duration: 1§0 Moment tensor: Scale 10^15 Nm; Mrr~3.35±.62; Mθθ 1.37±.46; Mφφ 1.98±.37; Mrθ~0.58±.68; Mφφ 0.84±.24; Mφr~0.08±.67; Best double couple: M=3.01000×10^15 NP1:φs=210.00000°, δ41.00000°, λ-99.00000°. NP2: φs=41.00000°, δ49.00000°, λ-82.00000°. Principal axes: T 2.5900, Plg4.0000°, Azm126.0000°; N 0.8300, Plg6.0000°, Azm216.0000°; P -3.4200, Plg83.0000°, Azm2.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*NEIC **17** 12:33:24.3±1.5, 40°.78N±0°.05×21°.31E±0°.05, h13km±3km Error ellipse: s-maj=6.9km s-min=5.6km az=200.0*
*MOS **17** 12:33:24.1±1.2, 40°.71N×21°.22E, h28km, mb4.8/10, Error ellipse: s-maj=6.3km s-min=3.8km az=88.3*
*BEO **17** 12:33:25.0±0.3, 40°.83N×21°.27E, h5km±2km, ML4.0/6*
*IDC **17** 12:33:27.6±1.2, 40°.76N×21°.28E, h45km±12km, mb3.8/20, mb1 4.0/33, mb1mx3.9/53, mbtmp4.0/33, ML3.8/11, MS3.1/6, Ms1 3.1/6, ms1mx2.8/44, Error ellipse: s-maj=11.1km s-min=9.9km az=112.0*

ISC 17 12:33:24.0±0.6, 40°.77N±0°.02×21°.26E±0°.01, h11km±4km, n448, σ1§50/514, mb4.5/49, 42C-15D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.09**	**81**	P	**Pg**	**12 33 26.5**	**0.0**
FNA				S	**Sg**	**12 33 28.5**	**0.0**
	510μm,0.2s						
FNA	**Florina**	**0.09**	**81**	*e*Pg	**Pg**	**12 33 26.5**	**0.0**
FNA				*e*Sg	**Sg**	**12 33 28.8**	**+0.3**
FNA	**Florina**	**0.09**	**81**	P	**Pg**	**12 33 26.5**	**0.0**
FNA				S	**Sg**	**12 33 28.6**	**+0.1**
FNA				AML	AML	12 33 29.1	
FNA				AML	AML	12 33 29.2	
FNA	**Florina**	**0.09**	**81**	*i* P	**Pg**	**12 33 26.6**	**0.0**
FNA				S	**Sg**	**12 33 29.2**	**+0.7**
FNA	**Florina**	**0.09**	**81**	P	**Pg**	**12 33 26.6**	**0.0**
FNA	**Florina**	**0.09**	**81**		**Pg**	**12 33 26.6**	**0.0**
FNA				Sg	**Sg**	**12 33 28.8**	**+0.3**
FNA	**Florina**	**0.09**	**81**	P	**Pg**	**12 33 26.6**	**0.0**
	baz=138						
FNA				S	**Sg**	**12 33 28.9**	**+0.3**
	baz=138						
NEST	**Nestorio**	**0.39**	**205**	P	**Pg**	**12 33 30.6**	**-1.1**
NEST				S	**Sg**	**12 33 36.0**	**-0.9**
NEST	**Nestorio**	**0.39**	**205**	P	**Pg**	**12 33 30.6**	**-1.1**
NEST				S	**Sg**	**12 33 36.1**	**-0.8**
NEST				AML	AML	12 33 37.1	
NEST				AML	AML	12 33 37.3	
OHR	**Ohrid**	**0.49**	**314⇑**	*i*Pg	**Pg**	**12 33 32.9**	**-0.7**
OHR				*i* Sg	**Sb**	**12 33 41.3**	**-0.5**
OHR				*e*Lg	Lg	12 33 41.6	
	comp=N,4μm,0.4s						
PENT	**Pentalofos**	**0.58**	**189**	P	**Pg**	**12 33 34.3**	**-1.0**
PENT				S	**Sb**	**12 33 43.7**	**-0.8**
	comp=N,27μm,0.5s						
PENT	**Pentalofos**	**0.58**	**189**	P	**Pg**	**12 33 34.3**	**-1.0**
PENT				S	**Sg**	**12 33 42.8**	**-0.2**
PENT				AML	AML	12 33 45.0	
	comp=E,48706μm,0.5s						
PENT				AML	AML	12 33 45.3	
	comp=N,59571μm,0.5s						
KZN	**Kozani**	**0.60**	**140**	P	**Pg**	**12 33 34.9**	**-0.8**
KZN				S	**Sg**	**12 33 44.3**	**+0.6**
	comp=N,40μm,0.5s						
KZN	**Kozani**	**0.60**	**140**	P	**Pg**	**12 33 34.9**	**-0.8**
KZN				S	**Sg**	**12 33 43.9**	**+0.2**
KZN				AML	AML	12 33 45.6	
	comp=N,61335μm,0.3s						
KZN				AML	AML	12 33 46.7	
	comp=E,96404μm,0.5s						
KPRO	**Kipourio**	**0.82**	**175**	P	**Pg**	**12 33 37.8**	**-1.9**
KPRO				S	**Sn**	**12 33 52.5**	**-1.1**
	comp=E,38μm,0.5s						
KPRO	**Kipourio**	**0.82**	**175**	P	**Pg**	**12 33 37.9**	**-1.9**
KPRO				AML	AML	12 33 56.2	
	comp=E,65437μm,0.5s						
KPRO				AML	AML	12 33 56.8	
	comp=N,86178μm,0.6s						
PHP	**Peshkopia**	**1.10**	**326**	P	**Pb**	**12 33 42.7**	**-2.4**
PHP	**Peshkopia**	**1.10**	**326**	P	**Pb**	**12 33 42.9**	**-2.2**
	baz=323						
PHP				S	**Sb**	**12 33 57.9**	**-1.7**
	baz=323						
VAY	**Valandovo**	**1.13**	**60**	*e*Pg	**Pb**	**12 33 45.0**	**-0.5**
VAY				*e*Sg	**Sn**	**12 34 01.7**	**+0.4**
VAY	**Valandovo**	**1.13**	**60⇓**	*i*Pn	**Pb**	**12 33 45.1**	**-0.5**
VAY				*i* Sn	**Sn**	**12 34 03.9**	**+2.6**
VAY				*e*Lg	Lg	12 34 06.2	
	comp=E,2μm,0.5s						
LIT	**Litokhoron**	**1.15**	**125**	P	**Pb**	**12 33 44.3**	**-1.6**
LIT				S	**Sn**	**12 34 03.6**	**+1.8**
	comp=E,11μm,0.6s						
LIT	**Litokhoron**	**1.15**	**125**	P	**Pb**	**12 33 44.3**	**-1.6**
LIT				AML	AML	12 34 06.5	
	comp=N,17886μm,0.6s						
LIT				AML	AML	12 34 08.5	
	comp=E,27275μm,0.6s						
LIT	**Litokhoron**	**1.15**	**125**	P	**Pb**	**12 33 45.4**	**-0.5**
LIT	**Litokhoron**	**1.15**	**125**		**Pb**	**12 33 45.4**	**-0.5**
TIR	**Tirane**	**1.20**	**299**	P	**Pn**	**12 33 45.6**	**-1.1**
TIR	**Tirane**	**1.20**	**299**	*e*Pn	**Pg**	**12 33 47.0**	**-0.1**
TIR				*e*Sn	**Sn**	**12 34 05.7**	**+2.6**
TIR	**Tirane**	**1.20**	**299**	P	**Pn**	**12 33 45.1**	**-1.6**
TIR				AML	AML	12 34 11.0	
	comp=E,12494μm,0.6s						
TIR				AML	AML	12 34 12.7	
	comp=N,16180μm,0.7s						
TIR	**Tirane**	**1.20**	**299**	⇓P	**Pn**	**12 33 45.4**	**-1.4**
TIR	**Tirane**	**1.20**	**299**	⇑S	**Sn**

IGT *e*Sn **Sg** 12 34 13.0 +3.2
IGT Igoumenitsa 1.43 210 P **Pb** 12 33 50.0 -0.6
IGT AML AML 12 34 15.6
comp=N,15176µm,0.5s
IGT AML AML 12 34 15.8
comp=E,17937µm,0.4s
IGT Igoumenitsa 1.43 210 P **Pn** 12 33 49.8 0.0
baz=209
IGT S **Sg** 12 34 12.8 +2.9
baz=209
KASA Kassiopi 1.44 225 P **Pb** 12 33 50.4 -0.4
KASA AML AML 12 34 16.7
comp=N,12114µm,0.6s
KASA AML AML 12 34 18.4
comp=E,24716µm,0.6s
SOH Sokhos 1.59 87 P **Pn** 12 33 52.3 +0.2
SOH S **Sg** 12 34 14.5 -0.6
comp=E,3µm,0.9s
SOH Sokhos 1.59 87 P **Pn** 12 33 52.5 +0.4
SOH AML AML 12 34 17.9
comp=N,6246µm,1.0s
SOH AML AML 12 34 22.0
comp=E,6888µm,0.6s
PUK Puka 1.64 321 P **Pn** 12 33 52.9 +0.1
baz=319
PUK S **Sn** 12 34 14.2 +0.3
baz=319
PLG Polygyros 1.71 103 P **Pn** 12 33 53.8 +0.1
PLG S **Sb** 12 34 17.1 +0.2
comp=E,3µm,0.6s
PLG Polygyros 1.71 103 P **Pn** 12 33 53.9 +0.2
PLG AML AML 12 34 21.9
comp=E,4367µm,0.6s
PLG AML AML 12 34 23.0
comp=N,6033µm,0.6s
KKB Krupnik 1.76 51 P **Pn** 12 33 55.2 +0.8
SRS Serrai 1.80 78 P **Pn** 12 33 53.8 -1.1
SRS Serrai 1.80 78 P **Pn** 12 33 54.4 -0.6
SRS AML AML 12 34 28.6
comp=N,1757µm,1.0s
SRS AML AML 12 34 39.5
comp=E,2012µm,0.9s
EVR Evrytania 1.90 167 P **Pn** 12 33 56.8 +0.4
EVR S **Sb** 12 34 21.7 -0.7
comp=E,5µm,0.5s
EVR Evrytania 1.90 167 P **Pn** 12 33 57.1 +0.7
ULC Ulcinj 1.93 309 ⇓*i*Pn **Pb** 12 33 58.1 -1.1
ULC *i* Sn **Sg** 12 34 25.1 -0.9
BOSS Bosilegrad 1.95 28 *e*Pn **Pn** 12 33 57.8 +0.7
TSLK Tsoukalades, L 2.00 194 P **Pn** 12 33 58.8 +1.1
PAIG Paliouri 2.03 114 P **Pn** 12 33 57.7 -0.4
PAIG S **Sb** 12 34 25.2 -0.9
comp=E,2µm,0.7s
PAIG Paliouri 2.03 114 P **Pn** 12 33 57.8 -0.4
PAIG AML AML 12 34 30.9
comp=E,2575µm,0.6s
PAIG AML AML 12 34 31.2
comp=N,3398µm,0.7s
LKD2 Lefkada island 2.03 193 P **Pn** 12 33 59.0 +0.9
LKD2 Lefkada island 2.03 193 P **Pb** 12 33 59.7 -1.2
baz=194
LKD2 S **Sb** 12 34 27.4 +1.2
baz=194
MMB Musomiste 2.03 65 P **Pn** 12 33 58.6 +0.4
XOR Xorichti 2.04 133 P **Pn** 12 33 58.1 -0.1
XOR Xorichti 2.04 133 P **Pn** 12 33 58.2 -0.1
XOR AML AML 12 34 34.7
comp=N,6512µm,0.9s
XOR AML AML 12 34 36.8
comp=E,5090µm,0.9s
NVR Nevrokopi 2.05 73 P **Pn** 12 33 58.5 +0.1
PVY Plav 2.07 332 ⇓*i*Pn **Pn** 12 33 59.9 +1.1
PVY *i* Sn **Sb** 12 34 28.3 +1.0
BARS Barje 2.09 11 *e*Pn **Pn** 12 34 00.0 +1.1
DRME Dracevica, Mon 2.11 313 ⇑*i*Pn **Pb** 12 34 00.9 -1.3
DRME *i* Sn **Sb** 12 34 29.6 +1.3
DRME Dracevica, Mon 2.11 313 ⇑*i*Pn **Pb** 12 34 00.9 -1.3
OUR Ouranopolis 2.12 101 P **Pn** 12 33 59.5 +0.3
OUR Ouranopolis 2.12 101 P **Pn** 12 33 59.6 +0.3
OUR S **Sb** 12 34 27.5 -1.1
ANX Ano Chora 2.23 167 P **Pn** 12 34 01.8 +0.8
ANX Ano Chora 2.23 167 P **Pn** 12 34 01.8 +0.8
PDG Podgorica 2.24 318 *e*Pn **Pb** 12 34 03.1 -1.4
PDG *e*Sn **Sn** 12 34 29.3 +0.7
PDG Podgorica 2.24 318 ⇑P **Pb** 12 34 02.7 -1.8
PDG Podgorica 2.24 318 ⇓S **Sb** 12 34 31.7 -0.4
PDG Podgorica 2.24 318 ⇑*i*Pn **Pb** 12 34 03.0 -1.4
PDG Podgorica 2.24 318 **Pb** 12 34 03.3 -1.1
TTG Podgorica 2.24 318 ⇑*i*Pn **Pn** 12 34 02.4 +1.4
TTG *i* Sn **Sb** 12 34 32.6 +0.5
SCTE Santa Cesarea 2.24 253 **Sb** 12 34 02.5 +1.5
SCTE Santa Cesarea 2.24 253 P **Pn** 12 34 01.6 +0.5
baz=251
AXAR Agios Charalam 2.27 151 P **Pn** 12 34 02.0 +0.5
IVA Berane 2.34 334 ⇓*i*Pn **Pn** 12 34 03.8 +1.4
IVA *i* Sn **Sb** 12 34 34.7 -0.3
BUM Brajici-Budva 2.34 311 ⇑*i*Pn **Pn** 12 34 03.6 +1.1
BUM *i* Sn **Sb** 12 34 35.4 +0.1
VTS Vitosha 2.37 38 P **Pn** 12 34 03.4 +0.5
FSK Fiskardo 2.37 193 P **Pn** 12 34 03.5 +0.8
EFP Efpalio 2.39 168 P **Pn** 12 34 04.3 +1.2
SERG Sergoula 2.43 165 P **Pn** 12 34 04.1 +0.5
SELS Selova 2.45 358 *e*Pn **Pn** 12 34 04.1 +0.2
KOME Kolasin 2.46 328 ⇓*i*Pn **Pb** 12 34 06.1 -2.1
KOME *i* Sn **Sb** 12 34 37.8 -0.6
KAVA Kavala 2.48 84 P **Pn** 12 34 04.1 -0.1
KAVA Kavala 2.48 84 P **Pn** 12 34 04.7 +0.5
CEME Cevo 2.50 316 ⇑*i*Pn **Pn** 12 34 06.1 +1.5
CEME *i* Sn **Sb** 12 34 38.8 -0.8
LKR Lokris 2.51 147 P **Pn** 12 34 04.9 +0.3
LKR Lokris 2.51 147 P **Pn** 12 34 04.9 +0.3
DSF Desfina 2.55 157 P **Pn** 12 34 05.3 0.0
DSF Desfina 2.55 157 P **Pn** 12 34 05.4 0.0
THAS Thassos island 2.63 92 P **Pn** 12 34 06.2 -0.2
NKME Niksic 2.64 320 ⇑*i*Pn **Pn** 12 34 08.2 +1.7
NKME *i* Sn **Sb** 12 34 42.3 -1.4
VLS Valsamata 2.64 192 P **Pn** 12 34 07.0 +0.5
NKY Niksic 2.65 321 ⇓*i*Pn **Pn** 12 34 08.3 +1.5
NKY *i* Sn **Sb** 12 34 42.6 -1.6
HCY Herceg Novi 2.67 310 *e*Pn **Pn** 12 34 08.0 +1.1
HCY *i* Sn **Sb** 12 34 42.6 -1.9
HCY Herceg Novi 2.67 310 *e*Pn **Pn** 12 34 07.9 +1.1
ZAPS Zavoj 2.70 22 *e*Pn **Pn** 12 34 08.9 +1.5
KLV Kalavryta, Ach 2.81 166 P **Pn** 12 34 09.6 +0.7
KLV Kalavryta, Ach 2.81 166 P **Pn** 12 34 09.5 +0.6
CGL1 Ceglie Messapi 2.88 269 *e*Pn **Pn** 12 34 11.1 +1.3
BOVS Bovan 2.88 6 *e*Pn **Pn** 12 34 09.8 0.0
PLD Plovdiv 2.91 62 P **Pn** 12 34 11.3 +1.1
PLE Pljevlja 2.91 332 ⇑*i*Pn **Pn** 12 34 11.8 +1.4
PLE *i* Sn **Sb** 12 34 48.9 -2.8
BRY Bratogost 2.94 317 ⇑*i*Pn **Pn** 12 34 12.2 +1.4
BRY *i* Sn **Sb** 12 34 49.4 -3.2
BRY Bratogost 2.94 317 *e*Pn **Pn** 12 34 12.4 +1.6
GUR Goura 2.95 163 P **Pn** 12 34 11.2 +0.3
GUR Goura 2.95 163 P **Pn** 12 34 11.1 +0.2
UPM Unac-Piva 3.00 325 ⇑*i*Pn **Pn** 12 34 13.5 +1.9
UPM *i* Sn **Sb** 12 34 51.0 -3.2
UPM Unac-Piva 3.00 325 *e*Pn **Pn** 12 34 14.4 +2.8
TAR1 Taranto 3.04 267 *e*Pn **Pn** 12 34 12.0 +0.1
ZAGS Zajecar 3.12 13 *e*Pn **Pn** 12 34 13.2 +0.1
GRUS Gruza 3.14 353 *e*Pn **Pn** 12 34 14.2 +0.8
RUDO Rudo 3.17 334 *e*Pn **Pb** 12 34 17.8 -2.6
MPEP Malo Peshtene 3.17 35 P **Pn** 12 34 14.7 +0.8
KDZ Kurdzhali 3.26 73 *e*P **Pn** 12 34 14.4 -0.6
RDO Rodhopi 3.26 82 *e*P **Pn** 12 34 15.5 +0.5
BAI Bari 3.34 277 *e*Pn **Pn** 12 34 16.5 +0.5
BBLS Lazići 3.39 337 *e*Pn **Pn** 12 34 16.4 -0.4
DIVS Divibare 3.46 345 *e*Pn **Pn** 12 34 18.1 +0.3
DIVS Divibare 3.46 345 *e*Pn **Pn** 12 34 17.9 +0.1
DIVS Divibare 3.46 345 Pn **Pn** 12 34 18.4 +0.6
MATE Matera 3.47 269 ⇑P **Pn** 12 34 17.9 +0.1
MATE Matera 3.47 269 **Pn** 12 34 17.9 +0.1
TRUS Trudelj 3.51 350 *e*Pn **Pn** 12 34 19.1 +0.7
VLY Voula,Athens 3.51 145 P **Pn** 12 34 19.6 +1.1
GADA Gvkgeada 3.58 98 *e*P **Pn** 12 34 20.6 +1.2
ITM Ithomi 3.62 172 *e*P **Pn** 12 34 20.6 +0.6
ITM Ithomi 3.62 172 Pn **Pn** 12 34 22.3 +2.3
ALN Alexandroupoli 3.63 86 *e*P **Pn** 12 34 20.8 +0.7
ALN Alexandroupoli 3.63 86 P **Pn** 12 34 20.6 +0.5
ALN Alexandroupoli 3.63 86 Pn **Pn** 12 34 20.6 +0.5
ENEZ Enez 3.72 89 *e*P **Pn** 12 34 22.9 +1.6
BOZC Bozcaada 3.78 103 *e*P **Pn** 12 34 23.4 +1.3

TIP Timpagrande 3.81 247 ⇓P **Pn** 12 34 23.7 +1.1
TIP Timpagrande 3.81 247 ⇓S **Sn** 12 35 09.7 +2.3
TIP Timpagrande 3.81 247 **Pn** 12 34 23.9 +1.3
SIGR SIGRI 3.86 112 *e*P **Pn** 12 34 24.9 +1.7
EZN Ezine 3.99 102 *e*P **Pn** 12 34 26.5 +1.5
GELI Tayfur-Gelibol 3.99 94 *e*P **Pn** 12 34 26.3 +1.3
TEKS Tekeris 3.99 342 *e*Pn **Pn** 12 34 26.1 +1.1
TEKS Tekeris 3.99 342 *e*Pn **Pn** 12 34 25.6 +0.6
ERIK Erikli-Kesan 3.99 90 *e*P **Pn** 12 34 26.9 +1.8
MDVR Moldovita 4.02 5 ⇑P **Pn** 12 34 26.2 +0.7
MDVR Moldovita 4.02 5 **Pn** 12 34 26.2 +0.7
UKOP Uzunkopru-Edir 4.08 83 *e*P **Pn** 12 34 27.9 +1.6
SRE Strehaia 4.14 20 ⇑P **Pn** 12 34 27.7 +0.5
SRE Strehaia 4.14 20 P **Pn** 12 34 27.7 +0.5
SRE Strehaia 4.14 20 **Pn** 12 34 27.7 +0.5
HERR Herculane 4.20 11 ⇑P **Pn** 12 34 28.3 +0.4
HERR Herculane 4.20 11 **Pn** 12 34 28.3 +0.4
LPK Lapseki 4.21 94 *e*P **Pn** 12 34 29.6 +1.6
EDRB Edirne 4.27 74 *e*P **Pn** 12 34 30.8 +2.0
SGRT San Giovanni R 4.27 285 Pn **Pn** 12 34 28.9 -0.1
SGRT San Giovanni R 4.27 285 P **Pn** 12 34 28.8 -0.2
baz=284
CHOS Chios island 4.40 121 *e*P **Pn** 12 34 31.4 +0.6
RKY Sarkoy-Tekirda 4.50 89 *e*P **Pn** 12 34 34.4 +2.3
FRGS Fruska Gora 4.51 347 *e*Pn **Pn** 12 34 32.8 +0.6
FRGS Fruska Gora 4.51 347 *e*Pn **Pn** 12 34 32.5 +0.3
MAR6 Marsite Statio 4.56 89 *e*P **Pn** 12 34 34.9 +2.0
MAR3 Marsite Statio 4.58 88 *e*P **Pn** 12 34 33.6 +0.4
MAR4 Marsite Statio 4.58 88 *e*P **Pn** 12 34 34.8 +1.5
KTHA Kythira Island 4.72 162 *e*P **Pn** 12 34 36.6 +1.5
URLA Izmir 4.77 119 *e*P **Pn** 12 34 36.9 +1.1
MRMT Marmara Adasi 4.82 90 *e*P **Pn** 12 34 38.2 +1.7
CEL Celeste 4.85 241 Pn **Pn** 12 34 37.3 +0.4
BZS Buzias 4.85 3 ⇑P **Pn** 12 34 37.3 +0.4
BZS Buzias 4.85 3 P **Pn** 12 34 37.3 +0.4
BZS Buzias 4.85 3 **Pn** 12 34 37.3 +0.4
APE Apeiranthos 4.97 137 ⇑P **Pn** 12 34 39.8 +1.1
APE Apeiranthos 4.97 137 *e*P **Pn** 12 34 39.9 +1.3
APE Apeiranthos 4.97 137 ⇓*e*P **Pn** 12 34 39.5 +0.9
APE Apeiranthos 4.97 137 **Pn** 12 34 39.8 +1.1
BLY Banja Luka 4.98 324 *e*Pn **Pn** 12 34 40.8 +2.1
BLY Banja Luka 4.98 324 *e*Pn **Pn** 12 34 41.0 +2.3
LOT Lotru 5.02 21 ⇑P **Pn** 12 34 39.7 +0.3
LOT Lotru 5.02 21 *e*P **Pn** 12 34 40.5 +1.2
LOT Lotru 5.02 21 **Pn** 12 34 39.7 +0.3
PAOL Paolisi 5.08 275 **Pn** 12 34 41.0 +0.9
ARR Arges 5.22 27 ⇑P **Pn** 12 34 42.7 +0.7
ARR Arges 5.22 27 **Pn** 12 34 42.7 +0.7
MTUR Matau 5.25 31 ⇑P **Pn** 12 34 43.7 +1.2
MTUR Matau 5.25 31 P **Pn** 12 34 43.7 +1.2
MTUR Matau 5.25 31 **Pn** 12 34 43.7 +1.2
VOIR 5.43 29 ⇑P **Pn** 12 34 45.8 +0.9
VOIR 5.43 29 P **Pn** 12 34 45.8 +0.9
VOIR 5.43 29 **Pn** 12 34 45.8 +0.9
SANT Santorini 5.49 142 ⇑P **Pn** 12 34 47.4 +1.7
SANT Santorini 5.49 142 **Pn** 12 34 46.2 +0.5
SIRR Siria 5.50 3 ⇑P **Pn** 12 34 47.1 +1.3
SIRR Siria 5.50 3 **Pn** 12 34 47.1 +1.3
RODP Rodopos 5.56 158 *e*P **Pn** 12 34 47.9 +1.3
INTR Introdacqua 5.67 285 Pn **Pn** 12 34 48.5 +0.3
IMMV Iera Moni Meta 5.72 157 *e*P **Pn** 12 34 50.7 +1.9
MLR Muntele Rosu 5.83 34 P **Pn** 12 34 51.1 +0.6
comp=E,4.3nm,0.3s,baz=249,slow=4.8,SNR=22
MLR S **Sn** 12 35 57.1 -0.2
comp=E,0.6nm,0.3s,baz=269,slow=10,SNR=3.3
MLR Muntele Rosu 5.83 34 ⇑P **Pn** 12 34 52.3 +1.9
MLR Muntele Rosu 5.83 34 **Pn** 12 34 51.9 +1.5
MLR **Sn** 12 35 56.6 -0.7
NEHR Nehoiu 5.94 37 ⇑P **Pn** 12 34 53.8 +2.0
DOPR Dopca 6.00 29 ⇑P **Pn** 12 34 52.9 +0.2
DOPR Dopca 6.00 29 **Pn** 12 34 52.9 +0.2
AQU L'Aquila 6.10 288 P **Pn** 12 34 54.3 +0.2
AQU L'Aquila 6.10 288 *e*Pn **Pn** 12 34 50.9 -3.2
AQU L'Aquila 6.10 288 **Pn** 12 34 54.3 +0.2
IDI Anoyia 6.18 151 P **Pn** 12 34 56.9 +1.8
comp=E,4.1nm,0.3s,baz=318,slow=17,SNR=17
IDI S **Sn** 12 36 03.9 -1.9
comp=E,3.7nm,0.3s,baz=27,slow=15,SNR=1.9
IDI Anoyia 6.18 151 ⇑P **Pn** 12 34 57.6 +2.4
IDI Anoyia 6.18 151 *e*P **Pn** 12 34 57.4 +2.2
IDI Anoyia 6.18 151 **Pn** 12 34 55.2 0.0
IDI **Sn** 12 36 05.6 -0.2
BISRR Bisoca 6.22 38 ⇑P **Pn** 12 34 57.2 +1.5
BISRR Bisoca 6.22 38 **Pn** 12 34 57.2 +1.5
VAE Valguarnera 6.26 241 P **Pn** 12 34 58.6 +2.4
baz=344,slow=15,SNR=0.8
VAE S **Sn** 12 36 15.8 +8.0
comp=E,1.6nm,0.3s,baz=152,slow=10.0,SNR=2.2
TLBR Topalu 6.26 51 ⇑P **Pn** 12 34 57.5 +1.3
HARR Harsova 6.28 49 ⇑P **Pn** 12 34 57.9 +1.4
HARR Harsova 6.28 49 P **Pn** 12 34 57.9 +1.4
HARR Harsova 6.28 49 **Pn** 12 34 57.9 +1.4
PLOR Plostina 6.42 36 ⇑P **Pn** 12 35 00.5 +2.0
PLOR Plostina 6.42 36 P **Pn** 12 35 00.5 +2.0
PLOR Plostina 6.42 36 **Pn** 12 35 00.5 +2.0
NRCA Norcia 6.43 291 **Pn** 12 34 59.0 +0.4
TIRR Tirgusor 6.43 53 ⇑P **Pn** 12 34 59.3 +0.7
TIRR Tirgusor 6.43 53 P **Pn** 12 34 59.3 +0.7
TIRR Tirgusor 6.43 53 **Pn** 12 34 59.3 +0.7
VRI Vrincioaia 6.47 36 ⇓P **Pn** 12 35 01.1 +2.1
VRI Vrincioaia 6.47 36 P **Pn** 12 35 01.2 +2.1
VRI Vrincioaia 6.47 36 **Pn** 12 35 01.1 +2.1
BEHE Becsehely 6.56 332 *e*Pn **Pn** 12 35 03.4 +3.1
CRES Cresnjev 6.59 322 *e*Pn **Pn** 12 35 01.5 +0.7
TOPG Topolog 6.65 50 ⇑P **Pn** 12 35 02.4 +0.8
CFR Carcaliu 6.69 47 ⇑P **Pn** 12 35 03.8 +1.7
CFR Carcaliu 6.69 47 P **Pn** 12 35 03.8 +1.7
CFR Carcaliu 6.69 47 **Pn** 12 35 03.8 +1.7
CORL Corleone 6.80 248 **Pn** 12 35 03.8 +1.0
TESR Tescani 6.94 32 ⇑P **Pn** 12 35 07.0 +1.5
TESR Tescani 6.94 32 **Pn** 12 35 07.0 +1.5
MURB Monte Urbino 6.97 294 **Pn** 12 35 06.4 +0.4
KARP Karpathos 6.98 136 **Pn** 12 35 05.6 -0.6
CLTB Caltabellotta 7.01 246 **Pn** 12 35 06.7 0.0
CEY Cerknica 7.04 317 *e*Pn **Pn** 12 35 04.9 -2.0
TLCR 7.08 49 ⇑P **Pn** 12 35 08.8 +1.3
TLCR 7.08 49 P **Pn** 12 35 08.8 +1.3
TLCR 7.08 49 **Pn** 12 35 08.8 +1.3
LJU Ljubljana 7.20 319 *e*Pn **Pn** 12 35 09.1 0.0
PSZ Piszkesteto 7.21 353 ⇓P **Pn** 12 35 10.1 +0.7
PSZ Piszkesteto 7.21 353 P **Pn** 12 35 10.1 +0.7
PSZ Piszkesteto 7.21 353 **Pn** 12 35 10.1 +0.7
PSZ Piszkesteto 7.21 353 **Pn** 12 35 10.1 +0.7
LATE Laterza 7.31 288 **Pn** 12 35 11.2 +0.5
TRI Trieste 7.37 315 P **Pn** 12 35 11.5 +0.1
TRI Trieste 7.37 315 **Pn** 12 35 11.5 +0.1
BURAR Bucovina Array 7.41 21 ⇑P **Pn** 12 35 13.2 +1.1
BURAR Bucovina Array 7.41 21 **Pn** 12 35 13.2 +1.1
BURAR Bucovina Array 7.41 21 **Pn** 12 35 11.6 -0.5
SOKA Soboth 7.43 325 *i* Pn **Pn** 12 35 13.8 +1.5
comp=E,17nm,0.5s,SNR=16
SOKA *i* Sn **Sn** 12 36 36.7 0.0
comp=E,10nm,0.6s
BUR08 Bucovina Ar. S 7.43 21 **Pn** 12 35 11.1 -1.3
OBKA Obir 7.52 322 *i* Pn **Pn** 12 35 15.6 +2.0
comp=E,15nm,0.7s
OBKA *i* Sn **Sn** 12 36 42.9 +4.0
comp=E,32nm,0.6s
ARSA Arzberg 7.68 329 *i* Pn **Pn** 12 35 18.2 +2.5
comp=E,9.5nm,0.4s
KECS Kecovo 7.73 356 *e*P **Pn** 12 35 20.2 +3.8
KECS Kecovo 7.73 356 *e*PN **Pn** 12 35 20.2 +3.8
VYHS Vyhne 7.91 348 *e*P **Pn** 12 35 21.0 +2.1
VYHS *e* 12 36 50.2
VYHS Vyhne 7.91 348 *e*PN **Pn** 12 35 21.0 +2.1
VYHS *e*SN **Sn** 12 36 50.2 +1.8
OSSC Osservatorio P 7.93 294 **Pn** 12 35 19.4 +0.2
CASP Castiglione de 8.03 288 **Pn** 12 35 21.2 +0.7
MYKA Terra Mystica 8.05 319 *i* Pn **Pn** 12 35 24.2 +3.4
comp=E,9.5nm,0.5s
MYKA *i* Sn **Sn** 12 36 52.7 +1.0
comp=E,12nm,0.7s
MODS Modra-Piesok 8.12 341 *e*P **Pn** 12 35 24.6 +2.9
MODS Modra-Piesok 8.12 341 *e*PN **Pn** 12 35 24.6 +2.9
CONA Conrad Observa 8.13 333 *e*Pn **Pn** 12 35 26.6 +4.6
comp=E,4.6nm,0.4s,SNR=6.3
CRVS Cervenica-Dubn 8.13 1 *e*P **Pn** 12 35 26.1 +4.2
CRVS Cervenica-Dubn 8.13 1 *e*PN **Pn** 12 35 26.1 +4.2
SMOL Smolenice 8.21 342 *e*P Pn 12 35 28.2 +5.2
SMOL Smolenice 8.21 342 *e*PN Pn 12 35 28.2 +5.2
STAL STALIGIAL 8.29 314 **Pn** 12 35 25.3 +1.2

ZOU Zoufplan 8.34 317 **Pn** 12 35 25.8 +0.9
TEOL Teolo 8.38 306 **Pn** 12 35 25.4 0.0
CIMO Cimolais 8.46 314 Pn **Pn** 12 35 26.4 -0.1
KBA Koelnbreinsper 8.51 320 *i* Pn **Pn** 12 35 28.7 +1.5
comp=E,17nm,0.8s,SNR=13
KBA *i* Sn **Sn** 12 37 02.3 -1.0
comp=E,8.5nm,0.6s
MOA Molln 8.67 327 *e*Pn **Pn** 12 35 31.4 +2.1
comp=E,13nm,0.6s,SNR=12
NIE Niedzica 8.68 356 *e*P Pn 12 35 34.7 +5.3
ABTA Abfaltersbach 8.70 316 *i* Pn **Pn** 12 35 31.2 +1.4
comp=E,14nm,0.5s
CTI Castel Tesino 8.76 310 P **Pn** 12 35 30.5 -0.1
CTI Castel Tesino 8.76 310 Pn **Pn** 12 35 30.5 -0.1
KRUC Moravsky 8.98 339 *e*PN **Pn** 12 35 36.5 +3.0
VRAC Vranov 9.15 340 P **Pn** 12 35 37.9 +2.0
comp=E,0.5nm,0.3s,baz=143,slow=11,SNR=4.2
VRAC Vranov 9.15 340 *e*PN **Pn** 12 35 39.3 +3.4
SALO Salr 9.22 305 Pn **Pn** 12 35 36.2 -0.6
MSSA Maissana 9.36 296 Pn **Pn** 12 35 39.0 +0.2
MORC Moravsky Berou 9.38 345 ⇑P **Pn** 12 35 39.3 +0.3
MORC Moravsky Berou 9.38 345 *e*PN **Pn** 12 35 43.4 +4.4
MORC Moravsky Berou 9.38 345 P **Pn** 12 35 39.3 +0.3
MORC Moravsky Berou 9.38 345 **Pn** 12 35 39.3 +0.3
WTTA Wattenberg 9.49 316 *i* Pn **Pn** 12 35 42.9 +2.2
comp=E,16nm,0.5s,SNR=6.6
WTTA *i* Sn **Sn** 12 37 25.9 -1.6
comp=E,37nm,0.6s
OJC Ojcow 9.51 354 *e*P Pn 12 35 46.1 +5.4
BRTR Keskin Array B 9.52 92 P **Pn** 12 35 42.1 +1.0
comp=E,0.3nm,0.3s,baz=263,slow=12,SNR=2.2
BRTR LR LR 12 39 18.7
comp=E,53nm,21.4s,baz=266,slow=37
WATA Walderalm 9.57 317 *i* Pn Pn 12 35 47.3 +5.5
comp=E,30nm,0.6s,SNR=6.3
GEC2 GERESS Array S 9.69 329 **Pn** 12 35 44.3 +0.9
GERES GERESS Array B 9.69 329 P **Pn** 12 35 44.9 +1.5
comp=E,0.8nm,0.3s,baz=154,slow=13,SNR=16
GERES GERESS Array B 9.69 329 Pn **Pn** 12 35 44.0 +0.6
SQTA Sankt Quirin 9.69 315 *i* Pn **Pn** 12 35 44.6 +1.2
comp=E,18nm,0.4s
KRLC Kraliky 9.82 343 *e*PN **Pn** 12 35 49.3 +4.2
KRLC Kraliky 9.82 343 *e*P **Pn** 12 35 49.3 +4.2
MOTA Moosalm 9.83 315 *i* Pn **Pn** 12 35 46.8 +1.5
comp=E,22nm,0.7s
MOTA *i* Sn **Sn** 12 37 33.6 -2.0
comp=E,32nm,0.8s
FETA Feichten 9.84 313 *i* Pn **Pn** 12 35 48.8 +3.4
comp=E,9.3nm,0.6s
FETA *i* Sn **Sn** 12 37 35.7 -0.1
comp=E,11nm,0.7s
FUORN Ofenpass-Fuorn 9.88 310 Pn **Pn** 12 35 46.5 +0.5
KHC Kasperske Hory 9.97 330 *e*PN **Pn** 12 35 49.0 +1.9
KHC *e*SN **Sn** 12 37 42.8 +3.8
KHC Kasperske Hory 9.97 330 ⇑*e*P **Pn** 12 35 49.8 +2.7
KHC pmax pmax
comp=Z,17nm,1.2s
KHC Kasperske Hory 9.97 330 **Pn** 12 35 47.4 +0.2
DPC Dobruska-Polom 10.18 342 *e*PN **Pn** 12 35 54.3 +4.2
DPC Dobruska-Polom 10.18 342 *e*P **Pn** 12 35 54.3 +4.2
TUE Stuetta 10.34 307 Pn **Pn** 12 35 52.9 +0.5
DAVA Damuels 10.46 312 *i* Pn **Pn** 12 35 56.9 +3.0
comp=Z,11nm,0.5s
KEST Kesra 10.63 246 P **Pn** 12 35 58.5 +2.3
comp=Z,0.2nm,0.3s,baz=76,slow=16,SNR=2.3
KEST LR LR 12 40 56.7
comp=Z,83nm,20.6s,baz=158,slow=42
KEST Kesra 10.63 246 **Pn** 12 35 57.9 +1.7
BRG Berggiesshubel 11.31 336 *e*P **Pn** 12 36 09.7 +4.3
comp=Z,8.8nm,1.5s
BRG Berggiesshubel 11.31 336 *e*P **Pn** 12 36 09.7 +4.3
BRG pmax pmax
comp=Z,9.0nm,1.5s
AKASG Malin Array Be 11.38 27 P **Pn** 12 36 07.1 +0.8
comp=Z,0.4nm,0.3s,baz=210,slow=13,SNR=2.1
AKASG Malin Array Be 11.38 27 *i* P Pn 12 36 13.0 +6.7
AKASG pmax pmax
comp=Z,1.0nm,0.3s
BNI Bardonecchia 11.52 297 P **Pn** 12 36 07.7 -0.7
BNI Bardonecchia 11.52 297 Pn **Pn** 12 36 07.7 -0.7
SENIN Lac Senin/Sane 11.56 304 Pn **Pn** 12 36 08.1 -1.0
BFO Black Forest 11.91 314 *e*P **Pn** 12 36 14.6 +0.9
BFO Black Forest 11.91 314 **Pn** 12 36 13.6 -0.2
ECH Echery 12.51 311 P **Pn** 12 36 22.1 +0.3
ECH Echery 12.51 311 **Pn** 12 36 22.1 +0.3
MMAI Mount Meron Ar 13.70 120 P **Pn** 12 36 38.8 +0.6
comp=Z,1.3nm,0.3s,baz=304,slow=13,SNR=3.2
MMAI LR LR 12 42 22.1
comp=Z,53nm,19.9s,baz=200,slow=39
SOC Sochi 13.97 72 *e*P **Pn** 12 36 44.5 +2.7
SOC *e* 12 39 22.7
SOC pmax pmax
comp=Z,14nm,0.6s
SOC MLR MLR
comp=Z,65nm,14.0s
EIL Elat 15.72 131 P **Pn** 12 37 07.1 +1.7
comp=Z,0.4nm,0.3s,baz=12,slow=11,SNR=3.9
VORD Divnogorie 16.13 45 *e*P **Pn** 12 37 10.1 -0.4
VORD pmax pmax
comp=Z,10.0nm,0.6s
KIV Kislovodsk 16.15 72 *e*P **P** 12 37 16.0 +1.9
KIV pmax pmax
comp=Z,44nm,1.1s
VSR Storozhevoye 16.20 44 *e*P **Pn** 12 37 09.7 -1.7
VSR pmax pmax
comp=Z,30nm,1.2s
KBZ Khabaz 16.29 72 P **P** 12 37 14.9 -0.6
comp=Z,0.1nm,0.3s,baz=264,slow=12,SNR=3.8
LPSR Galich'ya Gora 16.88 40 *e*P **P** 12 37 23.5 +1.4
LPSR pmax pmax
comp=Z,10.0nm,1.0s
ZEI Tsey 17.00 76 *e*P **Pn** 12 37 17.7 -4.2
ZEI pmax pmax
comp=Z,6.0nm,1.0s
VRH Novokhopyorsk 17.58 47 *e*P **Pn** 12 37 29.2 +0.5
VRH pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 17.58 30 *e*P **P** 12 37 32.9 +3.2
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,54nm,15.0s
VSU Vasula 18.05 9 ⇓*e*P **P** 12 37 36.3 +1.4
VSU pmax pmax
comp=Z,67nm,1.0s
MOS Moscow 18.45 30 *e*P **Pn** 12 37 41.4 +2.0
MOS pmax pmax
comp=Z,41nm,0.7s
ESDC Sonseca Array 19.28 275 P **P** 12 37 48.0 -0.7
baz=29,slow=2.9,SNR=2.1
HFS Hagfors 19.95 349 P **P** 12 37 54.4 -1.4
comp=Z,0.4nm,0.3s,baz=156,slow=7.6,SNR=4.8
HFS LR LR 12 45 42.6
comp=Z,58nm,19.5s,baz=158,slow=37
NC602 NORSAR Array S 20.87 347 P **P** 12 38 04.6 -1.1
NAO01 NORSAR Array S 21.09 346 P **P** 12 38 07.8 -0.3
NC405 NORSAR Array S 21.20 347 P **P** 12 38 08.5 -0.7
NC405 IAmb IAmb 12 38 17.2
comp=Z,22nm,0.8s
NB201 NORSAR Array S 21.21 347 P **P** 12 38 08.7 -0.7
NOA NORSAR Array B 21.21 346 P **P** 12 38 08.3 -1.2
comp=Z,1.8nm,0.7s,baz=162,slow=10,SNR=13
NBO00 NORSAR Array S 21.28 346 P **P** 12 38 11.2 +0.9
NBO00 IAmb IAmb 12 38 13.4
comp=Z,26nm,1.1s
NC303 NORSAR Array S 21.36 347 P **P** 12 38 10.4 -0.6
NC303 IAmb IAmb 12 38 16.5
comp=Z,24nm,0.9s
NC204 NORSAR Array S 21.52 346 P **P** 12 38 12.9 +0.2
NC204 IAmb IAmb 12 38 17.1
comp=Z,24nm,1.2s
EKA Eskdalemuir Ar 21.72 320 P **P** 12 38 14.1 -0.8
comp=Z,12nm,0.7s,baz=117,slow=10,SNR=15
ESK Eskdalemuir 21.73 320 P **P** 12 38 15.5 +0.4
ESK pmax pmax
comp=Z,19nm,0.9s
ESK Eskdalemuir 21.73 320 P **P** 12 38 15.5 +0.4
ESK IAmb IAmb 12 38 21.9
comp=Z,19nm,0.8s
MDT Midelt 22.13 257 P **P** 12 38 19.8 +0.2
comp=Z,2.9nm,0.9s,baz=130,slow=8.3,SNR=3.4
KLMR Klimovskoe 23.03 23 *e*P **P** 12 38 25.9 -2.8
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR Klimovskoe 23.03 23 *e*P **P** 12 38 26.0 -2.8

KLMR				AMP		12 38 29.6	
	comp=Z,23nm,1.4s						
KIRV	**Kirov**	**25.19**	**35**	LR	LR	12 48 36.1	
	comp=Z,56nm,18.8s,baz=276,slow=36						
TMCR	**Tamitsa**	**25.40**	**17**	*e*P	**P**	**12 38 50.9**	**-0.1**
TMCR				pmax	pmax		
	comp=Z,41nm,0.8s						
AKTO	**Aktyubinsk**	**27.22**	**57**	P	**P**	**12 39 07.6**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=259,slow=12,SNR=8.5						
ABKAR	**Akbulak array**	**28.37**	**60**	P	**P**	**12 39 17.3**	**-0.7**
GEYT	**Alibeck**	**28.51**	**84**	P	**P**	**12 39 19.2**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=247,slow=7.7,SNR=2.2						
ARU	**Arti**	**28.77**	**44***c*	*i*P	**P**	**12 39 25.2**	**+3.7**
ARU						12 40 14.2	
ARU				S	**S**	**12 44 16.2**	**+5.5**
ARU				SS	**SnSn**	**12 45 34.1**	**+2.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**28.92**	**3**	P	**P**	**12 39 21.0**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=194,slow=9.9,SNR=6.9						
ARCES	**ARCESS Array B**	**28.92**	**3**	P	**P**	**12 39 21.8**	**-0.8**
ARCES	**ARCESS Array B**	**28.92**	**3**	P	**P**	**12 39 21.8**	**-0.8**
KEV	**Kevo**	**29.21**	**4**	P	**P**	**12 39 26.6**	**+1.4**
KEV				pmax	pmax		
	comp=Z,17nm,1.2s						
KEV	**Kevo**	**29.21**	**4**	P	**P**	**12 39 26.6**	**+1.4**
KEV				IAmb	IAmb	12 39 27.2	
	comp=Z,17nm,1.2s						
SVE	**Sverdlovsk**	**29.99**	**44**	*e*P	**P**	**12 39 33.0**	**+0.8**
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
TOA0	**Torodi Ar. Sit**	**32.42**	**217**	P	**P**	**12 39 54.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**32.42**	**217**	P	**P**	**12 39 52.2**	**-1.8**
	comp=Z,3.5nm,0.7s,baz=30,slow=9.0,SNR=14						
TORD	**Torodi Ar. Bea**	**32.42**	**217**	P	**P**	**12 39 54.3**	**+0.3**
UOSS	**Minazif**	**33.07**	**108**	P	**P**	**12 39 59.2**	**-0.4**
UOSS				IAmb	IAmb	12 40 02.6	
	comp=Z,9.8nm,0.9s						
KKAR	**Karatay Array**	**36.29**	**70**	P	**P**	**12 40 28.2**	**+0.8**
KKAR	**Karatay Array**	**36.29**	**70**	P	**P**	**12 40 28.2**	**+0.8**
SPITS	**Spitsbergen Ar**	**37.57**	**358**	P	**P**	**12 40 37.5**	**-0.4**
	comp=Z,52nm,1.3s,baz=174,slow=16,SNR=1.9						
DBIC	**Dimbokro**	**41.20**	**222**	P	**P**	**12 41 07.9**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=8.1,slow=11,SNR=6.3						
DBIC	**Dimbokro**	**41.20**	**222**	P	**P**	**12 41 08.2**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
DBIC	**Dimbokro**	**41.20**	**222**	P	**P**	**12 41 08.2**	**-0.5**
MK31	**Makanchi Array**	**43.50**	**61**	P	**P**	**12 41 26.9**	**-0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MK31	**Makanchi Array**	**43.50**	**61**	P	**P**	**12 41 26.9**	**-0.3**
MKAR	**Makanchi Array**	**43.50**	**61**	P	**P**	**12 41 26.6**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=278,slow=7.2,SNR=12						
MKAR	**Makanchi Array**	**43.50**	**61**	*i*P	**P**	**12 41 26.7**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.50**	**61**	P	**P**	**12 41 26.8**	**-0.5**
ZALV	**Zalesovo Beam**	**43.56**	**50**	P	**P**	**12 41 26.8**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=269,slow=8.4,SNR=8.4						
ZALV	**Zalesovo Beam**	**43.56**	**50**	*i*P	**P**	**12 41 30.0**	**+2.4**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**43.56**	**50**		**P**	**12 41 27.1**	**-0.5**
KMBO	**Kilima Mbogo**	**44.17**	**157**	LR	LR	13 01 51.5	
	comp=Z,43nm,19.3s,baz=104,slow=39						
WMQ	**Urumqi**	**48.04**	**63**	*e*P	**P**	**12 42 04.9**	**+1.7**
SCHQ	**Schefferville**	**56.96**	**316**	P	**P**	**12 43 07.8**	**-1.4**
	comp=Z,4.1nm,0.8s,baz=90,slow=8.1,SNR=2.7						
LMN	**Caledonia Moun**	**59.89**	**306**	P	**P**	**12 43 30.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**65.11**	**57**	*e*P	**P**	**12 44 06.6**	**+1.8**
HHC				pmax	pmax		
	comp=Z,29nm,1.1s						
HHC				pmax	pmax		
	comp=Z,69nm,5.6s						
CMAR	**Chiang Mai Arr**	**68.99**	**83**	P	**P**	**12 44 27.8**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=303,slow=8.2,SNR=8.9						
BOSA	**Boshof**	**69.13**	**176**	P	**P**	**12 44 29.6**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=352,slow=9.7,SNR=3.7						
BOSA	**Boshof**	**69.13**	**176**	P	**P**	**12 44 29.9**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,12nm,1.3s						
BOSA	**Boshof**	**69.13**	**176**	P	**P**	**12 44 29.9**	**-0.3**
TOLK	**Toolik Lake Re**	**70.69**	**356**	P	**P**	**12 44 39.7**	**+0.4**
TOLK				IAmb	IAmb	12 44 52.8	
	comp=Z,8.9nm,1.4s						
YKA	**Yellowknife Ar**	**71.15**	**340**	P	**P**	**12 44 41.6**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=352,slow=7.5,SNR=3.0						
IMAR	**Indian Mountai**	**73.51**	**358**	P	**P**	**12 44 56.3**	**+0.1**
EGAK	**Eagle**	**73.89**	**352**	P	**P**	**12 44 58.0**	**-0.4**
MDM	**Murphy Dome**	**74.29**	**355**	P	**P**	**12 45 00.6**	**-0.2**
ILAR	**Eielson Array**	**74.39**	**355**	P	**P**	**12 45 01.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=354,slow=4.1,SNR=16						
HDA	**Harding Lake**	**74.75**	**355**	P	**P**	**12 45 03.1**	**-0.3**
HDA				IAmb	IAmb	12 45 04.0	
	comp=Z,4.6nm,0.8s						
NJ2	**Nanjing**	**75.03**	**61**	*e*P	**P**	**12 45 05.9**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DOT	**Dot Lake**	**75.27**	**353**	P	**P**	**12 45 06.5**	**-0.1**
DOT				IAmb	IAmb	12 45 07.6	
	comp=Z,5.6nm,0.8s						
BCAR	**Beaver Creek A**	**75.62**	**352**	P	**P**	**12 45 08.8**	**+0.2**
KTH	**Kantishna Hill**	**75.83**	**356**	P	**P**	**12 45 09.2**	**-0.6**
KTH				IAmb	IAmb	12 45 34.3	
	comp=Z,12nm,1.4s						
RND	**Reindeer**	**75.87**	**355**	P	**P**	**12 45 09.3**	**-0.7**
RND				pmax	pmax		
	comp=Z,10.0nm,1.5s						
RND	**Reindeer**	**75.87**	**355**	P	**P**	**12 45 09.3**	**-0.7**
RND				IAmb	IAmb	12 45 28.5	
	comp=Z,10nm,1.5s						
MENT	**Mentasta**	**75.94**	**353**	P	**P**	**12 45 11.2**	**+0.9**
DHY	**Denali Highway**	**76.10**	**355**	P	**P**	**12 45 11.3**	**-0.1**
PPLA	**Purkeypile**	**76.55**	**357**	P	**P**	**12 45 14.3**	**+0.3**
TTA	**Tatalina**	**76.62**	**359**	P	**P**	**12 45 13.9**	**-0.4**
TTA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TTA	**Tatalina**	**76.62**	**359**	P	**P**	**12 45 13.9**	**-0.4**
TTA				IAmb	IAmb	12 45 38.8	
	comp=Z,8.7nm,1.4s						
KSRS	**Korea Array**	**77.25**	**51**	P	**P**	**12 45 16.5**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=308,slow=4.1,SNR=2.1						
HYT	**Haines Junctio**	**77.28**	**350**	P	**P**	**12 45 18.3**	**+0.2**
GHO	**Glory Hole Cre**	**77.50**	**355**	P	**P**	**12 45 17.1**	**-2.1**
KLU	**Klutina**	**77.56**	**354**	P	**P**	**12 45 19.3**	**-0.3**
KLU				IAmb	IAmb	12 45 21.3	
	comp=Z,4.1nm,0.8s						
PMR	**Palmer**	**77.69**	**355**	P	**P**	**12 45 20.4**	**+0.2**
PMR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PMR	**Palmer**	**77.69**	**355**	P	**P**	**12 45 20.4**	**+0.2**
PMR				IAmb	IAmb	12 45 23.3	
	comp=Z,8.2nm,1.0s						
PETK	**Petropavlovsk-**	**79.21**	**25**	P	**P**	**12 45 26.2**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=7.4,slow=4.5,SNR=1.7						
LAO	**LASA Array**	**81.16**	**326**	P	**P**	**12 45 39.6**	**+0.1**
LAO				IAmb	IAmb	12 45 40.7	
	comp=Z,6.5nm,0.8s						
EGMT	**Eagleton**	**81.52**	**329**	P	**P**	**12 45 40.8**	**-0.6**
WALA	**Waterton Lakes**	**82.20**	**332**	P	**P**	**12 45 44.0**	**-1.1**
WALA				IAmb	IAmb	12 45 47.5	
	comp=Z,3.0nm,0.7s						
HRY	**Holter Researc**	**83.40**	**330**	P	**P**	**12 45 51.5**	**+0.1**
JTMT	**Jette**	**83.44**	**332**	P	**P**	**12 45 51.3**	**-0.3**
YNE	**Yellowstone No**	**84.08**	**328**	P	**P**	**12 45 55.0**	**-0.1**
LRM	**Limekiln Ridge**	**84.38**	**329**	P	**P**	**12 45 56.5**	**0.0**
YHL	**Hebgen Lake**	**84.69**	**328**	P	**P**	**12 45 58.3**	**+0.2**
DLMT	**Dillon**	**84.82**	**329**	P	**P**	**12 45 58.7**	**+0.1**
DLMT				IAmb	IAmb	12 45 59.4	
	comp=Z,2.4nm,0.8s						
BDFB	**Brasilia**	**85.14**	**245**	P	**P**	**12 45 59.5**	**-0.9**
	comp=Z,2.1nm,0.4s,baz=98,slow=7.1,SNR=3.3						
MCMT	**McKenzie Canyo**	**85.36**	**329**	P	**P**	**12 46 01.4**	**-0.1**
PDAR	**Pinedale Array**	**85.73**	**326**	P	**P**	**12 46 00.9**	**-2.4**
	comp=Z,0.5nm,0.7s,baz=80,slow=5.6,SNR=5.4						
HAWA	**Hanford**	**86.44**	**334**		**P**	**12 46 05.7**	**-0.7**
HWUT	**Hardware Ranch**	**87.53**	**327**		**P**	**12 46 11.5**	**-0.6**
HWUT				IAmb	IAmb	12 46 12.0	
	comp=Z,2.8nm,0.8s						
PV22	**Blue Mesa, Par**	**88.83**	**323**	P	**P**	**12 46 18.5**	**+0.2**
PV22				IAmb	IAmb	12 46 19.4	
	comp=Z,2.6nm,0.7s						
NVAR	**Mina Array Bea**	**92.94**	**329**	P	**P**	**12 46 36.7**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=27,slow=3.0,SNR=2.4						
TXAR	**Lajitas Array**	**93.59**	**314**	P	**P**	**12 46 40.3**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=66,slow=4.5,SNR=11						
WRA	**Warramunga Arr**	**120.04**	**91**	PKP	**PKPdf**	**12 52 12.7**	**-2.3**
	comp=Z,0.2nm,0.7s,baz=334,slow=1.6,SNR=1.8						
ASAR	**Alice Springs**	**121.85**	**95**	PKP	**PKPdf**	**12 52 15.8**	**-2.6**
	comp=Z,0.7nm,0.7s,baz=325,slow=1.7,SNR=6.4						

THR ***17*** *12:35:26.5±0.7, 28°.17N×59°.08E, h18km±11km, ML3.6*
TEH ***17*** *12:35:27.2, 28°.34N×59°.04E, h11km, ML3.6*
OMAN ***17*** *12:35:29.2±2.1, 27°.75N×59°.14E, h0km±26km, ml3.2/8, Error ellipse: s-maj=7.0km s-min=4.2km az=49.0*
ISC 17 12:35:20.1±0.9, 27°.64N±0°.04×59°.36E±0°.04, h10km, n35, σ1§33/42, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	**BAM**	**1.69**	**332**	*e*Pg	**Pn**	**12 35 45.3**	**-4.5**
KBAM				*e*Sg	Sn	12 35 59.9	-12
SZD1	**Zahaedan-tmp**	**2.27**	**35**	*e*Pn	**Pg**	**12 36 02.7**	**-0.9**
ZHSF	**Zahedan**	**2.33**	**32**	*e*Pn	**Pb**	**12 36 02.8**	**+0.6**
ZHSF	**Zahedan**	**2.33**	**32**	*e*Pn	**Pb**	**12 36 02.8**	**+0.6**
IBND	**Bandar-abas**	**2.51**	**266**	*e*		12 36 51.2	
IBND				*e*Pn	**Pg**	**12 36 08.3**	**+0.1**
CHMN	**Cheshme madani**	**2.73**	**325**	*e*Pn	**Pn**	**12 36 02.8**	**-1.5**
CHMN				*e*		12 36 34.1	
GENO	**Geno**	**2.84**	**266**	*e*Pn	**Pg**	**12 36 13.0**	**-1.5**
GENO				*e*		12 36 52.1	
BNDS	**Bandar-Abbas**	**2.84**	**266**	*e*Pn	**Pb**	**12 36 11.4**	**+0.4**
BNDS				*e*Sg	**Sg**	**12 36 50.4**	**-1.0**
BNDS	**Bandar-Abbas**	**2.84**	**266**	*e*Pn	**Pb**	**12 36 11.4**	**+0.4**
NGRK	**Negar Kerman**	**3.05**	**311**	*e*		12 36 46.0	
NGRK				*e*Pn	**Pn**	**12 36 09.1**	**+0.3**
BANOM	**Banah**	**3.22**	**239**	P	**Pb**	**12 36 19.3**	**+1.9**
BANOM				S	**Sb**	**12 36 59.3**	**+2.5**
KRBR	**Kerman**	**3.26**	**316**	*e*Pn	**Pn**	**12 36 11.2**	**-0.4**
KRBR				*e*Sg	**Sn**	**12 36 51.9**	**+1.2**
KRBR	**Kerman**	**3.26**	**316**	*e*Pn	**Pn**	**12 36 11.2**	**-0.4**
TVBK	**TV Kerman**	**3.26**	**316**	*e*Pn	**Pn**	**12 36 11.9**	**+0.2**
TVBK				*e*		12 36 58.6	
MDH	**Madha**	**3.60**	**230**	P	**Pb**	**12 36 23.5**	**-0.4**
KHGB	**Koh Gabri**	**3.71**	**318**	*e*Pn	**Pn**	**12 36 17.4**	**-0.4**
KHGB				*e*		12 37 06.6	
NHDN	**Nehbandan**	**3.79**	**9**	*e*Pn	**Pn**	**12 36 19.5**	**+0.8**
ASHO	**Ashiyiah**	**4.18**	**226**	P	**Pb**	**12 36 34.8**	**+1.0**
BIDO	**Bidbid**	**4.25**	**195**	P	**Pb**	**12 36 34.0**	**-0.9**
BIDO				S	**Sb**	**12 37 27.8**	**+1.5**
BSRN	**Basiran**	**4.32**	**357**	*e*Pn	**Pn**	**12 36 25.8**	**-0.1**
BSRN	**Basiran**	**4.32**	**357**	*e*Pn	**Pn**	**12 36 25.8**	**-0.1**
WSAR	**Wadi Sarin**	**4.43**	**189**	P	**Pb**	**12 36 39.5**	**+1.4**
WSAR				S	**Sb**	**12 37 34.5**	**+2.9**
HOQ	**Hoqain**	**4.44**	**205**	P	**Pb**	**12 36 37.1**	**-1.1**
	SNR=5.2						
HOQ				S	**Sb**	**12 37 30.7**	**-1.2**
IKOO	**Kooshah**	**4.78**	**356**	*e*Pn	**Pn**	**12 36 31.6**	**-0.8**
ARQ	**Araqi**	**4.99**	**211**	P	**Pb**	**12 36 47.2**	**-0.4**
	SNR=5.2						
WBK	**Wadi Bani Khal**	**5.02**	**184**	P	**Pb**	**12 36 47.3**	**-0.8**
	SNR=58						
WBK				S	**Sb**	**12 37 48.7**	**+0.2**
ITEG	**Tejag**	**5.27**	**354**	*e*Pn	**Pn**	**12 36 38.2**	**-0.8**
TPRV	**Parvadeh(Tabas**	**5.84**	**337**	*e*Pn	**Pn**	**12 36 44.9**	**-2.0**
SHRT	**Shahrakht**	**6.04**	**7**	*e*Pn	**Pn**	**12 36 50.5**	**+0.9**
SHRT	**Shahrakht**	**6.04**	**7**	*e*Pn	**Pn**	**12 36 50.5**	**+0.9**
TKDS	**Koohdasht(Taba**	**6.26**	**343**	*e*Pn	**Pn**	**12 36 50.8**	**-1.8**
YZKH	**Yazd**	**6.28**	**320**	*e*Pn	**Pn**	**12 36 53.4**	**+0.5**
YZKH	**Yazd**	**6.28**	**320**	*e*Pn	**Pn**	**12 36 53.4**	**+0.5**
TABS	**Tabas**	**6.29**	**343**	*e*Pn	**Pn**	**12 36 53.1**	**0.0**
TABS				IAML		12 38 37.1	
	comp=E,14nm,0.8s						
TABS				IAML		12 38 49.6	
	comp=N,17nm,0.6s						
TABS	**Tabas**	**6.29**	**343**	*e*Pn	**Pn**	**12 36 53.1**	**0.0**

IDC 17 12:42:06.3±8.4, 8°.01S×128°.93E, h163km±88km, mb3.4/1, mb1 3.3/5, mb1mx3.1/36, mbtmp3.8/5, Error ellipse: s-maj=99.3km s-min=28.3km az=44.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.64**	**247**	P	Pn	12 43 28.4	0.0
	9.0nm,0.3s,baz=90,slow=13,SNR=8.2						
BATI				S	Sn	12 44 33.3	+0.6
	5.8nm,0.3s,baz=72,slow=19,SNR=7.0						
FITZ	**Fitzroy Crossi**	**10.52**	**197**	P	Pn	12 44 32.9	-0.1
	0.8nm,0.3s,baz=359,slow=13,SNR=45						
FITZ				S	Sn	12 46 27.2	-2.4
	1.0nm,0.3s,baz=0.4,slow=3.0,SNR=6.4						
WRA	**Warramunga Arr**	**12.96**	**157**	P	Pn	12 45 03.0	-1.7
	0.4nm,0.3s,baz=343,slow=13,SNR=35						
WRA				S	Sn	12 47 23.7	-4.8
	1.1nm,0.3s,baz=331,slow=23,SNR=15						
ASAR	**Alice Springs**	**16.28**	**164**	P	Pn	12 45 47.6	+1.8
	0.1nm,0.3s,baz=335,slow=10,SNR=4.4						
ASAR				S	S	12 48 44.7	-1.6
	0.3nm,0.3s,baz=345,slow=24,SNR=6.4						
MKAR	**Makanchi Array**	**68.50**	**328**	P	P	12 52 51.0	0.0
	0.6nm,0.5s,baz=130,slow=8.3,SNR=11						

TIR ***17*** *12:45:05.7, 41°.34N×20°.33E, h9km±2km, Md3.0*
SKO ***17*** *12:45:05.6, 41°.37N×20°.30E, h15km*
THE ***17*** *12:45:06.5, 41°.35N×20°.33E, h0km±2km, ML2.5/2, Error ellipse: s-maj=2.6km s-min=0.6km az=196.0*
PDG ***17*** *12:45:06.4±0.3, 41°.36N×20°.28E, h1km, ML2.8/11, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
BEO ***17*** *12:45:07.3±0.3, 41°.33N×20°.32E, h4km±2km, ML2.3/7*
ISC 17 12:45:06.4±0.9, 41°.34N±0°.02×20°.33E±0°.02, h13km±8km, n44, σ1§12/77, 7C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.35**	**271**	P	**Pg**	**12 45 13.1**	**-0.3**
TIR				S	**Sg**	**12 45 18.3**	**+0.1**
	805nm,0.2s						
TIR	**Tirane**	**0.35**	**271**	*e*Pg	**Pg**	**12 45 13.2**	**-0.2**
TIR				*e*Sg	**Sb**	**12 45 18.7**	**-1.1**
TIR	**Tirane**	**0.35**	**271**	P	**Pg**	**12 45 13.3**	**-0.2**
	baz=272						
TIR				S	**Sg**	**12 45 18.3**	**+0.1**
	baz=272						
PHP	**Peshkopia**	**0.35**	**14**	P	**Pg**	**12 45 13.0**	**-0.6**
PHP				S	**Sb**	**12 45 18.8**	**-1.3**
PHP	**Peshkopia**	**0.35**	**14**	P	**Pg**	**12 45 13.2**	**-0.4**
	baz=13						
PHP				S	**Sb**	**12 45 18.6**	**-1.4**
	baz=13						
OHR	**Ohrid**	**0.42**	**123**	⇑*i*Pg	**Pb**	**12 45 15.1**	**-0.6**
OHR				*i* Sg	**Sb**	**12 45 22.2**	**+0.3**
OHR				*e*Lg	Lg	12 45 22.7	
	comp=N,396nm,0.3s						
PUK	**Puka**	**0.77**	**335**	P	**Pg**	**12 45 20.7**	**-0.7**
	baz=336						
PUK				S	**Sn**	**12 45 33.5**	**-1.1**
	baz=336						
FNA	**Florina**	**0.97**	**125**	P	**Pb**	**12 45 24.8**	**-0.2**
FNA				S	**Sn**	**12 45 39.2**	**-0.1**
	comp=N,380nm,0.4s						
FNA	**Florina**	**0.97**	**125**	P	**Pn**	**12 45 25.3**	**-0.3**
	baz=124						
FNA				S	**Sn**	**12 45 39.1**	**-0.2**
	baz=124						
ULC	**Ulcinj**	**1.02**	**308**	⇑*i*Pg	**Pg**	**12 45 24.4**	**-1.7**
ULC				*i* Sg	**Sn**	**12 45 40.0**	**-0.6**
SKO	**Skopje**	**1.04**	**52**	*e*Pg	**Pg**	**12 45 25.7**	**-0.9**
SKO				*e*Sg	**Sb**	**12 45 40.4**	**+0.5**
SKO	**Skopje**	**1.04**	**52**	*i* Pg	**Pg**	**12 45 25.6**	**-0.9**
SKO				*i* Sg	**Sn**	**12 45 40.5**	**-0.6**
SKO				*e*Lg	Lg	12 45 40.6	
	comp=E,15nm,0.8s						
NEST	**Nestorio**	**1.07**	**149**	P	**Pn**	**12 45 26.8**	**-0.4**
DRME	**Dracevica, Mon**	**1.20**	**315**	⇑*i*Pg	**Pb**	**12 45 27.9**	**-1.1**
DRME				*i* Sg	**Sn**	**12 45 46.1**	**+1.1**
PVY	**Plav**	**1.28**	**348**	⇑*i*Pg	**Pn**	**12 45 29.8**	**-0.3**
PVY				*i* Sg	**Sn**	**12 45 49.5**	**+2.3**
PDG	**Podgorica**	**1.35**	**324**	*e*Pg	**Pg**	**12 45 32.1**	**-0.3**
PDG				*e*Sg	**Sg**	**12 45 51.0**	**+1.1**
TTG	**Podgorica**	**1.35**	**324**	⇓*i*Pg	**Pn**	**12 45 30.5**	**-0.4**
TTG				*i* Sg	**Sg**	**12 45 51.4**	**+1.5**
BUM	**Brajici-Budva**	**1.44**	**312**	⇓*i*Pg	**Pb**	**12 45 32.5**	**-0.5**
BUM				*i* Sg	**Sg**	**12 45 54.3**	**+1.6**
SRN	**Sarande**	**1.48**	**190**	P	**Pg**	**12 45 34.2**	**-0.6**
	baz=190						
SRN				S	**Sg**	**12 45 55.6**	**+1.6**
	baz=190						
IVA	**Berane**	**1.56**	**348**	*e*Pg	**Pb**	**12 45 34.8**	**-0.4**
IVA				*i* Sg	**Sg**	**12 45 59.0**	**+2.2**
CEME	**Cevo**	**1.60**	**319**	⇑*i*Pg	**Pb**	**12 45 35.1**	**-0.7**
CEME				*i* Sg	**Sg**	**12 45 59.8**	**+1.9**
KOME	**Kolasin**	**1.63**	**336**	⇓*i*Pn	**Pb**	**12 45 36.0**	**-0.2**
KOME				*i* Sn	**Sg**	**12 46 00.6**	**+1.9**
VAY	**Valandovo**	**1.69**	**90**	*e*Pn	**Pb**	**12 45 37.1**	**-0.1**
VAY				*e*Sg	**Sg**	**12 46 01.2**	**+0.5**
VAY	**Valandovo**	**1.69**	**90**	⇓*i*Pn	**Pg**	**12 45 37.6**	**-1.1**
VAY				*i* Sn	**Sg**	**12 46 01.3**	**+0.5**
VAY				*e*Lg	Lg	12 46 02.2	
	comp=N,14nm,0.4s						
NKME	**Niksic**	**1.75**	**325**	*e*Pn	**Pb**	**12 45 37.6**	**-0.8**
NKME				*i* Sn	**Sg**	**12 46 03.9**	**+1.1**
NKY	**Niksic**	**1.78**	**326**	⇑*i*Pn	**Pb**	**12 45 38.4**	**-0.4**
NKY				*i* Sn	**Sg**	**12 46 04.4**	**+0.9**
IGT	**Igoumenitsa**	**1.81**	**180**	P	**Pb**	**12 45 38.7**	**-0.5**
IGT	**Igoumenitsa**	**1.81**	**180**	P	**Pb**	**12 45 39.3**	**+0.1**
	baz=179						
IGT				S	**Sg**	**12 46 04.2**	**-0.2**
	baz=179						
BARS	**Barje**	**1.84**	**36**	*e*Pn	**Pb**	**12 45 40.0**	**+0.1**
BARS				*e*Sg	**Sg**	**12 46 06.5**	**+0.8**
SJES	**Sjenica**	**1.94**	**352**	*e*Pn	**Pb**	**12 45 41.4**	**-0.2**
SJES				*e*Sg	**Sg**	**12 46 09.2**	**+0.5**
KNT	**Kendrikon**	**1.95**	**94**	P	**Pn**	**12 45 39.6**	**+0.5**
SELS	**Selova**	**1.97**	**17**	*e*Pn	**Pb**	**12 45 41.4**	**-0.6**
BOSS	**Bosilegrad**	**1.98**	**54**	*e*Pn	**Pb**	**12 45 41.8**	**-0.4**
BOSS				*e*Sg	**Sg**	**12 46 10.5**	**+0.5**
BRY	**Bratogost**	**2.05**	**320**	⇑*i*Pn	**Pb**	**12 45 42.3**	**-1.2**
BRY				*i* Sn	**Sg**	**12 46 11.0**	**-1.3**
DBRK	**Dubrovnik**	**2.10**	**310**	*e*Pn	**Pb**	**12 45 42.9**	**-1.4**
DBRK				Sn	**Sg**	**12 46 16.9**	**+3.1**
UPM	**Unac-Piva**	**2.14**	**331**	⇓*i*Pn	**Pb**	**12 45 43.8**	**-1.3**
UPM				*i* Sn	**Sg**	**12 46 13.1**	**-2.1**
STON	**Ston**	**2.48**	**309**	*e*Pn	**Pn**	**12 45 47.6**	**+1.2**
STON				Sn	**Sg**	**12 46 25.2**	**-0.9**
BOVS	**Bovan**	**2.51**	**24**	*e*Pn	**Pb**	**12 45 49.5**	**-1.7**
LKD2	**Lefkada island**	**2.56**	**174**	P	**Pn**	**12 45 49.3**	**+1.8**
	baz=174						
ZAPS	**Zavoj**	**2.58**	**41**	*e*Pn	**Pn**	**12 45 49.6**	**+1.8**
ZAGS	**Zajecar**	**2.84**	**29**	*e*Pn	**Pn**	**12 45 53.1**	**+1.7**
LSTV	**Lastovo**	**2.93**	**300**	*e*Pn	**Pn**	**12 45 53.7**	**+1.1**
RICI	**Ricice**	**3.20**	**313**	*e*Pn	**Pn**	**12 45 58.1**	**+1.8**
KIJV	**Kijevo**	**3.93**	**314**	*e*Pn	**Pn**	**12 46 07.8**	**+1.5**

ROM 17 12:46:41.4±0.0, 43°.460N±0°.002×12°.571E±0°.003, h10km, ML1.0/6, Error ellipse: s-maj=0.2km s-min=0.1km az=312.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIEI	**Pieia**	**0.08**	**341**	P	Pg	12 46 44.3	+0.4
PIEI				S	Sg	12 46 46.2	+0.5
PIEI				AML	AML		
	comp=E,215μm,0.1s						
PIEI				AML	AML		
	comp=N,142μm,0.2s						
PIEI				AML	AML		
	comp=E,214μm,0.1s						
ATFO	**Monte Foce - G**	**0.09**	**180**	P	Pg	12 46 44.4	+0.3
ATFO				S	Sg	12 46 46.4	+0.5
ATPI	**Pietralunga -**	**0.12**	**266**	P	Pg	12 46 45.0	+0.5
ATPI				S	Sg	12 46 47.5	+0.8
ATPI				AML	AML		
	comp=E,69μm,0.7s						
ATPI				AML	AML		
	comp=N,61μm,0.3s						
ATPI				AML	AML		
	comp=E,69μm,0.7s						
ATPI	

comp=Z,1μm,0.2s
PB09 IPOC Station P 2.72 305 ⇑ *iP* **Pn 13 11 28.9 +1.3**
PB09 *eS* **S 13 12 05.6 +1.4**
PB09 IAML 13 12 07.2
comp=N,554nm,0.4s
PB09 IPOC Station P 2.72 305 Pn 13 11 28.5 +0.9
PB09 IPOC Station P 2.72 305 *eP* **Pn 13 11 28.9 +1.3**
PB09 *eS* **S 13 12 06.0 +1.9**
PB09 IAML 13 12 09.5
comp=Z,460nm,0.4s
FSA Cafayete 2.82 164 *eP* **Pn 13 11 28.9 +0.2**
PB03 IPOC Station P 3.00 296 *eS* **S 13 12 09.4 -0.3**
GO02 Mina Guanaco 3.06 234 ⇑ *iP* **Pn 13 11 32.3 +0.7**
GO02 *eS* **S 13 12 11.6 +0.3**
GO02 Mina Guanaco 3.06 234 Pn 13 11 32.2 +0.6
PB05 IPOC Station P 3.13 279 *eP* **Pn 13 11 32.8 +0.6**
PB05 *eS* **S 13 12 12.9 +0.4**
PB04 IPOC Station P 3.22 288 *eP* **Pn 13 11 33.8 +0.4**
PB04 *eS* **S 13 12 14.2 -0.2**
PB04 IPOC Station P 3.22 288 Pn 13 11 33.8 +0.4
PB04 IPOC Station P 3.22 288 *eP* **Pn 13 11 34.0 +0.6**
PB04 *eS* **S 13 12 14.3 -0.2**
PB04 IAML 13 12 18.8
comp=Z,738nm,0.3s
PB07 IPOC Station P 3.26 300 ⇑ *iP* **Pn 13 11 34.4 +0.5**
PB07 *i* S **S 13 12 14.2 -1.1**
PB07 IPOC Station P 3.26 300 Pn 13 11 33.9 +0.1
PB07 IPOC Station P 3.26 300 *eP* **Pn 13 11 34.2 +0.4**
PB07 *eS* **S 13 12 14.5 -0.8**
PB01 IPOC Station P 3.38 313 ⇑ *iP* **Pn 13 11 35.4 +0.3**
PB01 *eS* **S 13 12 16.9 -0.8**
PB01 IPOC Station P 3.38 313 Pn 13 11 35.2 0.0
PB01 IPOC Station P 3.38 313 *eP* **Pn 13 11 35.5 +0.3**
PB01 *eS* **S 13 12 17.1 -0.7**
PB01 IAML 13 12 19.2
comp=Z,769nm,0.2s
PB10 IPOC Station P 3.40 267 ⇑ *iP* **Pn 13 11 36.0 +0.7**
PB10 *i* S **S 13 12 17.0 -1.0**
PB10 IPOC Station P 3.40 267 Pn 13 11 35.8 +0.5
PB14 IPOC Station P 3.48 249 Pn 13 11 36.6 +0.2
PB14 **S 13 12 18.6 -1.5**
PB02 IPOC Station P 3.49 306 ⇑ *iP* **Pn 13 11 36.6 +0.1**
PB02 *eS* **S 13 12 18.5 -1.7**
PB02 IPOC Station P 3.49 306 *eP* **Pn 13 11 36.8 +0.2**
PB02 *eS* **S 13 12 19.3 -0.9**
PB02 IAML 13 12 21.6
comp=Z,937nm,0.4s
AHML Horco Molle 3.65 158 *eP* **Pn 13 11 38.5 +0.2**
AHML *eS* **S 13 12 26.2 +2.7**
PB08 IPOC Station P 3.88 326 ⇑ *iP* **Pn 13 11 42.6 +1.1**
PB08 *eS* **S 13 12 29.8 +0.6**
PB08 IPOC Station P 3.88 326 Pn 13 11 42.3 +0.8
PATCX Punta Patache 3.99 309 *eP* **Pn 13 11 42.2 -0.4**
PATCX *eS* **S 13 12 29.1 -2.0**
PATCX Punta Patache 3.99 309 Pn 13 11 42.0 -0.5
TA01 Diego Aracena 4.18 312 *eP* **Pn 13 11 44.3 -0.5**
TA01 *eS* **S 13 12 33.0 -2.2**
TA01 Diego Aracena 4.18 312 Pn **Pn 13 11 44.9 +0.1**
GO01 Chusmiza 4.30 329 Pn 13 11 47.1 +0.4
AC01 Pan de Azucar 4.38 230 ⇑ *iP* **Pn 13 11 46.3 -0.9**
AC01 *eS* **S 13 12 37.2 -2.4**
AC01 Pan de Azucar 4.38 230 Pn 13 11 46.1 -1.0
PB11 IPOC Station P 4.46 324 Pn **Pn 13 11 47.5 -0.9**
PSGCX Pisagua 4.85 320 Pn **Pn 13 11 51.7 -1.6**
MNMC Minye Minye 4.95 328 Pn 13 11 54.6 -0.2
CYA Choya 5.12 170 *eP* **Pn 13 11 57.1 +0.6**
GO03 Copiap 5.18 215 Pn 13 11 55.8 -1.5
GO03 Copiap 5.18 215 *eP* **Pn 13 11 56.2 -1.2**
GO03 *eS* **S 13 12 53.6 -4.5**
GO03 *eS* S 13 12 55.5 -2.6
VCA Vinchina 5.46 193 *eP* **Pn 13 12 02.9 +2.0**
VCA *eS* **S 13 13 06.3 +1.6**
PB16 IPOC Station P 5.61 333 Pn 13 12 03.4 0.0
PB12 IPOC Station P 5.76 325 Pn 13 12 04.1 -0.7
ACLC CERRO LA CRUZ 6.01 181 *eP* **Pn 13 12 07.5 -0.5**
ACLC *eS* **S 13 13 14.3 -3.1**
AC04 Llanos de Chal 6.12 218 Pn 13 12 06.8 -2.5
AC05 El Transito 6.24 209 Pn 13 12 09.4 -1.4
LCO Las Campanas 6.58 211 Pn **Pn 13 12 13.9 -1.5**
APLL PUNTA DE LOS L 6.98 178 *eP* **Pn 13 12 19.4 -1.0**
ACDV Cuesta del Vie 7.05 196 *eP* **Pn 13 12 21.6 +0.2**
ACDV *eS* **S 13 13 43.1 +1.3**
AROD Rodeo 7.14 199 *eS* **S 13 13 42.9 -1.3**
LPAZ La Paz 7.17 350 P **Pn 13 12 24.2 +0.7**
comp=Z,1.1nm,0.3s,baz=99,slow=5.1,SNR=7.4
LPAZ S **S 13 13 43.2 -2.2**
comp=Z,0.2nm,0.3s,baz=173,slow=14,SNR=3.8
LPAZ La Paz 7.17 350 Pn **Pn 13 12 24.0 +0.5**
CO01 Juntas del Tor 7.17 203 Pn 13 12 22.3 -0.7
ACCO Cerro Coronel 7.43 195 *eP* **Pn 13 12 26.3 -0.2**
ACCO *eS* **S 13 13 50.2 -0.9**
GO04 Tololo Observa 7.62 207 Pn **Pn 13 12 26.8 -2.1**
CO03 El Pedregal 8.17 204 Pn **Pn 13 12 34.7 -1.1**
ZON Zonda 8.28 191 Pn **Pn 13 12 34.9 -2.4**
CO02 Combarbal 8.61 204 Pn **Pn 13 12 39.9 -1.6**
CPUP Villa Florida 9.13 111 P **Pn 13 12 45.2 -2.9**
comp=Z,0.2nm,0.3s,baz=294,slow=12,SNR=7.3
CPUP Villa Florida 9.13 111 Pn **Pn 13 12 46.4 -1.7**
SIV San Ignacio 9.15 37 P **Pn 13 12 46.3 -2.3**
comp=Z,5.4nm,0.3s,baz=224,slow=13,SNR=66
PTLB Pontes e Lacer 10.74 44 *eP* **Pn 13 13 07.0 -1.9**
AQDB Aquidauana 10.75 76 *eP* **Pn 13 13 07.3 -1.8**
BO02 Sierra Bellavi 11.87 196 Pn **Pn 13 13 22.6 -0.6**
VILB Vilhena 12.15 32 *eP* **Pn 13 13 26.4 -0.5**
ETMB Extrema 13.51 3 *eP* **Pn 13 13 44.3 +0.4**
PTGB Pitanga 13.57 99 *eP* **P 13 13 47.5 +0.7**
ITAB Concordia 13.85 109 *eP* **P 13 13 49.6 -0.1**
PCMB Pacaembu 14.52 86 *eP* **P 13 13 57.6 +0.4**
SAML Samuel 14.79 14 *eP* **Pn 13 13 58.6 -0.9**
ITRB Iturama 15.77 80 *eP* **Pn 13 14 10.8 -0.7**
ARAG Araguaiana, MT 16.09 64 *eP* **Pn 13 14 14.9 -0.5**
CLDB Colider 16.31 42 *eP* **P 13 14 15.2 -1.8**
PLCA Paso Flores 17.57 189 P **Pn 13 14 35.4 +2.7**
comp=Z,0.3nm,0.3s,baz=39,slow=13,SNR=4.5
PLCA Paso Flores 17.57 189 IAmb IAmb 13 14 43.8
comp=Z,7.0nm,1.2s
SPB Sao Paulo 17.82 95 *eP* **P 13 14 33.3 -0.1**
IPMB Ipameri, GO 18.24 76 *eP* **P 13 14 37.8 -0.4**
VAO Valinhos 18.29 93 *eP* **P 13 14 37.7 -1.0**
BDFB Brasilia 19.34 70 P **P 13 14 49.7 -0.5**
comp=Z,0.9nm,0.3s,baz=246,slow=12,SNR=13
BDFB Brasilia 19.34 70 P **P 13 14 49.6 -0.5**
BDFB IAmb IAmb 13 14 50.7
comp=Z,12nm,0.8s
PARB Paraibuna 19.49 94 *eP* **P 13 14 51.8 +0.2**
ATAH Atahualpa 19.61 324 P **P 13 14 54.3 +1.0**
comp=Z,0.4nm,0.3s,baz=321,slow=12,SNR=1.8
NPGB Novo Progresso 19.65 36 *eP* **P 13 14 51.6 -1.7**
BSCB Bom Sucesso 20.58 88 *eP* **P 13 15 03.4 +0.2**
PEXB Peixe 20.90 61 *eP* **P 13 15 05.0 -1.7**
MACA Manacapuru-AM 20.98 17 *eP* **P 13 15 06.2 -1.2**
VAS01 Vassouras-RJ 21.60 92 *eP* **P 13 15 13.1 -0.7**
ITTB Itaituba 21.75 31 *eP* **P 13 15 13.0 -2.3**
JANB Januaria 22.82 73 *eP* **P 13 15 23.8 -1.5**
SMTB Santa Maria do 23.43 55 *eP* **P 13 15 29.9 -0.9**
PTGA Pitinga 23.50 17 *eP* **P 13 15 28.9 -2.4**
SDBA SAO DESIDERIO 23.53 66 *eP* **P 13 15 30.5 -1.2**
PRPB Parauapebas 23.71 46 *eP* **P 13 15 31.7 -1.5**
MALB Monte Alegre 24.64 31 *eP* **P 13 15 40.5 -1.2**
GDU01 Guandu, BA 27.54 74 *eP* **P 13 16 06.5 -1.3**
RCBR Riachuelo 34.53 64 P **P 13 17 08.5 -0.5**
BCIP Isla Barro Col 34.76 337 P **P 13 17 10.9 +0.1**
GRGR Grenville 35.67 9 P **P 13 17 17.5 -1.0**
BANI BANI 41.67 355 P **P 13 18 07.9 -0.5**
TEIG Tepich 48.12 333 P **P 13 18 59.9 +0.8**
VNA3 Neumayer Olymp 57.68 161 P **P 13 20 10.0 +1.7**
VNA2 Neumayer--Watz 58.24 161 P **P 13 20 13.6 +1.4**
baz=284,slow=7.7
X58A Rowland 58.84 348 P **P 13 20 17.6 +0.9**
833A Chaparral WMA, 60.23 327 P **P 13 20 27.5 +1.2**
V55A Taylorsville 60.47 347 P **P 13 20 29.0 +1.2**
V55A IAmb IAmb 13 20 29.8
comp=Z,8.9nm,1.1s
X48A Hartselle 60.64 341 P **P 13 20 29.3 +0.4**
X48A IAmb IAmb 13 20 30.2
comp=Z,4.7nm,0.7s
OXF Oxford 61.45 339 P **P 13 20 34.0 -0.4**
PLAL Pickwick Lake 61.45 340 P **P 13 20 34.1 -0.3**
PLAL IAmb IAmb 13 20 51.3
comp=Z,7.9nm,1.4s
WVT Waverly 62.44 341 P **P 13 20 40.8 -0.1**
WVT IAmb IAmb 13 20 41.6
comp=Z,6.4nm,0.8s
T50A Nancy 62.44 344 P **P 13 20 40.7 -0.2**
T50A IAmb IAmb 13 20 41.2
comp=Z,4.3nm,1.1s
MIAR Mount Ida 62.96 335 P **P 13 20 45.2 +0.7**
MIAR IAmb IAmb 13 20 45.6
comp=Z,2.8nm,0.6s
TXAR Lajitas Array 63.27 324 P **P 13 20 48.3 +1.6**
comp=Z,57nm,0.4s,baz=154,slow=7.3,SNR=6.1
W39A Magazine 63.62 336 P **P 13 20 50.0 +1.2**
W39A IAmb IAmb 13 20 51.0
comp=Z,5.5nm,0.6s
M57A Sunshine Farm, 65.10 351 P **P 13 20 59.1 +0.9**
CCM Cathedral Cave 65.28 339 P **P 13 20 59.7 +0.3**
CCM IAmb IAmb 13 21 00.5
comp=Z,7.0nm,0.7s
S39A Bolivar 65.66 337 P **P 13 21 02.5 +0.6**
S39A IAmb IAmb 13 21 03.4
comp=Z,7.0nm,0.6s
L59A Walton 65.69 353 P **P 13 21 03.0 +1.0**
L59A IAmb IAmb 13 21 04.3
comp=Z,8.0nm,0.8s
R40A Maddies Statio 65.83 338 P **P 13 21 03.4 +0.5**
L56A Greenwood 65.95 351 P **P 13 21 04.6 +0.9**
L56A IAmb IAmb 13 21 05.4
comp=Z,5.0nm,0.6s
MNTX Cornudas Mount 66.03 324 P **P 13 21 04.7 +0.3**
K58A Earlville 66.32 353 P **P 13 21 07.0 +1.0**
K58A IAmb IAmb 13 21 07.9
comp=Z,8.4nm,0.6s
WVNY West Valley, N 66.36 351 P **P 13 21 06.5 +0.2**
J59A Piesco 66.90 354 P **P 13 21 10.9 +1.3**
J59A IAmb IAmb 13 21 11.8
comp=Z,7.3nm,0.8s
J56A Wolcott 66.97 352 P **P 13 21 10.8 +0.8**
P38A Dawn 67.46 338 P **P 13 21 13.7 +0.4**
P38A IAmb IAmb 13 21 14.4
comp=Z,10nm,0.8s
DBIC Dimbokro 67.48 72 P **P 13 21 14.1 +0.2**
comp=Z,1.3nm,0.4s,baz=241,slow=4.4,SNR=5.1
DBIC Dimbokro 67.48 72 P **P 13 21 14.7 +0.8**
DBIC IAmb IAmb 13 21 33.6
comp=Z,18nm,1.4s
ANMO Albuquerque 69.12 326 P **P 13 21 24.8 +0.9**
SRU San Rafael Swe 74.40 326 P **P 13 21 56.8 +1.6**
TOA0 Torodi Ar. Sit 76.22 69 P **P 13 22 05.3 -0.6**
TORD Torodi Ar. Bea 76.22 69 P **P 13 22 05.0 -0.8**
comp=Z,1.3nm,0.4s,baz=256,slow=5.6,SNR=20
TORD Torodi Ar. Bea 76.22 69 P **P 13 22 05.3 -0.6**
R11A Troy Canyon, C 76.55 323 P **P 13 22 10.2 +2.7**
PDAR Pinedale Array 76.70 329 P **P 13 22 09.9 +1.7**
comp=Z,0.5nm,0.4s,baz=133,slow=6.3,SNR=6.4
MDND Maddock 76.78 338 P **P 13 22 09.9 +1.6**
HWUT Hardware Ranch 76.79 327 P **P 13 22 10.4 +1.7**
SPUT South Promonto 77.02 326 P **P 13 22 11.7 +1.7**
NVAR Mina Array Bea 78.15 321 P **P 13 22 18.3 +1.9**
comp=Z,0.3nm,0.4s,baz=134,slow=4.3,SNR=4.7
NVAR Mina Array Bea 78.15 321 P **P 13 22 18.5 +2.2**
IMW Indian Meadow 78.21 329 P **P 13 22 19.0 +2.3**
RLMT Red Lodge 78.38 331 P **P 13 22 19.2 +1.7**
RLMT IAmb IAmb 13 22 20.3
comp=Z,4.9nm,0.6s
KVN Kaiserville 78.46 322 P **P 13 22 20.0 +2.0**
KVN IAmb IAmb 13 22 20.9
comp=Z,6.4nm,1.3s
YNE Yellowstone No 78.63 330 P **P 13 22 20.7 +1.9**
YHH Holmes Hill 78.85 330 P **P 13 22 22.9 +2.8**
DGMT Dagmar 78.96 336 P **P 13 22 22.5 +2.2**
YHB Horse Butte 78.98 330 P **P 13 22 23.4 +2.6**
YHL Hebgen Lake 79.05 330 P **P 13 22 23.9 +2.7**
YERR Yerington 79.07 321 P **P 13 22 24.0 +2.7**
GCMT Greycliff 79.08 331 P **P 13 22 22.9 +1.7**
QLMT Earthquake Lak 79.15 329 P **P 13 22 24.3 +2.7**
PAHR Pah Rah Range 79.63 322 P **P 13 22 26.9 +2.6**
HLID Hailey 79.66 327 P **P 13 22 27.3 +2.9**
HLID IAmb IAmb 13 22 28.1
comp=Z,3.8nm,0.7s
MCMT McKenzie Canyo 79.82 329 P **P 13 22 27.8 +2.5**
BOSA Boshof 80.89 117 P **P 13 22 31.7 +0.3**
comp=Z,7.0nm,1.2s,baz=239,slow=5.4,SNR=2.7
BOSA Boshof 80.89 117 IAmb IAmb 13 22 37.6
comp=Z,11nm,1.4s
MAW Mawson 81.97 163 P **P 13 22 36.5 +0.4**
comp=Z,0.7nm,0.3s,baz=178,slow=1.6,SNR=4.7
F10A Beach Ranch, E 82.78 327 P **P 13 22 43.8 +3.1**
F10A IAmb IAmb 13 22 44.3
comp=Z,3.4nm,0.6s
ASAR Alice Springs 129.06 205 PKP **PKiKP 13 29 24.4 -0.1**
comp=Z,0.3nm,0.3s,baz=151,slow=1.9,SNR=6.6
WRA Warramunga Arr 132.23 207 PKP **PKiKP 13 29 30.2 -0.7**
comp=Z,0.3nm,0.3s,baz=156,slow=1.7,SNR=19
WRA Warramunga Arr 132.23 207 IAmb IAmb 13 29 36.8
comp=Z,0.1nm,1.1s
WRA Warramunga Arr 132.23 207 P **P 13 29 29.8 -1.2**
ZALV Zalesovo Beam 142.79 28 PKhKP PKPpre 13 29 45.5
comp=Z,1.7nm,0.7s,baz=274,slow=4.3,SNR=3.8
ZALV PKP **PKiKP 13 29 49.6 -1.7**
comp=Z,0.7nm,0.4s,baz=336,slow=1.5,SNR=2.7
MKAR Makanchi Array 145.97 39 PKP **PKPdf 13 29 53.3 -0.6**
comp=Z,1.1nm,0.8s,baz=259,slow=1.5,SNR=24
MKAR PKPbc **PKPab 13 29 55.4 -0.5**
comp=Z,4.5nm,0.8s,baz=296,slow=3.9,SNR=23
LZH Lanzhou 165.00 30 ⇓ PKP **PKPdf 13 30 17.3 -2.2**
LZH pPKP PKPab 13 31 11.0 -6.2
LZH PKP **pPKPdf 13 31 15.3 -0.7**
LZH sPKP 13 31 35.0

*NEIC **17** 13:21:44.9±1.8, 16°.5S±0°.1×177°.4W±0°.1, h392km±8km, mb4.2/28, Error ellipse: s-maj=18.0km s-min=14.3km az=116.0*
*IDC **17** 13:21:44.6±1.6, 16°.58S×177°.26W, h385km±19km, mb3.3/7, mb1 3.4/9, mb1mx3.2/33, mbtmp4.1/9, Error ellipse: s-maj=29.5km s-min=14.7km az=141.0*
ISC 17 13:21:45.6±0.5, 16°.48S±0°.08×177°.23W±0°.07, h400km, n47, σ1°38/45, mb3.9/19, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.68**	**254**		**Pn**	**13 23 08.0**	**+3.5**
AFI	**Afiamalu**	**5.85**	**65**	P	**Pn**	**13 23 17.1**	**+0.3**
13nm,0.3s,baz=221,slow=11,SNR=24							
AFI				S	**S**	**13 24 29.2**	**-1.8**
2.0nm,0.3s,baz=234,slow=19,SNR=1.7							
AFI	**Afiamalu**	**5.85**	**65**		**Pn**	**13 23 17.0**	**+0.1**
NIUE	**Niue**	**7.42**	**111**	Pn	**P**	**13 23 35.5**	**+0.9**
FUNA	**Funafuti**	**8.64**	**336**		**Pn**	**13 23 46.4**	**-1.7**
RAO	**Raoul Island**	**12.73**	**183**	P	**P**	**13 24 32.0**	**-1.2**
DZM	**Mont Dzumac**	**16.38**	**248**	P	**P**	**13 25 13.3**	**+0.2**
0.3nm,0.3s,baz=55,slow=19,SNR=1.7							
DZM	**Mont Dzumac**	**16.38**	**248**	IAmb	IAmb	13 25 21.9	
comp=Z,18nm,1.4s							
OUZ	**Omahuta**	**20.38**	**202**	P	**P**	**13 25 53.4**	**-0.1**
OUZ				IAmb	IAmb	13 26 13.3	
comp=Z,21nm,1.3s							
URZ	**Urewera**	**22.26**	**192**	P	**P**	**13 26 07.9**	**-2.6**
comp=Z,5.9nm,0.7s,baz=67,slow=7.7,SNR=1.9							
URZ	**Urewera**	**22.26**	**192**	IAmb	IAmb	13 26 25.5	
comp=Z,24nm,1.3s							
BKZ	**Black Stump Fm**	**23.26**	**192**	P	**P**	**13 26 16.3**	**-3.3**
BKZ				IAmb	IAmb	13 26 41.2	
comp=Z,15nm,1.3s							
BFZ	**Birch Farm**	**24.77**	**192**	P	**P**	**13 26 31.7**	**-1.4**
THZ	**Tophouse**	**26.59**	**197**	P	**P**	**13 26 48.3**	**-1.0**
OXZ	**Oxford**	**28.28**	**197**	P	**P**	**13 27 02.8**	**-1.3**
FOZ	**Fox Glacier**	**29.13**	**200**	P	**P**	**13 27 09.7**	**-1.9**
MLZ	**Mavora Lakes**	**31.31**	**200**	P	**P**	**13 27 30.5**	**-0.1**
MLZ				IAmb	IAmb	13 27 57.4	
comp=Z,28nm,1.3s							
WHZ	**Wether Hill Ro**	**31.84**	**200**	P	**P**	**13 27 34.0**	**-1.1**
WHZ				IAmb	IAmb	13 27 42.4	
comp=Z,24nm,1.1s							
COEN	**Coen**	**38.25**	**268**	P	**P**	**13 28 30.8**	**+1.2**
COEN				IAmb	IAmb	13 28 32.1	
comp=Z,7.6nm,1.0s							
TOO	**Toolangi**	**38.94**	**230**	P	**P**	**13 28 35.8**	**+0.7**
TOO				IAmb	IAmb	13 28 49.6	
comp=Z,17nm,1.1s							
STKA	**Stephens Creek**	**40.31**	**240**	P	**P**	**13 28 46.2**	**0.0**
comp=Z,2.7nm,0.9s,baz=113,slow=14,SNR=3.8							
STKA	**Stephens Creek**	**40.31**	**240**	P	**P**	**13 28 45.9**	**-0.3**
KKH	**Kailua Kona**	**41.53**	**31**	P	**P**	**13 28 57.8**	**+1.7**
JCUZ	**Jacuzzi**	**41.76**	**32**	P	**P**	**13 28 56.8**	**-1.2**
BBOO	**Buckleboo**	**45.08**	**240**	P	**P**	**13 29 22.9**	**-1.1**
BBOO				IAmb	IAmb	13 29 51.4	
comp=Z,8.0nm,1.2s							
WR0	**Warramunga Arr**	**45.82**	**258**	P	**P**	**13 29 29.2**	**-0.8**
WB0	**Warramunga Arr**	**45.97**	**258**	P	**P**	**13 29 30.2**	**-0.9**
WB0				IAmb	IAmb	13 29 58.2	
comp=Z,4.8nm,1.3s							
WB2	**Warramunga Arr**	**46.00**	**258**	P	**P**	**13 29 29.9**	**-1.4**
WRA	**Warramunga Arr**	**46.01**	**258**	PcP	**PcP**	**13 31 00.3**	**-0.2**
comp=Z,0.1nm,0.3s,baz=89,slow=3.8,SNR=2.2							
AS31	**Alice Springs**	**46.27**	**253**	P	**P**	**13 29 31.6**	**-1.8**
ASAR	**Alice Springs**	**46.27**	**253**	P	**P**	**13 29 32.9**	**-0.6**
comp=Z,3.1nm,0.6s,baz=87,slow=8.3,SNR=47							
ASAR	**Alice Springs**	**46.27**	**253**	P	**P**	**13 29 32.5**	**-0.9**
GUMO	**Guam**	**47.91**	**306**	P	**P**	**13 29 45.6**	**-0.3**
MTN	**Manton Dam**	**49.98**	**267**	P	**P**	**13 30 00.2**	**-1.2**
MTN				IAmb	IAmb	13 30 04.3	
comp=Z,9.0nm,1.0s							
FORT	**Forrest**	**51.64**	**244**	P	**P**	**13 30 11.8**	**-1.7**
FORT				IAmb	IAmb	13 30 29.7	
comp=Z,14nm,1.0s							
KNRA	**Kununurra**	**51.77**	**263**	P	**P**	**13 30 13.3**	**-1.3**
KNRA				IAmb	IAmb	13 30 37.0	
comp=Z,9.9nm,1.4s							
FITZ	**Fitzroy Crossi**	**54.38**	**259**	P	**P**	**13 30 35.0**	**+1.5**
VNDA	**Vanda**	**61.96**	**185**	P	**P**	**13 31 24.5**	**+0.3**
comp=Z,0.6nm,0.6s,baz=354,slow=6.3,SNR=5.9							
VNDA	**Vanda**	**61.96**	**185**	P	**P**	**13 31 25.0**	**+0.8**
QSPA	**South Pole Qui**	**73.57**	**180**	P	**P**	**13 32 36.8**	**+0.7**
QSPA				IAmb	IAmb	13 32 38.0	
comp=Z,5.2nm,1.1s							
KSAR	**Wonju Array Be**	**74.42**	**317**	P	**P**	**13 32 40.7**	**-0.6**
NVAR	**Mina Array Bea**	**77.62**	**44**	P	**P**	**13 33 00.9**	**+1.5**
comp=Z,0.3nm,0.6s,baz=227,slow=8.2,SNR=4.1							
BELA	**Belgrano 2**	**83.43**	**173**	P	**P**	**13 33 29.0**	**0.0**
ILAR	**Eielson Array**	**84.25**	**13**	P	**P**	**13 33 32.4**	**-0.7**
comp=Z,0.3nm,0.6s,baz=216,slow=6.5,SNR=4.9							
TXAR	**Lajitas Array**	**84.28**	**57**	P	**P**	**13 33 36.0**	**+1.8**
comp=Z,0.3nm,0.7s,baz=241,slow=4.1,SNR=4.4							
MAW	**Mawson**	**85.57**	**199**	P	**P**	**13 33 39.4**	**-0.3**
comp=Z,0.8nm,0.4s,baz=111,slow=8.6,SNR=7.0							
MAW	**Mawson**	**85.57**	**199**	IAmb	IAmb	13 33 41.1	
comp=Z,1.1nm,1.4s							

*OTT **17** 13:21:54.3±0.2, 45°.07N×66°.82W, h5km, MN2.6/3*
OTT 19km east from Saint Andrews, Nb, felt Northern Appalachians Seismic Zone.
ISC 17 13:21:53.5±1.2, 45°.04N±0°.05×66°.80W±0°.03, h4km±9km, n25, σ0°64/35, 1C, New Brunswick

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GGN	**Saint George**	**0.08**	**337**	⇑ PG	**Pg**	**13 21 55.6**	**+0.3**
GGN				SG	**Sg**	**13 21 56.5**	**+0.1**
GGN				Trac		13 21 56.6	
comp=Z,1μm,0.1s							
GGN	**Saint George**	**0.08**	**337**	Pg	**Pg**	**13 21 55.3**	**0.0**
GGN				Sg	**Sg**	**13 21 56.4**	**-0.1**
G65A	**Princeton**	**0.56**	**287**	Pg	**Pg**	**13 22 04.4**	**0.0**
G65A				Sg	**Sg**	**13 22 11.5**	**-0.2**
EMMW	**East Machias**	**0.57**	**235**	Pg	**Pg**	**13 22 04.9**	**+0.3**
HANN	**Hanwell**	**0.84**	**1**	PG	**Pg**	**13 22 09.6**	**-0.1**
HANN				SG	**Sg**	**13 22 20.1**	**-0.5**
WCNB	**Wards Creek**	**1.09**	**56**	PG	**Pg**	**13 22 14.0**	**-0.4**
WCNB				SG	**Sg**	**13 22 28.2**	**-0.4**
SRNB	**Snider Mountai**	**1.14**	**46**	PG	**Pg**	**13 22 14.3**	**-1.0**
SRNB				SG	**Sg**	**13 22 30.3**	**+0.2**
F64A	**Sherman**	**1.37**	**307**	Pn	**Pn**	**13 22 19.4**	**0.0**
HKNB	**Havelock Quarr**	**1.37**	**46**	PG	**Pn**	**13 22 18.8**	**-0.7**
HKNB				SG	**Sb**	**13 22 37.2**	**-0.4**
LMN	**Caledonia Moun**	**1.62**	**59**	PN	**Pn**	**13 22 22.5**	**-0.4**
LMN				SG	**Sn**	**13 22 45.0**	**+0.8**
LMN				Trac		13 22 45.6	
comp=Z,6.5nm,0.1s							
LMN	**Caledonia Moun**	**1.62**	**59**	Pn	**Pn**	**13 22 22.4**	**-0.5**
F63A	**Nahmakanta, Br**	**1.75**	**293**	Pn	**Pn**	**13 22 24.3**	**-0.4**
SVNB	**Stilesville Qu**	**1.75**	**50**	SG	**Sg**	**13 22 51.9**	**+2.0**
PKME	**Peaks-Kenny Pk**	**1.78**	**278**	PN	**Pb**	**13 22 26.3**	**-0.4**
PKME				SG	**Sb**	**13 22 49.0**	**-0.4**
PKME				Trac		13 22 51.2	
comp=Z,14nm,0.1s							
PKME	**Peaks-Kenny Pk**	**1.78**	**278**	Pn	**Pn**	**13 22 25.4**	**+0.3**
E63A	**Oxbow**	**1.79**	**321**	Pn	**Pn**	**13 22 25.5**	**+0.2**
PQI	**Presque Isle**	**1.84**	**333**	Pn	**Pn**	**13 22 25.9**	**0.0**
WVL	**Waterville**	**2.09**	**258**	Pn	**Pn**	**13 22 29.1**	**-0.2**
BATG	**Bathurst New B**	**2.29**	**13**	PN	**Pn**	**13 22 33.7**	**+1.5**
BATG				SG	**Sb**	**13 23 04.7**	**+0.5**
BATG				Trac		13 23 06.8	
comp=Z,4.9nm,0.1s							
HAL	**Halifax**	**2.32**	**99**	SG	**Sb**	**13 23 05.3**	**+0.5**
E62A	**Clayton Lake**	**2.47**	**311**	Pn	**Pn**	**13 22 34.0**	**-0.6**
D62A	**Allapoint, All**	**2.57**	**323**	Pn	**Pn**	**13 22 35.4**	**-0.6**
G62A	**West of Eustis**	**2.65**	**275**	Pn	**Pn**	**13 22 37.1**	**+0.1**
I63A	**Otisfield**	**2.88**	**251**	Pn	**Pn**	**13 22 39.5**	**-0.7**
I62A	**Tamworth**	**3.45**	**252**	Pn	**Pn**	**13 22 48.8**	**+0.7**

*TUL **17** 13:21:54.6±0.8, 36°.18N±0°.02×97°.26W±0°.06, h3km±7km, ML3.5, Mwr3.3/22(SLM), Error ellipse: s-maj=7.1km s-min=2.4km az=77.0*
*UNK **17** 13:21:54.6, 36°.18N×97°.26W, h3km*
*ANF **17** 13:21:54.6±0.3, 36°.17N×97°.23W, h0km, ML4.4/7, Error ellipse: s-maj=4.2km s-min=2.6km az=5.0*
*NEIC **17** 13:21:54.6, 36°.18N×97°.25W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.34; $M_{\theta\theta}$1.12; $M_{\phi\phi}$-0.78; $M_{r\theta}$0.04; $M_{r\phi}$0.58; $M_{\theta\phi}$-0.58; Fault plane solution: $M_0$1.29000×10^{14} NP1:ϕ_s295.00000°, δ65.00000°, λ-20.00000°. NP2:ϕ_s34.00000°, δ72.00000°, λ-154.00000°. Principal axes: T 1.2896, Plg5.0000°, Azm163.0000°; N -0.0010, Plg58.0000°, Azm66.0000°; P -1.2887, Plg31.0000°, Azm256.0000°;*
*NEIC **17** 13:21:54.8±0.9, 36°.18N±0°.01×97°.27W±0°.06, h3km±7km Error ellipse: s-maj=7.3km s-min=1.1km az=75.0*
ISC 17 13:21:54.6±1.2, 36°.19N±0°.02×97°.26W±0°.03, h4km±12km, n78, σ0°73/84, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.42**	**202**	Pg	**Pg**	**13 22 02.9**	**+0.2**
OK029				Sg	**Sg**	**13 22 08.4**	**+0.2**
QUOK	**Quay**	**0.45**	**92**		**Pg**	**13 22 03.7**	**+0.5**
QUOK				Sg	**Sg**	**13 22 09.3**	**+0.3**
BCOK	**Bluff Creek, N**	**0.60**	**208**		**Pg**	**13 22 06.2**	**0.0**
BCOK				Sg	**Sg**	**13 22 14.2**	**+0.3**
OK025	**Westminster Rd**	**0.61**	**186**		**Pg**	**13 22 06.4**	**+0.1**
CROK	**Carrier**	**0.67**	**299**		**Pg**	**13 22 07.5**	**+0.1**
**OKCF

Z38A	**Mt. Pleasant**	**3.47**	**147**	Pn	**Pn**	**13 22 49.8 +0.4**
S39A	**Bolivar**	**3.49**	**63**		**Pn**	**13 22 50.6 +1.0**
U40A	**Yellville**	**3.56**	**86**		**Pn**	**13 22 50.6 -0.1**
AMTX	**Amarillo**	**3.83**	**251**	P	**Pn**	**13 22 55.1 +0.6**
	baz=69					
AMTX	**Amarillo**	**3.83**	**251**	Pn	**Pn**	**13 22 54.8 +0.4**
X40A	**Basin Creek Fa**	**4.00**	**114**	Pn	**Pn**	**13 22 57.4 +0.8**
ABTX	**Abilene, Hawle**	**4.06**	**210**	Pb	**Pb**	**13 23 06.7 0.0**
	baz=28					
WHAR	**Wooly Hollow**	**4.14**	**101**	Pn	**Pn**	**13 22 59.3 +0.7**
WHTX	**Lake Whitney,**	**4.19**	**182**	Pn	**Pn**	**13 22 59.7 +0.5**
W41B	**Gary Mavity, V**	**4.20**	**102**		**Pn**	**13 22 59.7 +0.2**
UALR	**University of**	**4.25**	**108**	Pn	**Pn**	**13 23 00.7 +0.6**
237A	**Washetta, Mont**	**4.34**	**164**		**Pn**	**13 23 01.4 +0.1**
R40A	**Maddies Statio**	**4.50**	**61**		**Pn**	**13 23 03.9 +0.4**
P38A	**Dawn**	**4.52**	**40**	Pn	**Pn**	**13 23 04.9 +1.0**
N33A	**J Bar K, Exete**	**4.55**	**358**	Pn	**Pn**	**13 23 05.2 +1.0**
T42A	**Van Buren**	**5.03**	**79**	Pn	**Pn**	**13 23 11.5 +0.7**
MSTX	**Muleshoe**	**5.03**	**246**	Pn	**Pn**	**13 23 11.0 0.0**
KSCO	**Kaye Shedlock'**	**5.11**	**305**	Pn	**Pn**	**13 23 12.6 +0.5**
CCM	**Cathedral Cave**	**5.16**	**67**	Pn	**Pn**	**13 23 13.7 +1.1**
BGNE	**Belgrade**	**5.26**	**353**	P	**Pn**	**13 23 14.1 +0.2**
	baz=172					
BGNE	**Belgrade**	**5.26**	**353**	Pn	**Pn**	**13 23 13.9 0.0**
P40A	**Paris**	**5.30**	**49**		**Pn**	**13 23 14.9 +0.4**
N38A	**Joes South For**	**5.58**	**33**	Pn	**Pn**	**13 23 18.4 0.0**
FVM	**French Village**	**5.75**	**70**	Pn	**Pn**	**13 23 21.1 +0.4**
L34A	**Svendsen Farm,**	**5.81**	**7**	Pn	**Pn**	**13 23 21.9 +0.3**
T25A	**Trinidad**	**5.83**	**281**	P	**Pn**	**13 23 22.6 +0.6**
	baz=97					
T25A	**Trinidad**	**5.83**	**281**		**Pn**	**13 23 22.5 +0.6**
JCT	**Junction City**	**6.08**	**201**	Pn	**Pn**	**13 23 25.3 0.0**
SDCO	**Great Sand Dun**	**6.78**	**286**	P	**Pn**	**13 23 36.9 +1.8**
	baz=101					
SDCO	**Great Sand Dun**	**6.78**	**286**		**Pn**	**13 23 35.9 +0.8**
Q24A	**Divide**	**6.85**	**296**	Pn	**Pn**	**13 23 36.3 +0.2**
P43A	**Skaggs, Pawnee**	**7.02**	**58**		**Pn**	**13 23 38.1 0.0**
Q44A	**Meyer Farm, Va**	**7.09**	**65**	Pn	**Pn**	**13 23 38.9 -0.2**
GDL2	**Guadalupe Moun**	**7.10**	**238**	Pn	**Pn**	**13 23 38.8 -0.6**
K38A	**Parkersburg**	**7.33**	**27**	Pn	**Pn**	**13 23 41.1 -1.2**
L40A	**Anamosa**	**7.51**	**37**	Pn	**Pn**	**13 23 45.3 +0.5**
ISCO	**Idaho Springs**	**7.52**	**301**		**Pn**	**13 23 45.8 +0.6**
ECSD	**EROS Data Cent**	**7.55**	**4**	P	**Pn**	**13 23 44.7 -0.8**
	baz=184					
ECSD	**EROS Data Cent**	**7.55**	**4**		**Pn**	**13 23 44.6 -0.8**
PLAL	**Pickwick Lake**	**7.58**	**96**	Pn	**Pn**	**13 23 46.0 +0.2**
ANMO	**Albuquerque**	**7.60**	**263**	Pn	**Pn**	**13 23 47.1 +0.8**
BNM	**Barren Site**	**7.94**	**258**	Pn	**Pn**	**13 23 49.6 -1.4**
N23A	**Red Feather La**	**8.27**	**307**		**Pn**	**13 23 56.5 +0.9**
L42A	**Oliver, Polo**	**8.28**	**43**	Pn	**Pn**	**13 23 55.9 +0.5**
JFWS	**Jewell Farm**	**8.63**	**37**	Pn	**Pn**	**13 24 01.2 +1.0**
TX31	**Lajitas Ar. Si**	**8.70**	**220**	Pn	**Pn**	**13 24 01.2 -0.1**
TX32	**Lajitas Array**	**8.71**	**220**	Pn	**Pn**	**13 24 01.1 -0.3**
M44A	**Midewin, Midew**	**8.87**	**51**	Pn	**Pn**	**13 24 03.0 -0.5**
SFIN	**Lafayette**	**9.02**	**59**	Pn	**Pn**	**13 24 05.3 -0.2**

OMAN 17 13:46:54.4±3.4, 27°.15N×56°.84E, h35km, mb4.5/1, ml3.3/9, Error ellipse: s-maj=152.8km s-min=34.5km az=265.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.31**	**202**	P	Pn	13 47 13.0	-3.3
	SNR=10						
MDH	**Madha**	**1.90**	**195**	P	Pn	13 47 22.5	-1.9
UOSS	**Minazif**	**2.27**	**195**	P	Pn	13 47 30.0	+0.7
HATD	**Hatta, Dubai**	**2.40**	**195**	P	Pn	13 47 32.1	+0.9
	SNR=9.2						
HATD				S	Sn	13 48 03.3	+3.9
ASHO	**Ashiyiah**	**2.55**	**196**	P	Pn	13 47 35.7	+2.4
HOQ	**Hoqain**	**3.58**	**173**	P	Pn	13 47 47.5	0.0
SMDO	**Samad**	**4.22**	**165**	P	Pn	13 47 57.2	+0.9
SMDO				S	Sn	13 48 44.5	0.0
WSAR	**Wadi Sarin**	**4.22**	**157**	P	Pn	13 47 57.2	+0.9
	SNR=18						
WSAR				S	Sn	13 48 43.9	-0.4
WBK	**Wadi Bani Khal**	**4.92**	**156**	P	Pn	13 48 06.9	+1.0
WBK				S	Sn	13 49 02.8	+1.2
JLN	**Jalan Bani Buh**	**5.50**	**154**	P	Pn	13 48 14.2	+0.4

ASRS 17 13:52:50.6±0.4, 50°N±2°×9°4E±°, h5km, MLh3.6/12, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERNS	**Erzin**	**0.72**	**49**	Pg	Pg	13 53 01.3	-3.2
ERNS				Sg	Sg	13 53 12.8	-1.0
KZLR	**Kyzyl**	**1.91**	**3**	Sg	Sg	13 53 56.8	+4.8
KNGR	**Kungurtug, Tuv**	**2.21**	**67**	Pg	Pn	13 53 23.2	-4.9
KNGR				Sg	Sn	13 53 52.6	-3.4
ARDR	**Aradan**	**2.84**	**349**	Pg	Pg	13 53 43.5	-1.6
ARDR				Sg	Sg	13 54 25.4	+3.7
TDJR	**Todzha**	**2.84**	**23**	Pn	Pn	13 53 37.6	+0.9
TDJR				Pg	Pg	13 53 43.8	-1.2
TDJR				Sg	Sg	13 54 22.8	+1.0
TEL	**Teeli**	**2.90**	**297**	Pn	Pn	13 53 40.0	+2.5
TEL				Pg	Pg	13 53 47.9	+1.8
TEL				Sg	Sg	13 54 28.0	+4.4
DJOS	**Djoyskaya Sosn**	**3.51**	**330**	Pg	Pg	13 54 01.5	+3.6
DJOS				Sg	Sg	13 54 46.2	+2.9
CERR	**Cheremushki**	**3.56**	**330**	Pg	Pg	13 53 59.9	+1.2
CERR				Sg	Sg	13 54 47.1	+2.4
DJO	**Djoy, Khakassi**	**3.56**	**328**	Pn	Pb	13 53 53.6	-0.5
DJO				Pg	Pg	13 54 00.6	+1.8
DJO				Sg	Sg	13 54 48.1	+3.2
TBTR	**Tabat**	**3.86**	**326**	Pg	Pg	13 54 06.3	+1.9
TBTR				Sg	Sg	13 54 58.9	+4.5
CUR	**Chagan-Uzun**	**3.86**	**277**	Pg	Pg	13 54 02.8	-1.7
CUR				Sg	Sg	13 54 58.2	+3.7
ULGR	**Ulagan, Altay**	**4.16**	**284**	Pn	Pn	13 53 56.9	+2.1
ULGR				Pg	Pg	13 54 08.7	-1.5
ULGR				Sg	Sg	13 55 05.8	+1.7
ABNR	**Abakan**	**4.32**	**337**	Sg	Sg	13 55 12.5	+3.3
CHBI	**Chibit, Altay**	**4.41**	**279**	Pg	Pg	13 54 15.6	+0.5
CHBI				Sg	Sg	13 55 15.4	+3.2
DGZ	**Jazzator, Alta**	**4.46**	**271**	Pn	Pn	13 53 59.7	+0.7
DGZ				Pg	Pg	13 54 15.5	-0.6
DGZ				Sg	Sg	13 55 17.0	+3.3
ARTR	**Artybash**	**4.88**	**297**	Pn	Pn	13 54 07.9	+3.2
ARTR				Pg	Pg	13 54 25.2	+1.1
ARTR				Sg	Sg	13 55 30.2	+2.8
TASR	**Tashtagol**	**5.00**	**309**	Pg	Pg	13 54 29.7	+3.3
TASR				Sg	Sg	13 55 34.9	+3.7
TUNR	**Tungur**	**5.16**	**277**	Pg	Pg	13 54 26.5	-2.9
TUNR				Sg	Sg	13 55 39.0	+2.8
ORY	**Orie**	**5.24**	**5**	Pg	Pg	13 54 29.0	-1.9
ORY				Sg	Sg	13 55 37.9	-0.7
SHRR	**Shira**	**5.35**	**333**	Pn	Pn	13 54 16.2	+5.2
SHRR				Pg	Pg	13 54 35.2	+2.2
SHRR				Sg	Sg	13 55 43.2	+1.0
UKR	**Ust'-Kan**	**6.21**	**284**	Pn	Pn	13 54 24.1	+1.2
UKR				Pg	Pg	13 54 50.0	+0.5
UKR				Sg	Sg	13 56 12.8	+3.0
SHTK	**Zheleznogorsk-**	**6.56**	**357**	Sg	Sg	13 56 18.6	-2.5

SOME 17 14:04:18.6, 48°.78N×76°.93E
NNC 17 14:04:25.2±3.1, 48°.63N×77°.72E, h0km, mb3.1, mpv2.6, 5C-1D, Error ellipse: s-maj=28.9km s-min=13.1km az=67.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.06**	**15**	⇑Pg	Pb	14 05 03.2	-0.2
	3.2nm,0.6s,baz=198,slow=16						
KURBB				⇑Lg	Lg	14 05 31.0	
	11nm,0.8s,baz=181,slow=27						
KURK	**Kurchatov**	**2.16**	**15**	⇓Pg	Pb	14 05 04.5	-0.7
	2.9nm,0.7s						
KURK				⇑Lg	Lg	14 05 33.1	
	8.4nm,0.7s						
MK31	**Makanchi Array**	**3.59**	**119**	⇑Pg	Pb	14 05 31.8	+2.2
	baz=295,slow=17,SNR=6.7						
MK31				⇑Lg	Lg	14 06 16.7	
	0.1nm,0.2s,baz=309,slow=28,SNR=7.6						

AUST 17 14:16:52.7±0.5, 33°.41S×139°.00E, h14km±3km, Error ellipse: s-maj=3.4km s-min=2.5km az=42.0
IDC 17 14:16:54.4±4.4, 33°.00S×138°.94E, h0km, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.3/4, Error ellipse: s-maj=49.7km s-min=18.0km az=5.0
ISC 17 14:16:53.0±1.0, 33°.42S±0°.04×138°.94E±0°.04, h28km±9km, n21, σ1s89/36, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUJCS	**Jamestown Cent**	**0.35**	**309**	P	**Pb**	**14 17 00.7**	**-0.2**
	baz=0.4						
AUJCS				S	**Sb**	**14 17 06.2**	**-0.2**
	baz=0.4						
AUMAR	**Marden Senior**	**1.48**	**189**	P	**Pb**	**14 17 20.2**	**+0.3**
	baz=1.5						
AUMAR				S	**Sb**	**14 17 39.0**	**+0.7**
	baz=1.5						
AURMK	**Renmark High S**	**1.68**	**117**	P	**Pn**	**14 17 20.4**	**-0.1**
	baz=1.6						
AURMK				S	**Sb**	**14 17 43.2**	**-0.6**
	baz=1.6						
BBOO	**Buckleboo**	**2.49**	**283**	P	**Pn**	**14 17 34.5**	**+2.8**
	baz=2.5						
BBOO				S	**Sb**	**14 18 06.2**	**-1.1**
	baz=2.5						
STKA	**Stephens Creek**	**2.72**	**56**	Pn	**Pn**	**14 17 36.8**	**+1.9**
	2.4nm,0.3s,baz=223,slow=12,SNR=55						
STKA				Sn	**Sn**	**14 18 08.7**	**+1.9**
	11nm,0.3s,baz=346,slow=19,SNR=6.7						
STKA				Lg	Lg	14 18 13.9	
	25nm,0.3s,baz=297,slow=24,SNR=8.0						
STKA	**Stephens Creek**	**2.72**	**56**	P	**Pn**	**14 17 36.7**	**+1.9**
	baz=2.7,SNR=46						
STKA				S	**Sn**	**14 18 09.7**	**+2.9**
	baz=2.7						
LCRK	**Leigh Creek**	**3.03**	**348**	P	**Pn**	**14 17 41.9**	**+2.8**
	baz=3.0,SNR=49						
LCRK				S	**Sb**	**14 18 19.9**	**-2.9**
	baz=3.0						
ARPS	**Mount Arapiles**	**4.10**	**145**	P	**Pn**	**14 17 53.5**	**-0.3**
	baz=4.1,SNR=20						
ARPS				S	**Sn**	**14 18 38.6**	**-2.2**
	baz=4.1						
MULG	**Mulgathing**	**5.20**	**306**	P	**Pn**	**14 18 10.8**	**+1.9**
	baz=5.2,SNR=7.9						
MULG				S	**Sn**	**14 19 10.2**	**+2.2**
	baz=5.2						
INKA	**Innaminka**	**5.87**	**16**	P	**Pn**	**14 18 20.1**	**+2.0**
	baz=5.9						
INKA				S	**Sn**	**14 19 26.3**	**+1.7**
	baz=5.9						
CMSA	**Cobar Meteorol**	**6.01**	**74**	P	**Pn**	**14 18 19.9**	**-0.1**
	baz=6.0						
CMSA				S	**Sn**	**14 19 25.7**	**-2.3**
	baz=6.0						
OOD	**Oodnadatta**	**6.27**	**333**	P	**Pn**	**14 18 25.2**	**+1.6**
	baz=6.3						
OOD				S	**Sn**	**14 19 37.1**	**+2.8**
	baz=6.3						
TOO	**Toolangi**	**6.76**	**130**	P	**Pn**	**14 18 30.4**	**0.0**
	baz=6.7						
QLP	**Quilpie**	**8.22**	**35**	P	**Pn**	**14 18 51.8**	**+1.4**
	baz=8.2						
CAN	**Canberra**	**8.53**	**106**	P	**Pn**	**14 18 54.1**	**-0.6**
	baz=8.5						
CNB	**Canberra Magne**	**8.82**	**105**	P	**Pn**	**14 18 59.0**	**+0.3**
	baz=8.8						
FORT	**Forrest**	**9.59**	**283**	P	**Pn**	**14 19 10.2**	**+1.0**
	baz=9.6						
FORT				S	**Sn**	**14 20 52.9**	**-3.2**
	baz=9.6						
ASAR	**Alice Springs**	**10.68**	**334**	Pn	**Pn**	**14 19 23.7**	**-0.4**
	0.3nm,0.3s,baz=174,slow=8.5,SNR=28						
ASAR				Sn	**Sn**	**14 21 19.5**	**-3.3**
	0.5nm,0.3s,baz=156,slow=22,SNR=8.0						
ASAR				Lg	Lg	14 22 23.5	
	baz=164,slow=24,SNR=1.0						
QIS	**Mount Isa**	**12.83**	**3**	P	**Pn**	**14 19 55.2**	**+1.6**
	baz=13						
WRA	**Warramunga Arr**	**14.04**	**342**	Pn	**Pn**	**14 20 08.7**	**-1.3**
	0.2nm,0.3s,baz=155,slow=13,SNR=17						
WRA				Sn	**Sn**	**14 22 42.9**	**-2.0**
	0.2nm,0.3s,baz=175,slow=23,SNR=4.9						
FITZ	**Fitzroy Crossi**	**19.37**	**319**	P	**Pn**	**14 21 18.2**	**+0.5**
	0.1nm,0.3s,baz=183,slow=8.2,SNR=3.1						

BJI 17 14:37:33.2±0.0, 41°.21N×83°.70E, h7km, ML3.4/10
NNC 17 14:37:35.0±3.9, 41°.33N×83°.63E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=29.1km s-min=18.7km az=144.0
SOME 17 14:37:42.1, 42°.47N×83°.80E, h15km
ISC 17 14:37:38.1±1.6, 41°.77N±0°.08×83°.47E±0°.05, h10km, n19, σ2s54/27, 7C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.27**	**296**	*e*P	**Pb**	**14 38 35.8**	**-0.6**
	54nm,0.7s						
SHLS				*e*S	**Sb**	**14 39 15.6**	**-0.7**
	168nm,0.4s						
PDGK	**Podgornoye**	**3.33**	**299**	Pg	**Pg**	**14 38 43.7**	**+1.8**
	8.7nm,0.5s						
PDGK				Lg	Lg	14 39 29.3	
	35nm,0.6s						
PDGK	**Podgornoye**	**3.33**	**299**	⇓Pn	**Pn**	**14 38 28.7**	**-1.6**
	4.7nm,0.5s						
PDGK				⇑Pg	**Pg**	**14 38 44.7**	**+2.8**
	10nm,0.5s						
PDGK				⇑Lg	Lg	14 39 28.9	
	58nm,0.6s						
UZB	**Uzynbulak**	**3.57**	**294**	*e*P	**Pg**	**14 38 47.4**	**+1.0**
	17nm,0.6s						
UZB				*e*S	**Sg**	**14 39 35.8**	**+3.2**
	58nm,0.6s						
UZB	**Uzynbulak**	**3.57**	**294**	Pg	**Pg**	**14 38 47.4**	**+1.0**
	17nm,0.6s						
UZB				Lg	Lg	14 39 35.8	
	58nm,0.6s						
DJR	**Jarkent**	**3.72**	**315**	*e*P	**Pg**	**14 38 47.7**	**-1.7**
	21nm,0.6s						
DJR				*e*S	**Sg**	**14 39 35.9**	**-1.6**
	9.6nm,0.4s						
WMQ	**Urumqi**	**3.73**	**55**	*e*Pn	**Pn**	**14 38 35.8**	**+0.1**
WMQ				Sn	**Sn**	**14 39 20.6**	**+0.9**
WMQ				smax	smax		
	comp=N,20nm,0.5s						
WMQ				smax	smax		
	comp=E,68nm,0.7s						
KPKS	**Kokpek**	**3.92**	**297**	*e*P	**Pg**	**14 38 52.8**	**-0.4**
	33nm,0.5s						
KPKS				*e*S	**Sg**	**14 39 45.1**	**+1.2**
	57nm,0.4s						
SATY	**Saty**	**3.96**	**291**	*e*P	**Pg**	**14 38 56.4**	**+2.3**
	27nm,0.6s						
SATY				*e*S	**Sg**	**14 39 51.9**	**+6.5**
	69nm,0.7s						
SATY	**Saty**	**3.96**	**291**	Pg	**Pg**	**14 38 56.4**	**+2.3**
	27nm,0.6s						
SATY				Lg	Lg	14 39 51.9	
	69nm,0.7s						
KAPS	**Kapalarasan**	**4.61**	**321**	*e*P	**Pb**	**14 38 59.5**	**+0.4**
	6.0nm,0.5s						
KAPS				*e*S	**Sb**	**14 39 56.8**	**+1.9**
	18nm,0.6s						
MDOK	**Medeo**	**4.95**	**288**	Pg	**Pg**	**14 39 10.3**	**-2.6**
MDOK				Lg	Lg	14 40 17.6	
MK31	**Makanchi Array**	**5.09**	**351**	Pn	Pn	14 39 00.7	+6.1
	0.2nm,0.3s,baz=194,slow=14,SNR=11						
MK31				Pg	**Pg**	**14 39 18.2**	**+2.5**
	2.0nm,0.5s,baz=171,slow=16,SNR=3.7						
MK31				Sn	**Sb**	**14 40 07.6**	**-1.0**
	4.6nm,0.6s,baz=181,slow=25,SNR=4.0						
MK31				Lg	Lg	14 40 36.7	
	33nm,0.8s,baz=169,slow=29,SNR=3.9						
MAKZ	**Makanchi**	**5.15**	**349**	⇑Pg	**Pg**	**14 39 16.9**	**+0.2**
	4.7nm,0.8s						
MAKZ				⇑Sn	**Sb**	**14 40 03.9**	**-6.3**
	5.2nm,0.6s						
MAKZ				⇓Lg	Lg	14 40 34.5	
	12nm,0.7s						
TKM2	**Tokmak 2**	**5.95**	**284**	⇑Pn	**Pn**	**14 39 04.9**	**-1.5**
	2.2nm,0.4s						
TKM2				⇑Pg	**Pg**	**14 39 29.3**	**-2.7**
	3.8nm,0.6s						
TKM2				⇑Lg	Lg	14 40 49.4	
	16nm,0.7s						

AAK	**Ala-Archa**	**6.72**	**280**	Pg	**Pg**	**14 39 45.8**	**-1.0**
	5.4nm,0.8s						
AAK				Lg	Lg	14 41 17.9	
	16nm,0.7s						
KURBB	**Kurchatov Arra**	**9.49**	**341**	⇓Lg	Lg	14 42 52.7	
	27nm,1.1s						
KURK	**Kurchatov**	**9.55**	**341**	⇓Lg	Lg	14 42 56.4	
	15nm,1.0s						
KK31	**Karatay Array**	**9.68**	**282**	Lg	Lg	14 42 53.5	
	2.5nm,0.7s,baz=95,slow=28,SNR=3.9						

TAP 17 14:58:55.4, 23°.92N×121°.72E, h25km, ML1.6, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.28**	**335**	⇓*i*P	Pb	14 59 01.6	-0.6
	baz=333						
NACB				*i* S	Sb	14 59 06.6	-0.3
	baz=333						
ESL	**Shilin**	**0.29**	**249**	*e*P	Pb	14 59 02.2	-0.1
	baz=256						
ESL				*e*S	Sb	14 59 07.2	+0.2
	baz=256						
ETLH	**Xiulin Townshi**	**0.36**	**322**	P	Pb	14 59 03.1	-0.4
	baz=321						
ETLH				S	Sb	14 59 08.8	-0.2
	baz=321						
EGFH	**Guangfu**	**0.37**	**228**	*e*P	Pb	14 59 03.4	-0.2
	baz=222						
EGFH				*e*S	Sb	14 59 09.7	+0.7
	baz=222						
WHF	**Hehuan Shan**	**0.48**	**298**	*i* P	Pb	14 59 05.3	-0.2
	baz=293						
WHF				*i* S	Sb	14 59 12.6	+0.2
	baz=293						
HGSD	**Ruisui**	**0.51**	**213**	*e*P	Pb	14 59 06.3	+0.6
	baz=212						
HGSD				*e*S	Sn	14 59 15.2	+0.3
	baz=212						
ENA	**Nanau**	**0.51**	**2**	*e*P	Pb	14 59 05.6	-0.2
	baz=359						
ENA				S	Sb	14 59 13.7	+0.8
	baz=359						
CHGB	**Renai**	**0.52**	**286**	P	Pb	14 59 06.3	+0.1
	baz=280						
CHGB				S	Sb	14 59 14.3	+0.8
	baz=280						
FUSS	**Fushou**	**0.55**	**307**	*e*P	Pb	14 59 06.7	+0.1
	baz=306						
FUSS				*e*S	Sb	14 59 14.8	+0.5
	baz=306						
EHY	**Hungye**	**0.55**	**222**	*e*P	Pb	14 59 06.9	+0.3
	baz=231						
VWDT	**VWDT**	**0.56**	**253**	P	Pb	14 59 07.0	+0.4
	baz=253						
VWDT				S	Sn	14 59 15.7	-0.5
	baz=253						
NNSB	**Datong**	**0.59**	**328**	*i* P	Pb	14 59 07.4	0.0
	baz=328						
NNSB				S	Sb	14 59 15.7	+0.2
	baz=328						
NNSH	**Datong**	**0.59**	**329**	P	Pb	14 59 07.3	0.0
	baz=327						
NNSH				S	Sb	14 59 15.6	+0.2
	baz=327						
NNS	**Nan Shan**	**0.61**	**328**	*e*S	Sb	14 59 16.2	+0.3
	baz=328						
TDCB	**Techi**	**0.61**	**303**	*e*P	Pb	14 59 08.0	+0.3
	baz=303						
TDCB				*e*S	Sb	14 59 16.5	+0.4
	baz=303						
YULB	**Yu-li**	**0.65**	**217**	*e*P	Pb	14 59 08.0	-0.3
	baz=229						
YULB				*e*S	Sb	14 59 17.5	+0.4
	baz=229						
EYUL	**Yuli**	**0.68**	**213**	*e*S	Sn	14 59 18.8	-0.4
	baz=227						
NDT	**Datong Townshi**	**0.71**	**344**	*e*P	Pb	14 59 09.1	-0.1
	baz=336						
NDT				*e*S	Sb	14 59 19.1	+0.6
	baz=336						
SSLB	**Suanglung**	**0.72**	**260**	*e*P	Pb	14 59 09.3	0.0
	baz=266						
SSLB				*e*S	Sb	14 59 19.4	+0.6
	baz=266						
ENTT	**Nioudou**	**0.73**	**349**	*e*P	Pn	14 59 10.3	+0.1
	baz=347						
ENTT				*e*S	Sb	14 59 19.5	+0.2
	baz=347						
SMLT	**Sun Moon Lake**	**0.76**	**267**	*e*P	Pn	14 59 10.3	-0.2
	baz=259						
TYC	**Yuchr**	**0.79**	**269**	*e*P	Pn	14 59 10.8	-0.2
	baz=273						
TYC				*e*S	Sb	14 59 21.3	+0.3
	baz=273						
WHP	**Taichung City**	**0.80**	**297**	*e*P	Pn	14 59 12.4	+1.3
	baz=291						
WHP				S	Sn	14 59 22.3	0.0
	baz=291						
YHNB	**Yeheng**	**0.81**	**337**	*e*P	Pn	14 59 11.3	0.0
	baz=346						
FULB	**Fuli**	**0.82**	**209**	*e*P	Pn	14 59 11.8	+0.4
	baz=201						
NSK	**Sanguang**	**0.82**	**336**	*e*S	Sn	14 59 22.5	-0.5
	baz=335						
NWLT	**Wulai**	**0.88**	**347**	*e*P	Pn	14 59 12.8	+0.6
	baz=335						
NWLT				*e*S	Sb	14 59 23.7	+0.2
	baz=335						
ALS	**Alishan**	**0.94**	**244**	*e*P	Pn	14 59 13.6	+0.3
	baz=244						
CHN5	**Tsauling**	**1.01**	**252**	*e*P	Pb	14 59 15.0	+0.6
	baz=244						
CHN5				*e*S	Sn	14 59 29.5	+2.0
	baz=244						
TIPB	**Shuangxi**	**1.05**	**5**	*e*P	Pb	14 59 15.8	+0.8
	baz=3.0						
TPUB	**Ta-pu**	**1.18**	**239**	*e*P	Pb	14 59 17.9	+0.8
	baz=239						
CHN4	**Tsaushan**	**1.18**	**242**	*e*P	Pb	14 59 17.8	+0.6
	baz=242						
SLGT	**Liugui**	**1.35**	**227**	*e*P	Pb	14 59 20.3	+0.2
	baz=219						
SLGT				*e*S	Sb	14 59 40.1	+3.1
	baz=219						

JMA 17 14:59:21.2±0.2, 24°.87N×123°.40E, h30km, M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**221**	P	Pb	14 59 31.8	-0.5
YOJ				S	Sb	14 59 39.6	-0.2
JYNG	**Yonagunijimaku**	**0.59**	**225**	P	Pb	14 59 32.7	-0.4
JYNG				*e*S	Sb	14 59 40.1	-1.0
IRIF	**Iriomote-Funau**	**0.61**	**151**	P	Pb	14 59 33.1	-0.4
JKRS	**K

BOSA Pg **Pb** **15 31 34.1 -0.3**
0.6nm,0.3s,baz=60,slow=14,SNR=9.3
BOSA Sn Sn 15 32 10.7 -13
0.3nm,0.3s,baz=202,slow=5.7,SNR=1.7
BOSA Lg Lg 15 32 32.6
2.6nm,0.3s,baz=337,slow=19,SNR=12
BOSA Boshof 5.48 234 *i* P **Pn** **15 31 22.2 +1.9**
BOSA *i* S **Sn** **15 32 21.4 -2.1**
BOSA Boshof 5.48 234 *i* P **Pn** **15 31 22.2 +1.9**
BOSA *i* S **Sn** **15 32 21.4 -2.1**
BLWY Bulawayo 5.48 343 *i* P **Pb** **15 31 33.1 -1.4**
BLWY *i* S **Sb** **15 32 41.1 +0.7**
BLWY Bulawayo 5.48 343 *i* P **Pb** **15 31 33.1 -1.4**
BLWY *i* S **Sb** **15 32 41.1 +0.7**
I47ZA BOSHOF INFRASO 5.50 234 *i* 15 58 50.0
baz=54,slow=328,SNR=0.7
I35NA TSUMEB INFRASO13.28 295 *i* 16 50 45.0
baz=128,slow=310,SNR=2.5

IDC ***17*** *15:59:48.8±13.0,20.˚30S×178.˚31W,h570km±137km, mb3.1/6,mb1 3.2/6,mb1mx2.9/35,mbtmp4.1/6,Error ellipse: s-maj=92.8km s-min=34.5km az=53.0*
NEIC ***17*** *15:59:49.4±0.9,20.˚3S±0.˚1×178.˚4W±0.˚2,h577km±4km, mb4.4/18,Error ellipse: s-maj=27.4km s-min=21.3km az=82.0*
ISC 17 15:59:49.7±1.2,20.˚3S±0.˚1×178.˚4W±0.˚2,h587km,n27, σ0§70/29,mb4.2/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.22**	**306**	P	**P**	**16 01 14.8**	**-1.1**
WHZ	**Wether Hill Ro**	**27.92**	**201**	P	**P**	**16 04 53.0**	**-0.9**
EIDS	**Eidsvold**	**28.57**	**254**	P	**P**	**16 04 60.0**	**+0.1**
EIDS				IAmb	IAmb	16 05 35.3	
	comp=Z,25nm,1.7s						
ARMA	**Armidale**	**28.85**	**244**	P	**P**	**16 05 02.3**	**-0.1**
CTA	**Charters Tower**	**33.16**	**264**	P	**P**	**16 05 40.0**	**+0.8**
	comp=Z,4.0nm,0.6s,baz=82,slow=10,SNR=11						
CTAO	**Charters Tower**	**33.16**	**264**	P	**P**	**16 05 39.8**	**+0.6**
CTAO				IAmb	IAmb	16 05 40.6	
	comp=Z,4.1nm,0.7s						
STKA	**Stephens Creek**	**37.57**	**244**	P	**P**	**16 06 14.8**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=104,slow=10,SNR=3.4						
WAKE	**Wake Island**	**41.96**	**339**	P	**P**	**16 06 51.0**	**+0.5**
BBOO	**Buckleboo**	**42.34**	**243**	P	**P**	**16 06 53.0**	**-0.4**
BBOO				IAmb	IAmb	16 07 49.8	
	comp=Z,51nm,1.8s						
WR0	**Warramunga Arr**	**44.10**	**262**	P	**P**	**16 07 07.3**	**+0.1**
WR0				IAmb	IAmb	16 07 51.5	
	comp=Z,11nm,1.6s						
AS31	**Alice Springs**	**44.23**	**257**	P	**P**	**16 07 08.7**	**+0.4**
ASAR	**Alice Springs**	**44.23**	**257**	P	**P**	**16 07 08.7**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=96,slow=7.6,SNR=88						
ASAR				PcP	**PcP**	**16 08 41.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=103,slow=3.7,SNR=4.2						
ASAR	**Alice Springs**	**44.23**	**257**	P	**P**	**16 07 08.2**	**-0.1**
ASAR					**PcP**	**16 08 40.8**	**+1.0**
WB0	**Warramunga Arr**	**44.26**	**262**	P	**P**	**16 07 08.4**	**-0.1**
WB0				IAmb	IAmb	16 07 10.7	
	comp=Z,16nm,1.6s						
WB2	**Warramunga Arr**	**44.27**	**262**	P	**P**	**16 07 08.8**	**+0.2**
WRAB	**Tennant Creek**	**44.28**	**262**	P	**P**	**16 07 08.3**	**-0.3**
WRA	**Warramunga Arr**	**44.29**	**262**	P	**P**	**16 07 08.9**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=96,slow=7.4,SNR=88						
WRA	**Warramunga Arr**	**44.29**	**262**	P	**P**	**16 07 08.2**	**-0.5**
MTN	**Manton Dam**	**48.81**	**270**	P	**P**	**16 07 43.0**	**+0.2**
MTN				IAmb	IAmb	16 09 31.2	
	comp=Z,24nm,1.6s						
KNRA	**Kununurra**	**50.33**	**266**	P	**P**	**16 07 54.3**	**+0.4**
KNRA				IAmb	IAmb	16 08 42.2	
	comp=Z,40nm,1.9s						
FITZ	**Fitzroy Crossi**	**52.71**	**262**	P	**P**	**16 08 11.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=158,slow=7.6,SNR=6.5						
VNDA	**Vanda**	**58.10**	**185**	P	**P**	**16 08 47.8**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=342,slow=6.0,SNR=3.7						
QSPA	**South Pole Qui**	**69.79**	**180**	P	**P**	**16 10 01.9**	**+0.1**
QSPA				IAmb	IAmb	16 11 00.0	
	comp=Z,15nm,1.9s						
KSM	**Kuching**	**73.03**	**278**	P	**P**	**16 10 20.9**	**-0.6**
KSM				IAmb	IAmb	16 10 23.1	
	comp=Z,16nm,1.2s						
YULB	**Yu-li**	**73.08**	**303**	P	**P**	**16 10 21.8**	**+0.3**
AKASG	**Malin Array Be**	**142.65**	**331**	PKP	**PKPdf**	**16 18 14.7**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=42,slow=4.2,SNR=5.3						
GERES	**GERESS Array B**	**149.89**	**344**	PKPbc	**PKiKP**	**16 18 35.7**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=359,slow=39,SNR=2.1						

WEL 17 16:08:21.4±1.2,46.˚S±6.˚×16.˚6E±.˚,h12km,M3.6/12, ML3.7/12,MLv3.6/12,Error ellipse: s-maj=0.0km s-min=0.0km az=63.5,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.13**	**40**	P	Pb	16 08 41.0	-1.7
DCZ				S	Sb	16 08 56.2	-1.2
WHZ	**Wether Hill Ro**	**1.34**	**71**	P	Pn	16 08 45.9	0.0
WHZ				S	Sg	16 09 04.9	+0.4
APZ	**The Paps**	**1.37**	**112**	P	Pn	16 08 45.6	-0.8
APZ				S	Sn	16 09 04.3	-0.2
MLZ	**Mavora Lakes**	**1.69**	**56**	P	Pb	16 08 52.0	-0.5
MLZ				S	Sg	16 09 15.2	-0.6
MSZ	**Milford Sound**	**2.09**	**38**	P	Pn	16 08 55.7	-0.4
SYZ	**Scrubby Hill**	**2.09**	**97**	P	Pn	16 08 56.3	+0.2
SYZ				S	Sn	16 09 21.3	-0.7
TUZ	**Tuapeka**	**2.46**	**82**	P	Pn	16 09 01.9	+0.6
TUZ				S	Sn	16 09 32.2	+0.9
WKZ	**Wanaka**	**2.53**	**54**	P	Pn	16 09 04.1	+1.8
JCZ	**Jackson Bay**	**2.94**	**41**	P	Pn	16 09 09.7	+1.7
ODZ	**Otahua Downs**	**3.42**	**69**	P	Pn	16 09 13.5	-0.9
LBZ	**Lake Benmore**	**3.46**	**57**	P	Pn	16 09 14.6	-0.4
FOZ	**Fox Glacier**	**3.83**	**44**	P	Pn	16 09 19.8	-0.4
GCSZ	**Gaunt Creek Bo**	**4.25**	**46**	P	Pn	16 09 25.6	-0.2
GCSZ				S	Sn	16 10 13.1	-2.2
ARCZ	**Arundel**	**4.29**	**58**	P	Pn	16 09 25.5	-1.0
ARCZ				S	Sn	16 10 14.3	-2.2
RPZ	**Rata Peaks**	**4.36**	**55**	P	Pn	16 09 26.1	-1.4
RPZ				S	Sn	16 10 17.3	-1.0
WVZ	**Waitaha Valley**	**4.63**	**47**	P	Pn	16 09 31.2	+0.2
MHCZ	**Mount Hutt**	**4.77**	**56**	P	Pn	16 09 32.1	-1.0
MHCZ				S	Sn	16 10 25.3	-3.0
OXZ	**Oxford**	**5.17**	**56**	P	Pn	16 09 37.4	-1.1
INZ	**Inchbonnie**	**5.24**	**48**	P	Pn	16 09 38.8	-0.7
INZ				S	Sn	16 10 37.7	-2.1
LTZ	**Lake Taylor**	**5.64**	**53**	P	Pn	16 09 43.7	-1.4
LTZ				S	Sn	16 10 45.9	-4.0
DSZ	**Denniston Nort**	**6.15**	**44**	P	Pn	16 09 51.1	-0.8
THZ	**Tophouse**	**6.69**	**49**	P	Pn	16 09 58.2	-1.2
QRZ	**Quartz Range**	**7.20**	**42**	P	Pn	16 10 07.0	+0.5
QRZ				S	Sn	16 11 21.1	-7.1
MRZ	**Mangatainoka R**	**8.90**	**54**	P	Pn	16 10 27.8	-2.0
PKE	**Pukeiti**	**9.18**	**42**	P	Pn	16 10 34.7	+1.1

IDC ***17*** *16:14:14.0±4.1,54.˚81N×164.˚28W,h93km±37km,mb3.5/4, mb1 3.5/6,mb1mx3.2/38,mbtmp3.7/6,Error ellipse: s-maj=46.4km s-min=23.7km az=3.0*
NEIC ***TTA*** *16:14:13.9±0.9,54.˚59N±0.˚09×164.˚20W±0.˚09, h103km±3km,ML3.2/44(AEIC),Error ellipse: s-maj=13.9km s-min=5.4km az=157.0*
AEIC ***17*** *16:14:14.1±1.4,54.˚50N±0.˚07×164.˚19W±0.˚04,h93km±4km, Error ellipse: s-maj=10.6km s-min=3.2km az=169.0*
ISC 17 16:14:13.9±0.8,54.˚6N±0.˚1×164.˚18W±0.˚06,h104km±6km, n51,σ1§06/60,mb3.7/4,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.17**	**39**		**Pn**	**16 14 28.2**	**-0.3**
SSLS					**Sn**	**16 14 39.4**	**-0.1**
SSLW	**Shishaldin Wes**	**0.19**	**10**		**Pn**	**16 14 28.3**	**-0.3**
SSBA	**Shishaldin**	**0.19**	**9**		**Pn**	**16 14 28.1**	**-0.5**
SSBA					**Sn**	**16 14 39.7**	**+0.1**
SSLN	**Shishaldin Nor**	**0.25**	**25**		**Pn**	**16 14 29.0**	**+0.2**
SSLN					**Sn**	**16 14 41.5**	**+1.6**
BRPK	**Brown Peak**	**0.26**	**76**		**Pn**	**16 14 28.2**	**-0.5**
BRPK					**Sn**	**16 14 39.5**	**-0.4**
WTUG	**Tugumak**	**0.29**	**335**		**Pn**	**16 14 28.7**	**-0.2**
WTUG					**Sn**	**16 14 40.4**	**+0.3**
WESP	**Westdahl Peak**	**0.33**	**254**		**Pn**	**16 14 28.6**	**-0.5**
WEBT	**Westdahl Beart**	**0.34**	**272**		**Pn**	**16 14 28.6**	**-0.5**
FALS	**False Pass**	**0.52**	**58**		**Pn**	**16 14 30.0**	**-0.1**
FALS					**Sn**	**16 14 42.9**	**+0.5**
AKSA	**Akutan Strait**	**1.00**	**244**		**Pn**	**16 14 34.6**	**0.0**
AKSA					**Sn**	**16 14 50.0**	**-0.1**
AKSA	**Akutan Strait**	**1.00**	**244**		**Pn**	**16 14 34.5**	**0.0**
AKUT	**Akutan**	**1.04**	**245**		**Pn**	**16 14 34.8**	**-0.1**
AKUT					**Sn**	**16 14 50.4**	**-0.4**
AKLV	**Akutan Long Va**	**1.12**	**249**		**Pn**	**16 14 35.6**	**-0.3**
AKLV					**Sn**	**16 14 51.6**	**-1.0**
AKGG	**Akutan Green G**	**1.13**	**251**		**Pn**	**16 14 35.9**	**0.0**
AKGG					**Sn**	**16 14 52.2**	**-0.5**
AKBBA	**Akutan Broad B**	**1.14**	**245**		**Pn**	**16 14 35.9**	**-0.2**
AKBBA					**Sn**	**16 14 52.4**	**-0.4**
AKMO	**Akutan Morgan**	**1.18**	**246**		**Pn**	**16 14 36.5**	**-0.1**
AKMO					**Sn**	**16 14 53.0**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.20**	**248**		**Pn**	**16 14 36.8**	**+0.1**
DT1	**Dutton Round H**	**1.22**	**64**		**Pn**	**16 14 37.1**	**+0.2**
HAG	**Hague Volcano**	**1.50**	**60**		**Pn**	**16 14 41.3**	**+1.0**
PS4A	**Pavlof South-4**	**1.54**	**59**		**Pn**	**16 14 41.6**	**+0.9**
MNAT	**Makushin Natee**	**1.63**	**246**		**Pn**	**16 14 41.5**	**-0.4**
MNAT					**Sn**	**16 15 02.4**	**-0.8**
MSW	**Makushin Switc**	**1.67**	**247**		**Pn**	**16 14 42.2**	**-0.2**
MREP	**Makushin Rep't**	**1.70**	**244**		**Pn**	**16 14 42.7**	**-0.1**
MGOD	**Makushin Gods**	**1.77**	**245**		**Pn**	**16 14 43.6**	**-0.1**
MAPS	**Pakushin South**	**1.80**	**246**		**Pn**	**16 14 44.1**	**+0.1**
MAPS					**Sn**	**16 15 06.7**	**-0.3**
SDPT	**Sand Point**	**2.27**	**69**		**Pn**	**16 14 50.7**	**+0.7**
CNBA	**Chernabura Isl**	**2.67**	**83**	Pn	**Pn**	**16 14 55.5**	**+0.2**
OKSP	**Okmok Steeple**	**2.77**	**243**		**Pn**	**16 14 57.8**	**+1.1**
NIKH	**Nikolski High**	**3.21**	**242**		**Pn**	**16 15 03.1**	**+0.6**
SPIA	**Saint Paul Isl**	**4.29**	**310**		**Pn**	**16 15 18.5**	**+1.5**
ATKA	**Atka Island**	**6.45**	**252**	Pn	**Pn**	**16 15 47.4**	**+1.2**
OHAK	**Old Harbor**	**6.67**	**62**	Pn	**Pn**	**16 15 48.5**	**-0.6**
KDAK	**Kodiak Island**	**7.22**	**59**	P	**Pn**	**16 15 55.7**	**-0.8**
	0.9nm,0.3s,baz=166,slow=3.0,SNR=11						
KDAK				S	**Sn**	**16 17 10.9**	**-5.9**
	0.3nm,0.3s,baz=141,slow=22,SNR=1.1						
SVW2	**Sparrevohn**	**7.97**	**32**	Pn	**Pn**	**16 16 06.1**	**-0.7**
CNPM	**China Poot**	**8.61**	**50**	Pn	**Pn**	**16 16 15.8**	**+0.3**
SEW	**Seward**	**9.68**	**49**	Pn	**Pn**	**16 16 29.9**	**-0.1**
AMKA	**Amchitka**	**10.46**	**259**	Pn	**Pn**	**16 16 41.5**	**+0.9**
GHO	**Glory Hole Cre**	**10.78**	**42**	Pn	**Pn**	**16 16 44.6**	**-0.4**
GLI	**Glacier Island**	**11.07**	**48**	Pn	**Pn**	**16 16 47.9**	**-1.0**
FID	**Port Fidalgo**	**11.29**	**50**	Pn	**Pn**	**16 16 50.2**	**-1.5**
ILAR	**Eielson Array**	**13.38**	**33**	P	**Pn**	**16 17 17.7**	**-1.6**
	0.1nm,0.3s,baz=231,slow=12,SNR=1.9						
PETK	**Petropavlovsk-**	**22.36**	**282**	P	**P**	**16 19 03.1**	**+0.1**
	1.1nm,0.5s,baz=89,slow=13,SNR=26						
H11N2	**WAKE ISLAND Hy**	**41.16**	**224**	T	T	17 05 35.7	
	baz=26,slow=76,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**41.17**	**224**	T	T	17 05 36.5	
	baz=26,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**41.18**	**224**	T	T	17 05 39.4	
	baz=26,slow=76,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**42.35**	**223**	T	T	17 07 07.7	
	baz=26,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**42.36**	**223**	T	T	17 07 09.4	
	baz=26,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**42.36**	**223**	T	T	17 07 09.5	
	baz=26,slow=76,SNR=2.8						
TXAR	**Lajitas Array**	**49.72**	**95**	P	**P**	**16 22 57.3**	**+1.9**
	0.3nm,0.6s,baz=311,slow=6.3,SNR=4.3						
ARCES	**ARCESS Array B**	**55.99**	**356**	P	**P**	**16 23 40.9**	**+0.1**
	2.0nm,0.8s,baz=27,slow=8.2,SNR=1.3						
FINES	**FINESS Array B**	**64.03**	**355**	P	**P**	**16 24 35.1**	**-0.7**
	1.3nm,0.9s,baz=356,slow=5.7,SNR=4.2						

UNK ***17*** *16:28:31.9,51.˚57N×177.˚23W,h46km*
AEIC ***17*** *16:28:32±1.6,51.˚48N±0.˚06×177.˚05W±0.˚06,h43km±2km, Error ellipse: s-maj=8.7km s-min=5.0km az=163.0*
NEIC ***17*** *16:28:32.5±1.5,51.˚52N±0.˚06×177.˚15W±0.˚06,h49km±4km, mb4.6/183,ML4.4/37(AEIC),Error ellipse: s-maj=8.7km s-min=4.9km az=161.0*
IDC ***17*** *16:28:33.8±4.3,51.˚62N×177.˚16W,h61km±39km,mb4.1/19, mb1 4.3/22,mb1mx3.9/54,mbtmp4.4/22,ML3.5/3,MS3.4/23, Ms1 3.4/23,ms1mx3.2/55,Error ellipse: s-maj=27.9km s-min=10.3km az=173.0*
ISC 17 16:28:31.7±0.7,51.˚49N±0.˚09×177.˚17W±0.˚04,h46km±5km, n386,σ1§05/379,mb4.6/80,MS3.4/19,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.27**	**351**		**Pn**	**16 28 41.1**	**+1.0**
KIKV	**Kanaga Island**	**0.39**	**360**		**Pn**	**16 28 42.3**	**+1.0**
KICM	**Kanaga Island**	**0.43**	**358**		**Pn**	**16 28 42.9**	**+1.1**
KINC	**Kanaga Island**	**0.44**	**3**		**Pn**	**16 28 42.9**	**+1.0**
ADK	**Adak**	**0.49**	**38**		**Pn**	**16 28 42.7**	**+0.1**
ADK				Sn	**Sn**	**16 28 50.1**	**-0.3**
ADAG	**Mount Adagdak**	**0.60**	**36**		**Pn**	**16 28 44.5**	**+0.5**
TASE	**Tanaga Southea**	**0.64**	**303**		**Pn**	**16 28 46.3**	**+1.8**
TAFP	**Tanaga Falls P**	**0.65**	**309**		**Pn**	**16 28 46.0**	**+1.4**
TANO	**Tanaga North**	**0.73**	**306**		**Pn**	**16 28 47.5**	**+1.9**
GSTD	**Great Sitkin T**	**0.85**	**48**		**Pn**	**16 28 47.6**	**+0.3**
GSMY	**Great Sitkin M**	**0.88**	**51**		**Pn**	**16 28 48.0**	**+0.3**
GSTR	**Great Sitkin T**	**0.92**	**48**		**Pn**	**16 28 48.6**	**+0.5**
GALAA	**Gareloi Lava P**	**1.03**	**286**		**Pn**	**16 28 51.8**	**+2.0**
ATKA	**Atka Island**	**1.98**	**68**	Pn	**Pn**	**16 29 02.8**	**+0.2**
ATKA	**Atka Island**	**1.98**	**68**		**Sn**	**16 29 26.6**	**+0.4**
KOWE	**Korovin West**	**2.01**	**63**		**Pn**	**16 29 04.2**	**+1.1**
KOFP	**Korovin Flat P**	**2.06**	**66**		**Pn**	**16 29 04.8**	**+1.0**
AMKA	**Amchitka**	**2.21**	**268**	Pn	**Pn**	**16 29 07.1**	**+1.3**
NIKH	**Nikolski High**	**5.32**	**71**	Pn	**Pn**	**16 29 50.1**	**+1.7**
NIKH	**Nikolski High**	**5.32**	**71**		**Sn**	**16 30 48.9**	**+0.5**
SMY	**Shemya**	**5.52**	**286**	Pn	**Pn**	**16 29 52.0**	**+0.7**
OKSP	**Okmok Steeple**	**5.72**	**69**		**Pn**	**16 29 56.4**	**+2.4**
OKFG	**Magazine Ridge**	**5.98**	**68**		**Pn**	**16 29 59.9**	**+2.4**
MAPS	**Pakushin South**	**6.64**	**66**		**Pn**	**16 30 08.5**	**+1.9**
MGOD	**Makushin Gods**	**6.68**	**66**		**Pn**	**16 30 09.3**	**+2.1**
MREP	**Makushin Rep't**	**6.75**	**66**		**Pn**	**16 30 10.8**	**+2.6**
MSW	**Makushin Switc**	**6.76**	**65**		**Pn**	**16 30 10.7**	**+2.5**
UNV	**Unalaska Valle**	**6.90**	**66**	Pn	**Pn**	**16 30 11.3**	**+1.2**
SPIA	**Saint Paul Isl**	**6.98**	**33**	Pn	**Pn**	**16 30 13.4**	**+2.2**
AKGG	**Akutan Green G**	**7.29**	**64**		**Pn**	**16 30 18.2**	**+2.7**
AKBBA	**Akutan Broad B**	**7.30**	**65**		**Pn**	**16 30 18.4**	**+2.8**
AKUT	**Akutan**	**7.40**	**65**	Pn	**Pn**	**16 30 18.3**	**+1.4**
AKSA	**Akutan Strait**	**7.44**	**65**		**Pn**	**16 30 19.6**	**+2.1**
WECS	**Westdahl Cape**	**8.07**	**63**		**Pn**	**16 30 28.3**	**+2.2**
WTUG	**Tugumak**	**8.38**	**61**		**Pn**	**16 30 32.5**	**+2.0**
FALS	**False Pass**	**8.92**	**62**	Pn	**Pn**	**16 30 39.8**	**+2.0**
DT1	**Dutton Round H**	**9.62**	**62**		**Pn**	**16 30 49.4**	**+2.1**
SDPT	**Sand Point**	**10.68**	**62**	Pn	**Pn**	**16 31 02.9**	**+1.1**
CNBA	**Chernabura Isl**	**11.06**	**66**	Pn	**Pn**	**16 31 06.7**	**-0.4**
CHIR	**Chirikof Islan**	**13.47**	**63**	Pn	**Pn**	**16 31 38.5**	**-1.5**
SII	**Sitkinak Islan**	**14.40**	**60**	Pn	**Pn**	**16 31 51.3**	**-1.2**
OHAK	**Old Harbor**	**15.01**	**58**	Pn	**Pn**	**16 31 58.2**	**-2.4**
SVW2	**Sparrevohn**	**15.29**	**43**	P	**P**	**16 32 09.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**15.44**	**286**	P	**Pn**	**16 32 08.8**	**+2.7**
PETK	**Petropavlovsk-**	**15.44**	**286**	P	**Pn**	**16 32 07.2**	**+1.0**
	0.2nm,0.3s,baz=101,slow=14,SNR=14						
PETK				LR	LR	16 37 35.0	
	comp=Z,141nm,21.7s,baz=92,slow=35						
PETK	**Petropavlovsk-**	**15.44**	**286**	P	**P**	**16 32 09.2**	**-0.8**
KDAK	**Kodiak Island**	**15.51**	**56**	P	**Pn**	**16 32 05.4**	**-1.5**
	1.9nm,0.3s,baz=199,slow=3.0,SNR=29						
KDAK				S	**Sn**	**16 34 58.0**	**+0.6**
	0.3nm,0.3s,baz=18,slow=14,SNR=1.2						
KDAK				LR	LR	16 38 44.4	
	comp=Z,241nm,20.8s,baz=238,slow=40						
KDAK	**Kodiak Island**	**15.51**	**56**	Pn	**Pn**	**16 32 05.2**	**-1.8**
TTA	**Tatalina**	**16.11**	**37**		**P**	**16 32 18.9**	**+1.5**
RSO	**Redoubt South**	**16.26**	**47**	P	**P**	**16 32 21.5**	**+2.3**
CNPM	**China Poot**	**16.65**	**51**	Pn	**Pn**	**16 32 21.9**	**+0.4**
CNPM				IAmb	IAmb	16 32 25.6	
	comp=Z,37nm,0.8s						
SKT	**Skwentna**	**17.42**	**43**	P	**P**	**16 32 32.8**	**+1.0**
SKT				IAmb	IAmb	16 32 47.0	
	comp=Z,30nm,0.8s						
PPLA	**Purkeypile**	**17.57**	**40**	P	**P**	**16 32 36.2**	**+2.6**
PPLA				IAmb	IAmb	16 32 55.4	
	comp=Z,19nm,0.7s						
SEW	**Seward**	**17.69**	**50**		**Pn**	**16 32 34.3**	**0.0**
SEW				IAmb	IAmb	16 32 39.0	
	comp=Z,51nm,1.3s						
KTH	**Kantishna Hill**	**18.39**	**39**	P	**Pn**	**16 32 43.1**	**+0.2**
KTH				IAmb	IAmb	16 32 57.3	
	comp=Z,31nm,0.7s						
GHO	**Glory Hole Cre**	**18.47**	**45**	P	**Pn**	**16 32 45.0**	**+1.0**
KNK	**Knik Glacier**	**18.56**	**47**	P	**Pn**	**16 32 45.4**	**+0.5**
BPAW	**Bear Paw Mtn.**	**18.63**	**37**	P	**Pn**	**16 32 45.8**	**-0.1**
SML	**Sawmill**	**18.75**	**45**	P	**Pn**	**16 32 49.4**	**+2.1**
IMAR	**Indian Mountai**	**18.75**	**30**	P	**Pn**	**16 32 46.9**	**-0.3**
IMAR					**PcP**	**16 37 12.3**	**+0.3**
GLI	**Glacier Island**	**19.02**	**49**	P	**Pn**	**16 32 50.3**	**-0.3**
GLI				IAmb	IAmb	16 33 16.1	
	comp=Z,59nm,1.2s						
RND	**Reindeer**	**19.15**	**41**	P	**P**	**16 32 50.5**	**-0.3**
RND				IAmb	IAmb	16 33 03.0	
	comp=Z,22nm,0.6s						
SCM	**Sheep Creek Mo**	**19.21**	**46**	P	**Pn**	**16 32 52.4**	**-0.4**
SCM				IAmb	IAmb	16 33 04.9	
	comp=Z,29nm,1.2s						
BWN	**Browne**	**19.25**	**38**	P	**Pn**	**16 32 52.6**	**-0.7**
BWN				IAmb	IAmb	16 33 21.6	
	comp=Z,50nm,1.2s						
MCK	**McKinley**	**19.26**	**40**	P	**P**	**16 32 51.9**	**-0.1**
MCK				IAmb	IAmb	16 33 12.5	
	comp=Z,45nm,1.5s						
FID	**Port Fidalgo**	**19.28**	**49**	P	**P**	**16 32 52.0**	**-0.3**
FID				IAmb	IAmb	16 33 12.0	
	comp=Z,23nm,0.9s						
EYAK	**Cordova Ski Ar**	**19.58**	**50**	P	**P**	**16 32 55.6**	**+0.1**
EYAK				IAmb	IAmb	16 32 57.4	
	comp=Z,40nm,1.4s						
NEA2	**Nenana**	**19.60**	**37**	P	**P**	**16 32 55.9**	**+0.2**
	baz=242						
DHY	**Denali Highway**	**19.62**	**42**	P	**P**	**16 32 56.0**	**-0.2**
DHY				IAmb	IAmb	16 33 09.4	
	comp=Z,19nm,0.7s						
MA2	**Magadan**	**19.70**	**307**	LR	LR	16 39 41.7	
	comp=Z,67nm,21.4s,baz=104,slow=34						
KLU	**Klutina**	**19.74**	**47**	P	**Pn**	**16 32 58.8**	**-0.4**
KLU				IAmb	IAmb	16 33 09.7	
	comp=Z,17nm,0.8s						
SEY	**Seymchan**	**19.85**	**317**	P	**P**	**16 32 59.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=121,slow=11,SNR=7.9						
SEY				LR	LR	16 40 21.9	
	comp=Z,188nm,20.0s,baz=94,slow=36						
WRH	**Wood River Hil**	**19.92**	**38**	P	**P**	**16 32 59.6**	**+0.4**
RAGM	**Ragged Mountai**	**20.06**	**51**	P	**P**	**16 33 01.9**	**+1.0**
MDM	**Murphy Dome**	**20.09**	**37**	P	**P**	**16 33 02.0**	**+0.9**
MDM				IAmb	IAmb	16 33 16.4	
	comp=Z,29nm,1.2s						
CCB	**Clear Creek Bu**	**20.11**	**38**	P	**P**	**16 33 00.9**	**-0.3**
HDA	**Harding Lake**	**20.34**	**39**	P	**P**	**16 33 04.0**	**+0.2**
PAX	**Paxson**	**20.40**	**44**	Pn	Pn	16 33 07.3	+0.4
PAX				IAmb	IAmb	16 33 25.6	
	comp=Z,24nm,1.4s						
POKR	**Poker Plat Res**	**20.47**	**37**	P	**P**	**16 33 04.7**	**-0.4**
	baz=243						
IL31		**20.52**	**38**	P	**P**	**16 33 06.0**	**+0.3**
ILAR	**Eielson Array**	**20.52**	**38**	P	**P**	**16 33 05.2**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=231,slow=7.7,SNR=8.2						
ILAR	**Eielson Array**	**20.52**	**38**	P	**P**	**16 33 06.4**	**+0.7**
COLD	**Coldfoot**	**20.64**	**30**	P	**P**	**16 33 06.1**	**-0.8**
	baz=234						
COLD	**Coldfoot**	**20.64**	**30**	P	**P**	**16 33 07.7**	**+0.8**
GLB	**Gilahina Butte**	**20.71**	**48**	P	**P**	**16 33 08.5**	**+0.7**
MENT	**Mentasta**	**21.15**	**44**	P	**P**	**16 33 12.3**	**-0.3**
DOT	**Dot Lake**	**21.23**	**42**	P	**P**	**16 33 11.9**	**-1.4**
DOT				IAmb	IAmb	16 33 29.1	
	comp=Z,34nm,1.2s						
BARN	**Barnard Glacie**	**21.65**	**50**	P	**P**	**16 33 19.4**	**+1.3**
TOLK	**Toolik Lake Re**	**21.69**	**27**	P	**P**	**16 33 17.5**	**-0.8**
	baz=232						
TOLK	**Toolik Lake Re**	**21.69**	**27**	P	**P**	**

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I07A                                IAmb  IAmb   16 35 52.1
     comp=Z,6.7nm,0.9s
O02D Mt. Diablo Mer     38.69  85   P     P      16 35 52.7 +1.7
     baz=306
F10A Beach Ranch, E     38.95  74   P     P      16 35 53.4 +0.3
F10A                                IAmb  IAmb   16 36 11.4
     comp=Z,5.2nm,0.8s
MOD  Modoc Plateau      39.25  81   P     P      16 35 56.8 +1.1
MOD                                 IAmb  IAmb   16 35 58.1
     comp=Z,4.8nm,0.8s
BMO  Blue Mountains     39.48  75   P     P      16 35 58.1 +0.6
J08A Circle Bar Ran     39.57  78   P     P      16 35 59.5 +1.2
J08A                                IAmb  IAmb   16 36 00.9
     comp=Z,5.6nm,0.8s
JTMT Jette              39.80  70   P     P      16 36 00.4 +0.1
JTMT                                IAmb  IAmb   16 36 01.5
     comp=Z,11nm,1.1s
MSO  Missoula           40.47  71   P     P      16 36 06.1 +0.4
     baz=301
MSO  Missoula           40.47  71   P     P      16 36 05.7  0.0
MSO                                 IAmb  IAmb   16 36 06.7
     comp=Z,12nm,1.1s
KSRS Korea Array        40.66 272   P     P      16 36 08.2 +1.0
     comp=Z,3.1nm,1.0s,baz=70,slow=11,SNR=6.2
KSRS                                LR    LR     16 53 10.5
     comp=Z,23nm,19.6s,baz=82,slow=36
PAHR Pah Rah Range      41.09  83   P     P      16 36 11.1 +0.2
PNTR Pine Nut           41.32  84   P     P      16 36 12.7 -0.3
PNTR                                IAmb  IAmb   16 36 15.3
     comp=Z,9.8nm,0.8s
JNU  Nakatsue           41.60 264   P     P      16 36 16.0 +0.9
     comp=Z,7.1nm,0.8s,baz=85,slow=5.0,SNR=4.0
JNU  Nakatsue           41.60 264   IAmb  IAmb   16 36 18.1
     comp=Z,15nm,1.1s
YERR Yerington          41.61  84   P     P      16 36 16.4 +1.2
HRY  Holter Researc     41.77  70   P     P      16 36 16.3 -0.1
WAKR Walker             41.77  85   P     P      16 36 17.7 +1.1
LRM  Limekiln Ridge     41.87  71   P     P      16 36 17.1 -0.4
HLID Hailey             41.93  75   P     P      16 36 18.1 +0.4
     baz=304,SNR=6.3
HLID Hailey             41.93  75   P     P      16 36 17.9 +0.1
DLMT Dillon             42.03  72   P     P      16 36 19.1 +0.4
MCMT McKenzie Canyo     42.17  73   P     P      16 36 19.8  0.0
RYN  Ryan               42.27  84   P     P      16 36 21.2 +0.6
KVN  Kaiserville        42.27  83   P     P      16 36 21.4 +0.7
BOZ  Bozeman (W)        42.48  71   P     P      16 36 22.1 -0.2
     baz=303,SNR=14
BOZ  Bozeman (W)        42.48  71   P     P      16 36 22.2 -0.1
BOZ                                 IAmb  IAmb   16 36 23.3
     comp=Z,10nm,0.7s
NVAR Mina Array Bea     42.52  84   P     P      16 36 23.8 +1.0
     comp=Z,2.0nm,0.8s,baz=290,slow=8.2,SNR=16
NVAR                                PcP   PcP    16 38 15.5 +0.8
     comp=Z,0.9nm,0.7s,baz=284,slow=2.7,SNR=4.4
NVAR Mina Array Bea     42.52  84   P     P      16 36 23.5 +0.7
NVAR                                      PcP    16 38 14.9 +0.3
MDPB Devils Postpil     42.53  86   P     P      16 36 24.2 +1.3
NV11 Mina Array Sit     42.62  84   P     P      16 36 24.1 +0.7
QLMT Earthquake Lak     43.02  72   P     P      16 36 27.4 +0.7
ELK  Elko               43.03  79   P     P      16 36 27.7 +0.8
YHL  Hebgen Lake        43.15  72   P     P      16 36 27.9  0.0
YHB  Horse Butte        43.20  72   P     P      16 36 28.4 +0.2
YHH  Holmes Hill        43.38  72   P     P      16 36 29.6 -0.2
GCMT Greycliff          43.53  70   P     P      16 36 31.0 +0.3
YNE  Yellowstone No     43.76  71   P     P      16 36 32.4 -0.3
H17A Grant Village      43.76  72   P     P      16 36 34.8 +2.0
     baz=304
LKWY Lake               43.77  72   P     P      16 36 34.3 +1.5
LKWY                                IAmb  IAmb   16 36 35.3
     comp=Z,8.9nm,0.7s
YMP  Mirror Lake Pl     43.82  71   P     P      16 36 33.6 +0.3
IMW  Indian Meadow      43.83  73   P     P      16 36 33.8 +0.4
FLWY Flagg Ranch        43.87  72   P     P      16 36 34.2 +0.7
FLWY                                IAmb  IAmb   16 36 48.2
     comp=Z,7.2nm,0.8s
CWC  Cottonwood Cre     43.90  86   P     P      16 36 35.1 +1.3
     baz=310
HVU  Hansel Valley      43.93  76   P     P      16 36 34.9 +0.9
TPAW Teton Pass         44.05  73   P     P      16 36 35.3 +0.2
RLMT Red Lodge          44.13  70   P     P      16 36 36.2 +0.6
     baz=304
RLMT Red Lodge          44.13  70   P     P      16 36 36.0 +0.3
RLMT                                IAmb  IAmb   16 36 37.7
     comp=Z,14nm,0.8s
ISA  Isabella, Lake     44.15  87   P     P      16 36 36.3 +0.5
     baz=310
SBC  Santa Barbara      44.16  90   P     P      16 36 36.2 +0.5
     baz=311
LOHW Long Hollow        44.19  73   P     P      16 36 36.5 +0.4
R11A Troy Canyon, C     44.26  82   P     P      16 36 37.1 +0.3
     baz=308,SNR=5.9
R11A Troy Canyon, C     44.26  82   P     P      16 36 37.0 +0.3
BGU  Big Grassy Mou     44.28  78   P     P      16 36 36.9 +0.1
MPMC Manual Prospec     44.51  86   P     P      16 36 39.3 +0.6
     baz=310
FURC Furnace Creek,     44.64  85   P     P      16 36 40.7 +1.2
     baz=310
TPNV Topopah Spring     44.72  84   P     P      16 36 41.0 +0.7
     baz=309,SNR=12
TPNV Topopah Spring     44.72  84   P     P      16 36 41.1 +0.7
TPNV                                IAmb  IAmb   16 36 42.6
     comp=Z,7.1nm,0.8s
LRMC Laurel Mtn Rad     44.76  87   P     P      16 36 41.3 +0.6
     baz=310
HWUT Hardware Ranch     44.77  76   P     P      16 36 41.5 +0.8
DUG  Dugway, Tooele     44.85  78   P     P      16 36 42.7 +1.4
     baz=307
DUG  Dugway, Tooele     44.85  78   P     P      16 36 42.0 +0.7
DUG                                 IAmb  IAmb   16 36 55.4
     comp=Z,16nm,1.3s
LAO  LASA Array         45.04  67   P     P      16 36 42.9 +0.2
LAO                                 IAmb  IAmb   16 36 54.6
     comp=Z,20nm,1.4s
TCUT Toone Canyon       45.15  76   P     P      16 36 44.0 +0.1
PRN  Pahroc Range       45.18  83   P     P      16 36 44.9 +0.9
PRN                                 IAmb  IAmb   16 36 58.7
     comp=Z,8.9nm,0.9s
PSUT Pine Spring        45.22  81   P     P      16 36 44.8 +0.4
BW06 Boulder Array      45.30  73   P     P      16 36 45.2 +0.2
     baz=306
BW06 Boulder Array      45.30  73   P     P      16 36 45.1 +0.1
BW06                                IAmb  IAmb   16 36 46.2
     comp=Z,11nm,1.0s
BW06                                      pP     16 36 56.7 -0.7
PD31 Pinedale Array     45.30  73   P     P      16 36 45.0  0.0
PD31                                IAmb  IAmb   16 36 46.2
     comp=Z,10nm,1.0s
PD31                                pP    pP     16 36 56.6 -0.8
PDAR Pinedale Array     45.30  73   P     P      16 36 45.2 +0.2
     comp=Z,6.5nm,0.7s,baz=316,slow=4.1,SNR=28
PDAR                                LR    LR     16 55 46.1
     comp=Z,19nm,18.1s,baz=312,slow=36
PDAR Pinedale Array     45.30  73   P     P      16 36 44.9 -0.1
PDAR                                pP    pP     16 36 56.5 -0.8
GSC  Goldstone, Bar     45.42  86   P     P      16 36 46.9 +1.1
     baz=310
GSC  Goldstone, Bar     45.42  86   P     P      16 36 46.5 +0.7
GSC                                 IAmb  IAmb   16 36 59.7
     comp=Z,9.6nm,1.1s
NLU  North Lily Min     45.44  78   P     P      16 36 46.7 +0.6
BFSC Mount Baldy Ra     45.58  88   P     P      16 36 47.9 +0.7
     baz=311
TCRU Three Creeks R     46.04  80   P     P      16 36 52.1 +1.2
MVU  Marysvale          46.25  80   P     P      16 36 53.1 +0.5
MSU  Marysvale          46.27  80   P     P      16 36 53.4 +0.7
TMUT Trail Mountain     46.38  78   P     P      16 36 54.4 +0.8
GMRC Granite Mounta     46.47  86   P     P      16 36 54.9 +0.7
     baz=311
LCMT Little Creek M     46.55  82   P     P      16 36 55.7 +1.0
LCMT                                pP    pP     16 37 06.7 -0.5
MTPU Mount Pierson      46.55  80   P     P      16 36 55.7 +0.6
P17A Butcher Ranch,     46.55  78   P     P      16 36 55.6 +0.8
RDMU Red Mountain       46.60  76   P     P      16 36 55.9 +0.7
RDMU                                pP    pP     16 37 07.5 -0.1
Q16A Castle Valley      46.63  79   P     P      16 36 56.9 +1.4
KNB  Kanab              46.80  82   P     P      16 36 57.9 +1.1
KNB                                 pP    pP     16 37 09.5 +0.3
SRU  San Rafael Swe     46.91  78   P     P      16 36 58.6 +1.0
ULN  Ulaanbaatar        47.12 297   P     P      16 36 59.4 +0.3
K22A Casper             47.18  72   P     P      16 36 59.2 -0.5
K22A                                IAmb  IAmb   16 37 00.7
     comp=Z,14nm,1.1s
W13A Hualapai Mount     47.37  85   P     P      16 37 01.7 +0.4
SONM Songino Array      47.50 297   P     P      16 37 02.3 +0.2
     comp=Z,1.5nm,0.7s,baz=51,slow=9.8,SNR=9.4
SONM                                PcP   PcP    16 38 31.0 -0.6
     comp=Z,2.5nm,0.9s,baz=54,slow=2.4,SNR=9.2
SONM                                LR    LR     16 58 08.7
     comp=Z,69nm,18.4s,baz=66,slow=37
SONM Songino Array      47.50 297   P     P      16 37 01.7 -0.4
U15A North Rim          47.51  82   P     P      16 37 03.0 +0.6
U15A                                IAmb  IAmb   16 37 04.5
     comp=Z,9.4nm,1.1s
SWSC Sam W. Stewart     47.60  88   P     P      16 37 03.1 +0.3
     baz=312
IKP  In-Ko-Pah, Jac     47.60  89   P     P      16 37 03.3 +0.3
     baz=312
O20A White River Ci     47.67  75   P     P      16 37 04.4 +0.9
     baz=308
O20A White River Ci     47.67  75   P     P      16 37 03.4 -0.2
PDMCI Parker Dam,Lak    47.73  86   P     P      16 37 04.5 +0.7
     baz=311
RSSD Black Hills        47.77  69   P     P      16 37 04.0 -0.3
     baz=306
TIA  Tai'an             48.16 278   P     P      16 37 07.8 +0.7
TIA                                 pmax  pmax
     comp=Z,13nm,1.4s
PV21 Cone Mtn., Par     48.20  78   P     P      16 37 07.7  0.0
PV21                                IAmb  IAmb   16 37 08.8
     comp=Z,5.2nm,0.9s
PV23 Carpenter Ridg     48.24  78   P     P      16 37 08.6 +0.5
PV23                                IAmb  IAmb   16 37 09.3
     comp=Z,8.6nm,1.0s
PV10 Paradox Valley     48.27  78   P     P      16 37 09.4 +1.0
PV14 Lion Creek, Pa     48.29  78   P     P      16 37 08.8 +0.4
PV14                                IAmb  IAmb   16 37 09.8
     comp=Z,4.5nm,0.8s
PV22 Blue Mesa, Par     48.33  77   P     P      16 37 09.7 +1.0
PV22                                IAmb  IAmb   16 37 13.0
     comp=Z,8.7nm,0.9s
PV20 West Nyswonger     48.34  78   P     P      16 37 09.1 +0.4
PV20                                IAmb  IAmb   16 37 09.9
     comp=Z,6.1nm,0.9s
PV04 Paradox Valley     48.34  78   P     P      16 37 08.9 +0.1
PV19 Morning Glory      48.35  78   P     P      16 37 09.1 +0.3
PV19                                IAmb  IAmb   16 37 10.0
     comp=Z,5.9nm,0.7s
PV17 East Wray Mesa     48.38  78   P     P      16 37 09.1 -0.1
PV16 Nyswonger Mesa     48.39  78   P     P      16 37 09.1  0.0
PV16                                IAmb  IAmb   16 37 10.3
     comp=Z,8.7nm,0.9s
PV11 David Mesa, Pa     48.42  78   P     P      16 37 09.2 -0.2
PV18 Skein Mesa, Pa     48.44  78   P     P      16 37 09.5  0.0
PV12 Saucer Basin,      48.45  78   P     P      16 37 09.7  0.0
PV03 Paradox Valley     48.47  78   P     P      16 37 09.7 -0.1
PV07 Paradox Valley     48.47  77   P     P      16 37 09.2 -0.6
PV07                                IAmb  IAmb   16 37 10.9
     comp=Z,7.2nm,1.0s
PV13 Radium Mtn., P     48.54  78   P     P      16 37 10.4  0.0
PV02 Paradox Valley     48.56  78   P     P      16 37 10.5  0.0
N23A Red Feather La     48.58  73   P     P      16 37 09.9 -0.8
     baz=308
N23A Red Feather La     48.58  73   P     P      16 37 10.0 -0.6
N23A                                IAmb  IAmb   16 37 34.9
     comp=Z,9.2nm,1.2s
HHC  Hu-ho-hao-te       48.63 287   eP    P      16 37 13.9 +3.0
HHC                                 pmax  pmax
     comp=Z,17nm,1.2s
HHC                                 pmax  pmax
     comp=Z,100nm,5.8s
PV15 Paradox Valley     48.64  77   P     P      16 37 11.6 +0.5
WUAZ Wupatki            48.66  82   P     P      16 37 12.0 +0.8
     baz=311
WUAZ Wupatki            48.66  82   P     P      16 37 11.8 +0.6
WUAZ                                IAmb  IAmb   16 37 32.2
     comp=Z,6.1nm,0.8s
PV01 Paradox Valley     48.71  78   P     P      16 37 12.2 +0.5
MVCO Mesa Verde         49.34  79   P     P      16 37 16.7 +0.2
     baz=310
W18A Petrified Fore     49.94  82   P     P      16 37 22.1 +1.1
     baz=311
S22A 4UR Ranch, Cre     50.02  77   P     P      16 37 22.2 +0.5
     baz=310
S22A 4UR Ranch, Cre     50.02  77   P     P      16 37 22.2 +0.5
S22A                                IAmb  IAmb   16 37 35.5
     comp=Z,6.1nm,1.2s
SDCO Great Sand Dun     50.83  76   P     P      16 37 27.9 +0.1
     baz=310
SDCO Great Sand Dun     50.83  76   P     P      16 37 28.3 +0.5
SDCO                                IAmb  IAmb   16 37 29.6
     comp=Z,3.8nm,0.8s
TUC  Tucson             51.15  85   P     P      16 37 30.1  0.0
     baz=313
T25A Trinidad           51.88  76   P     P      16 37 36.0 +0.4
     baz=311
T25A Trinidad           51.88  76   P     P      16 37 36.0 +0.4
ANMO Albuquerque        52.07  79   P     P      16 37 37.4 +0.3
     baz=312
ECSD EROS Data Cent     52.26  65   P     P      16 37 37.2 -0.9
     baz=309
LENM Lemitar            52.27  81   P     P      16 37 39.0 +0.6
BNM  Barren Site        52.49  80   P     P      16 37 40.6 +0.4
121A Cookes Peak, D     52.87  83   P     P      16 37 43.5 +0.6
     baz=313
CBKS Cedar Bluff        53.59  71   P     P      16 37 48.2 +0.1
     baz=311
R32A Long Quarter,      54.46  71   P     P      16 37 53.9 -0.4
XAN  Xi'an              54.64 282   P     P      16 37 54.9 -0.8
XAN                                 pP    pP     16 38 07.8 -0.2
XAN                                 pmax  pmax
     comp=Z,12nm,1.0s
XAN  Xi'an              54.64 282   P     P      16 37 55.0 -0.7
XAN                                 IAmb  IAmb   16 37 56.5
     comp=Z,9.5nm,1.0s
N35A Tabor              54.65  67   P     P      16 37 55.6 -0.1
ZALV Zalesovo Beam      54.69 314   LR    LR     17 03 12.7
     comp=Z,32nm,19.1s,baz=60,slow=38
MNTX Cornudas Mount     54.92  82   P     P      16 37 58.4 +0.7
     baz=314
MNTX Cornudas Mount     54.92  82   P     P      16 37 58.3 +0.6
MNTX                                IAmb  IAmb   16 37 59.3
     comp=Z,5.1nm,0.8s
MNTX                                pP    pP     16 38 10.1 -0.4
MSTX Muleshoe           54.98  78   P     P      16 37 58.9 +0.6
     baz=313
MSTX Muleshoe           54.98  78   P     P      16 37 58.0 -0.2
MSTX                                      pP     16 38 10.5 -0.5
L40A Anamosa            56.37  63   P     P      16 38 08.5 +0.6
GTA  Gaotai             56.47 293   eP    P      16 38 08.8 -0.1
GTA                                 pP    pP     16 38 13.1 -8.1
GTA                                 sP    sP     16 38 16.3 -10
GTA                                 pmax  pmax
     comp=Z,3.0nm,0.6s
P38A Dawn               56.68  67   P     P      16 38 08.7 -1.5
P38A                                IAmb  IAmb   16 38 09.7
     comp=Z,8.3nm,0.9s
T35A Sooner Cattle      56.76  71   P     P      16 38 10.0 -0.8
WMOK Wichita Mounta     56.88  74   P     P      16 38 11.9 +0.1
     baz=313
WMOK Wichita Mounta     56.88  74   P     P      16 38 10.8 -0.9
WMOK                                IAmb  IAmb   16 38 24.5
     comp=Z,7.0nm,1.1s
P40A Paris              57.59  66   P     P      16 38 15.1 -1.5
TX31 Lajitas Ar. Si     57.63  82   P     P      16 38 17.1 -0.1
TX32 Lajitas Array      57.63  82   P     P      16 38 17.1  0.0
TX32                                IAmb  IAmb   16 38 17.7
     comp=Z,3.7nm,0.7s
TXAR Lajitas Array      57.63  82   P     P      16 38 17.3 +0.1
     comp=Z,2.1nm,0.6s,baz=306,slow=4.5,SNR=15
TXAR                                LR    LR     17 03 00.6
     comp=Z,35nm,18.1s,baz=0.0,slow=36
TXAR Lajitas Array      57.63  82   P     P      16 38 17.0 -0.1
W35A Tecumseh           57.74  73   P     P      16 38 17.2 -0.6
TUL1 Leonard            57.87  71   P     P      16 38 18.3 -0.3
     baz=313
TUL1 Leonard            57.87  71   P     P      16 38 18.3 -0.3
ARCES ARCESS Array B    58.15 351   LR    LR     17 04 22.9
     comp=Z,33nm,20.4s,baz=14,slow=37
U38A Gravette           58.34  70   P     P      16 38 20.7 -1.3
U38A                                IAmb  IAmb   16 38 21.6
     comp=Z,7.2nm,1.0s
X37A Clayton            59.03  72   P     P      16 38 26.9 +0.2
MGMO Mountain Grove     59.09  68   P     P      16 38 25.5 -1.6
U40A Yellville          59.29  69   P     P      16 38 27.3 -1.3
     baz=314,SNR=6.3
U40A Yellville          59.29  69   P     P      16 38 26.3 -2.3
U40A                                pP    pP     16 38 38.7 -2.7
W39A Magazine           59.55  71   P     P      16 38 29.8 -0.5
     baz=314
WHTX Lake Whitney,      59.58  76   pP    pP     16 38 42.7 -0.7
CHGQ Chibougamau        59.61  47   P     P      16 38 29.1 -1.4
     baz=315
FCAR Ozark Fish Cen     60.04  69   P     P      16 38 31.9 -1.8
FCAR                                pP    pP     16 38 44.0 -2.5
MIAR Mount Ida          60.12  71   P     P      16 38 33.9 -0.4
     baz=314,SNR=8.1
MIAR Mount Ida          60.12  71   P     P      16 38 33.4 -0.8
MIAR                                pP    pP     16 38 46.0 -1.1
WMQ  Urumqi             60.13 304   eP    P      16 38 37.9 +3.6
W41B Gary Mavity, V     60.47  70   P     P      16 38 35.7 -0.8
     baz=314
W41B Gary Mavity, V     60.47  70   P     P      16 38 35.2 -1.4
W41B                                IAmb  IAmb   16 38 36.4
     comp=Z,7.3nm,0.9s
LCAR Lake Charles       60.48  68   P     P      16 38 35.2 -1.5
LCAR                                IAmb  IAmb   16 38 35.8
     comp=Z,4.6nm,1.0s
X40A Basin Creek Fa     60.60  71   P     P      16 38 37.0 -0.6
     baz=315
MKAR Makanchi Array     60.76 309   P     P      16 38 39.0 +0.6
     comp=Z,0.4nm,0.6s,baz=56,slow=8.9,SNR=3.0
MKAR                                LR    LR     17 05 32.3
     comp=Z,35nm,18.2s,baz=1.0,slow=37
GYA  Guiyang            61.32 277   eP    P      16 38 43.3 +0.6
GYA                                 pmax  pmax
     comp=Z,9.0nm,1.0s
M53A WI Miller and      62.52  57   P     P      16 38 50.0 -0.4
     baz=316
OXF  Oxford             62.59  68   P     P      16 38 50.5 -0.4
     baz=316
OXF  Oxford             62.59  68   P     P      16 38 50.1 -0.8
OXF                                 pP    pP     16 39 02.0 -1.8
BORG Borgarnes          62.59  11   LR    LR     17 05 34.8
     comp=Z,28nm,21.0s,baz=325,slow=36
PLAL Pickwick Lake      63.03  67   P     P      16 38 52.4 -1.4
PLAL                                IAmb  IAmb   16 38 53.8
     comp=Z,7.2nm,0.9s
CLTN Cedars of Leba     63.23  65   P     P      16 38 55.2  0.0
U49A Red Boiling Sp     63.25  64   P     P      16 38 56.1 +0.9
U49A                                IAmb  IAmb   16 39 23.3
     comp=Z,4.1nm,1.1s
L56A Greenwood          63.64  55   P     P      16 38 57.0 -0.9
     baz=317
W50A Signal Mountai     64.45  65   P     P      16 39 02.1 -1.1
SSPA Standing Stone     64.56  56   P     P      16 39 03.6 -0.3
     baz=317
L58A Harry Jones Me     64.57  54   P     P      16 39 03.4 -0.5
     baz=317
FPAL Fort Paine         64.76  66   P     P      16 39 04.1 -1.1
G62A West of Eustis     64.81  48   P     P      16 39 04.0 -1.4
     baz=319
TKL  Tuckaleechee C     64.99  64   LR    LR     17 08 07.4
     comp=Z,35nm,18.1s,baz=334,slow=37
TKL  Tuckaleechee C     64.99  64   P     P      16 39 06.0 -0.7
TKL                                 IAmb  IAmb   16 39 06.8
     comp=Z,9.2nm,1.1s
LRAL Lakeview Retre     65.05  68   P     P      16 39 05.8 -1.3
     baz=317
M59A Waymart            65.16  54   P     P      16 39 06.8 -0.9
     baz=318
S55A Lewisburg          65.26  60   P     P      16 39 08.2 -0.2
     baz=317
PKME Peaks-Kenny Pk     65.35  48   P     P      16 39 06.7 -2.2
     baz=319
T55A Pulaski            65.58  61   P     P      16 39 10.1 -0.5
     baz=317
U55A TA2, Sparta        65.89  61   P     P      16 39 12.0 -0.6
     baz=317
FINES FINESS Array B    65.89 348   LR    LR     17 10 26.8
     comp=Z,18nm,21.2s,baz=14,slow=38
V54A Nebo               65.92  62   P     P      16 39 12.4 -0.3
     baz=317
R57A Stanardsville      65.94  58   P     P      16 39 12.2 -0.6
     baz=318
I64A Boothbay           66.21  49   P     P      16 39 13.0 -1.4
     baz=320
250A Grady              66.23  68   P     P      16 39 13.8 -0.9
W54A Cherokee Point     66.29  63   P     P      16 39 14.5 -0.6
     baz=317
R58B Mineral            66.53  58   P     P      16 39 15.7 -0.9
     baz=318
X54A Belton             66.58  64   P     P      16 39 16.4 -0.6
     baz=318
KMSC Kings Mountain     66.73  63   P     P      16 39 17.6 -0.3
     baz=318
GOGA Godfrey            66.80  65   P     P      16 39 17.2 -1.1
     baz=318
GOGA Godfrey            66.80  65   P     P      16 39 17.0 -1.4
GOGA                                IAmb  IAmb   16 39 18.2
     comp=Z,7.4nm,0.9s
X55A Gracelyn & Ava     67.05  63   P     P      16 39 19.8 -0.2
     baz=318
W56A Indian Trail       67.15  62   P     P      16 39 18.6 -1.9
     baz=318
Y55A Saluda             67.32  64   P     P      16 39 21.0 -0.6
     baz=318
X56A White Oak          67.37  63   P     P      16 39 21.2 -0.8
     baz=318
V58A Windy Hill, Pi     67.47  61   P     P      16 39 21.0 -1.6
     baz=318
NOA  NORSAR Array B     67.62 356   LR    LR     17 10 22.8
     comp=Z,14nm,19.1s,baz=340,slow=37
HFS  Hagfors            68.38 354   LR    LR     17 07 35.2
     comp=Z,32nm,20.6s,baz=342,slow=34
Z57A Bowman             68.44  63   P     P      16 39 27.8 -0.9
     baz=318
KK31 Karatay Array      69.05 313   P     P      16 39 31.1 -1.3
KKAR Karatay Array      69.05 313   P     P      16 39 31.3 -1.1
KKAR Karatay Array      69.05 313   P     P      16 39 31.3 -1.4
SHL  Shillong           70.99 287   P     P      16 39 44.1 -0.6
SHL                                 IAmb  IAmb   16 39 45.3
     comp=Z,10nm,1.1s
CMAR Chiang Mai Arr     72.01 277   P     P      16 39 51.0 +0.3
     comp=Z,3.1nm,0.9s,baz=31,slow=7.4,SNR=12
CMAR Chiang Mai Arr     72.01 277   P     P      16 39 50.7  0.0
CMAR                                pP    PcP    16 40 03.4 -5.7
LUWI Luwuk              72.67 245   P     P      16 39 54.2 -0.5
MTN  Manton Dam         78.14 231   P     P      16 40 26.1 +0.2
GEYT Alibeck            78.68 318   LR    LR     17 18 52.1
     comp=Z,57nm,18.9s,baz=15,slow=38
BURAR Bucovina Array    79.42 345   P     P      16 40 31.7 -1.1
GERES GERESS Array B    79.61 353   LR    LR     17 19 14.6
     comp=Z,12nm,18.4s,baz=60,slow=38
BATI Baumata            79.75 239   P     P      16 40 34.9 +0.1
     comp=Z,14nm,0.6s,baz=81,slow=18,SNR=3.6
WRA  Warramunga Arr     82.81 225   P     P      16 40 51.1 +0.2
     comp=Z,1.8nm,0.8s,baz=33,slow=5.9,SNR=23
WRA  Warramunga Arr     82.81 225   P     P      16 40 48.5 -2.4
PSI  Prapat             84.02 267   P     P      16 40 58.0 +0.5
     comp=Z,9.5nm,0.7s,baz=352,slow=0.2,SNR=6.4
RPSI Rantau Prapat      84.10 267   P     P      16 40 57.4 -0.4
RPSI Rantau Prapat      84.10 267   P     P      16 40 58.0 +0.2
FITZ Fitzroy Crossi     85.34 233   P     P      16 41 04.5 +0.7
     comp=Z,5.7nm,0.8s,baz=359,slow=4.5,SNR=18
AS31 Alice Springs      86.27 224   P     P      16 41 08.6 +0.2
ASAR Alice Springs      86.27 224   P     P      16 41 09.2 +0.8
     comp=Z,3.0nm,0.8s,baz=25,slow=5.4,SNR=49
ASAR Alice Springs      86.27 224   P     P      16 41 08.8 +0.5
STKA Stephens Creek     90.58 214   P     P      16 41 29.6 +1.0
     comp=Z,3.9nm,0.7s,baz=0.6,slow=4.3,SNR=13
STKA Stephens Creek     90.58 214   P     P      16 41 29.6 +1.0
STKA                                IAmb  IAmb   16 41 30.8
     comp=Z,1.4nm,0.8s
TORD Torodi Ar. Bea     115.62  1   PKP   PKiKP  16 47 07.5 -1.4
     comp=Z,0.8nm,0.6s,baz=343,slow=2.3,SNR=5.2
H03N2 Juan Fernandez    120.20 107  T     T      18 58 44.7
     baz=317,slow=77,SNR=723
H03N1 Juan Fernandez    120.21 107  T     T      18 58 46.0
     baz=317,slow=77,SNR=791
H03N3 Juan Fernandez    120.21 107  T     T      18 58 45.3
     baz=317,slow=77,SNR=1120
PLCA Paso Flores        130.03 108  PKP   PKPdf  16 47 35.9 +0.1
     comp=Z,1.8nm,0.9s,baz=351,slow=5.5,SNR=2.8
MAW  Mawson             147.20 218  PKPbc PKPbc  16 48 08.9 +0.5
     comp=Z,8.4nm,0.9s,baz=51,slow=2.6,SNR=22
MAW  Mawson             147.20 218  PKPbc PKPbc  16 48 08.7 +0.4
BOSA Boshof             151.63 315  PKPbc PKPbc  16 48 20.3 -0.5
     comp=Z,9.8nm,0.7s,baz=32,slow=2.4,SNR=20
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*IDC **17** 16:35:19.1±2.0,3.98N×94.94E,h0km,mb3.8/5,mb1 3.9/7, mb1mx3.6/41,mbtmp3.7/7,ML3.6/2,Error ellipse: s-maj=77.4km s-min=20.4km az=54.0*
*NEIC **17** 16:35:25.6±1.3,4.07N±0.08×95.2E±0.1,h44km±6km,*

mb4.1/19, Error ellipse: s-maj=15.8km s-min=11.8km az=84.0
*DJA **17** 16:35:28.5±1.3, 4°N±4°×9°E±°, h21km±10km, M4.0/6, mB5.3/1, mb4.3/1, MLv3.9/6, Mw(mB)4.7/1*
ISC 17 16:35:25.2±0.7, 4°.07N±0°.06×95°.18E±0°.08, h37km, n48, σ0°.88/45, mb4.0/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.24**	**81**	P	**Pn**	**16 35 45.8**	**-0.1**
MLSI				S	**Sn**	**16 35 59.5**	**-1.9**
LHMI	**Lhok Sumawe**	**2.11**	**57**	P	**Pn**	**16 35 59.1**	**+1.2**
LHMI				S	**Sn**	**16 36 22.8**	**0.0**
LHMI	**Lhok Sumawe**	**2.11**	**57**		**Pn**	**16 35 59.2**	**+1.3**
TPTI		**2.15**	**112**	P	**Pn**	**16 35 59.1**	**+0.6**
TPTI				S	**Sn**	**16 36 23.0**	**-0.9**
TSI	**Tuntungan**	**3.42**	**99**	P	**Pn**	**16 36 17.4**	**+1.4**
GSI	**Gunungsitoli**	**3.64**	**139**	P	**Pn**	**16 36 20.3**	**+1.3**
GSI	**Gunungsitoli**	**3.64**	**139**		**Pn**	**16 36 19.7**	**+0.7**
PSI	**Prapat**	**3.94**	**108**	Pn	**Pn**	**16 36 23.0**	**-0.3**
	2.1nm,0.3s,baz=360,slow=15,SNR=8.6						
RPSI	**Rantau Prapat**	**3.98**	**110**		**Pn**	**16 36 23.3**	**-0.3**
MNSI	**Mandailing Nat**	**5.46**	**126**	P	**Pn**	**16 36 46.1**	**+2.0**
KULM	**Kulim**	**5.58**	**77**		**Pn**	**16 36 45.5**	**-0.2**
IPM	**Ipoh**	**5.84**	**86**		**Pn**	**16 36 49.5**	**+0.2**
CM31	**Chiang Mai Arr**	**14.77**	**14**	P	**P**	**16 38 57.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**14.77**	**14**	Pn	**Pn**	**16 38 53.4**	**+1.8**
	0.1nm,0.3s,baz=206,slow=12,SNR=7.8						
CMAR	**Chiang Mai Arr**	**14.77**	**14**	P	**P**	**16 38 56.5**	**-0.5**
CHTO	**Chiang Mai**	**15.11**	**14**	P	**P**	**16 39 00.2**	**-0.6**
DLV	**T Lat**	**15.32**	**58**	P	**P**	**16 39 03.9**	**+0.5**
DLV				IAmb	IAmb	16 39 06.2	
	comp=Z,20nm,1.2s						
SMRI	**Semarang**	**18.81**	**126**	P	**P**	**16 39 41.8**	**-0.1**
MYLDM	**Lahad Datu**	**23.27**	**86**	P	**P**	**16 40 31.4**	**+1.7**
MYLDM				IAmb	IAmb	16 40 33.6	
	comp=Z,7.5nm,1.1s						
H08S2	**Diego Garcia H**	**25.45**	**243**	T	T	17 07 11.8	
	SNR=37						
H08S3	**Diego Garcia H**	**25.45**	**243**	T	T	17 08 05.5	
	baz=355,slow=74,SNR=38						
H08S1	**Diego Carcia H**	**25.47**	**243**	T	T	17 08 07.9	
	baz=60,slow=74,SNR=35						
LSA	**Lhasa**	**25.78**	**352**	P	**P**	**16 40 53.4**	**+0.1**
LSA				IAmb	IAmb	16 40 53.7	
	comp=Z,3.0nm,0.7s						
KDJ	**Kajisay**	**41.17**	**340**	P	**P**	**16 43 04.3**	**-1.9**
KDJ				IAmb	IAmb	16 43 08.6	
	comp=Z,2.3nm,0.7s						
H01W3	**Cape Leeuwin H**	**42.65**	**157**	T	T	17 27 00.0	
	baz=332,slow=76,SNR=3.6						
H01W2	**Cape Leeuwin H**	**42.66**	**157**	T	T	17 27 01.0	
	baz=332,slow=76,SNR=3.2						
H01W1	**Cape Leeuwin H**	**42.66**	**157**	T	T	17 27 01.0	
	baz=332,slow=76,SNR=3.3						
MK31	**Makanchi Array**	**44.01**	**347**	P	**P**	**16 43 29.0**	**-0.1**
MKAR	**Makanchi Array**	**44.01**	**347**	P	**P**	**16 43 28.4**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=160,slow=7.9,SNR=8.9						
KK31	**Karatay Array**	**44.61**	**334**	P	**P**	**16 43 34.2**	**+0.2**
KK31				IAmb	IAmb	16 43 57.3	
	comp=Z,3.9nm,1.4s						
KKAR	**Karatay Array**	**44.61**	**334**	P	**P**	**16 43 34.1**	**+0.1**
KKAR				IAmb	IAmb	16 43 57.3	
	comp=Z,3.9nm,1.4s						
KKAR	**Karatay Array**	**44.61**	**334**	P	**P**	**16 43 34.4**	**+0.5**
WB0	**Warramunga Arr**	**45.23**	**123**	P	**P**	**16 43 39.2**	**0.0**
WB0				IAmb	IAmb	16 44 00.5	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**45.27**	**123**	P	**P**	**16 43 40.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=303,slow=9.3,SNR=6.7						
WRA	**Warramunga Arr**	**45.27**	**123**	P	**P**	**16 43 39.5**	**-0.1**
WB2	**Warramunga Arr**	**45.28**	**123**	P	**P**	**16 43 39.9**	**+0.3**
WR0	**Warramunga Arr**	**45.44**	**123**	P	**P**	**16 43 40.8**	**-0.1**
WR0				IAmb	IAmb	16 43 43.5	
	comp=Z,3.4nm,1.1s						
ASAR	**Alice Springs**	**46.73**	**128**	P	**P**	**16 43 51.7**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=299,slow=8.2,SNR=11						
ASAR	**Alice Springs**	**46.73**	**128**	P	**P**	**16 43 50.2**	**-0.8**
AS31	**Alice Springs**	**46.73**	**128**	P	**P**	**16 43 50.4**	**-0.6**
ASHT	**Ashkhabad**	**47.57**	**320**	P	**P**	**16 43 56.1**	**-1.2**
KURK	**Kurchatov**	**48.53**	**346**	P	**P**	**16 44 04.4**	**-0.1**
ZAA0	**Zalesovo Array**	**50.45**	**352**	P	**P**	**16 44 18.7**	**-0.3**
ZAA0				IAmb	IAmb	16 44 19.0	
	comp=Z,3.2nm,1.2s						
ZALV	**Zalesovo Beam**	**50.45**	**352**	P	**P**	**16 44 18.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=181,slow=7.2,SNR=2.2						
COEN	**Coen**	**50.86**	**112**	P	**P**	**16 44 22.0**	**-0.8**
BRVK	**Borovoye**	**52.97**	**341**	P	**P**	**16 44 37.6**	**-0.2**
BRVK				IAmb	IAmb	16 44 39.0	
	comp=Z,1.4nm,0.8s						
ABKAR	**Akbulak array**	**54.05**	**332**	P	**P**	**16 44 46.0**	**+0.1**
ARCES	**ARCESS Array B**	**79.18**	**340**	P	**P**	**16 47 25.5**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=91,slow=7.2,SNR=3.5						

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*IDC **17** 16:41:29.0±0.9, 8°.27S×115°.99E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/32, mbtmp4.0/11, ML4.0/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/46, Error ellipse: s-maj=26.0km s-min=19.2km az=62.0*
*DJA **17** 16:41:31.7±0.3, 8°S±4°×11°6E±°, h14km±3km, M4.4/15, mB4.9/3, mb4.5/6, MLv4.3/15, Mw(mB)4.2/3*
*NEIC **17** 16:41:32.6±1.8, 8°.35S±0°.08×116°.05E±0°.06, h26km±5km, mb4.1/16, Error ellipse: s-maj=11.5km s-min=8.8km az=174.0*
ISC 17 16:41:33.6±0.6, 8°.38S±0°.05×116°.06E±0°.06, h35km, n50, σ1°29/51, mb3.9/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.89**	**114**	P	**Pn**	**16 41 49.6**	**0.0**
TWSI				S	**Sn**	**16 42 02.5**	**+1.3**
PLAI	**Plampang**	**1.75**	**105**	P	**Pn**	**16 42 03.4**	**+1.9**
JAGI	**Jajag, Banyuwa**	**1.89**	**267**	P	**Pn**	**16 42 02.9**	**-0.5**
JAGI	**Jajag, Banyuwa**	**1.89**	**267**		**Pn**	**16 42 03.1**	**-0.4**
KMMI	**Kalianget**	**2.46**	**302**	Pg	Pn	16 42 18.2	+7.0
BLJI	**Banyuglugur**	**2.52**	**284**	P	**Pn**	**16 42 11.2**	**-0.9**
WBSI	**Waikabubak, Su**	**3.52**	**111**	P	**Pn**	**16 42 27.1**	**+1.3**
GRJI	**Gresik**	**3.84**	**292**	P	**Pn**	**16 42 30.2**	**0.0**
PWJI	**Pagerwojo**	**4.23**	**274**	P	**Pn**	**16 42 35.2**	**-0.4**
WSI	**Waingapu**	**4.38**	**107**	P	**Pn**	**16 42 37.7**	**+0.1**
KAPI	**Kappang**	**4.96**	**48**	Pn	**Pn**	**16 42 45.5**	**-0.1**
	18nm,0.3s,baz=202,slow=3.5,SNR=43						
KAPI				Sn	**Sn**	**16 43 40.4**	**-1.4**
	7.2nm,0.3s,baz=75,slow=22,SNR=3.6						
KAPI				Lg	Lg	16 44 02.9	
	9.0nm,0.3s,baz=132,slow=17,SNR=6.0						
KAPI				LR	LR	16 45 00.5	
	comp=Z,219nm,21.8s,baz=223,slow=43						
KAPI	**Kappang**	**4.96**	**48**		**Pn**	**16 42 45.8**	**+0.1**
BKSI	**Bulukumba**	**5.05**	**53**	P	**Pn**	**16 42 47.1**	**+0.3**
	0.5nm2μm96nm,0.5s						
KBKI	**Kotabaru**	**5.05**	**1**	P	**Pn**	**16 42 46.1**	**-0.7**
	0.2nm666nm51nm,0.8s						
WOJI	**Wonogiri, Jawa**	**5.12**	**276**	P	**Pn**	**16 42 47.5**	**-0.3**
	0.5nm56nm,2.1s						
EDFI	**Ende, Flores**	**5.58**	**94**	P	**Pn**	**16 42 54.9**	**+0.7**
	0.1nm18nm,0.8s						
BNSI	**Bone**	**5.64**	**46**	P	**Pn**	**16 42 56.2**	**+1.3**
	0.4nm1μm71nm,0.6s						
SPSI	**Sidrap Palu**	**5.73**	**40**	P	**Pn**	**16 42 56.0**	**-0.2**
MMRI	**Maumere**	**6.11**	**93**	Pn	**Pn**	**16 43 00.8**	**-0.7**
BATI	**Baumata**	**7.72**	**104**	Pn	**Pn**	**16 43 25.3**	**+1.7**
	2.5nm,0.3s,baz=281,slow=5.2,SNR=1.7						
CISI	**Cisompet, Garu**	**8.21**	**275**	Pn	**Pn**	**16 43 29.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**13.42**	**137**	Pn	**Pn**	**16 44 41.5**	**-0.1**
	0.3nm,0.3s,baz=84,slow=24,SNR=12						
FITZ				Sn	**Sn**	**16 47 05.0**	**-4.6**
	0.3nm,0.3s,baz=180,slow=11,SNR=2.6						
PSA00	**Pilbara Seismi**	**13.62**	**165**	Pn	**Pn**	**16 44 42.3**	**-2.0**
PSA00	**Pilbara Seismi**	**13.62**	**165**	Pn	**Pn**	**16 44 41.8**	**-2.5**
GIRL	**Giralia**	**14.29**	**187**	Pn	**Pn**	**16 44 52.6**	**-0.9**
KKM	**Kota Kinabalu**	**14.33**	**1**	P	**P**	**16 45 00.5**	**-0.3**
KNRA	**Kununurra**	**14.38**	**121**	Pn	**Pn**	**16 44 54.9**	**+0.2**
MTN	**Manton Dam**	**15.46**	**108**	Pn	**Pn**	**16 45 08.0**	**-1.2**
MTN				IAmb	IAmb	16 45 27.4	
	comp=Z,15nm,1.4s						
MORW	**Morawa**	**20.58**	**180**	Pn	Pn	16 46 11.7	-0.2
MORW				IAmb	IAmb	16 46 15.7	
	comp=Z,9.2nm,1.1s						
WB0	**Warramunga Arr**	**21.05**	**124**	P	**P**	**16 46 15.4**	**+0.6**
WB0				IAmb	IAmb	16 46 25.9	
	comp=Z,4.5nm,0.9s						
WRA	**Warramunga Arr**	**21.10**	**125**	P	**P**	**16 46 16.0**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=300,slow=12,SNR=17						
WRA				S	**S**	**16 50 06.5**	**-1.8**
	comp=Z,0.7nm,1.0s,baz=296,slow=22,SNR=2.8						
WRAB	**Tennant Creek**	**21.10**	**125**	P	**P**	**16 46 15.8**	**+0.6**
WRAB				IAmb	IAmb	16 46 30.5	
	comp=Z,4.3nm,0.8s						
WB2	**Warramunga Arr**	**21.11**	**125**	P	**P**	**16 46 16.2**	**+0.9**
WB2				IAmb	IAmb	16 46 30.9	
	comp=Z,12nm,1.5s						
WR0	**Warramunga Arr**	**21.27**	**125**	P	**P**	**16 46 18.3**	**+1.2**
WR0				IAmb	IAmb	16 46 25.2	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**22.87**	**134**	P	**P**	**16 46 35.1**	**+0.9**
ASAR	**Alice Springs**	**22.87**	**134**	P	**P**	**16 46 35.2**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=309,slow=9.2,SNR=35						
NWAO	**Narrogin (SRO)**	**24.45**	**178**	P	**P**	**16 46 50.9**	**+1.7**
	comp=Z,4.9nm,0.6s,baz=117,slow=16,SNR=2.3						
NWAO				LR	LR	16 56 56.4	
	comp=Z,54nm,19.3s,baz=90,slow=38						
NWAO	**Narrogin (SRO)**	**24.45**	**178**	P	**P**	**16 46 49.0**	**-0.2**
NWAO				IAmb	IAmb	16 46 56.7	
	comp=Z,22nm,1.4s						
NWAO	**Narrogin (SRO)**	**24.45**	**178**	P	**P**	**16 46 48.9**	**-0.4**
NWAO				IAmb	IAmb	16 46 56.7	
	comp=Z,30nm,1.4s						
STKA	**Stephens Creek**	**33.31**	**138**	P	**P**	**16 48 07.1**	**-1.1**
SONM	**Songino Array**	**56.62**	**352**	P	**P**	**16 51 13.6**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=179,slow=10,SNR=3.7						
SONM	**Songino Array**	**56.62**	**352**	IAmb	IAmb	16 51 14.6	
	comp=Z,0.6nm,0.6s						
OXZ	**Oxford**	**59.80**	**136**	P	**P**	**16 51 36.3**	**+0.9**
MKAR	**Makanchi Array**	**62.62**	**335**	P	**P**	**16 51 53.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=147,slow=7.5,SNR=5.0						
MAW	**Mawson**	**68.85**	**199**	P	**P**	**16 52 36.5**	**+2.4**
	comp=Z,1.1nm,0.7s,baz=69,slow=5.3,SNR=6.1						
MAW	**Mawson**	**68.85**	**199**	P	**P**	**16 52 35.5**	**+1.3**
VNDA	**Vanda**	**73.06**	**171**	P	**P**	**16 53 01.4**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=296,slow=6.1,SNR=4.2						
VNDA	**Vanda**	**73.06**	**171**	P	**P**	**16 53 01.7**	**+2.1**
VNDA				IAmb	IAmb	16 53 24.4	
	comp=Z,1.2nm,0.9s						
BOSA	**Boshof**	**86.75**	**242**	P	**P**	**16 54 14.9**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=45,slow=2.1,SNR=5.7						
CPUP	**Villa Florida**	**144.91**	**190**	PKPbc	**PKPab**	**17 01 06.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=82,slow=3.4,SNR=3.3						

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*JMA **17** 16:46:18.5±0.1, 24°.16N×122°.84E, h58km±3km, M2.5*
*TAP **17** 16:46:19.0, 24°.11N×122°.84E, h42km, ML3.3, C*
ISC 17 16:46:19.1±1.2, 24°.05N±0°.03×122°.87E±0°.02, h34km±2km, n107, σ1°22/198, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.41**	**9**	P	**Pb**	**16 46 28.4**	**-0.1**
JYNG				S	**Sn**	**16 46 35.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.43**	**17**	P	**Pb**	**16 46 28.7**	**-0.1**
	baz=22						
YOJ				*e*S	**Sn**	**16 46 36.0**	**+0.3**
	baz=22						
YOJ	**Yonaguni jima**	**0.43**	**17**	P	**Pb**	**16 46 28.7**	**-0.1**
YOJ				*e*S	**Sb**	**16 46 35.8**	**+0.4**
IRIF	**Iriomote-Funau**	**0.83**	**70**	P	**Pn**	**16 46 34.1**	**-0.4**
IRIF				S	**Sn**	**16 46 46.2**	**+0.7**
HATJ	**Hateruma jima**	**0.85**	**89**	P	**Pn**	**16 46 35.4**	**+0.7**
HATJ				S	**Sb**	**16 46 47.5**	**+0.8**
ENAH	**Nanao**	**1.05**	**293**	P	**Pn**	**16 46 37.0**	**-0.4**
	baz=290						
ENAH				*e*S	**Sn**	**16 46 50.4**	**-0.5**
	baz=290						
JKRS	**Kuro-shima**	**1.05**	**79**	P	**Pn**	**16 46 37.8**	**+0.3**
JKRS				*e*S	**Sb**	**16 46 52.5**	**0.0**
TWC	**Suao**	**1.09**	**301**	P	**Pn**	**16 46 37.8**	**-0.3**
	baz=289						
TWC				*e*S	**Sn**	**16 46 50.8**	**-1.1**
	baz=289						
ENA	**Nanau**	**1.10**	**290**	*i* P	**Pn**	**16 46 37.7**	**-0.5**
	baz=288						
ENA				*e*S	**Sn**	**16 46 52.7**	**+0.5**
	baz=288						
HWA	**Hwalien**	**1.16**	**267**	P	**Pn**	**16 46 38.6**	**-0.4**
	baz=262						
HWA				*e*S	**Sn**	**16 46 53.6**	**-0.1**
	baz=262						
EGS		**1.17**	**313**	*e*P	**Pn**	**16 46 38.3**	**-0.8**
	baz=312						
EGS				*e*S	**Sn**	**16 46 51.6**	**-2.3**
	baz=312						
NACB	**Ninganchiao**	**1.18**	**276**	P	**Pn**	**16 46 38.5**	**-0.7**
	baz=259						
NACB				*e*S	**Sn**	**16 46 51.6**	**-2.5**
	baz=259						
JIJ	**Ishigaki jima**	**1.20**	**74**	P	**Pn**	**16 46 39.0**	**-0.5**
JIJ				S	**Sn**	**16 46 54.1**	**-0.6**
NTC	**Toucheng**	**1.25**	**310**	*e*P	**Pn**	**16 46 39.4**	**-0.8**
	baz=321						
NTC				*e*S	**Sn**	**16 46 54.4**	**-1.4**
	baz=321						
TWB1	**Santiao Chiao**	**1.25**	**320**	*e*S	**Sn**	**16 46 54.3**	**-1.6**
	baz=331						
ETLH	**Xiulin Townshi**	**1.28**	**277**	P	**Pn**	**16 46 40.2**	**-0.6**
	baz=273						
ETLH				*e*S	**Sn**	**16 46 55.6**	**-1.2**
	baz=273						
TWE	**Neicheng**	**1.29**	**302**	P	**Pn**	**16 46 41.2**	**+0.4**
	baz=309						
TWE				*e*S	**Sn**	**16 46 56.5**	**-0.4**
	baz=309						
TIPB	**Shuangxi**	**1.33**	**314**	P	**Pn**	**16 46 40.6**	**-0.8**
	baz=313						
TIPB				*e*S	**Sn**	**16 46 55.8**	**-2.0**
	baz=313						
ENTT	**Nioudou**	**1.33**	**297**	*i* P	**Pn**	**16 46 41.6**	**+0.2**
	baz=281						
ENTT				*e*S	**Sn**	**16 46 57.8**	**-0.2**
	baz=281						
ESL	**Shilin**	**1.34**	**260**	P	**Pn**	**16 46 40.7**	**-0.7**
	baz=248						
ESL				*e*S	**Sn**	**16 46 56.6**	**-1.4**
	baz=248						
NDT	**Datong Townshi**	**1.36**	**294**	P	**Pn**	**16 46 41.9**	**+0.1**
	baz=280						
NDT				*e*S	**Sn**	**16 46 58.0**	**-0.6**
	baz=280						
EGFH	**Guangfu**	**1.38**	**254**	*e*P	**Pn**	**16 46 41.3**	**-0.6**
	baz=250						
EGFH				*e*S	**Sn**	**16 46 58.6**	**-0.4**
	baz=250						
NNSH	**Datong**	**1.41**	**286**	P	**Pn**	**16 46 42.3**	**-0.3**
	baz=283						
NNSH				*e*S	**Sn**	**16 46 59.5**	**-0.6**
	baz=283						
NNSB	**Datong**	**1.41**	**286**	P	**Pn**	**16 46 42.2**	**-0.3**
	baz=283						
NNSB				*e*S	**Sn**	**16 46 59.2**	**-0.9**
	baz=283						
JISG	**Ishigakijimahi**	**1.42**	**67**	P	**Pn**	**16 46 41.8**	**-0.7**
JISG				S	**Sn**	**16 46 58.9**	**-1.1**
NNS	**Nan Shan**	**1.43**	**286**	P	**Pn**	**16 46 42.5**	**-0.3**
	baz=284						
NNS				*e*S	**Sn**	**16 46 59.6**	**-0.8**
	baz=284						
NWF	**Wu-fen Shan**	**1.43**	**316**	*e*P	**Pn**	**16 46 42.1**	**-0.6**
	baz=315						
NWF				*e*S	**Sn**	**16 46 58.9**	**-1.5**
	baz=315						
WFSB	**Wu-fen Shan**	**1.43**	**316**	*e*P	**Pn**	**16 46 42.2**	**-0.4**
	baz=315						
WFSB				*e*S	**Sn**	**16 46 58.6**	**-1.6**
	baz=315						
HGSD	**Ruisui**	**1.44**	**248**	P	**Pn**	**16 46 42.0**	**-0.8**
	baz=243						
HGSD				*e*S	**Sn**	**16 46 59.0**	**-1.5**
	baz=243						
NWLT	**Wulai**	**1.45**	**301**	P	**Pn**	**16 46 43.4**	**+0.4**
	baz=311						
NWLT				*e*S	**Sn**	**16 47 00.5**	**-0.3**
	baz=311						
WHF	**Hehuan Shan**	**1.47**	**274**	P	**Pn**	**16 46 43.1**	**-0.6**
	baz=270						
WHF				*e*S	**Sn**	**16 47 00.8**	**-1.2**
	baz=270						
YHNB	**Yeheng**	**1.50**	**295**	P	**Pn**	**16 46 43.8**	**+0.1**
	baz=279						
YHNB				*e*S	**Sn**	**16 47 01.9**	**-0.3**
	baz=279						
FUSS	**Fushou**	**1.50**	**278**	P	**Pn**	**16 46 43.7**	**-0.2**
	baz=274						
FUSS				*e*S	**Sn**	**16 47 01.7**	**-0.7**
	baz=274						
NSK	**Sanguang**	**1.52**	**295**	*i* P	**Pn**	**16 46 44.1**	**+0.1**
	baz=279						
NSK				S	**Sn**	**16 47 02.0**	**-0.6**
	baz=279						
EHY	**Hungye**	**1.52**	**250**	P	**Pn**	**16 46 43.6**	**-0.3**
	baz=245						
EHY				*e*S	**Sn**	**16 47 01.9**	**-0.6**
	baz=245						
CHGB	**Renai**	**1.55**	**271**	P	**Pn**	**16 46 44.3**	**-0.3**
	baz=267						
CHGB				*e*S	**Sn**	**16 47 02.4**	**-1.3**
	baz=267						
TWT	**Tachien**	**1.56**	**278**	P	**Pn**	**16 46 45.0**	**+0.2**
	baz=262						
TWT				*e*S	**Sn**	**16 47 03.5**	**-0.4**
	baz=262						
TATO	**Taipei**	**1.57**	**307**	*e*P	**Pn**	**16 46 45.3**	**+0.7**
	baz=317						
TATO				*e*S	**Sn**	**16 47 02.0**	**-1.6**
	baz=317						
TDCB	**Techi**	**1.58**	**278**	P	**Pn**	**16 46 44.9**	**0.0**
	baz=262						
TDCB				*e*S	**Sn**	**16 47 03.3**	**-1.0**
	baz=262						
YULB	**Yu-li**	**1.58**	**246**	P	**Pn**	**16 46 44.3**	**-0.6**
	baz=233						
YULB				*e*S	**Sn**	**16 47 03.2**	**-0.9**
	baz=233						
EYUL	**Yuli**	**1.59**	**244**	P	**Pn**	**16 46 44.4**	**-0.4**
	baz=231						
EYUL				*e*S	**Sn**	**16 47 03.7**	**-0.4**
	baz=231						
TWF1	**Yuli**	**1.60**	**245**	P	**Pn**	**16 46 44.9**	**-0.1**
	baz=232						
TWF1				*e*S	**Sn**	**16 47 03.9**	**-0.7**
	baz=232						
VWDT	**VWDT**	**1.61**	**260**	P	**Pn**	**16 46 45.4**	**+0.2**
	baz=256						
VWDT				*e*S	**Sn**	**16 47 04.4**	**-0.4**
	baz=256						
YM01	**YM01**	**1.62**	**313**	*e*P	**Pn**	**16 46 45.0**	**-0.3**
	baz=312						
YM01				*e*S	**Sn**	**16 47 03.7**	**-1.3**
	baz=312						
YM11	**YM11**	**1.63**	**314**	*e*S	**Sn**	**16 47 04.0**	**-1.3**
	baz=312						
YM10	**YM10**	**1.63**	**313**	*e*P	**Pn**	**16 46 45.1**	**-0.4**
	baz=312						
YM10				*e*S	**Sn**	**16 47 05.6**	**+0.3**
	baz=312						
YM05	**YM05**	**1.63**	**313**	*e*P	**Pn**	**16 46 46.2**	**+0.6**
	baz=312						
YM05				*e*S	**Sn**	**16 47 03.4**	**-2.0**
	baz=312						
YM04	**YM04**	**1.64**	**312**	P	**Pn**	**16 46 45.0**	**-0.6**
	baz=311						
YM04				*e*S	**Sn**	**16 47 04.3**	**-1.3**
	baz=311						
YM03	**YM03**	**1.66**	**313**	*e*S	**Sn**	**16 47 05.6**	**-0.5**
	baz=312						
CHKT	**Chengkung**	**1.67**	**236**	S	**Sn**	**16 47 04.1**	**-2.2**
	baz=223						
FULB	**Fuli**	**1.68**	**240**	*e*P	**Pn**	**16 46 45.2**	**-0.9**
	baz=228						
FULB				*e*S	**Sn**	**16 47 05.2**	**-1.2**
	baz=228						
TWS1	**Kuangyinshan**	**1.69**	**309**	*e*S	**Sn**	**16 47 06.1**	**-0.6**
	baz=307						
JTJ	**Tarama**	**1.77**	**70**	P	**Pn**	**16 46 47.2**	**-0.1**
SSLB	**Suanglung**	**1.78**	**262**	P	**Pn**	**16 46 47.6**	**+0.1**
	baz=258						
SSLB				*e*S	**Sn**	**16 47 08.3**	**-0.6**
	baz=258						
WHP	**Taichung City**	**1.78**	**278**	*e*P	**Pn**	**16 46 48.3**	**+0.8**
	baz=264						
WHP				*e*S	**Sn**	**16 47 08.8**	**-0.1**
	baz=264						
NCUH	**Zhongli**	**1.79**	**301**	*e*S	**Sn**	**16 47 09.2**	**0.0**
	baz=299						
EDH	**Donghe**	**1.79**	**234**	P	**Pn**	**16 46 46.7**	**-1.0**
	baz=223						
EDH				S	**Sn**	**16 47 07.0**	**-2.3**
	baz=223						
NSTT	**Nanjuang**	**1.81**	**289**	*e*P	**Pn**	**16 46 48.6**	**+0.8**
	baz=287						
NSTT				*e*S	**Sn**	**16 47 10.1**	**+0.5**
	baz=287						
SMLT	**Sun Moon Lake**	**1.81**	**265**	P	**Pn**	**16 46 48.4**	**+0.4**
	baz=261						
SMLT				*e*S	**Sn**	**16 47 11.2**	**+1.3**
	baz=261						
TYC	**Yuchr**	**1.85**	**266**	P	**Pn**	**16 46 48.9**	**+0.5**
	baz=263						
LDUT	**Ludao**	**1.88**	**224**	*e*P	**Pn**	**16 46 47.9**	**-0.9**
	baz=220						
LDUT				*e*S	**Sn**	**16 47 08.8**	**-2.6**
	baz=220						
WHYT	**Xinyi Township**	**1.88**	**260**	*e*P	**Pn**	**16 46 49.8**	**+0.8**
	baz=246						
WHYT				*e*S	**Sn**	**16 47 11.7**	**+0.1**
	baz=246						
ELDTW	**Lidau**	**1.91**	**244**	*e*P	**Pn**	**16 46 48.9**	**-0.5**
	baz=240						
ELDTW				*e*S	**Sn**	**16 47 10.0**	**-2.2**
	baz=240						
TWQ1	**Liyutan**	**1.94**	**279**	*e*P	**Pn**	**16 46 50.9**	**+1.1**
	baz=275						
TWQ1				*e*S	**Sn**	**16 47 14.3**	**+1.3**
	baz=275						
LONT	**Longtian**	**1.96**	**235**	*e*P	**Pn**	**16 46 49.8**	**-0.2**
	baz=224						
LONT

WDLH	**Douliu**	**2.17 261**	P	**Pn**	**16 46 54.5 +1.7**
	baz=257				
WDLH			*e*S	**Sn**	**16 47 21.3 +2.8**
	baz=257				
TPUB	**Ta-pu**	**2.19 251**	P	**Pn**	**16 46 54.5 +1.3**
	baz=247				
TPUB			S	**Sn**	**16 47 20.4 +1.4**
	baz=247				
CHN4	**Tsaushan**	**2.20 252**	P	**Pn**	**16 46 55.1 +1.8**
	baz=248				
CHN4			*e*S	**Sn**	**16 47 22.4 +3.0**
	baz=248				
WTP	**Ta-pu**	**2.22 249**	P	**Pn**	**16 46 55.0 +1.4**
	baz=237				
WTP			*e*S	**Sn**	**16 47 22.2 +2.3**
	baz=237				
JIRB	**Irabujima**	**2.23 69**	*e*S	**Sn**	**16 47 20.3 +0.1**
ECL	**Taimali**	**2.28 231**	*e*P	**Pn**	**16 46 53.6 -0.8**
	baz=237				
ECL			*e*S	**Sn**	**16 47 18.9 -2.4**
	baz=237				
SLGT	**Liugui**	**2.30 243**	*e*P	**Pn**	**16 46 56.1 +1.5**
	baz=232				
SLGT			*e*S	**Sn**	**16 47 22.3 +0.5**
	baz=232				
WTK	**Tuku**	**2.30 262**	*e*P	**Pn**	**16 46 56.2 +1.5**
	baz=257				
WTK			*e*S	**Sn**	**16 47 24.2 +2.4**
	baz=257				
RLNB	**Erlin**	**2.31 267**	*e*P	**Pn**	**16 46 55.5 +0.8**
	baz=273				
RLNB			*e*S	**Sn**	**16 47 23.6 +1.7**
	baz=273				
CHY	**Chiayi**	**2.31 257**	*e*P	**Pn**	**16 46 56.0 +1.2**
	baz=252				
CHY			*e*S	**Sn**	**16 47 23.5 +1.5**
	baz=252				
SGST	**Jiashian**	**2.31 246**	*e*P	**Pn**	**16 46 55.9 +1.0**
	baz=234				
SGST			*e*S	**Sn**	**16 47 22.6 +0.5**
	baz=234				
CHN1	**Nanshi**	**2.32 249**	P	**Pn**	**16 46 56.8 +1.9**
	baz=245				
CHN1			*e*S	**Sn**	**16 47 24.3 +2.1**
	baz=245				
TWK	**Hsinying**	**2.32 251**	*e*P	**Pn**	**16 46 56.8 +1.7**
	baz=246				
TWK			*e*S	**Sn**	**16 47 24.8 +2.4**
	baz=246				
SNST	**Tainan City**	**2.33 250**	*e*P	**Pn**	**16 46 56.6 +1.6**
	baz=245				
SNST			*e*S	**Sn**	**16 47 24.8 +2.3**
	baz=245				
JMJ	**Miyako jima 2**	**2.33 70**	*e*P	**Pn**	**16 46 55.5 +0.4**
	baz=70				
JMJ			*e*S	**Sn**	**16 47 22.7 +0.1**
	baz=70				
LAY	**Lan-yu**	**2.34 212**	*e*P	**Pn**	**16 46 56.3 +1.0**
	baz=210				
LAY			*e*S	**Sn**	**16 47 19.5 -3.3**
	baz=210				
WLGB	**Puzi**	**2.42 257**	*e*S	**Sn**	**16 47 26.6 +1.7**
	baz=253				
SSD	**Sandimen**	**2.43 238**	*e*P	**Pn**	**16 46 56.8 +0.4**
	baz=231				
SSD			*e*S	**Sn**	**16 47 24.8 -0.3**
	baz=231				
WSF	**Szhu**	**2.46 261**	*e*P	**Pn**	**16 46 57.8 +0.9**
	baz=257				
WSF			*e*S	**Sn**	**16 47 27.9 +2.1**
	baz=257				
SCST	**Cishan**	**2.47 243**	*e*P	**Pn**	**16 47 00.2 +3.1**
	baz=230				
SCST			*e*S	**Sn**	**16 47 29.5 +3.4**
	baz=230				
ICHU	**Yijhu**	**2.47 255**	*e*P	**Pn**	**16 46 58.2 +1.2**
	baz=251				
EAST	**Anshuo**	**2.49 229**	*e*P	**Pn**	**16 46 57.0 -0.4**
	baz=233				
EAST			*e*S	**Sn**	**16 47 24.8 -1.8**
	baz=233				
MASBT	**Mashibuluo**	**2.51 236**	*e*P	**Pn**	**16 46 57.7 +0.2**
	baz=228				
MASBT			*e*S	**Sn**	**16 47 26.8 -0.1**
	baz=228				
CHN8	**Yiju**	**2.54 255**	*e*S	**Sn**	**16 47 29.7 +2.0**
	baz=250				
TWM1	**Shoushan**	**2.56 242**	*e*P	**Pn**	**16 47 01.1 +2.8**
	baz=239				
SLIU	**Shizi**	**2.64 227**	*e*P	**Pn**	**16 47 00.1 +0.8**
	baz=223				
SLIU			*e*S	**Sn**	**16 47 28.6 -1.5**
	baz=223				
SCZT	**Fangliau**	**2.66 232**	*e*P	**Pn**	**16 47 00.9 +1.3**
	baz=223				
SCZT			*e*S	**Sn**	**16 47 30.1 -0.6**
	baz=223				
HEN	**Hengchun**	**2.83 225**	*e*S	**Sn**	**16 47 35.1 +0.3**
	baz=221				

*ISN **17** 16:48:05.3±1.8, 32°.72N×47°.61E, h15km, ML2.4*
*TEH **17** 16:48:06.4, 32°.73N×47°.59E, h10km, ML2.8*
ISC 17 16:48:05.1±2.2, 32°.7N±0°.1×47°.59E±0°.08, h10km, n7, σ0§66/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.26**	**277**	*e*Pg	**Pb**	**16 48 12.1**	**+0.2**
DHL1				*e*		16 48 18.0	
IKFM	**Kafar-mosalman**	**0.90**	**14**	*e*Pg	**Pg**	**16 48 21.5**	**-0.9**
IKFM				*e*		16 48 42.7	
IDOB	**Doab**	**1.24**	**23**	*e*Pg	**Pg**	**16 48 29.3**	**+0.4**
IDOB				*e*		16 48 30.8	
IDOB				*e*Sg	**Sn**	**16 48 46.1**	**+0.5**
BMDN	**Meydan**	**1.45**	**45**	*e*Pg	**Pg**	**16 48 33.4**	**+0.3**
BMDN				*e*		16 48 36.8	
IBDR	**Badra**	**1.47**	**289**	*e*Pg	**Pn**	**16 48 31.0**	**-0.6**
	baz=105						
IBDR				*e*Sg	**Sg**	**16 48 53.0**	**+0.7**
IBDR				AML	AML	16 48 59.3	
	comp=E,61nm,0.4s						
IBDR				AML	AML	16 49 01.5	
	comp=N,63nm,0.3s						
IKOM	**Komasi**	**1.52**	**358**	*e*Pg	**Pg**	**16 48 34.5**	**+0.2**
IKOM				*e*		16 48 35.2	
HSAM	**Samen**	**1.77**	**28**	*e*Pg	**Pg**	**16 48 38.6**	**-0.6**
HSAM				*e*		16 48 39.8	

*NEIC **17** 16:57:52.6±1.2, 4°.78S±0°.07×152°.4E±0°.1, h84km±7km, mb4.4/16, Error ellipse: s-maj=15.4km s-min=10.5km az=83.0*
*IDC **17** 16:57:54.9±0.9, 4°.54S×151°.86E, h76km±8km, mb3.7/4, mb1 3.8/6, mb1mx3.4/40, mbtmp4.0/6, MS3.8/3, Ms1 3.8/3, ms1mx2.8/43, Error ellipse: s-maj=58.4km s-min=14.7km az=124.0*
ISC 17 16:57:50.4±0.7, 4°.90S±0°.06×152°.50E±0°.09, h55km, n30, σ1§81/30, mb4.3/10, MS4.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.76**	**321**	P	**Pn**	**16 58 07.4**	**+2.3**
	256nm,0.3s,baz=130,slow=0.5,SNR=250						
KRVT				S	**Sn**	**16 58 17.6**	**+1.7**
	433nm,0.3s,baz=335,slow=22,SNR=21						
RABL	**Rabaul**	**0.78**	**334**	Pn	**Pn**	**16 58 08.1**	**+2.6**
RABL				Sn	**Sn**	**16 58 18.7**	**+2.2**
PMG	**Port Moresby**	**6.94**	**230**	P	**Pn**	**16 59 30.6**	**+1.0**
	0.5nm,0.3s,baz=38,slow=17,SNR=1.9						
PMG				S	**Sn**	**17 00 51.4**	**+4.2**
	2.8nm,0.3s,baz=327,slow=20,SNR=2.7						
PATS	**Pohnpei**	**13.02**	**26**	Pn	**Pn**	**17 00 54.4**	**+1.6**
CTA	**Charters Tower**	**16.28**	**201**	P	**P**	**17 01 41.9**	**+4.1**
	0.1nm,0.3s,baz=60,slow=17,SNR=2.2						
SANVU	**Saraoutou**	**17.85**	**127**	P	**Pn**	**17 01 56.4**	**+1.4**
SANVU				IAmb	IAmb	17 01 59.7	
	comp=Z,19nm,1.0s						
DZM	**Mont Dzumac**	**21.76**	**143**	P	**P**	**17 02 37.1**	**-0.6**
DZM				IAmb	IAmb	17 02 37.6	
	comp=Z,26nm,1.5s						
MTN	**Manton Dam**	**22.53**	**248**	P	**P**	**17 02 45.4**	**-0.6**
MTN				IAmb	IAmb	17 02 48.4	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**23.01**	**228**	P	**P**	**17 02 50.8**	**-0.2**
WR0	**Warramunga Arr**	**23.02**	**228**	P	**P**	**17 02 50.8**	**-0.2**
WRAB	**Tennant Creek**	**23.14**	**228**	P	**P**	**17 02 52.1**	**-0.1**
WRAB				IAmb	IAmb	17 02 52.6	
	comp=Z,7.7nm,0.6s						
WB2	**Warramunga Arr**	**23.15**	**228**	P	**P**	**17 02 52.2**	**-0.1**
WB2				IAmb	IAmb	17 02 53.0	
	comp=Z,9.4nm,0.4s						
WRA	**Warramunga Arr**	**23.16**	**228**	P	**P**	**17 02 52.5**	**0.0**
	comp=Z,5.6nm,0.4s,baz=52,slow=10,SNR=103						
WRA	**Warramunga Arr**	**23.16**	**228**	P	**P**	**17 02 51.1**	**-1.3**
KNRA	**Kununurra**	**25.66**	**244**	P	**P**	**17 03 15.0**	**-0.4**
KNRA				IAmb	IAmb	17 03 24.5	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**25.88**	**222**	P	**P**	**17 03 17.6**	**+0.2**
ASAR	**Alice Springs**	**25.88**	**222**	P	**P**	**17 03 17.8**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=54,slow=9.0,SNR=40						
STKA	**Stephens Creek**	**28.72**	**200**	LR	LR	17 14 14.5	
	comp=Z,65nm,18.1s,baz=27,slow=34						
FITZ	**Fitzroy Crossi**	**29.35**	**241**	P	**P**	**17 03 47.5**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=360,slow=4.9,SNR=27						
FORT	**Forrest**	**34.53**	**219**	P	**P**	**17 04 33.6**	**-0.1**
MYLDM	**Lahad Datu**	**35.41**	**286**	P	**P**	**17 04 40.2**	**-1.3**
MLZ	**Mavora Lakes**	**42.55**	**164**	P	**P**	**17 05 41.6**	**+0.7**
WHZ	**Wether Hill Ro**	**42.99**	**164**	P	**P**	**17 05 44.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**43.11**	**225**	P	**P**	**17 05 42.6**	**-2.9**
CMAR	**Chiang Mai Arr**	**57.65**	**295**	P	**P**	**17 07 32.9**	**-2.7**
KDAK	**Kodiak Island**	**76.40**	**27**	LR	LR	17 35 33.6	
	comp=Z,120nm,21.0s,baz=238,slow=30						
TIXI	**Tiksi**	**77.95**	**353**	P	**P**	**17 09 40.0**	**-2.3**
TIXI				IAmb	IAmb	17 09 41.0	
	comp=Z,7.0nm,0.9s						
MKAR	**Makanchi Array**	**80.21**	**319**	P	**P**	**17 09 54.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=92,slow=8.3,SNR=4.2						
YBH	**Yreka Blue Hor**	**89.34**	**48**	LR	LR	17 47 30.2	
	comp=Z,69nm,18.4s,baz=256,slow=33						
TORD	**Torodi Ar. Bea**	**150.06**	**288**	PKPbc	**PKPbc**	**17 17 34.6**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=78,slow=2.1,SNR=7.4						

WEL 17 17:12:02.9, 43°.S±2°.×17°2E±°, h6km±2km, M2.1/8, ML2.1/8, MLv2.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=161.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.17**	**278**	P	Pg	17 12 08.0	+1.7
OXZ				S	Sg	17 12 11.1	+2.4
AMCZ	**Amberley**	**0.33**	**58**	P	Pb	17 12 10.7	-0.4
MQZ	**McQueen's Vall**	**0.45**	**142**	P	Pb	17 12 13.4	+0.2
MHCZ	**Mount Hutt**	**0.55**	**250**	P	Pb	17 12 15.6	+0.7
MHCZ				S	Sb	17 12 23.8	+0.8
LTZ	**Lake Taylor**	**0.57**	**360**	P	Pb	17 12 14.9	-0.3
LTZ				S	Sb	17 12 22.6	-1.0
WACZ	**Wakanui South**	**0.67**	**208**	P	Pn	17 12 18.6	-0.3
WACZ				S	Sn	17 12 29.1	-0.6
OKCZ	**Okains Bay**	**0.68**	**123**	P	Pb	17 12 18.0	+0.9
OKCZ				S	Sb	17 12 28.2	+1.4
AKCZ	**Akaroa Harbour**	**0.70**	**139**	P	Pn	17 12 18.4	-0.9
AKCZ				S	Sb	17 12 28.7	+1.4
INZ	**Inchbonnie**	**0.87**	**316**	P	Pb	17 12 21.0	+0.6
RPZ	**Rata Peaks**	**0.96**	**247**	P	Pn	17 12 23.0	+0.2
ARCZ	**Arundel**	**0.99**	**233**	P	Pn	17 12 23.9	+0.6
KHZ	**Kahutara**	**1.32**	**45**	P	Pn	17 12 27.5	-0.2
KHZ				S	Sb	17 12 44.7	-0.4
LBZ	**Lake Benmore**	**1.83**	**235**	P	Pg	17 12 40.2	+2.2
ODZ	**Otahua Downs**	**2.06**	**214**	P	Pg	17 12 43.2	+0.9

*IDC **17** 17:17:04.3±1.3, 1°.85S×139°.15E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/38, mbtmp3.6/4, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/33, Error ellipse: s-maj=34.0km s-min=23.5km az=64.0*
*DJA **17** 17:17:09.0±1.7, 3°.S±7°.×13°.9E±°, h29km±17km, M3.8/5, mb4.3/1, MLv3.5/5*
ISC 17 17:17:08.5±0.9, 1°.9S±0°.1×139°.17E±0°.06, h29km, n11, σ0§63/12, mb3.6/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.19**	**124**	P	**Pb**	**17 17 30.8**	**+0.3**
GENI				S	**Sn**	**17 17 44.1**	**-0.4**
JAY	**Jayapura**	**1.64**	**111**	Pn	**Pn**	**17 17 36.0**	**+0.6**
	15nm,0.3s,baz=249,slow=8.4,SNR=67						
JAY				Sn	**Sn**	**17 17 55.0**	**-0.6**
	7.0nm,0.3s,baz=288,slow=20,SNR=7.1						
JAY	**Jayapura**	**1.64**	**111**	P	**Pn**	**17 17 36.1**	**+0.6**
JAY				S	**Sb**	**17 17 58.2**	**-0.2**
WAMI	**Wamena**	**2.00**	**193**	P	Pn	17 17 31.5	-8.9
SRPI	**Serui, Papua**	**2.93**	**271**	P	**Pn**	**17 17 52.9**	**-0.3**
SRPI				S	**Sn**	**17 18 28.6**	**+1.1**
PMG	**Port Moresby**	**10.88**	**133**	LR	LR	17 24 58.8	
	comp=Z,79nm,20.3s,baz=292,slow=43						
WRA	**Warramunga Arr**	**18.52**	**194**	P	**P**	**17 21 22.6**	**-0.2**
	0.2nm,0.3s,baz=20,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.21**	**193**	P	**P**	**17 22 02.6**	**-0.2**
	1.3nm,0.7s,baz=27,slow=10,SNR=17						
USRK	**Ussuriysk Ar.**	**46.37**	**353**	LR	LR	17 45 03.6	
	comp=Z,38nm,18.2s,baz=225,slow=36						
SONM	**Songino Array**	**57.22**	**334**	P	**P**	**17 26 53.6**	**+0.3**
	0.3nm,0.5s,baz=152,slow=9.4,SNR=1.6						
MKAR	**Makanchi Array**	**69.46**	**322**	P	**P**	**17 28 13.5**	**-0.8**
	0.6nm,0.8s,baz=114,slow=7.0,SNR=3.2						

IDC 17 17:42:52.8±4.3, 58°.02S×141°.92W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/25, mbtmp4.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.9/26, Error ellipse: s-maj=567.9km s-min=106.5km az=170.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.04**	**203**	LR	LR	17 56 39.5	
	comp=Z,51nm,19.8s,baz=68,slow=31						
PPT	**Papeete**	**40.79**	**349**	LR	LR	18 03 14.1	
	comp=Z,31nm,21.2s,baz=172,slow=30						
H03S2	**Juan Fernandez**	**47.91**	**88**	T	T	18 43 10.6	
	baz=220,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**47.91**	**88**	T	T	18 43 16.7	
	baz=220,slow=74,SNR=6.1						
H03S3	**Juan Fernandez**	**47.92**	**88**	T	T	18 43 17.7	
	baz=220,slow=74,SNR=7.4						
H03N3	**Juan Fernandez**	**48.20**	**88**	T	T	18 43 32.2	
H03N2	**Juan Fernandez**	**48.21**	**88**	T	T	18 43 37.1	
	baz=39,slow=74,SNR=11						
H03N1	**Juan Fernandez**	**48.22**	**88**	T	T	18 43 33.1	
	baz=223,slow=74,SNR=11						
ASAR	**Alice Springs**	**67.20**	**262**	P	P	17 53 48.9	+0.2
	1.6nm,0.8s,baz=144,slow=6.4,SNR=22						
H01W1	**Cape Leeuwin H**	**67.86**	**239**	T	T	19 09 22.2	
	baz=144,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**67.86**	**239**	T	T	19 09 22.2	
	baz=144,slow=76,SNR=17						
H01W3	**Cape Leeuwin H**	**67.88**	**239**	T	T	19 09 22.2	
	baz=144,slow=76,SNR=15						
WRA	**Warramunga Arr**	**70.02**	**264**	P	P	17 54 06.0	-0.2
	1.5nm,0.9s,baz=146,slow=5.7,SNR=12						
MKAR	**Makanchi Array**	**151.31**	**266**	PKPbc	PKPbc	18 02 47.0	-0.2
	0.8nm,0.8s,baz=108,slow=4.0,SNR=4.0						

*ATH **17** 17:57:54.4, 41°.81N×20°.99E, h9km±3km, ML2.3/5, Error ellipse: s-maj=4.1km s-min=1.8km az=177.0*
*SKO **17** 17:57:55.2, 41°.74N×20°.95E, h15km*
*TIR **17** 17:57:56.2, 41°.69N×20°.89E, h19km±1km, Md2.7, Ml2.7*
*THE **17** 17:57:56.6, 41°.72N×20°.95E, h0km±2km, ML2.5/2, Error ellipse: s-maj=2.6km s-min=0.5km az=31.0*
*BEO **17** 17:57:57.8±0.2, 41°.73N×21°.01E, h8km±3km, ML2.3/9*
ISC 17 17:57:56.6±1.0, 41°.71N±0°.02×20°.94E±0°.02, h8km±9km, n55, σ1§16/80, 5C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.38**	**266**	P	**Pg**	**17 58 03.9**	**0.0**
PHP				S	**Sg**	**17 58 09.9**	**+1.0**
PHP	**Peshkopia**	**0.38**	**266**	P	**Pg**	**17 58 03.9**	**0.0**
	baz=270						
PHP				S	**Sg**	**17 58 09.1**	**+0.2**
	baz=270						
PHP				AMP			
	comp=N,6.7nm,0.2s,baz=270						
SKO	**Skopje**	**0.45**	**55**	*e*Pg	**Pg**	**17 58 05.4**	**0.0**
SKO				*e*Sg	**Sg**	**17 58 11.4**	**0.0**
SKO	**Skopje**	**0.45**	**55**	⇑*i*Pg	**Pg**	**17 58 05.4**	**0.0**
SKO				*i* Sg	**Sg**	**17 58 11.7**	**+0.3**
SKO				*e*Lg	Lg	17 58 11.9	
	comp=E,24nm,0.3s						
OHR	**Ohrid**	**0.61**	**190**	⇓*i*Pg	**Pg**	**17 58 09.0**	**+0.6**
OHR				*i* Sg	**Sb**	**17 58 19.1**	**+0.8**
OHR				*e*Lg	Lg	17 58 19.3	
	comp=E,282nm,0.4s						
PUK	**Puka**	**0.85**	**293**	P	**Pg**	**17 58 12.2**	**-0.7**
	baz=296						
PUK				S	**Sb**	**17 58 24.8**	**-0.5**
	baz=296						
PUK				AMP			
	comp=N,0.7nm,0.2s,baz=296						
TIR	**Tirane**	**0.89**	**246**	*e*Pg	**Pn**	**17 58 15.6**	**+0.2**
TIR				*e*Sg	**Sn**	**17 58 27.9**	**-0.6**
TIR	**Tirane**	**0.89**	**246**	P	**Pg**	**17 58 11.8**	**-1.8**
TIR				AML	AML	17 58 31.4	
	comp=E,255μm,0.4s						
TIR				AML	AML	17 58 33.5	
	comp=N,351μm,0.3s						
TIR	**Tirane**	**0.89**	**246**	⇓P	**Pn**	**17 58 15.6**	**+0.2**
TIR				⇓S	**Sb**	**17 58 26.0**	**-0.2**
TIR	**Tirane**	**0.89**	**246**	P	**Pg**	**17 58 13.1**	**-0.5**
	baz=247						
TIR				S	**Sg**	**17 58 25.2**	**0.0**
	baz=247						
TIR				AMP			
	comp=N,0.1nm,0.7s,baz=247						
FNA	**Florina**	**0.98**	**160**	P	**Pg**	**17 58 15.2**	**-0.2**
FNA				S	**Sn**	**17 58 30.1**	**-0.9**
	comp=N,435nm,0.3s						
FNA	**Florina**	**0.98**	**160**	P	**Pg**	**17 58 15.2**	**-0.2**
FNA				S	**Sb**	**17 58 28.8**	**-0.3**
FNA				AML	AML	17 58 32.3	
	comp=N,880μm,0.2s						
FNA				AML	AML	17 58 34.0	
	comp=E,928μm,0.3s						
FNA	**Florina**	**0.98**	**160**	P	**Pg**	**17 58 15.3**	**-0.2**
	baz=157						
FNA				S	**Sb**	**17 58 29.1**	**0.0**
	baz=157						
BARS	**Barje**	**1.28**	**30**	*e*Pg	**Pg**	**17 58 21.0**	**-0.1**
BARS				*e*Sg	**Sb**	**17 58 37.3**	**-0.3**
VAY	**Valandovo**	**1.28**	**107**	*e*Pg	**Pn**	**17 58 19.8**	**-1.1**
VAY				*e*Sg	**Sb**	**17 58 37.4**	**-0.3**
VAY	**Valandovo**	**1.28**	**107**	*i* Pg	**Pn**	**17 58 19.9**	**-1.0**
VAY				*i* Sg	**Sn**	**17 58 38.2**	**-0.1**
VAY				*e*Lg	Lg	17 58 41.2	
	comp=N,57nm,0.6s						
NEST	**Nestorio**	**1.30**	**176**	P	**Pn**	**17 58 21.0**	**-0.2**
NEST				S	**Sn**	**17 58 40.5**	**+1.7**
	comp=N,100nm,0.5s						
NEST	**Nestorio**	**1.30**	**176**	P	**Pn**	**17 58 20.7**	**-0.5**
NEST				AML	AML	17 58 45.9	
	comp=E,244μm,0.4s						
NEST				AML	AML	17 58 50.9	
	comp=N,159μm,0.6s						
BOSS	**Bosilegrad**	**1.39**	**55**	*e*Pg	**Pn**	**17 58 21.9**	**-0.4**
BOSS				*e*Sg	**Sg**	**17 58 40.7**	**-0.5**
PDG	**Podgorica**	**1.45**	**300**	*e*Pg	**Pg**	**17 58 24.6**	**+0.3**
PDG				*e*Sg	**Sg**	**17 58 44.7**	**+1.6**
PDG	**Podgorica**	**1.45**	**300**	⇑S	**Sg**	**17 58 44.8**	**+1.8**
SELS	**Selova**	**1.51**	**5**	*e*Pg	**Pn**	**17 58 23.7**	**-0.3**
SELS				*e*Sg	**Sg**	**17 58 45.1**	**-0.1**
PENT	**Pentalofos**	**1.52**	**174**	P	**Pg**	**17 58 25.6**	**-0.2**
KZN	**Kozani**	**1.54**	**156**	P	**Pb**	**17 58 24.9**	**-0.5**
KZN				S	**Sg**	**17 58 46.9**	**+0.9**
KZN				AML	AML	17 58 53.8	
	comp=E,151μm,0.5s						
KZN				AML	AML	17 58 55.8	
	comp=N,122μm,0.4s						
KNT	**Kendrikon**	**1.57**	**110**	P	**Pb**	**17 58 25.2**	**-0.7**
KNT	**Kendrikon**	**1.57**	**110**	P	**Pn**	**17 58 24.0**	**-0.8**
KNT				S	**Sn**	**17 58 44.9**	**-0.5**
KNT				AML	AML	17 58 46.3	
	comp=E,59μm,0.7s						
KNT				AML	AML	17 58 50.1	
	comp=N,89μm,0.4s						
LSK	**Leskovik**	**1.58**	**190**	P	**Pb**	**17 58 26.1**	**-0.1**
	baz=189						
LSK				S	**Sg**	**17 58 47.3**	**-0.1**
	baz=189						
LSK				AMP			
	comp=N,0.6nm,0.6s,baz=189						
SJES	**Sjenica**	**1.71**	**335**	*e*Pn	**Pb**	**17 58 27.4**	**-0.9**
SJES				*e*Sg	**Sg**	**17 58 52.5**	**+1.1**
KPRO	**Kipourio**	**1.79**	**170**	P	**Pn**	**17 58 28.4**	**+0.6**
HORT	**Hortiatis**	**1.97**	**124**	P	**Pn**	**17 58 30.9**	**+0.5**
LIT	**Litokhoron**	**1.99**	**143**	P	**Pn**	**17 58 31.5**	**+0.9**
ZAPS	**Zavoj**	**2.00**	**38**	*e*Pn	**Pb**	**17 58 31.4**	**+0.6**
BOVS	**Bovan**	**2.00**	**16**	*e*Pg	**Pb**	**17 58 33.7**	**+0.4**
BOVS				*e*Sg	**Sg**	**17 59 00.1**	**-0.8**
SOH	**Sokhos**	**2.02**	**115**	P	**Pn**	**17 58 31.6**	**+0.5**
SRS	**Serrai**	**2.08**	**106**	P	**Pn**	**17 58 30.7**	**-1.2**
GRUS	**Gruza**	**2.18**	**356**	*e*Pn	**Pn**	**17 58 33.5**	**+0.3**
GRUS				*e*Sg	**Sg**	**17 59 05.9**	**-0.8**
NVR	**Nevrokopi**	**2.22**	**98**	P	**Pn**	**17 58 33.8**	**-0.1**
IGT	**Igoumenitsa**	**2.23**	**192**	P	**Pn**	**17 58 34.8**	**+1.0**
DBRK	**Dubrovnik**	**2.29**	**296**	*e*Pn	**Pb**	**17 58 37.3**	**-0.8**
BLKB	**Belogradchik**	**2.30**	**33**	⇓S	**Sg**	**17 59 15.1**	**+4.7**
ZAGS	**Zajecar**	**2.30**	**24**	*e*Pg	**Pb**	**17 58 38.7**	**+0.3**
PLG	**Polygyros**	**2.32**	**124**	P	**Pn**	**17 58 35.4**	**+0.2**
BBLS	**Lazići**	**2.43**	**333**	*e*Pn	**Pb**	**17 58 38.6**	**-2.0**
DIVS	**Divibare**	**2.48**	**344**	*e*Pn	**Pn**	**17 58 37.8**	**+0.3**
SVIS	**Svilajnac**	**2.56**	**4**	*e*Pn	**Pn**	**17 58 39.3**	**+0.9**
KAVA	**Kavala**	**2.78**	**104**	P	**Pn**	**17 58 41.8**	**+0.3**
MDVR	**Moldovita**	**3.12**	**10**	⇑P	**Pb**	**17 58 49.8**	**-2.6**
MDVR	**Moldovita**	**3.12**	**10**	⇓S	**Sg**	**17 59 34.0**	**-2.7**
LSTV	**Lastovo**	**3.19**	**291**	*e*Pn	**Pb**	**17 58 50.7**	**-2.8**
ANX	**Ano Chora**	**3.21**	**166**	P	**Pn**	**17 58 48.9**	**+1.6**
RICI	**Ricice**	**3.33**	**304**	*e*Pn	**Pn**	**17 58 51.5**	**+2.5**
HERR	**Herculane**	**3.34**	**18**	⇑P	**Pb**	**17 58 55.1**	**-1.0**
HERR	**Herculane**	**3.34**	**18**	⇑S	**Sb**	**17 59 40.0**	**+3.0**
RDO	**Rodhopi**	**3.50**	**98**	P	**Pn**	**17 58 51.9**	**+0.5**
BZS	**Buzias**	**3.93**	**7**	⇓P	**Pn**	**17 58 59.1**	**+1.8**

*NEIC **17** 17:59:00.1±0.6, 12°.2S±0°.1×166°.7E±0°.2, h185km±8km, mb4.1/12, Error ellipse: s-maj=26.3km s-min=15.2km az=84.0*
*IDC **17** 17:59:03.5±7.3, 12°.21S×166°.62E, h215km±79km, mb3.4/9, mb1 3.5/10, mb1mx3.3/47, mbtmp3.9/10, M

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VNDA Vanda          65.26 181  P     P     18 09 22.1 +0.7
CMAR Chiang Mai Arr 73.50 294  P     P     18 10 12.5 -0.4
     comp=Z,1.2nm,0.9s,baz=138,slow=4.6,SNR=4.1
SEY  Seymchan       75.82 353  P     P     18 10 25.2 -0.1
     comp=Z,0.9nm,0.7s,baz=23,slow=22,SNR=4.2
QSPA South Pole Qui 77.71 180  P     P     18 10 36.8 +0.7
QSPA                           IAmb  IAmb  18 10 37.0
     comp=Z,1.3nm,0.8s
SONM Songino Array  80.25 324  P     P     18 10 50.1  0.0
     comp=Z,0.2nm,0.3s,baz=142,slow=7.3,SNR=2.4
ILAR Eielson Array  84.39  18  P     P     18 11 09.8 -1.2
     comp=Z,0.8nm,0.7s,baz=221,slow=6.2,SNR=5.9
ILAR Eielson Array  84.39  18  P     P     18 11 10.7 -0.3
MKAR Makanchi Array 95.10 317  P     P     18 12 01.2 -0.8
     comp=Z,0.9nm,0.7s,baz=92,slow=6.6,SNR=4.2
MKAR Makanchi Array 95.10 317  P     P     18 12 01.7 -0.2
ARCES ARCESS Array B 117.78 346 PKP  PKPdf 18 17 23.1 -0.5
     comp=Z,4.2nm,1.1s,baz=14,slow=1.5,SNR=3.6
ARCES ARCESS Array B 117.78 346 PKP  PKPdf 18 17 23.4 -0.1
ESDC Sonseca Array  151.52 345 PKPab PKPab 18 18 41.7 +0.3
     comp=Z,0.6nm,0.6s,baz=13,slow=4.6,SNR=2.2
```

IDC 17 18:05:59.5±6.9, 36°.82N×82°.80E, h0km, mb3.1/1, mb1 3.3/4, mb1mx3.1/64, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=91.0km s-min=48.1km az=35.0, Southern Xinjiang

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Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m  s   ISC
MKAR Makanchi Array   9.98 358  Pn    Pn          18 08 25.2 +1.1
     0.3nm,0.3s,baz=175,slow=12,SNR=8.7
MKAR                            Sn    Sn          18 10 15.9 -0.8
     0.1nm,0.3s,baz=183,slow=23,SNR=1.6
ZALV Zalesovo Beam   17.19   4  P     Pn          18 09 59.4 -1.5
     0.1nm,0.3s,baz=188,slow=14,SNR=1.7
BVAR Borovoye Array  18.39 336  P     P           18 10 16.3 +0.4
     0.2nm,0.3s,baz=153,slow=13,SNR=3.5
SONM Songino Array   20.55  50  P     P           18 10 39.7  0.0
     1.0nm,0.9s,baz=237,slow=12,SNR=4.9
```

*REY **17** 18:09:52.9, 64°.62N×17°.39W, h6km*
*IDC **17** 18:09:53.3±0.5, 64°.61N×17°.62W, h0km, mb4.0/20, mb1 4.0/24, mb1mx3.9/54, mbtmp3.9/24, ML2.5/3, MS3.3/15, Ms1 3.4/15, ms1mx3.2/40, Error ellipse: s-maj=17.0km s-min=8.9km az=12.0*
*BGR **17** 18:09:55.7±0.0, 64°.38N×17°.51W, h10km, mb4.6*
*NEIC **17** 18:09:55.0±2.1, 64°.49N±0°.09×17°.9W±0°.2, h10km±1km, mb4.6/52, Error ellipse: s-maj=15.1km s-min=11.4km az=197.0*

ISC 17 18:09:54.3±0.8, 64°.61N±0°.02×17°.46W±0°.02, h5km±4km, n202, σ1§75/206, mb4.4/72, MS3.7/22, Iceland

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Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m  s   ISC
IVON Vonarskard       0.14 295  P     Pg          18 09 56.3 -0.9
     baz=289
IDJK Dyngjujokull     0.15 138  P     Pg          18 09 55.8 -1.5
     baz=150
IDYN Dyngjuhals       0.18  13  P     Pg          18 09 56.4 -1.5
     baz=3.3
IGRF Grimsfjall       0.22 158  P     Pg          18 09 57.3 -1.4
     baz=166
IHUS Husbondi         0.33 195  P     Pg          18 09 59.4 -1.3
     baz=200
IBJK Bruarjokull      0.34 115  P     Pg          18 09 58.7 -2.2
     baz=118
IKVE Kverkfjoll       0.34  79  P     Pg          18 09 59.0 -2.1
     baz=79
IVOT Vottur           0.36 161  P     Pg          18 09 59.6 -1.7
     baz=166
ISKR Skrokkalda       0.40 263  P     Pg          18 10 00.7 -1.4
     baz=263
IJOK Jokulheimar      0.45 228  P     Pg          18 10 01.4 -1.5
     baz=230
IJOK                            S     Sg          18 10 08.5 -0.3
     baz=230
IKRE Kreppuhraun      0.49  69  P     Pg          18 10 01.2 -2.6
     baz=69
IASK Askja            0.56  38  P     Pg          18 10 02.6 -2.5
     baz=36
IIEY Innrieyrar       0.59 209  P     Pg          18 10 03.9 -1.9
     baz=212
IIEY                            S     Sg          18 10 12.8 -0.6
     baz=212
IMKO Mokollar         0.60  52  P     Pg          18 10 03.3 -2.6
     baz=51
IKSK Karasker         0.62 136  P     Pg          18 10 03.2 -3.1
     baz=139
IKSK                            S     Sg          18 10 12.0 -2.4
     baz=139
IKAL Kalfafell        0.68 189  P     Pg          18 10 05.1 -2.1
     baz=191
IKAL                            S     Sg          18 10 15.6 -0.4
     baz=191
ISVA Svartarkot       0.73   7  P     Pg          18 10 05.6 -2.7
     baz=4.5
IVAT Vatnsfell        0.77 237  P     Pg          18 10 06.9 -2.0
     baz=238
IVAT                            S     Sg          18 10 19.0 +0.2
     baz=238
IVSH V-Sauoahnukur    0.77  74  P     Pg          18 10 05.9 -3.1
     baz=74
IADA Aoalbol          0.90  62  P     Pg          18 10 07.9 -3.7
     baz=62
IHVE Hveravellir      0.94 287  P     Pg          18 10 09.4 -2.9
     baz=286
IMEL Melhnausar       1.02  19  P     Pg          18 10 10.3 -3.5
     baz=18
ISNB Snabyli          1.02 211  P     Pg          18 10 10.9 -2.9
     baz=212
ISLY Slysaalda        1.07 223  P     Pg          18 10 12.0 -2.8
     baz=224
IRJU Rjupnafell       1.13 209  P     Pg          18 10 13.0 -3.0
     baz=210
IFED Fedgar           1.14 240  P     Pg          18 10 13.1 -3.0
     baz=240
IMJO Mjoaskard        1.18 236  P     Pg          18 10 13.9 -3.0
     baz=236
IHVO Lagu-Hvolar      1.25 210  P     Pg          18 10 15.1 -3.1
     baz=211
IGOD Go??abunga       1.26 221  P     Pg          18 10 15.4 -3.0
     baz=222
BORG Borgarnes        1.67 276  Pg    Pn          18 10 21.7 -2.4
     64nm,0.3s,baz=83,slow=8.0,SNR=127
BORG                            Lg    Lg          18 10 43.8
     26nm,0.3s,baz=38,slow=19,SNR=13
BORG                            LR    LR          18 10 46.6
     comp=Z,327nm,18.8s,baz=120,slow=33
BORG Borgarnes        1.67 276  Pn    Pn          18 10 21.5 -2.7
SCO  Scoresbysund     6.14 346          Pn        18 11 25.5  0.0
JMIC Jan Mayen        7.24  24  LR    LR          18 13 59.3
     comp=Z,326nm,19.9s,baz=246,slow=34
EKA  Eskdalemuir Ar   11.71 136  Pn    Pn          18 12 40.4 -1.4
     baz=323,slow=13,SNR=21
ESK  Eskdalemuir      11.71 136  Pn    Pn          18 12 41.9  0.0
NOA  NORSAR Array B   13.52  92  Pn    Pn          18 13 03.7 -2.8
     0.0nm,0.3s,baz=299,slow=13,SNR=3.2
NOA                             LR    LR          18 18 22.2
     comp=Z,56nm,21.5s,baz=315,slow=38
HFS  Hagfors          15.03  93  Pn    Pn          18 13 26.2 -0.8
     0.1nm,0.3s,baz=318,slow=5.8,SNR=1.5
HFS                             LR    LR          18 19 54.3
     comp=Z,69nm,19.0s,baz=297,slow=40
ARCES ARCESS Array B  17.14  54  LR    LR          18 19 17.6
     comp=Z,137nm,20.1s,baz=182,slow=33
BSEG Bad Segeberg     17.60 114  eP    P           18 14 02.1 +1.1
     83nm,1.8s,baz=325,slow=11
BUG  Bochum--Univer   18.41 124  eP    Pn          18 14 09.1 -0.9
     121nm,2.5s,baz=325,slow=11
NRDL Niedersach Rie   18.62 118  eP    P           18 14 11.7 -0.6
     101nm,2.6s,baz=325,slow=11
AHRW Bad Neuenahr-A   19.09 126  eP    P           18 14 17.4 -0.1
     363nm,3.2s,baz=325,slow=11
ASSE Asse, Remlinge   19.12 117  eP    P           18 14 17.8 +0.1
     155nm,2.4s,baz=325,slow=11
CLZ  Clausthal        19.23 118  eP    P           18 14 18.9 -0.2
     28nm,1.5s,baz=325,slow=11
GTTG Gottingen        19.32 120  eP    Pn          18 14 21.4 +0.5
     29nm,1.2s,baz=325,slow=11
WLF  Walferdange      19.52 129  eP    Pn          18 14 27.0 +3.6
     45nm,1.7s,baz=325,slow=11
FINES FINESS Array B  19.70  79  P     P           18 14 22.6 -1.4
     0.1nm,0.3s,baz=312,slow=8.7,SNR=2.7
FIA1 FINESS Array S   19.70  79  P     P           18 14 24.4 +0.3
FIA1                            IAmb  IAmb        18 14 40.9
     comp=Z,54nm,1.8s
TNS  Taunus Mts       19.84 124  eP    P           18 14 26.5 +0.7
     comp=Z,67nm,2.2s,baz=325,slow=11
UBBA Unterbreizbach   19.92 121  eP    P           18 14 26.5 +0.1
     comp=Z,41nm,1.6s,baz=325,slow=11
RUE  Ruedersdorf      20.07 112  eP    P           18 14 28.2 +0.1
NEUB Neuenburg        20.27 118  eP    P           18 14 30.5 +0.2
     comp=Z,50nm,1.6s,baz=325,slow=11
MOX  Moxa             20.66 119  eP    P           18 14 34.9 +0.3
     comp=Z,31nm,1.5s,baz=325,slow=11
CLL  Collm            20.67 116  i P   P           18 14 34.8 +0.2
     comp=Z,8.0nm,1.0s
CLL                            i sP   Pn          18 14 38.7 +1.8
     comp=Z,36nm,1.5s
CLL                            eS     Sn          18 18 30.0 -0.1
CLL  Collm            20.67 116  eP    P           18 14 34.5 -0.2
     comp=Z,36nm,1.5s,baz=325,slow=11
CLL  Collm            20.67 116  P     P           18 14 35.6 +1.0
CLL                            IAmb  IAmb        18 14 39.6
     comp=Z,25nm,1.3s
PBUR Paburge          20.98  96  eP    P           18 14 38.8 +0.8
PLN  Plauen           21.00 118  eP    P           18 14 38.2  0.0
     comp=Z,65nm,1.8s,baz=325,slow=11
WERD Werda            21.08 118  eP    P           18 14 42.0 +2.8
     comp=Z,12nm,1.1s,baz=325,slow=11
ECH  Echery           21.11 129  P     P           18 14 40.8 +1.3
ECH                            IAmb  IAmb        18 14 44.2
     comp=Z,40nm,1.5s
FBE  Freiberg         21.11 116  eP    P           18 14 40.3 +0.9
     comp=Z,134nm,2.5s,baz=325,slow=11
GUNZ Gunzen           21.16 118  eP    P           18 14 39.4 -0.7
     comp=Z,44nm,1.8s,baz=325,slow=11
TANN Tannenbergstha   21.17 118  eP    P           18 14 39.6 -0.6
     comp=Z,52nm,1.9s,baz=325,slow=11
WERN Wernitzgruen     21.24 118  eP    P           18 14 41.5 +0.6
     comp=Z,27nm,1.4s,baz=325,slow=11
GRF  Grafenberg Arr   21.29 121  eP    P           18 14 41.7 +0.3
     comp=Z,63nm,1.9s,baz=325,slow=11
NKC  Novy Kostel      21.31 118  eP    P           18 14 46.2 +4.6
NKC                            AMS    AMS         18 24 40.0
     comp=Z,200nm,14.9s
BRG  Berggiesshubel   21.38 115  eP    P           18 14 42.4 +0.1
     comp=Z,9.9nm,1.1s
BRG                            i                  18 14 45.7
     comp=Z,28nm,1.4s
BRG                            S      Sn          18 18 47.0 -0.1
     comp=N,195nm,10.5s
     comp=E,206nm,13.4s
     comp=Z,275nm,11.2s
BRG  Berggiesshubel   21.38 115  eP    P           18 14 42.0 -0.3
     comp=Z,27nm,1.4s,baz=325,slow=11
MANZ Manzenberg       21.38 119  eP    P           18 14 41.5 -1.0
     comp=Z,12nm,1.4s,baz=325,slow=11
BFO  Black Forest     21.40 127  eP    P           18 14 42.1 -0.6
     comp=Z,24nm,1.2s,baz=325,slow=11
BFO  Black Forest     21.40 127  P     P           18 14 43.5 +0.8
ROTZ Rotzenmuhle      21.60 119  eP    P           18 14 45.4 +0.7
     comp=Z,68nm,2.1s,baz=325,slow=11
PABE Paberze          22.19  95  eP    P           18 14 52.0 +1.0
PRA  Prague           22.20 116  eS    Sn          18 19 04.9 -2.0
PRA                            AMS    AMS         18 25 40.0
     comp=Z,100nm,18.1s
PRU  Pruhonice        22.31 116  eP    P           18 14 56.5 +4.2
PRU                            eS     Sn          18 19 04.6 -4.9
PRU                            AMS    AMS         18 25 40.0
     comp=Z,200nm,13.2s
WET  Wettzell         22.36 119  eP    P           18 14 55.2 +2.3
     comp=Z,71nm,2.4s,baz=325,slow=11
CHVC Chvalec          22.43 113  eP    P           18 14 55.5 +1.8
CHVC                           AMS    AMS         18 26 10.0
     comp=Z,200nm,10.2s
GOPC GO Pecny, Ondr   22.47 115  eP    P           18 14 58.3 +4.3
GOPC                           eS     S           18 19 05.3 +4.5
GOPC                           AMS    AMS         18 25 40.0
     comp=Z,200nm,12.2s
UPC  Upice            22.48 113  eP    P           18 14 56.7 +2.6
UPC                            eS     S           18 19 03.7 +2.7
UPC                            AMS    AMS         18 26 30.0
     comp=Z,200nm,14.2s
OSTC Ostas            22.52 113  eP    P           18 14 56.9 +2.3
OSTC                           eS     S           18 19 02.1 +0.3
OSTC                           AMS    AMS         18 26 20.0
     comp=Z,200nm,12.4s
UBR  Ueberruh         22.58 125  eP    P           18 14 56.5 +1.2
     comp=Z,40nm,1.3s,baz=325,slow=11
KHC  Kasperske Hory   22.63 118  eP    P           18 14 56.2 +0.4
KHC                            ex     x           18 15 04.5
KHC                            eS     Sn          18 19 10.9 -6.5
KHC                            AMS    AMS         18 27 20.0
     comp=Z,300nm,6.9s
KHC  Kasperske Hory   22.63 118  P     P           18 14 56.3 +0.4
DPC  Dobruska-Polom   22.72 113  eP    P           18 14 58.6 +1.8
DPC                            eS     S           18 19 09.7 +4.1
DPC                            AMS    AMS         18 26 20.0
     comp=Z,200nm,15.1s
DAVA Damuels          22.84 126  i sP  P           18 15 03.9 +5.7
     comp=Z,14nm,1.4s
GEC2 GERESS Array S   22.91 119  eP    P           18 14 59.4 +0.5
     comp=Z,43nm,2.0s,baz=325,slow=11
GEC2 GERESS Array S   22.91 119  P     P           18 14 59.9 +1.1
GEC2                           IAmb   IAmb        18 15 18.4
     comp=Z,21nm,1.6s
GERES GERESS Array B  22.91 119  P     P           18 14 59.6 +0.8
     comp=Z,2.6nm,1.0s,baz=327,slow=9.5,SNR=14
GERES                          LR     LR          18 24 23.3
     comp=Z,62nm,18.4s,baz=350,slow=38
RETA Reutte           22.97 125  i P   P           18 15 00.1 +0.7
     comp=Z,8.2nm,1.1s
IZAR Zarasai          23.01  92  eP    P           18 15 00.3 +0.6
ISAL Salakas          23.07  92  eP    P           18 15 01.2 +0.8
KRLC Kraliky          23.12 113  eP    P           18 15 01.7 +0.7
KRLC                           epP    sP          18 15 07.3 +3.6
KRLC                           eS     S           18 19 11.7 -0.9
KRLC                           AMS    AMS         18 26 40.0
     comp=Z,200nm,11.9s
MOTA Moosalm          23.22 124  i pP  P           18 15 04.2 +2.1
     comp=Z,11nm,1.2s
TREC Trest            23.23 116  AMS   AMS         18 27 10.0
     comp=Z,200nm,10.3s
IIGN Ignalina         23.26  93  eP    P           18 15 02.9 +0.6
DAVOX Davos/Dischmat  23.27 127  P     P           18 15 03.8 +1.1
     comp=Z,2.7nm,0.8s,baz=310,slow=14,SNR=4.6
DAVOX                          LR     LR          18 23 30.2
     comp=Z,47nm,21.3s,baz=270,slow=35
SQTA Sankt Quirin     23.36 124  i P   P           18 15 04.2 +0.7
     comp=Z,12nm,1.2s
FETA Feichten         23.36 125  i pP  P           18 15 05.7 +2.2
     comp=Z,5.8nm,1.3s
WATA Walderalm        23.39 124  i pP  P           18 15 06.6 +2.8
     comp=Z,7.8nm,1.1s
WTTA Wattenberg       23.48 124  i sP  P           18 15 09.2 +4.5
     comp=Z,19nm,1.7s
RJOB Jochberg         23.50 121  eP    P           18 15 04.2 -0.5
     comp=Z,169nm,3.1s,baz=325,slow=11
IDID Didziasalis      23.51  92  eP    P           18 15 05.8 +1.1
VRAC Vranov           23.66 114  P     P           18 15 07.1 +0.9
     comp=Z,3.6nm,0.8s,baz=314,slow=14,SNR=6.7
VRAC                           LR     LR          18 26 05.1
     comp=Z,76nm,18.3s,baz=338,slow=41
VRAC Vranov           23.66 114  eP    P           18 15 05.8 -0.5
MORC Moravsky Berou   23.66 112  eP    P           18 15 06.0 -0.4
MORC Moravsky Berou   23.66 112  P     P           18 15 07.2 +0.8
MORC                           IAmb   IAmb        18 15 19.8
     comp=Z,33nm,1.8s
KRUC Moravsky         23.78 115  eP    P           18 15 06.8 -0.6
NACGM Naroch          23.80  93  e     P           18 15 08.0 +0.4
ABTA Abfaltersbach    24.23 123  i pP  P           18 15 15.6 +3.8
     comp=Z,4.8nm,1.1s
KBA  Koelnbreinsper   24.25 122  esP   P           18 15 17.0 +4.8
     comp=Z,4.3nm,1.0s
CONA Conrad Observa   24.49 117  i P   P           18 15 15.1 +0.9
     comp=Z,5.9nm,0.9s
CTI  Castel Tesino    24.52 125  P     P           18 15 15.7 +1.1
ZOU  Zoufplan         24.56 123  P     P           18 15 15.8 +0.8
ZOU                            IAmb   IAmb        18 15 46.9
     comp=Z,36nm,1.7s
CIMO Cimolais         24.58 124  P     P           18 15 15.8 +0.9
SMOL Smolenice        24.62 114  eP    P           18 15 16.3 +1.0
MODS Modra-Piesok     24.68 114  eP    P           18 15 15.5 -0.3
STAL STALIGIAL        24.72 123  P     P           18 15 17.4 +1.3
STAL                           IAmb   IAmb        18 15 46.5
     comp=Z,34nm,1.8s
LANS Liptovska Anna   24.93 111  eP    P           18 15 20.6 +2.5
OBKA Obir             25.18 121  i P   P           18 15 21.0 +0.6
     comp=Z,5.6nm,1.2s
VYHS Vyhne            25.20 112  eP    P           18 15 20.9 +0.4
SOKA Soboth           25.21 120  i P   P           18 15 22.0 +1.3
     comp=Z,4.5nm,1.0s
KLMR Klimovskoe       25.60  72  eP    P           18 15 24.3 +0.3
     comp=Z,21nm,1.4s
KLMR Klimovskoe       25.60  72  e     P           18 15 24.3 +0.3
KLMR                           AMP    AMP         18 15 28.1
     comp=Z,21nm,1.4s
KWP  Kalwaria Pacla   25.88 106  P     P           18 15 27.4 +0.7
CRVS Cervenica-Dubn   25.93 109  eP    P           18 15 31.3 +4.1
LSH  Leshukonskoye    25.98  60  eP    P           18 15 29.1 +1.7
     comp=Z,17nm,1.1s
PSZ  Piszkesteto      26.08 112  P     P           18 15 28.9 +0.3
ESDC Sonseca Array    26.20 156  P     P           18 15 29.8 +0.1
     comp=Z,1.9nm,0.9s,baz=346,slow=8.7,SNR=9.7
ESDC                           LR     LR          18 26 05.5
     comp=Z,61nm,18.1s,baz=315,slow=37
ESDC Sonseca Array    26.20 156  P     P           18 15 28.3 -1.4
KOLS Kolonicke sedl   26.24 108  eP    P           18 15 29.8 -0.1
OSSC Osservatorio P   26.59 129  P     P           18 15 33.2  0.0
OSSC                           IAmb   IAmb        18 15 49.3
     comp=Z,22nm,1.2s
AKASG Malin Array Be  27.82  98  P     P           18 15 43.8 -0.2
     comp=Z,1.2nm,0.7s,baz=321,slow=10,SNR=2.3
ARU  Arti             36.09  66  P     P           18 16 54.3 -2.2
ARU                            IAmb   IAmb        18 17 03.3
     comp=Z,12nm,1.3s
NRIK Noril'sk         36.49  35  LR    LR          18 34 02.1
     comp=Z,38nm,18.6s,baz=19,slow=40
BRTR Keskin Array B   38.45 105  P     P           18 17 17.4 +0.5
     comp=Z,2.3nm,0.8s,baz=305,slow=4.4,SNR=6.7
BRTR Keskin Array B   38.45 105  P     P           18 17 17.6 +0.8
KBZ  Khabaz           39.10  92  LR    LR          18 33 55.3
     comp=Z,34nm,18.3s,baz=344,slow=37
AKTO Aktyubinsk       40.29  73  P     P           18 17 31.9  0.0
     comp=Z,1.5nm,0.5s,baz=327,slow=10,SNR=6.7
TOLK Toolik Lake Re   42.80 336  P     P           18 17 53.8 +1.4
TOLK                           IAmb   IAmb        18 17 55.8
     comp=Z,19nm,1.2s
BVAR Borovoye Array   43.21  62  P     P           18 17 56.7 +0.9
     comp=Z,2.3nm,0.8s,baz=268,slow=4.0,SNR=10
ILAR Eielson Array    45.74 332  P     P           18 18 14.7 -1.1
     comp=Z,2.5nm,1.0s,baz=23,slow=6.1,SNR=9.5
ILAR                           PcP    PcP         18 19 53.8 +0.4
     comp=Z,1.3nm,1.0s,baz=9.5,slow=2.4,SNR=5.1
ILAR                           LR     LR          18 39 50.0
     comp=Z,76nm,18.9s,baz=136,slow=39
ILAR Eielson Array    45.74 332  P     P           18 18 16.1 +0.3
MDM  Murphy Dome      45.84 333  P     P           18 18 17.7 +1.0
MDM                            IAmb   IAmb        18 18 21.0
     comp=Z,8.2nm,1.2s
ZALV Zalesovo Beam    47.65  51  P     P           18 18 30.9  0.0
     comp=Z,0.9nm,0.7s,baz=357,slow=5.9,SNR=4.4
ZALV                           LR     LR          18 38 37.7
     comp=Z,32nm,19.5s,baz=260,slow=36
ZALV Zalesovo Beam    47.65  51  P     P           18 18 32.5 +1.6
KURK Kurchatov        48.13  58  P     P           18 18 35.0 +0.3
KURK                           IAmb   IAmb        18 18 40.1
     comp=Z,7.5nm,1.2s
KURBB Kurchatov Arra  48.17  58  P     P           18 18 34.7 -0.3
     comp=Z,2.6nm,0.9s,baz=325,slow=7.4,SNR=12
RAGM Ragged Mountai   49.18 328  P     P           18 18 42.8 +0.1
W50A Signal Mountai   49.39 268  P     P           18 18 42.5 -2.1
W50A                           IAmb   IAmb        18 20 18.1
     comp=Z,9.5nm,0.9s
GEYT Alibeck          50.41  84  P     P           18 18 53.4 +1.0
     comp=Z,1.0nm,0.5s,baz=1.4,slow=5.8,SNR=2.0
GEYT Alibeck          50.41  84  IAmb  IAmb        18 19 03.0
     comp=Z,8.5nm,1.9s
S39A Bolivar          50.74 276  P     P           18 18 54.4 -0.3
S39A                           IAmb   IAmb        18 18 55.7
     comp=Z,4.9nm,0.9s
KSU1 Kansas State U   50.96 280  P     P           18 18 54.5 -1.9
KKAR Karatay Array    51.28  70  P     P           18 18 59.0 +0.2
KKAR                           IAmb   IAmb        18 19 05.4
     comp=Z,14nm,1.6s
BOZ  Bozeman (W)      51.65 297  P     P           18 19 03.5 +1.8
BOZ                            IAmb   IAmb        18 19 04.7
     comp=Z,5.3nm,1.0s
YMP  Mirror Lake Pl   51.79 295  P     P           18 19 02.4 -0.6
MKAR Makanchi Array   52.74  58  P     P           18 19 09.3 -0.3
     comp=Z,0.8nm,0.8s,baz=314,slow=5.2,SNR=4.2
MKAR Makanchi Array   52.74  58  P     P           18 19 10.0 +0.4
TORD Torodi Ar. Bea   53.09 156  P     P           18 19 11.8 -0.7
     comp=Z,3.0nm,0.9s,baz=341,slow=8.0,SNR=11
TORD                           LR     LR          18 41 41.7
     comp=Z,16nm,18.8s,baz=240,slow=36
BW06 Boulder Array    53.21 293  P     P           18 19 13.5  0.0
PD31 Pinedale Array   53.21 293  P     P           18 19 13.4  0.0
PDAR Pinedale Array   53.21 293  P     P           18 19 13.5  0.0
     comp=Z,1.7nm,0.4s,baz=58,slow=6.4,SNR=26
KDAK Kodiak Island    53.25 332  LR    LR          18 44 38.0
     comp=Z,129nm,18.7s,baz=34,slow=39
N23A Red Feather La   53.34 289  P     P           18 19 15.3 +0.9
N23A                           IAmb   IAmb        18 19 19.5
     comp=Z,12nm,1.3s
BTK  Batken           53.96  72  P     P           18 19 18.9 +0.2
BMO  Blue Mountains   54.42 300  P     P           18 19 22.4 +0.3
HWUT Hardware Ranch   54.99 294  P     P           18 19 26.5 +0.1
HWUT                           IAmb   IAmb        18 19 30.9
     comp=Z,5.9nm,0.9s
SRU  San Rafael Swe   56.70 292  P     P           18 19 39.9 +1.2
PV14 Lion Creek, Pa   56.73 290  P     P           18 19 39.3 +0.3
PV14                           IAmb   IAmb        18 19 40.4
     comp=Z,5.4nm,0.8s
PV02 Paradox Valley   56.76 290  P     P           18 19 39.8 +0.7
PV02                           IAmb   IAmb        18 19 42.2
     comp=Z,5.4nm,0.8s
PV03 Paradox Valley   56.76 290  P     P           18 19 39.7 +0.6
TMUT Trail Mountain   56.82 292  P     P           18 19 40.3 +0.6
PV13 Radium Mtn., P   56.83 290  P     P           18 19 40.4 +0.8
ELK  Elko             57.16 296  P     P           18 19 43.6 +1.7
WMQ  Urumqi           57.25  56  eP    P           18 19 46.1 +3.8
MSU  Marysvale        57.88 293  P     P           18 19 49.1 +2.1
MVU  Marysvale        57.90 293  P     P           18 19 48.3 +1.1
MTPU Mount Pierson    58.29 292  P     P           18 19 51.7 +1.6
PSUT Pine Spring      58.52 294  P     P           18 19 50.2 -1.3
DBIC Dimbokro         58.53 165  P     P           18 19 50.6 -0.8
     comp=Z,7.1nm,1.0s,baz=51,slow=2.6,SNR=3.7
TIC  Toumodi          58.54 165  eP    P           18 19 50.7 -0.9
KIC  Kosan Boka       58.85 165  eP    P           18 19 52.7 -1.0
     comp=Z,33nm,1.2s
LIC  Lamto            58.95 166  eP    P           18 19 53.6 -0.8
     comp=Z,14nm,0.8s
R11A Troy Canyon, C   59.36 295  P     P           18 19 58.3 +1.0
R11A                           IAmb   IAmb        18 20 09.5
     comp=Z,9.4nm,1.8s
SONM Songino Array    59.67  40  P     P           18 19 59.2 -0.1
     comp=Z,0.7nm,0.8s,baz=320,slow=4.4,SNR=4.5
SONM Songino Array    59.67  40  P     P           18 20 00.3 +1.1
U15A North Rim        59.72 291  P     P           18 19 59.9  0.0
U15A                           IAmb   IAmb        18 20 02.0
     comp=Z,5.1nm,1.1s
KVN  Kaiserville      59.72 298  P     P           18 20 00.3 +0.5
KVN                            IAmb   IAmb        18 20 02.4
     comp=Z,3.1nm,0.9s
NVAR Mina Array Bea   60.34 297  P     P           18 20 02.4 -1.7
     comp=Z,0.8nm,0.8s,baz=55,slow=4.2,SNR=5.3
NVAR Mina Array Bea   60.34 297  P     P           18 20 04.9 +0.8
TXAR Lajitas Array    62.31 280  P     P           18 20 17.5 +0.1
     comp=Z,0.8nm,0.8s,baz=23,slow=10.0,SNR=6.9
TXAR Lajitas Array    62.31 280  P     P           18 20 17.2 -0.2
GTA  Gaotai           65.32  49  eP    P           18 20 39.3 +2.2
GTA                            pP     sP          18 20 43.6 +3.5
GTA                            sP     pP          18 20 46.9 +7.6
GTA                            pmax   pmax
     comp=Z,2.0nm,1.4s
SDV  Santo Domingo    66.81 239  P     P           18 20 47.2 +0.2
HHC  Hu-ho-hao-te     67.54  40  eP    P           18 20 50.9 -0.4
HHC                            pmax   pmax
     comp=Z,13nm,1.2s
HHC                            pmax   pmax
     comp=Z,88nm,5.7s
LZH  Lanzhou          69.65  48  eP    P           18 21 05.4 +0.8
LZH                            pP     sP          18 21 08.6 +1.0
LZH                            sP     pP          18 21 10.3 +3.5
LZH                            ePP    PP          18 23 37.5 -0.5
LZH                            pmax   pmax
     comp=Z,21nm,1.3s
LZH                            pmax   pmax
     comp=Z,79nm,5.9s
LZH                            LR     LR
     comp=N,160nm,15.3s
LZH                            LR     LR
     comp=E,160nm,15.2s
```

LZH LR LR
comp=Z,280nm,18.4s
ROSC El Rosal 71.91 241 LR LR 18 52 26.1
comp=Z,50nm,18.1s,baz=91,slow=36
KSRS Korea Array 74.69 28 P **P 18 21 34.8 +0.3**
comp=Z,0.6nm,0.8s,baz=358,slow=6.7,SNR=1.7
NJ2 Nanjing 77.77 37 *e*P **P 18 21 51.3 -0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CM31 Chiang Mai Arr 84.15 59 P **P 18 22 27.1 +0.8**
CMAR Chiang Mai Arr 84.15 59 P **P 18 22 27.0 +0.7**
ASAR Alice Springs 135.00 38 PKP **PKiKP 18 29 14.9 -0.6**
comp=Z,0.4nm,0.9s,baz=5.7,slow=2.8,SNR=2.5

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*IDC **17** 18:13:00.5±1.8, 40°.60N×50°.05E, h0km, mb3.7/6, mb1 3.7/12, mb1mx3.5/45, mbtmp3.6/12, ML3.0/5, MS3.3/2, Ms1 3.3/2, ms1mx2.4/46, Error ellipse: s-maj=27.3km s-min=15.6km az=170.0*
*AZER **17** 18:13:04.3, 40°.56N×50°.07E, h18km, ML3.1*
ISC 17 18:13:03.2±1.1, **40°.67N**±0°.03×**50°.27E**±0°.04, **h18**km±4km, **n43**, σ1°.**42**/71, **mb3.6**/6, **Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**0.23**	**248**	P	**Pg**	**18 13 08.2**	**-0.4**
	SNR=6.4						
NDR				S	**Sg**	**18 13 12.1**	**-0.2**
GALA	**Gala**	**0.27**	**198**	P	**Pb**	**18 13 11.0**	**+1.5**
	SNR=9.8						
GALA				S	**Sn**	**18 13 19.1**	**+1.2**
GOBA	**Gobu**	**0.48**	**237**	P	**Pb**	**18 13 13.8**	**+0.6**
	SNR=52						
GOBA				S	**Sg**	**18 13 19.0**	**-0.6**
GBS	**Qobustan**	**1.02**	**263**	P	**Pn**	**18 13 24.2**	**+1.6**
	SNR=46						
GBS				S	**Sn**	**18 13 40.2**	**+3.7**
ATGJ	**Altiaghaj**	**1.03**	**281**	P	**Pb**	**18 13 22.4**	**-0.1**
	SNR=16						
ATGJ				S	**Sn**	**18 13 38.8**	**+2.0**
SIZA	**Siyzn**	**1.11**	**292**	P	**Pg**	**18 13 25.1**	**+0.3**
	SNR=45						
SIZA				S	**Sn**	**18 13 43.4**	**+4.5**
ALIB	**Äli-Bayra**	**1.20**	**234**	P	**Pg**	**18 13 27.3**	**+1.0**
ALIB				S	**Sg**	**18 13 44.2**	**+2.2**
PQL	**Pirkuli**	**1.28**	**276**	P	**Pb**	**18 13 27.1**	**+0.2**
	SNR=31						
PQL				S	**Sg**	**18 13 44.9**	**+0.3**
IML	**Ismayilli**	**1.59**	**275**	Pn	**Pn**	**18 13 31.0**	**+0.6**
	SNR=19						
IML				Sn	**Sn**	**18 13 51.6**	**+1.0**
KDMR	**Kurdemir**	**1.61**	**260**	Pn	**Pn**	**18 13 31.0**	**+0.2**
KDMR				Sn	**Sn**	**18 13 52.9**	**+1.8**
XNQ	**Khinaliq**	**1.69**	**288**	Pn	**Pn**	**18 13 32.6**	**+0.6**
	SNR=34						
XNQ				Sn	**Sb**	**18 13 54.7**	**-0.1**
QSAR	**Qusar**	**1.73**	**300**	Pn	**Pb**	**18 13 34.0**	**-0.6**
	SNR=27						
QSAR				Sn	**Sb**	**18 13 56.6**	**+0.5**
QBL	**Gabala**	**1.86**	**279**	Pn	**Pn**	**18 13 34.6**	**+0.3**
	SNR=28						
QBL				Sn	**Sn**	**18 13 58.4**	**+1.0**
ZRD	**Zardab**	**2.01**	**260**	Pn	**Pn**	**18 13 37.2**	**+1.1**
	SNR=2.9						
ZRD				Sn	**Sn**	**18 14 02.9**	**+2.1**
GLBA	**Clilabad**	**2.02**	**226**	Pn	**Pn**	**18 13 37.8**	**+1.4**
	SNR=4.2						
GLBA				Sn	**Sn**	**18 14 01.2**	**0.0**
LKRN	**Lenkeran, Azer**	**2.27**	**211**	Pn	**Pn**	**18 13 39.6**	**-0.1**
LKRN				Sn	**Sn**	**18 14 06.1**	**-1.1**
BLQ	**Beylaqan**	**2.28**	**246**	Pn	**Pn**	**18 13 41.4**	**+1.5**
BLQ				Sn	**Sn**	**18 14 06.4**	**-1.1**
YRD	**Yardimli**	**2.34**	**222**	Pn	**Pn**	**18 13 39.7**	**-1.3**
	SNR=4.7						
YRD				Sn	**Sn**	**18 14 07.5**	**-1.9**
SEKA	**Sheki**	**2.39**	**284**	Pn	**Pn**	**18 13 42.1**	**+0.7**
	SNR=20						
SEKA				Sn	**Sn**	**18 14 11.2**	**+0.9**
BRDA	**Brd**	**2.39**	**261**	Pn	**Pn**	**18 13 41.2**	**-0.2**
	SNR=3.4						
BRDA				Sn	**Sn**	**18 14 11.2**	**+1.0**
ASTR	**Astara**	**2.39**	**209**	Sn	**Sn**	**18 14 09.7**	**-0.6**
AGDM	**Agdam**	**2.48**	**258**	Pn	**Pn**	**18 13 42.0**	**-0.6**
	SNR=5.5						
AGDM				Sn	**Sn**	**18 14 11.4**	**-1.0**
LRK	**Lerik**	**2.51**	**217**	Pn	**Pn**	**18 13 44.3**	**+1.1**
	SNR=3.0						
LRK				Sn	**Sn**	**18 14 12.5**	**-0.9**
QRD	**Qoradiz**	**2.56**	**243**	Pn	**Pn**	**18 13 43.9**	**+0.1**
QRD				Sn	**Sn**	**18 14 12.9**	**-1.6**
ZKTA	**Zakatala**	**2.92**	**291**	Pn	**Pn**	**18 13 49.7**	**+0.9**
	SNR=4.4						
ZKTA				Sn	**Sn**	**18 14 23.6**	**+0.3**
GANJ	**Ganja**	**3.00**	**271**	Pn	**Pn**	**18 13 48.9**	**-1.0**
	SNR=4.0						
GANJ				Sn	**Sn**	**18 14 23.8**	**-1.6**
GDB	**GEDABAY**	**3.43**	**272**	Pn	**Pn**	**18 13 56.0**	**+0.1**
GDB				Sn	**Sn**	**18 14 32.9**	**-3.3**
ORD	**Ordubad**	**3.72**	**244**	Pn	**Pn**	**18 13 59.7**	**-0.1**
	SNR=2.9						
ORD				Sn	**Sn**	**18 14 41.5**	**-1.8**
QZX	**Qazax, Azerbai**	**3.73**	**278**	Pn	**Pn**	**18 13 59.4**	**-0.5**
	SNR=4.1						
QZX				Sn	**Sn**	**18 14 42.5**	**-0.9**
SBZ	**Shahbuz**	**3.83**	**252**	Sn	**Sn**	**18 14 47.2**	**+1.2**
KBZ	**Khabaz**	**6.27**	**302**	Pn	**Pn**	**18 14 35.9**	**+1.2**
	0.2nm,0.3s,baz=49,slow=19,SNR=1.4						
GEYT	**Alibeck**	**6.67**	**112**	Pn	**Pn**	**18 14 41.8**	**+1.5**
	0.3nm,0.3s,baz=292,slow=16,SNR=1.9						
AKTO	**Aktyubinsk**	**11.17**	**26**	Pn	**Pn**	**18 15 43.5**	**+1.6**
	0.5nm,0.3s,baz=186,slow=9.3,SNR=5.5						
AKTO				Sn	**Sn**	**18 17 43.4**	**-2.9**
	0.5nm,0.3s,baz=128,slow=23,SNR=7.1						
ARU	**Arti**	**16.68**	**16**	Pn	**Pn**	**18 16 53.1**	**-2.7**
	0.0nm,0.3s,baz=222,slow=19,SNR=5.0						
ARU				LR	LR	18 24 52.2	
	comp=Z,12nm,18.7s,baz=314,slow=42						
AKASG	**Malin Array Be**	**17.74**	**311**	P	**Pn**	**18 17 08.7**	**-0.4**
	2.6nm,0.3s,baz=114,slow=12,SNR=6.7						
BVAR	**Borovoye Array**	**18.42**	**41**	P	**P**	**18 17 18.5**	**+1.2**
	0.2nm,0.3s,baz=187,slow=8.8,SNR=3.1						
KURBB	**Kurchatov Arra**	**22.00**	**54**	P	**P**	**18 17 58.5**	**+2.3**
	0.2nm,0.3s,baz=256,slow=11,SNR=2.0						
MKAR	**Makanchi Array**	**23.83**	**64**	P	**P**	**18 18 15.6**	**+0.4**
	0.2nm,0.4s,baz=261,slow=7.2,SNR=1.5						
FINES	**FINESS Array B**	**25.48**	**333**	P	**P**	**18 18 29.5**	**-0.5**
	1.9nm,0.4s,baz=147,slow=10,SNR=22						
HFS	**Hagfors**	**29.80**	**323**	P	**P**	**18 19 07.8**	**-0.9**
	0.8nm,0.4s,baz=122,slow=11,SNR=6.9						
ARCES	**ARCESS Array B**	**31.72**	**344**	P	**P**	**18 19 25.4**	**-0.2**
	3.3nm,1.0s,baz=158,slow=9.7,SNR=1.5						
EKA	**Eskdalemuir Ar**	**37.65**	**311**	P	**P**	**18 20 16.6**	**-0.3**
	0.2nm,0.4s,baz=93,slow=8.6,SNR=1.7						
JHJ	**Hachijo jima 2**	**69.00**	**64**	LR	LR	18 54 58.6	
	comp=Z,155nm,18.2s,baz=80,slow=36						

WEL 17 18:21:04.7, 38°.8±2°.×**17°.6E**±°., **h181**km±3km, **M3.1**/62, **MLv3.1**/62, **Error ellipse: s-maj=0.0km s-min=0.0km az=20.2, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARZ	**Kaharoa**	**0.11**	**194**	P	Pn	18 21 28.7	0.0
LIRZ	**Lichensteins R**	**0.12**	**136**	P	Pn	18 21 28.8	+0.1
TGRZ	**Tauranga**	**0.19**	**356**	P	Pn	18 21 28.7	-0.2
NGRZ	**Ngongotaha**	**0.20**	**201**	P	Pn	18 21 29.0	+0.1
OMRZ	**Omania**	**0.20**	**159**	P	Pn	18 21 28.9	0.0
OPRZ	**Ohinepanea**	**0.23**	**72**	P	Pn	18 21 28.6	-0.2
MKRZ	**Makatiti**	**0.27**	**146**	P	Pn	18 21 29.6	+0.6
UTU	**Utuhina**	**0.27**	**194**	P	Pn	18 21 29.3	+0.3
KMRZ	**Kaimai**	**0.27**	**285**	P	Pn	18 21 29.1	+0.1
MARZ	**Manawahe**	**0.32**	**103**	P	Pn	18 21 29.2	0.0
HLRZ	**Highlands Stat**	**0.34**	**170**	P	Pn	18 21 29.7	+0.5
TARZ	**Mount Tarawera**	**0.37**	**151**	P	Pn	18 21 29.6	+0.3
HSRZ	**Hossack Road**	**0.40**	**184**	P	Pn	18 21 29.6	+0.3
EDRZ	**Edgecumbe**	**0.41**	**118**	P	Pn	18 21 29.7	+0.3
GRRZ	**Galatos Road**	**0.45**	**197**	P	Pn	18 21 29.9	+0.3
RRRZ	**Republican Roa**	**0.46**	**156**	P	Pn	18 21 29.6	0.0
HRRZ	**Handcock Road**	**0.47**	**179**	P	Pn	18 21 29.9	+0.2
WHRZ	**Whale Island**	**0.56**	**84**	P	Pn	18 21 30.1	+0.2
PRRZ	**Plateau Road**	**0.59**	**171**	P	Pn	18 21 30.2	+0.1
WPRZ	**Whakapapatarin**	**0.61**	**188**	P	Pn	18 21 29.3	-0.9
TOZ	**Tahuroa Road**	**0.64**	**286**	P	Pn	18 21 30.5	+0.2
TOZ				S	Sn	18 21 50.2	+0.2
ALRZ	**Allen Road**	**0.65**	**175**	P	Pn	18 21 30.7	+0.4
KUTZ	**Kaahu Road**	**0.68**	**212**	P	Pn	18 21 30.8	+0.3
MUGZ	**Murupara**	**0.68**	**145**	P	Pn	18 21 30.3	-0.3
MUGZ				S	Sn	18 21 48.6	-2.0
TLZ	**Tolley Road**	**0.71**	**234**	P	Pn	18 21 31.1	+0.3
URZ	**Urewera**	**0.74**	**118**	P	Pn	18 21 30.3	-0.5
URZ				S	Sn	18 21 49.2	-1.9
RTZ	**Ruatahuna**	**0.89**	**142**	P	Pn	18 21 31.8	-0.1
RTZ				S	Sn	18 21 52.4	-0.6
WATZ	**Wairara**	**0.90**	**208**	P	Pn	18 21 32.2	+0.3
MRHZ	**Matea Rd**	**0.92**	**173**	P	Pn	18 21 32.2	+0.1
MRHZ				S	Sn	18 21 51.5	-1.9
RATZ	**Rangitukua**	**1.03**	**203**	P	Pn	18 21 33.0	+0.1
MTHZ	**Maungataniwha**	**1.03**	**155**	P	Pn	18 21 32.8	-0.1
MTHZ				S	Sn	18 21 53.8	-0.9
MWZ	**Matawai**	**1.07**	**113**	P	Pn	18 21 32.8	-0.3
MWZ				S	Sn	18 21 53.4	-1.7
RUGZ	**Raukumara Rang**	**1.11**	**93**	P	Pn	18 21 32.3	-1.2
RUGZ				S	Sn	18 21 53.1	-2.6
RITZ	**Rihia Road**	**1.11**	**197**	P	Pn	18 21 33.8	+0.4
KATZ	**Kakaramea**	**1.15**	**203**	P	Pn	18 21 34.1	+0.2
RAHZ	**Arahi**	**1.18**	**148**	P	Pn	18 21 34.4	+0.4
RAHZ				S	Sn	18 21 56.0	-0.8
HAZ	**Te Kaha**	**1.20**	**83**	P	Pn	18 21 33.2	-0.9
HAZ				S	Sn	18 21 54.9	-1.9
SNGZ	**Shannon Statio**	**1.20**	**136**	P	Pn	18 21 34.5	+0.3
SNGZ				S	Sn	18 21 55.3	-1.8
KUZ	**Kuaotunu**	**1.25**	**339**	P	Pn	18 21 34.4	-0.2
NMHZ	**Naumai**	**1.25**	**161**	P	Pn	18 21 35.4	+0.8
NMHZ				S	Sn	18 21 57.7	-0.2
BKZ	**Black Stump Fm**	**1.26**	**172**	P	Pn	18 21 34.5	-0.2
HIZ	**Hauiti**	**1.27**	**242**	P	Pn	18 21 35.0	+0.3
KRVZ	**Karewarewa**	**1.28**	**203**	P	Pn	18 21 34.9	0.0
TMVZ	**Te Maari**	**1.28**	**200**	P	Pn	18 21 34.9	-0.1
ETVZ	**East Tongariro**	**1.30**	**200**	P	Pn	18 21 35.0	-0.1
WTVZ	**West Tongariro**	**1.31**	**204**	P	Pn	18 21 35.1	-0.1
TWVZ	**Taurewa**	**1.33**	**209**	P	Pn	18 21 35.3	0.0
OTVZ	**Oturere**	**1.33**	**201**	P	Pn	18 21 35.6	+0.2
TKGZ	**Te Karaka**	**1.34**	**113**	P	Pn	18 21 35.6	+0.2
NGZ	**Ngauruhoe**	**1.36**	**203**	P	Pn	18 21 35.6	-0.1
WHHZ	**Waihua**	**1.38**	**147**	P	Pn	18 21 36.1	+0.4
RIGZ	**Rimuhau**	**1.41**	**124**	P	Pn	18 21 36.3	+0.3
TUVZ	**Tukino**	**1.44**	**200**	P	Pn	18 21 35.3	-1.0
ETAZ	**East Tamaki Re**	**1.44**	**311**	P	Pn	18 21 36.4	+0.2
WIAZ	**Waiheke Island**	**1.44**	**321**	P	Pn	18 21 36.5	+0.2
FWVZ	**Far West T-bar**	**1.45**	**203**	P	Pn	18 21 36.3	-0.4
WNVZ	**Wahianoa**	**1.51**	**200**	P	Pn	18 21 36.9	-0.2
KWHZ	**Kaweka Forest**	**1.51**	**176**	P	Pn	18 21 37.0	+0.1
MOVZ	**Moawhango**	**1.54**	**195**	P	Pn	18 21 36.7	-0.6
AWAZ	**Awhitu Peninsu**	**1.55**	**303**	P	Pn	18 21 37.4	+0.7
PKVZ	**Pokaka**	**1.55**	**208**	P	Pn	18 21 37.2	-0.1
KNZ	**Kokohu**	**1.56**	**136**	P	Pn	18 21 37.4	+0.1
MCHZ	**McNeill Hill**	**1.56**	**168**	P	Pn	18 21 37.9	+0.6
PUZ	**Puketiti**	**1.57**	**96**	P	Pn	18 21 37.1	-0.4
BHHZ	**Black Hill Sta**	**1.58**	**186**	P	Pn	18 21 37.2	-0.5
MBAZ	**Motutapu North**	**1.59**	**316**	P	Pn	18 21 37.8	+0.2
MTVZ	**Mangateitei**	**1.60**	**203**	P	Pn	18 21 37.7	-0.1
PRGZ	**Paritu Road**	**1.61**	**129**	P	Pn	18 21 38.1	+0.2
CNGZ	**Carnagh Statio**	**1.62**	**111**	P	Pn	18 21 38.7	+0.8
MXZ	**Matakaoa Point**	**1.65**	**78**	P	Pn	18 21 38.2	-0.1
WTAZ	**Waiatarua**	**1.67**	**305**	P	Pn	18 21 38.4	-0.1
WMGZ	**Waiomatatini S**	**1.69**	**87**	P	Pn	18 21 38.7	0.0
VRZ	**Vera Road**	**1.70**	**224**	P	Pn	18 21 39.2	+0.5
KRHZ	**Kereru**	**1.73**	**178**	P	Pn	18 21 38.7	-0.3
ABAZ	**Army Bay**	**1.75**	**318**	P	Pn	18 21 39.7	+0.5
MHGZ	**Mahia Peninsul**	**1.78**	**135**	P	Pn	18 21 40.0	+0.4
GRZ	**Great Barrier**	**1.79**	**338**	P	Pn	18 21 39.6	0.0
CKHZ	**Cape Kidnapper**	**1.85**	**160**	P	Pn	18 21 40.6	+0.3
MHEZ	**Mangahewa**	**1.92**	**232**	P	Pn	18 21 42.1	+1.1
KAHZ	**Kahuranaki**	**1.93**	**166**	P	Pn	18 21 41.3	+0.1
PNHZ	**Pukenui**	**2.00**	**182**	P	Pn	18 21 41.1	-0.7
DREZ	**Durham Road**	**2.06**	**231**	P	Pn	18 21 43.5	+0.9
WAZ	**Wanganui**	**2.10**	**208**	P	Pn	18 21 42.6	-0.3
LREZ	**Lake Rotokare**	**2.13**	**223**	P	Pn	18 21 43.8	+0.5
WPHZ	**Waipukurau**	**2.15**	**177**	P	Pn	18 21 43.1	-0.4
TSZ	**Takapari Road**	**2.15**	**186**	P	Pn	18 21 42.8	-0.8
PXZ	**Pawanui**	**2.16**	**168**	P	Pn	18 21 43.3	-0.3
NEZ	**North Egmont**	**2.18**	**231**	P	Pn	18 21 44.8	+0.9
PREZ	**Palmer Road**	**2.19**	**229**	P	Pn	18 21 44.6	+0.6
PKE	**Pukeiti**	**2.20**	**234**	P	Pn	18 21 44.7	+0.6
KHEZ	**Kahui Hut**	**2.24**	**231**	P	Pn	18 21 45.2	+0.6
NBEZ	**Newall Road No**	**2.32**	**234**	P	Pn	18 21 45.9	+0.5
PRHZ	**Porangahau**	**2.36**	**173**	P	Pn	18 21 45.2	-0.7
DVHZ	**Dannevirke**	**2.38**	**182**	P	Pn	18 21 45.0	-1.1
NMEZ	**Namu Road**	**2.40**	**231**	P	Pn	18 21 46.7	+0.4
OHWZ	**Ohakea**	**2.41**	**198**	P	Pn	18 21 45.9	-0.5
POWZ	**Post Office Ro**	**2.50**	**189**	P	Pn	18 21 46.3	-1.2
WCZ	**Waipu Caves**	**2.51**	**321**	P	Pn	18 21 47.9	+0.3
ANWZ	**Angora Road**	**2.54**	**177**	P	Pn	18 21 47.4	-0.6
PRWZ	**Pori Road**	**2.65**	**185**	P	Pn	18 21 48.2	-1.0
BFZ	**Birch Farm**	**2.76**	**180**	P	Pn	18 21 49.1	-1.4
MRZ	**Mangatainoka R**	**2.79**	**191**	P	Pn	18 21 49.3	-1.7
TIWZ	**Tintock**	**2.87**	**186**	P	Pn	18 21 50.3	-1.6
CPWZ	**Castlepoint**	**2.99**	**181**	P	Pn	18 21 52.3	-0.9
OGWZ	**Otaki Gorge**	**3.02**	**196**	P	Pn	18 21 51.9	-1.7
HOWZ	**Holdsworth Sta**	**3.04**	**191**	P	Pn	18 21 51.8	-2.1
KIW	**Kapiti Island**	**3.13**	**199**	P	Pn	18 21 52.9	-2.0
TMWZ	**Te Maipa**	**3.20**	**185**	P	Pn	18 21 53.8	-2.0
MTW	**Mount Morrison**	**3.29**	**190**	P	Pn	18 21 54.5	-2.4
CAW	**Cannon Point**	**3.32**	**196**	P	Pn	18 21 55.1	-2.3
DUWZ	**D'Urville Isla**	**3.41**	**212**	P	Pn	18 21 56.1	-2.4
TRWZ	**Traveller**	**3.51**	**187**	P	Pn	18 21 57.2	-2.4
PAWZ	**Paruwai Farm**	**3.52**	**190**	P	Pn	18 21 57.2	-2.7
WEL	**Wellington**	**3.56**	**199**	P	Pn	18 21 57.8	-2.4
MSWZ	**Moikau Station**	**3.58**	**192**	P	Pn	18 21 57.8	-2.8
TCW	**Tory Channel**	**3.64**	**205**	P	Pn	18 21 58.7	-2.5
BHW	**Baring Head**	**3.65**	**197**	P	Pn	18 21 58.5	-2.9
PLWZ	**Palliser**	**3.73**	**192**	P	Pn	18 21 59.5	-2.9
TUWZ	**Tuamarina**	**3.94**	**206**	P	Pn	18 22 02.1	-3.0
NNZ	**Nelson**	**3.98**	**213**	P	Pn	18 22 02.6	-3.0
QRZ	**Quartz Range**	**4.11**	**224**	P	Pn	18 22 04.2	-3.0
CMWZ	**Cape Campbell**	**4.14**	**202**	P	Pn	18 22 05.3	-2.3
THZ	**Tophouse**	**4.64**	**213**	P	Pn	18 22 10.4	-3.6
KHZ	**Kahutara**	**4.96**	**204**	P	Pn	18 22 14.8	-3.3
DSZ	**Denniston Nort**	**5.14**	**221**	P	Pn	18 22 16.7	-3.9
GVZ	**Greta Valley S**	**5.62**	**205**	P	Pn	18 22 23.0	-3.7
LTZ	**Lake Taylor**	**5.74**	**211**	P	Pn	18 22 23.8	-4.5
AMCZ	**Amberley**	**5.94**	**207**	P	Pn	18 22 26.8	-4.0
INZ	**Inchbonnie**	**6.06**	**216**	P	Pn	18 22 27.8	-4.6
OXZ	**Oxford**	**6.29**	**208**	P	Pn	18 22 30.0	-4.6
OKCZ	**Okains Bay**	**6.29**	**202**	P	Pn	18 22 31.3	-4.2
MQZ	**McQueen's Vall**	**6.40**	**204**	P	Pn	18 22 31.7	-5.2
AKCZ	**Akaroa Harbour**	**6.47**	**202**	P	Pn	18 22 33.3	-4.5
MHCZ	**Mount Hutt**	**6.65**	**211**	P	Pn	18 22 35.9	-4.3
RPZ	**Rata Peaks**	**7.02**	**213**	P	Pn	18 22 40.9	-4.1
ARCZ	**Arundel**	**7.16**	**211**	P	Pn	18 22 42.3	-4.5
FOZ	**Fox Glacier**	**7.45**	**219**	P	Pn	18 22 46.4	-4.3
LBZ	**Lake Benmore**	**7.93**	**213**	P	Pn	18 22 52.5	-4.5
ODZ	**Otahua Downs**	**8.28**	**209**	P	Pn	18 22 57.2	-4.4

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*IDC **17** 18:31:22.9±0.8, 10°.80S×161°.31E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.2/31, mbtmp4.1/18, ML4.0/2, MS3.9/24, Ms1 3.9/24, ms1mx3.8/33, Error ellipse: s-maj=21.5km s-min=15.7km az=89.0*
*NEIC **17** 18:31:23.5±1.4, 10°.81S±0°.08×161°.41E±0°.07, h10km±1km, mb4.7/27, Error ellipse: s-maj=14.0km s-min=10.6km az=35.0*
*BJI **17** 18:31:26.3±0.0, 10°.83S×161°.78E, h42km, mB5.0/18, mb4.5/22, Ms4.9/7, Ms7 4.6/6*
ISC 17 18:31:26.5±0.5, **10.85S**±0°.06×**161°.44E**±0°.08, **h28**km, **n77**, σ1°.**36**/69, **mb4.5**/35, **MS3.9**/26, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.04**	**314**	Pn	**Pn**	**18 31 58.3**	**-0.6**
	101nm,0.3s,baz=180,slow=6.2,SNR=24						
HNR				Sn	**Sn**	**18 32 22.6**	**-0.8**
	255nm,0.3s,baz=53,slow=5.1,SNR=7.8						
HNR	**Honiara**	**2.04**	**314**		**Pn**	**18 31 57.4**	**-1.6**
SANVU	**Saraoutou**	**7.24**	**130**	**Pn**	**Pn**	**18 33 10.4**	**-0.1**
DZM	**Mont Dzumac**	**12.14**	**157**	*e*Pn	**Pn**	**18 34 17.6**	**-0.2**
	2.4nm,0.3s						
DZM				*e*Sn	Sn	18 36 23.3	-9.1
	1.1nm,0.3s						
DZM				*e*LR	LR	18 37 00.3	
	comp=Z,327nm,22.5s						
DZM	**Mont Dzumac**	**12.14**	**157**	Pn	**Pn**	**18 34 19.4**	**+1.6**
	0.3nm,0.3s,baz=17,slow=9.9,SNR=7.5						
DZM				Sn	**Sn**	**18 36 28.1**	**-4.3**
	0.3nm,0.3s,baz=299,slow=19,SNR=1.6						
PMG	**Port Moresby**	**14.13**	**275**	LR	LR	18 39 55.9	
	comp=Z,2μm,20.3s,baz=108,slow=37						
CTA	**Charters Tower**	**17.26**	**236**	P	**P**	**18 35 26.2**	**-0.7**
	0.6nm,0.3s,baz=55,slow=13,SNR=10						
CTA				LR	LR	18 42 05.8	
	comp=Z,499nm,18.4s,baz=66,slow=37						
CTAO	**Charters Tower**	**17.26**	**236**	Pn	**Pn**	**18 35 25.0**	**-0.7**
EIDS	**Eidsvold**	**17.46**	**213**	P	**Pn**	**18 35 27.6**	**-0.4**
EIDS				IAmb	IAmb	18 35 40.2	
	comp=Z,26nm,1.1s						
PATS	**Pohnpei**	**17.85**	**350**		**Pn**	**18 35 31.4**	**-1.6**
COEN	**Coen**	**18.10**	**258**	P	**P**	**18 35 37.7**	**+1.4**
COEN				IAmb	IAmb	18 35 41.4	
	comp=Z,34nm,1.2s						
ARMA	**Armidale**	**21.50**	**204**	P	**P**	**18 36 13.5**	**+0.2**
ARMA				IAmb	IAmb	18 36 17.6	
	comp=Z,46nm,1.4s						
JAY	**Jayapura**	**22.18**	**290**	P	**P**	**18 36 19.2**	**-1.4**
	comp=Z,19nm,0.9s,baz=27,slow=4.7,SNR=4.2						
JAY	**Jayapura**	**22.18**	**290**	P	**P**	**18 36 18.7**	**-2.0**
	comp=Z,209nmcomp=Z,12nm,1.2s						
GENI	**Genyem**	**22.64**	**290**	P	**P**	**18 36 25.9**	**+0.3**
	comp=Z,29nm,0.8s						
SMPI	**Sarmi**	**24.22**	**290**	P	**P**	**18 36 41.9**	**+0.8**
	comp=Z,1μmcomp=Z,52nm,1.4s						
AFI	**Afiamalu**	**26.33**	**99**	LR	LR	18 45 49.2	
	comp=Z,549nm,18.1s,baz=278,slow=33						
WR0	**Warramunga Arr**	**27.43**	**247**	P	**P**	**18 37 09.4**	**-0.7**
WR0				IAmb	IAmb	18 37 18.0	
	comp=Z,34nm,1.4s						
WB0	**Warramunga Arr**	**27.51**	**248**	P	**P**	**18 37 10.0**	**-0.9**
WRAB	**Tennant Creek**	**27.59**	**248**	P	**P**	**18 37 09.6**	**-2.0**
WRAB				IAmb	IAmb	18 37 15.9	
	comp=Z,32nm,1.4s						
WB2	**Warramunga Arr**	**27.59**	**248**	P	**P**	**18 37 10.8**	**-0.9**
WRA	**Warramunga Arr**	**27.61**	**248**	P	**P**	**18 37 10.8**	**-1.0**
	comp=Z,4.8nm,0.9s,baz=76,slow=9.5,SNR=24						
WRA				PcP	**PcP**	**18 40 31.3**	**+2.2**
	comp=Z,0.6nm,0.7s,baz=79,slow=3.4,SNR=2.5						
WRA				ScP	**ScP**	**18 44 11.3**	**+3.3**
	comp=Z,0.3nm,0.8s,baz=76,slow=3.6,SNR=1.8						
WRA				LR	LR	18 48 18.2	
	comp=Z,1μm,18.2s,baz=75,slow=37						
WRA	**Warramunga Arr**	**27.61**	**248**	P	**P**	**18 37 10.8**	**-1.0**
STKA	**Stephens Creek**	**27.82**	**218**	P	**P**	**18 37 13.3**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=59,slow=15,SNR=3.1						
STKA				LR	LR	18 47 17.1	
	comp=Z,778nm,19.6s,baz=37,slow=34						
STKA	**Stephens Creek**	**27.82**	**218**	P	**P**	**18 37 13.2**	**-0.2**
AS31	**Alice Springs**	**29.15**	**240**	P	**P**	**18 37 23.8**	**-1.7**
ASAR	**Alice Springs**	**29.15**	**240**	P	**P**	**18 37 24.4**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=64,slow=9.4,SNR=20						
ASAR				ScP	**ScP**	**18 44 15.6**	**+2.8**
	comp=Z,0.3nm,0.8s,baz=66,slow=2.5,SNR=2.6						

ILAR	**Eielson Array**	**84.72**	**20**	P	**P**	**18 43 57.6**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=227,slow=5.7,SNR=8.0						
ILAR				LR	LR	19 19 52.0	
	comp=Z,52nm,19.9s,baz=194,slow=34						
WMQ	**Urumqi**	**85.98**	**316**	*e*P	**P**	**18 44 04.3**	**-0.2**
NVAR	**Mina Array Bea**	**89.16**	**51**	P	**P**	**18 44 21.4**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=230,slow=6.9,SNR=6.5						
NVAR				LR	LR	19 19 31.1	
	comp=Z,87nm,18.4s,baz=276,slow=32						
NVAR	**Mina Array Bea**	**89.16**	**51**	P	**P**	**18 44 18.1**	**-2.0**
MK31	**Makanchi Array**	**90.50**	**318**	P	**P**	**18 44 24.2**	**-1.6**
MKAR	**Makanchi Array**	**90.50**	**318**	P	**P**	**18 44 25.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=87,slow=7.3,SNR=6.9						
MKAR				LR	LR	19 25 21.7	
	comp=Z,32nm,21.0s,baz=82,slow=36						
MKAR	**Makanchi Array**	**90.50**	**318**	P	**P**	**18 44 25.4**	**-0.5**
ZALV	**Zalesovo Beam**	**90.94**	**325**	P	**P**	**18 44 27.9**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=108,slow=9.3,SNR=2.0						
ZALV				LR	LR	19 26 17.3	
	comp=Z,34nm,19.2s,baz=74,slow=36						
SHPR	**Sheep Range**	**91.14**	**53**	P	**P**	**18 44 27.7**	**-1.6**
SHPR				IAmb	IAmb	18 44 37.6	
	comp=Z,2.8nm,1.0s						
R11A	**Troy Canyon, C**	**91.21**	**51**		**P**	**18 44 29.5**	**-0.1**
R11A				IAmb	IAmb	18 44 37.0	
	comp=Z,3.0nm,1.3s						
PRN	**Pahroc Range**	**91.42**	**52**	P	**P**	**18 44 32.1**	**+1.6**
PRN				IAmb	IAmb	18 44 38.9	
	comp=Z,5.4nm,1.0s						
BMO	**Blue Mountains**	**91.45**	**45**	P	**P**	**18 44 30.4**	**0.0**
NRIK	**Noril'sk**	**94.48**	**340**	LR	LR	19 26 23.0	
	comp=Z,57nm,20.0s,baz=23,slow=35						
PDAR	**Pinedale Array**	**96.55**	**48**	LR	LR	19 24 57.7	
	comp=Z,27nm,18.4s,baz=321,slow=33						
YKA	**Yellowknife Ar**	**96.76**	**28**	LR	LR	19 26 30.1	
	comp=Z,74nm,18.6s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**99.46**	**62**	LR	LR	19 25 46.6	
	comp=Z,69nm,18.3s,baz=0.0,slow=33						

*SKO **17** 18:41:18.9, 40.°49N×19.°60E, h0km*
*TIR **17** 18:41:19.2, 40.°58N×19.°69E, h18km±1km, Md2.8, Ml2.7*
*ATH **17** 18:41:19.2, 40.°57N×19.°71E, h28km±2km, ML2.4/12, Error ellipse: s-maj=2.4km s-min=1.3km az=324.0*
*THE **17** 18:41:20.2, 40.°58N×19.°75E, h7km±1km, ML2.3/4, Error ellipse: s-maj=2.1km s-min=0.7km az=216.0*

ISC 17 18:41:19.7±0.9, 40.°59N±0.°02×19.°70E±0.°02, h17km±7km, n48, σ0s71/74, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.20**	**232**	P	**Pg**	**18 41 24.2**	**-0.3**
VLO				S	**Sb**	**18 41 28.5**	**+0.3**
VLO	**Vlora**	**0.20**	**232**	P	**Pg**	**18 41 24.2**	**-0.3**
	baz=234						
VLO				S	**Sb**	**18 41 28.7**	**+0.5**
	baz=234						
VLO				AMP			
	comp=N,33nm,0.1s,baz=234						
SRN	**Sarande**	**0.75**	**162**	P	**Pb**	**18 41 33.6**	**-0.6**
SRN				S	**Sg**	**18 41 44.9**	**+0.7**
	comp=N,190nm,0.4s						
SRN	**Sarande**	**0.75**	**162**	P	**Pb**	**18 41 33.9**	**-0.3**
	baz=161						
SRN				S	**Sn**	**18 41 45.2**	**-1.1**
	baz=161						
SRN				AMP			
	comp=N,0.6nm,0.6s,baz=161						
TIR	**Tirane**	**0.77**	**10**	P	**Pb**	**18 41 34.5**	**-0.1**
TIR	**Tirane**	**0.77**	**10**	P	**Pb**	**18 41 34.6**	**-0.1**
TIR				S	**Sn**	**18 41 47.0**	**0.0**
TIR				AML	AML	18 41 52.0	
	comp=E,671μm,0.5s						
TIR				AML	AML	18 42 00.6	
	comp=N,751μm,0.5s						
TIR	**Tirane**	**0.77**	**10**	P	**Pb**	**18 41 34.5**	**-0.1**
	baz=9.0						
TIR				S	**Sn**	**18 41 46.7**	**-0.3**
	baz=9.0						
TIR				AMP			
	comp=E,0.5nm,0.5s,baz=9.0						
LSK	**Leskovik**	**0.82**	**122**	P	**Pb**	**18 41 35.2**	**-0.3**
	baz=121						
KASA	**Kassiopi**	**0.86**	**168**	P	**Pb**	**18 41 36.2**	**0.0**
KASA				S	**Sb**	**18 41 47.0**	**-0.4**
KASA				AML	AML	18 41 50.7	
	comp=E,740μm,0.2s						
KASA				AML	AML	18 41 51.8	
	comp=N,636μm,0.2s						
OHR	**Ohrid**	**0.99**	**58**	‖ *i*Pg	**Pb**	**18 41 38.3**	**-0.1**
OHR				*i* Sg	**Sn**	**18 41 54.0**	**+1.6**
OHR				*e*Lg	Lg	18 41 56.0	
	comp=N,62nm,0.8s						
NEST	**Nestorio**	**1.05**	**99**	P	**Pb**	**18 41 38.9**	**-0.5**
NEST				S	**Sn**	**18 41 54.1**	**+0.2**
	comp=N,132nm,0.5s						
NEST	**Nestorio**	**1.05**	**99**	P	**Pb**	**18 41 38.1**	**-1.3**
NEST				S	**Sn**	**18 41 54.6**	**+0.7**
NEST				AML	AML	18 42 00.1	
	comp=N,225μm,0.4s						
NEST				AML	AML	18 42 00.2	
	comp=E,306μm,0.6s						
SCTE	**Santa Cesarea**	**1.07**	**242**	P	**Pb**	**18 41 39.6**	**-0.2**
SCTE				S	**Sg**	**18 41 55.8**	**+1.3**
SCTE				AML	AML	18 41 56.7	
	comp=N,175μm,0.3s						
SCTE				AML	AML	18 41 59.2	
	comp=E,191μm,0.3s						
SCTE	**Santa Cesarea**	**1.07**	**242**	P	**Pn**	**18 41 39.7**	**-0.2**
	baz=243						
SCTE				S	**Sg**	**18 41 54.6**	**+0.1**
	baz=243						
IGT	**Igoumenitsa**	**1.16**	**155**	P	**Pb**	**18 41 41.4**	**+0.1**
IGT				S	**Sg**	**18 41 57.7**	**+0.3**
	comp=E,142nm,0.4s						
IGT	**Igoumenitsa**	**1.16**	**155**	P	**Pb**	**18 41 41.2**	**-0.2**
IGT				S	**Sg**	**18 41 57.2**	**-0.2**
IGT				AML	AML	18 42 01.6	
	comp=N,318μm,0.5s						
IGT				AML	AML	18 42 08.1	
	comp=E,263μm,0.7s						
IGT	**Igoumenitsa**	**1.16**	**155**	P	**Pb**	**18 41 41.5**	**+0.2**
	baz=154						
IGT				S	**Sg**	**18 41 58.6**	**+1.2**
	baz=154						
PENT	**Pentalofos**	**1.17**	**109**	P	**Pn**	**18 41 40.6**	**-0.8**
PENT				AML	AML	18 42 01.7	
	comp=N,179μm,0.3s						
PENT				AML	AML	18 42 02.3	
	comp=E,161μm,0.7s						
PHP	**Peshkopia**	**1.23**	**27**	P	**Pg**	**18 41 43.0**	**-0.5**
PHP				S	**Sg**	**18 42 00.6**	**+1.0**
PHP	**Peshkopia**	**1.23**	**27**	P	**Pg**	**18 41 43.0**	**-0.5**
	baz=26						
PHP				S	**Sg**	**18 42 01.0**	**+1.4**
	baz=26						
PHP				AMP			
	comp=N,0.6nm,0.7s,baz=26						
FNA	**Florina**	**1.29**	**81**	P	**Pn**	**18 41 42.6**	**-0.4**
FNA				S	**Sg**	**18 42 01.0**	**-0.6**
	comp=N,220nm,0.3s						
FNA	**Florina**	**1.29**	**81**	P	**Pn**	**18 41 42.1**	**-0.9**
FNA				S	**Sn**	**18 42 00.5**	**+0.5**
FNA				AML	AML	18 42 04.3	
	comp=N,432μm,1.0s						
FNA				AML	AML	18 42 05.8	
	comp=E,488μm,0.6s						
KPRO	**Kipourio**	**1.43**	**116**	P	**Pb**	**18 41 45.7**	**-0.1**
KPRO	**Kipourio**	**1.43**	**116**	P	**Pb**	**18 41 45.5**	**-0.4**
KPRO				AML	AML	18 42 11.8	
	comp=N,283μm,0.6s						
KPRO				AML	AML	18 42 15.9	
	comp=E,227μm,0.4s						
PUK	**Puka**	**1.46**	**6**	P	**Pb**	**18 41 46.7**	**+0.3**
	baz=5.0						
PUK				S	**Sg**	**18 42 08.0**	**+1.2**
	baz=5.0						
PUK				AMP			
	comp=E,0.4nm,0.3s,baz=5.0						
KZN	**Kozani**	**1.61**	**99**	P	**Pb**	**18 41 48.2**	**-0.8**
KZN				AML	AML	18 42 16.3	
	comp=E,280μm,0.5s						
KZN				AML	AML	18 42 16.6	
	comp=N,161μm,0.5s						
TSLK	**Tsoukalades, L**	**1.91**	**157**	P	**Pn**	**18 41 51.8**	**+0.3**
LKD2	**Lefkada island**	**1.95**	**157**	P	**Pn**	**18 41 51.5**	**-0.4**
LKD2				AML	AML	18 42 25.8	
	comp=E,284μm,1.2s						
LKD2				AML	AML	18 42 27.5	
	comp=N,209μm,0.5s						
NOCI	**Noci**	**2.01**	**277**	P	**Pn**	**18 41 52.7**	**-0.1**
NOCI				AML	AML	18 42 31.4	
	comp=N,259μm,0.3s						
NOCI				AML	AML	18 42 35.2	
	comp=E,237μm,0.3s						
THL	**Klokotos Trika**	**2.05**	**119**	P	**Pn**	**18 41 54.1**	**+0.7**
THL				S	**Sn**	**18 42 19.1**	**+0.6**
THL				AML	AML	18 42 33.0	
	comp=N,86μm,0.6s						
THL				AML	AML	18 42 34.0	
	comp=E,72μm,0.5s						
EVGI	**Lefkada island**	**2.10**	**159**	P	**Pn**	**18 41 54.5**	**+0.5**
LIT	**Litokhoron**	**2.19**	**102**	P	**Pn**	**18 41 54.9**	**-0.4**
FSK	**Fiskardo**	**2.23**	**162**	P	**Pn**	**18 41 56.2**	**+0.4**
EVR	**Evrytania**	**2.33**	**135**	P	**Pn**	**18 41 58.6**	**+1.2**
DBRK	**Dubrovnik**	**2.38**	**331**	*e*Pn	**Pn**	**18 41 57.0**	**-0.9**
DBRK				Sn	**Sn**	**18 42 25.2**	**-1.4**
KNT	**Kendrikon**	**2.50**	**76**	P	**Pn**	**18 41 59.9**	**+0.4**
VLS	**Valsamata**	**2.51**	**164**	P	**Pn**	**18 41 59.2**	**-0.5**
ANX	**Ano Chora**	**2.63**	**139**	P	**Pn**	**18 42 02.8**	**+1.3**
STON	**Ston**	**2.73**	**327**	*e*Pn	**Pn**	**18 42 04.0**	**+1.3**
STON				Sn	**Sn**	**18 42 34.3**	**-0.8**
SERG	**Sergoula**	**2.84**	**139**	P	**Pn**	**18 42 04.9**	**+0.7**
PLG	**Polygyros**	**2.87**	**93**	P	**Pn**	**18 42 04.8**	**+0.2**
LSTV	**Lastovo**	**3.02**	**317**	*e*Pn	**Pn**	**18 42 06.5**	**-0.2**
LSTV				Sn	**Sn**	**18 42 41.6**	**-0.9**
KLV	**Kalavryta, Ach**	**3.18**	**142**	P	**Pn**	**18 42 09.9**	**+1.0**
MAKA	**Makarska**	**3.35**	**324**	*e*Pn	**Pn**	**18 42 10.5**	**-0.8**
MAKA				Sn	**Sn**	**18 42 50.0**	**-0.7**
RICI	**Ricice**	**3.47**	**328**	*e*Pn	**Pn**	**18 42 13.3**	**+0.4**
RICI				Sn	**Sn**	**18 42 53.4**	**-0.3**
KIJV	**Kijevo**	**4.20**	**326**	*e*Pn	**Pn**	**18 42 23.5**	**+0.7**
MORI	**Morici**	**4.41**	**319**	*e*Pn	**Pn**	**18 42 26.7**	**+0.8**
DUGI	**Dugi Otok**	**4.84**	**316**	*e*Pn	**Pn**	**18 42 32.2**	**+0.6**

IDC 17 18:43:43.1±3.1, 32.°86S×178.°34W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/34, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=72.7km s-min=45.7km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.54**	**213**	Pn	Pn	18 45 20.0	-0.5
	1.2nm,0.3s,baz=45,slow=1.4,SNR=9.3						
URZ				Sn	Sn	18 46 29.3	-6.5
	0.3nm,0.3s,baz=59,slow=9.7,SNR=1.5						
ASAR	**Alice Springs**	**42.75**	**270**	P	P	18 51 42.5	0.0
	0.3nm,0.5s,baz=107,slow=7.4,SNR=6.6						
WRA	**Warramunga Arr**	**43.96**	**275**	P	P	18 51 52.0	-0.2
	0.8nm,0.5s,baz=116,slow=7.8,SNR=19						
FINES	**FINESS Array B**	**147.34**	**338**	PKPbc	PKPbc	19 03 27.1	-0.8
	0.2nm,0.3s,baz=51,slow=5.5,SNR=5.9						

*NEIC **17** 19:01:05.9±1.0, 19.°7N±0.°2×64.°0W±0.°1, h50km±55km, Error ellipse: s-maj=23.6km s-min=13.1km az=165.0*
*RSPR **17** 19:01:06.3, 19.°44N×64.°05W, h115km±10km, MD2.9/3*

ISC 17 19:01:04.3±4.4, 19.°8N±0.°3×64.°05W±0.°09, h35km, n14, σ0s64/16, 3C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.48**	**201**	‖ *e*P	**Pn**	**19 01 28.8**	**+0.4**
TBVI	**Tortola**	**1.48**	**201**		**Pn**	**19 01 28.8**	**+0.4**
STVI	**Saint Thomas**	**1.68**	**211**	‖ *e*P	**Pn**	**19 01 31.7**	**+0.6**
STVI	**Saint Thomas**	**1.68**	**211**	*e*S	**Sn**	**19 01 51.6**	**+0.2**
STVI	**Saint Thomas**	**1.68**	**211**		**Pn**	**19 01 31.7**	**+0.6**
STVI					**Sn**	**19 01 51.6**	**+0.2**
CUPR	**Culebra, Puert**	**1.89**	**218**	‖ *e*P	**Pn**	**19 01 35.0**	**+0.9**
CUPR	**Culebra, Puert**	**1.89**	**218**	*e*S	**Sn**	**19 01 56.5**	**-0.2**
CUPR	**Culebra, Puert**	**1.89**	**218**		**Pn**	**19 01 35.0**	**+0.9**
CUPR					**Sn**	**19 01 56.5**	**-0.2**
SMRT	**St. Maarten**	**1.97**	**152**	*e*P	**Pn**	**19 01 35.5**	**+0.3**
SMRT	**St. Maarten**	**1.97**	**152**		**Pn**	**19 01 35.0**	**-0.2**
MTP	**Monte Pirata**	**2.21**	**220**	‖ *e*P	**Pn**	**19 01 38.5**	**-0.1**
MTP	**Monte Pirata**	**2.21**	**220**	*e*S	**Sn**	**19 02 03.8**	**-1.0**
MTP	**Monte Pirata**	**2.21**	**220**		**Pn**	**19 01 37.7**	**-0.9**
MTP	**Monte Pirata**	**2.21**	**220**		**Sn**	**19 02 03.8**	**-1.0**

*MOS **17** 19:22:57.5±2.7, 50.°57N×96.°19E, h10km, mb4.1/2, Error ellipse: s-maj=14.2km s-min=11.3km az=146.1*
*ASRS **17** 19:22:60.0±0.4, 51.°N±1.°×9.°5E±.°, h5km, MLh4.1/13, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 17 19:23:00.3±0.9, 50.°78N±0.°04×95.°73E±0.°05, h10km, n40, σ2s43/66, 1C-3D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERNS	**Erzin**	**0.64**	**215**	Pg	**Pg**	**19 23 09.7**	**-3.0**
ERNS				Sg	**Sn**	**19 23 22.1**	**-3.7**
ERNS	**Erzin**	**0.64**	**215**	*e*PG	**Pg**	**19 23 09.6**	**-3.0**
ERNS				*e*S	**Sn**	**19 23 22.1**	**-3.7**
KZLR	**Kyzyl**	**1.22**	**319**	Pg	**Pn**	**19 23 20.2**	**-3.3**
KZLR				Sg	**Sb**	**19 23 40.5**	**+1.1**
ARDR	**Aradan**	**2.30**	**322**	Pg	**Pn**	**19 23 37.7**	**-0.7**
ARDR				Sg	**Sb**	**19 24 12.9**	**+2.5**
ORL	**Orlik**	**3.09**	**54**	*e*PN	Pn	19 23 41.4	-7.8
ORL				pmax	pmax		
	comp=Z,43nm,0.4s						
DJOS	**Djoyskaya Sosn**	**3.36**	**308**	Pn	**Pn**	**19 23 52.1**	**-0.7**
DJOS				Pg	**Pb**	**19 24 01.2**	**+1.3**
DJOS				Sg	**Sg**	**19 24 47.0**	**-1.2**
CERR	**Cheremushki**	**3.39**	**309**	Pn	**Pn**	**19 23 53.4**	**+0.2**
CERR				Pg	**Pb**	**19 23 60.0**	**-0.4**
CERR				Sg	**Sg**	**19 24 47.7**	**-1.3**
MOY	**Mondy**	**3.42**	**73**	*e*PN	Pn	19 23 46.2	-7.6
MOY				*e*		19 24 26.0	
MOY				pmax	pmax		
	comp=Z,117nm,0.5s						
MOY				smax	smax		
	comp=N,547nm,1.3s						
DJO	**Djoy, Khakassi**	**3.44**	**307**	Pn	**Pn**	**19 23 53.3**	**-0.7**
DJO				Pg	**Pb**	**19 24 01.2**	**-0.1**
DJO				Sg	**Sg**	**19 24 49.8**	**-1.0**
TEL	**Teeli**	**3.51**	**276**	Pn	**Pn**	**19 23 54.3**	**-0.7**
TEL				Pg	**Pb**	**19 24 01.4**	**-1.1**
TEL				Sg	**Sg**	**19 24 52.8**	**-0.2**
TBTR	**Tabat**	**3.78**	**307**	Pn	**Pn**	**19 23 58.9**	**+0.3**
TBTR				Pg	**Pb**	**19 24 07.6**	**+0.5**
TBTR				Sg	**Sg**	**19 25 00.2**	**-1.4**
ABNR	**Abakan**	**3.96**	**320**	Pn	**Pn**	**19 24 00.6**	**-0.4**
ABNR	**Abakan**	**3.96**	**320**	*ce*PN	**Pn**	**19 24 01.0**	**0.0**
ORY	**Orie**	**4.24**	**355**	Sg	**Sb**	**19 25 03.7**	**-2.5**
ORY	**Orie**	**4.24**	**355**	*e*PN	**Pn**	**19 24 09.2**	**+4.2**
ARS	**Arshan**	**4.35**	**72**	*e*PN	**Pn**	**19 24 03.0**	**-3.5**
ARS				*e*		19 24 54.6	
ARS				pmax	pmax		
	comp=Z,33nm,0.5s						
ARS				smax	smax		
	comp=N,1μm,1.8s						
CUR	**Chagan-Uzun**	**4.77**	**265**	Pn	**Pn**	**19 24 11.6**	**-0.7**
CUR				Pg	**Pg**	**19 24 27.9**	**-3.6**
CUR				Sg	**Sg**	**19 25 32.6**	**-0.7**
ZAK	**Zakamensk**	**4.83**	**92**	*e*PN	**Pn**	**19 24 10.1**	**-3.0**
ZAK				*e*		19 25 09.0	
ZAK				pmax	pmax		
	comp=Z,15nm,0.4s						
ZAK				smax	smax		
	comp=N,182nm,0.6s						
ULGR	**Ulagan, Altay**	**4.94**	**271**	Pg	**Pb**	**19 24 29.0**	**+2.1**
ULGR				Sg	**Sg**	**19 25 37.6**	**-1.3**
SHRR	**Shira**	**5.03**	**320**	Pn	**Pn**	**19 24 15.1**	**-0.7**
SHRR				Pg	**Pb**	**19 24 32.3**	**+3.9**
SHRR				Sg	**Sg**	**19 25 37.7**	**-4.0**
TLY	**Talaya**	**5.05**	**77**	*e*PN	Pn	19 24 10.3	-5.8
TLY				*e*		19 25 16.6	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TASR	**Tashtagol**	**5.26**	**295**	Pn	**Pn**	**19 24 18.4**	**-0.6**
TASR				Pg	**Pg**	**19 24 37.0**	**-4.0**
TASR				Sg	**Sg**	**19 25 49.5**	**+0.4**
CHBI	**Chibit, Altay**	**5.27**	**268**	Pn	**Pn**	**19 24 18.1**	**-1.1**
CHBI				Pg	**Pg**	**19 24 38.6**	**-2.5**
CHBI				Sg	**Sg**	**19 25 47.2**	**-2.1**
ARTR	**Artybash**	**5.40**	**284**	Pn	**Pn**	**19 24 20.1**	**-0.7**
ARTR				Pg	**Pb**	**19 24 38.2**	**+3.6**
ARTR				Sg	**Sg**	**19 25 50.7**	**-2.8**
DGZ	**Jazzator, Alta**	**5.43**	**262**	Pn	**Pn**	**19 24 20.1**	**-1.4**
DGZ				Pg	Pg	19 24 39.1	-5.2
DGZ				Sg	**Sg**	**19 25 53.0**	**-1.7**
DGZ	**Jazzator, Alta**	**5.43**	**262**	‖ *e*PN	Pb	19 24 27.2	-8.2
IRK	**Irkutsk**	**5.53**	**71**	*e*PN	**Pn**	**19 24 25.2**	**+2.6**
IRK				*e*		19 25 29.5	
IRK				pmax	pmax		
	comp=Z,37nm,0.2s						
IRK				smax	smax		
	comp=N,384nm,1.5s						
GZLN	**Zheleznogorsk**	**5.73**	**349**	Sg	**Sg**	**19 25 59.0**	**-5.0**
TUNR	**Tungur**	**6.04**	**268**	Pn	**Pn**	**19 24 28.6**	**-1.1**
TUNR				Pg	**Pb**	**19 24 48.2**	**+2.7**
TUNR				Sg	**Sg**	**19 26 16.5**	**+2.5**
GALT	**Gorno-Altaysk,**	**6.24**	**285**	Pn	**Pn**	**19 24 30.8**	**-1.5**
GALT				Pg	**Pb**	**19 24 52.2**	**+3.2**
GALT				Sg	**Sg**	**19 26 22.2**	**+1.7**
POMOR	**Pomortsevo, Ku**	**6.68**	**306**	Sg	**Sg**	**19 26 34.2**	**-0.3**
UKR	**Ust'-Kan**	**6.94**	**276**	Pn	**Pn**	**19 24 43.4**	**+1.3**
UKR				Pg	**Pg**	**19 25 09.4**	**-3.8**
UKR				Sg	**Sg**	**19 26 48.6**	**+5.7**
SALR	**Pechorkino, Sa**	**7.11**	**305**	Sg	**Sg**	**19 26 46.9**	**-1.4**
KEM	**Kemerovo**	**7.39**	**312**	Sg	**Sg**	**19 26 57.9**	**+0.7**
ZALV	**Zalesovo Beam**	**7.39**	**300**	*i* P	Pn	19 24 57.4	+9.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**9.73**	**251**	*i* P	Pn	19 25 38.0	+18
KURK	**Kurchatov**	**10.85**	**276**	‖ *e*P	**Pn**	**19 25 36.2**	**+0.7**
YAK	**Yakutsk**	**21.61**	**46**	‖ *e*P	**P**	**19 27 49.2**	**-0.9**
YAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
OBN	**Obninsk**	**34.98**	**301**	*e*P	**P**	**19 29 56.2**	**+3.9**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CLL	**Collm**	**49.31**	**305**	*e*P	**P**	**19 31 53.0**	**+3.9**

*IDC **17** 19:41:51.2±1.3, 10.°92S×79.°00W, h0km, mb3.6/3, mb1 4.0/7, mb1mx3.8/34, mbtmp3.7/7, ML3.7/4, MS3.5/1, Ms1 3.4/1, ms1mx2.7/22, Error ellipse: s-maj=46.9km s-min=18.3km az=44.0*
*ARE **17** 19:41:57.2±2.1, 10.°5S±0.°2×78.°5W±0.°2, h35km±8km, ML4.4, mb3.9/1(NEIC), Error ellipse: s-maj=40.3km s-min=11.2km az=45.0*
*NEIC **17** 19:41:58.3±3.4, 10.°5S±0.°2×78.°5W±0.°2, h58km±22km, Error ellipse: s-maj=42.3km s-min=17.7km az=222.0*

ISC 17 19:41:57.8±1.0, 10.°68S±0.°09×78.°6W±0.°1, h52km, n24, σ1s97/16, mb3.7/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.17**	**127**	Pn	**Pn**	**19 42 32.7**	**+1.1**
	27nm,0.3s,baz=343,slow=6.5,SNR=29						
NNA				Sn	**Sn**	**19 43 01.3**	**+3.9**
	35nm,0.3s,baz=329,slow=18,SNR=3.3						
NNA	**Nana**	**2.17**	**127**		**Pn**	**19 42 32.4**	**+0.8**
ATAH	**Atahualpa**	**3.53**	**4**	Pn	**Pn**	**19 42 52.6**	**+2.0**
	12nm,0.3s,baz=210,slow=3.5,SNR=43						
ATAH				Sn	**Sn**	**19 43 32.2**	**+0.9**
	5.9nm,0.3s,baz=120,slow=23,SNR=6.1						
PB16	**IPOC Station P**	**11.64**	**132**	Pn	**Pn**	**19 44 41.0**	**-0.9**
MNMC	**Minye Minye**	**12.10**	**135**	Pn	**Pn**	**19 44 49.1**	**+1.1**
PB11	**IPOC Station P**	**12.50**	**137**	Pn	**Pn**	**19 44 51.1**	**-2.1**
LVC	**Limon Verde**	**15.06**	**143**	Pn	**Pn**	**19 45 26.4**	**-1.5**
	0.2nm,0.3s,baz=233,slow=10,SNR=1.5						
SAML	**Samuel**	**15.31**	**85**	Pn	**Pn**	**19 45 26.3**	**-4.4**
SAML				IAmb	IAmb	19 45 29.5	
	comp=Z,5.5nm,0.8s						
SIV	**San Ignacio**	**17.87**	**109**	P	**P**	**19 46 03.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=298,slow=11,SNR=8.8						
H03N2	**Juan Fernandez**	**22.65**	**181**	T	T	20 10 42.0	
	baz=0.9,slow=75,SNR=127						
H03N1	**Juan Fernandez**	**22.65**	**181**	T	T	20 10 44.2	
	baz=0.9,slow=75,SNR=109						
H03N3	**Juan Fernandez**	**22.67**	**181**	T	T	20 10 41.4	
	baz=0.9,slow=75,SNR=132						
CPUP	**Villa Florida**	**25.43**	**131**	P	**P**	**19 47 21.4**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=319,slow=9.7,SNR=4.7						
BDFB	**Brasilia**	**30.19**	**103**	LR	LR	20 00 39.1	
	comp=Z,80nm,19.1s,baz=255,slow=37						
TXAR	**Lajitas Array**	**46.55**	**329**	P	**P**	**19 50 20.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=139,slow=8.3,SNR=3.9						
NVAR	**Mina Array Bea**	**61.31**	**325**	P	**P**	**19 52 08.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=142,slow=7.5,SNR=2.8						
H11N3	**WAKE ISLAND Hyl**	**16.44**	**287**	T	T	22 07 17.9	
	baz=93,slow=74,SNR=6.5						
H11N2	**WAKE ISLAND Hyl**	**16.46**	**287**	T	T	22 07 18.9	
	baz=93,slow=74,SNR=10						
H11N1	**WAKE ISLAND Hyl**	**16.46**	**287**	T	T	22 07 18.9	
	baz=93,slow=74,SNR=9.3						
H11S2	**WAKE ISLAND Hyl**	**16.58**	**285**	T	T	22 07 38.8	
	baz=93						
H11S1	**WAKE ISLAND Hyl**	**16.59**	**285**	T	T	22 07 38.0	
	baz=93						
H11S3	**WAKE ISLAND Hyl**	**16.60**	**285**	T	T	22 07 37.1	
	baz=93						
ASAR	**Alice Springs**	**133.34**	**223**	PKP	**PKPdf**	**20 01 09.5**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=127,slow=1.4,SNR=4.1						
WRA	**Warramunga Arr**	**135.51**	**227**	PKP	**PKiKP**	**20 01 14.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=128,slow=1.9,SNR=10						

PRU 17 19:52:26.1±0.0, 49.°82N×18.°55E, h0km, Czech and Slovak Republics

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

baz=54
KRUC eSg Sb 19 54 53.9 +0.3
2.7nm,0.2s,baz=54
GOPC GO Pecny, Ondr 2.71 265 ePG Pb 19 54 39.7 +0.5
GOPC eSG Sg 19 55 15.7 -1.1
comp=Z,2.5nm,0.4s
PVCC Panska Ves 2.83 278 eSG Sg 19 55 20.8 +0.1
comp=Z,6.3nm,0.2s
PRU Pruhonice 2.85 267 ePG Pb 19 54 42.0 +0.3
PRU eSG Sg 19 55 20.5 -1.1
comp=Z,2.2nm,0.3s
BRG Berggiesshubel 3.26 283 SG Sg 19 55 33.2 -1.5
2.1nm,0.4s
KHC Kasperske Hory 3.66 255 ePN Pn 19 54 46.0 -1.8
KHC eSG Sg 19 55 46.6 -0.9
comp=Z,2.3nm,0.4s

*IDC **17** 20:01:39.5±4.4, 28°.28N×129°.42E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/32, mbtmp3.4/4, MS2.9/5, Ms1 3.0/5, ms1mx2.7/28, Error ellipse: s-maj=240.3km s-min=24.6km az=65.0*
*JMA **17** 20:01:42.6±0.3, 28°.07N×128°.21E, h19km±4km, M3.6*
*NIED **17** 20:01:42.6, 28°.07N×128°.21E, h19km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.25; Mθθ0.86; Mφφ-0.62; Mrθ-0.42; Mθφ-0.03; Mφr0.54; Fault plane solution: M0 1.03000×10^15 NP1: φs131.00000°, δ80.00000°, λ-44.00000°. NP2: φs231.00000°, δ47.00000°, λ-166.00000°.*

ISC 17 20:01:41.2±1.3, 28°.09N±0°.03×128°.22E±0°.05, h9km±9km, n27, σ1§80/29, mb3.4/4, MS3.1/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.72**	**115**	P	**Pb**	**20 01 56.0**	**+0.1**
JTK				eS	**Sb**	**20 02 05.6**	**-0.3**
JOKE	**Okinoerabujima**	**0.80**	**157**	P	**Pb**	**20 01 57.4**	**+0.2**
JOKE				eS	**Sg**	**20 02 06.7**	**-0.2**
JAMN	**Amaminishikomi**	**0.86**	**80**	P	**Pn**	**20 01 58.6**	**-0.9**
JAMN				eS	**Sn**	**20 02 10.7**	**-1.5**
JIH	**Iheya**	**1.08**	**192**	P	**Pg**	**20 02 01.4**	**-0.5**
JIH				eS	**Sg**	**20 02 15.4**	**-0.5**
JYRO	**Yoronjima**	**1.08**	**169**	P	**Pg**	**20 02 01.7**	**-0.4**
JYRO				S	**Sg**	**20 02 15.5**	**-0.7**
JOW	**Kunigami**	**1.26**	**178**	P	**Pn**	**20 02 05.0**	**0.0**
JOW				eS	**Sb**	**20 02 20.7**	**-0.7**
JAM	**Amami Oshima**	**1.27**	**75**	P	**Pn**	**20 02 05.4**	**+0.3**
JAM				eS	**Sn**	**20 02 22.4**	**+0.2**
JTAJ	**Takarajima**	**1.37**	**39**	P	**Pg**	**20 02 07.6**	**+0.1**
JTAJ				eS	**Sn**	**20 02 26.0**	**+1.3**
JZK	**Kikaishima**	**1.57**	**82**	P	**Pg**	**20 02 11.9**	**+0.6**
JZK				eS	**Sg**	**20 02 36.3**	**+4.7**
JNTH	**Nagotoyohara**	**1.58**	**186**	P	**Pn**	**20 02 10.2**	**+0.8**
JNTH				eS	**Sn**	**20 02 30.7**	**+0.8**
JKE	**Kume jima 2**	**2.17**	**216**	P	**Pb**	**20 02 20.1**	**-0.6**
JKC	**Kuchinoerabu**	**2.93**	**36**	P	**Pb**	**20 02 33.6**	**0.0**
JYAK	**Yakushimahirau**	**2.93**	**43**	P	**Pb**	**20 02 30.2**	**-3.5**
JYAK				eS	**Sb**	**20 03 05.1**	**-4.5**
JKDJ	**Kitadaitoujima**	**3.48**	**127**	eS	**Sn**	**20 03 14.6**	**-2.3**
JMZ	**Minamidaito 2**	**3.51**	**129**	eS	**Sn**	**20 03 16.8**	**-0.8**
KSRS	**Korea Array**	**9.34**	**359**	LR	LR	20 07 39.2	
comp=Z,61nm,20.1s,baz=190,slow=39							
JHJ	**Hachijo jima 2**	**11.15**	**60**	LR	LR	20 07 49.2	
comp=Z,25nm,21.7s,baz=154,slow=36							
DAV	**Davao City (W)**	**21.06**	**187**	LR	LR	20 14 17.6	
comp=Z,31nm,21.7s,baz=30,slow=35							
SONM	**Songino Array**	**26.00**	**325**	P	**P**	**20 07 18.1**	**+3.5**
1.1nm,0.9s,baz=134,slow=8.4,SNR=5.4							
CMAR	**Chiang Mai Arr**	**28.49**	**257**	LR	LR	20 22 05.3	
comp=Z,45nm,18.3s,baz=232,slow=42							
SIJI	**Sorong**	**28.95**	**174**	LR	LR	20 18 12.8	
comp=Z,62nm,19.9s,baz=162,slow=34							
H11N2	**WAKE ISLAND Hy**	**36.21**	**95**	T	T	20 46 22.7	
baz=290,slow=75,SNR=6.9							
H11N1	**WAKE ISLAND Hy**	**36.21**	**95**	T	T	20 46 20.4	
baz=290,slow=75,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**36.22**	**95**	T	T	20 46 24.4	
baz=290,slow=75,SNR=4.9							
MKAR	**Makanchi Array**	**40.30**	**310**	P	P	20 09 24.6	+5.8
0.4nm,0.6s,baz=98,slow=8.8,SNR=3.6							
WRA	**Warramunga Arr**	**48.12**	**172**	P	**P**	**20 10 21.7**	**+0.1**
0.4nm,0.7s,baz=353,slow=8.3,SNR=5.4							
ASAR	**Alice Springs**	**51.75**	**173**	P	**P**	**20 10 49.3**	**+0.1**
0.2nm,0.8s,baz=4.1,slow=14,SNR=2.2							

*ISN **17** 20:28:52.3±0.3, 36°.79N×42°.07E, h0km, ML2.7*
*DDA **17** 20:28:54.8, 36°.85N×42°.01E, h7km±2km, ML2.5*
*ISK **17** 20:28:54.3, 36°.85N×41°.99E, h5km, ML3.1/10*

ISC 17 20:28:54.3±1.5, 36°.85N±0°.05×42°.02E±0°.03, h4km±12km, n20, σ0§59/31, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**Sirnak**	**0.72**	**26**	*i* P	**Pb**	**20 29 08.8**	**-0.7**
SIRN				*i* S	**Sb**	**20 29 18.6**	**-1.1**
SIRN				IAML		20 29 20.0	
comp=E,500nm,0.4s							
SIRN				IAML		20 29 20.0	
comp=N,199nm,0.5s							
SIRT	**Sirnak**	**0.73**	**27**	PG	**Pb**	**20 29 09.1**	**-0.6**
SIRT				SG	**Sb**	**20 29 19.7**	**-0.4**
MSL	**Mosul**	**0.99**	**117**	ePg	**Pg**	**20 29 12.7**	**-0.6**
baz=295							
MSL				eSg	**Sb**	**20 29 27.0**	**-0.4**
MSL				AML	AML	20 29 29.9	
comp=N,287nm,0.6s							
MSL				AML	AML	20 29 31.9	
comp=E,216nm,0.7s							
MARD	**Mardin**	**1.09**	**295**	*i* P	**Pb**	**20 29 15.6**	**-0.3**
MARD				*i* S	**Sn**	**20 29 31.3**	**-0.8**
MARD				IAML		20 29 37.0	
comp=E,337nm,0.4s							
SRTM	**Siirt_Merkez**	**1.14**	**356**	*i* P	**Pb**	**20 29 16.4**	**-0.3**
SRTM				IAML		20 29 36.0	
comp=E,112nm,0.5s							
SRTM				IAML		20 29 38.0	
comp=N,84nm,0.5s							
BTMN	**Batman**	**1.20**	**330**	*i* P	**Pb**	**20 29 17.5**	**-0.1**
BTMN				*i* S	**Sn**	**20 29 34.6**	**0.0**
BTMN				IAML		20 29 36.0	
comp=E,254nm,0.6s							
BTMN				IAML		20 29 38.0	
comp=N,170nm,0.4s							
CUKT	**Cukurca**	**1.33**	**72**	PN	**Pn**	**20 29 19.8**	**0.0**
CUKT				SN	**Sn**	**20 29 39.6**	**+1.5**
CUKT	**Cukurca**	**1.33**	**72**	*i* P	**Pg**	**20 29 20.2**	**+0.3**
MAZI	**Mazidag**	**1.39**	**296**	PN	**Pn**	**20 29 20.6**	**-0.1**
MAZI				SN	**Sn**	**20 29 40.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.45**	**334**	PN	**Pb**	**20 29 21.6**	**-0.4**
SVAN				SN	**Sg**	**20 29 41.4**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.45**	**334**	*i* P	**Pb**	**20 29 21.8**	**-0.1**
SVAN				*i* S	**Sg**	**20 29 41.7**	**+0.6**
SVAN				IAML		20 29 42.0	
comp=N,60nm,0.3s							
SVAN				IAML		20 29 42.0	
comp=E,89nm,0.3s							
HAKT	**HAKKARI**	**1.52**	**62**	*i* P	**Pb**	**20 29 23.3**	**0.0**
HAKT				*i* S	**Sg**	**20 29 44.0**	**+0.6**
HAKT				IAML		20 29 48.0	
comp=N,47nm,0.5s							
HAKT				IAML		20 29 51.0	
comp=E,49nm,0.3s							
BLIS	**Bitlis-Merkez**	**1.56**	**3**	*i* P	**Pb**	**20 29 23.5**	**-0.4**
BLIS				IAML		20 29 48.0	
comp=N,50nm,0.5s							
BLIS				IAML		20 29 52.0	
comp=E,41nm,0.9s							
AKDM	**Akdamar-Van**	**1.66**	**27**	PN	**Pb**	**20 29 24.9**	**-0.7**
GURO	**Guroymak-BITLI**	**1.70**	**0**	PN	**Pn**	**20 29 25.2**	**+0.3**
DYBB	**Diyarbakir**	**1.86**	**307**	PN	**Pn**	**20 29 27.3**	**+0.3**
MUSM	**Mu-Merkez**	**1.91**	**348**	*i* P	**Pn**	**20 29 28.0**	**+0.1**
MUSM				*i* S	**Sn**	**20 29 52.6**	**+0.2**
URFA	**Urfa**	**2.62**	**284**	PN	**Pn**	**20 29 38.0**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.64**	**306**	PN	**Pn**	**20 29 38.3**	**+0.5**
PTK	**Pertek**	**2.91**	**315**	PN	**Pn**	**20 29 42.3**	**+0.7**

*NEIC **17** 20:56:48.0±1.8, 19°.63N±0°.02×65°.62W±0°.05, h1km±5km, Error ellipse: s-maj=7.4km s-min=3.0km az=73.0*
*IDC **17** 20:56:48.2±0.8, 19°.67N×65°.58W, h0km, mb3.9/12, mb1 4.2/15, mb1mx4.0/37, mbtmp4.0/15, ML3.6/3, MS3.4/12, Ms1 3.5/12, ms1mx3.1/46, Error ellipse: s-maj=20.1km s-min=16.6km az=171.0*
*OSPL **17** 20:56:50.3±0.7, 19°.45N×65°.51W, h0km±71km, ML3.5*

ISC 17 20:56:49.3±0.5, 19°.58N±0°.05×65°.60W±0°.03, h10km, n79, σ1§34/74, mb3.9/11, MS3.6/10, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.30**	**167**	Pn	**Pb**	**20 57 13.1**	**-0.8**
CBYP	**Canovanas**	**1.33**	**191**		**Pn**	**20 57 13.2**	**-0.7**
GCPR	**Guaynabo City**	**1.35**	**200**		**Pn**	**20 57 13.5**	**-0.7**
STVI	**Saint Thomas**	**1.37**	**153**	Pn	**Pn**	**20 57 13.8**	**-0.6**
EMPR	**Esperanza - Ma**	**1.41**	**219**	Pn	**Pn**	**20 57 14.3**	**-0.6**
HUMP	**Col San Antoni**	**1.45**	**189**		**Pn**	**20 57 15.0**	**-0.6**
MTP	**Monte Pirata**	**1.48**	**178**	Pn	**Pn**	**20 57 15.7**	**-0.3**
PDPR	**Patillas Dam,**	**1.61**	**194**		**Pn**	**20 57 17.0**	**-0.7**
AOPR	**Arecibo Observ**	**1.64**	**222**	*e*P	**Pn**	**20 57 17.9**	**-0.4**
AOPR				*e*S	**Sb**	**20 57 39.6**	**-1.0**
AOPR	**Arecibo Observ**	**1.64**	**222**		**Pn**	**20 57 17.8**	**-0.5**
IGPR	**InterUniversit**	**1.68**	**197**		**Pn**	**20 57 18.7**	**0.0**
OBIP	**Obispado Ponce**	**1.80**	**212**		**Pn**	**20 57 19.5**	**-1.0**
AGPR	**Aguadilla, PR**	**1.81**	**232**		**Pn**	**20 57 20.8**	**-1.8**
AGPR	**Aguadilla, PR**	**1.81**	**232**	*i* P	**Pb**	**20 57 20.9**	**-1.6**
AGPR				*e*S	**Sn**	**20 57 43.4**	**-0.1**
AGPR				IAML		20 57 53.2	
comp=Z,286nm,0.3s							
ICMP	**Isla Caja de M**	**1.90**	**208**	Pn	**Pb**	**20 57 22.2**	**-1.9**
CDVI	**St. Croix**	**1.99**	**156**	*e*P	**Pb**	**20 57 24.1**	**-1.5**
CDVI				*e*S	**Sg**	**20 57 52.2**	**-0.9**
CDVI	**St. Croix**	**1.99**	**156**		**Pb**	**20 57 24.4**	**-1.1**
MPR	**Mayaguez**	**2.00**	**227**	Pn	**Pn**	**20 57 22.9**	**-0.2**
MPR	**Mayaguez**	**2.00**	**227**	*i* P	**Pn**	**20 57 22.9**	**-0.2**
MPR				*e*S	**Sn**	**20 57 47.3**	**-0.8**
MPR				IAML		20 57 53.7	
comp=Z,257nm,1.2s							
MLPR	**Magueyes Islan**	**2.11**	**221**	Pn	**Pn**	**20 57 24.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.12**	**223**		**Pn**	**20 57 24.9**	**+0.1**
PCDR	**Punta Cana, DR**	**2.84**	**248**		**Pn**	**20 57 35.1**	**+0.4**
PCDR	**Punta Cana, DR**	**2.84**	**248**	*i* P	**Pn**	**20 57 35.0**	**+0.4**
PCDR				*e*S	**Sn**	**20 58 08.0**	**-0.1**
PCDR				IAML		20 58 09.7	
comp=Z,203nm,0.6s							
SMRT	**St. Maarten**	**2.84**	**122**	*e*P	**Pn**	**20 57 34.5**	**-0.2**
SMRT				*e*S	**Sn**	**20 58 06.9**	**-2.1**
SMRT	**St. Maarten**	**2.84**	**122**	Pn	**Pn**	**20 57 34.2**	**-0.5**
SABA	**Saba**	**2.97**	**131**	*e*P	**Pn**	**20 57 37.5**	**+1.0**
SABA				*e*S	**Sn**	**20 58 08.2**	**-4.0**
SABA	**Saba**	**2.97**	**131**		**Pn**	**20 57 36.8**	**+0.3**
SEUS	**St. Eustatius**	**3.24**	**129**	*e*P	**Pn**	**20 57 40.0**	**-0.2**
SEUS				*e*S	**Sn**	**20 58 17.8**	**-1.0**
SKI	**Saint Kitts**	**3.52**	**129**	*e*P	**Pn**	**20 57 44.4**	**+0.3**
SKI	**Saint Kitts**	**3.52**	**129**		**Pn**	**20 57 44.2**	**+0.2**
DR12	**Loma Pena Alta**	**3.66**	**258**		**Pn**	**20 57 46.0**	**-0.1**
ANWB	**Willy Bob**	**4.09**	**117**	*e*P	**Pn**	**20 57 53.1**	**+1.2**
ANWB	**Willy Bob**	**4.09**	**117**	*e*S	**Sn**	**20 58 42.8**	**+3.0**
ANWB	**Willy Bob**	**4.09**	**117**	Pn	**Pn**	**20 57 52.6**	**+0.7**
MLYT	**Lee's Yard**	**4.31**	**131**	*e*P	**Pn**	**20 57 55.9**	**+0.8**
BANI	**BANI**	**4.65**	**256**	Pn	**Pn**	**20 57 60.0**	**+0.2**
ABD	**La Joyeuse, An**	**4.99**	**128**	*e*P	**Pn**	**20 58 03.8**	**-0.4**
ABD				*e*S	Sn	20 58 47.4	-15
CBE	**Ff, Capester**	**5.17**	**132**	*e*P	**Pn**	**20 58 07.6**	**+0.8**
TBG	**Guadaloupe-3**	**5.29**	**134**	*e*P	**Pn**	**20 58 09.8**	**+1.3**
TDBA	**Terre de Bas,**	**5.30**	**134**	*e*P	**Pn**	**20 58 04.5**	**-4.0**
SDDR	**Presa de Saban**	**5.40**	**265**		**Pn**	**20 58 11.1**	**+1.0**
SDDR	**Presa de Saban**	**5.40**	**265**	*i* P	**Pn**	**20 58 11.4**	**+1.3**
SDDR				IAML		20 59 20.5	
comp=Z,53nm,0.6s							
MAGL	**Barre de l'ile**	**5.48**	**131**	*e*P	Pn	20 58 15.1	+4.1
GRTK	**Grand Turk**	**5.53**	**291**		**Pn**	**20 58 09.0**	**-2.6**
DSLB	**Salisbury**	**5.74**	**135**	*e*P	**Pn**	**20 58 15.8**	**+1.3**
FDF	**Fort de France**	**6.43**	**138**	*e*P	Pn	20 58 30.7	+6.5
BIM	**Bigot**	**6.64**	**139**	*e*P	**Pn**	**20 58 29.0**	**+1.9**
MPOM	**Morne Pois Mar**	**6.83**	**138**	*e*P	**Pn**	**20 58 31.1**	**+1.5**
SLBI	**Saint Lucia, B**	**7.08**	**141**	*e*P	Pn	20 58 39.4	+6.3
SLB	**Belfond**	**7.20**	**142**	*e*P	Pn	20 58 41.5	+6.7
SLAC	**Saint Lucia, A**	**7.23**	**141**	*e*P	Pn	20 58 40.5	+5.4
MCLT	**Moule a Chique**	**7.35**	**142**	*e*P	Pn	20 58 43.4	+6.6
SVB	**Belmont**	**7.54**	**146**	*e*P	Pn	20 58 46.9	+7.6
SVCV	**St. Vincent, C**	**7.59**	**145**	*e*P	Pn	20 58 48.2	+8.1
PCRV	**Puerto La Cruz**	**9.40**	**174**	Pn	**Pn**	**20 59 07.5**	**+2.5**
comp=Z,0.7nm,0.3s,baz=350,slow=13,SNR=1.1							
PLCV	**Puerto La Cruz**	**9.42**	**174**		**Pn**	**20 59 07.5**	**+2.3**
SDV	**Santo Domingo**	**11.70**	**205**	Pn	**Pn**	**20 59 39.3**	**+2.7**
comp=Z,0.7nm,0.3s,baz=31,slow=9.3,SNR=6.7							
SDV				Sn	**Sn**	**21 01 49.9**	**+2.5**
comp=Z,0.5nm,0.3s,baz=294,slow=18,SNR=1.9							
SDV				LR	LR	21 04 53.3	
comp=Z,81nm,18.4s,baz=34,slow=41							
BBSR	**BB Station**	**12.76**	**3**	Pn	**Pn**	**20 59 49.0**	**-1.8**
MDP	**Montagnes des**	**19.15**	**137**	P	**Pn**	**21 01 12.7**	**-1.0**
comp=Z,1.0nm,0.3s,baz=321,slow=11,SNR=7.2							
MDP				LR	LR	21 11 10.2	
comp=Z,45nm,18.1s,baz=330,slow=45							
JTS	**Las Juntas de**	**20.84**	**246**	P	**P**	**21 01 31.4**	**0.0**
comp=Z,3.8nm,0.5s,baz=28,slow=1.5,SNR=3.8							
TEIG	**Tepich**	**21.33**	**276**	P	**P**	**21 01 36.7**	**+0.1**
comp=Z,6.9nm,0.7s,baz=135,slow=23,SNR=7.6							
APG	**El Apazote**	**24.16**	**263**	P	**P**	**21 02 08.2**	**+2.0**
comp=Z,4.2nm,0.5s,baz=107,slow=2.0,SNR=7.7							
SADO	**Sadowa**	**27.53**	**339**	LR	LR	21 14 38.0	
comp=Z,68nm,19.0s,baz=126,slow=39							
TXAR	**Lajitas Array**	**35.85**	**293**	P	**P**	**21 03 50.2**	**+0.7**
comp=Z,2.8nm,0.7s,baz=112,slow=11,SNR=41							
ULM	**Lac du Bonnet**	**38.90**	**329**	P	**P**	**21 04 14.4**	**-0.6**
comp=Z,2.2nm,0.4s,baz=106,slow=7.4,SNR=1.8							
LPIG	**La Paz**	**41.61**	**285**	LR	LR	21 27 31.7	
comp=Z,40nm,19.2s,baz=251,slow=44							
PDAR	**Pinedale Array**	**43.51**	**312**	P	**P**	**21 04 53.8**	**+0.4**
comp=Z,0.3nm,0.4s,baz=131,slow=12,SNR=2.7							
PDAR				LR	LR	21 23 33.6	
comp=Z,67nm,19.0s,baz=304,slow=37							
ELK	**Elko**	**47.11**	**308**	LR	LR	21 25 51.0	
comp=Z,72nm,18.9s,baz=352,slow=37							
PFO	**Pinyon Flats O**	**47.14**	**298**	LR	LR	21 28 35.7	
comp=Z,79nm,18.5s,baz=84,slow=40							
NVAR	**Mina Array Bea**	**49.08**	**304**	P	**P**	**21 05 37.4**	**+0.2**
comp=Z,0.6nm,0.4s,baz=101,slow=14,SNR=1.6							
NVAR				LR	LR	21 29 16.1	
comp=Z,63nm,18.2s,baz=52,slow=40							
NEW	**Newport**	**50.22**	**317**	LR	LR	21 28 39.0	
comp=Z,50nm,18.5s,baz=142,slow=38							
ESDC	**Sonseca Array**	**56.11**	**55**	P	**P**	**21 06 29.8**	**+0.7**
comp=Z,0.5nm,0.8s,baz=278,slow=6.5,SNR=4.2							
ESDC				LR	LR	21 25 14.9	
comp=Z,22nm,21.3s,baz=295,slow=30							
TORD	**Torodi Ar. Bea**	**64.55**	**84**	P	**P**	**21 07 28.0**	**+0.9**
comp=Z,0.7nm,0.8s,baz=304,slow=7.3,SNR=2.7							
NOA	**NORSAR Array B**	**66.69**	**31**	LR	LR	21 36 27.2	
comp=Z,11nm,18.1s,baz=335,slow=36							
GERES	**GERESS Array B**	**68.55**	**44**	P	**P**	**21 07 52.0**	**-0.3**
comp=Z,0.4nm,0.7s,baz=260,slow=3.9,SNR=4.1							
ILAR	**Eielson Array**	**68.76**	**333**	P	**P**	**21 07 53.1**	**-0.1**
comp=Z,0.4nm,0.5s,baz=110,slow=4.5,SNR=4.7							
ILAR				LR	LR	21 38 40.4	
comp=Z,70nm,19.0s,baz=169,slow=37							
FINES	**FINESS Array B**	**73.80**	**30**	P	**P**	**21 08 23.9**	**+0.2**
comp=Z,1.2nm,0.9s,baz=310,slow=6.7,SNR=1.9							
WRA	**Warramunga Arr**	**161.23**	**266**	PKPab	**PKPab**	**21 17 34.5**	**-0.2**
comp=Z,0.3nm,0.7s,baz=84,slow=3.7,SNR=1.9							
ASAR	**Alice Springs**	**161.42**	**254**	PKPab	**PKPab**	**21 17 35.0**	**-0.4**
comp=Z,0.3nm,0.6s,baz=104,slow=4.9,SNR=7.9							

IDC 17 21:12:18.0±5.6, 15°.57S×175°.73W, h126km±106km, mb3.5/3, mb1 3.8/4, mb1mx3.3/42, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=287.2km s-min=30.2km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.17**	**67**	P	Pn	21 13 20.0	0.0
17nm,0.3s,baz=179,slow=1.9,SNR=17							
AFI				S	Sn	21 14 04.4	-3.6
24nm,0.3s,baz=266,slow=19,SNR=6.1							
WRA	**Warramunga Arr**	**47.62**	**257**	P	P	21 20 42.1	+0.4
0.4nm,0.5s,baz=92,slow=7.8,SNR=25							
ASAR	**Alice Springs**	**47.92**	**252**	P	P	21 20 43.5	-0.5
5.7nm,0.5s,baz=88,slow=8.5,SNR=115							
ILAR	**Eielson Array**	**83.06**	**12**	P	P	21 24 28.9	-0.1
0.2nm,0.7s,baz=224,slow=6.3,SNR=1.9							

*IDC **17** 21:15:42.9±1.3, 34°.27N×25°.02E, h0km, mb4.0/7, mb1 3.9/13, mb1mx3.7/60, mbtmp3.8/13, ML3.6/5, Error ellipse: s-maj=22.8km s-min=17.7km az=60.0*
*ATH **17** 21:15:44.1, 34°.16N×25°.06E, h23km±2km, ML3.1/7, Error ellipse: s-maj=4.4km s-min=1.6km az=351.0*
*THE **17** 21:15:45.1, 34°.20N×25°.05E, h0km±1km, ML3.0/8, Error ellipse: s-maj=1.9km s-min=0.6km az=173.0*

ISC 17 21:15:44.2±1.8, 34°.18N±0°.06×25°.07E±0°.04, h7km±11km, n37, σ0§84/53, mb3.9/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.86**	**346**	P	**Pb**	**21 16 01.4**	**-0.1**
SIVA				S	**Sb**	**21 16 14.3**	**+1.1**
4μm,0.6s							
SIVA	**Sivas**	**0.86**	**346**	P	**Pb**	**21 16 01.1**	**-0.4**
SIVA				S	**Sb**	**21 16 13.4**	**+0.2**
SIVA				AML	AML	21 16 19.8	
comp=E,9015μm,0.6s							
SIVA				AML	AML	21 16 20.0	
comp=N,7461μm,0.7s							
TMBK	**Timbaki Herakl**	**0.92**	**345**	P	**Pb**	**21 16 02.4**	**-0.1**
TMBK				S	**Sn**	**21 16 16.8**	**-0.3**
comp=N,962nm,0.4s							
FRMA	**Ierapetra Chan**	**1.00**	**33**	P	**Pn**	**21 16 05.4**	**+0.8**
LAST	**Lasithi**	**1.03**	**19**	P	**Pb**	**21 16 04.3**	**-0.2**
LAST				S	**Sn**	**21 16 19.9**	**-0.1**
comp=N,450nm,0.8s							
LAST	**Lasithi**	**1.03**	**19**	P	**Pg**	**21 16 04.1**	**0.0**
LAST				S	**Sb**	**21 16 19.2**	**+0.9**
LAST				AML	AML	21 16 27.0	
comp=E,892μm,0.9s							
LAST				AML	AML	21 16 35.4	
comp=N,1026μm,0.6s							
GVD	**Gavdhos**	**1.04**	**309**	P	**Pb**	**21 16 04.5**	**-0.1**
GVD				S	**Sn**	**21 16 19.9**	**-0.2**
comp=N,2μm,0.3s							
GVD	**Gavdhos**	**1.04**	**309**	P	**Pb**	**21 16 04.3**	**-0.3**
GVD				S	**Sb**	**21 16 18.9**	**+0.5**
GVD				AML	AML	21 16 24.0	
comp=E,4297μm,0.3s							
GVD				AML	AML	21 16 26.3	
comp=N,3008μm,0.4s							
GVDS	**Gavdos**	**1.04**	**310**	P	**Pb**	**21 16 04.8**	**+0.2**
GVDS				S	**Sn**	**21 16 20.7**	**+0.6**
comp=N,1μm,0.3s							
IDI	**Anoyia**	**1.11**	**353**	Pn	**Pg**	**21 16 04.8**	**-0.8**
comp=N,17nm,0.3s,baz=176,slow=18,SNR=48							
IDI				Sn	**Sb**	**21 16 21.3**	**+0.7**
comp=N,50nm,0.3s,baz=191,slow=17,SNR=13							
IDI	**Anoyia**	**1.11**	**353**	P	**Pb**	**21 16 05.6**	**-0.2**
IDI				S	**Sn**	**21 16 21.9**	**-0.1**
comp=N,602nm,0.5s							
IDI	**Anoyia**	**1.11**	**353**	P	**Pg**	**21 16 05.0**	**-0.6**
IDI				S	**Sb**	**21 16 21.0**	**+0.4**
IDI				AML	AML	21 16 27.0	
comp=N,1102μm,0.5s							
IDI				AML	AML	21 16 30.0	
comp=E,1306μm,0.5s							
KSTL	**Kastelli Herak**	**1.12**	**0**	P	**Pg**	**21 16 05.2**	**-0.5**
NPS	**Neapolis**	**1.17**	**22**	P	**Pb**	**21 16 07.0**	**+0.3**
NPS				S	**Sn**	**21 16 23.5**	**+0.3**
NPS				AML	AML	21 16 29.8	
comp=E,1007μm,0.8s							
NPS				AML	AML	21 16 32.7	
comp=N,572μm,0.4s							
PRNS	**Prines Rethymn**	**1.27**	**339**	P	**Pn**	**21 16 08.7**	**+0.3**
PRNS				S	**Sn**	**21 16 26.3**	**+0.6**
ZKR	**Zakros**	**1.33**	**45**	P	**Pg**	**21 16 09.6**	**-0.1**
ZKR				S	**Sn**	**21 16 28.4**	**+1.2**
comp=N,365nm,0.6s							
ZKR	**Zakros**	**1.33**	**45**	P	**Pg**	**21 16 09.4**	**-0.3**
VAM	**Vamos**	**1.42**	**330**	P	**Pn**	**21 16 10.4**	**0.0**
VAM				S	**Sn**	**21 16 30.3**	**+1.0**
comp=N,568nm,0.4s							
VAM	**Vamos**	**1.42**	**330**	P	**Pn**	**21 16 10.4**	**0.0**
VAM				AML	AML	21 16 37.0	
comp=E,1032μm,0.4s							
VAM				AML	AML	21 16 40.0	
comp=N,1187μm,0.3s							
IMMV	**Iera Moni Meta**	**1.56**	**325**	P	**Pn**	**21 16 12.7**	**+0.4**
IMMV	**Iera Moni Meta**	**1.56**	**325**	P	**Pn**	**21 16 12.9**	**+0.6**
IMMV				AML	AML	21 16 50.1	
comp=E,1329μm,0.7s							
IMMV				AML	AML	21 16 50.9	
comp=N,994μm,0.8s							
KARP	**Karpathos**	**2.20**	**51**	P	**Pn**	**21 16 23.1**	**+1.9**
ANKY	**Antikythira Is**	**2.22**	**320**	P	**Pn**	**21 16

comp=Z,466nm,18.7s,baz=210,slow=42
KAPI Kappang 5.36 9 Pn 21 20 58.1 -0.1
BNSI Bone 6.02 11 P **Pn 21 21 10.2 +2.9**
0.5nm1μm126nm,0.8s
SPSI Sidrap Palu 6.39 7 P **Pn 21 21 15.3 +2.9**
0.2nm73nm,0.8s
NGJI Ngawi 7.97 291 P **Pn 21 21 35.1 +1.1**
FITZ Fitzroy Crossi 10.07 141 P **Pn 21 22 03.8 +0.9**
0.8nm,0.3s,baz=359,slow=5.9,SNR=13
FITZ S **Sn 21 23 50.4 -4.2**
1.7nm,0.3s,baz=180,slow=17,SNR=16
FITZ LR LR 21 26 09.9
comp=Z,183nm,19.3s,baz=275,slow=38
FITZ Fitzroy Crossi 10.07 141 Pn **Pn 21 22 02.3 -0.6**
KNRA Kununurra 10.93 120 **Pn 21 22 13.9 -0.8**
PSA00 Pilbara Seismi 11.20 176 Pn **Pn 21 22 17.6 -0.6**
CISI Cisompet, Garu 11.34 283 Pn **Pn 21 22 17.1 -3.2**
MTN Manton Dam 12.19 103 Pn **Pn 21 22 30.7 -1.2**
GIRL Giralia 13.03 200 Pn **Pn 21 22 40.6 -2.8**
SBUM Sibu 14.37 332 Pn **Pn 21 23 01.0 -0.6**
FAKI Fak Fak 15.13 62 Pn **Pn 21 23 11.5 -0.2**
FAKI IAmb IAmb 21 23 28.4
comp=Z,52nm,1.3s
SIJI Sorong 15.45 53 P **Pn 21 23 19.1 +3.2**
comp=Z,1.0nm,0.3s,baz=233,slow=20,SNR=2.3
KKM Kota Kinabalu 16.51 350 Pn **Pn 21 23 28.3 -1.2**
KKM IAmb IAmb 21 23 45.0
comp=Z,26nm,1.2s
WB0 Warramunga Arr 17.60 124 Pn **Pn 21 23 41.6 -1.5**
WRA Warramunga Arr 17.64 125 P **Pn 21 23 41.7 -1.9**
comp=Z,0.4nm,0.3s,baz=299,slow=14,SNR=22
WRA S Sn 21 26 43.6 -16
comp=Z,0.2nm,0.3s,baz=288,slow=25,SNR=3.1
WB2 Warramunga Arr 17.65 125 **Pn 21 23 42.7 -1.0**
DAV Davao City (W) 18.52 21 LR LR 21 32 18.1
comp=Z,46nm,18.2s,baz=194,slow=41
MORW Morawa 18.82 188 **P 21 23 57.3 +0.2**
MORW IAmb IAmb 21 24 15.9
comp=Z,27nm,1.3s
AS31 Alice Springs 19.47 135 P **P 21 24 04.0 -0.2**
ASAR Alice Springs 19.47 135 P **Pn 21 24 06.7 +0.9**
comp=Z,0.8nm,0.3s,baz=315,slow=11,SNR=39
ASAR S S 21 27 32.0 -10
comp=Z,0.1nm,0.3s,baz=312,slow=24,SNR=4.6
ASAR LR LR 21 31 51.9
comp=Z,124nm,18.6s,baz=313,slow=37
ASAR Alice Springs 19.47 135 P **P 21 24 04.0 -0.2**
BKNI Bangkinang 20.73 300 P **P 21 24 17.9 0.0**
NWAO Narrogin (SRO) 22.53 184 P **P 21 24 39.5 +2.3**
comp=Z,7.5nm,0.9s,baz=6.3,slow=9.2,SNR=3.0
NWAO LR LR 21 33 48.5
comp=Z,107nm,18.7s,baz=34,slow=37
NWAO Narrogin (SRO) 22.53 184 P **P 21 24 37.1 -0.1**
NWAO IAmb IAmb 21 24 49.9
comp=Z,12nm,0.8s
RPSI Rantau Prapat 23.77 302 P **P 21 24 49.3 -0.5**
RPSI IAmb IAmb 21 25 03.7
comp=Z,9.2nm,0.9s
RPSI Rantau Prapat 23.77 302 P **P 21 24 50.0 +0.3**
PSI Prapat 23.83 302 P **P 21 24 50.0 -0.4**
comp=Z,3.9nm,0.4s,baz=180,slow=14,SNR=4.6
KULM Kulim 23.94 310 P **P 21 24 49.9 -1.4**
COEN Coen 23.95 101 P **P 21 24 49.9 -1.6**
COEN IAmb IAmb 21 24 55.3
comp=Z,11nm,1.2s
TGY Tagaytay City 24.37 5 P **P 21 24 55.3 +0.1**
comp=Z,91nm,0.3s,baz=201,slow=18,SNR=1.8
STKA Stephens Creek 29.96 139 P **P 21 25 47.9 +2.6**
comp=Z,1.2nm,0.5s,baz=320,slow=10.0,SNR=5.2
STKA LR LR 21 39 27.4
comp=Z,83nm,18.0s,baz=302,slow=39
STKA Stephens Creek 29.96 139 P **P 21 25 46.6 +1.2**
PBKT Sadao Pong 32.12 326 P **P 21 26 03.6 -0.8**
PBKT IAmb IAmb 21 26 16.0
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 34.77 325 P **P 21 26 28.1 +0.6**
comp=Z,0.5nm,0.4s,baz=152,slow=6.0,SNR=1.6
CMAR LR LR 21 41 32.4
comp=Z,70nm,19.5s,baz=150,slow=38
ENH Enshi 41.40 348 P **P 21 27 22.5 -0.7**
ENH IAmb IAmb 21 27 24.1
comp=Z,11nm,0.7s
PALK Pallekele 41.91 293 P **P 21 27 26.2 -1.5**
comp=Z,15nm,0.9s,baz=170,slow=11,SNR=2.9
PALK Pallekele 41.91 293 P **P 21 27 26.8 -0.9**
XAN Xi'an 45.16 348 P **P 21 27 52.9 -0.6**
XAN pP pP 21 28 02.3 -2.0
XAN sP pwP 21 28 07.4 -0.2
XAN pmax pmax
comp=Z,11nm,0.6s
XAN Xi'an 45.16 348 P **P 21 27 52.7 -0.8**
H08S2 Diego Garcia H 45.93 269 T T 22 17 27.1
baz=96,slow=75,SNR=14
H08S3 Diego Garcia H 45.94 269 T T 22 17 25.1
baz=96,slow=75,SNR=14
H08S1 Diego Garcia H 45.95 269 T T 22 17 20.5
baz=96,slow=75,SNR=12
KSRS Korea Array 48.29 10 P **P 21 28 17.7 -0.2**
comp=Z,0.6nm,0.4s,baz=191,slow=8.3,SNR=5.6
LZH Lanzhou 48.33 344 *eP* **P 21 28 20.0 +1.5**
LZH pP pwP 21 28 33.6 +1.0
LZH sP sP 21 28 39.5 +5.6
LZH *e*PP **PP 21 30 13.3 +1.9**
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,69nm,5.4s
MJAR Matsushiro Arr 50.04 20 P **P 21 28 30.2 -1.2**
comp=Z,2.0nm,0.7s,baz=186,slow=8.7,SNR=5.9
MAJO Matsushiro 50.04 20 P **P 21 28 30.9 -0.4**
HHC Hu-ho-hao-te 51.39 353 *eP* **P 21 28 42.4 +0.8**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,99nm,5.7s
GTA Gaotai 52.60 341 *eP* **P 21 28 51.0 +0.3**
GTA pP pP 21 28 56.3 -5.2
GTA sP pwP 21 28 59.3 -6.3
GTA pmax pmax
comp=Z,3.0nm,0.6s
USA0B Ussuriysk Arra 55.56 11 P **P 21 29 11.2 -0.7**
USA0B IAmb IAmb 21 29 12.0
comp=Z,5.1nm,0.7s
USRK Ussuriysk Ar. 55.56 11 P **P 21 29 11.4 -0.6**
comp=Z,4.0nm,0.6s,baz=184,slow=6.7,SNR=14
USRK Ussuriysk Ar. 55.56 11 P **P 21 29 11.0 -0.9**
ULN Ulaanbaatar 58.91 351 P **P 21 29 34.1 -1.6**
ULN IAmb IAmb 21 29 46.1
comp=Z,7.5nm,1.2s
SONM Songino Array 58.99 350 P **P 21 29 36.2 0.0**
comp=Z,4.3nm,0.7s,baz=167,slow=9.1,SNR=33
SONM Songino Array 58.99 350 P **P 21 29 36.1 -0.2**
WMQ Urumqi 60.94 335 *eP* **P 21 29 51.6 +1.9**
TLY Talaya 63.17 349 P **P 21 30 04.9 +0.5**
TLY IAmb IAmb 21 30 05.7
comp=Z,1.9nm,0.7s
KDJ Kajisay 64.74 327 P **P 21 30 15.6 +0.5**
KBL Kabul 65.01 316 P **P 21 30 16.1 -1.0**
MK31 Makanchi Array 65.63 333 P **P 21 30 20.1 -0.5**
MK31 IAmb IAmb 21 30 21.4
comp=Z,4.1nm,0.9s
MKAR Makanchi Array 65.63 333 P **P 21 30 20.6 -0.1**
comp=Z,3.5nm,0.7s,baz=147,slow=7.6,SNR=25
MKAR Makanchi Array 65.63 333 P **P 21 30 19.9 -0.7**
BOOM Boomskoye usch 65.66 326 P **P 21 30 20.6 -0.5**
BOOM IAmb IAmb 21 30 21.7
comp=Z,1.8nm,0.8s
MAKZ Makanchi 65.78 333 P **P 21 30 21.3 -0.3**
MAKZ IAmb IAmb 21 30 36.2
comp=Z,5.2nm,1.1s
CHGR Chuyangaron 67.27 320 P **P 21 30 31.2 -0.2**
CHGR IAmb IAmb 21 30 42.8
comp=Z,3.8nm,0.7s
MAW Mawson 67.96 200 LR LR 21 55 41.4
comp=Z,32nm,19.3s,baz=65,slow=32
KK31 Karatay Array 69.11 324 P **P 21 30 41.9 -0.8**
KKAR Karatay Array 69.11 324 P **P 21 30 41.9 -0.8**
KURBB Kurchatov Arra 70.15 334 P **P 21 30 48.7 -0.2**
comp=Z,2.3nm,0.6s,baz=143,slow=5.6,SNR=29
KURK Kurchatov 70.17 334 P **P 21 30 48.4 -0.6**
KURK IAmb IAmb 21 30 49.8
comp=Z,4.6nm,1.0s
ZAA0 Zalesovo Array 70.27 339 P **P 21 30 48.8 -0.8**
ZALV Zalesovo Beam 70.27 339 P **P 21 30 47.8 -1.8**
comp=Z,6.6nm,0.6s,baz=141,slow=4.7,SNR=26

VNDA Vanda 70.67 171 P **P 21 30 54.6 +2.9**
comp=Z,0.2nm,0.4s,baz=306,slow=8.5,SNR=2.2
VNDA Vanda 70.67 171 P **P 21 30 53.1 +1.3**
PEA0B Petropavlovsk- 71.32 23 P **P 21 30 56.4 +0.4**
PETK Petropavlovsk- 71.32 23 P **P 21 30 57.0 +1.0**
comp=Z,2.0nm,0.7s,baz=175,slow=3.6,SNR=4.4
PETK Petropavlovsk- 71.32 23 P **P 21 30 56.8 +0.8**
ABKAR Abkulak array 78.63 325 P **P 21 31 38.0 -0.3**
QSPA South Pole Qui 79.66 180 P **P 21 31 46.5 +2.6**
TORD Torodi Ar. Bea 118.64 279 PKP **PKiKP 21 38 26.6 +1.3**
comp=Z,0.4nm,0.6s,baz=75,slow=2.0,SNR=2.2

*IDC **17** 21:20:37.2±1.4, 34.°24N×25.°10E, h0km, mb3.6/4, mb1 3.7/9, mb1mx3.5/52, mbtmp3.6/9, ML3.7/5, Error ellipse: s-maj=24.3km s-min=19.5km az=66.0*
*ATH **17** 21:20:38.1, 34.°19N×25.°11E, h24km±4km, ML2.8/6, Error ellipse: s-maj=5.7km s-min=1.9km az=352.0*
*THE **17** 21:20:39.0, 34.°22N×25.°05E, h0km±1km, ML2.8/5, Error ellipse: s-maj=2.3km s-min=0.7km az=172.0*
ISC 17 21:20:37.6±1.8, 34.°17N±0.°06×25.°12E±0.°04, h6km±12km, n30, σ1s14/42, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.89**	**343**	P	**Pg**	**21 20 54.7**	**0.0**
SIVA				S	**Sb**	**21 21 07.8**	**+0.3**
2μm,0.6s							
SIVA	**Sivas**	**0.89**	**343**	P	**Pg**	**21 20 54.4**	**-0.2**
SIVA				S	**Sb**	**21 21 07.1**	**-0.4**
SIVA				AML	AML	21 21 12.2	
comp=E,3507μm,0.5s							
SIVA				AML	AML	21 21 16.9	
comp=N,2953μm,0.7s							
TMBK	**Timbaki Herakl**	**0.95**	**342**	P	**Pb**	**21 20 56.0**	**-0.5**
TMBK				S	**Sb**	**21 21 09.4**	**+0.1**
comp=N,318nm,0.7s							
FRMA	**Ierapetra Chan**	**0.98**	**31**	P	**Pn**	**21 20 59.2**	**+1.2**
LAST	**Lasithi**	**1.04**	**16**	P	**Pb**	**21 20 57.8**	**-0.2**
LAST	**Lasithi**	**1.04**	**16**	P	**Pb**	**21 20 57.7**	**-0.2**
LAST				AML	AML	21 21 18.3	
comp=E,788μm,1.1s							
LAST				AML	AML	21 21 23.8	
comp=N,522μm,0.8s							
GVD	**Gavdhos**	**1.09**	**308**	P	**Pg**	**21 20 58.1**	**-0.4**
GVD				S	**Sb**	**21 21 13.9**	**+0.6**
comp=N,982nm,0.4s							
GVD	**Gavdhos**	**1.09**	**308**	P	**Pg**	**21 20 58.0**	**-0.4**
GVD				S	**Sb**	**21 21 13.8**	**+0.5**
GVD				AML	AML	21 21 16.4	
comp=E,2327μm,0.4s							
GVD				AML	AML	21 21 16.6	
comp=N,1666μm,0.4s							
GVDS	**Gavdos**	**1.09**	**309**	P	**Pg**	**21 20 58.5**	**0.0**
GVDS				S	**Sb**	**21 21 14.1**	**+0.8**
comp=N,570nm,0.5s							
IDI	**Anoyia**	**1.14**	**350**	Pn	**Pg**	**21 20 58.3**	**-1.1**
comp=N,12nm,0.3s,baz=188,slow=14,SNR=9.3							
IDI				Sn	**Sn**	**21 21 16.0**	**-0.1**
comp=N,34nm,0.3s,baz=256,slow=18,SNR=8.9							
IDI	**Anoyia**	**1.14**	**350**	P	**Pg**	**21 20 58.9**	**-0.5**
IDI				S	**Sn**	**21 21 15.6**	**-0.5**
IDI	**Anoyia**	**1.14**	**350**	P	**Pg**	**21 20 58.6**	**-0.8**
IDI				S	**Sb**	**21 21 14.5**	**-0.3**
IDI				AML	AML	21 21 20.4	
comp=E,428μm,0.5s							
IDI				AML	AML	21 21 24.3	
comp=N,443μm,0.5s							
KSTL	**Kastelli Herak**	**1.14**	**358**	P	**Pg**	**21 20 58.7**	**-0.7**
KSTL				S	**Sb**	**21 21 13.8**	**-0.9**
NPS	**Neapolis**	**1.17**	**20**	P	**Pb**	**21 21 00.3**	**+0.1**
NPS	**Neapolis**	**1.17**	**20**	P	**Pb**	**21 21 00.4**	**+0.1**
ZKR	**Zakros**	**1.31**	**43**	P	**Pn**	**21 21 03.6**	**+1.2**
ZKR				S	**Sn**	**21 21 22.3**	**+2.1**
comp=N,230nm,0.5s							
ZKR	**Zakros**	**1.31**	**43**	P	**Pb**	**21 21 03.1**	**+0.5**
ZKR				AML	AML	21 21 26.7	
comp=N,311μm,0.8s							
ZKR				AML	AML	21 21 36.6	
comp=E,653μm,0.7s							
VAM	**Vamos**	**1.45**	**329**	P	**Pn**	**21 21 04.0**	**-0.4**
VAM	**Vamos**	**1.45**	**329**	P	**Pn**	**21 21 04.1**	**-0.4**
IMMV	**Iera Moni Meta**	**1.60**	**324**	P	**Pn**	**21 21 06.4**	**0.0**
IMMV	**Iera Moni Meta**	**1.60**	**324**	P	**Pn**	**21 21 06.8**	**+0.4**
IMMV				AML	AML	21 21 42.5	
comp=N,403μm,0.4s							
IMMV				AML	AML	21 21 52.0	
comp=E,441μm,0.6s							
MMAI	**Mount Meron Ar**	**8.65**	**95**	Pn	**Pn**	**21 22 44.0**	**+0.5**
comp=E,0.8nm,0.3s,baz=286,slow=12,SNR=2.4							
MMAI				Sn	**Sn**	**21 24 16.1**	**-5.4**
comp=E,0.4nm,0.3s,baz=287,slow=24,SNR=1.3							
EIL	**Elat**	**9.48**	**116**	Pn	**Pn**	**21 22 54.0**	**-0.7**
comp=E,0.8nm,0.3s,baz=304,slow=3.5,SNR=5.8							
EIL				Sn	Sn	21 24 33.7	-7.9
comp=E,0.5nm,0.3s,baz=321,slow=14,SNR=1.8							
KBZ	**Khabaz**	**16.77**	**50**	Pn	**P**	**21 24 37.5**	**+2.1**
comp=E,0.1nm,0.3s,baz=224,slow=13,SNR=2.2							
AKASG	**Malin Array Be**	**16.80**	**9**	Pn	**Pn**	**21 24 32.8**	**-0.5**
comp=E,0.7nm,0.3s,baz=202,slow=11,SNR=2.0							
GERES	**GERESS Array B**	**16.95**	**333**	Pn	**P**	**21 24 37.2**	**-0.2**
comp=E,0.1nm,0.3s,baz=144,slow=12,SNR=6.8							
TORD	**Torodi Ar. Bea**	**29.83**	**231**	P	**P**	**21 26 46.6**	**+0.9**
comp=E,0.4nm,0.5s,baz=32,slow=9.4,SNR=4.2							
KURBB	**Kurchatov Arra**	**41.77**	**50**	P	**P**	**21 28 27.8**	**+0.2**
comp=E,0.2nm,0.2s,baz=278,slow=8.7,SNR=4.4							
MKAR	**Makanchi Array**	**44.35**	**56**	P	**P**	**21 28 48.9**	**+0.3**
comp=E,0.8nm,0.7s,baz=288,slow=6.6,SNR=5.5							
ZALV	**Zalesovo Beam**	**45.72**	**45**	P	**P**	**21 28 59.6**	**+0.3**
comp=E,0.5nm,0.4s,baz=270,slow=8.6,SNR=2.3							

IDC 17 21:55:59.5±3.7, 0.°59N×95.°56E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/37, mbtmp3.3/4, Error ellipse: s-maj=132.5km s-min=28.6km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.07**	**10**	P	Pn	22 00 11.7	-0.5
baz=209,slow=13,SNR=1.4							
H08S2	**Diego Garcia H**	**24.42**	**250**	T	T	22 26 48.7	
baz=70,slow=74							
H08S3	**Diego Garcia H**	**24.42**	**250**	T	T	22 26 55.8	
baz=70							
H08S1	**Diego Garcia H**	**24.43**	**250**	T	T	22 26 47.4	
baz=70,slow=74							
WRA	**Warramunga Arr**	**43.12**	**120**	P	P	22 04 01.6	-0.4
0.3nm,0.8s,baz=292,slow=9.0,SNR=2.3							
ASAR	**Alice Springs**	**44.35**	**126**	P	P	22 04 12.0	0.0
0.2nm,0.5s,baz=294,slow=7.0,SNR=4.5							
MKAR	**Makanchi Array**	**47.46**	**348**	P	P	22 04 36.2	+0.1
0.6nm,0.7s,baz=165,slow=7.2,SNR=3.5							

*IDC **17** 21:59:34.0±1.6, 20.°11S×70.°67W, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.7/26, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=40.4km s-min=19.2km az=71.0*
*SJA **17** 21:59:34.9±0.7, 20.°21S×70.°83W, h23km±3km, ML3.9, MW4.1*
*NEIC **17** 21:59:36.6±2.3, 20.°23S±0.°03×70.°74W±0.°04, h22km±6km, Error ellipse: s-maj=6.8km s-min=2.6km az=117.0*
*GUC **17** 21:59:37.9±0.6, 20.°19S×70.°81W, h24km±3km, ML3.9*
ISC 17 21:59:35.5±0.7, 20.°21S±0.°02×70.°83W±0.°05, h22km±4km, n84, σ1s62/107, mb4.2/3, 3C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.66**	**95**	*eP*	**Pn**	**21 59 48.8**	**-0.7**
TA02				*i* S	**Sn**	**21 59 57.4**	**-1.9**
TA02				IAML		21 59 58.9	
comp=N,20μm,0.1s							
TA01	**Diego Aracena**	**0.71**	**120**	*eP*	**Pn**	**21 59 49.7**	**-0.5**
TA01				*i* S	**Sn**	**21 59 58.8**	**-1.6**
TA01				IAML		22 00 01.4	
comp=E,7μm,0.3s							
TA01	**Diego Aracena**	**0.71**	**120**		**Pn**	**21 59 49.7**	**-0.5**
TA01				Sn	**Sn**	**21 59 58.6**	**-1.8**
PATCX	**Punta Patache**	**0.88**	**134**	*eP*	**Pn**	**21 59 52.7**	**0.0**
PATCX				*i* S	**Sn**	**22 00 04.4**	**-0.4**
PATCX	**Punta Patache**	**0.88**	**134**		**Pn**	**21 59 52.7**	**0.0**
PATCX				Sn	**Sn**	**22 00 04.0**	**-0.9**
PATCX	**Punta Patache**	**0.88**	**134**	*eP*	**Pn**	**21 59 52.6**	**0.0**
PATCX				*eP*	**Pn**	**21 59 52.7**	**0.0**
PATCX				*eP*	**Pn**	**21 59 52.7**	**0.0**
PSGCX	**Pisagua**	**0.90**	**48**		**Pn**	**21 59 52.9**	**-0.2**
PSGCX				Sn	**Sn**	**22 00 04.8**	**-0.7**
PSGCX	**Pisagua**	**0.90**	**48**	*eP*	Pb	21 59 38.4	-14
PSGCX				*eP*	Pn	21 59 40.3	-13
PSGCX				*eS*	Sb	21 59 52.9	-11
PB11	**IPOC Station P**	**1.19**	**68**	*eP*	**Pb**	**21 59 57.4**	**-0.2**
PB11				*i* S	**Sn**	**22 00 12.8**	**+0.1**
PB11				IAML		22 00 18.0	
comp=N,6μm,0.2s							
PB11	**IPOC Station P**	**1.19**	**68**		**Pb**	**21 59 57.3**	**-0.2**
PB11				Sn	**Sn**	**22 00 12.3**	**-0.4**
PB11	**IPOC Station P**	**1.19**	**68**	*eP*	**Pb**	**21 59 57.4**	**-0.2**
PB11				*eS*	**Sn**	**22 00 14.3**	**+1.6**
PB11				IAML		22 00 17.8	
comp=Z,2μm,0.3s							
PB02	**IPOC Station P**	**1.41**	**142**	*eP*	**Pb**	**22 00 01.2**	**-0.1**
PB02				*i* S	**Sb**	**22 00 19.2**	**+0.4**
PB02				IAML		22 00 25.0	
comp=E,7μm,0.4s							
PB02	**IPOC Station P**	**1.41**	**142**	*eP*	**Pb**	**22 00 01.0**	**-0.2**
PB02				*eS*	**Sb**	**22 00 20.5**	**+1.7**
PB02				IAML		22 00 29.4	
comp=Z,5μm,0.5s							
PB01	**IPOC Station P**	**1.51**	**124**	*eP*	**Pb**	**22 00 02.5**	**-0.4**
PB01				*i* S	**Sb**	**22 00 21.9**	**+0.2**
PB01				IAML		22 00 27.8	
comp=E,4μm,0.3s							
PB01	**IPOC Station P**	**1.51**	**124**		**Pb**	**22 00 02.5**	**-0.4**
PB01	**IPOC Station P**	**1.51**	**124**	*eP*	**Pb**	**22 00 02.5**	**-0.4**
PB01				*eS*	**Sb**	**22 00 23.4**	**+1.8**
PB01				IAML		22 00 27.4	
comp=Z,3μm,0.3s							
PB08	**IPOC Station P**	**1.58**	**88**	*eP*	**Pb**	**22 00 03.9**	**-0.4**
PB08				*i* S	**Sb**	**22 00 24.5**	**+0.6**
PB08	**IPOC Station P**	**1.58**	**88**		**Pb**	**22 00 03.8**	**-0.4**
PB08	**IPOC Station P**	**1.58**	**88**	*eP*	**Pb**	**22 00 03.8**	**-0.4**
PB08				*eS*	**Sb**	**22 00 24.4**	**+0.5**
MNMC	**Minye Minye**	**1.58**	**48**		**Pb**	**22 00 03.9**	**-0.4**
MNMCX	**Minye Minye**	**1.58**	**48**	*eP*	**Pb**	**22 00 03.9**	**-0.3**
GO01	**Chusmiza**	**1.63**	**71**	*eP*	**Pb**	**22 00 04.7**	**-0.5**
GO01				*i* S	**Sb**	**22 00 26.4**	**+0.8**
GO01	**Chusmiza**	**1.63**	**71**		**Pb**	**22 00 04.7**	**-0.5**
PB12	**IPOC Station P**	**1.66**	**17**	*eP*	**Pb**	**22 00 04.4**	**-1.0**
PB12				*i* S	**Sb**	**22 00 25.7**	**-0.2**
PB12	**IPOC Station P**	**1.66**	**17**		**Pb**	**22 00 04.5**	**-0.8**
PB12	**IPOC Station P**	**1.66**	**17**	*eP*	**Pb**	**22 00 04.6**	**-0.8**
PB12				*eS*	**Sb**	**22 00 27.0**	**+1.1**
PB12				IAML		22 00 36.2	
comp=Z,767nm,0.8s							
PB07	**IPOC Station P**	**1.75**	**150**	*eP*	**Pb**	**22 00 05.7**	**-1.4**
PB07				*i* S	**Sb**	**22 00 29.0**	**+0.4**
PB07				IAML		22 00 38.6	
comp=E,1μm,0.4s							
PB07	**IPOC Station P**	**1.75**	**150**		**Pb**	**22 00 05.7**	**-1.4**
PB07	**IPOC Station P**	**1.75**	**150**	*eP*	**Pb**	**22 00 05.6**	**-1.4**
PB07				*eS*	**Sb**	**22 00 31.3**	**+2.6**
PB07				IAML		22 00 41.8	
comp=Z,1μm,0.5s							
AP01	**Chacalluta**	**1.89**	**14**	Pn	**Pn**	**22 00 07.2**	**+0.8**
PB03	**IPOC Station P**	**2.09**	**151**	⇑*iP*	**Pn**	**22 00 10.2**	**+0.9**
PB03				*i* S	**Sb**	**22 00 37.9**	**-0.5**
PB03				IAML		22 00 46.4	
comp=E,591nm,0.4s							
PB03	**IPOC Station P**	**2.09**	**151**	*eP*	**Pn**	**22 00 10.3**	**+0.9**
PB03				*eS*	**Sb**	**22 00 43.6**	**+5.2**
PB03				IAML		22 00 53.6	
comp=Z,556nm,0.5s							
PB09	**IPOC Station P**	**2.17**	**137**	⇑*iP*	**Pb**	**22 00 12.7**	**-1.4**
PB09				*i* S	**Sb**	**22 00 39.9**	**-0.8**
PB09				IAML		22 00 51.0	
comp=E,2μm,0.5s							
PB09	**IPOC Station P**	**2.17**	**137**		**Pb**	**22 00 12.7**	**-1.4**
PB09	**IPOC Station P**	**2.17**	**137**	*eP*	**Pb**	**22 00 12.8**	**-1.4**
PB09				*eS*	**Sb**	**22 00 42.8**	**+2.0**
PB09				IAML		22 00 50.3	
comp=Z,2μm,0.4s							
PB04	**IPOC Station P**	**2.21**	**163**	*eP*	**Pn**	**22 00 11.5**	**+0.4**
PB04				*i* S	**Sb**	**22 00 41.6**	**-0.2**
PB04				IAML		22 00 56.3	
comp=E,894nm,0.5s							
PB04	**IPOC Station P**	**2.21**	**163**		**Pn**	**22 00 11.4**	**+0.4**
PB04	**IPOC Station P**	**2.21**	**163**	*eP*	**Pn**	**22 00 12.2**	**+1.2**
PB04				*eS*	**Sn**	**22 00 37.2**	**-0.6**
PB04				IAML		22 00 56.7	
comp=Z,828nm,0.6s							
PB16	**IPOC Station P**	**2.25**	**34**	*eP*	**Pb**	**22 00 14.3**	**-1.4**
PB16	**IPOC Station P**	**2.25**	**34**		**Pb**	**22 00 14.2**	**-1.5**
PB16	**IPOC Station P**	**2.25**	**34**	*eP*	**Pb**	**22 00 13.5**	**-2.2**
PB16				*eS*	**Sb**	**22 00 45.0**	**+1.7**
PB16				IAML		22 00 50.3	
comp=Z,759nm,0.4s							
PB05	**IPOC Station P**	**2.70**	**168**	*eP*	**Pn**	**22 00 18.0**	**+0.3**
PB05				*eS*	Sb	22 01 05.1	+9.3
PB05				IAML		22 01 05.8	
comp=Z,295nm,0.5s							
PB06	**IPOC Station P**	**2.75**	**155**		**Pn**	**22 00 19.0**	**+0.5**
PB06	**IPOC Station P**	**2.75**	**155**	*eP*	**Pn**	**22 00 19.2**	**+0.7**
PB06				*eS*	**Sb**	**22 01 02.5**	**+5.1**
PB06				IAML		22 01 15.4	
comp=Z,451nm,0.7s							
LVC	**Limon Verde**	**2.99**	**143**	Pn	**Pn**	**22 00 24.4**	**+2.5**
comp=Z,11nm,0.3s,baz=331,slow=11,SNR=163							
LVC				Sn	**Sb**	**22 01 00.6**	**-3.9**
comp=Z,16nm,0.3s,baz=298,slow=18,SNR=1.8							
LVC				Lg	Lg	22 01 08.0	
comp=Z,53nm,0.3s,baz=99,slow=19,SNR=14							
LVC	**Limon Verde**	**2.99**	**143**		**Pn**	**22 00 24.2**	**+2.3**
LVC	**Limon Verde**	**2.99**	**143**	*eP*	**Pn**	**22 00 24.4**	**+2.5**
LVC				*eS*	**Sb**	**22 01 11.4**	**+6.9**
LVC				IAML		22 01 16.2	
comp=Z,183nm,0.5s							
PB15	**IPOC Station P**	**3.24**	**157**	⇑*iP*	**Pn**	**22 00 25.7**	**+0.4**
PB15	**IPOC Station P**	**3.24**	**157**		**Pn**	**22 00 25.9**	**+0.6**
PB15	**IPOC Station P**	**3.24**	**157**	*eP*	**Pn**	**22 00 26.6**	**+1.3**
PB15				*eS*	Sb	22 01 24.7	+13
PB15				IAML		22 01 27.9	
comp=Z,656nm,0.5s							
PB10	**IPOC Station P**	**3.30**	**176**	*eP*	**Pn**	**22 00 25.6**	**-0.3**
PB10				*i* S	**Sn**	**22 01 00.9**	**-3.6**
PB10				IAML		22 01 34.6	
comp=E,110nm,0.4s							
PB10	**IPOC Station P**	**3.30**	**176**		**Pn**	**22 00 25.5**	**-0.4**
PB10	**IPOC Station P**	**3.30**	**176**	*eP*	**Pn**	**22 00 26.3**	**+0.4**
PB10				*eS*	**Sn**	**22 01 03.2**	**-1.3**
PB14	**IPOC Station P**	**4.41**	**175**		**Pn**	**22 00 41.3**	**-0.2**
PB14	**IPOC Station P**	**4.41**	**175**	*eP*	**Pn**	**22 00 41.7**	**+0.2**
PB14				*eS*	**Sn**	**22 01 30.1**	**-2.3**
PB14				IAML		22 02 14.5	
comp=Z,80nm,0.5s							
LPAZ	**La Paz**	**4.67**	**34**	Pn	Pb	22 00 51.8	-5.3
comp=Z,1.2nm,0.3s,baz=289,slow=2.9,SNR=26							
GO02	**Mina Guanaco**	**5.06**	**167**		**Pn**	**22 00 50.5**	**

comp=Z,4.2nm,1.2s
TORD Torodi Ar. Bea 78.63 71 P **P 22 11 36.2 0.0**
comp=Z,1.9nm,0.8s,baz=251,slow=5.0,SNR=6.1
TORD Torodi Ar. Bea 78.63 71 P **P 22 11 36.3 0.0**
H11S2 WAKE ISLAND Hyt25.92 279 T T 00 38 00.3
baz=102,slow=74,SNR=27
H11S1 WAKE ISLAND Hyt25.93 279 T T 00 38 02.6
baz=102,slow=74,SNR=22
H11S3 WAKE ISLAND Hyt25.94 279 T T 00 37 51.6
baz=102,slow=74,SNR=19
H11N3 WAKE ISLAND Hyt25.97 280 T T 00 38 12.9
baz=101,slow=75,SNR=17
H11N2 WAKE ISLAND Hyt25.99 280 T T 00 38 07.6
baz=101,slow=75,SNR=15
H11N1 WAKE ISLAND Hyt25.99 280 T T 00 37 58.8
baz=101,slow=75,SNR=11
WRA Warramunga Arr 133.09 213 PKP **PKPdf 22 18 51.2 +0.9**
comp=Z,0.2nm,0.8s,baz=139,slow=2.2,SNR=1.7
ZALV Zalesovo Beam 141.51 23 PKP **PKiKP 22 19 07.5 0.0**
comp=Z,0.5nm,0.5s,baz=302,slow=3.2,SNR=2.1
MKAR Makanchi Array 145.60 33 PKPbc **PKPab 22 19 14.2 +1.6**
comp=Z,1.6nm,0.7s,baz=333,slow=2.6,SNR=12

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*IDC **17** 22:10:38.6±2.9, 9°.37S×112°.97E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/50, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=151.0km s-min=18.2km az=49.0*
*NEIC **17** 22:10:39.4±2.8, 9°.78S±0°.08×112°.91E±0°.05, h10km±1km, mb4.1/8, Error ellipse: s-maj=13.4km s-min=9.0km az=173.0*
*DJA **17** 22:10:44.4±0.6, 9°.5S±6°.5×11°.3E±°, h10km, M4.2/8, mB5.2/1, mb4.8/1, MLv3.9/8, Mw(mB)4.6/1*
ISC 17 22:10:38.8±0.6, **9°.67S**±0°.06×**112°.90E**±0°.04, **h10**km, **n36,** σ1°**46**/40, **mb4.1**/11, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.71**	**46**	P	**Pg**	**22 11 11.5**	**-0.3**
JAGI				S	**Sb**	**22 11 31.4**	**-0.7**
JAGI	**Jajag, Banyuwa**	**1.71**	**46**		**Pb**	**22 11 10.7**	**+0.3**
JAGI				Sn	**Sg**	**22 11 33.8**	**-0.2**
PWJI	**Pagerwojo**	**1.96**	**326**	P	**Pb**	**22 11 13.6**	**-1.1**
PWJI				S	**Sn**	**22 11 34.9**	**-2.0**
BLJI	**Banyuglugur**	**2.03**	**20**	P	**Pb**	**22 11 16.1**	**+0.3**
ABJI	**Asem Bagus**	**2.28**	**35**	P	Pg	22 11 31.5	+8.9
WOJI	**Wonogiri, Jawa**	**2.67**	**313**	P	**Pb**	**22 11 24.3**	**-2.5**
WOJI				S	**Sn**	**22 11 53.8**	**-0.6**
NGJI	**Ngawi**	**2.69**	**328**	P	**Pb**	**22 11 28.7**	**+1.5**
NGJI				Pg	**Pg**	**22 11 28.5**	**-2.0**
SMRI	**Semarang**	**3.56**	**317**		**Pn**	**22 11 36.8**	**+2.6**
TWSI	**Taliwang, Sumb**	**4.04**	**77**	P	**Pb**	**22 11 46.3**	**-3.8**
CISI	**Cisompet, Garu**	**5.45**	**292**	P	**Pn**	**22 12 03.1**	**+2.9**
CISI	**Cisompet, Garu**	**5.45**	**292**	Pn	**Pn**	**22 12 02.4**	**+2.2**
XMIS	**Christmas Isla**	**7.19**	**263**	Pn	**Pn**	**22 12 24.8**	**+0.7**
MNAI	**Manna**	**11.19**	**297**	Pn	**Pn**	**22 13 20.0**	**+1.0**
GIRL	**Giralia**	**12.96**	**175**	Pn	**Pn**	**22 13 43.1**	**-0.1**
PSA00	**Pilbara Seismi**	**13.59**	**151**	Pn	**Pn**	**22 13 51.7**	**0.0**
FITZ	**Fitzroy Crossi**	**14.93**	**126**	Pn	**Pn**	**22 14 11.8**	**+1.7**
	0.3nm,0.3s,baz=16,slow=6.8,SNR=6.5						
FITZ				Sn	Sn	22 16 47.5	-8.2
	0.2nm,0.3s,baz=360,slow=18,SNR=1.5						
FITZ	**Fitzroy Crossi**	**14.93**	**126**		**Pn**	**22 14 11.3**	**+1.2**
WB0	**Warramunga Arr**	**23.05**	**118**	P	**P**	**22 15 45.1**	**+0.4**
WB0				IAmb	IAmb	22 15 49.8	
	comp=Z,6.8nm,1.4s						
WRA	**Warramunga Arr**	**23.08**	**119**	P	**P**	**22 15 46.7**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=295,slow=10,SNR=9.6						
WB2	**Warramunga Arr**	**23.09**	**119**	P	**P**	**22 15 46.3**	**+1.3**
WB2				IAmb	IAmb	22 15 49.8	
	comp=Z,3.9nm,1.2s						
ASAR	**Alice Springs**	**24.41**	**127**	P	**P**	**22 16 00.9**	**+3.1**
	comp=Z,0.9nm,0.6s,baz=303,slow=8.8,SNR=14						
ASAR	**Alice Springs**	**24.41**	**127**	P	**P**	**22 15 58.2**	**+0.4**
AS31	**Alice Springs**	**24.41**	**127**	P	**P**	**22 15 57.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.16**	**334**	P	**P**	**22 16 58.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=167,slow=8.3,SNR=5.3						
SHL	**Shillong**	**40.56**	**330**	P	**P**	**22 18 18.6**	**-0.3**
SHL				IAmb	IAmb	22 18 19.0	
	comp=Z,3.2nm,0.7s						
KSAR	**Wonju Array Be**	**48.92**	**16**	P	**P**	**22 19 25.1**	**0.0**
ULN	**Ulaanbaatar**	**57.51**	**355**	P	**P**	**22 20 28.0**	**-0.5**
ULN				IAmb	IAmb	22 20 29.0	
	comp=Z,2.6nm,0.8s						
SONM	**Songino Array**	**57.54**	**355**	P	**P**	**22 20 28.2**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=175,slow=9.0,SNR=16						
SONM	**Songino Array**	**57.54**	**355**	P	**P**	**22 20 28.5**	**-0.1**
MK31	**Makanchi Array**	**62.50**	**337**	P	**P**	**22 21 02.1**	**-0.5**
MK31				IAmb	IAmb	22 21 02.6	
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**62.50**	**337**	P	**P**	**22 21 01.9**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=147,slow=7.4,SNR=21						
MKAR	**Makanchi Array**	**62.50**	**337**	P	**P**	**22 21 01.7**	**-0.9**
ZAA0	**Zalesovo Array**	**67.69**	**342**	P	**P**	**22 21 35.4**	**-0.7**
ZALV	**Zalesovo Beam**	**67.69**	**342**	P	**P**	**22 21 35.2**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=149,slow=5.9,SNR=10						
ZALV	**Zalesovo Beam**	**67.69**	**342**	P	**P**	**22 21 35.4**	**-0.7**
ABKAR	**Akbulak array**	**74.75**	**327**	P	**P**	**22 22 19.8**	**+0.8**

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*ANF **17** 22:12:48.5±2.0, 29°.43N×113°.73W, h9km±9km, ML4.6/13, Error ellipse: s-maj=22.4km s-min=8.7km az=8.0*
*NEIC **17** 22:13:05.9±1.9, 30°.70N±0°.04×114°.17W±0°.05, h4km±6km, Error ellipse: s-maj=7.6km s-min=5.2km az=223.0*
*IDC **17** 22:13:05.6±1.7, 30°.56N×114°.12W, h0km, mb4.1/7, mb1 4.0/14, mb1mx3.8/70, mbtmp3.8/14, ML3.7/5, MS3.7/15, Ms1 3.8/15, ms1mx3.6/32, Error ellipse: s-maj=36.8km s-min=11.6km az=39.0*
*ECX **17** 22:13:05.8±0.8, 30°.57N×114°.29W, h0km±5km, MD4.0, ML4.3*
*MEX **17** 22:13:05.6±0.3, 31°.35N×114°.02W, h6km±5km, MD4.3*
*UNK **17** 22:13:06.9, 30°.79N×114°.16W, h10km*
ISC 17 22:13:05.3±0.6, **30°.57N**±0°.05×**114°.24W**±0°.03, **h10**km, **n187,** σ1°**43**/184, **mb4.1**/11, **MS3.8**/11, **2C-8D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.70**	**311**		**Pg**	**22 13 17.9**	**-1.0**
SFX				Sg	**Sg**	**22 13 28.7**	**+0.6**
SFX	**San Felipe**	**0.70**	**311**	⇓*e*P	**Pg**	**22 13 17.8**	**-1.0**
SFX				*e*S	**Sg**	**22 13 28.0**	**-0.1**
ECBX	**El Chinero**	**1.14**	**322**	⇓*e*P	**Pb**	**22 13 24.8**	**-2.2**
ECBX				*e*S	**Sb**	**22 13 40.0**	**-1.9**
SPX	**San Pedro Mart**	**1.16**	**294**	*e*P	**Pb**	**22 13 26.2**	**-1.3**
SPX				*i* S	**Sb**	**22 13 42.2**	**-0.5**
SPX	**San Pedro Mart**	**1.16**	**294**		**Pb**	**22 13 26.2**	**-1.3**
SPX	**San Pedro Mart**	**1.16**	**294**	⇓*e*P	**Pb**	**22 13 26.2**	**-1.3**
SPX				*e*S	**Sb**	**22 13 41.5**	**-1.2**
SPX				⇓*e*		22 13 52.7	
SPX				IAML		22 13 52.7	
	comp=E,4μm,0.5s						
SPX				*e*		22 13 53.4	
SPX				IAML		22 13 53.4	
	comp=N,5μm,1.7s						
SPIG	**San Pedro Mart**	**1.16**	**294**	*e*P	**Pb**	**22 13 26.2**	**-1.4**
SPIG				*i* S	**Sb**	**22 13 42.5**	**-0.3**
SPIG	**San Pedro Mart**	**1.16**	**294**	⇓*e*P	**Pb**	**22 13 26.2**	**-1.4**
SPIG				*e*S	**Sb**	**22 13 41.4**	**-1.4**
PIX	**Pinacate**	**1.19**	**34**	Pg	**Pb**	**22 13 26.3**	**-1.6**
PIX	**Pinacate**	**1.19**	**34**	⇓*e*P	**Pb**	**22 13 26.4**	**-1.6**
PIX				*e*S	**Sn**	**22 13 44.5**	**+0.3**
SQX	**San Quintin**	**1.42**	**271**	⇓*e*P	**Pn**	**22 13 29.9**	**-1.1**
SQX				*e*S	**Sn**	**22 13 49.0**	**-0.8**
214A	**Organ Pipe Nat**	**1.84**	**41**	Pb	**Pn**	**22 13 35.8**	**-1.2**
	baz=225,SNR=120						
214A				S	**Sg**	**22 14 04.3**	**-0.2**
	baz=225						
214A	**Organ Pipe Nat**	**1.84**	**41**	Pn	**Pn**	**22 13 35.7**	**-1.2**
GUVIX	**Guadalupe Vict**	**1.87**	**338**	Pn	**Pn**	**22 13 37.2**	**-0.1**
MBIG	**Mexicali**	**2.01**	**336**	*i* P	Pn	22 13 28.7	-10
MBIG				*e*P	Pb	22 13 29.4	-12
ESJX	**Sierra Juarez**	**2.05**	**315**		**Pn**	**22 13 36.9**	**-3.1**
CPBX	**Cerro Prieto**	**2.06**	**334**		**Pn**	**22 13 39.6**	**-0.3**
CPBX	**Cerro Prieto**	**2.06**	**334**	⇑*e*		22 14 52.7	
CPBX				IAML		22 14 52.7	
	comp=E,5μm,3.0s						
113A	**Mohawk Valley,**	**2.23**	**10**		**Pn**	**22 13 40.1**	**-2.1**
UABX	**UABC, Campus M**	**2.30**	**334**	Pn	**Pn**	**22 13 44.3**	**+1.1**
CCX	**Cicese**	**2.45**	**302**		**Pn**	**22 13 47.1**	**+1.9**
GLA	**Glamis**	**2.52**	**349**	P	**Pn**	**22 13 45.4**	**-0.9**
	baz=166,SNR=14						
GLA	**Glamis**	**2.52**	**349**		**Pn**	**22 13 45.5**	**-0.9**
RMX	**La Rumorosa**	**2.56**	**323**		**Pn**	**22 13 46.8**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**2.62**	**323**	P	**Pn**	**22 13 48.2**	**+0.5**
	baz=138,SNR=33						
IKP				S	**Sg**	**22 14 30.2**	**+0.9**
	baz=138						
CBX	**Cerro Bola**	**2.71**	**311**	*e*P	Pn	22 13 43.0	-5.9
CBX				*i* S	Sn	22 14 12.0	-10
CBX	**Cerro Bola**	**2.71**	**311**		**Pn**	**22 13 48.5**	**-0.5**
CBX	**Cerro Bola**	**2.71**	**311**	*e*P	**Pn**	**22 13 49.6**	**+0.7**
CBX				IAML		22 14 43.3	
	comp=E,3μm,1.5s						
CBX				⇓*e*		22 14 43.3	
CBX				⇑*e*		22 14 44.6	
CBX				IAML		22 14 44.6	
	comp=N,2μm,2.2s						
SWSC	**Sam W. Stewart**	**2.71**	**331**	Pb	**Pg**	**22 13 58.4**	**+1.1**
	baz=147						
TKX	**Tecate**	**2.84**	**315**		**Pn**	**22 13 51.1**	**+0.4**
BAR	**Barrett**	**2.96**	**316**	Pn	**Pn**	**22 13 51.7**	**-0.6**
MONP2	**Monument Peak**	**2.97**	**322**	P	**Pn**	**22 13 52.1**	**-0.6**
	baz=137,SNR=45						
MONP2				S	**Sg**	**22 14 40.3**	**-0.4**
	baz=137						
TJX	**Tijuana**	**3.09**	**309**	Pn	**Pn**	**22 13 54.9**	**+0.8**
BC3	**Big Chuckawall**	**3.24**	**342**	P	**Pn**	**22 13 56.3**	**0.0**
	baz=159						
HSIG		**3.25**	**118**	Pn	**Pn**	**22 13 57.8**	**+1.5**
109C	**Camp Elliot, M**	**3.36**	**314**	Pb	**Pg**	**22 14 07.5**	**-2.3**
	baz=129						
109C				S	**Sb**	**22 14 50.0**	**+4.0**
	baz=129						
109C	**Camp Elliot, M**	**3.36**	**314**	Pn	**Pn**	**22 13 58.1**	**+0.3**
TUC	**Tucson**	**3.42**	**59**	Pb	**Pn**	**22 13 57.6**	**-1.2**
	baz=243						
TUC	**Tucson**	**3.42**	**59**		**Pn**	**22 13 58.0**	**-0.7**
Y14A	**Wickenburg**	**3.52**	**17**		**Pn**	**22 13 59.6**	**-0.4**
TPFO	**Pinon Flats**	**3.56**	**329**	S	**Sg**	**22 14 57.4**	**-2.4**
	baz=145						
PFO	**Pinyon Flats O**	**3.57**	**329**	Pn	**Pn**	**22 14 00.7**	**-0.1**
	comp=N,0.6nm,0.3s,baz=146,slow=14,SNR=4.8						
PFO				Lg	Lg	22 14 59.6	
	comp=N,4.3nm,0.3s,baz=70,slow=18,SNR=2.3						
PFO				LR	LR	22 15 31.8	
	comp=N,2μm,20.7s,baz=166,slow=40						
PFO	**Pinyon Flats O**	**3.57**	**329**	P	**Pn**	**22 14 00.6**	**-0.3**
	baz=145						
PFO				S	**Sg**	**22 14 59.2**	**-0.7**
	baz=145						
PFO	**Pinyon Flats O**	**3.57**	**329**		**Pn**	**22 13 59.3**	**-1.6**
IRM	**Iron Mountain**	**3.66**	**348**	P	**Pn**	**22 14 02.3**	**+0.3**
	baz=166						
SRIG	**Santa Rosalia**	**3.68**	**151**	Pn	**Pn**	**22 14 03.5**	**+1.2**
BELC	**Belle Mtn. Jos**	**3.73**	**337**	Pg	Pg	22 14 22.9	+6.2
	baz=154						
MURC	**Murrieta**	**3.93**	**321**	Pb	**Pg**	**22 14 18.0**	**-2.5**
	baz=137						
MURC				S	**Sb**	**22 15 06.9**	**+4.7**
	baz=137						
X16A	**Lo Mia Camp, P**	**4.50**	**31**		**Pn**	**22 14 12.9**	**-0.9**
W13A	**Hualapai Mount**	**4.52**	**4**		**Pn**	**22 14 13.7**	**-0.4**
HEC	**Hector,Ludlow**	**4.60**	**338**	Pb	**Pg**	**22 14 31.4**	**-2.0**
	baz=155						
BFSC	**Mount Baldy Ra**	**4.66**	**323**	Pb	**Pg**	**22 14 31.5**	**-3.1**
	baz=138						
MWC	**Mount Wilson**	**4.87**	**319**	Pn	**Pn**	**22 14 18.1**	**-0.6**
PASC	**Pasadena Art C**	**4.90**	**318**	Pn	**Pn**	**22 14 19.0**	**-0.1**
TUQ	**Turquoise Moun**	**5.05**	**344**	Pg	Pg	22 14 48.7	+6.6
	baz=162						
GSC	**Goldstone, Bar**	**5.19**	**336**	Pg	Pg	22 14 50.9	+6.3
	baz=153						
GSC	**Goldstone, Bar**	**5.19**	**336**	Pn	**Pn**	**22 14 22.6**	**-0.4**
EDW2	**Edwards Air Fo**	**5.34**	**325**	Pb	**Pg**	**22 14 43.8**	**-3.7**
	baz=141						
CGIG		**5.41**	**91**	*i* P	**Pn**	**22 14 22.7**	**-3.4**
CGIG				*i* S	**Sn**	**22 15 23.3**	**-5.2**
WUAZ	**Wupatki**	**5.49**	**25**	P	**Pn**	**22 14 27.6**	**+0.4**
	baz=207,SNR=10						
WUAZ	**Wupatki**	**5.49**	**25**		**Pn**	**22 14 26.2**	**-1.0**
121A	**Cookes Peak, D**	**5.84**	**69**	Pb	**Pn**	**22 14 32.9**	**+0.8**
	baz=254,SNR=8.7						
121A	**Cookes Peak, D**	**5.84**	**69**	Pn	**Pn**	**22 14 31.6**	**-0.5**
W18A	**Petrified Fore**	**5.91**	**39**	P	**Pn**	**22 14 33.7**	**+0.7**
	baz=222						
SHPR	**Sheep Range**	**5.97**	**353**	Pn	**Pn**	**22 14 32.9**	**-0.9**
MPMC	**Manual Prospec**	**6.11**	**334**	Pg	Pg	22 15 08.7	+6.4
	baz=151						
ISA	**Isabella, Lake**	**6.20**	**326**	Pn	**Pn**	**22 14 37.2**	**+0.3**
LCMT	**Little Creek M**	**6.48**	**7**		**Pn**	**22 14 40.2**	**-0.6**
KNB	**Kanab**	**6.54**	**10**		**Pn**	**22 14 42.6**	**+1.0**
TPNV	**Topopah Spring**	**6.58**	**346**	Pb	**Pb**	**22 15 03.1**	**+3.3**
	baz=164						
TPNV	**Topopah Spring**	**6.58**	**346**	Pn	**Pn**	**22 14 41.6**	**-0.5**
PRN	**Pahroc Range**	**6.85**	**355**		**Pn**	**22 14 47.6**	**+1.7**
CCUT	**Cedar City**	**7.00**	**6**		**Pn**	**22 14 49.6**	**+1.6**
SZCU	**Shurtz Canyon**	**7.07**	**7**	Pn	**Pn**	**22 14 49.9**	**+0.9**
Y22D	**IRIS PASSCAL I**	**7.11**	**59**	Pn	**Pn**	**22 14 48.5**	**-1.0**
LENM	**Lemitar**	**7.11**	**58**		**Pn**	**22 14 47.9**	**-1.7**
PAGB	**Antelope Grade**	**7.20**	**317**	Pn	**Pn**	**22 14 51.1**	**+0.5**
BNM	**Barren Site**	**7.36**	**59**	Pn	**Pn**	**22 14 53.4**	**+0.4**
MNTX	**Cornudas Mount**	**7.67**	**79**	Pb	**Pn**	**22 14 57.9**	**+0.8**
	baz=265						
MNTX	**Cornudas Mount**	**7.67**	**79**	Pn	**Pn**	**22 14 57.5**	**+0.4**
R11A	**Troy Canyon, C**	**7.84**	**352**	Pn	**Pn**	**22 14 58.5**	**-1.0**
ANMO	**Albuquerque**	**7.87**	**54**	Pn	**Pn**	**22 14 59.2**	**-0.7**
TPH	**Tonopah**	**7.88**	**343**	Pn	**Pn**	**22 15 01.4**	**+1.3**
PSUT	**Pine Spring**	**7.95**	**2**	Pn	**Pn**	**22 14 60.0**	**-1.1**
MSU	**Marysvale**	**8.10**	**12**	Pn	**Pn**	**22 15 02.5**	**-0.7**
TCRU	**Three Creeks R**	**8.15**	**10**	Pn	**Pn**	**22 15 03.0**	**-0.9**
MVCO	**Mesa Verde**	**8.16**	**34**	Pn	**Pn**	**22 15 02.2**	**-1.7**
LHV	**Little Huntoon**	**8.43**	**336**	Pn	**Pn**	**22 15 07.0**	**-0.4**
NVAR	**Mina Array Bea**	**8.53**	**338**	Pn	**Pn**	**22 15 12.4**	**+3.4**
	comp=N,0.0nm,0.3s,baz=168,slow=13,SNR=3.0						
NVAR				Lg	Lg	22 17 35.8	
	comp=N,0.0nm,0.3s,baz=162,slow=31,SNR=1.7						
NVAR	**Mina Array Bea**	**8.53**	**338**		**Pn**	**22 15 09.4**	**+0.4**
RYN	**Ryan**	**8.78**	**337**	Pn	**Pn**	**22 15 13.0**	**+0.6**
PV17	**East Wray Mesa**	**8.84**	**28**	Pn	**Pn**	**22 15 11.9**	**-1.4**
PV19	**Morning Glory**	**8.85**	**28**	Pn	**Pn**	**22 15 12.4**	**-1.0**
WAKR	**Walker**	**9.00**	**333**	Pn	**Pn**	**22 15 14.8**	**-0.7**
SRU	**San Rafael Swe**	**9.05**	**19**		**Pn**	**22 15 16.2**	**+0.1**
TX31	**Lajitas Ar. Si**	**9.25**	**95**		**Pn**	**22 15 19.7**	**+0.9**
TX32	**Lajitas Array**	**9.25**	**95**		**Pn**	**22 15 19.5**	**+0.7**
TXAR	**Lajitas Array**	**9.25**	**95**	Pn	**Pn**	**22 15 19.6**	**+0.7**
	comp=N,1.0nm,0.3s,baz=260,slow=15,SNR=16						
TXAR				Sn	**Sn**	**22 17 00.2**	**-2.9**
	comp=N,0.4nm,0.3s,baz=272,slow=28,SNR=1.4						
TXAR				Lg	Lg	22 17 45.9	
	baz=262,slow=29,SNR=1.6						
TXAR	**Lajitas Array**	**9.25**	**95**	Pn	**Pn**	**22 15 19.9**	**+1.0**
P17A	**Butcher Ranch,**	**9.33**	**17**	Pn	**Pn**	**22 15 20.0**	**+0.1**
DUG	**Dugway, Tooele**	**9.67**	**6**	Pn	**Pn**	**22 15 24.8**	**+0.2**
VCNR	**Virginia City**	**9.77**	**334**	Pn	**Pn**	**22 15 25.5**	**-0.5**
PAHR	**Pah Rah Range**	**10.04**	**337**	Pn	**Pn**	**22 15 29.9**	**+0.2**
ELK	**Elko**	**10.18**	**356**	Pn	Pn	22 15 36.0	+4.3
	comp=N,0.1nm,0.3s,baz=177,slow=12,SNR=2.0						
ELK				Lg	Lg	22 18 29.8	
	comp=N,0.1nm,0.3s,baz=287,slow=20,SNR=1.1						
ELK				LR	LR	22 20 06.7	
	comp=N,189nm,20.1s,baz=175,slow=41						
ELK	**Elko**	**10.18**	**356**	Pn	**Pn**	**22 15 32.1**	**+0.4**
JLU	**Jordanelle**	**10.26**	**12**	Pn	**Pn**	**22 15 32.3**	**-0.5**
MSTX	**Muleshoe**	**10.28**	**68**	Pn	**Pn**	**22 15 33.6**	**+0.7**
CTU	**Camp Tracy**	**10.30**	**11**	Pn	**Pn**	**22 15 33.2**	**0.0**
PD31	**Pinedale Array**	**12.73**	**16**	Pn	**Pn**	**22 16 06.3**	**-0.3**
PDAR	**Pinedale Array**	**12.73**	**16**	Pn	Pn	22 16 11.9	+5.3
	baz=186,slow=8.2,SNR=1.4						
PDAR	**Pinedale Array**	**12.73**	**16**		**Pn**	**22 16 07.1**	**+0.5**
MFID	**Camas Ranch**	**12.88**	**355**	Pn	**Pn**	**22 16 09.0**	**+0.5**
ZAIG	**Zacatecas**	**13.00**	**124**		**Pn**	**22 16 12.5**	**+2.2**
YBH	**Yreka Blue Hor**	**13.06**	**331**		**P**	**22 16 16.7**	**-4.6**
	comp=N,0.1nm,0.3s,baz=145,slow=17,SNR=3.0						
YBH				LR	LR	22 21 03.8	
	comp=N,353nm,20.1s,baz=160,slow=36						
YBH	**Yreka Blue Hor**	**13.06**	**331**		**Pn**	**22 16 12.1**	**+1.2**
TPAW	**Teton Pass**	**13.16**	**11**	Pn	**Pn**	**22 16 13.3**	**+0.9**
K22A	**Casper**	**13.54**	**25**	Pn	**Pn**	**22 16 19.2**	**+1.6**
PINE	**Pine Mountain**	**14.23**	**340**	Pn	**Pn**	**22 16 26.5**	**-0.5**
MCMT	**McKenzie Canyo**	**14.27**	**4**	Pn	**Pn**	**22 16 27.4**	**-0.2**
435B	**Jarrell**	**14.33**	**85**	Pn	**Pn**	**22 16 29.0**	**+0.7**
X34A	**Smith Ranch, M**	**14.40**	**70**		**Pn**	**22 16 28.6**	**-0.6**
WHTX	**Lake Whitney,**	**14.42**	**80**	Pn	**Pn**	**22 16 30.9**	**+1.4**
YHH	**Holmes Hill**	**14.44**	**10**	Pn	**Pn**	**22 16 29.6**	**-0.4**
BMO	**Blue Mountains**	**14.46**	**351**	Pn	**Pn**	**22 16 30.2**	**+0.1**
Z35A	**Perchaven, San**	**14.68**	**75**	Pn	**Pn**	**22 16 34.0**	**+1.0**
DLMT	**Dillon**	**14.82**	**5**	Pn	**Pn**	**22 16 36.5**	**+1.5**
RLMT	**Red Lodge**	**15.04**	**14**	Pn	**Pn**	**22 16 37.8**	**-0.3**
RLMT				IAmb	IAmb	22 16 47.8	
	comp=Z,7.7nm,1.4s						
BOZ	**Bozeman (W)**	**15.14**	**7**		**Pn**	**22 16 38.5**	**-0.8**
G08A	**Pilot Rock**	**15.15**	**347**		**Pn**	**22 16 40.6**	**+1.2**
LRM	**Limekiln Ridge**	**15.29**	**5**		**Pn**	**22 16 42.4**	**+1.1**
F10A	**Beach Ranch, E**	**15.55**	**352**		**Pn**	**22 16 44.6**	**-0.1**
RSSD	**Black Hills**	**15.75**	**28**	Pn	**Pn**	**22 16 47.4**	**0.0**
RSSD				IAmb	IAmb	22 16 56.0	
	comp=Z,15nm,1.2s						
F07A	**Phinny Hill Vi**	**15.93**	**345**	Pn	**P**	**22 16 50.9**	**-2.2**
F07A				IAmb	IAmb	22 16 59.3	
	comp=Z,8.4nm,0.4s						
MSO	**Missoula**	**16.23**	**1**		**Pn**	**22 16 54.0**	**+0.5**
MSO				IAmb	IAmb	22 17 02.0	
	comp=Z,21nm,1.4s						
HAWA	**Hanford**	**16.32**	**347**	Pn	**Pn**	**22 16 54.4**	**-0.1**
X37A	**Clayton**	**16.39**	**71**	P	**P**	**22 16 58.2**	**-0.1**
X37A				IAmb	IAmb	22 17 16.4	
	comp=Z,17nm,1.2s						
Z38A	**Mt. Pleasant**	**16.56**	**76**		**P**	**22 16 59.3**	**-0.9**
Z38A				IAmb	IAmb	22 17 08.6	
	comp=Z,16nm,0.6s						
KSU1	**Kansas State U**	**16.77**	**55**		**P**	**22 17 01.3**	**-1.1**
KSU1				IAmb	IAmb	22 17 06.3	
	comp=Z,17nm,1.1s						
JTMT	**Jette**	**17.15**	**360**		**Pn**	**22 17 04.9**	**-0.2**
JTMT				IAmb	IAmb	22 17 11.2	
	comp=Z,14nm,1.5s						
LON	**Longmire**	**17.19**	**342**		**Pn**	**22 17 05.5**	**0.0**
LON				IAmb	IAmb	22 17 16.5	
	comp=Z,14nm,1.4s						
LAO	**LASA Array**	**17.25**	**19**	P	**P**	**22 17 07.8**	**0.0**
	baz=204,SNR=9.3						
LAO	**LASA Array**	**17.25**	**19**		**Pn**	**22 17 06.0**	**-0.3**
LAO				IAmb	IAmb	22 17 13.7	
	comp=Z,42nm,1.3s						
NEW	**Newport**	**17.81**	**354**	P	**P**	**22 17 16.5**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=197,slow=13,SNR=2.6						
NEW				LR	LR	22 24 25.2	
	comp=Z,166nm,19.9s,baz=178,slow=38						
NEW	**Newport**	**17.81**	**354**	P	**Pn**	**22 17 12.8**	**-0.4**
MIAR	**Mount Ida**	**17.86**	**72**		**P**	**22 17 15.6**	**+1.1**
HHAR	**Hobbs**	**17.86**	**66**		**P**	**22 17 14.4**	**-0.1**
HHAR				IAmb	IAmb	22 17 20.0	
	comp=Z,13nm,0.5s						
U40A	**Yellville**	**18.73**	**66**	P	**Pn**	**22 17 23.9**	**-0.7**
342A	**Flagon Creek P**	**18.81**	**82**	P	**Pn**	**22 17 25.6**	**+0.2**
UALR	**University of**	**18.89**	**71**	P	**Pn**	**22 17 26.5**	**0.0**
P38A	**Dawn**	**19.16**	**56**	P	**Pn**	**22 17 29.5**	**-0.2**
P38A				IAmb	IAmb	22 17 48.9	
	comp=Z,6.8nm,0.9s						
ECSD	**EROS Data Cent**	**19.18**	**42**	P	**Pn**	**22 17 28.9**	**-1.0**
CCAR	**Cane Creek**	**19.29**	**74**	P	**P**	**22 17 28.2**	**-2.0**
PGC	**Sidney**	**19.37**	**341**	P	**P**	**22 17 29.7**	**-1.3**
PGC				IAmb	IAmb	22 17 42.7	
	comp=Z,10nm,1.2s						
DGMT	**Dagmar**	**19.45**	**20**	P	**P**	**22 17 30.4**	**-1.5**
R40A	**Maddies Statio**	**19.66**	**61**	P	**Pn**	**22 17 34.7**	**-1.0**

```
      baz=89
PUK                          S     Sg   22 14 38.3 +0.9
      baz=89
PUK                        AMP
      comp=E,0.9nm,0.2s,baz=89
HCY   Herceg Novi   0.63 308 ePg     Pg   22 14 31.8 -0.5
HCY                         i Sg     Sb   22 14 42.1 -0.9
HCY   Herceg Novi   0.63 308 i/Pg     Pg   22 14 31.9 -0.4
HCY                         eSg      Sb   22 14 42.7 -0.3
NKME  Niksic        0.72 347 ⇓iPg     Pg   22 14 33.3 -0.7
NKME                        i Sg     Sb   22 14 45.3 -0.3
NKY   Niksic        0.76 350 ⇓iPg     Pg   22 14 34.4 -0.3
NKY                         i Sg     Sb   22 14 46.8  0.0
PVY   Plav          0.79  47 ⇑iPg     Pg   22 14 34.6 -0.6
PVY                         i Sg     Sb   22 14 47.6  0.0
KOME  Kolasin       0.83  18 ⇓iPg     Pg   22 14 35.5 -0.5
KOME                        i Sg     Sb   22 14 48.7  0.0
TIR   Tirane        0.88 144 ePg     Pg   22 14 37.3 +0.3
TIR                         eSg      Sg   22 14 48.0 -0.5
TIR   Tirane        0.88 144 P       Pg   22 14 36.1 -0.9
      baz=142
TIR                          S     Sg   22 14 49.1 +0.7
      baz=142
TIR                        AMP
      comp=N,0.1nm,0.5s,baz=142
BRY   Bratogost     0.96 331 ePg     Pg   22 14 37.7 -0.8
BRY                         i Sg     Sb   22 14 53.3 +0.7
BRY   Bratogost     0.96 331 ⇑iPg     Pg   22 14 38.0 -0.5
BRY                         eSg      Sb   22 14 52.5 -0.1
IVA   Berane        0.97  33 ⇑iPg     Pg   22 14 38.2 -0.5
IVA                         i Sg     Sb   22 14 53.5 +0.8
PHP   Peshkopia     1.02 111 P       Pg   22 14 38.5 -1.1
      baz=109
PHP                          S     Sb   22 14 54.2  0.0
      baz=109
PHP                        AMP
      comp=N,0.4nm,0.4s,baz=109
UPM   Unac-Piva     1.16 350 ⇓iPg     Pg   22 14 41.4 -0.9
UPM                         i Sg     Sn   22 14 59.8 +0.1
UPM   Unac-Piva     1.16 350 ePg     Pg   22 14 41.3 -1.0
UPM                         eSg      Sb   22 14 58.4 +0.2
PLE   Pljevlja      1.28   7 ⇑iPg     Pg   22 14 43.7 -0.9
PLE                         i Sg     Sn   22 15 04.3 +1.8
SJES  Sjenica       1.33  26 ePg     Pn   22 14 45.2 -0.5
SJES                        eSg      Sg   22 15 02.4 -0.6
STON  Ston          1.36 307 i Pg     Pg   22 14 46.2 +0.1
STON                         Sn      Sn   22 15 06.6 +2.4
OHR   Ohrid         1.55 127 ⇓iPg     Pn   22 14 47.9 -0.6
OHR                         i Sg     Sg   22 15 12.1 +2.3
OHR                         eLg      Lg   22 15 15.0
      comp=E,27nm,0.5s
RUDO  Rudo          1.56   5 ePn     Pn   22 14 48.8 +0.1
RUDO                        eSn      Sn   22 15 09.3 -0.1
BBLS  Lazi&#263;i   1.81   5 ePn     Pb   22 14 53.7 -0.2
BBLS                        eSg      Sg   22 15 18.7 +0.4
BBLS  Lazi&#263;i   1.81   5 ePn     Pn   22 14 52.5 +0.3
BBLS                        eSn      Sn   22 15 15.7 +0.1
LSTV  Lastovo       1.83 293 ePn     Pn   22 14 52.5 +0.1
LSTV                         Sn      Sg   22 15 18.1 -0.8
SELS  Selova        1.84  51 ePn     Pn   22 14 52.7 +0.1
SELS                        eSg      Sb   22 15 17.4 -0.5
MAKA  Makarska      2.00 308 ePn     Pn   22 14 55.8 +1.0
MAKA                         Sn      Sb   22 15 22.4  0.0
RICI  Ricice        2.07 314 ePn     Pb   22 14 57.0 -1.3
RICI                         Sn      Sb   22 15 24.1 -0.4
FNA   Florina       2.09 127 P       Pb   22 14 57.6 -1.1
      baz=126
FNA                          S     Sb   22 15 26.0 +1.0
      baz=126
BARS  Barje         2.10  68 ePn     Pn   22 14 57.1 +1.1
BARS                        eSg      Sb   22 15 24.7 -0.4
DIVS  Divibare      2.12  16 ePn     Pn   22 14 57.0 +0.5
DIVS                        eSg      Sb   22 15 26.5 +0.6
DIVS  Divibare      2.12  16 ePn     Pn   22 14 56.2 -0.3
DIVS                        eSn      Sn   22 15 23.1 -0.2
GRUS  Gruza         2.15  31 ePn     Pb   22 14 58.1 -1.5
GRUS                        eSg      Sb   22 15 26.5 -0.1
TRUS  Trudelj       2.34  22 ePn     Pb   22 15 01.3 -1.6
BOVS  Bovan         2.44  49 ePn     Pn   22 15 01.6 +0.9
BOSS  Bosilegrad    2.49  79 ePn     Pn   22 15 02.5 +1.0
BOSS                        eSg      Sb   22 15 36.2 -0.3
KIJV  Kijevo        2.81 315 ePn     Pn   22 15 07.5 +1.6
KIJV                         Sn      Sb   22 15 43.4 -2.2
ZAPS  Zavoj         2.83  63 ePn     Pn   22 15 06.0 -0.1
ZAPS                        eSg      Sb   22 15 47.4 +1.3
ZAGS  Zajecar       2.85  51 ePn     Pn   22 15 07.6 +1.3
BLY   Banja Luka    3.05 332 ePn     Pn   22 15 09.8 +0.7
BLY                         eSn      Sn   22 15 46.5 +0.4
FRGS  Fruska Gora   3.13   8 ePn     Pn   22 15 10.2  0.0
FRGS                        eSn      Sn   22 15 47.4 -0.7
DUGI  Dugi Otok     3.58 304 ePn     Pn   22 15 17.3 +0.9
DUGI                         Sn      Sn   22 16 00.8 +1.6
```

IDC 17 22:24:47.9±1.5, 39°.04N×110°.82E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.4/49, mbtmp3.5/6, ML3.1/1, Error ellipse: s-maj=45.2km s-min=18.5km az=67.0, Western Nei Mongol

```
Code  Station Name    Δ°   AZ°  Phase ID          Time    Res
                                Op      ISC       h m s   ISC
SONM  Songino Array   9.36 341  Pn      Pn     22 27 04.8 +0.7
      0.2nm,0.3s,baz=158,slow=13,SNR=16
SONM                            Sn      Sn     22 28 51.8 +1.6
      0.0nm,0.3s,baz=153,slow=26,SNR=2.5
SONM                            Lg      Lg     22 29 43.7
      0.1nm,0.3s,baz=154,slow=34,SNR=4.4
MKAR  Makanchi Array 22.20 300  P       P      22 29 45.6 -0.1
      0.5nm,0.7s,baz=110,slow=12,SNR=3.3
CMAR  Chiang Mai Arr 22.96 210  P       P      22 29 53.5 -0.5
      1.8nm,0.6s,baz=12,slow=9.2,SNR=9.7
KURBB Kurchatov Arra 25.45 308  P       P      22 30 17.6 +0.2
      0.2nm,0.2s,baz=107,slow=9.6,SNR=2.0
WRA   Warramunga Arr 62.67 155  P       P      22 35 14.0 -0.4
      0.5nm,0.8s,baz=343,slow=6.5,SNR=2.8
ASAR  Alice Springs  66.02 157  P       P      22 35 37.0 +0.6
      0.3nm,0.8s,baz=352,slow=5.8,SNR=2.6
```

IDC 17 22:32:14.8±5.1, 29°.99N×114°.29W, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.5/25, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=129.8km s-min=22.3km az=20.0
MEX 17 22:32:16.1±0.4, 29°.84N×114°.60W, h10km, MD3.8
ECX 17 22:32:17.8±0.7, 30°.61N×114°.22W, h10km±7km, MD3.4, ML3.6

ISC 17 22:32:16.1±1.8, 30°.69N±0°.09×114°.28W±0°.05, h0km±13km, n14, σ1§07/18, 1C-1D, Gulf of California

```
Code  Station Name    Δ°   AZ°  Phase ID          Time    Res
                                Op      ISC       h m s   ISC
SFX   San Felipe      0.60 306  eP      Pb     22 32 30.0 +0.4
SFX                             eS      Sb     22 32 39.6 +0.9
ECBX  El Chinero      1.03 320  eP      Pb     22 32 36.8  0.0
ECBX                            eS      Sn     22 32 52.2 -0.7
SPX   San Pedro Mart  1.08 289  eP      Pn     22 32 38.5 -0.4
SPX   San Pedro Mart  1.08 289  eP      Pn     22 32 38.3 -0.5
SPX                             eS      Sn     22 32 53.7 -1.0
SPX                            ⇑e              22 33 05.0
SPX                             IAML            22 33 05.0
      comp=N,2μm,1.0s
SPX                             IAML            22 33 07.0
      comp=E,909nm,0.6s
SPX                             e               22 33 07.0
SPIG  San Pedro Mart  1.08 290  eP      Pn     22 32 38.4 -0.5
SPIG  San Pedro Mart  1.08 290  eP      Pn     22 32 38.2 -0.6
SPIG                            eS      Sn     22 32 54.1 -0.7
PIX   Pinacate        1.12  39 ⇓eP      Pg     22 32 38.2 +0.6
PIX                             eS      Sb     22 32 52.8 -0.7
SQX   San Quintin     1.38 266  eP      Pb     22 32 42.5 -0.4
SQX                             eS      Sg     22 33 00.8 +0.3
CPBX  Cerro Prieto    1.94 333  IAML            22 34 10.8
      comp=E,1μm,0.6s
CPBX                            e               22 34 10.8
CBX   Cerro Bola      2.60 309  eP      Pb     22 33 01.6 -2.2
CBX                             eS      Sb     22 33 37.1 +0.7
CBX   Cerro Bola      2.60 309  IAML            22 33 54.5
      comp=N,589nm,0.6s
TXAR  Lajitas Array   9.30  96  Pn      Pn     22 34 30.8 -0.8
      comp=N,0.0nm,0.3s,baz=264,slow=16,SNR=1.9
TXAR                            Lg      Lg     22 37 07.4
      baz=278,slow=31,SNR=4.0
ILAR  Eielson Array  39.66 339  P       P      22 39 53.4 +3.9
      comp=N,0.5nm,0.8s,baz=138,slow=8.6,SNR=2.4
FINES FINESS Array B  82.73  18  P       P      22 44 43.7 +2.2
      comp=N,0.9nm,0.7s,baz=315,slow=4.1,SNR=2.0
```

MEX 17 22:35:21.9±0.4, 29°.75N×114°.74W, h20km, MD3.7
ECX 17 22:35:24.2±0.8, 30°.53N×114°.33W, h0km±10km, MD3.4, ML3.5

ISC 17 22:35:21.4±2.3, 30°.5N±0°.1×114°.28W±0°.08, h3km, n11, σ0§41/13, 2C, Gulf of California

```
Code  Station Name    Δ°   AZ°  Phase ID          Time    Res
                                Op      ISC       h m s   ISC
SFX   San Felipe      0.74 319  eP      Pg     22 35 35.9 +0.4
SFX                             i S     Sb     22 35 46.6 -0.8
SPX   San Pedro Mart  1.16 299  eP      Pb     22 35 44.0 -0.3
SPX   San Pedro Mart  1.16 299  eP      Pb     22 35 44.0 -0.3
SPX                             IAML            22 36 10.5
      comp=E,912nm,0.6s
SPX                            ⇑e              22 36 17.7
SPX                             IAML            22 36 17.7
      comp=N,981nm,1.0s
SPIG  San Pedro Mart  1.16 299  eP      Pg     22 35 43.8 +0.1
SPIG                            i S     Sn     22 36 01.5  0.0
SPIG  San Pedro Mart  1.16 299  eP      Pb     22 35 44.4 +0.1
ECBX  El Chinero      1.19 326  eP      Pb     22 35 44.5  0.0
PIX   Pinacate        1.28  33  eP      Pn     22 35 46.1 -0.1
SQX   San Quintin     1.38 274  eP      Pb     22 35 47.7 -0.1
SQX                             eS      Sg     22 36 06.0 +0.3
CPBX  Cerro Prieto    2.12 336  IAML            22 37 05.1
      comp=E,1μm,0.7s
CPBX                           ⇑e              22 37 05.1
CBX   Cerro Bola      2.73 312  i P     Pn     22 36 06.0 -0.3
CBX                             i S     Sn     22 36 40.6 +0.7
CBX   Cerro Bola      2.73 312  IAML            22 37 06.6
      comp=E,371nm,0.6s
```

ISN 17 22:46:20.9±1.0, 32°.65N×47°.67E, h14km±7km, ML2.6
TEH 17 22:46:21.5, 32°.66N×47°.63E, h8km, ML2.8

ISC 17 22:46:23.1±1.3, 32°.64N±0°.06×47°.63E±0°.05, h23km, n14, σ1§41/17, Iran-Iraq border region

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Code  Station Name    Δ°   AZ°  Phase ID          Time    Res
                                Op      ISC       h m s   ISC
DHL1  Dehloran        0.30 278  ePg     Pb     22 46 27.7 -2.3
DHL1                            e               22 46 33.9
IKFM  Kafar-mosalman  0.90  12  ePg     Pb     22 46 38.5 -1.6
IKFM                            e               22 46 59.2
IKMR  Kamar-syah      1.08  36  ePg     Pn     22 46 41.8 -1.1
IKMR                            e               22 46 45.5
IDOB  Doab            1.23  22  ePg     Pb     22 46 45.4 -0.5
IDOB                            e               22 46 52.0
BMDN  Meydan          1.44  44  ePg     Pb     22 46 49.0 -0.4
BMDN                            e               22 46 53.9
IBDR  Badra           1.50 289  ePg     Pb     22 46 49.0 -1.4
IBDR                            eSg     Sb     22 47 09.5 +0.5
IBDR                             AML    AML    22 47 14.5
      comp=N,85nm,0.5s
IBDR                             AML    AML    22 47 14.8
      comp=E,78nm,0.4s
IKOM  Komasi          1.54 356  ePg     Pb     22 46 50.3 -0.7
IKOM                            e               22 46 51.6
KER   Kermanshah      1.79 347  ePn     Pb     22 46 54.7 -0.7
KER                             e               22 46 55.7
IBZA  Bozab           1.84   6  ePn     Pb     22 46 55.3 -0.9
IBZA                            e               22 46 59.0
IVIS  Veis            1.99 341  ePn     Pb     22 46 57.6 -1.2
IVIS                            e               22 47 28.0
NSR   Nassriya        2.06 218  ePn     Pn     22 46 57.0 +0.7
NSR                             eSn     Sn     22 47 22.0 +0.7
NSR                              AML    AML    22 47 23.4
      comp=E,60nm,0.3s
IDHR  Dehrash         2.30 334  e               22 47 06.9
IDHR                            ePn     Pb     22 47 01.9 -2.2
ILIN  Lien            2.34 346  e               22 47 07.8
ILIN                            ePn     Pn     22 47 01.7 +1.2
BHD   Baghdad         2.80 284  ePn     Pn     22 47 07.0 +0.5
BHD                             eSn     Sn     22 47 42.0 +2.4
BHD                              AML    AML    22 47 50.1
      comp=E,38nm,0.3s
```

ECX 17 22:56:58.8±0.7, 30°.60N×114°.24W, h14km±6km, MD3.2, ML3.4
MEX 17 22:56:58.7±0.3, 31°.20N×113°.96W, h13km±7km, MD3.7

ISC 17 22:56:57.7±1.9, 30°.7N±0°.1×114°.25W±0°.07, h10km, n11, σ1§90/15, 2C-4D, Gulf of California

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Code  Station Name    Δ°   AZ°  Phase ID          Time    Res
                                Op      ISC       h m s   ISC
SFX   San Felipe      0.61 302 ⇓eP      Pg     22 57 10.6 +1.1
SFX                             eS      Sg     22 57 20.3 +2.7
ECBX  El Chinero      1.02 318  eP      Pb     22 57 17.6  0.0
PIX   Pinacate        1.08  39 ⇓eP      Pb     22 57 19.0 +0.5
SPX   San Pedro Mart  1.09 287  eP      Pg     22 57 19.0 +0.1
SPX                             i S     Sg     22 57 34.0 +1.0
SPX   San Pedro Mart  1.09 287  eP      Pg     22 57 19.1 +0.3
SPX                             eS      Sg     22 57 34.8 +1.8
SPX                            ⇓e              22 57 45.0
SPX                             IAML            22 57 45.0
      comp=N,803nm,0.7s
SPIG  San Pedro Mart  1.10 288  eP      Pg     22 57 19.0 +0.2
SPIG                            eS      Sg     22 57 35.0 +1.8
SPIG  San Pedro Mart  1.10 288  eP      Pg     22 57 19.1 +0.2
SPIG                            eS      Sg     22 57 34.0 +0.8
SQX   San Quintin     1.41 265  eP      Pn     22 57 22.9 -0.5
SQX                             eS      Sn     22 57 41.4 -0.7
CPBX  Cerro Prieto    1.92 332  IAML            22 58 14.2
      comp=E,468nm,0.4s
CPBX                           ⇑e              22 58 46.9
CPBX                            IAML            22 58 46.9
      comp=N,652nm,0.6s
CBX   Cerro Bola      2.60 308  i P     Pn     22 57 36.2 -3.8
CBX                             i S     Sn     22 58 06.8 -5.0
CBX   Cerro Bola      2.60 308  IAML            22 58 35.9
      comp=N,285nm,1.6s
CBX                            ⇓e              22 58 35.9
CBX                            ⇑e              22 58 38.6
CBX                             IAML            22 58 38.6
      comp=E,263nm,0.9s
```

BJI 17 23:18:52.8±0.0, 24°.83N×125°.49E, h50km, mB4.8/52, mb5.0/77, ML4.6/2, Ms4.6/80, Ms7 4.4/76
MOS 17 23:18:53.1±0.9, 24°.90N×125°.37E, h37km, mb5.6/53, MS4.6/18, Error ellipse: s-maj=5.9km s-min=3.6km az=116.8
IDC 17 23:18:54.9±0.5, 24°.96N×125°.38E, h37km±3km, mb4.9/35, mb1 4.9/39, mb1mx4.9/44, mbtmp5.1/39, ML4.1/4, MS4.2/36, Ms1 4.2/36, ms1mx4.1/45, Error ellipse: s-maj=12.4km s-min=9.1km az=70.0
NEIC 17 23:18:55.5±1.1, 24°.84N±0°.05×125°.35E±0°.06, h43km±3km, mb5.4/222, Error ellipse: s-maj=10.0km s-min=4.5km az=135.0
UNK 17 23:18:55.3, 24°.84N×125°.39E, h42km
JMA 17 23:18:55.2±0.1, 24°.83N×125°.40E, h50km±1km, M5.2
JMA Felt IV J1.
GCMT 17 23:18:55.5±0.2, 24°.75N±0°.01×125°.48E±0°.02, h45km, MW5.0/90, Moment Tensor Solution. s80, c115; s90, c143; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}3.90±.15; $M_{\theta\theta}$-2.18±.11; $M_{\phi\phi}$-1.72±.12; $M_{r\theta}$1.41±.09; $M_{\theta\phi}$-2.65±.07; $M_{\phi r}$1.51±.09; Best double couple: M_0=4.73100×10^16 NP1:ϕ_s=230.00000°, δ32.00000°, λ94.00000°. NP2:ϕ_s=45.00000°, δ58.00000°, λ87.00000°. Principal axes: T 4.3790, Plg77.0000°, Azm307.0000°; N 0.7040, Plg2.0000°, Azm47.0000°; P -5.0830, Plg13.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NIED 17 23:18:55.2, 24°.83N×125°.40E, h50km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; M_{rr}3.30; $M_{\theta\theta}$-2.25; $M_{\phi\phi}$-1.05; $M_{r\theta}$3.50; $M_{\theta\phi}$-1.93; $M_{\phi r}$2.50; Fault plane solution: $M_0$5.53000×10^16 NP1:ϕ_s54.00000°, δ70.00000°, λ91.00000°. NP2:ϕ_s=233.00000°, δ20.00000°, λ89.00000°.
KEA 17 23:18:58.9±0.0, 25°.00N×125°.40E, h33km, mB5.1/2
BGR 17 23:18:59.0±0.0, 24°.77N×123°.52E, h33km, mb5.8, Ms4.9

ISC 17 23:18:55.3±0.3, 24°.84N±0°.03×125°.40E±0°.03, h45km±2km, h45km: pP-P, n1006, σ1§25/1088, mb5.4/290, MS4.5/66, 113C-11D, Southwestern Ryukyu Islands

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Code  Station Name    Δ°   AZ°  Phase ID          Time    Res
                                Op      ISC       h m s   ISC
JOGS  Gusukube        0.08 173  P       Pn     23 19 02.9 +0.4
JOGS                            S       Sn     23 19 08.4 +0.9
JMJ2  Miyako jima3    0.11 213  P       Pn     23 19 02.9 +0.3
JMJ2                            S       Sn     23 19 08.8 +1.1
JIKM  Ikemajima       0.16 303  P       Pn     23 19 03.3 +0.4
JIKM                            S       Sn     23 19 09.3 +1.1
JIRB  Irabujima       0.20 268  P       Pn     23 19 03.4 +0.2
JIRB                            S       Sn     23 19 09.2 +0.5
JTJ   Tarama          0.66 253  P       Pn     23 19 08.5 +0.1
JTJ                             i S     Sn     23 19 18.5 +0.8
JISG  Ishigakijimahi  1.02 256  P       Pn     23 19 13.1 -0.1
JISG                            eS      Sn     23 19 26.7 +0.4
JIJ   Ishigaki jima   1.23 248  P       Pn     23 19 16.4 +0.3
JIJ                             S       Sn     23 19 31.9 +0.3
JKRS  Kuro-shima      1.40 245  P       Pn     23 19 19.1 +0.7
IRIF  Iriomote-Funau  1.60 252  P       Pn     23 19 21.1  0.0
HATJ  Hateruma jima   1.65 242  P       Pn     23 19 22.0 +0.2
YOJ   Yonaguni jima   2.20 261  P       Pn     23 19 29.6 +0.1
YOJ   Yonaguni jima   2.20 261  P       Pn     23 19 29.5 +0.1
YOJ   Yonaguni jima   2.20 261  Pn      Pn     23 19 29.5 +0.1
JYNG  Yonagunijimaku  2.26 261  P       Pn     23 19 30.5 +0.3
JIH   Iheya           3.19  46  P       Pn     23 19 43.6 +0.7
JOW   Kunigami        3.27  52  P       Pn     23 19 44.6 +0.6
JYRO  Yoronjima       3.51  51  P       Pn     23 19 47.5 +0.2
NACB  Ninganchiao     3.53 260          Pn     23 19 47.7 +0.1
TATO  Taipei          3.55 273  P       Pn     23 19 50.5 +2.6
TATO                            S       Sn     23 20 29.2 +0.5
TATO  Taipei          3.55 273  Pn      Pn     23 19 49.6 +1.7
YHNB  Yeheng          3.66 268          Pn     23 19 51.1 +1.6
YULB  Yu-li           4.01 250  Pn      Pn     23 19 52.7 -1.6
SSLB  Suanglung       4.18 256  Pn      Pn     23 19 56.2 -0.5
TWG   Pinlang         4.44 244          Pn     23 19 58.1 -2.0
TPUB  Ta-pu           4.62 252  Pn      Pn     23 20 02.7 +0.1
JAM   Amami Oshima    5.18  46  P       Pn     23 20 09.6 -0.7
JMZ   Minamidaito 2   5.36  78  P       Pn     23 20 10.0 -2.8
JKDJ  Kitadaitoujima  5.45  77  P       Pn     23 20 11.4 -2.6
JTAJ  Takarajima      5.48  37  P       Pn     23 20 14.6 +0.2
QZH   Quanzhou        6.18 272 ⇓iP      Pn     23 20 25.0 +1.0
QZH                             S       Sn     23 21 30.4 -3.0
QZH                             smax    smax
      comp=N,420nm,1.2s
QZH                             smax    smax
      comp=E,220nm,1.1s
QZH                             LR      LR
      comp=N,1μm,15.2s
QZH                             LR      LR
      comp=E,1μm,14.5s
QZH                             LR      LR
      comp=Z,2μm,16.6s
KNMB  Chin-men Tao    6.39 268  Pn      Pn     23 20 26.5 -0.4
SSE   Sheshan         7.26 330  P       Pn     23 20 40.0 +1.2
SSE                             S       Sn     23 22 02.6 +2.6
SSE                             pmax    pmax
      comp=Z,26nm,0.6s
SSE                             pmax    pmax
      comp=Z,190nm,6.7s
SSE                             LR      LR
      comp=N,840nm,12.8s
SSE                             LR      LR
      comp=E,820nm,13.1s
SSE   Sheshan         7.26 330  Pn      Pn     23 20 39.3 +0.5
JSU   Suzuyama        8.00  33          Pn     23 20 49.5 +0.4
NJ2   Nanjing         9.21 323  eP      Pn     23 21 06.0 +0.5
NJ2                             S       Sn     23 22 48.6 +0.8
NJ2                             pmax    pmax
      comp=Z,60nm,0.8s
NJ2                             pmax    pmax
      comp=Z,360nm,4.9s
NJ2                             LR      LR
      comp=N,2μm,15.4s
NJ2                             LR      LR
      comp=E,2μm,15.9s
NJ2                             LR      LR
      comp=Z,3μm,16.4s
JNU   Nakatsue        9.55  29  Pn      Pn     23 21 10.1 -0.1
      1.6nm,0.3s,baz=183,slow=5.2,SNR=13
JNU                             LR      LR     23 25 30.3
      comp=Z,156nm,20.4s,baz=220,slow=42
JNU   Nakatsue        9.55  29  Pn      Pn     23 21 10.6 +0.3
HKPS  Hong Kong Po S 10.63 258  Pn      Pn     23 21 25.4 +0.3
WHN   Wuhan          11.32 303 ⇓P       Pn     23 21 36.0 +1.6
WHN                             sP              23 21 51.4
WHN                             S       Sn     23 23 39.0 -0.5
WHN                             LR      LR
      comp=N,3μm,13.8s
WHN                             LR      LR
      comp=E,3μm,10.1s
WHN                             LR      LR
      comp=Z,5μm,13.7s
TGY   Tagaytay City  11.47 202  Pn      Pn     23 21 38.4 +1.7
      139nm,0.3s,baz=34,slow=2.5,SNR=7.2
TGY                             Sn      Sn     23 23 36.8 -6.8
      40nm,0.3s,baz=122,slow=13,SNR=1.8
TJN   Taejon         11.63  8c i P     Pn     23 21 42.8 +4.2
JHS   Saijyo         12.13  32  Pn      Pn     23 21 45.1 -0.5
INCN  Inchon         12.65   4  P       Pn     23 21 52.7 +0.1
INCN  Inchon         12.65   4  Pn      Pn     23 21 52.7 +0.1
KSAR  Wonju Array Be 12.74   9  P       Pn     23 21 53.7 -0.1
KSAR  Wonju Array Be 12.74   9  Pn      Pn     23 21 53.7 -0.1
KSRS  Korea Array    12.76   9  Pn      Pn     23 21 56.5 +2.5
      0.9nm,0.3s,baz=189,slow=13,SNR=53
KSRS                            LR      LR     23 27 20.6
      comp=Z,981nm,18.4s,baz=180,slow=40
KS19  Wonju Array Si 12.80   9          Pn     23 21 54.8 +0.1
HJU   Haeju          13.17   1  P       P      23 22 06.4 -2.2
TIA   Tai'an         13.38 330  P       P      23 22 06.9 -4.1
TIA                             pmax    pmax
      comp=Z,30nm,1.3s
TIA                             LR      LR
      comp=N,1μm,16.1s
TIA                             LR      LR
      comp=E,1μm,17.1s
TIA                             LR      LR
      comp=Z,2μm,17.7s
JWT   Wachi          13.53  37  Pn      Pn     23 22 01.8 -2.9
PYAG  Pyongyang      14.18   1  P       Pn     23 22 16.2 +2.9
PYAG                            S       Sn     23 24 47.2 -2.0
PYS   Pyongsong      14.38   1  P       Pn     23 22 18.6 +2.6
DL2   Dalian         14.39 348  P       P      23 22 20.8 -1.3
DL2                             pP      Pn     23 22 29.8 +14
DL2                             S       Sn     23 25 02.5 +8.2
DL2                             pmax    pmax
      comp=Z,20nm,0.9s
DL2                             pmax    pmax
      comp=Z,140nm,3.9s
DL2                             LR      LR
      comp=N,870nm,20.4s
DL2                             LR      LR
      comp=E,440nm,14.7s
DL2                             LR      LR
      comp=Z,1μm,19.9s
WOSN  Wonsan         14.39   6  P       P      23 22 19.8 -2.3
INU   Inuyama        14.51  41  Pn      Pn     23 22 18.6 +0.7
JGF   Kuroka         14.88  41  P       P      23 22 26.9 -0.9
ENH   Enshi          15.11 295          Pn     23 22 27.6 +1.8
HHU   Hamhung        15.15   6  P       Pn     23 22 27.7 +1.4
SUJ   Sinuiju        15.24 357  P       Pn     23 22 29.1 +1.7
SUJ                             S       Sn     23 25 20.5 +5.4
JCJ   Chichijima     15.27  78  Pn      Pn     23 22 29.2 +1.3
      comp=Z,2.0nm,0.3s,baz=298,slow=15,SNR=3.6
JCJ   Chichijima     15.27  78  Pn      Pn     23 22 28.1 +0.2
JCJ                             IAmb    IAmb   23 22 42.2
      comp=Z,352nm,1.1s
JNT   Takato         15.54  42  P       P      23 22 37.1 +2.0
QIZ   Qiongzhong     15.54 251  P       P      23 22 33.8 -1.3
QIZ                             S       Sn     23 25 25.3 +2.7
QIZ                             pmax    pmax
      comp=Z,19nm,3.3s
QIZ                             LR      LR
      comp=Z,420nm,15.0s
QIZ                             LR      LR
      comp=Z,1μm,17.6s
QIZ                             LR      LR
      comp=Z,1μm,20.7s
QIZ   Qiongzhong     15.54 251  P       P      23 22 35.2 +0.1
MAJO  Matsushiro     16.03  40c i P     P      23 22 41.2 +0.8
MAJO                            pmax    pmax
```

comp=Z,80nm,1.3s
MAJO Matsushiro 16.03 40 Pn **Pn 23 22 38.1 +0.5**
MAT Matsushiro 16.03 40 P **P 23 22 41.7 +1.3**
MAT S **Sn 23 25 34.0 -0.3**
MJAR Matsushiro Arr 16.03 40 Pn **Pn 23 22 38.6 +1.0**
comp=Z,0.7nm,0.3s,baz=198,slow=7.3,SNR=70
MJAR LR LR 23 29 35.2
comp=Z,268nm,18.3s,baz=215,slow=40
MJAR Matsushiro Arr 16.03 40 P **Pn 23 22 38.2 +0.6**
MJAR pmax pmax
comp=Z,30nm,0.8s
MJAR Matsushiro Arr 16.03 40 Pn **Pn 23 22 38.2 +0.6**
KGE Kanggye 16.10 3 P **P 23 22 40.4 -0.7**
JAG Ashikaga 16.70 43 P **P 23 22 48.6 +0.7**
TIY Taiyuan 16.93 322 *e*P **P 23 22 52.5 +2.0**
TIY pmax pmax
comp=Z,60nm,0.6s
TIY pmax pmax
comp=Z,300nm,3.5s
TIY LR LR
comp=Z,570nm,8.3s
TIY LR LR
comp=Z,590nm,13.0s
TIY LR LR
comp=Z,1μm,21.5s
GYA Guiyang 16.97 279 ⇑P **P 23 22 50.9 -0.2**
GYA pP pP 23 23 03.8 +2.2
GYA S **Sn 23 25 57.1 -0.3**
GYA SS **SnSn 23 26 18.6 +7.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,210nm,3.5s
GYA LR LR
comp=Z,470nm,10.2s
GYA LR LR
comp=Z,900nm,17.5s
GYA LR LR
comp=Z,1μm,17.5s
BJT Baijiatuau 17.01 335 P **P 23 22 51.3 +0.1**
BJT pmax pmax
comp=Z,121nm,1.3s
BJT Baijiatuau 17.01 335 P **P 23 22 51.3 +0.1**
XAN Xi'an 17.01 306 P **P 23 22 52.1 +0.7**
XAN pP pP 23 22 58.6 -3.1
XAN sP sP 23 23 01.9 -5.4
XAN S **S 23 26 05.3 -1.1**
XAN pmax pmax
comp=Z,69nm,0.9s
XAN pmax pmax
comp=Z,290nm,3.9s
XAN LR LR
comp=Z,880nm,11.9s
XAN LR LR
comp=Z,2μm,15.2s
XAN LR LR
comp=Z,3μm,14.3s
XAN Xi'an 17.01 306 P **Pn 23 22 50.5 +0.4**
XAN pmax pmax
comp=Z,47nm,0.9s
XAN Xi'an 17.01 306 P **Pn 23 22 50.5 +0.4**
SNY Shenyang 17.01 355 ⇑P **P 23 22 52.3 +1.0**
SNY pmax pmax
comp=Z,140nm,0.8s
SNY pmax pmax
comp=Z,520nm,4.3s
SNY LR LR
comp=Z,1μm,20.1s
SNY LR LR
comp=Z,650nm,17.2s
SNY LR LR
comp=Z,2μm,18.4s
BJI Beijing 17.02 335 P **P 23 22 52.1 +0.7**
BJI sP **sP 23 23 08.6 +1.5**
BJI S **S 23 26 02.8 -3.6**
BJI pmax pmax
comp=Z,39nm,1.0s
BJI pmax pmax
comp=Z,280nm,3.6s
BJI LR LR
comp=Z,1μm,16.5s
BJI LR LR
comp=Z,540nm,19.9s
BJI LR LR
comp=Z,1μm,21.6s
JYT Yasato 17.05 45 Pn **Pn 23 22 50.5 +0.1**
JSD Sado 17.11 37 **P 23 22 52.9 +0.5**
DAV Davao City (W) 17.67 179 LR LR 23 31 14.7
comp=Z,591nm,18.7s,baz=358,slow=42
JMM Marumori 18.45 42 P **P 23 23 05.1 -2.0**
CN2 Changchun 18.92 0 *e*P **Pn 23 23 13.3 +0.1**
CN2 pmax pmax
comp=Z,110nm,3.0s
CN2 LR LR
comp=Z,370nm,13.0s
CN2 LR LR
comp=Z,470nm,18.0s
HHC Hu-ho-hao-te 19.71 327 ⇑*i*P **Pn 23 23 22.5 -0.3**
HHC pP pP 23 23 32.9 +1.2
HHC sP sP 23 23 38.9 +1.5
HHC S **S 23 26 56.8 -4.1**
HHC pmax pmax
comp=Z,150nm,1.0s
HHC pmax pmax
comp=Z,440nm,5.6s
HHC LR LR
comp=Z,1μm,14.7s
HHC LR LR
comp=Z,1μm,15.1s
HHC LR LR
comp=Z,2μm,16.1s
CD2 Chengdu 20.05 292 ⇑P **P 23 23 25.0 +0.2**
CD2 sP sP 23 23 40.9 -0.1
CD2 S **S 23 27 09.0 +1.2**
CD2 pmax pmax
comp=Z,180nm,1.0s
CD2 pmax pmax
comp=Z,200nm,5.4s
CD2 LR LR
comp=Z,940nm,10.8s
CD2 LR LR
comp=Z,2μm,14.3s
CD2 LR LR
comp=Z,1μm,21.6s
USA0B Ussuriysk Arra 20.05 14 P **P 23 23 24.6 0.0**
USA0B pmax pmax
comp=Z,19nm,0.9s
USA0B Ussuriysk Arra 20.05 14 P **P 23 23 24.6 0.0**
USRK Ussuriysk Ar. 20.05 14 P **P 23 23 24.1 -0.5**
baz=195,slow=9.6,SNR=20
USRK LR LR 23 30 50.5
comp=Z,533nm,21.5s,baz=187,slow=36
USRK Ussuriysk Ar. 20.05 14 P **P 23 23 24.2 -0.4**
SLVN Son La 20.07 264 P **P 23 23 25.3 +0.2**
BTO Baotou 20.31 324 *e*P Pn 23 23 29.3 -0.6
DLV T Lat 20.51 234 P **P 23 23 29.2 -0.8**
KMI Kunming 20.54 276 ⇑*i*P Pn 23 23 31.8 -1.1
KMI pP pP 23 23 42.8 +1.8
KMI sP sP 23 23 50.8 +4.1
KMI PP **PnPn 23 23 55.5 +6.5**
KMI S **S 23 27 14.3 -3.6**
KMI sS Sn 23 27 28.3 +4.5
KMI SS **SnSn 23 27 45.0 +6.2**
KMI pmax pmax
comp=Z,20nm,0.8s
KMI pmax pmax
comp=Z,230nm,4.4s
KMI LR LR
comp=Z,740nm,12.9s
KMI LR LR
comp=Z,920nm,18.2s
KMI LR LR
comp=Z,970nm,17.7s
KMI Kunming 20.54 276 P **P 23 23 31.0 +0.7**
KMI pmax pmax
comp=Z,38nm,0.7s
KMI Kunming 20.54 276 P **P 23 23 31.0 +0.7**
JTM Tenmabayashi 20.60 36 P **P 23 23 30.0 -0.6**
JTM IAmb IAmb 23 23 36.1
comp=Z,184nm,0.8s
MYLDM Lahad Datu 20.64 200 P Pn 23 23 32.7 -1.1
KKM Kota Kinabalu 20.66 207 P **P 23 23 32.1 +0.6**
UBPT Khong Chiam 20.97 247 P **P 23 23 36.1 +1.4**
UBPT IAmb IAmb 23 23 38.1
comp=Z,136nm,1.1s

GUMO Guam 21.49 118 P **P 23 23 41.9 +1.5**
comp=Z,23nm,0.5s,baz=280,slow=6.1,SNR=1.8
GUMO LR LR 23 30 47.3
comp=Z,490nm,20.4s,baz=292,slow=33
GUMO Guam 21.49 118 P **P 23 23 40.7 +0.4**
GUMO Guam 21.49 118 P **P 23 23 40.7 +0.4**
LZH Lanzhou 21.65 306 *e*P **P 23 23 40.6 -1.5**
LZH pP pP 23 23 51.3 -1.6
LZH sP sP 23 23 56.0 -2.5
LZH PP **PnPn 23 24 06.5 +2.4**
LZH *e*S **S 23 27 33.0 -6.6**
LZH sS Sn 23 27 52.6 +2.4
LZH pmax pmax
comp=Z,87nm,1.0s
LZH pmax pmax
comp=Z,370nm,4.6s
LZH LR LR
comp=Z,590nm,12.0s
LZH LR LR
comp=Z,1μm,11.6s
LZH LR LR
comp=Z,2μm,14.3s
JEW Eniwo 22.30 32 P **P 23 23 49.3 +0.5**
ERM Erimo 22.58 36 *d i*P **P 23 23 50.2 -1.6**
ERM pmax pmax
comp=Z,77nm,0.8s
ERM Erimo 22.58 36 P **P 23 23 50.4 -1.4**
ASAJ Asahikawa 23.81 32 P **P 23 24 03.1 -0.8**
comp=Z,77nm,0.9s,baz=239,slow=12,SNR=22
ASAJ Asahikawa 23.81 32 P **P 23 24 03.4 -0.5**
ASAJ pmax pmax
comp=Z,95nm,1.0s
JKA Kamikawa-asahi 23.81 32 P **P 23 24 03.4 -0.5**
JKA IAmb IAmb 23 24 05.4
comp=Z,95nm,1.0s
TNTI Ternate 24.00 175 P **P 23 24 07.3 +1.4**
comp=Z,2μmcomp=Z,195nm,1.1s
TNTI Ternate 24.00 175 P **P 23 24 06.8 +0.8**
TNTI IAmb IAmb 23 24 22.3
comp=Z,206nm,1.1s
PBKT Sadao Pong 24.25 255 P **P 23 24 08.5 +0.2**
PBKT IAmb IAmb 23 24 12.6
comp=Z,182nm,1.8s
HIA Hailar 24.79 351 P **P 23 24 11.7 -1.2**
HIA pmax pmax
comp=Z,106nm,1.1s
HIA Hailar 24.79 351 P **P 23 24 11.7 -1.2**
HIA IAmb IAmb 23 24 14.8
comp=Z,106nm,1.1s
MPSI Mapaga 24.93 193 P **P 23 24 15.9 +1.5**
comp=Z,2μmcomp=Z,34nm,1.0s
CHTO Chiang Mai 25.25 262 P **P 23 24 17.5 +0.1**
CHTO P **P 23 24 17.5 +0.1**
CHTO Chiang Mai 25.25 262 P **P 23 24 17.5 +0.1**
CHTO Chiang Mai 25.25 262 P **P 23 24 17.5 +0.1**
CM31 Chiang Mai Arr 25.37 261 P **P 23 24 19.8 +1.4**
SNR=8.1
CM31 Chiang Mai Arr 25.37 261 P **P 23 24 18.1 -0.3**
CMAR Chiang Mai Arr 25.37 261 P **P 23 24 19.2 +0.8**
comp=Z,21nm,0.9s,baz=60,slow=8.1,SNR=61
CMAR PcP **PcP 23 27 51.0 +0.7**
comp=Z,3.2nm,0.8s,baz=66,slow=1.1,SNR=7.6
CMAR ScP **ScP 23 31 27.6 +1.7**
comp=Z,2.9nm,1.1s,baz=40,slow=1.5,SNR=4.6
CMAR LR LR 23 34 25.4
comp=Z,504nm,21.9s,baz=108,slow=37
CMAR Chiang Mai Arr 25.37 261 P **P 23 24 18.4 0.0**
CMAR Chiang Mai Arr 25.37 261 P **P 23 24 18.4 0.0**
CMAR **PcP 23 27 50.9 +0.7**
YUK Yuzh-Kuril'sk 25.41 36 *e*P **P 23 24 19.4 +0.9**
YUK *i* S **S 23 28 44.1 +2.1**
YUK pmax pmax
comp=Z,412nm,1.1s
YUK MLR MLR
comp=Z,488nm,20.0s
YUK MLR MLR
comp=E,87nm,13.0s
YUK MLR MLR
comp=N,207nm,11.0s
SBUM Sibu 25.63 212 P **P 23 24 20.9 +0.1**
SBUM Sibu 25.63 212 P **P 23 24 22.0 +1.2**
LUWI Luwuk 25.85 186 P **P 23 24 23.3 +0.5**
LUWI IAmb IAmb 23 24 49.2
comp=Z,150nm,1.3s
GTA Gaotai 25.97 310 ⇑P **P 23 24 23.1 -0.8**
GTA pP pP 23 24 34.4 -1.4
GTA sP sP 23 24 39.5 -1.7
GTA PcP **PcP 23 27 52.8 +1.4**
GTA S **S 23 28 47.3 -4.1**
GTA pmax pmax
comp=Z,82nm,0.9s
GTA pmax pmax
comp=Z,120nm,4.4s
GTA LR LR
comp=Z,410nm,18.5s
GTA LR LR
comp=Z,1μm,16.4s
GTA LR LR
comp=Z,1μm,16.4s
YSS Yuzh-Sakhalins 26.06 28 ⇓*i*P **P 23 24 24.3 -0.1**
YSS *e* 23 25 05.4
YSS *e*S **S 23 28 48.3 -3.9**
YSS pmax pmax
comp=Z,60nm,0.8s
YSS MLR MLR
comp=N,400nm,18.0s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS Yuzh-Sakhalins 26.06 28 P **P 23 24 23.9 -0.4**
SANI Sanana 26.73 179 P **P 23 24 32.0 +1.3**
comp=Z,2μmcomp=Z,178nm,1.1s
ULN Ulaanbaatar 27.19 332 P **P 23 24 34.0 -0.8**
ULN Ulaanbaatar 27.19 332 P **P 23 24 34.0 -0.8**
KUR Kuril'sk 27.27 36 ⇓*e*P **P 23 24 34.5 -0.8**
KSM Kuching 27.42 214 P **P 23 24 37.1 +0.2**
KSM Kuching 27.42 214 P **P 23 24 37.0 +0.1**
SONM Songino Array 27.44 332 P **P 23 24 36.2 -0.8**
comp=Z,10nm,0.5s,baz=149,slow=9.2,SNR=66
SONM PcP **PcP 23 27 55.5 +0.8**
comp=Z,5.5nm,0.9s,baz=157,slow=4.7,SNR=4.4
SONM LR LR 23 37 03.7
comp=Z,2μm,19.3s,baz=156,slow=40
SONM Songino Array 27.44 332 P **P 23 24 35.6 -1.4**
SONM 23 27 55.9
SONM pmax pmax
comp=Z,67nm,1.7s
SONM Songino Array 27.44 332 P **P 23 24 35.6 -1.4**
SONM **PcP 23 27 55.9 +1.2**
MTKI Muara Teweh, K 27.57 203 P **P 23 24 40.3 +2.0**
NLAI Namlea 27.96 176 P P 23 24 56.4 +15
FAKI Fak Fak 28.38 165 P P 23 25 00.1 +15
FAKI Fak Fak 28.38 165 P **P 23 24 45.8 +0.3**
FAKI IAmb IAmb 23 24 59.2
comp=Z,57nm,0.8s
CIT Chita 28.61 345 *e*P **P 23 24 46.7 -0.6**
CIT *e* 23 24 58.1
CIT *e* 23 25 05.3
CIT *e* 23 25 44.2
CIT pmax pmax
comp=Z,116nm,1.3s
ZEA Zeya 28.90 2 *e*P **P 23 24 48.0 -1.7**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=N,700nm,16.0s
ZEA MLR MLR
comp=Z,900nm,16.0s
TEZP TEZPUR 29.38 281 *e*P **P 23 24 54.5 +0.1**
SMPI Sarmi 29.63 152 P **P 23 24 56.9 +0.3**
comp=Z,29nm,1.0s
BBKI Banjar Baru 29.94 201 P **P 23 25 00.5 +1.2**
comp=Z,4μmcomp=Z,52nm,1.0s
KAPI Kappang 30.18 191 LR LR 23 36 54.0
comp=Z,347nm,21.3s,baz=17,slow=36
SHL Shillong 30.29 279 *e*P **P 23 25 03.0 +0.4**
SHL IAmb IAmb 23 25 05.5
comp=Z,18nm,0.8s
SHL Shillong 30.29 279 P **P 23 25 03.4 +0.8**
SNR=21
SHL Shillong 30.29 279 P **P 23 25 02.5 -0.1**
SHL pmax pmax
comp=Z,151nm,1.5s
SHL Shillong 30.29 279 P **P 23 25 02.5 -0.1**
SHL IAmb IAmb 23 25 04.1
comp=Z,150nm,1.5s

KULM Kulim 30.69 235 P **P 23 25 06.1 0.0**
ZAK Zakamensk 30.71 332 *e*P **P 23 25 04.6 -1.4**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
LSA Lhasa 30.75 287 P **P 23 25 07.8 +0.8**
LSA pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 30.75 287 P **P 23 25 07.8 +0.8**
MYKOM Kota Tinggi 30.95 226 P **P 23 25 08.5 +0.2**
MYKOM IAmb IAmb 23 25 10.1
comp=Z,97nm,0.9s
IPM Ipoh 30.96 233 P **P 23 25 08.1 -0.3**
IPM IAmb IAmb 23 25 09.2
comp=Z,52nm,0.9s
TLY Talaya 31.54 334 LR LR 23 39 45.3
comp=Z,1μm,18.2s,baz=118,slow=40
TLY Talaya 31.54 334 P **P 23 25 11.4 -1.8**
TLY P **P 23 25 11.4 -1.8**
TLY Talaya 31.54 334 *e*P **P 23 25 11.6 -1.6**
TLY *e* 23 26 15.8
TLY pmax pmax
comp=Z,12nm,1.3s
TLY MLR MLR
comp=Z,375nm,11.0s
TLY Talaya 31.54 334 P **P 23 25 12.6 -0.6**
MOY Mondy 32.64 332 *e*P **P 23 25 22.2 -0.7**
MOY pmax pmax
comp=Z,112nm,1.4s
GTK Tadong 33.07 282 *e*P **P 23 25 26.4 -0.6**
GTK IAmb IAmb 23 25 31.4
comp=Z,50nm,0.3s
MMRI Maumere 33.41 186 P **P 23 25 29.8 -0.1**
EDFI Ende, Flores 33.58 187 P P 23 25 38.4 +7.0
PSI Prapat 33.63 234 LR LR 23 39 14.5
comp=Z,190nm,18.2s,baz=87,slow=36
PSI Prapat 33.63 234 P **P 23 25 31.8 -0.1**
PSI 23 28 12.0
PSI pmax pmax
comp=Z,35nm,1.0s
RPSI Rantau Prapat 33.70 233 P **P 23 25 31.8 -0.6**
RPSI IAmb IAmb 23 25 34.0
comp=Z,35nm,1.0s
RPSI **PcP 23 28 12.0 +0.5**
BKNI Bangkinang 33.90 228 P **P 23 25 35.4 +1.3**
comp=Z,2μmcomp=Z,230nm,1.0s
BKNI Bangkinang 33.90 228 P **P 23 25 34.4 +0.4**
BOD Bodaibo 33.95 349 *e*P **P 23 25 33.0 -1.1**
BOD pmax pmax
comp=Z,8.0nm,1.2s
PMBI Palembang 34.10 219 P **P 23 25 37.2 +1.3**
SOEI Soe 34.40 182 P **P 23 25 39.8 +1.3**
SOEI IAmb IAmb 23 26 12.6
comp=Z,32nm,1.0s
MNSI Mandailing Nat 34.55 230 P **P 23 25 40.6 +0.8**
comp=Z,78nm,1.1s
SDSI Sungal Dareh 34.58 226 P **P 23 25 40.4 +0.4**
comp=Z,62nm,0.9s
BATI Baumata 34.87 183 P P 23 25 53.6 +11
SKR Severo-Kuril's 35.00 35 *e*P **P 23 25 43.7 +0.5**
SKR *e* 23 27 06.2
SKR *e*SS SS 23 33 27.5 -18
SKR *e*SSS SSS 23 33 59.1
SKR pmax pmax
comp=Z,100nm,2.5s
SKR pmax pmax
comp=Z,73nm,1.2s
SKR MLR MLR
comp=Z,100nm,20.0s
SKR MLR MLR
comp=Z,100nm,22.0s
PDSI Padang 35.20 227 P **P 23 25 46.5 +1.1**
comp=Z,20nm,0.8s
KRJI Kerinci 35.44 224 P **P 23 25 48.6 +1.1**
comp=Z,8μmcomp=Z,269nm,0.8s
LHSI Lahat 35.55 220 P **P 23 25 50.2 +1.9**
comp=Z,85nm,1.0s
KLSI 35.57 217 P **P 23 25 50.0 +1.4**
comp=Z,23nm,1.1s
MDSI Maura Dua 35.71 218 P **P 23 25 51.0 +1.3**
comp=Z,1μmcomp=Z,45nm,1.1s
KPJI Karang Pucung 35.77 209 P **P 23 25 52.7 +2.5**
comp=Z,35nm,1.6s
BOK Bokaro 35.94 277 *e*P **P 23 25 53.2 +1.5**
BOK IAmb IAmb 23 25 54.2
comp=Z,68nm,1.2s
KSI Kapahiang 35.96 221 P **P 23 25 53.5 +1.6**
comp=Z,6μmcomp=Z,79nm,0.9s
WMQ Urumqi 36.05 311 *e*P **P 23 25 52.3 -0.2**
WMQ sP sP 23 26 08.9 -1.0
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ pmax pmax
comp=Z,26nm,3.7s
WMQ LR LR
comp=Z,180nm,13.3s
WMQ LR LR
comp=Z,230nm,18.7s
WMQ LR LR
comp=Z,270nm,28.1s
WMQ Urumqi 36.05 311 P **P 23 25 52.4 0.0**
WMQ pmax pmax
comp=Z,48nm,0.8s
WMQ Urumqi 36.05 311 P **P 23 25 52.4 0.0**
WMQ IAmb IAmb 23 25 53.4
comp=Z,48nm,0.8s
PATS Pohnpei 36.22 114 P **P 23 25 54.4 +0.3**
SISI Saibi 36.42 228 P **P 23 25 57.4 +1.6**
comp=Z,65nm,1.0s
PEA0B Petropavlovsk- 37.23 32 P **P 23 26 02.3 0.0**
PEA0B pmax pmax
comp=Z,178nm,1.7s
PEA0B Petropavlovsk- 37.23 32 P **P 23 26 02.2 0.0**
PETK Petropavlovsk- 37.23 32 P **P 23 26 01.8 -0.5**
comp=Z,27nm,0.8s,baz=221,slow=5.3,SNR=46
PETK PcP **PcP 23 28 21.6 +0.4**
comp=Z,6.9nm,0.9s,baz=177,slow=3.0,SNR=3.8
PETK LR LR 23 41 37.0
comp=Z,253nm,21.7s,baz=231,slow=37
PETK Petropavlovsk- 37.23 32 P **P 23 26 02.2 -0.1**
PETK 23 28 21.7
PETK Petropavlovsk- 37.23 32 P **P 23 26 02.2 -0.1**
PETK PcP **PcP 23 28 21.7 +0.4**
YAK Yakutsk 37.30 3 P **P 23 26 00.6 -2.1**
comp=Z,13nm,0.4s,baz=250,slow=0.3,SNR=5.2
YAK Yakutsk 37.30 3 *e*P **P 23 26 00.0 -2.7**
YAK *e**PP **pP 23 26 11.6 -3.3**
YAK *e* 23 27 24.7
YAK *e* 23 28 20.0
YAK *e*S **S 23 31 44.6 -2.2**
YAK *e**SS **ScP 23 32 02.7 -2.1**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,125nm,4.2s
YAK pmax pmax
comp=N,131nm,3.8s
YAK pmax pmax
comp=E,83nm,3.4s
YAK smax smax
comp=N,73nm,3.2s
YAK smax smax
comp=E,84nm,3.0s
YAK MLR MLR
comp=Z,451nm,21.0s
YAK MLR MLR
comp=N,305nm,18.0s
YAK MLR MLR
comp=E,105nm,21.0s
YAK Yakutsk 37.30 3 P **P 23 26 00.4 -2.3**
YAK PcP **PcP 23 28 21.9 +0.7**
PET Petropavlovsk 37.64 33 α *i*P **P 23 26 06.3 +0.5**
PET *e*S **S 23 31 57.5 +5.2**
PET pmax pmax
comp=Z,728nm,1.2s
PET MLR MLR
comp=Z,100nm,15.0s
PET MLR MLR
comp=Z,200nm,18.0s
PET Petropavlovsk 37.64 33 P **P 23 26 05.6 -0.1**
MTN Manton Dam 37.87 171 P **P 23 26 07.3 -0.7**
DGZ Jazzator, Alta 38.48 320 *c i*P **P 23 26 12.4 -0.7**

DGZ pmax pmax
comp=Z,7.0nm,0.7s
H11N1 WAKE ISLAND Hy 38.63 89 T T 00 07 49.0
baz=284,slow=75,SNR=22
H11N2 WAKE ISLAND Hy 38.63 89 T T 00 07 48.2
baz=284,slow=75,SNR=20
H11N3 WAKE ISLAND Hy 38.64 89 T T 00 07 50.3
baz=284,slow=75,SNR=23
KRVT Keravat (AS076 38.85 135 LR LR 23 39 18.4
comp=Z,349nm,20.6s,baz=289,slow=31
RABL Rabaul 38.85 134 P **P** **23 26 17.1 +0.7**
MA2 Magadan 38.98 20 P **P** **23 26 15.5 -1.4**
comp=Z,26nm,0.8s,baz=220,slow=6.0,SNR=5.5
MA2 PcP **PcP** **23 28 27.2 +0.7**
comp=Z,13nm,0.7s,baz=223,slow=3.8,SNR=3.8
MA2 LR LR 23 42 02.1
comp=Z,253nm,21.4s,baz=225,slow=36
MA2 Magadan 38.98 20*c iP* **P** **23 26 16.9 0.0**
MA2 pmax pmax
comp=Z,23nm,0.7s
ZSN Zaisan 39.15 316⇑ *iP* **P** **23 26 17.7 -0.9**
comp=Z,15nm,1.2s,baz=315
ZSN Zaisan 39.15 316*c iP* **P** **23 26 17.7 -0.9**
ZSN pmax pmax
comp=Z,15nm,1.2s
PMG Port Moresby 40.11 145 LR LR 23 40 52.5
comp=Z,260nm,19.8s,baz=303,slow=33
PMG Port Moresby 40.11 145⇓ *eP* **P** **23 26 27.2 +0.4**
PMG pmax pmax
comp=Z,30nm,1.3s
KNRA Kununurra 40.40 175 P **P** **23 26 29.0 -0.2**
KNRA IAmb IAmb 23 26 42.8
comp=Z,75nm,1.1s
MK31 Makanchi Array 40.60 314 P **P** **23 26 30.1 -0.5**
MK31 pmax pmax
comp=Z,38nm,0.8s
MK31 Makanchi Array 40.60 314 P **P** **23 26 30.1 -0.5**
MK31 IAmb IAmb 23 26 31.2
comp=Z,38nm,0.8s
MKAR Makanchi Array 40.60 314 P **P** **23 26 30.1 -0.6**
comp=Z,37nm,0.6s,baz=101,slow=9.9,SNR=335
MKAR sP **sP** **23 26 45.8 -2.5**
comp=Z,9.8nm,0.6s,baz=98,slow=11,SNR=3.5
MKAR PcP **PcP** **23 28 32.1 +0.1**
comp=Z,3.9nm,0.8s,baz=97,slow=4.2,SNR=1.7
MKAR LR LR 23 44 46.0
comp=Z,713nm,18.9s,baz=102,slow=38
MKAR Makanchi Array 40.60 314 *i P* **P** **23 26 30.1 -0.6**
MKAR pmax pmax
comp=Z,33nm,0.5s
MKAR Makanchi Array 40.60 314 P **P** **23 26 29.7 -0.9**
MAKZ Makanchi 40.81 314 P **P** **23 26 31.9 -0.5**
MAKZ pmax pmax
comp=Z,76nm,0.8s
MAKZ Makanchi 40.81 314 P **P** **23 26 31.9 -0.5**
MAKZ IAmb IAmb 23 26 33.0
comp=Z,76nm,0.8s
SHLS Shalkode 41.66 308⇑ *iP* **P** **23 26 36.9 -2.6**
comp=Z,35nm,1.0s,baz=307
SHLS Shalkode 41.66 308*c iP* **P** **23 26 36.8 -2.7**
SHLS pmax pmax
comp=Z,35nm,1.0s
ZAA0 Zalesovo Array 41.85 325 P **P** **23 26 39.5 -1.3**
ZALV Zalesovo Beam 41.85 325 P **P** **23 26 39.4 -1.4**
comp=Z,28nm,0.5s,baz=111,slow=8.4,SNR=120
ZALV PcP **PcP** **23 28 35.1 -0.8**
comp=Z,4.1nm,0.6s,baz=115,slow=4.6,SNR=2.7
ZALV ScP **ScP** **23 32 25.5 +2.8**
comp=Z,0.4nm,0.3s,baz=150,slow=4.4,SNR=2.2
ZALV LR LR 23 45 31.7
comp=Z,545nm,18.1s,baz=142,slow=38
ZALV Zalesovo Beam 41.85 325 P **P** **23 26 39.1 -1.7**
DDI Dehra Dun 42.08 288 *eP* **P** **23 26 43.6 +0.6**
DDI IAmb IAmb 23 26 45.2
comp=Z,158nm,0.8s
KPKS Kokpek 42.28 308⇑ *iP* **P** **23 26 44.4 -0.1**
comp=Z,44nm,0.9s,baz=307
KPKS Kokpek 42.28 308*c iP* **P** **23 26 44.4 -0.1**
KPKS pmax pmax
comp=Z,44nm,0.9s
COEN Coen 42.28 154 P **P** **23 26 45.3 +0.7**
COEN IAmb IAmb 23 26 59.7
comp=Z,110nm,1.1s
PRZ Przheval'sk 42.31 307 P **P** **23 26 45.8 +0.8**
PRZ pmax pmax
comp=Z,68nm,1.0s
PRZ Przheval'sk 42.31 307 P **P** **23 26 45.8 +0.8**
PRZ IAmb IAmb 23 26 47.4
comp=Z,68nm,0.9s
SATY Saty 42.40 307⇑ *iP* **P** **23 26 45.9 +0.3**
comp=Z,28nm,1.0s,baz=307
SATY Saty 42.40 307*c iP* **P** **23 26 45.9 +0.3**
SATY pmax pmax
comp=Z,28nm,1.0s
FITZ Fitzroy Crossi 42.67 180 P **P** **23 26 47.6 -0.1**
TDK Taldyqorghan 42.77 310 *eP* **P** **23 26 48.8 +0.3**
comp=Z,134nm,0.8s,baz=310
TDK Taldyqorghan 42.77 310 *eP* **P** **23 26 48.7 +0.3**
TDK pmax pmax
comp=Z,134nm,0.8s
SMLA Simla 42.79 290 *eP* **P** **23 26 49.4 +0.7**
SMLA IAmb IAmb 23 26 50.7
comp=Z,207nm,0.6s
KDJ Kajisay 43.16 306 P **P** **23 26 52.3 +0.5**
KDJ pmax pmax
comp=Z,62nm,1.0s
KDJ Kajisay 43.16 306 P **P** **23 26 52.3 +0.5**
KDJ IAmb IAmb 23 26 54.2
comp=Z,62nm,0.9s
MDOK Medeo 43.40 307 *i P* **P** **23 26 54.2 +0.4**
baz=307
MDOK Medeo 43.40 307 *i P* **P** **23 26 54.1 +0.4**
BHK Bhakra 43.41 290 *ex* **P** **23 26 55.0 +1.2**
DHRM DHARAMSHALA 43.45 291 *eP* **P** **23 26 53.9 -0.5**
DHRM IAmb IAmb 23 26 57.5
comp=Z,134nm,1.3s
TNSS Tian-Shan 43.46 307 *eP* **P** **23 26 55.0 +0.6**
baz=306
TNSS Tian-Shan 43.46 307 *eP* **P** **23 26 55.0 +0.6**
AAA Alma-Ata 43.51 307 *eP* **P** **23 26 55.0 +0.5**
comp=Z,18nm,0.9s,baz=307
AAA Alma-Ata 43.51 307 *eP* **P** **23 26 54.9 +0.5**
AAA pmax pmax
comp=Z,18nm,0.9s
CHKK Chushkaly 43.56 308 *eP* **P** **23 26 54.7 -0.1**
baz=308
CHKK Chushkaly 43.56 308 *eP* **P** **23 26 54.6 -0.2**
KSH Kashi 43.79 302 P **P** **23 27 00.8 +3.9**
KSH pP sP 23 27 11.9 -2.6
KSH S **S** **23 33 29.8 +5.3**
KSH pmax pmax
comp=Z,87nm,0.8s
KSH pmax pmax
comp=Z,100nm,7.0s
KSH LR LR
comp=Z,190nm,12.8s
KSH LR LR
comp=Z,630nm,15.2s
KSH LR LR
comp=Z,890nm,16.7s
ULHL Ulahol 43.86 306 P **P** **23 26 58.6 +1.1**
SNR=6.7
KUU Kurty 44.02 308⇑ *iP* **P** **23 26 58.7 +0.2**
comp=Z,57nm,0.9s,baz=308
KUU *eS* **S** **23 33 25.0 -2.6**
baz=308
KUU Kurty 44.02 308*c iP* **P** **23 26 58.7 +0.2**
KUU *eS* **S** **23 33 25.0 -2.6**
KUU pmax pmax
comp=Z,57nm,0.9s
KURK Kurchatov 44.11 318 P **P** **23 26 58.2 -0.9**
KURK P **P** **23 26 58.2 -0.9**
KURK Kurchatov 44.11 318*c iP* **P** **23 26 57.8 -1.3**
KURK pmax pmax
comp=Z,58nm,1.3s
KURK Kurchatov 44.11 318 P **P** **23 26 58.1 -0.9**
KURK IAmb IAmb 23 26 59.4
comp=Z,82nm,1.4s
BOOM Boomskoye usch 44.12 306 P **P** **23 26 59.6 +0.1**
BOOM pmax pmax
comp=Z,18nm,1.1s
BOOM Boomskoye usch 44.12 306 P **P** **23 26 59.6 +0.1**
KURBB Kurchatov Arra 44.14 318 P **P** **23 26 58.2 -1.0**
comp=Z,20nm,0.9s,baz=109,slow=8.6,SNR=26
KURBB PP **PcP** **23 28 43.3 -0.3**
comp=Z,2.2nm,0.2s,baz=112,slow=11,SNR=4.9

HYB Hyderabad 44.14 270 *i P* **P** **23 27 01.0 +1.2**
TKM2 Tokmak 2 44.42 307 P **P** **23 27 02.6 +0.7**
SNR=45
TKM2 Tokmak 2 44.42 307 *i P* **P** **23 27 01.2 -0.8**
TKM2 pmax pmax
comp=Z,91nm,1.0s
KZA Kyzart 44.57 305 P **P** **23 27 05.3 +1.8**
SNR=19
KBK Karagaybulak 44.86 306 P **P** **23 27 06.7 +1.2**
SNR=21
CHMS Chumysh 45.05 307 P **P** **23 27 06.6 -0.1**
SNR=34
FRU1 Bishkek 45.11 306 P **P** **23 27 07.5 +0.2**
FRU1 pmax pmax
comp=Z,40nm,1.0s
FRU1 Bishkek 45.11 306 P **P** **23 27 07.5 +0.2**
FRU1 IAmb IAmb 23 27 09.0
comp=Z,40nm,1.0s
UCH Uchtor 45.13 306 P **P** **23 27 09.8 +1.8**
SNR=10
SGDS Sogindy 45.19 307⇑ *iP* **P** **23 27 07.7 -0.2**
comp=Z,13nm,1.0s,baz=307
SGDS Sogindy 45.19 307*c iP* **P** **23 27 07.7 -0.2**
SGDS pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 45.19 306 P **P** **23 27 08.6 +0.5**
SNR=13
AAK Ala-Archa 45.19 306 *i P* **P** **23 27 07.7 -0.4**
AAK pmax pmax
comp=Z,19nm,1.0s
USP Ospenovka 45.26 307 P **P** **23 27 08.6 +0.1**
SNR=24
WRAB Tennant Creek 45.34 168⇓ *eP* **P** **23 27 09.6 +0.4**
WRAB pmax pmax
comp=Z,15nm,1.0s
WRAB Tennant Creek 45.34 168 P **P** **23 27 09.8 +0.6**
WRA Warramunga Arr 45.35 168 P **P** **23 27 09.6 +0.3**
comp=Z,9.2nm,0.7s,baz=350,slow=8.6,SNR=48
WRA pP **pP** **23 27 21.2 -0.3**
comp=Z,121nm,0.9s,baz=348,slow=8.8,SNR=72
WRA S **S** **23 33 44.7 -2.4**
comp=Z,5.5nm,1.3s,baz=345,slow=14,SNR=9.0
WRA LR LR 23 45 31.5
comp=Z,239nm,21.4s,baz=85,slow=35
EKS2 Erkin-Say 45.72 306 P **P** **23 27 12.7 +0.5**
SNR=20
AML Almayashu 45.73 305 P **P** **23 27 14.2 +1.6**
SNR=11
BTLS Baital 45.82 309⇑ *iP* **P** **23 27 12.6 -0.3**
comp=Z,12nm,0.7s,baz=309
BTLS Baital 45.82 309*c iP* **P** **23 27 12.5 -0.3**
BTLS pmax pmax
comp=Z,12nm,0.7s
SMY Shemya 45.87 40 P **P** **23 27 13.6 +0.6**
SMY pmax pmax
comp=Z,94nm,0.9s
SMY Shemya 45.87 40 P **P** **23 27 13.6 +0.6**
NIL Nilore 45.94 294 P **P** **23 27 14.2 +0.3**
NIL P **P** **23 27 14.2 +0.3**
NIL Nilore 45.94 294 P **P** **23 27 14.1 +0.3**
NIL pmax pmax
comp=Z,108nm,1.0s
NIL Nilore 45.94 294 P **P** **23 27 14.1 +0.3**
PSA00 Pilbara Seismi 46.45 187 P **P** **23 27 17.4 -0.4**
PSA00 IAmb IAmb 23 27 32.1
comp=Z,30nm,0.8s
TIXI Tiksi 46.88 2 P **P** **23 27 19.3 -1.4**
comp=Z,17nm,0.8s,baz=167,slow=9.3,SNR=5.7
TIXI Tiksi 46.88 2⇓ *eP* **P** **23 27 22.1 +1.4**
TIXI pmax pmax
comp=Z,15nm,1.0s
DZA Taraz 47.53 306⇑ *iP* **P** **23 27 26.5 +0.2**
comp=Z,9.0nm,1.1s,baz=306
DZA Taraz 47.53 306*c iP* **P** **23 27 26.5 +0.2**
DZA pmax pmax
comp=Z,9.0nm,1.1s
BRZS Berezniki 47.60 316 *eP* **P** **23 27 26.3 -0.3**
comp=Z,14nm,0.8s,baz=315
BRZS Berezniki 47.60 316 *eP* **P** **23 27 26.3 -0.3**
BRZS pmax pmax
comp=Z,14nm,0.8s
BTK Batken 47.78 302 P **P** **23 27 28.5 +0.2**
BTK pmax pmax
comp=Z,14nm,0.8s
BTK Batken 47.78 302 P **P** **23 27 28.5 +0.2**
HNR Honiara 47.91 131 LR LR 23 44 22.8
comp=Z,310nm,21.4s,baz=288,slow=32
POO Poona 48.09 273 *eP* **P** **23 27 30.4 -0.5**
POO IAmb IAmb 23 27 35.5
comp=Z,11nm,0.8s
POO Poona 48.09 273 *eP* **P** **23 27 30.0 -0.9**
KK31 Karatay Array 48.15 306 P **P** **23 27 31.6 +0.6**
KK31 IAmb IAmb 23 27 32.8
comp=Z,105nm,1.9s
KK31 PcP **PcP** **23 28 57.6 -0.4**
KKAR Karatay Array 48.15 306 P **P** **23 27 31.6 +0.6**
KKAR IAmb IAmb 23 27 32.8
comp=Z,105nm,1.9s
KKAR PcP **PcP** **23 28 58.1 +0.1**
KKAR Karatay Array 48.15 306 P **P** **23 27 31.4 +0.3**
IUG Iuzhnay 48.45 305⇑ *iP* **P** **23 27 33.9 +0.5**
comp=Z,20nm,0.8s,baz=305
IUG Iuzhnay 48.45 305*c iP* **P** **23 27 33.9 +0.5**
IUG pmax pmax
comp=Z,20nm,0.8s
AMKA Amchitka 48.63 42 P **P** **23 27 35.3 +0.8**
AS31 Alice Springs 48.91 170 P **P** **23 27 37.6 +0.6**
ASAR Alice Springs 48.92 170 P **P** **23 27 38.0 +1.0**
comp=Z,3.0nm,0.5s,baz=358,slow=7.6,SNR=45
ASAR pP **pP** **23 27 49.6 +0.3**
comp=Z,38nm,0.8s,baz=356,slow=7.6,SNR=45
ASAR ScP **ScP** **23 32 53.6 +1.3**
comp=Z,1.3nm,0.9s,baz=342,slow=4.9,SNR=4.7
ASAR S **S** **23 34 39.7 +1.9**
comp=Z,1.5nm,1.1s,baz=3.3,slow=18,SNR=6.4
ASAR Alice Springs 48.92 170 P **P** **23 27 37.6 +0.6**
ASAR Alice Springs 48.92 170 P **P** **23 27 37.6 +0.6**
TAS Tashkent 48.97 304 P **P** **23 27 37.9 +0.5**
TAS pmax pmax
comp=Z,60nm,0.9s
TAS Tashkent 48.97 304 P **P** **23 27 37.9 +0.5**
CTAO Charters Tower 49.05 154 P **P** **23 27 38.6 +0.5**
CTAO pmax pmax
comp=Z,33nm,1.3s
CTAO Charters Tower 49.05 154 P **P** **23 27 38.5 +0.5**
CTAO IAmb IAmb 23 27 53.6
comp=Z,33nm,1.2s
CHGR Chuyangaron 49.07 301 P **P** **23 27 37.8 -0.4**
KBL Kabul 49.36 295 P **P** **23 27 41.2 +0.5**
SNR=56
KBL P **P** **23 27 41.2 +0.5**
SNR=56
KBL Kabul 49.36 295 P **P** **23 27 41.1 +0.4**
KBL pmax pmax
comp=Z,121nm,1.1s
KBL Kabul 49.36 295 P **P** **23 27 41.1 +0.4**
BVAR Borovoye Array 49.64 320 P **P** **23 27 41.9 -0.4**
comp=Z,6.4nm,0.5s,baz=135,slow=11,SNR=23
BVAR PcP **PcP** **23 29 03.3 +0.2**
comp=Z,4.3nm,0.6s,baz=133,slow=4.4,SNR=4.5
BRVK Borovoye 49.71 320 P **P** **23 27 42.1 -0.7**
BRVK P **P** **23 27 42.1 -0.7**
BRVK Borovoye 49.71 320*c iP* **P** **23 27 42.2 -0.6**
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 49.71 320 P **P** **23 27 42.4 -0.3**
NRIK Noril'sk 49.82 343 P **P** **23 27 42.4 -1.0**
comp=Z,47nm,0.9s,baz=121,slow=8.6,SNR=66
NRIK PcP **PcP** **23 29 04.2 +0.8**
comp=Z,20nm,0.5s,baz=90,slow=4.6,SNR=12
NRIK LR LR 23 51 19.1
comp=Z,640nm,18.8s,baz=177,slow=39
ADK Adak 51.18 42 P **P** **23 27 53.5 -0.3**
ADK pmax pmax
comp=Z,27nm,0.9s
ADK Adak 51.18 42 P **P** **23 27 53.5 -0.3**
ADK IAmb IAmb 23 27 54.2
comp=Z,27nm,0.8s
ATKA Atka Island 52.74 42 P **P** **23 28 04.8 -0.7**
ATKA IAmb IAmb 23 28 08.9
comp=Z,51nm,1.0s
MORW Morawa 54.34 190 P **P** **23 28 17.3 -0.1**
HRA Herat 54.96 296 P **P** **23 28 21.7 -0.6**
HRA IAmb IAmb 23 28 24.2
comp=Z,96nm,2.0s
FORT Forrest 55.36 177 P **P** **23 28 24.9 +0.1**

ABKAR Akbulak array 55.75 314 P **P** **23 28 27.4 0.0**
EIDS Eidsvold 55.75 152 P **P** **23 28 28.0 +0.4**
EIDS IAmb IAmb 23 28 43.4
comp=Z,41nm,1.3s
SVE Sverdlovsk 55.81 323*de*P **P** **23 28 27.7 -0.1**
SVE pmax pmax
comp=Z,73nm,0.9s
SVE MLR MLR
comp=Z,1μm,19.0s
ARU Arti 56.91 322 P **P** **23 28 35.2 -0.5**
comp=Z,12nm,0.5s,baz=92,slow=3.4,SNR=77
ARU Arti 56.91 322*d iP* **P** **23 28 34.4 -1.2**
ARU 23 30 41.0
ARU S **S** **23 36 22.8 -3.3**
ARU pmax pmax
comp=Z,44nm,0.7s
ARU MLR MLR
comp=Z,721nm,21.0s
ARU Arti 56.91 322 P **P** **23 28 35.0 -0.6**
ASHT Ashkhabad 57.57 300 P **P** **23 28 41.5 +0.9**
ASHT pmax pmax
comp=Z,140nm,1.0s
ASHT Ashkhabad 57.57 300 P **P** **23 28 41.5 +0.9**
GEYT Alibeck 57.78 300 P **P** **23 28 43.4 +1.2**
comp=Z,62nm,0.8s,baz=66,slow=1.8,SNR=147
GEYT sP **sP** **23 28 57.9 -2.2**
comp=Z,22nm,0.7s,baz=50,slow=8.0,SNR=5.6
GEYT LR LR 23 57 37.6
comp=Z,311nm,18.2s,baz=50,slow=40
GEYT Alibeck 57.78 300 P **P** **23 28 42.9 +0.8**
GYA0B ALIBECK ARRAY 57.78 300 P **P** **23 28 43.1 +1.0**
NWAO Narrogin (SRO) 57.97 188 P **P** **23 28 43.4 +0.2**
NWAO Narrogin (SRO) 57.97 188 P **P** **23 28 43.4 +0.2**
BBOO Buckleboo 58.22 169 P **P** **23 28 44.9 -0.1**
BBOO IAmb IAmb 23 29 00.7
comp=Z,43nm,0.9s
STKA Stephens Creek 58.48 164 P **P** **23 28 47.4 +0.5**
comp=Z,6.7nm,0.7s,baz=355,slow=6.8,SNR=12
STKA Stephens Creek 58.48 164 P **P** **23 28 47.6 +0.8**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 58.48 164 P **P** **23 28 47.6 +0.8**
ANM Nome 58.94 28 P **P** **23 28 51.0 +1.3**
ANM pmax pmax
comp=Z,77nm,0.9s
ANM Nome 58.94 28 P **P** **23 28 51.0 +1.3**
WBK Wadi Bani Khal 60.30 283 P **P** **23 29 00.8 +1.1**
WBK P **P** **23 29 00.8 +1.1**
RDOG Red Dog Mine 60.37 24 P **P** **23 29 00.3 +0.8**
RDOG IAmb IAmb 23 29 04.2
comp=Z,39nm,0.9s
WSAR Wadi Sarin 60.42 284 P **P** **23 29 01.6 +1.0**
SNR=5.4
BIDO Bidbid 60.79 284 P **P** **23 29 04.1 +1.0**
SNR=11
BIDO P **P** **23 29 04.1 +1.0**
SNR=11
SMDO Samad 60.99 284 P **P** **23 29 06.0 +1.4**
SNR=6.5
SMDO P **P** **23 29 06.0 +1.4**
SNR=6.5
JMDO Jabal Madar 61.14 283 P **P** **23 29 06.1 +0.6**
JMDO P **P** **23 29 06.1 +0.6**
DZM Mont Dzumac 61.34 136 *eP* **P** **23 29 08.8 +2.0**
comp=Z,39nm,1.3s
DZM Mont Dzumac 61.34 136 *e*LR LR 23 47 22.9
comp=Z,670nm,25.6s
DZM Mont Dzumac 61.34 136 P **P** **23 29 07.9 +1.1**
comp=Z,2.6nm,0.7s,baz=288,slow=20,SNR=2.4
DZM Mont Dzumac 61.34 136 P **P** **23 29 07.1 +0.3**
HOQ Hoqain 61.49 284 P **P** **23 29 09.0 +1.1**
SNR=14
HOQ P **P** **23 29 09.0 +1.1**
SNR=14
CNBA Chernabura Isl 61.54 39 P **P** **23 29 07.5 0.0**
MHTO MHTO 61.67 281 P **P** **23 29 09.0 0.0**
SNR=5.7
MHTO P **P** **23 29 09.0 0.0**
SNR=5.7
BANOM Banah 61.74 287 *i* P **P** **23 29 10.1 +0.6**
SNR=12
BANOM Banah 61.74 287 P **P** **23 29 10.5 +1.0**
BANOM P **P** **23 29 10.5 +1.0**
BSY Bisya 61.83 284 P **P** **23 29 10.7 +0.6**
BSY P **P** **23 29 10.7 +0.6**
SHME Shamm 61.84 287 *i* P **P** **23 29 11.1 +0.9**
SNR=5.6
KIRV Kirov 61.89 325 P **P** **23 29 09.7 -0.2**
comp=Z,86nm,0.6s,baz=105,slow=4.5,SNR=30
MDH Madha 61.91 287 P **P** **23 29 10.8 +0.2**
MSFE Esma-Masafi 62.01 287 P **P** **23 29 11.6 +0.3**
SOHO SOHO 62.02 285 *i* P **P** **23 29 11.1 -0.3**
SNR=18
UOSS Minazif 62.08 286 P **P** **23 29 11.6 -0.2**
UOSS Minazif 62.08 286 P **P** **23 29 12.7 +0.9**
UOSS P **P** **23 29 12.7 +0.9**
UOSS P **P** **23 29 12.7 +0.9**
UOSS P **P** **23 29 12.7 +0.9**
UOSS Minazif 62.08 286 P **P** **23 29 12.3 +0.5**
HATD Hatta, Dubai 62.18 286 *i* P **P** **23 29 13.3 +0.8**
SNR=8.5
ARQ Araqi 62.26 284 P **P** **23 29 13.8 +0.8**
SNR=6.1
ARQ P **P** **23 29 13.8 +0.8**
SNR=6.1
ASHO Ashiyiah 62.28 286 *i* P **P** **23 29 14.0 +0.8**
SNR=17
ASHO Ashiyiah 62.28 286 P **P** **23 29 13.9 +0.7**
SNR=9.9
ASHO P **P** **23 29 13.9 +0.7**
SNR=9.9
NAZ Nazwa, Dubai 62.54 286 *i* P **P** **23 29 15.4 +0.5**
SNR=5.5
NAZ Nazwa, Dubai 62.54 286 P **P** **23 29 16.1 +1.2**
SNR=8.8
NAZ P **P** **23 29 16.1 +1.2**
SNR=8.8
FAQ Al Faqa, Dubai 62.67 286 P **P** **23 29 16.1 +0.4**
ALNE Al Ain 62.73 285 *i* P **P** **23 29 16.7 +0.6**
SNR=8.4
TTA Tatalina 63.02 30 P **P** **23 29 18.0 +0.5**
TTA pmax pmax
comp=Z,46nm,1.2s
TTA Tatalina 63.02 30 P **P** **23 29 18.0 +0.5**
TTA IAmb IAmb 23 29 22.2
comp=Z,46nm,1.2s
AJN Ajban 63.25 286 *i* P **P** **23 29 19.8 +0.3**
SNR=5.6
AJN Ajban 63.25 286 P **P** **23 29 21.4 +1.9**
SNR=6.6
SVW2 Sparrevohn 63.31 32 P **P** **23 29 20.2 +0.8**
SVW2 IAmb IAmb 23 29 24.3
comp=Z,21nm,0.6s
IMAR Indian Mountai 63.88 27 P **P** **23 29 24.0 +0.9**
PPLA Purkeypile 64.77 30 P **P** **23 29 29.3 +0.2**
OHAK Old Harbor 64.84 36 P **P** **23 29 29.6 +0.2**
OHAK IAmb IAmb 23 29 38.6
comp=Z,39nm,1.1s
AKT Akhty 65.07 306 *eP* **P** **23 29 31.4 0.0**
AKT *e* 23 30 04.1
AKT pmax pmax
comp=Z,32nm,0.7s
KDAK Kodiak Island 65.15 36 P **P** **23 29 31.7 +0.3**
KDAK pmax pmax
comp=Z,40nm,1.0s
KDAK Kodiak Island 65.15 36 P **P** **23 29 31.7 +0.3**
KDAK IAmb IAmb 23 29 32.8
comp=Z,40nm,0.9s
SKT Skwentna 65.17 31 P **P** **23 29 32.0 +0.4**
SKT IAmb IAmb 23 29 35.7
comp=Z,26nm,1.0s
BPAW Bear Paw Mtn. 65.19 29 P **P** **23 29 32.5 +0.9**
BPAW IAmb IAmb 23 29 36.5
comp=Z,38nm,0.6s
COLD Coldfoot 65.21 25 P **P** **23 29 33.0 +1.3**
baz=275,SNR=13
COLD Coldfoot 65.21 25 P **P** **23 29 31.9 +0.2**
COLD IAmb IAmb 23 29 36.3
comp=Z,62nm,1.2s
KTH Kantishna Hill 65.28 29 P **P** **23 29 32.6 +0.3**
KTH IAmb IAmb 23 29 37.0
comp=Z,40nm,1.1s
TOLK Toolik Lake Re 65.32 24 P **P** **23 29 33.8 +1.3**
baz=275
TOLK Toolik Lake Re 65.32 24 P **P** **23 29 33.6 +1.2**

BWN Browne 65.84 29 P **P 23 29 37.2 +1.4**
NEA2 Nenana 65.96 28 P **P 23 29 37.6 +1.0**
baz=277,SNR=40
GROC Groznyy 66.12 308 *e*P **P 23 29 36.8 -1.2**
GROC *e* 23 30 08.1
GROC *e* 23 32 02.1
GROC *e*S **S 23 38 14.9 -8.3**
GROC pmax pmax
comp=Z,67nm,0.8s
O22K Cooper Landing 66.23 33 P **P 23 29 38.8 +0.5**
baz=279
MDM Murphy Dome 66.27 28 P **P 23 29 39.3 +0.7**
WRH Wood River Hil 66.40 28 P **P 23 29 40.5 +1.1**
WRH IAmb IAmb 23 29 45.3
comp=Z,32nm,0.7s
TCOL CIGO, UAF Yank 66.44 28 P **P 23 29 40.9 +1.3**
baz=278
COLA College 66.44 28*ce*P **P 23 29 40.6 +1.0**
COLA pmax pmax
comp=Z,77nm,1.8s
COLA College 66.44 28 P **P 23 29 40.1 +0.5**
COLA IAmb IAmb 23 29 44.2
comp=Z,40nm,0.7s
CCB Clear Creek Bu 66.49 28 P **P 23 29 40.2 +0.2**
POKR Poker Plat Res 66.58 27 P **P 23 29 41.0 +0.5**
baz=279,SNR=33
KLMR Klimovskoe 66.66 328 *e*P **P 23 29 39.3 -1.8**
KLMR pmax pmax
comp=Z,43nm,1.0s
KLMR Klimovskoe 66.66 328 *e*P **P 23 29 39.3 -1.8**
KLMR AMP 23 29 42.1
comp=Z,43nm,1.0s
SML Sawmill 66.69 31 P **P 23 29 42.0 +0.7**
SML IAmb IAmb 23 30 01.1
comp=Z,27nm,0.8s
TMCR Tamitsa 66.81 332 *e*P **P 23 29 40.1 -1.8**
TMCR pmax pmax
comp=Z,76nm,0.9s
IL31 66.86 28 P **P 23 29 42.4 +0.2**
IL31 IAmb IAmb 23 29 48.0
comp=Z,15nm,0.6s
ILAR Eielson Array 66.86 28 P **P 23 29 41.8 -0.5**
comp=Z,7.4nm,0.6s,baz=250,slow=4.7,SNR=45
ILAR PKP2bc 23 58 15.9
comp=Z,0.2nm,0.6s,baz=141,slow=3.5,SNR=4.2
ILAR LR LR 00 02 04.1
comp=Z,44nm,18.1s,baz=280,slow=39
ILAR Eielson Array 66.86 28 P **P 23 29 42.0 -0.3**
ILAR Eielson Array 66.86 28 P **P 23 29 42.0 -0.3**
HDA Harding Lake 66.90 28 P **P 23 29 42.3 -0.2**
baz=279,SNR=26
SCM Sheep Creek Mo 67.16 31 P **P 23 29 45.0 +0.6**
SCM pmax pmax
comp=Z,71nm,1.0s
SCM Sheep Creek Mo 67.16 31 P **P 23 29 45.0 +0.6**
VRH Novokhopyorsk 67.19 317 *e*P **P 23 29 44.0 -0.6**
VRH pmax pmax
comp=Z,130nm,0.6s
FYU Fort Yukon 67.24 26 P **P 23 29 46.0 +1.3**
BMAR Burnt Mountain 67.34 25 P **P 23 29 47.1 +1.7**
ZEI Tsey 67.56 308 *e*P **P 23 29 45.1 -2.4**
ZEI pmax pmax
comp=Z,125nm,1.4s
M24K Tolsona, Glenn 67.64 31 P **P 23 29 48.1 +0.7**
baz=281
RIDG Independent Ri 67.92 29 P **P 23 29 49.2 +0.1**
RIDG IAmb IAmb 23 29 54.5
comp=Z,57nm,1.1s
KBZ Khabaz 68.06 309 P **P 23 29 50.9 +0.6**
comp=Z,84nm,0.9s,baz=83,slow=5.3,SNR=134
KBZ LR LR 00 04 21.7
comp=Z,386nm,18.0s,baz=62,slow=40
APA Apatity 68.06 336 ⇓ *i*P **P 23 29 48.8 -1.0**
APA pmax pmax
comp=Z,24nm,0.9s
APA MLR MLR
comp=Z,700nm,15.0s
KIV Kislovodsk 68.15 309 *i*P **P 23 29 51.9 +1.0**
SNR=38
KIV Kislovodsk 68.15 309 *e*P **P 23 29 51.3 +0.3**
KIV pmax pmax
comp=Z,626nm,1.1s
KIV MLR MLR
comp=Z,341nm,17.0s
KIV Kislovodsk 68.15 309 P **P 23 29 51.5 +0.6**
AKH Akhalkalaki 68.19 307 P **P 23 29 52.7 +1.3**
AKH pmax pmax
comp=Z,369nm,0.9s
AKH Akhalkalaki 68.19 307 P **P 23 29 52.7 +1.3**
SOCY Socotra 68.23 274 P **P 23 29 51.0 -0.9**
SCRK Sand Creek 68.25 28 P **P 23 29 51.6 +0.3**
baz=282,SNR=26
LPSR Galich'ya Gora 68.58 319 *e*P **P 23 29 52.9 -0.5**
LPSR pmax pmax
comp=Z,90nm,0.7s
MOS Moscow 68.62 323 *e*P **P 23 29 51.7 -1.9**
MOS *e* 23 30 04.1
MOS *e* 23 30 16.6
MOS pmax pmax
comp=Z,110nm,0.7s
MOS pmax pmax
comp=Z,100nm,0.8s
MOS MLR MLR
comp=Z,400nm,19.0s
VORD Divnogorie 68.74 317 *e*P **P 23 29 53.4 -0.9**
VORD pmax pmax
comp=Z,30nm,0.7s
VSR Storozhevoye 68.76 318 *e*P **P 23 29 53.4 -1.1**
VSR pmax pmax
comp=Z,110nm,1.1s
GLB Gilahina Butte 68.88 31 P **P 23 29 55.9 +0.8**
GLB IAmb IAmb 23 30 00.8
comp=Z,26nm,0.8s
K27K Chicken 69.06 28 P **P 23 29 57.5 +1.4**
baz=284
VRDI Verde Repeater 69.10 31 P **P 23 29 57.6 +0.9**
VRDI IAmb IAmb 23 30 02.2
comp=Z,26nm,0.8s
MCARA McCarthy VSAT 69.26 31 P **P 23 29 58.5 +1.1**
MCARA IAmb IAmb 23 30 04.5
comp=Z,48nm,0.8s
EGAK Eagle 69.27 27 P **P 23 29 57.5 +0.1**
EGAK IAmb IAmb 23 30 01.3
comp=Z,27nm,0.8s
GEVA Gevas 69.32 304 P **P 23 29 58.9 +0.5**
OBN Obninsk 69.36 322*ce*P **P 23 29 57.7 -0.4**
OBN *e**PP **PcP 23 30 19.7 -1.6**
OBN *e* 23 32 31.4
OBN *e*PPP PPP 23 34 14.3
OBN *e*S **S 23 39 00.1 -1.4**
OBN *e*SS **SS 23 43 36.0 +7.5**
OBN pmax pmax
comp=Z,123nm,1.3s
OBN MLR MLR
comp=Z,407nm,20.0s
OBN Obninsk 69.36 322 P **P 23 29 58.1 +0.1**
ARTV Artvin 69.39 307 P **P 23 29 59.4 +0.5**
ARTV IAmb IAmb 23 30 01.0
comp=Z,48nm,1.3s
BCAR Beaver Creek A 69.42 29 P **P 23 29 59.4 +0.9**
SPA0 Spitsbergen Ar 69.66 348 P **P 23 29 59.5 -0.2**
SPA0 Spitsbergen Ar 69.66 348 *e*P **P 23 29 59.5 -0.2**
SPITS Spitsbergen Ar 69.66 348 P **P 23 29 59.1 -0.5**
comp=Z,9.8nm,0.5s,baz=107,slow=11,SNR=24
BALM Baldy 69.67 31 P **P 23 29 60.0 -0.1**
BALM IAmb IAmb 23 30 26.8
comp=Z,65nm,1.8s
KEV Kevo 69.79 338 P **P 23 30 00.4 -0.1**
KEV pmax pmax
comp=Z,31nm,1.0s
KEV Kevo 69.79 338 P **P 23 30 00.4 -0.1**
KEV IAmb IAmb 23 30 02.4
comp=Z,31nm,1.0s
BARN Barnard Glacie 69.98 31 P **P 23 30 02.9 +0.7**
BARN IAmb IAmb 23 30 07.9
comp=Z,21nm,0.8s
SOC Sochi 70.33 310 *e*P **P 23 30 03.6 -0.7**
SOC *e*PPP PPP 23 34 19.3
SOC *e*S **S 23 39 12.6 -0.7**
SOC *e*SS **SS 23 43 47.1 +3.1**
SOC *e*SSS SSS 23 46 47.8
SOC pmax pmax
comp=Z,115nm,0.9s
SOC MLR MLR
comp=Z,266nm,20.0s

ARCES ARCESS Array B 70.36 338 P **P 23 30 03.8 -0.2**
comp=Z,9.6nm,0.9s,baz=67,slow=7.3,SNR=12
ARCES LR LR 00 05 38.4
comp=Z,220nm,20.7s,baz=102,slow=40
EPYK Eagle Plains 70.61 25 P **P 23 30 06.3 +0.6**
baz=287,SNR=29
EPYK Eagle Plains 70.61 25 P **P 23 30 06.5 +0.8**
KOPT Kop Dagi 70.76 306 P **P 23 30 08.7 +1.3**
MARD Mardin 71.33 303 P **P 23 30 11.6 +0.9**
HYT Haines Junctio 72.00 31 P **P 23 30 15.6 +1.3**
HYT IAmb IAmb 23 30 16.9
comp=Z,28nm,0.9s
FIA1 FINESS Array S 72.80 330 P **P 23 30 18.4 -0.5**
FINES FINESS Array B 72.81 330 P **P 23 30 18.8 -0.1**
comp=Z,14nm,0.6s,baz=68,slow=5.6,SNR=90
FINES sP **PcP 23 30 34.2 -1.6**
comp=Z,7.2nm,0.5s,baz=57,slow=5.0,SNR=6.5
FINES LR LR 00 05 41.0
comp=Z,370nm,18.1s,baz=72,slow=39
WHY Whitehorse 73.26 30 P **P 23 30 22.8 +1.0**
WHY IAmb IAmb 23 30 24.4
comp=Z,27nm,0.8s
SKAG Skagway 73.48 32 P **P 23 30 23.2 +0.3**
SKAG IAmb IAmb 23 30 25.6
comp=Z,26nm,0.8s
VSU Vasula 73.53 327 *e*P **P 23 30 23.9 +0.6**
VSU Vasula 73.53 327*c i*P **P 23 30 23.1 -0.1**
VSU pmax pmax
comp=Z,101nm,0.7s
TOKA Tokat 73.60 307 P **P 23 30 25.1 +1.0**
TOKA IAmb IAmb 23 30 26.7
comp=Z,71nm,1.0s
C36M Paulatuk 73.89 20 P **P 23 30 25.5 +0.4**
baz=298
C36M Paulatuk 73.89 20 P **P 23 30 25.5 +0.4**
EUNU Eureka 73.91 5 P **P 23 30 25.4 +0.1**
EUNU IAmb IAmb 23 30 26.4
comp=Z,32nm,0.8s
BESE Bessie Mountai 74.03 32 P **P 23 30 27.0 +0.8**
GAZ Gaziantep 74.08 304 P **P 23 30 27.8 +0.8**
MICGM Minsk 74.34 323⇓ *e*P **P 23 30 27.0 -1.0**
MICGM PM 23 30 28.0
comp=Z,0.3nm,1.0s
MNK Minsk 74.34 323⇓ *e*P **P 23 30 27.0 -1.0**
MNK pmax pmax
comp=Z,300nm,1.0s
SIT Sitka 74.35 34 P **P 23 30 29.2 +1.2**
SIT pmax pmax
comp=Z,27nm,0.9s
SIT Sitka 74.35 34 P **P 23 30 29.1 +1.2**
SIT IAmb IAmb 23 30 45.3
comp=Z,27nm,0.9s
STEI Steigen 74.43 338 *e*P **P 23 30 27.4 -0.9**
N2ST Straumen 74.58 338 *e*P **P 23 30 29.6 +0.4**
N2VI Vinje 74.59 339 *e*P **P 23 30 28.8 -0.4**
N2TV TVrnvik 74.64 338 *e*P **P 23 30 29.2 -0.3**
IDID Didziasalis 74.66 324 *e*P **P 23 30 30.8 +0.9**
IZAR Zarasai 74.76 325 *e*P **P 23 30 31.4 +0.9**
NACGM Naroch 74.79 324 *e*P **P 23 30 31.0 +0.4**
NACGM PM 23 30 32.0
comp=Z,0.3nm,1.0s
NACGM *e*LR LR 00 05 52.0
NBB08 Skaug oppvekst 74.89 338 *e*P **P 23 30 30.8 -0.2**
ISAL Salakas 74.89 325 *e*P **P 23 30 32.1 +0.9**
AKASG Malin Array Be 74.92 319 P **P 23 30 30.9 -0.4**
comp=Z,42nm,0.7s,baz=57,slow=6.1,SNR=87
AKASG LR LR 00 06 22.4
comp=Z,147nm,19.3s,baz=70,slow=38
AKASG Malin Array Be 74.92 319 *i*P **P 23 30 31.0 -0.4**
AKASG pmax pmax
comp=Z,42nm,0.7s
AKASG Malin Array Be 74.92 319 P **P 23 30 31.0 -0.4**
AKBB Malin Array Si 74.92 319 P **P 23 30 31.0 -0.4**
AKBB pmax pmax
comp=Z,114nm,1.4s
AKBB Malin Array Si 74.92 319 P **P 23 30 31.0 -0.4**
IIGN Ignalina 74.92 324 *e*P **P 23 30 32.3 +0.9**
N2SV S_rvÅgen 75.19 339 *e*P **P 23 30 32.7 0.0**
NBB05 Inndyr 75.27 338 *e*P **P 23 30 33.2 0.0**
ILGA Ilgaz 75.34 309 P **P 23 30 34.7 +0.4**
ILGA IAmb IAmb 23 30 36.3
comp=Z,42nm,1.0s
NBB17 Glomfjord BÅr 75.40 338 *e*P **P 23 30 34.3 +0.4**
NBB30 Finnes 75.40 338 *e*P **P 23 30 34.3 +0.4**
N2VA Vr_y 75.41 339 *e*P **P 23 30 34.2 +0.3**
MOR8 Moi Rana 75.54 337 *e*P **P 23 30 34.0 -0.8**
N2RO R_st 75.67 339 *e*P **P 23 30 35.1 -0.3**
BR131 Keskin Array S 75.85 307 P **P 23 30 37.8 +0.5**
SNR=37
BR131 P **P 23 30 37.8 +0.5**
SNR=37
BR131 Keskin Array S 75.85 307 P **P 23 30 37.2 -0.1**
BR131 pmax pmax
comp=Z,172nm,1.0s
BR131 Keskin Array S 75.85 307 P **P 23 30 37.2 -0.1**
BRTR Keskin Array B 75.85 307 P **P 23 30 37.5 +0.2**
comp=Z,86nm,0.9s,baz=100,slow=5.1,SNR=199
BRTR LR LR 00 08 34.3
comp=Z,45nm,19.2s,baz=57,slow=39
BRTR Keskin Array B 75.85 307 P **P 23 30 37.3 +0.1**
NBB40 Tonnes 75.88 338 *e*P **P 23 30 36.9 +0.3**
PURM Purcari 76.01 315 ⇑P **P 23 30 38.1 +0.4**
SLIT Slitere, Latvi 76.04 327 *e*P **P 23 30 37.3 -0.4**
PABE Paberze 76.05 325 *e*P **P 23 30 38.6 +0.8**
DAG Danmarks Havn 76.28 352 *i*P **P 23 30 37.6 -1.2**
comp=Z,91nm,1.1s
DAG Danmarks Havn 76.28 352 *i*P **P 23 30 37.6 -1.2**
DAG pmax pmax
comp=Z,91nm,1.1s
SORM Soroca 76.38 317 ⇑P **P 23 30 39.2 -0.6**
BR231 Keskin MP Arra 76.43 308 P **P 23 30 40.7 +0.2**
MILM Milestii Mici 76.54 316 ⇑P **P 23 30 40.6 -0.2**
PBUR Paburge 76.89 326 *e*P **P 23 30 43.4 +0.8**
SUW Suwalki 77.07 324 *e*P **P 23 30 43.7 +0.1**
SUW Suwalki 77.07 324 P **P 23 30 43.6 -0.1**
SUW pmax pmax
comp=Z,158nm,0.7s
SUW Suwalki 77.07 324 P **P 23 30 43.6 -0.1**
TLCR 77.19 314 ⇑P **P 23 30 44.3 -0.2**
IAS Iasi 77.23 316 ⇑P **P 23 30 44.1 -0.6**
NSS Namsos 77.27 336 *e*P **P 23 30 44.0 -0.5**
VASR Vaslui 77.30 316 ⇑P **P 23 30 44.8 -0.3**
JURR Jurilovca 77.31 313 ⇑P **P 23 30 45.2 +0.1**
MDUB Mudurnu 77.33 309 P **P 23 30 45.7 +0.2**
RES Resolute Bay 77.38 10 P **P 23 30 45.4 +0.4**
RES pmax pmax
comp=Z,54nm,0.9s
RES Resolute Bay 77.38 10 P **P 23 30 45.4 +0.4**
RES IAmb IAmb 23 30 46.7
comp=Z,54nm,0.9s
VARL Varlezi 77.55 315 ⇑P **P 23 30 47.2 +0.7**
BIR Birlad 77.55 315 ⇑P **P 23 30 47.2 +0.7**
TOPG Topolog 77.60 314 ⇑P **P 23 30 47.1 +0.4**
CFR Carcaliu 77.64 314 ⇑P **P 23 30 46.2 -0.8**
TIRR Tirgusor 77.73 313 ⇑P **P 23 30 47.4 -0.1**
CSS Mathiatis 77.80 303 P **P 23 30 48.1 -0.1**
HARR Harsova 77.96 314 ⇑P **P 23 30 49.3 +0.5**
PRAR RASCA 78.00 317 ⇑P **P 23 30 49.4 +0.3**
PETR Petresti 78.01 315 ⇑P **P 23 30 49.3 +0.3**
LEF Lefka 78.07 303 ⇑P **P 23 30 47.5 -2.1**
TESR Tescani 78.07 316 ⇑P **P 23 30 49.5 0.0**
ODBI Odobesti 78.11 315 ⇑P **P 23 30 50.4 +0.8**
BOLV Bolvadin 78.17 307 P **P 23 30 50.4 +0.2**
BIZ Bicaz 78.25 316 ⇑P **P 23 30 50.7 +0.4**
VRI Vrincioaia 78.28 315 ⇑P **P 23 30 51.3 +0.7**
LVV L'vov 78.33 320 *e*P **P 23 30 50.4 -0.4**
PLOR Plostina 78.34 315 ⇑P **P 23 30 50.7 -0.2**
AMRR Amara 78.39 314 ⇑P **P 23 30 51.2 +0.1**
KLNR Kaliningrad 78.39 325*ce*P **P 23 30 50.5 -0.4**
KLNR pmax pmax
comp=Z,75nm,0.9s
BISRR Bisoca 78.42 315 ⇑P **P 23 30 51.8 +0.3**
BUR08 Bucovina Ar. S 78.52 317 P **P 23 30 52.3 +0.3**
BUR08 IAmb IAmb 23 30 53.5
comp=Z,21nm,0.7s
BURAR Bucovina Array 78.53 317 ⇑P **P 23 30 52.3 +0.3**
BURAR Bucovina Array 78.53 317 P **P 23 30 52.2 +0.3**
ATD Arta Tunnel 78.56 277 P **P 23 30 53.2 +0.5**
ATD IAmb IAmb 23 30 55.1
comp=Z,42nm,1.4s
TBLU Trondheim 78.59 335 *e*P **P 23 30 51.4 -0.5**
NEHR Nehoiu 78.73 315 ⇑P **P 23 30 53.5 +0.3**
OZUR 78.79 316 ⇑P **P 23 30 54.1 +0.6**

ISP Isparta 78.82 306 P **P 23 30 53.4 -0.4**
ISP pmax pmax
comp=Z,131nm,1.0s
ISP Isparta 78.82 306 P **P 23 30 53.4 -0.4**
MLR Muntele Rosu 78.93 315 ⇑P **P 23 30 55.2 +0.9**
MLR Muntele Rosu 78.93 315 P **P 23 30 54.7 +0.4**
MLR pmax pmax
comp=Z,39nm,0.9s
MLR Muntele Rosu 78.93 315 P **P 23 30 54.7 +0.4**
MLR IAmb IAmb 23 30 55.9
comp=Z,39nm,0.9s
NEF NEVSHA 78.96 313 P **P 23 30 55.1 +0.7**
SECR 79.04 315 ⇑P **P 23 30 54.9 +0.1**
SULR 79.06 314 ⇑P **P 23 30 55.1 +0.2**
DOPR Dopca 79.09 316 ⇑P **P 23 30 55.8 +0.7**
JMIC Jan Mayen 79.16 346 P **P 23 30 56.1 +1.2**
comp=Z,75nm,0.6s,baz=128,slow=8.9,SNR=3.7
NC405 NORSAR Array S 79.17 333 P **P 23 30 54.9 -0.2**
KWP Kalwaria Pacla 79.19 320 *e*P **P 23 30 56.2 +0.7**
KWP Kalwaria Pacla 79.19 320 P **P 23 30 55.9 +0.4**
KWP pmax pmax
comp=Z,119nm,0.7s
KWP Kalwaria Pacla 79.19 320 P **P 23 30 55.9 +0.4**
NC303 NORSAR Array S 79.25 333 P **P 23 30 55.4 -0.2**
ARCR ARCALIA 79.28 317 ⇑P **P 23 30 56.5 +0.5**
BEL Belsk 79.32 322 *e*P **P 23 30 56.9 +0.8**
RAZG Razgrad 79.35 313 ⇑P **P 23 30 56.9 +0.4**
NB201 NORSAR Array S 79.37 333 P **P 23 30 55.9 -0.5**
NB2 NORSAR Subarra 79.41 333 P **P 23 30 56.1 -0.4**
comp=Z,90nm,1.4s,baz=56,slow=5.6
NB2 NORSAR Subarra 79.41 333 P **P 23 30 56.1 -0.4**
baz=56,slow=5.6
NOA NORSAR Array B 79.41 333 P **P 23 30 56.1 -0.4**
comp=Z,13nm,0.7s,baz=54,slow=5.5,SNR=84
NOA LR LR 00 09 56.8
comp=Z,428nm,19.0s,baz=60,slow=39
VOIR 79.53 315 ⇑P **P 23 30 57.4 -0.1**
NAO01 NORSAR Array S 79.65 333 *e*P **P 23 30 58.2 +0.4**
ELL Elmali 79.69 306 P **P 23 30 58.5 -0.1**
ELL pmax pmax
comp=Z,539nm,1.2s
ELL Elmali 79.69 306 P **P 23 30 58.5 -0.1**
DOMB Dombas 79.72 335 *e*P **P 23 30 58.1 0.0**
KOLS Kolonicke sedl 79.75 319 *e*P **P 23 30 58.1 -0.5**
KOLS pmax pmax
comp=Z,15nm,0.8s
KOLS Kolonicke sedl 79.75 319 *e*P **P 23 30 58.1 -0.5**
ARR Arges 79.83 315 ⇑P **P 23 30 59.9 +0.8**
UZH Uzhgorod 79.87 319⇑ *e*P **P 23 30 59.8 +0.6**
UZH *i* 23 31 04.4
UZH *e* 23 31 15.8
CJR Cluj-Napoca 79.91 317 ⇑P **P 23 31 00.3 +0.8**
HUMR Humele 79.95 314 ⇑P **P 23 30 59.6 -0.2**
MANT Manisa 79.98 308 P **P 23 31 00.2 -0.1**
MOL Molde 80.00 335 *e*P **P 23 31 00.5 +0.9**
ZIMR 80.07 313 ⇑P **P 23 31 00.7 +0.4**
OSL Oslo 80.22 332 *e*P **P 23 31 01.3 +0.5**
CRVS Cervenica-Dubn 80.24 319 *e*P **P 23 31 02.2 +1.0**
CRVS pmax pmax
comp=Z,37nm,1.0s
CRVS Cervenica-Dubn 80.24 319 *e*P **P 23 31 02.2 +1.0**
LOT Lotru 80.34 316 ⇑P **P 23 31 02.5 +0.6**
AKN Aaknes 80.44 335 *e*P **P 23 31 02.7 +0.7**
GKP Gorka Klasztor 80.57 325 *e*P **P 23 31 03.5 +0.6**
OJC Ojcow 80.61 321 *e*P **P 23 31 03.8 +0.6**
OJC Ojcow 80.61 321 P **P 23 31 03.5 +0.4**
OJC pmax pmax
comp=Z,61nm,0.9s
OJC Ojcow 80.61 321 P **P 23 31 03.5 +0.4**
OJC IAmb IAmb 23 31 04.9
comp=Z,61nm,0.9s
DIM Dimitrovgrad 80.63 312 P **P 23 31 03.7 +0.3**
NIE Niedzica 80.69 320 *e*P **P 23 31 04.5 +0.9**
DEV Deva 80.70 316 ⇑P **P 23 31 04.5 +0.8**
ALN Alexandroupoli 80.76 311 P **P 23 31 03.5 -0.7**
ALN pmax pmax
comp=Z,64nm,1.3s
ALN Alexandroupoli 80.76 311 P **P 23 31 03.5 -0.7**
ALN IAmb IAmb 23 31 05.9
comp=Z,64nm,1.3s
SKAR Skarslia 80.80 334 *e*P **P 23 31 04.2 +0.2**
BSD Bornholm Skovb 80.84 327 *i*P **P 23 31 04.2 0.0**
comp=Z,71nm,0.9s
BSD Bornholm Skovb 80.84 327 *i*P **P 23 31 04.2 0.0**
BSD pmax pmax
comp=Z,71nm,0.9s
KONO Kongsberg 80.85 332*ce*P **P 23 31 03.6 -0.6**
KONO pmax pmax
comp=Z,10.0nm,0.8s
KONO Kongsberg 80.85 332 P **P 23 31 04.0 -0.2**
KONO Kongsberg 80.85 332 *e*P **P 23 31 04.8 +0.6**
YKA Yellowknife Ar 80.85 24 P **P 23 31 04.8 +0.7**
comp=Z,15nm,0.7s,baz=307,slow=5.7,SNR=20
YKA LR LR 00 11 07.2
comp=Z,89nm,18.6s,baz=0.0,slow=39
KECS Kecovo 81.01 319 *e*P **P 23 31 06.1 +0.8**
KECS pmax pmax
comp=Z,9.0nm,0.8s
KECS Kecovo 81.01 319 *e*P **P 23 31 06.1 +0.8**
SRE Strehaia 81.04 315 ⇑P **P 23 31 06.5 +0.9**
PLD Plovdiv 81.17 312 P **P 23 31 06.3 0.0**
MPEP Malo Peshtene 81.27 314 P **P 23 31 07.6 +0.8**
LANS Liptovska Anna 81.30 320 *e*P **P 23 31 08.5 +1.6**
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 81.30 320 *e*P **P 23 31 08.5 +1.6**
SIRR Siria 81.31 317 ⇑P **P 23 31 07.6 +0.6**
HYA Hoyanger 81.35 335 *e*P **P 23 31 07.0 +0.2**
HERR Herculane 81.45 316 ⇑P **P 23 31 08.1 +0.4**
FOO Floro 81.53 335 *e*P **P 23 31 08.1 +0.3**
PSZ Piszkesteto 81.62 319 ⇑P **P 23 31 09.0 +0.4**
PSZ Piszkesteto 81.62 319 P **P 23 31 09.1 +0.4**
PSZ pmax pmax
comp=Z,18nm,0.9s
PSZ Piszkesteto 81.62 319 P **P 23 31 09.1 +0.4**
BZS Buzias 81.62 316 ⇑P **P 23 31 08.4 -0.3**
RER Riviere de l'E 81.66 242 P **P 23 31 09.5 +0.3**
COP Copenhagen 81.75 328 *i*P **P 23 31 10.0 +1.0**
comp=Z,57nm,0.9s
COP Copenhagen 81.75 328 *i*P **P 23 31 10.0 +1.0**
COP pmax pmax
comp=Z,57nm,0.9s
VTS Vitosha 81.92 313 *i*P **P 23 31 11.1 +0.6**
ODD1 Odda 81.92 334 *e*P **P 23 31 13.7 +3.7**
MDVR Moldovita 81.94 316 ⇑P **P 23 31 10.6 +0.2**
SUE Sulen 81.97 335 *e*P **P 23 31 10.1 0.0**
VYHS Vyhne 81.97 320 *e*P **P 23 31 11.5 +1.0**
VYHS pmax pmax
comp=Z,36nm,0.9s
VYHS Vyhne 81.97 320 *e*P **P 23 31 11.5 +1.0**
MMB Musomiste 82.05 312 *i*P **P 23 31 10.6 -0.4**
MORC Moravsky Berou 82.10 321 ⇑P **P 23 31 11.8 +0.7**
MORC Moravsky Berou 82.10 321⇑ *i*P **P 23 31 11.8 +0.7**
MORC Moravsky Berou 82.10 321 P **P 23 31 11.6 +0.5**
MORC pmax pmax
comp=Z,40nm,1.1s
MORC Moravsky Berou 82.10 321 P **P 23 31 11.6 +0.5**
MORC IAmb IAmb 23 31 13.0
comp=Z,40nm,1.1s
ASK Askoy 82.15 334 *e*P **P 23 31 11.3 +0.3**
BER Bergen 82.16 334 *e*P **P 23 31 10.5 -0.6**
SCO Scoresbysund 82.17 349 *i*P **P 23 31 11.6 +0.6**
comp=Z,98nm,1.1s
SCO Scoresbysund 82.17 349 *i*P **P 23 31 11.6 +0.6**
SCO pmax pmax
comp=Z,98nm,1.1s
SCO Scoresbysund 82.17 349 P **P 23 31 11.4 +0.4**
SUMG Summit 82.22 355⇑ *i*P **P 23 31 12.5 +0.7**
comp=Z,272nm,0.8s
SUMG Summit 82.22 355⇑ *i*P **P 23 31 12.5 +0.7**
SUMG pmax pmax
comp=Z,270nm,0.8s
SUMG Summit 82.22 355 P **P 23 31 12.3 +0.6**
KSP Ksiaz 82.27 323 *e*P **P 23 31 12.7 +0.8**
BLS5 Blasjo 82.29 333 *e*P **P 23 31 12.3 +0.4**
KRLC Kralíky 82.38 322 *e*P **P 23 31 13.1 +0.5**
KRLC AMS AMS 00 11 20.0
comp=Z,300nm,22.0s
KRLC Kralíky 82.38 322 *e*P **P 23 31 13.1 +0.5**
KRLC MLR MLR
comp=Z,300nm,22.0s
OSTC Ostas 82.46 323 *e*P **P 23 31 13.7 +0.7**
OSTC AMS AMS 00 11 00.0

comp=Z,400nm,18.5s
DPC Dobruska-Polom 82.50 322 *e*P **P 23 31 14.0 +0.8**
DPC AMS AMS 00 11 00.0
comp=Z,400nm,20.0s
DPC Dobruska-Polom 82.50 322 *e*P **P 23 31 14.0 +0.8**
DPC MLR MLR
comp=Z,400nm,20.0s
CHVC Chvalec 82.53 323 *e*P **P 23 31 14.0 +0.7**
CHVC AMS AMS 00 10 50.0
comp=Z,400nm,22.6s
SRO2 Moca 82.58 319 *e*P **P 23 31 13.5 -0.1**
SRO2 Moca 82.58 319 *e*P **P 23 31 13.5 -0.1**
UPC Upice 82.59 323 *e*P **P 23 31 14.4 +0.8**
UPC AMS AMS 00 11 10.0
comp=Z,400nm,17.8s
UPC Upice 82.59 323 *e*P **P 23 31 14.4 +0.8**
UPC MLR MLR
comp=Z,400nm,17.8s
SRO Srobarova 82.61 319 *e*P **P 23 31 14.4 +0.7**
SRO Srobarova 82.61 319 *e*P **P 23 31 14.4 +0.7**
SNART Snartemo 82.62 332 *e*P **P 23 31 13.7 +0.1**
RUE Ruedersdorf 82.78 325 *e*P **P 23 31 15.9 +1.4**
RUE Ruedersdorf 82.78 325 *e*P **P 23 31 15.6 +1.1**
comp=Z,150nm,1.0s,baz=58,slow=5.0
SMOL Smolenice 82.78 320 *e*P **P 23 31 16.2 +1.5**
SMOL pmax pmax
comp=Z,30nm,1.1s
SMOL Smolenice 82.78 320 *e*P **P 23 31 16.2 +1.5**
MUD Monsted U'grnd 82.85 330 *i*P **P 23 31 14.8 0.0**
MUD pmax pmax
comp=Z,105nm,0.9s
MUD Monsted U'grnd 82.85 330 *i*P **P 23 31 14.8 0.0**
MUD pmax pmax
comp=Z,110nm,0.9s
VRAC Vranov 82.87 321 ⇑P **P 23 31 15.9 +0.8**
VRAC Vranov 82.87 321 ⇑*i*P **P 23 31 16.0 +0.9**
MODS Modra-Piesok 82.94 320 *e*P **P 23 31 15.6 +0.1**
MODS pmax pmax
comp=Z,63nm,1.3s
MODS Modra-Piesok 82.94 320 *e*P **P 23 31 15.6 +0.1**
VAY Valandovo 82.94 312 *i*P **P 23 31 15.6 0.0**
FRGS Fruska Gora 82.97 317 ⇑*i*P **P 23 31 15.9 +0.2**
KRUC Moravsky 83.11 321 ⇑*i*P **P 23 31 17.0 +0.7**
DIVS Divibare 83.35 316 ⇑*i*P **P 23 31 17.7 -0.1**
DIVS Divibare 83.35 316 P **P 23 31 17.6 -0.1**
DIVS IAmb IAmb 23 31 19.2
comp=Z,19nm,0.8s
FURI Furi 83.36 277 P **P 23 31 19.5 +0.9**
PVCC Panska Ves 83.38 323 *e*P **P 23 31 18.3 +0.6**
PVCC AMS AMS 00 12 20.0
comp=Z,500nm,19.3s
PVCC Panska Ves 83.38 323 *e*P **P 23 31 18.3 +0.6**
PVCC MLR MLR
comp=Z,500nm,19.3s
SKO Skopje 83.40 313 *i*P **P 23 31 18.5 +0.5**
TREC Trest 83.50 322 *e*P **P 23 31 19.3 +0.9**
TREC AMS AMS 00 11 20.0
comp=Z,400nm,16.0s
TREC Trest 83.50 322 *e*P **P 23 31 19.3 +0.9**
TREC MLR MLR
comp=Z,400nm,16.0s
BRG Berggiesshubel 83.53 324 *i*P **P 23 31 18.9 +0.4**
comp=Z,28nm,1.0s
BRG Berggiesshubel 83.53 324 *i*P **P 23 31 18.9 +0.4**
BRG pmax pmax
comp=Z,28nm,1.0s
BRG Berggiesshubel 83.53 324 *e*P **P 23 31 19.1 +0.6**
comp=Z,35nm,1.4s,baz=58,slow=5.0
LIT Litokhoron 83.55 311 P **P 23 31 18.2 -0.7**
LIT pmax pmax
comp=Z,129nm,1.7s
LIT Litokhoron 83.55 311 P **P 23 31 18.1 -0.7**
GOPC GO Pecny, Ondr 83.57 322 *e*P **P 23 31 19.3 +0.6**
GOPC GO Pecny, Ondr 83.57 322 *e*P **P 23 31 19.3 +0.6**
PRU Pruhonice 83.67 323 *e*P **P 23 31 19.6 +0.4**
PRU AMS AMS 00 11 50.0
comp=Z,400nm,21.1s
PRU Pruhonice 83.67 323 *e*P **P 23 31 19.6 +0.4**
PRU MLR MLR
comp=Z,400nm,21.1s
PRA Prague 83.69 323 *e*P **P 23 31 20.3 +1.0**
PRA AMS AMS 00 11 40.0
comp=Z,200nm,22.8s
PRA Prague 83.69 323 *e*P **P 23 31 20.3 +1.0**
PRA MLR MLR
comp=Z,200nm,22.8s
SKMB Sankelmark Bun 83.72 328 *e*P **P 23 31 20.9 +1.6**
comp=Z,479nm,1.1s,baz=58,slow=5.0
BSEG Bad Segeberg 83.73 327 *e*P **P 23 31 20.4 +1.0**
comp=Z,155nm,1.4s,baz=58,slow=5.0
CLL Collm 83.81 324 ⇑*i*P **P 23 31 20.2 +0.3**
comp=Z,39nm,0.7s
CLL *e*pP **pP 23 31 35.0 +1.8**
CLL *e*(sP) **sP 23 31 42.0 +3.7**
CLL *e*PP **PP 23 34 36.0 +3.1**
CLL *e*PPS PPS 23 43 00.0
CLL *e* 23 48 12.0
CLL *e* 23 52 06.0
CLL Lm MLR 00 13 00.0
comp=Z,700nm,18.0s
CLL Collm 83.81 324 ⇑*i*P **P 23 31 20.2 +0.3**
CLL *e* 23 31 35.0
CLL pmax pmax
comp=Z,39nm,0.7s
CLL MLR MLR
comp=Z,700nm,18.0s
CLL Collm 83.81 324 *e*P **P 23 31 20.1 +0.3**
comp=Z,39nm,0.7s,baz=58,slow=5.0
CLL Collm 83.81 324 P **P 23 31 20.0 +0.1**
CLL IAmb IAmb 23 31 21.4
comp=Z,40nm,0.8s
FBE Freiberg 83.83 324 *e*P **P 23 31 20.8 +0.9**
comp=Z,39nm,0.9s,baz=58,slow=5.0
BBLS Lazići 83.83 316 ⇑*i*P **P 23 31 20.7 +0.4**
CONA Conrad Observa 83.98 320 *i*PcP **P 23 31 22.0 +1.0**
comp=Z,29nm,1.0s,SNR=39
FNA Florina 83.99 312 P **P 23 31 20.1 -1.0**
FNA pmax pmax
comp=Z,21nm,0.9s
FNA Florina 83.99 312 P **P 23 31 20.1 -1.0**
FNA IAmb IAmb 23 31 21.5
comp=Z,21nm,0.9s
PBCC Pribram 84.13 323 *e*P **P 23 31 22.2 +0.6**
BEHE Becsehely 84.18 319 ⇑*i*P **P 23 31 24.4 +2.5**
OHR Ohrid 84.23 313 *i*P **P 23 31 22.1 -0.2**
UPM Unac-Piva 84.47 315 ⇑*i*P **P 23 31 23.2 -0.5**
KOGS Kog 84.51 319 *i*P **P 23 31 23.6 0.0**
NEUB Neuenburg 84.51 325 *e*P **P 23 31 24.1 +0.7**
comp=Z,91nm,1.0s,baz=58,slow=5.0
ARSA Arzberg 84.53 320 *e*P **P 23 31 24.4 +0.7**
comp=Z,3.1nm,0.5s,SNR=8.4
ARSA Arzberg 84.53 320 *e*P **P 23 31 23.9 +0.2**
comp=Z,20nm,1.2s,baz=58,slow=5.0
ASSE Asse, Remlinge 84.57 326 *e*P **P 23 31 24.4 +0.8**
comp=Z,109nm,1.4s,baz=58,slow=5.0
TANN Tannenbergstha 84.58 324 *e*P **P 23 31 24.5 +0.6**
comp=Z,43nm,1.1s,baz=58,slow=5.0
PDG Podgorica 84.62 314 ⇑P **P 23 31 24.1 0.0**
PDG Podgorica 84.62 314 ⇑*i*P **P 23 31 24.2 0.0**
PDG Podgorica 84.62 314 P **P 23 31 23.7 -0.5**
WERD Werda 84.64 324 *e*P **P 23 31 25.3 +1.1**
comp=Z,26nm,0.9s,baz=58,slow=5.0
NRDL Niedersach Rie 84.65 326 *e*P **P 23 31 25.1 +1.1**
comp=Z,130nm,1.4s,baz=58,slow=5.0
KHC Kasperske Hory 84.66 322 *e*P **P 23 31 24.9 +0.6**
KHC AMS AMS 00 12 00.0
comp=Z,400nm,17.5s
KHC Kasperske Hory 84.66 322 *c i*P **P 23 31 24.3 0.0**
KHC pmax pmax
comp=Z,96nm,1.7s
KHC Kasperske Hory 84.66 322 P **P 23 31 24.5 +0.2**
KHC IAmb IAmb 23 31 26.3
comp=Z,42nm,1.3s
GUNZ Gunzen 84.67 324 *e*P **P 23 31 25.2 +0.8**
comp=Z,64nm,0.9s,baz=58,slow=5.0
NKC Novy Kostel 84.68 324 *e*P **P 23 31 25.4 +1.0**
NKC AMS AMS 00 13 50.0
comp=Z,500nm,20.0s
NKC Novy Kostel 84.68 324 *e*P **P 23 31 25.4 +1.0**
NKC MLR MLR
comp=Z,500nm,20.0s
WERN Wernitzgruen 84.69 324 *e*P **P 23 31 25.3 +0.8**
comp=Z,60nm,0.9s,baz=58,slow=5.0
PLN Plauen 84.70 324 *e*P **P 23 31 25.1 +0.7**
comp=Z,44nm,0.9s,baz=58,slow=5.0
TIR Tirane 84.74 313 P **P 23 31 24.7 -0.1**
TIR pmax pmax
comp=Z,115nm,1.2s
TIR Tirane 84.74 313 P **P 23 31 24.7 -0.1**
GEC2 GERESS Array S 84.74 322 *e*P **P 23 31 25.3 +0.5**
comp=Z,53nm,1.2s,baz=58,slow=5.0
GEC2 GERESS Array S 84.74 322 P **P 23 31 24.9 +0.1**
GEC2 IAmb IAmb 23 31 26.4
comp=Z,49nm,1.1s
GERES GERESS Array B 84.74 322 P **P 23 31 25.3 +0.5**
comp=Z,22nm,0.9s,baz=57,slow=4.9,SNR=122
GERES PKKPbc **PKKPbc 23 49 34.4 +0.1**
comp=Z,0.2nm,0.4s,baz=222,slow=1.3,SNR=4.8
GERES LR LR 00 12 38.0
comp=Z,375nm,20.2s,baz=65,slow=38
GERES GERESS Array B 84.74 322 P **P 23 31 25.1 +0.3**
GERES GERESS Array B 84.74 322 P **P 23 31 25.1 +0.3**
DRME Dracevica, Mon 84.78 314 ⇑*i*P **P 23 31 25.2 +0.2**
BLY Banja Luka 84.80 317 ⇑*i*P **P 23 31 25.4 +0.4**
LRW Lerwick 84.80 336 *e*P **P 23 31 24.2 -0.4**
LRW IAmb IAmb 23 31 25.6
comp=Z,62nm,0.9s
BRY Bratogost 84.85 315 ⇑*i*P **P 23 31 25.3 -0.2**
CLZ Clausthal 84.89 326 *e*P **P 23 31 26.5 +1.2**
comp=Z,224nm,1.3s,baz=58,slow=5.0
MOX Moxa 84.90 324 *e*P **P 23 31 26.1 +0.7**
comp=Z,100nm,1.6s,baz=58,slow=5.0
MOX *e*L L 00 14 09.5
comp=Z,595nm,18.1s
A04D Lummi Island 84.92 38 P **P 23 31 26.8 +1.3**
baz=302
MOA Molln 84.94 321 *i*PcP **P 23 31 26.6 +0.9**
comp=Z,16nm,0.7s,SNR=13
MOA Molln 84.94 321 *e*P **P 23 31 26.2 +0.4**
comp=Z,27nm,1.0s,baz=58,slow=5.0
MANZ Manzenberg 85.00 323 *e*P **P 23 31 26.8 +0.8**
comp=Z,53nm,1.0s,baz=58,slow=5.0
WET Wettzell 85.04 322 *e*P **P 23 31 27.0 +0.8**
comp=Z,52nm,1.5s,baz=58,slow=5.0
ROTZ Rotzenmuhle 85.07 323 *e*P **P 23 31 27.2 +0.9**
comp=Z,65nm,1.0s,baz=58,slow=5.0
PERS Pernice 85.08 320 *i*P **P 23 31 26.6 +0.1**
HCY Herceg Novi 85.10 315 ⇑*i*P **P 23 31 26.1 -0.5**
SOKA Soboth 85.11 320 *i*P **P 23 31 27.0 +0.3**
comp=Z,12nm,0.7s,SNR=19
GTTG Gottingen 85.26 326 *e*P **P 23 31 28.3 +1.1**
comp=Z,171nm,1.2s,baz=58,slow=5.0
CRES Cresnjev 85.30 319 ⇑*i*P **P 23 31 27.7 +0.2**
D03D Eldon 85.33 39 P **P 23 31 29.7 +2.0**
baz=302,SNR=16
OBKA Obir 85.48 320 *i*PcP **P 23 31 29.5 +0.9**
comp=Z,7.8nm,0.6s,SNR=7.4
B05A Bryant 85.50 38 P **P 23 31 29.6 +1.1**
baz=303
GRA1 Grafenberg Arr 85.64 324 P **P 23 31 29.7 +0.5**
GRF Grafenberg Arr 85.64 324 P **P 23 31 29.7 +0.5**
GRF pmax pmax
comp=Z,118nm,1.1s
GRF Grafenberg Arr 85.64 324 *e*P **P 23 31 29.9 +0.7**
comp=Z,254nm,1.6s,baz=58,slow=5.0
GRF *e*L L 00 14 16.2
comp=Z,349nm,19.1s
UBBA Unterbreizbach 85.66 325 *e*P **P 23 31 29.8 +0.7**
comp=Z,94nm,1.4s,baz=58,slow=5.0
B06A Marblemount 85.71 38 P **P 23 31 30.5 +1.0**
B06A IAmb IAmb 23 31 31.6
comp=Z,23nm,1.1s
LJU Ljubljana 85.74 319 *i*P **P 23 31 29.9 +0.2**
LJU Ljubljana 85.74 319 ⇑*i*P **P 23 31 29.5 -0.2**
RJOB Jochberg 85.84 321 *e*P **P 23 31 30.0 -0.3**
comp=Z,38nm,0.8s,baz=58,slow=5.0
KBA Koelnbreinsper 85.88 321 *i*PcP **P 23 31 31.5 +0.8**
comp=Z,6.7nm,0.6s,SNR=14
IBBN Ibbenburen 85.94 327 *e*P **P 23 31 31.4 +0.9**
comp=Z,203nm,1.0s,baz=58,slow=5.0
MYKA Terra Mystica 85.95 320 *i*PcP **P 23 31 31.7 +0.9**
comp=Z,4.1nm,0.5s
CEY Cerknica 85.96 319 ⇑*i*P **P 23 31 30.7 -0.2**
PRED Cave del Predi 86.10 320 P **P 23 31 31.5 -0.1**
D05A Enumclaw 86.15 39 P **P 23 31 32.9 +1.2**
D05A IAmb IAmb 23 31 34.7
comp=Z,38nm,1.2s
E04D Cinebar 86.15 40 P **P 23 31 33.4 +1.7**
baz=302,SNR=5.8
ZOU Zoufplan 86.38 320 P **P 23 31 32.7 -0.4**
ZOU IAmb IAmb 23 31 33.8
comp=Z,18nm,0.8s
FUR Furstenfeldbru 86.46 322 *e*P **P 23 31 34.2 +0.9**
comp=Z,146nm,1.0s,baz=58,slow=5.0
LON Longmire 86.49 39 P **P 23 31 34.3 +0.8**
LON pmax pmax
comp=Z,14nm,1.3s
LON Longmire 86.49 39 P **P 23 31 34.3 +0.8**
ABTA Abfaltersbach 86.54 321 *i*P **P 23 31 33.6 -0.2**
comp=Z,12nm,0.7s,SNR=20
F04A Amboy 86.58 40 P **P 23 31 34.5 +0.7**
F04A IAmb IAmb 23 31 36.2
comp=Z,31nm,0.8s
I02D Swisshome 86.69 42 P **P 23 31 35.9 +1.5**
baz=302
BUG Bochum--Univer 86.69 326 *e*P **P 23 31 36.1 +1.9**
comp=Z,106nm,1.1s,baz=58,slow=5.0
STAL STALIGIAL 86.69 320 P **P 23 31 34.5 0.0**
WATA Walderalm 86.75 321 *i*PcP **P 23 31 35.4 +0.6**
comp=Z,9.4nm,0.7s,SNR=14
WTTA Wattenberg 86.76 321 *i*PcP **P 23 31 35.5 +0.6**
comp=Z,17nm,0.7s,SNR=18
WTTA Wattenberg 86.76 321 *e*P **P 23 31 35.2 +0.3**
comp=Z,51nm,1.0s,baz=58,slow=5.0
COR Corvallis 86.77 42 P **P 23 31 35.4 +0.6**
COR Corvallis 86.77 42 P **P 23 31 35.4 +0.6**
TNS Taunus Mts 86.81 325 *e*P **P 23 31 35.7 +0.7**
comp=Z,45nm,1.0s,baz=58,slow=5.0
CIMO Cimolais 86.82 320 P **P 23 31 35.0 -0.1**
LTY Liberty 86.86 39 P **P 23 31 35.9 +0.6**
B08A Colville Reser 86.99 37 P **P 23 31 36.6 +0.7**
MOTA Moosalm 87.02 322 *i*PcP **P 23 31 36.4 +0.3**
comp=Z,13nm,0.9s,SNR=11
SQTA Sankt Quirin 87.03 321 *i*PcP **P 23 31 36.7 +0.5**
comp=Z,16nm,1.1s,SNR=13
RETA Reutte 87.13 322 *i*PcP **P 23 31 37.1 +0.5**
comp=Z,3.7nm,0.7s
J01E Myrtle Point 87.13 43 P **P 23 31 38.3 +1.7**
baz=302,SNR=7.0
H04D Lebanon 87.14 42 P **P 23 31 38.1 +1.5**
baz=302
F05D White Salmon 87.16 40 P **P 23 31 38.1 +1.4**
baz=303
I03D Drain, OR 87.21 43 P **P 23 31 38.6 +1.6**
baz=302,SNR=8.0
SGRT San Giovanni R 87.22 315 P **P 23 31 36.8 -0.4**
SGRT IAmb IAmb 23 31 38.8
comp=Z,31nm,1.3s
STU Stuttgart 87.26 324 P **P 23 31 36.7 -0.4**
STU pmax pmax
comp=Z,36nm,0.9s
STU Stuttgart 87.26 324 *e*P **P 23 31 37.9 +0.8**
comp=Z,48nm,0.9s,baz=58,slow=5.0
STU Stuttgart 87.26 324 P **P 23 31 36.7 -0.4**
UBR Ueberruh 87.38 322 *e*P **P 23 31 38.2 +0.4**
comp=Z,113nm,1.6s,baz=58,slow=5.0
H04A Detroit Lake 87.39 41 P **P 23 31 38.1 +0.3**
FETA Feichten 87.41 322 *i*PcP **P 23 31 38.6 +0.5**
comp=Z,7.6nm,0.8s,SNR=14
CTI Castel Tesino 87.43 320 P **P 23 31 37.5 -0.6**
CTI pmax pmax
comp=Z,21nm,1.1s
CTI Castel Tesino 87.43 320 P **P 23 31 37.5 -0.6**
CTI IAmb IAmb 23 31 38.9
comp=Z,20nm,1.1s
K02D Willamette Mer 87.54 44 P **P 23 31 40.1 +1.4**
baz=302,SNR=6.7
G05D Wamic, OR 87.60 41 P **P 23 31 40.2 +1.3**
baz=303
ABPO Ambohimpanom 87.65 248 P **P 23 31 39.1 -0.5**
ABPO pmax pmax
comp=Z,19nm,0.9s
ABPO Ambohimpanom 87.65 248 P **P 23 31 39.1 -0.5**
ABPO IAmb IAmb 23 31 40.9
comp=Z,19nm,0.8s
E07A Sunnyside 87.72 39 P **P 23 31 40.6 +1.2**
E07A IAmb IAmb 23 31 42.1
comp=Z,20nm,1.0s
I04A Tendick Farm, 87.73 42 P **P 23 31 41.0 +1.4**
baz=303,SNR=9.3
DAVA Damuels 87.74 322 *i*PcP **P 23 31 39.9 +0.3**
comp=Z,16nm,0.7s,SNR=12
DAVA Damuels 87.74 322 *e*P **P 23 31 39.9 +0.3**
comp=Z,25nm,0.8s,baz=58,slow=5.0
TEOL Teolo 87.80 320 P **P 23 31 40.2 +0.4**
MEM Membach 87.83 326 PcP **P 23 31 40.6 +0.8**
L02E Cave Junction 87.87 44 P **P 23 31 41.8 +1.6**
baz=302,SNR=5.7
TIP Timpagrande 87.87 313 ⇑P **P 23 31 39.8 -0.5**
TIP Timpagrande 87.87 313 P **P 23 31 40.4 +0.1**
TIP IAmb IAmb 23 31 42.1
comp=Z,52nm,1.6s
BEBN Eben Emael 87.88 327 PcP **PcP 23 31 41.2 -0.6**
BEBN pP **pP 23 31 51.8 -1.7**
C09A Chrisman Ranch 87.89 37 P **P 23 31 41.0 +0.8**
C09A IAmb IAmb 23 31 42.7
comp=Z,27nm,1.4s
FUORN Ofenpass-Fuorn 87.90 321 P **P 23 31 41.0 +0.5**
D08A Wollman Farm, 87.96 38 P **P 23 31 41.7 +1.2**
D08A IAmb IAmb 23 31 42.9
comp=Z,15nm,0.8s
BFO Black Forest 87.98 324 P **P 23 31 40.8 +0.2**
BFO pmax pmax
comp=Z,70nm,1.8s
BFO Black Forest 87.98 324 *e*P **P 23 31 40.7 0.0**
comp=Z,35nm,1.4s,baz=58,slow=5.0
BFO Black Forest 87.98 324 P **P 23 31 40.8 +0.2**
BHOU Houvegnez 87.99 326 PcP **PcP 23 31 42.0 -0.4**
HAWA Hanford 87.99 39 P **P 23 31 41.4 +0.7**
HUMO Hull Mountain 88.03 43 P **P 23 31 42.4 +1.4**
HUMO IAmb IAmb 23 31 44.0
comp=Z,30nm,1.6s
F07A Phinny Hill Vi 88.05 39 P **P 23 31 41.8 +0.9**
F07A IAmb IAmb 23 31 43.7
comp=Z,14nm,0.7s
BSTI Sart Tilman 88.07 326 PcP **PcP 23 31 41.8 -0.8**
BSTI pP **pP 23 31 53.0 -1.4**
I05D Terrebonne, OR 88.08 41 P **P 23 31 42.5 +1.3**
baz=304
KAC Achnashellach 88.18 336 *e*P **P 23 31 40.5 -0.8**
E08A Dider Farm, El 88.21 39 P **P 23 31 42.8 +1.1**
E08A IAmb IAmb 23 31 44.2
comp=Z,66nm,1.8s
J04D Umpqua Nationa 88.22 42 P **P 23 31 43.4 +1.4**
baz=303,SNR=6.2
NEW Newport 88.25 36 P **P 23 31 42.6 +0.7**
NEW pmax pmax
comp=Z,15nm,0.8s
NEW Newport 88.25 36 P **P 23 31 43.1 +1.2**
baz=306
NEW Newport 88.25 36 P **P 23 31 42.6 +0.7**
NEW IAmb IAmb 23 31 44.2
comp=Z,16nm,0.8s
INTR Introdacqua 88.25 316 P **P 23 31 42.1 -0.1**
BCLA Clavier 88.30 326 P **P 23 31 41.6 -0.4**
BCLA PcP **PcP 23 31 42.9 -0.8**
NRCA Norcia 88.31 317 P **P 23 31 42.1 -0.3**
SALO Salr 88.32 320 P **P 23 31 42.3 0.0**
WLF Walferdange 88.33 325 PcP **PcP 23 31 44.1 +0.3**
WLF Walferdange 88.33 325 P **P 23 31 42.7 +0.5**
WLF pmax pmax
comp=Z,83nm,1.3s
WLF Walferdange 88.33 325 *e*P **P 23 31 44.3 +2.1**
comp=Z,87nm,1.3s,baz=58,slow=5.0
WLF Walferdange 88.33 325 P **P 23 31 42.7 +0.5**
AQU L'Aquila 88.39 317 P **P 23 31 42.4 -0.3**
AQU pmax pmax
comp=Z,17nm,0.9s
AQU L'Aquila 88.39 317 ⇑*i*P **P 23 31 43.0 +0.3**
AQU L'Aquila 88.39 317 P **P 23 31 42.4 -0.3**
AQU IAmb IAmb 23 31 52.8
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 88.40 358 *i*P **P 23 31 42.1 -0.1**
SFJD Kangerlussuaq 88.40 358 *i*P **P 23 31 42.1 -0.1**
SFJD Kangerlussuaq 88.40 358 P **P 23 31 41.7 -0.4**
KPL Plockton 88.43 336 *e*P **P 23 31 41.8 -0.7**
BGES Gesves 88.43 326 PcP **PcP 23 31 44.3 0.0**
BGES pP **pP 23 31 54.3 -1.9**
BGES sP **sP 23 31 59.0 -2.2**
MURB Monte Urbino 88.44 318 P **P 23 31 43.5 +0.6**
INVG Invergeldie, C 88.47 335 *e*P **P 23 31 41.7 -1.0**
TUE Stuetta 88.50 322 P **P 23 31 43.6 +0.2**
UCC Uccle 88.54 327 P **P 23 31 43.0 -0.1**
UCC pmax pmax
comp=Z,23nm,0.7s
UCC Uccle 88.54 327 P **P 23 31 43.0 -0.1**
UCC IAmb IAmb 23 31 45.0
comp=Z,23nm,0.7s
EBL Broad Law 88.54 334 *e*P **P 23 31 42.9 -0.2**
BMRD Maredsous 88.64 326 P **P 23 31 43.2 -0.4**
BMRD PcP **PcP 23 31 44.9 -0.3**
L04D Klamath Falls 88.65 43 P **P 23 31 45.7 +1.6**
baz=303,SNR=8.7
J05D Fort Rock, OR 88.73 42 P **P 23 31 46.2 +1.8**
baz=304
M02C Callahan 88.75 44 P **P 23 31 46.3 +1.8**
baz=302
EDMD Edmundbyers 88.76 333 *e*P **P 23 31 43.1 -1.0**
SNF Seneffe 88.76 327 PcP **PcP 23 31 45.4 -0.3**
ZCCA Zocca 88.77 319 P **P 23 31 45.6 +1.2**
K04D Chiloquin, OR 88.77 43 P **P 23 31 46.1 +1.5**
baz=303
KMBO Kilima Mbogo 88.78 268 P **P 23 31 45.5 +0.2**
comp=Z,8.9nm,0.8s,baz=50,slow=8.3,SNR=23
KMBO LR LR 00 10 05.9
comp=Z,49nm,21.9s,baz=76,slow=35
KMBO Kilima Mbogo 88.78 268 *i*P **P 23 31 45.9 +0.6**
SNR=10
KMBO Kilima Mbogo 88.78 268 P **P 23 31 45.1 -0.2**
KMBO Kilima Mbogo 88.78 268 P **P 23 31 45.1 -0.2**
DOU Dourbes 88.86 326 P **P 23 31 44.8 +0.1**
DOU PcP **PcP 23 31 46.0 -0.2**
CEL Celeste 88.92 312 P **P 23 31 45.5 +0.2**
ESK Eskdalemuir 88.93 333 P **P 23 31 44.8 -0.1**
ESK Eskdalemuir 88.93 333 P **P 23 31 44.8 -0.1**
G08A Pilot Rock 88.95 40 P **P 23 31 46.2 +0.8**
WACR West Acre 89.06 330 *e*P **P 23 31 45.0 -0.5**
WACR IAmb IAmb 23 31 48.1
comp=Z,27nm,0.9s
N02D Trinity Center 89.07 45 P **P 23 31 47.7 +1.7**
baz=303
OSSC Osservatorio P 89.07 318 P **P 23 31 46.2 +0.4**
OSSC IAmb IAmb 23 32 00.8
comp=Z,33nm,1.6s
LAWE Loch Awe, Argy 89.12 335 *e*P **P 23 31 45.1 -0.6**
M04C Macdoel 89.18 44 P **P 23 31 47.9 +1.4**
baz=303
HPK Haverah Park 89.22 332 *e*P **P 23 31 46.3 +0.1**
O02D Mt. Diablo Mer 89.44 45 P **P 23 31 49.4 +1.7**
baz=303
WALA Waterton Lakes 89.45 34 P **P 23 31 48.5 +0.9**
F10A Beach Ranch, E 89.54 38 P **P 23 31 49.0 +0.9**
F10A IAmb IAmb 23 32 12.1
comp=Z,38nm,1.9s
LBWR Ladybower, Pea 89.64 331 *e*P **P 23 31 47.9 -0.4**
LBWR IAmb IAmb 23 31 53.4
comp=Z,34nm,0.9s
SENIN Lac Senin/Sane 89.71 322 P **P 23 31 48.9 -0.1**
SENIN IAmb IAmb 23 31 50.3
comp=Z,13nm,0.9s
CWF Charnwood Fore 89.92 331 *e*P **P 23 31 48.9 -0.6**
CWF IAmb IAmb 23 31 53.5
comp=Z,135nm,2.2s
O03E Paynes Creek 90.01 45 P **P 23 31 50.9 +0.5**
baz=303
HLM1 Long Mynd 90.76 331 *e*P **P 23 31 52.9 -0.6**
HLM1 IAmb IAmb 23 31 55.0
comp=Z,56nm,1.4s
MSO Missoula 90.83 36 P **P 23 31 55.2 +1.1**
baz=309,SNR=11
WLF1 Llynfaes 90.86 333 *e*P **P 23 31 53.7 -0.3**
WLF1 IAmb IAmb 23 31 54.6
comp=Z,40nm,0.8s
STRD Stroud 90.96 330 *e*P **P 23 31 54.5 0.0**
STRD IAmb IAmb 23 31 55.7
comp=Z,49nm,0.7s
YRC Rhoscolyn 90.97 333 *e*P **P 23 31 54.3 -0.1**
CLTB Caltabellotta 91.08 313 P **P 23 31 55.1 -0.3**
CLTB IAmb IAmb 23 31 58.2
comp=Z,12nm,0.9s
MCH1 Michaelchurch 91.18 331 *e*P **P 23 31 55.1 -0.4**
MCH1 IAmb IAmb 23 31 57.0
comp=Z,45nm,1.0s
AFDM Forest Hills D 91.29 46 P **P 23 31 56.9 +0.6**
MFID Camas Ranch 91.87 40 P **P 23 31 59.7 +0.7**
MFID IAmb IAmb 23 32 01.9

comp=Z,21nm,0.9s
PAHR Pah Rah Range 91.88 44 P **P 23 31 60.0 +0.8**
HRY Holter Researc 92.03 35 P **P 23 32 00.6 +1.0**
EGMT Eagleton 92.23 33 P **P 23 32 01.7 +1.2**
baz=312
LRM Limekiln Ridge 92.27 36 P **P 23 32 02.1 +1.2**
DLMT Dillon 92.48 37 P **P 23 32 03.0 +1.2**
HLID Hailey 92.60 39 P **P 23 32 04.6 +2.1**
baz=308,SNR=28
BOZ Bozeman (W) 92.85 36 P **P 23 32 04.2 +0.6**
BOZ pmax pmax
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 92.85 36 P **P 23 32 04.8 +1.3**
baz=310,SNR=9.6
BOZ Bozeman (W) 92.85 36 P **P 23 32 04.2 +0.6**
PPT Papeete 92.88 108 LR LR 00 04 27.8
comp=Z,67nm,20.2s,baz=0.5,slow=29
PPT2 Papeete2 92.89 108 *e*S **S 23 43 04.7 -2.0**
comp=Z,83nm,25.2s
PPT2 Papeete2 92.89 108 *e*LR LR 00 01 53.5
comp=Z,564nm,33.2s
RYN Ryan 93.05 45 P **P 23 32 05.6 +1.0**
RYN IAmb IAmb 23 32 07.2
comp=Z,17nm,1.3s
NVAR Mina Array Bea 93.30 45 P **P 23 32 06.9 +1.0**
comp=Z,4.4nm,0.8s,baz=292,slow=4.9,SNR=27
NVAR LR LR 00 06 13.5
comp=Z,56nm,21.7s,baz=277,slow=30
NVAR Mina Array Bea 93.30 45 P **P 23 32 07.0 +1.2**
QLMT Earthquake Lak 93.45 37 P **P 23 32 08.3 +1.9**
ELK Elko 93.84 42 P **P 23 32 09.6 +1.3**
ELK Elko 93.84 42 P **P 23 32 09.6 +1.3**
H17A Grant Village 94.20 37 P **P 23 32 13.2 +3.2**
baz=311
PKM Mcpherson Peak 94.32 48 P **P 23 32 12.0 +1.4**
baz=304
RLMT Red Lodge 94.42 35 P **P 23 32 12.0 +1.2**
baz=312,SNR=5.6
MBAR Mbarara 94.48 271 *ce*P **P 23 32 12.7 +1.1**
MBAR pmax pmax
comp=Z,9.0nm,1.7s
MBAR Mbarara 94.48 271 P **P 23 32 11.4 -0.2**
TPAW Teton Pass 94.59 37 P **P 23 32 12.2 +0.5**
CWC Cottonwood Cre 94.60 46 P **P 23 32 11.7 0.0**
baz=306
DGMT Dagmar 94.60 31 P **P 23 32 11.7 +0.4**
baz=316
KEST Kesra 94.69 313 P **P 23 32 12.1 0.0**
comp=Z,3.5nm,0.8s,baz=321,slow=6.5,SNR=4.9
KEST LR LR 00 20 01.3
comp=Z,124nm,20.7s,baz=303,slow=39
KEST Kesra 94.69 313 P **P 23 32 11.9 -0.3**
KEST IAmb IAmb 23 32 34.7
comp=Z,24nm,1.4s
ISA Isabella, Lake 94.78 47 P **P 23 32 12.8 +0.3**
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella, Lake 94.78 47 P **P 23 32 12.9 +0.4**
baz=305
ISA Isabella, Lake 94.78 47 P **P 23 32 12.8 +0.3**
LAO LASA Array 94.90 33 P **P 23 32 13.6 +0.7**
baz=314
R11A Troy Canyon, C 95.07 44 P **P 23 32 15.2 +1.3**
baz=307,SNR=10
MPMC Manual Prospec 95.21 46 P **P 23 32 15.7 +1.1**
baz=306,SNR=10
FURC Furnace Creek, 95.38 46 P **P 23 32 16.5 +1.5**
baz=306
TBI Tubuai 95.39 113 *e*LR LR 00 02 58.0
comp=Z,169nm,27.8s
LRMC Laurel Mtn Rad 95.42 47 P **P 23 32 15.9 +0.4**
baz=306
TPNV Topopah Spring 95.49 45 P **P 23 32 16.9 +1.0**
baz=307,SNR=5.6
EDW2 Edwards Air Fo 95.55 48 P **P 23 32 16.6 +0.5**
baz=305
DUG Dugway, Tooele 95.63 41 P **P 23 32 17.8 +1.4**
baz=309,SNR=5.3
BW06 Boulder Array 95.83 37 P **P 23 32 17.5 +0.1**
baz=312
PD31 Pinedale Array 95.83 37 P **P 23 32 18.0 +0.6**
PDAR Pinedale Array 95.83 37 P **P 23 32 17.9 +0.5**
comp=Z,1.7nm,0.9s,baz=318,slow=2.0,SNR=11
PDAR Pinedale Array 95.83 37 P **P 23 32 17.2 -0.2**
SHOC Shoshone, Teco 96.10 46 P **P 23 32 19.3 +0.9**
baz=307
GSC Goldstone, Bar 96.10 47 P **P 23 32 19.8 +1.3**
baz=306,SNR=5.2
TUQ Turquoise Moun 96.60 46 P **P 23 32 21.4 +0.5**
baz=307
ULM Lac du Bonnet 96.78 25 P **P 23 32 21.0 -0.2**
comp=Z,4.8nm,0.7s,baz=311,slow=3.8,SNR=4.1
ULM LR LR 00 19 55.6
comp=Z,94nm,18.6s,baz=333,slow=38
GMRC Granite Mounta 97.16 47 P Pdif 23 32 24.4 +0.8
baz=307
BELC Belle Mtn. Jos 97.41 47 P Pdif 23 32 24.9 +0.3
baz=307
IRM Iron Mountain 97.88 47 P Pdif 23 32 27.5 +0.9
baz=307
BC3 Big Chuckawall 97.97 47 P Pdif 23 32 27.7 +0.5
baz=307
SCHQ Schefferville 99.97 7 LR LR 00 20 05.5
comp=Z,173nm,20.8s,baz=302,slow=37
ESDC Sonseca Array 100.32 323 P **Pdif 23 32 37.6 +0.2**
comp=Z,1.2nm,0.7s,baz=26,slow=4.1,SNR=9.2
ESDC PP **PP 23 36 41.4 -1.7**
comp=Z,2.1nm,1.1s,baz=50,slow=7.6,SNR=4.5
MAW Mawson 103.01 200 PKKPbc PKKPbc 23 48 44.9 -2.5
comp=Z,1.0nm,0.9s,baz=281,slow=5.2,SNR=4.5
VNDA Vanda 104.40 172 PKKPbc PKKPbc 23 48 42.1 -1.4
comp=Z,0.3nm,0.6s,baz=161,slow=4.3,SNR=5.2
E56A St. Veronique 106.58 15 P **PKiKP 23 37 16.4 +0.9**
baz=341
TXAR Lajitas Array 108.44 44 Pdiff **Pdif 23 33 14.6 +0.8**
comp=Z,0.2nm,0.7s,baz=343,slow=5.6,SNR=3.9
TXAR PKiKP **PKiKP 23 37 19.8 +0.3**
comp=Z,0.3nm,0.9s,baz=254,slow=0.7,SNR=2.3
TXAR PP **PP 23 37 46.3 +2.6**
comp=Z,0.9nm,1.0s,baz=302,slow=5.2,SNR=4.7
TXAR PKKP **PKKPdf 23 48 43.1 -0.1**
comp=Z,0.2nm,0.3s,baz=157,slow=4.9,SNR=3.6
SYO Syowa Base 111.45 203 *e*Pdiff **Pdif 23 33 25.7 -0.1**
WVT Waverly 111.72 29 P **PKiKP 23 37 25.0 -0.4**
baz=328
TORD Torodi Ar. Bea 113.37 298 PKiKP **PKiKP 23 37 28.6 -0.4**
comp=Z,2.8nm,0.6s,baz=52,slow=1.8,SNR=16
TORD PP **PP 23 38 19.6 -0.3**
comp=Z,3.0nm,1.0s,baz=65,slow=6.4,SNR=5.5
NHSC New Hope 117.44 24 P **PKPdf 23 37 35.9 -0.5**
baz=334
157A Early Branch 117.51 25 P **PKPdf 23 37 35.9 -0.7**
baz=333
TIGA Tifton 117.55 28 P **PKPdf 23 37 36.7 0.0**
baz=330
Z59A Georgetown, SC 117.65 23 P **PKPdf 23 37 35.4 -1.5**
baz=335
DBIC Dimbokro 122.34 296 PKP **PKPdf 23 37 46.1 -0.2**
comp=Z,8.3nm,0.6s,baz=48,slow=2.7,SNR=14
KIC Kosan Boka 122.42 296 *e*PKIKP **PKPdf 23 37 46.3 -0.2**
comp=Z,30nm,0.7s
TIC Toumodi 122.49 296 *e*PKIKP **PKPdf 23 37 46.2 -0.5**
LIC Lamto 122.73 296 *e*PKIKP **PKPdf 23 37 46.3 -0.8**
comp=Z,54nm,0.9s
BELA Belgrano 2 126.07 185 **PKPdf 23 37 51.8 +0.1**
VNA2 Neumayer--Watz 126.68 198 PKPdf **PKiKP 23 37 53.8 +0.4**
VNA1 Neumayer--Stat 127.08 198 PKPdf **PKiKP 23 37 54.1 -0.1**
VNA3 Neumayer Olymp 127.11 197 PKPdf **PKiKP 23 37 54.2 -0.1**
SDV Santo Domingo 143.02 27 *e*P PKPab 23 38 14.8 -5.7
SDV Santo Domingo 143.02 27 PKPdf PKPbc 23 38 21.8 -0.3
BARC Barichara 143.90 32 *e*P PKPab 23 38 22.0 -2.0
GUY2C Guyana, Caldas 143.93 37 *e*P PKPab 23 38 22.9 -1.6
SPBC San Pablo de B 144.26 35 *e*P **PKPab 23 38 21.1 -4.1**
TOLC Tolima 144.49 37 *e*P **PKPab 23 38 24.2 -2.1**
RUSC La Rusia 144.55 33 *e*P **PKPab 23 38 21.1 -5.7**
ROSC El Rosal 144.81 36 PKP PKPbc 23 38 28.1 +0.4
comp=Z,14nm,0.6s,baz=323,slow=20,SNR=6.7
ROSC El Rosal 144.81 36 PKPdf **PKPdf 23 38 28.6 -0.1**
ORTC Ortega, Tolima 145.09 38 *e*P **PKPbc 23 38 24.2 -4.0**
CHIC Chingaza 145.30 35 *e*P **PKPbc 23 38 26.4 -2.9**
PRAC Prado 145.45 38 *e*P **PKPab 23 38 30.5 +0.9**
MARP Paez Belalcaza 145.55 40 *e*P **PKPab 23 38 30.6 +0.4**
VILC Villavicencio, 145.76 35 *e*P **PKPdf 23 38 24.2 -5.8**
BETC Betania 145.98 39 *e*P **PKPbc 23 38 30.8 -0.3**
OTAV Otavalo 146.03 46 *e*P **PKPbc 23 38 31.7 0.0**
OTAV Otavalo 146.03 46 PKP2 **PKPab 23 38 32.4 +0.1**
OTAV Otavalo 146.03 46 PKPbc **PKPab 23 38 32.4 +0.1**
GARC Garzon, Huila 146.35 40 *e*P **PKPab 23 38 32.9 -0.3**
FLOC Florencia 146.74 41 *e*P **PKPbc 23 38 32.9 -0.3**
PTLC Puerto Leguiza 148.37 41 *e*P **PKPbc 23 38 36.7 -1.0**
PTGA Pitinga 155.48 13 **PKPdf 23 38 45.4 +0.6**
PTGA **pPKPdf 23 38 54.7 -4.2**
SAML Samuel 162.21 29 PKIKP **PKPdf 23 38 53.1 +0.4**
SAML 23 39 38.7
SAML Samuel 162.21 29 **PKPdf 23 38 53.1 +0.4**
SAML **PKPab 23 39 38.7 -0.8**
LPAZ La Paz 164.75 59 PKP **PKPdf 23 38 57.0 +1.2**
comp=Z,3.6nm,1.1s,baz=318,slow=4.9,SNR=8.9
LPAZ PKPab **PKPab 23 39 51.7 +0.1**
comp=Z,2.2nm,0.8s,baz=360,slow=3.7,SNR=4.5
LPAZ La Paz 164.75 59 *e*P **PKPdf 23 38 55.5 -0.4**
PB11 IPOC Station P 165.19 73 PKPab **PKPab 23 39 53.9 +0.9**
BDFB Brasilia 168.96 325 PKP **PKPdf 23 38 58.3 0.0**
comp=Z,1.3nm,0.5s,baz=83,slow=5.3,SNR=4.3
BDFB PKPab **PKPab 23 40 08.6 -0.8**
comp=Z,14nm,0.8s,baz=59,slow=3.2,SNR=18
BDFB Brasilia 168.96 325 PKP2 **PKPab 23 40 09.3 -0.1**
BDFB Brasilia 168.96 325 PKPab **PKPab 23 40 09.3 -0.1**

IDC ***17*** *23:31:11.1±0.8, 24°.90N×125°.47E, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.0/56, mbtmp4.0/16, Error ellipse: s-maj=28.1km s-min=17.4km az=68.0*
NEIC ***17*** *23:31:16.5±1.9, 24°.8N±0°.1×125°.4E±0°.1, h35km±2km, mb4.5/19, Error ellipse: s-maj=20.4km s-min=17.9km az=211.0*
JMA ***17*** *23:31:17.4±0.1, 24°.83N×125°.39E, h49km±1km, M3.9*
JMA Felt I J1.
ISC 17 23:31:17.9±0.7, 24°.88N±0°.08×125°.41E±0°.06, h45km±5km, n59, σ1§02/69, mb4.2/25, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.12**	**181**	P	**Pn**	**23 31 24.9**	**-0.2**
JOGS				S	**Sn**	**23 31 30.4**	**+0.2**
JIKM	**Ikemajima**	**0.15**	**286**	P	**Pn**	**23 31 25.3**	**0.0**
JIKM				S	**Sn**	**23 31 31.1**	**+0.6**
JMJ2	**Miyako jima3**	**0.16**	**208**	P	**Pn**	**23 31 24.9**	**-0.4**
JMJ2				S	**Sn**	**23 31 30.5**	**-0.1**
JIRB	**Irabujima**	**0.22**	**256**	P	**Pn**	**23 31 25.4**	**-0.4**
JIRB				*e*S	**Sn**	**23 31 31.1**	**-0.2**
JTJ	**Tarama**	**0.69**	**250**	P	**Pn**	**23 31 30.8**	**-0.4**
JTJ				S	**Sn**	**23 31 40.3**	**-0.5**
JISG	**Ishigakijimahi**	**1.04**	**254**	P	**Pn**	**23 31 35.2**	**-0.8**
JISG				*e*S	**Sn**	**23 31 48.6**	**-0.8**
JIJ	**Ishigaki jima**	**1.26**	**246**	P	**Pn**	**23 31 38.6**	**-0.5**
JIJ				*e*S	**Sn**	**23 31 54.6**	**-0.2**
JKRS	**Kuro-shima**	**1.43**	**244**	P	**Pn**	**23 31 41.3**	**0.0**
JKRS				*e*S	**Sn**	**23 32 00.3**	**+1.4**
IRIF	**Iriomote-Funau**	**1.62**	**251**	P	**Pn**	**23 31 43.5**	**-0.5**
IRIF				S	**Sn**	**23 32 04.8**	**+1.1**
HATJ	**Hateruma jima**	**1.68**	**241**	P	**Pn**	**23 31 44.9**	**+0.2**
HATJ				S	**Sn**	**23 32 05.2**	**+0.2**
YOJ	**Yonaguni jima**	**2.22**	**260**		**Pn**	**23 31 51.5**	**-0.7**
NACB	**Ninganchiao**	**3.54**	**259**		**Pn**	**23 32 09.7**	**-0.7**
TATO	**Taipei**	**3.56**	**272**		**Pn**	**23 32 11.0**	**+0.4**
YHNB	**Yeheng**	**3.67**	**268**		**Pn**	**23 32 13.0**	**+0.8**
YULB	**Yu-li**	**4.04**	**249**		**Pn**	**23 32 15.2**	**-1.9**
SSLB	**Suanglung**	**4.21**	**256**		**Pn**	**23 32 19.0**	**-0.5**
TWG	**Pinlang**	**4.47**	**244**		**Pn**	**23 32 20.3**	**-2.8**
TPUB	**Ta-pu**	**4.64**	**251**		**Pn**	**23 32 25.5**	**0.0**
CMAR	**Chiang Mai Arr**	**25.39**	**261**	P	**P**	**23 36 41.2**	**0.0**
0.7nm,0.3s,baz=55,slow=7.9,SNR=1.7							
SONM	**Songino Array**	**27.41**	**332**	P	**P**	**23 36 58.3**	**-1.0**
1.2nm,0.6s,baz=152,slow=11,SNR=6.4							
SONM	**Songino Array**	**27.41**	**332**	P	**P**	**23 36 59.8**	**+0.5**
MTKI	**Muara Teweh, K**	**27.62**	**203**	P	**P**	**23 37 06.1**	**+4.8**
51nm,0.4s							
PETK	**Petropavlovsk-**	**37.18**	**32**	P	**P**	**23 38 23.3**	**-1.3**
1.5nm,0.8s,baz=218,slow=9.1,SNR=2.2							
MK31	**Makanchi Array**	**40.58**	**314**	P	**P**	**23 38 52.5**	**-0.6**
MKAR	**Makanchi Array**	**40.58**	**314**	P	**P**	**23 38 52.5**	**-0.5**
1.8nm,0.5s,baz=102,slow=9.8,SNR=24							
MKAR	**Makanchi Array**	**40.58**	**314**	P	**P**	**23 38 52.3**	**-0.8**
ZAA0	**Zalesovo Array**	**41.83**	**325**		**P**	**23 39 02.4**	**-0.8**
ZALV	**Zalesovo Beam**	**41.83**	**325**	P	**P**	**23 39 01.7**	**-1.4**
2.3nm,0.4s,baz=110,slow=9.0,SNR=12							
ZALV	**Zalesovo Beam**	**41.83**	**325**	P	**P**	**23 39 02.0**	**-1.1**
KDJ	**Kajisay**	**43.14**	**306**	P	**P**	**23 39 14.3**	**+0.1**
KURK	**Kurchatov**	**44.08**	**318**	P	**P**	**23 39 20.4**	**-1.0**
KURBB	**Kurchatov Arra**	**44.11**	**318**	P	**P**	**23 39 20.7**	**-1.0**
1.1nm,0.2s,baz=109,slow=8.7,SNR=6.7							
WB0	**Warramunga Arr**	**45.23**	**168**	P	**P**	**23 39 29.3**	**-1.6**
WB0				IAmb	IAmb	23 39 44.3	
comp=Z,8.9nm,1.2s							
WRA	**Warramunga Arr**	**45.39**	**168**	P	**P**	**23 39 31.2**	**-1.0**
comp=Z,3.2nm,0.9s,baz=348,slow=8.4,SNR=10.0							
NIL	**Nilore**	**45.93**	**294**	P	**P**	**23 39 36.9**	**+0.4**
KKAR	**Karatay Array**	**48.13**	**306**	P	**P**	**23 39 53.6**	**+0.1**
GAR	**Garm**	**48.14**	**301**	P	**P**	**23 39 54.2**	**+0.4**
GAR				IAmb	IAmb	23 39 56.4	
comp=Z,8.3nm,1.1s							
ASAR	**Alice Springs**	**48.96**	**170**	P	**P**	**23 39 59.3**	**-0.6**
comp=Z,0.8nm,0.5s,baz=355,slow=8.8,SNR=8.2							
CHGR	**Chuyangaron**	**49.05**	**300**	P	**P**	**23 40 00.9**	**+0.2**
KBL	**Kabul**	**49.35**	**295**	P	**P**	**23 40 03.2**	**0.0**
KBL				IAmb	IAmb	23 40 06.8	
comp=Z,5.2nm,0.8s							
BRVK	**Borovoye**	**49.68**	**319**	P	**P**	**23 40 05.5**	**+0.4**
BRVK				IAmb	IAmb	23 40 09.3	
comp=Z,1.5nm,0.5s							
ABKAR	**Akbulak array**	**55.72**	**314**	P	**P**	**23 40 49.5**	**-0.4**
ARU	**Arti**	**56.89**	**322**	P	**P**	**23 40 57.1**	**-1.0**
comp=Z,0.4nm,0.4s,baz=72,slow=8.9,SNR=4.0							
ARU	**Arti**	**56.89**	**322**	P	**P**	**23 40 57.0**	**-1.0**
ARU				IAmb	IAmb	23 41 10.1	
comp=Z,6.7nm,1.4s							
GEYT	**Alibeck**	**57.77**	**300**	P	**P**	**23 41 04.9**	**+0.3**
comp=Z,2.2nm,0.5s,baz=94,slow=4.5,SNR=6.1							
GEYT	**Alibeck**	**57.77**	**300**	P	**P**	**23 41 04.9**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**57.77**	**300**	P	**P**	**23 41 05.1**	**+0.5**
BPAW	**Bear Paw Mtn.**	**65.14**	**29**	P	**P**	**23 41 55.4**	**+1.4**
BPAW				IAmb	IAmb	23 42 08.2	
comp=Z,3.3nm,1.1s							
MDM	**Murphy Dome**	**66.22**	**28**	P	**P**	**23 42 02.3**	**+1.4**
MDM				IAmb	IAmb	23 42 15.4	
comp=Z,4.7nm,0.9s							
ILAR	**Eielson Array**	**66.82**	**28**	P	**P**	**23 42 04.7**	**0.0**
comp=Z,0.5nm,0.7s,baz=276,slow=5.0,SNR=3.5							
BMAR	**Burnt Mountain**	**67.30**	**25**	P	**P**	**23 42 08.9**	**+1.2**
RIDG	**Independent Ri**	**67.88**	**29**	P	**P**	**23 42 12.5**	**+1.0**
RIDG				IAmb	IAmb	23 42 26.2	
comp=Z,11nm,1.4s							
KBZ	**Khabaz**	**68.03**	**309**	P	**P**	**23 42 13.1**	**+0.4**
comp=Z,1.9nm,0.7s,baz=77,slow=5.7,SNR=4.5							
KIV	**Kislovodsk**	**68.13**	**309**	P	**P**	**23 42 14.0**	**+0.5**
ARCES	**ARCESS Array B**	**70.32**	**338**	P	**P**	**23 42 26.5**	**0.0**
comp=Z,2.7nm,0.9s,baz=80,slow=5.0,SNR=1.5							
FIA1	**FINESS Array S**	**72.77**	**330**	P	**P**	**23 42 41.0**	**-0.2**
FIA1				IAmb	IAmb	23 42 59.5	
comp=Z,5.2nm,1.1s							
FINES	**FINESS Array B**	**72.77**	**330**	P	**P**	**23 42 41.1**	**-0.2**
comp=Z,1.1nm,0.5s,baz=66,slow=6.6,SNR=12							
BRTR	**Keskin Array B**	**75.83**	**307**	P	**P**	**23 43 00.1**	**+0.3**
comp=Z,1.1nm,0.8s,baz=70,slow=8.1,SNR=3.5							
NOA	**NORSAR Array B**	**79.38**	**333**	P	**P**	**23 43 18.6**	**-0.3**
comp=Z,0.5nm,0.7s,baz=55,slow=5.4,SNR=3.3							

IDC ***17*** *23:32:24.2±0.7, 21°.48S×169°.05E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/38, mbtmp4.2/16, ML3.0/1, MS3.7/14, Ms1 3.7/14, ms1mx3.6/28, Error ellipse: s-maj=27.4km s-min=17.6km az=143.0*
BJI ***17*** *23:32:27.0±0.0, 21°.88S×168°.93E, h29km, mB5.1/10, mb4.7/14, Ms5.0/2, Ms7 4.6/2*
NEIC ***17*** *23:32:29.3±0.9, 21°.46S±0°.09×169°.04E±0°.08, h35km±4km, mb4.8/42, Error ellipse: s-maj=14.2km s-min=9.2km az=157.0*
ISC 17 23:32:28.6±0.4, 21°.49S±0°.07×168°.96E±0°.06, h29km, n101, σ1§57/96, mb4.7/33, MS3.9/14, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.41**	**256**	Pn	**Pn**	**23 33 05.8**	**-0.4**
3.2nm,0.3s,baz=130,slow=15,SNR=59							
DZM				Sn	**Sb**	**23 33 38.2**	**-2.4**
22nm,0.3s,baz=103,slow=19,SNR=8.7							
DZM				LR	LR	23 33 44.1	
comp=Z,910nm,19.5s,baz=83,slow=32							
DZM	**Mont Dzumac**	**2.41**	**256**	Pn	**Pn**	**23 33 06.5**	**+0.4**
DZM				Sn	**Sb**	**23 33 37.4**	**-3.3**
SANVU	**Saraoutou**	**6.24**	**344**	Pn	**Pn**	**23 33 58.6**	**-0.2**
MSVF	**Nonsavu**	**9.35**	**68**	Pn	**Pn**	**23 34 42.3**	**+0.8**
URZ	**Urewera**	**18.13**	**159**		**P**	**23 36 38.1**	**-0.2**
BKZ	**Black Stump Fm**	**18.76**	**162**		**Pn**	**23 36 46.4**	**+0.5**
AFI	**Afiamalu**	**19.83**	**71**	LR	LR	23 43 17.2	
comp=Z,85nm,19.2s,baz=230,slow=33							
AFI	**Afiamalu**	**19.83**	**71**	P	**Pn**	**23 36 56.6**	**-2.3**
AFI				IAmb	IAmb	23 37 05.9	
comp=Z,67nm,1.1s							
CTA	**Charters Tower**	**21.27**	**270**	P	**P**	**23 37 16.2**	**+3.4**
comp=Z,1.4nm,0.3s,baz=98,slow=12,SNR=4.0							
CTAO	**Charters Tower**	**21.27**	**270**	P	**P**	**23 37 13.9**	**+1.1**
RPZ	**Rata Peaks**	**22.23**	**176**	LR	LR	23 45 04.4	
comp=Z,247nm,20.6s,baz=12,slow=34							
STKA	**Stephens Creek**	**26.48**	**241**	P	**P**	**23 38 03.2**	**-0.2**
comp=Z,1.0nm,0.4s,baz=62,slow=16,SNR=3.1							
STKA				LR	LR	23 48 38.2	
comp=Z,365nm,18.1s,baz=15,slow=37							
STKA	**Stephens Creek**	**26.48**	**241**	P	**P**	**23 38 04.5**	**+1.1**
RAR	**Rarotonga**	**29.10**	**95**	LR	LR	23 47 09.6	
comp=Z,76nm,19.9s,baz=282,slow=30							
WRA	**Warramunga Arr**	**32.38**	**266**	P	**P**	**23 38 56.2**	**+0.3**
comp=Z,2.5nm,1.1s,baz=102,slow=8.2,SNR=6.3							
AS31	**Alice Springs**	**32.39**	**259**	P	**P**	**23 38 56.4**	**+0.3**
ASAR	**Alice Springs**	**32.39**	**259**	P	**P**	**23 38 56.5**	**+0.4**
comp=Z,4.0nm,1.1s,baz=88,slow=8.6,SNR=17							
ASAR	**Alice Springs**	**32.39**	**259**	P	**P**	**23 38 56.4**	**+0.3**
KNRA	**Kununurra**	**38.46**	**272**	P	**P**	**23 39 48.9**	**+0.6**
KNRA				IAmb	IAmb	23 40 03.5	
comp=Z,12nm,1.1s							
FITZ	**Fitzroy Crossi**	**40.81**	**267**	P	**P**	**23 40 08.7**	**+0.9**
FITZ				IAmb	IAmb	23 40 19.4	
comp=Z,10nm,1.1s							
NWAO	**Narrogin (SRO)**	**46.98**	**245**	LR	LR	00 01 08.3	
comp=Z,267nm,18.4s,baz=202,slow=37							
KAPI	**Kappang**	**50.38**	**282**	LR	LR	00 05 43.5	
comp=Z,47nm,18.1s,baz=101,slow=40							
VNDA	**Vanda**	**56.18**	**182**	P	**P**	**23 42 05.7**	**+0.4**
comp=Z,1.1nm,1.0s,baz=339,slow=8.1,SNR=3.7							
VNDA	**Vanda**	**56.18**	**182**	P	**P**	**23 42 05.6**	**+0.3**
MJAR	**Matsushiro Arr**	**64.62**	**333**	P	**P**	**23 43 03.0**	**-0.5**
comp=Z,1.0nm,0.4s,baz=127,slow=7.7,SNR=1.6							
QSPA	**South Pole Qui**	**68.57**	**180**	P	**P**	**23 43 28.7**	**+0.1**
QSPA				IAmb	IAmb	23 43 30.1	
comp=Z,14nm,1.4s							
KSRS	**Korea Array**	**70.22**	**326**	P	**P**	**23 43 39.5**	**+0.7**
comp=Z,2.0nm,0.9s,baz=143,slow=6.0,SNR=4.2							
KSRS				LR	LR	00 13 47.1	
comp=Z,21nm,18.9s,baz=145,slow=35							
KULM	**Kulim**	**71.98**	**283**	P	**P**	**23 43 49.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**73.61**	**333**	LR	LR	00 15 55.1	
comp=Z,28nm,19.2s,baz=197,slow=36							
USRK	**Ussuriysk Ar.**	**73.61**	**333**	P	**P**	**23 44 00.7**	**+1.7**
PETK	**Petropavlovsk-**	**74.93**	**353**	P	**P**	**23 44 07.0**	**+0.5**
comp=Z,5.5nm,1.0s,baz=131,slow=4.0,SNR=6.7							
PETK				LR	LR	00 14 29.1	
comp=Z,53nm,19.0s,baz=197,slow=34							
PETK	**Petropavlovsk-**	**74.93**	**353**	P	**P**	**23 44 06.9**	**+0.4**
MAW	**Mawson**	**76.26**	**202**	P	**P**	**23 44 15.3**	**+1.2**
comp=Z,1.0nm,0.8s,baz=103,slow=19,SNR=3.6							
MAW				LR	LR	00 14 58.1	
comp=Z,84nm,18.4s,baz=63,slow=34							
BJT	**Baijiatuau**	**78.51**	**321**	P	**P**	**23 44 28.0**	**+1.0**
BJT				IAmb	IAmb	23 44 30.8	
comp=Z,5.5nm,0.7s							
BJI	**Beijing**	**78.52**	**321**	P	P	23 44 29.8	+2.7
BJI				pmax	pmax		
comp=Z,7.0nm,0.8s							
XAN	**Xi'an**	**79.44**	**313**	P	**P**	**23 44 32.1**	**-0.3**
BELA	**Belgrano 2**	**79.89**	**175**	P	**P**	**23 44 33.9**	**-0.2**
LZH	**Lanzhou**	**84.04**	**312**	*e*P	**P**	**23 44 57.3**	**+0.5**
LZH				pP	pwP	23 45 07.9	-1.8
LZH				sP	sP	23 45 12.0	+4.2
LZH				*e*PP	**PP**	**23 48 13.5**	**+2.3**
LZH				pmax	pmax		
comp=Z,23nm,1.3s							
LZH				pmax	pmax		
comp=Z,100nm,5.2s							
LZH				LR	LR		
comp=Z,230nm,16.1s							
LZH				LR	LR		
comp=Z,250nm,16.3s							
LZH				LR	LR		
comp=Z,380nm,19.2s							
SNAA	**Sanae**	**86.91**	**183**	P	**P**	**23 45 10.6**	**+0.2**
SNAA				IAmb	IAmb	23 45 11.3	
comp=Z,3.7nm,0.9s							
VNA3	**Neumayer Olymp**	**87.51**	**180**	P	**P**	**23 45 12.8**	**-0.5**
VNA2	**Neumayer--Watz**	**87.80**	**181**	P	**P**	**23 45 14.4**	**-0.2**
baz=163,slow=5.7							
PAGB	**Antelope Grade**	**87.85**	**50**	P	**P**	**23 45 14.7**	**-0.7**
VNA1	**Neumayer--Stat**	**88.09**	**181**	P	**P**	**23 45 16.3**	**+0.3**
GTA	**Gaotai**	**88.48**	**314**	*e*P	**P**	**23 45 19.5**	**+1.0**
GTA				pP	sP	23 45 26.0	-3.6
GTA				sP	pwP	23 45 29.0	-2.4
GTA				pmax	pmax		
comp=Z,3.0nm,0.6s							
ULN	**Ulaanbaatar**	**88.51**	**324**	P	**P**	**23 45 19.1**	**+0.6**
ULN				IAmb	IAmb	23 45 27.9	
comp=Z,7.7nm,1.1s							
WDC	**Whiskeytown Da**	**88.63**	**45**	P	**P**	**23 45 19.6**	**+0.6**
ORV	**Oroville**	**88.82**	**46**	P	**P**	**23 45 19.1**	**-0.7**
CMB	**Columbia Colle**	**88.85**	**48**	P	**P**	**23 45 19.3**	**-0.9**
CMB				IAmb	IAmb	23 45 28.8	
comp=Z,8.6nm,1.2s							
SONM	**Songino Array**	**88.86**	**323**	P	**P**	**23 45 21.6**	**+1.5**
comp=Z,2.7nm,1.0s,baz=142,slow=5.4,SNR=10							
SONM				LR	LR	00 27 02.3	
comp=Z,41nm,18.2s,baz=76,slow=37							
SONM	**Songino Array**	**88.86**	**323**	P	**P**	**23 45 21.0**	**+1.0**
AFDM	**Forest Hills D**	**88.88**	**47**	P	**P**	**23 45 19.6**	**-0.7**
YBH	**Yreka Blue Hor**	**89.09**	**44**	P	**P**	**23 45 21.0**	**-0.3**
comp=Z,2.6nm,0.9s,baz=244,slow=1.2,SNR=4.3				

	comp=Z,55nm,21.3s,baz=0.0,slow=30						
WMQ	**Urumqi**	**98.57 314**	*e*P	Pdif	23 46 06.3	+1.6	
WMQ			pmax	pmax			
	comp=Z,10.0nm,0.7s						
WMQ			pmax	pmax			
	comp=Z,43nm,6.5s						
WMQ			LR	LR			
	comp=Z,230nm,28.9s						
WMQ			LR	LR			
	comp=Z,370nm,28.9s						
WMQ			LR	LR			
	comp=Z,160nm,26.9s						
PSZ	**Piszkesteto**	**143.79 324**	PKPdf	**PKiKP**	**23 52 00.5**	**-3.9**	
DPC	**Dobruska-Polom**	**144.05 330**	*e*PKP	**PKPdf**	**23 52 00.3**	**-1.0**	
BRG	**Berggiesshubel**	**144.75 332**	*e*PKP	**PKPdf**	**23 52 00.9**	**-1.6**	
	comp=Z,6.9nm,1.0s						
CLL	**Collm**	**144.83 334**	*e*PKPdf	**PKiKP**	**23 52 02.0**	**-4.3**	
	comp=Z,6.0nm,1.0s						
CLL			*e*(pPKPdf)		23 52 10.0		
CLL	**Collm**	**144.83 334**	PKPdf	**PKiKP**	**23 52 03.0**	**-3.4**	
PRU	**Pruhonice**	**145.13 331**	*e*PKP	**PKiKP**	**23 52 09.6**	**+2.6**	
PRU			*e*pPKP	**sPKPdf**	**23 52 16.1**	**+2.4**	
DIVS	**Divibare**	**145.85 319**		**PKPab**	**23 52 04.4**	**-1.3**	
CONA	**Conrad Observa**	**145.91 327**	*i* PKiKP	**PKiKP**	**23 52 07.0**	**-1.8**	
	comp=Z,6.6nm,1.2s						
KHC	**Kasperske Hory**	**146.18 331**	*e*PKP	**PKiKP**	**23 52 06.8**	**-2.4**	
KHC			*e*pPKP	sPKPab	23 52 17.8	+0.5	
KHC	**Kasperske Hory**	**146.18 331**	PKPbc	**PKiKP**	**23 52 05.9**	**-3.3**	
GEC2	**GERESS Array S**	**146.33 330**	PKPbc	**PKPab**	**23 52 05.9**	**-1.4**	
GERES	**GERESS Array B**	**146.33 330**	PKPbc	**PKiKP**	**23 52 07.0**	**-2.7**	
	comp=Z,24nm,1.0s,baz=52,slow=2.2,SNR=12						
GERES	**GERESS Array B**	**146.33 330**	PKPbc	**PKiKP**	**23 52 06.6**	**-3.1**	
MOA	**Molln**	**146.75 328**	*i* PKiKP	**PKiKP**	**23 52 10.2**	**-0.2**	
	comp=Z,6.1nm,1.7s						
ABTA	**Abfaltersbach**	**148.38 328**	*i* PKiKP	**PKPab**	**23 52 13.7**	**-1.8**	
	comp=Z,4.2nm,1.1s						
MOTA	**Moosalm**	**148.61 331**	*i* PKPab	**PKPab**	**23 52 15.2**	**-1.4**	
	comp=Z,5.8nm,1.1s						
SQTA	**Sankt Quirin**	**148.66 330**	*i* PKiKP	**PKPab**	**23 52 14.8**	**-1.9**	
	comp=Z,6.1nm,1.3s						
FETA	**Feichten**	**149.03 330**	*i* PKPbc	**PKiKP**	**23 52 13.9**	**-1.5**	
	comp=Z,5.7nm,1.0s						
DAVA	**Damuels**	**149.21 332**	*i* PKiKP	**PKPab**	**23 52 16.4**	**-2.5**	
	comp=Z,8.2nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**149.54 330**	PKPbc	**PKPab**	**23 52 16.6**	**-3.9**	
TUE	**Stuetta**	**150.06 331**		**PKPab**	**23 52 17.9**	**-4.7**	
TORD	**Torodi Ar. Bea**	**165.29 238**	PKP	**PKPdf**	**23 52 31.4**	**+0.3**	
	comp=Z,1.8nm,1.0s,baz=125,slow=1.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**165.29 238**		**PKPdf**	**23 52 31.8**	**+0.7**	

*SOME **17** 23:38:34.1, 43.°67N×82.°25E, h10km*
*NNC **17** 23:38:35.8±2.5, 43.°64N×82.°22E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=22.6km s-min=8.5km az=135.0*

ISC 17 23:38:34.7±2.1, 43.°60N±0.°08×82.°21E±0.°07, h7km±14km, n24, σ1°75/31, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.90**	**294**	*e*P	**Pb**	**23 39 09.9**	**+0.1**
DJR	21nm,0.2s						
				*e*S	**Sg**	**23 39 37.2**	**+1.5**
	112nm,0.2s						
PDGK	**Podgornoye**	**2.00**	**263**	Pg	**Pb**	**23 39 11.8**	**+0.3**
PDGK	6.4nm,0.3s						
				Lg	Lg	23 39 40.1	
	45nm,0.1s						
PDGK	**Podgornoye**	**2.00**	**263**	⇑Pg	**Pn**	**23 39 10.7**	**+1.6**
PDGK	9.5nm,0.3s						
				⇓Lg	Lg	23 39 39.9	
	54nm,0.5s						
SHLS	**Shalkode**	**2.05**	**259**	*e*P	**Pn**	**23 39 08.1**	**-1.7**
SHLS	48nm,0.1s						
				*e*S	**Sn**	**23 39 33.7**	**-2.0**
	262nm,0.4s						
UZB	**Uzynbulak**	**2.37**	**260**	Pg	**Pb**	**23 39 18.2**	**+0.4**
UZB	14nm,0.4s						
				Lg	Lg	23 39 51.4	
	53nm,0.2s						
KPKS	**Kokpek**	**2.57**	**268**	*e*P	**Pb**	**23 39 21.8**	**+0.6**
KPKS	12nm,0.1s						
				*e*S	**Sg**	**23 39 57.0**	**-0.3**
	94nm,0.3s						
KAPS	**Kapalarasan**	**2.65**	**311**	*e*P	**Pb**	**23 39 22.6**	**0.0**
KAPS	7.7nm,0.3s						
				*e*S	**Sg**	**23 39 58.5**	**-1.4**
	40nm,0.5s						
KAPS	**Kapalarasan**	**2.65**	**311**	Pg	**Pb**	**23 39 22.6**	**0.0**
KAPS	7.7nm,0.3s						
				Lg	Lg	23 39 58.5	
	40nm,0.5s						
MNBS	**Baschi**	**2.80**	**281**	*e*P	**Pb**	**23 39 24.8**	**-0.3**
MNBS	4.0nm,0.1s						
				*e*S	**Sg**	**23 40 02.7**	**-2.0**
	65nm,0.4s						
SATY	**Saty**	**2.83**	**260**	*e*P	**Pb**	**23 39 26.1**	**+0.5**
SATY	5.9nm,0.1s						
				*e*S	**Sg**	**23 40 04.4**	**-1.2**
	51nm,0.1s						
SATY	**Saty**	**2.83**	**260**	Pg	**Pb**	**23 39 27.4**	**+1.7**
SATY	5.5nm,0.1s						
				Lg	Lg	23 40 06.8	
	58nm,0.2s						
MK31	**Makanchi Array**	**3.20**	**1**	⇑Pg	**Pg**	**23 39 36.3**	**+0.3**
	2.1nm,0.3s,baz=176,slow=16,SNR=8.9						
MK31				Lg	Lg	23 40 11.4	
	6.7nm,0.3s,baz=173,slow=28,SNR=7.7						
MAKZ	**Makanchi**	**3.22**	**357**	⇑Pg	**Pg**	**23 39 38.6**	**+2.3**
MAKZ	3.2nm,0.5s						
				⇑Lg	Lg	23 40 15.3	
	8.0nm,0.5s						
KOTS	**Kotyrbulak**	**3.73**	**266**	Pg	**Pg**	**23 39 44.9**	**-1.4**
KOTS	9.3nm,0.2s						
				Lg	Lg	23 40 36.5	
	55nm,0.6s						
MDOK	**Medeo**	**3.79**	**265**	*e*P	**Pb**	**23 39 43.8**	**+1.7**
MDOK	2.2nm,0.3s						
				*e*S	**Sg**	**23 40 35.4**	**-1.1**
	13nm,0.5s						
MDOK	**Medeo**	**3.79**	**265**	Pg	**Pg**	**23 39 45.7**	**-1.6**
MDOK	2.3nm,0.4s						
				Lg	Lg	23 40 38.9	
	17nm,0.5s						
MTBS	**Maitube**	**4.24**	**266**	Pg	**Pg**	**23 39 53.8**	**-2.2**
MTBS	3.2nm,0.3s						
				Lg	Lg	23 40 52.6	
	18nm,0.3s						
ZSN	**Zaisan**	**4.28**	**25**	*e*P	**Pb**	**23 39 49.6**	**-0.7**
ZSN	6.1nm,0.3s						
				*e*S	**Sb**	**23 40 44.0**	**+1.8**
	20nm,0.3s						
ZSN	**Zaisan**	**4.28**	**25**	Pg	**Pb**	**23 39 48.5**	**-1.8**
ZSN	6.9nm,0.3s						
				Lg	Lg	23 40 42.6	
	27nm,0.5s						
KST	**Kastek**	**4.59**	**265**	*e*P	**Pb**	**23 39 59.6**	**+3.9**
KST	2.8nm,0.5s						
				*e*S	**Sg**	**23 41 01.7**	**-0.6**
	7.4nm,0.7s						
KST	**Kastek**	**4.59**	**265**	Pg	**Pb**	**23 39 59.6**	**+3.9**
KST	2.8nm,0.5s						
				Lg	Lg	23 41 01.7	
	7.4nm,0.7s						
TKM2	**Tokmak 2**	**4.88**	**264**	⇓Pg	**Pg**	**23 40 09.9**	**+1.7**
TKM2	1.3nm,0.4s						
				⇓Lg	Lg	23 41 10.6	
	4.0nm,0.4s						
KURBB	**Kurchatov Arra**	**7.47**	**342**	⇓Lg	Lg	23 42 30.8	
	6.9nm,0.6s						
KURK	**Kurchatov**	**7.53**	**342**	⇑Lg	Lg	23 42 28.9	
	3.8nm,0.5s						

*LSZ **17** 23:41:41.4±0.3, 16.°49S×28.°66E, h10km, MD3.2*
*BUL **17** 23:41:43.7±1.2, 16.°99S×27.°98E, h10km, MD4.0*
*EAF **17** 23:41:44.7±0.8, 16.°96S×28.°26E, h10km, MD4.0*

ISC 17 23:41:39.9±1.0, 17.°11S±0.°04×28.°20E±0.°10, h13km, n9, σ0°99/16, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**1.82**	**360**	*i* P	**Pg**	**23 42 14.3**	**-0.6**
LSZ				*i* S	**Sn**	**23 42 34.9**	**+0.8**
LSZ	**Lusaka**	**1.82**	**360**	*i* P	**Pg**	**23 42 14.3**	**-0.6**
LSZ				*i* S	**Sn**	**23 42 34.9**	**+0.8**
ITZ	**Itezhi-Tezhi**	**2.50**	**303**	*e*P	**Pb**	**23 42 24.3**	**-0.3**
ITZ				*i*		23 42 24.4	
	baz=106,slow=22						
ITZ				*e*S	**Sb**	**23 42 55.7**	**+0.3**
BLWY	**Bulawayo**	**3.04**	**173**	*i* P	**Pb**	**23 42 34.5**	**+0.5**
BLWY				*i* S	**Sb**	**23 43 11.6**	**+0.6**
BLWY	**Bulawayo**	**3.04**	**173**	*i* P	**Pb**	**23 42 34.5**	**+0.5**
BLWY				*i* S	**Sb**	**23 43 11.6**	**+0.6**
MATP	**Matopo**	**3.31**	**175**	*i* P	**Pb**	**23 42 38.6**	**+0.1**
MATP				*i* S	**Sb**	**23 43 16.9**	**-2.0**
MATP	**Matopo**	**3.31**	**175**	*i* P	**Pb**	**23 42 38.6**	**+0.1**
MATP				*i* S	**Sb**	**23 43 16.9**	**-2.0**
LBTB	**Lobatse**	**8.23**	**197**	*i* P	Pn	23 43 44.2	+5.0
LBTB				*i* S	**Sn**	**23 45 12.9**	**+0.7**
LBTB	**Lobatse**	**8.23**	**197**	*i* P	Pn	23 43 44.2	+5.0
LBTB				*i* S	**Sn**	**23 45 12.9**	**+0.7**

*ECX **17** 23:50:24.5±0.7, 30.°52N×114.°29W, h4km±6km, MD3.0, ML3.2*
*MEX **17** 23:50:25.9±0.3, 31.°22N×114.°07W, h15km±6km, MD3.8*

ISC 17 23:50:22.2±2.3, 30.°5N±0.°1×114.°27W±0.°08, h10km, n11, σ0°53/12, 2C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.72**	**316**	*e*P	**Pg**	**23 50 36.6**	**+0.5**
SFX				*e*S	**Sg**	**23 50 46.7**	**+1.0**
SPX	**San Pedro Mart**	**1.15**	**297**	*e*P	**Pg**	**23 50 44.7**	**+0.3**
SPX				*i* S	**Sg**	**23 50 59.1**	**-0.4**
SPX	**San Pedro Mart**	**1.15**	**297**	*e*P	**Pg**	**23 50 44.8**	**+0.3**
SPX				⇑*e*		23 51 02.9	
SPX				IAML		23 51 02.9	
	comp=N,264nm,0.4s						
SPIG	**San Pedro Mart**	**1.16**	**297**	*e*P	**Pg**	**23 50 44.7**	**+0.2**
SPIG				*e*S	**Sg**	**23 50 59.6**	**0.0**
SPIG	**San Pedro Mart**	**1.16**	**297**	*e*P	**Pg**	**23 50 44.8**	**+0.2**
ECBX	**El Chinero**	**1.17**	**325**	*e*P	**Pb**	**23 50 43.8**	**-0.7**
ECBX				*e*S	**Sb**	**23 50 59.2**	**-0.5**
PIX	**Pinacate**	**1.25**	**33**	*e*P	**Pn**	**23 50 45.9**	**+0.2**
SQX	**San Quintin**	**1.39**	**273**	*e*P	**Pn**	**23 50 48.0**	**+0.3**
CPBX	**Cerro Prieto**	**2.09**	**335**	IAML		23 51 47.5	
	comp=N,441nm,0.3s						
CPBX				⇓*e*		23 51 47.5	
CPBX				⇓*e*		23 51 51.5	
CPBX				IAML		23 51 51.5	
	comp=E,447nm,0.4s						
CBX	**Cerro Bola**	**2.72**	**312**	*e*P	Pn	23 51 02.6	-3.5
CBX				*i* S	Sn	23 51 31.0	-8.2
CBX	**Cerro Bola**	**2.72**	**312**	IAML		23 51 59.8	
	comp=E,157nm,0.8s						
CBX				⇑*e*		23 51 59.8	
CBX				IAML		23 52 06.4	
	comp=N,174nm,0.8s						
CBX				⇓*e*		23 52 06.4	

*NEIC **18** 00:26:12.4±1.8, 40.°36N±0.°05×125.°8W±0.°1, h14km±13km, Error ellipse: s-maj=13.7km s-min=6.7km az=78.0*
*NCEDC **18** 00:26:14.0±1.8, 40.°33N±0.°05×125.°9W±0.°1, h18km±8km, ML3.3/13, Error ellipse: s-maj=13.0km s-min=6.9km az=79.0*
*ANF **18** 00:26:14.1±0.8, 40.°60N×125.°52W, h0km, ML3.1/9, Error ellipse: s-maj=7.5km s-min=4.4km az=53.0*

ISC 18 00:26:09.5±2.0, 40.°39N±0.°05×126.°00W±0.°10, h13km, n76, σ1°54/87, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.28**	**86**		**Pb**	**00 26 33.7**	**+0.3**
KCTM					**Sn**	**00 26 50.1**	**+0.1**
KSMM	**Slide Mountain**	**1.41**	**98**		**Pn**	**00 26 35.1**	**+0.1**
KMPM	**Mount Pierce**	**1.44**	**88**		**Pn**	**00 26 36.1**	**+0.7**
KMPM					**Sb**	**00 26 53.5**	**-1.0**
JCC	**Jacoby Creek,**	**1.56**	**73**	Pn	**Pn**	**00 26 36.7**	**-0.3**
KCRM	**Chalk Rock**	**1.67**	**88**		**Pn**	**00 26 39.5**	**+1.0**
KMRM	**Mail Ridge**	**1.76**	**95**		**Pn**	**00 26 41.2**	**+1.4**
KHMM	**Horse Mountain**	**1.80**	**74**		**Pn**	**00 26 40.5**	**+0.2**
KBSM	**Bell Springs**	**1.90**	**103**		**Pn**	**00 26 43.0**	**+1.1**
KCSM	**Cold Springs**	**1.91**	**85**		**Pn**	**00 26 42.8**	**+0.9**
KRMB	**Red Mountain**	**1.95**	**54**		**Pn**	**00 26 42.0**	**-0.5**
KCPM	**Cahto Peak**	**1.99**	**110**		**Pn**	**00 26 43.3**	**+0.4**
KPPM	**Pickett Peak**	**2.02**	**90**		**Pn**	**00 26 44.7**	**+1.3**
KIPM	**Iron Peak**	**2.02**	**106**		**Pn**	**00 26 44.8**	**+1.3**
KFPM	**Farley Peak**	**2.12**	**110**		**Pn**	**00 26 45.6**	**+0.9**
GTC	**Three Chop Rid**	**2.13**	**117**		**Pn**	**00 26 45.2**	**+0.4**
KOMM	**Orleans Mounta**	**2.13**	**64**		**Pn**	**00 26 45.1**	**+0.2**
KHBM	**Hayfork Bally**	**2.14**	**82**		**Pn**	**00 26 45.6**	**+0.4**
KSXB	**Camp Six Broad**	**2.16**	**47**		**Pn**	**00 26 45.4**	**+0.1**
GNAM	**Navarro Ridge**	**2.18**	**122**		**Pn**	**00 26 45.6**	**+0.1**
KBNM	**Bluenose Ridge**	**2.21**	**102**		**Pn**	**00 26 47.4**	**+1.4**
KBO	**Bosley Butte**	**2.26**	**36**		**Pn**	**00 26 47.0**	**+0.3**
KRKM	**Rackout Spring**	**2.32**	**110**		**Pn**	**00 26 49.0**	**+1.5**
GHOM	**Hamilton Openi**	**2.33**	**124**		**Pn**	**00 26 47.8**	**+0.2**
LBPM	**Beegum Peak**	**2.39**	**91**		**Pb**	**00 26 52.1**	**-0.3**
GWRM	**Wonder Ranch**	**2.39**	**119**		**Pn**	**00 26 50.2**	**+1.8**
GGUM	**Gualala**	**2.47**	**128**		**Pn**	**00 26 49.3**	**-0.2**
O02D	**Mt. Diablo Mer**	**2.47**	**94**	P	**Pn**	**00 26 50.6**	**+1.1**
	baz=275,SNR=10						
O02D				S	**Sn**	**00 27 18.8**	**-0.8**
	baz=275						
O02D	**Mt. Diablo Mer**	**2.47**	**94**		**Pn**	**00 26 50.9**	**+1.3**
LGPM	**Granite Peak**	**2.47**	**77**		**Pn**	**00 26 50.1**	**+0.4**
KTRM	**Thompson Ridge**	**2.50**	**52**		**Pn**	**00 26 50.9**	**+0.9**
GHMM	**Hull Mountain**	**2.52**	**110**		**Pn**	**00 26 51.7**	**+1.3**
L02E	**Cave Junction**	**2.53**	**45**	P	**Pn**	**00 26 50.8**	**+0.5**
	baz=224,SNR=329						
L02E				S	**Sn**	**00 27 19.0**	**-2.0**
	baz=224						
L02E	**Cave Junction**	**2.53**	**45**		**Pn**	**00 26 51.1**	**+0.7**
N02D	**Trinity Center**	**2.58**	**76**	P	**Pn**	**00 26 51.2**	**+0.2**
	baz=256,SNR=19						
N02D				S	**Sn**	**00 27 19.8**	**-2.4**
	baz=256						
N02D	**Trinity Center**	**2.58**	**76**		**Pn**	**00 26 51.4**	**+0.3**
M02C	**Callahan**	**2.59**	**66**	P	**Pn**	**00 26 51.5**	**+0.3**
	baz=246,SNR=166						
M02C				S	**Sn**	**00 27 20.8**	**-1.8**
	baz=246						
M02C	**Callahan**	**2.59**	**66**		**Pn**	**00 26 52.0**	**+0.8**
GROM	**Round Mountain**	**2.60**	**99**		**Pn**	**00 26 53.4**	**+2.0**
GSNM	**Snow Mountain**	**2.61**	**123**		**Pn**	**00 26 51.5**	**+0.1**
GVV	**Valley View**	**2.62**	**102**		**Pn**	**00 26 53.1**	**+1.3**
GASB	**Alder Springs**	**2.63**	**105**		**Pn**	**00 26 53.1**	**+1.3**
LBKM	**Bonanza King**	**2.63**	**74**		**Pn**	**00 26 52.3**	**+0.4**
WDC	**Whiskeytown Da**	**2.65**	**85**	Pn	**Pn**	**00 26 52.8**	**+0.9**
HOPS	**Hopland Field**	**2.66**	**121**	Pn	**Pn**	**00 26 52.9**	**+0.9**
GHLM	**Highland Sprin**	**2.67**	**119**		**Pn**	**00 26 52.5**	**+0.2**
KEBM	**Edson Butte**	**2.78**	**26**	Pn	**Pn**	**00 26 54.7**	**+0.8**
GHCM	**House Creek**	**2.81**	**128**		**Pn**	**00 26 53.9**	**-0.3**
GTSM	**Trough Springs**	**2.83**	**111**		**Pn**	**00 26 56.4**	**+1.8**
YBH	**Yreka Blue Hor**	**2.83**	**61**	Pn	**Pn**	**00 26 55.6**	**+1.1**
K02D	**Willamette Mer**	**2.90**	**37**	P	**Pn**	**00 26 56.4**	**+1.0**
	baz=216,SNR=678						
K02D				S	**Sn**	**00 27 28.2**	**-2.0**
	baz=216						
J01E	**Myrtle Point**	**3.17**	**29**	P	**Pn**	**00 27 00.1**	**+0.9**
	baz=208,SNR=27						
J01E				S	**Sn**	**00 27 34.0**	**-2.9**
	baz=208						
HUMO	**Hull Mountain**	**3.19**	**45**	Pn	**Pn**	**00 27 00.5**	**+1.2**
O03E	**Paynes Creek**	**3.21**	**90**	P	**Pn**	**00 27 00.6**	**+0.8**
	baz=272,SNR=48						
O03E				S	**Sn**	**00 27 36.4**	**-1.5**
	baz=272						
MCCM	**Marconi Confer**	**3.30**	**132**	Pn	**Pn**	**00 27 01.2**	**+0.4**
L04D	**Klamath Falls**	**3.33**	**56**	P	**Pn**	**00 27 04.2**	**+2.7**
	baz=236,SNR=42						
ORV	**Oroville**	**3.56**	**102**		**Pn**	**00 27 05.5**	**+1.0**
I03D	**Drain, OR**	**3.85**	**30**	P	**Pn**	**00 27 09.9**	**+1.4**
	baz=210,SNR=44						
I03D				S	**Sn**	**00 27 51.9**	**-1.7**
	baz=210						
K04D	**Chiloquin, OR**	**3.90**	**54**	P	**Pn**	**00 27 10.6**	**+1.4**
	baz=235						
I02D	**Swisshome**	**4.05**	**23**	P	**Pn**	**00 27 12.5**	**+1.3**
	baz=202,SNR=12						
I02D				S	**Sn**	**00 27 55.0**	**-3.3**
	baz=202						
J04D	**Umpqua Nationa**	**4.07**	**44**	P	**Pn**	**00 27 14.5**	**+2.8**
	baz=225,SNR=20						
AFDM	**Forest Hills D**	**4.14**	**109**	Pn	**Pn**	**00 27 13.7**	**+1.2**
K05A	**Summer Lake**	**4.49**	**57**	Pn	**Pn**	**00 27 19.5**	**+2.1**
MOD	**Modoc Plateau**	**4.56**	**69**	Pn	**Pn**	**00 27 18.8**	**+0.4**
J05D	**Fort Rock, OR**	**4.59**	**49**	P	**Pn**	**00 27 21.3**	**+2.5**
	baz=231,SNR=8.9						
H04D	**Lebanon**	**4.79**	**29**	S	**Sn**	**00 28 16.3**	**-0.4**
	baz=210						
PINE	**Pine Mountain**	**5.08**	**46**	Pn	**Pn**	**00 27 28.2**	**+2.7**
PAHR	**Pah Rah Range**	**5.12**	**95**	Pn	**Pn**	**00 27 28.1**	**+2.0**
H04A	**Detroit Lake**	**5.14**	**32**	Pn	**Pn**	**00 27 28.2**	**+2.0**
PMPB	**Monarch Peak**	**5.84**	**134**	Pn	**Pn**	**00 27 37.3**	**+1.4**
I07A	**Izee**	**6.07**	**50**	Pn	**Pn**	**00 27 42.4**	**+3.2**
NVAR	**Mina Array Bea**	**6.28**	**106**		**Pn**	**00 27 44.6**	**+2.6**
J08A	**Circle Bar Ran**	**6.36**	**60**		**Pn**	**00 27 44.8**	**+1.9**
LON	**Longmire**	**7.05**	**24**	Pn	**Pn**	**00 27 54.8**	**+2.4**
G08A	**Pilot Rock**	**7.13**	**44**	Pn	**Pn**	**00 27 57.4**	**+3.9**
BMO	**Blue Mountains**	**7.81**	**52**	Pn	**Pn**	**00 28 05.9**	**+3.0**
HLID	**Hailey**	**9.20**	**66**	Pn	**Pn**	**00 28 25.1**	**+3.1**

ISC 18 00:43:38.4±1.1, 43.°90N±0.°03×16.°89E±0.°04, h6km±12km, n9, σ0°94/18, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.36**	**287**	*e*Pg	**Pg**	**00 43 45.0**	**-0.5**
KIJV				Sg	**Sg**	**00 43 50.5**	**+0.2**
RICI	**Ricice**	**0.45**	**156**	*e*Pg	**Pg**	**00 43 46.6**	**-0.4**
RICI				Sg	**Sg**	**00 43 53.9**	**+1.1**
MAKA	**Makarska**	**0.62**	**171**	*e*Pg	**Pg**	**00 43 49.6**	**-0.7**
MAKA				Sg	**Sg**	**00 43 59.2**	**+0.8**
MORI	**Morici**	**0.85**	**268**	*e*Pg	**Pg**	**00 43 53.9**	**-0.9**
MORI				Sg	**Sg**	**00 44 06.9**	**+1.0**
BLY	**Banja Luka**	**0.87**	**14**	*e*Pg	**Pg**	**00 43 55.1**	**-0.1**
BLY				*e*Sg	**Sg**	**00 44 06.4**	**-0.1**
LSTV	**Lastovo**	**1.13**	**180**	*e*Pg	**Pb**	**00 43 59.6**	**-0.8**
LSTV				Sg	**Sn**	**00 44 17.2**	**+0.6**
DUGI	**Dugi Otok**	**1.32**	**274**	*e*Pg	**Pn**	**00 44 02.7**	**-0.7**
DUGI				Sg	**Sg**	**00 44 23.1**	**+2.1**
DBRK	**Dubrovnik**	**1.54**	**143**	*e*Pn	**Pb**	**00 44 07.0**	**-0.2**
DBRK				Sn	**Sg**	**00 44 28.7**	**+0.9**
NVLJ	**Novalja**	**1.59**	**295**	*e*Pn	**Pn**	**00 44 07.6**	**+0.5**
NVLJ				Sn	**Sg**	**00 44 30.5**	**+0.9**

*IDC **18** 00:44:25.2±1.1, 54.°99S×26.°23W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=46.2km s-min=33.1km az=79.0*
*NEIC **18** 00:44:26.7±0.9, 55.°05±0.°1×26.°4W±0.°2, h10km±2km, mb4.2/10, Error ellipse: s-maj=24.8km s-min=18.8km az=19.0*

ISC 18 00:44:26.8±0.8, 55.°0S±0.°1×26.°4W±0.°1, h10km, n20, σ1°32/20, mb4.1/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.89**	**272**	Pn	**Pn**	**00 45 54.1**	**+0.2**
VNA1	**Neumayer--Stat**	**17.67**	**160**	P	**P**	**00 48 36.0**	**+2.5**
VNA3	**Neumayer Olymp**	**17.90**	**162**	P	**P**	**00 48 38.3**	**+2.2**
VNA2	**Neumayer--Watz**	**18.06**	**160**	P	**P**	**00 48 40.3**	**+2.5**
	baz=317,slow=14						
SNAA	**Sanae**	**19.59**	**158**	P	**P**	**00 48 52.0**	**-2.6**
BELA	**Belgrano 2**	**23.21**	**184**	P	**P**	**00 49 31.7**	**-1.6**
QSPA	**South Pole Qui**	**35.30**	**180**	P	**P**	**00 51 21.4**	**-0.2**
MT02	**Curacav**	**37.88**	**286**	P	**P**	**00 51 43.8**	**+0.1**
GO02	**Mina Guanaco**	**43.39**	**296**	P	**P**	**00 52 30.1**	**+0.4**
VNDA	**Vanda**	**47.70**	**182**	P	**P**	**00 53 02.5**	**-0.3**
	0.6nm,0.7s,baz=176,slow=6.5,SNR=6.5						
VNDA	**Vanda**	**47.70**	**182**	P	**P**	**00 53 03.0**	**+0.2**
VNDA				IAmb	IAmb	00 53 19.3	
	comp=Z,1.6nm,0.9s						
PB16	**IPOC Station P**	**49.04**	**301**	P	**P**	**00 53 14.9**	**+0.4**
LPAZ	**La Paz**	**50.11**	**304**	P	**P**	**00 53 23.7**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=153,slow=7.2,SNR=8.2						
LPAZ	**La Paz**	**50.11**	**304**	P	**P**	**00 53 23.5**	**+0.7**
LPAZ				IAmb	IAmb	00 53 24.8	
	comp=Z,3.1nm,0.8s						
SAML	**Samuel**	**54.35**	**313**	P	**P**	**00 53 52.9**	**-0.5**
SAML				IAmb	IAmb	00 54 07.2	
	comp=Z,2.5nm,1.4s						
TOA0	**Torodi Ar. Sit**	**71.88**	**29**	P	**P**	**00 55 50.0**	**+0.3**
TOA0				IAmb	IAmb	00 55 50.1	
	comp=Z,4.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**71.88**	**29**	P	**P**	**00 55 49.8**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=200,slow=6.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**71.88**	**29**	P	**P**	**00 55 49.5**	**-0.2**
ILAR	**Eielson Array**	**149.70**	**313**	PKPbc	**PKPbc**	**01 04 14.8**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=118,slow=2.3,SNR=7.6						
SONM	**Songino Array**	**150.20**	**84**	PKPbc	**PKPbc**	**01 04 16.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=236,slow=1.6,SNR=2.0						

**IDC 18 00:49:27.4±2.0, 0.°67N×124.°41E, h0km, mb3.3

KBTR	Krutoberegovo	0.35 336	*i* P		Pb	01 09 48.4	-1.1
KBTR	Krutoberegovo	0.35 336	PN		Pb	01 09 48.4	-1.1
KBG	Krutoberegovo	0.42 330	*i* P		Pb	01 09 49.6	-1.0
KBG			*e*S		Sn	01 09 57.3	-1.7
KBG	Krutoberegovo	0.42 330	PN		Pb	01 09 49.6	-1.0
KBG			S		Sn	01 09 57.3	-1.7
SMKR	Semkarok	1.14 308	*e*P		Pn	01 10 01.6	-0.4
SMKR			*e*S		Sn	01 10 17.9	+1.1
SMKR	Semkarok	1.14 308	PN		Pn	01 10 01.6	-0.4
SMKR			S		Sn	01 10 17.9	+1.1
BDR	Baidarnaya	1.25 304	*e*P		Pb	01 10 03.7	-0.8
BDR			*e*S		Sn	01 10 22.1	+2.6
BDR	Baidarnaya	1.25 304	PN		Pb	01 10 03.7	-0.8
BDR			S		Sn	01 10 22.1	+2.6
ZLN	Zelenaya	1.28 277	*e*P		Pb	01 10 04.3	-0.9
ZLN	Zelenaya	1.28 277	PN		Pb	01 10 04.3	-0.9
SRKR	Sorokina	1.31 307	*e*P		Pb	01 10 05.1	-0.6
SRKR	Sorokina	1.31 307	PN		Pb	01 10 05.1	-0.6
CIRR	Tsirk	1.33 281	*e*P		Pb	01 10 05.3	-0.7
CIRR	Tsirk	1.33 281	PN		Pb	01 10 05.3	-0.7
BZGR	Bezymyannyi-Gr	1.34 273	*e*P		Pn	01 10 04.9	0.0
BZGR			*e*S		Sb	01 10 23.5	+0.5
BZGR	Bezymyannyi-Gr	1.34 273	PN		Pn	01 10 04.9	0.0
BZGR			S		Sb	01 10 23.5	+0.5
LGNR	Loginova	1.35 279	*e*P		Pb	01 10 05.6	-0.9
LGNR	Loginova	1.35 279	PN		Pb	01 10 05.6	-0.9
KLY	Klyuchi	1.42 288	*e*P		Pn	01 10 04.6	-1.3
KLY			*e*S		Sn	01 10 22.3	-1.5
KLY	Klyuchi	1.42 288	PN		Pn	01 10 04.6	-1.3
KLY			S		Sn	01 10 22.3	-1.5
KRSR	Krestovskiy	1.45 284	*e*P		Pn	01 10 06.5	+0.2
KRSR			*e*S		Sb	01 10 25.8	-0.2
KRSR	Krestovskiy	1.45 284	PN		Pn	01 10 06.5	+0.2
KRSR			S		Sb	01 10 25.8	-0.2
BZWR	Bezymyannyi-We	1.46 274	*e*P		Pb	01 10 07.0	-1.1
BZWR			*e*S		Sb	01 10 26.2	-0.1
BZWR	Bezymyannyi-We	1.46 274	PN		Pb	01 10 07.0	-1.1
BZWR			S		Sb	01 10 26.2	-0.1
KIRR	Kirishev	1.54 273	*e*P		Pb	01 10 08.3	-1.3
KIRR			*e*S		Sb	01 10 28.9	+0.2
KIRR	Kirishev	1.54 273	PN		Pb	01 10 08.3	-1.3
KIRR			S		Sb	01 10 28.9	+0.2
KMNR	Kamenistaya	1.61 266	*e*P		Pb	01 10 09.6	-1.1
KMNR			*e*S		Sb	01 10 31.8	+1.2
KMNR	Kamenistaya	1.61 266	PN		Pb	01 10 09.6	-1.1
KMNR			S		Sb	01 10 31.8	+1.2
KPT	Kopyto	1.61 274	*e*P		Pb	01 10 09.5	-1.2
KPT			*e*S		Sb	01 10 31.1	+0.5
KPT	Kopyto	1.61 274	PN		Pb	01 10 09.5	-1.2
KPT			S		Sb	01 10 31.1	+0.5
TUMD	Tumrok D	1.67 247	*e*P		Pn	01 10 10.0	+0.7
TUMD			*e*S		Sb	01 10 32.0	-0.3
KZV	Kizimen	1.77 245	*e*P		Pn	01 10 11.5	+0.8
KZV			*e*S		Sb	01 10 34.5	-0.7
KZV	Kizimen	1.77 245	PN		Pn	01 10 11.5	+0.8
KZV			S		Sb	01 10 34.5	-0.7
TUMR	Tumrok	1.77 251	*e*P		Pb	01 10 12.0	-1.5
TUMR			*e*S		Sb	01 10 35.1	-0.2
TUMR	Tumrok	1.77 251	PN		Pn	01 10 10.0	-0.8
TUMR			S		Sn	01 10 32.0	-0.5
BKI	Bering	1.78 111	*e*P		Pn	01 10 10.6	-0.2
BKI			*e*S		Sn	01 10 32.3	-0.3
BKI	Bering	1.78 111	PN		Pn	01 10 10.6	-0.2
BKI			S		Sn	01 10 32.3	-0.3
KOZ	Kozyrevsk	1.81 277	*e*P		Pb	01 10 13.2	-0.9
KOZ			*e*S		Sb	01 10 37.1	+0.8
KOZ	Kozyrevsk	1.81 277	PN		Pb	01 10 13.2	-0.9
KOZ			S		Sb	01 10 37.1	+0.8
SRDR	Sredinnyy	1.93 284	*e*P		Pb	01 10 14.3	-1.9
SRDR			*e*S		Sb	01 10 40.1	+0.3
SRDR	Sredinnyy	1.93 284	PN		Pb	01 10 14.3	-1.9
SRDR			S		Sb	01 10 40.1	+0.3
ESO	Esso	2.46 273	*e*P		Pn	01 10 21.7	+1.5
ESO	Esso	2.46 273	PN		Pn	01 10 21.7	+1.5
KII	Karymskiy	2.80 230	*e*P		Pn	01 10 24.8	-0.1
KII	Karymskiy	2.80 230	PN		Pn	01 10 24.8	-0.1
SPN	Mys Shipunski	3.32 214	*e*P		Pn	01 10 31.6	-0.3
SPN			*e*S		Sn	01 11 09.2	-1.2
SPN	Mys Shipunski	3.32 214	PN		Pn	01 10 31.6	-0.3
SPN			S		Sn	01 11 09.2	-1.2
OSSR	Ossora	3.37 360	*e*P		Pn	01 10 33.9	+1.3
OSSR	Ossora	3.37 360	PN		Pn	01 10 33.9	+1.3
NLC	Nalytchevo	3.49 220	*e*P		Pn	01 10 34.8	+0.6
NLC			*e*S		Sn	01 11 15.4	+0.8
NLC	Nalytchevo	3.49 220	PN		Pn	01 10 34.8	+0.6
NLC			S		Sn	01 11 15.4	+0.8
SDLR	Sedlovina	3.58 225	*e*P		Pn	01 10 36.7	+1.1
SDLR	Sedlovina	3.58 225	PN		Pn	01 10 36.7	+1.1
KRER	Koryakskii	3.61 226	*e*P		Pn	01 10 37.5	+1.3
KRER	Koryakskii	3.61 226	PN		Pn	01 10 37.5	+1.3
KRX	Arik	3.61 227	*e*P		Pn	01 10 38.8	+2.7
KRX	Arik	3.61 227	PN		Pn	01 10 38.8	+2.7
PALN	Palana	3.62 334	*e*P		Pb	01 10 40.4	-4.5
PALN	Palana	3.62 334	PN		Pb	01 10 40.4	-4.5
SMAR	Somma	3.62 225	*e*P		Pn	01 10 37.9	+1.6
SMAR	Somma	3.62 225	PN		Pn	01 10 37.9	+1.6
AVH	Avacha	3.65 226	*e*P		Pn	01 10 39.9	+3.4
AVH	Avacha	3.65 226	PN		Pn	01 10 39.9	+3.4
UGLR	Uglovaya	3.65 224	*e*P		Pn	01 10 38.2	+1.6
UGLR	Uglovaya	3.65 224	PN		Pn	01 10 38.2	+1.6
KOK	Koryaka	3.67 227	*e*P		Pn	01 10 38.5	+1.7
KOK	Koryaka	3.67 227	PN		Pn	01 10 38.5	+1.7
DALK	Dalny	3.82 223	*e*P		Pn	01 10 41.0	+2.2
DALK	Dalny	3.82 223	PN		Pn	01 10 41.0	+2.2
PET	Petropavlovsk	3.86 224	*e*P		Pn	01 10 41.2	+1.8
PET			*e*S		Sn	01 11 25.5	+1.6
PET	Petropavlovsk	3.86 224	PN		Pn	01 10 41.2	+1.8
PET			S		Sn	01 11 25.5	+1.6
PET	Petropavlovsk	3.86 224			Pn	01 10 41.8	+2.5
PET			Sn		Sn	01 11 22.9	-0.9
PEA0B	Petropavlovsk-	4.20 231	PN		Pn	01 10 45.6	+1.6
PEA0B	Petropavlovsk-	4.20 231			Pn	01 10 45.6	+1.6
PEA0B			Sn		Sn	01 11 30.4	-1.7
PETK	Petropavlovsk-	4.20 231	P		Pn	01 10 46.0	+2.0
	1.9nm,0.3s,baz=68,slow=16,SNR=22						
PETK			S		Sb	01 11 40.8	-4.1
	1.8nm,0.3s,baz=39,slow=26,SNR=1.7						
PETK			LR		LR	01 12 28.2	
	comp=Z,153nm,19.8s,baz=42,slow=41						
PETK	Petropavlovsk-	4.20 231			Pn	01 10 45.2	+1.3
KRMR	Karymshinskiy	4.22 225	*e*P		Pn	01 10 46.1	+1.9
KRMR			*e*S		Sn	01 11 36.6	+4.0
KRMR	Karymshinskiy	4.22 225	PN		Pn	01 10 46.1	+1.9
KRMR			S		Sn	01 11 36.6	+4.0
RUS	Russkaya	4.38 220	*e*P		Pn	01 10 47.9	+1.4
RUS			*e*S		Sn	01 11 39.8	+3.1
RUS	Russkaya	4.38 220	PN		Pn	01 10 47.9	+1.4
RUS			S		Sn	01 11 39.8	+3.1
GRL	Gorelyy	4.45 223	*e*P		Pn	01 10 50.1	+2.5
GRL	Gorelyy	4.45 223	PN		Pn	01 10 50.1	+2.5
MTVR	Mutnovka	4.46 222	*e*P		Pn	01 10 49.6	+1.8
MTVR	Mutnovka	4.46 222	PN		Pn	01 10 49.6	+1.8
ASAK	Asacha	4.65 223	*e*P		Pn	01 10 52.3	+2.0
ASAK	Asacha	4.65 223	PN		Pn	01 10 52.3	+2.0
TILK	Tilichiki	4.85 18	*e*P		Pn	01 10 55.0	+2.1
TILK	Tilichiki	4.85 18	PN		Pn	01 10 55.0	+2.1
KDTR	Khodutka, Kamc	5.05 218	*e*P		Pn	01 10 56.4	+0.8
KDTR			*e*S		Sn	01 11 54.8	+1.7
KDTR	Khodutka, Kamc	5.05 218	PN		Pn	01 10 56.4	+0.8
PAU	Pauzhetka	5.79 223	*e*P		Pn	01 11 09.2	+3.4
PAU	Pauzhetka	5.79 223	PN		Pn	01 11 09.2	+3.4
SKR	Severo-Kuril's	6.68 222	*e*PN		Pn	01 11 24.1	+6.1
SKR			*e*S		Sb	01 12 48.4	-7.8
SKR			pmax	pmax			
	comp=Z,100nm,1.8s						
SKR			pmax	pmax			
	comp=Z,36nm,0.8s						
SKR			smax	smax			
	comp=E,33nm,0.6s						
SKR			smax	smax			
	comp=N,54nm,0.9s						
SKR			MLR	MLR			
	comp=Z,100nm,15.0s						
SKR			MLR	MLR			
	comp=Z,200nm,17.0s						
MA2	Magadan	7.55 304	LR		LR	01 14 39.2	
	comp=Z,266nm,19.6s,baz=102,slow=40						
MA2	Magadan	7.55 304	⇑*e*PN		Pn	01 11 36.4	+6.4
MA2			pmax	pmax			
	comp=Z,12nm,1.4s						
YAK	Yakutsk	18.13 303	⇓P		P	01 13 53.6	+2.1
YAK			pmax	pmax			
	comp=Z,18nm,0.6s						
TIXI	Tiksi	21.37 331	P		P	01 14 28.4	+1.7
	comp=Z,14nm,0.9s,baz=109,slow=9.9,SNR=5.4						
TIXI			LR		LR	01 23 31.6	
	comp=Z,159nm,21.2s,baz=131,slow=39						
TIXI	Tiksi	21.37 331	*de*P		P	01 14 30.6	+3.9
TIXI			pmax	pmax			
	comp=Z,15nm,1.0s						
TIXI	Tiksi	21.37 331	P		P	01 14 26.4	-0.3
TIXI			IAmb		IAmb	01 14 31.2	
	comp=Z,17nm,0.9s						
IMAR	Indian Mountai	22.78 46	P		P	01 14 44.6	+2.8
ILAR	Eielson Array	25.64 49	P		P	01 15 14.4	+5.6
	comp=Z,0.8nm,0.9s,baz=265,slow=8.3,SNR=3.2						
ILAR	Eielson Array	25.64 49	P		P	01 15 11.2	+2.4
ILAR	Eielson Array	25.64 49	P		P	01 15 11.2	+2.4
MJAR	Matsushiro Arr	25.65 231	P		P	01 15 07.1	-2.1
	comp=Z,0.4nm,0.3s,baz=26,slow=8.6,SNR=1.4						
MJAR			LR		LR	01 25 11.3	
	comp=Z,68nm,21.7s,baz=45,slow=36						
BOD	Bodaibo	26.43 295	*e*P		P	01 15 17.4	+1.4
BOD			pmax	pmax			
	comp=Z,4.0nm,1.0s						
NRIK	Noril'sk	34.67 323	LR		LR	01 31 49.8	
	comp=Z,82nm,18.4s,baz=21,slow=38						
SONM	Songino Array	35.01 281	P		P	01 16 29.8	-2.1
	comp=Z,0.6nm,0.5s,baz=41,slow=11,SNR=3.4						
H11N2	WAKE ISLAND Hy	36.22 174	T		T	01 55 15.8	
	baz=356,slow=76,SNR=608						
H11N3	WAKE ISLAND Hy	36.23 174	T		T	01 55 15.6	
	baz=356,slow=76,SNR=393						
H11N1	WAKE ISLAND Hy	36.23 174	T		T	01 55 13.6	
	baz=356,slow=76,SNR=692						
H11S1	WAKE ISLAND Hy	37.42 174	T		T	01 56 59.6	
	baz=348,slow=74						
H11S3	WAKE ISLAND Hy	37.43 174	T		T	01 56 59.6	
	baz=348,slow=74						
H11S2	WAKE ISLAND Hy	37.44 174	T		T	01 56 47.7	
	baz=348,slow=74						
DGZ	Jazzator, Alta	44.02 295	⇑*e*P		P	01 17 47.2	+0.2
DGZ			pmax	pmax			
	comp=Z,3.0nm,0.8s						
KURK	Kurchatov	47.75 301	*ce*P		P	01 18 14.4	-1.7
KURK			pmax	pmax			
	comp=Z,3.0nm,0.6s						
KURK	Kurchatov	47.75 301	P		P	01 18 14.0	-2.1
KURK			IAmb		IAmb	01 18 15.9	
	comp=Z,4.6nm,0.8s						
MKAR	Makanchi Array	48.52 295	P		P	01 18 19.7	-2.5
	comp=Z,1.6nm,0.8s,baz=60,slow=7.2,SNR=7.2						
MKAR			LR		LR	01 39 59.4	
	comp=Z,62nm,18.5s,baz=15,slow=38						
MKAR	Makanchi Array	48.52 295	*e*P		P	01 18 21.8	-0.4
MKAR			pmax	pmax			
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	48.52 295	P		P	01 18 20.6	-1.7
BRVK	Borovoye	50.05 308	⇓*e*P		P	01 18 33.8	+0.1
ARCES	ARCESS Array B	51.16 342	P		P	01 18 41.3	-0.6
	comp=Z,6.3nm,0.9s,baz=32,slow=8.6,SNR=2.5						
ELK	Elko	53.20 70	P		P	01 19 02.6	+4.9
	comp=Z,0.7nm,0.4s,baz=60,slow=8.1,SNR=2.8						
PDAR	Pinedale Array	54.69 64	P		P	01 19 11.6	+3.0
	comp=Z,2.0nm,1.1s,baz=330,slow=5.2,SNR=1.6						
AAK	Ala-Archa	55.40 296	⇑*e*P		P	01 19 12.9	-0.7
AAK			pmax	pmax			
	comp=Z,14nm,0.9s						
KK31	Karatay Array	57.04 299	P		P	01 19 23.7	-1.4
KK31			pmax	pmax			
	comp=Z,4.0nm,0.8s						
KK31	Karatay Array	57.04 299	P		P	01 19 23.7	-1.4
KK31			IAmb		IAmb	01 19 25.2	
	comp=Z,4.5nm,0.8s						
KKAR	Karatay Array	57.04 299	P		P	01 19 23.3	-1.8
KKAR			pmax	pmax			
	comp=Z,4.0nm,0.8s						
KKAR	Karatay Array	57.04 299	P		P	01 19 23.3	-1.8
KKAR	Karatay Array	57.04 299	P		P	01 19 23.7	-1.5
ABKAR	Akbulak array	57.30 311	P		P	01 19 25.6	-1.2
FINES	FINESS Array B	58.22 337	P		P	01 19 32.6	-0.5
	comp=Z,3.8nm,0.7s,baz=31,slow=8.9,SNR=10						
FINES			LR		LR	01 46 50.7	
	comp=Z,32nm,21.9s,baz=10.0,slow=38						
FINES	FINESS Array B	58.22 337	*i* P		P	01 19 33.7	+0.6
FINES			pmax	pmax			
	comp=Z,4.0nm,0.7s						
FINES	FINESS Array B	58.22 337	P		P	01 19 33.1	0.0
VSU	Vasula	60.75 335	⇓*e*P		P	01 19 51.1	+0.5
VSU			pmax	pmax			
	comp=Z,16nm,1.0s						
OBN	Obninsk	61.07 328	*de*P		P	01 19 53.1	+0.3
OBN			*e*			01 22 07.4	
OBN			*e*S		S	01 28 06.0	-3.7
OBN			pmax	pmax			
	comp=Z,5.0nm,0.5s						
OBN			MLR	MLR			
	comp=Z,43nm,16.0s						
NB2	NORSAR Subarra	61.32 345	P		P	01 19 54.5	0.0
	comp=Z,1.4nm,0.8s,baz=17,slow=6.9						
NOA	NORSAR Array B	61.32 345	P		P	01 19 54.5	0.0
	comp=Z,1.8nm,0.7s,baz=17,slow=6.9,SNR=13						
NOA			LR		LR	01 49 01.4	
	comp=Z,15nm,18.1s,baz=5.0,slow=38						
NOA	NORSAR Array B	61.32 345	*e*P		P	01 19 54.8	+0.3
NOA			pmax	pmax			
	comp=Z,2.0nm,0.7s						
WMOK	Wichita Mounta	66.24 63	P		P	01 20 29.6	+2.3
WMOK			pmax	pmax			
	comp=Z,3.0nm,1.0s						
WMOK	Wichita Mounta	66.24 63	P		P	01 20 29.6	+2.3
AKASG	Malin Array Be	67.08 330	P		P	01 20 31.0	-1.3
	comp=Z,0.3nm,0.3s,baz=27,slow=6.1,SNR=2.4						
TXAR	Lajitas Array	67.99 70	P		P	01 20 41.4	+2.8
	comp=Z,0.6nm,0.7s,baz=296,slow=4.5,SNR=8.0						
TXAR	Lajitas Array	67.99 70	P		P	01 20 41.1	+2.6
KIV	Kislovodsk	68.55 318	*e*P		P	01 20 41.1	-0.8
KIV			pmax	pmax			
	comp=Z,23nm,1.0s						
KIV			MLR	MLR			
	comp=Z,93nm,17.0s						
KBZ	Khabaz	68.67 318	P		P	01 20 40.0	-2.4
	comp=Z,1.9nm,0.8s,baz=90,slow=5.1,SNR=2.5						
KBZ			LR		LR	01 55 23.1	
	comp=Z,65nm,18.6s,baz=16,slow=40						
KBZ	Khabaz	68.67 318	*e*P		P	01 20 45.7	+3.3
KBZ			pmax	pmax			
	comp=Z,2.0nm,0.9s						
KHC	Kasperske Hory	72.29 340	⇓*e*P		P	01 21 06.3	+1.7
KHC			pmax	pmax			
	comp=Z,6.0nm,1.1s						
GERES	GERESS Array B	72.54 339	P		P	01 21 06.0	-0.1
	comp=Z,0.2nm,0.3s,baz=20,slow=3.2,SNR=4.6						
GERES	GERESS Array B	72.54 339	*e*P		P	01 21 07.5	+1.4
GERES	GERESS Array B	72.54 339	P		P	01 21 05.5	-0.6
BRTR	Keskin Array B	75.53 322	LR		LR	02 00 40.0	
	comp=Z,20nm,18.2s,baz=321,slow=40						
WRA	Warramunga Arr	79.36 207	P		P	01 21 45.1	0.0
	comp=Z,0.5nm,0.9s,baz=18,slow=6.6,SNR=3.7						
ASAR	Alice Springs	83.04 207	P		P	01 22 04.7	+0.2
	comp=Z,0.8nm,0.8s,baz=17,slow=5.5,SNR=7.4						
ASAR	Alice Springs	83.04 207	P		P	01 22 04.4	-0.2
ESDC	Sonseca Array	84.17 350	P		P	01 22 10.8	+0.4
	comp=Z,0.5nm,0.7s,baz=354,slow=6.6,SNR=4.7						
ESDC	Sonseca Array	84.17 350	P		P	01 22 09.9	-0.5
NVL	N'lazarevskaya	160.59 209	*e*PKIKP		PKPdf	01 29 33.0	-4.4
NVL			pmax	pmax			
	comp=Z,7.0nm,0.7s						

MAN 18 01:10:50.7,13°.83N×120°.48E,h178km,mb4.2,ML3.0, MS2.6,1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.24	247	*e*P	Pn	01 11 18.1	+3.6
LUBP				*e*S	Sn	01 11 35.1	+2.5
PGP	Puerto Galera	0.57	125	⇑*e*P	Pn	01 11 17.1	+1.5
PGP				*i* S	Sn	01 11 36.6	+1.9
LQP	Lukban	1.07	75	⇓*e*P	Pn	01 11 20.5	+1.6
LQP				*i* S	Sn	01 11 44.2	+3.5
BOAC	Boac	1.38	105	*e*P	Pn	01 11 22.0	+0.7
BOAC				*e*S	Sn	01 11 46.7	+1.7
POLP	Polilio Island	1.68	58	*e*P	Pn	01 11 23.2	-1.0
OTRP	Odiongan	2.10	134	*e*P	Pn	01 11 28.6	-0.1
BALP	Baler	2.18	29	*e*P	Pn	01 11 30.3	+0.8
SMPP	San Manuel, Pa	2.31	5	*e*P	Pn	01 11 32.2	+1.0
SMPP				*e*S	Sn	01 12 03.0	+0.3
BOLP	Bolinao	2.59	348	*e*P	Pn	01 11 35.4	+1.0
BOLP				*e*S	Sn	01 12 09.2	+0.8

IDC ***18*** *01:35:19.8±1.4,3°.93S×130°.91E,h0km,mb3.8/3, mb1 4.0/6,mb1mx3.7/35,mbtmp3.9/6,ML3.9/3,MS2.8/1, Ms1 2.8/1,ms1mx2.4/34,Error ellipse: s-maj=57.2km s-min=21.9km az=76.0*
NEIC ***18*** *01:35:22.5±0.3,4°.01S±0°.05×131°.13E±0°.09,h37km±11km, mb4.1/8,Error ellipse: s-maj=13.4km s-min=6.8km az=88.0*

ISC 18 01:35:22.1±0.8,4°.00S±0°.05×131°.14E±0°.09,h29km,n22, σ1°.98/28,mb3.8/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.54	46	Pn	Pn	01 35 47.6	-0.1
FAKI				Sn	Sn	01 36 05.7	-1.2
SIJI	Sorong	3.11	2	Pn	Pn	01 36 09.9	+0.5
	6.5nm,0.3s,baz=212,slow=22,SNR=8.3						
SIJI				Sn	Sn	01 36 43.5	-2.1
	11nm,0.3s,baz=138,slow=23,SNR=7.2						
MTN	Manton Dam	8.79	180		Pn	01 37 27.0	-0.3
MTN				Sn	Sn	01 39 07.4	+1.9
KNRA	Kununurra	11.84	191		Pn	01 38 08.5	-0.6
KNRA					Sn	01 40 19.4	-0.9
FITZ	Fitzroy Crossi	15.01	201	Pn	Pn	01 38 52.0	-0.4
	0.4nm,0.3s,baz=2.4,slow=14,SNR=18						
FITZ				Sn	Sn	01 41 33.2	-4.6
	0.2nm,0.3s,baz=359,slow=14,SNR=2.3						
FITZ	Fitzroy Crossi	15.01	201		Pn	01 38 51.8	-0.5
FITZ					Sn	01 41 36.9	-0.9
COEN	Coen	15.46	131	Pn	Pn	01 38 58.0	-0.3
COEN				IAmb	IAmb	01 39 16.8	
	comp=Z,5.3nm,0.8s						
WB0	Warramunga Arr	15.99	169	P	Pn	01 39 04.0	-1.2
WB0				IAmb	IAmb	01 39 13.8	
	comp=Z,12nm,0.9s						
WRA	Warramunga Arr	16.15	169	Pn	Pn	01 39 06.4	-0.8
	comp=Z,0.5nm,0.3s,baz=350,slow=14,SNR=21						
WRA				Sn	Sn	01 41 59.7	-5.8
	comp=Z,0.4nm,0.3s,baz=339,slow=22,SNR=5.5						
WRA	Warramunga Arr	16.15	169	Pn	Pn	01 39 06.4	-0.8
WB2	Warramunga Arr	16.15	169	P	Pn	01 39 06.7	-0.6
WB2				IAmb	IAmb	01 39 15.6	
	comp=Z,13nm,0.8s						
WR0	Warramunga Arr	16.21	168	Pn	Pn	01 39 07.3	-0.6
WR0				IAmb	IAmb	01 39 15.7	
	comp=Z,13nm,0.8s						
AS31	Alice Springs	19.73	172	P	P	01 39 49.0	-0.7
AS31				IAmb	IAmb	01 40 00.9	
	comp=Z,4.7nm,0.3s						
ASAR	Alice Springs	19.73	172	P	Pn	01 39 53.5	+2.2
	comp=Z,1.1nm,0.3s,baz=352,slow=9.4,SNR=72						
ASAR	Alice Springs	19.73	172	P	P	01 39 49.1	-0.6
CTA	Charters Tower	21.74	139	P	P	01 40 14.9	+3.5
	comp=Z,3.8nm,0.6s,baz=341,slow=13,SNR=4.9						
GUMO	Guam	22.16	38	LR	LR	01 49 16.0	
	comp=Z,26nm,21.0s,baz=100,slow=38						
BBOO	Buckleboo	29.03	171	P	P	01 41 19.2	-0.6
STKA	Stephens Creek	29.42	162	P	P	01 41 25.9	+2.7
	comp=Z,0.6nm,0.3s,baz=319,slow=9.3,SNR=3.2						
STKA	Stephens Creek	29.42	162	P	P	01 41 22.5	-0.7
MKAR	Makanchi Array	66.38	326	P	P	01 46 09.4	+0.9
	comp=Z,0.2nm,0.5s,baz=135,slow=8.3,SNR=1.9						
MKAR	Makanchi Array	66.38	326	P	P	01 46 07.7	-0.7

ANF ***18*** *02:00:21.0±2.8,29°.68N×113°.91W,h0km,ML4.1/13,Error ellipse: s-maj=28.2km s-min=5.6km az=12.0*
IDC ***18*** *02:00:32.6±2.8,29°.77N×114°.44W,h0km,mb3.9/2, mb1 3.9/5,mb1mx3.6/48,mbtmp3.5/5,ML3.1/3,MS3.3/2, Ms1 3.3/2,ms1mx2.8/36,Error ellipse: s-maj=50.2km s-min=13.5km az=36.0*
MEX ***18*** *02:00:34.2±0.3,29°.75N×114°.65W,h17km±27km,MD3.9*
ECX ***18*** *02:00:36.4±0.6,30°.58N×114°.23W,h16km±3km,MD3.6, ML3.8*

ISC 18 02:00:34.3±1.9,30°.41N±0°.07×114°.27W±0°.04,h1km±12km, n34,σ1°.90/45,1C-6D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.80	322	*e*P	Pg	02 00 48.2	-1.3
SFX				*e*S	Sg	02 00 58.8	-1.1
SPX	San Pedro Mart	1.20	302	*e*P	Pb	02 00 56.8	-1.3
SPX				*i* S	Sg	02 01 13.8	+0.9
SPX	San Pedro Mart	1.20	302	⇓*e*P	Pb	02 00 56.8	-1.3
SPX				*e*S	Sb	02 01 12.6	-1.6
SPX				⇑*e*		02 01 23.6	
SPX				IAML		02 01 23.6	
	comp=E,1μm,0.8s						
SPX				IAML		02 01 25.1	
	comp=N,2μm,0.7s						
SPX				⇓*e*		02 01 25.1	
SPIG	San Pedro Mart	1.21	302	*e*P	Pn	02 00 56.8	-1.8
SPIG				*i* S	Sg	02 01 14.3	+1.2
SPIG	San Pedro Mart	1.21	302	⇓*e*P	Pn	02 00 56.8	-1.8
SPIG				*e*S	Sb	02 01 12.7	-1.7
ECBX	El Chinero	1.25	328	⇓*e*P	Pn	02 00 55.4

comp=N,0.1nm,0.3s,baz=182,slow=33,SNR=1.6
TXAR Lajitas Array 9.27 94 Pn **Pn 02 02 50.5 +1.3**
comp=N,0.1nm,0.3s,baz=260,slow=14,SNR=3.5
TXAR Lg Lg 02 05 29.2
comp=N,0.2nm,0.3s,baz=271,slow=21,SNR=2.3
ELK Elko 10.34 356 Pn Pn 02 03 09.8 +5.8
comp=N,0.1nm,0.3s,baz=242,slow=10,SNR=3.1
ELK Lg Lg 02 06 20.4
comp=N,0.0nm,0.3s,baz=279,slow=19,SNR=1.3
ELK LR LR 02 06 49.7
comp=N,87nm,21.1s,baz=260,slow=34
BBB Bella Bella 24.03 339 LR LR 02 16 14.2
comp=N,133nm,19.2s,baz=210,slow=38
ILAR Eielson Array 39.92 339 P **P 02 08 11.7 +2.0**
comp=N,0.9nm,0.7s,baz=150,slow=7.8,SNR=8.9
FINES FINESS Array B 82.99 18 P **P 02 13 02.1 +1.3**
comp=N,1.9nm,0.8s,baz=336,slow=3.0,SNR=4.4

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*IDC **18** 02:02:41.0±0.6, 15°.15S×173°.54W, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.3/40, mbtmp4.3/16, ML3.5/1, MS3.7/22, Ms1 3.7/22, ms1mx3.6/33, Error ellipse: s-maj=27.9km s-min=14.0km az=136.0*
*NEIC **18** 02:02:41.8±0.8, 15°.10S±0°.06×173°.38W±0°.07, h10km±1km, mb4.5/44, Error ellipse: s-maj=11.8km s-min=10.3km az=243.0*
ISC 18 02:02:45.0±0.5, 15°.08S±0°.07×173°.26W±0°.08, h30km, n99, σ1°37/72, mb4.5/30, MS3.8/23, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.85**	**51**	Pn	**Pn**	**02 03 14.1**	**-0.7**
	366nm,0.3s,baz=200,slow=3.2,SNR=143						
AFI				Sn	**Sn**	**02 03 33.0**	**-4.2**
	2μm,0.3s,baz=76,slow=21,SNR=16						
AFI				LR	LR	02 03 49.1	
	comp=Z,699nm,21.1s,baz=240,slow=32						
AFI	**Afiamalu**	**1.85**	**51**	Pn	**Pn**	**02 03 14.6**	**-0.2**
AFI				Sn	**Sn**	**02 03 33.5**	**-3.8**
NIUE	**Niue**	**5.10**	**142**	Pn	**Pn**	**02 03 58.4**	**-1.0**
RAR	**Rarotonga**	**14.19**	**117**	Pn	**Pn**	**02 06 04.3**	**+0.2**
	2.3nm,0.3s,baz=339,slow=21,SNR=1.6						
RAR				Sn	Sn	02 08 25.7	-15
	0.3nm,0.3s,baz=324,slow=19,SNR=1.7						
RAR				LR	LR	02 10 18.6	
	comp=Z,66nm,18.1s,baz=292,slow=32						
RAR	**Rarotonga**	**14.19**	**117**	Pn	**Pn**	**02 06 04.0**	**-0.1**
DZM	**Mont Dzumac**	**20.44**	**247**	*e*P	Pn	02 07 24.1	+1.7
	82nm,1.4s						
DZM				*e*LR	LR	02 12 13.0	
	comp=Z,749nm,25.5s						
DZM	**Mont Dzumac**	**20.44**	**247**	P	**P**	**02 07 17.8**	**-2.4**
	2.3nm,0.6s,baz=75,slow=18,SNR=5.3						
DZM				LR	LR	02 14 02.0	
	comp=Z,377nm,20.4s,baz=36,slow=34						
DZM	**Mont Dzumac**	**20.44**	**247**	P	**P**	**02 07 19.7**	**-0.5**
DZM				IAmb	IAmb	02 07 26.2	
	comp=Z,25nm,1.0s						
PPT	**Papeete**	**22.86**	**99**	LR	LR	02 15 04.4	
	comp=Z,48nm,19.0s,baz=280,slow=32						
PAE	**Paea**	**22.86**	**100**	*e*T	T	02 30 56.1	
	comp=Z,2.5nm,0.3s						
PPT2	**Papeete2**	**22.86**	**100**	*e*LR	LR	02 13 11.3	
	comp=Z,196nm,26.5s						
TIAR	**Tiarei**	**23.08**	**99**	*e*T	T	02 31 11.1	
	comp=Z,1.9nm,0.3s						
TVO	**Taravao**	**23.18**	**100**	*e*T	T	02 31 20.0	
	comp=Z,1.2nm,0.3s						
TBI	**Tubuai**	**23.91**	**114**	*e*LR	LR	02 13 46.5	
	comp=Z,146nm,26.0s						
TBI	**Tubuai**	**23.91**	**114**	*e*T	T	02 32 16.9	
	comp=Z,7.5nm,0.3s						
PMOR	**Pomariorio Ree**	**24.50**	**93**	*e*T	T	02 32 57.7	
	comp=Z,3.0nm,0.3s						
URZ	**Urewera**	**24.60**	**198**	P	**P**	**02 08 02.1**	**-0.5**
	comp=Z,4.4nm,0.4s,baz=357,slow=7.2,SNR=3.0						
URZ				LR	LR	02 16 19.0	
	comp=Z,307nm,18.8s,baz=31,slow=33						
HNR	**Honiara**	**26.76**	**279**	LR	LR	02 17 14.6	
	comp=Z,98nm,21.4s,baz=114,slow=33						
TAOE	**Nuku Hiva Isla**	**32.95**	**83**	*e*LR	LR	02 18 00.2	
	comp=Z,213nm,24.2s						
H11S2	**WAKE ISLAND Hy**	**38.76**	**329**	T	T	02 50 49.9	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**38.77**	**329**	T	T	02 50 53.0	
	baz=147,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.78**	**329**	T	T	02 50 44.5	
	baz=147,slow=74						
H11N3	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	02 52 48.0	
	baz=147,slow=76,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**39.71**	**330**	T	T	02 52 50.2	
	baz=147,slow=76,SNR=9.5						
H11N2	**WAKE ISLAND Hy**	**39.72**	**330**	T	T	02 52 51.7	
	baz=147,slow=76,SNR=9.2						
STKA	**Stephens Creek**	**44.31**	**240**	P	**P**	**02 10 50.5**	**-1.9**
	comp=Z,1.9nm,0.5s,baz=91,slow=12,SNR=8.2						
STKA				LR	LR	02 26 49.3	
	comp=Z,114nm,20.0s,baz=28,slow=33						
STKA	**Stephens Creek**	**44.31**	**240**	P	**P**	**02 10 51.0**	**-1.4**
WB0	**Warramunga Arr**	**50.00**	**257**	P	**P**	**02 11 35.2**	**-1.8**
WB0				IAmb	IAmb	02 11 46.0	
	comp=Z,4.8nm,0.8s						
WB2	**Warramunga Arr**	**50.03**	**256**	P	**P**	**02 11 34.7**	**-2.5**
WB2				IAmb	IAmb	02 11 46.3	
	comp=Z,3.9nm,0.8s						
WRA	**Warramunga Arr**	**50.04**	**256**	P	**P**	**02 11 34.9**	**-2.4**
	comp=Z,2.6nm,0.5s,baz=90,slow=6.9,SNR=42						
WRA				LR	LR	02 30 43.9	
	comp=Z,80nm,21.1s,baz=300,slow=34						
WRA	**Warramunga Arr**	**50.04**	**256**	P	**P**	**02 11 35.2**	**-2.1**
AS31	**Alice Springs**	**50.33**	**252**	P	**P**	**02 11 37.2**	**-2.3**
AS31				IAmb	IAmb	02 11 48.7	
	comp=Z,4.7nm,0.7s						
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**02 11 37.1**	**-2.4**
	comp=Z,5.3nm,0.4s,baz=86,slow=8.2,SNR=100						
ASAR				LR	LR	02 31 16.4	
	comp=Z,193nm,21.3s,baz=98,slow=34						
VNDA	**Vanda**	**63.70**	**186**	P	**P**	**02 13 13.9**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=12,slow=6.7,SNR=6.3						
VNDA				LR	LR	02 35 58.5	
	comp=Z,26nm,21.8s,baz=352,slow=31						
VNDA	**Vanda**	**63.70**	**186**	P	**P**	**02 13 14.4**	**+1.2**
VNDA				IAmb	IAmb	02 13 15.6	
	comp=Z,3.3nm,0.9s						
MJAR	**Matsushiro Arr**	**68.78**	**320**	LR	LR	02 38 19.8	
	comp=Z,28nm,21.4s,baz=95,slow=31						
PETK	**Petropavlovsk-**	**72.37**	**342**	P	**P**	**02 14 09.2**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=141,slow=9.3,SNR=2.1						
PETK				LR	LR	02 41 11.4	
	comp=Z,22nm,20.8s,baz=102,slow=32						
PETK	**Petropavlovsk-**	**72.37**	**342**	P	**P**	**02 14 08.5**	**+0.6**
AFDM	**Forest Hills D**	**72.61**	**40**	P	**P**	**02 14 09.2**	**-0.5**
AFDM				IAmb	IAmb	02 14 13.5	
	comp=Z,3.6nm,1.0s						
YBH	**Yreka Blue Hor**	**73.27**	**37**	P	**P**	**02 14 15.3**	**+1.7**
	comp=Z,7.5nm,0.8s,baz=173,slow=1.2,SNR=19						
YBH	**Yreka Blue Hor**	**73.27**	**37**	P	**P**	**02 14 14.3**	**+0.7**
WAKR	**Walker**	**73.32**	**41**	P	**P**	**02 14 14.6**	**+0.4**
WAKR				IAmb	IAmb	02 14 17.7	
	comp=Z,3.5nm,0.7s						
HUMO	**Hull Mountain**	**73.68**	**36**	P	**P**	**02 14 16.6**	**+0.7**
NVAR	**Mina Array Bea**	**74.01**	**42**	P	**P**	**02 14 20.7**	**+2.5**
	comp=Z,2.8nm,0.6s,baz=229,slow=9.0,SNR=21						
NVAR				LR	LR	02 40 17.2	
	comp=Z,90nm,20.4s,baz=270,slow=30						
NVAR	**Mina Array Bea**	**74.01**	**42**	P	**P**	**02 14 18.5**	**+0.3**
PAHR	**Pah Rah Range**	**74.05**	**40**	P	**P**	**02 14 18.8**	**+0.5**
PAHR				IAmb	IAmb	02 14 21.9	
	comp=Z,4.9nm,1.0s						
KVN	**Kaiserville**	**74.49**	**42**	P	**P**	**02 14 21.4**	**+0.4**
KVN				IAmb	IAmb	02 14 24.3	
	comp=Z,3.8nm,1.0s						
TPH	**Tonopah**	**74.51**	**43**	P	**P**	**02 14 21.5**	**+0.4**
TPNV	**Topopah Spring**	**74.54**	**44**	P	**P**	**02 14 21.8**	**+0.5**
MOD	**Modoc Plateau**	**74.79**	**38**	P	**P**	**02 14 23.3**	**+0.7**
K05A	**Summer Lake**	**74.94**	**37**	P	**P**	**02 14 24.1**	**+0.6**
QSPA	**South Pole Qui**	**74.96**	**180**	P	**P**	**02 14 24.5**	**+1.3**
SHPR	**Sheep Range**	**75.04**	**45**	P	**P**	**02 14 24.6**	**+0.4**
PINE	**Pine Mountain**	**75.57**	**36**	P	**P**	**02 14 27.6**	**+0.5**
PRN	**Pahroc Range**	**75.59**	**44**	P	**P**	**02 14 27.7**	**+0.4**
PRN				IAmb	IAmb	02 14 31.2	
	comp=Z,4.6nm,1.1s						
KSRS	**Korea Array**	**76.02**	**315**	LR	LR	02 42 26.8	
	comp=Z,12nm,21.7s,baz=210,slow=31						
I07A	**Izee**	**76.57**	**37**	P	**P**	**02 14 33.4**	**+0.7**
I07A				IAmb	IAmb	02 14 36.8	
	comp=Z,6.1nm,1.0s						
X16A	**Lo Mia Camp, P**	**76.61**	**49**	P	**P**	**02 14 33.4**	**+0.2**
X16A				IAmb	IAmb	02 14 37.2	
	comp=Z,4.6nm,0.9s						
U15A	**North Rim**	**76.99**	**46**	P	**P**	**02 14 35.7**	**+0.3**
U15A				IAmb	IAmb	02 14 39.5	
	comp=Z,5.1nm,1.1s						
PSUT	**Pine Spring**	**76.99**	**44**	P	**P**	**02 14 35.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**77.21**	**323**	LR	LR	02 42 32.1	
	comp=Z,32nm,21.4s,baz=132,slow=31						
ELK	**Elko**	**77.26**	**41**	P	**P**	**02 14 38.5**	**+1.8**
	comp=Z,2.4nm,0.8s,baz=245,slow=4.9,SNR=13						
ELK	**Elko**	**77.26**	**41**	P	**P**	**02 14 37.1**	**+0.4**
G08A	**Pilot Rock**	**77.60**	**36**	P	**P**	**02 14 39.1**	**+0.7**
G08A				IAmb	IAmb	02 14 41.9	
	comp=Z,5.7nm,1.1s						
MFID	**Camas Ranch**	**78.36**	**39**	IAmb	IAmb	02 14 45.9	
	comp=Z,4.5nm,0.9s						
DUG	**Dugway, Tooele**	**78.54**	**43**	IAmb	IAmb	02 14 47.0	
	comp=Z,4.1nm,0.9s						
HLID	**Hailey**	**79.30**	**39**	IAmb	IAmb	02 14 51.6	
	comp=Z,6.2nm,0.9s						
SPUT	**South Promonto**	**79.35**	**42**	P	**P**	**02 14 48.7**	**+0.5**
SRU	**San Rafael Swe**	**79.53**	**45**	P	**P**	**02 14 49.7**	**+0.4**
MNTX	**Cornudas Mount**	**79.93**	**53**	P	**P**	**02 14 51.9**	**+0.4**
TXAR	**Lajitas Array**	**80.33**	**56**	P	**P**	**02 14 56.2**	**+2.5**
	comp=Z,1.2nm,0.8s,baz=232,slow=6.2,SNR=12						
TXAR				LR	LR	02 42 20.4	
	comp=Z,57nm,21.8s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**80.33**	**56**	P	**P**	**02 14 56.4**	**+2.7**
ANMO	**Albuquerque**	**80.50**	**50**	P	**P**	**02 14 54.9**	**+0.2**
TPAW	**Teton Pass**	**81.41**	**41**	IAmb	IAmb	02 15 01.9	
	comp=Z,5.7nm,1.0s						
PDAR	**Pinedale Array**	**81.94**	**42**	P	**P**	**02 15 03.9**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=209,slow=3.1,SNR=8.4						
PDAR				LR	LR	02 45 46.4	
	comp=Z,90nm,18.7s,baz=303,slow=32						
ILAR	**Eielson Array**	**82.11**	**11**	P	**P**	**02 15 03.3**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=232,slow=6.7,SNR=12						
ILAR				LR	LR	02 44 01.0	
	comp=Z,50nm,19.8s,baz=172,slow=30						
H03S2	**Juan Fernandez**	**85.27**	**124**	T	T	03 49 54.1	
	baz=251						
H03S1	**Juan Fernandez**	**85.28**	**124**	T	T	03 49 46.1	
	baz=251						
H03S3	**Juan Fernandez**	**85.28**	**124**	T	T	03 49 39.7	
	baz=251						
MAW	**Mawson**	**88.13**	**199**	P	**P**	**02 15 32.6**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=128,slow=8.0,SNR=8.6						
MAW				LR	LR	02 52 31.7	
	comp=Z,71nm,19.7s,baz=63,slow=34						
MAW	**Mawson**	**88.13**	**199**	P	**P**	**02 15 34.2**	**+1.6**
PLCA	**Paso Flores**	**89.63**	**132**	LR	LR	02 47 29.8	
	comp=Z,32nm,20.8s,baz=165,slow=30						
YKA	**Yellowknife Ar**	**89.75**	**23**	P	**P**	**02 15 41.3**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=245,slow=4.3,SNR=2.9						
YKA				LR	LR	02 50 34.8	
	comp=Z,80nm,19.2s,baz=0.0,slow=32						
ULM	**Lac du Bonnet**	**93.60**	**39**	LR	LR	02 52 23.9	
	comp=Z,97nm,19.7s,baz=280,slow=32						
DPC	**Dobruska-Polom**	**143.97**	**350**	*e*PKP	**PKPdf**	**02 22 16.8**	**-0.8**
KHC	**Kasperske Hory**	**145.58**	**352**	*e*PKP	**PKPab**	**02 22 21.6**	**+0.8**
KHC				*ex*	x	02 22 37.4	
GERES	**GERESS Array B**	**145.85**	**352**	PKPbc	**PKPab**	**02 22 22.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=27,slow=3.3,SNR=16						
GERES	**GERESS Array B**	**145.85**	**352**	PKPdf	**PKPdf**	**02 22 20.8**	**-0.1**
BRTR	**Keskin Array B**	**145.99**	**321**	PKPbc	**PKPab**	**02 22 23.4**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=132,slow=1.8,SNR=6.8						
BRTR	**Keskin Array B**	**145.99**	**321**	PKPdf	**PKPdf**	**02 22 20.8**	**-0.7**
CONA	**Conrad Observa**	**146.39**	**349**	*i* pPKPbc	**PKPab**	**02 22 24.8**	**+0.8**
	comp=Z,4.6nm,1.0s						
MOA	**Molln**	**146.74**	**351**	*i* pPKPbc	**PKiKP**	**02 22 26.3**	**-0.5**
	comp=Z,4.4nm,1.2s						
RETA	**Reutte**	**147.52**	**355**	*i* PKiKP	**PKPab**	**02 22 28.2**	**-0.1**
	comp=Z,5.8nm,1.5s						
MOTA	**Moosalm**	**147.63**	**354**	*i* PKPab	**PKPbc**	**02 22 27.8**	**+1.0**
	comp=Z,4.4nm,1.1s						
WTTA	**Wattenberg**	**147.66**	**354**	*i* PKPab	**PKPbc**	**02 22 27.9**	**+1.1**
	comp=Z,3.3nm,0.7s						
SQTA	**Sankt Quirin**	**147.74**	**354**	*i* PKPab	**PKPbc**	**02 22 28.1**	**+1.1**
	comp=Z,1.3nm,0.5s						
SOKA	**Soboth**	**147.74**	**349**	*i* PKPab	**PKPbc**	**02 22 27.8**	**+0.8**
	comp=Z,5.1nm,1.0s						
DAVA	**Damuels**	**147.78**	**356**	*i* PKPab	**PKiKP**	**02 22 28.4**	**-0.8**
	comp=Z,5.7nm,0.8s						
ABTA	**Abfaltersbach**	**148.06**	**352**	*i* PKiKP	**PKPbc**	**02 22 28.4**	**+0.5**
	comp=Z,6.8nm,1.2s						

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*IDC **18** 02:13:19.6±0.9, 13°.76N×144°.95E, h144km±4km, mb3.2/5, mb1 3.4/5, mb1mx3.2/32, mbtmp3.6/5, Error ellipse: s-maj=43.8km s-min=18.4km az=93.0*
*NEIC **18** 02:13:20.4±1.3, 13°.7N±0°.1×144°.7E±0°.2, h145km±6km, mb3.9/9, Error ellipse: s-maj=36.8km s-min=13.0km az=114.0*
ISC 18 02:13:20.2±0.9, 13°.7N±0°.1×144°.8E±0°.3, h147km±8km, n18, σ0°67/19, mb3.8/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.13**	**150**	P	**Pn**	**02 13 40.4**	**+0.3**
	293nm,0.3s,baz=135,slow=2.9,SNR=133						
GUMO				S	**Sn**	**02 13 54.8**	**-0.4**
	210nm,0.3s,baz=181,slow=24,SNR=10						
ERM	**Erimo**	**28.25**	**357**	P	**P**	**02 18 59.7**	**+0.3**
WB0	**Warramunga Arr**	**34.80**	**197**	P	**P**	**02 19 57.1**	**+0.1**
WB0				IAmb	IAmb	02 20 12.7	
	comp=Z,2.2nm,1.1s						
WB2	**Warramunga Arr**	**34.98**	**197**	P	**P**	**02 19 59.2**	**+0.6**
WB2				IAmb	IAmb	02 20 00.1	
	comp=Z,2.4nm,1.0s						
WRA	**Warramunga Arr**	**34.98**	**197**	P	**P**	**02 19 59.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=19,slow=9.0,SNR=8.4						
WRA	**Warramunga Arr**	**34.98**	**197**	P	**P**	**02 19 57.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**36.82**	**211**	P	**P**	**02 20 14.3**	**+0.1**
ASAR	**Alice Springs**	**38.64**	**196**	P	**P**	**02 20 29.8**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=16,slow=14,SNR=9.4						
ASAR	**Alice Springs**	**38.64**	**196**	P	**P**	**02 20 29.2**	**-0.3**
ULN	**Ulaanbaatar**	**46.26**	**325**	P	**P**	**02 21 30.2**	**-0.7**
ULN				IAmb	IAmb	02 21 43.9	
	comp=Z,2.5nm,0.3s						
SONM	**Songino Array**	**46.60**	**325**	P	**P**	**02 21 33.9**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=111,slow=7.9,SNR=2.1						
SONM	**Songino Array**	**46.60**	**325**	P	**P**	**02 21 33.7**	**+0.1**
MK31	**Makanchi Array**	**61.37**	**316**	P	**P**	**02 23 20.9**	**+0.3**
MK31				IAmb	IAmb	02 23 30.1	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**61.37**	**316**	P	**P**	**02 23 20.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=94,slow=8.7,SNR=7.9						
MKAR	**Makanchi Array**	**61.37**	**316**	P	**P**	**02 23 20.4**	**-0.2**
IL31		**68.50**	**25**	P	**P**	**02 24 06.7**	**+0.5**
IL31				IAmb	IAmb	02 24 18.6	
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**68.50**	**25**	P	**P**	**02 24 04.8**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=242,slow=5.3,SNR=5.7						
ILAR	**Eielson Array**	**68.50**	**25**	P	**P**	**02 24 06.9**	**+0.6**

IDC 18 02:36:16.3±3.2, 22°.68S×171°.73E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/33, mbtmp3.6/4, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=142.2km s-min=45.5km az=163.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.93**	**276**	Pn	Pn	02 37 32.6	+0.8
	1.1nm,0.3s,baz=103,slow=19,SNR=15						
DZM				Sn	Sn	02 38 24.6	-5.0
	0.5nm,0.3s,baz=84,slow=18,SNR=2.4						
URZ	**Urewera**	**16.20**	**165**	LR	LR	02 44 46.2	
	comp=Z,103nm,21.1s,baz=32,slow=32						
ASAR	**Alice Springs**	**34.73**	**261**	P	P	02 43 07.8	-0.6
	0.7nm,0.8s,baz=90,slow=8.5,SNR=7.5						
WRA	**Warramunga Arr**	**34.89**	**267**	P	P	02 43 09.3	-0.4
	0.2nm,0.4s,baz=97,slow=8.4,SNR=5.2						
FITZ	**Fitzroy Crossi**	**43.32**	**267**	P	P	02 44 20.7	+0.4
	1.3nm,0.8s,baz=179,slow=7.8,SNR=2.9						
GERES	**GERESS Array B**	**148.60**	**332**	PKPbc	PKPbc	02 56 04.9	-0.5
	0.1nm,0.4s,baz=56,slow=2.5,SNR=2.7						

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*IDC **18** 03:17:01.1±7.2, 0°.03N×123°.37E, h105km±64km, mb3.4/5, mb1 3.6/7, mb1mx3.3/39, mbtmp3.8/7, MS2.7/1, Ms1 2.7/1, ms1mx2.3/24, Error ellipse: s-maj=82.0km s-min=22.4km az=57.0*

ISC 18 03:17:00.7±1.3, 0°.1S±0°.1×123°.4E±0°.1, h100km, n9, σ2°26/9, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.13**	**217**	P	**Pn**	**03 18 29.5**	**+0.7**
	5.5nm,0.3s,baz=44,slow=6.4,SNR=12						
KAPI				S	**Sn**	**03 19 33.8**	**-3.8**
	1.2nm,0.3s,baz=18,slow=20,SNR=2.2						
SIJI	**Sorong**	**7.87**	**96**	S	**Sn**	**03 20 17.1**	**-3.0**
	4.4nm,0.3s,baz=204,slow=22,SNR=2.4						
FITZ	**Fitzroy Crossi**	**18.05**	**173**	P	**P**	**03 21 05.5**	**+1.3**
	0.2nm,0.3s,baz=0.7,slow=9.8,SNR=8.0						
WRA	**Warramunga Arr**	**22.45**	**152**	P	**P**	**03 21 52.6**	**+0.9**
	1.9nm,0.7s,baz=334,slow=10,SNR=28						
GUMO	**Guam**	**25.20**	**57**	LR	LR	03 32 37.3	
	comp=Z,17nm,18.3s,baz=134,slow=37						
ASAR	**Alice Springs**	**25.56**	**157**	P	**P**	**03 22 21.6**	**+1.1**
	0.5nm,0.8s,baz=340,slow=14,SNR=6.8						
STKA	**Stephens Creek**	**36.00**	**153**	P	**P**	**03 23 53.8**	**+1.6**
	1.5nm,0.5s,baz=332,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**58.90**	**328**	P	**P**	**03 26 48.5**	**-0.8**
	0.7nm,0.9s,baz=129,slow=8.1,SNR=4.1						
VNDA	**Vanda**	**80.12**	**172**	P	**P**	**03 28 59.3**	**+0.2**
	0.9nm,0.8s,baz=319,slow=7.0,SNR=5.9						

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*REY **18** 03:17:08.8, 64°.67N×17°.41W, h6km*
*IDC **18** 03:17:10.8±0.6, 64°.64N×17°.61W, h0km, mb3.9/15, mb1 4.1/17, mb1mx3.9/42, mbtmp3.9/17, ML2.3/1, MS2.8/6, Ms1 2.8/6, ms1mx2.7/48, Error ellipse: s-maj=20.6km s-min=9.6km az=13.0*
*NEIC **18** 03:17:10.6±1.9, 64°.73N±0°.09×17°.8W±0°.1, h7km±4km, mb4.6/34, Error ellipse: s-maj=13.6km s-min=8.5km az=183.0*
*BGR **18** 03:17:13.5±0.0, 64°.55N×17°.61W, h10km, mb4.2*
ISC 18 03:17:11.1±0.4, 64°.68N±0°.02×17°.49W±0°.02, h10km, n123, σ2°51/122, mb4.2/40, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**265**	P	**Pg**	**03 17 12.0**	**-2.0**
	baz=270						
IDYN	**Dyngjuhals**	**0.12**	**26**	P	**Pg**	**03 17 11.4**	**-2.7**
	baz=8.2						
IDYN				S	**Sg**	**03 17 14.2**	**-2.0**
	baz=8.2						
IURH	**Urdarhals**	**0.20**	**47**	P	**Pg**	**03 17 12.7**	**-2.7**
	baz=37						
IDJK	**Dyngjujokull**	**0.21**	**149**	P	**Pg**	**03 17 12.6**	**-3.0**
	baz=156						
IDJK				S	**Sg**	**03 17 15.9**	**-2.7**
	baz=156						
IGRF	**Grimsfjall**	**0.29**	**161**	P	**Pg**	**03 17 14.0**	**-3.1**
	baz=167						
IKVE	**Kverkfjoll**	**0.35**	**91**	P	**Pg**	**03 17 14.9**	**-3.2**
	baz=89						
IBJK	**Bruarjokull**	**0.38**	**124**	P	**Pg**	**03 17 15.3**	**-3.5**
	baz=126						
IHUS	**Husbondi**	**0.40**	**191**	P	**Pg**	**03 17 16.3**	**-2.7**
	baz=196						
IHUS				S	**Sg**	**03 17 21.8**	**-2.4**
	baz=196						
ISKR	**Skrokkalda**	**0.41**	**253**	P	**Pg**	**03 17 16.6**	**-2.6**
	baz=256						
IVOT	**Vottur**	**0.44**	**162**	P	**Pg**	**03 17 16.5**	**-3.2**
	baz=166						
IKRE	**Kreppuhraun**	**0.48**	**78**	P	**Pg**	**03 17 17.0**	**-3.6**
	baz=75						
IKRE				S	**Sg**	**03 17 24.4**	**-2.6**
	baz=75						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**03 17 17.8**	**-2.8**
	baz=225						
IJOK				S	**Sg**	**03 17 26.0**	**-1.1**
	baz=225						
IASK	**Askja**	**0.52**	**44**	P	**Pg**	**03 17 17.8**	**-3.4**
	baz=40						
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**	**03 17 18.8**	**-3.5**
	baz=56						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**03 17 20.5**	**-3.2**
	baz=209						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**03 17 20.7**	**-3.3**
	baz=5.4						
IKSK	**Karasker**	**0.69**	**140**	P	**Pg**	**03 17 19.9**	**-4.5**
	baz=141						
IKAL	**Kalfafell**	**0.74**	**187**	P	**Pg**	**03 17 21.9**	**-3.5**
	baz=190						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P	**Pg**	**03 17 21.7**	**-4.2**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**03 17 23.6**	**-2.9**
	baz=234						
IADA	**Aoalbol**	**0.88**	**67**	P	**Pg**	**03 17 23.6**	**-4.6**
	baz=65						
IHVE	**Hveravellir**	**0.91**	**283**	S	**Sg**	**03 17 38.6**	**-1.9**
	baz=283						
IMEL	**Melhnausar**	**0.96**	**21**	P	**Pg**	**03 17 25.3**	**

KHC				*e*S	**S**	**03 26 26.0**	**+5.6**
KHC	**Kasperske Hory**	**22.68**	**118**		**P**	**03 22 13.4**	**+1.0**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**03 22 16.7**	**+3.4**
SUW	**Suwalki**	**22.88**	**98**	P	**P**	**03 22 15.0**	**+0.6**
SUW				IAmb	IAmb	03 22 20.9	
	comp=Z,24nm,1.1s						
DAVA	**Damuels**	**22.89**	**126**	*e*pP	**P**	**03 22 18.7**	**+3.9**
	comp=Z,12nm,1.1s						
GEC2	**GERESS Array S**	**22.96**	**119**	P	**P**	**03 22 17.2**	**+1.7**
GEC2				IAmb	IAmb	03 22 35.6	
	comp=Z,18nm,1.6s						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**03 22 17.1**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=325,slow=8.1,SNR=10						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**03 22 17.0**	**+1.5**
MOTA	**Moosalm**	**23.27**	**125**	*i* pP	**P**	**03 22 23.0**	**+4.4**
	comp=Z,7.4nm,1.1s						
DAVOX	**Davos/Dischmat**	**23.33**	**127**	P	**P**	**03 22 20.8**	**+1.5**
	comp=Z,3.6nm,0.8s,baz=312,slow=12,SNR=5.1						
SQTA	**Sankt Quirin**	**23.41**	**125**	*i* pP	**P**	**03 22 23.5**	**+3.4**
	comp=Z,12nm,1.8s						
FETA	**Feichten**	**23.41**	**125**	*i* pP	**P**	**03 22 25.0**	**+4.9**
	comp=Z,7.3nm,1.3s						
TUE	**Stuetta**	**23.41**	**128**	P	**P**	**03 22 21.8**	**+1.6**
VRAC	**Vranov**	**23.70**	**114**	P	**P**	**03 22 25.0**	**+2.2**
	comp=Z,1.3nm,0.4s,baz=333,slow=11,SNR=4.9						
VRAC	**Vranov**	**23.70**	**114**	*e*P	**P**	**03 22 25.1**	**+2.4**
MORC	**Moravsky Berou**	**23.70**	**112**	*e*P	**P**	**03 22 24.8**	**+2.0**
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**	**03 22 25.1**	**+2.3**
MORC				IAmb	IAmb	03 22 29.2	
	comp=Z,24nm,1.6s						
KRUC	**Moravsky**	**23.82**	**115**	*e*P	**P**	**03 22 25.5**	**+1.6**
ABTA	**Abfaltersbach**	**24.28**	**123**	*i* P	**P**	**03 22 29.5**	**+1.2**
	comp=Z,9.4nm,1.2s						
KBA	**Koelnbreinsper**	**24.30**	**122**	*i* pP	P	03 22 34.8	+6.1
	comp=Z,7.5nm,1.7s						
CONA	**Conrad Observa**	**24.54**	**117**	*i* P	**P**	**03 22 32.1**	**+1.5**
	comp=Z,5.1nm,1.0s						
CTI	**Castel Tesino**	**24.57**	**125**	P	**P**	**03 22 31.4**	**+0.4**
CTI				IAmb	IAmb	03 22 44.1	
	comp=Z,21nm,1.5s						
ZOU	**Zoufplan**	**24.61**	**123**	P	**P**	**03 22 33.3**	**+1.8**
ZOU				IAmb	IAmb	03 22 45.9	
	comp=Z,12nm,1.4s						
CIMO	**Cimolais**	**24.63**	**124**	P	**P**	**03 22 32.7**	**+1.2**
CIMO				IAmb	IAmb	03 22 44.9	
	comp=Z,19nm,1.7s						
SMOL	**Smolenice**	**24.66**	**114**	*e*P	**P**	**03 22 34.5**	**+2.8**
MODS	**Modra-Piesok**	**24.72**	**115**	*e*P	**P**	**03 22 37.2**	**+5.0**
PRED	**Cave del Predi**	**24.92**	**122**	P	**P**	**03 22 34.7**	**+0.6**
PRED				IAmb	IAmb	03 22 40.8	
	comp=Z,8.7nm,1.2s						
LANS	**Liptovska Anna**	**24.97**	**111**	*e*P	**P**	**03 22 37.6**	**+3.1**
VYHS	**Vyhne**	**25.24**	**112**	*e*P	**P**	**03 22 39.9**	**+3.0**
SOKA	**Soboth**	**25.26**	**120**	*i* pP	**P**	**03 22 38.8**	**+1.6**
	comp=Z,5.5nm,1.1s						
KLMR	**Klimovskoe**	**25.59**	**72**	*e*	**P**	**03 22 41.4**	**+1.4**
KLMR				AMP		03 22 43.1	
	comp=Z,14nm,1.3s						
PSZ	**Piszkesteto**	**26.12**	**112**	P	**P**	**03 22 46.0**	**+1.1**
PSZ				IAmb	IAmb	03 22 51.5	
	comp=Z,18nm,1.4s						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**03 22 47.3**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=348,slow=9.3,SNR=11						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**03 22 47.1**	**+0.8**
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P	**P**	**03 22 50.1**	**+3.8**
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**03 23 00.9**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=320,slow=9.4,SNR=4.9						
BRTR	**Keskin Array B**	**38.48**	**105**	P	**P**	**03 24 34.8**	**+1.6**
	comp=Z,2.6nm,0.9s,baz=333,slow=6.5,SNR=3.6						
KBZ	**Khabaz**	**39.11**	**92**	P	**P**	**03 24 40.2**	**+2.0**
	comp=Z,6.1nm,0.9s,baz=313,slow=8.0,SNR=6.7						
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**03 25 03.1**	**+1.3**
BRVK	**Borovoye**	**43.12**	**62**	P	**P**	**03 25 11.3**	**+0.3**
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**03 25 33.2**	**+1.8**
	comp=Z,1.1nm,0.9s,baz=17,slow=5.8,SNR=6.1						
ILAR				PcP	**PcP**	**03 27 10.2**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=356,slow=3.6,SNR=5.6						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**03 25 31.3**	**-0.1**
ILAR					**PcP**	**03 27 10.0**	**+0.9**
ZALV	**Zalesovo Beam**	**47.62**	**51**	P	**P**	**03 25 47.8**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=328,slow=10,SNR=1.3						
KURK	**Kurchatov**	**48.10**	**58**	P	**P**	**03 25 49.3**	**-1.1**
KURK				IAmb	IAmb	03 25 53.4	
	comp=Z,5.5nm,0.9s						
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**03 26 16.1**	**+1.4**
MKAR	**Makanchi Array**	**52.71**	**58**	P	**P**	**03 26 27.0**	**+1.5**
	comp=Z,2.0nm,1.0s,baz=30,slow=5.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**03 26 29.9**	**+0.9**
	comp=Z,2.0nm,1.0s,baz=345,slow=7.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**03 26 30.2**	**+1.2**
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**03 26 29.9**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=64,slow=6.9,SNR=8.9						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**03 26 28.7**	**-0.5**
BW06	**Boulder Array**	**53.17**	**293**	IAmb	IAmb	03 26 38.5	
	comp=Z,6.3nm,1.2s						
BTK	**Batken**	**53.95**	**72**	P	**P**	**03 26 36.3**	**+1.6**
BTK				IAmb	IAmb	03 26 41.4	
	comp=Z,27nm,1.6s						
OK029	**Liberty Lake**	**54.08**	**279**	P	**P**	**03 26 33.9**	**-1.7**
OK025	**Westminster Rd**	**54.21**	**278**	P	**P**	**03 26 36.7**	**+0.1**
U32A	**Winter Ranch,**	**54.24**	**280**	IAmb	IAmb	03 26 52.9	
	comp=Z,20nm,0.6s						
BCOK	**Bluff Creek, N**	**54.27**	**279**	P	**P**	**03 26 37.1**	**+0.1**
OKCFA	**Oklahoma City**	**54.40**	**278**	P	**P**	**03 26 38.2**	**+0.3**
HWUT	**Hardware Ranch**	**54.95**	**294**	IAmb	IAmb	03 26 47.8	
	comp=Z,5.7nm,1.1s						
PV02	**Paradox Valley**	**56.72**	**290**	P	**P**	**03 26 53.5**	**-1.4**
PV02				IAmb	IAmb	03 26 57.7	
	comp=Z,5.2nm,1.0s						
PV13	**Radium Mtn., P**	**56.80**	**290**	IAmb	IAmb	03 26 59.6	
	comp=Z,5.2nm,0.8s						
MVU	**Marysvale**	**57.86**	**293**	P	**P**	**03 27 01.4**	**-1.5**
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**03 27 16.2**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=339,slow=7.9,SNR=3.5						
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**03 27 14.9**	**-0.1**
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**03 27 34.5**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=45,slow=3.7,SNR=4.3						
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**03 27 32.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**03 29 43.8**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=324,slow=8.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**03 29 42.2**	**0.0**
ASAR	**Alice Springs**	**134.95**	**38**	PKP	**PKiKP**	**03 36 30.5**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=352,slow=3.3,SNR=5.5						

*IDC **18** 03:21:51.2±2.8, 31°.49S×126°.95E, h0km, mb1 3.6/5, mb1mx3.4/31, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=36.6km s-min=24.6km az=157.0*
*AUST **18** 03:21:51.6±0.3, 31°.65S×126°.97E, h15km, Error ellipse: s-maj=4.8km s-min=2.5km az=174.0*
ISC 18 03:21:49.4±0.8, 31°.69S±0°.08×126°.96E±0°.04, h10km, n22, σ2§96/40, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORT	**Forrest**	**1.30**	**46**	P	**Pg**	**03 22 16.3**	**+1.9**
	baz=1.3,SNR=41						
FORT				S	**Sn**	**03 22 32.8**	**+1.7**
	baz=1.3,SNR=10						
KMBL	**Kambalda**	**4.35**	**273**	P	**Pn**	**03 22 58.2**	**+2.6**
	baz=4.3						
KMBL				S	**Sn**	**03 23 49.5**	**+3.1**
	baz=4.3						
MULG	**Mulgathing**	**6.25**	**79**	P	**Pn**	**03 23 24.7**	**+3.0**
	baz=6.2,SNR=15						
MULG				S	**Sn**	**03 24 34.2**	**+1.0**
	baz=6.2						
WRKA	**Warakurna**	**6.73**	**10**	P	**Pn**	**03 23 32.2**	**+3.9**
	baz=6.7,SNR=6.5						
WRKA				S	**Sn**	**03 24 47.0**	**+1.9**
	baz=6.7						
BBOO	**Buckleboo**	**7.79**	**101**	P	**Pn**	**03 23 45.2**	**+2.4**
	baz=7.8						
BBOO				S	**Sn**	**03 25 09.7**	**-1.3**
	baz=7.8						
KLBR	**Kellerberrin**	**7.85**	**268**	P	**Pn**	**03 23 44.4**	**+0.7**
	baz=7.8						
KLBR				S	**Sn**	**03 25 10.0**	**-2.7**
	baz=7.8						
NWAO	**Narrogin (SRO)**	**8.33**	**259**	Pn	**Pn**	**03 23 53.9**	**+3.6**
	0.1nm,0.3s,baz=106,slow=16,SNR=1.5						
NWAO				Sn	**Sn**	**03 25 23.1**	**-1.3**
	1.4nm,0.3s,baz=53,slow=18,SNR=6.5						
NWAO				Lg	Lg	03 26 08.7	
	5.4nm,0.3s,baz=196,slow=18,SNR=13						
NWAO	**Narrogin (SRO)**	**8.33**	**259**	P	**Pn**	**03 23 50.9**	**+0.7**
	baz=8.3						
NWAO				S	**Sn**	**03 25 22.3**	**-2.1**
	baz=8.3						
OOD	**Oodnadatta**	**8.52**	**65**	P	**Pn**	**03 23 54.6**	**+1.8**
	baz=8.5,SNR=35						
OOD				S	**Sn**	**03 25 25.3**	**-3.7**
	baz=8.5						
BLDU	**Ballidu**	**8.85**	**274**	P	**Pn**	**03 23 58.5**	**+1.0**
	baz=8.8						
BLDU				S	**Sn**	**03 25 32.0**	**-5.3**
	baz=8.8						
MEEK	**Meekatharra**	**8.86**	**302**	P	**Pn**	**03 23 58.8**	**+1.2**
	baz=8.8,SNR=7.3						
MEEK				S	**Sn**	**03 25 33.3**	**-4.3**
	baz=8.8						
LCRK	**Leigh Creek**	**9.73**	**86**	P	**Pn**	**03 24 10.9**	**+1.4**
	baz=9.7,SNR=3.7						
LCRK				S	**Sn**	**03 25 55.2**	**-3.6**
	baz=9.7						
MORW	**Morawa**	**9.79**	**283**	P	**Pn**	**03 24 11.3**	**+1.1**
	baz=9.8						
MORW				S	**Sn**	**03 25 55.2**	**-5.0**
	baz=9.8						
ASAR	**Alice Springs**	**10.08**	**39**	Pn	**Pn**	**03 24 15.6**	**+1.3**
	0.3nm,0.3s,baz=219,slow=11,SNR=10						
ASAR				Sn	**Sn**	**03 26 01.5**	**-6.0**
	0.2nm,0.3s,baz=225,slow=22,SNR=3.9						
ASAR				Lg	Lg	03 27 07.9	
	0.4nm,0.3s,baz=223,slow=28,SNR=5.1						
HTT	**Hallett**	**10.24**	**103**	P	**Pn**	**03 24 18.1**	**+1.6**
	baz=10,SNR=4.3						
HTT				S	**Sn**	**03 26 07.6**	**-3.8**
	baz=10						
STKA	**Stephens Creek**	**12.45**	**95**	Pn	**Pn**	**03 24 49.5**	**+2.8**
	0.1nm,0.3s,baz=275,slow=11,SNR=1.7						
STKA				Sn	**Sn**	**03 27 01.8**	**-3.7**
	0.3nm,0.3s,baz=339,slow=11,SNR=3.2						
STKA				Lg	Lg	03 28 23.4	
	0.2nm,0.3s,baz=358,slow=17,SNR=2.2						
STKA	**Stephens Creek**	**12.45**	**95**	P	**Pn**	**03 24 47.3**	**+0.6**
	baz=12						
STKA				S	**Sn**	**03 27 00.0**	**-5.5**
	baz=12						
WRA	**Warramunga Arr**	**13.44**	**31**	Pn	**Pn**	**03 25 01.2**	**+0.9**
	0.2nm,0.3s,baz=205,slow=12,SNR=11						
WRA				Sn	**Sn**	**03 27 25.9**	**-4.0**
	0.2nm,0.3s,baz=211,slow=23,SNR=3.3						
WRA				Lg	Lg	03 28 53.9	
	0.1nm,0.3s,baz=214,slow=29,SNR=3.6						
WB2	**Warramunga Arr**	**13.45**	**31**	P	**Pn**	**03 25 01.9**	**+1.5**
	baz=13						
FITZ	**Fitzroy Crossi**	**13.58**	**355**	Pn	**Pn**	**03 25 03.5**	**+1.3**
	0.1nm,0.3s,baz=176,slow=13,SNR=2.1						
FITZ				Sn	Sn	03 27 25.0	-8.2
	0.1nm,0.3s,baz=350,slow=12,SNR=0.9						
FITZ	**Fitzroy Crossi**	**13.58**	**355**	P	**Pn**	**03 25 03.3**	**+1.1**
	baz=14						
GIRL	**Giralia**	**14.46**	**305**	P	**Pn**	**03 25 15.5**	**+1.2**
	baz=14						

*SOME **18** 03:31:47.4, 39°.50N×71°.90E, h0km*
*NNC **18** 03:31:49.4±4.7, 39°.38N×71°.45E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=40.3km s-min=23.4km az=34.0*
ISC 18 03:31:50.1±4.4, 38°.9N±0°.2×71°.7E±0°.1, h34km, n9, σ2§29/13, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.49**	**339**	*e*P	**Pn**	**03 32 42.8**	**+0.9**
	22nm,0.2s						
IUG				*e*S	**Sn**	**03 33 22.4**	**+0.3**
	36nm,0.7s						
IUG	**Iuzhnay**	**3.49**	**339**	Pg	**Pn**	**03 32 41.0**	**-1.0**
	18nm,0.4s						
IUG				Lg	Lg	03 33 21.6	
	36nm,0.7s						
MRKS	**Merke**	**4.00**	**16**	*e*P	**Pn**	**03 32 50.1**	**+1.1**
	3.8nm,0.2s						
MRKS				*e*S	**Sn**	**03 33 35.8**	**+1.1**
	17nm,0.4s						
MRKS	**Merke**	**4.00**	**16**	Pg	**Pn**	**03 32 49.0**	**+0.1**
	3.3nm,0.3s						
MRKS				Lg	Lg	03 33 35.7	
	17nm,0.4s						
AAK	**Ala-Archa**	**4.27**	**28**	⇑Pn	**Pn**	**03 32 52.7**	**-0.2**
	4.7nm,0.6s						
AAK				⇓Lg	Lg	03 33 51.8	
	7.9nm,0.6s						
KK31	**Karatay Array**	**4.29**	**348**	⇑Pn	**Pn**	**03 32 49.9**	**-3.0**
	3.1nm,0.4s,baz=169,slow=13,SNR=36						
KK31				⇑Sn	**Sn**	**03 33 37.9**	**-4.0**
	1.5nm,0.3s,baz=169,slow=23,SNR=3.8						
KK31				⇓Lg	Lg	03 33 50.4	
	3.3nm,0.4s,baz=166,slow=28,SNR=4.7						
BRLS	**Borolday**	**4.36**	**341**	*e*P	**Pn**	**03 32 57.0**	**+3.1**
	3.0nm,0.3s						
BRLS				*e*S	**Sn**	**03 33 46.9**	**+3.4**
	8.7nm,0.5s						
BRLS	**Borolday**	**4.36**	**341**	Pg	**Pn**	**03 32 52.6**	**-1.3**
	3.4nm,0.3s						
BRLS				Lg	Lg	03 33 41.8	
	7.0nm,0.5s						
TKM2	**Tokmak 2**	**4.96**	**35**	⇑Pn	**Pn**	**03 33 01.8**	**-0.5**
	1.4nm,0.5s						
TKM2				⇓Lg	Lg	03 34 15.6	
	3.6nm,0.6s						

*ECX **18** 03:41:27.3±0.7, 30°.59N×114°.25W, h12km±6km, MD3.0, ML3.1*
*MEX **18** 03:41:28.2±0.4, 31°.51N×114°.13W, h15km±9km, MD3.8*
ISC 18 03:41:25.9±2.8, 30°.6N±0°.1×114°.22W±0°.08, h16km±13km, n11, σ0§50/15, 2C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.68**	**307**	⇓*e*P	**Pg**	**03 41 39.0**	**-0.3**
SFX				*e*S	**Sg**	**03 41 49.0**	**+0.7**
ECBX	**El Chinero**	**1.10**	**320**	*e*P	**Pb**	**03 41 45.8**	**-0.8**
ECBX				*e*S	**Sb**	**03 42 00.5**	**-0.2**
PIX	**Pinacate**	**1.13**	**35**	*e*P	**Pn**	**03 41 47.5**	**+0.4**
SPX	**San Pedro Mart**	**1.15**	**291**	*e*P	**Pb**	**03 41 47.4**	**-0.2**
SPX				*i* S	**Sb**	**03 42 02.0**	**-0.3**
SPX	**San Pedro Mart**	**1.15**	**291**	*e*P	**Pb**	**03 41 47.3**	**-0.3**
SPX				*e*S	**Sb**	**03 42 03.1**	**+0.7**
SPX				⇑*e*		03 42 13.7	
SPX				IAML		03 42 13.7	
	comp=N,316nm,0.4s						
SPIG	**San Pedro Mart**	**1.15**	**291**	*e*P	**Pb**	**03 41 47.4**	**-0.2**
SPIG				*e*S	**Sb**	**03 42 02.5**	**+0.1**
SPIG	**San Pedro Mart**	**1.15**	**291**	⇓*e*P	**Pb**	**03 41 47.4**	**-0.2**
SPIG				*e*S	**Sb**	**03 42 03.1**	**+0.7**
SQX	**San Quintin**	**1.43**	**268**	*e*P	**Pn**	**03 41 51.1**	**-0.1**
SQX				*e*S	**Sn**	**03 42 09.8**	**+0.1**
CPBX	**Cerro Prieto**	**2.01**	**333**	⇓*e*		03 43 11.3	
CPBX				IAML		03 43 11.3	
	comp=N,344nm,0.7s						
CBX	**Cerro Bola**	**2.68**	**309**	*e*P	Pn	03 42 03.1	-5.4
CBX				*i* S	Sn	03 42 28.9	-12
CBX	**Cerro Bola**	**2.68**	**309**	IAML		03 43 08.4	
	comp=E,130nm,0.7s						
CBX				⇑*e*		03 43 08.8	
CBX				IAML		03 43 08.8	
	comp=N,97nm,0.5s						

*VAO **18** 03:42:53.4±0.8, 18°.75S×69°.93W, h90km±6km, mb4.4*
*NEIC **18** 03:42:53.4±1.2, 18°.82S±0°.04×70°.15W±0°.08, h95km±3km, mb4.7/101, Mwr4.3/21, ML4.8(GUC), ML4.6(ARE), Error ellipse: s-maj=10.8km s-min=5.3km az=97.0*
*NEIC **18** 03:42:53.3, 18°.82S×70°.13W, h92km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.31; $M_{\theta\theta}$=0.88; $M_{\phi\phi}$=-0.57; $M_{r\theta}$=-2.09; $M_{\theta\phi}$=-0.03; $M_{\phi r}$=-3.16; Fault plane solution: M_0=3.87000×10^{15} NP1:φs=300.76000°, δ10.09000°, λ=-4.69000°. NP2:φs=35.37000°, δ89.18000°, λ=-100.06000°. Principal axes: T 3.6288, Plg43.0000°, Azm135.0000°; N 0.4479, Plg10.0000°, Azm36.0000°; P -4.0767, Plg45.0000°, Azm295.0000°;*
*GUC **18** 03:42:54.7±0.7, 18°.75S×70°.07W, h97km±3km, ML4.7*
*ARE **18** 03:42:54±2.4, 18°.82S±0°.03×70°.15W±0°.08, h87km±4km, Error ellipse: s-maj=10.4km s-min=3.8km az=102.0*

*IDC **18** 03:42:54.9±1.2, 18°.82S×69°.90W, h109km±11km, mb4.0/12, mb1 4.1/16, mb1mx3.9/38, mbtmp4.3/16, MS2.8/6, Ms1 2.8/6, ms1mx2.8/25, Error ellipse: s-maj=15.4km s-min=8.3km az=91.0*
ISC 18 03:42:53.2±0.5, 18°.79S±0°.03×70°.05W±0°.05, h96km±4km, n204, σ1§28/201, mb4.6/51, 3C-10D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.32**	**304**	⇓*i*P	**Pn**	**03 43 08.5**	**+0.8**
PB12				*i* S	**Sn**	**03 43 18.9**	**+0.6**
PB12	**IPOC Station P**	**0.32**	**304**		**Pn**	**03 43 07.8**	**+0.1**
PB12				Sn	**Sn**	**03 43 18.8**	**+0.5**
AP01	**Chacalluta**	**0.50**	**327**	⇑*i*P	**Pn**	**03 43 09.5**	**+0.8**
AP01				*i* S	**Sn**	**03 43 20.7**	**+0.5**
AP01				IAML		03 43 23.2	
	comp=E,43μm,0.8s						
AP01	**Chacalluta**	**0.50**	**327**		**Pn**	**03 43 09.5**	**+0.8**
AP01				Sn	**Sn**	**03 43 20.7**	**+0.5**
MNMC	**Minye Minye**	**0.55**	**128**	⇓*i*P	**Pn**	**03 43 11.1**	**+1.8**
MNMC				*i* S	**Sn**	**03 43 23.2**	**+1.9**
MNMC	**Minye Minye**	**0.55**	**128**		**Pn**	**03 43 09.4**	**+0.1**
MNMC				Sn	**Sn**	**03 43 20.9**	**-0.4**
PB16	**IPOC Station P**	**0.69**	**49**	⇓*i*P	**Pn**	**03 43 12.3**	**+1.4**
PB16				*i* S	**Sn**	**03 43 26.1**	**+2.1**
PB16	**IPOC Station P**	**0.69**	**49**		**Pn**	**03 43 11.2**	**+0.3**
PB16				Sn	**Sn**	**03 43 23.9**	**-0.1**
PSGC	**Pisagua**	**0.80**	**185**	⇓*i*P	**Pn**	**03 43 12.8**	**+1.3**
PSGC				*i* S	**Sn**	**03 43 26.5**	**+1.5**
PSGCX	**Pisagua**	**0.80**	**185**	Pn	**Pn**	**03 43 11.6**	**+0.2**
PSGCX				Sn	**Sn**	**03 43 24.0**	**-1.1**
PB11	**IPOC Station P**	**1.03**	**159**	⇓*i*P	**Pn**	**03 43 15.5**	**+1.6**
PB11				*i* S	**Sn**	**03 43 31.7**	**+2.2**
PB11	**IPOC Station P**	**1.03**	**159**	Pn	**Pn**	**03 43 14.5**	**+0.6**
PB11				Sn	**Sn**	**03 43 30.0**	**+0.5**
GO01	**Chusmiza**	**1.19**	**137**	*e*P	**Pn**	**03 43 18.5**	**+2.4**
GO01				*e*S	**Sn**	**03 43 36.6**	**+3.4**
GO01	**Chusmiza**	**1.19**	**137**		**Pn**	**03 43 18.3**	**+2.2**
TA02	**Huaiquique**	**1.47**	**183**	*e*P	**Pn**	**03 43 20.1**	**+1.1**
PB08	**IPOC Station P**	**1.58**	**148**	⇓*i*P	**Pn**	**03 43 23.0**	**+2.2**
PB08				*i* S	**Sn**	**03 43 44.5**	**+2.9**
PB08				IAML		03 43 45.5	
	comp=E,13μm,0.2s						
PB08	**IPOC Station P**	**1.58**	**148**		**Pn**	**03 43 22.2**	**+1.5**
PB08					**Sn**	**03 43 44.3**	**+2.7**
TA01	**Diego Aracena**	**1.77**	**184**	⇓*i*P	**Pn**	**03 43 23.7**	**+1.0**
TA01				IAML		03 43 46.4	
	comp=N,9μm,0.2s						
TA01	**Diego Aracena**	**1.77**	**184**	Pn	**Pn**	**03 43 23.3**	**+0.6**
TA01				Sn	**Sn**	**03 43 44.5**	**-0.5**
PATCX	**Punta Patache**	**2.02**	**183**	⇓*i*P	**Pn**	**03 43 27.0**	**+0.9**
PATCX	**Punta Patache**	**2.02**	**183**		**Pn**	**03 43 26.3**	**+0.2**
PATCX				Sn	**Sn**	**03 43 49.9**	**-1.1**
PB01	**IPOC Station P**	**2.30**	**167**	⇓*i*P	**Pn**	**03 43 30.9**	**+1.2**
PB01				IAML		03 43 59.6	
	comp=N,9μm,0.3s						
PB01	**IPOC Station P**	**2.30**	**167**		**Pn**	**03 43 30.4**	**+0.6**
PB01				Sn	**Sn**	**03 43 57.4**	**-0.2**
PB07	**IPOC Station P**	**2.92**	**177**	⇑*e*P	**Pn**	**03 43 39.4**	**+1.4**
PB07				*i* S	**Sn**	**03 44 12.0**	**-0.5**
PB07				IAML		03 44 15.0	
	comp=E,4μm,0.1s						
PB07	**IPOC Station P**	**2.92**	**177**		**Pn**	**03 43 37.9**	**-0.2**
PB07				Sn	**Sn**	**03 44 11.6**	**-0.9**
PB09	**IPOC Station P**	**3.08**	**166**	⇓*i*P	**Pn**	**03 43 42.2**	**+2.0**
PB09	**IPOC Station P**	**3.08**	**166**		**Pn**	**03 43 40.4**	**+0.2**
PB09				Sn	**Sn**	**03 44 16.7**	**+0.4**
LPAZ	**La Paz**	**3.09**	**37**	P	**Pn**	**03 43 43.7**	**+3.0**
	comp=E,1.2nm,0.3s,baz=215,slow=10.0,SNR=45						
LPAZ				S	**Sn**	**03 44 18.6**	**+1.4**
	comp=E,5.6nm,0.3s,baz=218,slow=20,SNR=11						
LPAZ				LR	LR	03 45 06.2	
	comp=E,32nm,21.5s,baz=308,slow=43						
LPAZ	**La Paz**	**3.09**	**37**	Pn	**Pn**	**03 43 41.6**	**+0.9**
PB03	**IPOC Station P**	**3.25**	**175**	*e*P	**Pn**	**03 43 43.7**	**+1.3**
PB04	**IPOC Station P**	**3.52**	**182**	⇑*e*P	**Pn**	**03 43 46.7**	**+0.6**
PB04				*i* S	**Sn**	**03 44 25.2**	**-1.8**
PB04	**IPOC Station P**	**3.52**	**182**		**Pn**	**03 43 45.9**	**-0.3**
PB06	**IPOC Station P**	**3.92**	**174**		**Pn**	**03 43 51.4**	**-0.1**
LVC	**Limon Verde**	**3.94**	**165**	P	**Pn**	**03 43 54.0**	**+2.0**
	comp=E,34nm,0.3s,baz=351,slow=12,SNR=280						
LVC				S	**Sn**	**03 44 38.0**	**+0.6**
	comp=E,275nm,0.3s,baz=49,slow=23,SNR=65						
LVC				LR	LR	03 45 29.0	
	comp=E,115nm,20.8s,baz=312,slow=40						
LVC	**Limon Verde**	**3.94**	**165**	Pn	**Pn**	**03 43 53.1**	**+1.1

PLCA	Paso Flores	21.87	181	eP	P	03 47 38.9	+0.6
VAO	Valinhos	21.96	105	eP	P	03 47 39.5	+0.1
PEXB	Peixe	21.98	76	eP	P	03 47 39.1	-0.5
POPC	Popayan, Colom	22.18	342	eP	P	03 47 42.9	+1.0
MALB	Monte Alegre	22.86	44	eP	P	03 47 49.1	+0.3
ORTC	Ortega, Tolima	23.13	347	eP	P	03 47 49.3	-2.1
PARB	Paraibuna	23.23	105	eP	P	03 47 50.8	-1.5
PRPB	Parauapebas	23.36	60	eP	P	03 47 51.9	-1.6
TOLC	Tolima	23.80	347	eP	P	03 47 55.2	-2.6
ROSC	El Rosal	23.86	349	LR	LR	03 59 18.3	
	comp=Z,66nm,18.4s,baz=189,slow=41						
BSCB	Bom Sucesso	23.86	100	eP	P	03 47 57.5	-0.5
SMTB	Santa Maria do	23.91	69	eP	P	03 47 58.4	-0.1
GUY2C	Guyana, Caldas	24.43	347	eP	P	03 48 03.7	+0.1
NORC	Norcasia	24.66	348	eP	P	03 48 05.0	-0.3
MAN01	Angra dos Reis	24.70	104	eP	P	03 48 03.8	-1.8
JANB	Januaria	24.89	85	eP	P	03 48 06.5	-0.9
MC01	Montes Claros	24.95	89	eP	P	03 48 06.5	-1.4
SDBA	SAO DESIDERIO	25.02	79	eP	P	03 48 07.7	-0.9
VAS01	Vassouras-RJ	25.14	102	eP	P	03 48 09.4	-0.2
CBOC	Ciudad Bolivar	25.20	346	eP	P	03 48 10.3	+0.1
MCPB	Macapa, AP	25.45	46	eP	P	03 48 12.0	-0.3
SJMB	Sao Joao De Ma	27.32	95	eP	P	03 48 28.3	-0.9
SDV	Santo Domingo	27.51	359	eP	P	03 48 29.8	-1.3
BSFB	Barra de Sao F	27.63	95	eP	P	03 48 31.3	-0.7
RIB01	Linhares ES	28.02	96	eP	P	03 48 34.5	-1.0
NAN01	Guarapari, ES	28.41	93	eP	P	03 48 38.1	-0.8
GDU01	Guandu, BA	29.66	85	eP	P	03 48 50.0	+0.5
ROSB	Rosrio	29.89	61	eP	P	03 48 51.7	-0.3
PAPH	Port-au-Prince	37.15	356		S	03 55 35.2	+0.7
APG	El Apazote	39.14	328	P	P	03 50 13.2	+1.3
	comp=Z,4.1nm,0.8s,baz=172,slow=8.9,SNR=6.5						
TEIG	Tepich	42.70	334	P	P	03 50 41.2	+0.4
	comp=Z,11nm,0.8s,baz=150,slow=6.7,SNR=8.5						
TEIG	Tepich	42.70	334	P	P	03 50 41.0	+0.2
TEIG				IAmb	IAmb	03 50 42.5	
	comp=Z,16nm,1.0s						
152A	Waverly Hall	53.06	344	IAmb	IAmb	03 52 01.2	
	comp=Z,6.8nm,0.8s						
JSC	Jenkinsville	53.85	348	P	P	03 52 06.6	+0.3
JSC				IAmb	IAmb	03 52 07.4	
	comp=Z,5.5nm,1.0s						
BIRD	Birdtown, Kers	54.06	349	P	P	03 52 08.2	+0.3
HKT	Hockley	54.46	332	P	P	03 52 11.1	+0.3
HKT				IAmb	IAmb	03 52 12.8	
	comp=Z,6.6nm,1.1s						
W57A	Gilead	54.47	350	P	P	03 52 10.5	-0.3
W57A				IAmb	IAmb	03 52 11.9	
	comp=Z,12nm,0.8s						
X48A	Hartselle	55.37	343	IAmb	IAmb	03 52 17.1	
	comp=Z,4.9nm,0.8s						
V55A	Taylorsville	55.37	349	IAmb	IAmb	03 52 18.8	
	comp=Z,11nm,0.8s						
V53A	Saluda	55.50	347	IAmb	IAmb	03 52 19.1	
	comp=Z,4.1nm,0.8s						
W50A	Signal Mountai	55.62	345	IAmb	IAmb	03 52 19.6	
	comp=Z,9.0nm,0.9s						
TKL	Tuckaleechee C	55.70	346	IAmb	IAmb	03 52 20.1	
	comp=Z,6.3nm,0.9s						
SWET	Sewanee	55.79	344	P	P	03 52 20.0	-0.4
SWET				IAmb	IAmb	03 52 20.1	
	comp=Z,5.1nm,0.7s						
V52A	Sevierville	55.83	347	P	P	03 52 19.9	-0.8
U54A	Nelsons Funny	56.13	349	IAmb	IAmb	03 52 23.8	
	comp=Z,9.8nm,0.9s						
T57A	Hurt	56.17	351	IAmb	IAmb	03 52 24.1	
	comp=Z,7.5nm,0.9s						
V48A	Smith Brothers	56.52	344	IAmb	IAmb	03 52 25.4	
	comp=Z,6.0nm,0.9s						
WLAR	White Oak Lake	56.64	337	P	P	03 52 26.7	+0.3
S57A	Dark Hollow, R	56.87	352	IAmb	IAmb	03 52 29.3	
	comp=Z,9.8nm,0.9s						
U49A	Red Boiling Sp	56.98	345	IAmb	IAmb	03 52 28.9	
	comp=Z,5.1nm,0.8s						
WVT	Waverly	57.16	343	P	P	03 52 28.6	-1.4
WVT				IAmb	IAmb	03 52 29.7	
	comp=Z,7.2nm,0.8s						
MIAR	Mount Ida	57.57	337	IAmb	IAmb	03 52 33.5	
	comp=Z,4.9nm,0.8s						
TXAR	Lajitas Array	57.81	325	P	P	03 52 35.2	+0.4
	comp=Z,1.1nm,0.8s,baz=144,slow=8.4,SNR=11						
TXAR	Lajitas Array	57.81	325	P	P	03 52 34.8	-0.1
MVL	Millersville	58.78	354	IAmb	IAmb	03 52 42.9	
	comp=Z,10nm,1.2s						
MCWV	Mont Chateau	58.86	351	IAmb	IAmb	03 52 42.9	
	comp=Z,6.2nm,0.8s						
S44A	Carbondale	59.02	342	P	P	03 52 42.5	-0.5
S44A				IAmb	IAmb	03 52 42.9	
	comp=Z,6.2nm,0.7s						
S44A					pP	03 53 07.2	+0.2
HHAR	Hobbs	59.26	338	P	P	03 52 44.6	-0.1
HHAR				IAmb	IAmb	03 52 46.1	
	comp=Z,4.4nm,1.0s						
TUL1	Leonard	59.62	336	P	P	03 52 46.4	-0.8
TUL1				IAmb	IAmb	03 52 48.3	
	comp=Z,11nm,1.1s						
N54A	Moraine State	60.16	351	P	P	03 52 51.2	+0.4
N54A				IAmb	IAmb	03 52 54.0	
	comp=Z,9.0nm,1.1s						
OK029	Liberty Lake	60.18	334	P	P	03 52 51.2	+0.1
MNTX	Cornudas Mount	60.57	326	IAmb	IAmb	03 52 54.6	
	comp=Z,4.8nm,1.1s						
T35A	Sooner Cattle	60.78	336	P	P	03 52 55.2	+0.2
T35A				IAmb	IAmb	03 52 55.8	
	comp=Z,5.8nm,0.8s						
J59A	Piesco	62.08	356	IAmb	IAmb	03 53 05.1	
	comp=Z,12nm,1.1s						
VNA3	Neumayer Olymp	62.97	162	P	P	03 53 11.1	+1.8
VNA1	Neumayer--Stat	63.18	161	P	P	03 53 11.6	+1.0
VNA2	Neumayer--Watz	63.55	161	P	P	03 53 14.7	+1.6
	baz=285,slow=6.3						
ANMO	Albuquerque	63.66	327	P	P	03 53 13.8	-0.8
G62A	West of Eustis	63.70	360	P	P	03 53 15.2	+0.8
G62A				IAmb	IAmb	03 53 16.1	
	comp=Z,5.4nm,0.7s						
KSCO	Kaye Shedlock'	65.09	332	IAmb	IAmb	03 53 25.5	
	comp=Z,8.8nm,0.8s						
SDCO	Great Sand Dun	65.38	330	P	P	03 53 26.0	+0.1
SDCO				IAmb	IAmb	03 53 27.9	
	comp=Z,6.8nm,0.8s						
Q24A	Divide	66.19	331	IAmb	IAmb	03 53 32.9	
	comp=Z,6.9nm,0.8s						
WUAZ	Wupatki	66.72	324	IAmb	IAmb	03 53 37.2	
	comp=Z,5.7nm,1.1s						
PV01	Paradox Valley	67.20	328	IAmb	IAmb	03 53 39.2	
	comp=Z,3.6nm,0.7s						
KNB	Kanab	68.61	324	P	P	03 53 46.3	+0.1
DBIC	Dimbokro	69.03	75	P	P	03 53 48.8	-0.3
	comp=Z,3.2nm,0.8s,baz=235,slow=4.7,SNR=6.2						
DBIC	Dimbokro	69.03	75	P	P	03 53 49.2	+0.1
DBIC				IAmb	IAmb	03 54 07.0	
	comp=Z,10nm,1.1s						
PSUT	Pine Spring	70.27	325	P	P	03 53 56.6	+0.1
TPNV	Topopah Spring	70.51	322	P	P	03 53 58.7	+0.8
TPNV				IAmb	IAmb	03 54 01.1	
	comp=Z,6.7nm,1.1s						
DUG	Dugway, Tooele	70.92	327	IAmb	IAmb	03 54 02.9	
	comp=Z,7.2nm,1.1s						
PDAR	Pinedale Array	71.24	330	P	P	03 54 02.9	+0.6
	comp=Z,0.6nm,0.6s,baz=134,slow=7.7,SNR=6.5						
PDAR	Pinedale Array	71.24	330	P	P	03 54 02.0	-0.3
ULM	Lac du Bonnet	72.43	343	P	P	03 54 08.6	-0.3
	comp=Z,5.6nm,0.6s,baz=161,slow=6.4,SNR=5.3						
ULM	Lac du Bonnet	72.43	343	P	P	03 54 08.5	-0.3
ULM				IAmb	IAmb	03 54 09.2	
	comp=Z,6.9nm,0.7s						
TPAW	Teton Pass	72.45	330	P	P	03 54 09.5	-0.1
NVAR	Mina Array Bea	72.71	322	P	P	03 54 12.5	+1.4
	comp=Z,1.5nm,0.8s,baz=147,slow=5.9,SNR=9.1						
NVAR	Mina Array Bea	72.71	322	P	P	03 54 11.2	+0.1
IMW	Indian Meadow	72.75	330	P	P	03 54 11.3	-0.1
FLWY	Flagg Ranch	72.78	331	P	P	03 54 10.9	-0.5
FLWY				IAmb	IAmb	03 54 13.9	
	comp=Z,8.1nm,0.9s						
LAO	LASA Array	72.89	335	IAmb	IAmb	03 54 13.7	
	comp=Z,6.3nm,1.1s						
KVN	Kaiserville	73.01	323	P	P	03 54 12.2	-0.7
YNE	Yellowstone No	73.18	332	P	P	03 54 13.8	+0.1
YHH	Holmes Hill	73.39	331	P	P	03 54 14.5	-0.6
YHL	Hebgen Lake	73.59	331	P	P	03 54 16.2	-0.1
GCMT	Greycliff	73.63	332	P	P	03 54 16.4	+0.1
PAHR	Pah Rah Range	74.19	323	P	P	03 54 18.9	-0.8
PAHR				IAmb	IAmb	03 54 22.7	
	comp=Z,7.2nm,0.9s						
ORV	Oroville	75.33	321	P	P	03 54 25.6	-0.5
ORV				IAmb	IAmb	03 54 29.0	
	comp=Z,6.7nm,0.9s						
TOA0	Torodi Ar. St	77.48	71	P	P	03 54 37.6	-1.2
TOA0				IAmb	IAmb	03 54 42.6	
	comp=Z,8.7nm,0.7s						
TORD	Torodi Ar. Bea	77.48	71	P	P	03 54 37.9	-0.8
	comp=Z,8.2nm,0.7s,baz=252,slow=5.6,SNR=51						
TORD	Torodi Ar. Bea	77.48	71	P	P	03 54 38.0	-0.8
MAW	Mawson	87.22	164	P	P	03 55 29.2	+0.7
	comp=Z,1.5nm,0.7s,baz=196,slow=5.4,SNR=4.7						
YKA	Yellowknife Ar	88.29	341	P	P	03 55 33.9	+0.4
	comp=Z,6.1nm,0.8s,baz=133,slow=4.7,SNR=19						
H11S2	WAKE ISLAND Hyt	26.43	279	T	T	06 21 10.1	
	baz=100,slow=74,SNR=246						
H11S1	WAKE ISLAND Hyt	26.44	279	T	T	06 21 11.4	
	baz=100,slow=74,SNR=354						
H11N3	WAKE ISLAND Hyt	26.44	281	T	T	06 21 08.9	
	baz=100,slow=75,SNR=54						
H11S3	WAKE ISLAND Hyt	26.45	279	T	T	06 21 15.0	
	baz=100,slow=74,SNR=290						
H11N2	WAKE ISLAND Hyt	26.46	281	T	T	06 21 10.0	
	baz=100,slow=75,SNR=47						
H11N1	WAKE ISLAND Hyt	26.46	281	T	T	06 21 10.2	
	baz=100,slow=75,SNR=38						
WRA	Warramunga Arr	134.68	213	PKP	PKiKP	04 02 02.2	-0.7
	comp=Z,0.3nm,0.7s,baz=146,slow=1.8,SNR=4.8						
ZALV	Zalesovo Beam	139.93	23	PKP	PKPdf	04 02 10.5	+0.5
	comp=Z,0.4nm,0.3s,baz=248,slow=1.6,SNR=1.7						
ZALV	Zalesovo Beam	139.93	23		PKiKP	04 02 10.8	-1.7
MJAR	Matsushiro Arr	149.52	311	PKPbc	PKiKP	04 02 32.8	0.0
	comp=Z,1.3nm,0.5s,baz=73,slow=3.0,SNR=3.0						
MJAR	Matsushiro Arr	149.52	311		PKiKP	04 02 32.2	-0.6
SONM	Songino Array	150.89	5	PKPbc	PKiKP	04 02 35.8	+0.4
	comp=Z,2.2nm,0.7s,baz=321,slow=1.6,SNR=9.8						
SONM	Songino Array	150.89	5		PKiKP	04 02 35.0	-0.4
LZH	Lanzhou	161.95	16	ePKP	PKPdf	04 02 45.6	+1.8
LZH				pPKP	pPKPdf	04 03 07.8	-3.1
LZH				sPKP		04 03 21.0	
LZH				PKP	PKPab	04 03 35.4	+5.3
LZH				LR	LR		
	comp=N,78nm,18.1s						
LZH				LR	LR		
	comp=E,83nm,18.0s						
LZH				LR	LR		
	comp=Z,97nm,20.3s						

TEH ***18*** *03:57:48.0,27°.59N×56°.29E,h15km,ML2.7*
OMAN ***18*** *03:57:49.1±0.9,27°.55N×56°.17E,h1km±3km,ml2.9/3,*
Error ellipse: s-maj=8.2km s-min=3.5km az=168.0

ISC 18 03:57:48.1±1.8,27°.61N±0°.06×56°.29E±0°.08,h5km±18km,
n10,σ0°.63/11,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	Geno	0.24	207	ePg	Pg	03 57 53.1	+0.3
IBND	Bandar-abas	0.28	127	ePg	Pg	03 57 53.9	+0.5
IBND				e		03 58 04.2	
BANOM	Banah	1.68	180	P	Pb	03 58 18.9	-0.8
BANOM	SNR=24						
				S	Sg	03 58 41.6	-0.6
NGRK	Negar Kerman	2.06	11	ePn	Pn	03 58 23.6	-0.2
NGRK				e		03 58 26.7	
TVBK	TV Kerman	2.40	10	ePn	Pn	03 58 28.7	+0.3
KBAM	BAM	2.43	51	ePn	Pn	03 58 28.9	+0.2
KBAM				e		03 59 05.4	
CHMN	Cheshme madani	2.49	26	ePn	Pn	03 58 29.8	+0.1
CHMN				e		03 58 32.2	
UOSS	Minazif	2.66	182	P	Pn	03 58 32.3	+0.6
KHGB	Koh Gabri	2.76	3	ePn	Pn	03 58 34.0	+0.7
KHGB				e		03 58 41.6	
ASHO	Ashiyiah	2.93	184	P	Pn	03 58 36.0	+0.6
	SNR=5.7						

NEIC ***18*** *04:13:03.8±1.1,15°.0S±0°.1×167°.5E±0°.1,h115km±4km,*
mb4.4/20,Error ellipse: s-maj=20.4km s-min=14.9km
az=114.0
IDC ***18*** *04:13:07.4±6.6,15°.09S×167°.19E,h120km±49km,mb4.0/8,*
mb1 4.2/9,mb1mx3.8/49,mbtmp4.4/9,Error ellipse:
s-maj=53.3km s-min=22.8km az=36.0

ISC 18 04:13:05.2±0.8,14°.96S±0°.09×167°.4E±0°.1,h129km,n38,
σ1°.49/41,mb4.4/16,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.53	204	Pn	Pn	04 13 21.6	-2.8
SANVU				Sn	Sn	04 13 34.4	-4.5
DZM	Mont Dzumac	7.13	187	P	Pn	04 14 46.8	-0.2
	6.7nm,0.3s,baz=0.2,slow=6.8,SNR=78						
DZM				S	Sn	04 16 05.2	-1.6
	5.5nm,0.3s,baz=131,slow=19,SNR=2.7						
DZM	Mont Dzumac	7.13	187	Pn	Pn	04 14 46.0	-1.0
DZM					Sn	04 16 04.2	-2.5
EIDS	Eidsvold	18.49	233		P	04 17 11.6	+0.1
EIDS				IAmb	IAmb	04 17 14.7	
	comp=Z,12nm,0.7s						
CTA	Charters Tower	20.82	253	P	P	04 17 38.5	+1.9
	comp=Z,5.6nm,0.5s,baz=84,slow=12,SNR=12						
CTAO	Charters Tower	20.82	253	P	P	04 17 36.8	+0.1
ARMA	Armidale	21.15	221	P	P	04 17 41.7	+1.5
COEN	Coen	23.51	269	P	P	04 18 04.4	+0.7
MXZ	Matakaoa Point	24.49	159	P	P	04 18 12.4	0.0
MXZ				IAmb	IAmb	04 18 18.3	
	comp=Z,20nm,0.8s						
URZ	Urewera	24.73	162	P	P	04 18 18.4	+3.8
	comp=Z,3.8nm,0.5s,baz=342,slow=3.2,SNR=2.4						
BKZ	Black Stump Fm	25.39	163	P	P	04 18 21.6	+1.0
BKZ				IAmb	IAmb	04 18 24.8	
	comp=Z,14nm,1.2s						
STKA	Stephens Creek	28.96	230	P	P	04 18 54.3	+1.7
	comp=Z,15nm,0.5s,baz=42,slow=7.5,SNR=29						
STKA	Stephens Creek	28.96	230	P	P	04 18 52.5	-0.1
STKA				IAmb	IAmb	04 18 55.0	
	comp=Z,3.3nm,0.6s						
WR0	Warramunga Arr	31.73	256	P	P	04 19 16.8	-0.3
WB0	Warramunga Arr	31.86	257	P	P	04 19 18.0	-0.3
WB0				IAmb	IAmb	04 19 18.6	
	comp=Z,5.1nm,0.6s						
WB2	Warramunga Arr	31.91	256	P	P	04 19 18.5	-0.2
WB2				IAmb	IAmb	04 19 19.1	
	comp=Z,5.0nm,0.8s						
WRAB	Tennant Creek	31.91	256	P	P	04 19 18.4	-0.3
WRAB				IAmb	IAmb	04 19 22.5	
	comp=Z,5.8nm,0.6s						
WRA	Warramunga Arr	31.92	256	P	P	04 19 18.4	-0.4
	comp=Z,2.8nm,0.6s,baz=86,slow=8.9,SNR=42						
WRA	Warramunga Arr	31.92	256	P	P	04 19 18.1	-0.8
AS31	Alice Springs	32.73	249	P	P	04 19 26.0	+0.1
AS31				IAmb	IAmb	04 19 27.1	
	comp=Z,4.1nm,0.8s						
ASAR	Alice Springs	32.74	249	P	P	04 19 25.9	0.0
	comp=Z,9.9nm,0.6s,baz=79,slow=9.0,SNR=109						
ASAR	Alice Springs	32.74	249	P	P	04 19 25.6	-0.4
BBOO	Buckleboo	33.56	232	P	P	04 19 33.4	+0.4
MTN	Manton Dam	35.27	269	P	P	04 19 48.1	+0.2
MTN				IAmb	IAmb	04 19 51.1	
	comp=Z,3.9nm,0.8s						
KNRA	Kununurra	37.27	264	P	P	04 20 04.9	0.0
FORT	Forrest	39.31	240	P	P	04 20 22.6	+0.8
FITZ	Fitzroy Crossi	40.12	260	P	P	04 20 29.4	+0.7
	comp=Z,5.8nm,0.6s,baz=0.5,slow=5.9,SNR=32						
FITZ	Fitzroy Crossi	40.12	260	P	P	04 20 28.6	0.0
EDFI	Ende, Flores	45.12	273	P	P	04 21 06.8	-2.4
NWAO	Narrogin (SRO)	48.76	239	P	P	04 21 37.2	0.0
NWAO				IAmb	IAmb	04 21 46.5	
	comp=Z,9.3nm,1.0s						
HATHI	Halema'uma'u T	50.15	48	P	P	04 21 46.6	-1.4
VNDA	Vanda	62.63	181	P	P	04 23 16.4	+1.0
	comp=Z,0.2nm,0.3s,baz=357,slow=5.4,SNR=3.7						
QSPA	South Pole Qui	75.07	180	P	P	04 24 33.7	+1.0
QSPA				IAmb	IAmb	04 24 34.4	
	comp=Z,5.7nm,0.8s						
CMAR	Chiang Mai Arr	75.19	294	P	P	04 24 37.0	+3.0
	comp=Z,0.6nm,0.3s,baz=144,slow=4.7,SNR=4.0						
CMAR	Chiang Mai Arr	75.19	294	P	P	04 24 34.9	+0.8
VNA3	Neumayer Olymp	93.98	181	P	P	04 26 08.0	-0.2
VNA2	Neumayer--Watz	94.25	182	P	P	04 26 09.7	+0.2
	baz=179,slow=5.2						
VNA1	Neumayer--Stat	94.55	181	P	P	04 26 10.7	0.0

MAN 18 04:13:09.3,10°.39N×120°.30E,h23km,mb4.8,ML3.7,
MS3.7,2C-1D,Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUYO	Cuyo Island	0.84	57	eP	Pb	04 13 24.8	-0.4
CUYO				eS	Sn	04 13 37.5	+0.2
ENPP	El Nido	1.18	313	eP	Pn	04 13 30.0	-0.4
ENPP				eS	Sb	04 13 46.0	0.0
JAP	San Jose, Anti	1.66	77⇓	eP	Pn	04 13 37.4	+0.4
SJMP	San Jose	2.21	21	eP	Pn	04 13 44.8	+0.3
SJMP				eS	Sn	04 14 12.5	+1.3
GUIM	Jordan	2.26	84	eP	Pn	04 13 38.5	-6.8
GUIM				eS	Sn	04 14 11.4	-1.0
CNOP	Candoni, Negro	2.37	103	eP	Pn	04 13 40.5	-6.3
CNOP				eS	Sn	04 14 11.8	-3.3
OTRP	Odiongan	2.58	41	eP	Pn	04 13 50.0	+0.3
OTRP				eS	Sn	04 14 19.8	-0.7
BATP	Bataraza	2.93	238	eP	Pb	04 14 15.0	+14
PGP	Puerto Galera	3.16	12⇑	eP	Pn	04 13 58.3	+0.6
PGP				eS	Sn	04 14 36.3	+1.6
LUBP	Lubang	3.32	359	eP	Pn	04 14 01.2	+1.3
BOAC	Boac	3.40	26	eP	Pn	04 14 02.1	+1.1
BOAC				eS	Sn	04 14 42.6	+2.0
PAGZ	Pagadian	3.95	129	eP	Pn	04 14 06.1	-2.5
KCP	Kidapawan	5.80	125⇑	eP	Pn	04 14 38.8	+4.7

JMA ***18*** *04:17:26.8±0.2,24°.95N×123°.42E,h115km±3km,M3.6*
NEIC ***18*** *04:17:26.5±1.1,24°.90N±0°.09×123°.4E±0°.1,h118km±5km,*
mb4.0/5,Error ellipse: s-maj=14.6km s-min=10.9km
az=130.0
NIED ***18*** *04:17:26.8,24°.95N×123°.42E,h115km,MW3.9,Moment*
Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm;
M_{rr}-2.50; $M_{\theta\theta}$4.71; $M_{\phi\phi}$-2.21; $M_{r\theta}$-5.77; $M_{\theta\phi}$-2.63;
$M_{\phi r}$-2.73; Fault plane solution: $M_0$8.02000×10^{14} NP1:
ϕ_s72.00000°,δ79.00000°,λ-122.00000°. NP2:
ϕ_s325.00000°,δ33.00000°,λ-20.00000°.
IDC ***18*** *04:17:35.4±7.6,25°.04N×123°.29E,h210km±88km,mb3.5/4,*
mb1 3.6/5,mb1mx3.3/60,mbtmp4.0/5,MS4.0/1,Ms1 4.0/1,
ms1mx2.8/47 Error ellipse: s-maj=41.3km s-min=18.0km
az=49.0

ISC 18 04:17:26.3±0.8,24°.94N±0°.08×123°.38E±0°.04,h119km±7km,
n32,σ0°.59/44,mb4.0/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.58	215	P	Pn	04 17 45.1	+0.4
YOJ				S	Sn	04 17 58.8	+0.3
YOJ	Yonaguni jima	0.58	215	Pn	Pn	04 17 45.1	+0.4
YOJ				Sn	Sn	04 17 57.6	-0.9
IRIF	Iriomote-Funau	0.69	152	P	Pn	04 17 45.3	-0.1
JIJ	Ishigaki jima	0.91	129	P	Pn	04 17 47.2	-0.1
JIJ				S	Sn	04 18 02.2	-1.0
JKRS	Kuro-shima	0.91	140	P	Pn	04 17 47.7	+0.3
JKRS				S	Sn	04 18 03.1	-0.1
JISG	Ishigakijimahi	0.92	112	P	Pn	04 17 47.2	-0.2
JISG				S	Sn	04 18 03.1	-0.3
HATJ	Hateruma jima	0.97	156	P	Pn	04 17 48.1	+0.2
HATJ				S	Sn	04 18 04.9	+0.7
JTJ	Tarama	1.24	104	P	Pn	04 17 50.8	+0.1
JTJ				S	Sn	04 18 09.5	+0.2
JIRB	Irabujima	1.64	94	P	Pn	04 17 55.3	+0.1
JIRB				S	Sn	04 18 17.4	+0.1
JIKM	Ikemajima	1.70	90	P	Pn	04 17 56.4	+0.4
JIKM				S	Sn	04 18 18.7	+0.1
TATO	Taipei	1.71	271	Pn	Pn	04 17 56.9	+0.7
JMJ2	Miyako jima3	1.79	96	P	Pn	04 17 57.6	+0.6
JMJ2				S	Sn	04 18 20.3	-0.2
NACB	Ninganchiao	1.79	245		Pn	04 17 57.7	+0.6
NACB				Sn	Sn	04 18 20.8	+0.1
YHNB	Yeheng	1.84	262		Pn	04 17 57.9	+0.1
YULB	Yu-li	2.45	231	Pn	Pn	04 18 05.3	-0.1
SSLB	Suanglung	2.49	243	Pn	Pn	04 18 06.5	+0.6
TWG	Pinlang	2.98	225		Pn	04 18 12.0	-0.4
TWG				Sn	Sn	04 18 46.5	-1.4
TPUB	Ta-pu	3.00	237	Pn	Pn	04 18 13.4	+0.9
KSRS	Korea Array	13.06	16	P	P	04 20 32.5	-0.6
	0.2nm,0.3s,baz=200,slow=12,SNR=8.4						
XAN	Xi'an	15.49	309		P	04 21 00.7	+0.5
XAN				IAmb	IAmb	04 21 06.6	
	comp=Z,5.3nm,1.1s						
JRY	Ryogami san	17.32	47	P	P	04 21 20.7	+0.3
CMAR	Chiang Mai Arr	23.58	259	P	P	04 22 27.0	+0.6
	comp=Z,0.6nm,0.3s,baz=76,slow=7.7,SNR=5.1						
CMAR	Chiang Mai Arr	23.58	259	P	P	04 22 26.8	+0.4
MKAR	Makanchi Array	39.21	314	P	P	04 24 41.8	-1.0
	comp=Z,1.2nm,0.5s,baz=103,slow=10,SNR=10						
MKAR				LR	LR	04 43 46.2	
	comp=Z,208nm,18.4s,baz=16,slow=40						
MKAR	Makanchi Array	39.21	314	P	P	04 24 41.4	-1.4
WRA	Warramunga Arr	45.87	166	P	P	04 25 37.4	+0.5
	comp=Z,3.3nm,0.7s,baz=348,slow=9.0,SNR=32						
WRA	Warramunga Arr	45.87	166	P	P	04 25 37.4	+0.5
WB2	Warramunga Arr	45.88	166	P	P	04 25

SKR					A	A	04 20 12.0	
	5μm,0.9s							
SKR					A	A	04 20 12.0	
	3μm,0.9s							
SKR					AMS	AMS	04 21 03.7	
	1μm,11.0s							
SKR	**Severo-Kuril's**	**3.79**	**86**	⇓ *i* P		**P**	**04 19 09.5**	**-0.6**
SKR				*e*S		**S**	**04 20 08.9**	**-3.9**
SKR					pmax	pmax		
	comp=Z,6μm,2.9s							
SKR					pmax	pmax		
	comp=Z,2μm,0.8s							
SKR					pmax	pmax		
	comp=Z,1μm,2.9s							
SKR					smax	smax		
	comp=N,5μm,0.8s							
SKR					smax	smax		
	comp=E,3μm,0.9s							
SKR					MLR	MLR		
	comp=Z,1μm,11.0s							
PAU	**Pauzhetka**	**4.29**	**75**	*e*P		**P**	**04 19 13.8**	**-0.4**
PAU					AMB	AMB	04 19 14.6	
	comp=Z,6μm,0.8s							
PAU				*e*S		**S**	**04 20 17.4**	**-2.7**
PAU					A	A	04 20 19.0	
	comp=Z,18μm,2.0s							
PAU					A	A	04 20 21.9	
	comp=Z,5μm,1.0s							
PAU					A	A	04 20 21.9	
	comp=Z,5μm,1.0s							
PAU	**Pauzhetka**	**4.29**	**75**	P		**P**	**04 19 13.7**	**-0.4**
PAU				S		**S**	**04 20 16.5**	**-3.6**
MIPR	**Malaya Ipel'ka**	**4.46**	**65**	P		**P**	**04 19 15.6**	**0.0**
MIPR				S		**S**	**04 20 20.0**	**-2.9**
TYV	**Tymovskoe**	**4.79**	**276**	*e*P		**P**	**04 19 20.6**	**+2.1**
TYV					AMB	AMB	04 19 21.5	
	comp=Z,7μm,2.0s							
TYV					AMB	AMB	04 19 21.6	
	comp=Z,2μm,1.0s							
TYV				*e*S		**S**	**04 20 29.8**	**+1.8**
TYV					A	A	04 20 32.1	
	comp=Z,14μm,4.0s							
TYV					A	A	04 20 32.1	
	comp=Z,14μm,4.0s							
TYV					A	A	04 20 32.6	
	comp=Z,920nm,1.0s							
TYV					A	A	04 20 32.6	
	comp=Z,2μm,1.0s							
TYV	**Tymovskoe**	**4.79**	**276**	*e*P		**P**	**04 19 21.0**	**+2.5**
TYV				*e*S		**S**	**04 20 31.2**	**+3.2**
TYV					pmax	pmax		
	comp=Z,7μm,2.3s							
TYV					pmax	pmax		
	comp=Z,2μm,1.1s							
TYV					smax	smax		
	comp=N,14μm,4.3s							
TYV					smax	smax		
	comp=E,2μm,1.5s							
APC	**Apacha**	**4.94**	**59**	P		**P**	**04 19 19.1**	**-0.6**
APC				S		**S**	**04 20 23.9**	**-6.5**
KDTR	**Khodutka, Kamc**	**5.12**	**73**	P		**P**	**04 19 19.8**	**-1.6**
KDTR				S		**S**	**04 20 26.6**	**-6.8**
ASAK	**Asacha**	**5.16**	**66**	P		**P**	**04 19 21.5**	**-0.3**
ASAK				S		**S**	**04 20 29.8**	**-4.4**
GRL	**Gorelyy**	**5.31**	**65**	P		**P**	**04 19 23.6**	**+0.3**
GRL				S		**S**	**04 20 36.1**	**-0.8**
PEA0B	**Petropavlovsk-**	**5.31**	**59**	P		**P**	**04 19 23.0**	**-0.1**
PEA0B				S		**S**	**04 20 36.0**	**-0.7**
PETK	**Petropavlovsk-**	**5.31**	**59**	P		**P**	**04 19 23.4**	**+0.3**
	comp=E,25nm,0.3s,baz=222,slow=4.0,SNR=463							
PETK				S		**S**	**04 20 35.6**	**-1.1**
	comp=E,9.5nm,0.3s,baz=254,slow=27,SNR=11							
PETK				ScP		**ScP**	**04 28 09.7**	**+0.3**
	comp=E,0.4nm,0.3s,baz=116,slow=3.4,SNR=17							
PETK	**Petropavlovsk-**	**5.31**	**59**			**P**	**04 19 23.0**	**-0.2**
PETK				S		**S**	**04 20 34.0**	**-2.7**
PETK						**ScP**	**04 28 09.5**	**+0.2**
MTVR	**Mutnovka**	**5.35**	**66**	P		**P**	**04 19 23.7**	**0.0**
MTVR				S		**S**	**04 20 35.5**	**-2.1**
OKH	**Okha**	**5.37**	**307**	*i* P		**P**	**04 19 26.5**	**+2.9**
OKH					AMB	AMB	04 19 27.2	
	comp=E,3μm,7.0s							
OKH					AMB	AMB	04 19 27.4	
	comp=E,4μm,1.0s							
OKH				*i* S		**S**	**04 20 40.2**	**+2.6**
OKH					A	A	04 20 43.0	
	comp=E,2μm,1.1s							
OKH					A	A	04 20 43.0	
	comp=E,5μm,1.1s							
OKH					A	A	04 20 43.7	
	comp=E,2μm,7.0s							
OKH					A	A	04 20 43.7	
	comp=E,11μm,7.0s							
OKH					AMS	AMS	04 22 39.5	
	comp=E,1μm,6.0s							
OKH					AMS	AMS	04 22 39.5	
	comp=E,900nm,6.0s							
OKH	**Okha**	**5.37**	**307**	*c i* P		**P**	**04 19 26.5**	**+2.9**
OKH				*i* S		**S**	**04 20 38.5**	**+0.9**
OKH					pmax	pmax		
	comp=Z,3μm,7.3s							
OKH					smax	smax		
	comp=N,2μm,5.0s							
OKH					smax	smax		
	comp=E,11μm,8.7s							
OKH					MLR	MLR		
	comp=E,900nm,11.0s							
OKH					MLR	MLR		
	comp=N,1μm,6.0s							
OKH					MLR	MLR		
	comp=Z,700nm,18.0s							
KRMR	**Karymshinskiy**	**5.44**	**62**	P		**P**	**04 19 24.1**	**-0.2**
KRMR				S		**S**	**04 20 34.6**	**-4.2**
UGL	**Uglegorsk**	**5.46**	**257**	*i* P		**P**	**04 19 26.0**	**+1.4**
UGL					AMB	AMB	04 19 27.5	
	comp=Z,4μm,1.0s							
UGL					AMB	AMB	04 19 28.0	
	comp=Z,3μm,0.8s							
UGL				*i* S		**S**	**04 20 41.0**	**+1.9**
UGL					A	A	04 20 42.5	
	comp=Z,10μm,3.0s							
UGL					A	A	04 20 42.5	
	comp=Z,5μm,3.0s							
UGL					A	A	04 20 43.0	
	comp=Z,2μm,1.0s							
UGL					A	A	04 20 43.0	
	comp=Z,2μm,1.0s							
UGL	**Uglegorsk**	**5.46**	**257**	*c i* P		**P**	**04 19 26.9**	**+2.3**
UGL				*i* S		**S**	**04 20 41.3**	**+2.2**
UGL					pmax	pmax		
	comp=Z,4μm,1.0s							
UGL					pmax	pmax		
	comp=Z,3μm,0.8s							
UGL					pmax	pmax		
	comp=N,1μm,0.5s							
UGL					pmax	pmax		
	comp=E,1μm,0.4s							
UGL					smax	smax		
	comp=N,10μm,3.3s							
UGL					smax	smax		
	comp=E,5μm,3.3s							
UGL					smax	smax		
	comp=N,2μm,1.1s							
UGL					smax	smax		
	comp=E,2μm,1.0s							
RUS	**Russkaya**	**5.53**	**67**	P		**P**	**04 19 24.4**	**-0.8**
RUS				S		**S**	**04 20 35.0**	**-5.3**
KUR	**Kuril'sk**	**5.56**	**197**	*i* P		**P**	**04 19 25.1**	**-0.6**
KUR					AMB	AMB	04 19 26.7	
	comp=E,270nm,0.6s							
KUR					AMB	AMB	04 19 26.7	
	comp=E,270nm,0.6s							
KUR					AMB	AMB	04 19 26.7	
	comp=E,2μm,0.6s							
KUR					AMB	AMB	04 19 26.8	
	comp=E,8μm,2.0s							
KUR				*i* S		**S**	**04 20 39.5**	**-1.6**
KUR					A	A	04 20 42.1	
	comp=E,25μm,4.0s							
KUR					A	A	04 20 42.1	
	comp=E,18μm,4.0s							
KUR					A	A	04 20 43.5	
	comp=E,1μm,1.0s							
KUR					A	A	04 20 43.5	
	comp=E,2μm,1.0s							
KUR	**Kuril'sk**	**5.56**	**197**	*d i* P		**P**	**04 19 25.1**	**-0.6**
KUR				*i* S		**S**	**04 20 39.4**	**-1.6**
KUR					pmax	pmax		
	comp=Z,2μm,0.6s							
KUR					pmax	pmax		
	comp=N,445nm,0.5s							
KUR					pmax	pmax		
	comp=E,495nm,0.4s							
KUR					pmax	pmax		
	comp=Z,3μm,1.0s							
KUR					smax	smax		
	comp=N,9μm,1.2s							
KUR					smax	smax		
	comp=E,10μm,1.2s							
PET	**Petropavlovsk**	**5.80**	**62**	*e*P		**P**	**04 19 27.0**	**-0.7**
PET					AMB	AMB	04 19 30.1	
	comp=E,2μm,1.0s							
PET				*e*S		**S**	**04 20 42.8**	**-2.2**
PET					A	A	04 20 47.3	
	comp=E,7μm,0.9s							
PET					A	A	04 20 47.3	
	comp=E,5μm,0.9s							
PET					AMS	AMS	04 21 53.5	
	comp=E,3μm,12.0s							
PET	**Petropavlovsk**	**5.80**	**62**	⇑ *i* P		**P**	**04 19 28.8**	**+1.1**
PET				*e*S		**S**	**04 20 42.8**	**-2.2**
PET					pmax	pmax		
	comp=Z,2μm,1.0s							
PET					smax	smax		
	comp=N,7μm,0.9s							
PET					smax	smax		
	comp=E,5μm,0.9s							
PET					MLR	MLR		
	comp=Z,3μm,12.0s							
PET					MLR	MLR		
	comp=Z,800nm,12.0s							
PET	**Petropavlovsk**	**5.80**	**62**	P		**P**	**04 19 27.7**	**0.0**
PET				S		**S**	**04 20 43.7**	**-1.3**
DALK	**Dalny**	**5.86**	**62**	P		**P**	**04 19 28.5**	**+0.2**
DALK				S		**S**	**04 20 41.9**	**-4.2**
KOK	**Koryaka**	**5.90**	**59**	*e*P		**P**	**04 19 29.3**	**+0.5**
KOK	**Koryaka**	**5.90**	**59**	P		**P**	**04 19 29.3**	**+0.5**
KRX	**Arik**	**5.94**	**59**	P		**P**	**04 19 28.9**	**-0.3**
KRX				S		**S**	**04 20 43.5**	**-4.1**
AVH	**Avacha**	**5.95**	**60**	P		**P**	**04 19 29.1**	**-0.1**
KRER	**Koryakskii**	**5.97**	**59**	P		**P**	**04 19 29.5**	**0.0**
UGLR	**Uglovaya**	**5.97**	**60**	P		**P**	**04 19 30.3**	**+0.8**
UGLR				S		**S**	**04 20 45.4**	**-2.8**
SMAR	**Somma**	**5.98**	**60**	P		**P**	**04 19 29.8**	**+0.1**
SMAR				S		**S**	**04 20 44.3**	**-4.2**
SDLR	**Sedlovina**	**6.03**	**60**	P		**P**	**04 19 30.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**6.09**	**236**	*i* P		**P**	**04 19 31.8**	**+1.1**
YSS					AMB	AMB	04 19 33.0	
	comp=Z,70nm,0.6s							
YSS					AMB	AMB	04 19 33.0	
	comp=Z,80nm,0.6s							
YSS					AMB	AMB	04 19 33.0	
	comp=Z,160nm,0.6s							
YSS					AMB	AMB	04 19 36.0	
	comp=Z,400nm,3.0s							
YSS				*e*S		**S**	**04 20 50.4**	**+0.1**
YSS					A	A	04 20 53.1	
	comp=Z,560nm,1.0s							
YSS					A	A	04 20 54.6	
	comp=Z,7μm,6.0s							
YSS					AMS	AMS	04 23 50.0	
	comp=Z,700nm,10.0s							
YSS	**Yuzh-Sakhalins**	**6.09**	**236**	*α i* P		**P**	**04 19 32.6**	**+1.9**
YSS				*e*S		**S**	**04 20 51.2**	**+0.9**
YSS					pmax	pmax		
	comp=Z,160nm,0.7s							
YSS					pmax	pmax		
	comp=N,70nm,0.6s							
YSS					pmax	pmax		
	comp=E,80nm,0.8s							
YSS					pmax	pmax		
	comp=Z,400nm,3.4s							
YSS					smax	smax		
	comp=E,560nm,1.3s							
YSS					smax	smax		
	comp=E,7μm,6.1s							
YSS					MLR	MLR		
	comp=Z,700nm,10.0s							
YSS	**Yuzh-Sakhalins**	**6.09**	**236**	P		**P**	**04 19 30.8**	**+0.1**
YSS				S		**S**	**04 20 47.9**	**-2.4**
NLC	**Nalytchevo**	**6.25**	**62**	P		**P**	**04 19 32.6**	**+0.6**
NLC				S		**S**	**04 20 48.4**	**-4.4**
NKL	**Nikolayevsk**	**6.42**	**297**	*e*P		**P**	**04 19 35.8**	**+2.1**
NKL					AMB	AMB	04 19 37.1	
	comp=Z,1μm,0.5s							
NKL	**Nikolayevsk**	**6.42**	**297**	*e*P		**P**	**04 19 34.8**	**+1.1**
NKL				*e*S		**S**	**04 20 47.3**	**-8.6**
NKL					pmax	pmax		
	comp=N,15nm,1.1s							
NKL					pmax	pmax		
	comp=Z,2μm,1.2s							
NKL					smax	smax		
	comp=N,19nm,2.9s							
SPN	**Mys Shipunski**	**6.61**	**64**	P		**P**	**04 19 33.7**	**-1.8**
SPN				S		**S**	**04 20 50.4**	**-8.9**
KII	**Karymskiy**	**6.66**	**55**	P		**P**	**04 19 35.9**	**-0.3**
KII				S		**S**	**04 20 58.1**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**7.17**	**206**	*i* P		**P**	**04 19 40.5**	**-0.8**
YUK					AMB	AMB	04 19 42.0	
	comp=N,780nm,0.5s							
YUK				*i* S		**S**	**04 21 07.2**	**-2.5**
YUK					A	A	04 21 13.2	
	comp=N,10μm,2.0s							
YUK					A	A	04 21 13.2	
	comp=N,12μm,2.0s							
YUK					A	A	04 21 13.4	
	comp=N,6μm,0.8s							
YUK					A	A	04 21 13.4	
	comp=N,12μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**7.17**	**206**	*e*P		**P**	**04 19 39.5**	**-1.8**
YUK				*i* S		**S**	**04 21 07.1**	**-2.6**
YUK					pmax	pmax		
	comp=Z,813nm,0.6s							
YUK					pmax	pmax		
	comp=N,435nm,0.3s							
YUK					pmax	pmax		
	comp=E,547nm,0.5s							
YUK					smax	smax		
	comp=E,18μm,0.9s							
YUK					smax	smax		
	comp=N,18μm,1.6s							
GRPR	**Tuman**	**7.23**	**206**	*e*P		**P**	**04 19 41.0**	**-1.0**
GRPR					AMB	AMB	04 19 46.6	
	comp=N,670nm,0.6s							
GRPR				*i* S		**S**	**04 21 09.0**	**-1.9**
GRPR					A	A	04 21 11.9	
	comp=N,8μm,2.0s							
GRPR					A	A	04 21 11.9	
	comp=N,7μm,2.0s							
GRPR	**Tuman**	**7.23**	**206**	*e*P		**P**	**04 19 41.0**	**-1.0**
GRPR				*i* S		**S**	**04 21 09.0**	**-1.9**
GRPR					pmax	pmax		
	comp=N,484nm,0.6s							
GRPR					pmax	pmax		
	comp=Z,667nm,0.6s							
GRPR					smax	smax		
	comp=N,8μm,1.4s							
GRPR					smax	smax		
	comp=E,7μm,1.4s							
RUSJ	**Misakicho**	**7.28**	**209**	*e*P		**P**	**04 19 41.9**	**-0.6**
RUSJ				*e*S		**S**	**04 21 11.4**	**-0.5**
ESO	**Esso**	**7.41**	**40**	P		**P**	**04 19 45.2**	**+1.7**
GLVR	**Golovnino**	**7.54**	**207**	*e*P		**P**	**04 19 43.9**	**-1.2**
GLVR					AMB	AMB	04 19 48.4	
	comp=E,770nm,0.8s							
GLVR				*i* S		**S**	**04 21 14.0**	**-2.6**
GLVR					A	A	04 21 16.3	
	comp=E,14μm,2.0s							
GLVR					A	A	04 21 16.3	
	comp=E,31μm,2.0s							
GLVR	**Golovnino**	**7.54**	**207**	*e*P		**P**	**04 19 43.9**	**-1.2**
GLVR				*i* S		**S**	**04 21 14.0**	**-2.6**
GLVR					pmax	pmax		
	comp=Z,771nm,0.8s							
GLVR					pmax	pmax		
	comp=N,593nm,0.4s							
GLVR					pmax	pmax		
	comp=E,781nm,0.4s							
GLVR					pmax	pmax		
	comp=E,31μm,1.3s							
GLVR					pmax	pmax		
	comp=N,14μm,1.6s							
KZV	**Kizimen**	**7.63**	**50**	P		**P**	**04 19 46.4**	**+0.4**
KZV				S		**S**	**04 21 17.0**	**-1.4**
JWK2	**Keihoku**	**7.65**	**230**	P		**P**	**04 19 48.6**	**+2.4**
TUMR	**Tumrok**	**7.65**	**48**	P		**P**	**04 19 46.7**	**+0.5**
TUMR				S		**S**	**04 21 14.1**	**-4.7**
NMR	**Nemuro--Hokkai**	**7.82**	**205**	*e*P		**P**	**04 19 43.6**	**-4.4**
NMR				*i* S		**S**	**04 21 13.5**	**-8.4**
KMNR	**Kamenistaya**	**7.97**	**45**	P		**P**	**04 19 50.5**	**+1.1**
KMNR				S		**S**	**04 21 23.0**	**-1.7**
KOZ	**Kozyrevsk**	**7.99**	**43**	P		**P**	**04 19 51.0**	**+1.5**
KOZ				S		**S**	**04 21 26.2**	**+1.2**
JMP	**Maruseppu**	**8.03**	**218**	P		**P**	**04 19 50.0**	**-0.3**
KPT	**Kopyto**	**8.09**	**44**	P		**P**	**04 19 51.2**	**+0.6**
KPT				S		**S**	**04 21 27.6**	**+0.7**
SRDR	**Sredinnyy**	**8.09**	**41**	P		**P**	**04 19 51.2**	**+0.6**
SRDR				S		**S**	**04 21 25.6**	**-1.4**
KIRR	**Kirishev**	**8.13**	**45**	P		**P**	**04 19 50.3**	**-0.8**
KIRR				S		**S**	**04 21 26.3**	**-1.6**
BZWR	**Bezymyannyi-We**	**8.21**	**45**	P		**P**	**04 19 52.7**	**+0.8**
BZWR				S		**S**	**04 21 25.6**	**-3.7**
JKA	**Kamikawa-asahi**	**8.25**	**221**	*e*P		**P**	**04 19 52.4**	**-0.1**
JKA	**Kamikawa-asahi**	**8.25**	**221**	P		**P**	**04 19 52.4**	**-0.1**
JKA						**S**	**04 21 29.4**	**-0.8**
ASAJ	**Asahikawa**	**8.25**	**221**	P		**P**	**04 19 53.4**	**+0.9**
	comp=N,13nm,0.3s,baz=29,slow=5.0,SNR=147							
ASAJ				S		**S**	**04 21 30.2**	**0.0**
	comp=N,5.9nm,0.3s,baz=326,slow=33,SNR=18							
ASAJ	**Asahikawa**	**8.25**	**221**	P		**P**	**04 19 52.4**	**-0.1**
ASAJ				S		**S**	**04 21 29.4**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**8.29**	**45**	P		**P**	**04 19 53.1**	**+0.4**
BZGR				S		**S**	**04 21 30.4**	**-0.3**
LGNR	**Loginova**	**8.37**	**45**	P		**P**	**04 19 54.1**	**+0.4**
ZLN	**Zelenaya**	**8.38**	**45**	P		**P**	**04 19 54.4**	**+0.8**
ZLN				S		**S**	**04 21 31.4**	**-1.1**
KRSR	**Krestovskiy**	**8.39**	**44**	P		**P**	**04 19 53.6**	**-0.2**
KRSR				S		**S**	**04 21 32.6**	**-0.1**
CIRR	**Tsirk**	**8.41**	**45**	P		**P**	**04 19 54.2**	**+0.2**
CIRR				S		**S**	**04 21 32.1**	**-1.1**
KLY	**Klyuchi**	**8.49**	**43**	P		**P**	**04 19 56.2**	**+1.6**
KLY				S		**S**	**04 21 34.4**	**+0.1**
GRNR	**Gornyy**	**8.74**	**277**	*e*P		**P**	**04 19 59.4**	**+2.0**
GRNR					AMB	AMB	04 20 00.2	
	comp=N,120nm,0.9s							
GRNR					AMB	AMB	04 20 00.2	
	comp=N,170nm,0.9s							
GRNR				*e*S		**S**	**04 21 40.0**	**+0.7**
GRNR					A	A	04 21 41.3	
	comp=N,20nm,0.9s							
GRNR					AMS	AMS	04 23 06.0	
	comp=N,720nm,12.0s							
GRNR					AMS	AMS	04 23 06.0	
	comp=N,820nm,12.0s							
GRNR	**Gornyy**	**8.74**	**277**	⇑ *i* P		**P**	**04 19 59.4**	**+2.0**
GRNR				*e*S		**S**	**04 21 40.0**	**+0.7**
GRNR					pmax	pmax		
	comp=E,120nm,0.8s							
GRNR					pmax	pmax		
	comp=Z,170nm,0.9s							
GRNR					smax	smax		
	comp=E,20nm,0.9s							
GRNR					MLR	MLR		
	comp=E,720nm,11.0s							
GRNR					MLR	MLR		
	comp=Z,820nm,13.0s							
BDR	**Baidarnaya**	**8.89**	**43**	P		**P**	**04 19 59.1**	**+0.2**
BDR				S		**S**	**04 21 38.7**	**-3.5**
SRKR	**Sorokina**	**8.93**	**43**	P		**P**	**04 19 59.2**	**-0.1**
SRKR				S		**S**	**04 21 38.7**	**-4.2**
SMKR	**Semkarok**	**9.01**	**44**	P		**P**	**04 20 00.7**	**+0.5**
SMKR				S		**S**	**04 21 42.5**	**-2.0**
MA2	**Magadan**	**9.03**	**2**	P		**P**	**04 20 01.4**	**+1.2**
	comp=Z,22nm,0.3s,baz=174,slow=8.2,SNR=277							
MA2				S		**S**	**04 21 45.8**	**+1.2**
	baz=158,slow=24,SNR=16							
MA2	**Magadan**	**9.03**	**2**	*c i* P		**P**	**04 20 01.4**	**+1.2**
MA2					pmax	pmax		
	comp=Z,2μm,1.7s							
MA2	**Magadan**	**9.03**	**2**	P		**P**	**04 20 00.4**	**+0.1**
MA2						**S**	**04 21 44.4**	**-0.2**
KBG	**Krutoberegovo**	**9.39**	**48**	P		**P**	**04 20 02.6**	**-1.5**
KBG				S		**S**	**04 21 46.6**	**-5.1**
KBTR	**Krutoberegovo**	**9.42**	**48**	P		**P**	**04 20 03.5**	**-0.9**
KBTR				S		**S**	**04 21 47.6**	**-4.7**
JEW	**Eniwo**	**9.78**	**221**	P		**P**	**04 20 07.5**	**-0.9**
JEW	**Eniwo**	**9.78**	**221**			**P**	**04 20 07.8**	**-0.6**
JEW				S		**S**	**04 21 57.7**	**-1.8**
ERM	**Erimo**	**9.84**	**212**	*de*P		**P**	**04 20 07.3**	**-1.7**
ERM					pmax	pmax		
	comp=Z,917nm,1.0s							
ERM	**Erimo**	**9.84**	**212**			**P**	**04 20 07.3**	**-1.7**
PALN	**Palana**	**10.22**	**30**	P		**P**	**04 20 13.2**	**+0.4**
PALN				S		**S**	**04 22 04.9**	**-2.7**
JSH	**Shimam**	**10.55**	**225**	P		**P**	**04 20 15.6**	**-1.0**
BKI	**Bering**	**10.61**	**58**	P		**P**	**04 20 17.9**	**+1.0**
BKI				S		**S**	**04 22 11.5**	**-3.6**
TEY	**Ternei**	**10.67**	**244**	*i* P		**P**	**04 20 19.6**	**+1.8**
TEY					AMB	AMB	04 20 20.3	
	comp=Z,30nm,0.7s							
TEY					AMB	AMB	04 20 20.3	
	comp=Z,70nm,0.7s							
TEY					AMB	AMB	04 20 20.3	
	comp=Z,100nm,0.7s							
TEY					AMB	AMB	04 20 21.2	
	comp=Z,600nm,2.0s							
TEY				*e*S		**S**	**04 22 17.3**	**+0.6**
TEY					A	A	04 22 18.6	
	comp=Z,100nm,1.0s							
TEY					A	A	04 22 18.6	
	comp=Z,60nm,1.0s							
TEY	**Ternei**	**10.67**	**244**	⇑ *i* P		**P**	**04 20 19.6**	**+1.8**
TEY				*e*S		**S**	**04 22 17.6**	**+0.9**
TEY					pmax	pmax		
	comp=Z,100nm,0.7s							
TEY					pmax	pmax		
	comp=E,70nm,0.7s							
TEY					pmax	pmax		
	comp=N,30nm,0.6s							
TEY					pmax	pmax		
	comp=Z,600nm,2.0s							
TEY					smax	smax		
	comp=E,60nm,1.2s							
TEY					smax	smax		
	comp=N,100nm,1.1s							
EKMR	**Ekimchan**	**10.95**	**290**	*e*P		**P**	**04 20 22.8**	**+2.1**
EKMR					AMB	AMB	04 20 24.0	
	comp=N,60nm,0.8s							
EKMR					AMB	AMB	04 20 24.0	
	comp=N,200nm,0.8s							
EKMR					AMB	AMB	04 20 24.0	
	comp=N,290nm,0.8s							
JOT	**Ohata**	**11.16**	**218**	P		**P**	**04 20 20.7**	**-2.4**
OSSR	**Ossora**	**11.41**	**35**	P		**P**	**04 20 25.7**	**+0.4**
OSSR				S		**S**	**04 22 28.7**	**-1.8**
JTM	**Tenmabayashi**	**11.66**	**216**	P		**P**	**04 20 27.6**	**-0.8**
JTM	**Tenmabayashi**	**11.66**	**216**	P		**P**	**04 20 27.2**	**-1.2**
SEY	**Seymchan**	**12.45**	**5**	P		**P**	**04 20 37.5**	**+1.2**
	comp=N,8.4nm,0.3s,baz=185,slow=12,SNR=7.8							
SEY				S		**S**	**04 22 52.1**	**+1.4**
	comp=N,0.9nm,0.3s,baz=356,slow=18,SNR=4.0							
TILK	**Tilichiki**	**13.37**	**36**	P		**P**	**04 20 45.0**	**-1.0**
TILK				S		**S**	**04 23 03.4**	**-5.0**
BMKR	**Bomnak**	**13.58**	**296**	*i* P		**P**	**04 20 49.8**	**+1.4**
	comp=N,10.0nm,0.5s							
BMKR				*i* P		**P**	**04 20 49.8**	**+1.4**
	comp=N,40nm,0.5s							
BMKR				*i* P		**P**	**04 20 49.8**	**+1.4**
	comp=N,70nm,0.5s							
USA0B	**Ussuriysk Arra**	**13.85**	**250**	P		**P**	**04 20 51.2**	**-0.3**
USA0B	**Ussuriysk Arra**	**13.85**	**250**	P		**P**	**04 20 51.2**	**-0.3**
USRK	**Ussuriysk Ar.**	**13.85**	**250**	P		**P**	**04 20 51.3**	**-0.1**
	baz=58,slow=10,SNR=109							
USRK				S		**S**	**04 23 16.5**	**-1.8**
	baz=59,slow=15,SNR=1.0							
USRK				ScP		**ScP**	**04 28 19.7**	**-0.1**
	baz=342,slow=0.6,SNR=12							
JYA	**Atsumi**	**14.09**	**216**	P		**P**	**04 20 54.5**	**+0.5**
JMM	**Marumori**	**14.36**	**211**	P		**P**	**04 20 56.7**	**-0.1**
JMM	**Marumori**	**14.36**	**211**	P		**P**	**04 20 56.1**	**-0.7**
ZEA	**Zeya**	**14.41**	**292**	*e*P		**P**	**04 20 57.9**	**+0.8**
ZEA					AMB	AMB	04 20 58.3	
	comp=N,270nm,1.0s							
ZEA					AMB	AMB	04 20 58.3	
	comp=N,360nm,1.0s

comp=N,550nm,1.0s
ZEA AMS AMS 04 27 27.0
comp=N,900nm,9.0s
ZEA AMS AMS 04 27 27.0
comp=N,800nm,9.0s
ZEA Zeya 14.41 292 *de*P **P 04 20 57.1 0.0**
ZEA *e*S **S 04 23 27.0 -1.6**
ZEA pmax pmax
comp=E,360nm,1.2s
ZEA pmax pmax
comp=N,270nm,1.0s
ZEA pmax pmax
comp=Z,550nm,1.0s
ZEA smax smax
comp=E,7µm,5.0s
ZEA smax smax
comp=N,2µm,6.0s
ZEA MLR MLR
comp=Z,800nm,10.0s
ZEA MLR MLR
comp=E,900nm,8.0s
KROS Kirovskiy 14.63 294 *i*P **P 04 20 59.9 +0.5**
KROS AMB AMB 04 21 02.0
comp=E,100nm,0.8s
KROS AMB AMB 04 21 02.0
comp=E,240nm,0.8s
KROS AMB AMB 04 21 02.0
comp=E,240nm,0.8s
SMY Shemya 14.99 72 P **P 04 21 02.2 -1.0**
SMY pmax pmax
comp=Z,233nm,0.8s
SMY Shemya 14.99 72 P **P 04 21 02.1 -1.0**
MDJ Mudanjiang 15.09 255 IAmb IAmb 04 21 04.4
comp=Z,83nm,0.8s
JSD Sado 15.13 219 P **P 04 21 04.8 -0.1**
JSD Sado 15.13 219 P **P 04 21 04.4 -0.5**
JYT Yasato 16.04 210 P **P 04 21 13.6 -0.9**
JYT Yasato 16.04 210 P **P 04 21 13.7 -0.7**
JYT S **S 04 23 59.3 -0.9**
YAK Yakutsk 16.07 323 P **P 04 21 13.9 -0.4**
comp=Z,2.8nm,0.3s,baz=326,slow=1.4,SNR=140
YAK S **S 04 23 59.2 -0.6**
comp=Z,0.4nm,0.3s,baz=156,slow=23,SNR=15
YAK ScP **ScP 04 28 22.4 -1.0**
comp=Z,0.2nm,0.3s,baz=109,slow=1.8,SNR=6.5
YAK Yakutsk 16.07 323 *e*P **P 04 21 13.4 -0.9**
YAK Yakutsk 16.07 323 *d i*P **P 04 21 13.3 -1.0**
YAK *e*S **S 04 23 58.7 -1.1**
YAK pmax pmax
comp=Z,1µm,1.0s
YAK pmax pmax
comp=N,458nm,1.3s
YAK pmax pmax
comp=E,457nm,1.3s
YAK smax smax
comp=E,6µm,3.0s
YAK smax smax
comp=N,6µm,3.3s
YAK Yakutsk 16.07 323 P **P 04 21 13.7 -0.6**
YAK S **S 04 23 57.5 -2.3**
YAK **ScP 04 28 22.9 -0.6**
MAJO Matsushiro 16.46 216 *c i*P **P 04 21 18.4 -0.4**
MAJO Matsushiro 16.46 216 P **P 04 21 18.0 -0.8**
MAT Matsushiro 16.46 216 P **P 04 21 18.5 -0.4**
MAT S **S 04 24 08.4 +0.7**
MAT Matsushiro 16.46 216 P **P 04 21 18.4 -0.4**
MJAR Matsushiro Arr 16.46 216 P **P 04 21 18.9 0.0**
comp=N,7.8nm,0.3s,baz=20,slow=9.5,SNR=468
MJAR S **S 04 24 08.7 +1.0**
comp=N,0.1nm,0.3s,baz=44,slow=16,SNR=2.5
MJAR ScP **ScP 04 28 23.9 -1.0**
comp=N,0.1nm,0.3s,baz=27,slow=1.2,SNR=37
MJAR Matsushiro Arr 16.46 216 P **P 04 21 18.3 -0.5**
MJAR S **S 04 24 07.6 -0.1**
MJAR pmax pmax
comp=Z,307nm,1.0s
MJAR Matsushiro Arr 16.46 216 P **P 04 21 18.3 -0.5**
MJAR **S 04 24 07.6 -0.1**
MJAR **ScP 04 28 23.7 -1.1**
JGN Niukaw 17.08 218 P **P 04 21 24.8 -0.4**
JOD2 Odawara 2 17.29 212 P **P 04 21 26.0 -1.1**
JGF Kuroka 17.61 217 P **P 04 21 30.2 0.0**
JGF Kuroka 17.61 217 P **P 04 21 30.2 0.0**
INU Inuyama 17.96 217 P **P 04 21 33.5 +0.2**
CN2 Changchun 18.07 258 *j i*P **P 04 21 32.5 -1.7**
CN2 *e*S **S 04 24 31.8 -2.4**
CN2 pmax pmax
comp=Z,100nm,1.0s
CN2 pmax pmax
comp=Z,320nm,3.0s
JSG Sagara 18.13 213 P **P 04 21 36.9 +2.0**
JWT Wachi 18.67 221 P **P 04 21 39.7 -0.1**
JWT Wachi 18.67 221 P **P 04 21 38.7 -1.0**
JIE Ise 18.93 216 P **P 04 21 43.1 +1.0**
JHJ2 Mitsune 19.04 208 P **P 04 21 43.3 +0.1**
JHJ Hachijo jima 2 19.05 208 P **P 04 21 43.8 +0.5**
comp=Z,119nm,0.3s,baz=34,slow=1.6,SNR=22
HHU Hamhung 19.09 245 P **P 04 21 44.2 +0.6**
HHU S **S 04 24 50.5 -0.5**
JAD Aida 19.48 223 P **P 04 21 47.8 +0.6**
HIA Hailar 19.58 278 P **P 04 21 48.0 +0.1**
HIA pmax pmax
comp=Z,261nm,1.2s
HIA Hailar 19.58 278 P **P 04 21 48.0 +0.1**
WOSN Wonsan 19.66 243 P **P 04 21 49.6 +0.8**
JHS Saijyo 19.90 225 P **P 04 21 51.9 +0.9**
JHS Saijyo 19.90 225 P **P 04 21 51.0 -0.1**
SNY Shenyang 20.29 255 *j i*P **P 04 21 55.1 +0.7**
SNY S **S 04 25 11.4 +1.2**
SNY pmax pmax
comp=Z,78nm,0.9s
PYS Pyongsong 20.51 246 P **P 04 21 57.5 +1.0**
KS19 Wonju Array Si 20.58 239 P **P 04 21 57.3 +0.1**
KS19 IAmb IAmb 04 22 02.2
comp=Z,107nm,1.0s
KSRS Korea Array 20.59 239 P **P 04 21 58.8 +1.6**
comp=Z,76nm,0.8s,baz=41,slow=9.6,SNR=92
KSRS PcP **PcP 04 25 46.0 +0.8**
comp=Z,12nm,0.8s,baz=24,slow=1.2,SNR=8.7
KSRS ScP **ScP 04 28 34.0 +0.1**
comp=Z,84nm,1.1s,baz=18,slow=1.7,SNR=58
KSAR Wonju Array Be 20.62 239 P **P 04 21 57.0 -0.5**
KSAR Wonju Array Be 20.62 239 P **P 04 21 57.0 -0.5**
KSAR **PcP 04 25 45.8 +0.4**
JMN Monobe 20.64 222 P **P 04 21 58.9 +1.1**
JMN Monobe 20.64 222 P **P 04 21 57.7 -0.1**
PYAG Pyongyang 20.70 246 P **P 04 21 59.4 +1.2**
PYAG S **S 04 25 25.1 +8.3**
ADK Adak 20.70 73 P **P 04 21 57.5 -0.5**
ADK pmax pmax
comp=Z,139nm,1.0s
ADK Adak 20.70 73 P **P 04 21 57.5 -0.5**
ADK IAmb IAmb 04 21 58.9
comp=Z,139nm,1.0s
SUJ Sinuiju 20.77 250 P **P 04 21 59.4 +0.6**
SUJ S **S 04 25 18.7 +0.9**
INCN Inchon 21.28 241 P **P 04 22 03.6 +0.1**
INCN pmax pmax
comp=Z,59nm,1.0s
INCN Inchon 21.28 241 P **P 04 22 03.6 +0.1**
INCN IAmb IAmb 04 22 08.1
comp=Z,59nm,0.9s
HJU Haeju 21.40 244 P **P 04 22 05.6 +1.1**
TJN Taejon 21.68 238 *j e*P **P 04 22 08.4 +1.3**
JTU Tsushima 22.05 231 P **P 04 22 11.1 +0.6**
JTU IAmb IAmb 04 22 16.8
comp=Z,59nm,1.0s
BOD Bodaibo 22.15 303 *e*P **P 04 22 10.3 -0.7**
BOD pmax pmax
comp=Z,203nm,1.0s
JNU Nakatsue 22.48 226 P **P 04 22 15.4 +0.9**
comp=Z,61nm,0.7s,baz=24,slow=3.6,SNR=28
JNU S **S 04 25 45.8 +0.6**
comp=Z,47nm,1.0s,baz=115,slow=19,SNR=5.4
JNU ScP **ScP 04 28 38.1 -0.8**
comp=Z,34nm,0.9s,baz=48,slow=4.7,SNR=10
JNU Nakatsue 22.48 226 P **P 04 22 15.3 +0.9**
JNU Nakatsue 22.48 226 P **P 04 22 14.5 +0.1**
JNU IAmb IAmb 04 22 19.1
comp=Z,72nm,0.9s
JNU **ScP 04 28 38.1 -0.8**
CIT Chita 22.80 288 *e*P **P 04 22 18.1 +1.1**
CIT pmax pmax
comp=Z,568nm,1.1s
DL2 Dalian 23.24 251 *j i*P **P 04 22 21.6 +0.6**
DL2 sP **sP 04 24 32.8 -5.1**
DL2 S **S 04 25 57.3 +0.4**
DL2 ScP **ScP 04 28 40.6 -0.2**
DL2 ScS **ScS 04 32 23.6 -4.1**
DL2 pmax pmax
comp=Z,200nm,0.7s
DL2 pmax pmax
comp=Z,140nm,5.8s
TIXI Tiksi 23.25 343 P **P 04 22 20.9 +0.3**
comp=Z,86nm,0.4s,baz=144,slow=8.2,SNR=86
TIXI S **S 04 25 50.4 -5.8**
comp=Z,17nm,0.6s,baz=137,slow=19,SNR=2.8
TIXI ScP **ScP 04 28 39.5 -0.7**
comp=Z,28nm,0.7s,baz=102,slow=6.7,SNR=7.8
TIXI Tiksi 23.25 343 *e*P **P 04 22 20.6 0.0**
TIXI Tiksi 23.25 343 *d i*P **P 04 22 20.6 0.0**
TIXI pmax pmax
comp=Z,410nm,1.7s
TIXI Tiksi 23.25 343 P **P 04 22 21.1 +0.5**
TIXI IAmb IAmb 04 22 21.6
comp=Z,168nm,1.0s
TIXI **ScP 04 28 39.4 -0.8**
JSU Suzuyama 24.03 225 P **P 04 22 28.1 -0.2**
JSU IAmb IAmb 04 22 30.2
comp=Z,65nm,0.8s
JCJ Chichijima 24.23 198 P **P 04 22 30.1 +0.1**
comp=Z,408nm,0.6s,baz=285,slow=21,SNR=14
JCJ ScP **ScP 04 28 41.8 -1.9**
comp=Z,226nm,0.9s,baz=249,slow=7.8,SNR=5.3
JCJ Chichijima 24.23 198 P **P 04 22 29.2 -0.7**
JCJ **ScP 04 28 41.7 -2.0**
BJI Beijing 25.91 259 P **P 04 22 45.8 +1.1**
BJI S **S 04 26 39.8 +1.0**
BJI pmax pmax
comp=Z,26nm,1.0s
BJI pmax pmax
comp=Z,260nm,3.6s
BJT Baijiatuau 25.93 259 P **P 04 22 44.6 -0.3**
BJT pmax pmax
comp=Z,20nm,0.7s
BJT Baijiatuau 25.93 259 P **P 04 22 44.6 -0.3**
ANM Nome 26.96 42 P **P 04 22 54.0 +0.4**
ANM pmax pmax
comp=Z,79nm,0.9s
ANM Nome 26.96 42 P **P 04 22 54.0 +0.4**
ANM IAmb IAmb 04 22 56.5
comp=Z,78nm,0.9s
TIA Tai'an 27.71 252 P **P 04 23 01.3 +0.7**
TIA sP **sP 04 25 24.8 +1.6**
TIA S **S 04 27 07.4 +0.3**
TIA ScS **ScS 04 32 43.5 -3.5**
TIA pmax pmax
comp=Z,130nm,0.7s
TIA pmax pmax
comp=Z,120nm,4.4s
ULN Ulaanbaatar 28.00 281 *e*P **P 04 23 03.4 +0.2**
ULN Ulaanbaatar 28.00 281 P **P 04 23 03.4 +0.2**
ULN pmax pmax
comp=Z,60nm,0.9s
ULN Ulaanbaatar 28.00 281 P **P 04 23 03.4 +0.2**
ULN ScP **ScP 04 28 53.7 -1.1**
IRK Irkutsk 28.32 291 *e*P **P 04 23 06.3 +0.6**
IRK pmax pmax
comp=Z,367nm,1.7s
HHC Hu-ho-hao-te 28.37 265 *e*P **P 04 23 07.3 +0.9**
HHC sP sP 04 25 29.9 +0.3
HHC S **S 04 27 16.9 -0.6**
HHC pmax pmax
comp=Z,67nm,1.1s
HHC pmax pmax
comp=Z,360nm,4.1s
SONM Songino Array 28.43 282 P **P 04 23 07.5 +0.6**
comp=Z,16nm,0.7s,baz=80,slow=8.0,SNR=69
SONM PcP **PcP 04 26 03.1 +0.1**
comp=Z,10nm,0.8s,baz=76,slow=1.4,SNR=4.2
SONM ScP **ScP 04 28 55.3 -0.9**
comp=Z,15nm,0.8s,baz=103,slow=1.8,SNR=11
SONM Songino Array 28.43 282 P **P 04 23 06.3 -0.6**
SONM **PcP 04 26 03.2 +0.3**
SONM **ScP 04 28 55.2 -0.9**
RDOG Red Dog Mine 28.65 35 P **P 04 23 08.8 +0.4**
RDOG IAmb IAmb 04 23 09.9
comp=Z,82nm,1.0s
RDOG pP **pP 04 24 34.4 +1.5**
TLY Talaya 28.84 291 P **P 04 23 12.0 +1.7**
comp=Z,170nm,0.8s,baz=71,slow=6.1,SNR=245
TLY PcP **PcP 04 26 04.3 +0.5**
comp=Z,20nm,0.7s,baz=231,slow=3.5,SNR=5.6
TLY ScP **ScP 04 28 56.6 -0.6**
comp=Z,7.0nm,0.6s,baz=195,slow=5.6,SNR=4.7
TLY Talaya 28.84 291 *e*P **P 04 23 11.6 +1.3**
TLY Talaya 28.84 291 P **P 04 23 12.2 +1.9**
TLY Talaya 28.84 291 *c i*P **P 04 23 11.6 +1.3**
TLY *e*S **S 04 27 25.9 +1.5**
TLY MLR MLR
comp=Z,404nm,8.0s
TLY Talaya 28.84 291 P **P 04 23 10.0 -0.3**
TLY pP **pP 04 24 36.3 +1.2**
TLY **PcP 04 26 04.0 +0.2**
TLY **ScP 04 28 56.2 -1.0**
ZAK Zakamensk 29.46 288 *e*P **P 04 23 16.7 +0.9**
ZAK pmax pmax
comp=Z,203nm,1.1s
NJ2 Nanjing 29.61 243 *j i*P **P 04 23 17.9 +0.7**
NJ2 S **S 04 27 37.1 +0.4**
NJ2 ScP **ScP 04 28 59.6 -0.4**
NJ2 ScS **ScS 04 32 56.3 +0.2**
NJ2 pmax pmax
comp=Z,78nm,0.9s
NJ2 pmax pmax
comp=Z,170nm,4.6s
TIY Taiyuan 29.64 259 *e*P **P 04 23 18.9 +1.4**
TIY S **S 04 27 39.4 +2.2**
TIY pmax pmax
comp=Z,200nm,0.9s
CNBA Chernabura Isl 30.20 62 P **P 04 23 21.7 -0.3**
CNBA IAmb IAmb 04 23 24.1
comp=Z,55nm,0.6s
MOY Mondy 30.43 291 *e*P **P 04 23 25.5 +1.3**
MOY pmax pmax
comp=Z,317nm,1.7s
TTA Tatalina 31.00 46 P **P 04 23 29.8 +1.0**
TTA pmax pmax
comp=Z,106nm,0.8s
TTA Tatalina 31.00 46 P **P 04 23 29.8 +1.0**
TTA IAmb IAmb 04 23 30.7
comp=Z,106nm,0.8s
SVW2 Sparrevohn 31.32 49 P **P 04 23 33.1 +1.6**
SVW2 IAmb IAmb 04 23 34.1
comp=Z,101nm,0.8s
SVW2 PcP **PcP 04 26 11.0 +0.8**
A21K Barrow 31.54 30 P **P 04 23 33.5 +0.3**
baz=258,SNR=5.3
A21K S **S 04 28 03.7 -1.6**
baz=258
IMAR Indian Mountai 31.95 40 P **P 04 23 37.4 +0.5**
IMAR PcP **PcP 04 26 12.8 +0.9**
CHIR Chirikof Islan 32.18 59 P **P 04 23 39.5 +0.6**
CHIR IAmb IAmb 04 23 41.2
comp=Z,140nm,0.8s
CHIR **S 04 28 17.5 +2.0**
PPLA Purkeypile 32.74 46 P **P 04 23 44.4 +0.6**
PPLA IAmb IAmb 04 23 50.1
comp=Z,168nm,1.0s
PPLA PcP **PcP 04 26 14.9 +0.5**
PPLA **S 04 28 24.1 -0.2**
PPLA ScP **ScP 04 29 11.0 +0.7**
RSO Redoubt South 32.77 50 P **P 04 23 44.9 +0.8**
SII Sitkinak Islan 32.78 58 P **P 04 23 44.5 +0.3**
SII IAmb IAmb 04 23 46.6
comp=Z,80nm,1.0s
SII **S 04 28 25.6 +0.8**
OHAK Old Harbor 33.11 56 P **P 04 23 47.0 +0.2**
SKT Skwentna 33.15 47 P **P 04 23 47.8 +0.7**
SKT IAmb IAmb 04 23 50.1
comp=Z,63nm,0.8s
BPAW Bear Paw Mtn. 33.18 43 P **P 04 23 48.2 +0.8**
BPAW IAmb IAmb 04 23 50.8
comp=Z,90nm,0.8s
KTH Kantishna Hill 33.25 44 P **P 04 23 48.5 +0.5**
WHN Wuhan 33.32 247 *j i*P **P 04 23 49.3 +0.3**
WHN pP **pP 04 25 12.8 -2.9**
WHN PcP **PcP 04 26 17.1 +0.8**
WHN S **S 04 28 31.8 -1.8**
WHN ScP **ScP 04 29 12.8 +0.2**
WHN ScS **ScS 04 33 13.9 -1.2**
WHN pmax pmax
comp=Z,170nm,0.6s
KDAK Kodiak Island 33.35 55 P **P 04 23 49.2 +0.3**
comp=Z,84nm,0.6s,baz=161,slow=0.4,SNR=121
KDAK PcP **PcP 04 26 16.4 +0.5**
comp=Z,33nm,0.7s,baz=259,slow=4.3,SNR=5.9
KDAK S **S 04 28 33.7 +0.4**
comp=Z,36nm,0.9s,baz=309,slow=23,SNR=14
KDAK ScP **ScP 04 29 12.4 +0.2**
comp=Z,119nm,1.0s,baz=253,slow=3.0,SNR=12
KDAK Kodiak Island 33.35 55 P **P 04 23 49.4 +0.5**
KDAK IAmb IAmb 04 23 49.9
comp=Z,99nm,0.7s
KDAK **PcP 04 26 17.0 +1.0**
KDAK **S 04 28 34.6 +1.3**
KDAK ScP **ScP 04 29 12.4 +0.2**
COLD Coldfoot 33.38 38 P **P 04 23 49.5 +0.5**
baz=270,SNR=168
COLD S **S 04 28 32.8 -0.7**
baz=270
COLD Coldfoot 33.38 38 P **P 04 23 49.9 +0.9**
HOM Homer 33.45 51 P **P 04 23 49.9 +0.2**
baz=281
H11N2 WAKE ISLAND Hy 33.51 151 P **P 04 23 51.0 +0.5**
baz=292,slow=7.1,SNR=19
H11N1 WAKE ISLAND Hy 33.52 151 P **P 04 23 51.0 +0.4**
baz=292,slow=7.1,SNR=21
H11N3 WAKE ISLAND Hy 33.53 151 P **P 04 23 51.1 +0.5**
baz=292,slow=7.1,SNR=13
TRF Thorofare Moun 33.55 45 P **P 04 23 51.2 +0.6**
TRF IAmb IAmb 04 23 54.2
comp=Z,107nm,0.9s
SUA Susitna One 33.59 48 P **P 04 23 51.7 +0.7**
SUA IAmb IAmb 04 23 52.3
comp=Z,78nm,0.6s
TOLK Toolik Lake Re 33.63 35 P **P 04 23 51.5 +0.4**
baz=269,SNR=77
TOLK S **S 04 28 36.4 -1.0**
baz=269
TOLK Toolik Lake Re 33.63 35 P **P 04 23 51.8 +0.7**
CUT Chulitna 33.68 46 P **P 04 23 51.9 +0.4**
baz=278,SNR=23
CNPM China Poot 33.68 52 P **P 04 23 51.9 +0.2**
BWN Browne 33.84 43 P **P 04 23 54.4 +1.5**
WAKE Wake Island 33.85 151 P **P 04 23 53.7 +0.1**
NEA2 Nenana 33.97 42 P **P 04 23 54.6 +0.6**
baz=275,SNR=121
NEA2 S **S 04 28 42.8 +0.2**
baz=275
MCK McKinley 34.12 44 P **P 04 23 56.1 +0.8**
MCK pmax pmax
comp=Z,128nm,0.8s
MCK McKinley 34.12 44 P **P 04 23 56.1 +0.8**
MCK IAmb IAmb 04 23 57.0
comp=Z,128nm,0.8s
XAN Xi'an 34.18 257 P **P 04 23 56.4 +0.1**
XAN PcP **PcP 04 26 19.1 +0.2**
XAN S **S 04 28 42.6 -4.0**
XAN ScP **ScP 04 29 14.9 -0.8**
XAN ScS **ScS 04 33 17.5 -2.2**
XAN pmax pmax
comp=Z,130nm,1.3s
XAN pmax pmax
comp=Z,380nm,3.7s
XAN Xi'an 34.18 257 P **P 04 23 56.2 -0.1**
XAN pmax pmax
comp=Z,143nm,1.2s
XAN Xi'an 34.18 257 P **P 04 23 56.2 -0.1**
XAN IAmb IAmb 04 23 57.8
comp=Z,143nm,1.2s
RND Reindeer 34.19 44 P **P 04 23 56.6 +0.6**
RND pmax pmax
comp=Z,126nm,0.9s
RND Reindeer 34.19 44 P **P 04 23 56.6 +0.6**
RND IAmb IAmb 04 23 57.2
comp=Z,126nm,0.9s
O22K Cooper Landing 34.24 50 P **P 04 23 56.9 +0.5**
baz=281,SNR=14
MDM Murphy Dome 34.29 42 P **P 04 23 57.6 +0.8**
MDM IAmb IAmb 04 23 59.3
comp=Z,155nm,1.0s
PMR Palmer 34.33 48 P **P 04 23 57.8 +0.7**
PMR pmax pmax
comp=Z,61nm,0.9s
PMR Palmer 34.33 48 P **P 04 23 57.8 +0.7**
PMR IAmb IAmb 04 23 58.5
comp=Z,61nm,0.9s
GHO Glory Hole Cre 34.40 47 P **P 04 23 58.4 +0.6**
WRH Wood River Hil 34.40 42 P **P 04 23 58.4 +0.7**
SEW Seward 34.45 50 P **P 04 23 58.8 +0.8**
TCOL CIGO, UAF Yank 34.46 42 P **P 04 23 58.9 +0.8**
baz=276,SNR=56
COLA College 34.46 42 *d i*P **P 04 23 58.9 +0.8**
COLA pmax pmax
comp=Z,318nm,0.9s
COLA College 34.46 42 P **P 04 23 58.8 +0.8**
NRIK Noril'sk 34.49 326 P **P 04 23 58.7 +0.4**
comp=Z,58nm,0.8s,baz=92,slow=8.2,SNR=80
NRIK PcP **PcP 04 26 19.4 +0.4**
comp=Z,43nm,1.0s,baz=225,slow=2.9,SNR=2.6
NRIK S **S 04 28 50.7 +0.5**
comp=Z,21nm,1.1s,baz=106,slow=22,SNR=6.3
NRIK ScP **ScP 04 29 15.2 -0.9**
comp=Z,32nm,0.7s,baz=121,slow=3.8,SNR=7.6
CCB Clear Creek Bu 34.51 42 P **P 04 23 59.2 +0.7**
CCB IAmb IAmb 04 24 02.2
comp=Z,135nm,1.1s
H11S1 WAKE ISLAND Hy 34.60 152 P **P 04 23 59.8 +0.1**
baz=266,slow=5.9,SNR=19
H11S3 WAKE ISLAND Hy 34.61 152 P **P 04 24 00.2 +0.5**
baz=266,slow=5.9,SNR=9.2
POKR Poker Plat Res 34.61 41 P **P 04 24 00.2 +0.8**
baz=276,SNR=56
H11S2 WAKE ISLAND Hy 34.62 152 P **P 04 24 00.3 +0.5**
baz=266,slow=5.9,SNR=9.5
SML Sawmill 34.67 47 P **P 04 24 00.9 +0.9**
IL31 34.88 42 IAmb IAmb 04 24 03.5
comp=Z,121nm,0.7s
ILAR Eielson Array 34.88 42 P **P 04 24 02.0 +0.4**
comp=Z,106nm,0.7s,baz=267,slow=8.0,SNR=580
ILAR PcP **PcP 04 26 19.9 -0.5**
comp=Z,14nm,1.0s,baz=276,slow=4.8,SNR=5.6
ILAR S **S 04 28 55.8 -0.6**
comp=Z,5.9nm,1.1s,baz=267,slow=12,SNR=6.4
ILAR ScP **ScP 04 29 16.9 -0.8**
comp=Z,16nm,1.0s,baz=285,slow=4.1,SNR=16
DHY Denali Highway 34.90 45 IAmb IAmb 04 24 03.3
comp=Z,153nm,0.8s
HDA Harding Lake 34.90 42 P **P 04 24 01.7 -0.1**
baz=277,SNR=52
HDA Harding Lake 34.90 42 IAmb IAmb 04 24 05.4
comp=Z,100nm,0.8s
SSLB Suanglung 35.04 231 P **P 04 24 02.9 -0.7**
SCM Sheep Creek Mo 35.13 47 IAmb IAmb 04 24 06.3
comp=Z,173nm,0.9s
GLI Glacier Island 35.43 49 IAmb IAmb 04 24 07.6
comp=Z,108nm,0.8s
BMAR Burnt Mountain 35.54 37 P **P 04 24 08.2 +1.0**
BMAR **PcP 04 26 23.8 +1.5**
M24K Tolsona, Glenn 35.62 46 P **P 04 24 09.1 +1.2**
baz=281,SNR=10.0
FID Port Fidalgo 35.76 49 IAmb IAmb 04 24 10.2
comp=Z,150nm,1.2s
RIDG Independent Ri 35.92 43 IAmb IAmb 04 24 11.8
comp=Z,124nm,0.9s
LZH Lanzhou 36.06 264 *j*P **P 04 24 13.9 +1.8**
LZH PP **PP 04 25 54.3 +4.6**
LZH S **S 04 29 15.0 -0.1**
LZH ScP **ScP 04 29 22.5 -0.3**
LZH sS sS 04 31 59.8 +3.3
LZH SS **SS 04 32 18.1 -3.6**
LZH ScS **ScS 04 33 29.3 -1.0**
LZH pmax pmax
comp=Z,540nm,1.0s
LZH pmax pmax
comp=Z,1µm,4.9s
Q23K Middleton Isla 36.13 51 P **P 04 24 13.5 +1.4**
baz=285
EYAK Cordova Ski Ar 36.15 49 IAmb IAmb 04 24 14.4
comp=Z,111nm,0.8s
SCRK Sand Creek 36.25 43 P **P 04 24 12.9 -0.3**
baz=280,SNR=219
SCRK S **S 04 29 14.5 -2.6**

	baz=280							
DOT	**Dot Lake**	**36.28**	**43**	IAmb	IAmb	04 24 15.0		
	comp=Z,124nm,0.7s							
MENT	**Mentasta**	**36.57**	**45**	IAmb	IAmb	04 24 17.6		
	comp=Z,50nm,0.6s							
GTA	**Gaotai**	**36.66**	**272**	⇓P	**P**	**04 24 17.9**	**+1.0**	
GTA				pP	pP	04 25 44.9	-0.4	
GTA				sP	sP	04 26 38.1	-4.6	
GTA				S	**S**	**04 29 23.4**	**-0.4**	
GTA				ScS	**ScS**	**04 33 32.8**	**-0.7**	
GTA				pmax	pmax			
	comp=Z,130nm,0.9s							
GTA				pmax	pmax			
	comp=Z,500nm,9.1s							
GLB	**Gilahina Butte**	**36.86**	**47**	IAmb	IAmb	04 24 23.9		
	comp=Z,54nm,0.6s							
K27K	**Chicken**	**37.07**	**43**	P	**P**	**04 24 20.5**	**+0.7**	
	baz=282							
K27K				S	**S**	**04 29 28.9**	**-0.1**	
	baz=282							
VRDI	**Verde Repeater**	**37.08**	**47**	P	**P**	**04 24 21.6**	**+1.5**	
VRDI				IAmb	IAmb	04 24 22.4		
	comp=Z,109nm,0.8s							
GUMO	**Guam**	**37.13**	**189**	P	**P**	**04 24 18.4**	**-2.5**	
	comp=Z,86nm,0.6s,baz=185,slow=5.6,SNR=8.5							
GUMO	**Guam**	**37.13**	**189**	P	**P**	**04 24 18.6**	**-2.3**	
GUMO				pmax	pmax			
	comp=Z,169nm,1.0s							
GUMO	**Guam**	**37.13**	**189**	P	**P**	**04 24 18.6**	**-2.3**	
GUMO				IAmb	IAmb	04 24 18.9		
	comp=Z,169nm,0.9s							
MCARA	**McCarthy VSAT**	**37.24**	**47**	P	**P**	**04 24 21.6**	**+0.3**	
BCAR	**Beaver Creek A**	**37.40**	**44**	P	**P**	**04 24 23.8**	**+1.2**	
TGL	**Tana Glacier**	**37.49**	**48**	IAmb	IAmb	04 24 28.5		
	comp=Z,108nm,0.8s							
EPYK	**Eagle Plains**	**38.77**	**38**	P	**P**	**04 24 34.6**	**+0.8**	
	baz=283,SNR=105							
EPYK				S	**S**	**04 29 55.1**	**+0.9**	
	baz=283							
EPYK	**Eagle Plains**	**38.77**	**38**	P	**P**	**04 24 34.2**	**+0.5**	
ZAA0	**Zalesovo Array**	**38.88**	**301**	P	**P**	**04 24 35.3**	**+0.6**	
ZAA0				IAmb	IAmb	04 24 36.0		
	comp=Z,86nm,0.7s							
ZALV	**Zalesovo Beam**	**38.88**	**301**	P	**P**	**04 24 35.2**	**+0.5**	
	comp=Z,77nm,0.6s,baz=62,slow=7.2,SNR=201							
ZALV				PcP	**PcP**	**04 26 33.0**	**+0.2**	
	comp=Z,86nm,0.9s,baz=64,slow=3.4,SNR=19							
ZALV				ScP	**ScP**	**04 29 31.9**	**-1.0**	
	comp=Z,9.0nm,0.6s,baz=67,slow=3.9,SNR=6.5							
ZALV				PKiKP	**PKiKP**	**04 33 43.1**	**-0.9**	
	comp=Z,4.1nm,0.8s,baz=136,slow=3.6,SNR=6.2							
ZALV	**Zalesovo Beam**	**38.88**	**301**	P	**P**	**04 24 35.0**	**+0.3**	
ZALV					**PcP**	**04 26 32.8**	**0.0**	
ZALV					**ScP**	**04 29 32.3**	**-0.6**	
PCA	**Pinnacle**	**38.91**	**48**	IAmb	IAmb	04 24 37.0		
	comp=Z,146nm,0.8s							
DGZ	**Jazzator, Alta**	**39.15**	**294**	*d iP*	**P**	**04 24 39.0**	**+1.8**	
DGZ				pmax	pmax			
	comp=Z,207nm,0.9s							
CD2	**Chengdu**	**39.50**	**258**	⇓P	**P**	**04 24 41.1**	**+1.0**	
CD2				ScP	**ScP**	**04 29 35.3**	**-0.5**	
CD2				S	**S**	**04 30 06.0**	**+0.1**	
CD2				SS	**SS**	**04 33 22.0**	**-4.5**	
CD2				ScS	**ScS**	**04 33 47.9**	**-2.3**	
CD2				pmax	pmax			
	comp=Z,370nm,0.8s							
CD2				pmax	pmax			
	comp=Z,310nm,4.2s							
GYA	**Guiyang**	**40.89**	**251**	⇓P	**P**	**04 24 51.9**	**+0.5**	
GYA				pP	pP	04 26 17.8	-4.4	
GYA				ScP	**ScP**	**04 29 41.4**	**-0.1**	
GYA				S	**S**	**04 30 24.8**	**-1.6**	
GYA				ScS	**ScS**	**04 33 55.6**	**-3.3**	
GYA				pmax	pmax			
	comp=Z,95nm,0.8s							
GYA				pmax	pmax			
	comp=Z,260nm,3.5s							
WHY	**Whitehorse**	**41.24**	**46**	IAmb	IAmb	04 24 56.5		
	comp=Z,124nm,0.8s							
A36M	**Sachs Harbour**	**41.34**	**28**	P	**P**	**04 24 54.6**	**+0.5**	
	baz=286,SNR=5.4							
SKAG	**Skagway**	**41.47**	**48**	P	**P**	**04 24 57.4**	**+2.0**	
SKAG				IAmb	IAmb	04 24 58.4		
	comp=Z,99nm,1.1s							
ZSN	**Zaisan**	**41.71**	**292**	⇓*iP*	**P**	**04 24 58.7**	**+1.2**	
	comp=Z,123nm,1.5s,baz=292							
ZSN				*e*S	**S**	**04 30 38.7**	**+1.2**	
	comp=Z,76nm,2.8s,baz=292							
ZSN	**Zaisan**	**41.71**	**292**	*d iP*	**P**	**04 24 58.7**	**+1.2**	
ZSN				*e*S	**S**	**04 30 38.6**	**+1.1**	
ZSN				pmax	pmax			
	comp=Z,123nm,1.5s							
WMQ	**Urumqi**	**41.86**	**286**	P	**P**	**04 25 00.0**	**+1.2**	
WMQ				pP	pP	04 26 30.9	+0.8	
WMQ				PP	**PP**	**04 26 49.0**	**+0.6**	
WMQ				S	**S**	**04 30 41.5**	**+1.6**	
WMQ				SS	**SS**	**04 34 05.9**	**+1.3**	
WMQ				pmax	pmax			
	comp=Z,100nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,440nm,5.1s							
BESE	**Bessie Mountai**	**42.03**	**49**	IAmb	IAmb	04 25 02.8		
	comp=Z,83nm,0.8s							
JIS	**Juneau Island**	**42.38**	**49**	IAmb	IAmb	04 25 05.7		
	comp=Z,109nm,0.8s							
SIT	**Sitka**	**42.42**	**51**	P	**P**	**04 25 05.0**	**+2.1**	
SIT				pmax	pmax			
	comp=Z,148nm,0.9s							
SIT	**Sitka**	**42.42**	**51**	P	**P**	**04 25 05.0**	**+2.1**	
SIT				IAmb	IAmb	04 25 06.3		
	comp=Z,148nm,0.9s							
C36M	**Paulatuk**	**42.53**	**32**	P	**P**	**04 25 03.6**	**+0.1**	
	baz=290,SNR=15							
C36M				S	**S**	**04 30 47.3**	**-1.3**	
	baz=290							
C36M	**Paulatuk**	**42.53**	**32**	P	**P**	**04 25 04.1**	**+0.5**	
TGY	**Tagaytay City**	**43.42**	**224**	P	**P**	**04 25 12.6**	**+1.3**	
	comp=Z,316nm,0.7s,baz=256,slow=1.2,SNR=10.0							
TGY				ScP	**ScP**	**04 29 52.0**	**+0.3**	
	comp=Z,161nm,0.3s,baz=230,slow=5.7,SNR=4.8							
MK31	**Makanchi Array**	**43.56**	**293**	*i* P	**P**	**04 25 12.6**	**+0.5**	
MKAR	**Makanchi Array**	**43.56**	**293**	P	**P**	**04 25 12.8**	**+0.7**	
	comp=Z,190nm,0.8s,baz=64,slow=8.2,SNR=542							
MKAR				PcP	**PcP**	**04 26 48.6**	**-0.1**	
	comp=Z,46nm,0.8s,baz=49,slow=3.8,SNR=7.5							
MKAR				ScP	**ScP**	**04 29 50.7**	**-1.2**	
	comp=Z,7.1nm,0.9s,baz=59,slow=4.2,SNR=3.6							
MKAR				PKiKP	**PKiKP**	**04 33 49.0**	**+0.5**	
	comp=Z,1.2nm,0.9s,baz=84,slow=4.5,SNR=1.8							
MKAR				P4KPbc		05 02 58.7		
	comp=Z,1.2nm,0.7s,baz=63,slow=5.6,SNR=7.4							
MKAR	**Makanchi Array**	**43.56**	**293**	*e*P	**P**	**04 25 11.9**	**-0.2**	
MKAR	**Makanchi Array**	**43.56**	**293**	P	**P**	**04 25 12.2**	**+0.2**	
MKAR					**ScP**	**04 29 51.2**	**-0.7**	
KURK	**Kurchatov**	**43.71**	**299**	*e*P	**P**	**04 25 13.7**	**+0.6**	
KURK	**Kurchatov**	**43.71**	**299**	P	**P**	**04 25 14.1**	**+1.0**	
KURK	**Kurchatov**	**43.71**	**299**	*d iP*	**P**	**04 25 13.7**	**+0.6**	
KURK				pmax	pmax			
	comp=Z,734nm,1.3s							
KURK	**Kurchatov**	**43.71**	**299**	P	**P**	**04 25 13.5**	**+0.4**	
KURK					**ScP**	**04 29 51.5**	**-0.8**	
MAKZ	**Makanchi**	**43.74**	**293**	P	**P**	**04 25 14.7**	**+1.3**	
MAKZ				pmax	pmax			
	comp=Z,225nm,1.1s							
MAKZ	**Makanchi**	**43.74**	**293**	P	**P**	**04 25 14.7**	**+1.3**	
KURBB	**Kurchatov Arra**	**43.80**	**299**	P	**P**	**04 25 14.7**	**+0.9**	
	comp=Z,280nm,0.7s,baz=65,slow=8.2,SNR=817							
KURBB				PcP	**PcP**	**04 26 49.3**	**0.0**	
	comp=Z,70nm,0.8s,baz=63,slow=3.4,SNR=21							
KURBB				ScP	**ScP**	**04 29 52.0**	**-0.7**	
	comp=Z,5.0nm,0.5s,baz=63,slow=4.1,SNR=4.6							
KURBB				S	**S**	**04 31 06.8**	**-0.4**	
	comp=Z,1.7nm,0.7s,baz=59,slow=14,SNR=2.3							
KURBB				PKiKP	**PKiKP**	**04 33 47.5**	**-1.1**	
	comp=Z,0.7nm,0.7s,baz=50,slow=1.4,SNR=2.0							
KURBB	**Kurchatov Arra**	**43.80**	**299**	P	**P**	**04 25 14.3**	**+0.5**	
KWAJ	**Kwajalein Atol**	**44.08**	**155**	P	**P**	**04 25 16.9**	**+0.5**	
KWAJ				pmax	pmax			
	comp=Z,371nm,0.7s							
KWAJ	**Kwajalein Atol**	**44.08**	**155**	P	**P**	**04 25 16.9**	**+0.5**	
WRAK	**Wrangell Islan**	**44.17**	**51**	IAmb	IAmb	04 25 20.0		
	comp=Z,94nm,0.9s							
CRAG	**Craig**	**44.21**	**53**	IAmb	IAmb	04 25 20.3		
	comp=Z,64nm,0.8s							
KMI	**Kunming**	**44.25**	**253**	⇓P	**P**	**04 25 18.9**	**+0.9**	
KMI				pP	PcP	04 26 51.4	-0.2	
KMI				sP	sP	04 27 49.1	+2.4	
KMI				ScP	**ScP**	**04 29 55.0**	**-0.3**	
KMI				S	**S**	**04 31 14.8**	**0.0**	
KMI				sS	sS	04 34 05.5	+3.2	
KMI				ScS	**ScS**	**04 34 18.9**	**-1.5**	
KMI				SS	**SS**	**04 34 45.9**	**+1.6**	
KMI				pmax	pmax			
	comp=Z,310nm,0.8s							
KMI				pmax	pmax			
	comp=Z,580nm,3.5s							
DLBC	**Dease Lake**	**44.39**	**48**	P	**P**	**04 25 20.5**	**+2.1**	
	comp=Z,99nm,0.9s,baz=295,slow=7.5,SNR=172							
DLBC				ScP	**ScP**	**04 29 55.2**	**+0.1**	
	comp=Z,26nm,1.1s,baz=302,slow=3.6,SNR=11							
DLBC	**Dease Lake**	**44.39**	**48**	IAmb	IAmb	04 25 21.8		
	comp=Z,127nm,1.0s							
QIZ	**Qiongzhong**	**44.80**	**240**	P	**P**	**04 25 21.8**	**-0.2**	
QIZ				S	**S**	**04 31 23.1**	**+0.9**	
QIZ				sS	**sS**	**04 34 09.6**	**-0.6**	
DIB	**Dawson Inlet,**	**45.62**	**55**	IAmb	IAmb	04 25 30.5		
	comp=Z,72nm,0.7s							
EUNU	**Eureka**	**45.77**	**12**	P	**P**	**04 25 28.7**	**0.0**	
EUNU				IAmb	IAmb	04 25 29.8		
	comp=Z,125nm,0.9s							
SLVN	**Son La**	**46.40**	**248**	P	**P**	**04 25 34.6**	**+0.3**	
SLVN				IAmb	IAmb	04 25 36.7		
	comp=Z,89nm,0.9s							
JOHN	**Johnston Islan**	**46.65**	**122**	P	**P**	**04 25 36.3**	**+0.2**	
TDK	**Taldyqorghan**	**46.81**	**292**	*i* P	**P**	**04 25 38.5**	**+1.5**	
	comp=Z,864nm,0.8s,baz=292							
TDK				*i* S	**S**	**04 31 51.0**	**+1.2**	
	baz=292							
TDK	**Taldyqorghan**	**46.81**	**292**	*i* P	**P**	**04 25 38.5**	**+1.5**	
TDK				*i* S	**S**	**04 31 51.0**	**+1.2**	
TDK				pmax	pmax			
	comp=Z,864nm,0.8s							
BVAR	**Borovoye Array**	**46.98**	**306**	P	**P**	**04 25 39.0**	**+0.8**	
	comp=Z,236nm,0.6s,baz=95,slow=7.9,SNR=819							
BVAR				PcP	**PcP**	**04 27 00.8**	**+0.2**	
	comp=Z,75nm,0.7s,baz=132,slow=6.2,SNR=15							
BVAR				ScP	**ScP**	**04 30 04.9**	**-1.1**	
	comp=Z,27nm,0.9s,baz=120,slow=5.8,SNR=8.2							
BVAR				S	**S**	**04 31 52.4**	**+0.4**	
	comp=Z,5.9nm,1.0s,baz=60,slow=20,SNR=2.8							
BRVK	**Borovoye**	**47.02**	**306**	*e*P	**P**	**04 25 39.0**	**+0.5**	
BRVK	**Borovoye**	**47.02**	**306**	P	**P**	**04 25 39.6**	**+1.1**	
BRVK	**Borovoye**	**47.02**	**306**	*d iP*	**P**	**04 25 39.0**	**+0.5**	
BRVK				pmax	pmax			
	comp=Z,386nm,0.8s							
BRVK	**Borovoye**	**47.02**	**306**	P	**P**	**04 25 38.9**	**+0.4**	
PDGK	**Podgornoye**	**47.11**	**290**	P	**P**	**04 25 39.8**	**+0.4**	
SHLS	**Shalkode**	**47.22**	**290**	⇓*iP*	**P**	**04 25 39.1**	**-1.3**	
	comp=Z,225nm,1.8s,baz=289							
SHLS				*i* S	**S**	**04 31 53.1**	**-2.8**	
	baz=289							
SHLS	**Shalkode**	**47.22**	**290**	*d iP*	**P**	**04 25 39.0**	**-1.3**	
SHLS				*i* S	**S**	**04 31 53.0**	**-2.8**	
SHLS				pmax	pmax			
	comp=Z,225nm,1.8s							
BRZS	**Berezniki**	**47.36**	**301**	⇓*iP*	**P**	**04 25 41.6**	**+0.6**	
	comp=Z,468nm,1.1s,baz=301							
BRZS	**Berezniki**	**47.36**	**301**	*d iP*	**P**	**04 25 41.6**	**+0.6**	
BRZS				pmax	pmax			
	comp=Z,468nm,1.1s							
UZB	**Uzynbulak**	**47.49**	**290**	⇓*iP*	**P**	**04 25 43.2**	**+0.8**	
	comp=Z,147nm,1.2s,baz=290							
UZB				*i* S	**S**	**04 32 00.6**	**+0.9**	
	comp=Z,57nm,3.3s,baz=290							
UZB	**Uzynbulak**	**47.49**	**290**	*d iP*	**P**	**04 25 43.1**	**+0.8**	
UZB				*i* S	**S**	**04 32 00.5**	**+0.9**	
UZB				pmax	pmax			
	comp=Z,147nm,1.2s							
KPKS	**Kokpek**	**47.51**	**291**	⇓*iP*	**P**	**04 25 43.4**	**+0.9**	
	comp=Z,169nm,0.9s,baz=290							
KPKS	**Kokpek**	**47.51**	**291**	*d iP*	**P**	**04 25 43.3**	**+0.9**	
KPKS				pmax	pmax			
	comp=Z,169nm,0.9s							
RES	**Resolute Bay**	**47.84**	**19**	P	**P**	**04 25 44.2**	**0.0**	
	comp=Z,124nm,0.8s,baz=308,slow=6.3,SNR=61							
RES				PcP	**PcP**	**04 27 03.8**	**+0.5**	
	comp=Z,26nm,0.8s,baz=322,slow=4.6,SNR=4.1							
RES				ScP	**ScP**	**04 30 09.0**	**-0.1**	
	comp=Z,19nm,0.9s,baz=297,slow=4.2,SNR=5.0							
RES	**Resolute Bay**	**47.84**	**19**	P	**P**	**04 25 44.3**	**0.0**	
RES				IAmb	IAmb	04 25 45.2		
	comp=Z,141nm,0.8s							
NOR	**Nord**	**47.88**	**357**	⇓*iP*	**P**	**04 25 44.1**	**-0.4**	
	comp=Z,77nm,1.1s							
NOR	**Nord**	**47.88**	**357**	⇓*iP*	**P**	**04 25 44.1**	**-0.4**	
NOR				pmax	pmax			
	comp=Z,77nm,1.1s							
SATY	**Saty**	**47.91**	**290**	⇓*iP*	**P**	**04 25 46.7**	**+1.1**	
	comp=Z,171nm,1.3s,baz=290							
SATY				*i* S	**S**	**04 32 07.1**	**+1.7**	
	comp=Z,71nm,3.1s,baz=290							
SATY	**Saty**	**47.91**	**290**	*d iP*	**P**	**04 25 46.6**	**+1.1**	
SATY				*i* S	**S**	**04 32 07.0**	**+1.7**	
SATY				pmax	pmax			
	comp=Z,171nm,1.3s							
PRZ	**Przheval'sk**	**48.25**	**290**	IAmb	IAmb	04 25 56.8		
	comp=Z,140nm,0.9s							
CHKK	**Chushkaly**	**48.30**	**292**	*e*P	**P**	**04 25 48.8**	**+0.6**	
	baz=292							
CHKK	**Chushkaly**	**48.30**	**292**	*e*P	**P**	**04 25 48.8**	**+0.6**	
LSA	**Lhasa**	**48.30**	**268**	P	**P**	**04 25 51.0**	**+2.0**	
LSA				pmax	pmax			
	comp=Z,580nm,0.8s							
LSA	**Lhasa**	**48.30**	**268**	IAmb	IAmb	04 25 52.0		
	comp=Z,144nm,0.8s							
KBS	**Kingsbay**	**48.41**	**350**	⇓*eP*	**P**	**04 25 49.0**	**+0.5**	
KBS	**Kingsbay**	**48.41**	**350**	P	**P**	**04 25 49.0**	**+0.5**	
KBS	**Kingsbay**	**48.41**	**350**	*e*P	**P**	**04 25 49.1**	**+0.5**	
BBB	**Bella Bella**	**48.43**	**55**	IAmb	IAmb	04 25 51.6		
	comp=Z,117nm,0.9s							
SPA0	**Spitsbergen Ar**	**48.49**	**349**	P	**P**	**04 25 49.5**	**+0.3**	
SPA0				IAmb	IAmb	04 25 50.9		
	comp=Z,263nm,1.1s							
SPA0	**Spitsbergen Ar**	**48.49**	**349**	*e*P	**P**	**04 25 48.5**	**-0.6**	
SPITS	**Spitsbergen Ar**	**48.49**	**349**	P	**P**	**04 25 49.3**	**+0.1**	
	comp=Z,30nm,0.4s,baz=96,slow=7.6,SNR=94							
SPITS				PcP	**PcP**	**04 27 05.8**	**+0.2**	
	comp=Z,80nm,0.9s,baz=166,slow=7.0,SNR=4.5							
SPITS				ScP	**ScP**	**04 30 11.8**	**-0.1**	
	comp=Z,10.0nm,0.7s,baz=165,slow=6.0,SNR=2.5							
KUU	**Kurty**	**48.66**	**292**	⇓*iP*	**P**	**04 25 51.0**	**+0.1**	
	comp=Z,275nm,1.1s,baz=292							
KUU				*i* S	**S**	**04 32 16.6**	**+1.2**	
	comp=Z,212nm,5.0s,baz=292							
KUU	**Kurty**	**48.66**	**292**	*d iP*	**P**	**04 25 51.0**	**+0.1**	
KUU				*i* S	**S**	**04 32 16.6**	**+1.2**	
KUU				pmax	pmax			
	comp=Z,275nm,1.1s							
MDOK	**Medeo**	**48.66**	**291**	*i* P	**P**	**04 25 52.1**	**+1.0**	
	baz=291							
MDOK				*e*S	**S**	**04 32 16.9**	**+1.2**	
	baz=291							
MDOK	**Medeo**	**48.66**	**291**	*i* P	**P**	**04 25 52.1**	**+1.0**	
MDOK				*e*S	**S**	**04 32 16.9**	**+1.2**	
AAA	**Alma-Ata**	**48.71**	**291**	⇓*iP*	**P**	**04 25 52.6**	**+1.2**	
	comp=Z,208nm,1.4s,baz=291							
AAA				*e*S	**S**	**04 32 17.7**	**+1.5**	
	baz=291							
AAA	**Alma-Ata**	**48.71**	**291**	*d iP*	**P**	**04 25 52.6**	**+1.2**	
AAA				*e*S	**S**	**04 32 17.7**	**+1.5**	
AAA				pmax	pmax			
	comp=Z,208nm,1.4s							
TNSS	**Tian-Shan**	**48.80**	**291**	⇓*iP*	**P**	**04 25 53.4**	**+0.9**	
	baz=291							
TNSS	**Tian-Shan**	**48.80**	**291**	⇓*iP*	**P**	**04 25 53.3**	**+0.9**	
MTBS	**Maitube**	**49.05**	**291**	*e*P	**P**	**04 25 55.1**	**+1.1**	
	baz=291							
MTBS	**Maitube**	**49.05**	**291**	*e*P	**P**	**04 25 55.0**	**+1.1**	
YKA	**Yellowknife Ar**	**49.06**	**38**	P	**P**	**04 25 53.7**	**+0.2**	
	comp=Z,88nm,0.7s,baz=304,slow=7.4,SNR=305							
YKA				PcP	**PcP**	**04 27 08.5**	**+0.6**	
	comp=Z,28nm,0.9s,baz=316,slow=4.0,SNR=10							
YKA				ScP	**ScP**	**04 30 14.2**	**-0.3**	
	comp=Z,7.6nm,0.8s,baz=306,slow=4.2,SNR=7.9							
YKA				S	**S**	**04 32 20.7**	**+0.5**	
	comp=Z,9.3nm,1.2s,baz=304,slow=14,SNR=5.6							
BTLS	**Baital**	**49.33**	**295**	⇓*iP*	**P**	**04 25 56.4**	**+0.5**	
	comp=Z,84nm,1.1s,baz=294							
BTLS				*i* S	**S**	**04 32 24.7**	**+0.2**	
	comp=Z,22nm,1.9s,baz=294							
BTLS	**Baital**	**49.33**	**295**	*d iP*	**P**	**04 25 56.4**	**+0.5**	
BTLS				*i* S	**S**	**04 32 24.7**	**+0.2**	
BTLS				pmax	pmax			
	comp=Z,84nm,1.1s							
OPA	**Opana**	**49.49**	**106**	P	**P**	**04 25 57.7**	**+0.4**	
OPA				pmax	pmax			
	comp=Z,186nm,0.8s							
OPA	**Opana**	**49.49**	**106**	P	**P**	**04 25 57.7**	**+0.4**	
OPA				IAmb	IAmb	04 25 59.6		
	comp=Z,186nm,0.8s							
HSPB	**Hornsund (broa**	**49.54**	**348**	*e*P	**P**	**04 25 56.9**	**0.0**	
HSPB	**Hornsund (broa**	**49.54**	**348**	*e*P	**P**	**04 25 56.7**	**-0.1**	
TKM2	**Tokmak 2**	**49.66**	**292**	P	**P**	**04 25 59.4**	**+0.8**	
	SNR=90							
KIP	**Kipapa**	**49.68**	**106** ⇑	*iP*	**P**	**04 25 59.8**	**+1.1**	
KIP				pmax	pmax			
	comp=Z,250nm,1.7s							
KIP	**Kipapa**	**49.68**	**106**	P	**P**	**04 25 59.5**	**+0.8**	
KIP				IAmb	IAmb	04 26 01.6		
	comp=Z,109nm,1.0s							
ULHL	**Ulahol**	**49.68**	**291**	P	**P**	**04 26 00.4**	**+1.7**	
	SNR=12							
SVE	**Sverdlovsk**	**49.74**	**314**	*e*P	**P**	**04 25 59.7**	**+1.1**	
SVE	**Sverdlovsk**	**49.74**	**314**	*c iP*	**P**	**04 25 59.7**	**+1.1**	
SVE				pmax	pmax			
	comp=Z,495nm,1.0s							
SGDS	**Sogindy**	**49.92**	**293**	⇓*iP*	**P**	**04 26 01.4**	**+1.1**	
	comp=Z,185nm,1.0s,baz=292							
SGDS				*e*S	**S**	**04 32 34.6**	**+1.8**	
	comp=Z,90nm,4.7s,baz=292							
SGDS	**Sogindy**	**49.92**	**293**	*d iP*	**P**	**04 26 01.4**	**+1.1**	
SGDS				*e*S	**S**	**04 32 34.5**	**+1.8**	
SGDS				pmax	pmax			
	comp=Z,185nm,1.0s							
USP	**Ospenovka**	**50.11**	**293**	P	**P**	**04 26 02.9**	**+1.3**	
	SNR=210							
CHMS	**Chumysh**	**50.12**	**292**	P	**P**	**04 26 02.7**	**+1.0**	
	SNR=75							
KBK	**Karagaybulak**	**50.21**	**292**	P	**P**	**04 26 03.8**	**+1.2**	
	SNR=73							
KZA	**Kyzart**	**50.37**	**291**	P	**P**	**04 26 05.9**	**+1.9**	
	SNR=21							
AAK	**Ala-Archa**	**50.49**	**292**	P	**P**	**04 26 05.4**	**+0.8**	
	SNR=174							
AAK	**Ala-Archa**	**50.49**	**292**	P	**P**	**04 26 05.7**	**+1.1**	
AAK	**Ala-Archa**	**50.49**	**292**	*e*P	**P**	**04 26 05.5**	**+0.9**	
AAK	**Ala-Archa**	**50.49**	**292**	P	**P**	**04 26 06.1**	**+1.5**	
AAK	**Ala-Archa**	**50.49**	**292**	*d iP*	**P**	**04 26 05.5**	**+0.9**	
AAK				pmax	pmax			
	comp=Z,783nm,0.8s							
SHL	**Shillong**	**50.70**	**263**	P	**P**	**04 26 07.5**	**+1.1**	
	SNR=96							
UCH	**Uchtor**	**50.72**	**292**	P	**P**	**04 26 08.5**	**+1.8**	
	SNR=7.2							
TULEG	**Thule**	**50.74**	**11**	IAmb	IAmb	04 26 05.9		
	comp=Z,95nm,0.7s							
EKS2	**Erkin-Say**	**50.90**	**292**	P	**P**	**04 26 08.7**	**+1.1**	
	SNR=213							
ARU	**Arti**	**50.91**	**314**	P	**P**	**04 26 07.8**	**+0.5**	
	comp=Z,207nm,0.8s,baz=49,slow=5.4,SNR=483							
ARU				PcP	**PcP**	**04 27 15.0**	**+0.1**	
	comp=Z,47nm,0.8s,baz=218,slow=4.2,SNR=5.8							
ARU				ScP	**ScP**	**04 30 21.1**	**-1.5**	
	comp=Z,10nm,0.6s,baz=338,slow=3.4,SNR=5.2							
ARU	**Arti**	**50.91**	**314**	*e*P	**P**	**04 26 07.6**	**+0.4**	
ARU	**Arti**	**50.91**	**314**	*d iP*	**P**	**04 26 07.6**	**+0.4**	
ARU						04 27 14.5		
ARU				*PP	**pP**	**04 27 43.1**	**+0.2**	
ARU						04 28 07.8		
ARU				*SP	**sP**	**04 28 34.7**	**-3.2**	
ARU				S	**S**	**04 32 48.1**	**+2.6**	
ARU						04 35 00.2		
ARU				pmax	pmax			
	comp=Z,750nm,0.9s							
ARU	**Arti**	**50.91**	**314**	P	**P**	**04 26 07.5**	**+0.4**	
BJO1	**Bjornoya**	**51.02**	**345**	*e*P	**P**	**04 26 07.3**	**-0.5**	
AML	**Almayashu**	**51.26**	**292**	P	**P**	**04 26 12.1**	**+1.5**	
	SNR=24							
HLK	**Haleakala**	**51.26**	**105**	P	**P**	**04 26 10.8**	**+0.2**	
HLK				IAmb	IAmb	04 26 12.9		
	comp=Z,196nm,1.1s							
CHTO	**Chiang Mai**	**51.31**	**251**	P	**P**	**04 26 12.3**	**+1.6**	
CHTO	**Chiang Mai**	**51.31**	**251**	P	**P**	**04 26 11.9**	**+1.2**	
CHTO				pmax	pmax			
	comp=Z,174nm,1.1s							
CHTO	**Chiang Mai**	**51.31**	**251**	P	**P**	**04 26 11.9**	**+1.2**	
CHTO				IAmb	IAmb	04 26 13.1		
	comp=Z,174nm,1.1s							
DLV	**T Lat**	**51.36**	**236**	P	**P**	**04 26 10.6**	**-0.7**	
KSH	**Kashi**	**51.50**	**288**	⇓*iP*	P	04 26 17.0	+5.0	
KSH				S	**S**	**04 33 02.8

KEV **Kevo** 53.08 339 P **P** 04 26 22.4 -0.2
KEV IAmb IAmb 04 26 24.0
comp=Z,172nm,0.8s
RAMN **Ramite** 53.09 269 *e*P **P** 04 26 24.6 +0.9
RAMN **Ramite** 53.09 269 *e*P **P** 04 26 24.6 +0.9
HAMF **Hammerfest** 53.15 340 *e*P **P** 04 26 22.9 -0.2
A04D **Lummi Island** 53.24 56 P **P** 04 26 25.6 +1.4
baz=308,SNR=12
TNTI **Ternate** 53.27 209 P **P** 04 26 24.5 -0.3
TNTI IAmb IAmb 04 26 26.1
comp=Z,142nm,1.1s
SMPI **Sarmi** 53.27 194 P **P** 04 26 25.5 +0.7
comp=Z,2μmcomp=Z,168nm,1.3s
KKN **Kakani** 53.35 270 *e*P **P** 04 26 26.8 +1.3
KKN **Kakani** 53.35 270 *e*P **P** 04 26 26.8 +1.3
IUG **Iuzhnay** 53.40 294 ||*i*P **P** 04 26 26.9 +1.3
comp=Z,214nm,0.8s,baz=294
IUG *i*S **S** 04 33 21.3 +1.8
comp=Z,134nm,5.0s,baz=294
IUG **Iuzhnay** 53.40 294 *d i*P **P** 04 26 26.8 +1.3
IUG *i*S **S** 04 33 21.3 +1.8
IUG pmax pmax
comp=Z,213nm,0.8s
PKI **Pulchoki** 53.42 270 *e*P **P** 04 26 27.0 +0.9
comp=Z,872nm,1.1s
PKI **Pulchoki** 53.42 270 *e*P **P** 04 26 27.0 +0.9
comp=Z,872nm,1.1s
PKIN **Phulchoki** 53.42 270 *e*P **P** 04 26 26.9 +0.8
comp=Z,700nm,1.1s
PKIN **Phulchoki** 53.42 270 *e*P **P** 04 26 26.9 +0.8
comp=Z,700nm,1.1s
NLWA **Neilton Lookou** 53.43 58 P **P** 04 26 25.8 +0.2
JAY **Jayapura** 53.50 192 P **P** 04 26 27.4 +1.0
comp=Z,142nm,0.9s,baz=323,slow=5.1,SNR=29
JAY PcP **PcP** 04 27 25.4 0.0
comp=Z,20nm,0.8s,baz=104,slow=4.2,SNR=1.8
JAY ScP **ScP** 04 30 33.5 -1.1
comp=Z,19nm,1.0s,baz=324,slow=6.1,SNR=3.8
KIRV **Kirov** 53.57 320 P **P** 04 26 27.0 +0.7
comp=Z,467nm,0.7s,baz=58,slow=2.7,SNR=172
KIRV PcP **PcP** 04 27 25.2 +0.2
comp=Z,164nm,0.7s,baz=360,slow=1.1,SNR=10
KIRV ScP **ScP** 04 30 32.9 -1.2
comp=Z,24nm,0.7s,baz=4.7,slow=8.0,SNR=4.0
DMN **Daman** 53.58 270 *e*P **P** 04 26 28.4 +1.2
comp=Z,1μm,0.9s
DMN **Daman** 53.58 270 *e*P **P** 04 26 28.4 +1.2
comp=Z,1μm,0.9s
ARCES **ARCESS Array B** 53.59 339 P **P** 04 26 27.1 +0.7
comp=Z,111nm,0.6s,baz=34,slow=7.0,SNR=384
ARCES PcP **PcP** 04 27 25.1 +0.2
comp=Z,42nm,0.8s,baz=10,slow=5.5,SNR=6.3
ARCES ScP **ScP** 04 30 33.2 -0.9
comp=Z,10.0nm,0.7s,baz=46,slow=6.9,SNR=4.9
ARCES **ARCESS Array B** 53.59 339 P **P** 04 26 26.1 -0.2
ARE0 **ARCESS Array S** 53.59 339 *e*P **P** 04 26 26.6 +0.3
GKN **Gorkha** 53.61 271 *e*P **P** 04 26 28.4 +1.1
comp=Z,2μm,1.0s
GKN **Gorkha** 53.61 271 *e*P **P** 04 26 28.4 +1.1
comp=Z,2μm,1.0s
SIJI **Sorong** 53.73 204 P **P** 04 26 28.6 +0.5
comp=Z,110nm,0.7s,baz=17,slow=9.2,SNR=20
D03D **Eldon** 53.76 57 P **P** 04 26 29.6 +1.7
baz=308,SNR=66
B05A **Bryant** 53.84 56 P **P** 04 26 29.7 +1.3
baz=308,SNR=59
B06A **Marblemount** 54.01 55 IAmb IAmb 04 26 31.6
comp=Z,104nm,0.9s
TMCR **Tamitsa** 54.05 330 *e*P **P** 04 26 27.6 -2.0
TMCR pmax pmax
comp=Z,478nm,0.7s
E03A **Lebam** 54.12 58 IAmb IAmb 04 26 33.1
comp=Z,93nm,0.8s
D04E **Lakebay** 54.15 57 P **P** 04 26 32.7 +2.1
baz=308,SNR=8.3
KOLN **Koldanda** 54.43 272 *e*P **P** 04 26 34.3 +1.1
comp=Z,1μm,0.9s
KOLN **Koldanda** 54.43 272 *e*P **P** 04 26 34.3 +1.1
comp=Z,1μm,0.9s
AB31 **Akbulak array** 54.53 306 P **P** 04 26 32.2 -1.1
ABKAR **Akbulak array** 54.53 306 P **P** 04 26 33.8 +0.6
RABL **Rabaul** 54.57 178 P **P** 04 26 34.0 0.0
PYUN **Piuthan** 54.59 272 *e*P **P** 04 26 35.5 +1.2
comp=Z,2μm,1.0s
PYUN **Piuthan** 54.59 272 *e*P **P** 04 26 35.5 +1.2
comp=Z,2μm,1.0s
E04D **Cinebar** 54.65 58 P **P** 04 26 36.0 +1.9
baz=309,SNR=34
KRVT **Keravat (AS076** 54.68 178 P **P** 04 26 35.6 +0.9
comp=Z,406nm,0.6s,baz=166,slow=9.3,SNR=9.2
C06D **Leavenworth** 54.69 55 P **P** 04 26 35.8 +1.3
baz=309
F04D **Rainier, OR** 54.71 58 P **P** 04 26 35.9 +1.3
baz=309
AKTO **Aktyubinsk** 54.77 309 P **P** 04 26 35.7 +0.8
comp=Z,112nm,0.9s,baz=56,slow=7.2,SNR=148
AKTO PcP **PcP** 04 27 29.8 0.0
comp=Z,68nm,0.9s,baz=348,slow=5.0,SNR=6.9
AKTO ScP **ScP** 04 30 38.3 -1.3
comp=Z,20nm,0.8s,baz=349,slow=2.4,SNR=5.3
GTOI **Gorontalo** 54.85 214 P **P** 04 26 35.0 -0.9
comp=Z,423nmcomp=Z,40nm,1.3s
TRO **Tromso** 54.94 341 ||*i*P **P** 04 26 35.8 0.0
G03D **McMinnville, O** 55.12 59 P **P** 04 26 39.2 +1.8
baz=309
F04A **Amboy** 55.12 58 IAmb IAmb 04 26 39.8
comp=Z,76nm,0.7s
B08A **Colville Reser** 55.23 54 IAmb IAmb 04 26 40.4
comp=Z,121nm,1.0s
FAKI **Fak Fak** 55.46 202 P **P** 04 26 39.6 -0.6
comp=Z,3μmcomp=Z,278nm,1.1s
FAKI **Fak Fak** 55.46 202 IAmb IAmb 04 26 41.7
comp=Z,252nm,1.0s
COR **Corvallis** 55.49 60 P **P** 04 26 40.8 +0.8
COR pmax pmax
comp=Z,82nm,1.1s
COR **Corvallis** 55.49 60 P **P** 04 26 40.8 +0.8
I02D **Swisshome** 55.49 61 P **P** 04 26 42.4 +2.3
baz=310,SNR=9.0
F05D **White Salmon** 55.67 58 P **P** 04 26 43.0 +1.7
baz=310,SNR=10
KLMR **Klimovskoe** 55.83 326 *d*iP **P** 04 26 42.5 +0.4
KLMR *e* 04 28 53.2
KLMR pmax pmax
comp=Z,589nm,1.0s
KLMR **Klimovskoe** 55.83 326 ||*i*P **P** 04 26 42.6 +0.4
KLMR *i*P **P** 04 26 42.6 +0.4
KLMR *i*P **P** 04 26 42.6 +0.4
KLMR AMP 04 26 43.8
comp=Z,589nm,1.0s
KLMR *e*PP **PP** 04 28 53.3 0.0
H04D **Lebanon** 55.84 60 P **P** 04 26 44.6 +2.1
baz=310,SNR=15
I03D **Drain, OR** 56.03 61 P **P** 04 26 46.2 +2.4
baz=310,SNR=36
J01E **Myrtle Point** 56.05 62 P **P** 04 26 46.5 +2.6
baz=310,SNR=13
C09A **Chrisman Ranch** 56.13 54 IAmb IAmb 04 26 46.4
comp=Z,80nm,0.7s
G05D **Wamic, OR** 56.16 58 P **P** 04 26 46.6 +1.9
baz=310,SNR=17
MPSI **Mapaga** 56.28 217 P **P** 04 26 46.3 +0.4
comp=Z,799nmcomp=Z,65nm,1.2s
SANI **Sanana** 56.36 209 P **P** 04 26 46.1 -0.3
comp=Z,3μmcomp=Z,289nm,1.3s
NEW **Newport** 56.42 53 P **P** 04 26 47.5 +1.0
baz=310,SNR=90
F07A **Phinny Hill Vi** 56.49 57 IAmb IAmb 04 26 49.7
comp=Z,126nm,0.7s
I04A **Tendick Farm,** 56.49 60 P **P** 04 26 48.9 +1.8
baz=310,SNR=47
K02D **Willamette Mer** 56.50 62 P **P** 04 26 49.3 +2.0
baz=310,SNR=15
I05D **Terrebonne, OR** 56.73 59 P **P** 04 26 50.6 +1.9
baz=310,SNR=90
L02E **Cave Junction** 56.88 62 P **P** 04 26 52.0 +2.3
baz=311,SNR=7.7
N2IH **Innhavet** 56.94 341 *e*P **P** 04 26 49.8 +0.2
NIL **Nilore** 56.96 284 P **P** 04 26 50.5 0.0
NIL pmax pmax
comp=Z,1μm,0.9s
NIL **Nilore** 56.96 284 P **P** 04 26 50.5 0.0
N2VI **Vinje** 56.99 342 *e*P **P** 04 26 50.2 +0.2
SUMG **Summit** 57.00 3 ||*i*P **P** 04 26 51.1 +0.5
comp=Z,687nm,1.0s
SUMG **Summit** 57.00 3 ||*i*P **P** 04 26 51.1 +0.5
SUMG pmax pmax
comp=Z,690nm,1.0s
SUMG **Summit** 57.00 3 IAmb IAmb 04 26 52.3
comp=Z,281nm,1.0s
J04D **Umpqua Nationa** 57.02 61 P **P** 04 26 53.2 +2.3
baz=311,SNR=42
STEI **Steigen** 57.11 341 *i*P **P** 04 26 50.6 -0.2
LOF **Lofoten** 57.28 342 *e*P **P** 04 26 51.7 -0.3
PINE **Pine Mountain** 57.30 59 IAmb IAmb 04 26 56.2
comp=Z,138nm,0.8s
N2TV **Tvrnvik** 57.44 341 *e*P **P** 04 26 53.4 +0.2
J05D **Fort Rock, OR** 57.47 60 P **P** 04 26 56.3 +2.4
baz=311,SNR=47
WALA **Waterton Lakes** 57.52 51 IAmb IAmb 04 26 56.1
comp=Z,144nm,0.7s
FAUS **Fauske** 57.57 341 *e*P **P** 04 26 54.2 +0.3
L04D **Klamath Falls** 57.58 62 P **P** 04 26 56.6 +2.0
baz=311,SNR=62
N2SV **S rvVgen** 57.59 342 *e*P **P** 04 26 53.7 -0.4
K04D **Chiloquin, OR** 57.62 61 P **P** 04 26 57.0 +2.1
baz=311,SNR=12
K04D S **S** 04 34 19.7 +5.4
baz=311
SBUM **Sibu** 57.65 227 P **P** 04 26 58.0 +2.7
NBB08 **Skaug oppvekst** 57.70 341 *e*P **P** 04 26 55.5 +0.7
JMIC **Jan Mayen** 57.79 352 P **P** 04 26 56.4 +0.9
comp=Z,96nm,0.8s,baz=89,slow=6.9,SNR=4.5
M02C **Callahan** 57.81 63 P **P** 04 26 58.6 +2.4
baz=311,SNR=19
N2VA **Vr,y** 57.85 342 *e*P **P** 04 26 55.8 -0.1
K05A **Summer Lake** 58.03 60 IAmb IAmb 04 27 01.2
comp=Z,111nm,1.0s
N2RO **R,st** 58.09 342 *e*P **P** 04 26 57.3 -0.2
NBB05 **Inndyr** 58.12 341 *e*P **P** 04 26 57.9 +0.1
M04C **Macdoel** 58.12 62 P **P** 04 27 00.5 +2.1
baz=312,SNR=28
N02D **Trinity Center** 58.17 63 P **P** 04 27 01.0 +2.4
baz=312,SNR=21
JTMT **Jette** 58.21 52 IAmb IAmb 04 27 02.0
comp=Z,91nm,0.8s
NBB30 **Finnes** 58.23 341 *e*P **P** 04 26 58.6 +0.2
NBB17 **Glomfjord BVr** 58.32 341 *e*P **P** 04 26 59.6 +0.5
O02D **Mt. Diablo Mer** 58.65 64 P **P** 04 27 04.0 +2.1
baz=312,SNR=9.9
KONS **Konsvik** 58.77 341 *e*P **P** 04 27 02.5 +0.4
MOR8 **Moi Rana** 58.78 341 ||*i*P **P** 04 27 01.2 -1.0
NBB40 **Tonnes** 58.78 341 *e*P **P** 04 27 02.4 +0.2
MOD **Modoc Plateau** 58.90 61 IAmb IAmb 04 27 06.4
comp=Z,59nm,0.7s
STOK **Stokkvaagen** 58.93 341 *e*P **P** 04 27 03.5 +0.3
KBL **Kabul** 58.94 288 P **P** 04 27 04.0 -0.1
SNR=133
KBL **Kabul** 58.94 288 P **P** 04 27 03.8 -0.3
KBL pmax pmax
comp=Z,285nm,0.9s
KBL **Kabul** 58.94 288 P **P** 04 27 03.8 -0.3
MSO **Missoula** 58.99 53 P **P** 04 27 05.4 +1.2
baz=312,SNR=175
MSO **Missoula** 58.99 53 IAmb IAmb 04 27 06.4
comp=Z,154nm,0.8s
FFC **Flin Flon** 59.06 40 P **P** 04 27 04.9 +0.6
FFC pmax pmax
comp=Z,181nm,0.8s
FFC **Flin Flon** 59.06 40 P **P** 04 27 04.9 +0.6
FFC IAmb IAmb 04 27 05.9
comp=Z,181nm,0.8s
SCO **Scoresbysund** 59.12 357 ||*i*P **P** 04 27 05.1 +0.7
comp=Z,150nm,1.1s
SCO **Scoresbysund** 59.12 357 ||*i*P **P** 04 27 05.1 +0.7
SCO pmax pmax
comp=Z,150nm,1.1s
SCO **Scoresbysund** 59.12 357 IAmb IAmb 04 27 06.4
comp=Z,132nm,1.0s
FCC **Fort Churchill** 59.13 33 P **P** 04 27 04.6 0.0
FCC pmax pmax
comp=Z,166nm,0.6s
FCC **Fort Churchill** 59.13 33 P **P** 04 27 04.6 0.0
O03E **Paynes Creek** 59.13 63 P **P** 04 27 06.4 +1.2
baz=312,SNR=28
KSM **Kuching** 59.41 228 IAmb IAmb 04 27 10.5
comp=Z,79nm,0.9s
KSM **Kuching** 59.41 228 P **P** 04 27 09.0 +1.8
MTKI **Muara Teweh, K** 59.48 222 P **P** 04 27 08.7 +1.1
comp=Z,150nm,1.1s
ILULI **Ilulissat** 59.51 9 ||*i*P **P** 04 27 06.4 -0.6
comp=Z,120nm,0.8s
ILULI **Ilulissat** 59.51 9 ||*i*P **P** 04 27 06.4 -0.6
ILULI pmax pmax
comp=Z,120nm,0.8s
PUL **Pulkovo** 59.74 329 *e*P **P** 04 27 09.0 +0.2
PUL **Pulkovo** 59.74 329 *e*P **P** 04 27 09.8 +1.0
PUL **Pulkovo** 59.74 329 ||*i*P **P** 04 27 09.8 +1.0
PUL pmax pmax
comp=Z,763nm,0.7s
FINES **FINESS Array B** 59.75 333 P **P** 04 27 09.4 +0.7
comp=Z,451nm,0.5s,baz=34,slow=7.7,SNR=3063
FINES PcP **PcP** 04 27 49.1 -0.2
comp=Z,50nm,0.7s,baz=66,slow=4.8,SNR=4.8
FINES **FINESS Array B** 59.75 333 P **P** 04 27 09.1 +0.3
PMG **Port Moresby** 59.78 183 P **P** 04 27 10.7 +1.1
comp=Z,77nm,0.7s,baz=3.1,slow=5.9,SNR=20
PMG **Port Moresby** 59.78 183 *c i*P **P** 04 27 10.6 +1.0
PMG pmax pmax
comp=Z,240nm,1.3s
PMG **Port Moresby** 59.78 183 P **P** 04 27 09.5 -0.1
PMG IAmb IAmb 04 27 11.1
comp=Z,114nm,0.9s
MOS **Moscow** 60.20 323 *e*P **P** 04 27 08.7 -3.2
MOS *e* 04 29 30.0
MOS *e*S **S** 04 34 44.3 -1.8
MOS *e* 04 36 06.3
MOS pmax pmax
comp=Z,800nm,1.3s
MOS pmax pmax
comp=Z,405nm,0.9s
EGMT **Eagleton** 60.26 50 P **P** 04 27 13.6 +1.0
baz=314,SNR=110
EGMT **Eagleton** 60.26 50 IAmb IAmb 04 27 15.2
comp=Z,211nm,0.9s
SPSI **Sidrap Palu** 60.28 216 P **P** 04 27 12.9 -0.1
comp=Z,1μmcomp=Z,55nm,1.3s
MFID **Camas Ranch** 60.32 57 P **P** 04 27 13.4 +0.4
AFDM **Forest Hills D** 60.51 64 P **P** 04 27 14.4 +0.1
BNSI **Bone** 60.56 215 P **P** 04 27 15.9 +1.1
comp=Z,1μmcomp=Z,117nm,1.0s
SAUI **Saumlaki** 60.57 202 P **P** 04 27 14.8 -0.1
DLMT **Dillon** 60.68 53 IAmb IAmb 04 27 18.0
comp=Z,154nm,0.9s
NSS **Namsos** 60.72 341 ||*i*P **P** 04 27 15.2 +0.1
HLID **Hailey** 60.97 56 P **P** 04 27 19.0 +1.6
baz=314,SNR=43
BOZ **Bozeman (W)** 61.01 53 P **P** 04 27 19.1 +1.5
baz=314,SNR=244
BOZ S **S** 04 34 59.7 +2.7
baz=314
BOZ **Bozeman (W)** 61.01 53 IAmb IAmb 04 27 20.0
comp=Z,118nm,0.7s
OBN **Obninsk** 61.07 323 P **P** 04 27 18.1 +0.5
comp=Z,100nm,0.8s,baz=40,slow=2.1,SNR=113
OBN **Obninsk** 61.07 323 ||P **P** 04 27 17.6 +0.1
OBN **Obninsk** 61.07 323 *e*P **P** 04 27 17.4 -0.2
OBN **Obninsk** 61.07 323 *d i*P **P** 04 27 17.4 -0.2
OBN *e**PP **pwP** 04 28 59.8 -0.5
OBN *i* 04 29 39.3
OBN pmax pmax
comp=Z,814nm,1.3s
OBN **Obninsk** 61.07 323 P **P** 04 27 17.8 +0.2
KBKI **Kotabaru** 61.07 220 P **P** 04 27 18.4 +0.2
comp=Z,771nmcomp=Z,92nm,0.9s
KULM **Kulim** 61.14 240 P **P** 04 27 20.0 +1.3
KAPI **Kappang** 61.26 215 P **P** 04 27 20.6 +1.3
comp=Z,58nm,0.8s,baz=340,slow=2.2,SNR=26
KAPI **Kappang** 61.26 215 P **P** 04 27 20.8 +1.4
KAPI **Kappang** 61.26 215 P **P** 04 27 18.8 -0.6
KAPI IAmb IAmb 04 27 21.5
comp=Z,85nm,0.9s
BKSI **Bulukumba** 61.41 215 P **P** 04 27 20.1 -0.3
comp=Z,122nm,0.9s
CMB **Columbia Colle** 61.47 64 P **P** 04 27 21.3 +0.6
CMB pmax pmax
comp=Z,29nm,1.1s
CMB **Columbia Colle** 61.47 64 P **P** 04 27 21.3 +0.6
IPM **Ipoh** 61.60 239 P **P** 04 27 21.3 -0.4
IPM **Ipoh** 61.60 239 P **P** 04 27 23.0 +1.3
SFJD **Kangerlussuaq** 61.70 9 ||*i*P **P** 04 27 20.8 -0.8
comp=Z,8.2nm,1.0s
SFJD **Kangerlussuaq** 61.70 9 P **P** 04 27 21.2 -0.4
SFJD pmax pmax
comp=Z,111nm,1.0s
SFJD **Kangerlussuaq** 61.70 9 P **P** 04 27 21.2 -0.4
SFJD IAmb IAmb 04 27 22.3
comp=Z,111nm,1.0s
BBKI **Banjar Baru** 61.77 221 P **P** 04 27 23.3 +0.5
comp=Z,70nm,1.2s
VRH **Novokhopyorsk** 61.85 317 *e*P **P** 04 27 22.6 -0.2
VRH pmax pmax
comp=Z,800nm,0.7s
VSU **Vasula** 61.92 330 *e*P **P** 04 27 23.3 +0.1
VSU **Vasula** 61.92 330 *d i*P **P** 04 27 23.3 +0.1
LPSR **Galich'ya Gora** 62.00 320 *e*P **P** 04 27 23.7 0.0
LPSR pmax pmax
comp=Z,880nm,0.7s
TBLU **Trondheim** 62.21 341 ||*i*P **P** 04 27 24.1 -0.9
KNTN **Kanton** 62.35 136 P **P** 04 27 27.0 +0.5
LKWY **Lake** 62.35 53 IAmb IAmb 04 27 30.4
comp=Z,61nm,0.8s
MYKOM **Kota Tinggi** 62.35 235 P **P** 04 27 29.0 +2.4
H17A **Grant Village** 62.38 53 P **P** 04 27 29.7 +3.0
baz=315,SNR=131
H17A **Grant Village** 62.38 53 IAmb IAmb 04 27 30.8
comp=Z,104nm,0.9s
NVAR **Mina Array Bea** 62.39 62 P **P** 04 27 28.6 +1.7
comp=Z,28nm,0.7s,baz=300,slow=6.7,SNR=165
NVAR PcP **PcP** 04 28 01.2 +0.4
comp=Z,3.9nm,0.7s,baz=300,slow=5.5,SNR=3.6
NVAR **Mina Array Bea** 62.39 62 P **P** 04 27 28.1 +1.3
PBKI **Pangkalan Bun** 62.46 225 P **P** 04 27 28.7 +1.4
comp=Z,294nm,1.1s
RLMT **Red Lodge** 62.53 52 P **P** 04 27 29.2 +1.6
baz=315,SNR=103
RLMT **Red Lodge** 62.53 52 IAmb IAmb 04 27 31.0
comp=Z,125nm,1.1s
DGMT **Dagmar** 62.57 46 P **P** 04 27 28.5 +0.8
baz=316,SNR=59
MLAC **Mammoth, Mammo** 62.64 63 P **P** 04 27 30.1 +1.6
baz=314
FXWY **Fox Creek** 62.68 54 IAmb IAmb 04 27 31.6
comp=Z,59nm,0.7s
TPAW **Teton Pass** 62.83 54 IAmb IAmb 04 27 31.9
comp=Z,134nm,0.9s
LAO **LASA Array** 62.90 49 P **P** 04 27 31.0 +1.2
baz=316,SNR=103
LAO **LASA Array** 62.90 49 IAmb IAmb 04 27 32.2
comp=Z,188nm,1.0s
LOHW **Long Hollow** 62.92 54 IAmb IAmb 04 27 33.3
comp=Z,123nm,1.1s
VSR **Storozhevoye** 62.93 319 *e*P **P** 04 27 29.7 -0.1
VSR pmax pmax
comp=Z,700nm,0.9s
SNOW **Snow King Moun** 62.95 54 IAmb IAmb 04 27 33.6
comp=Z,76nm,0.9s
REDW **Red Top Meadow** 62.97 54 IAmb IAmb 04 27 33.5
comp=Z,125nm,1.1s
GEYT **Alibeck** 63.04 298 P **P** 04 27 31.9 +1.1
comp=Z,198nm,0.7s,baz=11,slow=3.0,SNR=254
GEYT **Alibeck** 63.04 298 P **P** 04 27 30.8 0.0
GYA0B **ALIBECK ARRAY** 63.04 298 P **P** 04 27 30.8 0.0
VORD **Divnogorie** 63.06 318 *e*P **P** 04 27 30.5 -0.1
VORD pmax pmax
comp=Z,640nm,1.0s
HRA **Herat** 63.12 292 P **P** 04 27 31.6 -0.1
PAGB **Antelope Grade** 63.15 66 P **P** 04 27 32.0 +0.5
PAGB **PcP** 04 28 04.2 +0.5
LHMI **Lhok Sumawe** 63.26 243 P **P** 04 27 34.5 +2.0
comp=Z,290nm,0.8s
LHMI **Lhok Sumawe** 63.26 243 P **P** 04 27 32.4 -0.1
MOL **Molde** 63.38 342 *e*P **P** 04 27 32.7 +0.2
TIN **Tinemaha, Big** 63.39 63 P **P** 04 27 35.0 +1.8
baz=315,SNR=7.8
DOMB **Dombas** 63.54 341 ||*i*P **P** 04 27 33.9 +0.3
SMMC **Simmler** 63.59 66 P **P** 04 27 36.2 +1.8
baz=315,SNR=6.4
VES **Vestal, Richgr** 63.75 65 P **P** 04 27 36.0 +0.6
baz=315,SNR=10
MMRI **Maumere** 63.76 211 P **P** 04 27 35.8 +0.2
comp=Z,243nm,1.1s
HWUT **Hardware Ranch** 63.84 56 IAmb IAmb 04 27 38.8
comp=Z,105nm,1.0s
AKN **Aaknes** 63.85 342 ||*i*P **P** 04 27 36.0 +0.5
CWC **Cottonwood Cre** 63.90 64 P **P** 04 27 38.0 +1.4
baz=315
DSRI **Dabo** 63.91 233 P **P** 04 27 36.2 -0.4
comp=Z,31nm,1.0s
GRAC **Grapevine Rang** 63.92 63 P **P** 04 27 38.3 +1.7
baz=315
GRAC S **S** 04 35 37.2 +4.6
baz=315
R11A **Troy Canyon, C** 63.97 61 P **P** 04 27 38.2 +1.3
baz=315,SNR=59
NB2 **NORSAR Subarra** 63.97 339 P **P** 04 27 36.6 +0.2
comp=Z,325nm,0.8s,baz=27,slow=6.5
NB2 **NORSAR Subarra** 63.97 339 P **P** 04 27 36.6 +0.2
baz=27,slow=6.5
NOA **NORSAR Array B** 63.97 339 P **P** 04 27 36.9 +0.5
comp=Z,267nm,0.8s,baz=27,slow=6.4,SNR=1094
NOA PcP **PcP** 04 28 06.3 -0.4
comp=Z,20nm,0.9s,baz=26,slow=4.0,SNR=3.3
SLIT **Slitere, Latvi** 63.98 332 *e*P **P** 04 27 36.2 -0.2
ANGG **Ammassalik, Gr** 63.99 4 IAmb IAmb 04 27 37.0
comp=Z,108nm,0.9s
PKM **Mcpherson Peak** 63.99 66 P **P** 04 27 38.9 +1.7
baz=315
EDFI **Ende, Flores** 64.05 212 P **P** 04 27 36.5 -1.1
comp=Z,567nmcomp=Z,49nm,0.9s
BW06 **Boulder Array** 64.06 54 P **P** 04 27 38.5 +1.0
baz=316,SNR=157
BW06 S **S** 04 35 36.0 +1.5
baz=316
BW06 **Boulder Array** 64.06 54 IAmb IAmb 04 27 39.5
comp=Z,98nm,0.8s
PD31 **Pinedale Array** 64.06 54 IAmb IAmb 04 27 39.5
comp=Z,94nm,0.9s
PDAR **Pinedale Array** 64.06 54 P **P** 04 27 38.4 +0.9
comp=Z,56nm,0.6s,baz=322,slow=1.5,SNR=629
PDAR pP **pP** 04 29 21.5 +1.7
comp=Z,8.9nm,0.8s,baz=341,slow=3.0,SNR=4.9
PDAR **Pinedale Array** 64.06 54 P **P** 04 27 37.8 +0.2
PSI **Prapat** 64.15 240 P **P** 04 27 39.4 +1.1
comp=Z,31nm,0.8s,baz=0.1,slow=5.9,SNR=31
SOEI **Soe** 64.17 209 P **P** 04 27 38.0 -0.3
comp=Z,80nm,0.8s
SOEI **Soe** 64.17 209 IAmb IAmb 04 27 43.9
comp=Z,62nm,0.8s
DUG **Dugway, Tooele** 64.18 58 P **P** 04 27 39.9 +1.7
baz=316,SNR=162
DUG S **S** 04 35 39.4 +3.6
baz=316
DUG **Dugway, Tooele** 64.18 58 IAmb IAmb 04 27 41.0
comp=Z,91nm,0.8s
HFS **Hagfors** 64.19 337 P **P** 04 27 38.0 +0.3
comp=Z,456nm,0.5s,baz=57,slow=5.5,SNR=1439
NAO01 **NORSAR Array S** 64.22 339 ||*i*P **P** 04 27 38.0 0.0
ISA **Isabella, Lake** 64.22 65 P **P** 04 27 39.1 +0.6
baz=315,SNR=12
IZAR **Zarasai** 64.27 329 *e*P **P** 04 27 38.5 +0.2
MLSI **Meulaboh, Aceh** 64.36 243 P **P** 04 27 38.9 -0.6
comp=Z,94nm,0.9s
ISAL **Salakas** 64.45 329 *e*P **P** 04 27 39.4 -0.1
IDID **Didziasalis** 64.46 328 *e*P **P** 04 27 39.7 +0.2
MPMC **Manual Prospec** 64.51 64 P **P** 04 27 41.8 +1.4
baz=315,SNR=22
COEN **Coen** 64.54 188 P **P** 04 27 40.6 0.0
COEN pP **pP** 04 29 22.9 +0.7
FURC **Furnace Creek,** 64.58 63 P **P** 04 27 42.3 +1.7
baz=315,SNR=54
PPBI **Pangkal Pinang** 64.58 230 P **P** 04 27 42.1 +1.2
TPNV **Topopah Spring** 64.58 62 P **P** 04 27 42.3 +1.5
baz=315,SNR=73
TPNV S **S** 04 35 44.7 +3.8
baz=315
TPNV **Topopah Spring** 64.58 62 IAmb IAmb 04 27 43.4
comp=Z,66nm,0.9s
MICGM **Minsk** 64.72 327 ||*e*P **P** 04 27 42.0 +0.8
MICGM PM 04 27 43.0
comp=N,0.9nm,1.0s
MICGM PM 04 27 43.0
comp=Z,2.3nm,1.0s
MICGM *e*PcP **PcP** 04 28 07.0 -2.8
MICGM *e*pP **pP** 04 29 27.0 +3.5
MICGM *e*PP PP 04 30 03.0 -8.1
MICGM *e*PPP PPP 04 31 56.0
MICGM *e*S **S** 04 35 43.0 +1.5

MICGM *es*S **sS** **04 38 40.0 -4.3**
MNK Minsk 64.72 327⇓*e*P **P** **04 27 42.0 +0.8**
MNK *e* 04 28 07.0
MNK *e**PP **pP** **04 29 27.0 +3.5**
MNK *e*PPP PPP 04 31 56.0
MNK *e*S **S** **04 35 43.0 +1.5**
MNK pmax pmax
comp=N,880nm,1.0s
MNK pmax pmax
comp=Z,2μm,1.0s
TPTI 64.74 242 P **P** **04 27 39.6 -2.3**
comp=Z,30nm,0.8s
FOO Floro 64.76 342⇓*i*P **P** **04 27 41.2 0.0**
NACGM Naroch 64.77 328 *e*P **P** **04 27 39.0 -2.5**
NACGM PM 04 27 42.0
comp=Z,1.6nm,1.0s
BATI Baumata 64.78 209 P **P** **04 27 42.5 +0.3**
comp=Z,89nm,0.5s,baz=68,slow=5.4,SNR=5.9
BATI Baumata 64.78 209 P **P** **04 27 40.6 -1.5**
comp=Z,72nm,0.7s
LRMC Laurel Mtn Rad 64.81 64 P **P** **04 27 43.2 +0.9**
baz=315,SNR=7.0
OSI Osito Audit: C 64.82 66 P **P** **04 27 43.7 +1.4**
baz=315
BORG Borgarnes 64.83 356 P **P** **04 27 42.5 +0.8**
BORG pmax pmax
comp=Z,200nm,0.9s
BORG Borgarnes 64.83 356 P **P** **04 27 42.5 +0.8**
ULM Lac du Bonnet 64.89 40 P **P** **04 27 42.2 -0.1**
comp=Z,38nm,0.7s,baz=321,slow=6.4,SNR=28
ULM PcP **PcP** **04 28 10.4 -0.2**
comp=Z,19nm,0.6s,baz=292,slow=5.7,SNR=6.3
HYA Hoyanger 64.93 342⇓*i*P **P** **04 27 42.8 +0.4**
SKAR Skarslia 64.93 340⇓*i*P **P** **04 27 43.1 +0.6**
EDW2 Edwards Air Fo 65.05 65 P **P** **04 27 45.1 +1.3**
baz=316,SNR=14
OSL Oslo 65.06 339 *i*P **P** **04 27 43.9 +0.7**
BKNI Bangkinang 65.07 237 P **P** **04 27 43.6 -0.4**
comp=Z,241nm,0.9s
HYB Hyderabad 65.09 267 *i*P **P** **04 27 44.0 -0.2**
comp=Z,250nm,1.0s
HYB *e*PcP **PcP** **04 28 12.0 0.0**
MDND Maddock 65.11 44 *e*P **P** **04 27 44.6 +0.8**
baz=319,SNR=18
MAK Makhachkala 65.14 308 *e*P **P** **04 27 43.9 -0.1**
MAK *e* 04 30 17.9
MAK *e*PPP PPP 04 31 58.3
MAK *e*S **S** **04 35 47.3 +0.4**
MAK *e*SS **SS** **04 40 13.9 +3.5**
MAK pmax pmax
comp=Z,519nm,1.2s
PABE Paberze 65.21 330 *e*P **P** **04 27 44.1 -0.2**
DECC Green Verdugo 65.30 66 P **P** **04 27 46.5 +1.3**
baz=316
SUE Sulen 65.31 342⇓*i*P **P** **04 27 45.5 +0.7**
SHOC Shoshone, Teco 65.31 63 P **P** **04 27 46.5 +1.2**
baz=316
XMAS Kiritimati 65.40 119 P **P** **04 27 46.4 +0.3**
PBUR Paburge 65.43 331 *e*P **P** **04 27 45.6 0.0**
GSC Goldstone, Bar 65.44 64 P **P** **04 27 47.5 +1.3**
baz=316,SNR=10
PLAI Plampang 65.50 216 P **P** **04 27 43.9 -2.7**
comp=Z,111nm,1.1s
KONO Kongsberg 65.58 339*d i*P **P** **04 27 46.8 +0.3**
KONO pmax pmax
comp=Z,602nm,1.7s
KONO Kongsberg 65.58 339 P **P** **04 27 47.2 +0.7**
KONO Kongsberg 65.58 339⇓*i*P **P** **04 27 46.9 +0.4**
K22A Casper 65.68 52 P **P** **04 27 48.3 +0.6**
baz=317,SNR=42
K22A Casper 65.68 52 IAmb IAmb 04 27 49.3
comp=Z,66nm,0.8s
BFSC Mount Baldy Ra 65.70 65 P **P** **04 27 49.1 +1.2**
baz=316,SNR=8.3
ASK Askoy 65.75 342⇓*i*P **P** **04 27 48.2 +0.6**
GOF Gofitskoye 65.78 312⇓*i*P **P** **04 27 49.3 +1.3**
GOF *e*S **S** **04 35 57.5 +3.0**
GOF pmax pmax
comp=Z,2μm,0.9s
GOF smax smax
comp=E,257nm,1.6s
GROC Groznyy 65.81 309 *e*P **P** **04 27 48.9 +0.6**
GROC *e* 04 28 14.2
GROC *e**SP **sP** **04 30 22.7 -1.3**
GROC pmax pmax
comp=Z,219nm,0.8s
BER Bergen 65.82 342 *i*P **P** **04 27 48.7 +0.8**
RSSD Black Hills 65.83 49 P **P** **04 27 48.9 +0.2**
RSSD pmax pmax
comp=Z,185nm,0.9s
RSSD Black Hills 65.83 49 P **P** **04 27 49.4 +0.7**
baz=318
RSSD S **S** **04 35 56.4 +0.7**
baz=318
RSSD Black Hills 65.83 49 P **P** **04 27 48.9 +0.2**
TUQ Turquoise Moun 65.84 63 P **P** **04 27 50.3 +1.5**
baz=316,SNR=21
SDSI Sungai Dareh 65.92 235 P **P** **04 27 49.8 +0.5**
comp=Z,20nm,1.0s
ODD1 Odda 65.98 341 *e*P **P** **04 27 53.3 +4.2**
RWWY Rawlins 66.04 53 IAmb IAmb 04 27 51.8
comp=Z,93nm,1.0s
HEC Hector,Ludlow 66.05 64 P **P** **04 27 51.5 +1.5**
baz=316,SNR=20
AKT Akhty 66.11 307⇓*i*P **P** **04 27 51.1 +0.8**
AKT *e* 04 28 14.6
AKT *e* 04 30 24.7
AKT pmax pmax
comp=Z,462nm,0.8s
BBRC Big Bear Solar 66.11 65 P **P** **04 27 51.6 +1.0**
baz=316
GSI Gunungsitoli 66.13 240 P **P** **04 27 51.2 +0.5**
comp=Z,71nm,1.5s
GSI Gunungsitoli 66.13 240 P **P** **04 27 50.4 -0.2**
GSI IAmb IAmb 04 27 53.8
comp=Z,65nm,1.0s
BLJI Banyuglugur 66.15 220 P **P** **04 27 51.8 +1.1**
AGMN Agassiz Nation 66.39 42 P **P** **04 27 51.3 -0.5**
baz=321,SNR=36
AGMN Agassiz Nation 66.39 42 IAmb IAmb 04 27 52.4
comp=Z,61nm,0.8s
PDSI Padang 66.42 236 P **P** **04 27 50.9 -1.5**
MURC Murrieta 66.43 65 P **P** **04 27 53.5 +1.1**
baz=316,SNR=7.3
GMRC Granite Mounta 66.46 64 P **P** **04 27 54.0 +1.4**
baz=316,SNR=22
BLS5 Blasjo 66.47 341⇓*i*P **P** **04 27 52.8 +0.7**
O20A White River Ci 66.64 55 P **P** **04 27 54.6 +0.8**
baz=317,SNR=42
O20A White River Ci 66.64 55 IAmb IAmb 04 27 55.8
comp=Z,85nm,0.8s
SUW Suwalki 66.71 329 *e*P **P** **04 27 53.2 -0.4**
SUW *ep*P **PcP** **04 28 17.3 -0.8**
KIV Kislovodsk 66.77 311⇓P **P** **04 27 55.5 +1.1**
KIV Kislovodsk 66.77 311 P **P** **04 27 55.5 +1.1**
KIV Kislovodsk 66.77 311 *e*P **P** **04 27 55.2 +0.8**
KIV Kislovodsk 66.77 311 P **P** **04 27 55.7 +1.4**
KIV Kislovodsk 66.77 311 *e*P **P** **04 27 55.2 +0.8**
KIV *e**PP **pP** **04 29 38.3 +0.9**
KIV *e* 04 30 28.1
KIV *e*S **S** **04 36 08.9 +2.4**
KIV pmax pmax
comp=Z,293nm,3.2s
KIV pmax pmax
comp=Z,1μm,1.0s
KIV MLR MLR
comp=Z,344nm,17.0s
KIV Kislovodsk 66.77 311 P **P** **04 27 54.5 +0.1**
BELC Belle Mtn. Jos 66.83 64 P **P** **04 27 55.9 +0.9**
baz=316,SNR=6.2
KBZ Khabaz 66.84 311 P **P** **04 27 55.9 +1.3**
comp=Z,320nm,0.8s,baz=56,slow=4.4,SNR=424
KBZ Khabaz 66.84 311 *e*P **P** **04 27 55.6 +1.0**
PFO Pinyon Flats O 66.85 65 P **P** **04 27 55.4 +0.3**
PFO Pinyon Flats O 66.85 65 P **P** **04 27 56.0 +1.0**
baz=316,SNR=5.7
PFO Pinyon Flats O 66.85 65 P **P** **04 27 55.4 +0.3**
KRJI Kerinci 66.89 235 P **P** **04 27 55.9 +0.5**
comp=Z,534nm,1.0s
KMY Karmoy 66.91 341⇓*i*P **P** **04 27 55.5 +0.7**
109C Camp Elliot, M 66.99 66 P **P** **04 27 56.9 +1.1**
baz=316
ZEI Tsey 67.06 310 *e*P **P** **04 27 53.6 -2.7**
ZEI pmax pmax
comp=Z,292nm,1.4s

HOMB Homborsund 67.07 339 *e*P **P** **04 27 56.3 +0.5**
PWJI Pagerwojo 67.15 222 P **P** **04 27 56.1 -0.8**
comp=Z,154nm,1.1s
KLNR Kaliningrad 67.16 331*d i*P **P** **04 27 55.8 -0.6**
KLNR pmax pmax
comp=Z,683nm,0.8s
U15A North Rim 67.17 60 IAmb IAmb 04 27 60.0
comp=Z,47nm,0.8s
WAL1 Walls 67.20 345⇑*e*P **P** **04 27 56.3 -0.3**
IRM Iron Mountain 67.21 64 P **P** **04 27 58.7 +1.6**
baz=317,SNR=13
LRW Lerwick 67.24 345 *e*P **P** **04 27 56.9 +0.1**
LRW IAmb IAmb 04 27 58.0
comp=Z,393nm,1.6s
N23A Red Feather La 67.27 53 P **P** **04 27 58.8 +1.1**
baz=318,SNR=42
N23A Red Feather La 67.27 53 IAmb IAmb 04 27 59.9
comp=Z,56nm,0.8s
AKASG Malin Array Be 67.30 324 P **P** **04 27 57.5 +0.1**
comp=Z,330nm,0.6s,baz=33,slow=6.3,SNR=473
AKASG pP **pP** **04 29 42.2 +1.6**
comp=Z,6.2nm,0.6s,baz=35,slow=6.0,SNR=2.4
AKASG PP **PP** **04 30 27.5 -5.9**
comp=Z,17nm,0.8s,baz=36,slow=9.1,SNR=4.5
AKASG Malin Array Be 67.30 324 P **P** **04 27 57.2 -0.1**
SNART Snartemo 67.30 340 *e*P **P** **04 27 57.8 +0.7**
LHSI Lahat 67.31 232 P **P** **04 27 56.7 -1.2**
comp=Z,165nm,0.9s
MONP2 Monument Peak 67.39 65 P **P** **04 27 59.5 +1.0**
baz=317
BC3 Big Chuckawall 67.39 64 P **P** **04 27 59.5 +1.1**
baz=317,SNR=8.3
PV21 Cone Mtn., Par 67.41 57 IAmb IAmb 04 28 00.8
comp=Z,81nm,0.8s
SANVU Saraoutou 67.42 162 P **P** **04 27 58.5 +0.1**
KLSI 67.46 230 P **P** **04 27 58.3 -0.5**
comp=Z,12nm,0.9s
PV23 Carpenter Ridg 67.47 57 IAmb IAmb 04 28 01.2
comp=Z,112nm,0.9s
PV14 Lion Creek, Pa 67.53 57 IAmb IAmb 04 28 01.5
comp=Z,94nm,0.9s
PV22 Blue Mesa, Par 67.53 56 IAmb IAmb 04 28 02.6
comp=Z,87nm,0.8s
MDSI Maura Dua 67.56 231 P **P** **04 27 58.5 -0.9**
comp=Z,22nm,0.9s
PV04 Paradox Valley 67.57 57 IAmb IAmb 04 28 01.8
comp=Z,93nm,0.9s
PV20 West Nyswonger 67.58 57 IAmb IAmb 04 28 01.8
comp=Z,80nm,0.9s
PV19 Moing Glory 67.59 57 IAmb IAmb 04 28 01.9
comp=Z,121nm,1.1s
PV16 Nyswonger Mesa 67.63 57 IAmb IAmb 04 28 01.6
comp=Z,44nm,0.8s
PV17 East Wray Mesa 67.63 57 IAmb IAmb 04 28 01.6
comp=Z,78nm,0.8s
PV11 David Mesa, Pa 67.66 57 IAmb IAmb 04 28 03.0
comp=Z,142nm,1.1s
PDMCI Parker Dam,Lak 67.67 63 P **P** **04 28 01.3 +1.3**
baz=317,SNR=27
PV07 Paradox Valley 67.68 56 IAmb IAmb 04 28 02.3
comp=Z,64nm,1.1s
PV18 Skein Mesa, Pa 67.68 57 IAmb IAmb 04 28 03.1
comp=Z,75nm,1.0s
PV05 Paradox Valley 67.70 57 IAmb IAmb 04 28 02.7
comp=Z,122nm,0.9s
PV03 Paradox Valley 67.70 57 IAmb IAmb 04 28 03.3
comp=Z,89nm,1.2s
SWSC Sam W. Stewart 67.71 65 P **P** **04 28 01.3 +1.1**
baz=317
IKP In-Ko-Pah, Jac 67.74 65 P **P** **04 28 01.7 +1.1**
baz=317
PV13 Radium Mtn., P 67.79 57 IAmb IAmb 04 28 03.2
comp=Z,78nm,0.7s
PV15 Paradox Valley 67.84 56 IAmb IAmb 04 28 03.3
comp=Z,83nm,0.8s
NRS Narsarsuaq 67.92 8 *i*P **P** **04 28 00.7 -0.2**
comp=Z,94nm,0.8s
NRS Narsarsuaq 67.92 8 *i*P **P** **04 28 00.7 -0.2**
NRS pmax pmax
comp=Z,94nm,0.8s
LEM Lembang 67.95 226 P **P** **04 28 02.4 +0.4**
comp=Z,12nm,0.4s,baz=299,slow=17,SNR=4.0
SUSD Miller 67.99 46 P **P** **04 28 02.0 +0.3**
baz=320,SNR=50
SUSD S **S** **04 36 19.0 -1.6**
baz=320
GLA Glamis 68.19 64 P **P** **04 28 04.7 +1.5**
baz=317,SNR=9.9
ISCO Idaho Springs 68.25 54 P **P** **04 28 05.1 +1.3**
baz=318,SNR=79
ISCO Idaho Springs 68.25 54 IAmb IAmb 04 28 06.3
comp=Z,72nm,1.1s
BSD Bornholm Skovb 68.27 334 *i*P **P** **04 28 03.2 0.0**
comp=Z,333nm,0.8s
BSD Bornholm Skovb 68.27 334 *i*P **P** **04 28 03.2 0.0**
BSD pmax pmax
comp=Z,330nm,0.8s
AKH Akhalkalaki 68.29 309⇓P **P** **04 28 05.6 +1.7**
AKH ⇓ 04 28 05.8
WUAZ Wupatki 68.34 60 P **P** **04 28 06.0 +1.8**
baz=317,SNR=56
WUAZ S **S** **04 36 30.6 +5.3**
baz=317
WUAZ Wupatki 68.34 60 IAmb IAmb 04 28 07.1
comp=Z,65nm,1.0s
COP Copenhagen 68.43 336⇓*i*P **P** **04 28 04.7 +0.6**
comp=Z,282nm,0.9s
COP Copenhagen 68.43 336⇓*i*P **P** **04 28 04.7 +0.6**
COP pmax pmax
comp=Z,280nm,0.9s
SOC Sochi 68.45 313*d i*P **P** **04 28 05.0 +0.5**
SOC *e**PP **pP** **04 29 48.4 +0.1**
SOC *e* 04 30 43.9
SOC *e*S **S** **04 36 26.0 +0.1**
SOC *e*SSS SSS 04 44 22.4
SOC pmax pmax
comp=Z,256nm,0.7s
EYMN Ely 68.48 40 P **P** **04 28 04.3 -0.4**
baz=323,SNR=23
EYMN Ely 68.48 40 P **P** **04 28 04.3 -0.4**
MUD Monsted U'grnd 68.56 338⇓*i*P **P** **04 28 05.6 +0.7**
comp=Z,136nm,0.8s
MUD Monsted U'grnd 68.56 338⇓*i*P **P** **04 28 05.6 +0.7**
MUD pmax pmax
comp=Z,140nm,0.8s
ANN Anapa 68.56 315*d i*P **P** **04 28 05.2 +0.1**
ANN *e**PP **pP** **04 29 47.1 -1.8**
ANN *e* 04 30 44.8
ANN *e*PPP PPP 04 32 34.8
ANN *e*S **S** **04 36 28.4 +1.3**
ANN *e*SS **SS** **04 41 01.4 -1.4**
ANN pmax pmax
comp=Z,390nm,0.9s
Y14A Wickenburg 68.58 62 IAmb IAmb 04 28 08.1
comp=Z,44nm,0.7s
MVCO Mesa Verde 68.66 57 P **P** **04 28 07.3 +1.1**
baz=318,SNR=68
MVCO S **S** **04 36 32.4 +3.3**
baz=318
MVCO Mesa Verde 68.66 57 IAmb IAmb 04 28 08.5
comp=Z,88nm,0.9s
CGJI Cibinong 68.66 228 P **P** **04 28 02.4 -3.7**
TASB TASBURUN-IGDIR 68.99 308 *e*P **P** **04 28 10.0 +2.0**
X16A Lo Mia Camp, P 69.11 61 IAmb IAmb 04 28 11.8
comp=Z,59nm,0.8s
Q24A Divide 69.12 54 P **P** **04 28 09.8 +0.8**
baz=319,SNR=26
S22A 4UR Ranch, Cre 69.15 56 P **P** **04 28 10.8 +1.6**
baz=318,SNR=75
S22A 4UR Ranch, Cre 69.15 56 IAmb IAmb 04 28 11.9
comp=Z,58nm,1.0s
BCA Borcka 69.18 310⇓P **P** **04 28 09.8 +0.8**
BCA Borcka 69.18 310 *e*P **P** **04 28 09.3 +0.3**
RGN Rugen 69.20 335 *e*P **P** **04 28 09.4 +0.6**
RGN Rugen 69.20 335 *e*P **P** **04 28 09.8 +1.0**
comp=Z,568nm,0.8s,baz=27,slow=5.8
GKP Gorka Klasztor 69.21 332 *e*P **P** **04 28 09.2 +0.3**
ARTV Artvin 69.23 310 P **P** **04 28 09.6 0.0**
ARTV IAmb IAmb 04 28 12.0
comp=Z,82nm,1.0s
F36A Milaca 69.29 42 IAmb IAmb 04 28 09.8
comp=Z,59nm,0.7s
BEL Belsk 69.33 329 *e*P **P** **04 28 10.6 +0.9**
SENK Senkaya-Erzuru 69.50 309 *e*P **P** **04 28 12.6 +1.4**
W18A Petrified Fore 69.54 59 P **P** **04 28 13.1 +1.7**
baz=318,SNR=5.6

ECSD EROS Data Cent 69.61 45 P **P** **04 28 11.7 +0.2**
baz=321,SNR=152
ECSD S **S** **04 36 38.2 -1.1**
baz=321
SORM Soroca 69.71 323⇓P **P** **04 28 11.8 -0.2**
SORM Soroca 69.71 323⇓P **P** **04 28 11.8 -0.2**
CLDR Caldiran 69.79 307 *e*P **P** **04 28 15.1 +2.1**
SDCO Great Sand Dun 69.85 55 P **P** **04 28 14.6 +1.2**
baz=319,SNR=99
SIM Simferopol' 69.91 317*c i*P **P** **04 28 13.3 0.0**
SIM pmax pmax
comp=Z,324nm,0.8s
LVV L'vov 69.92 326 *e*P **P** **04 28 13.2 -0.1**
AGRB Hanur-Agry 69.93 308 *e*P **P** **04 28 15.9 +2.2**
MCD Coleburn Disti 70.01 345 *e*P **P** **04 28 13.3 -0.3**
LEWI Lewis, Hebride 70.02 347⇑*e*P **P** **04 28 13.0 -0.7**
LEWI IAmb IAmb 04 28 14.6
comp=Z,75nm,0.8s
SKMB Sankelmark Bun 70.06 337 *e*P **P** **04 28 15.5 +1.5**
comp=Z,783nm,1.6s,baz=27,slow=5.8
SPMN Marine on St. 70.11 42 P **P** **04 28 14.2 -0.3**
baz=323,SNR=43
SPMN Marine on St. 70.11 42 IAmb IAmb 04 28 15.2
comp=Z,146nm,1.0s
214A Organ Pipe Nat 70.15 64 P **P** **04 28 16.4 +1.4**
baz=318,SNR=15
214A Organ Pipe Nat 70.15 64 pP 04 30 03.1 +3.4
KOPR Koprukoy-ERZUR 70.18 309 *e*P **P** **04 28 17.1 +1.9**
MDO Dochfour 70.33 346 *e*P **P** **04 28 15.9 +0.4**
KSCO Kaye Shedlock' 70.36 52 P **P** **04 28 16.5 +0.3**
baz=320,SNR=21
D41A Chassel 70.37 38 IAmb IAmb 04 28 17.5
comp=Z,85nm,0.7s
KAC Achnashellach 70.41 346 *e*P **P** **04 28 16.1 +0.1**
PURM Purcari 70.42 321⇓P **P** **04 28 18.3 +2.1**
KTUT Trabzon 70.43 311⇑P **P** **04 28 16.5 +0.1**
CTA Charters Tower 70.43 184 P **P** **04 28 17.3 +0.7**
comp=Z,140nm,0.8s,baz=357,slow=7.4,SNR=211
CTAO Charters Tower 70.43 184 P **P** **04 28 16.8 +0.2**
CTAO pmax pmax
comp=Z,226nm,1.0s
CTAO Charters Tower 70.43 184 P **P** **04 28 16.8 +0.2**
KIS Kishinev 70.46 322⇓*i*P **P** **04 28 16.0 -0.5**
comp=Z,30nm,1.5s
KIS Kishinev 70.46 322 *e*PcP **PcP** **04 28 34.0 -0.1**
KIS *ep*P pP 04 29 51.0 -10
KIS Kishinev 70.46 322 *e*PP PP 04 30 59.0 -1.4
KIS *e*S **S** **04 36 50.0 +1.2**
KIS Kishinev 70.46 322⇓P **P** **04 28 16.5 0.0**
KIS Kishinev 70.46 322*d i*P **P** **04 28 16.0 -0.5**
KIS *e* 04 28 34.0
KIS *e* 04 30 59.0
KIS *e*S **S** **04 36 50.0 +1.2**
KIS *e* 04 37 23.0
KIS pmax pmax
comp=Z,30nm,1.5s
VANB Van 70.47 307 *e*P **P** **04 28 18.9 +2.0**
SCHQ Schefferville 70.51 22 P **P** **04 28 16.6 -0.1**
comp=Z,58nm,0.4s,baz=360,slow=5.9,SNR=230
SCHQ Schefferville 70.51 22 IAmb IAmb 04 28 17.0
comp=Z,75nm,0.6s
MILM Milestii Mici 70.53 322⇓P **P** **04 28 16.7 -0.2**
KWP Kalwaria Pacla 70.55 327 *e*P **P** **04 28 17.5 +0.5**
BSEG Bad Segeberg 70.55 336 *e*P **P** **04 28 17.7 +0.9**
comp=Z,167nm,1.0s,baz=27,slow=5.8
KPL Plockton 70.62 346 *e*P **P** **04 28 17.2 0.0**
KPL IAmb IAmb 04 28 18.5
comp=Z,233nm,0.8s
BGNE Belgrade 70.71 48 P **P** **04 28 18.2 +0.1**
baz=321,SNR=30
BGNE S **S** **04 36 51.0 -0.9**
baz=321
IAS Iasi 70.79 323⇓P **P** **04 28 18.4 -0.1**
IAS Iasi 70.79 323⇓P **P** **04 28 18.4 -0.1**
GEVA Gevas 70.86 307 IAmb IAmb 04 28 21.9
comp=Z,149nm,1.1s
T25A Trinidad 70.87 55 P **P** **04 28 20.1 +0.6**
baz=320,SNR=43
AKDM Akdamar-Van 70.88 307 *e*P **P** **04 28 20.9 +1.5**
RUE Ruedersdorf 70.91 333 *e*P **P** **04 28 19.3 +0.3**
RUE Ruedersdorf 70.91 333 *e*P **P** **04 28 19.7 +0.7**
comp=Z,413nm,1.0s,baz=27,slow=5.8
COWI Conover 70.92 39 IAmb IAmb 04 28 19.9
comp=Z,89nm,0.8s
HLG Helgoland 70.93 338 *e*P **P** **04 28 20.1 +1.0**
comp=Z,531nm,1.2s,baz=27,slow=5.8
ESPY Espiye-Giresun 70.98 312 *e*P **P** **04 28 20.1 +0.4**
VRTB Varto-Mus 71.01 309 *e*P **P** **04 28 22.9 +2.8**
OJC Ojcow 71.03 329 *e*P **P** **04 28 20.5 +0.6**
TUC Tucson 71.04 62 P **P** **04 28 20.7 +0.4**
TUC pmax pmax
comp=Z,22nm,1.0s
TUC Tucson 71.04 62 P **P** **04 28 21.7 +1.4**
baz=318
TUC Tucson 71.04 62 P **P** **04 28 20.7 +0.4**
L34A Svendsen Farm, 71.10 46 P **P** **04 28 20.3 -0.1**
ELO Logie Almond 71.15 345⇑*e*P **P** **04 28 20.7 +0.3**
VASR Vaslui 71.16 322⇓P **P** **04 28 21.2 +0.6**
PRAR RASCA 71.16 323⇓P **P** **04 28 20.8 +0.1**
G40A Rib Lake 71.17 40 P **P** **04 28 20.6 -0.1**
G40A IAmb IAmb 04 28 21.5
comp=Z,101nm,1.1s
GURO Guroymak-BITLI 71.19 308 *e*P **P** **04 28 22.9 +1.7**
INVG Invergeldie, C 71.25 345 *e*P **P** **04 28 20.4 -0.6**
INVG IAmb IAmb 04 28 21.9
comp=Z,136nm,0.8s
YEDI Yedisu-Bingol 71.25 310 *e*P **P** **04 28 22.9 +1.4**
KOLS Kolonicke sedl 71.29 327 *e*P **P** **04 28 21.0 -0.4**
KOLS pmax pmax
comp=Z,136nm,1.1s
KOLS Kolonicke sedl 71.29 327 *e*P **P** **04 28 21.0 -0.4**
BUR08 Bucovina Ar. S 71.32 324 P **P** **04 28 21.8 +0.1**
BURAR Bucovina Array 71.33 324⇓P **P** **04 28 22.1 +0.3**
BURAR Bucovina Array 71.33 324⇓P **P** **04 28 22.1 +0.3**
BURAR Bucovina Array 71.33 324 P **P** **04 28 22.0 +0.3**
CUKT Cukurca 71.39 306 *e*P **P** **04 28 23.5 +1.2**
WB0 Warramunga Arr 71.40 196 P **P** **04 28 21.9 -0.4**
PALK Pallekele 71.42 259 P **P** **04 28 23.3 +0.6**
comp=Z,79nm,0.7s,baz=126,slow=5.6,SNR=33
PALK Pallekele 71.42 259 P **P** **04 28 22.4 -0.3**
PALK pmax pmax
comp=Z,92nm,0.8s
PALK Pallekele 71.42 259 P **P** **04 28 22.4 -0.3**
PALK IAmb IAmb 04 28 24.3
comp=Z,92nm,0.8s
ANMO Albuquerque 71.45 57*d i*P **P** **04 28 24.1 +1.3**
ANMO pmax pmax
comp=Z,60nm,1.3s
ANMO Albuquerque 71.45 57 P **P** **04 28 24.3 +1.5**
baz=319
ANMO Albuquerque 71.45 57 P **P** **04 28 23.0 +0.2**
ANMO **pP** **04 30 10.7 +2.7**
ESY Stoneypath 71.49 344⇑*e*P **P** **04 28 21.8 -0.6**
EAB Aberfoyle 71.52 345 *e*P **P** **04 28 22.6 0.0**
BNGB Bingl 71.53 309 *e*P **P** **04 28 24.8 +1.7**
BIR Birlad 71.53 322⇓P **P** **04 28 24.1 +1.3**
BIR Birlad 71.53 322⇓P **P** **04 28 24.1 +1.3**
UZH Uzhgorod 71.54 326⇑*i*P **P** **04 28 22.2 -0.6**
UZH *e* 04 28 37.0
E43A Lone Tree Farm 71.55 38 P **P** **04 28 23.0 0.0**
NIE Niedzica 71.55 328 *e*P **P** **04 28 24.1 +1.2**
BIZ Bicaz 71.56 323⇓P **P** **04 28 23.7 +0.6**
WR0 Warramunga Arr 71.56 195 P **P** **04 28 22.9 -0.3**
WR0 IAmb IAmb 04 28 24.5
comp=Z,106nm,0.7s
WRAB Tennant Creek 71.57 196*d i*P **P** **04 28 23.4 +0.1**
WRAB pmax pmax
comp=Z,251nm,1.3s
WRAB Tennant Creek 71.57 196 P **P** **04 28 23.4 +0.1**
WRAB IAmb IAmb 04 28 25.1
comp=Z,159nm,0.8s
WB2 Warramunga Arr 71.58 196 P **P** **04 28 23.2 -0.1**
WRA Warramunga Arr 71.58 196 P **P** **04 28 24.0 +0.6**
comp=Z,123nm,0.7s,baz=17,slow=6.3,SNR=711
WRA PcP **PcP** **04 28 39.6 +0.5**
comp=Z,24nm,0.7s,baz=13,slow=5.6,SNR=8.4
WRA pP **pP** **04 30 09.5 +1.5**
comp=Z,34nm,0.9s,baz=14,slow=6.6,SNR=11
WRA PKPPKP **P'P'df** **04 56 06.6 -0.2**
comp=Z,1.9nm,0.9s,baz=199,slow=2.7,SNR=9.5
WRA Warramunga Arr 71.58 196 P **P** **04 28 23.6 +0.2**
WRA **PcP** **04 28 38.7 -0.4**
EDI Edinburgh 71.59 345⇑*e*P **P** **04 28 21.9 -1.0**
EDI IAmb IAmb 04 28 23.5

comp=Z,78nm,0.9s
CRVS Cervenica-Dubn 71.60 327 *e*P **P 04 28 23.9 +0.7**
CRVS pmax pmax
comp=Z,502nm,1.9s
CRVS Cervenica-Dubn 71.60 327 *e*P **P 04 28 23.9 +0.7**
KSP Ksiaz 71.61 331 *e*P **P 04 28 23.8 +0.6**
EBL Broad Law 71.70 344⇑*e*P **P 04 28 23.0 -0.7**
FITZ Fitzroy Crossi 71.71 205 P **P 04 28 23.8 -0.3**
FITZ IAmb IAmb 04 28 26.3
comp=Z,120nm,0.8s
VARL Varlezi 71.74 322 ⇓P **P 04 28 25.2 +1.1**
SNOP Sinop 71.75 315 *e*P **P 04 28 25.1 +0.9**
GHRR 71.78 322 ⇓P **P 04 28 25.3 +1.0**
SIRT Sirnak 71.79 307 *e*P **P 04 28 25.9 +1.3**
Y22D IRIS PASSCAL I 71.86 58 P **P 04 28 27.1 +1.9**
baz=319
Y22D IRIS PASSCAL I 71.86 58 P **P 04 28 24.9 -0.3**
OSTC Ostas 71.88 331 *e*P **P 04 28 25.4 +0.6**
OKC Ostrava-Krasne 71.90 330 *e*P **P 04 28 25.8 +0.9**
OKC Ostrava-Krasne 71.90 330 *e*P **P 04 28 25.8 +0.9**
NRDL Niedersach Rie 71.90 336 *e*P **P 04 28 25.5 +0.7**
comp=Z,160nm,1.0s,baz=27,slow=5.8
CHVC Chvalec 71.91 331 *e*P **P 04 28 25.6 +0.6**
PGBU Glenifferbraes 71.91 345 *e*P **P 04 28 25.3 +0.4**
PGBU IAmb IAmb 04 28 26.3
comp=Z,436nm,0.9s
SVAN Silvan-Diyarba 71.92 308 *e*P **P 04 28 27.1 +1.8**
GIUM Giurgiulesti 71.94 321 ⇓P **P 04 28 26.1 +0.9**
TLCR 71.94 321 ⇑P **P 04 28 25.8 +0.6**
TLCR 71.94 321 ⇑P **P 04 28 25.8 +0.6**
CBKS Cedar Bluff 71.95 51 P **P 04 28 25.4 -0.1**
CBKS pmax pmax
comp=Z,109nm,1.0s
CBKS Cedar Bluff 71.95 51 P **P 04 28 25.1 -0.4**
baz=321,SNR=22
CBKS Cedar Bluff 71.95 51 P **P 04 28 25.4 -0.1**
CBKS IAmb IAmb 04 28 26.2
comp=Z,108nm,0.9s
BNM Barren Site 71.96 58 P **P 04 28 25.6 -0.3**
UPC Upice 71.99 331 *e*P **P 04 28 26.2 +0.8**
UPC Upice 71.99 331 *e*P **P 04 28 26.2 +0.8**
MATQ Matagami 72.02 30 P **P 04 28 25.0 -0.6**
baz=330,SNR=16
DPC Dobruska-Polom 72.03 331 *e*P **P 04 28 26.6 +0.9**
DPC Dobruska-Polom 72.03 331 *e*P **P 04 28 26.6 +0.9**
RSDY Resadiye-TOKAT 72.05 312 *e*P **P 04 28 27.6 +1.6**
LANS Liptovska Anna 72.06 328 *e*P **P 04 28 27.5 +1.6**
LANS pmax pmax
comp=Z,173nm,0.9s
LANS Liptovska Anna 72.06 328 *e*P **P 04 28 27.5 +1.6**
SCHL Schela 72.08 321 ⇓P **P 04 28 26.8 +0.8**
ASSE Asse, Remlinge 72.08 335 *e*P **P 04 28 26.6 +0.8**
comp=Z,191nm,1.2s,baz=27,slow=5.8
ARCR ARCALIA 72.10 324 ⇑P **P 04 28 27.8 +1.7**
I40A Norwalk 72.11 42 P **P 04 28 26.2 -0.1**
I40A IAmb IAmb 04 28 27.0
comp=Z,188nm,1.1s
KVT Kavak 72.11 314 *e*P **P 04 28 28.1 +1.7**
KRLC Kraliky 72.13 331 *e*P **P 04 28 27.0 +0.7**
KRLC Kraliky 72.13 331 *e*P **P 04 28 27.0 +0.7**
PETR Petresti 72.13 322 ⇓P **P 04 28 28.1 +1.8**
MORC Moravsky Berou 72.15 330 ⇓P **P 04 28 27.2 +0.8**
MORC Moravsky Berou 72.15 330 ⇓*i*P **P 04 28 27.1 +0.7**
MORC Moravsky Berou 72.15 330 ⇓P **P 04 28 27.2 +0.8**
MORC Moravsky Berou 72.15 330 P **P 04 28 26.5 +0.1**
ODBI Odobesti 72.17 322 ⇑P **P 04 28 28.8 +2.3**
ESK Eskdalemuir 72.17 344 *e*P **P 04 28 26.3 -0.1**
ESK IAmb IAmb 04 28 27.6
comp=Z,199nm,1.3s
ESK Eskdalemuir 72.17 344 P **P 04 28 27.0 +0.6**
ESK pmax pmax
comp=Z,72nm,0.7s
ESK Eskdalemuir 72.17 344 P **P 04 28 27.0 +0.6**
ESK IAmb IAmb 04 28 27.4
comp=Z,72nm,0.7s
CLL Collm 72.17 333 ⇓*i*P **P 04 28 26.6 +0.1**
comp=Z,467nm,1.0s
CLL *e*pP **pP 04 30 13.0 +1.3**
CLL *e*sP **sP 04 31 02.0 -2.1**
CLL *e*SS 04 44 42.0
CLL *e* 04 46 18.0
CLL *e*SSSS 04 48 00.0
CLL Collm 72.17 333 ⇓*i*P **P 04 28 26.6 +0.1**
CLL *e**PP **pP 04 30 13.0 +1.3**
CLL pmax pmax
comp=Z,467nm,1.0s
CLL Collm 72.17 333 *e*P **P 04 28 26.6 +0.1**
comp=Z,467nm,1.0s,baz=27,slow=5.8
CLL *e*pP **pP 04 30 15.8 +4.1**
baz=26,slow=6.1
CLL Collm 72.17 333 P **P 04 28 26.7 +0.3**
K38A Parkersburg 72.18 44 P **P 04 28 26.6 -0.1**
K38A IAmb IAmb 04 28 27.3
comp=Z,70nm,0.8s
VRI Vrincioaia 72.21 322 ⇓P **P 04 28 27.4 +0.6**
VRI Vrincioaia 72.21 322 ⇓P **P 04 28 27.4 +0.6**
CFR Carcaliu 72.22 321 ⇓P **P 04 28 27.1 +0.3**
CFR Carcaliu 72.22 321 ⇓P **P 04 28 27.1 +0.3**
PTK Pertek 72.23 310 *e*P **P 04 28 29.1 +1.8**
PLOR Plostina 72.25 322 ⇓P **P 04 28 27.6 +0.5**
PLOR Plostina 72.25 322 ⇓P **P 04 28 27.6 +0.5**
BRG Berggiesshubel 72.29 333 *i*P **P 04 28 27.4 +0.2**
comp=Z,158nm,1.1s
BRG pP **pP 04 30 12.0 -0.4**
BRG *i*sP **sP 04 31 00.7 -4.0**
comp=Z,18nm,1.0s
BRG S **SKSac 04 37 43.0 +0.1**
BRG Berggiesshubel 72.29 333 *i*P **P 04 28 27.4 +0.2**
BRG *PP **pP 04 30 12.0 -0.4**
BRG S **SKSac 04 37 43.0 +0.1**
BRG pmax pmax
comp=Z,158nm,1.1s
BRG Berggiesshubel 72.29 333 *e*P **P 04 28 27.5 +0.3**
comp=Z,158nm,1.1s,baz=27,slow=5.8
KECS Kecovo 72.29 327 *e*P **P 04 28 27.8 +0.6**
KECS pmax pmax
comp=Z,78nm,1.0s
KECS Kecovo 72.29 327 *e*P **P 04 28 27.8 +0.6**
MSVF Nonsavu 72.30 152*c i*P **P 04 28 29.2 +1.5**
MSVF pmax pmax
comp=Z,95nm,1.0s
MSVF Nonsavu 72.30 152 P **P 04 28 27.9 +0.3**
MSVF IAmb IAmb 04 28 30.6
comp=Z,83nm,0.9s
N35A Tabor 72.31 47 P **P 04 28 27.8 +0.3**
AFI Afiamalu 72.33 141 P **P 04 28 28.3 +0.5**
baz=196,slow=7.4
AFI Afiamalu 72.33 141 P **P 04 28 28.0 +0.1**
AFI pmax pmax
comp=Z,147nm,1.0s
AFI Afiamalu 72.33 141 P **P 04 28 27.9 +0.1**
AFI IAmb IAmb 04 28 29.1
comp=Z,147nm,1.0s
TOPG Topolog 72.37 321 ⇑P **P 04 28 28.4 +0.6**
OZUR 72.39 323 ⇓P **P 04 28 29.1 +1.2**
PVCC Panska Ves 72.41 332 *e*P **P 04 28 28.8 +0.9**
PVCC Panska Ves 72.41 332 *e*P **P 04 28 28.8 +0.9**
EDMD Edmundbyers 72.41 344 *e*P **P 04 28 27.1 -0.7**
EDMD IAmb IAmb 04 28 28.9
comp=Z,83nm,0.7s
FBE Freiberg 72.42 333 *e*P **P 04 28 28.5 +0.6**
comp=Z,272nm,1.0s,baz=27,slow=5.8
CLZ Clausthal 72.42 335 *e*P **P 04 28 29.0 +1.0**
comp=Z,388nm,1.1s,baz=27,slow=5.8
CLZ *e*pP **pP 04 30 17.3 +4.0**
baz=26,slow=6.1
TOKT Tokat 72.48 313 *e*P **P 04 28 30.0 +1.5**
BISRR Bisoca 72.48 322 ⇓P **P 04 28 29.4 +1.0**
GRER 72.52 322 ⇑P **P 04 28 30.6 +2.0**
NEWG New Galloway 72.53 345 *e*P **P 04 28 27.7 -0.8**
NEWG IAmb IAmb 04 28 29.6
comp=Z,230nm,1.4s
121A Cookes Peak, D 72.55 60 P **P 04 28 30.9 +1.7**
baz=319,SNR=23
121A Cookes Peak, D 72.55 60 P **P 04 28 29.1 -0.2**
SCIA State Center 72.58 44 P **P 04 28 29.2 +0.1**
baz=323,SNR=23
SCIA State Center 72.58 44 P **P 04 28 29.3 +0.3**
SVSK Karacayir 72.58 312 *e*P **P 04 28 30.4 +1.4**
DYBB Diyarbakir 72.60 309 *e*P **P 04 28 30.6 +1.3**
NEUB Neuenburg 72.61 334 *e*P **P 04 28 29.4 +0.4**
comp=Z,435nm,1.3s,baz=27,slow=5.8
DOPR Dopca 72.64 323 ⇓P **P 04 28 30.5 +1.1**

IBBN Ibbenburen 72.68 337 *e*P **P 04 28 30.0 +0.6**
comp=Z,199nm,0.9s,baz=27,slow=5.8
SVRC Sivrice-ELAZID 72.68 310 *e*P **P 04 28 31.8 +1.9**
CJR Cluj-Napoca 72.69 325 ⇓P **P 04 28 30.5 +0.9**
CJR Cluj-Napoca 72.69 325 ⇓P **P 04 28 30.5 +0.9**
TIRR Tirgusor 72.70 320 ⇓P **P 04 28 30.2 +0.6**
TIRR Tirgusor 72.70 320 ⇓P **P 04 28 30.2 +0.6**
TIRR Tirgusor 72.70 320 P **P 04 28 29.9 +0.3**
HARR Harsova 72.71 321 ⇑P **P 04 28 30.3 +0.6**
HARR Harsova 72.71 321 ⇑P **P 04 28 30.3 +0.6**
NEHR Nehoiu 72.75 322 ⇓P **P 04 28 30.7 +0.8**
MARD Mardin 72.77 308 P **P 04 28 30.2 -0.2**
BANOM Banah 72.78 290 *i*P **P 04 28 30.5 +0.1**
SNR=39
BANOM Banah 72.78 290 P **P 04 28 31.2 +0.7**
SNR=13
SHME Shamm 72.78 290 *i*P **P 04 28 30.2 -0.2**
SNR=39
TLBR Topalu 72.78 321 ⇑P **P 04 28 30.9 +0.9**
GTTG Gottingen 72.80 335 *e*P **P 04 28 30.9 +0.8**
comp=Z,253nm,1.3s,baz=27,slow=5.8
H43A Windswept, Lux 72.81 39 P **P 04 28 30.5 +0.2**
I42A Draeger Farm, 72.82 40 IAmb IAmb 04 28 31.2
comp=Z,159nm,1.0s
MAZI Mazidag 72.83 308 *e*P **P 04 28 31.5 +0.8**
MLR Muntele Rosu 72.83 323 ⇑P **P 04 28 31.2 +0.7**
MLR Muntele Rosu 72.83 323 ⇑P **P 04 28 31.3 +0.7**
MLR Muntele Rosu 72.83 323 P **P 04 28 30.3 -0.2**
VYHS Vyhne 72.84 328 *e*P **P 04 28 31.3 +0.9**
VYHS pmax pmax
comp=Z,177nm,1.2s
VYHS Vyhne 72.84 328 *e*P **P 04 28 31.3 +0.9**
LSQQ Lebel-sur-Quev 72.84 30 P **P 04 28 30.0 -0.4**
baz=331
GAL1 Galloway 72.85 345 *e*P **P 04 28 30.5 +0.2**
PRA Prague 72.86 332 *e*P **P 04 28 31.5 +1.1**
PRA Prague 72.86 332 *e*P **P 04 28 31.5 +1.1**
VRAC Vranov 72.86 330 ⇓P **P 04 28 31.5 +1.0**
VRAC Vranov 72.86 330 ⇓*i*P **P 04 28 31.4 +0.9**
VRAC Vranov 72.86 330 ⇓P **P 04 28 31.5 +1.0**
CLGH Cloghs, Cushen 72.87 346⇑*e*P **P 04 28 29.6 -0.8**
CLGH IAmb IAmb 04 28 31.6
comp=Z,183nm,0.7s
MDB Medias 72.88 324 ⇓P **P 04 28 32.4 +1.7**
MDB Medias 72.88 324 ⇓P **P 04 28 32.4 +1.7**
GOPC GO Pecny, Ondr 72.89 332 *e*P **P 04 28 31.3 +0.6**
GOPC GO Pecny, Ondr 72.89 332 *e*P **P 04 28 31.3 +0.6**
PRU Pruhonice 72.89 332 *e*P **P 04 28 31.2 +0.5**
PRU Pruhonice 72.89 332 *e*P **P 04 28 31.2 +0.5**
ISR Istrita 72.91 322 ⇑P **P 04 28 32.0 +1.1**
ISR Istrita 72.91 322 ⇑P **P 04 28 32.0 +1.1**
PGOR Pogoanele 72.91 322 ⇑P **P 04 28 32.1 +1.3**
CHGQ Chibougamau 72.91 28 P **P 04 28 29.9 -0.9**
baz=332,SNR=36
MFTR Murfatlar 72.93 320 ⇑P **P 04 28 31.9 +0.9**
CVDA Cernavoda 72.96 321 ⇑P **P 04 28 31.7 +0.6**
PSZ Piszkesteto 72.98 328 P **P 04 28 31.4 +0.1**
PSZ pmax pmax
comp=Z,155nm,1.0s
PSZ Piszkesteto 72.98 328 P **P 04 28 31.4 +0.1**
PSZ IAmb IAmb 04 28 33.4
comp=Z,155nm,1.0s
AMRR Amara 73.01 321 ⇓P **P 04 28 32.5 +1.1**
AMRR Amara 73.01 321 ⇓P **P 04 28 32.5 +1.1**
JFWS Jewell Farm 73.06 42 P **P 04 28 30.8 -0.9**
baz=325,SNR=9.0
IDGL Inch Island, C 73.09 347 *e*P **P 04 28 31.1 -0.6**
IDGL IAmb IAmb 04 28 32.7
comp=Z,234nm,0.9s
TANN Tannenbergstha 73.13 333 *e*P **P 04 28 32.7 +0.6**
comp=Z,259nm,1.7s,baz=27,slow=5.8
KRUC Moravsky 73.14 330 ⇓*i*P **P 04 28 32.7 +0.6**
WERD Werda 73.14 333 *e*P **P 04 28 32.7 +0.5**
comp=Z,115nm,1.2s,baz=27,slow=5.8
PLN Plauen 73.15 333 *e*P **P 04 28 32.8 +0.7**
comp=Z,160nm,1.1s,baz=27,slow=5.8
MALT Malatya 73.16 310 *e*P **P 04 28 33.3 +0.8**
MANR Mangalia 73.16 320 ⇑P **P 04 28 33.0 +0.7**
MOX Moxa 73.16 334 *e*P **P 04 28 32.8 +0.6**
comp=Z,219nm,1.1s,baz=27,slow=5.8
MOX *e*pP **pP 04 30 21.9 +4.1**
baz=26,slow=6.1
SECR 73.16 322 ⇑P **P 04 28 32.6 +0.3**
G45A Suttons Bay 73.18 38 IAmb IAmb 04 28 32.5
comp=Z,79nm,0.8s
HPK Haverah Park 73.18 343⇑*e*P **P 04 28 32.0 -0.2**
HPK IAmb IAmb 04 28 33.8
comp=Z,484nm,0.8s
ILGA Ilgaz 73.19 315 P **P 04 28 32.5 -0.4**
GUNZ Gunzen 73.21 333 *e*P **P 04 28 33.2 +0.6**
comp=Z,137nm,0.9s,baz=27,slow=5.8
GUNZ *e*pP **pP 04 30 22.6 +4.5**
baz=26,slow=6.1
TREC Trest 73.22 331 *e*P **P 04 28 33.0 +0.4**
TREC Trest 73.22 331 *e*P **P 04 28 33.0 +0.4**
VOIR 73.22 323 ⇓P **P 04 28 33.7 +1.0**
VOIR 73.22 323 ⇓P **P 04 28 33.7 +1.0**
ICOR Ion Corvin 73.23 321 ⇑P **P 04 28 33.8 +1.1**
MDH Madha 73.24 289 *i*P **P 04 28 32.4 -0.7**
SNR=17
MDH Madha 73.24 289 P **P 04 28 33.8 +0.7**
SNR=8.9
KSU1 Kansas State U 73.25 48 P **P 04 28 32.2 -0.7**
baz=322,SNR=38
KSU1 Kansas State U 73.25 48 P **P 04 28 32.6 -0.3**
WERN Wernitzgruen 73.27 333 *e*P **P 04 28 33.5 +0.7**
comp=Z,197nm,0.9s,baz=27,slow=5.8
MSFE Esma-Masafi 73.28 290 *i*P **P 04 28 33.3 -0.1**
SNR=28
PLAR PLOIESTI 73.28 322 ⇑P **P 04 28 34.3 +1.4**
SMOL Smolenice 73.29 329 *e*P **P 04 28 34.1 +1.1**
SMOL pmax pmax
comp=Z,78nm,0.9s
SMOL Smolenice 73.29 329 *e*P **P 04 28 34.1 +1.1**
NKC Novy Kostel 73.29 333 *e*P **P 04 28 33.7 +0.7**
NKC Novy Kostel 73.29 333 *e*P **P 04 28 33.7 +0.7**
PBCC Pribram 73.33 332 *e*P **P 04 28 33.8 +0.6**
L40A Anamosa 73.33 43 P **P 04 28 32.7 -0.6**
L40A IAmb IAmb 04 28 33.5
comp=Z,105nm,0.9s
LEHL Lehliu 73.33 321 ⇑P **P 04 28 33.1 -0.1**
WSAR Wadi Sarin 73.36 286 P **P 04 28 34.9 +1.1**
SNR=14
SULR 73.39 322 ⇓P **P 04 28 34.1 +0.6**
MTUR Matau 73.39 323 ⇓P **P 04 28 34.3 +0.6**
MTUR Matau 73.39 323 ⇓P **P 04 28 34.3 +0.6**
HSIG 73.41 65 P **P 04 28 33.8 -0.2**
DARE Darende-Malaty 73.41 311 *e*P **P 04 28 35.9 +1.9**
IOMK Kirk Michael 73.41 345 *e*P **P 04 28 33.4 -0.1**
IOMK IAmb IAmb 04 28 34.7
comp=Z,304nm,0.9s
RASA Rasa 73.42 321 ⇑P **P 04 28 34.6 +0.9**
ARR Arges 73.44 323 ⇓P **P 04 28 35.4 +1.4**
UBBA Unterbreizbach 73.45 335 *e*P **P 04 28 34.6 +0.9**
comp=Z,104nm,1.1s,baz=27,slow=5.8
UMQ Umm Al-Quwin 73.45 290 *i*P **P 04 28 35.3 +1.1**
SNR=10
UMQ Umm Al-Quwin 73.45 290 P **P 04 28 35.7 +1.5**
SNR=7.0
BIDO Bidbid 73.45 287 P **P 04 28 35.4 +1.1**
SNR=16
MODS Modra-Piesok 73.46 329 *e*P **P 04 28 34.1 +0.1**
MODS pmax pmax
comp=Z,205nm,1.1s
MODS Modra-Piesok 73.46 329 *e*P **P 04 28 34.1 +0.1**
N38A Joes South For 73.46 45 P **P 04 28 34.4 +0.3**
CORM Corum 73.48 314 *e*P **P 04 28 35.7 +1.3**
VLDQ Val d'Or 73.52 31 P **P 04 28 33.5 -0.7**
WIM Isle of Man 73.54 345⇑*e*P **P 04 28 34.0 -0.3**
UOSS Minazif 73.56 289 *i*P **P 04 28 34.6 -0.4**
SNR=18
UOSS Minazif 73.56 289 P **P 04 28 35.3 +0.3**
UOSS Minazif 73.56 289 P **P 04 28 34.8 -0.1**
BUG Bochum--Univer 73.59 337 *e*P **P 04 28 35.1 +0.5**
comp=Z,306nm,1.3s,baz=27,slow=5.8
BUG *e*pP **pP 04 30 24.6 +4.3**
baz=26,slow=6.1
CANT Cankiri 73.60 315 *e*P **P 04 28 36.7 +1.7**
SRO Srobarova 73.61 328 *e*P **P 04 28 36.2 +1.4**
SRO pmax pmax
comp=Z,176nm,0.9s
SRO Srobarova 73.61 328 *e*P **P 04 28 36.2 +1.4**
MANZ Manzenberg 73.61 333 *e*P **P 04 28 35.4 +0.6**
comp=Z,142nm,1.1s,baz=27,slow=5.8

WBK Wadi Bani Khal 73.62 286 P **P 04 28 36.8 +1.5**
SNR=16
SRO2 Moca 73.62 328 *e*P **P 04 28 35.1 +0.3**
SRO2 pmax pmax
comp=Z,119nm,0.8s
SRO2 Moca 73.62 328 *e*P **P 04 28 35.1 +0.3**
URFA Urfa 73.65 309 *e*P **P 04 28 36.8 +1.5**
DEV Deva 73.65 325 ⇓P **P 04 28 35.6 +0.5**
DEV Deva 73.65 325 ⇓P **P 04 28 35.6 +0.5**
GMM Mts of Mourne 73.66 346 *e*P **P 04 28 34.7 -0.2**
JLN Jalan Bani Buh 73.69 285 P **P 04 28 37.0 +1.4**
SNR=23
HATD Hatta, Dubai 73.69 289 *i*P **P 04 28 35.8 +0.1**
SNR=79
HATD Hatta, Dubai 73.69 289 P **P 04 28 36.4 +0.7**
SNR=42
LOT Lotru 73.70 324 ⇑P **P 04 28 35.6 +0.1**
LBWR Ladybower, Pea 73.73 343 *e*P **P 04 28 35.9 +0.5**
LBWR IAmb IAmb 04 28 37.0
comp=Z,208nm,0.7s
STFAR Stefanesti-Arg 73.73 323 ⇓P **P 04 28 35.9 +0.3**
DZM Mont Dzumac 73.74 164 P **P 04 28 35.5 -0.3**
SIRR Siria 73.78 326 ⇓P **P 04 28 36.3 +0.5**
ROTZ Rotzenmuhle 73.78 333 *e*P **P 04 28 36.6 +0.9**
comp=Z,187nm,1.0s,baz=27,slow=5.8
ASHO Ashiyiah 73.84 289 *i*P **P 04 28 36.6 0.0**
SNR=51
ASHO Ashiyiah 73.84 289 P **P 04 28 37.2 +0.6**
SNR=36
SMDO Samad 73.84 287 P **P 04 28 37.5 +0.8**
SNR=16
NAZ Nazwa, Dubai 73.85 290 *i*P **P 04 28 36.5 0.0**
SNR=28
NAZ Nazwa, Dubai 73.85 290 P **P 04 28 37.0 +0.4**
SNR=31
SGRR Singureni 73.88 322 ⇓P **P 04 28 36.1 -0.2**
HOQ Hoqain 73.91 288 P **P 04 28 37.5 +0.5**
SNR=35
WACR West Acre 73.91 341 *e*P **P 04 28 36.3 0.0**
WACR IAmb IAmb 04 28 37.9
comp=Z,597nm,0.9s
KHC Kasperske Hory 73.95 332 *e*P **P 04 28 37.5 +0.7**
KHC *ex* x 04 28 43.0
KHC *e*pP **pP 04 30 23.5 +0.9**
KHC Kasperske Hory 73.95 332*d i*P **P 04 28 37.3 +0.5**
KHC pmax pmax
comp=Z,564nm,1.3s
KHC Kasperske Hory 73.95 332 P **P 04 28 36.8 0.0**
SOHO SOHO 73.97 288 *i*P **P 04 28 37.0 -0.2**
SNR=49
SOHO SOHO 73.97 288 P **P 04 28 37.4 +0.2**
BNN Bunyan 73.97 312 *e*P **P 04 28 38.4 +1.2**
KAN12 Harper NE Stat 74.00 50 P **P 04 28 37.3 +0.1**
HUMR Humele 74.01 323 ⇑P **P 04 28 36.7 -0.4**
AMTX Amarillo 74.02 54 P **P 04 28 38.4 +0.9**
baz=321
AMTX Amarillo 74.02 54 P **P 04 28 37.5 0.0**
AMTX IAmb IAmb 04 28 39.3
comp=Z,143nm,1.1s
K43A Burlington 74.04 41 P **P 04 28 37.0 -0.3**
K43A IAmb IAmb 04 28 37.8
comp=Z,146nm,1.0s
L42A Oliver, Polo 74.05 42 P **P 04 28 36.8 -0.6**
L42A IAmb IAmb 04 28 37.4
comp=Z,113nm,0.8s
SARI SarD1z-Kayseri 74.05 312 *e*P **P 04 28 36.0 -1.7**
FAQ Al Faqa, Dubai 74.08 290 *i*P **P 04 28 37.7 -0.2**
SNR=7.9
FAQ Al Faqa, Dubai 74.08 290 P **P 04 28 38.5 +0.7**
SNR=7.5
KAN10 Anthony SW Sta 74.08 51 P **P 04 28 37.8 +0.1**
STNC Stoke 74.12 343 *e*P **P 04 28 38.1 +0.5**
GRA1 Grafenberg Arr 74.13 334 P **P 04 28 37.9 +0.2**
GRF Grafenberg Arr 74.13 334 P **P 04 28 37.9 +0.2**
GRF pmax pmax
comp=Z,309nm,0.8s
GRF Grafenberg Arr 74.13 334 *e*P **P 04 28 38.8 +1.0**
comp=Z,409nm,1.0s,baz=27,slow=5.8
WET Wettzell 74.14 332 *e*P **P 04 28 38.9 +1.0**
comp=Z,313nm,1.4s,baz=27,slow=5.8
MSTX Muleshoe 74.16 56 P **P 04 28 39.0 +0.6**
baz=321
MSTX Muleshoe 74.16 56 P **P 04 28 38.2 -0.1**
MSTX IAmb IAmb 04 28 39.9
comp=Z,70nm,0.9s
GEC2 GERESS Array S 74.16 332 *e*P **P 04 28 38.5 +0.5**
comp=Z,230nm,1.8s,baz=27,slow=5.8
GEC2 GERESS Array S 74.16 332 P **P 04 28 38.1 0.0**
GEC2 IAmb IAmb 04 28 39.0
comp=Z,54nm,0.8s
GERES GERESS Array B 74.16 332 P **P 04 28 38.6 +0.5**
comp=Z,42nm,0.7s,baz=33,slow=5.1,SNR=308
GERES PP **PP 04 31 31.8 +0.3**
comp=Z,4.9nm,0.7s,baz=40,slow=7.0,SNR=4.0
GERES GERESS Array B 74.16 332 P **P 04 28 38.4 +0.3**
GERES GERESS Array B 74.16 332 P **P 04 28 38.4 +0.3**
WME Myndd Eilian 74.20 344⇑*e*P **P 04 28 37.4 -0.7**
RAZG Razgrad 74.21 321 ⇓P **P 04 28 38.6 +0.3**
U32A Winter Ranch, 74.22 52 P **P 04 28 38.7 +0.2**
U32A IAmb IAmb 04 28 39.9
comp=Z,90nm,1.0s
WPS Cemaes, Angles 74.23 345 *e*P **P 04 28 37.9 -0.2**
WPS IAmb IAmb 04 28 39.0
comp=Z,119nm,1.2s
P38A Dawn 74.27 46 P **P 04 28 38.9 +0.2**
CWF Charnwood Fore 74.28 342 *e*P **P 04 28 38.4 -0.1**
CWF IAmb IAmb 04 28 40.6
comp=Z,223nm,1.0s
BR131 Keskin Array S 74.30 314 P **P 04 28 40.2 +1.2**
SNR=60
BR131 Keskin Array S 74.30 314 P **P 04 28 38.7 -0.3**
BR131 pmax pmax
comp=Z,150nm,1.0s
BR131 Keskin Array S 74.30 314 P **P 04 28 38.7 -0.3**
BR131 IAmb IAmb 04 28 41.0
comp=Z,150nm,0.9s
BRTR Keskin Array B 74.30 314 P **P 04 28 39.8 +0.7**
comp=Z,152nm,0.9s,baz=66,slow=3.4,SNR=279
BRTR pP **pP 04 30 27.4 +2.4**
comp=Z,19nm,1.0s,baz=71,slow=6.2,SNR=7.1
BRTR PP **PP 04 31 33.9 +0.8**
comp=Z,10nm,0.8s,baz=54,slow=6.3,SNR=4.0
BRTR Keskin Array B 74.30 314 P **P 04 28 39.1 +0.1**
BRTR **PP 04 31 33.4 +0.4**
CONA Conrad Observa 74.31 330 *i*P **P 04 28 39.7 +0.8**
comp=Z,125nm,0.8s,SNR=97
WLF1 Llynfaes 74.32 344⇑*e*P **P 04 28 38.4 -0.3**
WLF1 IAmb IAmb 04 28 39.6
comp=Z,322nm,1.3s
JMDO Jabal Madar 74.33 286 P **P 04 28 40.3 +1.0**
SNR=25
BZS Buzias 74.35 325 ⇑P **P 04 28 39.0 0.0**
BZS Buzias 74.35 325 ⇑P **P 04 28 39.0 0.0**
YRC Rhoscolyn 74.38 345⇑*e*P **P 04 28 38.2 -0.8**
TNS Taunus Mts 74.41 336 *e*P **P 04 28 40.0 +0.6**
comp=Z,193nm,0.9s,baz=27,slow=5.8
YLL Llanberis 74.42 344 *e*P **P 04 28 38.8 -0.5**
AHRW Bad Neuenahr-A 74.47 337 *e*P **P 04 28 40.4 +0.8**
comp=Z,296nm,1.1s,baz=27,slow=5.8
KAN13 South Haven SW 74.47 50 P **P 04 28 39.9 -0.1**
ALNE Al Ain 74.50 289 *i*P **P 04 28 40.4 +0.2**
SNR=14
MNTX Cornudas Mount 74.50 59 P **P 04 28 41.4 +1.3**
baz=320,SNR=41
MNTX Cornudas Mount 74.50 59 P **P 04 28 40.1 -0.1**
KMRS Kahramanmaras 74.53 311 *e*P **P 04 28 41.4 +1.1**
LOD Lodumlu 74.56 315 *e*P **P 04 28 41.9 +1.4**
ARQ Araqi 74.57 288 P **P 04 28 41.5 +0.9**
SNR=30
SRE Strehaia 74.58 324 ⇑P **P 04 28 40.7 +0.4**
SRE Strehaia 74.58 324 ⇑P **P 04 28 40.7 +0.4**
AJN Ajban 74.58 290 *i*P **P 04 28 40.4 -0.3**
SNR=12
AJN Ajban 74.58 290 P **P 04 28 41.2 +0.6**
SNR=25
BEBN Eben Emael 74.58 338 P **P 04 28 40.5 +0.3**
comp=Z,300nm,0.0s
BEBN x x 04 28 45.2
ZIMR 74.59 322 ⇑P **P 04 28 40.9 +0.5**
ZIMR 74.59 322 ⇑P **P 04 28 40.9 +0.5**
N41A Harden Midland 74.59 44 IAmb IAmb 04 28 41.1
comp=Z,114nm,1.0s
BSY Bisya 74.60 287 P **P 04 28 41.7 +0.8**
SNR=28
CROK Carrier 74.63 51 P **P 04 28 41.0 +0.2**

CROK IAmb IAmb 04 28 41.9
comp=Z,121nm,0.9s
GAZ Gaziantep 74.65 310 *eP* **P 04 28 42.7 +1.7**
GAZ Gaziantep 74.65 310 P **P 04 28 40.8 -0.2**
GAZ IAmb IAmb 04 28 43.8
comp=Z,216nm,1.1s
L44A Lake County Fo 74.65 41 P **P 04 28 40.4 -0.4**
baz=326,SNR=6.4
L44A Lake County Fo 74.65 41 IAmb IAmb 04 28 41.5
comp=Z,111nm,1.1s
GDL2 Guadalupe Moun 74.67 58 P **P 04 28 41.1 -0.1**
MEM Membach 74.67 337 P **P 04 28 40.8 0.0**
comp=Z,253nm,1.0s
HERR Herculane 74.68 324 ⇓P **P 04 28 40.9 0.0**
DSB Dublin 74.69 346 *eP* **P 04 28 40.6 -0.2**
DSB Dublin 74.69 346 P **P 04 28 41.0 +0.2**
DSB IAmb IAmb 04 28 42.3
comp=Z,136nm,0.8s
SZH Strazhica 74.69 321 *i P* **P 04 28 41.2 +0.2**
AFSR Afar-Bala (An 74.78 314 *eP* **P 04 28 43.1 +1.4**
HLM1 Long Mynd 74.79 343⇑*eP* **P 04 28 41.4 0.0**
HLM1 IAmb IAmb 04 28 42.8
comp=Z,179nm,0.8s
MDUB Mudurnu 74.79 316 *eP* **P 04 28 42.8 +1.0**
MDUB Mudurnu 74.79 316 P **P 04 28 41.5 -0.3**
BSTI Sart Tilman 74.80 338 P **P 04 28 42.1 +0.6**
YAYX Yaylak 74.85 314 *eP* **P 04 28 43.2 +1.1**
MOA Molln 74.88 331 *i P* **P 04 28 42.6 +0.6**
comp=Z,68nm,0.8s,SNR=42
UCC Uccle 74.89 338 P **P 04 28 42.1 +0.1**
UCC x x 04 28 46.6
UCC Uccle 74.89 338 P **P 04 28 42.3 +0.3**
UCC pmax pmax
comp=Z,110nm,0.8s
UCC Uccle 74.89 338 P **P 04 28 42.3 +0.3**
UCC IAmb IAmb 04 28 43.2
comp=Z,110nm,0.8s
BHOU Houvegnez 74.91 337 P **P 04 28 42.3 +0.2**
comp=Z,149nm,1.3s
BHOU x x 04 28 47.2
SAUV Serdivan-Sakar 74.95 317 *eP* **P 04 28 39.9 -2.6**
SERE Sereflikochisa 74.96 314 *eP* **P 04 28 43.8 +1.1**
IGLA Glengowla, Co 74.96 347 *eP* **P 04 28 41.4 -0.8**
ORH Orhaniye 74.96 317 *i P* **P 04 28 44.0 +1.4**
HQIL Hanson Quary C 74.98 41 IAmb IAmb 04 28 43.3
comp=Z,91nm,0.9s
SPNC Sapanca-Adapaz 75.00 317 *eP* **P 04 28 44.0 +1.2**
PUNG Punghina 75.00 324 ⇓P **P 04 28 42.7 0.0**
ARSA Arzberg 75.01 330 *i P* **P 04 28 43.6 +0.8**
comp=Z,106nm,1.1s,SNR=52
J47A Sunmer 75.02 38 P **P 04 28 43.2 +0.4**
P40A Paris 75.02 45 P **P 04 28 43.0 0.0**
BCLA Clavier 75.02 338 P **P 04 28 42.7 0.0**
comp=Z,161nm,1.2s
BCLA x x 04 28 47.3
T35A Sooner Cattle 75.02 50 P **P 04 28 43.1 +0.1**
T35A IAmb IAmb 04 28 44.2
comp=Z,125nm,0.9s
MDVR Moldovita 75.03 325 ⇓P **P 04 28 42.9 0.0**
KOZT Kozan 75.07 311 *eP* **P 04 28 44.6 +1.3**
JMB Yambol 75.10 320 *i P* **P 04 28 43.9 +0.6**
BGES Gesves 75.11 338 P **P 04 28 43.4 +0.2**
comp=Z,161nm,1.3s
BGES x x 04 28 47.5
D55A Sainte-Anne-du 75.12 30 P **P 04 28 43.1 -0.3**
baz=332,SNR=56
D55A S **S 04 37 36.9 -3.6**
baz=332
GULT Gulveren 75.12 317 *eP* **P 04 28 44.5 +0.9**
GULA Gulagac 75.13 313 *eP* **P 04 28 44.9 +1.2**
HRT Hereke 75.17 317 *eP* **P 04 28 44.8 +1.0**
SNF Seneffe 75.18 338 P **P 04 28 43.9 +0.3**
ALGO Algonquin Park 75.19 33 P **P 04 28 42.9 -0.9**
baz=331,SNR=16
I49A Point Hope 75.20 37 P **P 04 28 43.9 +0.1**
M44A Midewin, Midew 75.25 41 P **P 04 28 43.9 -0.3**
M44A IAmb IAmb 04 28 44.7
comp=Z,137nm,0.8s
BMRD Maredsous 75.26 338 P **P 04 28 44.4 +0.4**
comp=Z,239nm,1.2s
BMRD x x 04 28 48.2
BEHE Becsehely 75.29 329 ⇓*iP* **P 04 28 46.5 +2.2**
ELSH Elham, Standar 75.29 340 *eP* **P 04 28 44.2 0.0**
ELSH IAmb IAmb 04 28 45.8
comp=Z,534nm,1.0s
AS31 Alice Springs 75.30 195 P **P 04 28 44.2 -0.3**
AS31 IAmb IAmb 04 28 46.9
comp=Z,66nm,0.6s
ASAR Alice Springs 75.30 195 P **P 04 28 46.0 +1.4**
comp=Z,188nm,0.7s,baz=7.3,slow=5.3,SNR=1558
ASAR pP **pwP 04 30 34.7 +1.1**
comp=Z,24nm,0.8s,baz=5.3,slow=5.4,SNR=11
ASAR S **S 04 37 44.6 +1.7**
comp=Z,2.2nm,0.9s,baz=1.8,slow=8.1,SNR=9.3
ASAR Alice Springs 75.30 195 P **P 04 28 44.9 +0.3**
MCH1 Michaelchurch 75.31 343 *eP* **P 04 28 44.4 +0.1**
MCH1 IAmb IAmb 04 28 45.7
comp=Z,201nm,0.8s
D56A ZEC Mazanza, M 75.32 30 P **P 04 28 44.4 -0.1**
baz=332,SNR=97
D56A S **S 04 37 40.0 -2.8**
baz=332
STRD Stroud 75.36 343 *eP* **P 04 28 44.7 +0.1**
STRD IAmb IAmb 04 28 46.0
comp=Z,498nm,1.0s
SRCK Saricakaya, Es 75.39 316 *eP* **P 04 28 45.8 +0.8**
FRGS Fruska Gora 75.39 326 ⇓*iP* **P 04 28 45.1 +0.2**
HDIL Hopedale 75.40 43 P **P 04 28 44.8 -0.2**
baz=326,SNR=33
HDIL Hopedale 75.40 43 P **P 04 28 45.0 -0.1**
HDIL IAmb IAmb 04 28 45.8
comp=Z,166nm,0.8s
MONM Monmouth 75.42 343 *eP* **P 04 28 45.2 +0.3**
MONM IAmb IAmb 04 28 46.4
comp=Z,338nm,0.8s
RJOB Jochberg 75.43 332 *eP* **P 04 28 45.1 0.0**
comp=Z,106nm,1.0s,baz=27,slow=5.8
E55A Montcerf-Lytto 75.43 31 P **P 04 28 44.5 -0.6**
baz=332,SNR=24
MHTO MHTO 75.44 285 P **P 04 28 46.7 +1.1**
SNR=63
OK029 Liberty Lake 75.45 51 P **P 04 28 45.7 +0.3**
L46A Eue Claire 75.45 40 P **P 04 28 45.2 -0.1**
L46A IAmb IAmb 04 28 46.1
comp=Z,91nm,0.8s
SLVT Silivri 75.45 319 *eP* **P 04 28 46.9 +1.6**
ADVT Abdulvahap 75.46 317 *eP* **P 04 28 46.0 +0.7**
MPEP Malo Peshtene 75.48 323 *i P* **P 04 28 46.1 +0.7**
SVRH Sivrihisar-ESK 75.48 315 *eP* **P 04 28 46.1 +0.5**
BCOK Bluff Creek, N 75.48 51 P **P 04 28 45.8 +0.2**
CEYT Ceyhan 75.48 311 *eP* **P 04 28 47.4 +1.9**
KOGS Kog 75.48 329 *i P* **P 04 28 45.5 +0.1**
FUR Furstenfeldbru 75.49 333 *eP* **P 04 28 46.3 +0.8**
comp=Z,337nm,1.1s,baz=27,slow=5.8
DOU Dourbes 75.49 338 P **P 04 28 45.4 +0.1**
comp=Z,88nm,1.4s
WLF Walferdange 75.51 337 P **P 04 28 46.0 +0.6**
WLF Walferdange 75.51 337 P **P 04 28 45.7 +0.2**
WLF pmax pmax
comp=Z,110nm,1.1s
WLF Walferdange 75.51 337 *eP* **P 04 28 46.1 +0.6**
comp=Z,107nm,1.1s,baz=27,slow=5.8
WLF Walferdange 75.51 337 P **P 04 28 45.7 +0.2**
WLF IAmb IAmb 04 28 48.7
comp=Z,110nm,1.1s
QUOK Quay 75.52 50 P **P 04 28 45.9 +0.1**
QUOK IAmb IAmb 04 28 47.3
comp=Z,182nm,1.1s
STU Stuttgart 75.53 335 P **P 04 28 45.5 -0.1**
STU pmax pmax
comp=Z,179nm,0.9s
STU Stuttgart 75.53 335 *eP* **P 04 28 46.2 +0.6**
comp=Z,200nm,1.0s,baz=27,slow=5.8
STU Stuttgart 75.53 335 P **P 04 28 45.5 -0.1**
STU IAmb IAmb 04 28 47.2
comp=Z,179nm,0.9s
SWN1 Swindon 75.54 342⇑*eP* **P 04 28 46.2 +0.6**
SWN1 IAmb IAmb 04 28 47.3
comp=Z,963nm,1.1s
OLDB Oldbury-Upon-S 75.55 343 *eP* **P 04 28 46.1 +0.5**
EDRB Edirne 75.55 320 *eP* **P 04 28 46.0 +0.2**
CHBY Cihanbeyli 75.56 314 *eP* **P 04 28 46.9 +0.8**
SULT Sultanhani-AKS 75.58 313 *eP* **P 04 28 47.2 +1.0**
IWEX Carrickbyrne, 75.59 346 *eP* **P 04 28 45.8 -0.1**
IWEX IAmb IAmb 04 28 47.1
comp=Z,180nm,0.9s
CAVI Cavuskoy 75.60 317 *eP* **P 04 28 47.2 +1.0**
EIDS Eidsvold 75.61 179 P **P 04 28 46.0 -0.1**
EIDS IAmb IAmb 04 28 48.9
comp=Z,121nm,0.8s
KARA Karaisali 75.61 312 *eP* **P 04 28 47.6 +1.3**
WMOK Wichita Mounta 75.62 53 P **P 04 28 46.4 0.0**
WMOK pmax pmax
comp=Z,95nm,0.9s
WMOK Wichita Mounta 75.62 53 P **P 04 28 46.9 +0.5**
baz=322,SNR=125
WMOK Wichita Mounta 75.62 53 P **P 04 28 46.4 0.0**
WMOK IAmb IAmb 04 28 48.0
comp=Z,95nm,0.8s
WOL Wolverton 75.62 342 *eP* **P 04 28 46.0 0.0**
D57A Chemin Vers le 75.63 29 P **P 04 28 46.0 -0.2**
baz=333,SNR=65
LATQ La Tuque 75.64 29 P **P 04 28 46.0 -0.3**
baz=334
G54A Lake Saint Pet 75.67 33 P **P 04 28 45.5 -1.0**
baz=331,SNR=12
OK025 Westminster Rd 75.67 51 P **P 04 28 46.7 0.0**
SOKA Soboth 75.67 330 *i P* **P 04 28 47.1 +0.6**
comp=Z,266nm,1.4s,SNR=139
E56A St. Veronique 75.68 30 P **P 04 28 46.2 -0.3**
baz=332,SNR=59
PERS Pernice 75.69 330 *eP* **P 04 28 46.9 +0.3**
YURE YUREGIR 75.69 311 *eP* **P 04 28 48.8 +2.1**
GEMT Gemlik 75.69 318 *eP* **P 04 28 47.4 +0.7**
HMNX Herstmonceux 75.72 341 *eP* **P 04 28 47.6 +1.0**
HMNX IAmb IAmb 04 28 48.7
comp=Z,884nm,1.0s
ARMT Armutlu 75.73 318 *eP* **P 04 28 46.9 0.0**
CRLT Corlu 75.74 319 *eP* **P 04 28 48.0 +1.1**
OKCFA Oklahoma City 75.75 51 P **P 04 28 47.2 +0.1**
CIFT Cifteler, Eski 75.75 316 *eP* **P 04 28 47.5 +0.4**
OKCSW OKLAHOMA CITY 75.77 51 P **P 04 28 47.2 0.0**
KIZT Kizilcal 75.78 315 *eP* **P 04 28 47.8 +0.5**
TAHT Tahtakopru-Hat 75.78 310 *eP* **P 04 28 48.7 +1.5**
YESY Yesilyurt 75.81 313 *eP* **P 04 28 48.5 +1.0**
SADO Sadowa 75.84 34 P **P 04 28 47.4 -0.1**
KBA Koelnbreinsper 75.85 331 *i P* **P 04 28 48.6 +0.9**
comp=Z,435nm,1.0s,SNR=186
D58A Chemin du LacG 75.87 29 P **P 04 28 46.9 -0.6**
baz=333,SNR=15
DIM Dimitrovgrad 75.87 321 *i P* **P 04 28 48.6 +1.0**
F55A Otter Lake 75.88 32 P **P 04 28 46.8 -0.8**
baz=332,SNR=22
MDNY Mudanya-Bursa 75.88 318 *eP* **P 04 28 48.5 +0.8**
FNO Franklin 75.90 51 P **P 04 28 48.2 +0.3**
S39A Bolivar 75.92 47 IAmb IAmb 04 28 48.9
comp=Z,82nm,0.8s
OBKA Obir 75.98 330 *i P* **P 04 28 48.7 +0.5**
comp=Z,78nm,0.7s,SNR=39
I51A Listowel 75.99 36 P **P 04 28 48.4 +0.1**
baz=329,SNR=10
I51A S **S 04 37 45.6 -4.5**
baz=329
P43A Skaggs, Pawnee 76.05 43 P **P 04 28 48.4 -0.2**
P43A IAmb IAmb 04 28 49.4
comp=Z,84nm,0.8s
E57A Chemin Saint G 76.08 30 P **P 04 28 48.7 -0.1**
baz=333,SNR=73
E57A S **S 04 37 48.5 -2.5**
baz=333
O44A Mansfield 76.09 42 P **P 04 28 48.7 -0.1**
O44A IAmb IAmb 04 28 49.4
comp=Z,89nm,0.8s
YAYL Yayladag 76.09 310 *eP* **P 04 28 50.5 +1.4**
LADK Ladik-KONYA 76.11 314 *eP* **P 04 28 49.8 +0.6**
TRQ Mont Tremblant 76.12 30 P **P 04 28 48.9 -0.1**
WATA Walderalm 76.15 332 *i P* **P 04 28 50.1 +0.9**
comp=Z,305nm,1.1s,SNR=100
MYKA Terra Mystica 76.16 331 *i P* **P 04 28 49.5 +0.3**
comp=Z,81nm,0.8s,SNR=44
BFO Black Forest 76.17 335 P **P 04 28 49.7 +0.5**
BFO pmax pmax
comp=Z,173nm,1.0s
BFO Black Forest 76.17 335 *eP* **P 04 28 49.7 +0.5**
comp=Z,221nm,1.1s,baz=27,slow=5.8
BFO Black Forest 76.17 335 P **P 04 28 49.7 +0.5**
BFO IAmb IAmb 04 28 50.7
comp=Z,173nm,1.0s
TUL1 Leonard 76.17 50 P **P 04 28 49.9 +0.5**
baz=323,SNR=61
TUL1 S **S 04 37 50.5 -1.7**
baz=323
TUL1 Leonard 76.17 50 P **P 04 28 49.5 +0.1**
TUL1 IAmb IAmb 04 28 50.9
comp=Z,140nm,0.7s
MERS Mersin 76.18 312 *eP* **P 04 28 50.5 +1.0**
WTTA Wattenberg 76.20 332 *i P* **P 04 28 50.5 +1.0**
comp=Z,250nm,0.6s,SNR=143
GCIS Gornji Cirnik 76.20 329 *i P* **P 04 28 49.5 +0.1**
X34A Smith Ranch, M 76.20 52 P **P 04 28 49.5 -0.1**
X34A IAmb IAmb 04 28 51.6
comp=Z,103nm,0.8s
H53A Bobcaygeon 76.21 34 P **P 04 28 48.6 -0.8**
baz=330,SNR=14
MRMT Marmara Adasi 76.23 319 *eP* **P 04 28 49.6 -0.1**
DIVS Divibare 76.25 325 ⇓*iP* **P 04 28 49.6 -0.2**
DIVS Divibare 76.25 325 P **P 04 28 49.8 0.0**
DIVS IAmb IAmb 04 28 50.9
comp=Z,195nm,1.0s
W35A Tecumseh 76.25 51 P **P 04 28 49.8 -0.1**
RETA Reutte 76.25 333 *i P* **P 04 28 50.3 +0.6**
comp=Z,107nm,0.8s,SNR=47
G55A Calabogie 76.26 32 P **P 04 28 48.8 -0.9**
baz=332,SNR=18
L48A N Adams 76.26 39 P **P 04 28 50.0 +0.1**
L48A IAmb IAmb 04 28 50.9
comp=Z,149nm,0.9s
UBR Ueberruh 76.26 333 *eP* **P 04 28 50.4 +0.6**
comp=Z,181nm,1.5s,baz=27,slow=5.8
D59A Saint-Raymond 76.27 28 P **P 04 28 49.3 -0.4**
baz=334,SNR=9.4
AAM Ann Arbor 76.27 38 P **P 04 28 49.8 0.0**
baz=328,SNR=7.8
MOTA Moosalm 76.28 333 *i P* **P 04 28 50.6 +0.6**
comp=Z,319nm,1.0s,SNR=131
CRES Cresnjev 76.29 329 ⇓*iP* **P 04 28 49.9 0.0**
VNDS Vrh nad Dolski 76.29 330 *eP* **P 04 28 49.6 -0.3**
VNDS *ePP* **PP 04 31 48.6 -0.6**
VTS Vitosha 76.30 323 *i P* **P 04 28 50.9 +0.7**
KONT Konya--Tatoy 76.32 314 *eP* **P 04 28 50.9 +0.7**
PLVO Plevna 76.33 32 IAmb IAmb 04 28 50.5
comp=Z,99nm,0.9s
BOLV Bolvadin 76.33 315 P **P 04 28 50.1 -0.2**
EDC Edincik 76.33 318 *eP* **P 04 28 51.3 +1.1**
PRED Cave del Predi 76.35 331 P **P 04 28 50.2 -0.1**
PRED IAmb IAmb 04 28 51.1
comp=Z,178nm,1.0s
SQTA Sankt Quirin 76.36 333 *i P* **P 04 28 51.3 +0.9**
comp=Z,334nm,1.2s,SNR=108
TVSB Tavsanli 76.39 317 *eP* **P 04 28 51.4 +0.7**
E58A La Victoria 76.39 29 P **P 04 28 50.2 -0.3**
baz=333,SNR=36
ABTA Abfaltersbach 76.40 332 *i P* **P 04 28 50.6 0.0**
comp=Z,147nm,1.2s,SNR=57
LJU Ljubljana 76.40 330 *i P* **P 04 28 50.3 -0.2**
LJU Ljubljana 76.40 330 ⇓*iP* **P 04 28 50.2 -0.2**
U38A Gravette 76.43 49 P **P 04 28 51.0 +0.2**
U38A IAmb IAmb 04 28 51.7
comp=Z,103nm,0.7s
ZOU Zoufplan 76.43 331 P **P 04 28 50.6 -0.3**
F57A Harrington 76.44 31 P **P 04 28 49.9 -0.7**
baz=333,SNR=7.3
SFIN Lafayette 76.48 41 P **P 04 28 50.6 -0.4**
baz=327,SNR=22
SFIN Lafayette 76.48 41 P **P 04 28 51.0 0.0**
SFIN IAmb IAmb 04 28 51.6
comp=Z,62nm,0.6s
CADS Cadrg 76.48 331 *ePP* PP 04 31 51.8 +1.0
CADS Cadrg 76.48 331 *eP* **P 04 28 50.2 -0.8**
ORIO Orleans, Innes 76.49 31 P **P 04 28 50.1 -0.8**
baz=332,SNR=31
DQM DQM 76.50 285 P **P 04 28 52.0 +0.5**
SNR=6.1
RZN Rozhen 76.51 321 *i P* **P 04 28 52.0 +0.6**
E59A St. Maurice 76.53 29 P **P 04 28 50.6 -0.5**
baz=334
KRBG Karabiga-Canak 76.53 319 *eP* **P 04 28 52.2 +0.9**
HTL Hartland 76.54 344 *eP* **P 04 28 51.5 +0.4**
HTL IAmb IAmb 04 28 52.6
comp=Z,252nm,1.0s
SLM Saint Louis 76.56 44 P **P 04 28 51.6 +0.1**
SLM pmax pmax
comp=Z,165nm,0.8s
SLM Saint Louis 76.56 44 P **P 04 28 51.6 +0.1**
SLM IAmb IAmb 04 28 52.3
comp=Z,165nm,0.8s
D61A St Aubert, Com 76.58 27 P **P 04 28 51.2 -0.2**
baz=335,SNR=12
CCM Cathedral Cave 76.58 45 P **P 04 28 51.7 +0.1**
CCM pmax pmax
comp=Z,118nm,0.8s
CCM Cathedral Cave 76.58 45 P **P 04 28 51.5 -0.2**
baz=325
CCM Cathedral Cave 76.58 45 P **P 04 28 51.7 +0.1**
CCM IAmb IAmb 04 28 52.6
comp=Z,118nm,0.8s
ECH Echery 76.58 336 P **P 04 28 51.7 +0.2**
ECH pmax pmax
comp=Z,188nm,1.0s
ECH Echery 76.58 336 P **P 04 28 51.7 +0.2**
ECH IAmb IAmb 04 28 52.9
comp=Z,188nm,1.0s
D60A Saint Jean D'O 76.62 28 P **P 04 28 51.0 -0.6**
baz=335,SNR=15
ERIK Erikli-Kesan 76.63 319 *eP* **P 04 28 52.7 +0.9**
ALN Alexandroupoli 76.63 320 P **P 04 28 52.0 +0.2**
ALN pmax pmax
comp=Z,302nm,1.1s
ALN Alexandroupoli 76.63 320 P **P 04 28 52.0 +0.2**
BOJS Bojanci 76.64 329 *eP* **P 04 28 51.9 +0.1**
SHUT Suhut-Afyon 76.64 316 *eP* **P 04 28 53.1 +1.0**
N47A Urbana 76.65 40 P **P 04 28 51.6 -0.3**
N47A IAmb IAmb 04 28 52.4
comp=Z,117nm,0.8s
BBLS Lazići 76.66 326 ⇓*iP* **P 04 28 52.4 +0.4**
PSA00 Pilbara Seismi 76.66 209 P **P 04 28 51.9 -0.2**
PSA00 IAmb IAmb 04 28 53.7
comp=Z,77nm,0.8s
BLY Banja Luka 76.67 328 ⇓*iP* **P 04 28 51.6 -0.3**
F58A St-Lin Laurent 76.67 30 P **P 04 28 51.7 -0.2**
baz=333,SNR=11
KIZK Mersin 76.67 312 *eP* **P 04 28 52.7 +0.5**
FETA Feichten 76.68 333 *i P* **P 04 28 52.9 +0.7**
comp=Z,136nm,1.0s,SNR=74
DAVA Damuels 76.69 333 *i P* **P 04 28 52.8 +0.5**
comp=Z,192nm,1.0s,SNR=56
CEY Cerknica 76.70 330 ⇓*iP* **P 04 28 51.9 -0.3**
H55A Tweed 76.72 33 P **P 04 28 51.8 -0.4**
baz=331,SNR=30
ENEZ Enez 76.72 320 *eP* **P 04 28 53.1 +0.8**
GEDZ Gediz 76.75 317 *eP* **P 04 28 54.0 +1.4**
HHAR Hobbs 76.77 48 P **P 04 28 52.7 0.0**
HHAR IAmb IAmb 04 28 53.5
comp=Z,99nm,0.7s
STAL STALIGIAL 76.78 331 P **P 04 28 52.0 -0.6**
STAL IAmb IAmb 04 28 52.9
comp=Z,103nm,0.9s
LPK Lapseki 76.78 319 *eP* **P 04 28 53.5 +0.9**
CIMO Cimolais 76.81 331 P **P 04 28 52.2 -0.6**
I55A Frankford 76.84 33 P **P 04 28 52.1 -0.8**
baz=331,SNR=17
ABTX Abilene, Hawle 76.84 54 P **P 04 28 53.7 +0.5**
baz=322,SNR=32
ABTX Abilene, Hawle 76.84 54 P **P 04 28 53.1 0.0**
MGMO Mountain Grove 76.85 47 P **P 04 28 53.1 0.0**
SILI Silifke-Mersin 76.87 312 *eP* **P 04 28 53.8 +0.6**
GELI Tayfur-Gelibol 76.87 319 *eP* **P 04 28 53.9 +0.7**
Q44A Meyer Farm, Va 76.88 43 P **P 04 28 53.2 0.0**
Q44A IAmb IAmb 04 28 54.1
comp=Z,98nm,0.9s
RUDO Rudo 76.89 326 *eP* **P 04 28 53.1 -0.1**
SIMA Simav-Kutahya 76.90 317 *eP* **P 04 28 53.7 +0.2**
KEBE Keben-Mersin 76.91 312 *eP* **P 04 28 54.0 +0.5**
TRI Trieste 76.94 330 P **P 04 28 52.9 -0.5**
TRI pmax pmax
comp=Z,70nm,0.8s
TRI Trieste 76.94 330 P **P 04 28 52.9 -0.5**
TRI IAmb IAmb 04 28 53.4
comp=Z,70nm,0.8s
E60A Ste Agathe de 76.96 28 P **P 04 28 52.8 -0.7**
baz=334,SNR=22
G57A Newington 76.97 31 P **P 04 28 53.0 -0.6**
baz=332,SNR=58
DYA Yadsworthy 76.97 343 *eP* **P 04 28 53.4 -0.2**
DYA IAmb IAmb 04 28 54.8
comp=Z,371nm,0.9s
MMB Musomiste 76.98 322 *i P* **P 04 28 54.5 +0.7**
MGRS Mrkonjic Grad 76.99 328 *eP* P 04 29 09.4 +16
H56A Elgin 77.00 32 P **P 04 28 53.1 -0.7**
baz=332,SNR=20
KKB Krupnik 77.00 322 *i P* P 04 28 59.6 +5.7
D62A Allapoint, All 77.01 26 P **P 04 28 53.5 -0.3**
baz=336,SNR=29
D62A Allapoint, All 77.01 26 P **P 04 28 53.7 -0.1**
D62A IAmb IAmb 04 28 54.6
comp=Z,66nm,0.7s
F59A Saint Guillaume 77.01 29 P **P 04 28 53.7 -0.1**
baz=334,SNR=30
TEVE Tevekalti-Mers 77.04 312 *eP* **P 04 28 54.7 +0.4**
P46A Rosedale 77.07 42 P **P 04 28 54.4 +0.1**
IKL Isikli 77.09 312 *eP* **P 04 28 54.7 +0.3**
PLE Pljevlja 77.13 325 ⇓*iP* **P 04 28 55.2 +0.5**
F60A Warwick 77.16 29 P **P 04 28 53.9 -0.8**
baz=334,SNR=9.9
FUORN Ofenpass-Fuorn 77.18 333 P **P 04 28 54.8 -0.3**
FUORN IAmb IAmb 04 28 57.9
comp=Z,139nm,1.0s
E61A Lac Etchemin 77.19 28 P **P 04 28 54.4 -0.4**
baz=335,SNR=23
AKKU Akkuyu-Mersin 77.22 312 *eP* **P 04 28 55.3 +0.2**
BERE Bereket-Mersin 77.22 312 *eP* **P 04 28 55.4 +0.1**
U40A Yellville 77.22 48 P **P 04 28 55.1 0.0**
baz=324,SNR=249
U40A S **S 04 38 00.7 -2.7**
baz=324
U40A Yellville 77.22 48 P **P 04 28 55.2 0.0**
N49A Columbus Grove 77.23 39 P **P 04 28 55.1 +0.1**
G58A Ormstown 77.23 30 P **P 04 28 54.6 -0.5**
baz=333,SNR=34
ISP Isparta 77.26 315 P **P 04 28 55.2 -0.3**
ISP pmax pmax
comp=Z,56nm,0.7s
ISP Isparta 77.26 315 P **P 04 28 55.1 -0.3**
TX31 Lajitas Ar. Si 77.26 59 P **P 04 28 55.5 -0.1**
TX31 IAmb IAmb 04 28 57.9
comp=Z,144nm,0.8s
TX32 Lajitas Array 77.26 59 P **P 04 28 55.5 -0.2**
TXAR Lajitas Array 77.26 59 P **P 04 28 56.7 +1.1**
comp=Z,36nm,0.6s,baz=297,slow=4.3,SNR=338
TXAR pP **pP 04 30 44.8 +1.9**
comp=Z,7.5nm,0.8s,baz=289,slow=3.6,SNR=4.4
TXAR Lajitas Array 77.26 59 P **P 04 28 55.8 +0.2**
TXAR pP **pP 04 30 42.6 -0.3**
M50A Fremont 77.27 38 IAmb IAmb 04 28 56.1
comp=Z,86nm,0.8s
CTI Castel Tesino 77.29 332 P **P 04 28 55.1 -0.4**
CTI pmax pmax
comp=Z,167nm,1.1s
CTI Castel Tesino 77.29 332 P **P 04 28 55.1 -0.4**
CTI IAmb IAmb 04 28 56.1
comp=Z,167nm,1.1s
E62A Clayton Lake 77.30 27 P **P 04 28 55.0 -0.4**
baz=335,SNR=21
E62A Clayton Lake 77.30 27 P **P 04 28 55.1 -0.3**
E62A IAmb IAmb 04 28 56.1
comp=Z,89nm,0.9s
D63A Stockholm 77.31 26 P **P 04 28 55.0 -0.5**
baz=336,SNR=12
J54A Appleton 77.32 34 P **P 04 28 55.2 -0.3**
baz=331,SNR=13
J54A Appleton 77.32 34 P **P 04 28 55.5 -0.1**
J54A IAmb IAmb 04 28 56.3
comp=Z,122nm,0.8s
PECO Prince Edward 77.33 33 IAmb IAmb 04 28 55.9
comp=Z,93nm,0.8s
IVA Berane 77.34 325 ⇓*iP* **P 04 28 56.0 +0.2**
H57A Richville 77.41 32 P **P 04 28 55.3 -0.7**
baz=332,SNR=31
UPM Unac-Piva 77.41 326 ⇓*iP* **P 04 28 55.9 -0.4**
UPM Unac-Piva 77.41 326 ⇓*iP* **P 04 28 55.7 -0.6**
EZN Ezine 77.42 319 *eP* **P 04 28 56.2 +0.1**
OLIL Olney 77.42 43 P **P 04 28 56.2 0.0**
OLIL IAmb IAmb 04 28 57.1
comp=Z,84nm,0.9s

EREN	Erenkoy	77.43	311	eP		P	P	04 28 57.3 +1.0
TEKE	Tekeli-Mersin	77.44	312	eP		P	P	04 28 56.2 -0.1
X37A	Clayton	77.44	50	P		P	P	04 28 56.6 +0.3
F61A	St Evariste	77.45	28	P		P	P	04 28 56.3 +0.1
	baz=335,SNR=47							
MEDO	Medina	77.48	34	IAmb		IAmb	IAmb	04 28 57.1
	comp=Z,105nnm,1.0s							
T42A	Van Buren	77.49	46	P		P	P	04 28 56.7 +0.1
T42A				IAmb		IAmb	IAmb	04 28 57.5
	comp=Z,104nnm,0.9s							
KOME	Kolasin	77.50	325	⇓iP		P	P	04 28 56.6 -0.1
Z35A	Perchaven, San	77.50	52	P		P	P	04 28 57.0 +0.2
Z35A				IAmb		IAmb	IAmb	04 28 57.8
	comp=Z,149nnm,1.1s							
BCK	Bucak	77.52	315	eP		P	P	04 28 56.6 -0.3
LONY	Lake Ozonia	77.53	31	P		P	P	04 28 55.9 -0.8
	baz=333,SNR=20							
LONY	Lake Ozonia	77.53	31	P		P	P	04 28 56.1 -0.6
SKO	Skopje	77.54	323	iP		P	P	04 28 57.8 +1.0
PVY	Plav	77.56	325	⇓iP		P	P	04 28 56.7 -0.3
G59A	Clarenceville	77.58	30	P		P	P	04 28 56.5 -0.3
	baz=334,SNR=22							
MANT	Manisa	77.58	317	P		P	P	04 28 57.1 -0.3
TUE	Stuetta	77.58	333	P		P	P	04 28 57.1 -0.1
J55A	Hilton	77.62	34	P		P	P	04 28 56.4 -0.8
	baz=331,SNR=15							
J55A	Hilton	77.62	34	IAmb		IAmb	IAmb	04 28 57.6
	comp=Z,109nnm,0.8s							
BATG	Bathurst New B	77.65	24	P		P	P	04 28 57.5 +0.3
BATG				IAmb		IAmb	IAmb	04 28 58.4
	comp=Z,142nnm,0.8s							
MOQ	Mont Orford	77.66	29	P		P	P	04 28 57.7 +0.3
VAY	Valandovo	77.67	322	iP		P	P	04 28 58.0 +0.6
M51A	Elyria	77.67	38	P		P	P	04 28 57.1 -0.4
	baz=329,SNR=8.9							
PQI	Presque Isle	77.67	26	P		P	P	04 28 57.0 -0.4
W39A	Magazine	77.72	49	P		P	P	04 28 58.0 +0.1
	baz=324,SNR=41							
W39A	Magazine	77.72	49	P		P	P	04 28 58.1 +0.3
W39A				IAmb		IAmb	IAmb	04 28 59.2
	comp=Z,88nnm,1.0s							
NKY	Niksic	77.72	325	⇓iP		P	P	04 28 57.5 -0.4
BLO	Bloomington	77.73	42	P		P	P	04 28 58.0 +0.1
BLO				pmax		pmax	pmax	
	comp=Z,71nnm,0.6s							
BLO	Bloomington	77.73	42	P		P	P	04 28 58.0 +0.1
BLO				IAmb		IAmb	IAmb	04 28 58.6
	comp=Z,71nnm,0.6s							
GAZI	Gazipasa	77.73	313	eP		P	P	04 28 57.3 -0.7
DRLN	Deer Lake	77.76	18	P		P	P	04 28 58.1 +0.3
S44A	Carbondale	77.78	44	P		P	P	04 28 58.4 +0.3
NKME	Niksic	77.78	325	⇓iP		P	P	04 28 57.5 -0.6
I57A	Carthage	77.78	32	P		P	P	04 28 57.2 -0.9
	baz=332,SNR=10							
O49A	Covington	77.79	40	P		P	P	04 28 58.1 0.0
E63A	Oxbow	77.79	26	P		P	P	04 28 57.2 -0.8
	baz=336,SNR=18							
E63A	Oxbow	77.79	26	P		P	P	04 28 57.6 -0.5
H59A	Cadyville	77.80	30	P		P	P	04 28 57.6 -0.6
	baz=333,SNR=25							
BRY	Bratogost	77.81	326	⇓iP		P	P	04 28 57.6 -0.8
BRY	Bratogost	77.81	326	⇓iP		P	P	04 28 57.6 -0.8
M52A	Chesterland	77.81	37	P		P	P	04 28 58.3 0.0
	baz=329,SNR=21							
M52A	Chesterland	77.81	37	P		P	P	04 28 58.5 +0.2
M52A				IAmb		IAmb	IAmb	04 28 59.4
	comp=Z,153nnm,0.8s							
F62A	Pittston Farm,	77.82	27	P		P	P	04 28 58.2 0.0
	baz=335							
G60A	Masonville	77.83	29	P		P	P	04 28 58.1 -0.2
	baz=334,SNR=17							
ERPA	Erie	77.83	36	P		P	P	04 28 58.3 -0.1
	baz=330,SNR=14							
ERPA	Erie	77.83	36	P		P	P	04 28 58.6 +0.2
ERPA				IAmb		IAmb	IAmb	04 28 59.3
	comp=Z,167nnm,0.9s							
JSA	Saint Aubin	77.83	342	eP		P	P	04 28 58.5 +0.3
JSA				IAmb		IAmb	IAmb	04 28 59.6
	comp=Z,286nnm,0.9s							
H58A	Gabriels	77.84	31	P		P	P	04 28 57.9 -0.5
	baz=333,SNR=31							
L53A	Girard	77.87	36	P		P	P	04 28 58.6 0.0
	baz=330,SNR=24							
K54A	Basiliko Farm,	77.88	35	P		P	P	04 28 58.2 -0.4
	baz=331,SNR=20							
TEOL	Teolo	77.90	331	P		P	P	04 28 58.8 +0.1
G61A	St-Isidore-de-	77.91	29	P		P	P	04 28 58.9 +0.2
	baz=334,SNR=29							
J56A	Wolcott	77.95	33	P		P	P	04 28 58.2 -0.7
	baz=332,SNR=20							
J56A	Wolcott	77.95	33	P		P	P	04 28 58.6 -0.4
J56A				IAmb		IAmb	IAmb	04 28 59.2
	comp=Z,108nnm,0.7s							
N51A	Ashland	77.95	38	P		P	P	04 28 58.7 -0.3
	baz=329,SNR=27							
N51A	Ashland	77.95	38	P		P	P	04 28 58.8 -0.3
N51A				IAmb		IAmb	IAmb	04 28 59.7
	comp=Z,131nnm,0.7s							
P48A	Milroy	77.95	41	P		P	P	04 28 58.8 -0.3
P48A				IAmb		IAmb	IAmb	04 28 59.7
	comp=Z,100nnm,0.8s							
E64A	Bridgewater	77.96	26	P		P	P	04 28 58.5 -0.4
	baz=336,SNR=31							
PDG	Podgorica	77.96	325	⇓iP		P	P	04 28 58.8 -0.2
PDG	Podgorica	77.96	325	⇓iP		P	P	04 28 58.7 -0.3
PDG	Podgorica	77.96	325	P		P	P	04 28 58.9 -0.2
PDG				IAmb		IAmb	IAmb	04 28 59.9
	comp=Z,247nnm,1.0s							
TTG	Podgorica	77.96	325	⇓iP		P	P	04 28 58.7 -0.3
CLF	Chambon-Foret	77.98	339	P		P	P	04 28 59.3 +0.3
CLF				IAmb		IAmb	IAmb	04 29 02.9
	comp=Z,185nnm,0.9s							
L54A	Sinclairville	77.98	35	P		P	P	04 28 58.9 -0.3
	baz=330,SNR=10							
CEME	Cevo	77.98	325	⇓iP		P	P	04 28 58.5 -0.7
PBMO	Poplar Bluff	78.00	46	P		P	P	04 28 59.4 +0.1
PBMO				IAmb		IAmb	IAmb	04 29 00.5
	comp=Z,189nnm,1.1s							
K55A	Perry	78.00	34	P		P	P	04 28 58.8 -0.5
	baz=331,SNR=33							
KORT	Korkueli	78.01	315	eP		P	P	04 28 59.6 0.0
SALO	Salr	78.01	332	IAmb		IAmb	IAmb	04 29 00.4
	comp=Z,228nnm,0.9s							
MMNY	Mt. Morris Dam	78.06	34	IAmb		IAmb	IAmb	04 28 59.9
	comp=Z,133nnm,0.7s							
WVNY	West Valley, N	78.09	35	P		P	P	04 28 59.6 -0.1
WVNY				IAmb		IAmb	IAmb	04 29 00.5
	comp=Z,143nnm,1.0s							
J57A	Williamstown	78.13	32	P		P	P	04 28 59.2 -0.7
	baz=332,SNR=16							
J57A	Williamstown	78.13	32	P		P	P	04 28 59.6 -0.3
M53A	WI Miller and	78.16	37	P		P	P	04 29 00.2 0.0
	baz=330,SNR=23							
M53A	WI Miller and	78.16	37	P		P	P	04 29 00.4 +0.2
M53A				IAmb		IAmb	IAmb	04 29 01.2
	comp=Z,170nnm,0.8s							
P49A	Miami Univ. Ec	78.18	40	P		P	P	04 28 60.0 -0.4
	baz=328,SNR=43							
P49A	Miami Univ. Ec	78.18	40	P		P	P	04 29 00.3 0.0
P49A				IAmb		IAmb	IAmb	04 29 00.9
	comp=Z,172nnm,1.0s							
H60A	Morristown	78.19	30	P		P	P	04 29 00.2 -0.1
	baz=334,SNR=30							
DRME	Dracevica, Mon	78.20	325	⇓iP		P	P	04 29 00.1 -0.2
DRME	Dracevica, Mon	78.20	325	⇓iP		P	P	04 29 00.2 -0.1
BUM	Brajici-Budva	78.20	325	⇓iP		P	P	04 28 59.9 -0.5
HCY	Herceg Novi	78.22	326	⇓iP		P	P	04 28 59.3 -1.1
HCY	Herceg Novi	78.22	326	⇓iP		P	P	04 28 59.5 -0.9
I58A	Old Forge	78.23	32	P		P	P	04 28 59.7 -0.8
	baz=333,SNR=8.9							
LCAR	Lake Charles	78.25	47	P		P	P	04 29 00.8 +0.2
SENIN	Lac Senin/Sane	78.25	335	P		P	P	04 29 00.7 -0.1
SENIN				IAmb		IAmb	IAmb	04 29 06.1
	comp=Z,83nnm,0.9s							
USIN	University of	78.25	43	P		P	P	04 29 00.9 +0.2
G62A	West of Eustis	78.27	28	P		P	P	04 29 00.8 +0.2
	baz=335,SNR=20							
G62A	West of Eustis	78.27	28	P		P	P	04 29 01.0 +0.3
CSS	Mathiatis	78.29	312	P		P	P	04 29 00.8 -0.2
CSS				IAmb		IAmb	IAmb	04 29 02.7
	comp=Z,192nnm,0.9s							
K56A	Middlesex	78.29	34	P		P	P	04 29 00.4 -0.5
	baz=331,SNR=26							
ACSO	Alum Creek Sta	78.30	39	P		P	P	04 29 00.6 -0.2
	baz=329,SNR=36							
ACSO	Alum Creek Sta	78.30	39	P		P	P	04 29 01.0 +0.1
ACSO				IAmb		IAmb	IAmb	04 29 01.8
	comp=Z,109nnm,0.7s							
N52A	McGinn's Farm,	78.31	38	P		P	P	04 29 00.6 -0.4
	baz=329,SNR=20							
BLCB	Balcova	78.32	318	eP		P	P	04 29 01.2 +0.2
F64A	Sherman	78.32	26	P		P	P	04 29 00.5 -0.4
	baz=336,SNR=31							
F64A	Sherman	78.32	26	P		P	P	04 29 00.8 -0.1
F64A				IAmb		IAmb	IAmb	04 29 01.7
	comp=Z,77nnm,0.8s							
MIAR	Mount Ida	78.34	49	P		P	P	04 29 01.5 +0.3
MIAR				pmax		pmax	pmax	
	comp=Z,101nnm,0.9s							
MIAR	Mount Ida	78.34	49	P		P	P	04 29 01.8 +0.6
	baz=324,SNR=73							
MIAR				S		S	S	04 38 14.4 -0.8
	baz=324							
MIAR	Mount Ida	78.34	49	P		P	P	04 29 01.5 +0.3
MIAR				IAmb		IAmb	IAmb	04 29 02.8
	comp=Z,101nnm,0.8s							
L55A	Hinsdale	78.34	35	P		P	P	04 29 00.7 -0.5
	baz=331,SNR=7.0							
WHAR	Wooly Hollow	78.35	48	P		P	P	04 29 01.5 +0.2
ULC	Ulcinj	78.37	325	⇓iP		P	P	04 29 00.8 -0.5
LEF	Lefka	78.37	312	eP		P	P	04 29 01.5 +0.1
VT1	Waterbury	78.38	30	IAmb		IAmb	IAmb	04 29 02.5
	comp=Z,96nnm,1.0s							
PARMO	Parma	78.40	45	P		P	P	04 29 01.5 0.0
J58A	Remsen	78.42	32	P		P	P	04 29 00.9 -0.6
	baz=332,SNR=26							
J58A	Remsen	78.42	32	IAmb		IAmb	IAmb	04 29 02.0
	comp=Z,83nnm,0.9s							
ELL	Elmali	78.42	315	eP		P	P	04 29 02.2 +0.4
ELL	Elmali	78.42	315	P		P	P	04 29 01.6 -0.2
ELL				pmax		pmax	pmax	
	comp=Z,563nnm,0.9s							
ELL	Elmali	78.42	315	P		P	P	04 29 01.6 -0.2
JCT	Junction City	78.45	56	P		P	P	04 29 01.9 0.0
JCT				pmax		pmax	pmax	
	comp=Z,58nnm,0.8s							
JCT	Junction City	78.45	56	P		P	P	04 29 02.3 +0.4
	baz=322,SNR=22							
JCT				S		S	S	04 38 16.2 -0.3
	baz=322							
JCT	Junction City	78.45	56	P		P	P	04 29 01.9 0.0
H61A	Lyndonville	78.46	29	P		P	P	04 29 02.1 +0.3
	baz=334,SNR=42							
WHTX	Lake Whitney,	78.47	53	P		P	P	04 29 02.6 +0.6
	baz=323,SNR=28							
WHTX	Lake Whitney,	78.47	53	IAmb		IAmb	IAmb	04 29 03.7
	comp=Z,183nnm,1.0s							
W41B	Gary Mavity, V	78.47	48	P		P	P	04 29 02.1 +0.2
	baz=325,SNR=123							
W41B	Gary Mavity, V	78.47	48	P		P	P	04 29 02.2 +0.2
W41B				IAmb		IAmb	IAmb	04 29 03.1
	comp=Z,190nnm,0.8s							
M54A	Oil Creek Stat	78.48	36	P		P	P	04 29 01.7 -0.1
	baz=330,SNR=33							
M54A	Oil Creek Stat	78.48	36	P		P	P	04 29 01.8 -0.1
M54A				IAmb		IAmb	IAmb	04 29 02.8
	comp=Z,133nnm,0.8s							
HENM	Henderson Moun	78.48	45	IAmb		IAmb	IAmb	04 29 04.3
	comp=Z,101nnm,0.8s							
I59A	Olmsteadville	78.50	31	P		P	P	04 29 01.4 -0.5
	baz=333,SNR=17							
O51A	Pataskala	78.52	39	P		P	P	04 29 01.9 -0.2
	baz=329,SNR=29							
OHR	Ohrid	78.53	323	iP		P	P	04 29 02.4 +0.2
URLA	Izmir	78.53	318	eP		P	P	04 29 02.4 +0.2
K57A	Scipio Center	78.55	33	P		P	P	04 29 01.4 -0.8
	baz=332,SNR=8.6							
J59A	Piesco	78.59	31	P		P	P	04 29 01.8 -0.7
	baz=333,SNR=30							
FNA	Florina	78.59	323	IAmb		IAmb	IAmb	04 29 03.4
	comp=Z,119nnm,0.9s							
PKME	Peaks-Kenny Pk	78.60	27	P		P	P	04 29 02.4 0.0
	baz=336,SNR=15							
PKME	Peaks-Kenny Pk	78.60	27	P		P	P	04 29 02.6 +0.2
T45A	Paducah	78.61	44	P		P	P	04 29 02.8 +0.2
WCI	Wyandotte Cave	78.62	42	P		P	P	04 29 03.1 +0.4
WCI				pmax		pmax	pmax	
	comp=Z,187nnm,0.7s							
WCI	Wyandotte Cave	78.62	42	P		P	P	04 29 02.8 +0.1
	baz=327							
WCI	Wyandotte Cave	78.62	42	P		P	P	04 29 03.1 +0.4
G63A	Kingsbury	78.64	28	P		P	P	04 29 02.7 0.0
	baz=336,SNR=18							
N53A	Lisbon	78.64	37	P		P	P	04 29 02.7 0.0
	baz=330,SNR=34							
N53A	Lisbon	78.64	37	IAmb		IAmb	IAmb	04 29 03.8
	comp=Z,155nnm,0.9s							
I60A	Shoreham	78.65	31	P		P	P	04 29 02.4 -0.3
	baz=334,SNR=13							
H62A	Milan	78.66	29	P		P	P	04 29 03.1 +0.3
	baz=335,SNR=50							
H62A	Milan	78.66	29	IAmb		IAmb	IAmb	04 29 04.1
	comp=Z,135nnm,0.9s							
TIR	Tirane	78.67	324	⇑P		P	P	04 29 03.1 +0.2
TIR	Tirane	78.67	324	⇑P		P	P	04 29 03.1 +0.2
Z38A	Mt. Pleasant	78.69	51	IAmb		IAmb	IAmb	04 29 04.7
	comp=Z,124nnm,0.9s							
L56A	Greenwood	78.70	34	P		P	P	04 29 02.5 -0.6
	baz=331,SNR=23							
L56A	Greenwood	78.70	34	P		P	P	04 29 02.8 -0.3
L56A				IAmb		IAmb	IAmb	04 29 03.6
	comp=Z,84nnm,0.7s							
LBNH	Lisbon	78.73	29	P		P	P	04 29 03.5 +0.4
LBNH				pmax		pmax	pmax	
	comp=Z,39nnm,0.9s							
LBNH	Lisbon	78.73	29	P		P	P	04 29 03.3 +0.2
	baz=334,SNR=14							
LBNH	Lisbon	78.73	29	P		P	P	04 29 03.5 +0.4
HICK	Hickman	78.74	45	P		P	P	04 29 03.4 +0.1
HICK				IAmb		IAmb	IAmb	04 29 04.6
	comp=Z,173nnm,1.0s							
LIT	Litokhoron	78.74	322	P		P	P	04 29 03.2 -0.1
LIT				pmax		pmax	pmax	
	comp=Z,79nnm,1.0s							
LIT	Litokhoron	78.74	322	P		P	P	04 29 03.2 -0.1
UALR	University of	78.75	48	P		P	P	04 29 03.7 +0.3
X40A	Basin Creek Fa	78.75	49	P		P	P	04 29 03.7 +0.3
	baz=325,SNR=93							
X40A	Basin Creek Fa	78.75	49	P		P	P	04 29 03.7 +0.3
X40A				IAmb		IAmb	IAmb	04 29 05.5
	comp=Z,106nnm,0.9s							
G64A	Maxfield	78.76	27	P		P	P	04 29 03.3 0.0
	baz=336,SNR=27							
GCAM	G?zelcaml?	78.81	317	eP		P	P	04 29 03.6 -0.1
K58A	Earlville	78.82	33	P		P	P	04 29 03.3 -0.3
	baz=332,SNR=28							
K58A	Earlville	78.82	33	P		P	P	04 29 03.5 -0.2
K58A				IAmb		IAmb	IAmb	04 29 04.3
	comp=Z,102nnm,0.9s							
YER	Yerkesik	78.82	316	eP		P	P	04 29 04.5 +0.6
N54A	Moraine State	78.83	36	P		P	P	04 29 03.8 0.0
	baz=330,SNR=41							
N54A	Moraine State	78.83	36	IAmb		IAmb	IAmb	04 29 04.8
	comp=Z,137nnm,0.8s							
M55A	Ridgway	78.85	35	P		P	P	04 29 03.8 -0.1
	baz=331,SNR=54							
M55A	Ridgway	78.85	35	P		P	P	04 29 03.8 -0.1
M55A				IAmb		IAmb	IAmb	04 29 04.8
	comp=Z,123nnm,0.8s							
O52A	Adamsville	78.85	38	P		P	P	04 29 03.6 -0.3
	baz=329,SNR=52							
PRMA	PARMA	78.85	332	P		P	P	04 29 03.8 0.0
PRMA				IAmb		IAmb	IAmb	04 29 08.0
	comp=Z,175nnm,0.8s							
P51A	Williamsport	78.90	39	P		P	P	04 29 03.7 -0.4
	baz=329,SNR=31							
P51A	Williamsport	78.90	39	IAmb		IAmb	IAmb	04 29 04.7
	comp=Z,127nnm,0.8s							
I61A	Oroboro, Fairl	78.91	30	P		P	P	04 29 04.5 +0.3
	baz=334,SNR=26							
DALY	Dalyan (Mula)	78.92	316	eP		P	P	04 29 05.1 +0.8
H63A	New Sharon	78.92	28	P		P	P	04 29 04.3 +0.2
	baz=335,SNR=13							
O53A	New Philadelph	78.98	38	P		P	P	04 29 04.4 -0.1
	baz=330,SNR=48							
O53A	New Philadelph	78.98	38	P		P	P	04 29 04.7 +0.2
AKAS	Kas	78.98	315	eP		P	P	04 29 03.2 -1.6
AKAS	Kas	78.98	315	P		P	P	04 29 04.7 -0.2
ZCCA	Zocca	79.03	331	P		P	P	04 29 04.8 0.0
ZCCA				IAmb		IAmb	IAmb	04 29 12.1
	comp=Z,135nnm,1.1s							
R49A	Shelbyville	79.04	41	P		P	P	04 29 05.2 +0.2
M56A	Emporium	79.05	35	P		P	P	04 29 04.3 -0.6
	baz=331,SNR=16							
M56A	Emporium	79.05	35	P		P	P	04 29 04.8 -0.1
L57A	Andrews Acres	79.08	34	P		P	P	04 29 04.4 -0.6
	baz=332,SNR=13							
K59A	Cooperstown	79.08	32	P		P	P	04 29 04.6 -0.5
	baz=333,SNR=51							
HNH	Hanover	79.09	30	P		P	P	04 29 05.4 +0.3
SHAO	Shalim	79.12	285	P		P	P	04 29 05.7 +0.1
WVL	Waterville	79.12	28	P		P	P	04 29 05.4 +0.2
J60A	Lant Hill Farm	79.14	31	P		P	P	04 29 05.1 -0.3
	baz=334,SNR=12							
TURN	Turunc	79.14	316	eP		P	P	04 29 06.2 +0.8
P52A	Corning	79.14	38	P		P	P	04 29 04.8 -0.6
	baz=329,SNR=25							
P52A	Corning	79.14	38	IAmb		IAmb	IAmb	04 29 05.5
	comp=Z,61nnm,0.7s							
G65A	Princeton	79.15	26	P		P	P	04 29 05.4 0.0
	baz=337,SNR=26							
G65A	Princeton	79.15	26	P		P	P	04 29 05.4 0.0
G65A				IAmb		IAmb	IAmb	04 29 06.4
	comp=Z,99nnm,0.9s							
Q51A	Peebles	79.18	40	P		P	P	04 29 05.8 +0.2
H64A	Troy	79.18	27	P		P	P	04 29 05.5 0.0
	baz=336,SNR=25							
BINY	Binghamton	79.20	33	P		P	P	04 29 05.3 -0.5
	baz=332,SNR=12							
BINY	Binghamton	79.20	33	P		P	P	04 29 05.7 0.0
I62A	Tamworth	79.24	29	P		P	P	04 29 06.0 +0.1
	baz=335,SNR=19							
I62A	Tamworth	79.24	29	P		P	P	04 29 06.2 +0.3
WLAR	White Oak Lake	79.26	49	P		P	P	04 29 06.4 +0.3
WLAR				IAmb		IAmb	IAmb	04 29 07.9
	comp=Z,140nnm,0.8s							
LMN	Caledonia Moun	79.29	24	P		P	P	04 29 06.3 +0.2
LMN				IAmb		IAmb	IAmb	04 29 07.1
	comp=Z,112nnm,0.8s							
237A	Washetta, Mont	79.30	52	P		P	P	04 29 06.5 +0.1
237A				IAmb		IAmb	IAmb	04 29 08.0
	comp=Z,83nnm,0.9s							
T47A	Sharon Grove	79.31	43	IAmb		IAmb	IAmb	04 29 07.6
	comp=Z,119nnm,0.8s							
I63A	Otisfield	79.31	29	P		P	P	04 29 06.8 +0.6
	baz=335,SNR=53							
I63A	Otisfield	79.31	29	P		P	P	04 29 06.6 +0.3
I63A				IAmb		IAmb	IAmb	04 29 07.9
	comp=Z,160nnm,0.8s							
J61A	Chester	79.33	30	P		P	P	04 29 06.4 +0.1
	baz=334,SNR=25							
O54A	Avella	79.36	37	P		P	P	04 29 06.6 +0.1
	baz=330,SNR=29							
O54A	Avella	79.36	37	P		P	P	04 29 06.8 +0.3
O54A				IAmb		IAmb	IAmb	04 29 07.7
	comp=Z,98nnm,0.9s							
435B	Jarrell	79.36	54	P		P	P	04 29 07.1 +0.3
	baz=323							
435B	Jarrell	79.36	54	P		P	P	04 29 06.8 +0.1
N55A	Marion Center	79.36	36	P		P	P	04 29 06.4 -0.2
	baz=331,SNR=40							
VLC	Villacollemand	79.38	332	P		P	P	04 29 06.7 0.0
VLC				IAmb		IAmb	IAmb	04 29 08.6
	comp=Z,142nnm,1.0s							
L58A	Harry Jones Me	79.39	33	P		P	P	04 29 06.3 -0.4
	baz=332,SNR=21							
R50A	Paris	79.41	41	P		P	P	04 29 06.9 +0.1
R50A				IAmb		IAmb	IAmb	04 29 08.0
	comp=Z,83nnm,0.9s							
H65A	Eastbrook	79.42	27	P		P	P	04 29 06.6 -0.2
	baz=336,SNR=21							
GGN	Saint George	79.43	26	P		P	P	04 29 06.7 -0.1
GGN				IAmb		IAmb	IAmb	04 29 07.6
	comp=Z,98nnm,0.9s							
MSSA	Maissana	79.50	332	IAmb		IAmb	IAmb	04 29 10.9
	comp=Z,122nnm,1.1s							
N56A	West Decatur	79.50	35	P		P	P	04 29 07.2 -0.1
	baz=331,SNR=34							
FFD	Franklin Falls	79.50	30	P		P	P	04 29 07.5 +0.2
MURB	Monte Urbino	79.53	330	P		P	P	04 29 07.5 0.0
L59A	Walton	79.54	32	P		P	P	04 29 07.1 -0.4
	baz=333,SNR=49							
L59A	Walton	79.54	32	P		P	P	04 29 07.3 -0.2
L59A				IAmb		IAmb	IAmb	04 29 08.2
	comp=Z,154nnm,0.9s							
K60A	Five Rivers En	79.55	31	P		P	P	04 29 07.0 -0.5
	baz=333,SNR=11							
M57A	Sunshine Farm,	79.56	34	P		P	P	04 29 07.3 -0.3
	baz=332,SNR=29							
M57A	Sunshine Farm,	79.56	34	IAmb		IAmb	IAmb	04 29 08.3
	comp=Z,101nnm,0.8s							
P53A	Whipple	79.56	38	P		P	P	04 29 07.5 -0.1
	baz=330,SNR=37							
P53A	Whipple	79.56	38	P		P	P	04 29 07.7 +0.1
P53A				IAmb		IAmb	IAmb	04 29 09.2
	comp=Z,82nnm,0.8s							
H66A	Whiting	79.60	26	P		P	P	04 29 07.5 -0.2
	baz=337,SNR=18							
BNI	Bardonecchia	79.63	335	P		P	P	04 29 08.0 -0.1
BNI				pmax		pmax	pmax	
	comp=Z,103nnm,1.0s							
BNI	Bardonecchia	79.63	335	P		P	P	04 29 08.0 -0.1
BNI				IAmb		IAmb	IAmb	04 29 10.2
	comp=Z,103nnm,1.0s							
EMMW	East Machias	79.63	26	P		P	P	04 29 08.3 +0.5
X43A	Marvell	79.65	47	P		P	P	04 29 08.8 +0.6
	baz=326,SNR=25							
X43A	Marvell	79.65	47	P		P	P	04 29 08.3 +0.1
X43A				IAmb		IAmb	IAmb	04 29 09.8
	comp=Z,230nnm,0.9s							
Q52A	Bidwell	79.67

comp=Z,150nm,0.8s
L60A Shokan 79.99 32 P P 04 29 09.7 -0.2
baz=333,SNR=36
MCWV Mont Chateau 80.02 37 P P 04 29 10.3 +0.2
baz=330,SNR=15
L61A Hillsdale 1, H 80.03 31 P P 04 29 09.8 -0.2
baz=334,SNR=18
K62A Royalston 80.04 30 P P 04 29 10.2 +0.1
baz=334,SNR=14
K62A Royalston 80.04 30 P P 04 29 10.5 +0.4
Q53A Leroy 80.05 38 P P 04 29 10.5 +0.3
baz=330,SNR=85
AQU L'Aquila 80.06 329 P P 04 29 10.3 0.0
AQU pmax pmax
comp=Z,165nm,0.9s
AQU L'Aquila 80.06 329 ⇓iP P 04 29 10.7 +0.4
AQU L'Aquila 80.06 329 P P 04 29 10.3 0.0
AQU IAmb IAmb 04 29 18.6
comp=Z,165nm,0.9s
NATX Nacogdoches 80.06 52 P P 04 29 11.7 +1.3
baz=324,SNR=48
NATX Nacogdoches 80.06 52 P P 04 29 10.6 +0.1
L61B Northampton 80.09 31 P P 04 29 10.0 -0.4
baz=334,SNR=11
N58A Sunbury 80.14 34 P P 04 29 10.3 -0.4
baz=332,SNR=33
N58A Sunbury 80.14 34 P P 04 29 10.4 -0.2
N58A IAmb IAmb 04 29 11.4
comp=Z,82nm,0.9s
P55A Reedsville 80.15 37 P P 04 29 11.1 +0.3
baz=330,SNR=78
INTR Introdacqua 80.20 328 P P 04 29 10.9 -0.2
INTR IAmb IAmb 04 29 12.7
comp=Z,172nm,0.9s
Q54A Coxs Mills 80.22 38 P P 04 29 11.3 +0.2
baz=330,SNR=52
Q54A Coxs Mills 80.22 38 IAmb IAmb 04 29 12.4
comp=Z,159nm,1.0s
K63A Dunstable 80.25 30 P P 04 29 11.5 +0.3
baz=335,SNR=20
S51A Beattyville 80.26 41 P P 04 29 11.5 +0.2
S51A IAmb IAmb 04 29 12.2
comp=Z,60nm,0.7s
T50A Nancy 80.26 42 P P 04 29 11.6 +0.3
T50A IAmb IAmb 04 29 12.4
comp=Z,110nm,0.7s
U49A Red Boiling Sp 80.28 43 P P 04 29 11.6 +0.1
U49A IAmb IAmb 04 29 12.6
comp=Z,82nm,0.7s
SCTE Santa Cesarea 80.31 324 P P 04 29 11.4 -0.1
R53A Hurricane 80.33 39 P P 04 29 11.8 +0.1
baz=329,SNR=15
R53A Hurricane 80.33 39 P P 04 29 12.0 +0.2
R53A IAmb IAmb 04 29 12.9
comp=Z,88nm,0.9s
OXF Oxford 80.34 46 P P 04 29 12.1 +0.3
OXF pmax pmax
comp=Z,255nm,1.1s
OXF Oxford 80.34 46 P P 04 29 11.9 +0.1
baz=326,SNR=40
OXF Oxford 80.34 46 P P 04 29 12.1 +0.3
WHFO Wadi Hawf 80.34 286 P P 04 29 12.0 -0.1
SNR=6.0
LATE Laterza 80.34 330 P P 04 29 11.7 -0.1
O57A Amberson 80.36 35 P P 04 29 11.8 -0.1
baz=332,SNR=31
833A Chaparral WMA, 80.37 57 P P 04 29 13.1 +1.1
baz=323,SNR=7.4
833A Chaparral WMA, 80.37 57 P P 04 29 12.2 +0.2
CLTN Cedars of Leba 80.40 43 P P 04 29 12.4 +0.3
CLTN IAmb IAmb 04 29 13.3
comp=Z,90nm,0.9s
HRV Adam Dziewonsk 80.40 30 P P 04 29 12.5 +0.5
HRV pmax pmax
comp=Z,93nm,1.0s
HRV Adam Dziewonsk 80.40 30 P P 04 29 12.3 +0.3
baz=335
HRV Adam Dziewonsk 80.40 30 P P 04 29 12.5 +0.5
HRV IAmb IAmb 04 29 13.3
comp=Z,93nm,0.9s
N59A State Game Lan 80.41 34 P P 04 29 11.8 -0.3
baz=332,SNR=36
N59A State Game Lan 80.41 34 IAmb IAmb 04 29 13.0
comp=Z,84nm,1.0s
MATE Matera 80.44 326 ⇓P P 04 29 11.9 -0.2
M60A Port Jervis 80.45 33 P P 04 29 11.6 -0.6
baz=333,SNR=14
L62A Suffield 80.47 31 P P 04 29 12.3 0.0
baz=334
V48A Smith Brothers 80.48 44 IAmb IAmb 04 29 13.5
comp=Z,85nm,0.8s
Q55A Buckhannon 80.50 37 P P 04 29 12.9 +0.2
baz=330,SNR=40
GBN Guysborough 80.53 22 P P 04 29 13.1 +0.5
GBN IAmb IAmb 04 29 15.2
comp=Z,113nm,1.1s
P56A Dayton Farm, R 80.53 36 P P 04 29 13.0 +0.3
baz=331,SNR=75
PLAL Pickwick Lake 80.55 45 IAmb IAmb 04 29 13.7
comp=Z,93nm,0.7s
WES Weston 80.59 30 IAmb IAmb 04 29 14.2
comp=Z,130nm,0.8s
ARMA Armidale 80.64 179 IAmb IAmb 04 29 16.5
comp=Z,191nm,1.1s
ODNJ Ogdensburg 80.67 33 P P 04 29 13.3 -0.1
N60A Cedar Hill Far 80.69 33 P P 04 29 13.0 -0.5
baz=333,SNR=7.7
O58A Lewisberry 80.70 35 P P 04 29 13.2 -0.4
baz=332,SNR=31
HAL Halifax 80.74 24 P P 04 29 14.1 +0.4
HAL pmax pmax
comp=Z,65nm,0.8s
HAL Halifax 80.74 24 P P 04 29 14.1 +0.4
HAL IAmb IAmb 04 29 14.8
comp=Z,65nm,0.8s
M61A Granite Spring 80.75 32 P P 04 29 13.5 -0.3
baz=334,SNR=20
O59A Robesonia 80.80 34 P P 04 29 13.6 -0.5
baz=332
Q56A Snyder Ridge, 80.80 37 P P 04 29 14.1 0.0
baz=331,SNR=23
Q56A Snyder Ridge, 80.80 37 P P 04 29 14.3 +0.2
Y45A Yeager Farm, C 80.81 47 P P 04 29 14.6 +0.4
S53A Williamson 80.82 39 P P 04 29 14.2 -0.1
baz=329,SNR=5.5
LUPA Lehigh Univers 80.83 33 P P 04 29 14.1 -0.2
R54A Victor 80.85 38 P P 04 29 14.4 0.0
baz=330,SNR=31
PAOL Paolisi 80.85 328 P P 04 29 14.0 -0.4
P57A Homestead Farm 80.86 36 P P 04 29 14.2 -0.2
baz=331,SNR=20
P57A Homestead Farm 80.86 36 P P 04 29 14.5 +0.1
HKT Hockley 80.93 53 P P 04 29 15.3 +0.4
HKT pmax pmax
comp=Z,25nm,1.1s
HKT Hockley 80.93 53 P P 04 29 15.3 +0.4
BRYW Bryant College 80.94 30 P P 04 29 15.0 +0.2
BRYW IAmb IAmb 04 29 15.8
comp=Z,106nm,0.7s
L63A North Scituate 80.97 30 P P 04 29 14.9 0.0
baz=335,SNR=16
PAL Palisades 80.98 32 P P 04 29 14.9 -0.1
PAL pmax pmax
comp=Z,64nm,0.7s
PAL Palisades 80.98 32 P P 04 29 14.6 -0.4
baz=333,SNR=15
PAL Palisades 80.98 32 P P 04 29 14.9 -0.1
PAL IAmb IAmb 04 29 15.8
comp=Z,64nm,0.7s
MVL Millersville 81.02 34 P P 04 29 15.4 +0.2
WSPT Westport, CT 81.03 32 P P 04 29 14.9 -0.3
BRNJ Basking Ridge 81.04 33 P P 04 29 15.6 +0.3
S54A Dingess, Beckl 81.05 39 P P 04 29 15.5 0.0
baz=330,SNR=16
S54A Dingess, Beckl 81.05 39 P P 04 29 15.7 +0.2
S54A IAmb IAmb 04 29 16.5
comp=Z,68nm,0.8s
N61A South Mountain 81.07 33 P P 04 29 15.5 0.0
baz=333,SNR=9.3
O60A Telford 81.07 34 P P 04 29 15.0 -0.5
baz=333,SNR=12
R55A Marlinton 81.10 38 P P 04 29 15.9 +0.1
baz=330,SNR=53
R55A Marlinton 81.10 38 IAmb IAmb 04 29 17.1
comp=Z,136nm,0.9s
Q57A Strasburg 81.10 36 P P 04 29 15.6 -0.1
baz=331,SNR=20
P58A Pank, Wackersv 81.12 35 P P 04 29 15.5 -0.2
baz=332,SNR=39
L64A Middleborough 81.15 30 P P 04 29 16.0 +0.2
baz=335,SNR=34
CPNY Central Park 81.15 32 P P 04 29 16.0 +0.2
CPNY IAmb IAmb 04 29 16.8
comp=Z,76nm,0.9s
N62A Caumsett State 81.19 32 P P 04 29 15.7 -0.4
baz=334,SNR=6.1
TZTN Tazewell 81.21 41 P P 04 29 16.4 +0.1
baz=329,SNR=44
TZTN Tazewell 81.21 41 P P 04 29 16.4 +0.1
TZTN IAmb IAmb 04 29 17.4
comp=Z,81nm,0.7s
M63A Gales Ferry 81.24 31 P P 04 29 16.0 -0.3
baz=334,SNR=24
T53A Wise 81.25 40 P P 04 29 16.9 +0.2
baz=329,SNR=36
R56A Bull Pasture M 81.27 37 P P 04 29 16.5 -0.2
baz=331,SNR=20
SWET Sewanee 81.31 43 P P 04 29 16.7 -0.2
SWET IAmb IAmb 04 29 17.6
comp=Z,141nm,0.8s
P59A Jarrettsville 81.33 35 P P 04 29 16.7 -0.1
baz=332,SNR=16
SDMD Soldier's Deli 81.36 35 P P 04 29 17.1 +0.1
M64A Tiverton 81.38 30 P P 04 29 16.9 -0.2
baz=335,SNR=6.4
S55A Lewisburg 81.39 38 P P 04 29 17.0 -0.3
baz=330,SNR=21
P60A Greenville 81.44 34 P P 04 29 17.0 -0.4
baz=333,SNR=12
P60A Greenville 81.44 34 P P 04 29 17.1 -0.3
Q58A Fox Den Farm, 81.46 36 P P 04 29 17.6 0.0
baz=332,SNR=32
X48A Hartselle 81.46 45 P P 04 29 17.3 -0.3
X48A IAmb IAmb 04 29 18.2
comp=Z,67nm,0.7s
ITM Ithomi 81.47 321 P P 04 29 16.8 -0.8
ITM IAmb IAmb 04 29 17.9
comp=Z,139nm,0.9s
342A Flagon Creek P 81.53 50 P P 04 29 18.3 +0.3
O61A Allentown 81.57 33 P P 04 29 17.7 -0.3
baz=333,SNR=8.3
T54A Tazewell 81.58 39 P P 04 29 18.5 +0.2
baz=330,SNR=65
W50A Signal Mountai 81.60 43 P P 04 29 18.4 0.0
W50A IAmb IAmb 04 29 19.2
comp=Z,77nm,0.8s
R57A Stanardsville 81.70 37 P P 04 29 19.1 +0.3
baz=331,SNR=41
VBMS Vicksburg 81.71 48 P P 04 29 20.1 +1.2
baz=326,SNR=9.4
TIP Timpagrande 81.72 325 IAmb IAmb 04 29 20.4
comp=Z,161nm,1.0s
CPCT Cooper Cave 81.73 42 IAmb IAmb 04 29 19.9
comp=Z,84nm,1.1s
KVTX Kingsville 81.78 56 P P 04 29 19.6 +0.2
KVTX IAmb IAmb 04 29 22.7
comp=Z,114nm,0.9s
V52A Sevierville 81.79 41 IAmb IAmb 04 29 20.0
comp=Z,58nm,0.7s
S56A Natural Bridge 81.84 38 P P 04 29 19.6 0.0
baz=331,SNR=13
T55A Pulaski 81.85 39 P P 04 29 19.8 +0.1
baz=330,SNR=36
IDI Anoyia 81.85 318 ⇓P P 04 29 18.0 -1.7
IDI Anoyia 81.85 318 IAmb IAmb 04 29 19.9
comp=Z,115nm,0.8s
P61A Hammonton 81.86 33 P P 04 29 19.3 -0.2
baz=333,SNR=5.5
TKL Tuckaleechee C 81.87 42 P P 04 29 19.8 +0.1
TKL pmax pmax
comp=Z,43nm,0.8s
TKL Tuckaleechee C 81.87 42 P P 04 29 19.8 +0.1
R58A Rapidan 81.90 36 P P 04 29 19.7 -0.1
baz=331,SNR=24
Q59A Harwood 81.91 35 P P 04 29 20.1 +0.4
baz=332,SNR=5.1
BLA Blacksburg 81.91 39 P P 04 29 20.0 0.0
BLA pmax pmax
comp=Z,110nm,1.1s
BLA Blacksburg 81.91 39 P P 04 29 19.9 0.0
baz=330,SNR=28
BLA Blacksburg 81.91 39 P P 04 29 20.0 0.0
BLA IAmb IAmb 04 29 21.1
comp=Z,110nm,1.1s
U54A Nelsons Funny 81.94 40 P P 04 29 20.2 0.0
baz=330,SNR=39
U54A Nelsons Funny 81.94 40 IAmb IAmb 04 29 21.2
comp=Z,118nm,0.6s
S57A Dark Hollow, R 82.01 37 P P 04 29 20.6 +0.3
baz=331,SNR=31
S57A Dark Hollow, R 82.01 37 P P 04 29 20.7 +0.3
S57A IAmb IAmb 04 29 21.7
comp=Z,70nm,0.8s
FPAL Fort Paine 82.02 44 P P 04 29 20.6 +0.1
FPAL IAmb IAmb 04 29 21.4
comp=Z,70nm,0.8s
Z47A Carrollton 82.04 46 IAmb IAmb 04 29 21.9
comp=Z,137nm,0.8s
Q60A Greensboro 82.08 34 P P 04 29 20.6 -0.1
baz=332
CBN Corbin Frederi 82.22 36 P P 04 29 21.6 +0.2
baz=332,SNR=14
T56A Rocky Mt 82.22 38 P P 04 29 21.2 -0.3
baz=330,SNR=22
344A Westbrook Farm 82.24 49 IAmb IAmb 04 29 24.3
comp=Z,141nm,0.7s
R58B Mineral 82.24 36 P P 04 29 21.5 0.0
baz=332,SNR=35
R58B Mineral 82.24 36 P P 04 29 21.8 +0.2
R58B IAmb IAmb 04 29 22.8
comp=Z,102nm,1.1s
Y49A Blount Mountai 82.24 45 P P 04 29 21.6 0.0
Y49A IAmb IAmb 04 29 22.4
comp=Z,82nm,0.7s
U55A TA2, Sparta 82.27 39 P P 04 29 21.8 -0.1
baz=330,SNR=36
R59A King George, V 82.32 36 P P 04 29 22.2 +0.3
baz=332,SNR=17
X51A Calhoun 82.33 43 P P 04 29 22.1 +0.1
Q61A Milford 82.37 34 P P 04 29 22.3 +0.2
baz=333
STKA Stephens Creek 82.44 187 P P 04 29 23.6 +1.3
comp=Z,70nm,0.9s,baz=344,slow=6.8,SNR=96
STKA pP pwP 04 31 13.9 +0.2
comp=Z,23nm,1.0s,baz=336,slow=7.0,SNR=6.0
STKA Stephens Creek 82.44 187 P P 04 29 22.6 +0.2
R60A Leonardtown, M 82.46 35 P P 04 29 23.0 +0.4
baz=332
S58A Poland Farm, P 82.48 37 P P 04 29 22.6 -0.1
baz=332,SNR=29
S58A Poland Farm, P 82.48 37 IAmb IAmb 04 29 23.7
comp=Z,59nm,0.6s
V54A Nebo 82.53 40 P P 04 29 23.1 0.0
baz=330,SNR=35
T57A Hurt 82.56 38 P P 04 29 23.1 -0.1
baz=331,SNR=31
T57A Hurt 82.56 38 P P 04 29 23.4 +0.2
T57A IAmb IAmb 04 29 24.1
comp=Z,70nm,0.7s
S59A Mechanicsville 82.64 36 P P 04 29 23.7 +0.2
baz=332,SNR=37
LRAL Lakeview Retre 82.67 45 P P 04 29 23.4 -0.4
baz=328,SNR=53
LRAL Lakeview Retre 82.67 45 IAmb IAmb 04 29 24.5
comp=Z,62nm,0.8s
U56A King 82.67 39 P P 04 29 23.8 +0.1
baz=330,SNR=29
U56A King 82.67 39 P P 04 29 24.0 +0.2
U56A IAmb IAmb 04 29 24.9
comp=Z,100nm,0.8s
V55A Taylorsville 82.77 40 P P 04 29 24.2 0.0
baz=330,SNR=25
V55A Taylorsville 82.77 40 IAmb IAmb 04 29 25.3
comp=Z,52nm,0.8s
BG3 Lake Jocassee 82.79 41 P P 04 29 24.6 +0.2
BG3 IAmb IAmb 04 29 25.7
comp=Z,65nm,0.9s
CEL Celeste 82.84 325 P P 04 29 23.4 -1.3
CEL IAmb IAmb 04 29 25.8
comp=Z,83nm,0.8s
T58A Grand View Acr 82.88 37 P P 04 29 24.8 0.0
baz=331,SNR=40
346A Big Creek Wild 82.90 48 P P 04 29 25.0 +0.1
346A IAmb IAmb 04 29 26.8
comp=Z,76nm,0.7s
S60A Water View 82.93 36 P P 04 29 25.3 +0.3
baz=332,SNR=21
ZAIG Zacatecas 83.00 63 P P 04 29 25.8 -0.2
U57A Blanch 83.02 38 P P 04 29 25.7 +0.2
baz=331,SNR=43
W54A Cherokee Point 83.03 41 P P 04 29 25.5 0.0
baz=330,SNR=31
V56A Mocksville 83.09 39 P P 04 29 26.1 +0.2
baz=330,SNR=46
T59A Double "B" Far 83.23 37 P P 04 29 26.7 +0.2
baz=332,SNR=29
T59A Double "B" Far 83.23 37 P P 04 29 26.9 +0.3
T59A IAmb IAmb 04 29 28.5
comp=Z,60nm,0.9s
Z51A Franklin 83.25 44 P P 04 29 26.7 0.0
Z51A IAmb IAmb 04 29 27.5
comp=Z,109nm,0.8s
Y52A Lilburn 83.27 43 P P 04 29 27.1 +0.3
Y52A IAmb IAmb 04 29 28.1
comp=Z,70nm,0.9s
S61A Accomac 83.31 35 P P 04 29 27.5 +0.6
baz=333
V57A Coltrane Farms 83.32 39 P P 04 29 27.0 0.0
baz=331,SNR=42
FORT Forrest 83.33 199 P P 04 29 27.0 +0.1
FORT IAmb IAmb 04 29 28.5
comp=Z,112nm,1.1s
KMSC Kings Mountain 83.33 40 P P 04 29 26.9 -0.2
baz=330,SNR=39
KMSC Kings Mountain 83.33 40 P P 04 29 27.1 +0.1
KMSC IAmb IAmb 04 29 28.0
comp=Z,96nm,0.8s
U58A Oxford 83.36 38 P P 04 29 27.2 0.0
baz=331,SNR=62
T60A Surry 83.40 36 P P 04 29 27.5 +0.1
baz=332,SNR=16
PAULI Pauline 83.41 41 P P 04 29 27.4 0.0
PAULI IAmb IAmb 04 29 28.3
comp=Z,65nm,0.8s
X54A Belton 83.41 41 P P 04 29 27.7 +0.2
baz=330,SNR=31
W56A Indian Trail 83.64 40 P P 04 29 28.4 -0.2
baz=330,SNR=28
V58A Windy Hill, Pi 83.66 38 P P 04 29 28.8 +0.1
baz=331,SNR=40
V58A Windy Hill, Pi 83.66 38 P P 04 29 29.1 +0.4
V58A IAmb IAmb 04 29 29.9
comp=Z,125nm,1.1s
U59A Littleton 83.69 37 P P 04 29 28.8 0.0
baz=332,SNR=25
HODGE Hodges 83.73 41 P P 04 29 29.3 +0.3
HODGE IAmb IAmb 04 29 30.3
comp=Z,72nm,1.0s
X55A Gracelyn & Ava 83.78 41 P P 04 29 29.2 -0.1
baz=330,SNR=24
U60A Pendleton 83.83 37 P P 04 29 29.5 +0.1
baz=332,SNR=18
W57A Gilead 83.87 39 P P 04 29 29.8 0.0
baz=331,SNR=44
W57A Gilead 83.87 39 P P 04 29 29.9 +0.2
W57A IAmb IAmb 04 29 30.8
comp=Z,123nm,0.8s
250A Grady 83.89 45 P P 04 29 30.1 +0.2
GOGA Godfrey 83.92 43 P P 04 29 30.4 +0.4
GOGA pmax pmax
comp=Z,39nm,1.0s
GOGA Godfrey 83.92 43 P P 04 29 30.1 +0.1
baz=329,SNR=22
GOGA Godfrey 83.92 43 P P 04 29 30.4 +0.4
VSL Villasalto 83.94 331 IAmb IAmb 04 29 31.5
comp=Z,160nm,1.1s
BBOO Buckleboo 83.95 192 P P 04 29 30.1 +0.1
RAR Rarotonga 83.98 134 P P 04 29 30.4 +0.1
RAR pmax pmax
comp=Z,117nm,1.1s
RAR Rarotonga 83.98 134 P P 04 29 30.4 +0.1
RAR IAmb IAmb 04 29 32.5
comp=Z,116nm,1.1s
152A Waverly Hall 84.00 44 P P 04 29 30.6 +0.2
X56A White Oak 84.02 40 P P 04 29 30.5 0.0
baz=330,SNR=28
V59A Middlesex 84.03 38 P P 04 29 30.7 +0.2
baz=332,SNR=50
CORL Corleone 84.09 327 IAmb IAmb 04 29 33.1
comp=Z,72nm,0.9s
BIRD Birdtown, Kers 84.12 40 P P 04 29 31.3 +0.3
BIRD IAmb IAmb 04 29 32.1
comp=Z,78nm,0.9s
Y55A Saluda 84.15 41 P P 04 29 31.3 +0.2
baz=330,SNR=39
BRAL Brewton 84.21 46 P P 04 29 32.9 +1.4
baz=328,SNR=19
U61A Possum Corner 84.22 36 P P 04 29 31.7 +0.3
baz=332,SNR=7.9
U61A Possum Corner 84.22 36 P P 04 29 31.8 +0.3
W58A Raeford 84.29 39 P P 04 29 31.9 +0.1
baz=331,SNR=42
CLTB Caltabellotta 84.40 327 IAmb IAmb 04 29 34.5
comp=Z,78nm,1.1s
V60A Jim Taylor Roa 84.41 37 P P 04 29 32.4 +0.1
baz=332,SNR=22
X57A Johnson Farm, 84.42 40 P P 04 29 32.6 +0.1
baz=331
W59A Clinton 84.47 38 P P 04 29 33.2 +0.4
baz=331,SNR=11
Y56A Pelion 84.51 41 P P 04 29 33.0 0.0
baz=330,SNR=6.8
SOCY Socotra 84.58 282 P P 04 29 32.0 -1.7
CNNC Cliffs of the 84.63 38 P P 04 29 33.6 +0.1
baz=332
V61A Roper 84.65 36 P P 04 29 33.7 +0.1
baz=332
X58A Rowland 84.65 39 P P 04 29 33.6 0.0
baz=331,SNR=9.4
X58A Rowland 84.65 39 P P 04 29 33.9 +0.3
X58A IAmb IAmb 04 29 34.8
comp=Z,98nm,0.9s
Y57A Sumter 84.69 40 P P 04 29 33.7 -0.1
baz=330
Y57A Sumter 84.69 40 P P 04 29 34.0 +0.2
PMOR Pomariorio Rege 84.73 121 eP P 04 29 34.8 +0.7
comp=Z,144nm,1.2s
154A Montrose 84.75 43 P P 04 29 34.4 +0.2
154A IAmb IAmb 04 29 35.3
comp=Z,96nm,0.8s
W60A Pink Hill 84.86 38 P P 04 29 34.8 +0.1
baz=332,SNR=10
Z56A Williston 84.88 41 P P 04 29 35.0 +0.3
baz=330,SNR=20
Z56A Williston 84.88 41 P P 04 29 35.0 +0.3
352A Blakely 84.92 45 P P 04 29 35.1 +0.2
X59A McDuffie Farm, 84.93 39 P P 04 29 35.0 0.0
baz=331,SNR=6.9
W61A Ground Anchor 85.03 37 P P 04 29 35.3 -0.1
baz=332
VAH Vaihoa 85.07 121 eP P 04 29 36.4 +0.6
comp=Z,95nm,1.0s
X60A Albert Glenn T 85.17 38 P P 04 29 36.2 0.0
baz=332,SNR=7.9
Z57A Bowman 85.19 41 P P 04 29 36.5 +0.2
baz=330,SNR=8.9
Y59A Loris 85.33 39 P P 04 29 36.9 0.0
baz=331,SNR=12
Z58A St. Stephen 85.52 40 P P 04 29 38.0 +0.1
baz=331,SNR=8.0
CAN Canberra 85.53 181 P P 04 29 37.8 +0.2
CAN pmax pmax
comp=Z,117nm,1.0s
CAN Canberra 85.53 181 P P 04 29 37.8 +0.2
CAN IAmb IAmb 04 29 40.5
comp=Z,117nm,1.0s
TIGA Tifton 85.55 44 P P 04 29 39.0 +0.9
baz=329,SNR=25
NHSC New Hope 85.57 40 P P 04 29 38.4 +0.4
baz=331
NHSC New Hope 85.57 40 P P 04 29 38.2 +0.2
Y60A Bolivia 85.58 39 P P 04 29 38.1 0.0
baz=332,SNR=7.7
Y60A Bolivia 85.58 39 P P 04 29 38.4 +0.2
157A Early Branch 85.60 41 P P 04 29 39.0 +0.7
baz=330
255A Hazlehurst 85.62 43 P P 04 29 38.7 +0.3
255A IAmb IAmb 04 29 40.1
comp=Z,108nm,0.9s
RGRS Roger Stewart 85.73 41 P P 04 29 39.2 +0.4

PBRG Braganca 85.81 343 *eP* **P 04 29 38.3 -0.9**
comp=Z,63nm,0.9s
PBRG Braganca 85.81 343 *i* P **P 04 29 38.2 -0.9**
Z59A Georgetown, SC 85.82 40 P **P 04 29 39.7 +0.4**
baz=331
158A Hollywood 85.88 41 P **P 04 29 40.1 +0.5**
baz=331
PPT Papeete 85.94 124 P **P 04 29 41.2 +1.3**
comp=Z,47nm,0.9s,baz=163,slow=10,SNR=4.2
PPT2 Papeete2 85.96 124 *eP* **P 04 29 41.1 +1.0**
comp=Z,98nm,1.3s
PPTF Pamatai, Papee 85.97 124 P **P 04 29 40.2 0.0**
PPTF IAmb IAmb 04 29 42.5
comp=Z,61nm,1.0s
PAE Paea 86.02 124 *eP* **P 04 29 41.2 +0.9**
comp=Z,12nm,1.1s
TIAR Tiarei 86.06 124 *eP* **P 04 29 41.5 +1.0**
comp=Z,32nm,1.0s
PCAB Cabril 86.14 344 *eP* **P 04 29 40.2 -0.5**
553A Crawfordville 86.24 45 P **P 04 29 41.5 +0.2**
553A IAmb IAmb 04 29 43.5
comp=Z,82nm,0.9s
MVO Moncorvo 86.49 343 *eP* **P 04 29 41.7 -0.7**
comp=Z,93nm,2.0s
MVO Moncorvo 86.49 343 *i* P **P 04 29 41.4 -1.0**
MEH Mehetia 87.00 123 *eP* **P 04 29 46.1 +1.1**
comp=Z,39nm,1.0s
PVIS Viseu 87.08 343 *eP* **P 04 29 44.5 -0.7**
comp=Z,115nm,0.9s
ESBB Sonseca Array 87.31 340 P **P 04 29 45.4 -0.9**
ESBB IAmb IAmb 04 29 46.6
comp=Z,48nm,1.1s
ESDC Sonseca Array 87.31 340 P **P 04 29 45.6 -0.8**
comp=Z,33nm,1.0s,baz=6.5,slow=4.2,SNR=98
ESDC pP **pP 04 31 38.3 +1.6**
comp=Z,8.4nm,1.0s,baz=1.1,slow=3.8,SNR=8.4
ESDC PP **PP 04 33 14.5 -4.0**
comp=Z,3.9nm,1.0s,baz=16,slow=5.5,SNR=2.3
ESDC Sonseca Array 87.31 340 P **P 04 29 45.5 -0.8**
ESDC pP **pP 04 31 37.2 +0.5**
ESDC **PP 04 33 18.6 +0.1**
KEST Kesra 87.38 329 P **P 04 29 46.9 +0.1**
comp=Z,81nm,0.7s,baz=278,slow=0.4,SNR=115
KEST PP **PP 04 33 16.3 -3.0**
comp=Z,12nm,1.0s,baz=281,slow=5.2,SNR=3.9
KEST Kesra 87.38 329 P **P 04 29 46.8 +0.1**
PAB San Pablo 87.51 341 P **P 04 29 46.8 -0.5**
PAB pmax pmax
comp=Z,33nm,0.8s
PAB San Pablo 87.51 341 P **P 04 29 46.8 -0.5**
PAB IAmb IAmb 04 29 47.4
comp=Z,33nm,0.8s
COI Coimbra 87.67 344 *eP* **P 04 29 47.4 -0.5**
comp=Z,260nm,0.9s
PCAS Casmilo, Conde 87.83 344 *eP* **P 04 29 47.5 -1.2**
comp=Z,148nm,1.1s
PCBR Castelo Branco 87.85 343 *eP* **P 04 29 48.0 -0.8**
comp=Z,82nm,1.0s
OUZ Omahuta 87.89 161 P **P 04 29 49.1 +0.4**
NWAO Narrogin (SRO) 88.09 207 P **P 04 29 50.1 +0.4**
NWAO *PP **pP 04 31 41.1 +0.7**
NWAO pmax pmax
comp=Z,27nm,0.8s
NWAO Narrogin (SRO) 88.09 207 P **P 04 29 50.1 +0.4**
NWAO pP **pP 04 31 41.1 +0.7**
NWAO Narrogin (SRO) 88.09 207 IAmb IAmb 04 29 51.8
comp=Z,21nm,0.8s
PMRV Marv??o 88.24 343 *eP* **P 04 29 49.5 -1.1**
comp=Z,56nm,1.5s
PSBE So Bento 88.41 344 *eP* **P 04 29 51.0 -0.4**
comp=Z,169nm,0.9s
PMTG Montargil 88.74 343 *eP* **P 04 29 52.0 -0.9**
comp=Z,89nm,1.4s
EVO Evora 89.22 343 *eP* **P 04 29 54.1 -1.1**
comp=Z,53nm,2.0s
PBEJ Beja 89.68 343 *eP* **P 04 29 56.9 -0.4**
comp=Z,49nm,0.9s
PNCL Nicolau / Gran 89.72 343 *eP* **P 04 29 56.7 -0.8**
comp=Z,74nm,1.0s
PCVE Castro Verde 90.10 343 *eP* **P 04 29 57.9 -1.4**
comp=Z,112nm,1.0s
PVAQ Vaqueiros 90.26 343 IAmb IAmb 04 29 60.0
comp=Z,36nm,0.8s
PVAQ Vaqueiros 90.26 343 *eP* **P 04 29 58.7 -1.3**
comp=Z,84nm,1.6s
PTEO Sao Teotonio 90.31 343 *eP* **P 04 30 00.0 -0.2**
comp=Z,111nm,1.0s
MORF Marmelete 90.53 343 *eP* **P 04 30 00.2 -1.2**
MORF AMb AMB 04 30 01.6
comp=Z,155nm,1.2s
MORF Marmelete 90.53 343 *eP* **P 04 30 00.1 -1.2**
MORF pmax pmax
comp=Z,155nm,1.2s
MORF Marmelete 90.53 343 *eP* **P 04 30 00.7 -0.6**
comp=Z,156nm,1.2s
PFVI Vila Bisbo 90.73 343 *eP* **P 04 30 01.7 -0.5**
comp=Z,173nm,1.0s
URZ Urewera 91.58 159 P **P 04 30 04.6 -1.1**
comp=Z,11nm,0.8s,baz=2.6,slow=4.3,SNR=6.1
ATD Arta Tunnel 91.90 291 P **P 04 30 07.5 -0.5**
ATD IAmb IAmb 04 30 11.2
comp=Z,32nm,1.1s
BKZ Black Stump Fm 92.31 160 IAmb IAmb 04 30 09.7
comp=Z,30nm,1.2s
TEIG Tepich 92.78 53 P **P 04 30 12.2 +0.3**
comp=Z,2.5nm,0.6s,baz=2.9,slow=5.6,SNR=5.0
TEIG Tepich 92.78 53 P **P 04 30 12.1 +0.2**
TAM Tamanrasset 100.56 327 P **Pdif 04 30 47.0 0.0**
TAM Tamanrasset 100.56 327 Pdif **Pdif 04 30 47.0 0.0**
KMBO Kilima Mbogo 105.27 287 PP **PP 04 35 29.6 -6.8**
comp=Z,0.9nm,0.4s,baz=49,slow=5.3,SNR=4.2
TORD Torodi Ar. Bea 110.82 327 Pdiff **Pdif 04 31 33.1 +0.5**
comp=Z,1.8nm,0.9s,baz=4.0,slow=3.7,SNR=6.8
TORD PKiKP **PKiKP 04 35 28.6 -0.7**
comp=Z,2.2nm,0.6s,baz=19,slow=2.4,SNR=14
TORD PP PP 04 36 06.8 -8.4
comp=Z,14nm,0.9s,baz=16,slow=7.3,SNR=11
TORD PKKPbc **PKKPbc 04 46 27.1 +0.5**
comp=Z,0.7nm,0.5s,baz=185,slow=3.7,SNR=14
TORD SKKPbc SKKPbc 04 49 18.1 0.0
comp=Z,0.7nm,0.8s,baz=225,slow=2.1,SNR=4.5
SDV Santo Domingo 111.02 44 PKiKP **PKiKP 04 35 29.7 -0.1**
baz=0.0,slow=3.0
SDV PP **PP 04 36 13.5 -3.6**
comp=Z,3.8nm,0.7s,baz=3.9,slow=6.2,SNR=2.6
SDV SKP 04 38 16.7
comp=Z,5.8nm,0.8s,baz=65,slow=0.8,SNR=5.5
ROSC El Rosal 112.87 49 PP **PP 04 36 32.1 +1.6**
comp=Z,3.4nm,0.5s,baz=352,slow=11,SNR=4.5
ROSC El Rosal 112.87 49 **PP 04 36 30.7 +0.2**
DBIC Dimbokro 119.03 331 PKP **PKPdf 04 35 44.5 -0.5**
comp=Z,11nm,0.7s,baz=21,slow=1.5,SNR=14
DBIC PP **PP 04 37 04.8 -7.4**
comp=Z,11nm,0.9s,baz=4.2,slow=7.9,SNR=4.1
DBIC SKP 04 38 31.5
comp=Z,5.3nm,0.9s,baz=238,slow=1.0,SNR=3.7
DBIC Dimbokro 119.03 331 **PKPdf 04 35 44.6 -0.4**
TIC Toumodi 119.11 332 *e*PKiKP **PKPdf 04 35 44.5 -0.7**
KIC Kosan Boka 119.29 331 *e*PKiKP **PKPdf 04 35 44.9 -0.6**
comp=Z,30nm,1.0s
LIC Lamto 119.51 331 *e*PKiKP **PKPdf 04 35 45.2 -0.7**
comp=Z,43nm,0.8s
ATAH Atahualpa 120.92 60 PKP **PKiKP 04 35 49.8 +0.6**
comp=Z,9.0nm,0.7s,baz=177,slow=2.6,SNR=7.7
MDP Montagnes des 121.16 27 PKP **PKiKP 04 35 49.2 0.0**
comp=Z,12nm,0.8s,baz=194,slow=0.8
LSZ Lusaka 121.85 285 PKIKP **PKPdf 04 35 50.2 -0.2**
LSZ Lusaka 121.85 285 **PKPdf 04 35 50.2 -0.2**
PTGA Pitinga 124.14 37 **PKPdf 04 35 54.8 0.0**
NNA Nana 125.76 62 PKP **PKPdf 04 35 57.9 0.0**
comp=Z,12nm,0.6s,baz=286,slow=4.3,SNR=8.2
MCPB Macapa, AP 126.52 28 *eP* **PKiKP 04 36 00.7 +0.9**
MALB Monte Alegre 127.23 31 *eP* **PKiKP 04 36 02.1 +0.9**
VNDA Vanda 128.03 177 PKP **PKPdf 04 36 00.3 +0.1**
comp=Z,1.0nm,0.6s,baz=251,slow=2.2,SNR=14
VNDA pPKP **pPKPdf 04 38 00.1 +1.5**
comp=Z,1.9nm,0.9s,baz=336,slow=4.0,SNR=4.9
VNDA SKPbc SKPbc 04 38 30.8
comp=Z,12nm,1.1s,baz=344,slow=4.8,SNR=9.0
VNDA PKKPbc PKKPbc 04 45 24.6
comp=Z,0.9nm,0.9s,baz=215,slow=2.6,SNR=5.8
ITTB Itaituba 129.06 34 *eP* **PKiKP 04 36 05.1 +0.2**
ETMB Extrema 129.52 49 *eP* **PKPdf 04 36 04.4 -0.6**
SAML Samuel 130.18 45 PKIKP **PKPdf 04 36 06.4 +0.2**
SAML Samuel 130.18 45 **PKPdf 04 36 06.4 +0.2**
SAML Samuel 130.18 45 *eP* **PKiKP 04 36 07.2 +0.1**

PRPB Parauapebas 132.69 28 *eP* **PKiKP 04 36 12.2 -0.1**
BOSA Boshof 133.47 277 PKhKP PKPpre 04 36 06.2
comp=Z,3.6nm,0.8s,baz=306,slow=3.2,SNR=4.8
BOSA PKP **PKPdf 04 36 12.2 0.0**
comp=Z,6.6nm,0.6s,baz=25,slow=2.4,SNR=16
BOSA SKPbc **SKPbc 04 38 52.1 -1.2**
comp=Z,21nm,1.1s,baz=32,slow=6.1,SNR=6.5
LPAZ La Paz 134.05 56 PKhKP PKPpre 04 35 59.8
comp=Z,0.7nm,0.7s,baz=26,slow=1.7,SNR=2.8
LPAZ PKP **PKPdf 04 36 14.9 +0.7**
comp=Z,8.1nm,0.7s,baz=207,slow=2.3,SNR=22
LPAZ SKPbc **SKPbc 04 38 55.2 -0.9**
comp=Z,26nm,1.0s,baz=337,slow=3.7,SNR=26
LPAZ SKKPbc **SKKPbc 04 48 05.8 +1.1**
comp=Z,1.7nm,0.7s,baz=130,slow=3.2,SNR=6.7
LPAZ La Paz 134.05 56 PKPdf **PKPdf 04 36 13.6 -0.6**
LPAZ La Paz 134.05 56 *eP* **PKPdf 04 36 14.0 -0.2**
MAW Mawson 134.43 212 PKP **PKPdf 04 36 10.6 -1.9**
comp=Z,2.7nm,0.8s,baz=38,slow=3.5,SNR=6.7
MAW SKPbc **SKPbc 04 38 54.2 -0.6**
comp=Z,89nm,0.9s,baz=40,slow=2.9,SNR=51
MAW SKKPbc **SKKPbc 04 48 05.3 -1.3**
comp=Z,1.9nm,0.8s,baz=244,slow=7.9,SNR=5.1
MAW Mawson 134.43 212 PKPdf **PKiKP 04 36 14.0 0.0**
CLDB Colider 135.03 37 *eP* **PKPdf 04 36 16.1 +0.8**
VILB Vilhena 135.06 44 *eP* **PKiKP 04 36 16.3 -0.7**
RCBR Riachuelo 135.12 9 SKPbc **SKPbc 04 38 58.0 -0.9**
comp=Z,26nm,1.1s,baz=6.7,slow=4.6,SNR=4.8
SIV San Ignacio 137.33 47 PKhKP PKPpre 04 36 08.5
comp=Z,2.8nm,0.5s,baz=268,slow=3.7,SNR=21
SIV PKP **PKPdf 04 36 20.3 +0.8**
comp=Z,15nm,0.8s,baz=130,slow=0.3,SNR=26
SIV SKPbc **SKPbc 04 39 05.2 -0.1**
comp=Z,52nm,0.9s,baz=322,slow=2.5,SNR=35
SIV SKKPbc **SKKPbc 04 47 52.1 +0.4**
comp=Z,3.4nm,0.7s,baz=146,slow=4.3,SNR=13
LVC Limon Verde 138.75 62 PKhKP PKPpre 04 36 13.6
comp=Z,3.1nm,0.7s,baz=117,slow=2.3,SNR=3.6
LVC PKP **PKPdf 04 36 23.1 +0.7**
comp=Z,5.9nm,0.8s,baz=250,slow=3.6,SNR=6.3
LVC SKPbc **SKPbc 04 39 09.1 -0.5**
comp=Z,25nm,0.8s,baz=313,slow=1.0,SNR=15
LVC Limon Verde 138.75 62 **PKPdf 04 36 22.2 -0.2**
LVC Limon Verde 138.75 62 *eP* **PKPdf 04 36 23.5 +1.1**
PEXB Peixe 138.77 28 *eP* **PKPdf 04 36 21.6 -0.6**
SDBA SAO DESIDERIO 139.99 23 *eP* **PKPdf 04 36 25.3 +0.8**
QSPA South Pole Qui 140.31 180 PKPpre 04 36 16.2
ARAG Araguaiana, MT 140.96 35 *eP* **PKPdf 04 36 27.3 +1.2**
BDFB Brasilia 142.19 29 PKhKP PKPpre 04 36 24.8
comp=Z,21nm,0.7s,baz=308,slow=2.9,SNR=29
BDFB SKPbc **SKPbc 04 39 18.5 +0.1**
comp=Z,43nm,0.9s,baz=13,slow=3.3,SNR=14
BDFB Brasilia 142.19 29 PKHKP PKPpre 04 36 23.0
BDFB Brasilia 142.19 29 PKPpre 04 36 23.0
GDU01 Guandu, BA 142.40 16 *eP* **PKPdf 04 36 29.7 +1.0**
JANB Januaria 142.69 23 *eP* **PKPdf 04 36 30.0 +0.7**
SYO Syowa Base 143.07 214‖ *e*PKPbc PKPab 04 36 25.0 -0.8
SYO Syowa Base 143.07 214‖ *i*PKiKP **PKiKP 04 36 31.1 -0.6**
SYO Syowa Base 143.07 214‖ *i*sPdiff PKiKP 04 36 39.5 +7.8
SYO Syowa Base 143.07 214‖ *i*SKPdf **SKPdf 04 39 16.5 +1.9**
IPMB Ipameri, GO 144.32 31 *eP* **PKPdf 04 36 32.4 +0.3**
MC01 Montes Claros 144.36 24 *eP* **PKPab 04 36 32.4 +0.2**
ITRB Iturama 145.16 35 *eP* **PKPbc 04 36 34.2 0.0**
NAN01 Guarapari, ES 146.32 18 *eP* **PKPbc 04 36 36.8 -0.8**
PCMB Pacaembu 146.55 38 *eP* **PKPbc 04 36 38.9 +0.8**
TRCB Terra Rica 147.05 41 *eP* **PKPbc 04 36 38.5 -1.0**
BB19B Bebedouro 147.07 33 *eP* **PKPbc 04 36 39.9 +0.3**
BSFB Barra de Sao F 147.14 19 *eP* **PKPdf 04 36 38.2 +1.4**
RIB01 Linhares ES 147.70 19 *eP* **PKPdf 04 36 38.6 +1.0**
CPUP Villa Florida 147.93 51 PKPbc **PKPbc 04 36 42.1 +0.5**
comp=Z,51nm,0.6s,baz=339,slow=1.7,SNR=163
CPUP pPKPbc **pPKPab 04 38 39.7 +0.1**
comp=Z,6.5nm,0.9s,baz=22,slow=5.4,SNR=3.1
CPUP PP **PP 04 40 10.8 -3.5**
comp=Z,3.4nm,0.8s,baz=6.3,slow=5.5,SNR=2.9
CPUP Villa Florida 147.93 51 PKPdf **PKPdf 04 36 38.3 +0.4**
CPUP Villa Florida 147.93 51 *eP* **PKPbc 04 36 39.8 -1.9**
BSCB Bom Sucesso 148.22 27 *eP* **PKPdf 04 36 39.1 +0.6**
FRTB Fartura 148.78 37 *eP* **PKPdf 04 36 40.6 +1.2**
PTGB Pitanga 148.99 42 *eP* **PKPbc 04 36 43.1 -1.3**
VAO Valinhos 149.40 32 *eP* **PKPdf 04 36 41.7 +1.3**
SPB Sao Paulo 149.78 33 *eP* **PKPdf 04 36 41.0 +0.1**
VAS01 Vassouras-RJ 149.81 26 *eP* **PKPdf 04 36 42.1 +1.1**
PARB Paraibuna 150.16 30 *eP* **PKPdf 04 36 40.6 -1.0**
MAN01 Angra dos Reis 150.22 27 *eP* **PKPdf 04 36 42.4 +0.7**
PLCA Paso Flores 150.22 87 PKP **PKPdf 04 36 41.3 +0.2**
comp=Z,5.9nm,0.9s,baz=235,slow=2.5,SNR=10
PLCA PKPbc **PKiKP 04 36 47.7 +0.3**
comp=Z,34nm,0.7s,baz=288,slow=2.9,SNR=78
PLCA pPKPbc **pPKPbc 04 38 45.8 +1.5**
comp=Z,27nm,1.0s,baz=274,slow=4.2,SNR=12
PLCA Paso Flores 150.22 87 *eP* **PKPdf 04 36 42.4 +1.3**
PET01 Itanhaem-SP 150.48 34 *eP* **PKPdf 04 36 42.0 +0.1**
TIJ01 Guaruva-PR 150.78 38 *eP* **PKPdf 04 36 43.3 +0.8**
ITAB Concordia 151.16 44 *eP* **PKPdf 04 36 43.9 +1.0**
CNLB Canela 153.51 45 *eP* **PKPdf 04 36 47.0 +0.6**
PLTB Pedras Altas 154.24 52 *eP* **PKPdf 04 36 48.2 +1.0**
VNA2 Neumayer--Watz 157.11 199 PKPdf **PKPdf 04 36 49.9 +0.1**
VNA3 Neumayer Olymp 157.30 197 PKPab **PKPab 04 37 24.8 +0.1**
VNA3 Neumayer Olymp 157.30 197 PKPdf **PKPdf 04 36 50.0 0.0**
VNA1 Neumayer--Stat 157.51 199 PKPab **PKPab 04 37 26.0 +0.5**
VNA1 Neumayer--Stat 157.51 199 PKPdf **PKPdf 04 36 49.8 -0.4**

NEIC ***18*** *04:19:57.2±1.7, 6°.09S±0°.04×76°.05W±0°.09, h104km±10km, mb4.0/12, Error ellipse: s-maj=14.1km s-min=4.6km az=74.0*
ARE ***18*** *04:19:58±3.5, 6°.15S±0°.07×76°.35W±0°.09, h129km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=172.0*
IDC ***18*** *04:20:00.5±2.0, 6°.23S×76°.33W, h121km±20km, mb3.7/5, mb1 3.7/10, mb1mx3.6/37, mbtmp4.0/10, Error ellipse: s-maj=23.1km s-min=14.7km az=47.0*
VAO ***18*** *04:20:04.1±0.7, 6°.14S×75°.81W, h121km±5km, mb4.2*
ISC 18 04:19:58.3±0.5,**6°.21S**±0°.05×**76°.14W**±0°.06,**h100**km,**n81**, σ1§**84**/79,**mb4.0**/6,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.42**	**247**	P	**Pn**	**04 20 37.9**	**+1.1**
	149nm,0.3s,baz=72,slow=12,SNR=2409						
ATAH				S	**Sn**	**04 21 06.2**	**0.0**
	224nm,0.3s,baz=272,slow=24,SNR=32						
CZSB	**Cruzeiro do Su**	**3.73**	**114**	*eP*	**Pn**	**04 20 57.7**	**+3.8**
NNA	**Nana**	**5.79**	**187**	P	**Pn**	**04 21 23.8**	**+2.0**
	11nm,0.3s,baz=346,slow=6.0,SNR=31						
NNA				S	**Sn**	**04 22 23.8**	**-3.0**
	26nm,0.3s,baz=241,slow=19,SNR=18						
NNA	**Nana**	**5.79**	**187**	Pn	**Pn**	**04 21 23.1**	**+1.4**
NNA				Sn	**Sn**	**04 22 24.2**	**-2.7**
PTLC	**Puerto Leguiza**	**6.48**	**12**	*eP*	**Pn**	**04 21 27.9**	**-3.2**
PUAC	**Puerto Asis, P**	**6.72**	**356**	*eP*	**Pn**	**04 21 35.7**	**+1.2**
OTAV	**Otavalo**	**6.80**	**340**	Pn	**Pn**	**04 21 32.8**	**-3.2**
OTAV	**Otavalo**	**6.80**	**340**	*eP*	Pn	04 21 41.5	+5.6
CUSE	**Cuicocha Este**	**6.85**	**341**	*eP*	**Pn**	**04 21 40.6**	**+4.0**
PAC1	**Pacto, Paraso**	**6.95**	**338**	*eP*	**Pn**	**04 21 40.9**	**+3.1**
GCUF	**Volcan Galeras**	**7.48**	**351**	*eP*	**Pn**	**04 21 48.6**	**+3.4**
FLOC	**Florencia**	**7.75**	**4**	*eP*	**Pn**	**04 21 49.9**	**+1.3**
CRUC	**La Cruz**	**7.76**	**354**	*eP*	**Pn**	**04 21 49.9**	**+0.9**
BBAC	**Balboa, Cauca**	**8.25**	**352**	*eP*	**Pn**	**04 21 56.2**	**+0.8**
GARC	**Garzon, Huila**	**8.36**	**4**	*eP*	**Pn**	**04 21 58.8**	**+1.7**
PCON	**Cinco Dias**	**8.48**	**358**	*eP*	Pn	04 22 08.3	+9.4
POPC	**Popayan, Colom**	**8.71**	**356**	*eP*	Pn	04 22 07.3	+5.6
MARP	**Paez Belalcaza**	**8.99**	**1**	*eP*	**Pn**	**04 22 09.3**	**+3.7**
GUVC	**San Jose del G**	**9.38**	**22**	*eP*	**Pn**	**04 22 11.0**	**+0.4**
PRAC	**Prado**	**9.93**	**7**	*eP*	Pn	04 22 23.6	+5.4
ORTC	**Ortega, Tolima**	**10.09**	**5**	*eP*	**Pn**	**04 22 22.3**	**+2.0**
CHIC	**Chingaza**	**11.03**	**13**	*eP*	**Pn**	**04 22 35.3**	**+1.9**
PTGC	**Puerto Gaitan,**	**11.08**	**21**	*eP*	**Pn**	**04 22 33.1**	**-0.7**
ROSC	**El Rosal**	**11.12**	**9**	P	Pn	04 22 49.2	+15
	3.5nm,0.3s,baz=181,slow=11,SNR=14						
ROSC	**El Rosal**	**11.12**	**9**	Pn	**Pn**	**04 22 32.8**	**-1.9**
RUSC	**La Rusia**	**12.40**	**14**	*eP*	**Pn**	**04 22 53.5**	**+1.6**
LPAZ	**La Paz**	**12.73**	**143**	P	**Pn**	**04 22 58.8**	**+2.5**
	0.2nm,0.3s,baz=348,slow=12,SNR=5.9						
LPAZ	**La Paz**	**12.73**	**143**	Pn	**Pn**	**04 22 56.3**	**+0.1**
LPAZ	**La Paz**	**12.73**	**143**	*eP*	**Pn**	**04 22 58.6**	**+2.4**
SAML	**Samuel**	**13.13**	**103**	Pn	**Pn**	**04 22 59.0**	**-2.0**
SAML	**Samuel**	**13.13**	**103**	*eP*	**Pn**	**04 22 59.2**	**-1.8**
PB16	**IPOC Station P**	**13.68**	**152**	Pn	**Pn**	**04 23 09.0**	**+0.3**
MNMC	**Minye Minye**	**14.34**	**154**	Pn	**Pn**	**04 23 16.6**	**-0.3**
PB11	**IPOC Station P**	**14.88**	**156**	Pn	**Pn**	**04 23 23.4**	**-0.3**
GO01	**Chusmiza**	**14.99**	**154**	Pn	**Pn**	**04 23 25.0**	**-0.4**
GO01				IAmb	IAmb	04 23 36.5	
	comp=Z,5.0nm,0.6s						
SMLC	**San Martn de**	**15.05**	**8**	*eP*	**Pn**	**04 23 27.8**	**+2.0**
TA01	**Diego Aracena**	**15.40**	**159**	Pn	**Pn**	**04 23 29.4**	**-0.8**
PB08	**IPOC Station P**	**15.43**	**155**	Pn	**Pn**	**04 23 29.5**	**-1.3**
SDV	**Santo Domingo**	**15.97**	**20**	P	**P**	**04 23 39.8**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=218,slow=14,SNR=7.5						
SDV	**Santo Domingo**	**15.97**	**20**	*eP*	**P**	**04 23 39.6**	**+0.5**
SDV	**Santo Domingo**	**15.97**	**20**	P	**Pn**	**04 23 34.8**	**-2.7**
SDV	**Santo Domingo**	**15.97**	**20**	*eP*	**P**	**04 23 40.5**	**+1.4**
PB07	**IPOC Station P**	**16.57**	**159**	P	**Pn**	**04 23 45.1**	**+0.1**
PB07				IAmb	IAmb	04 23 58.2	
	comp=Z,10.0nm,1.1s						
PB09	**IPOC Station P**	**16.88**	**157**		**Pn**	**04 23 47.7**	**-0.9**
PB09				IAmb	IAmb	04 23 54.2	
	comp=Z,11nm,1.1s						
PTGA	**Pitinga**	**17.03**	**72**	P	**Pn**	**04 23 48.6**	**-1.9**
PTGA				IAmb	IAmb	04 23 55.1	
	comp=Z,7.5nm,0.8s						
VILB	**Vilhena**	**17.08**	**114**	*eP*	**P**	**04 23 52.5**	**+1.2**
SIV	**San Ignacio**	**17.68**	**125**	P	**P**	**04 23 59.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=305,slow=11,SNR=6.7						
LVC	**Limon Verde**	**17.74**	**158**	P	**Pn**	**04 24 01.7**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=343,slow=10,SNR=2.0						
LVC	**Limon Verde**	**17.74**	**158**	P	**P**	**04 23 56.8**	**-1.9**
LVC	**Limon Verde**	**17.74**	**158**	*eP*	**Pn**	**04 24 02.3**	**+3.0**
PTLB	**Pontes e Lacer**	**19.05**	**120**	*eP*	**P**	**04 24 14.5**	**+1.8**
ITTB	**Itaituba**	**20.40**	**86**	*eP*	**P**	**04 24 28.1**	**+0.5**
CLDB	**Colider**	**20.64**	**104**	*eP*	**P**	**04 24 29.5**	**-0.6**
NPGB	**Novo Progresso**	**20.66**	**93**	*eP*	**P**	**04 24 28.6**	**-1.7**
MALB	**Monte Alegre**	**22.24**	**80**	*eP*	**P**	**04 24 48.5**	**+1.4**
MCPB	**Macapa, AP**	**24.73**	**77**	*eP*	**P**	**04 25 12.0**	**+1.4**
ARAG	**Araguaiana, MT**	**25.66**	**114**	*eP*	**P**	**04 25 20.4**	**+1.4**
PRPB	**Parauapebas**	**26.17**	**91**	*eP*	**P**	**04 25 25.5**	**+1.8**
CPUP	**Villa Florida**	**26.88**	**140**	P	**P**	**04 25 31.6**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=323,slow=10,SNR=2.5						
CPUP	**Villa Florida**	**26.88**	**140**	P	**P**	**04 25 29.8**	**-0.1**
CPUP	**Villa Florida**	**26.88**	**140**	*eP*	**P**	**04 25 32.1**	**+2.2**
TRCB	**Terra Rica**	**28.03**	**128**	*eP*	**P**	**04 25 42.6**	**+2.3**
TEIG	**Tepich**	**28.85**	**336**	P	**P**	**04 25 47.1**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=180,slow=9.1,SNR=2.4						
TEIG	**Tepich**	**28.85**	**336**	P	**P**	**04 25 45.9**	**-1.5**
IPMB	**Ipameri, GO**	**29.66**	**116**	*eP*	**P**	**04 25 56.5**	**+1.7**
ROSB	**Rosrio**	**32.08**	**86**	*eP*	**P**	**04 26 16.8**	**+0.6**
PLCA	**Paso Flores**	**34.74**	**173**	P	**P**	**04 26 39.1**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=352,slow=7.5,SNR=7.9						
PLCA	**Paso Flores**	**34.74**	**173**	P	**P**	**04 26 38.1**	**-0.9**
PLCA				IAmb	IAmb	04 26 54.7	
	comp=Z,3.0nm,1.1s						
GDU01	**Guandu, BA**	**36.74**	**105**	*eP*	**P**	**04 26 58.0**	**+1.6**
TXAR	**Lajitas Array**	**44.15**	**325**	P	**P**	**04 27 57.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=143,slow=8.6,SNR=5.5						
TXAR	**Lajitas Array**	**44.15**	**325**	P	**P**	**04 27 55.9**	**-1.4**
WMOK	**Wichita Mounta**	**45.99**	**334**	P	**P**	**04 28 09.8**	**-1.9**
WMOK				IAmb	IAmb	04 28 11.4	
	comp=Z,2.5nm,1.1s						
DBIC	**Dimbokro**	**72.27**	**81**	P	**P**	**04 31 14.3**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=254,slow=7.4,SNR=1.9						
DBIC	**Dimbokro**	**72.27**	**81**	P	**P**	**04 31 11.2**	**-2.4**
ZALV	**Zalesovo Beam**	**129.95**	**15**	PKP	**PKPdf**	**04 38 55.8**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=336,slow=3.2,SNR=1.7						
ZALV	**Zalesovo Beam**	**129.95**	**15**	**PKPdf**	**04 38 54.6**	**-1.6**
KURBB	**Kurchatov Arra**	**130.94**	**21**	PKP	**PKPdf**	**04 38 57.7**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=315,slow=2.3,SNR=5.1						
MKAR	**Makanchi Array**	**135.50**	**21**	PKP	**PKPdf**	**04 39 05.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=13,slow=1.3,SNR=3.1						
ASAR	**Alice Springs**	**138.26**	**224**	PKP	**PKPdf**	**04 39 10.9**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=122,slow=1.7,SNR=2.2						
WRA	**Warramunga Arr**	**140.32**	**228**	PKP	**PKPdf**	**04 39 14.7**	**-1.9**
	comp=Z,1.3nm,1.0s,baz=121,slow=2.3,SNR=8.2						
FITZ	**Fitzroy Crossi**	**147.67**	**221**	PKPbc	**PKPbc**	**04 39 30.8**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=186,slow=5.3,SNR=5.2						

LDG 18 04:27:25.2±0.3,**44°.33N**×**6°.28E,h2**km,**Md1.1/2,Ml1.4/2,**
Error ellipse: s-maj=6.1km s-min=4.7km az=97.0,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.53**	**41**	*e*Pg	Pg	04 27 35.2	-0.1
MBDF				*e*Sg	Sg	04 27 41.2	-0.9
	1.3nm,0.2s						
SMRF	**Simiane la Rot**	**0.62**	**235**	*e*Pg	Pg	04 27 37.7	+0.6
SMRF				*e*Sg	Sg	04 27 45.3	+0.1
	2.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.65**	**334**	*e*Pg	Pg	04 27 37.5	-0.2
ORIF				*e*Sg	Sg	04 27 46.0	-0.2
	0.4nm,0.2s						
FRF	**La Foret Royal**	**0.81**	**161**	*e*Pg	Pg	04 27 40.7	-0.1
FRF				*e*Sg	Sg	04 27 49.0	-2.3
	2.3nm,0.2s						
SBF	**Sospel**	**0.95**	**119**	*e*Pg	Pg	04 27 42.7	-0.7
SBF				*e*Sn	Sg	04 27 56.2	+0.4
	0.8nm,0.2s						
LMR	**La Mourre**	**1.01**	**171**	*e*Pg	Pg	04 27 43.6	-1.0
LMR				*e*Sg	Sg	04 27 55.5	-2.2
	0.5nm,0.1s						

LDG ***18*** *04:28:55.4±0.1, 42°.93N×4°.11W, h8km, Ml2.1/5, Error ellipse: s

1.9nm,0.2s,SNR=7.9
EPF Esparros 3.37 82 *e*Pn Pn 04 29 45.0 +0.6
EPF *e*Sn Sn 04 30 21.7 -2.5
EPF *e*Sg Sg 04 30 37.6 -2.7
0.3nm,0.1s
EPF Esparros 3.37 82 Pn Pn 04 29 45.0 +0.6
EPF Sn Sn 04 30 21.7 -2.5
EPF Lg Lg 04 30 37.6
0.2nm,0.1s
ETOB Tobarra 4.49 152 Lg Lg 04 31 10.3
0.2nm,0.2s,SNR=7.9
EADA Adamuz 4.49 184 Lg Lg 04 31 10.4
0.6nm,0.2s,SNR=7.9
ECAB El Cabril 4.67 192 Lg Lg 04 31 15.1
0.5nm,0.3s,SNR=7.9
SESP Santiago Espad 4.70 164 Lg Lg 04 31 16.1
1.0nm,0.2s,SNR=7.9
RJF Les Rejaudoux 4.91 55 *e*Sn Sn 04 30 56.2 -5.9
0.7nm,0.2s
RJF Les Rejaudoux 4.91 55 Sn Sn 04 30 56.2 -5.9
0.3nm,0.2s
EQES Quesada 4.92 169 Lg Lg 04 31 24.7
0.2nm,0.2s,SNR=7.9
CAF Calviac 5.08 61 *e*P Pn 04 30 10.7 +2.8
CAF Calviac 5.08 61 Pn Pn 04 30 10.7 +2.8
SJAF Saint Jean de 5.24 89 Sn Sn 04 31 03.8 -6.5
1.0nm,0.4s,SNR=7.9
SJAF Lg Lg 04 31 38.9
0.2nm,0.1s,SNR=7.9
QUIF Quistinic 5.31 8 *e*Pn Pn 04 30 08.9 -2.2
QUIF Quistinic 5.31 8 Pn Pn 04 30 08.9 -2.2
ROSF Rostrenen 5.72 6 *e*Pn Pn 04 30 14.6 -2.1
ROSF Rostrenen 5.72 6 Pn Pn 04 30 14.6 -2.1

*IDC **18** 04:36:23.4±7.1, 68°.01N×164°.39W, h0km, mb3.4/2, mb1 4.1/3, mb1mx3.4/51, mbtmp3.7/3, ML4.2/1, Error ellipse: s-maj=110.5km s-min=100.6km az=23.0*
*AEIC **18** 04:36:30±2.1, 67°.69N±0°.05×161°.9W±0°.1, h13km±7km, ML3.1/16, Error ellipse: s-maj=7.1km s-min=6.9km az=121.0*
*NEIC **18** 04:36:32.4±1.3, 67°.72N±0°.02×162°.3W±0°.1, h36km±9km, Error ellipse: s-maj=8.2km s-min=3.5km az=94.0*
ISC 18 04:36:30.6±1.0, 67°.66N±0°.06×162°.13W±0°.05, h10km, n23, σ1§13/26, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.50**	**324**		**Pb**	**04 36 40.9**	**-0.5**
RDOG					**Sb**	**04 36 48.1**	**-0.6**
ANM	**Nome**	**3.37**	**205**		**Pn**	**04 37 24.4**	**+1.2**
ANM	**Nome**	**3.37**	**205**		**Sn**	**04 38 01.6**	**-1.7**
IM03		**3.71**	**113**		**Pn**	**04 37 28.4**	**+0.5**
IMAR	**Indian Mountai**	**3.71**	**113**		**Pn**	**04 37 28.1**	**+0.2**
IM05	**Indian Mountai**	**3.73**	**113**		**Pn**	**04 37 28.4**	**+0.3**
A21K	**Barrow**	**4.16**	**25**		**Pn**	**04 37 34.0**	**0.0**
COLD	**Coldfoot**	**4.61**	**90**		**Pn**	**04 37 40.6**	**+0.4**
TOLK	**Toolik Lake Re**	**4.79**	**72**		**Pn**	**04 37 44.5**	**+1.7**
TTA	**Tatalina**	**5.39**	**149**		**Pn**	**04 37 51.2**	**+0.2**
TT01	**Tatalina**	**5.41**	**149**		**Pn**	**04 37 51.9**	**+0.7**
BPAW	**Bear Paw Mtn.**	**5.79**	**123**		**Pn**	**04 37 57.0**	**+0.5**
NEA2	**Nenana**	**6.12**	**114**		**Pn**	**04 38 02.3**	**+1.3**
MDM	**Murphy Dome**	**6.22**	**109**		**Pn**	**04 38 02.6**	**+0.3**
WRH	**Wood River Hil**	**6.54**	**113**		**Pn**	**04 38 07.1**	**+0.4**
CCB	**Clear Creek Bu**	**6.54**	**111**		**Pn**	**04 38 07.7**	**+1.0**
BMAR	**Burnt Mountain**	**6.72**	**84**		**Pn**	**04 38 10.1**	**+0.9**
IL31		**6.80**	**108**		**Pn**	**04 38 11.4**	**+1.2**
IL31				Sn	**Sn**	**04 39 26.3**	**-1.3**
ILAR	**Eielson Array**	**6.80**	**108**	Pn	**Pn**	**04 38 11.8**	**+1.5**
	3.8nm,0.3s,baz=303,slow=14,SNR=59						
ILAR				Sn	**Sn**	**04 39 26.3**	**-1.4**
	0.2nm,0.3s,baz=311,slow=27,SNR=2.8						
ILAR	**Eielson Array**	**6.80**	**108**		**Pn**	**04 38 10.8**	**+0.5**
ILAR					**Sn**	**04 39 25.3**	**-2.4**
SVW2	**Sparrevohn**	**7.17**	**154**		**Pn**	**04 38 16.4**	**+1.2**
YKA	**Yellowknife Ar**	**20.24**	**82**	P	Pn	04 41 08.2	+0.9
	1.5nm,0.8s,baz=304,slow=10.0,SNR=4.1						
TXAR	**Lajitas Array**	**51.32**	**108**	P	**P**	**04 45 36.0**	**+1.3**
	0.7nm,1.0s,baz=310,slow=5.6,SNR=3.5						

*IDC **18** 04:36:42.4±1.6, 3°.02S×128°.63E, h0km, mb3.7/2, mb1 4.1/5, mb1mx3.7/41, mbtmp3.9/5, ML3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=34.9km s-min=15.0km az=84.0*
*DJA **18** 04:36:44.0±0.8, 3°.S±3°.×12°.8E±°, h13km±6km, M4.0/7, mB5.0/1, mb4.3/2, MLv3.9/7, Mw(mB)4.3/1*
*NEIC **18** 04:36:47.0±0.9, 2°.8S±0°.1×128°.52E±0°.09, h67km±10km, mb3.9/9, Error ellipse: s-maj=15.5km s-min=12.7km az=199.0*
ISC 18 04:36:46.4±0.8, 2°.84S±0°.06×128°.46E±0°.05, h51km, n22, σ1§74/29, mb4.0/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.21**	**139**	P	**Pn**	**04 37 22.7**	**+2.1**
BNDI				S	**Sn**	**04 37 51.1**	**+4.4**
SANI	**Sanana**	**2.59**	**288**	P	**Pn**	**04 37 23.7**	**-2.1**
SANI				S	**Sn**	**04 37 55.2**	**-0.9**
SIJI	**Sorong**	**3.42**	**55**	Pn	**Pn**	**04 37 37.2**	**0.0**
	35nm,0.3s,baz=252,slow=17,SNR=50						
SIJI				Sn	**Sn**	**04 38 17.1**	**+0.5**
	15nm,0.3s,baz=97,slow=24,SNR=8.5						
FAKI	**Fak Fak**	**3.79**	**91**	P	**Pn**	**04 37 40.7**	**-1.6**
FAKI	**Fak Fak**	**3.79**	**91**	Pn	**Pn**	**04 37 42.3**	**0.0**
FAKI				Sn	**Sn**	**04 38 23.6**	**-2.0**
MPSI	**Mapaga**	**9.12**	**290**	P	**Pn**	**04 38 56.4**	**+1.0**
MTN	**Manton Dam**	**10.28**	**165**	Pn	**Pn**	**04 39 12.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**15.41**	**190**	Pn	**Pn**	**04 40 19.6**	**-0.9**
	0.1nm,0.3s,baz=1.6,slow=8.4,SNR=1.7						
FITZ	**Fitzroy Crossi**	**15.41**	**190**	P	**P**	**04 40 22.4**	**-1.9**
FITZ				IAmb	IAmb	04 40 34.6	
	comp=Z,5.6nm,0.7s						
WB0	**Warramunga Arr**	**17.79**	**161**	P	**Pn**	**04 40 50.0**	**-0.5**
WRAB	**Tennant Creek**	**17.93**	**162**	P	**P**	**04 40 51.9**	**-0.4**
WRAB				IAmb	IAmb	04 40 59.1	
	comp=Z,8.6nm,1.1s						
WRA	**Warramunga Arr**	**17.94**	**162**	P	**Pn**	**04 40 51.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=342,slow=12,SNR=32						
WRA				S	**Sn**	**04 44 09.8**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=344,slow=21,SNR=2.2						
WRA	**Warramunga Arr**	**17.94**	**162**	P	**Pn**	**04 40 51.6**	**-0.7**
WRA					**Sn**	**04 44 09.9**	**-1.8**
WB2	**Warramunga Arr**	**17.94**	**162**	P	**P**	**04 40 51.8**	**-0.6**
WB2				IAmb	IAmb	04 41 06.4	
	comp=Z,9.1nm,1.0s						
WR0	**Warramunga Arr**	**18.02**	**161**	P	**P**	**04 40 52.2**	**-1.0**
AS31	**Alice Springs**	**21.36**	**166**	P	**P**	**04 41 29.9**	**+0.3**
AS31				IAmb	IAmb	04 41 39.4	
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**21.36**	**166**	P	**P**	**04 41 30.4**	**+0.8**
	comp=Z,3.0nm,0.4s,baz=348,slow=12,SNR=62						
ASAR				S	**S**	**04 45 26.2**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=352,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**21.36**	**166**	P	**P**	**04 41 29.1**	**-0.5**
ASAR					**S**	**04 45 22.7**	**-1.5**
IPM	**Ipoh**	**28.36**	**285**	P	**P**	**04 42 35.8**	**-0.2**
BBOO	**Buckleboo**	**30.65**	**167**	P	**P**	**04 42 54.9**	**-1.2**
ASAJ	**Asahikawa**	**48.44**	**14**	LR	LR	05 04 58.4	
	comp=Z,25nm,19.2s,baz=149,slow=35						
MKAR	**Makanchi Array**	**63.93**	**327**	P	**P**	**04 47 18.5**	**+4.3**
	comp=Z,0.3nm,0.6s,baz=125,slow=5.1,SNR=2.1						

*SOME **18** 04:40:18.2, 40°.25N×77°.27E, h5km*
*KRNET **18** 04:40:19.6±0.1, 40°.27N×77°.61E, mb3.4*
*NNC **18** 04:40:22.9±2.3, 40°.43N×77°.43E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=16.4km s-min=12.4km az=169.0*
ISC 18 04:40:20.5±2.1, 40°.19N±0°.10×77°.55E±0°.05, h10km, n46, σ2§00/73, 23C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.96**	**352**	⇑*iP*	**Pn**	**04 40 54.4**	**+0.4**
	baz=51						
KDJ				⇑*iS*	**Sb**	**04 41 20.2**	**-0.7**
	baz=51						
ULHL	**Ulahol**	**2.28**	**335**	⇑*iP*	**Pb**	**04 40 59.5**	**-2.3**
	baz=33						
ULHL				⇑*iS*	**Sb**	**04 41 29.0**	**-1.1**
	baz=33						
PRZ	**Przheval'sk**	**2.38**	**15**	⇓*iP*	**Pb**	**04 41 01.1**	**-2.5**
	baz=15						
PRZ				⇓*iS*	**Sb**	**04 41 31.1**	**-1.9**
	baz=15						
KZA	**Kyzart**	**2.56**	**318**	⇑*iP*	**Pb**	**04 41 04.0**	**-2.8**
	baz=16						
KZA				⇑*iS*	**Sb**	**04 41 36.6**	**-1.9**
	baz=16						
ANVS	**Anan'yevo**	**2.59**	**2**	⇑*iP*	**Pn**	**04 41 02.9**	**+0.2**
	baz=1.0						
ANVS				⇑*iS*	**Sn**	**04 41 35.2**	**+0.9**
	baz=1.0						
BOOM	**Boomskoye usch**	**2.59**	**333**	⇑*iP*	**Pn**	**04 41 04.2**	**+1.5**
	baz=31						
BOOM				⇑*iS*	**Sb**	**04 41 36.8**	**-2.5**
	baz=31						
SATY	**Saty**	**2.94**	**12**	*eP*	**Pb**	**04 41 12.8**	**-0.3**
	13nm,0.5s						
SATY				*eS*	**Sg**	**04 41 52.5**	**-2.3**
	37nm,0.4s						
SATY	**Saty**	**2.94**	**12**	Pg	**Pb**	**04 41 12.8**	**-0.3**
	13nm,0.5s						
SATY				Lg	Lg	04 41 52.5	
	37nm,0.4s						
ARLS	**Aral**	**2.96**	**305**	⇑*iP*	**Pn**	**04 41 09.8**	**+2.1**
	baz=4.0						
ARLS				⇑*iS*	**Sn**	**04 41 45.8**	**+2.5**
	baz=4.0						
MDOK	**Medeo**	**2.99**	**353**	*eP*	**Pb**	**04 41 13.0**	**-1.1**
	18nm,0.5s						
MDOK				*eS*	**Sb**	**04 41 52.7**	**+2.0**
	38nm,0.5s						
MDOK	**Medeo**	**2.99**	**353**	Pg	**Pb**	**04 41 13.0**	**-1.1**
	18nm,0.5s						
MDOK				Lg	Lg	04 41 52.7	
	38nm,0.5s						
MTBS	**Maitube**	**3.05**	**344**	*eP*	**Pb**	**04 41 14.1**	**-0.9**
	11nm,0.3s						
MTBS				*eS*	**Sb**	**04 41 54.3**	**+1.9**
	29nm,0.8s						
MTBS	**Maitube**	**3.05**	**344**	Pg	**Pb**	**04 41 14.1**	**-0.9**
	11nm,0.3s						
MTBS				Lg	Lg	04 41 54.3	
	29nm,0.8s						
KOTS	**Kotyrbulak**	**3.06**	**354**	*eP*	**Pb**	**04 41 14.7**	**-0.5**
	68nm,0.4s						
KOTS				*eS*	**Sb**	**04 41 55.1**	**+2.5**
	217nnm,0.5s						
KOTS	**Kotyrbulak**	**3.06**	**354**	Pg	**Pb**	**04 41 14.7**	**-0.5**
	68nm,0.4s						
KOTS				Lg	Lg	04 41 55.1	
	217nnm,0.5s						
KST	**Kastek**	**3.09**	**338**	*eP*	**Pb**	**04 41 14.6**	**-1.0**
	11nm,0.5s						
KST				*eS*	**Sb**	**04 41 54.9**	**+1.6**
	26nm,0.5s						
KST	**Kastek**	**3.09**	**338**	Pg	**Pb**	**04 41 14.6**	**-1.0**
	11nm,0.5s						
KST				Lg	Lg	04 41 54.9	
	26nm,0.5s						
TKM2	**Tokmak 2**	**3.10**	**332**	⇑*iP*	**Pn**	**04 41 11.4**	**+1.8**
	baz=31						
TKM2				⇑*iS*	**Sn**	**04 41 48.9**	**+2.1**
	baz=31						
TKM2	**Tokmak 2**	**3.10**	**332**	⇓Pn	**Pn**	**04 41 11.1**	**+1.5**
	6.0nm,0.5s						
TKM2				⇑Lg	Lg	04 41 49.4	
	36nm,1.1s						
KBK	**Karagaybulak**	**3.14**	**322**	⇑*iP*	**Pn**	**04 41 12.3**	**+2.0**
	baz=21						
KBK				⇑*iS*	**Sn**	**04 41 50.4**	**+2.4**
	baz=21						
SHLS	**Shalkode**	**3.29**	**25**	*eP*	**Pg**	**04 41 22.0**	**-1.6**
	12nm,0.5s						
SHLS				*eS*	**Sg**	**04 42 07.3**	**+1.1**
	13nm,0.8s						
SHLS	**Shalkode**	**3.29**	**25**	Pg	**Pg**	**04 41 22.0**	**-1.6**
	12nm,0.5s						
SHLS				Lg	Lg	04 42 07.3	
	13nm,0.8s						
DGS	**Degeres**	**3.33**	**337**	*eP*	**Pb**	**04 41 19.0**	**-0.6**
	6.2nm,0.6s						
DGS				*eS*	**Sb**	**04 42 02.4**	**+2.2**
	24nm,0.5s						
DGS	**Degeres**	**3.33**	**337**	Pg	**Pb**	**04 41 19.0**	**-0.6**
	6.2nm,0.6s						
DGS				Lg	Lg	04 42 02.4	
	24nm,0.5s						
KURS	**Kuram**	**3.33**	**8**	*eP*	**Pb**	**04 41 19.6**	**0.0**
	8.6nm,0.5s						
KURS				*eS*	**Sg**	**04 42 03.7**	**-3.7**
	15nm,0.6s						
KURS	**Kuram**	**3.33**	**8**	Pg	**Pb**	**04 41 19.6**	**0.0**
	8.6nm,0.5s						
KURS				Lg	Lg	04 42 03.7	
	15nm,0.6s						
AAK	**Ala-Archa**	**3.35**	**318**	⇑*iP*	**Pn**	**04 41 15.2**	**+2.1**
	baz=16						
AAK				⇑*iS*	**Sn**	**04 41 55.7**	**+2.6**
	baz=16						
AAK	**Ala-Archa**	**3.35**	**318**	Pg	**Pb**	**04 41 17.6**	**-2.5**
	9.0nm,0.7s						
AAK				Lg	Lg	04 42 02.6	
	22nm,0.8s						
KPKS	**Kokpek**	**3.38**	**14**	*eP*	**Pb**	**04 41 20.9**	**+0.3**
	16nm,0.3s						
KPKS				*eS*	**Sg**	**04 42 05.9**	**-3.2**
	41nm,0.5s						
PDGK	**Podgornoye**	**3.46**	**24**	⇑Pn	**Pn**	**04 41 16.0**	**+1.5**
	9.1nm,0.7s						
PDGK				⇓Lg	Lg	04 42 01.8	
	35nm,0.8s						
AML	**Almayashu**	**3.50**	**305**	⇑*iP*	**Pn**	**04 41 17.3**	**+2.0**
	baz=3.0						
AML				⇑*iS*	**Sn**	**04 41 59.3**	**+2.4**
	baz=3.0						
KTBS	**Karatobe**	**3.58**	**350**	*eP*	**Pb**	**04 41 23.5**	**-0.4**
	4.9nm,0.7s						
KTBS				*eS*	**Sb**	**04 42 10.6**	**+3.3**
	15nm,0.5s						
KTBS	**Karatobe**	**3.58**	**350**	Pg	**Pb**	**04 41 23.5**	**-0.4**
	4.9nm,0.7s						
KTBS				Lg	Lg	04 42 10.6	
	15nm,0.5s						
CHKK	**Chushkaly**	**3.68**	**354**	*eP*	**Pb**	**04 41 25.6**	**-0.1**
	7.4nm,0.5s						
CHKK				*eS*	**Sb**	**04 42 14.2**	**+3.8**
	44nm,0.4s						
CHKK	**Chushkaly**	**3.68**	**354**	Pg	**Pb**	**04 41 25.6**	**-0.1**
	7.4nm,0.5s						
CHKK				Lg	Lg	04 42 14.2	
	44nm,0.4s						
KRBS	**Karabastau**	**3.77**	**339**	*eP*	**Pb**	**04 41 26.1**	**-1.1**
	2.7nm,0.5s						
KRBS				*eS*	**Sb**	**04 42 14.7**	**+1.7**
	6.5nm,0.6s						
KRBS	**Karabastau**	**3.77**	**339**	Pg	**Pb**	**04 41 26.1**	**-1.1**
	2.7nm,0.5s						
KRBS				Lg	Lg	04 42 14.7	
	6.5nm,0.6s						
KUU	**Kurty**	**3.81**	**347**	*eP*	**Pb**	**04 41 27.0**	**-0.8**
	3.4nm,0.6s						
KUU				*eS*	**Sb**	**04 42 16.4**	**+2.4**
	11nm,0.4s						
KUU	**Kurty**	**3.81**	**347**	Pg	**Pb**	**04 41 27.0**	**-0.8**
	3.4nm,0.6s						
KUU				Lg	Lg	04 42 16.4	
	11nm,0.4s						
MRKS	**Merke**	**4.13**	**310**	*eP*	**Pb**	**04 41 31.6**	**-1.8**
	3.0nm,0.8s						
MRKS				*eS*	**Sb**	**04 42 24.6**	**+1.3**
	7.2nm,0.5s						
MRKS	**Merke**	**4.13**	**310**	Pg	**Pb**	**04 41 31.6**	**-1.8**
	3.0nm,0.8s						
MRKS				Lg	Lg	04 42 24.6	
	7.2nm,0.5s						
DJR	**Jarkent**	**4.46**	**21**	*eP*	**Pb**	**04 41 39.9**	**+1.0**
	2.9nm,0.5s						
DJR				*eS*	**Sg**	**04 42 38.3**	**-5.4**
	5.0nm,0.5s						
DJR	**Jarkent**	**4.46**	**21**	Pg	**Pb**	**04 41 39.9**	**+1.0**
	2.9nm,0.5s						
DJR				Lg	Lg	04 42 38.3	
	5.0nm,0.5s						
BTLS	**Baital**	**5.49**	**333**	*eP*	**Pb**	**04 41 57.0**	**+0.5**
	1.7nm,0.6s						
BTLS				*eS*	**Sb**	**04 43 08.4**	**+6.0**
	2.3nm,0.7s						
BTLS	**Baital**	**5.49**	**333**	Pg	**Pb**	**04 41 57.0**	**+0.5**
	1.7nm,0.6s						
BTLS				Lg	Lg	04 43 08.4	
	2.3nm,0.7s						
KK31	**Karatay Array**	**6.02**	**301**	⇓Pg	**Pg**	**04 42 13.6**	**-2.2**
	0.3nm,0.3s,baz=198,slow=20,SNR=2.7						
KK31				⇑Lg	Lg	04 43 27.8	
	1.0nm,0.4s,baz=104,slow=27,SNR=5.7						

*ISK **18** 04:59:17.6, 40°.81N×32°.89E, h5km, ML2.6/15*
*DDA **18** 04:59:18.7, 40°.70N×32°.86E, h7km±2km, ML2.2*
ISC 18 04:59:18.7±1.3, 40°.74N±0°.04×32°.86E±0°.02, h3km±13km, n22, σ1§02/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMDR	**Camlidere-ANKA**	**0.38**	**230**	*i* P	**Pg**	**04 59 25.9**	**-0.2**
CMDR				*i* S	**Sg**	**04 59 30.9**	**-0.2**
CMDR				IAML		04 59 32.0	
	comp=E,422nm,0.2s						
CMDR				IAML		04 59 33.0	
	comp=N,323nm,0.3s						
GRDE	**Gerede-Bolu**	**0.50**	**277**	PG	**Pb**	**04 59 29.0**	**-1.2**
GRDE				SG	**Sb**	**04 59 37.0**	**-0.9**
KBUK	**KARABUK-Merkez**	**0.53**	**341**	*i* P	**Pb**	**04 59 30.3**	**-0.4**
CANT	**Cankiri**	**0.59**	**103**	PG	**Pb**	**04 59 30.4**	**-1.4**
CANT				SG	**Sb**	**04 59 39.1**	**-1.5**
BCAM	**Yenicaga**	**0.61**	**278**	*i* P	**Pb**	**04 59 31.1**	**-1.0**
BCAM				IAML		04 59 40.0	
	comp=N,80nm,0.2s						
BCAM				*i* S	**Sb**	**04 59 40.0**	**-1.1**
PELI	**Kastamonı-Ara**	**0.66**	**31**	*i* P	**Pb**	**04 59 32.5**	**-0.4**
PELI				*i* S	**Sb**	**04 59 41.9**	**-0.6**
ILGA	**Ilgaz**	**0.72**	**64**	*i* P	**Pb**	**04 59 33.1**	**-1.0**
ILGA				IAML		04 59 48.0	
	comp=N,64nm,0.3s						
ILGA				IAML		04 59 52.0	
	comp=E,83nm,1.1s						
KIBS	**BOLU**	**0.83**	**248**	*i* P	**Pg**	**04 59 34.6**	**0.0**
KIBS				*i* S	**Sb**	**04 59 46.8**	**-0.7**
KIBS				IAML		04 59 53.0	
	comp=N,125nm,0.7s						
KIBS				IAML		04 59 53.0	
	comp=E,104nm,0.4s						
YUVA	**Yuva-Kibriscik**	**0.96**	**249**	PG	**Pb**	**04 59 37.3**	**-0.8**
MDUB	**Mudurnu**	**1.29**	**259**	PN	**Pg**	**04 59 43.8**	**+0.3**
MDUB				SN	**Sn**	**05 00 03.8**	**+2.1**
AFSR	**Afar-Bala (An**	**1.30**	**173**	PN	**Pg**	**04 59 44.2**	**+0.5**
CORM	**Corum**	**1.46**	**112**	PN	**Pg**	**04 59 47.1**	**+0.3**
CORM				SN	**Sg**	**05 00 07.1**	**+1.4**
AUSIV	**SIVRIHISAR**	**1.65**	**218**	PN	**Pg**	**04 59 49.8**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.65**	**219**	PN	**Pb**	**04 59 49.7**	**-0.1**
SVRH				SN	**Sg**	**05 00 13.7**	**+2.0**
KULU	**Kulu**	**1.70**	**176**	PN	**Pg**	**04 59 51.1**	**-0.2**
GULT	**Gulveren**	**1.81**	**261**	PN	**Pb**	**04 59 51.9**	**-0.7**
SRCK	**Saricakaya, Es**	**1.84**	**249**	PN	**Pb**	**04 59 52.4**	**-0.7**
SERE	**Sereflikochisa**	**1.87**	**163**	PN	**Pb**	**04 59 52.9**	**-0.7**
YAYX	**Yaylak**	**1.94**	**158**	PN	**Pb**	**04 59 53.9**	**-0.9**
KIZT	**Kizilcal**	**2.00**	**202**	PN	**Pb**	**04 59 54.9**	**-1.0**
BORA	**Eskisehir**	**2.03**	**246**	PN	**Pb**	**04 59 55.1**	**-1.2**
YOZ	**Yozgat**	**2.18**	**119**	PN	**Pn**	**04 59 56.4**	**+0.3**

IDC 18 05:50:17.9±5.2, 4°.72S×153°.76E, h213km±26km, mb3.1/4, mb1 3.3/4, mb1mx3.0/42, mbtmp3.6/4, MS3.1/1, Ms1 3.3/1, ms1mx2.5/14, Error ellipse: s-maj=77.7km s-min=30.7km az=104.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.77**	**283**	P	Pn	05 50 54.9	-0.3
	33nm,0.3s,baz=90,slow=4.0,SNR=14						
KRVT				S	S	05 51 24.6	+0.6
	29nm,0.3s,baz=54,slow=21,SNR=6.6						
WRA	**Warramunga Arr**	**24.21**	**230**	P	P	05 55 15.4	+0.1
	0.9nm,0.4s,baz=54,slow=9.9,SNR=19						
ASAR	**Alice Springs**	**26.86**	**224**	P	P	05 55 38.8	-0.2
	0.2nm,0.3s,baz=56,slow=9.2,SNR=5.2						
FITZ	**Fitzroy Crossi**	**30.53**	**242**	P	P	05 56 11.6	0.0
	0.6nm,0.5s,baz=358,slow=4.0,SNR=6.6						
CMAR	**Chiang Mai Arr**	**58.71**	**295**	LR	LR	06 25 55.0	
	comp=Z,16nm,19.7s,baz=220,slow=36						
MKAR	**Makanchi Array**	**80.89**	**319**	P	P	06 02 08.4	+0.1
	0.4nm,0.6s,baz=110,slow=5.8,SNR=4.2						

*BJI **18** 05:56:35.0±0.0, 43°.95N×146°.52E, h74km, mB4.9/46, mb4.9/61, Ms4.2/30, Ms7 3.9/26*
*SKHL **18** 05:56:37.8±0.2, 43°.74N×146°.41E, h85km±5km, mb5.8/4, Ms4.6/2, msh7.2/4*
SKHL Felt (IV) at Goryachiy Plyazh; (III-IV) at Yuzhno-Kuril'sk, Lagunnoye; (III) at Malokuril'skoye, Golovnino; (II-III) at Mendeleevo.
*MOS **18** 05:56:37.0±0.9, 43°.87N×146°.27E, h86km, mb4.9/87, MS3.6/5, Error ellipse: s-maj=5.3km s-min=4.4km az=104.0*
MOS Felt (IV) at Goryachiy Plyazh; (III-IV) at Lagunnoye, Yuzhno-Kuril'sk; (II-III) at Golovnino, Malokuril'skoye, Mendeleyevo.
*NEIC **18** 05:56:37.9±1.7, 43°.85N±0°.06×146°.4E±0°.1, h78km±4km, mb4.8/338, Error ellipse: s-maj=10.7km s-min=7.9km az=105.0*
*UNK **18** 05:56:38.2, 43°.85N×146°.31E, h78km*
*IDC **18** 05:56:38.3±0.6, 43°.96N×146°.26E, h81km±5km, mb4.5/33, mb1 4.6/41, mb1mx4.6/47, mbtmp4.8/41, MS3.6/33, Ms1 3.6/33, ms1mx3.5/42, Error ellipse: s-maj=10.4km s-min=8.1km az=115.0*
*JMA **18** 05:56:38.0±0.1, 43°.75N×146°.49E, h74km±2km, M4.9*
JMA Felt III J1.
*NIED **18** 05:56:38.0, 43°.75N×146°.49E, h74km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.20; $M_{\theta\theta}$0.40; $M_{\phi\phi}$-0.60; $M_{r\theta}$-1.46; $M_{\theta\phi}$-0.98; $M_{\phi r}$-0.32; Fault plane solution: $M_0$1.86000×10^{16} NP1: ϕ_s254.00000°, δ86.00000°, λ126.00000°. NP2: ϕ_s349.00000°, δ36.00000°, λ7.00000°.*
*GCMT **18** 05:56:39.9±0.3, 43°.99N±0°.02×146°.40E±0°.04, h57km±5km, MW4.9/97, Moment Tensor Solution. s15,c16; s97,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.60±.18; $M_{\theta\theta}$0.42±.14; $M_{\phi\phi}$-1.02±.12; $M_{r\theta}$-2.10±.11; $M_{\theta\phi}$-1.05±.08; $M_{\phi r}$-0.53±.07; Best double couple: $M_0$2.56100×10^{16} NP1:ϕ_s351.00000°, δ31.00000°, λ15.00000°. NP2: ϕ_s248.00000°, δ82.00000°, λ120.00000°. Principal axes: T 2.6460, Plg44.0000°, Azm188.0000°; N -0.1720, Plg30.0000°, Azm64.0000°; P -2.4760, Plg31.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **18** 05:56:41.2±0.0, 44°.21N×146°.19E, h77km, mb5.2*
**ISC 18 05:56:37.9±0.

```
GRPR                                A     A     05 57 02.0
      comp=N,122μm,0.5s
GRPR  Tuman      0.46 288 ePN       Pn    05 56 51.5 +0.1
GRPR                     i S       Sn    05 57 01.1 -0.3
GRPR                          pmax pmax
      comp=N,6μm,0.2s
GRPR                          pmax pmax
      comp=Z,15μm,0.2s
GRPR                          smax smax
      comp=N,213μm,0.4s
GRPR                          smax smax
      comp=E,122μm,0.4s
GLVR  Golovnino  0.63 260 i P       Pn    05 56 53.4 +0.5
GLVR                          AMB  AMB   05 56 55.0
      comp=E,5μm,0.4s
GLVR                          AMB  AMB   05 56 55.0
      comp=E,9μm,0.4s
GLVR                     i S       Sn    05 57 05.1 +1.1
GLVR                          A    A     05 57 06.0
      comp=E,88μm,0.5s
GLVR                          A    A     05 57 06.0
      comp=E,86μm,0.5s
GLVR  Golovnino  0.63 260⇑i PN      Pn    05 56 53.4 +0.5
GLVR                     i S       Sn    05 57 05.1 +1.1
GLVR                          pmax pmax
      comp=Z,9μm,0.4s
GLVR                          pmax pmax
      comp=N,5μm,0.3s
GLVR                          pmax pmax
      comp=E,4μm,0.2s
GLVR                          smax smax
      comp=N,87μm,0.2s
GLVR                          smax smax
      comp=E,86μm,0.2s
NEM2  Nemuro 2   0.67 224 ⇓P        Pn    05 56 53.0 -0.3
NEM2                     eS        Sn    05 57 03.7 -1.0
NMR   Nemuro--Hokkai 0.67 225 i P   Pn    05 56 53.0 -0.3
NMR                      i S       Sn    05 57 03.9 -0.9
NMR   Nemuro--Hokkai 0.67 225⇓i PN  Pn    05 56 53.0 -0.3
NMR                      i S       Sn    05 57 03.8 -1.0
JRA   Rausu      0.91 276 ⇑P        Pn    05 56 56.9 +1.0
JRA                      eS        Sn    05 57 10.8 +1.4
JNSB  Nemuroshibetsu 1.00 266 ⇑P    Pn    05 56 58.1 +1.2
JNSB                     eS        Sn    05 57 12.9 +1.7
JKHN  Kushirohamanak 1.17 230 ⇑P    Pn    05 56 59.1 +0.1
JKHN                     eS        Sn    05 57 14.2 -0.7
JNK   Nakash     1.23 258 ⇑P        Pn    05 57 00.2 +0.4
JNK                      eS        Sn    05 57 16.7 +0.4
JAK   Akkeshi    1.49 236 ⇑P        Pn    05 57 03.2 +0.1
JAK                      eS        Sn    05 57 22.3 +0.2
KUR   Kuril'sk   1.75  37 i P       Pn    05 57 07.1 +0.7
KUR                          AMB  AMB   05 57 07.9
      comp=E,1μm,0.6s
KUR                          AMB  AMB   05 57 07.9
      comp=E,2μm,0.6s
KUR                          AMB  AMB   05 57 07.9
      comp=E,6μm,0.6s
KUR                          AMB  AMB   05 57 08.2
      comp=E,20μm,1.2s
KUR                      i S       Sn    05 57 29.0 +0.9
KUR                          A    A     05 57 31.0
      comp=E,12μm,0.3s
KUR                          A    A     05 57 31.0
      comp=E,7μm,0.3s
KUR   Kuril'sk   1.75  37c i PN     Pn    05 57 07.1 +0.7
KUR                      i S       Sn    05 57 29.5 +1.4
KUR                          pmax pmax
      comp=Z,4μm,0.4s
KUR                          pmax pmax
      comp=N,2μm,0.2s
KUR                          pmax pmax
      comp=E,1μm,0.2s
KUR                          smax smax
      comp=N,14μm,0.2s
KUR                          smax smax
      comp=E,794nm,0.2s
JTKR  Abashiri--Toko 1.79 275 ⇓P    Pn    05 57 08.3 +1.3
JAR   Ashorobuto 1.98 255 ⇑P        Pn    05 57 11.0 +1.6
JAR                      eS        Sn    05 57 35.8 +2.3
JOB   Onbets     2.08 244 ⇑P        Pn    05 57 11.8 +1.0
JOB                      eS        Sn    05 57 37.4 +1.4
JMP   Maruseppu  2.19 275 ⇓P        Pn    05 57 13.9 +1.6
JCH   Churui     2.53 242 ⇑P        Pn    05 57 17.1 +0.3
JCH                      eS        Sn    05 57 46.2 -0.5
JKA   Kamikawa-asahi 2.74 277 Pn    Pn    05 57 21.8 +2.1
ASAJ  Asahikawa  2.74 277 P         Pn    05 57 21.9 +2.1
      comp=E,83nm,0.3s,baz=103,slow=12,SNR=124
ASAJ                     S         Sn    05 57 51.0 -0.9
      comp=E,173nm,0.3s,baz=62,slow=17,SNR=8.3
JEM   Erimo      2.99 233 Sn        Sn    05 58 01.2 +3.3
ERM   Erimo      2.99 233cePN       Pn    05 57 24.1 +1.0
ERM                          pmax pmax
      comp=Z,1μm,0.7s
ERM   Erimo      2.99 233 Pn        Pn    05 57 25.5 +2.4
ERM                      Sn        Sn    05 58 01.2 +3.3
JEW   Eniwo      3.73 256 Pn        Pn    05 57 35.9 +2.7
YSS   Yuzh-Sakhalins 4.02 322 eP    Pn    05 57 38.6 +1.6
YSS                          AMB  AMB   05 57 39.2
      comp=Z,170nm,1.0s
YSS                      eS        Sn    05 58 22.8 -0.1
YSS                          A    A     05 58 23.9
      comp=Z,2μm,2.0s
YSS                          A    A     05 58 25.0
      comp=Z,600nm,1.0s
YSS                          A    A     05 58 25.0
      comp=Z,2μm,1.0s
YSS                          AMS  AMS   05 59 02.0
      comp=Z,600nm,1.0s
YSS                          AMS  AMS   05 59 02.0
      comp=Z,2μm,1.0s
YSS   Yuzh-Sakhalins 4.02 322kePN   Pn    05 57 38.6 +1.6
YSS                      eS        Sn    05 58 22.8 -0.1
YSS                          pmax pmax
      comp=Z,170nm,1.0s
YSS                          smax smax
      comp=N,2μm,2.0s
YSS                          smax smax
      comp=N,600nm,1.3s
YSS                          smax smax
      comp=E,2μm,0.9s
YSS                          MLR  MLR
      comp=Z,2μm,15.0s
YSS   Yuzh-Sakhalins 4.02 322 Pn    Pn    05 57 38.3 +1.3
YSS                      Sn        Sn    05 58 23.9 +1.1
JTM   Tenmabayashi 4.99 234 Pn      Pn    05 57 50.1 -0.1
UGL   Uglegorsk  6.02 332 eP        Pn    05 58 06.7 +2.5
UGL                          AMB  AMB   05 58 08.5
      comp=Z,200nm,0.4s
UGL                          AMB  AMB   05 58 12.6
      comp=Z,970nm,3.0s
UGL                      eS        Sn    05 59 13.6 +2.0
UGL                          A    A     05 59 18.5
      comp=Z,530nm,0.5s
UGL                          A    A     05 59 18.5
      comp=Z,390nm,0.5s
UGL                          A    A     05 59 23.0
      comp=Z,4μm,3.0s
UGL                          A    A     05 59 23.0
      comp=Z,3μm,3.0s
UGL                          AMS  AMS   06 02 31.0
      comp=Z,2μm,12.0s
UGL   Uglegorsk  6.02 332 ePN       Pn    05 58 07.8 +3.6
UGL                      eS        Sn    05 59 15.1 +3.5
UGL                          pmax pmax
      comp=Z,197nm,0.7s
UGL                          smax smax
      comp=N,414nm,1.2s
UGL                          smax smax
      comp=E,3μm,3.3s
UGL                          smax smax
      comp=N,4μm,3.7s
UGL                          MLR  MLR
      comp=Z,2μm,12.0s
TEY   Ternei     7.10 283 i P        Pn    05 58 21.8 +2.8
TEY                          AMB  AMB   05 58 23.8
      comp=Z,240nm,0.5s
TEY   Ternei     7.10 283⇑i PN       Pn    05 58 22.8 +3.8
TEY                          pmax pmax
      comp=Z,200nm,1.3s
TEY                          pmax pmax
      comp=N,30nm,0.8s
TEY                          pmax pmax
      comp=E,270nm,0.8s
TEY                          pmax pmax
      comp=Z,240nm,0.7s
JMM   Marumori   7.32 217 Pn        Pn    05 58 19.9 -2.2
JMM                      Sn        Sn    05 59 41.6 -2.0
TYV   Tymovskoe  7.46 342 eP        Pn    05 58 26.3 +2.4
TYV                          AMB  AMB   05 58 27.0
      comp=Z,400nm,3.0s
TYV                          AMB  AMB   05 58 28.3
      comp=Z,90nm,1.0s
TYV                      eS        Sn    05 59 47.3 +0.5
TYV                          A    A     05 59 48.8
      comp=Z,50nm,1.0s
TYV                          A    A     05 59 50.2
      comp=Z,400nm,4.0s
TYV   Tymovskoe  7.46 342 ePN       Pn    05 58 26.3 +2.4
TYV                      eS        Sn    05 59 48.2 +1.4
TYV                          pmax pmax
      comp=Z,400nm,4.4s
TYV                          pmax pmax
      comp=Z,93nm,1.1s
TYV                          smax smax
      comp=E,52nm,1.5s
TYV                          smax smax
      comp=N,400nm,6.9s
JSD   Sado       8.45 229 Pn        Pn    05 58 36.5 -0.9
JYT   Yasato     8.96 214 Pn        Pn    05 58 41.9 -2.6
JYT                      Sn        Sn    06 00 18.2 -5.5
SKR   Severo-Kuril's 9.51  41 eP    Pn    05 58 53.5 +1.7
SKR                          AMB  AMB   05 58 56.0
      comp=N,160nm,0.5s
SKR                          AMB  AMB   05 59 08.0
      comp=N,500nm,2.0s
SKR                      eS        Sn    06 00 36.4 -0.5
SKR                          AMS  AMS   06 03 19.3
      comp=N,200nm,10.0s
SKR   Severo-Kuril's 9.51  41 ePN     Pn    05 58 54.1 +2.3
SKR                          pmax pmax
      comp=Z,165nm,0.9s
SKR                          pmax pmax
      comp=Z,500nm,2.9s
SKR                          pmax pmax
      comp=Z,100nm,2.6s
SKR                          MLR  MLR
      comp=Z,100nm,11.0s
SKR                          MLR  MLR
      comp=Z,200nm,10.0s
MAJO  Matsushiro 9.60 223c i PN     Pn    05 58 51.7 -1.5
MAJO  Matsushiro 9.60 223 Pn        Pn    05 58 52.3 -1.0
MAT   Matsushiro 9.60 223 P         Pn    05 58 52.1 -1.1
MAT                      S         Sn    06 00 36.6 -2.8
MJAR  Matsushiro Arr 9.60 223 P     Pn    05 58 52.5 -0.7
      comp=Z,2.1nm,0.3s,baz=26,slow=14,SNR=115
MJAR                         LR   LR    06 03 15.9
      comp=Z,320nm,19.4s,baz=50,slow=41
MJAR  Matsushiro Arr 9.60 223 Pn    Pn    05 58 52.0 -1.2
GRNR  Gornyy     9.67 319 eP        Pn    05 58 57.0 +2.9
GRNR                         AMB  AMB   05 58 58.4
      comp=Z,60nm,0.8s
GRNR                         AMB  AMB   05 58 58.4
      comp=Z,80nm,0.8s
GRNR                         AMB  AMB   05 58 58.4
      comp=Z,90nm,0.8s
GRNR                         AMS  AMS   06 04 16.0
      comp=Z,500nm,13.0s
GRNR                         AMS  AMS   06 04 16.0
      comp=Z,200nm,13.0s
GRNR  Gornyy     9.67 319⇓i PN     Pn    05 58 57.0 +2.9
GRNR                     eS        Sn    06 00 48.3 +7.4
GRNR                         pmax pmax
      comp=N,60nm,0.8s
GRNR                         pmax pmax
      comp=E,80nm,0.8s
GRNR                         pmax pmax
      comp=Z,90nm,0.9s
GRNR                         smax smax
      comp=E,6.0nm,0.7s
GRNR                         MLR  MLR
      comp=E,690nm,20.0s
GRNR                         MLR  MLR
      comp=N,510nm,16.0s
GRNR                         MLR  MLR
      comp=Z,160nm,13.0s
NKL   Nikolayevsk 10.04 340 eP      Pn    05 59 00.9 +1.8
NKL                          AMB  AMB   05 59 01.7
      comp=Z,500nm,0.5s
PAU   Pauzhetka  10.37  39 eP       Pn    05 59 03.6 +0.1
PAU                          AMB  AMB   05 59 07.5
      comp=Z,200nm,0.5s
USA0B Ussuriysk Arra 10.37 277 PN   Pn    05 59 03.5 -0.1
USA0B Ussuriysk Arra 10.37 277 Pn   Pn    05 59 03.5 -0.1
USRK  Ussuriysk Ar. 10.37 277 P     Pn    05 59 04.6 +0.9
      baz=89,slow=12,SNR=34
USRK                         LR   LR    06 03 03.5
      comp=Z,213nm,20.7s,baz=82,slow=38
USRK  Ussuriysk Ar. 10.37 277 Pn    Pn    05 59 03.2 -0.4
JGF   Kuroka     10.77 223 Pn       Pn    05 59 07.9 -1.3
INU   Inuyama    11.14 224 Pn       Pn    05 59 13.6 -0.5
JHJ   Hachijo jima 2 11.89 208 P    Pn    05 59 22.5 -1.8
      comp=Z,29nm,0.3s,baz=250,slow=20,SNR=4.7
JHJ                          S    Sn    06 01 25.1 -10
      comp=Z,52nm,0.3s,baz=97,slow=23,SNR=6.6
PEA0B Petropavlovsk- 11.91  35 PN   Pn    05 59 24.7 +0.2
PEA0B Petropavlovsk- 11.91  35 Pn   Pn    05 59 24.7 +0.2
PETK  Petropavlovsk- 11.91  35 P    Pn    05 59 24.6 +0.1
      comp=Z,1.9nm,0.3s,baz=177,slow=9.9,SNR=23
PETK  Petropavlovsk- 11.91  35 Pn   Pn    05 59 24.4 -0.1
JWT   Wachi      12.03 228 Pn       Pn    05 59 25.3 -0.9
MDJ   Mudanjiang 12.07 279          Pn    05 59 28.6 +1.8
EKMR  Ekimchan   12.81 321 eP       Pn    05 59 37.0 +0.4
EKMR                         AMB  AMB   05 59 40.0
      comp=Z,80nm,1.0s
EKMR                         AMB  AMB   05 59 40.0
      comp=Z,50nm,1.0s
EKMR                         AMB  AMB   05 59 40.0
      comp=Z,120nm,1.0s
JHS   Saijyo     13.52 234 Pn       Pn    05 59 45.5 -0.8
JMN   Monobe     14.02 228 Pn       Pn    05 59 52.7 -0.1
CN2   Changchun  15.11 277 eP       Pn    06 00 05.5 -1.2
CN2                      esP       pP    06 00 28.3 +2.5
CN2                          pmax pmax
      comp=Z,30nm,0.9s
KSRS  Korea Array 15.38 252 P       Pn    06 00 09.3 -0.9
      comp=Z,0.5nm,0.3s,baz=59,slow=12,SNR=28
KSRS                         LR   LR    06 05 10.4
      comp=Z,114nm,20.6s,baz=62,slow=33
KS19  Wonju Array Si 15.40 252      Pn    06 00 09.7 -0.7
KSAR  Wonju Array Be 15.41 252 P    Pn    06 00 08.7 -1.9
KSAR  Wonju Array Be 15.41 252 Pn   Pn    06 00 08.7 -1.9
BMKR  Bomnak     15.73 320 eP       Pn    06 00 14.0 -0.5
BMKR                         AMB  AMB   06 00 18.5
      comp=Z,60nm,0.8s
ZEA   Zeya       15.97 315 eP       Pn    06 00 17.4 -0.1
ZEA                          AMB  AMB   06 00 19.2
      comp=Z,70nm,1.0s
ZEA                          AMB  AMB   06 00 19.2
      comp=Z,60nm,1.0s
ZEA                          AMB  AMB   06 00 19.2
      comp=Z,90nm,1.0s
ZEA   Zeya       15.97 315 eP       Pn    06 00 17.9 +0.4
ZEA                          pmax pmax
      comp=N,71nm,1.0s
ZEA                          pmax pmax
      comp=E,59nm,1.0s
ZEA                          pmax pmax
      comp=Z,89nm,1.2s
MA2   Magadan    15.98   8 P        Pn    06 00 16.8 -0.7
      comp=Z,3.9nm,0.3s,baz=200,slow=8.7,SNR=7.1
MA2                          LR   LR    06 06 56.4
      comp=Z,185nm,18.8s,baz=198,slow=39
MA2   Magadan    15.98   8 eP       Pn    06 00 16.9 -0.6
MA2   Magadan    15.98   8ceP       Pn    06 00 16.9 -0.6
MA2                          pmax pmax
      comp=Z,28nm,0.6s
MA2   Magadan    15.98   8          P     06 00 18.8 -0.8
MA2                          IAmb IAmb  06 00 22.6
      comp=Z,48nm,0.5s
JNU   Nakatsue   16.16 234 P        Pn    06 00 19.2 -0.8
      comp=Z,1.4nm,0.3s,baz=47,slow=6.7,SNR=8.7
JNU                          LR   LR    06 07 16.6
      comp=Z,130nm,19.1s,baz=49,slow=40
JNU   Nakatsue   16.16 234 P        Pn    06 00 18.3 -1.8
TJN   Taejon     16.33 249ceP       Pn    06 00 22.3 +0.2
KROS  Kirovskiy  16.48 317 eP       Pn    06 00 23.7 -0.1
KROS                         AMB  AMB   06 00 27.0
      comp=Z,80nm,0.1s
KROS                         AMB  AMB   06 00 27.0
      comp=Z,30nm,0.1s
KROS                         AMB  AMB   06 00 27.0
      comp=Z,70nm,0.1s
JCJ   Chichijima 17.06 193 P        Pn    06 00 32.1 +1.0
      comp=Z,12nm,0.3s,baz=310,slow=9.7,SNR=5.9
JCJ                          S    Sn    06 03 26.5 -14
      comp=Z,18nm,0.3s,baz=281,slow=23,SNR=6.5
JCJ                          LR   LR    06 06 54.8
      comp=Z,79nm,20.4s,baz=354,slow=36
JCJ   Chichijima 17.06 193 P        Pn    06 00 31.9 +0.8
JSU   Suzuyama   17.59 231          P     06 00 36.8 -0.7
JSU                          IAmb IAmb  06 00 39.6
      comp=Z,86nm,1.1s
HIA   Hailar     19.05 296 P        P     06 00 52.2 -1.3
HIA                          pmax pmax
      comp=Z,25nm,0.6s
HIA   Hailar     19.05 296 P        P     06 00 52.2 -1.3
HIA                          IAmb IAmb  06 00 54.4
      comp=Z,25nm,0.6s
DL2   Dalian     19.19 264 P        Pn    06 00 56.8  0.0
DL2                          S    S     06 04 30.0 +1.8
DL2                          pmax pmax
      comp=Z,66nm,1.1s
DL2                          pmax pmax
      comp=Z,83nm,4.8s
SEY   Seymchan   19.43   8 P        P     06 00 55.9 -1.6
      comp=Z,1.3nm,0.3s,baz=188,slow=11,SNR=25
SEY                          LR   LR    06 08 12.1
      comp=Z,135nm,21.3s,baz=188,slow=36
YAK   Yakutsk    20.69 337 P        P     06 01 10.1 -1.0
      comp=Z,17nm,0.4s,baz=177,slow=2.5,SNR=6.0
YAK                          LR   LR    06 09 30.1
      comp=Z,127nm,18.1s,baz=145,slow=38
YAK   Yakutsk    20.69 337 eP       P     06 01 10.1 -1.0
YAK                      eS        S     06 04 55.5 -1.8
YAK                      e*SS      sS    06 05 24.1 -0.1
YAK                      e         06 05 48.8
YAK                      e         06 12 22.8
YAK                          pmax pmax
      comp=Z,33nm,0.9s
YAK                          pmax pmax
      comp=N,6.0nm,0.8s
YAK                          pmax pmax
      comp=E,5.0nm,0.9s
YAK                          smax smax
      comp=E,82nm,1.4s
YAK                          smax smax
      comp=N,121nm,1.4s
YAK   Yakutsk    20.69 337 P        P     06 01 10.0 -1.0
JMZ   Minamidaito 2 21.81 219 P     P     06 01 22.6 -0.7
BJI   Beijing    22.72 271 P        P     06 01 32.6 -0.3
BJI                          S    S     06 05 31.9 -3.4
BJI                          pmax pmax
      comp=N,34nm,0.9s
BJI                          pmax pmax
      comp=N,130nm,4.3s
BJI                          LR   LR
      comp=N,130nm,12.2s
BJI                          LR   LR
      comp=N,97nm,13.7s
BJT   Baijiatuau 22.73 271 P        P     06 01 32.6 -0.5
BJT                          pmax pmax
      comp=Z,32nm,0.8s
BJT   Baijiatuau 22.73 271 P        P     06 01 32.6 -0.5
BJT                          IAmb IAmb  06 01 37.3
      comp=Z,32nm,0.8s
TIA   Tai'an     23.58 261 P        P     06 01 40.6 -0.6
TIA                          S    S     06 05 48.1 -1.1
TIA                          pmax pmax
      comp=Z,23nm,1.0s
NJ2   Nanjing    24.58 251 eP       P     06 01 50.8 +0.6
NJ2                          pmax pmax
      comp=Z,17nm,0.5s
HHC   Hu-ho-hao-te 25.79 275 eP     P     06 02 04.3 +3.0
HHC                          pP   pP    06 02 17.6 -2.2
HHC                          PP   sP    06 02 47.3 +18
HHC                          S    S     06 06 27.1 +2.4
HHC                          pmax pmax
      comp=Z,29nm,0.9s
HHC                          pmax pmax
      comp=Z,160nm,4.2s
HHC                          LR   LR
      comp=Z,170nm,13.0s
HHC                          LR   LR
      comp=Z,180nm,12.8s
HHC                          LR   LR
      comp=Z,130nm,12.1s
TIY   Taiyuan    26.30 268 eP       P     06 02 09.4 +3.5
TIY                          PP   PnPn  06 02 56.3 +6.8
TIY                          S    S     06 06 35.8 +3.1
TIY                          SS   SnSn  06 07 48.5 +7.9
TIY                          pmax pmax
      comp=Z,180nm,5.8s
TIY                          LR   LR
      comp=Z,140nm,8.9s
TIY                          LR   LR
      comp=Z,120nm,5.3s
TIY                          LR   LR
      comp=Z,67nm,10.0s
ULN   Ulaanbaatar 27.47 292 eP      P     06 02 16.6 +0.2
ULN   Ulaanbaatar 27.47 292 P       P     06 02 16.6 +0.2
ULN                          pmax pmax
      comp=Z,41nm,1.0s
ULN   Ulaanbaatar 27.47 292 P       P     06 02 16.6 +0.2
ULN                          IAmb IAmb  06 02 18.7
      comp=Z,41nm,1.0s
SONM  Songino Array 27.92 292 P     P     06 02 20.7 +0.3
      comp=Z,26nm,0.7s,baz=84,slow=8.2,SNR=66
SONM                         LR   LR    06 14 03.1
      comp=Z,143nm,18.9s,baz=87,slow=38
SONM  Songino Array 27.92 292 P     P     06 02 20.2 -0.1
SONM                         pmax pmax
      comp=Z,17nm,0.7s
SONM  Songino Array 27.92 292 P     P     06 02 20.2 -0.1
WHN   Wuhan      28.57 253 ⇑P       P     06 02 28.5 +2.4
WHN                          pP   pP    06 02 49.4 +4.6
TLY   Talaya     29.42 301 i P      P     06 02 31.6 -1.9
H11N2 WAKE ISLAND Hy 29.54 138      T     T     06 33 35.0
      baz=329,slow=75,SNR=9380
H11N1 WAKE ISLAND Hy 29.56 138      T     T     06 33 36.0
      baz=329,slow=75,SNR=8504
H11N3 WAKE ISLAND Hy 29.56 138      T     T     06 33 36.4
      baz=329,slow=75
ZAK   Zakamensk  29.71 298 eP       P     06 02 35.6 -0.6
ZAK                          pmax pmax
      comp=Z,5.0nm,0.8s
GUMO  Guam       30.18 183 LR       LR    06 13 57.5
      comp=Z,77nm,20.0s,baz=49,slow=34
H11S1 WAKE ISLAND Hy 30.50 140      T     T     06 34 42.9
      baz=330,slow=76
H11S3 WAKE ISLAND Hy 30.51 140      T     T     06 34 47.3
      baz=330,slow=76
XAN   Xi'an      30.51 264 P        P     06 02 50.0 +6.7
XAN                          pP   pP    06 03 01.6 -0.5
XAN                          sP   sP    06 03 07.5 -4.0
XAN                          pmax pmax
      comp=Z,17nm,1.0s
XAN                          pmax pmax
      comp=Z,130nm,5.1s
XAN                          LR   LR
      comp=E,140nm,13.0s
XAN                          LR   LR
      comp=Z,190nm,18.4s
XAN   Xi'an      30.51 264 P        P     06 02 43.1 -0.2
XAN                          pmax pmax
      comp=Z,10.0nm,0.6s
XAN   Xi'an      30.51 264 P        P     06 02 43.1 -0.2
XAN                          IAmb IAmb  06 02 54.0
      comp=Z,10nm,0.6s
H11S2 WAKE ISLAND Hy 30.52 140      T     T     06 34 46.1
      baz=330,slow=76
ENH   Enshi      32.13 258 P        P     06 02 57.2 -0.4
ENH                          IAmb IAmb  06 03 07.5
      comp=Z,21nm,0.9s
LZH   Lanzhou    33.21 271 eP       P     06 03 08.8 +1.7
LZH                          pP   pP    06 03 27.3 +1.3
LZH                          sP   sP    06 03 35.8 +0.3
LZH                          ePP  PnPn  06 04 22.0 +2.1
LZH                          pmax pmax
      comp=Z,25nm,1.3s
LZH                          pmax pmax
      comp=Z,93nm,5.2s
LZH                          LR   LR
      comp=Z,170nm,13.0s
LZH                          LR   LR
      comp=Z,170nm,13.2s
LZH                          LR   LR
      comp=Z,260nm,16.3s
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CD2	Chengdu	35.86	263	P	P	06 03 29.3	-0.6
CD2				pmax	pmax		
comp=Z,30nm,1.0s							
GYA	Guiyang	36.41	255	⇓P	P	06 03 37.1	+2.4
GYA				pP	pP	06 03 53.4	-0.4
GYA				S	S	06 09 06.4	-4.0
GYA				pmax	pmax		
comp=Z,7.0nm,0.7s							
GYA				pmax	pmax		
comp=Z,120nm,6.1s							
GYA				LR	LR		
comp=Z,93nm,3.8s							
GYA				LR	LR		
comp=Z,140nm,4.7s							
GYA				LR	LR		
comp=Z,110nm,4.9s							
TTA	Tatalina	37.71	39	P	P	06 03 46.0	+0.8
TTA				*PP	pP	06 04 03.1	-1.2
TTA				pmax	pmax		
comp=Z,7.0nm,0.7s							
TTA	Tatalina	37.71	39	P	P	06 03 46.0	+0.8
TTA				IAmb	IAmb	06 03 48.5	
comp=Z,6.5nm,0.7s							
TTA				pP	pP	06 04 03.1	-1.2
SVW2	Sparrevohn	37.87	42	P	P	06 03 47.6	+1.1
SVW2				IAmb	IAmb	06 03 48.5	
comp=Z,8.2nm,0.6s							
NRIK	Noril'sk	38.89	331	P	P	06 03 53.4	-1.6
comp=Z,2.7nm,0.5s,baz=90,slow=10,SNR=4.0							
NRIK				PcP	PcP	06 06 04.7	+0.6
comp=Z,3.0nm,0.5s,baz=180,slow=1.3,SNR=2.2							
NRIK				ScP	ScP	06 09 43.7	-1.2
comp=Z,1.7nm,0.5s,baz=158,slow=5.4,SNR=4.4							
PPLA	Purkeypile	39.45	39	P	P	06 04 01.4	+1.5
PPLA				pP	pP	06 04 19.7	+0.5
KDAK	Kodiak Island	39.59	47	P	P	06 04 00.7	-0.2
comp=Z,16nm,0.7s,baz=251,slow=6.3,SNR=16							
KDAK	Kodiak Island	39.59	47	P	P	06 04 00.7	-0.2
KDAK				pmax	pmax		
comp=Z,17nm,0.8s							
KDAK	Kodiak Island	39.59	47	IAmb	IAmb	06 04 02.3	
comp=Z,17nm,0.8s							
DGZ	Jazzator, Alta	39.88	300	*i* P	P	06 04 02.9	-0.8
DGZ				pmax	pmax		
comp=Z,9.0nm,0.8s							
BPAW	Bear Paw Mtn.	39.98	37	P	P	06 04 04.8	+0.7
BPAW				IAmb	IAmb	06 04 07.7	
comp=Z,8.1nm,0.7s							
KMI	Kunming	39.99	257	⇓P	P	06 04 05.5	+0.6
KMI				pP	pP	06 04 24.1	-0.1
KMI				sP	sP	06 04 32.0	-1.5
KMI				pmax	pmax		
comp=Z,13nm,1.2s							
KTH	Kantishna Hill	40.02	38	P	P	06 04 05.2	+0.7
KTH				IAmb	IAmb	06 04 07.1	
comp=Z,16nm,0.7s							
TRF	Thorofare Moun	40.30	38	P	P	06 04 06.8	-0.2
TRF				IAmb	IAmb	06 04 11.8	
comp=Z,13nm,0.6s							
COLD	Coldfoot	40.37	33	P	P	06 04 07.2	-0.1
baz=268							
COLD	Coldfoot	40.37	33	P	P	06 04 07.6	+0.3
COLD				pP	pP	06 04 25.5	-1.1
ZAA0	Zalesovo Array	40.49	307	P	P	06 04 08.6	+0.1
ZALV	Zalesovo Beam	40.49	307	P	P	06 04 06.3	-2.1
comp=Z,2.9nm,0.6s,baz=77,slow=7.8,SNR=9.1							
ZALV				PcP	PcP	06 06 09.6	+0.1
comp=Z,5.9nm,0.7s,baz=88,slow=2.2,SNR=6.4							
ZALV				ScP	ScP	06 09 51.3	-0.1
comp=Z,0.8nm,0.4s,baz=97,slow=3.4,SNR=4.0							
ZALV				LR	LR	06 22 42.1	
comp=Z,29nm,18.2s,baz=256,slow=39							
ZALV	Zalesovo Beam	40.49	307	*i* P	P	06 04 09.0	+0.6
ZALV				pmax	pmax		
comp=Z,3.0nm,0.5s							
BWN	Browne	40.65	37	P	P	06 04 10.8	+1.2
TOLK	Toolik Lake Re	40.68	30	P	P	06 04 09.0	-0.9
baz=266							
TOLK	Toolik Lake Re	40.68	30	P	P	06 04 09.3	-0.6
NEA2	Nenana	40.81	37	P	P	06 04 11.4	+0.5
baz=272,SNR=19							
MCK	McKinley	40.90	38	P	P	06 04 12.1	+0.4
MCK				pmax	pmax		
comp=Z,11nm,0.6s							
MCK	McKinley	40.90	38	P	P	06 04 12.1	+0.4
MCK				IAmb	IAmb	06 04 13.8	
comp=Z,11nm,0.6s							
RND	Reindeer	40.95	38	P	P	06 04 12.1	-0.1
RND				pmax	pmax		
comp=Z,18nm,0.6s							
RND	Reindeer	40.95	38	P	P	06 04 12.1	-0.1
MDM	Murphy Dome	41.16	36	P	P	06 04 14.4	+0.6
MDM				IAmb	IAmb	06 04 33.7	
comp=Z,16nm,1.0s							
WRH	Wood River Hil	41.24	37	P	P	06 04 14.8	+0.4
WRH				IAmb	IAmb	06 04 20.2	
comp=Z,8.4nm,0.8s							
KNK	Knik Glacier	41.29	41	P	P	06 04 15.3	+0.4
KNK				IAmb	IAmb	06 04 16.2	
comp=Z,14nm,0.6s							
SML	Sawmill	41.31	41	P	P	06 04 15.7	+0.5
TCOL	CIGO, UAF Yank	41.32	36	P	P	06 04 15.4	+0.4
baz=272,SNR=9.4							
COLA	College	41.32	36*d*	*i* P	P	06 04 15.3	+0.2
COLA				pmax	pmax		
comp=Z,17nm,0.7s							
COLA	College	41.32	36	P	P	06 04 15.6	+0.5
COLA				pP	pP	06 04 33.7	-0.7
CCB	Clear Creek Bu	41.35	36	P	P	06 04 15.5	+0.2
POKR	Poker Plat Res	41.49	36	P	P	06 04 17.1	+0.6
baz=272,SNR=10							
WMQ	Urumqi	41.54	291	P	P	06 04 17.8	+0.5
WMQ				pP	pP	06 04 34.6	-2.1
WMQ				sP	sP	06 04 47.1	+1.1
WMQ				pmax	pmax		
comp=Z,30nm,0.7s							
WMQ				pmax	pmax		
comp=Z,84nm,3.9s							
WMQ				LR	LR		
comp=Z,310nm,19.3s							
WMQ				LR	LR		
comp=Z,280nm,17.9s							
WMQ				LR	LR		
comp=Z,65nm,24.1s							
WMQ	Urumqi	41.54	291	P	P	06 04 17.7	+0.5
WMQ				pmax	pmax		
comp=Z,41nm,0.6s							
WMQ	Urumqi	41.54	291	P	P	06 04 17.7	+0.4
HDA	Harding Lake	41.73	37	P	P	06 04 18.2	-0.4
baz=274,SNR=12							
HDA	Harding Lake	41.73	37	P	P	06 04 18.1	-0.4
IL31		41.74	36	P	P	06 04 18.3	-0.2
IL31				IAmb	IAmb	06 04 37.7	
comp=Z,34nm,1.5s							
IL31				pP	pP	06 04 38.0	+0.1
ILAR	Eielson Array	41.74	36	P	P	06 04 18.4	-0.1
comp=Z,6.3nm,0.5s,baz=256,slow=4.7,SNR=96							
ILAR				pP	pP	06 04 38.0	0.0
comp=Z,17nm,1.0s,baz=256,slow=6.1,SNR=8.6							
ILAR				ScP	ScP	06 09 54.8	-1.4
comp=Z,0.6nm,0.8s,baz=300,slow=3.0,SNR=4.6							
ILAR				LR	LR	06 21 51.2	
comp=Z,68nm,19.9s,baz=194,slow=36							
ILAR	Eielson Array	41.74	36	P	P	06 04 18.2	-0.4
ZSN	Zaisan	42.17	297	*e*P	P	06 04 22.7	+0.4
baz=297							
ZSN	Zaisan	42.17	297	*e*P	P	06 04 22.6	+0.4
FYU	Fort Yukon	42.33	34	P	P	06 04 23.8	+0.6
FYU				IAmb	IAmb	06 04 26.4	
comp=Z,18nm,0.8s							
KLU	Klutina	42.49	41	P	P	06 04 25.5	+0.8
KLU				IAmb	IAmb	06 04 45.0	
comp=Z,28nm,1.1s							
PAX	Paxson	42.52	39	P	P	06 04 25.2	+0.2
PAX				pmax	pmax		
comp=Z,5.0nm,0.6s							
PAX	Paxson	42.52	39	P	P	06 04 25.2	+0.2
RIDG	Independent Ri	42.71	38	P	P	06 04 26.4	-0.1
RIDG				IAmb	IAmb	06 04 27.1	
comp=Z,14nm,0.6s							
SCRK	Sand Creek	43.06	37	P	P	06 04 29.0	-0.4
baz=277,SNR=17							
DOT	Dot Lake	43.07	38	P	P	06 04 29.0	-0.4
DOT				IAmb	IAmb	06 04 31.8	
comp=Z,16nm,0.7s							
MENT	Mentasta	43.31	39	P	P	06 04 32.2	+0.8
MENT				IAmb	IAmb	06 04 33.2	
comp=Z,11nm,0.6s							
K27K	Chicken	43.89	37	P	P	06 04 36.6	+0.6
baz=278							
MK31	Makanchi Array	44.04	297	P	P	06 04 36.8	-0.6
MK31				pmax	pmax		
comp=Z,25nm,0.8s							
MK31	Makanchi Array	44.04	297	P	P	06 04 36.8	-0.6
MKAR	Makanchi Array	44.04	297	P	P	06 04 37.0	-0.4
comp=Z,23nm,0.6s,baz=80,slow=7.8,SNR=82							
MKAR				ScP	ScP	06 10 05.9	0.0
comp=Z,0.4nm,0.4s,baz=67,slow=3.1,SNR=5.9							
MKAR				LR	LR	06 24 41.7	
comp=Z,91nm,18.0s,baz=71,slow=38							
MKAR	Makanchi Array	44.04	297	P	P	06 04 36.8	-0.7
EGAK	Eagle	44.18	36	P	P	06 04 38.2	0.0
MAKZ	Makanchi	44.24	297	P	P	06 04 39.0	0.0
MAKZ				pmax	pmax		
comp=Z,27nm,0.8s							
MAKZ	Makanchi	44.24	297	P	P	06 04 39.0	0.0
BARN	Barnard Glacie	44.59	41	P	P	06 04 42.0	+0.3
BARN				IAmb	IAmb	06 04 47.8	
comp=Z,9.2nm,0.7s							
CTGM	Chitina Glacie	44.77	41	P	P	06 04 43.8	+0.7
CTGM				IAmb	IAmb	06 04 53.1	
comp=Z,37nm,1.5s							
KURK	Kurchatov	45.01	304*de*	P	P	06 04 43.8	-1.2
KURK				pmax	pmax		
comp=Z,12nm,0.6s							
KURK	Kurchatov	45.01	304	P	P	06 04 44.1	-0.9
KURK				IAmb	IAmb	06 04 46.4	
comp=Z,15nm,0.8s							
DAWY	Dawson	45.05	37	P	P	06 04 45.2	0.0
KURBB	Kurchatov Arra	45.09	304	P	P	06 04 43.1	-2.6
DLV	T Lat	45.52	237	P	P	06 04 51.4	+1.8
LSA	Lhasa	45.63	271	P	P	06 04 52.5	+1.8
LSA				pmax	pmax		
comp=Z,17nm,0.7s							
LSA	Lhasa	45.63	271	P	P	06 04 52.5	+1.8
LSA				IAmb	IAmb	06 04 54.9	
comp=Z,17nm,0.7s							
MYLDM	Lahad Datu	45.66	221	P	P	06 04 50.6	+0.1
EPYK	Eagle Plains	45.74	33	P	P	06 04 51.2	+0.5
baz=280,SNR=8.4							
EPYK	Eagle Plains	45.74	33	P	P	06 04 51.0	+0.3
EPYK				IAmb	IAmb	06 04 54.4	
comp=Z,11nm,0.7s							
JAY	Jayapura	46.44	188	P	P	06 04 57.0	+0.4
comp=Z,19nm,0.8s,baz=308,slow=4.1,SNR=4.9							
JAY				LR	LR	06 20 13.9	
comp=Z,50nm,20.8s,baz=334,slow=30							
JAY	Jayapura	46.44	188	P	P	06 04 55.4	-1.2
comp=Z,14nm,0.9s							
RKPI	Ransiki, Papua	46.46	197	P	P	06 04 54.9	-1.9
comp=Z,18µmcomp=Z,239nm,1.0s							
SIJI	Sorong	46.53	201	P	P	06 04 57.5	+0.2
comp=Z,14nm,0.5s,baz=90,slow=19,SNR=2.4							
GENI	Genyem	46.57	189	P	P	06 04 57.4	-0.2
comp=Z,22nm,0.7s							
HYT	Haines Junctio	46.62	41	P	P	06 04 59.1	+1.4
CHTO	Chiang Mai	46.77	253	P	P	06 04 59.5	+0.2
CHTO				pmax	pmax		
comp=Z,12nm,1.0s							
CHTO	Chiang Mai	46.77	253	P	P	06 04 59.5	+0.2
CHTO				IAmb	IAmb	06 05 01.4	
comp=Z,12nm,1.0s							
CM31	Chiang Mai Arr	47.02	253	P	P	06 05 01.4	+0.2
CMAR	Chiang Mai Arr	47.02	253	P	P	06 05 02.3	+1.1
comp=Z,2.6nm,0.8s,baz=40,slow=7.4,SNR=13							
CMAR				PcP	PcP	06 06 33.0	+0.8
comp=Z,0.7nm,0.3s,baz=11,slow=5.6,SNR=4.3							
CMAR	Chiang Mai Arr	47.02	253	*i* P	P	06 05 02.4	+1.2
CMAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
CMAR	Chiang Mai Arr	47.02	253	P	P	06 05 02.1	+0.9
PDGK	Podgornoye	47.22	294	P	P	06 05 00.3	-2.3
TDK	Taldyqorghan	47.23	296	*e*P	P	06 05 03.0	+0.4
comp=Z,34nm,0.3s,baz=296							
TDK	Taldyqorghan	47.23	296	*e*P	P	06 05 03.0	+0.4
TDK				pmax	pmax		
comp=Z,33nm,0.3s							
SHLS	Shalkode	47.31	294	*e*P	P	06 05 01.1	-2.2
comp=Z,23nm,0.5s,baz=294							
SHLS				*e*S	S	06 11 45.9	-4.9
baz=294							
SHLS	Shalkode	47.31	294	*e*P	P	06 05 01.1	-2.2
SHLS				*e*S	S	06 11 45.8	-4.9
SHLS				pmax	pmax		
comp=Z,23nm,0.5s							
SHL	Shillong	47.48	266	P	P	06 05 04.9	-0.1
SHL				pmax	pmax		
comp=Z,8.0nm,0.6s							
SHL	Shillong	47.48	266	P	P	06 05 04.8	-0.1
SHL				IAmb	IAmb	06 05 08.6	
comp=Z,8.5nm,0.6s							
UZB	Uzynbulak	47.60	294	*e*P	P	06 05 05.5	-0.1
comp=Z,9.8nm,0.7s,baz=294							
UZB	Uzynbulak	47.60	294	*e*P	P	06 05 05.5	-0.1
UZB				pmax	pmax		
comp=Z,10.0nm,0.7s							
KPKS	Kokpek	47.69	294	*e*P	P	06 05 06.5	+0.2
comp=Z,28nm,0.6s,baz=294							
KPKS	Kokpek	47.69	294	*e*P	P	06 05 06.4	+0.2
KPKS				pmax	pmax		
comp=Z,28nm,0.6s							
GTOI	Gorontalo	47.80	212	P	P	06 05 06.7	-0.5
comp=Z,25nm,0.7s							
SATY	Saty	48.05	294	*e*P	P	06 05 09.3	+0.3
comp=Z,8.8nm,0.5s,baz=294							
SATY	Saty	48.05	294	*e*P	P	06 05 09.3	+0.3
SATY				pmax	pmax		
comp=Z,9.0nm,0.5s							
KRVT	Keravat (AS076	48.20	172	LR	LR	06 22 38.8	
comp=Z,40nm,20.8s,baz=316,slow=32							
FAKI	Fak Fak	48.26	199	P	P	06 05 08.0	-2.7
PRZ	Przheval'sk	48.30	293	P	P	06 05 12.2	+1.1
PRZ				pmax	pmax		
comp=Z,29nm,0.7s							
PRZ	Przheval'sk	48.30	293	P	P	06 05 12.2	+1.1
CHKK	Chushkaly	48.64	296	*e*P	P	06 05 13.0	-0.4
baz=296							
CHKK	Chushkaly	48.64	296	*e*P	P	06 05 13.0	-0.4
BRZS	Berezniki	48.83	305	*e*P	P	06 05 14.8	-0.1
comp=Z,12nm,0.5s,baz=305							
BRZS	Berezniki	48.83	305	*e*P	P	06 05 14.7	-0.1
BRZS				pmax	pmax		
comp=Z,13nm,0.5s							
MDOK	Medeo	48.90	295	*e*P	P	06 05 16.0	+0.3
baz=295							
MDOK				*e*S	S	06 12 09.6	-3.7
baz=295							
MDOK	Medeo	48.90	295	*e*P	P	06 05 15.9	+0.3
MDOK				*e*S	S	06 12 09.5	-3.7
AAA	Alma-Ata	48.97	295	*e*P	P	06 05 16.3	+0.3
baz=295							
AAA	Alma-Ata	48.97	295	*e*P	P	06 05 16.3	+0.3
AAA	Alma-Ata	48.97	295	*e*P	P	06 05 16.3	+0.3
TNSS	Tian-Shan	49.02	295	*e*P	P	06 05 17.1	+0.3
baz=295							
TNSS	Tian-Shan	49.02	295	*e*P	P	06 05 17.1	+0.3
KUU	Kurty	49.04	296	*e*P	P	06 05 15.8	-0.8
comp=Z,18nm,0.7s,baz=296							
KUU	Kurty	49.04	296	*e*P	P	06 05 15.7	-0.8
KUU				pmax	pmax		
comp=Z,18nm,0.7s							
BRVK	Borovoye	49.05	309	P	P	06 05 15.2	-1.3
BRVK				pmax	pmax		
comp=Z,5.0nm,0.8s							
BRVK	Borovoye	49.05	309	P	P	06 05 15.2	-1.3
SANI	Sanana	49.22	207	P	P	06 05 16.9	-1.1
comp=Z,63nm,1.0s							
KDJ	Kajisay	49.27	293	P	P	06 05 18.7	+0.2
KDJ				pmax	pmax		
comp=Z,20nm,0.8s							
KDJ	Kajisay	49.27	293	P	P	06 05 18.7	+0.2
MTBS	Maitube	49.32	295	*e*P	P	06 05 19.1	+0.3
baz=295							
MTBS	Maitube	49.32	295	*e*P	P	06 05 19.0	+0.3
TAPN	Taplejung	49.45	271	*e*P	P	06 05 20.9	+0.7
comp=Z,44nm,0.7s							
TAPN	Taplejung	49.45	271	*e*P	P	06 05 20.9	+0.7
comp=Z,44nm,0.7s							
ULHL	Ulahol	49.84	294	P	P	06 05 23.1	+0.3
SNR=45							
BOOM	Boomskoye usch	49.93	294	P	P	06 05 24.1	+0.6
BOOM				pmax	pmax		
comp=Z,38nm,0.7s							
BOOM	Boomskoye usch	49.93	294	P	P	06 05 24.1	+0.6
TKM2	Tokmak 2	49.96	295	P	P	06 05 24.3	+0.5
SNR=24							
ODAN	Odare	49.97	271	*e*P	P	06 05 24.7	+0.7
ODAN	Odare	49.97	271	*e*P	P	06 05 24.7	+0.7
SGDS	Sogindy	50.35	296	*e*P	P	06 05 26.6	0.0
comp=Z,7.8nm,0.5s,baz=296							
SGDS	Sogindy	50.35	296	*e*P	P	06 05 26.5	0.0
SGDS				pmax	pmax		
comp=Z,8.0nm,0.5s							
JIRN	Jiri	50.37	272	*e*P	P	06 05 28.1	+0.9
comp=Z,120nm,0.7s							
JIRN	Jiri	50.37	272	*e*P	P	06 05 28.1	+0.9
comp=Z,120nm,0.7s							
GUN	Gumba	50.45	273	*e*P	P	06 05 27.9	+0.1
comp=Z,68nm,0.4s							
GUN	Gumba	50.45	273	*e*P	P	06 05 27.9	+0.1
comp=Z,68nm,0.4s							
RAMN	Ramite	50.49	271	*e*P	P	06 05 28.2	+0.2
RAMN	Ramite	50.49	271	*e*P	P	06 05 28.2	+0.2
KBK	Karagaybulak	50.50	295	P	P	06 05 28.2	+0.4
SNR=29							
KZA	Kyzart	50.57	294	P	P	06 05 29.8	+1.2
SNR=6.3							
AAK	Ala-Archa	50.81	295	P	P	06 05 30.4	+0.2
SNR=12							
AAK	Ala-Archa	50.81	295	*e*P	P	06 05 30.3	+0.2
AAK	Ala-Archa	50.81	295*ce*	P	P	06 05 30.3	+0.2
AAK				pmax	pmax		
comp=Z,22nm,0.6s							
KIP	Kipapa	50.84	97*ce*	P	P	06 05 31.8	+1.4
KIP				pmax	pmax		
comp=Z,26nm,1.0s							
KKN	Kakani	50.95	273	*e*P	P	06 05 32.4	+1.0
comp=Z,30nm,0.5s							
KKN	Kakani	50.95	273	*e*P	P	06 05 32.4	+1.0
comp=Z,30nm,0.5s							
DLBC	Dease Lake	50.98	42	P	P	06 05 32.5	+1.5
comp=Z,3.5nm,0.5s,baz=290,slow=5.1,SNR=24							
DLBC	Dease Lake	50.98	42	P	P	06 05 31.8	+0.8
DLBC				IAmb	IAmb	06 05 33.6	
comp=Z,4.1nm,0.6s							
PKI	Pulchoki	50.99	273	*e*P	P	06 05 31.8	0.0
comp=Z,25nm,0.5s							
PKI	Pulchoki	50.99	273	*e*P	P	06 05 31.8	0.0
comp=Z,25nm,0.5s							
PKIN	Phulchoki	50.99	273	*e*P	P	06 05 32.1	+0.3
comp=Z,32nm,0.6s							
PKIN	Phulchoki	50.99	273	*e*P	P	06 05 32.1	+0.3
comp=Z,32nm,0.6s							
SBUM	Sibu	51.14	226	P	P	06 05 31.9	-0.7
DMN	Daman	51.18	273	*e*P	P	06 05 33.5	+0.3
comp=Z,49nm,0.6s							
DMN	Daman	51.18	273	*e*P	P	06 05 33.5	+0.3
comp=Z,49nm,0.6s							
EKS2	Erkin-Say	51.27	296	P	P	06 05 33.7	+0.2
SNR=23							
GKN	Gorkha	51.30	274	*e*P	P	06 05 34.5	+0.6
comp=Z,60nm,0.6s							
GKN	Gorkha	51.30	274	*e*P	P	06 05 34.5	+0.6
comp=Z,60nm,0.6s							
KSH	Kashi	51.30	291	P	P	06 05 37.8	+4.0
KSH				S	S	06 12 51.6	+4.8
KSH				pmax	pmax		
comp=Z,14nm,0.9s							
KSH				pmax	pmax		
comp=Z,120nm,4.8s							
KSH				LR	LR		
comp=Z,210nm,11.9s							
KSH				LR	LR		
comp=Z,480nm,19.4s							
KSH				LR	LR		
comp=Z,89nm,14.8s							
AML	Almayashu	51.57	295	P	P	06 05 36.8	+0.8
SNR=6.0							
KOLN	Koldanda	52.18	274	*e*P	P	06 05 41.1	+0.6
comp=Z,70nm,0.7s							
KOLN	Koldanda	52.18	274	*e*P	P	06 05 41.1	+0.6
comp=Z,70nm,0.7s							
PYUN	Piuthan	52.43	275	*e*P	P	06 05 42.8	+0.4
comp=Z,69nm,0.4s							
PYUN	Piuthan	52.43	275	*e*P	P	06 05 42.8	+0.4
comp=Z,69nm,0.4s							
SVE	Sverdlovsk	52.69	316	*e*P	P	06 05 48.4	+4.8
SVE	Sverdlovsk	52.69	316	*e*P	P	06 05 48.4	+4.8
SVE				pmax	pmax		
comp=Z,16nm,0.7s							
EUNU	Eureka	52.86	10	P	P	06 05 43.7	-1.0
KSM	Kuching	52.97	228	P	P	06 05 47.3	+1.1
KSM				IAmb	IAmb	06 05 48.5	
comp=Z,16nm,1.0s							
PMG	Port Moresby	53.01	179	LR	LR	06 24 45.8	
comp=Z,51nm,21.2s,baz=217,slow=32							
KK31	Karatay Array	53.17	297	P	P	06 05 47.2	-0.2
KK31				pmax	pmax		
comp=Z,13nm,0.6s							
KK31	Karatay Array	53.17	297	P	P	06 05 47.2	-0.2
KKAR	Karatay Array	53.17	297	P	P	06 05 47.2	-0.2
KKAR				pmax	pmax		
comp=Z,13nm,0.6s							
KKAR	Karatay Array	53.17	297	P	P	06 05 47.2	-0.2
KKAR	Karatay Array	53.17	297	P	P	06 05 47.0	-0.4
SPSI	Sidrap Palu	53.28	214	P	P	06 05 48.9	+0.5
comp=Z,15µmcomp=Z,25nm,1.0s							
ARU	Arti	53.89	317*d*	*i* P	P	06 05 51.5	-1.0
ARU				*PP	pP	06 06 09.4	-3.3
ARU						06 06 52.7	
ARU				S	S	06 13 20.6	-0.7
ARU				SS	SKiKP	06 16 58.4	+1.4
ARU				pmax	pmax		
comp=Z,7.0nm,0.8s							
ARU	Arti	53.89	317	P	P	06 05 51.6	-0.9
IUG	Iuzhnay	53.95	297	*e*P	P	06 05 53.5	+0.2
comp=Z,8.1nm,0.7s,baz=297							
IUG				*e*S	S	06 13 22.3	-0.4
baz=297							
IUG	Iuzhnay	53.95	297	*e*P	P	06 05 53.4	+0.2
IUG				*e*S	S	06 13 22.2	-0.4
IUG				pmax	pmax		
comp=Z,8.0nm,0.7s							
HNR	Honiara	54.44	163	LR	LR	06 26 40.1	
comp=Z,76nm,20.1s,baz=13,slow=33							
BTK	Batken	54.48	294	P	P	06 05 56.8	-0.3
BTK				pmax	pmax		
comp=Z,17nm,0.5s							
BTK	Batken	54.48	294	P	P	06 05 56.8	-0.3
SPITS	Spitsbergen Ar	54.58	349	LR	LR	06 30 05.3	
comp=Z,26nm,20.1s,baz=255,slow=37							
RES	Resolute Bay	55.03	17	P	P	06 05 59.3	-1.1
comp=Z,11nm,0.5s,baz=326,slow=7.9,SNR=26							
RES	Resolute Bay	55.03	17	P	P	06 05 59.7	-0.8
RES				pmax	pmax		
comp=Z,14nm,0.6s							
RES	Resolute Bay	55.03	17	P	P	06 05 59.6	-0.8
GAR	Garm	55.36	293	P	P	06 06 03.4	-0.1
KULM	Kulim	55.52	240	P	P	06 06 04.9	+0.1
YKA	Yellowknife Ar	56.03	34	P	P	06 06 07.9	+0.1
comp=Z,4.4nm,0.8s,baz=60,slow=7.8,SNR=17							
YKA				pP	pP	06 06 28.5	+0.5
comp=Z,13nm,0.8s,baz=300,slow=7.2,SNR=11							
YKA				LR	LR	06 32 57.2	
comp=Z,52nm,18.1s,baz=0.0,sl

KBL	Kabul	58.63	289	P	P	06 06 26.1	-0.7
KBL				pmax	pmax		
comp=Z,17nm,0.7s							
KBL	Kabul	58.63	289	P	P	06 06 26.1	-0.7
ARCES	ARCESS Array B	58.96	339	P	P	06 06 26.9	-1.4
comp=Z,2.6nm,0.5s,baz=38,slow=7.1,SNR=14							
ARE0	ARCESS Array S	58.96	339	eP	P	06 06 27.2	-1.1
PGC	Sidney	58.98	51	P	P	06 06 29.6	+0.9
PGC				IAmb	IAmb	06 06 30.1	
comp=Z,4.0nm,0.6s							
BKNI	Bangkinang	59.17	236	P	P	06 06 31.5	+1.1
NLWA	Neilton Lookou	59.43	52	P	P	06 06 32.4	+0.5
NLWA				IAmb	IAmb	06 06 34.5	
comp=Z,8.8nm,0.8s							
D03D	Eldon	59.79	52	P	P	06 06 35.6	+1.2
baz=303,SNR=8.1							
SDSI	Sungai Dareh	59.95	235	P	P	06 06 37.3	+1.6
comp=Z,2μmcomp=Z,33nm,1.0s							
B05A	Bryant	59.95	51	P	P	06 06 35.7	+0.3
baz=303							
KLMR	Klimovskoe	60.05	327	eP	P	06 06 33.9	-1.9
KLMR				pmax	pmax		
comp=Z,9.0nm,0.9s							
KLMR	Klimovskoe	60.05	327	eP	P	06 06 34.0	-1.9
KLMR				AMP		06 06 36.3	
comp=Z,9.0nm,0.9s							
B06A	Marblemount	60.15	50	P	P	06 06 38.1	+1.3
B06A				IAmb	IAmb	06 06 38.5	
comp=Z,7.0nm,1.0s							
TRO	Tromso	60.49	341	eP	P	06 06 36.2	-2.4
D05A	Enumclaw	60.61	51	P	P	06 06 40.4	+0.5
D05A				IAmb	IAmb	06 06 42.6	
comp=Z,8.0nm,0.7s							
E04D	Cinebar	60.63	52	P	P	06 06 41.1	+1.0
baz=304							
LON	Longmire	60.95	52	P	P	06 06 43.5	+1.2
LON				pmax	pmax		
comp=Z,3.0nm,0.8s							
LON	Longmire	60.95	52	P	P	06 06 43.5	+1.2
F04A	Amboy	61.07	53	P	P	06 06 43.7	+0.7
LTY	Liberty	61.31	51	P	P	06 06 45.5	+0.7
LTY				IAmb	IAmb	06 06 46.5	
comp=Z,4.2nm,0.6s							
KNRA	Kununurra	61.39	199	P	P	06 06 45.7	+0.4
B08A	Colville Reser	61.43	49	P	P	06 06 46.3	+0.8
B08A				IAmb	IAmb	06 06 46.9	
comp=Z,4.4nm,0.7s							
F05D	White Salmon	61.65	52	P	P	06 06 47.8	+0.9
baz=305							
H04D	Lebanon	61.68	54	P	P	06 06 48.1	+0.9
baz=305							
J01E	Myrtle Point	61.74	56	P	P	06 06 49.0	+1.4
baz=305							
I03D	Drain, OR	61.79	55	P	P	06 06 49.2	+1.3
baz=305							
H04A	Detroit Lake	61.91	54	P	P	06 06 49.6	+0.8
H04A				IAmb	IAmb	06 06 51.0	
comp=Z,8.4nm,0.8s							
G05D	Wamic, OR	62.09	53	P	P	06 06 51.1	+1.1
baz=305							
E07A	Sunnyside	62.17	51	P	P	06 06 51.5	+1.0
E07A				IAmb	IAmb	06 06 52.9	
comp=Z,8.5nm,0.9s							
K02D	Willamette Mer	62.17	56	P	P	06 06 51.8	+1.2
baz=305							
I04A	Tendick Farm,	62.29	55	P	P	06 06 52.1	+0.7
baz=305,SNR=9.1							
D08A	Wollman Farm,	62.40	50	P	P	06 06 52.5	+0.5
D08A				IAmb	IAmb	06 06 53.8	
comp=Z,6.9nm,0.7s							
HAWA	Hanford	62.45	51	P	P	06 06 53.5	+1.2
HAWA				IAmb	IAmb	06 06 54.6	
comp=Z,7.5nm,0.9s							
F07A	Phinny Hill Vi	62.51	52	P	P	06 06 54.6	+1.8
L02E	Cave Junction	62.52	57	P	P	06 06 54.4	+1.5
baz=306							
I05D	Terrebonne, OR	62.60	54	P	P	06 06 54.4	+0.9
baz=306,SNR=6.2							
HUMO	Hull Mountain	62.65	56	P	P	06 06 55.7	+1.9
E08A	Dider Farm, El	62.66	51	P	P	06 06 54.7	+1.0
E08A				IAmb	IAmb	06 06 55.8	
comp=Z,9.0nm,0.7s							
STEI	Steigen	62.66	341	eP	P	06 06 53.2	-0.1
NEW	Newport	62.69	48	P	P	06 06 54.9	+1.0
NEW				pmax	pmax		
comp=Z,7.0nm,0.9s							
NEW	Newport	62.69	48	P	P	06 06 55.1	+1.2
baz=306,SNR=5.8							
NEW	Newport	62.69	48	P	P	06 06 54.9	+1.0
NEW				IAmb	IAmb	06 06 55.9	
comp=Z,6.6nm,0.9s							
LOF	Lofoten	62.89	342	eP	P	06 06 54.3	-0.6
N2TV	Tvrnvik	62.98	341	eP	P	06 06 53.3	-2.1
FAUS	Fauske	63.09	341	eP	P	06 06 54.4	-1.7
PINE	Pine Mountain	63.16	54	P	P	06 06 59.0	+1.7
PINE				IAmb	IAmb	06 07 00.1	
comp=Z,12nm,0.8s							
L04D	Klamath Falls	63.27	56	P	P	06 06 59.4	+1.4
baz=306,SNR=8.9							
J05D	Fort Rock, OR	63.28	55	P	P	06 06 59.9	+1.8
baz=306,SNR=12							
HRA	Herat	63.30	293	P	P	06 06 58.6	+0.2
YBH	Yreka Blue Hor	63.31	57	P	P	06 06 59.8	+1.6
YBH				pmax	pmax		
comp=Z,6.0nm,0.8s							
YBH	Yreka Blue Hor	63.31	57	P	P	06 06 59.8	+1.6
YBH				IAmb	IAmb	06 07 00.9	
comp=Z,6.3nm,0.8s							
K04D	Chiloquin, OR	63.36	56	P	P	06 06 59.7	+1.1
baz=306							
G08A	Pilot Rock	63.42	52	P	P	06 07 00.0	+1.1
M02C	Callahan	63.42	57	P	P	06 07 00.1	+1.2
baz=306							
CTAO	Charters Tower	63.62	180	P	P	06 07 00.5	+0.3
CTAO				pmax	pmax		
comp=Z,12nm,0.8s							
CTAO	Charters Tower	63.62	180	P	P	06 07 00.5	+0.3
CTAO				IAmb	IAmb	06 07 01.3	
comp=Z,12nm,0.8s							
N02D	Trinity Center	63.76	58	P	P	06 07 03.0	+1.9
baz=306,SNR=7.5							
M04C	Macdoel	63.80	56	P	P	06 07 03.1	+1.6
baz=306,SNR=6.0							
K05A	Summer Lake	63.81	55	P	P	06 07 03.1	+1.5
K05A				IAmb	IAmb	06 07 04.4	
comp=Z,13nm,0.9s							
I07A	Izee	63.82	53	P	P	06 07 03.1	+1.5
SUMG	Summit	63.83	2	iP	P	06 07 01.0	-0.5
comp=Z,20nm,0.7s							
SUMG	Summit	63.83	2	P	P	06 07 01.2	-0.3
SUMG				pmax	pmax		
comp=Z,9.0nm,0.8s							
SUMG	Summit	63.83	2	P	P	06 07 01.2	-0.3
SUMG				IAmb	IAmb	06 07 02.8	
comp=Z,8.8nm,0.8s							
NBB17	Glomfjord BÝr	63.85	341	eP	P	06 07 00.1	-1.2
GEYT	Alibeck	63.90	298	P	P	06 07 02.1	0.0
comp=Z,9.8nm,0.7s,baz=46,slow=4.2,SNR=11							
GEYT				LR	LR	06 37 40.6	
comp=Z,96nm,18.5s,baz=175,slow=39							
GEYT	Alibeck	63.90	298	P	P	06 07 02.1	0.0
GYA0B	ALIBECK ARRAY	63.90	298	P	P	06 07 02.3	+0.2
GYA0B				IAmb	IAmb	06 07 08.5	
comp=Z,11nm,0.7s							
WALA	Waterton Lakes	63.92	46	P	P	06 07 02.7	+0.6
WALA				IAmb	IAmb	06 07 15.5	
comp=Z,18nm,1.4s							
WDC	Whiskeytown Da	64.09	58	P	P	06 07 04.6	+1.3
WDC				pmax	pmax		
comp=Z,7.0nm,0.9s							
WDC	Whiskeytown Da	64.09	58	P	P	06 07 04.6	+1.3
O02D	Mt. Diablo Mer	64.18	58	P	P	06 07 05.1	+1.2
baz=307							
WB0	Warramunga Arr	64.25	193	P	P	06 07 04.0	-0.3
MOR8	Moi Rana	64.26	340	eP	P	06 07 00.9	-3.0
NBB40	Tonnes	64.32	341	eP	P	06 07 03.3	-1.0
WR0	Warramunga Arr	64.42	192	P	P	06 07 05.0	-0.4
WRAB	Tennant Creek	64.42	193	ceP	P	06 07 05.5	0.0
WRAB				pmax	pmax		
comp=Z,57nm,1.3s							
WRAB	Tennant Creek	64.42	193	P	P	06 07 05.2	-0.3
WB2	Warramunga Arr	64.43	193	P	P	06 07 05.3	-0.2
WRA	Warramunga Arr	64.43	193	P	P	06 07 05.3	-0.2
comp=Z,26nm,0.8s,baz=13,slow=6.7,SNR=183							
WRA				LR	LR	06 36 28.8	
comp=Z,17nm,18.1s,baz=355,slow=37							
WRA	Warramunga Arr	64.43	193	P	P	06 07 04.8	-0.7
FITZ	Fitzroy Crossi	64.51	202	P	P	06 07 06.8	+0.7
comp=Z,20nm,0.9s,baz=360,slow=7.1,SNR=47							
FITZ	Fitzroy Crossi	64.51	202	P	P	06 07 06.7	+0.7
JTMT	Jette	64.52	48	P	P	06 07 07.4	+1.3
FIA1	FINESS Array S	64.53	333	P	P	06 07 03.2	-2.6
FINES	FINESS Array B	64.53	333	P	P	06 07 04.0	-1.7
comp=Z,12nm,0.5s,baz=44,slow=6.8,SNR=72							
FINES				LR	LR	06 37 12.0	
comp=Z,41nm,19.1s,baz=32,slow=38							
FINES	FINESS Array B	64.53	333	P	P	06 07 03.9	-1.9
BMO	Blue Mountains	64.62	51	P	P	06 07 07.9	+1.1
BMO				pmax	pmax		
comp=Z,4.0nm,0.9s							
BMO	Blue Mountains	64.62	51	P	P	06 07 07.9	+1.1
MOD	Modoc Plateau	64.66	56	P	P	06 07 07.8	+0.7
MOD				IAmb	IAmb	06 07 09.2	
comp=Z,6.1nm,0.7s							
O03E	Paynes Creek	64.71	58	P	P	06 07 08.0	+0.6
baz=307,SNR=6.1							
J08A	Circle Bar Ran	64.85	53	P	P	06 07 08.9	+0.5
OBN	Obninsk	64.90	323	eP	P	06 07 07.8	-0.4
OBN	Obninsk	64.90	323	⇓iP	P	06 07 07.8	-0.4
OBN				e		06 09 27.8	
OBN				pmax	pmax		
comp=Z,8.0nm,0.9s							
OBN				MLR	MLR		
comp=Z,58nm,22.0s							
MSO	Missoula	65.27	48	P	P	06 07 11.4	+0.4
baz=308,SNR=8.0							
MSO	Missoula	65.27	48	P	P	06 07 11.3	+0.4
ORV	Oroville	65.34	58	P	P	06 07 11.8	+0.3
ORV				pmax	pmax		
comp=Z,7.0nm,0.8s							
ORV	Oroville	65.34	58	P	P	06 07 11.8	+0.3
ORV				IAmb	IAmb	06 07 12.8	
comp=Z,6.7nm,0.8s							
LPSR	Galich'ya Gora	65.50	320	eP	P	06 07 10.7	-1.4
LPSR				pmax	pmax		
comp=Z,10.0nm,0.8s							
FFC	Flin Flon	65.95	36	P	P	06 07 15.3	+0.2
FFC				pmax	pmax		
comp=Z,7.0nm,0.8s							
FFC	Flin Flon	65.95	36	P	P	06 07 15.3	+0.2
FFC				IAmb	IAmb	06 07 20.6	
comp=Z,7.3nm,0.8s							
AFDM	Forest Hills D	66.04	58	P	P	06 07 16.2	+0.3
NSS	Namsos	66.20	340	eP	P	06 07 15.9	-0.5
VSR	Storozhevoye	66.29	319	eP	P	06 07 15.7	-1.6
VSR				pmax	pmax		
comp=Z,10.0nm,0.9s							
MFID	Camas Ranch	66.34	52	P	P	06 07 18.9	+0.9
HRY	Holter Researc	66.47	47	P	P	06 07 19.8	+1.1
PAHR	Pah Rah Range	66.55	57	P	P	06 07 20.3	+0.9
PAHR				IAmb	IAmb	06 07 21.3	
comp=Z,9.3nm,0.9s							
VCNR	Virginia City	66.64	57	P	P	06 07 21.6	+1.6
VCNR				IAmb	IAmb	06 07 22.2	
comp=Z,8.0nm,0.7s							
LRM	Limekiln Ridge	66.70	48	P	P	06 07 19.9	-0.4
EGMT	Eagleton	66.72	45	P	P	06 07 20.8	+0.6
baz=310,SNR=5.7							
EGMT	Eagleton	66.72	45	P	P	06 07 20.8	+0.6
EGMT				IAmb	IAmb	06 07 22.0	
comp=Z,9.0nm,0.7s							
PNTR	Pine Nut	66.80	58	P	P	06 07 21.9	+0.9
PNTR				IAmb	IAmb	06 07 23.3	
comp=Z,10nm,0.8s							
DLMT	Dillon	66.92	49	P	P	06 07 22.8	+1.2
CMB	Columbia Colle	66.96	59	P	P	06 07 22.5	+0.6
CMB				pmax	pmax		
comp=Z,7.0nm,0.8s							
CMB	Columbia Colle	66.96	59	P	P	06 07 22.5	+0.6
HLID	Hailey	67.05	51	P	P	06 07 23.6	+1.1
baz=309,SNR=7.3							
HLID	Hailey	67.05	51	P	P	06 07 23.4	+0.9
YERR	Yerington	67.08	58	P	P	06 07 22.7	-0.1
MCMT	McKenzie Canyo	67.12	49	P	P	06 07 24.1	+1.1
WAKR	Walker	67.26	58	P	P	06 07 24.2	+0.3
BOZ	Bozeman (W)	67.29	48	P	P	06 07 24.3	+0.4
BOZ				pmax	pmax		
comp=Z,9.0nm,0.8s							
BOZ	Bozeman (W)	67.29	48	P	P	06 07 24.5	+0.5
baz=310,SNR=16							
BOZ	Bozeman (W)	67.29	48	P	P	06 07 24.3	+0.4
BOZ				IAmb	IAmb	06 07 26.1	
comp=Z,9.1nm,0.8s							
KVN	Kaiserville	67.73	57	P	P	06 07 28.2	+1.3
KVN				pmax	pmax		
comp=Z,14nm,0.8s							
KVN	Kaiserville	67.73	57	P	P	06 07 28.2	+1.3
KVN				IAmb	IAmb	06 07 29.1	
comp=Z,14nm,0.8s							
QLMT	Earthquake Lak	67.89	49	P	P	06 07 27.3	-0.5
LHV	Little Huntoon	67.99	58	P	P	06 07 30.1	+1.9
NVAR	Mina Array Bea	68.00	58	P	P	06 07 29.6	+1.0
comp=Z,9.3nm,0.7s,baz=289,slow=6.5,SNR=69							
NVAR	Mina Array Bea	68.00	58	P	P	06 07 29.8	+1.2
YHL	Hebgen Lake	68.02	49	P	P	06 07 30.1	+1.4
AKT	Akhty	68.05	307	eP	P	06 07 29.5	+0.8
AKT				e*PP	pP	06 07 50.5	+0.8
AKT				e		06 07 55.5	
AKT				pmax	pmax		
comp=Z,15nm,0.6s							
YHB	Horse Butte	68.07	49	P	P	06 07 27.5	-1.5
NV11	Mina Array Sit	68.09	57	P	P	06 07 29.5	+0.4
DZM	Mont Dzumac	68.13	160	P	P	06 07 31.2	+1.9
comp=Z,13nm,0.8s,baz=37,slow=8.1,SNR=12							
DZM	Mont Dzumac	68.13	160	P	P	06 07 29.1	-0.2
DZM				IAmb	IAmb	06 07 32.7	
comp=Z,21nm,1.0s							
AS31	Alice Springs	68.15	192	P	P	06 07 29.8	+0.5
AS31				IAmb	IAmb	06 07 31.1	
comp=Z,8.5nm,0.8s							
ASAR	Alice Springs	68.15	192	P	P	06 07 30.0	+0.8
comp=Z,29nm,0.7s,baz=8.6,slow=5.1,SNR=293							
ASAR				LR	LR	06 38 01.9	
comp=Z,25nm,18.3s,baz=351,slow=36							
ASAR	Alice Springs	68.15	192	P	P	06 07 29.8	+0.5
GCMT	Greycliff	68.21	47	P	P	06 07 30.3	+0.5
YHH	Holmes Hill	68.23	48	P	P	06 07 31.1	+1.0
GOF	Gofitskoye	68.36	312⇑	eP	P	06 07 28.9	-1.6
ELK	Elko	68.36	54	P	P	06 07 31.9	+1.0
ELK				pmax	pmax		
comp=Z,3.0nm,1.0s							
ELK	Elko	68.36	54	P	P	06 07 31.9	+1.0
YNE	Yellowstone No	68.55	48	P	P	06 07 33.2	+1.2
YPP	Pitchstone Pla	68.60	49	P	P	06 07 34.0	+1.7
H17A	Grant Village	68.64	49	P	P	06 07 35.0	+2.4
baz=311,SNR=7.0							
H17A	Grant Village	68.64	49	P	P	06 07 33.8	+1.2
YMP	Mirror Lake Pl	68.64	48	P	P	06 07 33.1	+0.4
IMW	Indian Meadow	68.77	49	P	P	06 07 34.8	+1.4
RLMT	Red Lodge	68.87	47	P	P	06 07 34.4	+0.5
baz=311							
RLMT	Red Lodge	68.87	47	P	P	06 07 34.2	+0.3
TPH	Tonopah	68.88	57	P	P	06 07 34.7	+0.6
TPH				pmax	pmax		
comp=Z,43nm,0.8s							
TPH	Tonopah	68.88	57	P	P	06 07 34.7	+0.6
DOMB	Dombas	69.01	340	eP	P	06 07 33.7	-0.6
TPAW	Teton Pass	69.03	50	P	P	06 07 35.9	+0.9
TPAW				IAmb	IAmb	06 07 36.9	
comp=Z,11nm,0.9s							
NC303	NORSAR Array S	69.11	339	P	P	06 07 34.7	-0.2
NC303				IAmb	IAmb	06 07 48.0	
comp=Z,13nm,1.1s							
NC405	NORSAR Array S	69.11	338	P	P	06 07 34.0	-0.9
LOHW	Long Hollow	69.14	49	P	P	06 07 36.4	+0.8
VES	Vestal, Richgr	69.15	60	P	P	06 07 35.9	+0.3
baz=310							
SNOW	Snow King Moun	69.15	49	P	P	06 07 36.9	+1.2
REDW	Red Top Meadow	69.17	50	P	P	06 07 37.4	+1.6
DGMT	Dagmar	69.20	42	P	P	06 07 36.1	+0.4
baz=313,SNR=7.6							
DGMT	Dagmar	69.20	42	P	P	06 07 35.6	-0.1
NC204	NORSAR Array S	69.23	339	P	P	06 07 35.7	0.0
NC204				IAmb	IAmb	06 07 36.5	
comp=Z,13nm,0.6s							
NB201	NORSAR Array S	69.28	338	P	P	06 07 35.2	-0.7
KIV	Kislovodsk	69.28	311	eP	P	06 07 36.5	+0.2
KIV	Kislovodsk	69.28	311	eP	P	06 07 36.5	+0.2
KIV				pmax	pmax		
comp=Z,68nm,1.0s							
KIV				MLR	MLR		
comp=Z,258nm,17.0s							
PKM	Mcpherson Peak	69.29	61	P	P	06 07 37.5	+0.8
baz=310							
NB2	NORSAR Subarra	69.31	338	P	P	06 07 34.3	-1.8
comp=Z,4.3nm,0.5s,baz=31,slow=6.5							
NB2	NORSAR Subarra	69.31	338	P	P	06 07 34.3	-1.8
baz=31,slow=6.5							
NOA	NORSAR Array B	69.31	338	P	P	06 07 34.8	-1.3
comp=Z,6.8nm,0.6s,baz=33,slow=6.3,SNR=35							
NOA				LR	LR	06 43 25.7	
comp=Z,52nm,19.0s,baz=20,slow=41							
KBZ	Khabaz	69.31	311	P	P	06 07 37.5	+1.1
comp=Z,18nm,0.8s,baz=39,slow=5.7,SNR=30							
KBZ				LR	LR	06 42 57.6	
comp=Z,107nm,18.6s,baz=36,slow=40							
ZEI	Tsey	69.38	310	eP	P	06 07 35.7	-1.4
ZEI				pmax	pmax		
comp=Z,14nm,0.8s							
CWC	Cottonwood Cre	69.39	59	P	P	06 07 38.3	+1.0
baz=310							
LAO	LASA Array	69.40	45	P	P	06 07 37.4	+0.4
baz=313							
LAO	LASA Array	69.40	45	P	P	06 07 37.5	+0.5
NBO00	NORSAR Array S	69.43	339	P	P	06 07 37.5	+0.6
NBO00				IAmb	IAmb	06 07 38.0	
comp=Z,18nm,0.9s							
NC602	NORSAR Array S	69.48	338	eP	P	06 07 36.4	-0.7
GRAC	Grapevine Rang	69.48	58	P	P	06 07 38.8	+1.1
baz=310							
PSA00	Pilbara Seismi	69.50	206	P	P	06 07 38.4	+0.7
PSA00				IAmb	IAmb	06 07 39.1	
comp=Z,15nm,0.9s							
PSA00	Pilbara Seismi	69.50	206	P	P	06 07 37.8	+0.1
PSA00				IAmb	IAmb	06 07 39.1	
comp=Z,11nm,1.1s							
NAO01	NORSAR Array S	69.56	339	P	P	06 07 37.9	+0.3
NAO01				IAmb	IAmb	06 07 38.5	
comp=Z,14nm,0.8s							
SPUT	South Promonto	69.61	52	P	P	06 07 39.4	+0.8
R11A	Troy Canyon, C	69.69	56	P	P	06 07 39.8	+0.7
baz=310,SNR=8.9							
R11A	Troy Canyon, C	69.69	56	P	P	06 07 38.9	-0.2
HWUT	Hardware Ranch	69.92	51	P	P	06 07 41.2	+0.8
MPMC	Manual Prospec	70.01	59	P	P	06 07 42.0	+1.0
baz=310,SNR=5.6							
FURC	Furnace Creek,	70.13	58	P	P	06 07 42.5	+1.0
baz=310,SNR=11							
DUG	Dugway, Tooele	70.13	53	P	P	06 07 42.8	+1.1
DUG				pmax	pmax		
comp=Z,8.0nm,0.8s							
DUG	Dugway, Tooele	70.13	53	P	P	06 07 42.9	+1.1
baz=311,SNR=13							
DUG	Dugway, Tooele	70.13	53	P	P	06 07 42.8	+1.1
DUG				IAmb	IAmb	06 07 43.9	
comp=Z,8.0nm,0.8s							
TPNV	Topopah Spring	70.20	58	P	P	06 07 42.4	+0.2
TPNV				pmax	pmax		
comp=Z,9.0nm,0.9s							
TPNV	Topopah Spring	70.20	58	P	P	06 07 43.1	+1.0
baz=310,SNR=10							
TPNV	Topopah Spring	70.20	58	P	P	06 07 42.4	+0.2
TPNV				IAmb	IAmb	06 07 44.3	
comp=Z,8.6nm,0.8s							
BW06	Boulder Array	70.27	49	P	P	06 07 43.4	+0.8
baz=312,SNR=7.8							
BW06	Boulder Array	70.27	49	P	P	06 07 43.6	+1.0
PD31	Pinedale Array	70.27	49	P	P	06 07 43.5	+0.9
PDAR	Pinedale Array	70.27	49	P	P	06 07 43.1	+0.5
comp=Z,3.5nm,0.7s,baz=283,slow=2.1,SNR=24							
PDAR	Pinedale Array	70.27	49	P	P	06 07 43.5	+0.9
TCUT	Toone Canyon	70.33	52	P	P	06 07 44.0	+1.0
SKAR	Skarslia	70.37	340	eP	P	06 07 42.7	0.0
EDW2	Edwards Air Fo	70.45	60	P	P	06 07 44.4	+0.8
baz=310							
HYA	Hoyanger	70.47	341	eP	P	06 07 43.2	+0.1
AKH	Akhalkalaki	70.52	309	⇑P	P	06 07 45.3	+1.2
PSUT	Pine Spring	70.61	55	P	P	06 07 45.7	+1.0
PRN	Pahroc Range	70.63	57	P	P	06 07 45.6	+0.8
SHOC	Shoshone, Teco	70.86	58	P	P	06 07 46.5	+0.5
baz=311							
GSC	Goldstone, Bar	70.92	59	P	P	06 07 47.2	+0.8
baz=311							
BFSC	Mount Baldy Ra	71.07	61	P	P	06 07 48.3	+0.9
baz=311							
SOC	Sochi	71.13	313	eP	P	06 07 44.5	-3.0
SOC				e*PP	PcP	06 08 06.8	-0.3
SOC				ePPP	PPP	06 12 09.9	
SOC				eS	S	06 16 56.1	-1.5
SOC				eSS	SS	06 21 27.4	-4.2
SOC				pmax	pmax		
comp=Z,12nm,0.5s							
SOC				MLR	MLR		
comp=Z,83nm,15.0s							
SHPR	Sheep Range	71.15	57	P	P	06 07 49.0	+1.1
AKASG	Malin Array Be	71.17	323	P	P	06 07 47.2	-0.4
comp=Z,18nm,0.6s,baz=38,slow=6.2,SNR=72							
AKASG				LR	LR	06 41 56.3	
comp=Z,49nm,18.3s,baz=35,slow=38							
AKASG	Malin Array Be	71.17	323	P	P	06 07 46.7	-0.9
AKBB	Malin Array Si	71.17	323	P	P	06 07 47.2	-0.4
AKBB				pmax	pmax		
comp=Z,24nm,0.7s							
AKBB	Malin Array Si	71.17	323	P	P	06 07 47.2	-0.4
TUQ	Turquoise Moun	71.38	59	P	P	06 07 50.6	+1.3
baz=311							
BATM	Batumi	71.39	310	⇑P	P	06 07 50.0	+0.9
ODD1	Odda	71.45	340	eP	P	06 07 51.9	+2.7
ANN	Anapa	71.48	315	eP	P	06 07 49.5	-0.1
ANN				e*PP	PcP	06 08 08.1	-0.5
ANN				pmax	pmax		
comp=Z,104nm,1.6s							
HEC	Hector,Ludlow	71.52	59	P	P	06 07 51.0	+0.9
baz=311							
CCUT	Cedar City	71.55	56	P	P	06 07 50.7	+0.3
MVU	Marysvale	71.60	54	P	P	06 07 52.4	+1.7
MSU	Marysvale	71.61	54	P	P	06 07 52.2	+1.4
MSU	Marysvale	71.61	54	P	P	06 07 52.2	+1.4
TMUT	Trail Mountain	71.65	53	P	P	06 07 52.5	+1.4
SZCU	Shurtz Canyon	71.68	55	P	P	06 07 52.3	+1.1
RDMU	Red Mountain	71.73	51	P	P	06 07 52.6	+1.2
ULM	Lac du Bonnet	71.76	37	P	P	06 07 51.0	-0.2
comp=Z,3.9nm,0.5s,baz=326,slow=6.8,SNR=6.0							
ULM	Lac du Bonnet	71.76	37	P	P	06 07 51.0	-0.2
ULM	Lac du Bonnet	71.76	37	P	P	06 07

SNART **Snarteno** 72.68 339 *e*P P 06 07 56.2 -0.2
IRM **Iron Mountain** 72.70 59 P P 06 07 58.2 +1.1
baz=312
O20A **White River Ci** 72.78 51 P P 06 07 58.3 +0.6
baz=313
O20A **White River Ci** 72.78 51 P P 06 07 58.7 +1.0
BC3 **Big Chuckawall** 72.84 60 P P 06 07 58.7 +0.6
baz=312
W13A **Hualapai Mount** 72.85 58 P P 06 07 59.0 +0.8
U15A **North Rim** 72.93 56 P P 06 08 00.6 +1.8
U15A IAmb IAmb 06 08 01.2
comp=Z,8.2nm,0.8s
BSD **Bornholm Skovb** 73.16 333 *i* P P 06 07 58.4 -0.9
comp=Z,24nm,0.7s
BSD **Bornholm Skovb** 73.16 333 *i* P P 06 07 58.4 -0.9
BSD pmax pmax
comp=Z,24nm,0.7s
AGMN **Agassiz Nation** 73.21 38 P P 06 07 59.4 -0.4
baz=318
PDMCI **Parker Dam,Lak** 73.22 59 P P 06 08 01.3 +1.1
baz=312
UOSS **Minazif** 73.29 289 P P 06 08 01.1 +0.4
PV23 **Carpenter Ridg** 73.49 52 P P 06 08 02.8 +0.8
PV23 IAmb IAmb 06 08 04.0
comp=Z,22nm,1.4s
PHWY **Pilot Hill** 73.50 48 P P 06 08 01.9 -0.1
N23A **Red Feather La** 73.52 49 P P 06 08 03.4 +1.3
baz=314,SNR=5.1
N23A **Red Feather La** 73.52 49 P P 06 08 02.6 +0.5
PV10 **Paradox Valley** 73.52 52 P P 06 08 03.6 +1.4
PV10 IAmb IAmb 06 08 04.5
comp=Z,15nm,0.8s
PV14 **Lion Creek, Pa** 73.53 52 P P 06 08 02.8 +0.6
PV14 IAmb IAmb 06 08 04.9
comp=Z,8.0nm,0.8s
PV22 **Blue Mesa, Par** 73.56 52 P P 06 08 02.5 +0.2
PV04 **Paradox Valley** 73.59 52 P P 06 08 04.0 +1.5
PV20 **West Nyswonger** 73.59 52 P P 06 08 03.9 +1.4
PV20 IAmb IAmb 06 08 04.4
comp=Z,7.6nm,0.8s
PV19 **Morning Glory** 73.60 53 P P 06 08 03.9 +1.3
PV19 IAmb IAmb 06 08 04.5
comp=Z,9.6nm,0.8s
GLA **Glamis** 73.63 60 P P 06 08 04.0 +1.4
GLA pmax pmax
comp=Z,6.0nm,0.8s
GLA **Glamis** 73.63 60 P P 06 08 03.6 +1.0
baz=312
GLA **Glamis** 73.63 60 P P 06 08 04.0 +1.4
PV17 **East Wray Mesa** 73.63 53 P P 06 08 04.0 +1.2
PV17 IAmb IAmb 06 08 04.7
comp=Z,17nm,0.7s
PV16 **Nyswonger Mesa** 73.64 52 P P 06 08 04.2 +1.4
PV16 IAmb IAmb 06 08 04.8
comp=Z,17nm,1.2s
PV11 **David Mesa, Pa** 73.67 52 P P 06 08 04.4 +1.5
PV11 IAmb IAmb 06 08 05.7
comp=Z,12nm,0.9s
PV18 **Skein Mesa, Pa** 73.69 53 P P 06 08 04.5 +1.4
PV18 IAmb IAmb 06 08 05.0
comp=Z,10nm,0.8s
PV05 **Paradox Valley** 73.69 53 P P 06 08 04.0 +0.9
PV05 IAmb IAmb 06 08 05.2
comp=Z,12nm,0.9s
PV12 **Saucer Basin,** 73.70 52 P P 06 08 04.5 +1.3
PV07 **Paradox Valley** 73.70 52 P P 06 08 03.5 +0.3
PV03 **Paradox Valley** 73.72 52 P P 06 08 04.4 +1.1
PV13 **Radium Mtn., P** 73.80 53 P P 06 08 04.9 +1.1
PV13 IAmb IAmb 06 08 05.8
comp=Z,9.6nm,0.8s
PV02 **Paradox Valley** 73.81 52 P P 06 08 04.4 +0.6
PV15 **Paradox Valley** 73.87 52 P P 06 08 04.0 -0.1
PV01 **Paradox Valley** 73.96 52 P P 06 08 05.8 +1.1
LVV **L'vov** 74.03 325 *e*P P 06 07 58.2 -6.4
ARMA **Armidale** 74.06 175 P P 06 08 05.8 +0.9
ARMA IAmb IAmb 06 08 07.7
comp=Z,15nm,1.1s
WUAZ **Wupatki** 74.09 56 P P 06 08 06.9 +1.4
baz=313,SNR=5.2
WUAZ **Wupatki** 74.09 56 P P 06 08 05.6 +0.2
B35A **Bob, Littlefor** 74.11 37 P P 06 08 04.5 -0.6
B35A IAmb IAmb 06 08 05.5
comp=Z,8.4nm,0.6s
Y14A **Wickenburg** 74.17 58 P P 06 08 06.9 +1.2
ISCO **Idaho Springs** 74.47 50 P P 06 08 07.8 +0.1
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO **Idaho Springs** 74.47 50 P P 06 08 08.6 +0.9
baz=315,SNR=7.5
ISCO **Idaho Springs** 74.47 50 P P 06 08 07.8 +0.1
MVCO **Mesa Verde** 74.63 53 P P 06 08 09.4 +0.7
baz=314,SNR=8.5
MVCO **Mesa Verde** 74.63 53 P P 06 08 08.4 -0.3
KWP **Kalwaria Pacla** 74.71 326 P P 06 08 08.3 -0.3
KWP pmax pmax
comp=Z,44nm,0.8s
KWP **Kalwaria Pacla** 74.71 326 P P 06 08 08.3 -0.3
X16A **Lo Mia Camp, P** 74.80 57 P P 06 08 11.1 +1.5
X16A IAmb IAmb 06 08 12.0
comp=Z,8.4nm,0.8s
MARD **Mardin** 74.84 307 P P 06 08 10.3 +0.6
F33A **5 Mile Ranch,** 74.85 40 P P 06 08 08.8 -0.6
F33A IAmb IAmb 06 08 10.4
comp=Z,5.7nm,0.6s
BUR08 **Bucovina Ar. S** 75.21 323 P P 06 08 12.0 +0.4
BUR08 IAmb IAmb 06 08 12.5
comp=Z,11nm,0.6s
S22A **4UR Ranch, Cre** 75.22 52 P P 06 08 13.4 +1.3
baz=314,SNR=8.1
S22A **4UR Ranch, Cre** 75.22 52 P P 06 08 13.1 +1.0
BURAR **Bucovina Array** 75.22 323 ⇑P P 06 08 12.0 +0.3
BURAR **Bucovina Array** 75.22 323 P P 06 08 11.8 +0.1
BIZ **Bicaz** 75.35 322 ⇑P P 06 08 11.5 -0.8
OJC **Ojcow** 75.40 328 P P 06 08 12.6 +0.1
OJC pmax pmax
comp=Z,35nm,1.1s
OJC **Ojcow** 75.40 328 P P 06 08 12.6 +0.1
KOLS **Kolonicke sedl** 75.44 326 *e*P P 06 08 11.8 -1.0
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS **Kolonicke sedl** 75.44 326 *e*P P 06 08 11.8 -1.0
TLCR 75.44 320 ⇑P P 06 08 13.0 +0.2
STKA **Stephens Creek** 75.49 184 P P 06 08 14.0 +1.0
comp=Z,5.7nm,0.7s,baz=348,slow=7.5,SNR=15
STKA LR LR 06 41 17.8
comp=Z,20nm,19.8s,baz=26,slow=35
STKA **Stephens Creek** 75.49 184 P P 06 08 13.8 +0.8
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA **Stephens Creek** 75.49 184 P P 06 08 13.8 +0.8
BSEG **Bad Segeberg** 75.60 335 *e*P P 06 08 13.8 +0.2
comp=Z,19nm,1.0s,baz=31,slow=5.5
214A **Organ Pipe Nat** 75.63 60 P P 06 08 15.0 +0.9
baz=313
UZH **Uzhgorod** 75.67 325 *e*P P 06 08 00.8 -13
CFR **Carcaliu** 75.77 320 ⇑P P 06 08 13.4 -1.2
CRVS **Cervenica-Dubn** 75.79 326 *e*P P 06 08 14.9 +0.1
CRVS pmax pmax
comp=Z,14nm,0.9s
CRVS **Cervenica-Dubn** 75.79 326 *e*P P 06 08 14.9 +0.1
VRI **Vrincioaia** 75.89 321 ⇑P P 06 08 16.8 +1.4
SDCO **Great Sand Dun** 75.97 51 P P 06 08 17.2 +0.9
baz=315,SNR=5.7
SDCO **Great Sand Dun** 75.97 51 P P 06 08 16.2 -0.2
K31A **O'Neill** 76.04 44 P P 06 08 16.5 +0.1
K31A IAmb IAmb 06 08 22.6
comp=Z,21nm,0.9s
HLG **Helgoland** 76.11 336 *e*P P 06 08 17.9 +1.5
comp=Z,238nm,1.0s,baz=31,slow=5.5
FORT **Forrest** 76.14 196 P P 06 08 17.2 +0.5
OZUR 76.14 322 ⇑P P 06 08 17.9 +1.1
HARR **Harsova** 76.23 320 ⇑P P 06 08 17.8 +0.5
ECSD **EROS Data Cent** 76.27 42 P P 06 08 17.2 -0.4
baz=319,SNR=8.2
ECSD **EROS Data Cent** 76.27 42 P P 06 08 17.5 -0.1
ECSD IAmb IAmb 06 08 19.5
comp=Z,5.9nm,0.7s
KAC **Achnashellach** 76.28 345 *e*P P 06 08 16.2 -1.1
LANS **Liptovska Anna** 76.39 327 *e*P P 06 08 19.1 +0.9
LANS *e* 06 08 39.9
LANS pmax pmax
comp=Z,11nm,0.8s
LANS **Liptovska Anna** 76.39 327 *e*P P 06 08 19.1 +0.9
LANS *e* 06 08 39.9

DOPR **Dopca** 76.42 322 ⇑P P 06 08 19.6 +1.2
KPL **Plockton** 76.49 345 *e*P P 06 08 17.2 -1.3
CHVC **Chvalec** 76.50 330 *e*P P 06 08 19.0 +0.2
MLR **Muntele Rosu** 76.53 321 ⇑P P 06 08 19.6 +0.4
MLR **Muntele Rosu** 76.53 321 P P 06 08 19.6 +0.4
MLR pmax pmax
comp=Z,11nm,0.9s
MLR **Muntele Rosu** 76.53 321 P P 06 08 19.6 +0.4
MLR IAmb IAmb 06 08 20.7
comp=Z,11nm,0.9s
UPC **Upice** 76.58 330 AMS AMS 06 41 20.0
comp=Z,100nm,16.1s
DPC **Dobruska-Polom** 76.60 330 *e*P P 06 08 19.2 -0.2
DPC **Dobruska-Polom** 76.60 330 *e*P P 06 08 19.2 -0.2
MORC **Moravsky Berou** 76.62 329 ⇑P P 06 08 20.1 +0.6
MORC **Moravsky Berou** 76.62 329 *e*P P 06 08 19.5 +0.1
MORC *e* 06 08 39.9
MORC **Moravsky Berou** 76.62 329 P P 06 08 19.6 +0.1
MORC pmax pmax
comp=Z,17nm,0.9s
MORC **Moravsky Berou** 76.62 329 P P 06 08 19.6 +0.2
MORC IAmb IAmb 06 08 20.7
comp=Z,17nm,0.9s
TUC **Tucson** 76.64 58 P P 06 08 20.9 +0.9
baz=314
KSCO **Kaye Shedlock'** 76.65 48 P P 06 08 19.6 -0.4
KRLC **Kraliky** 76.66 329 *e*P P 06 08 19.8 +0.1
KRLC **Kraliky** 76.66 329 *e*P P 06 08 19.8 +0.1
BBOO **Buckleboo** 76.87 189 P P 06 08 21.0 +0.2
BBOO IAmb IAmb 06 08 23.4
comp=Z,11nm,0.9s
NRDL **Niedersach Rie** 76.90 334 *e*P P 06 08 20.7 -0.2
comp=Z,13nm,0.9s,baz=31,slow=5.5
CLL **Collm** 76.97 332 ⇓*i*P P 06 08 20.7 -0.6
comp=Z,27nm,0.7s
CLL *e*PcP PcP 06 08 30.0 -2.1
CLL *i* pP pP 06 08 41.3 -1.4
CLL *es*P sP 06 08 51.0 -0.5
CLL *e* 06 08 58.0
CLL *e*PP PP 06 11 18.0 +3.2
CLL *e*PPPP 06 14 12.0
CLL *e* 06 15 48.0
CLL *e* 06 27 30.0
CLL LmV 06 47 00.0
comp=Z,100nm,18.4s
CLL **Collm** 76.97 332 ⇓*i*P P 06 08 20.7 -0.6
CLL *i* *PP pP 06 08 41.3 -1.4
CLL pmax pmax
comp=Z,27nm,0.7s
CLL **Collm** 76.97 332 *e*P P 06 08 20.8 -0.6
comp=Z,27nm,0.7s,baz=31,slow=5.5
CLL *e*pP pP 06 08 41.5 -1.2
CLL **Collm** 76.97 332 P P 06 08 20.8 -0.5
VOIR 76.98 322 ⇑P P 06 08 22.2 +0.6
BRG **Berggiesshubel** 77.01 331 *e*P P 06 08 21.1 -0.5
comp=Z,8.8nm,1.0s
BRG **Berggiesshubel** 77.01 331 *e*P P 06 08 21.1 -0.5
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG **Berggiesshubel** 77.01 331 *e*P P 06 08 21.2 -0.4
comp=Z,8.8nm,1.0s,baz=31,slow=5.5
T25A **Trinidad** 77.01 51 P P 06 08 22.6 +0.4
BRTR **Keskin Array B** 77.07 313 P P 06 08 22.5 +0.2
comp=Z,2.8nm,0.6s,baz=63,slow=5.6,SNR=7.9
BRTR LR LR 06 47 06.3
comp=Z,24nm,18.4s,baz=31,slow=39
PVCC **Panska Ves** 77.08 331 *e*P P 06 08 22.2 +0.2
PVCC **Panska Ves** 77.08 331 *e*P P 06 08 22.2 +0.2
VYHS **Vyhne** 77.16 327 *e*P P 06 08 22.7 +0.2
VYHS pmax pmax
comp=Z,10.0nm,0.7s
VYHS **Vyhne** 77.16 327 *e*P P 06 08 22.7 +0.2
FBE **Freiberg** 77.17 332 *e*P P 06 08 22.5 0.0
comp=Z,15nm,0.8s,baz=31,slow=5.5
PSZ **Piszkesteto** 77.21 326 ⇑P P 06 08 23.6 +0.7
PSZ **Piszkesteto** 77.21 326 P P 06 08 22.2 -0.7
PSZ pmax pmax
comp=Z,13nm,0.8s
PSZ **Piszkesteto** 77.21 326 P P 06 08 22.2 -0.7
PSZ IAmb IAmb 06 08 24.3
comp=Z,13nm,0.8s
ARR **Arges** 77.22 322 ⇑P P 06 08 24.2 +1.2
VRAC **Vranov** 77.36 329 ⇑P P 06 08 24.4 +0.8
VRAC **Vranov** 77.36 329 *e*P P 06 08 23.8 +0.2
VRAC *e* 06 08 44.1
CLZ **Clausthal** 77.38 334 *e*P P 06 08 23.8 +0.1
comp=Z,25nm,0.7s,baz=31,slow=5.5
CLZ *e*pP pP 06 08 44.2 -0.9
ANMO **Albuquerque** 77.39 54 *ce*P P 06 08 24.3 0.0
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO **Albuquerque** 77.39 54 P P 06 08 25.6 +1.3
baz=315
NEUB **Neuenburg** 77.46 333 *e*P P 06 08 23.7 -0.4
comp=Z,28nm,1.0s,baz=31,slow=5.5
GOPC **GO Pecny, Ondr** 77.51 330 *e*P P 06 08 24.7 +0.2
GOPC **GO Pecny, Ondr** 77.51 330 *e*P P 06 08 24.7 +0.2
PRU **Pruhonice** 77.54 330 *e*P P 06 08 24.6 0.0
PRU **Pruhonice** 77.54 330 *e*P P 06 08 24.6 0.0
I37A **Lemond, Waseca** 77.57 40 P P 06 08 25.1 +0.2
I37A IAmb IAmb 06 08 26.2
comp=Z,14nm,0.7s
KRUC **Moravsky** 77.63 329 *e*P P 06 08 25.3 +0.2
KRUC *e* 06 08 45.6
L34A **Svendsen Farm,** 77.71 43 P P 06 08 25.3 -0.4
SCHQ **Schefferville** 77.71 19 P P 06 08 25.3 -0.1
comp=Z,6.7nm,0.6s,baz=327,slow=6.4,SNR=16
SCHQ LR LR 06 46 36.6
comp=Z,62nm,18.7s,baz=164,slow=39
SCHQ **Schefferville** 77.71 19 IAmb IAmb 06 08 27.4
comp=Z,9.2nm,0.8s
IBBN **Ibbenburen** 77.79 335 *e*P P 06 08 25.6 -0.2
comp=Z,28nm,0.6s,baz=31,slow=5.5
SIRR **Siria** 77.80 324 ⇑P P 06 08 26.6 +0.4
BNM **Barren Site** 77.86 54 P P 06 08 27.3 +0.4
MODS **Modra-Piesok** 77.86 328 *e*P P 06 08 26.1 -0.3
MODS pmax pmax
comp=Z,11nm,0.9s
MODS **Modra-Piesok** 77.86 328 *e*P P 06 08 26.1 -0.3
ESK **Eskdalemuir** 77.89 343 *e*P P 06 08 25.4 -1.0
ESK IAmb IAmb 06 08 26.8
comp=Z,14nm,0.8s
ESK **Eskdalemuir** 77.89 343 P P 06 08 26.4 0.0
ESK pmax pmax
comp=Z,13nm,0.6s
ESK **Eskdalemuir** 77.89 343 P P 06 08 26.4 0.0
ESK IAmb IAmb 06 08 27.1
comp=Z,13nm,0.6s
TANN **Tannenbergstha** 77.91 332 *e*P P 06 08 26.4 -0.2
comp=Z,5.6nm,0.8s,baz=31,slow=5.5
PLN **Plauen** 77.95 332 *e*P P 06 08 26.6 -0.2
comp=Z,9.2nm,0.8s,baz=31,slow=5.5
GUNZ **Gunzen** 77.99 332 *e*P P 06 08 27.0 -0.2
comp=Z,10.0nm,0.7s,baz=31,slow=5.5
MOX **Moxa** 78.00 332 *e*P P 06 08 26.8 -0.3
comp=Z,11nm,0.8s,baz=31,slow=5.5
WERN **Wernitzgruen** 78.04 332 *e*P P 06 08 27.3 -0.2
comp=Z,14nm,0.7s,baz=31,slow=5.5
NEWG **New Galloway** 78.29 343 *e*P P 06 08 28.3 -0.3
NEWG IAmb IAmb 06 08 28.9
comp=Z,76nm,1.9s
121A **Cookes Peak, D** 78.31 56 P P 06 08 30.5 +1.1
baz=315
121A **Cookes Peak, D** 78.31 56 P P 06 08 30.8 +1.4
BZS **Buzias** 78.33 324 ⇑P P 06 08 29.1 +0.1
CBKS **Cedar Bluff** 78.34 47 P P 06 08 29.1 -0.2
baz=318
UBBA **Unterbreizbach** 78.38 333 *e*P P 06 08 28.9 -0.1
comp=Z,8.5nm,0.6s,baz=31,slow=5.5
MANZ **Manzenberg** 78.39 332 *e*P P 06 08 29.1 -0.2
comp=Z,8.6nm,0.8s,baz=31,slow=5.5
ROTZ **Rotzenmuhle** 78.54 332 *e*P P 06 08 30.3 +0.1
comp=Z,11nm,1.0s,baz=31,slow=5.5
KESW **Keswick, Cumbr** 78.55 342 *e*P P 06 08 29.6 -0.5
HERR **Herculane** 78.57 323 ⇑P P 06 08 30.2 -0.2
KHC **Kasperske Hory** 78.60 331 *e*P P 06 08 30.7 +0.2
KHC *e*pP pP 06 08 51.0 -0.9
KHC *ex* x 06 09 07.0
KHC AMS AMS 06 45 10.0
comp=Z,100nm,18.4s
KHC **Kasperske Hory** 78.60 331 *ce*P P 06 08 30.5 0.0
KHC pmax pmax
comp=Z,59nm,0.8s
KHC **Kasperske Hory** 78.60 331 P P 06 08 30.6 0.0

KHC IAmb IAmb 06 08 31.6
comp=Z,10.0nm,0.7s
GAL1 **Galloway** 78.63 343 *e*P P 06 08 29.9 -0.6
GAL1 IAmb IAmb 06 08 31.0
comp=Z,18nm,0.6s
BUG **Bochum--Univer** 78.69 335 *e*P P 06 08 30.6 -0.3
comp=Z,20nm,0.7s,baz=31,slow=5.5
CONA **Conrad Observa** 78.77 329 *i* P P 06 08 31.4 -0.1
comp=Z,12nm,0.6s,SNR=12
HPK **Haverah Park** 78.80 341 *e*P P 06 08 31.2 -0.3
HPK IAmb IAmb 06 08 34.5
comp=Z,32nm,0.6s
GEC2 **GERESS Array S** 78.80 330 *e*P P 06 08 31.2 -0.4
comp=Z,8.4nm,0.6s,baz=31,slow=5.5
GEC2 **GERESS Array S** 78.80 330 P P 06 08 31.4 -0.3
GEC2 IAmb IAmb 06 08 31.8
comp=Z,7.2nm,0.6s
GERES **GERESS Array B** 78.80 330 P P 06 08 31.4 -0.3
comp=Z,6.0nm,0.6s,baz=29,slow=6.1,SNR=40
GERES LR LR 06 45 49.1
comp=Z,76nm,18.1s,baz=37,slow=38
GERES **GERESS Array B** 78.80 330 P P 06 08 31.2 -0.4
WET **Wettzell** 78.84 331 *e*P P 06 08 32.0 +0.1
comp=Z,17nm,1.1s,baz=31,slow=5.5
WET *e*pP pP 06 08 52.4 -0.8
GRF **Grafenberg Arr** 78.94 332 *e*P P 06 08 32.5 +0.1
comp=Z,36nm,0.7s,baz=31,slow=5.5
MDVR **Moldovita** 78.96 323 ⇑P P 06 08 32.3 -0.3
MATQ **Matagami** 79.16 27 P P 06 08 33.5 0.0
baz=329
WIM **Isle of Man** 79.29 343 *e*P P 06 08 33.5 -0.7
LBWR **Ladybower, Pea** 79.33 341 *e*P P 06 08 34.3 -0.1
LBWR IAmb IAmb 06 08 35.2
comp=Z,64nm,0.8s
TNS **Taunus Mts** 79.39 334 *e*P P 06 08 34.6 -0.3
comp=Z,12nm,0.7s,baz=31,slow=5.5
MOA **Molln** 79.43 329 *i* P P 06 08 34.9 -0.2
comp=Z,6.5nm,0.7s
ARSA **Arzberg** 79.46 328 *i* P P 06 08 34.4 -0.8
comp=Z,2.7nm,0.5s
AHRW **Bad Neuenahr-A** 79.54 335 *e*P P 06 08 35.3 -0.2
comp=Z,11nm,1.0s,baz=31,slow=5.5
KSU1 **Kansas State U** 79.75 45 P P 06 08 36.8 -0.2
KSU1 IAmb IAmb 06 08 54.2
comp=Z,23nm,1.1s
MEM **Membach** 79.80 336 P P 06 08 36.1 -0.8
comp=Z,13nm,0.8s
BSTI **Sart Tilman** 79.96 336 P P 06 08 38.0 +0.2
LSQG **Lebel-sur-Quev** 79.98 27 P P 06 08 37.6 -0.4
baz=330
RJOB **Jochberg** 80.06 330 *e*P P 06 08 37.7 -0.8
comp=Z,12nm,0.8s,baz=31,slow=5.5
CHGQ **Chibougamau** 80.08 25 P P 06 08 38.2 -0.3
baz=332
SOKA **Soboth** 80.12 328 *i* P P 06 08 38.9 0.0
comp=Z,15nm,0.8s,SNR=12
GROS **Grobnik** 80.12 328 *i* P P 06 08 38.6 -0.3
PERS **Pernice** 80.12 328 *i* P P 06 08 38.7 -0.2
N38A **Joes South For** 80.13 42 P P 06 08 39.1 +0.1
N38A IAmb IAmb 06 08 41.3
comp=Z,11nm,0.8s
AMTX **Amarillo** 80.17 51 P P 06 08 39.0 -0.4
BCLA **Clavier** 80.18 336 P P 06 08 38.6 -0.4
FUR **Furstenfeldbru** 80.23 331 *e*P P 06 08 39.5 +0.1
comp=Z,28nm,0.6s,baz=31,slow=5.5
DIVS **Divibare** 80.24 324 P P 06 08 39.1 -0.5
DIVS IAmb IAmb 06 08 40.1
comp=Z,7.8nm,0.7s
MNTX **Cornudas Mount** 80.33 55 P P 06 08 40.9 +0.7
baz=316,SNR=7.4
MNTX **Cornudas Mount** 80.33 55 P P 06 08 41.0 +0.7
STU **Stuttgart** 80.41 333 P P 06 08 40.4 +0.1
STU pmax pmax
comp=Z,34nm,0.4s
STU **Stuttgart** 80.41 333 *e*P P 06 08 40.0 -0.4
comp=Z,23nm,0.7s,baz=31,slow=5.5
STU **Stuttgart** 80.41 333 P P 06 08 40.4 +0.1
KBA **Koelnbreinsper** 80.42 330 *i* P P 06 08 41.3 +0.7
comp=Z,19nm,0.7s,SNR=11
HLM1 **Long Mynd** 80.42 342 *e*P P 06 08 40.0 -0.3
BMRD **Maredsous** 80.44 336 P P 06 08 40.1 -0.4
OBKA **Obir** 80.45 329 *i* P P 06 08 40.7 +0.1
comp=Z,9.9nm,0.6s
WLF **Walferdange** 80.59 335 *e*P P 06 08 42.2 +0.9
comp=Z,19nm,1.0s,baz=31,slow=5.5
LEGS **Legarje** 80.62 328 *i* P P 06 08 40.9 -0.6
VLDQ **Val d'Or** 80.64 28 P P 06 08 40.4 -1.1
VLDQ IAmb IAmb 06 08 47.6
comp=Z,9.8nm,0.8s
MYKA **Terra Mystica** 80.69 329 *i* P P 06 08 41.3 -0.6
comp=Z,7.3nm,0.6s
WATA **Walderalm** 80.83 331 *i* P P 06 08 42.8 0.0
comp=Z,14nm,0.5s
PRED **Cave del Predi** 80.87 329 P P 06 08 41.8 -1.1
PRED IAmb IAmb 06 08 44.3
comp=Z,12nm,0.6s
WTTA **Wattenberg** 80.87 331 *i* P P 06 08 43.3 +0.2
comp=Z,21nm,0.6s,SNR=7.8
P38A **Dawn** 80.89 43 P P 06 08 42.2 -0.8
P38A IAmb IAmb 06 08 44.2
comp=Z,8.6nm,0.7s
MCH1 **Michaelchurch** 80.93 341 *e*P P 06 08 42.2 -0.8
MCH1 IAmb IAmb 06 08 43.6
comp=Z,29nm,0.7s
GBAS **Gorenja Brezov** 80.97 328 *e*P P 06 08 42.3 -1.0
RETA **Reutte** 80.99 331 *i* P P 06 08 43.7 +0.2
comp=Z,13nm,1.0s
MOTA **Moosalm** 80.99 331 *i* P P 06 08 43.7 0.0
comp=Z,17nm,0.6s,SNR=11
ZOU **Zoufplan** 80.99 329 P P 06 08 43.5 -0.2
ABTA **Abfaltersbach** 81.00 330 *i* P P 06 08 43.4 -0.2
comp=Z,3.8nm,0.6s
MONM **Monmouth** 81.03 341 *e*P P 06 08 43.3 -0.2
MONM IAmb IAmb 06 08 44.2
comp=Z,109nm,1.7s
SQTA **Sankt Quirin** 81.06 331 *i* P P 06 08 44.2 +0.2
comp=Z,16nm,0.6s,SNR=5.7
BFO **Black Forest** 81.08 333 P P 06 08 43.5 -0.4
BFO pmax pmax
comp=Z,11nm,0.6s
BFO **Black Forest** 81.08 333 *e*P P 06 08 43.6 -0.3
comp=Z,14nm,0.8s,baz=31,slow=5.5
BFO **Black Forest** 81.08 333 P P 06 08 43.5 -0.4
BFO IAmb IAmb 06 08 44.5
comp=Z,11nm,0.6s
SWN1 **Swindon** 81.09 341 *e*P P 06 08 44.2 +0.3
SWN1 IAmb IAmb 06 08 44.5
comp=Z,80nm,0.7s
JAVS **Javornik** 81.15 328 *i* P P 06 08 43.1 -1.3
SKO **Skopje** 81.32 322 *i* P P 06 08 46.2 +1.0
VAY **Valandovo** 81.32 321 *i* P P 06 08 46.0 +0.7
N41A **Harden Midland** 81.33 40 P P 06 08 45.4 +0.1
N41A IAmb IAmb 06 08 47.5
comp=Z,8.2nm,0.6s
STAL **STALIGIAL** 81.34 329 P P 06 08 44.2 -1.2
STAL IAmb IAmb 06 08 44.7
comp=Z,14nm,0.6s
RSBS **Rosebush, Pemb** 81.36 342 *e*P P 06 08 45.2 -0.1
CIMO **Cimolais** 81.40 330 P P 06 08 44.5 -1.2
FETA **Feichten** 81.40 331 *i* P P 06 08 45.8 -0.1
comp=Z,8.8nm,0.9s,SNR=6.2
T35A **Sooner Cattle** 81.45 46 P P 06 08 46.4 +0.3
T35A IAmb IAmb 06 08 47.5
comp=Z,8.1nm,0.8s
DAVA **Damuels** 81.47 332 *i* P P 06 08 46.3 +0.1
comp=Z,16nm,0.6s
ECH **Echery** 81.56 334 P P 06 08 45.9 -0.5
ECH pmax pmax
comp=Z,14nm,0.7s
ECH **Echery** 81.56 334 P P 06 08 45.9 -0.5
ECH IAmb IAmb 06 08 46.8
comp=Z,14nm,0.7s
P40A **Paris** 81.68 42 P P 06 08 47.6 +0.4
P40A IAmb IAmb 06 08 48.5
comp=Z,8.9nm,0.7s
OK029 **Liberty Lake** 81.80 47 P P 06 08 48.6 +0.7
OK029 IAmb IAmb 06 08 50.4
comp=Z,9.1nm,0.6s
WMOK **Wichita Mounta** 81.88 49 P P 06 08 48.6 +0.2
WMOK pmax pmax
comp=Z,3.0nm,1.0s
WMOK **Wichita Mounta** 81.88 49 P P 06 08 48.9 +0.5
baz=319
WMOK **Wichita Mounta** 81.88 49 P P 06 08 48.6 +0.2
PDG **Podgorica** 81.91 323 ⇑P P 06 08 48.4 0.0
PDG **Podgorica** 81.91 323 P P 06 08 48.1 -0.2

CTI	**Castel Tesino**	**81.91**	**330**	P	**P**	**06 08 46.7**	**-1.7**
CTI				pmax	pmax		
	comp=Z,12nm,0.6s						
CTI	**Castel Tesino**	**81.91**	**330**	P	**P**	**06 08 46.7**	**-1.7**
CTI				IAmb	IAmb	06 08 47.9	
	comp=Z,12nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**81.91**	**331**	P	**P**	**06 08 48.8**	**+0.1**
FUORN				IAmb	IAmb	06 08 49.7	
	comp=Z,15nm,0.8s						
OK025	**Westminster Rd**	**82.03**	**48**	P	**P**	**06 08 50.0**	**+0.9**
OK025				IAmb	IAmb	06 08 50.6	
	comp=Z,14nm,0.7s						
HDIL	**Hopedale**	**82.17**	**39**	P	**P**	**06 08 49.7**	**0.0**
	baz=323						
HDIL	**Hopedale**	**82.17**	**39**	P	**P**	**06 08 50.0**	**+0.2**
HDIL				IAmb	IAmb	06 08 52.1	
	comp=Z,11nm,0.6s						
D55A	**Sainte-Anne-du**	**82.26**	**27**	P	**P**	**06 08 49.7**	**-0.4**
	baz=331						
OHR	**Ohrid**	**82.29**	**322**	*i* P	**P**	**06 08 50.4**	**-0.1**
FNA	**Florina**	**82.30**	**321**	P	**P**	**06 08 49.4**	**-1.1**
FNA				pmax	pmax		
	comp=Z,11nm,0.7s						
FNA	**Florina**	**82.30**	**321**	P	**P**	**06 08 49.4**	**-1.1**
FNA				IAmb	IAmb	06 08 53.0	
	comp=Z,11nm,0.7s						
TUE	**Stuetta**	**82.36**	**332**	P	**P**	**06 08 50.7**	**-0.2**
D56A	**ZEC Mazanza, M**	**82.47**	**27**	P	**P**	**06 08 50.9**	**-0.3**
	baz=331						
S39A	**Bolivar**	**82.49**	**44**	P	**P**	**06 08 51.0**	**-0.5**
R40A	**Maddies Statio**	**82.54**	**43**	P	**P**	**06 08 51.7**	**0.0**
R40A				IAmb	IAmb	06 08 53.6	
	comp=Z,8.1nm,0.8s						
TUL1	**Leonard**	**82.59**	**46**	P	**P**	**06 08 52.4**	**+0.4**
	baz=320						
TUL1	**Leonard**	**82.59**	**46**	P	**P**	**06 08 52.7**	**+0.7**
SALO	**Salr**	**82.68**	**330**	P	**P**	**06 08 51.8**	**-0.5**
D57A	**Chemin Vers le**	**82.78**	**26**	P	**P**	**06 08 52.6**	**-0.2**
	baz=332						
E56A	**St. Veronique**	**82.82**	**27**	P	**P**	**06 08 52.5**	**-0.5**
	baz=331						
TX31	**Lajitas Ar. Si**	**83.06**	**56**	P	**P**	**06 08 55.4**	**+0.7**
TX32	**Lajitas Array**	**83.06**	**56**	P	**P**	**06 08 55.3**	**+0.6**
TX32				IAmb	IAmb	06 08 56.6	
	comp=Z,12nm,1.2s						
TXAR	**Lajitas Array**	**83.06**	**56**	P	**P**	**06 08 55.6**	**+1.0**
	comp=Z,5.5nm,0.7s,baz=295,slow=3.5,SNR=70						
TXAR				pP	**pP**	**06 09 17.2**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=296,slow=4.0,SNR=6.5						
TXAR	**Lajitas Array**	**83.06**	**56**	P	**P**	**06 08 55.5**	**+0.8**
SENIN	**Lac Senin/Sane**	**83.14**	**333**	P	**P**	**06 08 54.7**	**-0.3**
SENIN				IAmb	IAmb	06 08 57.1	
	comp=Z,12nm,0.8s						
CCM	**Cathedral Cave**	**83.23**	**42**	P	**P**	**06 08 55.1**	**-0.2**
CCM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CCM	**Cathedral Cave**	**83.23**	**42**	P	**P**	**06 08 55.1**	**-0.2**
	baz=322						
CCM	**Cathedral Cave**	**83.23**	**42**	P	**P**	**06 08 55.1**	**-0.2**
CCM				IAmb	IAmb	06 08 56.4	
	comp=Z,8.3nm,0.7s						
E57A	**Chemin Saint G**	**83.23**	**27**	P	**P**	**06 08 54.7**	**-0.5**
	baz=332						
TRQ	**Mont Tremblant**	**83.26**	**27**	P	**P**	**06 08 55.0**	**-0.4**
HHAR	**Hobbs**	**83.27**	**45**	P	**P**	**06 08 55.7**	**+0.2**
SFIN	**Lafayette**	**83.31**	**38**	P	**P**	**06 08 55.7**	**+0.1**
	baz=324						
E58A	**La Victoria**	**83.55**	**26**	P	**P**	**06 08 56.7**	**-0.1**
	baz=332						
ORIO	**Orleans, Innes**	**83.61**	**28**	P	**P**	**06 08 56.2**	**-0.9**
	baz=331						
PMOR	**Pomariorio Ree**	**83.69**	**118**	*e*T	T	07 40 46.7	
	comp=Z,95nm,0.3s						
D61A	**St Aubert, Com**	**83.76**	**24**	P	**P**	**06 08 57.5**	**-0.3**
	baz=334						
U40A	**Yellville**	**83.76**	**44**	P	**P**	**06 08 58.1**	**0.0**
	baz=321,SNR=7.0						
U40A	**Yellville**	**83.76**	**44**	P	**P**	**06 08 58.0**	**0.0**
U40A				IAmb	IAmb	06 08 59.0	
	comp=Z,7.2nm,0.7s						
D60A	**Saint Jean D'O**	**83.80**	**25**	P	**P**	**06 08 57.1**	**-0.9**
	baz=334						
P46A	**Rosedale**	**83.88**	**39**	P	**P**	**06 08 58.9**	**+0.3**
MURB	**Monte Urbino**	**83.96**	**328**	P	**P**	**06 09 00.1**	**+1.1**
G57A	**Newington**	**84.10**	**28**	P	**P**	**06 08 58.9**	**-0.7**
	baz=331						
T42A	**Van Buren**	**84.11**	**43**	P	**P**	**06 09 00.3**	**+0.5**
E60A	**Ste Agathe de**	**84.13**	**25**	P	**P**	**06 08 59.2**	**-0.5**
	baz=334						
F59A	**Saint Guilaume**	**84.17**	**26**	P	**P**	**06 08 59.6**	**-0.3**
	baz=333						
D62A	**Allapoint, All**	**84.20**	**23**	P	**P**	**06 08 59.9**	**-0.2**
	baz=335						
D62A	**Allapoint, All**	**84.20**	**23**	P	**P**	**06 09 00.1**	**0.0**
D62A				IAmb	IAmb	06 09 01.9	
	comp=Z,18nm,1.4s						
E61A	**Lac Etchemin**	**84.36**	**25**	P	**P**	**06 09 00.7**	**-0.3**
	baz=334						
G58A	**Ormstown**	**84.37**	**27**	P	**P**	**06 09 00.2**	**-0.7**
	baz=332						
S44A	**Carbondale**	**84.47**	**41**	P	**P**	**06 09 01.7**	**+0.1**
INTR	**Introdacqua**	**84.48**	**326**	P	**P**	**06 09 01.0**	**-0.7**
E62A	**Clayton Lake**	**84.48**	**24**	P	**P**	**06 09 01.3**	**-0.2**
	baz=335						
E62A	**Clayton Lake**	**84.48**	**24**	P	**P**	**06 09 01.6**	**0.0**
E62A				IAmb	IAmb	06 09 01.9	
	comp=Z,7.2nm,0.7s						
JCT	**Junction City**	**84.48**	**53**	P	**P**	**06 09 01.9**	**0.0**
JCT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
JCT	**Junction City**	**84.48**	**53**	P	**P**	**06 09 02.1**	**+0.2**
	baz=318						
JCT	**Junction City**	**84.48**	**53**	P	**P**	**06 09 01.9**	**0.0**
JCT				IAmb	IAmb	06 09 03.3	
	comp=Z,7.6nm,0.6s						
BNI	**Bardonecchia**	**84.50**	**333**	P	**P**	**06 09 02.2**	**+0.3**
BNI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BNI	**Bardonecchia**	**84.50**	**333**	P	**P**	**06 09 02.2**	**+0.3**
BNI				IAmb	IAmb	06 09 06.1	
	comp=Z,7.7nm,0.7s						
H57A	**Richville**	**84.52**	**29**	P	**P**	**06 09 01.5**	**-0.3**
	baz=331						
PPT	**Papeete**	**84.55**	**121**	LR	LR	06 43 27.2	
	comp=Z,60nm,19.2s,baz=309,slow=33						
PPT2	**Papeete2**	**84.57**	**121**	*e*LR	LR	06 35 31.0	
	comp=Z,345nm,31.8s						
PPT2	**Papeete2**	**84.57**	**121**	*e*T	T	07 41 53.6	
	comp=Z,5.5nm,0.3s						
PAE	**Paea**	**84.62**	**121**	*e*T	T	07 41 56.8	
	comp=Z,1.2nm,0.3s						
F61A	**St Evariste**	**84.62**	**25**	P	**P**	**06 09 02.1**	**-0.1**
	baz=334						
PBMO	**Poplar Bluff**	**84.63**	**42**	P	**P**	**06 09 03.3**	**+0.8**
PBMO				IAmb	IAmb	06 09 05.3	
	comp=Z,7.5nm,0.8s						
WHTX	**Lake Whitney,**	**84.67**	**50**	P	**P**	**06 09 02.8**	**+0.1**
	baz=320						
TIAR	**Tiarei**	**84.69**	**120**	*e*T	T	07 42 01.9	
	comp=Z,2.3nm,0.2s						
G59A	**Clarenceville**	**84.72**	**27**	P	**P**	**06 09 02.2**	**-0.5**
	baz=333						
M52A	**Chesterland**	**84.79**	**34**	P	**P**	**06 09 02.9**	**-0.3**
	baz=328						
MIAR	**Mount Ida**	**84.80**	**46**	P	**P**	**06 09 04.2**	**+0.8**
MIAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MIAR	**Mount Ida**	**84.80**	**46**	P	**P**	**06 09 03.6**	**+0.3**
	baz=321,SNR=5.8						
MIAR	**Mount Ida**	**84.80**	**46**	P	**P**	**06 09 04.2**	**+0.8**
MIAR				IAmb	IAmb	06 09 04.8	
	comp=Z,8.6nm,0.9s						
MOQ	**Mont Orford**	**84.82**	**26**	P	**P**	**06 09 03.0**	**-0.4**
BATG	**Bathurst New B**	**84.85**	**22**	P	**P**	**06 09 03.8**	**+0.4**
BATG				IAmb	IAmb	06 09 03.9	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**84.88**	**45**	P	**P**	**06 09 04.7**	**+0.9**
WHAR				IAmb	IAmb	06 09 04.9	
	comp=Z,13nm,1.0s						
I57A	**Carthage**	**84.89**	**29**	P	**P**	**06 09 02.7**	**-0.9**
	baz=331						
ITM	**Ithomi**	**84.92**	**319**	P	**P**	**06 09 02.7**	**-1.2**
K54A	**Basiliko Farm,**	**84.93**	**32**	P	**P**	**06 09 03.4**	**-0.4**
	baz=329						
H59A	**Cadyville**	**84.94**	**27**	P	**P**	**06 09 03.5**	**-0.3**
	baz=332						

IDI	**Anoyia**	**84.96**	**316**	⇑P	**P**	**06 09 04.2**	**-0.1**
H58A	**Gabriels**	**84.97**	**28**	P	**P**	**06 09 03.7**	**-0.3**
	baz=332						
G60A	**Masonville**	**84.98**	**26**	P	**P**	**06 09 03.7**	**-0.3**
	baz=333						
W41B	**Gary Mavity, V**	**84.99**	**45**	P	**P**	**06 09 04.6**	**+0.4**
	baz=322						
F62A	**Pittston Farm,**	**85.00**	**25**	P	**P**	**06 09 04.0**	**-0.1**
	baz=335						
F62A	**Pittston Farm,**	**85.00**	**25**	P	**P**	**06 09 04.0**	**-0.1**
F62A				IAmb	IAmb	06 09 05.0	
	comp=Z,8.5nm,0.8s						
P49A	**Miami Univ. Ec**	**85.05**	**37**	P	**P**	**06 09 04.4**	**-0.1**
	baz=326						
P49A	**Miami Univ. Ec**	**85.05**	**37**	P	**P**	**06 09 04.6**	**+0.1**
P49A				IAmb	IAmb	06 09 14.5	
	comp=Z,21nm,1.5s						
K55A	**Perry**	**85.06**	**31**	P	**P**	**06 09 04.0**	**-0.5**
	baz=330						
G61A	**St-Isidore-de-**	**85.07**	**26**	P	**P**	**06 09 04.3**	**-0.2**
	baz=334,SNR=6.9						
MMNY	**Mt. Morris Dam**	**85.12**	**31**	P	**P**	**06 09 04.8**	**+0.1**
E64A	**Bridgewater**	**85.15**	**23**	P	**P**	**06 09 04.4**	**-0.4**
	baz=336						
X40A	**Basin Creek Fa**	**85.23**	**45**	P	**P**	**06 09 06.1**	**+0.6**
	baz=322						
K56A	**Middlesex**	**85.36**	**31**	P	**P**	**06 09 05.4**	**-0.7**
	baz=330						
G62A	**West of Eustis**	**85.44**	**25**	P	**P**	**06 09 06.5**	**+0.1**
	baz=334						
O51A	**Pataskala**	**85.45**	**35**	P	**P**	**06 09 05.9**	**-0.6**
	baz=327						
F64A	**Sherman**	**85.51**	**24**	P	**P**	**06 09 06.1**	**-0.6**
	baz=336						
J58A	**Remsen**	**85.52**	**29**	P	**P**	**06 09 06.3**	**-0.5**
	baz=331						
J58A	**Remsen**	**85.52**	**29**	P	**P**	**06 09 06.3**	**-0.5**
VT1	**Waterbury**	**85.53**	**27**	P	**P**	**06 09 06.7**	**-0.1**
VT1				IAmb	IAmb	06 09 08.3	
	comp=Z,8.3nm,0.6s						
H61A	**Lyndonville**	**85.61**	**26**	P	**P**	**06 09 07.1**	**-0.1**
	baz=333						
I59A	**Olmsteadville**	**85.63**	**28**	P	**P**	**06 09 06.9**	**-0.4**
	baz=332						
TIP	**Timpagrande**	**85.66**	**323**	P	**P**	**06 09 07.6**	**0.0**
TIP				IAmb	IAmb	06 09 08.5	
	comp=Z,21nm,1.3s						
J59A	**Piesco**	**85.70**	**29**	P	**P**	**06 09 07.3**	**-0.5**
	baz=332						
J59A	**Piesco**	**85.70**	**29**	P	**P**	**06 09 07.2**	**-0.5**
J59A				IAmb	IAmb	06 09 08.0	
	comp=Z,7.9nm,0.7s						
MEH	**Mehetia**	**85.73**	**120**	*e*T	T	07 43 19.6	
	comp=Z,27nm,0.3s						
L56A	**Greenwood**	**85.76**	**31**	P	**P**	**06 09 07.6**	**-0.5**
	baz=330						
O52A	**Adamsville**	**85.79**	**35**	P	**P**	**06 09 07.8**	**-0.4**
	baz=327						
P51A	**Williamsport**	**85.81**	**36**	P	**P**	**06 09 07.8**	**-0.4**
	baz=327						
G63A	**Kingsbury**	**85.81**	**25**	P	**P**	**06 09 07.7**	**-0.5**
	baz=335						
H62A	**Milan**	**85.83**	**26**	P	**P**	**06 09 08.1**	**-0.1**
	baz=334,SNR=8.8						
H62A	**Milan**	**85.83**	**26**	P	**P**	**06 09 08.5**	**+0.2**
N54A	**Moraine State**	**85.83**	**33**	P	**P**	**06 09 08.3**	**0.0**
	baz=328						
M55A	**Ridgway**	**85.88**	**32**	P	**P**	**06 09 08.8**	**+0.1**
	baz=329						
LBNH	**Lisbon**	**85.88**	**27**	P	**P**	**06 09 08.8**	**+0.2**
	baz=333						
K58A	**Earlville**	**85.92**	**30**	P	**P**	**06 09 08.5**	**-0.3**
	baz=331						
O53A	**New Philadelph**	**85.94**	**35**	P	**P**	**06 09 08.1**	**-0.8**
	baz=328						
G64A	**Maxfield**	**85.94**	**24**	P	**P**	**06 09 08.7**	**-0.1**
	baz=335						
T47A	**Sharon Grove**	**86.05**	**40**	P	**P**	**06 09 10.4**	**+0.9**
T47A				IAmb	IAmb	06 09 11.1	
	comp=Z,9.8nm,0.7s						
I61A	**Oroboro, Fairl**	**86.06**	**27**	P	**P**	**06 09 09.3**	**-0.1**
	baz=333						
Q51A	**Peebles**	**86.07**	**37**	P	**P**	**06 09 09.8**	**+0.3**
Q51A				IAmb	IAmb	06 09 16.2	
	comp=Z,9.8nm,0.8s						
M56A	**Emporium**	**86.09**	**32**	P	**P**	**06 09 08.7**	**-1.0**
	baz=330						
K59A	**Cooperstown**	**86.19**	**29**	P	**P**	**06 09 09.6**	**-0.6**
	baz=332						
BINY	**Binghamton**	**86.29**	**30**	P	**P**	**06 09 09.8**	**-0.8**
	baz=331						
O54A	**Avella**	**86.33**	**34**	P	**P**	**06 09 10.8**	**0.0**
	baz=328						
O54A	**Avella**	**86.33**	**34**	P	**P**	**06 09 11.3**	**+0.4**
O54A				IAmb	IAmb	06 09 12.8	
	comp=Z,9.5nm,0.8s						
H64A	**Troy**	**86.36**	**25**	P	**P**	**06 09 10.9**	**0.0**
	baz=335						
N55A	**Marion Center**	**86.38**	**33**	P	**P**	**06 09 11.0**	**-0.1**
	baz=329						
WVT	**Waverly**	**86.41**	**41**	P	**P**	**06 09 11.5**	**+0.2**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WVT	**Waverly**	**86.41**	**41**	P	**P**	**06 09 11.3**	**+0.1**
	baz=324						
WVT	**Waverly**	**86.41**	**41**	P	**P**	**06 09 11.5**	**+0.2**
L58A	**Harry Jones Me**	**86.47**	**30**	P	**P**	**06 09 11.1**	**-0.4**
	baz=331						
I63A	**Otisfield**	**86.48**	**26**	P	**P**	**06 09 11.7**	**+0.3**
	baz=334						
I63A	**Otisfield**	**86.48**	**26**	P	**P**	**06 09 11.5**	**0.0**
P53A	**Whipple**	**86.51**	**35**	P	**P**	**06 09 11.5**	**-0.2**
	baz=328						
N56A	**West Decatur**	**86.53**	**32**	P	**P**	**06 09 11.7**	**-0.2**
	baz=330						
M57A	**Sunshine Farm,**	**86.61**	**31**	P	**P**	**06 09 12.2**	**-0.1**
	baz=330						
L59A	**Walton**	**86.63**	**30**	P	**P**	**06 09 12.2**	**-0.1**
	baz=332						
O55A	**Ligonier**	**86.74**	**33**	P	**P**	**06 09 12.3**	**-0.6**
	baz=329						
P54A	**Burton**	**86.79**	**34**	P	**P**	**06 09 13.2**	**+0.1**
	baz=328						
J62A	**Henniker**	**86.82**	**27**	P	**P**	**06 09 13.3**	**+0.1**
	baz=334						
K61A	**Wilmanstown**	**86.83**	**28**	P	**P**	**06 09 13.4**	**+0.1**
	baz=333						
M58A	**Price's Panora**	**86.83**	**31**	P	**P**	**06 09 13.4**	**+0.1**
	baz=331						
SSPA	**Standing Stone**	**86.93**	**32**	P	**P**	**06 09 13.7**	**0.0**
	baz=330						
OXF	**Oxford**	**86.94**	**43**	P	**P**	**06 09 14.1**	**+0.2**
	baz=323						
N57A	**Milroy**	**86.96**	**32**	P	**P**	**06 09 14.1**	**+0.2**
	baz=330						
Q53A	**Leroy**	**86.98**	**35**	P	**P**	**06 09 14.3**	**+0.2**
	baz=328						
O56A	**Blue Knob Stat**	**86.98**	**33**	P	**P**	**06 09 14.3**	**+0.2**
	baz=329						
MCWV	**Mont Chateau**	**87.00**	**34**	P	**P**	**06 09 14.3**	**+0.2**
	baz=329						
M59A	**Waymart**	**87.06**	**30**	P	**P**	**06 09 14.3**	**-0.1**
	baz=331						
T50A	**Nancy**	**87.07**	**39**	P	**P**	**06 09 14.9**	**+0.4**
T50A				IAmb	IAmb	06 09 17.8	
	comp=Z,5.1nm,0.7s						
L60A	**Shokan**	**87.10**	**29**	P	**P**	**06 09 14.1**	**-0.4**
	baz=332						
P55A	**Reedsville**	**87.13**	**34**	P	**P**	**06 09 15.2**	**+0.4**
	baz=329						
CLTN	**Cedars of Leba**	**87.14**	**40**	P	**P**	**06 09 15.4**	**+0.5**
CLTN				IAmb	IAmb	06 09 16.4	
	comp=Z,7.7nm,1.1s						
Q54A	**Coxs Mills**	**87.16**	**35**	P	**P**	**06 09 15.7**	**+0.8**
	baz=328						
Q54A	**Coxs Mills**	**87.16**	**35**	P	**P**	**06 09 15.6**	**+0.7**
V48A	**Smith Brothers**	**87.20**	**41**	P	**P**	**06 09 14.7**	**-0.5**
V48A				IAmb	IAmb	06 09 15.9	
	comp=Z,12nm,1.5s						
PLAL	**Pickwick Lake**	**87.21**	**42**	P	**P**	**06 09 15.1**	**-0.1**
PLAL				IAmb	IAmb	06 09 18.4	
	comp=Z,8.1nm,1.2s						
Y45A	**Yeager Farm, C**	**87.39**	**44**	P	**P**	**06 09 17.7**	**+1.7**
O57A	**Amberson**	**87.39**	**32**	P	**P**	**06 09 15.9**	**-0.2**
	baz=330						
Q55A	**Buckhannon**	**87.46**	**34**	P	**P**	**06 09 16.3**	**-0.1**
	baz=328						

N59A	**State Game Lan**	**87.48**	**31**	P	**P**	**06 09 16.8**	**+0.4**
	baz=331						
P56A	**Dayton Farm, R**	**87.53**	**33**	P	**P**	**06 09 17.3**	**+0.7**
	baz=329						
M60A	**Port Jervis**	**87.54**	**30**	P	**P**	**06 09 16.4**	**-0.3**
	baz=332						
HRV	**Adam Dziewonsk**	**87.55**	**27**	P	**P**	**06 09 17.1**	**+0.4**
	baz=334						
TRNY	**Table Rock, Ra**	**87.84**	**29**	P	**P**	**06 09 18.4**	**+0.2**
TRNY				IAmb	IAmb	06 09 18.5	
	comp=Z,5.8nm,0.8s						
O59A	**Robesonia**	**87.86**	**31**	P	**P**	**06 09 17.8**	**-0.4**
	baz=331						
LUPA	**Lehigh Univers**	**87.91**	**30**	P	**P**	**06 09 17.9**	**-0.5**
LUPA				IAmb	IAmb	06 09 21.7	
	comp=Z,14nm,1.4s						
TZTN	**Tazewell**	**88.04**	**38**	P	**P**	**06 09 19.6**	**+0.5**
	baz=326						
TZTN	**Tazewell**	**88.04**	**38**	P	**P**	**06 09 19.0**	**-0.2**
TZTN				IAmb	IAmb	06 09 20.6	
	comp=Z,10nm,0.9s						
SWET	**Sewanee**	**88.05**	**40**	P	**P**	**06 09 19.6**	**+0.3**
SWET				IAmb	IAmb	06 09 20.2	
	comp=Z,7.5nm,0.7s						
T53A	**Wise**	**88.12**	**37**	P	**P**	**06 09 20.1**	**+0.5**
	baz=327						
O60A	**Telford**	**88.14**	**31**	P	**P**	**06 09 19.5**	**0.0**
	baz=331						
P58A	**Pank, Wackersv**	**88.15**	**32**	P	**P**	**06 09 19.7**	**+0.1**
	baz=330						
W50A	**Signal Mountai**	**88.35**	**40**	P	**P**	**06 09 19.7**	**-1.0**
P60A	**Greenville**	**88.50**	**31**	P	**P**	**06 09 21.4**	**+0.2**
	baz=331						
V52A	**Sevierville**	**88.60**	**38**	P	**P**	**06 09 22.4**	**+0.5**
V52A				IAmb	IAmb	06 09 23.3	
	comp=Z,4.3nm,0.7s						
TKL	**Tuckaleechee C**	**88.67**	**39**	P	**P**	**06 09 22.2**	**0.0**
TKL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TKL	**Tuckaleechee C**	**88.67**	**39**	P	**P**	**06 09 22.2**	**0.0**
TKL				IAmb	IAmb	06 09 23.5	
	comp=Z,5.5nm,0.7s						
T55A	**Pulaski**	**88.76**	**36**	P	**P**	**06 09 23.0**	**+0.4**
	baz=328						
TBI	**Tubuai**	**88.98**	**124**	*e*LR	LR	06 37 37.7	
	comp=Z,146nm,30.5s						
TBI	**Tubuai**	**88.98**	**124**	*e*T	T	07 47 25.0	
	comp=Z,13nm,0.3s						
BG3	**Lake Jocassee**	**89.61**	**39**	P	**P**	**06 09 26.4**	**-0.1**
BG3				IAmb	IAmb	06 09 28.3	
	comp=Z,4.3nm,0.8s						
W54A	**Cherokee Point**	**89.86**	**38**	P	**P**	**06 09 28.2**	**+0.5**
	baz=327						
V57A	**Coltrane Farms**	**90.23**	**36**	P	**P**	**06 09 30.1**	**+0.7**
	baz=329						
KEST	**Kesra**	**91.68**	**326**	P	**P**	**06 09 35.8**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=229,slow=3.3,SNR=4.1						
KEST				LR	LR	06 54 14.3	
	comp=Z,60nm,20.3s,baz=272,slow=38						
KEST	**Kesra**	**91.68**	**326**	P	**P**	**06 09 35.9**	**-0.4**
KEST				IAmb	IAmb	06 09 36.2	
	comp=Z,5.8nm,0.8s						
ESDC	**Sonseca Array**	**92.65**	**338**	P	**P**	**06 09 40.2**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=14,slow=3.7,SNR=14						
ESDC				pP	**pP**	**06 10 01.9**	**-0.6**
	comp=Z,2.3nm,1.0s,baz=18,slow=3.3,SNR=4.4						
ESDC				LR	LR	06 55 06.1	
	comp=Z,37nm,21.4s,baz=145,slow=38						
ESDC	**Sonseca Array**	**92.65**	**338**	P	**P**	**06 09 39.8**	**-0.8**
ESDC					**pP**	**06 10 01.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**114.78**	**322**	PKP	**PKiKP**	**06 15 08.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=8.2,slow=2.5,SNR=4.3						
VNDA	**Vanda**	**121.47**	**176**	PKP	**PKPdf**	**06 15 20.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=313,slow=3.6,SNR=7.5						
MAW	**Mawson**	**127.32**	**209**	PKP	**PKiKP**	**06 15 32.8**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=331,slow=5.4,SNR=7.6						
MAW	**Mawson**	**127.32**	**209**	PKIKP	**PKiKP**	**06 15 33.4**	**+1.2**
MAW	**Mawson**	**127.32**	**209**		**PKiKP**	**06 15 33.4**	**+1.2**
BOSA	**Boshof**	**131.12**	**268**	SKPbc	**SKPbc**	**06 18 57.6**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=70,slow=5.2,SNR=5.4						
LPAZ	**La Paz**	**139.91**	**58**	PKP	**PKPdf**	**06 15 57.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=98,slow=3.5,SNR=5.0						
LPAZ	**La Paz**	**139.91**	**58**		**PKPdf**	**06 15 57.0**	**-0.6**
H03N2	**Juan Fernandez**	**143.52**	**89**	T	T	08 55 36.0	
	baz=304,slow=77,SNR=21						
H03N3	**Juan Fernandez**	**143.53**	**89**	T	T	08 55 34.9	
	baz=304,slow=77,SNR=37						
H03N1	**Juan Fernandez**	**143.54**	**89**	T	T	08 55 37.4	
	baz=304,slow=77,SNR=25						
NVL	**N'lazarevskaya**	**145.03**	**204**	⇓*i*PKIKP	**PKPbc**	**06 16 03.8**	**-0.2**
NVL				pmax	pmax		
	comp=Z,40nm,0.9s						
SNAA	**Sanae**	**148.38**	**198**	PKPbc	**PKPbc**	**06 16 13.8**	**+0.1**
BDFB	**Brasilia**	**149.33**	**28**	PKPbc	**PKPbc**	**06 16 18.0**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=313,slow=2.5,SNR=8.1						
BDFB	**Brasilia**	**149.33**	**28**	PKP2	**PKPbc**	**06 16 18.4**	**+0.7**
BDFB	**Brasilia**	**149.33**	**28**		**PKPbc**	**06 16 18.4**	**+0.7**
VNA2	**Neumayer--Watz**	**149.92**	**197**	PKPbc	**PKPbc**	**06 16 18.1**	**+0.6**
	baz=122,slow=2.3						
VNA3	**Neumayer Olymp**	**150.12**	**195**	PKPbc	**PKPbc**	**06 16 18.1**	**+0.1**
VNA1	**Neumayer--Stat**	**150.32**	**197**	PKPbc	**PKPbc**	**06 16 18.9**	**+0.6**
PLCA	**Paso Flores**	**152.65**	**96**	PKPbc	**PKiKP**	**06 16 25.3**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=260,slow=2.9,SNR=11						
PLCA	**Paso Flores**	**152.65**	**96**		**PKiKP**	**06 16 25.7**	**+0.7**
CPUP	**Villa Florida**	**154.03**	**55**	PKPab	**PKPab**	**06 16 42.2**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=309,slow=4.7,SNR=5.1						
CPUP	**Villa Florida**	**154.03**	**55**		**PKPab**	**06 16 42.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.55**	**301**	*eP*	**Pb**	**06 46 50.7**	**+1.1**
SFX				*eS*	**Sb**	**06 46 59.5**	**+1.8**
ECBX	**El Chinero**	**0.96**	**318**	*eP*	**Pn**	**06 46 57.5**	**-0.1**
ECBX				*eS*	**Sn**	**06 47 11.9**	**+0.3**
SPX	**San Pedro Mart**	**1.04**	**286**	*eP*	**Pb**	**06 46 58.1**	**-0.2**
SPX				*i* S	**Sg**	**06 47 10.0**	**-1.2**
SPX	**San Pedro Mart**	**1.04**	**286**	*eP*	**Pb**	**06 46 58.3**	**+0.1**
SPX				*eS*	**Sb**	**06 47 13.6**	**+1.4**
SPX				IAML		06 47 24.8	
	comp=N,607nm,1.1s						
SPX				⇑*e*		06 47 24.8	
SPIG	**San Pedro Mart**	**1.04**	**286**	*eP*	**Pn**	**06 46 59.3**	**+0.2**
SPIG				*i* S	**Sg**	**06 47 11.1**	**-0.2**
PIX	**Pinacate**	**1.08**	**42**	*eP*	**Pn**	**06 46 59.1**	**-0.1**
SQX	**San Quintin**	**1.37**	**263**	*eP*	**Pn**	**06 47 03.2**	**0.0**
SQX				*eS*	**Sg**	**06 47 21.2**	**-0.4**
MBIG	**Mexicali**	**1.82**	**335**	*i* P	**Pn**	**06 47 09.1**	**-0.3**
CPBX	**Cerro Prieto**	**1.87**	**333**	IAML		06 48 10.6	
	comp=E,499nm,0.5s						
CPBX				⇓*e*		06 48 28.4	
CPBX				IAML		06 48 28.4	
	comp=N,581nm,0.7s						
CBX	**Cerro Bola**	**2.55**	**308**	*eP*	**Pn**	**06 47 19.4**	**-0.2**
CBX				*i* S	**Sn**	**06 47 48.1**	**-2.8**
CBX	**Cerro Bola**	**2.55**	**308**	IAML		06 48 13.8	
	comp=N,166nm,0.6s						
CBX				⇑*e*		06 48 13.8	
CBX				⇓*e*		06 48 16.7	
CBX				IAML		06 48 16.7	
	comp=E,222nm,0.5s						
TJIG	**Tijuana**	**2.63**	**310**	*i* P	**Pn**	**06 47 20.1**	**-0.5**

IDC ***18*** *07:12:34.4±4.1, 36°.36N×96°.57W, h0km, mb3.2/2, mb1 3.7/5, mb1mx3.4/59, mbtmp3.3/5, ML4.0/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/16, Error ellipse: s-maj=62.6km s-min=18.7km az=91.0*

TUL ***18*** *07:12:40.4±2.0, 36°.18N±0°.01×97°.27W±0°.03, h5km±6km, ML3.5, Mwr3.8/85(NEIC), Error ellipse: s-maj=3.1km s-min=1.7km az=92.0*

NEIC ***18*** *07:12:40.6±1.9, 36°.20N±0°.01×97°.28W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=143.0*

ANF ***18*** *07:12:40.2±0.6, 36°.19N×97°.25W, h3km±4km, ML4.8/18, Error ellipse: s-maj=2.4km s-min=1.7km az=7.0*

UNK ***18*** *07:12:40.9, 36°.20N×97°.27W, h5km*

NEIC ***18*** *07:12:40.4, 36°.18N×97°.27W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.23; $M_{\theta\theta}$5.23; $M_{\phi\phi}$-4.99; $M_{r\theta}$-0.46; $M_{\theta\phi}$2.35; $M_{\phi r}$1.57; Fault plane solution: $M_0$5.86000×10^{14} NP1:φ_s213.78000°, δ78.02000°, λ-169.47000°. NP2:φ_s121.56000°, δ79.70000°, λ-12.18000°. Principal axes: T 5.7434, Plg1.0000°, Azm168.0000°; N 0.2258, Plg74.0000°, Azm262.0000°; P -5.9692, Plg16.0000°, Azm77.0000°;*

ISC 18 07:12:40.1±1.0, 36°.23N±0°.02×97°.28W±0°.02, h8km±8km, n211, σ1^{s}26/234, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.45**	**199**		**Pg**	**07 12 48.8**	**-0.2**
OK029				Sg	**Sg**	**07 12 54.7**	**-0.2**
QUOK	**Quay**	**0.46**	**97**		**Pg**	**07 12 49.5**	**+0.4**
QUOK				Sg	**Sg**	**07 12 55.8**	**+0.6**
OK005	**Luther M Schoo**	**0.58**	**173**		**Pg**	**07 12 50.7**	**-0.6**
ADOK	**Arcadia Dam**	**0.58**	**188**	Pg	**Pg**	**07 12 51.6**	**+0.3**
ADOK				Sg	**Sg**	**07 12 58.9**	**0.0**
BCOK	**Bluff Creek, N**	**0.63**	**206**		**Pg**	**07 12 52.1**	**-0.2**
BCOK				Sg	**Sg**	**07 13 00.5**	**-0.1**
CROK	**Carrier**	**0.64**	**296**		**Pg**	**07 12 53.3**	**+0.9**
CROK				Sg	**Sg**	**07 12 58.1**	**-2.6**
OK025	**Westminster Rd**	**0.65**	**185**		**Pg**	**07 12 52.2**	**-0.4**
OK025				Sg	**Sg**	**07 13 00.7**	**-0.4**
KAN13	**South Haven SW**	**0.80**	**348**		**Pb**	**07 12 56.7**	**+0.3**
KAN13				Sg	**Sb**	**07 13 07.8**	**+0.4**
OKCFA	**Oklahoma City**	**0.82**	**190**		**Pg**	**07 12 55.4**	**-0.5**
OKCFA				Sg	**Sg**	**07 13 06.3**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**0.83**	**189**		**Pg**	**07 12 55.6**	**-0.6**
OKCSW				Sg	**Sg**	**07 13 06.6**	**-0.3**
T35A	**Sooner Cattle**	**0.92**	**42**	Pg	**Pb**	**07 12 58.6**	**+0.1**
T35A				Sg	**Sb**	**07 13 10.9**	**+0.1**
FNO	**Franklin**	**0.97**	**186**		**Pg**	**07 12 58.5**	**-0.4**
FNO				Sg	**Sg**	**07 13 11.4**	**-0.1**
KAN10	**Anthony SW Sta**	**1.11**	**324**		**Pg**	**07 13 02.2**	**+0.7**
KAN10				Sg	**Sn**	**07 13 17.5**	**-0.2**
KAN12	**Harper NE Stat**	**1.22**	**332**		**Pg**	**07 13 04.1**	**+0.6**
KAN12				Sg	**Sn**	**07 13 21.3**	**+1.1**
TUL1	**Leonard**	**1.24**	**104**	P	**Pn**	**07 13 02.8**	**-1.0**
	baz=284,SNR=179						
TUL1				S	**Sb**	**07 13 19.8**	**-0.3**
	baz=284						
TUL1	**Leonard**	**1.24**	**104**		**Pn**	**07 13 02.9**	**-1.0**
U32A	**Winter Ranch,**	**1.40**	**277**		**Pn**	**07 13 06.5**	**+0.4**
U32A					**Sg**	**07 13 26.0**	**+0.8**
WMOK	**Wichita Mounta**	**1.93**	**220**	P	**Pn**	**07 13 14.0**	**+0.6**
	baz=40,SNR=583						
WMOK				S	**Sb**	**07 13 39.7**	**-0.2**
	baz=40						
WMOK	**Wichita Mounta**	**1.93**	**220**		**Pn**	**07 13 13.9**	**+0.6**
WMOK				Sn	**Sb**	**07 13 39.3**	**-0.6**
X37A	**Clayton**	**2.26**	**136**		**Pn**	**07 13 18.6**	**+0.8**
U38A	**Gravette**	**2.34**	**84**		**Pn**	**07 13 20.1**	**+1.1**
R32A	**Long Quarter,**	**2.47**	**333**		**Pn**	**07 13 22.4**	**+1.6**
HHAR	**Hobbs**	**2.70**	**88**		**Pn**	**07 13 25.0**	**+1.1**
Z35A	**Perchaven, San**	**2.89**	**180**	Pn	**Pn**	**07 13 26.9**	**+0.4**
KSU1	**Kansas State U**	**2.92**	**10**	P	**Pn**	**07 13 28.7**	**+1.8**
	baz=190,SNR=45						
KSU1				Sb	**Sg**	**07 14 12.7**	**-1.1**
	baz=190						
KSU1	**Kansas State U**	**2.92**	**10**	Pn	**Pn**	**07 13 29.2**	**+2.3**
W39A	**Magazine**	**3.02**	**109**	P	**Pn**	**07 13 29.3**	**+1.1**
	baz=290,SNR=16						
W39A	**Magazine**	**3.02**	**109**		**Pn**	**07 13 29.4**	**+1.1**
CBKS	**Cedar Bluff**	**3.24**	**324**	P	**Pn**	**07 13 32.8**	**+1.4**
	baz=142,SNR=8.1						
CBKS				Sb	**Sg**	**07 14 22.1**	**-2.2**
	baz=142						
CBKS	**Cedar Bluff**	**3.24**	**324**	Pn	**Pn**	**07 13 33.4**	**+2.0**
MIAR	**Mount Ida**	**3.46**	**118**	P	**Pn**	**07 13 35.2**	**+0.9**
	baz=300,SNR=28						
MIAR				S	**Sn**	**07 14 16.6**	**+1.1**
	baz=300						
MIAR	**Mount Ida**	**3.46**	**118**	Pn	**Pn**	**07 13 35.6**	**+1.3**
S39A	**Bolivar**	**3.49**	**64**	Pn	**Pn**	**07 13 36.5**	**+1.7**
Z38A	**Mt. Pleasant**	**3.51**	**147**		**Pn**	**07 13 35.9**	**+0.9**
U40A	**Yellville**	**3.57**	**87**	P	**Pn**	**07 13 36.9**	**+0.9**
	baz=269,SNR=25						
U40A				S	**Sn**	**07 14 20.5**	**+2.1**
	baz=269						
U40A	**Yellville**	**3.57**	**87**	Pn	**Pn**	**07 13 37.7**	**+1.7**
AMTX	**Amarillo**	**3.83**	**251**	P	**Pn**	**07 13 40.7**	**+1.1**
	baz=69						
AMTX	**Amarillo**	**3.83**	**251**	Pn	**Pn**	**07 13 40.9**	**+1.3**
X40A	**Basin Creek Fa**	**4.02**	**114**	P	**Pn**	**07 13 43.0**	**+0.9**
	baz=297,SNR=5.7						
X40A	**Basin Creek Fa**	**4.02**	**114**	Pn	**Pn**	**07 13 44.5**	**+2.4**
ABTX	**Abilene, Hawle**	**4.09**	**209**	P	**Pn**	**07 13 43.7**	**+0.6**
	baz=28						
ABTX				Sb	**Sb**	**07 14 45.2**	**+3.1**
	baz=28						
MGMO	**Mountain Grove**	**4.13**	**76**		**Pn**	**07 13 45.2**	**+1.6**
WHAR	**Wooly Hollow**	**4.16**	**102**	Pn	**Pn**	**07 13 44.4**	**+0.4**
W41B	**Gary Mavity, V**	**4.22**	**103**	P	**Pn**	**07 13 45.3**	**+0.5**
	baz=286,SNR=12						
W41B				S	**Sn**	**07 14 34.6**	**+0.3**
	baz=286						
W41B	**Gary Mavity, V**	**4.22**	**103**	Pn	**Pn**	**07 13 45.3**	**+0.5**
WHTX	**Lake Whitney,**	**4.23**	**182**	P	**Pn**	**07 13 45.1**	**+0.2**
	baz=2.0,SNR=6.2						
WHTX				Sb	**Sb**	**07 14 49.5**	**+3.5**
	baz=2.0						
WHTX	**Lake Whitney,**	**4.23**	**182**	Pn	**Pn**	**07 13 45.8**	**+0.9**
WLAR	**White Oak Lake**	**4.25**	**125**	Pn	**Pn**	**07 13 45.2**	**0.0**
UALR	**University of**	**4.28**	**108**	Pn	**Pn**	**07 13 47.7**	**+2.1**
237A	**Washetta, Mont**	**4.39**	**163**	Pn	**Pn**	**07 13 46.9**	**-0.2**
R40A	**Maddies Statio**	**4.49**	**61**	Pn	**Pn**	**07 13 49.8**	**+1.2**
P38A	**Dawn**	**4.50**	**40**	Pn	**Pn**	**07 13 50.7**	**+2.0**
N33A	**J Bar K, Exete**	**4.51**	**358**	Pn	**Pn**	**07 13 50.1**	**+1.4**
Z41A	**Richland Creek**	**4.73**	**128**	P	**Pn**	**07 13 51.6**	**-0.1**
	baz=310						
Z41A				S	**Sn**	**07 14 46.1**	**-0.7**
	baz=310						
Z41A	**Richland Creek**	**4.73**	**128**	Pn	**Pn**	**07 13 52.3**	**+0.5**
N35A	**Tabor**	**4.80**	**15**		**Pn**	**07 13 54.1**	**+1.4**
LCAR	**Lake Charles**	**4.96**	**90**	Pn	**Pn**	**07 13 55.7**	**+0.8**
NATX	**Nacogdoches**	**4.96**	**153**	S	**Sn**	**07 14 51.3**	**-1.2**
	baz=335						
NATX	**Nacogdoches**	**4.96**	**153**	Pn	**Pn**	**07 13 54.7**	**-0.3**
T42A	**Van Buren**	**5.04**	**79**	Pn	**Pn**	**07 13 56.7**	**+0.7**
MSTX	**Muleshoe**	**5.04**	**245**	P	**Pn**	**07 13 56.4**	**+0.2**
	baz=62,SNR=5.5						
MSTX	**Muleshoe**	**5.04**	**245**	Pn	**Pn**	**07 13 56.4**	**+0.2**
CCAR	**Cane Creek**	**5.07**	**115**	Pn	**Pn**	**07 13 58.2**	**+1.8**
KSCO	**Kaye Shedlock'**	**5.08**	**305**	S	**Sn**	**07 14 55.7**	**+0.1**
	baz=122						
KSCO	**Kaye Shedlock'**	**5.08**	**305**	Pn	**Pn**	**07 13 58.3**	**+1.6**
CCM	**Cathedral Cave**	**5.15**	**67**	P	**Pn**	**07 13 58.4**	**+0.8**
	baz=251						
CCM	**Cathedral Cave**	**5.15**	**67**	Pn	**Pn**	**07 13 59.4**	**+1.8**
BGNE	**Belgrade**	**5.22**	**353**	P	**Pn**	**07 13 59.4**	**+0.9**
	baz=172						
BGNE				S	**Sn**	**07 14 58.7**	**-0.2**
	baz=172						
BGNE	**Belgrade**	**5.22**	**353**	Pn	**Pn**	**07 13 59.8**	**+1.2**
P40A	**Paris**	**5.29**	**50**	Pn	**Pn**	**07 14 01.1**	**+1.6**
435B	**Jarrell**	**5.44**	**183**	P	**Pn**	**07 14 01.5**	**0.0**
	baz=2.7,SNR=5.7						
435B	**Jarrell**	**5.44**	**183**	Pn	**Pn**	**07 14 01.2**	**-0.3**
X43A	**Marvell**	**5.50**	**106**	Pn	**Pn**	**07 14 05.5**	**+3.2**
N38A	**Joes South For**	**5.55**	**34**		**Pn**	**07 14 04.5**	**+1.4**
L34A	**Svendsen Farm,**	**5.77**	**7**	Pn	**Pn**	**07 14 06.9**	**+0.8**
T25A	**Trinidad**	**5.81**	**281**	P	**Pn**	**07 14 07.5**	**+0.7**
	baz=97,SNR=11						
T25A				S	**Sn**	**07 15 13.2**	**-0.6**
	baz=97						
T25A	**Trinidad**	**5.81**	**281**	Pn	**Pn**	**07 14 07.6**	**+0.7**
143A	**Socs Landing,**	**5.99**	**124**	Pn	**Pn**	**07 14 09.6**	**+0.5**
PARMO	**Parma**	**6.08**	**84**	Pn	**Pn**	**07 14 13.1**	**+2.7**
JCT	**Junction City**	**6.11**	**201**	P	**Pn**	**07 14 10.7**	**-0.1**
	baz=20						
CPRX	**Cap Rock**	**6.30**	**241**	Pn	**Pn**	**07 14 14.9**	**+1.3**
HKT	**Hockley**	**6.38**	**169**	Pn	**Pn**	**07 14 15.7**	**+1.3**
K31A	**O'Neill**	**6.49**	**350**		**Pn**	**07 14 17.0**	**+1.0**
SCIA	**State Center**	**6.49**	**28**	P	**Pn**	**07 14 16.7**	**0.7**
	baz=210						
SCIA	**State Center**	**6.49**	**28**		**Pn**	**07 14 17.1**	**+1.2**
HICK	**Hickman**	**6.50**	**85**	Pn	**Pn**	**07 14 17.9**	**+1.8**
S44A	**Carbondale**	**6.59**	**75**	Pn	**Pn**	**07 14 19.1**	**+1.8**
OXF	**Oxford**	**6.65**	**103**	P	**Pn**	**07 14 17.6**	**-0.5**
	baz=287,SNR=6.7						
OXF				S	**Sn**	**07 15 34.8**	**+0.6**
	baz=287						
OXF	**Oxford**	**6.65**	**103**	Pn	**Pn**	**07 14 17.9**	**-0.3**
W45A	**Hickory Valley**	**6.67**	**97**	Pn	**Pn**	**07 14 18.5**	**+0.1**
N41A	**Harden Midland**	**6.74**	**46**		**Pn**	**07 14 21.0**	**+1.6**
CLNB	**Carlsbad**	**6.75**	**236**	Pn	**Pn**	**07 14 19.4**	**-0.2**
SDCO	**Great Sand Dun**	**6.76**	**285**	P	**Pn**	**07 14 21.4**	**+1.4**
	baz=101,SNR=52						
SDCO	**Great Sand Dun**	**6.76**	**285**		**Pn**	**07 14 21.7**	**+1.8**
Q24A	**Divide**	**6.82**	**296**	P	**Pn**	**07 14 21.8**	**+1.0**
	baz=112						
Q24A	**Divide**	**6.82**	**296**	Pn	**Pn**	**07 14 22.7**	**+1.9**
P43A	**Skaggs, Pawnee**	**7.01**	**59**	Pn	**Pn**	**07 14 24.1**	**+1.0**
Q44A	**Meyer Farm, Va**	**7.08**	**65**		**Pn**	**07 14 25.8**	**+1.7**
K38A	**Parkersburg**	**7.30**	**27**		**Pn**	**07 14 29.0**	**+1.9**
ISCO	**Idaho Springs**	**7.49**	**301**	P	**Pn**	**07 14 30.8**	**+0.9**
	baz=116,SNR=20						
ISCO	**Idaho Springs**	**7.49**	**301**	Pn	**Pn**	**07 14 31.8**	**+1.8**
L40A	**Anamosa**	**7.49**	**37**	Pn	**Pn**	**07 14 31.1**	**+1.4**
ECSD	**EROS Data Cent**	**7.51**	**4**	P	**Pn**	**07 14 30.1**	**0.0**
	baz=101,SNR=10						
ECSD	**EROS Data Cent**	**7.51**	**4**	Pn	**Pn**	**07 14 30.5**	**+0.4**
ANMO	**Albuquerque**	**7.59**	**263**	P	**Pn**	**07 14 32.3**	**+1.1**
	baz=78						
ANMO	**Albuquerque**	**7.59**	**263**	Pn	**Pn**	**07 14 33.5**	**+2.3**
PLAL	**Pickwick Lake**	**7.60**	**97**	Pn	**Pn**	**07 14 30.6**	**-0.6**
HDIL	**Hopedale**	**7.61**	**53**	P	**Pn**	**07 14 31.6**	**+0.2**
	baz=238,SNR=25						
HDIL	**Hopedale**	**7.61**	**53**	Pn	**Pn**	**07 14 31.9**	**+0.6**
WVT	**Waverly**	**7.64**	**88**		**Pn**	**07 14 32.2**	**+0.4**
OLIL	**Olney**	**7.71**	**68**	Pn	**Pn**	**07 14 34.9**	**+2.2**
S22A	**4UR Ranch, Cre**	**7.79**	**284**	Pn	**Pn**	**07 14 37.1**	**+2.9**
BNM	**Barren Site**	**7.93**	**258**	Pn	**Pn**	**07 14 35.3**	**-0.8**
O44A	**Mansfield**	**7.96**	**58**		**Pn**	**07 14 33.7**	**-2.5**
MNTX	**Cornudas Mount**	**8.11**	**238**	P	**Pn**	**07 14 38.1**	**-0.2**
	baz=54,SNR=12						
MNTX	**Cornudas Mount**	**8.11**	**238**	Pn	**Pn**	**07 14 38.3**	**0.0**
PHWY	**Pilot Hill**	**8.15**	**311**	Pn	**Pn**	**07 14 41.0**	**+1.9**
T47A	**Sharon Grove**	**8.21**	**82**	Pn	**Pn**	**07 14 39.8**	**+0.1**
N23A	**Red Feather La**	**8.23**	**307**	P	**Pn**	**07 14 41.7**	**+1.5**
	baz=122,SNR=17						
N23A	**Red Feather La**	**8.23**	**307**	Pn	**Pn**	**07 14 41.9**	**+1.8**
L42A	**Oliver, Polo**	**8.26**	**43**		**Pn**	**07 14 42.0**	**+1.7**
SUSD	**Miller**	**8.31**	**352**	P	**Pn**	**07 14 42.1**	**+1.2**
	baz=171						
I37A	**Lemond, Waseca**	**8.32**	**20**		**Pn**	**07 14 41.3**	**+0.1**
JFWS	**Jewell Farm**	**8.60**	**37**	P	**Pn**	**07 14 45.3**	**+0.4**
	baz=221,SNR=5.6						
JFWS	**Jewell Farm**	**8.60**	**37**	Pn	**Pn**	**07 14 47.0**	**+2.1**
P46A	**Rosedale**	**8.64**	**64**	Pn	**Pn**	**07 14 46.8**	**+1.3**
TXAR	**Lajitas Array**	**8.73**	**220**	Pn	**Pn**	**07 14 46.3**	**-0.5**
	0.3nm,0.3s,baz=33,slow=10,SNR=16						
TXAR				Pg	Pg	07 15 19.3	-8.0
	1.8nm,0.3s,baz=43,slow=13,SNR=15						
TXAR				Lg	Lg	07 17 12.8	
	2.1nm,0.3s,baz=82,slow=19,SNR=4.1						
TXAR	**Lajitas Array**	**8.73**	**220**		**Pn**	**07 14 45.6**	**-1.2**
TX31	**Lajitas Ar. Si**	**8.73**	**220**		**Pn**	**07 14 46.0**	**-0.8**
TX32	**Lajitas Array**	**8.73**	**220**		**Pn**	**07 14 46.6**	**-0.2**
CLTN	**Cedars of Leba**	**8.85**	**88**	Pn	**Pn**	**07 14 52.4**	**+4.0**
M44A	**Midewin, Midew**	**8.86**	**52**		**Pn**	**07 14 51.2**	**+2.8**
SFIN	**Lafayette**	**9.01**	**60**	P	**Pn**	**07 14 51.1**	**+0.6**
	baz=246						
SFIN	**Lafayette**	**9.01**	**60**	Pn	**Pn**	**07 14 51.9**	**+1.4**
BLO	**Bloomington**	**9.01**	**68**		**Pn**	**07 14 51.5**	**+0.9**
LRAL	**Lakeview Retre**	**9.05**	**108**	Pn	**Pn**	**07 14 53.2**	**+2.1**
I40A	**Norwalk**	**9.20**	**32**		**Pn**	**07 14 53.5**	**+0.4**
L44A	**Lake County Fo**	**9.38**	**48**		**Pn**	**07 14 57.1**	**+1.4**
RSSD	**Black Hills**	**9.43**	**329**	P	**Pn**	**07 14 57.7**	**+1.2**
	baz=145						
RSSD	**Black Hills**	**9.43**	**329**	Pn	**Pn**	**07 14 58.0**	**+1.5**
K43A	**Burlington**	**9.46**	**44**	Pn	**Pn**	**07 14 57.8**	**+1.0**
PV20	**West Nyswonger**	**9.55**	**286**	Pn	**Pn**	**07 14 58.2**	**-0.1**
K22A	**Casper**	**9.60**	**315**		**Pn**	**07 15 00.7**	**+1.8**
SPMN	**Marine on St.**	**9.61**	**19**	P	**Pn**	**07 14 59.3**	**+0.6**
	baz=202,SNR=8.4						
SPMN	**Marine on St.**	**9.61**	**19**		**Pn**	**07 14 59.4**	**+0.6**
F33A	**5 Mile Ranch,**	**9.63**	**4**	Pn	**Pn**	**07 14 58.7**	**-0.3**
W50A	**Signal Mountai**	**9.78**	**93**	Pn	**Pn**	**07 15 02.6**	**+1.4**
P48A	**Milroy**	**9.91**	**67**		**Pn**	**07 15 02.0**	**-0.9**
F36A	**Milaca**	**10.03**	**15**		**Pn**	**07 15 03.1**	**-1.4**
N47A	**Urbana**	**10.19**	**59**	Pn	**Pn**	**07 15 04.5**	**-2.2**
X51A	**Calhoun**	**10.27**	**96**	Pn	**Pn**	**07 15 07.5**	**-0.4**
L46A	**Eue Claire**	**10.30**	**53**		**Pn**	**07 15 09.5**	**+1.3**
CPCT	**Cooper Cave**	**10.38**	**91**	Pn	**Pn**	**07 15 10.0**	**+0.6**
P49A	**Miami Univ. Ec**	**10.46**	**68**	P	**Pn**	**07 15 10.5**	**+0.1**
	baz=255						
P49A	**Miami Univ. Ec**	**10.46**	**68**	Pn	**Pn**	**07 15 09.4**	**-1.1**
V51A	**Loudon**	**10.48**	**89**	Pn	**Pn**	**07 15 12.9**	**+2.2**
G40A	**Rib Lake**	**10.50**	**29**	Pn	**Pn**	**07 15 11.7**	**+0.7**
O49A	**Covington**	**10.92**	**65**	Pn	**Pn**	**07 15 17.1**	**+0.4**
TKL	**Tuckaleechee C**	**10.96**	**89**	Pn	**Pn**	**07 15 19.1**	**+1.8**
	0.3nm,0.3s,baz=241,slow=13,SNR=4.2						
TKL				Lg	Lg	07 17 58.1	
	1.0nm,0.3s,baz=137,slow=9.5,SNR=4.3						
TKL	**Tuckaleechee C**	**10.96**	**89**		**Pn**	**07 15 17.4**	**0.0**
S51A	**Beattyville**	**11.04**	**79**	Pn	**Pn**	**07 15 18.2**	**-0.2**
TZTN	**Hazewell**	**11.07**	**84**	Pn	**Pn**	**07 15 18.1**	**-0.7**
V52A	**Sevierville**	**11.09**	**88**	Pn	**Pn**	**07 15 20.5**	**+1.5**
E38A	**The Farm, Brul**	**11.22**	**21**	Pn	**Pn**	**07 15 19.7**	**-1.1**
N49A	**Columbus Grove**	**11.27**	**61**	Pn	**Pn**	**07 15 21.0**	**-0.5**
L48A	**N Adams**	**11.49**	**56**		**Pn**	**07 15 24.5**	**0.0**
PD31	**Pinedale Array**	**11.51**	**308**		**Pn**	**07 15 25.4**	**+0.3**
PDAR	**Pinedale Array**	**11.51**	**308**	Pn	**Pn**	**07 15 25.5**	**+0.4**
	0.3nm,0.3s,baz=126,slow=16,SNR=7.0						
PDAR				Pg		07 16 14.6	
	0.7nm,0.3s,baz=110,slow=18,SNR=7.3						
PDAR				Lg	Lg	07 18 41.1	
	1.4nm,0.3s,baz=115,slow=28,SNR=8.3						
BW06	**Boulder Array**	**11.51**	**308**	Pn	**Pn**	**07 15 25.5**	**+0.5**
COWI	**Conover**	**11.61**	**29**	Pn	**Pn**	**07 15 25.6**	**-0.5**
J47A	**Sunmer**	**11.86**	**50**		**Pn**	**07 15 29.0**	**-0.6**
ACSO	**Alum Creek Sta**	**11.93**	**66**	P	**Pn**	**07 15 30.3**	**-0.2**
	baz=255,SNR=8.0						
ACSO	**Alum Creek Sta**	**11.93**	**66**		**Pn**	**07 15 29.8**	**-0.7**
AGMN	**Agassiz Nation**	**12.11**	**5**	P	**Pn**	**07 15 33.0**	**0.0**
	baz=185						
AGMN	**Agassiz Nation**	**12.11**	**5**	Pn	**Pn**	**07 15 32.0**	**-0.9**
U15A	**North Rim**	**12.12**	**275**	Pn	**Pn**	**07 15 35.8**	**+2.4**
AAM	**Ann Arbor**	**12.17**	**56**	P	**Pn**	**07 15 33.8**	**0.0**
	baz=244,SNR=6.3						
AAM	**Ann Arbor**	**12.17**	**56**		**Pn**	**07 15 34.8**	**+1.0**
O51A	**Pataskala**	**12.19**	**67**	P	**Pn**	**07 15 33.6**	**-0.4**
	baz=256,SNR=9.4						
B35A	**Bob, Littlefor**	**12.40**	**11**	Pn	**Pn**	**07 15 34.5**	**-2.5**
LAO	**LASA Array**	**12.41**	**330**		**Pn**	**07 15 37.4**	**+0.2**
P52A	**Corning**	**12.43**	**70**	P	**Pn**	**07 15 37.6**	**+0.3**
	baz=259						
U54A	**Nelsons Funny**	**12.46**	**84**	Pn	**Pn**	**07 15 37.2**	**-0.7**
EYMN	**Ely**	**12.47**	**18**	Pn	**Pn**	**07 15 37.2**	**-0.7**
N51A	**Ashland**	**12.56**	**64**	P	**Pn**	**07 15 39.5**	**+0.3**
	baz=253						
N51A	**Ashland**	**12.56**	**64**		**Pn**	**07 15 39.8**	**+0.6**
D41A	**Chassel**	**12.62**	**28**	Pn	**Pn**	**07 15 40.6**	**+0.6**
RLMT	**Red Lodge**	**12.71**	**318**	Pn	**Pn**	**07 15 42.6**	**+1.2**
E43A	**Lone Tree Farm**	**12.74**	**34**	Pn	**Pn**	**07 15 40.2**	**-1.3**
O52A	**Adamsville**	**12.75**	**68**	P	**Pn**	**07 15 42.1**	**+0.3**
	baz=257						
Q53A	**Leroy**	**12.77**	**73**	P	**Pn**	**07 15 42.0**	**-0.1**
	baz=263						
GLMI	**Grayling**	**12.89**	**44**	Pn	**Pn**	**07 15 42.5**	**-1.2**
P53A	**Whipple**	**12.97**	**71**	Pn	**Pn**	**07 15 45.6**	**+0.8**
K50A	**Casco**	**13.06**	**56**		**Pn**	**07 15 45.7**	**-0.3**
O53A	**New Philadelph**	**13.25**	**68**	Pn	**Pn**	**07 15 47.7**	**-0.9**
DGMT	**Dagmar**	**13.25**	**340**	P	**Pn**	**07 15 48.9**	**+0.3**
	baz=155,SNR=6.5						
DGMT	**Dagmar**	**13.25**	**340**	Pn	**Pn**	**07 15 48.5**	**-0.1**
Q54A	**Coxs Mills**	**13.32**	**73**	Pn	**Pn**	**07 15 50.1**	**+0.5**
GCMT	**Greycliff**	**13.36**	**319**	Pn	**Pn**	**07 15 51.1**	**+0.9**
M52A	**Chesterland**	**13.48**	**62**	Pn	**Pn**	**07 15 51.2**	**-0.5**
E46A	**Sault Ste Mari**	**14.04**	**40**	Pn	**Pn**	**07 15 57.4**	**-2.0**
ULM	**Lac du Bonnet**	**14.05**	**4**	Pn	Pn	07 15 53.8	-5.7
	0.3nm,0.3s,baz=215,slow=8.0,SNR=1.6						
ULM				Sn	Sn	07 18 24.9	-11
	0.5nm,0.3s,baz=304,slow=22,SNR=2.4						
ULM				Lg	Lg	07 19 44.9	
	0.7nm,0.3s,baz=271,slow=15,SNR=3.0						
ULM	**Lac du Bonnet**	**14.05**	**4**	Pn	**Pn**	**07 15 56.8**	**-2.7**
N54A	**Moraine State**	**14.32**	**66**		**Pn**	**07 16 00.2**	**-3.0**
ELK	**Elko**	**14.77**	**293**	Lg	Lg	07 20 28.6	
	0.1nm,0.3s,baz=2.3,slow=21,SNR=1.5						
SADO	**Sadowa**	**16.19**	**53**	LR	LR	07 22 10.8	
	comp=Z,78nm

comp=Z,3.8nm,0.8s
TORD Torodi Ar. Bea 76.84 69 P **P 07 25 08.3 +1.3**
comp=Z,0.5nm,0.6s,baz=240,slow=5.8,SNR=2.1
WRA Warramunga Arr 131.30 207 PKP **PKiKP 07 32 29.0 +2.1**
comp=Z,0.2nm,0.7s,baz=159,slow=1.9,SNR=1.1

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*SOME **18** 07:18:06.2, 44.°72N×82.°13E, h15km*
*NNC **18** 07:18:07.7±1.2, 44.°69N×82.°08E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=13.1km s-min=3.7km az=121.0
ISC 18 07:18:05.9±1.5, 44.°68N±0.°05×82.°21E±0.°08, h10km, n16,
σ1§06/27, 6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.77**	**259**	*e*P	**Pg**	**07 18 38.7**	**-1.1**
	3.2nm,0.3s						
DJR				*e*S	**Sg**	**07 19 02.2**	**-0.5**
	15nm,0.3s						
DJR	**Jarkent**	**1.77**	**259**	P	**Pg**	**07 18 38.7**	**-1.1**
	3.2nm,0.3s						
DJR				S	**Sg**	**07 19 02.2**	**-0.5**
	15nm,0.3s						
KAPS	**Kapalarasan**	**2.11**	**288**	*e*P	**Pb**	**07 18 44.2**	**-0.1**
	1.5nm,0.1s						
KAPS				*e*S	**Sg**	**07 19 11.7**	**-2.1**
	21nm,0.3s						
KAPS	**Kapalarasan**	**2.11**	**288**	Pg	**Pb**	**07 18 44.2**	**-0.1**
	1.5nm,0.1s						
KAPS				Lg	Lg	07 19 11.7	
	21nm,0.3s						
MK31	**Makanchi Array**	**2.11**	**2**	⇓Pn	**Pb**	**07 18 44.4**	**+0.1**
	10nm,0.2s,baz=182,slow=14,SNR=546						
MK31				⇓Sn	**Sg**	**07 19 12.2**	**-1.6**
	4.2nm,0.3s,baz=187,slow=30,SNR=15						
MAKZ	**Makanchi**	**2.13**	**356**	⇓Pn	**Pb**	**07 18 44.3**	**-0.4**
	6.0nm,0.5s						
MAKZ				⇓Sn	**Sb**	**07 19 12.4**	**+1.2**
	15nm,0.4s						
PDGK	**Podgornoye**	**2.38**	**236**	⇓Pn	**Pb**	**07 18 46.9**	**-2.1**
	2.5nm,0.3s						
PDGK				⇓Sn	**Sb**	**07 19 18.8**	**+0.3**
	38nm,0.6s						
SHLS	**Shalkode**	**2.50**	**233**	*e*P	**Pn**	**07 18 48.1**	**+1.3**
	11nm,0.2s						
SHLS				*e*S	**Sn**	**07 19 18.0**	**+0.6**
	36nm,0.4s						
SHLS	**Shalkode**	**2.50**	**233**	Pg	**Pn**	**07 18 48.1**	**+1.3**
	11nm,0.2s						
SHLS				Lg	Lg	07 19 18.0	
	36nm,0.4s						
TDK	**Taldyqorghan**	**2.72**	**278**	*e*P	**Pb**	**07 18 54.8**	**+0.1**
	33nm,0.1s						
TDK				*e*S	**Sb**	**07 19 29.6**	**+1.4**
	63nm,0.4s						
TDK	**Taldyqorghan**	**2.72**	**278**	Pg	**Pb**	**07 18 54.8**	**+0.1**
	33nm,0.1s						
TDK				Lg	Lg	07 19 29.6	
	63nm,0.4s						
UZB	**Uzynbulak**	**2.77**	**237**	*e*P	**Pb**	**07 18 54.8**	**-0.7**
	2.7nm,0.3s						
UZB				*e*S	**Sb**	**07 19 29.8**	**+0.3**
	6.0nm,0.4s						
UZB	**Uzynbulak**	**2.77**	**237**	Pg	**Pb**	**07 18 54.8**	**-0.7**
	2.7nm,0.3s						
UZB				Lg	Lg	07 19 29.8	
	6.0nm,0.4s						
KPKS	**Kokpek**	**2.82**	**246**	*e*P	**Pb**	**07 18 56.3**	**0.0**
	11nm,0.2s						
KPKS				*e*S	**Sb**	**07 19 32.3**	**+1.3**
	53nm,0.4s						
SATY	**Saty**	**3.19**	**241**	*e*P	**Pb**	**07 19 02.9**	**+0.1**
	1.3nm,0.3s						
SATY				*e*S	**Sb**	**07 19 43.4**	**+1.6**
	8.9nm,0.3s						
SATY	**Saty**	**3.19**	**241**	Pg	**Pb**	**07 19 02.8**	**+0.1**
	1.3nm,0.3s						
SATY				Lg	Lg	07 19 43.3	
	8.9nm,0.3s						

WEL 18 07:21:06.4, 44.°S±43.°×17.°2E±2.°1, h24km±56km, M2.1/7,
ML2.2/7, MLv2.1/7, Error ellipse: s-maj=0.1km
s-min=0.0km az=155.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.26**	**74**	P	Pn	07 21 13.8	-1.0
WACZ	**Wakanui South**	**0.38**	**244**	P	Pn	07 21 16.2	-0.1
AKCZ	**Akaroa Harbour**	**0.45**	**102**	P	Pn	07 21 16.8	-0.5
OXZ	**Oxford**	**0.49**	**337**	P	Pn	07 21 17.6	-0.3
OKCZ	**Okains Bay**	**0.55**	**84**	P	Pn	07 21 18.7	0.0
MHCZ	**Mount Hutt**	**0.59**	**294**	P	Pn	07 21 19.6	+0.3
ARCZ	**Arundel**	**0.83**	**258**	P	Pn	07 21 23.5	+0.8
LTZ	**Lake Taylor**	**1.00**	**358**	P	Pn	07 21 24.8	-0.1
ODZ	**Otahua Downs**	**1.74**	**223**	P	Pb	07 21 40.5	+2.9

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*DDA **18** 07:24:21.5, 37.°63N×23.°06E, h7km±6km, MW3.9*
*NEIC **18** 07:24:22.5±3.4, 37.°74N±0.°05×23.°13E±0.°06, h2km±3km,*
Error ellipse: s-maj=7.8km s-min=7.3km az=155.0
*IDC **18** 07:24:23.3±1.0, 37.°70N×22.°98E, h0km, mb3.7/11,*
mb1 3.8/14, mb1mx3.7/47, mbtmp3.7/14, ML3.5/3, MS2.9/4,
Ms1 2.9/4, ms1mx2.4/57, Error ellipse: s-maj=19.5km
s-min=17.3km az=93.0
*ISK **18** 07:24:24.0, 37.°80N×23.°06E, h5km, ML3.9/7*
*THE **18** 07:24:25.8, 37.°68N×23.°06E, h8km, ML3.7/14, Error*
ellipse: s-maj=0.8km s-min=0.3km az=12.0
*ATH **18** 07:24:25.3, 37.°70N×23.°09E, h25km, ML3.6/22, Error*
ellipse: s-maj=1.0km s-min=0.7km az=45.0
ISC 18 07:24:24.1±1.2, 37.°69N±0.°02×23.°05E±0.°02, h7km±8km,
n173, σ1§32/210, mb4.1/15, 8C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.34**	**349**	P	**Pb**	**07 24 33.0**	**+0.5**
LTK				S	**Sb**	**07 24 38.2**	**+0.1**
	12μm,0.5s						
LTK	**Loutraki**	**0.34**	**349**	P	**Pb**	**07 24 33.0**	**+0.5**
LTK				S	**Sb**	**07 24 38.2**	**+0.1**
LTK				AML	AML	07 24 38.7	
	comp=N,25962μm,0.2s						
LTK				AML	AML	07 24 38.8	
	comp=E,17735μm,0.2s						
YDRA	**Hydra**	**0.47**	**136**	P	**Pb**	**07 24 35.3**	**+0.5**
YDRA				S	**Sb**	**07 24 42.9**	**+0.9**
YDRA				AML	AML	07 24 44.8	
	comp=N,17294μm,0.4s						
YDRA				AML	AML	07 24 45.3	
	comp=E,30103μm,0.6s						
VILL	**Villia**	**0.52**	**24**	P	**Pb**	**07 24 35.6**	**+0.1**
VIL2	**Platees**	**0.55**	**18**	P	**Pb**	**07 24 35.6**	**-0.4**
VIL2				AML	AML	07 24 47.9	
	comp=E,16519μm,0.2s						
VIL2				AML	AML	07 24 48.0	
	comp=N,18876μm,0.3s						
ATH	**Athens Observa**	**0.60**	**62**	P	**Pb**	**07 24 37.0**	**+0.1**
ATH				S	**Sb**	**07 24 46.2**	**+0.7**
	comp=N,7μm,0.3s						
ATH	**Athens Observa**	**0.60**	**62**	P	**Pb**	**07 24 37.4**	**+0.6**
ATH				S	**Sb**	**07 24 45.7**	**+0.2**
ATH				AML	AML	07 24 48.1	
	comp=E,18492μm,0.3s						
ATH				AML	AML	07 24 48.9	
	comp=N,10422μm,0.2s						
VLY	**Voula,Athens**	**0.61**	**75**	P	**Pb**	**07 24 36.8**	**-0.3**
VLY				S	**Sb**	**07 24 45.8**	**-0.1**
	comp=N,13μm,0.5s						
VLY	**Voula,Athens**	**0.61**	**75**	P	**Pb**	**07 24 37.0**	**-0.1**
VLY				S	**Sb**	**07 24 45.6**	**-0.3**
VLY				AML	AML	07 24 48.2	
	comp=N,23557μm,0.5s						
VLY				AML	AML	07 24 49.1	
	comp=E,27668μm,0.5s						
GUR	**Goura**	**0.61**	**294**	P	**Pb**	**07 24 37.5**	**+0.3**
GUR				S	**Sb**	**07 24 46.8**	**+0.8**
	comp=E,11μm,0.4s						
GUR	**Goura**	**0.61**	**294**	P	**Pb**	**07 24 37.4**	**+0.2**
GUR				S	**Sb**	**07 24 46.6**	**+0.6**
GUR				AML	AML	07 24 47.9	
	comp=E,21494μm,0.3s						
GUR				AML	AML	07 24 49.1	
	comp=N,23319μm,0.5s						
VLX	**Vlachokerasia**	**0.62**	**239**	P	**Pb**	**07 24 37.9**	**+0.6**
VLX	**Vlachokerasia**	**0.62**	**239**	P	**Pb**	**07 24 38.0**	**+0.6**
VLX				S	**Sn**	**07 24 48.4**	**-1.3**
VLX				AML	AML	07 24 50.8	
	comp=N,43763μm,0.7s						
VLX				AML	AML	07 24 50.9	
	comp=E,66907μm,0.6s						
TRIP	**Tripoli**	**0.64**	**255**	P	**Pb**	**07 24 38.2**	**+0.5**
TRIP				S	**Sb**	**07 24 47.2**	**+0.4**
	comp=E,6μm,0.6s						
TRIP	**Tripoli**	**0.64**	**255**	P	**Pb**	**07 24 38.1**	**+0.5**
TRIP				S	**Sb**	**07 24 48.2**	**+1.4**
TRIP				AML	AML	07 24 51.8	
	comp=E,13261μm,0.4s						
TRIP				AML	AML	07 24 52.5	
	comp=N,11773μm,0.6s						
ATHU	**Athens Univers**	**0.64**	**64**	P	**Pb**	**07 24 38.0**	**+0.3**
ATHU				S	**Sb**	**07 24 48.1**	**+1.3**
	comp=N,2μm,0.6s						
ATHU	**Athens Univers**	**0.64**	**64**	P	**Pb**	**07 24 38.2**	**+0.5**
ATHU				S	**Sb**	**07 24 47.2**	**+0.4**
ATHU				AML	AML	07 24 49.5	
	comp=E,4345μm,0.6s						
ATHU				AML	AML	07 24 49.8	
	comp=N,3991μm,0.2s						
PTL	**Penteli**	**0.74**	**61**	P	**Pb**	**07 24 39.8**	**+0.5**
PTL				S	**Sb**	**07 24 50.9**	**+1.4**
	comp=N,8μm,0.6s						
PTL	**Penteli**	**0.74**	**61**	P	**Pb**	**07 24 39.3**	**0.0**
KLV	**Kalavryta, Ach**	**0.80**	**297**	P	**Pb**	**07 24 40.3**	**0.0**
KLV	**Kalavryta, Ach**	**0.80**	**297**	P	**Pb**	**07 24 40.8**	**+0.6**
KLV				S	**Sn**	**07 24 53.0**	**-0.9**
KLV				AML	AML	07 24 56.0	
	comp=N,12131μm,0.5s						
KLV				AML	AML	07 24 56.0	
	comp=E,8206μm,0.4s						
DION	**Dionisos Attik**	**0.80**	**61**	P	**Pb**	**07 24 40.8**	**+0.5**
DION				S	**Sb**	**07 24 52.8**	**+1.5**
	comp=E,22μm,0.5s						
DION	**Dionisos Attik**	**0.80**	**61**	P	**Pb**	**07 24 40.8**	**+0.5**
DION				S	**Sb**	**07 24 51.9**	**+0.5**
DION				AML	AML	07 24 53.8	
	comp=N,48744μm,0.5s						
DION				AML	AML	07 24 53.8	
	comp=E,41059μm,0.4s						
DSF	**Desfina**	**0.83**	**330**	P	**Pn**	**07 24 41.8**	**-0.5**
DSF				S	**Sn**	**07 24 54.0**	**-0.8**
	comp=E,3μm,0.5s						
DLFA	**Delphi**	**0.90**	**331**	P	**Pn**	**07 24 43.4**	**+0.2**
DLFA				S	**Sb**	**07 24 54.9**	**+0.6**
DLFA				AML	AML	07 24 57.8	
	comp=E,5927μm,0.4s						
DLFA				AML	AML	07 25 01.3	
	comp=N,4552μm,0.5s						
ALIK	**Aliki, Aigiali**	**0.94**	**308**	P	**Pn**	**07 24 43.8**	**+0.2**
ALIK				S	**Sn**	**07 24 57.0**	**-0.2**
LKR				P	**Pb**	**07 24 43.8**	**+0.7**
LKR				S	**Sn**	**07 24 58.1**	**+0.2**
	comp=N,5μm,0.3s						
LKR	**Lokris**	**0.96**	**358**	P	**Pb**	**07 24 43.8**	**+0.7**
LKR				S	**Sn**	**07 24 58.0**	**+0.1**
LKR				AML	AML	07 24 59.5	
	comp=E,10758μm,0.4s						
LKR				AML	AML	07 25 00.9	
	comp=N,8472μm,0.2s						
VLI	**Veliai**	**0.98**	**185**	P	**Pn**	**07 24 43.8**	**-0.4**
VLI				S	**Sn**	**07 24 57.9**	**-0.4**
	comp=N,3μm,0.9s						
VLI	**Veliai**	**0.98**	**185**	P	**Pn**	**07 24 43.8**	**-0.4**
MNVA	**Monemvasia**	**1.00**	**181**	P	**Pn**	**07 24 45.2**	**+0.6**
ITM	**Ithomi**	**1.03**	**241**	P	**Pn**	**07 24 45.2**	**+0.3**
ITM				S	**Sn**	**07 25 00.5**	**+0.9**
	comp=N,4μm,0.6s						
ITM	**Ithomi**	**1.03**	**241**	P	**Pn**	**07 24 45.3**	**+0.3**
ITM				S	**Sn**	**07 25 00.0**	**+0.4**
ITM				AML	AML	07 25 02.4	
	comp=N,5083μm,0.6s						
ITM				AML	AML	07 25 03.1	
	comp=E,9604μm,0.7s						
ITM	**Ithomi**	**1.03**	**241**		**Pn**	**07 24 45.2**	**+0.3**
SERG	**Sergoula**	**1.06**	**313**	P	**Pn**	**07 24 45.8**	**+0.3**
SERG	**Sergoula**	**1.06**	**313**	P	**Pn**	**07 24 46.1**	**+0.6**
SERG				S	**Sn**	**07 25 00.7**	**+0.1**
SERG				AML	AML	07 25 02.7	
	comp=N,4556μm,0.3s						
SERG				AML	AML	07 25 02.9	
	comp=E,2986μm,0.2s						
AXAR	**Agios Charalam**	**1.12**	**344**	P	**Pn**	**07 24 46.7**	**+0.5**
AXAR				S	**Sn**	**07 25 03.6**	**+1.8**
	comp=E,6μm,0.4s						
AXAR	**Agios Charalam**	**1.12**	**344**	P	**Pn**	**07 24 46.7**	**+0.5**
AXAR				S	**Sn**	**07 25 02.8**	**+1.0**
AXAR				AML	AML	07 25 06.2	
	comp=N,12961μm,0.4s						
AXAR				AML	AML	07 25 06.3	
	comp=E,12372μm,0.6s						
KARY	**Karystos**	**1.15**	**72**	P	**Pb**	**07 24 46.7**	**+0.5**
KARY	**Karystos**	**1.15**	**72**	P	**Pb**	**07 24 46.8**	**+0.5**
KARY				S	**Sb**	**07 25 01.9**	**+0.6**
KARY				AML	AML	07 25 05.7	
	comp=N,4187μm,0.4s						
KARY				AML	AML	07 25 06.2	
	comp=E,2817μm,0.5s						
EFP	**Efpalio**	**1.16**	**309**	P	**Pn**	**07 24 47.6**	**+0.8**
EFP	**Efpalio**	**1.16**	**309**	P	**Pn**	**07 24 47.9**	**+1.1**
EFP				S	**Sn**	**07 25 04.8**	**+1.8**
EFP				AML	AML	07 25 06.2	
	comp=E,3286μm,0.5s						
EFP				AML	AML	07 25 09.7	
	comp=N,2963μm,0.5s						
KYMI	**Kymi, Euboea I**	**1.25**	**41**	P	**Pg**	**07 24 48.1**	**0.0**
KYMI	**Kymi, Euboea I**	**1.25**	**41**	P	**Pg**	**07 24 48.2**	**+0.1**
KYMI				S	**Sg**	**07 25 04.6**	**+0.3**
KYMI				AML	AML	07 25 07.3	
	comp=N,6116μm,0.8s						
KYMI				AML	AML	07 25 10.5	
	comp=E,3294μm,0.7s						
SERI	**Serifos**	**1.26**	**114**	P	**Pg**	**07 24 48.1**	**-0.2**
SERI	**Serifos**	**1.26**	**114**	P	**Pg**	**07 24 48.3**	**0.0**
SERI				S	**Sg**	**07 25 04.3**	**-0.3**
SERI				AML	AML	07 25 07.9	
	comp=E,1326μm,0.5s						
SERI				AML	AML	07 25 08.7	
	comp=N,2524μm,0.7s						
ANX	**Ano Chora**	**1.27**	**316**	P	**Pn**	**07 24 49.3**	**+1.0**
ANX				S	**Sn**	**07 25 07.5**	**+1.9**
	comp=N,3μm,0.5s						
ANX	**Ano Chora**	**1.27**	**316**	P	**Pn**	**07 24 49.5**	**+1.2**
ANX				S	**Sn**	**07 25 07.7**	**+2.1**
ANX				AML	AML	07 25 11.9	
	comp=N,6866μm,0.6s						
ANX				AML	AML	07 25 13.1	
	comp=E,4981μm,0.7s						
RLS	**Riolos of Patr**	**1.31**	**287**	P	**Pn**	**07 24 49.6**	**+0.9**
RLS	**Riolos of Patr**	**1.31**	**287**	P	**Pn**	**07 24 49.6**	**+0.9**
PYL	**PYLOS**	**1.31**	**233**	P	**Pn**	**07 24 50.1**	**+1.2**
PYL	**PYLOS**	**1.31**	**233**	P	**Pn**	**07 24 50.0**	**+1.2**
AXS	**Araxos**	**1.42**	**291**	P	**Pg**	**07 24 52.7**	**+1.4**
AXS				S	**Sn**	**07 25 11.7**	**+2.5**
AXS				AML	AML	07 25 16.1	
	comp=N,2601μm,0.6s						
AXS				AML	AML	07 25 16.2	
	comp=E,1595μm,0.8s						
KTHA	**Kythira Island**	**1.43**	**180**	P	**Pg**	**07 24 51.5**	**-0.1**
KTHA	**Kythira Island**	**1.43**	**180**	P	**Pg**	**07 24 51.7**	**+0.1**
KTHA	**Kythira Island**	**1.43**	**180**	PN	**Pg**	**07 24 52.6**	**+1.0**
KTHA				SN	**Sn**	**07 25 13.7**	**+4.1**
VTN	**Vitineika**	**1.49**	**279**	P	**Pg**	**07 24 54.6**	**+1.9**
EVR	**Evrytania**	**1.57**	**322**	P	**Pg**	**07 24 53.8**	**-0.3**
EVR	**Evrytania**	**1.57**	**322**	P	**Pg**	**07 24 54.4**	**+0.2**
ALNA	**Alonissos**	**1.59**	**24**	P	**Pn**	**07 24 53.1**	**+0.4**
NEO	**Neokhori**	**1.62**	**5**	P	**Pn**	**07 24 53.6**	**+0.5**
NEO	**Neokhori**	**1.62**	**5**	P	**Pn**	**07 24 53.7**	**+0.6**
XOR	**Xorichti**	**1.68**	**4**	P	**Pn**	**07 24 54.5**	**+0.6**
XOR	**Xorichti**	**1.68**	**4**	P	**Pn**	**07 24 54.2**	**+0.3**
ANKY	**Antikythira Is**	**1.83**	**174**	P	**Pb**	**07 24 57.1**	**-0.8**
ANKY	**Antikythira Is**	**1.83**	**174**	P	**Pb**	**07 24 57.2**	**-0.8**
VLMS	**Volimes, Zakyn**	**1.90**	**276**	P	**Pg**	**07 24 59.5**	**-1.0**
VLS	**Valsamata**	**2.00**	**285**	P	**Pb**	**07 25 01.0**	**+0.1**
THL	**Klokotos Trika**	**2.04**	**337**	P	**Pn**	**07 24 59.9**	**+1.1**
THL	**Klokotos Trika**	**2.04**	**337**	P	**Pn**	**07 25 00.0**	**+1.2**
APE	**Apeiranthos**	**2.07**	**107**	P	**Pn**	**07 24 59.7**	**+0.4**
APE	**Apeiranthos**	**2.07**	**107**	P	**Pn**	**07 24 59.7**	**+0.4**
APE	**Apeiranthos**	**2.07**	**107**	PN	**Pn**	**07 25 00.6**	**+1.3**
APE	**Apeiranthos**	**2.07**	**107**	*i* P	**Pn**	**07 24 59.5**	**+0.2**
EVGI	**Lefkada island**	**2.10**	**297**	P	**Pb**	**07 25 02.5**	**0.0**
FSK	**Fiskardo**	**2.11**	**292**	P	**Pb**	**07 25 02.5**	**-0.1**
KEF5	**Kardakata, Kep**	**2.12**	**287**	P	**Pb**	**07 25 02.7**	**-0.2**
LKD2	**Lefkada island**	**2.18**	**301**	P	**Pb**	**07 25 03.6**	**-0.3**
TSLK	**Tsoukalades, L**	**2.20**	**302**	P	**Pb**	**07 25 03.4**	**-0.8**
RODP	**Rodopos**	**2.20**	**165**	PN	**Pb**	**07 25 03.6**	**-0.6**
PAIG	**Paliouri**	**2.29**	**12**	P	**Pn**	**07 25 02.5**	**+0.3**
IMMV	**Iera Moni Meta**	**2.35**	**161**	P	**Pn**	**07 25 04.4**	**+1.3**
IMMV	**Iera Moni Meta**	**2.35**	**161**	P	**Pn**	**07 25 04.3**	**+1.3**
IMMV	**Iera Moni Meta**	**2.35**	**161**	PN	**Pb**	**07 25 05.9**	**-0.8**
LIT	**Litokhoron**	**2.44**	**350**	P	**Pn**	**07 25 05.3**	**+0.8**
LIT	**Litokhoron**	**2.44**	**350**	P	**Pn**	**07 25 05.5**	**+1.1**
LIT	**Litokhoron**	**2.44**	**350**	*i* P	**Pn**	**07 25 05.0**	**+0.6**
LIT	**Litokhoron**	**2.44**	**350**		**Pn**	**07 25 05.2**	**+0.8**
CHOS	**Chios island**	**2.47**	**73**	P	**Pn**	**07 25 05.4**	**+0.5**
CHOS	**Chios island**	**2.47**	**73**	P	**Pn**	**07 25 05.4**	**+0.5**
CHOS	**Chios island**	**2.47**	**73**	PN	**Pn**	**07 25 05.4**	**+0.5**
KNDR	**Palaiochora Ch**	**2.51**	**168**	PN	**Pb**	**07 25 07.9**	**-1.5**
SIGR	**SIGRI**	**2.67**	**55**	PN	**Pn**	**07 25 08.1**	**+0.6**
IDI	**Anoyia**	**2.82**	**148**	Pn	**Pn**	**07 25 11.3**	**+1.6**
	comp=E,2.9nm,0.3s,baz=320,slow=16,SNR=3.4						
IDI				Sn	**Sn**	**07 25 45.0**	**+1.1**
	comp=E,8.0nm,0.3s,baz=353,slow=21,SNR=5.0						
IDI	**Anoyia**	**2.82**	**148**	P	**Pn**	**07 25 10.8**	**+1.2**
IDI	**Anoyia**	**2.82**	**148**	P	**Pn**	**07 25 11.2**	**+1.6**
IDI	**Anoyia**	**2.82**	**148**	PN	**Pn**	**07 25 12.3**	**+2.7**
IDI	**Anoyia**	**2.82**	**148**		**Pn**	**07 25 10.4**	**+0.8**
URLA	**Izmir**	**2.88**	**76**	PN	**Pn**	**07 25 11.3**	**+0.9**
URLA	**Izmir**	**2.88**	**76**	*i* P	**Pn**	**07 25 10.8**	**+0.4**
URLA				*i* S	**Sb**	**07 25 51.6**	**+0.5**
URLA				IAML		07 26 03.0	
	comp=N,97nm,0.9s						
URLA				IAML		07 26 08.0	
	comp=E,88nm,0.7s						
HORT	**Hortiatis**	**2.90**	**1**	P	**Pn**	**07 25 11.6**	**+0.9**
GVD	**Gavdhos**	**2.97**	**163**	PN	**Pn**	**07 25 14.3**	**+2.7**
SMG	**Samos**	**3.00**	**89**	P	**Pn**	**07 25 12.9**	**+0.8**
DGB	**zmir**	**3.05**	**82**	*i* P	**Pn**	**07 25 12.9**	**+0.1**
DGB				IAML		07 26 05.0	
	comp=E,24nm,1.0s						
DGB				IAML		07 26 11.0	
	comp=N,38nm,1.3s						
SOH	**Sokhos**	**3.13**	**4**	P	**Pn**	**07 25 15.2**	**+1.3**
SOH	**Sokhos**	**3.13**	**4**	P	**Pn**	**07 25 15.2**	**+1.3**
THAS	**Thassos island**	**3.19**	**24**	P	**Pn**	**07 25 14.6**	**0.0**
LAST	**Lasithi**	**3.19**	**141**	P	**Pn**	**07 25 16.4**	**+1.6**
BLCB	**Balcova**	**3.23**	**76**	PN	**Pn**	**07 25 16.3**	**+1.2**
AYVA	**Ayvalik**	**3.28**	**59**	*i* P	**Pg**	**07 25 26.3**	**-0.6**
FNA	**Florina**	**3.35**	**338**	P	**Pn**	**07 25 18.4**	**+1.5**
FNA	**Florina**	**3.35**	**338**	*i* P	**Pn**	**07 25 18.9**	**+2.0**
FNA	**Florina**	**3.35**	**338**		**Pn**	**07 25 18.0**	**+1.1**
ZEDA	**zmir-Bergama**	**3.41**	**67**	*i* P	**Pn**	**07 25 19.2**	**+1.5**
ZEDA				IAML		07 26 21.0	
	comp=E,27nm,0.8s						
ZEDA				IAML		07 26 22.0	
	comp=N,25nm,0.5s						
BAYC	**CANAKKALE_Bayr**	**3.42**	**52**	*i* P	**Pn**	**07 25 17.4**	**-0.4**
BAYC				IAML		07 25 58.0	
	comp=N,19nm,0.5s						
SRS	**Serrai**	**3.45**	**7**	P	**Pn**	**07 25 18.0**	**-0.2**
KNT	**Kendrikon**	**3.47**	**358**	P	**Pn**	**07 25 19.7**	**+1.3**
VAY	**Valandovo**	**3.64**	**354**	*i* Pn	**Pn**	**07 25 23.5**	**+2.6**
OHR	**Ohrid**	**3.83**	**334**	*i* Pn	**Pn**	**07 25 25.8**	**+2.2**
KARP	**Karpathos**	**3.94**	**122**	Pn	**Pn**	**07 25 22.5**	**-2.5**
ALN	**Alexandroupoli**	**3.96**	**35**	*i* P	**Pn**	**07 25 23.3**	**-1.9**
ALN	**Alexandroupoli**	**3.96**	**35**	Pn	**Pn**	**07 25 21.9**	**-3.3**
BALY	**Balya**	**4.12**	**59**	*i* P	**Pg**	**07 25 41.2**	**-1.8**
SCTE	**Santa Cesarea**	**4.29**	**305**		**Pn**	**07 25 29.5**	**-0.3**
SKO	**Skopje**	**4.45**	**344**	*i* Pn	**Pn**	**07 25 35.7**	**+3.7**
TIP	**Timpagrande**	**5.16**	**289**	⇑P	**Pn**	**07 25 43.9**	**+2.2**
TIP	**Timpagrande**	**5.16**	**289**	⇑S	**Sn**	**07 26 35.8**	**-5.8**
TIP	**Timpagrande**	**5.16**	**289**		**Pn**	**07 25 41.0**	**-0.8**
PDG	**Podgorica**	**5.56**	**330**	⇑P	Pn	07 25 42.1	-5.1
PDG	**Podgorica**	**5.56**	**330**	Pn	**Pn**	**07 25 46.0**	**-1.1**
DIVS	**Divibare**	**6.81**	**341**		**Pn**	**07 26 03.1**	**-1.3**
MDUB	**Mudurnu**	**6.92**	**64**	Pn	**Pn**	**07 26 05.9**	**-0.1**
SGRT	**San Giovanni R**	**6.94**	**308**	Pn	**Pn**	**07 26 06.8**	**+0.5**
SGRT					**Sn**	**07 27 21.9**	**-3.6**
HERR	**Herculane**	**7.20**	**356**	⇑P	**Pn**	**07 26 06.9**	**-2.8**
PAOL	**Paolisi**	**7.37**	**300**	Pn	**Pn**	**07 26 10.3**	**-1.9**
CORL	**Corleone**	**7.72**	**274**	Pn	**Pn**	**07 26 16.2**	**-0.7**
ARR	**Arges**	**7.76**	**8**	⇑P	**Pn**	**07 26 17.8**	**+0.3**
CLTB	**Caltabellotta**	**7.80**	**272**	Pn	**Pn**	**07 26 16.1**	**-2.1**
VOIR		**7.88**	**10**	⇑P	**Pn**	**07 26 19.7**	**+0.6**
MLR	**Muntele Rosu**	**8.09**	**15**	Pn	**Pn**	**07 26 24.7**	**+2.7**
	comp=N,0.3nm,0.3s,baz=112,slow=23,SNR=2.2						
MLR				Sn	**Sn**	**07 27 55.0**	**+1.3**
	comp=N,0.4nm,0.3s,baz=147,slow=18,SNR=1.1						
MLR	**Muntele Rosu**	**8.09**	**15**	⇑P	**Pn**	**07 26 23.4**	**+1.4**
MLR	**Muntele Rosu**	**8.09**	**15**		**Pn**	**07 26 18.9**	**-3.1**
INTR	**Introdacqua**	**8.25**	**304**		**Pn**	**07 26 22.6**	**-1.6**
BRTR	**Keskin Array B**	**8.52**	**73**	Pn	**Pn**	**07 26 31.6**	**+3.5**
	comp=N,0.3nm,0.3s,baz=257,slow=13,SNR=3.8						
BRTR				LR	LR	07 30 41.5	
	comp=N,30nm,19.9s,baz=250,slow=44						
BRTR	**Keskin Array B**	**8.52**

0.4nm,0.3s,baz=159,slow=13,SNR=4.0
H11N2 WAKE ISLAND Hy 28.85 160 T T 08 02 41.9
baz=341,slow=76,SNR=328
H11N1 WAKE ISLAND Hy 28.86 160 T T 08 02 50.8
baz=341,slow=76,SNR=264
H11N3 WAKE ISLAND Hy 28.86 160 T T 08 02 51.5
baz=341,slow=76,SNR=181
H11S1 WAKE ISLAND Hy 29.98 161 T T 08 04 10.4
baz=342,slow=76,SNR=209
H11S3 WAKE ISLAND Hy 29.99 161 T T 08 04 10.9
baz=342,slow=76,SNR=251
H11S2 WAKE ISLAND Hy 30.00 161 T T 08 04 11.7
baz=342,slow=76,SNR=317
ILAR Eielson Array 34.49 39 P **P 07 31 51.3 +2.5**
0.2nm,0.5s,baz=266,slow=5.3,SNR=4.9
ILAR Eielson Array 34.49 39 P **P 07 31 48.3 -0.5**
EGAK Eagle 36.94 39 P **P 07 32 09.9 +0.1**
EGAK IAmb IAmb 07 32 22.1
comp=Z,7.2nm,1.4s
ASAR Alice Springs 73.68 202 P **P 07 36 36.1 +1.3**
comp=Z,0.4nm,0.5s,baz=15,slow=5.5,SNR=5.2
ASAR Alice Springs 73.68 202 P **P 07 36 34.5 -0.3**
TX31 Lajitas Ar. Si 75.02 63 P **P 07 36 42.0 -0.9**
TX31 IAmb IAmb 07 36 43.3
comp=Z,2.8nm,0.8s
TX32 Lajitas Array 75.02 63 P **P 07 36 42.0 -0.9**
TX32 IAmb IAmb 07 36 43.3
comp=Z,0.9nm,0.8s
TXAR Lajitas Array 75.02 63 P **P 07 36 42.5 -0.4**
comp=Z,0.5nm,0.5s,baz=291,slow=5.0,SNR=13
TXAR Lajitas Array 75.02 63 P **P 07 36 42.3 -0.6**
MBWA Marble Bar 75.94 215 P **P 07 36 47.5 -0.4**

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*IDC **18** 07:37:29.9±0.6,3.˚51S×140.˚05E, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.2/37, mbtmp4.3/14, ML4.2/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/36, Error ellipse: s-maj=18.5km s-min=10.5km az=111.0*
*NEIC **18** 07:37:34.6±2.6,3.˚57S±0.˚06×140.˚02E±0.˚05, h35km±1km, mb4.6/27, Error ellipse: s-maj=11.4km s-min=6.6km az=42.0*
*DJA **18** 07:37:46.5±1.4,4.˚S±15˚×14.˚0E±1.˚1, h88km±19km, M5.2/7, mb4.8/7, mB5.5/2, MLv5.3/1, Mw(mB)5.0/2*
ISC 18 07:37:35.6±0.5, 3.795±0.˚06×139.˚91E±0.˚07, h37km, n65, σ1°58/63, mb4.6/18, MS3.7/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.50**	**32**	Pg		Pn		07 37 54.2	-5.8
	196nm,0.3s,baz=209,slow=13,SNR=17								
JAY				Lg		Lg		07 38 07.7	
	189nm,0.3s,baz=118,slow=21,SNR=4.5								
FAKI	**Fak Fak**	**7.70**	**276**	Pn		**Pn**		**07 39 25.1**	**-0.1**
PMG	**Port Moresby**	**9.11**	**128**	Pn		**Pn**		**07 39 44.8**	**+0.3**
	1.7nm,0.3s,baz=324,slow=17,SNR=2.6								
PMG	**Port Moresby**	**9.11**	**128**	Pn		**Pn**		**07 39 42.8**	**-1.8**
COEN	**Coen**	**10.60**	**162**	Pn		**Pn**		**07 40 05.8**	**+0.8**
MTN	**Manton Dam**	**12.49**	**223**	Pn		**Pn**		**07 40 32.8**	**+1.9**
KNRA	**Kununurra**	**16.11**	**222**	Pn		**P**		**07 41 20.8**	**-1.6**
KNRA				IAmb		IAmb		07 41 27.9	
	comp=Z,32nm,0.7s								
SOEI	**Soe**	**16.62**	**248**	P		**P**		**07 41 31.4**	**+3.3**
SOEI	**Soe**	**16.62**	**248**	Pn		**P**		**07 41 27.2**	**-0.9**
SOEI				IAmb		IAmb		07 41 44.0	
	comp=Z,49nm,0.7s								
WB0	**Warramunga Arr**	**16.76**	**198**	Pn		**Pn**		**07 41 27.5**	**-0.2**
WB0				IAmb		IAmb		07 41 44.9	
	comp=Z,24nm,0.8s								
WR0	**Warramunga Arr**	**16.90**	**198**	Pn		**Pn**		**07 41 28.4**	**-1.0**
WR0				IAmb		IAmb		07 41 39.1	
	comp=Z,25nm,0.8s								
WRAB	**Tennant Creek**	**16.93**	**198**	Pn		**Pn**		**07 41 28.0**	**-1.9**
WRAB				IAmb		IAmb		07 41 46.4	
	comp=Z,49nm,0.9s								
WB2	**Warramunga Arr**	**16.94**	**198**	Pn		**Pn**		**07 41 29.9**	**-0.1**
WB2				IAmb		IAmb		07 41 46.6	
	comp=Z,51nm,0.8s								
WRA	**Warramunga Arr**	**16.95**	**198**	P		**P**		**07 41 32.8**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=18,slow=13,SNR=12								
WRA				S		**Sn**		**07 44 31.7**	**-5.7**
	comp=Z,0.6nm,0.3s,baz=8.0,slow=23,SNR=5.2								
WRA				Lg		Lg		07 46 35.6	
	comp=Z,0.4nm,0.3s,baz=17,slow=31,SNR=5.8								
WRA	**Warramunga Arr**	**16.95**	**198**	Pn		**Pn**		**07 41 29.4**	**-0.6**
CTA	**Charters Tower**	**17.34**	**160**	P		**P**		**07 41 38.2**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=341,slow=12,SNR=5.2								
CTA				Lg		Lg		07 46 45.6	
	comp=Z,0.2nm,0.3s,baz=219,slow=14,SNR=4.2								
CTAO	**Charters Tower**	**17.34**	**160**			**P**		**07 41 36.0**	**0.0**
FITZ	**Fitzroy Crossi**	**19.93**	**223**	P		**Pn**		**07 42 07.4**	**+1.1**
	comp=Z,9.1nm,0.7s,baz=360,slow=8.6,SNR=16								
FITZ				S		**S**		**07 45 41.8**	**-5.1**
	comp=Z,14nm,0.8s,baz=179,slow=8.2,SNR=7.0								
FITZ				Lg		Lg		07 48 13.4	
	comp=Z,8.1nm,0.9s,baz=180,slow=19,SNR=1.3								
FITZ	**Fitzroy Crossi**	**19.93**	**223**	P		**Pn**		**07 42 06.4**	**+0.1**
FITZ				IAmb		IAmb		07 42 17.9	
	comp=Z,15nm,0.7s								
AS31	**Alice Springs**	**20.59**	**196**			Pn		07 42 12.8	-1.2
AS31				IAmb		IAmb		07 42 28.3	
	comp=Z,10nm,0.6s								
ASAR	**Alice Springs**	**20.59**	**196**	P		Pn		07 42 14.7	+0.6
	comp=Z,24nm,0.8s,baz=27,slow=9.2,SNR=42								
ASAR				S		**S**		**07 46 01.2**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=17,slow=26,SNR=4.5								
ASAR				Lg		Lg		07 48 25.1	
	comp=Z,2.1nm,0.7s,baz=28,slow=34,SNR=2.1								
ASAR	**Alice Springs**	**20.59**	**196**	P		Pn		07 42 13.8	-0.2
EIDS	**Eidsvold**	**23.99**	**154**	P		**P**		**07 42 46.7**	**-0.2**
EIDS				IAmb		IAmb		07 42 58.2	
	comp=Z,12nm,0.9s								
PSA00	**Pilbara Seismi**	**26.30**	**226**	P		**P**		**07 43 09.9**	**+2.0**
FORT	**Forrest**	**29.08**	**201**	P		**P**		**07 43 30.6**	**-2.0**
FORT				IAmb		IAmb		07 43 47.8	
	comp=Z,17nm,1.1s								
BBOO	**Buckleboo**	**29.09**	**187**	P		**P**		**07 43 33.6**	**+0.8**
SANVU	**Saraoutou**	**29.25**	**115**	P		**P**		**07 43 34.0**	**-0.4**
SANVU				IAmb		IAmb		07 43 49.3	
	comp=Z,16nm,0.8s								
DZM	**Mont Dzumac**	**31.50**	**128**	P		**P**		**07 43 54.4**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=133,slow=20,SNR=1.9								
NWAO	**Narrogin (SRO)**	**35.91**	**214**	P		**P**		**07 44 33.9**	**+1.4**
NJ2	**Nanjing**	**40.88**	**332**	*eP*		**P**		**07 45 15.8**	**+1.6**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
RPSI	**Rantau Prapat**	**41.46**	**278**	P		**P**		**07 45 19.0**	**-0.3**
GSI	**Gunungsitoli**	**42.61**	**276**	P		**P**		**07 45 28.4**	**-0.3**
GSI				IAmb		IAmb		07 45 37.4	
	comp=Z,14nm,0.8s								
CMAR	**Chiang Mai Arr**	**46.01**	**300**	P		**P**		**07 45 55.8**	**0.0**
	comp=Z,0.6nm,0.4s,baz=120,slow=6.6,SNR=5.6								
CMAR	**Chiang Mai Arr**	**46.01**	**300**	P		**P**		**07 45 54.0**	**-1.8**
URZ	**Urewera**	**48.23**	**140**	P		**P**		**07 46 13.4**	**+0.6**
URZ				IAmb		IAmb		07 46 16.9	
	comp=Z,16nm,1.3s								
RPZ	**Rata Peaks**	**48.36**	**150**	P		**P**		**07 46 14.8**	**+1.0**
	comp=Z,9.5nm,0.6s,baz=264,slow=2.7,SNR=6.2								
RPZ	**Rata Peaks**	**48.36**	**150**	P		**P**		**07 46 14.7**	**+1.0**
BKZ	**Black Stump Fm**	**48.38**	**142**	P		**P**		**07 46 14.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**48.46**	**146**	P		**P**		**07 46 14.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**51.44**	**333**	*eP*		**P**		**07 46 38.0**	**+0.7**
HHC				pmax		pmax			
	comp=Z,26nm,1.1s								
HHC				pmax		pmax			
	comp=Z,91nm,5.7s								
HHC				LR		LR			
	comp=N,120nm,16.1s								
HHC				LR		LR			
	comp=E,120nm,17.1s								
HHC				LR		LR			
	comp=Z,72nm,15.2s								
LZH	**Lanzhou**	**52.06**	**323**	*eP*		**P**		**07 46 41.0**	**-1.1**
LZH				pP		pP		07 46 51.3	-1.8
LZH				sP		sP		07 46 55.3	-2.2
LZH				*e*PP		**PP**		**07 48 40.1**	**-0.5**
LZH				pmax		pmax			
	comp=Z,21nm,1.3s								
LZH				pmax		pmax			
	comp=Z,75nm,5.2s								
LZH				LR		LR			
	comp=N,200nm,15.4s								
LZH				LR		LR			
	comp=E,210nm,15.2s								
LZH				LR		LR			
	comp=Z,330nm,18.0s								
SONM	**Songino Array**	**59.20**	**334**	LR		LR		08 10 45.4	
	comp=Z,21nm,21.8s,baz=26,slow=34								
MA2	**Magadan**	**63.76**	**6**	LR		LR		08 15 06.7	
	comp=Z,26nm,18.6s,baz=134,slow=36								
WMQ	**Urumqi**	**66.60**	**321**	*eP*		**P**		**07 48 23.9**	**+1.6**
MK31	**Makanchi Array**	**71.37**	**322**	P		**P**		**07 48 51.4**	**-0.5**
MKAR	**Makanchi Array**	**71.37**	**322**	P		**P**		**07 48 51.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=94,slow=8.4,SNR=7.1								
MKAR	**Makanchi Array**	**71.37**	**322**	P		**P**		**07 48 51.6**	**-0.3**
VNDA	**Vanda**	**74.60**	**175**	P		**P**		**07 49 11.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=323,slow=7.3,SNR=11								
VNDA	**Vanda**	**74.60**	**175**	P		**P**		**07 49 11.3**	**+0.9**
OHAK	**Old Harbor**	**80.87**	**30**	P		**P**		**07 49 44.5**	**-1.1**
BVAR	**Borovoye Array**	**80.88**	**325**	P		**P**		**07 49 45.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=139,slow=12,SNR=4.4								
NRIK	**Noril'sk**	**81.09**	**343**	P		**P**		**07 49 45.9**	**-0.7**
	comp=Z,2.5nm,0.3s,baz=150,slow=19,SNR=7.4								
KDAK	**Kodiak Island**	**81.43**	**30**	P		**P**		**07 49 47.5**	**-1.1**
MAW	**Mawson**	**81.58**	**202**	P		**P**		**07 49 51.2**	**+2.0**
	comp=Z,1.3nm,0.6s,baz=27,slow=2.3,SNR=2.5								
QSPA	**South Pole Qui**	**86.16**	**180**	P		**P**		**07 50 13.8**	**+1.0**
QSPA				IAmb		IAmb		07 50 14.7	
	comp=Z,8.2nm,1.1s								
ILAR	**Eielson Array**	**86.32**	**24**	P		**P**		**07 50 10.4**	**-3.1**
	comp=Z,1.1nm,0.6s,baz=261,slow=4.2,SNR=19								
ILAR	**Eielson Array**	**86.32**	**24**	P		**P**		**07 50 10.6**	**-2.9**
TORD	**Torodi Ar. Bea**	**137.70**	**285**	PKP		**PKPdf**		**07 56 56.3**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=49,slow=6.5,SNR=2.9								
DBIC	**Dimbokro**	**144.80**	**276**	PKP		**PKPdf**		**07 57 09.4**	**-0.3**
	comp=Z,6.5nm,0.7s,baz=88,slow=4.7,SNR=9.7								
CPUP	**Villa Florida**	**145.72**	**152**	PKPbc		**PKPdf**		**07 57 10.4**	**-0.6**
	comp=Z,6.1nm,1.0s,baz=209,slow=3.8,SNR=11								
CPUP	**Villa Florida**	**145.72**	**152**			**PKPab**		**07 57 11.6**	**-0.1**
LPAZ	**La Paz**	**145.84**	**126**	PKPbc		**PKPab**		**07 57 13.1**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=247,slow=7.7,SNR=9.2								
SIV	**San Ignacio**	**151.41**	**134**	PKPbc		**PKPbc**		**07 57 26.5**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=247,slow=3.6,SNR=6.5								
BDFB	**Brasilia**	**159.16**	**158**	PKPab		**PKPab**		**07 58 09.0**	**+1.2**
	comp=Z,2.9nm,0.5s,baz=186,slow=5.9,SNR=7.0								
BDFB	**Brasilia**	**159.16**	**158**	PKPab		**PKPab**		**07 58 08.8**	**+1.0**

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*IDC **18** 07:43:18.5±9.1, 11.˚82S×109.˚59W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.8/21, mbtmp3.6/4, MS3.8/14, Ms1 3.8/14, ms1mx3.8/19, Error ellipse: s-maj=257.3km s-min=33.2km az=48.0*
*NEIC **18** 07:43:19.4±2.3, 12.˚0S±0.˚2×109.˚6W±0.˚1, h10km±2km, mb4.3/5, Error ellipse: s-maj=37.5km s-min=10.7km az=207.0*
ISC 18 07:43:19.0±6.6, 12.˚0S±0.˚8×109.˚7W±0.˚9, h10km, n33, σ1°23/14, mb3.8/6, MS3.8/14, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**31.24**	**84**	LR		LR		07 59 06.9	
	comp=Z,198nm,21.9s,baz=252,slow=30								
NNA	**Nana**	**32.14**	**93**	LR		LR		07 59 39.0	
	comp=Z,116nm,21.4s,baz=251,slow=31								
H03N2	**Juan Fernandez**	**35.28**	**132**	T		T		08 27 28.1	
	baz=300,slow=76,SNR=149								
H03N3	**Juan Fernandez**	**35.30**	**132**	T		T		08 27 38.3	
	baz=300,slow=76,SNR=127								
H03N1	**Juan Fernandez**	**35.30**	**132**	T		T		08 27 31.2	
	baz=300,slow=76,SNR=121								
PPT	**Papeete**	**38.89**	**257**	LR		LR		08 00 42.5	
	comp=Z,85nm,21.9s,baz=120,slow=27								
ROSC	**El Rosal**	**38.97**	**67**	LR		LR		08 04 11.9	
	comp=Z,66nm,18.7s,baz=218,slow=32								
LPAZ	**La Paz**	**40.49**	**101**	P		**P**		**07 50 59.4**	**+0.2**
	2.2nm,0.8s,baz=244,slow=6.6,SNR=7.4								
LPAZ				LR		LR		08 05 08.0	
	comp=Z,67nm,19.6s,baz=263,slow=32								
LPAZ	**La Paz**	**40.49**	**101**	P		**P**		**07 50 58.9**	**-0.3**
LPAZ				IAmb		IAmb		07 51 11.2	
	comp=Z,5.0nm,1.0s								
TXAR	**Lajitas Array**	**41.52**	**8**	P		**P**		**07 51 05.6**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=192,slow=8.1,SNR=2.1								
TXAR				LR		LR		08 05 53.6	
	comp=Z,88nm,18.7s,baz=0.0,slow=33								
TXAR	**Lajitas Array**	**41.52**	**8**	P		**P**		**07 51 08.2**	**+1.4**
MNTX	**Cornudas Mount**	**43.66**	**5**	P		**P**		**07 51 26.7**	**+2.6**
PLCA	**Paso Flores**	**44.69**	**137**	LR		LR		08 05 17.8	
	comp=Z,336nm,18.3s,baz=334,slow=30								
SAML	**Samuel**	**45.81**	**91**	P		**P**		**07 51 41.5**	**-0.1**
LENM	**Lemitar**	**46.00**	**3**	P		**P**		**07 51 41.2**	**-1.7**
BNM	**Barren Site**	**46.00**	**4**	P		**P**		**07 51 42.2**	**-0.8**
SIV	**San Ignacio**	**47.28**	**101**	LR		LR		08 07 42.2	
	comp=Z,107nm,19.1s,baz=286,slow=31								
SDCO	**Great Sand Dun**	**49.65**	**4**	P		**P**		**07 52 12.1**	**+0.7**
SDCO				IAmb		IAmb		07 52 19.5	
	comp=Z,4.4nm,1.1s								
PTGA	**Pitinga**	**50.59**	**81**	P		**P**		**07 52 18.6**	**0.0**
PTGA				IAmb		IAmb		07 52 27.0	
	comp=Z,5.4nm,1.1s								
NVAR	**Mina Array Bea**	**50.82**	**351**	P		**P**		**07 52 19.4**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=174,slow=8.9,SNR=2.0								
NVAR				LR		LR		08 10 02.3	
	comp=Z,82nm,18.3s,baz=180,slow=32								
NVAR	**Mina Array Bea**	**50.82**	**351**	P		**P**		**07 52 18.8**	**-1.2**
CPUP	**Villa Florida**	**51.16**	**114**	LR		LR		08 10 11.9	
	comp=Z,106nm,20.8s,baz=244,slow=32								
PDAR	**Pinedale Array**	**54.51**	**0**	P		**P**		**07 52 47.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=181,slow=8.7,SNR=1.9								
PDAR				LR		LR		08 12 20.0	
	comp=Z,120nm,19.5s,baz=164,slow=32								
PDAR	**Pinedale Array**	**54.51**	**0**	P		**P**		**07 52 47.7**	**+0.3**
ULM	**Lac du Bonnet**	**63.17**	**10**	LR		LR		08 19 14.7	
	comp=Z,82nm,18.2s,baz=332,slow=34								
YKA	**Yellowknife Ar**	**74.37**	**358**	LR		LR		08 25 11.3	
	comp=Z,172nm,18.4s,baz=0.0,slow=34								
ILAR	**Eielson Array**	**81.53**	**345**	LR		LR		08 25 16.0	
	comp=Z,70nm,19.3s,baz=164,slow=31								
H11S2	**WAKE ISLAND Hy**	**87.79**	**289**	T		T		09 31 47.6	
	baz=106,slow=75,SNR=124								
H11S1	**WAKE ISLAND Hy**	**87.80**	**289**	T		T		09 31 53.8	
	baz=106,slow=75,SNR=68								
H11S3	**WAKE ISLAND Hy**	**87.81**	**289**	T		T		09 31 49.0	
	baz=106,slow=75,SNR=55								
H11N3	**WAKE ISLAND Hy**	**87.89**	**291**	T		T		09 31 59.1	
	baz=101,slow=80,SNR=14								
H11N2	**WAKE ISLAND Hy**	**87.90**	**291**	T		T		09 32 08.6	
	baz=101,slow=80,SNR=13								
H11N1	**WAKE ISLAND Hy**	**87.90**	**291**	T		T		09 32 00.4	
	baz=101,slow=80,SNR=8.3								

WEL 18 07:43:22.6, 44.˚S±1.˚×17.˚3E±.˚, h14km±3km, M2.1/7, ML2.2/6, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=32.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.18**	**183**	P		Pb		07 43 28.2	+0.4
AMCZ	**Amberley**	**0.35**	**358**	P		Pb		07 43 30.8	+0.2
OKCZ	**Okains Bay**	**0.35**	**125**	P		Pb		07 43 31.0	+0.3
AKCZ	**Akaroa Harbour**	**0.39**	**153**	P		Pb		07 43 32.1	+0.7
OXZ	**Oxford**	**0.50**	**293**	P		Pb		07 43 34.1	+0.9
GVZ	**Greta Valley S**	**0.62**	**26**	P		Pb		07 43 35.7	+0.5
LTZ	**Lake Taylor**	**0.80**	**338**	P		Pn		07 43 39.4	-0.1
MHCZ	**Mount Hutt**	**0.80**	**269**	P		Pn		07 43 40.0	+0.4
INZ	**Inchbonnie**	**1.20**	**311**	P		Pg		07 43 47.1	+1.4
HSRZ	**Hossack Road**	**5.87**	**29**	P		Pn		07 44 48.6	-0.6

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*IDC **18** 07:59:35.9±0.9, 23.˚17S×66.˚76W, h202km±11km, mb3.2/2, mb1 3.6/8, mb1mx3.4/32, mbtmp4.1/8, Error ellipse: s-maj=16.9km s-min=15.0km az=153.0*
*NEIC **18** 07:59:35.4±2.8, 23.˚23S±0.˚06×66.˚79W±0.˚10, h203km±5km, mb4.3/9, Md3.6(SJA), Error ellipse: s-maj=13.0km s-min=8.9km az=96.0*
*SJA **18** 07:59:35.3±0.5, 23.˚18S×66.˚82W, h217km±3km, ML4.3, MW4.0*
*VAO **18** 07:59:36.6±0.6, 23.˚15S×66.˚94W, h234km±7km, mb4.2*
*GUC **18** 07:59:37.1±0.4, 23.˚18S×67.˚12W, h241km±5km, ML4.6*
ISC 18 07:59:35.5±0.6, 23.˚21S±0.˚04×66.˚86W±0.˚04, h217km±6km, n122, σ1°33/168, mb4.2/4, 14C-8D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.61**	**51**	*eP*		**Pn**		**08 00 12.4**	**+0.2**
YJA				*e*S		**S**		**08 00 40.0**	**-0.5**
SLA	**San Lorenzo**	**1.95**	**141**	*eP*		**Pn**		**08 00 15.4**	**+0.5**
SLA				*e*S		**S**		**08 00 45.1**	**-0.4**
LVC	**Limon Verde**	**1.98**	**287**	P		**Pn**		**08 00 16.5**	**+1.0**
	174nm,0.3s,baz=106,slow=6.4,SNR=1261								
LVC				S		**S**		**08 00 46.5**	**+0.1**
	72nm,0.3s,baz=279,slow=20,SNR=39								
LVC	**Limon Verde**	**1.98**	**287**	⇓*iP*		**Pn**		**08 00 16.5**	**+1.0**
LVC				*i*S		**S**		**08 00 46.4**	**0.0**
LVC	**Limon Verde**	**1.98**	**287**	*e*S		**S**		**08 00 47.2**	**+0.8**
LVC	**Limon Verde**	**1.98**	**287**	*e*P		**Pn**		**08 00 16.3**	**+0.7**
PB15	**IPOC Station P**	**2.40**	**270**	⇑*iP*		**Pn**		**08 00 20.5**	**+0.9**
PB15				*i*S		**S**		**08 00 53.9**	**+0.2**
PB15	**IPOC Station P**	**2.40**	**270**			**Pn**		**08 00 20.6**	**+0.9**
PB15						**S**		**08 00 54.3**	**+0.5**
PB15	**IPOC Station P**	**2.40**	**270**	*e*P		**Pn**		**08 00 20.6**	**+0.9**
PB15				*e*S		**S**		**08 00 54.0**	**+0.2**
PB06	**IPOC Station P**	**2.55**	**281**	⇑*iP*		**Pn**		**08 00 22.1**	**+1.0**
PB06				*i*S		**S**		**08 00 56.2**	**-0.3**
PB06				IAML				08 00 58.5	
	comp=E,1μm,0.5s								
PB06	**IPOC Station P**	**2.55**	**281**			**Pn**		**08 00 22.0**	**+0.8**
PB06						**S**		**08 00 56.5**	**0.0**
PB06	**IPOC Station P**	**2.55**	**281**	*e*P		**Pn**		**08 00 22.1**	**+1.0**
PB06				*e*S		**S**		**08 00 56.2**	**-0.3**
PB06				IAML				08 00 59.4	
	comp=Z,653nm,0.4s								
PB09	**IPOC Station P**	**2.62**	**302**	⇑*iP*		**Pn**		**08 00 23.3**	**+1.4**
PB09				*i*S		**S**		**08 00 58.5**	**+0.6**
PB09				IAML				08 01 00.1	
	comp=E,709nm,0.8s								
PB09	**IPOC Station P**	**2.62**	**302**			**Pn**		**08 00 23.3**	**+1.4**
PB09						**S**		**08 00 59.2**	**+1.3**
PB09	**IPOC Station P**	**2.62**	**302**	*e*P		**Pn**		**08 00 22.6**	**+0.7**
PB09				*e*S		**S**		**08 00 57.9**	**0.0**
PB09				IAML				08 01 00.3	
	comp=Z,414nm,0.4s								
PB03	**IPOC Station P**	**2.92**	**293**	⇑*iP*		**Pn**		**08 00 26.0**	**+0.7**
PB03				*i*S		**S**		**08 01 02.7**	**-1.1**
PB03				IAML				08 01 03.4	
	comp=N,2μm,0.4s								
PB03	**IPOC Station P**	**2.92**	**293**	*e*P		**Pn**		**08 00 25.8**	**+0.6**
PB03				*e*S		**S**		**08 01 03.0**	**-0.8**
PB03				IAML				08 01 05.6	
	comp=Z,1μm,0.3s								
FSA	**Cafayete**	**3.00**	**165**	*e*P		**Pn**		**08 00 26.9**	**+0.7**
PB05	**IPOC Station P**	**3.10**	**276**	⇑*iP*		**Pn**		**08 00 27.8**	**+0.5**
PB05				*i*S		**S**		**08 01 06.2**	**-1.4**
PB05				IAML				08 01 10.9	
	comp=N,513nm,0.3s								
PB05	**IPOC Station P**	**3.10**	**276**	*e*P		**Pn**		**08 00 28.0**	**+0.7**
PB05				*e*S		**S**		**08 01 06.6**	**-0.9**
PB05				IAML				08 01 10.2	
	comp=Z,341nm,0.2s								
PB04	**IPOC Station P**	**3.16**	**285**	⇑*iP*		**Pn**		**08 00 28.7**	**+0.7**
PB04				*i*S		**S**		**08 01 07.7**	**-1.2**
PB04	**IPOC Station P**	**3.16**	**285**			**Pn**		**08 00 28.7**	**+0.7**
PB04						**S**		**08 01 08.6**	**-0.3**
PB04	**IPOC Station P**	**3.16**	**285**	*e*P		**Pn**		**08 00 28.7**	**+0.7**
PB04				*e*S		**S**		**08 01 08.3**	**-0.6**
PB04				IAML				08 01 11.7	
	comp=Z,536nm,0.1s								
GO02	**Mina Guanaco**	**3.16**	**232**	⇑*iP*		**Pn**		**08 00 28.6**	**+0.5**
GO02				*i*S		**S**		**08 01 09.0**	**-0.2**
GO02	**Mina Guanaco**	**3.16**	**232**	Pn		**Pn**		**08 00 28.7**	**+0.5**
GO02						**S**		**08 01 08.7**	**-0.5**
PB07	**IPOC Station P**	**3.17**	**297**	⇑*iP*		**Pn**		**08 00 28.9**	**+0.8**
PB07				*i*S		**S**		**08 01 07.9**	**-1.2**
PB07	**IPOC Station P**	**3.17**	**297**			**Pn**		**08 00 28.8**	**+0.6**
PB07						**S**		**08 01 07.8**	**-1.3**
PB07	**IPOC Station P**	**3.17**	**297**	*e*P		**Pn**		**08 00 28.7**	**+0.6**
PB07				*e*S		**S**		**08 01 08.0**	**-1.1**
PB07				IAML				08 01 09.0	
	comp=Z,1μm,0.4s								
PB01	**IPOC Station P**	**3.26**	**311**	⇑*iP*		**Pn**		**08 00 29.8**	**+0.7**
PB01				*i*S		**S**		**08 01 10.2**	**-0.6**
PB01	**IPOC Station P**	**3.26**	**311**			**Pn**		**08 00 29.9**	**+0.8**
PB01

SAML	Samuel	14.61	15		P	08 02 52.4	-0.7
SAML	Samuel	14.61	15	eP	P	08 02 53.9	+0.7
ITRB	Iturama	15.75	80	eP	Pn	08 03 06.6	+0.4
FRTB	Fartura	15.89	94	eP	Pn	08 03 08.4	+0.6
ARAG	Araguaiana, MT	16.02	65	eP	Pn	08 03 10.1	+0.6
CLDB	Colider	16.18	43	eP	Pn	08 03 10.2	-1.2
BB19B	Bebedouro	17.12	86	eP	Pn	08 03 22.1	-0.3
PLCA	Paso Flores	17.75	189	P	Pn	08 03 29.0	-0.7
	comp=Z,0.4nm,0.3s,baz=7.0,slow=9.9,SNR=17						
PLCA	Paso Flores	17.75	189	P	Pn	08 03 29.6	0.0
PLCA				IAmb	IAmb	08 03 37.7	
	comp=Z,12nm,1.4s						
IPMB	Ipameri, GO	18.21	77	eP	Pn	08 03 33.5	-1.9
VAO	Valinhos	18.30	93	eP	Pn	08 03 33.6	-2.8
BDFB	Brasilia	19.29	70	P	Pn	08 03 45.1	-2.9
	comp=Z,1.3nm,0.3s,baz=253,slow=11,SNR=37						
BDFB	Brasilia	19.29	70	P	Pn	08 03 44.2	-3.9
PARB	Paraibuna	19.51	95	eP	Pn	08 03 47.2	-3.4
NPGB	Novo Progresso	19.51	36	eP	P	08 03 45.6	-1.0
LL01	San Ignacio de	19.67	192	P	P	08 03 48.8	+0.8
LL01				IAmb	IAmb	08 03 55.6	
	comp=Z,12nm,1.0s						
MACA	Manacapuru-AM	20.81	18	eP	P	08 03 59.7	-0.8
PEXB	Peixe	20.82	61	eP	P	08 04 00.1	-0.6
ITTB	Itaituba	21.60	32	eP	P	08 04 07.7	-0.9
MC01	Montes Claros	22.48	77	eP	P	08 04 16.6	-0.3
JANB	Januaria	22.77	73	eP	P	08 04 19.0	-0.6
PTGA	Pitinga	23.33	18	P	P	08 04 24.9	+0.4
PTGA				IAmb	IAmb	08 04 26.3	
	comp=Z,8.4nm,1.0s						
SMTB	Santa Maria do	23.33	55	eP	P	08 04 25.1	+0.5
SDBA	SAO DESIDERIO	23.47	67	eP	P	08 04 25.4	-0.5
PRPB	Paraupebas	23.59	47	eP	P	08 04 27.0	0.0
NAN01	Guarapari, ES	25.58	83	eP	P	08 04 44.6	-0.3
GDU01	Guandu, BA	27.50	75	eP	P	08 05 01.4	-0.7
TXAR	Lajitas Array	63.12	324	P	P	08 09 42.6	+2.2
	comp=Z,0.1nm,0.5s,baz=146,slow=6.6,SNR=1.5						
K58A	Earlville	66.14	353	P	P	08 10 02.2	+2.7
J59A	Piesco	66.72	354	P	P	08 10 05.9	+2.7
J59A				IAmb	IAmb	08 10 06.6	
	comp=Z,5.6nm,0.8s						
QSPA	South Pole Qui	66.99	180	P	P	08 10 07.4	+2.6
TOA0	Torodi Ar. Sit	76.17	69	P	P	08 11 00.7	+0.5
TORD	Torodi Ar. Bea	76.17	69	P	P	08 11 00.7	+0.5
	comp=Z,1.8nm,0.4s,baz=257,slow=5.5,SNR=23						
TORD	Torodi Ar. Bea	76.17	69	P	P	08 11 00.5	+0.3
MKAR	Makanchi Array	145.83	39	PKPbc	PKiKP	08 18 51.1	-1.3
	comp=Z,5.0nm,0.7s,baz=308,slow=3.3,SNR=23						
MKAR	Makanchi Array	145.83	39		PKiKP	08 18 50.5	-1.9
LZH	Lanzhou	164.85	30	⇓PKP	PKPdf	08 19 11.3	-2.6
LZH				pPKP	pPKPdf	08 20 09.3	-2.3
LZH				PKP	PKPab	08 20 10.5	-0.6
LZH				sPKP		08 20 32.3	

*IDC **18** 08:01:30.3±1.4, 3°.16S×139°.65E, h0km, mb4.0/3, mb1 4.5/4, mb1mx3.8/40, mbtmp4.3/4, ML4.5/1, MS3.3/10, Ms1 3.3/10, ms1mx3.0/33, Error ellipse: s-maj=34.0km s-min=12.7km az=138.0*

*NEIC **18** 08:01:34.4±2.3, 3°.57S±0°.07×140°.1E±0°.2, h35km±2km, mb4.2/10, Error ellipse: s-maj=28.3km s-min=4.3km az=293.0*

*DJA **18** 08:01:35.6±3.3, 4°.S±15°×14°.1E±2°.2, h34km±105km, M4.1/3, MLv4.1/3*

ISC 18 08:01:36.3±0.8, 3°.71S±0°.07×140°.2E±0°.1, h56km, n29, σ2s06/25, MS3.1/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.11	359	P	Pn	08 01 55.5	-0.1
GENI				S	Sn	08 02 10.7	+0.8
JAY	Jayapura	1.29	23	Pg	Pn	08 01 55.7	-2.4
	9.1nm,0.3s,baz=246,slow=23,SNR=64						
JAY				Lg	Lg	08 02 08.9	
	99nm,0.3s,baz=210,slow=9.0,SNR=21						
JAY	Jayapura	1.29	23	P	Pn	08 01 55.4	-2.7
PMG	Port Moresby	8.94	130	LR	LR	08 08 57.3	
	comp=Z,98nm,19.7s,baz=340,slow=46						
COEN	Coen	10.60	164	Pn	Pn	08 04 07.3	+1.7
MTN	Manton Dam	12.76	224	Pn	Pn	08 04 36.5	+1.5
KNRA	Kununurra	16.37	223		P	08 05 26.4	+1.9
KNRA				IAmb	IAmb	08 05 29.8	
	comp=Z,14nm,0.8s						
SOEI	Soe	16.92	248		Pn	08 05 28.6	-0.9
WB0	Warramunga Arr	16.94	199	P	Pn	08 05 30.7	+1.1
WB0				IAmb	IAmb	08 05 36.8	
	comp=Z,20nm,1.2s						
WR0	Warramunga Arr	17.07	198		Pn	08 05 32.4	+1.1
WR0				IAmb	IAmb	08 05 38.8	
	comp=Z,23nm,0.7s						
WRAB	Tennant Creek	17.11	199	P	P	08 05 33.8	+1.1
WB2	Warramunga Arr	17.12	199	P	Pn	08 05 32.9	+1.1
WB2				IAmb	IAmb	08 05 38.8	
	comp=Z,14nm,0.7s						
WRA	Warramunga Arr	17.12	199	P	P	08 05 34.0	+1.2
	comp=Z,1.9nm,0.3s,baz=21,slow=12,SNR=36						
WRA				S	Sn	08 08 35.5	-6.0
	comp=Z,0.2nm,0.3s,baz=16,slow=22,SNR=3.4						
WRA				LR	LR	08 12 27.4	
	comp=Z,122nm,20.0s,baz=100,slow=38						
WRA	Warramunga Arr	17.12	199		Pn	08 05 30.1	-1.8
WC3	Warramunga Arr	17.12	199	P	P	08 05 33.5	+0.6
CTA	Charters Tower	17.32	161	LR	LR	08 13 36.8	
	comp=Z,274nm,20.9s,baz=97,slow=40						
GUMO	Guam	17.80	15	LR	LR	08 12 12.2	
	comp=Z,56nm,18.1s,baz=179,slow=37						
FITZ	Fitzroy Crossi	20.19	224	P	P	08 06 07.8	+1.2
	comp=Z,5.3nm,0.9s,baz=0.3,slow=4.4,SNR=11						
FITZ				S	S	08 09 46.4	-3.9
	comp=Z,4.6nm,0.7s,baz=180,slow=10.0,SNR=5.8						
FITZ				LR	LR	08 14 51.8	
	comp=Z,114nm,21.7s,baz=37,slow=40						
FITZ	Fitzroy Crossi	20.19	224	P	P	08 06 06.6	+0.1
HNR	Honiara	20.42	107	LR	LR	08 15 12.6	
	comp=Z,43nm,18.3s,baz=42,slow=39						
KAPI	Kappang	20.43	266	LR	LR	08 15 45.0	
	comp=Z,64nm,21.5s,baz=104,slow=43						
AS31	Alice Springs	20.75	196	P	P	08 06 14.1	+1.5
AS31				IAmb	IAmb	08 06 18.5	
	comp=Z,7.7nm,0.6s						
ASAR	Alice Springs	20.75	196	P	Pn	08 06 15.9	+0.4
	comp=Z,24nm,0.9s,baz=27,slow=8.9,SNR=138						
ASAR				S	S	08 10 03.0	+1.7
	comp=Z,1.8nm,0.9s,baz=7.6,slow=29,SNR=2.8						
ASAR				LR	LR	08 13 46.0	
	comp=Z,75nm,21.3s,baz=7.5,slow=35						
ASAR	Alice Springs	20.75	196	P	P	08 06 13.8	+1.2
PETK	Petropavlovsk-	58.50	12	LR	LR	08 35 36.0	
	comp=Z,42nm,19.7s,baz=102,slow=35						
VNDA	Vanda	74.67	175	P	P	08 13 09.6	+0.3
NRIK	Noril'sk	81.09	343	LR	LR	08 50 16.5	
	comp=Z,57nm,20.6s,baz=21,slow=36						
ILAR	Eielson Array	86.12	24	P	P	08 14 11.8	+0.8
	comp=Z,0.4nm,0.6s,baz=256,slow=4.2,SNR=8.3						
ILAR	Eielson Array	86.12	24	P	P	08 14 11.1	+0.1

*JMA **18** 08:01:38.6±0.4, 37°.37N×135°.16E, h393km±4km, M3.1*

*IDC **18** 08:01:51.2±2.2, 37°.89N×134°.61E, h44km±63km, mb3.3/1, mb1 3.7/4, mb1mx3.2/68, mbtmp3.6/4, ML2.7/3, Error ellipse: s-maj=49.0km s-min=27.8km az=25.0*

ISC 18 08:01:40.1±1.4, 37°.4N±0°.1×135°.1E±0°.1, h378km, n12, σ0s50/14, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	Kaga	1.45	138	P	Pn	08 02 30.8	0.0
JHG	Hegura jima	1.50	71	P	Pn	08 02 31.2	+0.3
JSZ	Suzu	1.78	87	P	Pn	08 02 32.9	+0.4
JWT	Wachi	2.09	174	P	Pn	08 02 34.7	0.0
JWT				eS	S	08 03 18.5	-0.1
JYTA	Yamagatataniai	2.19	143	eS	S	08 03 19.6	-0.2
JSD	Sado	2.57	74	P	Pn	08 02 37.7	-0.3
MAT	Matsushiro	2.59	108	P	Pn	08 02 38.0	-0.2
MAT				eS	S	08 03 26.1	+0.9
MAT	Matsushiro	2.59	108	P	Pn	08 02 38.1	-0.2
MJAR	Matsushiro Arr	2.60	108	P	Pn	08 02 39.1	+0.8
	1.0nm,0.3s,baz=287,slow=9.8,SNR=71						
BSO1	Boso 1	5.45	118	P	Pn	08 03 04.5	-0.8
KSRS	Korea Array	5.74	273	P	Pn	08 03 08.9	-0.1
	0.3nm,0.3s,baz=93,slow=12,SNR=5.9						
USRK	Ussuriysk Ar.	7.23	342	P	Pn	08 03 25.0	-0.6
	baz=166,slow=12,SNR=22						

*ECX **18** 08:58:18.8±0.5, 30°.62N×114°.23W, h12km±5km, MD3.2, ML3.4*

*MEX **18** 08:58:21.8±1.0, 30°.83N×114°.22W, h16km±15km, MD3.9*

ISC 18 08:58:17.4±2.3, 30°.8N±0°.1×114°.22W±0°.07, h5km±12km, n12, σ1s40/18, 1C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.60	297	⇓eP	Pb	08 58 31.2	+0.8
SFX				eS	Sb	08 58 40.0	+0.8
ECBX	El Chinero	1.00	315	eP	Pn	08 58 38.2	+0.1
ECBX				eS	Sn	08 58 53.3	+0.8
PIX	Pinacate	1.03	39	eP	Pn	08 58 38.8	+0.3
SPX	San Pedro Mart	1.10	285	eP	Pg	08 58 38.7	+0.2
SPX				i S	Sg	08 58 51.8	-1.1
SPX	San Pedro Mart	1.10	285	⇓eP	Pg	08 58 38.6	+0.1
SPX				eS	Sb	08 58 54.4	+0.6
SPX				⇑e		08 59 05.3	
SPX				IAML		08 59 05.3	
	comp=E,824nm,0.9s						
SPIG	San Pedro Mart	1.10	285	eP	Pn	08 58 39.6	-0.1
SPIG				i S	Sg	08 58 51.7	-1.2
SQX	San Quintin	1.44	263	⇓eP	Pn	08 58 43.4	-0.6
SQX				eS	Sn	08 59 02.0	-1.2
MBIG	Mexicali	1.84	333	i P	Pn	08 58 48.4	-1.1
MBIG				i S	Sn	08 59 09.7	-3.5
CPBX	Cerro Prieto	1.89	331	IAML		08 59 46.5	
	comp=E,761nm,0.4s						
CPBX				IAML		09 00 03.6	
	comp=N,1μm,0.5s						
CPBX				⇓e		09 00 03.6	
CBX	Cerro Bola	2.59	307	eP	Pn	08 59 02.3	+2.2
CBX				eS	Sn	08 59 32.1	+0.1
CBX	Cerro Bola	2.59	307	IAML		08 59 54.4	
	comp=N,263nm,0.5s						
CBX				e		08 59 54.4	
TJIG	Tijuana	2.67	309	i P	Pn	08 59 02.6	+1.5

*ECX **18** 09:27:36.1±0.6, 30°.59N×114°.23W, h18km±7km, MD2.9, ML3.0*

*MEX **18** 09:27:41.7±0.9, 30°.93N×114°.42W, h16km±16km, MD3.8*

ISC 18 09:27:36.1±1.8, 30°.9N±0°.1×114°.38W±0°.07, h10km, n13, σ1s09/16, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.43	291	eP	Pn	09 27 48.5	+0.1
ECBX	El Chinero	0.82	316	eP	Pn	09 27 55.4	+1.6
SPX	San Pedro Mart	0.94	280	eP	Pn	09 27 55.9	+0.2
SPX				i S	Sg	09 28 06.2	-0.5
SPX	San Pedro Mart	0.94	280	eP	Pn	09 27 55.9	+0.2
SPX				IAML		09 28 21.9	
	comp=N,334nm,0.4s						
SPX				⇓e		09 28 21.9	
SPX				e		09 28 22.1	
SPX				IAML		09 28 22.1	
	comp=E,244nm,0.3s						
SPIG	San Pedro Mart	0.95	280	eP	Pn	09 27 56.8	+1.0
SPIG				i S	Sg	09 28 06.6	-0.1
SPIG	San Pedro Mart	0.95	280	eP	Pn	09 27 56.8	+1.0
SPIG				eS	Sn	09 28 11.8	+2.3
PIX	Pinacate	1.04	49	eP	Pb	09 27 55.9	-0.2
SQX	San Quintin	1.32	257	eP	Pn	09 28 00.4	-0.2
SQX				eS	Sb	09 28 18.4	+0.4
MBIG	Mexicali	1.67	336	i P	Pn	09 28 06.1	+0.7
CPBX	Cerro Prieto	1.72	333	IAML		09 28 55.1	
	comp=N,265nm,0.4s						
CPBX				⇑e		09 29 01.9	
CPBX				IAML		09 29 01.9	
	comp=E,278nm,0.5s						
CBX	Cerro Bola	2.42	307	eP	Pn	09 28 16.1	+0.4
CBX				i S	Sn	09 28 43.5	-2.0
CBX	Cerro Bola	2.42	307	IAML		09 29 13.9	
	comp=N,94nm,0.5s						
CBX				⇓e		09 29 13.9	
CBX				⇑e		09 29 17.0	
CBX				IAML		09 29 17.0	
	comp=E,90nm,1.6s						
TJIG	Tijuana	2.50	309	eP	Pg	09 28 23.2	-0.7

*IDC **18** 09:34:41.4±0.9, 26°.47N×143°.76E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/49, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=34.0km s-min=19.4km az=59.0*

*JMA **18** 09:34:45.5±0.1, 27°.13N×143°.69E, h13km±5km, M4.5*

*NIED **18** 09:34:45.5, 27°.13N×143°.69E, h13km, MW3.7, Moment Tensor Solution. s1 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.21; $M_{\theta\theta}$3.27; $M_{\phi\phi}$0.94; $M_{r\theta}$1.19; $M_{\theta\phi}$-1.62; $M_{\phi r}$-0.98; Fault plane solution: $M_0$4.43000×10^{14} NP1: ϕ_s301.00000°, δ_s55.00000°, λ_s-85.00000°. NP2: ϕ_s113.00000°, δ_s35.00000°, λ_s-97.00000°.*

ISC 18 09:34:47.3±0.9, 26°.89N±0°.08×143°.73E±0°.09, h35km, n17, σ2s42/18, mb3.8/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.39	279	P	Pn	09 35 09.9	-0.3
CBIJ				eS	Sn	09 35 27.3	-0.1
JCJ	Chichijima	1.39	279	Pn	Pn	09 35 10.0	-0.3
	19nm,0.3s,baz=274,slow=22,SNR=17						
JCJ				LR	LR	09 35 19.2	
	comp=Z,19nm,21.1s,baz=87,slow=25						
JCJ				Sn	Sn	09 35 27.3	-0.1
	180nm,0.3s,baz=288,slow=23,SNR=14						
JHH2	Haha-jima-NKT2	1.41	260	P	Pn	09 35 11.3	+0.8
JHJ	Hachijo jima 2	7.09	332	Sn	Sn	09 37 45.3	-2.5
	4.0nm,0.3s,baz=43,slow=18,SNR=1.6						
JHU	Hanno	9.71	338	eS	Sn	09 38 44.5	-7.7
JHO	Hitachi	10.05	345	eS	Sn	09 38 55.7	-5.0
JAG	Ashikaga	10.18	340	eS	Sn	09 39 01.4	-2.3
MJAR	Matsushiro Arr	10.71	335	Pn	Pn	09 37 19.0	+0.9
	0.1nm,0.3s,baz=158,slow=12,SNR=5.1						
SONM	Songino Array	35.82	316	P	P	09 41 45.9	+2.4
	0.8nm,0.4s,baz=107,slow=5.1,SNR=4.1						
WRA	Warramunga Arr	47.44	192	P	P	09 43 15.2	-3.4
	0.7nm,0.9s,baz=13,slow=8.6,SNR=12						
ASAR	Alice Springs	51.15	192	P	P	09 43 42.2	-4.7
	0.2nm,0.6s,baz=6.3,slow=9.3,SNR=1.7						
MKAR	Makanchi Array	51.67	310	P	P	09 43 52.1	+1.4
	1.2nm,0.6s,baz=92,slow=8.5,SNR=5.5						
KURBB	Kurchatov Arra	54.17	315	P	P	09 44 10.6	+1.6
	0.9nm,0.3s,baz=92,slow=7.5,SNR=8.0						
FINES	FINESS Array B	78.73	334	P	P	09 46 47.4	+1.5
	0.5nm,0.5s,baz=55,slow=12,SNR=1.5						
TXAR	Lajitas Array	94.61	54	P	P	09 48 06.2	+1.2
	0.2nm,0.7s,baz=335,slow=4.0,SNR=2.6						
PLCA	Paso Flores	148.56	125	PKPbc	PKPdf	09 54 27.9	+1.0
	1.8nm,1.0s,baz=353,slow=3.5,SNR=3.6						
LPAZ	La Paz	148.63	77	PKPbc	PKPbc	09 54 32.1	0.0
	1.0nm,0.9s,baz=252,slow=3.2,SNR=3.8						

*IDC **18** 10:13:36.8±1.1, 54°.65N×161°.04W, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.0/52, mbtmp4.1/17, ML3.8/1, Error ellipse: s-maj=31.6km s-min=17.3km az=163.0*

*AEIC **18** 10:13:38.9±2.5, 54°.46N±0°.05×160°.80W±0°.07, h4km±4km, mb4.3/10(NEIC), Error ellipse: s-maj=7.9km s-min=5.4km az=150.0*

*NEIC **18** 10:13:41.8±2.2, 54°.54N±0°.06×160°.80W±0°.07, h37km±7km, Error ellipse: s-maj=10.1km s-min=5.1km az=156.0*

ISC 18 10:13:39.7±0.6, 54°.53N±0°.07×160°.77W±0°.04, h22km, n104, σ1s52/100, mb4.1/18, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	Chernabura Isl	0.74	66		Pb	10 13 54.6	+0.6
CNBA					Sn	10 14 06.3	+0.8
SDPT	Sand Point	0.84	11		Pb	10 13 56.6	+0.9
SDPT					Sn	10 14 08.9	+1.0
HAG	Hague Volcano	1.03	321		Pn	10 13 59.5	+0.6
PS4A	Pavlof South-4	1.03	323		Pb	10 13 59.5	+0.6
PVV	Pavlof Volcano	1.03	326		Pn	10 13 59.5	+0.6
DT1	Dutton Round H	1.05	304		Pn	10 13 58.8	-0.3
FALS	False Pass	1.57	283		Pn	10 14 07.3	+1.1
FALS					Sb	10 14 29.0	+1.5
VNWF	Veniaminof 8	1.77	22		Pb	10 14 11.5	0.0
SSLS	Shishaldin Sou	1.89	277		Pn	10 14 12.1	+1.4
VNFG	Fog Glacier, M	1.90	21		Pb	10 14 14.2	+0.6
SSLN	Shishaldin Nor	1.90	280		Pn	10 14 12.6	+1.8
SSLN					Sb	10 14 38.7	+1.8
VNHG	Veniaminof 1	1.93	28		Pb	10 14 13.8	-0.4
SSLW	Shishaldin Wes	1.96	279		Pn	10 14 12.8	+1.1
SSBA	Shishaldin	1.97	279		Pn	10 14 13.0	+1.3
WESP	Westdahl Peak	2.31	271		Pn	10 14 17.6	+1.1
WEBT	Westdahl Beart	2.32	273		Pn	10 14 17.8	+1.2
AKSA	Akutan Strait	2.91	264		Pn	10 14 25.7	+1.0
AKUT	Akutan	2.96	264		Pn	10 14 26.3	+1.0
AKBBA	Akutan Broad B	3.06	264		Pn	10 14 27.5	+0.9
AKLV	Akutan Long Va	3.06	265		Pn	10 14 27.4	+0.6
AKGG	Akutan Green G	3.07	266		Pn	10 14 27.7	+0.8
AKMO	Akutan Morgan	3.10	264		Pn	10 14 28.1	+0.8
CHIR	Chirikof Islan	3.22	64		Pn	10 14 30.1	+1.2
UNV	Unalaska Valle	3.44	261		Pn	10 14 32.1	+0.2
MNAT	Makushin Nate	3.53	262		Pn	10 14 33.4	+0.2
MSW	Makushin Switc	3.58	263		Pn	10 14 34.2	+0.2
MREP	Makushin Rep't	3.59	261		Pn	10 14 34.4	+0.3
MGOD	Makushin Gods	3.66	261		Pn	10 14 35.4	+0.3
MAPS	Pakushin South	3.70	261		Pn	10 14 35.8	+0.3
SII	Sitkinak Islan	4.26	59		Pn	10 14 44.2	+1.0
CAHL	Cahill	4.67	39		Pn	10 14 51.0	+2.1
ANCK	Angle Creek	4.71	36		Pn	10 14 51.7	+2.3
KABU	Katmai Buttres	4.83	37		Pn	10 14 53.4	+2.2
KAKN	Katmai Knife C	4.93	38		Pn	10 14 55.4	+2.9
OHAK	Old Harbor	5.00	54		Pn	10 14 53.8	+0.4
NIKH	Nikolski High	5.05	255	Pn	Pn	10 14 54.7	+0.7
KDAK	Kodiak Island	5.62	51	Pn	Pn	10 15 02.5	+0.6
	2.5nm,0.3s,baz=221,slow=7.2,SNR=41						
KDAK				Sn	Sn	10 16 03.4	-2.2
	4.2nm,0.3s,baz=9.4,slow=21,SNR=7.2						
KDAK	Kodiak Island	5.62	51		Pn	10 15 02.6	+0.8
SPIA	Saint Paul Isl	5.96	300	Pn	Pn	10 15 08.8	+2.3
SVW2	Sparrevohn	7.15	21		Pn	10 15 27.5	+4.7
CNPM	China Poot	7.22	42	Pn	Pn	10 15 26.5	+2.6
RSO	Redoubt South	7.35	33	Pn	Pn	10 15 28.8	+3.0
SEW	Seward	8.29	43	Pn	Pn	10 15 40.0	+1.6
TTA	Tatalina	8.78	14	Pn	Pn	10 15 46.9	+1.6
PMR	Palmer	9.38	36	Pn	Pn	10 15 53.6	+0.2
PPLA	Purkeypile	9.50	24	Pn	Pn	10 15 58.4	+3.2
GLI	Glacier Island	9.69	43	Pn	Pn	10 15 59.3	+1.7
FID	Port Fidalgo	9.87	45	Pn	Pn	10 15 59.8	-0.2
ADK	Adak	9.91	261	Pn	Pn	10 16 01.2	+0.5
EYAK	Cordova Ski Ar	10.06	47	Pn	Pn	10 16 02.9	+0.1
SCM	Sheep Creek Mo	10.18	39	Pn	Pn	10 16 05.2	+0.7
KLU	Klutina	10.51	42		Pn	10 16 09.7	+0.8
BPAW	Bear Paw Mtn.	10.81	23	Pn	Pn	10 16 15.1	+2.2
WAX	Waxell Ridge	11.30	51	Pn	Pn	10 16 21.0	+1.3
GLB	Gilahina Butte	11.33	45	Pn	Pn	10 16 19.9	-0.2
BALM	Baldy	11.77	49	Pn	Pn	10 16 26.8	+0.6
BARN	Barnard Glacie	12.08	50	Pn	Pn	10 16 31.3	+0.8
HDA	Harding Lake	12.11	30	Pn	Pn	10 16 30.4	-0.3
CTGM	Chitina Glacie	12.19	50	Pn	Pn	10 16 33.0	+1.1
PCA	Pinnacle	12.38	55	Pn	Pn	10 16 36.3	+1.8
ILAR	Eielson Array	12.40	29	Pn	Pn	10 16 32.5	-2.2
	0.1nm,0.3s,baz=219,slow=13,SNR=5.0						
ILAR				Sn	Sn	10 18 46.9	-5.2
	0.1nm,0.3s,baz=212,slow=27,SNR=2.4						
ILAR	Eielson Array	12.40	29		Pn	10 16 34.4	-0.3
AMKA	Amchitka	12.42	263	Pn	Pn	10 16 34.4	-0.6
DOT	Dot Lake	12.50	36	Pn	Pn	10 16 36.2	+0.2
EGAK	Eagle	14.20	36	Pn	Pn	10 16 59.0	-0.2
SKAG	Skagway	14.67	60	Pn	Pn	10 17 08.8	+3.2
BESE	Bessie Mountai	14.81	64	Pn	Pn	10 17 07.7	+0.1
JIS	Juneau Island	15.04	65	Pn	Pn	10 17 13.1	+2.6
JIS				IAmb	IAmb	10 17 32.4	
	comp=Z,19nm,1.2s						
TOLK	Toolik Lake Re	15.09	16	Pn	Pn	10 17 12.6	+1.3
TOLK				IAmb	IAmb	10 17 25.5	
	comp=Z,9.3nm,1.1s						
EPYK	Eagle Plains	16.63	35	P	P	10 17 34.6	+1.1
EPYK				IAmb	IAmb	10 17 39.6	
	comp=Z,10.0nm,0.8s						
DLBC	Dease Lake	17.34	64	P	P	10 17 45.4	+4.1
	comp=Z,0.2nm,0.3s,baz=282,slow=9.3,SNR=2.6						
C36M	Paulatuk	22.26	34	P	P	10 18 34.3	-0.4
PEA0B	Petropavlovsk-	24.31	284	P	P	10 18 54.9	-0.4
PEA0B				IAmb	IAmb	10 19 11.0	
	comp=Z,12nm,1.0s						
PETK	Petropavlovsk-	24.31	284	P	P	10 18 54.9	-0.5
	comp=Z,3.4nm,0.5s,baz=81,slow=13,SNR=28						
YKA	Yellowknife Ar	24.89	53	P	P	10 19 02.1	+1.6
	comp=Z,0.7nm,0.6s,baz=269,slow=11,SNR=7.4						
H11N2	WAKE ISLAND Hy	42.55	228	T	T	11 07 01.3	
	baz=28,slow=76,SNR=63						
H11N3	WAKE ISLAND Hy	42.56	228	T	T	11 07 01.8	
	baz=28,slow=76,SNR=66						
H11N1	WAKE ISLAND Hy	42.57	228	T	T	11 06 60.0	
	baz=28,slow=76,SNR=46						
H11S1	WAKE ISLAND Hy	43.72	228	T	T	11 08 32.9	
	baz=27,slow=75,SNR=22						
H11S2	WAKE ISLAND Hy	43.73	228	T	T	11 08 34.0	
	baz=27,slow=75,SNR=23						
H11S3	WAKE ISLAND Hy	43.74

MAW	Mawson	75.91	202	P	P	10 37 19.5	-0.2
	1.5nm,0.8s,baz=106,slow=7.5,SNR=4.2						
NVAR	Mina Array Bea	89.68	48	P	P	10 38 31.7	-0.1
	0.6nm,0.8s,baz=232,slow=7.7,SNR=4.3						
SONM	Songino Array	91.23	322	P	P	10 38 38.8	+0.2
	0.2nm,0.3s,baz=150,slow=15,SNR=2.1						

NEIC ***18*** *10:28:48.5±0.9,36°.72N×0°.02×97°.87W±0°.04,h5km±2km, Error ellipse: s-maj=5.5km s-min=3.1km az=70.0*
ANF ***18*** *10:28:48.7±2.1,36°.70N×97°.87W,h2km±14km,ML3.9/11, Error ellipse: s-maj=5.6km s-min=5.4km az=19.0*
UNK ***18*** *10:28:48.6,36°.72N×97°.87W,h5km*
TUL ***18*** *10:28:48.4±1.3,36°.74N±0°.02×97°.88W±0°.07,h5km±6km, ML2.9, Error ellipse: s-maj=7.4km s-min=2.6km az=80.0*

ISC 18 10:28:48.4±1.1,36°.72N±0°.02×97°.88W±0°.03,h7km±9km, n62,σ0°.81/73, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.23	202		Pg	10 28 53.6	+0.8
KAN13	South Haven SW	0.44	47		Pg	10 28 57.2	+0.4
KAN13				Sg	Sg	10 29 02.3	-0.3
KAN10	Anthony SW Sta	0.44	337		Pg	10 28 57.0	+0.1
KAN10				Sg	Sg	10 29 02.6	-0.1
KAN12	Harper NE Stat	0.59	351		Pg	10 28 59.8	0.0
KAN12				Sg	Sg	10 29 07.6	+0.2
U32A	Winter Ranch,	0.97	250		Pg	10 29 06.7	-0.2
OK029	Liberty Lake	0.98	159		Pg	10 29 07.4	+0.2
BCOK	Bluff Creek, N	1.08	168		Pg	10 29 09.1	0.0
QUOK	Quay	1.09	120		Pg	10 29 09.3	0.0
T35A	Sooner Cattle	1.11	79		Pg	10 29 09.5	-0.2
T35A					Sg	10 29 24.1	-0.1
ADOK	Arcadia Dam	1.14	159	Pg	Pg	10 29 10.2	0.0
ADOK				Sg	Sb	10 29 25.6	+0.3
OK025	Westminster Rd	1.21	159		Pg	10 29 11.6	-0.1
OKCFA	Oklahoma City	1.34	165		Pn	10 29 14.0	+0.4
OKCFA				Sn	Sg	10 29 31.9	+0.3
OKCSW	OKLAHOMA CITY	1.35	165		Pn	10 29 14.1	+0.3
OKCSW				Sn	Sn	10 29 32.6	+0.6
FNO	Franklin	1.51	165		Pb	10 29 17.1	+0.4
R32A	Long Quarter,	1.83	339		Pn	10 29 21.2	+1.0
TUL1	Leonard	1.87	115	P	Pb	10 29 22.1	-0.7
	baz=296						
TUL1				S	Sg	10 29 47.6	-0.7
	baz=296						
TUL1	Leonard	1.87	115		Pb	10 29 22.1	-0.7
WMOK	Wichita Mounta	2.11	201	P	Pn	10 29 24.9	+0.8
	baz=20						
WMOK				S	Sb	10 29 53.9	+0.6
	baz=20						
WMOK	Wichita Mounta	2.11	201		Pn	10 29 25.0	+0.8
CBKS	Cedar Bluff	2.56	325	S	Sb	10 30 06.3	-0.1
	baz=144						
CBKS	Cedar Bluff	2.56	325		Pn	10 29 31.8	+1.4
KSU1	Kansas State U	2.58	22	P	Pn	10 29 31.3	+0.7
	baz=203						
KSU1	Kansas State U	2.58	22	Pn	Pn	10 29 31.6	+1.0
U38A	Gravette	2.82	95		Pn	10 29 35.1	+1.2
X37A	Clayton	2.94	135	Pn	Pn	10 29 37.0	+1.4
HHAR	Hobbs	3.20	97		Pn	10 29 40.8	+1.7
AMTX	Amarillo	3.59	241	Sb	Sg	10 30 40.9	-2.9
	baz=58						
AMTX	Amarillo	3.59	241	Pn	Pn	10 29 45.8	+1.2
W39A	Magazine	3.65	113	Sb	Sg	10 30 44.4	-1.2
	baz=296						
S39A	Bolivar	3.76	74	Pn	Pn	10 29 47.6	+0.8
U40A	Yellville	4.06	94	P	Pn	10 29 52.1	+1.1
	baz=277						
U40A				S	Sn	10 30 39.1	+0.3
	baz=277						
U40A	Yellville	4.06	94	Pn	Pn	10 29 51.9	+1.0
MIAR	Mount Ida	4.12	120	Pn	Pn	10 29 52.8	+1.1
Z38A	Mt. Pleasant	4.19	145		Pn	10 29 53.1	+0.5
ABTX	Abilene, Hawle	4.33	200		Pn	10 29 54.9	+0.1
KSCO	Kaye Shedlock'	4.40	303	P	Pn	10 29 56.5	+0.7
	baz=120						
KSCO	Kaye Shedlock'	4.40	303		Pn	10 29 56.7	+0.9
P38A	Dawn	4.49	48		Pn	10 29 58.2	+1.4
N35A	Tabor	4.49	22	Pn	Pn	10 29 57.7	+0.9
MGMO	Mountain Grove	4.51	83	Pn	Pn	10 29 57.9	+0.7
X40A	Basin Creek Fa	4.67	117	Pn	Pn	10 30 08.8	+1.5
BGNE	Belgrade	4.69	357	P	Pn	10 30 00.1	+0.5
	baz=177						
BGNE	Belgrade	4.69	357	Pn	Pn	10 30 00.2	+0.5
WHTX	Lake Whitney,	4.73	176	P	Pn	10 30 00.8	+0.7
	baz=356						
WHTX				S	Sn	10 30 54.8	-0.3
	baz=356						
WHTX	Lake Whitney,	4.73	176	Pn	Pn	10 30 00.7	+0.7
R40A	Maddies Statio	4.73	69	Pn	Pn	10 30 00.5	+0.4
WHAR	Wooly Hollow	4.75	106	Pn	Pn	10 30 01.0	+0.7
W41B	Gary Mavity, V	4.82	107	Pn	Pn	10 30 01.9	+0.6
Z41A	Richland Creek	5.41	128	S	Sn	10 31 10.4	-1.5
	baz=311						
CCM	Cathedral Cave	5.45	74	Pn	Pn	10 30 10.2	+0.2
T42A	Van Buren	5.45	85	Pn	Pn	10 30 10.0	0.0
N38A	Joes South For	5.45	40	Pn	Pn	10 30 10.2	+0.1
LCAR	Lake Charles	5.46	95	Pn	Pn	10 30 10.4	+0.3
SDCO	Great Sand Dun	6.17	282	Pn	Pn	10 30 20.4	+0.2
Q24A	Divide	6.18	293	Pn	Pn	10 30 20.6	+0.3
ISCO	Idaho Springs	6.82	299	Pn	Pn	10 30 29.2	0.0
ECSD	EROS Data Cent	7.08	7	P	Pn	10 30 31.3	-1.1
	baz=188						
ECSD	EROS Data Cent	7.08	7	Pn	Pn	10 30 31.3	-1.1
HDIL	Hopedale	7.73	58	Pn	Pn	10 30 41.7	+0.3
MNTX	Cornudas Mount	7.98	233	Pn	Pn	10 30 45.2	+0.4
L42A	Oliver, Polo	8.26	48	Pn	Pn	10 30 48.3	-0.3
JFWS	Jewell Farm	8.53	41	Pn	Pn	10 30 52.3	+0.1

ISN ***18*** *11:05:54.8±0.8,33°.57N×45°.67E,h0km±3km,ML3.4*
TEH ***18*** *11:05:55.6,33°.65N×45°.78E,h12km,ML3.4*

ISC 18 11:05:56.9±1.0,33°.63N±0°.04×45°.78E±0°.04,h19km,n22, σ0°.97/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.54	166	*e*Pg	Pb	11 06 06.0	-1.6
IBDR				*e*Sg	Sg	11 06 14.0	-0.9
IGHG	Ghaleghazi	0.95	43	*e*Pg	Pb	11 06 13.5	-1.5
IGHG				*e*		11 06 35.8	
IDHR	Dehrash	1.18	25	*e*Pg	Pn	11 06 17.8	-0.8
IDHR				*e*		11 06 37.3	
BHD	Baghdad	1.23	253	*e*Pg	Pn	11 06 19.0	0.0
BHD				*e*Sg	Sg	11 06 37.0	+0.3
BHD				AML	AML	11 06 39.0	
	comp=E,2μm,0.5s						
KCHF	Cheshme Sefid,	1.23	58	*e*Pg	Pn	11 06 18.5	-0.8
KCHF				*e*		11 06 41.9	
IVIS	Veis	1.26	45	*e*Pg	Pn	11 06 19.3	-0.3
IVIS				*e*		11 06 40.3	
KER	Kermanshah	1.35	56	*e*Pg	Pn	11 06 21.0	+0.1
IKOM	Komasi	1.54	69	*e*Pn	Pb	11 06 24.5	-0.4
IKOM				*e*		11 06 28.5	
DHL1	Dehloran	1.58	127	*e*Pg	Pb	11 06 25.3	-0.2
ILIN	Lien	1.61	37	*e*	Sg	11 06 48.8	-0.3
IKFM	Kafar-mosalman	1.73	93	*e*Pn	Pb	11 06 27.7	-0.3
IKFM				*e*		11 06 58.8	
IBZA	Bozab	1.92	64	*e*Pn	Pn	11 06 29.3	+0.5
IBZA				*e*		11 06 33.3	
IDOB	Doab	2.00	85	*e*Pn	Pn	11 06 31.0	+1.0
IKMR	Kamar-syah	2.17	92	*e*Pn	Pn	11 06 33.7	+1.6
IKMR				*e*		11 07 15.5	
IALM	Almabolaq	2.33	58	*e*Pn	Pn	11 06 35.6	+1.1
HSAM	Samen	2.42	75	*e*Pn	Pn	11 06 36.4	+0.7
HSAM				*e*		11 07 18.8	
BMDN	Meydan	2.54	88	*e*Pn	Pn	11 06 38.8	+1.5
BMDN				*e*		11 07 22.0	
HSRG	Sareghieh	2.62	51	*e*Pn	Pn	11 06 39.9	+1.5
HSRG				*e*		11 07 23.0	
NSR	Nassriya	2.63	173	*e*Pn	Pn	11 06 39.0	+0.6
NSR				Sn	Sn	11 07 10.0	+0.2
NSR				AML	AML	11 07 16.2	
	comp=E,778nm,0.2s						
HAGD	Aghdareh	3.03	66	*e*Pn	Pn	11 06 44.0	0.0
HAGD				*e*		11 07 27.3	
MSL	Mosul	3.52	322	*e*Pn	Pn	11 06 52.0	+1.3
MSL				Sn	Sn	11 07 33.0	+1.2
MSL				AML	AML	11 07 48.4	
	comp=N,62nm,0.6s						
MSL				AML	AML	11 08 00.9	
	comp=E,50nm,0.8s						
QABG	Abgarm-Qazvin	3.76	55	*e*Pn	Pn	11 06 54.3	+0.2

IDC ***18*** *11:10:07.0±1.4,53°.79N×164°.09W,h0km,mb3.8/9, mb1 3.9/12,mb1mx3.7/50,mbtmp3.7/12,ML3.5/3,MS3.1/6, Ms1 3.1/6,ms1mx2.8/52, Error ellipse: s-maj=38.1km s-min=16.8km az=167.0*
NEIC ***18*** *11:10:12.1±1.6,53°.73N±0°.06×164°.02W±0°.07,h34km±6km, Error ellipse: s-maj=10.0km s-min=5.1km az=155.0*
AEIC ***18*** *11:10:12.1±1.7,53°.77N±0°.06×164°.08W±0°.07,h26km±5km, ML3.6/34, Error ellipse: s-maj=9.7km s-min=4.5km az=155.0*

ISC 18 11:10:11.2±2.0,53°.73N±0°.09×164°.03W±0°.06, h27km±13km,n67,σ1°.22/61,mb3.8/9,MS2.9/4,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESP	Westdahl Peak	0.86	332		Pb	11 10 27.4	-0.2
WESP					Sn	11 10 39.2	-0.2
WEBT	Westdahl Beart	0.96	334		Pb	11 10 29.0	-0.1
SSLS	Shishaldin Sou	0.98	1		Pn	11 10 29.1	-0.2
SSLW	Shishaldin Wes	1.04	357		Pn	11 10 29.9	-0.2
SSBA	Shishaldin	1.04	357		Pn	11 10 30.0	-0.1
SSBA					Sb	11 10 43.7	-0.2
AKSA	Akutan Strait	1.06	293		Pn	11 10 30.2	-0.1
AKSA					Sb	11 10 43.1	-1.3
SSLN	Shishaldin Nor	1.08	1		Pn	11 10 30.9	+0.2
AKUT	Akutan	1.10	292		Pn	11 10 30.9	+0.1
AKUT					Sb	11 10 45.8	+0.2
AKBBA	Akutan Broad B	1.18	289		Pn	11 10 32.1	+0.2
FALS	False Pass	1.18	18		Pn	11 10 31.9	0.0
FALS					Sn	11 10 47.1	0.0
AKLV	Akutan Long Va	1.22	292		Pn	11 10 32.5	0.0
AKMO	Akutan Morgan	1.22	288		Pn	11 10 32.8	+0.3
AKGG	Akutan Green G	1.25	293		Pn	11 10 33.2	+0.3
AKRB	Akutan Reef Bi	1.27	289		Pn	11 10 33.4	+0.3
UNV	Unalaska Valle	1.47	275		Pn	11 10 35.6	-0.3
MNAT	Makushin Natee	1.58	277		Pn	11 10 37.6	+0.1
MREP	Makushin Rep't	1.61	274		Pn	11 10 38.2	+0.3
MSW	Makushin Switc	1.64	277		Pn	11 10 38.7	+0.4
MGOD	Makushin Gods	1.69	273		Pn	11 10 39.5	+0.5
DT1	Dutton Round H	1.72	36		Pn	11 10 39.6	+0.3
MAPS	Pakushin South	1.73	274		Pn	11 10 40.0	+0.6
HAG	Hague Volcano	2.02	37		Pn	11 10 44.9	+1.4
PS4A	Pavlof South-4	2.06	37		Pn	11 10 45.9	+1.9
OKFG	Magazine Ridge	2.33	264		Pn	11 10 49.5	+1.7
OKSP	Okmok Steeple	2.59	261		Pn	11 10 53.0	+1.6
SDPT	Sand Point	2.63	51		Pn	11 10 53.2	+1.3
CNBA	Chernabura Isl	2.83	66	Pn	Pn	11 10 55.9	+1.3
NIKH	Nikolski High	2.99	257	Pn	Pn	11 10 57.1	+0.3
VNWF	Veniaminof 8	3.54	45		Pn	11 11 07.2	+2.8
VNHG	Veniaminof 1	3.75	46		Pn	11 11 09.4	+2.0
SPIA	Saint Paul Isl	4.94	317	Pn	Pn	11 11 26.3	+2.7
ATKA	Atka Island	6.33	260	Pn	Pn	11 11 43.6	+1.0
OHAK	Old Harbor	7.04	56	Pn	Pn	11 11 53.5	+1.1
KDAK	Kodiak Island	7.63	53	Pn	Pn	11 11 59.4	-1.0
	1.3nm,0.3s,baz=212,slow=7.3,SNR=18						
KDAK	Kodiak Island	7.63	53	Pn	Pn	11 12 00.3	-0.1
ADK	Adak	7.89	262	Pn	Pn	11 12 07.1	+3.0
SVW2	Sparrevohn	8.67	28	Pn	Pn	11 12 16.6	+1.8
TTA	Tatalina	10.13	21		Pn	11 12 36.4	+1.6
AMKA	Amchitka	10.42	264	Pn	Pn	11 12 41.0	+2.4
KLU	Klutina	12.40	44		Pn	11 13 04.9	-0.9
ILAR	Eielson Array	14.05	31	Pn	Pn	11 13 26.4	-1.9
	0.1nm,0.3s,baz=223,slow=12,SNR=4.1						
ILAR				LR	LR	11 19 14.6	
	comp=Z,58nm,21.4s,baz=238,slow=39						
COLD	Coldfoot	15.10	21	Pn	Pn	11 13 43.9	+1.6
EGAK	Eagle	15.98	37	Pn	Pn	11 13 55.7	+1.9
DAWY	Dawson	16.28	41		P	11 14 00.3	-0.2
DLBC	Dease Lake	19.41	62	P	P	11 14 33.1	-1.9
	0.1nm,0.3s,baz=254,slow=7.8,SNR=4.9						
DLBC				LR	LR	11 20 55.9	
	comp=Z,171nm,18.0s,baz=200,slow=33						
PETK	Petropavlovsk-	22.64	284	P	P	11 15 08.6	-1.2
	1.2nm,0.5s,baz=88,slow=12,SNR=14						
PETK				LR	LR	11 22 40.4	
	comp=Z,37nm,21.1s,baz=85,slow=33						
C36M	Paulatuk	23.99	34		P	11 15 23.0	-0.1
YKA	Yellowknife Ar	26.90	51	P	P	11 15 48.7	-0.8
	0.3nm,0.4s,baz=275,slow=8.9,SNR=6.4						
YBH	Yreka Blue Hor	29.84	97	LR	LR	11 24 45.0	
	comp=Z,46nm,20.3s,baz=357,slow=29						
H11N2	WAKE ISLAND Hy	40.61	225	T	T	12 01 13.0	
	baz=26,slow=76,SNR=116						
H11N3	WAKE ISLAND Hy	40.62	225	T	T	12 01 20.1	
	baz=26,slow=76,SNR=123						
H11N1	WAKE ISLAND Hy	40.63	225	T	T	12 01 22.1	
	baz=26,slow=76,SNR=76						
H11S1	WAKE ISLAND Hy	41.79	224	T	T	12 02 47.8	
	baz=26,slow=76,SNR=88						
H11S2	WAKE ISLAND Hy	41.80	224	T	T	12 02 41.1	
	baz=26,slow=76,SNR=109						
H11S3	WAKE ISLAND Hy	41.80	224	T	T	12 02 49.0	
	baz=26,slow=76,SNR=101						
KSRS	Korea Array	48.40	279	P	P	11 18 52.0	+1.3
	0.3nm,0.3s,baz=23,slow=6.5,SNR=2.6						
KSRS				LR	LR	11 38 00.5	
	comp=Z,8.1nm,21.7s,baz=75,slow=35						
KSRS	Korea Array	48.40	279	P	P	11 18 52.0	+1.3
TXAR	Lajitas Array	49.57	94	P	P	11 19 00.7	+0.8
	0.3nm,0.6s,baz=288,slow=4.9,SNR=6.4						
SONM	Songino Array	53.32	303	P	P	11 19 27.4	-0.4
	0.4nm,0.3s,baz=61,slow=6.8,SNR=2.7						
KIRV	Kirov	64.81	341	LR	LR	11 51 16.7	
	comp=Z,24nm,19.2s,baz=82,slow=38						
FINES	FINESS Array B	64.89	355	P	P	11 20 46.1	-1.3
	0.9nm,0.5s,baz=19,slow=8.1,SNR=5.4						
NOA	NORSAR Array B	65.51	3	P	P	11 20 50.9	-0.6
	0.1nm,0.3s,baz=358,slow=6.5,SNR=2.8						
AKASG	Malin Array Be	75.34	351	P	P	11 21 50.8	-0.9
	0.8nm,0.4s,baz=11,slow=5.6,SNR=5.4						
CMAR	Chiang Mai Arr	79.39	287	P	P	11 22 14.8	0.0
	0.6nm,0.3s,baz=20,slow=4.7,SNR=4.2						
H03N2	Juan Fernandez	113.50	115	T	T	13 32 27.4	
	baz=323,slow=78,SNR=7.9						
H03N1	Juan Fernandez	113.51	115	T	T	13 32 28.1	
	baz=323,slow=78,SNR=5.6						
H03N3	Juan Fernandez	113.52	115	T	T	13 32 28.5	
	baz=323,slow=78,SNR=8.0						

NEIC ***18*** *11:11:29.5±2.0,55°.8N±0°.1×161°.7W±0°.1,h172km±8km, Error ellipse: s-maj=20.1km s-min=8.0km az=157.0*
AEIC ***18*** *11:11:31.3±2.3,55°.7N±0°.1×161°.7W±0°.1,h167km±6km, ML3.4/40, Error ellipse: s-maj=17.5km s-min=5.8km az=152.0*
IDC ***18*** *11:11:31.7±4.5,55°.95N×161°.41W,h137km±39km,mb3.3/5, mb1 3.7/7,mb1mx3.3/46,mbtmp3.8/7,MS3.4/1,Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=49.9km s-min=23.4km az=9.0*

ISC 18 11:11:31.0±0.8,55°.84N±0°.09×161°.64W±0°.06,h150km, n66,σ1°.65/70,mb3.6/5,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PN7A	Pavlof North-7	0.45	207		Pn	11 11 53.3	+1.1
PN7A					Sn	11 12 11.8	+3.6
SDPT	Sand Point	0.82	126		Pn	11 11 54.9	+0.6
SDPT					Sn	11 12 13.8	+1.8
VNFG	Fog Glacier, M	1.25	68		Pn	11 11 59.9	+1.7
FALS	False Pass	1.41	227		Pn	11 11 59.1	-0.5
FALS					Sn	11 12 21.4	0.0
VNHG	Veniaminof 1	1.44	73		Pn	11 12 01.5	+1.5
CNBA	Chernabura Isl	1.55	130		Pn	11 12 01.2	+0.1
CNBA					Sn	11 12 23.8	-0.3
AKUT	Akutan	2.93	236		Pn	11 12 16.6	-0.8
AKLV	Akutan Long Va	3.00	238		Pn	11 12 17.3	-1.0
UNV	Unalaska Valle	3.45	237		Pn	11 12 22.3	-1.7
MNAT	Makushin Natee	3.51	238		Pn	11 12 23.4	-1.4
MREP	Makushin Rep't	3.58	238		Pn	11 12 24.5	-1.3
MGOD	Makushin Gods	3.65	238		Pn	11 12 25.4	-1.3
MAPS	Pakushin South	3.68	239		Pn	11 12 25.6	-1.4
ANCK	Angle Creek	4.11	52		Pn	11 12 34.2	+1.6
CAHL	Cahill	4.12	55		Pn	11 12 33.6	+0.8
SII	Sitkinak Islan	4.23	77		Pn	11 12 33.6	-0.5
KABU	Katmai Buttres	4.25	52		Pn	11 12 35.6	+1.2
KAKN	Katmai Knife C	4.36	53		Pn	11 12 37.1	+1.2
OKFG	Magazine Ridge	4.38	239		Pn	11 12 34.0	-2.1
KAWH	Katmai	4.52	53		Pn	11 12 38.7	+0.7
OKSP	Okmok Steeple	4.66	239		Pn	11 12 37.8	-2.1
OHAK	Old Harbor	4.83	70		Pn	11 12 40.8	-1.2
NIKH	Nikolski High	5.10	239		Pn	11 12 43.3	-2.3
KDAK	Kodiak Island	5.35	65	P	Pn	11 12 47.9	-1.0
	17nm,0.3s,baz=244,slow=7.1,SNR=100						
KDAK				S	Sn	11 13 46.2	-3.4
	2.7nm,0.3s,baz=270,slow=20,SNR=2.3						
KDAK	Kodiak Island	5.35	65		Pn	11 12 48.1	-0.7
OPT	Oil Point	5.91	46		Pn	11 12 57.2	+0.8
RDWB	Redoubt West	6.59	41		Pn	11 13 05.7	+0.2
RSO	Redoubt South	6.60	42	Pn	Pn	11 13 06.3	+0.5
CNPM	China Poot	6.69	52		Pn	11 13 05.9	-0.9
BRLK	Bradley Lake	6.96	51		Pn	11 13 08.8	-1.6
BRSE	Bradley Lake S	7.02	52		Pn	11 13 09.8	-1.3
SLKM	Skilak Lake	7.64	47		Pn	11 13 18.8	-0.6
SEW	Seward	7.76	52		Pn	11 13 19.5	-1.5
O22K	Cooper Landing	7.83	49		Pn	11 13 20.9	-1.0
SUA	Susitna One	8.00	41	Pn	Pn	11 13 23.4	-0.9
SKT	Skwentna	8.08	36	Pn	Pn	11 13 26.1	+0.9
ATKA	Atka Island	8.24	249	Pn	Pn	11 13 24.3	-3.1
PPLA	Purkeypile	8.56	30	Pn	Pn	11 13 32.8	+1.0
PWL	Port Wells	8.61	49		Pn	11 13 30.2	-2.2
PMR	Palmer	8.69	43	Pn	Pn	11 13 31.4	-2.0
KNK	Knik Glacier	8.85	45	Pn	Pn	11 13 33.6	-2.0
SML	Sawmill	9.13	44	Pn	Pn	11 13 37.9	-1.3
GLI	Glacier Island	9.16	51	Pn	Pn	11 13 37.1	-2.5
FID	Port Fidalgo	9.37	52		Pn	11 13 39.7	-2.7
EYAK	Cordova Ski Ar	9.62	54		Pn	11 13 43.5	-2.2
BPAW	Bear Paw Mtn.	9.85	28	Pn	Pn	11 13 48.6	-0.1
GLB	Gilahina Butte	10.84	51	Pn	Pn	11 14 00.6	-1.2
PAX	Paxson	10.88	42	Pn	Pn	11 14 00.3	-2.2
CRQM	Cirque	10.90	56	Pn	Pn	11 14 01.9	-0.9
VRDI	Verde Repeater	10.92	53	Pn	Pn	11 14 01.5	-1.5
WAX	Waxell Ridge	10.94	57	Pn	Pn	11 14 02.2	-1.0
TGL	Tana Glacier	11.04	56	Pn	Pn	11 14 03.5	-1.1
MCARA	McCarthy VSAT	11.16	53	Pn	Pn	11 14 04.6	-1.5
HDA	Harding Lake	11.26	34	Pn	Pn	11 14 05.1	-2.3
BALM	Baldy	11.35	55	Pn	Pn	11 14 08.0	-0.7
ILAR	Eielson Array	11.53	33	P	Pn	11 14 08.1	-2.8
	0.4nm,0.3s,baz=216,slow=13,SNR=7.2						
MENT	Mentasta	11.55	45	Pn	Pn	11 14 09.9	-1.3
BARN	Barnard Glacie	11.68	55	Pn	Pn	11 14 13.1	+0.1
AMKA	Amchitka	12.15	256	Pn	Pn	11 14 16.0	-3.1
DLBC	Dease Lake	17.27	68	P	Pn	11 15 25.4	+2.6
	0.1nm,0.3s,baz=169,slow=15,SNR=2.5						
YKA	Yellowknife Ar	24.52	55	P	P	11 16 37.1	+1.0
	1.8nm,0.7s,baz=279,slow=9.4,SNR=8.1						
NEW	Newport	27.98	87	LR	LR	11 26 30.6	
	comp=Z,70nm,18.7s,baz=275,slow=32						
NVAR	Mina Array Bea	33.56	103	P	P	11 17 58.0	+1.4
	0.7nm,0.7s,baz=303,slow=8.7,SNR=3.8						
PDAR	Pinedale Array	35.52	89	P	P	11 18 14.1	+0.6
	0.6nm,0.5s,baz=327,slow=3.0,SNR=7.1						
TXAR	Lajitas Array	48.42	98	P	P	11 19 58.1	+0.2
	0.6nm,0.6s,baz=307,slow=5.9,SNR=7.9						
KSRS	Korea Array	49.43	279	P	P	11 20 08.4	+3.0
	1.1nm,0.7s,baz=32,slow=10,SNR=2.6						

MAN 18 11:41:25.0,7°.29N×126°.35E,h17km,mb4.2,ML3.0,MS2.6, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.36	195	*e*P	Pb	11 41 33.5	+0.6
MATI				*e*S	Sn	11 41 43.3	+1.1
KCP	Kidapawan	1.28	257	‖*e*P	Sb	11 42 00.3	-4.7
DDMP	Don Marcelino,	1.34	208	*e*P	Pn	11 41 48.0	-1.0
DDMP				*e*S	Sb	11 42 07.2	+0.6
BUKP	Musuan	1.41	295	*e*P	Pn	11 41 49.2	-0.7

IDC 18 11:42:26.2±393.0,54°.81N×0°.75E,h0km,Error ellipse: s-maj=187.7km s-min=49.1km az=23.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.99	121	*i*		12 41 10.0	
	baz=312,slow=327,SNR=1.3						
I37NO	I37NO	16.48	23	*i*		13 27 10.0	
	baz=219,slow=327,SNR=2.2						
I43RU	DUBNA INFRASON	20.45	70	*i*		13 50 30.0	
	baz=280,slow=322,SNR=0.5						

WEL 18 12:14:01.2,44°S±41°×17°0E±1°0,h5km±22km,M2.4/7, ML2.5/7,MLv2.4/7,Error ellipse: s-maj=0.1km s-min=0.0km az=173.9,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	Lake Benmore	0.30	170	P	Pb	12 14 08.8	-0.3
FOZ	Fox Glacier	0.59	339	P	Pb	12 14

3.0nm,0.3s,baz=322,slow=27,SNR=4.1
ASAJ LR LR 12 42 14.1
comp=Z,158nm,21.4s,baz=66,slow=40
MAJO Matsushiro 5.25 236 Pn Pn 12 40 26.2 +1.2
MJAR Matsushiro Arr 5.25 236 Pn **Pn 12 40 25.8 +0.7**
1.1nm,0.3s,baz=43,slow=12,SNR=52
MJAR LR LR 12 42 41.3
comp=Z,421nm,18.1s,baz=65,slow=41
JGF Kuroka 6.38 233 Pn 12 40 42.2 +1.6
INU Inuyama 6.75 233 Pn 12 40 44.8 -0.9
JHJ2 Mitsune 7.16 207 Pn **Pn 12 40 50.0 -1.3**
JHJ Hachijo jima 2 7.17 207 Pn **Pn 12 40 50.0 -1.3**
22nm,0.3s,baz=41,slow=17,SNR=7.6
JHJ Sn **Sn 12 42 05.8 -7.0**
25nm,0.3s,baz=229,slow=23,SNR=5.7
JHJ LR LR 12 43 50.5
comp=Z,109nm,21.7s,baz=55,slow=40
YSS Yuzh-Sakhalins 7.38 355 Pn 12 40 56.1 +1.8
JWT Wachi 7.83 239 Pn 12 41 02.3 +1.9
USA0B Ussuriysk Arra 9.82 302 Pn 12 41 28.9 +1.2
USRK Ussuriysk Ar. 9.82 302 Pn **Pn 12 41 29.5 +1.8**
baz=94,slow=12,SNR=15
USRK LR LR 12 45 13.1
comp=Z,316nm,18.1s,baz=101,slow=37
USRK Ussuriysk Ar. 9.82 302 Pn 12 41 29.1 +1.4
MDJ Mudanjiang 11.56 300 Pn 12 41 53.6 +2.0
KSRS Korea Array 12.48 265 Pn **Pn 12 42 06.0 +1.8**
0.1nm,0.3s,baz=86,slow=13,SNR=9.7
KSRS LR LR 12 46 32.9
comp=Z,291nm,18.4s,baz=76,slow=36
CN2 Changchun 14.21 293 *e*P **Pn 12 42 29.8 +2.0**
PETK Petropavlovsk- 16.60 31 Pn **P 12 43 02.8 +1.1**
baz=248,slow=0.8,SNR=4.7
PETK LR LR 12 49 00.7
comp=Z,66nm,19.5s,baz=210,slow=35
PETK Petropavlovsk- 16.60 31 P 12 43 03.5 +1.9
MA2 Magadan 20.50 10 P Pn 12 43 45.5 -1.2
8.0nm,0.9s,baz=195,slow=10,SNR=5.5
MA2 Magadan 20.50 10 P Pn 12 43 46.2 -0.5
BJI Beijing 21.06 280 P **P 12 43 50.8 +0.1**
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJI LR LR
comp=N,150nm,13.2s
BJI LR LR
comp=E,270nm,15.2s
BJI LR LR
comp=Z,170nm,16.7s
TIA Tai'an 21.16 269 P **P 12 43 51.0 -0.7**
TIA pmax pmax
comp=Z,17nm,1.1s
TIA LR LR
comp=N,180nm,11.8s
TIA LR LR
comp=E,390nm,13.7s
TIA LR LR
comp=Z,570nm,13.7s
NJ2 Nanjing 21.41 257 *e*P **P 12 43 54.8 +0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
SEY Seymchan 23.96 10 P **P 12 44 21.3 +0.7**
2.0nm,0.5s,baz=195,slow=3.4,SNR=6.5
HHC Hu-ho-hao-te 24.45 283 *e*P **P 12 44 25.8 +0.3**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,94nm,4.9s
HHC LR LR
comp=N,180nm,12.6s
HHC LR LR
comp=E,340nm,12.8s
HHC LR LR
comp=Z,340nm,12.6s
WHN Wuhan 25.52 258 P **P 12 44 34.9 -0.2**
WHN pmax pmax
comp=Z,54nm,0.8s
GUMO Guam 25.93 177 LR LR 12 53 45.0
comp=Z,31nm,21.1s,baz=24,slow=34
SONM Songino Array 27.92 299 P **P 12 44 56.4 -0.5**
3.7nm,0.8s,baz=95,slow=8.0,SNR=14
SONM LR LR 12 56 38.0
comp=Z,229nm,19.5s,baz=88,slow=38
SONM Songino Array 27.92 299 P **P 12 44 56.8 -0.1**
H11N2 WAKE ISLAND Hy 28.15 128 T T 13 15 51.7
baz=318,slow=75,SNR=242
H11N1 WAKE ISLAND Hy 28.16 128 T T 13 16 03.8
baz=318,slow=75,SNR=226
H11N3 WAKE ISLAND Hy 28.17 128 T T 13 16 01.3
baz=318,slow=75,SNR=193
XAN Xi'an 28.21 270 P **P 12 44 58.3 -1.2**
XAN pP pwP 12 45 08.9 +3.8
XAN pmax pmax
comp=Z,8.0nm,1.2s
XAN LR LR
comp=N,160nm,17.3s
XAN LR LR
comp=E,350nm,14.1s
XAN LR LR
comp=Z,320nm,16.3s
H11S1 WAKE ISLAND Hy 28.97 130 T T 13 16 57.9
baz=321,slow=76,SNR=27
H11S3 WAKE ISLAND Hy 28.98 130 T T 13 16 59.8
baz=321,slow=76,SNR=19
H11S2 WAKE ISLAND Hy 28.99 130 T T 13 16 54.4
baz=321,slow=76,SNR=14
TLY Talaya 30.07 307 P **P 12 45 17.3 +1.5**
1.2nm,0.3s,baz=167,slow=1.6,SNR=3.6
TLY Talaya 30.07 307 IAmb IAmb 12 45 31.1
comp=Z,7.8nm,1.2s
LZH Lanzhou 31.43 276 *e*P **P 12 45 28.3 +0.2**
LZH pP pwP 12 45 32.8 -1.0
LZH sP sP 12 45 35.4 +3.9
LZH *e*PP **PnPn 12 46 32.5 +1.7**
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,67nm,5.0s
LZH LR LR
comp=Z,230nm,13.1s
LZH LR LR
comp=Z,240nm,12.9s
LZH LR LR
comp=Z,360nm,16.0s
GYA Guiyang 33.41 258 *e*P **P 12 45 43.3 -2.2**
GYA pmax pmax
comp=Z,11nm,1.3s
GTA Gaotai 33.55 284 *e*P **P 12 45 46.3 -0.3**
GTA pP pwP 12 45 51.3 -1.0
GTA sP sP 12 45 53.9 +3.9
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,21nm,3.9s
GTA LR LR
comp=Z,100nm,17.4s
GTA LR LR
comp=Z,290nm,16.4s
GTA LR LR
comp=Z,360nm,16.7s
DAV Davao City (W) 36.22 211 LR LR 13 01 14.2
comp=Z,35nm,19.1s,baz=55,slow=37
KMI Kunming 37.10 260 ⇓P **P 12 46 17.9 +0.5**
KMI pP pwP 12 46 21.8 -1.3
KMI sP sP 12 46 24.8 +4.0
KMI pmax pmax
comp=Z,8.0nm,0.8s
KMI LR LR
comp=Z,190nm,14.9s
KMI LR LR
comp=Z,210nm,15.2s
KMI LR LR
comp=Z,180nm,14.7s
WMQ Urumqi 41.30 295 *e*P **P 12 46 53.1 +1.0**
WMQ sP pwP 12 47 01.8 +4.0
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ pmax pmax
comp=Z,50nm,3.7s
WMQ LR LR
comp=Z,92nm,19.3s
WMQ LR LR
comp=Z,77nm,19.3s
WMQ LR LR
comp=Z,49nm,21.5s
ZALV Zalesovo Beam 41.53 310 P **P 12 46 53.4 -0.4**
comp=Z,8.1nm,1.1s,baz=94,slow=8.6,SNR=9.1
ZALV PcP **PcP 12 48 52.1 +1.1**
comp=Z,1.0nm,0.6s,baz=29,slow=3.3,SNR=2.1
ZALV Zalesovo Beam 41.53 310 P **P 12 46 53.2 -0.5**
NRIK Noril'sk 41.71 334 LR LR 13 05 14.1
comp=Z,69nm,20.8s,baz=12,slow=38
OHAK Old Harbor 43.70 45 P **P 12 47 11.8 +0.4**
OHAK IAmb IAmb 12 47 20.6
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 43.84 254 LR LR 13 07 38.6
comp=Z,58nm,18.3s,baz=344,slow=39
MK31 Makanchi Array 44.28 300 IAmb IAmb 12 47 25.6
comp=Z,5.7nm,0.8s
MKAR Makanchi Array 44.28 300 P **P 12 47 15.8 -0.5**
comp=Z,3.3nm,0.9s,baz=82,slow=7.8,SNR=14
MKAR LR LR 13 06 35.5
comp=Z,102nm,18.6s,baz=54,slow=37
MKAR Makanchi Array 44.28 300 P **P 12 47 15.9 -0.3**
KURK Kurchatov 45.77 306 P **P 12 47 27.7 -0.2**
KURBB Kurchatov Arra 45.84 306 P **P 12 47 28.3 -0.3**
comp=Z,5.3nm,0.8s,baz=82,slow=8.2,SNR=41
ILAR Eielson Array 46.40 34 P **P 12 47 33.6 +0.9**
comp=Z,1.4nm,0.7s,baz=268,slow=6.6,SNR=16
ILAR LR LR 13 10 26.5
comp=Z,72nm,18.1s,baz=148,slow=40
DOT Dot Lake 47.71 35 P **P 12 47 43.6 +0.5**
DOT IAmb IAmb 12 47 43.9
comp=Z,5.6nm,1.0s
BVAR Borovoye Array 50.17 311 P **P 12 48 02.1 +0.1**
comp=Z,2.4nm,0.8s,baz=106,slow=11,SNR=10
BRVK Borovoye 50.22 311 P **P 12 48 02.9 +0.5**
BRVK IAmb IAmb 12 48 12.2
comp=Z,5.6nm,0.8s
KK31 Karatay Array 53.37 299 P **P 12 48 25.8 -0.3**
KK31 IAmb IAmb 12 48 35.2
comp=Z,3.5nm,0.7s
KKAR Karatay Array 53.37 299 P **P 12 48 25.7 -0.4**
KKAR IAmb IAmb 12 48 35.3
comp=Z,3.5nm,0.7s
KKAR Karatay Array 53.37 299 P **P 12 48 25.4 -0.7**
ABKAR Akbulak array 57.64 310 P **P 12 48 56.5 -0.2**
WB0 Warramunga Arr 59.68 190 P **P 12 49 10.1 -1.0**
WB0 IAmb IAmb 12 49 11.8
comp=Z,3.6nm,0.8s
WR0 Warramunga Arr 59.85 190 P **P 12 49 11.8 -0.5**
WB2 Warramunga Arr 59.86 190 P **P 12 49 11.9 -0.4**
WB2 IAmb IAmb 12 49 20.9
comp=Z,5.1nm,1.1s
WRA Warramunga Arr 59.86 190 P **P 12 49 11.8 -0.5**
comp=Z,2.1nm,0.8s,baz=8.7,slow=6.9,SNR=18
WRA Warramunga Arr 59.86 190 P **P 12 49 11.6 -0.7**
YKA Yellowknife Ar 60.72 31 P **P 12 49 18.0 +0.2**
comp=Z,0.3nm,0.6s,baz=303,slow=6.4,SNR=2.8
ASAR Alice Springs 63.59 190 P **P 12 49 36.3 -1.1**
comp=Z,0.9nm,0.8s,baz=9.6,slow=6.5,SNR=11
FINES FINESS Array B 67.36 333 P **P 12 50 01.1 -0.3**
comp=Z,1.3nm,0.7s,baz=51,slow=10.0,SNR=4.5
PINE Pine Mountain 67.37 51 P **P 12 50 02.3 +0.3**
KBZ Khabaz 70.55 311 P **P 12 50 22.8 +1.2**
comp=Z,3.5nm,0.8s,baz=117,slow=4.5,SNR=5.0
LRM Limekiln Ridge 71.11 46 P **P 12 50 26.6 +1.3**
NVAR Mina Array Bea 72.08 55 P **P 12 50 33.2 +2.0**
comp=Z,2.1nm,0.8s,baz=290,slow=7.0,SNR=14
NVAR Mina Array Bea 72.08 55 P **P 12 50 32.1 +0.9**
NC204 NORSAR Array S 72.43 338 P **P 12 50 33.4 +0.7**
NB2 NORSAR Subarra 72.49 338 P **P 12 50 33.3 +0.3**
comp=Z,3.9nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.49 338 P **P 12 50 33.2 +0.2**
comp=Z,1.5nm,0.8s,baz=38,slow=6.1,SNR=6.4
NOA LR LR 13 26 34.3
comp=Z,50nm,18.5s,baz=290,slow=39
AKASG Malin Array Be 73.33 323 P **P 12 50 37.7 -0.4**
comp=Z,1.6nm,0.8s,baz=40,slow=6.1,SNR=2.0
TPNV Topopah Spring 74.27 55 IAmb IAmb 12 50 47.0
comp=Z,4.3nm,1.0s
PDAR Pinedale Array 74.64 47 P **P 12 50 47.0 +0.7**
comp=Z,0.6nm,0.5s,baz=265,slow=2.2,SNR=5.6
U15A North Rim 77.07 53 IAmb IAmb 12 51 03.6
comp=Z,4.0nm,1.1s
BURAR Bucovina Array 77.36 322 P **P 12 51 02.0 +0.5**
PV17 East Wray Mesa 77.90 50 P **P 12 51 06.5 +1.7**
PV16 Nyswonger Mesa 77.90 50 IAmb IAmb 12 51 07.2
comp=Z,3.9nm,1.0s
BRTR Keskin Array B 78.44 312 P **P 12 51 08.3 +0.6**
comp=Z,0.4nm,0.3s,baz=311,slow=7.5,SNR=1.5
GERES GERESS Array B 81.43 329 P **P 12 51 22.9 -0.7**
comp=Z,0.3nm,0.4s,baz=7.6,slow=3.0,SNR=4.0
TXAR Lajitas Array 87.19 54 P **P 12 51 54.4 +1.1**
comp=Z,0.3nm,0.6s,baz=281,slow=3.5,SNR=4.0
VNA2 Neumayer--Watz 145.26 196 PKPbc **PKPbc 12 58 43.1 +0.2**
baz=121,slow=3.4
VNA3 Neumayer Olymp 145.49 195 PKPbc **PKPdf 12 58 43.5 -0.1**

*IDC **18** 12:52:29.6±0.9, 31°.71N×142°.38E, h0km, mb3.7/10, mb1 3.9/14, mb1mx3.8/33, mbtmp3.7/14, ML3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/35, Error ellipse: s-maj=24.5km s-min=18.0km az=53.0*
*NEIC **18** 12:52:33.5±2.3, 31°.70N±0°.07×142°.47E±0°.09, h28km±6km, mb4.5/10, Error ellipse: s-maj=13.4km s-min=6.6km az=54.0*
*JMA **18** 12:52:36.4±0.4, 31°.95N×142°.22E, h80km, M3.6*
ISC 18 12:52:36.2±0.8, 31°.87N±0°.08×142°.34E±0°.08, h44km, n48, σ1§26/54, mb3.7/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.46**	**300**	P	**Pn**	**12 53 13.3**	**-0.5**
JHCJ				*e*S	**Sn**	**12 53 40.8**	**-1.9**
JHJ2	**Mitsune**	**2.46**	**301**	P	**Pn**	**12 53 13.6**	**-0.3**
JHJ2	**Mitsune**	**2.46**	**301**	Pn	**Pn**	**12 53 13.1**	**-0.8**
JHJ	**Hachijo jima 2**	**2.49**	**301**	Pn	**Pn**	**12 53 13.6**	**-0.7**
JHJ	9.6nm,0.3s,baz=65,slow=21,SNR=12			Sn	**Sn**	**12 53 44.0**	**+0.5**
	57nm,0.3s,baz=72,slow=23,SNR=9.4						
BSO1	**Boso 1**	**3.00**	**338**	P	**Pn**	**12 53 21.1**	**+0.3**
JMKN	**Mikurajimanish**	**3.07**	**312**	*e*S	**Sn**	**12 53 56.1**	**-1.5**
BSO3	**Boso 3**	**3.30**	**333**	P	**Pn**	**12 53 25.6**	**+0.5**
BSO4	**Boso 4**	**3.53**	**332**	P	**Pn**	**12 53 29.0**	**+0.5**
JOD2	**Odawara 2**	**4.34**	**322**	P	**Pn**	**12 53 39.6**	**0.0**
JOD2				*e*S	**Sn**	**12 54 27.4**	**-1.5**
JYT	**Yasato**	**4.70**	**338**	P	**Pn**	**12 53 44.3**	**-0.2**
JYT	**Yasato**	**4.70**	**338**		**Pn**	**12 53 45.5**	**+1.0**
JHU	**Hanno**	**4.71**	**328**	P	**Pn**	**12 53 44.9**	**+0.1**
JHU				*e*S	**Sn**	**12 54 36.4**	**-1.8**
CBIJ	**Chichi jima**	**4.76**	**182**	*e*S	Sn	12 54 29.5	-10
JCJ	**Chichijima**	**4.76**	**182**	Pn	Pn	12 53 40.6	-4.8
	3.8nm,0.3s,baz=271,slow=23,SNR=6.6						
JCJ				Sn	Sn	12 54 27.9	-11
	7.4nm,0.3s,baz=322,slow=21,SNR=1.8						
JHO	**Hitachi**	**4.95**	**343**	P	**Pn**	**12 53 47.5**	**-0.5**
JHO				*e*S	**Sn**	**12 54 42.1**	**-1.9**
JRY	**Ryogami san**	**5.03**	**326**	P	**Pn**	**12 53 49.3**	**+0.2**
JRY				*e*S	**Sn**	**12 54 45.2**	**-0.7**
JGF	**Kuroka**	**5.57**	**313**	Pn	**Pn**	**12 53 57.4**	**+0.8**
MJAR	**Matsushiro Arr**	**5.78**	**325**	Pn	**Pn**	**12 53 58.3**	**-1.1**
	0.4nm,0.3s,baz=184,slow=7.0,SNR=9.9						
MJAR				Sn	**Sn**	**12 55 06.5**	**+2.0**
	0.4nm,0.3s,baz=153,slow=5.9,SNR=6.5						
MJAR	**Matsushiro Arr**	**5.78**	**325**		**Pn**	**12 53 58.5**	**-0.9**
MAJO	**Matsushiro**	**5.78**	**325**		**Pn**	**12 53 59.3**	**-0.2**
MAT	**Matsushiro**	**5.78**	**325**	P	**Pn**	**12 54 00.6**	**+1.1**
MAT				S	**Sn**	**12 55 03.8**	**-0.7**
JMM	**Marumori**	**6.11**	**348**		**Pn**	**12 54 02.8**	**-1.1**
JTM	**Tenmabayashi**	**8.96**	**354**	Pn	**Pn**	**12 54 43.2**	**+0.2**
JNU	**Nakatsue**	**9.76**	**280**	LR	LR	12 58 43.8	
	comp=Z,63nm,19.1s,baz=53,slow=38						
ASAJ	**Asahikawa**	**12.23**	**1**	Pn	**Pn**	**12 55 26.8**	**-0.8**
	0.6nm,0.3s,baz=209,slow=10,SNR=7.1						
ASAJ				Sn	**Sn**	**12 57 39.0**	**-3.5**
	0.2nm,0.3s,baz=236,slow=31,SNR=1.5						
SONM	**Songino Array**	**31.53**	**311**	P	**P**	**12 58 54.8**	**+0.6**
	0.4nm,0.5s,baz=115,slow=9.7,SNR=1.9						
MTN	**Manton Dam**	**45.74**	**195**	P	**P**	**13 00 51.4**	**-1.9**
MTN				IAmb	IAmb	13 00 59.4	
	comp=Z,14nm,1.4s						
ZALV	**Zalesovo Beam**	**46.06**	**316**	P	**P**	**13 00 55.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=120,slow=8.5,SNR=2.2						
MK31	**Makanchi Array**	**47.65**	**306**	P	**P**	**13 01 09.6**	**+1.5**
MK31				IAmb	IAmb	13 01 16.0	
	comp=Z,6.3nm,1.2s						
MKAR	**Makanchi Array**	**47.65**	**306**	P	**P**	**13 01 09.0**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=91,slow=9.7,SNR=1.9						
KURK	**Kurchatov**	**49.83**	**312**	P	**P**	**13 01 25.3**	**+0.6**
KURK				IAmb	IAmb	13 01 26.5	
	comp=Z,2.9nm,0.7s						
WB0	**Warramunga Arr**	**51.91**	**190**	P	**P**	**13 01 38.7**	**-1.8**
WR0	**Warramunga Arr**	**52.08**	**189**	P	**P**	**13 01 40.2**	**-1.6**
WR0				IAmb	IAmb	13 01 47.3	
	comp=Z,4.7nm,1.3s						
WB2	**Warramunga Arr**	**52.09**	**190**	P	**P**	**13 01 40.4**	**-1.5**
WB2				IAmb	IAmb	13 01 41.2	
	comp=Z,6.2nm,1.3s						
WRA	**Warramunga Arr**	**52.09**	**190**	P	**P**	**13 01 39.6**	**-2.2**
	comp=Z,0.5nm,0.9s,baz=6.4,slow=7.9,SNR=6.1						
WRA	**Warramunga Arr**	**52.09**	**190**	IAmb	IAmb	13 01 48.7	
	comp=Z,0.3nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.20**	**200**	P	**P**	**13 01 41.3**	**-1.5**
BOOM	**Boomskoye usch**	**52.73**	**302**	P	**P**	**13 01 47.2**	**+0.5**
ILAR	**Eielson Array**	**53.50**	**30**	P	**P**	**13 01 51.3**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=230,slow=7.0,SNR=4.6						
F07A	**Phinny Hill Vi**	**72.77**	**46**	P	**P**	**13 04 00.5**	**+0.6**
FINES	**FINESS Array B**	**73.75**	**333**	P	**P**	**13 04 06.6**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=45,slow=6.3,SNR=8.0						
NVAR	**Mina Array Bea**	**77.49**	**53**	P	**P**	**13 04 28.1**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=295,slow=4.2,SNR=5.0						
NB2	**NORSAR Subarra**	**79.24**	**338**	P	**P**	**13 04 37.6**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**79.24**	**338**	P	**P**	**13 04 37.6**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=39,slow=5.2,SNR=4.1						
PDAR	**Pinedale Array**	**80.75**	**45**	P	**P**	**13 04 45.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=298,slow=1.9,SNR=2.2						
PDAR	**Pinedale Array**	**80.75**	**45**	P	**P**	**13 04 42.8**	**-2.5**
CLL	**Collm**	**85.96**	**331**	*e*P	**P**	**13 05 12.0**	**+0.4**
CLL				*e*PcP	**PcP**	**13 05 16.0**	**+1.7**
CLL				Lm	MLR	14 01 00.0	
	comp=Z,300nm,20.5s						
TXAR	**Lajitas Array**	**92.64**	**53**	P	**P**	**13 05 44.7**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=301,slow=0.7,SNR=5.2						

*NORS **18** 13:06:01.2±0.0, 41°.07N×45°.49E, h11km, MPVA3.6*
*TIF **18** 13:06:02.3, 41°.23N×45°.39E, h8km±2km*
*DDA **18** 13:06:03.9, 41°.51N×45°.33E, h7km±6km, ML2.3*
ISC 18 13:06:02.6±1.2, 41°.28N±0°.04×45°.43E±0°.03, h11km±11km, n17, σ0§75/33, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.54**	**72**	*i* P	**Pb**	**13 06 14.4**	**+0.3**
DDFL				*i* S	**Sn**	**13 06 25.4**	**0.0**
DDFL	**Dedoflistskaro**	**0.54**	**72**	P	**Pb**	**13 06 14.5**	**+0.3**
KZRT	**Kazreti**	**0.79**	**278**	*i* P	**Pg**	**13 06 17.7**	**-0.1**
KZRT				*i* S	**Sb**	**13 06 29.2**	**+0.2**
KZRT	**Kazreti**	**0.79**	**278**	P	**Pg**	**13 06 17.8**	**-0.1**
KZRT				S	**Sb**	**13 06 29.2**	**+0.2**
LGD	**Lagodekhi**	**0.82**	**47**	P	**Pg**	**13 06 17.9**	**-0.6**
LGD				S	**Sg**	**13 06 30.2**	**+0.9**
DMNI	**Dmanisi**	**0.94**	**274**	P	**Pg**	**13 06 20.3**	**-0.4**
DMNI				S	**Sb**	**13 06 33.8**	**+0.3**
TRLG	**Trialeti**	**1.04**	**285**	P	**Pg**	**13 06 21.9**	**-0.7**
TRLG				S	**Sb**	**13 06 36.5**	**+0.2**
AKH	**Akhalkalaki**	**1.47**	**276**	P	**Pb**	**13 06 29.8**	**-0.2**
AKH				S	**Sg**	**13 06 50.1**	**+0.2**
EAK	**Akyaka**	**1.50**	**248**	*i* P	**Pg**	**13 06 33.4**	**+1.9**
EAK				*i* S	**Sg**	**13 06 51.4**	**+0.4**
EAK				IAML		13 06 56.0	
	comp=N,67nm,0.4s						
EAK				IAML		13 07 04.0	
	comp=E,35nm,0.5s						
AKT	**Akhty**	**1.74**	**83**	*e*Pg	**Pn**	**13 06 32.4**	**-0.4**
AKT				*e*Sg	**Sn**	**13 06 55.5**	**+0.4**
IGDI	**IGDIR**	**1.75**	**217**	*i* P	**Sn**	**13 06 55.0**	**-0.1**
IGDI				IAML		13 06 57.0	
	comp=E,40nm,0.3s						
IGDI				*i* S	**Sg**	**13 06 57.3**	**-1.4**
IGDI				IAML		13 06 59.0	
	comp=N,35nm,0.3s						
LACR	**Lac**	**1.77**	**332**	*e*Pg	**Pb**	**13 06 34.7**	**-0.4**
LACR				*e*Sg	**Sg**	**13 07 01.4**	**+2.0**
ZEI	**Tsey**	**1.89**	**323**	*e*Pg	**Pb**	**13 06 37.7**	**+0.4**
ZEI				*e*Sg	**Sg**	**13 07 04.2**	**+0.7**
ONI	**Oni**	**1.98**	**312**	*e*Pg	**Pb**	**13 06 38.8**	**+0.2**
ONI				*e*Sg	**Sg**	**13 07 06.3**	**+0.1**
ONI	**Oni**	**1.98**	**312**	P	**Pb**	**13 06 38.9**	**+0.2**
ONI				S	**Sg**	**13 07 05.9**	**-0.3**
DBC	**Dubki**	**2.03**	**30**	*e*Pg	**Pb**	**13 06 39.0**	**-0.5**
DBC				*e*Sg	**Sg**	**13 07 07.5**	**-0.3**
TKB	**Tkibuli**	**2.12**	**301**	P	**Pb**	**13 06 40.5**	**-0.5**
TKB				S	**Sg**	**13 07 09.2**	**-1.4**

*UPA **18** 13:13:49.6±0.7, 11°.81N×87°.67W, h0km±999km, MW5.3*
*INET **18** 13:14:13.9, 10°.60N×86°.32W, h2km, ML4.7*
*UCR **18** 13:14:14.6±1.5, 10°.63N×86°.36W, h16km±3km, ML4.6, mb5.1(NEIC)*
*SNET **18** 13:14:15.6±1.4, 10°.72N×86°.21W, h32km, ML5.0, mb5.1(NEIC)*
*MOS **18** 13:14:15.8±1.4, 10°.75N×86°.23W, h41km, mb5.0/23, Error ellipse: s-maj=14.4km s-min=8.3km az=124.1*
*UNK **18** 13:14:16.5, 10°.72N×86°.21W, h32km*
*BJI **18** 13:14:16.0±0.0, 10°.70N×86°.30W, h30km, mB5.4/2, Ms5.2/9, Ms7 5.0/8*
*NEIC **18** 13:14:17.5±2.3, 10°.77N±0°.06×86°.17W±0°.07, h45km±5km, mb5.1/138, Md5.1(UCR), Error ellipse: s-maj=11.9km s-min=5.8km az=47.0*
*IDC **18** 13:14:18.3±0.7, 11°.04N×85°.90W, h51km±5km, mb4.3/19, mb1 4.5/21, mb1mx4.3/32, mbtmp4.5/21, MS4.4/14, Ms1 4.4/14, ms1mx4.3/26, Error ellipse: s-maj=19.5km s-min=6.9km az=51.0*
*GCMT **18** 13:14:18.5±0.2, 10°.56N±0°.01×86°.54W±0°.02, h31km, MW5.1/108, Moment Tensor Solution. s74,c110; s108,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.29±.16; $M_{\theta\theta}$-3.10±.10; $M_{\phi\phi}$-1.19±.11; $M_{r\theta}$2.96±.14; $M_{\theta\phi}$2.33±.07; $M_{\phi r}$-1.87±.16; Best double couple: $M_0$5.68300×10^{16} NP1:ϕ_s305.00000°, δ26.00000°, λ92.00000°. NP2:ϕ_s123.00000°, δ64.00000°, λ89.00000°. Principal axes: T 5.4970, Plg71.0000°, Azm31.0000°; N 0.3720, Plg1.0000°, Azm123.0000°; P -5.8690, Plg19.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 13:14:15.6±0.5, 10°.67N±0°.04×86°.29W±0°.03, h32km±3km, h32km:pP-P, n641, σ1§27/619, mb5.1/94, MS4.5/24, 14C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.69**	**87**	*e*P	**Pb**	**13 14 29.0**	**-0.2**
HZTE				*e*S	**Sn**	**13 14 40.5**	**+1.7**
GBS3	**Finca Las Img**	**0.83**	**82**	*i* P	**Pn**	**13 14 31.0**	**-0.2**
GBS3				*i* S	**Sb**	**13 14 43.9**	**+1.4**
LAPC	**Finca la Perla**	**0.85**	**84**	*i* P	**Pn**	**13 14 31.1**	**-0.3**
LAPC				*i* S	**Sb**	**13 14 44.2**	**+1.1**
GUAI	**GUAI**	**0.87**	**117**	*i* P	**Pn**	**13 14 31.0**	**-0.6**
ORTG	**Ortega, Santa**	**0.88**	**111⇑**	*e*P	**Pn**	**13 14 31.3**	**-0.5**
BUEV	**Buena Vista**	**0.88**	**82**	*e*P	**Pn**	**13 14 31.8**	**-0.1**
BUEV				*e*S	**Sb**	**13 14 44.6**	**+0.6**
GB1A	**Borinquen Arri**	**0.89**	**81**	*e*P	**Pn**	**13 14 32.0**	**0.0**
GB1A				*e*S	**Sb**	**13 14 45.5**	**+1.2**
GPS3	**Bodega del ICE**	**0.92**	**85**	*i* P	**Pn**	**13 14 32.4**	**0.0**
GPS2	**Hotel Rincn d**	**0.93**	**85**	*i* P	**Pn**	**13 14 32.6**	**+0.1**
GPS1	**Guardaparques**	**0.93**	**84**	*i* P	**Pn**	**13 14 32.6**	**0.0**
GPS1				*i* S	**Sb**	**13 14 46.6**	**+1.1**
BUAI	**Buenos Aires**	**0.97**	**78**	*i* P	**Pn**	**13 14 33.4**	**+0.4**
BUAI				*i* S	**Sb**	**13 14 48.1**	**+1.8**
DUNO	**Dulce Nombre,**	**0.98**	**127**	*e*P	**Pn**	**13 14 32.2**	**-1.0**
GRZA	**Playa Garza**	**0.99**	**139**	*e*P	**Pn**	**13 14 31.9**	**-1.5**
LIM1	**Limonal**	**1.02**	**88**	*i* P	**Pn**	**13 14 34.1**	**+0.3**
GUAB	**Guayabo de Bag**	**1.05**	**88**	*i* P	**Pn**	**13 14 34.5**	**+0.4**
COLC	**Colonia**	**1.07**	**90**	*i* P	**Pn**	**13 14 34.8**	**+0.3**
MICM	**Guayabo**	**1.08**	**88**	*i* P	**Pn**	**13 14 35.1**	**+0.6**
HORNC	**Hornillas**	**1.10**	**88**	*i* P	**Pn**	**13 14 35.1**	**+0.3**
CUI	**Cuipilapa**	**1.11**	**91⇑**	*i*P	**Pn**	**13 14 35.5**	**+0.5**
CUI				*e*S	**Sb**	**13 14 52.0**	**+1.5**
ACAL	**Aguas Claras**	**1.24**	**92**	*i* P	**Pn**	**13 14 37.5**	**+0.8**
ACAL				*i* S	**Sb**	**13 14 55.9**	**+1.7**
PTEN	**Parque Tenorio**	**1.28**	**88**	*i* P	**Pn**	**13 14 38.3**	**+0.9**
MASN	**Masaya**	**1.31**	**6**	*e*P	**Pb**	**13 14 38.5**	**-1.2**
MASN				⇑*e*P	**Pb**	**13 14 38.6**	**-1.2**
JTS	**Las Juntas de**	**1.37**	**106**	P	**Pn**	**13 14 38.5**	**-0.1**
	3μm,0.3s,baz=14,slow=10,SNR=966						
JTS				S	**Sn**	**13 14 54.7**	**-1.0**
	2μm,0.3s,baz=9.5,slow=18,SNR=5.7						

JTS **Las Juntas de** 1.37 106 eP Pn 13 14 38.8 +0.2
JTS eS Sn 13 14 54.6 -1.0
JTS **Las Juntas de** 1.37 106c iP Pn 13 14 38.4 -0.2
JTS pmax pmax
comp=Z,965nm,0.9s
JTS **Las Juntas de** 1.37 106⇑ eP Pn 13 14 38.6 0.0
JTS eS Sb 13 14 58.6 +0.7
CASO **Castillo** 1.55 99 iP Pn 13 14 41.9 +0.8
ARE1 **Arenal 1** 1.56 98 eP Pn 13 14 42.4 +1.2
ARE1 eS Sb 13 15 03.3 0.0
CEDE **Laguna Cedeo** 1.57 97 eP Pn 13 14 42.3 +0.9
CEDE ⇑ eP Pb 13 14 42.4 -1.7
CEDE eS Sb 13 15 04.2 +0.5
ACON **Acoyapa** 1.69 40 eP Pn 13 14 43.9 +1.0
ACON **Acoyapa** 1.69 40 Pn 13 14 43.6 +0.6
CNGN **Cerro Negro** 1.86 348 eP Pn 13 14 46.0 +0.7
COVE **Coope Vega, Sa** 1.86 88⇑ iP Pn 13 14 45.4 +0.1
COVE eS Sb 13 15 12.2 +0.3
SRA1 **San Ramn** 1.88 108 eP Pn 13 14 46.7 +1.1
CRIN **San Cristobal** 2.15 340 eP Pn 13 14 50.1 +0.8
CRIN **San Cristobal** 2.15 340 Pn 13 14 50.2 +0.8
HDC **Heredia** 2.25 107 eP Pn 13 14 51.7 +1.0
HDC eS Sn 13 15 21.0 +3.6
HDC **Heredia** 2.25 107 eP Pn 13 14 51.5 +0.8
HDC **Heredia** 2.25 107 Pn 13 14 51.5 +0.8
HDC3 **Heredia 3** 2.25 107 eP Pn 13 14 51.7 +1.0
MATN **Matagalpa** 2.27 9⇑ eP Pn 13 14 52.0 +1.0
MATN **Matagalpa** 2.27 9 Pn Pn 13 14 52.0 +1.0
SJS **Escuela Geolog** 2.32 108 eP Pn 13 14 53.3 +1.6
LCR2 **La Lucha 2** 2.44 112 eP Pn 13 14 54.3 +0.9
ESPN **Las Esperanzas** 2.47 52⇑ eP Pn 13 14 54.9 +1.2
ESPN **Las Esperanzas** 2.47 52 Pn 13 14 54.8 +1.2
RIMA **Rio Macho** 2.56 110 eP Pn 13 14 56.4 +1.3
RIMA eS Sn 13 15 27.9 +2.8
CDM **Cerro de Muert** 2.73 114 eP Pn 13 14 58.5 +0.9
RCON **San Juan de Ri** 2.80 3 eP Pn 13 14 59.9 +1.6
CNCH **Conchagua** 3.00 330⇑ eP Pn 13 15 02.0 +1.0
CNCH eS Sn 13 15 37.0 +1.1
CNCH IAML 13 15 48.8
comp=Z,8µm,0.6s
CNCH **Conchagua** 3.00 330⇑ eP Pn 13 15 02.0 +1.0
CNCH eS Sn 13 15 37.0 +1.1
CNCH IAML 13 15 48.8
comp=Z,8µm,0.6s
EDLM **Las Mercedes** 3.00 117 eP Pn 13 15 02.9 +1.8
LCND **La Caada** 3.05 329⇑ eP Pn 13 15 02.5 +0.8
LCND eS Sn 13 15 37.7 +0.6
LCND IAML 13 15 49.6
comp=Z,4µm,0.4s
LCND **La Caada** 3.05 329⇑ eP Pn 13 15 02.5 +0.8
LCND eS Sn 13 15 37.7 +0.6
LCND IAML 13 15 49.6
comp=Z,4µm,0.4s
JUCU **Jucuarı̨n** 3.20 323 eP Pn 13 15 04.0 +0.2
JUCU IAML 13 15 56.9
comp=Z,2µm,0.4s
JUCU **Jucuarı̨n** 3.20 323 eP Pn 13 15 04.0 +0.2
JUCU eS Sn 13 15 41.0 +0.1
JUCU IAML 13 15 56.9
comp=Z,2µm,0.4s
DRK0 **Durika** 3.31 115 eP Pn 13 15 05.5 +0.1
BLLM **Bellamira** 3.35 326 eP Pn 13 15 07.1 +1.3
BLLM eS Sn 13 15 44.9 +0.4
BLLM **Bellamira** 3.35 326 eP Pn 13 15 07.1 +1.3
BLLM eS Sn 13 15 44.9 +0.4
VSM **San Miguel** 3.35 325 eP Pn 13 15 07.3 +1.2
VSM **San Miguel** 3.35 325 eP Pn 13 15 07.3 +1.2
RANC **El Ranchito** 3.37 325 eP Pn 13 15 07.5 +1.3
RANC IAML 13 16 06.0
comp=Z,3µm,0.4s
RANC **El Ranchito** 3.37 325 eP Pn 13 15 07.5 +1.3
RANC eS Sn 13 15 45.6 +0.4
RANC IAML 13 16 06.0
comp=Z,3µm,0.4s
RIOS **Rincon, Osa** 3.37 125 eP Pn 13 15 07.9 +1.8
ALJI **Alcalda de J** 3.45 320 eP Pn 13 15 08.3 +1.1
ALJI **Alcalda de J** 3.45 320 eP Pn 13 15 08.3 +1.1
FAGO **Alcalda de S** 3.49 330 eP Pn 13 15 08.7 +1.0
FAGO **Alcalda de S** 3.49 330 eP Pn 13 15 08.7 +1.0
TGUH **Tegucigalpa,Un** 3.50 344 eP Pn 13 15 09.6 +1.7
TGUH **Tegucigalpa,Un** 3.50 344 Pn 13 15 09.7 +1.7
TECA **Tecapa** 3.54 323 eP Pn 13 15 09.7 +1.1
TECA **Tecapa** 3.54 323 eP Pn 13 15 09.7 +1.1
PTJ1 **Puerto Jimnez** 3.63 125 eS Sb 13 16 13.0 +10
RGM0 **Gandoca** 3.79 106 eP Pb 13 15 20.6 -1.2
RGM0 eS Sb 13 16 14.2 +7.0
COEG **Centro de Oper** 3.87 319 eP Pn 13 15 14.1 +1.0
COEG IAML 13 16 13.3
comp=Z,2µm,0.5s
COEG **Centro de Oper** 3.87 319 eP Pn 13 15 14.1 +1.0
COEG IAML 13 16 13.3
comp=Z,2µm,0.5s
PAVA **Las Pavas** 3.98 320 eP Pn 13 15 14.7 +0.2
PAVA **Las Pavas** 3.98 320 eP Pn 13 15 14.7 +0.2
LFRS **El Faro** 3.99 318 eP Pn 13 15 15.0 +0.3
LFRS **El Faro** 3.99 318 eP Pn 13 15 15.0 +0.3
BRU2 **Volcan** 4.01 117 eS Sb 13 16 29.1 +15
BOQS **Boqueron** 4.22 316 eP Pn 13 15 19.5 +1.5
BOQS **Boqueron** 4.22 316 eP Pn 13 15 19.5 +1.5
PSOM3 **Paja de Sombre** 4.38 116 eS Sb 13 16 37.9 +13
CHGR2 **Aguacate** 4.44 112 eP Pn 13 15 21.6 +0.8
CHGR2 eS Sb 13 16 21.2 -4.8
TACO **Tacachico** 4.44 318 eP Pn 13 15 22.2 +1.4
TACO **Tacachico** 4.44 318 eP Pn 13 15 22.2 +1.4
CEVE **Cerro Verde** 4.52 314 eP Pn 13 15 23.7 +1.6
CEVE IAML 13 16 41.2
comp=Z,2µm,0.4s
CEVE **Cerro Verde** 4.52 314 eP Pn 13 15 23.7 +1.6
CEVE IAML 13 16 41.2
comp=Z,2µm,0.4s
MTO3 **Montecristo** 4.76 321 Pn 13 15 26.9 +1.4
ESQI **Esquipulas** 4.88 323 Pn Pn 13 15 29.6 +2.8
PRVC **Isla de Provid** 5.52 60 eP Pn 13 15 36.5 +0.9
APG **El Apazote** 5.92 317 P Pn 13 15 44.4 +3.1
comp=Z,4.1nm,0.3s,baz=155,slow=13,SNR=15
APG S Sb 13 16 58.0 -11
comp=Z,3.0nm,0.3s,baz=344,slow=22,SNR=0.7
RTAL **Retalhuleu** 6.52 307 Pn Pn 13 15 52.0 +2.7
BCIP **Isla Barro Col** 6.53 103 eP Pn 13 15 51.2 +1.6
BCIP **Isla Barro Col** 6.53 103 P Pn 13 15 51.0 +1.4
BCIP **Isla Barro Col** 6.53 103 eP Pn 13 15 51.4 +1.8
BCIP **Isla Barro Col** 6.53 103 Pn Pn 13 15 51.0 +1.4
PETF **Flores** 7.11 331 Pn 13 16 01.3 +3.9
TEIG **Tepich** 9.69 349 P Pn 13 16 35.8 +3.0
comp=Z,1.9nm,0.3s,baz=155,slow=20,SNR=28
TEIG LR LR 13 20 40.1
comp=Z,6µm,19.7s,baz=164,slow=41
TEIG **Tepich** 9.69 349 eP Pn 13 16 37.1 +4.2
TEIG **Tepich** 9.69 349 Pn Pn 13 16 36.8 +3.9
FSCY **Frank Sound, G** 9.90 29 Pn Pn 13 16 38.9 +3.0
LCCY **Blossom Villag** 10.76 33 Pn 13 16 51.1 +3.6
SJCC **San Jacinto, C** 10.96 93 eP Pn 13 16 53.4 +2.9
CBCY **The Bluff, Cay** 11.00 34 Pn Pn 13 16 54.1 +3.3
UREC **San Jos de Ur** 11.01 104 eP Pn 13 16 56.8 +5.8
MTDJ **Mount Denham** 11.32 47 Pn Pn 13 16 58.5 +3.1
ZARC **Zaragoza, Cauc** 11.73 105 eP Pn 13 17 03.6 +2.8
SMLC **San Martn de** 12.19 98 eP Pn 13 17 12.7 +5.5
PTBC **PUERTO BERRIO,** 12.40 108 eP P 13 17 16.9 -4.7
BBAC **Balboa, Cauca** 12.43 133 eP Pn 13 17 15.7 +5.0
TOLC **Tolima** 12.44 118 eP Pn 13 17 16.6 +5.7
POPC **Popayan, Colom** 12.51 130 eP Pn 13 17 17.2 +5.5
CMBC **Cumbal** 12.82 138 eP P 13 17 22.7 -4.0
ORTC **Ortega, Tolima** 12.85 121 eP P 13 17 24.1 -2.6
PCON **Cinco Dias** 12.86 129 eP P 13 17 25.3 -2.0
BARC **Barichara** 13.58 106 eP P 13 17 32.1 -2.9
TLIG **Tlapa** 13.73 301 Pn Pn 13 17 30.8 +2.5
CHIC **Chingaza** 13.82 115 eP Pn 13 17 33.6 +3.8
PAMC **Pamplona, Colo** 13.83 103 eP P 13 17 36.4 -1.6
RUSC **La Rusia** 13.91 109 eP P 13 17 37.5 -1.4
GTBY **Guantanamo Bay** 14.17 48 eP Pn 13 17 37.3 +3.1
GTBY **Guantanamo Bay** 14.17 48 Pn Pn 13 17 34.8 +0.6
MACC **Macarena, Meta** 14.98 124 eP P 13 17 51.0 +0.6
SDV **Santo Domingo** 15.54 95 P P 13 17 57.1 +0.4
comp=Z,1.3nm,0.3s,baz=319,slow=9.3,SNR=4.7
ATAH **Atahualpa** 19.36 156 P Pn 13 18 42.6 +2.2
comp=Z,0.3nm,0.3s,baz=348,slow=12,SNR=2.0
553A **Crawfordville** 19.50 5 Pn Pn 13 18 42.0 +0.5
553A IAmb IAmb 13 19 01.1
comp=Z,74nm,0.8s
CRPR **Cabo Rojo, PR** 19.95 66 P P 13 18 42.5 -2.7
CRPR IAmb IAmb 13 18 58.5
comp=Z,70nm,1.2s
BRAL **Brewton** 20.41 358 P P 13 18 50.1 +0.1
baz=178
ICMP **Isla Caja de M** 20.44 67 P P 13 18 48.6 -1.9
TIGA **Tifton** 20.82 7 P P 13 18 54.6 +0.2
baz=187,SNR=5.4
TIGA **Tifton** 20.82 7 Pn Pn 13 18 56.5 -0.5
TIGA IAmb IAmb 13 19 09.0
comp=Z,189nm,1.1s
441A **DeRidder** 20.98 343 P Pn 13 18 58.1 -0.8
CBYP **Canovanas** 21.17 67 P P 13 18 57.1 -1.3
CBYP IAmb IAmb 13 19 10.6
comp=Z,74nm,1.4s
PCRV **Puerto La Cruz** 21.31 89 P P 13 18 58.6 -1.4
comp=Z,13nm,0.5s,baz=213,slow=6.3,SNR=5.4
PLCV **Puerto La Cruz** 21.35 89 P P 13 18 58.6 -1.8
MTP **Monte Pirata** 21.39 67 P P 13 18 60.0 -0.8
833A **Chaparral WMA,** 21.43 327 P P 13 19 00.9 -0.2
baz=142,SNR=14
833A **Chaparral WMA,** 21.43 327 P P 13 19 01.3 +0.2
VBMS **Vicksburg** 21.79 350 P P 13 19 05.0 +0.1
baz=169
LRAL **Lakeview Retre** 22.27 358 P P 13 19 09.9 -0.1
baz=178,SNR=42
NATX **Nacogdoches** 22.37 341 P P 13 19 11.1 0.0
baz=158,SNR=9.0
NATX **Nacogdoches** 22.37 341 P P 13 19 11.1 0.0
NATX IAmb IAmb 13 19 13.4
comp=Z,128nm,0.9s
157A **Early Branch** 22.44 12 P P 13 19 11.9 +0.1
baz=194
Z47A **Carrollton** 22.48 356 P P 13 19 12.1 -0.2
Z47A IAmb IAmb 13 19 14.8
comp=Z,77nm,0.8s
435B **Jarrell** 22.59 334 P P 13 19 13.6 +0.1
baz=150
158A **Hollywood** 22.67 13 P P 13 19 13.8 -0.5
baz=196
CZSB **Cruzeiro do Su** 22.74 143 eP P 13 19 19.9 +4.7
GOGA **Godfrey** 22.78 6 P P 13 19 15.7 +0.2
GOGA pmax pmax
comp=Z,66nm,1.0s
GOGA **Godfrey** 22.78 6 P P 13 19 15.2 -0.3
baz=187,SNR=20
GOGA **Godfrey** 22.78 6 P P 13 19 15.7 +0.2
GOGA IAmb IAmb 13 19 30.9
comp=Z,66nm,0.9s
237A **Washetta, Mont** 22.98 339 P P 13 19 17.4 -0.1
237A IAmb IAmb 13 19 20.0
comp=Z,63nm,0.8s
NHSC **New Hope** 23.03 13 P P 13 19 17.8 -0.2
baz=195
Z57A **Bowman** 23.10 12 P P 13 19 18.9 +0.1
baz=194,SNR=6.8
Z41A **Richland Creek** 23.26 346 P P 13 19 19.8 -0.6
baz=164,SNR=5.3
Z58A **St. Stephen** 23.33 14 P P 13 19 21.1 +0.1
baz=196,SNR=7.3
JCT **Junction City** 23.37 329 P P 13 19 21.1 -0.5
baz=144,SNR=13
Y55A **Saluda** 23.51 9 P P 13 19 22.9 +0.1
baz=191,SNR=19
WHTX **Lake Whitney,** 23.59 336 P P 13 19 23.1 -0.5
baz=152,SNR=23
WHTX **Lake Whitney,** 23.59 336 P P 13 19 22.7 -0.9
WHTX IAmb IAmb 13 19 37.5
comp=Z,87nm,1.1s
CCAR **Cane Creek** 23.68 349 P P 13 19 22.9 -1.5
CCAR IAmb IAmb 13 19 26.2
comp=Z,88nm,1.0s
X48A **Hartselle** 23.68 358 P P 13 19 22.1 -2.4
X48A IAmb IAmb 13 19 39.5
comp=Z,27nm,0.7s
HODGE **Hodges** 23.74 8 P P 13 19 25.2 +0.2
HODGE IAmb IAmb 13 19 40.7
comp=Z,44nm,0.9s
FPAL **Fort Paine** 23.77 1 P P 13 19 24.1 -1.2
Z38A **Mt. Pleasant** 23.86 342 P P 13 19 25.6 -0.5
OXF **Oxford** 23.90 354 P P 13 19 25.1 -1.4
baz=172,SNR=35
JSC **Jenkinsville** 23.95 10 P P 13 19 26.8 -0.2
JSC pmax pmax
comp=Z,26nm,0.6s
JSC **Jenkinsville** 23.95 10 P 13 19 26.8 -0.2
JSC IAmb IAmb 13 19 28.6
comp=Z,26nm,0.6s
X54A **Belton** 24.03 8 P P 13 19 27.7 0.0
baz=189,SNR=7.9
X55A **Gracelyn & Ava** 24.07 9 P P 13 19 28.1 0.0
baz=191,SNR=12
X56A **White Oak** 24.19 11 P P 13 19 28.8 -0.4
baz=192,SNR=15
X57A **Johnson Farm,** 24.35 12 P P 13 19 30.2 -0.5
baz=195
X40A **Basin Creek Fa** 24.45 347 P P 13 19 30.3 -1.3
baz=164,SNR=13
W54A **Cherokee Point** 24.59 8 P P 13 19 32.9 0.0
baz=190,SNR=18
X58A **Rowland** 24.61 14 P P 13 19 32.1 -0.9
baz=196
TXAR **Lajitas Array** 24.66 321 P P 13 19 34.0 +0.3
comp=Z,34nm,0.8s,baz=140,slow=9.2,SNR=204
TXAR pP sP 13 19 48.6 +1.9
comp=Z,104nm,0.9s,baz=137,slow=11,SNR=25
TXAR PcP PcP 13 23 11.8 +1.1
comp=Z,4.5nm,0.8s,baz=151,slow=4.1,SNR=6.0
TXAR **Lajitas Array** 24.66 321 P P 13 19 34.9 +1.2
TXAR **Lajitas Array** 24.66 321 P P 13 19 34.9 +1.2
TXAR PcP 13 23 12.4 +1.7
MIAR **Mount Ida** 24.68 345 P P 13 19 32.5 -1.2
baz=162,SNR=62
KMSC **Kings Mountain** 24.77 10 P P 13 19 33.5 -1.0
baz=192,SNR=9.7
W56A **Indian Trail** 24.90 11 P P 13 19 35.3 -0.4
baz=193,SNR=9.5
TKL **Tuckaleechee C** 24.98 5 P P 13 19 33.6 -2.8
comp=Z,13nm,0.4s,baz=125,slow=3.7,SNR=17
W41B **Gary Mavity, V** 24.99 348 P P 13 19 35.3 -1.2
baz=166,SNR=30
W57A **Gilead** 25.04 12 P P 13 19 36.0 -0.9
baz=194,SNR=11
ABTX **Abilene, Hawle** 25.07 333 P P 13 19 36.5 -0.9
baz=148,SNR=27
W58A **Raeford** 25.08 14 P P 13 19 37.0 -0.3
baz=196,SNR=5.4
V54A **Nebo** 25.30 8 P P 13 19 39.0 -0.3
baz=190
W39A **Magazine** 25.35 346 P P 13 19 39.1 -0.6
baz=162,SNR=26
WVT **Waverly** 25.38 357 P P 13 19 38.2 -1.8
WVT pmax pmax
comp=Z,35nm,1.1s
WVT **Waverly** 25.38 357 P P 13 19 39.0 -1.0
baz=176
WVT **Waverly** 25.38 357 P P 13 19 38.2 -1.8
V56A **Mocksville** 25.57 11 P P 13 19 41.6 -0.2
baz=193
LCAR **Lake Charles** 25.66 351 IAmb IAmb 13 19 42.2
comp=Z,42nm,0.8s
V57A **Coltrane Farms** 25.79 12 P P 13 19 43.2 -0.6
baz=195,SNR=7.5
V58A **Windy Hill, Pi** 25.84 13 P P 13 19 43.6 -0.6
baz=196,SNR=18
TZTN **Tazewell** 25.88 5 P P 13 19 44.3 -0.2
baz=186
V59A **Middlesex** 26.03 15 P P 13 19 45.5 -0.4
baz=198,SNR=6.2
U54A **Nelsons Funny** 26.05 8 P P 13 19 45.8 -0.4
baz=190,SNR=7.9
U56A **King** 26.11 11 P P 13 19 46.6 -0.1
baz=193
U55A **TA2, Sparta** 26.15 10 P P 13 19 46.8 -0.3
baz=192
U40A **Yellville** 26.25 348 P P 13 19 46.6 -1.3
baz=165,SNR=28
V60A **Jim Taylor Roa** 26.29 17 P P 13 19 47.2 -1.1
baz=200
U57A **Blanch** 26.41 13 P P 13 19 48.8 -0.5
baz=195,SNR=7.5
T53A **Wise** 26.41 7 P P 13 19 48.8 -0.7
baz=188,SNR=5.8
WMOK **Wichita Mounta** 26.53 337 P P 13 19 50.6 +0.1
baz=152,SNR=90
U58A **Oxford** 26.55 14 P P 13 19 50.0 -0.6
baz=197,SNR=5.2
TUL1 **Leonard** 26.56 343 P P 13 19 49.2 -1.5
baz=159,SNR=6.9
T54A **Tazewell** 26.62 8 P P 13 19 50.9 -0.4
baz=190,SNR=10.0
U59A **Littleton** 26.70 15 P P 13 19 51.3 -0.6
baz=199
T55A **Pulaski** 26.79 10 P P 13 19 52.6 -0.3
baz=192,SNR=5.6
T56A **Rocky Mt** 26.84 11 P P 13 19 53.4 +0.1
baz=194
MGMO **Mountain Grove** 26.91 349 IAmb IAmb 13 19 54.0
comp=Z,27nm,0.8s
BLA **Blacksburg** 26.95 10 P P 13 19 54.2 0.0
baz=193
S51A **Beattyville** 26.96 5 IAmb IAmb 13 20 07.5
comp=Z,42nm,0.8s
T57A **Hurt** 26.97 12 P P 13 19 53.8 -0.6
baz=195
U60A **Pendleton** 26.98 16 P P 13 19 55.1 +0.6
baz=200
S44A **Carbondale** 27.04 355 IAmb IAmb 13 19 55.0
comp=Z,60nm,0.9s
U61A **Possum Corner** 27.06 18 P P 13 19 55.3 +0.1
baz=202
T58A **Grand View Acr** 27.08 14 P P 13 19 55.2 -0.1
baz=197
S53A **Williamson** 27.15 7 P P 13 19 56.3 +0.2
baz=189
T59A **Double "B" Far** 27.35 15 P P 13 19 58.1 +0.3
baz=199
MNTX **Cornudas Mount** 27.38 323 P P 13 19 57.9 -0.2
baz=136,SNR=17
WCI **Wyandotte Cave** 27.44 360 P P 13 19 58.1 -0.5
baz=180
S55A **Lewisburg** 27.48 10 P P 13 19 59.3 +0.2
baz=192
S56A **Natural Bridge** 27.56 12 P P 13 19 59.9 +0.2
baz=194
CCM **Cathedral Cave** 27.63 352 P P 13 19 58.3 -2.0
CCM pmax pmax
comp=Z,36nm,0.9s
CCM **Cathedral Cave** 27.63 352 P P 13 19 59.2 -1.1
baz=169
CCM **Cathedral Cave** 27.63 352 P P 13 19 58.3 -2.0
CCM IAmb IAmb 13 19 59.9
comp=Z,36nm,0.9s
S39A **Bolivar** 27.64 348 IAmb IAmb 13 20 12.5
comp=Z,23nm,0.8s
S39A PcP 13 23 17.8 +0.5
MSTX **Muleshoe** 27.67 329 IAmb IAmb 13 20 15.5
comp=Z,58nm,0.8s
S57A **Dark Hollow, R** 27.77 13 P P 13 20 00.9 -0.7
baz=195
R54A **Victor** 27.80 9 P P 13 20 01.5 -0.4
baz=191,SNR=5.5
R53A **Hurricane** 27.81 7 P P 13 20 01.6 -0.3
baz=189
R53A **Hurricane** 27.81 7 IAmb IAmb 13 20 15.2
comp=Z,48nm,0.8s
S58A **Poland Farm, P** 27.83 14 P P 13 20 01.5 -0.6
baz=197,SNR=5.3
AMTX **Amarillo** 27.89 332 P P 13 20 02.5 -0.3
baz=146
AMTX **Amarillo** 27.89 332 IAmb IAmb 13 20 20.7
comp=Z,48nm,1.1s
R55A **Marlinton** 28.04 10 P P 13 20 04.2 +0.1
baz=193
R58B **Mineral** 28.20 14 P P 13 20 05.3 -0.1
baz=198
R56A **Bull Pasture M** 28.30 11 P P 13 20 06.0 -0.4
baz=194
R57A **Stanardsville** 28.38 13 P P 13 20 06.4 -0.6
baz=196,SNR=8.7
Q53A **Leroy** 28.39 8 P P 13 20 06.2 -0.9
baz=190,SNR=7.9
Q52A **Bidwell** 28.40 7 P P 13 20 06.6 -0.5
baz=188,SNR=12
R58A **Rapidan** 28.50 14 P P 13 20 07.1 -0.9
baz=197
ETMB **Extrema** 28.52 135 eP P 13 20 09.7 +1.2
PTGA **Pitinga** 28.53 112 P P 13 20 07.6 -1.0
Q54A **Coxs Mills** 28.61 9 P P 13 20 08.6 -0.4
baz=191,SNR=11
Q54A **Coxs Mills** 28.61 9 IAmb IAmb 13 20 22.6
comp=Z,38nm,0.7s
Q55A **Buckhannon** 28.75 10 P P 13 20 10.1 -0.2
baz=193,SNR=5.7
P49A **Miami Univ. Ec** 28.78 3 P P 13 20 09.6 -0.9
baz=183
P51A **Williamsport** 28.83 5 P P 13 20 10.5 -0.5
baz=186
Q56A **Snyder Ridge,** 28.95 11 P P 13 20 12.3 +0.2
baz=194,SNR=7.9
Q56A **Snyder Ridge,** 28.95 11 IAmb IAmb 13 20 26.0
comp=Z,40nm,0.9s
P53A **Whipple** 29.03 8 P P 13 20 12.4 -0.3
baz=190,SNR=17
P52A **Corning** 29.08 7 P P 13 20 12.3 -0.9
baz=188,SNR=14
Q57A **Strasburg** 29.11 13 P P 13 20 13.4 -0.1
baz=196
Q58A **Fox Den Farm,** 29.18 14 P P 13 20 13.8 -0.3
baz=197,SNR=5.0
P54A **Burton** 29.27 9 P P 13 20 14.4 -0.5
baz=192
P55A **Reedsville** 29.29 10 P P 13 20 14.8 -0.3
baz=193
121A **Cookes Peak, D** 29.42 321 P P 13 20 18.0 +1.4
baz=133
121A **Cookes Peak, D** 29.42 321 IAmb IAmb 13 20 33.9
comp=Z,25nm,0.8s
P56A **Dayton Farm, R** 29.47 12 P P 13 20 15.7 -1.0
baz=195,SNR=6.2
O51A **Pataskala** 29.54 6 P P 13 20 16.2 -1.1
baz=187,SNR=8.3
P38A **Dawn** 29.54 349 IAmb IAmb 13 20 16.6
comp=Z,41nm,0.6s
ACSO **Alum Creek Sta** 29.59 5 P P 13 20 16.7 -1.0
baz=186,SNR=12
O52A **Adamsville** 29.59 7 P P 13 20 16.9 -0.8
baz=189,SNR=12
SFIN **Lafayette** 29.59 359 P P 13 20 16.0 -1.8
baz=178,SNR=12
P57A **Homestead Farm** 29.62 13 P P 13 20 18.1 +0.1
baz=196,SNR=10.0
KSU1 **Kansas State U** 29.77 344 P P 13 20 18.0 -1.4
baz=159
P58A **Pank, Wackersv** 29.79 14 P P 13 20 19.6 0.0
baz=198
O53A **New Philadelph** 29.80 8 P P 13 20 18.8 -0.8
baz=190,SNR=15
O54A **Avella** 29.85 9 P P 13 20 19.7 -0.4
baz=192
HDIL **Hopedale** 29.88 355 P P 13 20 18.8 -1.5
baz=174,SNR=10
P59A **Jarrettsville** 30.12 15 P P 13 20 22.0 -0.5
baz=199
SAML **Samuel** 30.14 129 P P 13 20 23.1 +0.2
SAML 13 23 24.9
SAML pmax pmax
comp=Z,13nm,1.1s
SAML **Samuel** 30.14 129 P P 13 20 23.1 +0.2
SAML PcP 13 23 24.9 +0.9
N41A **Harden Midland** 30.19 353 IAmb IAmb 13 20 22.1
comp=Z,37nm,0.7s
O56A **Blue Knob Stat** 30.26 12 P P 13 20 23.5 -0.2
baz=195,SNR=7.5
O56A **Blue Knob Stat** 30.26 12 IAmb IAmb 13 20 37.9
comp=Z,26nm,0.9s
N52A **McGinn's Farm,** 30.29 7 P P 13 20 23.1 -0.9
baz=189
N51A **Ashland** 30.32 6 P P 13 20 23.6 -0.6
baz=188
ANMO **Albuquerque** 30.36 326d iP P 13 20 25.9 +1.1
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO **Albuquerque** 30.36 326 P P 13 20 26.3 +1.5
baz=138
ANMO **Albuquerque** 30.36 326 P P 13 20 24.8 0.0
ANMO IAmb IAmb 13 20 41.0
comp=Z,20nm,0.9s
N53A **Lisbon** 30.40 8 P P 13 20 23.9 -1.0
baz=190,SNR=13
O57A **Amberson** 30.40 13 P P 13 20 24.4 -0.5
baz=197,SNR=6.1
O58A **Lewisberry** 30.49 14 P P 13 20 25.5 -0.1
baz=198,SNR=6.2
CBKS **Cedar Bluff** 30.49 339 P P 13 20 25.9 +0.2
baz=153
N55A **Marion Center** 30.68 11 P P 13 20 26.9 -0.4

baz=194
SSPA **Standing Stone** 30.75 13 P P 13 20 27.8 -0.2
baz=196
SSPA **Standing Stone** 30.75 13 P P 13 20 27.5 -0.5
SSPA IAmb IAmb 13 20 41.1
comp=Z,35nm,0.9s
O59A **Robesonia** 30.85 15 P P 13 20 28.5 -0.4
baz=200,SNR=9.3
N56A **West Decatur** 30.94 12 P P 13 20 29.2 -0.5
baz=195,SNR=6.3
N57A **Milroy** 30.94 13 P P 13 20 29.2 -0.4
baz=197,SNR=5.1
T25A **Trinidad** 31.00 331 P P 13 20 31.0 +0.4
baz=144,SNR=5.2
M53A **Wl Miller and** 31.04 8 P P 13 20 29.7 -0.8
baz=191,SNR=10
O60A **Telford** 31.06 16 P P 13 20 30.2 -0.5
baz=201
TUC **Tucson** 31.21 317 P P 13 20 33.8 +1.6
baz=128
N58A **Sunbury** 31.21 14 P P 13 20 31.6 -0.5
baz=198,SNR=7.2
N58A **Sunbury** 31.21 14 IAmb IAmb 13 20 45.2
comp=Z,38nm,0.9s
M54A **Oil Creek Stat** 31.26 10 P P 13 20 32.2 -0.4
baz=192
M55A **Ridgway** 31.38 11 P P 13 20 32.6 -1.0
baz=194
L44A **Lake County Fo** 31.42 358 P P 13 20 32.0 -1.9
baz=177
M56A **Emporium** 31.51 12 P P 13 20 33.9 -0.8
baz=195,SNR=11
N59A **State Game Lan** 31.52 15 P P 13 20 34.7 -0.1
baz=200,SNR=9.2
N59A **State Game Lan** 31.52 15 IAmb IAmb 13 20 48.8
comp=Z,48nm,1.1s
M57A **Sunshine Farm,** 31.59 13 P P 13 20 35.0 -0.4
baz=197,SNR=9.5
M57A **Sunshine Farm,** 31.59 13 IAmb IAmb 13 20 48.6
comp=Z,43nm,0.8s
L53A **Girard** 31.61 9 P P 13 20 34.5 -1.1
baz=191,SNR=7.2
N60A **Cedar Hill Far** 31.66 16 P P 13 20 35.2 -0.8
baz=201
KSCO **Kaye Shedlock'** 31.76 335 P P 13 20 36.6 -0.5
baz=148
M58A **Price's Panora** 31.78 14 P P 13 20 36.8 -0.3
baz=198,SNR=5.8
ERPA **Erie** 31.81 9 P P 13 20 36.5 -0.8
baz=192
SDCO **Great Sand Dun** 32.01 331 P P 13 20 39.5 0.0
baz=142,SNR=23
L55A **Hinsdale** 32.13 11 P P 13 20 38.9 -1.3
baz=194
M59A **Waymart** 32.20 15 P P 13 20 40.3 -0.5
baz=200,SNR=9.5
M60A **Port Jervis** 32.22 17 P P 13 20 40.8 -0.1
baz=202
LPAZ **La Paz** 32.26 146 P P 13 20 43.0 +0.8
comp=Z,1.0nm,0.6s,baz=357,slow=14,SNR=4.0
LPAZ LR LR 13 34 29.9
comp=Z,930nm,19.9s,baz=316,slow=38
LPAZ **La Paz** 32.26 146 *e*P P 13 20 44.1 +1.9
L56A **Greenwood** 32.26 12 P P 13 20 40.5 -0.8
baz=196
L57A **Andrews Acres** 32.29 13 P P 13 20 40.8 -0.7
baz=197
JFWS **Jewell Farm** 32.30 355 P P 13 20 39.8 -1.8
baz=173,SNR=7.5
BGNE **Belgrade** 32.35 343 P P 13 20 40.8 -1.3
baz=158
W18A **Petrified Fore** 32.37 322 P P 13 20 43.6 +1.0
baz=133,SNR=7.2
214A **Organ Pipe Nat** 32.38 315 P P 13 20 43.8 +1.3
baz=125
M61A **Granite Spring** 32.45 18 P P 13 20 43.3 +0.4
baz=203
L58A **Harry Jones Me** 32.56 15 P P 13 20 43.2 -0.8
baz=199,SNR=6.1
S22A **4UR Ranch, Cre** 32.67 329 P P 13 20 45.3 +0.1
baz=140,SNR=11
BINY **Binghamton** 32.68 14 P P 13 20 44.2 -0.8
baz=199,SNR=6.0
K55A **Perry** 32.73 11 P P 13 20 45.2 -0.2
baz=195
Q24A **Divide** 32.82 332 P P 13 20 46.5 -0.1
baz=144
K56A **Middlesex** 32.85 12 P P 13 20 46.4 -0.1
baz=196
L59A **Walton** 32.91 15 P P 13 20 46.3 -0.6
baz=200,SNR=6.0
L60A **Shokan** 32.94 17 P P 13 20 47.5 +0.3
baz=202
X16A **Lo Mia Camp, P** 32.96 320 P P 13 20 49.3 +1.6
X16A IAmb IAmb 13 21 03.8
comp=Z,18nm,0.8s
K57A **Scipio Center** 33.06 13 P P 13 20 47.3 -0.9
baz=198
M63A **Gales Ferry** 33.08 20 P P 13 20 48.0 -0.5
baz=206
MVCO **Mesa Verde** 33.14 327 P P 13 20 49.7 +0.3
baz=137,SNR=9.9
PB16 **IPOC Station P** 33.24 150 P P 13 20 51.9 +1.2
PB16 IAmb IAmb 13 21 01.7
comp=Z,26nm,1.5s
K58A **Earlville** 33.29 14 P P 13 20 49.7 -0.6
baz=199
I51A **Listowel** 33.32 7 P P 13 20 49.3 -1.2
baz=189
L61A **Hillsdale 1, H** 33.32 17 P P 13 20 50.7 +0.1
baz=203
J56A **Wolcott** 33.50 13 P P 13 20 51.2 -0.9
baz=197
K59A **Cooperstown** 33.50 15 P P 13 20 52.0 -0.2
baz=200
WUAZ **Wupatki** 33.63 321 P P 13 20 54.7 +1.2
baz=131,SNR=11
ISCO **Idaho Springs** 33.70 333 P P 13 20 54.6 +0.3
baz=144,SNR=7.3
L61B **Northampton** 33.82 18 P P 13 20 54.7 -0.2
baz=204
K61A **Williamstown** 33.84 17 P P 13 20 56.3 +1.2
baz=203,SNR=5.3
MNMC **Minye Minye** 33.88 151 P P 13 20 57.1 +1.2
ITTB **Itaituba** 33.90 115 *e*P P 13 20 52.1 -3.8
J58A **Remsen** 33.94 14 P P 13 20 55.0 -0.9
baz=200,SNR=6.4
J58A **Remsen** 33.94 14 IAmb IAmb 13 21 09.8
comp=Z,35nm,1.0s
PV18 **Skein Mesa, Pa** 34.12 327 IAmb IAmb 13 21 12.7
comp=Z,36nm,0.8s
ECSD **EROS Data Cent** 34.13 347 P P 13 20 54.9 -2.7
baz=162,SNR=13
ECSD **EROS Data Cent** 34.13 347 IAmb IAmb 13 20 56.5
comp=Z,24nm,1.1s
K62A **Royalston** 34.15 19 P P 13 20 57.4 -0.3
baz=205,SNR=5.1
J60A **Lant Hill Farm** 34.33 17 P P 13 20 60.0 +0.7
baz=203
I58A **Old Forge** 34.33 15 P P 13 20 58.7 -0.7
baz=200
GLA **Glamis** 34.40 315 P P 13 21 02.1 +2.0
baz=124,SNR=6.5
K63A **Dunstable** 34.40 19 P P 13 20 59.5 -0.4
baz=206
H53A **Bobcaygeon** 34.43 10 P P 13 20 58.6 -1.5
baz=193,SNR=5.7
SADO **Sadowa** 34.53 9 P P 13 20 58.6 -2.4
comp=Z,14nm,0.6s,baz=190,slow=8.2,SNR=9.1
SADO pP **pP** 13 21 11.6 +1.3
comp=Z,32nm,0.7s,baz=216,slow=9.4,SNR=11
G40A **Rib Lake** 34.64 355 IAmb IAmb 13 21 14.7
comp=Z,34nm,0.8s
PDMCI **Parker Dam,Lak** 34.65 317 P P 13 21 03.5 +1.3
baz=126,SNR=9.5
J61A **Chester** 34.67 18 P P 13 21 02.3 0.0
baz=204
I59A **Olmsteadville** 34.71 16 P P 13 21 00.8 -1.8
baz=202,SNR=6.4
N23A **Red Feather La** 34.74 333 P P 13 21 03.5 +0.3
baz=144,SNR=5.4
J62A **Henniker** 34.79 19 P P 13 21 03.6 +0.3
baz=205
SPMN **Marine on St.** 34.88 352 P P 13 21 02.3 -1.8
baz=169
H56A **Elgin** 34.89 13 P P 13 21 02.6 -1.4
baz=197
I60A **Shoreham** 34.92 17 P P 13 21 03.4 -1.0
baz=202
VILB **Vilhena** 34.96 132 *e*P P 13 21 06.1 +1.0
J63A **Strafford** 35.08 19 P P 13 21 06.4 +0.7
baz=206
IKP **In-Ko-Pah, Jac** 35.09 313 P P 13 21 06.7 +0.6
baz=122
BC3 **Big Chuckawall** 35.17 315 P P 13 21 08.2 +1.4
baz=124,SNR=8.0
O20A **White River Ci** 35.21 330 P P 13 21 08.1 +0.9
baz=140,SNR=6.2
H58A **Gabriels** 35.21 15 P P 13 21 05.6 -1.3
baz=201
IRM **Iron Mountain** 35.24 316 P P 13 21 08.6 +1.2
baz=125,SNR=6.4
LONY **Lake Ozonia** 35.30 15 P P 13 21 06.6 -1.1
baz=200,SNR=6.2
G54A **Lake Saint Pet** 35.31 10 P P 13 21 06.3 -1.4
baz=194
I61A **Oroboro, Fairl** 35.31 18 P P 13 21 06.9 -0.9
baz=204
SUSD **Miller** 35.38 344 P P 13 21 07.0 -1.3
baz=158
G55A **Calabogie** 35.42 12 P P 13 21 08.4 -0.3
baz=196
MONP2 **Monument Peak** 35.44 313 P P 13 21 09.4 +0.1
baz=122
NPGB **Novo Progresso** 35.47 118 *e*P P 13 21 07.2 -2.3
I62A **Tamworth** 35.53 19 P P 13 21 08.8 -0.8
baz=206
H59A **Cadyville** 35.55 16 P P 13 21 09.2 -0.6
baz=202
F36A **Milaca** 35.61 351 IAmb IAmb 13 21 08.6
comp=Z,25nm,0.6s
G57A **Newington** 35.66 14 P P 13 21 10.5 -0.2
baz=199
LBNH **Lisbon** 35.68 18 P P 13 21 10.7 -0.3
baz=204
BELC **Belle Mtn. Jos** 35.74 315 P P 13 21 13.5 +1.7
baz=124,SNR=7.9
H60A **Morristown** 35.74 17 P P 13 21 11.0 -0.5
baz=203
PFO **Pinyon Flats O** 35.85 314 P P 13 21 10.9 -1.8
PFO pmax pmax
comp=Z,15nm,1.1s
PFO **Pinyon Flats O** 35.85 314 P P 13 21 15.0 +2.3
baz=122
PFO **Pinyon Flats O** 35.85 314 P P 13 21 10.9 -1.8
PFO IAmb IAmb 13 21 24.4
comp=Z,15nm,1.1s
ALGO **Algonquin Park** 35.86 10 P P 13 21 10.6 -1.9
baz=194,SNR=5.5
G58A **Ormstown** 35.93 15 P P 13 21 12.5 -0.5
baz=201
I63A **Otisfield** 35.93 19 P P 13 21 12.9 -0.2
baz=207
H61A **Lyndonville** 35.94 18 P P 13 21 12.7 -0.5
baz=204
RWWY **Rawlins** 35.94 333 P P 13 21 11.9 -1.7
RWWY IAmb IAmb 13 21 21.7
comp=Z,27nm,1.2s
GMRC **Granite Mounta** 35.95 317 P P 13 21 15.2 +1.6
baz=125,SNR=6.6
F55A **Otter Lake** 36.06 12 P P 13 21 14.3 +0.1
baz=197
G60A **Masonville** 36.34 17 P P 13 21 15.3 -1.3
baz=203
MURC **Murrieta** 36.36 314 P P 13 21 18.7 +1.7
baz=122
K22A **Casper** 36.42 335 P P 13 21 17.1 -0.5
baz=145,SNR=5.8
HEC **Hector,Ludlow** 36.43 316 P P 13 21 19.9 +2.3
baz=124
BBRC **Big Bear Solar** 36.52 315 P P 13 21 20.3 +1.7
baz=123
RSSD **Black Hills** 36.69 338 P P 13 21 19.9 +0.1
baz=150
G61A **St-Isidore-de-** 36.74 18 P P 13 21 19.0 -1.0
baz=205
H64A **Troy** 36.91 20 P P 13 21 20.1 -1.3
baz=208
F59A **Saint Guilaume** 36.91 16 P P 13 21 20.4 -1.0
baz=202
G62A **West of Eustis** 36.99 19 P P 13 21 21.7 -0.4
baz=206,SNR=7.9
G62A **West of Eustis** 36.99 19 IAmb IAmb 13 21 36.4
comp=Z,28nm,0.9s
E56A **St. Veronique** 37.01 13 P P 13 21 21.1 -1.2
baz=198
GSC **Goldstone, Bar** 37.01 316 P P 13 21 24.7 +2.1
baz=124
SCI2 **San Clemente I** 37.02 312 P P 13 21 24.8 +2.2
baz=119
BFSC **Mount Baldy Ra** 37.03 314 P P 13 21 24.4 +1.6
baz=122
CLDB **Colider** 37.11 124 *e*P P 13 21 22.3 -1.2
G63A **Kingsbury** 37.19 20 P P 13 21 23.4 -0.4
baz=208
LVC **Limon Verde** 37.21 153 *e*P P 13 21 31.8 +7.2
F60A **Warwick** 37.25 17 P P 13 21 23.3 -1.0
baz=204,SNR=5.3
E58A **La Victoria** 37.27 15 P P 13 21 23.1 -1.3
baz=201
H65A **Eastbrook** 37.30 21 P P 13 21 24.7 0.0
baz=210
D55A **Sainte-Anne-du** 37.37 12 P P 13 21 23.4 -1.9
baz=198,SNR=5.9
PTLB **Pontes e Lacer** 37.38 134 *e*P P 13 21 26.5 +0.8
PTLB *ep*P **pP** 13 21 35.4 +0.4
PKME **Peaks-Kenny Pk** 37.43 20 P P 13 21 25.5 -0.3
baz=208
PKME **Peaks-Kenny Pk** 37.43 20 IAmb IAmb 13 21 40.0
comp=Z,35nm,1.1s
F61A **St Evariste** 37.53 18 P P 13 21 26.1 -0.6
baz=205
TPNV **Topopah Spring** 37.59 319 P P 13 21 28.8 +1.2
TPNV pmax pmax
comp=Z,17nm,1.0s
TPNV **Topopah Spring** 37.59 319 P P 13 21 29.6 +2.0
baz=126,SNR=9.1
TPNV **Topopah Spring** 37.59 319 P P 13 21 28.8 +1.2
TPNV IAmb IAmb 13 21 44.3
comp=Z,17nm,1.0s
EDW2 **Edwards Air Fo** 37.60 315 P P 13 21 28.4 +0.9
baz=122
G64A **Maxfield** 37.60 20 P P 13 21 27.0 -0.3
baz=209
DUG **Dugway, Tooele** 37.63 326 P P 13 21 29.0 +1.2
baz=134
LRMC **Laurel Mtn Rad** 37.71 316 P P 13 21 30.4 +1.8
baz=123
FURC **Furnace Creek,** 37.71 318 P P 13 21 30.5 +2.2
baz=125,SNR=8.1
E60A **Ste Agathe de** 37.75 17 P P 13 21 27.1 -1.5
baz=204
F62A **Pittston Farm,** 37.77 19 P P 13 21 27.2 -1.5
baz=207
BW06 **Boulder Array** 37.87 332 P P 13 21 28.9 -0.9
baz=141,SNR=8.0
BW06 **Boulder Array** 37.87 332 PcP **PcP** 13 23 45.6 -0.3
PDAR **Pinedale Array** 37.87 332 P P 13 21 29.1 -0.8
comp=Z,3.3nm,0.6s,baz=132,slow=9.9,SNR=22
PDAR PcP **PcP** 13 23 46.6 +0.8
comp=Z,3.6nm,0.7s,baz=136,slow=5.4,SNR=7.7
PDAR LR LR 13 40 14.2
comp=Z,660nm,21.7s,baz=136,slow=41
PDAR **Pinedale Array** 37.87 332 P **P** 13 21 28.1 -1.8
PDAR PcP **PcP** 13 23 46.3 +0.5
MPMC **Manual Prospec** 37.90 317 P **P** 13 21 31.3 +1.1
baz=124,SNR=11
HWUT **Hardware Ranch** 37.97 329 IAmb IAmb 13 21 45.2
comp=Z,22nm,0.8s
HWUT PcP **PcP** 13 23 47.8 +1.6
R11A **Troy Canyon, C** 38.03 321 P **P** 13 21 32.3 +1.1
baz=129
D58A **Chemin du LacG** 38.04 15 P **P** 13 21 29.6 -1.3
baz=202,SNR=5.6
E61A **Lac Etchemin** 38.09 18 P **P** 13 21 30.8 -0.6
baz=206
F64A **Sherman** 38.27 20 P **P** 13 21 31.0 -1.9
baz=209
ARVC **Arvin** 38.31 315 P **P** 13 21 35.9 +2.4
baz=122
GRAC **Grapevine Rang** 38.35 318 P **P** 13 21 36.3 +2.5
baz=125
ISA **Isabella, Lake** 38.35 316 P **P** 13 21 35.4 +1.6
baz=122
AGMN **Agassiz Nation** 38.35 350 P **P** 13 21 31.4 -2.2
baz=165,SNR=28
AGMN **Agassiz Nation** 38.35 350 IAmb IAmb 13 21 33.6
comp=Z,42nm,1.1s
D60A **Saint Jean D'O** 38.40 17 P **P** 13 21 32.3 -1.7
baz=205
CWC **Cottonwood Cre** 38.51 317 P **P** 13 21 36.7 +1.5
baz=124
E62A **Clayton Lake** 38.56 19 P **P** 13 21 34.7 -0.6
baz=207
MDND **Maddock** 38.71 346 P **P** 13 21 35.1 -1.5
baz=159,SNR=12
E63A **Oxbow** 38.74 20 P **P** 13 21 35.8 -1.0
baz=209
D61A **St Aubert, Com** 38.88 18 P **P** 13 21 36.8 -1.1
baz=206
PKM **Mcpherson Peak** 38.88 314 P **P** 13 21 40.2 +1.7
baz=120
REDW **Red Top Meadow** 38.93 331 IAmb IAmb 13 21 53.8
comp=Z,31nm,0.8s
E64A **Bridgewater** 38.94 20 P **P** 13 21 38.8 +0.4
baz=210
SNOW **Snow King Moun** 38.96 331 IAmb IAmb 13 21 54.2
comp=Z,34nm,1.1s
D62A **Allapoint, All** 39.12 19 P **P** 13 21 39.6 -0.4
baz=207
ELK **Elko** 39.36 325 IAmb IAmb 13 21 57.8
comp=Z,18nm,0.8s
D63A **Stockholm** 39.38 20 P **P** 13 21 41.6 -0.7
baz=209
LMN **Caledonia Moun** 39.57 24 IAmb IAmb 13 21 57.4
comp=Z,45nm,0.9s
RLMT **Red Lodge** 39.59 334 P **P** 13 21 43.4 -0.9
baz=143,SNR=12
MATQ **Matagami** 39.62 9 P **P** 13 21 42.1 -2.1
baz=193
LAO **LASA Array** 39.68 338 P **P** 13 21 43.7 -1.2
baz=148,SNR=9.4
LAO **LASA Array** 39.68 338 IAmb IAmb 13 21 45.1
comp=Z,24nm,1.0s
NVAR **Mina Array Bea** 39.78 319 P **P** 13 21 47.2 +1.2
comp=Z,3.7nm,0.5s,baz=133,slow=7.4,SNR=38
NVAR PcP **PcP** 13 23 53.4 +1.5
comp=Z,12nm,0.7s,baz=134,slow=4.2,SNR=22
NVAR LR LR 13 40 14.0
comp=Z,534nm,19.9s,baz=137,slow=39
KVN **Kaiserville** 40.02 320 IAmb IAmb 13 22 03.7
comp=Z,23nm,0.9s
RYN **Ryan** 40.03 320 P **P** 13 21 49.0 +0.9
ULM **Lac du Bonnet** 40.24 350 P **P** 13 21 46.4 -2.9
comp=Z,22nm,0.8s,baz=164,slow=8.6,SNR=19
ULM PcP **PcP** 13 23 52.9 +0.1
comp=Z,9.2nm,0.8s,baz=23,slow=0.6,SNR=4.0
ULM LR LR 13 40 05.4
comp=Z,363nm,19.0s,baz=149,slow=39
ULM **Lac du Bonnet** 40.24 350 IAmb IAmb 13 21 47.4
comp=Z,22nm,0.8s
DGMT **Dagmar** 40.55 342 P **P** 13 21 51.0 -1.0
baz=152,SNR=12
WAKR **Walker** 40.55 319 P **P** 13 21 53.1 +0.7
WAKR IAmb IAmb 13 22 09.1
comp=Z,27nm,1.0s
HLID **Hailey** 40.84 328 P **P** 13 21 55.1 +0.5
baz=135,SNR=16
PNTR **Pine Nut** 40.99 319 P **P** 13 21 58.0 +2.0
BOZ **Bozeman (W)** 41.00 333 P **P** 13 21 55.8 0.0
baz=140,SNR=15
MFID **Camas Ranch** 41.48 327 P **P** 13 21 59.0 -0.8
EGMT **Eagleton** 42.13 337 P **P** 13 22 04.6 -0.3
baz=144,SNR=7.2
MSO **Missoula** 42.98 332 P **P** 13 22 11.5 -0.4
baz=138,SNR=6.0
ARAG **Araguaiana, MT** 43.04 127 *e*P **P** 13 22 13.4 +0.8
O03E **Paynes Creek** 43.07 319 P **P** 13 22 12.8 +0.1
baz=123
O02D **Mt. Diablo Mer** 43.64 319 P **P** 13 22 17.2 -0.2
baz=122
M04C **Macdoel** 43.92 321 P **P** 13 22 20.0 +0.3
baz=124,SNR=6.5
PEXB **Peixe** 44.00 120 *e*P **P** 13 22 18.7 -1.8
H03N2 **Juan Fernandez** 44.42 171 T T 14 10 21.3
baz=348,slow=76
H03N1 **Juan Fernandez** 44.43 171 T T 14 10 01.5
baz=348,slow=76
J05D **Fort Rock, OR** 44.43 323 P **P** 13 22 24.2 +0.5
baz=126
H03N3 **Juan Fernandez** 44.44 171 T T 14 09 41.9
baz=348,slow=76
L04D **Klamath Falls** 44.45 321 P **P** 13 22 24.1 +0.1
baz=124,SNR=7.1
PINE **Pine Mountain** 44.56 324 IAmb IAmb 13 22 39.6
comp=Z,23nm,0.8s
J04D **Umpqua Nationa** 44.92 323 P **P** 13 22 27.8 0.0
baz=125,SNR=10
I05D **Terrebonne, OR** 45.12 324 P **P** 13 22 29.7 +0.5
baz=127,SNR=6.3
L02E **Cave Junction** 45.22 321 P **P** 13 22 29.9 0.0
baz=123
I04A **Tendick Farm,** 45.42 323 P **P** 13 22 31.1 -0.4
baz=126,SNR=16
NEW **Newport** 45.50 331 P **P** 13 22 30.7 -1.4
NEW pmax pmax
comp=Z,8.0nm,1.2s
NEW **Newport** 45.50 331 P **P** 13 22 31.4 -0.7
baz=135
NEW **Newport** 45.50 331 P **P** 13 22 30.6 -1.4
K02D **Willamette Mer** 45.56 321 P **P** 13 22 32.4 -0.2
baz=123
G05D **Wamic, OR** 45.66 325 P **P** 13 22 34.4 +1.1
baz=128,SNR=7.2
I03D **Drain, OR** 45.92 323 P **P** 13 22 35.8 +0.5
baz=124,SNR=5.7
J01E **Myrtle Point** 45.98 322 P **P** 13 22 36.9 +1.1
baz=123,SNR=5.8
H04D **Lebanon** 46.04 324 P **P** 13 22 35.8 -0.5
baz=126
BDFB **Brasilia** 46.05 124 P **P** 13 22 37.0 +0.2
comp=Z,13nm,0.6s,baz=290,slow=9.9,SNR=18
BDFB LR LR 13 44 28.2
comp=Z,549nm,19.3s,baz=304,slow=39
BDFB **Brasilia** 46.05 124 P **P** 13 22 36.7 -0.1
BDFB pmax pmax
comp=Z,25nm,1.0s
BDFB **Brasilia** 46.05 124 P **P** 13 22 36.7 -0.1
BDFB IAmb IAmb 13 22 38.4
comp=Z,25nm,1.0s
F05D **White Salmon** 46.14 326 P **P** 13 22 37.4 +0.3
baz=128,SNR=6.5
CPUP **Villa Florida** 46.32 143 P **P** 13 22 38.4 -0.3
comp=Z,1.5nm,0.6s,baz=339,slow=14,SNR=2.7
CPUP LR LR 13 42 27.2
comp=Z,330nm,20.9s,baz=320,slow=36
CPUP **Villa Florida** 46.32 143 P **P** 13 22 38.2 -0.5
CPUP pmax pmax
comp=Z,11nm,1.4s
CPUP **Villa Florida** 46.32 143 P **P** 13 22 38.2 -0.5
I02D **Swisshome** 46.45 323 P **P** 13 22 40.4 +0.9
baz=124,SNR=5.5
LTY **Liberty** 46.58 328 IAmb IAmb 13 22 54.8
comp=Z,22nm,1.3s
SCHQ **Schefferville** 46.66 15 P **P** 13 22 38.1 -2.9
comp=Z,7.0nm,0.4s,baz=217,slow=5.5,SNR=24
SCHQ LR LR 13 42 54.9
comp=Z,754nm,18.5s,baz=206,slow=37
SCHQ **Schefferville** 46.66 15 P **P** 13 22 38.5 -2.6
SCHQ IAmb IAmb 13 22 51.9
comp=Z,20nm,0.8s
G03D **McMinnville, O** 46.74 324 P **P** 13 22 42.0 +0.2
baz=126,SNR=11
PCMB **Pacaembu** 47.03 133 *e*P **P** 13 22 45.9 +1.5
PCMB *ep*P **pP** 13 22 53.9 0.0
SDBA **SAO DESIDERIO** 47.07 118 *e*P **P** 13 22 43.2 -1.6
SDBA *ep*P **pP** 13 22 51.4 -3.0
C06D **Leavenworth** 47.13 329 P **P** 13 22 45.0 +0.2
baz=130
E04D **Cinebar** 47.16 326 P **P** 13 22 45.1 +0.1
baz=128
IPMB **Ipameri, GO** 47.16 127 *e*P **P** 13 22 45.7 +0.2
B05A **Bryant** 47.97 328 P **P** 13 22 50.5 -0.8
baz=129
D03D **Eldon** 48.04 327 P **P** 13 22 51.3 -0.5
baz=128,SNR=6.8
NLWA **Neilton Lookou** 48.37 326 IAmb IAmb 13 23 09.3
comp=Z,44nm,1.4s
A04D **Lummi Island** 48.57 328 P **P** 13 22 55.2 -0.7
baz=129,SNR=5.2
JANB **Januaria** 48.82 121 *e*P **P** 13 22 57.8 -0.6
PLTB **Pedras Altas** 52.54 145 *e*P P 13 23 31.6 +5.5
PLCA **Paso Flores** 53.18 165 P **P** 13 23 31.7 +0.9

comp=Z,3.5nm,0.7s,baz=340,slow=8.9,SNR=11
PLCA LR LR 13 41 52.0
comp=Z,167nm,19.3s,baz=344,slow=31
PLCA Paso Flores 53.18 165 P **P 13 23 31.1 +0.3**
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 53.18 165 P **P 13 23 31.1 +0.3**
PLCA Paso Flores 53.18 165 *e*P P 13 23 40.1 +9.4
PLCA epP sP 13 23 49.8 +5.7
SJMB Sao Joao De Ma 53.21 123 *e*P **P 13 23 30.9 -0.4**
SJMB epP **pP 13 23 38.6 -2.3**
BSFB Barra de Sao F 53.55 123 *e*P **P 13 23 32.9 -0.9**
BSFB epP **pP 13 23 42.3 -1.1**
RIB01 Linhares ES 54.16 123 *e*P **P 13 23 37.9 -0.3**
YKA Yellowknife Ar 55.62 345 P **P 13 23 45.8 -2.3**
comp=Z,7.0nm,0.8s,baz=138,slow=6.7,SNR=25
YKA PcP **PcP 13 24 47.2 -0.2**
comp=Z,1.6nm,0.6s,baz=140,slow=4.1,SNR=8.2
YKA LR LR 13 49 20.6
comp=Z,344nm,20.5s,baz=0.0,slow=38
TAOE Nuku Hiva Isla 56.99 252 *e*S **S 13 31 49.3 -2.2**
comp=Z,239nm,24.3s
TAOE *e*LR LR 13 40 40.9
comp=Z,459nm,24.0s
DLBC Dease Lake 57.99 335 IAmb IAmb 13 24 06.3
comp=Z,23nm,0.9s
EPYK Eagle Plains 65.11 340 P **P 13 24 52.6 -0.4**
baz=123
EGAK Eagle 65.88 337 P **P 13 24 56.5 -1.4**
VAH Vaihoa 65.98 248 *e*T T 14 36 45.6
comp=Z,9.0nm,0.3s
PMOR Pomariorio Ree 66.14 248 *e*T T 14 36 58.4
comp=Z,8.4nm,0.2s
DOT Dot Lake 66.51 336 IAmb IAmb 13 25 02.7
comp=Z,12nm,0.9s
SCRK Sand Creek 66.62 336 P **P 13 25 02.6 -0.2**
baz=115
HDA Harding Lake 67.98 336 P **P 13 25 10.3 -1.0**
baz=112,SNR=7.3
HDA Harding Lake 67.98 336 IAmb IAmb 13 25 11.0
comp=Z,10nm,0.8s
SUMG Summit 68.02 14 *i*P P 13 25 22.0 +10
comp=Z,29nm,1.0s
SUMG Summit 68.02 14 *i*P P 13 25 22.0 +10
SUMG pmax pmax
comp=Z,29nm,1.0s
IL31 68.09 336 IAmb IAmb 13 25 13.0
comp=Z,22nm,1.3s
ILAR Eielson Array 68.09 336 P **P 13 25 10.8 -1.3**
comp=Z,4.5nm,0.7s,baz=133,slow=4.3,SNR=53
ILAR pP **sP 13 25 24.4 -1.3**
comp=Z,1.8nm,0.6s,baz=129,slow=4.3,SNR=5.0
ILAR LR LR 13 59 09.9
comp=Z,335nm,20.7s,baz=125,slow=40
ILAR Eielson Array 68.09 336 P **P 13 25 11.2 -0.8**
ILAR Eielson Array 68.09 336 P **P 13 25 11.2 -0.8**
POKR Poker Plat Res 68.44 337 P **P 13 25 13.5 -0.7**
baz=112
COLA College 68.52 336 *d i*P **P 13 25 14.0 -0.6**
COLA pmax pmax
comp=Z,5.0nm,0.9s
PPT2 Papeete2 68.52 246 *e*S **S 13 34 16.3 +0.3**
comp=Z,154nm,23.5s
PPT2 Papeete2 68.52 246 *e*LR LR 13 45 58.7
comp=Z,361nm,25.0s
TCOL CIGO, UAF Yank 68.52 336 P **P 13 25 13.7 -1.0**
baz=112
CUT Chulitna 68.67 333 P **P 13 25 15.0 -0.7**
baz=108
NEA2 Nenana 68.90 336 P **P 13 25 15.5 -1.6**
baz=110,SNR=5.3
SKT Skwentna 69.11 333 IAmb IAmb 13 25 18.3
comp=Z,14nm,0.8s
KIP Kipapa 69.26 289 *i*P **P 13 25 21.8 +1.7**
KIP pmax pmax
comp=Z,18nm,1.1s
KTH Kantishna Hill 69.32 334 IAmb IAmb 13 25 19.7
comp=Z,22nm,1.0s
BPAW Bear Paw Mtn. 69.52 335 IAmb IAmb 13 25 21.0
comp=Z,20nm,1.0s
COLD Coldfoot 70.26 338 P **P 13 25 25.0 -0.4**
baz=110
TBI Tubuai 70.41 241 *e*S **S 13 34 39.4 +1.4**
comp=Z,320nm,25.8s
TBI Tubuai 70.41 241 *e*LR LR 13 46 52.9
comp=Z,334nm,25.2s
TBI Tubuai 70.41 241 *e*T T 14 42 19.0
comp=Z,6.0nm,0.3s
TTA Tatalina 71.37 333 P **P 13 25 31.2 -1.1**
TTA pmax pmax
comp=Z,11nm,1.0s
TTA Tatalina 71.37 333 P **P 13 25 31.2 -1.1**
ESDC Sonseca Array 77.39 52 P **P 13 26 05.0 -2.9**
comp=Z,1.2nm,0.8s,baz=283,slow=5.5,SNR=5.6
ESDC pP **PcP 13 26 19.5 +1.2**
comp=Z,2.5nm,0.9s,baz=284,slow=4.6,SNR=6.6
ESDC LR LR 13 55 42.2
comp=Z,404nm,20.9s,baz=285,slow=32
TIC Toumodi 80.25 85 *e*P P 13 26 36.8 +13
LIC Lamto 80.32 85 *e*P P 13 26 37.6 +13
comp=Z,33nm,1.0s
DBIC Dimbokro 80.41 85 LR LR 14 01 06.6
comp=Z,106nm,20.0s,baz=262,slow=35
KIC Kosan Boka 80.57 85 *e*P P 13 26 38.7 +13
comp=Z,30nm,1.1s
ADK Adak 81.94 321 P **P 13 26 33.5 +1.4**
ADK pmax pmax
comp=Z,72nm,0.8s
ADK Adak 81.94 321 P **P 13 26 33.5 +1.4**
NOA NORSAR Array B 84.36 29 P **P 13 26 41.2 -3.3**
comp=Z,0.6nm,0.9s,baz=282,slow=5.5,SNR=1.7
TORD Torodi Ar. Bea 85.69 77 P **P 13 26 49.0 -3.1**
comp=Z,0.9nm,0.7s,baz=285,slow=5.4,SNR=5.3
TORD pP **pP 13 27 03.0 +0.8**
comp=Z,1.4nm,0.8s,baz=280,slow=6.8,SNR=4.7
ARCES ARCESS Array B 87.49 19 P **P 13 26 57.3 -2.5**
comp=Z,1.0nm,0.3s,baz=297,slow=4.0,SNR=4.7
KEST Kesra 88.37 54 LR LR 14 02 12.1
comp=Z,175nm,20.9s,baz=288,slow=33
KHC Kasperske Hory 88.39 40 *i*P **P 13 27 02.3 -2.3**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KLNR Kaliningrad 90.73 34 *i*P **P 13 27 16.6 +1.3**
KLNR pmax pmax
comp=Z,35nm,0.8s
VSU Vasula 92.61 29 *i*P **P 13 27 24.2 +0.3**
VSU pmax pmax
comp=Z,15nm,1.1s
VNA3 Neumayer Olymp 95.77 162 P **P 13 27 38.6 +0.5**
PET Petropavlovsk 96.02 327 *i*P **P 13 27 39.2 -0.5**
PET pmax pmax
comp=Z,106nm,1.6s
VNA2 Neumayer--Watz 96.41 161 P **P 13 27 41.1 +0.1**
PETK Petropavlovsk- 96.49 327 P **P 13 27 42.5 +0.6**
comp=Z,4.0nm,0.9s,baz=54,slow=8.0,SNR=5.0
AKASG Malin Array Be 97.31 35 *i*P Pdif 13 27 48.4 +2.7
SNAA Sanae 98.00 161 *i*P **P 13 27 47.3 -1.0**
SNAA pmax pmax
comp=Z,2.0nm,1.0s
OBN Obninsk 98.97 29⇑ *e*P **P 13 27 53.0 +0.1**
OBN *e* 13 31 53.0
OBN *e*PPP PPP 13 33 59.3
OBN *e*SS SS 13 46 14.3 +6.5
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,168nm,19.0s
DZM Mont Dzumac 109.83 250 *e*LR LR 14 05 12.8
comp=Z,157nm,22.7s
ZALV Zalesovo Beam 115.19 6 PKP **PKiKP 13 32 52.9 -0.9**
comp=Z,1.6nm,0.4s,baz=214,slow=2.0,SNR=7.9
KURK Kurchatov 117.47 11 *i*PKIKP **PKPdf 13 32 56.4 -1.8**
KURK pmax pmax
comp=Z,14nm,2.3s
DGZ Jazzator, Alta 119.63 5 *i*PKIKP **PKPdf 13 33 02.1 -0.5**
ULN Ulaanbaatar 120.53 350 *i*PKIKP **PKPdf 13 33 04.3 -0.1**
SONM Songino Array 120.67 350 PKP **PKPdf 13 33 04.6 -0.1**
comp=Z,1.9nm,0.6s,baz=317,slow=1.2,SNR=8.0
SONM Songino Array 120.67 350 PKIKP **PKiKP 13 33 05.3 +0.5**
SONM Songino Array 120.67 350 PKiKP 13 33 05.3 +0.5
GEYT Alibeck 121.30 33 PKP **PKPdf 13 33 05.6 -0.5**
comp=Z,3.0nm,0.3s,baz=304,slow=4.4,SNR=12
MKAR Makanchi Array 121.89 9 PKP **PKPdf 13 33 05.8 -1.1**
comp=Z,1.2nm,0.5s,baz=309,slow=2.8,SNR=21
MKAR Makanchi Array 121.89 9 PKIKP **PKPdf 13 33 06.1 -0.8**
MKAR Makanchi Array 121.89 9 PKPdf 13 33 06.1 -0.8

KSRS Korea Array 122.37 328 PKP **PKPdf 13 33 08.3 +0.3**
comp=Z,3.3nm,0.6s,baz=5.8,slow=2.1,SNR=18
KSAR Wonju Array Be 122.40 328 PKIKP **PKiKP 13 33 08.9 +0.7**
KSAR Wonju Array Be 122.40 328 PKPdf **PKiKP 13 33 08.9 +0.7**
DZA Taraz 122.90 19 *e*PKP **PKPdf 13 33 08.9 -0.1**
baz=19
DZA Taraz 122.90 19 *e*PKIKP **PKPdf 13 33 08.8 -0.1**
IUG Iuzhnay 123.12 21 *e*PKP **PKPdf 13 33 09.2 -0.3**
baz=21
IUG Iuzhnay 123.12 21 *e*PKIKP **PKPdf 13 33 09.2 -0.3**
KUU Kurty 123.44 15 *e*PKP **PKPdf 13 33 09.2 -0.8**
comp=Z,3.4nm,0.7s,baz=15
KUU Kurty 123.44 15 *e*PKIKP **PKPdf 13 33 09.2 -0.8**
KUU pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 124.11 17 *i*PKIKP **PKPdf 13 33 11.8 +0.3**
MDOK Medeo 124.31 15 *e*PKP **PKPdf 13 33 11.7 -0.1**
baz=15
MDOK LR LR 14 24 30.8
comp=Z,121nm,19.0s,baz=15
MDOK Medeo 124.31 15 *e*PKIKP **PKPdf 13 33 11.7 -0.1**
MDOK MLR MLR
comp=Z,121nm,19.0s
KPKS Kokpek 124.41 13 *e*PKP **PKPdf 13 33 11.9 0.0**
baz=13
KPKS Kokpek 124.41 13 *e*PKIKP **PKPdf 13 33 11.9 0.0**
UZB Uzynbulak 124.79 13 *e*PKP **PKPdf 13 33 12.3 -0.4**
comp=Z,1.2nm,0.7s,baz=13
UZB Uzynbulak 124.79 13 *e*PKIKP **PKPdf 13 33 12.3 -0.4**
UZB pmax pmax
comp=Z,1.0nm,0.7s
SHLS Shalkode 124.87 13 *e*PKP **PKPdf 13 33 12.4 -0.5**
comp=Z,2.2nm,0.6s,baz=12
SHLS Shalkode 124.87 13 *e*PKIKP **PKPdf 13 33 12.4 -0.5**
SHLS pmax pmax
comp=Z,2.0nm,0.6s
KDJ Kajisay 125.31 15 PKIKP **PKiKP 13 33 14.5 +0.3**
KDJ Kajisay 125.31 15 PKPdf **PKiKP 13 33 14.5 +0.3**
BJI Beijing 125.41 339 PKP **PKPdf 13 33 13.8 0.0**
BJI LR LR
comp=Z,290nm,8.1s
BJI LR LR
comp=Z,350nm,8.0s
WMQ Urumqi 125.49 5 *e*PKP **PKPdf 13 33 13.9 -0.1**
WMQ LR LR
comp=Z,110nm,17.9s
WMQ LR LR
comp=Z,61nm,24.3s
WMQ LR LR
comp=Z,150nm,22.1s
HHC Hu-ho-hao-te 126.15 343 *e*PKP **PKiKP 13 33 16.0 +0.2**
HHC LR LR
comp=Z,180nm,18.6s
HHC LR LR
comp=Z,130nm,21.2s
HHC LR LR
comp=Z,210nm,19.7s
GTA Gaotai 129.85 354 *e*PKP **PKPdf 13 33 23.0 +0.5**
GTA LR LR
comp=Z,140nm,16.7s
GTA LR LR
comp=Z,100nm,15.6s
GTA LR LR
comp=Z,190nm,21.5s
STKA Stephens Creek 131.11 237 PKP **PKiKP 13 33 25.9 +0.2**
comp=Z,1.5nm,0.7s,baz=122,slow=4.0,SNR=4.0
NJ2 Nanjing 131.18 331 *e*PKP **PKiKP 13 33 25.8 -0.1**
LZH Lanzhou 132.52 349 *e*PKP **PKPdf 13 33 27.3 -0.4**
LZH sPKP 13 33 43.0
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,180nm,18.2s
LZH LR LR
comp=Z,240nm,20.1s
XAN Xi'an 133.24 343 PKP **PKiKP 13 33 30.5 +0.4**
ASAR Alice Springs 139.63 246 PKhKP PKPpre 13 33 34.0
comp=Z,0.4nm,0.4s,baz=109,slow=2.9,SNR=6.0
ASAR PKP **PKPdf 13 33 41.7 +0.7**
comp=Z,2.3nm,0.6s,baz=96,slow=1.7,SNR=8.4
WRAB Tennant Creek 139.82 252 *i*PKIKP **PKPdf 13 33 42.7 +1.3**
WRA Warramunga Arr 139.83 252 PKP **PKPdf 13 33 41.8 +0.4**
comp=Z,4.0nm,0.9s,baz=88,slow=1.7,SNR=11
KMI Kunming 143.35 346 PKP **PKPdf 13 33 48.5 +0.6**
KMI pPKP pPKPdf 13 33 56.8 -1.6
KMI sPKP 13 34 01.3
KMI PP **PP 13 36 58.6 +1.3**
KMI AMB AMB
comp=Z,140nm,4.7s
KMI LR LR
comp=Z,180nm,20.8s
KMI LR LR
comp=Z,270nm,19.7s
KNRA Kununurra 145.53 258 PKPdf **PKPab 13 33 53.4 +1.4**
FITZ Fitzroy Crossi 148.24 253 PKPbc **PKPbc 13 33 58.9 -0.5**
comp=Z,1.2nm,0.8s,baz=179,slow=2.3,SNR=3.1
NWAO Narrogin (SRO) 149.04 221 PKPbc **PKPbc 13 34 01.3 +0.2**
comp=Z,15nm,1.0s,baz=153,slow=4.5,SNR=4.2
CMAR Chiang Mai Arr 150.60 350 PKP **PKPdf 13 33 59.5 -0.4**
comp=Z,5.4nm,0.8s,baz=310,slow=2.2,SNR=26
CMAR PKPbc **PKPbc 13 34 05.3 0.0**
comp=Z,8.7nm,0.8s,baz=323,slow=3.8,SNR=12
CMAR PKPab **PKPab 13 34 11.6 -0.3**
comp=Z,5.2nm,0.8s,baz=341,slow=2.9,SNR=9.7

*NEIC **18** 13:29:13.9±2.9, 31°.24N±0°.05×140°.9E±0°.1, h78km±12km, mb4.5/3, Error ellipse: s-maj=18.8km s-min=4.2km az=71.0*
*IDC **18** 13:29:14.8±1.9, 31°.21N×140°.79E, h84km±17km, mb3.5/9, mb1 3.6/13, mb1mx3.5/44, mbtmp3.8/13, Error ellipse: s-maj=30.8km s-min=15.1km az=74.0*
*JMA **18** 13:29:15.2±0.2, 31°.76N×141°.17E, h0km, M4.5*
*NIED **18** 13:29:15.3, 31°.76N×141°.17E, h0km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}1.37; $M_{\theta\theta}$-5.92; $M_{\phi\phi}$4.55; $M_{r\theta}$0.12. $M_{\theta\phi}$4.50; $M_{\phi r}$0.41; Fault plane solution: $M_0$6.92000×10^14^ NP1: ϕ_s335.00000°, δ87.00000°, λ176.00000°. NP2: ϕ_s65.00000°, δ86.00000°, λ3.00000°.*
ISC 18 13:29:15.0±0.7, 31°.32N±0°.06×141°.05E±0°.09, h100km, n48, σ2§13/50, mb3.8/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.58**	**316**	P		**Pn**	**13 29 41.7**	**-0.6**
JHCJ	**Hachijojimakas**	**2.04**	**329**	P		**Pn**	**13 29 47.1**	**-1.0**
JHCJ				*e*S		**Sn**	**13 30 10.1**	**-3.3**
JHJ2	**Mitsune**	**2.07**	**330**	P		**Pn**	**13 29 47.7**	**-0.7**
JHJ2				S		**Sn**	**13 30 10.4**	**-3.6**
JHJ2	**Mitsune**	**2.07**	**330**	Pn		**Pn**	**13 29 48.0**	**-0.4**
JHJ	**Hachijo jima 2**	**2.09**	**329**	P		**Pn**	**13 29 47.7**	**-1.0**
	21nm,0.3s,baz=80,slow=23,SNR=29							
JHJ				S		**Sn**	**13 30 09.7**	**-4.8**
	162nm,0.3s,baz=66,slow=16,SNR=14							
JMKN	**Mikurajimanish**	**2.84**	**335**	P		**Pn**	**13 29 58.2**	**-0.4**
JMKN				S		**Sn**	**13 30 30.4**	**-1.8**
JKO	**Kozu shima**	**3.28**	**331**	P		**Pn**	**13 30 05.4**	**+0.9**
BSO1	**Boso 1**	**3.32**	**359**	P		**Pn**	**13 30 04.2**	**-0.3**
JOD2	**Odawara 2**	**4.26**	**338**	P		**Pn**	**13 30 17.9**	**+0.2**
JCJ	**Chichijima**	**4.33**	**167**	P		**Pn**	**13 30 17.2**	**-1.4**
	12nm,0.3s,baz=171,slow=23,SNR=11							
JCJ				S		**Sn**	**13 31 03.1**	**-5.0**
	72nm,0.3s,baz=278,slow=22,SNR=15							
JYT	**Yasato**	**4.94**	**352**			**Pn**	**13 30 26.5**	**-0.4**
JRY	**Ryogami san**	**5.01**	**340**	P		**Pn**	**13 30 28.7**	**+0.8**
JTNC	**Tanabenakahech**	**5.22**	**300**	P		**Pn**	**13 30 32.2**	**+1.4**
JAG	**Ashikaga**	**5.26**	**346**	P		**Pn**	**13 30 30.0**	**-1.2**
JGF	**Kuroka**	**5.27**	**325**			**Pn**	**13 30 31.8**	**+0.4**
MJAR	**Matsushiro Arr**	**5.71**	**336**	P		**Pn**	**13 30 37.6**	**+0.2**
	0.5nm,0.3s,baz=159,slow=15,SNR=26							
MJAR				S		**Sn**	**13 31 38.7**	**-3.0**
	0.7nm,0.3s,baz=121,slow=14,SNR=8.8							
MJAR	**Matsushiro Arr**	**5.71**	**336**			**Pn**	**13 30 37.3**	**-0.1**
MAJO	**Matsushiro**	**5.72**	**336**			**Pn**	**13 30 37.3**	**-0.2**
MAT	**Matsushiro**	**5.72**	**336**	P		**Pn**	**13 30 38.2**	**+0.8**
MAT				S		**Sn**	**13 31 39.5**	**-2.2**
MJB9	**Matsu-Tunnel**	**5.72**	**336**	Pn		**Pn**	**13 30 34.7**	**-2.8**
JWT	**Wachi**	**6.16**	**311**	Pn		**Pn**	**13 30 45.0**	**+1.5**
JMM	**Marumori**	**6.53**	**358**			**Pn**	**13 30 47.3**	**-1.2**
JMK	**Ichinoseki**	**7.61**	**1**	P		**Pn**	**13 31 01.7**	**-1.4**
JMK				*e*S		**Sn**	**13 32 21.1**	**-6.6**
JNU	**Nakatsue**	**8.80**	**284**	P		**Pn**	**13 31 19.9**	**+0.5**
	0.3nm,0.3s,baz=29,slow=13,SNR=1.3							
JTM	**Tenmabayashi**	**9.44**	**0**	Pn		**Pn**	**13 31 26.8**	**-1.2**
KSRS	**Korea Array**	**12.44**	**303**	P		**Pn**	**13 32 08.0**	**-0.5**
	0.1nm,0.3s,baz=119,slow=13,SNR=5.9							
JKA	**Kamikawa-asahi**	**12.83**	**5**			**Pn**	**13 32 10.8**	**-2.8**
ASAJ	**Asahikawa**	**12.83**	**5**	P		**Pn**	**13 32 11.1**	**-2.4**
	1.0nm,0.3s,baz=196,slow=11,SNR=13							
SSE	**Sheshan**	**17.00**	**274**			**P**	**13 33 05.9**	**-1.0**
SSE				IAmb		IAmb	13 33 10.4	
	comp=Z,43nm,0.7s							
SSLB	**Suanglung**	**19.32**	**252**	P		**P**	**13 33 29.8**	**-2.6**
SSLB				IAmb		IAmb	13 33 46.7	
	comp=Z,28nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**25.95**	**110**	T		T	14 03 41.1	
	baz=301							
H11N1	**WAKE ISLAND Hy**	**25.96**	**110**	T		T	14 03 21.1	
	baz=301							
H11N3	**WAKE ISLAND Hy**	**25.97**	**110**	T		T	14 03 17.8	
	baz=301							
H11S3	**WAKE ISLAND Hy**	**26.45**	**113**	T		T	14 03 46.2	
	baz=304,slow=75							
H11S1	**WAKE ISLAND Hy**	**26.45**	**113**	T		T	14 03 42.3	
	baz=304,slow=75							
H11S2	**WAKE ISLAND Hy**	**26.47**	**113**	T		T	14 03 52.9	
	baz=304,slow=75							
SONM	**Songino Array**	**31.07**	**312**	P		**P**	**13 35 23.9**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=103,slow=8.8,SNR=3.9							
ZALV	**Zalesovo Beam**	**45.70**	**317**	P		**P**	**13 37 26.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=84,slow=13,SNR=3.0							
MKAR	**Makanchi Array**	**47.09**	**307**	P		**P**	**13 37 37.1**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=92,slow=8.2,SNR=5.3							
MKAR	**Makanchi Array**	**47.09**	**307**	P		**P**	**13 37 37.7**	**+0.9**
KURK	**Kurchatov**	**49.37**	**312**	P		**P**	**13 37 54.6**	**+0.4**
KURK				IAmb		IAmb	13 37 56.0	
	comp=Z,3.5nm,0.8s							
WRA	**Warramunga Arr**	**51.38**	**188**	P		**P**	**13 38 09.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=5.2,slow=7.6,SNR=11							
ILAR	**Eielson Array**	**54.52**	**30**	P		**P**	**13 38 34.6**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=259,slow=7.3,SNR=4.3							
ILAR	**Eielson Array**	**54.52**	**30**	P		**P**	**13 38 34.8**	**+2.6**
ASAR	**Alice Springs**	**55.11**	**188**	P		**P**	**13 38 37.7**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=359,slow=6.0,SNR=2.0							
ARCES	**ARCESS Array B**	**69.24**	**340**	P		**P**	**13 40 13.0**	**+2.2**
	comp=Z,6.3nm,1.1s,baz=45,slow=5.2,SNR=2.0							
FINES	**FINESS Array B**	**73.74**	**333**	P		**P**	**13 40 39.7**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=46,slow=6.0,SNR=1.7							
TXAR	**Lajitas Array**	**93.84**	**52**	P		**P**	**13 42 24.8**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=248,slow=1.0,SNR=4.5							

*RSPR **18** 13:37:01.8, 18°.10N×68°.94W, h102km±2km, MD3.8/13*
*NEIC **18** 13:37:03.5±3.9, 18°.5N±0°.2×68°.70W±0°.08, h116km±18km, Error ellipse: s-maj=36.3km s-min=7.0km az=195.0*
ISC 18 13:37:02.0±1.4, 18°.4N±0°.1×68°.77W±0°.06, h134km, n53, σ1§55/62, 8C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.39**	**74**	⇓ *e*P		**Pn**	**13 37 18.8**	**-2.2**
PCDR	**Punta Cana, DR**	**0.39**	**74**	*e*S		**Sn**	**13 37 31.7**	**-3.6**
PCDR	**Punta Cana, DR**	**0.39**	**74**			**Pn**	**13 37 18.8**	**-2.2**
PCDR						**Sn**	**13 37 31.7**	**-3.6**
DR12	**Loma Pena Alta**	**0.69**	**303**			**Pn**	**13 37 20.5**	**-2.3**
AGPR	**Aguadilla, PR**	**1.58**	**87**	⇓ *e*P		**Pn**	**13 37 31.7**	**+0.5**
AGPR	**Aguadilla, PR**	**1.58**	**87**	*e*S		**Sn**	**13 37 54.5**	**+0.9**
AGPR	**Aguadilla, PR**	**1.58**	**87**			**Pn**	**13 37 31.7**	**+0.5**
AGPR						**Sn**	**13 37 54.5**	**+0.9**
LSP	**Las Mesas**	**1.62**	**98**⇑ *e*P			**Pn**	**13 37 31.8**	**+0.1**
LSP	**Las Mesas**	**1.62**	**98**			**Pn**	**13 37 31.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.63**	**104**⇑ *e*P			**Pn**	**13 37 30.5**	**-1.3**
CRPR	**Cabo Rojo, PR**	**1.63**	**104**	*e*S		**Sn**	**13 37 53.4**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.63**	**104**			**Pn**	**13 37 30.5**	**-1.3**
CRPR						**Sn**	**13 37 53.4**	**-1.1**
MLPR	**Magueyes Islan**	**1.70**	**105**⇑ *e*P			**Pn**	**13 37 31.1**	**-1.5**
MLPR	**Magueyes Islan**	**1.70**	**105**	*e*S		**Sn**	**13 37 55.0**	**-1.0**
MLPR	**Magueyes Islan**	**1.70**	**105**			**Pn**	**13 37 31.1**	**-1.5**
MLPR						**Sn**	**13 37 55.0**	**-1.0**
AOPR	**Arecibo Observ**	**1.92**	**91**	⇓ *e*P		**Pn**	**13 37 35.1**	**-0.1**
AOPR	**Arecibo Observ**	**1.92**	**91**	*e*S		**Sn**	**13 38 00.8**	**+0.2**
AOPR	**Arecibo Observ**	**1.92**	**91**			**Pn**	**13 37 35.1**	**-0.1**
AOPR						**Sn**	**13 38 00.8**	**+0.2**
OBIP	**Obispado Ponce**	**2.09**	**100**	⇓ *e*P		**Pn**	**13 37 37.1**	**-0.2**
OBIP	**Obispado Ponce**	**2.09**	**100**	*e*S		**Sn**	**13 38 04.4**	**+0.1**
OBIP	**Obispado Ponce**	**2.09**	**100**			**Pn**	**13 37 37.1**	**-0.2**
CELP	**Cerrillos**	**2.11**	**99**	⇓ *e*P		**Pn**	**13 37 37.5**	**0.0**
CELP	**Cerrillos**	**2.11**	**99**	*e*S		**Sn**	**13 38 05.0**	**+0.3**
CELP	**Cerrillos**	**2.11**	**99**			**Pn**	**13 37 37.5**	**0.0**
CELP						**Sn**	**13 38 05.0**	**+0.3**
SC01	**Santiago de lo**	**2.11**	**299**			**Sn**	**13 38 10.7**	**+5.8**
EMPR	**Esperanza - Ma**	**2.13**	**88**⇑ *e*P			**Pn**	**13 37 38.4**	**+0.7**
EMPR	**Esperanza - Ma**	**2.13**	**88**	*e*S		**Sn**	**13 38 06.9**	**+1.8**
EMPR	**Esperanza - Ma**	**2.13**	**88**			**Pn**	**13 37 38.4**	**+0.7**
EMPR						**Sn**	**13 38 06.9**	**+1.8**
ICMP	**Isla Caja de M**	**2.19**	**103**	Pn		**Pn**	**13 37 37.0**	**-1.5**
SDDR	**Presa de Saban**	**2.45**	**284**⇑ *e*P			**Pn**	**13 37 43.1**	**+1.3**
SDDR	**Presa de Saban**	**2.45**	**284**			**Pn**	**13 37 43.1**	**+1.3**
GCPR	**Guaynabo City**	**2.55**	**92**⇑ *e*P			**Pn**	**13 37 43.2**	**+0.2**
GCPR	**Guaynabo City**	**2.55**	**92**			**Pn**	**13 37 43.2**	**+0.2**
PDPR	**Patillas Dam,**	**2.64**	**98**	⇓ *e*P		**Pn**	**13 37 44.5**	**+0.3**
PDPR				*e*S		**Sn**	**13 38 17.9**	**+1.4**
PDPR	**Patillas Dam,**	**2.64**	**98**			**Sn**	**13 38 17.9**	**+1.4**
PDPR	**Patillas Dam,**	**2.64**	**98**	Pn		**Pn**	**13 37 42.9**	**-1.2**
CBYP	**Canovanas**	**2.77**	**92**	⇓ *e*P		**Pn**	**13 37 46.2**	**+0.3**
CBYP	**Canovanas**	**2.77**	**92**	*e*S		**Sn**	**13 38 21.4**	**+1.7**
CBYP	**Canovanas**	**2.77**	**92**			**Pn**	**13 37 44.9**	**-1.0**
CBYP	**Canovanas**	**2.77**	**92**			**Sn**	**13 38 21.4**	**+1.7**
HUMP	**Col San Antoni**	**2.79**	**95**	⇓ *e*P		**Pn**	**13 37 46.3**	**+0.2**
HUMP	**Col San Antoni**	**2.79**	**95**	*e*S		**Sn**	**13 38 20.8**	**+0.9**
HUMP	**Col San Antoni**	**2.79**	**95**			**Pn**	**13 37 46.3**	**+0.2**
HUMP						**Sn**	**13 38 20.8**	**+0.9**
MTP	**Monte Pirata**	**3.07**	**95**	⇓ *e*P		**Pn**	**13 37 50.9**	**+1.1**
MTP	**Monte Pirata**	**3.07**	**95**	*e*S		**Sn**	**13 38 28.7**	**+2.2**
MTP	**Monte Pirata**	**3.07**	**95**			**Sn**	**13 38 28.7**	**+2.2**
MTP	**Monte Pirata**	**3.07**	**95**			**Pn**	**13 37 49.2**	**-0.5**
CUPR	**Culebra, Puert**	**3.31**	**91**	⇓ *e*P		**Pn**	**13 37 52.0**	**-0.8**
CUPR	**Culebra, Puert**	**3.31**	**91**			**Pn**	**13 37 52.0**	**-0.8**
STVI	**Saint Thomas**	**3.62**	**90**	⇓ *e*P		**Pn**	**13 37 54.4**	**+0.5**
STVI	**Saint Thomas**	**3.62**	**90**			**Pn**	**13 37 57.4**	**+0.5**
GRTK	**Grand Turk**	**3.81**	**325**	⇑ *i*P		**Pn**	**13 37 56.7**	**-2.6**
GRTK	**Grand Turk**	**3.81**	**325**			**Pn**	**13 37 56.7**	**-2.6**

JMA 18 13:50:23.2±0.3, 23°.80N×123°.33E, h29km±3km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.50**	**59**	P		Pb	13 50 33.4	-0.3
HATJ				*e*S		Sb	13 50 40.3	-0.5
IRIF	**Iriomote-Funau**	**0.65**	**34**	P		Pb	13 50 36.0	0.0
YOJ	**Yonaguni jima**	**0.72**	**336**	P		Pb	13 50 36.8	-0.4
JYNG	**Yonagunijimaku**	**0.74**	**332**	P		Pb	13 50 36.8	-0.7
JYNG				*e*S		Sb	13 50 46.8	-0.5
JKRS	**Kuro-shima**	**0.76**	**55**	P		Pb	13 50 37.5	-0.4
JKRS				S		Sb	13 50 47.7	-0.2
JIJ	**Ishigaki j

	baz=226						
ESL	**Shilin**	**0.29 346**	*i* P		Pb	13 51 23.6	+0.5
	baz=347						
ESL			*i* S		Sb	13 51 28.9	+1.2
	baz=347						
FULB	**Fuli**	**0.39 211**	P		Pb	13 51 25.4	+0.9
	baz=211						
VWDT	**VWDT**	**0.41 303**	⇓P		Pb	13 51 25.6	+0.7
	baz=303						
VWDT			*e*S		Sb	13 51 31.8	+1.1
	baz=303						
CHKT	**Chengkung**	**0.45 197**	*e*S		Sb	13 51 32.9	+1.0
	baz=196						
YUS	**Yu-Shan**	**0.52 266**	P		Pb	13 51 27.3	+0.2
	baz=264						
YUS			*e*S		Sb	13 51 34.7	+0.4
	baz=264						
ELDTW	**Lidau**	**0.57 233**	*i* P		Pb	13 51 26.9	-0.8
	baz=232						
ELDTW			S		Sb	13 51 36.2	+0.8
	baz=232						
SSLB	**Suanglung**	**0.57 297**	*e*P		Pb	13 51 27.8	+0.1
	baz=296						
SSLB			*e*S		Sb	13 51 35.7	+0.2
	baz=296						
EDH	**Donghe**	**0.59 199**	*e*P		Pb	13 51 27.8	-0.2
	baz=199						
EDH			*e*S		Sb	13 51 36.6	+0.7
	baz=199						
CHGB	**Renai**	**0.61 330**	*e*P		Pb	13 51 29.0	+0.5
	baz=329						
CHGB			*e*S		Sb	13 51 37.4	+0.6
	baz=329						
WHYT	**Xinyi Township**	**0.63 285**	*e*P		Pn	13 51 29.4	-0.5
	baz=285						
WHYT			S		Sn	13 51 38.2	-1.0
	baz=285						
NACB	**Ninganchiao**	**0.65 7**	P		Pb	13 51 29.4	+0.5
	baz=6.0						
NACB			*e*S		Sn	13 51 38.9	-0.7
	baz=6.0						
ALS	**Alishan**	**0.65 268**	*i* P		Pn	13 51 29.9	-0.5
	baz=268						
ALS			S		Sb	13 51 38.6	+0.7
	baz=268						
WHF	**Hehuan Shan**	**0.65 340**	P		Pb	13 51 29.2	-0.1
	baz=340						
WHF			S		Sb	13 51 38.2	0.0
	baz=340						
SMLT	**Sun Moon Lake**	**0.66 302**	*i* P		Pb	13 51 29.8	+0.5
	baz=302						
SMLT			S		Sn	13 51 39.6	-0.5
	baz=302						
ETLH	**Xiulin Townshi**	**0.67 358**	*e*P		Pb	13 51 29.1	-0.3
	baz=357						
ETLH			*e*S		Sb	13 51 38.4	0.0
	baz=357						
TYC	**Yuchr**	**0.71 302**	P		Pb	13 51 30.4	+0.4
	baz=302						
TYC			*i* S		Sn	13 51 41.2	+0.2
	baz=302						
FUSS	**Fushou**	**0.76 341**	*e*P		Pb	13 51 31.3	+0.4
	baz=341						
FUSS			S		Sn	13 51 41.8	-0.8
	baz=341						
CHN5	**Tsauling**	**0.77 275**	P		Pn	13 51 31.5	-0.4
	baz=275						
CHN5			S		Sn	13 51 42.9	+0.2
	baz=275						
WJS	**Zhushan**	**0.78 292**	*e*S		Sn	13 51 42.9	+0.1
	baz=292						
TDCB	**Techi**	**0.79 336**	P		Pn	13 51 31.9	-0.2
	baz=335						
TDCB			S		Sb	13 51 41.6	-0.2
	baz=335						
TWG	**Pinlang**	**0.81 210**	*e*S		Sn	13 51 44.0	+0.3
	baz=209						
WNT	**Mingjian**	**0.83 295**	P		Pb	13 51 32.2	+0.1
	baz=294						
WNT			*e*S		Sn	13 51 43.9	-0.3
	baz=294						
TPUB	**Ta-pu**	**0.84 254**	P		Pn	13 51 32.8	0.0
	baz=254						
TPUB			S		Sn	13 51 44.6	+0.2
	baz=254						
LDUT	**Ludao**	**0.85 183**	*e*S		Sn	13 51 45.4	+0.7
	baz=182						
CHN4	**Tsaushan**	**0.86 258**	P		Pn	13 51 33.6	+0.6
	baz=258						
CHN4			S		Sn	13 51 46.0	+1.0
	baz=258						
WTP	**Ta-pu**	**0.87 251**	P		Pn	13 51 33.3	+0.1
	baz=250						
WTP			*e*S		Sn	13 51 45.7	+0.5
	baz=250						
NNSB	**Datong**	**0.90 352**	*e*P		Pb	13 51 33.5	+0.2
	baz=352						
NNSB			*e*S		Sb	13 51 44.9	-0.2
	baz=352						
NNSH	**Datong**	**0.90 353**	*e*P		Pb	13 51 33.3	-0.1
	baz=352						
NNSH			*e*S		Sb	13 51 44.9	-0.2
	baz=352						
WHP	**Taichung City**	**0.91 325**	*e*P		Pn	13 51 34.3	+0.5
	baz=325						
WHP			*e*S		Sn	13 51 46.6	+0.4
	baz=325						
NNS	**Nan Shan**	**0.92 352**	*e*S		Sb	13 51 45.5	+0.1
	baz=352						
ENA	**Nanau**	**0.92 13**	*e*P		Pn	13 51 34.6	+0.8
	baz=13						
SLGT	**Liugui**	**0.96 236**	*e*P		Pb	13 51 34.3	0.0
	baz=236						
SGST	**Jiashian**	**0.96 243**	P		Pb	13 51 34.4	+0.1
	baz=242						
CHN1	**Nanshi**	**0.97 249**	P		Pn	13 51 35.1	+0.6
	baz=249						
CHN1			S		Sn	13 51 48.4	+0.9
	baz=249						
TWK	**Hsinying**	**0.98 255**	P		Pn	13 51 34.6	0.0
	baz=254						
TWK			S		Sn	13 51 48.5	+0.7
	baz=254						
SSD	**Sandimen**	**1.12 226**	*e*P		Pb	13 51 37.0	-0.1
	baz=225						

IDC 18 14:12:07.6±372.0, 57°.32N×32°.47E, h0km, Error ellipse: s-maj=165.5km s-min=74.4km az=108.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.66**	**101**	*i*		14 29 30.0	
	baz=285,slow=311,SNR=6.4						
I31KZ	**AKTYUBINSK INF**	**16.52**	**104**	*i*		15 52 30.0	
	baz=304,slow=321,SNR=1.1						
I48TN	**KESRA INFRASON**	**26.52**	**226**	*i*		16 54 20.0	
	baz=28,slow=314,SNR=0.4						

ISU ***18*** *14:12:40.5, 40°.26N×70°.15E, h5km*
SOME ***18*** *14:12:41.5, 40°.18N×70°.18E, h5km*
KRNET ***18*** *14:12:42.7±0.1, 40°.12N×70°.19E, h15km, mb2.9*
NNC ***18*** *14:12:42.3±4.5, 40°.20N×70°.08E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=31.9km s-min=17.2km az=22.0*

ISC 18 14:12:42.0±1.3, 40°.13N±0°.03×70°.13E±0°.03, h3km±13km, n25, σ1§59/41, 9C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.53**	**98**	⇑*i*P	**Pg**	**14 12 52.1**	**-0.1**
	baz=97						
BTK				⇑*i*S	**Sg**	**14 12 58.8**	**-0.4**
	baz=97						
BTK	**Batken**	**0.53**	**98**	P	**Pg**	**14 12 51.7**	**-0.6**
BTK				S	**Sg**	**14 12 59.7**	**+0.5**
GAR	**Garm**	**1.14**	**173**	⇓*i*P	**Pg**	**14 13 03.9**	**0.0**
	baz=75						
GAR				⇓*i*S	**Sg**	**14 13 18.7**	**0.0**
	baz=75						
TAS	**Tashkent**	**1.35**	**332**	P	**Pn**	**14 13 06.2**	**-1.6**
TAS				S	**Sb**	**14 13 25.5**	**-0.1**
FRG	**Fergana**	**1.40**	**64**	P	**Pn**	**14 13 06.8**	**-1.7**
FRG				S	**Sb**	**14 13 25.4**	**-1.6**
CHMG	**Chimgan**	**1.42**	**356**	P	**Pn**	**14 13 07.4**	**-1.4**
CHMG				S	Sg	14 13 52.4	+25
CHRV	**Charvak**	**1.51**	**355**	P	**Pn**	**14 13 08.6**	**-1.5**
CHRV				S	**Sn**	**14 13 28.1**	**-2.2**
CHGR	**Chuyangaron**	**1.66**	**207**	⇑*i*P	**Pb**	**14 13 13.4**	**+0.2**
	baz=9.0						
CHGR				⇑*i*S	**Sg**	**14 13 35.4**	**+0.2**
	baz=9.0						
ANR	**Andizhan**	**1.81**	**69**	P	Pg	14 13 24.9	+8.2
ANR				S	**Sg**	**14 13 42.9**	**+2.7**
IUG	**Iuzhnay**	**2.01**	**358**	*e*P	**Pn**	**14 13 18.3**	**+1.3**
	49nm,0.2s						
IUG				*e*S	**Sn**	**14 13 43.6**	**+0.8**
	160nm,0.3s						
IUG	**Iuzhnay**	**2.01**	**358**	P	**Pn**	**14 13 18.3**	**+1.3**
	49nm,0.2s						
IUG				S	**Sn**	**14 13 43.6**	**+0.8**
	160nm,0.3s						
OHH	**Osh**	**2.07**	**78**	⇑*i*P	**Pb**	**14 13 19.5**	**-0.7**
	baz=78						
OHH				⇑*i*S	**Sb**	**14 13 46.0**	**-0.3**
	baz=78						
ARK	**Arkit**	**2.17**	**39**	⇑*i*P	**Pn**	**14 13 20.7**	**+1.6**
	baz=39						
ARK				⇑*i*S	**Sb**	**14 13 48.2**	**-1.0**
	baz=39						
CHM	**Chimkent**	**2.22**	**350**	*e*P	**Pb**	**14 13 23.7**	**+0.9**
	66nm,0.1s						
CHM				*e*S	**Sg**	**14 13 53.1**	**-0.2**
	255nm,0.4s						
DZA	**Taraz**	**2.90**	**18**	*e*P	**Pb**	**14 13 34.8**	**+0.4**
	71nm,0.2s						
DZA				*e*S	**Sb**	**14 14 11.6**	**+1.3**
	135nm,0.3s						
DZA	**Taraz**	**2.90**	**18**	Pg	**Pb**	**14 13 34.8**	**+0.4**
	71nm,0.2s						
DZA				Lg	Lg	14 14 11.6	
	135nm,0.3s						
BRLS	**Borolday**	**2.90**	**356**	*e*P	**Pn**	**14 13 30.3**	**+1.1**
	12nm,0.3s						
BRLS				*e*S	**Sn**	**14 14 04.0**	**-0.6**
	70nm,0.2s						
BRLS	**Borolday**	**2.90**	**356**	Pg	**Pn**	**14 13 30.3**	**+1.1**
	12nm,0.3s						
BRLS				Lg	Lg	14 14 04.0	
	70nm,0.2s						
KK31	**Karatay Array**	**2.98**	**5**	⇑Pg	**Pb**	**14 13 35.1**	**-0.7**
	1.7nm,0.3s,baz=185,slow=17,SNR=21						
KK31				⇓Lg	Lg	14 14 13.4	
	5.5nm,0.3s,baz=193,slow=29,SNR=12						
MRKS	**Merke**	**3.50**	**41**	*e*P	**Pb**	**14 13 45.1**	**+0.5**
	12nm,0.4s						
MRKS				*e*S	**Sb**	**14 14 29.9**	**+2.4**
	17nm,0.6s						
MRKS	**Merke**	**3.50**	**41**	Pg	**Pb**	**14 13 45.1**	**+0.5**
	12nm,0.4s						
MRKS				Lg	Lg	14 14 29.9	
	17nm,0.6s						
AAK	**Ala-Archa**	**4.13**	**51**	Pg	**Pb**	**14 13 55.8**	**+0.4**
	4.1nm,0.6s						
AAK				Lg	Lg	14 14 51.5	
	6.2nm,0.6s						
TKM2	**Tokmak 2**	**4.96**	**54**	⇓Pg	**Pb**	**14 14 10.5**	**+0.9**
	1.9nm,0.4s						
TKM2				⇓Lg	Lg	14 15 21.6	
	3.1nm,0.7s						
KST	**Kastek**	**5.25**	**54**	*e*P	**Pb**	**14 14 17.6**	**+3.0**
	3.0nm,0.8s						
KST				*e*S	**Sg**	**14 15 25.4**	**-5.3**
	3.7nm,0.9s						
KST	**Kastek**	**5.25**	**54**	Pg	**Pb**	**14 14 17.6**	**+3.0**
	3.0nm,0.8s						
KST				Lg	Lg	14 15 25.4	
	3.7nm,0.9s						

MOS ***18*** *14:16:12.1±1.3, 47°.00N×153°.86E, h39km, mb4.1/1, Error ellipse: s-maj=23.2km s-min=10.1km az=48.8*
SKHL ***18*** *14:16:12.6±0.8, 47°.03N×153°.88E, h52km±2km, mb4.4/2, msh4.5/2*
IDC ***18*** *14:16:14.5±3.3, 47°.00N×153°.89E, h42km±30km, mb3.6/8, mb1 3.8/11, mb1mx3.5/58, mbtmp3.8/11, ML2.9/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/39, Error ellipse: s-maj=29.7km s-min=18.1km az=130.0*

ISC 18 14:16:11.8±0.8, 46°.9N±0°.1×154°.0E±0°.1, h27km, n48, σ1§97/51, mb4.0/8, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.01**	**20**	*e*P	**Pn**	**14 17 11.8**	**+0.4**
SKR				AMB	AMB	14 17 14.5	
	70nm,3.0s						
SKR				AMB	AMB	14 17 14.9	
	30nm,0.6s						
SKR				*e*S	**Sn**	**14 17 54.7**	**-2.7**
SKR				A	A	14 17 58.7	
	50nm,0.2s						
SKR				A	A	14 17 58.7	
	40nm,0.2s						
SKR				A	A	14 17 59.0	
	200nm,2.0s						
SKR				A	A	14 17 59.0	
	200nm,2.0s						
SKR	**Severo-Kuril's**	**4.01**	**20**	*e*PN	**Pn**	**14 17 11.9**	**+0.5**
SKR				MLR	MLR		
	comp=Z,100nm,10.0s						
SKR				MLR	MLR		
	comp=Z,200nm,15.0s						
KUR	**Kuril'sk**	**4.59**	**251**	*i* P	**Pn**	**14 17 20.1**	**+0.8**
KUR				AMB	AMB	14 17 22.8	
	comp=Z,30nm,3.0s						
KUR				AMB	AMB	14 17 24.4	
	comp=Z,30nm,0.4s						
KUR				*i* S	**Sn**	**14 18 10.3**	**-1.4**
KUR				A	A	14 18 17.0	
	comp=Z,500nm,3.0s						
KUR				A	A	14 18 17.0	
	comp=Z,600nm,3.0s						
KUR				A	A	14 18 29.8	
	comp=Z,180nm,0.6s						
KUR				A	A	14 18 29.8	
	comp=Z,190nm,0.6s						
KUR	**Kuril'sk**	**4.59**	**251**	*c i*PN	**Pn**	**14 17 22.1**	**+2.8**
KUR				*i* S	**Sn**	**14 18 15.7**	**+4.0**
KUR				pmax	pmax		
	comp=Z,51nm,0.4s						
KUR				pmax	pmax		
	comp=N,26nm,0.3s						
KUR				pmax	pmax		
	comp=E,22nm,0.2s						
KUR				smax	smax		
	comp=N,152nm,0.6s						
KUR				smax	smax		
	comp=E,68nm,0.6s						
PAU	**Pauzhetka**	**4.90**	**21**	*e*P	**Pn**	**14 17 24.1**	**+0.5**
PAU				AMB	AMB	14 17 24.7	
	comp=E,10.0nm,0.2s						
PAU				*e*S	**Sn**	**14 18 17.0**	**-2.4**
PAU				A	A	14 18 18.1	
	comp=E,50nm,0.3s						
PAU				A	A	14 18 18.1	
	comp=E,50nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.41**	**246**	*i* P	**Pn**	**14 17 45.3**	**+1.0**
YUK				AMB	AMB	14 17 49.2	
	comp=E,20nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.41**	**246**	*c i*PN	**Pn**	**14 17 45.3**	**+1.0**
YUK				pmax	pmax		
	comp=Z,66nm,0.2s						
GRPR	**Tuman**	**6.48**	**246**	*e*P	**Pn**	**14 17 45.9**	**+0.5**
GRPR	**Tuman**	**6.48**	**246**	*e*PN	**Pn**	**14 17 45.6**	**+0.2**
PETK	**Petropavlovsk-**	**6.63**	**20**	P	**Pn**	**14 17 47.8**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=174,slow=12,SNR=28						
PETK				LR	LR	14 20 33.1	
	comp=Z,81nm,18.4s,baz=23,slow=39						
GLVR	**Golovnino**	**6.77**	**245**	*e*P	**Pn**	**14 17 49.9**	**+0.6**
GLVR				*e*S	**Sn**	**14 19 03.4**	**-2.0**
GLVR	**Golovnino**	**6.77**	**245**	PN	**Pn**	**14 17 49.4**	**+0.1**
PET	**Petropavlovsk**	**6.80**	**24**	*e*P	**Pn**	**14 17 49.5**	**-0.1**
PET				*e*S	**Sn**	**14 19 02.0**	**-4.1**
NEM2	**Nemuro 2**	**6.83**	**242**	P	**Pn**	**14 17 49.5**	**-0.7**
NEM2				*e*S	**Sn**	**14 19 02.3**	**-4.7**
NMR	**Nemuro--Hokkai**	**6.84**	**242**	*i* P	**Pn**	**14 17 49.7**	**-0.6**
NMR	**Nemuro--Hokkai**	**6.84**	**242**	⇓*i*PN	**Pn**	**14 17 49.5**	**-0.8**
JRA	**Rausu**	**6.92**	**248**	P	**Pn**	**14 17 54.1**	**+2.8**
JNK	**Nakash**	**7.35**	**246**	P	**Pn**	**14 17 58.3**	**+1.1**
JNK				*e*S	**Sn**	**14 19 20.1**	**+0.4**
JAK	**Akkeshi**	**7.67**	**243**	P	**Pn**	**14 18 01.2**	**-0.5**
JAK				*e*S	**Sn**	**14 19 22.7**	**-5.0**
JTKR	**Abashiri--Toko**	**7.68**	**251**	P	**Pn**	**14 18 03.8**	**+2.0**
JMP	**Maruseppu**	**8.02**	**252**	P	**Pn**	**14 18 09.0**	**+2.5**
JAR	**Ashorobuto**	**8.09**	**247**	P	**Pn**	**14 18 08.9**	**+1.5**
JAR				*e*S	**Sn**	**14 19 37.1**	**-0.8**
JOB	**Onbets**	**8.25**	**244**	P	**Pn**	**14 18 10.0**	**+0.3**
JKA	**Kamikawa-asahi**	**8.48**	**255**	*e*P	**Pn**	**14 18 14.7**	**+2.0**
ASAJ	**Asahikawa**	**8.48**	**255**	P	**Pn**	**14 18 14.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=68,slow=20,SNR=5.7						
JKK2	**Kamakawa 2**	**8.48**	**253**	P	**Pn**	**14 18 15.4**	**+2.6**
JCH	**Churui**	**8.70**	**244**	P	**Pn**	**14 18 16.0**	**+0.2**
JCH				*e*S	**Sn**	**14 19 48.3**	**-4.7**
JNBK	**Urakawa-nobuka**	**9.26**	**244**	P	**Pn**	**14 18 22.6**	**-0.9**
JANG	**Nango**	**11.16**	**239**	*e*S	Sn	14 20 40.0	-13
MA2	**Magadan**	**12.81**	**353**	LR	LR	14 25 03.4	
	comp=Z,119nm,18.1s,baz=45,slow=42						
MJAR	**Matsushiro Arr**	**15.67**	**234**	P	**P**	**14 19 52.6**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=39,slow=10,SNR=2.8						
KSRS	**Korea Array**	**21.43**	**253**	P	**P**	**14 20 59.3**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=58,slow=11,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**29.11**	**154**	T	T	14 53 52.5	
	baz=341,slow=75						
H11N1	**WAKE ISLAND Hy**	**29.13**	**154**	T	T	14 54 07.5	
	baz=341,slow=75						
H11N3	**WAKE ISLAND Hy**	**29.13**	**154**	T	T	14 54 01.5	
	baz=341,slow=75						
H11S1	**WAKE ISLAND Hy**	**30.21**	**155**	T	T	14 55 12.9	
	baz=342,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.22**	**156**	T	T	14 54 33.7	
	baz=342,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.23**	**155**	T	T	14 55 33.5	
	baz=342,slow=76						
KURK	**Kurchatov**	**47.77**	**304**	*e*P	**P**	**14 24 46.3**	**+0.1**
KURK	**Kurchatov**	**47.77**	**304**	P	**P**	**14 24 46.3**	**+0.1**
KURBB	**Kurchatov Arra**	**47.86**	**304**	P	**P**	**14 24 46.3**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=68,slow=8.3,SNR=1.4						
NVAR	**Mina Array Bea**	**61.81**	**63**	P	**P**	**14 26 29.4**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=300,slow=7.8,SNR=2.7						
FINES	**FINESS Array B**	**64.13**	**335**	P	**P**	**14 26 43.5**	**+0.3**
	comp=Z,9.4nm,1.1s,baz=41,slow=4.4,SNR=1.4						
HFS	**Hagfors**	**68.50**	**340**	P	**P**	**14 27 11.6**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=50,slow=4.5,SNR=1.1						
WRA	**Warramunga Arr**	**68.88**	**200**	P	**P**	**14 27 14.1**	**+0.2**
	comp=Z,0.4nm,1.0s,baz=20,slow=7.0,SNR=5.5						
ASAR	**Alice Springs**	**72.57**	**199**	P	**P**	**14 27 37.6**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=13,slow=6.0,SNR=10						
TXAR	**Lajitas Array**	**76.88**	**61**	P	**P**	**14 28 03.0**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=308,slow=4.4,SNR=16						
TXAR	**Lajitas Array**	**76.88**	**61**	P	**P**	**14 28 03.0**	**+1.4**

REY ***18*** *14:21:46.9, 64°.68N×17°.49W, h7km*
IDC ***18*** *14:21:47.4±0.4, 64°.51N×17°.58W, h0km, mb4.4/33, mb1 4.5/39, mb1mx4.4/55, mbtmp4.4/39, ML3.1/4, MS4.6/43, Ms1 4.6/43, ms1mx4.6/46, Error ellipse: s-maj=13.8km s-min=7.3km az=13.0*
BJI ***18*** *14:21:47.0±0.0, 64°.90N×17°.10W, h5km, mB5.4/47, mb4.7/39, Ms5.2/43, Ms7 4.9/40*
MOS ***18*** *14:21:47.9±1.3, 64°.58N×17°.61W, h13km, mb5.1/53, MS4.8/35, Error ellipse: s-maj=8.5km s-min=5.7km az=97.1*
NEIC ***18*** *14:21:48.9±2.9, 64°.70N±0°.07×17°.2W±0°.2, h7km±4km, mb5.0/20, Mww5.3, Error ellipse: s-maj=11.3km s-min=8.3km az=215.0*
IEPN ***18*** *14:21:49.2, 64°.83N×17°.41W, h10km*
UNK ***18*** *14:21:49.2, 64°.79N×16°.95W, h9km*
BGS ***18*** *14:21:50.7±2.1, 64°.36N×17°.43W, h5km, MS5.1*
BGR ***18*** *14:21:51.1±2.4, 65°.66N×15°.86W, h10km, mb5.0, Error ellipse: s-maj=156.8km s-min=40.0km az=139.0*
GCMT ***18*** *14:21:53.9±0.1, 64°.64N±0°.01×17°.23W±0°.02, h12km, MW5.3/131, Moment Tensor Solution. s106,c158; s131,c251; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.89±.01; Mθθ0.21±.01; Mφφ0.67±.01; Mrθ-0.44±.04; Mφφ-0.46±.01; Mφr-0.27±.03; Best double couple: M0 1.05000×10^17 NP1:φs352.00000°, δ50.00000°, λ-55.00000°. NP2:φs125.00000°, δ51.00000°, λ-125.00000°. Principal axes: T 0.9620, Plg0.0000°, Azm238.0000°; N 0.1760, Plg26.0000°, Azm148.0000°; P -1.1380, Plg64.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DNK ***18*** *14:21:56.7±6.6, 64°.89N×16°.71W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-0.77; Mθθ0.22; Mφφ0.55; Mrθ-0.77; Mφθ-0.30; Mφr-0.20; Fault plane solution: M0 1.09000×10^17 NP1:φs346.00000°, δ38.00000°, λ-43.00000°. NP2:φs112.00000°, δ65.00000°, λ-119.00000°. Principal axes: T 0.7872, Plg15.0000°, Azm224.0000°; N 0.4544, Plg26.0000°, Azm126.0000°; P -1.2416, Plg59.0000°, Azm340.0000°;*
NEIC ***18*** *14:21:56, 64°.89N×16°.71W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-0.77; Mθθ0.22; Mφφ0.55; Mrθ-0.77; Mφθ-0.30; Mφr-0.20; Fault plane solution: M0 1.09000×10^17 NP1:φs346.00000°, δ38.00000°, λ-43.00000°. NP2:φs112.00000°, δ65.00000°, λ-119.00000°. Principal axes: T 0.7872, Plg15.0000°, Azm224.0000°; N 0.4544, Plg26.0000°, Azm126.0000°; P -1.2416, Plg59.0000°, Azm340.0000°;*

ISC 18 14:21:49.1±0.5, 64°.70N±0°.02×17°.52W±0°.02, h7km±2km, h7km: pP-P, n684, σ2§19/765, mb4.9/132, MS4.8/90, 21C-19D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**255**	P	**Pg**	**14 21 49.3**	**-2.2**
	baz=267						
IVON				S	**Sg**	**14 21 51.8**	**-1.4**
	baz=267						
IDYN	**Dyngjuhals**	**0.11**	**36**	P	**Pg**	**14 21 49.7**	**-2.0**
	baz=26						
IDYN				S	**Sg**	**14 21 52.4**	**-1.1**
	baz=26						
IURH	**Urdarhals**	**0.20**	**53**	P	**Pg**	**14 21 51.0**	**-2.1**
	baz=46						
IURH				S	**Sg**	**14 21 55.1**	**-0.8**
	baz=46						
IDJK	**Dyngjujokull**	**0.23**	**148**	P	**Pg**	**14 21 51.4**	**-2.3**
	baz=147						
IDJK				S	**Sg**	**14 21 54.0**	**-2.9**
	baz=147						
IGRF	**Grimsfjall**	**0.31**	**159**	P	**Pg**	**14 21 52.3**	**-3.0**
	baz=160						
IKVE	**Kverkfjoll**	**0.36**	**93**	P	**Pg**	**14 21 53.4**	**-2.9**
	baz=90						
IKVE				S	**Sg**	**14 21 58.9**	**-2.2**
	baz=90						
ISKR	**Skrokkalda**	**0.40**	**250**	P	**Pg**	**14 21 54.3**	**-2.6**
	baz=253						
ISKR				S	**Sg**	**14 22 00.8**	**-1.3**
	baz=253						
IBJK	**Bruarjokull**	**0.41**	**125**	P	**Pg**	**14 21 54.2**	**-2.8**
	baz=123						
IBJK				S	**Sg**	**14 21 59.5**	**-2.8**
	baz=123						
IHUS	**Husbondi**	**0.41**	**188**	P	**Pg**	**14 21 54.3**	**-2.8**
	baz=190						
IHUS				S	**Sg**	**14 21 59.9**	**-2.5**
	baz=190						
IVOT	**Vottur**	**0.46**	**161**	P	**Pg**	**14 21 54.7**	**-3.2**
	baz=162						
IVOT				S	**Sg**	**14 22 00.6**	**-3.3**
	baz=162						
IJOK	**Jokulheimar**	**0.49**	**219**	P	**Pg**	**14 21 55.8**	**-2.8**
	baz=221						
IJOK				S	**Sg**	**14 22 03.0**	**-2.0**
	baz=221						
IKRE	**Kreppuhraun**	**0.50**	**80**	P	**Pg**	**14 21 55.5**	**-3.1**
	baz=77						
IKRE				S	**Sg**	**14 22 02.5**	**-2.7**
	baz=77						
IASK	**Askja**	**0.51**	**46**	P	**Pg**	**14 21 56.2**	**-2.8**
	baz=44						
IASK				S	**Sg**	**14 22 04.0**	**-1.7**
	baz=44						
IMKO	**Mokollar**	**0.58**	**61**	P	**Pg**	**14 21 57.1**	**-3.1**
	baz=58						
IMKO				S	**Sg**	**14 22 06.2**	**-1.5**
	baz=58						
ISVA	**Svartarkot**	**0.65**	**10**	P	**Pg**	**14 21 58.8**	**-2.8**
	baz=

IKAL S **Sg** **14 22 10.7 -2.8**
baz=187
IVSH V-Sauoahnukur 0.78 81 P **Pg** **14 22 00.1 -3.9**
baz=80
IVAT Vatnsfell 0.80 230 P **Pg** **14 22 00.8 -3.6**
baz=232
IADA Aoalbol 0.89 68 P **Pg** **14 22 02.1 -4.1**
baz=66
IADA S **Sg** **14 22 14.4 -3.4**
baz=66
IHVE Hveravellir 0.89 282 P **Pg** **14 22 02.7 -3.6**
baz=283
IMEL Melhnausar 0.95 22 P **Pg** **14 22 03.5 -3.8**
baz=21
IREN Reynihlio 0.99 15 P **Pg** **14 22 04.4 -3.7**
baz=14
IKVO Krokottuvotn 1.05 15 P **Pg** **14 22 05.5 -3.8**
baz=14
ISNB Snabyli 1.08 207 P **Pg** **14 22 05.7 -4.2**
baz=208
IGRS Grimsstaoir 1.11 31 P **Pg** **14 22 06.4 -4.0**
baz=30
ISLY Slysaalda 1.12 219 P **Pg** **14 22 06.3 -4.3**
baz=220
ISKI Skildingahlsh 1.19 10 P **Pg** **14 22 07.8 -4.2**
baz=9.1
IRJU Rjupnafell 1.20 205 P **Pg** **14 22 07.5 -4.6**
baz=206
IGHA Grjothals 1.20 17 P **Pg** **14 22 07.9 -4.3**
baz=16
IGRA Granastaoir 1.22 359 P **Pg** **14 22 08.5 -4.1**
baz=358
IGYG Gygjarholskot 1.24 251 P **Pn** **14 22 09.1 -3.8**
baz=252
BORG Borgarnes 1.63 273 Pg **Pn** **14 22 16.0 -2.3**
76nm,0.3s,baz=94,slow=10,SNR=146
BORG Lg Lg 14 22 40.0
127nm,0.3s,baz=274,slow=21,SNR=10
BORG Borgarnes 1.63 273 P **Pn** **14 22 16.0 -2.3**
BORG Borgarnes 1.63 273 Pn **Pn** **14 22 15.6 -2.6**
SCO Scoresbysund 6.05 346 *i* P **Pn** **14 23 18.6 -0.3**
comp=Z,30μm,13.0s
SCO Scoresbysund 6.05 346 *i* P **Pn** **14 23 18.6 -0.3**
SCO MLR MLR
comp=Z,30μm,13.0s
SCO Scoresbysund 6.05 346 Pn **Pn** **14 23 18.0 -0.9**
JMIC Jan Mayen 7.17 24 Pn **Pn** **14 23 34.8 +0.6**
baz=219,slow=2.9,SNR=6.2
JMIC LR LR 14 25 59.4
comp=Z,4μm,19.2s,baz=173,slow=34
LEWI Lewis, Hebride 8.31 137 *e*P **Pn** **14 23 47.4 -2.5**
LEWI IAMs_20 IAMs_20 14 28 38.4
comp=Z,18μm,10.0s
WAL1 Walls 8.60 114 *e*P **Pn** **14 23 53.1 -0.7**
LRW Lerwick 8.84 114 *e*P **Pn** **14 23 57.2 +0.1**
LRW IAMs_20 IAMs_20 14 27 39.1
comp=Z,14μm,11.4s
KAC Achnashellach 9.32 135 *e*P **Pn** **14 24 01.6 -2.1**
KPL Plockton 9.35 137 *e*P **Pn** **14 24 01.6 -2.4**
KPL IAMs_20 IAMs_20 14 28 41.5
comp=Z,13μm,11.6s
KPL Plockton 9.35 137 *e*P **Pn** **14 24 01.8 -2.2**
MCD Coleburn Disti 9.90 129 *e*P **Pn** **14 24 10.7 -1.0**
LAWE Loch Awe, Argy 10.34 139 *e*P **Pn** **14 24 16.1 -1.6**
INVG Invergeldie, C 10.60 135 *e*P **Pn** **14 24 18.9 -2.3**
INVG IAMs_20 IAMs_20 14 29 10.5
comp=Z,19μm,10.3s
FOO Floro 10.64 97 *e*P **Pn** **14 24 23.3 +1.5**
EAB Aberfoyle 10.71 137 *e*P **Pn** **14 24 21.3 -1.4**
SUE Sulen 10.78 100 *e*P **Pn** **14 24 25.7 +2.1**
SUMG Summit 10.91 325 *i* P **Pn** **14 24 27.8 +2.0**
SUMG Summit 10.91 325 *e*P **Pn** **14 24 27.8 +2.0**
SUMG Summit 10.91 325 **Pn** **14 24 24.3 -1.4**
PGBU Glenifferbraes 10.99 138 *e*P **Pn** **14 24 25.2 -1.4**
PGBU IAMs_20 IAMs_20 14 29 13.1
comp=Z,12μm,14.1s
CLGH Cloghs, Cushen 11.20 144 *e*P **Pn** **14 24 26.8 -2.6**
CLGH IAMs_20 IAMs_20 14 30 15.9
comp=Z,13μm,11.7s
AKN Aaknes 11.23 92 *e*P **Pn** **14 24 29.8 -0.1**
ASK Askoy 11.26 102 *e*P **Pn** **14 24 30.6 +0.5**
EDI Edinburgh 11.28 135 *e*P **Pn** **14 24 29.6 -1.0**
EDI IAMs_20 IAMs_20 14 29 32.9
comp=Z,13μm,10.1s
MOL Molde 11.32 89 *e*P **Pn** **14 24 33.6 +2.6**
HYA Hoyanger 11.33 97 *e*P **Pn** **14 24 33.0 +1.8**
BER Bergen 11.37 102 *e*P **Pn** **14 24 32.1 +0.5**
NEWG New Galloway 11.67 139 *e*P **Pn** **14 24 34.6 -1.2**
NEWG IAMs_20 IAMs_20 14 29 42.2
comp=Z,19μm,11.7s
GAL1 Galloway 11.75 141 *e*P **Pn** **14 24 35.6 -1.4**
GAL1 IAMs_20 IAMs_20 14 29 57.7
comp=Z,20μm,11.5s
EKA Eskdalemuir Ar 11.79 136 Pn **Pn** **14 24 35.5 -2.0**
baz=331,slow=12,SNR=28
EKA LR LR 14 28 56.4
comp=Z,3μm,18.6s,baz=75,slow=37
ESK Eskdalemuir 11.79 136 *e*P **Pn** **14 24 36.5 -1.1**
ESK IAMs_20 IAMs_20 14 30 01.6
comp=Z,15μm,10.3s
ESK Eskdalemuir 11.79 136 P **Pn** **14 24 36.4 -1.1**
ESK Eskdalemuir 11.79 136 Pn **Pn** **14 24 36.4 -1.1**
KMY Karmoy 12.00 107 *e*P **Pn** **14 24 39.2 -1.1**
DAG Danmarks Havn 12.14 359 *i* P Pn 14 24 47.0 +4.8
comp=Z,5μm,11.0s
DAG Danmarks Havn 12.14 359 *e*P Pn 14 24 47.0 +4.8
DAG MLR MLR
comp=Z,5μm,11.0s
ODD1 Odda 12.17 102 *e*P Pn 14 24 35.0 -7.7
DOMB Dombas 12.18 90 *e*P **Pn** **14 24 44.8 +2.0**
BLS5 Blasjo 12.37 104 *e*P **Pn** **14 24 45.0 -0.5**
SKAR Skarslia 12.47 97 *e*P **Pn** **14 24 45.7 -1.2**
DSB Dublin 12.82 148 **Pn** **14 24 52.2 +0.7**
NRS Narsarsuaq 13.13 267 *i* P **P** **14 25 03.0 -3.0**
NRS Narsarsuaq 13.13 267 P P 14 25 01.3 -4.7
NRS Narsarsuaq 13.13 267 P 14 25 01.3 -4.7
NC204 NORSAR Array S 13.24 92 Pn **Pn** **14 24 54.1 -3.2**
NC204 NORSAR Array S 13.24 92 *e*P **Pn** **14 24 54.2 -3.1**
NBO00 NORSAR Array S 13.36 93 *e*P **Pn** **14 24 54.7 -4.2**
NAO01 NORSAR Array S 13.50 94 **Pn** **14 24 57.0 -3.7**
NB2 NORSAR Subarra 13.54 92 Pn **Pn** **14 24 58.3 -3.2**
comp=Z,41nm,5.0s,baz=299,slow=14
NB2 NORSAR Subarra 13.54 92 Pn **Pn** **14 24 58.3 -3.2**
baz=299,slow=14
NOA NORSAR Array B 13.54 92 Pn **Pn** **14 24 57.7 -3.8**
comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=5.7
NOA LR LR 14 30 10.0
comp=Z,2μm,20.2s,baz=295,slow=37
KONO Kongsberg 13.57 99 *i* P **Pn** **14 25 01.6 -0.1**
KONO pmax pmax
comp=Z,26nm,1.4s
KONO Kongsberg 13.57 99 *e*P **Pn** **14 25 01.1 -0.6**
NB201 NORSAR Array S 13.57 92 *e*P **Pn** **14 24 59.2 -2.7**
SFJD Kangerlussuaq 13.64 295 Pn **Pn** **14 25 00.8 -1.9**
comp=Z,0.1nm,0.3s,baz=83,slow=13,SNR=1.4
SFJD LR LR 14 29 39.4
comp=Z,3μm,21.7s,baz=88,slow=34
NC405 NORSAR Array S 13.72 92 **Pn** **14 25 00.2 -3.7**
ILULI Ilulissat 13.77 304 *i* P **P** **14 25 10.5 -2.6**
ILULI Ilulissat 13.77 304 *i* P **P** **14 25 10.5 -2.6**
HOMB Homborsund 13.92 105 *e*P **Pn** **14 25 09.3 +2.8**
HFS Hagfors 15.06 93 Pn **P** **14 25 25.9 -1.5**
comp=Z,0.2nm,0.3s,baz=304,slow=10,SNR=19
HFS LR LR 14 30 45.7
comp=Z,2μm,21.4s,baz=294,slow=36
MUD Monsted U'grnd 15.38 110 *i* P **P** **14 25 32.8 +1.7**
HSPB Hornsund (broa 16.04 27 *e*P **Pn** **14 25 34.0 -0.7**
HSPB *e*S **Sn** **14 28 31.8 -0.8**
KBS Kingsbay 16.61 19 *e*P **Pn** **14 25 37.8 -4.3**
KBS *e*S **Sn** **14 28 39.1 -7.3**
SPA0 Spitsbergen Ar 16.84 23 *e*P **Pn** **14 25 45.0 0.0**
SPA0 *e*S **Sn** **14 28 53.6 +1.7**
SPITS Spitsbergen Ar 16.84 23 LR LR 14 30 12.8
comp=Z,1μm,20.0s,baz=215,slow=30
NOR Nord 17.00 0 *i* P **Pn** **14 25 47.5 +0.6**
NOR Nord 17.00 0 *i* P **Pn** **14 25 47.5 +0.6**
ARCES ARCESS Array B 17.11 55 P **P** **14 25 49.3 -0.8**
comp=Z,0.3nm,0.3s,baz=274,slow=11,SNR=11
ARCES ARCESS Array B 17.11 55 P **P** **14 25 49.5 -0.6**
COP Copenhagen 17.24 107 *i* P **P** **14 25 51.3 -0.3**
comp=Z,3μm,10.0s
COP Copenhagen 17.24 107 *i* P **P** **14 25 51.3 -0.3**
COP MLR MLR
comp=Z,3μm,10.0s
BSEG Bad Segeberg 17.66 114 *e*P **Pn** **14 25 54.3 -1.0**
comp=Z,434nm,2.0s,baz=328,slow=11
IBBN Ibbenburen 17.95 122 *e*P **P** **14 26 00.3 +0.8**
comp=Z,436nm,2.4s,baz=328,slow=11
RGN Rugen 18.41 109 *e*P **Pn** **14 26 01.1 -3.3**
BUG Bochum--Univer 18.49 124 *e*P **Pn** **14 26 05.3 -0.1**
comp=Z,142nm,1.7s,baz=328,slow=11
BMRD Maredsous 18.59 130 x x 14 25 59.3
BSTI Sart Tilman 18.61 128 P **P** **14 26 05.5 -1.2**
BSTI x x 14 26 10.5
BGES Gesves 18.62 130 P **P** **14 26 05.5 -1.4**
BGES x x 14 26 10.2
BGES Pb **sP** **14 26 13.6 +3.3**
BSD Bornholm Skovb 18.66 106 *i* P **Pn** **14 26 08.0 +0.4**
comp=Z,2μm,13.0s
BSD Bornholm Skovb 18.66 106 *i* P **Pn** **14 26 08.0 +0.4**
BSD MLR MLR
comp=Z,2μm,13.0s
BCLA Clavier 18.66 129 x x 14 26 10.2
NRDL Niedersach Rie 18.68 118 *e*P **P** **14 26 06.1 -1.3**
comp=Z,92nm,1.5s,baz=328,slow=11
DOU Dourbes 18.71 131 x x 14 26 10.0
MEM Membach 18.74 128 P **P** **14 26 07.9 -0.3**
BHOU Houvegnez 18.96 128 P **P** **14 26 10.1 -0.5**
BHOU x x 14 26 13.0
AHRW Bad Neuenahr-A 19.17 126 *e*P **Pn** **14 26 15.3 +1.6**
comp=Z,134nm,1.5s,baz=328,slow=11
ASSE Asse, Remlinge 19.18 118 *e*P **P** **14 26 12.5 -0.5**
comp=Z,79nm,1.5s,baz=328,slow=11
CLZ Clausthal 19.30 119 *e*P **P** **14 26 13.9 -0.5**
comp=Z,108nm,1.4s,baz=328,slow=11
GTTG Gottingen 19.38 120 *e*P **Pn** **14 26 15.6 -0.7**
comp=Z,130nm,1.4s,baz=328,slow=11
WLF Walferdange 19.59 129 P **P** **14 26 15.6 -2.0**
FINES FINESS Array B 19.71 79 P **P** **14 26 18.4 -0.3**
comp=Z,0.1nm,0.3s,baz=312,slow=8.6,SNR=6.2
FINES LR LR 14 33 52.6
comp=Z,1μm,19.6s,baz=292,slow=37
TNS Taunus Mts 19.91 124 *e*P **Pn** **14 26 22.5 -0.2**
comp=Z,295nm,2.1s,baz=328,slow=11
UBBA Unterbreizbach 19.98 121 *e*P **Pn** **14 26 23.3 -0.1**
comp=Z,187nm,1.9s,baz=328,slow=11
RUE Ruedersdorf 20.12 113 *e*P **P** **14 26 19.9 -3.3**
SLIT Slitere, Latvi 20.16 92 *e*P **P** **14 26 19.2 -4.4**
APA Apatity 20.32 59 ⇓*i*P Pn 14 26 27.4 +0.1
APA *i* S **S** **14 30 12.0 -0.9**
APA pmax pmax
comp=Z,28nm,0.9s
APA MLR MLR
comp=Z,2μm,22.0s
NEUB Neuenburg 20.34 118 *e*P **P** **14 26 26.1 +0.5**
comp=Z,176nm,1.4s,baz=328,slow=11
LVZ Lovozero 20.68 58 *c*e**P** **P** **14 26 29.1 -0.2**
LVZ pmax pmax
comp=Z,58nm,1.7s
CLL Collm 20.73 116 *i* P **P** **14 26 29.5 -0.4**
comp=Z,65nm,1.5s
CLL *i* (sP) **sP** **14 26 33.2 0.0**
comp=Z,109nm,1.5s
CLL *e*Pmax 14 26 35.0
CLL *i* PP **PnPn** **14 26 43.6 -3.9**
CLL *e*PPP PPP 14 26 54.0
CLL *e*S **S** **14 30 23.0 +1.7**
CLL *e*SSS SSS 14 30 51.0
CLL Lmax 14 38 00.0
CLL Collm 20.73 116 *i* P **P** **14 26 29.5 -0.4**
CLL *i* 14 26 33.2
CLL *e*S **S** **14 30 23.0 +1.7**
CLL pmax pmax
comp=Z,65nm,1.5s
CLL Collm 20.73 116 *e*P **P** **14 26 29.4 -0.5**
comp=Z,109nm,1.5s,baz=328,slow=11
MOX Moxa 20.73 119 *e*P **P** **14 26 30.1 +0.2**
comp=Z,142nm,1.5s,baz=328,slow=11
PBUR Paburge 21.01 96 *e*P **P** **14 26 29.2 -3.6**
PLN Plauen 21.06 118 *e*P **P** **14 26 33.3 -0.2**
comp=Z,148nm,1.6s,baz=328,slow=11
WERD Werda 21.15 128 *e*P **P** **14 26 35.4 +0.9**
comp=Z,60nm,1.4s,baz=328,slow=11
FBE Freiberg 21.17 116 *e*P **P** **14 26 34.4 -0.2**
comp=Z,46nm,1.0s,baz=328,slow=11
ECH Echery 21.18 129 P **P** **14 26 33.2 -1.6**
ECH pmax pmax
comp=Z,40nm,1.1s
ECH Echery 21.18 129 P **P** **14 26 33.2 -1.6**
GUNZ Gunzen 21.23 118 *e*P **P** **14 26 35.5 +0.2**
comp=Z,117nm,1.4s,baz=328,slow=11
KLNR Kaliningrad 21.23 101 *i* P **P** **14 26 36.2 +1.0**
KLNR pmax pmax
comp=Z,160nm,1.3s
TANN Tannenbergstha 21.23 118 *e*P **P** **14 26 34.7 -0.7**
comp=Z,122nm,1.4s,baz=328,slow=11
WERN Wernitzgruen 21.30 118 *e*P **P** **14 26 35.6 -0.5**
comp=Z,131nm,1.3s,baz=328,slow=11
GRF Grafenberg Arr 21.36 121 *e*P **P** **14 26 37.1 +0.4**
comp=Z,111nm,1.4s,baz=328,slow=11
NKC Novy Kostel 21.37 118 *e*P **P** **14 26 40.2 +3.3**
NKC *e*x x 14 26 46.0
NKC *e*S Sn 14 30 41.7 +0.1
NKC AMS AMS 14 38 50.0
comp=Z,4μm,11.4s
NKC Novy Kostel 21.37 118 *e*P **P** **14 26 40.2 +3.3**
NKC *e* 14 26 46.0
NKC *e*S Sn 14 30 41.7 +0.1
NKC MLR MLR
comp=Z,4μm,11.4s
STU Stuttgart 21.40 125 *e*P **P** **14 26 37.9 +0.8**
comp=Z,101nm,1.3s,baz=328,slow=11
BRG Berggiesshubel 21.44 115 *e*P **P** **14 26 37.2 -0.3**
comp=Z,92nm,1.2s
BRG S Sn 14 30 41.0 -2.0
comp=N,2μm,12.5s
comp=E,4μm,13.9s
comp=Z,3μm,10.5s
BRG Berggiesshubel 21.44 115 *e*P **P** **14 26 37.2 -0.3**
BRG S Sn 14 30 41.0 -2.0
BRG pmax pmax
comp=Z,92nm,1.2s
BRG MLR MLR
comp=N,2μm,12.5s
BRG MLR MLR
comp=E,4μm,13.9s
BRG MLR MLR
comp=Z,3μm,10.5s
BRG Berggiesshubel 21.44 115 *e*P **P** **14 26 36.5 -1.0**
comp=Z,91nm,1.2s,baz=328,slow=11
MANZ Manzenberg 21.45 119 *e*P **P** **14 26 37.2 -0.5**
comp=Z,87nm,1.8s,baz=328,slow=11
BFO Black Forest 21.48 127 *e*P **P** **14 26 38.6 +0.6**
comp=Z,96nm,1.4s,baz=328,slow=11
VSU Vasula 21.57 86 *e*P **P** **14 26 34.5 -4.4**
VSU Vasula 21.57 86 *i* P **P** **14 26 39.1 +0.2**
VSU pmax pmax
comp=Z,190nm,1.0s
ROTZ Rotzenmuhle 21.66 119 *e*P **P** **14 26 40.0 0.0**
comp=Z,99nm,2.0s,baz=328,slow=11
FRB Frobisher Bay 21.73 291 P **P** **14 26 38.8 -1.7**
comp=Z,3.7nm,0.5s,baz=11,slow=5.1,SNR=3.2
FRB LR LR 14 33 55.3
comp=Z,1μm,21.9s,baz=68,slow=33
PVCC Panska Ves 21.95 115 *e*P P 14 26 50.8 +7.8
PVCC *e*S Sn 14 30 53.3 -2.1
PVCC AMS AMS 14 39 20.0
comp=Z,3μm,10.9s
PVCC Panska Ves 21.95 115 *e*P P 14 26 50.8 +7.8
PVCC MLR MLR
comp=Z,3μm,10.9s
PABE Paberze 22.22 95 *e*P **P** **14 26 42.3 -3.6**
PRA Prague 22.27 116 *e*S **S** **14 30 55.2 +3.9**
PRA AMS AMS 14 39 20.0
comp=Z,2μm,11.1s
PUL Pulkovo 22.36 80 *e*P **P** **14 26 43.3 -4.1**
PRU Pruhonice 22.37 116 *e*P **P** **14 26 48.2 +0.7**
PRU *e*pP **sP** **14 26 51.4 +0.5**
PRU *e*S **S** **14 30 56.2 +2.8**
PRU AMS AMS 14 39 20.0
comp=Z,3μm,10.4s
PRU Pruhonice 22.37 116 *e*P **P** **14 26 48.2 +0.7**
PRU *e* 14 26 51.4
PRU *e*S **S** **14 30 56.2 +2.8**
PRU MLR MLR
comp=Z,3μm,10.4s
KSP Ksiaz 22.39 112 *e*P **P** **14 26 48.6 +0.9**
KSP *e*S Sn 14 31 00.8 -4.9
PBCC Pribram 22.41 117 *e*P **P** **14 26 52.2 +4.3**
PBCC *e*S Sn 14 30 59.8 -6.5
WET Wettzell 22.43 119 *e*P **P** **14 26 48.9 +0.8**
comp=Z,59nm,1.5s,baz=328,slow=11
CHVC Chvalec 22.49 113 *e*P **P** **14 26 49.8 +1.0**
CHVC *e*x x 14 26 53.0
CHVC *e*S Sn 14 31 02.0 -6.3
CHVC AMS AMS 14 39 50.0
comp=Z,3μm,11.6s
GOPC GO Pecny, Ondr 22.53 116 *e*P **P** **14 26 48.2 -1.0**
GOPC *e*pP **sP** **14 26 52.4 -0.2**
GOPC *e*S **S** **14 30 56.4 +0.1**
GOPC AMS AMS 14 40 00.0
comp=Z,4μm,10.4s
GOPC GO Pecny, Ondr 22.53 116 *e*P **P** **14 26 48.2 -1.0**
GOPC *e* 14 26 52.4
GOPC *e*S **S** **14 30 56.4 +0.1**
GOPC MLR MLR
comp=Z,4μm,10.4s
UPC Upice 22.54 113 *e*P **P** **14 26 53.1 +3.8**
UPC *e*S **S** **14 30 55.0 -1.4**
UPC AMS AMS 14 40 10.0
comp=Z,4μm,12.0s
UPC Upice 22.54 113 *e*P **P** **14 26 53.1 +3.8**
UPC *e*S **S** **14 30 55.0 -1.4**
UPC MLR MLR
comp=Z,4μm,12.0s
OSTC Ostas 22.58 113 *e*P **P** **14 26 50.8 +1.0**
OSTC *e*x x 14 26 53.9
OSTC *e*S **S** **14 30 59.9 +2.6**
OSTC AMS AMS 14 39 10.0
comp=Z,3μm,10.5s
UBR Ueberruh 22.65 126 *e*P **P** **14 26 52.6 +2.0**
comp=Z,325nm,1.6s,baz=328,slow=11
FUR Furstenfeldbru 22.65 123 *e*P **P** **14 26 52.1 +1.5**
comp=Z,222nm,1.6s,baz=328,slow=11
KHC Kasperske Hory 22.70 118 *e*P **P** **14 26 51.0 -0.1**
KHC *e*pP **sP** **14 26 55.4 +0.9**
KHC *e*x x 14 26 59.0
KHC *e*S **S** **14 31 04.7 +5.2**
KHC AMS AMS 14 37 30.0
comp=Z,4μm,13.6s
KHC Kasperske Hory 22.70 118 *c*e**P** **P** **14 26 52.2 +1.1**
KHC pmax pmax
comp=Z,113nm,1.7s
DPC Dobruska-Polom 22.78 113 *e*P **P** **14 26 52.5 +0.5**
DPC *e*pP **sP** **14 26 55.2 -0.2**
DPC *e*S **S** **14 31 06.7 +5.7**
DPC AMS AMS 14 40 20.0
comp=Z,4μm,11.3s
DPC Dobruska-Polom 22.78 113 *e*P **P** **14 26 52.5 +0.5**
DPC *e* 14 26 55.2
DPC MLR MLR
comp=Z,4μm,11.3s
SUW Suwalki 22.90 98 *e*P **P** **14 26 52.6 -0.5**
SUW *e*S **S** **14 31 09.8 +6.9**
DAVA Damuels 22.91 126 *i* sP **P** **14 26 56.3 +2.9**
comp=Z,50nm,1.3s
GEC2 GERESS Array S 22.98 119 *e*P **P** **14 26 53.7 -0.4**
comp=Z,115nm,1.5s,baz=328,slow=11
GERES GERESS Array B 22.98 119 P **P** **14 26 51.3 -2.8**
comp=Z,5.8nm,0.9s,baz=330,slow=7.7,SNR=12
GERES LR LR 14 36 19.2
comp=Z,1μm,18.9s,baz=322,slow=38
IZAR Zarasai 23.04 92 *e*P **P** **14 26 50.9 -3.7**
RETA Reutte 23.05 125 *i* sP **P** **14 26 56.2 +1.4**
comp=Z,51nm,1.4s
ISAL Salakas 23.10 93 *e*P **P** **14 26 51.1 -4.1**
KRLC Kraliky 23.18 113 *e*S **S** **14 31 10.1 +2.2**
KRLC AMS AMS 14 40 40.0
comp=Z,3μm,11.0s
MOTA Moosalm 23.29 125 *i* sP **P** **14 26 58.9 +1.6**
comp=Z,64nm,1.5s,SNR=7.8
TREC Trest 23.30 116 AMS AMS 14 40 10.0
comp=Z,3μm,10.6s
TMCR Tamitsa 23.34 66 *e*P **P** **14 26 56.4 -1.0**
comp=Z,72nm,0.9s
TMCR *e*S **S** **14 31 10.2 0.0**
TMCR Tamitsa 23.34 66 *e*P **P** **14 26 56.5 -1.0**
TMCR *e*S **S** **14 31 10.4 +0.2**
TMCR pmax pmax
comp=Z,72nm,0.9s
DAVOX Davos/Dischmat 23.35 127 P **P** **14 26 55.3 -2.6**
comp=Z,2.7nm,0.5s,baz=314,slow=15,SNR=2.4
DAVOX LR LR 14 37 19.4
comp=Z,3μm,18.0s,baz=302,slow=40
PGAV Gavieira, Arco 23.39 162 A A 14 36 26.3
comp=Z,3μm,16.0s
SQTA Sankt Quirin 23.43 125 *i* pP **P** **14 26 59.3 +0.6**
comp=Z,32nm,1.3s
TUE Stuetta 23.43 128 P **P** **14 26 58.2 -0.7**
TUE IAmb IAmb 14 27 14.0
comp=Z,33nm,1.2s
BEL Belsk 23.46 105 *e*P **P** **14 26 59.9 +1.1**
BEL *e*S Sn 14 31 22.2 -9.2
WATA Walderalm 23.46 124 *i* sP **P** **14 27 00.1 +1.1**
comp=Z,32nm,1.1s
IDID Didziasalis 23.54 92 *e*P **P** **14 26 56.0 -3.6**
WTTA Wattenberg 23.55 124 *i* sP **P** **14 27 00.6 +0.7**
comp=Z,62nm,1.6s,SNR=9.6
RJOB Jochberg 23.56 122 *e*P **P** **14 26 59.3 -0.6**
comp=Z,59nm,1.4s,baz=328,slow=11
EUNU Eureka 23.64 336 P **P** **14 27 02.5 +2.1**
VRAC Vranov 23.72 114 P **P** **14 27 00.5 -0.9**
comp=Z,8.4nm,1.0s,baz=330,slow=10,SNR=14
VRAC LR LR 14 37 22.6
comp=Z,2μm,18.1s,baz=331,slow=40
VRAC Vranov 23.72 114 ⇑P **P** **14 27 01.8 +0.4**
VRAC Vranov 23.72 114 ⇓*i*P **P** **14 27 01.4 0.0**
VRAC *e*S **S** **14 31 22.2 +5.7**
MORC Moravsky Berou 23.72 112 ⇓P **P** **14 27 02.2 +0.8**
MORC Moravsky Berou 23.72 112 ⇓*i*P **P** **14 27 00.8 -0.7**
MORC *e*S **S** **14 31 21.3 +4.7**
MORC Moravsky Berou 23.72 112 P **P** **14 26 59.3 -2.2**
MORC pmax pmax
comp=Z,27nm,1.2s
MORC Moravsky Berou 23.72 112 P **P** **14 26 59.3 -2.2**
PBRG Braganca 23.76 160 *e*P **P** **14 27 05.5 +3.6**
NACGM Naroch 23.83 93 *e*P **P** **14 27 02.0 -0.4**
NACGM *e*P **P** **14 27 02.0 -0.4**
NACGM *e*S **S** **14 31 20.0 +1.9**
NACGM *e*SS **SnSn** **14 31 56.0 -0.2**
NACGM *e*LQ LQ 14 35 50.0
NACGM *e*LR LR 14 38 00.0
KRUC Moravsky 23.84 115 ⇓*i*P **P** **14 27 01.9 -0.6**
KRUC *e*S **S** **14 31 22.8 +4.4**
OKC Ostrava-Krasne 23.91 111 AMS AMS 14 39 40.0
comp=Z,2μm,9.7s
MOA Molln 24.02 119 *i* pP **P** **14 27 04.7 +0.4**
comp=Z,38nm,1.5s
OJC Ojcow 24.28 109 *e*P **P** **14 27 07.2 +0.5**
OJC *e*S **S** **14 31 33.9 +8.4**
ABTA Abfaltersbach 24.30 123 *i* sP **P** **14 27 08.3 +1.3**
comp=Z,69nm,1.6s
KBA Koelnbreinsper 24.32 122 *e*sP **P** **14 27 08.5 +1.2**
comp=Z,43nm,1.3s
MVO Moncorvo 24.34 161 *e*P **P** **14 27 08.8 +1.4**
comp=Z,109nm,1.8s
MVO A A 14 36 10.4
comp=Z,2μm,18.0s
JAVC Velka Javorina 24.50 113 ⇓*i*P **P** **14 27 09.4 +0.6**
JAVC *e*S S 14 31 40.6 +11
CONA Conrad Observa 24.55 117 *i* pP **P** **14 27 09.9 +0.6**
comp=Z,22nm,0.9s,SNR=7.2
MICGM Minsk 24.57 93 ⇓*e*P **P** **14 27 11.0 +1.7**
MICGM PM 14 27 13.0
comp=Z,0.2nm,1.0s
MICGM PM 14 27 14.0
comp=N,0.3nm,1.0s
MICGM *e*PP **PnPn** **14 27 37.0 -3.1**
MICGM *e*PPP PPP 14 27 46.0
MICGM *e*S **S** **14 31 30.0 -0.1**
MICGM *e*SS SnSn 14 31 48.0 -26
MICGM *e*LR LR 14 35 32.0
MICGM LRM MLR 14 39 24.0
comp=Z,2.6nm,12.0s
MICGM LRM MLR 14 40 16.0
comp=E,3.1nm,12.0s
MICGM LRM MLR 14 40 28.0
comp=N,2.3nm,12.0s
MNK Minsk 24.57 93 ⇓*e*P **P** **14 27 11.0 +1.7**
MNK *e*PPP PPP 14 27 46.0
MNK *e*S **S** **14 31 36.0 +5.9**
MNK pmax pmax
comp=N,260nm,1.0s
MNK pmax pmax

comp=Z,230nm,1.0s
MNK MLR MLR
comp=N,2μm,12.0s
MNK MLR MLR
comp=E,3μm,12.0s
MNK MLR MLR
comp=Z,3μm,12.0s
PVIS Viseu 24.66 162 *e*P **P 14 27 12.0 +1.7**
SMOL Smolenice 24.68 114 *e*P **P 14 27 11.3 +0.9**
SMOL pmax pmax
comp=Z,24nm,1.2s
SMOL Smolenice 24.68 114 *e*P **P 14 27 11.3 +0.9**
MODS Modra-Piesok 24.74 115 *e*P **P 14 27 12.1 +1.2**
MODS pmax pmax
comp=Z,525nm,2.6s
MODS Modra-Piesok 24.74 115 *e*P **P 14 27 12.1 +1.2**
MYKA Terra Mystica 24.81 122 *i* sP **P 14 27 15.2 +3.6**
comp=Z,21nm,1.1s
ARSA Arzberg 24.99 118 *e*sP **P 14 27 13.7 +0.6**
comp=Z,26nm,1.2s
NIE Niedzica 25.11 109 *e*P **P 14 27 15.9 +1.6**
NIE *e*S **S 14 31 45.3 +6.4**
GORS Gorjuse 25.20 122 *e*P **P 14 27 14.9 -0.3**
GORS *e*S **S 14 31 47.0 +6.5**
PCAS Casmilo, Conde 25.24 164 *e*P **P 14 27 19.4 +4.0**
comp=Z,98nm,1.5s
OBKA Obir 25.24 121 *i* sP **P 14 27 16.2 +0.7**
comp=Z,26nm,1.5s
VYHS Vyhne 25.25 112 *e*P **P 14 27 16.4 +0.9**
VYHS pmax pmax
comp=Z,67nm,1.6s
VYHS Vyhne 25.25 112 *e*P **P 14 27 16.4 +0.9**
VYHS Vyhne 25.25 112 *e*PN P 14 27 30.7 +15
SOKA Soboth 25.28 120 *i* P **P 14 27 15.8 0.0**
comp=Z,26nm,1.3s,SNR=9.5
MOZS Mozjanca 25.39 121 *e*P **P 14 27 17.1 +0.3**
PCBR Castelo Branco 25.58 162 *e*P **P 14 27 21.4 +2.9**
comp=Z,80nm,1.8s
KLMR Klimovskoe 25.60 72 *e*P **P 14 27 17.4 -1.2**
comp=Z,58nm,1.1s
KLMR *e*S **S 14 31 45.2 -1.1**
KLMR Klimovskoe 25.60 72 *e*P **P 14 27 17.3 -1.2**
KLMR *e* 14 30 47.9
KLMR *e*S **S 14 31 45.3 -1.1**
KLMR pmax pmax
comp=Z,58nm,1.1s
KLMR Klimovskoe 25.60 72 *e*P **P 14 27 17.4 -1.2**
KLMR AMP 14 27 24.8
comp=Z,58nm,1.1s
KLMR *e*PcP **PcP 14 30 48.0 -0.9**
KLMR *e*S **S 14 31 45.3 -1.1**
KLMR *e*S **S 14 31 45.3 -1.1**
KLMR LQ LQ 14 34 03.2
KLMR LQ LQ 14 34 03.2
KLMR LR LR 14 35 52.5
GROS Grobnik 25.64 119 *e*P **P 14 27 18.7 -0.4**
GROS *e*S **S 14 31 55.0 +7.6**
UCM Universidad Co 25.80 154 *e*P **P 14 27 24.3 +3.7**
UCM *e*S **S 14 31 57.5 +7.5**
KECS Kecovo 25.92 110 *e*P **P 14 27 23.4 +1.8**
KECS pmax pmax
comp=Z,15nm,1.0s
KECS Kecovo 25.92 110 *e*P **P 14 27 23.4 +1.8**
KWP Kalwaria Pacla 25.93 106 *e*P **P 14 27 23.5 +1.9**
KWP *e*S S 14 32 11.2 +19
LSH Leshukonskoye 25.96 61 *e*P **P 14 27 20.4 -1.3**
comp=Z,37nm,1.1s
LSH *e*S **S 14 31 51.0 -1.0**
CRVS Cervenica-Dubn 25.99 109 *e*P **P 14 27 22.6 +0.4**
CRVS pmax pmax
comp=Z,72nm,1.3s
CRVS Cervenica-Dubn 25.99 109 *e*P **P 14 27 22.6 +0.4**
PMRV Marv??o 26.00 162 *e*P **P 14 27 23.9 +1.6**
comp=Z,95nm,1.8s
PMRV A A 14 36 56.3
comp=Z,3μm,18.0s
SCHQ Schefferville 26.03 271 P **P 14 27 20.9 -1.6**
comp=Z,27nm,0.9s,baz=46,slow=9.1,SNR=9.0
SCHQ LR LR 14 36 17.9
comp=Z,1μm,20.2s,baz=58,slow=34
SCHQ Schefferville 26.03 271 P **P 14 27 24.6 +2.1**
PSZ Piszkesteto 26.14 112 ⇓P **P 14 27 24.6 +1.0**
ESDC Sonseca Array 26.29 156 P **P 14 27 23.5 -1.5**
comp=Z,3.5nm,0.9s,baz=349,slow=9.3,SNR=12
ESDC LR LR 14 37 36.4
comp=Z,2μm,18.1s,baz=330,slow=36
KOLS Kolonicke sedl 26.29 108 *e*P **P 14 27 24.8 -0.1**
KOLS pmax pmax
comp=Z,55nm,1.4s
KOLS Kolonicke sedl 26.29 108 *e*P **P 14 27 24.8 -0.1**
LVV L'vov 26.33 104 *e*P **P 14 27 25.2 -0.1**
LVV *e* 14 28 18.4
LVV *e*S **S 14 31 54.3 -3.9**
LVV *e*SS **SnSn 14 33 11.2 +14**
LVV pmax pmax
comp=Z,230nm,1.6s
LVV MLR MLR
comp=Z,2μm,12.0s
RES Resolute Bay 26.43 324 P **P 14 27 28.1 +2.2**
comp=Z,14nm,1.1s,baz=79,slow=11,SNR=3.6
RES LR LR 14 37 39.6
comp=Z,2μm,18.6s,baz=76,slow=36
RES Resolute Bay 26.43 324 P **P 14 27 28.1 +2.2**
RES pmax pmax
comp=Z,46nm,1.4s
RES Resolute Bay 26.43 324 IAmb IAmb 14 27 32.4
comp=Z,46nm,1.4s
UZH Uzhgorod 26.54 108 *e*P **P 14 27 27.6 +0.5**
UZH *i* 14 27 30.8
UZH *e* 14 27 33.2
UZH *i* 14 28 15.4
UZH *i* S **S 14 31 58.9 -2.5**
EVO Evora 26.80 163 *e*P **P 14 27 32.8 +3.3**
EVO *e*S **S 14 32 11.7 +6.0**
PNCL Nicolau / Gran 27.15 164 *e*P **P 14 27 34.3 +1.6**
PRGR Permogore 27.62 67 *e*P **P 14 27 37.4 +0.7**
AKASG Malin Array Be 27.86 98 P **P 14 27 37.8 -1.1**
comp=Z,7.7nm,1.0s,baz=324,slow=9.6,SNR=11
AKASG LR LR 14 38 22.9
comp=Z,1μm,21.3s,baz=325,slow=36
OBN Obninsk 27.89 84 P **P 14 27 39.9 +0.8**
comp=Z,4.9nm,0.6s,baz=135,slow=4.4,SNR=10
OBN LR LR 14 38 36.8
comp=Z,171nm,19.5s,baz=314,slow=36
OBN Obninsk 27.89 84 P **P 14 27 38.9 -0.2**
OBN Obninsk 27.89 84 ⇑*i*P **P 14 27 38.6 -0.5**
OBN *i* 14 28 23.6
OBN *i* S **S 14 32 23.6 +1.1**
OBN *e*SS **SnSn 14 33 40.6 +5.3**
OBN pmax pmax
comp=Z,84nm,1.7s
OBN MLR MLR
comp=Z,2μm,14.0s
OBN Obninsk 27.89 84 IAmb IAmb 14 27 46.4
comp=Z,93nm,1.3s
MOS Moscow 27.92 82 *e*P **P 14 27 38.7 -0.8**
MOS *e* 14 28 37.6
MOS *e*S **S 14 32 28.0 +4.9**
MOS MLR MLR
comp=Z,1μm,14.0s
PVAQ Vaqueiros 27.95 163 A A 14 39 09.0
comp=Z,2μm,16.0s
SIRR Siria 28.18 112 ⇑P **P 14 27 42.4 +0.5**
BURAR Bucovina Array 28.54 106 ⇑P **P 14 27 45.3 +0.1**
BURAR Bucovina Array 28.54 106 P **P 14 27 42.5 -2.7**
ARCR ARCALIA 28.61 108 P **P 14 27 46.7 +1.0**
BZS Buzias 28.70 113 ⇓P **P 14 27 47.5 +1.0**
CART Cartagena 28.87 152 *e*P **P 14 27 49.3 +1.3**
CART *e*S **S 14 32 45.8 +7.6**
EMAL Malaga-Limoner 29.05 158 *e*P **P 14 27 51.7 +2.1**
EMAL *e*S **S 14 32 47.7 +6.6**
SFS San Fernando 29.07 161 *e*P **P 14 27 50.8 +1.0**
SFS *e*S S 14 31 53.3 -48
MDVR Moldovita 29.43 114 ⇑P **P 14 27 54.4 +1.3**
SORM Soroca 29.44 102 P **P 14 27 53.1 0.0**
BIZ Bicaz 29.45 106 ⇓P **P 14 27 54.3 +1.1**
HERR Herculane 29.63 113 ⇓P **P 14 27 56.1 +1.4**
LOT Lotru 29.70 110 ⇓P **P 14 27 56.6 +1.1**
ARR Arges 30.12 109 ⇑P **P 14 28 00.0 +0.9**
VOIR 30.23 109 ⇑P **P 14 27 59.6 -0.6**
MTUR Matau 30.41 109 ⇑P **P 14 28 03.2 +1.5**
KIS Kishinev 30.53 103 *e*P **P 14 28 00.0 -2.7**
KIS Kishinev 30.53 103 *e*PP PP 14 28 59.0 -12
KIS Kishinev 30.53 103 *e*P **P 14 28 00.0 -2.7**
KIS *e* 14 28 59.0
KIS *e*PPP PPP 14 29 11.0
KIS *e*S **S 14 33 01.0 -3.2**
KIS *e*SS **ScP 14 34 42.0 -1.7**
PLOR Plostina 30.55 107 ⇓P **P 14 28 03.5 +0.6**
MLR Muntele Rosu 30.55 108 P **P 14 28 02.4 -0.6**
comp=Z,6.6nm,1.0s,baz=63,slow=6.8,SNR=1.7
MLR Muntele Rosu 30.55 108 ⇓P **P 14 28 03.4 +0.3**
MLR Muntele Rosu 30.55 108 P **P 14 28 02.4 -0.6**
MLR pmax pmax
comp=Z,19nm,1.2s
MLR Muntele Rosu 30.55 108 IAmb IAmb 14 28 11.0
comp=Z,19nm,1.2s
VRI Vrincioaia 30.57 107 ⇑P **P 14 28 03.7 +0.7**
PVLZ Peæn de 30.62 158 *e*P **P 14 28 08.1 +4.5**
PVLZ *e*S **S 14 33 11.2 +5.5**
LPSR Galich'ya Gora 30.64 86 *e*P **P 14 28 03.7 +0.1**
LPSR *e*S **S 14 33 09.6 +3.9**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR smax smax
comp=N,1μm,10.3s
LPSR MLR MLR
comp=Z,2μm,11.0s
MELI Melilla 30.73 156 *e*P P 14 28 10.4 +5.8
MELI *e*S **S 14 33 12.5 +5.1**
NEHR Nehoiu 30.75 107 ⇑P **P 14 28 05.0 +0.4**
BISRR Bisoca 30.82 107 ⇓P **P 14 28 05.9 +0.5**
KIRV Kirov 30.98 69 P **P 14 28 06.3 -0.2**
comp=Z,26nm,1.0s,baz=177,slow=3.8,SNR=8.9
SKO Skopje 31.70 117 *i* P **P 14 28 14.4 +1.4**
VSR Storozhevoye 31.74 88 *e*P **P 14 28 12.2 -1.1**
VSR *e*S **S 14 33 26.8 +3.8**
VSR pmax pmax
comp=Z,30nm,1.4s
VSR smax smax
comp=N,1μm,12.4s
VSR MLR MLR
comp=Z,2μm,16.0s
PMOZ Porto Moniz, M 31.90 179 A A 14 39 36.9
comp=Z,1μm,18.0s
VORD Divnogorie 31.98 88 *e*P **P 14 28 15.0 -0.4**
VORD *e*S **S 14 33 31.5 +4.8**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD smax smax
comp=E,1μm,12.2s
VORD MLR MLR
comp=Z,2μm,12.0s
AVE Averroes 32.04 164 *e*S **S 14 33 33.1 +5.2**
IFR Ifrane 32.12 160 *e*S **S 14 33 34.4 +4.7**
OHR Ohrid 32.20 118 *i* P **P 14 28 20.7 +3.2**
D62A Allapoint, All 32.66 263 P **P 14 28 22.7 +1.4**
baz=38
E64A Bridgewater 32.66 261 P **P 14 28 22.8 +1.4**
baz=38
VAY Valandovo 32.70 116 *i* P **P 14 28 22.2 +0.4**
CHGQ Chibougamau 32.78 271 P **P 14 28 23.3 +0.9**
baz=41
VRH Novokhopyorsk 32.85 85 *e*P **P 14 28 21.3 -1.7**
VRH *e*S **S 14 33 36.3 -3.9**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH smax smax
comp=N,2μm,10.8s
VRH MLR MLR
comp=Z,2μm,12.0s
E63A Oxbow 32.91 261 P **P 14 28 24.6 +1.0**
baz=38
D61A St Aubert, Com 33.05 264 P **P 14 28 26.0 +1.2**
baz=39
KEST Kesra 33.19 138 P **P 14 28 24.5 -1.8**
comp=Z,1.6nm,0.5s,baz=12,slow=19,SNR=1.6
KEST LR LR 14 41 48.8
comp=Z,2μm,18.6s,baz=311,slow=36
KEST Kesra 33.19 138 IAmb IAmb 14 28 42.8
comp=Z,34nm,1.4s
E62A Clayton Lake 33.22 262 P **P 14 28 27.9 +1.5**
baz=38
F64A Sherman 33.32 260 P **P 14 28 28.2 +1.0**
baz=37
G65A Princeton 33.52 259 P **P 14 28 30.2 +1.3**
baz=36
D60A Saint Jean D'O 33.59 264 P **P 14 28 30.7 +1.2**
baz=38
H66A Whiting 33.75 258 P **P 14 28 33.0 +2.1**
baz=36
E61A Lac Etchemin 33.78 263 P **P 14 28 32.9 +1.7**
baz=38
G64A Maxfield 33.98 260 P **P 14 28 33.8 +0.9**
baz=37,SNR=6.3
F62A Pittston Farm, 33.98 262 P **P 14 28 34.9 +2.0**
baz=37
PKME Peaks-Kenny Pk 34.20 261 P **P 14 28 36.3 +1.5**
baz=37
H65A Eastbrook 34.21 259 P **P 14 28 35.7 +0.8**
baz=36
E60A Ste Agathe de 34.24 264 P **P 14 28 36.1 +1.0**
baz=38,SNR=5.1
D58A Chemin du LacG 34.29 266 P **P 14 28 36.2 +0.6**
baz=39
MATQ Matagami 34.29 274 P **P 14 28 36.2 +0.6**
baz=41
F61A St Evariste 34.36 263 P **P 14 28 37.0 +0.8**
baz=38
G63A Kingsbury 34.46 261 P **P 14 28 37.9 +0.8**
baz=37
LSQQ Lebel-sur-Quev 34.54 272 P **P 14 28 38.4 +0.7**
baz=40
H64A Troy 34.67 260 P **P 14 28 40.2 +1.3**
baz=36
G62A West of Eustis 34.76 262 P **P 14 28 40.9 +1.1**
baz=37
F60A Warwick 34.77 264 P **P 14 28 40.4 +0.7**
baz=38
D57A Chemin Vers le 34.78 267 P **P 14 28 40.6 +0.7**
baz=39,SNR=6.1
D56A ZEC Mazanza, M 35.13 268 P **P 14 28 43.5 +0.6**
baz=39,SNR=5.9
G61A St-Isidore-de- 35.14 263 P **P 14 28 44.1 +1.1**
baz=37
E57A Chemin Saint G 35.36 267 P **P 14 28 45.9 +1.0**
baz=38
I64A Boothbay 35.43 260 P **P 14 28 47.1 +1.7**
baz=36
D55A Sainte-Anne-du 35.46 269 P **P 14 28 46.6 +0.9**
baz=39,SNR=5.5
H62A Milan 35.54 262 P **P 14 28 48.0 +1.6**
baz=36
G60A Masonville 35.63 264 P **P 14 28 47.8 +0.6**
baz=37
E56A St. Veronique 35.64 268 P **P 14 28 48.0 +0.7**
baz=38,SNR=5.6
I63A Otisfield 35.72 261 P **P 14 28 49.5 +1.5**
baz=36
H61A Lyndonville 35.91 263 P **P 14 28 51.0 +1.4**
baz=36
ANN Anapa 35.93 97 *e*P **P 14 28 47.3 -2.4**
ANN *e*S **S 14 34 31.5 +3.7**
ANN pmax pmax
comp=Z,56nm,1.0s
ANN MLR MLR
comp=Z,3μm,18.0s
G59A Clarenceville 36.00 264 P **P 14 28 51.4 +1.1**
baz=37
ARU Arti 36.08 66 P **P 14 28 51.7 +0.8**
comp=Z,0.8nm,0.3s,baz=310,slow=17,SNR=8.7
ARU Arti 36.08 66 *d i*P **P 14 28 50.8 -0.1**
ARU 14 30 07.5
ARU S **S 14 34 31.8 +1.8**
ARU SS **SnSn 14 36 51.4 -2.8**
ARU pmax pmax
comp=Z,23nm,1.4s
ARU MLR MLR
comp=Z,2μm,19.0s
LBNH Lisbon 36.14 262 P **P 14 28 53.9 +2.3**
baz=36
H60A Morristown 36.21 263 P **P 14 28 54.2 +2.0**
baz=36
NRIK Noril'sk 36.44 35 P **P 14 28 55.4 +1.5**
comp=Z,5.6nm,1.0s,baz=319,slow=4.0,SNR=4.5
NRIK LR LR 14 45 36.3
comp=Z,872nm,18.0s,baz=345,slow=39
I61A Oroboro, Fairl 36.51 262 P **P 14 28 56.4 +1.7**
baz=36
H59A Cadyville 36.57 264 P **P 14 28 56.4 +1.1**
baz=37
SVE Sverdlovsk 36.61 64 *e*P **P 14 28 52.3 -3.1**
SVE *e*S **S 14 34 30.6 -7.5**
SVE pmax pmax
comp=Z,22nm,0.8s
SVE MLR MLR
comp=Z,2μm,19.0s
G57A Newington 36.76 266 P **P 14 28 57.3 +0.5**
baz=37,SNR=6.7
J62A Henniker 36.91 261 P **P 14 28 58.3 +0.1**
baz=35
H58A Gabriels 36.96 265 P **P 14 28 59.2 +0.6**
baz=36
LONY Lake Ozonia 36.97 265 P **P 14 28 59.3 +0.6**
baz=37
I60A Shoreham 37.04 263 P **P 14 29 00.2 +1.0**
baz=36
J61A Chester 37.13 262 P **P 14 29 01.2 +1.2**
baz=36
G55A Calabogie 37.38 268 P **P 14 29 02.9 +0.8**
baz=37,SNR=6.8
ALGO Algonquin Park 37.40 270 P **P 14 29 03.2 +0.9**
baz=38
H57A Richville 37.44 266 P **P 14 29 03.3 +0.7**
baz=36
H56A Elgin 37.71 267 P **P 14 29 06.4 +1.5**
baz=37
G54A Lake Saint Pet 37.86 269 P **P 14 29 07.0 +0.9**
baz=37
J59A Piesco 37.87 264 P **P 14 29 07.8 +1.5**
baz=36
SOC Sochi 37.88 96 *e*P **P 14 29 07.5 +1.2**
SOC *e* 14 30 30.2
SOC *e*S **S 14 35 00.1 +2.4**
SOC *e*SS **SnSn 14 37 35.1 -3.0**
SOC pmax pmax
comp=Z,29nm,1.1s
SOC MLR MLR
comp=Z,1μm,14.0s
I58A Old Forge 37.88 265 P **P 14 29 07.9 +1.4**
baz=36
I57A Carthage 37.98 266 P **P 14 29 08.3 +1.1**
baz=36
GOF Gofitskoye 38.12 91 ⇑*e*P **P 14 29 10.1 +1.7**
GOF pmax pmax
comp=Z,72nm,0.7s
H55A Tweed 38.14 268 P **P 14 29 09.9 +1.4**
baz=37
J58A Remsen 38.28 265 P **P 14 29 11.6 +1.8**
baz=36
L61A Hillsdale 1, H 38.50 262 P **P 14 29 12.7 +1.2**
baz=35
BRTR Keskin Array B 38.50 105 P **P 14 29 12.6 +0.8**
comp=Z,8.9nm,0.9s,baz=334,slow=5.9,SNR=15
BRTR LR LR 14 45 45.1
comp=Z,232nm,18.4s,baz=297,slow=37
BRTR Keskin Array B 38.50 105 *i* P **P 14 29 14.8 +3.0**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
K59A Cooperstown 38.58 264 P **P 14 29 13.5 +1.2**
baz=35
H53A Bobcaygeon 38.72 269 P **P 14 29 14.2 +0.8**
baz=37
KIV Kislovodsk 38.85 92 *e*P **P 14 29 16.2 +1.5**
KIV *e* 14 30 45.2
KIV *e*S **S 14 35 14.2 +1.6**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV MLR MLR
comp=Z,2μm,16.0s
K58A Earlville 38.92 264 P **P 14 29 16.4 +1.2**
baz=35
KBZ Khabaz 39.13 92 P **P 14 29 17.4 +0.6**
comp=Z,15nm,0.9s,baz=320,slow=11,SNR=16
KBZ LR LR 14 45 33.8
comp=Z,1μm,21.9s,baz=322,slow=36
YKA Yellowknife Ar 39.18 313 P **P 14 29 17.2 +0.1**
comp=Z,7.1nm,1.0s,baz=39,slow=9.1,SNR=9.8
K56A Middlesex 39.70 266 P **P 14 29 22.7 +1.1**
baz=35
L56A Greenwood 40.25 266 P **P 14 29 27.7 +1.4**
baz=35
AKTO Aktyubinsk 40.29 73 P **P 14 29 26.1 -0.3**
comp=Z,8.6nm,0.9s,baz=299,slow=11,SNR=9.7
ZEI Tsey 40.32 92 *e*P **P 14 29 28.7 +1.7**
ZEI pmax pmax
comp=Z,28nm,1.7s
L55A Hinsdale 40.59 267 P **P 14 29 30.8 +1.7**
baz=35
M57A Sunshine Farm, 40.73 265 P **P 14 29 31.4 +1.3**
baz=34
GROC Groznyy 40.80 90 *e*P **P 14 29 32.4 +1.7**
GROC *e* 14 31 05.6
GROC *e*S **S 14 35 44.0 +2.5**
GROC pmax pmax
comp=Z,64nm,1.2s
L54A Sinclairville 40.93 267 P **P 14 29 32.8 +1.0**
baz=35
N58A Sunbury 40.96 264 P **P 14 29 33.4 +1.3**
baz=34
M56A Emporium 41.06 266 P **P 14 29 33.7 +0.8**
baz=35
O59A Robesonia 41.17 263 P **P 14 29 35.5 +1.7**
baz=34
M55A Ridgway 41.32 266 P **P 14 29 36.9 +1.9**
baz=35
N57A Milroy 41.38 265 P **P 14 29 37.9 +2.3**
baz=34
ULM Lac du Bonnet 41.58 289 P **P 14 29 36.4 -0.7**
comp=Z,3.0nm,0.7s,baz=16,slow=7.4,SNR=1.9
ULM LR LR 14 45 37.1
comp=Z,571nm,20.5s,baz=44,slow=34
ULM Lac du Bonnet 41.58 289 P **P 14 29 36.4 -0.7**
ULM pmax pmax
comp=Z,6.0nm,0.9s
SSPA Standing Stone 41.63 265 P **P 14 29 39.4 +1.8**
baz=34
O58A Lewisberry 41.64 263 P **P 14 29 39.3 +1.6**
baz=34
M54A Oil Creek Stat 41.67 267 P **P 14 29 38.9 +0.9**
baz=35
MAK Makhachkala 41.73 89 *e*P **P 14 29 33.8 -4.5**
MAK *e*S **S 14 35 48.7 -6.5**
MAK *e*SS **SS 14 38 54.5 -5.8**
MAK pmax pmax
comp=Z,731nm,1.5s
P59A Jarrettsville 41.86 262 P **P 14 29 40.7 +1.2**
baz=33
O57A Amberson 41.87 264 P **P 14 29 41.3 +1.7**
baz=34,SNR=8.4
N55A Marion Center 41.98 266 P **P 14 29 42.1 +1.6**
baz=34
ABKAR Akbulak array 41.99 73 P **P 14 29 39.6 -0.8**
EPYK Eagle Plains 42.11 328 P **P 14 29 40.0 -1.2**
baz=34
M53A WI Miller and 42.16 268 P **P 14 29 43.3 +1.4**
baz=35
O56A Blue Knob Stat 42.22 265 P **P 14 29 44.2 +1.8**
baz=34
N54A Moraine State 42.26 267 P **P 14 29 44.0 +1.3**
baz=34
M52A Chesterland 42.37 269 P **P 14 29 45.3 +1.7**
baz=35
O55A Ligonier 42.59 266 P **P 14 29 47.0 +1.5**
baz=34
P57A Homestead Farm 42.64 264 P **P 14 29 47.2 +1.4**
baz=33
TOLK Toolik Lake Re 42.71 336 P **P 14 29 44.8 -1.3**
baz=28
TOLK Toolik Lake Re 42.71 336 P **P 14 29 46.5 +0.3**
TOLK IAmb IAmb 14 29 51.2
comp=Z,40nm,1.2s
N53A Lisbon 42.75 268 P **P 14 29 48.0 +1.3**
baz=34
M51A Elyria 42.90 269 P **P 14 29 48.6 +0.7**
baz=34
Q58A Fox Den Farm, 42.95 263 P **P 14 29 50.1 +1.8**
baz=33
P56A Dayton Farm, R 42.97 265 P **P 14 29 49.8 +1.2**
baz=33
O54A Avella 43.07 267 P **P 14 29 50.7 +1.4**
baz=34
AGMN Agassiz Nation 43.10 287 P **P 14 29 50.9 +1.4**
baz=38,SNR=5.4
BRVK Borovoye 43.12 62 *ce*P **P 14 29 49.9 +0.3**
BRVK pmax pmax
comp=Z,41nm,2.5s
Q57A Strasburg 43.18 264 P **P 14 29 51.5 +1.3**

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     baz=33
BVAR Borovoye Array   43.19  62  P        P        14 29 50.6 +0.4
     comp=Z,11nm,0.9s,baz=267,slow=3.0,SNR=18
N51A Ashland          43.32 269  P        P        14 29 51.9 +0.5
     baz=34
O53A New Philadelph   43.37 268  P        P        14 29 53.4 +1.6
     baz=34,SNR=6.7
P54A Burton           43.59 266  P        P        14 29 54.7 +1.2
     baz=34
R58A Rapidan          43.62 263  P        P        14 29 55.4 +1.6
     baz=33,SNR=5.7
O52A Adamsville       43.75 268  P        P        14 29 56.2 +1.4
     baz=34
R57A Stanardsville    43.85 263  P        P        14 29 56.9 +1.3
     baz=33
R58B Mineral          43.85 263  P        P        14 29 57.2 +1.5
     baz=32
O51A Pataskala        44.05 269  P        P        14 29 58.4 +1.1
     baz=34
P53A Whipple          44.08 267  P        P        14 29 59.0 +1.5
     baz=34,SNR=6.3
COLD Coldfoot         44.08 336  P        P        14 29 56.0  -1.2
     baz=27
R56A Bull Pasture M   44.13 264  P        P        14 29 59.4 +1.4
     baz=33,SNR=6.5
Q54A Coxs Mills       44.26 266  P        P        14 30 00.8 +1.9
     baz=33,SNR=5.5
P52A Corning          44.28 268  P        P        14 30 00.5 +1.5
     baz=34,SNR=5.3
S57A Dark Hollow, R   44.48 263  P        P        14 30 01.9 +1.3
     baz=32
T59A Double "B" Far   44.55 261  P        P        14 30 02.8 +1.6
     baz=32
Q53A Leroy            44.66 267  P        P        14 30 03.6 +1.4
     baz=33,SNR=5.7
T58A Grand View Acr   44.99 262  P        P        14 30 06.1 +1.4
     baz=32
JFWS Jewell Farm      45.06 278  P        P        14 30 06.5 +1.3
     baz=35
S55A Lewisburg        45.13 265  P        P        14 30 07.3 +1.4
     baz=32
T57A Hurt             45.25 263  P        P        14 30 08.2 +1.4
     baz=32
R53A Hurricane        45.29 267  P        P        14 30 08.4 +1.3
     baz=33
P49A Miami Univ. Ec   45.47 270  P        P        14 30 10.2 +1.6
     baz=34
T56A Rocky Mt         45.56 264  P        P        14 30 11.2 +1.9
     baz=32
ILAR Eielson Array    45.65 332  P        P        14 30 10.5 +0.8
     comp=Z,9.2nm,1.1s,baz=22,slow=6.6,SNR=23
ILAR                             PcP      PcP      14 31 47.7 +0.1
     comp=Z,3.5nm,0.9s,baz=355,slow=2.9,SNR=7.9
ILAR                             LR       LR       14 51 48.0
     comp=Z,867nm,18.0s,baz=36,slow=39
ILAR Eielson Array    45.65 332  P        P        14 30 10.1 +0.4
COLA College          45.75 333  i P      P        14 30 11.9 +1.5
COLA                             pmax     pmax
     comp=Z,14nm,1.1s
SCRK Sand Creek       45.76 330  P        P        14 30 10.0  -0.7
     baz=28
U57A Blanch           45.77 263  P        P        14 30 12.6 +1.7
     baz=32
SFIN Lafayette        45.79 273  P        P        14 30 12.6 +1.6
     baz=34
T55A Pulaski          45.80 265  P        P        14 30 12.8 +1.5
     baz=32
HDA  Harding Lake     45.99 332  P        P        14 30 11.7  -0.6
     baz=27
T54A Tazewell         46.19 265  P        P        14 30 15.3 +1.0
     baz=32,SNR=5.2
V58A Windy Hill, Pi   46.21 262  P        P        14 30 15.9 +1.5
     baz=31
NEA2 Nenana           46.24 333  P        P        14 30 13.9  -0.5
     baz=26
DGMT Dagmar           46.33 293  P        P        14 30 15.8 +0.6
     baz=36
V57A Coltrane Farms   46.41 263  P        P        14 30 17.6 +1.6
     baz=32
U55A TA2, Sparta      46.44 264  P        P        14 30 17.9 +1.6
     baz=32
BRZS Berezniki        46.48  63  eP       P        14 30 16.4  0.0
     comp=Z,74nm,2.5s,baz=63
BRZS                             i PP     PP       14 32 05.0  -0.2
     baz=63
BRZS                             LR       LR       14 48 50.7
     comp=Z,146nm,11.9s,baz=63
BRZS Berezniki        46.48  63  eP       P        14 30 16.3  0.0
BRZS                             i                 14 32 04.9
BRZS                             pmax     pmax
     comp=Z,75nm,2.5s
BRZS                             MLR      MLR
     comp=Z,146nm,12.0s
T53A Wise             46.67 266  P        P        14 30 19.8 +1.8
     baz=32,SNR=5.5
U54A Nelsons Funny    46.75 265  P        P        14 30 20.0 +1.2
     baz=32
X60A Albert Glenn T   46.77 260  P        P        14 30 20.5 +1.7
     baz=31
V56A Mocksville       46.79 263  P        P        14 30 20.6 +1.7
     baz=32
V55A Taylorsville     47.06 264  P        P        14 30 23.3 +2.2
     baz=32,SNR=5.9
ECSD EROS Data Cent   47.08 284  P        P        14 30 22.3 +1.2
     baz=35,SNR=5.1
W57A Gilead           47.13 262  P        P        14 30 23.3 +1.6
     baz=31
WCI  Wyandotte Cave   47.24 271  P        P        14 30 23.6 +1.2
     baz=33
W56A Indian Trail     47.40 263  P        P        14 30 25.1 +1.4
     baz=31
V54A Nebo             47.44 265  P        P        14 30 25.3 +1.3
     baz=32
TZTN Tazewell         47.47 267  P        P        14 30 25.5 +1.2
     baz=32,SNR=5.9
ZALV Zalesovo Beam    47.62  51  P        P        14 30 25.0  -0.2
     comp=Z,1.9nm,0.7s,baz=324,slow=7.3,SNR=6.2
ZALV                             LR       LR       14 53 20.0
     comp=Z,433nm,19.3s,baz=322,slow=40
ZALV Zalesovo Beam    47.62  51  i P      P        14 30 28.7 +3.5
ZALV                             pmax     pmax
     comp=Z,2.0nm,0.7s
KMSC Kings Mountain   47.71 264  P        P        14 30 27.9 +1.7
     baz=31,SNR=5.0
KURK Kurchatov        48.10  58 ceP       P        14 30 28.6  -0.4
KURK                             pmax     pmax
     comp=Z,16nm,0.8s
KURK Kurchatov        48.10  58  P        P        14 30 28.4  -0.5
KURK                             IAmb     IAmb     14 30 33.3
     comp=Z,17nm,0.9s
W54A Cherokee Point   48.13 265  P        P        14 30 30.5 +1.2
     baz=31,SNR=5.3
X56A White Oak        48.14 263  P        P        14 30 30.8 +1.4
     baz=31
KURBB Kurchatov Arra  48.15  58  P        P        14 30 28.7  -0.6
     comp=Z,12nm,0.9s,baz=325,slow=7.3,SNR=35
X55A Gracelyn & Ava   48.41 264  P        P        14 30 33.1 +1.5
     baz=31,SNR=8.3
LAO  LASA Array       48.57 293  P        P        14 30 34.0 +1.2
     baz=35,SNR=6.7
X54A Belton           48.66 264  P        P        14 30 35.1 +1.6
     baz=31
EGMT Eagleton         48.85 297  P        P        14 30 35.8 +0.9
     baz=34,SNR=12
Y55A Saluda           48.97 263  P        P        14 30 37.5 +1.6
     baz=31,SNR=7.1
GOGA Godfrey          50.10 265  P        P        14 30 45.4 +0.9
     baz=31
GEYT Alibeck          50.43  84  P        P        14 30 45.7  -1.3
     comp=Z,0.8nm,0.4s,baz=259,slow=38,SNR=1.9
GEYT                             LR       LR       14 54 52.7
     comp=Z,653nm,19.1s,baz=345,slow=39
KSU1 Kansas State U   50.91 280  P        P        14 30 50.9 +0.4
     baz=33
BTLS Baital           51.06  66  eP       P        14 30 52.3 +0.6
     comp=Z,16nm,1.8s,baz=66
BTLS                             eS       S        14 38 09.5 +0.4
     baz=66
BTLS                             LR       LR       14 51 56.5
     comp=Z,121nm,12.1s,baz=66
BTLS Baital           51.06  66  eP       P        14 30 52.2 +0.6
BTLS                             eS       S        14 38 09.4 +0.4
BTLS                             pmax     pmax
     comp=Z,17nm,1.8s
BTLS                             MLR      MLR
     comp=Z,121nm,12.0s
RLMT Red Lodge        51.06 295  P        P        14 30 52.2 +0.3
     baz=33,SNR=7.9
YAK  Yakutsk          51.24  19↑ eP       P        14 30 52.7  0.0
YAK                              pmax     pmax
     comp=Z,17nm,1.7s
KKAR Karatay Array    51.27  70  P        P        14 30 50.8  -2.5
KKAR Karatay Array    51.27  70  P        P        14 30 50.8  -2.5
MSO  Missoula         51.43 299  P        P        14 30 54.8 +0.3
     baz=33
BOZ  Bozeman (W)      51.58 297  P        P        14 30 56.1 +0.4
     baz=33,SNR=32
U40A Yellville        51.63 275  P        P        14 30 56.3 +0.3
     baz=32,SNR=6.8
DZA  Taraz            51.78  69  eP       P        14 30 57.5 +0.4
     comp=Z,5.8nm,0.7s,baz=70
DZA                              eS       S        14 38 19.4 +0.4
     baz=70
DZA  Taraz            51.78  69  eP       P        14 30 57.5 +0.4
DZA                              eS       S        14 38 19.4 +0.4
DZA                              pmax     pmax
     comp=Z,6.0nm,0.7s
IUG  Iuzhnay          51.88  71  eP       P        14 30 58.9 +0.9
     comp=Z,52nm,2.3s,baz=71
IUG  Iuzhnay          51.88  71  eP       P        14 30 58.8 +0.9
IUG                              pmax     pmax
     comp=Z,52nm,2.3s
LRAL Lakeview Retre   51.94 268  P        P        14 30 59.0 +0.7
     baz=30
K22A Casper           52.04 291  P        P        14 30 58.9  -0.4
     baz=33
DGZ  Jazzator, Alta   52.07  53  i P      P        14 30 59.8 +0.5
DGZ                              pmax     pmax
     comp=Z,23nm,2.1s
YHB  Horse Butte      52.12 296  P        P        14 31 01.1 +1.3
H17A Grant Village    52.18 295  P        P        14 30 59.6  -0.7
     baz=33,SNR=5.8
W41B Gary Mavity, V   52.37 274  P        P        14 31 02.4 +0.9
     baz=31
BOD  Bodaibo          52.39  30  eP       P        14 31 01.1  -0.2
BOD                              pmax     pmax
     comp=Z,12nm,2.3s
SEY  Seymchan         52.45   6  i P      P        14 31 04.9 +3.2
SGDS Sogindy          52.62  66↓ i P      P        14 31 03.9 +0.5
     comp=Z,41nm,2.7s,baz=67
SGDS Sogindy          52.62  66 d i P     P        14 31 03.8 +0.5
SGDS                             pmax     pmax
     comp=Z,41nm,2.7s
MKAR Makanchi Array   52.72  58  P        P        14 31 03.3  -0.6
     comp=Z,3.8nm,1.0s,baz=308,slow=6.7,SNR=9.4
MKAR                             LR       LR       14 53 46.8
     comp=Z,306nm,18.3s,baz=310,slow=36
MKAR Makanchi Array   52.72  58  i P      P        14 31 04.1 +0.1
MKAR                             pmax     pmax
     comp=Z,4.0nm,1.0s
MKAR Makanchi Array   52.72  58  P        P        14 31 00.9  -3.1
TDK  Taldyqorghan     52.78  62  eP       P        14 31 05.2 +0.7
     baz=63
TDK                              eS       S        14 38 33.2 +0.5
     baz=63
TDK  Taldyqorghan     52.78  62  eP       P        14 31 05.1 +0.7
TDK                              eS       S        14 38 33.1 +0.5
KUU  Kurty            52.92  65  eP       P        14 31 05.7 +0.1
     comp=Z,7.0nm,1.1s,baz=65
KUU                              LR       LR       14 52 49.9
     comp=Z,875nm,14.1s,baz=65
KUU  Kurty            52.92  65  eP       P        14 31 05.6 +0.1
KUU                              pmax     pmax
     comp=Z,7.0nm,1.1s
KUU                              MLR      MLR
     comp=Z,875nm,14.0s
W39A Magazine         53.01 275  P        P        14 31 07.5 +1.2
     baz=31
PD31 Pinedale Array   53.15 293  P        P        14 31 07.6 +0.1
PD31                             IAmb     IAmb     14 31 13.4
     comp=Z,34nm,1.2s
PDAR Pinedale Array   53.15 293  P        P        14 31 07.4  -0.1
     comp=Z,9.8nm,1.0s,baz=60,slow=7.0,SNR=19
BW06 Boulder Array    53.16 293  P        P        14 31 07.7 +0.2
     baz=32,SNR=27
BW06 Boulder Array    53.16 293  P        P        14 31 07.4  -0.1
TOA0 Torodi Ar. Sit   53.18 156  P        P        14 31 06.0  -1.6
TOA0                             IAmb     IAmb     14 31 11.1
     comp=Z,17nm,1.1s
TORD Torodi Ar. Bea   53.18 156  P        P        14 31 05.8  -1.9
     comp=Z,12nm,1.1s,baz=342,slow=7.5,SNR=18
TORD                             LR       LR       14 53 50.5
     comp=Z,406nm,18.3s,baz=340,slow=36
TORD Torodi Ar. Bea   53.18 156  P        P        14 31 07.0  -0.6
CHKK Chushkaly        53.20  64  eP       P        14 31 07.6  -0.1
     baz=64
CHKK Chushkaly        53.20  64  eP       P        14 31 07.5  -0.1
X40A Basin Creek Fa   53.21 274  P        P        14 31 08.2 +0.5
     baz=31
AAK  Ala-Archa        53.26  67 ceP       P        14 31 08.8 +0.6
AAK                              pmax     pmax
     comp=Z,60nm,1.7s
N23A Red Feather La   53.28 289  P        P        14 31 08.6 +0.1
     baz=32,SNR=20
MIAR Mount Ida        53.47 274  P        P        14 31 10.6 +0.9
     baz=31
AAA  Alma-Ata         53.72  65  eP       P        14 31 12.1 +0.6
     baz=65
AAA                              eS       S        14 38 46.1 +0.5
     baz=65
AAA                              LR       LR       14 52 59.1
     comp=Z,868nm,15.0s,baz=65
AAA  Alma-Ata         53.72  65  eP       P        14 31 12.1 +0.6
AAA                              eS       S        14 38 46.1 +0.5
AAA                              MLR      MLR
     comp=Z,868nm,15.0s
MDOK Medeo            53.81  65  eP       P        14 31 13.0 +0.7
     baz=65
MDOK                             LR       LR       14 52 59.4
     comp=Z,809nm,14.2s,baz=65
MDOK Medeo            53.81  65  eP       P        14 31 12.9 +0.7
MDOK                             MLR      MLR
     comp=Z,809nm,14.0s
ISCO Idaho Springs    54.08 288  P        P        14 31 14.5 +0.1
     baz=32,SNR=5.0
HLID Hailey           54.37 297  P        P        14 31 16.2  -0.1
     baz=31,SNR=7.1
SATY Saty             54.43  64  eP       P        14 31 17.1 +0.4
     baz=64
SATY Saty             54.43  64  eP       P        14 31 17.1 +0.4
UZB  Uzynbulak        54.59  63  eP       P        14 31 18.4 +0.5
     comp=Z,26nm,2.5s,baz=63
UZB                              LR       LR       14 56 09.0
     comp=Z,262nm,13.9s,baz=63
UZB  Uzynbulak        54.59  63  eP       P        14 31 18.3 +0.5
UZB                              pmax     pmax
     comp=Z,26nm,2.5s
UZB                              MLR      MLR
     comp=Z,262nm,14.0s
Q24A Divide           54.59 287  P        P        14 31 18.3 +0.2
     baz=32
MOY  Mondy            54.64  42  eP       P        14 31 20.1 +2.0
MOY                              pmax     pmax
     comp=Z,72nm,3.2s
SHLS Shalkode         54.75  63  eP       P        14 31 21.2 +2.1
     comp=Z,8.0nm,1.1s,baz=63
SHLS                             eS       S        14 39 02.5 +2.9
     baz=63
SHLS                             LR       LR       14 57 01.9
     comp=Z,184nm,11.7s,baz=63
SHLS Shalkode         54.75  63  eP       P        14 31 21.1 +2.1
SHLS                             eS       S        14 39 02.4 +2.9
SHLS                             pmax     pmax
     comp=Z,8.0nm,1.1s
SHLS                             MLR      MLR
     comp=Z,184nm,12.0s
O20A White River Ci   54.86 290  P        P        14 31 20.3 +0.3
     baz=31,SNR=8.3
O20A White River Ci   54.86 290  P        P        14 31 19.5  -0.4
O20A                             IAmb     IAmb     14 31 32.8
     comp=Z,16nm,1.1s
TLY  Talaya           55.38  40  i P      P        14 31 23.5 +0.2
TLY                              pmax     pmax
     comp=Z,6.0nm,1.2s
WMOK Wichita Mounta   55.53 279  P        P        14 31 25.5 +0.9
     baz=31,SNR=8.0
MA2  Magadan          55.73   7  i P      P        14 31 25.7  0.0
MA2                              pmax     pmax
     comp=Z,13nm,1.1s
SDCO Great Sand Dun   55.77 287  P        P        14 31 26.8 +0.1
     baz=31,SNR=11
T25A Trinidad         55.84 285  P        P        14 31 27.6 +0.5
     baz=31,SNR=6.0
S22A 4UR Ranch, Cre   56.32 288  P        P        14 31 31.1 +0.5
     baz=31
PV22 Blue Mesa, Par   56.44 290  P        P        14 31 30.7  -0.7
ZAK  Zakamensk        56.44  41  eP       P        14 31 31.8 +0.7
ZAK                              pmax     pmax
     comp=Z,8.0nm,1.3s
DUG  Dugway, Tooele   56.62 294  P        P        14 31 33.3 +0.8
     baz=30,SNR=11
J05D Fort Rock, OR    57.15 302  P        P        14 31 36.3  0.0
     baz=30,SNR=7.3
WMQ  Urumqi           57.22  56  eP       P        14 31 37.5 +0.9
WMQ                              pP       sP       14 31 40.9 +0.7
WMQ                              pmax     pmax
     comp=Z,7.0nm,1.3s
WMQ                              pmax     pmax
     comp=Z,28nm,4.3s
WMQ                              LR       LR
     comp=Z,290nm,19.9s
WMQ                              LR       LR
     comp=Z,1μm,19.1s
WMQ                              LR       LR
     comp=Z,210nm,25.1s
MVCO Mesa Verde       57.46 289  P        P        14 31 39.6 +1.0
     baz=30,SNR=5.3
I03D Drain, OR        57.55 304  P        P        14 31 38.6  -0.2
     baz=29
ABTX Abilene, Hawle   57.71 279  P        P        14 31 41.4 +1.2
     baz=30
MSU  Marysvale        57.82 293  P        P        14 31 41.8 +0.7
MSU  Marysvale        57.82 293  P        P        14 31 41.8 +0.7
MSTX Muleshoe         57.88 282  P        P        14 31 41.9 +0.5
     baz=30
ANMO Albuquerque      58.57 286  i P      P        14 31 48.2 +1.8
ANMO                             pmax     pmax
     comp=Z,33nm,2.7s
ANMO Albuquerque      58.57 286  P        P        14 31 46.9 +0.5
     baz=30
DBIC Dimbokro         58.62 165  P        P        14 31 44.0  -2.6
     comp=Z,21nm,1.1s,baz=255,slow=8.9,SNR=5.6
DBIC                             LR       LR       14 57 34.2
     comp=Z,837nm,18.7s,baz=346,slow=37
DBIC Dimbokro         58.62 165  P        P        14 31 44.0  -2.6
TIC  Toumodi          58.63 165  eP       P        14 31 45.7  -1.0
M04C Macdoel          58.67 302  P        P        14 31 47.2 +0.3
     baz=29
ZEA  Zeya             58.81  24  eP       P        14 31 49.0 +1.5
ZEA                              e                 14 34 00.5
ZEA                              ePPP     PPP      14 35 30.0
ZEA                              eS       S        14 40 04.0  +11
ZEA                              pmax     pmax
     comp=Z,300nm,9.0s
ZEA                              pmax     pmax
     comp=Z,300nm,8.0s
ZEA                              smax     smax
     comp=E,300nm,10.0s
ZEA                              smax     smax
     comp=N,500nm,12.0s
ZEA                              MLR      MLR
     comp=N,500nm,16.0s
ZEA                              MLR      MLR
     comp=Z,800nm,16.0s
KIC  Kosan Boka       58.94 165  eP       P        14 31 47.8  -1.1
     comp=Z,130nm,1.5s
L02E Cave Junction    58.98 304  P        P        14 31 48.2  -0.8
     baz=28
LIC  Lamto            59.05 165  eP       P        14 31 48.4  -1.2
     comp=Z,124nm,1.4s
R11A Troy Canyon, C   59.30 295  P        P        14 31 51.8 +0.4
     baz=29,SNR=28
SONM Songino Array    59.62  40  P        P        14 31 53.3  -0.1
     comp=Z,1.3nm,0.7s,baz=327,slow=5.8,SNR=7.0
SONM                             LR       LR       15 00 56.8
     comp=Z,619nm,18.6s,baz=330,slow=39
JCT  Junction City    59.63 277  P        P        14 31 54.2 +0.7
     baz=29
W18A Petrified Fore   59.77 289  P        P        14 31 54.4  -0.3
     baz=30
ULN  Ulaanbaatar      59.78  40 ceP       P        14 31 54.3  -0.2
ULN                              pmax     pmax
     comp=Z,19nm,2.5s
WUAZ Wupatki          60.09 290  P        P        14 31 56.9 +0.1
     baz=29,SNR=6.1
NVAR Mina Array Bea   60.28 297  P        P        14 31 57.3  -0.9
     comp=Z,1.3nm,1.0s,baz=62,slow=5.5,SNR=6.5
NVAR                             LR       LR       14 56 31.4
     comp=Z,672nm,20.3s,baz=30,slow=35
NVAR Mina Array Bea   60.28 297  P        P        14 31 59.2 +1.0
LCCY Blossom Villag   60.74 253  P        P        14 32 03.3 +2.1
TPNV Topopah Spring   60.78 295  P        P        14 32 01.8 +0.3
     baz=29
MNTX Cornudas Mount   60.93 283  P        P        14 32 02.8 +0.4
     baz=29
121A Cookes Peak, D   61.21 285  P        P        14 32 05.2 +0.7
     baz=29
833A Chaparral WMA,   61.33 276  P        P        14 32 06.2 +1.0
     baz=29
CWC  Cottonwood Cre   61.93 296  P        P        14 32 09.6 +0.3
     baz=28
MPMC Manual Prospec   62.04 295  P        P        14 32 10.4 +0.3
     baz=28
PDMCI Parker Dam,Lak  62.25 292  P        P        14 32 12.2 +0.9
     baz=28
TXAR Lajitas Array    62.27 280  P        P        14 32 11.9 +0.3
     comp=Z,5.0nm,1.0s,baz=52,slow=4.9,SNR=15
TXAR                             LR       LR       14 58 47.5
     comp=Z,1μm,18.6s,baz=0.0,slow=36
GSC  Goldstone, Bar   62.43 294  P        P        14 32 13.4 +0.8
     baz=28
GMRC Granite Mounta   62.44 293  P        P        14 32 13.2 +0.5
     baz=28,SNR=6.4
PETK Petropavlovsk-   62.47   3  LR       LR       15 00 45.4
     comp=Z,238nm,18.1s,baz=7.1,slow=37
PET  Petropavlovsk    62.57   3  eP       P        14 32 07.9  -5.2
PET                              eS       S        14 40 37.6  -3.1
PET                              eSS      SS       14 44 51.8 +8.1
PET                              pmax     pmax
     comp=Z,300nm,9.2s
TUC  Tucson           62.64 288  P        P        14 32 14.7 +0.7
     baz=29
ISA  Isabella, Lake   62.77 296  P        P        14 32 15.3 +0.5
     baz=28
IRM  Iron Mountain    62.78 292  P        P        14 32 15.7 +0.8
     baz=28
BELC Belle Mtn. Jos   63.26 293  P        P        14 32 18.6 +0.4
     baz=28,SNR=6.0
BC3  Big Chuckawall   63.34 292  P        P        14 32 18.6  -0.2
     baz=28,SNR=9.0
TEIG Tepich           63.68 262  eP       P        14 32 22.1 +1.2
MONP2 Monument Peak   64.40 293  P        P        14 32 26.5 +0.7
     baz=28
URIC Uribia, Colomb   64.75 242  eP       P        14 32 29.2 +1.3
SKR  Severo-Kuril's   64.85   4  eP       P        14 32 27.0  -1.2
SKR                              eS       S        14 41 22.2  +13
SKR                              pmax     pmax
     comp=Z,100nm,9.5s
SKR                              pmax     pmax
     comp=Z,200nm,7.8s
SKR                              pmax     pmax
     comp=Z,45nm,1.0s
SKR                              MLR      MLR
     comp=Z,200nm,18.0s
SKR                              MLR      MLR
     comp=Z,200nm,17.0s
GTA  Gaotai           65.29  49  eP       P        14 32 32.0 +0.6
GTA                              pP       sP       14 32 35.3 +0.3
GTA                              sP       pP       14 32 38.3 +4.2
GTA                              pmax     pmax
     comp=Z,290nm,6.5s
GTA                              LR       LR
     comp=Z,660nm,17.5s
GTA                              LR       LR
     comp=Z,670nm,14.9s
GTA                              LR       LR
     comp=Z,680nm,17.1s
SDV  Santo Domingo    66.83 239  eP       P        14 32 42.9 +1.3
ARGC Ariguani, Magd   67.30 243  eP       P        14 32 46.0 +1.7
HHC  Hu-ho-hao-te     67.49  40  eP       P        14 32 45.8 +0.3
HHC                              S        S        14 41 45.0 +3.2
HHC                              pmax     pmax
     comp=Z,19nm,1.2s
HHC                              pmax     pmax
     comp=Z,310nm,6.5s
HHC                              LR       LR
     comp=Z,570nm,16.6s
HHC                              LR       LR
     comp=Z,530nm,16.9s
HHC                              LR       LR
     comp=Z,700nm,16.7s
YSS  Yuzh-Sakhalins   67.62  14 c i P     P        14 32 49.0 +3.0
```

YSS			*e*		14 33 15.5	
YSS			*e*		14 35 15.3	
YSS			*e*PPP	PPP	14 37 02.1	
YSS			*e*S	**S**	**14 41 47.5**	**+4.6**
YSS			*e*		14 42 14.0	
YSS			pmax	pmax		
	comp=Z,400nm,7.9s					
YSS			pmax	pmax		
	comp=Z,20nm,1.3s					
YSS			MLR	MLR		
	comp=Z,300nm,17.0s					
YSS			MLR	MLR		
	comp=N,200nm,15.0s					
SJCC	**San Jacinto, C**	**67.62**	**244**	*e*P	P	14 32 40.9 -5.6
CN2	**Changchun**	**68.01**	**28**	*e*P	**P**	**14 32 46.6**	**-1.9**
SMLC	**San Martn de**	**68.20**	**243**	*e*P	**P**	**14 32 50.0**	**-0.1**
PAMC	**Pamplona, Colo**	**69.02**	**241**	*e*P	**P**	**14 32 57.6**	**+1.8**
LCBC	**Los crdobas,**	**69.03**	**245**	*e*P	P	14 33 00.6 +5.3
BJI	**Beijing**	**69.47**	**36**	P	**P**	**14 33 00.9**	**+3.2**
BJI			pmax	pmax		
	comp=N,7.0nm,1.3s					
BJI			pmax	pmax		
	comp=N,310nm,11.2s					
BJI			LR	LR		
	comp=N,600nm,18.3s					
BJI			LR	LR		
	comp=N,440nm,14.9s					
BJI			LR	LR		
	comp=N,340nm,16.5s					
LZH	**Lanzhou**	**69.61**	**48**	*e*P	**P**	**14 32 55.3**	**-3.6**
LZH				*e*PP	**PP**	**14 35 30.5**	**-1.6**
LZH			pmax	pmax		
	comp=N,26nm,1.3s					
LZH			pmax	pmax		
	comp=N,98nm,5.2s					
LZH			LR	LR		
	comp=N,250nm,15.6s					
LZH			LR	LR		
	comp=N,270nm,16.0s					
LZH			LR	LR		
	comp=N,400nm,18.3s					
BRRC	**Barranca, Sant**	**69.62**	**242**	*e*P	**P**	**14 33 01.4**	**+2.5**
ZARC	**Zaragoza, Cauc**	**69.70**	**243**	*e*P	**P**	**14 33 00.2**	**+0.8**
UREC	**San Jos de Ur**	**69.72**	**244**	*e*P	**P**	**14 32 59.0**	**-0.5**
BCIP	**Isla Barro Col**	**70.12**	**248**	*e*P	**P**	**14 33 03.8**	**+1.8**
PTBC	**PUERTO BERRIO,**	**70.42**	**242**	*e*P	**P**	**14 33 04.9**	**+1.1**
RUSC	**La Rusia**	**70.50**	**241**	*e*P	**P**	**14 33 05.5**	**+0.6**
DBBC	**Dabeiba**	**70.66**	**244**	*e*P	**P**	**14 33 06.8**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**70.82**	**13**	*e*P	**P**	**14 33 04.4**	**-1.5**
YUK			*e*		14 35 41.8	
YUK			*e*S	**S**	**14 42 20.9**	**+0.1**
YUK			*e*		14 43 06.7	
YUK			MLR	MLR		
	comp=Z,290nm,16.0s					
SPBC	**San Pablo de B**	**71.09**	**241**	*e*P	**P**	**14 33 10.3**	**+2.3**
HELC	**Santa Helena**	**71.15**	**243**	*e*P	**P**	**14 33 10.1**	**+1.4**
CBOC	**Ciudad Bolivar**	**71.64**	**243**	*e*P	**P**	**14 33 11.2**	**-0.1**
PTGC	**Puerto Gaitan,**	**71.71**	**239**	*e*P	**P**	**14 33 12.4**	**+0.8**
DL2	**Dalian**	**71.87**	**32**	P	**P**	**14 33 13.0**	**+0.7**
DL2			PP	**PP**	**14 35 53.6**	**+2.4**
DL2			pmax	pmax		
	comp=Z,340nm,7.7s					
DL2			LR	LR		
	comp=Z,580nm,17.1s					
DL2			LR	LR		
	comp=Z,400nm,15.5s					
DL2			LR	LR		
	comp=Z,750nm,16.9s					
CHIC	**Chingaza**	**71.90**	**241**	*e*P	**P**	**14 33 13.6**	**+0.3**
ROSC	**El Rosal**	**71.93**	**241**	LR	LR	15 03 52.5	
	comp=Z,178nm,19.4s,baz=3.0,slow=35					
ROSC	**El Rosal**	**71.93**	**241**	*e*P	**P**	**14 33 15.5**	**+2.1**
GUY2C	**Guyana, Caldas**	**71.97**	**242**	*e*P	**P**	**14 33 14.4**	**+0.6**
TOLC	**Tolima**	**72.54**	**242**	*e*P	**P**	**14 33 19.1**	**+2.1**
PLMC	**San Jos del P**	**72.62**	**243**	*e*P	**P**	**14 33 18.4**	**+1.2**
ANIL	**Santa Ana**	**72.66**	**242**	*e*P	**P**	**14 33 20.2**	**+2.5**
XAN	**Xi'an**	**73.07**	**44**	P	P	14 33 25.8 +6.1
XAN			pP	PcP	14 33 44.8 +8.4	
XAN			pmax	pmax		
	comp=Z,13nm,2.0s					
XAN			pmax	pmax		
	comp=Z,280nm,7.3s					
XAN			LR	LR		
	comp=N,330nm,20.6s					
XAN			LR	LR		
	comp=E,750nm,18.4s					
XAN			LR	LR		
	comp=Z,750nm,26.0s					
ORTC	**Ortega, Tolima**	**73.14**	**242**	*e*P	**P**	**14 33 18.0**	**-2.2**
PRAC	**Prado**	**73.18**	**241**	*e*P	**P**	**14 33 24.9**	**+4.4**
YOTC	**Yotoco, Valle**	**73.49**	**243**	*e*P	**P**	**14 33 20.3**	**-2.0**
CD2	**Chengdu**	**74.35**	**50**	*e*P	**P**	**14 33 25.3**	**-1.9**
CD2			PP	**PP**	**14 36 13.4**	**+0.8**
CD2			S	**S**	**14 43 00.3**	**-1.3**
CD2			SS	**SS**	**14 47 48.8**	**+2.4**
CD2			pmax	pmax		
	comp=Z,30nm,0.9s					
CD2			pmax	pmax		
	comp=Z,270nm,5.5s					
CD2			LR	LR		
	comp=Z,640nm,17.8s					
CD2			LR	LR		
	comp=Z,440nm,9.6s					
CD2			LR	LR		
	comp=Z,560nm,19.2s					
KSRS	**Korea Array**	**74.62**	**28**	LR	LR	15 08 55.6
	comp=Z,242nm,18.4s,baz=342,slow=38					
GARC	**Garzon, Huila**	**74.81**	**241**	*e*P	**P**	**14 33 31.0**	**+0.7**
POPC	**Popayan, Colom**	**74.94**	**243**	*e*P	**P**	**14 33 27.7**	**-3.3**
PCON	**Cinco Dias**	**75.03**	**242**	*e*P	**P**	**14 33 31.5**	**-0.3**
FLOC	**Florencia**	**75.43**	**241**	*e*P	**P**	**14 33 34.6**	**+1.1**
BBAC	**Balboa, Cauca**	**75.63**	**243**	*e*P	**P**	**14 33 33.5**	**-1.4**
PTLC	**Puerto Leguiza**	**76.41**	**240**	*e*P	**P**	**14 33 41.7**	**+2.6**
MAT	**Matsushiro**	**77.30**	**20**	P	**P**	**14 33 41.8**	**-2.1**
MAT			S	**S**	**14 43 36.2**	**+2.3**
MJAR	**Matsushiro Arr**	**77.30**	**20**	P	**P**	**14 33 45.7**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=289,slow=8.9,SNR=2.1					
MJAR			LR	LR	15 10 24.7	
	comp=Z,132nm,18.2s,baz=310,slow=38					
NJ2	**Nanjing**	**77.72**	**37**	*e*P	**P**	**14 33 45.0**	**-1.3**
NJ2			S	**S**	**14 43 34.0**	**-4.5**
NJ2			sS	**sS**	**14 43 48.3**	**+5.3**
NJ2			SKS	**SKSac**	**14 43 56.4**	**-3.6**
NJ2			pmax	pmax		
	comp=Z,3.0nm,0.6s					
NJ2			pmax	pmax		
	comp=Z,210nm,3.7s					
NJ2			LR	LR		
	comp=Z,740nm,16.4s					
NJ2			LR	LR		
	comp=Z,350nm,15.9s					
NJ2			LR	LR		
	comp=Z,710nm,17.2s					
OTAV	**Otavalo**	**77.73**	**243**	*e*P	P	14 33 41.5 -5.6
SSE	**Sheshan**	**79.22**	**35**	P	**P**	**14 33 53.5**	**-1.1**
SSE			S	**S**	**14 43 52.3**	**-2.3**
SSE			pmax	pmax		
	comp=Z,33nm,0.7s					
SSE			pmax	pmax		
	comp=Z,130nm,3.3s					
SSE			LR	LR		
	comp=Z,210nm,23.9s					
SSE			LR	LR		
	comp=Z,370nm,20.2s					
KMI	**Kunming**	**79.34**	**53**	⇑P	**P**	**14 33 56.0**	**+0.4**
KMI			PP	**PP**	**14 36 59.3**	**+4.4**
KMI			S	**S**	**14 43 53.3**	**-3.3**
KMI			sS	sS	14 44 01.8 +0.7	
KMI			SS	**SS**	**14 49 00.4**	**-2.0**
KMI			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KMI			pmax	pmax		
	comp=Z,230nm,6.5s					
KMI			LR	LR		
	comp=Z,180nm,20.8s					
KMI			LR	LR		
	comp=Z,520nm,19.8s					
KMI			LR	LR		
	comp=Z,270nm,19.7s					
GYA	**Guiyang**	**79.41**	**49**	⇑P	**P**	**14 33 56.8**	**+0.9**
GYA			pP	sP	14 34 01.1 +1.6	
GYA			PP	**PP**	**14 37 00.3**	**+4.9**
GYA			S	**S**	**14 43 54.3**	**-2.8**
GYA			SKS	**SKSac**	**14 44 05.4**	**-7.2**
GYA			SS	**SS**	**14 49 00.9**	**-2.3**
GYA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
GYA			pmax	pmax		
	comp=Z,310nm,3.7s					
GYA			LR	LR		
	comp=Z,290nm,18.3s					
GYA			LR	LR		
	comp=Z,440nm,17.7s					
GYA			LR	LR		
	comp=Z,310nm,18.6s					
BDFB	**Brasilia**	**83.41**	**209**	LR	LR	15 05 14.4
	comp=Z,509nm,20.9s,baz=328,slow=31					
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**14 34 20.1**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=319,slow=7.5,SNR=7.8					
CMAR			LR	LR	15 14 44.4	
	comp=Z,244nm,20.5s,baz=351,slow=38					
CMAR	**Chiang Mai Arr**	**84.12**	**59**	*i* P	**P**	**14 34 20.7**	**0.0**
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
SIV	**San Ignacio**	**87.00**	**222**	LR	LR	15 08 18.7
	comp=Z,517nm,18.8s,baz=16,slow=32					
QIZ	**Qiongzhong**	**87.37**	**49**	P	**P**	**14 34 35.3**	**-1.5**
QIZ			S	**S**	**14 45 15.9**	**-1.6**
QIZ			SS	**SS**	**14 50 58.8**	**-2.1**
QIZ			LR	LR		
	comp=Z,360nm,18.3s					
QIZ			LR	LR		
	comp=Z,440nm,18.2s					
NNA	**Nana**	**88.38**	**237**	LR	LR	15 11 36.4
	comp=Z,76nm,21.6s,baz=308,slow=34					
LPAZ	**La Paz**	**89.42**	**228**	LR	LR	15 13 05.8
	comp=Z,115nm,18.2s,baz=1.0,slow=34					
LBTB	**Lobatse**	**95.46**	**141**	LR	LR	15 19 57.8
	comp=Z,564nm,18.1s,baz=335,slow=37					
CPUP	**Villa Florida**	**95.86**	**215**	LR	LR	15 14 47.7
	comp=Z,248nm,18.6s,baz=22,slow=33					
PSI	**Prapat**	**98.47**	**65**	LR	LR	15 24 32.7
	comp=Z,287nm,19.7s,baz=271,slow=38					
BOSA	**Boshof**	**98.79**	**143**	LR	LR	15 22 31.7
	comp=Z,950nm,18.5s,baz=346,slow=37					
PPT2	**Papeete2**	**123.08**	**302**	*e*LR	LR	15 18 56.6
	comp=Z,267nm,23.8s					
TBI	**Tubuai**	**128.30**	**299**	*e*LR	LR	15 21 25.4
	comp=Z,275nm,26.0s					
WRA	**Warramunga Arr**	**131.50**	**36**	PKP	**PKPdf**	**14 41 01.5**	**-0.6**
	comp=Z,3.6nm,1.4s,baz=321,slow=2.1,SNR=4.3					
ASAR	**Alice Springs**	**134.94**	**38**	PKP	**PKPdf**	**14 41 07.1**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=346,slow=2.6,SNR=8.4					
DZM	**Mont Dzumac**	**137.31**	**355**	*e*LR	LR	15 25 26.8
	comp=Z,335nm,24.4s					
STKA	**Stephens Creek**	**144.70**	**32**	PKP	**PKPdf**	**14 41 25.9**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=329,slow=3.5,SNR=7.2					
STKA	**Stephens Creek**	**144.70**	**32**	PKIKP	**PKPdf**	**14 41 26.4**	**+0.6**
STKA	**Stephens Creek**	**144.70**	**32**		**PKPdf**	**14 41 26.4**	**+0.6**
QSPA	**South Pole Qui**	**154.62**	**180**		**PKPdf**	**14 41 40.2**	**-0.2**

*IDC **18** 15:02:06.4±1.6, 1°.97S×139°.05E, h0km, mb3.4/3, mb1 4.0/5, mb1mx3.6/28, mbtmp3.9/5, ML4.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/25, Error ellipse: s-maj=29.4km s-min=14.2km az=8.0*

ISC 18 15:02:10.3±1.3, **2°.2S**±0°.1×**139°.0E**±0°.1, **h29**km, **n7**, σ**2**s**80/8, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.77**	**100**	Pg	**Pn**	**15 02 38.4**	**-0.7**
	18nm,0.3s,baz=282,slow=19,SNR=64						
JAY				Lg	Lg	15 03 01.0	
	25nm,0.3s,baz=104,slow=19,SNR=5.6						
PMG	**Port Moresby**	**10.85**	**132**	LR	LR	15 09 42.1	
	comp=Z,156nm,18.4s,baz=264,slow=42						
BATI	**Baumata**	**17.15**	**242**	P	**P**	**15 06 09.7**	**+0.1**
	1.4nm,0.3s,baz=74,slow=18,SNR=1.4						
WRA	**Warramunga Arr**	**18.20**	**194**	P	**Pn**	**15 06 22.3**	**+1.2**
	0.5nm,0.3s,baz=14,slow=12,SNR=36						
WRA				S	**Sn**	**15 09 39.2**	**-4.4**
	0.1nm,0.3s,baz=14,slow=22,SNR=3.0						
FITZ	**Fitzroy Crossi**	**20.50**	**219**	P	Pn	15 06 50.6	+2.0
	0.9nm,0.7s,baz=21,slow=8.6,SNR=1.9						
FITZ				S	**S**	**15 10 32.8**	**-1.6**
	1.8nm,0.8s,baz=0.0,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**21.90**	**193**	P	**P**	**15 07 04.1**	**+2.8**
	3.5nm,0.8s,baz=23,slow=9.8,SNR=37						
ASAR				S	**S**	**15 11 04.4**	**+2.6**
	0.6nm,0.8s,baz=14,slow=24,SNR=3.3						
MKAR	**Makanchi Array**	**69.54**	**322**	P	**P**	**15 13 15.8**	**-0.7**
	0.2nm,0.5s,baz=101,slow=7.5,SNR=1.9						

*IDC **18** 15:06:07.6±0.8, 52°.83S×19°.72E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/34, mbtmp4.1/9, MS3.6/8, Ms1 3.6/8, ms1mx3.4/33, Error ellipse: s-maj=37.1km s-min=17.7km az=84.0*

*NEIC **18** 15:06:09.9±0.7, 52°.8S±0°.1×19°.6E±0°.2, h15km±4km, mb4.8/16, Error ellipse: s-maj=19.1km s-min=15.9km az=65.0*

ISC 18 15:06:09.1±0.6, **52°.74S**±0°.09×**19°.6E**±0°.1, **h10**km, **n47**, σ**1**s**07/35**, **mb4.2/10**, **MS3.7/8**, **2C-1D**, **Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**18.85**	**158**	⇑*e*pP	**Pn**	**15 10 28.6**	**-0.7**
SYO	**Syowa Base**	**18.85**	**158**	⇓*e*P	**Pn**	**15 10 33.2**	**+3.9**
SYO	**Syowa Base**	**18.85**	**158**	⇓*e*PnPn	Pn	15 10 39.2 +10	
SUR	**Sutherland**	**20.36**	**3**	P	Pn	15 10 48.2 +0.2	
	13nm,1.0s,baz=157,slow=13,SNR=2.1						
SUR	**Sutherland**	**20.36**	**3**	P	**P**	**15 10 46.7**	**+0.8**
SUR				IAmb	IAmb	15 11 02.9	
	comp=Z,46nm,1.6s						
SNAA	**Sanae**	**21.41**	**199**	P	**P**	**15 10 57.8**	**+1.0**
SNAA	**Sanae**	**21.41**	**199**	P	**P**	**15 10 56.6**	**-0.1**
	comp=Z,6.8nm,0.9s,baz=27,slow=12,SNR=7.4						
SNAA				LR	LR	15 17 12.0	
	comp=Z,178nm,21.3s,baz=32,slow=31						
SNAA	**Sanae**	**21.41**	**199**	P	**P**	**15 10 56.0**	**-0.7**
VNA2	**Neumayer--Watz**	**21.88**	**204**	P	**P**	**15 11 02.2**	**+0.5**
	baz=38,slow=11						
VNA1	**Neumayer--Stat**	**21.91**	**205**	P	**P**	**15 11 03.0**	**+1.0**
VNA3	**Neumayer Olymp**	**22.65**	**204**	P	**P**	**15 11 10.8**	**+0.8**
BOSA	**Boshof**	**24.47**	**12**	P	**P**	**15 11 28.6**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=169,slow=15,SNR=3.2						
BOSA	**Boshof**	**24.47**	**12**	IAmb	IAmb	15 11 49.1	
	comp=Z,26nm,1.4s						
MAW	**Mawson**	**25.47**	**142**	P	**P**	**15 11 36.0**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=287,slow=7.1,SNR=5.8						
MAW				LR	LR	15 19 21.7	
	comp=Z,118nm,21.3s,baz=264,slow=31						
MAW	**Mawson**	**25.47**	**142**	P	**P**	**15 11 36.8**	**0.0**
TRIS	**Tristan da Cun**	**27.18**	**292**	P	**P**	**15 11 52.0**	**-0.6**
LBTB	**Lobatse**	**28.06**	**12**	P	**P**	**15 12 01.4**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=114,slow=17,SNR=1.2						
LBTB	**Lobatse**	**28.06**	**12**	IAmb	IAmb	15 12 36.0	
	comp=Z,36nm,1.6s						
PAF	**Port-aux-Franc**	**31.50**	**105**	P	**P**	**15 12 30.7**	**-0.1**
BELA	**Belgrano 2**	**31.66**	**199**	P	**P**	**15 12 31.7**	**-0.2**
QSPA	**South Pole Qui**	**37.49**	**180**	P	**P**	**15 13 22.6**	**-0.1**
QSPA				IAmb	IAmb	15 13 30.4	
	comp=Z,38nm,1.9s						
SHEL	**Horse Pasture**	**41.77**	**322**	P	**P**	**15 13 58.0**	**-0.6**
EFI	**East Falkland**	**45.38**	**239**	P	**P**	**15 14 28.0**	**+0.7**
VNDA	**Vanda**	**47.92**	**170**	P	**P**	**15 14 46.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=230,slow=8.1,SNR=18						
VNDA	**Vanda**	**47.92**	**170**	P	**P**	**15 14 46.4**	**-0.5**
VNDA				IAmb	IAmb	15 14 55.5	
	comp=Z,20nm,1.8s						
CPUP	**Villa Florida**	**61.70**	**263**	LR	LR	15 39 57.9	
	comp=Z,66nm,19.7s,baz=42,slow=33						
DBIC	**Dimbokro**	**62.71**	**332**	LR	LR	15 37 21.0	
	comp=Z,61nm,21.9s,baz=127,slow=30						
H01W2	**Cape Leeuwin H**	**65.66**	**116**	T	T	16 28 56.6	
	baz=222						
H01W3	**Cape Leeuwin H**	**65.67**	**116**	T	T	16 28 59.6	
	baz=222						
H01W1	**Cape Leeuwin H**	**65.67**	**116**	T	T	16 28 59.8	
	baz=222						
CO01	**Juntas del Tor**	**66.55**	**251**	P	**P**	**15 16 59.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**67.39**	**341**	P	**P**	**15 17 06.2**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=163,slow=5.3,SNR=3.6						
TORD				LR	LR	15 44 54.6	
	comp=Z,28nm,18.1s,baz=275,slow=34						
TORD	**Torodi Ar. Bea**	**67.39**	**341**	P	**P**	**15 17 05.4**	**+0.9**
PB16	**IPOC Station P**	**75.06**	**259**	P	**P**	**15 17 51.0**	**-0.8**
PB16				IAmb	IAmb	15 17 53.1	
	comp=Z,23nm,1.7s						
LPAZ	**La Paz**	**75.82**	**262**	LR	LR	15 49 08.3	
	comp=Z,34nm,19.0s,baz=48,slow=34						
ASAR	**Alice Springs**	**85.01**	**123**	P	**P**	**15 18 44.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=205,slow=4.5,SNR=8.5						
WRA	**Warramunga Arr**	**88.32**	**121**	P	**P**	**15 18 59.6**	**-1.4**
	comp=Z,0.9nm,1.1s,baz=213,slow=4.1,SNR=4.2						
KBZ	**Khabaz**	**98.17**	**17**	LR	LR	16 04 57.4	
	comp=Z,30nm,19.8s,baz=200,slow=36						
CMAR	**Chiang Mai Arr**	**98.26**	**71**	LR	LR	15 59 17.0	
	comp=Z,38nm,18.0s,baz=236,slow=32						
TKL	**Tuckaleechee C**	**125.09**	**284**		**PKPdf**	**15 25 09.0**	**-0.1**
PDAR	**Pinedale Array**	**145.04**	**274**	PKPbc	**PKPbc**	**15 25 44.5**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=123,slow=5.5,SNR=12						
PDAR	**Pinedale Array**	**145.04**	**274**		**PKPbc**	**15 25 44.3**	**-1.3**
PSUT	**Pine Spring**	**145.11**	**265**		**PKPab**	**15 25 46.1**	**+0.2**
DUG	**Dugway, Tooele**	**145.51**	**268**		**PKPbc**	**15 25 47.0**	**-0.1**
HWUT	**Hardware Ranch**	**145.59**	**271**		**PKPdf**	**15 25 46.5**	**-0.6**
NVAR	**Mina Array Bea**	**147.72**	**261**	PKPbc	**PKPbc**	**15 25 52.4**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=144,slow=3.5,SNR=4.6						
NVAR	**Mina Array Bea**	**147.72**	**261**		**PKPdf**	**15 25 52.2**	**+1.4**

*JMA **18** 16:03:19.9±0.1, 24°.56N×122°.52E, h24km±2km, M1.8*
*TAP **18** 16:03:19.2, 24°.60N×122°.49E, h18km±1km, ML2.5, D*

ISC 18 16:03:19.7±1.3, **24°.59N**±0°.03×**122°.52E**±0°.02, **h21**km±4km, **n66**, σ**0**s**96/118**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.42**	**110**	P	**Pb**	**16 03 28.2**	**0.0**
JYNG				*e*S	**Sb**	**16 03 34.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.47**	**106**	*e*P	**Pb**	**16 03 29.0**	**-0.1**
	baz=107						
YOJ				S	**Sb**	**16 03 36.5**	**+0.8**
	baz=107						
YOJ	**Yonaguni jima**	**0.47**	**106**	P	**Pb**	**16 03 29.1**	**-0.1**
YOJ				*e*S	**Sb**	**16 03 36.0**	**+0.3**
EGS		**0.59**	**295**	P	**Pb**	**16 03 30.4**	**-1.0**
	baz=296						
EGS				*e*S	**Sn**	**16 03 40.4**	**-1.3**
	baz=296						
TWB1	**Santiao Chiao**	**0.63**	**311**	*e*P	**Pb**	**16 03 31.0**	**-1.1**
	baz=312						
TWB1				*e*S	**Sb**	**16 03 38.5**	**-2.1**
	baz=312						
ENAH	**Nanao**	**0.66**	**258**	*e*P	**Pb**	**16 03 32.5**	**0.0**
	baz=256						
ENAH				S	**Sb**	**16 03 41.6**	**+0.4**
	baz=256						
NTC	**Toucheng**	**0.68**	**293**	P	**Pb**	**16 03 32.0**	**-0.8**
	baz=299						
NTC				*e*S	**Sb**	**16 03 41.5**	**-0.2**
	baz=299						
ILA	**Ilan**	**0.72**	**284**	*e*P	**Pn**	**16 03 34.5**	**0.0**
	baz=275						
ILA				*e*S	**Sn**	**16 03 43.9**	**-1.0**
	baz=275						
ENA	**Nanau**	**0.72**	**257**	*e*P	**Pb**	**16 03 33.4**	**-0.2**
	baz=255						
ENA				*e*S	**Sb**	**16 03 42.2**	**-0.9**
	baz=255						
TIPB	**Shuangxi**	**0.73**	**301**	P	**Pb**	**16 03 33.1**	**-0.6**
	baz=309						
TIPB				S	**Sb**	**16 03 43.2**	**-0.2**
	baz=309						
TWE	**Neicheng**	**0.78**	**280**	P	**Pb**	**16 03 33.7**	**-0.9**
	baz=272						
TWE				S	**Sb**	**16 03 44.3**	**-0.5**
	baz=272						
NWF	**Wu-fen Shan**	**0.82**	**306**	*e*P	**Pb**	**16 03 34.8**	**-0.5**
	baz=306						
WFSB	**Wu-fen Shan**	**0.82**	**306**	*e*P	**Pb**	**16 03 34.8**	**-0.4**
	baz=313						
WFSB				*e*S	**Sn**	**16 03 46.6**	**-0.8**
	baz=313						
ENTT	**Nioudou**	**0.86**	**273**	P	**Pb**	**16 03 35.4**	**-0.6**
	baz=272						
ENTT				S	**Sb**	**16 03 46.8**	**-0.4**
	baz=272						
NDT	**Datong Townshi**	**0.91**	**271**	P	**Pn**	**16 03 36.9**	**-0.3**
	baz=269						
NDT				S	**Sb**	**16 03 48.0**	**-0.6**
	baz=269						
TWA	**Mucha**	**0.93**	**295**	*e*P	**Pb**	**16 03 37.1**	**0.0**
	baz=294						
TWA				*e*S	**Sb**	**16 03 48.9**	**-0.1**
	baz=294						
NACB	**Ninganchiao**	**0.94**	**244**	P	**Pb**	**16 03 37.0**	**-0.2**
	baz=242						
NACB				S	**Sb**	**16 03 49.0**	**-0.2**
	baz=242						
NWLT	**Wulai**	**0.94**	**281**	*e*P	**Pb**	**16 03 36.4**	**-0.8**
	baz=281						
NWLT				*e*S	**Sb**	**16 03 48.4**	**-0.9**
	baz=281						
ETLH	**Xiulin Townshi**	**1.02**	**248**	P	**Pn**	**16 03 38.7**	**-0.1**
	baz=255						
ETLH				*e*S	**Sn**	**16 03 52.4**	**-0.1**
	baz=255						
YM01	**YM01**	**1.02**	**303**	*e*P	**Pn**	**16 03 38.7**	**-0.1**
	baz=303						
YM01				*e*S	**Sb**	**16 03 51.9**	**+0.2**
	baz=303						
YM11	**YM11**	**1.03**	**304**	*e*P	**Pn**	**16 03 39.7**	**+0.8**
	baz=304						
YM11				*e*S	**Sn**	**16 03 53.3**	**+0.6**
	baz=304						
YM08	**YM08**	**1.03**	**305**	*e*P	**Pn**	**16 03 39.8**	**+1.0**
	baz=305						
YM08				*e*S	**Sb**	**16 03 50.9**	**-1.0**
	baz=305						
YM10	**YM10**	**1.03**	**303**	*e*P	**Pn**	**16 03 39.1**	**+0.2**
	baz=303						
YM10				*e*S	**Sn**	**16 03 53.5**	**+0.7**
	baz=303						
YM05	**YM05**	**1.03**	**304**	*e*P	**Pb**	**16 03 38.8**	**-0.1**
	baz=304						
YHNB	**Yeheng**	**1.04**	**274**	P	**Pb**	**16 03 38.6**	**-0.4**
	baz=267						
YHNB				S	**Sb**	**16 03 51.3**	**-0.9**
	baz=267						
NNSH	**Datong**	**1.04**	**261**	*e*P	**Pb**	**16 03 38.6**	**-0.5**
	baz=253						
NNSH				*e*S	**Sb**	**16 03 52.1**	**-0.3**
	baz=253						
NNSB	**Datong**	**1.04**	**261**	P	**Pb**	**16 03 38.8**	**-0.3**
	baz=260						
NNSB				*e*S	**Sb**	**16 03 52.2**	**-0.2**
	baz=260						
YM04	**YM04**	**1.05**	**302**	*e*P	**Pn**	**16 03 39.3**	**+0.2**
	baz=302						
YM04				*e*S	**Sn**	**16 03 52.9**	**-0.3**
	baz=302						
NNS	**Nan Shan**	**1.05**	**262**	P	**Pn**	**16 03 39.6**	**+0.3**
	baz=260						
NNS				S	**Sb**	**16 03 52.1**	**-0

baz=254
CHGB Renai 1.33 247 *e*P **Pb 16 03 44.7 +0.6**
baz=251
CHGB *e*S **Sb 16 04 02.6 +1.8**
baz=251
NSTT Nanjuang 1.38 272 *e*P **Pb 16 03 46.5 +1.8**
baz=270
NSTT *e*S **Sb 16 04 03.6 +1.6**
baz=270
JKRS Kuro-shima 1.41 104 P **Pn 16 03 44.0 0.0**
JKRS *e*S **Sn 16 04 01.4 -0.5**
WHP Taichung City 1.47 258 *e*P **Pb 16 03 46.9 +0.6**
baz=241
WHP *e*S **Sb 16 04 06.7 +2.2**
baz=241
HGSD Ruisui 1.48 223 *e*P **Pb 16 03 47.1 +0.6**
baz=207
JIJ Ishigaki jima 1.50 98 P **Pn 16 03 45.1 -0.2**
VWDT VWDT 1.51 237 *e*P **Pb 16 03 47.2 +0.3**
baz=233
VWDT *e*S **Sb 16 04 05.5 -0.1**
baz=233
EHY Hungye 1.54 225 *e*P **Pn 16 03 45.5 -0.3**
baz=221
NMLH Miaoli 1.57 268 *e*P **Pb 16 03 49.2 +1.2**
baz=278
NMLH *e*S **Sb 16 04 10.5 +3.0**
baz=278
YULB Yu-li 1.63 223 *e*P **Pn 16 03 47.7 +0.6**
baz=220
YULB *e*S **Sb 16 04 08.8 -0.5**
baz=220
JISG Ishigakijimahi 1.63 90 P **Pn 16 03 47.9 +0.8**
SSLB Suanglung 1.64 241 *e*P **Pb 16 03 49.1 -0.1**
baz=225
SSLB *e*S **Sb 16 04 09.8 +0.4**
baz=225
TYC Yuchr 1.66 246 *e*P **Pb 16 03 49.5 -0.1**
baz=229
TYC *e*S **Sb 16 04 10.5 +0.5**
baz=229
TWF1 Yuli 1.66 222 *e*P **Pn 16 03 46.8 -0.7**
baz=207
TWF1 *e*S **Sb 16 04 09.4 -0.7**
baz=207
FULB Fuli 1.78 219 *e*P **Pn 16 03 49.9 +0.7**
baz=204
FULB *e*S **Sb 16 04 14.5 +1.0**
baz=204
CHN5 Tsauling 1.95 240 *e*P **Pb 16 03 53.8 -0.8**
baz=220
CHN5 *e*S **Sb 16 04 19.7 +1.3**
baz=220
EDH Donghe 1.96 215 *e*S **Sn 16 04 15.8 +0.3**
baz=201
ELDTW Lidau 1.96 225 *e*P **Pn 16 03 52.5 +0.8**
baz=221
ELDTW *e*S **Sb 16 04 17.0 -1.7**
baz=221
WDLH Douliu 2.02 244 *e*S **Sb 16 04 21.6 +1.3**
baz=240
CHN4 Tsaushan 2.15 235 *e*P **Pb 16 03 57.7 -0.2**
baz=217
CHN4 *e*S **Sb 16 04 25.6 +1.5**
baz=217
TPUB Ta-pu 2.15 234 *e*P **Pb 16 03 57.2 -0.7**
baz=219
TPUB *e*S **Sb 16 04 25.2 +1.0**
baz=219
WTP Ta-pu 2.20 233 *e*P **Pb 16 03 57.7 -1.0**
baz=229
WTP *e*S **Sb 16 04 25.5 0.0**
baz=229
TWK Hsinying 2.28 235 *e*P **Pb 16 03 58.5 -1.5**
baz=230
SGST Jiashian 2.32 230 *e*S **Sb 16 04 27.2 -1.9**
baz=226
SLGT Liugui 2.34 227 *e*P **Pb 16 04 00.1 -1.0**
baz=215
SLGT *e*S **Sb 16 04 29.9 +0.4**
baz=215
MASBT Mashibuluo 2.62 222 *e*P **Pn 16 04 02.7 +2.0**
baz=208
MASBT *e*S **Sb 16 04 35.7 -2.0**
baz=208
SLIU Shizi 2.84 214 *e*P **Pb 16 04 06.7 -3.0**
baz=211
SLIU *e*S **Sn 16 04 37.6 +0.2**
baz=211

IDC 18 16:07:09.2±387.0, 57°.42N×30°.81E, h0km, Error ellipse: s-maj=173.3km s-min=93.9km az=111.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 3.56** baz=283,slow=310,SNR=5.2		**99**	*i*		16 30 20.0	
I31KZ	**AKTYUBINSK INF 17.42** baz=305,slow=324,SNR=1.3		**102**	*i*		17 51 20.0	
I48TN	**KESRA INFRASON 25.96** baz=25,slow=321,SNR=0.6		**223**	*i*		18 46 20.0	

*IDC **18** 16:14:20.0±1.1, 34°.17N×23°.52E, h0km, mb3.8/10, mb1 3.9/17, mb1mx3.7/54, mbtmp3.7/17, ML3.6/7, MS3.0/1, Ms1 3.0/1, ms1mx2.2/44, Error ellipse: s-maj=21.8km s-min=13.0km az=154.0*
*ISK **18** 16:14:20.6, 34°.48N×23°.46E, h12km, ML3.9/7*
*THE **18** 16:14:22.3, 34°.49N×23°.55E, h0km±7km, ML3.2/5, Error ellipse: s-maj=10.2km s-min=2.2km az=203.0*
*NEIC **18** 16:14:24.6±2.0, 34°.36N±0°.10×23°.51E±0°.05, h25km±8km, mb4.1/9, Error ellipse: s-maj=14.7km s-min=2.0km az=200.0*
*ATH **18** 16:14:27.6, 34°.80N×23°.75E, h12km±3km, ML3.0/7, Error ellipse: s-maj=7.4km s-min=1.7km az=33.0*

ISC 18 16:14:21.6±1.8, 34°.50N±0°.06×23°.56E±0°.04, h1km±11km, n81, σ1°.42/86, mb4.0/15, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.56**	**52**	P	**Pb**	**16 14 33.2**	**-0.9**
GVD				S	**Sb**	**16 14 42.0**	**-0.5**
4μm,0.3s							
GVD	**Gavdhos**	**0.56**	**52**	P	**Pb**	**16 14 33.3**	**-0.9**
GVD				AML	AML	16 14 45.6	
comp=N,7950μm,0.4s							
GVD				AML	AML	16 14 46.2	
comp=E,6973μm,0.3s							
GVD	**Gavdhos**	**0.56**	**52**	PG	**Pb**	**16 14 33.5**	**-0.6**
GVD				SG	**Sb**	**16 14 42.6**	**+0.1**
GVDS	**Gavdos**	**0.56**	**52**	P	**Pb**	**16 14 32.9**	**-1.3**
GVDS				S	**Sb**	**16 14 42.0**	**-0.6**
comp=E,2μm,0.2s							
GVDS	**Gavdos**	**0.56**	**52**	PG	**Pg**	**16 14 32.8**	**+0.5**
GVDS				SG	**Sb**	**16 14 42.1**	**-0.6**
KNDR	**Palaiochora Ch**	**0.74**	**8**	P	**Pb**	**16 14 36.7**	**-0.6**
KNDR				S	**Sn**	**16 14 48.7**	**-2.4**
comp=E,1μm,0.8s							
KNDR	**Palaiochora Ch**	**0.74**	**8**	PG	**Pb**	**16 14 36.5**	**-0.8**
IMMV	**Iera Moni Meta**	**1.02**	**20**	P	**Pb**	**16 14 41.1**	**-1.0**
IMMV				S	**Sn**	**16 14 56.0**	**-2.0**
comp=E,2μm,0.8s							
IMMV	**Iera Moni Meta**	**1.02**	**20**	P	**Pb**	**16 14 40.6**	**-1.4**
IMMV				AML	AML	16 15 15.1	
comp=N,4427μm,0.8s							
IMMV				AML	AML	16 15 24.9	
comp=E,4282μm,0.8s							
IMMV	**Iera Moni Meta**	**1.02**	**20**	PG	**Pb**	**16 14 40.9**	**-1.2**
VAM	**Vamos**	**1.05**	**30**	P	**Pb**	**16 14 41.5**	**-1.0**
VAM	**Vamos**	**1.05**	**30**	P	**Pb**	**16 14 41.4**	**-1.1**
RODP	**Rodopos**	**1.07**	**9**	P	**Pn**	**16 14 42.7**	**-1.0**
RODP	**Rodopos**	**1.07**	**9**	PN	**Pb**	**16 14 42.3**	**-0.6**
SIVA	**Sivas**	**1.16**	**63**	P	**Pg**	**16 14 42.4**	**-1.3**
SIVA	**Sivas**	**1.16**	**63**	P	**Pn**	**16 14 45.0**	**+0.2**
SIVA				AML	AML	16 15 13.7	
comp=N,3305μm,0.6s							
SIVA				AML	AML	16 15 18.2	
comp=E,6530μm,0.7s							
PRNS	**Prines Rethymn**	**1.17**	**42**	P	**Pg**	**16 14 42.8**	**-1.1**
PRNS				S	**Sn**	**16 14 58.3**	**-3.1**
IDI	**Anoyia**	**1.35**	**54**	Pg	**Pg**	**16 14 50.0**	**+2.5**
comp=E,9.2nm,0.3s,baz=262,slow=11,SNR=27							
IDI				Lg	Lg	16 15 12.0	
comp=E,16nm,0.3s,baz=330,slow=19,SNR=9.6							
IDI	**Anoyia**	**1.35**	**54**	P	**Pg**	**16 14 47.4**	**-0.1**
IDI	**Anoyia**	**1.35**	**54**	P	**Pb**	**16 14 46.7**	**-1.0**
IDI				AML	AML	16 15 18.4	
comp=N,823μm,0.9s							
IDI				AML	AML	16 15 23.0	
comp=E,921μm,1.4s							
IDI	**Anoyia**	**1.35**	**54**	PN	**Pb**	**16 14 47.0**	**-0.7**
IDI	**Anoyia**	**1.35**	**54**	P	**Pg**	**16 14 47.9**	**+0.4**
ANKY	**Antikythira Is**	**1.38**	**351**	P	**Pg**	**16 14 49.3**	**+1.2**
ANKY	**Antikythira Is**	**1.38**	**351**	P	**Pg**	**16 14 48.9**	**+0.8**
ANKY				AML	AML	16 15 24.1	
comp=E,1323μm,1.0s							
ANKY				AML	AML	16 15 28.0	
comp=N,1338μm,0.9s							
HRKL	**Herakleio**	**1.51**	**57**	PN	**Pn**	**16 14 49.3**	**-0.4**
LAST	**Lasithi**	**1.72**	**67**	P	**Pg**	**16 14 55.6**	**+1.2**
LAST				AML	AML	16 15 37.7	
comp=E,651μm,1.0s							
LAST				AML	AML	16 15 48.1	
comp=N,709μm,1.0s							
KTHA	**Kythira Island**	**1.80**	**347**	P	**Pg**	**16 14 56.4**	**+0.3**
KTHA				AML	AML	16 15 40.7	
comp=E,1234μm,0.7s							
KTHA				AML	AML	16 15 44.4	
comp=N,620μm,1.2s							
KTHA	**Kythira Island**	**1.80**	**347**	PN	**Pn**	**16 14 52.4**	**-1.3**
VLI	**Veliai**	**2.27**	**347**	P	**Pg**	**16 15 04.9**	**-0.3**
ZKR	**Zakros**	**2.28**	**74**	P	**Pb**	**16 15 03.7**	**+0.3**
ZKR	**Zakros**	**2.28**	**74**	PN	**Pn**	**16 15 00.5**	**+0.3**
SANT	**Santorini**	**2.43**	**39**	Pn	**Pb**	**16 15 04.8**	**-1.3**
KRND	**KRANIDI**	**2.90**	**354**	P	**Pb**	**16 15 12.0**	**-2.0**
ITM	**Ithomi**	**2.99**	**334**	PN	**Pn**	**16 15 09.1**	**-0.9**
ITM	**Ithomi**	**2.99**	**334**	Pn	**Pn**	**16 15 12.1**	**+2.0**
KARP	**Karpathos**	**3.14**	**69**	P	**Pb**	**16 15 15.6**	**-2.6**
KARP	**Karpathos**	**3.14**	**69**	PN	**Pn**	**16 15 12.6**	**+0.5**
KARP	**Karpathos**	**3.14**	**69**		**Pb**	**16 15 15.6**	**-2.6**
ARG	**Arkhangelos**	**4.11**	**64**	PN	**Pn**	**16 15 26.5**	**+1.0**
TURN	**Turunc**	**4.45**	**58**	PN	**Pn**	**16 15 31.2**	**+1.2**
YER	**Yerkesik**	**4.66**	**54**	PN	**Pn**	**16 15 34.4**	**+1.4**
FETY	**Fethiye**	**4.99**	**63**	PN	**Pn**	**16 15 38.9**	**+1.4**
AKAS	**Kas**	**5.24**	**69**	Pn	**Pn**	**16 15 43.2**	**+2.1**
ELL	**Elmali**	**5.64**	**65**	Pn	**Pn**	**16 15 49.7**	**+3.1**
LIT	**Litokhoron**	**5.66**	**352**	Pn	**Pn**	**16 15 46.8**	**+0.1**
FNA	**Florina**	**6.51**	**345**	Pn	**Pn**	**16 16 00.5**	**+2.0**
ALN	**Alexandroupoli**	**6.69**	**16**	Pn	**Pn**	**16 16 02.4**	**+1.6**
SCTE	**Santa Cesarea**	**6.89**	**325**	Pn	**Pn**	**16 16 03.5**	**0.0**
TIP	**Timpagrande**	**7.18**	**313**	Pn	**Pn**	**16 16 07.0**	**-0.7**
RAFF	**Raffo Rosso**	**7.94**	**293**	Pn	**Pn**	**16 16 17.9**	**-0.2**
CSS	**Mathiatis**	**8.06**	**84**	Pn	**Pn**	**16 16 20.8**	**+1.1**
BRTR	**Keskin Array B**	**9.59**	**54**	Pn	**Pn**	**16 16 45.0**	**+4.2**
comp=N,0.2nm,0.3s,baz=246,slow=14,SNR=2.6							
MMAI	**Mount Meron Ar**	**9.97**	**95**	Pn	**Pn**	**16 16 45.0**	**-1.1**
comp=N,0.7nm,0.3s,baz=343,slow=36,SNR=2.0							
ASF	**Jabal al Asfar**	**11.40**	**98**	Pn	**Pn**	**16 17 03.4**	**-2.1**
comp=N,0.1nm,0.3s,baz=266,slow=15,SNR=1.6							
ZOU	**Zoufplan**	**14.47**	**330**	P	**P**	**16 17 57.7**	**+3.1**
VRAC	**Vranov**	**15.67**	**343**	Pn	**P**	**16 18 06.1**	**-1.6**
comp=N,0.2nm,0.3s,baz=176,slow=9.6,SNR=3.0							
GERES	**GERESS Array B**	**16.09**	**336**	Pn	**P**	**16 18 13.9**	**+1.5**
comp=N,0.1nm,0.3s,baz=158,slow=14,SNR=12							
GERES	**GERESS Array B**	**16.09**	**336**	P	**P**	**16 18 14.3**	**+1.8**
KHC	**Kasperske Hory**	**16.38**	**336**	P	**P**	**16 18 17.0**	**+1.4**
AKASG	**Malin Array Be**	**16.72**	**13**	Pn	**P**	**16 18 18.3**	**-0.9**
comp=N,0.8nm,0.3s,baz=206,slow=10,SNR=7.9							
KBZ	**Khabaz**	**17.58**	**53**	P	**P**	**16 18 29.6**	**+0.8**
comp=N,0.1nm,0.3s,baz=248,slow=9.8,SNR=3.2							
CLL	**Collm**	**18.46**	**339**	*e*P	**P**	**16 18 39.0**	**+0.5**
ESDC	**Sonseca Array**	**22.51**	**291**	P	**P**	**16 19 22.4**	**-0.2**
comp=N,0.5nm,0.7s,baz=91,slow=12,SNR=2.9							
HFS	**Hagfors**	**26.45**	**349**	P	**P**	**16 20 00.2**	**+0.6**
comp=N,1.1nm,0.5s,baz=165,slow=36,SNR=3.1							
NOA	**NORSAR Array B**	**27.73**	**347**	P	**P**	**16 20 11.9**	**+0.6**
comp=N,0.2nm,0.5s,baz=152,slow=11,SNR=2.5							
EKA	**Eskdalemuir Ar**	**27.84**	**327**	P	**P**	**16 20 14.9**	**+2.7**
comp=N,2.0nm,0.8s,baz=128,slow=9.6,SNR=5.1							
TOA0	**Torodi Ar. Sit**	**29.06**	**228**	P	**P**	**16 20 21.9**	**-1.6**
TOA0				IAmb	IAmb	16 20 24.6	
comp=Z,2.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**29.06**	**228**	P	P	16 20 21.3	-2.1
comp=Z,0.6nm,0.8s,baz=39,slow=8.8,SNR=4.8							
TORD				LR	LR	16 34 18.4	
comp=Z,30nm,18.7s,baz=240,slow=42							
ABKAR	**Akbulak array**	**30.51**	**50**	P	**P**	**16 20 37.2**	**+1.1**
KK31	**Karatay Array**	**37.18**	**62**	P	**P**	**16 21 35.0**	**+0.9**
KK31				IAmb	IAmb	16 21 37.6	
comp=Z,5.1nm,1.5s							
KKAR	**Karatay Array**	**37.18**	**62**	P	**P**	**16 21 35.0**	**+0.9**
KKAR	**Karatay Array**	**37.18**	**62**	P	**P**	**16 21 35.1**	**+1.0**
KKAR				IAmb	IAmb	16 21 37.6	
comp=Z,5.1nm,1.5s							
KURBB	**Kurchatov Arra**	**42.56**	**50**	P	**P**	**16 22 18.2**	**-0.5**
comp=Z,0.6nm,0.5s,baz=279,slow=8.6,SNR=7.3							
KURK	**Kurchatov**	**42.62**	**50**	P	**P**	**16 22 18.0**	**-1.2**
KURK				IAmb	IAmb	16 22 32.0	
comp=Z,3.8nm,1.2s							
MK31	**Makanchi Array**	**45.24**	**56**	P	**P**	**16 22 40.5**	**+0.2**
MK31				IAmb	IAmb	16 22 47.1	
comp=Z,2.6nm,1.0s							
MKAR	**Makanchi Array**	**45.24**	**56**	P	**P**	**16 22 40.6**	**+0.2**
comp=Z,0.9nm,0.4s,baz=266,slow=7.4,SNR=17							
MKAR	**Makanchi Array**	**45.24**	**56**	P	**P**	**16 22 40.3**	**0.0**
ZALV	**Zalesovo Beam**	**46.41**	**46**	P	**P**	**16 22 48.3**	**-1.1**
comp=Z,0.6nm,0.4s,baz=269,slow=8.6,SNR=2.9							
SONM	**Songino Array**	**60.92**	**50**	P	**P**	**16 24 36.0**	**-0.1**
comp=Z,0.3nm,0.3s,baz=274,slow=9.4,SNR=2.1							
SONM	**Songino Array**	**60.92**	**50**	IAmb	IAmb	16 24 42.1	
comp=Z,0.6nm,0.8s							
KSRS	**Korea Array**	**79.73**	**52**	P	**P**	**16 26 31.0**	**-0.1**
comp=Z,0.5nm,0.7s,baz=311,slow=3.8,SNR=2.4							

IDC 18 16:20:15.2±2.6, 30°.81N×140°.64E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/54, mbtmp3.5/6, ML2.6/2, Error ellipse: s-maj=109.3km s-min=18.2km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.42**	**343**	Pn	Pn	16 20 55.8	-0.2
5.9nm,0.3s,baz=45,slow=20,SNR=1.0							
JHJ				Sn	Sn	16 21 26.5	+0.1
3.9nm,0.3s,baz=52,slow=13,SNR=2.0							
MJAR	**Matsushiro Arr**	**6.07**	**341**	Pn	Pn	16 21 46.7	+0.4
0.1nm,0.3s,baz=160,slow=10,SNR=6.2							
MKAR	**Makanchi Array**	**47.12**	**307**	P	P	16 28 48.7	-0.3
0.3nm,0.6s,baz=87,slow=5.9,SNR=2.5							
KURBB	**Kurchatov Arra**	**49.52**	**312**	P	P	16 29 07.4	-0.1
0.4nm,0.5s,baz=88,slow=7.4,SNR=7.2							
WRA	**Warramunga Arr**	**50.82**	**188**	P	P	16 29 17.3	-0.3
0.2nm,0.3s,baz=6.4,slow=7.7,SNR=13							
ASAR	**Alice Springs**	**54.55**	**188**	P	P	16 29 45.3	+0.1
0.3nm,0.6s,baz=5.3,slow=4.9,SNR=11							

JMA 18 16:21:34.4±0.5, 29°.65N×129°.58E, h146km±5km, M2.2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.32**	**53**	P	Pn	16 21 54.9	+0.4
JTAJ	**Takarajima**	**0.59**	**214**	P	Pn	16 21 56.0	+0.2
JKC	**Kuchinoerabu**	**0.97**	**33**	S	Sn	16 22 17.3	+0.4
JYAK	**Yakushimahirau**	**1.00**	**54**	P	Pn	16 21 58.6	-0.1
JYAK				S	Sn	16 22 16.4	-0.9
JAM	**Amami Oshima**	**1.23**	**179**	P	Pn	16 22 00.9	-0.1
JAM				S	Sn	16 22 20.0	-1.2
JMTN	**Minamitane**	**1.37**	**57**	P	Pn	16 22 02.5	+0.3
JMTN				*e*S	Sn	16 22 23.6	+0.1
JZK	**Kikaishima**	**1.37**	**165**	P	Pn	16 22 03.5	+1.1
JZK				*e*S	Sn	16 22 26.0	+2.3
JAMN	**Amaminishikomi**	**1.45**	**194**	P	Pn	16 22 02.8	-0.3
JAMN				*e*S	Sn	16 22 23.3	-1.7
JTN	**Tanegashima 3**	**1.57**	**50**	P	Pn	16 22 04.7	+0.3
JTN				*e*S	Sn	16 22 27.5	+0.1
JTSR	**Tashiro 2**	**1.91**	**37**	*e*S	Sn	16 22 32.9	-1.3
JTK	**Tokunoshima**	**1.94**	**197**	P	Pn	16 22 08.6	0.0
JTK				*e*S	Sn	16 22 33.3	-1.5

*KRNET **18** 16:32:05.8±0.1, 38°.97N×73°.85E, mb3.5*
*SOME **18** 16:32:07.0, 39°.40N×73°.13E, h0km*
*NNC **18** 16:32:09.0±2.0, 39°.43N×73°.10E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=14.9km s-min=7.6km az=174.0*

ISC 18 16:32:11.5±1.5, 39°.02N±0°.08×73°.77E±0°.04, h10km, n52, σ2°.54/85, 21C-15D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.69**	**333**	⇓*i*P	**Pn**	**16 32 38.7**	**-2.5**
baz=33							
OHH				⇓*i*S	**Sn**	**16 33 02.5**	**-0.4**
baz=33							
BTK	**Batken**	**2.51**	**295**	⇑*i*P	**Pn**	**16 32 51.0**	**-1.5**
baz=96							
BTK				⇑*i*S	**Sn**	**16 33 24.0**	**+0.8**
baz=96							
GAR	**Garm**	**2.69**	**271**	⇑*i*P	**Pn**	**16 32 53.2**	**-1.8**
baz=72							
GAR				⇑*i*S	**Sn**	**16 33 28.1**	**+0.3**
baz=72							
ARLS	**Aral**	**2.87**	**8**	⇓*i*P	**Pn**	**16 32 55.6**	**-1.9**
baz=7.0							
ARLS				⇓*i*S	**Sn**	**16 33 32.4**	**+0.1**
baz=7.0							
ARK	**Arkit**	**3.10**	**334**	⇑*i*P	**Pn**	**16 32 59.0**	**-1.7**
baz=34							
ARK				⇑*i*S	**Sn**	**16 33 37.5**	**-0.4**
baz=34							
AML	**Almayashu**	**3.11**	**359**	⇑*i*P	**Pn**	**16 32 59.5**	**-1.6**
baz=58							
AML				⇑*i*S	**Sn**	**16 33 38.2**	**-0.3**
baz=58							
KZA	**Kyzart**	**3.26**	**20**	⇑*i*P	**Pn**	**16 33 01.0**	**-2.1**
baz=19							
KZA				⇑*i*S	**Sn**	**16 33 41.4**	**-0.7**
baz=19							
EKS2	**Erkin-Say**	**3.64**	**0**	⇓*i*P	**Pn**	**16 33 06.4**	**-1.7**
baz=59							
EKS2				⇓*i*S	**Sn**	**16 33 50.7**	**-0.5**
baz=59							
AAK	**Ala-Archa**	**3.66**	**8**	⇑*i*P	**Pn**	**16 33 06.6**	**-1.8**
baz=7.0							
AAK				⇑*i*S	**Sn**	**16 33 51.1**	**-0.5**
baz=7.0							
AAK	**Ala-Archa**	**3.66**	**8**	Pg	**Pn**	**16 33 09.3**	**+1.0**
6.4nm,0.5s							
AAK				Lg	Lg	16 33 56.4	
8.3nm,0.5s							
ULHL	**Ulahol**	**3.73**	**29**	⇑*i*P	**Pn**	**16 33 07.1**	**-2.3**
baz=28							
ULHL				⇑*i*S	**Sn**	**16 33 51.9**	**-1.6**
baz=28							
KBK	**Karagaybulak**	**3.74**	**13**	⇑*i*P	**Pn**	**16 33 07.7**	**-1.8**
baz=12							
KBK				⇑*i*S	**Sn**	**16 33 52.8**	**-1.0**
baz=12							
MRKS	**Merke**	**3.75**	**354**	*e*P	**Pn**	**16 33 09.8**	**+0.2**
9.0nm,0.4s							
MRKS				*e*S	**Sn**	**16 33 53.8**	**0.0**
12nm,0.5s							
MRKS	**Merke**	**3.75**	**354**	Pg	**Pn**	**16 33 09.2**	**-0.4**
18nm,0.4s							
MRKS				Lg	Lg	16 33 54.7	
12nm,0.5s							
BOOM	**Boomskoye usch**	**3.84**	**25**	⇓*i*P	**Pn**	**16 33 08.9**	**-2.0**
baz=24							
BOOM				⇓*i*S	**Sn**	**16 33 54.6**	**-1.5**
baz=24							
FRU1	**Bishkek**	**3.85**	**9**	⇓*i*P	**Pn**	**16 33 09.3**	**-1.5**
baz=9.0							
FRU1				⇓*i*S	**Sn**	**16 33 55.1**	**-1.0**
baz=9.0							
CHMS	**Chumysh**	**4.05**	**10**	⇑*i*P	**Pn**	**16 33 11.9**	**-1.7**
baz=9.0							
CHMS				⇑*i*S	**Sn**	**16 34 00.0**	**-1.0**
baz=9.0							
KDJ	**Kajisay**	**4.05**	**39**	⇓*i*P	**Pn**	**16 33 11.5**	**-2.2**
baz=38							
KDJ				⇓*i*S	**Sn**	**16 33 59.4**	**-1.9**
baz=38							
TKM2	**Tokmak 2**	**4.14**	**19**	⇓Pg	**Pn**	**16 33 16.9**	**+1.9**
3.1nm,0.5s							
TKM2				⇑Lg	Lg	16 34 16.7	
7.5nm,0.7s							
IUG	**Iuzhnay**	**4.23**	**319**	*e*P	**Pn**	**16 33 14.9**	**-1.2**
14nm,0.4s							
IUG				*e*S	**Sn**	**16 34 04.1**	**-1.6**
46nm,0.5s							
IUG	**Iuzhnay**	**4.23**	**319**	Pg	**Pn**	**16 33 14.7**	**-1.5**
14nm,0.4s							
IUG				Lg	Lg	16 34 04.1	
46nm,0.5s							
KST	**Kastek**	**4.35**	**22**	*e*P	**Pb**	**16 33 26.5**	**-1.6**
5.0nm,0.5s							
KST				*e*S	**Sb**	**16 34 23.8**	**+3.1**
11nm,0.6s							
KST	**Kastek**	**4.35**	**22**	Pg	**Pb**	**16 33 26.5**	**-1.6**
5.0nm,0.5s							
KST				Lg	Lg	16 34 23.8	
11nm,0.6s							
DGS	**Degeres**	**4.48**	**19**	*e*P	**Pb**	**16 33 28.5**	**-1.9**
4.9nm,0.6s							
DGS				*e*S	**Sb**	**16 34 26.9**	**+2.4**
10nm,0.5s							
DGS	**Degeres**	**4.48**	**19**	Pg	**Pb**	**16 33 28.5**	**-1.9**
4.9nm,0.6s							
DGS				Lg	Lg	16 34 26.9	
10nm,0.5s							
IZV	**Izvestkoviy**	**4.55**	**27**	*e*P	**Pb**	**16 33 31.6**	**0.0**
6.1nm,0.5s							
IZV				*e*S	**Sb**	**16 34 32.3**	**+5.7**
12nm,0.5s							
IZV	**Izvestkoviy**	**4.55**	**27**	Pg	**Pb**	**16 33 31.6**	**0.0**
6.1nm,0.5s							
IZV				Lg	Lg	16 34 32.3	
12nm,0.5s							
MTBS	**Maitube**	**4.57**	**25**	*e*P	**Pb**	**16 33 30.8**	**-1.1**
3.8nm,0.2s							
MTBS				*e*S	**Sb**	**16 34 30.5**	**+3.4**
6.2nm,0.3s							
MTBS	**Maitube**	**4.57**	**25**	Pg	**Pb**	**16 33 30.8**	**-1.1**
3.8nm,0.2s							
MTBS				Lg	Lg	16 34 30.5	
6.2nm,0.3s							
KK31	**Karatay Array**	**4.77**	**330**	⇑Pg	**Pn**	**16 33 21.8**	**-1.6**
2.2nm,0.5s,baz=146,slow=14,SNR=42							
KK31				⇑Lg	Lg	16 34 18.8	
5.3nm,0.5s,baz=151,slow=26,SNR=8.8							
ANVS	**Anan'yevo**	**4.78**	**37**	⇓*i*P	**Pn**	**16 33 21.3**	**-2.5**
baz=36							
ANVS				⇓*i*S	**Sn**	**16 34 17.2**	**-2.1**
baz=36							
MDOK	**Medeo**	**4.83**	**30**	*e*P	**Pb**	**16 33 36.8**	**+0.5**
2.6nm,0.6s							
MDOK				*e*S	**Sb**	**16 34 40.9**	**+6.4**
7.7nm,0.8s							
MDOK	**Medeo**	**4.83**	**30**	Pg	**Pb**	**16 33 36.8**	**+0.5**
2.6nm,0.6s							
MDOK				Lg	Lg	16 34 40.9	
7.7nm,0.8s							
KOTS	**Kotyrbulak**	**4.91**	**30**	*e*P	**Pb**	**16 33 38.5**	**+0.8**
8.7nm,0.4s							
KOTS				*e*S	**Sg**	**16 34 44.0**	**-5.2**
48nm,0.6s							
KOTS	**Kotyrbulak**	**4.91**	**30**	Pg	**Pb**	**16 33 38.5**	**+0.8**
8.7nm,0.4s							
KOTS				Lg	Lg	16 34 44.0	
48nm,0.6s							
BRLS	**Borolday**	**5.00**	**325**	*e*P	**Pn**	**16 33 27.9**	**+1.3**
3.8nm,0.2s							
BRLS				*e*S	**Sn**	**16 34 25.8**	**+1.4**
5.5nm

CHKK	**Chushkaly**	**5.40**	**26**	*eP*	**Pb**	**16 33 46.3**	**+0.3**
	2.3nm,0.4s						
CHKK				*eS*	**Sb**	**16 34 57.5**	**+6.6**
	5.8nm,0.7s						
CHKK	**Chushkaly**	**5.40**	**26**	Pg	**Pb**	**16 33 46.3**	**+0.3**
	2.3nm,0.4s						
CHKK				Lg	Lg	16 34 57.5	
	5.8nm,0.7s						
UZB	**Uzynbulak**	**5.72**	**42**	*eP*	**Pb**	**16 33 54.1**	**+2.5**
	2.2nm,0.8s						
UZB				*eS*	**Sg**	**16 35 10.5**	**-4.7**
	4.1nm,0.7s						
UZB	**Uzynbulak**	**5.72**	**42**	Pg	**Pb**	**16 33 54.1**	**+2.5**
	2.2nm,0.8s						
UZB				Lg	Lg	16 35 10.5	
	4.1nm,0.7s						
KPKS	**Kokpek**	**5.78**	**38**	*eP*	**Pb**	**16 33 55.5**	**+2.9**
	3.1nm,0.3s						
KPKS				*eS*	**Sg**	**16 35 12.8**	**-4.4**
	6.2nm,0.5s						
SHLS	**Shalkode**	**5.96**	**44**	*eP*	**Pg**	**16 34 04.1**	**-1.7**
	3.1nm,0.3s						
SHLS				*eS*	**Sg**	**16 35 27.6**	**+4.6**
	5.9nm,0.7s						
SHLS	**Shalkode**	**5.96**	**44**	Pg	**Pg**	**16 34 04.1**	**-1.7**
	3.1nm,0.3s						
SHLS				Lg	Lg	16 35 27.6	
	5.9nm,0.7s						
ARXS	**Arharly**	**6.01**	**29**	*eP*	**Pb**	**16 33 57.0**	**+0.5**
	5.8nm,0.5s						
ARXS				*eS*	**Sb**	**16 35 16.4**	**+7.8**
	9.6nm,0.8s						
ARXS	**Arharly**	**6.01**	**29**	Pg	**Pb**	**16 33 57.0**	**+0.5**
	5.8nm,0.5s						
ARXS				Lg	Lg	16 35 16.4	
	9.6nm,0.8s						
MNBS	**Baschi**	**6.13**	**33**	*eP*	**Pb**	**16 34 02.4**	**+3.9**
	2.3nm,0.7s						
MNBS				*eS*	**Sg**	**16 35 26.1**	**-2.3**
	9.5nm,0.6s						
MNBS	**Baschi**	**6.13**	**33**	Pg	**Pb**	**16 34 02.4**	**+3.9**
	2.3nm,0.7s						
MNBS				Lg	Lg	16 35 26.1	
	9.5nm,0.6s						

*JMA **18** 16:34:49.0, 38.°03N×141.°86E, h52km±1km, M4.0*
JMA Felt II J1.
*NEIC **18** 16:34:49.4±1.7, 37.°99N±0.°06×141.°86E±0.°09, h57km±6km, mb4.5/22, Error ellipse: s-maj=11.0km s-min=7.7km az=115.0*
*NIED **18** 16:34:49.0, 38.°03N×141.°86E, h52km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}1.34; $M_{\theta\theta}$-0.37; $M_{\phi\phi}$-0.97; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.52; $M_{\phi r}$0.26; Fault plane solution: $M_0$1.33000×10^15^ NP1:ϕ_s25.00000°, δ50.00000°, λ84.00000°. NP2:ϕ_s214.00000°, δ40.00000°, λ97.00000°.*
*IDC **18** 16:34:51.3±2.3, 38.°00N×141.°77E, h75km±21km, mb3.7/18, mb1 3.9/22, mb1mx3.8/41, mbtmp4.0/22, MS3.0/6, Ms1 3.0/6, ms1mx2.8/37 Error ellipse: s-maj=17.1km s-min=13.8km az=100.0*

ISC 18 16:34:48.3±1.1, 38.°01N±0.°04×141.°93E±0.°06, h47km±9km, n107, σ1§23/112, mb4.2/30, MS3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.47**	**309**	P	**Pn**	**16 34 59.6**	**+0.5**
JIKH				S	**Sn**	**16 35 06.9**	**+0.2**
JIO	**Ouri**	**0.64**	**314**	P	**Pn**	**16 35 01.5**	**+0.4**
JIO				S	**Sn**	**16 35 10.3**	**-0.1**
JKMT	**Kesennumamotoy**	**0.88**	**336**	P	**Pn**	**16 35 04.6**	**+0.3**
JKMT				S	**Sn**	**16 35 15.9**	**-0.1**
JMST	**Minamisoumatoc**	**0.88**	**251**	P	**Pn**	**16 35 04.4**	**+0.1**
JMST				S	**Sn**	**16 35 15.8**	**-0.2**
JMM	**Marumori**	**0.91**	**261**	P	**Pn**	**16 35 04.8**	**0.0**
JMM				S	**Sn**	**16 35 16.6**	**-0.3**
JMM	**Marumori**	**0.91**	**261**	Pn	**Pn**	**16 35 04.7**	**0.0**
JFK	**Kawauchi**	**1.06**	**233**	P	**Pn**	**16 35 07.0**	**+0.2**
JFK				S	**Sn**	**16 35 20.1**	**-0.4**
JOU	**Okura**	**1.06**	**290**	P	**Pn**	**16 35 07.2**	**+0.4**
JOU				S	**Sn**	**16 35 20.5**	**0.0**
JMK	**Ichinoseki**	**1.09**	**329**	P	**Pn**	**16 35 07.7**	**+0.5**
JMK				S	**Sn**	**16 35 21.2**	**0.0**
JFT	**Otama**	**1.36**	**249**	P	**Pn**	**16 35 11.7**	**+0.8**
JFT				S	**Sn**	**16 35 28.9**	**+1.2**
JYS	**Shirataka**	**1.49**	**279**	P	**Pn**	**16 35 13.1**	**+0.5**
JYS				S	**Sn**	**16 35 31.9**	**+1.0**
JYK	**Kaneyama**	**1.53**	**307**	P	**Pn**	**16 35 13.7**	**+0.5**
JOM	**Ohasama**	**1.54**	**341**	P	**Pn**	**16 35 14.2**	**+0.8**
JOM				S	**Sn**	**16 35 33.1**	**+0.9**
JRG	**Rokugo**	**1.72**	**324**	P	**Pn**	**16 35 16.8**	**+1.1**
JRG				S	**Sn**	**16 35 38.3**	**+1.8**
JYA	**Atsumi**	**1.84**	**289**	P	**Pn**	**16 35 17.9**	**+0.5**
JYA				S	**Sn**	**16 35 42.0**	**+2.5**
JFY	**Yanaizu**	**1.87**	**252**	P	**Pn**	**16 35 18.7**	**+0.8**
JFY				S	**Sn**	**16 35 41.2**	**+0.9**
JYT	**Yasato**	**2.26**	**218**	Pn	**Pn**	**16 35 22.9**	**-0.2**
JTM	**Tenmabayashi**	**2.85**	**347**	Pn	**Pn**	**16 35 32.3**	**+1.0**
JSD	**Sado**	**2.90**	**272**		**Pn**	**16 35 31.6**	**-0.4**
MJAR	**Matsushiro Arr**	**3.31**	**245**	P	**Pn**	**16 35 39.3**	**+1.6**
	1.0nm,0.3s,baz=64,slow=11,SNR=45						
MJAR				LR	LR	16 37 17.3	
	comp=Z,144nm,19.9s,baz=65,slow=46						
MAJO	**Matsushiro**	**3.31**	**245**		**Pn**	**16 35 39.7**	**+2.0**
MAT	**Matsushiro**	**3.31**	**245**	P	**Pn**	**16 35 39.7**	**+2.0**
MAT				*eS*	**Sn**	**16 36 21.9**	**+6.1**
ERM	**Erimo**	**4.11**	**13**	Pn	**Pn**	**16 35 49.3**	**+0.8**
JGF	**Kuroka**	**4.39**	**238**		**Pn**	**16 35 54.3**	**+1.8**
JSG	**Sagara**	**4.50**	**223**	Pn	**Pn**	**16 35 53.6**	**-0.3**
INU	**Inuyama**	**4.76**	**238**	Pn	**Pn**	**16 35 58.1**	**+0.6**
JEW	**Eniwo**	**4.84**	**356**	Pn	**Pn**	**16 35 59.9**	**+1.3**
JHJ2	**Mitsune**	**5.18**	**200**	Pn	**Pn**	**16 36 03.8**	**+0.4**
JHJ	**Hachijo jima 2**	**5.19**	**200**	P	**Pn**	**16 36 04.6**	**+1.2**
	8.8nm,0.3s,baz=328,slow=18,SNR=8.7						
JHJ				S	**Sn**	**16 36 58.4**	**-3.5**
	32nm,0.3s,baz=73,slow=23,SNR=7.6						
JWT	**Wachi**	**5.92**	**245**	Pn	**Pn**	**16 36 15.2**	**+1.8**
ASAJ	**Asahikawa**	**6.12**	**4**	P	**Pn**	**16 36 16.0**	**-0.1**
	1.4nm,0.3s,baz=234,slow=7.9,SNR=14						
ASAJ				S	**Sn**	**16 37 21.4**	**-3.3**
	1.2nm,0.3s,baz=232,slow=24,SNR=4.0						
JKA	**Kamikawa-asahi**	**6.12**	**5**	Pn	**Pn**	**16 36 14.0**	**-2.2**
JHS	**Saijyo**	**7.71**	**250**	Pn	**Pn**	**16 36 38.6**	**+0.6**
JMN	**Monobe**	**7.81**	**239**	Pn	**Pn**	**16 36 38.7**	**-0.7**
YSS	**Yuzh-Sakhalins**	**8.96**	**4**	Pn	**Pn**	**16 36 53.6**	**-1.3**
USA0B	**Ussuriysk Arra**	**9.72**	**313**		**Pn**	**16 37 06.9**	**+1.5**
USRK	**Ussuriysk Ar.**	**9.72**	**313**	P	**Pn**	**16 37 06.9**	**+1.4**
	baz=124,slow=14,SNR=9.0						
USRK				LR	LR	16 40 34.8	
	comp=Z,48nm,20.9s,baz=289,slow=36						
USRK	**Ussuriysk Ar.**	**9.72**	**313**	Pn	**Pn**	**16 37 07.0**	**+1.6**
JNU	**Nakatsue**	**10.24**	**245**	LR	LR	16 41 17.9	
	comp=Z,91nm,19.6s,baz=105,slow=38						
JNU	**Nakatsue**	**10.24**	**245**	Pn	**Pn**	**16 37 13.3**	**+0.7**
KSRS	**Korea Array**	**11.11**	**271**	P	**Pn**	**16 37 27.4**	**+2.9**
	0.2nm,0.3s,baz=81,slow=14,SNR=8.9						
KSRS				LR	LR	16 40 55.3	
	comp=Z,58nm,19.6s,baz=63,slow=33						
CN2	**Changchun**	**13.74**	**300**	*eP*	**Pn**	**16 38 01.0**	**+0.7**
NJ2	**Nanjing**	**19.79**	**259**	*eP*	**Pn**	**16 39 15.5**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
NACB	**Ninganchiao**	**22.15**	**237**	P	**P**	**16 39 39.5**	**-0.7**
NACB				IAmb	IAmb	16 39 44.9	
	comp=Z,11nm,0.8s						
MA2	**Magadan**	**22.31**	**12**	P	**P**	**16 39 43.9**	**+2.3**
MA2				IAmb	IAmb	16 39 46.1	
	comp=Z,15nm,1.3s						
SSLB	**Suanglung**	**22.84**	**238**	P	**P**	**16 39 47.9**	**+0.4**
YULB	**Yu-li**	**22.89**	**236**	P	**P**	**16 39 48.6**	**+0.6**
YULB				IAmb	IAmb	16 40 00.1	
	comp=Z,18nm,1.3s						
TPUB	**Ta-pu**	**23.39**	**237**	P	**P**	**16 39 52.4**	**-0.6**
TWG	**Pinlang**	**23.44**	**236**	P	**P**	**16 39 52.4**	**-1.0**
TWG				IAmb	IAmb	16 40 11.3	
	comp=Z,42nm,1.5s						
HHC	**Hu-ho-hao-te**	**23.57**	**286**	*eP*	**P**	**16 39 54.4**	**-0.3**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,98nm,4.3s						
HHC				LR	LR		
	comp=N,120nm,13.1s						
HHC				LR	LR		
	comp=E,120nm,12.6s						
HHC				LR	LR		
	comp=Z,64nm,11.8s						
SEY	**Seymchan**	**25.75**	**11**	P	**P**	**16 40 15.4**	**+1.2**
	comp=Z,4.1nm,0.9s,baz=247,slow=4.0,SNR=5.9						
XAN	**Xi'an**	**26.91**	**272**	P	**P**	**16 40 24.8**	**-0.2**
XAN				pP	pP	16 40 41.1	+3.8
XAN				sP	sP	16 40 50.5	+7.6
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONM	**Songino Array**	**27.60**	**302**	P	**P**	**16 40 30.7**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=113,slow=7.6,SNR=4.8						
SONM	**Songino Array**	**27.60**	**302**	IAmb	IAmb	16 40 36.4	
	comp=Z,1.5nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**28.31**	**123**	T	T	17 10 56.6	
	baz=316,slow=76,SNR=310						
H11N1	**WAKE ISLAND Hy**	**28.32**	**123**	T	T	17 10 57.4	
	baz=316,slow=76,SNR=331						
H11N3	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	17 11 02.7	
	baz=316,slow=76,SNR=286						
H11S1	**WAKE ISLAND Hy**	**29.06**	**125**	T	T	17 11 52.3	
	baz=318,slow=76,SNR=76						
H11S3	**WAKE ISLAND Hy**	**29.06**	**125**	T	T	17 11 58.1	
	baz=318,slow=76,SNR=134						
H11S2	**WAKE ISLAND Hy**	**29.08**	**125**	T	T	17 11 59.5	
	baz=318,slow=76,SNR=84						
AMKA	**Amchitka**	**29.39**	**51**	P	**P**	**16 40 48.5**	**+1.7**
LZH	**Lanzhou**	**30.32**	**278**	*eP*	**P**	**16 40 55.0**	**-0.5**
LZH				pP	pP	16 41 08.3	+0.5
LZH				sP	sP	16 41 14.9	+1.5
LZH				*ePP*	**PnPn**	**16 41 54.3**	**-0.6**
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,68nm,5.3s						
LZH				LR	LR		
	comp=N,240nm,13.1s						
LZH				LR	LR		
	comp=E,250nm,13.4s						
LZH				LR	LR		
	comp=Z,370nm,16.3s						
WMQ	**Urumqi**	**40.78**	**296**	*eP*	**P**	**16 42 25.8**	**+0.9**
ZALV	**Zalesovo Beam**	**41.57**	**312**	P	**P**	**16 42 30.6**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=81,slow=7.7,SNR=6.5						
CMAR	**Chiang Mai Arr**	**42.15**	**255**	P	**P**	**16 42 36.1**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=52,slow=7.4,SNR=5.3						
RABL	**Rabaul**	**43.05**	**165**	P	**P**	**16 42 42.2**	**-1.4**
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**16 42 47.9**	**-2.8**
	comp=Z,0.1nm,0.4s,baz=167,slow=16,SNR=2.3						
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**16 42 50.7**	**0.0**
KDAK	**Kodiak Island**	**46.10**	**43**	P	**P**	**16 43 07.7**	**+0.3**
	comp=Z,5.1nm,1.0s,baz=286,slow=7.4,SNR=1.2						
KDAK	**Kodiak Island**	**46.10**	**43**	P	**P**	**16 43 07.8**	**+0.4**
ILAR	**Eielson Array**	**48.45**	**33**	P	**P**	**16 43 26.4**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=265,slow=6.5,SNR=14						
KKAR	**Karatay Array**	**53.00**	**300**	P	**P**	**16 44 00.5**	**+0.2**
KNRA	**Kununurra**	**54.82**	**196**	P	**P**	**16 44 13.9**	**+0.3**
ARU	**Arti**	**55.91**	**318**	P	**P**	**16 44 20.7**	**-0.3**
ABKAR	**Abkulak array**	**57.63**	**310**	P	**P**	**16 44 32.6**	**-0.8**
WB0	**Warramunga Arr**	**57.91**	**188**	P	**P**	**16 44 35.2**	**-0.4**
WB0				IAmb	IAmb	16 44 36.1	
	comp=Z,4.9nm,0.8s						
WRAB	**Tennant Creek**	**58.08**	**188**	P	**P**	**16 44 36.1**	**-0.7**
WRAB				IAmb	IAmb	16 44 37.4	
	comp=Z,3.3nm,0.8s						
WR0	**Warramunga Arr**	**58.08**	**188**	P	**P**	**16 44 36.4**	**-0.4**
WR0				IAmb	IAmb	16 44 37.4	
	comp=Z,4.2nm,0.8s						
WB2	**Warramunga Arr**	**58.09**	**188**	P	**P**	**16 44 36.2**	**-0.7**
WB2				IAmb	IAmb	16 44 37.4	
	comp=Z,4.5nm,0.9s						
WRA	**Warramunga Arr**	**58.09**	**188**	P	**P**	**16 44 36.4**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=7.3,slow=7.5,SNR=34						
WRA	**Warramunga Arr**	**58.09**	**188**	P	**P**	**16 44 36.1**	**-0.7**
AKTO	**Aktyubinsk**	**58.33**	**312**	LR	LR	17 10 43.4	
	comp=Z,12nm,18.1s,baz=87,slow=37						
ASAR	**Alice Springs**	**61.81**	**188**	P	**P**	**16 45 02.0**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=8.8,slow=5.3,SNR=21						
ASAR	**Alice Springs**	**61.81**	**188**	P	**P**	**16 45 02.0**	**-0.4**
YKA	**Yellowknife Ar**	**62.76**	**31**	P	**P**	**16 45 08.6**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=306,slow=6.9,SNR=4.4						
FINES	**FINESS Array B**	**68.14**	**332**	P	**P**	**16 45 42.5**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=52,slow=9.9,SNR=6.1						
KVAR	**Kislovodsk Arr**	**70.57**	**311**	LR	LR	17 19 58.7	
	comp=Z,56nm,18.6s,baz=268,slow=38						
KBZ	**Khabaz**	**70.58**	**311**	P	**P**	**16 45 58.3**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=2.6,slow=5.5,SNR=4.3						
YERR	**Yerington**	**73.16**	**54**	P	**P**	**16 46 14.0**	**-0.3**
LRM	**Limekiln Ridge**	**73.16**	**45**	P	**P**	**16 46 15.0**	**+0.8**
NC405	**NORSAR Array S**	**73.23**	**337**	P	**P**	**16 46 13.0**	**-1.1**
NC405				IAmb	IAmb	16 46 26.7	
	comp=Z,8.5nm,1.2s						
NB2	**NORSAR Subarra**	**73.44**	**337**	P	**P**	**16 46 15.0**	**-0.4**
	comp=Z,4.3nm,1.1s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**73.44**	**337**	P	**P**	**16 46 14.6**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=39,slow=5.8,SNR=4.1						
AKASG	**Malin Array Be**	**73.78**	**322**	P	**P**	**16 46 16.7**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=45,slow=5.7,SNR=7.9						
NVAR	**Mina Array Bea**	**74.07**	**54**	P	**P**	**16 46 19.1**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=277,slow=7.9,SNR=6.1						
NVAR	**Mina Array Bea**	**74.07**	**54**	P	**P**	**16 46 20.2**	**+0.5**
HWUT	**Hardware Ranch**	**76.27**	**48**	P	**P**	**16 46 32.9**	**+0.7**
DUG	**Dugway, Tooele**	**76.41**	**49**	P	**P**	**16 46 34.1**	**+1.1**
PDAR	**Pinedale Array**	**76.69**	**46**	P	**P**	**16 46 35.7**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=277,slow=1.9,SNR=8.0						
PDAR	**Pinedale Array**	**76.69**	**46**	P	**P**	**16 46 35.4**	**+0.7**
GERES	**GERESS Array B**	**82.10**	**328**	P	**P**	**16 47 03.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=44,slow=7.1,SNR=2.9						
TXAR	**Lajitas Array**	**89.20**	**53**	P	**P**	**16 47 40.0**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=304,slow=3.9,SNR=11						
VNA2	**Neumayer--Watz**	**143.37**	**196**	PKPdf	PKPbc	16 54 13.6	0.0
	baz=118,slow=3.5						
VNA3	**Neumayer Olymp**	**143.62**	**195**	PKPdf	PKPbc	16 54 14.0	-0.4
VNA1	**Neumayer--Stat**	**143.77**	**196**	PKPdf	PKPbc	16 54 14.6	-0.1
LPAZ	**La Paz**	**145.84**	**59**	PKPbc	**PKPab**	**16 54 23.3**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=309,slow=6.5,SNR=13						
LPAZ	**La Paz**	**145.84**	**59**		**PKPab**	**16 54 23.6**	**-0.5**

IDC 18 16:41:03.1±391.0, 57.°69N×30.°84E, h0km, Error ellipse: s-maj=177.1km s-min=68.6km az=108.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.60**	**103**	*i*		17 04 30.0	
	baz=288,slow=382,SNR=2.0						
I31KZ	**AKTYUBINSK INF**	**17.46**	**103**	*i*		18 27 30.0	
	baz=305,slow=323,SNR=1.7						
I48TN	**KESRA INFRASON**	**26.17**	**223**	*i*		19 21 00.0	
	baz=27,slow=316,SNR=0.6						

*KOLA **18** 17:01:03.0, 66.°86N×20.°40E, h0km*
*UPP **18** 17:01:05.9±0.1, 67.°08N×20.°95E, h0km, ML2.2, Explosion*
*HEL **18** 17:01:06.9±0.1, 67.°09N×20.°89E, h0km, ML2.4, ML2.2(UPP), Explosion*
*NAO **18** 17:01:06.7±0.8, 67.°09N×21.°28E, ML2.6*
*IDC **18** 17:01:07.8±1.0, 67.°05N×21.°44E, h0km, mb1 2.9/4, mb1mx2.8/42, mbtmp2.8/4, ML2.2/4, Error ellipse: s-maj=16.3km s-min=8.0km az=108.0*
*BER **18** 17:01:09.0±4.2, 67.°09N×21.°24E, h0km, ML2.1, ML2.6(NAO), Suspected explosion*

ISC 18 17:01:06.2±0.8, 67.°08N±0.°02×20.°96E±0.°02, h0km, n68, σ1§40/93, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**286**	P	**Pg**	**17 01 09.1**	**-0.2**
DUNU				S	**Sg**	**17 01 11.2**	**0.0**
DUNU	**Dundret**	**0.16**	**286**	*i* P	**Pg**	**17 01 09.1**	**-0.2**
DUNU				*i* S	**Sg**	**17 01 11.2**	**0.0**
ERTU	**Ertsjaerv**	**0.72**	**137**	P	**Pg**	**17 01 19.6**	**-0.4**
ERTU	**Ertsjaerv**	**0.72**	**137**	*eP*	**Pg**	**17 01 19.4**	**-0.6**
ERTU				*eS*	**Sg**	**17 01 30.8**	**+1.6**
RATU	**Laukkuluspa**	**0.92**	**325**	P	**Pg**	**17 01 22.9**	**-0.8**
RATU	**Laukkuluspa**	**0.92**	**325**	*eP*	**Pg**	**17 01 22.9**	**-0.8**
HARU	**Harads**	**0.92**	**180**	P	**Pg**	**17 01 23.1**	**-0.6**
HARU	**Harads**	**0.92**	**180**	*eP*	**Pg**	**17 01 23.1**	**-0.6**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**17 01 24.5**	**-0.9**
SALU	**Saltoluokta**	**1.00**	**289**	*eP*	**Pg**	**17 01 24.5**	**-0.9**
LANU	**Lannavaara**	**1.05**	**22**	*eP*	**Pg**	**17 01 25.1**	**-1.2**
KOVU	**Salmi**	**1.19**	**346**	P	**Pg**	**17 01 28.0**	**-1.0**
KOVU	**Salmi**	**1.19**	**346**	*eP*	**Pg**	**17 01 28.0**	**-1.0**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**17 01 35.3**	**-0.4**
SJUU	**Sjulsmark**	**1.60**	**170**	*eP*	**Pn**	**17 01 35.3**	**-0.4**
TOF	**Tornio**	**1.68**	**125**	*eP*	**Pn**	**17 01 36.8**	**+0.1**
	baz=311						
TOF				MSG		17 01 57.4	
	comp=Z,37nm,0.2s						
TOF				*e*SN	**Sg**	**17 02 01.3**	**+1.3**
LILU	**Lilltraesk**	**1.86**	**195**	P	**Pn**	**17 01 39.5**	**+0.3**
LILU	**Lilltraesk**	**1.86**	**195**	*eP*	**Pn**	**17 01 39.5**	**+0.3**
KIF	**Kilpisjarvi**	**1.94**	**358**	Pn	**Pn**	**17 01 41.4**	**+1.1**
KIF				Sn	**Sg**	**17 02 08.8**	**+0.4**
KIF	**Kilpisjarvi**	**1.94**	**358**	*eP*	**Pn**	**17 01 41.2**	**+0.9**
	baz=169						
KIF				MSG		17 02 04.6	
	comp=Z,41nm,0.2s						
KIF				*e*SG	**Sg**	**17 02 10.0**	**+1.7**
KIF	**Kilpisjarvi**	**1.94**	**358**	*eP*	**Pn**	**17 01 41.4**	**+1.1**
KIF				Sn	**Sg**	**17 02 08.8**	**+0.4**
RNF	**Rovaniemi**	**2.05**	**101**	*eP*	**Pn**	**17 01 42.6**	**+0.7**
RNF				*e*SG	**Sb**	**17 02 11.8**	**+1.5**
N2IH	**Innhavet**	**2.13**	**297**	*eP*	**Pn**	**17 01 44.2**	**+1.3**
SGF	**Sodankyl**	**2.19**	**78**	*eP*	**Pn**	**17 01 44.6**	**+0.7**
	baz=256						
SGF				*e*SG	**Sb**	**17 02 16.1**	**+1.6**
FAUS	**Fauske**	**2.23**	**280**	*eP*	**Pn**	**17 01 45.2**	**+0.9**
FAUS				*e*S	**Sb**	**17 02 16.2**	**+0.9**
FAUS				IAML		17 02 22.6	
	comp=Z,30nm,0.4s						
N2TV	**T¥rnvik**	**2.31**	**285**	*eP*	**Pn**	**17 01 46.9**	**+1.5**
N2TV				*e*S	**Sg**	**17 02 20.4**	**-0.1**
N2TV				IAML		17 02 26.9	
	comp=Z,20nm,0.3s						
STEI	**Steigen**	**2.36**	**294**	Pn	**Pn**	**17 01 47.6**	**+1.5**
STEI				Sn	**Sb**	**17 02 19.6**	**+0.5**
STEI	**Steigen**	**2.36**	**294**	*eP*	**Pn**	**17 01 47.5**	**+1.4**
STEI				Sn	**Sb**	**17 02 19.6**	**+0.5**
BURU	**Burvik**	**2.51**	**176**	P	**Pn**	**17 01 48.9**	**+0.7**
BURU	**Burvik**	**2.51**	**176**	*eP*	**Pn**	**17 01 49.0**	**+0.8**
	baz=5.0						
NBB28	**Valnes**	**2.54**	**276**	*eP*	**Pn**	**17 01 49.0**	**+0.4**
SVAU	**Svanoeiden**	**2.66**	**193**	P	**Pn**	**17 01 50.9**	**+0.7**
SVAU	**Svanoeiden**	**2.66**	**193**	*eP*	**Pn**	**17 01 50.9**	**+0.7**
TRO	**Tromso**	**2.67**	**345**	*eP*	**Pn**	**17 01 51.6**	**+1.2**
MOR8	**Moi Rana**	**2.75**	**254**	*eP*	**Pn**	**17 01 52.6**	**+1.0**
MOR8				IAML		17 02 34.8	
	comp=Z,10nm,0.2s						
NBB30	**Finnes**	**2.84**	**271**	*eP*	**Pn**	**17 01 53.6**	**+1.0**
OUL	**Oulu**	**2.84**	**133**	*e*PB	**Pn**	**17 01 55.7**	**+3.0**
	baz=309						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 01 54.8**	**0.0**
	baz=205,slow=16						
ARA0				Lg	Lg	17 02 37.8	
	baz=217,slow=28						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 01 54.8**	**0.0**
	baz=205,slow=16						
ARA0				Sg	**Sb**	**17 02 37.8**	**+0.4**
	baz=217,slow=28						
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**17 01 55.1**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=210,slow=14,SNR=41						
ARCES				Sn	**Sn**	**17 02 32.8**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=212,slow=22,SNR=4.8						
LOF	**Lofoten**	**3.03**	**294**	*eP*	**Pn**	**17 01 57.5**	**+2.2**
OUF	**Merijarvi**	**3.14**	**148**	*eP*	**Pn**	**17 01 57.4**	**+0.6**
	baz=334						
OUF				MSG		17 02 38.8	
	comp=Z,4.6nm,0.2s						
KONS	**Konsvik**	**3.16**	**263**	*eP*	**Pn**	**17 01 58.8**	**+1.7**
N2SV	**S rvÅgen**	**3.17**	**289**	*eP*	**Pn**	**17 01 55.7**	**-1.5**
NBB40	**Tonnes**	**3.20**	**263**	*eP*	**Pn**	**17 01 59.1**	**+1.5**
UMAU	**Umeaa**	**3.21**	**182**	*eP*	**Pn**	**17 01 59.7**	**+1.8**
N2VA	**Vr_y**	**3.25**	**284**	*eP*	**Pn**	**17 01 58.6**	**+0.3**
VRF	**Varrio**	**3.41**	**75**	*eP*	**Pn**	**17 02 02.4**	**+1.8**
	baz=273						
MSF	**Maaselka**	**3.44**	**106**	*eP*	**Pn**	**17 02 02.3**	**+1.3**
	baz=288						
HAMF	**Hammerfest**	**3.71**	**14**	*eP*	**Pn**	**17 02 07.5**	**+2.8**
KU6	**Riekki**	**3.72**	**102**	*eP*	**

comp=N,0.4nm,0.8s
AKMS AML AML 17 32 25.7
comp=N,0.4nm,0.8s
GAZI Gazipasa 1.48 58 *i* P **Pb 17 32 03.3 -0.2**
GAZI *i* S **Sn 17 32 19.7 -1.5**
GAZI IAML 17 32 25.0
comp=E,17nm,0.6s
GAZI IAML 17 32 28.0
comp=N,33nm,1.8s
ALFC Alefka 1.52 101 P **Pb 17 32 04.1 -0.2**
ALFC S **Sg 17 32 25.6 -0.1**
ALFC AML AML 17 32 26.4
comp=N,0.2nm,1.2s
ALFC AML AML 17 32 26.4
comp=N,0.2nm,1.2s
KEPZ Antalya-Kepez 1.59 25 *i* P **Pb 17 32 05.3 -0.1**
KEPZ *i* S **Sb 17 32 26.1 +0.7**
NATA Nata 1.62 114 P **Pb 17 32 06.1 +0.1**
SZAC Souni 1.87 111 P **Pb 17 32 09.3 -0.8**
SZAC S **Sb 17 32 34.3 +1.1**
SZAC AML AML 17 32 43.7
comp=N,0.2nm,1.0s
SZAC AML AML 17 32 43.7
comp=N,0.2nm,1.0s
ASGA Asgata 2.14 108 P **Pb 17 32 13.3 -1.5**
ASGA S **Sb 17 32 40.8 -0.2**
CSS Mathiatis 2.15 102 P **Pn 17 32 13.2 +1.5**
MVOU Mavrovouni 2.38 100 P **Pb 17 32 17.1 -1.9**

ATH 18 17:42:40.6, 39°.97N×23°.53E, h15km±4km, ML1.2/3, Error ellipse: s-maj=5.7km s-min=1.3km az=186.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.12**	**109**	P	Pg	17 42 44.1	-0.1
PAIG				S	Sg	17 42 46.5	0.0
PAIG				AML	AML	17 42 47.2	
	comp=E,202μm,0.2s						
PAIG				AML	AML	17 42 47.6	
	comp=N,245μm,0.1s						
HORT	**Hortiatis**	**0.71**	**332**	P	Pg	17 42 54.2	-0.3
HORT				S	Sb	17 43 04.5	+0.2
HORT				AML	AML	17 43 05.5	
	comp=E,45μm,0.2s						
HORT				AML	AML	17 43 06.0	
	comp=N,28μm,0.2s						
SOH	**Sokhos**	**0.86**	**351**	P	Pg	17 42 57.4	0.0
SOH				AML	AML	17 43 13.5	
	comp=E,45μm,0.4s						
SOH				AML	AML	17 43 15.0	
	comp=N,52μm,0.4s						
THAS	**Thassos island**	**1.11**	**54**	P	Pn	17 43 01.7	+0.2
THAS				S	Sn	17 43 16.9	+0.4
SRS	**Serrai**	**1.15**	**2**	P	Pn	17 43 01.5	-0.6
KNT	**Kendrikon**	**1.29**	**338**	P	Pb	17 43 04.8	+0.2

SKO 18 17:42:48.1, 41°.01N×21°.65E, h0km, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.65**	**279**	||*i*Pg	17 43 00.3	-0.3
OHR				*i* Sg	Sg	17 43 08.4	-0.6
OHR				*e*Lg	Lg	17 43 09.7	
	comp=E,16nm,0.4s						

IDC 18 17:43:28.7±3.1, 6°.83S×129°.24E, h121km±40km, mb3.5/1, mb1 3.3/4, mb1mx3.0/35, mbtmp3.6/4, Error ellipse: s-maj=66.7km s-min=21.4km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.26**	**19**	P	Pn	17 44 58.6	-0.1
	2.7nm,0.3s,baz=167,slow=19,SNR=60						
SIJI				S	Sn	17 46 02.7	-6.2
	2.0nm,0.3s,baz=274,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**11.74**	**197**	P	Pn	17 46 14.0	+1.5
	0.1nm,0.3s,baz=2.9,slow=13,SNR=1.7						
FITZ				S	Sn	17 48 20.0	-1.7
	0.1nm,0.3s,baz=360,slow=7.3,SNR=1.3						
WRA	**Warramunga Arr**	**13.94**	**160**	P	Pn	17 46 39.3	-1.9
	0.1nm,0.3s,baz=336,slow=12,SNR=9.4						
WRA				S	Sn	17 49 06.9	-8.3
	0.3nm,0.3s,baz=327,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.33**	**166**	P	Pn	17 47 23.1	-0.2
	0.3nm,0.3s,baz=344,slow=9.7,SNR=28						
ASAR				S	Sn	17 50 31.6	-5.2
	0.1nm,0.3s,baz=353,slow=22,SNR=1.7						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	17 54 12.9	0.0
	0.5nm,0.4s,baz=119,slow=7.8,SNR=9.7						

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*IDC **18** 17:52:44.0±1.2, 31°.77S×178°.18W, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.1/31, mbtmp4.2/8, ML4.4/2, MS3.4/8, Ms1 3.4/8, ms1mx3.2/23, Error ellipse: s-maj=40.4km s-min=21.5km az=145.0*
*NEIC **18** 17:52:45.7±0.9, 31°.56S±0°.03×178°.4W±0°.2, h10km±1km, mb4.5/19, Error ellipse: s-maj=25.3km s-min=4.0km az=100.0*
ISC 18 17:52:49.0±0.7, 31°.63S±0°.06×178°.4W±0°.1, h35km, n83, σ1s55/69, mb4.5/14, MS3.6/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.40**	**9**	P	**Pn**	**17 53 25.1**	**-0.6**
GLKZ				S	**Sn**	**17 53 50.9**	**-2.9**
RAO	**Raoul Island**	**2.41**	**9**	Pn	**Pn**	**17 53 26.4**	**+0.6**
	116nm,0.3s,baz=74,slow=11,SNR=13						
RAO				Sn	**Sn**	**17 53 52.9**	**-1.2**
	286nm,0.3s,baz=85,slow=23,SNR=7.3						
RAO				LR	LR	17 54 26.1	
	comp=Z,640nm,20.4s,baz=189,slow=40						
RAO	**Raoul Island**	**2.41**	**9**		**Pn**	**17 53 23.6**	**-2.2**
RIZ	**Raoul Island**	**2.41**	**9**	P	**Pn**	**17 53 25.7**	**-0.2**
MXZ	**Matakaoa Point**	**6.52**	**204**	P	**Pn**	**17 54 21.6**	**-0.7**
MXZ				S	**Sn**	**17 55 36.0**	**+0.5**
MXZ	**Matakaoa Point**	**6.52**	**204**	Pn	**Pn**	**17 54 21.9**	**-0.4**
WMGZ	**Waiomatatini S**	**6.71**	**202**	P	**Pn**	**17 54 23.1**	**-1.9**
WMGZ				S	**Sn**	**17 55 42.1**	**+1.8**
HAZ	**Te Kaha**	**6.88**	**206**	P	**Pn**	**17 54 27.2**	**-0.1**
HAZ				S	**Sn**	**17 55 47.6**	**+3.3**
PUZ	**Puketiti**	**7.00**	**202**	P	**Pn**	**17 54 27.5**	**-1.4**
PUZ				S	**Sn**	**17 55 45.8**	**-1.4**
RUGZ	**Raukumara Rang**	**7.11**	**206**	P	**Pn**	**17 54 31.0**	**+0.5**
CNGZ	**Carnagh Statio**	**7.39**	**201**	P	**Pn**	**17 54 32.8**	**-1.4**
CNGZ				S	**Sn**	**17 55 56.3**	**-0.6**
OPRZ	**Ohinepanea**	**7.47**	**213**	P	**Pn**	**17 54 38.4**	**+3.0**
MWZ	**Matawai**	**7.49**	**206**	P	**Pn**	**17 54 34.4**	**-1.2**
MWZ				S	**Sn**	**17 55 59.0**	**-0.3**
URZ	**Urewera**	**7.58**	**208**	Pn	**Pn**	**17 54 35.0**	**-1.9**
	3.4nm,0.3s,baz=271,slow=4.9,SNR=21						
URZ				Sn	**Sn**	**17 55 59.7**	**-1.8**
	10nm,0.3s,baz=170,slow=23,SNR=13						
URZ	**Urewera**	**7.58**	**208**	P	**Pn**	**17 54 35.5**	**-1.5**
URZ				S	**Sn**	**17 56 01.5**	**-0.1**
URZ	**Urewera**	**7.58**	**208**	Pn	**Pn**	**17 54 35.4**	**-1.5**
RTZ	**Ruatahuna**	**7.94**	**207**	P	**Pn**	**17 54 40.6**	**-1.3**
KNZ	**Kokohu**	**8.05**	**203**	P	**Pn**	**17 54 41.0**	**-2.3**
RAHZ	**Arahi**	**8.16**	**206**	P	**Pn**	**17 54 45.7**	**+0.8**
RAHZ				S	**Sn**	**17 56 14.5**	**-1.4**
MRHZ	**Matea Rd**	**8.35**	**209**	P	**Pn**	**17 54 45.6**	**-2.0**
NMHZ	**Naumai**	**8.42**	**207**	P	**Pn**	**17 54 48.4**	**-0.2**
BKZ	**Black Stump Fm**	**8.61**	**208**	Pn	**Pn**	**17 54 50.1**	**-1.0**
BFZ	**Birch Farm**	**10.02**	**204**	Pn	Pn	17 55 05.1	-5.3
MSWZ	**Moikau Station**	**11.03**	**206**	Pn	**Pn**	**17 55 20.6**	**-3.6**
THZ	**Tophouse**	**12.29**	**212**	Pn	Pn	17 55 36.6	-4.8
KHZ	**Kahutara**	**12.55**	**209**	Pn	Pn	17 55 38.8	-6.1
LTZ	**Lake Taylor**	**13.39**	**211**	Pn	**Pn**	**17 55 53.2**	**-3.2**
OXZ	**Oxford**	**13.93**	**210**	Pn	Pn	17 55 57.3	-6.4
MQZ	**McQueen's Vall**	**13.98**	**208**	Pn	**Pn**	**17 56 00.7**	**-3.8**
RPZ	**Rata Peaks**	**14.67**	**212**	LR	LR	18 02 00.7	
	comp=Z,204nm,18.1s,baz=38,slow=38						
ODZ	**Otahua Downs**	**15.90**	**210**	Pn	**Pn**	**17 56 29.9**	**-0.1**
DZM	**Mont Dzumac**	**16.55**	**301**	*e*LR	LR	18 00 03.0	
	comp=Z,222nm,24.2s						
DZM	**Mont Dzumac**	**16.55**	**301**	LR	LR	18 01 31.3	
	comp=Z,175nm,19.1s,baz=186,slow=32						
MLZ	**Mavora Lakes**	**17.28**	**214**		**Pn**	**17 56 44.5**	**-3.0**
MLZ				IAmb	IAmb	17 56 51.7	
	comp=Z,34nm,1.3s						
WHZ	**Wether Hill Ro**	**17.76**	**213**	Pn	**Pn**	**17 56 50.6**	**-2.7**
WHZ				IAmb	IAmb	17 57 01.6	
	comp=Z,39nm,1.3s						
TBI	**Tubuai**	**26.88**	**79**	*e*LR	LR	18 05 15.4	
	comp=Z,338nm,29.5s						
TBI	**Tubuai**	**26.88**	**79**	*e*T	T	18 26 21.0	
	comp=Z,14nm,0.3s						
PAE	**Paea**	**29.52**	**69**	*e*T	T	18 29 33.7	
	comp=Z,2.5nm,0.3s						
PPT2	**Papeete2**	**29.56**	**69**	*e*LR	LR	18 06 11.7	
	comp=Z,258nm,29.0s						
PPT	**Papeete**	**29.57**	**69**	LR	LR	18 09 55.2	
	comp=Z,29nm,18.0s,baz=134,slow=35						
VAH	**Vaihoa**	**32.43**	**67**	*e*T	T	18 33 15.3	
	comp=Z,8.9nm,0.2s						
CTA	**Charters Tower**	**33.71**	**281**	P	**P**	**17 59 29.6**	**+2.5**
	comp=Z,1.9nm,0.3s,baz=95,slow=8.1,SNR=8.0						
CTAO	**Charters Tower**	**33.71**	**281**	P	**P**	**17 59 26.9**	**-0.2**
CTAO				IAmb	IAmb	17 59 39.7	
	comp=Z,8.1nm,0.9s						
STKA	**Stephens Creek**	**33.91**	**259**	P	**P**	**17 59 31.4**	**+2.7**
	comp=Z,1.3nm,0.6s,baz=104,slow=14,SNR=1.7						
STKA				LR	LR	18 11 24.0	
	comp=Z,105nm,19.9s,baz=32,slow=33						
STKA	**Stephens Creek**	**33.91**	**259**	P	**P**	**17 59 28.9**	**+0.2**
BBOO	**Buckleboo**	**38.35**	**256**	P	**P**	**18 00 06.9**	**+0.3**
BBOO				IAmb	IAmb	18 00 13.0	
	comp=Z,20nm,1.5s						
COEN	**Coen**	**39.33**	**288**	P	**P**	**18 00 14.6**	**-0.4**
COEN				IAmb	IAmb	18 00 33.1	
	comp=Z,8.0nm,0.9s						
TAOE	**Nuku Hiva Isla**	**42.09**	**66**	*e*LR	LR	18 12 11.6	
	comp=Z,155nm,28.7s						
AS31	**Alice Springs**	**42.75**	**268**	P	**P**	**18 00 43.5**	**+0.4**
ASAR	**Alice Springs**	**42.75**	**268**	P	**P**	**18 00 43.6**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=107,slow=7.6,SNR=39						
WR0	**Warramunga Arr**	**43.67**	**274**	P	**P**	**18 00 50.9**	**+0.3**
WR0				IAmb	IAmb	18 00 57.6	
	comp=Z,5.1nm,0.7s						
WB2	**Warramunga Arr**	**43.84**	**274**	P	**P**	**18 00 52.0**	**+0.1**
WB2				IAmb	IAmb	18 00 58.9	
	comp=Z,9.4nm,0.7s						
WRAB	**Tennant Creek**	**43.84**	**274**	P	**P**	**18 00 52.0**	**0.0**
WRAB				IAmb	IAmb	18 00 58.9	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**43.85**	**274**	P	**P**	**18 00 52.4**	**+0.4**
	comp=Z,2.8nm,0.4s,baz=112,slow=7.9,SNR=54						
WB0	**Warramunga Arr**	**43.88**	**274**	P	**P**	**18 00 52.5**	**+0.2**
WB0				IAmb	IAmb	18 00 59.2	
	comp=Z,7.6nm,0.7s						
VNDA	**Vanda**	**46.84**	**186**	LR	LR	18 16 15.4	
	comp=Z,30nm,20.7s,baz=342,slow=30						
KNRA	**Kununurra**	**50.50**	**276**	P	**P**	**18 01 43.2**	**-0.7**
KNRA				IAmb	IAmb	18 01 53.4	
	comp=Z,6.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.06**	**271**	P	**P**	**18 01 56.1**	**+0.5**
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**18 02 43.3**	**+2.0**
VNA3	**Neumayer Olymp**	**77.10**	**176**	P	P	18 04 42.7	+4.4
VNA2	**Neumayer--Watz**	**77.53**	**177**	P	P	18 04 47.3	+6.6
	baz=171,slow=5.8						
VNA1	**Neumayer--Stat**	**77.76**	**177**	P	P	18 04 48.7	+6.8
H03S2	**Juan Fernandez**	**80.05**	**124**	T	T	19 33 39.7	
	baz=240,slow=74						
H03S1	**Juan Fernandez**	**80.06**	**124**	T	T	19 33 45.0	
	baz=240,slow=74						
H03S3	**Juan Fernandez**	**80.06**	**124**	T	T	19 33 36.2	
	baz=240,slow=74						
H03N3	**Juan Fernandez**	**80.25**	**123**	T	T	19 33 50.8	
	baz=237,slow=72						
H03N2	**Juan Fernandez**	**80.25**	**123**	T	T	19 33 48.6	
	baz=237,slow=72						
H03N1	**Juan Fernandez**	**80.26**	**123**	T	T	19 33 50.9	
	baz=237,slow=72						
SAO	**San Andreas Ge**	**86.40**	**42**	P	**P**	**18 05 27.9**	**+0.3**
SAO				IAmb	IAmb	18 05 42.4	
	comp=Z,5.8nm,1.1s						
NVAR	**Mina Array Bea**	**89.35**	**43**	P	**P**	**18 05 43.4**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=217,slow=7.4,SNR=4.3						
ENH	**Enshi**	**92.04**	**305**	P	**P**	**18 05 53.9**	**-0.5**
TXAR	**Lajitas Array**	**93.31**	**58**	LR	LR	18 40 16.0	
	comp=Z,23nm,20.6s,baz=0.0,slow=31						
PB09	**IPOC Station P**	**93.84**	**118**	P	**P**	**18 06 03.2**	**0.0**
TA01	**Diego Aracena**	**93.85**	**117**	P	**P**	**18 06 04.0**	**+0.9**
RSO	**Redoubt South**	**94.14**	**12**	P	**P**	**18 06 04.8**	**+1.2**
PDAR	**Pinedale Array**	**97.24**	**44**	P	**P**	**18 06 17.7**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=251,slow=5.5,SNR=1.8						
PDAR				LR	LR	18 47 58.1	
	comp=Z,26nm,18.8s,baz=299,slow=34						
MKAR	**Makanchi Array**	**118.32**	**310**	PKP	**PKiKP**	**18 11 33.5**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=248,slow=1.4,SNR=4.7						
ARCES	**ARCESS Array B**	**139.72**	**347**	PKP	**PKiKP**	**18 12 14.3**	**-0.2**
	comp=Z,5.2nm,1.0s,baz=29,slow=2.1,SNR=4.4						
FINES	**FINESS Array B**	**146.19**	**339**	PKPbc	**PKPbc**	**18 12 24.6**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=54,slow=2.8,SNR=23						
NB2	**NORSAR Subarra**	**149.92**	**351**	PKP	**PKPbc**	**18 12 34.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.92**	**351**	PKPbc	**PKPbc**	**18 12 34.9**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=16,slow=4.1,SNR=6.6						
AKASG	**Malin Array Be**	**152.07**	**321**	PKPbc	**PKiKP**	**18 12 41.5**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=55,slow=2.4,SNR=4.9						
BRTR	**Keskin Array B**	**152.89**	**296**	PKPbc	**PKiKP**	**18 12 43.7**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=142,slow=4.5,SNR=2.8						

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*DJA **18** 17:56:55.6±0.7, 6°.S±6°.×15°.3E±°., h104km±9km, M4.8/6, mb4.3/6, MLv5.1/2*
*NEIC **18** 17:57:04.2±2.3, 5°.38S±0°.05×152°.1E±0°.1, h54km±5km, mb4.5/15, Error ellipse: s-maj=19.5km s-min=7.1km az=99.0*
*IDC **18** 17:57:04.5±1.3, 5°.37S×151°.97E, h51km±10km, mb3.7/14, mb1 4.0/15, mb1mx3.8/32, mbtmp4.0/15, MS3.1/8, Ms1 3.1/8, ms1mx2.9/29, Error ellipse: s-maj=21.8km s-min=9.1km az=111.0*
ISC 18 17:57:03.9±0.6, 5°.38S±0°.06×152°.0E±0°.1, h45km, n42, σ0s99/40, mb4.2/23, MS3.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.06**	**359**	P	**Pn**	**17 57 22.9**	**+0.5**
	1μm,0.3s,baz=149,slow=5.9,SNR=2335						
KRVT				S	**Sn**	**17 57 37.2**	**+1.2**
	baz=61,slow=19						
KRVT				LR	LR	17 57 39.7	
	comp=Z,236nm,21.7s,baz=145,slow=33						
RABL	**Rabaul**	**1.19**	**6**		**Pn**	**17 57 24.6**	**+0.5**
PMG	**Port Moresby**	**6.28**	**230**	P	**Pn**	**17 58 34.9**	**+0.8**
	6.8nm,0.3s,baz=38,slow=11,SNR=28						
PMG				S	**Sn**	**17 59 45.4**	**+0.8**
	9.9nm,0.3s,baz=152,slow=24,SNR=6.4						
PMG				LR	LR	18 00 28.3	
	comp=Z,84nm,21.2s,baz=56,slow=33						
PMG	**Port Moresby**	**6.28**	**230**		**Pn**	**17 58 35.1**	**+1.0**
HNR	**Honiara**	**8.81**	**118**	LR	LR	18 02 58.4	
	comp=Z,88nm,18.3s,baz=320,slow=40						
COEN	**Coen**	**12.21**	**225**	Pn	**Pn**	**17 59 56.0**	**+0.7**
GUMO	**Guam**	**20.14**	**339**	LR	LR	18 07 34.2	
	comp=Z,57nm,21.3s,baz=146,slow=31						
DZM	**Mont Dzumac**	**21.67**	**141**	P	**P**	**18 01 51.7**	**+0.7**
	2.7nm,0.8s,baz=284,slow=8.3,SNR=1.9						
MTN	**Manton Dam**	**21.92**	**249**	P	**P**	**18 01 52.1**	**-1.5**
MTN				IAmb	IAmb	18 01 56.3	
	comp=Z,12nm,0.5s						
WB0	**Warramunga Arr**	**22.35**	**229**	P	**P**	**18 01 57.6**	**-0.7**
WB0				IAmb	IAmb	18 02 10.1	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**22.36**	**228**	P	**P**	**18 01 58.0**	**-0.4**
WR0				IAmb	IAmb	18 02 10.3	
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**22.48**	**228**	P	**P**	**18 01 58.9**	**-0.7**
WRAB				IAmb	IAmb	18 02 11.4	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**22.49**	**228**	P	**P**	**18 01 59.0**	**-0.8**
WB2				IAmb	IAmb	18 02 11.5	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**22.50**	**228**	P	**P**	**18 01 58.9**	**-1.0**
	comp=Z,3.8nm,0.5s,baz=52,slow=10.0,SNR=11						
WRA				ScP	**ScP**	**18 09 27.1**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=52,slow=3.0,SNR=2.1						
KNRA	**Kununurra**	**25.04**	**244**	P	**P**	**18 02 23.4**	**-0.7**
AS31	**Alice Springs**	**25.21**	**222**	P	**P**	**18 02 25.3**	**-0.4**
ASAR	**Alice Springs**	**25.22**	**222**	P	**P**	**18 02 26.5**	**+0.8**
	comp=Z,5.9nm,0.7s,baz=56,slow=8.9,SNR=32						
ASAR				ScP	**ScP**	**18 09 35.6**	**+1.2**
	comp=Z,0.2nm,0.8s,baz=27,slow=3.1,SNR=1.4						
STKA	**Stephens Creek**	**28.12**	**199**	P	**P**	**18 02 51.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=12,slow=14,SNR=1.8						
STKA	**Stephens Creek**	**28.12**	**199**	P	**P**	**18 02 51.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.72**	**242**	P	**P**	**18 02 55.1**	**-2.1**
	comp=Z,4.2nm,0.6s,baz=3.4,slow=3.2,SNR=14						
FITZ	**Fitzroy Crossi**	**28.72**	**242**	P	**P**	**18 02 56.2**	**-1.0**
DAV	**Davao City (W)**	**29.16**	**295**	LR	LR	18 13 58.1	
	comp=Z,53nm,19.5s,baz=103,slow=35						
FORT	**Forrest**	**33.87**	**219**	P	**P**	**18 03 41.2**	**-1.1**
MORW	**Morawa**	**41.40**	**231**	P	**P**	**18 04 47.9**	**+1.8**
MORW				IAmb	IAmb	18 05 08.2	
	comp=Z,21nm,1.4s						
RPZ	**Rata Peaks**	**41.70**	**159**	LR	LR	18 19 32.3	
	comp=Z,66nm,19.6s,baz=292,slow=32						
MJAR	**Matsushiro Arr**	**43.67**	**344**	LR	LR	18 23 44.1	
	comp=Z,19nm,18.0s,baz=170,slow=37						
JHS	**Saijyo**	**43.94**	**337**	P	**P**	**18 05 08.3**	**+1.7**
JHS				IAmb	IAmb	18 05 28.9	
	comp=Z,44nm,1.5s						
JTM	**Tenmabayashi**	**47.03**	**349**	P	**P**	**18 05 32.2**	**+1.3**
KSRS	**Korea Array**	**48.18**	**334**	P	**P**	**18 05 40.7**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=150,slow=7.6,SNR=4.3						
KSRS				LR	LR	18 26 04.0	
	comp=Z,11nm,18.2s,baz=162,slow=36						
CMAR	**Chiang Mai Arr**	**57.44**	**296**	P	**P**	**18 06 48.4**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=117,slow=5.2,SNR=10						
PETK	**Petropavlovsk-**	**58.46**	**4**	LR	LR	18 28 15.8	
	comp=Z,19nm,20.4s,baz=163,slow=32						
SONM	**Songino Array**	**66.41**	**328**	P	**P**	**18 07 48.2**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=148,slow=6.5,SNR=9.7						
LSA	**Lhasa**	**67.94**	**305**	P	**P**	**18 07 58.9**	**-0.2**
LSA				IAmb	IAmb	18 07 59.2	
	comp=Z,2.5nm,0.7s						
VNDA	**Vanda**	**72.28**	**178**	P	**P**	**18 08 24.5**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=349,slow=5.2,SNR=1.8						
MKAR	**Makanchi Array**	**80.27**	**319**	P	**P**	**18 09 08.7**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=100,slow=6.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**81.21**	**327**	P	**P**	**18 09 13.4**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=107,slow=6.7,SNR=4.5						
ILAR	**Eielson Array**	**82.98**	**22**	P	**P**	**18 09 23.5**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=244,slow=5.0,SNR=13						
QSPA	**South Pole Qui**	**84.58**	**180**	P	**P**	**18 09 32.6**	**+0.2**
QSPA				IAmb	IAmb	18 09 44.8	
	comp=Z,3.8nm,0.9s						
MAW	**Mawson**	**84.75**	**203**	P	**P**	**18 09 33.3**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=45,slow=7.1,SNR=3.6						
NVAR	**Mina Array Bea**	**93.03**	**52**	P	**P**	**18 10 13.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=252,slow=7.5,SNR=5.2						
GERES	**GERESS Array B**	**124.15**	**328**	PKP	**PKPdf**	**18 15 57.1**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=67,slow=1.7,SNR=8.3						
TORD	**Torodi Ar. Bea**	**149.76**	**287**	PKPbc	**PKPbc**	**18 16 49.0**	**-1.0**
	comp=Z,7.1nm,0.7s,baz=57,slow=3.1,SNR=28						

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*IDC **18** 18:14:14.7±0.9, 20°.13S×70°.69W, h0km, mb3.8/6, mb1 4.1/8, mb1mx4.0/28, mbtmp3.9/8, ML3.9/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=30.4km s-min=20.8km az=50.0*
*NEIC **18** 18:14:15.5±2.1, 20°.23S±0°.04×70°.88W±0°.05, h13km±4km, mb4.5/6, Error ellipse: s-maj=7.0km s-min=5.2km az=105.0*
*GUC **18** 18:14:17.5±0.7, 20°.19S×70°.88W, h10km±6km, ML4.2*
*VAO **18** 18:14:21.2±0.6, 20°.23S×70°.71W, h48km, mb4.3*
ISC 18 18:14:15.1±1.7, 20°.20S±0°.03×70°.89W±0°.05, h8km±11km, n80, σ1s11/91, mb4.3/7, 6C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.72**	**96**	*e*P	**Pb**	**18 14 30.2**	**+0.4**
TA02				*i* S	**Sb**	**18 14 39.5**	**-0.4**
TA02				IAML		18 14 40.8	
	comp=E,52μm,0.4s						
TA01	**Diego Aracena**	**0.76**	**119**	*e*P	**Pb**	**18 14 30.6**	**0.0**
TA01				*i* S	**Sb**	**18 14 41.0**	**-0.1**
TA01				IAML		18 14 42.8	
	comp=N,23μm,0.3s						
TA01	**Diego Aracena**	**0.76**	**119**		**Pg**	**18 14 30.3**	**+0.6**
PATCX	**Punta Patache**	**0.93**	**132**	*e*P	**Pg**	**18 14 33.4**	**+0.4**
PATCX				*i* S	**Sb**	**18 14 46.0**	**-0.1**
PATCX	**Punta Patache**	**0.93**	**132**		**Pg**	**18 14 32.9**	**0.0**
PSGCX	**Pisagua**	**0.94**	**50**		**Pb**	**18 14 33.9**	**+0.1**
PSGCX				Sg	**Sb**	**18 14 46.4**	**-0.1**
PB11	**IPOC Station P**	**1.24**	**70**	*e*P	**Pn**	**18 14 38.8**	**-0.2**
PB11				*i* S	**Sb**	**18 14 54.8**	**-0.4**
PB11				IAML		18 14 56.4	
	comp=N,7μm,0.5s						
PB11	**IPOC Station P**	**1.24**	**70**		**Pn**	**18 14 38.3**	**-0.6**
PB02	**IPOC Station P**	**1.45**	**140**	*e*P	**Pn**	**18 14 41.6**	**-0.2**
PB02				*i* S	**Sn**	**18 15 00.5**	**-0.6**
PB02				IAML		18 15 09.2	
	comp=E,11μm,0.4s						
PB01	**IPOC Station P**	**1.56**	**123**	*e*P	**Pn**	**18 14 43.5**	**+0.2**
PB01				*i* S	**Sn**	**18 15 03.5**	**-0.2**
PB01	**IPOC Station P**	**1.56**	**123**	Pn	**Pn**	**18 14 42.8**	**-0.4**
PB01				Sn	**Sn**	**18 15 03.5**	**-0.2**
MNMC	**Minye Minye**	**1.62**	**49**	Pn	**Pn**

CO03	El Pedregal	10.59	179	Pn	Pn	18 16 47.7	+0.3
ETMB	Extrema	11.27	24	eP	Pn	18 16 59.2	+2.6
PTLB	Pontes e Lacer	12.15	69	eP	Pn	18 17 10.3	+1.7
VILB	Vilhena	12.53	57	eP	Pn	18 17 15.6	+1.8
SAML	Samuel	13.44	35	Pn	Pn	18 17 26.4	+0.1
SAML	Samuel	13.44	35	eP	Pn	18 17 28.6	+2.4
H03N1	Juan Fernandez	14.99	207	T	T	18 33 10.8	
	baz=33,slow=72,SNR=156						
H03N2	Juan Fernandez	15.00	207	T	T	18 33 11.4	
	baz=33,slow=72,SNR=148						
H03N3	Juan Fernandez	15.01	207	T	T	18 33 09.6	
	baz=33,slow=72,SNR=103						
CLDB	Colider	17.24	60	eP	Pn	18 18 15.2	-1.3
NPGB	Novo Progresso	19.95	51	eP	P	18 18 47.5	-0.3
PLCA	Paso Flores	20.47	179	P	P	18 18 53.7	+0.4
	comp=E,2.1nm,1.0s,baz=16,slow=10,SNR=3.2						
PLCA	Paso Flores	20.47	179	P	P	18 18 53.0	-0.3
PLCA				IAmb	IAmb	18 19 08.3	
	comp=Z,25nm,1.7s						
BB19B	Bebedouro	20.95	96	eP	P	18 18 58.5	-0.1
IPMB	Ipameri, GO	21.55	88	eP	P	18 19 04.2	-1.0
PTGA	Pitinga	22.11	30	P	P	18 19 09.3	-1.8
BDFB	Brasília	22.23	82	P	P	18 19 10.0	-2.6
	comp=Z,3.1nm,0.6s,baz=264,slow=17,SNR=3.4						
BDFB				LR	LR	18 28 55.1	
	comp=Z,192nm,20.2s,baz=277,slow=40						
BDFB	Brasilia	22.23	82	P	P	18 19 10.3	-2.2
BDFB				IAmb	IAmb	18 19 26.5	
	comp=Z,45nm,1.9s						
PRPB	Parauapebas	24.77	59	eP	P	18 19 37.6	+0.1
ROSC	El Rosal	25.11	352	LR	LR	18 31 11.0	
	comp=Z,121nm,19.0s,baz=196,slow=40						
SMTB	Santa Maria do	25.18	67	eP	P	18 19 42.9	+1.6
JANB	Januaria	25.83	83	eP	P	18 19 46.1	-1.1
MCPB	Macapa, AP	27.00	45	eP	P	18 19 57.5	-0.2
PDPR	Patillas Dam,	38.28	7	P	P	18 21 35.4	-0.7
PDPR				IAmb	IAmb	18 22 12.3	
	comp=Z,13nm,1.1s						
CBYP	Canovanas	38.55	8	P	P	18 21 37.6	-0.9
CBYP				IAmb	IAmb	18 21 44.2	
	comp=Z,14nm,1.1s						
TXAR	Lajitas Array	58.52	326	P	P	18 24 13.3	+1.0
	comp=Z,0.2nm,0.6s,baz=142,slow=10,SNR=2.4						
NVAR	Mina Array Bea	73.34	323	P	P	18 25 48.7	+1.0
	comp=Z,0.4nm,0.6s,baz=134,slow=6.4,SNR=3.7						
TOA0	Torodi Ar. Sit	78.69	71	P	P	18 26 17.4	-1.0
TORD	Torodi Ar. Bea	78.69	71	P	P	18 26 17.2	-1.2
	comp=Z,7.3nm,1.1s,baz=256,slow=5.1,SNR=16						
TORD				LR	LR	19 00 06.0	
	comp=Z,64nm,18.2s,baz=225,slow=35						
BOSA	Boshof	85.69	119	LR	LR	19 01 59.2	
	comp=Z,33nm,21.4s,baz=160,slow=34						
YKA	Yellowknife Ar	89.36	341	P	P	18 27 12.9	+1.2
	comp=Z,1.9nm,1.0s,baz=135,slow=4.3,SNR=5.4						
WRA	Warramunga Arr	133.07	213	PKP	PKPdf	18 33 32.7	+0.5
	comp=Z,0.2nm,0.7s,baz=202,slow=1.6,SNR=1.7						
ZALV	Zalesovo Beam	141.53	23	PKP	PKPdf	18 33 46.2	-0.5
	comp=Z,0.8nm,0.6s,baz=280,slow=0.9,SNR=4.1						
MKAR	Makanchi Array	145.62	33	PKPbc	PKPab	18 33 55.2	+0.5
	comp=Z,2.5nm,0.7s,baz=326,slow=3.7,SNR=15						
SONM	Songino Array	152.35	4	PKPbc	PKiKP	18 34 12.8	+0.7
	comp=Z,0.6nm,0.8s,baz=222,slow=1.9,SNR=2.8						

KRSC 18 18:23:48.6±1.5, 48°19N×154°62E, h190km±21km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.68	21	eP	Pn	18 24 34.8	+1.1
SKR				eS	Sn	18 25 10.4	+1.3
PAU	Pauzhetka	3.57	23	eP	Pn	18 24 45.7	+1.2
PAU				eS	Sn	18 25 28.6	+0.2
KDTR	Khodutka, Kamc	4.25	30	eP	Pn	18 24 54.7	+1.7
KDTR				eS	Sn	18 25 43.2	-0.5
ASAK	Asacha	4.69	25	eP	Pn	18 25 00.3	+1.6
GRL	Gorelyy	4.89	26	eP	Pn	18 25 03.4	+2.1
RUS	Russkaya	4.92	29	eP	Pn	18 25 03.4	+1.8
RUS				eS	Sn	18 25 58.8	-0.3
APC	Apacha	5.01	18	eP	Pn	18 25 02.9	+0.3
DALK	Dalny	5.51	27	eP	Pn	18 25 11.2	+2.0
DALK				eS	Sn	18 26 13.8	+1.0
UGLR	Uglovaya	5.69	26	eP	Pn	18 25 14.1	+2.5
KOK	Koryaka	5.71	25	eP	Pn	18 25 14.2	+2.4
AVH	Avacha	5.71	26	eP	Pn	18 25 14.8	+2.9
SMAR	Somma	5.73	26	eP	Pn	18 25 14.1	+1.9
SDLR	Sedlovina	5.77	26	eP	Pn	18 25 14.7	+2.1
KRX	Arik	5.77	25	eP	Pn	18 25 14.9	+2.2
SPN	Mys Shipunski	5.99	33	eP	Pn	18 25 17.2	+1.8
SPN				eS	Sn	18 26 22.6	-1.5

IDC 18 18:56:37.2±2.0, 2°91N×127°16E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, Error ellipse: s-maj=152.0km s-min=27.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.78	163	P	P	19 01 52.1	+0.5
	0.8nm,0.7s,baz=343,slow=11,SNR=9.6						
ASAR	Alice Springs	27.22	166	P	P	19 02 22.9	-0.1
	0.2nm,0.7s,baz=347,slow=8.1,SNR=1.7						
STKA	Stephens Creek	37.21	159	P	P	19 03 49.9	-0.6
	1.1nm,0.7s,baz=330,slow=14,SNR=1.2						
MKAR	Makanchi Array	58.47	325	P	P	19 06 35.1	0.0
	0.2nm,0.5s,baz=108,slow=6.6,SNR=1.1						

NNC 18 18:58:41.2±1.8, 38°47N×76°77E, h11km±11km, mb3.7, mpv3.3, 6C-1D, Error ellipse: s-maj=13.7km s-min=11.8km az=85.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.51	338	Pg	Pb	19 00 03.0	+2.5
	4.5nm,0.8s						
AAK				Lg	Lg	19 01 07.4	
	26nm,0.9s						
TKM2	Tokmak 2	4.53	349	⇑Pg	Pb	19 00 01.6	+0.7
	2.2nm,0.7s						
TKM2				⇑Lg	Lg	19 01 05.1	
	22nm,1.4s						
IZV	Izvestkoviy	4.56	359	Pg	Pb	19 00 04.5	+3.1
	4.0nm,0.6s						
IZV				Lg	Lg	19 01 05.7	
	11nm,0.5s						
KST	Kastek	4.61	353	Pg	Pb	19 00 05.3	+3.1
	2.9nm,0.7s						
KST				Lg	Lg	19 01 07.0	
	5.4nm,0.7s						
MDOK	Medeo	4.69	2	Pg	Pb	19 00 06.1	+2.5
	3.9nm,0.4s						
MDOK				Lg	Lg	19 01 07.8	
	8.2nm,0.6s						
SATY	Saty	4.75	15	Pg	Pg	19 00 08.8	-3.4
	4.3nm,0.9s						
SATY				Lg	Lg	19 01 12.4	
	7.9nm,0.5s						
KOTS	Kotyrbulak	4.76	3	Pg	Pb	19 00 08.4	+3.6
	9.7nm,0.5s						
KOTS				Lg	Lg	19 01 12.7	
	8.6nm,0.6s						
DGS	Degeres	4.83	351	Pg	Pb	19 00 09.4	+3.6
	2.1nm,0.6s						
DGS				Lg	Lg	19 01 14.2	
	9.6nm,0.7s						
UZB	Uzynbulak	4.97	19	Pg	Pb	19 00 12.0	+3.6
	1.6nm,0.6s						
UZB				Lg	Lg	19 01 17.8	
	3.3nm,0.8s						
KTBS	Karatobe	5.24	359	Pg	Pg	19 00 18.2	-3.3
	1.5nm,0.5s						
KTBS				Lg	Lg	19 01 29.3	
	11nm,0.6s						
PDGK	Podgornoye	5.27	22	⇓Pg	Pb	19 00 15.7	+2.2
	4.5nm,1.3s						
PDGK				⇑Lg	Lg	19 01 27.1	
	7.4nm,1.1s						
CHKK	Chushkaly	5.38	2	Pg	Pg	19 00 20.8	-3.5
	2.4nm,0.3s						
CHKK				Lg	Lg	19 01 32.8	
	4.5nm,0.4s						
KUU	Kurty	5.43	357	Pg	Pb	19 00 20.2	+4.1
	1.3nm,0.4s						
KUU				Lg	Lg	19 01 32.1	
	6.4nm,0.4s						
MNBS	Baschi	5.74	12	Pg	Pg	19 00 27.0	-4.0
	2.0nm,0.5s						
MNBS				Lg	Lg	19 01 43.8	
	5.2nm,0.6s						
KK31	Karatay Array	6.63	316	⇑Pn	Pn	19 00 18.1	-0.5
	0.6nm,0.7s,baz=122,slow=12,SNR=10						
KK31				⇑Sn	Sn	19 01 35.5	+1.4
	0.4nm,0.4s						
KK31				⇑Lg	Lg	19 02 13.4	
	0.5nm,0.3s,baz=126,slow=28,SNR=2.9						

WEL 18 19:19:09.6, 44°S±2°×17°3E±°, h14km±3km, M2.3/7, ML2.5/7, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=21.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.16	199	P	Pb	19 19 14.9	+0.6
MQZ				S	Sb	19 19 18.0	+0.6
OKCZ	Okains Bay	0.29	124	P	Pb	19 19 16.9	+0.2
OKCZ				S	Sb	19 19 21.6	+0.2
AKCZ	Akaroa Harbour	0.34	157	P	Pb	19 19 18.2	+0.7
AMCZ	Amberley	0.39	352	P	Pb	19 19 18.6	+0.4
OXZ	Oxford	0.55	295	P	Pn	19 19 22.1	-0.9
OXZ				S	Sn	19 19 30.8	-1.2
GVZ	Greta Valley S	0.63	21	P	Pb	19 19 23.0	+0.5
GVZ				S	Sb	19 19 32.0	+1.0
WACZ	Wakanui South	0.75	239	P	Pn	19 19 27.2	+1.5
MHCZ	Mount Hutt	0.84	271	P	Pn	19 19 28.2	+1.1
MHCZ				S	Sn	19 19 40.8	+1.6
LTZ	Lake Taylor	0.84	337	P	Pn	19 19 27.3	+0.2
LTZ				S	Sn	19 19 39.0	-0.2
ARCZ	Arundel	1.19	250	P	Pg	19 19 34.4	+1.9
RPZ	Rata Peaks	1.22	262	P	Pg	19 19 35.2	+2.0
KHZ	Kahutara	1.29	28	P	Pn	19 19 33.2	+0.1
ODZ	Otahua Downs	2.11	224	P	Pg	19 19 51.4	+1.3

*KRSZO **18** 19:38:13.3±0.7, 46°.18N×21°.93E, h15km±6km, Error ellipse: s-maj=3.4km s-min=3.2km az=63.0*
*BUD **18** 19:38:13.4, 46°.15N×21°.96E, h6km±2km, ML2.1/3*
BUC 18 19:38:13.8±0.3, 46°17N×21°97E, h10km±2km, ml2.3/10, 16C-36D, Error ellipse: s-maj=2.7km s-min=2.2km az=127.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRR	Siria	0.24	295	⇓Pg	Pg	19 38 18.8	+0.1
SIRR				⇓Sg	Sg	19 38 22.1	+0.1
SIRR	Siria	0.24	295	⇓P	Pg	19 38 18.8	+0.1
SIRR				⇑S	Sg	19 38 22.1	+0.1
SIRR	Siria	0.24	295	⇓P	Pg	19 38 18.8	+0.1
SIRR				⇑S	Sg	19 38 22.1	+0.1
SIRR	Siria	0.24	295	Lg	Lg	19 38 22.1	
SIRR				Pg	Pg	19 38 18.8	+0.1
SIRR				Pg	Pg	19 38 18.8	+0.1
SIRR				Pg	Pg	19 38 18.8	+0.1
SIRR				Pg	Pg	19 38 18.8	+0.1
SIRR				Lg	Lg	19 38 22.1	
SIRR				S	Sg	19 38 22.6	+0.6
SIRR				S	Sg	19 38 22.6	+0.6
BZS	Buzias	0.60	204	Sg	Sg	19 38 32.9	-0.5
BZS	Buzias	0.60	204	⇓S	Sg	19 38 32.9	-0.5
BZS	Buzias	0.60	204	⇓S	Sg	19 38 32.9	-0.5
BZS	Buzias	0.60	204	Lg	Lg	19 38 32.9	
BZS				Lg	Lg	19 38 32.9	
BZS				Lg	Lg	19 38 32.9	
BZS				Lg	Lg	19 38 32.9	
DEV	Deva	0.71	113	⇓Pg	Pg	19 38 27.5	0.0
DEV				⇓Sg	Sg	19 38 37.0	+0.2
DEV	Deva	0.71	113	⇓P	Pg	19 38 27.5	0.0
DEV				⇑S	Sg	19 38 37.0	+0.3
DEV	Deva	0.71	113	⇓P	Pg	19 38 27.5	0.0
DEV	Deva	0.71	113	Lg	Lg	19 38 37.0	
DEV				Pg	Pg	19 38 27.5	0.0
DEV				Pg	Pg	19 38 27.5	0.0
DEV				Pg	Pg	19 38 27.5	0.0
DEV				Pg	Pg	19 38 27.5	0.0
DEV				Lg	Lg	19 38 37.0	
DEV				Sb	Sg	19 38 37.3	+0.6
BANR	Banloc	0.98	217	Sg	Sn	19 38 47.2	-0.3
BANR	Banloc	0.98	217	⇓S	Sn	19 38 47.2	-0.3
BANR	Banloc	0.98	217	⇓S	Sn	19 38 47.2	-0.3
BANR	Banloc	0.98	217	Sn	Sn	19 38 47.2	-0.3
BANR				Sn	Sn	19 38 47.2	-0.3
BANR				Sn	Sn	19 38 47.2	-0.3
BANR				Sn	Sn	19 38 47.2	-0.3
LTVH	Ltavrtes, Hu	1.22	358	⇓ePn	Pn	19 38 36.3	-0.7
LTVH				⇓eSn	Sg	19 38 53.0	-0.1
LTVH	Ltavrtes, Hu	1.22	358	eSg	Sg	19 38 53.0	-0.1
LTVH				Pn	Pn	19 38 36.3	-0.7
LTVH				ePn	Pn	19 38 36.4	-0.6
LTVH				Sg	Sg	19 38 53.0	-0.1
CJR	Cluj-Napoca	1.25	63	⇓Pn	Pn	19 38 37.0	-0.5
CJR				⇓Sn	Sn	19 38 54.7	+0.2
CJR	Cluj-Napoca	1.25	63	⇓P	Pn	19 38 37.0	-0.5
CJR				⇑S	Sn	19 38 54.7	+0.2
CJR	Cluj-Napoca	1.25	63	⇓P	Pn	19 38 37.0	-0.5
CJR	Cluj-Napoca	1.25	63	Sb	Sn	19 38 54.7	+0.2
CJR				Pn	Pn	19 38 37.0	-0.5
CJR				Pn	Pn	19 38 37.0	-0.5
CJR				Pn	Pn	19 38 37.0	-0.5
CJR				Pn	Pn	19 38 37.0	-0.5
CJR				Sb	Sn	19 38 54.7	+0.2
CJR				Sb	Sn	19 38 54.7	+0.2
HERR	Herculane	1.32	166	⇑Pn	Pg	19 38 39.2	0.0
HERR				⇑Sn	Sg	19 38 57.4	+1.1
HERR	Herculane	1.32	166	⇑P	Pg	19 38 39.2	0.0
HERR				⇓S	Sg	19 38 57.4	+1.0
HERR	Herculane	1.32	166	⇑P	Pg	19 38 39.2	0.0
HERR	Herculane	1.32	166	Lg	Lg	19 38 57.4	
HERR				Pg	Pg	19 38 39.2	0.0
HERR				Pg	Pg	19 38 39.2	0.0
HERR				Pg	Pg	19 38 39.2	0.0
HERR				Pg	Pg	19 38 39.2	0.0
HERR				Lg	Lg	19 38 57.4	
HERR				Lg	Lg	19 38 57.4	
MDVR	Moldovita	1.40	188	⇑Pn	Pn	19 38 39.7	+0.2
MDVR				⇑Sn	Sn	19 38 58.1	+0.1
MDVR	Moldovita	1.40	188	⇑P	Pn	19 38 39.7	+0.2
MDVR				⇑S	Sn	19 38 58.1	+0.1
MDVR	Moldovita	1.40	188	⇑P	Pn	19 38 39.7	+0.2
MDVR	Moldovita	1.40	188	Sn	Sn	19 38 58.1	+0.1
MDVR				Pg	Pn	19 38 39.6	+0.2
MDVR				Pg	Pn	19 38 39.7	+0.2
MDVR				Pg	Pn	19 38 39.7	+0.2
MDVR				Pg	Pn	19 38 39.7	+0.2
MDVR				Sn	Sn	19 38 58.1	+0.1
MDVR				Sg	Sg	19 38 59.0	+0.2
LOT	Lotru	1.45	119	⇓Pn	Pg	19 38 41.4	-0.2
LOT	Lotru	1.45	119	⇓P	Pg	19 38 41.4	-0.2
LOT	Lotru	1.45	119	⇓P	Pg	19 38 41.4	-0.2
LOT	Lotru	1.45	119	Pg	Pg	19 38 41.4	-0.2
LOT				Pg	Pg	19 38 41.4	-0.2
LOT				Pg	Pg	19 38 41.4	-0.2
LOT				Pg	Pg	19 38 41.4	-0.2
ARCR	ARCALIA	1.88	60	⇓Pn	Pn	19 38 46.7	+0.6
ARCR				⇓Sn	Sb	19 39 11.7	-0.2
ARCR	ARCALIA	1.88	60	⇓P	Pn	19 38 46.7	+0.6
ARCR				⇓S	Sb	19 39 11.7	-0.2
ARCR	ARCALIA	1.88	60	⇓P	Pn	19 38 46.7	+0.6
ARCR	ARCALIA	1.88	60	Pn	Pn	19 38 46.7	+0.6
ARCR				Pn	Pn	19 38 46.7	+0.6
ARCR				Pn	Pn	19 38 46.7	+0.6
ARCR				Pn	Pn	19 38 46.7	+0.6
ARCR				Sn	Sn	19 39 11.7	+1.7
ARCR				Sn	Sn	19 39 11.7	+1.7
ARCR				Sn	Sn	19 39 11.7	+1.8
PSZ	Piszkesteto	2.25	322	⇓ePn	Pn	19 38 50.3	-1.0
PSZ				⇓eSn	Sn	19 39 15.9	-3.3
PSZ	Piszkesteto	2.25	322	⇓P	Pn	19 38 50.5	-0.8
PSZ	Piszkesteto	2.25	322	⇓P	Pn	19 38 50.5	-0.8
PSZ	Piszkesteto	2.25	322	eSn	Sn	19 39 15.9	-3.4
PSZ				ePg	Pn	19 38 50.3	-1.0
PSZ				Pn	Pn	19 38 50.3	-1.0
PSZ				Pb	Pn	19 38 50.5	-0.8
PSZ				Pb	Pn	19 38 50.5	-0.8
PSZ				Sn	Sn	19 39 15.9	-3.3
VOIR		2.27	108	⇓Pn	Pn	19 38 51.1	-0.5
VOIR				⇓Sn	Sn	19 39 19.7	0.0
VOIR		2.27	108	⇓P	Pn	19 38 51.1	-0.5
VOIR				⇑S	Sn	19 39 19.7	0.0
VOIR		2.27	108	⇓P	Pn	19 38 51.1	-0.5
VOIR		2.27	108	Pn	Pn	19 38 51.1	-0.5
VOIR				Pn	Pn	19 38 51.1	-0.5
VOIR				Pg	Pn	19 38 51.1	-0.5
VOIR				Pg	Pn	19 38 51.1	-0.5
VOIR				Sn	Sn	19 39 19.7	0.0
VOIR				Sn	Sn	19 39 19.7	0.0
VOIR				Sn	Sn	19 39 19.7	0.0
BURAR	Bucovina Array	2.66	56	⇑Pn	Pn	19 38 56.4	-0.5
BURAR				⇓S	Sn	19 39 30.5	+1.3
BURAR	Bucovina Array	2.66	56	⇑P	Pn	19 38 56.4	-0.5
BURAR	Bucovina Array	2.66	56	Pn	Pn	19 38 56.4	-0.5
BURAR				Pn	Pn	19 38 56.4	-0.5
BURAR				Pb	Pn	19 38 56.4	-0.5
BURAR				Sn	Sn	19 39 30.5	+1.3

BUC 18 19:38:33.4±0.2, 45°50N×27°75E, h6km±2km, ml1.8/14, 38C-13D, Error ellipse: s-maj=1.9km s-min=1.2km az=48.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHL	Schela	0.06	85	⇑P	Pg	19 38 34.9	0.0
SCHL				⇑S	Sg	19 38 36.5	+0.5
SCHL	Schela	0.06	85	⇑P	Pg	19 38 34.9	0.0
TUDR		0.11	331	⇑P	Pg	19 38 36.1	+0.3
TUDR				⇑S	Sg	19 38 37.9	+0.5
TUDR		0.11	331	⇑P	Pg	19 38 36.1	+0.3
VARL	Varlezi	0.41	10	⇑P	Pg	19 38 41.1	-0.3
VARL				⇑S	Sg	19 38 47.1	+0.3
VARL	Varlezi	0.41	10	⇑P	Pg	19 38 41.1	-0.3
CFR	Carcaliu	0.42	139	⇑P	Pg	19 38 41.5	0.0
CFR				⇑S	Sg	19 38 47.4	+0.4
CFR	Carcaliu	0.42	139	⇑P	Pg	19 38 41.5	0.0
ODBI	Odobesti	0.55	299	⇑S	Sg	19 38 50.6	-0.7
ODBI	Odobesti	0.55	299	⇑S	Sg	19 38 50.6	-0.7
GHRR		0.61	337	⇑S	Sg	19 38 53.5	+0.4
GHRR		0.61	337	⇑S	Sg	19 38 53.5	+0.4
BISRR	Bisoca	0.73	274	⇓P	Pb	19 38 48.3	-0.3
BISRR				⇑S	Sg	19 38 57.4	+0.5
BISRR	Bisoca	0.73	274	⇓P	Pb	19 38 48.3	-0.3
TOPG	Topolog	0.76	144	⇓P	Pg	19 38 47.8	-0.2
TOPG				⇑S	Sg	19 38 58.4	+0.4
TOPG	Topolog	0.76	144	⇓P	Pg	19 38 47.8	-0.2
VRI	Vrincioaia	0.80	298	⇑P	Pb	19 38 50.4	+0.5
VRI				⇑S	Sb	19 39 01.1	+0.1
VRI	Vrincioaia	0.80	298	⇑P	Pb	19 38 50.4	+0.5
TLCR		0.81	112	⇓S	Sb	19 39 00.7	-0.5
TLCR		0.81	112	⇓S	Sb	19 39 00.7	-0.5
HARR	Harsova	0.82	171	⇓P	Pg	19 38 48.7	-0.4
HARR	Harsova	0.82	171	⇓P	Pg	19 38 48.7	-0.4
PLOR	Plostina	0.85	295	⇑P	Pg	19 38 49.6	-0.1
PLOR	Plostina	0.85	295	⇑P	Pg	19 38 49.6	-0.1
ISR	Istrita	0.93	246	⇑S	Sb	19 39 04.2	-0.4
ISR	Istrita	0.93	246	⇑S	Sb	19 39 04.2	-0.4
TLBR	Topalu	0.97	167	⇓S	Sn	19 39 06.8	-0.9
TLBR	Topalu	0.97	167	⇓S	Sn	19 39 06.8	-0.9
TIRR	Tirgusor	1.14	155	⇓P	Pg	19 38 55.1	-0.2
TIRR				⇓S	Sb	19 39 10.6	+0.1
TIRR	Tirgusor	1.14	155	⇓P	Pg	19 38 55.1	-0.2
MLR	Muntele Rosu	1.27	270	⇑Pn	Pg	19 38 57.3	-0.4
MLR	Muntele Rosu	1.27	270	⇑P	Pg	19 38 57.3	-0.4
MLR				⇑S	Sn	19 39 15.1	-0.1
MLR	Muntele Rosu	1.27	270	⇑P	Pg	19 38 57.3	-0.4
MLR	Muntele Rosu	1.27	270	Pb	Pg	19 38 57.3	-0.4
MLR				Pn	Pb	19 38 57.3	-0.5
TESR	Tescani	1.27	323	⇑S	Sb	19 39 14.7	+0.3
TESR	Tescani	1.27	323	⇑S	Sb	19 39 14.7	+0.3
DOPR	Dopca	1.72	287	Sn	Sb	19 39 27.7	+0.5
DOPR	Dopca	1.72	287	⇑S	Sb	19 39 27.7	+0.5
DOPR	Dopca	1.72	287	⇑S	Sb	19 39 27.7	+0.5
DOPR	Dopca	1.72	287	Sn	Sb	19 39 27.7	+0.5
DOPR				Sn	Sb	19 39 27.7	+0.5
BIZ	Bicaz	1.84	322	⇑S	Sn	19 39 29.3	+0.2
BIZ	Bicaz	1.84	322	⇑S	Sn	19 39 29.3	+0.2
SORM	Soroca	2.67	9	⇑P	Pn	19 39 17.5	+0.5
SORM				⇑S	Sn	19 39 51.3	+1.6
SORM	Soroca	2.67	9	⇑P	Pn	19 39 17.5	+0.5

*IDC **18** 19:42:13.1±2.0, 0°95S×132°40E, h0km, mb3.8/2, mb1 4.1/5, mb1mx3.6/42, mbtmp3.9/5, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/30, Error ellipse: s-maj=31.1km s-min=14.6km az=24.0*
ISC 18 19:42:18.6±2.0, 1°0S±0°1×132°2E±0°2, h35km, n6, σ1§45/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	0.96	276	Pg	Pn	19 42 34.9	-0.7
	189nm,0.3s,baz=227,slow=8.9,SNR=1805						
SIJI				Lg	Lg	19 42 50.7	
	367nm,0.3s,baz=334,slow=22,SNR=9.4						
SIJI				LR	LR	19 43 20.4	
	comp=Z,256nm,20.5s,baz=172,slow=59						
BATI	Baumata	12.51	223	Pn	Pn	19 45 15.6	+1.3
	1.3nm,0.3s,baz=278,slow=23,SNR=1.7						
FITZ	Fitzroy Crossi	18.20	200	P	P	19 46 26.8	-1.8
	0.1nm,0.3s,baz=181,slow=9.9,SNR=3.1						
FITZ				S	Sn	19 49 39.3	-12
	0.1nm,0.3s,baz=359,slow=20,SNR=1.9						
FITZ				LR	LR	19 56 33.7	
	comp=Z,41nm,19.4s,baz=318,slow=47						
WRA	Warramunga Arr	18.96	174	P	P	19 46 36.1	-0.9
	0.3nm,0.3s,baz=352

0.5nm,0.3s,baz=104,slow=13,SNR=1.7
URZ Urewera 18.79 201 P **P 19 52 37.0 -2.2**
URZ IAmb IAmb 19 53 01.6
comp=Z,50nm,1.3s
BFZ Birch Farm 21.27 200 P **P 19 53 06.1 0.0**
BFZ IAmb IAmb 19 53 14.3
comp=Z,38nm,1.0s
TBI Tubuai 23.12 101 *e*LQ LQ 19 57 32.9
comp=Z,562nm,27.2s
TBI *e*LR LR 19 58 49.4
comp=Z,237nm,28.2s
PPT2 Papeete2 23.56 86 *e*LR LR 19 59 02.1
comp=Z,157nm,24.8s
PPT Papeete 23.56 86 LR LR 20 01 59.7
comp=Z,59nm,18.2s,baz=223,slow=35
RPZ Rata Peaks 25.79 205 P **P 19 53 52.8 +2.0**
comp=Z,7.5nm,0.5s,baz=41,slow=16,SNR=1.9
RPZ Rata Peaks 25.79 205 P **P 19 53 52.2 +1.4**
FOZ Fox Glacier 26.14 207 P **P 19 53 54.1 +0.2**
HNR Honiara 27.32 291 LR LR 20 04 23.9
comp=Z,112nm,19.1s,baz=81,slow=35
WKZ Wanaka 27.53 206 P **P 19 54 06.0 -0.5**
CTA Charters Tower 36.90 264 P **P 19 55 28.5 -0.4**
comp=Z,1.2nm,0.3s,baz=49,slow=19,SNR=3.1
CTAO Charters Tower 36.90 264 P **P 19 55 28.6 -0.4**
CTAO IAmb IAmb 19 55 33.9
comp=Z,8.0nm,1.1s
STKA Stephens Creek 40.74 245 P **P 19 55 60.0 -1.0**
comp=Z,1.4nm,0.5s,baz=98,slow=14,SNR=6.0
STKA Stephens Creek 40.74 245 P **P 19 56 00.7 -0.2**
COEN Coen 41.07 273 P **P 19 56 03.5 -0.3**
BBOO Buckleboo 45.47 244 P **P 19 56 37.8 -1.4**
WR0 Warramunga Arr 47.79 262 P **P 19 56 56.1 -1.5**
WR0 IAmb IAmb 19 57 05.1
comp=Z,10nm,1.4s
AS31 Alice Springs 47.80 257 P **P 19 56 56.3 -1.3**
ASAR Alice Springs 47.80 257 P **P 19 56 56.0 -1.6**
comp=Z,4.9nm,0.7s,baz=100,slow=7.5,SNR=74
ASAR PcP **PcP 19 58 26.4 -0.2**
comp=Z,1.0nm,0.8s,baz=116,slow=3.4,SNR=1.8
ASAR LR LR 20 16 47.0
comp=Z,62nm,18.4s,baz=107,slow=36
WB0 Warramunga Arr 47.96 262 P **P 19 56 56.6 -2.3**
WB0 IAmb IAmb 19 57 17.4
comp=Z,4.9nm,0.9s
WB2 Warramunga Arr 47.97 262 P **P 19 56 57.5 -1.4**
WB2 IAmb IAmb 19 57 06.5
comp=Z,6.3nm,1.0s
WRAB Tennant Creek 47.97 262 P **P 19 56 55.5 -3.5**
WRAB IAmb IAmb 19 57 03.9
comp=Z,6.9nm,1.0s
WRA Warramunga Arr 47.98 262 P **P 19 56 57.3 -1.8**
comp=Z,2.5nm,0.8s,baz=97,slow=5.0,SNR=21
WRA PcP **PcP 19 58 27.6 +0.3**
comp=Z,0.6nm,0.6s,baz=92,slow=3.6,SNR=2.7
MTN Manton Dam 52.63 270 P **P 19 57 33.3 -1.0**
MTN IAmb IAmb 19 57 35.6
comp=Z,20nm,1.5s
KNRA Kununurra 54.09 265 P **P 19 57 44.4 -0.7**
KNRA IAmb IAmb 19 58 09.8
comp=Z,12nm,1.4s
FAKI Fak Fak 54.98 282 P **P 19 57 51.0 -0.6**
FITZ Fitzroy Crossi 56.41 262 P **P 19 58 01.0 -0.7**
comp=Z,0.8nm,0.4s,baz=174,slow=0.7,SNR=12
FITZ Fitzroy Crossi 56.41 262 P **P 19 58 00.3 -1.5**
FITZ IAmb IAmb 19 58 22.4
comp=Z,11nm,1.5s
VNDA Vanda 57.81 186 P **P 19 58 12.1 +1.3**
comp=Z,1.8nm,0.8s,baz=3.5,slow=6.6,SNR=10
VNDA LR LR 20 18 48.2
comp=Z,19nm,21.1s,baz=333,slow=32
VNDA Vanda 57.81 186 P **P 19 58 11.9 +1.1**
JCJ Chichijima 63.69 317 LR LR 20 23 44.2
comp=Z,32nm,18.5s,baz=330,slow=33
QSPA South Pole Qui 69.14 180 P **P 19 59 25.7 -0.4**
QSPA IAmb IAmb 19 59 27.6
comp=Z,15nm,1.5s
MJAR Matsushiro Arr 72.67 322 P **P 19 59 48.0 +0.3**
comp=Z,5.2nm,0.7s,baz=157,slow=6.2,SNR=13
MJAR LR LR 20 32 21.8
comp=Z,12nm,18.0s,baz=100,slow=36
MAJO Matsushiro 72.67 322 P **P 19 59 47.0 -0.7**
MAJO IAmb IAmb 19 59 48.9
comp=Z,5.8nm,0.7s
MAT Matsushiro 72.67 322 P **P 19 59 47.8 +0.1**
JNU Nakatsue 75.01 315 LR LR 20 27 19.3
comp=Z,18nm,20.7s,baz=128,slow=31
ASAJ Asahikawa 75.82 329 LR LR 20 27 00.7
comp=Z,43nm,21.4s,baz=164,slow=31
PETK Petropavlovsk- 77.64 343 P **P 20 00 15.2 -0.8**
comp=Z,2.1nm,0.7s,baz=122,slow=7.0,SNR=3.6
PETK LR LR 20 27 18.9
comp=Z,35nm,21.7s,baz=130,slow=30
BELA Belgrano 2 78.66 172 P **P 20 00 20.8 -0.7**
NVAR Mina Array Bea 79.00 42 P **P 20 00 24.4 +0.2**
comp=Z,1.3nm,0.6s,baz=227,slow=9.0,SNR=8.5
KSRS Korea Array 79.55 317 P **P 20 00 28.4 +1.5**
comp=Z,2.5nm,1.0s,baz=144,slow=6.8,SNR=8.1
KSRS LR LR 20 30 25.2
comp=Z,21nm,20.2s,baz=139,slow=32
MAW Mawson 82.30 199 LR LR 20 36 17.2
comp=Z,46nm,18.1s,baz=68,slow=35
H03S2 Juan Fernandez 82.87 123 T T 21 33 00.4
baz=247,slow=74,SNR=6.3
H03S1 Juan Fernandez 82.88 123 T T 21 33 01.6
baz=247,slow=74,SNR=7.8
H03S3 Juan Fernandez 82.88 123 T T 21 33 03.6
baz=247,slow=74,SNR=7.2
CMAR Chiang Mai Arr 93.54 288 P **P 20 01 38.4 +2.0**
comp=Z,2.2nm,0.9s,baz=118,slow=2.9,SNR=15
YKA Yellowknife Ar 95.49 24 LR LR 20 38 27.1
comp=Z,25nm,19.6s,baz=0.0,slow=32
LPAZ La Paz 98.67 111 LR LR 20 36 46.4
comp=Z,32nm,21.9s,baz=282,slow=30
ULM Lac du Bonnet 98.74 40 LR LR 20 41 25.1
comp=Z,75nm,18.7s,baz=76,slow=32
AKASG Malin Array Be 145.01 334 PKPbc **PKPbc 20 07 56.0 -0.3**
comp=Z,4.3nm,0.6s,baz=40,slow=4.2,SNR=15
CLL Collm 149.16 351 *e*PKPbc **PKPdf 20 08 06.0 +2.0**
CLL *e*PKPab **PKiKP 20 08 09.0 -0.4**
OSTC Ostas 149.30 347 *e*PKP **PKiKP 20 08 09.7 -0.1**
BRG Berggiesshubel 149.43 350 *e*PKP **PKPab 20 08 14.6 +1.0**
comp=Z,5.9nm,1.5s
DPC Dobruska-Polom 149.47 347 *e*PKP **PKiKP 20 08 11.6 +1.4**
BRTR Keskin Array B 149.67 314 PKPbc **PKPbc 20 08 10.0 0.0**
comp=Z,1.3nm,0.7s,baz=110,slow=2.8,SNR=3.8
PRU Pruhonice 150.18 349 *e*PKP **PKiKP 20 08 11.2 -0.4**
KHC Kasperske Hory 151.18 349 *e*PKP **PKiKP 20 08 13.6 -0.1**
KHC *ex* x 20 08 24.8
KHC *ex* x 20 08 33.1
GERES GERESS Array B 151.43 349 PKPbc **PKPbc 20 08 14.0 +0.1**
comp=Z,1.1nm,0.8s,baz=26,slow=3.4,SNR=7.6
CONA Conrad Observa 151.85 345 *i* pPKiKP **PKiKP 20 08 15.6 +0.4**
comp=Z,2.2nm,0.7s
ARSA Arzberg 152.57 345 *i* pPKiKP **PKiKP 20 08 18.1 +1.4**
comp=Z,1.9nm,0.5s
KBA Koelnbreinsper 153.19 348 *i* PKPab **PKiKP 20 08 21.9 +3.8**
comp=Z,3.2nm,0.9s
WATA Walderalm 153.24 351 *i* pPKiKP **PKiKP 20 08 21.2 +3.0**
comp=Z,4.9nm,1.1s
MOTA Moosalm 153.30 352 *i* pPKiKP **PKiKP 20 08 20.4 +2.1**
comp=Z,3.5nm,1.1s
DAVA Damuels 153.50 354 *i* pPKiKP **PKiKP 20 08 21.1 +2.4**
comp=Z,5.3nm,1.1s

KRSC 18 19:50:13.5±1.6, 52°.08N×159°.42E, h49km±19km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.67**	**303**	*e*P	Pn	19 50 27.5	+0.7
RUS				*e*S	Sn	19 50 36.5	+0.2
MTVR	**Mutnovka**	**0.86**	**299**	*e*P	Pn	19 50 30.7	+1.1
MTVR				*e*S	Sn	19 50 42.0	+0.7
KDTR	**Khodutka, Kamc**	**0.88**	**253**	*i* P	Pn	19 50 30.3	+0.8
KDTR				*e*S	Sn	19 50 41.1	-0.1
GRL	**Gorelyy**	**0.96**	**300**	*e*P	Pn	19 50 32.5	+1.7
GRL				*e*S	Sn	19 50 45.2	+1.8
ASAK	**Asacha**	**0.99**	**289**	*e*P	Pn	19 50 32.8	+1.7
ASAK				*e*S	Sn	19 50 45.3	+1.2
DALK	**Dalny**	**1.04**	**337**	*e*P	Pn	19 50 33.0	+1.2
DALK				*e*S	Sn	19 50 46.2	+1.0
PET	**Petropavlovsk**	**1.06**	**334**	*e*P	Pn	19 50 33.2	+1.2
PET				*e*S	Sn	19 50 46.3	+0.6
SPN	**Mys Shipunski**	**1.09**	**19**	*e*P	Pn	19 50 34.7	+2.3
SPN				*e*S	Sn	19 50 49.0	+2.6
KRMR	**Karymshinskiy**	**1.09**	**314**	*i* P	Pn	19 50 34.2	+1.7
KRMR				*e*S	Sn	19 50 47.8	+1.3
NLC	**Nalytchevo**	**1.10**	**358**	*e*P	Pn	19 50 33.7	+1.2
NLC				*e*S	Sn	19 50 47.2	+0.6
UGLR	**Uglovaya**	**1.19**	**342**	*e*P	Pn	19 50 35.5	+1.6
SDLR	**Sedlovina**	**1.25**	**345**	*e*P	Pn	19 50 36.0	+1.3
SMAR	**Somma**	**1.25**	**343**	*e*P	Pn	19 50 36.6	+1.8
AVH	**Avacha**	**1.26**	**341**	*e*P	Pn	19 50 36.6	+1.7
KRER	**Koryakskii**	**1.30**	**342**	*e*P	Pn	19 50 37.5	+2.1
KOK	**Koryaka**	**1.31**	**339**	*e*P	Pn	19 50 37.3	+1.8
KRX	**Arik**	**1.37**	**340**	*e*P	Pn	19 50 37.9	+1.5
KRX				*e*S	Sn	19 50 54.6	+1.2
APC	**Apacha**	**1.63**	**302**	*e*P	Pn	19 50 42.6	+2.9
APC				*e*S	Sn	19 51 02.9	+3.5
MIPR	**Malaya Ipel'ka**	**1.65**	**278**	*e*P	Pn	19 50 42.4	+2.3
PAU	**Pauzhetka**	**1.73**	**250**	*e*P	Pn	19 50 43.4	+2.2
PAU				*e*S	Sn	19 51 04.4	+2.3
KII	**Karymskiy**	**1.96**	**0**	*e*P	Pn	19 50 48.2	+3.8
KZV	**Kizimen**	**3.09**	**9**	*e*P	Pn	19 51 04.9	+5.0
TUMD	**Tumrok D**	**3.19**	**10**	*e*P	Pn	19 51 04.5	+3.4
TUMD				*e*S	Sn	19 51 41.1	+3.2
TUMR	**Tumrok**	**3.24**	**7**	*e*P	Pn	19 51 06.8	+4.8
KMNR	**Kamenistaya**	**3.72**	**7**	*e*P	Pn	19 51 12.5	+4.0
BZGR	**Bezymyannyi-Gr**	**3.94**	**10**	*e*P	Pn	19 51 15.6	+4.0
BZWR	**Bezymyannyi-We**	**3.95**	**9**	*e*P	Pn	19 51 15.8	+4.1
CIRR	**Tsirk**	**4.12**	**10**	*e*P	Pn	19 51 17.1	+3.1
BKI	**Bering**	**5.00**	**49**	*e*S	Sn	19 52 20.4	-1.9

*NEIC **18** 19:52:32.2±1.1, 36°.28N±0°.02×97°.26W±0°.06, h4km±7km, Error ellipse: s-maj=7.4km s-min=2.3km az=81.0*
*TUL **18** 19:52:32±0.9, 36°.27N±0°.02×97°.25W±0°.06, h3km±8km, ML3.2, Error ellipse: s-maj=7.3km s-min=2.2km az=80.0*
*ANF **18** 19:52:32.6±0.3, 36°.24N×97°.20W, h0km, ML4.2/9, Error ellipse: s-maj=4.0km s-min=2.6km az=17.0*
*CERI **18** 19:52:32.0, 36°.28N×97°.25W, h2km*

ISC 18 19:52:31.9±1.2, 36°.28N±0°.02×97°.26W±0°.02, h2km±11km, n64, σ0°.98/73, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.46**	**103**	Pg	**Pg**	**19 52 41.2**	**+0.6**
QUOK				Sg	**Sg**	**19 52 47.3**	**+0.7**
OK029	**Liberty Lake**	**0.51**	**198**		**Pg**	**19 52 42.0**	**+0.4**
OK029				Sg	**Sg**	**19 52 49.0**	**+0.9**
CROK	**Carrier**	**0.63**	**291**		**Pg**	**19 52 44.5**	**+0.6**
ADOK	**Arcadia Dam**	**0.63**	**188**	Pg	**Pb**	**19 52 45.1**	**-0.5**
BCOK	**Bluff Creek, N**	**0.68**	**205**	Pg	**Pg**	**19 52 45.2**	**+0.2**
BCOK				Sg	**Sg**	**19 52 54.6**	**+0.8**
OK025	**Westminster Rd**	**0.70**	**185**		**Pg**	**19 52 45.5**	**+0.3**
KAN13	**South Haven SW**	**0.75**	**346**	Pg	**Pg**	**19 52 45.1**	**-1.2**
KAN13				Sg	**Sg**	**19 52 57.5**	**+1.4**
T35A	**Sooner Cattle**	**0.87**	**43**	Pg	**Pg**	**19 52 49.0**	**+0.4**
OKCFA	**Oklahoma City**	**0.88**	**190**		**Pg**	**19 52 48.6**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.88**	**190**	Pg	**Pg**	**19 52 48.8**	**0.0**
FNO	**Franklin**	**1.03**	**187**		**Pg**	**19 52 51.7**	**+0.2**
KAN10	**Anthony SW Sta**	**1.08**	**322**		**Pg**	**19 52 52.8**	**+0.3**
W35A	**Tecumseh**	**1.17**	**164**		**Pg**	**19 52 53.2**	**-1.0**
KAN12	**Harper NE Stat**	**1.18**	**330**		**Pg**	**19 52 54.2**	**-0.2**
TUL1	**Leonard**	**1.24**	**107**	P	**Pg**	**19 52 54.9**	**-0.7**
baz=288							
TUL1				S	**Sg**	**19 53 11.5**	**-0.3**
baz=288							
TUL1	**Leonard**	**1.24**	**107**		**Pg**	**19 52 54.8**	**-0.9**
U32A	**Winter Ranch,**	**1.41**	**275**		**Pn**	**19 52 58.0**	**-0.6**
WMOK	**Wichita Mounta**	**1.98**	**219**	P	**Pn**	**19 53 06.9**	**+0.6**
baz=38							
WMOK				S	**Sb**	**19 53 33.9**	**+0.3**
baz=38							
WMOK	**Wichita Mounta**	**1.98**	**219**	Pn	**Pn**	**19 53 06.7**	**+0.4**
X37A	**Clayton**	**2.28**	**137**	Pn	**Pn**	**19 53 11.1**	**+0.6**
U38A	**Gravette**	**2.32**	**85**		**Pn**	**19 53 12.1**	**+1.0**
R32A	**Long Quarter,**	**2.43**	**332**		**Pn**	**19 53 13.2**	**+0.6**
KSU1	**Kansas State U**	**2.86**	**10**	Pb	**Pg**	**19 53 25.9**	**-0.9**
baz=190							
KSU1	**Kansas State U**	**2.86**	**10**	Pn	**Pn**	**19 53 19.6**	**+1.1**
Z35A	**Perchaven, San**	**2.94**	**180**	Pn	**Pn**	**19 53 20.5**	**+0.9**
W39A	**Magazine**	**3.02**	**110**	Pn	**Pn**	**19 53 21.0**	**+0.3**
CBKS	**Cedar Bluff**	**3.21**	**323**	P	**Pn**	**19 53 25.0**	**+1.7**
baz=141							
CBKS				Sb	**Sg**	**19 54 15.1**	**+0.2**
baz=141							
CBKS	**Cedar Bluff**	**3.21**	**323**	Pn	**Pn**	**19 53 24.6**	**+1.3**
S39A	**Bolivar**	**3.45**	**65**	Pn	**Pn**	**19 53 27.1**	**+0.5**
MIAR	**Mount Ida**	**3.47**	**119**	P	**Pn**	**19 53 27.7**	**+0.8**
baz=301							
MIAR				S	**Sn**	**19 54 09.3**	**+0.8**
baz=301							
MIAR	**Mount Ida**	**3.47**	**119**	Pn	**Pn**	**19 53 26.9**	**0.0**
Z38A	**Mt. Pleasant**	**3.54**	**148**		**Pn**	**19 53 26.1**	**-1.8**
U40A	**Yellville**	**3.56**	**87**		**Pn**	**19 53 28.2**	**+0.1**
AMTX	**Amarillo**	**3.87**	**250**	Sb	**Sg**	**19 54 33.5**	**-2.5**
baz=68							
AMTX	**Amarillo**	**3.87**	**250**	Pn	**Pn**	**19 53 32.9**	**+0.5**
X40A	**Basin Creek Fa**	**4.03**	**115**	P	**Pn**	**19 53 35.8**	**+1.2**
baz=298							
X40A	**Basin Creek Fa**	**4.03**	**115**		**Pn**	**19 53 35.8**	**+1.2**
MGMO	**Mountain Grove**	**4.10**	**76**		**Pn**	**19 53 36.4**	**+0.8**
ABTX	**Abilene, Hawle**	**4.14**	**209**		**Pn**	**19 53 36.0**	**-0.2**
WHAR	**Wooly Hollow**	**4.16**	**102**	Pn	**Pn**	**19 53 36.5**	**+0.1**
W41B	**Gary Mavity, V**	**4.22**	**104**	P	**Pn**	**19 53 37.5**	**+0.3**
baz=287							
W41B				S	**Sn**	**19 54 26.8**	**-0.3**
baz=287							
W41B	**Gary Mavity, V**	**4.22**	**104**		**Pn**	**19 53 37.5**	**+0.3**
UALR	**University of**	**4.28**	**109**		**Pn**	**19 53 38.6**	**+0.6**
WHTX	**Lake Whitney,**	**4.28**	**182**		**Pn**	**19 53 37.9**	**-0.1**
237A	**Washetta, Mont**	**4.43**	**164**	Pn	**Pn**	**19 53 39.9**	**-0.2**
P38A	**Dawn**	**4.45**	**40**		**Pn**	**19 53 40.4**	**0.0**
R40A	**Maddies Statio**	**4.46**	**62**		**Pn**	**19 53 40.6**	**+0.2**
N35A	**Tabor**	**4.75**	**15**		**Pn**	**19 53 44.1**	**-0.4**
LCAR	**Lake Charles**	**4.94**	**91**	Pn	**Pn**	**19 53 47.1**	**0.0**
T42A	**Van Buren**	**5.01**	**80**		**Pn**	**19 53 48.2**	**+0.1**
KSCO	**Kaye Shedlock'**	**5.06**	**304**		**Pn**	**19 53 48.1**	**-0.7**
MSTX	**Muleshoe**	**5.07**	**245**	Pn	**Pn**	**19 53 49.3**	**+0.3**
CCM	**Cathedral Cave**	**5.12**	**68**		**Pn**	**19 53 48.7**	**-0.8**
BGNE	**Belgrade**	**5.17**	**353**	P	**Pn**	**19 53 50.3**	**+0.1**
baz=172							
BGNE	**Belgrade**	**5.17**	**353**		**Pn**	**19 53 49.9**	**-0.3**
N38A	**Joes South For**	**5.50**	**34**	Pn	**Pn**	**19 53 55.1**	**+0.3**
L34A	**Svendsen Farm,**	**5.72**	**7**	Pn	**Pn**	**19 53 57.2**	**-0.6**
T25A	**Trinidad**	**5.81**	**281**	Pn	**Pn**	**19 53 57.7**	**-1.6**
JCT	**Junction City**	**6.16**	**201**	Pn	**Pn**	**19 54 03.7**	**-0.3**
OXF	**Oxford**	**6.65**	**103**	Pn	**Pn**	**19 54 10.8**	**+0.2**
N41A	**Harden Midland**	**6.69**	**47**		**Pn**	**19 54 11.4**	**+0.3**
SDCO	**Great Sand Dun**	**6.76**	**285**		**Pn**	**19 54 13.6**	**+1.3**
ECSD	**EROS Data Cent**	**7.46**	**4**		**Pn**	**19 54 20.9**	**-0.8**
MNTX	**Cornudas Mount**	**8.15**	**238**	Pn	**Pn**	**19 54 32.0**	**+0.8**

*IDC **18** 20:04:40.9±2.2, 25°.70S×70°.50W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/17, Error ellipse: s-maj=72.2km s-min=49.3km az=38.0*
*NEIC **18** 20:04:45.3±1.8, 25°.48S±0°.01×70°.9W±0°.1, h32km±6km, Error ellipse: s-maj=15.8km s-min=1.2km az=95.0*
*GUC **18** 20:04:45.9±0.6, 25°.47S×70°.65W, h54km±2km, ML4.0*

ISC 18 20:04:45.7±0.8, 25°.47S±0°.04×70°.81W±0°.08, h35km, n65, σ0°.98/68, mb4.0/3, 1C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.70**	**164**	||*i*P	**Pn**	**20 04 59.8**	**+0.6**
AC01				*i* S	**Sn**	**20 05 09.2**	**+0.4**
AC01				IAML		20 05 10.0	
comp=E,17μm,0.3s							
AC01	**Pan de Azucar**	**0.70**	**164**		**Pn**	**20 04 59.6**	**+0.4**
AC01				Sn	**Sn**	**20 05 09.0**	**+0.2**
PB14	**IPOC Station P**	**0.92**	**24**	||*i*P	**Pn**	**20 05 03.2**	**+0.7**
PB14				*i* S	**Sn**	**20 05 15.6**	**+1.0**
PB14	**IPOC Station P**	**0.92**	**24**		**Pn**	**20 05 03.2**	**+0.7**
GO02	**Mina Guanaco**	**1.15**	**75**	||*i*P	**Pn**	**20 05 05.8**	**+0.2**
GO02				*e*S	**Sn**	**20 05 19.0**	**-1.3**
GO02				IAML		20 05 21.8	
comp=E,4μm,0.1s							
GO02	**Mina Guanaco**	**1.15**	**75**		**Pn**	**20 05 05.7**	**+0.1**
PB10	**IPOC Station P**	**1.96**	**7**	||*i*P	**Pn**	**20 05 17.4**	**+0.8**
PB10	**IPOC Station P**	**1.96**	**7**	Pn	**Pn**	**20 05 17.5**	**+0.8**
GO03	**Copiap**	**2.17**	**166**	*e*P	**Pn**	**20 05 20.3**	**+0.8**
GO03				*i* S	**Sn**	**20 05 46.5**	**+1.2**
GO03	**Copiap**	**2.17**	**166**		**Pn**	**20 05 20.6**	**+1.1**
PB15	**IPOC Station P**	**2.57**	**29**	*e*P	**Pn**	**20 05 26.5**	**+1.5**
PB15	**IPOC Station P**	**2.57**	**29**		**Pn**	**20 05 26.6**	**+1.6**
PB05	**IPOC Station P**	**2.67**	**12**	||*i*P	**Pn**	**20 05 27.1**	**+0.7**
PB05				IAML		20 06 16.9	
comp=E,363nm,0.4s							
AC04	**Llanos de Chal**	**2.73**	**185**	*e*P	**Pn**	**20 05 26.4**	**-0.7**
AC04				IAML		20 06 11.7	
comp=E,344nm,0.5s							
AC04	**Llanos de Chal**	**2.73**	**185**	Pn	**Pn**	**20 05 26.4**	**-0.7**
PB06	**IPOC Station P**	**2.98**	**23**	||*i*P	**Pn**	**20 05 31.2**	**+0.5**
PB06				*i* S	**Sn**	**20 06 05.4**	**+0.1**
PB06				IAML		20 06 25.3	
comp=N,363nm,0.5s							
PB06	**IPOC Station P**	**2.98**	**23**		**Pn**	**20 05 31.1**	**+0.5**
PB04	**IPOC Station P**	**3.18**	**11**	||*i*P	**Pn**	**20 05 33.7**	**+0.3**
PB04				*i* S	**Sn**	**20 06 08.6**	**-1.8**
PB04				IAML		20 06 35.7	
comp=E,474nm,0.7s							
PB04	**IPOC Station P**	**3.18**	**11**		**Pn**	**20 05 33.8**	**+0.3**
LVC	**Limon Verde**	**3.34**	**32**	*e*P	**Pn**	**20 05 37.7**	**+1.9**
LVC				*i* S	Sn	20 06 29.9	+15
LVC	**Limon Verde**	**3.34**	**32**	Pn	**Pn**	**20 05 34.7**	**-1.1**
AC05	**El Transito**	**3.38**	**172**	||*i*P	**Pn**	**20 05 37.5**	**+1.2**
AC05				IAML		20 06 34.3	
comp=E,529nm,0.7s							
AC05	**El Transito**	**3.38**	**172**		**Pn**	**20 05 37.3**	**+1.1**
LCO	**Las Campanas**	**3.53**	**178**	Pn	**Pn**	**20 05 38.1**	**-0.2**
PB03	**IPOC Station P**	**3.54**	**16**	*i* P	**Pn**	**20 05 38.8**	**+0.3**
PB03				*i* S	**Sn**	**20 06 18.6**	**-0.7**
PB03				IAML		20 06 39.0	
comp=E,291nm,0.5s							
PB07	**IPOC Station P**	**3.83**	**13**	*e*P	**Pn**	**20 05 42.9**	**+0.6**
PB07	**IPOC Station P**	**3.83**	**13**		**Pn**	**20 05 42.7**	**+0.3**
PB09	**IPOC Station P**	**3.93**	**22**		**Pn**	**20 05 45.3**	**+1.5**
PB02	**IPOC Station P**	**4.22**	**12**	*e*P	**Pn**	**20 05 47.7**	**0.0**
CO01	**Juntas del Tor**	**4.53**	**172**		**Pn**	**20 05 52.8**	**+0.7**
PB01	**IPOC Station P**	**4.58**	**16**		**Pn**	**20 05 52.8**	**+0.3**
PATCX	**Punta Patache**	**4.67**	**8**	Pn	**Pn**	**20 05 53.3**	**-0.6**
GO04	**Tololo Observa**	**4.68**	**180**		**Pn**	**20 05 54.2**	**0.0**
TA01	**Diego Aracena**	**4.92**	**7**	Pn	**Pn**	**20 05 56.3**	**-0.9**
CO03	**El Pedregal**	**5.35**	**179**	Pn	**Pn**	**20 06 03.0**	**-0.2**
PB08	**IPOC Station P**	**5.52**	**16**	Pn	**Pn**	**20 06 05.9**	**+0.1**
CO02	**Combarbal**	**5.71**	**182**		**Pn**	**20 06 07.6**	**-0.6**
PB11	**IPOC Station P**	**5.78**	**11**	Pn	**Pn**	**20 06 08.4**	**-0.8**
PSGCX	**Pisagua**	**5.88**	**6**	Pn	**Pn**	**20 06 09.5**	**-1.0**
GO01	**Chusmiza**	**5.97**	**15**		**Pn**	**20 06 11.8**	**-0.2**
MNMC	**Minye Minye**	**6.41**	**10**		**Pn**	**20 06 17.4**	**-0.6**
PB12	**IPOC Station P**	**6.84**	**4**	Pn	**Pn**	**20 06 23.0**	**-0.7**
PB16	**IPOC Station P**	**7.21**	**10**	Pn	**Pn**	**20 06 29.5**	**+0.4**
VA03	**San Esteban**	**7.27**	**178**		**Pn**	**20 06 28.9**	**-0.6**
ROC1	**El Roble**	**7.48**	**181**	Pn	**Pn**	**20 06 30.9**	**-1.7**
MT02	**Curacav**	**7.76**	**182**	Pn	**Pn**	**20 06 34.4**	**-1.9**
BO02	**Sierra Bellavi**	**9.29**	**180**	Pn	**Pn**	**20 06 54.9**	**-2.4**
LPAZ	**La Paz**	**9.48**	**16**	Pn	**Pn**	**20 07 01.4**	**+1.1**
comp=E,0.2nm,0.3s,baz=290,slow=4.0,SNR=2.8							
LPAZ	**La Paz**	**9.48**	**16**		**Pn**	**20 06 60.0**	**-0.4**
H03N1	**Juan Fernandez**	**10.62**	**220**	Pn	**Pn**	**20 07 14.7**	**-0.5**
baz=106,slow=15,SNR=13							
H03N1				T	T	20 18 05.0	
baz=46,slow=72,SNR=95							
H03N2	**Juan Fernandez**	**10.63**	**220**	Pn	**Pn**	**20 07 15.2**	**-0.1**
baz=106,slow=15,SNR=8.6							
H03N2				T	T	20 18 07.5	
baz=46,slow=72,SNR=608							
H03N3	**Juan Fernandez**	**10.64**	**220**	Pn	**Pn**	**20 07 15.2**	**-0.2**
baz=106,slow=15,SNR=37							
H03N3				T	T	20 18 03.0	
baz=46,slow=72,SNR=111							
H03S3	**Juan Fernandez**	**10.90**	**218**	Pn	**Pn**	**20 07 17.5**	**-1.4**
baz=34,slow=20,SNR=41							
H03S3				T	T	20 18 16.0	
baz=48							
H03S1	**Juan Fernandez**	**10.91**	**218**	Pn	**Pn**	**20 07 17.5**	**-1.6**
baz=34,slow=20,SNR=23							
H03S1				T	T	20 18 19.5	
baz=48,slow=74							
H03S2	**Juan Fernandez**	**10.91**	**218**	Pn	**Pn**	**20 07 18.1**	**-1.1**
baz=34,slow=20,SNR=27							
H03S2				T	T	20 18 22.6	
baz=48,slow=74							
PLCA	**Paso Flores**	**15.22**	**179**	LR	LR	20 14 28.5	
comp=E,77nm,21.5s,baz=342,slow=39							
BDFB	**Brasilia**	**23.45**	**70**	LR	LR	20 19 48.5	
comp=E,53nm,19.0s,baz=148,slow=39							
TXAR	**Lajitas Array**	**62.96**	**328**	P	**P**	**20 15 11.6**	**+2.6**
comp=E,0.4nm,0.7s,baz=148,slow=7.5,SNR=3.2							
TOA0	**Torodi Ar. Sit**	**80.33**	**70**	P	**P**	**20 16 53.0**	**-0.7**
TOA0				IAmb	IAmb	20 16 54.3	
comp=Z,2.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**80.33**	**70**	P	**P**	**20 16 53.2**	**-0.6**
comp=Z,1.1nm,0.6s,baz=256,slow=5.2,SNR=6.0							
H11S2	**WAKE ISLAND Hyl**	**26.55**	**275**	T	T	22 43 22.9	
baz=108,slow=75,SNR=41							
H11S1	**WAKE IS

BFZ	Birch Farm	10.61	200	Pn	Pn	21 34 13.3	0.0	
MSWZ	Moikau Station	11.59	202	Pn	Pn	21 34 28.0	+1.4	
NIUE	Niue	14.26	37	Pn	Pn	21 35 03.5	+0.3	
WKZ	Wanaka	16.89	211	Pn	Pn	21 35 34.1	-3.3	
WKZ				IAmb	IAmb	21 35 37.5		
	comp=Z,61nm,1.2s							
ARMA	Armidale	25.25	263	P	P	21 37 06.8	+0.1	
ARMA				IAmb	IAmb	21 37 08.5		
	comp=Z,9.2nm,1.1s							
TAU	Tasmania Unive	29.35	236	P	P	21 37 42.6	-0.6	
AS31	Alice Springs	42.22	268	P	P	21 39 31.8	-1.8	
AS31				IAmb	IAmb	21 39 35.1		
	comp=Z,0.9nm,1.0s							
ASAR	Alice Springs	42.22	268	P	P	21 39 33.2	-0.4	
	comp=Z,0.3nm,0.5s,baz=108,slow=7.6,SNR=4.1							
WR0	Warramunga Arr	43.06	273		P	21 39 40.7	+0.2	
WB2	Warramunga Arr	43.23	273	P	P	21 39 41.6	-0.3	
WRA	Warramunga Arr	43.24	273	P	P	21 39 42.1	+0.1	
	comp=Z,0.3nm,0.3s,baz=111,slow=8.1,SNR=17							
WB0	Warramunga Arr	43.27	273	P	P	21 39 41.4	-0.7	
WB0				IAmb	IAmb	21 39 49.3		
	comp=Z,3.6nm,1.1s							
KNRA	Kununurra	49.87	275	P	P	21 40 32.6	-1.2	
KNRA				IAmb	IAmb	21 40 33.5		
	comp=Z,2.7nm,0.8s							
NWAO	Narrogin (SRO)	53.45	250	P	P	21 41 01.3	+0.8	
NWAO	Narrogin (SRO)	53.45	250	P	P	21 41 01.3	+0.8	
NWAO				IAmb	IAmb	21 41 11.9		
	comp=Z,10nm,1.1s							
FINES	FINESS Array B	145.19	339	PKPbc	PKPbc	21 51 15.2	-1.3	
	comp=Z,1.2nm,0.9s,baz=41,slow=4.6,SNR=1.5							

*IDC **18** 21:32:27.5±0.8, 34°.45N×70°.40E, h0km, mb4.0/18, mb1 4.1/23, mb1mx3.9/52, mbtmp4.0/23, ML3.7/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/35, Error ellipse: s-maj=20.3km s-min=15.4km az=14.0*

*NDI **18** 21:32:27.7±3.4, 34°.50N×69°.55E, h39km±999km, MD4.2, ML4.2*

*BJI **18** 21:32:30.4±0.0, 34°.66N×70°.22E, h20km, mB4.8/11, mb4.5/16, ML4.1/1, Ms3.8/1*

*NEIC **18** 21:32:32.3±1.5, 34°.40N±0°.07×70°.11E±0°.06, h32km±5km, mb4.3/36, Error ellipse: s-maj=10.5km s-min=6.8km az=180.0*

*NNC **18** 21:32:35.5±4.7, 34°.63N×69°.86E, h91km±38km, mb3.7, mpv4.5, Error ellipse: s-maj=34.8km s-min=16.7km az=31.0*

ISC 18 21:32:32.2±0.5, 34°.41N±0°.05×70°.19E±0°.05, h35km, n110, σ1.9 91/118, mb4.2/34, 7C-7D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	0.96	278	Pn	Pn	21 32 49.3	-0.1
NIL	Nilore	2.65	106	Pn	Pn	21 33 14.8	+2.3
JMU	Jammu	4.28	112	eP	Pn	21 33 31.0	-3.8
JMU				eS	Sn	21 34 20.0	-3.5
CHGR	Chuyangaron	4.32	349	Pn	Pn	21 33 37.8	+2.2
GAR	Garm	4.58	1	Pn	Pn	21 33 41.1	+1.9
DHRM	DHARAMSHALA	5.55	111	eP	Pn	21 33 54.6	+2.1
DHRM				eS	Sn	21 34 56.3	+1.1
DHRM				IAML		21 35 00.8	
	comp=N,347nm,0.7s						
DHRM				IAML		21 35 01.7	
	comp=E,459nm,0.9s						
BTK	Batken	5.66	5	Pn	Pn	21 33 54.7	+0.7
BHK	Bhakra	6.03	118	eS	Sn	21 35 10.6	+3.9
HRA	Herat	6.57	272	Pn	Pn	21 34 05.0	-1.6
KSH	Kashi	6.89	41	P	Pn	21 34 07.6	-3.2
KSH				S	Sn	21 35 20.0	-8.0
KSH				sS		21 35 28.4	
KSH				pmax	pmax		
	comp=Z,71nm,0.7s						
KSH				pmax	pmax		
	comp=Z,150nm,4.5s						
KSH				LR	LR		
	comp=N,270nm,6.8s						
KSH				LR	LR		
	comp=E,210nm,5.3s						
KSH				LR	LR		
	comp=Z,270nm,12.2s						
AML	Almayashu	8.19	19	P	Pn	21 34 29.6	+0.7
	SNR=21						
KUDL	Kundal	8.25	138	eP	Pn	21 34 29.7	+0.4
KUDL				eS	Sn	21 35 57.6	-3.7
NDI	New Delhi	8.28	132	eS	Sn	21 35 57.0	-5.0
KK31	Karatay Array	8.69	2	⇑P	Pn	21 34 35.5	+0.1
	comp=Z,15nm,0.7s,baz=188,slow=14,SNR=92						
KK31				⇓S	Sn	21 36 12.4	+0.3
	comp=Z,16nm,0.6s,baz=190,slow=22,SNR=8.3						
KK31	Karatay Array	8.69	2	Pn	Pn	21 34 35.9	+0.5
KKAR	Karatay Array	8.69	2	Pn	Pn	21 34 35.9	+0.5
EKS2	Erkin-Say	8.71	18	P	Pn	21 34 36.7	+0.9
	SNR=12						
AAK	Ala-Archa	8.88	21	P	Pn	21 34 38.7	+0.6
	SNR=17						
AAK	Ala-Archa	8.88	21	⇓P	Pn	21 34 38.8	+0.6
	comp=Z,9.3nm,0.6s						
AAK				⇓S	Sn	21 36 16.4	-0.7
	comp=Z,19nm,1.1s						
KBK	Karagaybulak	9.04	23	P	Pn	21 34 42.2	+1.8
	SNR=6.5						
FRU1	Bishkek	9.08	21	Pn	Pn	21 34 41.5	+0.7
BOOM	Boomskoye usch	9.24	27	Pn	Pn	21 34 44.1	+1.0
CHMS	Chumysh	9.29	21	P	Pn	21 34 45.1	+1.5
	SNR=7.5						
KDJ	Kajisay	9.46	33	Pn	Pn	21 34 47.1	+0.9
TKM2	Tokmak 2	9.49	25	P	Pn	21 34 50.1	+3.5
	SNR=17						
TKM2	Tokmak 2	9.49	25	⇑P	Pn	21 34 47.8	+1.2
	comp=Z,9.0nm,0.6s						
TKM2				⇑S	Sn	21 36 35.0	+2.9
	comp=Z,4.8nm,0.8s						
GEYT	Alibeck	10.37	293	Pn	Pn	21 35 01.2	+2.6
	comp=Z,0.3nm,0.3s,baz=126,slow=12,SNR=4.2						
GYA0B	ALIBECK ARRAY	10.37	293	Pn	Pn	21 34 57.6	-0.9
BHPL	Bhopal	12.80	148	eP	Pn	21 35 31.4	-0.4
BHPL				ex	x	21 37 45.6	
BHPL				IAML		21 38 18.6	
	comp=N,21nm,1.3s						
BHPL				IAML		21 38 23.7	
	comp=E,32nm,1.8s						
DANN	Dangsing	13.07	114	eP	Pn	21 35 36.1	+0.5
	comp=E,18nm,0.4s						
DANN	Dangsing	13.07	114	eP	Pn	21 35 36.1	+0.5
	comp=E,18nm,0.4s						
GKN	Gorkha	13.91	113	eP	Pn	21 35 45.3	-1.7
	comp=E,11nm,0.3s						
GKN	Gorkha	13.91	113	eP	Pn	21 35 45.3	-1.7
	comp=E,11nm,0.3s						
DMN	Daman	14.47	114	eP	Pn	21 35 51.9	-2.8
	comp=E,20nm,0.7s						
DMN	Daman	14.47	114	eP	Pn	21 35 51.9	-2.8
	comp=E,20nm,0.7s						
KKN	Kakani	14.51	113	eP	Pn	21 35 51.9	-3.3
	comp=E,17nm,0.4s						
KKN	Kakani	14.51	113	eP	Pn	21 35 51.9	-3.3
	comp=E,17nm,0.4s						
PKI	Pulchoki	14.72	113	eP	Pn	21 35 54.7	-3.5
PKI	Pulchoki	14.72	113	eP	Pn	21 35 54.7	-3.5
MAKZ	Makanchi	15.26	32	⇑P	Pn	21 36 04.1	-0.9
	comp=E,2.8nm,0.5s						
MAKZ	Makanchi	15.26	32		Pn	21 36 05.6	+0.7
MK31	Makanchi Array	15.39	33	⇑P	Pn	21 36 05.5	-1.2
	comp=E,1.7nm,0.7s,baz=210,slow=12,SNR=34						
MK31	Makanchi Array	15.39	33		Pn	21 36 07.3	+0.7
MKAR	Makanchi Array	15.39	33	Pn	Pn	21 36 05.5	-1.1
	comp=E,0.2nm,0.3s,baz=223,slow=17,SNR=4.8						
WMQ	Urumqi	16.49	50	eP	P	21 36 23.3	+0.1
WMQ	Urumqi	16.49	50	Pn	Pn	21 36 20.4	-0.5
WMQ				IAmb	IAmb	21 36 31.2	
	comp=Z,10nm,0.5s						
KURBB	Kurchatov Arra	17.31	18	P	Pn	21 36 29.9	-1.1
	comp=Z,0.1nm,0.3s,baz=207,slow=10,SNR=15						
KURBB	Kurchatov Arra	17.31	18	⇑P	Pn	21 36 29.2	-1.8
	comp=Z,3.6nm,0.6s						
KURK	Kurchatov	17.42	18	⇓P	Pn	21 36 31.5	-0.9
	comp=Z,3.6nm,1.0s						
KURK	Kurchatov	17.42	18	P	Pn	21 36 32.0	-0.4
AKTO	Aktyubinsk	18.33	335	P	P	21 36 42.3	-1.1
	comp=Z,0.3nm,0.3s,baz=142,slow=15,SNR=12						
AKTO				S	Sn	21 40 01.0	-6.0
	comp=Z,0.1nm,0.3s,baz=17,slow=24,SNR=2.9						
AKTO	Aktyubinsk	18.33	335	⇑P	P	21 36 42.5	-0.8
	comp=Z,4.5nm,0.6s						
AKTO				⇓S	Sn	21 40 00.0	-7.0
	comp=Z,5.7nm,0.9s						
LSA	Lhasa	18.37	99	P	P	21 36 44.2	-0.3
BVAR	Borovoye Array	18.61	0	P	P	21 36 45.9	-0.6
	comp=Z,0.9nm,0.3s,baz=156,slow=15,SNR=17						
BRVK	Borovoye	18.65	0	⇓P	P	21 36 45.4	-1.4
	comp=Z,7.3nm,0.7s						
BRVK	Borovoye	18.65	0	P	P	21 36 46.6	-0.3
BRVK				IAmb	IAmb	21 36 51.6	
	comp=Z,8.3nm,0.6s						
SHL	Shillong	20.72	109	P	P	21 37 10.9	+1.0
ZAA0	Zalesovo Array	22.09	23	⇓P	P	21 37 21.4	-2.7
	comp=Z,0.5nm,0.6s						
ZAA0	Zalesovo Array	22.09	23	P	P	21 37 22.4	-1.8
ZAA0				IAmb	IAmb	21 37 29.0	
	comp=Z,4.7nm,0.6s						
ZALV	Zalesovo Beam	22.09	23	P	P	21 37 22.3	-1.8
	comp=Z,3.0nm,0.5s,baz=226,slow=11,SNR=14						
AKH	Akhalkalaki	22.14	296	P	P	21 37 25.5	+0.5
GEVA	Gevas	22.16	288	P	P	21 37 25.3	0.0
GEVA				IAmb	IAmb	21 37 34.3	
	comp=Z,8.8nm,1.0s						
ARU	Arti	23.42	344	P	P	21 37 37.7	-0.2
	comp=Z,0.6nm,0.4s,baz=138,slow=9.5,SNR=5.8						
ARU	Arti	23.42	344	P	P	21 37 38.6	+0.7
ARU				IAmb	IAmb	21 37 53.8	
	comp=Z,5.8nm,0.8s						
MARD	Mardin	23.97	285	P	P	21 37 43.0	-0.5
GTA	Gaotai	24.15	69	eP	P	21 37 46.5	+1.3
GTA				pP	pP	21 37 51.8	-3.6
GTA				sP	sP	21 37 55.3	-4.4
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GAZ	Gaziantep	26.82	285	P	P	21 38 09.4	+0.1
GAZ				IAmb	IAmb	21 38 18.2	
	comp=Z,7.0nm,1.2s						
LZH	Lanzhou	27.46	77	eP	P	21 38 17.0	+1.8
LZH				pP	pP	21 38 24.3	-1.1
LZH				sP	sP	21 38 27.6	-2.1
LZH				ePP	PnPn	21 39 05.3	+4.9
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,85nm,4.9s						
ILGA	Ilgaz	29.45	294	P	P	21 38 32.3	-0.6
BR131	Keskin Array S	29.51	291	P	P	21 38 33.1	-0.2
BR131				IAmb	IAmb	21 38 37.5	
	comp=Z,3.8nm,0.9s						
BRTR	Keskin Array B	29.51	291	P	P	21 38 35.9	+2.6
	comp=Z,2.0nm,0.8s,baz=73,slow=9.4,SNR=5.8						
SONM	Songino Array	30.10	53	P	P	21 38 39.3	+0.8
	comp=Z,1.1nm,0.8s,baz=246,slow=8.0,SNR=8.5						
CSS	Mathiatis	30.21	282	P	P	21 38 39.2	-0.2
CSS				IAmb	IAmb	21 38 43.0	
	comp=Z,11nm,1.1s						
ULN	Ulaanbaatar	30.54	53	P	P	21 38 42.1	-0.3
HHC	Hu-ho-hao-te	33.16	66	eP	P	21 39 07.9	+2.5
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,60nm,4.4s						
MLR	Muntele Rosu	35.27	302	P	P	21 39 26.9	+3.2
	comp=Z,4.0nm,0.6s,baz=227,slow=17,SNR=5.8						
MLR	Muntele Rosu	35.27	302	P	P	21 39 25.6	+1.9
MLR				IAmb	IAmb	21 39 31.4	
	comp=Z,4.5nm,0.6s						
NRIK	Noril'sk	36.30	10	P	P	21 39 31.9	-0.1
	comp=Z,4.3nm,1.0s,baz=192,slow=10.0,SNR=3.8						
FIA1	FINESS Array S	38.87	328	P	P	21 39 54.3	+0.5
FIA1				IAmb	IAmb	21 40 00.7	
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	38.87	328	P	P	21 39 54.8	+0.9
	comp=Z,4.1nm,0.7s,baz=103,slow=8.4,SNR=15						
PSZ	Piszkesteto	39.51	306	P	P	21 39 59.0	-0.6
PSZ				IAmb	IAmb	21 40 02.3	
	comp=Z,2.7nm,0.7s						
ARCES	ARCESS Array B	42.84	339	P	P	21 40 26.9	+0.4
	comp=Z,2.9nm,0.9s,baz=95,slow=7.9,SNR=6.4						
GERES	GERESS Array B	43.63	307	P	P	21 40 34.3	+1.0
	comp=Z,0.3nm,0.6s,baz=74,slow=7.2,SNR=3.8						
CIMO	Cimolais	44.66	303	P	P	21 40 42.6	+1.1
CIMO				IAmb	IAmb	21 40 48.9	
	comp=Z,4.0nm,0.6s						
NC405	NORSAR Array S	45.44	324	P	P	21 40 47.6	+0.1
LATE	Laterza	45.62	298	P	P	21 40 48.9	-0.3
LATE				IAmb	IAmb	21 40 54.1	
	comp=Z,4.2nm,1.1s						
NC303	NORSAR Array S	45.62	325	P	P	21 40 49.9	+1.1
NC303				IAmb	IAmb	21 40 54.9	
	comp=Z,7.9nm,1.1s						
NB201	NORSAR Array S	45.63	324	P	P	21 40 48.8	-0.2
NB201				IAmb	IAmb	21 40 55.0	
	comp=Z,8.8nm,1.1s						
NB2	NORSAR Subarra	45.67	324	P	P	21 40 49.4	+0.2
	comp=Z,1.8nm,0.5s,baz=98,slow=7.9						
NOA	NORSAR Array B	45.67	324	P	P	21 40 49.5	+0.2
	comp=Z,2.3nm,0.6s,baz=99,slow=7.8,SNR=21						
NBO00	NORSAR Array S	45.88	324	P	P	21 40 50.9	0.0
NC204	NORSAR Array S	45.92	325	P	P	21 40 51.6	+0.4
SENIN	Lac Senin/Sane	48.19	304	P	P	21 41 10.6	+1.3
SENIN				IAmb	IAmb	21 41 12.5	
	comp=Z,3.7nm,0.8s						
KEST	Kesra	49.10	290	LR	LR	22 05 20.7	
	comp=Z,40nm,18.4s,baz=262,slow=40						
EKA	Eskdalemuir Ar	53.35	317	P	P	21 41 48.9	+1.1
	comp=Z,0.7nm,0.7s,baz=85,slow=7.5,SNR=2.6						
MJAR	Matsushiro Arr	54.36	67	P	P	21 41 53.7	-1.8
	comp=Z,1.9nm,0.6s,baz=301,slow=8.8,SNR=3.3						
ESDC	Sonseca Array	57.87	299	P	P	21 42 22.7	+2.1
	comp=Z,1.0nm,1.0s,baz=300,slow=22,SNR=4.2						
TORD	Torodi Ar. Bea	65.02	269	P	P	21 43 09.2	+0.1
	comp=Z,0.7nm,0.8s,baz=51,slow=5.9,SNR=5.5						
ILAR	Eielson Array	76.97	15	P	P	21 44 19.5	-1.4
	comp=Z,0.8nm,1.1s,baz=305,slow=6.4,SNR=2.8						
PAX	Paxson	78.85	16	P	P	21 44 32.5	+1.1
NWAO	Narrogin (SRO)	80.24	141	P	P	21 44 39.7	+0.6
NWAO	Narrogin (SRO)	80.24	141	P	P	21 44 40.6	+1.4
NWAO				IAmb	IAmb	21 44 41.0	
	comp=Z,31nm,1.1s						
WB0	Warramunga Arr	81.39	121	P	P	21 44 46.3	+0.7
WB0				IAmb	IAmb	21 44 46.9	
	comp=Z,3.4nm,1.1s						
WRA	Warramunga Arr	81.46	121	P	P	21 44 46.7	+0.6
	comp=Z,0.9nm,0.7s,baz=322,slow=5.3,SNR=9.8						
WB2	Warramunga Arr	81.47	121	P	P	21 44 47.2	+1.1
WR0	Warramunga Arr	81.62	121	P	P	21 44 47.5	+0.7
WR0				IAmb	IAmb	21 44 54.7	
	comp=Z,3.8nm,1.1s						
OHAK	Old Harbor	81.63	22	P	P	21 44 45.2	-1.2
SII	Sitkinak Islan	81.88	23	P	P	21 44 47.8	+0.1
YKA	Yellowknife Ar	83.36	2	P	P	21 44 55.2	0.0
	comp=Z,1.7nm,0.6s,baz=351,slow=5.9,SNR=13						
ASAR	Alice Springs	83.61	124	P	P	21 44 57.5	+0.3
	comp=Z,0.5nm,0.5s,baz=315,slow=5.1,SNR=8.2						

MEX 18 21:43:34.5±0.3, 14°.68N×92°.52W, h89km±29km, MD3.5, Near coast of Chiapas

*REY **18** 21:43:33.6, 64°.67N×17°.48W, h6km*

*IDC **18** 21:43:34.5±0.8, 64°.58N×17°.77W, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.7/37, mbtmp3.7/10, ML3.6/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/40, Error ellipse: s-maj=26.3km s-min=11.4km az=17.0*

*NEIC **18** 21:43:35.5±1.8, 64°.57N±0°.09×17°.7W±0°.1, h8km±4km, mb4.5/26, Error ellipse: s-maj=13.0km s-min=9.1km az=184.0*

ISC 18 21:43:34.8±0.4, 64°.67N±0°.02×17°.49W±0°.02, h10km, n84, σ2.8 16/99, mb4.3/20, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.11	274	P	Pg	21 43 36.1	-1.5
	baz=273						
IVON				S	Sg	21 43 38.3	-1.3
	baz=273						
IDYN	Dyngjuhals	0.14	23	P	Pg	21 43 36.5	-1.5
	baz=22						
IDYN				S	Sg	21 43 39.1	-1.2
	baz=22						
IDJK	Dyngjujokull	0.20	145	P	Pg	21 43 37.6	-1.4
	baz=147						
IURH	Urdarhals	0.21	43	P	Pg	21 43 37.8	-1.5
	baz=43						
IURH				S	Sg	21 43 41.7	-0.7
	baz=43						
IGRF	Grimsfjall	0.28	159	P	Pg	21 43 39.0	-1.4
	baz=160						
IBJK	Bruarjokull	0.38	121	P	Pg	21 43 40.3	-2.0
	baz=122						
IBJK				S	Sg	21 43 46.0	-1.2
	baz=122						
IHUS	Husbondi	0.38	191	P	Pg	21 43 40.9	-1.4
	baz=192						
ISKR	Skrokkalda	0.40	255	P	Pg	21 43 41.0	-1.6
	baz=255						
IVOT	Vottur	0.42	161	P	Pg	21 43 41.4	-1.6
	baz=162						
IJOK	Jokulheimar	0.47	222	P	Pg	21 43 42.2	-1.8
	baz=223						
IJOK				S	Sg	21 43 48.3	-1.9
	baz=223						
IKRE	Kreppuhraun	0.49	75	P	Pg	21 43 42.2	-2.1
	baz=76						
IKRE				S	Sg	21 43 49.2	-1.7
	baz=76						
IASK	Askja	0.53	42	P	Pg	21 43 42.9	-2.2
	baz=42						
IMKO	Mokollar	0.58	57	P	Pg	21 43 44.0	-2.2
	baz=57						
IMKO				S	Sg	21 43 52.3	-1.5
	baz=57						
IIEY	Innrieyrar	0.63	206	P	Pg	21 43 44.8	-2.3
	baz=206						
IIEY				S	Sg	21 43 53.2	-2.2
	baz=206						
IKSK	Karasker	0.67	138	P	Pg	21 43 45.1	-2.6
	baz=139						
ISVA	Svartarkot	0.68	8	P	Pg	21 43 45.7	-2.3
	baz=8.0						
ISVA				S	Sg	21 43 55.2	-1.6
	baz=8.0						
IKAL	Kalfafell	0.72	187	P	Pg	21 43 46.5	-2.2
	baz=187						
IKAL				S	Sg	21 43 56.4	-1.7
	baz=187						
IVSH	V-Sauoahnukur	0.77	78	P	Pg	21 43 46.8	-2.8
	baz=79						
IVSH				S	Sg	21 43 57.4	-2.3
	baz=79						
IVAT	Vatnsfell	0.78	233	P	Pg	21 43 47.5	-2.3
	baz=233						
IFAG	Fagurholsmyri	0.87	155	P	Pg	21 43 48.9	-2.6
	baz=155						
IADA	Aoalbol	0.89	66	P	Pg	21 43 48.8	-3.1
	baz=66						
IADA				S	Sg	21 44 00.9	-2.6
	baz=66						
IHVE	Hveravellir	0.91	284	S	Sg	21 44 01.9	-2.2
	baz=284						
IHVE				P	Pg	21 43 49.3	-3.0
	baz=284						
IMEL	Melhnausar	0.97	21	P	Pg	21 43 50.4	-3.1
	baz=21						
IREN	Reynihlio	1.02	14	P	Pg	21 43 51.1	-3.2
	baz=14						
ISNB	Snabyli	1.06	209	P	Pg	21 43 51.9	-3.1
	baz=209						
ISNB				S	Sg	21 44 05.3	-3.5
	baz=209						
IKVO	Krokottuvotn	1.08	13	P	Pg	21 43 52.2	-3.4
	baz=13						
ISLY	Slysaalda	1.10	221	P	Pb	21 43 52.9	-3.1
	baz=221						
IGRS	Grimsstaoir	1.14	30	P	Pb	21 43 53.1	-3.3
	baz=30						
IGRS				S	Sg	21 44 08.9	-2.4
	baz=30						
IFED	Fedgar	1.15	237	P	Pb	21 43 53.6	-3.1
	baz=237						
IMJO	Mjoaskard	1.20	233	P	Pn	21 43 54.6	-3.0
	baz=233						
ISKI	Skildingahlsh	1.23	9	P	Pn	21 43 54.6	-3.3
	baz=8.8						
ISKI				S	Sb	21 44 11.1	-2.8
	baz=8.8						
IGHA	Grjothals	1.23	16	P	Pn	21 43 54.5	-3.5
	baz=16						
IGYG	Gygjarholskot	1.24	253	P	Pn	21 43 54.9	-3.2
	baz=253						
IGRA	Granastaoir	1.26	358	P	Pn	21 43 55.0	-3.4
	baz=358						
IGRA				S	Sb	21 44 11.8	-3.0
	baz=358						
IHAU	Haukadalur	1.28	238	P	Pn	21 43 55.7	-3.0
	baz=238						
IGOD	Go??abunga	1.29	219	P	Pn	21 43 56.4	-2.5
	baz=219						
IHVO	Lagu-Hvolar	1.29	208	P	Pn	21 43 56.0	-2.8
	baz=208						
IDIM	Dimmadalss	1.32	10	P	Pn	21 43 56.1	-3.2
	baz=9.8						
IHLA	Hella	1.34	344	P	Pn	21 43 56.6	-2.9
	baz=344						
BORG	Borgarnes	1.65	275	Pn	Pn	21 44 01.2	-2.5
	43nm,0.3s,baz=98,slow=8.8,SNR=84						
BORG				Lg	Lg	21 44 23.8	
	18nm,0.3s,baz=219,slow=21,SNR=8.8						
BORG				LR	LR	21 44 38.1	
	comp=Z,89nm,19.4s,baz=118,slow=41						
SCO	Scoresbysund	6.09	346	i P	Pn	21 45 05.1	+0.5
SCO				i S	Sn	21 46 17.9	+3.7
SCO	Scoresbysund	6.09	346		Pn	21 45 05.2	+0.6
ANGG	Ammassalik, Gr	8.53	285	Pn	Pn	21 45 39.0	+0.9
EKA	Eskdalemuir Ar	11.76	136	Pn	Pn	21 46 22.2	-0.1
	baz=319,slow=13,SNR=18						
ESK	Eskdalemuir	11.76	136	Pn	Pn	21 46 22.8	+0.5
NOA	NORSAR Array B	13.53	92	Pn	Pn	21 46 44.4	-2.2
	0.0nm,0.3s,baz=299,slow=13,SNR=3.0						
NOA				LR	LR	21 51 52.6	
	comp=Z,20nm,18.2s,baz=285,slow=36						
HFS	Hagfors	15.04	93	Pn	P	21 47 13.2	+0.7
	0.1nm,0.3s,baz=234,slow=6.4,SNR=4.3						
HFS				LR	LR	21 52 59.0	
	comp=Z,26nm,21.9s,baz=271,slow=37						
KEV	Kevo	17.62	54	Pn	P	21 47 42.0	+1.1
KEV				IAmb	IAmb	21 47 42.5	
	comp=Z,66nm,1.4s						
FINES	FINESS Array B	19.70	79	P	Pn	21 48 07.9	+2.6
	comp=Z,0.1nm,0.3s,baz=296,slow=7.6,SNR=4.6						
CLL	Collm	20.70	116	eP	Pn	21 48 17.0	-0.1
CLL	Collm	20.70	116	P	Pn	21 48 16.4	-0.7
ECH	Echery	21.15	129	P	P	21 48 20.8	+1.1
KHC	Kasperske Hory	22.67	118	P	P	21 48 37.8	+1.9
GERES	GERESS Array B	22.95	119	P	P	21 48 41.8	+2.8
	comp=Z,1.1nm,0.8s,baz=334,slow=8.9,SNR=7.8						
VRAC	Vranov	23.69	114	LR	LR	21 57 40.0	
	comp=Z,30nm,19.1

NHSC	New Hope	48.97	261	P	P	21 52 20.8 -0.2
X48A	Hartselle	50.76	269	P	P	21 52 35.2 +0.5
X48A				IAmb	IAmb	21 52 35.8
	comp=Z,4.0nm,0.9s					
BOZ	Bozeman (W)	51.61	297	P	P	21 52 42.3 +1.2
LRM	Limekiln Ridge	51.74	297	P	P	21 52 42.7 +0.6
TORD	Torodi Ar. Bea	53.14	156	P	P	21 52 52.2 -0.3
	comp=Z,0.6nm,0.7s,baz=340,slow=8.6,SNR=3.6					
PDAR	Pinedale Array	53.18	293	P	P	21 52 53.5 +0.7
	comp=Z,1.3nm,0.8s,baz=60,slow=8.8,SNR=9.5					
BTK	Batken	53.96	72	P	P	21 53 00.1 +1.7
BTK				IAmb	IAmb	21 53 03.1
	comp=Z,7.7nm,1.1s					
PV13	Radium Mtn., P	56.80	290	P	P	21 53 19.2 +0.2
PV13				IAmb	IAmb	21 53 21.1
	comp=Z,6.2nm,1.0s					
MPR	Mayaguez	56.96	240	P	P	21 53 18.3 -1.8
PV05	Paradox Valley	56.98	290	P	P	21 53 20.2 -0.2
PV05				IAmb	IAmb	21 53 21.8
	comp=Z,4.9nm,0.9s					
SONM	Songino Array	59.64	40	P	P	21 53 39.2 +0.6
	comp=Z,0.6nm,0.9s,baz=343,slow=4.5,SNR=1.7					
TXAR	Lajitas Array	62.29	280	P	P	21 53 58.0 +1.1
	comp=Z,0.6nm,0.9s,baz=86,slow=3.9,SNR=4.7					
XPFO	Pion Flat	63.80	293	P	P	21 54 09.1 +2.2
XPFO				IAmb	IAmb	21 54 13.1
	comp=Z,7.5nm,1.1s					
PFO	Pinyon Flats O	63.81	293	P	P	21 54 09.3 +2.3

WEL 18 22:04:20.9,42°S±2°×17°4E±°,h67km±4km,M2.7/19,
ML2.9/19,MLv2.7/19,Error ellipse: s-maj=0.0km
s-min=0.0km az=120.6,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHW	Baring Head	0.39	47	P	Pn	22 04 32.8	+0.3
WEL	Wellington	0.45	28	P	Pn	22 04 33.5	+0.6
BSWZ	Blackbirch Sta	0.46	265	P	Pn	22 04 33.3	+0.2
TUWZ	Tuamarina	0.48	301	P	Pn	22 04 33.1	-0.1
TCW	Tory Channel	0.49	341	P	Pn	22 04 33.4	+0.1
PLWZ	Palliser	0.58	80	P	Pn	22 04 34.9	+0.6
MSWZ	Moikau Station	0.63	66	P	Pn	22 04 35.4	+0.6
KIW	Kapiti Island	0.88	21	P	Pn	22 04 38.5	+0.9
MTW	Mount Morrison	0.92	56	P	Pn	22 04 38.6	+0.4
TRWZ	Traveller	0.94	73	P	Pn	22 04 39.1	+0.6
NNZ	Nelson	0.95	298	P	Pn	22 04 39.1	+0.5
DUWZ	D'Urville Isla	0.97	334	P	Pn	22 04 39.7	+0.8
OGWZ	Otaki Gorge	1.00	31	P	Pn	22 04 40.0	+0.8
KHZ	Kahutara	1.02	224	P	Pn	22 04 40.3	+0.8
HOWZ	Holdsworth Sta	1.10	45	P	Pn	22 04 41.0	+0.5
THZ	Tophouse	1.19	265	P	Pn	22 04 42.1	+0.4
TMWZ	Te Maipa	1.20	62	P	Pn	22 04 42.2	+0.4
MRZ	Mangatainoka R	1.31	39	P	Pn	22 04 43.8	+0.6
POWZ	Post Office Ro	1.61	37	P	Pn	22 04 47.5	+0.3
BFZ	Birch Farm	1.66	54	P	Pn	22 04 47.7	-0.2
GVZ	Greta Valley S	1.68	219	P	Pn	22 04 46.9	-1.3
QRZ	Quartz Range	1.71	299	P	Pn	22 04 49.6	+1.1
LTZ	Lake Taylor	1.98	235	P	Pn	22 04 52.8	+0.5
DSZ	Denniston Nort	2.01	267	P	Pn	22 04 53.4	+0.8
MQZ	McQueen's Vall	2.44	213	P	Pn	22 04 57.9	-0.5
KRHZ	Kereru	2.48	36	P	Pn	22 04 58.6	-0.4
KAHZ	Kahuranaki	2.61	45	P	Pn	22 05 00.2	-0.6
KMRZ	Kaimai	3.99	17	P	Pn	22 05 18.1	-1.5
ODZ	Otahua Downs	4.38	219	P	Pn	22 05 24.7	-0.2

*IDC **18** 22:29:07.8±0.6,38°.71N×48°.59E,h0km,mb4.2/20,*
mb1 4.3/30,mb1mx4.2/55,mbtmp4.3/30,ML4.1/9,MS3.3/19,
Ms1 3.3/19,ms1mx3.2/33,Error ellipse: s-maj=11.3km
s-min=9.3km az=29.0
*THR **18** 22:29:11.9±0.6,38°.74N×48°.59E,h34km±5km,ML4.4*
*TEH **18** 22:29:11.3,38°.69N×48°.71E,h20km,ML4.4*
*AZER **18** 22:29:11.4,38°.78N×48°.58E,h18km,ML4.6*
*MOS **18** 22:29:12.1±1.2,38°.72N×48°.71E,h49km,mb4.7/15,Error*
ellipse: s-maj=6.1km s-min=4.0km az=125.6
*NEIC **18** 22:29:13.1±2.5,38°.68N±0°.06×48°.84E±0°.06,h48km±5km,*
mb4.5/77,Error ellipse: s-maj=10.1km s-min=5.9km
az=210.0
*NNC **18** 22:29:17.4±5.2,39°.39N×49°.45E,h5km±43km,mb4.7,*
Error ellipse: s-maj=38.5km s-min=16.5km az=55.0

ISC 18 22:29:11.8±0.5,38°.75N±0°.02×48°.65E±0°.02,h31km±3km,
n431,σ1°86/452,mb4.3/91,MS3.3/14,30C-16D,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	Lenkeran, Azer	0.11	111	P	Pb	22 29 17.9	+0.6
LKRN				S	Sb	22 29 22.0	+0.9
ASTR	Astara	0.22	149	P	Pb	22 29 19.0	+0.6
ASTR				S	Sb	22 29 23.9	+1.1
LRK	Lerik	0.26	246	P	Pb	22 29 19.1	0.0
LRK				S	Sb	22 29 24.2	+0.1
YRD	Yardimli	0.36	298	P	Pb	22 29 20.1	-0.3
	SNR=1604						
YRD				S	Sb	22 29 25.8	-0.4
GLBA	Clilabad	0.53	338	P	Pb	22 29 23.0	+0.2
	SNR=4156						
GLBA				S	Sb	22 29 31.4	+1.1
GLBA	Clilabad	0.53	338	ePg	Pb	22 29 23.0	+0.2
GRMI	Germi	0.59	276	ePg	Pb	22 29 23.4	-0.5
GRMI				IAML		22 29 32.6	
	comp=N,21μm,0.4s						
GRMI	Germi	0.59	276	ePg	Pb	22 29 23.4	-0.5
SAAT	Saatly	1.12	351	P	Pb	22 29 33.3	+0.6
	SNR=119						
SAAT				S	Sn	22 29 49.6	+3.8
SAAT	Saatly	1.12	351	ePg	Pb	22 29 33.3	+0.6
IHSH	Hashtrud	1.17	248	ePn	Pb	22 29 43.1	+9.4
ISRB	Sarab	1.20	220	ePg	Pn	22 29 34.0	+1.3
ISRB				eSg	Sn	22 29 49.7	+1.6
ISRB				e		22 29 57.4	
ALIB	Äli-Bayra	1.24	13	P	Pb	22 29 36.0	+1.4
	SNR=16						
ALIB				S	Sb	22 29 50.8	+0.6
QRD	Qoradiz	1.25	305	P	Pn	22 29 33.5	+0.3
	SNR=460						
QRD				S	Sn	22 29 50.4	+1.4
QRD	Qoradiz	1.25	305	ePg	Pn	22 29 33.9	+0.7
BLQ	Beylaqan	1.29	319	P	Pn	22 29 34.2	+0.5
	SNR=317						
BLQ				S	Sn	22 29 51.7	+1.8
BLQ	Beylaqan	1.29	319	ePg	Pn	22 29 34.7	+1.0
IHRS	Heris	1.33	252	ePg	Pn	22 29 35.6	+1.1
IHRS				e		22 29 55.8	
KDMR	Kurdemir	1.66	348	Pn	Pn	22 29 40.6	+1.7
	SNR=118						
KDMR				Sn	Sb	22 30 03.0	+0.6
KDMR	Kurdemir	1.66	348	ePn	Pn	22 29 40.8	+2.0
ZRD	Zardab	1.70	334	Pn	Pn	22 29 41.2	+1.9
	SNR=317						
ZRD				Sn	Sb	22 30 04.9	+1.5
ZRD	Zardab	1.70	334	ePn	Pn	22 29 41.6	+2.3
GBS	Qobustan	1.80	7	Pn	Pb	22 29 43.6	-0.6
	SNR=18						
GBS				Sn	Sn	22 30 05.5	+2.9
GBS	Qobustan	1.80	7	ePn	Pb	22 29 43.6	-0.6
AGDM	Agdam	1.81	319	Pn	Pn	22 29 41.9	+1.0
	SNR=291						
AGDM				Sn	Sn	22 30 05.8	+3.1
GOBA	Gobu	1.85	27	Pn	Pb	22 29 45.1	0.0
	SNR=8.4						
GOBA				Sn	Sb	22 30 08.7	+0.9
GOBA	Gobu	1.85	27	ePn	Pb	22 29 45.0	0.0
BRDA	Brd	1.89	324	Pn	Pn	22 29 44.2	+2.2
	SNR=35						
BRDA				Sn	Sb	22 30 09.9	+1.0
BRDA	Brd	1.89	324	ePn	Pn	22 29 44.2	+2.2
ITBZ	Tabriz	2.03	256	ePn	Pn	22 29 45.6	+1.5
ITBZ				e		22 29 53.3	
PQL	Pirkuli	2.04	359	Pn	Pn	22 29 46.3	+2.2
	SNR=38						
PQL				Sn	Sn	22 30 12.3	+3.7
PQL	Pirkuli	2.04	359	ePn	Pn	22 29 46.3	+2.2
IML	Ismayilli	2.07	350	Pn	Pn	22 29 46.4	+1.8
	SNR=130						
IML				Sn	Sb	22 30 13.6	-0.6
IML	Ismayilli	2.07	350	ePn	Pn	22 29 46.5	+2.0
ZNJK	Zanjan	2.08	179	ePn	Pn	22 29 46.8	+2.0
ZNJK	Zanjan	2.08	179	ePn	Pn	22 29 46.8	+2.0
ORD	Ordubad	2.08	276	Pn	Pn	22 29 46.3	+1.6
	SNR=1103						
ORD				Sn	Sn	22 30 13.5	+4.0
ORD	Ordubad	2.08	276	ePn	Pn	22 29 47.3	+2.6
ATGJ	Altiaghaj	2.12	6	Pn	Pn	22 29 47.7	+2.5
	SNR=18						
ATGJ				Sn	Sb	22 30 17.4	+1.7
ATGJ	Altiaghaj	2.12	6	ePn	Pn	22 29 47.7	+2.5
QSDN	Sirdan	2.28	169	ePn	Pn	22 29 49.0	+1.4
QSDN				e		22 30 17.3	
QBL	Gabala	2.28	344	Pn	Pn	22 29 48.8	+1.4
	SNR=97						
QBL				Sn	Sn	22 30 17.6	+3.1
IMRD	Marand	2.30	270	ePn	Pn	22 29 49.9	+2.1
IMRD				e		22 30 25.9	
SIZA	Siyzn	2.33	5	Pn	Pn	22 29 50.2	+2.1
	SNR=14						
SIZA				Sn	Sn	22 30 18.8	+3.0
MNGR	Mingechevir, A	2.35	330	Pn	Pn	22 29 50.4	+2.1
	SNR=6.9						
MNGR				Sn	Sn	22 30 20.5	+4.3
IAZR	Azarshahr	2.36	244	ePn	Pn	22 29 51.4	+2.7
IAZR				e		22 30 26.8	
XNQ	Khinaliq	2.45	351	Pn	Pn	22 29 51.6	+1.7
	SNR=26						
XNQ				Sn	Sn	22 30 21.4	+2.5
NAX	Nakhchivan	2.50	281	P	Pn	22 29 52.8	+2.4
NAX	Nakhchivan	2.50	281	Pn	Pn	22 29 52.6	+2.2
	SNR=52						
NAX				Sn	Sb	22 30 25.7	-0.6
SBZ	Shahbuz	2.50	286	Pn	Pn	22 29 52.2	+1.8
	SNR=198						
SBZ				Sn	Sn	22 30 24.0	+4.2
GANJ	Ganja	2.61	317	P	Pn	22 29 52.4	+0.5
GANJ	Ganja	2.61	317	Pn	Pn	22 29 52.5	+0.5
	SNR=100						
GANJ				Sn	Sn	22 30 24.2	+1.7
SEKA	Sheki	2.70	336	P	Pn	22 29 54.3	+1.2
SEKA	Sheki	2.70	336	Pn	Pn	22 29 54.4	+1.2
	SNR=103						
SEKA				Sn	Sn	22 30 26.3	+1.6
QSAR	Qusar	2.78	354	Pn	Pn	22 29 56.5	+2.3
	SNR=36						
QSAR				Sn	Sn	22 30 31.2	+4.5
QALM	Alamut, Qazvin	2.81	145	ePn	Pn	22 29 55.4	+0.6
QALM				e		22 30 29.2	
AKT	Akhty	2.82	346	eP	Pn	22 29 57.0	+2.2
AKT				eS	Sn	22 30 30.1	+2.3
AKT				eS	Sb	22 30 36.3	+0.7
AKT				pmax	pmax		
	comp=Z,102nm,0.5s						
AKT				smax	smax		
	comp=N,520nm,0.4s						
AKT				smax	smax		
	comp=E,885nm,0.4s						
AKT				smax	smax		
	comp=E,623nm,0.5s						
AKT				MLR	MLR		
	comp=Z,150nm,2.0s						
GDB	GEDABAY	2.98	312	Pn	Pn	22 29 58.5	+1.4
	SNR=54						
GDB				Sn	Sn	22 30 34.6	+2.8
MAHB	Mahabad	3.06	231	ePn	Pn	22 30 00.6	+2.4
HYR	Heyderabad	3.10	289	Pn	Pn	22 30 01.0	+2.2
	SNR=32						
HYR				Sn	Sn	22 30 35.6	+0.8
QABG	Abgarm-Qazvin	3.12	166	ePn	Pn	22 29 59.8	+0.6
QABG				e		22 31 01.1	
MAKU	Maku	3.15	282	ePn	Pn	22 30 00.8	+1.4
MAKU	Maku	3.15	282	ePn	Pn	22 30 00.8	+1.4
ZKTA	Zakatala	3.28	332	Pn	Pn	22 30 02.7	+1.6
	SNR=44						
ZKTA				Sn	Sn	22 30 40.1	+1.1
DDFL	Dedoflistskaro	3.32	325	P	Pn	22 30 04.8	+3.1
DDFL	Dedoflistskaro	3.32	325	P	Pn	22 30 04.9	+3.1
THKV	Tehran--Karaj	3.34	147	ePn	Pn	22 30 03.8	+1.7
THKV	Tehran--Karaj	3.34	147	ePn	Pn	22 30 03.8	+1.7
QZX	Qazax, Azerbai	3.42	313	Pn	Pn	22 30 04.5	+1.5
	SNR=36						
QZX				Sn	Sn	22 30 44.0	+1.6
CHTH	Charan	3.46	144	ePn	Pn	22 30 05.9	+2.2
CHTH	Charan	3.46	144	ePn	Pn	22 30 05.9	+2.2
HSRG	Sareghieh	3.51	185	ePn	Pn	22 30 07.3	+2.7
LGD	Lagodekhi	3.59	330	P	Pn	22 30 07.2	+1.8
TASB	TASBURUN-IGDIR	3.63	291	eP	Pn	22 30 07.9	+1.9
CLDR	Caldiran	3.71	278	eP	Pn	22 30 09.2	+2.0
SNGE	Sanandaj	3.80	196	ePn	Pn	22 30 09.6	+1.2
SNGE	Sanandaj	3.80	196	ePn	Pn	22 30 09.6	+1.2
GNBR	Gunib	3.85	341c	iP	Pn	22 30 12.4	+3.3
IPRN	Peran	3.86	129	ePn	Pn	22 30 10.2	+1.1
IALM	Almabolaq	3.90	186	ePn	Pn	22 30 13.8	+3.9
HAGD	Aghdareh	3.94	174	ePn	Pn	22 30 12.5	+2.1
ILIN	Lien	4.05	200	ePn	Pn	22 30 15.8	+3.8
DAMV	Damavand	4.09	139	ePn	Pn	22 30 14.8	+2.4
DAMV	Damavand	4.09	139	ePn	Pn	22 30 14.9	+2.4
VANB	Van	4.12	269	eP	Pn	22 30 14.6	+1.9
IDMV	Damavand	4.16	138	ePn	Pn	22 30 15.5	+2.0
IALA	Alasht	4.25	128	ePn	Pn	22 30 16.1	+1.4
CUKT	Cukurca	4.25	251	eP	Pn	22 30 18.3	+3.7
DMNI	Dmanisi	4.28	308	P	Pn	22 30 17.2	+2.2
MAK	Makhachkala	4.30	349	eP	Pn	22 30 16.5	+1.5
MAK				eS	Sn	22 31 06.7	+2.7
MAK				pmax	pmax		
	comp=Z,409nm,1.4s						
MAK				MLR	MLR		
	comp=Z,233nm,10.0s						
IBZA	Bozab	4.32	189	ePn	Pn	22 30 20.0	+4.4
ASAO	Ashtian	4.34	165	ePn	Pn	22 30 18.1	+2.2
ASAO	Ashtian	4.34	165	ePn	Pn	22 30 18.1	+2.2
GEVA	Gevas	4.41	266	Pn	Pn	22 30 19.4	+2.7
IDHR	Dehrash	4.43	205	ePn	Pn	22 30 20.6	+3.5
IVIS	Veis	4.46	199	ePn	Pn	22 30 21.7	+4.3
TRLG	Trialeti	4.46	310	P	Pn	22 30 19.6	+2.1
AKDM	Akdamar-Van	4.46	266	eP	Pn	22 30 20.4	+2.9
AGRB	Hanur-Agry	4.47	282	eP	Pn	22 30 20.2	+2.5
IFIR	Firoozkooh	4.51	132	ePn	Pn	22 30 20.9	+2.6
KER	Kermanshah	4.52	196	ePn	Pn	22 30 22.0	+3.7
HSAM	Samen	4.53	180	ePn	Pn	22 30 21.9	+3.4
KCHF	Cheshme Sefid,	4.65	197	ePn	Pn	22 30 24.1	+4.0
IKOM	Komasi	4.66	192	ePn	Pn	22 30 23.5	+3.3
IGLO	Ghaloghah	4.69	117	ePn	Pn	22 30 21.4	+0.8
KARS	Kars	4.69	295	eP	Pn	22 30 22.3	+1.7
KARS	Kars	4.69	295	P	Pn	22 30 24.8	+4.2
IGHG	Ghaleghazi	4.72	201	ePn	Pn	22 30 24.7	+3.6
ISHM	Shahmirzad	4.73	127	ePn	Pn	22 30 23.4	+2.2
GHVR	GHOM	4.76	153	ePn	Pn	22 30 23.4	+1.8
GHVR	GHOM	4.76	153	ePn	Pn	22 30 23.4	+1.8
AKH	Akhalkalaki	4.76	306	eP	Pn	22 30 23.4	+1.7
AKH	Akhalkalaki	4.76	306	P	Pn	22 30 24.3	+2.6
AKH	Akhalkalaki	4.76	306	Pn	Pn	22 30 24.2	+2.6
AKH	Akhalkalaki	4.76	306	P	Pn	22 30 27.1	+5.4
MLAZ	Malazgirt-MUS	4.77	277	eP	Pn	22 30 23.8	+2.1
ILAS	Lasjerd	4.81	133	ePn	Pn	22 30 25.8	+3.4
BKHG	Bakuriani	4.94	309	P	Pn	22 30 28.7	+4.7
GROC	Groznyy	4.95	335	eP	Pn	22 30 27.3	+3.4
GROC				e		22 31 25.2	
GROC				pmax	pmax		
	comp=Z,99nm,0.4s						
GROC				smax	smax		
	comp=N,179nm,0.5s						
GROC				smax	smax		
	comp=N,146nm,0.5s						
GROC				MLR	MLR		
	comp=Z,4.0nm,2.0s						
IDOB	Doab	4.97	185	ePn	Pn	22 30 28.0	+3.5
SIRT	Sirnak	5.05	258	eP	Pn	22 30 27.9	+2.4
BMDN	Meydan	5.07	178	ePn	Pn	22 30 29.9	+4.0
GURO	Guroymak-BITLI	5.18	270	eP	Pn	22 30 29.2	+1.8
SENK	Senkaya-Erzuru	5.19	292	eP	Pn	22 30 28.7	+1.2
IKMR	Kamar-syah	5.22	182	ePn	Pn	22 30 31.9	+4.1
IKFM	Kafar-mosalman	5.25	187	ePn	Pn	22 30 32.4	+4.2
IANJ	Anjilo	5.33	126	ePn	Pn	22 30 32.1	+2.6
ZEI	Tsey	5.41	320	eP	Pn	22 30 32.1	+1.6
ZEI				pmax	pmax		
	comp=Z,29nm,0.6s						
KOPR	Koprukoy-ERZUR	5.41	285	eP	Pn	22 30 31.8	+1.3
QAM	Ghamsar	5.46	155	ePn	Pn	22 30 34.0	+2.7
ONI	Oni	5.51	316	P	Pn	22 30 33.2	+1.5
KRSH	Karshahi	5.54	148	ePn	Pn	22 30 34.5	+2.2
IMND	Minoodasht	5.54	103	ePn	Pn	22 30 31.9	-0.3
VRTB	Varto-Mus	5.62	276	eP	Pn	22 30 34.9	+1.5
ARTV	Artvin	5.71	297	Pn	Pn	22 30 38.0	+3.4
SVAN	Silvan-Diyarba	5.88	266	eP	Pn	22 30 38.5	+1.7
IKLH	Kolahrood	5.92	155	ePn	Pn	22 30 40.7	+3.1
BCA	Borcka	6.02	299	eP	Pn	22 30 39.7	+0.9
DHL1	Dehloran	6.16	191	ePn	Pn	22 30 44.7	+4.1
BNGB	Bingl	6.22	275	eP	Pn	22 30 42.9	+1.3
IPIR	Pirpir	6.32	163	ePn	Pn	22 30 46.5	+3.3
YEDI	Yedisu-Bingol	6.34	279	eP	Pn	22 30 44.3	+1.0
MARD	Mardin	6.38	259	Pn	Pn	22 30 46.5	+2.8
KOPT	Kop Dagi	6.44	284	Pn	Pn	22 30 47.7	+2.9
IZEF	Zefreh	6.56	152	ePn	Pn	22 30 49.3	+2.9
MAZI	Mazidag	6.59	261	eP	Pn	22 30 47.5	+0.8
KBZ	Khabaz	6.60	321	Pn	Pn	22 30 50.4	+3.8
	comp=Z,0.4nm,0.3s,baz=228,slow=9.2,SNR=7.8						
KBZ				Sn	Sn	22 32 06.0	+5.4
	comp=Z,0.6nm,0.3s,baz=148,slow=19,SNR=1.6						
KBZ				LR	LR	22 34 06.9	
	comp=Z,140nm,20.6s,baz=142,slow=45						
ROKH	ROKH	6.68	162	ePn	Pn	22 30 49.2	+1.2
KVAR	Kislovodsk Arr	6.86	321	Pn	Pn	22 30 51.7	+1.3
	baz=220,slow=24,SNR=2.4						
KVAR				Sn	Sn	22 32 09.5	+2.1
	baz=317,slow=20,SNR=1.8						
KIV	Kislovodsk	6.87	321	eP	Pn	22 30 51.2	+0.8
KIV	Kislovodsk	6.87	321	eP	Pn	22 30 52.8	+2.4
KIV				pmax	pmax		
	comp=Z,29nm,0.9s						
KIV				MLR	MLR		
	comp=Z,63nm,9.0s						
KIV	Kislovodsk	6.87	321	Pn	Pn	22 30 53.5	+3.0
ANAR	Anarak	6.91	142	ePn	Pn	22 30 53.1	+2.0
IGAR	Gharneh	6.91	155	ePn	Pn	22 30 55.0	+3.8
PTK	Pertek	7.23	274	eP	Pn	22 30 56.8	+1.3
ARXR	Arkhyz	7.35	313	iP	Pn	22 31 01.6	+4.5
GEYT	Alibeck	7.49	93	Pn	Pn	22 30 58.4	-0.5
	comp=Z,22nm,0.3s,baz=288,slow=13,SNR=147						
GEYT				Sn	Sn	22 32 17.8	-5.0
	comp=Z,2.8nm,0.3s,baz=242,slow=15,SNR=1.5						
GEYT				LR	LR	22 35 06.0	
	comp=Z,144nm,20.7s,baz=225,slow=48						
GYA0B	ALIBECK ARRAY	7.49	93	⇓P	Pn	22 30 58.1	-0.8
GYA0B				⇑S	Sn	22 32 20.6	-2.2
GYA0B	ALIBECK ARRAY	7.49	93	Pn	Pn	22 30 58.4	-0.5
ISFR	Sfrayin	7.58	100	ePn	Pn	22 31 01.8	+1.3
ISAD	Sadrabad	7.96	147	ePn	Pn	22 31 08.8	+3.1
TNSJ	Nastanj	8.00	124	ePn	Pn	22 31 08.2	+2.1
IEMG	Emamgholi	8.00	96	ePn	Pn	22 31 05.9	-0.3
ICHK	Chekchek	8.01	142	ePn	Pn	22 31 09.2	+2.9
IKRD	Kardeh	8.06	101	ePn	Pn	22 31 17.6	+11
SOC	Sochi	8.29	308	eP	Pn	22 31 11.9	+2.1
SOC				e		22 32 44.8	
SOC				MLR	MLR		
	comp=Z,142nm,12.0s						
IAKL	Akhelmad	8.30	102	ePn	Pn	22 31 11.1	+0.8
IPAY	Payeh	8.53	102	ePn	Pn	22 31 14.3	+0.9
TKDS	Koohdasht(Taba	8.55	124	ePn	Pn	22 31 15.4	+1.8
TPRV	Parvadeh(Tabas	8.66	129	ePn	Pn	22 31 17.4	+2.3
IMEH	Mehriz	8.82	145	ePn	Pn	22 31 19.4	+2.0
IMOG	Moghan	8.90	104	ePn	Pn	22 31 19.3	+0.7
GAZ	Gaziantep	9.17	264		Pn	22 31 23.7	+1.7
IMYA	Miami	9.41	101	ePn	Pn	22 31 26.0	+0.6
TOKA	Tokat	9.53	283	Pn	Pn	22 31 29.3	+2.3
AFRZ	Afriz	9.93	119	ePn	Pn	22 31 34.7	+2.2
ITEG	Tejag	10.06	122	ePn	Pn	22 31 36.4	+2.0
IMON	Monand	10.51	118	ePn	Pn	22 31 42.6	+2.1
IKOO	Kooshah	10.53	124	ePn	Pn	22 31 43.0	+2.2
ASF	Jabal al Asfar	11.61	239	Pn	Pn	22 31 58.4	+3.0
	comp=Z,0.1nm,0.3s,baz=96,slow=5.5,SNR=4.2						
BR131	Keskin Array S	11.68	279	P	Pn	22 31 59.3	+2.8
BR131	Keskin Array S	11.68	279	Pn	Pn	22 31 59.3	+2.8
BRTR	Keskin Array B	11.68	279	Pn	Pn	22 32 05.0	+8.5
	comp=Z,0.2nm,0.3s,baz=70,slow=14,SNR=2.7						
BRTR				LR	LR	22 37 12.2	
	comp=Z,240nm,18.9s,baz=52,slow=42						
BRTR	Keskin Array B	11.68	279	P	Pn	22 32 05.0	+8.5
HRA	Herat	11.76	108		Pn	22 31 57.3	-0.4
NHDN	Nehbandan	11.87	125	ePn	Pn	22 32 01.3	+2.2
MMAI	Mount Meron Ar	12.17	246	Pn	Pn	22 32 08.1	+5.1
	comp=Z,0.1nm,0.3s,baz=45,slow=14,SNR=13						
MMAI				LR	LR	22 37 20.3	
	comp=Z,133nm,20.7s,baz=40,slow=41						
CSS	Mathiatis	12.84	258	Pn	Pn	22 32 11.2	-0.9
AB02	Akbulak array	13.27	34	⇑P	Pn	22 32 15.0	-3.0
	comp=Z,5.7nm,0.6s						
AB02				⇓S	Sn	22 34 34.8	-9.5
	comp=Z,3.8nm,0.5s						
VRH	Novokhopyorsk	13.37	341	eP	Pn	22 32 16.2	-3.1
VRH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AKTO	Aktyubinsk	13.44	27	Pn	Pn	22 32 17.5	-2.8
	comp=Z,2.4nm,0.3s,baz=208,slow=12,SNR=18						
AKTO				Sn	Sn	22 34 38.0	-11
	comp=Z,3.7nm,0.3s,baz=64,slow=21,SNR=13						
AKTO				LR	LR	22 39 13.8	
	comp=Z,101nm,21.1s,baz=216,slow=45						
AKTO

MOS	**Moscow**	18.53	340	*e*P		**P**	**22 33 23.3 -2.2**
MOS				*e*S		**Sn**	**22 36 45.5 -6.4**
MOS				pmax		pmax	
	comp=Z,28nm,1.1s						
DOPR	**Dopca**	18.60	300	⇑P		**P**	**22 33 26.5 +0.1**
VOIR		18.71	299	⇑P		**P**	**22 33 26.9 -0.8**
ARU	**Arti**	18.88	17	P		**P**	**22 33 28.1 -1.3**
	comp=Z,0.0nm,0.3s,baz=200,slow=9.4,SNR=69						
ARU				S		Sn	22 36 43.7 -17
	comp=Z,0.0nm,0.3s,baz=155,slow=20,SNR=7.2						
ARU	**Arti**	18.88	17	*c iP*		**P**	**22 33 27.8 -1.5**
ARU				S		**Sn**	**22 36 58.3 -1.9**
ARU				pmax		pmax	
	comp=Z,18nm,0.5s						
ARU	**Arti**	18.88	17	P		**P**	**22 33 26.6 -2.7**
ARU				IAmb		IAmb	22 33 28.7
	comp=Z,29nm,0.5s						
BURAR	**Bucovina Array**	19.19	305	⇓P		**P**	**22 33 32.9 -0.1**
BUR08	**Bucovina Ar. S**	19.21	305	P		**P**	**22 33 34.1 +0.8**
IDI	**Anoyia**	19.27	267	P		**P**	**22 33 34.6 +0.6**
	comp=Z,1.1nm,0.3s,baz=76,slow=9.4,SNR=10						
IDI	**Anoyia**	19.27	267	P		**P**	**22 33 33.7 -0.3**
EKS2	**Erkin-Say**	19.42	70	P		**Pn**	**22 33 38.5 +1.6**
	SNR=9.9						
ARCR	**ARCALIA**	19.59	303	⇑P		**P**	**22 33 37.3 0.0**
SVE	**Sverdlovsk**	19.75	20	*e*P		**P**	**22 33 40.1 +1.2**
SVE				*e*S		S	22 37 09.9 -10
SVE				pmax		pmax	
	comp=Z,29nm,1.0s						
KIRV	**Kirov**	19.86	1	P		**P**	**22 33 39.1 -1.0**
	comp=Z,3.8nm,0.3s,baz=188,slow=4.3,SNR=5.7						
AAK	**Ala-Archa**	19.95	71	P		**Pn**	**22 33 44.5 +1.2**
	SNR=75						
AAK	**Ala-Archa**	19.95	71	⇑P		**Pn**	**22 33 43.8 +0.6**
	comp=Z,73nm,0.8s						
AAK	**Ala-Archa**	19.95	71	*c*e*P*		**P**	**22 33 42.7 +1.3**
AAK				pmax		pmax	
	comp=Z,204nm,0.7s						
CJR	**Cluj-Napoca**	19.99	302	⇓P		**P**	**22 33 41.2 -0.5**
USP	**Ospenovka**	19.99	69	P		**Pn**	**22 33 44.7 +1.1**
	SNR=28						
FRU1	**Bishkek**	20.06	70	P		**P**	**22 33 44.0 +1.5**
FRU1				pmax		pmax	
	comp=Z,57nm,0.8s						
FRU1	**Bishkek**	20.06	70	P		**P**	**22 33 44.0 +1.5**
CHMS	**Chumysh**	20.16	70	P		**P**	**22 33 44.6 +1.1**
	SNR=60						
LIT	**Litokhoron**	20.23	282	P		**P**	**22 33 44.1 -0.3**
LIT				pmax		pmax	
	comp=Z,6.0nm,0.9s						
LIT	**Litokhoron**	20.23	282	P		**P**	**22 33 44.1 -0.3**
DEV	**Deva**	20.27	299	⇓P		**P**	**22 33 45.0 +0.3**
KBK	**Karagaybulak**	20.29	71	P		Pn	22 33 47.2 0.0
	SNR=21						
HERR	**Herculane**	20.44	296	⇑P		**P**	**22 33 46.1 -0.5**
NIL	**Nilore**	20.47	97	P		**P**	**22 33 48.3 +1.3**
NIL				pmax		pmax	
	comp=Z,22nm,0.8s						
NIL	**Nilore**	20.47	97	P		**P**	**22 33 48.3 +1.3**
NIL				IAmb		IAmb	22 33 51.6
	comp=Z,22nm,0.8s						
BRVK	**Borovoye**	20.66	39	⇑P		**P**	**22 33 48.8 0.0**
	comp=Z,30nm,0.8s						
BRVK	**Borovoye**	20.66	39	*c*e*P*		**P**	**22 33 47.7 -1.1**
BRVK				pmax		pmax	
	comp=Z,50nm,1.3s						
BRVK	**Borovoye**	20.66	39	P		**P**	**22 33 49.6 +0.8**
BRVK				IAmb		IAmb	22 33 52.5
	comp=Z,27nm,0.7s						
BVAR	**Borovoye Array**	20.69	39	P		**P**	**22 33 49.6 +0.5**
	comp=Z,15nm,0.8s,baz=198,slow=8.9,SNR=33						
TKM2	**Tokmak 2**	20.77	70	P		Pn	22 33 54.5 +1.6
	SNR=79						
TKM2	**Tokmak 2**	20.77	70	⇓P		**P**	**22 33 51.6 +1.2**
	comp=Z,57nm,0.8s						
MDVR	**Moldovita**	20.92	295	⇑P		**P**	**22 33 51.8 0.0**
BOOM	**Boomskoye usch**	21.01	71	P		**P**	**22 33 54.6 +1.7**
BOOM				pmax		pmax	
	comp=Z,27nm,0.7s						
BOOM	**Boomskoye usch**	21.01	71			**P**	**22 33 54.6 +1.7**
BOOM				IAmb		IAmb	22 34 01.1
	comp=Z,26nm,0.7s						
ITM	**Ithomi**	21.10	274	P		**P**	**22 33 54.5 +0.7**
ITM				IAmb		IAmb	22 33 56.5
	comp=Z,14nm,1.0s						
BZS	**Buzias**	21.11	298	⇓P		**P**	**22 33 52.8 -0.9**
KSH	**Kashi**	21.18	79	P		**P**	**22 33 53.9 -0.9**
KSH				pP		sP	22 34 13.8 +6.8
KSH				pmax		pmax	
	comp=Z,9.0nm,0.8s						
KSH				pmax		pmax	
	comp=Z,96nm,4.9s						
SIRR	**Siria**	21.20	299	⇑P		**P**	**22 33 53.5 -1.2**
ULHL	**Ulahol**	21.23	72	P		**P**	**22 33 58.3 +3.0**
	SNR=11						
UZH	**Uzhgorod**	21.37	306	⇑*iP*		**P**	**22 33 57.4 +0.9**
UZH				*e*			22 34 17.7
KWP	**Kalwaria Pacla**	21.44	309	P		**P**	**22 33 58.1 +0.8**
KWP				pmax		pmax	
	comp=Z,49nm,1.0s						
KWP	**Kalwaria Pacla**	21.44	309	P		**P**	**22 33 58.1 +0.8**
KOLS	**Kolonicke sedl**	21.48	307	*e*P		**P**	**22 33 57.4 -0.3**
KOLS				pmax		pmax	
	comp=Z,11nm,0.9s						
KOLS	**Kolonicke sedl**	21.48	307	*e*P		**P**	**22 33 57.4 -0.3**
KDJ	**Kajisay**	21.93	72	P		**P**	**22 34 02.6 -0.2**
KDJ				pmax		pmax	
	comp=Z,34nm,0.7s						
KDJ	**Kajisay**	21.93	72	P		**P**	**22 34 02.6 -0.2**
CRVS	**Cervenica-Dubn**	21.98	306	*e*P		**P**	**22 34 04.1 +1.1**
CRVS				pmax		pmax	
	comp=Z,82nm,0.9s						
CRVS	**Cervenica-Dubn**	21.98	306	*e*P		**P**	**22 34 04.1 +1.1**
TIR	**Tirane**	22.14	286	P		**P**	**22 34 06.5 +1.6**
TIR				pmax		pmax	
	comp=Z,11nm,1.0s						
TIR	**Tirane**	22.14	286	P		**P**	**22 34 06.5 +1.6**
TIR				IAmb		IAmb	22 34 24.1
	comp=Z,11nm,1.0s						
PDG	**Podgorica**	22.57	289	⇓P		**P**	**22 34 09.0 -0.5**
PDG	**Podgorica**	22.57	289	IAmb		IAmb	22 34 11.0
	comp=Z,12nm,1.1s						
PSZ	**Piszkesteto**	22.72	303	⇑P		**P**	**22 34 10.2 -0.9**
PSZ	**Piszkesteto**	22.72	303	P		**P**	**22 34 12.0 +0.9**
PSZ				pmax		pmax	
	comp=Z,11nm,0.9s						
PSZ	**Piszkesteto**	22.72	303	P		**P**	**22 34 12.0 +0.9**
PSZ				IAmb		IAmb	22 34 14.5
	comp=Z,11nm,0.9s						
KLMR	**Klimovskoe**	22.86	348	*e*P		**P**	**22 34 11.9 -0.3**
KLMR				*e*			22 37 59.6
KLMR				pmax		pmax	
	comp=Z,24nm,0.6s						
KLMR	**Klimovskoe**	22.86	348	*e*P		**P**	**22 34 11.9 -0.3**
KLMR				AMP			22 34 17.3
	comp=Z,24nm,0.6s						
KLMR				*e*PcP		**PcP**	**22 37 59.6 -2.6**
SUW	**Suwalki**	23.09	320	P		**P**	**22 34 13.5 -1.3**
SUW				pmax		pmax	
	comp=Z,23nm,0.9s						
SUW	**Suwalki**	23.09	320	P		**P**	**22 34 13.4 -1.3**
SUW				IAmb		IAmb	22 34 24.1
	comp=Z,23nm,0.9s						
SCTE	**Santa Cesarea**	23.31	283	P		**P**	**22 34 15.4 -1.6**
SCTE				IAmb		IAmb	22 34 17.8
	comp=Z,18nm,1.0s						
OJC	**Ojcow**	23.41	309	P		**P**	**22 34 18.4 +0.4**
OJC				pmax		pmax	
	comp=Z,17nm,1.0s						
OJC	**Ojcow**	23.41	309	P		**P**	**22 34 18.4 +0.4**
OJC				IAmb		IAmb	22 34 20.7
	comp=Z,17nm,1.0s						
VYHS	**Vyhne**	23.55	304	*e*P		**P**	**22 34 20.1 +0.8**
VYHS				pmax		pmax	
	comp=Z,6.0nm,0.9s						
VYHS	**Vyhne**	23.55	304	*e*P		**P**	**22 34 20.1 +0.8**
PDGK	**Podgornoye**	23.63	69	⇓P		**P**	**22 34 20.5 +0.1**
	comp=Z,12nm,0.8s						
KURBB	**Kurchatov Arra**	24.16	51	P		**P**	**22 34 27.4 +2.3**
	comp=Z,23nm,0.7s,baz=259,slow=9.1,SNR=60						
KURBB	**Kurchatov Arra**	24.16	51	⇑P		**P**	**22 34 25.9 +0.8**
	comp=Z,19nm,0.7s						
KURK	**Kurchatov**	24.25	51	⇓P		**P**	**22 34 27.4 +1.6**
	comp=Z,33nm,0.8s						
KURK	**Kurchatov**	24.25	51	*de*P		**P**	**22 34 27.4 +1.6**
KURK				pmax		pmax	
	comp=Z,32nm,0.7s						
KURK	**Kurchatov**	24.25	51	P		**P**	**22 34 26.8 +1.0**
VSU	**Vasula**	24.27	331	*i* P		**P**	**22 34 26.7 +0.7**
VSU				pmax		pmax	
	comp=Z,39nm,1.0s						
SMOL	**Smolenice**	24.46	304	*e*P		**P**	**22 34 29.0 +1.1**
SMOL				pmax		pmax	
	comp=Z,14nm,1.3s						
SMOL	**Smolenice**	24.46	304	*e*P		**P**	**22 34 29.0 +1.1**
MODS	**Modra-Piesok**	24.53	303	*e*P		**P**	**22 34 28.5 0.0**
MODS				pmax		pmax	
	comp=Z,11nm,1.0s						
MODS	**Modra-Piesok**	24.53	303	*e*P		**P**	**22 34 28.5 0.0**
MORC	**Moravsky Berou**	24.68	307	P		**P**	**22 34 32.4 +2.5**
MORC				pmax		pmax	
	comp=Z,6.0nm,1.5s						
TIP	**Timpagrande**	24.74	281	IAmb		IAmb	22 34 31.9
	comp=Z,7.8nm,0.8s						
VRAC	**Vranov**	25.17	305	P		**P**	**22 34 34.8 +0.5**
	comp=Z,2.9nm,0.4s,baz=129,slow=6.9,SNR=5.3						
KRLC	**Kraliky**	25.23	307	*e*P		**P**	**22 34 35.9 +1.1**
KRLC				*e*pP		**pP**	**22 34 44.2 +0.2**
KRLC	**Kraliky**	25.23	307	*e*P		**P**	**22 34 35.9 +1.1**
KRLC				*e*			22 34 44.2
CONA	**Conrad Observa**	25.39	302	*i* P		**P**	**22 34 36.9 +0.6**
	comp=Z,2.8nm,1.0s						
ARSA	**Arzberg**	25.52	300	*i* P		**P**	**22 34 38.5 +1.1**
	comp=Z,4.8nm,0.7s,SNR=5.4						
DPC	**Dobruska-Polom**	25.59	308	*e*P		**P**	**22 34 40.5 +2.4**
DPC				*e*pP		**sP**	**22 34 48.5 -2.6**
DPC	**Dobruska-Polom**	25.59	308	*e*P		**P**	**22 34 40.5 +2.4**
DPC				*e*			22 34 48.5
MAKZ	**Makanchi**	25.60	61	⇓P		**P**	**22 34 39.6 +1.4**
	comp=Z,33nm,1.0s						
MAKZ	**Makanchi**	25.60	61	P		**P**	**22 34 39.4 +1.2**
MAKZ				pmax		pmax	
	comp=Z,23nm,0.7s						
MAKZ	**Makanchi**	25.60	61	P		**P**	**22 34 39.4 +1.2**
OSTC	**Ostas**	25.70	308	*e*P		**P**	**22 34 39.4 +0.3**
OSTC				*e*x		x	22 34 47.1
SOKA	**Soboth**	25.79	299	*i* P		**P**	**22 34 40.9 +1.0**
	comp=Z,12nm,0.9s						
CHVC	**Chvalec**	25.81	308	*e*P		**P**	**22 34 40.6 +0.5**
MK31	**Makanchi Array**	25.82	61	⇑P		**P**	**22 34 42.3 +2.1**
	comp=Z,29nm,0.7s,baz=256,slow=7.8,SNR=110						
MK31	**Makanchi Array**	25.82	61	P		**P**	**22 34 41.9 +1.7**
MK31				pmax		pmax	
	comp=Z,27nm,0.8s						
MK31	**Makanchi Array**	25.82	61	P		**P**	**22 34 41.9 +1.7**
MKAR	**Makanchi Array**	25.82	61	P		**P**	**22 34 42.0 +1.8**
	comp=Z,32nm,0.7s,baz=254,slow=8.9,SNR=90						
MKAR				LR		LR	22 46 52.4
	comp=Z,45nm,18.4s,baz=260,slow=41						
UPC	**Upice**	25.82	308	*e*P		**P**	**22 34 42.8 +2.7**
UPC	**Upice**	25.82	308	*e*P		**P**	**22 34 42.8 +2.7**
OBKA	**Obir**	26.10	298	*i* P		**P**	**22 34 43.9 +1.0**
	comp=Z,2.9nm,0.7s						
MOA	**Molln**	26.44	301	*i* P		**P**	**22 34 46.3 +0.5**
	comp=Z,3.9nm,1.1s						
INTR	**Introdacqua**	26.56	288	P		**P**	**22 34 47.9 +0.9**
INTR				IAmb		IAmb	22 35 01.8
	comp=Z,7.6nm,1.1s						
TRI	**Trieste**	26.60	296	P		**P**	**22 34 48.2 +1.0**
TRI				pmax		pmax	
	comp=Z,4.0nm,0.7s						
TRI	**Trieste**	26.60	296	P		**P**	**22 34 48.2 +1.0**
TRI				IAmb		IAmb	22 34 51.4
	comp=Z,4.4nm,0.7s						
FIA1	**FINESS Array S**	26.67	336	P		**P**	**22 34 47.7 0.0**
FIA1				IAmb		IAmb	22 35 01.9
	comp=Z,5.7nm,0.8s						
FINES	**FINESS Array B**	26.67	336	P		**P**	**22 34 48.6 +1.0**
	comp=Z,1.3nm,0.4s,baz=138,slow=9.5,SNR=23						
FINES				LR		LR	22 46 30.2
	comp=Z,44nm,20.0s,baz=114,slow=39						
FINES	**FINESS Array B**	26.67	336	*ce*P		**P**	**22 34 51.0 +3.4**
FINES				pmax		pmax	
	comp=Z,1.0nm,0.4s						
PRED	**Cave del Predi**	26.78	298	P		**P**	**22 34 49.2 +0.3**
GERES	**GERESS Array B**	26.95	303	P		**P**	**22 34 50.7 +0.2**
	comp=Z,1.3nm,0.4s,baz=92,slow=9.5,SNR=17						
GERES				LR		LR	22 48 55.1
	comp=Z,25nm,19.2s,baz=172,slow=44						
KBA	**Koelnbreinsper**	26.98	299	*i* P		**P**	**22 34 48.9 -1.9**
	comp=Z,4.7nm,1.2s						
KHC	**Kasperske Hory**	27.08	304	*e*P		**P**	**22 34 51.3 -0.2**
KHC	**Kasperske Hory**	27.08	304	*ce*P		**P**	**22 34 51.8 +0.3**
KHC				pmax		pmax	
	comp=Z,11nm,1.7s						
KHC	**Kasperske Hory**	27.08	304	P		**P**	**22 34 52.5 +0.9**
NRCA	**Norcia**	27.08	290	IAmb		IAmb	22 34 54.7
	comp=Z,4.8nm,0.8s						
ZOU	**Zoufplan**	27.19	298	P		**P**	**22 34 52.1 -0.7**
STAL	**STALIGIAL**	27.36	298	P		**P**	**22 34 52.6 -1.5**
MURB	**Monte Urbino**	27.49	291	P		**P**	**22 34 55.6 +0.3**
MURB				IAmb		IAmb	22 34 59.0
	comp=Z,16nm,0.9s						
ATD	**Arta Tunnel**	27.60	192	P		**P**	**22 34 53.5 -2.9**
ATD				IAmb		IAmb	22 34 57.8
	comp=Z,22nm,1.1s						
CLL	**Collm**	27.86	308	⇑*iP*		**P**	**22 34 59.0 +0.6**
	comp=Z,11nm,1.1s						
CLL				*e*			22 35 08.0
CLL	**Collm**	27.86	308	⇑*iP*		**P**	**22 34 59.0 +0.6**
CLL				pmax		pmax	
	comp=Z,11nm,1.1s						
CLL	**Collm**	27.86	308	IAmb		IAmb	22 34 60.0
	comp=Z,7.0nm,0.7s						
TEOL	**Teolo**	28.06	296	P		**P**	**22 34 59.1 -1.2**
TEOL				IAmb		IAmb	22 35 01.0
	comp=Z,9.1nm,0.9s						
WTTA	**Wattenberg**	28.15	300	*i* P		**P**	**22 35 01.2 -0.2**
	comp=Z,3.4nm,0.5s						
WATA	**Walderalm**	28.20	300	*e*P		**P**	**22 35 01.2 -0.6**
	comp=Z,5.1nm,1.1s						
SQTA	**Sankt Quirin**	28.44	300	*e*P		**P**	**22 35 03.2 -0.7**
	comp=Z,3.5nm,0.6s						
MOTA	**Moosalm**	28.52	300	*i* P		**P**	**22 35 04.0 -0.6**
	comp=Z,1.8nm,0.5s						
FETA	**Feichten**	28.76	299	*i* P		**P**	**22 35 06.8 +0.1**
	comp=Z,3.9nm,0.8s						
RETA	**Reutte**	28.76	300	*i* P		**P**	**22 35 05.9 -0.7**
	comp=Z,2.7nm,0.6s						
ZAA0	**Zalesovo Array**	28.85	46	⇑P		**P**	**22 35 07.8 +0.6**
	comp=Z,1.1nm,1.1s						
ZAA0	**Zalesovo Array**	28.85	46	P		**P**	**22 35 07.1 -0.1**
ZAA0				IAmb		IAmb	22 35 09.6
	comp=Z,5.8nm,0.9s						
ZALV	**Zalesovo Beam**	28.85	46	P		**P**	**22 35 08.2 +1.0**
	comp=Z,2.4nm,0.4s,baz=262,slow=10,SNR=17						
ZALV				LR		LR	22 49 00.2
	comp=Z,76nm,19.6s,baz=264,slow=41						
ZALV	**Zalesovo Beam**	28.85	46	*i* P		**P**	**22 35 08.1 +0.9**
ZALV				pmax		pmax	
	comp=Z,2.0nm,0.4s						
FUORN	**Ofenpass-Fuorn**	29.06	298	P		**P**	**22 35 09.3 -0.2**
DAVOX	**Davos/Dischmat**	29.33	299	P		**P**	**22 35 12.0 +0.2**
	comp=Z,4.8nm,0.5s,baz=99,slow=6.6,SNR=16						
DAVA	**Damuels**	29.35	300	*i* P		**P**	**22 35 10.3 -1.7**
	comp=Z,3.0nm,0.5s						
DGZ	**Jazzator, Alta**	29.56	56	*i* P		**P**	**22 35 15.5 +1.7**
DGZ				pmax		pmax	
	comp=Z,7.0nm,0.9s						
WMQ	**Urumqi**	29.58	67	*e*P		**P**	**22 35 15.8 +1.9**
TUE	**Stuetta**	29.69	298	P		**P**	**22 35 14.6 -0.5**
TUE				IAmb		IAmb	22 35 16.3
	comp=Z,4.3nm,0.6s						
SENIN	**Lac Senin/Sane**	31.11	298	IAmb		IAmb	22 35 28.4
	comp=Z,6.0nm,0.7s						
KEST	**Kesa**	31.27	277	LR		LR	22 49 50.3
	comp=Z,36nm,19.6s,baz=228,slow=40						
NC405	**NORSAR Array S**	31.96	327	P		**P**	**22 35 35.0 +0.4**
NB2	**NORSAR Subarra**	32.14	326	P		**P**	**22 35 35.6 -0.7**
	comp=Z,0.5nm,0.5s,baz=119,slow=8.6						
NOA	**NORSAR Array B**	32.14	326	P		**P**	**22 35 35.9 -0.4**
	comp=Z,0.6nm,0.7s,baz=117,slow=8.1,SNR=8.3						
NOA				LR		LR	22 50 02.1
	comp=Z,53nm,19.6s,baz=115,slow=39						
KONO	**Kongsberg**	32.29	323	*i* P		**P**	**22 35 37.5 0.0**
KONO				pmax		pmax	
	comp=Z,11nm,1.4s						
SSB	**Saint Sauveur**	33.09	296	P		**P**	**22 35 44.2 -0.5**
SSB				pmax		pmax	
	comp=Z,7.0nm,0.5s						
SSB	**Saint Sauveur**	33.09	296	P		**P**	**22 35 44.2 -0.5**
SSB				IAmb		IAmb	22 35 45.0
	comp=Z,6.5nm,0.5s						
ARCES	**ARCESS Array B**	33.24	345	P		**P**	**22 35 46.6 +0.9**
	comp=Z,1.0nm,0.5s,baz=140,slow=11,SNR=16						
NRIK	**Noril'sk**	36.99	22	LR		LR	22 55 14.4
	comp=Z,75nm,19.7s,baz=201,slow=42						
GTA	**Gaotai**	39.28	72	*e*P		P	22 36 48.4 +11
GTA				pP		sP	22 36 53.3 +2.5
GTA				sP		pP	22 36 55.8 +8.7
GTA				pmax		pmax	
	comp=Z,3.0nm,0.7s						
TLY	**Talaya**	39.91	53	*e*P		**P**	**22 36 42.8 0.0**
TLY				pmax		pmax	
	comp=Z,6.0nm,1.1s						
TAM	**Tamanrasset**	39.94	259	P		**P**	**22 36 42.3 -1.2**
TAM				pmax		pmax	
	comp=Z,3.0nm,0.9s						
TAM	**Tamanrasset**	39.94	259	P		**P**	**22 36 42.3 -1.2**
ESDC	**Sonseca Array**	40.29	288	P		**P**	**22 36 45.4 -0.7**
	comp=Z,2.5nm,0.9s,baz=67,slow=10.0,SNR=9.9						
KMBO	**Kilima Mbogo**	41.04	198	P		**P**	**22 36 54.7 +2.0**
	comp=Z,0.8nm,0.5s,baz=38,slow=12,SNR=4.8						
KMBO	**Kilima Mbogo**	41.04	198	P		**P**	**22 36 52.4 -0.3**
KMBO				pmax		pmax	
	comp=Z,2.0nm,1.0s						
KMBO	**Kilima Mbogo**	41.04	198	P		**P**	**22 36 52.4 -0.3**
SONM	**Songino Array**	42.12	58	P		**P**	**22 37 02.8 +1.7**
	comp=Z,1.2nm,0.6s,baz=267,slow=8.5,SNR=7.6						
SONM				LR		LR	22 58 38.9
	comp=Z,43nm,18.6s,baz=269,slow=42						
ULN	**Ulaanbaatar**	42.55	58	P		**P**	**22 37 04.0 -0.7**
ULN				pmax		pmax	
	comp=Z,9.0nm,1.0s						
ULN	**Ulaanbaatar**	42.55	58	P		**P**	**22 37 04.0 -0.7**
ULN				IAmb		IAmb	22 37 07.6
	comp=Z,9.5nm,1.0s						
MDT	**Midelt**	43.10	279	P		**P**	**22 37 09.5 +0.2**
	comp=Z,0.6nm,0.6s,baz=107,slow=8.7,SNR=3.5						
LZH	**Lanzhou**	43.36	76	*e*P		**P**	**22 37 10.0 -1.4**
LZH				pP		sP	22 37 24.5 +0.1
LZH				sP		pP	22 37 31.3 +11
LZH				*e*PP		**PP**	**22 38 53.1 +0.8**
LZH				pmax		pmax	
	comp=Z,20nm,1.3s						
LZH				pmax		pmax	
	comp=Z,110nm,6.0s						
LZH				LR		LR	
	comp=N,130nm,14.1s						
LZH				LR		LR	
	comp=E,130nm,13.9s						
LZH				LR		LR	
	comp=Z,170nm,16.9s						
BOD	**Bodaibo**	45.49	43	*e*P		**P**	**22 37 28.8 +0.9**
BOD				pmax		pmax	
	comp=Z,12nm,1.0s						
KMI	**Kunming**	47.24	90	⇑P		**P**	**22 37 41.8 -0.6**
KMI				pP		sP	22 37 51.8 -3.7
KMI				sP		pP	22 37 58.3 +6.5
KMI				pmax		pmax	
	comp=Z,10.0nm,0.9s						
KMI	**Kunming**	47.24	90	P		**P**	**22 37 39.2 -3.2**
KMI				pmax		pmax	
	comp=Z,11nm,1.1s						
KMI	**Kunming**	47.24	90	P		**P**	**22 37 39.2 -3.2**
KMI				IAmb		IAmb	22 37 45.3
	comp=Z,11nm,1.1s						
HHC	**Hu-ho-hao-te**	47.45	66	*e*P		**P**	**22 37 41.6 -2.1**
HHC				pmax		pmax	
	comp=Z,11nm,0.9s						
HHC				pmax		pmax	
	comp=Z,66nm,4.3s						
CMAR	**Chiang Mai Arr**	47.91	100	P		**P**	**22 37 47.7 +0.3**
	comp=Z,1.0nm,0.6s,baz=304,slow=8.5,SNR=7.8						
CMAR				LR		LR	23 01 51.4
	comp=Z,27nm,18.8s,baz=351,slow=41						
XAN	**Xi'an**	47.99	76	P		**P**	22 37 57.5 +10
XAN				pP		sP	22 38 09.9 +9.0
XAN				pmax		pmax	
	comp=Z,11nm,0.9s						
XAN	**Xi'an**	47.99	76	P		**P**	**22 37 46.7 -1.2**
XAN				pmax		pmax	
	comp=Z,7.0nm,0.8s						
XAN	**Xi'an**	47.99	76	P		**P**	**22 37 46.7 -1.2**
TORD	**Torodi Ar. Bea**	48.64	252	P		**P**	**22 37 51.6 -1.4**
	comp=Z,1.1nm,0.6s,baz=59,slow=7.2,SNR=11						
TORD				LR		LR	23 01 46.0
	comp=Z,36nm,18.4s,baz=230,slow=40						
PBKT	**Sadao Pong**	50.58	101	P		**P**	**22 38 06.2 -1.6**
PBKT				IAmb		IAmb	22 38 17.5
	comp=Z,3.3nm,1.0s						
SUMG	**Summit**	52.68	338	*i* P		**P**	**22 38 25.0 +1.8**
	comp=Z,23nm,0.9s						
SUMG	**Summit**	52.68	338	*i* P		**P**	**22 38 25.0 +1.8**
SUMG				pmax		pmax	
	comp=Z,23nm,0.9s						
SUMG	**Summit**	52.68	338	P		**P**	**22 38 23.0 -0.2**
DBIC	**Dimbokro**	57.73	251	LR		LR	23 08 56.6
	comp=Z,27nm,19.2s,baz=54,slow=41						
USRK	**Ussuriysk Ar.**	60.11	55	LR		LR	23 08 13.9
	comp=Z,80nm,18.1s,baz=312,slow=39						
KSRS	**Korea Array**	60.44	64	P		**P**	**22 39 19.0 +0.6**
	comp=Z,2.3nm,0.8s,baz=285,slow=7.1,SNR=5.6

ISC 18 22:50:49.3±0.7, 20°32'S±0'.10×178°.5W±0°.1, h587km, n28, σ0$91/28, mb4.3/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.15**	**308**	P	**P**	**22 52 17.4**	**+2.3**
NIUE	**Niue**	**8.18**	**83**	P	**P**	**22 52 51.1**	**+1.2**
RAO	**Raoul Island**	**8.91**	**177**	P	**P**	**22 52 56.5**	**-0.4**
FUNA	**Funafuti**	**11.93**	**349**	P	**P**	**22 53 26.6**	**-0.8**
DZM	**Mont Dzumac**	**14.14**	**260**	P	**P**	**22 53 51.0**	**+1.1**
OUZ	**Omahuta**	**16.40**	**203**	P	**P**	**22 54 12.1**	**+1.4**
OUZ				IAmb	IAmb	22 54 55.9	
	comp=Z,57nm,1.3s						
CMWZ	**Cape Campbell**	**22.24**	**195**	P	**P**	**22 55 01.7**	**-1.8**
FOZ	**Fox Glacier**	**25.13**	**200**	P	**P**	**22 55 28.4**	**-0.7**
MLZ	**Mavora Lakes**	**27.32**	**201**	P	**P**	**22 55 48.7**	**+0.4**
WHZ	**Wether Hill Ro**	**27.84**	**201**	P	**P**	**22 55 52.5**	**-0.3**
CTAO	**Charters Tower**	**33.03**	**264**	P	**P**	**22 56 37.6**	**-0.1**
CTAO				IAmb	IAmb	22 56 46.0	
	comp=Z,13nm,1.4s						
COEN	**Coen**	**37.09**	**274**	P	**P**	**22 57 11.3**	**-0.1**
COEN				IAmb	IAmb	22 58 18.7	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**37.44**	**244**	P	**P**	**22 57 13.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=99,slow=7.4,SNR=3.2						
STKA	**Stephens Creek**	**37.44**	**244**	P	**P**	**22 57 13.6**	**-0.5**
BBOO	**Buckleboo**	**42.20**	**243**	P	**P**	**22 57 51.6**	**-0.4**
BBOO				IAmb	IAmb	22 58 32.4	
	comp=Z,31nm,1.5s						
WR0	**Warramunga Arr**	**43.96**	**262**	P	**P**	**22 58 05.1**	**-0.8**
ASAR	**Alice Springs**	**44.09**	**257**	P	**P**	**22 58 06.8**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=98,slow=8.0,SNR=6.3						
ASAR				PcP	**PcP**	**22 59 38.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=90,slow=4.1,SNR=4.7						
WB0	**Warramunga Arr**	**44.13**	**262**	P	**P**	**22 58 06.2**	**-1.0**
WB2	**Warramunga Arr**	**44.14**	**262**	P	**P**	**22 58 06.6**	**-0.7**
WB2				IAmb	IAmb	22 58 39.8	
	comp=Z,29nm,1.9s						
WRA	**Warramunga Arr**	**44.15**	**262**	P	**P**	**22 58 06.6**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=97,slow=8.4,SNR=24						
MTN	**Manton Dam**	**48.68**	**271**	P	**P**	**22 58 40.6**	**-0.9**
MTN				IAmb	IAmb	22 58 42.2	
	comp=Z,26nm,1.8s						
QSPA	**South Pole Qui**	**69.75**	**180**	P	**P**	**23 01 01.3**	**+0.1**
QSPA				IAmb	IAmb	23 01 28.9	
	comp=Z,16nm,1.9s						
PETK	**Petropavlovsk-**	**75.97**	**345**	P	**P**	**23 01 36.4**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=132,slow=6.0,SNR=2.8						
DOT	**Dot Lake**	**87.91**	**15**	P	**P**	**23 02 35.8**	**-1.2**
DOT				IAmb	IAmb	23 02 36.9	
	comp=Z,15nm,1.1s						
ILAR	**Eielson Array**	**88.24**	**13**	P	**P**	**23 02 38.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=228,slow=6.6,SNR=4.4						
AKASG	**Malin Array Be**	**142.62**	**331**	PKhKP	PKPpre	23 09 12.5	
	comp=Z,1.2nm,0.4s,baz=45,slow=3.9,SNR=6.0						
CLL	**Collm**	**147.77**	**346**	*i* PKPbc	**PKPbc**	**23 09 28.6**	**-0.1**
GERES	**GERESS Array B**	**149.89**	**344**	PKPbc	**PKPbc**	**23 09 33.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=12,slow=5.4,SNR=4.0						

KRNET 18 22:52:58.5±0.1, 41°.38N×75°.86E, h16km, mb3.4
SOME 18 22:52:58.8, 41°.47N×75°.88E, h0km
NNC 18 22:52:59.9±1.0, 41°.40N×75°.85E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=6.9km s-min=4.5km az=170.0
KNET 18 22:53:00.2±0.4, 41°.49N×75°.81E, h6km±2km, ml2.8, Error ellipse: s-maj=2.7km s-min=1.7km az=145.0

ISC 18 22:52:59.3±1.4, 41°.42N±0°.05×75°.82E±0°.02, h3km±11km, n73, σ1$13/123, 27C-26D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.78**	**327**	⇓*i*P	**Pg**	**22 53 14.4**	**+0.1**
	baz=27						
KZA				⇓*i*S	**Sb**	**22 53 25.8**	**-1.1**
	baz=27						
KZA	**Kyzart**	**0.78**	**327**	⇓P	**Pg**	**22 53 14.4**	**+0.1**
	53nm,0.1s,SNR=42						
KZA				⇓S	**Sb**	**22 53 25.9**	**-1.1**
	138nm,0.3s						
ULHL	**Ulahol**	**0.88**	**21**	⇓*i*P	**Pg**	**22 53 16.0**	**-0.2**
	baz=18						
ULHL				⇓*i*S	**Sb**	**22 53 28.3**	**-1.3**
	baz=18						
ULHL	**Ulahol**	**0.88**	**21**	⇓P	**Pg**	**22 53 16.0**	**-0.2**
	79nm,0.1s,SNR=413						
ULHL				⇓S	**Sb**	**22 53 28.4**	**-1.2**
	101nm,0.1s						
BOOM	**Boomskoye usch**	**1.07**	**5**	⇓*i*P	**Pg**	**22 53 19.5**	**-0.3**
	baz=3.0						
BOOM				⇓*i*S	**Sn**	**22 53 35.0**	**-1.8**
	baz=3.0						
KDJ	**Kajisay**	**1.24**	**55**	⇑*i*P	**Pg**	**22 53 21.9**	**-1.1**
	baz=53						
KDJ				⇑*i*S	**Sb**	**22 53 39.2**	**-0.6**
	baz=53						
UCH	**Uchtor**	**1.27**	**310**	⇓P	**Pg**	**22 53 23.1**	**-0.5**
	3.5nm,0.1s,SNR=6.5						
KBK	**Karagaybulak**	**1.40**	**333**	⇓*i*P	**Pn**	**22 53 25.8**	**0.0**
	baz=32						
KBK				⇓*i*S	**Sn**	**22 53 45.2**	**+0.4**
	baz=32						
KBK	**Karagaybulak**	**1.40**	**333**	⇓P	**Pn**	**22 53 25.8**	**0.0**
	81nm,0.1s,SNR=44						
KBK				⇑S	**Sn**	**22 53 45.3**	**+0.6**
	326nm,0.4s						
TKM2	**Tokmak 2**	**1.51**	**354**	⇑*i*P	**Pb**	**22 53 27.6**	**-0.4**
	baz=53						
TKM2				⇑*i*S	**Sg**	**22 53 48.8**	**+1.0**
	baz=53						
TKM2	**Tokmak 2**	**1.51**	**354**	⇓P	**Pb**	**22 53 27.6**	**-0.4**
	40nm,0.2s,SNR=148						
TKM2				⇓S	**Sg**	**22 53 49.0**	**+1.3**
	83nm,0.1s						
TKM2	**Tokmak 2**	**1.51**	**354**	⇓P	**Pb**	**22 53 27.6**	**-0.4**
	8.4nm,0.2s						
TKM2				⇓S	**Sg**	**22 53 48.7**	**+0.9**
	26nm,0.3s						
AAK	**Ala-Archa**	**1.57**	**321**	⇓*i*P	**Pn**	**22 53 28.4**	**+0.3**
	baz=22						
AAK				⇓*i*S	**Sg**	**22 53 50.2**	**+0.6**
	baz=22						
AAK	**Ala-Archa**	**1.57**	**321**	⇓P	**Pn**	**22 53 28.4**	**+0.3**
	66nm,0.2s,SNR=48						
AAK				⇓S	**Sg**	**22 53 50.9**	**+1.3**
	83nm,0.3s						
AAK	**Ala-Archa**	**1.57**	**321**	⇑P	**Pn**	**22 53 28.0**	**-0.1**
	14nm,0.2s						
AAK				⇓S	**Sg**	**22 53 50.7**	**+1.0**
	37nm,0.3s						
KST	**Kastek**	**1.62**	**4**	*e*P	**Pb**	**22 53 29.7**	**-0.2**
	22nm,0.3s						
KST				*e*S	**Sg**	**22 53 52.3**	**+0.9**
	76nm,0.5s						
KST	**Kastek**	**1.62**	**4**	P	**Pb**	**22 53 29.7**	**-0.2**
	22nm,0.3s						
KST				S	**Sg**	**22 53 52.3**	**+0.9**
	76nm,0.5s						
FRU1	**Bishkek**	**1.65**	**328**	⇑*i*P	**Pb**	**22 53 30.2**	**-0.1**
	baz=28						
FRU1				⇑*i*S	**Sg**	**22 53 52.9**	**+0.7**
	baz=28						
IZV	**Izvestkoviy**	**1.72**	**20**	*e*P	**Pb**	**22 53 31.4**	**-0.2**
	24nm,0.2s						
IZV				*e*S	**Sg**	**22 53 54.8**	**+0.3**
	78nm,0.3s						
IZV	**Izvestkoviy**	**1.72**	**20**	P	**Pb**	**22 53 31.4**	**-0.2**
	24nm,0.2s						
IZV				S	**Sg**	**22 53 54.8**	**+0.3**
	78nm,0.3s						
AML	**Almayashu**	**1.74**	**295**	⇑*i*P	**Pn**	**22 53 31.7**	**+1.0**
	baz=96						
AML				⇑*i*S	**Sg**	**22 53 55.7**	**+0.4**
	baz=96						
CHMS	**Chumysh**	**1.77**	**334**	⇑*i*P	**Pb**	**22 53 32.1**	**-0.2**
	baz=33						
CHMS				⇑*i*S	**Sg**	**22 53 56.3**	**+0.3**
	baz=33						
CHMS	**Chumysh**	**1.77**	**334**	⇓P	**Pb**	**22 53 32.1**	**-0.2**
	19nm,0.2s,SNR=27						
CHMS				⇑S	**Sg**	**22 53 56.3**	**+0.3**
	139nm,0.4s						
MTBS	**Maitube**	**1.77**	**15**	*e*P	**Pb**	**22 53 32.2**	**-0.1**
	12nm,0.2s						
MTBS				*e*S	**Sg**	**22 53 56.6**	**+0.6**
	89nm,0.3s						
MTBS	**Maitube**	**1.77**	**15**	P	**Pb**	**22 53 32.2**	**-0.1**
	12nm,0.2s						
MTBS				S	**Sg**	**22 53 56.6**	**+0.6**
	89nm,0.3s						
TNSS	**Tian-Shan**	**1.82**	**27**	*e*P	**Pg**	**22 53 33.6**	**-0.5**
	37nm,0.3s						
TNSS				*e*S	**Sg**	**22 53 59.0**	**+1.3**
	91nm,0.3s						
TNSS	**Tian-Shan**	**1.82**	**27**	Pg	**Pg**	**22 53 33.6**	**-0.5**
	37nm,0.3s						
TNSS				Lg	Lg	22 53 59.0	
	91nm,0.3s						
DGS	**Degeres**	**1.82**	**359**	*e*P	**Pb**	**22 53 33.2**	**0.0**
	10.0nm,1.1s						
DGS				*e*S	**Sg**	**22 53 58.6**	**+0.8**
	112nm,0.5s						
DGS	**Degeres**	**1.82**	**359**	P	**Pb**	**22 53 33.3**	**0.0**
	10.0nm,0.1s						
DGS				S	**Sg**	**22 53 58.6**	**+0.8**
	112nm,0.5s						
ANVS	**Anan'yevo**	**1.93**	**45**	⇑*i*P	**Pb**	**22 53 34.3**	**-1.0**
	baz=43						
ANVS				⇑*i*S	**Sg**	**22 54 00.6**	**-0.8**
	baz=43						
AAA	**Alma-Ata**	**1.96**	**24**	*e*P	**Pg**	**22 53 36.3**	**-0.6**
	55nm,0.2s						
AAA				*e*S	**Sg**	**22 54 03.5**	**+1.1**
	12nm,0.1s						
AAA	**Alma-Ata**	**1.96**	**24**	Pg	**Pg**	**22 53 36.3**	**-0.6**
	55nm,0.2s						
AAA				Lg	Lg	22 54 03.5	
	12nm,0.1s						
EKS2	**Erkin-Say**	**1.96**	**310**	⇑*i*P	**Pb**	**22 53 35.1**	**-0.6**
	baz=10.0						
EKS2				⇑*i*S	**Sg**	**22 54 02.0**	**-0.4**
	baz=10.0						
EKS2	**Erkin-Say**	**1.96**	**310**	⇑P	**Pb**	**22 53 36.0**	**+0.3**
	8.6nm,0.2s,SNR=49						
MDOK	**Medeo**	**1.96**	**27**	*e*P	**Pb**	**22 53 35.6**	**-0.1**
	16nm,0.2s						
MDOK				*e*S	**Sg**	**22 54 02.3**	**-0.1**
	59nm,0.2s						
MDOK	**Medeo**	**1.96**	**27**	Pg	**Pb**	**22 53 35.6**	**-0.1**
	16nm,0.2s						
MDOK				Lg	Lg	22 54 02.3	
	59nm,0.2s						
KNDC	**Almaty**	**1.99**	**25**	⇑Pn	**Pb**	**22 53 36.1**	**0.0**
	26nm,0.2s						
KNDC				⇑Sn	**Sg**	**22 54 04.4**	**+1.4**
	134nm,0.5s						
KOTS	**Kotyrbulak**	**2.05**	**27**	*e*P	**Pb**	**22 53 37.3**	**+0.1**
	27nm,0.2s						
KOTS				*e*S	**Sg**	**22 54 05.5**	**+0.4**
	184nm,0.4s						
KOTS	**Kotyrbulak**	**2.05**	**27**	Pg	**Pb**	**22 53 37.3**	**+0.1**
	27nm,0.2s						
KOTS				Lg	Lg	22 54 05.5	
	184nm,0.4s						
USP	**Ospenovka**	**2.09**	**332**	⇑*i*P	**Pb**	**22 53 36.5**	**-1.3**
	baz=32						
USP				⇑*i*S	**Sg**	**22 54 05.0**	**-1.4**
	baz=32						
USP	**Ospenovka**	**2.09**	**332**	⇓P	**Pb**	**22 53 38.0**	**+0.2**
	53nm,0.3s,SNR=55						
PRZ	**Przheval'sk**	**2.20**	**60**	⇑*i*P	**Pn**	**22 53 37.5**	**+0.7**
	baz=59						
PRZ				⇑*i*S	**Sb**	**22 54 06.9**	**-0.5**
	baz=59						
KRBS	**Karabastau**	**2.28**	**357**	*e*P	**Pb**	**22 53 41.5**	**+0.4**
	46nm,0.2s						
KRBS				*e*S	**Sg**	**22 54 12.3**	**-0.1**
	45nm,0.2s						
KRBS	**Karabastau**	**2.28**	**357**	Pg	**Pb**	**22 53 41.5**	**+0.4**
	46nm,0.2s						
KRBS				Lg	Lg	22 54 12.3	
	45nm,0.2s						
MRKS	**Merke**	**2.34**	**305**	*e*P	**Pb**	**22 53 41.9**	**-0.3**
	21nm,0.5s						
MRKS				*e*S	**Sb**	**22 54 13.2**	**+1.8**
	48nm,0.3s						
MRKS	**Merke**	**2.34**	**305**	Pg	**Pb**	**22 53 41.9**	**-0.3**
	21nm,0.5s						
MRKS				Lg	Lg	22 54 13.2	
	48nm,0.3s						
KTBS	**Karatobe**	**2.38**	**15**	*e*P	**Pb**	**22 53 43.2**	**+0.5**
	20nm,0.1s						
KTBS				*e*S	**Sg**	**22 54 15.2**	**-0.4**
	234nm,0.5s						
KTBS	**Karatobe**	**2.38**	**15**	Pg	**Pb**	**22 53 43.2**	**+0.5**
	20nm,0.1s						
KTBS				Lg	Lg	22 54 15.2	
	234nm,0.5s						
KUU	**Kurty**	**2.50**	**9**	*e*P	**Pb**	**22 53 45.3**	**+0.5**
	11nm,0.5s						
KUU				*e*S	**Sg**	**22 54 18.9**	**-0.6**
	91nm,0.4s						
KUU	**Kurty**	**2.50**	**9**	Pg	**Pb**	**22 53 45.3**	**+0.5**
	11nm,0.5s						
KUU				Lg	Lg	22 54 18.9	
	91nm,0.4s						
SATY	**Saty**	**2.52**	**49**	*e*P	**Pb**	**22 53 45.3**	**+0.1**
	8.3nm,0.3s						
SATY				*e*S	**Sg**	**22 54 18.8**	**-1.6**
	56nm,0.1s						
SATY	**Saty**	**2.52**	**49**	Pg	**Pb**	**22 53 45.3**	**+0.1**
	8.3nm,0.3s						
SATY				Lg	Lg	22 54 18.8	
	56nm,0.1s						
CHKK	**Chushkaly**	**2.58**	**19**	*e*P	**Pg**	**22 53 47.2**	**-1.5**
	9.8nm,0.2s						
CHKK				*e*S	**Sg**	**22 54 22.1**	**-0.1**
	137nm,0.3s						
CHKK	**Chushkaly**	**2.58**	**19**	Pg	**Pg**	**22 53 47.2**	**-1.5**
	9.8nm,0.2s						
CHKK				Lg	Lg	22 54 22.1	
	137nm,0.3s						
UZB	**Uzynbulak**	**2.94**	**53**	*e*P	**Pb**	**22 53 52.4**	**+0.1**
	4.8nm,0.4s						
UZB				*e*S	**Sg**	**22 54 30.9**	**-2.7**
	33nm,0.4s						
UZB	**Uzynbulak**	**2.94**	**53**	Pg	**Pb**	**22 53 52.4**	**+0.1**
	4.8nm,0.4s						
UZB				Lg	Lg	22 54 30.9	
	33nm,0.4s						
KPKS	**Kokpek**	**2.94**	**45**	*e*P	**Pb**	**22 53 51.6**	**-0.8**
	7.2nm,0.4s						
KPKS				*e*S	**Sb**	**22 54 30.1**	**+1.2**
	136nm,0.6s						
ARXS	**Arharly**	**3.16**	**27**	*e*P	**Pb**	**22 53 55.6**	**-0.4**
	11nm,0.2s						
ARXS				*e*S	**Sb**	**22 54 36.5**	**+1.6**
	54nm,0.8s						
ARXS	**Arharly**	**3.16**	**27**	Pg	**Pb**	**22 53 55.6**	**-0.4**
	11nm,0.2s						
ARXS				Lg	Lg	22 54 36.5	
	54nm,0.8s						
SHLS	**Shalkode**	**3.21**	**56**	*e*P	**Pg**	**22 54 01.9**	**+1.1**
	6.8nm,0.4s						
SHLS				*e*S	**Sg**	**22 54 47.2**	**+4.8**
	38nm,0.6s						
SHLS	**Shalkode**	**3.21**	**56**	Pg	**Pg**	**22 54 01.9**	**+1.1**
	6.8nm,0.4s						
SHLS				Lg	Lg	22 54 47.2	
	38nm,0.6s						
MNBS	**Baschi**	**3.27**	**35**	*e*P	**Pb**	**22 53 59.1**	**+1.2**
	5.5nm,0.5s						
MNBS				*e*S	**Sg**	**22 54 42.6**	**-1.6**
	31nm,0.2s						
MNBS	**Baschi**	**3.27**	**35**	Pg	**Pb**	**22 53 59.1**	**+1.2**
	5.5nm,0.5s						
MNBS				Lg	Lg	22 54 42.6	
	31nm,0.2s						
PDGK	**Podgornoye**	**3.32**	**54**	⇑Pg	**Pg**	**22 54 04.4**	**+1.5**
	2.3nm,0.3s						
PDGK				⇑Lg	Lg	22 54 44.7	
	17nm,0.6s						
BTLS	**Baital**	**3.84**	**341**	*e*P	**Pb**	**22 54 09.8**	**+2.1**
	3.9nm,0.2s						
BTLS				*e*S	**Sg**	**22 55 01.2**	**-1.5**
	10nm,0.7s						
BTLS	**Baital**	**3.84**	**341**	Pg	**Pb**	**22 54 09.8**	**+2.1**
	3.9nm,0.2s						
BTLS				Lg	Lg	22 55 01.2	
	10nm,0.7s						
TDK	**Taldyqorghan**	**4.05**	**27**	*e*P	**Pb**	**22 54 12.7**	**+1.5**
	19nm,0.1s						
TDK				*e*S	**Sg**	**22 55 05.7**	**-3.5**
	32nm,0.7s						
TDK	**Taldyqorghan**	**4.05**	**27**	Pg	**Pb**	**22 54 12.7**	**+1.5**
	19nm,0.1s						
TDK				Lg	Lg	22 55 05.7	
	32nm,0.7s						
DJR	**Jarkent**	**4.12**	**44**	*e*P	**Pb**	**22 54 13.6**	**+1.2**
	2.2nm,0.5s						
DJR				*e*S	**Sg**	**22 55 07.3**	**-4.2**
	9.0nm,0.4s						
DJR	**Jarkent**	**4.12**	**44**	Pg	**Pb**	**22 54 13.6**	**+1.2**
	2.2nm,0.5s						
DJR				Lg	Lg	22 55 07.3	
	9.0nm,0.4s						
KK31	**Karatay Array**	**4.28**	**295**	Pn	Pn	22 54 10.7	+5.4
	0.7nm,0.3s,baz=110,slow=16,SNR=12						
KK31				⇓Pg	**Pg**	**22 54 21.9**	**+0.5**
	1.5nm,0.5s,baz=120,slow=16,SNR=7.0						
KK31				⇑Lg	Lg	22 55 16.5	
	2.5nm,0.4s,baz=111,slow=27,SNR=6.6						
IUG	**Iuzhnay**	**4.39**	**281**	*e*P	**Pg**	**22 54 21.3**	**-2.0**
	5.8nm,0.4s						
IUG				*e*S	**Sg**	**22 55 20.5**	**+0.2**
	14nm,0.5s						
IUG	**Iuzhnay**	**4.39**	**281**	Pg	**Pg**	**22 54 21.3**	**-2.0**
	5.8nm,0.4s						
IUG				Lg	Lg	22 55 20.5	
	14nm,0.5s						

THR 18 22:55:24.8±0.4, 32°.85N×47°.64E, h18km±3km, ML3.2
TEH 18 22:55:25.3, 32°.85N×47°.77E, h8km, ML3.1
ISN 18 22:55:25.0±0.5, 32°.88N×47°.79E, h16km±3km, ML3.0

ISC 18 22:55:25.9±0.9, 32°.83N±0°.03×47°.76E±0°.03, h10km, n31, σ0$79/35, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.43**	**250**	*e*Pg	**Pg**	**22 55 33.5**	**-0.9**
IKFM	**Kafar-mosalman**	**0.70**	**6**	*e*Pg	**Pg**	**22 55 38.6**	**-0.8**
IKFM				*e*		22 55 51.0	
IKMR	**Kamar-syah**	**0.86**	**37**	*e*Pg	**Pg**	**22 55 41.0**	**-1.5**
IKMR				*e*		22 55 57.4	
IDOB	**Doab**	**1.02**	**20**	*e*Pg	**Pg**	**22 55 45.3**	**-0.2**
SHGR	**Shooshtar-Gavs**	**1.13**	**129**	*e*Pg	**Pb**	**22 55 47.6**	**0.0**
SHGR				IAML		22 56 06.4	
	comp=N,448nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.13**	**129**	*e*Pn	**Pb**	**22 55 47.6**	**0.0**
BMDN	**Meydan**	**1.22**	**46**	*e*Pg	**Pn**	**22 55 48.3**	**-1.0**
BMDN				*e*		22 56 14.5	
IKOM	**Komasi**	**1.36**	**351**	*e*Pg	**Pn**	**22 55 51.3**	**+0.2**
IKOM				*e*		22 56 15.9	
HSAM	**Samen**	**1.55**	**27**	*e*Pg	**Pn**	**22 55 53.2**	**-0.6**
HSAM				*e*		22 55 55.9	
KCHF	**Cheshme Sefid,**	**1.56**	**337**	*e*Pg	**Pb**	**22 55 55.1**	**0.0**
KCHF				*e*		22 56 21.5	
IBDR	**Badra**	**1.57**	**281**	*e*Pg	**Pn**	**22 55 54.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**22 56 15.0**	**+0.1**
IBDR				AML	AML	22 56 27.4	
	comp=E,220nm,0.6s						
IBDR				AML	AML	22 56 31.4	
	comp=N,123nm,0.6s						
IBZA	**Bozab**	**1.64**	**3**	*e*Pg	**Pb**	**22 55 56.2**	**-0.2**
IBZA				*e*		22 56 22.7	
KER	**Kermanshah**	**1.64**	**341**	*e*Pg	**Pb**	**22 55 56.6**	**+0.2**
IGHG	**Ghaleghazi**	**1.80**	**327**	*e*Pn	**Pb**	**22 55 59.2**	**+0.1**
IGHG				*e*		22 56 38.5	
IVIS	**Veis**	**1.86**	**336**	*e*Pn	**Pb**	**22 56 00.1**	**+0.1**
IVIS				*e*		22 56 31.1	
KHMZ	**Khomeyn**	**2.05**	**63**	*e*Pn	**Pn**	**22 56 01.8**	**+1.1**
KHMZ	**Khomeyn**	**2.05**	**63**	*e*Pn	**Pn**	**22 56 01.8**	**+1.1**
IALM	**Almabolaq**	**2.05**	**9**	*e*Pn	**Pn**	**22 56 02.2**	**+1.4**
ILIN	**Lien**	**2.19**	**342**	*e*Pn	**Pn**	**22 56 03.7**	**+1.1**
ILIN				*e*		22 56 42.6	
IDHR	**Dehrash**	**2.19**	**329**	*e*Pn	**Pn**	**22 56 03.4**	**+0.8**
IDHR				*e*		22 56 42.4	
NSR	**Nassriya**	**2.28**	**218**	*e*Pn	**Pn**	**22 56 04.0**	**+0.4**
NSR				*e*Sn	**Sn**	**22 56 32.0**	**+0.3**
NSR				AML	AML	22 56 36.4	
	comp=E,187nm,0.3s						
SNGE	**Sanandaj**	**2.29**	**351**	*e*Pn	**Pn**	**22 56 03.4**	**-0.5**
SNGE				*e*Sg	**Sb**	**22 56 35.7**	**-0.1**
SNGE	**Sanandaj**	**2.29**	**351**	*e*Pn	**Pn**	**22 56 03.4**	**-0.5**
HAGD	**Aghdareh**	**2.29**	**30**	*e*Pn	**Pn**	**22 56 05.3**	**+1.2**
HSRG	**Sareghieh**	**2.44**	**10**	*e*Pn	**Pn**	**22 56 07.8**	**+1.6**
ASAO	**Ashtian**	**2.55**	**47**	*e*Pn	**Pn**	**22 56 08.6**	**+1.0**
ASAO	**Ashtian**	**2.55**	**47**	*e*Pn	**Pn**	**22 56 08.6**	**+1.0**
BHD	**Baghdad**	**2.88**	**280**	*e*Pn	**Pn**	**22 56 12.0**	**+0.2**
BHD				*e*Sn	**Sn**	**22 56 47.0**	**+0.5**
BHD				AML	AML	22 57 05.9	
	comp=E,108nm,0.3s						
QABG	**Abgarm-Qazvin**	**3.24**	**27**	*e*Pn	**Pn**	**22 56 17.7**	**+0.6**
GHVR	**GHOM**	**3.38**	**60**	*e*Pn	**Pn**	**22 56 19.4**	**+0.6**
GHVR	**GHOM**	**3.38**	**60**	*e*Pn	**Pn**	**22 56 19.4**	**+0.6**

KRNET 18 23:12:00.9±0.1, 41°.60N×72°.81E, h20km, mb3.4
NNC 18 23:12:01.0±0.9, 41°.69N×72°.78E, h13km±8km, mb4.0, mpv3.6, Error ellipse: s-maj=9.1km s-min=4.0km az=169.0
SOME 18 23:12:01.4, 41°.73N×72°.78E, h5km
KNET 18 23:12:03.1±0.3, 41°.76N×72°.89E, h13km±1km, ml3.0, Error ellipse: s-maj=4.2km s-min=1.9km az=140.0
ISU 18 23:12:04.5, 41°.48N×72°.51E, h5km

ISC 18 23:11:59.0±1.1, 41°.68N±0°.03×72°.82E±0°.02, h5km±10km, n81, σ1$38/133, 28C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.65**	**281**	⇑*i*P	**Pb**	**23 12 13.1**	**+0.2**
	baz=86						
ARK				⇑*i*S	**Sb**	**23 12 22.6**	**+0.3**
	baz=86						
ARK	**Arkit**	**0.65**	**281**	P	**Pb**	**23 12 12.8**	**-0.1**
ARK				S	**Sb**	**23 12 22.3**	**0.0**
AML	**Almayashu**	**0.79**	**55**	⇓*i*P	**Pn**	**23 12 16.8**	**-0.4**
	baz=51						
AML				⇓*i*S	**Sn**	**23 12 28.2**	**-1.4**
	baz=51						
AML	**Almayashu**	**0.79**	**55**	P	**Pn**	**23 12 16.8**	**-0.4**
	148nm,0.1s,SNR=96						
AML				⇓S	**Sn**	**23 12 28.2**	**-1.4**
	332nm,0.2s						
ANR	**Andizhan**	**0.99**	**201**	P	**Pn**	**23 12 20.1**	**+0.6**
ANR				S	**Sn**	**23 12 35.4**	**+1.6**
MRKS	**Merke**	**1.11**	**16**	*e

FRU1	**Bishkek**	**1.76**	**49**	⇓*i*P	**Pg**	**23 12 33.6**	**+1.0**
	baz=48						
FRU1				⇓*i*S	**Sg**	**23 12 57.7**	**+2.3**
	baz=48						
KZA	**Kyzart**	**1.86**	**77**	⇑*i*P	**Pg**	**23 12 34.7**	**+0.1**
	baz=75						
KZA				⇑*i*S	**Sg**	**23 12 59.8**	**+1.1**
	baz=75						
KBK	**Karagaybulak**	**1.86**	**58**	⇓*e*P	**Pg**	**23 12 35.2**	**+0.6**
	baz=56						
KBK				⇓*i*S	**Sg**	**23 13 00.3**	**+1.6**
	baz=56						
KBK	**Karagaybulak**	**1.86**	**58**	⇑P	**Pg**	**23 12 36.1**	**+1.5**
	30nm,0.1s,SNR=38						
KBK				⇑S	**Sg**	**23 13 00.7**	**+2.0**
	132nm,0.3s						
CHMS	**Chumysh**	**1.95**	**47**	⇑*i*P	**Pg**	**23 12 36.4**	**+0.1**
	baz=45						
CHMS				⇑*i*S	**Sg**	**23 13 02.6**	**+1.1**
	baz=45						
CHMS	**Chumysh**	**1.95**	**47**	P	**Pg**	**23 12 37.0**	**+0.8**
	SNR=32						
USP	**Ospenovka**	**2.02**	**38**	⇑*i*P	**Pg**	**23 12 37.5**	**-0.1**
	baz=36						
USP				⇑*i*S	**Sg**	**23 13 04.3**	**+0.6**
	baz=36						
USP	**Ospenovka**	**2.02**	**38**	P	**Pg**	**23 12 38.0**	**+0.4**
	SNR=20						
CHMG	**Chimgan**	**2.11**	**267**	P	**Pg**	**23 12 41.4**	**+2.0**
CHMG				S	**Sg**	**23 13 06.8**	**0.0**
IUG	**Iuzhnay**	**2.13**	**284**	*e*P	**Pg**	**23 12 39.8**	**0.0**
	72nm,0.6s						
IUG				*e*S	**Sg**	**23 13 06.9**	**-0.6**
	251nm,0.3s						
IUG	**Iuzhnay**	**2.13**	**284**	Pg	**Pg**	**23 12 39.8**	**0.0**
	72nm,0.6s						
IUG				Lg	Lg	23 13 06.9	
	251nm,0.3s						
CHRV	**Charvak**	**2.15**	**270**	P	**Pg**	**23 12 40.4**	**+0.2**
CHRV				S	**Sg**	**23 13 07.4**	**-0.6**
BTK	**Batken**	**2.22**	**224**	⇑*i*P	**Pb**	**23 12 38.5**	**-1.1**
	baz=25						
BTK				⇑*i*S	**Sn**	**23 13 05.5**	**+1.1**
	baz=25						
BTK	**Batken**	**2.22**	**224**	P	**Pb**	**23 12 37.8**	**-1.8**
BTK				S	**Sn**	**23 13 05.2**	**+0.8**
KK31	**Karatay Array**	**2.22**	**311**	⇑Pn	**Pg**	**23 12 40.2**	**-1.4**
	22nm,0.3s,baz=132,slow=15,SNR=242						
KK31				⇓Lg	Lg	23 13 10.9	
	37nm,0.4s,baz=132,slow=26,SNR=16						
TKM2	**Tokmak 2**	**2.41**	**58**	⇓*i*P	**Pb**	**23 12 43.0**	**+0.2**
	baz=57						
TKM2				⇓*i*S	**Sb**	**23 13 13.5**	**+0.6**
	baz=57						
TKM2	**Tokmak 2**	**2.41**	**58**	⇑P	**Pg**	**23 12 44.1**	**-1.0**
	26nm,0.2s,SNR=18						
BOOM	**Boomskoye usch**	**2.46**	**70**	⇑*i*P	**Pb**	**23 12 43.0**	**-0.8**
	baz=68						
BOOM				⇑*i*S	**Sb**	**23 13 14.1**	**-0.3**
	baz=68						
BRLS	**Borolday**	**2.59**	**302**	*e*P	**Pg**	**23 12 47.6**	**-1.0**
	26nm,0.5s						
BRLS				*e*S	**Sg**	**23 13 20.4**	**-1.7**
	128nm,0.4s						
BRLS	**Borolday**	**2.59**	**302**	Pg	**Pg**	**23 12 47.6**	**-1.0**
	26nm,0.5s						
BRLS				Lg	Lg	23 13 20.4	
	128nm,0.4s						
ULHL	**Ulahol**	**2.61**	**76**	⇓*e*P	**Pb**	**23 12 45.1**	**-1.3**
	baz=75						
ULHL				⇓*i*S	**Sb**	**23 13 17.7**	**-1.2**
	baz=75						
TAS	**Tashkent**	**2.67**	**264**	⇑*e*P	**Pb**	**23 12 45.6**	**-1.7**
	baz=65						
TAS				⇑*i*S	**Sb**	**23 13 18.6**	**-1.7**
	baz=65						
DGS	**Degeres**	**2.69**	**53**	*e*P	**Pg**	**23 12 50.8**	**+0.4**
	9.3nm,0.3s						
DGS				*e*S	**Sg**	**23 13 26.4**	**+1.2**
	67nm,0.5s						
DGS	**Degeres**	**2.69**	**53**	Pg	**Pg**	**23 12 50.8**	**+0.4**
	9.3nm,0.3s						
DGS				Lg	Lg	23 13 26.4	
	67nm,0.5s						
KST	**Kastek**	**2.70**	**59**	*e*P	**Pg**	**23 12 51.0**	**+0.3**
	22nm,0.5s						
KST				*e*S	**Sg**	**23 13 26.9**	**+1.2**
	95nm,0.6s						
KST	**Kastek**	**2.70**	**59**	Pg	**Pg**	**23 12 51.0**	**+0.3**
	22nm,0.5s						
KST				Lg	Lg	23 13 26.9	
	95nm,0.6s						
KRBS	**Karabastau**	**2.91**	**45**	*e*P	**Pg**	**23 12 54.8**	**0.0**
	8.1nm,0.3s						
KRBS				*e*S	**Sg**	**23 13 32.7**	**+0.2**
	36nm,0.4s						
KRBS	**Karabastau**	**2.91**	**45**	Pg	**Pg**	**23 12 54.8**	**0.0**
	8.1nm,0.3s						
KRBS				Lg	Lg	23 13 32.7	
	36nm,0.4s						
MTBS	**Maitube**	**3.04**	**60**	*e*P	**Pg**	**23 12 57.2**	**0.0**
	8.2nm,0.3s						
MTBS				*e*S	**Sg**	**23 13 37.3**	**+0.7**
	42nm,0.4s						
MTBS	**Maitube**	**3.04**	**60**	Pg	**Pg**	**23 12 57.2**	**0.0**
	8.2nm,0.3s						
MTBS				Lg	Lg	23 13 37.3	
	42nm,0.4s						
IZV	**Izvestkoviy**	**3.12**	**63**	*e*P	**Pg**	**23 12 59.0**	**+0.3**
	13nm,0.4s						
IZV				*e*S	**Sg**	**23 13 40.6**	**+1.4**
	32nm,0.6s						
IZV	**Izvestkoviy**	**3.12**	**63**	Pg	**Pg**	**23 12 59.0**	**+0.3**
	13nm,0.4s						
IZV				Lg	Lg	23 13 40.6	
	32nm,0.6s						
KDJ	**Kajisay**	**3.29**	**81**	⇑*e*P	**Pb**	**23 12 55.1**	**-2.7**
	baz=79						
KDJ				⇑*i*S	**Sb**	**23 13 34.5**	**-3.7**
	baz=79						
TNSS	**Tian-Shan**	**3.35**	**65**	*e*P	**Pg**	**23 13 03.3**	**+0.2**
	15nm,0.4s						
TNSS				*e*S	**Sg**	**23 13 47.2**	**+0.8**
	34nm,0.5s						
TNSS	**Tian-Shan**	**3.35**	**65**	Pg	**Pg**	**23 13 03.3**	**+0.2**
	15nm,0.4s						
TNSS				Lg	Lg	23 13 47.2	
	34nm,0.5s						
AAA	**Alma-Ata**	**3.39**	**62**	*e*P	**Pg**	**23 13 04.3**	**+0.3**
	15nm,0.4s						
AAA				*e*S	**Sg**	**23 13 49.1**	**+1.1**
	36nm,0.4s						
AAA	**Alma-Ata**	**3.39**	**62**	Pg	**Pg**	**23 13 04.3**	**+0.3**
	15nm,0.4s						
AAA				Lg	Lg	23 13 49.1	
	36nm,0.4s						
KUU	**Kurty**	**3.41**	**48**	*e*P	**Pg**	**23 13 03.6**	**-0.6**
	6.0nm,0.3s						
KUU				*e*S	**Sg**	**23 13 48.0**	**-0.3**
	38nm,0.5s						
KUU	**Kurty**	**3.41**	**48**	Pg	**Pg**	**23 13 03.6**	**-0.6**
	6.0nm,0.3s						
KUU				Lg	Lg	23 13 48.0	
	38nm,0.5s						
KNDC	**Almaty**	**3.43**	**62**	⇓Pg	**Pg**	**23 13 03.3**	**-1.4**
	23nm,0.8s						
KNDC				⇓Lg	Lg	23 13 49.3	
	51nm,0.7s						
MDOK	**Medeo**	**3.46**	**63**	*e*P	**Pg**	**23 13 04.7**	**-0.6**
	7.2nm,0.4s						
MDOK				*e*S	**Sg**	**23 13 50.4**	**+0.2**
	29nm,0.6s						
MDOK	**Medeo**	**3.46**	**63**	Pg	**Pg**	**23 13 04.7**	**-0.6**
	7.2nm,0.4s						
MDOK				Lg	Lg	23 13 50.4	
	29nm,0.6s						
BTLS	**Baital**	**3.48**	**14**	*e*P	**Pg**	**23 13 04.8**	**-0.8**
	2.2nm,0.2s						
BTLS				*e*S	**Sg**	**23 13 49.8**	**-0.9**
	31nm,0.3s						
BTLS	**Baital**	**3.48**	**14**	Pg	**Pg**	**23 13 04.8**	**-0.8**
	2.2nm,0.2s						
BTLS				Lg	Lg	23 13 49.7	
	31nm,0.3s						
KTBS	**Karatobe**	**3.50**	**53**	*e*P	**Pg**	**23 13 05.0**	**-0.9**
	3.7nm,0.3s						
KTBS				*e*S	**Sg**	**23 13 50.3**	**-1.0**
	61nm,0.5s						
KTBS	**Karatobe**	**3.50**	**53**	Pg	**Pg**	**23 13 05.0**	**-0.9**
	3.7nm,0.3s						
KTBS				Lg	Lg	23 13 50.3	
	61nm,0.5s						
KOTS	**Kotyrbulak**	**3.54**	**63**	*e*P	**Pg**	**23 13 06.0**	**-0.7**
	12nm,0.3s						
KOTS				*e*S	**Sg**	**23 13 52.6**	**+0.1**
	62nm,0.5s						
KOTS	**Kotyrbulak**	**3.54**	**63**	Pg	**Pg**	**23 13 06.0**	**-0.7**
	12nm,0.3s						
KOTS				Lg	Lg	23 13 52.6	
	62nm,0.5s						
CHKK	**Chushkaly**	**3.76**	**53**	*e*P	**Pg**	**23 13 10.1**	**-0.9**
	3.1nm,0.4s						
CHKK				*e*S	**Sg**	**23 13 58.9**	**-0.8**
	26nm,0.3s						
CHKK	**Chushkaly**	**3.76**	**53**	Pg	**Pg**	**23 13 10.1**	**-0.9**
	3.1nm,0.4s						
CHKK				Lg	Lg	23 13 58.9	
	26nm,0.3s						
SATY	**Saty**	**4.36**	**70**	*e*P	**Pg**	**23 13 22.3**	**-0.2**
	4.8nm,0.8s						
SATY				*e*S	**Sg**	**23 14 19.8**	**+0.8**
	12nm,0.5s						
SATY	**Saty**	**4.36**	**70**	Pg	**Pg**	**23 13 22.3**	**-0.2**
	4.8nm,0.8s						
SATY				Lg	Lg	23 14 19.8	
	12nm,0.5s						
ARXS	**Arharly**	**4.46**	**54**	*e*P	**Pg**	**23 13 22.7**	**-1.8**
	7.7nm,0.6s						
ARXS				*e*S	**Sg**	**23 14 20.6**	**-1.7**
	32nm,0.6s						
ARXS	**Arharly**	**4.46**	**54**	Pg	**Pg**	**23 13 22.7**	**-1.8**
	7.7nm,0.6s						
ARXS				Lg	Lg	23 14 20.6	
	32nm,0.6s						
KPKS	**Kokpek**	**4.68**	**66**	*e*P	**Pg**	**23 13 27.6**	**-1.1**
	2.7nm,0.2s						
KPKS				*e*S	**Sg**	**23 14 28.8**	**-0.6**
	23nm,0.8s						
MNBS	**Baschi**	**4.75**	**58**	*e*P	**Pg**	**23 13 28.7**	**-1.3**
	2.4nm,0.4s						
MNBS				*e*S	**Sg**	**23 14 30.8**	**-0.7**
	16nm,0.6s						
MNBS	**Baschi**	**4.75**	**58**	Pg	**Pg**	**23 13 28.7**	**-1.3**
	2.4nm,0.4s						
MNBS				Lg	Lg	23 14 30.8	
	16nm,0.6s						
SHLS	**Shalkode**	**5.13**	**71**	*e*P	**Pg**	**23 13 41.1**	**+3.8**
	1.9nm,0.5s						
SHLS				*e*S	Sg	23 14 52.0	+8.2
	11nm,0.8s						
SHLS	**Shalkode**	**5.13**	**71**	Pg	**Pg**	**23 13 41.1**	**+3.8**
	1.9nm,0.5s						
SHLS				Lg	Lg	23 14 52.0	
	11nm,0.8s						
PDGK	**Podgornoye**	**5.20**	**69**	⇓Pg	**Pg**	**23 13 34.9**	**-3.6**
	2.9nm,0.7s						
PDGK				⇓Lg	Lg	23 14 42.3	
	9.4nm,0.8s						
TDK	**Taldyqorghan**	**5.25**	**49**	*e*P	**Pg**	**23 13 37.3**	**-2.3**
	3.7nm,0.1s						
TDK				*e*S	**Sg**	**23 14 45.6**	**-2.1**
	41nm,0.8s						
TDK	**Taldyqorghan**	**5.25**	**49**	Pg	**Pg**	**23 13 37.3**	**-2.3**
	3.7nm,0.1s						
TDK				Lg	Lg	23 14 45.6	
	41nm,0.8s						
DJR	**Jarkent**	**5.76**	**60**	*e*P	**Pg**	**23 13 46.5**	**-2.7**
	2.3nm,0.7s						
DJR				*e*S	**Sg**	**23 15 01.5**	**-2.3**
	4.9nm,0.4s						
DJR	**Jarkent**	**5.76**	**60**	Pg	**Pg**	**23 13 46.5**	**-2.7**
	2.3nm,0.7s						
DJR				Lg	Lg	23 15 01.5	
	4.9nm,0.4s						

*SJA **18** 23:43:17.8±0.5, 30°.14S×72°.98W, h42km±16km, ML4.1, MW4.4*
*IDC **18** 23:43:22.8±1.3, 30°.79S×71°.98W, h0km, mb4.2/2, mb1 4.1/3, mb1mx3.8/27, mbtmp4.1/3, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/19, Error ellipse: s-maj=115.6km s-min=23.5km az=149.0*
*NEIC **18** 23:43:25.7±2.9, 30°.45S±0°.05×72°.33W±0°.08, h37km±14km, Error ellipse: s-maj=9.6km s-min=6.9km az=84.0*
*GUC **18** 23:43:25.8±0.6, 30°.47S×72°.16W, h35km±3km, ML3.9*
ISC 18 23:43:24.0±0.8, 30°.46S±0°.03×72°.43W±0°.06, h20km±6km, n78, σ2§38/100, mb4.1/4, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**1.44**	**121**	⇓*i*P	**Pn**	**23 43 47.5**	**-1.5**
CO02				*e*S	**Sn**	**23 44 04.1**	**-3.2**
CO02				IAML		23 44 06.6	
	comp=N,6μm,0.6s						
CO02	**Combarbal**	**1.44**	**121**	Pn	**Pn**	**23 43 47.5**	**-1.5**
CO02				Sn	**Sn**	**23 44 04.2**	**-3.1**
GO04	**Tololo Observa**	**1.44**	**79**	⇓*i*P	**Pn**	**23 43 47.1**	**-2.0**
GO04				*i*S	**Sn**	**23 44 03.5**	**-4.1**
GO04				IAML		23 44 08.9	
	comp=N,6μm,0.5s						
GO04	**Tololo Observa**	**1.44**	**79**	Pn	**Pn**	**23 43 47.0**	**-2.2**
GO04				Sn	**Sn**	**23 44 04.0**	**-3.6**
CO03	**El Pedregal**	**1.55**	**104**	⇓*i*P	**Pn**	**23 43 48.7**	**-1.8**
CO03				*i*S	**Sn**	**23 44 05.9**	**-4.1**
CO03				IAML		23 44 08.8	
	comp=E,2μm,0.5s						
CO03	**El Pedregal**	**1.55**	**104**	Pn	**Pn**	**23 43 48.7**	**-1.8**
CO03				Sn	**Sn**	**23 44 06.0**	**-4.0**
CO01	**Juntas del Tor**	**2.08**	**77**	⇑*i*P	**Pn**	**23 43 57.6**	**-0.4**
CO01				*i*S	**Sn**	**23 44 21.4**	**-2.0**
CO01	**Juntas del Tor**	**2.08**	**77**	Pn	**Pn**	**23 43 57.6**	**-0.4**
LCO	**Las Campanas**	**2.09**	**47**		**Pn**	**23 43 57.2**	**-0.9**
AC05	**El Transito**	**2.48**	**50**	⇑*i*P	**Pn**	**23 44 03.3**	**0.0**
AC05				*i*S	**Sn**	**23 44 31.8**	**-1.3**
AC05				IAML		23 44 50.3	
	comp=E,447nm,0.6s						
AC05	**El Transito**	**2.48**	**50**		**Pn**	**23 44 03.4**	**0.0**
AC04	**Llanos de Chal**	**2.54**	**28**	*e*P	**Pn**	**23 44 03.4**	**-0.8**
AC04				*e*S	**Sn**	**23 44 31.3**	**-3.1**
AC04	**Llanos de Chal**	**2.54**	**28**	Pn	**Pn**	**23 44 03.5**	**-0.6**
AROD	**Rodeo**	**2.57**	**84**	*e*P	**Pn**	**23 44 06.3**	**+1.5**
AROD				*e*S	**Sb**	**23 44 41.1**	**+0.1**
VA01	**Torpederas**	**2.64**	**166**	Pn	**Pn**	**23 44 04.2**	**-1.2**
ROCH	**El Roble**	**2.78**	**155**	⇓*i*P	**Pn**	**23 44 08.4**	**+0.8**
ROCH				*i*S	**Sn**	**23 44 39.9**	**-0.7**
ROCH				IAML		23 44 56.1	
	comp=N,370nm,0.5s						
ROC1	**El Roble**	**2.78**	**155**	Pn	**Pn**	**23 44 07.8**	**+0.2**
VA03	**San Esteban**	**2.80**	**146**	*e*P	**Pn**	**23 44 08.7**	**+1.0**
VA03				*i*S	**Sn**	**23 44 37.2**	**-3.7**
VA03				IAML		23 44 56.6	
	comp=E,676nm,0.6s						
VA03	**San Esteban**	**2.80**	**146**	Pn	**Pn**	**23 44 08.7**	**+1.0**
ACDV	**Cuesta del Vie**	**2.88**	**85**	*e*P	**Pn**	**23 44 11.0**	**+2.1**
ACDV				*e*S	**Sb**	**23 44 51.2**	**+1.6**
ACDV				IAML		23 44 52.8	
	comp=Z,251nm,0.5s						
ACCO	**Cerro Coronel**	**2.91**	**93**	*e*P	**Pn**	**23 44 11.8**	**+2.4**
ACCO				*e*S	**Sb**	**23 44 51.9**	**+1.3**
ACCO				IAML		23 44 56.6	
	comp=Z,377nm,0.6s						
MT02	**Curacav**	**3.00**	**159**	*e*P	**Pn**	**23 44 11.6**	**+1.3**
MT02				IAML		23 45 01.7	
	comp=E,144nm,0.5s						
MT02	**Curacav**	**3.00**	**159**	Pn	**Pn**	**23 44 11.2**	**+0.8**
RTLS	**Leoncito**	**3.00**	**117**	*e*P	**Pn**	**23 44 13.8**	**+3.1**
RTLS				*e*S	**Sb**	**23 44 55.5**	**+2.3**
RTLS				IAML		23 44 59.4	
	comp=Z,341nm,1.1s						
PEL	**Peldehue**	**3.06**	**151**	Pn	**Pn**	**23 44 12.2**	**+1.0**
PEL	**Peldehue**	**3.06**	**151**	*e*P	**Pn**	**23 44 12.5**	**+1.3**
PEL				*e*S	**Sn**	**23 44 47.3**	**0.0**
AUSP	**Uspallata**	**3.14**	**125**	*e*P	**Pn**	**23 44 16.1**	**+3.5**
AUSP				*e*S	**Sn**	**23 44 45.8**	**-3.8**
MT05	**Renca**	**3.26**	**154**	*e*P	**Pn**	**23 44 15.2**	**+1.3**
MT05				IAML		23 45 07.2	
	comp=E,466nm,0.4s						
MT05	**Renca**	**3.26**	**154**		**Pn**	**23 44 15.5**	**+1.5**
ZON	**Zonda**	**3.40**	**109**		**Pn**	**23 44 16.6**	**+0.7**
ZON	**Zonda**	**3.40**	**109**	*e*P	**Pn**	**23 44 18.8**	**+2.9**
ZON				*e*S	**Sb**	**23 45 03.7**	**-0.7**
ZON				IAML		23 45 09.5	
	comp=Z,180nm,1.3s						
MT03	**Universidad Ad**	**3.44**	**152**	⇑*i*P	**Pn**	**23 44 17.5**	**+1.0**
MT03				*i*S	**Sn**	**23 44 56.1**	**-0.5**
MT03				IAML		23 45 16.8	
	comp=N,326nm,0.4s						
GO03	**Copiap**	**3.44**	**34**	Pn	**Pn**	**23 44 16.2**	**-0.4**
GO03	**Copiap**	**3.44**	**34**	*e*P	**Pb**	**23 44 24.6**	**+0.2**
GO03				*e*S	**Sb**	**23 45 09.6**	**+3.8**
RTLL	**Cerro Villicun**	**3.51**	**105**	*e*P	**Pn**	**23 44 18.9**	**+1.4**
RTLL				*i*S	**Sb**	**23 45 05.2**	**-2.4**
RTLL				IAML		23 45 13.7	
	comp=N,427nm,0.6s						
RTLL	**Cerro Villicun**	**3.51**	**105**	*e*P	**Pn**	**23 44 19.4**	**+2.0**
RTLL				*e*S	**Sn**	**23 45 00.8**	**+2.4**
RTLL				IAML		23 45 20.0	
	comp=Z,182nm,0.6s						
AGUA	**GUANDACOL**	**3.55**	**75**	*e*P	**Pn**	**23 44 20.7**	**+2.6**
AGUA				IAML		23 45 20.5	
	comp=Z,221nm,1.1s						
ASAL	**Salagasta**	**3.73**	**126**	*e*P	**Pn**	**23 44 24.0**	**+3.5**
ASAL				*e*S	Sb	23 45 24.8	+11
ASAL				IAML		23 45 27.9	
	comp=Z,199nm,0.7s						
ARCO	**CERRO ARCO**	**3.81**	**129**	*e*P	**Pn**	**23 44 25.9**	**+4.2**
ARCO				IAML		23 45 34.1	
	comp=Z,118nm,0.7s						
AAGR	**Agrelo**	**4.03**	**131**	*e*P	**Pn**	**23 44 28.7**	**+4.0**
AAGR				IAML		23 45 49.8	
	comp=Z,140nm,0.7s						
VCA	**Vinchina**	**4.06**	**66**	*e*P	**Pn**	**23 44 28.0**	**+2.9**
VCA				IAML		23 45 35.4	
	comp=Z,254nm,0.8s						
BO02	**Sierra Bellavi**	**4.54**	**163**	Pn	**Pn**	**23 44 32.6**	**+1.0**
GO05	**Huala**	**4.55**	**175**	Pn	**Pn**	**23 44 32.9**	**+1.1**
GO05	**Huala**	**4.55**	**175**	*e*P	**Pn**	**23 44 33.1**	**+1.3**
GO05				*e*S	**Sn**	**23 45 21.3**	**-2.8**
AC01	**Pan de Azucar**	**4.59**	**21**	Pn	**Pn**	**23 44 30.9**	**-1.5**
APLL	**PUNTA DE LOS L**	**5.10**	**91**	*e*P	**Pn**	**23 44 40.3**	**+1.0**
LAMA	**Las Malvinas**	**5.22**	**150**	*e*P	**Pn**	**23 44 44.2**	**+3.3**
RFA	**San Rafael**	**5.44**	**143**	*e*P	**Pn**	**23 44 46.4**	**+2.3**
GO02	**Mina Guanaco**	**5.85**	**26**	Pn	**Pn**	**23 44 49.7**	**-0.2**
MRA	**San Martin**	**6.06**	**111**	*e*P	**Pn**	**23 44 52.7**	**+0.2**
MRA				IAML		23 46 37.5	
	comp=Z,59nm,0.8s						
PB14	**IPOC Station P**	**6.08**	**18**	Pn	**Pn**	**23 44 52.8**	**-0.3**
CYA	**Choya**	**6.12**	**72**	*e*P	**Pn**	**23 44 56.2**	**+2.9**
CYA				*e*S	**Sb**	**23 46 16.6**	**-6.2**
CYA				IAML		23 46 34.1	
	comp=Z,40nm,0.7s						
H03N1	**Juan Fernandez**	**6.26**	**240**	Pn	**Pn**	**23 44 58.4**	**+3.5**
	baz=13,slow=26,SNR=34						
H03N1				T	T	23 52 06.0	
	baz=71,slow=72,SNR=628						
BI02	**San Fabin de**	**6.26**	**171**	Pn	**Pn**	**23 44 56.6**	**+1.3**
H03N2	**Juan Fernandez**	**6.27**	**240**	Pn	**Pn**	**23 44 58.4**	**+3.3**
	baz=13,slow=26,SNR=28						
H03N2				T	T	23 52 06.5	
	baz=71,slow=72,SNR=582						
H03N3	**Juan Fernandez**	**6.27**	**240**	Pn	**Pn**	**23 44 58.6**	**+3.4**
	baz=13,slow=26,SNR=29						
H03N3				T	T	23 52 05.3	
	baz=71,slow=72,SNR=420						
VA04	**Juan Fernndez**	**6.29**	**238**	Pn	**Pn**	**23 44 57.7**	**+2.1**
BI03	**Tigo**	**6.38**	**184**	Pn	**Pn**	**23 44 57.4**	**+0.5**
H03S3	**Juan Fernandez**	**6.44**	**237**	Pn	**Pn**	**23 44 59.8**	**+2.4**
	SNR=7.7						
H03S1	**Juan Fernandez**	**6.44**	**237**	Pn	**Pn**	**23 44 59.5**	**+2.0**
	SNR=9.3						
H03S2	**Juan Fernandez**	**6.46**	**237**	Pn	**Pn**	**23 44 59.7**	**+2.1**
	SNR=8.8						
TCA	**Tanti**	**6.79**	**99**	*e*P	**Pn**	**23 45 02.2**	**-0.4**
TCA				*e*S	**Sn**	**23 46 27.9**	**+8.5**
TCA				IAML		23 46 54.0	
	comp=Z,50nm,0.7s						
LC01	**Cunco**	**8.43**	**177**	Pn	**Pn**	**23 45 25.2**	**+0.3**
PATCX	**Punta Patache**	**9.82**	**13**	Pn	**Pn**	**23 45 42.9**	**-1.2**
TA01	**Diego Aracena**	**10.06**	**12**	Pn	**Pn**	**23 45 47.8**	**+0.4**
PLCA	**Paso Flores**	**10.36**	**172**	Pn	**Pn**	**23 45 52.1**	**+0.6**
PB11	**IPOC Station P**	**10.95**	**14**	Pn	**Pn**	**23 45 59.2**	**-0.5**
LPAZ	**La Paz**	**14.65**	**17**	Pn	**Pn**	**23 46 49.4**	**-1.3**
SIV	**San Ignacio**	**17.77**	**38**	P	**P**	**23 47 31.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=229,slow=12,SNR=18						
SIV				LR	LR	23 54 42.0	
	comp=Z,39nm,19.2s,baz=42,slow=38						
BDFB	**Brasilia**	**26.79**	**62**	P	**P**	**23 49 02.3**	**-0.6**
	comp=Z,1.8nm,0.4s,baz=210,slow=8.1,SNR=4.0						
BDFB	**Brasilia**	**26.79**	**62**	P	**P**	**23 49 00.9**	**-2.1**
BDFB				IAmb	IAmb	23 49 03.6	
	comp=Z,4.3nm,0.9s						
PMSA	**Palmer Station**	**34.73**	**174**	P	**P**	**23 50 09.7**	**-2.6**
PMSA				IAmb	IAmb	23 50 25.9	
	comp=Z,8.6nm,1.0s						
SNAA	**Sanae**	**54.98**	**159**	P	**P**	**23 52 54.5**	**+1.1**
SNAA				IAmb	IAmb	23 52 55.8	
	comp=Z,2.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**83.33**	**71**	P	**P**	**23 55 51.0**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=251,slow=4.4,SNR=5.5						
H11S2	**WAKE ISLAND Hyl**	**25.41**	**272**	T	T	02 21 10.8	
	baz=115,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hyl**	**25.42**	**272**	T	T	02 21 11.0	
	baz=115,slow=75,SNR=8.3						
H11S3	**WAKE ISLAND Hyl**	**25.42**	**272**	T	T	02 21 12.8	
	baz=115,slow=75,SNR=7.7						
ZALV	**Zalesovo Beam**	**151.35**	**28**	PKPbc	**PKiKP**	**00 03 18.9**	**+2.7**
	comp=Z,2.3nm,0.4s,baz=297,slow=3.4,SNR=9.4						

*BJI **18** 23:50:18.5±0.0, 7°.24S×154°.96E, h40km, mB4.9/17, mb4.8/21, Ms4.6/3, Ms7 4.5/1*
*NEIC **18** 23:50:20.0±1.5, 7°.08S±0°.08×155°.29E±0°.08, h50km±6km, mb4.8/36, Error ellipse: s-maj=12.8km s-min=9.6km az=216.0*
*DJA **18** 23:50:23.8±0.5, 7°.S±3°×15°5E±°, h75km±5km, M4.7/24, mb4.8/24, mB5.0/6, MLv4.9/2, Mw(mB)4.3/6*
*IDC **18** 23:50:25.6±1.6, 7°.07S×155°.28E, h100km±15km, mb4.2/15, mb1 4.3/20, mb1mx4.2/33, mbtmp4.5/20, MS3.5/17, Ms1 3.5/17, ms1mx3.4/28, Error ellipse

ARMA IAmb IAmb 23 55 27.8
comp=Z,15nm,0.9s
WR0 Warramunga Arr 23.93 235 P **P 23 55 29.6 0.0**
WR0 IAmb IAmb 23 55 30.6
comp=Z,48nm,0.9s
WB0 Warramunga Arr 23.95 236 P **P 23 55 29.5 -0.5**
WB0 IAmb IAmb 23 55 31.4
comp=Z,38nm,1.1s
WRAB Tennant Creek 24.07 236 P **P 23 55 30.7 -0.3**
WRAB IAmb IAmb 23 55 31.9
comp=Z,48nm,1.1s
WB2 Warramunga Arr 24.07 236 P **P 23 55 30.9 -0.2**
WB2 IAmb IAmb 23 55 32.0
comp=Z,49nm,1.1s
WRA Warramunga Arr 24.08 236 P **P 23 55 30.7 -0.4**
comp=Z,32nm,0.9s,baz=62,slow=9.3,SNR=88
WRA PcP **PcP 23 59 09.8 -1.9**
comp=Z,1.1nm,0.9s,baz=48,slow=1.7,SNR=4.3
WRA LR LR 00 05 03.7
comp=Z,113nm,18.9s,baz=275,slow=37
MTN Manton Dam 24.52 254 P **P 23 55 34.6 -0.6**
MTN IAmb IAmb 23 55 36.3
comp=Z,29nm,1.0s
MSVF Nonsavu 24.57 118 P **P 23 55 35.8 +0.2**
MSVF IAmb IAmb 23 55 37.0
comp=Z,16nm,0.9s
SIJI Sorong 24.77 283 P **P 23 55 37.3 -0.2**
comp=Z,14nm,0.7s,baz=48,slow=10,SNR=6.0
AS31 Alice Springs 26.41 229 P **P 23 55 50.8 -1.5**
ASAR Alice Springs 26.41 229 P **P 23 55 51.3 -0.9**
comp=Z,8.1nm,0.9s,baz=63,slow=8.6,SNR=57
ASAR PcP **PcP 23 59 14.4 -2.5**
comp=Z,1.0nm,0.8s,baz=37,slow=3.9,SNR=4.3
ASAR LR LR 00 05 33.7
comp=Z,140nm,19.8s,baz=66,slow=34
KNRA Kununurra 27.41 249 P **P 23 55 59.2 -2.0**
KNRA IAmb IAmb 23 56 05.3
comp=Z,9.3nm,0.8s
H11S3 WAKE ISLAND Hy 27.72 24 T T 00 24 28.5
baz=203,slow=75,SNR=62
H11S2 WAKE ISLAND Hy 27.72 24 T T 00 24 28.6
baz=203,slow=75,SNR=58
H11S1 WAKE ISLAND Hy 27.74 24 T T 00 24 28.8
baz=203,slow=75,SNR=27
STKA Stephens Creek 27.85 206 P **P 23 56 03.9 -1.2**
comp=Z,8.7nm,0.8s,baz=352,slow=8.7,SNR=8.3
STKA LR LR 00 07 13.0
comp=Z,194nm,18.6s,baz=23,slow=36
STKA Stephens Creek 27.85 206 P **P 23 56 04.3 -0.8**
H11N1 WAKE ISLAND Hy 28.90 23 T T 00 26 12.9
baz=212,slow=78,SNR=6.2
H11N3 WAKE ISLAND Hy 28.91 23 T T 00 26 10.9
baz=212,slow=78,SNR=11
H11N2 WAKE ISLAND Hy 28.92 23 T T 00 26 21.7
baz=212,slow=78,SNR=5.9
FITZ Fitzroy Crossi 30.95 246 IAmb IAmb 23 56 33.0
comp=Z,20nm,0.8s
MMRI Maumere 32.83 265 P **P 23 56 49.9 +0.7**
comp=Z,52nm,1.1s
MMRI Maumere 32.83 265 P **P 23 56 47.5 -1.8**
EDFI Ende, Flores 33.37 265 P **P 23 56 53.5 -0.6**
comp=Z,483nmcomp=Z,22nm,0.8s
FORT Forrest 34.80 224 P **P 23 57 04.8 -1.4**
BKSI Bulukumba 35.05 271 P **P 23 57 09.2 +0.7**
comp=Z,25nm,0.9s
BNSI Bone 35.15 272 P **P 23 57 10.9 +1.5**
comp=Z,38nm,0.9s
KAPI Kappang 35.44 271 P **P 23 57 12.0 +0.1**
PSA00 Pilbara Seismi 37.19 243 P **P 23 57 26.1 -0.6**
PLAI Plampang 37.24 265 P **P 23 57 26.9 -0.3**
comp=Z,55nm,0.9s
BBKI Banjar Baru 40.47 273 P **P 23 57 56.4 +2.0**
JAGI Jajag, Banyuwa 40.83 265 P **P 23 57 55.5 -1.8**
JAGI IAmb IAmb 23 57 56.3
comp=Z,17nm,0.9s
MJAR Matsushiro Arr 46.22 341 LR LR 00 16 21.1
comp=Z,30nm,21.8s,baz=115,slow=34
ERM Erimo 50.06 348 P **P 23 59 10.7 +0.9**
DLV T Lat 50.26 292 P **P 23 59 11.2 -0.9**
DLV IAmb IAmb 23 59 13.8
comp=Z,7.7nm,0.7s
KSRS Korea Array 51.13 332 P **P 23 59 18.1 +0.2**
comp=Z,1.0nm,0.6s,baz=147,slow=7.9,SNR=4.5
KSRS LR LR 00 20 21.4
comp=Z,18nm,19.1s,baz=144,slow=35
NJ2 Nanjing 52.16 320 *e*P **P 23 59 27.1 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
JKA Kamikawa-asahi 52.19 348 P **P 23 59 27.1 +1.3**
JKA IAmb IAmb 23 59 33.6
comp=Z,14nm,1.0s
SDSI Sungai Dareh 54.09 274 P **P 23 59 42.7 +2.4**
IPM Ipoh 55.40 280 P **P 23 59 46.9 -3.0**
IPM IAmb IAmb 23 59 50.5
comp=Z,12nm,1.1s
KULM Kulim 55.93 281 P **P 23 59 52.1 -1.6**
KULM IAmb IAmb 23 59 54.3
comp=Z,8.9nm,1.0s
SLVN Son La 57.80 301 IAmb IAmb 00 00 22.5
comp=Z,6.2nm,1.1s
PETK Petropavlovsk- 59.94 2 P **P 00 00 21.7 +0.8**
comp=Z,6.8nm,0.8s,baz=183,slow=7.4,SNR=5.2
PETK LR LR 00 22 12.1
comp=Z,27nm,21.2s,baz=163,slow=32
XAN Xi'an 59.97 316 P **P 00 00 21.9 +0.3**
XAN pP pP 00 00 30.1 -5.1
XAN pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 61.11 295 P **P 00 00 30.9 +1.2**
comp=Z,7.5nm,0.7s,baz=121,slow=5.4,SNR=31
CMAR LR LR 00 26 47.3
comp=Z,15nm,19.2s,baz=130,slow=36
CHTO Chiang Mai 61.22 296 P **P 00 00 29.9 -0.6**
CHTO IAmb IAmb 00 00 41.3
comp=Z,9.1nm,0.8s
CD2 Chengdu 62.10 310 *e*P **P 00 00 37.5 +1.4**
HHC Hu-ho-hao-te 62.32 324 *e*P **P 00 00 38.6 +1.1**
HHC ScS **SKSac 00 10 25.3 -0.4**
HHC pmax pmax
comp=Z,30nm,1.2s
HHC pmax pmax
comp=Z,130nm,5.8s
HHC LR LR
comp=Z,120nm,16.1s
HHC LR LR
comp=Z,120nm,16.9s
LZH Lanzhou 64.58 315 *e*P **P 00 00 53.9 +1.3**
LZH pP pP 00 01 08.3 +1.9
LZH sP sP 00 01 14.0 +2.1
LZH *e*PP **PP 00 03 19.3 +4.0**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,92nm,5.8s
LZH LR LR
comp=Z,220nm,16.2s
LZH LR LR
comp=Z,230nm,16.0s
LZH LR LR
comp=Z,300nm,18.1s
SONM Songino Array 69.55 327 P **P 00 01 23.9 +0.1**
comp=Z,3.0nm,0.9s,baz=133,slow=6.1,SNR=11
SONM LR LR 00 32 22.2
comp=Z,19nm,19.4s,baz=122,slow=36
VNDA Vanda 70.54 179 P **P 00 01 29.8 +0.5**
comp=Z,2.6nm,0.8s,baz=322,slow=6.1,SNR=22
VNDA Vanda 70.54 179 P **P 00 01 29.8 +0.5**
WMQ Urumqi 79.08 317 *e*P **P 00 02 20.8 +1.4**
RDOG Red Dog Mine 80.46 15 P **P 00 02 26.0 -0.2**
QSPA South Pole Qui 82.95 180 P **P 00 02 38.8 -0.8**
ILAR Eielson Array 83.28 21 P **P 00 02 39.8 -1.3**
comp=Z,1.6nm,0.8s,baz=251,slow=5.5,SNR=13
ILAR LR LR 00 34 50.2
comp=Z,52nm,20.2s,baz=252,slow=32
MK31 Makanchi Array 83.66 319 P **P 00 02 43.6 +0.1**
MKAR Makanchi Array 83.66 319 P **P 00 02 43.3 -0.2**
comp=Z,3.6nm,0.8s,baz=104,slow=5.5,SNR=20
MAKZ Makanchi 83.87 319 P **P 00 02 44.7 +0.2**
MAKZ IAmb IAmb 00 02 46.9
comp=Z,4.3nm,0.8s
ZALV Zalesovo Beam 84.40 326 P **P 00 02 45.8 -1.3**
comp=Z,0.9nm,0.5s,baz=107,slow=5.0,SNR=4.2
ZALV LR LR 00 40 48.5
comp=Z,19nm,20.5s,baz=35,slow=36
MAW Mawson 84.50 203 P **P 00 02 47.5 +0.2**
comp=Z,9.6nm,0.7s,baz=98,slow=7.0,SNR=28
MAW Mawson 84.50 203 P **P 00 02 47.2 -0.1**
EPYK Eagle Plains 87.76 22 P **P 00 03 04.1 +0.7**
NRIK Noril'sk 88.88 341 LR LR 00 41 46.9
comp=Z,22nm,20.8s,baz=19,slow=35
SYO Syowa Base 92.41 199‖ *e*P **P 00 03 23.4 -1.7**
SYO Syowa Base 92.41 199‖ *e*X P 00 03 36.0 +11
BELA Belgrano 2 95.04 178 P **P 00 03 36.5 -0.5**
TCRU Three Creeks R 96.06 52 P **P 00 03 45.4 +2.6**
YKA Yellowknife Ar 96.20 28 P **P 00 03 40.8 -1.8**
comp=Z,0.3nm,0.7s,baz=134,slow=35,SNR=1.9
MPU Maple Canyon 96.78 51 P **P 00 03 46.5 +0.5**
PDAR Pinedale Array 98.47 48 P **P 00 03 52.7 -0.8**
comp=Z,0.4nm,0.7s,baz=224,slow=2.5,SNR=2.6
PDAR LR LR 00 45 23.9
comp=Z,37nm,18.2s,baz=315,slow=34
NB2 NORSAR Subarra119.84 341 PKPdf **PKPdf 00 09 03.8 -0.9**
comp=Z,2.7nm,1.1s,baz=44,slow=1.9
NOA NORSAR Array B119.84 341 PKP **PKPdf 00 09 04.0 -0.6**
comp=Z,0.7nm,0.7s,baz=46,slow=1.9,SNR=4.2
CLL Collm 126.00 332 *i* PKPdf **PKiKP 00 09 17.3 +0.2**
GERES GERESS Array B 127.26 329 PKP **PKPdf 00 09 19.2 -0.2**
comp=Z,0.7nm,0.7s,baz=29,slow=3.0,SNR=5.9
ESDC Sonseca Array 142.55 333 PKhKP PKPpre 00 09 43.0
comp=Z,1.0nm,1.0s,baz=9.9,slow=3.0,SNR=4.1
PMRV Marv??o 144.19 337 *e*PKPdf **PKPdf 00 09 50.0 -0.9**
PMTG Montargil 144.83 338 *e*PKPdf **PKPab 00 09 50.8 -0.1**
EVO Evora 145.21 337 *e*PKPdf **PKPdf 00 09 53.0 +0.4**
PBEJ Beja 145.59 336 *e*PKPdf **PKPab 00 09 53.9 +0.1**
PVAQ Vaqueiros 146.06 335 *e*PKPdf **PKPab 00 09 55.3 -0.3**
BDFB Brasilia 147.71 134 PKPbc **PKPbc 00 10 00.2 -0.2**
comp=Z,11nm,0.8s,baz=220,slow=2.8,SNR=15
BDFB Brasilia 147.71 134 **PKPbc 00 10 00.4 0.0**
TORD Torodi Ar. Bea 153.37 285 PKPbc **PKPbc 00 10 13.3 -0.5**
comp=Z,1.8nm,0.7s,baz=64,slow=2.1,SNR=8.7

*TUL **19** 00:08:03.2±1.1, 35°.82N±0°.01×97°.42W±0°.02, h4km±4km,*
ML3.0, Error ellipse: s-maj=2.4km s-min=1.5km az=76.0
*NEIC **19** 00:08:03.6±1.3, 35°.83N±0°.01×97°.43W±0°.02, h7km±3km,*
Error ellipse: s-maj=2.1km s-min=1.5km az=104.0
*UNK **19** 00:08:03.2, 35°.82N×97°.42W, h4km*
*ANF **19** 00:08:04.9±1.6, 35°.79N×97°.45W, h18km±12km, ML3.6/9,*
Error ellipse: s-maj=6.6km s-min=4.7km az=173.0
ISC 19 00:08:03.6±0.9, 35°.83N±0°.02×97°.43W±0°.02, h6km±6km,
n53, σ1§02/69, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.04**	**208**		**Pg**	**00 08 04.5**	**-0.4**
OK029				Sg	**Sg**	00 08 05.4	-0.4
ADOK	**Arcadia Dam**	**0.19**	**165**	Pg	**Pg**	00 08 07.8	+0.5
ADOK				Sg	**Sg**	00 08 10.3	+0.5
BCOK	**Bluff Creek, N**	**0.23**	**220**	Pg	**Pg**	00 08 07.9	-0.2
BCOK				Sg	**Sg**	00 08 11.1	0.0
OK009	**Oakdale Elemen**	**0.25**	**179**		**Pg**	**00 08 08.4**	**-0.1**
OK009				Sg	**Sg**	00 08 12.1	+0.3
OK025	**Westminster Rd**	**0.26**	**163**		**Pg**	**00 08 08.5**	**-0.2**
OK025				Sg	**Sg**	00 08 12.2	0.0
OKCFA	**Oklahoma City**	**0.42**	**182**		**Pg**	**00 08 11.2**	**-0.4**
OKCFA				Sg	**Sg**	00 08 17.0	-0.1
OKCSW	**OKLAHOMA CITY**	**0.43**	**181**		**Pg**	**00 08 11.4**	**-0.4**
OKCSW				Sg	**Sg**	00 08 17.5	+0.1
FNO	**Franklin**	**0.57**	**178**		**Pg**	**00 08 14.6**	**0.0**
FNO				Sg	**Sg**	00 08 22.7	+0.5
QUOK	**Quay**	**0.68**	**60**	Pg	**Pg**	00 08 16.5	-0.1
QUOK				Sg	**Sg**	00 08 25.5	+0.1
CROK	**Carrier**	**0.81**	**326**		**Pg**	**00 08 19.1**	**0.0**
CROK				Sg	**Sg**	00 08 30.5	+1.0
W35A	**Tecumseh**	**0.82**	**146**		**Pg**	**00 08 18.2**	**-1.1**
W35A				Sg	**Sg**	00 08 29.4	-0.5
KAN13	**South Haven SW**	**1.18**	**358**		**Pg**	**00 08 25.6**	**-0.6**
X34A	**Smith Ranch, M**	**1.27**	**195**	Pg	**Pn**	**00 08 27.0**	**-1.0**
T35A	**Sooner Cattle**	**1.31**	**34**		**Pn**	**00 08 27.7**	**-0.8**
TUL1	**Leonard**	**1.33**	**86**	P	**Pn**	**00 08 27.2**	**-1.6**
baz=266							
TUL1				S	**Sb**	**00 08 45.3**	**-1.1**
baz=266							
TUL1	**Leonard**	**1.33**	**86**		**Pn**	**00 08 27.4**	**-1.4**
U32A	**Winter Ranch,**	**1.38**	**294**		**Pn**	**00 08 28.9**	**-0.6**
KAN10	**Anthony SW Sta**	**1.40**	**338**		**Pn**	**00 08 29.4**	**-0.3**
KAN12	**Harper NE Stat**	**1.53**	**343**		**Pn**	**00 08 31.7**	**+0.2**
WMOK	**Wichita Mounta**	**1.55**	**226**	P	**Pn**	**00 08 31.2**	**-0.6**
baz=45							
WMOK				S	**Sn**	**00 08 51.6**	**-0.7**
baz=45							
WMOK	**Wichita Mounta**	**1.55**	**226**	Pn	**Pn**	**00 08 31.2**	**-0.6**
X37A	**Clayton**	**2.09**	**126**	Pn	**Pn**	**00 08 39.4**	**+0.1**
Z35A	**Perchaven, San**	**2.50**	**177**		**Pn**	**00 08 45.2**	**+0.3**
U38A	**Gravette**	**2.54**	**75**		**Pn**	**00 08 46.7**	**+1.3**
R32A	**Long Quarter,**	**2.78**	**339**		**Pn**	**00 08 49.4**	**+0.6**
HHAR	**Hobbs**	**2.86**	**80**		**Pn**	**00 08 51.2**	**+1.3**
W39A	**Magazine**	**3.04**	**101**	P	**Pn**	**00 08 52.8**	**+0.5**
baz=283							
W39A	**Magazine**	**3.04**	**101**	Pn	**Pn**	**00 08 52.6**	**+0.3**
Z38A	**Mt. Pleasant**	**3.27**	**141**		**Pn**	**00 08 55.9**	**+0.5**
KSU1	**Kansas State U**	**3.33**	**11**	Pb	**Pb**	**00 09 04.5**	**+1.5**
baz=191							
KSU1	**Kansas State U**	**3.33**	**11**		**Pb**	**00 09 04.8**	**+1.7**
MIAR	**Mount Ida**	**3.41**	**111**	P	**Pn**	**00 08 58.1**	**+0.8**
baz=293							
MIAR				S	**Sn**	**00 09 38.8**	**+0.7**
baz=293							
MIAR	**Mount Ida**	**3.41**	**111**	Pn	**Pn**	**00 08 57.8**	**+0.4**
CBKS	**Cedar Bluff**	**3.50**	**329**	Pb	**Pb**	**00 09 07.2**	**+1.3**
baz=148							
CBKS				Sb	**Sg**	**00 09 53.4**	**-2.6**
baz=148							
CBKS	**Cedar Bluff**	**3.50**	**329**		**Pb**	**00 09 07.0**	**+1.0**
AMTX	**Amarillo**	**3.60**	**256**	Pb	**Pb**	**00 09 06.4**	**-1.3**
baz=74							
AMTX	**Amarillo**	**3.60**	**256**	Pn	**Pn**	**00 09 00.7**	**+0.6**
ABTX	**Abilene, Hawle**	**3.69**	**210**		**Pb**	**00 09 10.6**	**+1.4**
S39A	**Bolivar**	**3.78**	**59**	Pn	**Pn**	**00 09 03.9**	**+1.4**
WHTX	**Lake Whitney,**	**3.83**	**180**	Sb	**Sb**	**00 09 59.0**	**+0.7**
baz=0.4							
WHTX	**Lake Whitney,**	**3.83**	**180**		**Pn**	**00 09 02.9**	**-0.2**
X40A	**Basin Creek Fa**	**4.00**	**108**		**Pn**	**00 09 05.9**	**+0.5**
237A	**Washetta, Mont**	**4.05**	**160**	Pn	**Pn**	**00 09 05.8**	**-0.4**
WLAR	**White Oak Lake**	**4.15**	**120**	Pn	**Pn**	**00 09 07.7**	**+0.2**
W41B	**Gary Mavity, V**	**4.28**	**97**	Pb	**Pb**	**00 09 19.8**	**+0.5**
baz=280							
W41B				Sb	**Sg**	**00 10 16.3**	**-4.7**
baz=280							
UALR	**University of**	**4.29**	**103**	Pn	**Pn**	**00 09 10.1**	**+0.6**
MGMO	**Mountain Grove**	**4.36**	**71**		**Pn**	**00 09 11.1**	**+0.6**
Z41A	**Richland Creek**	**4.60**	**123**	Pn	**Pn**	**00 09 14.1**	**+0.3**
N33A	**J Bar K, Exete**	**4.90**	**360**	Pn	**Pn**	**00 09 16.0**	**-1.8**
435B	**Jarrell**	**5.04**	**182**	Pn	**Pn**	**00 09 19.5**	**-0.3**
LCAR	**Lake Charles**	**5.10**	**86**	Pn	**Pn**	**00 09 20.8**	**+0.2**
T42A	**Van Buren**	**5.25**	**75**	Pn	**Pn**	**00 09 23.1**	**+0.5**
BGNE	**Belgrade**	**5.59**	**354**	Pn	**Pn**	**00 09 28.2**	**+0.9**

*SOME **19** 00:10:46.9, 38°.57N×71°.68E, h10km*
*NNC **19** 00:10:52.5±10.0, 37°.97N×72°.20E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=83.1km s-min=62.6km az=169.0
ISC 19 00:11:08.3±3.2, 39°.2N±0°.1×72°.15E±0°.07, h10km, n7,
σ2§19/14, 2C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.35**	**332**	*e*P	**Pn**	**00 12 01.6**	**+0.7**
14nm,0.2s							
IUG				*e*S	**Sg**	**00 12 55.2**	**-0.9**
103nm,0.4s							
MRKS	**Merke**	**3.63**	**13**	*e*P	**Pn**	**00 12 06.9**	**+2.2**
9.3nm,0.3s							
MRKS				*e*S	**Sg**	**00 13 04.7**	**-0.4**
22nm,0.5s							
DZA	**Taraz**	**3.74**	**351**	*e*P	**Pn**	**00 12 08.7**	**+2.6**
83nm,0.4s							
DZA				*e*S	**Sg**	**00 13 07.7**	**-0.7**
102nm,0.4s							
AAK	**Ala-Archa**	**3.87**	**27**	⇓Pn	**Pn**	**00 12 08.6**	**+0.6**
2.7nm,0.2s							
AAK				⇓Sn	**Sg**	**00 13 09.9**	**-2.6**
9.9nm,0.8s							
KK31	**Karatay Array**	**4.09**	**343**	⇓Pn	**Pn**	**00 12 12.1**	**+1.2**
2.3nm,0.3s,baz=163,slow=11,SNR=21							
KK31				⇓Sn	**Sb**	**00 13 13.7**	**+3.8**
37nm,0.5s,baz=157,slow=24,SNR=37							
BRLS	**Borolday**	**4.21**	**336**	*e*P	**Pn**	**00 12 10.2**	**-2.3**
22nm,0.4s							
BRLS				*e*S	**Sb**	**00 13 10.1**	**-3.1**
37nm,0.4s							
TKM2	**Tokmak 2**	**4.54**	**34**	⇑Pn	**Pn**	**00 12 16.3**	**-1.0**
1.5nm,0.8s							
TKM2				⇑Sn	**Sb**	**00 13 23.8**	**+0.8**
1.3nm,0.5s							

WEL 19 00:30:54.9, 45°S±4°×16°8E±°, h69km±5km, M3.6/12,
ML3.7/12, MLv3.6/12, Error ellipse: s-maj=0.0km
s-min=0.0km az=53.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.36**	**23**	P	Pn	00 31 06.7	+0.4
MSZ				S	Sn	00 31 15.0	+0.4
MLZ	**Mavora Lakes**	**0.46**	**143**	P	Pn	00 31 08.2	+1.0
MLZ				S	Sn	00 31 17.9	+1.6
WHZ	**Wether Hill Ro**	**0.90**	**171**	P	Pn	00 31 13.0	+0.8
WHZ				S	Sn	00 31 26.1	+1.2
WKZ	**Wanaka**	**0.93**	**80**	P	Pn	00 31 14.0	+1.5
WKZ				S	Sn	00 31 28.1	+2.6
JCZ	**Jackson Bay**	**1.20**	**39**	P	Pn	00 31 16.2	+0.3
JCZ				S	Sn	00 31 33.4	+1.8
TUZ	**Tuapeka**	**1.64**	**126**	P	Pn	00 31 23.1	+1.5
TUZ				S	Sn	00 31 42.6	+0.7
SYZ	**Scrubby Hill**	**1.82**	**148**	P	Pn	00 31 25.2	+1.1
SYZ				S	Sn	00 31 47.6	+1.3
APZ	**The Paps**	**1.84**	**175**	P	Pn	00 31 25.3	+0.9
LBZ	**Lake Benmore**	**1.85**	**71**	P	Pn	00 31 24.8	+0.2
ODZ	**Otahua Downs**	**2.06**	**92**	P	Pn	00 31 28.0	+0.7
ODZ				S	Sn	00 31 51.1	-1.0
FOZ	**Fox Glacier**	**2.10**	**46**	P	Pn	00 31 27.6	-0.2
HHSZ	**Highcliff Hill**	**2.20**	**115**	P	Pn	00 31 30.8	+1.6
HHSZ				S	Sn	00 31 55.0	-0.4
RPZ	**Rata Peaks**	**2.71**	**63**	P	Pn	00 31 35.4	-0.7
WVZ	**Waitaha Valley**	**2.90**	**49**	P	Pn	00 31 38.7	+0.1
WVZ				S	Sn	00 32 11.0	-1.4
OXZ	**Oxford**	**3.52**	**63**	P	Pn	00 31 45.9	-1.3
OXZ				S	Sn	00 32 23.6	-4.1
MQZ	**McQueen's Vall**	**3.76**	**72**	P	Pn	00 31 49.2	-1.2
MQZ				S	Sn	00 32 29.4	-4.0
AKCZ	**Akaroa Harbour**	**3.88**	**75**	P	Pn	00 31 51.1	-1.0
AKCZ				S	Sn	00 32 32.5	-3.8
LTZ	**Lake Taylor**	**3.96**	**58**	P	Pn	00 31 51.9	-1.3
LTZ				S	Sn	00 32 36.6	-1.8
OKCZ	**Okains Bay**	**4.03**	**73**	P	Pn	00 31 53.9	-0.3
DSZ	**Denniston Nort**	**4.41**	**44**	P	Pn	00 31 59.7	+0.4
DSZ				S	Sn	00 32 47.0	-2.3
THZ	**Tophouse**	**4.97**	**51**	P	Pn	00 32 06.7	-0.3
THZ				S	Sn	00 33 03.2	0.0
QRZ	**Quartz Range**	**5.46**	**42**	P	Pn	00 32 13.7	0.0
QRZ				S	Sn	00 33 12.3	-2.9
CMWZ	**Cape Campbell**	**5.73**	**58**	P	Pn	00 32 18.6	+1.2
WCZ	**Waipu Caves**	**10.36**	**31**	P	Pn	00 33 21.0	+0.4

IDC 19 00:36:55.1±2.0, 6°28S×152°02E, h0km, mb3.4/3,
mb1 3.7/3, mb1mx3.4/25, mbtmp3.4/3, Error ellipse:
s-maj=74.9km s-min=20.7km az=111.0, New Britain
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.96**	**0**	Pn	Pn	00 37 30.5	+0.9
22nm,0.3s,baz=172,slow=2.0,SNR=14							
KRVT				Sn	Sn	00 37 54.8	-0.2
82nm,0.3s,baz=76,slow=22,SNR=30							
WRA	**Warramunga Arr**	**21.90**	**230**	P	P	00 41 49.5	-0.6
0.5nm,0.6s,baz=56,slow=11,SNR=3.8							
ASAR	**Alice Springs**	**24.55**	**223**	P	P	00 42 17.1	+0.3
0.9nm,0.6s,baz=55,slow=9.2,SNR=8.4							
ILAR	**Eielson Array**	**83.81**	**22**	P	P	00 49 25.5	-0.6
0.3nm,0.7s,baz=249,slow=4.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**149.99**	**285**	PKPbc	PKPbc	00 56 48.7	0.0
0.3nm,0.5s,baz=76,slow=4.4,SNR=2.1							

*TEH **19** 01:15:03.7, 32°.66N×47°.80E, h8km, ML2.9*
*ISN **19** 01:15:03.1±0.8, 32°.65N×47°.81E, h14km±5km, ML2.7*
ISC 19 01:15:03.7±1.0, 32°.57N±0°.05×47°.84E±0°.04, h15km, n16,
σ1§69/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.49**	**284**	*e*Pg	**Pg**	**01 15 12.5**	**-0.9**
DHL1				*e*		01 15 23.8	
IKFM	**Kafar-mosalman**	**0.96**	**0**	*e*Pg	**Pb**	**01 15 20.1**	**-1.9**
IKFM				*e*		01 15 25.6	
IKMR	**Kamar-syah**	**1.05**	**25**	*e*	**Pn**	**01 15 26.1**	**+2.2**
IDOB	**Doab**	**1.25**	**13**	*e*Pg	**Pg**	**01 15 26.8**	**-1.1**
IDOB				*e*		01 15 28.5	
BMDN	**Meydan**	**1.38**	**37**	*e*Pg	**Pg**	**01 15 29.2**	**-1.1**
BMDN				*e*		01 15 33.7	
IKOM	**Komasi**	**1.63**	**350**	*e*Pg	**Pb**	**01 15 33.1**	**-0.5**
IKOM				*e*		01 15 34.5	
IBDR	**Badra**	**1.70**	**289**	*e*Pg	**Pn**	**01 15 33.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**01 15 55.0**	**-0.8**
IBDR				AML	AML	01 16 00.5	
comp=E,60nm,0.5s							
IBDR				AML	AML	01 16 00.7	
comp=N,76nm,0.4s							
HSAM	**Samen**	**1.76**	**21**	*e*Pg	**Pg**	**01 15 36.0**	**-1.6**
HSAM				*e*		01 15 37.2	
IBZA	**Bozab**	**1.90**	**0**	*e*Pg	**Pb**	**01 15 37.9**	**-0.3**
IBZA				*e*		01 15 42.0	
IGHG	**Ghaleghazi**	**2.06**	**329**	*e*	**Sg**	**01 16 13.6**	**+3.7**
NSR	**Nassriya**	**2.12**	**224**	*e*Pn	**Pn**	**01 15 40.0**	**+1.4**
NSR				*e*Sn	**Sn**	**01 16 06.0**	**+1.3**
NSR				AML	AML	01 16 12.0	
comp=E,162nm,0.3s							
IVIS	**Veis**	**2.12**	**337**	*e*Pn	**Pb**	**01 15 40.3**	**-1.7**
IVIS				*e*		01 16 17.8	
IDHR	**Dehrash**	**2.45**	**331**	*e*Pn	**Pb**	**01 15 45.0**	**-2.6**
IDHR				*e*		01 16 24.3	
IPIR	**Pirpir**	**2.58**	**87**	*e*Pn	**Pb**	**01 15 48.6**	**-1.2**
IPIR				*e*		01 16 28.3	
ROKH	**ROKH**	**2.71**	**94**	*e*Pn	**Pb**	**01 15 50.6**	**-1.4**
BHD	**Baghdad**	**3.00**	**285**	*e*Pn	**Pn**	**01 15 51.0**	**+0.4**
BHD				*e*Sn	**Sn**	**01 16 27.0**	**+0.7**
BHD				AML	AML	01 16 27.3	
comp=E,47nm,0.5s							

*KRNET **19** 01:15:05.7±0.1, 41°.17N×74°.06E, h15km, mb3.0*
*SOME **19** 01:15:05.2, 41°.15N×74°.08E, h10km*
*NNC **19** 01:15:06.3±0.7, 41°.11N×74°.12E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=4.6km s-min=3.2km az=168.0
ISC 19 01:15:04.3±1.3, 41°.12N±0°.04×74°.07E±0°.02, h6km±11km,
n49, σ1§37/84, 24C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.76**	**14**	⇑*i*P	**Pb**	**01 15 19.8**	**-0.3**
baz=16							
ARLS				⇑*i*S	**Sb**	**01 15 30.1**	**-0.7**
baz=16							
AML	**Almayashu**	**1.05**	**344**	⇓*i*P	**Pb**	**01 15 25.0**	**-0.1**
baz=44							
AML				⇓*i*S	**Sb**	**01 15 38.9**	**-0.4**
baz=44							
OHH	**Osh**	**1.15**	**239**	⇑*i*P	**Pn**	**01 15 27.6**	**+0.6**
baz=37							
OHH				⇑*i*S	**Sn**	**01 15 44.1**	**+1.0**
baz=37							
UCH	**Uchtor**	**1.15**	**16**	⇓*i*P	**Pn**	**01 15 27.2**	**-0.

EKS2 ⇑iS Sg 01 15 55.0 +0.7
baz=52
KBK Karagaybulak 1.67 23⇓iP Pg 01 15 36.3 +0.1
baz=24
KBK ⇓iS Sg 01 15 58.5 +0.6
baz=24
ARK Arkit 1.73 294⇑iP Pg 01 15 37.2 -0.1
baz=92
ARK ⇑iS Sg 01 16 00.2 +0.5
baz=92
FRU1 Bishkek 1.74 14⇑iP Pg 01 15 37.5 -0.1
baz=14
FRU1 ⇑iS Sg 01 16 00.7 +0.6
baz=14
MRKS Merke 1.74 339 eP Pg 01 15 37.7 +0.1
24nm,0.2s
MRKS eS Sg 01 16 01.9 +1.7
55nm,0.4s
MRKS Merke 1.74 339 P Pg 01 15 37.8 +0.1
24nm,0.2s
MRKS S Sg 01 16 01.9 +1.7
55nm,0.4s
BOOM Boomskoye usch 1.95 45⇑iP Pg 01 15 41.5 -0.2
baz=46
BOOM ⇑iS Sg 01 16 07.9 +0.8
baz=46
TKM2 Tokmak 2 2.13 32⇓iP Pb 01 15 44.1 +0.7
baz=33
TKM2 ⇓iS Sg 01 16 12.2 -0.4
baz=33
TKM2 Tokmak 2 2.13 32 ⇓Pg Pg 01 15 44.9 -0.1
6.6nm,0.4s
TKM2 ⇓Lg Lg 01 16 13.4
26nm,0.7s
USP Ospenovka 2.17 8⇓iP Pb 01 15 44.4 +0.4
baz=9.0
USP ⇓iS Sg 01 16 12.7 -1.2
baz=9.0
KST Kastek 2.38 36 eP Pg 01 15 50.1 +0.2
9.2nm,0.6s
KST eS Sg 01 16 22.8 +2.1
38nm,0.5s
KST Kastek 2.38 36 Pg Pg 01 15 50.1 +0.2
9.2nm,0.6s
KST Lg Lg 01 16 22.8
38nm,0.5s
DGS Degeres 2.47 30 eP Pg 01 15 51.4 -0.1
14nm,0.4s
DGS eS Sg 01 16 25.1 +1.6
58nm,0.7s
DGS Degeres 2.47 30 Pg Pg 01 15 51.4 -0.1
14nm,0.4s
DGS Lg Lg 01 16 25.1
58nm,0.7s
KDJ Kajisay 2.54 66⇑iP Pb 01 15 50.3 -0.1
baz=67
KDJ ⇑iS Sb 01 16 22.9 +1.0
baz=67
MTBS Maitube 2.67 40 eP Pg 01 15 54.6 -0.7
9.8nm,0.4s
MTBS eS Sg 01 16 30.5 +0.7
32nm,0.2s
MTBS Maitube 2.67 40 Pg Pg 01 15 54.6 -0.7
9.8nm,0.4s
MTBS Lg Lg 01 16 30.5
32nm,0.3s
BTK Batken 2.70 248⇑iP Pb 01 15 52.6 -0.4
baz=47
BTK ⇑iS Sb 01 16 26.7 +0.3
baz=47
DZA Taraz 2.70 312 eP Pg 01 15 55.5 -0.6
35nm,0.1s
DZA eS Sg 01 16 32.1 +1.0
89nm,0.3s
TNSS Tian-Shan 2.87 47 eP Pg 01 15 58.4 -0.8
18nm,0.3s
TNSS eS Sg 01 16 37.8 +1.3
29nm,0.7s
TNSS Tian-Shan 2.87 47 Pg Pg 01 15 58.4 -0.8
18nm,0.4s
TNSS Lg Lg 01 16 37.7
25nm,0.5s
MDOK Medeo 3.01 46 eP Pg 01 16 00.7 -1.2
11nm,0.6s
MDOK eS Sg 01 16 41.0 +0.1
31nm,0.6s
MDOK Medeo 3.01 46 Pg Pg 01 16 00.7 -1.2
11nm,0.6s
MDOK Lg Lg 01 16 41.0
31nm,0.6s
KOTS Kotyrbulak 3.09 46 eP Pg 01 16 02.6 -0.9
39nm,0.5s
KOTS eS Sg 01 16 44.8 +1.3
130nm,0.5s
KOTS Kotyrbulak 3.09 46 Pg Pg 01 16 02.6 -0.9
39nm,0.5s
KOTS Lg Lg 01 16 44.8
130nm,0.5s
ANVS Anan'yevo 3.15 57⇑iP Pb 01 15 58.5 -2.3
baz=58
ANVS ⇑iS Sb 01 16 37.1 -2.5
baz=58
IUG Iuzhnay 3.20 290 eP Pg 01 16 03.8 -1.7
11nm,0.4s
IUG eS Sg 01 16 46.4 -0.6
76nm,0.4s
KTBS Karatobe 3.23 36 eP Pg 01 16 05.0 -1.2
7.1nm,0.6s
KTBS eS Sg 01 16 48.3 +0.3
65nm,0.6s
KTBS Karatobe 3.23 36 Pg Pg 01 16 05.0 -1.2
7.1nm,0.6s
KTBS Lg Lg 01 16 48.3
65nm,0.6s
KUU Kurty 3.24 30 eP Pg 01 16 04.5 -1.8
7.9nm,0.7s
KUU eS Sg 01 16 47.5 -0.7
17nm,0.6s
KUU Kurty 3.24 30 Pg Pg 01 16 04.5 -1.8
7.9nm,0.7s
KUU Lg Lg 01 16 47.5
17nm,0.6s
KK31 Karatay Array 3.31 308 Pn Pb 01 16 00.8 -2.7
2.4nm,0.3s,baz=122,slow=17,SNR=13
KK31 ⇑Lg Lg 01 16 51.1
4.4nm,0.4s,baz=130,slow=30,SNR=9.3
CHKK Chushkaly 3.48 37 eP Pg 01 16 09.0 -1.9
5.9nm,0.4s
CHKK eS Sg 01 16 55.3 -0.7
19nm,0.6s
CHKK Chushkaly 3.48 37 Pg Pg 01 16 09.0 -1.9
5.9nm,0.4s
CHKK Lg Lg 01 16 55.3
19nm,0.6s
BRLS Borolday 3.69 303 eP Pb 01 16 12.3 +2.4
14nm,0.5s
BRLS eS Sg 01 17 01.6 -1.0
20nm,0.5s
BRLS Borolday 3.69 303 Pg Pb 01 16 12.3 +2.4
14nm,0.5s
BRLS Lg Lg 01 17 01.6
20nm,0.5s
SATY Saty 3.76 58 eP Pb 01 16 13.7 +2.5
14nm,0.5s
SATY eS Sg 01 17 03.0 -2.1
19nm,0.8s
BTLS Baital 3.92 360 eP Pg 01 16 16.8 -2.6
1.8nm,0.4s
BTLS eS Sg 01 17 08.4 -1.7
4.2nm,0.4s
ARXS Arharly 4.15 41 eP Pb 01 16 20.3 +2.5
3.9nm,0.3s
ARXS eS Sg 01 17 15.4 -2.1
22nm,0.5s
ARXS Arharly 4.15 41 Pg Pb 01 16 20.3 +2.5
3.9nm,0.3s
ARXS Lg Lg 01 17 15.4
22nm,0.5s
UZB Uzynbulak 4.20 60 eP Pb 01 16 21.4 +2.7
4.2nm,0.3s
UZB eS Sg 01 17 17.2 -1.9
7.4nm,0.5s
PDGK Podgornoye 4.59 59 ⇑Pg Pb 01 16 28.2 +2.9
3.6nm,0.7s
PDGK ⇑Lg Lg 01 17 31.8
8.1nm,0.7s

WEL 19 01:27:16.4,39°S±3°×17°5E±°,h155km±4km,M2.5/21,
MLv2.5/21,Error ellipse: s-maj=0.0km s-min=0.0km
az=105.8,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.26**	**103**	P	Pn	01 27 37.7	0.0
WTVZ				S	Sn	01 27 52.8	-1.0
KRVZ	**Karewarewa**	**0.29**	**98**	P	Pn	01 27 37.9	+0.2
KRVZ				S	Sn	01 27 52.9	-1.1
MTVZ	**Mangateitei**	**0.36**	**155**	P	Pn	01 27 37.5	-0.4
VRZ	**Vera Road**	**0.40**	**260**	P	Pn	01 27 38.2	+0.2
VRZ				S	Sn	01 27 54.1	-0.3
WATZ	**Wairara**	**0.50**	**46**	P	Pn	01 27 38.6	+0.1
MOVZ	**Moawhango**	**0.51**	**133**	P	Pn	01 27 38.5	-0.1
MOVZ				S	Sn	01 27 53.4	-2.1
HIZ	**Hauiti**	**0.63**	**329**	P	Pn	01 27 39.1	0.0
WAZ	**Wanganui**	**0.73**	**197**	P	Pn	01 27 40.2	+0.5
WAZ				S	Sn	01 27 57.7	0.0
BHHZ	**Black Hill Sta**	**0.75**	**125**	P	Pn	01 27 40.0	0.0
BHHZ				S	Sn	01 27 55.3	-2.6
LREZ	**Lake Rotokare**	**0.78**	**239**	P	Pn	01 27 40.5	+0.5
LREZ				S	Sn	01 27 58.4	+0.2
MRHZ	**Matea Rd**	**0.92**	**76**	P	Pn	01 27 41.2	0.0
MRHZ				S	Sn	01 27 58.2	-1.9
BKZ	**Black Stump Fm**	**0.96**	**97**	P	Pn	01 27 41.7	+0.3
BKZ				S	Sn	01 27 58.9	-1.7
KRHZ	**Kereru**	**1.04**	**125**	P	Pn	01 27 42.6	+0.5
PNHZ	**Pukenui**	**1.12**	**140**	P	Pn	01 27 43.2	+0.5
TSZ	**Takapari Road**	**1.14**	**152**	P	Pn	01 27 43.4	+0.5
TOZ	**Tahuroa Road**	**1.33**	**8**	P	Pn	01 27 44.1	-0.6
PXZ	**Pawanui**	**1.57**	**129**	P	Pn	01 27 47.6	+0.5
PRWZ	**Pori Road**	**1.59**	**160**	P	Pn	01 27 47.7	+0.3
PRHZ	**Porangahau**	**1.60**	**139**	P	Pn	01 27 47.9	+0.5
MRZ	**Mangatainoka R**	**1.62**	**172**	P	Pn	01 27 47.5	-0.2
ANWZ	**Angora Road**	**1.68**	**147**	P	Pn	01 27 48.8	+0.5
OGWZ	**Otaki Gorge**	**1.76**	**182**	P	Pn	01 27 49.2	+0.1
KIW	**Kapiti Island**	**1.82**	**189**	P	Pn	01 27 49.4	-0.4
DUWZ	**D'Urville Isla**	**2.03**	**210**	P	Pn	01 27 51.6	-0.6
CAW	**Cannon Point**	**2.06**	**184**	P	Pn	01 27 52.1	-0.4
TMWZ	**Te Maipa**	**2.10**	**167**	P	Pn	01 27 52.7	-0.4
MTW	**Mount Morrison**	**2.11**	**175**	P	Pn	01 27 52.5	-0.6
TCW	**Tory Channel**	**2.28**	**199**	P	Pn	01 27 54.5	-0.6
MSWZ	**Moikau Station**	**2.36**	**180**	P	Pn	01 27 55.2	-0.8
TRWZ	**Traveller**	**2.36**	**172**	P	Pn	01 27 55.6	-0.5
PLWZ	**Palliser**	**2.51**	**180**	P	Pn	01 27 56.9	-1.0
TUWZ	**Tuamarina**	**2.58**	**203**	P	Pn	01 27 57.7	-1.0
NNZ	**Nelson**	**2.60**	**213**	P	Pn	01 27 57.9	-1.1
QRZ	**Quartz Range**	**2.75**	**229**	P	Pn	01 27 59.2	-1.6
THZ	**Tophouse**	**3.25**	**213**	P	Pn	01 28 06.0	-1.2
KHZ	**Kahutara**	**3.60**	**201**	P	Pn	01 28 10.5	-1.1
GVZ	**Greta Valley S**	**4.26**	**203**	P	Pn	01 28 18.4	-1.7
LTZ	**Lake Taylor**	**4.36**	**210**	P	Pn	01 28 19.8	-1.8
MQZ	**McQueen's Vall**	**5.04**	**202**	P	Pn	01 28 27.1	-3.4
AKCZ	**Akaroa Harbour**	**5.13**	**199**	P	Pn	01 28 28.8	-2.7
ARCZ	**Arundel**	**5.77**	**211**	P	Pn	01 28 37.8	-2.3

*TUL **19** 01:31:53.5±1.5,36°.60N±0°.02×97°.61W±0°.05,h5km±5km,*
ML4.0,Mwr3.8/62(NEIC),Error ellipse: s-maj=6.2km
s-min=2.7km az=72.0
*NEIC **19** 01:31:53.5±1.5,36°.59N±0°.02×97°.61W±0°.05,h3km±5km,*
Error ellipse: s-maj=5.7km s-min=2.8km az=76.0
*IDC **19** 01:31:53.7±0.8,36°.65N×97°.57W,h0km,mb3.7/2,*
mb1 3.9/8,mb1mx3.7/37,mbtmp3.7/8,ML3.7/6,MS3.2/9,
Ms1 3.2/9,ms1mx2.9/41,Error ellipse: s-maj=12.3km
s-min=8.7km az=140.0
*CERI **19** 01:31:53.0,36°.60N×97°.61W,h5km*
*NEIC **19** 01:31:53.7,36°.59N×97°.61W,h4km,Moment Tensor*
Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-2.32;
$M_{\theta\theta}$4.60; $M_{\phi\phi}$-2.28; $M_{r\theta}$2.15; $M_{\theta\phi}$-4.16; $M_{\phi r}$2.99; Fault
plane solution: $M_0$6.83000×10^{14} NP1:ϕ_s256.58000°,
δ68.21000°,λ-147.87000°. NP2:ϕ_s153.46000°,
δ60.41000°,λ-25.27000°. Principal axes: T 6.6123,
Plg5.0000°, Azm24.0000°; N 0.4239, Plg52.0000°,
Azm287.0000°; P -7.0362, Plg38.0000°, Azm117.0000°;
*ANF **19** 01:31:55.4±0.7,36°.62N×97°.61W,h22km±7km,ML5.0/17*
Error ellipse: s-maj=2.2km s-min=1.9km az=21.0
ISC 19 01:31:53.7±1.0,36°.60N±0°.02×97°.58W±0°.03,h13km±7km,
n260,σ1§27/284,MS3.1/3,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.34**	**253**		**Pg**	**01 32 00.0**	**-0.6**
CROK				Sg	**Sg**	**01 32 04.7**	**-0.6**
KAN13	**South Haven SW**	**0.42**	**11**		**Pg**	**01 32 02.2**	**+0.2**
KAN10	**Anthony SW Sta**	**0.66**	**322**		**Pg**	**01 32 06.2**	**-0.4**
KAN10				Sg	**Sg**	**01 32 15.3**	**-0.1**
KAN12	**Harper NE Stat**	**0.77**	**334**		**Pg**	**01 32 08.3**	**-0.3**
KAN12				Sg	**Sg**	**01 32 18.8**	**0.0**
OK029	**Liberty Lake**	**0.81**	**173**		**Pg**	**01 32 09.2**	**-0.3**
QUOK	**Quay**	**0.82**	**121**	Pg	**Pg**	**01 32 09.7**	**0.0**
T35A	**Sooner Cattle**	**0.91**	**70**	Pg	**Pg**	**01 32 11.4**	**+0.1**
BCOK	**Bluff Creek, N**	**0.95**	**181**		**Pg**	**01 32 11.4**	**-0.6**
ADOK	**Arcadia Dam**	**0.96**	**170**		**Pb**	**01 32 12.3**	**-0.1**
OK005	**Luther M Schoo**	**1.00**	**162**		**Pb**	**01 32 13.1**	**+0.2**
OK009	**Oakdale Elemen**	**1.03**	**173**		**Pg**	**01 32 13.2**	**-0.4**
OK025	**Westminster Rd**	**1.04**	**169**		**Pg**	**01 32 13.3**	**-0.4**
U32A	**Winter Ranch,**	**1.17**	**259**		**Pb**	**01 32 15.0**	**-0.8**
OKCFA	**Oklahoma City**	**1.19**	**175**		**Pb**	**01 32 15.9**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**1.20**	**174**		**Pb**	**01 32 16.0**	**-0.4**
FNO	**Franklin**	**1.35**	**174**		**Pb**	**01 32 19.1**	**+0.2**
W35A	**Tecumseh**	**1.56**	**158**		**Pb**	**01 32 21.9**	**-0.5**
TUL1	**Leonard**	**1.60**	**115**	P	**Pb**	**01 32 23.0**	**-0.2**
baz=296,SNR=700							
TUL1				Sb	**Sg**	**01 32 45.1**	**-0.2**
baz=296							
TUL1	**Leonard**	**1.60**	**115**		**Pb**	**01 32 22.9**	**-0.2**
R32A	**Long Quarter,**	**2.03**	**334**		**Pb**	**01 32 29.5**	**-1.0**
WMOK	**Wichita Mounta**	**2.10**	**208**	P	**Pn**	**01 32 29.6**	**+0.9**
baz=27,SNR=1000							
WMOK				Sb	**Sb**	**01 32 58.3**	**+0.4**
baz=27							
WMOK	**Wichita Mounta**	**2.10**	**208**		**Pn**	**01 32 29.7**	**+0.9**
U38A	**Gravette**	**2.58**	**93**		**Pn**	**01 32 37.0**	**+1.8**
KSU1	**Kansas State U**	**2.61**	**17**	P	**Pn**	**01 32 37.1**	**+1.5**
baz=198,SNR=223							
KSU1				S	**Sn**	**01 33 09.6**	**+2.4**
baz=198							
KSU1	**Kansas State U**	**2.61**	**17**	Pn	**Pn**	**01 32 37.1**	**+1.5**
X37A	**Clayton**	**2.70**	**138**	Pn	**Pn**	**01 32 38.9**	**+2.0**
CBKS	**Cedar Bluff**	**2.79**	**323**	P	**Pn**	**01 32 39.0**	**+0.8**
baz=142,SNR=66							
CBKS				Sb	**Sb**	**01 33 19.8**	**+2.1**
baz=142							
CBKS	**Cedar Bluff**	**2.79**	**323**	Pn	**Pn**	**01 32 39.5**	**+1.3**
HHAR	**Hobbs**	**2.95**	**95**		**Pn**	**01 32 41.6**	**+1.2**
Z35A	**Perchaven, San**	**3.28**	**175**		**Pn**	**01 32 44.8**	**-0.1**
W39A	**Magazine**	**3.39**	**113**	P	**Pn**	**01 32 47.5**	**+1.2**
baz=296,SNR=69							
W39A	**Magazine**	**3.39**	**113**	Pn	**Pn**	**01 32 47.6**	**+1.3**
AMTX	**Amarillo**	**3.75**	**244**	P	**Pn**	**01 32 52.6**	**+1.1**
baz=61							
AMTX				S	**Sn**	**01 33 36.4**	**+0.8**
baz=61							
AMTX	**Amarillo**	**3.75**	**244**	Pn	**Pn**	**01 32 52.9**	**+1.5**
U40A	**Yellville**	**3.82**	**92**	P	**Pn**	**01 32 53.6**	**+1.4**
baz=275,SNR=54							
U40A				S	**Sn**	**01 33 38.9**	**+1.9**
baz=275							
U40A	**Yellville**	**3.82**	**92**	Pn	**Pn**	**01 32 53.8**	**+1.5**
MIAR	**Mount Ida**	**3.85**	**121**	P	**Pn**	**01 32 54.2**	**+1.4**
baz=303,SNR=17							
MIAR				S	**Sn**	**01 33 39.8**	**+1.8**
baz=303							
MIAR	**Mount Ida**	**3.85**	**121**	Pn	**Pn**	**01 32 54.4**	**+1.6**
Z38A	**Mt. Pleasant**	**3.96**	**147**		**Pn**	**01 32 56.4**	**+2.2**
N33A	**J Bar K, Exete**	**4.13**	**1**		**Pn**	**01 32 57.2**	**+0.6**
MGMO	**Mountain Grove**	**4.29**	**81**		**Pn**	**01 32 60.0**	**+1.2**
ABTX	**Abilene, Hawle**	**4.32**	**204**	P	**Pn**	**01 32 59.6**	**+0.4**
baz=22							
ABTX				S	**Sn**	**01 33 50.2**	**+0.7**
baz=22							
ABTX	**Abilene, Hawle**	**4.32**	**204**		**Pn**	**01 32 59.6**	**+0.4**
P38A	**Dawn**	**4.39**	**45**	Pn	**Pn**	**01 33 01.6**	**+1.5**
X40A	**Basin Creek Fa**	**4.41**	**117**	P	**Pn**	**01 33 01.8**	**+1.4**
baz=300,SNR=8.5							
X40A				S	**Sn**	**01 33 53.5**	**+1.9**
baz=300							
X40A	**Basin Creek Fa**	**4.41**	**117**		**Pn**	**01 33 01.6**	**+1.3**
WHAR	**Wooly Hollow**	**4.49**	**105**	Pn	**Pn**	**01 33 02.5**	**+1.0**
N35A	**Tabor**	**4.51**	**19**		**Pn**	**01 33 03.3**	**+1.5**
R40A	**Maddies Statio**	**4.55**	**67**	Pn	**Pn**	**01 33 04.0**	**+1.7**
W41B	**Gary Mavity, V**	**4.56**	**107**	P	**Pn**	**01 33 03.2**	**+0.8**
baz=290							
W41B				S	**Sn**	**01 33 56.8**	**+1.5**
baz=290							
W41B	**Gary Mavity, V**	**4.56**	**107**		**Pn**	**01 33 04.0**	**+1.5**
WHTX	**Lake Whitney,**	**4.60**	**179**	P	**Pn**	**01 33 04.0**	**+0.9**
baz=358,SNR=17							
WHTX				S	**Sn**	**01 33 56.8**	**+0.4**
baz=358							
WHTX	**Lake Whitney,**	**4.60**	**179**	Pn	**Pn**	**01 33 04.3**	**+1.3**
UALR	**University of**	**4.64**	**112**	Pn	**Pn**	**01 33 04.8**	**+1.3**
KSCO	**Kaye Shedlock'**	**4.66**	**303**	P	**Pn**	**01 33 04.8**	**+0.7**
baz=120							
KSCO	**Kaye Shedlock'**	**4.66**	**303**		**Pn**	**01 33 06.1**	**+2.1**
WLAR	**White Oak Lake**	**4.68**	**127**	Pn	**Pn**	**01 33 05.9**	**+1.9**
BGNE	**Belgrade**	**4.82**	**355**	P	**Pn**	**01 33 06.9**	**+0.9**
baz=175,SNR=24							
BGNE				S	**Sn**	**01 34 02.2**	**+0.5**
baz=175							
BGNE	**Belgrade**	**4.82**	**355**		**Pn**	**01 33 06.2**	**+0.1**
237A	**Washetta, Mont**	**4.82**	**162**		**Pn**	**01 33 07.0**	**+1.0**
MSTX	**Muleshoe**	**5.00**	**240**	P	**Pn**	**01 33 08.9**	**+0.3**
baz=56							
MSTX				S	**Sn**	**01 34 06.5**	**+0.2**
baz=56							
MSTX	**Muleshoe**	**5.00**	**240**	Pn	**Pn**	**01 33 09.2**	**+0.7**
Z41A	**Richland Creek**	**5.15**	**129**	P	**Pn**	**01 33 11.9**	**+1.4**
baz=312							
Z41A				S	**Sn**	**01 34 09.8**	**-0.2**
baz=312							
Z41A	**Richland Creek**	**5.15**	**129**	Pn	**Pn**	**01 33 10.3**	**-0.3**
LCAR	**Lake Charles**	**5.21**	**94**		**Pn**	**01 33 13.1**	**+1.7**
T42A	**Van Buren**	**5.22**	**83**		**Pn**	**01 33 14.2**	**+2.6**
P40A	**Paris**	**5.25**	**55**		**Pn**	**01 33 12.8**	**+0.9**
CCM	**Cathedral Cave**	**5.25**	**72**	P	**Pn**	**01 33 12.9**	**+1.0**
baz=256							
CCM				S	**Sn**	**01 34 13.6**	**+1.2**
baz=256							
CCM	**Cathedral Cave**	**5.25**	**72**	Pn	**Pn**	**01 33 13.0**	**+1.0**
N38A	**Joes South For**	**5.39**	**38**	Pn	**Pn**	**01 33 14.6**	**+0.7**
NATX	**Nacogdoches**	**5.40**	**153**	Pn	**Pn**	**01 33 15.4**	**+1.4**
NATX					LR	01 34 45.9	
L34A	**Svendsen Farm,**	**5.44**	**10**	Pn	**Pn**	**01 33 14.7**	**+0.2**
CCAR	**Cane Creek**	**5.46**	**118**	Pn	**Pn**	**01 33 15.8**	**+1.0**
T25A	**Trinidad**	**5.50**	**278**	P	**Pn**	**01 33 15.9**	**+0.3**
baz=94,SNR=23							
T25A	**Trinidad**	**5.50**	**278**		**Pn**	**01 33 15.7**	**+0.1**
HBAR	**Harrisburg**	**5.70**	**99**	Pn	**Pn**	**01 33 18.7**	**+0.6**
PBMO	**Poplar Bluff**	**5.75**	**86**		**Pn**	**01 33 21.1**	**+2.3**
435B	**Jarrell**	**5.81**	**180**	P	**Pn**	**01 33 19.8**	**+0.2**
baz=360,SNR=8.4							
435B	**Jarrell**	**5.81**	**180**		**Pn**	**01 33 19.6**	**-0.1**
X43A	**Marvell**	**5.84**	**109**	Pn	**Pn**	**01 33 20.6**	**+0.6**
LPAR	**Lepanto**	**5.98**	**97**	Pn	**Pn**	**01 33 23.3**	**+1.4**
K31A	**O'Neill**	**6.08**	**352**	Pn	**Pn**	**01 33 24.8**	**+1.5**
GNAR	**Gosnell**	**6.14**	**94**	Pn	**Pn**	**01 33 25.3**	**+1.1**
SLM	**Saint Louis**	**6.17**	**69**	Pn	**Pn**	**01 33 25.8**	**+1.2**
PEBM	**Pemiscott Bayo**	**6.25**	**92**	Pn	**Pn**	**01 33 27.3**	**+1.7**
CPRX	**Cap Rock**	**6.28**	**237**		**Pn**	**01 33 28.1**	**+1.8**
SCIA	**State Center**	**6.28**	**31**	P	**Pn**	**01 33 27.2**	**+1.1**
baz=214,SNR=7.9							
SCIA				S	**Sn**	**01 34 38.7**	**+0.9**
baz=214							
SCIA	**State Center**	**6.28**	**31**		**Pn**	**01 33 27.9**	**+1.7**
PARMO	**Parma**	**6.29**	**87**	Pn	**Pn**	**01 33 27.4**	**+1.2**
JCT	**Junction City**	**6.38**	**198**	P	**Pn**	**01 33 27.7**	**+0.1**
baz=16							
JCT	**Junction City**	**6.38**	**198**		**Pn**	**01 33 27.7**	**+0.1**
PENMO	**Penman**	**6.40**	**89**	Pn	**Pn**	**01 33 29.2**	**+1.4**
143A	**Socs Landing,**	**6.41**	**126**	Pn	**Pn**	**01 33 28.8**	**+1.0**
SDCO	**Great Sand Dun**	**6.43**	**283**	P	**Pn**	**01 33 28.8**	**+0.4**
baz=98,SNR=22							
SDCO	**Great Sand Dun**	**6.43**	**283**		**Pn**	**01 33 29.0**	**+0.6**
Q24A	**Divide**	**6.44**	**294**	P	**Pn**	**01 33 28.5**	**-0.2**
baz=109							
Q24A				S	**Sn**	**01 34 42.3**	**+0.1**
baz=109							
Q24A	**Divide**	**6.44**	**294**		**Pn**	**01 33 29.2**	**+0.6**
HENM	**Henderson Moun**	**6.52**	**87**	Pn	**Pn**	**01 33 29.8**	**+0.4**
LNXT	**Lenox**	**6.55**	**92**	Pn	**Pn**	**01 33 30.9**	**+1.1**
N41A	**Harden Midland**	**6.67**	**50**		**Pn**	**01 33 32.9**	**+1.5**
GLAT	**Glass**	**6.69**	**90**	Pn	**Pn**	**01 33 32.9**	**+1.1**
HALT	**Halls**	**6.69**	**93**	Pn	**Pn**	**01 33 33.7**	**+1.9**
HICK	**Hickman**	**6.72**	**88**	Pn	**Pn**	**01 33 33.0**	**+0.9**
S44A	**Carbondale**	**6.74**	**78**		**Pn**	**01 33 34.8**	**+2.5**
CLNB	**Carlsbad**	**6.77**	**232**	Pn	**Pn**	**01 33 34.0**	**+1.1**
HKT	**Hockley**	**6.79**	**167**	Pn	**Pn**	**01 33 34.0**	**+0.9**
342A	**Flagon Creek P**	**6.80**	**139**	Pn	**Pn**	**01 33 34.4**	**+1.2**
441A	**DeRidder**	**6.89**	**147**	Pn	**Pn**	**01 33 35.6**	**+1.1**
W45A	**Hickory Valley**	**6.96**	**99**	Pn	**Pn**	**01 33 34.8**	**-0.7**
OXF	**Oxford**	**6.98**	**105**	P	**Pn**	**01 33 35.7**	**0.0**
baz=290							
OXF	**Oxford**	**6.98**	**105**		**Pn**	**01 33 36.3**	**+0.6**
UTMT	**University of**	**7.03**	**90**	Pn	**Pn**	**01 33 37.8**	**+1.4**
P43A	**Skaggs, Pawnee**	**7.04**	**62**		**Pn**	**01 33 37.7**	**+1.2**
K38A	**Parkersburg**	**7.08**	**30**		**Pn**	**01 33 39.0**	**+1.8**
ISCO	**Idaho Springs**	**7.08**	**299**	P	**Pn**	**01 33 38.0**	**+0.5**
baz=114,SNR=13							
ISCO	**Idaho Springs**	**7.08**	**299**	Pn	**Pn**	**01 33 38.2**	**+0.8**
Y45A	**Yeager Farm, C**	**7.12**	**110**	Pn	**Pn**	**01 33 39.7**	**+2.1**
GDL2	**Guadalupe Moun**	**7.12**	**234**	Pn	**Pn**	**01 33 38.9**	**+1.1**
ECSD	**EROS Data Cent**	**7.16**	**6**	P	**Pn**	**01 33 38.0**	**-0.2**
baz=186,SNR=22							
ECSD				S	**Sn**	**01 34 59.2**	**-0.2**
baz=186							
ECSD	**EROS Data Cent**	**7.16**	**6**		**Pn**	**01 33 38.6**	**+0.4**
Q44A	**Meyer Farm, Va**	**7.16**	**69**		**Pn**	**01 33 39.4**	**+1.2**
L40A	**Anamosa**	**7.35**	**40**		**Pn**	**01 33 41.2**	**+0.5**
ANMO	**Albuquerque**	**7.40**	**260**	Pn	**Pn**	**01 33 42.0**	**+0.3**
S22A	**4UR Ranch, Cre**	**7.47**	**282**		**Pn**	**01 33 44.1**	**+1.3**
HDIL	**Hopedale**	**7.59**	**56**	P	**Pn**	**01 33 44.0**	**-0.1**
baz=241,SNR=9.9							
HDIL	**Hopedale**	**7.59**	**56**	Pn	**Pn**	**01 33 45.5**	**+1.3**
344A	**Westbrook Farm**	**7.66**	**130**	Pn	**Pn**	**01 33 46.0**	**+1.0**
PHWY	**Pilot Hill**	**7.72**	**310**		**Pn**	**01 33 46.9**	**+0.7**
735A	**Kenedy**	**7.73**	**181**	Pn	**Pn**	**01 33 46.7**	**+0.7**
BNM	**Barren Site**	**7.79**	**254**	Pn	**Pn**	**01 33 47.7**	**+0.7**
N23A	**Red Feather La**	**7.81**	**306**	P	**Pn**	**01 33 48.2**	**+0.8**
baz=121,SNR=5.8							
N23A	**Red Feather La**	**7.81**	**306**		**Pn**	**01 33 48.6**	**+1.2**
OLNY	**Olney**	**7.81**	**71**	Pn	**Pn**	**01 33 49.1**	**+2.0**
WVT	**Waverly**	**7.88**	**91**	P	**Pn**	**01 33 49.0**	**+0.9**
baz=276							
WVT	**Waverly**	**7.88**	**91**		**Pn**	**01 33 49.7**	**+1.7**
PLAL	**Pickwick Lake**	**7.89**	**99**		**Pn**	**01 33 49.6**	**+1.4**
SUSD	**Miller**	**7.90**	**353**	P	**Pn**	**01 33 49.2**	**+0.9**
baz=172							
SUSD	**Miller**	**7.90**	**353**	Pn	**Pn**	**01 33 49.2**	**+0.9**
O44A	**Mansfield**	**7.98**	**61**		**Pn**	**01 33 51.5**	**+2.0**
Y22D	**IRIS PASSCAL I**	**8.04**	**254**	Pn	**Pn**	**01 33 50.5**	**+0.1**
LENM	**Lemitar**	**8.05**	**255**	Pn	**Pn**	**01 33 51.6**	**+1.1**
I37A	**Lemond, Waseca**	**8.06**	**22**		**Pn**	**01 33 50.2**	**-0.3**
MNTX	**Cornudas Mount**	**8.11**	**235**	P	**Pn**	**01 33 51.2**	**0.0**
baz=50,SNR=7.9							
MNTX	**Cornudas Mount**	**8.11

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
RSSD	**Black Hills**	8.98	329	P		**Pn**	01 34 04.3	+1.0
	baz=145							
RSSD	**Black Hills**	8.98	329	Pn		**Pn**	01 34 05.0	+1.7
PV07	**Paradox Valley**	8.98	285	Pn		**Pn**	01 34 03.3	-0.1
I40A	**Norwalk**	9.01	34			**Pn**	01 34 04.2	+0.6
PV02	**Paradox Valley**	9.02	284	Pn		**Pn**	01 34 03.8	-0.2
RWWY	**Rawlins**	9.04	307	Pn		**Pn**	01 34 03.9	-0.3
SFIN	**Lafayette**	9.04	62	Pn		**Pn**	01 34 04.4	+0.5
PV13	**Radium Mtn., P**	9.08	283	Pn		**Pn**	01 34 04.6	-0.1
O20A	**White River Ci**	9.09	296	Pn		**Pn**	01 34 04.7	0.0
PV12	**Saucer Basin,**	9.09	284	Pn		**Pn**	01 34 05.2	+0.4
CLTN	**Cedars of Leba**	9.09	90	Pn		**Pn**	01 34 05.5	+0.9
PV22	**Blue Mesa, Par**	9.11	286	Pn		**Pn**	01 34 06.2	+1.2
BLO	**Bloomington**	9.11	74			**Pn**	01 34 06.4	+1.5
WCI	**Wyandotte Cave**	9.12	76	P		**Pn**	01 34 06.1	+0.9
	baz=263							
WCI	**Wyandotte Cave**	9.12	76	Pn		**Pn**	01 34 05.5	+0.4
WCI						**Sn**	01 35 48.0	+0.3
HQIL	**Hanson Quary C**	9.16	53	Pn		**Pn**	01 34 07.6	+2.0
K22A	**Casper**	9.17	314	P		**Pn**	01 34 06.5	+0.6
	baz=128							
K22A	**Casper**	9.17	314			**Pn**	01 34 06.8	+1.0
PV14	**Lion Creek, Pa**	9.27	284	Pn		**Pn**	01 34 08.7	+1.4
F33A	**5 Mile Ranch,**	9.28	6			**Pn**	01 34 07.4	+0.2
L44A	**Lake County Fo**	9.32	50	Pn		**Pn**	01 34 09.1	+1.3
SPMN	**Marine on St.**	9.34	21	P		**Pn**	01 34 08.3	+0.3
	baz=204,SNR=9.4							
SPMN	**Marine on St.**	9.34	21			**Pn**	01 34 08.8	+0.8
K43A	**Burlington**	9.38	47	Pn		**Pn**	01 34 09.3	+0.8
LRAL	**Lakeview Retre**	9.40	109			**Pn**	01 34 10.5	+1.6
F36A	**Milaca**	9.74	17			**Pn**	01 34 13.2	-0.3
I42A	**Draeger Farm,**	9.84	40			**Pn**	01 34 14.9	0.0
R49A	**Shelbyville**	10.01	77	Pn		**Pn**	01 34 18.4	+1.2
R49A						**Sn**	01 36 09.1	-0.3
RDMU	**Red Mountain**	10.19	297	Pn		**Pn**	01 34 20.3	+0.5
T50A	**Nancy**	10.23	84	Pn		**Pn**	01 34 20.6	+0.4
E28A	**Huff**	10.23	348	Pn		**Pn**	01 34 20.4	+0.1
G40A	**Rib Lake**	10.29	30	Pn		**Pn**	01 34 21.2	+0.1
SRU	**San Rafael Swe**	10.54	288	Pn		**Pn**	01 34 25.9	+1.2
P49A	**Miami Univ. Ec**	10.55	70	P		**Pn**	01 34 24.6	-0.1
	baz=258							
CPCT	**Cooper Cave**	10.64	92			**Pn**	01 34 26.8	+0.9
R50A	**Paris**	10.67	77	Pn		**Pn**	01 34 27.0	+0.7
V51A	**Loudon**	10.72	90			**Pn**	01 34 29.0	+2.0
P17A	**Butcher Ranch,**	10.77	289	Pn		**Pn**	01 34 28.0	+0.2
H43A	**Windswept, Lux**	10.83	40	Pn		**Pn**	01 34 28.3	-0.1
E38A	**The Farm, Brul**	10.96	22			**Pn**	01 34 29.7	-0.5
Q16A	**Castle Valley**	11.01	286			**Pn**	01 34 31.8	+0.7
BW06	**Boulder Array**	11.09	307	Pn		**Pn**	01 34 32.5	+0.3
PD31	**Pinedale Array**	11.09	307			**Pn**	01 34 33.8	+1.6
PDAR	**Pinedale Array**	11.09	307	Pn		**Pn**	01 34 33.6	+1.4
	0.3nm,0.3s,baz=117,slow=14,SNR=5.7							
PDAR				Pg			01 35 17.1	
	1.1nm,0.3s,baz=114,slow=15,SNR=7.3							
PDAR				Lg		Lg	01 37 41.0	
	1.6nm,0.3s,baz=99,slow=34,SNR=4.2							
TKL	**Tuckaleechee C**	11.21	91	Pn		**Pn**	01 34 35.1	+1.4
	0.5nm,0.3s,baz=291,slow=14,SNR=2.3							
TKL				Sn		**Sn**	01 36 37.9	-0.9
	1.2nm,0.3s,baz=20,slow=22,SNR=2.0							
TKL				Lg		Lg	01 37 41.2	
	1.9nm,0.3s,baz=4.9,slow=20,SNR=4.4							
TKL				LR		LR	01 38 53.1	
	comp=Z,112nm,18.9s,baz=290,slow=37							
S51A	**Beattyville**	11.22	81			**Pn**	01 34 34.7	+0.9
WUAZ	**Wupatki**	11.22	269	Pn		**Pn**	01 34 34.4	+0.4
N49A	**Columbus Grove**	11.31	64	Pn		**Pn**	01 34 35.3	+0.2
V52A	**Sevierville**	11.32	90	Pn		**Pn**	01 34 35.6	+0.4
COWI	**Conover**	11.40	31			**Pn**	01 34 36.6	+0.2
L48A	**N Adams**	11.50	58			**Pn**	01 34 38.1	+0.5
Q51A	**Peebles**	11.52	74	Pn		**Pn**	01 34 39.6	+1.7
JLU	**Jordanelle**	11.56	294	Pn		**Pn**	01 34 38.4	-0.3
F42A	**Maple Grove Fa**	11.58	35	Pn		**Pn**	01 34 38.7	0.0
TCUT	**Toone Canyon**	11.68	297	Pn		**Pn**	01 34 41.3	+0.9
TUC	**Tucson**	11.71	252	Pn		**Pn**	01 34 41.5	+0.9
MTPU	**Mount Pierson**	11.72	281	Pn		**Pn**	01 34 42.5	+1.5
MSU	**Marysvale**	11.74	284	Pn		**Pn**	01 34 41.9	+0.6
AGMN	**Agassiz Nation**	11.75	6			**Pn**	01 34 40.1	-1.0
CTU	**Camp Tracy**	11.81	295	Pn		**Pn**	01 34 43.3	+1.3
PKCU	**Pink Cliffs**	11.81	278	Pn		**Pn**	01 34 43.2	+1.0
U15A	**North Rim**	11.84	274	Pn		**Pn**	01 34 42.1	-0.5
NLU	**North Lily Min**	11.87	291	Pn		**Pn**	01 34 42.6	-0.3
HWUT	**Hardware Ranch**	11.96	299	Pn		**Pn**	01 34 45.3	+1.3
LAO	**LASA Array**	11.96	330	Pn		**Pn**	01 34 44.8	+0.8
V53A	**Saluda**	11.98	90	Pn		**Pn**	01 34 45.6	+1.3
V53A				Sn		**Sn**	01 36 58.1	+0.3
GOGA	**Godfrey**	12.00	101	Pn		**Pn**	01 34 45.1	+0.6
ACSO	**Alum Creek Sta**	12.01	68	Pn		**Pn**	01 34 43.8	-0.8
T53A	**Wise**	12.07	84	P		**Pn**	01 34 45.8	+0.3
	baz=273							
B35A	**Bob, Littlefor**	12.09	12			**Pn**	01 34 45.6	0.0
AAM	**Ann Arbor**	12.17	58	Pn		**Pn**	01 34 47.8	+1.0
EYMN	**Ely**	12.19	20	P		**Pn**	01 34 44.6	-2.4
	baz=204							
EYMN	**Ely**	12.19	20			**Pn**	01 34 46.0	-1.0
SNOW	**Snow King Moun**	12.19	308	Pn		**Pn**	01 34 47.9	+0.5
TPAW	**Teton Pass**	12.33	308	Pn		**Pn**	01 34 50.0	+0.7
G45A	**Suttons Bay**	12.34	43			**Pn**	01 34 49.1	0.0
YMP	**Mirror Lake Pl**	12.53	314	Pn		**Pn**	01 34 52.5	+0.5
P52A	**Corning**	12.54	71	Pn		**Pn**	01 34 53.8	+2.0
E43A	**Lone Tree Farm**	12.57	36			**Pn**	01 34 52.7	+0.5
N51A	**Ashland**	12.62	65	P		**Pn**	01 34 53.2	+0.2
	baz=255							
N51A	**Ashland**	12.62	65			**Pn**	01 34 53.9	+0.9
CCUT	**Cedar City**	12.64	279	Pn		**Pn**	01 34 54.6	+1.1
U54A	**Nelsons Funny**	12.67	86	P		**Pn**	01 34 54.9	+1.1
	baz=275							
U54A	**Nelsons Funny**	12.67	86	Pn		**Pn**	01 34 54.9	+1.1
U54A				Sn		**Sn**	01 37 12.0	-2.8
DGMT	**Dagmar**	12.81	340	P		**Pn**	01 34 53.9	-1.7
	baz=156							
S54A	**Dingess, Beckl**	13.03	80	P		**Pn**	01 34 58.8	+0.3
	baz=270							
S54A	**Dingess, Beckl**	13.03	80	Pn		**Pn**	01 34 59.7	+1.1
S54A				Sn		**Sn**	01 37 19.4	-4.0
K50A	**Casco**	13.06	57	Pn		**Pn**	01 34 58.6	-0.2
ULM	**Lac du Bonnet**	13.70	5	Pn		**Pn**	01 35 03.7	-3.9
	1.0nm,0.3s,baz=194,slow=12,SNR=4.7							
ULM				Sn		Sn	01 37 29.6	-10
	1.3nm,0.3s,baz=121,slow=16,SNR=3.4							
ULM				Lg		Lg	01 38 56.6	
	0.7nm,0.3s,baz=99,slow=18,SNR=1.8							
ULM				LR		LR	01 39 22.7	
	comp=Z,42nm,21.1s,baz=18,slow=33							
E46A	**Sault Ste Mari**	13.91	41			**Pn**	01 35 10.1	-0.5
ELK	**Elko**	14.40	292	LR		LR	01 41 05.6	
	comp=Z,118nm,19.5s,baz=110,slow=38							
SADO	**Sadowa**	16.16	54	Pn		**Pn**	01 35 35.9	-4.7
	0.1nm,0.3s,baz=249,slow=14,SNR=1.4							
SADO				Sn		**Sn**	01 38 30.6	-9.1
	0.1nm,0.3s,baz=349,slow=14,SNR=2.1							
SADO				Lg		Lg	01 40 14.2	
	0.4nm,0.3s,baz=170,slow=19,SNR=2.2							
NVAR	**Mina Array Bea**	16.54	283	Pn		**P**	01 35 49.0	+0.7
	0.1nm,0.3s,baz=110,slow=13,SNR=1.9							
NVAR				LR		LR	01 42 31.5	
	comp=Z,101nm,20.9s,baz=104,slow=39							
LPIG	**La Paz**	16.59	225	LR		LR	01 42 42.8	
	comp=Z,99nm,19.8s,baz=22,slow=39							
YBH	**Yreka Blue Hor**	20.12	292	LR		LR	01 44 03.8	
	comp=Z,48nm,19.1s,baz=64,slow=36							
YKA	**Yellowknife Ar**	27.98	343	LR		LR	01 48 20.6	
	comp=Z,53nm,18.8s,baz=0.0,slow=35							
ILAR	**Eielson Array**	40.42	330	P		**P**	01 39 33.5	+2.1
	0.5nm,0.6s,baz=101,slow=6.1,SNR=6.0							
NOA	**NORSAR Array B**	66.89	30	LR		LR	02 10 17.0	
	comp=Z,18nm,20.4s,baz=315,slow=34							
FINES	**FINESS Array B**	72.16	25	P		**P**	01 43 19.6	+1.8
	0.7nm,0.6s,baz=308,slow=6.3,SNR=5.3							

*JMA **19** 01:54:36.0±0.1, 28°.08N×129°.07E, h45km±2km, M3.9*
JMA Felt II J1.
*NEIC **19** 01:54:36.1±1.7, 27°.93N±0°.03×129°.02E±0°.09, h55km±7km, mb4.6/22, Error ellipse: s-maj=11.7km s-min=2.9km az=69.0*
*NIED **19** 01:54:36.0, 28°.08N×129°.07E, h45km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.98; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-0.95; $M_{r\theta}$0.91; $M_{\theta\phi}$-0.41; $M_{\phi r}$0.91; Fault plane solution: $M_0$1.66000×10^{15} NP1:ϕ_s39.00000°, δ71.00000°, λ104.00000°. NP2:ϕ_s182.00000°, δ23.00000°, λ55.00000°.*
*IDC **19** 01:54:38.8±2.9, 28°.04N×128°.94E, h79km±26km, mb3.6/15, mb1 3.8/17, mb1mx3.7/43, mbtmp4.0/17, MS3.0/8, Ms1 3.1/8, ms1mx2.8/38 Error ellipse: s-maj=28.0km s-min=13.0km az=72.0*

ISC 19 01:54:35.4±0.7, 28°.02N±0°.03×129°.12E±0°.05, h49km±6km, n81, σ1°28/91, mb4.1/25, MS3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
JAMN	**Amaminishikomi**	0.23	12	P		**Pn**	01 54 43.6	-0.2
JAMN				eS		**Sn**	01 54 49.1	-0.7
JTK	**Tokunoshima**	0.27	213	P		**Pn**	01 54 44.6	+0.5
JTK				eS		**Sn**	01 54 50.7	+0.3
JAM	**Amami Oshima**	0.58	47	P		**Pn**	01 54 47.7	+0.2
JAM				eS		**Sn**	01 54 56.2	-0.1
JZK	**Kikaishima**	0.81	68	P		**Pn**	01 54 52.5	+2.0
JOKE	**Okinoerabujima**	0.81	217	P		**Pn**	01 54 51.2	+0.6
JOKE				S		**Sn**	01 55 02.0	+0.4
JTAJ	**Takarajima**	1.14	4	P		**Pn**	01 54 54.2	-0.7
JTAJ				S		**Sn**	01 55 08.3	-1.1
JYRO	**Yoronjima**	1.15	211	P		**Pn**	01 54 56.0	+0.9
JYRO				eS		**Sn**	01 55 10.6	+0.9
JOW	**Kunigami**	1.40	213	P		**Pn**	01 54 59.2	+0.7
JOW				eS		**Sn**	01 55 16.7	+0.9
JIH	**Iheya**	1.42	227	P		**Pn**	01 54 59.0	+0.3
JIH				S		**Sn**	01 55 16.0	-0.2
JNTH	**Nagotoyohara**	1.78	214	P		**Pn**	01 55 04.5	+0.8
JNTH				eS		**Sn**	01 55 26.4	+1.2
JNN	**Nakanoshima**	1.94	20	P		**Pn**	01 55 05.6	-0.2
JNN				eS		**Sn**	01 55 27.8	-1.2
JAGN	**Aguni-jima**	2.19	230	P		**Pn**	01 55 09.9	+0.6
JAGN				eS		**Sn**	01 55 36.2	+0.9
JYAK	**Yakushimahirau**	2.53	28	P		**Pn**	01 55 14.1	+0.2
JYAK				eS		**Sn**	01 55 41.8	-1.7
JKC	**Kuchinoerabu**	2.61	21	P		**Pn**	01 55 15.6	+0.5
JKE	**Kume jima 2**	2.67	232	P		**Pn**	01 55 16.9	+1.0
JKE				eS		**Sn**	01 55 47.9	+0.8
JKDJ	**Kitadaitoujima**	2.83	136	P		**Pn**	01 55 17.8	-0.3
JKDJ				S		**Sn**	01 55 49.1	-1.8
JMTN	**Minamitane**	2.84	33	P		**Pn**	01 55 19.6	+1.4
JMTN				S		**Sn**	01 55 53.1	+1.9
JMZ	**Minamidaito 2**	2.88	139	P		**Pn**	01 55 18.6	-0.2
JMZ				eS		**Sn**	01 55 49.6	-2.6
JMZ	**Minamidaito 2**	2.88	139	Pn		**Pn**	01 55 18.4	-0.4
JTN	**Tanegashima 3**	3.09	31	P		**Pn**	01 55 23.2	+1.5
JTN				eS		**Sn**	01 55 58.4	+1.0
JSU	**Suzuyama**	3.67	18	Pn		**Pn**	01 55 30.6	+1.0
JNU	**Nakatsue**	5.31	16	P		**Pn**	01 55 54.9	+2.8
	5.3nm,0.3s,baz=211,slow=5.9,SNR=27							
JNU				S		**Sn**	01 56 51.1	-1.0
	baz=209,slow=8.6,SNR=1.4							
JNU				LR		LR	01 57 28.5	
	comp=Z,30nm,20.4s,baz=113,slow=32							
JNU	**Nakatsue**	5.31	16	Pn		**Pn**	01 55 55.0	+2.8
YOJ	**Yonaguni jima**	6.53	239	Pn		**Pn**	01 56 08.5	-0.4
YHNB	**Yeheng**	7.71	246	Pn		**Pn**	01 56 20.8	-4.2
NACB	**Ninganchiao**	7.77	242	Pn		**Pn**	01 56 24.4	-1.5
TWG	**Pinlang**	8.93	236	Pn		**Pn**	01 56 38.6	-3.1
TPUB	**Ta-pu**	8.98	240	Pn		**Pn**	01 56 41.4	-1.1
JWT	**Wachi**	9.01	35	Pn		**Pn**	01 56 45.5	+2.8
KSRS	**Korea Array**	9.47	354	P		**Pn**	01 56 52.4	+3.4
	0.5nm,0.3s,baz=175,slow=15,SNR=12							
KSRS				LR		LR	02 00 35.3	
	comp=Z,78nm,18.7s,baz=168,slow=38							
MJAR	**Matsushiro Arr**	11.46	40	LR		LR	02 01 50.7	
	comp=Z,36nm,19.1s,baz=215,slow=37							
JCJ	**Chichijima**	11.63	91	LR		LR	02 00 49.1	
	comp=Z,77nm,21.8s,baz=112,slow=31							
XAN	**Xi'an**	18.31	294			**Pn**	01 58 46.6	+0.7
XAN				IAmb		IAmb	01 58 48.2	
	comp=Z,14nm,0.6s							
SONM	**Songino Array**	26.53	324	P		**P**	02 00 09.3	+0.8
	comp=Z,2.1nm,0.8s,baz=129,slow=10,SNR=8.4							
CMAR	**Chiang Mai Arr**	29.25	258	LR		LR	02 11 48.5	
	comp=Z,29nm,19.9s,baz=95,slow=35							
H11N2	**WAKE ISLAND Hy**	35.40	95	T		T	02 39 11.7	
	baz=290,slow=74,SNR=29							
H11N1	**WAKE ISLAND Hy**	35.40	95	T		T	02 39 10.3	
	baz=290,slow=74,SNR=16							
H11N3	**WAKE ISLAND Hy**	35.42	95	T		T	02 39 12.3	
	baz=290,slow=74,SNR=22							
H11S3	**WAKE ISLAND Hy**	35.67	97	T		T	02 39 23.2	
	baz=298							
H11S1	**WAKE ISLAND Hy**	35.68	97	T		T	02 39 25.9	
	baz=298							
H11S2	**WAKE ISLAND Hy**	35.69	97	T		T	02 39 24.3	
	baz=298							
MK31	**Makanchi Array**	40.97	310	P		**P**	02 02 13.2	-0.1
MKAR	**Makanchi Array**	40.97	310	P		**P**	02 02 12.7	-0.6
	comp=Z,0.6nm,0.4s,baz=89,slow=9.0,SNR=9.0							
MKAR				PcP		**PcP**	02 04 12.8	0.0
	comp=Z,0.8nm,0.8s,baz=103,slow=3.1,SNR=3.3							
ZALV	**Zalesovo Beam**	41.33	321	P		**P**	02 02 15.0	-1.1
	comp=Z,1.5nm,0.5s,baz=116,slow=9.8,SNR=4.9							
KURK	**Kurchatov**	44.09	315	P		**P**	02 02 38.1	-0.5
KURK	**Kurchatov**	44.09	315	PP			02 04 22.5	+0.6
KURBB	**Kurchatov Arra**	44.13	315	P		**P**	02 02 38.3	-0.6
	comp=Z,1.1nm,0.4s,baz=98,slow=8.8,SNR=9.2							
KURBB				PcP		**PP**	02 04 22.5	+0.2
	comp=Z,0.2nm,0.4s,baz=110,slow=4.4,SNR=1.5							
FITZ	**Fitzroy Crossi**	45.96	185	P		**P**	02 02 54.1	+0.4
	comp=Z,1.2nm,0.7s,baz=359,slow=10,SNR=5.5							
FITZ	**Fitzroy Crossi**	45.96	185	P		**P**	02 02 53.1	-0.6
FITZ				IAmb		IAmb	02 02 55.7	
	comp=Z,6.5nm,1.4s							
WB0	**Warramunga Arr**	47.77	173	P		**P**	02 03 08.1	+0.2
WB0				IAmb		IAmb	02 03 20.6	
	comp=Z,6.3nm,1.4s							
WRA	**Warramunga Arr**	47.94	173	P		**P**	02 03 09.2	0.0
	comp=Z,1.2nm,0.6s,baz=354,slow=8.5,SNR=17							
WRA				PcP		**PcP**	02 04 37.0	+0.1
	comp=Z,0.2nm,0.5s,baz=353,slow=4.1,SNR=1.7							
WB2	**Warramunga Arr**	47.94	173	P		**P**	02 03 09.4	+0.3
WB2				IAmb		IAmb	02 03 10.7	
	comp=Z,7.4nm,1.2s							
WR0	**Warramunga Arr**	47.98	173	P		**P**	02 03 09.2	-0.2
WR0				IAmb		IAmb	02 03 11.5	
	comp=Z,4.9nm,1.1s							
KK31	**Karatay Array**	49.05	304	P		**P**	02 03 17.9	+0.4
KKAR	**Karatay Array**	49.05	304	P		**P**	02 03 17.9	+0.4
BRVK	**Borovoye**	49.56	317	P		**P**	02 03 21.5	+0.2
BRVK				IAmb		IAmb	02 03 21.6	
	comp=Z,2.4nm,1.0s							
ASAR	**Alice Springs**	51.59	174	P		**P**	02 03 37.6	+0.7
	comp=Z,0.7nm,0.5s,baz=1.8,slow=11,SNR=16							
ASAR				PcP		**PcP**	02 04 50.1	-0.1
	comp=Z,0.3nm,0.5s,baz=353,slow=3.8,SNR=1.5							
ANM	**Nome**	54.57	29	P		**P**	02 04 00.5	+2.2
GEYT	**Alibeck**	59.10	299	LR		LR	02 34 25.5	
	comp=Z,34nm,19.1s,baz=210,slow=40							
PPLA	**Purkeypile**	60.35	31	P		**P**	02 04 39.4	+0.2
MDM	**Murphy Dome**	61.90	29	P		**P**	02 04 50.4	+0.9
MDM				IAmb		IAmb	02 04 55.0	
	comp=Z,5.3nm,0.9s							
ILAR	**Eielson Array**	62.50	29	P		**P**	02 04 54.7	+1.2
	comp=Z,0.6nm,0.7s,baz=278,slow=6.3,SNR=7.1							
DHY	**Denali Highway**	62.51	31	P		**P**	02 04 55.7	+1.8
DHY				IAmb		IAmb	02 05 02.4	
	comp=Z,5.5nm,1.1s							
EPYK	**Eagle Plains**	66.31	26	P		**P**	02 05 19.1	+0.7
EPYK				IAmb		IAmb	02 05 48.0	
	comp=Z,22nm,1.5s							
KBZ	**Khabaz**	68.65	309	P		**P**	02 05 33.5	0.0
	comp=Z,5.9nm,1.1s,baz=82,slow=6.6,SNR=5.3							
C36M	**Paulatuk**	69.75	21	P		**P**	02 05 40.5	+0.6
SOCY	**Socotra**	71.35	274	P		**P**	02 05 49.5	-1.2
FIA1	**FINESS Array S**	71.70	330	P		**P**	02 05 50.8	-1.1
FIA1				IAmb		IAmb	02 06 10.7	
	comp=Z,17nm,1.4s							
FINES	**FINESS Array B**	71.71	330	P		**P**	02 05 50.9	-1.0
	comp=Z,1.0nm,0.4s,baz=65,slow=5.8,SNR=25							
AKASG	**Malin Array Be**	74.69	319	P		**P**	02 06 08.3	-1.4
	comp=Z,0.6nm,0.4s,baz=58,slow=6.2,SNR=2.5							
AKASG				LR		LR	02 41 12.4	
	comp=Z,20nm,20.2s,baz=300,slow=38							
BRTR	**Keskin Array B**	76.57	308	P		**P**	02 06 20.2	-0.7
	comp=Z,0.9nm,0.8s,baz=83,slow=3.8,SNR=2.8							
YKA	**Yellowknife Ar**	76.58	25	P		**P**	02 06 20.6	+0.3
	comp=Z,0.8nm,0.7s,baz=312,slow=5.5,SNR=3.7							
NC405	**NORSAR Array S**	77.83	334	P		**P**	02 06 26.1	-1.3
NC405				IAmb		IAmb	02 06 54.4	
	comp=Z,12nm,1.2s							
NB201	**NORSAR Array S**	78.03	334	P		**P**	02 06 27.4	-1.2
NB2	**NORSAR Subarra**	78.07	334	P		**P**	02 06 27.0	-1.7
	comp=Z,0.4nm,0.6s,baz=52,slow=5.9							
NOA	**NORSAR Array B**	78.07	334	P		**P**	02 06 26.7	-2.0
	comp=Z,0.3nm,0.6s,baz=52,slow=5.5,SNR=4.0							
NC204	**NORSAR Array S**	78.10	334	P		**P**	02 06 27.6	-1.3
NC204				IAmb		IAmb	02 06 50.5	
	comp=Z,15nm,1.1s							
BUR08	**Bucovina Ar. S**	78.44	318	P		**P**	02 06 30.8	-0.4
CLL	**Collm**	83.14	325	eP		**P**	02 06 55.0	-1.0
GERES	**GERESS Array B**	84.26	323	P		**P**	02 07 01.3	-0.6
	comp=Z,0.6nm,0.7s,baz=46,slow=5.8,SNR=6.1							
ESDC	**Sonseca Array**	99.73	325	LR		LR	02 57 35.9	
	comp=Z,24nm,20.0s,baz=160,slow=38							

TAP 19 01:56:24.7, 23°.60N×121°.35E, h31km±1km, ML1.7, 1C-2D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
EHY	**Hungye**	0.10	196	P		Pb	01 56 30.6	+0.5
	baz=190							
EHY				S		Sb	01 56 34.6	+0.8
	baz=190							
HGSD	**Ruisui**	0.13	147	eP		Pb	01 56 30.0	-0.3
	baz=147							
HGSD				eS		Sb	01 56 34.7	+0.6
	baz=147							
YULB	**Yu-li**	0.21	193	⇑P		Pb	01 56 31.4	+0.3
	baz=193							
YULB				eS		Sn	01 56 36.4	+0.2
	baz=193							
YULB	**Yu-li**	0.21	193	Pn		Pn	01 56 31.6	-0.2
VWDT	**VWDT**	0.25	309	⇓iP		Pn	01 56 32.3	0.0
	baz=308							
VWDT				eS		Sn	01 56 37.3	+0.3
	baz=308							
TWF1	**Yuli**	0.25	191	eP		Pn	01 56 32.0	-0.3
	baz=189							
FULB	**Fuli**	0.40	187	eP		Pn	01 56 34.3	-0.1
	baz=187							
SSLB	**Suanglung**	0.41	297	⇓iP		Pn	01 56 34.2	-0.3
	baz=297							
SSLB				eS		Sn	01 56 40.8	-0.3
	baz=297							
SSLB	**Suanglung**	0.41	297	Pn		Pb	01 56 33.9	+0.1
SMLT	**Sun Moon Lake**	0.50	305	eP		Pb	01 56 35.0	-0.3
	baz=304							
TYC	**Yuchr**	0.54	304	eP		Pb	01 56 35.3	-0.6
	baz=304							
CHN5	**Tsauling**	0.62	270	eP		Pn	01 56 38.0	+0.5
	baz=269							
TPUB	**Ta-pu**	0.72	246	eP		Pb	01 56 39.4	+0.5
	baz=245							
CHN4	**Tsaushan**	0.74	251	eP		Pb	01 56 39.3	+0.2
	baz=250							
WTP	**Ta-pu**	0.76	243	eP		Pb	01 56 39.6	+0.1
	baz=242							
TWK	**Hsinying**	0.86	247	eP		Pb	01 56 41.3	+0.2
	baz=246							

TAP 19 01:56:34.0, 24°.52N×121°.85E, h6km, ML1.7, 3C, D, Taiwan

| Code |

IL31		87.94	13	P	P	02 20 15.2	-0.6
ILAR	Eielson Array	87.94	13	P	P	02 20 14.6	-1.2
	comp=Z,0.7nm,0.6s,baz=219,slow=5.6,SNR=8.1						
REDW	Red Top Meadow	88.07	42	P	P	02 20 15.6	-1.6
PDAR	Pinedale Array	88.60	43	P	P	02 20 19.2	-0.5
	comp=Z,0.2nm,0.6s,baz=189,slow=3.1,SNR=5.7						
CMAR	Chiang Mai Arr	90.17	290	P	P	02 20 27.9	+0.7
	comp=Z,1.1nm,0.3s,baz=119,slow=2.8,SNR=5.0						
FINES	FINESS Array B	135.50	344	PKP	PKPdf	02 26 43.6	+1.2
	comp=Z,1.6nm,1.1s,baz=35,slow=7.0,SNR=4.1						
MARD	Mardin	142.40	305	PKPdf	PKPdf	02 26 52.3	-3.7
AKASG	Malin Array Be	142.80	331	PKhKP	PKPpre	02 26 51.4	
	comp=Z,2.3nm,0.5s,baz=42,slow=4.7,SNR=12						
AKASG	Malin Array Be	142.80	331	PKPdf	PKPdf	02 26 52.8	-3.3
AKBB	Malin Array Si	142.80	331	PKPdf	PKPdf	02 26 52.0	-4.1
MBAR	Mbarara	145.25	237	PKPdf	PKPdf	02 27 00.1	-1.7
OSTC	Ostas	147.70	343	*e*PKP	PKPbc	02 27 07.9	-0.2
CLL	Collm	147.77	347	⇓*i*PKPbc	PKPdf	02 27 07.2	+2.7
	comp=Z,6.0nm,0.7s						
CLL	Collm	147.77	347		PKPdf	02 27 07.3	+2.8
DPC	Dobruska-Polom	147.85	343	*e*PKP	PKPdf	02 27 07.7	+2.9
KRLC	Kraliky	147.97	342	*e*PKP	PKPdf	02 27 08.0	+3.0
BRG	Berggiesshubel	147.97	346	*e*PKP	PKPdf	02 27 07.9	+3.0
	comp=Z,4.1nm,0.8s						
PRU	Pruhonice	148.65	345	*e*PKP	PKPbc	02 27 09.6	-0.8
GOPC	GO Pecny, Ondr	148.66	344	*e*PKP	PKPbc	02 27 10.1	-0.4
KHC	Kasperske Hory	149.69	345	*e*PKP	PKPbc	02 27 11.8	-1.2
KHC	Kasperske Hory	149.69	345		PKPdf	02 27 11.3	+3.6
GERES	GERESS Array B	149.92	345	PKPbc	PKPbc	02 27 12.6	-1.1
	comp=Z,1.3nm,0.8s,baz=29,slow=3.0,SNR=9.7						
GERES				PKPab	PKPab	02 27 20.6	-0.7
	comp=Z,0.1nm,0.3s,baz=338,slow=1.4,SNR=3.4						

IDC 19 02:28:46.4±7.4, 20°.63S×178°.13W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/21, mbtmp3.7/3, MS4.3/2, Ms1 4.3/2, ms1mx2.9/32, Error ellipse: s-maj=320.5km s-min=39.6km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.37	257	P	P	02 36 58.4	-0.6
	1.2nm,0.7s,baz=98,slow=7.4,SNR=12						
WRA	Warramunga Arr	44.47	262	P	P	02 36 60.0	+0.3
	0.4nm,0.3s,baz=96,slow=8.3,SNR=19						
BATI	Baumata	56.81	271	LR	LR	03 04 36.5	
	comp=Z,80nm,18.4s,baz=129,slow=38						
DAV	Davao City (W)	61.77	290	LR	LR	03 01 30.6	
	comp=Z,632nm,20.7s,baz=359,slow=32						
ILAR	Eielson Array	88.47	13	P	P	02 41 40.1	0.0
	0.3nm,0.5s,baz=212,slow=5.5,SNR=4.5						

BJI ***19*** *02:57:31.3±0.0, 4°.45N×126°.70E, h78km, mB5.0/47, mb5.1/70, Ms4.4/42, Ms7 4.0/38*
MOS ***19*** *02:57:32.0±1.1, 4°.80N×126°.47E, h60km, mb5.2/46, Error ellipse: s-maj=9.1km s-min=4.5km az=111.4*
MAN ***19*** *02:57:32.7, 4°.46N×126°.53E, h30km, mb5.6, ML4.6, MS4.9*
UNK ***19*** *02:57:35.4, 4°.71N×126°.60E, h80km*
NEIC ***19*** *02:57:35.4±2.2, 4°.71N±0°.05×126°.61E±0°.07, h78km±4km, mb5.2/137, Error ellipse: s-maj=11.1km s-min=7.3km az=71.0*
IDC ***19*** *02:57:35.6±1.0, 4°.75N×126°.52E, h77km±8km, mb4.6/30, mb1 4.7/34, mb1mx4.6/40, mbtmp4.9/34, MS3.5/19, Ms1 3.5/19, ms1mx3.5/27, Error ellipse: s-maj=13.6km s-min=6.7km az=80.0*
GCMT ***19*** *02:57:35.4±0.2, 4°.85N±0°.02×126°.46E±0°.02, h69km±2km, MW5.0/97, Moment Tensor Solution. s55,c67; s97,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.78±.14; $M_{\theta\theta}$2.13±.12; $M_{\phi\phi}$-3.91±.12; $M_{r\theta}$1.39±.07; $M_{\theta\phi}$-0.13±.12; $M_{r\phi}$-1.66±.10; Best double couple: $M_0$3.96400×10^{16} NP1:ϕ_s40.00000°, δ47.00000°, λ155.00000°. NP2: ϕ_s147.00000°, δ72.00000°, λ46.00000°. Principal axes: T 3.5600, Plg44.0000°, Azm14.0000°; N 0.8080, Plg42.0000°, Azm163.0000°; P -4.3680, Plg16.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***19*** *02:57:35.2±0.3, 5°N±2°×12°7E±°, h75km±3km, M5.0/46, mb4.9/46, mB5.4/26, MLv5.4/13, Mw(mB)4.9/26, Mwp5.8/2*
KLM ***19*** *02:57:36.0, 4°.61N×126°.68E, h95km, mb5.1*

ISC 19 02:57:35.8±0.5, 4.72N±0°.03×126°.54E±0°.05, h80km±3km, n472, σ1$56/495, mb5.1/150, 29C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.60	329	*e*P	Pn	02 58 02.6	+0.1
DDMP				*e*S	Sn	02 58 21.5	-1.2
MATI	Mati	2.23	353	*e*P	Pn	02 58 12.0	+1.1
MATI				*e*S	Sn	02 58 42.0	+4.4
DAV	Davao City (W)	2.52	338	P	Pn	02 58 14.5	-0.3
DAV				S	Sn	02 58 45.0	+0.4
	173nm,0.3s,baz=139,slow=3.6,SNR=7.8						
DAV				S	Sn	02 58 45.0	+0.4
	296nm,0.3s,baz=293,slow=20,SNR=5.9						
DAV	Davao City (W)	2.52	338	Pn	Pn	02 58 14.9	+0.1
DAV	Davao City (W)	2.52	338⇑	*e*P	Pn	02 58 15.4	+0.7
SKMP	Bagumbayan, Su	2.67	312	*e*P	Pn	02 58 17.7	+0.9
SKMP				*e*S	Sn	02 58 51.2	+2.9
KCP	Kidapawan	2.69	328⇑	*i*P	Pn	02 58 18.6	+1.5
KCP				*i* S	Sn	02 58 56.5	+7.6
BUKP	Musuan	3.46	335	*e*P	Pn	02 58 29.4	+1.9
BUKP				*e*S	Sn	02 59 11.5	+3.9
TNTI	Ternate	4.01	168	P	Pn	02 58 35.0	+0.1
TNTI	Ternate	4.01	168	Pn	Pn	02 58 34.2	-0.7
PAGZ	Pagadian	4.42	315	*e*P	Pn	02 58 41.0	+0.6
PAGZ				*e*S	Sn	02 59 30.8	+0.1
KMSI	Cibinong	4.85	212	P	Pn	02 58 47.5	+1.2
GTOI	Gorontalo	5.37	221	P	Pn	02 58 53.0	-0.5
	1.0nm3μm193nm,0.9s						
TBP	Tagbilaran	5.61	332	*e*P	Pn	02 59 01.2	+4.4
MSLP	Maasin	5.63	343	*e*P	Pn	02 58 56.8	-0.2
MSLP				*e*S	Sn	03 00 02.1	+1.7
LLP	Lapu-Lapu	6.12	336	*e*P	Pn	02 59 05.8	+2.1
LLP				*e*S	Sn	03 00 19.0	+6.6
CNOP	Candoni, Negro	6.38	323	*e*P	Pn	02 59 09.2	+1.9
CNOP				*e*S	Sn	03 00 15.5	-3.2
SANI	Sanana	6.75	185	P	Pn	02 59 08.5	-3.8
	1.7nm10μm177nm,0.7s						
LUWI	Luwuk	6.85	213	P	Pn	02 59 15.5	+1.8
	3.3nm11μm1μm,1.0s						
LUWI	Luwuk	6.85	213	Pn	Pn	02 59 15.6	+1.8
BESP	Borongan	6.92	351	*e*P	Pn	02 59 21.5	+6.8
SIJI	Sorong	7.29	140	P	Pn	02 59 19.5	-0.2
	21nm,0.3s,baz=332,slow=20,SNR=18						
SIJI				S	Sn	03 00 38.8	-2.2
	19nm,0.3s,baz=40,slow=23,SNR=12						
SIJI				LR	LR	03 02 05.5	
	comp=Z,770nm,22.0s,baz=72,slow=37						
NLAI	Namlea	7.93	176	P	Pn	02 59 26.1	-2.3
	1.6nm9μm283nm,0.6s						
MPSI	Mapaga	7.93	237	P	Pn	02 59 29.2	+0.7
	1μm71nm,0.8s						
MYLDM	Lahad Datu	8.02	274	Pn	Pn	02 59 31.2	+1.5
MSAI	Masohi	8.36	163	P	Pn	02 59 35.4	+1.1
	2μm39nm,0.7s						
FAKI	Fak Fak	9.49	143	P	Pn	02 59 49.5	-0.3
	128nm,0.9s						
FAKI	Fak Fak	9.49	143	Pn	Pn	02 59 48.3	-1.6
SPMM	Sapulut	10.04	270	P	Pn	03 00 01.0	+3.7
KKM	Kota Kinabalu	10.36	278	Pn	Pn	03 00 04.3	+2.5
LQP	Lukban	10.55	333⇓	*e*P	Pn	03 00 06.0	+1.6
SPSI	Sidrap Palu	10.96	218	P	Pn	03 00 10.2	+0.4
	51nm,0.7s						
BNSI	Bone	11.11	215	P	Pn	03 00 13.3	+1.5
	70nm,1.2s						
BKB	Balikpapan	11.32	239	P	Pn	03 00 14.6	-0.1
	337nm,1.0s						
BKB	Balikpapan	11.32	239	Pn	Pn	03 00 16.0	+1.3
KAPI	Kappang	11.81	215	P	Pn	03 00 21.5	+0.1
	1.3nm,0.3s,baz=39,slow=8.6,SNR=8.1						
KAPI				S	Sn	03 02 32.6	+1.3
	0.9nm,0.3s,baz=88,slow=11,SNR=1.3						
KAPI	Kappang	11.81	215	Pn	Pn	03 00 22.0	+0.6
BKSI	Bulukumba	11.86	213	P	Pn	03 00 23.9	+1.9
	39nm,1.4s						
KBKI	Kotabaru	13.07	233	P	P	03 00 44.0	-1.7
EDFI	Ende, Flores	14.23	200	P	P	03 00 58.3	-0.3
BBKI	Banjar Baru	14.24	235	P	Pn	03 00 56.3	+2.6
	5μm170nm,1.5s						
SBUM	Sibu	14.47	262	Pn	Pn	03 00 58.0	+1.3
SBUM	Sibu	14.47	262	P	Pn	03 00 59.0	+2.3
SOEI	Soe	14.56	189	P	P	03 01 12.0	+10
BATI	Baumata	15.10	191	P	Pn	03 01 06.2	+1.3
	4.4nm,0.3s,baz=289,slow=3.6,SNR=3.4						
BATI				S	S	03 04 04.1	+0.3
	2.2nm,0.3s,baz=102,slow=18,SNR=2.8						
BATI	Baumata	15.10	191	P	P	03 01 10.4	+2.1
JAY	Jayapura	15.87	117	P	P	03 01 17.6	+0.8
	0.5nm,0.3s,baz=259,slow=12,SNR=15						
JAY	Jayapura	15.87	117	P	P	03 01 22.8	+5.9
PLAI	Plampang	16.05	213	P	Pn	03 01 16.6	-0.2
	2μm129nm,1.2s						
TWSI	Taliwang, Sumb	16.48	216	P	Pn	03 01 22.7	+0.5
	938nm124nm,0.8s						
KSM	Kuching	16.52	259		Pn	03 01 23.9	+1.1
KSM				IAmb	IAmb	03 01 26.4	
	comp=Z,116nm,0.8s						
KSM	Kuching	16.52	259	P	P	03 01 26.0	+2.0
JAGI	Jajag, Banyuwa	18.01	223	P	P	03 01 40.2	-0.2
	comp=Z,56nm,1.2s						
JAGI	Jajag, Banyuwa	18.01	223		P	03 01 39.6	-0.8
MTN	Manton Dam	18.04	165	P	P	03 01 38.6	-2.0
	baz=18,SNR=19						
MTN	Manton Dam	18.04	165		P	03 01 37.8	-2.9
KDU	Kakadu	18.27	161	P	P	03 01 41.8	-1.4
	baz=18,SNR=11						
TWG	Pinlang	18.75	344	P	P	03 01 45.8	-2.7
TWG				IAmb	IAmb	03 02 02.1	
	comp=Z,164nm,0.8s						
DLV	T Lat	19.24	293	P	P	03 01 55.3	+1.1
DLV				IAmb	IAmb	03 01 56.1	
	comp=Z,75nm,0.8s						
YULB	Yu-li	19.24	345	P	P	03 01 50.3	-3.5
NGJI	Ngawi	19.25	231	P	Pn	03 02 05.3	+10
	comp=Z,102nm,0.9s						
TPUB	Ta-pu	19.33	343	P	P	03 01 52.5	-2.4
TPUB				IAmb	IAmb	03 01 56.2	
	comp=Z,99nm,0.6s						
PWJI	Pagerwojo	19.40	229	P	P	03 01 54.4	-1.2
	comp=Z,56nm,1.0s						
SSLB	Suanglung	19.71	345	P	P	03 01 57.3	-1.6
SMRI	Semarang	19.87	234	P	Pn	03 02 06.3	+3.2
SMRI	Semarang	19.87	234	P	P	03 01 59.7	-1.1
SMRI				IAmb	IAmb	03 02 06.7	
	comp=Z,118nm,0.9s						
NACB	Ninganchiao	19.92	347	P	P	03 01 59.9	-1.3
KNRA	Kununurra	20.39	174	P	P	03 02 05.8	-0.4
	baz=20,SNR=31						
KNRA	Kununurra	20.39	174	P	P	03 02 05.9	-0.4
KNRA				IAmb	IAmb	03 02 19.9	
	comp=Z,94nm,0.8s						
YHNB	Yeheng	20.45	346	P	P	03 02 06.5	-0.5
YHNB				IAmb	IAmb	03 02 16.7	
	comp=Z,58nm,0.8s						
KNMB	Chin-men Tao	21.14	339	P	P	03 02 14.8	+0.4
HKPS	Hong Kong Po S	21.18	327	P	P	03 02 16.5	+1.7
HKPS				IAmb	IAmb	03 02 31.9	
	comp=Z,67nm,0.9s						
KPJI	Karang Pucung	21.26	236	P	P	03 02 16.3	+0.5
	comp=Z,110nm,0.8s						
QZH	Quanzhou	21.51	340	P	P	03 02 20.0	+1.7
QZH				S	S	03 06 11.0	-1.5
QIZ	Qiongzhong	21.63	312	P	P	03 02 20.0	+0.4
QIZ				S	S	03 06 14.1	-0.8
QIZ				LR	LR		
	comp=Z,560nm,16.1s						
QIZ				LR	LR		
	comp=Z,460nm,15.5s						
QIZ				LR	LR		
	comp=Z,420nm,22.6s						
LEM	Lembang	22.10	239	P	P	03 02 26.1	+1.3
	comp=Z,78nm,0.7s,baz=91,slow=9.6,SNR=6.7						
CISI	Cisompet, Garu	22.31	237	P	P	03 02 26.9	-0.2
CISI				IAmb	IAmb	03 02 49.0	
	comp=Z,146nm,1.3s						
DSRI	Dabo	22.54	257	P	P	03 02 29.5	0.0
	comp=Z,20nm,0.9s						
CBJI	Citeko	22.56	241	P	P	03 02 31.3	+1.7
	comp=Z,120nm,0.6s						
FITZ	Fitzroy Crossi	22.69	182	P	P	03 02 30.1	-0.9
	comp=Z,4.0nm,0.3s,baz=360,slow=4.1,SNR=37						
FITZ				S	S	03 06 30.1	-3.4
	comp=Z,8.9nm,1.1s,baz=180,slow=15,SNR=2.3						
FITZ	Fitzroy Crossi	22.69	182	P	P	03 02 30.0	-0.9
	baz=23,SNR=43						
FITZ	Fitzroy Crossi	22.69	182	P	P	03 02 30.3	-0.7
FITZ				IAmb	IAmb	03 02 52.5	
	comp=Z,51nm,0.8s						
MYKOM	Kota Tinggi	22.84	263	P	P	03 02 31.3	-1.2
MYKOM				IAmb	IAmb	03 02 34.2	
	comp=Z,73nm,1.0s						
MYKOM	Kota Tinggi	22.84	263	P	P	03 02 33.0	+0.4
PMBI	Palembang	23.04	251	P	P	03 02 35.2	+0.6
CGJI	Cibinong	23.66	242	P	P	03 02 39.8	-0.5
	comp=Z,80nm,1.1s						
KLSI		23.71	247	P	P	03 02 40.3	-0.4
	comp=Z,12μmcomp=Z,390nmcomp=Z,26nm,0.8s						
MDSI	Maura Dua	24.14	248	P	P	03 02 42.8	-1.7
	comp=Z,60nm,0.9s						
LWLI	Liwa	24.45	247	P	P	03 02 49.5	+2.0
	comp=Z,184nm,0.8s						
LHSI	Lahat	24.51	250	P	P	03 02 48.6	+0.6
	comp=Z,104nm,1.0s						
COEN	Coen	24.84	139	P	P	03 02 51.3	+0.4
	baz=25,SNR=12						
COEN	Coen	24.84	139	P	P	03 02 50.2	-0.7
IPM	Ipoh	25.43	271	P	P	03 02 55.7	-0.7
IPM				IAmb	IAmb	03 02 58.3	
	comp=Z,56nm,0.8s						
IPM	Ipoh	25.43	271	P	P	03 02 57.0	+0.6
WRAB	Tennant Creek	25.68	163	P	P	03 02 57.8	-0.7
WRAB				pmax	pmax		
	comp=Z,102nm,1.1s						
WRAB	Tennant Creek	25.68	163	P	P	03 02 57.8	-0.7
WRAB				IAmb	IAmb	03 03 19.2	
	comp=Z,102nm,1.1s						
WRA	Warramunga Arr	25.68	163	P	P	03 02 58.1	-0.4
	comp=Z,12nm,0.6s,baz=343,slow=10,SNR=87						
WRA				PcP	PcP	03 06 27.4	+0.1
	comp=Z,1.1nm,0.6s,baz=322,slow=1.9,SNR=1.5						
WRA				S	S	03 07 26.9	+5.4
	comp=Z,2.2nm,0.8s,baz=341,slow=17,SNR=3.2						
WRA				ScP	ScP	03 10 00.6	+0.9
	comp=Z,4.7nm,0.9s,baz=334,slow=3.1,SNR=7.5						
WRA	Warramunga Arr	25.68	163	P	P	03 02 58.0	-0.4
WB2	Warramunga Arr	25.68	163	IAmb	IAmb	03 03 19.3	
	comp=Z,14nm,1.1s						
SDSI	Sungai Dareh	25.71	258	P	P	03 02 58.1	-0.8
	comp=Z,55nm,0.9s						
WR0	Warramunga Arr	25.76	162	P	P	03 02 59.0	-0.2
WR0				IAmb	IAmb	03 03 20.0	
	comp=Z,80nm,1.1s						
KULM	Kulim	25.80	272	P	P	03 02 59.0	-0.7
KULM				IAmb	IAmb	03 03 31.4	
	comp=Z,83nm,1.5s						
KULM	Kulim	25.80	272	P	P	03 02 59.0	-0.7
BKNI	Bangkinang	25.84	261	P	P	03 03 00.7	+0.6
	comp=Z,2μmcomp=Z,210nm,1.0s						
BKNI	Bangkinang	25.84	261	P	P	03 02 59.4	-0.7
PDSI	Padang	26.65	259	P	P	03 03 07.3	-0.1
	comp=Z,4μmcomp=Z,25nm,0.8s						
JCJ	Chichijima	26.80	32	P	P	03 03 07.2	-1.3
	comp=Z,54nm,0.5s,baz=233,slow=20,SNR=11						
JCJ	Chichijima	26.80	32	P	P	03 03 07.0	-1.5
PSA00	Pilbara Seismi	26.94	194	P	P	03 03 09.2	-0.6
PSA00				IAmb	IAmb	03 03 10.3	
	comp=Z,76nm,0.8s						
MNSI	Mandailing Nat	27.20	263	P	P	03 03 13.5	+1.2
SLVN	Son La	27.48	309	P	P	03 03 17.0	+2.2
PSI	Prapat	27.62	267	P	P	03 03 16.3	+0.1
	comp=Z,8.2nm,0.6s,baz=172,slow=1.0,SNR=8.9						
PSI	Prapat	27.62	267	P	P	03 03 17.0	+0.8
PSI				pmax	pmax		
	comp=Z,18nm,1.0s						
RPSI	Rantau Prapat	27.63	267	P	P	03 03 17.0	+0.8
SISI	Saibi	28.07	258	P	P	03 03 18.6	-1.5
	comp=Z,74nm,0.8s						
NJ2	Nanjing	28.13	346	*e*P	P	03 03 21.5	+1.2
NJ2				pmax	pmax		
	comp=Z,44nm,0.9s						
WHN	Wuhan	28.14	337	⇓P	P	03 03 20.8	+0.3
WHN				pP	pP	03 03 35.3	-2.7
WHN				S	S	03 08 00.5	+0.5
WHN				pmax	pmax		
	comp=Z,62nm,1.1s						
WHN				LR	LR		
	comp=Z,730nm,20.9s						
QIS	Mount Isa	28.21	153	P	P	03 03 21.6	+0.4
	baz=28,SNR=11						
JNU	Nakatsue	28.55	8	P	P	03 03 23.7	-0.4
	comp=Z,39nm,0.9s,baz=154,slow=4.3,SNR=12						
JNU	Nakatsue	28.55	8	P	P	03 03 23.0	-1.1
MTSU	Mount Surprise	28.69	143	P	P	03 03 26.6	+1.0
	baz=29,SNR=4.6						
GYA	Guiyang	28.78	321	⇓P	P	03 03 29.4	+3.0
GYA				sP	sP	03 03 58.1	+5.2
GYA				S	S	03 08 05.8	-4.7
GYA				ScP	ScP	03 10 09.1	-0.1
GYA				ScS	ScS	03 14 00.3	-2.8
GYA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GYA				pmax	pmax		
	comp=Z,120nm,3.5s						
GYA				LR	LR		
	comp=Z,440nm,17.8s						
GYA				LR	LR		
	comp=Z,410nm,18.0s						
GYA				LR	LR		
	comp=Z,270nm,20.6s						
AS31	Alice Springs	29.11	166	P	P	03 03 27.4	-1.9
ASAR	Alice Springs	29.11	166	P	P	03 03 29.0	-0.3
	comp=Z,3.1nm,0.6s,baz=341,slow=6.9,SNR=53						
ASAR				PcP	PcP	03 06 35.9	+0.4
	comp=Z,1.7nm,0.5s,baz=344,slow=2.7,SNR=4.1						
ASAR				S	S	03 08 16.9	+1.4
	comp=Z,0.5nm,0.7s,baz=359,slow=12,SNR=2.3						
ASAR				ScP	ScP	03 10 11.0	+0.9
	comp=Z,5.3nm,0.9s,baz=3.1,slow=2.8,SNR=13						
ASAR				LR	LR	03 15 35.8	
	comp=Z,95nm,19.8s,baz=350,slow=37						
ASAR	Alice Springs	29.11	166		ScP	03 10 10.0	-0.1
ASAR	Alice Springs	29.11	166	P	P	03 03 28.6	-0.7
GSI	Gunungsitoli	29.12	264	P	P	03 03 28.7	-0.7
	comp=Z,3μmcomp=Z,51nm,1.0s						
WRKA	Warakurna	29.63	177	P	P	03 03 34.2	+0.4
	baz=30,SNR=5.6						
JMN	Monobe	29.66	12	P	P	03 03 33.3	-0.7
JMN				IAmb	IAmb	03 03 35.5	
	comp=Z,40nm,0.8s						
GIRL	Giralia	29.74	203	P	P	03 03 34.7	0.0
	baz=30,SNR=4.4						
ENH	Enshi	30.08	330	P	P	03 03 36.5	-1.3
ENH				IAmb	IAmb	03 03 37.9	
	comp=Z,35nm,1.0s						
CMAR	Chiang Mai Arr	30.22	299	P	P	03 03 39.7	+0.6
	comp=Z,6.8nm,0.9s,baz=110,slow=6.8,SNR=17						
CMAR				PcP	PcP	03 06 39.6	+1.2
	comp=Z,1.1nm,0.4s,baz=128,slow=0.3,SNR=4.4						
CMAR				ScP	ScP	03 10 14.6	+0.8
	comp=Z,4.7nm,1.0s,baz=129,slow=2.1,SNR=11						
CMAR				LR	LR	03 16 39.8	
	comp=Z,107nm,18.5s,baz=149,slow=38						
CMAR	Chiang Mai Arr	30.22	299		ScP	03 10 14.0	+0.2
CMAR	Chiang Mai Arr	30.22	299	P	P	03 03 43.5	+4.4
CHTO	Chiang Mai	30.36	300	P	P	03 03 40.2	-0.1
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CHTO	Chiang Mai	30.36	300	P	P	03 03 40.2	-0.1
KMI	Kunming	30.55	314⇓	*e*P	P	03 03 42.8	+0.6
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
JHS	Saijyo	30.74	11	IAmb	IAmb	03 03 45.7	
	comp=Z,26nm,0.9s						
CTA	Charters Tower	31.36	142	P	P	03 03 50.5	+1.5
	comp=Z,9.1nm,0.7s,baz=324,slow=12,SNR=15						
CTAO	Charters Tower	31.36	142	P	P	03 03 49.2	+0.1
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CTAO	Charters Tower	31.36	142	P	P	03 03 49.2	+0.1
JWT	Wachi	31.50	14	P	P	03 03 49.5	-0.6
JWT				IAmb	IAmb	03 03 51.2	
	comp=Z,38nm,0.6s						
TJN	Taejon	31.51	1	*c*eP	P	03 03 49.3	-0.9
MEEK	Meekatharra	32.10	193	P	P	03 03 54.8	-0.8
	baz=32,SNR=31						
JGF	Kuroka	32.31	17	IAmb	IAmb	03 03 58.6	
	comp=Z,22nm,0.7s						
TIA	Tai'an	32.52	346	P	P	03 03 58.8	-0.3
TIA				pmax	pmax		
	comp=Z,14nm,0.7s						
KSAR	Wonju Array Be	32.59	2	P	P	03 03 59.9	+0.2
KSAR	Wonju Array Be	32.59	2	P	P	03 03 59.9	+0.2
KSRS	Korea Array	32.60	2	P	P	03 04 00.6	+0.8
	comp=Z,25nm,0.8s,baz=177,slow=9.9,SNR=82						
KSRS				PcP	PcP	03 06 45.6	+1.3
	comp=Z,4.3nm,0.7s,baz=182,slow=2.4,SNR=9.1						
KSRS				ScP	ScP	03 10 22.1	+0.8
	comp=Z,1.5nm,0.7s,baz=184,slow=4.1,SNR=5.1						
KSRS				LR	LR	03 19 59.0	
	comp=Z,46nm,18.6s,baz=194,slow=41						
INCN	Inchon	32.61	0	P	P	03 03 59.9	0.0
INCN				pmax	pmax		
	comp=Z,28nm,0.6s						
INCN	Inchon	32.61	0	P	P	03 03 59.9	0.0
INCN				IAmb	IAmb	03 04 01.7	
	comp=Z,28nm,0.6s						
KS19	Wonju Array Si	32.65	2	P	P	03 03 59.7	-0.5
KS19				IAmb	IAmb	03 04 42.3	
	comp=Z,38nm,0.8s						
MAJO	Matsushiro	33.44	17	*c i*P	P	03 04 05.1	-2.0
MAJO				pmax	pmax		
	comp=Z,16nm,1.0s						
MAJO	Matsushiro	33.44	17	P	P	03 04 06.1	-1.0
MAJO				IAmb	IAmb	03 04 08.5	
	comp=Z,18nm,0.8s						
MAT	Matsushiro

FORT	Forrest	35.33 178	P	P	03 04 23.4	0.0
	baz=35,SNR=7.1					
FORT	Forrest	35.33 178	P	P	03 04 22.9	-0.5
KMBL	Kambalda	36.16 187	P	P	03 04 30.6	0.0
	baz=36,SNR=4.9					
BJT	Baijiatuau	36.37 347	P	P	03 04 32.3	0.0
BJT			pmax	pmax		
	comp=Z,44nm,0.7s					
BJT	Baijiatuau	36.37 347	P	P	03 04 32.2	0.0
BLDU	Baliidu	36.37 194	P	P	03 04 31.6	-0.8
	baz=36,SNR=16					
BJI	Beijing	36.39 347	P	P	03 04 32.3	-0.1
BJI			PcP	PcP	03 06 56.1	+0.8
BJI			S	S	03 10 16.5	+8.6
BJI			pmax	pmax		
	comp=Z,45nm,0.7s					
BJI			pmax	pmax		
	comp=Z,53nm,3.8s					
BJI			LR	LR		
	comp=Z,37nm,4.7s					
BJI			LR	LR		
	comp=Z,120nm,4.5s					
KLBR	Kellerberrin	37.07 192	P	P	03 04 38.0	-0.3
	baz=37,SNR=9.0					
LZH	Lanzhou	37.56 329	⇑P	P	03 04 42.6	0.0
LZH			pP	pwP	03 05 03.0	-2.4
LZH			eS	S	03 10 23.1	-3.2
LZH			SS	SnSn	03 13 06.8	-5.6
LZH			pmax	pmax		
	comp=Z,49nm,1.2s					
LZH			pmax	pmax		
	comp=Z,140nm,4.6s					
LZH			LR	LR		
	comp=Z,520nm,13.0s					
LZH			LR	LR		
	comp=Z,520nm,12.6s					
LZH			LR	LR		
	comp=Z,610nm,16.5s					
MUN	Mundaring	37.80 194	P	P	03 04 44.2	-0.3
	baz=38,SNR=8.1					
EIDS	Eidsvold	38.25 143	P	P	03 04 48.5	+0.1
	baz=38,SNR=3.2					
EIDS	Eidsvold	38.25 143	P	P	03 04 48.4	+0.1
EIDS			IAmb	IAmb	03 05 13.1	
	comp=Z,17nm,0.8s					
BBOO	Buckleboo	38.40 167	P	P	03 04 49.7	+0.1
	baz=38,SNR=11					
BBOO	Buckleboo	38.40 167	P	P	03 04 48.7	-0.9
BBOO			IAmb	IAmb	03 05 08.8	
	comp=Z,21nm,0.7s					
HHC	Hu-ho-hao-te	38.41 342	eP	P	03 04 49.4	-0.2
HHC			pP	pP	03 05 04.8	-2.8
HHC			sP	sP	03 05 18.6	+2.2
HHC			S	S	03 10 35.9	-2.9
HHC			sS	sS	03 11 19.3	+9.4
HHC			ScS	ScS	03 14 54.8	+2.0
HHC			pmax	pmax		
	comp=Z,24nm,1.0s					
HHC			pmax	pmax		
	comp=Z,100nm,4.9s					
HHC			LR	LR		
	comp=Z,150nm,13.0s					
HHC			LR	LR		
	comp=Z,170nm,15.2s					
HHC			LR	LR		
	comp=Z,120nm,14.3s					
NWAO	Narrogin (SRO)	38.47 193	P	P	03 04 50.0	0.0
	comp=Z,34nm,0.9s,baz=32,slow=6.2,SNR=10					
NWAO	Narrogin (SRO)	38.47 193	P	P	03 04 50.1	0.0
	baz=38,SNR=8.1					
NWAO	Narrogin (SRO)	38.47 193	P	P	03 04 50.2	+0.1
NWAO			pmax	pmax		
	comp=Z,65nm,1.2s					
NWAO	Narrogin (SRO)	38.47 193	P	P	03 04 50.2	+0.1
ZIRO	ZIRO	38.51 310	eP	P	03 04 50.9	+0.1
TEZP	TEZPUR	38.89 308	eP	P	03 04 51.8	-2.0
CN2	Changchun	38.93 359	eP	P	03 04 54.3	+0.5
CN2			pmax	pmax		
	comp=Z,20nm,0.9s					
STKA	Stephens Creek	39.12 159	P	P	03 04 55.9	+0.4
	comp=Z,17nm,0.7s,baz=335,slow=8.0,SNR=41					
STKA			LR	LR	03 23 25.3	
	comp=Z,53nm,19.7s,baz=3.2,slow=40					
STKA	Stephens Creek	39.12 159	P	P	03 04 56.0	+0.5
	baz=39,SNR=27					
STKA	Stephens Creek	39.12 159	P	P	03 04 54.5	-1.0
STKA			pmax	pmax		
	comp=Z,9.0nm,1.0s					
STKA	Stephens Creek	39.12 159	P	P	03 04 54.5	-1.0
SHL	Shillong	39.14 306	eP	P	03 04 54.5	-1.6
SHL			IAmb	IAmb	03 04 56.8	
	comp=Z,19nm,0.7s					
SHL	Shillong	39.14 306	P	P	03 04 55.3	-0.8
SHL			pmax	pmax		
	comp=Z,53nm,0.6s					
SHL	Shillong	39.14 306	P	P	03 04 55.3	-0.8
USA0B	Ussuriysk Arra	39.61 6	P	P	03 05 00.2	+0.7
USA0B			pmax	pmax		
	comp=Z,36nm,0.9s					
USA0B	Ussuriysk Arra	39.61 6	P	P	03 05 00.2	+0.7
USA0B			IAmb	IAmb	03 05 02.1	
	comp=Z,36nm,0.8s					
USRK	Ussuriysk Ar.	39.61 6	P	P	03 04 59.5	0.0
	comp=Z,28nm,0.8s,baz=192,slow=7.6,SNR=50					
USRK			LR	LR	03 22 19.1	
	comp=Z,46nm,20.3s,baz=171,slow=38					
USRK	Ussuriysk Ar.	39.61 6	P	P	03 04 59.3	-0.2
HTT	Hallett	39.71 164	P	P	03 05 01.4	+0.9
	baz=40,SNR=4.3					
MDJ	Mudanjiang	39.83 3	P	P	03 05 01.4	+0.1
TEY	Ternei	41.11 11	⇑eP	P	03 05 12.7	+0.9
TEY			pmax	pmax		
	comp=Z,40nm,1.3s					
TEY			pmax	pmax		
	comp=N,20nm,1.2s					
LSA	Lhasa	41.65 311	P	P	03 05 17.6	+0.5
LSA			pmax	pmax		
	comp=Z,12nm,0.5s					
LSA	Lhasa	41.65 311	P	P	03 05 17.6	+0.5
LSA			IAmb	IAmb	03 05 31.4	
	comp=Z,12nm,0.5s					
ASAJ	Asahikawa	41.71 17	P	P	03 05 16.7	-0.1
ASAJ			pmax	pmax		
	comp=Z,216nm,1.9s					
JKA	Kamikawa-asahi	41.71 17	P	P	03 05 16.7	-0.1
H11N1	WAKE ISLAND Hy	42.02 66	T	T	03 50 12.6	
	baz=255,slow=75,SNR=4.2					
H11N2	WAKE ISLAND Hy	42.02 66	T	T	03 50 12.6	
	baz=255,slow=75,SNR=4.0					
H11N3	WAKE ISLAND Hy	42.03 66	T	T	03 50 12.6	
	baz=255,slow=75,SNR=5.2					
GTA	Gaotai	42.16 329	eP	P	03 05 20.3	-0.4
GTA			PcP	PcP	03 07 14.9	+1.1
GTA			ScS	ScS	03 15 15.3	0.0
GTA			pmax	pmax		
	comp=Z,6.0nm,1.3s					
GTA			pmax	pmax		
	comp=Z,74nm,10.5s					
GTA			LR	LR		
	comp=Z,130nm,14.9s					
GTA			LR	LR		
	comp=Z,130nm,17.1s					
GTA			LR	LR		
	comp=Z,230nm,17.5s					
ARMA	Armidale	42.39 147	P	P	03 05 22.6	-0.1
	baz=42,SNR=4.9					
ARMA	Armidale	42.39 147	P	P	03 05 23.4	+0.7
ARMA			IAmb	IAmb	03 05 50.6	
	comp=Z,16nm,0.8s					
ARPS	Mount Arapiles	43.68 162	P	P	03 05 32.9	+0.1
	baz=44,SNR=15					
YSS	Yuzh-Sakhalins	44.35 16	⇓iP	P	03 05 38.7	+0.7
YSS			e		03 06 05.2	
YSS			pmax	pmax		
	comp=Z,30nm,1.3s					
YSS	Yuzh-Sakhalins	44.35 16	P	P	03 05 37.6	-0.4
HIA	Hailar	44.76 354	P	P	03 05 42.3	+0.9
HIA			pmax	pmax		
	comp=Z,83nm,1.2s					
HIA	Hailar	44.76 354	P	P	03 05 42.3	+0.9
GUN	Gumba	45.00 305	eP	P	03 05 42.7	-1.2
	comp=Z,51nm,0.7s					
GUN	Gumba	45.00 305	eP	P	03 05 42.7	-1.2
	comp=Z,51nm,0.7s					
KKN	Kakani	45.44 305	eP	P	03 05 47.0	-0.3
KKN	Kakani	45.44 305	eP	P	03 05 47.0	-0.3
DMN	Daman	45.51 305	eP	P	03 05 47.0	-0.9
DMN	Daman	45.51 305	eP	P	03 05 47.0	-0.9
GKN	Gorkha	46.05 305	eP	P	03 05 50.2	-1.8
GKN	Gorkha	46.05 305	eP	P	03 05 50.2	-1.8
ULN	Ulaanbaatar	46.12 342	ceP	P	03 05 52.1	-0.2
ULN			pmax	pmax		
	comp=Z,31nm,0.8s					
ULN	Ulaanbaatar	46.12 342	P	P	03 05 52.5	+0.2
ULN			IAmb	IAmb	03 05 57.1	
	comp=Z,30nm,0.8s					
SONM	Songino Array	46.30 341	P	P	03 05 53.5	-0.2
	comp=Z,10nm,0.8s,baz=156,slow=7.9,SNR=17					
SONM			PcP	PcP	03 07 27.7	-0.1
	comp=Z,5.9nm,1.0s,baz=157,slow=4.2,SNR=4.2					
SONM			ScP	ScP	03 11 14.4	+0.3
	comp=Z,1.1nm,0.8s,baz=163,slow=5.2,SNR=3.6					
SONM			LR	LR	03 26 01.6	
	comp=Z,66nm,19.3s,baz=164,slow=37					
GRNR	Gornyy	46.64 9	⇑iP	P	03 05 57.1	+1.0
GRNR			pmax	pmax		
	comp=N,10.0nm,1.2s					
GRNR			pmax	pmax		
	comp=Z,10.0nm,0.7s					
GRNR			MLR	MLR		
	comp=N,110nm,14.0s					
GRNR			MLR	MLR		
	comp=Z,100nm,17.0s					
DANN	Dangsing	46.89 305	eP	P	03 05 57.1	-1.7
	comp=Z,52nm,0.6s					
DANN	Dangsing	46.89 305	eP	P	03 05 57.1	-1.7
	comp=Z,52nm,0.6s					
ZEA	Zeya	48.87 1	eP	P	03 06 13.2	0.0
ZEA			pmax	pmax		
	comp=N,47nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,58nm,1.0s					
ZAK	Zakamensk	49.53 341	eP	P	03 06 21.0	+2.5
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.2s					
TLY	Talaya	50.53 342	eP	P	03 06 25.1	-0.9
TLY			ePPP	PPP	03 09 18.7	
TLY			eS	S	03 13 30.9	-3.2
TLY			pmax	pmax		
	comp=Z,23nm,0.8s					
TLY			MLR	MLR		
	comp=Z,93nm,12.0s					
TLY	Talaya	50.53 342	P	P	03 06 25.0	-1.0
BHPL	Bhopal	50.79 296	IAmb	IAmb	03 06 29.9	
	comp=Z,6.2nm,0.7s					
MOY	Mondy	51.39 340	eP	P	03 06 33.1	+0.6
MOY			pmax	pmax		
	comp=Z,28nm,1.9s					
WMQ	Urumqi	51.81 325	eP	P	03 06 36.8	+1.1
WMQ			pmax	pmax		
	comp=Z,8.0nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,25nm,3.7s					
WMQ			LR	LR		
	comp=Z,310nm,18.5s					
WMQ			LR	LR		
	comp=Z,120nm,11.9s					
WMQ			LR	LR		
	comp=Z,120nm,21.1s					
SKR	Severo-Kuril's	52.09 23	eP	P	03 06 44.7	+7.2
SKR			e		03 08 34.8	
SKR			ePPP	PPP	03 09 40.2	
SKR			eS	S	03 14 19.9	+25
SKR			pmax	pmax		
	comp=Z,400nm,4.3s					
SKR			pmax	pmax		
	comp=Z,100nm,3.8s					
SKR			MLR	MLR		
	comp=Z,400nm,14.0s					
SMLA	Simla	53.23 306	eP	P	03 06 46.4	0.0
SMLA			IAmb	IAmb	03 06 47.1	
	comp=Z,14nm,0.6s					
BOD	Bodaibo	53.86 352	eP	P	03 06 50.9	+0.4
BOD			pmax	pmax		
	comp=Z,42nm,1.5s					
DHRM	DHARAMSHALA	54.30 307	eP	P	03 06 53.6	-0.9
DHRM			IAmb	IAmb	03 06 55.9	
	comp=Z,22nm,0.6s					
PEA0B	Petropavlovsk-	54.59 23	P	P	03 06 54.8	-1.1
PEA0B			pmax	pmax		
	comp=Z,91nm,1.4s					
PEA0B	Petropavlovsk-	54.59 23	P	P	03 06 54.8	-1.1
PETK	Petropavlovsk-	54.59 23	P	P	03 06 56.7	+0.8
	comp=Z,12nm,0.7s,baz=190,slow=3.1,SNR=13					
PETK			PcP	PcP	03 07 58.3	+0.3
	comp=Z,10.0nm,0.9s,baz=174,slow=1.4,SNR=1.9					
PETK			LR	LR	03 31 42.1	
	comp=Z,37nm,20.0s,baz=221,slow=38					
PETK	Petropavlovsk-	54.59 23	P	P	03 06 56.6	+0.7
MSVF	Nonsavu	55.50 115	P	P	03 07 01.5	-1.6
MSVF			pmax	pmax		
	comp=Z,42nm,1.2s					
MSVF	Nonsavu	55.50 115	P	P	03 07 01.5	-1.6
DGZ	Jazzator, Alta	55.65 330	eP	P	03 07 03.0	-0.7
DGZ			pmax	pmax		
	comp=Z,8.0nm,0.9s					
SHLS	Shalkode	56.47 320	eP	P	03 07 07.2	-2.5
	comp=Z,7.4nm,1.0s,baz=320					
SHLS	Shalkode	56.47 320	eP	P	03 07 07.2	-2.5
SHLS			pmax	pmax		
	comp=Z,7.0nm,1.0s					
PDGK	Podgornoye	56.53 320	P	P	03 07 08.6	-1.6
MK31	Makanchi Array	56.64 325	iP	P	03 07 09.2	-1.5
MKAR	Makanchi Array	56.64 325	P	P	03 07 10.1	-0.6
	comp=Z,7.0nm,0.6s,baz=120,slow=8.1,SNR=38					
MKAR			PcP	PcP	03 08 06.6	+0.4
	comp=Z,13nm,0.8s,baz=123,slow=4.1,SNR=5.7					
MKAR			ScP	ScP	03 11 57.5	-1.2
	comp=Z,2.8nm,0.8s,baz=122,slow=3.0,SNR=6.6					
MKAR			LR	LR	03 32 31.9	
	comp=Z,105nm,18.4s,baz=107,slow=37					
MKAR	Makanchi Array	56.64 325	P	P	03 07 09.6	-1.1
UZB	Uzynbulak	56.75 320	eP	P	03 07 10.8	-1.0
	comp=Z,2.0nm,0.8s,baz=320					
UZB			eS	S	03 14 57.7	-1.1
	baz=320					
UZB	Uzynbulak	56.75 320	eP	P	03 07 10.7	-1.0
UZB			eS	S	03 14 57.6	-1.1
UZB			pmax	pmax		
	comp=Z,2.0nm,0.8s					
MAKZ	Makanchi	56.83 325	P	P	03 07 11.6	-0.5
MAKZ			pmax	pmax		
	comp=Z,17nm,1.0s					
MAKZ	Makanchi	56.83 325	P	P	03 07 11.6	-0.5
MAKZ			IAmb	IAmb	03 07 28.9	
	comp=Z,17nm,0.9s					
SATY	Saty	57.10 319	eP	P	03 07 13.5	-0.7
	comp=Z,5.7nm,0.9s,baz=320					
SATY	Saty	57.10 319	eP	P	03 07 13.5	-0.7
SATY			pmax	pmax		
	comp=Z,6.0nm,0.9s					
KPKS	Kokpek	57.12 320	eP	P	03 07 13.1	-1.1
	comp=Z,3.9nm,0.8s,baz=320					
KPKS	Kokpek	57.12 320	eP	P	03 07 13.1	-1.1
KPKS			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KSH	Kashi	57.21 315	P	P	03 07 15.4	+0.3
KSH			S	S	03 15 06.5	+1.6
KSH			pmax	pmax		
	comp=Z,15nm,1.0s					
KSH			pmax	pmax		
	comp=Z,91nm,8.0s					
KSH			LR	LR		
	comp=Z,96nm,4.6s					
KSH			LR	LR		
	comp=Z,93nm,8.0s					
YAK	Yakutsk	57.23 2	LR	LR	03 33 06.6	
	comp=Z,24nm,21.1s,baz=182,slow=37					
YAK	Yakutsk	57.23 2	eP	P	03 07 14.8	+0.3
YAK			e*PP	pP	03 07 27.2	-6.5
YAK			ePPP	PPP	03 10 43.8	
YAK			eS	S	03 15 07.3	+3.3
YAK			e		03 16 54.3	
YAK			eSS	SS	03 19 00.8	+6.5
YAK			pmax	pmax		
	comp=Z,217nm,1.0s					
YAK			pmax	pmax		
	comp=E,6.0nm,0.9s					
YAK			pmax	pmax		
	comp=N,114nm,1.1s					
YAK			pmax	pmax		
	comp=Z,14nm,0.3s					
YAK			pmax	pmax		
	comp=N,3.0nm,0.5s					
YAK			pmax	pmax		
	comp=E,3.0nm,0.4s					
YAK			smax	smax		
	comp=E,123nm,2.2s					
YAK			smax	smax		
	comp=N,59nm,1.2s					
YAK	Yakutsk	57.23 2	P	P	03 07 14.1	-0.4
MA2	Magadan	57.80 14	ceP	P	03 07 18.6	0.0
MA2			pmax	pmax		
	comp=Z,59nm,2.5s					
MA2	Magadan	57.80 14	P	P	03 07 18.5	0.0
TDK	Taldyqorghan	58.03 321	eP	P	03 07 19.7	-0.8
	comp=Z,9.1nm,0.5s,baz=322					
TDK	Taldyqorghan	58.03 321	eP	P	03 07 19.7	-0.8
TDK			pmax	pmax		
	comp=Z,9.0nm,0.5s					
MDOK	Medeo	58.03 319	eP	P	03 07 19.8	-1.1
	baz=319					
MDOK	Medeo	58.03 319	eP	P	03 07 19.7	-1.1
AAA	Alma-Ata	58.14 319	eP	P	03 07 20.8	-0.6
	baz=319					
AAA	Alma-Ata	58.14 319	eP	P	03 07 20.8	-0.6
BOOM	Boomskoye usch	58.47 318	P	P	03 07 24.4	+0.5
BOOM			pmax	pmax		
	comp=Z,12nm,1.1s					
BOOM	Boomskoye usch	58.47 318	P	P	03 07 24.4	+0.5
KUU	Kurty	58.82 320	eP	P	03 07 25.1	-1.0
	comp=Z,13nm,0.8s,baz=320					
KUU	Kurty	58.82 320	eP	P	03 07 25.0	-1.0
KUU			pmax	pmax		
	comp=Z,13nm,0.8s					
AAK	Ala-Archa	59.50 318	iP	P	03 07 30.0	-1.0
AAK			pmax	pmax		
	comp=Z,10.0nm,0.8s					
ZAA0	Zalesovo Array	59.62 333	P	P	03 07 30.2	-1.1
ZAA0			IAmb	IAmb	03 07 51.3	
	comp=Z,11nm,0.9s					
ZALV	Zalesovo Beam	59.62 333	P	P	03 07 30.0	-1.3
	comp=Z,9.9nm,1.0s,baz=122,slow=7.2,SNR=13					
ZALV			LR	LR	03 34 59.7	
	comp=Z,41nm,19.4s,baz=129,slow=38					
ZALV	Zalesovo Beam	59.62 333	P	P	03 07 29.7	-1.6
ZALV	Zalesovo Beam	59.62 333	P	P	03 07 29.7	-1.6
SGDS	Sogindy	59.75 318	eP	P	03 07 31.1	-1.4
	comp=Z,3.9nm,1.4s,baz=318					
SGDS	Sogindy	59.75 318	eP	P	03 07 31.1	-1.4
SGDS			pmax	pmax		
	comp=Z,4.0nm,1.4s					
KBL	Kabul	60.77 307	P	P	03 07 38.5	-1.4
KBL			pmax	pmax		
	comp=Z,9.0nm,0.8s					
KBL	Kabul	60.77 307	P	P	03 07 38.5	-1.4
KBL			IAmb	IAmb	03 08 07.8	
	comp=Z,9.4nm,0.8s					
BTLS	Baital	60.80 320	eP	P	03 07 38.3	-1.3
	comp=Z,2.4nm,0.9s,baz=320					
BTLS	Baital	60.80 320	eP	P	03 07 38.3	-1.3
BTLS			pmax	pmax		
	comp=Z,2.0nm,0.9s					
KURBB	Kurchatov Arra	60.81 327	P	P	03 07 37.7	-1.8
KURK	Kurchatov	60.81 327	ceP	P	03 07 38.4	-1.1
KURK			pmax	pmax		
	comp=Z,32nm,1.3s					
KURK	Kurchatov	60.81 327	P	P	03 07 38.6	-0.9
BTK	Batken	61.10 314	IAmb	IAmb	03 08 35.1	
	comp=Z,12nm,0.9s					
SEY	Seymchan	61.12 13	ciP	P	03 07 42.9	+1.5
GAR	Garm	61.12 312	P	P	03 07 41.1	-0.9
CHGR	Chuyangaron	61.87 312	P	P	03 07 46.3	-0.7
CHGR			IAmb	IAmb	03 08 11.2	
	comp=Z,15nm,0.8s					
IUG	Iuzhnay	62.38 316	eP	P	03 07 49.2	-1.2
	comp=Z,6.4nm,0.8s,baz=316					
IUG	Iuzhnay	62.38 316	eP	P	03 07 49.2	-1.2
IUG			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KK31	Karatay Array	62.38 317	P	P	03 07 49.5	-0.8
KK31			pmax	pmax		
	comp=Z,9.0nm,0.9s					
KK31	Karatay Array	62.38 317	P	P	03 07 49.5	-0.8
KKAR	Karatay Array	62.38 317	P	P	03 07 49.1	-1.2
KKAR	Karatay Array	62.38 317	P	P	03 07 49.1	-1.2
KKAR	Karatay Array	62.38 317	IAmb	IAmb	03 07 52.5	
	comp=Z,9.5nm,0.8s					
BRZS	Berezniki	63.78 324	eP	P	03 07 58.4	-1.0
	comp=Z,5.6nm,0.8s,baz=324					
BRZS	Berezniki	63.78 324	eP	P	03 07 58.4	-1.0
BRZS			pmax	pmax		
	comp=Z,6.0nm,0.8s					
BRVK	Borovoye	66.46 327	ceP	P	03 08 16.0	-0.7
BRVK			pmax	pmax		
	comp=Z,25nm,0.8s					
BRVK	Borovoye	66.46 327	P	P	03 08 15.8	-0.9
BRVK			IAmb	IAmb	03 08 33.8	
	comp=Z,32nm,0.8s					
NRIK	Noril'sk	69.43 346	P	P	03 08 35.4	+0.4
	comp=Z,41nm,0.7s,baz=123,slow=6.2,SNR=45					
NRIK			LR	LR	03 40 28.9	
	comp=Z,70nm,21.7s,baz=193,slow=37					
GEYT	Alibeck	70.13 309	P	P	03 08 40.0	+0.1
	comp=Z,5.3nm,0.9s,baz=90,slow=5.9,SNR=6.6					
GEYT	Alibeck	70.13 309	P	P	03 08 40.1	+0.1
ABKAR	Akbulak array	71.27 321	P	P	03 08 45.4	-1.2
SVE	Sverdlovsk	73.02 328	eP	P	03 08 56.2	-0.7
SVE			pmax	pmax		
	comp=Z,32nm,1.0s					
ARU	Arti	74.00 328	ciP	P	03 09 01.6	-1.1
ARU					03 11 44.3	
ARU			S	S	03 18 28.9	+0.2
ARU			SS	SS	03 23 12.8	-1.9
ARU			pmax	pmax		
	comp=Z,16nm,0.7s					
ARU	Arti	74.00 328	P	P	03 09 01.6	-1.1
ARU			IAmb	IAmb	03 09 12.5	
	comp=Z,17nm,0.6s					
RDOG	Red Dog Mine	78.44 21	IAmb	IAmb	03 09 30.7	
	comp=Z,39nm,1.2s					
AKT	Akhty	78.50 311	eP	P	03 09 29.3	+0.6
AKT			e		03 09 37.4	
AKT			e*PP	pP	03 09 49.8	+1.0
AKT			pmax	pmax		
	comp=Z,32nm,1.2s					
SVW2	Sparrevohn	80.03 29	IAmb	IAmb	03 09 39.0	
	comp=Z,15nm,0.8s					
TTA	Tatalina	80.11 27	IAmb	IAmb	03 09 39.3	
	comp=Z,81nm,1.8s					
OHAK	Old Harbor	80.73 33	P	P	03 09 40.1	0.0
KDAK	Kodiak Island	81.16 32	P	P	03 09 42.2	-0.3
KDAK			pmax	pmax		
	comp=Z,42nm,0.7s					
KDAK	Kodiak Island	81.16 32	P	P	03 09 42.2	-0.3
ZEI	Tsey	81.41 312	eP	P	03 09 44.8	+0.4
ZEI			pmax	pmax		
	comp=Z,16nm,1.4s					
IMAR	Indian Mountai	81.52 24	P	P	03 09 45.4	+1.2
PPLA	Purkeypile	81.84 27	IAmb	IAmb	03 09 48.2	
	comp=Z,20nm,0.8s					
SKT	Skwentna	82.06 28	IAmb	IAmb	03 09 48.3	
	comp=Z,33nm,1.0s					
KIV	Kislovodsk	82.32 314	eP	P	03 09 46.0	-3.1
KIV			pmax	pmax		
	comp=Z,23nm,1.0s					
KIV			MLR	MLR		
	comp=Z,82nm,19.0s					
TRF	Thorofare Moun	82.75 27	P	P	03 09 50.7	-0.2
COLD	Coldfoot	83.06 23	P	P	03 09 54.0	+1.8
	baz=266					
COLD	Coldfoot	83.06 23	IAmb	IAmb	03 09 55.2	
	comp=Z,29nm,0.8s					
VRH	Novokhopyorsk	83.10 321	eP	P	03 09 51.3	-1.5
VRH			pmax	pmax		
	comp=Z,20nm,0.5s					
NEA2	Nenana	83.35 26	P	P	03 09 55.1	+1.2
	baz=267					
RND	Reindeer	83.39 27	IAmb	IAmb	03 09 55.3	
	comp=Z,38nm,1.0s					
TOLK	Toolik Lake Re	83.40 22	P	P	03 09 55.7	+1.7
	baz=266					
TOLK	Toolik Lake Re	83.40 22	IAmb	IAmb	03 09 57.0	
	comp=Z,32nm,0.9s					
MDM	Murphy Dome	83.73 25	IAmb	IAmb	03 09 57.6	
	comp=Z,15nm,0.9s					
WRH	Wood River Hil	83.77 26	IAmb	IAmb	03 09 57.3	
	comp=Z,41nm,1.1s					

MARD	**Mardin**	**83.80**	**307**	P		**P**	**03 09 57.7**	**+0.9**
COLA	**College**	**83.89**	**25**	*i* P		**P**	**03 09 56.1**	**-0.4**
COLA				pmax		pmax		
	comp=Z,11nm,0.9s							
COLA	**College**	**83.89**	**25**	P		**P**	**03 09 56.7**	**+0.2**
COLA				IAmb		IAmb	03 09 58.7	
	comp=Z,18nm,0.8s							
CCB	**Clear Creek Bu**	**83.90**	**26**	IAmb		IAmb	03 09 57.7	
	comp=Z,32nm,1.1s							
POKR	**Poker Plat Res**	**84.07**	**25**	P		**P**	**03 09 59.2**	**+1.7**
	baz=268							
HDA	**Harding Lake**	**84.26**	**26**	P		**P**	**03 09 58.4**	**-0.1**
	baz=269							
HDA	**Harding Lake**	**84.26**	**26**	IAmb		IAmb	03 09 59.1	
	comp=Z,25nm,1.0s							
ILAR	**Eielson Array**	**84.30**	**25**	P		**P**	**03 09 58.0**	**-0.6**
	comp=Z,7.7nm,0.8s,baz=239,slow=4.2,SNR=69							
ILAR	**Eielson Array**	**84.30**	**25**	P		**P**	**03 09 57.6**	**-1.1**
VNDA	**Vanda**	**84.43**	**173**	P		**P**	**03 09 59.7**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=312,slow=5.2,SNR=17							
VNDA				LR		LR	03 46 26.8	
	comp=Z,21nm,21.1s,baz=304,slow=35							
VNDA	**Vanda**	**84.43**	**173**	P		**P**	**03 09 58.9**	**-0.1**
VNDA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
VNDA	**Vanda**	**84.43**	**173**	P		**P**	**03 09 58.9**	**-0.1**
KLMR	**Klimovskoe**	**84.45**	**331**	*e*P		**P**	**03 09 56.3**	**-3.2**
KLMR				pmax		pmax		
	comp=Z,52nm,1.0s							
KLMR	**Klimovskoe**	**84.45**	**331**	*e*P		**P**	**03 09 56.4**	**-3.1**
KLMR				AMP			03 10 00.0	
	comp=Z,52nm,1.0s							
MAW	**Mawson**	**84.61**	**200**	P		**P**	**03 10 00.2**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=37,slow=11,SNR=3.4							
MAW				LR		LR	03 48 39.2	
	comp=Z,23nm,18.1s,baz=57,slow=36							
VORD	**Divnogorie**	**84.63**	**321**	*e*P		**P**	**03 09 59.5**	**-1.1**
VORD				pmax		pmax		
	comp=Z,10.0nm,0.7s							
VSR	**Storozhevoye**	**84.70**	**321**	*e*P		**P**	**03 10 00.1**	**-0.9**
VSR				pmax		pmax		
	comp=Z,20nm,0.8s							
KLU	**Klutina**	**84.71**	**29**	IAmb		IAmb	03 10 02.9	
	comp=Z,24nm,0.8s							
LPSR	**Galich'ya Gora**	**84.83**	**322**	*e*P		**P**	**03 10 01.1**	**-0.4**
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PAX	**Paxson**	**84.91**	**27**	IAmb		IAmb	03 10 04.0	
	comp=Z,26nm,1.2s							
BMAR	**Burnt Mountain**	**85.24**	**23**	P		**P**	**03 10 05.0**	**+1.6**
MOS	**Moscow**	**85.52**	**325**	*e*P		**P**	**03 10 01.7**	**-3.2**
MOS				*e*			03 10 19.7	
DOT	**Dot Lake**	**85.54**	**27**	P		**P**	**03 10 05.1**	**+0.2**
PPT	**Papeete**	**85.60**	**108**	LR		LR	03 45 34.1	
	comp=Z,24nm,19.7s,baz=259,slow=34							
GLB	**Gilahina Butte**	**85.72**	**29**	IAmb		IAmb	03 10 08.7	
	comp=Z,27nm,0.9s							
OBN	**Obninsk**	**86.15**	**325**	⇓*i* P		**P**	**03 10 07.6**	**-0.4**
OBN				*i*			03 10 24.7	
OBN				*e*			03 13 24.6	
OBN				*i* S		**S**	**03 20 32.8**	**-3.3**
OBN				pmax		pmax		
	comp=Z,35nm,1.2s							
OBN				MLR		MLR		
	comp=Z,39nm,17.0s							
OBN	**Obninsk**	**86.15**	**325**	P		**P**	**03 10 07.4**	**-0.6**
K27K	**Chicken**	**86.40**	**26**	P		**P**	**03 10 10.4**	**+1.3**
	baz=273							
BCAR	**Beaver Creek A**	**86.59**	**27**	P		**P**	**03 10 10.9**	**+0.8**
EPYK	**Eagle Plains**	**88.42**	**24**	P		**P**	**03 10 19.0**	**+0.2**
	baz=278							
EPYK	**Eagle Plains**	**88.42**	**24**	IAmb		IAmb	03 10 20.7	
	comp=Z,26nm,1.3s							
BRTR	**Keskin Array B**	**89.25**	**310**	P		**P**	**03 10 22.4**	**-1.1**
	comp=Z,4.3nm,0.8s,baz=111,slow=4.9,SNR=13							
BRTR	**Keskin Array B**	**89.25**	**310**	P		**P**	**03 10 22.1**	**-1.3**
KMBO	**Kilima Mbogo**	**89.38**	**269**	P		**P**	**03 10 24.1**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=35,slow=7.9,SNR=5.9							
KMBO				LR		LR	03 46 13.5	
	comp=Z,40nm,19.9s,baz=106,slow=33							
KMBO	**Kilima Mbogo**	**89.38**	**269**	*i* P		**P**	**03 10 26.8**	**+2.1**
KMBO				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KMBO	**Kilima Mbogo**	**89.38**	**269**	P		**P**	**03 10 24.2**	**-0.5**
ARCES	**ARCESS Array B**	**89.46**	**340**	P		**P**	**03 10 22.4**	**-1.2**
	comp=Z,17nm,0.9s,baz=78,slow=6.3,SNR=24							
FINES	**FINESS Array B**	**90.88**	**332**	P		**P**	**03 10 29.5**	**-0.8**
	comp=Z,8.6nm,0.8s,baz=60,slow=5.0,SNR=37							
FINES				LR		LR	03 55 17.6	
	comp=Z,24nm,19.9s,baz=78,slow=38							
FINES	**FINESS Array B**	**90.88**	**332**	P		**P**	**03 10 29.3**	**-1.0**
AKASG	**Malin Array Be**	**91.01**	**321**	P		**P**	**03 10 30.2**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=68,slow=4.4,SNR=5.9							
AKASG	**Malin Array Be**	**91.01**	**321**	P		**P**	**03 10 30.2**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,3.0nm,1.1s							
SYO	**Syowa Base**	**93.28**	**201**	⇑*e*PcP		**PcP**	**03 10 45.0**	**+3.3**
SYO	**Syowa Base**	**93.28**	**201**	⇑*e*pP		pP	03 11 03.0	+1.2
SYO	**Syowa Base**	**93.28**	**201**	⇑*e*sP		sP	03 11 12.0	+2.0
VRI	**Vrincioaia**	**93.45**	**316**	⇑P		**P**	**03 10 44.1**	**+1.5**
VRI	**Vrincioaia**	**93.45**	**316**	⇑P		**P**	**03 10 44.1**	**+1.5**
PLOR	**Plostina**	**93.51**	**316**	⇑P		**P**	**03 10 42.4**	**-0.5**
PLOR	**Plostina**	**93.51**	**316**	⇑P		**P**	**03 10 42.4**	**-0.5**
NEHR	**Nehoiu**	**93.83**	**316**	⇑P		**P**	**03 10 45.1**	**+0.7**
MLR	**Muntele Rosu**	**94.06**	**316**	⇑P		**P**	**03 10 44.5**	**-1.1**
MLR	**Muntele Rosu**	**94.06**	**316**	⇑P		**P**	**03 10 44.5**	**-1.1**
BURAR	**Bucovina Array**	**94.14**	**318**	⇑P		**P**	**03 10 46.4**	**+0.5**
BURAR	**Bucovina Array**	**94.14**	**318**	⇑P		**P**	**03 10 46.4**	**+0.5**
BURAR	**Bucovina Array**	**94.14**	**318**	P		**P**	**03 10 45.1**	**-0.8**
BUR08	**Bucovina Ar. S**	**94.14**	**318**	IAmb		IAmb	03 14 06.1	
	comp=Z,21nm,1.9s							
UZH	**Uzhgorod**	**95.83**	**320**	*e*P		**P**	**03 10 52.9**	**-0.5**
UZH				*e*			03 11 10.5	
DEV	**Deva**	**96.06**	**317**	⇑P		P	03 11 03.0	+8.4
DEV	**Deva**	**96.06**	**317**	⇑P		P	03 11 03.0	+8.4
CRVS	**Cervenica-Dubn**	**96.30**	**320**	*e*P		**P**	**03 10 55.4**	**-0.2**
CRVS	**Cervenica-Dubn**	**96.30**	**320**	*e*PDIFF		**P**	**03 10 55.4**	**-0.2**
BZS	**Buzias**	**97.00**	**317**	⇑P		**P**	**03 10 56.9**	**-1.9**
BZS	**Buzias**	**97.00**	**317**	⇑P		**P**	**03 10 56.9**	**-1.9**
NB2	**NORSAR Subarra**	**97.82**	**334**	P		**P**	**03 11 00.5**	**-1.7**
	comp=Z,3.8nm,0.8s,baz=65,slow=4.4							
NB2	**NORSAR Subarra**	**97.82**	**334**	P		**P**	**03 11 00.5**	**-1.7**
	baz=65,slow=4.4							
NOA	**NORSAR Array B**	**97.82**	**334**	P		**P**	**03 11 00.8**	**-1.4**
	comp=Z,5.2nm,0.8s,baz=66,slow=4.6,SNR=30							
NOA				LR		LR	03 58 21.6	
	comp=Z,26nm,18.9s,baz=70,slow=37							
YKA	**Yellowknife Ar**	**98.68**	**24**	P		Pdif	03 11 06.4	+0.5
	comp=Z,2.2nm,0.7s,baz=304,slow=4.4,SNR=8.0							
D03D	**Eldon**	**100.08**	**40**	P		**Pdif**	**03 11 13.8**	**+1.3**
	baz=288							
BRG	**Berggiesshubel**	**100.33**	**324**	*e*PKP		**Pdif**	**03 11 13.9**	**+0.3**
	comp=Z,6.5nm,1.1s							
BRG	**Berggiesshubel**	**100.33**	**324**	*e*P		**Pdif**	**03 11 13.9**	**+0.3**
BRG				pmax		pmax		
	comp=Z,7.0nm,1.1s							
CLL	**Collm**	**100.73**	**324**	*e*Pdif		**Pdif**	**03 11 15.0**	**-0.3**
	comp=Z,4.0nm,1.2s							
CLL	**Collm**	**100.73**	**324**	*e*P		**Pdif**	**03 11 15.0**	**-0.3**
CLL				pmax		pmax		
	comp=Z,4.0nm,1.2s							
GERES	**GERESS Array B**	**101.20**	**322**	P		**Pdif**	**03 11 17.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=57,slow=4.9,SNR=7.2							
TXAR	**Lajitas Array**	**121.14**	**52**	PKP		**PKPdf**	**03 16 19.3**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=297,slow=0.4,SNR=6.6							
TORD	**Torodi Ar. Bea**	**122.43**	**289**	PKP		**PKPdf**	**03 16 22.8**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=68,slow=1.9,SNR=10.0							
TORD	**Torodi Ar. Bea**	**122.43**	**289**			**PKPdf**	**03 16 22.6**	**-0.3**
CHGQ	**Chibougamau**	**122.65**	**16**	P		**PKiKP**	**03 16 22.8**	**+0.2**
	baz=335							
S39A	**Bolivar**	**123.86**	**38**	PKPdf		**PKiKP**	**03 16 25.6**	**+0.2**
U38A	**Gravette**	**123.98**	**40**			**PKiKP**	**03 16 25.9**	**+0.2**
D55A	**Sainte-Anne-du**	**124.93**	**18**	P		**PKiKP**	**03 16 27.1**	**-0.1**
	baz=333							
U40A	**Yellville**	**125.00**	**39**	P		**PKiKP**	**03 16 27.5**	**-0.2**
	baz=310							
D56A	**ZEC Mazanza, M**	**125.12**	**18**	P		**PKiKP**	**03 16 27.8**	**+0.2**
	baz=334							
E55A	**Montcerf-Lytto**	**125.25**	**19**	P		**PKPdf**	**03 16 27.5**	**0.0**
	baz=332							
D57A	**Chemin Vers le**	**125.41**	**17**	P		**PKPdf**	**03 16 27.7**	**-0.1**
	baz=335							
G54A	**Lake Saint Pet**	**125.47**	**21**	P		**PKPdf**	**03 16 27.9**	**-0.1**
	baz=329							
E56A	**St. Veronique**	**125.49**	**18**	P		**PKPdf**	**03 16 28.1**	**+0.1**
	baz=333							
D58A	**Chemin du LacG**	**125.63**	**16**	P		**PKPdf**	**03 16 28.2**	**0.0**
	baz=336							
MIAR	**Mount Ida**	**125.66**	**41**	P		**PKiKP**	**03 16 30.3**	**+1.3**
	baz=308							
E57A	**Chemin Saint G**	**125.88**	**18**	P		**PKiKP**	**03 16 29.5**	**+0.3**
	baz=334							
G55A	**Calabogie**	**126.08**	**20**	P		**PKiKP**	**03 16 29.8**	**+0.2**
	baz=331							
E61A	**Lac Etchemin**	**126.88**	**15**	P		**PKiKP**	**03 16 31.0**	**-0.1**
	baz=339							
O51A	**Pataskala**	**127.93**	**28**	P		**PKiKP**	**03 16 33.6**	**+0.1**
	baz=322							
L55A	**Hinsdale**	**128.08**	**23**	P		**PKiKP**	**03 16 33.7**	**0.0**
	baz=328							
J58A	**Remsen**	**128.24**	**20**	P		**PKiKP**	**03 16 34.4**	**+0.4**
	baz=332							
H61A	**Lyndonville**	**128.24**	**17**	P		**PKPdf**	**03 16 33.5**	**+0.2**
	baz=336							
J59A	**Piesco**	**128.41**	**19**	P		**PKiKP**	**03 16 34.1**	**-0.2**
	baz=333							
J59A	**Piesco**	**128.41**	**19**			**PKiKP**	**03 16 34.5**	**+0.2**
I60A	**Shoreham**	**128.46**	**18**	P		**PKiKP**	**03 16 34.1**	**-0.2**
	baz=334							
LBNH	**Lisbon**	**128.51**	**17**	P		**PKiKP**	**03 16 34.5**	**0.0**
	baz=336							
M57A	**Sunshine Farm,**	**129.32**	**23**	P		**PKiKP**	**03 16 36.2**	**+0.1**
	baz=329							
M61A	**Granite Spring**	**130.57**	**20**	P		**PKiKP**	**03 16 39.0**	**+0.3**
	baz=333							
L63A	**North Scituate**	**130.77**	**18**	P		**PKiKP**	**03 16 39.0**	**0.0**
	baz=336							
BOAB	**BOACO BROADBAN**	**148.73**	**62**	PKPdf		PKPbc	03 17 01.1	+0.6
BI02	**San Fabin de**	**144.25**	**155**	PKPdf		**PKPdf**	**03 17 02.5**	**-0.7**
LCCY	**Blossom Villag**	**144.32**	**46**	PKPdf		**PKPdf**	**03 17 03.4**	**-0.2**
ACON	**Acoyapa**	**144.37**	**62**			**PKPdf**	**03 17 04.1**	**+0.3**
ESPN	**Las Esperanzas**	**145.04**	**61**	PKPbc		**PKPdf**	**03 17 06.1**	**+1.1**
JTS	**Las Juntas de**	**145.27**	**64**	PKiKP		**PKPdf**	**03 17 06.6**	**+1.1**
JTS	**Las Juntas de**	**145.27**	**64**	PKPbc		**PKPdf**	**03 17 06.6**	**+1.1**
BO02	**Sierra Bellavi**	**146.05**	**154**	PKPbc		**PKPab**	**03 17 08.4**	**+0.5**
GTBY	**Guantanamo Bay**	**147.55**	**40**			**PKPbc**	**03 17 12.2**	**+0.4**
VA03	**San Esteban**	**147.85**	**152**	PKPbc		**PKiKP**	**03 17 14.2**	**-0.1**
BCIP	**Isla Barro Col**	**150.31**	**62**	PKiKP		**PKPbc**	**03 17 19.2**	**+0.2**
BCIP	**Isla Barro Col**	**150.31**	**62**			**PKPbc**	**03 17 19.2**	**+0.2**
SDDR	**Presa de Saban**	**150.62**	**36**			**PKiKP**	**03 17 20.2**	**-0.1**
LCO	**Las Campanas**	**150.83**	**148**	PKiKP		**PKiKP**	**03 17 21.3**	**+0.5**
LCO	**Las Campanas**	**150.83**	**148**			**PKiKP**	**03 17 21.3**	**+0.5**
AC05	**El Transito**	**151.20**	**148**			**PKiKP**	**03 17 22.3**	**+0.9**
DR12	**Loma Pena Alta**	**151.86**	**33**			**PKiKP**	**03 17 23.8**	**+0.9**
MOTC	**Monteria, Cord**	**154.12**	**59**	*e*P		**PKPdf**	**03 17 19.3**	**-0.1**
MTP	**Monte Pirata**	**154.38**	**27**	PKPdf		**PKPdf**	**03 17 17.9**	**-1.7**
MTP						**PKPab**	**03 17 42.7**	**+0.5**
CBOC	**Ciudad Bolivar**	**155.15**	**65**	*e*P		**PKPab**	**03 17 47.4**	**+1.4**
ZARC	**Zaragoza, Cauc**	**155.44**	**61**	*e*P		**PKPdf**	**03 17 22.3**	**+1.1**
POPC	**Popayan, Colom**	**155.71**	**73**	*e*P		**PKPdf**	**03 17 29.4**	**+7.4**
GUY2C	**Guyana, Caldas**	**156.00**	**66**	*e*P		**PKPdf**	**03 17 23.5**	**+0.9**
PTBC	**PUERTO BERRIO**	**156.24**	**62**	*e*P		**PKPdf**	**03 17 20.5**	**-1.8**
ORTC	**Ortega, Tolima**	**156.61**	**69**	*e*P		PKPdf	03 17 33.0	+10
BRRC	**Barranca, Sant**	**156.62**	**60**	*e*P		**PKPab**	**03 17 52.4**	**+0.3**
SPBC	**San Pablo de B**	**156.98**	**64**	*e*P		**PKPdf**	**03 17 23.4**	**0.0**
BARC	**Barichara**	**157.33**	**60**	*e*P		**PKPab**	**03 17 55.7**	**+0.2**
RUSC	**La Rusia**	**157.75**	**62**	*e*P		**PKPdf**	**03 17 24.3**	**-0.5**
LPAZ	**La Paz**	**161.57**	**130**	PKP		**PKPdf**	**03 17 30.5**	**+1.3**
	comp=Z,2.4nm,0.9s,baz=334,slow=2.3,SNR=9.8							
LPAZ				PKPab		**PKPab**	**03 18 16.1**	**+1.9**
	comp=Z,4.0nm,0.9s,baz=206,slow=1.5,SNR=6.7							
LPAZ	**La Paz**	**161.57**	**130**	PKiKP		**PKPdf**	**03 17 29.5**	**+0.2**
LPAZ	**La Paz**	**161.57**	**130**	PKPdf		**PKPdf**	**03 17 29.4**	**+0.2**
BDFB	**Brasilia**	**167.90**	**206**	PKP		**PKPdf**	**03 17 34.3**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=72,slow=4.0,SNR=3.8							
SAML	**Samuel**	**169.47**	**114**	PKiKP		**PKPdf**	**03 17 35.6**	**+0.5**
SAML	**Samuel**	**169.47**	**114**			**PKPdf**	**03 17 35.6**	**+0.5**

*IDC **19** 03:03:39.3±1.7, 5°.89S×153°.78E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/27, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=52.9km s-min=30.9km az=95.0*
ISC 19 03:03:45.4±1.6, **5°.9S**±0°.2×**153°.6E**±0°.3, **h35**km, **n6**, σ**0**°**44**/9, **mb3.6**/4, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.19**	**315**	Pn	**Pn**	**03 04 19.4**	**0.0**
	5.8nm,0.3s,baz=263,slow=3.1,SNR=5.1						
KRVT				Sn	**Sn**	**03 04 45.2**	**0.0**
	21nm,0.3s,baz=57,slow=20,SNR=7.2						
WRA	**Warramunga Arr**	**23.35**	**231**	P	**P**	**03 08 51.1**	**+0.2**
	0.7nm,0.6s,baz=54,slow=9.5,SNR=1.7						
WRA				PcP	**PcP**	**03 12 37.6**	**+0.3**
	0.3nm,0.6s,baz=63,slow=2.8,SNR=2.2						
ASAR	**Alice Springs**	**25.91**	**225**	P	**P**	**03 09 13.9**	**-0.5**
	1.1nm,0.8s,baz=58,slow=9.1,SNR=3.8						
ASAR				PcP	**PcP**	**03 12 43.3**	**+0.4**
	0.3nm,0.6s,baz=64,slow=1.7,SNR=2.0						
MKAR	**Makanchi Array**	**81.64**	**319**	P	**P**	**03 16 00.5**	**+0.5**
	0.4nm,0.5s,baz=93,slow=7.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**82.47**	**326**	P	**P**	**03 16 03.8**	**-0.4**
	0.9nm,0.3s,baz=108,slow=3.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**151.37**	**287**	PKPbc	**PKPbc**	**03 23 36.0**	**-0.5**
	0.7nm,0.6s,baz=72,slow=2.3,SNR=9.2						

*IDC **19** 03:15:06.5±3.0, 67°.63N×163°.13W, h0km, mb3.4/4, mb1 3.9/5, mb1mx3.5/34, mbtmp3.6/5, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=77.7km s-min=27.3km az=38.0*
*AEIC **19** 03:15:07.2±2.0, 67°.67N±0°.03×162°.7W±0°.2, h18km±4km, ML3.2/28, Error ellipse: s-maj=11.1km s-min=3.3km az=75.0*
*NEIC **19** 03:15:07.6±1.8, 67°.68N±0°.07×162°.5W±0°.1, h6km±5km, Error ellipse: s-maj=11.6km s-min=3.3km az=144.0*
ISC 19 03:15:08.3±0.9, **67°.69N**±0°.05×**162°.51W**±0°.06, **h10**km, **n35**, σ**0**°**85**/40, **mb3.5**/3, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.40**	**338**		**Pg**	**03 15 15.3**	**-0.8**
RDOG					**Sg**	**03 15 21.4**	**0.0**
ANM	**Nome**	**3.35**	**202**		**Sn**	**03 16 38.5**	**-1.9**
IM03		**3.86**	**112**		**Pn**	**03 16 07.2**	**-0.4**
IMAR	**Indian Mountai**	**3.86**	**112**		**Pn**	**03 16 06.1**	**-1.6**
A21K	**Barrow**	**4.20**	**27**		**Pn**	**03 16 11.1**	**-1.1**
COLD	**Coldfoot**	**4.76**	**90**		**Pn**	**03 16 20.1**	**+0.2**
TOLK	**Toolik Lake Re**	**4.92**	**73**		**Pn**	**03 16 22.1**	**-0.2**
TTA	**Tatalina**	**5.50**	**147**	Pn	**Pn**	**03 16 29.6**	**-0.6**
TT01	**Tatalina**	**5.52**	**147**		**Pn**	**03 16 30.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**5.93**	**122**		**Pn**	**03 16 36.7**	**+0.6**
BPAW					**Sn**	**03 17 43.6**	**-0.5**
NEA2	**Nenana**	**6.27**	**113**		**Pn**	**03 16 41.0**	**+0.3**
KTH	**Kantishna Hill**	**6.34**	**125**		**Pn**	**03 16 42.1**	**+0.4**
KTH					**Sn**	**03 17 54.1**	**0.0**
MDM	**Murphy Dome**	**6.37**	**109**		**Pn**	**03 16 42.1**	**+0.1**
PPLA	**Purkeypile**	**6.46**	**133**		**Pn**	**03 16 44.3**	**+0.8**
COLA	**College**	**6.55**	**109**		**Pn**	**03 16 44.8**	**+0.3**
COLA					**Sn**	**03 17 57.7**	**-1.4**
POKR	**Poker Plat Res**	**6.57**	**106**		**Pn**	**03 16 44.3**	**-0.6**
TRF	**Thorofare Moun**	**6.61**	**124**	Pn	**Pn**	**03 16 44.5**	**-1.0**
WRH	**Wood River Hil**	**6.69**	**112**		**Pn**	**03 16 46.6**	**+0.2**
CCB	**Clear Creek Bu**	**6.69**	**110**		**Pn**	**03 16 46.6**	**+0.1**
CCB					**Sn**	**03 18 01.4**	**-1.2**
BM03	**Burnt Mountain**	**6.86**	**84**		**Pn**	**03 16 48.7**	**0.0**
BMAR	**Burnt Mountain**	**6.86**	**84**	Pn	**Pn**	**03 16 48.3**	**-0.5**
IL31		**6.95**	**108**		**Pn**	**03 16 49.6**	**-0.4**
ILAR	**Eielson Array**	**6.95**	**108**	Pn	**Pn**	**03 16 49.0**	**-1.0**
	1.9nm,0.3s,baz=303,slow=14,SNR=112						
ILAR				Sn	**Sn**	**03 18 07.3**	**-1.8**
	0.5nm,0.3s,baz=301,slow=22,SNR=6.2						
ILAR				Lg	Lg	03 18 45.7	
	baz=311,slow=32,SNR=4.2						
ILAR	**Eielson Array**	**6.95**	**108**	Pn	**Pn**	**03 16 49.5**	**-0.6**
HDA	**Harding Lake**	**7.13**	**110**		**Pn**	**03 16 51.6**	**-0.9**
SVW2	**Sparrevohn**	**7.26**	**152**		**Pn**	**03 16 54.2**	**-0.1**
SKT	**Skwentna**	**7.39**	**136**		**Pn**	**03 16 56.2**	**+0.2**
DHY	**Denali Highway**	**7.82**	**119**	Pn	**Pn**	**03 17 01.2**	**-0.9**
BCAR	**Beaver Creek A**	**9.78**	**108**	Pn	**Pn**	**03 17 28.0**	**-0.9**
EPYK	**Eagle Plains**	**10.13**	**85**	Pn	**Pn**	**03 17 32.5**	**-1.2**
YKA	**Yellowknife Ar**	**20.38**	**82**	P	**P**	**03 19 45.6**	**+0.9**
	0.6nm,0.6s,baz=303,slow=10,SNR=2.3						
MA2	**Magadan**	**21.75**	**271**	LR	LR	03 29 41.4	
	comp=Z,49nm,20.9s,baz=190,slow=41						
PDAR	**Pinedale Array**	**37.37**	**104**	P	**P**	**03 22 22.2**	**+1.2**
	0.3nm,0.5s,baz=344,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**51.01**	**355**	P	**P**	**03 24 10.3**	**+0.7**
	0.7nm,0.7s,baz=354,slow=12,SNR=1.3						
TXAR	**Lajitas Array**	**51.47**	**107**	P	**P**	**03 24 14.1**	**+0.5**
	0.4nm,0.7s,baz=327,slow=5.6,SNR=6.5						

*SSNC **19** 03:35:54.0±1.2, 19°.46N×77°.92W, h2km, MD3.2, ML2.5, MW2.7*
*JSN **19** 03:35:56.8±0.8, 19°.46N×77°.68W, h12km±8km, MD3.4*
ISC 19 03:35:51.9±1.4, **19°.56N**±0°.03×**77°.84W**±0°.05, **h10**km±12km, **n12**, σ**1**°**38**/20, **1D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.93**	**57**	*e*P	**Pn**	**03 36 11.8**	**+0.7**
LMGC				*e*S	**Sn**	**03 36 24.7**	**+0.1**
LMGC				IAML		03 36 25.2	
	comp=E,203nm,0.1s						
LMGC				IAML		03 36 25.4	
	comp=N,285nm,0.1s						
BBJ	**Bamboo Saint A**	**1.29**	**155**	*i* P	**Pg**	**03 36 16.8**	**+0.1**
BNJ	**Bonny Gate**	**1.49**	**146**	*i* P	**Pb**	**03 36 19.9**	**+0.1**
MCJ	**Malvern**	**1.63**	**175**	*i* P	**Pn**	**03 36 22.0**	**+1.1**
MCJ				⇓*i* S	**Sn**	**03 36 42.1**	**+0.1**
CCCC	**Cccc**	**1.63**	**2**	*e*P	**Pg**	**03 36 23.5**	**+0.2**
CCCC				*e*S	**Sg**	**03 36 45.1**	**+0.6**
CCCC				IAML		03 36 48.1	
	comp=E,23nm,0.4s						
CCCC				IAML		03 36 48.4	
	comp=N,27nm,0.5s						
STH	**Stony Hill**	**1.77**	**146**	*i* P	**Pn**	**03 36 23.4**	**+0.8**
GWJ	**Greenwich**	**1.81**	**144**	*i* P	**Pn**	**03 36 24.1**	**+0.7**
PCJ	**Portland Cotta**	**1.92**	**160**	*i* P	**Pb**	**03 36 26.2**	**-0.8**
PCJ				*i* S	**Sn**	**03 36 47.5**	**-1.5**
RCC	**Rio Carpintero**	**2.06**	**78**	*e*P	**Pb**	**03 36 27.7**	**-1.8**
RCC				*e*S	**Sn**	**03 36 52.6**	**+0.1**
RCC				IAML		03 36 53.5	
	comp=N,8.9nm,0.3s						
RCC				IAML		03 36 53.6	
	comp=E,6.4nm,0.1s						
GTMO	**Guantanamo**	**2.59**	**78**	*e*P	**Pb**	**03 36 36.7**	**-1.8**
GTMO				*e*S	**Sb**	**03 37 08.5**	**-1.9**
GTMO				IAML		03 37 11.1	
	comp=E,330nm,0.2s						
GTMO				IAML		03 37 11.2	
	comp=N,420nm,0.2s						
MGV	**Manicaragua**	**3.23**	**322**	*e*P	**Pn**	**03 36 43.7**	**+0.8**
MGV				*e*S	**Sn**	**03 37 21.0**	**-0.4**
MGV				IAML		03 37 25.5	
	comp=E,2.3nm,0.5s						
MGV				IAML		03 37 28.2	
	comp=N,2.5nm,0.5s						
MASC	**Masc**	**3.45**	**79**	*e*P	**Pn**	**03 36 48.9**	**+3.2**
MASC				*e*S	**Sn**	**03 37 28.4**	**+1.7**
MASC				IAML		03 37 33.9	
	comp=E,5.4nm,0.2s						
MASC

AWAZ	Awhitu Peninsu	1.61 322	P	Pn	03 54 57.3 +0.2
CKHZ	Cape Kidnapper	1.61 145	P	Pn	03 54 57.6 +0.5
HAZ	Te Kaha	1.62 69	P	Pn	03 54 56.4 -0.8
KAHZ	Kahuranaki	1.64 152	P	Pn	03 54 57.9 +0.4
PRGZ	Paritu Road	1.68 111	P	Pn	03 54 58.1 +0.3
TSZ	Takapari Road	1.71 178	P	Pn	03 54 57.8 -0.3
KHEZ	Kahui Hut	1.73 236	P	Pn	03 54 58.5 +0.2
WTAZ	Waiatarua	1.75 324	P	Pn	03 54 58.9 +0.4
WPHZ	Waipukurau	1.77 166	P	Pn	03 54 58.5 -0.2
MHGZ	Mahia Peninsul	1.78 117	P	Pn	03 54 59.1 +0.3
CNGZ	Carnagh Statio	1.84 95	P	Pn	03 54 59.9 +0.4
PXZ	Pawanui	1.85 156	P	Pn	03 54 59.4 -0.1
PUZ	Puketiti	1.90 82	P	Pn	03 54 59.9 -0.2
DVHZ	Dannevirke	1.96 173	P	Pn	03 54 60.0 -0.7
WMGZ	Waiomatatini S	2.08 76	P	Pn	03 55 01.7 -0.3
PRWZ	Pori Road	2.20 178	P	Pn	03 55 02.1 -1.2
MRZ	Mangatainoka R	2.32 185	P	Pn	03 55 03.3 -1.3
BFZ	Birch Farm	2.35 173	P	Pn	03 55 03.9 -1.0
OGWZ	Otaki Gorge	2.52 192	P	Pn	03 55 05.7 -1.2
HOWZ	Holdsworth Sta	2.56 186	P	Pn	03 55 05.8 -1.5
KIW	Kapiti Island	2.62 196	P	Pn	03 55 06.3 -1.7
TMWZ	Te Maipa	2.75 180	P	Pn	03 55 08.2 -1.5
MTW	Mount Morrison	2.82 186	P	Pn	03 55 08.6 -1.8
CAW	Cannon Point	2.82 192	P	Pn	03 55 08.9 -1.6
DUWZ	D'Urville Isla	2.87 211	P	Pn	03 55 09.1 -2.0
PAWZ	Paruwai Farm	3.05 186	P	Pn	03 55 11.1 -2.1
TRWZ	Traveller	3.05 183	P	Pn	03 55 11.1 -2.0
MSWZ	Moikau Station	3.10 189	P	Pn	03 55 11.5 -2.3
TCW	Tory Channel	3.11 203	P	Pn	03 55 11.9 -1.9
BHW	Baring Head	3.15 194	P	Pn	03 55 12.2 -2.2
PLWZ	Palliser	3.25 188	P	Pn	03 55 13.2 -2.4
TUWZ	Tuamarina	3.41 205	P	Pn	03 55 15.1 -2.5
NNZ	Nelson	3.45 213	P	Pn	03 55 15.4 -2.6
QRZ	Quartz Range	3.57 225	P	Pn	03 55 16.5 -3.1
BSWZ	Blackbirch Sta	3.69 204	P	Pn	03 55 18.8 -2.3
THZ	Tophouse	4.10 213	P	Pn	03 55 23.9 -2.4
KHZ	Kahutara	4.43 203	P	Pn	03 55 28.0 -2.5
GVZ	Greta Valley S	5.09 204	P	Pn	03 55 35.8 -3.1
LTZ	Lake Taylor	5.21 211	P	Pn	03 55 37.3 -3.1
INZ	Inchbonnie	5.52 216	P	Pn	03 55 41.7 -2.7
MQZ	McQueen's Vall	5.88 203	P	Pn	03 55 44.6 -4.5
AKCZ	Akaroa Harbour	5.95 201	P	Pn	03 55 46.2 -3.9
ARCZ	Arundel	6.62 211	P	Pn	03 55 55.2 -3.6
ODZ	Otahua Downs	7.75 209	P	Pn	03 56 10.2 -3.5

*KRNET **19** 04:18:31.8±0.1, 43°.63N×80°.45E, mb2.6*
*SOME **19** 04:18:35.8, 43°.05N×80°.53E, h20km*
ISC 19 04:18:39.7±1.5, 43°.23N±0°.06×80°.33E±0°.06, h15km±7km, n16, σ1§72/31, 10C-8D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**0.21**	**4**	*eP*	**Pg**	**04 18 44.8**	**+0.1**
KTMS	46nm,0.1s			*eS*	**Sg**	**04 18 50.8**	**+2.7**
PDGK	**Podgornoye**	**0.62**	**279**	⇓P	**Pg**	**04 18 51.2**	**-0.8**
PDGK	1.4nm,0.3s			⇓S	**Sg**	**04 19 00.9**	**+0.6**
SHLS	**Shalkode**	**0.64**	**263**	⇑*iP*	Pg	04 18 45.6	-6.7
SHLS	18nm,0.1s			⇑*iS*	Sg	04 18 52.4	-8.5
UZB	**Uzynbulak**	**0.96**	**265**	*eP*	**Pg**	**04 18 55.9**	**-2.5**
UZB	2.1nm,0.1s			*eS*	**Sg**	**04 19 10.2**	**-0.8**
DJR	**Jarkent**	**1.17**	**340**	*eP*	**Pn**	**04 19 01.5**	**-0.1**
DJR	3.4nm,0.1s			*eS*	**Sn**	**04 19 19.4**	**+2.2**
KPKS	**Kokpek**	**1.23**	**281**	⇑*iP*	**Pg**	**04 19 01.1**	**-2.2**
KPKS	21nm,0.2s			⇑*iS*	**Sg**	**04 19 18.8**	**-0.5**
SATY	**Saty**	**1.42**	**264**	*eP*	**Pn**	**04 19 04.7**	**-0.4**
SATY	6.6nm,0.1s			*eS*	**Sn**	**04 19 25.0**	**+1.4**
PRZ	**Przheval'sk**	**1.61**	**243**	⇑*iP*	**Pn**	**04 19 06.8**	**-0.9**
PRZ	baz=33			⇑*iS*	**Sg**	**04 19 32.6**	**+1.1**
MNBS	**Baschi**	**1.64**	**302**	*eP*	**Pn**	**04 19 08.1**	**0.0**
MNBS	6.2nm,0.3s			*eS*	**Sb**	**04 19 31.1**	**+1.0**
ANVS	**Anan'yevo**	**2.01**	**258**	⇓*iP*	**Pn**	**04 19 11.8**	**-1.4**
ANVS	baz=48			⇓*iS*	**Sn**	**04 19 41.4**	**+3.3**
ARXS	**Arharly**	**2.06**	**299**	*eP*	**Pb**	**04 19 16.8**	**-0.1**
ARXS	3.8nm,0.4s			*eS*	**Sg**	**04 19 45.4**	**-0.7**
KAPS	**Kapalarasan**	**2.17**	**341**	*eP*	**Pg**	**04 19 19.0**	**-2.3**
KAPS	1.7nm,0.1s			*eS*	**Sg**	**04 19 49.0**	**-0.4**
KOTS	**Kotyrbulak**	**2.35**	**271**	*eP*	**Pb**	**04 19 21.1**	**-0.8**
KOTS	12nm,0.2s			*eS*	**Sb**	**04 19 53.1**	**+2.3**
KDJ	**Kajisay**	**2.57**	**246**	⇑*iP*	**Pn**	**04 19 20.7**	**-0.3**
KDJ	baz=39			⇑*iS*	**Sn**	**04 19 56.4**	**+4.3**
BOOM	**Boomskoye usch**	**3.31**	**259**	⇓*iP*	**Pn**	**04 19 29.9**	**-1.3**
BOOM	baz=53			⇓*iS*	**Sn**	**04 20 12.1**	**+1.8**
MK31	**Makanchi Array**	**3.82**	**21**	⇑Pn	**Pn**	**04 19 37.9**	**0.0**
MK31	1.5nm,0.8s,baz=204,slow=14,SNR=4.6			⇓Pg	**Pb**	**04 19 45.8**	**-1.0**
MK31	0.7nm,0.7s,baz=198,slow=14,SNR=3.0			⇑Sn	**Sn**	**04 20 21.4**	**-1.2**
MK31	2.4nm,0.8s			⇓Lg	Lg	04 20 37.9	
	0.8nm,0.5s,baz=199,slow=27,SNR=4.8						

*IDC **19** 04:58:13.6±1.4, 32°.44S×178°.05W, h0km, mb4.1/3, mb1 4.4/4, mb1mx4.0/30, mbtmp4.1/4, ML3.8/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/27, Error ellipse: s-maj=41.8km s-min=28.7km az=138.0*
ISC 19 04:58:17.0±1.1, 32°.4S±0°.2×178°.1W±0°.2, h20km, n14, σ1§01/11, mb4.1/3, MS3.4/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.02**	**212**	Pn	**Pn**	**04 59 57.3**	**-1.3**
URZ	1.5nm,0.3s,baz=47,slow=12,SNR=7.9			Sn	**Sn**	**05 01 18.7**	**+0.9**
DZM	**Mont Dzumac**	**17.12**	**303**	LR	LR	05 08 02.8	
AFI	**Afiamalu**	**19.30**	**19**	LR	LR	05 11 32.2	
STKA	**Stephens Creek**	**33.96**	**260**	LR	LR	05 17 21.0	
ASAR	**Alice Springs**	**42.92**	**269**	P	**P**	**05 06 15.2**	**+0.5**
WRA	**Warramunga Arr**	**44.09**	**274**	P	**P**	**05 06 24.4**	**+0.3**
WRA	1.7nm,0.3s,baz=113,slow=8.0,SNR=51			LR	LR	05 23 08.8	
SNAA	**Sanae**	**76.17**	**178**	P	**P**	**05 10 03.9**	**+0.6**
VNA3	**Neumayer Olymp**	**76.32**	**176**	P	**P**	**05 10 04.5**	**+0.4**
VNA2	**Neumayer--Watz**	**76.75**	**177**	P	**P**	**05 10 07.7**	**+1.2**
VNA1	**Neumayer--Stat**	**76.99**	**177**	P	**P**	**05 10 09.1**	**+1.3**
ASAJ	**Asahikawa**	**84.16**	**333**	LR	LR	05 40 10.5	
NVAR	**Mina Array Bea**	**89.78**	**43**	P	**P**	**05 11 14.4**	**+0.1**
FINES	**FINESS Array B**	**146.97**	**339**	PKPbc	**PKPbc**	**05 17 56.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**160.84**	**180**	PKPab	**PKPab**	**05 18 57.3**	**-1.0**

*UNK **19** 05:08:02.9, 36°.18N×97°.26W, h5km*
*TUL **19** 05:08:02.9±1.1, 36°.18N±0°.02×97°.26W±0°.06, h5km±7km, ML3.3, Error ellipse: s-maj=6.3km s-min=2.2km az=97.0*
*NEIC **19** 05:08:03.4±1.0, 36°.184N±0°.005×97°.28W±0°.06, h5km±7km, Error ellipse: s-maj=6.7km s-min=0.4km az=96.0*
*ANF **19** 05:08:03.3±0.7, 36°.17N×97°.21W, h3km±5km, ML4.2/11, Error ellipse: s-maj=3.9km s-min=3.1km az=25.0*
ISC 19 05:08:03.3±1.1, 36°.18N±0°.02×97°.25W±0°.03, h5km±10km, n78, σ0§68/93, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.41**	**203**		**Pg**	**05 08 11.3**	**0.0**
OK029				Sg	**Sg**	**05 08 17.0**	**+0.4**
QUOK	**Quay**	**0.44**	**91**		**Pg**	**05 08 12.0**	**+0.2**
QUOK				Sg	**Sg**	**05 08 18.1**	**+0.5**
OK005	**Luther M Schoo**	**0.52**	**174**	Pg	**Pg**	**05 08 13.5**	**+0.1**
ADOK	**Arcadia Dam**	**0.53**	**190**	Pg	**Pb**	**05 08 14.5**	**-0.6**
BCOK	**Bluff Creek, N**	**0.59**	**209**		**Pg**	**05 08 14.6**	**-0.1**
BCOK				Sg	**Sg**	**05 08 22.7**	**+0.3**
OK025	**Westminster Rd**	**0.60**	**187**		**Pg**	**05 08 14.8**	**0.0**
OK025				Sg	**Sg**	**05 08 23.1**	**+0.6**
CROK	**Carrier**	**0.67**	**299**		**Pg**	**05 08 16.1**	**-0.2**
CROK				Sg	**Sg**	**05 08 24.9**	**-0.1**
OKCFA	**Oklahoma City**	**0.78**	**192**		**Pg**	**05 08 17.9**	**-0.2**
OKCFA				Sg	**Sg**	**05 08 28.7**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**0.78**	**191**		**Pg**	**05 08 18.1**	**-0.2**
OKCSW				Sg	**Sg**	**05 08 29.0**	**+0.5**
KAN13	**South Haven SW**	**0.85**	**348**		**Pg**	**05 08 19.2**	**-0.4**
KAN13				Sg	**Sg**	**05 08 30.7**	**0.0**
FNO	**Franklin**	**0.93**	**188**		**Pg**	**05 08 21.0**	**0.0**
FNO				Sg	**Sb**	**05 08 33.8**	**-0.5**
T35A	**Sooner Cattle**	**0.95**	**39**		**Pg**	**05 08 21.1**	**-0.4**
T35A				Sg	**Sg**	**05 08 33.9**	**+0.1**
W35A	**Tecumseh**	**1.07**	**163**		**Pg**	**05 08 22.6**	**-1.2**
KAN10	**Anthony SW Sta**	**1.16**	**325**	Pn	**Pg**	**05 08 24.7**	**-0.8**
TUL1	**Leonard**	**1.21**	**102**	P	**Pg**	**05 08 25.4**	**-1.2**
TUL1	baz=283			S	**Sg**	**05 08 41.9**	**-0.4**
TUL1	**Leonard**	**1.21**	**102**	Pn	**Pg**	**05 08 25.3**	**-1.2**
KAN12	**Harper NE Stat**	**1.27**	**332**	Pn	**Pg**	**05 08 26.6**	**-0.9**
U32A	**Winter Ranch,**	**1.43**	**279**		**Pn**	**05 08 29.0**	**-0.8**
X34A	**Smith Ranch, M**	**1.64**	**197**	Pn	**Pn**	**05 08 33.4**	**+0.6**
WMOK	**Wichita Mounta**	**1.90**	**221**	P	**Pn**	**05 08 36.8**	**+0.4**
WMOK	baz=40			S	**Sb**	**05 09 02.3**	**-0.1**
WMOK	**Wichita Mounta**	**1.90**	**221**		**Pn**	**05 08 36.7**	**+0.4**
X37A	**Clayton**	**2.21**	**135**		**Pn**	**05 08 41.0**	**+0.5**
U38A	**Gravette**	**2.33**	**83**		**Pn**	**05 08 43.1**	**+0.9**
R32A	**Long Quarter,**	**2.52**	**333**		**Pn**	**05 08 45.4**	**+0.4**
HHAR	**Hobbs**	**2.68**	**87**		**Pn**	**05 08 47.7**	**+0.6**
Z35A	**Perchaven, San**	**2.84**	**180**		**Pn**	**05 08 49.9**	**+0.6**
KSU1	**Kansas State U**	**2.96**	**10**	P	**Pn**	**05 08 51.6**	**+0.7**
KSU1	baz=190			Sb	**Sb**	**05 09 35.8**	**+2.8**
KSU1	**Kansas State U**	**2.96**	**10**		**Pn**	**05 08 51.6**	**+0.7**
W39A	**Magazine**	**2.99**	**108**	P	**Pn**	**05 08 52.2**	**+0.9**
W39A	baz=290 **Magazine**	**2.99**	**108**		**Pn**	**05 08 52.1**	**+0.9**
CBKS	**Cedar Bluff**	**3.29**	**324**	P	**Pn**	**05 08 55.8**	**+0.4**
CBKS	baz=142 **Cedar Bluff**	**3.29**	**324**	Pn	**Pn**	**05 08 55.3**	**-0.2**
MIAR	**Mount Ida**	**3.42**	**117**	P	**Pn**	**05 08 57.9**	**+0.7**
MIAR	baz=300 **Mount Ida**	**3.42**	**117**		**Pn**	**05 08 57.9**	**+0.7**
Z38A	**Mt. Pleasant**	**3.46**	**147**		**Pn**	**05 08 57.4**	**-0.3**
S39A	**Bolivar**	**3.49**	**63**	Pn	**Pn**	**05 08 58.7**	**+0.5**
U40A	**Yellville**	**3.56**	**86**		**Pn**	**05 09 00.1**	**+1.0**
AMTX	**Amarillo**	**3.83**	**252**	P	**Pn**	**05 09 03.4**	**+0.5**
AMTX	baz=69 **Amarillo**	**3.83**	**252**		**Pn**	**05 09 03.0**	**+0.1**
X40A	**Basin Creek Fa**	**3.99**	**114**		**Pn**	**05 09 06.2**	**+1.2**
ABTX	**Abilene, Hawle**	**4.06**	**210**	Pn	**Pn**	**05 09 06.8**	**+0.9**
MGMO	**Mountain Grove**	**4.12**	**75**		**Pn**	**05 09 08.5**	**+1.7**
WHAR	**Wooly Hollow**	**4.13**	**101**		**Pn**	**05 09 07.7**	**+0.7**
WHTX	**Lake Whitney,**	**4.18**	**182**	Pn	**Pn**	**05 09 07.7**	**+0.1**
W41B	**Gary Mavity, V**	**4.20**	**102**	P	**Pn**	**05 09 08.2**	**+0.3**
W41B	baz=285			S	**Sn**	**05 09 57.2**	**0.0**
W41B	**Gary Mavity, V**	**4.20**	**102**		**Pn**	**05 09 07.9**	**0.0**
WLAR	**White Oak Lake**	**4.21**	**125**	Pn	**Pn**	**05 09 07.9**	**-0.2**
UALR	**University of**	**4.24**	**108**	Pn	**Pn**	**05 09 08.8**	**+0.3**
237A	**Washetta, Mont**	**4.33**	**164**		**Pn**	**05 09 09.3**	**-0.5**
R40A	**Maddies Statio**	**4.50**	**61**	Pn	**Pn**	**05 09 12.3**	**+0.2**
P38A	**Dawn**	**4.53**	**39**	Pn	**Pn**	**05 09 13.0**	**+0.6**
N33A	**J Bar K, Exete**	**4.56**	**358**	Pn	**Pn**	**05 09 13.0**	**+0.2**
Z41A	**Richland Creek**	**4.68**	**127**	P	**Pn**	**05 09 14.7**	**+0.2**
Z41A	baz=310			S	**Sn**	**05 10 08.4**	**-0.8**
Z41A	**Richland Creek**	**4.68**	**127**	Pn	**Pn**	**05 09 14.2**	**-0.3**
N35A	**Tabor**	**4.84**	**15**	Pn	**Pn**	**05 09 16.5**	**-0.2**
LCAR	**Lake Charles**	**4.94**	**89**	Pn	**Pn**	**05 09 18.7**	**+0.7**
T42A	**Van Buren**	**5.03**	**78**	Pn	**Pn**	**05 09 20.1**	**+0.9**
CCAR	**Cane Creek**	**5.03**	**115**	Pn	**Pn**	**05 09 19.9**	**+0.6**
MSTX	**Muleshoe**	**5.03**	**246**	P	**Pn**	**05 09 19.1**	**-0.3**
MSTX	baz=62 **Muleshoe**	**5.03**	**246**		**Pn**	**05 09 19.0**	**-0.5**
KSCO	**Kaye Shedlock'**	**5.12**	**305**	Pn	**Pn**	**05 09 20.9**	**+0.2**
BGNE	**Belgrade**	**5.27**	**353**	Pn	**Pn**	**05 09 21.8**	**-0.9**
P40A	**Paris**	**5.31**	**49**	Pn	**Pn**	**05 09 24.1**	**+1.0**
435B	**Jarrell**	**5.39**	**183**	P	**Pn**	**05 09 24.5**	**+0.2**
N38A	**Joes South For**	**5.58**	**33**	Pn	**Pn**	**05 09 27.1**	**+0.2**
T25A	**Trinidad**	**5.83**	**282**	P	**Pn**	**05 09 30.7**	**+0.1**
T25A	baz=97 **Trinidad**	**5.83**	**282**	Pn	**Pn**	**05 09 30.4**	**-0.2**
K31A	**O'Neill**	**6.54**	**350**	Pn	**Pn**	**05 09 40.4**	**+0.3**
SDCO	**Great Sand Dun**	**6.79**	**286**		**Pn**	**05 09 44.9**	**+1.1**
Q24A	**Divide**	**6.86**	**296**	Pn	**Pn**	**05 09 44.5**	**-0.3**
Q44A	**Meyer Farm, Va**	**7.09**	**65**	Pn	**Pn**	**05 09 48.7**	**+1.1**
L40A	**Anamosa**	**7.52**	**37**	Pn	**Pn**	**05 09 53.6**	**+0.1**
ISCO	**Idaho Springs**	**7.53**	**301**	Pn	**Pn**	**05 09 54.6**	**+0.7**
ECSD	**EROS Data Cent**	**7.56**	**4**	Pn	**Pn**	**05 09 53.2**	**-0.9**
HDIL	**Hopedale**	**7.63**	**53**	Pn	**Pn**	**05 09 55.1**	**+0.2**
MNTX	**Cornudas Mount**	**8.10**	**239**		**Pn**	**05 10 01.6**	**+0.1**
L42A	**Oliver, Polo**	**8.28**	**43**	Pn	**Pn**	**05 10 04.9**	**+1.0**
TXAR	**Lajitas Array**	**8.70**	**220**	Pn	**Pn**	**05 10 10.0**	**+0.2**

*IDC **19** 05:28:57.8±0.8, 55°.42N×162°.26E, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.8/34, mbtmp3.7/11, ML3.2/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/38, Error ellipse: s-maj=30.8km s-min=16.6km az=146.0*
*KRSC **19** 05:29:00.0±0.9, 55°.13N×162°.64E, h50km±20km, ML4.4*
*MOS **19** 05:29:02.4±0.7, 55°.18N×162°.51E, h43km, mb4.3/7, Error ellipse: s-maj=7.2km s-min=4.5km az=82.7*
*NEIC **19** 05:29:04.3±1.1, 55°.4N±0°.1×162°.2E±0°.1, h46km±5km, mb4.4/22, Error ellipse: s-maj=16.5km s-min=10.3km az=157.0*
ISC 19 05:29:03.1±0.8, 55°.17N±0°.02×162°.57E±0°.03, h38km±2km, n148, σ1§31/210, mb4.2/27, 5C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.05**	**8**	*eP*	**Pn**	**05 29 19.8**	**-1.4**
KBTR				*eS*	**Sn**	**05 29 34.7**	**+0.2**
KBTR	**Krutoberegovo**	**1.05**	**8**	PN	**Pn**	**05 29 19.8**	**-1.4**
KBTR				S	**Sn**	**05 29 34.7**	**+0.2**
KBG	**Krutoberegovo**	**1.09**	**4**	*eP*	**Pn**	**05 29 21.7**	**0.0**
KBG				*eS*	**Sn**	**05 29 37.0**	**+1.5**
KBG	**Krutoberegovo**	**1.09**	**4**	PN	**Pn**	**05 29 21.7**	**0.0**
KBG				S	**Sn**	**05 29 37.0**	**+1.5**
TUMD	**Tumrok D**	**1.25**	**272**	*eP*	**Pn**	**05 29 22.8**	**-1.1**
TUMD				*eS*	**Sn**	**05 29 39.1**	**-0.4**
KZV	**Kizimen**	**1.31**	**268**	*eP*	**Pn**	**05 29 24.0**	**-0.9**
KZV				*eS*	**Sn**	**05 29 39.7**	**-1.5**
KZV	**Kizimen**	**1.31**	**268**	PN	**Pn**	**05 29 24.0**	**-0.9**
KZV				S	**Sn**	**05 29 39.7**	**-1.5**
ZLN	**Zelenaya**	**1.31**	**311**	*eP*	**Pn**	**05 29 24.7**	**-0.2**
ZLN				*eS*	**Sn**	**05 29 42.0**	**+0.8**
ZLN	**Zelenaya**	**1.31**	**311**	PN	**Pn**	**05 29 24.7**	**-0.2**
ZLN				S	**Sn**	**05 29 42.0**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.31**	**307**	*eP*	**Pn**	**05 29 24.6**	**-0.4**
BZGR				*eS*	**Sn**	**05 29 41.8**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**1.31**	**307**	PN	**Pn**	**05 29 24.6**	**-0.4**
BZGR				S	**Sn**	**05 29 41.8**	**+0.5**
TUMR	**Tumrok**	**1.39**	**276**	*eP*	**Pn**	**05 29 25.5**	**-0.6**
TUMR				*eS*	**Sn**	**05 29 43.5**	**+0.2**
TUMR	**Tumrok**	**1.39**	**276**	PN	**Pn**	**05 29 25.5**	**-0.6**
TUMR				S	**Sn**	**05 29 43.5**	**+0.2**
CIRR	**Tsirk**	**1.40**	**313**	*eP*	**Pn**	**05 29 25.8**	**-0.4**
CIRR				*eS*	**Sn**	**05 29 44.8**	**+1.3**
CIRR	**Tsirk**	**1.40**	**313**	PN	**Pn**	**05 29 25.8**	**-0.4**
CIRR				S	**Sn**	**05 29 44.8**	**+1.3**
LGNR	**Loginova**	**1.40**	**311**	*eP*	**Pn**	**05 29 26.0**	**-0.4**
LGNR				*eS*	**Sn**	**05 29 45.3**	**+1.6**
LGNR	**Loginova**	**1.40**	**311**	PN	**Pn**	**05 29 26.0**	**-0.4**
LGNR				S	**Sn**	**05 29 45.3**	**+1.6**
BZMR	**Bezymyannaya**	**1.41**	**304**	*eP*	**Pn**	**05 29 26.2**	**-0.1**
BZMR				*eS*	**Sn**	**05 29 45.5**	**+1.9**
BZMR	**Bezymyannaya**	**1.41**	**304**	PN	**Pn**	**05 29 26.2**	**-0.1**
BZMR				S	**Sn**	**05 29 45.5**	**+1.9**
BZWR	**Bezymyannyi-We**	**1.42**	**305**	*eP*	**Pn**	**05 29 26.1**	**-0.4**
BZWR				*eS*	**Sn**	**05 29 44.3**	**+0.3**
BZWR	**Bezymyannyi-We**	**1.42**	**305**	PN	**Pn**	**05 29 26.1**	**-0.4**
BZWR				S	**Sn**	**05 29 44.3**	**+0.3**
KMNR	**Kamenistaya**	**1.45**	**295**	*eP*	**Pn**	**05 29 26.2**	**-0.6**
KMNR				*eS*	**Sn**	**05 29 45.8**	**+1.1**
KMNR	**Kamenistaya**	**1.45**	**295**	PN	**Pn**	**05 29 26.2**	**-0.6**
KMNR				S	**Sn**	**05 29 45.8**	**+1.1**
KIRR	**Kirishev**	**1.49**	**303**	*eP*	**Pn**	**05 29 27.4**	**0.0**
KIRR				*eS*	**Sn**	**05 29 46.2**	**+0.6**
KIRR	**Kirishev**	**1.49**	**303**	PN	**Pn**	**05 29 27.4**	**0.0**
KIRR				S	**Sn**	**05 29 46.2**	**+0.6**
SMKR	**Semkarok**	**1.54**	**337**	*eP*	**Pn**	**05 29 27.4**	**-0.7**
SMKR				*eS*	**Sn**	**05 29 45.8**	**-1.1**
SMKR	**Semkarok**	**1.54**	**337**	PN	**Pn**	**05 29 27.4**	**-0.7**
SMKR				S	**Sn**	**05 29 45.8**	**-1.1**
KRSR	**Krestovskiy**	**1.54**	**313**	*eP*	**Pn**	**05 29 27.3**	**-0.8**
KRSR				*eS*	**Sn**	**05 29 46.3**	**-0.6**
KRSR	**Krestovskiy**	**1.54**	**313**	PN	**Pn**	**05 29 27.3**	**-0.8**
KRSR				S	**Sn**	**05 29 46.3**	**-0.6**
KPT	**Kopyto**	**1.55**	**302**	*eP*	**Pn**	**05 29 28.5**	**+0.3**
KPT				*eS*	**Sn**	**05 29 48.1**	**+1.0**
KPT	**Kopyto**	**1.55**	**302**	PN	**Pn**	**05 29 28.5**	**+0.3**
KPT				S	**Sn**	**05 29 48.1**	**+1.0**
KLY	**Klyuchi**	**1.58**	**317**	*eP*	**Pn**	**05 29 26.7**	**-1.7**
KLY				*eS*	**Sn**	**05 29 45.2**	**-2.3**
KLY	**Klyuchi**	**1.58**	**317**	PN	**Pn**	**05 29 26.7**	**-1.7**
KLY				S	**Sn**	**05 29 45.2**	**-2.3**
BDR	**Baidarnaya**	**1.59**	**332**	*eP*	**Pn**	**05 29 28.5**	**-0.3**
BDR				*eS*	**Sn**	**05 29 48.7**	**+0.5**
BDR	**Baidarnaya**	**1.59**	**332**	PN	**Pn**	**05 29 28.5**	**-0.3**
BDR				S	**Sn**	**05 29 48.7**	**+0.5**
SRKR	**Sorokina**	**1.68**	**333**	*eP*	**Pn**	**05 29 29.7**	**-0.3**
SRKR	**Sorokina**	**1.68**	**333**	PN	**Pn**	**05 29 29.7**	**-0.3**
KOZ	**Kozyrevsk**	**1.77**	**301**	*eP*	**Pn**	**05 29 32.0**	**+0.9**
KOZ				*eS*	**Sn**	**05 29 54.0**	**+1.6**
KOZ	**Kozyrevsk**	**1.77**	**301**	PN	**Pn**	**05 29 32.0**	**+0.9**
KOZ				S	**Sn**	**05 29 54.0**	**+1.6**
BKI	**Bering**	**1.95**	**88**	*eP*	**Pn**	**05 29 32.9**	**-0.7**
BKI				*eS*	**Sn**	**05 29 55.6**	**-1.2**
BKI	**Bering**	**1.95**	**88**	PN	**Pn**	**05 29 32.9**	**-0.7**
BKI				S	**Sn**	**05 29 55.6**	**-1.2**
SRDR	**Sredinnyy**	**1.98**	**307**	*eP*	**Pn**	**05 29 34.6**	**+0.5**
SRDR				*eS*	**Sn**	**05 29 59.4**	**+1.8**
SRDR	**Sredinnyy**	**1.98**	**307**	PN	**Pn**	**05 29 34.6**	**+0.5**
SRDR				S	**Sn**	**05 29 59.4**	**+1.8**
KII	**Karymskiy**	**2.14**	**239**	*eP*	**Pn**	**05 29 36.0**	**-0.3**
KII	**Karymskiy**	**2.14**	**239**	PN	**Pn**	**05 29 36.0**	**-0.3**
SPN	**Mys Shipunski**	**2.56**	**217**	*eP*	**Pn**	**05 29 39.8**	**-2.2**
SPN				*eS*	**Sn**	**05 30 09.0**	**-2.9**
SPN	**Mys Shipunski**	**2.56**	**217**	PN	**Pn**	**05 29 39.8**	**-2.2**
SPN				S	**Sn**	**05 30 09.0**	**-2.9**
SDLR	**Sedlovina**	**2.88**	**230**	*eP*	**Pn**	**05 29 46.6**	**+0.1**
SDLR	**Sedlovina**	**2.88**	**230**	PN	**Pn**	**05 29 46.6**	**+0.1**
KRER	**Koryakskii**	**2.92**	**232**	*eP*	**Pn**	**05 29 47.4**	**+0.3**
KRER				*eS*	**Sn**	**05 30 21.8**	**+0.8**
KRER	**Koryakskii**	**2.92**	**232**	PN	**Pn**	**05 29 47.4**	**+0.3**
KRER				S	**Sn**	**05 30 21.8**	**+0.8**
SMAR	**Somma**	**2.93**	**231**	*eP*	**Pn**	**05 29 47.0**	**-0.2**
SMAR				*eS*	**Sn**	**05 30 21.4**	**+0.2**
SMAR	**Somma**	**2.93**	**231**	PN	**Pn**	**05 29 47.0**	**-0.2**
SMAR				S	**Sn**	**05 30 21.4**	**+0.2**
KRX	**Arik**	**2.93**	**233**	*eP*	**Pn**	**05 29 47.0**	**-0.2**
KRX				*eS*	**Sn**	**05 30 22.0**	**+0.8**
KRX	**Arik**	**2.93**	**233**	PN	**Pn**	**05 29 47.0**	**-0.2**
KRX				S	**Sn**	**05 30 22.0**	**+0.8**
AVH	**Avacha**	**2.95**	**231**	*eP*	**Pn**	**05 29 48.0**	**+0.6**
AVH				*eS*	**Sn**	**05 30 24.1**	**+2.5**
AVH	**Avacha**	**2.95**	**231**	PN	**Pn**	**05 29 48.0**	**+0.6**
AVH				S	**Sn**	**05 30 24.1**	**+2.5**
UGLR	**Uglovaya**	**2.95**	**230**	*eP*	**Pn**	**05 29 47.8**	**+0.3**
UGLR				*eS*	**Sn**	**05 30 23.3**	**+1.6**
UGLR	**Uglovaya**	**2.95**	**230**

comp=Z,8.0nm,1.0s
TTA Tatalina 22.31 53 P **P 05 33 58.1 +1.1**
IMAR Indian Mountai 23.49 45 P **P 05 34 09.3 +0.4**
RSO Redoubt South 23.99 59 P **P 05 34 15.3 +1.4**
KDAK Kodiak Island 24.56 65 P **P 05 34 18.0 -0.9**
comp=Z,5.9nm,0.6s,baz=252,slow=1.3,SNR=13
KDAK Kodiak Island 24.56 65 P **P 05 34 19.1 +0.2**
KDAK pmax pmax
comp=Z,3.0nm,0.7s
KDAK Kodiak Island 24.56 65 P **P 05 34 19.1 +0.2**
BPAW Bear Paw Mtn. 24.57 50 P **P 05 34 19.9 +1.0**
BPAW IAmb IAmb 05 34 22.3
comp=Z,7.0nm,0.9s
KTH Kantishna Hill 24.61 51 P **P 05 34 21.1 +1.7**
KTH IAmb IAmb 05 34 22.9
comp=Z,7.5nm,0.9s
CNPM China Poot 24.89 61 P **P 05 34 22.6 +0.7**
CNPM IAmb IAmb 05 34 29.8
comp=Z,24nm,1.1s
TRF Thorofare Moun 24.90 51 P **P 05 34 23.0 +0.9**
TRF IAmb IAmb 05 34 25.7
comp=Z,12nm,0.9s
MJA0 Matsu Arr-Jizo 24.96 232 *e*P **P 05 34 25.9 +3.1**
MJA0 pmax pmax
comp=Z,2.0nm,0.5s
MJAR Matsushiro Arr 24.98 232 P **P 05 34 22.6 -0.3**
comp=Z,1.7nm,0.5s,baz=26,slow=8.2,SNR=8.1
MAJO Matsushiro 24.98 232 P **P 05 34 22.9 -0.1**
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MAJO Matsushiro 24.98 232 P **P 05 34 22.9 -0.1**
MAJO IAmb IAmb 05 34 25.8
comp=Z,7.7nm,0.7s
COLD Coldfoot 25.02 42 P **P 05 34 23.9 +0.9**
COLD IAmb IAmb 05 34 26.4
comp=Z,8.5nm,0.8s
RND Reindeer 25.54 52 P **P 05 34 28.8 +1.0**
RND pmax pmax
comp=Z,8.0nm,1.0s
RND Reindeer 25.54 52 P **P 05 34 28.8 +1.0**
RND IAmb IAmb 05 34 29.0
comp=Z,8.2nm,1.0s
WRH Wood River Hil 25.82 49 P **P 05 34 31.6 +1.3**
WRH IAmb IAmb 05 34 32.4
comp=Z,6.7nm,0.9s
COLA College 25.91 48⇑ *e*P **P 05 34 31.7 +0.7**
COLA pmax pmax
comp=Z,4.0nm,1.1s
CCB Clear Creek Bu 25.94 49 P **P 05 34 32.9 +1.6**
SML Sawmill 25.95 55 P **P 05 34 32.0 +0.5**
SML IAmb IAmb 05 34 42.8
comp=Z,14nm,1.1s
DHY Denali Highway 26.24 52 P **P 05 34 34.7 +0.4**
DHY IAmb IAmb 05 34 45.4
comp=Z,15nm,1.4s
IL31 26.32 48 P **P 05 34 35.5 +0.8**
ILAR Eielson Array 26.32 48 P **P 05 34 35.0 +0.2**
comp=Z,1.4nm,0.7s,baz=263,slow=7.8,SNR=16
ILAR Eielson Array 26.32 48 *e*P **P 05 34 35.4 +0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
SCM Sheep Creek Mo 26.41 55 P **P 05 34 36.8 +1.0**
SCM pmax pmax
comp=Z,62nm,1.4s
SCM Sheep Creek Mo 26.41 55 P **P 05 34 36.8 +1.0**
HIN Hinchinbrook I 27.06 58 P **P 05 34 41.9 +0.4**
BCAR Beaver Creek A 28.76 51 P **P 05 34 57.2 +0.5**
EGAK Eagle 28.77 48 P **P 05 34 56.2 -0.5**
H11N2 WAKE ISLAND Hy 35.54 173 T T 06 13 21.4
baz=355,slow=76,SNR=29
H11N3 WAKE ISLAND Hy 35.55 173 T T 06 13 23.9
baz=355,slow=76,SNR=35
H11N1 WAKE ISLAND Hy 35.55 173 T T 06 13 23.9
baz=355,slow=76,SNR=44
KWAJ Kwajalein Atol 46.42 173 P **P 05 37 27.6 +1.8**
KWAJ pmax pmax
comp=Z,92nm,1.1s
KWAJ Kwajalein Atol 46.42 173 P **P 05 37 27.6 +1.8**
KURK Kurchatov 47.88 302 P **P 05 37 35.3 -1.6**
KURK pmax pmax
comp=Z,4.0nm,1.4s
KURK Kurchatov 47.88 302 P **P 05 37 35.3 -1.6**
KURK IAmb IAmb 05 37 46.9
comp=Z,3.6nm,1.4s
MKAR Makanchi Array 48.57 295 P **P 05 37 41.0 -1.3**
comp=Z,0.1nm,0.4s,baz=44,slow=6.8,SNR=1.3
BRVK Borovoye 50.27 308⇑ *e*P **P 05 37 53.6 -1.5**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
ARU Arti 52.85 317 *c i*P P 05 38 04.7 -10
ARU pmax pmax
comp=Z,8.0nm,1.9s
NVAR Mina Array Bea 53.70 73 P **P 05 38 23.5 +2.3**
comp=Z,0.4nm,0.4s,baz=322,slow=5.7,SNR=3.3
AAK Ala-Archa 55.46 296⇑ *e*P **P 05 38 30.7 -3.1**
FINES FINESS Array B 58.77 337 P **P 05 38 55.6 -1.1**
comp=Z,0.7nm,0.4s,baz=27,slow=6.5,SNR=2.2
FINES FINESS Array B 58.77 337 *e*P P 05 38 59.8 +3.1
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 58.77 337 P **P 05 38 55.2 -1.4**
NOA NORSAR Array B 61.93 345 P **P 05 39 15.4 -3.0**
comp=Z,0.3nm,0.6s,baz=18,slow=6.9,SNR=2.1
TXAR Lajitas Array 68.51 69 P **P 05 40 02.8 +1.3**
comp=Z,0.5nm,0.7s,baz=299,slow=4.6,SNR=8.2
TXAR Lajitas Array 68.51 69 P **P 05 40 02.4 +0.9**
TXAR Lajitas Array 68.51 69 P **P 05 40 02.4 +0.9**
WRA Warramunga Arr 78.59 207 P **P 05 41 01.3 +0.8**
comp=Z,0.2nm,0.5s,baz=18,slow=6.1,SNR=2.7
ASAR Alice Springs 82.27 206 P **P 05 41 21.4 +1.3**
comp=Z,0.3nm,0.4s,baz=12,slow=4.7,SNR=2.9

ISC 19 06:01:56.2±1.2,49°.23N±0°.06×18°.88E±0°.04,h7km±18km, n5,σ0°37/10,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.40**	**101**	*e*PG	**Pg**	**06 02 03.5**	**-0.4**
LANS				*e*SG	**Sg**	**06 02 09.6**	**+0.5**
LANS				*e*LG	Lg	06 02 13.0	
VYHS	**Vyhne**	**0.73**	**182**	*e*PG	**Pg**	**06 02 10.0**	**-0.3**
VYHS				*e*SG	**Sg**	**06 02 20.1**	**+0.3**
JAVC	**Velka Javorina**	**0.88**	**246**	*e*PG	**Pb**	**06 02 13.9**	**+0.2**
JAVC				*e*SG	**Sg**	**06 02 24.5**	**+0.2**
MORC	**Moravsky Berou**	**1.03**	**303**	*e*PG	**Pn**	**06 02 17.0**	**-0.1**
MORC				*e*SG	**Sg**	**06 02 29.7**	**+0.4**
VRAC	**Vranov**	**1.50**	**274**	*e*PG	**Pb**	**06 02 24.4**	**+0.1**
VRAC				*e*SG	**Sg**	**06 02 44.4**	**+0.1**

*IDC **19** 06:03:27.8±1.8, 6°.20S×147°.46E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.7/26, mbtmp3.7/7, ML3.6/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/29, Error ellipse: s-maj=47.8km s-min=25.6km az=92.0*

ISC 19 06:03:36.0±1.7, 6°.4S±0°.1×147°.5E±0°.3, h63km, n10, σ0°69/9, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.96**	**186**	Pn	**Pn**	**06 04 20.7**	**0.0**
	9.2nm,0.3s,baz=10,slow=7.5,SNR=9.8						
PMG				Sn	**Sn**	**06 04 55.1**	**0.0**
	18nm,0.3s,baz=203,slow=22,SNR=9.4						
PMG				LR	LR	06 05 31.4	
	comp=Z,77nm,20.6s,baz=90,slow=39						
JAY	**Jayapura**	**7.77**	**300**	LR	LR	06 08 50.2	
	comp=Z,67nm,19.8s,baz=191,slow=42						
CTA	**Charters Tower**	**13.62**	**185**	Pn	**Pn**	**06 06 45.8**	**-0.6**
	0.2nm,0.3s,baz=11,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**18.50**	**222**	P	**Pn**	**06 07 47.3**	**-0.8**
	0.2nm,0.3s,baz=45,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.52**	**216**	P	**P**	**06 08 20.9**	**+0.8**
	0.8nm,0.5s,baz=50,slow=9.4,SNR=13						
FITZ	**Fitzroy Crossi**	**24.23**	**239**	P	**P**	**06 08 47.8**	**+0.6**
	0.8nm,0.3s,baz=359,slow=5.5,SNR=26						
TGY	**Tagaytay City**	**33.30**	**308**	LR	LR	06 23 40.4	
	comp=Z,479nm,21.4s,baz=246,slow=37						
VNDA	**Vanda**	**71.45**	**177**	P	**P**	**06 14 49.9**	**+0.6**
	0.5nm,0.7s,baz=328,slow=6.3,SNR=2.3						
MKAR	**Makanchi Array**	**78.12**	**320**	P	**P**	**06 15 27.9**	**-0.5**
	0.4nm,0.5s,baz=97,slow=7.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**145.63**	**284**	PKPbc	**PKPab**	**06 23 09.2**	**+0.2**
	1.2nm,0.8s,baz=67,slow=3.3,SNR=7.6						

*TEH **19** 06:06:12.2, 32°.62N×47°.65E, h12km, ML3.0*
*ISN **19** 06:06:12.7±0.6, 32°.66N×47°.63E, h14km±4km, ML2.7*

ISC 19 06:06:13.7±1.1, 32°.59N±0°.05×47°.66E±0°.04, h23km, n23, σ1°54/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.34**	**286**	*e*Pg	**Pb**	**06 06 18.4**	**-2.7**
DHL1				*e*Sg	**Sb**	**06 06 24.4**	**-1.8**
IKFM	**Kafar-mosalman**	**0.95**	**9**	*e*Pg	**Pb**	**06 06 28.8**	**-2.7**
SHGR	**Shooshtar-Gavs**	**1.08**	**116**	*e*Pg	**Pn**	**06 06 32.8**	**-0.6**
IKMR	**Kamar-syah**	**1.11**	**33**	*e*Pg	**Pn**	**06 06 33.6**	**-0.2**
IKMR				*e*		06 06 53.6	
IDOB	**Doab**	**1.27**	**20**	*e*Pg	**Pn**	**06 06 36.4**	**+0.1**
BMDN	**Meydan**	**1.46**	**42**	*e*Pg	**Pn**	**06 06 39.8**	**+1.0**
BMDN				*e*		06 06 46.7	
IBDR	**Badra**	**1.55**	**290**	*e*Pg	**Pn**	**06 06 40.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**06 07 00.0**	**+0.8**
IBDR				AML	AML	06 07 06.8	
	comp=N,172nm,0.6s						
IBDR				AML	AML	06 07 13.4	
	comp=E,99nm,0.4s						
IKOM	**Komasi**	**1.59**	**355**	*e*Pg	**Pn**	**06 06 41.3**	**+0.7**
IKOM				*e*		06 07 12.3	
KCHF	**Cheshme Sefid,**	**1.76**	**343**	*e*Pg	**Pn**	**06 06 44.3**	**+1.3**
KCHF				*e*		06 07 16.2	
HSAM	**Samen**	**1.80**	**26**	*e*Pg	**Pb**	**06 06 45.4**	**-0.8**
HSAM				*e*		06 06 50.2	
KER	**Kermanshah**	**1.85**	**346**	*e*Pn	**Pn**	**06 06 44.9**	**+0.8**
IBZA	**Bozab**	**1.88**	**5**	*e*Pg	**Pb**	**06 06 46.8**	**-0.8**
IBZA				*e*		06 06 51.0	
IGHG	**Ghaleghazi**	**1.96**	**333**	*e*Pn	**Pn**	**06 06 47.1**	**+1.3**
IGHG				*e*		06 07 30.8	
NSR	**Nassriya**	**2.04**	**220**	*e*Pn	**Pn**	**06 06 48.0**	**+1.4**
NSR				*e*Sn	**Sn**	**06 07 14.0**	**+2.7**
IVIS	**Veis**	**2.05**	**341**	*e*Pn	**Pn**	**06 06 48.5**	**+1.6**
KHMZ	**Khomeyn**	**2.24**	**59**	*e*Pn	**Pn**	**06 06 51.4**	**+1.7**
IALM	**Almabolaq**	**2.31**	**10**	*e*Pn	**Pn**	**06 06 51.7**	**+1.1**
IDHR	**Dehrash**	**2.36**	**334**	*e*Pn	**Pn**	**06 06 52.9**	**+1.6**
IDHR				*e*		06 07 32.2	
HAGD	**Aghdareh**	**2.55**	**29**	*e*Pn	**Pn**	**06 06 55.1**	**+1.2**
HAGD				*e*		06 07 40.6	
HSRG	**Sareghieh**	**2.70**	**11**	*e*Pn	**Pn**	**06 06 57.8**	**+1.8**
ASAO	**Ashtian**	**2.78**	**45**	*e*Pn	**Pn**	**06 06 58.5**	**+1.5**
BHD	**Baghdad**	**2.84**	**285**	*e*Pn	**Pn**	**06 06 59.0**	**+1.3**
BHD				*e*Sn	**Sn**	**06 07 33.0**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.50**	**27**	*e*Pn	**Pn**	**06 07 07.8**	**+0.9**

*OTT **19** 06:10:57.4±0.8, 42°.55N×55°.42W, h18km, ML3.8/6, 506km south from Grand Bank, NI*
*ANF **19** 06:11:04.5±0.6, 42°.57N×56°.60W, h10km, Error ellipse: s-maj=18.7km s-min=5.3km az=24.0*

ISC 19 06:10:54.8±3.1, 42°.5N±0°.2×55°.8W±0°.1, h10km, n31, σ2°82/54, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBN	**Guysborough**	**5.05**	**307**	PN	**Pn**	**06 12 14.7**	**+4.2**
GBN				SN	**Sn**	**06 13 12.7**	**+3.9**
GBN				Trac		06 13 14.9	
	comp=Z,6.2nm,0.1s						
SJNN	**Saint John's**	**5.51**	**22**	PN	**Pn**	**06 12 15.2**	**-1.6**
SJNN				SN	**Sn**	**06 13 13.7**	**-6.4**
SJNN				Trac		06 13 16.9	
	comp=Z,10nm,0.2s						
CHEG	**Cheticamp, Nov**	**5.52**	**322**	PN	**Pn**	**06 12 20.4**	**+3.3**
CHEG				SN	**Sn**	**06 13 20.9**	**+0.4**
CHEG				Trac		06 13 28.2	
	comp=Z,8.8nm,0.1s						
HAL	**Halifax**	**6.06**	**293**	PN	**Pn**	**06 12 27.8**	**+3.4**
HAL				SN	**Sn**	**06 13 34.0**	**+0.2**
HAL				Trac		06 13 37.7	
	comp=Z,5.5nm,0.0s						
DRLN	**Deer Lake**	**6.83**	**350**	PN	**Pn**	**06 12 36.6**	**+1.7**
DRLN				SN	**Sn**	**06 13 49.2**	**-3.4**
DRLN				Trac		06 13 54.5	
	comp=Z,30nm,0.5s						
LMN	**Caledonia Moun**	**7.30**	**300**	PN	**Pn**	**06 12 45.0**	**+3.7**
LMN				SN	**Sn**	**06 14 04.0**	**-0.2**
LMN				Trac		06 14 07.8	
	comp=Z,8.3nm,0.1s						
SVNB	**Stilesville Qu**	**7.47**	**302**	PN	**Pn**	**06 12 47.2**	**+3.5**
SVNB				SN	**Sn**	**06 14 08.3**	**-0.2**
ELNB	**Elgin, New Bru**	**7.52**	**299**	PN	**Pn**	**06 12 48.0**	**+3.6**
ELNB				SN	**Sn**	**06 14 11.4**	**+1.7**
WCNB	**Wards Creek**	**7.68**	**297**	PN	**Pn**	**06 12 49.9**	**+3.4**
WCNB				SN	**Sn**	**06 14 13.2**	**-0.3**
HKNB	**Havelock Quarr**	**7.72**	**300**	PN	**Pn**	**06 12 50.5**	**+3.4**
HKNB				SN	**Sn**	**06 14 15.2**	**+0.8**
SRNB	**Snider Mountai**	**7.83**	**298**	PN	**Pn**	**06 12 51.8**	**+3.2**
SRNB				SN	**Sn**	**06 14 16.4**	**-0.7**
GGN	**Saint George**	**8.42**	**292**	PN	**Pn**	**06 12 58.8**	**+2.1**
GGN				SN	**Sn**	**06 14 28.6**	**-3.1**
GGN				Trac		06 14 36.0	
	comp=Z,12nm,0.2s						
HANN	**Hanwell**	**8.59**	**297**	SN	**Sn**	**06 14 34.2**	**-1.7**
H66A	**Whiting**	**8.67**	**289**	P	**Pn**	**06 13 01.5**	**+1.3**
	baz=100,SNR=37						
H66A				S	**Sn**	**06 14 34.1**	**-3.9**
	baz=100						
BATG	**Bathurst New B**	**8.71**	**306**	PN	**Pn**	**06 13 03.5**	**+2.8**
BATG				SN	**Sn**	**06 14 36.7**	**-2.2**
G65A	**Princeton**	**8.93**	**291**	P	**Pn**	**06 13 05.3**	**+1.5**
	baz=103,SNR=80						
G65A				S	**Sn**	**06 14 40.4**	**-4.1**
	baz=103						
H65A	**Eastbrook**	**9.31**	**288**	P	**Pn**	**06 13 10.0**	**+1.0**
	baz=98,SNR=22						
H65A				S	**Sn**	**06 14 48.9**	**-4.9**
	baz=98						
E64A	**Bridgewater**	**9.46**	**298**	P	**Pn**	**06 13 12.7**	**+1.7**
	baz=109						
E64A				S	**Sn**	**06 14 53.9**	**-3.4**
	baz=109						
F64A	**Sherman**	**9.63**	**294**	P	**Pn**	**06 13 14.9**	**+1.5**
	baz=105						
F64A				S	**Sn**	**06 14 57.8**	**-3.9**
	baz=105						
G64A	**Maxfield**	**9.77**	**291**	P	**Pn**	**06 13 16.9**	**+1.7**
	baz=101,SNR=13						
G64A				S	**Sn**	**06 15 01.0**	**-3.9**
	baz=101						
E63A	**Oxbow**	**9.85**	**298**	P	**Pn**	**06 13 18.3**	**+2.0**
	baz=108						
E63A				S	**Sn**	**06 15 03.2**	**-3.7**
	baz=108						
D63A	**Stockholm**	**9.86**	**301**	P	**Pn**	**06 13 18.4**	**+1.9**
	baz=112						
H64A	**Troy**	**9.99**	**287**	P	**Pn**	**06 13 18.9**	**+0.6**
	baz=97						
PKME	**Peaks-Kenny Pk**	**10.14**	**290**	PN	**Pn**	**06 13 22.1**	**+1.8**
PKME				SN	**Sn**	**06 15 10.5**	**-3.5**
PKME	**Peaks-Kenny Pk**	**10.14**	**290**	P	**Pn**	**06 13 21.9**	**+1.6**
	baz=100,SNR=12						
PKME				S	**Sn**	**06 15 09.3**	**-4.8**
	baz=100						
GSQ	**Grosses Roches**	**10.17**	**313**	PN	**Pn**	**06 13 23.0**	**+2.3**
GSQ				SN	**Sn**	**06 15 13.6**	**-1.3**
I64A	**Boothbay**	**10.22**	**282**	P	**Pn**	**06 13 21.7**	**+0.3**
	baz=93						
G63A	**Kingsbury**	**10.34**	**289**	P	**Pn**	**06 13 24.6**	**+1.5**
	baz=99,SNR=10						
D62A	**Allapoint, All**	**10.48**	**300**	P	**Pn**	**06 13 26.1**	**+1.2**
	baz=110						
E62A	**Clayton Lake**	**10.63**	**297**	P	**Pn**	**06 13 28.3**	**+1.2**
	baz=107						
G62A	**West of Eustis**	**11.00**	**289**	P	**Pn**	**06 13 33.3**	**+1.3**
	baz=98,SNR=11						

*DJA **19** 06:20:56.7±0.2, 2°S±2°×12°8E±°, h10km, M4.7/13, mB5.3/6, mb4.9/8, MLv4.5/13, Mw(mB)4.7/6*
*NEIC **19** 06:20:58.0±2.2, 1°.97S±0°.07×128°.34E±0°.07, h46km±8km, mb4.1/18, Error ellipse: s-maj=10.8km s-min=9.4km az=201.0*
*IDC **19** 06:20:60.0±2.2, 1°.95S×128°.43E, h60km±22km, mb3.8/9, mb1 4.0/14, mb1mx3.9/35, mbtmp4.2/14, ML4.2/5, MS3.1/3, Ms1 3.1/3, ms1mx2.7/28, Error ellipse: s-maj=17.0km s-min=12.1km az=104.0*

ISC 19 06:20:57.0±0.5, 1°.92S±0°.04×128°.35E±0°.05, h34km, n60, σ1°60/62, mb4.1/13, MS3.0/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.53**	**326**	P	**Pn**	**06 21 22.9**	**+1.0**
LBMI				S	**Sn**	**06 21 41.1**	**+0.5**
MSAI	**Masohi**	**1.53**	**158**	P	**Pb**	**06 21 25.8**	**+1.0**
MSAI				S	**Sb**	**06 21 46.7**	**+2.8**
AAI	**Ambon**	**1.76**	**185**	P	**Pb**	**06 21 27.9**	**-0.8**
NLAI	**Namlea**	**1.81**	**224**	P	**Pn**	**06 21 27.2**	**+1.5**
SANI	**Sanana**	**2.36**	**267**	P	**Pn**	**06 21 32.2**	**-1.1**
TNTI	**Ternate**	**2.85**	**340**	P	**Pn**	**06 21 41.1**	**+1.1**
TNTI	**Ternate**	**2.85**	**340**	Pn	**Pn**	**06 21 41.5**	**+1.5**
BNDI	**Bandanaira**	**3.02**	**149**	P	**Pn**	**06 21 45.7**	**+3.3**
SIJI	**Sorong**	**3.10**	**70**	P	**Pn**	**06 21 44.8**	**+1.2**
	42nm,0.3s,baz=261,slow=8.3,SNR=50						
SIJI				S	**Sn**	**06 22 21.5**	**+2.1**
	57nm,0.3s,baz=284,slow=22,SNR=15						
FAKI	**Fak Fak**	**4.02**	**104**	P	**Pn**	**06 21 57.4**	**+1.2**
FAKI	**Fak Fak**	**4.02**	**104**	Pn	**Pn**	**06 21 57.0**	**+0.8**
KMSI	**Cibinong**	**5.02**	**300**	P	Pn	06 22 17.9	+8.0
KMPI	**Kaimana, Papua**	**5.62**	**108**	P	**Pn**	**06 22 19.0**	**+0.8**
	1.5nm3μm234nm,1.0s						
LUWI	**Luwuk**	**5.64**	**279**	P	**Pn**	**06 22 19.2**	**+0.7**
	1.0nm7μm146nm,0.8s						
LUWI	**Luwuk**	**5.64**	**279**	Pn	**Pn**	**06 22 19.6**	**+1.1**
MPSI	**Mapaga**	**8.74**	**285**	P	**Pn**	**06 23 04.0**	**+3.0**
	22nm,0.7s						
SPSI	**Sidrap Palu**	**8.80**	**256**	P	**Pn**	**06 23 05.8**	**+3.9**
	3μm67nm,0.8s						
BKSI	**Bulukumba**	**8.88**	**247**	P	Pn	06 23 09.0	+6.1
	1μm67nm,0.5s						
KAPI	**Kappang**	**9.11**	**250**	P	Pn	06 23 11.3	+5.2
	4.6nm,0.3s,baz=109,slow=8.5,SNR=14						
KAPI				S	**Sn**	**06 24 49.3**	**+1.6**
	0.3nm,0.3s,baz=341,slow=17,SNR=1.3						
KAPI	**Kappang**	**9.11**	**250**	Pn	**Pn**	**06 23 10.1**	**+4.0**
MTN	**Manton Dam**	**11.20**	**166**		**Pn**	**06 23 36.6**	**+1.9**
MYLDM	**Lahad Datu**	**12.10**	**306**	Pn	**Pn**	**06 23 47.1**	**0.0**
JAY	**Jayapura**	**12.36**	**93**	P	**Pn**	**06 23 52.3**	**+1.5**
	1.6nm,0.3s,baz=302,slow=9.5,SNR=4.9						
KNRA	**Kununurra**	**13.68**	**178**		**Pn**	**06 24 07.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**16.30**	**189**	P	**Pn**	**06 24 44.2**	**+0.9**
	0.3nm,0.3s,baz=0.5,slow=9.4,SNR=11						
FITZ				S	**Sn**	**06 27 43.8**	**+0.5**
	0.1nm,0.3s,baz=186,slow=3.6,SNR=2.0						
FITZ	**Fitzroy Crossi**	**16.30**	**189**	Pn	**Pn**	**06 24 43.7**	**+0.4**
WB0	**Warramunga Arr**	**18.70**	**162**	P	**P**	**06 25 11.2**	**-1.4**
WB0				IAmb	IAmb	06 25 36.5	
	comp=Z,6.6nm,0.6s						
WRAB	**Tennant Creek**	**18.84**	**162**	P	**P**	**06 25 12.4**	**-1.8**
WRA	**Warramunga Arr**	**18.85**	**162**	P	**P**	**06 25 13.1**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=341,slow=12,SNR=49						
WRA				S	Sn	06 28 30.8	-14
	comp=Z,0.4nm,0.3s,baz=339,slow=22,SNR=4.0						
WRA	**Warramunga Arr**	**18.85**	**162**	P	**P**	**06 25 11.9**	**-2.3**
WB2	**Warramunga Arr**	**18.85**	**162**	P	**P**	**06 25 13.5**	**-0.8**
COEN	**Coen**	**18.92**	**130**	P	**P**	**06 25 14.8**	**-0.3**
COEN				IAmb	IAmb	06 25 23.8	
	comp=Z,25nm,1.1s						
WR0	**Warramunga Arr**	**18.93**	**162**		**P**	**06 25 13.5**	**-1.6**
WR0				IAmb	IAmb	06 25 31.7	
	comp=Z,11nm,1.3s						
PSA00	**Pilbara Seismi**	**21.22**	**202**	P	**P**	**06 25 38.8**	**-1.2**
PSA00				IAmb	IAmb	06 25 42.4	
	comp=Z,6.8nm,0.9s						
AS31	**Alice Springs**	**22.28**	**166**	P	**P**	**06 25 50.9**	**-0.5**
AS31				IAmb	IAmb	06 26 06.5	
	comp=Z,4.6nm,0.8s						
ASAR	**Alice Springs**	**22.28**	**166**	P	**P**	**06 25 51.4**	**0.0**
	comp=Z,8.9nm,0.6s,baz=346,slow=12,SNR=107						
ASAR				S	**S**	**06 29 50.0**	**-4.7**
	comp=Z,6.8nm,0.8s,baz=348,slow=20,SNR=24						
ASAR	**Alice Springs**	**22.28**	**166**	P	**P**	**06 25 50.9**	**-0.5**
KRVT	**Keravat (AS076**	**23.76**	**96**	P	**P**	**06 26 06.0**	**-0.6**
	comp=Z,52nm,0.7s,baz=95,slow=3.9,SNR=6.8						
CTA	**Charters Tower**	**25.14**	**137**	P	**P**	**06 26 19.6**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=77,slow=5.6,SNR=2.6						
CTAO	**Charters Tower**	**25.14**	**137**	P	**P**	**06 26 16.3**	**-2.8**
CTAO				IAmb	IAmb	06 26 32.2	
	comp=Z,4.0nm,0.8s						
BBOO	**Buckleboo**	**31.57**	**168**	P	**P**	**06 27 15.1**	**-1.4**
STKA	**Stephens Creek**	**32.31**	**159**	P	**P**	**06 27 23.7**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=319,slow=8.3,SNR=3.9						
STKA	**Stephens Creek**	**32.31**	**159**	P	**P**	**06 27 22.0**	**-0.9**
KSRS	**Korea Array**	**39.18**	**359**	P	**P**	**06 28 23.0**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=169,slow=11,SNR=5.4						
KSRS				LR	LR	06 42 52.5	
	comp=Z,25nm,19.9s,baz=148,slow=34						
MJAR	**Matsushiro Arr**	**39.35**	**13**	P	**P**	**06 28 22.7**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=183,slow=8.7,SNR=6.4						
MJAR				LR	LR	06 43 39.4	
	comp=Z,26nm,21.6s,baz=215,slow=34						
TARA	**Tarawa**	**44.69**	**86**	P	**P**	**06 29 06.5**	**-0.7**
USRK	**Ussuriysk Ar.**	**46.03**	**4**	P	**P**	**06 29 18.3**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=177,slow=6.9,SNR=5.5						
USRK	**Ussuriysk Ar.**	**46.03**	**4**	P	**P**	**06 29 16.4**	**-0.8**
ASAJ	**Asahikawa**	**47.57**	**14**	LR	LR	06 48 31.9	
	comp=Z,30nm,19.5s,baz=172,slow=35						
SONM	**Songino Array**	**53.13**	**342**	P	**P**	**06 30 11.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=152,slow=6.7,SNR=4.3						
SONM	**Songino Array**	**53.13**	**342**	P	**P**	**06 30 09.7**	**-1.8**
MK31	**Makanchi Array**	**63.10**	**326**	P	**P**	**06 31 21.3**	**+0.1**
MK31				IAmb	IAmb	06 31 22.3	
	comp=Z,3.8nm,1.2s						
MKAR	**Makanchi Array**	**63.10**	**326**	P	**P**	**06 31 21.5**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=130,slow=8.0,SNR=9.8						
MKAR	**Makanchi Array**	**63.10**	**326**	P	**P**	**06 31 21.2**	**-0.1**
KURK	**Kurchatov**	**67.35**	**328**	P	**P**	**06 31 48.7**	**+0.1**
ABKAR	**Akbulak array**	**77.53**	**321**	P	**P**	**06 32 48.3**	**-1.1**
VNDA	**Vanda**	**77.66**	**173**	P	**P**	**06 32 50.3**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=309,slow=9.3,SNR=4.4						
VNDA	**Vanda**	**77.66**	**173**	P	**P**	**06 32 50.0**	**+0.5**
VNDA				IAmb	IAmb	06 33 14.9	
	comp=Z,1.3nm,0.9s						
QSPA	**South Pole Qui**	**88.03**	**180**	P	**P**	**06 33 43.2**	**-0.4**
MCARA	**McCarthy VSAT**	**91.01**	**29**	P	**P**	**06 33 58.8**	**+1.3**

*IDC **19** 06:32:31.7±0.6, 20°.63S×174°.42W, h0km, mb4.3/14

comp=Z,1μm,22.4s
DZM Mont Dzumac 18.48 262 P **P 06 36 47.6 -1.0**
0.4nm,0.3s,baz=101,slow=15,SNR=4.1
DZM LR LR 06 42 39.4
comp=Z,1μm,19.6s,baz=90,slow=34
DZM Mont Dzumac 18.48 262 P **P 06 36 48.1 -0.6**
URZ Urewera 19.27 202 P **P 06 36 56.1 -1.0**
0.9nm,0.3s,baz=159,slow=20,SNR=2.8
URZ S Sn 06 40 08.4 -25
0.3nm,0.3s,baz=333,slow=17,SNR=1.4
URZ Urewera 19.27 202 P **P 06 36 55.9 -1.2**
URZ IAmb IAmb 06 37 01.0
comp=Z,60nm,1.3s
BKZ Black Stump Fm 20.30 202 P **P 06 37 08.0 -0.4**
BFZ Birch Farm 21.74 201 P **P 06 37 23.7 -0.1**
BFZ IAmb IAmb 06 37 39.7
comp=Z,79nm,1.2s
TBI Tubuai 22.71 101 *e*S **S 06 41 32.7 -8.7**
comp=Z,381nm,27.8s
TBI *e*LR LR 06 43 04.6
comp=Z,851nm,28.8s,baz=273
TBI Tubuai 22.71 101 *e*T T 07 01 07.3
comp=Z,2.6nm,0.3s
MSWZ Moikau Station 22.73 202 P **P 06 37 35.1 +0.6**
PAE Paea 23.05 87 *e*T T 07 01 32.0
comp=Z,1.0nm,0.3s
PPT2 Papeete2 23.07 87 *e*S **S 06 41 43.7 -4.0**
comp=Z,756nm,27.0s
PPT2 *e*LR LR 06 43 13.3
comp=Z,929nm,26.8s,baz=254
PPT Papeete 23.07 87 LR LR 06 44 18.3
comp=Z,179nm,20.7s,baz=248,slow=30
TUWZ Tuamarina 23.22 204 P **P 06 37 38.8 -0.6**
QRZ Quartz Range 23.28 207 P **P 06 37 41.2 +1.1**
THZ Tophouse 23.91 205 P **P 06 37 46.6 +0.4**
THZ IAmb IAmb 06 38 04.3
comp=Z,40nm,1.2s
KHZ Kahutara 24.22 203 P **P 06 37 49.4 +0.4**
MEH Mehetia 24.43 88 *e*T T 07 03 15.1
comp=Z,5.9nm,0.2s
LTZ Lake Taylor 25.02 205 P **P 06 37 56.9 +0.5**
LTZ IAmb IAmb 06 38 01.2
comp=Z,21nm,0.9s
FOZ Fox Glacier 26.65 207 P **P 06 38 10.7 -0.3**
HNR Honiara 27.65 290 LR LR 06 47 40.9
comp=Z,370nm,19.5s,baz=130,slow=34
WHZ Wether Hill Ro 29.34 207 P **P 06 38 36.5 +1.5**
WHZ IAmb IAmb 06 38 44.9
comp=Z,26nm,1.1s
STKA Stephens Creek 41.31 245 P **P 06 40 13.7 -4.3**
comp=Z,1.6nm,0.5s,baz=67,slow=11,SNR=4.9
STKA LR LR 06 55 53.3
comp=Z,234nm,19.5s,baz=50,slow=34
STKA Stephens Creek 41.31 245 P **P 06 40 15.7 -2.3**
BBOO Buckleboo 46.04 244 P **P 06 40 53.9 -2.2**
BBOO IAmb IAmb 06 41 11.3
comp=Z,7.2nm,1.0s
WR0 Warramunga Arr 48.30 261 P **P 06 41 11.8 -2.1**
WR0 IAmb IAmb 06 41 27.9
comp=Z,5.2nm,0.9s
ASAR Alice Springs 48.33 256 P **P 06 41 10.4 -3.7**
comp=Z,2.3nm,0.6s,baz=100,slow=7.8,SNR=42
ASAR PcP **PcP 06 42 40.7 0.0**
comp=Z,1.2nm,0.8s,baz=100,slow=4.7,SNR=1.6
ASAR LR LR 07 01 12.6
comp=Z,205nm,18.1s,baz=103,slow=36
WB2 Warramunga Arr 48.48 261 P **P 06 41 12.8 -2.5**
WB2 IAmb IAmb 06 41 16.2
comp=Z,5.4nm,0.8s
WRA Warramunga Arr 48.49 261 P **P 06 41 11.2 -4.2**
comp=Z,2.4nm,0.7s,baz=95,slow=7.6,SNR=58
WRA PcP **PcP 06 42 41.0 -0.3**
comp=Z,0.7nm,0.8s,baz=91,slow=3.4,SNR=1.8
WRA LR LR 07 01 04.4
comp=Z,279nm,18.4s,baz=95,slow=36
FORT Forrest 52.88 246 P **P 06 41 48.2 0.0**
MTN Manton Dam 53.11 269 P **P 06 41 48.9 -1.4**
MTN IAmb IAmb 06 41 51.9
comp=Z,8.5nm,0.7s
FITZ Fitzroy Crossi 56.92 261 P **P 06 42 16.6 -1.2**
FITZ IAmb IAmb 06 42 24.3
comp=Z,8.7nm,1.4s
VNDA Vanda 58.19 186 P **P 06 42 26.9 +1.2**
comp=Z,1.1nm,0.9s,baz=6.3,slow=6.4,SNR=7.2
VNDA Vanda 58.19 186 P **P 06 42 26.7 +1.0**
MORW Morawa 63.43 247 P **P 06 43 00.7 -1.6**
QSPA South Pole Qui 69.46 180 P **P 06 43 40.6 +0.3**
MJAR Matsushiro Arr 72.70 321 P **P 06 43 59.4 -0.8**
comp=Z,2.7nm,0.7s,baz=160,slow=5.6,SNR=8.0
MJAR LR LR 07 16 13.0
comp=Z,47nm,18.1s,baz=145,slow=36
GUVIX Guadalupe Vict 76.94 48 P **P 06 44 26.7 +2.0**
KSM Kuching 77.34 276 P **P 06 44 27.0 -0.5**
PETK Petropavlovsk- 77.46 343 P **P 06 44 28.2 +1.0**
comp=Z,3.1nm,0.7s,baz=142,slow=7.3,SNR=2.7
MDPB Devils Postpil 77.47 42 P **P 06 44 29.6 +1.6**
OMMB Old Mammoth Mi 77.51 42 P **P 06 44 30.3 +2.0**
OMMB IAmb IAmb 06 44 34.5
comp=Z,7.6nm,1.4s
WAKR Walker 77.79 41 P **P 06 44 31.3 +1.6**
WAKR IAmb IAmb 06 44 41.3
comp=Z,11nm,1.3s
PNTR Pine Nut 78.06 40 P **P 06 44 33.4 +2.2**
PNTR IAmb IAmb 06 44 42.6
comp=Z,11nm,1.2s
VCNR Virginia City 78.16 40 P **P 06 44 33.2 +1.5**
VCNR IAmb IAmb 06 44 36.8
comp=Z,6.3nm,1.1s
YERR Yerington 78.21 40 P **P 06 44 34.1 +2.1**
YERR IAmb IAmb 06 44 43.2
comp=Z,11nm,1.3s
NVAR Mina Array Bea 78.44 41 P **P 06 44 36.5 +3.2**
comp=Z,2.2nm,0.8s,baz=226,slow=8.8,SNR=13
NVAR LR LR 07 17 32.1
comp=Z,152nm,18.4s,baz=272,slow=34
NV11 Mina Array Sit 78.54 41 P **P 06 44 35.9 +2.1**
NV11 IAmb IAmb 06 44 44.5
comp=Z,9.3nm,1.2s
TPH Tonopah 78.90 42 P **P 06 44 38.3 +2.5**
BELA Belgrano 2 78.92 172 P **P 06 44 35.9 +0.8**
KVN Kaiserville 78.95 41 P **P 06 44 37.5 +1.4**
MOD Modoc Plateau 79.44 38 P **P 06 44 41.0 +2.4**
KSRS Korea Array 79.63 317 P **P 06 44 39.5 0.0**
comp=Z,1.6nm,0.7s,baz=140,slow=6.3,SNR=10
KSRS LR LR 07 15 03.7
comp=Z,73nm,20.6s,baz=128,slow=32
K05A Summer Lake 79.64 37 P **P 06 44 41.5 +1.8**
PRN Pahroc Range 79.89 44 P **P 06 44 43.3 +2.1**
PRN IAmb IAmb 06 44 53.6
comp=Z,11nm,1.3s
PINE Pine Mountain 80.30 36 P **P 06 44 45.4 +2.0**
X16A Lo Mia Camp, P 80.64 48 P **P 06 44 45.9 +0.5**
KNB Kanab 81.13 45 P **P 06 44 48.1 +0.3**
U15A North Rim 81.16 46 P **P 06 44 49.6 +1.4**
I07A Izee 81.28 36 P **P 06 44 49.8 +1.3**
USRK Ussuriysk Ar. 81.33 324 LR LR 07 17 03.7
comp=Z,102nm,19.3s,baz=125,slow=33
D05A Enumclaw 82.00 33 P **P 06 44 54.3 +2.3**
MTPU Mount Pierson 82.12 45 P **P 06 44 54.9 +1.6**
G08A Pilot Rock 82.35 36 P **P 06 44 55.6 +1.6**
MVU Marysvale 82.36 44 P **P 06 44 55.5 +1.1**
MSU Marysvale 82.39 44 P **P 06 44 56.1 +1.6**
H03S2 Juan Fernandez 82.65 123 T T 08 17 29.4
baz=248,slow=75,SNR=30
H03S1 Juan Fernandez 82.67 123 T T 08 17 30.5
baz=248,slow=75,SNR=31
H03S3 Juan Fernandez 82.67 123 T T 08 17 29.3
baz=248,slow=75,SNR=36
HAWA Hanford 82.75 34 P **P 06 44 56.1 +0.2**
HAWA IAmb IAmb 06 45 00.7
comp=Z,5.2nm,1.1s
MAW Mawson 82.77 199 P **P 06 44 56.0 +0.2**
comp=Z,1.2nm,0.5s,baz=132,slow=9.9,SNR=4.8
MFID Camas Ranch 82.96 38 P **P 06 44 57.3 +0.1**
MFID IAmb IAmb 06 45 08.2
comp=Z,9.7nm,1.5s
TMUT Trail Mountain 83.45 44 P **P 06 45 01.8 +1.6**
D08A Wollman Farm, 83.50 34 P **P 06 45 01.5 +1.7**
D08A IAmb IAmb 06 45 04.3
comp=Z,9.0nm,1.4s
F10A Beach Ranch, E 83.73 36 P **P 06 45 02.4 +1.2**
F10A IAmb IAmb 06 45 12.1
comp=Z,7.6nm,1.1s
SRU San Rafael Swe 83.80 44 P **P 06 45 02.6 +0.8**
TXAR Lajitas Array 83.82 56 P **P 06 45 06.4 +4.4**
comp=Z,0.8nm,1.1s,baz=160,slow=4.0,SNR=4.6
TXAR LR LR 07 16 40.6
comp=Z,78nm,19.0s,baz=0.0,slow=31
P17A Butcher Ranch, 83.85 44 P **P 06 45 01.9 -0.1**
HLID Hailey 83.88 39 P **P 06 45 03.4 +1.3**
HLID IAmb IAmb 06 45 07.0
comp=Z,8.5nm,1.4s
TCUT Toone Canyon 84.32 42 P **P 06 45 05.2 +0.8**
ANMO Albuquerque 84.43 50 P **P 06 45 05.6 +0.5**
ANMO IAmb IAmb 06 45 10.2
comp=Z,5.8nm,1.2s
TTA Tatalina 84.44 8 P **P 06 45 05.4 +1.1**
PV12 Saucer Basin, 84.52 46 P **P 06 45 06.3 +0.8**
PV12 IAmb IAmb 06 45 16.6
comp=Z,9.0nm,1.3s
ISLE Juniper Island 84.84 15 P **P 06 45 06.8 +0.3**
RND Reindeer 85.99 11 P **P 06 45 13.8 +1.7**
RND IAmb IAmb 06 45 29.6
comp=Z,11nm,1.0s
PLCA Paso Flores 86.30 132 LR LR 07 17 56.8
comp=Z,57nm,18.2s,baz=241,slow=31
PDAR Pinedale Array 86.38 42 P **P 06 45 18.2 +3.5**
comp=Z,0.7nm,0.8s,baz=203,slow=6.6,SNR=2.5
PDAR LR LR 07 21 43.2
comp=Z,86nm,18.8s,baz=296,slow=34
WRH Wood River Hil 87.11 11 P **P 06 45 17.7 +0.3**
CCB Clear Creek Bu 87.32 11 P **P 06 45 18.3 -0.1**
CCB IAmb IAmb 06 45 23.2
comp=Z,12nm,1.3s
SEY Seymchan 87.43 345 P **P 06 45 20.3 +1.3**
comp=Z,2.1nm,0.2s,baz=198,slow=17,SNR=5.5
SYO Syowa Base 87.45 191 *e*P **P 06 45 17.9 -1.3**
SYO Syowa Base 87.45 191 *e*PcP **P 06 45 19.4 +0.2**
SYO Syowa Base 87.45 191 *e*sP **P 06 45 23.8 +4.6**
MDM Murphy Dome 87.53 11 P **P 06 45 20.4 +0.9**
IL31 87.60 11 P **P 06 45 20.8 +1.0**
IL31 IAmb IAmb 06 45 24.6
comp=Z,13nm,1.5s
ILAR Eielson Array 87.60 11 P **P 06 45 22.1 +2.4**
comp=Z,6.0nm,1.3s,baz=204,slow=4.6,SNR=10
VNA3 Neumayer Olymp 87.73 175 P **P 06 45 22.3 +1.7**
SNAA Sanae 87.75 177 P **P 06 45 21.5 +0.8**
SNAA Sanae 87.75 177 P **P 06 45 21.1 +0.4**
SNAA IAmb IAmb 06 45 28.3
comp=Z,9.9nm,1.3s
VNA2 Neumayer--Watz 88.22 176 P **P 06 45 23.9 +1.0**
baz=184,slow=7.0
VNA1 Neumayer--Stat 88.42 175 P **P 06 45 25.4 +1.6**
XAN Xi'an 91.37 306 P **P 06 45 39.5 +1.2**
XAN pP pwP 06 45 50.0 -0.6
XAN sP sP 06 45 55.1 +7.0
XAN pmax pmax
comp=Z,10.0nm,1.3s
HHC Hu-ho-hao-te 92.29 313 *e*P **P 06 45 43.8 +1.3**
HHC sS sS 06 56 59.0 +2.4
HHC pmax pmax
comp=Z,28nm,1.4s
HHC pmax pmax
comp=Z,130nm,7.0s
HHC LR LR
comp=Z,120nm,17.9s
HHC LR LR
comp=Z,160nm,19.2s
HHC LR LR
comp=Z,110nm,18.7s
CMAR Chiang Mai Arr 93.89 288 P **P 06 45 50.8 +0.6**
comp=Z,2.3nm,0.4s,baz=130,slow=4.1,SNR=16
CMAR LR LR 07 23 02.0
comp=Z,45nm,20.8s,baz=176,slow=32
LZH Lanzhou 96.00 306 *e*P **P 06 46 00.5 +0.8**
LZH pP pwP 06 46 12.3 +0.3
LZH sP sP 06 46 16.4 +6.9
LZH *e*PP **PP 06 49 55.6 +2.9**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,93nm,5.2s
LZH LR LR
comp=Z,150nm,17.0s
LZH LR LR
comp=Z,160nm,16.7s
LZH LR LR
comp=Z,240nm,19.6s
ULM Lac du Bonnet 98.18 39 LR LR 07 25 36.1
comp=Z,146nm,18.5s,baz=267,slow=32
LPAZ La Paz 98.35 111 LR LR 07 23 40.9
comp=Z,53nm,18.5s,baz=276,slow=31
ZALV Zalesovo Beam 113.06 321 PKiKP **PKiKP 06 51 08.0 -1.1**
comp=Z,0.6nm,0.4s,baz=117,slow=0.3,SNR=1.9
MKAR Makanchi Array 114.15 313 PKiKP PKPdf 06 51 11.2 -0.2
comp=Z,0.5nm,0.5s,baz=118,slow=1.0,SNR=5.5
ARCES ARCESS Array B 129.68 351 PKP **PKPdf 06 51 40.9 +0.4**
comp=Z,2.7nm,1.0s,baz=356,slow=1.3,SNR=1.3
EKA Eskdalemuir Ar 144.62 9 PKP PKPbc 06 52 07.5 +0.4
comp=Z,1.8nm,0.8s,baz=347,slow=2.2,SNR=3.5
AKASG Malin Array Be 144.92 334 PKP **PKPdf 06 52 08.8 -0.2**
comp=Z,1.3nm,0.6s,baz=39,slow=4.5,SNR=17
OJC Ojcow 148.55 343 *e*PKP **PKPbc 06 52 17.9 -0.9**
KSP Ksiaz 148.80 348 *e*PKP **PKiKP 06 52 21.4 +0.6**
CLL Collm 148.90 352 *e*PKPbc **PKiKP 06 52 22.0 +1.0**
comp=Z,42nm,1.8s
CLL Lm MLR 07 58 00.0
comp=Z,100nm,19.6s
OSTC Ostas 149.09 348 *e*PKP **PKPab 06 52 23.4 -1.0**
NIE Niedzica 149.13 342 *e*PKP **PKPdf 06 52 18.2 +2.0**
BRG Bergqiesshubel 149.19 350 *e*PKP **PKiKP 06 52 22.7 +1.1**
comp=Z,28nm,1.8s
DPC Dobruska-Polom 149.26 347 *e*PKP **PKiKP 06 52 23.2 +1.3**
KRLC Kraliky 149.42 347 *e*PKP **PKiKP 06 52 23.5 +1.3**
MORC Moravsky Berou 149.53 345 *e*PKP **PKiKP 06 52 23.5 +1.0**
LANS Liptovska Anna 149.61 343 *e*PKP **PKPab 06 52 24.8 -1.9**
BRTR Keskin Array B 149.77 315 PKPbc **PKPbc 06 52 22.9 +0.4**
comp=Z,1.8nm,0.7s,baz=132,slow=1.8,SNR=8.1
VRAC Vranov 150.19 346 *e*PKP **PKiKP 06 52 24.7 +0.9**
MLR Muntele Rosu 150.34 331 PKPbc **PKiKP 06 52 24.0 -0.3**
comp=Z,3.1nm,0.9s,baz=152,slow=8.9,SNR=5.2
BMRD Maredsous 150.35 2 PKiKP **PKiKP 06 52 25.0 +1.0**
JAVC Velka Javorina 150.35 345 *e*PKP **PKiKP 06 52 26.5 +2.3**
VYHS Vyhne 150.38 343 *e*PKP **PKiKP 06 52 25.9 +1.7**
KRUC Moravsky 150.46 346 *e*PKP **PKiKP 06 52 25.3 +1.0**
DOU Dourbes 150.55 2 PKiKP **PKiKP 06 52 25.3 +0.9**
KHC Kasperske Hory 150.94 350 *e*PKP **PKiKP 06 52 27.0 +1.6**
WLF Walferdange 151.01 0 PKiKP **PKiKP 06 52 27.5 +2.1**
GERES GERESS Array B 151.19 350 PKPbc **PKiKP 06 52 26.6 +0.6**
comp=Z,1.8nm,0.9s,baz=40,slow=2.3,SNR=10
TORD Torodi Ar. Bea 171.41 149 PKPab **PKPab 06 54 04.6 +2.7**
comp=Z,0.9nm,0.9s,baz=235,slow=2.2,SNR=2.7

*IDC **19** 07:24:13.8±1.4, 34°.26N×25°.04E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.6/48, mbtmp3.7/9, ML3.6/3, Error ellipse: s-maj=26.7km s-min=21.8km az=88.0*
*ATH **19** 07:24:14.8, 34°.16N×25°.05E, h24km±1km, ML3.1/6, Error ellipse: s-maj=3.6km s-min=1.8km az=349.0*
*THE **19** 07:24:15.0, 34°.17N×25°.13E, h0km±3km, ML3.1/6, Error ellipse: s-maj=7.5km s-min=1.2km az=146.0*
ISC 19 07:24:15.8±1.7, 34°20N±0°.07×25°.08E±0°.04, h13km±9km, n27, σ1°.04/42, mb3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.84**	**345**	P	**Pg**	**07 24 31.8**	**-0.3**
SIVA				S	**Sn**	**07 24 45.4**	**-0.2**
4μm,0.8s							
SIVA	**Sivas**	**0.84**	**345**	P	**Pg**	**07 24 31.7**	**-0.5**
SIVA				S	**Sb**	**07 24 44.6**	**+1.0**
SIVA				AML	AML	07 24 49.6	
comp=N,6568μm,0.8s							
SIVA				AML	AML	07 24 51.2	
comp=E,8563μm,0.8s							
TMBK	**Timbaki Herakl**	**0.91**	**344**	P	**Pn**	**07 24 34.1**	**-0.1**
TMBK				S	**Sn**	**07 24 47.4**	**+0.2**
comp=E,985nm,0.5s							
LAST	**Lasithi**	**1.01**	**19**	P	**Pb**	**07 24 34.7**	**-0.5**
LAST	**Lasithi**	**1.01**	**19**	P	**Pb**	**07 24 34.8**	**-0.5**
LAST				S	**Sn**	**07 24 49.4**	**-0.5**
LAST				AML	AML	07 25 00.1	
comp=N,1017μm,0.6s							
LAST				AML	AML	07 25 02.3	
comp=E,1020μm,0.7s							
GVD	**Gavdhos**	**1.04**	**308**	P	**Pb**	**07 24 35.2**	**-0.4**
GVD				S	**Sn**	**07 24 51.2**	**+0.8**
comp=E,2μm,0.4s							
GVD	**Gavdhos**	**1.04**	**308**	P	**Pb**	**07 24 35.2**	**-0.4**
GVD				S	**Sb**	**07 24 48.7**	**-0.4**
GVD				AML	AML	07 24 53.4	
comp=N,3462μm,0.4s							
GVD				AML	AML	07 24 55.8	
comp=E,3718μm,0.4s							
GVDS	**Gavdos**	**1.04**	**308**	P	**Pb**	**07 24 35.5**	**-0.1**
GVDS				S	**Sn**	**07 24 53.0**	**+2.6**
comp=E,1μm,0.3s							
IDI	**Anoyia**	**1.09**	**352**	Pn	**Pb**	**07 24 36.1**	**-0.6**
comp=E,21nm,0.3s,baz=203,slow=12,SNR=76							
IDI				Sn	**Sg**	**07 24 51.6**	**+0.4**
comp=E,61nm,0.3s,baz=18,slow=19,SNR=11							
IDI	**Anoyia**	**1.09**	**352**	P	**Pb**	**07 24 35.7**	**-1.0**
IDI				S	**Sn**	**07 24 53.4**	**+1.4**
comp=E,445nm,0.5s							
IDI	**Anoyia**	**1.09**	**352**	P	**Pb**	**07 24 35.7**	**-1.0**
IDI				S	**Sn**	**07 24 52.1**	**+0.2**
NPS	**Neapolis**	**1.15**	**22**	P	**Pg**	**07 24 37.4**	**-0.5**
NPS				S	**Sn**	**07 24 54.8**	**+1.6**
NPS				AML	AML	07 25 03.9	
comp=E,1392μm,0.8s							
NPS				AML	AML	07 25 14.4	
comp=N,920μm,0.7s							
PRNS	**Prines Rethymn**	**1.25**	**338**	P	**Pg**	**07 24 39.8**	**-0.1**
PRNS				S	**Sg**	**07 24 58.5**	**+2.2**
ZKR	**Zakros**	**1.31**	**46**	P	**Pg**	**07 24 40.2**	**-0.8**
ZKR				S	**Sg**	**07 24 58.8**	**+0.8**
VAM	**Vamos**	**1.40**	**329**	P	**Pb**	**07 24 41.5**	**-0.4**
VAM				S	**Sg**	**07 25 01.1**	**+0.1**
comp=N,530nm,0.7s							
VAM	**Vamos**	**1.40**	**329**	P	**Pb**	**07 24 41.4**	**-0.5**
VAM				AML	AML	07 25 13.8	
comp=N,1065μm,0.5s							
VAM				AML	AML	07 25 18.2	
comp=E,935μm,0.5s							
IMMV	**Iera Moni Meta**	**1.55**	**325**	P	**Pn**	**07 24 43.1**	**0.0**
IMMV	**Iera Moni Meta**	**1.55**	**325**	P	**Pb**	**07 24 44.1**	**-0.2**
IMMV				S	**Sn**	**07 25 03.4**	**+0.4**
IMMV				AML	AML	07 25 20.9	
comp=E,1219μm,0.6s							
IMMV				AML	AML	07 25 24.9	
comp=N,940μm,0.9s							
BRTR	**Keskin Array B**	**8.79**	**49**	Pn	**Pn**	**07 26 26.0**	**+3.2**
comp=N,0.1nm,0.3s,baz=220,slow=13,SNR=3.4							
AKASG	**Malin Array Be**	**16.77**	**9**	Pn	**Pn**	**07 28 08.4**	**-1.8**
comp=N,0.5nm,0.3s,baz=198,slow=11,SNR=4.8							
GERES	**GERESS Array B**	**16.90**	**333**	Pn	**Pn**	**07 28 12.1**	**0.0**
comp=N,0.2nm,0.3s,baz=144,slow=11,SNR=8.8							
HFS	**Hagfors**	**26.99**	**347**	P	**P**	**07 29 56.4**	**-0.7**
comp=N,0.6nm,0.5s,baz=160,slow=17,SNR=1.4							
FINES	**FINESS Array B**	**27.27**	**1**	P	**P**	**07 29 58.3**	**-1.2**
comp=N,1.9nm,0.8s,baz=158,slow=31,SNR=3.9							
TORD	**Torodi Ar. Bea**	**29.83**	**231**	P	**P**	**07 30 23.1**	**+0.3**
comp=N,0.7nm,0.7s,baz=35,slow=8.3,SNR=2.6							
KURBB	**Kurchatov Arra**	**41.78**	**50**	P	**P**	**07 32 03.8**	**-1.0**
comp=N,0.6nm,0.2s,baz=278,slow=8.7,SNR=4.6							
MKAR	**Makanchi Array**	**44.36**	**56**	P	**P**	**07 32 25.6**	**-0.2**
comp=N,1.1nm,0.7s,baz=283,slow=6.0,SNR=6.0							
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**07 34 23.4**	**+0.2**
comp=N,0.3nm,0.3s,baz=293,slow=7.7,SNR=1.9							

*OTT **19** 07:37:53.0±1.6, 64°.47N±0°.02×134°.8W±0°.1, h1km±7km, ML4.1, Error ellipse: s-maj=6.7km s-min=2.3km az=70.0*
*PGC **19** 07:37:53.0±0.0, 64°.47N×134°.82W, h1km, ML4.1/11, 226km east of Dawson, Yt Southern Yukon Territory, Canada*
*NEIC **19** 07:37:53.0±1.4, 64°.48N±0°.05×134°.6W±0°.1, h10km±2km, Error ellipse: s-maj=10.0km s-min=6.5km az=138.0*
ISC 19 07:37:52.6±0.8, 64°.50N±0°.04×134°.53W±0°.04, h10km, n81, σ1°.75/117, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPYK	**Eagle Plains**	**2.09**	**335**	Pn	**Pn**	**07 38 29.4**	**+1.7**
DAWY	**Dawson**	**2.17**	**261**	Pn	**Pn**	**07 38 27.4**	**-1.3**
DAWY				Sn	**Sn**	**07 38 54.4**	**-1.2**
DAWY	**Dawson**	**2.17**	**261**		**Pn**	**07 38 27.7**	**-1.1**
DAWY				Sn	**Sn**	**07 38 54.5**	**-1.1**
EGAK	**Eagle**	**2.87**	**279**		**Pn**	**07 38 38.0**	**-0.3**
EGAK				Sn	**Sn**	**07 39 11.8**	**-1.0**
BCAR	**Beaver Creek A**	**3.53**	**249**		**Pn**	**07 38 46.2**	**-1.2**
BVCY	**Beaver Creek**	**3.53**	**236**	Pn	**Pn**	**07 38 46.3**	**-1.2**
BVCY				Sg	**Sb**	**07 39 38.8**	**+0.8**
BVCY	**Beaver Creek**	**3.53**	**236**	Pn	**Pn**	**07 38 46.3**	**-1.2**
BVCY				Sg	**Sb**	**07 39 38.8**	**+0.8**
YUK1	**Sand Pete Hill**	**3.59**	**232**	Pn	**Pn**	**07 38 47.0**	**-1.4**
YUK1				Sn	**Sn**	**07 39 27.6**	**-3.2**
YUK1				Sg	**Sb**	**07 39 40.4**	**+0.6**
YUK1	**Sand Pete Hill**	**3.59**	**232**	Pn	**Pn**	**07 38 47.0**	**-1.4**
YUK1				Sn	**Sn**	**07 39 27.6**	**-3.2**
YUK4	**Talbot Arm**	**3.69**	**213**	Pn	**Pn**	**07 38 47.8**	**-2.0**
YUK4	**Talbot Arm**	**3.69**	**213**	Pn	**Pn**	**07 38 47.8**	**-2.0**
YUK5	**Granite Creek**	**3.71**	**206**	Pn	**Pn**	**07 38 49.7**	**-0.4**
YUK5				Sg	**Sb**	**07 39 43.9**	**+0.6**
YUK3	**Moose Creek**	**3.84**	**227**	Pn	**Pn**	**07 38 50.6**	**-1.3**
YUK3				Sn	**Sn**	**07 39 34.2**	**-2.9**
YUK3				Sg	**Sb**	**07 39 47.2**	**+0.1**
WHY	**Whitehorse**	**3.86**	**183**	Pn	**Pn**	**07 38 52.1**	**0.0**
WHY				Sg	**Sb**	**07 39 50.3**	**+2.8**
WHY	**Whitehorse**	**3.86**	**183**		**Pn**	**07 38 52.6**	**+0.5**
HYT	**Haines Junctio**	**3.94**	**202**	Pn	**Pn**	**07 38 52.9**	**-0.3**
HYT				Sn	**Sn**	**07 39 36.3**	**-3.1**
HYT				Sg	**Sb**	**07 39 50.2**	**+0.4**
HYT	**Haines Junctio**	**3.94**	**202**		**Pn**	**07 38 53.5**	**+0.4**
HYT				Sn	**Sn**	**07 39 38.6**	**-0.9**
YUK2	**White River**	**3.95**	**229**	Pn	**Pn**	**07 38 52.2**	**-1.1**
YUK2				Sg	**Sb**	**07 39 51.6**	**+1.4**
YUK6	**Outpost Mounta**	**3.98**	**208**	Pn	**Pn**	**07 38 53.6**	**-0.3**
YUK6				Sg	**Sb**	**07 39 53.1**	**+1.9**
DOT	**Dot Lake**	**4.27**	**263**	Pn	**Pn**	**07 38 56.3**	**-1.4**
DOT				Sg	**Sb**	**07 40 01.0**	**+1.6**
DOT	**Dot Lake**	**4.27**	**263**		**Pn**	**07 38 56.7**	**-1.0**
DOT				Sn	**Sn**	**07 39 47.0**	**-0.5**
YUK7	**Dusty Glacier**	**4.32**	**204**	Pn	**Pn**	**07 38 58.4**	**-0.1**
YUK7				Sn	**Sn**	**07 39 46.0**	**-3.0**
YUK7				Sg	**Sb**	**07 40 03.6**	**+2.6**
MENT	**Mentasta**	**4.38**	**253**		**Pn**	**07 38 58.0**	**-1.1**
MENT				Sn	**Sn**	**07 39 48.9**	**-1.2**
RIDG	**Independent Ri**	**4.59**	**265**		**Pn**	**07 39 01.2**	**-0.8**
CTGM	**Chitina Glacie**	**4.73**	**224**	Pn	**Pn**	**07 39 03.9**	**-0.2**
CTGM				Sg	**Sb**	**07 40 15.2**	**+2.6**
CTGM	**Chitina Glacie**	**4.73**	**224**		**Pn**	**07 39 04.2**	**+0.1**
CTGM				Sn	**Sn**	**07 39 55.5**	**-3.5**
LOGN	**Logan Glacier**	**4.75**	**222**	Pn	**Pn**	**07 39 04.2**	**-0.1**
LOGN				Sg	**Sb**	**07 40 16.7**	**+3.6**
BARN	**Barnard Glacie**	**4.76**	**227**		**Pn**	**07 39 04.4**	**-0.1**
BARN				Sn	**Sn**	**07 39 59.6**	**-0.1**
FYU	**Fort Yukon**	**4.91**	**300**	Pn	**Pn**	**07 39 06.6**	**+0.3**
PTPK	**Patty Peak**	**4.93**	**231**	Pn	**Pn**	**07 39 06.1**	**-0.7**
PTPK				Sn	**Sn**	**07 39 58.8**	**-5.1**
PTPK				Sg	**Sb**	**07 40 20.8**	**+2.5**
MCARA	**McCarthy VSAT**	**4.98**	**235**		**Pn**	**07 39 07.1**	**-0.3**
BALM	**Baldy**	**5.00**	**229**	Pn	**Pn**	**07 39 07.0**	**-0.7**
BALM				Sg	**Sb**	**07 40 25.0**	**+4.8**
BALM	**Baldy**	**5.00**	**229**		**Pn**	**07 39 07.6**	**-0.1**
GRNC	**Granite Creek**	**5.04**	**225**	Pn	**Pn**	**07 39 08.1**	**-0.3**
BMAR	**Burnt Mountain**	**5.05**	**310**		**Pn**	**07 39 08.5**	**+0.2**
SKAG	**Skagway**	**5.08**	**185**	Pn	**Pn**	**07 39 09.5**	**+0.8**
KIAG	**Kiagna River**	**5.09**	**229**	Pn	**Pn**	**07 39 08.8**	**-0.2**
PAX	**Paxson**	**5.10**	**257**	Sg	**Sb**	**07 40 26.8**	**+3.6**
PAX	**Paxson**	**5.10**	**257**		**Pn**	**07 39 08.2**	**-0.8**
PLBC	**Pleasant Camp**	**5.14**	**191**	Pn	**Pn**	**07 39 09.5**	**0.0**
PLBC				Sn	**Sn**	**07 40 06.7**	**-2.0**
PLBC				Sg	**Sb**	**07 40 29.7**	**+5.5**
BCPM	**Bancas Point**	**5.15**	**210**	Pn	**Pn**	**07 39 11.2**	**+1.5**
PCA	**Pinnacle**	**5.17**	**214**	Pn	**Pn**	**07 39 10.5**	**+0.5**
PCA				Sg	**Sb**	**07 40 28.8**	**+3.8**
PCA	**Pinnacle**	**5.17**	**214**	Pn	**Pn**	**07 39 12.1**	**+2.1**
GLB	**Gilahina Butte**	**5.23**	**238**		**Pn**	**07 39 10.3**	**-0.5**
VRDI	**Verde Repeater**	**5.24**	**235**		**Pn**	**07 39 10.8**	**-0.3**
RKAV	**Rock Avalanche**	**5.28**	**220**	Sn	**Sn**	**07 40 09.4**	**-2.9**
IL31		**5.32**	**278**		**Pn**	**07 39 12.5

CCB	Clear Creek Bu	5.72 277	Pn	Pn	07 39 17.6	+0.1
WRH	Wood River Hil	5.86 276	Pn	Pn	07 39 19.0	-0.4
DHY	Denali Highway	5.87 262		Pn	07 39 18.3	-1.4
MDM	Murphy Dome	5.89 281		Pn	07 39 20.1	+0.3
KLU	Klutina	6.00 245		Pn	07 39 21.5	+0.1
DIV	Divide	6.16 242	Pn	Pn	07 39 24.4	+0.8
JIS	Juneau Island	6.25 179		Pn	07 39 25.1	+0.4
MCK	McKinley	6.36 270	Pn	Pn	07 39 26.0	-0.3
C36M	Paulatuk	6.36 36	Pn	Pn	07 39 27.3	+1.1
RND	Reindeer	6.41 267	Pn	Pn	07 39 26.4	-0.5
DLBC	Dease Lake	6.46 158	Pn	Pn	07 39 28.1	+0.4
DLBC			Sg	Sb	07 41 13.0	+11
DLBC	Dease Lake	6.46 158	Pn	Pn	07 39 28.6	+0.9
BWN	Browne	6.50 274		Pn	07 39 28.2	+0.1
DHRN	Dharma Camp	6.68 61	Pn	Pn	07 39 31.9	+1.3
DHRN			Sn	Sn	07 40 45.6	-1.0
SML	Sawmill	6.81 253		Pn	07 39 32.6	+0.1
COLD	Coldfoot	6.98 300	Pn	Pn	07 39 34.3	-0.4
TRF	Thorofare Moun	7.01 268		Pn	07 39 35.0	-0.4
BPAW	Bear Paw Mtn.	7.17 274	Pn	Pn	07 39 36.5	-0.9
KTH	Kantishna Hill	7.26 270	Pn	Pn	07 39 37.2	-1.5
TOLK	Toolik Lake Re	7.28 311	Pn	Pn	07 39 39.4	+0.5
NBC2	NorthernBC 2	7.36 125	Pn	Pn	07 39 41.4	+1.4
SKT	Skwentna	8.07 260		Pn	07 39 49.2	-0.5
IMAR	Indian Mountai	8.20 289	Pn	Pn	07 39 52.1	+0.7
KUKN	Kugluktuk,NWT	8.53 58	Pn	Pn	07 39 57.1	+1.1
KUKN			Sn	Sn	07 41 29.2	-2.9
NBC6	NorthernBC 6	8.64 127	Pn	Pn	07 39 58.9	+1.4
NBC5	NorthernBC 5	9.05 135	Pn	Pn	07 40 04.8	+1.7
YKW3	Yellowknife Ar	9.09 93	Pn	Pn	07 40 04.6	+0.9
YKW3			Sn	Sn	07 41 42.3	-3.6

*JMA **19** 08:00:12.2±0.1, 24°.31N×122°.11E, h58km±2km, M2.9*
*TAP **19** 08:00:12.6, 24°.38N×122°.13E, h54km, ML3.7, B*
ISC 19 08:00:12.6±1.2, 24°.40N±0°.02×122°.15E±0°.02, h59km±6km, n113, σ1s12/205, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ENAH	Nanao	0.31	279	P		Pn	08 00 22.6	-0.1
	baz=284							
ENAH				*i* S		Sn	08 00 29.6	-0.2
	baz=284							
TWC	Suao	0.34	308	P		Pn	08 00 23.0	+0.1
	baz=313							
TWC				*e*S		Sn	08 00 30.2	-0.2
	baz=313							
ENA	Nanau	0.37	275	*e*P		Pn	08 00 23.1	0.0
	baz=278							
ENA				*e*S		Sn	08 00 30.7	-0.1
	baz=278							
EGS		0.48	336	P		Pn	08 00 24.7	+0.4
	baz=339							
ILA	Ilan	0.51	315	*e*P		Pn	08 00 25.5	+0.9
	baz=318							
ILA				*e*S		Sn	08 00 34.6	+1.3
	baz=318							
NTC	Toucheng	0.54	328	*e*P		Pn	08 00 25.5	+0.7
	baz=330							
NTC				*e*S		Sn	08 00 33.8	0.0
	baz=330							
TWE	Neicheng	0.54	306	*e*P		Pn	08 00 25.4	+0.5
	baz=309							
TWE				*e*S		Sn	08 00 34.2	+0.4
	baz=309							
NACB	Ninganchiao	0.55	246	*e*P		Pn	08 00 24.4	-0.6
	baz=247							
NACB				*e*S		Sn	08 00 33.2	-0.8
	baz=247							
ENTT	Nioudou	0.58	295	*e*P		Pn	08 00 25.8	+0.4
	baz=297							
ENTT				*e*S		Sn	08 00 35.1	+0.5
	baz=297							
NDT	Datong Townshi	0.61	289	*e*P		Pn	08 00 26.1	+0.4
	baz=291							
NDT				*e*S		Sn	08 00 35.8	+0.5
	baz=291							
TWB1	Santiao Chiao	0.62	347	*e*P		Pn	08 00 25.8	-0.1
	baz=348							
TWB1				*e*S		Sn	08 00 34.6	-0.9
	baz=348							
ETLH	Xiulin Townshi	0.64	253	*e*P		Pn	08 00 25.8	-0.2
	baz=254							
ETLH				*e*S		Sn	08 00 35.8	-0.1
	baz=254							
TIPB	Shuangxi	0.64	333	*e*P		Pn	08 00 26.4	+0.2
	baz=334							
TIPB				*e*S		Sn	08 00 36.0	+0.1
	baz=334							
HWA	Hwalien	0.65	230	*e*P		Pn	08 00 26.3	+0.1
	baz=229							
HWA				*e*S		Sn	08 00 36.8	+0.8
	baz=229							
NNSB	Datong	0.69	273	P		Pn	08 00 26.8	-0.1
	baz=274							
NNSB				*e*S		Sn	08 00 36.9	-0.3
	baz=274							
NNSH	Datong	0.69	273	P		Pn	08 00 26.8	-0.1
	baz=274							
NNSH				*e*S		Sn	08 00 36.8	-0.5
	baz=274							
NWLT	Wulai	0.69	303	*e*P		Pn	08 00 27.5	+0.8
	baz=304							
NWLT				*e*S		Sn	08 00 37.7	+0.6
	baz=304							
NNS	Nan Shan	0.70	273	*e*P		Pn	08 00 27.0	0.0
	baz=275							
NNS				*e*S		Sn	08 00 37.3	-0.2
	baz=275							
JYNG	Yonagunijimaku	0.73	86	P		Pn	08 00 27.5	+0.4
JYNG				S		Sn	08 00 38.1	+0.3
NWF	Wu-fen Shan	0.75	334	*e*P		Pn	08 00 28.0	+0.5
	baz=335							
NWF				*e*S		Sn	08 00 38.0	-0.3
	baz=335							
WFSB	Wu-fen Shan	0.75	334	*e*P		Pn	08 00 27.9	+0.6
	baz=335							
WFSB				*e*S		Sn	08 00 38.3	+0.2
	baz=335							
YHNB	Yeheng	0.75	291	P		Pn	08 00 27.9	+0.4
	baz=293							
YHNB				S		Sn	08 00 38.6	+0.2
	baz=293							
NSK	Sanguang	0.77	291	P		Pn	08 00 28.0	+0.4
	baz=293							
NSK				*e*S		Sn	08 00 38.9	+0.1
	baz=293							
TWA	Mucha	0.77	319	*e*P		Pn	08 00 28.4	+0.7
	baz=320							
TWA				S		Sn	08 00 39.4	+0.6
	baz=320							
YOJ	Yonaguni jima	0.79	85	P		Pn	08 00 28.1	+0.2
	baz=83							
YOJ				*e*S		Sn	08 00 40.0	+0.8
	baz=83							
YOJ	Yonaguni jima	0.79	85	P		Pn	08 00 28.1	+0.2
YOJ				*e*S		Sn	08 00 38.9	-0.2
TATO	Taipei	0.83	314	P		Pn	08 00 29.0	+0.6
	baz=315							
TATO				S		Sn	08 00 40.8	+0.8
	baz=315							
FUSS	Fushou	0.84	260	P		Pn	08 00 29.0	+0.3
	baz=261							
FUSS				S		Sn	08 00 40.4	-0.1
	baz=261							
WHF	Hehuan Shan	0.84	253	P		Pn	08 00 28.8	-0.1
	baz=253							
WHF				S		Sn	08 00 40.4	-0.5
	baz=253							
TAP1	Taipei	0.85	319	*e*S		Sn	08 00 41.1	+0.6
	baz=319							
ESL	Shilin	0.87	228	P		Pn	08 00 28.3	-0.7
	baz=228							
ESL				*e*S		Sn	08 00 40.8	-0.2
	baz=228							
TWT	Tachien	0.90	261	*e*P		Pn	08 00 29.8	+0.4
	baz=261							
TWT				*e*S		Sn	08 00 42.0	+0.2
	baz=261							
YM01	YM01	0.91	325	P		Pn	08 00 30.0	+0.5
	baz=326							
YM01				*e*S		Sn	08 00 42.4	+0.5
	baz=326							
TDCB	Techi	0.91	261	P		Pn	08 00 30.1	+0.5
	baz=262							
TDCB				*e*S		Sn	08 00 41.9	-0.2
	baz=262							
YM10	YM10	0.92	325	*e*P		Pn	08 00 30.0	+0.4
	baz=326							
YM10				S		Sn	08 00 43.2	+1.1
	baz=326							
YM11	YM11	0.92	326	*e*P		Pn	08 00 30.5	+0.9
	baz=327							
YM11				*e*S		Sn	08 00 42.3	+0.1
	baz=327							
YM05	YM05	0.93	325	P		Pn	08 00 30.6	+0.8
	baz=326							
YM05				*e*S		Sn	08 00 42.8	+0.5
	baz=326							
YM04	YM04	0.93	324	*e*P		Pn	08 00 30.6	+0.8
	baz=325							
YM04				S		Sn	08 00 42.5	0.0
	baz=325							
YM08	YM08	0.93	327	*e*P		Pn	08 00 30.4	+0.7
	baz=328							
YM08				*e*S		Sn	08 00 42.7	+0.3
	baz=328							
CHGB	Renai	0.95	249	P		Pn	08 00 30.4	+0.2
	baz=250							
CHGB				*e*S		Sn	08 00 43.1	+0.1
	baz=250							
YM03	YM03	0.95	325	*e*P		Pn	08 00 31.1	+1.1
	baz=326							
TWS1	Kuangyinshan	0.96	317	*e*P		Pn	08 00 30.9	+0.8
	baz=318							
TWS1				S		Sn	08 00 44.0	+1.0
	baz=318							
EGFH	Guangfu	0.98	222	P		Pn	08 00 30.5	+0.2
	baz=222							
EGFH				*e*S		Sn	08 00 43.0	-0.4
	baz=222							
NTST	Danshui	0.99	320	*e*P		Pn	08 00 31.5	+1.0
	baz=321							
NTST				*e*S		Sn	08 00 44.7	+1.1
	baz=321							
OWD	Renai	0.99	244	*e*S		Sn	08 00 43.3	-0.5
	baz=244							
TWY	Chenhua	1.00	331	*e*P		Pn	08 00 31.8	+1.1
	baz=331							
TWY				*e*S		Sn	08 00 45.2	+1.3
	baz=331							
LIOB	Emei	1.06	284	*e*P		Pn	08 00 32.3	+0.9
	baz=284							
NSTT	Nanjuang	1.07	283	*e*P		Pn	08 00 32.4	+0.9
	baz=283							
NSTT				*e*S		Sn	08 00 46.6	+1.1
	baz=283							
WHP	Taichung City	1.10	264	*e*P		Pn	08 00 33.4	+1.4
	baz=264							
WHP				*e*S		Sn	08 00 47.1	+0.7
	baz=264							
HGSD	Ruisui	1.12	216	*e*P		Pn	08 00 31.7	-0.4
	baz=216							
VWDT	VWDT	1.12	235	*e*P		Pn	08 00 32.5	+0.3
	baz=235							
VWDT				S		Sn	08 00 46.4	-0.4
	baz=235							
EHY	Hungye	1.17	220	*e*P		Pn	08 00 31.8	-1.0
	baz=220							
EHY				*e*S		Sn	08 00 45.9	-1.9
	baz=220							
NMLH	Miaoli	1.24	277	*e*P		Pn	08 00 34.6	+0.8
	baz=277							
NMLH				*e*S		Sn	08 00 50.5	+0.9
	baz=277							
SSLB	Suanglung	1.25	241	*e*P		Pn	08 00 34.1	+0.2
	baz=241							
SSLB				*e*S		Sn	08 00 50.0	+0.2
	baz=241							
SMLT	Sun Moon Lake	1.25	246	*e*P		Pn	08 00 34.5	+0.5
	baz=246							
SMLT				*e*S		Sn	08 00 50.4	+0.5
	baz=246							
TWQ1	Liyutan	1.25	268	*e*P		Pn	08 00 35.3	+1.4
	baz=268							
TWQ1				*e*S		Sn	08 00 51.9	+2.0
	baz=268							
NSY	Sanyi	1.26	271	*e*P		Pn	08 00 35.1	+1.0
	baz=271							
NSY				*e*S		Sn	08 00 52.0	+1.9
	baz=271							
YULB	Yu-li	1.27	218	*e*P		Pn	08 00 33.2	-0.9
	baz=217							
YULB				*e*S		Sn	08 00 48.3	-2.0
	baz=217							
EYUL	Yuli	1.29	216	*e*P		Pn	08 00 34.0	-0.5
	baz=215							
EYUL				*e*S		Sn	08 00 51.2	+0.4
	baz=215							
TWF1	Yuli	1.30	217	*e*P		Pn	08 00 33.7	-0.9
	baz=216							
TWF1				*e*S		Sn	08 00 49.4	-1.7
	baz=216							
WHYT	Xinyi Township	1.37	240	*e*P		Pn	08 00 36.3	+0.7
	baz=239							
WJS	Zhushan	1.42	246	*e*P		Pn	08 00 38.0	+1.8
	baz=246							
WJS				*e*S		Sn	08 00 56.1	+2.3
	baz=246							
FULB	Fuli	1.43	213	*e*P		Pn	08 00 35.8	-0.5
	baz=213							
FULB				*e*S		Sn	08 00 54.7	+0.6
	baz=213							
WNT	Mingjian	1.43	249	*e*P		Pn	08 00 38.2	+1.9
	baz=249							
WNT				*e*S		Sn	08 00 56.6	+2.4
	baz=249							
IRIF	Iriomote-Funau	1.45	92	P		Pn	08 00 36.7	+0.2
IRIF				S		Sn	08 00 54.5	0.0
WCHH	Zhanghua	1.48	258	*e*S		Sn	08 00 56.8	+1.4
	baz=258							
ALS	Alishan	1.51	234	*e*P		Pn	08 00 38.5	+0.8
	baz=234							
HATJ	Hateruma jima	1.55	102	P		Pn	08 00 38.6	+0.6
HATJ				S		Sn	08 00 57.8	+0.7
CHN5	Tsauling	1.56	240	*e*P		Pn	08 00 39.4	+1.2
	baz=239							
CHN5				*e*S		Sn	08 00 59.0	+1.5
	baz=239							
ELDTW	Lidau	1.59	221	*e*P		Pn	08 00 38.1	-0.4
	baz=220							
ELDTW				*e*S		Sn	08 00 57.3	-0.8
	baz=220							
WGK	Gukeng	1.61	244	*e*S		Sn	08 01 01.0	+2.5
	baz=244							
EDH	Donghe	1.62	209	*e*P		Pn	08 00 37.9	-0.9
	baz=208							
EDH				*e*S		Sn	08 00 56.6	-2.0
	baz=208							
WDLH	Douliu	1.63	245	*e*S		Sn	08 01 01.1	+2.1
	baz=244							
JKRS	Kuro-shima	1.71	95	P		Pn	08 00 40.8	+0.7
JKRS				S		Sn	08 01 01.3	+0.4
LONT	Longtian	1.75	212	*e*P		Pn	08 00 39.6	-1.1
	baz=212							
LONT				*e*S		Sn	08 01 02.1	+0.1
	baz=212							
WTK	Tuku	1.75	247	*e*S		Sn	08 01 03.9	+1.8
	baz=246							
CHN4	Tsaushan	1.76	234	*e*P		Pn	08 00 42.7	+1.8
	baz=234							
CHN4				*e*S		Sn	08 01 04.6	+2.4
	baz=234							
TPUB	Ta-pu	1.77	232	*e*P		Pn	08 00 42.2	+1.2
	baz=232							
TPUB				*e*S		Sn	08 01 04.8	+2.4
	baz=232							
STYT	Tauyuan	1.77	226	*e*P		Pn	08 00 42.0	+1.0
	baz=225							
STYT				*e*S		Sn	08 01 03.0	+0.5
	baz=225							
CHY	Chiayi	1.81	241	*e*S		Sn	08 01 05.6	+2.2
	baz=240							
WTP	Ta-pu	1.81	231	*e*P		Pn	08 00 43.0	+1.4
	baz=230							
WTP				*e*S		Sn	08 01 05.8	+2.3
	baz=230							
JIJ	Ishigaki jima	1.82	91	P		Pn	08 00 41.7	+0.1
JIJ				S		Sn	08 01 03.1	-0.5
LDUT	Ludao	1.83	200	*e*P		Pn	08 00 40.3	-1.4
	baz=199							
LDUT				*e*S		Sn	08 01 01.5	-2.2
	baz=199							
TWGBT	Beinan	1.85	212	*e*P		Pn	08 00 41.8	-0.3
	baz=211							
TWGBT				*e*S		Sn	08 01 04.7	+0.3
	baz=211							
TWG	Pinlang	1.85	212	*e*P		Pn	08 00 41.4	-0.7
	baz=211							
TWK	Hsinying	1.89	234	*e*P		Pn	08 00 44.3	+1.7
	baz=233							
TWK				*e*S		Sn	08 01 07.0	+1.6
	baz=233							
CHN1	Nanshi	1.91	231	*e*P		Pn	08 00 44.0	+1.1
	baz=231							
CHN1				*e*S		Sn	08 01 07.7	+1.8
	baz=231							
SNST	Tainan City	1.91	232	*e*P		Pn	08 00 44.2	+1.3
	baz=232							
SNST				*e*S		Sn	08 01 07.7	+1.9
	baz=232							
SGST	Jiashian	1.94	228	*e*P		Pn	08 00 43.9	+0.6
	baz=227							
SGST				*e*S		Sn	08 01 07.6	+1.0
	baz=227							
SLGT	Liugui	1.96	225	*e*P		Pn	08 00 45.3	+1.8
	baz=224							
SLGT				*e*S		Sn	08 01 09.1	+2.0
	baz=224							
JISG	Ishigakijimahi	1.98	84	P		Pn	08 00 44.0	+0.2
JISG				*e*S		Sn	08 01 07.0	-0.5
ICHU	Yijhu	2.00	239	*e*P		Pn	08 00 45.4	+1.4
	baz=239							
ICHU				*e*S		Sn	08 01 09.8	+1.9
	baz=239							
CHN8	Yiju	2.06	240	*e*S		Sn	08 01 11.4	+2.0
	baz=239							
SSD	Sandimen	2.15	220	*e*P		Pn	08 00 48.5	+2.3
	baz=220							
SSD				*e*S		Sn	08 01 14.3	+2.5
	baz=220							
MASBT	Mashibuluo	2.26	218	*e*P		Pn	08 00 48.4	+0.9
	baz=218							
MASBT				*e*S		Sn	08 01 15.7	+1.5
	baz=218							
JTJ	Tarama	2.34	84	P		Pn	08 00 49.8	+1.1
JTJ				S		Sn	08 01 16.7	+0.4
LAY	Lan-yu	2.41	193	*e*P		Pn	08 00 49.6	-0.2
	baz=192							
PTTC	Pingtan	2.42	297	*e*P		Pn	08 00 49.5	-0.3
	baz=297							
PTTC				*e*S		Sn	08 01 16.2	-2.0
	baz=297							
SLIU	Shizi	2.50	210	*e*P		Pn	08 00 50.8	-0.1
	baz=209							
PNG	Penghu	2.51	251	*e*S		Sn	08 01 20.5	+0.1
	baz=251							
PHUB	P'eng-hu	2.51	250	*e*S		Sn	08 01 19.5	-1.0
	baz=249							
VWUC	VWUC	2.52	284	*e*P		Pn	08 00 50.4	-0.7
	baz=284							
VWUC				*e*S		Sn	08 01 17.9	-2.9
	baz=284							
WDGT	Dungji	2.54	244	*e*P		Pn	08 00 52.6	+1.2
	baz=243							
WDGT				*e*S		Sn	08 01 21.0	-0.3
	baz=243							
MATB	Ma-tsu	2.65	312	*e*P		Pn	08 00 52.6	-0.2
	baz=311							
MATB				*e*S		Sn	08 01 22.1	-1.7
	baz=311							
JIRB	Irabujima	2.79	81	P		Pn	08 00 54.8	0.0
JIRB				*e*S		Sn	08 01 27.6	+0.3
PTMZ	Houxiangcun	2.82	284	*e*P		Pn	08 00 54.8	-0.5
	baz=283							
PTMZ				*e*S		Sn	08 01 25.7	-2.5
	baz=283							
LYJJ	Jianjiangzhen	3.04	315	*e*P		Pn	08 00 58.0	-0.2
	baz=315							
LYJJ				*e*S		Sn	08 01 32.7	-0.7
	baz=315							
XPSS	Dashiqiu	3.08	325	*e*P		Pn	08 00 59.0	+0.2
	baz=325							
XPSS				*e*S		Sn	08 01 33.5	-0.8
	baz=325							
MHZQ	Yeshan	3.29	302	*e*P		Pn	08 01 00.9	-0.8
	baz=301							
MHZQ				*e*S		Sn	08 01 37.9	-1.7
	baz=301							
KNMB	Chin-men Tao	3.42	272	*e*P		Pn	08 01 02.5	-1.1
	baz=271							
KNMB				*e*S		Sn	08 01 39.0	-3.9
	baz=271							
AXDP	Jialang	3.83	278	*e*P		Pn	08 01 08.8	-0.3
	baz=277							
AXDP				*e*S		Sn	08 01 50.3	-2.6
	baz=277							
ZPLA	Ao Xicun	4.04	264	*e*S		Sn	08 01 56.3	-1.7
	baz=263							
ZZJH	Jiuhuzhen	4.12	272	*e*S		Sn	08 01 58.5	-1.3
	baz=271							

*IDC **19** 08:23:54.2±2.5, 29°.60S×176°.08W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/22, mbtmp4.1/4, ML3.3/1, MS3.4/4, Ms1 3.4/4, ms1mx2.7/25, Error ellipse: s-maj=51.9km s-min=45.4km az=161.0*
*NEIC **19** 08:24:00.3±1.7, 29°.72S±0°.09×176°.33W±0°.09, h35km±2km, mb4.5/18, Error ellipse: s-maj=17.2km s-min=11.8km az=35.0*
ISC 19 08:23:58.3±0.8, 29°.67S±0°.08×176°.30W±0°.09, h21km, n33, σ0s87/32, mb4.3/8, MS3.3/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RAO	Raoul Island	1.47	286	Pn		Pb	08 24 24.9	0.0
	230nm,0.3s,baz=295,slow=18,SNR=7.4							
RAO				Sn		Sn	08 24 41.7	-0.6
	370nm,0.3s,baz=76,slow=22,SNR=8.7							
RAO				LR		LR	08 24 42.0	
	comp=Z,127nm,21.3s,baz=303,slow=29							
URZ	Urewera	10.16	211	Pn		Pn	08 26 21.5	-1.4
	0.3nm,0.3s,baz=158,slow=8.6,SNR=2.2							
URZ				Sn		Sn	08 28 15.8	-0.4
	2.5nm,0.3s,baz=65,slow=23,SNR=9.4							
URZ	Urewera	10.16	211			Pn	08 26 23.8	+0.9
BKZ	Black Stump Fm	11.18	210	Pn		Pn	08 26 38.0	+1.0
MSWZ	Moikau Station	13.58	208	Pn		Pn	08 27 09.7	0.0
TUWZ	Tuamarina	14.15	211	Pn		Pn	08 27 16.9	-0.6
THZ	Tophouse	14.90	213	Pn		Pn	08 27 26.5	-1.3
KHZ	Kahutara	15.13	210	Pn		Pn	08 27 28.9	-1.8
KHZ				IAmb		IAmb	08 27 42.1	
	comp=Z,59nm,1.1s							
LTZ	Lake Taylor	15.99	212	Pn		Pn	08 27 41.2	-0.7
LTZ				IAmb		IAmb	08 28 04.1	
	comp=Z,64nm,1.5s							
DZM	Mont Dzumac	17.26	292	LR		LR	08 33 47.2	
	comp=Z,54nm,19.9s,baz=52,slow=34							
RPZ	Rata Peaks	17.27	212	P		Pn	08 27 57.7	-0.4
RPZ				IAmb		IAmb	08 28 16.7	
	comp=Z,47nm,1.1s							
ODZ	Otahua Downs	18.49	210	P		P	08 28 12.8	-0.1
ODZ				IAmb		IAmb	08 28 16.9	
	comp=Z,39nm,1.3s							
WKZ	Wanaka	19.07	214	P		P	08 28 19.1	-0.3
CTA	Charters Tower	35.16	277	LR		LR	08 43 50.1	
	comp=Z,282nm,21.1s,baz=67,slow=34							
CTAO	Charters Tower	35.16	277	P		P	08 30 51.0	+0.2
CTAO				IAmb		IAmb	08 31 06.7	
	comp=Z,6.1nm,1.2s							
STKA	Stephens Creek	36.08	256	P		P	08 31 00.9	+2.2
	comp=Z,2.2nm,0.6s,baz=105,slow=12,SNR=6.8							
STKA	Stephens Creek	36.08	256	P		P	08 30 59.3	+0.7
BBOO	Buckleboo	40.59	253	P		P	08 31 36.1	-0.5
BBOO				IAmb		IAmb	08 31 55.2	
	comp=Z,9.3nm,1.1s							
AS31	Alice Springs	44.63	265	P		P	08 32 09.2	-0.4
ASAR	Alice Springs	44.63	265	P		P	08 32 09.7	+0.1
	comp=Z,0.5nm,0.5s,baz=101,slow=8.0,SNR=17							
ASAR				LR		LR	08 50 07.3	
	comp=Z,34nm,18.1s,baz=147,slow=35							
ASAR	Alice Springs	44.63	265	P		P	08 32 10.6	+1.0
WR0	Warramunga Arr	45.37	271	P		P	08 32 14.9	-0.5
WB2	Warramunga Arr	45.54	271	P		P	08 32 17.0	+0.1
WB2				IAmb		IAmb	08 32 19.3	
	comp=Z,6.2nm,1.2s							
WRA	Warramunga Arr	45.55	271	P		P	08 32 16.7	-0.2
	comp=Z,1.3nm,0.5s,baz=109,slow=7.9,SNR=32							
WRA	Warramunga Arr	45.55	271	P		P	08 32 17.3	+0.4

WB0	**Warramunga Arr**	**45.57 271**	P	**P**	**08 32 16.8**	**-0.3**
WB0			IAmb	IAmb	08 32 19.3	
	comp=Z,4.3nm,1.1s					
JOHN	**Johnston Islan**	**46.59 9**	P	**P**	**08 32 25.8**	**+0.9**
VNDA	**Vanda**	**48.97 186**	P	**P**	**08 32 43.4**	**+0.7**
MWH	**Moku'aweowe**	**52.79 25**	P	**P**	**08 33 11.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.84 269**	LR	LR	08 54 42.7	
	comp=Z,18nm,18.9s,baz=292,slow=34					
QSPA	**South Pole Qui**	**60.44 180**	P	**P**	**08 34 07.1**	**+0.9**
QSPA			IAmb	IAmb	08 34 25.4	
	comp=Z,8.1nm,1.4s					
VA04	**Juan Fernndez**	**79.79 123**	P	**P**	**08 36 04.2**	**-1.0**
AKASG	**Malin Array Be**	**151.59 325**	PKPbc	**PKPbc**	**08 43 50.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=48,slow=2.5,SNR=4.6					

*ROM **19** 08:28:18.9±0.1,44°.347N±0°.005×7°.30E±0°.01,h13km±1km, ML2.0/9,Error ellipse: s-maj=0.9km s-min=0.2km az=55.0, hypocenter*
*LDG **19** 08:28:19.0±0.0,44°.36N×7°.30E,h13km,Md2.5/2,Ml2.6/12, Error ellipse: s-maj=1.1km s-min=0.7km az=45.0*
*STR **19** 08:28:19.0±0.6,44°N±3°×°±°,h0km,MLv2.1/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*GEN **19** 08:28:19.3,44°.34N×7°.29E,h13km±1km,Ml2.0*
ISC 19 08:28:18.7±0.8,44°.36N±0°.02×7°.31E±0°.02,h18km±4km, n54,σ0s74/92,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.11**	**172**	P	**Pg**	**08 28 22.5**	**-0.1**
STV				S	**Sg**	**08 28 24.4**	**-0.7**
STV	**Sant Anna di V**	**0.11**	**172**	P	**Pg**	**08 28 22.5**	**-0.1**
STV				S	**Sg**	**08 28 24.5**	**-0.7**
STV				AML	AML		
	comp=E,776μm,0.1s						
STV				AML	AML		
	comp=N,422μm,0.2s						
DOI	**San Damiano**	**0.15**	**344**	P	**Pb**	**08 28 23.5**	**+0.5**
DOI				S	**Sg**	**08 28 26.3**	**+0.2**
DOI				AML	AML		
	comp=N,2850μm,0.2s						
DOI				AML	AML		
	comp=E,2100μm,0.6s						
ENR	**Entracque**	**0.15**	**148**	P	**Pg**	**08 28 23.1**	**0.0**
ENR				S	**Sg**	**08 28 25.6**	**-0.4**
ENR	**Entracque**	**0.15**	**148**	P	**Pg**	**08 28 23.1**	**0.0**
ENR				S	**Sg**	**08 28 25.6**	**-0.4**
ENR				AML	AML		
	comp=N,1360μm,0.2s						
ENR				AML	AML		
	comp=E,892μm,0.9s						
PZZ	**Stroppo**	**0.20**	**318**	P	**Pg**	**08 28 24.0**	**+0.2**
PZZ				S	**Sg**	**08 28 27.1**	**-0.2**
PZZ	**Stroppo**	**0.20**	**318**	P	**Pg**	**08 28 24.0**	**+0.2**
PZZ				S	**Sg**	**08 28 27.0**	**-0.2**
PZZ				AML	AML		
	comp=E,1810μm,0.6s						
PZZ				AML	AML		
	comp=N,1640μm,0.9s						
ISO	**Isola**	**0.25**	**227**	**Pg**	**Pg**	**08 28 24.4**	**-0.1**
ISO				Sg	**Sg**	**08 28 27.7**	**-0.7**
SURF	**Saint Ours**	**0.37**	**290**	Pg	**Pg**	**08 28 26.7**	**+0.1**
TURF	**col de Turini**	**0.39**	**171**	Pg	**Pg**	**08 28 26.9**	**+0.1**
TURF				Sg	**Sg**	**08 28 32.1**	**-0.2**
GBOS	**Grotte di Boss**	**0.40**	**107**	P	**Pg**	**08 28 27.3**	**+0.3**
GBOS				S	**Sg**	**08 28 32.8**	**+0.2**
GBOS	**Grotte di Boss**	**0.40**	**107**	P	**Pg**	**08 28 27.3**	**+0.3**
GBOS				S	**Sg**	**08 28 33.0**	**+0.4**
GBOS				AML	AML		
	comp=E,329μm,0.4s						
GBOS				AML	AML		
	comp=N,170μm,0.5s						
SAOF	**Saorge**	**0.41**	**154**	Pg	**Pg**	**08 28 27.4**	**+0.2**
SAOF				Sg	**Sg**	**08 28 32.7**	**-0.2**
SAOF	**Saorge**	**0.41**	**154**	P	**Pg**	**08 28 27.2**	**+0.1**
SAOF				S	**Sg**	**08 28 32.7**	**-0.2**
SAOF	**Saorge**	**0.41**	**154**	AML	AML		
	comp=N,412μm,0.6s						
SAOF				AML	AML		
	comp=E,353μm,0.4s						
MGRO	**Montegrosso**	**0.48**	**131**	P	**Pg**	**08 28 28.6**	**+0.2**
MGRO				S	**Sg**	**08 28 35.0**	**0.0**
MGRO	**Montegrosso**	**0.48**	**131**	P	**Pg**	**08 28 28.6**	**+0.2**
MGRO				S	**Sg**	**08 28 35.0**	**0.0**
MGRO				AML	AML		
	comp=E,208μm,1.3s						
MGRO				AML	AML		
	comp=N,320μm,0.3s						
BHB	**Bricherasio**	**0.49**	**356**	P	**Pg**	**08 28 28.0**	**-0.6**
BHB				S	**Sg**	**08 28 34.1**	**-1.0**
BHB	**Bricherasio**	**0.49**	**356**	P	**Pg**	**08 28 27.9**	**-0.6**
BHB				AML	AML		
	comp=E,138μm,0.7s						
BHB				AML	AML		
	comp=N,129μm,0.7s						
SBF	**Sospel**	**0.50**	**169**	*e*Pg	**Pg**	**08 28 29.0**	**+0.2**
SBF				*e*Sg	**Sg**	**08 28 35.5**	**-0.1**
	comp=N,125nm,0.3s						
ESCA	**l'Escarene**	**0.53**	**175**	Pg	**Pg**	**08 28 29.4**	**+0.1**
ESCA				Sg	**Sg**	**08 28 36.4**	**0.0**
MBDF	**Montbardon**	**0.53**	**314**	*e*Pg	**Pg**	**08 28 29.6**	**+0.2**
MBDF				*e*Sg	**Sg**	**08 28 36.8**	**+0.2**
	comp=N,174nm,0.3s						
OGAG	**Argentiere**	**0.56**	**280**	Pg	**Pn**	**08 28 32.7**	**+0.8**
RORO	**Rocca Rossa**	**0.60**	**114**	P	**Pg**	**08 28 30.6**	**0.0**
RORO				S	**Sg**	**08 28 38.9**	**+0.3**
RORO	**Rocca Rossa**	**0.60**	**114**	P	**Pg**	**08 28 30.6**	**0.0**
RORO				S	**Sg**	**08 28 38.8**	**+0.2**
RORO				AML	AML		
	comp=N,206μm,0.2s						
RORO				AML	AML		
	comp=E,174μm,0.6s						
IMI	**Imperia**	**0.61**	**136**	P	**Pg**	**08 28 30.9**	**0.0**
IMI				S	**Sg**	**08 28 39.1**	**0.0**
IMI	**Imperia**	**0.61**	**136**	P	**Pg**	**08 28 30.9**	**0.0**
IMI				S	**Sg**	**08 28 39.1**	**0.0**
IMI				AML	AML		
	comp=E,330μm,0.4s						
IMI				AML	AML		
	comp=N,546μm,0.2s						
CALF	**Calern**	**0.67**	**205**	Pg	**Pg**	**08 28 31.8**	**0.0**
RRL	**Rocca Remolon**	**0.67**	**327**	P	**Pg**	**08 28 31.9**	**-0.2**
RRL				S	**Sg**	**08 28 41.0**	**0.0**
RRL	**Rocca Remolon**	**0.67**	**327**	P	**Pg**	**08 28 31.9**	**-0.2**
RRL				S	**Sg**	**08 28 41.0**	**0.0**
QLNO	**Quiliano**	**0.75**	**92**	P	**Pg**	**08 28 33.5**	**+0.1**
QLNO				S	**Sb**	**08 28 44.0**	**+0.9**
FINB	**Finale Ligure**	**0.75**	**103**	P	**Pg**	**08 28 33.5**	**0.0**
OGDI	**Digne**	**0.76**	**251**	Pg	**Pn**	**08 28 35.5**	**+0.9**
RSP	**Reno Superiore**	**0.79**	**358**	P	**Pg**	**08 28 32.9**	**-1.4**
RSP				AML	AML		
	comp=E,74μm,0.3s						
RSP				AML	AML		
	comp=N,63μm,1.3s						
BNI	**Bardonecchia**	**0.83**	**327**	P	**Pg**	**08 28 34.8**	**0.0**
BNI				S	**Sg**	**08 28 45.9**	**0.0**
BNI				AML	AML		
	comp=N,27μm,1.5s						
BNI				AML	AML		
	comp=E,28μm,0.4s						
ROTM	**Rocchetta Tana**	**0.90**	**56**	P	**Pn**	**08 28 37.1**	**+0.7**
PCP	**Piancastagn**	**0.91**	**78**	P	**Pg**	**08 28 36.4**	**0.0**
PCP				S	**Sg**	**08 28 48.5**	**+0.2**
PCP	**Piancastagn**	**0.91**	**78**	P	**Pg**	**08 28 36.3**	**0.0**
FRF	**La Foret Royal**	**0.93**	**211**	*e*Pg	**Pg**	**08 28 36.1**	**-0.6**
FRF				*e*Sg	**Sg**	**08 28 47.9**	**-1.0**
	comp=E,65nm,0.2s						
BLAF	**les Blancs**	**0.99**	**246**	Pg	**Pn**	**08 28 38.5**	**+0.7**
BLAF				Sg	**Sn**	**08 28 52.9**	**+1.5**
ORIF	**Oris-en-Rattie**	**1.16**	**299**	*e*Pg	**Pb**	**08 28 40.8**	**+0.5**
ORIF				*e*Sg	**Sb**	**08 28 55.8**	**+0.7**
	comp=E,16nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.16**	**299**	P	**Pb**	**08 28 40.9**	**+0.6**
MLYF	**Mely**	**1.17**	**252**	Pg	**Pg**	**08 28 41.6**	**+0.3**
LMR	**La Mourre**	**1.17**	**210**	*e*Pg	**Pb**	**08 28 40.8**	**+0.3**
LMR				*e*Sn	**Sb**	**08 28 54.3**	**-1.0**
	comp=E,65nm,0.3s						
LPG	**La Plagne**	**1.21**	**341**	*e*Pg	**Pn**	**08 28 40.9**	**-0.1**
LPG				*e*Sg	**Sb**	**08 28 57.2**	**+0.6**
	comp=E,17nm,0.4s						
LPL	**La Plagne**	**1.23**	**341**	*e*Pg	**Pn**	**08 28 41.8**	**+0.6**
LPL				*e*Sg	**Sb**	**08 28 57.8**	**+0.6**
	comp=E,15nm,0.3s						
SMRF	**Simiane la Rot**	**1.30**	**254**	*e*Pg	**Pg**	**08 28 43.7**	**-0.1**
SMRF				*e*Sg	**Sg**	**08 29 00.6**	**-0.2**
	comp=E,30nm,0.3s						
ARTF	**Artigues**	**1.33**	**235**	Pg	**Pb**	**08 28 44.0**	**+0.8**
VIVF	**Saint-Julien-l**	**1.94**	**286**	*e*Pn	**Pn**	**08 28 50.4**	**-0.5**
VIVF				*e*Sn	**Sn**	**08 29 13.0**	**-1.9**
	comp=E,8.1nm,0.4s						
PGF	**Pioggiola**	**2.19**	**145**	*e*Pn	**Pn**	**08 28 53.5**	**-0.8**
PGF				*e*Sn	**Sn**	**08 29 19.0**	**-2.0**
	comp=E,5.4nm,0.3s						
CABF	**La Chapelle**	**2.41**	**340**	*e*Pn	**Pn**	**08 28 57.1**	**-0.3**
CABF				*e*Sn	**Sn**	**08 29 24.4**	**-2.1**
	comp=E,2.3nm,0.5s						
LASF	**Ste Croix**	**2.50**	**265**	*e*P	**Pn**	**08 28 59.7**	**+1.2**
LASF				*e*Sn	**Sn**	**08 29 25.6**	**-2.9**
	comp=E,3.4nm,0.3s						
CAF	**Calviac**	**3.78**	**280**	*e*P	**Pn**	**08 29 17.8**	**+1.6**
BGF	**Bois d'Agland**	**3.83**	**307**	*e*P	**Pn**	**08 29 19.0**	**+2.2**

*IDC **19** 08:33:48.4±1.0,55°.32S×124°.74W,h0km,mb4.0/9, mb1 4.1/9,mb1mx4.1/29,mbtmp4.0/9,MS3.7/9,Ms1 3.7/9, ms1mx3.6/16,Error ellipse: s-maj=28.2km s-min=24.8km az=134.0*
*NEIC **19** 08:33:50.4±1.4,55°.3S±0°.1×124°.7W±0°.2,h10km±1km, mb4.6/13,Error ellipse: s-maj=24.7km s-min=20.0km az=334.0*
ISC 19 08:33:50.3±0.6,55°.4S±0°.1×124°.7W±0°.1,h10km,n60, σ0s82/31,mb4.3/14,MS3.8/11,2C,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**30.34**	**28**	LR	LR	08 49 10.6	
	comp=Z,67nm,20.6s,baz=287,slow=30						
RPN	**Rapa Nui**	**30.34**	**28**	P	**P**	**08 40 01.9**	**0.0**
PMSA	**Palmer Station**	**30.48**	**133**	P	**P**	**08 40 02.2**	**-0.5**
PMSA				IAmb	IAmb	08 40 04.0	
	comp=Z,21nm,1.1s						
VNDA	**Vanda**	**33.21**	**202**	P	**P**	**08 40 27.5**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=101,slow=5.1,SNR=4.1						
VNDA				LR	LR	08 49 13.9	
	comp=Z,44nm,21.1s,baz=82,slow=28						
QSPA	**South Pole Qui**	**34.81**	**180**	P	**P**	**08 40 41.5**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=267,slow=1.3,SNR=11						
QSPA	**South Pole Qui**	**34.81**	**180**	P	**P**	**08 40 41.8**	**+0.9**
BELA	**Belgrano 2**	**36.65**	**159**	P	**P**	**08 40 56.4**	**+0.1**
TBI	**Tubuai**	**36.88**	**320**	*e*LR	LR	08 51 00.3	
	comp=Z,240nm,26.2s						
TBI	**Tubuai**	**36.88**	**320**	*e*T	T	09 20 04.6	
	comp=Z,37nm,0.3s						
PLCA	**Paso Flores**	**38.01**	**91**	LR	LR	08 52 37.3	
	comp=Z,102nm,19.9s,baz=221,slow=30						
H03S2	**Juan Fernandez**	**38.13**	**75**	T	T	09 21 40.8	
	baz=219,slow=74,SNR=309						
H03S1	**Juan Fernandez**	**38.13**	**75**	T	T	09 21 52.6	
	baz=219,slow=74,SNR=316						
H03S3	**Juan Fernandez**	**38.14**	**75**	T	T	09 21 52.4	
	baz=219,slow=74,SNR=361						
H03N3	**Juan Fernandez**	**38.41**	**75**	T	T	09 22 19.4	
	baz=222,slow=72,SNR=495						
H03N2	**Juan Fernandez**	**38.42**	**75**	T	T	09 21 58.9	
	baz=222,slow=72,SNR=805						
H03N1	**Juan Fernandez**	**38.43**	**75**	T	T	09 22 18.4	
	baz=222,slow=72,SNR=451						
TVO	**Taravao**	**41.93**	**324**	*e*T	T	09 26 22.7	
	comp=Z,0.7nm,0.4s						
BO02	**Sierra Bellavi**	**41.99**	**84**	P	**P**	**08 41 42.5**	**+1.1**
BO02				IAmb	IAmb	08 41 43.2	
	comp=Z,7.6nm,0.8s						
URZ	**Urewera**	**42.01**	**269**	LR	LR	08 54 36.7	
	comp=Z,120nm,19.5s,baz=72,slow=30						
PAE	**Paea**	**42.16**	**323**	*e*T	T	09 26 39.8	
	comp=Z,0.6nm,0.2s						
PPT2	**Papeete2**	**42.22**	**323**	*e*LR	LR	08 53 30.2	
	comp=Z,304nm,25.8s						
PPT2	**Papeete2**	**42.22**	**323**	*e*T	T	09 26 44.0	
	comp=Z,1.4nm,0.3s						
VA03	**San Esteban**	**43.60**	**82**	P	**P**	**08 41 55.7**	**+1.1**
VA03				IAmb	IAmb	08 41 56.2	
	comp=Z,12nm,0.8s						
VAH	**Vaihoa**	**43.79**	**327**	*e*T	T	09 28 40.9	
	comp=Z,60nm,0.2s						
PMOR	**Pomariorio Ree**	**44.09**	**327**	*e*T	T	09 29 04.0	
	comp=Z,6.0nm,0.3s						
VNA3	**Neumayer Olymp**	**45.67**	**156**	P	**P**	**08 42 09.8**	**-0.7**
VNA1	**Neumayer--Stat**	**46.42**	**156**	P	**P**	**08 42 16.2**	**-0.2**
VNA2	**Neumayer--Watz**	**46.42**	**156**	P	**P**	**08 42 16.3**	**-0.1**
	baz=229,slow=11						
SNAA	**Sanae**	**46.88**	**158**	P	**P**	**08 42 19.4**	**-0.7**
SNAA	**Sanae**	**46.88**	**158**	P	**P**	**08 42 19.3**	**-0.7**
	comp=Z,3.9nm,0.8s,baz=233,slow=7.2,SNR=30						
SNAA	**Sanae**	**46.88**	**158**	P	**P**	**08 42 19.7**	**-0.4**
SNAA				IAmb	IAmb	08 42 20.0	
	comp=Z,3.9nm,0.7s						
SYO	**Syowa Base**	**55.40**	**173**	*e*P	**P**	**08 43 22.2**	**-1.7**
SYO	**Syowa Base**	**55.40**	**173**	*e*P	**P**	**08 43 22.2**	**-1.7**
MAW	**Mawson**	**57.22**	**183**	P	**P**	**08 43 36.1**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=167,slow=9.3,SNR=7.6						
MAW	**Mawson**	**57.22**	**183**	P	**P**	**08 43 37.4**	**+0.5**
LPAZ	**La Paz**	**57.92**	**71**	P	**P**	**08 43 43.8**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=122,slow=5.4,SNR=5.9						
LPAZ				LR	LR	09 02 48.0	
	comp=Z,56nm,19.3s,baz=196,slow=30						
LPAZ	**La Paz**	**57.92**	**71**	P	**P**	**08 43 43.1**	**-0.2**
DZM	**Mont Dzumac**	**60.16**	**274**	P	**P**	**08 43 58.5**	**+0.3**
DZM				IAmb	IAmb	08 44 25.0	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**66.43**	**248**	P	**P**	**08 44 40.1**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=288,slow=2.5,SNR=3.1						
STKA				LR	LR	09 09 03.3	
	comp=Z,47nm,18.9s,baz=163,slow=32						
STKA	**Stephens Creek**	**66.43**	**248**	P	**P**	**08 44 40.7**	**+1.2**
SAML	**Samuel**	**66.67**	**71**	P	**P**	**08 44 42.1**	**+1.0**
SAML				IAmb	IAmb	08 44 49.0	
	comp=Z,2.1nm,1.1s						
BBOO	**Buckleboo**	**68.57**	**243**	P	**P**	**08 44 52.7**	**-0.3**
BDFB	**Brasilia**	**69.70**	**88**	LR	LR	09 13 01.0	
	comp=Z,88nm,18.2s,baz=141,slow=34						
ROSC	**El Rosal**	**72.89**	**53**	LR	LR	09 12 01.0	
	comp=Z,70nm,21.1s,baz=78,slow=32						
CCIG	**Comitan**	**76.50**	**32**	P	**P**	**08 45 39.9**	**-0.5**
H01W1	**Cape Leeuwin H**	**77.02**	**226**	T	T	10 11 03.0	
	baz=149,slow=76,SNR=649						
H01W2	**Cape Leeuwin H**	**77.02**	**226**	T	T	10 11 02.3	
	baz=149,slow=76,SNR=925						
H01W3	**Cape Leeuwin H**	**77.04**	**226**	T	T	10 11 04.2	
	baz=149,slow=76,SNR=808						
ASAR	**Alice Springs**	**77.05**	**247**	P	**P**	**08 45 43.0**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=153,slow=6.4,SNR=18						
ASAR	**Alice Springs**	**77.05**	**247**	P	**P**	**08 45 43.4**	**-0.1**
WRA	**Warramunga Arr**	**79.86**	**250**	P	**P**	**08 45 58.4**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=143,slow=5.1,SNR=15						
PSAC2	**Pilbara Seismi**	**85.88**	**237**	P	**P**	**08 46 30.2**	**-0.1**
TXAR	**Lajitas Array**	**86.26**	**18**	P	**P**	**08 46 30.7**	**-1.1**
	comp=Z,0.1nm,0.7s,baz=185,slow=8.1,SNR=1.7						
BOSA	**Boshof**	**92.48**	**154**	LR	LR	09 23 45.6	
	comp=Z,75nm,18.8s,baz=178,slow=32						
H11S2	**WAKE ISLAND Hy**	**93.51**	**298**	T	T	10 30 58.2	
	baz=148,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**93.53**	**298**	T	T	10 31 02.2	
	baz=148,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**93.53**	**298**	T	T	10 31 02.2	
	baz=148,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**94.44**	**299**	T	T	10 32 09.9	
	baz=148,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**94.45**	**299**	T	T	10 32 08.1	
	baz=148,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**94.46**	**299**	T	T	10 32 11.9	
	baz=148,slow=76,SNR=9.1						

IDC 19 08:41:27.2±1.9,2°.79S×139°.28E,h0km,mb3.4/3, mb1 3.9/4,mb1mx3.6/40,mbtmp3.6/4,ML4.2/1,Error ellipse: s-maj=51.0km s-min=22.1km az=136.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.45**	**79**	Pn	Pg	08 41 55.0	-0.1
	55nm,0.3s,baz=220,slow=9.6,SNR=231						
JAY				Sn	Sg	08 42 08.2	-5.6
	149nm,0.3s,baz=231,slow=22,SNR=16						
WRA	**Warramunga Arr**	**17.72**	**195**	P	Pn	08 45 34.6	-1.0
	0.9nm,0.3s,baz=15,slow=13,SNR=60						
FITZ	**Fitzroy Crossi**	**20.25**	**220**	P	Pn	08 46 06.2	-0.1
	0.5nm,0.3s,baz=0.5,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**21.39**	**194**	P	P	08 46 16.1	-0.6
	1.1nm,0.4s,baz=23,slow=9.3,SNR=27						
ILAR	**Eielson Array**	**85.67**	**24**	P	P	08 54 07.4	-0.3
	0.2nm,0.4s,baz=256,slow=4.5,SNR=2.9						

*NEIC **19** 08:48:50.2±2.5,20°.55S±0°.04×173°.9W±0°.1,h10km±1km, mb4.8/32,Error ellipse: s-maj=18.7km s-min=4.8km az=107.0*
*IDC **19** 08:48:51.8±0.7,20°.64S×174°.43W,h0km,mb4.1/14, mb1 4.3/15,mb1mx4.2/32,mbtmp4.1/15,ML4.3/1,MS3.5/7, Ms1 3.5/7,ms1mx3.2/25,Error ellipse: s-maj=27.9km s-min=17.5km az=137.0*
ISC 19 08:48:55.2±0.6,20°.52S±0°.09×174°.2W±0°.1,h27km,n72, σ1s57/61,mb4.6/30,1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.26**	**71**		Pn	08 49 52.9	-5.5
AFI	**Afiamalu**	**6.96**	**20**	Pn	**Pn**	**08 50 34.7**	**-0.8**
	9.3nm,0.3s,baz=231,slow=10,SNR=13						
AFI				Sn	Sn	08 51 46.3	-7.7
	4.4nm,0.3s,baz=201,slow=21,SNR=1.4						
AFI				LR	LR	08 53 19.3	
	comp=Z,163nm,19.2s,baz=204,slow=37						
AFI	**Afiamalu**	**6.96**	**20**		**Pn**	**08 50 33.2**	**-2.3**
AFI				Sn	**Sn**	**08 51 50.0**	**-4.0**
RAR	**Rarotonga**	**13.50**	**95**	Pn	Pn	08 51 56.2	-8.9
DZM	**Mont Dzumac**	**18.11**	**262**	*e*P	**P**	**08 53 10.2**	**+5.0**
	56nm,1.1s						
DZM				*e*LR	LR	08 57 28.4	
	comp=Z,249nm,22.5s						
DZM	**Mont Dzumac**	**18.11**	**262**	P	**P**	**08 53 07.2**	**+1.9**
	0.4nm,0.3s,baz=271,slow=15,SNR=6.1						
DZM				LR	LR	08 58 58.5	
	comp=Z,255nm,18.4s,baz=90,slow=34						
DZM	**Mont Dzumac**	**18.11**	**262**	P	**P**	**08 53 06.5**	**+1.3**
URZ	**Urewera**	**19.22**	**201**	P	**P**	**08 53 15.3**	**-1.9**
	1.0nm,0.3s,baz=159,slow=20,SNR=1.8						
URZ	**Urewera**	**19.22**	**201**	P	**P**	**08 53 16.0**	**-1.2**
BKZ	**Black Stump Fm**	**20.24**	**201**	P	**P**	**08 53 27.6**	**-0.8**
BKZ				IAmb	IAmb	08 53 54.2	
	comp=Z,42nm,1.5s						
BFZ	**Birch Farm**	**21.69**	**200**	P	**P**	**08 53 43.2**	**-0.8**
BFZ				IAmb	IAmb	08 53 55.7	
	comp=Z,47nm,1.1s						
QRZ	**Quartz Range**	**23.19**	**206**	P	**P**	**08 54 00.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**23.43**	**203**	P	**P**	**08 54 00.1**	**-2.0**
PPT2	**Papeete2**	**23.45**	**87**	*e*LR	LR	08 59 33.0	
	comp=Z,210nm,27.0s						
THZ	**Tophouse**	**23.83**	**204**	P	**P**	**08 54 05.3**	**-0.8**
THZ				IAmb	IAmb	08 54 19.7	
	comp=Z,39nm,1.0s						
KHZ	**Kahutara**	**24.16**	**203**	P	**P**	**08 54 08.3**	**-0.7**
KHZ				IAmb	IAmb	08 54 12.5	
	comp=Z,55nm,1.3s						
LTZ	**Lake Taylor**	**24.95**	**204**	P	**P**	**08 54 16.1**	**-0.2**
LTZ				IAmb	IAmb	08 54 23.1	
	comp=Z,42nm,1.2s						
OXZ	**Oxford**	**25.50**	**204**	P	**P**	**08 54 19.9**	**-1.4**
OXZ				IAmb	IAmb	08 54 35.9	
	comp=Z,30nm,0.8s						
RPZ	**Rata Peaks**	**26.21**	**205**	P	**P**	**08 54 26.9**	**-0.8**
RPZ				IAmb	IAmb	08 54 42.9	
	comp=Z,54nm,1.3s						
FOZ	**Fox Glacier**	**26.56**	**207**	P	**P**	**08 54 29.2**	**-1.6**
HNR	**Honiara**	**27.26**	**290**	LR	LR	09 04 00.9	
	comp=Z,113nm,18.4s,baz=136,slow=34						
WKZ	**Wanaka**	**27.95**	**206**	P	**P**	**08 54 42.8**	**-0.5**
MLZ	**Mavora Lakes**	**28.76**	**206**	P	**P**	**08 54 49.3**	**-1.2**
WHZ	**Wether Hill Ro**	**29.25**	**206**	P	**P**	**08 54 54.6**	**-0.3**
CTA	**Charters Tower**	**37.03**	**264**	P	**P**	**08 56 01.6**	**-1.5**
	comp=Z,2.2nm,0.6s,baz=99,slow=11,SNR=5.7						
CTAO	**Charters Tower**	**37.03**	**264**	P	**P**	**08 56 02.7**	**-0.3**
STKA	**Stephens Creek**	**41.00**	**245**	P	**P**	**08 56 34.1**	**-2.0**
	comp=Z,1.7nm,0.5s,baz=101,slow=12,SNR=6.3						
STKA	**Stephens Creek**	**41.00**	**245**	P	**P**	**08 56 35.0**	**-1.1**
COEN	**Coen**	**41.15**	**272**	P	**P**	**08 56 37.4**	**0.0**
COEN				IAmb	IAmb	08 56 56.6	
	comp=Z,19nm,1.4s						
KIP	**Kipapa**	**44.58**	**22**	P	P	08 57 01.3	-3.8
BBOO	**Buckleboo**	**45.74**	**244**	P	**P**	**08 57 12.0**	**-2.4**
BBOO				IAmb	IAmb	08 57 30.8	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**47.94**	**261**	P	**P**	**08 57 30.5**	**-1.2**
WR0				IAmb	IAmb	08 57 34.2	
	comp=Z,7.3nm,1.4s						
AS31	**Alice Springs**	**47.98**	**256**	P	**P**	**08 57 30.9**	**-1.2**
ASAR	**Alice Springs**	**47.98**	**256**	P	**P**	**08 57 30.5**	**-1.6**
	comp=Z,3.0nm,0.7s,baz=99,slow=7.8,SNR=62						
ASAR	**Alice Springs**	**47.98**	**256**	P	**P**	**08 57 30.7**	**-1.4**
WB0	**Warramunga Arr**	**48.11**	**261**	P	**P**	**08 57 32.0**	**-1.0**
WB0				IAmb	IAmb	08 57 42.1	
	comp=Z,8.2nm,1.4s						
WB2	**Warramunga Arr**	**48.12**	**261**	P	**P**	**08 57 32.7**	**-0.4**
WB2				IAmb	IAmb	08 57 36.1	
	comp=Z,4.2nm,0.8s						
WRAB	**Tennant Creek**	**48.12**	**261**	P	**P**	**08 57 32.4**	**-0.7**
WRA	**Warramunga Arr**	**48.13**	**261**	P	**P**	**08 57 31.1**

comp=Z,0.8nm,0.4s,baz=38,slow=4.5,SNR=12
CLL Collm 148.75 351 *e*PKPbc **PKPbc 09 08 41.0 +1.1**
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 149.43 315 PKPbc **PKPbc 09 08 43.0 +0.8**
comp=Z,1.9nm,0.7s,baz=132,slow=5.2,SNR=5.6
GERES GERESS Array B 151.03 349 PKPbc **PKiKP 09 08 47.1 +0.8**
comp=Z,1.1nm,0.6s,baz=57,slow=4.9,SNR=7.7

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*NEIC **19** 08:51:41.3±1.1, 31°.34N±0°.07×141°.1E±0°.1, h43km±9km, mb4.4/19, Error ellipse: s-maj=13.3km s-min=8.8km az=65.0*
*IDC **19** 08:51:42.1±2.2, 31°.29N×140°.95E, h43km±20km, mb3.6/13, mb1 3.8/16, mb1mx3.7/46, mbtmp3.9/16, ML3.5/3, MS2.3/4, Ms1 2.3/4, ms1mx2.2/36, Error ellipse: s-maj=24.7km s-min=14.4km az=77.0*
*JMA **19** 08:51:44.9±0.2, 31°.95N×140°.98E, h3km, M4.3*
*NIED **19** 08:51:44.9, 31°.95N×140°.98E, h3km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.55; $M_{\theta\theta}$0.91; $M_{\phi\phi}$-5.46; $M_{r\theta}$1.54; $M_{\theta\phi}$0.31; $M_{\phi r}$1.65; Fault plane solution: $M_0$5.55000×10^{14} NP1:ϕ_s16.00000°, δ57.00000°, λ113.00000°. NP2:ϕ_s158.00000°, δ40.00000°, λ59.00000°.*

ISC 19 08:51:42.7±0.5, 31°.42N±0°.05×141°.02E±0°.08, h57km, n67, σ1^{s}78/68, mb4.1/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.50**	**315**	P	**Pn**	**08 52 06.8**	**-0.5**
JAOM				S	**Sn**	**08 52 22.0**	**-3.8**
JHCJ	**Hachijojimakas**	**1.95**	**328**	P	**Pn**	**08 52 12.8**	**-0.7**
JHJ2	**Mitsune**	**1.98**	**329**	P	**Pn**	**08 52 12.9**	**-0.9**
JHJ2				*e*S	**Sn**	**08 52 33.4**	**-4.0**
JHJ2	**Mitsune**	**1.98**	**329**	Pn	**Pn**	**08 52 13.1**	**-0.7**
JHJ2				Sn	**Sn**	**08 52 34.8**	**-2.6**
JHJ	**Hachijo jima 2**	**2.00**	**329**	P	**Pn**	**08 52 13.1**	**-0.9**
	88nm,0.3s,baz=42,slow=22,SNR=71						
JHJ				S	**Sn**	**08 52 33.3**	**-4.6**
	296nm,0.3s,baz=89,slow=19,SNR=13						
JHJ				LR	LR	08 53 04.1	
	comp=Z,85nm,20.6s,baz=62,slow=40						
JMKN	**Mikurajimanish**	**2.75**	**334**	P	**Pn**	**08 52 23.6**	**-0.7**
JMKN				*e*S	**Sn**	**08 52 52.5**	**-3.9**
JKO	**Kozu shima**	**3.19**	**331**	P	**Pn**	**08 52 30.8**	**+0.5**
BSO1	**Boso 1**	**3.23**	**359**	P	**Pn**	**08 52 28.1**	**-2.3**
BSO3	**Boso 3**	**3.41**	**353**	P	**Pn**	**08 52 32.1**	**-1.0**
BSO4	**Boso 4**	**3.61**	**351**	P	**Pn**	**08 52 35.8**	**-0.2**
JOD2	**Odawara 2**	**4.17**	**338**	P	**Pn**	**08 52 43.6**	**-0.1**
JOD2				S	**Sn**	**08 53 27.2**	**-4.0**
JCJ	**Chichijima**	**4.42**	**166**	P	**Pn**	**08 52 45.2**	**-2.1**
	4.0nm,0.3s,baz=306,slow=22,SNR=2.0						
JCJ				S	**Sn**	**08 53 32.0**	**-5.4**
	16nm,0.3s,baz=302,slow=22,SNR=6.1						
JYN	**Shimob**	**4.57**	**334**	P	**Pn**	**08 52 50.9**	**+1.6**
JRY	**Ryogami san**	**4.92**	**340**	P	**Pn**	**08 52 54.9**	**+0.8**
INU	**Inuyama**	**5.16**	**321**		**Pn**	**08 52 58.9**	**+1.5**
JAG	**Ashikaga**	**5.17**	**346**	P	**Pn**	**08 52 56.9**	**-0.5**
JGF	**Kuroka**	**5.18**	**325**		**Pn**	**08 52 59.5**	**+1.9**
MJAR	**Matsushiro Arr**	**5.62**	**336**	P	**Pn**	**08 53 05.9**	**+2.2**
	0.3nm,0.3s,baz=160,slow=14,SNR=18						
MJAR				LR	LR	08 54 45.2	
	comp=Z,8.4nm,20.2s,baz=135,slow=32						
MAT	**Matsushiro**	**5.62**	**336**	P	**Pn**	**08 53 06.0**	**+2.3**
MAT				*e*S	**Sn**	**08 54 04.9**	**-2.1**
JWT	**Wachi**	**6.08**	**311**	Pn	**Pn**	**08 53 12.0**	**+2.0**
JMM	**Marumori**	**6.44**	**358**		**Pn**	**08 53 13.5**	**-1.3**
JNU	**Nakatsue**	**8.76**	**284**	LR	LR	08 57 05.6	
	comp=Z,43nm,20.1s,baz=240,slow=37						
KSRS	**Korea Array**	**12.37**	**303**	P	**P**	**08 54 42.6**	**-3.6**
	baz=111,slow=13,SNR=5.0						
KSRS				LR	LR	08 59 35.3	
	comp=Z,21nm,18.3s,baz=115,slow=38						
YHNB	**Yeheng**	**18.59**	**254**	P	**P**	**08 55 55.1**	**-0.2**
YHNB				IAmb	IAmb	08 56 13.2	
	comp=Z,24nm,1.0s						
NACB	**Ninganchiao**	**18.63**	**252**	P	**P**	**08 55 54.8**	**-0.8**
YULB	**Yu-li**	**19.23**	**250**	P	**P**	**08 56 00.8**	**-1.6**
YULB				IAmb	IAmb	08 56 06.0	
	comp=Z,24nm,1.2s						
SSLB	**Suanglung**	**19.32**	**252**	P	**P**	**08 56 03.9**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**26.01**	**110**	T	T	09 25 22.3	
	baz=304,slow=74,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**26.02**	**110**	T	T	09 25 22.3	
	baz=90,slow=74,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**26.03**	**110**	T	T	09 25 22.3	
	SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**26.51**	**113**	T	T	09 26 07.7	
	baz=304,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**26.51**	**113**	T	T	09 25 53.2	
	baz=304,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**26.53**	**113**	T	T	09 25 59.7	
	baz=304,slow=75,SNR=16						
SONM	**Songino Array**	**30.99**	**312**	P	**P**	**08 57 56.2**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=108,slow=9.5,SNR=4.5						
SONM	**Songino Array**	**30.99**	**312**	P	**P**	**08 57 55.0**	**+0.3**
MYLDM	**Lahad Datu**	**33.58**	**224**	P	**P**	**08 58 17.5**	**0.0**
SAUI	**Saumlaki**	**40.26**	**195**	P	**P**	**08 59 13.9**	**-0.3**
KULM	**Kulim**	**45.88**	**244**	P	**P**	**09 00 00.0**	**+0.3**
KULM				IAmb	IAmb	09 00 22.2	
	comp=Z,9.3nm,1.1s						
MK31	**Makanchi Array**	**47.02**	**307**	P	**P**	**09 00 09.4**	**+1.1**
MKAR	**Makanchi Array**	**47.02**	**307**	P	**P**	**09 00 09.1**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=93,slow=9.4,SNR=7.3						
KURK	**Kurchatov**	**49.29**	**312**	P	**P**	**09 00 26.1**	**+0.3**
KURBB	**Kurchatov Arra**	**49.35**	**312**	P	**P**	**09 00 26.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=91,slow=9.1,SNR=2.7						
WB0	**Warramunga Arr**	**51.28**	**188**	P	**P**	**09 00 40.4**	**-0.7**
WB0				IAmb	IAmb	09 01 02.8	
	comp=Z,5.9nm,1.1s						
WRAB	**Tennant Creek**	**51.45**	**188**	P	**P**	**09 00 42.1**	**-0.2**
WRAB				IAmb	IAmb	09 00 42.7	
	comp=Z,7.9nm,1.4s						
WR0	**Warramunga Arr**	**51.46**	**188**	P	**P**	**09 00 41.9**	**-0.4**
WR0				IAmb	IAmb	09 00 54.8	
	comp=Z,4.6nm,1.3s						
WB2	**Warramunga Arr**	**51.46**	**188**	P	**P**	**09 00 41.9**	**-0.4**
WB2				IAmb	IAmb	09 00 49.7	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**51.47**	**188**	P	**P**	**09 00 42.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=5.1,slow=7.7,SNR=17						
WRA	**Warramunga Arr**	**51.47**	**188**	P	**P**	**09 00 41.8**	**-0.6**
IMAR	**Indian Mountai**	**51.69**	**28**	P	**P**	**09 00 44.2**	**+0.6**
PMR	**Palmer**	**53.39**	**34**	P	**P**	**09 00 57.1**	**+1.0**
ILAR	**Eielson Array**	**54.46**	**30**	P	**P**	**09 01 05.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=258,slow=6.1,SNR=4.7						
PAX	**Paxson**	**55.09**	**32**	P	**P**	**09 01 09.0**	**+0.4**
PAX				IAmb	IAmb	09 01 36.1	
	comp=Z,3.7nm,1.2s						
AS31	**Alice Springs**	**55.19**	**188**	P	**P**	**09 01 08.8**	**-0.9**
ASAR	**Alice Springs**	**55.19**	**188**	P	**P**	**09 01 09.1**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=8.3,slow=7.0,SNR=8.4						
ASAR	**Alice Springs**	**55.19**	**188**	P	**P**	**09 01 10.0**	**+0.3**
KKAR	**Karatay Array**	**55.80**	**303**	P	**P**	**09 01 14.3**	**+0.3**
KKAR	**Karatay Array**	**55.80**	**303**	P	**P**	**09 01 13.4**	**-0.6**
KKAR				IAmb	IAmb	09 01 16.0	
	comp=Z,1.8nm,0.7s						
ABKAR	**Akbulak array**	**61.40**	**313**	P	**P**	**09 01 53.3**	**+0.6**
AKTO	**Aktyubinsk**	**62.27**	**314**	P	**P**	**09 02 00.4**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=61,slow=15,SNR=3.7						
STKA	**Stephens Creek**	**62.95**	**179**	P	**P**	**09 02 03.5**	**+0.3**
	comp=Z,0.4nm,0.2s,baz=333,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**73.64**	**333**	P	**P**	**09 03 11.2**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=61,slow=4.8,SNR=3.6						
NVAR	**Mina Array Bea**	**78.66**	**52**	P	**P**	**09 03 40.3**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=285,slow=5.8,SNR=4.5						
NB2	**NORSAR Subarra**	**79.24**	**338**	P	**P**	**09 03 42.5**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**79.24**	**338**	P	**P**	**09 03 42.3**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=42,slow=5.4,SNR=8.1						
PDAR	**Pinedale Array**	**81.86**	**45**	P	**P**	**09 03 57.6**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=280,slow=0.9,SNR=3.9						
TXAR	**Lajitas Array**	**93.81**	**52**	P	**P**	**09 04 56.2**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=295,slow=2.7,SNR=14						
LPAZ	**La Paz**	**149.50**	**67**	PKPbc	**PKiKP**	**09 11 28.6**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=346,slow=3.8,SNR=7.1						

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*HEL **19** 08:59:54.2±0.3, 64°.62N×30°.72E, h0km, ML1.9, Explosion*
*IDC **19** 08:59:56.3±2.9, 64°.64N×31°.03E, h0km, mb1 2.9/3, mb1mx2.8/36, mbtmp2.7/3, ML2.1/3, Error ellipse: s-maj=40.8km s-min=10.0km az=102.0*
*KOLA **19** 08:59:57.3, 64°.84N×30°.04E, h0km*

ISC 19 08:59:56.4±1.2, 64°.78N±0°.04×30°.66E±0°.06, h0km, n20, σ1^{s}22/31, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.29**	**346**	PG	**Pg**	**09 00 20.6**	**-0.5**
	baz=164						
KU6				MSG		09 00 38.0	
	comp=Z,11nm,0.2s						
KU6				SN	**Sn**	**09 00 40.2**	**+0.6**
MSF	**Maaselka**	**1.32**	**330**	PG	**Pg**	**09 00 20.9**	**-0.8**
	baz=150						
MSF				SG	**Sn**	**09 00 40.2**	**-0.2**
OUL	**Oulu**	**2.05**	**281**	PG	**Pn**	**09 00 32.6**	**+0.5**
OUL				SG	**Sn**	**09 00 59.1**	**+0.8**
OUF	**Merijarvi**	**2.59**	**263**	PG	**Pn**	**09 00 40.5**	**+1.0**
	baz=86						
OUF				MSG		09 01 10.9	
	comp=Z,7.9nm,0.2s						
OUF				SG	**Sn**	**09 01 13.8**	**+2.1**
RNF	**Rovaniemi**	**2.66**	**316**	PG	**Pb**	**09 00 44.4**	**-0.3**
RNF				SB	**Sb**	**09 01 17.3**	**-0.6**
OBF0	**Syolatti, Pyha**	**2.78**	**267**	PG	**Pn**	**09 00 44.4**	**+2.3**
	baz=80						
OBF0				SG	**Sb**	**09 01 20.5**	**-0.8**
SUF	**Sumiainen**	**2.88**	**226**	PG	**Pn**	**09 00 44.1**	**+0.6**
	baz=42						
SUF				MSG		09 01 16.3	
	comp=Z,4.4nm,0.2s						
SUF				SG	**Sn**	**09 01 21.6**	**+2.9**
TOF	**Tornio**	**2.95**	**299**	PG	**Pb**	**09 00 49.3**	**-0.5**
TOF				MSG		09 01 23.9	
	comp=Z,3.8nm,0.2s						
APA0	**Apatity Array**	**2.99**	**17**	P	**Pn**	**09 00 45.7**	**+0.7**
APA0				S	**Sn**	**09 01 22.0**	**+0.5**
VRF	**Varrio**	**3.01**	**352**	PB	**Pn**	**09 00 47.1**	**+1.9**
VRF				MSG		09 01 27.5	
	comp=Z,2.3nm,0.2s						
APA	**Apatity**	**3.01**	**20**	P	**Pn**	**09 00 46.3**	**+1.0**
APA				S	**Sn**	**09 01 22.8**	**+0.8**
SGF	**Sodankyl**	**3.16**	**330**	SB	**Sb**	**09 01 32.2**	**0.0**
KEF	**Keuruu**	**3.69**	**227**	PB	**Pn**	**09 00 55.4**	**+0.8**
ERTU	**Ertsjaerv**	**3.93**	**301**	PB	**Pn**	**09 01 00.2**	**+2.3**
FIA0	**FINESS Array S**	**3.94**	**214**	PB	**Pn**	**09 00 58.1**	**0.0**
FINES	**FINESS Array B**	**3.94**	**214**	Pn	**Pn**	**09 00 56.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=353,slow=32,SNR=1.7						
FINES				Pg	**Pb**	**09 01 06.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=37,slow=29,SNR=4.0						
FINES				Lg	Lg	09 01 56.5	
	comp=Z,1.1nm,0.3s,baz=36,slow=28,SNR=8.4						
BURU	**Burvik**	**3.99**	**271**	PN	**Pn**	**09 00 57.6**	**-1.1**
UMAU	**Umeaa**	**4.43**	**263**	PN	**Pn**	**09 01 04.5**	**-0.3**
ARCES	**ARCESS Array B**	**5.18**	**340**	Pn	**Pn**	**09 01 14.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=6.0						
ARCES				Sn	**Sn**	**09 02 14.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=157,slow=25,SNR=2.1						
ARCES				Lg	Lg	09 02 34.7	
	comp=Z,0.8nm,0.3s,baz=165,slow=29,SNR=5.4						
NOA	**NORSAR Array B**	**9.61**	**256**	Pn	**Pn**	**09 02 14.6**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=58,slow=12,SNR=1.1						

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*TAP **19** 09:04:56.0, 24°.61N×122°.90E, h99km, ML2.8, C*
*JMA **19** 09:04:56.0±0.2, 24°.47N×122°.89E, h101km±2km, M1.6*

ISC 19 09:04:56.6±1.5, 24°.53N±0°.06×122°.89E±0°.03, h95km±9km, n41, σ0^{s}82/77, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.09**	**148**	P	**Pn**	**09 05 10.2**	**+0.3**
JYNG				S	**Sn**	**09 05 20.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.13**	**121**	P	**Pn**	**09 05 10.2**	**+0.3**
	baz=152						
YOJ				S	**Sn**	**09 05 20.6**	**+0.6**
	baz=152						
YOJ	**Yonaguni jima**	**0.13**	**121**	P	**Pn**	**09 05 10.2**	**+0.3**
YOJ				S	**Sn**	**09 05 20.5**	**+0.6**
IRIF	**Iriomote-Funau**	**0.79**	**104**	P	**Pn**	**09 05 14.4**	**0.0**
IRIF				S	**Sn**	**09 05 27.5**	**-0.2**
TWC	**Suao**	**0.95**	**275**	*e*P	**Pn**	**09 05 15.8**	**-0.3**
	baz=269						
TWC				S	**Sn**	**09 05 29.4**	**-1.3**
	baz=269						
HATJ	**Hateruma jima**	**0.96**	**119**	S	**Sn**	**09 05 31.3**	**+0.5**
ENA	**Nanau**	**1.05**	**265**	*e*P	**Pn**	**09 05 17.1**	**-0.1**
	baz=254						
ENA				*e*S	**Sn**	**09 05 33.3**	**+0.5**
	baz=254						
JKRS	**Kuro-shima**	**1.06**	**106**	P	**Pn**	**09 05 17.8**	**+0.5**
JKRS				S	**Sn**	**09 05 33.4**	**+0.6**
TIPB	**Shuangxi**	**1.07**	**295**	P	**Pn**	**09 05 17.2**	**-0.2**
	baz=284						
TIPB				*e*S	**Sn**	**09 05 32.8**	**-0.3**
	baz=284						
JIJ	**Ishigaki jima**	**1.15**	**98**	P	**Pn**	**09 05 18.2**	**-0.2**
JIJ				S	**Sn**	**09 05 33.9**	**-0.9**
ENTT	**Nioudou**	**1.21**	**276**	P	**Pn**	**09 05 19.5**	**+0.4**
	baz=268						
NACB	**Ninganchiao**	**1.23**	**254**	P	**Pn**	**09 05 18.7**	**-0.6**
	baz=242						
NACB				S	**Sn**	**09 05 34.5**	**-2.0**
	baz=242						
NDT	**Datong Townshi**	**1.26**	**274**	P	**Pn**	**09 05 20.2**	**+0.6**
	baz=269						
NDT				S	**Sn**	**09 05 37.1**	**+0.1**
	baz=269						
NWLT	**Wulai**	**1.29**	**281**	P	**Pn**	**09 05 19.9**	**-0.1**
	baz=283						
NWLT				S	**Sn**	**09 05 36.7**	**-1.0**
	baz=283						
JISG	**Ishigakijimahi**	**1.29**	**87**	P	**Pn**	**09 05 19.8**	**-0.2**
JISG				S	**Sn**	**09 05 37.0**	**-0.7**
ETLH	**Xiulin Townshi**	**1.32**	**256**	P	**Pn**	**09 05 20.1**	**-0.5**
	baz=246						
ETLH				S	**Sn**	**09 05 37.8**	**-0.8**
	baz=246						
NNSB	**Datong**	**1.38**	**266**	P	**Pn**	**09 05 21.3**	**+0.1**
	baz=254						
NNSB				*e*S	**Sn**	**09 05 38.2**	**-1.6**
	baz=254						
NNSH	**Datong**	**1.38**	**266**	P	**Pn**	**09 05 21.3**	**+0.1**
	baz=255						
NNSH				S	**Sn**	**09 05 39.4**	**-0.4**
	baz=255						
YHNB	**Yeheng**	**1.39**	**276**	P	**Pn**	**09 05 21.5**	**+0.2**
	baz=265						
YHNB				S	**Sn**	**09 05 39.5**	**-0.4**
	baz=265						
NSK	**Sanguang**	**1.40**	**276**	P	**Pn**	**09 05 21.6**	**+0.1**
	baz=264						
NSK				*e*S	**Sn**	**09 05 39.6**	**-0.6**
	baz=264						
FUSS	**Fushou**	**1.53**	**260**	P	**Pn**	**09 05 23.5**	**+0.3**
	baz=256						
FUSS				S	**Sn**	**09 05 43.2**	**-0.1**
	baz=256						
WHF	**Hehuan Shan**	**1.53**	**256**	P	**Pn**	**09 05 23.2**	**-0.3**
	baz=258						
WHF				*e*S	**Sn**	**09 05 42.9**	**-0.7**
	baz=258						
TDCB	**Techi**	**1.60**	**261**	*e*P	**Pn**	**09 05 24.4**	**+0.3**
	baz=253						
TDCB				*e*S	**Sn**	**09 05 44.3**	**-0.5**
	baz=253						
CHGB	**Renai**	**1.64**	**254**	P	**Pn**	**09 05 24.6**	**+0.1**
	baz=244						
CHGB				S	**Sn**	**09 05 44.8**	**-0.9**
	baz=244						
JTJ	**Tarama**	**1.65**	**86**	P	**Pn**	**09 05 24.6**	**+0.1**
JTJ				*e*S	**Sn**	**09 05 45.1**	**-0.6**
HGSD	**Ruisui**	**1.69**	**233**	*e*P	**Pn**	**09 05 24.6**	**-0.4**
	baz=227						
HGSD				*e*S	**Sn**	**09 05 45.8**	**-0.8**
	baz=227						
NSTT	**Nanjuang**	**1.73**	**274**	*e*S	**Sn**	**09 05 46.8**	**-0.5**
	baz=269						
VWDT	**VWDT**	**1.78**	**245**	P	**Pn**	**09 05 26.3**	**+0.2**
	baz=242						
VWDT				*e*S	**Sn**	**09 05 48.2**	**-0.3**
	baz=242						
WHP	**Taichung City**	**1.79**	**262**	*e*P	**Pn**	**09 05 27.4**	**+1.1**
	baz=255						
WHP				*e*S	**Sn**	**09 05 49.2**	**+0.2**
	baz=255						
YULB	**Yu-li**	**1.85**	**233**	*e*P	**Pn**	**09 05 26.3**	**-0.7**
	baz=239						
YULB				*e*S	**Sn**	**09 05 48.4**	**-1.7**
	baz=239						
TWF1	**Yuli**	**1.87**	**232**	P	**Pn**	**09 05 26.8**	**-0.5**
	baz=238						
TWF1				*e*S	**Sn**	**09 05 49.5**	**-1.2**
	baz=238						
SSLB	**Suanglung**	**1.92**	**248**	*e*P	**Pn**	**09 05 28.0**	**0.0**
	baz=245						
SSLB				*e*S	**Sn**	**09 05 52.1**	**+0.3**
	baz=245						
SMLT	**Sun Moon Lake**	**1.93**	**251**	*e*P	**Pn**	**09 05 29.2**	**+1.0**
	baz=244						
SMLT				*e*S	**Sn**	**09 05 53.2**	**+1.0**
	baz=244						
TYC	**Yuchr**	**1.96**	**252**	*e*P	**Pn**	**09 05 29.4**	**+1.0**
	baz=244						
TYC				*e*S	**Sn**	**09 05 53.8**	**+1.1**
	baz=244						
JIRB	**Irabujima**	**2.10**	**81**	S	**Sn**	**09 05 55.3**	**-0.6**
WJS	**Zhushan**	**2.10**	**251**	*e*S	**Sn**	**09 05 57.0**	**+1.0**
	baz=248						
EDH	**Donghe**	**2.12**	**224**	*e*P	**Pn**	**09 05 29.6**	**-1.0**
	baz=219						
EDH				*e*S	**Sn**	**09 05 54.2**	**-2.4**
	baz=219						
ALS	**Alishan**	**2.16**	**242**	*e*P	**Pn**	**09 05 32.1**	**+0.7**
	baz=234						
ALS				*e*S	**Sn**	**09 05 58.0**	**+0.1**
	baz=234						
CHN5	**Tsauling**	**2.23**	**246**	*e*P	**Pn**	**09 05 33.4**	**+1.4**
	baz=236						
CHN5				*e*S	**Sn**	**09 06 00.1**	**+1.0**
	baz=236						
CHN4	**Tsaushan**	**2.41**	**241**	*e*P	**Pn**	**09 05 35.8**	**+1.4**
	baz=232						
CHN4				*e*S	**Sn**	**09 06 04.0**	**+0.7**
	baz=232						
SLGT	**Liugui**	**2.56**	**234**	*e*P	**Pn**	**09 05 37.9**	**+1.5**
	baz=225						
SLGT				*e*S	**Sn**	**09 06 08.6**	**+1.6**
	baz=225						

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*TAP **19** 09:18:57.3, 24°.87N×122°.24E, h10km, ML2.6, C*
*JMA **19** 09:18:58.8±0.2, 24°.85N×122°.28E, h34km, M1.5*

ISC 19 09:18:57.8±1.1, 24°.87N±0°.04×122°.27E±0°.03, h12km±10km, n27, σ0^{s}39/50, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.29**	**298**	P	**Pg**	**09 19 03.5**	**-0.3**
	baz=300						
TWB1				S	**Sg**	**09 19 07.4**	**-0.3**
	baz=300						
EGS		**0.31**	**265**	*e*P	**Pg**	**09 19 03.5**	**-0.5**
	baz=263						
EGS				*e*S	**Sg**	**09 19 08.2**	**-0.1**
	baz=263						
NTC	**Toucheng**	**0.40**	**267**	*e*S	**Sg**	**09 19 11.8**	**+0.7**
	baz=267						
TIPB	**Shuangxi**	**0.42**	**284**	P	**Pg**	**09 19 06.4**	**+0.3**
	baz=284						
TIPB				S	**Sg**	**09 19 12.3**	**+0.7**
	baz=284						
TWC	**Suao**	**0.47**	**236**	*i* P	**Pg**	**09 19 06.8**	**-0.1**
	baz=232						
TWC				S	**Sg**	**09 19 13.8**	**+0.7**
	baz=232						
NWF	**Wu-fen Shan**	**0.49**	**294**	*e*P	**Pg**	**09 19 07.4**	**+0.1**
	baz=295						
NWF				*e*S	**Sg**	**09 19 14.3**	**+0.5**
	baz=295						
WFSB	**Wu-fen Shan**	**0.49**	**294**	*e*P	**Pg**	**09 19 07.7**	**+0.4**
	baz=295						
WFSB				*e*S	**Sg**	**09 19 14.4**	**+0.6**
	baz=295						
ILA	**Ilan**	**0.49**	**257**	*e*S	**Sb**	**09 19 14.7**	**-0.7**
	baz=256						
TWE	**Neicheng**	**0.57**	**255**	*e*P	**Pg**	**09 19 09.0**	**+0.1**
	baz=253						
TWE				*e*S	**Sb**	**09 19 17.5**	**-0.2**
	baz=253						
ENAH	**Nanao**	**0.59**	**225**	*e*P	**Pg**	**09 19 09.7**	**+0.3**
	baz=222						
ENAH				*e*S	**Sb**	**09 19 18.6**	**+0.1**
	baz=222						
TWA	**Mucha**	**0.63**	**280**	*e*P	**Pg**	**09 19 09.9**	**-0.2**
	baz=279						
TWA				*e*S	**Sb**	**09 19 19.5**	**-0.1**
	baz=279						
ENA	**Nanau**	**0.66**	**227**	*e*P	**Pg**	**09 19 10.6**	**+0.1**
	baz=225						
ENA				*e*S	**Sb**	**09 19 20.2**	**-0.1**
	baz=225						
ENTT	**Nioudou**	**0.68**	**250**	P	**Pg**	**09 19 11.2**	**+0.2**
	baz=248						
ENTT				S	**Sb**	**09 19 21.8**	**+0.8**
	baz=248						
YM01	**YM01**	**0.69**	**293**	P	**Pb**	**09 19 11.7**	**-0.1**
	baz=293						
YM01				S	**Sb**	**09 19 21.2**	**-0.1**
	baz=293						
YM11	**YM11**	**0.70**	**295**	*e*P	**Pg**	**09 19 11.3**	**0.0**
	baz=295						
YM11				*e*S	**Sb**	**09 19 21.5**	**0.0**
	baz=295						
YM05	**YM05**	**0.70**	**294**	*e*S	**Sb**	**09 19 21.9**	**+0.2**
	baz=295						
YM10	**YM10**	**0.70**	**294**	*e*P	**Pg**	**09 19 11.2**	**-0.2**
	baz=294						
YM10				*e*S	**Sg**	**09 19 21.0**	**+0.3**
	baz=294						
TAP	**Taipei**	**0.71**	**284**	*e*P	**Pg**	**09 19 11.1**	**-0.5**
	baz=283						
TAP				*e*S	**Sb**	**09 19 21.8**	**-0.1**
	baz=283						
YM03	**YM03**	**0.73**	**295**	*e*P	**Pg**	**09 19 11.9**	**0.0**
	baz=295						
YM03				*e*S	**Sb**	**09 19 22.3**	**-0.2**
	baz=295						
NDT	**Datong Townshi**	**0.74**	**249**	*

PBSI	**Pulau Batu**	**1.65**	**163**	P		**Pg**	**09 28 37.9**	**+1.9**
PSI	**Prapat**	**1.69**	**42**	Pn		**Pb**	**09 28 35.9**	**+0.4**
	8.3nm,0.3s,baz=180,slow=10.0,SNR=25							
PSI				Sn		**Sn**	**09 28 54.0**	**-1.8**
	21nm,0.3s,baz=360,slow=14,SNR=7.4							
TPTI		**1.82**	**340**	P		**Pn**	**09 28 36.0**	**+0.2**
MNSI	**Mandailing Nat**	**1.92**	**112**	P		**Pb**	**09 28 40.1**	**+0.6**
MLSI	**Meulaboh, Aceh**	**3.05**	**333**	P		**Pn**	**09 28 53.2**	**+0.5**
BKNI	**Bangkinang**	**3.45**	**110**	P		**Pg**	**09 29 09.7**	**-0.9**
PDSI	**Padang**	**3.60**	**132**	P		**Pb**	**09 29 08.5**	**+0.3**
LHMI	**Lhok Sumawe**	**3.77**	**347**	Pn		**Pn**	**09 29 04.9**	**+2.4**
IPM	**Ipoh**	**4.35**	**48**			**Pn**	**09 29 11.8**	**+1.2**
SDSI	**Sungai Dareh**	**4.38**	**124**	P		**Pb**	**09 29 22.7**	**+1.3**
KULM	**Kulim**	**4.69**	**37**			**Pn**	**09 29 17.5**	**+2.3**
CMAR	**Chiang Mai Arr**	**16.86**	**4**	P		**P**	**09 32 07.7**	**+5.0**
	0.3nm,0.3s,baz=201,slow=12,SNR=4.3							
H08S2	**Diego Garcia H**	**26.84**	**250**	T		T	10 01 08.6	
	baz=71,slow=75,SNR=113							
H08S3	**Diego Garcia H**	**26.84**	**250**	T		T	10 01 02.0	
	baz=71,slow=75,SNR=83							
H08S1	**Diego Carcia H**	**26.86**	**250**	T		T	10 01 08.6	
	baz=71,slow=75,SNR=130							
YULB	**Yu-li**	**31.48**	**45**	P		**P**	**09 34 27.0**	**+0.5**
PSA00	**Pilbara Seismi**	**31.49**	**138**	P		**P**	**09 34 26.0**	**-0.6**
PSA00				IAmb		IAmb	09 34 44.6	
	comp=Z,7.0nm,1.2s							
WB0	**Warramunga Arr**	**41.67**	**122**	P		**P**	**09 35 52.0**	**-1.5**
WB0				IAmb		IAmb	09 36 22.3	
	comp=Z,13nm,1.6s							
WRA	**Warramunga Arr**	**41.70**	**123**	P		**P**	**09 35 52.2**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=301,slow=9.0,SNR=14							
WRA				PcP		**PcP**	**09 37 50.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=314,slow=2.6,SNR=7.4							
WRA	**Warramunga Arr**	**41.70**	**123**	P		**P**	**09 35 52.9**	**-0.8**
WRAB	**Tennant Creek**	**41.71**	**123**	P		**P**	**09 35 52.5**	**-1.3**
WB2	**Warramunga Arr**	**41.71**	**123**	P		**P**	**09 35 52.1**	**-1.7**
WB2				IAmb		IAmb	09 36 19.7	
	comp=Z,5.0nm,1.2s							
WR0	**Warramunga Arr**	**41.88**	**123**	P		**P**	**09 35 54.2**	**-1.0**
WR0				IAmb		IAmb	09 36 07.4	
	comp=Z,3.1nm,0.8s							
KBL	**Kabul**	**42.40**	**324**	P		**P**	**09 35 57.4**	**-2.1**
KBL				IAmb		IAmb	09 36 31.3	
	comp=Z,9.1nm,1.6s							
ASAR	**Alice Springs**	**43.12**	**128**	P		**P**	**09 36 04.3**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=302,slow=8.0,SNR=13							
ASAR				PcP		**PcP**	**09 37 54.9**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=255,slow=1.7,SNR=5.8							
ASAR	**Alice Springs**	**43.12**	**128**	P		**P**	**09 36 03.6**	**-1.7**
SONM	**Songino Array**	**46.72**	**8**	P		**P**	**09 36 33.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=188,slow=7.1,SNR=1.8							
MKAR	**Makanchi Array**	**47.07**	**345**	P		**P**	**09 36 35.2**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=158,slow=7.7,SNR=9.1							
MKAR	**Makanchi Array**	**47.07**	**345**	P		**P**	**09 36 35.1**	**-1.2**
STKA	**Stephens Creek**	**53.13**	**133**	P		**P**	**09 37 22.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=334,slow=8.3,SNR=3.6							
ZAA0	**Zalesovo Array**	**53.33**	**350**	P		**P**	**09 37 23.9**	**+0.3**
ABKAR	**Akbulak array**	**57.51**	**332**	P		**P**	**09 37 52.7**	**-1.1**
FINES	**FINESS Array B**	**79.98**	**332**	P		**P**	**09 40 12.2**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=261,slow=36,SNR=1.3							
TXAR	**Lajitas Array**	**143.07**	**32**	PKhKP		PKPpre	09 47 34.5	
	comp=Z,0.2nm,0.9s,baz=28,slow=4.1,SNR=1.9							

*NEIC **19** 09:33:24.4±2.5, 38°.34N±0°.04×21°.86E±0°.02, h10km±2km, Error ellipse: s-maj=7.7km s-min=3.0km az=194.0*
*ATH **19** 09:33:24.7, 38°.36N×21°.83E, h14km±1km, ML3.6/18, Error ellipse: s-maj=1.4km s-min=0.6km az=241.0*
*IDC **19** 09:33:24.8±1.0, 38°.49N×21°.73E, h0km, mb3.7/8, mb1 3.7/13, mb1mx3.6/44, mbtmp3.7/13, ML3.8/5, MS2.9/3, Ms1 2.9/3, ms1mx2.5/31, Error ellipse: s-maj=20.6km s-min=16.3km az=139.0*
*THE **19** 09:33:25.1, 38°.38N×21°.83E, h11km±1km, ML3.5/19, Error ellipse: s-maj=1.2km s-min=0.5km az=61.0*
*BEO **19** 09:33:32.3±0.7, 39°.01N×22°.11E, h0km, ML3.2/3*
ISC 19 09:33:25.1±0.8, 38°.38N±0°.01×21°.81E±0°.01, h10km±5km, n141, σ1§22/180, mb3.9/11, 1C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.09**	**55**	P	**Pg**	**09 33 27.4**	**-0.1**
EFP				S	**Sg**	**09 33 29.5**	**+0.1**
	148μm,0.3s						
EFP	**Efpalio**	**0.09**	**55**	P	**Pg**	**09 33 27.5**	**-0.1**
EFP				S	**Sg**	**09 33 29.5**	**+0.1**
EFP				AML	AML	09 33 29.9	
EFP				AML	AML	09 33 30.4	
ANX	**Ano Chora**	**0.23**	**21**	P	**Pg**	**09 33 30.1**	**+0.1**
ANX				S	**Sg**	**09 33 33.6**	**+0.3**
	36μm,0.5s						
ANX	**Ano Chora**	**0.23**	**21**	P	**Pg**	**09 33 30.1**	**+0.1**
ANX				S	**Sg**	**09 33 34.0**	**+0.7**
ANX				AML	AML	09 33 34.5	
	comp=E,67265μm,0.5s						
ANX				AML	AML	09 33 35.4	
	comp=N,72530μm,0.5s						
ALIK	**Aliki, Aigiali**	**0.26**	**116**	P	**Pg**	**09 33 30.4**	**0.0**
AXS	**Araxos**	**0.39**	**243**	P	**Pg**	**09 33 32.4**	**-0.3**
AXS				S	**Sb**	**09 33 39.1**	**-0.9**
AXS	**Araxos**	**0.39**	**243**	P	**Pg**	**09 33 32.5**	**-0.3**
AXS				S	**Sg**	**09 33 38.7**	**+0.9**
AXS				AML	AML	09 33 41.8	
	comp=E,7260μm,0.3s						
AXS				AML	AML	09 33 42.1	
	comp=N,7423μm,0.2s						
RLS	**Riolos of Patr**	**0.42**	**221**	P	**Pg**	**09 33 33.3**	**0.0**
RLS				S	**Sb**	**09 33 40.1**	**-0.8**
	comp=N,7μm,0.7s						
RLS	**Riolos of Patr**	**0.42**	**221**	P	**Pg**	**09 33 33.4**	**+0.1**
RLS				S	**Sg**	**09 33 39.3**	**+0.5**
RLS				AML	AML	09 33 40.8	
	comp=E,9493μm,0.4s						
RLS				AML	AML	09 33 40.9	
	comp=N,14042μm,0.6s						
KLV	**Kalavryta, Ach**	**0.42**	**141**	P	**Pg**	**09 33 32.9**	**-0.5**
KLV				S	**Sg**	**09 33 40.0**	**+1.0**
	comp=N,5μm,0.4s						
KLV	**Kalavryta, Ach**	**0.42**	**141**	P	**Pg**	**09 33 33.1**	**-0.3**
KLV				S	**Sg**	**09 33 39.0**	**0.0**
KLV				AML	AML	09 33 41.7	
	comp=E,10441μm,0.3s						
KLV				AML	AML	09 33 42.4	
	comp=N,10484μm,0.3s						
EVR	**Evrytania**	**0.54**	**360**	P	**Pg**	**09 33 35.4**	**-0.2**
EVR				S	**Sg**	**09 33 42.9**	**+0.1**
	comp=N,8μm,0.6s						
EVR	**Evrytania**	**0.54**	**360**	P	**Pg**	**09 33 35.5**	**-0.1**
EVR				S	**Sb**	**09 33 44.1**	**-0.5**
EVR				AML	AML	09 33 50.1	
	comp=E,15542μm,0.6s						
EVR				AML	AML	09 33 50.6	
	comp=N,14789μm,0.6s						
DLFA	**Delphi**	**0.55**	**79**	P	**Pg**	**09 33 35.1**	**-0.6**
DSF	**Desfina**	**0.56**	**86**	P	**Pg**	**09 33 35.2**	**-0.8**
DSF				S	**Sb**	**09 33 44.3**	**-0.8**
	comp=N,5μm,0.4s						
GUR	**Goura**	**0.60**	**136**	P	**Pg**	**09 33 36.0**	**-0.8**
GUR				S	**Sg**	**09 33 44.4**	**-0.5**
	comp=N,14μm,0.5s						
GUR	**Goura**	**0.60**	**136**	P	**Pg**	**09 33 36.0**	**-0.8**
GUR				S	**Sg**	**09 33 44.3**	**-0.5**
GUR				AML	AML	09 33 46.8	
	comp=N,26500μm,0.3s						
GUR				AML	AML	09 33 48.0	
	comp=E,25315μm,0.3s						
VTN	**Vitineika**	**0.67**	**227**	P	**Pb**	**09 33 38.7**	**-0.2**
VTN	**Vitineika**	**0.67**	**227**	P	**Pb**	**09 33 38.6**	**-0.3**
AXAR	**Agios Charalam**	**0.77**	**59**	P	**Pg**	**09 33 38.9**	**-1.0**
AXAR				S	**Sb**	**09 33 51.2**	**+0.1**
	comp=E,9μm,0.8s						
AXAR	**Agios Charalam**	**0.77**	**59**	P	**Pg**	**09 33 39.3**	**-0.6**
AXAR				S	**Sb**	**09 33 50.9**	**-0.2**
AXAR				AML	AML	09 33 56.2	
	comp=N,17264μm,0.4s						
AXAR				AML	AML	09 33 57.9	
	comp=E,13245μm,0.6s						
TRIP	**Tripoli**	**0.92**	**157**	P	**Pg**	**09 33 41.7**	**-1.1**
TRIP				S	**Sb**	**09 33 56.3**	**+0.9**
	comp=E,3μm,0.5s						
TRIP	**Tripoli**	**0.92**	**157**	P	**Pg**	**09 33 42.0**	**-0.7**
TRIP				S	**Sg**	**09 33 54.2**	**-0.6**
TRIP				AML	AML	09 34 03.5	
	comp=N,6523μm,0.5s						
TRIP				AML	AML	09 34 04.6	
	comp=E,6622μm,0.9s						
EVGI	**Lefkada island**	**0.94**	**286**	P	**Pg**	**09 33 42.5**	**-0.7**
LKR	**Lokris**	**0.97**	**73**	P	**Pg**	**09 33 42.7**	**-1.1**
LKR				S	**Sb**	**09 33 57.1**	**+0.3**
	comp=E,2μm,0.3s						
LKR	**Lokris**	**0.97**	**73**	P	**Pg**	**09 33 43.1**	**-0.7**
LKR				AML	AML	09 34 02.0	
	comp=N,3072μm,0.3s						
LKR				AML	AML	09 34 03.0	
	comp=E,2641μm,0.2s						
LTK	**Loutraki**	**0.97**	**111**	P	**Pg**	**09 33 43.3**	**-0.5**
LTK				S	**Sn**	**09 33 58.2**	**-0.5**
	comp=E,3μm,0.5s						
LTK	**Loutraki**	**0.97**	**111**	P	**Pg**	**09 33 43.1**	**-0.7**
LTK				S	**Sg**	**09 33 56.1**	**-0.4**
LTK				AML	AML	09 34 00.4	
	comp=E,6142μm,0.6s						
LTK				AML	AML	09 34 03.2	
	comp=N,4883μm,0.4s						
VLS	**Valsamata**	**0.98**	**259**	P	**Pg**	**09 33 43.0**	**-0.9**
VLS				S	**Sn**	**09 33 59.5**	**+0.6**
	comp=N,3μm,0.2s						
VLS	**Valsamata**	**0.98**	**259**	P	**Pg**	**09 33 43.0**	**-0.9**
VLS				S	**Sb**	**09 33 57.5**	**+0.4**
VLS				AML	AML	09 34 00.4	
	comp=N,7661μm,0.2s						
VLS				AML	AML	09 34 02.4	
	comp=E,3643μm,0.3s						
FSK	**Fiskardo**	**0.99**	**275**	P	**Pg**	**09 33 42.9**	**-1.1**
FSK				S	**Sn**	**09 33 59.1**	**+0.2**
	comp=E,3μm,0.7s						
FSK	**Fiskardo**	**0.99**	**275**	P	**Pg**	**09 33 43.0**	**-1.0**
FSK				S	**Sb**	**09 33 57.9**	**+0.6**
FSK				AML	AML	09 34 03.5	
	comp=N,4814μm,0.4s						
FSK				AML	AML	09 34 05.7	
	comp=E,5029μm,0.3s						
LKD2	**Lefkada island**	**0.99**	**295**	P	**Pg**	**09 33 43.4**	**-0.8**
LKD2	**Lefkada island**	**0.99**	**295**	P	**Pg**	**09 33 43.7**	**-0.5**
LKD2				S	**Sn**	**09 33 58.4**	**-0.8**
LKD2				AML	AML	09 34 08.5	
	comp=E,9279μm,0.4s						
LKD2				AML	AML	09 34 10.0	
	comp=N,5410μm,0.5s						
TSLK	**Tsoukalades, L**	**1.01**	**297**	P	**Pg**	**09 33 43.8**	**-0.7**
TSLK	**Tsoukalades, L**	**1.01**	**297**	P	**Pg**	**09 33 43.5**	**-1.0**
VLMS	**Volimes, Zakyn**	**1.03**	**242**	P	**Pg**	**09 33 44.2**	**-0.8**
VLMS				S	**Sn**	**09 33 59.4**	**-0.7**
VLMS				AML	AML	09 34 02.3	
	comp=E,11693μm,0.2s						
VLMS				AML	AML	09 34 03.6	
	comp=N,13764μm,0.3s						
KEF5	**Kardakata, Kep**	**1.06**	**265**	P	**Pg**	**09 33 44.3**	**-1.2**
ARGA	**Argostoli. Kep**	**1.07**	**260**	P	**Pb**	**09 33 44.7**	**-0.9**
ARGA				S	**Sb**	**09 33 59.8**	**+0.2**
KEF4	**Livadi, Kephal**	**1.10**	**264**	P	**Pb**	**09 33 45.1**	**-1.0**
VLX	**Vlachokerasia**	**1.10**	**156**	P	**Pb**	**09 33 44.7**	**-1.5**
VLX				S	**Sn**	**09 34 02.2**	**+0.4**
	comp=N,4μm,0.6s						
VLX	**Vlachokerasia**	**1.10**	**156**	P	**Pb**	**09 33 45.1**	**-1.1**
VIL2	**Platees**	**1.16**	**98**	P	**Pg**	**09 33 48.2**	**+0.9**
VIL2				S	**Sn**	**09 34 03.8**	**+0.6**
VIL2				AML	AML	09 34 12.7	
	comp=N,3683μm,0.5s						
VIL2				AML	AML	09 34 13.0	
	comp=E,7437μm,1.1s						
ITM	**Ithomi**	**1.20**	**176**	P	**Pb**	**09 33 47.4**	**-0.4**
ITM				S	**Sn**	**09 34 04.6**	**+0.5**
	comp=E,3μm,0.7s						
ITM	**Ithomi**	**1.20**	**176**	P	**Pb**	**09 33 47.0**	**-0.8**
ITM				S	**Sn**	**09 34 04.3**	**+0.2**
ITM				AML	AML	09 34 08.5	
	comp=N,7378μm,0.7s						
ITM				AML	AML	09 34 08.8	
	comp=E,3764μm,0.7s						
ITM	**Ithomi**	**1.20**	**176**		**Pb**	**09 33 47.4**	**-0.4**
THL	**Klokotos Trika**	**1.20**	**7**	P	**Pb**	**09 33 47.2**	**-0.6**
THL				S	**Sn**	**09 34 05.1**	**+0.9**
	comp=E,1μm,0.6s						
THL	**Klokotos Trika**	**1.20**	**7**	P	**Pb**	**09 33 47.8**	**0.0**
VILL	**Villia**	**1.20**	**100**	P	**Pb**	**09 33 47.5**	**-0.4**
VILL				S	**Sn**	**09 34 04.0**	**-0.3**
	comp=E,3μm,0.9s						
VOL3	**Nea Ionia, Vol**	**1.33**	**41**	P	**Pn**	**09 33 46.9**	**-2.8**
VOL2	**Volos**	**1.33**	**42**	P	**Pg**	**09 33 51.6**	**+1.0**
NEO	**Neokhori**	**1.44**	**49**	P	**Pn**	**09 33 51.4**	**+0.2**
NEO	**Neokhori**	**1.44**	**49**	P	**Pb**	**09 33 51.6**	**-0.4**
KRND	**KRANIDI**	**1.45**	**133**	P	**Pn**	**09 33 51.4**	**+0.1**
KRND	**KRANIDI**	**1.45**	**133**	P	**Pn**	**09 33 51.6**	**+0.3**
XOR	**Xorichti**	**1.46**	**47**	P	**Pn**	**09 33 51.7**	**+0.2**
XOR	**Xorichti**	**1.46**	**47**	P	**Pn**	**09 33 51.9**	**+0.4**
PYL	**PYLOS**	**1.48**	**182**	P	**Pb**	**09 33 51.7**	**0.0**
PYL	**PYLOS**	**1.48**	**182**	P	**Pn**	**09 33 51.5**	**-0.2**
ATH	**Athens Observa**	**1.55**	**104**	P	**Pb**	**09 33 53.4**	**-0.5**
ATH				S	**Sn**	**09 34 12.6**	**-0.3**
	comp=E,2μm,0.9s						
ATHU	**Athens Univers**	**1.61**	**104**	P	**Pn**	**09 33 53.8**	**+0.3**
ATHU				S	**Sb**	**09 34 14.7**	**-0.5**
	comp=E,402nm,0.7s						
ATHU	**Athens Univers**	**1.61**	**104**	P	**Pb**	**09 33 54.2**	**-0.6**
ATHU				S	**Sb**	**09 34 14.7**	**-0.5**
ATHU				AML	AML	09 34 18.7	
	comp=E,469μm,0.8s						
ATHU				AML	AML	09 34 20.5	
	comp=N,1078μm,0.6s						
KPRO	**Kipourio**	**1.62**	**348**	P	**Pg**	**09 33 56.1**	**0.0**
IGT	**Igoumenitsa**	**1.63**	**316**	*e*Pn	**Pg**	**09 33 57.4**	**+1.0**
IGT				*e*Sg	**Sg**	**09 34 19.7**	**+2.1**
IGT	**Igoumenitsa**	**1.63**	**316**	P	**Pg**	**09 33 56.3**	**-0.1**
VLY	**Voula,Athens**	**1.65**	**108**	P	**Pb**	**09 33 54.8**	**-0.7**
VLY	**Voula,Athens**	**1.65**	**108**	P	**Pn**	**09 33 54.7**	**+0.6**
PTL	**Penteli**	**1.65**	**101**	P	**Pn**	**09 33 54.5**	**+0.4**
PTL	**Penteli**	**1.65**	**101**	P	**Pb**	**09 33 54.9**	**-0.7**
DION	**Dionisos Attik**	**1.70**	**99**	P	**Pb**	**09 33 55.5**	**-0.8**
DION	**Dionisos Attik**	**1.70**	**99**	P	**Pb**	**09 33 55.6**	**-0.7**
LIT	**Litokhoron**	**1.80**	**17**	P	**Pn**	**09 33 56.7**	**+0.5**
LIT	**Litokhoron**	**1.80**	**17**	P	**Pb**	**09 33 57.6**	**-0.6**
LIT	**Litokhoron**	**1.80**	**17**	Pn	**Pn**	**09 33 56.5**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.81**	**81**	P	**Pn**	**09 33 56.8**	**+0.5**
VLI	**Velia1**	**1.88**	**151**	P	**Pn**	**09 33 57.8**	**+0.6**
KZN	**Kozani**	**1.93**	**359**	P	**Pb**	**09 34 00.1**	**-0.2**
KARY	**Karystos**	**2.10**	**99**	P	**Pn**	**09 34 01.1**	**+0.9**
KTHA	**Kythira Island**	**2.34**	**154**	P	**Pn**	**09 34 03.8**	**+0.3**
PLG	**Polygyros**	**2.36**	**32**	P	**Pn**	**09 34 03.1**	**-0.8**
FNA	**Florina**	**2.43**	**352**	*e*Pn	**Pb**	**09 34 07.3**	**-1.6**
FNA				*e*Sg	**Sn**	**09 34 29.9**	**-4.7**
FNA	**Florina**	**2.43**	**352**	P	**Pb**	**09 34 07.7**	**-1.2**
FNA	**Florina**	**2.43**	**352**		**Pb**	**09 34 07.7**	**-1.2**
HORT	**Hortiatis**	**2.43**	**24**	P	**Pn**	**09 34 04.7**	**-0.2**
HORT	**Hortiatis**	**2.43**	**24**	P	**Pn**	**09 34 05.1**	**+0.2**
SOH	**Sokhos**	**2.72**	**25**	P	**Pn**	**09 34 09.0**	**+0.2**
OHR	**Ohrid**	**2.84**	**344**	*i* Pn	**Pb**	**09 34 17.5**	**+1.6**
VAY	**Valandovo**	**3.00**	**11**	*i* Pn	**Pn**	**09 34 15.2**	**+2.5**
SRS	**Serrai**	**3.06**	**26**	*e*Pn	**Pn**	**09 34 11.2**	**-2.3**
SCTE	**Santa Cesarea**	**3.10**	**304**		**Pn**	**09 34 13.6**	**-0.5**
APE	**Apeiranthos**	**3.22**	**113**	⇓P	**Pn**	**09 34 14.4**	**-1.4**
APE	**Apeiranthos**	**3.22**	**113**	⇓S	**Sn**	**09 34 53.5**	**-0.7**
TIR	**Tirane**	**3.33**	**334**	⇓P	**Pn**	**09 34 20.1**	**+3.0**
TIR	**Tirane**	**3.33**	**334**	Pn	**Pn**	**09 34 15.9**	**-1.2**
SANT	**Santorini**	**3.53**	**123**	Pn	**Pn**	**09 34 18.4**	**-1.5**
SKO	**Skopje**	**3.60**	**356**	*i* Pn	**Pn**	**09 34 23.9**	**+2.9**
IDI	**Anoyia**	**3.95**	**140**	Pn	**Pn**	**09 34 29.8**	**+4.0**
	comp=N,2.8nm,0.3s,baz=303,slow=12,SNR=9.9						
IDI				Sn	**Sn**	**09 35 10.6**	**-1.5**
	comp=N,2.1nm,0.3s,baz=258,slow=12,SNR=2.1						
IDI	**Anoyia**	**3.95**	**140**	⇓P	**Pn**	**09 34 30.0**	**+4.3**
IDI	**Anoyia**	**3.95**	**140**		**Pn**	**09 34 24.5**	**-1.2**
TIP	**Timpagrande**	**4.03**	**283**		**Pn**	**09 34 28.2**	**+1.3**
ALN	**Alexandroupoli**	**4.13**	**51**	Pn	**Pn**	**09 34 26.6**	**-1.5**
BOSS	**Bosilegrad**	**4.15**	**7**	*e*Pn	**Pn**	**09 34 27.0**	**-1.4**
BOSS				*e*Sg	**Sb**	**09 35 23.3**	**-5.0**
PDG	**Podgorica**	**4.50**	**335**	⇑P	**Pn**	**09 34 31.2**	**-2.0**
PDG	**Podgorica**	**4.50**	**335**	Pn	**Pn**	**09 34 32.5**	**-0.6**
MATE	**Matera**	**4.56**	**301**	⇓P	**Pb**	**09 34 42.1**	**-3.0**
SELS	**Selova**	**4.87**	**354**	*e*Pn	**Pn**	**09 34 39.3**	**+1.0**
SJES	**Sjenica**	**5.08**	**345**	*e*Pn	**Pn**	**09 34 42.6**	**+1.3**
KARP	**Karpathos**	**5.13**	**122**	Pn	**Pn**	**09 34 40.5**	**-1.4**
STON	**Ston**	**5.47**	**326**	*e*Pg	**Pg**	**09 35 11.8**	**+2.0**
GRUS	**Gruza**	**5.57**	**352**	*e*Pn	**Pn**	**09 34 48.1**	**+0.2**
SGRT	**San Giovanni R**	**5.75**	**308**	Pn	**Pn**	**09 34 51.5**	**+1.0**
DIVS	**Divibare**	**5.88**	**347**	*e*Pn	**Pn**	**09 34 53.4**	**+1.1**
DIVS	**Divibare**	**5.88**	**347**	Pn	**Pn**	**09 34 51.9**	**-0.4**
RAFF	**Raffo Rosso**	**6.01**	**261**	Pn	**Pn**	**09 34 51.4**	**-2.6**
PAOL	**Paolisi**	**6.18**	**298**		**Pn**	**09 34 56.2**	**-0.2**
MLR	**Muntele Rosu**	**7.75**	**22**	Pn	**Pn**	**09 35 19.2**	**+1.2**
	comp=N,0.3nm,0.3s,baz=129,slow=15,SNR=1.8						
BRTR	**Keskin Array B**	**9.30**	**78**	Pn	Pn	09 35 44.0	+4.8
	comp=N,0.2nm,0.3s,baz=271,slow=14,SNR=2.5						
TEOL	**Teolo**	**10.29**	**316**	Pn	**Pn**	**09 35 53.3**	**+0.7**
STAL	**STALIGIAL**	**10.36**	**322**	Pn	**Pn**	**09 35 54.5**	**+0.8**
ZOU	**Zoufplan**	**10.46**	**324**	Pn	**Pn**	**09 35 54.7**	**-0.5**
GERES	**GERESS Array B**	**11.99**	**333**	LR	LR	09 41 54.4	
	comp=N,162nm,19.2s,baz=130,slow=43						
KHC	**Kasperske Hory**	**12.28**	**334**	Pn	**Pn**	**09 36 17.5**	**-2.4**
AKASG	**Malin Array Be**	**13.40**	**21**	Pn	**Pn**	**09 36 34.1**	**-1.0**
	comp=N,0.9nm,0.3s,baz=307,slow=30,SNR=2.3						
ESDC	**Sonseca Array**	**20.05**	**282**	P	Pn	09 37 59.9	-0.2
	comp=N,0.1nm,0.3s,baz=73,slow=10,SNR=12						
MDT	**Midelt**	**22.15**	**264**	P	**P**	**09 38 22.4**	**+1.3**
	comp=N,2.3nm,0.9s,baz=105,slow=3.5,SNR=4.6						
HFS	**Hagfors**	**22.38**	**349**	P	**P**	**09 38 24.4**	**+1.2**
	comp=N,1.1nm,0.4s,baz=165,slow=13,SNR=1.8						
FINES	**FINESS Array B**	**23.25**	**5**	P	**P**	**09 38 31.9**	**-0.3**
	comp=N,1.0nm,0.8s,baz=160,slow=22,SNR=1.6						
FINES				LR	LR	09 49 36.8	
	comp=N,22nm,19.7s,baz=192,slow=42						
FINES	**FINESS Array B**	**23.25**	**5**	P	**P**	**09 38 29.9**	**-2.3**
FIA1	**FINESS Array S**	**23.25**	**5**	P	**P**	**09 38 29.5**	**-2.7**
FIA1				IAmb	IAmb	09 38 44.6	
	comp=Z,4.9nm,1.1s						
NB2	**NORSAR Subarra**	**23.64**	**347**	P	**P**	**09 38 36.4**	**+0.2**
	comp=Z,6.7nm,1.2s,baz=157,slow=10						
NOA	**NORSAR Array B**	**23.64**	**347**	P	**P**	**09 38 35.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=146,slow=9.6,SNR=3.9						
NOA				LR	LR	09 50 20.7	
	comp=Z,12nm,19.0s,baz=185,slow=43						
NC303	**NORSAR Array S**	**23.79**	**347**	P	**P**	**09 38 35.8**	**-1.8**
EKA	**Eskdalemuir Ar**	**23.86**	**323**	P	**P**	**09 38 37.6**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=120,slow=10,SNR=8.8						
NC204	**NORSAR Array S**	**23.94**	**347**	P	**P**	**09 38 39.0**	**-0.1**
NC204				IAmb	IAmb	09 38 52.7	
	comp=Z,11nm,1.1s						
TOA0	**Torodi Ar. Sit**	**30.83**	**221**	P	**P**	**09 39 42.4**	**+1.1**
TOA0				IAmb	IAmb	09 39 43.2	
	comp=Z,4.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**30.83**	**221**	P	**P**	**09 39 41.9**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=30,slow=8.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**30.83**	**221**	P	**P**	**09 39 42.0**	**+0.8**
MK31	**Makanchi Array**	**44.33**	**59**	P	**P**	**09 41 36.3**	**+1.1**
MKAR	**Makanchi Array**	**44.33**	**59**	P	**P**	**09 41 36.2**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=276,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**44.33**	**59**	P	**P**	**09 41 36.5**	**+1.3**
SONM	**Songino Array**	**59.55**	**51**	P	**P**	**09 43 29.8**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=270,slow=5.9,SNR=4.4						

*NNC **19** 10:01:23.9±0.5, 43°.71N×69°.74E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=2.5km s-min=1.7km az=131.0, Suspected Mining explosion.*
*KRNET **19** 10:01:29.3±0.1, 43°.28N×69°.35E, mb3.0*
*SOME **19** 10:01:29.3, 43°.43N×69°.93E*
ISC 19 10:01:31.4±3.4, 43°.2N±0°.1×69°.6E±0°.2, h0km, n13, σ1§70/23, 14C-12D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.65**	**100**	⇑P	**Pg**	**10 01 39.9**	**-3.9**
	1.8nm,0.3s,baz=318,slow=16,SNR=117						
KK31				⇑S	**Sg**	**10 01 51.6**	**-0.7**
	112nm,0.8s,baz=318,slow=29,SNR=105			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	5.4nm,0.5s						
TNSS				*e*S	**Sb**	**10 05 53.5**	**-0.9**
	5.9nm,0.6s						
MNBS	**Baschi**	**3.34**	**337**	*e*P	**Pb**	**10 05 17.0**	**-1.8**
	4.0nm,0.4s						
MNBS				*e*S	**Sb**	**10 06 01.1**	**+1.6**
	11nm,0.1s						
CHKK	**Chushkaly**	**3.70**	**321**	*e*P	**Pb**	**10 05 22.1**	**-2.8**
	0.7nm,0.2s						
CHKK				*e*S	**Sb**	**10 06 10.0**	**+0.3**
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**3.92**	**301**	⇑Pg	**Pn**	**10 05 21.2**	**+1.4**
	2.7nm,1.1s						
TKM2				⇓Lg	Lg	10 06 14.2	
	2.2nm,0.7s						

MOS ***19*** *10:08:14.7±0.0, 42°.98N×45°.50E, h9km, MPVA3.7*
NORS ***19*** *10:08:14.6±0.0, 42°.94N×45°.57E, h18km, MPVA3.6*
DRS ***19*** *10:08:15.7±0.0, 43°.03N×44°.97E, h21km*
TIF ***19*** *10:08:16.1, 43°.27N×45°.31E, h24km±1km*

ISC 19 10:08:17.6±1.0,**42°.99N**±0°.03×**45°.49E**±0°.02,**h19**km±3km,
n34,σ1**9**61/64,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.31**	**47**	*e*Pg	**Pg**	**10 08 22.2**	**-2.1**
GROC				*e*Sg	**Sg**	**10 08 28.3**	**-0.6**
KMGR	**Komgaron**	**0.46**	**278**	*e*Pg	**Pg**	**10 08 26.7**	**-0.4**
KMGR				*e*Sg	**Sb**	**10 08 33.8**	**+0.1**
VLKR	**Vladikavkaz**	**0.60**	**275**	*e*Pg	**Pb**	**10 08 28.7**	**-0.7**
VLKR				*e*Sg	**Sg**	**10 08 38.6**	**+1.0**
BTLR	**Botlikh**	**0.63**	**121**	*e*Pg	**Pb**	**10 08 29.1**	**-0.8**
BTLR				*e*Sg	**Sb**	**10 08 40.0**	**-1.4**
BTKR	**Batakoyurt**	**0.79**	**299**	*e*Pg	**Pb**	**10 08 32.6**	**-0.1**
BTKR				*e*Sg	**Sn**	**10 08 45.8**	**+0.7**
LACR	**Lac**	**0.89**	**260**	*e*Pg	**Pb**	**10 08 33.5**	**-1.0**
LACR				*e*Sg	**Sg**	**10 08 46.2**	**-0.7**
ARNR	**Ardon**	**0.90**	**282**	*e*Pg	**Pn**	**10 08 34.9**	**-0.4**
ARNR				*e*Sg	**Sn**	**10 08 48.3**	**+0.5**
TRKR	**Terskaya**	**0.92**	**323**	*e*Pg	**Pg**	**10 08 35.9**	**+0.4**
TRKR				*e*Sg	**Sn**	**10 08 49.4**	**+1.3**
DBC	**Dubki**	**0.98**	**88**	*e*Pg	**Pb**	**10 08 35.4**	**-0.6**
DBC				*e*Sg	**Sg**	**10 08 48.8**	**-0.9**
XNZR	**Khunzakh**	**1.00**	**116**	*e*Pg	**Pn**	**10 08 35.9**	**-0.9**
XNZR				*e*Sg	**Sn**	**10 08 49.7**	**-0.8**
KORR	**Kora**	**1.05**	**276**	*e*Pg	**Pn**	**10 08 37.1**	**-0.2**
KORR				*e*Sg	**Sg**	**10 08 53.4**	**+1.7**
STDR	**Stavd-Durt**	**1.11**	**290**	*e*Pg	**Pn**	**10 08 38.1**	**0.0**
STDR				*e*Sg	**Sg**	**10 08 54.4**	**+0.8**
PRTR	**Priterechnaya**	**1.16**	**311**	*e*Pg	**Pn**	**10 08 38.2**	**-0.6**
PRTR				*e*Sg	**Sg**	**10 08 56.0**	**+0.6**
ZEI	**Tsey**	**1.19**	**261**	*e*Pg	**Pn**	**10 08 38.3**	**-1.0**
ZEI				*e*Sg	**Sn**	**10 08 54.7**	**-0.3**
BUJR	**Buynaksk**	**1.20**	**98**	*e*Pg	**Pb**	**10 08 39.2**	**-0.5**
BUJR				*e*Sg	**Sg**	**10 08 58.5**	**+1.9**
GNBR	**Gunib**	**1.24**	**119**	*e*Pg	**Pg**	**10 08 40.7**	**-0.9**
GNBR				*i* Sg	**Sg**	**10 08 57.9**	**-0.1**
LSNR	**Lesken**	**1.25**	**284**	*e*Pg	**Pn**	**10 08 40.0**	**-0.1**
LSNR				*e*Sg	**Sg**	**10 08 58.9**	**+0.7**
LGD	**Lagodekhi**	**1.28**	**154**	*e*Pg	**Pb**	**10 08 40.7**	**-0.5**
LGD				*e*Sg	**Sg**	**10 08 58.3**	**-1.0**
LGD	**Lagodekhi**	**1.28**	**154**	P	**Pb**	**10 08 40.5**	**-0.7**
LGD				S	**Sg**	**10 08 58.3**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.41**	**267**	*e*Pg	**Pn**	**10 08 41.7**	**-0.6**
MAK	**Makhachkala**	**1.48**	**91**	*e*Pg	**Pn**	**10 08 42.4**	**-0.7**
MAK				*e*Sg	**Sg**	**10 09 06.7**	**+1.3**
ONI	**Oni**	**1.55**	**256**	*e*Pg	**Pb**	**10 08 44.9**	**-0.8**
ONI				*e*Sg	**Sg**	**10 09 06.5**	**-1.3**
ONI	**Oni**	**1.55**	**256**	P	**Pn**	**10 08 43.9**	**-0.4**
ONI				S	**Sb**	**10 09 04.1**	**-1.0**
DDFL	**Dedoflistskaro**	**1.62**	**163**	*e*Pg	**Pg**	**10 08 50.8**	**+2.0**
DDFL				*e*Sg	**Sg**	**10 09 16.2**	**+6.4**
DDFL	**Dedoflistskaro**	**1.62**	**163**	P	**Pg**	**10 08 50.8**	**+2.0**
DDFL				S	**Sg**	**10 09 16.2**	**+6.4**
TRLG	**Trialeti**	**1.78**	**216**	P	**Pg**	**10 08 50.3**	**-1.6**
TRLG				S	**Sg**	**10 09 15.2**	**+0.1**
URKR	**Urkarakh**	**1.79**	**117**	*e*Pg	**Pb**	**10 08 49.1**	**-0.6**
URKR				*e*Sg	**Sb**	**10 09 12.3**	**+0.5**
BKRG	**Bakuriani**	**1.91**	**230**	*e*Pg	**Pb**	**10 08 50.5**	**-1.4**
BKRG	**Bakuriani**	**1.91**	**230**	P	**Pb**	**10 08 50.5**	**-1.4**
BKRG				S	**Sg**	**10 09 18.1**	**-1.1**
DMNI	**Dmanisi**	**1.92**	**211**	P	**Pb**	**10 08 51.1**	**-1.0**
DMNI				S	**Sg**	**10 09 17.6**	**-2.0**
BEYR	**Belyy Ugol+**	**2.19**	**299**	*e*Pg	**Pn**	**10 08 54.4**	**+1.3**
SHA1	**Shidzhatmaz**	**2.20**	**291**	*e*Pg	**Pn**	**10 08 53.8**	**+0.5**
SHA1				*e*Sg	**Sb**	**10 09 23.9**	**+0.1**
KIV	**Kislovodsk**	**2.26**	**296**	*e*Pn	**Pn**	**10 08 54.4**	**+0.4**
GOF	**Gofitskoye**	**2.71**	**320**	*e*Pn	**Pn**	**10 09 02.7**	**+2.5**
GOF				*e*Sn	**Sn**	**10 09 35.3**	**+2.8**

IDC 19 10:20:12.8±6.9,**17°.85N×120°.33E, h0**km,**mb3.2**/3,
mb1 3.5/3,**mb1mx3.2**/28,**mbtmp3.2**/3,**Error ellipse:**
s-maj=365.2km s-min=34.8km az=89.0,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.00**	**159**	P	P	10 27 49.4	-0.2
	0.2nm,0.8s,baz=339,slow=9.1,SNR=4.8						
ASAR	**Alice Springs**	**43.34**	**162**	P	P	10 28 16.9	0.0
	0.1nm,0.6s,baz=344,slow=7.0,SNR=1.5						
ILAR	**Eielson Array**	**75.20**	**26**	P	P	10 31 57.0	0.0
	0.2nm,0.7s,baz=276,slow=5.1,SNR=3.3						

SJA ***19*** *10:22:49.5±0.6, 35°.56S×73°.58W, h19km±34km, ML4.6, MW4.8*
IDC ***19*** *10:22:52.1±0.6, 35°.66S×73°.04W, h0km, mb4.4/11, mb1 4.5/14, mb1mx4.4/23, mbtmp4.4/14, ML4.2/3, MS4.1/17, Ms1 4.1/17, ms1mx3.9/23, Error ellipse: s-maj=25.1km s-min=16.2km az=87.0*
VAO ***19*** *10:22:54.1±0.7, 35°.61S×73°.54W, h22km, mb4.7*
GUC ***19*** *10:22:54.8±0.7, 35°.64S×73°.02W, h26km±4km, ML4.8*
NEIC ***19*** *10:22:55.6, 35°.68S×72°.93W, h21km, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr-7.37; Mθθ0.63; Mφφ6.74; Mrθ-2.28; Mθφ0.62; Mφr-4.88; Fault plane solution: M0 8.91000×1015 NP1:φs 177.04000°, δ27.74000°, λ-107.51000°. NP2:φs 16.66000°, δ63.65000°, λ-81.01000°. Principal axes: T 8.4714, Plg18.0000°, Azm100.0000°; N 0.8216, Plg8.0000°, Azm193.0000°; P -9.2930, Plg70.0000°, Azm306.0000°;*
NEIC ***19*** *10:22:55.1±1.6, 35°.68S±0°.03×72°.97W±0°.04, h21km±1km, mb5.0/159, Mwr4.6/24, ML4.8(GUC) Error ellipse: s-maj=6.0km s-min=4.7km az=311.0*

ISC 19 10:22:53.9±1.2,**35°.63S**±0°.03×**73°.14W**±0°.04,**h13**km±7km,
n314,σ1**9**31/314,**mb5.0**/84,**MS4.2**/17,**3C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.17**	**58**	⇑*i*P	**Pn**	**10 23 13.8**	**-2.2**
GO05				*e*S	**Sb**	**10 23 26.9**	**-4.2**
GO05	**Huala**	**1.17**	**58**		**Pn**	**10 23 13.9**	**-2.2**
GO05				Sn	**Sb**	**10 23 29.5**	**-1.5**
GO05	**Huala**	**1.17**	**58**	*i* P	**Pn**	**10 23 13.9**	**-2.2**
GO05				*i* S	**Sb**	**10 23 29.5**	**-1.5**
BI03	**Tigo**	**1.22**	**176**	*e*P	**Pn**	**10 23 15.3**	**-1.3**
BI03				*i* S	**Sb**	**10 23 30.7**	**-1.7**
BI03	**Tigo**	**1.22**	**176**		**Pn**	**10 23 15.4**	**-1.2**
BI03				Sn	**Sb**	**10 23 30.9**	**-1.5**
LAJA	**Laja**	**1.69**	**168**	*e*P	**Pn**	**10 23 21.9**	**-1.2**
LAJA				*i* S	**Sn**	**10 23 42.8**	**-1.8**
BI02	**San Fabin de**	**1.83**	**125**	⇑*i*P	**Pn**	**10 23 23.7**	**-1.4**
BI02				*i* S	**Sn**	**10 23 46.1**	**-2.2**
BI02				IAML		10 23 50.0	
	comp=E,13μm,0.3s						
BI02	**San Fabin de**	**1.83**	**125**		**Pn**	**10 23 23.8**	**-1.4**
BI02					**Sn**	**10 23 46.4**	**-2.0**
BO02	**Sierra Bellavi**	**2.10**	**67**	*e*P	**Pn**	**10 23 28.1**	**-0.9**
BO02				*i* S	**Sn**	**10 23 53.0**	**-2.0**
BO02	**Sierra Bellavi**	**2.10**	**67**		**Pn**	**10 23 27.6**	**-1.4**
BO02					**Sn**	**10 23 55.2**	**+0.2**
CANA	**Caviahue**	**2.81**	**144**	*i* P	**Pn**	**10 23 40.2**	**+1.6**
CANA				*i* S	**Sn**	**10 24 13.3**	**+0.8**
CANA				IAML		10 24 31.7	
	comp=Z,2μm,1.0s						
BI04	**Isla Mocha**	**2.84**	**192**	*e*P	**Pn**	**10 23 38.1**	**-0.9**
BI04				IAML		10 24 30.4	
	comp=N,5μm,0.4s						
VA01	**Torpederas**	**2.88**	**26**		**Pn**	**10 23 38.5**	**-1.0**
VA01				Sn	**Sn**	**10 24 15.1**	**+1.1**
MT02	**Curacav**	**2.89**	**36**	*e*P	**Pn**	**10 23 38.5**	**-1.1**
MT02				*e*S	**Sn**	**10 24 12.9**	**-1.3**
MT02	**Curacav**	**2.89**	**36**		**Pn**	**10 23 38.6**	**-1.1**
MT02				Sn	**Sn**	**10 24 15.7**	**+1.5**
COIS	**El Sosneado**	**2.95**	**81**	*i* P	**Pn**	**10 23 43.1**	**+2.6**
COIS				*i* S	**Sb**	**10 24 22.4**	**+0.2**
MT05	**Renca**	**2.99**	**42**	*e*P	**Pn**	**10 23 41.1**	**0.0**
MT05				*e*S	**Sn**	**10 24 15.3**	**-1.4**
MT05				IAML		10 24 40.5	
	comp=E,3μm,0.6s						
MT05	**Renca**	**2.99**	**42**		**Pn**	**10 23 41.5**	**+0.4**
MT05				Sn	**Sn**	**10 24 14.6**	**-2.1**
LMEL	**Las Melosas**	**3.00**	**55**	*e*P	**Pn**	**10 23 42.1**	**+0.8**
LMEL				*e*S	**Sn**	**10 24 15.9**	**-1.4**
LMEL				IAML		10 24 33.5	
	comp=N,2μm,0.3s						
MT03	**Universidad Ad**	**3.04**	**46**	*e*P	**Pn**	**10 23 41.5**	**-0.3**
MT03				*e*S	**Sn**	**10 24 16.4**	**-1.7**
MT03				IAML		10 24 29.9	
	comp=N,4μm,0.6s						
EDS3	**Malargue**	**3.05**	**94**	*i* P	**Pn**	**10 23 44.9**	**+2.9**
EDS3				*i* S	**Sb**	**10 24 25.8**	**+0.4**
CLCH	**Cerro Calan**	**3.10**	**45**	*e*P	**Pn**	**10 23 42.3**	**-0.3**
CLCH				*i* S	**Sn**	**10 24 17.3**	**-2.2**
CLCH				IAML		10 24 46.4	
	comp=E,4μm,0.3s						
ROC1	**El Roble**	**3.18**	**34**		**Pn**	**10 23 43.7**	**-0.2**
ROC1	**El Roble**	**3.18**	**34**	*i* P	**Pn**	**10 23 43.5**	**-0.3**
ROC1				*i* S	**Sb**	**10 24 27.5**	**-1.7**
ROCH	**El Roble**	**3.18**	**34**	*e*P	**Pn**	**10 23 43.6**	**-0.3**
ROCH				IAML		10 24 55.6	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**3.21**	**40**	*e*P	**Pn**	**10 23 43.8**	**-0.2**
PEL				*i* S	**Sn**	**10 24 20.7**	**-1.5**
PEL				IAML		10 24 46.2	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**3.21**	**40**		**Pn**	**10 23 44.2**	**+0.2**
PEL	**Peldehue**	**3.21**	**40**	*i* P	**Pn**	**10 23 44.8**	**+0.7**
PEL				*i* S	**Sb**	**10 24 32.4**	**+2.7**
LAMA	**Las Malvinas**	**3.29**	**79**	*i* P	**Pn**	**10 23 47.2**	**+2.0**
LAMA				*i* S	**Sb**	**10 24 33.5**	**+1.4**
LC01	**Cunco**	**3.42**	**163**	*e*P	**Pn**	**10 23 46.1**	**-0.8**
LC01				IAML		10 24 43.2	
	comp=N,2μm,0.4s						
LC01	**Cunco**	**3.42**	**163**	Pn	**Pn**	**10 23 46.5**	**-0.4**
VA03	**San Esteban**	**3.57**	**38**	*e*P	**Pn**	**10 23 49.1**	**-0.1**
VA03				*e*S	**Sn**	**10 24 29.4**	**-1.9**
VA03	**San Esteban**	**3.57**	**38**		**Pn**	**10 23 49.3**	**+0.2**
RFA	**San Rafael**	**3.92**	**79**	*i* P	**Pn**	**10 23 56.3**	**+2.4**
RFA				*i* S	**Sb**	**10 24 52.2**	**+1.7**
RFA				IAML		10 24 58.0	
	comp=Z,1μm,1.3s						
AAGR	**Agrelo**	**4.38**	**56**	*i* P	**Pn**	**10 24 02.2**	**+1.9**
AAGR				IAML		10 25 21.6	
	comp=Z,423nm,1.6s						
ARCO	**CERRO ARCO**	**4.46**	**53**	*i* P	Pn	10 24 04.9	+3.5
ARCO				IAML		10 25 23.8	
	comp=Z,452nm,1.4s						
ASAL	**Salagasta**	**4.68**	**51**	*i* P	**Pn**	**10 24 07.0**	**+2.6**
ASAL				IAML		10 25 28.7	
	comp=Z,660nm,1.9s						
CO02	**Combarbal**	**4.76**	**23**		**Pn**	**10 24 05.1**	**-0.4**
RTLS	**Leoncito**	**4.99**	**41**	*i* P	**Pn**	**10 24 10.1**	**+1.3**
RTLS				IAML		10 25 40.9	
	comp=Z,169nm,1.7s						
H03S1	**Juan Fernandez**	**5.07**	**289**	T	T	10 29 30.3	
	baz=112,slow=75,SNR=7690						
H03S3	**Juan Fernandez**	**5.08**	**289**	T	T	10 29 32.0	
	baz=112,slow=75,SNR=7527						
H03S2	**Juan Fernandez**	**5.09**	**289**	T	T	10 29 26.3	
	baz=112,slow=75,SNR=7152						
VA04	**Juan Fernndez**	**5.09**	**291**	*e*P	**Pn**	**10 24 10.8**	**+0.9**
VA04	**Juan Fernndez**	**5.09**	**291**	Pn	**Pn**	**10 24 11.9**	**+2.0**
CO03	**El Pedregal**	**5.20**	**24**	Pn	**Pn**	**10 24 11.5**	**0.0**
H03N1	**Juan Fernandez**	**5.24**	**293**	T	T	10 29 46.4	
	baz=111,slow=75,SNR=188						
H03N3	**Juan Fernandez**	**5.24**	**293**	T	T	10 29 44.0	
	baz=111,slow=75,SNR=140						
H03N2	**Juan Fernandez**	**5.25**	**293**	T	T	10 29 51.4	
	baz=111,slow=75,SNR=174						
PLCA	**Paso Flores**	**5.49**	**159**	Pn	**Pn**	**10 24 16.2**	**+0.7**
	comp=Z,3.1nm,0.3s,baz=327,slow=11,SNR=66						
PLCA				Lg	Lg	10 25 38.9	
	comp=Z,14nm,0.3s,baz=72,slow=19,SNR=5.2						
PLCA	**Paso Flores**	**5.49**	**159**	*e*P	**Pn**	**10 24 16.3**	**+0.8**
ZON	**Zonda**	**5.52**	**44**	Pn	**Pn**	**10 24 16.2**	**+0.4**
GO04	**Tololo Observa**	**5.79**	**21**		**Pn**	**10 24 18.6**	**-1.2**
RTLL	**Cerro Villicun**	**5.79**	**44**	*i* P	**Pn**	**10 24 20.8**	**+1.1**
RTLL				IAML		10 26 04.7	
	comp=Z,220nm,2.1s						
CO01	**Juntas del Tor**	**6.19**	**25**		**Pn**	**10 24 25.4**	**+0.1**
ACDV	**Cuesta del Vie**	**6.41**	**33**	*i* P	**Pn**	**10 24 29.2**	**+1.1**
ACDV				IAML		10 26 25.6	
	comp=Z,208nm,1.6s						
LL01	**San Ignacio de**	**6.76**	**175**	Pn	**Pn**	**10 24 30.4**	**-2.5**
LCO	**Las Campanas**	**6.91**	**18**		**Pn**	**10 24 34.1**	**-1.1**
MRA	**San Martin**	**6.95**	**65**	*i* P	**Pn**	**10 24 38.0**	**+2.5**
AC05	**El Transito**	**7.19**	**21**		**Pn**	**10 24 38.4**	**-0.5**
AC04	**Llanos de Chal**	**7.61**	**14**	Pn	**Pn**	**10 24 42.9**	**-1.7**
ACLC	**CERRO LA CRUZ**	**8.10**	**42**	*i* P	**Pn**	**10 24 49.3**	**-2.0**
GO03	**Copiap**	**8.38**	**18**		**Pn**	**10 24 53.6**	**-1.7**
AC01	**Pan de Azucar**	**9.70**	**14**	Pn	**Pn**	**10 25 11.2**	**-2.0**
GO02	**Mina Guanaco**	**10.87**	**17**	Pn	**Pn**	**10 25 26.3**	**-3.3**
LVC	**Limon Verde**	**13.49**	**17**	Pn	**Pn**	**10 26 07.1**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=235,slow=10,SNR=2.5						
LVC				LR	LR	10 31 34.7	
	comp=Z,487nm,19.4s,baz=211,slow=39						
LVC	**Limon Verde**	**13.49**	**17**		**Pn**	**10 26 03.8**	**-1.6**
PB07	**IPOC Station P**	**14.14**	**12**	Pn	**Pn**	**10 26 12.5**	**-1.6**
PB09	**IPOC Station P**	**14.20**	**15**	Pn	**Pn**	**10 26 15.7**	**+0.8**
PB01	**IPOC Station P**	**14.88**	**13**		**Pn**	**10 26 24.2**	**0.0**
PB08	**IPOC Station P**	**15.82**	**14**	Pn	**Pn**	**10 26 35.6**	**-1.2**
PB11	**IPOC Station P**	**16.10**	**12**		**Pn**	**10 26 38.5**	**-1.7**
PB11				IAmb	IAmb	10 26 54.5	
	comp=Z,98nm,1.2s						
GO01	**Chusmiza**	**16.28**	**13**		**Pn**	**10 26 40.1**	**-2.7**
MNMC	**Minye Minye**	**16.73**	**12**	Pn	**Pn**	**10 26 47.4**	**-1.0**
PB16	**IPOC Station P**	**17.52**	**12**	P	**Pn**	**10 26 59.5**	**+0.9**
ITAB	**Concordia**	**19.76**	**71**	*e*P	**P**	**10 27 24.7**	**+1.1**
LPAZ	**La Paz**	**19.77**	**14**	P	**Pn**	**10 27 26.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=177,slow=5.3,SNR=20						
LPAZ				LR	LR	10 35 55.4	
	comp=Z,170nm,19.0s,baz=181,slow=40						
LPAZ	**La Paz**	**19.77**	**14**	P	**P**	**10 27 21.3**	**-3.2**
LPAZ	**La Paz**	**19.77**	**14**	*e*P	**P**	**10 27 23.4**	**-1.1**
CNLB	**Canela**	**19.81**	**78**	*e*P	**Pn**	**10 27 28.2**	**+2.3**
PTGB	**Pitanga**	**21.18**	**65**	*e*P	**P**	**10 27 40.7**	**+1.5**
SIV	**San Ignacio**	**22.33**	**32**	P	**P**	**10 27 50.9**	**-0.6**
	comp=Z,11nm,0.8s,baz=215,slow=11,SNR=41						
SIV				LR	LR	10 38 01.9	
	comp=Z,430nm,18.6s,baz=218,slow=41						
NNA	**Nana**	**23.77**	**351**	LR	LR	10 35 10.8	
	comp=Z,245nm,20.2s,baz=194,slow=31						
SPB	**Sao Paulo**	**25.29**	**69**	P	**P**	**10 28 20.3**	**+0.2**
SPB				IAmb	IAmb	10 28 34.2	
	comp=Z,20nm,0.9s						
VILB	**Vilhena**	**25.42**	**31**	*e*P	**P**	**10 28 20.7**	**-0.7**
ITRB	**Iturama**	**25.57**	**58**	*e*P	**P**	**10 28 24.5**	**+1.7**
VAO	**Valinhos**	**25.97**	**68**	*e*P	**P**	**10 28 26.9**	**+0.4**
BB19B	**Bebedouro**	**25.98**	**63**	*e*P	**P**	**10 28 28.1**	**+1.7**
ETMB	**Extrema**	**26.46**	**15**	*e*P	**P**	**10 28 31.4**	**+0.7**
SAML	**Samuel**	**28.07**	**21**	P	**P**	**10 28 44.5**	**-0.7**
ATAH	**Atahualpa**	**28.77**	**349**	LR	LR	10 38 22.7	
	comp=Z,187nm,18.4s,baz=195,slow=32						
PMSA	**Palmer Station**	**29.69**	**172**	LR	LR	10 40 31.8	
	comp=Z,551nm,18.4s,baz=323,slow=36						
BDFB	**Brasilia**	**30.00**	**55**	P	**P**	**10 29 03.7**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=177,slow=4.3,SNR=4.6						
BDFB				LR	LR	10 42 04.7	
	comp=Z,602nm,18.1s,baz=247,slow=38						
BDFB	**Brasilia**	**30.00**	**55**	P	**P**	**10 28 59.8**	**-2.8**
JANB	**Januaria**	**32.94**	**59**	*e*P	**P**	**10 29 30.7**	**+2.3**
MACA	**Manacapuru-AM**	**34.30**	**22**	*e*P	**P**	**10 29 40.0**	**-0.2**
ITTB	**Itaituba**	**35.02**	**31**	*e*P	**P**	**10 29 45.6**	**-0.7**
PTLC	**Puerto Leguiza**	**35.65**	**357**	*e*P	P	10 29 45.3	-6.5
BBAC	**Balboa, Cauca**	**37.65**	**353**	*e*P	**P**	**10 30 05.7**	**-3.4**
PCON	**Cinco Dias**	**37.88**	**355**	*e*P	**P**	**10 30 12.9**	**+1.5**
PRAC	**Prado**	**39.17**	**357**	*e*P	**P**	**10 30 23.6**	**+2.0**
ORTC	**Ortega, Tolima**	**39.38**	**357**	*e*P	**P**	**10 30 22.2**	**-1.1**
CHIC	**Chingaza**	**40.05**	**359**	*e*P	**P**	**10 30 30.8**	**+1.4**
TOLC	**Tolima**	**40.05**	**357**	*e*P	**P**	**10 30 31.8**	**+2.4**
ROSC	**El Rosal**	**40.27**	**358**	LR	LR	10 47 27.0	
	comp=Z,202nm,18.2s,baz=254,slow=37						
GUY2C	**Guyana, Caldas**	**40.69**	**357**	*e*P	**P**	**10 30 36.5**	**+1.8**
RUSC	**La Rusia**	**41.30**	**0**	*e*P	**P**	**10 30 41.0**	**+1.2**
CBOC	**Ciudad Bolivar**	**41.36**	**356**	*e*P	**P**	**10 30 38.1**	**-1.8**
PTBC	**PUERTO BERRIO,**	**41.96**	**358**	*e*P	**P**	**10 30 43.9**	**-0.8**
BARC	**Barichara**	**41.99**	**360**	*e*P	**P**	**10 30 41.9**	**-3.3**
DBBC	**Dabeiba**	**42.52**	**355**	*e*P	**P**	**10 30 51.5**	**+2.3**
ZARC	**Zaragoza, Cauc**	**42.92**	**358**	*e*P	**P**	**10 30 52.6**	**+0.1**
SMLC	**San Martn de**	**44.20**	**359**	*e*P	**P**	**10 31 02.5**	**-0.3**
SDV	**Santo Domingo**	**44.34**	**4**	*e*P	**P**	**10 31 02.5**	**-1.6**
SJCC	**San Jacinto, C**	**45.32**	**357**	*e*P	**P**	**10 31 12.0**	**+0.2**
BELA	**Belgrano 2**	**45.45**	**169**	P	**P**	**10 31 12.7**	**+0.6**
VNA3	**Neumayer Olymp**	**48.21**	**157**	P	**P**	**10 31 34.1**	**+0.3**
VNA1	**Neumayer--Stat**	**48.54**	**156**	P	**P**	**10 31 36.8**	**+0.5**
VNA2	**Neumayer--Watz**	**48.88**	**157**	P	**P**	**10 31 38.2**	**-0.7**
SVB	**Belmont**	**49.92**	**15**	P	**P**	**10 31 48.0**	**+0.6**
SNAA	**Sanae**	**50.43**	**157**	P	**P**	**10 31 50.9**	**+0.1**
SNAA	**Sanae**	**50.43**	**157**	P	**P**	**10 31 50.8**	**0.0**
FDF	**Fort de France**	**51.36**	**15**	P	**P**	**10 31 57.6**	**-0.7**
QSPA	**South Pole Qui**	**54.61**	**180**	P	**P**	**10 32 22.9**	**+1.0**
QSPA				IAmb	IAmb	10 32 24.0	
	comp=Z,17nm,1.1s						
TEIG	**Tepich**	**57.37**	**343**	P	**P**	**10 32 42.9**	**+1.0**
TEIG				IAmb	IAmb	10 32 43.1	
	comp=Z,19nm,0.9s						
VNDA	**Vanda**	**62.33**	**192**	P	**P**	**10 33 16.4**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=145,slow=4.0,SNR=7.4						
VNDA	**Vanda**	**62.33**	**192**	P	**P**	**10 33 15.0**	**-0.5**
SYO	**Syowa Base**	**64.69**	**158**	⇑*e*P	**P**	**10 33 30.1**	**-1.0**
TBI	**Tubuai**	**66.07**	**258**	*e*LR	LR	10 53 28.0	
	comp=Z,176nm,26.0s						
TBI	**Tubuai**	**66.07**	**258**	*e*T	T	11 45 29.9	
	comp=Z,3.6nm,0.2s						
MEH	**Mehetia**	**67.75**	**263**	*e*T	T	11 47 35.4	
	comp=Z,53nm,0.2s						
TVO	**Taravao**	**68.75**	**263**	*e*T	T	11 48 51.3	
	comp=Z,3.6nm,0.3s						
TIAR	**Tiarei**	**68.95**	**263**	*e*T	T	11 49 05.3	
	comp=Z,11nm,0.2s						
PAE	**Paea**	**69.08**	**263**	*e*T	T	11 49 15.4	
	comp=Z,1.6nm,0.3s						
PPT2	**Papeete2**	**69.12**	**263**	*e*S	**S**	**10 43 12.4**	**+6.7**
	comp=Z,62nm,24.0s						
PPT2	**Papeete2**	**69.12**	**263**	*e*LR	LR	10 54 49.6	
	comp=Z,126nm,21.8s						
PPT2	**Papeete2**	**69.12**	**263**	*e*T	T	11 49 17.4	
	comp=Z,2.5nm,0.3s						
PPT	**Papeete**	**69.13**	**263**	LR	LR	10 56 10.7	
	comp=Z,102nm,19.4s,baz=161,slow=29						
GOGA	**Godfrey**	**69.36**	**351**	P	**P**	**10 34 01.6**	**+0.5**
GOGA				IAmb	IAmb	10 34 01.6	
	comp=Z,4.6nm,0.7s						
146A	**Union**	**69.53**	**346**	P	**P**	**10 34 02.3**	**+0.2**
Y52A	**Lilburn**	**69.88**	**350**	P	**P**	**10 34 04.9**	**+0.6**
Y52A				IAmb	IAmb	10 34 13.0	
	comp=Z,14nm,1.1s						
435B	**Jarrell**	**69.94**	**338**	P	**P**	**10 34 06.5**	**+1.7**
435B				IAmb	IAmb	10 34 07.3

comp=Z,17nm,1.1s
PARMO Parma 73.56 346 P P 10 34 26.6 +0.2
X34A Smith Ranch, M 73.58 339 P P 10 34 27.4 +0.8
X34A IAmb IAmb 10 34 36.5
comp=Z,19nm,1.0s
R55A Marlinton 73.83 354 P P 10 34 29.1 +1.0
R55A IAmb IAmb 10 34 38.6
comp=Z,19nm,0.9s
U40A Yellville 73.93 344 P P 10 34 29.3 +0.7
U40A IAmb IAmb 10 34 37.9
comp=Z,16nm,1.2s
WMOK Wichita Mounta 73.98 338 P P 10 34 29.5 +0.5
WMOK IAmb IAmb 10 34 30.6
comp=Z,16nm,1.4s
FNO Franklin 74.06 340 P P 10 34 30.0 +0.6
HHAR Hobbs 74.12 343 P P 10 34 30.2 +0.4
T42A Van Buren 74.19 345 P P 10 34 30.4 +0.3
T42A IAmb IAmb 10 34 38.5
comp=Z,14nm,1.4s
OKCFA Oklahoma City 74.23 340 P P 10 34 31.1 +0.7
TUL1 Leonard 74.23 341 P P 10 34 31.1 +0.7
TUL1 IAmb IAmb 10 34 39.2
comp=Z,19nm,1.0s
OK025 Westminster Rd 74.35 340 P P 10 34 31.8 +0.7
R49A Shelbyville 74.39 350 P P 10 34 31.2 -0.1
R49A IAmb IAmb 10 34 40.0
comp=Z,17nm,1.1s
MGMO Mountain Grove 74.56 344 P P 10 34 32.6 +0.3
MGMO IAmb IAmb 10 34 41.7
comp=Z,12nm,1.1s
MSTX Muleshoe 74.58 335 P P 10 34 33.5 +0.9
MSTX IAmb IAmb 10 34 33.9
comp=Z,11nm,1.0s
OK029 Liberty Lake 74.58 340 P P 10 34 32.5 0.0
OK029 IAmb IAmb 10 34 41.4
comp=Z,16nm,1.0s
QUOK Quay 74.73 340 P P 10 34 33.1 -0.1
AMTX Amarillo 75.04 336 P P 10 34 36.2 +1.0
AMTX IAmb IAmb 10 34 45.8
comp=Z,19nm,1.1s
121A Cookes Peak, D 75.18 330 P P 10 34 37.6 +1.4
121A IAmb IAmb 10 34 39.5
comp=Z,16nm,1.2s
CCM Cathedral Cave 75.21 345 P P 10 34 36.3 +0.3
P51A Williamsport 75.30 352 P P 10 34 36.1 -0.3
S39A Bolivar 75.31 344 P P 10 34 35.9 -0.8
S39A IAmb IAmb 10 34 45.3
comp=Z,13nm,1.3s
P52A Corning 75.35 353 P P 10 34 36.7 0.0
P52A IAmb IAmb 10 34 45.6
comp=Z,15nm,0.8s
T35A Sooner Cattle 75.37 341 P P 10 34 37.8 +0.8
T35A IAmb IAmb 10 34 46.8
comp=Z,18nm,1.0s
P48A Milroy 75.57 350 P P 10 34 37.2 -0.9
P48A IAmb IAmb 10 34 46.5
comp=Z,19nm,1.0s
U32A Winter Ranch, 75.57 339 P P 10 34 38.9 +0.7
U32A IAmb IAmb 10 34 47.6
comp=Z,18nm,0.8s
R40A Maddies Statio 75.65 345 P P 10 34 38.8 +0.2
R40A IAmb IAmb 10 34 48.8
comp=Z,15nm,1.0s
P46A Rosedale 75.99 349 P P 10 34 39.9 -0.6
P46A IAmb IAmb 10 34 49.2
comp=Z,17nm,0.9s
KAN10 Anthony SW Sta 76.00 340 P P 10 34 40.9 +0.3
ACSO Alum Creek Sta 76.03 352 P P 10 34 40.9 +0.2
LIC Lamto 76.15 72 eP P 10 34 41.6 -0.4
comp=Z,31nm,0.8s
BNM Barren Site 76.15 332 P P 10 34 42.8 +1.0
TUC Tucson 76.25 328 P P 10 34 43.4 +1.2
LENM Lemitar 76.30 332 P P 10 34 43.4 +0.8
P43A Skaggs, Pawnee 76.41 347 P P 10 34 43.0 +0.2
TIC Toumodi 76.42 72 eP P 10 34 43.2 -0.3
KIC Kosan Boka 76.45 72 eP P 10 34 42.9 -0.8
comp=Z,28nm,0.9s
DBIC Dimbokro 76.56 72 P P 10 34 43.4 -0.8
comp=Z,2.0nm,0.5s,baz=186,slow=5.0,SNR=6.5
DBIC LR LR 11 05 08.6
comp=Z,124nm,20.7s,baz=198,slow=33
DBIC Dimbokro 76.56 72 IAmb IAmb 10 34 56.0
comp=Z,20nm,1.1s
ANMO Albuquerque 76.79 332 P P 10 34 46.9 +1.5
P40A Paris 76.80 345 P P 10 34 45.3 +0.3
P38A Dawn 77.21 344 P P 10 34 47.1 -0.3
P38A IAmb IAmb 10 34 48.4
comp=Z,25nm,1.3s
R32A Long Quarter, 77.39 340 P P 10 34 48.7 +0.3
R32A IAmb IAmb 10 34 59.0
comp=Z,18nm,0.9s
L56A Greenwood 77.50 357 P P 10 34 48.3 -0.7
L56A IAmb IAmb 10 34 49.8
comp=Z,19nm,1.1s
N41A Harden Midland 77.69 346 P P 10 34 49.2 +0.3
N41A IAmb IAmb 10 34 59.8
comp=Z,21nm,1.0s
T25A Trinidad 78.01 335 P P 10 34 53.8 +1.7
CBKS Cedar Bluff 78.05 339 P P 10 34 51.8 -0.3
N38A Joes South For 78.26 345 P P 10 34 53.1 -0.1
X16A Lo Mia Camp, P 78.33 328 P P 10 34 54.1 +0.1
N35A Tabor 78.88 343 P P 10 34 55.2 -1.3
SDCO Great Sand Dun 78.93 334 P P 10 34 58.9 +1.5
L40A Anamosa 79.07 346 P P 10 34 58.0 +0.4
L40A IAmb IAmb 10 35 06.0
comp=Z,17nm,1.1s
KSCO Kaye Shedlock' 79.11 337 P P 10 34 58.5 +0.4
KSCO IAmb IAmb 10 35 08.2
comp=Z,19nm,1.2s
WUAZ Wupatki 79.24 329 P P 10 34 59.1 +0.2
S22A 4UR Ranch, Cre 79.41 333 P P 10 34 60.0 +0.1
MVCO Mesa Verde 79.56 332 P P 10 35 01.2 +0.5
W13A Hualapai Mount 79.97 327 P P 10 35 01.5 -1.4
BGNE Belgrade 80.03 341 P P 10 35 02.9 +0.1
BOSA Boshof 80.11 118 P P 10 35 03.2 -0.8
comp=Z,7.2nm,1.0s,baz=247,slow=4.2,SNR=7.9
BOSA LR LR 11 05 43.6
comp=Z,98nm,19.9s,baz=179,slow=32
BOSA Boshof 80.11 118 P P 10 35 02.5 -1.5
PV01 Paradox Valley 80.39 332 P P 10 35 05.7 +0.5
U15A North Rim 80.41 329 P P 10 35 07.3 +1.9
PV13 Radium Mtn., P 80.51 332 P P 10 35 06.6 +0.8
PV13 IAmb IAmb 10 35 08.5
comp=Z,20nm,1.4s
PV02 Paradox Valley 80.52 332 P P 10 35 07.0 +1.1
PV02 IAmb IAmb 10 35 08.7
comp=Z,13nm,1.2s
PV15 Paradox Valley 80.54 333 P P 10 35 07.6 +1.6
PV05 Paradox Valley 80.55 332 P P 10 35 07.2 +1.2
PV05 IAmb IAmb 10 35 17.5
comp=Z,9.1nm,1.1s
PV03 Paradox Valley 80.61 332 P P 10 35 06.7 +0.4
PV12 Saucer Basin, 80.64 332 P P 10 35 08.2 +1.6
PV17 East Wray Mesa 80.67 332 P P 10 35 08.3 +1.7
PV16 Nyswonger Mesa 80.68 332 P P 10 35 07.7 +1.0
ISCO Idaho Springs 80.81 335 P P 10 35 09.2 +1.7
PV21 Cone Mtn., Par 80.92 332 P P 10 35 09.0 +0.9
KNB Kanab 81.13 329 P P 10 35 10.1 +1.0
I37A Lemond, Waseca 81.38 345 P P 10 35 10.3 +0.3
I37A IAmb IAmb 10 35 18.7
comp=Z,17nm,0.9s
SHPR Sheep Range 81.71 327 P P 10 35 13.6 +1.4
SHPR IAmb IAmb 10 35 15.8
comp=Z,9.8nm,1.3s
SZCU Shurtz Canyon 81.73 329 P P 10 35 14.2 +1.9
MTPU Mount Pierson 81.74 330 P P 10 35 14.4 +1.9
CCUT Cedar City 81.81 329 P P 10 35 14.9 +2.2
ECSD EROS Data Cent 81.83 343 P P 10 35 12.8 +0.4
ECSD IAmb IAmb 10 35 22.4
comp=Z,20nm,0.9s
SRU San Rafael Swe 81.99 332 P P 10 35 14.7 +1.0
MSU Marysvale 82.14 330 P P 10 35 16.2 +1.8
MVU Marysvale 82.14 330 P P 10 35 16.7 +2.2
E46A Sault Ste Mari 82.24 352 P P 10 35 14.8 +0.3
E46A IAmb IAmb 10 35 24.4
comp=Z,18nm,0.9s
PRN Pahroc Range 82.42 328 P P 10 35 15.5 -0.3
PRN IAmb IAmb 10 35 19.6
comp=Z,17nm,1.3s
SPMN Marine on St. 82.42 346 P P 10 35 15.1 -0.4
SPMN IAmb IAmb 10 35 25.9
comp=Z,9.3nm,0.9s
ISA Isabella, Lake 82.55 324 P P 10 35 18.2 +1.8
TPNV Topopah Spring 82.57 326 P P 10 35 18.5 +1.8
PSUT Pine Spring 82.85 329 P P 10 35 19.0 +0.8
F36A Milaca 83.18 346 P P 10 35 19.3 -0.1
F36A IAmb IAmb 10 35 29.6
comp=Z,9.2nm,0.9s
R11A Troy Canyon, C 83.43 328 P P 10 35 22.7 +1.5
R11A IAmb IAmb 10 35 24.6
comp=Z,11nm,1.4s
DUG Dugway, Tooele 83.83 331 P P 10 35 23.7 +0.7
DUG IAmb IAmb 10 35 26.1
comp=Z,10nm,1.1s
BGU Big Grassy Mou 84.54 331 P P 10 35 28.1 +1.5
HWUT Hardware Ranch 84.55 332 P P 10 35 27.1 +0.4
HWUT IAmb IAmb 10 35 36.5
comp=Z,15nm,1.2s
NV11 Mina Array Sit 84.64 326 P P 10 35 28.7 +1.4
NVAR Mina Array Bea 84.71 326 P P 10 35 28.8 +1.1
comp=Z,2.5nm,0.9s,baz=150,slow=6.1,SNR=17
NVAR Mina Array Bea 84.71 326 P P 10 35 28.1 +0.4
PD31 Pinedale Array 84.81 334 P P 10 35 28.9 +0.8
PD31 IAmb IAmb 10 35 36.8
comp=Z,8.4nm,1.5s
PDAR Pinedale Array 84.81 334 P P 10 35 28.5 +0.4
comp=Z,0.6nm,0.6s,baz=160,slow=4.7,SNR=8.7
PDAR LR LR 11 09 17.4
comp=Z,89nm,19.4s,baz=142,slow=33
PDAR Pinedale Array 84.81 334 P P 10 35 26.9 -1.2
KVN Kaiserville 85.12 326 P P 10 35 30.3 +0.6
KVN IAmb IAmb 10 35 41.0
comp=Z,7.5nm,1.1s
ELK Elko 85.28 329 P P 10 35 29.6 -1.0
TORD Torodi Ar. Bea 85.61 71 P P 10 35 31.8 -0.6
comp=Z,2.3nm,0.8s,baz=248,slow=3.7,SNR=8.4
TORD LR LR 11 13 25.0
comp=Z,91nm,18.1s,baz=220,slow=36
TORD Torodi Ar. Bea 85.61 71 P P 10 35 30.9 -1.5
TPAW Teton Pass 85.94 333 P P 10 35 34.0 +0.2
TPAW IAmb IAmb 10 35 35.0
comp=Z,6.6nm,1.1s
AFDM Forest Hills D 86.36 325 P P 10 35 35.0 -0.6
ULM Lac du Bonnet 87.84 346 P P 10 35 41.9 -0.6
comp=Z,5.4nm,0.6s,baz=224,slow=4.2,SNR=4.7
MDT Midelt 93.54 52 LR LR 11 18 20.0
comp=Z,133nm,18.8s,baz=210,slow=36
ESDC Sonseca Array 98.35 47 LR LR 11 19 35.7
comp=Z,59nm,19.8s,baz=235,slow=35
WRA Warramunga Arr 118.90 210 PKP PKPdf 10 41 41.9 -0.8
comp=Z,0.4nm,0.5s,baz=161,slow=1.6,SNR=9.6
WRA Warramunga Arr 118.90 210 PKPdf 10 41 41.7 -1.0
H11S2 WAKE ISLAND Hyl 24.83 269 T T 12 59 27.3
baz=119,slow=74,SNR=42
H11S1 WAKE ISLAND Hyl 24.84 269 T T 12 59 15.2
baz=119,slow=74,SNR=25
H11S3 WAKE ISLAND Hyl 24.85 269 T T 12 59 25.9
baz=119,slow=74,SNR=24
H11N3 WAKE ISLAND Hyl 25.28 270 T T 12 59 47.7
baz=116,slow=78,SNR=32
H11N1 WAKE ISLAND Hyl 25.30 270 T T 12 59 48.9
baz=116,slow=78,SNR=48
H11N2 WAKE ISLAND Hyl 25.30 270 T T 12 59 48.9
baz=116,slow=78,SNR=58
BVAR Borovoye Array 149.08 44 PKPbc PKPbc 10 42 41.6 +0.2
comp=Z,1.4nm,0.6s,baz=191,slow=3.0,SNR=7.5
KURBB Kurchatov Arra 154.67 45 PKP PKPdf 10 42 45.8 +0.2
comp=Z,0.3nm,0.4s,baz=101,slow=35,SNR=2.1
KURBB PKPbc **PKPbc 10 42 54.0 -0.1**
comp=Z,0.3nm,0.3s,baz=312,slow=3.0,SNR=5.1
KURK Kurchatov 154.68 45 PKPdf 10 42 44.8 -0.8
KURK **sPKPdf 10 42 53.2 +1.9**
KURK PKPab **PKPab 10 43 07.1 -1.9**
ZALV Zalesovo Beam 156.08 33 PKPab PKPab 10 43 14.6 -0.4
comp=Z,1.7nm,0.5s,baz=318,slow=5.4,SNR=4.5
ZALV Zalesovo Beam 156.08 33 PKPab 10 43 15.7 +0.7
MKAR Makanchi Array 158.50 51 PKPab PKPab 10 43 27.6 +1.8
comp=Z,0.5nm,0.6s,baz=275,slow=5.2,SNR=2.2
SONM Songino Array 167.80 1 PKPab PKPab 10 44 05.0 -1.4
comp=Z,0.6nm,0.6s,baz=322,slow=4.5,SNR=5.5
SONM Songino Array 167.80 1 PKPab PKPab 10 44 06.2 -0.3
LZH Lanzhou 177.51 79 ePKP PKPdf 10 43 00.5 -3.8
LZH pPKP pPKPdf 10 43 07.4 -1.2
LZH sPKP 10 43 09.8
LZH PKP PKPab 10 44 43.8 -6.4
LZH LR LR
comp=N,120nm,18.2s
LZH LR LR
comp=E,130nm,18.3s
LZH LR LR
comp=Z,160nm,20.1s

*NIED **19** 10:23:02.3,36°.19N×141°.01E,h44km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.96; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-0.99; $M_{r\theta}$0.42; $M_{\theta\phi}$-0.48; $M_{\phi r}$3.62; Fault plane solution: $M_0$3.80000×10^{14} NP1:ϕ_s7.00000°, δ82.00000°, λ85.00000°. NP2:ϕ_s221.00000°, δ9.00000°, λ123.00000°.*

JMA 19 10:23:02.2±0.1,36°.19N×141°.01E,h44km±2km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.37 294**		P	Pn	10 23 11.8	+0.2
JHYU				S	Sn	10 23 18.3	+0.1
JIHU	**Itakohorinouch**	**0.45 240**		P	Pn	10 23 13.2	+0.7
JIHU				S	Sn	10 23 21.0	+1.2
CHOJ	**Chosi**	**0.50 194**		P	Pn	10 23 13.1	0.0
CHOJ				S	Sn	10 23 20.5	-0.4
JHO	**Hitachi**	**0.55 320**		P	Pn	10 23 13.6	-0.2
JHO				S	Sn	10 23 21.5	-0.5
JYT	**Yasato**	**0.66 274**		P	Pn	10 23 15.4	+0.2
JYT				S	Sn	10 23 24.5	0.0
JSMT	**Sammumatsuo**	**0.71 220**		P	Pn	10 23 16.7	+0.8
JSMT				S	Sn	10 23 27.0	+1.3
ONAJ	**Iwakimizuishiy**	**0.93 349**		P	Pn	10 23 18.6	-0.3
ONAJ				S	Sn	10 23 30.1	-0.9
JFK	**Kawauchi**	**1.18 355**		P	Pn	10 23 22.0	-0.3
JFK				S	Sn	10 23 36.0	-1.2
JAG	**Ashikaga**	**1.28 281**		P	Pn	10 23 24.2	+0.6
JAG				S	Sn	10 23 39.8	+0.2
MAT	**Matsushiro**	**2.29 280**		P	Pn	10 23 39.5	+2.0
MAT				S	Sn	10 24 07.2	+2.7

*TAP **19** 10:30:23.0,21°.81N×121°.05E,h19km,ML3.0,D*
*JMA **19** 10:30:35.1±0.1,22°.67N×121°.64E,h8km±3km*

ISC 19 10:30:24.1±1.3,21°.84N±0°.05×121°.09E±0°.03,h20km±3km, n42,σ0°95/63,2C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.18 288**		⇑*i*P	**Pg**	**10 30 28.9**	**-0.1**
TSEB	baz=293			*i*S	**Sg**	**10 30 33.4**	**+1.2**
TWKBT	**Hengchun**	**0.27 291**		P	**Pg**	**10 30 29.6**	**-0.7**
TWKBT	baz=297			S	**Sg**	**10 30 34.1**	**-0.4**
TWK1	**Hengchun**	**0.28 291**		⇑*i*P	**Pb**	**10 30 29.5**	**-0.8**
TWK1	baz=297			*i*S	**Sg**	**10 30 34.3**	**-0.5**
SNW	**Nanwan**	**0.33 290**		P	**Pb**	**10 30 30.9**	**-0.4**
SNW	baz=295			S	**Sb**	**10 30 36.6**	**+0.3**
HEN	**Hengchun**	**0.36 297**		P	**Pb**	**10 30 31.3**	**-0.6**
HEN	baz=306			S	**Sb**	**10 30 37.0**	**-0.1**
SLIU	**Shizi**	**0.46 324**		P	**Pb**	**10 30 33.6**	**+0.1**
SLIU	baz=339			S	**Sb**	**10 30 40.6**	**+0.7**
LAY	**Lan-yu**	**0.47 66**		P	**Pn**	**10 30 34.8**	**-1.0**
LAY	baz=66			*e*S	**Sb**	**10 30 40.9**	**+0.5**
TAW	**Tawu**	**0.54 341**		*e*P	**Pn**	**10 30 35.3**	**-1.4**
TAW	baz=1.0			*e*S	**Sg**	**10 30 43.3**	**+0.9**
EAST	**Anshuo**	**0.58 338**		*e*P	**Pg**	**10 30 35.8**	**+0.1**
EAST	baz=357			*e*S	**Sn**	**10 30 44.8**	**-1.5**
SCZT	**Fangliau**	**0.68 321**		*e*P	**Pn**	**10 30 37.6**	**-1.0**
SCZT	baz=336			*e*S	**Sn**	**10 30 48.2**	**-0.4**
ECL	**Taimali**	**0.76 351**		*e*P	**Pn**	**10 30 40.4**	**+0.7**
ECL	baz=7.0			*e*S	**Sg**	**10 30 48.9**	**-0.3**
SSPT	**Xinbi**	**0.80 323**		*e*P	**Pn**	**10 30 40.5**	**+0.3**
SSPT	baz=335			*e*S	**Sn**	**10 30 54.0**	**+2.4**
WLCH	**Liuqiu**	**0.83 308**		*e*P	**Pn**	**10 30 40.4**	**-0.2**
WLCH	baz=312			*e*S	**Sn**	**10 30 54.0**	**+1.7**
MASBT	**Mashibuluo**	**0.87 331**		*e*P	**Pn**	**10 30 40.8**	**-0.5**
MASBT	baz=342			*e*S	**Sn**	**10 30 53.7**	**+0.3**
LDUT	**Ludao**	**0.90 23**		*e*P	**Pb**	**10 30 40.4**	**-0.6**
LDUT	baz=41			*e*S	**Sn**	**10 30 54.3**	**+0.3**
TSMG	**Majia**	**0.95 335**		*e*P	**Pg**	**10 30 42.4**	**-0.2**
TSMG	baz=350			*e*S	**Sn**	**10 30 56.7**	**+1.4**
TWGBT	**Beinan**	**0.97 360**		*e*P	**Pb**	**10 30 41.0**	**-1.2**
TWG	**Pinlang**	**0.97 359**		*e*P	**Pb**	**10 30 40.8**	**-1.5**
SSD	**Sandimen**	**0.99 335**		*e*P	**Pg**	**10 30 43.7**	**+0.3**
SSD	baz=351			*e*S	**Sg**	**10 30 56.1**	**-0.4**
LONT	**Longtian**	**1.06 2**		*e*P	**Pn**	**10 30 43.6**	**-0.2**
EDH	**Donghe**	**1.14 10**		*e*P	**Pn**	**10 30 43.9**	**-1.0**
EDH	baz=19			*e*S	**Sb**	**10 30 59.5**	**-0.1**
SCST	**Cishan**	**1.17 332**		*e*P	**Pg**	**10 30 47.4**	**+0.6**
SLGT	**Liugui**	**1.21 341**		*e*P	**Pg**	**10 30 47.9**	**+0.3**
SLGT	baz=6.0			*e*S	**Sg**	**10 31 04.5**	**+1.0**
SGST	**Jiashian**	**1.32 339**		*e*P	**Pb**	**10 30 47.8**	**-0.4**
FULB	**Fuli**	**1.36 8**		*e*P	**Pn**	**10 30 47.3**	**-0.8**
FULB	baz=17			*e*S	**Sb**	**10 31 05.9**	**-0.1**
CHN1	**Nanshi**	**1.43 339**		*e*P	**Pg**	**10 30 50.4**	**-1.4**
CHN1	baz=7.0			*e*S	**Sg**	**10 31 12.6**	**+2.2**
WTP	**Ta-pu**	**1.46 343**		*e*P	**Pb**	**10 30 50.8**	**+0.2**
SNST	**Tainan City**	**1.47 338**		*e*P	**Pg**	**10 30 51.1**	**-1.5**
TPUB	**Ta-pu**	**1.51 344**		*e*P	**Pn**	**10 30 49.6**	**-0.5**
TWK	**Hsinying**	**1.52 339**		*e*P	**Pg**	**10 30 52.0**	**-1.5**
YULB	**Yu-li**	**1.55 7**		*e*P	**Pn**	**10 30 48.6**	**-2.0**
CHN4	**Tsaushan**	**1.57 343**		*e*P	**Pb**	**10 30 51.8**	**-0.6**
EHY	**Hungye**	**1.67 7**		*e*P	**Pn**	**10 30 51.7**	**-0.5**
HGSD	**Ruisui**	**1.67 11**		*e*P	**Pn**	**10 30 51.9**	**-0.4**
ALS	**Alishan**	**1.68 351**		*e*P	**Pb**	**10 30 54.5**	**0.0**
CHN5	**Tsauling**	**1.79 348**		*e*P	**Pb**	**10 30 54.8**	**-1.4**
VWDT	**VWDT**	**1.90 2**		*e*P	**Pn**	**10 30 56.3**	**+0.9**
IRIF	**Iriomote-Funau**	**3.48 44**		P	**Pn**	**10 31 17.2**	**+0.2**
IRIF				S	Sn	10 31 48.8	-8.8
JKRS	**Kuro-shima**	**3.59 48**		P	**Pn**	**10 31 20.0**	**+1.3**
JIJ	**Ishigaki jima**	**3.77 48**		P	**Pn**	**10 31 21.9**	**+0.8**
JISG	**Ishigakijimahi**	**4.03 47**		P	**Pn**	**10 31 25.0**	**+0.3**
JTJ	**Tarama**	**4.34 49**		P	**Pn**	**10 31 30.0**	**+1.1**

*UPP **19** 10:38:04.3±2.1,63°.01N×27°.72E,h1km,ML2.0,Suspected explosion*
*IDC **19** 10:38:04.4±1.6,63°.00N×27°.86E,h0km,mb1 2.9/3, mb1mx2.8/51,mbtmp2.9/3,ML2.3/3,Error ellipse: s-maj=19.3km s-min=7.5km az=104.0*
*HEL **19** 10:38:04.2±0.3,63°.11N×27°.76E,h0km,ML1.9,Explosion*

ISC 19 10:38:02.6±1.4,63°.04N±0°.04×27°.84E±0°.09,h0km,n21, σ1°40/36,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.84 248**		*e*P	**Pg**	**10 38 18.6**	**0.0**
SUF				*e*S	**Sg**	**10 38 30.1**	**+0.7**
KAF	**Kangasniemi**	**1.17 218**		*e*P	**Pg**	**10 38 25.4**	**+0.4**
KAF				*e*S	**Sb**	**10 38 41.3**	**+0.1**
KEF	**Keuruu**	**1.63 239**		*e*P	**Pn**	**10 38 33.1**	**+0.6**
KEF				*e*S	**Sg**	**10 38 55.1**	**+0.3**
KEF				MSG		10 39 02.4	
comp=Z,10nm,0.1s							
FIA1	**FINESS Array S**	**1.80 208**		*e*P	**Pb**	**10 38 36.9**	**+0.5**
FIA1				*e*S	**Sb**	**10 39 00.1**	**+0.7**
FIA0	**FINESS Array S**	**1.80 208**		*e*P	**Pb**	**10 38 37.0**	**+0.7**
FIA0				*e*S	**Sg**	**10 39 00.6**	**+0.3**
FINES	**FINESS Array B**	**1.80 208**		Pg	**Pb**	**10 38 36.8**	**+0.4**
comp=Z,1.1nm,0.3s,baz=24,slow=17,SNR=34							
FINES				Lg	Lg	10 38 58.8	
comp=Z,0.4nm,0.3s,baz=27,slow=30,SNR=5.2							
OUF	**Merijarvi**	**1.92 315**		*e*P	**Pn**	**10 38 36.5**	**0.0**
OUF				*e*S	**Sn**	**10 38 59.8**	**-1.6**
OUF				MSG		10 39 05.1	
comp=Z,6.3nm,0.1s							
OBF4	**Vikkela, Lumij**	**2.15 327**		*e*P	**Pn**	**10 38 40.5**	**+0.8**
OBF4				*e*S	**Sn**	**10 39 06.8**	**-0.3**
OBF0	**Syolatti, Pyha**	**2.17 314**		*e*P	**Pn**	**10 38 40.3**	**+0.4**
OBF0				*e*S	**Sn**	**10 39 07.2**	**-0.2**
BURU	**Burvik**	**3.26 301**		P	**Pn**	**10 38 56.3**	**+1.4**
BURU				S	**Sn**	**10 39 35.1**	**+0.9**
UMAU	**Umeaa**	**3.32 288**		P	**Pn**	**10 38 55.8**	**0.0**
UMAU				S	**Sn**	**10 39 36.5**	**+0.6**
SJUU	**Sjulsmark**	**3.68 315**		P	**Pn**	**10 39 02.2**	**+1.6**
SJUU				S	**Sn**	**10 39 45.3**	**+0.7**
HUSU	**Husum**	**3.92 278**		P	**Pn**	**10 39 04.9**	**+1.0**
HUSU				S	**Sn**	**10 39 50.2**	**-0.3**
SVAU	**Svanoeiden**	**3.95 295**		P	**Pn**	**10 39 05.3**	**+0.9**
LILU	**Lilltraesk**	**4.16 306**		P	**Pn**	**10 39 07.5**	**+0.2**
ERTU	**Ertsjaerv**	**4.28 328**		P	**Pn**	**10 39 09.9**	**+1.0**
HEMU	**Hemsoen**	**4.50 270**		P	**Pn**	**10 39 12.6**	**+0.6**
DUNU	**Dundret**	**5.12 326**		P	**Pn**	**10 39 20.8**	**+0.3**
ARCES	**ARCESS Array B**	**6.59 353**		Pn	**Pn**	**10 39 40.5**	**-0.2**
comp=Z,0.1nm,0.3s,baz=171,slow=14,SNR=5.4							
ARCES				Sn	**Sn**	**10 40 54.3**	**-2.1**
comp=Z,0.1nm,0.3s,baz=190,slow=21,SNR=5.2							
HFS	**Hagfors**	**7.35 253**		Pn	**Pn**	**10 39 52.7**	**+1.8**
comp=Z,0.2nm,0.3s,baz=58,slow=13,SNR=2.1							
HFS				Sn	**Sn**	**10 41 11.3**	**-3.6**
comp=Z,0.1nm,0.3s,baz=177,slow=37,SNR=1.2							
NOA	**NORSAR Array B**	**8.06 263**		Pn	**Pn**	**10 40 01.0**	**+0.1**
comp=Z,0.2nm,0.3s,baz=162,slow=13,SNR=1.2							
NOA				Sn	**Sn**	**10 41 27.3**	**-5.3**
comp=Z,0.0nm,0.3s,baz=129,slow=23,SNR=1.6							

*NSSP **19** 10:50:53.1,40°.83N×43°.12E,h10km,Ms2.9*
*TIF **19** 10:50:54.4,40°.80N×43°.08E,h24km±1km*
*DDA **19** 10:50:54.4,40°.80N×43°.07E,h7km±2km,ML2.7*
*ISK **19** 10:50:54.2,40°.81N×43°.08E,h14km,ML3.1/6*

ISC 19 10:50:54.3±0.9,40°.81N±0°.02×43°.06E±0°.02,h16km±8km, n36,σ1°07/60,4C-1D,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.18 175**		PG	**Pg**	**10 50 59.0**	**+0.1**
EAK	**Akyaka**	**0.44 106**		*i*P	**Pg**	**10 51 03.2**	**0.0**
EAK				IAML		10 51 29.0	
comp=E,760nm,0.8s							
EAK				IAML		10 51 39.0	

comp=N,960nm,0.8s
DIGO Kars 0.46 149 *i* P **Pg 10 51 03.3 -0.4**
DIGO *i* S **Sb 10 51 10.4 -0.6**
DIGO IAML 10 51 15.0
comp=E,1μm,0.5s
DIGO IAML 10 51 15.0
comp=N,2μm,0.4s
SENK Senkaya-Erzuru 0.59 245 PG **Pg 10 51 06.6 +0.5**
AKH Akhalkalaki 0.68 29 PG **Pb 10 51 07.9 -0.2**
AKH SG **Sb 10 51 17.7 +0.4**
AKH Akhalkalaki 0.68 29 P **Pb 10 51 07.8 -0.2**
AKH S **Sb 10 51 18.2 +0.9**
EPOS Posof 0.73 340 *i* P **Pb 10 51 09.3 +0.4**
EPOS IAML 10 51 26.0
comp=N,402nm,0.7s
DAGI Agillar 0.91 287 *i* P **Pb 10 51 12.2 +0.5**
DAGI *i* S **Sn 10 51 25.7 +0.3**
DAGI IAML 10 51 29.0
comp=E,218nm,0.5s
DAGI IAML 10 51 31.0
comp=N,164nm,0.5s
VNNZ Vanand 0.92 140 *i* P **Pn 10 51 12.5 -0.2**
VNNZ ⇑*i* S **Sn 10 51 25.1 -0.5**
ARTV Artvin 0.93 294 *i* P **Pb 10 51 12.7 +0.4**
ARTV *i* S **Sn 10 51 26.9 +0.7**
ARTV IAML 10 51 29.0
comp=N,305nm,0.6s
ARTV IAML 10 51 34.0
comp=E,303nm,0.5s
ARUZ Aruch 0.95 123 ⇑*i* P **Pb 10 51 12.1 -0.4**
ARUZ ⇑*i* S **Sg 10 51 25.1 -0.1**
DDEM Demirkent 0.99 275 *i* P **Pb 10 51 13.4 +0.1**
DDEM *i* S **Sn 10 51 28.9 +1.3**
DDEM IAML 10 51 34.0
comp=E,502nm,0.4s
DDEM IAML 10 51 35.0
comp=N,627nm,0.5s
DMNI Dmanisi 1.00 58 P **Pn 10 51 13.9 0.0**
DMNI S **Sn 10 51 27.8 0.0**
BKRG Bakuriani 1.01 20 P **Pb 10 51 13.7 +0.1**
STE Stepanavan 1.01 79 ⇑*i* P **Pn 10 51 14.3 +0.2**
STE ⇓*i* S **Sn 10 51 30.5 +2.4**
METS Metsamor 1.02 130 *i* P **Pg 10 51 13.9 -0.2**
METS *i* S **Sn 10 51 28.8 +0.6**
EATA Eleskirt 1.04 205 *i* P **Pb 10 51 13.9 -0.3**
EATA IAML 10 51 33.0
comp=N,122nm,0.5s
EATA IAML 10 51 38.0
comp=E,120nm,0.9s
DBAD Bademkaya 1.05 282 *i* P **Pb 10 51 14.7 +0.4**
DBAD *i* S **Sn 10 51 30.4 +1.4**
DBAD IAML 10 51 35.0
comp=E,135nm,0.4s
DBAD IAML 10 51 41.0
comp=N,164nm,0.6s
TRLG Trialeti 1.07 47 P **Pn 10 51 15.0 +0.1**
TRLG S **Sn 10 51 29.6 0.0**
HOMI Horasan 1.17 229 *i* P **Pg 10 51 18.1 +1.3**
KZRT Kazreti 1.17 60 P **Pn 10 51 16.3 +0.2**
KZRT S **Sn 10 51 31.8 +0.1**
DBOC Borcka 1.18 297 *i* P **Pn 10 51 16.6 +0.4**
DBOC *i* S **Sb 10 51 30.4 -1.1**
DBOC IAML 10 51 34.0
comp=E,166nm,0.5s
IGDI IGDIR 1.22 140 *i* P **Pn 10 51 16.6 -0.3**
KOPR Koprukoy-ERZUR 1.23 229 PN **Pb 10 51 17.9 +0.6**
KOPR SN **Sg 10 51 35.0 +0.8**
AGRB Hanur-Agry 1.23 182 PN **Pb 10 51 17.5 +0.1**
AGRB SN **Sg 10 51 34.6 +0.3**
BCA Borcka 1.25 301 PN **Pb 10 51 18.1 +0.4**
BCA SN **Sg 10 51 35.6 +0.7**
BATM Batumi 1.30 308 PN **Pn 10 51 14.9 -3.0**
BATM Batumi 1.30 308 *i* P **Pn 10 51 15.1 -2.8**
BATM *i* S **Sb 10 51 33.0 -1.9**
BATM Batumi 1.30 308 P **Pn 10 51 15.0 -2.8**
BATM S **Sb 10 51 32.7 -2.2**
NRKZ NAREK 1.47 123 *i* P **Pb 10 51 21.4 +0.1**
NRKZ *i* S **Sg 10 51 41.4 -0.3**
TKB Tkibuli 1.54 358 P **Pb 10 51 23.3 +0.7**
TKB S **Sg 10 51 44.7 +0.7**
EJDE Erzurum, Palan 1.66 235 *i* P **Pg 10 51 27.1 +0.8**
KRIK Erzurum-spir 1.69 254 *i* P **Pg 10 51 27.5 +0.7**
ONI Oni 1.80 9 P **Pb 10 51 27.0 0.0**
ONI S **Sg 10 51 52.7 +0.3**
DDFL Dedoflistskaro 2.40 74 P **Pb 10 51 38.5 +1.3**
LGD Lagodekhi 2.61 66 P **Pb 10 51 41.9 +1.2**
LGD S **Sg 10 52 15.5 -2.6**

IDC 19 11:07:37.4±1.5, 4°.03S×150°.88E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/35, mbtmp3.5/4, Error ellipse: s-maj=38.8km s-min=17.6km az=170.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.18**	**104**	Pn	Pn	11 08 01.6	+0.5
	278nm,0.3s,baz=245,slow=19,SNR=303						
KRVT				Sn	Sn	11 08 18.6	+0.6
	245nm,0.3s,baz=247,slow=23,SNR=20						
WRA	**Warramunga Arr**	**22.59**	**224**	P	P	11 12 39.9	+0.1
	0.4nm,0.5s,baz=51,slow=10.0,SNR=8.6						
ASAR	**Alice Springs**	**25.49**	**218**	P	P	11 13 07.3	-0.3
	0.5nm,0.7s,baz=56,slow=8.8,SNR=8.6						
FITZ	**Fitzroy Crossi**	**28.38**	**239**	P	P	11 13 33.7	0.0
	1.3nm,0.8s,baz=90,slow=20,SNR=2.5						
ILAR	**Eielson Array**	**82.18**	**23**	P	P	11 19 59.9	-0.1
	0.3nm,0.8s,baz=246,slow=6.8,SNR=2.2						

*IDC **19** 11:10:44.8±1.7, 5°.57S×153°.04E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/39, mbtmp3.8/7, ML1.8/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/31, Error ellipse: s-maj=41.6km s-min=21.4km az=111.0*

ISC 19 11:10:51.4±1.4, 5°.51S±0°.08×152°.8E±0°.2, h37km, n12, σ1ᵽ57/11, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.40**	**329**	**Pn**	**Pn**	**11 11 14.7**	**+0.3**
	370nm,0.3s,baz=142,slow=2.5,SNR=84						
KRVT				Sn	**Sn**	**11 11 31.6**	**-0.1**
	268nm,0.3s,baz=176,slow=19,SNR=15						
KRVT				LR	LR	11 11 42.4	
	comp=Z,249nm,21.5s,baz=110,slow=36						
PMG	**Port Moresby**	**6.76**	**235**	Pn	**Pn**	**11 12 30.2**	**+2.0**
	1.1nm,0.3s,baz=24,slow=12,SNR=2.3						
PMG				Sn	**Sn**	**11 13 41.6**	**-2.4**
	2.7nm,0.3s,baz=135,slow=16,SNR=3.8						
HNR	**Honiara**	**8.13**	**119**	LR	LR	11 15 46.2	
	comp=Z,76nm,18.4s,baz=233,slow=38						
DZM	**Mont Dzumac**	**21.13**	**142**	LR	LR	11 21 50.7	
	comp=Z,72nm,19.7s,baz=52,slow=32						
WRA	**Warramunga Arr**	**22.95**	**230**	P	**P**	**11 15 53.3**	**+0.6**
	0.9nm,0.6s,baz=51,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**25.60**	**223**	P	**P**	**11 16 18.2**	**+0.8**
	1.2nm,0.7s,baz=56,slow=9.1,SNR=14						
FITZ	**Fitzroy Crossi**	**29.28**	**242**	P	**P**	**11 16 49.6**	**-0.9**
	2.0nm,0.8s,baz=335,slow=5.1,SNR=6.8						
CMAR	**Chiang Mai Arr**	**58.14**	**296**	P	**P**	**11 20 42.6**	**+0.7**
	0.3nm,0.3s,baz=134,slow=6.4,SNR=1.3						
SONM	**Songino Array**	**66.90**	**328**	P	**P**	**11 21 40.9**	**+0.8**
	0.4nm,0.3s,baz=113,slow=6.6,SNR=1.7						
MKAR	**Makanchi Array**	**80.83**	**319**	LR	LR	11 58 24.7	
	comp=Z,45nm,21.8s,baz=250,slow=35						
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**11 23 11.3**	**-0.3**
	0.7nm,0.8s,baz=255,slow=5.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**150.47**	**287**	PKPbc	**PKPbc**	**11 30 37.7**	**-2.5**
	0.5nm,0.7s,baz=77,slow=4.1,SNR=2.2						

*JMA **19** 11:15:17.7±0.1, 24°.56N×122°.45E, h96km±2km, M1.9*
*TAP **19** 11:15:18.2, 24°.61N×122°.49E, h87km±1km, ML3.0, D*

ISC 19 11:15:18.8±1.4, 24°.60N±0°.05×122°.48E±0°.02, h86km±9km, n52, σ0ᵽ67/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.45**	**109**	P	**Pn**	**11 15 33.0**	**+0.2**
JYNG				S	**Sn**	**11 15 44.2**	**+1.1**
YOJ	**Yonaguni jima**	**0.51**	**106**	*e*P	**Pn**	**11 15 32.9**	**-0.3**
	baz=107						
YOJ				*e*S	**Sn**	**11 15 43.9**	**+0.1**
	baz=107						
YOJ	**Yonaguni jima**	**0.51**	**106**	P	**Pn**	**11 15 33.5**	**+0.3**
YOJ				S	**Sn**	**11 15 44.8**	**+0.9**
TWC	**Suao**	**0.57**	**271**	P	**Pn**	**11 15 33.6**	**-0.2**
	baz=269						
TWC				*e*S	**Sn**	**11 15 44.9**	**+0.1**
	baz=269						
ENAH	**Nanao**	**0.62**	**256**	*e*P	**Pn**	**11 15 34.4**	**+0.2**
	baz=255						
ILA	**Ilan**	**0.68**	**284**	*e*P	**Pn**	**11 15 33.2**	**-1.6**
	baz=282						
ENA	**Nanau**	**0.69**	**256**	*e*P	**Pn**	**11 15 35.1**	**+0.2**
	baz=254						
TIPB	**Shuangxi**	**0.70**	**302**	*e*P	**Pn**	**11 15 34.9**	**-0.1**
	baz=300						
TIPB				*e*S	**Sn**	**11 15 46.9**	**-0.1**
	baz=300						
TWE	**Neicheng**	**0.75**	**279**	P	**Pn**	**11 15 35.4**	**0.0**
	baz=278						
TWE				*e*S	**Sn**	**11 15 48.0**	**+0.1**
	baz=278						
ENTT	**Nioudou**	**0.83**	**273**	*e*P	**Pn**	**11 15 36.9**	**+0.5**
	baz=271						
NDT	**Datong Townshi**	**0.88**	**270**	P	**Pn**	**11 15 37.3**	**+0.4**
	baz=269						
NWLT	**Wulai**	**0.90**	**281**	*e*P	**Pn**	**11 15 36.9**	**-0.3**
	baz=280						
NACB	**Ninganchiao**	**0.91**	**242**	*e*P	**Pn**	**11 15 36.5**	**-0.7**
	baz=241						
NACB				*e*S	**Sn**	**11 15 50.6**	**-0.4**
	baz=241						
YM01	**YM01**	**0.99**	**304**	*e*P	**Pn**	**11 15 37.9**	**-0.3**
	baz=302						
YM01				*e*S	**Sn**	**11 15 51.5**	**-1.2**
	baz=302						
ETLH	**Xiulin Townshi**	**0.99**	**247**	*e*P	**Pn**	**11 15 37.8**	**-0.4**
	baz=246						
ETLH				*e*S	**Sn**	**11 15 52.7**	**0.0**
	baz=246						
YM10	**YM10**	**1.00**	**304**	*e*P	**Pn**	**11 15 37.9**	**-0.4**
	baz=302						
YHNB	**Yeheng**	**1.00**	**274**	*i* P	**Pn**	**11 15 38.6**	**+0.2**
	baz=273						
YHNB				*e*S	**Sn**	**11 15 53.2**	**+0.1**
	baz=273						
NNSB	**Datong**	**1.01**	**260**	*e*P	**Pn**	**11 15 38.5**	**0.0**
	baz=259						
NNSH	**Datong**	**1.01**	**260**	*e*P	**Pn**	**11 15 38.4**	**-0.1**
	baz=259						
NNSH				*e*S	**Sn**	**11 15 54.1**	**+0.8**
	baz=259						
NNS	**Nan Shan**	**1.02**	**261**	*e*P	**Pn**	**11 15 38.7**	**+0.1**
	baz=260						
NSK	**Sanguang**	**1.02**	**274**	P	**Pn**	**11 15 38.7**	**+0.1**
	baz=273						
NSK				*e*S	**Sn**	**11 15 53.3**	**-0.1**
	baz=273						
TWS1	**Kuangyinshan**	**1.08**	**298**	*e*P	**Pn**	**11 15 39.0**	**-0.3**
	baz=296						
TWS1				*e*S	**Sn**	**11 15 54.4**	**-0.2**
	baz=296						
IRIF	**Iriomote-Funau**	**1.17**	**103**	P	**Pn**	**11 15 40.3**	**0.0**
IRIF				*e*S	**Sn**	**11 15 56.3**	**-0.1**
FUSS	**Fushou**	**1.18**	**253**	*e*P	**Pn**	**11 15 40.7**	**+0.1**
	baz=252						
WHF	**Hehuan Shan**	**1.19**	**248**	*e*P	**Pn**	**11 15 40.9**	**-0.1**
	baz=247						
WHF				*e*S	**Sn**	**11 15 57.5**	**-0.1**
	baz=247						
ESL	**Shilin**	**1.23**	**231**	*e*P	**Pn**	**11 15 40.2**	**-0.8**
	baz=230						
TDCB	**Techi**	**1.25**	**254**	*e*P	**Pn**	**11 15 41.8**	**+0.4**
	baz=253						
TDCB				*e*S	**Sn**	**11 15 58.7**	**+0.3**
	baz=253						
CHGB	**Renai**	**1.30**	**246**	*e*P	**Pn**	**11 15 42.2**	**+0.1**
	baz=245						
CHGB				*e*S	**Sn**	**11 15 60.0**	**+0.3**
	baz=245						
HATJ	**Hateruma jima**	**1.33**	**114**	S	**Sn**	**11 16 00.6**	**+0.8**
LIOB	**Emei**	**1.33**	**272**	*e*P	**Pn**	**11 15 42.3**	**+0.1**
	baz=271						
LIOB				*e*S	**Sn**	**11 16 00.1**	**+0.2**
	baz=271						
EGFH	**Guangfu**	**1.33**	**226**	*e*P	**Pn**	**11 15 41.5**	**-0.8**
	baz=225						
EGFH				*e*S	**Sn**	**11 15 59.0**	**-1.0**
	baz=225						
NSTT	**Nanjuang**	**1.34**	**272**	*e*P	**Pn**	**11 15 42.3**	**-0.1**
	baz=270						
NSTT				*e*S	**Sn**	**11 15 59.9**	**-0.3**
	baz=270						
WHP	**Taichung City**	**1.43**	**257**	*e*P	**Pn**	**11 15 44.3**	**+0.7**
	baz=256						
WHP				*e*S	**Sn**	**11 16 03.2**	**+0.9**
	baz=256						
JKRS	**Kuro-shima**	**1.44**	**104**	P	**Pn**	**11 15 44.0**	**+0.4**
JKRS				*e*S	**Sn**	**11 16 03.2**	**+0.8**
HGSD	**Ruisui**	**1.46**	**221**	*e*P	**Pn**	**11 15 44.7**	**+0.7**
	baz=220						
HGSD				*e*S	**Sn**	**11 16 02.6**	**-0.3**
	baz=220						
VWDT	**VWDT**	**1.48**	**236**	*e*P	**Pn**	**11 15 44.2**	**0.0**
	baz=235						
VWDT				*e*S	**Sn**	**11 16 02.9**	**-0.4**
	baz=235						
EHY	**Hungye**	**1.52**	**224**	P	**Pn**	**11 15 43.6**	**-1.1**
	baz=223						
EHY				*e*S	**Sn**	**11 16 02.4**	**-1.8**
	baz=223						
JIJ	**Ishigaki jima**	**1.54**	**98**	P	**Pn**	**11 15 44.6**	**-0.2**
JIJ				S	**Sn**	**11 16 03.8**	**-0.7**
TWQ1	**Liyutan**	**1.57**	**261**	*e*P	**Pn**	**11 15 45.5**	**+0.2**
	baz=260						
SMLT	**Sun Moon Lake**	**1.61**	**244**	*e*P	**Pn**	**11 15 46.4**	**+0.6**
	baz=243						
SMLT				*e*S	**Sn**	**11 16 06.6**	**+0.2**
	baz=243						
SSLB	**Suanglung**	**1.61**	**240**	*e*P	**Pn**	**11 15 46.9**	**+1.1**
	baz=239						
SSLB				*e*S	**Sn**	**11 16 06.7**	**+0.4**
	baz=239						
YULB	**Yu-li**	**1.62**	**222**	*e*P	**Pn**	**11 15 44.8**	**-1.1**
	baz=221						
TYC	**Yuchr**	**1.63**	**245**	*e*P	**Pn**	**11 15 47.0**	**+0.9**
	baz=244						
TYC				*e*S	**Sn**	**11 16 08.1**	**+1.4**
	baz=244						
TWF1	**Yuli**	**1.65**	**221**	*e*P	**Pn**	**11 15 45.4**	**-0.9**
	baz=220						
TWF1				*e*S	**Sn**	**11 16 05.6**	**-1.5**
	baz=220						
JISG	**Ishigakijimahi**	**1.67**	**90**	P	**Pn**	**11 15 46.4**	**-0.1**
JISG				S	**Sn**	**11 16 07.0**	**-0.6**
FULB	**Fuli**	**1.77**	**218**	*e*P	**Pn**	**11 15 47.3**	**-0.6**
	baz=217						
FULB				*e*S	**Sn**	**11 16 09.5**	**-0.4**
	baz=217						
ALS	**Alishan**	**1.87**	**235**	*e*P	**Pn**	**11 15 50.3**	**+0.7**
	baz=234						
ALS				*e*S	**Sn**	**11 16 11.9**	**-0.9**
	baz=234						
CHN5	**Tsauling**	**1.92**	**239**	*e*P	**Pn**	**11 15 50.9**	**+0.9**
	baz=238						
CHN5				*e*S	**Sn**	**11 16 14.0**	**+0.3**
	baz=238						
JTJ	**Tarama**	**2.03**	**88**	*e*S	**Sn**	**11 16 15.7**	**-0.2**
CHN4	**Tsaushan**	**2.12**	**235**	*e*P	**Pn**	**11 15 53.6**	**+1.0**
	baz=233						
CHN4				*e*S	**Sn**	**11 16 19.9**	**+1.6**
	baz=233						
JIRB	**Irabujima**	**2.46**	**84**	S	**Sn**	**11 16 25.3**	**-1.0**
JMJ2	**Miyako jima3**	**2.60**	**86**	S	**Sn**	**11 16 30.1**	**+0.5**

*IDC **19** 11:21:31.9±2.3, 8°.21S×68°.76E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/48, mbtmp3.8/4, MS3.2/2, Ms1 3.2/2, ms1mx2.7/46, Error ellipse: s-maj=63.9km s-min=31.4km az=54.0*
*NEIC **19** 11:21:32.8±1.6, 8°.03S±0°.07×68°.8E±0°.1, h10km±2km, mb4.6/6, Error ellipse: s-maj=23.0km s-min=11.2km az=275.0*

ISC 19 11:21:32.7±1.6, 8°.2S±0°.3×68°.7E±0°.2, h10km, n23, σ0ᵽ95/18, mb4.3/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**3.75**	**81**	Pn	**Pn**	**11 22 30.5**	**+0.1**
	baz=294,slow=15,SNR=255						
H08S3	**Diego Garcia H**	**3.76**	**81**	Pn	**Pn**	**11 22 30.1**	**-0.4**
	baz=294,slow=15,SNR=323						
H08S2	**Diego Garcia H**	**3.76**	**81**	Pn	**Pn**	**11 22 31.0**	**+0.4**
	baz=294,slow=15,SNR=298						
DGAR	**Diego Garcia**	**3.77**	**78**	Pn	**Pn**	**11 22 30.2**	**-0.7**
KMBO	**Kilima Mbogo**	**32.14**	**281**	LR	LR	11 38 15.0	
	comp=Z,49nm,21.7s,baz=92,slow=31						
H01W3	**Cape Leeuwin H**	**49.28**	**129**	T	T	12 24 18.6	
	baz=292,slow=75,SNR=8.8						
H01W2	**Cape Leeuwin H**	**49.28**	**129**	T	T	12 24 19.7	
	baz=292,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**49.30**	**129**	T	T	12 24 19.8	
	baz=292,slow=75,SNR=10						
MKAR	**Makanchi Array**	**56.09**	**11**	P	**P**	**11 31 14.2**	**+2.2**
	0.3nm,0.7s,baz=191,slow=6.6,SNR=1.9						
MKAR	**Makanchi Array**	**56.09**	**11**	P	**P**	**11 31 10.6**	**-1.5**
ASAR	**Alice Springs**	**64.03**	**112**	P	**P**	**11 32 08.0**	**+0.8**
	0.8nm,0.7s,baz=282,slow=6.3,SNR=8.0						
ASAR	**Alice Springs**	**64.03**	**112**	P	**P**	**11 32 06.7**	**-0.4**
AS31	**Alice Springs**	**64.03**	**112**	P	**P**	**11 32 05.9**	**-1.2**
WRA	**Warramunga Arr**	**64.35**	**108**	P	**P**	**11 32 10.2**	**+0.9**
	2.3nm,1.0s,baz=282,slow=6.2,SNR=13						
WRA	**Warramunga Arr**	**64.35**	**108**	P	**P**	**11 32 09.7**	**+0.5**
WRAB	**Tennant Creek**	**64.36**	**108**	P	**P**	**11 32 10.1**	**+0.8**
WB2	**Warramunga Arr**	**64.36**	**108**	P	**P**	**11 32 08.8**	**-0.5**
WB2				IAmb	IAmb	11 32 17.9	
	comp=Z,4.0nm,0.9s						
WB0	**Warramunga Arr**	**64.40**	**108**	P	**P**	**11 32 10.6**	**+1.0**
WB0				IAmb	IAmb	11 32 18.0	
	comp=Z,3.6nm,0.8s						
SONM	**Songino Array**	**64.98**	**27**	P	**P**	**11 32 12.9**	**0.0**
	comp=Z,0.7nm,0.4s,baz=216,slow=7.0,SNR=5.0						
SONM	**Songino Array**	**64.98**	**27**	P	**P**	**11 32 12.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**69.88**	**287**	LR	LR	12 00 14.2	
	comp=Z,15nm,21.8s,baz=145,slow=33						
PDAR	**Pinedale Array**	**145.57**	**358**	PKPbc	**PKPdf**	**11 41 11.2**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=310,slow=0.6,SNR=2.0						
PDAR	**Pinedale Array**	**145.57**	**358**		**PKPbc**	**11 41 12.0**	**0.0**

*NEIC **19** 11:29:14.2±2.4, 40°.41S±0°.05×174°.59E±0°.06, h99km±5km, Error ellipse: s-maj=7.4km s-min=6.0km az=152.0*
*WEL **19** 11:29:14.4, 40°.5±2°.×17°.5E±°, h94km±2km, M4.3/35, ML4.5/7, MLv4.3/35, Error ellipse: s-maj=0.0km s-min=0.0km az=22.8*
*IDC **19** 11:29:16.4±2.2, 40°.12S×174°.76E, h116km±22km, mb3.6/6, mb1 3.6/8, mb1mx3.5/34, mbtmp3.9/8, MS2.5/1, Ms1 2.5/1, ms1mx2.3/26, Error ellipse: s-maj=22.5km s-min=18.3km az=44.0*

ISC 19 11:29:14.4±0.6, 40°.45S±0°.03×174°.61E±0°.03, h100km±5km, n108, σ1ᵽ20/134, mb4.1/12, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.47**	**151**	P	**Pn**	**11 29 29.8**	**-0.3**
KIW				S	**Sn**	**11 29 39.8**	**-2.0**
OGWZ	**Otaki Gorge**	**0.56**	**131**	P	**Pn**	**11 29 30.8**	**0.0**
OGWZ				S	**Sn**	**11 29 41.1**	**-1.8**
OHWZ	**Ohakea**	**0.59**	**66**	P	**Pn**	**11 29 30.9**	**-0.1**
OHWZ				S	**Sn**	**11 29 42.7**	**-0.5**
DUWZ	**D'Urville Isla**	**0.63**	**236**	P	**Pn**	**11 29 30.7**	**-0.6**
DUWZ				S	**Sn**	**11 29 41.6**	**-2.3**
CAW	**Cannon Point**	**0.74**	**152**	P	**Pn**	**11 29 32.4**	**+0.1**
CAW				S	**Sn**	**11 29 44.9**	**-0.7**
WAZ	**Wanganui**	**0.75**	**23**	P	**Pn**	**11 29 32.4**	**0.0**
WAZ				S	**Sn**	**11 29 44.7**	**-1.1**
MRZ	**Mangatainoka R**	**0.77**	**106**	P	**Pn**	**11 29 32.3**	**-0.2**
MRZ				S	**Sn**	**11 29 44.3**	**-1.8**
TCW	**Tory Channel**	**0.80**	**198**	P	**Pn**	**11 29 33.1**	**+0.3**
TCW				S	**Sn**	**11 29 45.6**	**-1.0**
HOWZ	**Holdsworth Sta**	**0.82**	**123**	P	**Pn**	**11 29 33.0**	**-0.1**
HOWZ				S	**Sn**	**11 29 45.8**	**-1.2**
SNZO	**South Karori**	**0.86**	**175**	Pn	**Pn**	**11 29 33.5**	**+0.1**
POWZ	**Post Office Ro**	**0.89**	**87**	P	**Pn**	**11 29 33.4**	**-0.3**
POWZ				S	**Sn**	**11 29 47.7**	**-0.5**
BHW	**Baring Head**	**0.98**	**168**		**Pn**	**11 29 34.7**	**+0.1**
LREZ	**Lake Rotokare**	**1.00**	**351**	P	**Pn**	**11 29 34.9**	**0.0**
LREZ				S	**Sn**	**11 29 49.0**	**-1.2**
TIWZ	**Tintock**	**1.03**	**109**	P	**Pn**	**11 29 35.1**	**0.0**
TIWZ				S	**Sn**	**11 29 48.9**	**-1.9**
PRWZ	**Pori Road**	**1.04**	**96**	P	**Pn**	**11 29 35.4**	**+0.1**
PRWZ				S	**Sn**	**11 29 49.8**	**-1.3**
MSWZ	**Moikau Station**	**1.08**	**153**		**Pn**	**11 29 35.9**	**+0.1**
TUWZ	**Tuamarina**	**1.10**	**207**	P	**Pn**	**11 29 36.3**	**+0.3**
TUWZ				S	**Sn**	**11 29 51.0**	**-1.2**
TUWZ	**Tuamarina**	**1.10**	**207**		**Pn**	**11 29 36.0**	**0.0**
TSZ	**Takapari Road**	**1.11**	**70**	P	**Pn**	**11 29 35.6**	**-0.5**
TSZ				S	**Sn**	**11 29 50.8**	**-1.6**
PREZ	**Palmer Road**	**1.16**	**343**	P	**Pn**	**11 29 37.0**	**+0.2**
PREZ				S	**Sn**	**11 29 52.9**	**-0.6**
NMEZ	**Namu Road**	**1.18**	**331**	P	**Pn**	**11 29 36.6**	**-0.2**
NMEZ				S	**Sn**	**11 29 53.2**	**-0.5**
DVHZ	**Dannevirke**	**1.20**	**83**	P	**Pn**	**11 29 36.6**	**-0.5**
DVHZ				S	**Sn**	**11 29 52.6**	**-1.7**
NNZ	**Nelson**	**1.21**	**230**	P	**Pn**	**11 29 36.8**	**-0.4**
NNZ				S	**Sn**	**11 29 54.0**	**-0.4**
NNZ	**Nelson**	**1.21**	**230**		**Pn**	**11 29 36.8**	**-0.4**
PLWZ	**Palliser**	**1.22**	**157**	Pn	**Pn**	**11 29 37.4**	**0.0**
NEZ	**North Egmont**	**1.24**	**341**	P	**Pn**	**11 29 37.5**	**-0.2**
MTVZ	**Mangateitei**	**1.25**	**32**	P	**Pn**	**11 29 37.8**	**0.0**
MTVZ				S	**Sn**	**11 29 54.5**	**-1.0**
BFZ	**Birch Farm**	**1.27**	**101**	P	**Pn**	**11 29 37.7**	**-0.2**
BFZ	**Birch Farm**	**1.27**	**101**		**Pn**	**11 29 37.6**	**-0.2**
DREZ	**Durham Road**	**1.30**	**346**	P	**Pn**	**11 29 38.4**	**+0.1**
VRZ	**Vera Road**	**1.33**	**5**	P	**Pn**	**11 29 38.6**	**0.0**
CMWZ	**Cape Campbell**	**1.33**	**193**		**Pn**	**11 29 39.5**	**+0.8**
PNHZ	**Pukenui**	**1.33**	**67**	P	**Pn**	**11 29 38.1**	**-0.6**
PKE	**Pukeiti**	**1.34**	**339**	P	**Pn**	**11 29 38.6**	**-0.2**
WNVZ	**Wahianoa**	**1.36**	**34**	P	**Pn**	**11 29 39.0**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.38**	**203**		**Pn**	**11 29 39.4**	**+0.2**
MHEZ	**Mangahewa**	**1.39**	**351**	P	**Pn**	**11 29 39.7**	**+0.3**
FWVZ	**Far West T-bar**	**1.40**	**32**	P	**Pn**	**11 29 39.5**	**-0.2**
ANWZ	**Angora Road**	**1.43**	**91**	P	**Pn**	**11 29 39.6**	**-0.2**
TUVZ	**Tukino**	**1.43**	**35**	P	**Pn**	**11 29 40.1**	**+0.1**
WPHZ	**Waipukurau**	**1.46**	**75**	P	**Pn**	**11 29 39.7**	**-0.4**
BHHZ	**Black Hill Sta**	**1.47**	**50**	P	**Pn**	**11 29 39.8**	**-0.6**
TWVZ	**Taurewa**	**1.52**	**25**	P	**Pn**	**11 29 40.5**	**-0.6**
OTVZ	**Oturere**	**1.52**	**33**	P	**Pn**	**11 29 41.2**	**0.0**
PRHZ	**Porangahau**	**1.56**	**84**	P	**Pn**	**11 29 41.1**	**-0.3**
KRVZ	**Karewarewa**	**1.57**	**31**	P	**Pn**	**11 29 41.2**	**-0.5**
KRHZ	**Kereru**	**1.57**	**60**	P	**Pn**	**11 29 40.8**	**-0.8**
QRZ	**Quartz Range**	**1.62**	**256**	P	**Pn**	**11 29 40.7**	**-1.6**
QRZ				S	**Sn**	**11

comp=Z,10nm,1.0s
ARMA Armidale 21.18 291 P **P** **11 33 52.8 +1.0**
MSVF Nonsavu 22.83 8 P **P** **11 34 08.6 -0.6**
MSVF IAmb IAmb 11 34 17.5
comp=Z,11nm,1.2s
CTA Charters Tower 31.59 302 P **P** **11 35 26.7 -0.9**
comp=Z,3.0nm,1.0s,baz=102,slow=15,SNR=2.0
AS31 Alice Springs 37.97 284 P **P** **11 36 23.6 +1.1**
ASAR Alice Springs 37.97 284 P **P** **11 36 23.4 +0.8**
comp=Z,0.6nm,0.4s,baz=128,slow=7,SNR=24
ASAR PcP **PcP** **11 38 35.5 -0.9**
comp=Z,0.5nm,0.5s,baz=124,slow=3.7,SNR=7.7
ASAR Alice Springs 37.97 284 P **P** **11 36 23.2 +0.6**
COEN Coen 38.09 305 P **P** **11 36 25.3 +1.7**
WR0 Warramunga Arr 39.77 289 P **P** **11 36 39.4 +1.8**
WR0 IAmb IAmb 11 36 55.7
comp=Z,5.4nm,1.4s
WB2 Warramunga Arr 39.91 289 P **P** **11 36 39.5 +0.7**
WB2 IAmb IAmb 11 37 02.6
comp=Z,7.6nm,1.4s
WRAB Tennant Creek 39.92 289 P **P** **11 36 39.7 +0.8**
WRAB IAmb IAmb 11 36 56.2
comp=Z,8.8nm,1.4s
WRA Warramunga Arr 39.92 289 P **P** **11 36 39.5 +0.6**
comp=Z,1.0nm,0.4s,baz=126,slow=8.3,SNR=45
WRA PcP **PcP** **11 38 41.7 -0.8**
comp=Z,0.4nm,0.7s,baz=136,slow=2.9,SNR=2.9
WRA Warramunga Arr 39.92 289 P **P** **11 36 39.5 +0.6**
WB0 Warramunga Arr 40.00 289 P **P** **11 36 39.9 +0.5**
WB0 IAmb IAmb 11 36 51.4
comp=Z,5.4nm,1.4s
KNRA Kununurra 46.72 288 P **P** **11 37 35.2 +1.8**
FITZ Fitzroy Crossi 47.47 283 P **P** **11 37 39.2 -0.1**
QSPA South Pole Qui 49.68 180 P **P** **11 37 59.3 +3.5**
comp=Z,1.2nm,0.5s,baz=342,slow=20,SNR=20
QSPA South Pole Qui 49.68 180 P **P** **11 37 58.4 +2.6**
QSPA IAmb IAmb 11 38 00.9
comp=Z,7.5nm,1.4s
MAW Mawson 60.75 204 P **P** **11 39 17.1 +2.1**
comp=Z,0.4nm,0.4s,baz=85,slow=11,SNR=1.9
MAW Mawson 60.75 204 P **P** **11 39 15.9 +0.9**
SNAA Sanae 68.17 181 P **P** **11 40 05.5 +2.1**
SNAA IAmb IAmb 11 40 28.5
comp=Z,3.9nm,1.5s
JHJ2 Mitsune 79.94 331 P **P** **11 41 09.3 -2.9**
KSRS Korea Array 88.55 325 P **P** **11 41 56.6 +1.0**
comp=Z,0.4nm,0.6s,baz=138,slow=5.3,SNR=2.0
MKAR Makanchi Array 119.39 308 PKP **PKPdf** **11 47 50.0 -1.6**
comp=Z,0.8nm,0.9s,baz=191,slow=2.9,SNR=2.3
MKAR Makanchi Array 119.39 308 **PKPdf** **11 47 50.3 -1.3**
KURK Kurchatov 123.33 311 **PKPdf** **11 47 58.5 -0.4**
KURBB Kurchatov Arra 123.34 311 PKP **PKPdf** **11 47 57.5 -1.4**
comp=Z,0.4nm,0.4s,baz=115,slow=2.2,SNR=2.3
DBIC Dimbokro 146.36 181 PKPbc **PKPab** **11 48 45.1 +0.2**
comp=Z,5.1nm,0.7s,baz=160,slow=5.6,SNR=7.0
DBIC Dimbokro 146.36 181 PKPdf **PKPdf** **11 48 41.8 -0.9**
DBIC PKPab **PKPab** **11 48 45.6 +0.6**
ARCES ARCESS Array B 146.64 341 PKPbc **PKPbc** **11 48 42.9 -0.3**
comp=Z,3.4nm,0.6s,baz=41,slow=2.5,SNR=15
FINES FINESS Array B 151.58 328 PKPbc **PKPbc** **11 48 54.8 -1.1**
comp=Z,1.7nm,0.9s,baz=0.0,slow=9.7,SNR=4.3
FINES FINESS Array B 151.58 328 **PKPbc** **11 48 55.3 -0.5**
TORD Torodi Ar. Bea 152.10 195 PKPbc **PKPbc** **11 48 58.5 +0.1**
comp=Z,1.1nm,0.4s,baz=158,slow=3.5,SNR=13
TORD Torodi Ar. Bea 152.10 195 **PKPbc** **11 48 57.8 -0.7**

ISC 19 11:33:07.0±1.0, 48°.73N±0°.04×17°.76E±0°.04, h11km±8km, n7, σ0°.52/12, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.14**	**335**	*e*SG	**Sg**	**11 33 13.0**	**+0.2**
JAVC	**Velka Javorina**	**0.14**	**335**	*e*PG	**Pg**	**11 33 10.0**	**-0.4**
KOLL	**Kolacno**	**0.45**	**110**	*e*PG	**Pg**	**11 33 16.0**	**+0.1**
KOLL				*e*SG	**Sg**	**11 33 21.9**	**0.0**
MODS	**Modra-Piesok**	**0.48**	**222**	*e*PG	**Pg**	**11 33 16.0**	**-0.5**
MODS				*e*SG	**Sg**	**11 33 23.2**	**+0.4**
MODS				*e*LG	Lg	11 33 28.4	
VYHS	**Vyhne**	**0.75**	**108**	*e*PG	**Pb**	**11 33 22.5**	**+0.4**
VYHS				*e*SG	**Sn**	**11 33 34.1**	**-0.9**
VRAC	**Vranov**	**0.96**	**307**	*e*PG	**Pn**	**11 33 26.4**	**-0.1**
VRAC				*e*SG	**Sb**	**11 33 39.1**	**+0.7**
MORC	**Moravsky Berou**	**1.05**	**352**	*e*PG	**Pb**	**11 33 27.7**	**+0.4**
MORC				*e*SG	**Sg**	**11 33 40.8**	**-0.3**

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*NEIC **19** 11:38:18.9±0.7, 22°.1S±0°.2×179°.6W±0°.2, h579km±10km, mb4.1/12, Error ellipse: s-maj=29.1km s-min=20.5km az=152.0*
*IDC **19** 11:38:19.5±7.0, 21°.65S×179°.78W, h576km±82km, mb3.0/6, mb1 3.2/7, mb1mx2.9/36, mbtmp3.9/7, Error ellipse: s-maj=103.9km s-min=33.3km az=154.0*
ISC 19 11:38:20.0±1.2, 21°.9S±0°.2×179.7W±0°.2, h592km, n22, σ0°.62/22, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.68**	**333**	P	**P**	**11 39 49.0**	**-1.2**
DZM	**Mont Dzumac**	**12.84**	**267**	P	**P**	**11 41 06.6**	**-0.8**
0.3nm,0.3s,baz=70,slow=18,SNR=1.6							
SANVU	**Saraoutou**	**13.97**	**295**	P	**P**	**11 41 19.3**	**+0.5**
CTA	**Charters Tower**	**31.78**	**267**	P	**P**	**11 43 58.5**	**+1.0**
1.8nm,0.3s,baz=81,slow=11,SNR=6.8							
CTAO	**Charters Tower**	**31.78**	**267**	P	**P**	**11 43 58.4**	**+0.8**
CTAO				IAmb	IAmb	11 44 17.4	
comp=Z,15nm,1.6s							
TOO	**Toolangi**	**33.76**	**235**	P	**P**	**11 44 14.1**	**+0.1**
STKA	**Stephens Creek**	**35.73**	**246**	P	**P**	**11 44 29.7**	**-0.7**
comp=Z,0.5nm,0.3s,baz=131,slow=11,SNR=3.6							
STKA	**Stephens Creek**	**35.73**	**246**	P	**P**	**11 44 30.1**	**-0.3**
BBOO	**Buckleboo**	**40.48**	**245**	P	**P**	**11 45 08.6**	**-0.2**
AS31	**Alice Springs**	**42.65**	**258**	P	**P**	**11 45 27.3**	**+1.3**
ASAR	**Alice Springs**	**42.65**	**258**	P	**P**	**11 45 26.6**	**+0.6**
comp=Z,1.9nm,0.6s,baz=92,slow=8.5,SNR=37							
WR0	**Warramunga Arr**	**42.65**	**264**	P	**P**	**11 45 26.2**	**+0.2**
WR0				IAmb	IAmb	11 45 45.3	
comp=Z,6.1nm,1.4s							
WB0	**Warramunga Arr**	**42.82**	**264**	P	**P**	**11 45 27.5**	**+0.1**
WB0				IAmb	IAmb	11 46 03.7	
comp=Z,9.4nm,1.6s							
WB2	**Warramunga Arr**	**42.82**	**264**	P	**P**	**11 45 27.5**	**0.0**
WB2				IAmb	IAmb	11 45 41.7	
comp=Z,5.6nm,1.2s							
WRAB	**Tennant Creek**	**42.83**	**264**	P	**P**	**11 45 27.5**	**0.0**
WRAB				IAmb	IAmb	11 46 04.6	
comp=Z,14nm,1.6s							
WRA	**Warramunga Arr**	**42.84**	**264**	P	**P**	**11 45 27.4**	**-0.1**
comp=Z,0.8nm,0.3s,baz=96,slow=7.8,SNR=92							
WRA	**Warramunga Arr**	**42.84**	**264**	P	**P**	**11 45 27.3**	**-0.2**
KNRA	**Kununurra**	**48.99**	**268**	P	**P**	**11 46 14.8**	**+0.7**
KNRA				IAmb	IAmb	11 46 36.7	
comp=Z,12nm,1.5s							
FITZ	**Fitzroy Crossi**	**51.27**	**264**	P	**P**	**11 46 30.6**	**0.0**
FITZ				IAmb	IAmb	11 46 52.5	
comp=Z,7.4nm,1.4s							
NVAR	**Mina Array Bea**	**83.17**	**44**	P	**P**	**11 49 45.7**	**+0.4**
comp=Z,0.2nm,0.3s,baz=224,slow=7.6,SNR=2.6							
NVAR	**Mina Array Bea**	**83.17**	**44**	P	**P**	**11 49 45.5**	**+0.2**
TXAR	**Lajitas Array**	**89.17**	**58**	P	**P**	**11 50 14.0**	**0.0**
comp=Z,0.2nm,0.7s,baz=238,slow=5.1,SNR=2.4							

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*IDC **19** 11:40:38.5±1.1, 22°.88N×144°.13E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.7/59, mbtmp3.7/12, ML3.4/2, MS3.1/2, Ms1 3.0/2, ms1mx2.4/39, Error ellipse: s-maj=40.5km s-min=18.6km az=85.0*
*NEIC **19** 11:40:39.9±1.0, 22°.92N±0°.07×144°.2E±0°.2, h10km±1km, mb4.3/7, Error ellipse: s-maj=26.1km s-min=10.9km az=98.0*
ISC 19 11:40:43.9±0.8, 22°.97N±0°.09×144°.0E±0°.2, h34km, n29, σ0°.69/27, mb3.9/13, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.43**	**338**	Pn	**Pn**	**11 41 47.9**	**-0.8**
5.8nm,0.3s,baz=253,slow=18,SNR=2.4							
JCJ				Sn	**Sn**	**11 42 38.3**	**-0.8**
9.9nm,0.3s,baz=274,slow=22,SNR=2.9							
JCJ	**Chichijima**	**4.43**	**338**		**Pn**	**11 41 48.7**	**0.0**
JCJ				Sn	**Sn**	**11 42 38.4**	**-0.8**
MJAR	**Matsushiro Arr**	**14.43**	**341**	Pn	**Pn**	**11 44 05.8**	**0.0**
0.1nm,0.3s,baz=169,slow=15,SNR=2.7							
MJAR	**Matsushiro Arr**	**14.43**	**341**		**Pn**	**11 44 04.7**	**-1.0**

KSRS	**Korea Array**	**20.00**	**320**	P	Pn	11 45 15.4	0.0
0.8nm,0.6s,baz=140,slow=12,SNR=3.6							
KSRS				LR	LR	11 52 29.5	
comp=Z,35nm,18.5s,baz=142,slow=35							
H11N1	**WAKE ISLAND Hy**	**21.55**	**94**	T	T	12 07 46.8	
baz=282,slow=74							
H11N2	**WAKE ISLAND Hy**	**21.55**	**94**	T	T	12 07 47.6	
baz=282,slow=74							
H11N3	**WAKE ISLAND Hy**	**21.57**	**94**	T	T	12 07 47.3	
baz=282							
USRK	**Ussuriysk Ar.**	**23.38**	**338**	P	**P**	**11 45 50.0**	**+0.6**
1.1nm,0.6s,baz=142,slow=9.1,SNR=4.1							
USRK	**Ussuriysk Ar.**	**23.38**	**338**	P	**P**	**11 45 49.1**	**-0.3**
PETK	**Petropavlovsk-**	**31.85**	**16**	P	**P**	**11 47 06.0**	**+0.5**
4.8nm,0.9s,baz=187,slow=10,SNR=3.0							
CTAO	**Charters Tower**	**42.85**	**177**	P	**P**	**11 48 38.7**	**-0.2**
WB0	**Warramunga Arr**	**43.50**	**193**	P	**P**	**11 48 43.4**	**-0.8**
WB0				IAmb	IAmb	11 48 47.6	
comp=Z,8.7nm,1.4s							
WR0	**Warramunga Arr**	**43.65**	**193**	P	**P**	**11 48 44.6**	**-0.9**
WR0				IAmb	IAmb	11 48 53.8	
comp=Z,4.6nm,1.2s							
WRAB	**Tennant Creek**	**43.67**	**193**	P	**P**	**11 48 44.9**	**-0.6**
WRAB				IAmb	IAmb	11 48 45.1	
comp=Z,9.2nm,1.4s							
WB2	**Warramunga Arr**	**43.68**	**193**	P	**P**	**11 48 44.8**	**-0.8**
WRA	**Warramunga Arr**	**43.68**	**193**	P	**P**	**11 48 44.8**	**-1.0**
comp=Z,0.2nm,0.4s,baz=18,slow=8.9,SNR=8.8							
WRA	**Warramunga Arr**	**43.68**	**193**	P	**P**	**11 48 44.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**44.59**	**205**	P	**P**	**11 48 52.7**	**-0.2**
FITZ				IAmb	IAmb	11 49 21.3	
comp=Z,6.7nm,1.5s							
ASAR	**Alice Springs**	**47.38**	**193**	P	**P**	**11 49 14.0**	**-0.9**
comp=Z,1.0nm,1.2s,baz=20,slow=7.7,SNR=4.3							
MKAR	**Makanchi Array**	**54.41**	**312**	P	**P**	**11 50 08.5**	**+0.8**
comp=Z,0.6nm,0.6s,baz=98,slow=7.4,SNR=3.3							
MKAR				PcP	**PcP**	**11 51 11.4**	**+0.3**
comp=Z,0.2nm,0.5s,baz=90,slow=4.5,SNR=1.5							
KURBB	**Kurchatov Arra**	**57.13**	**316**	P	**P**	**11 50 27.5**	**+0.5**
comp=Z,0.6nm,0.5s,baz=92,slow=7.8,SNR=6.1							
ILAR	**Eielson Array**	**60.57**	**27**	P	**P**	**11 50 50.5**	**-0.2**
comp=Z,0.3nm,0.8s,baz=248,slow=5.6,SNR=2.9							
BVAR	**Borovoye Array**	**62.21**	**319**	P	**P**	**11 51 02.8**	**+0.8**
comp=Z,2.2nm,0.4s,baz=125,slow=10,SNR=13							
KKAR	**Karatay Array**	**62.88**	**308**	P	**P**	**11 51 07.6**	**+1.0**
ABKAR	**Akbulak array**	**69.17**	**316**	P	**P**	**11 51 47.4**	**+0.4**
FINES	**FINESS Array B**	**82.37**	**335**	P	**P**	**11 53 02.1**	**0.0**
comp=Z,0.7nm,0.6s,baz=51,slow=7.3,SNR=1.9							
FINES	**FINESS Array B**	**82.37**	**335**	P	**P**	**11 53 02.3**	**+0.2**
ULM	**Lac du Bonnet**	**89.97**	**34**	LR	LR	12 31 45.1	
comp=Z,12nm,20.8s,baz=19,slow=34							

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*RSNC **19** 11:44:38.8±1.0, 6°.84N×73°.15W, h146km±4km, ML2.8*
*IDC **19** 11:44:41.5±7.4, 6°.73N×73°.74W, h180km±56km, Error ellipse: s-maj=253.7km s-min=104.6km az=114.0*
ISC 19 11:44:38.6±1.1, 6°.86N±0°.03×73°.11W±0°.04, h146km±7km, n26, σ1°.38/49, 5C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**195**	⇓*i*P	**Pn**	**11 44 58.4**	**-0.4**
BARC				*e*S	**Sn**	**11 45 14.0**	**-0.2**
BARC				*i*		11 45 15.5	
comp=Z,107nm,0.3s							
PAMC	**Pamplona, Colo**	**0.63**	**41**	⇑*e*P	**Pn**	**11 45 01.2**	**+0.4**
PAMC				*e*S	**Sn**	**11 45 18.1**	**+0.5**
PAMC				*i*		11 45 20.3	
comp=Z,151nm,0.4s							
BRRC	**Barranca, Sant**	**0.64**	**293**	⇑*i*P	**Pn**	**11 45 00.2**	**-0.1**
BRRC				*e*S	**Sn**	**11 45 17.1**	**+0.3**
BRRC				*i*		11 45 20.9	
comp=Z,160nm,0.2s							
RUSC	**La Rusia**	**0.96**	**178**	*e*P	**Pn**	**11 45 02.5**	**-0.7**
RUSC				*e*S	**Sn**	**11 45 21.1**	**-0.8**
RUSC				*i*		11 45 22.6	
comp=Z,101nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	⇑*e*P	**Pn**	**11 45 04.9**	**-1.5**
PTBC				*e*S	**Sn**	**11 45 26.9**	**-0.8**
PTBC				*i*		11 45 34.1	
comp=Z,56nm,0.2s							
TAMC	**Tame, Arauca**	**1.38**	**108**	⇑*i*P	**Pn**	**11 45 06.9**	**+0.3**
TAMC				*e*S	**Sn**	**11 45 28.9**	**+0.9**
TAMC				*i*		11 45 30.6	
comp=Z,38nm,0.3s							
OCAC	**Ocana**	**1.39**	**352**	*e*P	**Pn**	**11 45 06.6**	**-0.3**
OCAC				*e*S	**Sn**	**11 45 28.1**	**-0.4**
OCAC				*i*		11 45 32.0	
comp=Z,67nm,0.3s							
SPBC	**San Pablo de B**	**1.53**	**219**	*e*P	**Pn**	**11 45 07.7**	**-0.6**
SPBC				*e*S	**Sn**	**11 45 29.5**	**-1.4**
SPBC				*i*		11 45 33.2	
comp=Z,81nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*e*P	**Pn**	**11 45 11.2**	**-0.4**
ZARC				*e*S	**Sn**	**11 45 36.8**	**-0.2**
ZARC				*i*		11 45 42.7	
comp=Z,119nm,0.4s							
SMLC	**San Martn de**	**2.15**	**334**	*e*P	**Pn**	**11 45 14.3**	**-1.0**
SMLC				*e*S	**Sn**	**11 45 43.2**	**-0.3**
SMLC				*i*		11 45 49.1	
comp=Z,69nm,0.1s							
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**11 45 16.9**	**-0.6**
CHIC				*e*S	**Sn**	**11 45 46.8**	**-0.5**
CHIC				*i*		11 45 51.5	
comp=Z,24nm,0.3s							
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**11 45 18.6**	**+0.7**
comp=Z,6.1nm,0.3s,baz=311,slow=23,SNR=3.6							
ROSC				S	**Sn**	**11 45 47.6**	**-0.4**
comp=Z,5.5nm,0.3s,baz=18,slow=20,SNR=6.6							
ROSC	**El Rosal**	**2.33**	**211**	*e*P	**Pn**	**11 45 19.8**	**+1.9**
ROSC				*e*S	**Sn**	**11 45 47.5**	**-0.5**
ROSC				*i*		11 45 51.9	
comp=Z,68nm,0.4s							
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	**Pn**	**11 45 22.3**	**+2.0**
UREC				*e*S	**Sn**	**11 45 56.1**	**+3.7**
UREC				*i*		11 46 02.2	
comp=Z,67nm,0.1s							
GUY2C	**Guyana, Caldas**	**2.76**	**234**	*e*P	**Pn**	**11 45 22.3**	**-0.9**
GUY2C				*e*S	**Sn**	**11 45 59.7**	**+2.0**
GUY2C				*i*		11 46 06.4	
comp=Z,35nm,0.8s							
PTGC	**Puerto Gaitan,**	**2.81**	**160**	*e*P	**Pn**	**11 45 21.9**	**-1.6**
PTGC				*e*S	**Sn**	**11 45 55.2**	**-2.9**
PTGC				*i*		11 45 57.8	
comp=Z,45nm,0.4s							
DBBC	**Dabeiba**	**3.08**	**273**	*e*P	**Pn**	**11 45 27.0**	**+0.2**
DBBC				*e*S	**Sn**	**11 46 01.9**	**-2.2**
DBBC				*i*		11 46 13.8	
comp=Z,57nm,0.4s							
TOLC	**Tolima**	**3.15**	**224**	*e*P	**Pn**	**11 45 28.1**	**+0.1**
TOLC				*e*S	**Sn**	**11 46 06.1**	**0.0**
TOLC				*i*		11 46 09.4	
comp=Z,57nm,0.3s							
MOTC	**Monteria, Cord**	**3.17**	**307**	*e*P	**Pn**	**11 45 25.7**	**-2.3**
MOTC				*e*S	**Sn**	**11 46 04.2**	**-1.9**
MOTC				*i*		11 46 18.6	
comp=Z,25nm,0.5s							
ARGC	**Ariguani, Magd**	**3.19**	**340**	*e*P	**Pn**	**11 45 28.5**	**+0.3**
ARGC				*e*S	**Sn**	**11 46 06.6**	**0.0**
ARGC				*i*		11 46 16.9	
comp=Z,13nm,0.2s							
ANIL	**Santa Ana**	**3.27**	**224**	*e*S	**Sn**	**11 46 09.7**	**+0.7**
ANIL				*i*		11 46 16.8	
comp=Z,7.8nm,0.3s							
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**11 45 32.1**	**-1.3**
PRAC				*e*S	**Sn**	**11 46 15.4**	**-0.5**
PRAC				*i*		11 46 22.3	
comp=Z,29nm,0.3s							
ORTC	**Ortega, Tolima**	**3.62**	**216**	*e*P	**Pn**	**11 45 33.7**	**-0.1**
ORTC				*e*S	**Sn**	**11 46 16.1**	**-0.5**
ORTC				*i*		11 46 19.3	
comp=Z,22nm,0.4s							
SJCC	**San Jacinto, C**	**3.65**	**326**	⇑*i*P	**Pn**	**11 45 32.8**	**-1.4**
SJCC				*e*S	**Sn**	**11 46 13.8**	**-3.6**
SJCC				*i*		11 46 20.3	
comp=Z,11nm,0.3s							
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPdf**	**12 04 07.5**	**+1.1**
comp=Z,0.2nm,1.0s,baz=123,slow=3.2,SNR=4.1							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPdf**	**12 04 10.5**	**+2.1**
comp=Z,0.2nm,0.5s,baz=109,slow=2.6,SNR=5.6							

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*IDC **19** 12:07:55.8±3.0, 15°.88N×98°.89W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.9/34, mbtmp3.9/5, MS3.0/6, Ms1 3.0/6, ms1mx2.8/29, Error ellipse: s-maj=102.3km s-min=53.0km az=76.0*
*NEIC **19** 12:08:01.1±2.4, 15°.95N±0°.03×100°.3W±0°.2, h10km±2km, mb4.2/37, Error ellipse: s-maj=26.6km s-min=4.6km az=84.0*
*MEX **19** 12:08:08.3±0.8, 16°.64N×100°.82W, h16km±999km, MD4.0*
ISC 19 12:08:10.1±1.9, 16°.72N±0°.09×100°.63W±0°.06, h25km±12km, n66, σ2°.34/67, mb4.1/19, MS3.1/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.48**	**46**	*e*P	**Pb**	**12 08 18.6**	**-1.4**
CAIG				*e*S	**Sb**	**12 08 26.9**	**+0.3**
ACP2	**Acapulco**	**0.72**	**77**	*e*P	**Pb**	**12 08 22.9**	**-1.3**
ACP2				*e*S	**Sb**	**12 08 34.6**	**+0.9**
ZIIG	**Zihuatanejo**	**1.20**	**318**	*e*P	Pn	12 08 25.3	-5.9
ZIIG				*i* S	**Sn**	**12 08 40.4**	**-6.3**
CRIG	**Cruz Grande**	**1.43**	**89**	*i* P	**Pn**	**12 08 32.9**	**-1.5**
CRIG				*e*S	**Sn**	**12 08 51.2**	**-1.3**
MEIG	**Mezcala**	**1.54**	**38**	*e*P	**Pn**	**12 08 34.8**	**-1.2**
MEIG				*i* S	**Sn**	**12 08 54.7**	**-0.6**
ARIG	**Puente Sto Nin**	**1.58**	**10**	*e*P	**Pn**	**12 08 34.0**	**-2.5**
ARIG				*i* S	**Sn**	**12 08 53.1**	**-3.1**
PLIG	**Platanillo**	**1.98**	**33**	*e*P	**Pn**	**12 08 41.1**	**-1.1**
PLIG				*i* S	**Sn**	**12 09 06.1**	**-0.2**
TLIG	**Tlapa**	**2.14**	**67**	*e*P	**Pn**	**12 08 43.5**	**-0.9**
TLIG				*i* S	**Sn**	**12 09 10.7**	**+0.5**
TLIG	**Tlapa**	**2.14**	**67**	Pn	**Pn**	**12 08 43.8**	**-0.6**
UNM	**Universidad Na**	**2.94**	**28**	Pn	**Pn**	**12 08 54.3**	**-1.2**
MOIG	**Morelia**	**3.00**	**350**		**Pn**	**12 08 57.3**	**+1.1**
ZAIG	**Zacatecas**	**6.29**	**343**	Pn	**Pn**	**12 09 45.4**	**+3.8**
TX31	**Lajitas Ar. Si**	**12.87**	**348**	Pn	**Pn**	**12 11 14.9**	**+3.3**
TXAR	**Lajitas Array**	**12.87**	**348**	Pn	**P**	**12 11 23.2**	**+1.1**
0.0nm,0.3s,baz=165,slow=13,SNR=4.2							
TXAR				LR	LR	12 17 03.3	
comp=Z,69nm,19.3s,baz=0.0,slow=39							
TXAR	**Lajitas Array**	**12.87**	**348**	Pn	**Pn**	**12 11 16.0**	**+4.4**
HSIG		**15.50**	**324**	P	**P**	**12 11 53.8**	**+2.6**
HSIG				IAmb	IAmb	12 11 59.3	
comp=Z,11nm,0.9s							
MNTX	**Cornudas Mount**	**15.53**	**345**		**P**	**12 11 53.7**	**+2.1**
TUC	**Tucson**	**18.05**	**331**	P	**P**	**12 12 21.6**	**+2.0**
BNM	**Barren Site**	**18.18**	**344**	P	**Pn**	**12 12 21.8**	**+0.7**
214A	**Organ Pipe Nat**	**18.78**	**326**		**Pn**	**12 12 29.1**	**+1.0**
ANMO	**Albuquerque**	**18.89**	**345**	P	**P**	**12 12 29.3**	**+0.3**
X16A	**Lo Mia Camp, P**	**20.12**	**333**	P	Pn	12 12 47.6	+3.2
WUAZ	**Wupatki**	**21.04**	**335**	P	**P**	**12 12 53.4**	**+1.1**
MVCO	**Mesa Verde**	**21.57**	**343**	P	**P**	**12 13 00.7**	**+2.6**
MVCO				IAmb	IAmb	12 13 08.0	
comp=Z,13nm,0.9s							
S22A	**4UR Ranch, Cre**	**21.65**	**347**	P	**P**	**12 13 01.9**	**+2.9**
PFO	**Pinyon Flats O**	**22.05**	**323**	P	**P**	**12 13 10.1**	**+7.0**
comp=Z,3.8nm,1.0s,baz=100,slow=4.9,SNR=3.7							
PFO	**Pinyon Flats O**	**22.05**	**323**	P	**P**	**12 13 06.9**	**+3.7**
PFO				IAmb	IAmb	12 13 34.2	
comp=Z,8.9nm,1.3s							
U15A	**North Rim**	**22.20**	**334**	P	**P**	**12 13 07.4**	**+2.5**
U15A				IAmb	IAmb	12 13 26.2	
comp=Z,11nm,1.6s							
PV13	**Radium Mtn., P**	**22.55**	**343**	P	**P**	**12 13 11.4**	**+2.9**
PV05	**Paradox Valley**	**22.55**	**342**	P	**P**	**12 13 09.7**	**+1.2**
PV05				IAmb	IAmb	12 13 17.1	
comp=Z,6.3nm,1.1s							
PV15	**Paradox Valley**	**22.62**	**344**	P	**P**	**12 13 11.2**	**+1.8**
PV15				IAmb	IAmb	12 13 18.3	
comp=Z,9.2nm,1.2s							
PV03	**Paradox Valley**	**22.64**	**343**	P	**P**	**12 13 10.4**	**+0.9**
PV03				IAmb	IAmb	12 13 17.8	
comp=Z,6.6nm,1.1s							
PV12	**Saucer Basin,**	**22.69**	**343**	P	**P**	**12 13 11.4**	**+1.4**
PV04	**Paradox Valley**	**22.79**	**343**	P	**P**	**12 13 15.2**	**+4.2**
KNB	**Kanab**	**22.92**	**334**	P	**P**	**12 13 12.5**	**+0.1**
LCMT	**Little Creek M**	**23.09**	**334**	P	**P**	**12 13 18.4**	**+4.3**
MTPU	**Mount Pierson**	**23.55**	**337**	P	**P**	**12 13 20.4**	**+1.4**
CCUT	**Cedar City**	**23.60**	**334**	P	**P**	**12 13 19.4**	**+0.1**
Q16A	**Castle Valley**	**23.97**	**339**	P	**P**	**12 13 24.1**	**+1.3**
TKL	**Tuckaleechee C**	**24.11**	**35**	LR	LR	12 23 23.6	
comp=Z,10nm,21.0s,baz=254,slow=39							
PRN	**Pahroc Range**	**24.23**	**331**	P	**P**	**12 13 28.5**	**+3.4**
PRN				IAmb	IAmb	12 13 45.9	
comp=Z,5.3nm,1.2s							
TPNV	**Topopah Spring**	**24.44**	**329**	P	**P**	**12 13 30.5**	**+3.4**
RDMU	**Red Mountain**	**25.00**	**344**	P	**P**	**12 13 32.4**	**+0.2**
R11A	**Troy Canyon, C**	**25.24**	**332**	P	**P**	**12 13 37.4**	**+3.1**
R11A				IAmb	IAmb	12 13 42.5	
comp=Z,6.5nm,1.2s							
DUG	**Dugway, Tooele**	**25.68**	**338**	P	**P**	**12 13 39.4**	**+1.1**
DUG				IAmb	IAmb	12 13 46.4	
comp=Z,5.2nm,1.1s							
NV11	**Mina Array Sit**	**26.54**	**328**	P	**P**

comp=Z,89nm,22.0s,baz=74,slow=32
H11S3 WAKE ISLAND Hy 22.97 71 T T 12 38 27.6
baz=255,slow=74,SNR=10
H11S1 WAKE ISLAND Hy 22.99 71 T T 12 38 18.1
baz=255,slow=74,SNR=5.9
H11S2 WAKE ISLAND Hy 22.99 71 T T 12 38 15.0
baz=255,slow=74,SNR=14
H11N1 WAKE ISLAND Hy 23.46 68 T T 12 38 59.0
baz=255,slow=75,SNR=16
H11N2 WAKE ISLAND Hy 23.47 68 T T 12 38 57.9
baz=255,slow=75,SNR=7.4
H11N3 WAKE ISLAND Hy 23.47 68 T T 12 38 58.8
baz=255,slow=75,SNR=13
JNU Nakatsue 24.02 333 P **P** **12 14 26.7 -2.2**
comp=Z,13nm,0.9s,baz=67,slow=4.1,SNR=4.9
JNU LR LR 12 23 03.6
comp=Z,65nm,18.9s,baz=180,slow=35
JNU Nakatsue 24.02 333 IAmb IAmb 12 14 31.1
comp=Z,16nm,0.9s
MJAR Matsushiro Arr 24.84 349 LR LR 12 23 38.1
comp=Z,68nm,18.1s,baz=190,slow=35
KSRS Korea Array 28.96 333 P **P** **12 15 11.9 -1.4**
comp=Z,0.5nm,0.5s,baz=146,slow=9.5,SNR=2.3
KNRA Kununurra 31.36 209 P **P** **12 15 34.8 0.0**
KNRA IAmb IAmb 12 15 36.1
comp=Z,8.1nm,0.9s
WB0 Warramunga Arr 33.00 196 P **P** **12 15 49.1 -0.1**
WB0 IAmb IAmb 12 16 03.0
comp=Z,17nm,1.7s
WR0 Warramunga Arr 33.14 196 P **P** **12 15 50.0 -0.4**
WR0 IAmb IAmb 12 16 05.1
comp=Z,24nm,1.9s
WRAB Tennant Creek 33.17 196 P **P** **12 15 50.5 -0.2**
WRAB IAmb IAmb 12 15 51.4
comp=Z,6.1nm,0.7s
WB2 Warramunga Arr 33.18 196 P **P** **12 15 50.7 0.0**
WB2 IAmb IAmb 12 15 51.2
comp=Z,5.9nm,0.8s
WRA Warramunga Arr 33.18 196 P **P** **12 15 50.6 -0.1**
comp=Z,4.1nm,0.6s,baz=20,slow=9.8,SNR=79
WRA PcP **PcP** **12 18 31.7 -2.0**
comp=Z,0.4nm,1.0s,baz=24,slow=3.5,SNR=1.6
WRA Warramunga Arr 33.18 196 P **P** **12 15 50.4 -0.4**
AS31 Alice Springs 36.85 195 P **P** **12 16 23.5 +1.1**
ASAR Alice Springs 36.85 195 P **P** **12 16 22.5 +0.1**
comp=Z,0.9nm,0.6s,baz=21,slow=13,SNR=26
ASAR Alice Springs 36.85 195 P **P** **12 16 22.4 0.0**
EIDS Eidsvold 37.93 169 P **P** **12 16 31.5 0.0**
DZM Mont Dzumac 40.60 147 P **P** **12 16 55.0 +1.0**
DZM IAmb IAmb 12 16 55.3
comp=Z,13nm,0.9s
PSA00 Pilbara Seismi 40.90 215 P **P** **12 16 56.5 +0.1**
PSA00 IAmb IAmb 12 17 41.3
comp=Z,37nm,1.7s
PETK Petropavlovsk- 42.38 12 LR LR 12 36 24.5
comp=Z,48nm,18.9s,baz=240,slow=38
CMAR Chiang Mai Arr 43.62 284 P **P** **12 17 19.1 +0.3**
comp=Z,0.8nm,0.3s,baz=88,slow=6.1,SNR=5.4
CMAR LR LR 12 32 06.3
comp=Z,26nm,20.8s,baz=183,slow=32
STKA Stephens Creek 43.79 183 P **P** **12 17 18.9 -0.9**
comp=Z,3.0nm,0.6s,baz=340,slow=10,SNR=7.5
STKA LR LR 12 35 46.3
comp=Z,39nm,20.1s,baz=18,slow=36
STKA Stephens Creek 43.79 183 P **P** **12 17 18.7 -1.0**
SONM Songino Array 47.34 326 P **P** **12 17 48.3 +0.3**
comp=Z,1.1nm,0.6s,baz=146,slow=6.8,SNR=4.8
SONM LR LR 12 38 39.5
comp=Z,65nm,18.1s,baz=114,slow=37
SONM Songino Array 47.34 326 P **P** **12 17 49.0 +1.0**
MORW Morawa 48.93 213 P **P** **12 18 00.6 +0.4**
TOO Toolangi 49.45 178 P **P** **12 18 05.5 +1.4**
YAK Yakutsk 50.87 351 LR LR 12 40 28.7
comp=Z,31nm,18.0s,baz=138,slow=37
TLY Talaya 51.05 329 LR LR 12 41 03.1
comp=Z,17nm,18.3s,baz=134,slow=38
MKAR Makanchi Array 61.82 317 P **P** **12 19 33.6 +0.5**
comp=Z,1.1nm,0.6s,baz=98,slow=8.4,SNR=5.9
MKAR Makanchi Array 61.82 317 P **P** **12 19 33.8 +0.7**
ZALV Zalesovo Beam 62.21 325 P **P** **12 19 35.7 +0.3**
comp=Z,0.6nm,0.3s,baz=106,slow=7.6,SNR=3.8
KURK Kurchatov 65.03 320 P **P** **12 19 54.6 +0.4**
IL31 70.35 25 P **P** **12 20 26.8 -0.6**
ILAR Eielson Array 70.35 25 P **P** **12 20 26.2 -1.2**
comp=Z,0.8nm,0.5s,baz=249,slow=5.7,SNR=19
ILAR Eielson Array 70.35 25 P **P** **12 20 26.1 -1.4**
BRVK Borovoye 70.49 322 P **P** **12 20 29.3 +0.7**
BRVK IAmb IAmb 12 20 29.5
comp=Z,3.9nm,0.8s
ABKAR Akbulak array 76.92 318 P **P** **12 21 06.3 -0.1**
YKA Yellowknife Ar 84.65 27 LR LR 13 01 22.2
comp=Z,21nm,18.2s,baz=0.0,slow=37
PINE Pine Mountain 85.49 46 P **P** **12 21 53.6 +1.2**
B08A Colville Reser 85.58 42 P **P** **12 21 53.3 +0.8**
B08A IAmb IAmb 12 21 55.0
comp=Z,5.7nm,1.1s
NEW Newport 87.03 41 P **P** **12 22 00.8 +1.2**
BMO Blue Mountains 87.78 45 P **P** **12 22 04.3 +0.9**
BMO IAmb IAmb 12 22 13.2
comp=Z,3.5nm,0.9s
ARCES ARCESS Array B 88.15 342 P **P** **12 22 04.7 +0.2**
comp=Z,1.7nm,0.8s,baz=61,slow=7.5,SNR=4.9
ARCES ARCESS Array B 88.15 342 P **P** **12 22 04.1 -0.5**
NVAR Mina Array Bea 88.67 51 P **P** **12 22 09.7 +1.8**
comp=Z,1.7nm,0.7s,baz=264,slow=5.8,SNR=19
NVAR Mina Array Bea 88.67 51 P **P** **12 22 08.8 +0.9**
KBZ Khabaz 89.44 315 LR LR 13 06 57.7
comp=Z,17nm,18.6s,baz=121,slow=39
VNDA Vanda 90.07 176 P **P** **12 22 13.1 -0.1**
comp=Z,0.6nm,0.9s,baz=319,slow=3.2,SNR=3.5
ELK Elko 90.34 48 P **P** **12 22 17.2 +1.5**
comp=Z,1.0nm,0.6s,baz=279,slow=5.1,SNR=7.0
ELK Elko 90.34 48 IAmb IAmb 12 22 18.1
comp=Z,2.2nm,0.9s
FINES FINESS Array B 92.04 335 P **P** **12 22 21.3 -1.5**
comp=Z,2.2nm,0.7s,baz=66,slow=5.0,SNR=8.1
FINES LR LR 13 06 14.0
comp=Z,21nm,18.2s,baz=36,slow=37
AKASG Malin Array Be 95.60 324 LR LR 13 09 08.1
comp=Z,29nm,18.1s,baz=310,slow=38
DBIC Dimbokro 143.66 299 PKP PKPab 12 28 48.9 +2.2
comp=Z,2.2nm,0.6s,baz=0.2,slow=2.6,SNR=4.2
DBIC Dimbokro 143.66 299 PKPab 12 28 47.8 +1.1
KIC Kosan Boka 143.72 299 *e*PKP1 PKPbc 12 28 50.2 +2.6
comp=Z,2.6nm,0.6s
TIC Toumodi 143.81 299 *e*PKP1 PKPbc 12 28 51.0 +3.1
LIC Lamto 144.03 299 *e*PKP1 PKPbc 12 28 51.2 +2.6
comp=Z,31nm,0.8s
LPAZ La Paz 148.81 101 PKPbc **PKPbc** **12 29 04.2 +0.9**
comp=Z,1.7nm,0.7s,baz=213,slow=0.5,SNR=3.7
LPAZ La Paz 148.81 101 **PKPbc** **12 29 04.1 +0.7**

IDC 19 12:31:16.6±12.0,26°.21S×28°.54E,h0km,Error ellipse: s-maj=93.1km s-min=74.7km az=138.0,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**3.78**	**230**	Pg	Pb	12 32 25.8	+1.5
	0.1nm,0.3s,baz=45,slow=16,SNR=2.2						
BOSA				Lg	Lg	12 33 16.5	
	0.2nm,0.3s,baz=142,slow=11,SNR=1.8						
I47ZA	**BOSHOF INFRASO**	**3.80**	**230**	*i*		12 57 10.0	
	baz=52,slow=325,SNR=1.0						
I35NA	**TSUMEB INFRASO**	**12.29**	**302**	*i*		13 48 40.0	
	baz=128,slow=322,SNR=1.5						

BJI ***19*** *12:55:49.6±0.0, 10°.79S×162°.07E, h4km, mB5.2/40, mb4.9/54, Ms4.8/33, Ms7 4.6/35*
NEIC ***19*** *12:55:51.0±1.9, 11°.03S±0°.06×162°.07E±0°.07, h10km±1km, mb5.3/189, Error ellipse: s-maj=12.9km s-min=8.8km az=227.0*
UNK ***19*** *12:55:51.4, 11°.01S×162°.05E, h10km*
MOS ***19*** *12:55:51.1±0.9, 10°.95S×162°.02E, h19km, mb5.3/45, Error ellipse: s-maj=8.0km s-min=6.9km az=86.8*
IDC ***19*** *12:55:54.4±2.0, 10°.93S×162°.06E, h29km±12km, mb4.7/25, mb1 4.9/30, mb1mx4.8/36, mbtmp4.9/30, ML2.4/1, MS4.5/38, Ms1 4.5/38, ms1mx4.5/41, Error ellipse: s-maj=13.6km s-min=10.9km az=83.0*
GCMT ***19*** *12:55:55.0±0.2, 10°.97S±0°.02×161°.96E±0°.01, h29km, MW5.2/98, Moment Tensor Solution. s72,c99; s98,c151; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.83±.14; Mθθ-2.84±.10; Mφφ-0.98±.10; Mrθ3.54±.19; Mφθ1.77±.08;*

M0/~4.16±.21; Best double couple: M0=6.69300×10^16 NP1:φ=288.00000°, δ19.00000°, λ63.00000°. NP2: φ=136.00000°, δ73.00000°, λ99.00000°. Principal axes: T 6.7850, Plg61.0000°, Azm59.0000°; N -0.1820, Plg9.0000°, Azm313.0000°; P -6.6020, Plg27.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 12:55:55.2±0.2, 11°.07S±0°.04×162°.05E±0°.04, h36km, n551, σ1°28/546, mb5.2/163, MS4.6/56, 14C-8D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.63**	**308**	Pn	**Pn**	**12 56 35.5**	**+0.3**
	286nm,0.3s,baz=149,slow=7.7,SNR=62						
HNR				Sn	**Sn**	**12 57 06.4**	**+0.5**
	678nm,0.3s,baz=66,slow=9.1,SNR=4.6						
HNR				LR	LR	12 57 45.3	
	comp=Z,10μm,18.8s,baz=133,slow=43						
HNR	**Honiara**	**2.63**	**308**	P	**Pn**	**12 56 35.1**	**-0.1**
HNR						12 57 06.8	
HNR	**Honiara**	**2.63**	**308**	Pn	**Pn**	**12 56 35.1**	**-0.1**
HNR					**Sn**	**12 57 06.8**	**+1.0**
SANVU	**Saraoutou**	**6.64**	**131**	Pn	**Pn**	**12 57 31.1**	**+0.7**
DZM	**Mont Dzumac**	**11.72**	**160**	*e*Pn	**Pn**	**12 58 39.2**	**-0.9**
	9.4nm,0.2s						
DZM				*e*Sn	**Sn**	**13 00 41.7**	**-8.1**
	4.7nm,0.3s						
DZM				*e*LR	LR	13 01 21.2	
	comp=Z,4μm,22.9s						
DZM	**Mont Dzumac**	**11.72**	**160**	Pn	**Pn**	**12 58 42.1**	**+2.0**
	1.8nm,0.3s,baz=317,slow=18,SNR=87						
DZM				Sn	**Sn**	**13 00 47.6**	**-2.2**
	1.5nm,0.3s,baz=311,slow=19,SNR=2.3						
DZM				LR	LR	13 02 40.0	
	comp=Z,2μm,20.4s,baz=346,slow=34						
DZM	**Mont Dzumac**	**11.72**	**160**		**Pn**	**12 58 40.6**	**+0.5**
DZM					**Sn**	**13 00 49.1**	**-0.7**
KRVT	**Keravat (AS076**	**11.99**	**303**	Pn	**Pn**	**12 58 44.1**	**+0.5**
	4.9nm,0.3s,baz=72,slow=13,SNR=2.0						
KRVT				LR	LR	13 03 50.2	
	comp=Z,2μm,20.1s,baz=129,slow=40						
PMG	**Port Moresby**	**14.74**	**275**	Pn	**Pn**	**12 59 22.3**	**+1.0**
	0.6nm,0.3s,baz=94,slow=9.2,SNR=11						
PMG				LR	LR	13 04 56.9	
	comp=Z,4μm,19.8s,baz=112,slow=37						
PMG	**Port Moresby**	**14.74**	**275**	*d*P	**P**	**12 59 24.2**	**-2.7**
PMG				pmax	pmax		
	comp=Z,47nm,1.0s						
PMG	**Port Moresby**	**14.74**	**275**	Pn	**Pn**	**12 59 20.9**	**-0.4**
TARA	**Tarawa**	**16.41**	**42**	Pn	**Pn**	**12 59 42.1**	**-0.8**
MSVF	**Nonsavu**	**16.85**	**115**	P	**Pn**	**12 59 49.1**	**+0.5**
MSVF				pmax	pmax		
	comp=Z,125nm,1.2s						
MSVF	**Nonsavu**	**16.85**	**115**		**Pn**	**12 59 49.1**	**+0.5**
EIDS	**Eidsvold**	**17.61**	**215**	P	**P**	**12 59 58.9**	**+0.3**
	baz=18,SNR=48						
EIDS	**Eidsvold**	**17.61**	**215**		**Pn**	**12 59 57.5**	**-0.4**
EIDS				IAmb	IAmb	13 00 04.5	
	comp=Z,134nm,0.9s						
CTA	**Charters Tower**	**17.65**	**238**	P	**P**	**13 00 00.7**	**+1.6**
	comp=Z,7.3nm,0.3s,baz=68,slow=12,SNR=95						
CTA				LR	LR	13 06 08.5	
	comp=Z,2μm,20.6s,baz=62,slow=35						
CTAO	**Charters Tower**	**17.65**	**238**	P	**P**	**13 00 00.3**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,302nm,1.0s						
CTAO	**Charters Tower**	**17.65**	**238**		**P**	**13 00 00.3**	**+1.2**
CTAO				IAmb	IAmb	13 00 05.3	
	comp=Z,302nm,0.9s						
PATS	**Pohnpei**	**18.17**	**348**	P	**P**	**13 00 04.9**	**0.0**
	baz=18,SNR=8.2						
PATS	**Pohnpei**	**18.17**	**348**		**Pn**	**13 00 03.6**	**-1.2**
PATS				IAmb	IAmb	13 00 24.2	
	comp=Z,203nm,0.8s						
MTSU	**Mount Surprise**	**18.53**	**246**	P	**Pn**	**13 00 10.0**	**+0.7**
	baz=19,SNR=77						
COEN	**Coen**	**18.65**	**259**	P	**Pn**	**13 00 10.9**	**+0.3**
	baz=19,SNR=28						
COEN	**Coen**	**18.65**	**259**	P	**P**	**13 00 09.6**	**-0.5**
RMQ	**Roma**	**19.81**	**217**	P	**Pn**	**13 00 25.4**	**+0.9**
	baz=20,SNR=218						
KWAJ	**Kwajalein Atol**	**20.50**	**16**	P	**P**	**13 00 30.8**	**+0.5**
KWAJ				pmax	pmax		
	comp=Z,442nm,1.1s						
KWAJ	**Kwajalein Atol**	**20.50**	**16**	P	**P**	**13 00 30.8**	**+0.5**
ARMA	**Armidale**	**21.55**	**205**	P	**P**	**13 00 43.3**	**+1.6**
	baz=22,SNR=26						
ARMA	**Armidale**	**21.55**	**205**	P	**P**	**13 00 41.5**	**-0.2**
ARMA				IAmb	IAmb	13 00 45.2	
	comp=Z,149nm,1.0s						
QLP	**Quilpie**	**22.81**	**225**	P	**P**	**13 00 56.3**	**+1.2**
	baz=23,SNR=21						
JAY	**Jayapura**	**22.82**	**290**	P	**P**	**13 00 53.4**	**-1.9**
	comp=Z,23nm,0.6s,baz=141,slow=3.5,SNR=16						
JAY	**Jayapura**	**22.82**	**290**	P	**P**	**13 00 58.4**	**+3.1**
	comp=Z,499nmcomp=Z,34nm,0.8s						
QIS	**Mount Isa**	**23.54**	**244**	P	**P**	**13 01 03.6**	**+1.2**
	baz=24,SNR=8.8						
MGCD	**Mangrove Creek**	**24.22**	**203**	P	**P**	**13 01 11.1**	**+2.5**
	baz=24,SNR=12						
SMPI	**Sarmi**	**24.86**	**290**	P	**P**	**13 01 13.1**	**-1.5**
	comp=Z,1μmcomp=Z,201nm,0.9s						
CMSA	**Cobar Meteorol**	**25.37**	**214**	P	**P**	**13 01 21.1**	**+2.0**
	baz=26,SNR=12						
AFI	**Afiamalu**	**25.71**	**99**	LR	LR	13 10 05.3	
	comp=Z,2μm,18.6s,baz=280,slow=33						
AFI	**Afiamalu**	**25.71**	**99**	P	**P**	**13 01 22.9**	**+0.5**
AFI				pmax	pmax		
	comp=Z,123nm,1.3s						
AFI	**Afiamalu**	**25.71**	**99**	P	**P**	**13 01 22.9**	**+0.5**
AFI				IAmb	IAmb	13 01 25.9	
	comp=Z,123nm,1.3s						
RAO	**Raoul Island**	**26.02**	**137**	LR	LR	13 10 46.8	
	comp=Z,559nm,18.9s,baz=312,slow=34						
YNG	**Young**	**26.27**	**206**	P	**P**	**13 01 28.8**	**+1.5**
	baz=26,SNR=13						
CNB	**Canberra Magne**	**26.75**	**204**	P	**P**	**13 01 33.4**	**+1.8**
	baz=27,SNR=8.3						
CAN	**Canberra**	**26.90**	**204**	P	**P**	**13 01 32.1**	**-0.9**
CAN				pmax	pmax		
	comp=Z,46nm,1.3s						
CAN	**Canberra**	**26.90**	**204**	P	**P**	**13 01 32.1**	**-0.9**
WR0	**Warramunga Arr**	**27.90**	**248**	P	**P**	**13 01 42.0**	**-0.1**
WB0	**Warramunga Arr**	**27.99**	**249**	P	**P**	**13 01 42.2**	**-0.7**
WB0				IAmb	IAmb	13 01 53.0	
	comp=Z,42nm,1.0s						
STKA	**Stephens Creek**	**28.02**	**219**	P	**P**	**13 01 43.9**	**+0.8**
	comp=Z,18nm,0.7s,baz=22,slow=9.6,SNR=40						
STKA				PcP	**PcP**	**13 04 57.3**	**-0.1**
	comp=Z,14nm,0.9s,baz=28,slow=3.0,SNR=5.2						
STKA				ScP	**ScP**	**13 08 36.2**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=16,slow=4.8,SNR=6.9						
STKA				LR	LR	13 12 44.2	
	comp=Z,4μm,19.6s,baz=33,slow=36						
STKA	**Stephens Creek**	**28.02**	**219**	P	**P**	**13 01 44.2**	**+1.1**
	baz=28,SNR=34						
STKA	**Stephens Creek**	**28.02**	**219**	P	**P**	**13 01 42.9**	**-0.2**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**28.02**	**219**	P	**P**	**13 01 42.9**	**-0.2**
WRAB	**Tennant Creek**	**28.07**	**248**	P	**P**	**13 01 43.3**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,32nm,1.2s						
WRAB	**Tennant Creek**	**28.07**	**248**	P	**P**	**13 01 43.3**	**-0.3**
WB2	**Warramunga Arr**	**28.07**	**248**	P	**P**	**13 01 43.2**	**-0.4**
WB2				IAmb	IAmb	13 02 30.3	
	comp=Z,39nm,1.1s						
WRA	**Warramunga Arr**	**28.08**	**248**	P	**P**	**13 01 43.5**	**-0.3**
	comp=Z,13nm,0.8s,baz=78,slow=8.9,SNR=50						
WRA				PcP	**PcP**	**13 04 58.3**	**+0.5**
	comp=Z,3.5nm,1.0s,baz=83,slow=4.1,SNR=4.0						
WRA				ScP	**ScP**	**13 08 36.1**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=77,slow=2.8,SNR=5.1						
WRA				PKiKP	**PKiKP**	**13 12 31.9**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=95,slow=3.5,SNR=6.8						
WRA				LR	LR	13 12 59.0	
	comp=Z,4μm,18.4s,baz=70,slow=36						
WRA	**Warramunga Arr**	**28.08**	**248**	P	**P**	**13 01 41.2**	**-2.6**
KDU	**Kakadu**	**28.98**	**264**	P	**P**	**13 01 51.4**	**-0.3**
	baz=29,SNR=12						
AS31	**Alice Springs**	**29.57**	**241**	P	**P**	**13 01 56.0**	**-1.0**
ASAR	**Alice Springs**	**29.57**	**241**	P	**P**	**13 01 56.4**	**-0.5**
	comp=Z,8.7nm,0.8s,baz=67,slow=9.9,SNR=98						
ASAR				PcP	**PcP**	**13 05 01.5**	**0.0**
	comp=Z,7.4nm,0.9s,baz=71,slow=3.4,SNR=9.0						
ASAR				ScP	**ScP**	**13 08 41.5**	**+0.7**
	comp=Z,4.5nm,1.0s,baz=78,slow=3.2,SNR=9.6						
ASAR				PKiKP	**PKiKP**	**13 12 32.5**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=116,slow=1.6,SNR=4.6						
ASAR				LR	LR	13 13 10.7	
	comp=Z,2μm,20.2s,baz=62,slow=35						
ASAR	**Alice Springs**	**29.57**	**241**	P	**P**	**13 01 54.5**	**-2.4**
ASAR						13 05 01.5	
ASAR	**Alice Springs**	**29.57**	**241**	P	**P**	**13 01 54.5**	**-2.4**
URZ	**Urewera**	**30.25**	**156**	P	**P**	**13 02 04.3**	**+1.7**
	comp=Z,8.0nm,0.8s,baz=124,slow=20,SNR=2.2						
URZ				LR	LR	13 13 47.6	
	comp=Z,679nm,18.6s,baz=348,slow=35						
URZ	**Urewera**	**30.25**	**156**	P	**P**	**13 02 04.4**	**+1.7**
URZ				IAmb	IAmb	13 02 22.6	
	comp=Z,48nm,1.3s						
MTN	**Manton Dam**	**30.29**	**263**	P	**P**	**13 02 03.4**	**0.0**
	baz=30,SNR=7.0						
MTN	**Manton Dam**	**30.29**	**263**	P	**P**	**13 02 03.4**	**0.0**
MTN				IAmb	IAmb	13 02 10.4	
	comp=Z,96nm,1.7s						
TOO	**Toolangi**	**30.29**	**207**	P	**P**	**13 02 05.2**	**+2.1**
	baz=30,SNR=14						
TOO	**Toolangi**	**30.29**	**207**	P	**P**	**13 02 04.3**	**+1.1**
TOO				pmax	pmax		
	comp=Z,186nm,2.0s						
TOO	**Toolangi**	**30.29**	**207**	P	**P**	**13 02 04.3**	**+1.1**
FAKI	**Fak Fak**	**30.64**	**283**	P	**P**	**13 02 05.7**	**-0.7**
HTT	**Hallett**	**30.73**	**220**	P	**P**	**13 02 08.1**	**+1.0**
	baz=31,SNR=40						
BKZ	**Black Stump Fm**	**30.80**	**158**	P	**P**	**13 02 09.7**	**+2.1**
BKZ				IAmb	IAmb	13 02 32.6	
	comp=Z,150nm,2.0s						
ARPS	**Mount Arapiles**	**31.42**	**212**	P	**P**	**13 02 15.0**	**+1.9**
	baz=32,SNR=15						
SIJI	**Sorong**	**32.21**	**286**	P	**P**	**13 02 20.8**	**+0.5**
	comp=Z,18nm,0.9s,baz=125,slow=17,SNR=4.7						
BBOO	**Buckleboo**	**32.23**	**224**	P	**P**	**13 02 21.1**	**+0.9**
	baz=32,SNR=84						
BBOO	**Buckleboo**	**32.23**	**224**	P	**P**	**13 02 21.2**	**+0.9**
BNDI	**Bandanaira**	**32.48**	**279**	P	**P**	**13 02 25.7**	**+3.0**
	comp=Z,5μmcomp=Z,383nm,1.1s						
KNRA	**Kununurra**	**32.68**	**258**	P	**P**	**13 02 24.4**	**0.0**
	baz=33,SNR=58						
KNRA	**Kununurra**	**32.68**	**258**	P	**P**	**13 02 24.5**	**+0.2**
KHZ	**Kahutara**	**32.80**	**164**	P	**P**	**13 02 25.6**	**+0.6**
LTZ	**Lake Taylor**	**32.83**	**166**	P	**P**	**13 02 25.6**	**+0.2**
LTZ				IAmb	IAmb	13 02 36.2	
	comp=Z,72nm,1.3s						
OXZ	**Oxford**	**33.29**	**167**	P	**P**	**13 02 30.8**	**+1.4**
RPZ	**Rata Peaks**	**33.45**	**168**	P	**P**	**13 02 32.9**	**+2.1**
	comp=Z,27nm,0.8s,baz=118,slow=1.1,SNR=7.3						
RPZ				LR	LR	13 14 58.5	
	comp=Z,675nm,19.3s,baz=336,slow=34						
RPZ	**Rata Peaks**	**33.45**	**168**	P	**P**	**13 02 33.7**	**+2.9**
MQZ	**McQueen's Vall**	**33.79**	**166**	P	**P**	**13 02 34.6**	**+0.9**
AAI	**Ambon**	**34.34**	**280**	P	**P**	13 02 45.7	+6.8
MLZ	**Mavora Lakes**	**34.57**	**172**	P	**P**	**13 02 42.8**	**+2.3**
WRKA	**Warakurna**	**34.85**	**242**	P	**P**	**13 02 42.7**	**-0.5**
	baz=35,SNR=98						
WHZ	**Wether Hill Ro**	**35.07**	**173**	P	**P**	**13 02 45.1**	**+0.3**
NLAI	**Namlea**	**35.51**	**280**	P	**P**	**13 02 51.8**	**+2.9**
	comp=Z,84μmcomp=Z,1μmcomp=Z,77nm,0.9s						
FITZ	**Fitzroy Crossi**	**35.87**	**254**	P	**P**	**13 02 51.8**	**-0.3**
	comp=Z,18nm,0.6s,baz=3.4,slow=1.2,SNR=52						
FITZ				LR	LR	13 16 46.3	
	comp=Z,1μm,21.9s,baz=272,slow=35						
FITZ	**Fitzroy Crossi**	**35.87**	**254**	P	**P**	**13 02 51.4**	**-0.6**
	baz=36,SNR=31						
SANI	**Sanana**	**36.88**	**281**	P	**P**	**13 03 01.9**	**+1.2**
	comp=Z,954nmcomp=Z,98nm,0.8s						
FORT	**Forrest**	**37.09**	**233**	P	**P**	**13 03 03.0**	**+0.7**
	baz=37,SNR=11						
FORT	**Forrest**	**37.09**	**233**	P	**P**	**13 03 02.9**	**+0.6**
SOEI	**Soe**	**37.16**	**268**	P	**P**	**13 03 03.2**	**-0.1**
	comp=Z,888nmcomp=Z,68nm,0.9s						
SOEI	**Soe**	**37.16**	**268**	P	**P**	**13 03 02.2**	**-1.1**
SOEI				IAmb	IAmb	13 03 24.7	
	comp=Z,43nm,0.7s						
BATI	**Baumata**	**37.72**	**268**	P	**P**	**13 03 08.9**	**+1.1**
	comp=Z,107nm,0.6s,baz=137,slow=0.3,SNR=22						
BATI				LR	LR	13 18 49.0	
	comp=Z,492nm,21.0s,baz=118,slow=36						
BATI	**Baumata**	**37.72**	**268**	P	**P**	**13 03 09.7**	**+1.9**
	comp=Z,809nmcomp=Z,79nm,0.6s						
MMRI	**Maumere**	**39.28**	**270**	P	**P**	**13 03 20.3**	**-0.6**
	comp=Z,1μmcomp=Z,144nm,0.9s						
MMRI	**Maumere**	**39.28**	**270**	P	**P**	**13 03 19.9**	**-1.0**
MMRI				IAmb	IAmb	13 03 20.7	
	comp=Z,105nm,0.9s						
KMSI	**Cibinong**	**39.56**	**285**	P	**P**	**13 03 25.3**	**+2.0**
	comp=Z,2μmcomp=Z,127nm,0.8s						
EDFI	**Ende, Flores**	**39.80**	**270**	P	**P**	**13 03 24.0**	**-1.4**
	comp=Z,35nm,1.3s						
LUWI	**Luwuk**	**40.25**	**282**	P	**P**	**13 03 28.2**	**-0.8**
PSA00	**Pilbara Seismi**	**41.70**	**250**	P	**P**	**13 03 40.5**	**-0.4**
BKSI	**Bulukumba**	**41.85**	**274**	P	**P**	**13 03 42.4**	**+0.2**
	comp=Z,664nmcomp=Z,34nm,0.8s						
BNSI	**Bone**	**42.05**	**276**	P	**P**	**13 03 44.0**	**+0.2**
	comp=Z,1μmcomp=Z,114nm,0.8s						
KMBL	**Kambalda**	**42.23**	**235**	P	**P**	**13 03 46.0**	**+0.9**
	baz=42,SNR=5.4						
KAPI	**Kappang**	**42.27**	**275**	P	**P**	**13 03 45.4**	**-0.3**
KAPI				pmax	pmax		
	comp=Z,130nm,1.4s						
KAPI	**Kappang**	**42.27**	**275**	P	**P**	**13 03 45.4**	**-0.3**
KAPI				IAmb	IAmb	13 03 57.5	
	comp=Z,130nm,1.4s						
SPSI	**Sidrap Palu**	**42.47**	**276**	P	**P**	**13 03 46.6**	**-0.6**
	comp=Z,55nm,1.0s						
JCJ	**Chichijima**	**42.55**	**333**	P	**P**	**13 03 46.7**	**-0.9**
MPSI	**Mapaga**	**43.39**	**282**	P	**P**	**13 03 55.4**	**+0.7**
	comp=Z,54nm,1.0s						
PLAI	**Plampang**	**43.63**	**269**	P	**P**	**13 03 55.8**	**-0.9**
	comp=Z,1μmcomp=Z,97nm,0.7s						
MEEK	**Meekatharra**	**43.69**	**243**	P	**P**	**13 03 57.7**	**+0.7**
	baz=44,SNR=21						
TWSI	**Taliwang, Sumb**	**44.52**	**269**	P	**P**	**13 04 02.9**	**-0.9**
	comp=Z,658nmcomp=Z,60nm,0.8s						
KLBR	**Kell

BBKI	**Banjar Baru**	**47.38 275**	P	**P**	**13 04 27.0 +0.6**
	comp=Z,64nm,1.2s				
TIAR	**Tiarei**	**47.44 104**	*e*P	**P**	**13 04 29.8 +3.0**
	comp=Z,11nm,1.0s				
TBI	**Tubuai**	**47.70 111**	*e*S	**S**	**13 11 25.0 +2.5**
	comp=Z,345nm,27.0s				
TBI			*e*LQ	LQ	13 15 57.6
	comp=Z,704nm,28.8s				
TBI			*e*LR	LR	13 17 57.7
	comp=Z,422nm,32.0s				
MTKI	**Muara Teweh, K**	**47.89 279**	P	**P**	**13 04 29.7 -0.6**
	comp=Z,29nm,0.7s				
KKM	**Kota Kinabalu**	**48.68 288**	P	**P**	**13 04 36.4 -0.1**
KKM			IAmb	IAmb	13 04 44.2
	comp=Z,35nm,0.8s				
PWJI	**Pagerwojo**	**49.60 269**	P	**P**	**13 04 43.3 -0.1**
	comp=Z,87nm,0.8s				
KEKH	**Kekaha**	**49.86 49**	P	**P**	**13 04 45.5 +0.2**
NGJI	**Ngawi**	**50.02 270**	P	P	13 04 57.0 +10
WOJI	**Wonogiri, Jawa**	**50.48 269**	P	**P**	**13 04 51.5 +1.3**
	comp=Z,76nm,1.1s				
KIP	**Kipapa**	**50.80 51** ‖	*i*P	**P**	**13 04 52.8 +0.4**
KIP			pmax	pmax	
	comp=Z,124nm,2.5s				
KIP	**Kipapa**	**50.80 51**	P	**P**	**13 04 52.2 -0.1**
KIP			IAmb	IAmb	13 04 53.9
	comp=Z,66nm,1.1s				
OPA	**Opana**	**50.96 50**	P	**P**	**13 04 53.3 -0.3**
OPA			pmax	pmax	
	comp=Z,165nm,1.0s				
OPA	**Opana**	**50.96 50**	P	**P**	**13 04 53.3 -0.3**
SBUM	**Sibu**	**51.35 282**	P	**P**	**13 04 57.7 +1.1**
SBUM	**Sibu**	**51.35 282**	P	**P**	**13 04 58.0 +1.3**
JYT	**Yasato**	**51.36 337**	P	**P**	**13 04 56.0 -0.3**
JYT			IAmb	IAmb	13 04 57.9
	comp=Z,46nm,1.2s				
KHLH	**Kahului Airpor**	**51.72 52**	P	**P**	**13 05 00.5 +1.2**
HMH	**Humu'ula Sheep**	**51.76 54**	P	**P**	**13 04 59.6 -0.4**
POHA	**Pohakuloa**	**51.80 54**	P	**P**	**13 05 00.3 +0.1**
HPAH	**Hawaii Prepara**	**51.82 54**	P	**P**	**13 04 59.4 -0.7**
INU	**Inuyama**	**51.89 334**	P	**P**	**13 05 00.1 -0.1**
JGF	**Kuroka**	**51.95 334**	P	**P**	**13 05 00.0 -0.8**
JGF			IAmb	IAmb	13 05 16.5
	comp=Z,49nm,1.7s				
JMN	**Monobe**	**51.99 330**	IAmb	IAmb	13 05 20.1
	comp=Z,53nm,1.0s				
MJAR	**Matsushiro Arr**	**52.41 336**	P	**P**	**13 05 02.8 -1.3**
	comp=Z,18nm,1.3s,baz=162,slow=8.5,SNR=11				
MJAR			LR	LR	13 25 54.2
	comp=Z,222nm,21.3s,baz=130,slow=34				
MJAR	**Matsushiro Arr**	**52.41 336**	P	**P**	**13 05 03.4 -0.7**
MJAR			pmax	pmax	
	comp=Z,3.0nm,0.9s				
MJAR	**Matsushiro Arr**	**52.41 336**	P	**P**	**13 05 03.4 -0.7**
MAJO	**Matsushiro**	**52.41 336** *d*	*i*P	**P**	**13 05 03.4 -0.8**
MAJO			pmax	pmax	
	comp=Z,13nm,1.2s				
MAJO	**Matsushiro**	**52.41 336**	P	**P**	**13 05 02.7 -1.4**
MAT	**Matsushiro**	**52.41 336**	P	**P**	**13 05 03.5 -0.7**
MAT			S	**S**	**13 12 29.4 +1.6**
KPJI	**Karang Pucung**	**52.51 269**	P	P	13 05 12.5 +7.2
JWT	**Wachi**	**52.55 332**	P	**P**	**13 05 04.3 -0.9**
JWT			IAmb	IAmb	13 05 22.0
	comp=Z,51nm,1.4s				
JMM	**Marumori**	**52.59 339**	P	**P**	**13 05 05.8 +0.3**
JMM			IAmb	IAmb	13 05 16.4
	comp=Z,55nm,1.2s				
KSM	**Kuching**	**52.93 280**	P	**P**	**13 05 07.3 -1.1**
KSM	**Kuching**	**52.93 280**	P	**P**	**13 05 08.0 -0.4**
JNU	**Nakatsue**	**53.05 327**	P	**P**	**13 05 07.7 -1.3**
JNU			IAmb	IAmb	13 05 11.1
	comp=Z,93nm,1.7s				
CISI	**Cisompet, Garu**	**53.57 269**	P	**P**	**13 05 13.7 +0.4**
	comp=Z,131nm,1.0s				
CISI	**Cisompet, Garu**	**53.57 269**	P	**P**	**13 05 11.1 -2.2**
TPI	**Tanjungpandan**	**54.55 275**	P	P	13 05 27.6 +7.3
CBJI	**Citeko**	**54.69 270**	P	P	13 05 27.2 +5.9
CGJI	**Cibinong**	**55.80 269**	P	**P**	**13 05 29.2 -0.1**
	comp=Z,3µmcomp=Z,486nm,0.8s				
PPBI	**Pangkal Pinang**	**56.16 275**	P	P	13 05 38.2 +6.3
TAOE	**Nuku Hiva Isla**	**56.90 93**	*e*LR	LR	13 22 14.6
	comp=Z,667nm,23.6s				
TJN	**Taejon**	**57.40 327**⇑	*e*P	**P**	**13 05 40.9 +0.7**
MDSI	**Maura Dua**	**57.63 272**	P	**P**	**13 05 41.8 -0.6**
	comp=Z,73nm,1.1s				
LWLI	**Liwa**	**57.66 271**	P	P	13 05 49.2 +6.5
JKA	**Kamikawa-asahi**	**57.70 344**	P	**P**	**13 05 42.9 +0.7**
ASAJ	**Asahikawa**	**57.70 344**	P	**P**	**13 05 42.9 +0.7**
ASAJ			pmax	pmax	
	comp=Z,109nm,1.2s				
KSRS	**Korea Array**	**57.91 328**	P	**P**	**13 05 43.8 0.0**
	comp=Z,7.0nm,1.0s,baz=148,slow=7.0,SNR=23				
KSRS			LR	LR	13 29 03.9
	comp=Z,298nm,20.7s,baz=130,slow=34				
KSAR	**Wonju Array Be**	**57.93 328**	P	**P**	**13 05 42.5 -1.4**
KSAR	**Wonju Array Be**	**57.93 328**	P	**P**	**13 05 42.5 -1.4**
KS19	**Wonju Array Si**	**57.98 328**	P	**P**	**13 05 43.2 -1.1**
DSRI	**Dabo**	**58.03 276**	P	P	13 05 52.2 +7.0
LHSI	**Lahat**	**58.39 272**	P	P	13 05 54.4 +6.7
QIZ	**Qiongzhong**	**59.52 300**	P	**P**	**13 05 54.3 -1.1**
QIZ			S	**S**	**13 14 05.6 +2.7**
QIZ			LR	LR	
	comp=Z,190nm,20.1s				
QIZ			LR	LR	
	comp=Z,240nm,23.5s				
QIZ			LR	LR	
	comp=Z,310nm,26.5s				
NJ2	**Nanjing**	**59.54 318**	*e*P	**P**	**13 05 55.8 +0.6**
NJ2			pmax	pmax	
	comp=Z,14nm,0.8s				
YSS	**Yuzh-Sakhalins**	**60.28 345**	*e*P	**P**	**13 06 00.7 +0.7**
YSS			pmax	pmax	
	comp=Z,44nm,1.0s				
TEY	**Ternei**	**60.40 339**⇑	*e*P	**P**	**13 06 00.7 -0.2**
TEY			pmax	pmax	
	comp=Z,20nm,1.0s				
TEY			pmax	pmax	
	comp=E,10.0nm,1.2s				
TEY			pmax	pmax	
	comp=N,10.0nm,1.1s				
SDSI	**Sungai Dareh**	**61.01 275**	P	P	13 06 11.9 +6.2
USA0B	**Ussuriysk Arra**	**61.41 336**	P	**P**	**13 06 08.2 +0.4**
USA0B			pmax	pmax	
	comp=Z,59nm,1.4s				
USA0B	**Ussuriysk Arra**	**61.41 336**	P	**P**	**13 06 08.2 +0.4**
USRK	**Ussuriysk Ar.**	**61.41 336**	P	**P**	**13 06 08.1 +0.3**
	comp=Z,14nm,0.9s,baz=144,slow=6.6,SNR=29				
USRK			LR	LR	13 31 52.2
	comp=Z,251nm,19.8s,baz=151,slow=35				
USRK	**Ussuriysk Ar.**	**61.41 336**	P	**P**	**13 06 07.5 -0.3**
USRK	**Ussuriysk Ar.**	**61.41 336**	P	**P**	**13 06 07.5 -0.3**
BKNI	**Bangkinang**	**61.66 276**	P	P	13 06 18.0 +7.9
WHN	**Wuhan**	**61.74 314**	P	**P**	**13 06 10.0 -0.3**
WHN			S	**S**	**13 14 28.4 -2.5**
WHN			LR	LR	
	comp=Z,840nm,18.6s				
IPM	**Ipoh**	**62.66 281**	P	**P**	**13 06 16.7 -0.1**
IPM			IAmb	IAmb	13 06 35.0
	comp=Z,30nm,1.2s				
MDJ	**Mudanjiang**	**62.74 334**	IAmb	IAmb	13 06 27.4
	comp=Z,33nm,1.3s				
MNSI	**Mandailing Nat**	**63.19 277**	P	**P**	**13 06 20.1 -0.2**
	comp=Z,120nm,0.9s				
SISI	**Saibi**	**63.22 274**	P	P	13 06 27.7 +7.2
PET	**Petropavlovsk**	**63.90 358**	*e*P	**P**	**13 06 24.7 +0.5**
PET			pmax	pmax	
	comp=Z,716nm,2.5s				
CN2	**Changchun**	**63.96 331**	*e*P	**P**	**13 06 23.5 -1.3**
CN2			*e*S	**S**	**13 14 58.9 +0.6**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
CN2			pmax	pmax	
	comp=Z,200nm,5.0s				
CN2			LR	LR	
	comp=Z,100nm,12.0s				
CN2			LR	LR	
	comp=Z,300nm,12.0s				
CN2			LR	LR	
	comp=Z,500nm,18.0s				
AMKA	**Amchitka**	**63.97 12**	P	**P**	**13 06 24.8 +0.1**
PEA0B	**Petropavlovsk-**	**64.03 357**	P	**P**	**13 06 24.7 -0.3**
PEA0B			pmax	pmax	
	comp=Z,239nm,1.5s				
PEA0B	**Petropavlovsk-**	**64.03 357**	P	**P**	**13 06 24.7 -0.3**
PETK	**Petropavlovsk-**	**64.03 357**	P	**P**	**13 06 24.4 -0.7**
	comp=Z,34nm,0.8s,baz=156,slow=7.5,SNR=21				
PETK			LR	LR	13 29 08.6
	comp=Z,330nm,21.8s,baz=184,slow=31				
RPSI	**Rantau Prapat**	**64.25 278**	P	**P**	**13 06 25.9 -1.5**
PSI	**Prapat**	**64.28 279**	P	**P**	**13 06 25.9 -1.8**
PSI			pmax	pmax	
	comp=Z,115nm,2.0s				
SMY	**Shemya**	**64.38 8**	P	**P**	**13 06 27.6 +0.3**
SMY			pmax	pmax	
	comp=Z,324nm,1.5s				
SMY	**Shemya**	**64.38 8**	P	**P**	**13 06 27.6 +0.3**
GSI	**Gunungsitoli**	**65.25 277**	P	P	13 06 40.9 +7.0
GSI	**Gunungsitoli**	**65.25 277**	P	**P**	**13 06 33.9 0.0**
ADK	**Adak**	**65.34 14**	P	**P**	**13 06 33.0 -0.6**
ADK			pmax	pmax	
	comp=Z,265nm,1.6s				
ADK	**Adak**	**65.34 14**	P	**P**	**13 06 33.0 -0.6**
GRNR	**Gornyy**	**65.50 342**⇑	*i*P	**P**	**13 06 35.7 +1.0**
GRNR			pmax	pmax	
	comp=N,7.0nm,1.2s				
GRNR			pmax	pmax	
	comp=Z,7.0nm,1.1s				
VNDA	**Vanda**	**66.44 180**	P	**P**	**13 06 42.2 +1.8**
	comp=Z,18nm,0.8s,baz=343,slow=6.4,SNR=94				
VNDA			LR	LR	13 30 24.4
	comp=Z,422nm,21.3s,baz=1.5,slow=31				
VNDA	**Vanda**	**66.44 180**	P	**P**	**13 06 41.9 +1.5**
VNDA			pmax	pmax	
	comp=Z,23nm,0.9s				
VNDA	**Vanda**	**66.44 180**	P	**P**	**13 06 41.9 +1.5**
VNDA			IAmb	IAmb	13 06 44.3
	comp=Z,23nm,0.8s				
XAN	**Xi'an**	**67.49 314**	P	**P**	**13 06 47.5 -0.4**
XAN			pmax	pmax	
	comp=Z,13nm,1.2s				
XAN			pmax	pmax	
	comp=Z,130nm,6.9s				
XAN			LR	LR	
	comp=Z,310nm,19.5s				
XAN			LR	LR	
	comp=Z,460nm,19.5s				
XAN	**Xi'an**	**67.49 314**	P	**P**	**13 06 46.8 -1.1**
XAN			pmax	pmax	
	comp=Z,12nm,1.0s				
XAN	**Xi'an**	**67.49 314**	P	**P**	**13 06 46.8 -1.1**
KMI	**Kunming**	**68.06 303**⇑	*e*P	**P**	**13 06 53.6 +1.8**
KMI			pP	pP	13 06 56.6 -5.2
KMI			sP	sP	13 06 58.0 -8.6
KMI			S	**S**	**13 15 51.3 +1.9**
KMI			pmax	pmax	
	comp=Z,9.0nm,0.9s				
KMI			pmax	pmax	
	comp=Z,110nm,3.5s				
KMI			LR	LR	
	comp=Z,110nm,5.1s				
KMI			LR	LR	
	comp=Z,260nm,23.8s				
CM31	**Chiang Mai Arr**	**68.81 295**	P	**P**	**13 06 55.0 -1.4**
CM31			IAmb	IAmb	13 07 04.2
	comp=Z,14nm,1.1s				
CMAR	**Chiang Mai Arr**	**68.81 295**	P	**P**	**13 06 56.3 -0.1**
	comp=Z,2.7nm,0.7s,baz=125,slow=5.1,SNR=19				
CMAR			PKPPKP	**P'P'df**	**13 35 14.2 +3.8**
	comp=Z,0.4nm,0.4s,baz=294,slow=4.4,SNR=4.9				
CMAR			LR	LR	13 38 42.4
	comp=Z,50nm,18.9s,baz=166,slow=37				
CMAR	**Chiang Mai Arr**	**68.81 295** *ce*	P	**P**	**13 06 56.5 +0.1**
CMAR			pmax	pmax	
	comp=Z,4.0nm,0.8s				
CMAR	**Chiang Mai Arr**	**68.81 295**	P	**P**	**13 06 55.8 -0.6**
CHTO	**Chiang Mai**	**68.93 295**	P	**P**	**13 06 56.0 -1.1**
CHTO			pmax	pmax	
	comp=Z,19nm,1.4s				
CHTO	**Chiang Mai**	**68.93 295**	P	**P**	**13 06 56.0 -1.1**
CHTO			IAmb	IAmb	13 07 04.7
	comp=Z,19nm,1.4s				
HHC	**Hu-ho-hao-te**	**69.54 321**	*e*P	**P**	**13 07 00.3 -0.3**
HHC			S	**S**	**13 16 10.0 +3.8**
HHC			ScS	**SKSac**	**13 16 53.6 -4.9**
HHC			pmax	pmax	
	comp=Z,19nm,1.1s				
HHC			pmax	pmax	
	comp=Z,160nm,5.6s				
HHC			LR	LR	
	comp=Z,250nm,17.6s				
HHC			LR	LR	
	comp=Z,330nm,18.5s				
HHC			LR	LR	
	comp=Z,390nm,18.7s				
CD2	**Chengdu**	**69.76 309**	*e*P	**P**	**13 07 02.5 +0.4**
CD2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
MA2	**Magadan**	**70.99 354** *de*	P	**P**	**13 07 09.2 +0.3**
MA2			pmax	pmax	
	comp=Z,59nm,1.7s				
MA2	**Magadan**	**70.99 354**	P	**P**	**13 07 08.2 -0.7**
MA2			IAmb	IAmb	13 07 10.3
	comp=Z,38nm,0.9s				
ZEA	**Zeya**	**71.01 339**	*e*P	**P**	**13 07 10.4 +1.3**
ZEA			pmax	pmax	
	comp=Z,64nm,1.2s				
LZH	**Lanzhou**	**72.12 314**	*e*P	**P**	**13 07 17.3 +0.9**
LZH			pP	pP	13 07 20.5 -6.8
LZH			sP	sP	13 07 22.0 -9.2
LZH			*e*PP	**PP**	**13 10 00.6 +3.4**
LZH			pmax	pmax	
	comp=Z,22nm,1.2s				
LZH			pmax	pmax	
	comp=Z,150nm,6.0s				
LZH			LR	LR	
	comp=Z,210nm,16.4s				
LZH			LR	LR	
	comp=Z,320nm,16.7s				
LZH			LR	LR	
	comp=Z,300nm,18.5s				
SEY	**Seymchan**	**74.15 355**	LR	LR	13 38 36.7
	comp=Z,218nm,19.6s,baz=172,slow=35				
SEY	**Seymchan**	**74.15 355**‖	*e*P	**P**	**13 07 27.0 -0.7**
ULN	**Ulaanbaatar**	**76.22 325** *de*	P	**P**	**13 07 39.6 -0.5**
ULN			pmax	pmax	
	comp=Z,16nm,1.3s				
ULN	**Ulaanbaatar**	**76.22 325**	P	**P**	**13 07 40.1 -0.1**
ULN			IAmb	IAmb	13 07 56.7
	comp=Z,17nm,0.8s				
GTA	**Gaotai**	**76.49 315**	*e*P	**P**	**13 07 41.5 -0.3**
GTA			pP	pP	13 07 46.3 -6.4
GTA			sP	PcP	13 07 48.6 -4.8
GTA			S	**S**	**13 17 23.6 -1.6**
GTA			sS	pS	13 17 38.5 -0.7
GTA			SS	**SS**	**13 22 25.4 +4.5**
GTA			pmax	pmax	
	comp=Z,4.0nm,0.8s				
GTA			pmax	pmax	
	comp=Z,88nm,5.5s				
GTA			LR	LR	
	comp=Z,130nm,14.5s				
GTA			LR	LR	
	comp=Z,150nm,17.4s				
GTA			LR	LR	
	comp=Z,230nm,17.8s				
SONM	**Songino Array**	**76.57 325**	P	**P**	**13 07 42.4 +0.3**
	comp=Z,6.7nm,0.7s,baz=143,slow=5.7,SNR=28				
SONM			LR	LR	13 41 59.9
	comp=Z,147nm,19.5s,baz=119,slow=36				
SONM	**Songino Array**	**76.57 325**	P	**P**	**13 07 40.8 -1.3**
SONM			pmax	pmax	
	comp=Z,9.0nm,0.8s				
SONM	**Songino Array**	**76.57 325**	P	**P**	**13 07 40.8 -1.3**
YAK	**Yakutsk**	**77.13 345**	*e*P	**P**	**13 07 44.4 -0.3**
YAK			*e**PP	**PcP**	**13 07 48.7 -6.7**
YAK			*e*S	**S**	**13 17 34.6 +3.6**
YAK			*e**SS	**sS**	**13 17 47.0 -1.4**
YAK			*e*SSS	SSS	13 25 53.1
YAK			pmax	pmax	
	comp=Z,102nm,0.9s				
YAK			pmax	pmax	
	comp=E,17nm,1.4s				
YAK			pmax	pmax	
	comp=N,38nm,1.1s				
YAK			smax	smax	
	comp=E,199nm,4.6s				
YAK			smax	smax	
	comp=N,119nm,3.0s				
YAK	**Yakutsk**	**77.13 345**	P	**P**	**13 07 44.0 -0.7**
KDAK	**Kodiak Island**	**77.97 23**	LR	LR	13 37 43.2
	comp=N,419nm,18.6s,baz=230,slow=32				
QSPA	**South Pole Qui**	**78.93 180**	P	**P**	**13 07 56.1 +1.2**
	comp=N,9.3nm,0.7s,baz=2.5,slow=1.3,SNR=44				
QSPA	**South Pole Qui**	**78.93 180**	P	**P**	**13 07 55.0 0.0**
QSPA			IAmb	IAmb	13 08 04.2
	comp=Z,69nm,1.4s				
BOD	**Bodaibo**	**79.04 336**	*e*P	**P**	**13 07 54.0 -1.4**
BOD			pmax	pmax	
	comp=Z,15nm,1.3s				
SVW2	**Sparrevohn**	**79.31 19**	P	**P**	**13 07 56.8 0.0**
SVW2			IAmb	IAmb	13 08 00.2
	comp=Z,42nm,1.0s				
HOM	**Homer**	**79.64 22**	P	**P**	**13 07 58.4 -0.2**
	baz=226				
ZAK	**Zakamensk**	**79.67 326**	*e*P	**P**	**13 07 57.8 -1.4**
ZAK			pmax	pmax	
	comp=Z,9.0nm,0.9s				
TLY	**Talaya**	**80.16 327**	*e*P	**P**	**13 08 01.5 -0.2**
TLY			*e*S	**S**	**13 18 11.3 +7.4**
TLY			pmax	pmax	
	comp=Z,20nm,0.9s				
TLY			MLR	MLR	
	comp=Z,468nm,19.0s				
TLY	**Talaya**	**80.16 327**	P	**P**	**13 07 59.8 -1.9**
TTA	**Tatalina**	**80.54 18**	P	**P**	**13 08 02.0 -1.5**
TTA			pmax	pmax	
	comp=Z,28nm,1.2s				
TTA	**Tatalina**	**80.54 18**	P	**P**	**13 08 02.0 -1.5**
TTA			IAmb	IAmb	13 08 06.5
	comp=Z,28nm,1.2s				
SUA	**Susitna One**	**81.20 21**	IAmb	IAmb	13 08 12.1
	comp=Z,42nm,1.2s				
PPLA	**Purkeypile**	**81.72 19**	P	**P**	**13 08 10.3 +0.4**
PPLA			IAmb	IAmb	13 08 20.2
	comp=Z,72nm,1.7s				
KNK	**Knik Glacier**	**81.99 22**	P	**P**	**13 08 12.4 +1.2**
SML	**Sawmill**	**82.29 21**	P	**P**	**13 08 13.8 +1.0**
SML			IAmb	IAmb	13 08 22.1
	comp=Z,26nm,1.1s				
KTH	**Kantishna Hill**	**82.59 19**	P	**P**	**13 08 13.4 -1.0**
KTH			IAmb	IAmb	13 08 17.0
	comp=Z,17nm,0.9s				
SCM	**Sheep Creek Mo**	**82.67 22**	P	**P**	**13 08 15.0 +0.2**
SCM			pmax	pmax	
	comp=Z,28nm,0.8s				
SCM	**Sheep Creek Mo**	**82.67 22**	P	**P**	**13 08 15.0 +0.2**
SCM			IAmb	IAmb	13 08 18.6
	comp=Z,28nm,0.8s				
TRF	**Thorofare Moun**	**82.72 20**	P	**P**	**13 08 14.1 -1.1**
TRF			IAmb	IAmb	13 08 17.9
	comp=Z,13nm,0.8s				
RDOG	**Red Dog Mine**	**82.80 13**	P	**P**	**13 08 13.9 -1.4**
BPAW	**Bear Paw Mtn.**	**82.94 19**	IAmb	IAmb	13 08 17.1
	comp=Z,24nm,1.4s				
KLU	**Klutina**	**82.97 22**	IAmb	IAmb	13 08 28.6
	comp=Z,39nm,1.3s				
RND	**Reindeer**	**83.17 20**	IAmb	IAmb	13 08 26.1
	comp=Z,16nm,0.8s				
M24K	**Tolsona, Glenn**	**83.27 22**	P	**P**	**13 08 16.8 -1.1**
	baz=231				
MAW	**Mawson**	**83.33 202**	P	**P**	**13 08 19.4 +1.3**
	comp=Z,6.5nm,0.7s,baz=94,slow=6.6,SNR=22				
MAW			LR	LR	13 41 29.1
	comp=Z,167nm,20.4s,baz=64,slow=33				
MAW	**Mawson**	**83.33 202**	P	**P**	**13 08 19.4 +1.3**
	baz=83,SNR=14				
MAW	**Mawson**	**83.33 202**	P	**P**	**13 08 18.4 +0.3**
MAW			pmax	pmax	
	comp=Z,8.0nm,1.3s				
MAW	**Mawson**	**83.33 202**	P	**P**	**13 08 18.4 +0.3**
MCK	**McKinley**	**83.36 20**	IAmb	IAmb	13 08 28.5
	comp=Z,31nm,1.1s				
IMAR	**Indian Mountai**	**83.46 17**	P	**P**	**13 08 17.9 -0.8**
DHY	**Denali Highway**	**83.46 21**	P	**P**	**13 08 20.7 +1.7**
BWN	**Browne**	**83.48 19**	P	**P**	**13 08 18.8 -0.1**
GLB	**Gilahina Butte**	**83.74 23**	P	**P**	**13 08 20.7 +0.4**
GLB			IAmb	IAmb	13 08 23.1
	comp=Z,24nm,0.9s				
VRDI	**Verde Repeater**	**83.75 23**	P	**P**	**13 08 21.6 +1.0**
VRDI			IAmb	IAmb	13 09 08.3
	comp=Z,52nm,1.6s				
NEA2	**Nenana**	**83.89 19**	P	**P**	**13 08 19.0 -2.0**
	baz=228,SNR=6.4				
BALM	**Baldy**	**84.07 24**	P	**P**	**13 08 21.4 -0.7**
BALM			IAmb	IAmb	13 10 53.5
	comp=Z,41nm,1.5s				
WRH	**Wood River Hil**	**84.13 19**	P	**P**	**13 08 21.1 -1.1**
WRH			IAmb	IAmb	13 08 23.5
	comp=Z,19nm,1.0s				
CCB	**Clear Creek Bu**	**84.34 19**	P	**P**	**13 08 21.6 -1.6**
CCB			IAmb	IAmb	13 08 25.6
	comp=Z,12nm,0.8s				
BARN	**Barnard Glacie**	**84.36 24**	P	**P**	**13 08 23.3 -0.4**
BARN			IAmb	IAmb	13 08 35.3
	comp=Z,39nm,1.2s				
MDM	**Murphy Dome**	**84.41 19**	P	**P**	**13 08 22.3 -1.3**
MDM			IAmb	IAmb	13 08 25.4
	comp=Z,22nm,1.0s				
CTGM	**Chitina Glacie**	**84.44 24**	P	**P**	**13 08 23.8 -0.2**
HDA	**Harding Lake**	**84.47 20**	P	**P**	**13 08 22.8 -1.1**
	baz=230,SNR=29				
HDA	**Harding Lake**	**84.47 20**	P	**P**	**13 08 22.6 -1.3**
TCOL	**CIGO, UAF Yank**	**84.47 19**	P	**P**	**13 08 22.7 -1.1**
	baz=229,SNR=12				
COLA	**College**	**84.47 19** *de*	P	**P**	**13 08 22.7 -1.2**
COLA			pmax	pmax	
	comp=Z,25nm,0.9s				
COLA	**College**	**84.47 19**	P	**P**	**13 08 21.7 -2.1**
MENT	**Mentasta**	**84.68 22**	P	**P**	**13 08 25.3 +0.3**
MENT			IAmb	IAmb	13 08 39.5
	comp=Z,22nm,1.2s				
IL31		**84.72 20**	P	**P**	**13 08 22.5 -2.6**
IL31			IAmb	IAmb	13 08 27.0
	comp=Z,12nm,1.0s				
ILAR	**Eielson Array**	**84.72 20**	P	**P**	**13 08 23.7 -1.5**
	comp=Z,6.6nm,0.8s,baz=243,slow=5.0,SNR=39				
ILAR			PKKPbc	**PKKPdf**	**13 26 32.9 +2.8**
	comp=Z,1.0nm,1.0s,baz=168,slow=0.8,SNR=5.0				
ILAR	**Eielson Array**	**84.72 20**	P	**P**	**13 08 23.5 -1.7**
ILAR	**Eielson Array**	**84.72 20**	P	**P**	**13 08 23.5 -1.7**
RIDG	**Independent Ri**	**84.76 21**	P	**P**	**13 08 24.7 -0.8**
RIDG			IAmb	IAmb	13 08 27.7
	comp=Z,24nm,1.0s				
POKR	**Poker Plat Res**	**84.77 19**	P	**P**	**13 08 24.3 -1.1**
	baz=230				
DOT	**Dot Lake**	**84.98 21**	P	**P**	**13 08 25.9 -0.7**
DOT			IAmb	IAmb	13 08 29.6
	comp=Z,17nm,0.8s				
SCRK	**Sand Creek**	**85.21 21**	P	**P**	**13 08 27.6 -0.2**
	baz=233,SNR=12				
COLD	**Coldfoot**	**85.34 17**	P	**P**	**13 08 28.3 0.0**
	baz=227				
BCAR	**Beaver Creek A**	**85.47 22**	P	**P**	**13 08 28.1 -1.0**
HYT	**Haines Junctio**	**85.93 25**	P	**P**	**13 08 31.6 +0.1**
HYT			IAmb	IAmb	13 08 33.0
	comp=Z,15nm,1.1s				
O02D	**Mt. Diablo Mer**	**85.99 48**	P	**P**	**13 08 32.2 0.0**
	baz=252,SNR=11				
L02E	**Cave Junction**	**86.03 46**	P	**P**	**13 08 32.4 +0.2**
	baz=251				
J01E	**Myrtle Point**	**86.12 45**	P	**P**	**13 08 32.7 +0.1**
	baz=251				
K02D	**Willamette Mer**	**86.15 45**	P	**P**	**13 08 32.8 -0.1**
	baz=251				
WDC	**Whiskeytown Da**	**86.29 48**	P	**P**	**13 08 33.9 +0.4**
WDC			pmax	pmax	
	comp=Z,16nm,1.3s				
WDC	**Whiskeytown Da**	**86.29 48**	P	**P**	**13 08 33.9 +0.4**
N02D	**Trinity Center**	**86.29 47**	P	**P**	**13 08 33.8 +0.2**
	baz=252,SNR=7.6				
M02C	**Callahan**	**86.31 47**	P	**P**	**13 08 34.4 +0.6**
	baz=252,SNR=7.8				
I02D	**Swisshome**	**86.48 44**	P	**P**	**13 08 34.6 +0.3**
	baz=251				
YBH	**Yreka Blue Hor**	**86.52 46**	LR	LR	13 41 33.2
	comp=Z,270nm,18.6s,baz=276,slow=32				
YBH	**Yreka Blue Hor**	**86.52 46**	P	**P**	**13 08 34.6 -0.2**
YBH			pmax	pmax	
	comp=Z,12nm,1.0s				
YBH	**Yreka Blue Hor**	**86.52 46**	P	**P**	**13 08 34.5 -0.2**
WMQ	**Urumqi**	**86.56 316**	*e*P	**P**	**13 08 35.3 +0.4**
WMQ			pmax	pmax	
	comp=Z,10.0nm,0.8s				
WMQ			pmax	pmax	
	comp=Z,51nm,3.9s				
WMQ			LR	LR	
	comp=Z,180nm,26.9s				

WMQ LR LR
comp=Z,390nm,26.9s
WMQ LR LR
comp=Z,52nm,25.5s
PAGB Antelope Grade 86.61 53 P **P 13 08 34.1 -1.1**
PAGB IAmb IAmb 13 08 38.7
comp=Z,17nm,1.1s
BBB Bella Bella 86.68 35 LR LR 13 38 40.1
comp=Z,246nm,21.4s,baz=232,slow=30
EGAK Eagle 86.68 21 P **P 13 08 34.1 -0.7**
I03D Drain, OR 86.69 44 P **P 13 08 36.1 +0.7**
baz=251,SNR=5.5
PKM Mcpherson Peak 86.72 54 P **P 13 08 35.8 -0.2**
baz=254
O03E Paynes Creek 86.74 48 P **P 13 08 35.5 -0.4**
baz=253,SNR=7.5
ORV Oroville 86.75 49 P **P 13 08 34.5 -1.3**
ORV pmax pmax
comp=Z,8.0nm,1.0s
ORV Oroville 86.75 49 P **P 13 08 34.5 -1.3**
DAWY Dawson 86.92 22 P **P 13 08 35.9 -0.2**
DAWY IAmb IAmb 13 08 39.8
comp=Z,29nm,1.1s
L04D Klamath Falls 86.96 46 P **P 13 08 36.8 -0.1**
baz=252,SNR=5.8
AFDM Forest Hills D 86.96 50 P **P 13 08 36.0 -0.9**
AFDM IAmb IAmb 13 08 39.8
comp=Z,17nm,1.1s
BMAR Burnt Mountain 87.13 18 P **P 13 08 36.9 -0.2**
M04C Macdoel 87.16 47 P **P 13 08 37.6 -0.4**
baz=253,SNR=7.7
I04A Tendick Farm, 87.37 45 P **P 13 08 37.8 -0.9**
baz=252,SNR=5.6
J04D Umpqua Nationa 87.41 45 P **P 13 08 39.1 -0.1**
baz=252,SNR=5.9
VES Vestal, Richgr 87.55 53 P **P 13 08 40.4 +0.7**
baz=255
H04A Detroit Lake 87.79 44 IAmb IAmb 13 08 42.9
comp=Z,12nm,1.3s
MWC Mount Wilson 87.94 55 IAmb IAmb 13 08 53.7
comp=Z,28nm,1.3s
ISA Isabella, Lake 87.98 53 P **P 13 08 41.5 -0.4**
baz=255
F04A Amboy 88.02 43 P **P 13 08 41.6 -0.1**
F04A IAmb IAmb 13 08 44.9
comp=Z,19nm,1.1s
PNTR Pine Nut 88.03 50 IAmb IAmb 13 08 45.4
comp=Z,9.2nm,0.8s
MDPB Devils Postpil 88.03 51 P **P 13 08 41.7 -0.7**
MDPB IAmb IAmb 13 08 45.4
comp=Z,9.3nm,0.9s
J05D Fort Rock, OR 88.03 45 P **P 13 08 41.9 -0.2**
baz=253,SNR=13
OMMB Old Mammoth Mi 88.08 51 IAmb IAmb 13 08 45.9
comp=Z,12nm,1.3s
D03D Eldon 88.09 41 P **P 13 08 42.0 0.0**
baz=251
K05A Summer Lake 88.11 46 P **P 13 08 41.7 -0.9**
K05A IAmb IAmb 13 08 51.0
comp=Z,13nm,1.0s
E04D Cinebar 88.12 42 P **P 13 08 42.5 +0.3**
baz=252
EDW2 Edwards Air Fo 88.16 54 P **P 13 08 42.6 -0.2**
baz=255
DLBC Dease Lake 88.18 29 LR LR 13 42 13.6
comp=Z,758nm,19.3s,baz=267,slow=32
BFSC Mount Baldy Ra 88.27 55 P **P 13 08 43.3 -0.1**
baz=256
YERR Yerington 88.27 50 P **P 13 08 44.0 +0.7**
MOD Modoc Plateau 88.29 47 P **P 13 08 42.7 -0.7**
MOD IAmb IAmb 13 08 46.5
comp=Z,9.3nm,0.9s
PAHR Pah Rah Range 88.36 49 P **P 13 08 43.0 -0.8**
PINE Pine Mountain 88.38 45 P **P 13 08 43.9 +0.1**
PINE IAmb IAmb 13 08 47.2
comp=Z,17nm,1.1s
CWC Cottonwood Cre 88.49 53 P **P 13 08 44.3 -0.2**
baz=255
G05D Wamic, OR 88.55 43 P **P 13 08 44.5 +0.2**
baz=253
LRMC Laurel Mtn Rad 88.56 54 P **P 13 08 44.5 -0.3**
baz=255
DGZ Jazzator, Alta 88.62 321⇑ *e*P **P 13 08 43.4 -1.4**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
LHV Little Huntoon 88.63 51 P **P 13 08 43.8 -1.0**
RYN Ryan 88.71 50 P **P 13 08 45.7 +0.3**
RYN IAmb IAmb 13 08 48.5
comp=Z,8.0nm,0.8s
NVAR Mina Array Bea 88.83 51 P **P 13 08 46.1 0.0**
comp=Z,5.7nm,0.7s,baz=237,slow=6.4,SNR=40
NVAR PKKPbc **PKKPbc 13 26 27.8 +0.8**
comp=Z,0.5nm,0.8s,baz=63,slow=1.2,SNR=4.2
NVAR PKPPKP **P'P'df 13 34 32.7 -0.8**
comp=Z,0.4nm,0.8s,baz=80,slow=3.3,SNR=3.9
NVAR LR LR 13 43 09.9
comp=Z,381nm,19.1s,baz=264,slow=32
NVAR Mina Array Bea 88.83 51 P **P 13 08 45.3 -0.8**
MPMC Manual Prospec 88.86 53 P **P 13 08 45.9 -0.3**
baz=256
MONP2 Monument Peak 88.94 56 P **P 13 08 46.0 -0.7**
baz=256
NV11 Mina Array Sit 88.94 51 P **P 13 08 44.6 -1.9**
PFO Pinyon Flats O 89.08 56 LR LR 13 39 48.6
comp=Z,504nm,21.7s,baz=284,slow=30
EPYK Eagle Plains 89.09 21 P **P 13 08 47.1 +0.7**
baz=239
EPYK Eagle Plains 89.09 21 P **P 13 08 46.3 -0.2**
KVN Kaiserville 89.14 50 P **P 13 08 47.1 -0.4**
KVN pmax pmax
comp=Z,11nm,1.1s
KVN Kaiserville 89.14 50 P **P 13 08 47.0 -0.4**
GRAC Grapevine Rang 89.18 52 P **P 13 08 47.1 -0.5**
baz=256
FURC Furnace Creek, 89.45 53 P **P 13 08 48.9 +0.2**
baz=256
BELC Belle Mtn. Jos 89.54 55 P **P 13 08 49.6 +0.1**
baz=256
SHOC Shoshone, Teco 89.77 53 P **P 13 08 50.3 0.0**
baz=256
BC3 Big Chuckawall 89.91 56 P **P 13 08 50.3 -0.8**
baz=257
TUQ Turquoise Moun 89.94 54 P **P 13 08 50.6 -0.6**
baz=256
J08A Circle Bar Ran 89.99 46 IAmb IAmb 13 08 54.6
comp=Z,23nm,1.2s
GMRC Granite Mounta 90.00 55 P **P 13 08 51.2 -0.3**
baz=257
TPNV Topopah Spring 90.04 52 P **P 13 08 51.3 -0.4**
TPNV pmax pmax
comp=Z,10.0nm,0.9s
TPNV Topopah Spring 90.04 52 P **P 13 08 51.4 -0.3**
baz=256
TPNV Topopah Spring 90.04 52 P **P 13 08 51.3 -0.4**
TPNV IAmb IAmb 13 08 54.9
comp=Z,9.6nm,0.8s
HAWA Hanford 90.08 43 P **P 13 08 51.0 -0.4**
HAWA IAmb IAmb 13 08 54.3
comp=Z,30nm,1.9s
IRM Iron Mountain 90.27 55 P **P 13 08 52.6 -0.1**
baz=257
GLA Glamis 90.28 56 P **P 13 08 53.1 +0.3**
GLA pmax pmax
comp=Z,14nm,1.0s
GLA Glamis 90.28 56 P **P 13 08 52.4 -0.4**
baz=257
GLA Glamis 90.28 56 P **P 13 08 53.1 +0.3**
GLA IAmb IAmb 13 09 01.8
comp=Z,14nm,1.0s
D08A Wollman Farm, 90.66 42 IAmb IAmb 13 08 57.7
comp=Z,38nm,1.9s
SYO Syowa Base 90.68 198⇑ *e*P P **13 08 56.0 +2.2**
SYO Syowa Base 90.68 198⇑ *i*P P 13 09 01.4 +7.6
SYO Syowa Base 90.68 198⇑ *e*P P 13 09 06.0 +12
BELA Belgrano 2 90.71 177 P **P 13 08 53.8 -0.1**
B08A Colville Reser 90.74 41 P **P 13 08 54.6 0.0**
SHPR Sheep Range 90.79 53 P **P 13 08 54.8 -0.4**
SHPR IAmb IAmb 13 08 58.7
comp=Z,12nm,1.0s
R11A Troy Canyon, C 90.88 51 P **P 13 08 55.4 -0.2**
baz=257
R11A Troy Canyon, C 90.88 51 P **P 13 08 55.2 -0.4**
MK31 Makanchi Array 91.07 317 P **P 13 08 54.9 -1.2**
MK31 pmax pmax
comp=Z,26nm,2.0s
MK31 Makanchi Array 91.07 317 P **P 13 08 54.9 -1.2**
MK31 IAmb IAmb 13 08 58.3
comp=Z,26nm,2.0s
MKAR Makanchi Array 91.07 317 P **P 13 08 54.6 -1.5**
comp=Z,2.6nm,0.6s,baz=100,slow=5.4,SNR=15
MKAR LR LR 13 49 45.4
comp=Z,153nm,21.6s,baz=86,slow=36
MKAR Makanchi Array 91.07 317 *ce*P **P 13 08 57.2 +1.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 91.07 317 P **P 13 08 54.4 -1.7**
PRN Pahroc Range 91.08 52 P **P 13 08 56.2 -0.3**
PRN IAmb IAmb 13 09 00.1
comp=Z,23nm,0.9s
BMO Blue Mountains 91.18 45 IAmb IAmb 13 08 59.9
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 91.47 325 P **P 13 08 55.8 -1.9**
comp=Z,0.9nm,0.4s,baz=100,slow=3.6,SNR=5.4
ZALV LR LR 13 51 21.0
comp=Z,87nm,18.6s,baz=105,slow=36
ZALV Zalesovo Beam 91.47 325 *i* P **P 13 08 56.0 -1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ELK Elko 91.69 49 LR LR 13 42 03.8
comp=Z,204nm,20.4s,baz=230,slow=30
ELK Elko 91.69 49 P **P 13 08 59.3 -0.1**
ELK pmax pmax
comp=Z,14nm,1.1s
ELK Elko 91.69 49 P **P 13 08 59.3 -0.1**
ELK IAmb IAmb 13 09 02.6
comp=Z,14nm,1.1s
MFID Camas Ranch 91.87 46 P **P 13 08 59.6 -0.4**
MFID IAmb IAmb 13 09 02.8
comp=Z,8.2nm,0.9s
NEW Newport 92.14 41 P **P 13 09 00.5 -0.6**
NEW pmax pmax
comp=Z,38nm,1.7s
NEW Newport 92.14 41 P **P 13 09 01.3 +0.2**
baz=256
NEW Newport 92.14 41 P **P 13 09 00.5 -0.6**
NEW IAmb IAmb 13 09 03.7
comp=Z,38nm,1.6s
PSUT Pine Spring 92.25 51 P **P 13 09 00.7 -1.3**
LPIG La Paz 92.33 66 LR LR 13 45 30.9
comp=Z,315nm,18.2s,baz=268,slow=32
CCUT Cedar City 92.42 52 P **P 13 09 01.0 -1.8**
SZCU Shurtz Canyon 92.64 52 P **P 13 09 01.0 -2.9**
HLID Hailey 92.91 46 P **P 13 09 04.3 -0.5**
baz=258
HLID Hailey 92.91 46 P **P 13 09 03.7 -1.2**
U15A North Rim 93.03 54 P **P 13 09 04.7 -1.0**
MTPU Mount Pierson 93.43 52 P **P 13 09 06.4 -1.2**
MVU Marysvale 93.50 52 P **P 13 09 08.0 +0.1**
MSU Marysvale 93.53 52 P **P 13 09 06.7 -1.2**
MSU Marysvale 93.53 52 P **P 13 09 06.7 -1.2**
KSH Kashi 93.95 309 P **P 13 09 11.1 +1.4**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,120nm,10.8s
MCMT McKenzie Canyo 94.27 45 P **P 13 09 11.1 -0.2**
KURK Kurchatov 94.35 321⇑ *e*P **P 13 09 09.5 -1.6**
KURK pmax pmax
comp=Z,9.0nm,1.6s
DLMT Dillon 94.55 45 P **P 13 09 11.9 -0.4**
HWUT Hardware Ranch 94.58 49 P **P 13 09 12.9 +0.3**
NRIK Noril'sk 94.89 340 LR LR 13 49 38.4
comp=Z,207nm,21.8s,baz=65,slow=34
BOZ Bozeman (W) 95.26 45 P **P 13 09 15.4 -0.3**
BOZ pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 95.26 45 P **P 13 09 15.3 -0.3**
baz=260
BOZ Bozeman (W) 95.26 45 P **P 13 09 15.3 -0.3**
FXWY Fox Creek 95.33 47 P **P 13 09 14.9 -1.2**
PV22 Blue Mesa, Par 96.15 52 P **P 13 09 17.6 -2.3**
PV22 IAmb IAmb 13 09 36.1
comp=Z,17nm,1.9s
PDAR Pinedale Array 96.25 48 P **P 13 09 21.4 +1.1**
comp=Z,0.8nm,0.8s,baz=299,slow=1.5,SNR=6.8
PDAR PKKPbc **PKKPbc 13 26 05.8 -2.1**
comp=Z,0.6nm,0.7s,baz=72,slow=4.8,SNR=4.4
PDAR LR LR 13 46 55.6
comp=Z,211nm,20.0s,baz=287,slow=32
PDAR Pinedale Array 96.25 48 P **P 13 09 19.0 -1.3**
YKA Yellowknife Ar 96.67 28 P **P 13 09 20.9 -0.5**
comp=Z,5.5nm,0.9s,baz=261,slow=4.3,SNR=6.5
YKA LR LR 13 46 32.4
comp=Z,145nm,21.1s,baz=0.0,slow=32
SNAA Sanae 96.83 185 P **P 13 09 20.8 -1.4**
SNAA Sanae 96.83 185⇓ *e*P **P 13 09 23.0 +0.8**
SNAA pmax pmax
comp=Z,2.0nm,0.8s
SNAA Sanae 96.83 185 P **P 13 09 22.2 0.0**
SNAA IAmb IAmb 13 09 34.9
comp=Z,14nm,1.5s
EGMT Eagleton 96.93 43 P **P 13 09 22.9 -0.1**
baz=261
EGMT Eagleton 96.93 43 P **P 13 09 23.2 +0.2**
EGMT IAmb IAmb 13 09 25.2
comp=Z,13nm,1.0s
ANMO Albuquerque 97.46 56⇑ *e*P Pdif 13 09 27.0 +1.0
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ANMO Albuquerque 97.46 56 P **P 13 09 24.9 -1.0**
ANMO IAmb IAmb 13 10 59.8
comp=Z,9.8nm,1.8s
VNA3 Neumayer Olymp 97.69 183 P Pdif 13 09 26.4 +0.4
VNA2 Neumayer–Watz 97.88 183 P Pdif 13 09 28.6 +1.7
VNA1 Neumayer–Stat 98.20 183 P Pdif 13 09 35.2 +6.9
TXAR Lajitas Array 99.03 62 P **Pdif 13 09 32.8 -0.2**
comp=Z,0.2nm,0.6s,baz=243,slow=6.0,SNR=3.0
TXAR PP **PP 13 13 33.9 -1.7**
comp=Z,0.7nm,1.0s,baz=243,slow=8.3,SNR=3.9
TXAR LR LR 13 49 01.3
comp=Z,276nm,18.7s,baz=0.0,slow=32
ARCES ARCESS Array B 115.42 344 PKP **PKiKP 13 14 31.1 -1.5**
comp=Z,1.2nm,0.4s,baz=76,slow=2.7,SNR=8.1
ARCES ARCESS Array B 115.42 344 PKIKP **PKiKP 13 14 32.0 -0.7**
ARCES ARCESS Array B 115.42 344 PKIKP **PKiKP 13 14 32.0 -0.7**
KIV Kislovodsk 118.66 314 *i* PKIKP **PKPdf 13 14 38.8 -1.0**
KIV pmax pmax
comp=Z,37nm,1.1s
OBN Obninsk 118.91 328⇑ *i*PKIKP **PKPdf 13 14 39.5 -0.2**
OBN pmax pmax
comp=Z,8.0nm,0.4s
FINES FINESS Array B 120.43 337 PKP **PKPdf 13 14 41.0 -1.5**
comp=Z,4.2nm,1.0s,baz=29,slow=4.4,SNR=6.8
BOSA Boshof 122.56 226 PKP **PKPdf 13 14 47.4 -0.5**
comp=Z,10nm,0.7s,baz=132,slow=2.9,SNR=16
BOSA Boshof 122.56 226 PKIKP **PKPdf 13 14 47.2 -0.7**
BOSA Boshof 122.56 226 **PKPdf 13 14 47.2 -0.7**
LPAZ La Paz 123.41 118 PKP **PKPdf 13 14 49.8 -0.6**
comp=Z,0.9nm,0.7s,baz=292,slow=3.5,SNR=2.5
LPAZ La Paz 123.41 118 PKIKP **PKPdf 13 14 48.1 -2.3**
LPAZ La Paz 123.41 118 **PKPdf 13 14 48.1 -2.3**
AKASG Malin Array Be 124.86 325 PKP **PKPdf 13 14 50.7 -0.7**
comp=Z,4.8nm,0.8s,baz=65,slow=1.9,SNR=14
AKASG Malin Array Be 124.86 325 PKIKP **PKPdf 13 14 49.9 -1.4**
AKASG Malin Array Be 124.86 325 **PKPdf 13 14 49.9 -1.4**
AKBB Malin Array Si 124.86 325 PKIKP **PKPdf 13 14 51.0 -0.3**
AKBB Malin Array Si 124.86 325 **PKPdf 13 14 51.0 -0.3**
NC303 NORSAR Array S 125.53 343 **PKPdf 13 14 51.9 -0.5**
NB2 NORSAR Subarra 125.72 343 PKPdf **PKPdf 13 14 51.3 -1.5**
comp=Z,6.3nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra 125.72 343 PKPdf **PKPdf 13 14 51.3 -1.5**
baz=31,slow=1.9
NOA NORSAR Array B 125.72 343 PKP **PKPdf 13 14 51.5 -1.3**
comp=Z,2.4nm,0.8s,baz=34,slow=1.9,SNR=8.8
NC602 NORSAR Array S 125.87 343 **PKPdf 13 14 51.8 -1.2**
BRTR Keskin Array B 126.28 311 PKP **PKPdf 13 14 53.2 -1.4**
comp=Z,2.5nm,0.9s,baz=56,slow=2.2,SNR=6.0
BRTR Keskin Array B 126.28 311 PKIKP **PKPdf 13 14 52.6 -2.0**
BRTR Keskin Array B 126.28 311 **PKPdf 13 14 52.6 -2.0**
BURAR Bucovina Array 128.67 324 **PKiKP 13 15 00.5 +0.9**
KOLS Kolonicke sedl 129.62 326 *e*PKIKP **PKPdf 13 15 00.3 -0.2**
KOLS Kolonicke sedl 129.62 326 *e*PKP **PKPdf 13 15 00.3 -0.2**
OSTC Ostas 131.68 331 AMS AMS 14 15 50.0
comp=Z,200nm,21.9s
KRLC Kraliky 131.73 331 *e*PKP **PKiKP 13 15 06.4 +0.8**
KRLC Kraliky 131.73 331 *e*PKIKP **PKiKP 13 15 06.4 +0.8**
CHVC Chvalec 131.74 331 AMS AMS 14 15 20.0
comp=Z,200nm,21.8s
DPC Dobruska-Polom 131.77 331 AMS AMS 14 14 50.0
comp=Z,200nm,21.9s
UPC Upice 131.81 331 AMS AMS 14 15 20.0
comp=Z,200nm,20.6s
BRG Berggiesshubel 132.50 333 *e*PKP **PKiKP 13 15 07.7 +0.7**
comp=Z,5.1nm,0.9s
BRG *e* 13 15 14.6
comp=Z,7.3nm,1.1s
BRG *e*PP **SKPbc 13 18 33.0 +2.7**
comp=Z,15nm,1.3s
BRG Berggiesshubel 132.50 333 *e*PKIKP **PKiKP 13 15 07.7 +0.7**
BRG *e* 13 15 14.6
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,15nm,1.3s
BRG Berggiesshubel 132.50 333 *e*PKPdf **PKPdf 13 15 05.7 -0.2**
baz=46,slow=2.2
BRG *e*SKPbc **SKPab 13 18 33.1 +1.6**
baz=42,slow=3.2
CLL Collm 132.60 334 *i* PKPdf **PKiKP 13 15 07.5 +0.3**
comp=Z,8.0nm,1.3s
CLL *i* (pPKiKP) 13 15 12.2
CLL *e*SS SS 13 35 12.0 +5.1
CLL *e*SSS SSS 13 40 00.0
CLL Lm MLR 14 16 00.0
comp=N,200nm,20.5s
CLL Lm MLR 14 16 00.0
comp=E,200nm,21.0s
CLL Lm MLR 14 16 00.0
comp=Z,300nm,20.4s
CLL Collm 132.60 334 *i* PKIKP **PKiKP 13 15 07.5 +0.3**
CLL *i* 13 15 12.2
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL MLR MLR
comp=Z,300nm,20.4s
FBE Freiberg 132.73 333 *e*PKPdf **PKPdf 13 15 06.4 +0.1**
baz=46,slow=2.2
FBE *e*SKPbc **SKPab 13 18 34.0 +1.6**
baz=42,slow=3.2
GOPC GO Pecny, Ondr 132.79 332 AMS AMS 14 15 10.0
comp=Z,200nm,16.1s
PRA Prague 132.85 332 AMS AMS 14 16 00.0
comp=Z,200nm,19.3s
PRU Pruhonice 132.85 332 AMS AMS 14 16 10.0
comp=Z,300nm,22.3s
NRDL Niedersach Rie 132.89 337 *e*SKPbc **SKPab 13 18 34.2 +1.3**
baz=42,slow=3.2
ASSE Asse, Remlinge 132.95 336 *e*SKPbc **SKPab 13 18 34.5 +1.2**
baz=42,slow=3.2
NEUB Neuenburg 133.20 335 *e*SKPbc **SKPab 13 18 35.4 +0.9**
baz=42,slow=3.2
CLZ Clausthal 133.29 336 *e*SKPbc **SKPab 13 18 35.9 +1.0**
baz=42,slow=3.2
TANN Tannenbergstha 133.49 333 *e*SKPbc **SKPab 13 18 36.5 +0.6**
baz=42,slow=3.2
PLN Plauen 133.57 334 *e*SKPbc **SKPab 13 18 36.6 +0.5**
baz=42,slow=3.2
GUNZ Gunzen 133.58 334 *e*PKPdf **PKPdf 13 15 08.1 0.0**
baz=46,slow=2.2
GUNZ *e*SKPbc **SKPab 13 18 36.9 +0.7**
baz=42,slow=3.2
CONA Conrad Observa 133.60 329 *i* PKPdf **PKPdf 13 15 06.9 -1.4**
comp=Z,6.3nm,0.9s
CONA *i* SKPab **SKPab 13 18 36.7 +0.3**
comp=Z,18nm,1.3s
WERN Wernitzgruen 133.62 333 *e*PKPdf **PKPdf 13 15 07.7 -0.4**
baz=46,slow=2.2
WERN *e*SKPbc **SKPab 13 18 37.1 +0.7**
baz=42,slow=3.2
NKC Novy Kostel 133.63 333 AMS AMS 14 16 40.0
comp=Z,200nm,16.6s
DIVS Divibare 133.63 322 PKPdf **PKPdf 13 15 07.8 -0.6**
GTTG Gottingen 133.68 336 *e*SKPbc **SKPab 13 18 37.3 +0.8**
baz=42,slow=3.2
MOX Moxa 133.69 334 *e*SKPbc **SKPab 13 18 36.8 +0.2**
baz=42,slow=3.2
MOX *e*L L 14 16 51.4
comp=Z,212nm,20.0s
KHC Kasperske Hory 133.90 332 *e*PKP **PKiKP 13 15 09.5 -0.5**
KHC *ex* x 13 18 37.6
KHC AMS AMS 14 14 50.0
comp=Z,400nm,23.4s
KHC Kasperske Hory 133.90 332⇑ *i*PKIKP **PKiKP 13 15 10.1 +0.1**
KHC pmax pmax
comp=Z,10.0nm,1.7s
KHC Kasperske Hory 133.90 332 PKPdf **PKPdf 13 15 07.5 -1.2**
MANZ Manzenberg 133.96 333 *e*PKPdf **PKPdf 13 15 08.7 -0.1**
baz=46,slow=2.2
MANZ *e*SKPbc **SKPab 13 18 38.0 +0.2**
baz=42,slow=3.2
GEC2 GERESS Array S 134.04 331 *e*SKPbc **SKPab 13 18 38.3 -0.1**
baz=42,slow=3.2
GERES GERESS Array B 134.04 331 PKP **PKPdf 13 15 08.8 -0.3**
comp=Z,1.5nm,0.8s,baz=45,slow=2.5,SNR=8.1
GERES SKPbc **SKPbc 13 18 36.9 +1.3**
comp=Z,2.2nm,0.9s,baz=64,slow=3.1,SNR=12
GERES GERESS Array B 134.04 331 PKIKP **PKPdf 13 15 07.9 -1.1**
GERES GERESS Array B 134.04 331 **PKPdf 13 15 07.9 -1.1**
ROTZ Rotzenmuhle 134.07 333 *e*SKPbc **SKPab 13 18 38.5 +0.2**
baz=42,slow=3.2
WET Wettzell 134.22 332 *e*SKPbc **SKPab 13 18 38.8 -0.2**
baz=42,slow=3.2
ARSA Arzberg 134.22 328 *i* SKPbc **SKPab 13 18 38.0 -1.1**
comp=Z,10.0nm,1.4s
MOA Moln 134.46 330 *i* SKPbc **SKPab 13 18 38.9 -1.2**
comp=Z,14nm,1.0s
FNA Florina 134.48 318 PKIKP **PKPdf 13 15 08.9 -1.2**
FNA Florina 134.48 318 **PKPdf 13 15 08.8 -1.2**
GRF Grafenberg Arr 134.56 334 *e*SKPbc **SKPab 13 18 40.1 -0.4**
baz=42,slow=3.2
GRF *e*L L 14 17 47.9
comp=Z,250nm,20.3s
SOKA Soboth 134.85 328 *i* SKPbc **SKPbc 13 18 39.9 +1.6**
comp=Z,8.4nm,1.3s
RJOB Jochberg 135.25 331 *e*PKPdf **PKPdf 13 15 11.5 +0.3**
baz=46,slow=2.2
TNS Taunus Mts 135.31 336 *e*PKPdf **PKiKP 13 15 12.3 -0.6**
baz=46,slow=2.2
TNS *e*SKPbc **SKPab 13 18 42.3 -1.5**
baz=42,slow=3.2
KBA Koelnbreinsper 135.44 330 *e*PKiKP **PKPdf 13 15 11.9 +0.1**
comp=Z,4.6nm,1.2s
KBA *i* SKPbc **SKPbc 13 18 41.0 +0.7**
comp=Z,8.1nm,1.1s
ABTA Abfaltersbach 136.08 330 *i* PKPdf **PKPdf 13 15 12.0 -0.8**
comp=Z,9.2nm,1.2s
ABTA *e*SKPbc **SKPbc 13 18 43.6 +1.4**
comp=Z,5.1nm,0.9s
WATA Walderalm 136.12 331 *i* PKiKP **PKPdf 13 15 13.5 +0.4**
comp=Z,8.4nm,1.0s
WATA *e*SKPbc **SKPbc 13 18 43.3 +0.9**
comp=Z,5.9nm,0.9s
WTTA Wattenberg 136.14 331 *i* PKiKP **PKPdf 13 15 13.0 -0.1**
comp=Z,12nm,1.3s
WTTA *i* SKPbc **SKPbc 13 18 43.7 +1.3**
comp=Z,10nm,1.2s
STAL STALIGIAL 136.32 329 **PKPdf 13 15 12.1 -1.1**
MOTA Moosalm 136.34 331 *i* PKiKP **PKiKP 13 15 14.4 -0.7**
comp=Z,9.9nm,1.0s
MOTA *i* SKPbc **SKPbc 13 18 44.6 +1.6**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 136.38 331 *i* PKiKP **PKPdf 13 15 13.8 +0.4**
comp=Z,4.4nm,0.8s
SQTA *i* SKPbc **SKPbc 13 18 44.6 +1.5**
comp=Z,8.7nm,0.8s
RETA Reutte 136.39 332 *i* SKPdf **SKPdf 13 18 45.7 -0.2**
comp=Z,6.3nm,1.2s
CIMO Cimolais 136.42 329 **PKPdf 13 15 12.3 -1.1**
UBR Ueberruh 136.55 332 *e*SKPbc **SKPbc 13 18 45.8 +2.3**
baz=42,slow=3.2
WLF Walferdange 136.65 337 *e*SKPbc **SKiKP 13 18 46.8 -2.2**
baz=42,slow=3.2
FETA Feichten 136.75 331 *i* PKiKP **PKPdf 13 15 14.5 +0.3**
comp=Z,9.0nm,1.3s
FETA *i* SKPbc **SKPbc 13 18 46.2 +1.9**
comp=Z,10nm,1.1s
BFO Black Forest 136.84 334 *e*SKPbc **SKPbc 13 18 46.5 +2.2**
baz=42,slow=3.2
DAVA Damuels 136.94 332 *i* SKPdf **SKPdf 13 18 47.4 +0.5**
comp=Z,11nm,1.0s
TUE Stuetta 137.79 332 **PKPdf 13 15 14.2 -2.0**
KEST Kesra 145.15 319 PKPbc **PKPbc 13 15 28.9 -0.2**
comp=Z,6.6nm,0.7s,baz=44,slow=2.4,SNR=6.6
KEST Kesra 145.15 319 **PKPbc 13 15 27.8 -1.3**
MVO Moncorvo 148.52 344 *e*PKPbc **PKPbc 13 15 38.1 -0.5**
PVRL Vila Real 148.59 345 *e*PKPbc **PKPbc 13 15 38.8 0.0**

ESDC	**Sonseca Array**	**148.92**	**339**	PKPbc	**PKPbc**	**13 15 38.8**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=21,slow=2.1,SNR=14						
PVIS	**Viseu**	**149.16**	**345**	*e*PKPbc	**PKiKP**	**13 15 41.1**	**-0.4**
PAB	**San Pablo**	**149.17**	**339**	PKP2	**PKPbc**	**13 15 40.1**	**-0.3**
PAB	**San Pablo**	**149.17**	**339**		**PKPbc**	**13 15 40.1**	**-0.3**
PCBR	**Castelo Branco**	**149.88**	**344**	*e*PKPbc	**PKPbc**	**13 15 41.7**	**-0.3**
PMRV	**Marv??o**	**150.24**	**343**	*e*PKPbc	**PKPbc**	**13 15 42.0**	**-0.9**
PSBE	**So Bento**	**150.52**	**346**	*e*PKPbc	**PKiKP**	**13 15 44.1**	**-0.2**
PMTG	**Montargil**	**150.80**	**344**	*e*PKPbc	**PKPbc**	**13 15 43.6**	**-0.6**
EVO	**Evora**	**151.24**	**344**	*e*PKPbc	**PKiKP**	**13 15 46.2**	**+0.4**
PBEJ	**Beja**	**151.68**	**343**	*e*PKPbc	**PKPbc**	**13 15 46.2**	**-0.1**
PCVE	**Castro Verde**	**152.09**	**343**	*e*PKPbc	**PKPbc**	**13 15 47.3**	**+0.1**
TOA0	**Torodi Ar. Sit**	**160.68**	**278**		**PKPdf**	**13 15 51.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**160.68**	**278**	PKP	**PKPdf**	**13 15 51.9**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=17,slow=1.0,SNR=16						
TORD	**Torodi Ar. Bea**	**160.68**	**278**		**PKPdf**	**13 15 51.3**	**-1.1**

IDC 19 13:07:07.1±8.2, 26°.48S×28°.88E, $h0^{km}$, mb1 2.9/1, mb1mx2.8/25, mbtmp2.9/1, ML1.2/1, Error ellipse: s-maj=83.8km s-min=56.3km az=145.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**3.85**	**236**	Pn	Pn	13 08 08.4	+0.7
	0.0nm,0.3s,baz=54,slow=14,SNR=1.6						
BOSA				Pg	Pb	13 08 16.7	+0.7
	0.2nm,0.3s,baz=55,slow=15,SNR=1.6						
BOSA				Lg	Lg	13 09 09.4	
	0.3nm,0.3s,baz=338,slow=20,SNR=4.6						
I47ZA	**BOSHOF INFRASO**	**3.87**	**236**	*i*		13 34 00.0	
	baz=57,slow=331,SNR=1.7						
I35NA	**TSUMEB INFRASO**	**12.69**	**303**	*i*		14 29 30.0	
	baz=128,slow=320,SNR=6.4						

*NEIC **19** 13:27:36.2±1.1, 21°.08N±0°.07×141°.7E±0°.2, h15km±7km, mb4.0/11, Error ellipse: s-maj=26.3km s-min=9.3km az=93.0*
*IDC **19** 13:27:59.1±2.0, 21°.69N×142°.01E, h301km±58km, mb2.9/3, mb1 3.2/5, mb1mx2.8/48, mbtmp4.0/5, Error ellipse: s-maj=356.8km s-min=21.0km az=87.0*
ISC 19 13:27:35.8±1.3, 21°.20N±0°.08×141°.6E±0°.2, h10km, n20, σ2°20/20, mb3.9/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.89**	**5**	P	**Pb**	**13 29 22.7**	**+4.1**
	8.9nm,0.3s,baz=99,slow=23,SNR=8.2						
JCJ				S	**Sb**	**13 30 25.8**	**-3.5**
	4.5nm,0.3s,baz=255,slow=22,SNR=2.1						
JCJ	**Chichijima**	**5.89**	**5**		**Pb**	**13 29 21.0**	**+2.4**
JMZ	**Minamidaito 2**	**10.60**	**298**		**Pn**	**13 30 07.8**	**0.0**
JHJ	**Hachijo jima 2**	**11.99**	**353**	P	Pn	13 30 36.0	+9.3
	5.3nm,0.3s,baz=240,slow=20,SNR=1.4						
JHJ				S	**Sn**	**13 32 36.1**	**-4.5**
	5.5nm,0.3s,baz=107,slow=19,SNR=1.3						
JSG	**Sagara**	**13.76**	**348**	Pn	**Pn**	**13 30 51.6**	**+0.6**
MJAR	**Matsushiro Arr**	**15.58**	**350**	P	**P**	**13 31 20.9**	**+1.1**
MAJO	**Matsushiro**	**15.58**	**350**	P	**P**	**13 31 21.4**	**+1.6**
JMM	**Marumori**	**16.62**	**358**	P	**P**	**13 31 32.6**	**+1.2**
NACB	**Ninganchiao**	**18.73**	**283**	P	**P**	**13 31 54.4**	**-0.4**
NACB				IAmb	IAmb	13 32 04.0	
	comp=Z,21nm,0.9s						
TATO	**Taipei**	**18.91**	**285**		**Pn**	**13 31 58.3**	**+0.9**
YULB	**Yu-li**	**18.94**	**280**	P	**Pn**	**13 31 58.9**	**+1.1**
YULB				IAmb	IAmb	13 32 06.4	
	comp=Z,9.6nm,1.0s						
WB0	**Warramunga Arr**	**41.33**	**190**	P	**P**	**13 35 20.5**	**-1.4**
WR0	**Warramunga Arr**	**41.49**	**190**	P	**P**	**13 35 22.1**	**-1.2**
WR0				IAmb	IAmb	13 35 32.4	
	comp=Z,2.1nm,1.1s						
WRAB	**Tennant Creek**	**41.50**	**190**	P	**P**	**13 35 22.1**	**-1.3**
WRAB				IAmb	IAmb	13 35 36.5	
	comp=Z,2.9nm,1.1s						
WB2	**Warramunga Arr**	**41.51**	**190**	P	**P**	**13 35 22.3**	**-1.1**
WB2				IAmb	IAmb	13 35 41.4	
	comp=Z,2.9nm,1.1s						
WRA	**Warramunga Arr**	**41.51**	**190**	P	**P**	**13 35 22.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=12,slow=8.4,SNR=21						
WRA	**Warramunga Arr**	**41.51**	**190**	P	**P**	**13 35 21.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**42.08**	**203**	P	**P**	**13 35 26.9**	**-1.2**
ASAR	**Alice Springs**	**45.23**	**190**	P	**P**	**13 35 50.5**	**-2.9**
	comp=Z,0.1nm,0.4s,baz=12,slow=9.5,SNR=6.0						
FINES	**FINESS Array B**	**83.00**	**334**	P	P	13 39 49.4	-12
	comp=Z,1.6nm,1.0s,baz=78,slow=4.7,SNR=4.5						

*IDC **19** 13:36:02.6±12.0, 26°.32S×28°.84E, $h0^{km}$, Error ellipse: s-maj=107.1km s-min=74.4km az=143.0*
*BUL **19** 13:36:02.3±0.6, 26°.08S×29°.77E, $h10^{km}$, MD4.3*
*EAF **19** 13:36:19.9±2.7, 26°.83S×28°.50E, $h10^{km}$, MD4.0*
ISC 19 13:35:55.9±1.6, 26°.54S±0°.06×29°.39E±0°.09, h10km, n12, σ2°83/21, 1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.74**	**293**	*i* P	**Pb**	**13 37 02.2**	**+0.1**
LBTB				*i* S	**Sb**	**13 37 47.6**	**0.0**
LBTB	**Lobatse**	**3.74**	**293**	*i* P	**Pg**	**13 37 08.9**	**+1.3**
LBTB				*i* S	**Sb**	**13 37 46.1**	**-1.4**
LBTB	**Lobatse**	**3.74**	**293**	*e*P	**Pg**	**13 37 08.9**	**+1.3**
LBTB				*e*S	**Sb**	**13 37 46.1**	**-1.4**
BOSA	**Boshof**	**4.21**	**240**	Pn	**Pb**	**13 37 09.8**	**-0.4**
	0.1nm,0.3s,baz=57,slow=16,SNR=2.3						
BOSA				Pg	**Pg**	**13 37 14.0**	**-2.6**
	0.5nm,0.3s,baz=60,slow=16,SNR=7.9						
BOSA				Sn	**Sn**	**13 37 52.9**	**+3.3**
	0.7nm,0.3s,baz=107,slow=16,SNR=2.1						
BOSA				Lg	Lg	13 38 07.2	
	1.4nm,0.3s,baz=142,slow=22,SNR=6.8						
BOSA	**Boshof**	**4.21**	**240**	*i* P	**Pg**	**13 37 13.9**	**-2.7**
BOSA				*i* S	**Sg**	**13 38 07.7**	**-3.5**
BOSA	**Boshof**	**4.21**	**240**	*i* P	**Pb**	**13 37 12.1**	**+1.9**
BOSA				*i* S	**Sn**	**13 37 51.8**	**+2.1**
BOSA	**Boshof**	**4.21**	**240**	*e*P	**Pb**	**13 37 12.1**	**+1.9**
BOSA				*e*S	**Sn**	**13 37 51.8**	**+2.1**
I47ZA	**BOSHOF INFRASO**	**4.23**	**240**	*i*		14 01 40.0	
	baz=55,slow=323,SNR=1.4						
BLWY	**Bulawayo**	**6.41**	**353**	⇓*i*P	**Pn**	**13 37 31.9**	**+1.4**
BLWY				*i* S	**Sn**	**13 38 37.2**	**-6.7**
BLWY	**Bulawayo**	**6.41**	**353**	*i* P	**Pg**	**13 37 57.0**	**-1.6**
BLWY				*i* S	**Sb**	**13 39 08.4**	**+3.9**
BLWY	**Bulawayo**	**6.41**	**353**	*e*P	**Pg**	**13 37 57.0**	**-1.6**
BLWY				*e*S	**Sb**	**13 39 08.4**	**+3.9**
I35NA	**TSUMEB INFRASO**	**13.11**	**301**	*i*		14 49 50.0	
	baz=128,slow=321,SNR=3.3						

*SKHL **19** 13:59:14.4±0.3, 46°.46N×153°.28E, $h62^{km}$±6km, mb4.3/2*
*JMA **19** 13:59:14.5±0.6, 46°.91N×152°.86E, $h30^{km}$, M4.2*
*MOS **19** 13:59:15.8±1.1, 46°.83N×152°.78E, $h67^{km}$, mb4.2/1, Error ellipse: s-maj=19.3km s-min=10.4km az=52.2*
*IDC **19** 13:59:19.6±2.7, 46°.91N×152°.78E, $h80^{km}$±24km, mb3.3/11, mb1 3.6/15, mb1mx3.5/50, mbtmp3.7/15, Error ellipse: s-maj=22.9km s-min=15.3km az=129.0*
ISC 19 13:59:14.2±0.7, 46°.38N±0°.09×153°.17E±0°.09, h40km, n52, σ2°61/59, mb3.6/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.88**	**255**	*e*P	**Pn**	**14 00 13.6**	**+2.3**
KUR				AMB	AMB	14 00 14.6	
	20nm,0.3s						
KUR				*e*S	**Sn**	**14 00 57.8**	**+2.2**
KUR				A	A	14 01 13.0	
	110nm,0.6s						
KUR				A	A	14 01 13.0	
	200nm,0.6s						
KUR	**Kuril'sk**	**3.88**	**255**	*e*PN	**Pn**	**14 00 13.6**	**+2.3**
KUR				*e*S	**Sn**	**14 00 59.2**	**+3.6**
KUR				pmax	pmax		
	comp=Z,65nm,0.3s						
KUR				smax	smax		
	comp=N,107nm,0.4s						
KUR				smax	smax		
	comp=E,198nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.67**	**248**	*i* P	**Pn**	**14 00 38.5**	**+2.6**
YUK				AMB	AMB	14 00 54.0	
	comp=E,30nm,0.5s						
YUK				*e*S	**Sn**	**14 01 41.8**	**+2.1**
YUK				A	A	14 01 59.0	
	comp=E,90nm,0.6s						
YUK				A	A	14 01 59.0	
	comp=E,80nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.67**	**248**	*i* PN	**Pn**	**14 00 38.5**	**+2.6**
YUK				*e*S	**Sn**	**14 01 41.7**	**+2.1**
YUK				pmax	pmax		
	comp=Z,64nm,0.5s						
YUK				pmax	pmax		
	comp=E,28nm,0.4s						
YUK				pmax	pmax		
	comp=N,22nm,0.2s						
YUK				smax	smax		
	comp=N,129nm,0.6s						
YUK				smax	smax		
	comp=E,82nm,0.6s						
GRPR	**Tuman**	**5.75**	**248**	*e*P	**Pn**	**14 00 39.7**	**+2.8**
GRPR				*e*S	**Sn**	**14 01 43.6**	**+2.0**
GRPR	**Tuman**	**5.75**	**248**	*e*PN	**Pn**	**14 00 39.7**	**+2.8**
GRPR				*e*S	**Sn**	**14 01 43.6**	**+2.0**
GLVR	**Golovnino**	**6.03**	**247**	*e*P	**Pn**	**14 00 43.1**	**+2.3**
GLVR				*e*S	**Sn**	**14 01 49.8**	**+1.4**
GLVR	**Golovnino**	**6.03**	**247**	PN	**Pn**	**14 00 43.1**	**+2.3**
GLVR				*e*S	**Sn**	**14 01 49.8**	**+1.4**
NEM2	**Nemuro 2**	**6.08**	**243**	P	**Pn**	**14 00 42.7**	**+1.2**
NEM2				*e*S	**Sn**	**14 01 48.1**	**-1.6**
NMR	**Nemuro--Hokkai**	**6.08**	**243**	*i* P	**Pn**	**14 00 42.6**	**+1.1**
NMR	**Nemuro--Hokkai**	**6.08**	**243**	⇓*i*PN	**Pn**	**14 00 42.6**	**+1.1**
JRA	**Rausu**	**6.19**	**250**	P	**Pn**	**14 00 46.8**	**+3.8**
JNK	**Nakash**	**6.61**	**248**	P	**Pn**	**14 00 51.1**	**+2.3**
JAK	**Akkeshi**	**6.92**	**244**	P	**Pn**	**14 00 53.8**	**+0.8**
JAK				*e*S	**Sn**	**14 02 07.4**	**-3.0**
JTKR	**Abashiri--Toko**	**6.97**	**253**	P	**Pn**	**14 00 56.7**	**+2.9**
PETK	**Petropavlovsk-**	**7.35**	**22**	P	**Pn**	**14 00 58.1**	**-0.8**
	comp=E,0.1nm,0.3s,baz=186,slow=12,SNR=2.0						
PETK				S	**Sn**	**14 02 24.0**	**+3.0**
	baz=18,slow=42,SNR=1.0						
JAR	**Ashorobuto**	**7.36**	**249**	P	**Pn**	**14 01 01.4**	**+2.4**
JAR				*e*S	**Sn**	**14 02 23.1**	**+1.9**
JKK2	**Kamakawa 2**	**7.78**	**255**	P	**Pn**	**14 01 08.0**	**+3.1**
JKA	**Kamikawa-asahi**	**7.79**	**257**	*e*P	**Pn**	**14 01 08.5**	**+3.5**
ASAJ	**Asahikawa**	**7.80**	**257**	P	**Pn**	**14 01 08.5**	**+3.4**
	comp=E,1.1nm,0.3s,baz=66,slow=22,SNR=11						
JCH	**Churui**	**7.96**	**245**	P	**Pn**	**14 01 08.5**	**+1.3**
JCH				*e*S	**Sn**	**14 02 33.1**	**-2.8**
JFR	**Furan**	**8.18**	**251**	P	**Pn**	**14 01 14.0**	**+3.6**
JNBK	**Urakawa-nobuka**	**8.52**	**245**	P	**Pn**	**14 01 14.9**	**0.0**
JNB	**Noboribetsu**	**9.52**	**250**	P	**Pn**	**14 01 30.0**	**+1.4**
JKB	**Kayabe**	**9.81**	**247**	P	**Pn**	**14 01 32.6**	**0.0**
JKB				*e*S	**Sn**	**14 03 15.8**	**-5.6**
JYM2	**Yakumo 2**	**10.12**	**250**	P	**Pn**	**14 01 37.7**	**+0.8**
JANG	**Nango**	**10.39**	**239**	P	**Pn**	**14 01 39.1**	**-1.5**
JTH	**Tanohata**	**10.46**	**236**	*e*S	**Sn**	**14 03 30.1**	**-7.4**
JRG	**Rokugo**	**11.53**	**237**	P	**Pn**	**14 01 56.6**	**+0.3**
MA2	**Magadan**	**13.30**	**355**	P	**Pn**	**14 02 17.8**	**-2.5**
	comp=E,1.2nm,0.3s,baz=184,slow=15,SNR=2.4						
MA2	**Magadan**	**13.30**	**355**	*e*P	**Pn**	**14 02 17.6**	**-2.6**
MJAR	**Matsushiro Arr**	**14.89**	**234**	P	**P**	**14 02 48.7**	**+1.7**
	comp=E,0.0nm,0.3s,baz=25,slow=8.6,SNR=5.2						
SEY	**Seymchan**	**16.60**	**359**	P	**Pn**	**14 03 03.5**	**-0.2**
	comp=E,0.2nm,0.3s,baz=282,slow=2.2,SNR=6.8						
KSRS	**Korea Array**	**20.73**	**254**	P	Pn	14 03 52.9	-0.7
	comp=E,1.1nm,0.7s,baz=55,slow=9.2,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**28.87**	**152**	T	T	14 36 24.1	
	baz=340,slow=75,SNR=210						
H11N1	**WAKE ISLAND Hy**	**28.88**	**152**	T	T	14 36 25.1	
	baz=340,slow=75,SNR=156						
H11N3	**WAKE ISLAND Hy**	**28.89**	**152**	T	T	14 36 24.1	
	baz=340,slow=75,SNR=141						
H11S1	**WAKE ISLAND Hy**	**29.95**	**154**	T	T	14 37 40.8	
	baz=341,slow=76,SNR=197						
H11S3	**WAKE ISLAND Hy**	**29.96**	**154**	T	T	14 37 41.4	
	baz=341,slow=76,SNR=168						
H11S2	**WAKE ISLAND Hy**	**29.97**	**154**	T	T	14 37 42.3	
	baz=341,slow=76,SNR=177						
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**14 07 39.2**	**-3.2**
	comp=E,0.3nm,0.5s,baz=44,slow=4.4,SNR=2.1						
CMAR	**Chiang Mai Arr**	**52.32**	**257**	P	**P**	**14 08 23.1**	**+1.1**
	comp=E,0.5nm,0.3s,baz=34,slow=7.5,SNR=7.0						
NVAR	**Mina Array Bea**	**62.57**	**62**	P	**P**	**14 09 36.3**	**+2.0**
	comp=E,0.3nm,0.7s,baz=323,slow=5.7,SNR=2.5						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**14 09 42.7**	**-3.0**
	comp=E,1.0nm,0.4s,baz=30,slow=6.9,SNR=14						
PDAR	**Pinedale Array**	**64.94**	**54**	P	**P**	**14 09 49.7**	**-0.1**
	comp=E,0.2nm,0.4s,baz=330,slow=5.2,SNR=1.8						
WRA	**Warramunga Arr**	**68.17**	**199**	P	**P**	**14 10 12.2**	**+1.9**
	comp=E,0.5nm,0.9s,baz=12,slow=6.3,SNR=3.5						
NB2	**NORSAR Subarra**	**68.59**	**341**	P	**P**	**14 10 09.7**	**-2.8**
	comp=Z,0.6nm,0.5s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**	**14 10 10.0**	**-2.5**
	comp=Z,0.7nm,0.5s,baz=27,slow=6.3,SNR=7.8						
ASAR	**Alice Springs**	**71.87**	**199**	P	**P**	**14 10 36.4**	**+3.5**
	comp=Z,0.5nm,0.7s,baz=9.8,slow=5.1,SNR=11						
AKASG	**Malin Array Be**	**71.88**	**326**	P	**P**	**14 10 29.1**	**-3.6**
	comp=Z,0.9nm,0.3s,baz=35,slow=6.2,SNR=4.3						
TXAR	**Lajitas Array**	**77.64**	**61**	P	**P**	**14 11 07.2**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=264,slow=4.1,SNR=4.1						
PLCA	**Paso Flores**	**148.13**	**96**	PKPbc	**PKPbc**	**14 18 56.3**	**+1.1**
	comp=Z,2.0nm,1.0s,baz=229,slow=8.1,SNR=3.0						

IDC 19 14:01:53.0±7.2, 27°.76S×23°.14E, $h0^{km}$, mb1 2.0/1, mb1mx2.0/29, mbtmp2.0/1, ML2.0/1, Error ellipse: s-maj=44.7km s-min=43.1km az=19.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I47ZA	**BOSHOF INFRASO**	**2.03**	**115**	*i*		14 18 10.0	
	baz=294,slow=309,SNR=1.3						
BOSA	**Boshof**	**2.05**	**115**	Pn	Pn	14 02 29.4	+0.6
	0.3nm,0.3s,baz=300,slow=17,SNR=1.5						
BOSA				Lg	Lg	14 02 57.5	
	1.0nm,0.3s,baz=24,slow=22,SNR=4.0						
BOSA				Rg	Rg	14 03 13.2	
	35nm,1.1s,baz=188,slow=15,SNR=9.1						
I35NA	**TSUMEB INFRASO**	**9.94**	**328**	*i*		15 02 30.0	
	baz=153,slow=316,SNR=3.9						

*SKHL **19** 14:23:34.8±0.8, 47°.26N×142°.87E, $h10^{km}$, mb4.6/4*
SKHL Felt (II) at Bykov, Uglezavodsk.
*MOS **19** 14:23:35.5±2.2, 47°.03N×142°.84E, $h26^{km}$, mb3.8/3, Error ellipse: s-maj=29.0km s-min=15.1km az=88.0*
MOS Felt (II) at Bykov, Uglezavodsk.
ISC 19 14:23:36.7±0.8, 47°.14N±0°.06×142°.5E±0°.1, h10km, n10, σ0°70/12, mb3.5/3, 5C-1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.26**	**135**	*e*Pg	**Pg**	**14 23 41.8**	**-0.1**
YSS				AMB	AMB	14 23 42.1	
	150nm,0.3s						
YSS				*e*Sg	**Sg**	**14 23 45.9**	**+0.4**
YSS				A	A	14 23 47.0	
	2μm,0.6s						
YSS				A	A	14 23 47.0	
	910nm,0.6s						
YSS	**Yuzh-Sakhalins**	**0.26**	**135**	*e*PN	**Pg**	**14 23 41.5**	**-0.4**
YSS				*e*		14 23 46.0	
YSS				pmax	pmax		
	comp=Z,150nm,0.3s						
YSS				smax	smax		
	comp=N,2μm,0.6s						
YSS				smax	smax		
	comp=E,910nm,0.6s						
UGL	**Uglegorsk**	**1.96**	**352**	*e*Pg	**Pb**	**14 24 13.0**	**+0.6**
UGL				AMB	AMB	14 24 17.0	
	comp=E,70nm,0.6s						
UGL				*e*Sg	**Sg**	**14 24 39.2**	**-0.5**
UGL				A	A	14 24 44.0	
	comp=E,60nm,0.4s						
UGL				A	A	14 24 44.0	
	comp=E,110nm,0.4s						
UGL	**Uglegorsk**	**1.96**	**352**	*e*PN	**Pg**	**14 24 14.0**	**-0.2**
UGL				S	**Sg**	**14 24 39.2**	**-0.5**
UGL				pmax	pmax		
	comp=Z,73nm,0.9s						
UGL				smax	smax		
	comp=N,75nm,1.1s						
ERM	**Erimo**	**5.14**	**174**	⇑*e*PN	**Pn**	**14 24 53.0**	**-0.7**
MAJO	**Matsushiro**	**11.05**	**198**	⇓*e*PN	**Pn**	**14 26 14.5**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HIA	**Hailar**	**15.30**	**286**	⇑*e*P	**Pn**	**14 27 12.7**	**+0.1**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**23.82**	**285**	⇑*e*P	**P**	**14 28 48.8**	**-1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DGZ	**Jazzator, Alta**	**35.94**	**295**	⇑*e*P	**P**	**14 30 38.5**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.3s						
COLA	**College**	**40.35**	**38**	⇑*e*P	P	14 31 08.4	-5.6
COLA				pmax	pmax		
	comp=Z,3.0nm,1.3s						

*KRSC **19** 14:24:23.9±1.5, 50°.84N×157°.56E, $h39^{km}$±20km, ML4.0*
*IDC **19** 14:24:28.4±4.8, 51°.13N×156°.85E, $h95^{km}$±51km, mb3.2/2, mb1 3.5/3, mb1mx3.0/31, mbtmp3.3/3, Error ellipse: s-maj=88.5km s-min=39.4km az=142.0*
ISC 19 14:24:25.3±1.8, 50°.8N±0°.1×157°.5E±0°.1, h51km±21km, n34, σ1°93/40, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.80**	**330**	*e*P	**Pn**	**14 24 40.2**	**-0.1**
PAU				*e*S	**Sn**	**14 24 51.4**	**+0.1**
SKR	**Severo-Kuril's**	**0.86**	**264**	*e*P	**Pn**	**14 24 41.4**	**+0.3**
SKR				*e*S	**Sn**	**14 24 53.4**	**+0.7**
ALID	**Alaid**	**1.21**	**275**	*e*P	**Pn**	**14 24 46.5**	**+0.5**
ALID				*e*S	**Sn**	**14 25 01.7**	**+0.2**
ASAK	**Asacha**	**1.63**	**10**	*e*P	**Pn**	**14 24 51.8**	**+0.2**
ASAK				*e*S	**Sn**	**14 25 09.1**	**-2.3**
MTVR	**Mutnovka**	**1.76**	**15**	*e*P	**Pn**	**14 24 53.0**	**-0.5**
MTVR				*e*S	**Sn**	**14 25 13.5**	**-1.3**
RUS	**Russkaya**	**1.78**	**21**	*e*P	**Pn**	**14 24 52.5**	**-1.1**
RUS				*e*S	**Sn**	**14 25 12.7**	**-2.3**
GRL	**Gorelyy**	**1.81**	**12**	*e*P	**Pn**	**14 24 54.3**	**+0.1**
GRL				*e*S	**Sn**	**14 25 15.3**	**-0.7**
KRMR	**Karymshinskiy**	**2.09**	**11**	*e*P	**Pn**	**14 24 59.0**	**+1.1**
KRMR				*e*S	**Sn**	**14 25 24.2**	**+1.5**
PETK	**Petropavlovsk-**	**2.33**	**4**	P	**Pn**	**14 25 01.4**	**+0.3**
	2.2nm,0.3s,baz=168,slow=15,SNR=34						
PETK				S	**Sn**	**14 25 22.8**	**-5.9**
	2.3nm,0.3s,baz=189,slow=26,SNR=2.6						
PET	**Petropavlovsk**	**2.36**	**18**	*e*P	**Pn**	**14 25 01.2**	**-0.4**
DALK	**Dalny**	**2.39**	**19**	*e*P	**Pn**	**14 25 01.9**	**0.0**
DALK				*e*S	**Sn**	**14 25 29.1**	**-0.9**
AVH	**Avacha**	**2.61**	**17**	*e*P	**Pn**	**14 25 06.7**	**+1.7**
AVH				*e*S	**Sn**	**14 25 36.8**	**+1.3**
KOK	**Koryaka**	**2.62**	**16**	*e*S	**Sn**	**14 25 37.0**	**+1.3**
KRER	**Koryakskii**	**2.65**	**17**	*e*P	**Pn**	**14 25 06.7**	**+1.0**
KRX	**Arik**	**2.68**	**15**	*e*P	**Pn**	**14 25 07.1**	**+1.0**
KRX				*e*S	**Sn**	**14 25 36.5**	**-0.9**
SPN	**Mys Shipunski**	**2.81**	**33**	*e*P	**Pn**	**14 25 08.4**	**+0.7**
SPN				*e*S	**Sn**	**14 25 38.0**	**-2.3**
KZV	**Kizimen**	**4.66**	**20**	*e*P	**Pn**	**14 25 37.0**	**+3.8**
KZV				*e*S	**Sn**	**14 26 28.7**	**+2.6**
TUMD	**Tumrok D**	**4.77**	**21**	*e*P	**Pn**	**14 25 37.3**	**+2.7**
TUMD				*e*S	**Sn**	**14 26 30.3**	**+1.8**
TUMR	**Tumrok**	**4.79**	**19**	*e*P	**Pn**	**14 25 37.2**	**+2.3**
KMNR	**Kamenistaya**	**5.25**	**17**	*e*P	**Pn**	**14 25 45.5**	**+4.2**
ZLN	**Zelenaya**	**5.61**	**20**	*e*P	**Pn**	**14 25 49.0**	**+2.8**
KBTR	**Krutoberegovo**	**6.30**	**28**	*e*P	**Pn**	**14 25 56.1**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**31.88**	**163**	T	T	15 04 42.8	
	baz=349,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**31.89**	**163**	T	T	15 04 30.9	
	baz=349,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**31.89**	**163**	T	T	15 04 31.1	
	baz=349,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**33.03**	**164**	T	T	15 05 49.8	
	baz=349,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**33.04**	**164**	T	T	15 05 51.2	
	baz=349,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**33.05**	**164**	T	T	15 05 50.8	
	baz=349,slow=76,SNR=27						
TXAR	**Lajitas Array**	**73.08**	**64**	P	**P**	**14 35 49.5**	**-0.6**
	0.4nm,0.8s,baz=316,slow=5.0,SNR=4.6						
TXAR	**Lajitas Array**	**73.08**	**64**	P	**P**	**14 35 49.5**	**-0.6**
WRA	**Warramunga Arr**	**73.31**	**203**	P	**P**	**14 35 50.4**	**-0.8**
	0.6nm,1.1s,baz=18,slow=5.8,SNR=2.4						
H03N2	**Juan Fernandez**	**135.86**	**89**	T	T	17 14 26.5	
	baz=314,slow=77,SNR=13						
H03N1	**Juan Fernandez**	**135.87**	**89**	T	T	17 14 29.1	
	baz=314,slow=77,SNR=12						
H03N3	**Juan Fernandez**	**135.87**	**89**	T	T	17 14 35.8	
	baz=314,slow=77,SNR=12						

*ISK **19** 14:26:34.6, 40°.61N×36°.72E, $h7^{km}$, ML2.5/8*
*DDA **19** 14:26:35.0, 40°.63N×36°.71E, $h8^{km}$, ML2.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.49**	**265**	P	**Pb**	**14 42 50.9**	**+0.4**
JHYU				S	**Sb**	**14 42 56.9**	**-0.4**
JHO	**Hitachi**	**0.55**	**295**	P	**Pb**	**14 42 51.8**	**+0.2**
JHO				S	**Sb**	**14 42 58.8**	**-0.3**
JIHU	**Itakohorinouch**	**0.68**	**233**	P	**Pn**	**14 42 53.8**	**-1.0**
CHOJ	**Chosi**	**0.73**	**202**	P	**Pn**	**14 42 54.0**	**-1.5**
CHOJ				S	**Sb**	**14 43 02.9**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.79**	**336**	P	**Pn**	**14 42 55.9**	**-0.4**
ONAJ				S	**Sn**	**14 43 05.8**	**-1.6**
JYT	**Yasato**	**0.82**	**260**	P	**Pn**	**14 42 55.0**	**-1.7**
JYT				S	**Sn**	**14 43 04.1**	**-4.0**
JSMT	**Sammumatsuo**	**0.95**	**219**	P	**Pn**	**14 42 57.6**	**-0.9**
JFK	**Kawauchi**	**1.01**	**346**	P	**Pn**	**14 42 59.3**	**-0.2**
JFK				S	**Sn**	**14 43 11.4**	**-1.6**
JFT	**Otama**	**1.32**	**329**	P	**Pb**	**14 43 04.8**	**0.0**
JFT				S	**Sn**	**14 43 20.8**	**+0.1**
JAG	**Ashikaga**	**1.40**	**272**	P	**Pn**	**14 43 03.6**	**-1.1**
JAG				S	**Sn**	**14 43 19.7**	**-2.8**
MJAR	**Matsushiro Arr**	**2.41**	**275**	Pn	**Pn**	**14 43 18.2**	**-0.4**
	1.3nm,0.3s,baz=118,slow=9.0,SNR=78						
MJAR				Sn	**Sn**	**14 43 48.2**	**+0.8**
	1.6nm,0.3s,baz=84,slow=20,SNR=2.5						
MJAR				LR	LR	14 44 32.6	
	comp=Z,88nm,18.0s,baz=145,slow=46						
MAT	**Matsushiro**	**2.41**	**275**	P	**Pn**	**14 43 19.0**	**+0.4**
MAT				S	**Sn**	**14 43 45.4**	**-2.1**
JHJ	**Hachijo jima 2**	**3.46**	**200**	Pn	**Pn**	**14 43 34.0**	**+1.1**
	6.3nm,0.3s,baz=326,slow=20,SNR=8.7						
JHJ				Sn	**Sn**	**14 44 13.4**	**+0.2**
	14nm,0.3s,baz=127,slow=20,SNR=5.9						
ASAJ	**Asahikawa**	**7.80**	**7**	Pn	**Pn**	**14 44 32.5**	**-0.2**
	0.6nm,0.3s,baz=220,slow=15,SNR=7.1						
ASAJ				Sn	**Sn**	**14 45 57.6**	**-2.6**
	0.1nm,0.3s,baz=253,slow=19,SNR=1.7						
JNU	**Nakatsue**	**9.09**	**252**	Pn	**Pn**	**14 44 52.8**	**+2.4**
	0.2nm,0.3s,baz=31,slow=5.9,SNR=1.3						
USRK	**Ussuriysk Ar.**	**10.50**	**321**	LR	LR	14 48 59.8	
	comp=Z,69nm,20.8s,baz=151,slow=36						
KSRS	**Korea Array**	**10.68**	**280**	Pn	**Pn**	**14 45 16.0**	**+3.9**
	0.1nm,0.3s,baz=91,slow=14,SNR=3.1						
KSRS				LR	LR	14 49 08.4	
	comp=Z,41nm,20.1s,baz=133,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.98**	**119**	T	T	15 18 01.3	
	baz=312,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.98**	**119**	T	T	15 18 01.3	
	baz=312,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	15 17 59.1	
	baz=312,slow=75,SNR=14						
SONM	**Songino Array**	**28.01**	**305**	P	**P**	**14 48 29.9**	**+0.1**
	0.4nm,0.4s,baz=91,slow=10,SNR=2.0						
H11S1	**WAKE ISLAND Hy**	**28.66**	**122**	T	T	15 18 47.3	
	baz=314,slow=75,SNR=51						
H11S3	**WAKE ISLAND Hy**	**28.66**	**122**	T	T	15 18 46.0	
	baz=314,slow=75,SNR=46						
H11S2	**WAKE ISLAND Hy**	**28.68**	**122**	T	T	15 18 53.0	
	baz=314,slow=75,SNR=46						
ZALV	**Zalesovo Beam**	**42.22**	**313**	P	**P**	**14 50 32.5**	**+0.9**
	1.7nm,0.6s,baz=93,slow=8.1,SNR=6.0						
MKAR	**Makanchi Array**	**44.32**	**303**	P	**P**	**14 50 50.3**	**+1.6**
	0.7nm,0.7s,baz=84,slow=9.3,SNR=4.7						
ILAR	**Eielson Array**	**50.14**	**32**	P	**P**	**14 51 33.7**	**0.0**
	0.5nm,0.7s,baz=271,slow=6.1,SNR=5.6						
WRA	**Warramunga Arr**	**56.39**	**188**	P	**P**	**14 52 19.9**	**-0.3**
	0.4nm,0.4s,baz=5.6,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**60.12**	**188**	P	**P**	**14 52 46.1**	**-0.1**
	0.3nm,0.7s,baz=18,slow=10,SNR=7.9						

*DDA **19** 14:50:31.0, 40.°79N×43.°09E, h7km±5km, ML2.1*
*TIF **19** 14:50:31.9, 40.°80N×43.°09E, h16km±2km*
*ISK **19** 14:50:31.5, 40.°79N×43.°10E, h18km, ML2.5/5*

ISC 19 14:50:31.2±1.0, 40.°80N±0.°03×43.°08E±0.°02, h16km±9km, n16, σ1°28/28, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.17**	**179**	PG	**Pb**	**14 50 36.3**	**+0.3**
EAK	**Akyaka**	**0.42**	**105**	*i* P	**Pb**	**14 50 40.1**	**-0.1**
EAK				*i* S	**Sg**	**14 50 44.6**	**-0.9**
EAK				IAML		14 50 51.0	
	comp=N,135nm,0.5s						
DIGO	**Kars**	**0.45**	**149**	*i* P	**Pg**	**14 50 40.3**	**0.0**
DIGO				*i* S	**Sg**	**14 50 45.8**	**-0.7**
DIGO				IAML		14 50 50.0	
	comp=E,203nm,0.5s						
DIGO				IAML		14 50 52.0	
	comp=N,242nm,0.5s						
SENK	**Senkaya-Erzuru**	**0.60**	**247**	PG	**Pb**	**14 50 44.2**	**+0.8**
AKH	**Akhalkalaki**	**0.69**	**27**	PG	**Pb**	**14 50 45.4**	**+0.5**
AKH				SG	**Sb**	**14 50 55.6**	**+1.4**
AKH	**Akhalkalaki**	**0.69**	**27**	P	**Pb**	**14 50 45.2**	**+0.3**
AKH				S	**Sb**	**14 50 55.9**	**+1.7**
DAGI	**Agillar**	**0.92**	**288**	*i* P	**Pg**	**14 50 49.8**	**+0.6**
DAGI				*i* S	**Sb**	**14 51 01.8**	**+0.9**
ARTV	**Artvin**	**0.95**	**294**	*i* P	**Pg**	**14 50 50.1**	**+0.5**
ARTV				*i* S	**Sg**	**14 51 03.4**	**+1.2**
ARTV				IAML		14 51 06.0	
	comp=E,48nm,0.8s						
DMNI	**Dmanisi**	**1.00**	**57**	P	**Pn**	**14 50 51.3**	**+0.7**
DMNI				S	**Sn**	**14 51 05.2**	**+0.9**
DDEM	**Demirkent**	**1.01**	**276**	*i* P	**Pb**	**14 50 50.9**	**+0.6**
DDEM				IAML		14 51 12.0	
	comp=E,69nm,0.3s						
DDEM				IAML		14 51 12.0	
	comp=N,82nm,0.4s						
DBAD	**Bademkaya**	**1.07**	**282**	*i* P	**Pn**	**14 50 52.1**	**+0.5**
DBAD				*i* S	**Sn**	**14 51 07.4**	**+1.2**
DBAD				IAML		14 51 09.0	
	comp=N,38nm,0.5s						
DBOC	**Borcka**	**1.20**	**298**	*i* P	**Pn**	**14 50 52.9**	**-0.3**
DBOC				*i* S	**Sb**	**14 51 07.1**	**-1.6**
TASB	**TASBURUN-IGDIR**	**1.21**	**132**	PN	**Pb**	**14 50 53.9**	**+0.3**
BCA	**Borcka**	**1.27**	**301**	PN	**Pb**	**14 50 55.1**	**+0.3**
BCA				SN	**Sg**	**14 51 12.7**	**+0.3**
BATM	**Batumi**	**1.32**	**308**	*i* P	**Pn**	**14 50 51.4**	**-3.5**
BATM				*i* S	**Sn**	**14 51 09.0**	**-3.1**
ONI	**Oni**	**1.81**	**9**	P	**Pg**	**14 51 05.5**	**-0.5**
ONI				S	**Sg**	**14 51 28.8**	**-0.8**

IDC 19 14:51:20.8±1.6, 49.°03S×125.°33E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/35, mbtmp3.7/5, ML1.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/14, Error ellipse: s-maj=68.8km s-min=26.5km az=85.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.36**	**326**	T	T	15 11 49.6	
	baz=154,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**16.36**	**325**	T	T	15 11 46.5	
	baz=154,slow=76,SNR=14						
H01W3	**Cape Leeuwin H**	**16.38**	**326**	T	T	15 11 52.1	
	baz=154,slow=76,SNR=13						
NWAO	**Narrogin (SRO)**	**17.19**	**336**	P	Pn	14 55 21.9	-0.3
	0.2nm,0.3s,baz=163,slow=14,SNR=1.9						
ASAR	**Alice Springs**	**26.20**	**18**	P	P	14 56 56.9	-0.3
	0.7nm,0.7s,baz=200,slow=8.3,SNR=12						
ASAR				LR	LR	15 06 48.3	
	comp=Z,52nm,18.8s,baz=158,slow=35						
WRA	**Warramunga Arr**	**29.91**	**17**	P	P	14 57 30.6	+0.4
	0.2nm,0.8s,baz=198,slow=8.2,SNR=1.7						
FITZ	**Fitzroy Crossi**	**30.85**	**1**	LR	LR	15 09 42.8	
	comp=Z,41nm,19.4s,baz=107,slow=36						
VNDA	**Vanda**	**31.80**	**166**	P	P	14 57 46.3	-0.1
	0.6nm,0.9s,baz=297,slow=6.8,SNR=4.3						
CMAR	**Chiang Mai Arr**	**71.17**	**334**	P	P	15 02 41.4	+0.2
	0.5nm,0.3s,baz=178,slow=4.5,SNR=1.5						

*IDC **19** 14:56:00.0±2.2, 15.°82S×175.°90W, h295km±30km, mb3.4/5, mb1 3.5/6, mb1mx3.2/37, mbtmp4.0/6, Error ellipse: s-maj=45.0km s-min=22.1km az=133.0*

ISC 19 14:55:59.8±0.9, 15.°9S±0.°2×175.°7W±0.°1, h300km, n6, σ1°19/9, mb3.3/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.32**	**63**	P	**Pn**	**14 57 10.6**	**+0.9**
	5.4nm,0.3s,baz=260,slow=6.1,SNR=11						
AFI				S	**S**	**14 58 04.1**	**-1.7**
	2.2nm,0.3s,baz=94,slow=19,SNR=2.3						
URZ	**Urewera**	**23.12**	**194**	P	**P**	**15 00 41.5**	**+1.6**
	4.8nm,0.5s,baz=24,slow=10.0,SNR=2.1						
URZ				S	**S**	**15 04 27.1**	**-1.3**
	5.3nm,0.8s,baz=322,slow=19,SNR=1.3						
STKA	**Stephens Creek**	**41.83**	**240**	P	**P**	**15 03 20.6**	**-0.4**
	1.4nm,0.7s,baz=80,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	**47.53**	**257**	P	**P**	**15 04 05.6**	**-0.4**
	0.5nm,0.3s,baz=96,slow=7.5,SNR=14						
WRA				PcP	**PcP**	**15 05 30.4**	**-0.4**
	0.1nm,0.3s,baz=91,slow=3.6,SNR=1.4						
ASAR	**Alice Springs**	**47.80**	**252**	P	**P**	**15 04 07.8**	**-0.3**
	4.0nm,0.5s,baz=88,slow=8.0,SNR=26						
ILAR	**Eielson Array**	**83.41**	**12**	P	**P**	**15 07 53.9**	**+0.5**
	0.2nm,0.4s,baz=215,slow=5.5,SNR=9.7						

*IDC **19** 14:58:25.0±4.7, 7.°04S×155.°53E, h56km±37km, mb3.6/8, mb1 3.9/10, mb1mx3.6/34, mbtmp3.9/10, ML2.1/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/23, Error ellipse: s-maj=32.1km s-min=18.3km az=110.0*

ISC 19 14:58:23.8±0.8, 7.°1S±0.°1×155.°62E±0.°10, h50km, n15, σ0°99/17, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.53**	**308**	P	**Pn**	**14 59 30.2**	**+0.4**
	7.5nm,0.3s,baz=130,slow=5.0,SNR=6.8						
KRVT				S	**Sn**	**15 00 20.9**	**-0.3**
	14nm,0.3s,baz=52,slow=19,SNR=4.2						
KRVT				LR	LR	15 00 41.5	
	comp=Z,52nm,20.5s,baz=37,slow=31						
PMG	**Port Moresby**	**8.68**	**254**	P	**Pn**	**15 00 26.4**	**-0.4**
	1.1nm,0.3s,baz=66,slow=12,SNR=1.6						
PMG				S	**Sn**	**15 02 03.9**	**+0.6**
	0.9nm,0.3s,baz=45,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	**24.26**	**236**	P	**P**	**15 03 36.9**	**+0.3**
	1.2nm,0.5s,baz=58,slow=9.3,SNR=18						
WRA				PcP	**PcP**	**15 07 17.4**	**+1.5**
	0.5nm,0.6s,baz=62,slow=2.5,SNR=7.7						
ASAR	**Alice Springs**	**26.57**	**229**	P	**P**	**15 03 57.4**	**+0.1**
	0.7nm,0.8s,baz=59,slow=9.4,SNR=10						
ASAR				PcP	**PcP**	**15 07 22.6**	**+1.6**
	0.3nm,0.7s,baz=65,slow=2.4,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**27.68**	**23**	T	T	15 32 27.1	
	baz=203,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**27.69**	**23**	T	T	15 32 27.3	
	baz=203,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**27.70**	**23**	T	T	15 32 34.1	
	baz=203,slow=75,SNR=7.1						
FITZ	**Fitzroy Crossi**	**31.17**	**247**	P	**P**	**15 04 37.4**	**-0.9**
	0.9nm,0.7s,baz=358,slow=8.1,SNR=1.7						
PETK	**Petropavlovsk-**	**60.01**	**1**	P	**P**	**15 08 25.5**	**+0.3**
	4.7nm,1.0s,baz=193,slow=5.9,SNR=1.9						
CMAR	**Chiang Mai Arr**	**61.39**	**295**	P	**P**	**15 08 35.0**	**-0.3**
	2.3nm,0.7s,baz=121,slow=5.6,SNR=15						
ILAR	**Eielson Array**	**83.25**	**21**	P	**P**	**15 10 44.0**	**-0.7**
	0.5nm,0.7s,baz=240,slow=5.0,SNR=4.1						
MKAR	**Makanchi Array**	**83.89**	**319**	P	**P**	**15 10 49.4**	**+1.0**
	0.4nm,0.6s,baz=91,slow=5.8,SNR=2.8						
NVAR	**Mina Array Bea**	**91.31**	**52**	P	**P**	**15 11 24.1**	**-0.5**
	0.2nm,0.4s,baz=268,slow=5.4,SNR=2.2						
BDFB	**Brasilia**	**147.47**	**134**	PKPbc	**PKPbc**	**15 18 04.7**	**+1.2**
	2.4nm,0.5s,baz=205,slow=1.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**153.65**	**285**	PKPbc	**PKPbc**	**15 18 16.9**	**-1.3**
	0.3nm,0.5s,baz=62,slow=2.7,SNR=1.8						
TORD				PKPab	**sPKPdf**	**15 18 28.9**	**-1.5**
	0.4nm,0.3s,baz=72,slow=4.1,SNR=3.1						

IDC 19 15:25:14.3±6.8, 25.°96S×25.°10E, h0km, mb1 2.4/1, mb1mx2.4/46, mbtmp2.4/1, ML2.2/1, Error ellipse: s-maj=51.9km s-min=44.8km az=89.0, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**2.65**	**177**	Pn	Pn	15 25 57.4	-1.0
	0.3nm,0.3s,baz=359,slow=17,SNR=4.7						
BOSA				Pg	Pg	15 26 04.3	-0.8
	0.5nm,0.3s,baz=360,slow=16,SNR=13						
BOSA				Sn	Sn	15 26 30.6	-0.7
	1.2nm,0.3s,baz=265,slow=21,SNR=12						
BOSA				Lg	Lg	15 26 38.4	
	3.1nm,0.3s,baz=268,slow=18,SNR=18						
BOSA				Rg	Rg	15 26 47.5	
	61nm,0.9s,baz=76,slow=8.2,SNR=18						
I47ZA	**BOSHOF INFRASO**	**2.66**	**177**	*i*		15 42 20.9	
	baz=357,slow=324,SNR=1.2						
I35NA	**TSUMEB INFRASO**	**9.67**	**313**	*i*		16 22 10.0	
	baz=137,slow=376,SNR=6.7						

*BEO **19** 15:35:03.9±1.0, 37.°78N×22.°12E, h15km, ML4.2/3*
*IDC **19** 15:35:08.0±0.6, 38.°44N×21.°87E, h0km, mb4.2/22, mb1 4.2/30, mb1mx4.2/52, mbtmp4.2/30, ML3.8/8, MS3.4/23, Ms1 3.4/23, ms1mx3.2/51, Error ellipse: s-maj=13.4km s-min=12.2km az=159.0*
*ISK **19** 15:35:08.5, 38.°40N×22.°09E, h7km, ML4.1/26*
*ATH **19** 15:35:08.6, 38.°37N×21.°83E, h17km, ML4.1/22, Error ellipse: s-maj=0.9km s-min=0.6km az=317.0*
*NEIC **19** 15:35:08.9±2.8, 38.°28N±0.°04×21.°84E±0.°07, h10km±1km, Error ellipse: s-maj=8.6km s-min=5.5km az=80.0*
*THE **19** 15:35:09.2, 38.°37N×21.°83E, h11km±1km, ML4.1/13, Error ellipse: s-maj=1.4km s-min=0.5km az=60.0*
*PDG **19** 15:35:09.0±0.5, 38.°37N×21.°87E, h14km, ML4.0/14, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*MOS **19** 15:35:12.2±0.9, 38.°46N×21.°88E, h38km, mb4.6/18, Error ellipse: s-maj=8.2km s-min=5.0km az=75.3*

ISC 19 15:35:09.4±0.7, 38.°37N±0.°02×21.°83E±0.°02, h11km±4km, n392, σ1°39/441, mb4.4/45, MS3.5/20, 27C-16D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.09**	**47**	P	**Pg**	**15 35 11.5**	**-0.5**
EFP				S	**Sg**	**15 35 13.3**	**-0.6**
	389μm,0.4s						
EFP	**Efpalio**	**0.09**	**47**	P	**Pg**	**15 35 11.5**	**-0.5**
EFP				S	**Sg**	**15 35 13.4**	**-0.5**
EFP				AML	AML	15 35 13.7	
EFP				AML	AML	15 35 13.9	
SERG	**Sergoula**	**0.19**	**76**	P	**Pg**	**15 35 13.3**	**-0.2**
ANX	**Ano Chora**	**0.24**	**18**	P	**Pg**	**15 35 14.1**	**-0.3**
ANX				S	**Sg**	**15 35 18.4**	**+0.5**
	205μm,0.4s						
ANX	**Ano Chora**	**0.24**	**18**	P	**Pg**	**15 35 14.2**	**-0.2**
ANX				S	**Sg**	**15 35 18.3**	**+0.4**
ANX				AML	AML	15 35 18.8	
ANX				AML	AML	15 35 20.0	
ALIK	**Aliki, Aigiali**	**0.25**	**115**	P	**Pg**	**15 35 14.5**	**-0.1**
AXS	**Araxos**	**0.39**	**244**	P	**Pg**	**15 35 16.8**	**-0.4**
AXS				S	**Sg**	**15 35 22.7**	**+0.3**
	22μm,0.4s						
AXS	**Araxos**	**0.39**	**244**	P	**Pg**	**15 35 16.6**	**-0.5**
AXS				S	**Sg**	**15 35 22.7**	**+0.3**
AXS				AML	AML	15 35 26.1	
	comp=N,38573μm,0.3s						
AXS				AML	AML	15 35 26.4	
	comp=E,55915μm,0.3s						
KLV	**Kalavryta, Ach**	**0.41**	**141**	P	**Pg**	**15 35 17.0**	**-0.6**
KLV	**Kalavryta, Ach**	**0.41**	**141**	P	**Pg**	**15 35 17.1**	**-0.4**
KLV				S	**Sg**	**15 35 22.8**	**-0.3**
KLV				AML	AML	15 35 25.1	
	comp=E,23298μm,0.4s						
KLV				AML	AML	15 35 29.8	
	comp=N,22005μm,0.6s						
RLS	**Riolos of Patr**	**0.42**	**223**	P	**Pg**	**15 35 17.6**	**-0.1**
RLS				S	**Sg**	**15 35 24.4**	**+1.2**
	comp=N,27μm,0.3s						
RLS	**Riolos of Patr**	**0.42**	**223**	P	**Pg**	**15 35 17.6**	**-0.1**
RLS				S	**Sg**	**15 35 23.9**	**+0.7**
RLS				AML	AML	15 35 26.4	
	comp=N,37681μm,0.3s						
RLS				AML	AML	15 35 26.5	
	comp=E,71102μm,0.3s						
DLFA	**Delphi**	**0.54**	**78**	P	**Pg**	**15 35 19.2**	**-0.7**
DLFA				S	**Sg**	**15 35 27.4**	**+0.4**
DLFA				AML	AML	15 35 30.0	
	comp=N,18165μm,0.3s						
DLFA				AML	AML	15 35 32.9	
	comp=E,20378μm,0.5s						
EVR	**Evrytania**	**0.55**	**359**	P	**Pg**	**15 35 19.5**	**-0.7**
EVR				S	**Sb**	**15 35 29.1**	**+0.1**
	comp=E,26μm,0.5s						
EVR	**Evrytania**	**0.55**	**359**	P	**Pg**	**15 35 19.4**	**-0.7**
EVR				S	**Sg**	**15 35 28.1**	**+0.6**
EVR				AML	AML	15 35 33.6	
	comp=E,61081μm,0.5s						
EVR				AML	AML	15 35 38.5	
	comp=N,47272μm,0.6s						
DSF	**Desfina**	**0.55**	**85**	P	**Pg**	**15 35 19.2**	**-1.0**
GUR	**Goura**	**0.59**	**136**	P	**Pg**	**15 35 20.1**	**-0.9**
GUR	**Goura**	**0.59**	**136**	P	**Pg**	**15 35 20.1**	**-0.9**
GUR				S	**Sg**	**15 35 29.4**	**+0.6**
GUR				AML	AML	15 35 30.6	
	comp=N,54414μm,0.4s						
GUR				AML	AML	15 35 31.9	
	comp=E,62191μm,0.4s						
AST1	**Astakos**	**0.60**	**287**	P	**Pg**	**15 35 20.6**	**-0.5**
VTN	**Vitineika**	**0.68**	**228**	P	**Pg**	**15 35 21.9**	**-0.5**
AXAR	**Agios Charalam**	**0.77**	**58**	P	**Pg**	**15 35 22.9**	**-1.3**
AXAR	**Agios Charalam**	**0.77**	**58**	P	**Pg**	**15 35 22.9**	**-1.3**
AXAR				AML	AML	15 35 40.4	
	comp=N,55628μm,0.6s						
AXAR				AML	AML	15 35 46.1	
	comp=E,44711μm,0.6s						
TRIP	**Tripoli**	**0.91**	**157**	P	**Pg**	**15 35 25.8**	**-1.1**
TRIP	**Tripoli**	**0.91**	**157**	P	**Pg**	**15 35 26.0**	**-0.9**
TRIP				S	**Sg**	**15 35 38.7**	**-0.1**
TRIP				AML	AML	15 35 46.7	
	comp=E,15545μm,0.6s						
TRIP				AML	AML	15 35 47.4	
	comp=N,22379μm,0.5s						
ZAK2	**Zakynthos**	**0.93**	**232**	P	**Pg**	**15 35 26.9**	**-0.4**
ZAK2				S	**Sn**	**15 35 41.9**	**+0.3**
	comp=N,64μm,0.5s						
NYDR	**Nydri-Lefkada**	**0.95**	**292**	P	**Pg**	**15 35 25.8**	**-1.9**
EVGI	**Lefkada island**	**0.95**	**286**	P	**Pg**	**15 35 26.6**	**-1.1**
LTK	**Loutraki**	**0.96**	**111**	P	**Pg**	**15 35 27.2**	**-0.7**
LTK				S	**Sn**	**15 35 42.4**	**-0.1**
	comp=N,10μm,0.5s						
LTK	**Loutraki**	**0.96**	**111**	P	**Pg**	**15 35 27.3**	**-0.7**
LTK				AML	AML	15 35 44.5	
	comp=E,17683μm,0.6s						
LTK				AML	AML	15 35 47.3	
	comp=N,22536μm,0.4s						
LKR	**Lokris**	**0.96**	**73**	P	**Pg**	**15 35 27.0**	**-1.0**
LKR				S	**Sn**	**15 35 42.1**	**-0.4**
	comp=N,6μm,0.3s						
LKR	**Lokris**	**0.96**	**73**	P	**Pg**	**15 35 27.1**	**-0.9**
LKR				AML	AML	15 35 45.4	
	comp=N,11768μm,0.3s						
LKR				AML	AML	15 35 47.0	
	comp=E,14340μm,0.4s						
VLS	**Valsamata**	**0.99**	**259**	P	**Pb**	**15 35 27.2**	**-1.3**
VLS				S	**Sn**	**15 35 43.4**	**+0.2**
	comp=E,8μm,0.4s						
VLS	**Valsamata**	**0.99**	**259**	P	**Pb**	**15 35 27.4**	**-1.1**
VLS				AML	AML	15 35 44.1	
	comp=E,11446μm,0.3s						
VLS				AML	AML	15 35 44.8	
	comp=N,22353μm,0.5s						
FSK	**Fiskardo**	**1.00**	**276**	P	**Pb**	**15 35 27.2**	**-1.4**
FSK				S	**Sn**	**15 35 43.6**	**+0.3**
	comp=N,6μm,0.4s						
FSK	**Fiskardo**	**1.00**	**276**	P	**Pb**	**15 35 27.0**	**-1.7**
LKD2	**Lefkada island**	**1.01**	**295**	P	**Pb**	**15 35 27.5**	**-1.3**
LKD2	**Lefkada island**	**1.01**	**295**	P	**Pb**	**15 35 27.7**	**-1.2**
LKD2				AML	AML	15 35 50.5	
	comp=E,16264μm,0.6s						
LKD2				AML	AML	15 35 54.3	
	comp=N,18768μm,0.7s						
TSLK	**Tsoukalades, L**	**1.02**	**297**	P	**Pb**	**15 35 28.3**	**-0.8**
TSLK	**Tsoukalades, L**	**1.02**	**297**	P	**Pb**	**15 35 28.3**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.03**	**288**	P	**Pb**	**15 35 27.9**	**-1.3**
VLMS	**Volimes, Zakyn**	**1.04**	**242**	P	**Pb**	**15 35 28.2**	**-1.2**
VLMS				S	**Sn**	**15 35 46.5**	
	comp=E,46440μm,0.2s						
VLMS				AML	AML	15 35 47.1	
	comp=N,59349μm,0.4s						
KRI1	**kERI**	**1.06**	**229**	P	**Pb**	**15 35 28.6**	**-1.2**
KEF5	**Kardakata, Kep**	**1.07**	**266**	P	**Pb**	**15 35 28.4**	**-1.5**
ARGA	**Argostoli. Kep**	**1.08**	**260**	P	**Pb**	**15 35 28.8**	**-1.1**
VLX	**Vlachokerasia**	**1.09**	**156**	P	**Pb**	**15 35 28.7**	**-1.6**
VLX	**Vlachokerasia**	**1.09**	**156**	P	**Pb**	**15 35 28.8**	**-1.4**
KEF4	**Livadi, Kephal**	**1.11**	**265**	P	**Pb**	**15 35 29.2**	**-1.3**
VIL2	**Platees**	**1.15**	**97**	P	**Pb**	**15 35 31.0**	**-0.2**
VIL2				AML	AML	15 35 55.3	
	comp=N,13668μm,0.5s						
VIL2				AML	AML	15 35 58.8	
	comp=E,26225μm,0.9s						
DMLN	**Damoulianata-K**	**1.15**	**264**	P	**Pb**	**15 35 30.1**	**-1.2**
ITM	**Ithomi**	**1.19**	**176**	P	**Pn**	**15 35 30.0**	**-1.9**
ITM				S	**Sn**	**15 35 49.1**	**+1.0**
	comp=E,5μm,0.8s						
ITM	**Ithomi**	**1.19**	**176**	P	**Pn**	**15 35 30.9**	**-1.1**
ITM				AML	AML	15 35 52.8	
	comp=N,11056μm,0.7s						
ITM				AML	AML	15 35 58.3	
	comp=E,10466μm,0.9s						
ITM	**Ithomi**	**1.19**	**176**	PN	**Pn**	**15 35 31.3**	**-0.6**
ITM				SN	**Sn**	**15 35 49.8**	**+1.7**
ITM	**Ithomi**	**1.19**	**176**	Pn	**Pn**	**15 35 30.7**	**-1.2**
ITM				Sn	**Sn**	**15 35 50.4**	**+2.3**
VILL	**Villia**	**1.19**	**99**	P	**Pg**	**15 35 32.2**	**0.0**
THL	**Klokotos Trika**	**1.21**	**7**	P	**Pn**	**15 35 31.8**	**-0.3**
THL				S	**Sn**	**15 35 48

KEK Kerkira 2.07 311 P Pb 15 35 45.9 -1.1
KARY Karystos 2.08 98 P Pn 15 35 45.2 +1.0
KARY Karystos 2.08 98 P Pn 15 35 44.9 +0.7
PAIG Paliouri 2.12 42 P Pn 15 35 44.6 -0.2
SKY Skiros Island 2.19 76 P Pn 15 35 45.8 0.0
KTHA Kythira Island 2.33 155 P Pb 15 35 50.1 -1.2
KTHA Kythira Island 2.33 155 P Pn 15 35 49.2 +1.6
KTHA Kythira Island 2.33 155 PN Pn 15 35 47.7 +0.1
PLG Polygyros 2.37 32 P Pn 15 35 48.4 +0.2
SERI Serifos 2.43 119 P Pn 15 35 49.4 +0.4
HORT Hortiatis 2.44 23 P Pn 15 35 48.8 -0.4
HORT Hortiatis 2.44 23 PN Pn 15 35 48.4 -0.8
FNA Florina 2.44 352 P Pb 15 35 51.4 -1.9
FNA Florina 2.44 352 *e*Pn Pb 15 35 51.5 -1.9
FNA *e*Sn Sg 15 36 28.3 +0.6
FNA Florina 2.44 352 PN Pb 15 35 50.2 +1.0
FNA Florina 2.44 352 P Pb 15 35 51.3 -2.0
FNA Florina 2.44 352 Pb 15 35 51.3 -1.9
OUR Ouranopolis 2.58 40 PN Pn 15 35 49.7 -1.3
MHLO Agia Marina, M 2.65 128 P Pn 15 35 52.8 +0.8
SOH Sokhos 2.72 25 P Pn 15 35 53.6 +0.6
ANKY Antikythira Is 2.76 154 P Pn 15 35 56.0 +2.5
OHR Ohrid 2.85 344 *i* Pn Pb 15 35 59.0 -1.3
KNT Kendrikon 2.91 16 P Pn 15 35 56.8 +1.2
KNT Kendrikon 2.91 16 P Pn 15 35 56.5 +0.9
KNT Kendrikon 2.91 16 PN Pn 15 35 55.2 -0.4
VAY Valandovo 3.00 11 *i* Pn Pb 15 36 00.5 -2.3
SRS Serrai 3.07 26 P Pn 15 35 58.0 +0.2
SRS Serrai 3.07 26 *e*Pn Pn 15 35 57.1 -0.7
SRS *e*Sn Sb 15 36 38.6 -2.7
SCTE Santa Cesarea 3.11 304 Pn Pn 15 35 59.7 +1.3
THAS Thassos island 3.17 44 P Pn 15 35 58.5 -0.6
ROPP Rodopos 3.20 150 PN Pn 15 35 59.7 +0.1
IOSP Ios island 3.21 120 P Pn 15 36 00.7 +1.0
APE Apeiranthos 3.21 113 ⇑P Pn 15 36 01.2 +1.4
APE Apeiranthos 3.21 113 ⇓S Sn 15 36 38.5 +0.4
APE Apeiranthos 3.21 113 PN Pn 15 35 58.6 -1.2
APE Apeiranthos 3.21 113 *d* iP Pn 15 36 01.2 +1.4
SIGR SIGRI 3.26 74 P Pn 15 36 00.3 -0.1
SIGR SIGRI 3.26 74 PN Pn 15 35 58.9 -1.5
CHOS Chios island 3.32 88 PN Pn 15 35 59.7 -1.7
TIR Tirane 3.34 334 *e*Pn Pb 15 36 06.0 -2.5
TIR Tirane 3.34 334 ⇑P Pb 15 36 05.5 -3.0
KAVA Kavala 3.35 37 P Pn 15 36 01.2 -0.4
IMMV Iera Moni Meta 3.38 149 P Pn 15 36 02.8 +0.7
IMMV Iera Moni Meta 3.38 149 PN Pn 15 36 02.4 +0.4
KNDR Palaiochora Ch 3.46 154 PN Pn 15 36 03.6 +0.4
BOZC Bozcaada 3.60 65 PN Pn 15 36 03.5 -1.6
SKO Skopje 3.61 355 *e*Pn Pn 15 36 08.5 +3.2
SKO Skopje 3.61 355 *i* Pn Pb 15 36 11.0 -2.3
URLA Izmir 3.75 89 PN Pn 15 36 05.7 -1.5
IDI Anoyia 3.94 140 Pn Pn 15 36 10.2 +0.5
comp=N,4.9nm,0.3s,baz=311,slow=19,SNR=26
IDI Sn Sn 15 36 57.3 +1.4
comp=N,6.4nm,0.3s,baz=38,slow=19,SNR=2.2
IDI Anoyia 3.94 140 ⇑P Pn 15 36 10.1 +0.4
IDI Anoyia 3.94 140 PN Pn 15 36 09.7 -0.1
IDI Anoyia 3.94 140 Pn 15 36 10.7 +1.0
GVDS Gavdos 3.96 152 PN Pn 15 36 10.5 +0.5
GVD Gavdhos 3.96 152 PN Pn 15 36 10.6 +0.5
RDO Rodhopi 3.99 45 PN Pn 15 36 09.5 -0.9
ENEZ Enez 4.10 53 PN Pn 15 36 11.2 -0.7
ULC Ulcinj 4.10 332 ⇑*i*Pn Pn 15 36 13.2 +1.2
ULC *i* Sn Sn 15 37 01.7 +1.8
ALN Alexandroupoli 4.12 51 PN Pn 15 36 11.3 -0.9
ALN Alexandroupoli 4.12 51 P Pn 15 36 12.1 -0.2
ALN Alexandroupoli 4.12 51 Pn Pn 15 36 12.1 -0.2
GELI Tayfur-Gelibol 4.13 59 PN Pn 15 36 11.3 -1.1
BOSS Bosilegrad 4.15 7 *e*Pn Pn 15 36 14.0 +1.3
KDZ Kurdzhali 4.28 39 PN Pn 15 36 13.3 -1.2
ERIK Erikli-Kesan 4.29 56 PN Pn 15 36 13.5 -1.1
DRME Dracevica, Mon 4.32 333 ⇓*i*Pn Pn 15 36 16.3 +1.4
DRME *i* Sn Sn 15 37 06.6 +1.4
DRME Dracevica, Mon 4.32 333 *e*Pn Pn 15 36 16.4 +1.5
LPK Lapseki 4.32 61 PN Pn 15 36 14.2 -0.7
GCAM G?zelcaml? 4.32 97 PN Pn 15 36 14.1 -0.9
PLD Plovdiv 4.33 30 PN Pn 15 36 14.9 -0.3
BARS Barje 4.45 360 *e*Pn Pn 15 36 18.9 +2.2
PVY Plav 4.46 342 *e*Pn Pn 15 36 18.2 +1.2
PVY *i* Sn Sn 15 37 10.1 +1.3
PDG Podgorica 4.51 335 *e*Pn Pn 15 36 19.8 +2.3
PDG Podgorica 4.51 335 ⇑P Pn 15 36 20.4 +2.9
PDG Podgorica 4.51 335 *e*Pn Pn 15 36 18.1 +0.6
PDG Podgorica 4.51 335 Pn Pn 15 36 19.5 +2.0
TTG Podgorica 4.51 335 ⇓*i*Pn Pn 15 36 18.5 +1.0
TTG *i* Sn Sn 15 37 11.4 +1.5
BUM Brajici-Budva 4.52 331 ⇓*i*Pn Pn 15 36 18.4 +0.6
BUM *i* Sn Sn 15 37 11.6 +1.2
BODT Bodrum 4.54 105 PN Pn 15 36 17.2 -0.8
MATE Matera 4.57 302 ⇓P Pn 15 36 21.2 +2.8
UKOP Uzunkopru-Edir 4.62 52 PN Pn 15 36 18.5 -0.6
CEME Cevo 4.73 333 ⇓*i*Pn Pn 15 36 21.6 +1.0
CEME *i* Sn Sn 15 37 16.7 +1.3
IVA Berane 4.73 343 ⇑*i*Pn Pn 15 36 21.8 +1.1
IVA *i* Sn Sn 15 37 16.8 +1.2
ZKR Zakros 4.79 131 PN Pn 15 36 20.9 -0.6
AYDB Zeytinkoy-Aydi 4.80 93 PN Pn 15 36 20.6 -1.1
HCY Herceg Novi 4.80 329 ⇑*i*Pn Pn 15 36 21.8 +0.2
HCY *i* Sn Sn 15 37 18.3 +1.1
HCY Herceg Novi 4.80 329 *e*Pn Pn 15 36 21.5 -0.1
KOME Kolasin 4.81 339 ⇑*i*Pn Pn 15 36 22.7 +0.9
KOME *i* Sn Sn 15 37 18.6 +1.1
MAR3 Marsite Statio 4.85 59 PN Pn 15 36 21.4 -0.8
SELS Selova 4.88 354 *e*Pn Pn 15 36 24.0 +1.3
NKME Niksic 4.91 334 ⇑*i*Pn Pn 15 36 24.6 +1.5
NKME *i* Sn Sn 15 37 20.7 +0.8
NKY Niksic 4.94 335 ⇑*i*Pn Pn 15 36 24.3 +0.8
NKY *i* Sn Sn 15 37 21.8 +1.2
ZAPS Zavoj 4.94 7 *e*Pn Pn 15 36 24.4 +0.9
SJES Sjenica 5.09 345 *e*Pn Pn 15 36 27.8 +2.2
KARP Karpathos 5.12 122 PN Pn 15 36 25.8 -0.2
KARP Karpathos 5.12 122 Pn Pn 15 36 28.1 +2.1
BRY Bratogost 5.17 332 ⇓*i*Pn Pn 15 36 27.6 +0.8
BRY *i* Sn Sn 15 37 27.4 +0.9
BRY Bratogost 5.17 332 *e*Pn Pn 15 36 27.6 +0.8
YER Yerkesik 5.26 102 PN Pn 15 36 27.2 -0.8
BOVS Bovan 5.26 359 *e*Pn Pn 15 36 30.7 +2.1
PLE Pljevlja 5.29 340 ⇑*i*Pn Pn 15 36 29.2 +0.8
PLE *i* Sn Sn 15 37 30.2 +0.8
UPM Unac-Piva 5.32 336 ⇑*i*Pn Pn 15 36 29.8 +1.0
UPM *i* Sn Sn 15 37 30.9 +0.8
UPM Unac-Piva 5.32 336 *e*Pn Pn 15 36 30.9 +2.1
TURN Turunc 5.34 105 PN Pn 15 36 28.4 -0.6
ZAGS Zajecar 5.45 3 *e*Pn Pn 15 36 31.3 +0.8
ARG Arkhangelos 5.46 111 PN Pn 15 36 30.4 -0.3
RUDO Rudo 5.56 341 *e*Pn Pn 15 36 32.1 0.0
GRUS Gruza 5.58 352 *e*Pn Pn 15 36 35.1 +2.8
DALY Dalyan (Mula) 5.64 104 PN Pn 15 36 32.9 -0.2
SGRT San Giovanni R 5.76 308 Pn Pn 15 36 35.6 +0.7
BBLS Lazići 5.79 342 *e*Pn Pn 15 36 37.4 +2.2
BBLS Lazići 5.79 342 *e*Pn Pn 15 36 37.0 +1.8
DIVS Divibare 5.89 347 *e*Pn Pn 15 36 38.1 +1.5
DIVS Divibare 5.89 347 *e*Pn Pn 15 36 37.8 +1.2
DIVS Divibare 5.89 347 Pn Pn 15 36 37.5 +0.9
VAE Valguarnera 5.93 264 Pn Pn 15 36 38.6 +1.5
comp=N,1.4nm,0.3s,baz=107,slow=20,SNR=1.5
VAE Sn Sn 15 37 46.5 +1.5
comp=N,1.9nm,0.3s,baz=233,slow=16,SNR=3.2
TRUS Trudelj 5.95 350 *e*Pn Pn 15 36 39.8 +2.5
RAFF Raffo Rosso 6.02 261 Pn Pn 15 36 38.1 -0.3
FETY Fethiye 6.02 104 PN Pn 15 36 38.6 +0.2
PAOL Paolisi 6.20 298 Pn Pn 15 36 42.0 +1.1
MDVR Moldovita 6.41 359 ⇓P Pn 15 36 47.2 +3.4
TEKS Tekeris 6.41 345 *e*Pn Pn 15 36 45.3 +1.6
TEKS Tekeris 6.41 345 *e*Pn Pn 15 36 44.3 +0.6
HERR Herculane 6.52 4 ⇑P Pn 15 36 47.8 +2.6
ISP Isparta 6.88 92 P Pn 15 36 51.9 +1.6
ISP Isparta 6.88 92 Pn Pn 15 36 51.9 +1.6
FRGS Fruska Gora 6.95 348 *e*Pn Pn 15 36 52.6 +1.5
FRGS Fruska Gora 6.95 348 *e*Pn Pn 15 36 52.3 +1.2
INTR Introdacqua 7.07 303 Pn Pn 15 36 54.6 +1.8
BZS Buzias 7.25 359 ⇓P Pn 15 36 58.5 +3.3
BLY Banja Luka 7.26 333 *e*Pn Pn 15 36 57.7 +2.3
ARR Arges 7.30 16 ⇑P Pn 15 36 59.5 +3.5
VOIR 7.46 18 ⇑P Pn 15 37 01.8 +3.6
MDUB Mudurnu 7.55 71 Pn 15 37 00.9 +1.4
MLR Muntele Rosu 7.75 22 Pn Pn 15 37 02.1 -0.1
comp=N,1.6nm,0.3s,baz=253,slow=4.7,SNR=8.3
MLR Sn Sn 15 38 31.9 +1.9
comp=N,0.1nm,0.3s,baz=285,slow=19,SNR=1.0
MLR LR LR 15 40 12.7
comp=N,370nm,20.1s,baz=228,slow=40
MLR Muntele Rosu 7.75 22 ⇑P Pn 15 37 06.2 +4.0
NRCA Norcia 7.99 307 Pn 15 37 06.6 +1.2
DOPR Dopca 8.04 18 ⇓P Pn 15 37 09.4 +3.3
PLOR Plostina 8.29 24 ⇓P Pn 15 37 14.3 +4.8
VRI Vrincioaia 8.33 24 ⇑P Pn 15 37 13.9 +3.8
CRES Cresnjev 8.83 330 *e*Pn Pn 15 37 16.4 -0.4
CEY Cerknica 9.19 326 *e*Pn Pn 15 37 20.6 -1.2
BR131 Keskin Array S 9.29 78 P Pn 15 37 26.2 +2.8
BR131 Keskin Array S 9.29 78 Pn Pn 15 37 26.1 +2.8
BRTR Keskin Array B 9.29 78 Pn Pn 15 37 26.1 +2.7
comp=N,2.0nm,0.3s,baz=258,slow=13,SNR=52
BRTR Keskin Array B 9.29 78 P Pn 15 37 25.7 +2.3
BRTR Keskin Array B 9.29 78 Pn Pn 15 37 25.7 +2.3
TRI Trieste 9.47 323 P Pn 15 37 25.5 -0.1
TRI Trieste 9.47 323 Pn Pn 15 37 25.5 -0.1
BURAR Bucovina Array 9.57 14 ⇑P Pn 15 37 30.9 +3.9
PSZ Piszkesteto 9.65 352 ⇑P Pn 15 37 31.4 +3.3
SOKA Soboth 9.70 331 *e*Pn Pn 15 37 29.5 +0.7
comp=N,1.9nm,0.3s
SOKA Sn Sn 15 39 14.0 -3.7
comp=N,7.4nm,1.0s
OBKA Obir 9.75 329 *e*Pn Pn 15 37 28.7 -0.9
comp=N,2.9nm,0.5s
OBKA *e*Sn Sn 15 39 17.6 -1.4
comp=N,20nm,0.6s
ARSA Arzberg 10.01 335 Pn Pn 15 37 36.4 +3.3
comp=N,1.4nm,0.3s
PRED Cave del Predi 10.12 326 Pn 15 37 33.5 -1.0
KEST Kesra 10.31 259 LR LR 15 42 42.6
comp=N,64nm,21.5s,baz=314,slow=44
VYHS Vyhne 10.35 349 *e*P Pn 15 37 40.9 +3.2
VYHS Vyhne 10.35 349 *e*PN Pn 15 37 40.9 +3.2
STAL STALIGIAL 10.37 322 Pn 15 37 38.0 -0.1
ZOU Zoufplan 10.47 324 Pn 15 37 39.8 +0.3
CIMO Cimolais 10.54 322 Pn 15 37 39.4 -0.9
CTI Castel Tesino 10.76 319 P Pn 15 37 42.2 -1.2
CTI Castel Tesino 10.76 319 Pn 15 37 42.2 -1.2
ABTA Abfaltersbach 10.82 324 *e*Pn Pn 15 37 45.0 +0.7
comp=N,4.3nm,0.5s
ABTA *e*Sn Sn 15 39 42.8 -2.5
comp=N,15nm,0.7s
MOA Molln 10.96 332 *e*Pn Pn 15 37 48.2 +2.0
comp=N,2.6nm,0.4s
MOA *e*Sn Sn 15 39 46.3 -2.4
comp=N,3.9nm,0.4s
WTTA Wattenberg 11.61 323 *e*Pn Pn 15 37 56.1 +1.0
comp=N,6.6nm,0.6s,SNR=4.7
WTTA *e*Sn Sn 15 40 02.0 -2.7
comp=N,17nm,0.7s
WATA Walderalm 11.69 323 *e*Pn Pn 15 37 56.2 +0.1
comp=N,7.1nm,0.5s
WATA *e*Sn Sn 15 40 03.3 -3.4
comp=N,16nm,0.7s
SQTA Sankt Quirin 11.78 322 *e*Pn Pn 15 37 58.1 +0.7
comp=N,2.1nm,0.3s
SQTA *i* Sn Sn 15 40 06.0 -2.9
comp=N,3.4nm,0.3s
FETA Feichten 11.88 320 *e*Pn Pn 15 38 02.5 +3.7
comp=N,1.6nm,0.5s
FETA *e*Sn Sn 15 40 09.8 -1.6
comp=N,3.5nm,0.6s
MOTA Moosalm 11.92 322 *e*Pn Pn 15 37 59.0 -0.3
comp=N,7.4nm,0.7s
MOTA *e*Sn Sn 15 40 09.3 -3.0
comp=N,12nm,0.7s
GERES GERESS Array B 12.01 333 Pn Pn 15 38 01.4 +1.0
comp=N,0.1nm,0.3s,baz=163,slow=14,SNR=3.5
GERES Sn Sn 15 40 14.4 +0.1
comp=N,0.2nm,0.3s,baz=150,slow=24,SNR=4.0
GERES LR LR 15 43 37.6
comp=N,485nm,21.9s,baz=144,slow=43
GERES GERESS Array B 12.01 333 Pn 15 37 59.0 -1.5
DAVOX Davos/Dischmat 12.16 318 Pn Pn 15 38 01.6 -1.0
comp=N,0.3nm,0.3s,baz=198,slow=20,SNR=2.3
DAVOX Sn Sn 15 40 13.3 -4.9
comp=N,0.2nm,0.3s,baz=163,slow=19,SNR=2.1
RETA Reutte 12.19 322 Sn Sn 15 40 16.5 -2.2
comp=N,9.5nm,0.7s
MMAI Mount Meron Ar 12.26 112 Pn Pn 15 38 04.1 +0.2
comp=N,0.8nm,0.3s,baz=304,slow=13,SNR=5.3
MMAI LR LR 15 44 57.5
comp=N,50nm,19.5s,baz=30,slow=48
KHC Kasperske Hory 12.29 334 *e*P P 15 38 10.5 -6.1
KHC Kasperske Hory 12.29 334 ⇑*e*P Pn 15 38 07.1 +2.8
SENIN Lac Senin/Sane 13.37 311 Pn 15 38 17.7 -1.5
AKASG Malin Array Be 13.40 21 Pn Pn 15 38 20.0 +0.7
comp=N,0.6nm,0.3s,baz=210,slow=12,SNR=3.3
BRG Berggiesshubel 13.69 338 *e*P Pn 15 38 24.4 +1.1
comp=N,2.3nm,0.8s
BRG Berggiesshubel 13.69 338 *e*P Pn 15 38 24.4 +1.1
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG MLR MLR
comp=N,284nm,11.0s
BRG MLR MLR
comp=E,261nm,12.9s
BRG MLR MLR
comp=Z,387nm,12.2s
BRG Berggiesshubel 13.69 338
comp=Z,387nm,12.2s
BRG Berggiesshubel 13.69 338
comp=E,261nm,12.9s
BRG Berggiesshubel 13.69 338
comp=N,284nm,11.0s
ASF Jabal al Asfar 13.77 112 Pn Pn 15 38 27.0 +2.4
comp=N,0.1nm,0.3s,baz=307,slow=5.1,SNR=2.6
EIL Elat 13.91 125 Pn Pn 15 38 28.6 +2.2
comp=N,0.2nm,0.3s,baz=21,slow=3.7,SNR=2.7
EIL Sn Sn 15 40 56.1 -4.7
comp=N,0.2nm,0.3s,baz=38,slow=19,SNR=1.8
CLL Collm 14.36 337 *e*PP P 15 38 40.0 +0.5
CLL *i* sPP 15 38 43.4
comp=Z,8.0nm,0.9s
CLL Lm MLR 15 44 00.0
comp=Z,300nm,21.3s
CLL Collm 14.36 337 *e*P P 15 38 41.0 +1.5
KLNR Kaliningrad 16.28 357 ⇓*e*P Pn 15 38 58.9 +1.1
KLNR pmax pmax
comp=Z,26nm,0.9s
VORD Divnogorie 17.64 39 *e*P P 15 39 16.0 +0.2
VORD pmax pmax
comp=Z,4.0nm,0.4s
VSR Storozhevoye 17.73 38 *e*P P 15 39 16.6 -0.3
VSR pmax pmax
comp=Z,6.0nm,0.5s
LPSR Galich'ya Gora 18.54 34 *e*P Pn 15 39 28.1 +2.1
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VRH Novokhopyorsk 19.00 41 *e*P Pn 15 39 32.8 +1.2
VRH pmax pmax
comp=Z,7.0nm,0.9s
OBN Obninsk 19.49 26 LR LR 15 47 38.7
comp=Z,28nm,18.3s,baz=174,slow=39
OBN Obninsk 19.49 26 ⇓*e*P P 15 39 35.9 -0.3
OBN pmax pmax
comp=Z,5.0nm,0.6s
ESBB Sonseca Array 20.06 282 P P 15 39 43.0 +0.4
ESDC Sonseca Array 20.06 282 P Pn 15 39 43.9 -0.6
comp=Z,6.2nm,0.7s,baz=76,slow=11,SNR=38
ESDC Sonseca Array 20.06 282 P P 15 39 41.4 -1.2
MOS Moscow 20.36 26 *e*P P 15 39 45.0 -0.6
MOS *e* 15 40 06.5
VSU Vasula 20.36 7 *c i*P P 15 39 46.4 +0.8
VSU pmax pmax
comp=Z,82nm,1.0s
PAB San Pablo 20.37 282 P Pn 15 39 47.3 -0.8
PAB pmax pmax
comp=Z,10.0nm,0.7s
PAB San Pablo 20.37 282 P Pn 15 39 47.3 -0.7
HOMB Homborsund 21.72 341 *e*P P 15 40 01.2 +1.0
MDT Midelt 22.16 264 P P 15 40 06.2 +0.8
comp=Z,3.4nm,0.8s,baz=95,slow=12,SNR=6.8
HFS Hagfors 22.39 349 P P 15 40 06.5 -0.9
comp=Z,2.1nm,0.4s,baz=158,slow=9.6,SNR=19
HFS LR LR 15 49 25.3
comp=Z,78nm,20.5s,baz=172,slow=38
KONO Kongsberg 22.69 344 ⇑*e*P P 15 40 13.2 +2.6
KONO pmax pmax
comp=Z,21nm,1.7s
KONO Kongsberg 22.69 344 *e*P P 15 40 10.5 -0.1
FINES FINESS Array B 23.25 5 P P 15 40 15.1 -1.3
comp=Z,3.7nm,0.7s,baz=167,slow=8.7,SNR=20
FINES PcP PcP 15 44 04.0 +0.3
comp=Z,1.3nm,0.7s,baz=195,slow=2.6,SNR=5.9
FINES LR LR 15 50 02.2
comp=Z,135nm,20.1s,baz=194,slow=39
FINES FINESS Array B 23.25 5 *i* P P 15 40 15.3 -1.1
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 23.25 5 P P 15 40 14.6 -1.9
FINES PcP PcP 15 44 04.0 +0.3
FIA1 FINESS Array S 23.25 5 P P 15 40 15.2 -1.2
FIA1 IAmb IAmb 15 40 17.3
comp=Z,28nm,1.5s
BLS5 Blasjo 23.26 340 *e*P P 15 40 16.7 +0.1
NC602 NORSAR Array S 23.31 347 P P 15 40 16.2 -0.8
NC602 IAmb IAmb 15 40 17.2
comp=Z,29nm,1.2s
NC602 NORSAR Array S 23.31 347 *e*P P 15 40 16.7 -0.3
NAO01 NORSAR Array S 23.52 347 P P 15 40 18.9 -0.3
NC405 NORSAR Array S 23.63 348 P P 15 40 18.6 -1.7
NC405 IAmb IAmb 15 40 21.0
comp=Z,16nm,1.0s
NB2 NORSAR Subarra 23.65 347 P P 15 40 19.5 -1.0
comp=Z,5.3nm,0.7s,baz=159,slow=11
NB2 NORSAR Subarra 23.65 347 P P 15 40 19.5 -1.0
baz=159,slow=11
NOA NORSAR Array B 23.65 347 P P 15 40 19.4 -1.1
comp=Z,3.7nm,0.9s,baz=171,slow=12,SNR=23
NOA LR LR 15 51 45.9
comp=Z,59nm,18.7s,baz=170,slow=42
NC303 NORSAR Array S 23.80 347 P P 15 40 20.5 -1.3
NC303 IAmb IAmb 15 40 26.3
comp=Z,17nm,0.8s
EKA Eskdalemuir Ar 23.88 323 P P 15 40 22.7 0.0
comp=Z,10nm,0.8s,baz=122,slow=10.0,SNR=30
ESK Eskdalemuir 23.89 323 P P 15 40 22.8 0.0
ESK pmax pmax
comp=Z,16nm,0.9s
ESK Eskdalemuir 23.89 323 P P 15 40 22.8 0.0
ESK IAmb IAmb 15 40 23.5
comp=Z,16nm,0.8s
SKAR Skarslia 23.90 344 *e*P P 15 40 23.9 +1.0
NC204 NORSAR Array S 23.95 347 P P 15 40 23.5 +0.1
ASK Askoy 24.50 340 *e*P P 15 40 28.3 0.0
HYA Hoyanger 24.82 342 *e*P P 15 40 31.4 +0.2
DOMB Dombas 24.98 346 *e*P P 15 40 33.1 +0.4
KLMR Klimovskoe 25.09 21 *e*P P 15 40 31.9 -1.8
KLMR pmax pmax
comp=Z,11nm,0.7s
KLMR Klimovskoe 25.09 21 *e*P P 15 40 31.9 -1.8
KLMR AMP 15 40 35.4
comp=Z,11nm,0.7s
AKN Aaknes 25.52 344 *e*P P 15 40 37.1 -0.5
MOL Molde 25.76 345 *e*P P 15 40 40.0 +0.3
KIRV Kirov 26.94 32 P P 15 40 50.4 0.0
comp=Z,5.6nm,0.5s,baz=222,slow=4.9,SNR=4.5
KIRV LR LR 15 51 39.8
comp=Z,66nm,19.2s,baz=238,slow=37
TMCR Tamitsa 27.58 15 *e*P P 15 40 56.2 +0.1
TMCR pmax pmax
comp=Z,13nm,0.4s
AKTO Aktyubinsk 28.25 53 LR LR 15 54 16.4
comp=Z,37nm,20.1s,baz=264,slow=41
ARU Arti 30.24 41 P P 15 41 19.9 +0.1
comp=Z,0.6nm,0.4s,baz=32,slow=4.7,SNR=4.0
ARU LR LR 15 54 12.4
comp=Z,78nm,18.7s,baz=205,slow=38
ARU Arti 30.24 41 *d i*P P 15 41 19.7 -0.1
ARU 15 42 19.8
ARU S S 15 46 18.3 -0.7
ARU SS SnSn 15 47 50.3 -2.4
ARU pmax pmax
comp=Z,7.0nm,1.4s
TOA0 Torodi Ar. Sit 30.83 221 P P 15 41 23.7 -1.7
TORD Torodi Ar. Bea 30.83 221 P P 15 41 26.2 +0.7
comp=Z,3.8nm,0.7s,baz=30,slow=9.3,SNR=16
ARCES ARCESS Array B 31.29 2 P P 15 41 28.4 -0.7
comp=Z,1.6nm,0.5s,baz=194,slow=9.7,SNR=16
ARCES ARCESS Array B 31.29 2 P P 15 41 27.6 -1.5
SVE Sverdlovsk 31.45 41 *e*P P 15 41 31.3 +0.8
SVE pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 36.15 50 *ce*P P 15 42 12.4 +1.0
BRVK pmax pmax
comp=Z,13nm,2.5s
KK31 Karatay Array 36.78 67 P P 15 42 17.3 +0.4
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 36.78 67 P P 15 42 17.3 +0.4
KK31 IAmb IAmb 15 42 19.3
comp=Z,4.5nm,0.6s
KKAR Karatay Array 36.78 67 P P 15 42 17.5 +0.5
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 36.78 67 P P 15 42 17.2 +0.2
KKAR IAmb IAmb 15 42 19.4
comp=Z,4.5nm,0.6s
KKAR Karatay Array 36.78 67 P P 15 42 17.5 +0.5
DBIC Dimbokro 39.74 224 P P 15 42 43.4 +1.4
comp=Z,5.2nm,1.0s,baz=81,slow=6.8,SNR=4.3
DBIC LR LR 16 00 05.6
comp=Z,32nm,18.1s,slow=38
DBIC Dimbokro 39.74 224 P P 15 42 39.9 -2.1
DBIC pmax pmax
comp=Z,10.0nm,1.1s
DBIC Dimbokro 39.74 224 P P 15 42 39.9 -2.1
DBIC IAmb IAmb 15 42 51.8
comp=Z,10nm,1.1s
AAK Ala-Archa 39.74 67 ⇓*e*P P 15 42 43.5 +1.4
AAK pmax pmax
comp=Z,33nm,2.6s
KURK Kurchatov 41.34 54 ⇑*e*P P 15 42 55.1 +0.2
KURK pmax pmax
comp=Z,8.0nm,1.7s
MAKZ Makanchi 44.11 59 P P 15 43 18.3 +0.7
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 44.11 59 P P 15 43 18.3 +0.7
MK31 Makanchi Array 44.33 59 P P 15 43 19.8 +0.5
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 44.33 59 P P 15 43 19.8 +0.5
MK31 IAmb IAmb 15 43 26.8
comp=Z,4.3nm,0.8s
MKAR Makanchi Array 44.33 59 P P 15 43 19.6 +0.3
comp=Z,4.1nm,0.4s,baz=272,slow=7.3,SNR=110
MKAR PcP PcP 15 45 03.2 -0.1
comp=Z,0.6nm,0.5s,baz=289,slow=3.1,SNR=2.1
MKAR LR LR 16 04 22.0
comp=Z,27nm,19.9s,baz=284,slow=40
MKAR Makanchi Array 44.33 59 P P 15 43 19.5 +0.2
MKAR PP 15 45 02.3 -0.1
ZAA0 Zalesovo Array 44.80 48 P P 15 43 22.6 -0.3
ZALV Zalesovo Beam 44.80 48 P P 15 43 23.0 +0.1
comp=Z,4.9nm,0.4s,baz=276,slow=8.7,SNR=18
ZALV Zalesovo Beam 44.80 48 P P 15 43 23.0 +0.1
ZALV Zalesovo Beam 44.80 48 P P 15 43 22.8 -0.1
NRIK Noril'sk 46.17 27 P P 15 43 34.6 +1.1
comp=Z,1.4nm,0.5s,baz=240,slow=16,SNR=1.5
NRIK LR LR 16 03 46.2
comp=Z,90nm,18.8s,baz=202,slow=37
DGZ Jazzator, Alta 47.09 54 ⇑*i*P P 15 43 41.5 +0.3
DGZ pmax pmax
comp=Z,3.0nm,0.6s
WMQ Urumqi 48.77 61 *e*P P 15 43 57.0 +2.8
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ pmax pmax
comp=Z,27nm,3.8s
WMQ LR LR
comp=N,180nm,29.1s
WMQ LR LR
comp=E,230nm,27.7s
WMQ LR LR
comp=Z,46nm,28.9s
TLY Talaya 56.40 48 LR LR 16 11 13.3
comp=Z,26nm,18.4s,baz=294,slow=38
GTA Gaotai 58.83 62 *e*P P 15 45 09.3 +1.3
GTA pP sP 15 45 13.4 +0.3
GTA sP pP 15 45 16.3 +4.6
GTA pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 59.54 51 P P 15 45 11.8 -1.0
comp=Z,1.7nm,0.7s,baz=292,slow=9.3,SNR=8.2
SONM LR LR 16 12 18.5
comp=Z,38nm,19.7s,baz=330,slow=38
ULN Ulaanbaatar 59.93 51 ⇑*e*P P 15 45 15.8 +0.3
ULN pmax pmax

comp=Z,4.0nm,1.0s
LZH Lanzhou 63.20 64 *e*P **P 15 45 37.3 -0.5**
LZH pP sP 15 45 47.5 +4.6
LZH sP pP 15 45 51.3 +10
LZH *e*PP **PP 15 47 58.3 +1.8**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,67nm,6.8s
LZH LR LR
comp=N,140nm,16.3s
LZH LR LR
comp=E,140nm,16.0s
LZH LR LR
comp=Z,180nm,18.2s
HHC Hu-ho-hao-te 66.08 56 *e*P **P 15 45 57.3 +0.8**
HHC sS sS 15 55 02.6 +12
HHC pmax pmax
comp=Z,9.0nm,1.2s
HHC pmax pmax
comp=Z,92nm,6.1s
HIA Hailar 66.66 45 ⇑*i*P **P 15 46 00.4 +0.5**
HIA pmax pmax
comp=Z,6.0nm,1.0s
BOSA Boshof 66.71 177 LR LR 16 20 08.7
comp=Z,45nm,18.8s,baz=354,slow=40
CMAR Chiang Mai Arr 68.85 83 P **P 15 46 13.9 -0.2**
comp=Z,1.0nm,0.8s,baz=304,slow=7.9,SNR=6.7
CMAR Chiang Mai Arr 68.85 83 *i* P **P 15 46 14.3 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 73.56 341 LR LR 16 22 51.5
comp=Z,23nm,19.0s,baz=0.0,slow=39
NJ2 Nanjing 75.83 60 *e*P **P 15 46 55.5 -0.2**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
IMAR Indian Mountai 75.92 358 P **P 15 46 55.1 -0.5**
ULM Lac du Bonnet 76.15 324 P **P 15 46 56.9 -0.2**
comp=Z,2.8nm,0.5s,baz=61,slow=3.6,SNR=3.5
ULM LR LR 16 21 00.4
comp=Z,42nm,18.4s,baz=44,slow=36
USRK Ussuriysk Ar. 76.43 44 P **P 15 46 57.9 -1.0**
comp=Z,1.9nm,0.8s,baz=268,slow=7.7,SNR=5.8
ILAR Eielson Array 76.81 355 P **P 15 47 01.4 +0.8**
comp=Z,1.0nm,0.7s,baz=356,slow=4.4,SNR=7.3
ILAR Eielson Array 76.81 355 P **P 15 47 00.8 +0.1**
BCAR Beaver Creek A 78.06 352 P **P 15 47 06.5 -1.3**
KSAR Wonju Array Be 78.40 51 P **P 15 47 08.3 -1.7**
KSAR Wonju Array Be 78.40 51 P **P 15 47 08.2 -1.7**
KSRS Korea Array 78.41 51 P **P 15 47 10.2 +0.1**
comp=Z,1.1nm,0.5s,baz=309,slow=4.7,SNR=9.8
KSRS LR LR 16 25 46.9
comp=Z,22nm,18.3s,baz=310,slow=39
DHY Denali Highway 78.53 355 P **P 15 47 10.8 +0.3**
PPLA Purkeypile 78.97 357 P **P 15 47 13.5 +0.7**
TTA Tatalina 79.03 359 P **P 15 47 14.2 +1.1**
TTA pmax pmax
comp=Z,5.0nm,1.3s
TTA Tatalina 79.03 359 P **P 15 47 14.2 +1.1**
PETK Petropavlovsk- 81.20 25 LR LR 16 26 37.7
comp=Z,36nm,18.9s,baz=239,slow=38
KDAK Kodiak Island 84.10 357 P **P 15 47 40.8 +0.9**
comp=Z,5.8nm,0.7s,baz=348,slow=5.2
KDAK Kodiak Island 84.10 357 P **P 15 47 41.1 +1.2**
KDAK pmax pmax
comp=Z,3.0nm,0.9s
KDAK Kodiak Island 84.10 357 P **P 15 47 41.0 +1.2**
KDAK IAmb IAmb 15 47 55.1
comp=Z,2.5nm,0.8s
PDAR Pinedale Array 87.96 326 LR LR 16 27 49.4
comp=Z,41nm,20.7s,baz=3.0,slow=36
TXAR Lajitas Array 95.58 314 P **P 15 48 35.4 +0.4**
comp=Z,0.5nm,0.9s,baz=60,slow=5.3,SNR=3.7
TXAR LR LR 16 32 53.0
comp=Z,16nm,18.3s,baz=0.0,slow=36
WRA Warramunga Arr 119.52 93 PKP **PKPdf 15 53 58.6 -0.9**
comp=Z,0.2nm,0.8s,baz=319,slow=2.3,SNR=1.6
ASAR Alice Springs 121.17 97 PKP **PKPdf 15 54 01.4 -1.1**
comp=Z,0.1nm,0.4s,baz=311,slow=1.6,SNR=4.8

DJA 19 15:53:27.8±1.2, 9°S±5°×11°7E±°, h15km±9km, M4.0/11, mb4.3/3, MLv3.8/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.68**	**15**	P	Pb	15 53 42.1	+0.7
TWSI				S	Sb	15 53 51.6	+1.0
PLAI	**Plampang**	**1.20**	**62**	P	Pn	15 53 48.8	-1.2
JAGI	**Jajag, Banyuwa**	**2.69**	**290**	P	Pn	15 54 10.1	-0.5
ABJI	**Asem Bagus**	**2.92**	**303**	P	Pn	15 54 14.0	+0.2
BLJI	**Banyuglugur**	**3.49**	**298**	P	Pn	15 54 22.1	+0.5
GRJI	**Gresik**	**4.86**	**300**	P	Pn	15 54 41.1	+0.6
EDFI	**Ende, Flores**	**4.96**	**83**	P	Pn	15 54 41.6	-0.3
PWJI	**Pagerwojo**	**5.04**	**285**	P	Pn	15 54 42.6	-0.3
	0.2nm35nm,0.9s						
BKSI	**Bulukumba**	**5.28**	**40**	P	Pn	15 54 46.5	+0.3

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*JMA **19** 15:55:53.3, 30°.15N×130°.41E, h60km±1km, M3.9*
JMA Felt I J1.
*NIED **19** 15:55:53.3, 30°.15N×130°.41E, h60km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.42; $M_{\theta\theta}$=0.38; $M_{\phi\phi}$=0.80; $M_{r\theta}$=4.03; $M_{r\phi}$=3.32; $M_{\theta\phi}$=-0.31; Fault plane solution: M_0=5.25000×10^{14} NP1: ϕ_s=265.00000°, δ=86.00000°, λ=-50.00000°. NP2: ϕ_s=359.00000°, δ=41.00000°, λ=-174.00000°.*
*IDC **19** 15:55:56.3±3.0, 30°.27N×130°.55E, h104km±35km, mb3.3/7, mb1 3.5/11, mb1mx3.3/43, mbtmp3.8/11, MS2.2/2, Ms1 2.2/2, ms1mx2.1/21 Error ellipse: s-maj=42.8km s-min=15.3km az=60.0*
ISC 19 15:55:52.8±0.8, 30°.12N±0°.05×130°.40E±0°.06, h62km±6km, n25, σ1°06/33, mb3.8/7, 1C-8D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.15**	**38**	⇓P	**Pn**	**15 56 02.2**	**-0.1**
JYAK				*e*S	**Sn**	15 56 08.8	-0.3
JKC	**Kuchinoerabu**	**0.39**	**332**	⇓P	**Pn**	**15 56 03.9**	**+0.1**
JKC				*e*S	**Sn**	**15 56 11.7**	**-0.1**
JMTN	**Minamitane**	**0.51**	**57**	⇓P	**Pn**	**15 56 05.3**	**+0.2**
JMTN				S	**Sn**	**15 56 14.4**	**+0.4**
JNN	**Nakanoshima**	**0.54**	**239**	⇑P	**Pn**	**15 56 05.8**	**+0.5**
JNN				S	**Sn**	**15 56 15.2**	**+0.7**
JTN	**Tanegashima 3**	**0.73**	**43**	⇓P	**Pn**	**15 56 07.7**	**+0.2**
JTN				*e*S	**Sn**	**15 56 18.3**	**0.0**
JTSR	**Tashiro 2**	**1.13**	**23**	⇓P	**Pn**	**15 56 12.8**	**+0.1**
JTSR				S	**Sn**	**15 56 27.0**	**-0.5**
JSU	**Suzuyama**	**1.38**	**2**	⇓P	**Pn**	**15 56 16.2**	**+0.2**
JSU				S	**Sn**	**15 56 33.1**	**-0.3**
JTAJ	**Takarajima**	**1.42**	**228**	P	**Pn**	**15 56 17.8**	**+1.3**
JTAJ				*e*S	**Sn**	**15 56 36.2**	**+1.9**
JNAR	**Kushima--Naru**	**1.59**	**28**	⇓P	**Pn**	**15 56 19.5**	**+0.8**
JNAR				S	**Sn**	**15 56 39.3**	**+1.0**
JSJ	**Shimokoshiki**	**1.66**	**339**	⇓P	**Pn**	**15 56 19.5**	**-0.2**
JSJ				S	**Sn**	**15 56 39.3**	**-0.8**
JNU	**Nakatsue**	**3.02**	**8**	P	**Pn**	**15 56 40.0**	**+1.8**
	12nm,0.3s,baz=224,slow=3.5,SNR=83						
JNU				S	**Sn**	**15 57 14.2**	**+1.0**
	8.3nm,0.3s,baz=182,slow=20,SNR=4.7						
JNU				LR	LR	15 57 22.7	
	comp=Z,18nm,21.8s,baz=228,slow=30						
KSRS	**Korea Array**	**7.60**	**345**	P	**Pn**	**15 57 43.4**	**+2.5**
	0.9nm,0.3s,baz=175,slow=15,SNR=16						
KSRS				S	**Sn**	**15 59 06.7**	**+1.2**
	0.1nm,0.3s,baz=166,slow=26,SNR=1.6						
JHJ	**Hachijo jima 2**	**8.54**	**67**	P	**Pn**	**15 57 55.6**	**+1.9**
	15nm,0.3s,baz=202,slow=16,SNR=8.9						
MJAR	**Matsushiro Arr**	**9.14**	**43**	P	**Pn**	**15 58 03.5**	**+1.5**
	0.1nm,0.3s,baz=241,slow=15,SNR=7.5						
ASAJ	**Asahikawa**	**16.99**	**31**	LR	LR	16 06 16.1	
	comp=Z,23nm,19.7s,baz=162,slow=37						
SONM	**Songino Array**	**25.55**	**321**	P	**P**	**16 01 14.9**	**-1.0**
	0.7nm,0.4s,baz=139,slow=9.6,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**34.54**	**99**	T	T	16 38 48.4	
	baz=295						
H11N1	**WAKE ISLAND Hy**	**34.54**	**99**	T	T	16 38 48.8	
	baz=295						
H11N3	**WAKE ISLAND Hy**	**34.56**	**99**	T	T	16 38 49.4	
	baz=295						
MKAR	**Makanchi Array**	**40.51**	**308**	P	**P**	**16 03 26.1**	**+0.3**
	0.2nm,0.5s,baz=88,slow=7.7,SNR=2.2						
FITZ	**Fitzroy Crossi**	**48.16**	**186**	P	**P**	**16 04 27.1**	**+0.2**
	0.9nm,0.6s,baz=350,slow=7.8,SNR=2.4						
WRA	**Warramunga Arr**	**49.92**	**175**	P	**P**	**16 04 40.0**	**-0.4**
	0.6nm,0.7s,baz=356,slow=8.3,SNR=8.9						
ASAR	**Alice Springs**	**53.59**	**176**	P	**P**	**16 05 07.2**	**-0.5**
	0.4nm,0.8s,baz=10,slow=13,SNR=6.7						
STKA	**Stephens Creek**	**62.57**	**169**	P	**P**	**16 06 10.6**	**+0.3**
	1.2nm,0.7s,baz=355,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**70.44**	**330**	P	**P**	**16 06 58.2**	**-2.0**
	0.9nm,0.8s,baz=66,slow=6.5,SNR=5.2						

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*IDC **19** 16:15:22.9±3.6, 28°.34S×68°.84W, h81km±31km, mb3.5/6, mb1 3.8/9, mb1mx3.7/28, mbtmp4.0/9, Error ellipse: s-maj=33.6km s-min=22.3km az=72.0*
*NEIC **19** 16:15:23.3±2.9, 28°.28S±0°.05×68°.88W±0°.08, h88km±9km, mb4.2/4, Error ellipse: s-maj=12.0km s-min=4.6km az=57.0*
*SJA **19** 16:15:23.3±0.7, 28°.27S×69°.05W, h117km±3km, ML4.1, MW4.0*
*GUC **19** 16:15:24.4±0.7, 28°.29S×69°.30W, h125km±7km, ML4.3*
ISC 19 16:15:24.8±0.7, 28°.31S±0°.03×69°.08W±0°.03, h104km±6km, n89, σ1°79/121, mb3.7/6, 7C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.88**	**119**	⇓*i*P	**Pn**	**16 15 45.2**	**+0.7**
VCA				*i* S	**Sn**	**16 16 00.2**	**+0.9**
VCA	**Vinchina**	**0.88**	**119**	*e*P	**Pn**	**16 15 45.2**	**+0.7**
VCA				*e*S	**Sn**	**16 16 00.4**	**+1.1**
VCA				IAML		16 16 01.7	
	comp=Z,4μm,0.2s						
AC05	**El Transito**	**1.18**	**243**	⇑*i*P	**Pn**	**16 15 48.2**	**+0.6**
AC05				*i* S	**Sn**	**16 16 05.8**	**+0.9**
AC05				IAML		16 16 07.2	
	comp=N,10μm,0.2s						
AC05	**El Transito**	**1.18**	**243**		**Pn**	**16 15 48.4**	**+0.7**
GO03	**Copiap**	**1.25**	**304**	⇓*i*P	**Pn**	**16 15 48.5**	**+0.1**
GO03				*i* S	**Sn**	**16 16 06.3**	**+0.2**
GO03				IAML		16 16 07.5	
	comp=N,4μm,0.7s						
GO03	**Copiap**	**1.25**	**304**		**Pn**	**16 15 48.7**	**+0.3**
GO03	**Copiap**	**1.25**	**304**	*e*P	**Pn**	**16 15 48.5**	**+0.1**
GO03				*e*S	**Sn**	**16 16 06.9**	**+0.7**
AGUA	**GUANDACOL**	**1.28**	**157**	*e*P	**Pn**	**16 15 49.4**	**+0.6**
AGUA				*e*S	**Sn**	**16 16 06.8**	**-0.2**
AGUA				IAML		16 16 13.0	
	comp=Z,2μm,0.6s						
LCO	**Las Campanas**	**1.59**	**243**	⇑*i*P	**Pn**	**16 15 52.8**	**+0.1**
LCO	**Las Campanas**	**1.59**	**243**		**Pn**	**16 15 53.2**	**+0.5**
AC04	**Llanos de Chal**	**1.77**	**273**	⇑*i*P	**Pn**	**16 15 54.2**	**-0.3**
AC04				*e*S	**Sn**	**16 16 16.1**	**-1.1**
AC04				IAML		16 16 22.1	
	comp=E,2μm,0.1s						
AC04	**Llanos de Chal**	**1.77**	**273**	Pn	**Pn**	**16 15 54.5**	**-0.1**
ACDV	**Cuesta del Vie**	**1.86**	**181**	*e*P	**Pn**	**16 15 57.1**	**+1.1**
ACDV				*e*S	**Sn**	**16 16 22.0**	**+2.4**
AROD	**Rodeo**	**1.89**	**190**	*e*P	**Pn**	**16 15 57.9**	**+1.4**
AROD				*e*S	**Sn**	**16 16 23.2**	**+2.7**
CO01	**Juntas del Tor**	**1.89**	**208**	⇑*i*P	**Pn**	**16 15 57.6**	**+1.2**
CO01				*i* S	**Sn**	**16 16 22.3**	**+1.9**
CO01	**Juntas del Tor**	**1.89**	**208**		**Pn**	**16 15 57.8**	**+1.4**
ACLC	**CERRO LA CRUZ**	**2.17**	**121**	*e*P	**Pn**	**16 16 00.1**	**+0.1**
ACLC				*e*S	**Sn**	**16 16 27.2**	**+0.4**
ACCO	**Cerro Coronel**	**2.27**	**180**	*e*P	**Pn**	**16 16 02.4**	**+0.9**
ACCO				*e*S	**Sn**	**16 16 31.3**	**+1.9**
ACCO				IAML		16 16 36.0	
	comp=Z,576nm,0.3s						
GO04	**Tololo Observa**	**2.39**	**219**	⇑*i*P	**Pn**	**16 16 02.7**	**-0.2**
GO04				*e*S	**Sn**	**16 16 32.2**	**+0.2**
GO04	**Tololo Observa**	**2.39**	**219**	Pn	**Pn**	**16 16 02.9**	**0.0**
AC01	**Pan de Azucar**	**2.54**	**327**	*e*P	**Pn**	**16 16 04.4**	**-0.2**
AC01				*i* S	**Sn**	**16 16 34.1**	**-1.1**
AC01	**Pan de Azucar**	**2.54**	**327**	Pn	**Pn**	**16 16 04.8**	**+0.2**
AVFE	**Valle Fertil**	**2.74**	**149**	*e*P	**Pn**	**16 16 07.7**	**+0.4**
AVFE				*e*S	**Sn**	**16 16 39.5**	**-0.4**
CYA	**Choya**	**2.89**	**93**	*e*P	**Pn**	**16 16 09.2**	**0.0**
CYA				*e*S	**Sn**	**16 16 41.9**	**-1.5**
CYA				IAML		16 16 42.5	
	comp=Z,390nm,0.9s						
CO03	**El Pedregal**	**2.89**	**209**	⇑*i*P	**Pn**	**16 16 09.2**	**-0.1**
CO03				*i* S	**Sn**	**16 16 43.8**	**+0.3**
CO03				IAML		16 16 45.4	
	comp=E,1μm,0.2s						
CO03	**El Pedregal**	**2.89**	**209**	Pn	**Pn**	**16 16 09.4**	**+0.1**
APLL	**PUNTA DE LOS L**	**3.05**	**134**	*e*P	**Pn**	**16 16 11.1**	**-0.3**
APLL				*e*S	**Sn**	**16 16 46.1**	**-1.2**
RTLL	**Cerro Villicun**	**3.06**	**170**	*e*P	**Pn**	**16 16 11.9**	**+0.4**
RTLL				*e*S	**Sn**	**16 16 47.2**	**-0.3**
RTLL				IAML		16 16 50.7	
	comp=Z,984nm,0.7s						
GO02	**Mina Guanaco**	**3.16**	**352**	*e*P	**Pn**	**16 16 13.6**	**+0.4**
GO02				*e*S	**Sn**	**16 16 51.1**	**+0.7**
GO02				IAML		16 17 02.8	
	comp=N,672nm,0.4s						
GO02	**Mina Guanaco**	**3.16**	**352**		**Pn**	**16 16 14.0**	**+0.8**
ZON	**Zonda**	**3.25**	**174**		**Pn**	**16 16 14.5**	**+0.5**
ZON	**Zonda**	**3.25**	**174**	*e*P	**Pn**	**16 16 14.5**	**+0.5**
ZON				*e*S	**Sn**	**16 16 52.2**	**+0.2**
CO02	**Combarbal**	**3.34**	**210**	⇑*i*P	**Pn**	**16 16 14.3**	**-1.0**
CO02				*i* S	**Sn**	**16 16 53.0**	**-1.3**
CO02	**Combarbal**	**3.34**	**210**		**Pn**	**16 16 14.5**	**-0.8**
RTLS	**Leoncito**	**3.49**	**183**	*e*P	**Pn**	**16 16 18.2**	**+0.7**
RTLS				*e*S	**Sn**	**16 16 58.1**	**0.0**
RTLS				IAML		16 17 00.6	
	comp=Z,248nm,0.4s						
FSA	**Cafayete**	**3.52**	**52**	*e*P	**Pn**	**16 16 19.3**	**+1.5**
ACHE	**Chepes**	**3.54**	**144**	*e*P	**Pn**	**16 16 19.0**	**+1.0**
ACHE				*e*S	**Sn**	**16 16 58.9**	**-0.2**
RTCV	**Cerro Valdivia**	**3.58**	**173**	*e*P	**Pn**	**16 16 18.8**	**+0.4**
RTCV				*e*S	**Sn**	**16 16 59.4**	**-0.4**
RTCV				IAML		16 17 02.1	
	comp=Z,211nm,0.4s						
AHML	**Horco Molle**	**3.65**	**66**	*e*P	**Pn**	**16 16 19.7**	**+0.3**
AHML				*e*S	**Sn**	**16 17 02.2**	**+0.5**
PB14	**IPOC Station P**	**3.85**	**342**	*e*P	**Pn**	**16 16 22.3**	**-0.1**
PB14	**IPOC Station P**	**3.85**	**342**	Pn	**Pn**	**16 16 22.7**	**+0.3**
VA03	**San Esteban**	**4.62**	**196**	*e*P	**Pn**	**16 16 31.7**	**-0.8**
VA03	**San Esteban**	**4.62**	**196**		**Pn**	**16 16 31.5**	**-1.1**
SLA	**San Lorenzo**	**4.79**	**43**	*e*P	**Pn**	**16 16 36.7**	**+1.7**
ROCH	**El Roble**	**4.94**	**199**	*e*P	**Pn**	**16 16 34.4**	**-2.6**
ROC1	**El Roble**	**4.95**	**199**		**Pn**	**16 16 34.6**	**-2.5**
PB10	**IPOC Station P**	**4.95**	**344**	*e*P	**Pn**	**16 16 35.3**	**-1.7**
PB10	**IPOC Station P**	**4.95**	**344**	Pn	**Pn**	**16 16 35.7**	**-1.3**
PEL	**Peldehue**	**5.02**	**196**		**Pn**	**16 16 36.0**	**-1.8**
PEL	**Peldehue**	**5.02**	**196**	*e*P	**Pn**	**16 16 37.9**	**0.0**
PEL				*e*S	**Sn**	**16 17 33.7**	**-1.0**
PB15	**IPOC Station P**	**5.09**	**356**		**Pn**	**16 16 38.8**	**-0.2**
MT02	**Curacav**	**5.25**	**199**	*e*P	**Pn**	**16 16 37.7**	**-3.2**
MT02	**Curacav**	**5.25**	**199**		**Pn**	**16 16 38.2**	**-2.7**
MT05	**Renca**	**5.27**	**195**	Pn	**Pn**	**16 16 39.8**	**-1.5**
PB05	**IPOC Station P**	**5.52**	**349**	*e*P	**Pn**	**16 16 42.6**	**-2.2**
PB05				*e*S	**Sn**	**16 17 54.0**	**+6.8**
PB05				IAML		16 18 02.4	
	comp=Z,106nm,0.9s						
PB06	**IPOC Station P**	**5.59**	**355**		**Pn**	**16 16 44.8**	**-1.1**
PB06	**IPOC Station P**	**5.59**	**355**	*e*P	**Pn**	**16 16 44.8**	**-1.1**
PB06				*e*S	**Sn**	**16 17 46.0**	**-2.9**
PB06				IAML		16 18 24.3	
	comp=Z,97nm,0.8s						
LVC	**Limon Verde**	**5.67**	**2**	P	**Pn**	**16 16 46.3**	**-0.8**
	comp=Z,18nm,0.3s,baz=183,slow=6.9,SNR=145						
LVC				S	**Sn**	**16 17 46.9**	**-4.3**
	comp=Z,9.7nm,0.3s,baz=197,slow=19,SNR=6.5						
LVC	**Limon Verde**	**5.67**	**2**	Pn	**Pn**	**16 16 46.4**	**-0.7**
ASTB	**Santa Barbara**	**6.01**	**45**	*e*P	**Pn**	**16 16 51.5**	**+0.1**
PB04	**IPOC Station P**	**6.03**	**350**		**Pn**	**16 16 49.5**	**-2.2**
RFA	**San Rafael**	**6.47**	**176**	*e*P	**Pn**	**16 16 54.4**	**-3.1**
RFA				*e*S	**Sn**	**16 18 04.2**	**-5.7**
RFA				IAML		16 18 43.1	
	comp=Z,48nm,0.7s						
PB09	**IPOC Station P**	**6.48**	**359**		**Pn**	**16 16 57.1**	**-0.8**
PB09	**IPOC Station P**	**6.48**	**359**	*e*P	**Pn**	**16 16 57.0**	**-1.0**
PB09				*e*S	**Sn**	**16 18 17.6**	**+7.1**
PB09				IAML		16 18 33.5	
	comp=Z,55nm,0.4s						
PB07	**IPOC Station P**	**6.59**	**353**		**Pn**	**16 16 56.9**	**-2.5**
BO02	**Sierra Bellavi**	**6.63**	**192**	Pn	**Pn**	**16 16 56.8**	**-3.0**
GO05	**Huala**	**7.11**	**199**		**Pn**	**16 17 04.4**	**-1.8**
PB01	**IPOC Station P**	**7.24**	**357**		**Pn**	**16 17 05.4**	**-2.7**
PB08	**IPOC Station P**	**8.13**	**359**		**Pn**	**16 17 17.6**	**-2.9**
GO01	**Chusmiza**	**8.60**	**359**	Pn	**Pn**	**16 17 24.3**	**-2.6**
PB16	**IPOC Station P**	**9.93**	**358**		**Pn**	**16 17 43.2**	**-1.9**
LPAZ	**La Paz**	**11.99**	**4**	P	**Pn**	**16 18 11.1**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=171,slow=6.7,SNR=19						
LPAZ	**La Paz**	**11.99**	**4**		**Pn**	**16 18 11.3**	**-1.6**
SIV	**San Ignacio**	**14.31**	**33**	P	**Pn**	16 18 38.7	-4.1
	comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=11						
SAML	**Samuel**	**20.04**	**17**	P	**P**	**16 19 47.5**	**-2.2**
SAML				IAmb	IAmb	16 19 51.3	
	comp=Z,9.1nm,1.0s						
BDFB	**Brasilia**	**23.20**	**62**	P	**P**	**16 20 21.1**	**-1.8**
	comp=Z,4.2nm,0.6s,baz=233,slow=9.8,SNR=4.7						
SNAA	**Sanae**	**55.95**	**160**	P	**P**	**16 24 51.9**	**0.0**
	comp=Z,1.9nm,0.5s,baz=279,slow=9.0,SNR=24						
SNAA	**Sanae**	**55.95**	**160**	P	**P**	**16 24 52.1**	**+0.2**
SNAA				IAmb	IAmb	16 24 52.3	
	comp=Z,2.4nm,0.6s						
QSPA	**South Pole Qui**	**61.91**	**180**	P	**P**	**16 25 34.4**	**+1.1**
TXAR	**Lajitas Array**	**66.18**	**327**	P	**P**	**16 26 02.7**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=129,slow=8.2,SNR=2.8						
MAW	**Mawson**	**77.89**	**163**	P	**P**	**16 27 11.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=236,slow=6.6,SNR=4.1						
MAW	**Mawson**	**77.89**	**163**	P	**P**	**16 27 09.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**79.85**	**69**	P	**P**	**16 27 22.8**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=256,slow=5.2,SNR=1.8						
TORD				sP	**pP**	**16 27 51.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=225,slow=3.9,SNR=3.5						
NVAR	**Mina Array Bea**	**80.78**	**323**	P	**P**	**16 27 29.6**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=116,slow=8.4,SNR=4.2						
ASAR	**Alice Springs**	**123.78**	**206**	PKP	**PKPdf**	**16 34 10.6**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=169,slow=1.6,SNR=6.7						
WRA	**Warramunga Arr**	**126.96**	**208**	PKP	**PKPdf**	**16 34 17.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=152,slow=1.6,SNR=1.2						
ZALV	**Zalesovo Beam**	**148.05**	**29**	PKPbc	**PKPdf**	**16 34 58.0**	**+3.5**
	comp=Z,0.8nm,0.5s,baz=256,slow=4.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**148.05**	**29**		**PKPdf**	**16 34 58.2**	**+3.6**
MKAR	**Makanchi Array**	**150.98**	**43**	PKPbc	**PKPbc**	**16 35 05.7**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=307,slow=1.7,SNR=14						

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*NORS **19** 16:58:53.8±0.0, 42°.47N×43°.40E, h5km, MPVA4.0*
*TIF **19** 16:58:54.5, 42°.53N×43°.48E, h14km*
*MOS **19** 16:58:55.3±0.0, 42°.51N×43°.37E, h4km, MPVA3.9*
*DDA **19** 16:58:56.4, 42°.50N×43°.46E, h6km±3km, ML2.7*
ISC 19 16:58:54.7±0.9, 42°.48N±0°.02×43°.42E±0°.02, h8km±6km, n73, σ1°03/131, 2C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.12**	**12**	*e*Pg	**Pg**	**16 58 57.4**	**0.0**
ONI				*e*Sg	**Sg**	**16 58 59.1**	**-0.1**
ONI	**Oni**	**0.12**	**12**	⇓*e*PG	**Pg**	**16 58 57.4**	**0.0**
ONI	**Oni**	**0.12**	**12**	P	**Pg**	**16 58 57.5**	**+0.1**
ONI				S	**Sg**	**16 58 59.3**	**+0.1**
TKB	**Tkibuli**	**0.34**	**248**	PG	**Pb**	**16 59 03.2**	**+0.2**
TKB				S	**Sb**	**16 59 09.3**	**+0.8**
TKB	**Tkibuli**	**0.34**	**248**	P	**Pb**	**16 59 03.3**	**+0.2**
TKB				S	**Sb**	**16 59 09.4**	**+0.8**
DIGR	**Digorskoe uzhe**	**0.44**	**16**	*i* Pg	**Pg**	**16 59 02.7**	**-0.5**
DIGR				*e*Sg	**Sg**	**16 59 08.6**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.44**	**16**	⇑*i*PG	**Pg**	**16 59 02.8**	**-0.5**
DIGR				*e*S	**Sg**	**16 59 08.7**	**-0.4**
ZEI	**Tsey**	**0.47**	**49**	*i* Pg	**Pg**	**16 59 03.4**	**-0.5**
ZEI				*e*Sg	**Sg**	**16 59 09.7**	**-0.4**
ZEI	**Tsey**	**0.47**	**49**	*i* PG	**Pg**	**16 59 03.4**	**-0.5**
ZEI				*e*S	**Sg**	**16 59 09.4**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,368nm,0.3s						
ZEI				smax	smax		
	comp=E,883nm,0.6s						
BKRG	**Bakuriani**	**0.72**	**174**	PG	**Pb**	**16 59 09.9**	**+0.3**
BKRG				S	**Sb**	**16 59 21.1**	**+1.4**
BKRG	**Bakuriani**	**0.72**	**174**	P	**Pb**	**16 59 09.9**	**+0.3**
BKRG				S	**Sb**	**16 59 21.2**	**+1.4**
LACR	**Lac**	**0.74**	**61**	*e*Sg	Sg	16 59 07.4	-11
LACR				*e*Sg	**Sg**	**16 59 17.2**	**-1.3**
LACR	**Lac**	**0.74**	**61**	*e*PG	**Pg**	**16 59 07.4**	**-1.5**
LACR				*e*S	**Sg**	**16 59 17.1**	**-1.3**
LACR				pmax	pmax		
	comp=Z,90nm,0.3s						
LACR				smax	smax		
	comp=E,324nm,0.4s						
KORR	**Kora**	**0.77**	**38**	*i* Pg	**Pg**	**16 59 09.4**	**-0.2**
KORR				*e*Sg	**Sb**	**16 59 20.8**	**-0.3**
KORR	**Kora**	**0.77**	**38**	*i* PG	**Pg**	**16 59 09.4**	**-0.2**
KORR				*e*S	**Sb**	**16 59 20.9**	**-0.3**
KORR				pmax	pmax		
	comp=Z,132nm,0.4s						
KORR				smax	smax		
	comp=E,751nm,0.4s						
LSNR	**Lesken**	**0.85**	**20**	*i* Pg	**Pg**	**16 59 10.9**	**-0.2**
LSNR				*e*Sg	**Sb**	**16 59 23.2**	**-0.3**
LSNR	**Lesken**	**0.85**	**20**	*i* PG	**Pg**	**16 59 10.9**	**-0.2**

ARTV	**Artvin**	**1.71**	**221**	*i* P		**Pn**	**16 59 25.8 +0.9**
ARTV				*i* S		**Sb**	**16 59 50.0 +1.9**
ARTV				IAML			16 59 51.0
	comp=E,66nm,0.9s						
DBOC	**Borcka**	**1.73**	**230**	*i* P		**Pb**	**16 59 26.9 +0.2**
DBOC				*i* S		**Sn**	**16 59 48.2 +0.8**
DBOC				IAML			16 59 52.0
	comp=E,101nm,0.5s						
EAK	**Akyaka**	**1.79**	**175**	*i* P		**Pn**	**16 59 27.4 +1.3**
EAK				*i* S		**Sb**	**16 59 50.8 +0.2**
GROC	**Groznyy**	**1.89**	**67**	*e*Pg		**Pb**	**16 59 29.8 +0.3**
GROC				*e*Sg		**Sg**	**16 59 55.9 +0.4**
GROC	**Groznyy**	**1.89**	**67**	*e*PN		**Pb**	**16 59 29.8 +0.3**
GROC				*e*			16 59 55.9
GROC				pmax	pmax		
	comp=Z,19nm,0.3s						
GROC				smax	smax		
	comp=N,67nm,0.5s						
GROC				smax	smax		
	comp=N,75nm,0.6s						
ARXR	**Arkhyz**	**1.91**	**305**	*e*Pg		**Pb**	**16 59 30.8 +0.9**
ARXR				*e*Sg		**Sb**	**16 59 54.7 +0.8**
ARXR	**Arkhyz**	**1.91**	**305**	*e*PN		**Pb**	**16 59 30.8 +0.9**
DBAD	**Bademkaya**	**1.95**	**222**	*i* P		**Pb**	**16 59 31.4 +0.9**
DBAD				*i* S		**Sb**	**16 59 56.9 +2.0**
DBAD				IAML			16 59 58.0
	comp=E,70nm,0.4s						
DBAD				IAML			16 59 59.0
	comp=N,114nm,0.5s						
DDEM	**Demirkent**	**2.02**	**219**	*i* P		**Pb**	**16 59 32.3 +0.6**
BTLR	**Botlikh**	**2.08**	**84**	*e*Pg		**Pn**	**16 59 30.8 +0.8**
BTLR				*e*Sg		**Sb**	**16 59 59.3 +0.6**
BTLR	**Botlikh**	**2.08**	**84**	*e*PN		**Pb**	**16 59 33.0 +0.3**
BTLR				*e*S		**Sg**	**17 00 00.8 -0.7**
LGD	**Lagodekhi**	**2.19**	**106**	*e*Pg		**Pb**	**16 59 34.4 -0.2**
LGD				*e*Sg		**Sg**	**17 00 03.7 -1.5**
LGD	**Lagodekhi**	**2.19**	**106**	*e*PN		**Pb**	**16 59 34.4 -0.2**
LGD				*e*S		**Sg**	**17 00 03.7 -1.5**
LGD	**Lagodekhi**	**2.19**	**106**	P		**Pb**	**16 59 34.1 -0.5**
LGD				S		**Sg**	**17 00 03.5 -1.7**
DDFL	**Dedoflistskaro**	**2.26**	**116**	*i* P		**Pb**	**16 59 35.1 -0.8**
DDFL	**Dedoflistskaro**	**2.26**	**116**	*i* PN		**Pb**	**16 59 35.0 -0.8**
RPOR	**Krasnaya Polya**	**2.61**	**299**	*e*PN		**Pb**	**16 59 41.1 -0.7**
RPOR				*e*S		**Sb**	**17 00 12.8 -1.2**
GNBR	**Gunib**	**2.63**	**91**	*e*PN		**Pb**	**16 59 42.6 +0.6**
GNBR				*e*S		**Sg**	**17 00 16.8 -2.2**
IGDI	**IGDIR**	**2.65**	**169**	*i* P		**Pg**	**16 59 44.8 -0.7**
ANN	**Anapa**	**4.93**	**300**	*e*PN		Pn	17 00 03.2 -5.8
OBN	**Obninsk**	**13.42**	**343⇑**	*e*P		**Pn**	**17 02 05.9 +0.7**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**25.36**	**59⇓**	*e*P		**P**	**17 04 21.6 -0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.1s						

*IDC **19** 17:07:33.9±2.1,5.˚18N×123.˚45E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.2/33,mbtmp3.1/3,Error ellipse: s-maj=223.5km s-min=28.4km az=63.0*
*MAN **19** 17:07:39.2,6.˚50N×126.˚39E,h30km,mb4.1,ML2.9,MS2.6*
ISC 19 17:07:38.3±1.4,6.˚5N±0.˚1×126.˚4E±0.˚1,h68km,n7,σ1§34/8, mb2.8/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.45**	**341**	*e*P		Pn	17 07 49.6 -0.9
MATI				*e*S		**Sn**	**17 07 57.8 -1.5**
DDMP	**Don Marcelino,**	**0.81**	**239**	*e*P		**Pn**	**17 07 54.6 +0.3**
DDMP				*e*S		**Sn**	**17 08 04.0 -2.2**
SKMP	**Bagumbayan, Su**	**1.85**	**270**	*e*P		**Pn**	**17 08 08.5 +0.6**
SKMP				*e*S		**Sn**	**17 08 30.9 +0.4**
BUKP	**Musuan**	**1.90**	**315**	*e*P		Pn	17 08 06.3 -2.3
WRA	**Warramunga Arr**	**27.43**	**164**	P		**P**	**17 13 19.0 +1.1**
	0.2nm,1.0s,baz=336,slow=11,SNR=1.1						
ASAR	**Alice Springs**	**30.89**	**167**	P		**P**	**17 13 48.6 0.0**
	0.1nm,0.5s,baz=340,slow=6.9,SNR=5.0						
MKAR	**Makanchi Array**	**55.10**	**324**	P		**P**	**17 17 03.6 +0.1**
	0.2nm,0.4s,baz=118,slow=6.7,SNR=4.5						

*NEIC **19** 17:23:17.6±2.1,35.˚81N±0.˚02×97.˚44W±0.˚03,h12km±5km, Error ellipse: s-maj=3.7km s-min=2.3km az=60.0*
*TUL **19** 17:23:17.8±2.8,35.˚82N±0.˚02×97.˚42W±0.˚06,h4km±4km, ML3.8,mb4.1/1(NEIC),Mwr3.6/34(NEIC),Error ellipse: s-maj=7.2km s-min=1.7km az=73.0*
*UNK **19** 17:23:17.8,35.˚82N×97.˚42W,h4km*
*IDC **19** 17:23:17.4±0.9,35.˚89N×97.˚47W,h0km,mb3.7/3, mb1 3.9/9,mb1mx3.6/52,mbtmp3.7/9,ML3.5/5,MS2.8/2, Ms1 2.8/2,ms1mx2.4/31,Error ellipse: s-maj=13.6km s-min=10.1km az=122.0*
*NEIC **19** 17:23:17.8,35.˚82N×97.˚42W,h5km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.34; $M_{\theta\theta}$3.74; $M_{\phi\phi}$-2.40; $M_{r\theta}$-0.59; $M_{\phi\phi}$-0.03; $M_{\phi r}$-0.71; Fault plane solution: $M_0$3.41000×10^{14} NP1:ϕ_s312.86000°, δ66.04000°,λ-15.43000°. NP2:ϕ_s49.26000°,δ75.93000°, λ-155.25000°. Principal axes: T 3.8121, Plg7.0000°, Azm180.0000°; N -1.0383, Plg62.0000°, Azm77.0000°; P -2.7738, Plg27.0000°, Azm273.0000°;*
*ANF **19** 17:23:19.6±1.0,35.˚84N×97.˚42W,h21km±10km,ML4.9/16 Error ellipse: s-maj=2.7km s-min=2.2km az=16.0*
ISC 19 17:23:18.2±0.7,35.˚83N±0.˚02×97.˚41W±0.˚03,h11km±3km, n176,σ0§99/198,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.05**	**227**		**Pg**	**17 23 19.1 -1.2**
OK029				Sg	**Sg**	**17 23 20.1 -1.9**
ADOK	**Arcadia Dam**	**0.18**	**171**		**Pb**	**17 23 22.7 -0.8**
ADOK				Sg	**Sg**	**17 23 25.7 +0.8**
BCOK	**Bluff Creek, N**	**0.24**	**223**	Pg	**Pb**	**17 23 22.5 -2.1**
BCOK				Sg	**Sb**	**17 23 25.9 -0.6**
OK005	**Luther M Schoo**	**0.25**	**135**	Pg	**Pb**	**17 23 23.2 -1.5**
OK005				Sg	**Sb**	**17 23 27.0 +0.2**
OK009	**Oakdale Elemen**	**0.25**	**183**	Pg	**Pb**	**17 23 22.8 -1.9**
OK009				Sg	**Sb**	**17 23 26.6 -2.6**
OK025	**Westminster Rd**	**0.26**	**167**	Pg	**Pb**	**17 23 23.1 -1.8**
OK025				Sg	**Sb**	**17 23 26.9 -2.4**
OK001	**Jones High Sch**	**0.29**	**160**	Pg	**Pb**	**17 23 23.7 -1.7**
OK001				Sg	**Sb**	**17 23 27.9 -2.3**
OKCFA	**Oklahoma City**	**0.42**	**185**		**Pg**	**17 23 25.8 -0.6**
OKCFA				Sg	**Sg**	**17 23 31.8 -0.2**
OKCSW	**OKLAHOMA CITY**	**0.43**	**183**		**Pg**	**17 23 26.1 -0.5**
OKCSW				Sg	**Sg**	**17 23 32.2 -0.1**
FNO	**Franklin**	**0.57**	**179**		**Pb**	**17 23 29.2 -1.0**
FNO				Sg	**Sb**	**17 23 37.2 -1.2**
QUOK	**Quay**	**0.66**	**59**	Pg	**Pb**	**17 23 31.1 -0.7**
QUOK				Sg	**Sb**	**17 23 40.2 -0.8**
OK011	**Prague**	**0.68**	**120**		**Pb**	**17 23 31.2 -0.9**
OK011				Sg	**Sb**	**17 23 40.6 -1.0**
W35A	**Tecumseh**	**0.81**	**147**		**Pb**	**17 23 32.8 -1.4**
W35A				Sg	**Sb**	**17 23 43.8 -1.3**
CROK	**Carrier**	**0.82**	**325**		**Pb**	**17 23 33.6 -0.8**
CROK				Sg	**Sb**	**17 23 44.8 -0.7**
KAN13	**South Haven SW**	**1.18**	**357**		**Pn**	**17 23 40.4 -0.3**
KAN13				Sg	**Sn**	**17 23 56.6 -0.1**
X34A	**Smith Ranch, M**	**1.28**	**196**	Pg	**Pn**	**17 23 41.6 -0.4**
T35A	**Sooner Cattle**	**1.30**	**33**		**Pn**	**17 23 42.2 -0.1**
TUL1	**Leonard**	**1.31**	**86**	P	**Pn**	**17 23 41.9 -0.7**
	baz=266,SNR=363						
TUL1				S	**Sb**	**17 23 60.0 +0.2**
	baz=266						
TUL1	**Leonard**	**1.31**	**86**		**Pn**	**17 23 41.8 -0.7**
U32A	**Winter Ranch,**	**1.40**	**293**		**Pn**	**17 23 43.3 -0.5**
KAN10	**Anthony SW Sta**	**1.40**	**337**		**Pn**	**17 23 43.7 0.0**
KAN12	**Harper NE Stat**	**1.54**	**342**		**Pn**	**17 23 46.1 +0.5**
WMOK	**Wichita Mounta**	**1.57**	**226**	P	**Pn**	**17 23 45.9 -0.1**
	baz=45,SNR=594						
WMOK				S	**Sb**	**17 24 06.3 -0.8**
	baz=45						
WMOK	**Wichita Mounta**	**1.57**	**226**		**Pn**	**17 23 45.8 -0.2**
X37A	**Clayton**	**2.08**	**126**		**Pn**	**17 23 53.6 +0.7**
Z35A	**Perchaven, San**	**2.50**	**177**		**Pn**	**17 23 59.4 +0.6**
U38A	**Gravette**	**2.52**	**75**		**Pn**	**17 24 00.0 +0.9**
R32A	**Long Quarter,**	**2.79**	**338**		**Pn**	**17 24 02.9 +0.1**
HHAR	**Hobbs**	**2.85**	**80**		**Pn**	**17 24 04.6 +1.0**
W39A	**Magazine**	**3.02**	**101**	P	**Pn**	**17 24 06.5 +0.5**
	baz=283,SNR=58						
W39A				S	**Sn**	**17 24 43.2 +1.0**
	baz=283						
W39A	**Magazine**	**3.02**	**101**		**Pn**	**17 24 07.0 +1.1**

Z38A	**Mt. Pleasant**	**3.25**	**141**		**Pn**	**17 24 09.5 +0.4**
KSU1	**Kansas State U**	**3.32**	**11**	P	**Pn**	**17 24 11.0 +0.9**
	baz=191					
KSU1				S	**Sn**	**17 24 50.4 +0.8**
	baz=191					
KSU1	**Kansas State U**	**3.32**	**11**	Pn	**Pn**	**17 24 11.0 +0.9**
MIAR	**Mount Ida**	**3.39**	**111**	P	**Pn**	**17 24 12.1 +1.0**
	baz=293,SNR=79					
MIAR				S	**Sn**	**17 24 53.3 +2.0**
	baz=293					
MIAR	**Mount Ida**	**3.39**	**111**	Pn	**Pn**	**17 24 12.3 +1.2**
CBKS	**Cedar Bluff**	**3.51**	**329**	S	**Sn**	**17 24 55.1 +0.9**
	baz=148					
CBKS	**Cedar Bluff**	**3.51**	**329**	Pn	**Pn**	**17 24 12.8 +0.1**
AMTX	**Amarillo**	**3.62**	**256**	P	**Pn**	**17 24 14.7 +0.4**
	baz=74					
AMTX	**Amarillo**	**3.62**	**256**	Pn	**Pn**	**17 24 15.3 +1.0**
ABTX	**Abilene, Hawle**	**3.70**	**211**	P	**Pn**	**17 24 15.2 -0.1**
	baz=29,SNR=13					
ABTX				S	**Sn**	**17 24 59.6 +0.7**
	baz=29					
ABTX	**Abilene, Hawle**	**3.70**	**211**		**Pn**	**17 24 15.4 +0.1**
U40A	**Yellville**	**3.73**	**81**	P	**Pn**	**17 24 16.2 +0.5**
	baz=263,SNR=23					
U40A	**Yellville**	**3.73**	**81**		**Pn**	**17 24 16.4 +0.8**
S39A	**Bolivar**	**3.77**	**59**		**Pn**	**17 24 17.1 +0.8**
WHTX	**Lake Whitney,**	**3.83**	**181**	P	**Pn**	**17 24 17.1 0.0**
	baz=0.4,SNR=21					
WHTX				S	**Sn**	**17 25 03.3 +1.1**
	baz=0.4					
WHTX	**Lake Whitney,**	**3.83**	**181**		**Pn**	**17 24 17.1 0.0**
X40A	**Basin Creek Fa**	**3.98**	**108**	P	**Pn**	**17 24 19.8 +0.7**
	baz=291,SNR=16					
X40A	**Basin Creek Fa**	**3.98**	**108**		**Pn**	**17 24 19.9 +0.8**
237A	**Washetta, Mont**	**4.05**	**160**	Pn	**Pn**	**17 24 20.0 0.0**
WLAR	**White Oak Lake**	**4.13**	**120**		**Pn**	**17 24 21.6 +0.4**
WHAR	**Wooly Hollow**	**4.21**	**96**		**Pn**	**17 24 22.9 +0.6**
W41B	**Gary Mavity, V**	**4.26**	**97**	P	**Pn**	**17 24 23.7 +0.7**
	baz=280,SNR=27					
W41B				S	**Sn**	**17 25 14.0 +1.3**
	baz=280					
W41B	**Gary Mavity, V**	**4.26**	**97**		**Pn**	**17 24 24.1 +1.1**
UALR	**University of**	**4.27**	**103**		**Pn**	**17 24 24.4 +1.2**
FCAR	**Ozark Folk Cen**	**4.29**	**88**	Pn	**Pn**	**17 24 23.6 +0.2**
MGMO	**Mountain Grove**	**4.35**	**71**		**Pn**	**17 24 25.7 +1.5**
Z41A	**Richland Creek**	**4.59**	**123**	P	**Pn**	**17 24 27.8 +0.4**
	baz=305					
Z41A				S	**Sn**	**17 25 20.2 -0.5**
	baz=305					
Z41A	**Richland Creek**	**4.59**	**123**		**Pn**	**17 24 27.6 +0.1**
NATX	**Nacogdoches**	**4.66**	**150**		**Pn**	**17 24 29.2 +0.7**
MSTX	**Muleshoe**	**4.78**	**249**	P	**Pn**	**17 24 30.3 0.0**
	baz=66,SNR=10.0					
MSTX	**Muleshoe**	**4.78**	**249**		**Pn**	**17 24 30.5 +0.2**
R40A	**Maddies Statio**	**4.79**	**58**		**Pn**	**17 24 30.9 +0.6**
P38A	**Dawn**	**4.88**	**38**		**Pn**	**17 24 32.5 +1.0**
N33A	**J Bar K, Exete**	**4.90**	**360**		**Pn**	**17 24 32.5 +0.7**
CCAR	**Cane Creek**	**5.01**	**111**	Pn	**Pn**	**17 24 34.0 +0.6**
435B	**Jarrell**	**5.04**	**182**	P	**Pn**	**17 24 34.2 +0.5**
	baz=1.5					
435B	**Jarrell**	**5.04**	**182**		**Pn**	**17 24 34.2 +0.5**
LCAR	**Lake Charles**	**5.08**	**86**		**Pn**	**17 24 34.2 0.0**
N35A	**Tabor**	**5.21**	**15**		**Pn**	**17 24 36.1 +0.1**
KSCO	**Kaye Shedlock'**	**5.23**	**309**	S	**Sn**	**17 25 36.1 -0.6**
	baz=126					
KSCO	**Kaye Shedlock'**	**5.23**	**309**	Pn	**Pn**	**17 24 36.9 +0.5**
T42A	**Van Buren**	**5.23**	**75**		**Pn**	**17 24 36.8 +0.5**
CCM	**Cathedral Cave**	**5.41**	**64**		**Pn**	**17 24 40.2 +1.4**
HBAR	**Harrisburg**	**5.50**	**91**		**Pn**	**17 24 40.6 +0.5**
X43A	**Marvell**	**5.50**	**102**	Pn	**Pn**	**17 24 40.5 +0.4**
BGNE	**Belgrade**	**5.60**	**354**	S	**Sn**	**17 25 45.8 +0.1**
	baz=174					
BGNE	**Belgrade**	**5.60**	**354**		**Pn**	**17 24 41.7 +0.3**
P40A	**Paris**	**5.63**	**47**		**Pn**	**17 24 42.4 +0.6**
JCT	**Junction City**	**5.70**	**201**	P	**Pn**	**17 24 42.5 -0.4**
	baz=20					
JCT	**Junction City**	**5.70**	**201**		**Pn**	**17 24 42.6 -0.3**
LPAR	**Lepanto**	**5.79**	**90**		**Pn**	**17 24 44.2 +0.2**
T25A	**Trinidad**	**5.79**	**285**	P	**Pn**	**17 24 44.3 +0.1**
	baz=101,SNR=15					
T25A	**Trinidad**	**5.79**	**285**		**Pn**	**17 24 44.3 +0.1**
143A	**Sons Landing,**	**5.87**	**120**	Pn	**Pn**	**17 24 45.6 +0.5**
N38A	**Joes South For**	**5.94**	**32**		**Pn**	**17 24 46.2 +0.2**
GNAR	**Gosnell**	**6.00**	**87**		**Pn**	**17 24 46.6 -0.3**
HKT	**Hockley**	**6.01**	**167**	Pn	**Pn**	**17 24 44.5 -2.5**
L34A	**Svendsen Farm,**	**6.18**	**7**	Pn	**Pn**	**17 24 50.7 +1.4**
PARMO	**Parma**	**6.24**	**80**	Pn	**Pn**	**17 24 49.4 -0.8**
SLM	**Saint Louis**	**6.37**	**62**	Pn	**Pn**	**17 24 53.4 +1.4**
LNXT	**Lenox**	**6.43**	**85**	Pn	**Pn**	**17 24 53.5 +0.7**
CLNB	**Carlsbad**	**6.44**	**238**		**Pn**	**17 24 53.3 +0.2**
HENM	**Henderson Moun**	**6.47**	**80**	Pn	**Pn**	**17 24 55.4 +2.0**
HALT	**Halls**	**6.55**	**87**	Pn	**Pn**	**17 24 54.6 +0.2**
GLAT	**Glass**	**6.59**	**84**	Pn	**Pn**	**17 24 55.3 +0.3**
HICK	**Hickman**	**6.65**	**82**	Pn	**Pn**	**17 24 56.5 +0.6**
OXF	**Oxford**	**6.68**	**99**		**Pn**	**17 24 55.9 -0.3**
W45A	**Hickory Valley**	**6.74**	**93**		**Pn**	**17 24 56.8 -0.2**
Y45A	**Yeager Farm, C**	**6.76**	**105**		**Pn**	**17 24 57.9 +0.6**
SDCO	**Great Sand Dun**	**6.77**	**289**	P	**Pn**	**17 24 58.5 +0.8**
	baz=104,SNR=65					
SDCO	**Great Sand Dun**	**6.77**	**289**		**Pn**	**17 24 58.7 +1.0**
S44A	**Carbondale**	**6.80**	**72**		**Pn**	**17 24 58.5 +0.6**
GDL2	**Guadalupe Moun**	**6.82**	**240**		**Pn**	**17 24 59.1 +0.8**
K31A	**O'Neill**	**6.86**	**352**	Pn	**Pn**	**17 24 59.0 +0.3**
SCIA	**State Center**	**6.89**	**27**		**Pn**	**17 25 00.5 +1.4**
Q24A	**Divide**	**6.91**	**299**		**Pn**	**17 24 59.4 -0.3**
735A	**Kenedy**	**6.96**	**183**	Pn	**Pn**	**17 25 01.8 +1.6**
N41A	**Harden Midland**	**7.09**	**45**		**Pn**	**17 25 02.3 +0.5**
P43A	**Skaggs, Pawnee**	**7.31**	**56**	Pn	**Pn**	**17 25 05.8 +0.9**
Q44A	**Meyer Farm, Va**	**7.35**	**63**		**Pn**	**17 25 07.2 +1.8**
ANMO	**Albuquerque**	**7.44**	**266**	Pn	**Pn**	**17 25 08.0 +1.1**
ISCO	**Idaho Springs**	**7.61**	**304**	P	**Pn**	**17 25 09.2 0.0**
	baz=119					
ISCO	**Idaho Springs**	**7.61**	**304**		**Pn**	**17 25 09.6 +0.4**
146A	**Union**	**7.61**	**112**	Pn	**Pn**	**17 25 09.0 -0.1**
PLAL	**Pickwick Lake**	**7.67**	**94**		**Pn**	**17 25 09.6 -0.2**
833A	**Chaparral WMA,**	**7.67**	**193**	Pn	**Pn**	**17 25 09.7 -0.2**
K38A	**Parkersburg**	**7.70**	**26**		**Pn**	**17 25 11.3 +1.2**
BNM	**Barren Site**	**7.75**	**260**		**Pn**	**17 25 11.0 -0.1**
WVT	**Waverly**	**7.77**	**85**	P	**Pn**	**17 25 11.0 -0.3**
	baz=270					
WVT	**Waverly**	**7.77**	**85**		**Pn**	**17 25 11.1 -0.1**
S22A	**4UR Ranch, Cre**	**7.80**	**287**		**Pn**	**17 25 11.9 0.0**
MNTX	**Cornudas Mount**	**7.81**	**240**	P	**Pn**	**17 25 11.6 -0.2**
	baz=56,SNR=19					
MNTX	**Cornudas Mount**	**7.81**	**240**		**Pn**	**17 25 11.5 -0.4**
L40A	**Anamosa**	**7.87**	**36**		**Pn**	**17 25 11.9 -0.6**
ECSD	**EROS Data Cent**	**7.92**	**4**	P	**Pn**	**17 25 12.0 -1.2**
	baz=185					
ECSD	**EROS Data Cent**	**7.92**	**4**	Pn	**Pn**	**17 25 12.3 -0.9**
HDIL	**Hopedale**	**7.94**	**51**	P	**Pn**	**17 25 13.1 -0.4**
	baz=236,SNR=10					
HDIL	**Hopedale**	**7.94**	**51**		**Pn**	**17 25 13.3 -0.2**
346A	**Big Creek Wild**	**7.97**	**122**	Pn	**Pn**	**17 25 13.6 -0.4**
LENM	**Lemitar**	**8.02**	**261**	Pn	**Pn**	**17 25 14.7 -0.2**
O44A	**Mansfield**	**8.27**	**56**	Pn	**Pn**	**17 25 19.4 +1.4**
PHWY	**Pilot Hill**	**8.34**	**313**	Pn	**Pn**	**17 25 18.7 -0.6**
TX31	**Lajitas Ar. Si**	**8.36**	**221**		**Pn**	**17 25 18.2 -1.2**
TX32	**Lajitas Array**	**8.36**	**221**		**Pn**	**17 25 18.5 -0.9**
TXAR	**Lajitas Array**	**8.36**	**221**	Pn	**Pn**	**17 25 18.5 -0.9**
	0.6nm,0.3s,baz=42,slow=11,SNR=21					
TXAR				Pg	**Pb**	**17 25 47.1 +4.2**
	2.8nm,0.3s,baz=45,slow=13,SNR=12					
TXAR				Sn	**Sn**	**17 26 50.8 -3.0**
	2.2nm,0.3s,baz=33,slow=48,SNR=2.2					
TXAR				Lg	Lg	17 27 35.8
	3.4nm,0.3s,baz=42,slow=22,SNR=5.4					
TXAR	**Lajitas Array**	**8.36**	**221**		**Pn**	**17 25 17.9 -1.4**
T47A	**Sharon Grove**	**8.39**	**79**		**Pn**	**17 25 20.2 +0.6**
N23A	**Red Feather La**	**8.39**	**310**	P	**Pn**	**17 25 20.3 +0.3**
	baz=124					
N23A	**Red Feather La**	**8.39**	**310**	Pn	**Pn**	**17 25 21.8 +1.8**
X48A	**Hartselle**	**8.60**	**96**	Pn	**Pn**	**17 25 22.6 0.0**
L42A	**Oliver, Polo**	**8.62**	**42**		**Pn**	**17 25 22.8 -0.1**
P46A	**Rosedale**	**8.92**	**62**	Pn	**Pn**	**17 25 28.6 +1.6**
JFWS	**Jewell Farm**	**8.98**	**36**	P	**Pn**	**17 25 27.4 -0.4**
	baz=220					
JFWS	**Jewell Farm**	**8.98**	**36**		**Pn**	**17 25 27.2 -0.6**
CLTN	**Cedars of Leba**	**8.98**	**85**	Pn	**Pn**	**17 25 28.3 +0.5**
LRAL	**Lakeview Retre**	**9.04**	**105**		**Pn**	**17 25 26.8 -1.9**
M44A	**Midewin, Midew**	**9.19**	**50**	Pn	**Pn**	**17 25 31.3 +0.7**
121A	**Cookes Peak, D**	**9.21**	**252**	Pn	**Pn**	**17 25 31.8 +0.7**
PV01	**Paradox Valley**	**9.22**	**288**	Pn	**Pn**	**17 25 33.0 +1.6**
Y49A	**Blount Mountai**	**9.25**	**99**	Pn	**Pn**	**17 25 31.2 -0.4**

SFIN	**Lafayette**	**9.31**	**58**	Pn	**Pn**	**17 25 34.7 +2.4**
PV07	**Paradox Valley**	**9.34**	**289**	Pn	**Pn**	**17 25 34.4 +1.4**
PV02	**Paradox Valley**	**9.37**	**288**	Pn	**Pn**	**17 25 34.5 +1.2**
SWET	**Sewanee**	**9.38**	**90**	Pn	**Pn**	**17 25 33.8 +0.5**
PV13	**Radium Mtn., P**	**9.42**	**288**	Pn	**Pn**	**17 25 33.5 -0.6**
U49A	**Red Boiling Sp**	**9.43**	**82**	Pn	**Pn**	**17 25 33.1 -0.8**
PV03	**Paradox Valley**	**9.46**	**288**	Pn	**Pn**	**17 25 34.1 -0.5**
PV22	**Blue Mesa, Par**	**9.47**	**290**		**Pn**	**17 25 34.9 +0.2**
PV11	**David Mesa, Pa**	**9.49**	**288**	Pn	**Pn**	**17 25 34.0 -1.0**
PV18	**Skein Mesa, Pa**	**9.51**	**288**	Pn	**Pn**	**17 25 36.8 +1.5**
PV16	**Nyswonger Mesa**	**9.52**	**288**	Pn	**Pn**	**17 25 35.6 +0.1**
PV04	**Paradox Valley**	**9.53**	**289**	Pn	**Pn**	**17 25 36.6 +1.0**
PV17	**East Wray Mesa**	**9.55**	**288**		**Pn**	**17 25 36.5 +0.6**
TKL	**Tuckaleechee C**	**11.08**	**87**	Pn	**Pn**	**17 25 56.8 +0.2**
	0.6nm,0.3s,baz=270,slow=12,SNR=5.9					
TKL				Lg	Lg	17 28 56.5
	2.5nm,0.3s,baz=192,slow=4.0,SNR=4.0					
PDAR	**Pinedale Array**	**11.68**	**310**	Pn	**Pn**	**17 26 04.7 -0.3**
	0.2nm,0.3s,baz=125,slow=17,SNR=3.7					
PDAR				Pg		17 26 50.0
	0.5nm,0.3s,baz=118,slow=19,SNR=4.0					
PDAR				Lg	Lg	17 29 18.0
	0.5nm,0.3s,baz=115,slow=32,SNR=2.2					
PDAR				LR	LR	17 30 56.6
	comp=Z,44nm,19.1s,baz=152,slow=40					
ULM	**Lac du Bonnet**	**14.45**	**4**	Pn	Pn	17 26 35.7 -6.9
	0.4nm,0.3s,baz=180,slow=10,SNR=1.5					
ULM				Sn	Sn	17 29 11.2 -12
	0.9nm,0.3s,baz=265,slow=21,SNR=2.0					
ULM				Lg	Lg	17 30 40.6
	0.3nm,0.3s,baz=276,slow=22,SNR=3.0					
ELK	**Elko**	**14.83**	**295**	Pn	**Pn**	**17 26 48.4 +0.3**
	0.1nm,0.3s,baz=100,slow=6.1,SNR=4.5					
PFO	**Pinyon Flats O**	**15.82**	**267**	LR	LR	17 33 16.3
	comp=Z,35nm,21.2s,baz=152,slow=38					
SADO	**Sadowa**	**16.52**	**52**	Lg	Lg	17 31 50.6
	0.4nm,0.3s,baz=331,slow=23,SNR=2.0					
NVAR	**Mina Array Bea**	**16.86**	**285**	Pn	**Pn**	**17 27 14.4 0.0**
	baz=107,slow=15,SNR=1.3					
YBH	**Yreka Blue Hor**	**20.55**	**294**	P	**P**	**17 27 56.6 -0.2**
	2.8nm,0.8s,baz=117,slow=6.8,SNR=4.1					
YBH	**Yreka Blue Hor**	**20.55**	**294**	IAmb	IAmb	17 28 14.8
	comp=Z,20nm,2.0s					
ILAR	**Eielson Array**	**41.16**	**330**	P	**P**	**17 31 03.1 +0.9**
	comp=Z,0.5nm,0.8s,baz=117,slow=6.6,SNR=4.6					
FINES	**FINESS Array B**	**72.80**	**25**	P	**P**	**17 34 48.0 +1.7**
	comp=Z,1.4nm,0.9s,baz=297,slow=6.1,SNR=2.2					
CLL	**Collm**	**73.99**	**38**	*e*P	**P**	**17 34 54.0 +0.4**

WEL 19 17:55:35.1,42.˚S±1.˚×17.˚4E±.˚,h30km±2km,MB3.5/22, ML3.7/22,MLv3.5/22,Error ellipse: s-maj=0.0km s-min=0.0km az=88.8,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.38**	**217**	P	**Pb**	**17 55 44.0 +0.3**
KHZ				S	**Sb**	**17 55 50.0 +0.4**
BSWZ	**Blackbirch Sta**	**0.39**	**3**	P	**Pb**	**17 55 43.3 -0.6**
CMWZ	**Cape Campbell**	**0.45**	**37**	P	**Pn**	**17 55 45.5 0.0**
TUWZ	**Tuamarina**	**0.68**	**6**	P	**Pb**	**17 55 48.6 +0.1**
TUWZ				S	**Sn**	**17 55 58.3

ISC 19 18:15:11.7±0.5, 20°.64S±0°.08×178°.23W±0°.08, h500km, n102, σ1°32/105, mb4.5/34, 7C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.55**	**309**	P	P	18 16 40.2	+5.3
NIUE	**Niue**	**7.97**	**80**	P	P	18 17 11.5	+3.6
DZM	**Mont Dzumac**	**14.35**	**262**	P	**P**	**18 18 16.9**	**+1.6**
	0.6nm,0.3s,baz=94,slow=19,SNR=6.4						
DZM	**Mont Dzumac**	**14.35**	**262**	P	**P**	**18 18 15.6**	**+0.3**
SANVU	**Saraoutou**	**14.78**	**288**	P	**P**	**18 18 22.1**	**+2.4**
OUZ	**Omahuta**	**16.20**	**205**	P	**P**	**18 18 37.7**	**+3.3**
OUZ				IAmb	IAmb	18 18 45.1	
	comp=Z,65nm,1.7s						
URZ	**Urewera**	**18.01**	**192**	P	**P**	**18 18 51.6**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=255,slow=4.8,SNR=7.5						
URZ	**Urewera**	**18.01**	**192**	P	**P**	**18 18 51.5**	**-0.5**
URZ				IAmb	IAmb	18 19 20.4	
	comp=Z,65nm,1.7s						
QRZ	**Quartz Range**	**21.60**	**199**	P	**P**	**18 19 24.5**	**-0.2**
KHZ	**Kahutara**	**22.79**	**196**	P	**P**	**18 19 34.0**	**-1.3**
LTZ	**Lake Taylor**	**23.47**	**198**	P	**P**	**18 19 39.9**	**-1.6**
MQZ	**McQueen's Vall**	**24.22**	**196**	P	**P**	**18 19 47.8**	**-0.3**
MQZ				IAmb	IAmb	18 20 11.5	
	comp=Z,48nm,1.3s						
RPZ	**Rata Peaks**	**24.68**	**199**	P	**P**	**18 19 54.0**	**+1.7**
FOZ	**Fox Glacier**	**24.91**	**201**	P	**P**	**18 19 54.9**	**+0.7**
MLZ	**Mavora Lakes**	**27.11**	**201**	P	**P**	**18 20 13.1**	**-0.5**
WHZ	**Wether Hill Ro**	**27.62**	**201**	P	**P**	**18 20 19.2**	**+1.1**
WHZ				IAmb	IAmb	18 20 25.4	
	comp=Z,54nm,1.5s						
EIDS	**Eidsvold**	**28.60**	**255**	P	**P**	**18 20 27.4**	**+0.4**
ARMA	**Armidale**	**28.81**	**244**	P	**P**	**18 20 29.4**	**+0.5**
ARMA				IAmb	IAmb	18 20 47.3	
	comp=Z,18nm,1.6s						
CAN	**Canberra**	**32.25**	**236**	P	**P**	**18 20 58.7**	**+0.2**
CAN				IAmb	IAmb	18 21 10.8	
	comp=Z,38nm,1.5s						
CTA	**Charters Tower**	**33.26**	**265**	P	**P**	**18 21 07.3**	**+0.2**
	comp=Z,9.7nm,0.5s,baz=91,slow=11,SNR=40						
CTAO	**Charters Tower**	**33.26**	**265**	P	**P**	**18 21 07.4**	**+0.2**
CTAO				IAmb	IAmb	18 21 07.8	
	comp=Z,12nm,0.6s						
PMG	**Port Moresby**	**35.16**	**283**	P	**P**	**18 21 23.5**	**+0.2**
	comp=Z,11nm,0.7s,baz=117,slow=11,SNR=2.6						
PMG	**Port Moresby**	**35.16**	**283**	P	**P**	**18 21 23.3**	**+0.1**
PMG				IAmb	IAmb	18 21 28.3	
	comp=Z,49nm,1.4s						
TOO	**Toolangi**	**35.64**	**234**	P	**P**	**18 21 26.9**	**0.0**
TOO				IAmb	IAmb	18 21 31.6	
	comp=Z,16nm,1.2s						
PATS	**Pohnpei**	**35.74**	**317**	P	**P**	**18 21 28.2**	**+0.2**
COEN	**Coen**	**37.37**	**274**	P	**P**	**18 21 42.1**	**+0.5**
COEN				IAmb	IAmb	18 22 08.6	
	comp=Z,52nm,1.6s						
STKA	**Stephens Creek**	**37.53**	**244**	P	**P**	**18 21 42.7**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=87,slow=12,SNR=14						
STKA	**Stephens Creek**	**37.53**	**244**	P	**P**	**18 21 42.6**	**0.0**
BBOO	**Buckleboo**	**42.29**	**244**	P	**P**	**18 22 20.3**	**-0.6**
BBOO				IAmb	IAmb	18 22 21.1	
	comp=Z,8.7nm,0.7s						
JAY	**Jayapura**	**43.88**	**289**	P	**P**	**18 22 33.8**	**+0.2**
	comp=Z,12nm,0.5s,baz=122,slow=5.1,SNR=17						
WR0	**Warramunga Arr**	**44.17**	**262**	P	**P**	**18 22 35.0**	**-0.8**
WR0				IAmb	IAmb	18 22 36.0	
	comp=Z,5.6nm,0.5s						
AS31	**Alice Springs**	**44.27**	**257**	P	**P**	**18 22 36.4**	**-0.2**
ASAR	**Alice Springs**	**44.27**	**257**	P	**P**	**18 22 36.2**	**-0.4**
	comp=Z,14nm,0.5s,baz=95,slow=7.8,SNR=247						
ASAR				PcP	**PcP**	**18 24 09.6**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=98,slow=3.8,SNR=8.3						
ASAR				ScP	**ScP**	**18 27 13.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=86,slow=5.8,SNR=3.0						
ASAR				S	**S**	**18 28 29.9**	**-3.9**
	comp=Z,0.9nm,0.8s,baz=92,slow=15,SNR=9.6						
ASAR	**Alice Springs**	**44.27**	**257**	P	**P**	**18 22 35.9**	**-0.7**
WB0	**Warramunga Arr**	**44.34**	**262**	P	**P**	**18 22 36.3**	**-0.9**
WB0				IAmb	IAmb	18 22 36.9	
	comp=Z,14nm,0.6s						
WB2	**Warramunga Arr**	**44.35**	**262**	P	**P**	**18 22 36.0**	**-1.2**
WB2				IAmb	IAmb	18 22 36.7	
	comp=Z,9.5nm,0.8s						
WRAB	**Tennant Creek**	**44.36**	**262**	P	**P**	**18 22 36.3**	**-1.0**
WRAB				IAmb	IAmb	18 22 36.9	
	comp=Z,9.7nm,0.9s						
WRA	**Warramunga Arr**	**44.37**	**262**	P	**P**	**18 22 36.3**	**-1.0**
	comp=Z,6.1nm,0.5s,baz=97,slow=7.4,SNR=47						
WRA				PcP	**PcP**	**18 24 10.0**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=110,slow=2.7,SNR=2.9						
WRA	**Warramunga Arr**	**44.37**	**262**	P	**P**	**18 22 35.9**	**-1.4**
PTCN	**Pitcairn Islan**	**44.40**	**105**	P	**P**	**18 22 39.0**	**+1.5**
MTN	**Manton Dam**	**48.95**	**271**	P	**P**	**18 23 11.5**	**-0.6**
MTN				IAmb	IAmb	18 23 11.7	
	comp=Z,12nm,0.6s						
FORT	**Forrest**	**49.04**	**247**	P	**P**	**18 23 11.6**	**-1.0**
FORT				IAmb	IAmb	18 23 32.3	
	comp=Z,21nm,1.1s						
KNRA	**Kununurra**	**50.43**	**266**	P	**P**	**18 23 22.6**	**-0.5**
KNRA				IAmb	IAmb	18 23 23.1	
	comp=Z,14nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.79**	**263**	P	**P**	**18 23 39.9**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=176,slow=2.5,SNR=11						
FITZ	**Fitzroy Crossi**	**52.79**	**263**	P	**P**	**18 23 40.1**	**0.0**
SIJI	**Sorong**	**53.06**	**285**	P	**P**	**18 23 42.0**	**-0.1**
	comp=Z,24nm,0.8s,baz=100,slow=5.5,SNR=6.5						
SOEI	**Soe**	**56.29**	**272**	P	**P**	**18 24 04.9**	**0.0**
SOEI				IAmb	IAmb	18 24 06.7	
	comp=Z,24nm,0.7s						
PSA00	**Pilbara Seismi**	**57.42**	**257**	P	**P**	**18 24 11.5**	**-1.0**
VNDA	**Vanda**	**57.75**	**185**	P	**P**	**18 24 14.9**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=20,slow=5.3,SNR=5.1						
VNDA	**Vanda**	**57.75**	**185**	P	**P**	**18 24 15.2**	**+1.5**
MORW	**Morawa**	**59.57**	**248**	P	**P**	**18 24 26.1**	**-0.8**
QSPA	**South Pole Qui**	**69.42**	**180**	P	**P**	**18 25 29.6**	**+0.6**
KKM	**Kota Kinabalu**	**69.58**	**285**	P	**P**	**18 25 30.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**75.93**	**334**	P	**P**	**18 26 09.1**	**+2.7**
YSS				IAmb	IAmb	18 26 10.5	
	comp=Z,18nm,1.1s						
PET	**Petropavlovsk**	**76.05**	**346**	P	**P**	**18 26 06.9**	**-0.1**
PETK	**Petropavlovsk-**	**76.35**	**345**	P	**P**	**18 26 08.4**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=131,slow=8.4,SNR=1.0						
NJ2	**Nanjing**	**79.80**	**310**	*e*P	**P**	**18 26 29.5**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NVAR	**Mina Array Bea**	**81.28**	**43**	P	**P**	**18 26 36.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=220,slow=8.1,SNR=3.0						
SEY	**Seymchan**	**86.47**	**347**	P	**P**	**18 27 00.1**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=152,slow=6.1,SNR=14						
XAN	**Xi'an**	**88.05**	**307**	P	**P**	**18 27 08.8**	**+0.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,150nm,4.7s						
ILAR	**Eielson Array**	**88.50**	**13**	P	**P**	**18 27 09.1**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=222,slow=5.3,SNR=7.3						
HHC	**Hu-ho-hao-te**	**89.30**	**314**	*e*P	**P**	**18 27 12.5**	**-1.8**
HHC				pmax	pmax		
	comp=Z,22nm,1.3s						
HHC				pmax	pmax		
	comp=Z,120nm,6.3s						
CMAR	**Chiang Mai Arr**	**89.96**	**290**	P	**P**	**18 27 18.6**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=124,slow=3.5,SNR=7.5						
LZH	**Lanzhou**	**92.68**	**308**	∧∧P	**P**	**18 27 30.9**	**+0.7**
LZH				pP	pP	18 29 17.3	-3.7
LZH				sP	sP	18 30 18.5	+7.2
LZH				PP	**PP**	**18 31 25.0**	**+4.1**
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH				pmax	pmax		
	comp=Z,110nm,5.3s						
MKAR	**Makanchi Array**	**111.14**	**313**	PKiKP	**PKiKP**	**18 32 45.8**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=128,slow=1.5,SNR=5.1						
ARCES	**ARCESS Array B**	**129.02**	**350**	PKP	**PKPdf**	**18 33 20.8**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=270,slow=1.2,SNR=5.3						
FINES	**FINESS Array B**	**135.85**	**344**	PKhKP	PKPpre	18 33 30.0	
	comp=Z,1.2nm,0.6s,baz=90,slow=4.0,SNR=6.9						
FINES				PKP	**PKPdf**	**18 33 34.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=130,slow=2.2,SNR=2.7						
NB2	**NORSAR Subarra**	**139.10**	**353**	PKP	PKPdf	18 33 31.5	-9.3
	comp=Z,0.1nm,0.3s,baz=16,slow=3.2						
AKASG	**Malin Array Be**	**143.03**	**331**	PKhKP	PKPpre	18 33 43.8	
	comp=Z,7.0nm,0.4s,baz=42,slow=4.2,SNR=24						
AKASG	**Malin Array Be**	**143.03**	**331**		PKPpre	18 33 44.1	
AKBB	**Malin Array Si**	**143.03**	**331**		PKPpre	18 33 44.2	
KWP	**Kalwaria Pacla**	**146.62**	**335**	*e*PKP	**PKPbc**	**18 33 56.3**	**-0.5**
BR131	**Keskin Array S**	**146.77**	**312**		**PKPdf**	**18 33 55.9**	**+0.8**
BRTR	**Keskin Array B**	**146.77**	**312**	PKPbc	**PKPbc**	**18 33 56.5**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=140,slow=4.7,SNR=12						
BUR08	**Bucovina Ar. S**	**147.06**	**330**		**PKPbc**	**18 33 57.5**	**-0.6**
BURAR	**Bucovina Array**	**147.08**	**330**		**PKPbc**	**18 33 57.5**	**-0.6**
KOLS	**Kolonicke sedl**	**147.35**	**335**	*e*PKP	**PKPbc**	**18 33 57.4**	**-1.3**
KOLS				*e*		18 34 00.9	
NIE	**Niedzica**	**147.71**	**337**	*e*PKP	**PKPbc**	**18 33 59.5**	**-0.1**
KSP	**Ksiaz**	**147.76**	**343**	*e*PKP	**PKPbc**	**18 33 59.0**	**-0.7**
OSTC	**Ostas**	**148.04**	**343**	∧∧*e*PKP	**PKPbc**	**18 34 00.2**	**-0.3**
CLL	**Collm**	**148.15**	**347**	*i* PKPbc	**PKPbc**	**18 33 59.9**	**-0.8**
	comp=Z,11nm,0.8s						
CLL				*i* PKPab	**PKPab**	**18 34 04.4**	**-1.0**
	comp=Z,4.0nm,0.6s						
CLL	**Collm**	**148.15**	**347**		**PKPbc**	**18 33 59.0**	**-1.7**
DPC	**Dobruska-Polom**	**148.20**	**342**	∧∧*e*PKP	**PKPbc**	**18 34 00.6**	**-0.3**
LANS	**Liptovska Anna**	**148.23**	**338**	*e*PKP	**PKiKP**	**18 34 01.4**	**-0.9**
LANS				*e*		18 34 06.7	
KRLC	**Kraliky**	**148.31**	**341**	∧∧*e*PKP	**PKPbc**	**18 34 00.7**	**-0.5**
BRG	**Berggiesshubel**	**148.34**	**345**	*e*PKP	**PKPdf**	**18 33 50.2**	**-6.9**
	comp=Z,1.6nm,0.7s						
BRG	**Berggiesshubel**	**148.34**	**345**	*e*PKP	**PKPbc**	**18 34 00.4**	**-0.7**
	comp=Z,4.0nm,0.8s						
VYHS	**Vyhne**	**149.01**	**338**	*e*PKP	**PKPbc**	**18 34 02.6**	**-0.3**
VYHS				*e*		18 34 09.3	
PRU	**Pruhonice**	**149.01**	**344**	∧∧*e*PKP	**PKPbc**	**18 34 01.9**	**-0.9**
GOPC	**GO Pecny, Ondr**	**149.01**	**344**	∧∧*e*PKP	**PKPbc**	**18 34 02.1**	**-0.8**
GOPC				*e*PKPab	**PKPab**	**18 34 09.0**	**0.0**
KHC	**Kasperske Hory**	**150.05**	**344**	∧∧*e*PKP	**PKPbc**	**18 34 04.7**	**-0.7**
KHC				*e*PKPab	**PKPab**	**18 34 12.6**	**-0.7**
GERES	**GERESS Array B**	**150.28**	**344**	PKPbc	**PKPbc**	**18 34 05.2**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=24,slow=2.6,SNR=14						
GERES				PKPab	**PKPab**	**18 34 13.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=26,slow=4.8,SNR=3.8						
GERES	**GERESS Array B**	**150.28**	**344**		**PKPbc**	**18 34 05.1**	**-1.0**
CONA	**Conrad Observa**	**150.49**	**341**	*i* PKPbc	**PKPbc**	**18 34 06.2**	**-0.4**
	comp=Z,3.1nm,0.7s						
ARSA	**Arzberg**	**151.20**	**340**	*e*PKiKP	**PKiKP**	**18 34 08.7**	**+0.2**
	comp=Z,1.9nm,0.4s						
WATA	**Walderalm**	**152.21**	**346**	*i* PKPbc	**PKPbc**	**18 34 09.4**	**-1.1**
	comp=Z,1.7nm,0.6s						
RETA	**Reutte**	**152.25**	**347**	*i* PKPbc	**PKPbc**	**18 34 09.5**	**-1.0**
	comp=Z,6.5nm,1.8s						
WTTA	**Wattenberg**	**152.26**	**345**	*i* PKPbc	**PKPbc**	**18 34 09.8**	**-0.9**
	comp=Z,2.4nm,0.4s						
MYKA	**Terra Mystica**	**152.32**	**342**	*e*PKPbc	**PKPbc**	**18 34 09.0**	**-1.7**
	comp=Z,1.2nm,0.4s						
SQTA	**Sankt Quirin**	**152.40**	**346**	*i* PKPbc	**PKPbc**	**18 34 09.9**	**-1.0**
	comp=Z,3.5nm,0.7s						
ABTA	**Abfaltersbach**	**152.53**	**344**	*e*PKPbc	**PKPbc**	**18 34 09.7**	**-1.5**
	comp=Z,3.7nm,0.6s						
ESDC	**Sonseca Array**	**160.41**	**13**	PKPab	**PKPab**	**18 34 58.5**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=336,slow=2.8,SNR=2.4						

*JMA **19** 18:24:08.5±0.1, 33°.60N×137°.28E, h389km, M3.0*
*IDC **19** 18:24:12.1±1.4, 33°.75N×137°.18E, h361km±17km, mb2.8/4, mb1 2.9/6, mb1mx2.7/56, mbtmp3.4/6, Error ellipse: s-maj=37.0km s-min=19.9km az=74.0*

ISC 19 18:24:11.3±1.0, 33°.7N±0°.1×137°.3E±0°.1, h350km, n18, σ1°58/21, mb3.0/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.81**	**324**	P	**Pn**	**18 24 58.5**	**+2.2**
JKN2	**Miekihoku**	**0.97**	**301**	P	**Pn**	**18 24 58.6**	**+1.8**
HMMJ	**Hamamatsu 2**	**1.18**	**18**	P	**Pn**	**18 25 00.1**	**+2.4**
JWY	**Kouya**	**1.48**	**289**	P	**Pn**	**18 25 00.9**	**+1.5**
JEG	**Eigenji**	**1.58**	**333**	P	**Pn**	**18 25 01.8**	**+2.0**
JNY	**Yasuok**	**1.69**	**16**	P	**Pn**	**18 25 02.9**	**+2.4**
JYTA	**Yamagatataniai**	**1.91**	**347**	P	**Pn**	**18 25 03.7**	**+1.9**
JWT	**Wachi**	**2.19**	**315**	P	**Pn**	**18 25 05.1**	**+1.3**
JHU	**Hanno**	**2.68**	**37**	*e*S	**S**	**18 25 54.6**	**+1.4**
MJAR	**Matsushiro Arr**	**2.90**	**15**	P	**Pn**	**18 25 11.5**	**+1.9**
	0.2nm,0.3s,baz=191,slow=9.6,SNR=11						
JAG	**Ashikaga**	**3.22**	**33**	P	**Pn**	**18 25 13.7**	**+1.1**
JAG				S	**S**	**18 26 01.0**	**-1.0**
JYT	**Yasato**	**3.45**	**43**	P	**Pn**	**18 25 15.3**	**+0.6**
JYT				S	**S**	**18 26 04.4**	**-1.5**
JHO	**Hitachi**	**3.94**	**42**	P	**Pn**	**18 25 20.2**	**+0.7**
JHO				S	**S**	**18 26 13.1**	**-1.5**
JNU	**Nakatsue**	**5.39**	**265**	P	**Pn**	**18 25 35.4**	**+0.2**
	0.4nm,0.3s,baz=22,slow=5.4,SNR=4.3						
MKAR	**Makanchi Array**	**43.10**	**305**	P	**P**	**18 31 37.4**	**-0.7**
	0.2nm,0.7s,baz=92,slow=8.5,SNR=1.4						
WRA	**Warramunga Arr**	**53.45**	**183**	P	**P**	**18 32 56.3**	**-0.3**
	0.5nm,0.3s,baz=360,slow=7.5,SNR=23						
ASAR	**Alice Springs**	**57.17**	**184**	P	**P**	**18 33 22.6**	**-0.2**
	0.2nm,0.6s,baz=359,slow=4.3,SNR=6.2						
FINES	**FINESS Array B**	**70.12**	**332**	P	**P**	**18 34 45.4**	**-0.8**
	1.9nm,1.2s,baz=63,slow=8.8,SNR=3.5						

*JMA **19** 18:29:05.2±0.1, 38°.90N×142°.12E, h44km±1km, M3.3*
JMA Felt I J1.
*IDC **19** 18:29:06.8±3.0, 38°.89N×142°.15E, h61km±28km, mb3.1/2, mb1 3.3/5, mb1mx3.0/49, mbtmp3.5/5, ML2.7/3, Error ellipse: s-maj=52.2km s-min=24.7km az=94.0*

ISC 19 18:29:03.3±1.9, 38°.86N±0°.04×142°.18E±0°.08, h26km±13km, n22, σ1°41/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.46**	**300**	P	**Pn**	**18 29 15.0**	**+0.9**
OFUJ				S	**Sn**	**18 29 21.6**	**+0.1**
JKMT	**Kesennumamotoy**	**0.55**	**266**	P	**Pn**	**18 29 16.2**	**+0.8**
JKMT				S	**Sn**	**18 29 23.7**	**-0.1**
JMK	**Ichinoseki**	**0.76**	**278**	P	**Pn**	**18 29 18.9**	**+0.7**
JMK				S	**Sn**	**18 29 28.4**	**-0.4**
JIO	**Ouri**	**0.76**	**239**	P	**Pn**	**18 29 19.2**	**+0.9**
JIO				*i* S	**Sn**	**18 29 28.6**	**-0.4**
JOM	**Ohasama**	**0.93**	**312**	P	**Pn**	**18 29 21.2**	**+0.6**
JOM				S	**Sn**	**18 29 32.6**	**-0.4**
JTH	**Tanohata**	**1.11**	**347**	P	**Pb**	**18 29 23.4**	**-0.4**
JOU	**Okura**	**1.28**	**248**	P	**Pb**	**18 29 26.6**	**-0.2**
JOU				*e*S	**Sb**	**18 29 42.6**	**-0.3**
JRG	**Rokugo**	**1.32**	**295**	P	**Pb**	**18 29 26.8**	**-0.6**
JYK	**Kaneyama**	**1.42**	**273**	P	**Pb**	**18 29 28.3**	**-0.8**
JMM	**Marumori**	**1.47**	**228**	P	**Pn**	**18 29 29.0**	**+1.0**
JMM				*e*S	**Sn**	**18 29 46.4**	**0.0**
JANG	**Nango**	**1.60**	**341**	P	**Pn**	**18 29 30.6**	**+0.7**
JANG				*e*S	**Sn**	**18 29 49.5**	**-0.2**
MJAR	**Matsushiro Arr**	**3.91**	**235**	P	**Pn**	**18 30 05.9**	**+4.3**
	0.1nm,0.3s,baz=37,slow=12,SNR=4.9						
ASAJ	**Asahikawa**	**5.27**	**3**	P	**Pn**	**18 30 22.3**	**+2.1**
	0.4nm,0.3s,baz=198,slow=20,SNR=6.1						
JHJ	**Hachijo jima 2**	**6.04**	**199**	P	**Pn**	**18 30 32.0**	**+1.1**
	0.9nm,0.3s,baz=75,slow=23,SNR=1.2						
JHJ				S	**Sn**	**18 31 36.0**	**-3.3**
	1.6nm,0.3s,baz=62,slow=23,SNR=1.1						
H11N2	**WAKE ISLAND Hy**	**28.62**	**125**	T	T	19 05 22.5	
	baz=317,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy**	**28.63**	**125**	T	T	19 05 21.6	
	baz=317,slow=75,SNR=99						
H11N3	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	19 05 22.6	
	baz=317,slow=75,SNR=101						
H11S1	**WAKE ISLAND Hy**	**29.40**	**127**	T	T	19 06 19.8	
	baz=319,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**29.40**	**127**	T	T	19 06 19.8	
	baz=319,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**29.41**	**127**	T	T	19 06 20.9	
	baz=319,slow=76,SNR=35						
MKAR	**Makanchi Array**	**43.69**	**301**	P	**P**	**18 37 05.2**	**-0.6**
	0.3nm,0.6s,baz=82,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**58.95**	**189**	P	**P**	**18 38 60.0**	**-0.3**
	0.4nm,1.1s,baz=6.4,slow=7.1,SNR=1.9						

JMA 19 18:34:09.9, 35°.92N×136°.34E, h8km±1km, M2.6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.36**	**359**	P	Pg	18 34 17.1	+0.2
JKG				S	Sg	18 34 22.0	+0.4
JYTA	**Yamagatataniai**	**0.46**	**135**	P	Pg	18 34 18.8	0.0
JYTA				S	Sg	18 34 25.1	+0.3
JICN	**Ichinomiyachia**	**0.74**	**146**	P	Pg	18 34 24.4	+0.3
JICN				S	Sg	18 34 34.2	+0.4
JWT	**Wachi**	**0.99**	**231**	P	Pg	18 34 28.7	-0.3
JWT				S	Sg	18 34 42.2	+0.3
MAT	**Matsushiro**	**1.63**	**67**	P	Pn	18 34 39.2	+0.2
MAT				*e*S	Sg	18 35 02.6	+0.2

*IDC **19** 18:53:56.4±2.5, 20°.25S×177°.81W, h438km±29km, mb3.2/8, mb1 3.5/11, mb1mx3.3/35, mbtmp4.1/11, Error ellipse: s-maj=19.8km s-min=16.2km az=125.0*
*NEIC **19** 18:53:58.8±2.3, 20°.3S±0°.1×177°.8W±0°.1, h470km±9km, mb4.4/26, Error ellipse: s-maj=17.4km s-min=13.8km az=143.0*

ISC 19 18:54:01.2±0.5, 20°.32S±0°.09×177°.81W±0°.07, h500km, n42, σ1°57/43, mb4.3/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**303**	P	**P**	**18 55 27.7**	**+2.1**
NIUE	**Niue**	**7.53**	**82**	P	**P**	**18 55 50.6**	**-2.2**
NIUE				S	**S**	**18 57 25.9**	**+1.7**
AFI	**Afiamalu**	**8.59**	**43**	P	P	18 55 59.0	-4.9
	4.3nm,0.3s,baz=259,slow=10,SNR=4.9						
AFI				S	S	18 57 34.5	-10
	11nm,0.3s,baz=179,slow=17,SNR=7.7						
AFI	**Afiamalu**	**8.59**	**43**		S	18 57 34.6	-10
DZM	**Mont Dzumac**	**14.79**	**260**	P	**P**	**18 57 05.3**	**-4.1**
	0.1nm,0.3s,baz=348,slow=22,SNR=2.3						
SANVU	**Saraoutou**	**15.06**	**286**	P	**P**	**18 57 12.8**	**+0.6**
URZ	**Urewera**	**18.42**	**193**	P	**P**	**18 57 42.7**	**-2.5**
	1.1nm,0.3s,baz=188,slow=16,SNR=2.7						
URZ				S	**S**	**19 00 52.4**	**+4.6**
	0.2nm,0.3s,baz=36,slow=16,SNR=1.6						
BKZ	**Black Stump Fm**	**19.42**	**193**	P	**P**	**18 57 51.1**	**-3.4**
KHZ	**Kahutara**	**23.21**	**196**	P	**P**	**18 58 31.3**	**+2.7**
CTAO	**Charters Tower**	**33.69**	**264**	P	**P**	**19 00 00.6**	**+0.3**
CTAO				IAmb	IAmb	19 00 01.4	
	comp=Z,52nm,2.0s						
COEN	**Coen**	**37.75**	**273**	P	**P**	**19 00 34.5**	**+0.4**
COEN				IAmb	IAmb	19 01 14.6	
	comp=Z,52nm,1.8s						
STKA	**Stephens Creek**	**38.03**	**244**	P	**P**	**19 00 36.0**	**-0.2**
BBOO	**Buckleboo**	**42.79**	**243**	P	**P**	**19 01 14.3**	**0.0**
BBOO				IAmb	IAmb	19 02 06.5	
	comp=Z,34nm,1.6s						
JAY	**Jayapura**	**44.16**	**288**	P	**P**	**19 01 24.8**	**-0.5**
	comp=Z,8.5nm,0.5s,baz=135,slow=5.2,SNR=7.3						
WR0	**Warramunga Arr**	**44.62**	**262**	P	**P**	**19 01 28.2**	**-0.5**
WR0				IAmb	IAmb	19 01 39.1	
	comp=Z,22nm,1.9s						
AS31	**Alice Springs**	**44.74**	**257**	P	**P**	**19 01 29.4**	**-0.3**
ASAR	**Alice Springs**	**44.74**	**257**	P	**P**	**19 01 29.4**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=94,slow=7.9,SNR=22						
ASAR				PcP	**PcP**	**19 03 01.2**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=115,slow=2.8,SNR=2.9						
ASAR				S	**S**	**19 07 28.2**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=86,slow=15,SNR=5.7						
ASAR	**Alice Springs**	**44.74**	**257**	P	**P**	**19 01 29.0**	**-0.7**
WC3	**Warramunga Arr**	**44.77**	**262**	P	**P**	**19 01 29.3**	**-0.7**
WB0	**Warramunga Arr**	**44.78**	**262**	P	**P**	**19 01 29.4**	**-0.6**
WB0				IAmb	IAmb	19 01 30.2	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**44.79**	**262**	P	**P**	**19 01 29.4**	**-0.7**
WRAB	**Tennant Creek**	**44.80**	**262**	P	**P**	**19 01 29.1**	**-1.0**
WRA	**Warramunga Arr**	**44.80**	**262**	P	**P**	**19 01 29.5**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=96,slow=8.6,SNR=31						
WRA	**Warramunga Arr**	**44.80**	**262**	IAmb	IAmb	19 01 29.6	
	comp=Z,0.2nm,0.8s						
OPA	**Opana**

CBIJ	Chichi jima	2.63	179	P	Pn	19 52 18.0	+1.3
CBIJ				S	Sn	19 52 47.7	0.0
JHH2	Haha-jima-NKT2	3.10	179	P	Pn	19 52 25.2	+2.1
JHH2				eS	Sn	19 53 00.2	+1.2
JHCJ	Hachijojimakas	3.88	330	eS	Sn	19 53 16.7	-1.7
JHJ2	Mitsune	3.91	330	S	Sn	19 53 17.9	-1.1
JMKN	Mikurajimanish	4.67	333	S	Sn	19 53 37.0	-1.0
BSO1	Boso 1	5.00	349	P	Pn	19 52 51.9	+3.2
BSO1				S	Sn	19 53 47.5	+2.3
BSO4	Boso 4	5.45	344	P	Pn	19 52 59.7	+4.4
JHU	Hanno	6.55	339	P	Pn	19 53 13.3	+2.7
JYT	Yasato	6.67	346	P	Pn	19 53 14.2	+2.0
JRY	Ryogami san	6.83	337	P	Pn	19 53 17.7	+3.4
JHO	Hitachi	6.98	350	P	Pn	19 53 18.9	+2.5
JAG	Ashikaga	7.04	342	P	Pn	19 53 19.1	+1.9
MJAR	Matsushiro Arr	7.54	335	Pn	Pn	19 53 27.4	+3.3
	0.2nm,0.3s,baz=163,slow=12,SNR=6.9						
JFK	Kawauchi	7.68	352	P	Pn	19 53 27.9	+1.8
JFK				eS	Sn	19 54 47.9	-4.1
JMK	Ichinoseki	9.22	356	P	Pn	19 53 50.0	+2.9
JMK				S	Sn	19 55 26.8	-3.0
MKAR	Makanchi Array	48.80	308	P	P	20 00 16.6	-2.0
	0.4nm,0.7s,baz=93,slow=8.1,SNR=2.6						
WRA	Warramunga Arr	49.96	190	P	P	20 00 25.6	-2.0
	0.4nm,0.5s,baz=9.7,slow=8.2,SNR=10						

*AZER **19** 19:58:17.9, 41°.23N×45°.57E, h10km, ML3.0*
*TIF **19** 19:58:18.2, 41°.21N×45°.46E, h11km±1km*
*MOS **19** 19:58:18.2±0.8, 41°.07N×45°.48E, h10km, mb3.7/3, Error ellipse: s-maj=6.9km s-min=4.5km az=97.5*
*DDA **19** 19:58:18.7, 41°.24N×45°.38E, h7km±5km, ML2.7*
*DRS **19** 19:58:24.7±0.0, 41°.64N×45°.63E, h12km*

ISC 19 19:58:19.4±0.9, 41°.23N±0°.01×45°.48E±0°.01, h16km±7km, n94, σ1§49/164, 6C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZX	Qazax, Azerbai	0.19	204	P	Pg	19 58 24.6	+0.6
	SNR=255						
QZX				S	Sg	19 58 28.3	+1.2
DDFL	Dedoflistskaro	0.53	66	i P	Pn	19 58 31.1	-1.2
DDFL	Dedoflistskaro	0.53	66	PG	Pn	19 58 31.2	-1.2
DDFL	Dedoflistskaro	0.53	66	P	Pn	19 58 31.3	-1.2
GDB	GEDABAY	0.55	158	P	Pb	19 58 29.9	-0.9
	SNR=352						
GDB				S	Sb	19 58 37.8	-0.8
BTNK	Botanikuri	0.68	312	PG	Pb	19 58 32.2	-0.7
BTNK				S	Sb	19 58 42.1	0.0
BTNK	Botanikuri	0.68	312	P	Pb	19 58 32.2	-0.7
BTNK				S	Sb	19 58 42.1	0.0
KZRT	Kazreti	0.83	281	i P	Pg	19 58 33.4	-2.0
KZRT				i S	Sg	19 58 45.2	-1.1
KZRT	Kazreti	0.83	281	PG	Pb	19 58 34.7	-0.7
KZRT				S	Sb	19 58 46.0	-0.3
KZRT	Kazreti	0.83	281	P	Pb	19 58 34.7	-0.7
KZRT				S	Sb	19 58 46.0	-0.3
LGD	Lagodekhi	0.83	44	PG	Pb	19 58 35.0	-0.5
LGD				S	Sb	19 58 47.1	+0.6
LGD	Lagodekhi	0.83	44	P	Pb	19 58 35.0	-0.5
LGD				S	Sb	19 58 47.2	+0.6
GANJ	Ganja	0.87	132	P	Pg	19 58 34.9	-1.3
	SNR=32						
GANJ				S	Sb	19 58 46.7	-0.8
ZKTA	Zakatala	0.95	64	P	Pb	19 58 36.8	-0.7
	SNR=120						
ZKTA				S	Sn	19 58 50.4	-1.0
DMNI	Dmanisi	0.97	276	PG	Pg	19 58 37.1	-1.1
DMNI				S	Sb	19 58 50.4	-0.2
DMNI	Dmanisi	0.97	276	P	Pg	19 58 37.2	-1.1
DMNI				S	Sb	19 58 50.5	-0.2
SEKA	Sheki	1.30	90	Pg	Pn	19 58 42.4	-0.5
	SNR=20						
SEKA				Sg	Sg	19 59 01.0	-0.4
MNGR	Mingechevir, A	1.30	110	P	Pg	19 58 43.4	-1.0
	SNR=3.5						
MNGR				S	Sg	19 59 02.9	+1.5
AKH	Akhalkalaki	1.50	277	PG	Pb	19 58 46.3	-0.7
AKH				S	Sg	19 59 07.1	-0.8
AKH	Akhalkalaki	1.50	277	P	Pb	19 58 46.3	-0.7
AKH				S	Sg	19 59 07.2	-0.8
KMKR	Kumukh	1.51	53	ePg	Pg	19 58 47.5	-1.0
	39nm,0.3s						
KMKR				eSg	Sg	19 59 08.5	+0.3
	116nm,0.4s						
KMKR	Kumukh	1.51	53	ePG	Pg	19 58 47.5	-1.0
KMKR				eS	Sg	19 59 08.5	+0.3
KMKR				pmax	pmax		
	comp=Z,39nm,0.3s						
EAK	Akyaka	1.52	250	i P	Pb	19 58 46.5	-0.8
EAK				i S	Sg	19 59 06.9	-1.4
EAK				IAML		19 59 13.0	
	comp=N,162nm,0.4s						
BTLR	Botlikh	1.53	21	ePg	Pb	19 58 46.8	-0.7
	comp=N,31nm,0.6s						
BTLR				eSg	Sn	19 59 02.7	-3.2
	comp=N,103nm,0.7s						
BTLR	Botlikh	1.53	21⇑	ePN	Pg	19 58 47.9	-1.0
BTLR				pmax	pmax		
	comp=Z,31nm,0.6s						
PNSH	Pansheti	1.54	336	PN	Pb	19 58 47.3	-0.4
PNSH	Pansheti	1.54	336	P	Pb	19 58 47.4	-0.4
PNSH				S	Sg	19 59 08.5	-0.6
BKRG	Bakuriani	1.56	290	PN	Pb	19 58 47.3	-0.7
BKRG				S	Sg	19 59 08.8	-0.9
BKRG	Bakuriani	1.56	290	P	Pb	19 58 47.3	-0.7
BKRG				S	Sg	19 59 08.8	-0.9
HYR	Heyderabad	1.58	198	Pn	Pg	19 58 49.6	-0.3
	SNR=12						
HYR				Sn	Sg	19 59 12.3	+1.8
XNZR	Khunzakh	1.60	35	ePN	Pb	19 58 48.1	-0.6
GNBR	Gunib	1.60	43	ePg	Pg	19 58 49.0	-1.2
	comp=Z,27nm,0.6s						
GNBR				eSg	Sg	19 59 11.1	0.0
	comp=Z,233nm,0.4s						
GNBR	Gunib	1.60	43⇓	ePN	Pb	19 58 48.3	-0.4
GNBR				e		19 59 10.6	
GNBR				pmax	pmax		
	comp=Z,27nm,0.8s						
GNBR				smax	smax		
	comp=N,220nm,1.1s						
BRDA	Brd	1.62	126	Pn	Pg	19 58 49.1	-1.3
	SNR=3.7						
BRDA				Sn	Sg	19 59 12.0	+0.5
AGDM	Agdam	1.68	132	Pn	Pb	19 58 49.2	-0.6
	SNR=5.4						
AGDM				Sn	Sg	19 59 12.7	-0.7
AKT	Akhty	1.71	81	ePg	Pb	19 58 49.3	-1.3
	comp=N,26nm,0.5s						
AKT				eSg	Sg	19 59 12.4	-2.2
	comp=N,137nm,0.5s						
AKT	Akhty	1.71	81⇓	ePN	Pb	19 58 49.3	-1.3
AKT				e		19 59 12.4	
AKT				pmax	pmax		
	comp=Z,26nm,0.5s						
AKT				smax	smax		
	comp=N,94nm,0.7s						
IGDI	IGDIR	1.73	218	i P	Pb	19 58 50.5	-0.3
IGDI				i S	Sn	19 59 11.0	+0.3
IGDI				IAML		19 59 15.0	
	comp=E,88nm,0.3s						
IGDI				IAML		19 59 16.0	
	comp=N,86nm,0.3s						
DIGO	Kars	1.79	244	i P	Pb	19 58 51.7	-0.4
DIGO				i S	Sb	19 59 14.6	+0.3
DIGO				IAML		19 59 21.0	
	comp=E,97nm,0.7s						
QBL	Gabala	1.81	98	Pn	Pb	19 58 50.9	-1.2
	SNR=11						
QBL				Sn	Sg	19 59 15.6	-2.0
LACR	Lac	1.82	332	ePN	Pb	19 58 51.4	-1.0
LACR				pmax	pmax		
	comp=Z,30nm,0.3s						
SBZ	Shahbuz	1.83	178	Pn	Pg	19 58 53.0	-1.7
	SNR=9.0						
SBZ				Sn	Sg	19 59 18.2	-0.3
URKR	Urkarakh	1.86	59	ePN	Pb	19 58 52.5	-0.7
KMGR	Komgaron	1.88	346	ePN	Pg	19 58 53.9	-1.6
VLKR	Vladikavkaz	1.91	342	ePN	Pg	19 58 54.7	-1.3
KRNR	Karanay	1.92	33	ePg	Pg	19 58 55.0	-1.2
	comp=Z,20nm,0.0s						
KRNR				eSg	Sg	19 59 22.0	+0.9
	comp=Z,28nm,0.3s						
ZRD	Zardab	1.93	119	Pn	Pb	19 58 53.0	-1.2
	SNR=4.8						
ZRD				Sn	Sg	19 59 20.5	-0.9
ZEI	Tsey	1.95	323	ePN	Pb	19 58 54.4	-0.2
ZEI				eS	Sg	19 59 21.6	-0.5
ZEI				pmax	pmax		
	comp=Z,33nm,0.4s						
ZEI				smax	smax		
	comp=E,38nm,0.3s						
ZEI				smax	smax		
	comp=N,54nm,0.6s						
GROC	Groznyy	1.98	7⇓	ePN	Pg	19 58 56.9	-0.5
GROC				eS	Sg	19 59 23.9	+0.7
GROC				pmax	pmax		
	comp=Z,1.0nm,0.2s						
GROC				smax	smax		
	comp=E,96nm,0.6s						
BUJR	Buynaksk	2.00	37	ePg	Pg	19 58 56.3	-1.6
	comp=E,22nm,0.5s						
BUJR				eSg	Sg	19 59 24.5	+0.7
	comp=E,120nm,0.7s						
BUJR	Buynaksk	2.00	37	ePN	Pg	19 58 57.1	-0.7
BUJR				eS	Sg	19 59 22.4	-1.4
XNQ	Khinaliq	2.01	91	Pn	Pb	19 58 53.8	-2.0
	SNR=16						
XNQ				Sn	Sb	19 59 20.8	+0.2
DLMR	Dylym	2.03	25	ePg	Pb	19 58 56.0	+0.1
DLMR				eSg	Sg	19 59 24.0	-0.6
	comp=E,121nm,0.6s						
DLMR	Dylym	2.03	25	PN	Pb	19 58 56.0	+0.1
DLMR				eS	Sg	19 59 24.0	-0.6
KSMR	Kasumkent	2.03	79	ePg	Pg	19 59 01.0	+2.7
KSMR				eSg	Sg	19 59 30.0	+5.3
	comp=E,175nm,0.2s						
KSMR	Kasumkent	2.03	79	PN	Pg	19 59 01.0	+2.7
KSMR				eS	Sg	19 59 30.0	+5.3
ONI	Oni	2.03	313	PN	Pb	19 58 55.9	-0.1
ONI	Oni	2.03	313	P	Pb	19 58 55.9	-0.1
ONI				S	Sb	19 59 21.5	+0.5
DBC	Dubki	2.05	29	ePg	Pg	19 58 56.7	-2.0
	comp=E,13nm,0.6s						
DBC				eSg	Sg	19 59 25.2	-0.1
	comp=E,118nm,0.5s						
DBC	Dubki	2.05	29⇑	ePN	Pg	19 58 57.4	-1.3
DBC				e		19 59 24.6	
DBC				pmax	pmax		
	comp=Z,13nm,0.6s						
DBC				smax	smax		
	comp=N,57nm,0.7s						
IML	Ismayilli	2.10	101	Pn	Pb	19 58 55.3	-1.7
IML				Sn	Sg	19 59 24.2	-2.6
QSAR	Qusar	2.12	81	Pn	Pb	19 58 55.9	-1.6
QSAR				Sn	Sb	19 59 24.0	+0.5
KORR	Kora	2.13	331	ePN	Pb	19 58 57.4	-0.2
KORR				eS	Sg	19 59 27.2	-0.6
TKB	Tkibuli	2.17	302	PN	Pb	19 58 57.2	-1.1
TKB				S	Sb	19 59 25.3	+0.4
TKB	Tkibuli	2.17	302	P	Pb	19 58 57.2	-1.1
TKB				S	Sb	19 59 25.3	+0.4
DIGR	Digorskoe uzhe	2.18	320	ePN	Pb	19 58 58.0	-0.6
DIGR				eS	Sg	19 59 28.2	-1.4
BLQ	Beylaqan	2.19	133	Pn	Pb	19 58 57.3	-1.4
	SNR=3.6						
BLQ				Sn	Sb	19 59 26.5	+0.9
KDMR	Kurdemir	2.23	112	Sn	Sg	19 59 28.8	-2.2
BTKR	Batakoyurt	2.25	342	ePN	Pg	19 59 00.6	-1.9
BTKR				eS	Sg	19 59 30.5	-1.2
QRD	Qoradiz	2.26	141	Pn	Pb	19 58 58.2	-1.7
	SNR=6.8						
QRD				Sn	Sg	19 59 28.9	-3.3
ORD	Ordubad	2.34	170	Pn	Pb	19 58 58.9	-2.3
	SNR=4.0						
ORD				Sn	Sg	19 59 32.3	-2.2
STDR	Stavd-Durt	2.38	334	ePN	Pb	19 59 00.7	-1.1
STDR				eS	Sb	19 59 32.1	+1.1
LSNR	Lesken	2.38	330	ePN	Pb	19 59 01.5	-0.5
LSNR				eS	Sb	19 59 29.8	-1.3
PQL	Pirkuli	2.40	100	Pn	Pb	19 59 00.0	-2.3
PQL				Sn	Sb	19 59 32.4	+0.7
SIZA	Siyzn	2.59	92	Pn	Pb	19 59 02.7	-2.8
SIZA				Sn	Sb	19 59 36.2	-1.0
SAAT	Saatly	2.63	120	Sg	Sb	19 59 38.5	+0.3
ATGJ	Altiaghaj	2.65	97	Pn	Pn	19 59 02.9	+1.3
ATGJ				Sn	Sb	19 59 35.7	-3.0
ARTV	Artvin	2.68	270	i P	Pb	19 59 07.2	+0.1
ARTV				i S	Sb	19 59 41.8	+2.0
DAGI	Agillar	2.69	268	i P	Pb	19 59 07.7	+0.4
DAGI				i S	Sb	19 59 41.8	+1.6
GBS	Qobustan	2.72	104	Pn	Pb	19 59 04.6	-3.1
GBS				Sn	Sb	19 59 39.8	-1.0
DBAD	Bademkaya	2.86	267	i P	Pg	19 59 11.6	-2.7
DBAD				i S	Sb	19 59 47.1	+2.1
DBAD				IAML		19 59 51.0	
	comp=N,23nm,0.5s						
BATM	Batumi	2.87	279	ePN	Pb	19 59 08.1	-2.1
BATM				eS	Sb	19 59 43.3	-1.8
DBOC	Borcka	2.87	273	i P	Pb	19 59 10.3	0.0
DBOC				i S	Sb	19 59 45.9	+0.7
GLBA	Ciilabad	2.99	131	Pn	Pn	19 59 08.0	+1.9
	SNR=2.9						
GLBA				Sn	Sn	19 59 43.3	+1.6
YRD	Yardimli	3.14	137	Pn	Pn	19 59 09.9	+1.5
YRD				Sn	Sn	19 59 48.3	+2.6
SHA1	Shidzhatmaz	3.26	321	ePN	Pb	19 59 16.8	-0.2
SHA1				eS	Sb	19 59 57.5	+1.0
LRK	Lerik	3.40	139	Pn	Pn	19 59 14.2	+2.3
LRK				Sn	Sb	19 59 56.9	-3.5
KIV	Kislovodsk	3.41	324⇑	ePN	Pb	19 59 16.3	-3.2
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ARXR	Arkhyz	3.88	308⇓	ePN	Pn	19 59 20.7	+2.1
OBN	Obninsk	15.09	340⇓	eP	Pn	20 01 53.7	+2.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	Borovoye	20.49	46⇑	eP	Pn	20 02 59.1	+0.5
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	Ala-Archa	21.59	77⇑	eP	P	20 03 11.6	+3.0
AAK				pmax	pmax		
	comp=Z,28nm,2.6s						
KURK	Kurchatov	24.73	56⇑	eP	P	20 03 40.3	+0.5
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	Warramunga Arr	102.04	106	i P	Pdif	20 12 12.8	-0.2

*IDC **19** 20:08:10.2±1.4, 60°.20N×153°.83W, h125km±18km, mb3.5/8, mb1 3.6/11, mb1mx3.4/48, mbtmp3.9/11, Error ellipse: s-maj=20.3km s-min=16.6km az=69.0*
*NEIC **19** 20:08:11.9±1.2, 60°.19N±0°.05×153°.3W±0°.1, h153km±4km, Error ellipse: s-maj=8.2km s-min=7.0km az=65.0*
*UNK **19** 20:08:13.0, 60°.16N×153°.22W, h154km*
*AEIC **19** 20:08:13.0±1.5, 60°.16N±0°.05×153°.2W±0°.1, h154km±4km, ML4.0/218, Error ellipse: s-maj=8.8km s-min=7.4km az=108.0*
*ANF **19** 20:08:13.3±0.6, 60°.27N×153°.04W, h157km±4km, ML4.6/8, Error ellipse: s-maj=8.0km s-min=4.0km az=85.0*

ISC 19 20:08:11.9±0.6, 60°.17N±0°.03×153°.19W±0°.04, h159km±5km, n235, σ1§01/278, mb3.8/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	Iliamna West	0.12	167		Pn	20 08 33.2	-0.2
ILW					Sn	20 08 48.9	-0.9
ILIM	Iliamna	0.15	129		Pn	20 08 33.1	-0.2
ILIM					Sn	20 08 48.4	-1.1
IVE	Iliamna Volcan	0.18	151		Pn	20 08 33.0	-0.4
IVE					Sn	20 08 48.9	-0.8
ILS	Iliamna Low So	0.22	165		Pn	20 08 33.0	-0.5
RED	Redoubt Volcan	0.32	40		Pn	20 08 33.4	-0.3
RED					Sn	20 08 49.3	-1.1
RDSO	Redoubt South	0.36	38		Pn	20 08 33.6	-0.3
RDWB	Redoubt West	0.36	28		Pn	20 08 33.6	-0.3
RDWB					Sn	20 08 49.4	-1.4
RSO	Redoubt South	0.36	36		Pn	20 08 33.7	-0.2
REF	Redoubt East F	0.40	37		Pn	20 08 33.9	-0.1
REF					Sn	20 08 51.1	0.0
RDN	Redoubt North	0.40	31		Pn	20 08 33.9	-0.2
NCT	North Crescent	0.41	18		Pn	20 08 33.8	-0.2
NCT					Sn	20 08 50.0	-1.0
DFR	Drift River	0.49	30		Pn	20 08 34.0	-0.4
DFR					Sn	20 08 50.4	-1.1
AUL	Augustine Lava	0.80	189		Pn	20 08 36.2	+0.1
AU22	Augustine Moun	0.81	186		Pn	20 08 35.9	-0.2
AU22					Sn	20 08 53.7	-0.9
AU2	Augustine Isla	0.81	187		Pn	20 08 36.0	-0.1
AUP	Augustine Pinn	0.82	188		Pn	20 08 36.2	-0.1
AUP					Sn	20 08 54.9	0.0
AUQ	Augustine Qik'	0.83	188		Pn	20 08 36.2	-0.1
AUQ					Sn	20 08 54.1	-0.8
AUJK	Augustine Jueg	0.83	188		Pn	20 08 36.2	-0.1
HOM	Homer	0.93	123	P	Pn	20 08 37.5	+0.6
	baz=304,SNR=24						
HOM				S	Sn	20 08 56.3	+0.2
	baz=304						
HOM	Homer	0.93	123		Pn	20 08 37.5	+0.6
HOM					Sn	20 08 56.6	+0.5
CKL	Chakachamna La	1.11	22		Pn	20 08 38.8	+0.3
SPCR	Spurr Chakacha	1.14	25		Pn	20 08 38.8	+0.1
SPCR					Sn	20 08 59.9	+0.4
CKT	Bend	1.14	25		Pn	20 08 38.9	+0.1
SPWE	Spurr West	1.15	15		Pn	20 08 39.2	+0.4
BGL	Barrier Glacie	1.16	19		Pn	20 08 39.5	+0.5
SPBG	Spurr Blockage	1.16	20		Pn	20 08 39.4	+0.4
CKN	Chakachatna No	1.17	25		Pn	20 08 39.3	+0.3
CAPN	Captain Cook N	1.17	58	P	Pn	20 08 40.4	+1.6
	baz=240,SNR=13						
CAPN				S	Sn	20 08 59.7	0.0
	baz=240						
CAPN	Captain Cook N	1.17	58		Pn	20 08 40.5	+1.6
CNPM	China Poot	1.18	123		Pn	20 08 39.5	+0.4
CNPM	China Poot	1.18	123		Sn	20 08 59.2	-0.7
SPCP	Crater Peak Br	1.21	24		Pn	20 08 39.7	+0.3
CRP	Crater Peak	1.21	24		Pn	20 08 39.8	+0.3
CRP					Sn	20 09 01.1	+0.4
SPNN	North Nagishla	1.22	11		Pn	20 08 39.7	+0.1
SPNN					Sn	20 09 00.2	-0.7
BRLK	Bradley Lake	1.23	108		Pn	20 08 39.9	+0.4
BRLK	Bradley Lake	1.23	108		Sn	20 09 00.4	-0.3
SPCG	Spurr Capps Gl	1.26	27		Pn	20 08 39.9	0.0
BRSE	Bradley Lake S	1.30	108		Pn	20 08 40.8	+0.6
BRSE					Sn	20 09 01.1	-0.9
STLK	Strandline Lak	1.49	26		Pn	20 08 42.2	+0.2
SVW2	Sparrevohn	1.50	309		Pn	20 08 41.1	-1.0
SLKM	Skilak Lake	1.51	76		Pn	20 08 42.0	-0.2
SLKM					Sn	20 09 04.4	-1.3
KAPH	Katmai Pasha	1.69	201		Pn	20 08 43.9	-0.3
KAPH					Sn	20 09 07.5	-1.5
O22K	Cooper Landing	1.75	78		Pn	20 08 44.7	0.0
O22K					Sn	20 09 08.8	-1.2
FIS	Fire Island	1.76	55		Pn	20 08 45.6	+0.9
SUA	Susitna One	1.76	42		Pn	20 08 45.1	+0.2
SUA	Susitna One	1.76	42		Sn	20 09 11.2	+0.7
KAHG	Katmai Hook Gl	1.82	203		Pn	20 08 45.4	-0.3
SEW	Seward	1.87	90	Pn	Pn	20 08 46.3	+0.3
SEW	Seward	1.87	90		Sn	20 09 11.2	-1.2
KAWH	Katmai	1.98	205		Pn	20 08 46.8	-0.5
SKT	Skwentna	1.98	23		Pn	20 08 47.4	+0.1
KVTA	Katmai Vly 10	2.10	212		Pn	20 08 48.3	-0.3
KAKN	Katmai Knife C	2.11	208		Pn	20 08 48.4	-0.5
KAKN					Sn	20 09 15.3	-2.2
KCG	Knife Ck. Glac	2.12	209		Pn	20 08 48.6	-0.4
KELA	Mount Kelaz	2.18	218		Pn	20 08 49.0	-0.7
KELA					Sn	20 09 17.4	-1.3
KABU	Katmai Buttres	2.19	210		Pn	20 08 49.6	-0.2
KABU					Sn	20 09 17.5	-1.6
KCE	Katmai Mt Cerb	2.19	209		Pn	20 08 49.8	0.0
ANCK	Angle Creek	2.31	212		Pn	20 08 51.0	-0.2
ANCK					Sn	20 09 20.3	-1.3
CAHL	Cahill	2.39	208		Pn	20 08 52.1	0.0
KDAK	Kodiak Island	2.42	172	P	Pn	20 08 50.8	-1.6
	29nm,0.3s,baz=9.1,slow=10,SNR=542						
KDAK				S	Sn	20 09 21.2	-2.4
	75nm,0.3s,baz=145,slow=23,SNR=7.2						
KDAK	Kodiak Island	2.42	172	Pn	Pn	20 08 51.0	-1.4
KDAK	Kodiak Island	2.42	172		Sn	20 09 21.4	-2.3
PMR	Palmer	2.44	53		Pn	20 08 51.6	-1.0
PMR	Palmer	2.44	53		Sn	20 09 22.1	-2.1
KJL	Kejulik	2.46	211		Pn	20 08 52.9	0.0
PWL	Port Wells	2.50	72		Pn	20 08 52.5	-0.8
PWL					Sn	20 09 24.2	-1.2
GHO	Glory Hole Cre	2.63	50		Pn	20 08 54.1	-0.8
GHO	Glory Hole Cre	2.63	50		Sn	20 09 26.9	-1.5
KNK	Knik Glacier	2.63	60	Pn	Pn	20 08 54.2	-0.8
KNK	Knik Glacier	2.63	60		Sn	20 09 26.9	-1.5
CUT	Chulitna	2.65	31	P	Pn	20 08 55.2	+0.1
	baz=214,SNR=78						
CUT				S	Sn	20 09 27.9	-0.8
	baz=214						
CUT	Chulitna	2.65	31		Pn	20 08 55.2	+0.1
CUT					Sn	20 09 28.9	+0.3
PPLA	Purkeypile	2.77	9	Pn	Pn	20 08 57.5	+0.6
SML	Sawmill	2.88	53		Pn	20 08 57.3	-0.8
SML	Sawmill	2.88	53		Sn	20 09 32.1	-1.8
PLK5	Peulik 5	2.90	223		Pn	20 08 58.3	+0.1
PLK2	Peulik 2	2.91	215		Pn	20 08 58.3	-0.2
OHAK	Old Harbor	2.96	181	Pn	Pn	20 08 57.2	-1.8
PLK1	Peulik 1	2.96	218		Pn	20 08 59.2	+0.1
TT01	Tatalina	3.06	335		Pn	20 08 59.6	-0.6
TTA	Tatalina	3.08	335	Pn	Pn	20 08 59.8	-0.7
TTA	Tatalina	3.08	335		Sn	20 09 37.4	-1.1
GLI	Glacier Island	3.09	74		Pn	20 08 59.3	-1.4
GLI	Glacier Island	3.09	74		Sn	20 09 37.5	-1.0
HUR	Hurricane	3.29	30		Pn	20 09 03.0	-0.1
CAST	Castle Rocks	3.30	9		Pn	20 09 03.6	+0.3
SCM	Sheep Creek Mo	3.30	57		Pn	20 09 03.0	-0.4
SCM	Sheep Creek Mo	3.30	57		Sn	20 09 42.2	-1.3
HIN	Hinchinbrook I	3.34	83	Pn	Pn	20 09 04.5	+0.7
HIN	Hinchinbrook I	3.34	83		Sn	20 09 43.6	-0.5
JPK	Jack Peak	3.37	72		Pn	20 09 03.6	-0.6
FID	Port Fidalgo	3.37	77		Pn	20 09 02.9	-1.4
FID	Port Fidalgo	3.37	77		Sn	20 09 42.9	-2.0
WAT7	Susitna Watana	3.38	36		Pn	20 09 04.1	-0.3
WAT1	Susitna Watana	3.47	38		Pn	20 09 05.2	-0.3
VMT	TAPS Tl Valdez	3.48	72		Pn	20 09 05.5	-

SUCK	Suckling Hills	4.71	87	Pn	Pn	20 09 22.8	+1.3
GLB	Gilahina Butte	4.76	70		Pn	20 09 22.7	+0.4
NEA2	Nenana	4.83	22	P	Pn	20 09 22.7	-0.4
	baz=205,SNR=81						
NEA2	Nenana	4.83	22		Pn	20 09 22.8	-0.3
VRDI	Verde Repeater	4.90	73		Pn	20 09 24.4	+0.2
WRH	Wood River Hil	4.92	27	Pn	Pn	20 09 24.1	-0.2
KHIT	Khitrov Hills	4.95	83		Pn	20 09 25.5	+0.7
MLY	Manley	5.01	12		Pn	20 09 26.6	+1.2
CRQM	Cirque	5.01	79		Pn	20 09 26.2	+0.6
VNHG	Veniaminof 1	5.07	221		Pn	20 09 26.1	-0.2
MCARA	McCarthy VSAT	5.13	72		Pn	20 09 27.7	+0.7
CCB	Clear Creek Bu	5.14	27	Pn	Pn	20 09 26.8	-0.3
WAX	Waxell Ridge	5.15	82		Pn	20 09 27.1	+0.5
VNFG	Fog Glacier, M	5.15	224		Pn	20 09 27.2	-0.2
HDA	Harding Lake	5.15	32	P	Pn	20 09 27.1	-0.2
	baz=217,SNR=302						
HDA				S	Sn	20 10 24.0	-2.3
	baz=217						
HDA				S	Sn	20 10 24.0	-2.3
	baz=217						
HDA	Harding Lake	5.15	32		Pn	20 09 27.2	0.0
TGL	Tana Glacier	5.16	79		Pn	20 09 28.5	+1.0
KULT	Kultieth River	5.22	85		Pn	20 09 28.9	+0.6
VNWF	Veniaminof 8	5.26	223		Pn	20 09 28.8	0.0
PS08	TAPS Pump Stn8	5.29	31		Pn	20 09 28.9	-0.2
MENT	Mentasta	5.31	54		Pn	20 09 29.9	+0.6
RIDG	Independent Ri	5.32	44		Pn	20 09 30.2	+0.6
MDM	Murphy Dome	5.32	23		Pn	20 09 29.0	-0.6
TCOL	CIGO, UAF Yank	5.32	25	P	Pn	20 09 29.2	-0.2
	baz=210,SNR=43						
TCOL				S	Sn	20 10 28.5	-1.8
	baz=210						
TCOL	CIGO, UAF Yank	5.32	25		Pn	20 09 29.4	0.0
COLA	College	5.33	25		Pn	20 09 29.5	0.0
BARK	Barkley Ridge	5.33	83		Pn	20 09 29.9	+0.2
PTPK	Patty Peak	5.37	74		Pn	20 09 31.5	+1.1
PTPK					Sn	20 10 31.0	-0.7
ISLE	Juniper Island	5.40	81		Pn	20 09 31.8	+1.1
KIAG	Kiagna River	5.40	77		Pn	20 09 31.5	+0.8
BALM	Baldy	5.41	76		Pn	20 09 31.5	+0.7
IL31		5.46	30		Pn	20 09 31.0	-0.3
ILAR	Eielson Array	5.46	30	P	Pn	20 09 31.3	0.0
	42nm,0.3s,baz=217,slow=14,SNR=1404						
ILAR				S	Sn	20 10 30.6	-2.9
	11nm,0.3s,baz=208,slow=26,SNR=7.3						
ILAR	Eielson Array	5.46	30		Pn	20 09 30.7	-0.7
DOT	Dot Lake	5.54	47	Pn	Pn	20 09 32.7	+0.2
MESA	MESA	5.61	85		Pn	20 09 35.2	+1.7
POKR	Poker Plat Res	5.62	26	P	Pn	20 09 33.3	-0.2
	baz=211,SNR=59						
POKR				S	Sn	20 10 35.5	-2.0
	baz=211						
POKR	Poker Plat Res	5.62	26		Pn	20 09 33.5	0.0
PS07	TAPS Pump Stn7	5.63	21		Pn	20 09 33.4	-0.1
GRNC	Granite Creek	5.69	79		Pn	20 09 35.3	+0.7
YAH	Yahtse	5.70	83		Pn	20 09 36.5	+1.7
BARN	Barnard Glacie	5.75	76		Pn	20 09 36.9	+1.5
SCRK	Sand Creek	5.76	45	P	Pn	20 09 35.3	-0.2
	baz=233,SNR=50						
SCRK				S	Sn	20 10 38.7	-2.3
	baz=233						
SCRK	Sand Creek	5.76	45		Pn	20 09 35.2	-0.2
IM03		5.84	358		Pn	20 09 36.6	+0.3
IMAR	Indian Mountai	5.84	358		Pn	20 09 36.7	+0.3
CTGM	Chitina Glacie	5.90	77		Pn	20 09 39.0	+1.6
RKAV	Rock Avalanche	5.90	84		Pn	20 09 37.2	-0.2
PS06	TAPS Pump Stn6	5.92	14		Pn	20 09 37.6	+0.3
LOGN	Logan Glacier	6.06	79		Pn	20 09 39.5	+0.1
BC03		6.16	57		Pn	20 09 41.4	+0.8
BCAR	Beaver Creek A	6.16	57		Pn	20 09 41.0	+0.3
SDPT	Sand Point	6.21	222	Pn	Pn	20 09 39.5	-1.9
YUK2	White River	6.22	70		Pn	20 09 42.6	+1.0
BVCY	Beaver Creek	6.35	64		Pn	20 09 43.9	+0.8
CNBA	Chernabura Isl	6.38	216		Pn	20 09 42.6	-1.0
YUK3	Moose Creek	6.40	70		Pn	20 09 45.2	+1.2
PCA	Pinnacle	6.46	85	Pn	Pn	20 09 45.1	+0.4
PS4A	Pavlof South-4	6.70	228		Pn	20 09 48.0	+0.2
PS05	TAPS Pump Stn5	6.76	9		Pn	20 09 49.1	+0.6
BCPM	Bancas Point	6.79	86	Pn	Pn	20 09 51.6	+2.6
PNL	Peninsula	6.95	88		Pn	20 09 52.4	+1.2
DT1	Dutton Round H	7.04	228		Pn	20 09 52.1	-0.2
COLD	Coldfoot	7.21	9	P	Pn	20 09 53.8	-0.6
	baz=192,SNR=16						
COLD				S	Sn	20 11 13.8	-1.3
	baz=192						
COLD	Coldfoot	7.21	9		Pn	20 09 54.0	-0.4
EGAK	Eagle	7.23	45	Pn	Pn	20 09 54.8	0.0
FYU	Fort Yukon	7.34	26		Pn	20 09 55.9	-0.3
YUK6	Outpost Mounta	7.35	78		Pn	20 09 57.9	+1.2
DAWY	Dawson	7.55	53	Pn	Pn	20 10 00.1	+1.1
FALS	False Pass	7.66	230	Pn	Pn	20 10 00.8	+0.2
HYT	Haines Junctio	7.77	78		Pn	20 10 03.2	+1.1
HYT					Sn	20 11 27.8	-1.2
BM03	Burnt Mountain	8.20	24		Pn	20 10 06.6	-1.1
BMAR	Burnt Mountain	8.21	24		Pn	20 10 06.2	-1.6
PLBC	Pleasant Camp	8.51	88		Pn	20 10 13.3	+1.5
TOLK	Toolik Lake Re	8.64	9	P	Pn	20 10 14.3	+0.7
	baz=192						
TOLK	Toolik Lake Re	8.64	9		Pn	20 10 14.5	+1.0
SKAG	Skagway	9.02	87	Pn	Pn	20 10 22.0	+3.4
WHY	Whitehorse	9.07	79	Pn	Pn	20 10 20.2	+0.9
WHY					Sn	20 11 59.3	-0.7
AKUT	Akutan	9.12	234	Pn	Pn	20 10 19.2	-0.7
BESE	Bessie Mountai	9.49	92	Pn	Pn	20 10 29.5	+4.7
UNV	Unalaska Valle	9.63	235	Pn	Pn	20 10 25.1	-1.6
EPYK	Eagle Plains	9.65	43		Pn	20 10 27.6	+0.7
MNAT	Makushin Natee	9.68	235		Pn	20 10 25.8	-1.5
MSW	Makushin Switc	9.69	236		Pn	20 10 25.7	-1.8
MREP	Makushin Rep't	9.75	235		Pn	20 10 27.6	-0.7
JIS	Juneau Island	9.82	93	Pn	Pn	20 10 33.6	+4.5
SIT	Sitka	9.82	101	Pn	Pn	20 10 31.5	+2.3
CRAG	Craig	11.67	105	Pn	P	20 10 56.1	-4.0
DLBC	Dease Lake	11.94	88	P	P	20 11 01.5	-1.9
	0.8nm,0.3s,baz=295,slow=17,SNR=5.7						
DLBC				S	Sn	20 13 08.2	-0.9
	0.3nm,0.3s,baz=222,slow=15,SNR=1.6						
C36M	Paulatuk	15.27	41	P	Pn	20 11 38.0	-0.8
	baz=247						
C36M	Paulatuk	15.27	41	Pn	Pn	20 11 38.0	-0.8
ADK	Adak	15.46	248	Pn	P	20 11 41.7	-0.5
A36M	Sachs Harbour	16.16	32	P	P	20 11 50.2	+0.5
AMKA	Amchitka	17.68	252		Pn	20 12 07.1	-0.9
YKA	Yellowknife Ar	18.47	66	P	Pn	20 12 19.6	+2.4
	0.3nm,0.3s,baz=270,slow=11,SNR=5.3						
NVAR	Mina Array Bea	30.89	119	P	P	20 14 17.6	+4.3
	0.2nm,0.3s,baz=301,slow=8.1,SNR=5.6						
SPITS	Spitsbergen Ar	41.75	3	P	P	20 15 45.1	+0.6
	4.8nm,0.8s,baz=27,slow=7.0,SNR=9.4						
TXAR	Lajitas Array	45.13	110	P	P	20 16 16.2	+3.9
	0.1nm,0.3s,baz=306,slow=7.7,SNR=2.2						
SONM	Songino Array	54.61	306	P	P	20 17 24.7	+1.2
	0.4nm,0.5s,baz=31,slow=5.9,SNR=1.9						
ZALV	Zalesovo Beam	57.18	323	P	P	20 17 42.3	+0.8
	1.8nm,0.5s,baz=31,slow=7.1,SNR=7.1						
ZALV	Zalesovo Beam	57.18	323	P	P	20 17 42.2	+0.7
FINES	FINESS Array B	58.71	0	P	P	20 17 54.0	+1.9
	1.3nm,0.8s,baz=358,slow=8.0,SNR=5.2						
ARU	Arti	61.05	340	P	P	20 18 08.6	+0.5
	1.4nm,0.4s,baz=27,slow=9.0,SNR=8.5						
MKAR	Makanchi Array	64.24	321	P	P	20 18 29.7	+0.3
	0.7nm,0.5s,baz=34,slow=6.4,SNR=8.7						

*IDC **19** 21:02:28.1±2.4, 28°.65S×178°.09W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/34, mbtmp3.8/2, Error ellipse: s-maj=61.7km s-min=15.6km az=58.0*

*NEIC **19** 21:02:33.6±1.4, 28°.78S±0°.09×178°.0W±0°.2, h54km±12km, mb4.1/7, Error ellipse: s-maj=27.3km s-min=13.3km az=95.0*

ISC 19 21:02:34.5±1.1, 28°.8S±0°.1×178°.1W±0°.1, h50km, n22, σ1§11/24, mb4.0/6, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.46	155	Pn	Pn	21 02 44.5	-0.8
	244nm,0.3s,baz=35,slow=20,SNR=35						
RAO				Sn	Sn	21 02 54.6	+1.6
	2μm,0.3s,baz=82,slow=22,SNR=24						
RAO	Raoul Island	0.46	155		Pn	21 02 44.5	-0.8
RAO					Sn	21 02 53.6	+0.6
OUZ	Omahuta	9.47	226	Pn	Pn	21 04 48.0	-0.2
URZ	Urewera	10.20	202	Pn	Pn	21 04 58.2	0.0
HIZ	Hauiti	11.27	209	Pn	Pn	21 05 12.9	0.0
BHW	Baring Head	13.78	203	Pn	Pn	21 05 50.0	+3.0
NNZ	Nelson	14.16	207	Pn	Pn	21 05 51.1	-1.1
QRZ	Quartz Range	14.19	210	Pn	Pn	21 05 54.4	+1.7
CMWZ	Cape Campbell	14.30	204	Pn	Pn	21 05 53.9	-0.3
ARMA	Armidale	26.29	259	P	P	21 08 05.4	-0.2
ARMA				IAmb	IAmb	21 08 11.4	
	comp=Z,7.3nm,1.1s						
TAU	Tasmania Unive	31.07	234	P	P	21 08 47.0	-0.9
ASAR	Alice Springs	43.09	265	P	P	21 10 29.9	-0.1
	comp=Z,0.6nm,0.5s,baz=103,slow=6.8,SNR=15						
WR0	Warramunga Arr	43.75	271	P	P	21 10 35.6	+0.3
WR0				IAmb	IAmb	21 10 42.2	
	comp=Z,2.6nm,1.0s						
WRAB	Tennant Creek	43.93	271	P	P	21 10 36.1	-0.7
WRA	Warramunga Arr	43.94	271	P	P	21 10 37.9	+1.1
	comp=Z,1.3nm,0.6s,baz=110,slow=7.9,SNR=20						
WRA	Warramunga Arr	43.94	271	P	P	21 10 37.1	+0.2
WB0	Warramunga Arr	43.95	271	P	P	21 10 36.6	-0.3
WB0				IAmb	IAmb	21 10 53.3	
	comp=Z,4.5nm,1.1s						
QSPA	South Pole Qui	61.27	180	P	P	21 12 43.4	-1.0
QSPA				IAmb	IAmb	21 12 47.9	
	comp=Z,2.5nm,1.0s						
DAV	Davao City (W)	64.87	294	⇑eP	P	21 13 10.5	+1.6
FINES	FINESS Array B	143.64	341	PKP	PKPdf	21 22 01.9	-1.3
	comp=Z,2.2nm,0.4s,baz=58,slow=4.1,SNR=36						
MMAI	Mount Meron Ar	151.00	287	PKPbc	PKiKP	21 22 23.2	+0.4
	comp=Z,0.6nm,0.4s,baz=64,slow=9.8,SNR=2.0						
CLL	Collm	156.04	343	ePKPab	PKPab	21 22 51.0	+0.6

*MAN **19** 21:12:03.0, 10°.46N×125°.03E, h9km, mb5.5, ML4.5, MS4.7*

MAN Intensity III- Sogod Southern Leyte PIVS 2014 0919215934.43 6.886 125.093 6 114.4 5.4 4.6 0.21 .004 .005 0.46 F Intensity III - Makilala North Cotabato; Intensity II - M""lang and Matalam North Cotabato; Kidapawan City.

*IDC **19** 21:12:09.9±2.6, 10°.50N×125°.15E, h64km±25km, mb4.1/21, mb1 4.2/23, mb1mx4.0/48, mbtmp4.4/23, ML4.2/2, MS3.4/14, Ms1 3.4/14, ms1mx3.2/46, Error ellipse: s-maj=19.4km s-min=9.8km az=84.0*

*NEIC **19** 21:12:10.9±1.5, 10°.49N±0°.08×125°.05E±0°.10, h78km±7km, mb4.5/59, Error ellipse: s-maj=14.2km s-min=11.7km az=72.0*

*DJA **19** 21:12:11.9±0.9, 11°.N±6°.×12°.5E±°, h84km±7km, M4.1/18, mb4.6/18, mB5.0/5, MLv3.8/2, Mw(mB)4.3/5*

ISC 19 21:12:05.5±1.1, 10°.54N±0°.03×125°.04E±0°.04, h26km±8km, n149, σ1§95/149, mb4.5/54, MS3.4/16, 2C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.44	204	eP	Pb	21 12 11.4	-3.5
MSLP				eS	Sb	21 12 20.1	-1.1
OCLP	Ormoc	0.67	320	eP	Pb	21 12 17.2	-1.4
OCLP				eS	Sb	21 12 28.1	+0.7
LLP	Lapu-Lapu	1.08	258	⇓eP	Pn	21 12 22.7	-2.3
LLP				i S	Sb	21 12 38.8	-0.5
BESP	Borongan	1.12	20	eP	Pn	21 12 23.9	-1.6
BESP				eS	Sn	21 12 43.0	+2.9
TBP	Tagbilaran	1.44	234	⇑eP	Pb	21 12 31.7	0.0
TBP				eS	Sb	21 12 54.3	+4.8
CNP	Cataman	2.00	349	eP	Pn	21 12 38.3	+0.8
CNP				eS	Sb	21 13 07.8	+2.3
GUIM	Jordan	2.42	272	eP	Pn	21 12 42.8	-0.5
GUIM				eS	Sb	21 13 15.9	-1.8
CNOP	Candoni, Negro	2.47	254	eP	Pn	21 12 43.5	-0.6
CNOP				eS	Sb	21 13 17.4	-1.8
BUKP	Musuan	2.64	180	eP	Pn	21 12 45.1	-1.4
BUKP				eS	Sb	21 13 23.2	-1.1
JAP	San Jose, Anti	3.05	274	⇓eP	Pn	21 12 53.9	+1.8
PAGZ	Pagadian	3.14	212	eP	Pn	21 12 52.8	-0.4
PAGZ				eS	Sn	21 13 30.2	+0.4
PVCP	Virac	3.16	344	eP	Pn	21 12 56.9	+3.3
PVCP				eS	Sb	21 13 36.9	-2.2
OTRP	Odiongan	3.47	302	eP	Pn	21 12 59.0	+1.1
DAV	Davao City (W)	3.49	171	P	Pn	21 13 01.6	+3.5
	80nm,0.3s,baz=36,slow=1.8,SNR=9.1						
DAV				LR	LR	21 14 39.8	
	comp=Z,1μm,19.1s,baz=5.0,slow=44						
DAV	Davao City (W)	3.49	171		Pn	21 13 01.9	+3.8
MATI	Mati	3.77	161	eP	Pn	21 13 02.3	+0.4
MATI				eS	Sb	21 13 50.5	-6.1
CUYO	Cuyo Island	3.97	275	eP	Pn	21 13 05.1	+0.4
DDMP	Don Marcelino,	4.46	171	eP	Pn	21 13 13.3	+1.9
DDMP				eS	Sb	21 14 19.0	+2.6
TGY	Tagaytay City	5.35	312	LR	LR	21 15 49.9	
	comp=Z,601nm,20.7s,baz=150,slow=40						
MYLDM	Lahad Datu	8.39	231	Pn	Pn	21 14 09.3	+3.8
KKM	Kota Kinabalu	9.81	244	Pn	Pn	21 14 28.5	+3.4
KMSI	Cibinong	9.96	186	P	Pn	21 14 27.3	+0.4
TNTI	Ternate	9.97	166	P	Pn	21 14 32.8	+5.6
	48nm,1.3s						
TNTI	Ternate	9.97	166	Pn	Pn	21 14 29.1	+1.9
GTOI	Gorontalo	10.04	192	P	Pn	21 14 33.4	+5.2
	25nm,1.1s						
LUWI	Luwuk	11.72	191	P	Pn	21 14 57.5	+6.3
	4μm73nm,1.1s						
LUWI	Luwuk	11.72	191	Pn	Pn	21 14 54.5	+3.3
SANI	Sanana	12.54	176	P	Pn	21 14 56.6	-5.8
MSAI	Masohi	14.33	164	P	P	21 15 37.7	+4.1
SBUM	Sibu	15.06	239	Pn	P	21 15 40.4	-1.3
MTKI	Muara Teweh, K	15.23	222	P	P	21 15 45.6	+1.9
	1μm12nm,1.9s						
SPSI	Sidrap Palu	15.34	200	P	P	21 15 44.0	-0.8
	29nm,0.9s						
KAPI	Kappang	16.32	199	P	P	21 15 55.6	-0.1
	0.3nm,0.3s,baz=89,slow=9.5,SNR=2.0						
KAPI				LR	LR	21 22 09.8	
	comp=Z,117nm,21.6s,baz=10,slow=37						
KAPI	Kappang	16.32	199	IAmb	IAmb	21 16 08.8	
	comp=Z,30nm,1.1s						
QIZ	Qiongzhong	16.94	302	P	Pn	21 16 01.0	+0.2
QIZ				S	Sn	21 18 59.4	-9.0
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.7s						
QIZ				LR	LR		
	comp=N,170nm,12.3s						
QIZ				LR	LR		
	comp=E,210nm,16.7s						
QIZ				LR	LR		
	comp=Z,250nm,17.8s						
EDFI	Ende, Flores	19.45	190	P	Pn	21 16 38.8	+7.1
GUMO	Guam	19.62	79	LR	LR	21 22 21.7	
	comp=Z,124nm,21.9s,baz=309,slow=31						
SOEI	Soe	20.18	182	P	Pn	21 16 47.0	+6.7
BATI	Baumata	20.66	184	P	Pn	21 16 45.0	-0.8
	comp=Z,57nm,0.9s,baz=178,slow=5.9,SNR=8.5						
BATI	Baumata	20.66	184	P	Pn	21 16 46.1	+0.3
	comp=Z,37nm,1.0s						
TWSI	Taliwang, Sumb	20.80	203	P	Pn	21 16 46.9	-0.6
	comp=Z,25nm,1.1s						
JSU	Suzuyama	21.46	13	P	P	21 16 53.5	+1.6
JSU				IAmb	IAmb	21 16 59.9	
	comp=Z,46nm,1.1s						
JAGI	Jajag, Banyuwa	21.77	210	P	P	21 16 55.8	+0.3
JAGI				IAmb	IAmb	21 17 04.8	
	comp=Z,34nm,0.9s						
NJ2	Nanjing	22.16	346	eP	P	21 17 01.9	+2.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WHN	Wuhan	22.25	335	P	P	21 17 09.4	+8.9
WHN				S	Sn	21 21 17.1	+0.7
WHN				pmax	pmax		
	comp=Z,32nm,0.9s						
WHN				LR	LR		
	comp=Z,830nm,13.6s						
SLVN	Son La	22.95	300	P	P	21 17 10.0	+1.9
WOJI	Wonogiri, Jawa	23.04	218	P	P	21 17 08.2	-0.7
JNU	Nakatsue	23.11	13	P	P	21 17 10.3	+0.8
	comp=Z,14nm,1.0s,baz=59,slow=11,SNR=2.2						
JNU	Nakatsue	23.11	13	P	P	21 17 09.2	-0.3
JNU				IAmb	IAmb	21 17 16.1	
	comp=Z,18nm,1.0s						
GYA	Guiyang	23.50	315	⇑P	P	21 17 15.4	+1.9
GYA				sP	sP	21 17 42.1	+18
GYA				S	S	21 21 19.0	-6.9
GYA				sS	Sn	21 21 48.5	+2.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,82nm,3.5s						
GYA				LR	LR		
	comp=N,220nm,4.3s						
GYA				LR	LR		
	comp=E,120nm,5.8s						
GYA				LR	LR		
	comp=Z,98nm,4.9s						
MTN	Manton Dam	24.00	165	P	P	21 17 18.1	-0.2
MTN				IAmb	IAmb	21 17 34.2	
	comp=Z,20nm,1.1s						
PBKT	Sadao Pong	24.15	287	P	P	21 17 20.2	+0.5
LEM	Lembang	24.47	226	P	P	21 17 25.1	+2.3
	comp=Z,8.9nm,0.3s,baz=330,slow=20,SNR=1.7						
LEM				LR	LR	21 27 40.0	
	comp=Z,102nm,18.1s,baz=116,slow=38						
IPM	Ipoh	24.55	258	P	P	21 17 22.2	-1.2
JHS	Saijyo	25.44	16	P	P	21 17 29.4	-1.9
JHS				IAmb	IAmb	21 17 36.9	
	comp=Z,15nm,1.1s						
JHJ	Hachijo jima 2	26.25	29	LR	LR	21 27 56.3	
	comp=Z,31nm,18.4s,baz=94,slow=36						
KNRA	Kununurra	26.31	172	P	P	21 17 39.1	-0.1
JWT	Wachi	26.38	19	P	P	21 17 40.4	+0.7
CMAR	Chiang Mai Arr	26.44	290	P	P	21 17 42.9	+2.4
	comp=Z,2.4nm,0.9s,baz=101,slow=7.2,SNR=14						
CMAR				LR	LR	21 28 21.3	
	comp=Z,88nm,19.0s,baz=172,slow=37						
CMAR	Chiang Mai Arr	26.44	290	P	P	21 17 41.7	+1.2
KSAR	Wonju Array Be	26.91	5	P	P	21 17 45.0	+0.5
KSRS	Korea Array	26.92	5	P	P	21 17 45.4	+0.8
	comp=Z,4.5nm,0.7s,baz=182,slow=9.8,SNR=24						
KSRS				LR	LR	21 27 52.7	
	comp=Z,55nm,21.7s,baz=203,slow=35						
INU	Inuyama	27.00	22	P	P	21 17 46.4	+1.2
PSI	Prapat	27.04	255	P	P	21 17 46.7	+0.7
	comp=Z,4.5nm,0.5s,baz=0.8,slow=6.2,SNR=3.1						
PSI				LR	LR	21 29 25.0	
	comp=Z,77nm,19.1s,baz=89,slow=38						
RPSI	Rantau Prapat	27.07	255	P	P	21 17 46.7	+0.5
MNSI	Mandailing Nat	27.10	251	P	P	21 17 38.8	-7.6
XAN	Xi'an	27.66	330	P	P	21 17 51.0	-0.3
XAN				pP	sP	21 18 15.4	+13
XAN				sP	PnPn	21 18 28.4	-9.0
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,160nm,6.1s						
XAN				LR	LR		
	comp=E,190nm,18.4s						
XAN				LR	LR		
	comp=Z,260nm,16.3s						
XAN	Xi'an	27.66	330	P	P	21 17 51.2	-0.1
LHMI	Lhok Sumawe	28.32	261	P	P	21 17 56.7	-0.7
FITZ	Fitzroy Crossi	28.46	179	P	P	21 17 57.2	-1.3
	comp=Z,4.4nm,1.0s,baz=1.8,slow=9.3,SNR=8.6						
FITZ	Fitzroy Crossi	28.46	179	P	P	21 17 57.9	-0.6
MJAR	Matsushiro Arr	28.50	23	P	P	21 17 57.7	-1.1
	comp=Z,2.0nm,0.8s,baz=195,slow=9.1,SNR=6.1						
MJAR				LR	LR	21 29 51.5	
	comp=Z,36nm,18.5s,baz=195,slow=37						
MJAR	Matsushiro Arr	28.50	23	IAmb	IAmb	21 18 00.3	
	comp=Z,1.5nm,0.8s						
GSI	Gunungsitoli	28.79	253	P	P	21 17 59.4	-2.2
GSI				IAmb	IAmb	21 18 05.5	
	comp=Z,18nm,0.9s						
JMM	Marumori	30.67	25	P	P	21 18 19.7	+1.8
JMM				IAmb	IAmb	21 18 29.1	
	comp=Z,14nm,1.1s						
WB0	Warramunga Arr	31.49	163	P	P	21 18 24.0	-1.4
WRAB	Tennant Creek	31.64	163	P	P	21 18 25.5	-1.1
WRAB				IAmb	IAmb	21 18 27.2	
	comp=Z,7.0nm,1.0s						
WRA	Warramunga Arr	31.64	163	P	P	21 18 25.1	-1.6
	comp=Z,3.4nm,1.0s,baz=346,slow=9.2,SNR=17						
WRA				PcP	PcP	21 21 16.9	-1.6
	comp=Z,0.7nm,0.7s,baz=340,slow=2.9,SNR=4.9						
WRA	Warramunga Arr	31.64	163	P	P	21 18 25.3	-1.4
WB2	Warramunga Arr	31.65	163	P	P	21 18 25.4	-1.3
WB2				IAmb	IAmb	21 18 27.3	
	comp=Z,8.0nm,1.0s						
WR0	Warramunga Arr	31.72	163	P	P	21 18 26.3	-1.0
WR0				IAmb	IAmb	21 18 27.9	
	comp=Z,7.5nm,1.1s						
LZH	Lanzhou	31.88	326	eP	P	21 18 29.6	+0.8
LZH				pP	sP	21 18 45.8	+5.8
LZH				sP	pP	21 18 54.5	+18
LZH				ePP	PnPn	21 19 28.4	-5.5
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,68nm,5.2s						
LZH				LR	LR		
	comp=N,210nm,13.1s						
LZH				LR	LR		
	comp=E,230nm,13.0s						
LZH				LR	LR		
	comp=Z,330nm,16.3s						
PSA00	Pilbara Seismi	32.32	189	P	P	21 18 31.9	-0.7
PSA00				IAmb	IAmb	21 18 33.9	
	comp=Z,7.5nm,0.9s						
HHC	Hu-ho-hao-te	32.45	341	eP	P	21 18 34.6	+0.9
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,4.7s						
HHC				LR	LR		
	comp=N,130nm,13.7s						
HHC				LR	LR

WMQ LR LR
comp=Z,59nm,22.7s
WMQ Urumqi 46.27 323 P **P 21 20 25.7 -3.2**
PETK Petropavlovsk- 49.90 25 P **P 21 20 58.6 +1.9**
comp=Z,3.9nm,0.7s,baz=177,slow=7.4,SNR=4.1
PETK Petropavlovsk- 49.90 25 P **P 21 20 57.3 +0.6**
MK31 Makanchi Array 51.09 323 P **P 21 21 05.6 -0.2**
MK31 IAmb IAmb 21 21 09.7
comp=Z,3.3nm,0.8s
MKAR Makanchi Array 51.09 323 P **P 21 21 06.8 +1.0**
comp=Z,3.3nm,0.7s,baz=126,slow=8.2,SNR=23
MKAR Makanchi Array 51.09 323 P **P 21 21 05.9 +0.1**
MAKZ Makanchi 51.28 323 P **P 21 21 06.9 -0.4**
MAKZ IAmb IAmb 21 21 11.1
comp=Z,6.0nm,1.1s
DZM Mont Dzumac 51.95 129 P **P 21 21 11.8 -0.9**
ZAA0 Zalesovo Array 53.82 332 IAmb IAmb 21 21 26.5
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 53.82 332 P **P 21 21 25.8 -0.1**
comp=Z,4.7nm,0.7s,baz=119,slow=6.7,SNR=19
ZALV LR LR 21 46 49.6
comp=Z,32nm,19.2s,baz=69,slow=39
ZALV Zalesovo Beam 53.82 332 P **P 21 21 25.4 -0.5**
KURK Kurchatov 55.17 326 P **P 21 21 36.5 +0.8**
GAR Garm 56.20 310 P **P 21 21 43.4 -0.1**
GAR IAmb IAmb 21 21 57.4
comp=Z,7.3nm,0.9s
CHGR Chuyangaron 56.99 309 P **P 21 21 49.0 -0.1**
CHGR IAmb IAmb 21 21 51.0
comp=Z,6.0nm,0.9s
KK31 Karatay Array 57.21 315 P **P 21 21 49.9 -0.6**
KK31 IAmb IAmb 21 21 53.7
comp=Z,2.6nm,0.8s
KKAR Karatay Array 57.21 315 P **P 21 21 50.5 -0.1**
KKAR Karatay Array 57.21 315 P **P 21 21 50.3 -0.2**
KKAR IAmb IAmb 21 21 53.7
comp=Z,2.6nm,0.8s
AMKA Amchitka 59.89 36 P **P 21 22 09.3 +0.3**
BRVK Borovoye 60.83 326 P **P 21 22 15.8 +0.3**
BRVK IAmb IAmb 21 22 16.6
comp=Z,5.2nm,1.1s
TIXI Tiksi 61.11 1 P **P 21 22 17.1 +0.2**
HRA Herat 61.71 303 P **P 21 22 22.4 +0.4**
NRIK Noril'sk 63.46 346 P **P 21 22 32.6 -0.2**
comp=Z,4.6nm,0.8s,baz=97,slow=6.3,SNR=4.9
JOHN Johnston Islan 63.65 77 P **P 21 22 33.6 -1.3**
ATKA Atka Island 63.97 37 P **P 21 22 35.5 -0.8**
ABKAR Abkulak array 65.89 319 P **P 21 22 48.8 -0.1**
ABKAR Abkulak array 65.89 319 P **P 21 22 48.1 -0.9**
ABKAR IAmb IAmb 21 22 56.2
comp=Z,2.0nm,0.9s
RDOG Red Dog Mine 73.60 22 P **P 21 23 36.0 -0.2**
RDOG IAmb IAmb 21 23 42.0
comp=Z,9.1nm,1.0s
IMAR Indian Mountai 76.86 25 P **P 21 23 55.4 +0.4**
BPAW Bear Paw Mtn. 77.96 27 P **P 21 24 01.3 +0.2**
BPAW IAmb IAmb 21 24 07.9
comp=Z,8.8nm,1.1s
TOLK Toolik Lake Re 78.58 22 P **P 21 24 04.3 -0.2**
TOLK IAmb IAmb 21 24 09.9
comp=Z,8.8nm,0.9s
ILAR Eielson Array 79.72 26 P **P 21 24 10.8 0.0**
comp=Z,1.0nm,0.7s,baz=248,slow=5.5,SNR=10
ILAR Eielson Array 79.72 26 P **P 21 24 09.6 -1.2**
BMAR Burnt Mountain 80.49 23 P **P 21 24 15.7 +0.7**
RIDG Independent Ri 80.68 27 P **P 21 24 16.1 +0.1**
RIDG IAmb IAmb 21 24 28.2
comp=Z,5.2nm,1.0s
BCAR Beaver Creek A 82.12 27 P **P 21 24 23.5 -0.2**
BRTR Keskin Array B 84.43 309 P **P 21 24 36.0 -0.2**
comp=Z,0.7nm,0.9s,baz=79,slow=7.6,SNR=1.7
BRTR LR LR 22 07 04.5
comp=Z,11nm,19.1s,baz=110,slow=39
FINES FINESS Array B 85.08 332 P **P 21 24 37.8 -1.0**
comp=Z,1.8nm,0.9s,baz=48,slow=6.2,SNR=2.4
FINES FINESS Array B 85.08 332 P **P 21 24 36.9 -1.9**
WHY Whitehorse 85.79 29 P **P 21 24 42.1 -0.4**
WHY IAmb IAmb 21 24 57.8
comp=Z,7.1nm,1.1s
KMBO Kilima Mbogo 88.03 268 LR LR 22 04 56.2
comp=Z,33nm,18.1s,baz=95,slow=36
VNDA Vanda 90.35 173 P **P 21 25 03.6 -0.1**
comp=Z,4.2nm,1.0s,baz=318,slow=5.7,SNR=16
VNDA Vanda 90.35 173 P **P 21 25 03.8 +0.1**
TXAR Lajitas Array 118.56 48 PKP **PKiKP 21 30 52.2 +0.3**
comp=Z,0.4nm,0.7s,baz=36,slow=1.7,SNR=2.8
TORD Torodi Ar. Bea 119.05 291 PKP **PKPdf 21 30 51.5 -1.5**
comp=Z,0.5nm,0.6s,baz=69,slow=1.8,SNR=3.7
PLCA Paso Flores 146.92 158 PKPbc **PKPbc 21 31 45.6 -0.4**
comp=Z,3.6nm,0.8s,baz=345,slow=2.4,SNR=6.5

*BJI **19** 21:33:04.7±0.0, 0.°64N×146.°47E, h10km, mB5.1/31, mb4.6/38, Ms4.6/14, Ms7 4.3/15*
*IDC **19** 21:33:07.7±0.7, 0.°79N×146.°24E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/40, mbtmp4.3/20, ML2.8/2, MS3.8/20, Ms1 3.8/20, ms1mx3.6/32, Error ellipse: s-maj=22.3km s-min=12.0km az=93.0*
*NEIC **19** 21:33:08.8±1.8, 0.°89N±0.°07×146.°07E±0.°08, h10km±1km, mb4.7/36, Error ellipse: s-maj=13.3km s-min=12.3km az=115.0*
*GCMT **19** 21:33:12.8±0.3, 0.°83N±0.°02×146.°15E±0.°02, h19km±1km, MW4.8/85, Moment Tensor Solution. s15,c16; s85,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.28±.10; $M_{\theta\theta}$0.41±.09; $M_{\phi\phi}$-0.69±.10; $M_{r\theta}$0.01±.18; $M_{\theta\phi}$1.99±.08; $M_{\phi r}$0.01±.17; Best double couple: $M_0$2.06400×10^{16} NP1:ϕ_s8.00000°, δ90.00000°, λ180.00000°. NP2: ϕ_s98.00000°, δ90.00000°, λ0.00000°. Principal axes: T 1.9210, Plg0.0000°, Azm323.0000°; N 0.2850, Plg90.0000°, Azm138.0000°; P -2.2070, Plg0.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 21:33:09.1±0.4, 0.°76N±0.°06×146.°15E±0.°06, h10km, n95, σ1§62/82, mb4.6/40, MS3.8/25, 1D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.34**	**239**	Pn	**Pn**	**21 34 42.5**	**-0.3**
	1.3nm,0.3s,baz=223,slow=6.1,SNR=5.7						
JAY				Sn	**Sn**	**21 35 49.5**	**-5.9**
	2.3nm,0.3s,baz=20,slow=17,SNR=1.6						
KRVT	**Keravat (AS076**	**7.73**	**131**	Pn	**Pn**	**21 35 01.9**	**0.0**
	11nm,0.3s,baz=146,slow=7.1,SNR=9.5						
KRVT				LR	LR	21 37 45.1	
	comp=Z,2μm,20.7s,baz=318,slow=36						
RABL	**Rabaul**	**7.76**	**129**	Pn	**Pn**	**21 35 03.8**	**+1.4**
PMG	**Port Moresby**	**10.15**	**174**	Pn	**Pn**	**21 35 36.9**	**+1.8**
	1.3nm,0.3s,baz=339,slow=14,SNR=1.7						
PMG				LR	LR	21 38 44.4	
	comp=Z,224nm,19.9s,baz=274,slow=33						
PMG	**Port Moresby**	**10.15**	**174**	Pn	**Pn**	**21 35 36.1**	**+1.1**
GUMO	**Guam**	**12.81**	**354**	Pn	Pn	21 36 06.0	-5.5
PATS	**Pohnpei**	**13.55**	**63**	Pn	**Pn**	**21 36 18.8**	**-2.8**
FAKI	**Fak Fak**	**14.37**	**255**	Pn	**Pn**	**21 36 32.4**	**-0.4**
COEN	**Coen**	**14.92**	**191**	Pn	**Pn**	**21 36 41.1**	**+0.8**
MTN	**Manton Dam**	**20.11**	**227**	P	**P**	**21 37 43.2**	**-0.2**
CTA	**Charters Tower**	**20.72**	**180**	P	Pn	21 37 51.6	-0.7
	4.7nm,0.9s,baz=344,slow=69,slow=1.8,SNR=4.8						
WB0	**Warramunga Arr**	**23.43**	**209**	P	**P**	**21 38 18.3**	**-0.5**
WB0				IAmb	IAmb	21 38 21.0	
	comp=Z,16nm,1.0s						
LUWI	**Luwuk**	**23.45**	**266**	P	**P**	**21 38 16.7**	**-2.3**
LUWI				IAmb	IAmb	21 38 34.6	
	comp=Z,30nm,0.9s						
WR0	**Warramunga Arr**	**23.53**	**208**	P	**P**	**21 38 19.3**	**-0.3**
WR0				IAmb	IAmb	21 38 22.7	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**23.59**	**209**	P	**P**	**21 38 20.0**	**-0.3**
WRAB				IAmb	IAmb	21 38 28.9	
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**23.60**	**209**	P	**P**	**21 38 20.2**	**-0.3**
WB2				IAmb	IAmb	21 38 29.0	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**23.61**	**209**	P	**P**	**21 38 20.2**	**-0.3**
	comp=Z,16nm,0.8s,baz=31,slow=11,SNR=69						
KNRA	**Kununurra**	**23.70**	**226**	P	**P**	**21 38 21.3**	**-0.1**
KNRA				IAmb	IAmb	21 38 23.3	
	comp=Z,17nm,0.8s						
SOEI	**Soe**	**24.16**	**244**	P	**P**	**21 38 24.8**	**-1.1**
SOEI				IAmb	IAmb	21 38 40.3	
	comp=Z,25nm,0.9s						
BATI	**Baumata**	**24.89**	**243**	P	**P**	**21 38 34.0**	**+1.5**
	comp=Z,27nm,0.6s,baz=170,slow=1.5,SNR=4.8						
BATI				LR	LR	21 50 25.4	
	comp=Z,218nm,18.1s,baz=74,slow=42						
H11S3	**WAKE ISLAND Hy**	**26.78**	**48**	T	T	22 07 27.4	
	baz=228						
H11S2	**WAKE ISLAND Hy**	**26.79**	**48**	T	T	22 07 03.2	
	baz=228						
H11S1	**WAKE ISLAND Hy**	**26.80**	**48**	T	T	22 07 11.5	
	baz=228						
AS31	**Alice Springs**	**27.04**	**205**	P	**P**	**21 38 52.7**	**+0.8**
ASAR	**Alice Springs**	**27.04**	**205**	P	**P**	**21 38 52.6**	**+0.7**
	comp=Z,8.3nm,0.8s,baz=26,slow=13,SNR=36						
ASAR				LR	LR	21 50 02.1	
	comp=Z,273nm,19.7s,baz=28,slow=37						
ASAR	**Alice Springs**	**27.04**	**205**	P	**P**	**21 38 52.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.54**	**226**	P	**P**	**21 38 56.2**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=358,slow=6.6,SNR=18						
FITZ				LR	LR	21 50 16.6	
	comp=Z,320nm,18.2s,baz=76,slow=37						
FITZ	**Fitzroy Crossi**	**27.54**	**226**	P	**P**	**21 38 56.3**	**-0.1**
FITZ				IAmb	IAmb	21 39 15.1	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**32.74**	**187**	P	**P**	**21 39 42.5**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=338,slow=12,SNR=4.1						
STKA				LR	LR	21 54 34.5	
	comp=Z,194nm,18.2s,baz=353,slow=39						
BBOO	**Buckleboo**	**34.72**	**195**	P	**P**	**21 39 59.0**	**-0.5**
BBOO				IAmb	IAmb	21 40 14.3	
	comp=Z,10nm,1.1s						
JNU	**Nakatsue**	**35.25**	**337**	P	**P**	**21 40 03.8**	**-0.3**
	comp=Z,7.2nm,0.7s,baz=299,slow=2.3,SNR=4.9						
JNU	**Nakatsue**	**35.25**	**337**	P	**P**	**21 40 03.0**	**-1.0**
JNU				IAmb	IAmb	21 40 13.0	
	comp=Z,11nm,0.9s						
INU	**Inuyama**	**35.45**	**347**	P	**P**	**21 40 04.1**	**-1.6**
INU				IAmb	IAmb	21 40 18.3	
	comp=Z,8.9nm,0.7s						
JGF	**Kuroka**	**35.62**	**348**	P	P	21 40 00.9	-6.3
FORT	**Forrest**	**35.77**	**207**	P	**P**	**21 40 08.7**	**+0.1**
MSVF	**Nonsavu**	**36.38**	**122**	P	**P**	**21 40 14.9**	**+0.8**
MSVF				IAmb	IAmb	21 40 23.8	
	comp=Z,10nm,0.9s						
GIRL	**Giralia**	**38.82**	**231**	P	**P**	**21 40 35.9**	**+1.3**
QIZ	**Qiongzhong**	**39.95**	**299**	P	**P**	**21 40 45.3**	**+1.2**
QIZ				S	**S**	**21 46 47.8**	**-1.9**
QIZ				LR	LR		
	comp=Z,120nm,16.7s						
QIZ				LR	LR		
	comp=Z,140nm,23.0s						
QIZ				LR	LR		
	comp=Z,180nm,33.3s						
KSRS	**Korea Array**	**40.20**	**337**	P	**P**	**21 40 46.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=156,slow=9.4,SNR=9.5						
NJ2	**Nanjing**	**40.40**	**323**	*e*P	**P**	**21 40 47.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MORW	**Morawa**	**41.33**	**222**	P	**P**	**21 40 55.5**	**+0.1**
MORW				IAmb	IAmb	21 40 58.7	
	comp=Z,10.0nm,0.9s						
WHN	**Wuhan**	**42.28**	**317**	P	**P**	**21 41 06.9**	**+3.8**
WHN				*e*S	**S**	**21 47 30.0**	**+6.0**
WHN				LR	LR		
	comp=Z,730nm,15.2s						
USA0B	**Ussuriysk Arra**	**45.05**	**346**	P	**P**	**21 41 24.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**45.05**	**346**	P	**P**	**21 41 25.4**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=177,slow=7.7,SNR=12						
USRK	**Ussuriysk Ar.**	**45.05**	**346**	P	**P**	**21 41 25.3**	**+0.2**
GYA	**Guiyang**	**45.76**	**307**	||P	**P**	**21 41 32.3**	**+1.0**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN	**Xi'an**	**48.05**	**318**	P	P	21 41 57.3	+8.3
XAN				pP	pwP	21 42 07.0	+10
XAN				pmax	pmax		
	comp=Z,14nm,1.4s						
XAN				pmax	pmax		
	comp=Z,140nm,3.9s						
XAN				LR	LR		
	comp=E,230nm,19.5s						
XAN				LR	LR		
	comp=Z,340nm,21.7s						
URZ	**Urewera**	**48.17**	**147**	LR	LR	22 00 15.2	
	comp=Z,78nm,18.4s,baz=328,slow=34						
TUWZ	**Tuamarina**	**48.97**	**152**	P	**P**	**21 41 56.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**49.54**	**294**	P	**P**	**21 42 02.8**	**+2.2**
	comp=Z,2.8nm,0.8s,baz=115,slow=5.6,SNR=16						
CMAR				LR	LR	22 03 05.7	
	comp=Z,53nm,19.2s,baz=168,slow=36						
HHC	**Hu-ho-hao-te**	**50.72**	**326**	*e*P	**P**	**21 42 09.1**	**-0.3**
HHC				S	**S**	**21 49 24.6**	**-0.3**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,150nm,5.8s						
HHC				LR	LR		
	comp=Z,170nm,15.5s						
HHC				LR	LR		
	comp=Z,170nm,15.2s						
HHC				LR	LR		
	comp=Z,220nm,15.3s						
LZH	**Lanzhou**	**52.65**	**317**	*e*P	**P**	**21 42 24.3**	**+0.4**
LZH				pP	sP	21 42 27.5	+1.1
LZH				sP	pwP	21 42 29.3	-2.2
LZH				*e*PP	**PP**	**21 44 24.5**	**+1.3**
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,87nm,7.2s						
LZH				LR	LR		
	comp=Z,250nm,14.8s						
LZH				LR	LR		
	comp=Z,250nm,15.1s						
LZH				LR	LR		
	comp=Z,370nm,17.2s						
PEA0B	**Petropavlovsk-**	**53.05**	**9**	P	**P**	**21 42 25.4**	**-1.0**
PETK	**Petropavlovsk-**	**53.05**	**9**	P	**P**	**21 42 26.5**	**+0.1**
	comp=Z,5.4nm,0.7s,baz=149,slow=5.7,SNR=7.0						
PETK				PP	**PP**	**21 44 25.8**	**-0.4**
	comp=Z,9.8nm,1.0s,baz=76,slow=6.3,SNR=3.7						
PETK				LR	LR	22 01 01.5	
	comp=Z,33nm,21.0s,baz=241,slow=32						
GTA	**Gaotai**	**57.10**	**318**	*e*P	**P**	**21 42 56.8**	**+0.7**
GTA				pP	sP	21 43 00.8	+2.2
GTA				sP	pwP	21 43 04.0	+0.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,33nm,9.8s						
GTA				LR	LR		
	comp=Z,61nm,12.7s						
GTA				LR	LR		
	comp=Z,100nm,16.7s						
GTA				LR	LR		
	comp=Z,120nm,18.5s						
RAR	**Rarotonga**	**57.14**	**116**	LR	LR	22 03 19.5	
	comp=Z,92nm,21.0s,baz=266,slow=32						
SONM	**Songino Array**	**58.15**	**330**	P	**P**	**21 43 04.3**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=142,slow=8.1,SNR=9.0						
SONM				LR	LR	22 07 31.0	
	comp=Z,82nm,20.4s,baz=138,slow=36						
PALK	**Pallekele**	**65.55**	**278**	LR	LR	22 08 49.0	
	comp=Z,35nm,21.0s,baz=208,slow=33						
WMQ	**Urumqi**	**67.19**	**318**	*e*P	**P**	**21 44 04.6**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,9.0nm,3.7s						
WMQ				LR	LR		
	comp=Z,200nm,23.7s						
WMQ				LR	LR		
	comp=Z,410nm,27.1s						
WMQ				LR	LR		
	comp=Z,40nm,17.3s						
MK31	**Makanchi Array**	**71.81**	**320**	P	**P**	**21 44 30.8**	**-1.3**
MKAR	**Makanchi Array**	**71.81**	**320**	P	**P**	**21 44 32.7**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=103,slow=7.4,SNR=13						
MKAR				LR	LR	22 15 55.1	
	comp=Z,64nm,18.9s,baz=87,slow=36						
MKAR	**Makanchi Array**	**71.81**	**320**	P	**P**	**21 44 30.8**	**-1.3**
MAKZ	**Makanchi**	**72.01**	**319**	P	**P**	**21 44 32.3**	**-1.0**
MAKZ				IAmb	IAmb	21 44 43.3	
	comp=Z,5.8nm,1.0s						
ZALV	**Zalesovo Beam**	**72.89**	**327**	P	**P**	**21 44 37.3**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=122,slow=6.7,SNR=5.9						
ZALV				LR	LR	22 17 09.6	
	comp=Z,78nm,19.0s,baz=101,slow=36						
ZALV	**Zalesovo Beam**	**72.89**	**327**	P	**P**	**21 44 37.8**	**-0.6**
SVW2	**Sparrevohn**	**74.52**	**25**	P	**P**	**21 44 47.7**	**-0.1**
SVW2				IAmb	IAmb	21 45 00.7	
	comp=Z,7.0nm,1.2s						
TTA	**Tatalina**	**75.21**	**24**	P	**P**	**21 44 51.8**	**-0.1**
KURK	**Kurchatov**	**75.34**	**323**	P	**P**	**21 44 52.4**	**-0.4**
KURK				IAmb	IAmb	21 45 01.6	
	comp=Z,7.6nm,1.0s						
NIL	**Nilore**	**75.37**	**305**	P	**P**	**21 44 54.0**	**+0.6**
PPLA	**Purkeypile**	**76.76**	**24**	P	**P**	**21 45 00.5**	**-0.3**
PPLA				IAmb	IAmb	21 45 09.9	
	comp=Z,6.9nm,1.1s						
IMAR	**Indian Mountai**	**77.53**	**21**	P	**P**	**21 45 04.5**	**-0.4**
BPAW	**Bear Paw Mtn.**	**77.75**	**24**	P	**P**	**21 45 05.0**	**-1.2**
SML	**Sawmill**	**77.97**	**26**	P	**P**	**21 45 07.3**	**-0.2**
Q23K	**Middleton Isla**	**78.06**	**29**	P	**P**	**21 45 06.2**	**-1.7**
MID	**Middleton Isla**	**78.06**	**29**	P	**P**	**21 45 06.4**	**-1.6**
NRIK	**Noril'sk**	**78.62**	**342**	LR	LR	22 17 48.5	
	comp=Z,28nm,21.4s,baz=5.0,slow=34						
VNDA	**Vanda**	**78.67**	**177**	P	**P**	**21 45 11.1**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=311,slow=6.3,SNR=7.2						
VNDA				LR	LR	22 20 28.0	
	comp=Z,41nm,18.1s,baz=344,slow=36						
KBL	**Kabul**	**78.95**	**305**	P	**P**	**21 45 13.0**	**-0.7**
KBL				IAmb	IAmb	21 45 23.1	
	comp=Z,5.4nm,0.8s						
COLD	**Coldfoot**	**79.34**	**21**	P	**P**	**21 45 14.2**	**-0.7**
COLD				IAmb	IAmb	21 45 31.6	
	comp=Z,9.1nm,1.1s						
ILAR	**Eielson Array**	**79.65**	**24**	P	**P**	**21 45 15.7**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=247,slow=5.7,SNR=14						
ILAR				LR	LR	22 18 48.3	
	comp=Z,47nm,18.7s,baz=277,slow=34						
ILAR	**Eielson Array**	**79.65**	**24**	P	**P**	**21 45 15.3**	**-1.3**
MAW	**Mawson**	**88.13**	**202**	LR	LR	22 23 52.2	
	comp=Z,33nm,18.2s,baz=59,slow=34						
YKA	**Yellowknife Ar**	**93.61**	**27**	LR	LR	22 23 55.9	
	comp=Z,46nm,21.9s,baz=0.0,slow=33						
NVAR	**Mina Array Bea**	**93.89**	**52**	P	**P**	**21 46 27.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=276,slow=4.2,SNR=2.2						
PDAR	**Pinedale Array**	**99.95**	**46**	LR	LR	22 30 13.8	
	comp=Z,40nm,18.2s,baz=310,slow=34						
CLL	**Collm**	**114.77**	**330**	*e*SSSS		22 16 00.0	
CLL	**Collm**	**114.77**	**330**	*e*PP	**PP**	**21 52 41.0**	**-6.5**
CLL	**Collm**	**114.77**	**330**	*e*PS	PS	22 02 23.0	-3.8
CLL	**Collm**	**114.77**	**330**	*e*PPS	PPS	22 03 30.0	
CLL	**Collm**	**114.77**	**330**	*e*SS	SS	22 08 30.0	-12
CLL	**Collm**	**114.77**	**330**	*e*		22 14 30.0	
KIC	**Kosan Boka**	**150.10**	**284**	*e*PKIKP	**PKPab**	**21 53 09.7**	**+2.5**
	comp=Z,20nm,0.9s						
DBIC	**Dimbokro**	**150.14**	**285**	PKPbc	**PKPbc**	**21 53 01.7**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=65,slow=3.4,SNR=3.7						
TIC	**Toumodi**	**150.30**	**285**	*e*PKIKP	**PKPab**	**21 53 10.0**	**+1.9**
LIC	**Lamto**	**150.40**	**284**	*e*PKIKP	**PKPab**	**21 53 10.2**	**+1.7**
	comp=Z,26nm,0.9s						

*NEIC **19** 21:40:21.2±1.6, 4.°1N±0.°1×148.°66E±0.°07, h10km±1km, mb4.8/17, Error ellipse: s-maj=18.8km s-min=10.7km az=18.0*
*BJI **19** 21:40:23.3±0.0, 4.°12N×148.°12E, h10km, mB4.9/11, mb4.6/13, Ms4.5/4, Ms7 4.3/2*
*IDC **19** 21:40:58.0±0.8, 0.°74N×146.°29E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.3/40, mbtmp4.3/18, ML4.1/2, MS3.8/2, Ms1 3.8/2, ms1mx3.1/33, Error ellipse: s-maj=24.6km s-min=12.8km az=93.0*

ISC 19 21:40:59.7±0.6, 0.°59N±0.°08×146.°08E±0.°09, h10km, n44, σ1§73/35, mb4.4/23, MS4.0/6, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.19**	**240**	Pn	**Pn**	**21 42 32.6**	**+1.3**
	1.0nm,0.3s,baz=202,slow=23,SNR=1.4						
JAY				Sn	**Sn**	**21 43 39.1**	**-3.2**
	2.8nm,0.3s,baz=289,slow=19,SNR=2.0						
KRVT	**Keravat (AS076**	**7.68**	**129**	Pn	**Pn**	**21 42 51.3**	**-0.4**
	11nm,0.3s,baz=65,slow=7.7,SNR=10						
PMG	**Port Moresby**	**9.99**	**174**	Pn	Pn	21 43 30.5	+7.1
FAKI	**Fak Fak**	**14.26**	**256**	Pn	**P**	**21 44 28.2**	**-0.9**
MTN	**Manton Dam**	**19.95**	**227**	P	Pn	21 45 35.1	+1.3
MTN				IAmb	IAmb	21 45 53.7	
	comp=Z,14nm,0.8s						
CTA	**Charters Tower**	**20.55**	**180**	P	Pn	21 45 41.1	+0.2
	comp=Z,5.5nm,0.9s,baz=329,slow=14,SNR=4.3						
WB0	**Warramunga Arr**	**23.25**	**209**	P	**P**	**21 46 08.0**	**+0.5**
WB0				IAmb	IAmb	21 46 10.4	
	comp=Z,12nm,0.7s						
WR0	**Warramunga Arr**	**23.35**	**208**	P	**P**	**21 46 08.6**	**+0.2**
WR0				IAmb	IAmb	21 46 11.7	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**23.41**	**209**	P	**P**	**21 46 10.1**	**+1.0**
WB2	**Warramunga Arr**	**23.42**	**209**	P	**P**	**21 46 10.4**	**+1.2**
WB2				IAmb	IAmb	21 46 12.1	
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**23.43**	**209**	P	**P**	**21 46 10.3**	**+1.0**
	comp=Z,16nm,0.7s,baz=32,slow=10,SNR=94						
WRA	**Warramunga Arr**	**23.43**	**209**	P	**P**	**21 46 09.8**	**+0.5**
KNRA	**Kununurra**	**23.54**	**226**	P	**P**	**21 46 10.6**	**+0.3**
KNRA				IAmb	IAmb	21 46 12.3	
	comp=Z,14nm,0.7s						
SOEI	**Soe**	**24.02**	**244**	P	**P**	**21 46 12.2**	**-3.0**
BATI	**Baumata**	**24.75**	**244**	P	**P**	**21 46 23.8**	**+2.1**
	comp=Z,29nm,0.6s,baz=279,slow=5.1,SNR=5.5						
MMRI	**Maumere**	**25.46**	**248**	P	**P**	**21 46 23.1**	**-5.0**
AS31	**Alice Springs**	**26.86**	**205**	P	**P**	**21 46 40.5**	**-0.2**
ASAR	**Alice Springs**	**26.86**	**205**	P	**P**	**21 46 42.9**	**+2.1**
	comp=Z,6.8nm,0.8s,baz=37,slow=8.6,SNR=38						
ASAR	**Alice Springs**	**26.86**	**205**	P	**P**	**21 46 41.1**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**26.95**	**47**	T	T	22 15 02.8	
	baz=229						
H11S2	**WAKE ISLAND Hy**	**26.96**	**48**	T	T	22 14 48.9	
	baz=229						
H11S1	**WAKE ISLAND Hy**	**26.96**	**47**	T	T	22 14 54.1	
	baz=229						
FITZ	**Fitzroy Crossi**	**27.37**	**226**	P	**P**	**21 46 46.2**	**+0.9**
	comp=Z,7.6nm,0.7s,baz=359,slow=6.0,SNR=24						
FITZ	**Fitzroy Crossi**	**27.37**	**226**	P	**P**	**21 46 45.2**	**-0.2**
FITZ				IAmb	IAmb	21 46 47.6	
	comp=Z,9.3nm,0.8s						
DZM	**Mont Dzumac**	**30.04**	**140**	*e*LR	LR	21 47 14.8	
	comp=Z,608nm,25.3s						
STKA	**Stephens Creek**	**32.57**	**187**	P	**P**	**21 47 32.2**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=105,slow=20,SNR=1.9						
JNU	**Nakatsue**	**35.38**	**338**	P

GTA				pmax	pmax	
	comp=Z,89nm,5.8s					
GTA				LR	LR	
	comp=N,68nm,13.1s					
GTA				LR	LR	
	comp=E,73nm,13.1s					
GTA				LR	LR	
	comp=Z,77nm,15.3s					
SONM	**Songino Array**	**58.26**	**330**	P	**P**	**21 50 54.7 +0.1**
	comp=Z,1.9nm,0.8s,baz=144,slow=6.7,SNR=8.5					
MKAR	**Makanchi Array**	**71.88**	**320**	P	**P**	**21 52 23.3 +0.2**
	comp=Z,1.9nm,0.9s,baz=100,slow=6.3,SNR=8.5					
ZALV	**Zalesovo Beam**	**72.99**	**327**	P	**P**	**21 52 29.0 -0.5**
	comp=Z,0.4nm,0.4s,baz=115,slow=6.8,SNR=2.0					
VNDA	**Vanda**	**78.50**	**177**	P	**P**	**21 53 01.2 +0.6**
	comp=Z,0.9nm,0.8s,baz=318,slow=4.4,SNR=5.6					
ILAR	**Eielson Array**	**79.83**	**24**	P	**P**	**21 53 06.1 -2.1**
	comp=Z,1.2nm,0.8s,baz=247,slow=5.2,SNR=7.7					
DBIC	**Dimbokro**	**150.11**	**284**	PKPbc	**PKiKP**	**22 00 53.7 +0.9**

*IDC **19** 21:48:15.7±1.0, 34°.16N×25°.07E, h0km, mb3.8/9, mb1 3.9/17, mb1mx3.8/45, mbtmp3.8/17, ML4.0/7, MS2.5/1, Ms1 2.5/1, ms1mx2.0/33, Error ellipse: s-maj=17.1km s-min=12.6km az=69.0*
*ISK **19** 21:48:16.1, 34°.16N×25°.09E, h9km, ML3.5/9*
*ATH **19** 21:48:17.1, 34°.20N×25°.03E, h19km±3km, ML3.3/4, Error ellipse: s-maj=5.4km s-min=1.9km az=1.0*
*THE **19** 21:48:19.1, 34°.28N×25°.06E, h7km±3km, ML3.2/6, Error ellipse: s-maj=3.8km s-min=1.4km az=157.0*
*HLW **19** 21:48:21.4, 34°.00N×25°.42E, h11km±9km, Md3.7, Ml3.4*
*GII **19** 21:48:22.7±0.0, 34°.03N×25°.75E, h1km, MD3.4/1, Mm3.3/3*
*DDA **19** 21:48:27.8, 34°.55N×25°.80E, h9km±5km, ML3.4*

ISC 19 21:48:16.0±1.3, 34°.13N±0°.03×25°.15E±0°.03, h6km±9km, n112, σ2°.25/148, mb3.8/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.93**	**342**	P	**Pg**	**21 48 33.4**	**-0.5**
SIVA				S	**Sg**	**21 48 46.1**	**+0.1**
	7μm,0.7s						
SIVA	**Sivas**	**0.93**	**342**	P	**Pg**	**21 48 33.6**	**-0.3**
SIVA				S	**Sg**	**21 48 45.3**	**-0.7**
SIVA				AML	AML	21 48 52.6	
	comp=E,17187μm,0.6s						
SIVA				AML	AML	21 48 55.9	
	comp=N,9777μm,0.8s						
TMBK	**Timbaki Herakl**	**0.99**	**341**	P	**Pg**	**21 48 35.0**	**-0.1**
FRMA	**Ierapetra Chan**	**1.01**	**28**	P	**Pn**	**21 48 37.9**	**+1.3**
LAST	**Lasithi**	**1.07**	**15**	P	**Pg**	**21 48 36.6**	**+0.2**
LAST				S	**Sg**	**21 48 49.9**	**-0.4**
	comp=N,950nm,0.8s						
LAST	**Lasithi**	**1.07**	**15**	P	**Pg**	**21 48 36.7**	**+0.2**
LAST				S	**Sb**	**21 48 51.5**	**+0.4**
LAST				AML	AML	21 48 57.2	
	comp=E,1776μm,1.2s						
LAST				AML	AML	21 49 01.5	
	comp=N,2102μm,0.5s						
GVD	**Gavdhos**	**1.13**	**309**	P	**Pg**	**21 48 36.8**	**-0.8**
GVD				S	**Sg**	**21 48 51.1**	**-1.3**
	comp=N,3μm,0.4s						
GVD	**Gavdhos**	**1.13**	**309**	P	**Pg**	**21 48 36.9**	**-0.8**
GVD				S	**Sg**	**21 48 50.9**	**-1.5**
GVD				AML	AML	21 48 55.0	
	comp=E,6686μm,0.5s						
GVD				AML	AML	21 48 55.1	
	comp=N,5098μm,0.3s						
GVD	**Gavdhos**	**1.13**	**309**	PG	**Pg**	**21 48 36.8**	**-0.8**
GVD				SG	**Sg**	**21 48 52.2**	**-0.2**
GVDS	**Gavdos**	**1.13**	**309**	P	**Pg**	**21 48 37.0**	**-0.7**
GVDS				S	**Sb**	**21 48 52.8**	**-0.2**
	comp=N,2μm,0.4s						
GVDS	**Gavdos**	**1.13**	**309**	PN	**Pg**	**21 48 37.3**	**-0.4**
GVDS				SN	**Sb**	**21 48 52.7**	**-0.2**
KSTL	**Kastelli Herak**	**1.18**	**357**	P	**Pg**	**21 48 37.4**	**-1.1**
IDI	**Anoyia**	**1.18**	**349**	Pg	**Pg**	**21 48 37.7**	**-0.9**
	comp=N,33nm,0.3s,baz=214,slow=9.3,SNR=92						
IDI				Lg	Lg	21 48 53.8	
	comp=N,70nm,0.3s,baz=66,slow=16,SNR=16						
IDI				LR	LR	21 49 04.6	
	comp=N,132nm,19.0s,baz=95,slow=43						
IDI	**Anoyia**	**1.18**	**349**	P	**Pg**	**21 48 37.4**	**-1.1**
IDI				S	**Sg**	**21 48 51.1**	**-2.8**
	comp=N,598nm,0.7s						
IDI	**Anoyia**	**1.18**	**349**	P	**Pg**	**21 48 37.5**	**-1.1**
IDI				AML	AML	21 48 59.8	
	comp=E,936μm,0.6s						
IDI				AML	AML	21 49 00.6	
	comp=N,1389μm,0.6s						
IDI	**Anoyia**	**1.18**	**349**	PN	**Pg**	**21 48 38.0**	**-0.6**
IDI				SN	**Sb**	**21 48 54.3**	**0.0**
HRKL	**Herakleio**	**1.18**	**358**	P	**Pb**	**21 48 39.0**	**+0.1**
HRKL	**Herakleio**	**1.18**	**358**	PN	**Pb**	**21 48 38.9**	**+0.1**
NPS	**Neapolis**	**1.19**	**18**	P	**Pb**	**21 48 39.5**	**+0.4**
NPS	**Neapolis**	**1.19**	**18**	P	**Pb**	**21 48 39.4**	**+0.4**
ZKR	**Zakros**	**1.32**	**41**	P	**Pb**	**21 48 42.5**	**+1.3**
ZKR				S	**Sn**	**21 49 00.3**	**+1.4**
	comp=N,570nm,0.6s						
ZKR	**Zakros**	**1.32**	**41**	P	**Pb**	**21 48 42.5**	**+1.3**
ZKR	**Zakros**	**1.32**	**41**	PN	**Pb**	**21 48 42.4**	**+1.3**
STIA	**Sitia Lasithi**	**1.32**	**36**	P	**Pb**	**21 48 42.2**	**+1.0**
PRNS	**Prines Rethymn**	**1.35**	**337**	P	**Pn**	**21 48 40.8**	**-0.5**
PRNS				S	**Sg**	**21 48 58.8**	**-0.5**
VAM	**Vamos**	**1.50**	**329**	P	**Pn**	**21 48 42.8**	**-0.6**
VAM	**Vamos**	**1.50**	**329**	P	**Pn**	**21 48 42.9**	**-0.5**
KNDR	**Palaiochora Ch**	**1.64**	**313**	P	**Pn**	**21 48 46.0**	**+0.7**
KNDR	**Palaiochora Ch**	**1.64**	**313**	PN	**Pn**	**21 48 45.7**	**+0.4**
IMMV	**Iera Moni Meta**	**1.64**	**324**	P	**Pn**	**21 48 45.7**	**+0.3**
IMMV	**Iera Moni Meta**	**1.64**	**324**	P	**Pn**	**21 48 45.5**	**+0.1**
IMMV	**Iera Moni Meta**	**1.64**	**324**	PN	**Pn**	**21 48 44.9**	**-0.5**
CHAN	**Chania**	**1.66**	**327**	P	**Pb**	**21 48 45.7**	**+0.1**
RODP	**Rodopos**	**1.83**	**322**	P	**Pb**	**21 48 49.8**	**-0.1**
RODP	**Rodopos**	**1.83**	**322**	PN	**Pn**	**21 48 47.9**	**-0.1**
KARP	**Karpathos**	**2.18**	**49**	P	**Pb**	**21 48 56.0**	**+0.3**
ANKY	**Antikythira Is**	**2.31**	**319**	P	**Pn**	**21 48 55.2**	**+0.7**
ANKY	**Antikythira Is**	**2.31**	**319**	P	**Pn**	**21 48 55.0**	**+0.5**
SLUM	**Salum**	**2.63**	**179**	P	**Pb**	**21 49 01.8**	**-1.7**
	baz=185						
SLUM				AMP		21 49 00.0	
	baz=185						
SLUM				S	**Sn**	**21 49 30.8**	**-0.3**
	baz=185						
MHLO	**Agia Marina, M**	**2.63**	**347**	P	**Pn**	**21 48 59.1**	**+0.1**
KTHA	**Kythira Island**	**2.73**	**322**	P	**Pn**	**21 49 01.5**	**+1.1**
KTHA	**Kythira Island**	**2.73**	**322**	PN	**Pn**	**21 49 00.6**	**+0.3**
APE	**Apeiranthos**	**2.95**	**6**	PN	**Pn**	**21 49 04.1**	**+0.7**
VLI	**Veliai**	**3.16**	**326**	P	**Pn**	**21 49 06.2**	**0.0**
ARG	**Arkhangelos**	**3.21**	**49**	PN	**Pn**	**21 49 08.9**	**+2.0**
DAT	**Datca**	**3.27**	**37**	PN	**Pn**	**21 49 09.6**	**+1.8**
DAT	**Datca**	**3.27**	**37**	*i* P	**Pn**	**21 49 09.6**	**+1.8**
DAT				*i* S	Sn	21 49 34.8	-12
TURN	**Turunc**	**3.65**	**43**	PN	**Pn**	**21 49 14.3**	**+1.3**
TURN	**Turunc**	**3.65**	**43**	*i* P	**Pn**	**21 49 15.4**	**+2.4**
TURN				*i* S	**Sn**	**21 49 51.3**	**-5.1**
MLSB	**Milas**	**3.81**	**33**	PN	**Pn**	**21 49 16.9**	**+1.6**
DALY	**Dalyan (Mula)**	**3.92**	**46**	PN	**Pn**	**21 49 18.4**	**+1.7**
DALY	**Dalyan (Mula)**	**3.92**	**46**	*i* P	**Pn**	**21 49 20.0**	**+3.3**
DALY				*i* S	**Sn**	**21 49 58.0**	**-5.0**
DALY				IAML		21 50 04.0	
	comp=E,93nm,1.4s						
YER	**Yerkesik**	**3.94**	**39**	PN	**Pn**	**21 49 18.7**	**+1.7**
ITM	**Ithomi**	**4.02**	**320**	PN	**Pn**	**21 49 18.8**	**+0.7**
AKAS	**Kas**	**4.21**	**59**	PN	**Pn**	**21 49 22.9**	**+2.1**
AKAS	**Kas**	**4.21**	**59**	*i* P	**Pn**	**21 49 22.5**	**+1.7**
AKAS				*i* S	**Sn**	**21 50 03.6**	**-6.8**
AYDB	**Zeytinkoy-Aydi**	**4.41**	**29**	PN	**Pn**	**21 49 25.2**	**+1.6**
TAVA	**DENIZLI_Tavas**	**4.52**	**41**	*i* P	**Pn**	**21 49 26.8**	**+1.8**
TAVA				*i* S	**Sn**	**21 50 10.7**	**-7.3**
ELL	**Elmali**	**4.68**	**55**	PN	**Pn**	**21 49 28.9**	**+1.6**
GOLH	**Golhisar**	**4.74**	**48**	*i* P	**Pn**	**21 49 29.0**	**+0.9**
GOLH				*i* S	**Sn**	**21 50 16.8**	**-6.7**
GOLH				IAML		21 50 27.0	
	comp=N,43nm,0.6s						
AKUM	**Antalya-Kumluc**	**4.78**	**61**	*i* P	**Pn**	**21 49 30.3**	**+1.8**
AKUM				*i* S	**Sn**	**21 50 20.4**	**-3.8**
SWA2		**4.88**	**177**	P	**Pn**	**21 49 32.6**	**+2.8**
	baz=179						
KORT	**Korkueli**	**5.12**	**54**	PN	**Pn**	**21 49 35.4**	**+2.1**
KORT	**Korkueli**	**5.12**	**54**	*i* P	**Pn**	**21 49 36.9**	**+3.6**
KORT				*i* S	Sn	21 50 22.7	-10
KORT				IAML		21 50 38.0	
	comp=E,52nm,0.6s						
USAK	**Uak-Merkez**	**5.54**	**33**	*i* P	**Pn**	**21 49 41.4**	**+2.4**
USAK				*i* S	**Sn**	**21 50 35.4**	**-7.6**
USAK				IAML		21 50 44.0	
	comp=E,54nm,1.7s						
KZIL	**AFYON_Kizioren**	**5.77**	**43**	*i* P	**Pn**	**21 49 45.9**	**+3.7**
KEPZ	**Antalya-Kepez**	**5.95**	**60**	*i* P	**Pn**	**21 49 46.2**	**+1.6**
KEPZ				*i* S	Sn	21 50 40.3	-13
KEPZ				IAML		21 50 52.0	
	comp=E,30nm,1.4s						
KEPZ				IAML		21 51 09.0	
	comp=N,26nm,1.9s						
GAZI	**Gazipasa**	**6.23**	**68**	*i* P	**Pn**	**21 49 49.8**	**+1.3**
GAZI				*i* S	Sn	21 50 48.5	-12
GAZI				IAML		21 51 03.0	
	comp=N,23nm,0.9s						
DOGA	**KONYA_Doganhis**	**6.60**	**51**	*i* P	**Pn**	**21 49 57.5**	**+3.8**
DOGA				*i* S	Sn	21 50 55.0	-14
CSS	**Mathiatis**	**6.80**	**81**	Pn	**Pn**	**21 49 56.9**	**+0.6**
CSS				Sn	**Sn**	**21 51 11.5**	**-2.5**
GLL	**Jalalah**	**7.19**	**127**	P	**Pn**	**21 50 04.0**	**+2.4**
	baz=127						
KIZK	**Mersin**	**7.72**	**70**	*i* P	**Pn**	**21 50 04.7**	**-4.2**
SUZ	**Suez**	**7.80**	**121**	P	**Pn**	**21 50 11.8**	**+1.8**
	baz=121						
OFRI	**`Ofer**	**8.36**	**98**	Pn	**Pn**	**21 50 18.5**	**+0.8**
OFRI				Sn	**Sn**	**21 51 47.9**	**-4.6**
KZIT	**Kziot**	**8.44**	**110**	Pn	**Pn**	**21 50 19.4**	**+0.6**
KZIT				Sn	**Sn**	**21 51 49.9**	**-4.5**
SLTI	**Sal'it**	**8.50**	**100**	Pn	**Pn**	**21 50 20.0**	**+0.4**
SLTI				Sn	**Sn**	**21 51 52.0**	**-3.8**
AMAZ	**Amatzia**	**8.61**	**105**	Pn	**Pn**	**21 50 22.2**	**+1.0**
AMAZ				Sn	**Sn**	**21 51 54.2**	**-4.5**
MMA0B	**Mount Meron ar**	**8.63**	**95**	Pn	**Pn**	**21 50 22.4**	**+1.0**
MMA0B				Sn	**Sn**	**21 51 55.7**	**-3.4**
MMAI	**Mount Meron Ar**	**8.63**	**95**	Pn	**Pn**	**21 50 22.4**	**+1.0**
	comp=N,1.5nm,0.3s,baz=281,slow=11,SNR=28						
MMAI				Sn	**Sn**	**21 51 57.8**	**-1.3**
	comp=N,1.6nm,0.3s,baz=266,slow=21,SNR=5.2						
MMLI	**Mount Malkishu**	**8.76**	**98**	Pn	**Pn**	**21 50 24.2**	**+1.0**
MMLI				Sn	**Sn**	**21 51 58.2**	**-4.1**
BRTR	**Keskin Array B**	**8.79**	**48**	Pn	**Pn**	**21 50 26.9**	**+3.1**
	comp=N,0.1nm,0.3s,baz=217,slow=15,SNR=2.0						
GEM	**Giv'at Ha'Em**	**8.81**	**93**	Pn	**Pn**	**21 50 24.7**	**+0.8**
GEM				Sn	**Sn**	**21 52 00.4**	**-3.1**
YTIR	**Yattir**	**8.83**	**105**	Pn	**Pn**	**21 50 24.7**	**+0.4**
YTIR				Sn	**Sn**	**21 52 00.5**	**-3.7**
NATI	**Neve Ativ**	**8.86**	**93**	Pn	**Pn**	**21 50 26.5**	**+1.9**
HMDT	**Nahal Hemdat**	**8.89**	**99**	Pn	**Pn**	**21 50 25.4**	**+0.4**
HMDT				Sn	**Sn**	**21 52 01.9**	**-3.6**
UJAP	**Al Uja**	**8.92**	**101**	Pn	**Pn**	**21 50 25.9**	**+0.5**
DSI	**Dead Sea**	**8.97**	**104**	Pn	**Pn**	**21 50 26.8**	**+0.7**
DSI				Sn	**Sn**	**21 52 04.1**	**-3.4**
PRNI	**Paran**	**9.15**	**112**	Pn	**Pn**	**21 50 30.3**	**+1.7**
PRNI				Sn	**Sn**	**21 52 08.4**	**-3.6**
ZFRI	**Zfri**	**9.20**	**110**	Pn	**Pn**	**21 50 29.5**	**+0.3**
GHAJ	**Ghor Haditha**	**9.21**	**105**	Pn	**Pn**	**21 50 30.8**	**+1.4**
GHAJ				Sn	**Sn**	**21 52 10.1**	**-3.3**
HRFI	**Mount Harif**	**9.32**	**113**	Pn	**Pn**	**21 50 32.5**	**+1.6**
HRFI				Sn	**Sn**	**21 52 13.2**	**-3.0**
MBRI	**Mt Berech**	**9.35**	**115**	Pn	**Pn**	**21 50 32.7**	**+1.4**
MBRI				Sn	**Sn**	**21 52 13.5**	**-3.3**
EIL	**Elat**	**9.44**	**115**	Pn	**Pn**	**21 50 34.0**	**+1.5**
	comp=N,0.7nm,0.3s,baz=346,slow=1.5,SNR=18						
EIL				Sn	**Sn**	**21 52 16.6**	**-2.4**
	comp=N,0.6nm,0.3s,baz=332,slow=19,SNR=1.7						
EIL	**Elat**	**9.44**	**115**	Pn	**Pn**	**21 50 33.6**	**+1.1**
AQBJ	**Aqaba**	**9.48**	**115**	Pn	**Pn**	**21 50 34.7**	**+1.6**
RICI	**Ricice**	**11.25**	**329**	Sg	**Sn**	**21 53 06.0**	**+2.8**
MLR	**Muntele Rosu**	**11.37**	**3**	LR	LR	21 55 42.3	
	comp=N,24nm,19.3s,baz=136,slow=39						
MORI	**Morici**	**12.18**	**326**	Sg	Sn	21 53 16.1	-10
VRAC	**Vranov**	**16.44**	**340**	Pn	**Pn**	**21 52 08.6**	**+1.4**
	comp=N,0.2nm,0.3s,baz=122,slow=7.0,SNR=4.2						
KVAR	**Kislovodsk Arr**	**16.76**	**49**	Pn	**P**	**21 52 16.6**	**+2.9**
	baz=123,slow=16,SNR=1.8						
KBZ	**Khabaz**	**16.78**	**50**	Pn	**P**	**21 52 13.8**	**+0.1**
	comp=N,0.1nm,0.3s,baz=118,slow=14,SNR=2.1						
AKASG	**Malin Array Be**	**16.83**	**9**	Pn	**Pn**	**21 52 12.6**	**+0.6**
	comp=N,1.4nm,0.3s,baz=200,slow=11,SNR=4.8						
GERES	**GERESS Array B**	**16.99**	**333**	Pn	**P**	**21 52 16.0**	**-0.3**
	comp=N,0.4nm,0.3s,baz=146,slow=11,SNR=26						
ESDC	**Sonseca Array**	**23.88**	**292**	P	**P**	**21 53 30.3**	**0.0**
	comp=N,0.7nm,0.8s,baz=300,slow=27,SNR=5.2						
GEYT	**Alibeck**	**26.85**	**72**	P	**P**	**21 53 59.1**	**+1.8**
	comp=N,2.7nm,1.0s,baz=92,slow=10,SNR=3.7						
HFS	**Hagfors**	**27.08**	**347**	P	**P**	**21 53 58.2**	**-0.9**
	comp=N,0.7nm,0.4s,baz=124,slow=7.2,SNR=1.9						
FINES	**FINESS Array B**	**27.34**	**1**	P	**P**	**21 54 01.3**	**-0.1**
	comp=N,1.2nm,0.9s,baz=151,slow=12,SNR=4.5						
NOA	**NORSAR Array B**	**28.39**	**346**	P	**P**	**21 54 09.7**	**-1.3**
	comp=N,0.4nm,0.7s,baz=160,slow=9.8,SNR=2.4						
EKA	**Eskdalemuir Ar**	**28.88**	**326**	P	**P**	**21 54 14.7**	**-0.5**
	comp=N,0.7nm,0.8s,baz=142,slow=11,SNR=2.2						
TORD	**Torodi Ar. Bea**	**29.83**	**231**	P	**P**	**21 54 25.2**	**+1.2**
	comp=N,1.2nm,0.6s,baz=33,slow=8.2,SNR=7.6						
MKAR	**Makanchi Array**	**44.35**	**56**	P	**P**	**21 56 28.3**	**+1.3**
	comp=N,1.1nm,0.6s,baz=269,slow=8.2,SNR=9.8						
ZALV	**Zalesovo Beam**	**45.73**	**45**	P	**P**	**21 56 38.8**	**+1.1**
	comp=N,1.4nm,0.4s,baz=266,slow=8.4,SNR=6.4						

*IDC **19** 21:58:48.9±1.5, 30°.24S×177°.42W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/37, mbtmp4.1/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=33.4km s-min=23.1km az=96.0*
*NEIC **19** 21:58:54.2±1.7, 30°.16S±0°.06×177°.4W±0°.2, h39km±15km, mb4.2/13, Error ellipse: s-maj=19.1km s-min=7.9km az=78.0*

ISC 19 21:58:53.4±0.9, 30°.21S±0°.08×177°.3W±0°.1, h35km, n31, σ1°.04/30, mb4.3/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.09**	**331**	Pn	**Pn**	**21 59 12.2**	**0.0**
	246nm,0.3s,baz=37,slow=21,SNR=20						
RAO				Sn	**Sn**	**21 59 25.9**	**-0.2**
	1μm,0.3s,baz=135,slow=17,SNR=14						
RAO	**Raoul Island**	**1.09**	**331**		**Pn**	**21 59 12.2**	**0.0**
RAO					**Sn**	**21 59 23.6**	**-2.5**
OUZ	**Omahuta**	**9.14**	**235**	Pn	**Pn**	**22 01 04.5**	**+1.7**
TUWZ	**Tuamarina**	**13.24**	**210**	Pn	**Pn**	**22 01 58.9**	**0.0**
NNZ	**Nelson**	**13.32**	**212**	Pn	**Pn**	**22 02 00.6**	**+0.7**
THZ	**Tophouse**	**13.97**	**212**	Pn	**Pn**	**22 02 09.4**	**+0.5**
KHZ	**Kahutara**	**14.22**	**209**	Pn	**Pn**	**22 02 09.9**	**-2.3**
OXZ	**Oxford**	**15.60**	**210**	Pn	**P**	**22 02 32.5**	**-2.0**
DZM	**Mont Dzumac**	**16.67**	**295**	LR	LR	22 08 01.1	
	comp=Z,105nm,18.5s,baz=237,slow=33						
ODZ	**Otahua Downs**	**17.58**	**209**	Pn	**Pn**	**22 02 54.9**	**-0.6**
RAR	**Rarotonga**	**18.15**	**65**	P	**Pn**	**22 03 04.0**	**+1.3**
RAR				IAmb	IAmb	22 03 22.0	
	comp=Z,18nm,1.1s						
ARMA	**Armidale**	**26.77**	**262**	P	**P**	**22 04 31.8**	**+1.6**
CTA	**Charters Tower**	**34.35**	**278**	P	**P**	**22 05 38.0**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=106,slow=11,SNR=7.5						
CTAO	**Charters Tower**	**34.35**	**278**	P	**P**	**22 05 37.8**	**+0.6**
STKA	**Stephens Creek**	**35.10**	**257**	P	**P**	**22 05 44.1**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=62,slow=9.2,SNR=6.8						
STKA	**Stephens Creek**	**35.10**	**257**	IAmb	IAmb	22 05 45.9	
	comp=Z,1.1nm,1.0s						
BBOO	**Buckleboo**	**39.59**	**254**	P	**P**	**22 06 21.0**	**-0.5**
ASAR	**Alice Springs**	**43.71**	**266**	P	**P**	**22 06 54.3**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=111,slow=8.3,SNR=8.7						
WR0	**Warramunga Arr**	**44.50**	**272**	P	**P**	**22 07 01.6**	**-0.1**
WR0				IAmb	IAmb	22 07 03.9	
	comp=Z,8.2nm,1.4s						
WB2	**Warramunga Arr**	**44.67**	**272**	P	**P**	**22 07 02.7**	**-0.4**
WB2				IAmb	IAmb	22 07 03.9	
	comp=Z,2.5nm,0.8s						
WRAB	**Tennant Creek**	**44.68**	**272**	P	**P**	**22 07 02.4**	**-0.7**
WRAB				IAmb	IAmb	22 07 05.4	
	comp=Z,7.7nm,1.2s						
WRA	**Warramunga Arr**	**44.68**	**272**	P	**P**	**22 07 02.4**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=110,slow=8.1,SNR=27						
WRA	**Warramunga Arr**	**44.68**	**272**	P	**P**	**22 07 03.0**	**-0.2**
WB0	**Warramunga Arr**	**44.71**	**272**	P	**P**	**22 07 03.1**	**-0.2**
WB0				IAmb	IAmb	22 07 18.1	
	comp=Z,8.1nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.95**	**269**	P	**P**	**22 08 06.4**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=179,slow=7.8,SNR=4.4						
FITZ	**Fitzroy Crossi**	**52.95**	**269**	IAmb	IAmb	22 08 07.5	
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	**PKPdf**	**22 18 26.6**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=66,slow=3.9,SNR=29						
NB2	**NORSAR Subarra**	**148.65**	**352**	PKP	**PKiKP**	**22 18 36.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**148.65**	**352**	PKPbc	**PKiKP**	**22 18 37.2**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=15,slow=4.2,SNR=4.5						
AKASG	**Malin Array Be**	**151.51**	**323**	PKPbc	**PKiKP**	**22 18 44.0**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=51,slow=2.7,SNR=5.2						
BRTR	**Keskin Array B**	**153.03**	**299**	PKPbc	**PKiKP**	**22 18 47.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=152,slow=4.7,SNR=2.4						

*IDC **19** 21:59:32.0±1.5, 6°.84N×124°.90E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/45, mbtmp3.6/4, MS2.8/2, Ms1 2.8/2, ms1mx2.5/30, Error ellipse: s-maj=26.1km s-min=11.3km az=150.0*

ISC 19 21:59:34.7±1.1, 6°.90N±0°.04×125°.00E±0°.04, h18km±3km, n14, σ1°.15/17, mb3.5/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.14**	**37**	*i* P	**Pb**	**21 59 37.8**	**0.0**
KCP				*i* S	**Sg**	**21 59 41.8**	**+0.1**
SKMP	**Bagumbayan, Su**	**0.59**	**231**	*e* P	**Pg**	**21 59 47.2**	**+0.7**
SKMP				*e* S	**Sn**	**21 59 58.5**	**+1.1**
DAV	**Davao City (W)**	**0.60**	**73**	Pg	**Pb**	**21 59 46.0**	**-0.5**
	332nm,0.3s,baz=254,slow=7.9,SNR=22						
DAV				Lg	Lg	21 59 55.0	
	194nm,0.3s,baz=90,slow=23,SNR=4.3						
BUKP	**Musuan**	**0.98**	**3**	*e* P	**Pn**	**21 59 53.2**	**-0.4**
BUKP				*e* S	**Sn**	**22 00 09.1**	**+2.1**
DDMP	**Don Marcelino,**	**1.06**	**138**	*e* P	**Pn**	**21 59 53.3**	**-1.3**
DDMP				*e* S	**Sb**	**22 00 09.3**	**+1.4**
MATI	**Mati**	**1.25**	**88**	*e* P	**Pn**	**21 59 55.8**	**-1.4**
MATI				*e* S	**Sb**	**22 00 13.6**	**+0.2**
PAGZ	**Pagadian**	**1.87**	**301**	*e* P	**Pb**	**22 00 08.4**	**+0.2**
PAGZ				*e* S	**Sb**	**22 00 29.2**	**-2.0**
MSLP	**Maasin**	**3.22**	**357**	*e* P	Pn	22 00 15.1	-9.2
KAPI	**Kappang**	**12.94**	**204**	LR	LR	22 07 50.3	
	comp=Z,58nm,21.3s,baz=77,slow=39						
GUMO	**Guam**	**20.64**	**70**	LR	LR	22 10 45.4	
	comp=Z,22nm,21.2s,baz=298,slow=32						
FITZ	**Fitzroy Crossi**	**24.84**	**179**	P	**P**	**22 04 55.4**	**-0.8**
	1.7nm,1.1s,baz=2.4,slow=1.2,SNR=3.1						
WRA	**Warramunga Arr**	**28.21**	**161**	P	**P**	**22 05 26.5**	**-0.1**
	0.7nm,0.8s,baz=331,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**31.60**	**164**	P	**P**	**22 05 56.9**	**+0.3**
	0.5nm,0.9s,baz=336,slow=7.6,SNR=5.3						
MKAR	**Makanchi Array**	**53.99**	**325**	P	**P**	**22 08 57.9**	**+0.2**
	0.7nm,1.0s,baz=128,slow=7.9,SNR=3.0						

*NEIC **19** 22:34:52.4±0.7, 33°.32S±0°.10×177°.4W±0°.2, h35km±2km, mb4.1/9, Error ellipse: s-maj=25.6km s-min=13.5km az=114.0*
*IDC **19** 22:34:53.8±3.0, 32°.89S×178°.42W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/21, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=70.7km s-min=44.8km az=124.0*

ISC 19 22:34:53.0±1.4, 33°.3S±0°.1×177°.5W±0°.2, h35km, n17, σ0°.98/18, mb4.0/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.06**	**355**	Pn	**Pn**	**22 35 53.4**	**+0.8**
URZ	**Urewera**	**6.60**	**220**	Pn	**Pn**	**22 36 29.6**	**+2.2**
	1.2nm,0.3s,baz=280,slow=2.5,SNR=10						
URZ			

moment-rate function
BJI ***19*** *23:09:54.9±0.0, 6.˚88N×125.˚30E, h23km, mB5.0/37, mb4.6/46, Ms4.4/25, Ms7 4.1/25*
NEIC ***19*** *23:09:56.7±1.3, 6.˚84N±0.˚07×125.˚30E±0.˚04, h34km±5km, mb4.7/85, Error ellipse: s-maj=10.7km s-min=3.7km az=208.0*
DJA ***19*** *23:09:59.1±0.5, 7.˚N±4.˚×12.˚6E±.˚, h12km±4km, M4.7/18, mb4.6/18, mB5.5/6, MLv4.6/6, Mw(mB)5.0/6, Mwp5.1/1*
ISC 19 23:09:55.4±0.3, 6.78N±0.˚03×125.˚11E±0.˚03, h21km±3km, n180, σ1$83/171, mb4.6/63, MS3.9/36, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.54**	**58**	Pg	**Pb**	**23 10 03.6**	**-2.8**
	1μm,0.3s,baz=256,slow=1.8,SNR=119						
DAV				Lg	Lg	23 10 13.2	
	1μm,0.3s,baz=89,slow=21,SNR=12						
DAV	**Davao City (W)**	**0.54**	**58**		**Pb**	**23 10 04.0**	**-2.4**
DAV	**Davao City (W)**	**0.54**	**58**	‖ *e*P	**Pb**	**23 10 02.3**	**-4.0**
SKMP	**Bagumbayan, Su**	**0.62**	**245**	*e*P	**Pb**	**23 10 04.8**	**-2.9**
SKMP				*e*S	**Sb**	**23 10 15.8**	**-0.3**
DDMP	**Don Marcelino,**	**0.90**	**139**	*e*P	**Pb**	**23 10 10.6**	**-1.7**
DDMP				*e*S	**Sn**	**23 10 26.8**	**+1.6**
BUKP	**Musuan**	**1.09**	**357**	*e*P	Pn	23 10 10.7	-4.8
BUKP				*e*S	**Sb**	**23 10 26.2**	**-3.2**
MATI	**Mati**	**1.15**	**82**	*e*P	**Pn**	**23 10 13.2**	**-3.0**
MATI				*e*S	**Sn**	**23 10 32.0**	**+0.7**
BIP	**Bislig**	**1.82**	**38**	‖ *i*P	**Pb**	**23 10 27.0**	**-1.1**
BIP				*i* S	**Sb**	**23 10 56.4**	**+5.9**
PAGZ	**Pagadian**	**2.02**	**302**	*e*P	**Pn**	**23 10 26.1**	**-2.1**
PAGZ				*e*S	**Sn**	**23 10 52.0**	**-0.8**
MSLP	**Maasin**	**3.34**	**356**	*e*P	**Pn**	**23 10 46.9**	**+0.5**
MSLP				*e*S	**Sb**	**23 11 35.7**	**+1.6**
LLP	**Lapu-Lapu**	**3.69**	**342**	*e*P	**Pn**	**23 10 49.8**	**-1.5**
LLP				*i* S	**Sb**	**23 11 46.3**	**+2.1**
CNOP	**Candoni, Negro**	**3.89**	**321**	*e*P	**Pb**	**23 11 00.2**	**-3.2**
CNOP				*e*S	**Sn**	**23 11 33.5**	**-5.5**
GUIM	**Jordan**	**4.56**	**327**	*e*P	**Pn**	**23 11 05.0**	**+1.8**
CNP	**Catarman**	**5.71**	**356**	*e*P	**Pn**	**23 11 21.8**	**+2.8**
CNP				*e*S	**Sn**	**23 12 31.1**	**+7.2**
KMSI	**Cibinong**	**6.27**	**190**	P	**Pb**	**23 11 41.0**	**-3.0**
TNTI	**Ternate**	**6.38**	**159**	P	**Pn**	**23 11 32.1**	**+3.8**
	0.5nm1μm93nm,0.9s						
TNTI	**Ternate**	**6.38**	**159**		**Pn**	**23 11 28.0**	**-0.2**
GTOI	**Gorontalo**	**6.46**	**199**	P	**Pn**	**23 11 28.1**	**-1.2**
MYLDM	**Lahad Datu**	**6.77**	**257**	Pn	**Pn**	**23 11 35.2**	**+1.7**
LUWI	**Luwuk**	**8.12**	**197**	P	Pn	23 11 57.0	+4.9
	2μm191nm,1.1s						
LUWI	**Luwuk**	**8.12**	**197**		**Pn**	**23 11 54.1**	**+2.0**
SANI	**Sanana**	**8.82**	**174**	P	**Pn**	**23 12 03.5**	**+1.8**
KKM	**Kota Kinabalu**	**8.87**	**266**	Pn	**Pn**	**23 12 06.7**	**+4.1**
SIJI	**Sorong**	**9.77**	**141**	Pn	**Pn**	**23 12 13.9**	**-0.9**
	1.3nm,0.3s,baz=162,slow=20,SNR=2.1						
SIJI				Sn	**Sn**	**23 14 06.9**	**+2.9**
	1.1nm,0.3s,baz=188,slow=22,SNR=1.4						
NLAI	**Namlea**	**10.15**	**169**	P	Pn	23 12 26.7	+6.7
	1μm34nm,0.8s						
BNSI	**Bone**	**12.18**	**204**	P	P	23 13 05.3	+5.1
KAPI	**Kappang**	**12.88**	**205**	LR	LR	23 18 07.3	
	comp=Z,695nm,21.1s,baz=60,slow=38						
SBUM	**Sibu**	**13.55**	**252**	Pn	**Pn**	**23 13 09.2**	**+2.7**
MMRI	**Maumere**	**15.58**	**191**	Pn	**Pn**	**23 13 35.2**	**+1.3**
MMRI				IAmb	IAmb	23 13 46.4	
	comp=Z,37nm,1.1s						
KSM	**Kuching**	**15.68**	**251**	Pn	**P**	**23 13 37.7**	**-1.4**
SAUI	**Saumlaki**	**15.91**	**157**	Pn	**Pn**	**23 13 37.3**	**-1.0**
TWG	**Pinlang**	**16.41**	**347**	Pn	**Pn**	**23 13 44.7**	**+0.1**
SOEI	**Soe**	**16.45**	**183**	P	P	23 13 58.5	+11
SOEI	**Soe**	**16.45**	**183**	Pn	**Pn**	**23 13 45.2**	**0.0**
SOEI				IAmb	IAmb	23 14 00.5	
	comp=Z,28nm,0.8s						
BATI	**Baumata**	**16.94**	**185**	Pn	**Pn**	**23 13 51.2**	**-0.1**
	comp=Z,3.0nm,0.3s,baz=270,slow=5.1,SNR=2.3						
BATI				LR	LR	23 21 33.5	
	comp=Z,280nm,21.0s,baz=338,slow=42						
BATI	**Baumata**	**16.94**	**185**	P	P	23 14 02.9	+10
PLAI	**Plampang**	**17.14**	**205**	P	P	23 14 08.1	+13
DLV	**T Lat**	**17.18**	**289**		**P**	**23 13 57.1**	**+1.1**
NACB	**Ninganchiao**	**17.62**	**349**	Pn	**Pn**	**23 13 58.7**	**-1.0**
NACB				IAmb	IAmb	23 13 59.0	
	comp=Z,41nm,1.1s						
JAY	**Jayapura**	**18.10**	**120**	LR	LR	23 21 02.6	
	comp=Z,218nm,20.2s,baz=323,slow=37						
KNMB	**Chin-men Tao**	**18.73**	**341**	P	**P**	**23 14 12.1**	**-0.6**
KNMB				IAmb	IAmb	23 14 29.8	
	comp=Z,50nm,0.8s						
QIZ	**Qiongzhong**	**19.20**	**311**	P	**P**	**23 14 17.9**	**-0.2**
QIZ				S	**Sn**	**23 17 53.8**	**-0.1**
QIZ				LR	LR		
	comp=Z,730nm,14.7s						
QIZ				LR	LR		
	comp=Z,500nm,16.7s						
QIZ				LR	LR		
	comp=Z,650nm,15.7s						
QIZ	**Qiongzhong**	**19.20**	**311**	P	**Pn**	**23 14 19.4**	**+0.3**
MTN	**Manton Dam**	**20.40**	**163**	P	**P**	**23 14 30.9**	**-0.2**
MTN				IAmb	IAmb	23 14 46.4	
	comp=Z,23nm,0.9s						
GUMO	**Guam**	**20.58**	**69**	LR	LR	23 20 52.3	
	comp=Z,260nm,20.0s,baz=242,slow=32						
KNRA	**Kununurra**	**22.61**	**171**	P	**P**	**23 14 54.5**	**-0.3**
KNRA				IAmb	IAmb	23 15 06.5	
	comp=Z,34nm,0.9s						
MDSI	**Maura Dua**	**23.71**	**242**	P	P	23 15 21.0	+15
FITZ	**Fitzroy Crossi**	**24.73**	**179**	P	**P**	**23 15 14.1**	**-1.4**
	comp=Z,5.4nm,0.5s,baz=0.7,slow=4.1,SNR=32						
FITZ				LR	LR	23 27 01.7	
	comp=Z,70nm,19.0s,baz=86,slow=42						
FITZ	**Fitzroy Crossi**	**24.73**	**179**	P	**P**	**23 15 14.5**	**-0.9**
FITZ				IAmb	IAmb	23 15 20.1	
	comp=Z,11nm,0.8s						
SLVN	**Son La**	**25.10**	**307**	P	**P**	**23 15 19.3**	**+0.4**
PBKT	**Sadao Pong**	**25.54**	**295**	P	**P**	**23 15 25.0**	**+2.2**
NJ2	**Nanjing**	**25.81**	**348**	*e*P	**P**	**23 15 26.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JCJ	**Chichijima**	**25.91**	**37**	LR	LR	23 26 01.7	
	comp=Z,61nm,19.6s,baz=122,slow=37						
JCJ	**Chichijima**	**25.91**	**37**	P	**P**	**23 15 25.1**	**-1.1**
GYA	**Guiyang**	**26.30**	**320**	*e*P	**P**	**23 15 31.3**	**+1.5**
GYA				pP	sP	23 15 40.5	+1.5
GYA				PcP	**PcP**	**23 18 57.0**	**+1.0**
GYA				S	**S**	**23 20 02.3**	**+0.6**
GYA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GYA				LR	LR		
	comp=Z,260nm,6.8s						
GYA				LR	LR		
	comp=Z,220nm,7.2s						
GYA				LR	LR		
	comp=Z,480nm,17.1s						
PSI	**Prapat**	**26.39**	**263**	P	**P**	**23 15 31.9**	**+1.2**
	comp=Z,1.9nm,0.4s,baz=0.3,slow=4.8,SNR=1.5						
RPSI	**Rantau Prapat**	**26.41**	**262**	P	**P**	**23 15 33.6**	**+2.9**
RPSI	**Rantau Prapat**	**26.41**	**262**	P	**P**	**23 15 31.9**	**+1.2**
JNU	**Nakatsue**	**26.75**	**11**	LR	LR	23 25 10.3	
	comp=Z,212nm,21.2s,baz=192,slow=34						
PMG	**Port Moresby**	**27.23**	**126**	P	**P**	**23 15 36.8**	**-1.3**
PMG				IAmb	IAmb	23 15 48.8	
	comp=Z,28nm,1.1s						
COEN	**Coen**	**27.31**	**139**	P	**P**	**23 15 37.0**	**-1.9**
COEN				IAmb	IAmb	23 15 43.5	
	comp=Z,16nm,1.1s						
ENH	**Enshi**	**27.59**	**330**	P	**P**	**23 15 41.8**	**+0.5**
ENH				IAmb	IAmb	23 15 43.0	
	comp=Z,8.3nm,0.8s						
WB0	**Warramunga Arr**	**27.92**	**161**	P	**P**	**23 15 43.0**	**-1.3**
WB0				IAmb	IAmb	23 16 01.6	
	comp=Z,10.0nm,0.8s						
GSI	**Gunungsitoli**	**27.99**	**260**	P	P	23 15 56.5	+11
	comp=Z,53nm,1.0s						
GSI	**Gunungsitoli**	**27.99**	**260**	P	**P**	**23 15 47.3**	**+2.2**
CMAR	**Chiang Mai Arr**	**28.00**	**297**	P	**P**	**23 15 46.6**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=121,slow=7.5,SNR=10						
CMAR				LR	LR	23 26 54.8	
	comp=Z,328nm,18.9s,baz=150,slow=36						
CMAR	**Chiang Mai Arr**	**28.00**	**297**	P	**P**	**23 15 47.1**	**+2.0**
JMN	**Monobe**	**28.02**	**16**	P	**P**	**23 15 43.7**	**-1.3**
JMN				IAmb	IAmb	23 15 47.3	
	comp=Z,22nm,1.0s						
LHMI	**Lhok Sumawe**	**28.05**	**268**	P	**P**	**23 15 48.1**	**+2.5**
WRAB	**Tennant Creek**	**28.06**	**161**	P	**P**	**23 15 45.0**	**-0.5**
WRA	**Warramunga Arr**	**28.07**	**161**	P	**P**	**23 15 43.9**	**-1.7**
	comp=Z,2.7nm,0.7s,baz=343,slow=9.1,SNR=22						
WRA	**Warramunga Arr**	**28.07**	**161**	P	**P**	**23 15 44.4**	**-1.2**
WB2	**Warramunga Arr**	**28.07**	**161**	P	**P**	**23 15 44.4**	**-1.3**
KMI	**Kunming**	**28.11**	**313**	‖ *e*P	**P**	**23 15 48.0**	**+1.7**
KMI				pP	sP	23 15 57.4	+1.9
KMI				sP	pP	23 16 02.4	+10
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KMI				LR	LR		
	comp=Z,270nm,21.6s						
KMI				LR	LR		
	comp=Z,340nm,18.5s						
KMI				LR	LR		
	comp=Z,530nm,17.7s						
KMI	**Kunming**	**28.11**	**313**	P	**P**	**23 15 47.2**	**+0.9**
KMI				IAmb	IAmb	23 16 06.0	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**28.15**	**161**	P	**P**	**23 15 46.5**	**+0.2**
WR0				IAmb	IAmb	23 16 04.0	
	comp=Z,8.9nm,0.9s						
PSA00	**Pilbara Seismi**	**28.65**	**190**	P	**P**	**23 15 51.3**	**+0.5**
JHS	**Saijyo**	**29.03**	**14**	P	**P**	**23 15 52.5**	**-1.5**
KRVT	**Keravat (AS076**	**29.04**	**112**	LR	LR	23 26 32.5	
	comp=Z,190nm,19.4s,baz=294,slow=34						
JHJ	**Hachijo jima 2**	**29.54**	**26**	LR	LR	23 27 16.1	
	comp=Z,210nm,20.1s,baz=262,slow=35						
INU	**Inuyama**	**30.46**	**19**	P	**P**	**23 16 05.7**	**-1.1**
INU				IAmb	IAmb	23 16 12.3	
	comp=Z,14nm,1.1s						
KSAR	**Wonju Array Be**	**30.62**	**4**	P	**P**	**23 16 07.8**	**-0.2**
KSRS	**Korea Array**	**30.64**	**4**	P	**P**	**23 16 06.3**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=184,slow=9.1,SNR=4.0						
KSRS				LR	LR	23 31 37.4	
	comp=Z,192nm,18.2s,baz=204,slow=43						
XAN	**Xi'an**	**30.98**	**333**	P	P	23 16 16.5	+5.1
XAN				pmax	pmax		
	comp=Z,10.0nm,1.6s						
XAN				pmax	pmax		
	comp=Z,150nm,4.3s						
XAN				LR	LR		
	comp=Z,390nm,16.3s						
XAN				LR	LR		
	comp=Z,460nm,17.3s						
XAN				LR	LR		
	comp=Z,350nm,20.6s						
XAN	**Xi'an**	**30.98**	**333**	P	**P**	**23 16 11.1**	**-0.3**
XAN				IAmb	IAmb	23 16 23.8	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**31.46**	**164**	P	**P**	**23 16 15.2**	**-0.4**
ASAR	**Alice Springs**	**31.46**	**164**	P	**P**	**23 16 14.2**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=344,slow=7.1,SNR=28						
ASAR	**Alice Springs**	**31.46**	**164**	P	**P**	**23 16 15.0**	**-0.7**
MJAR	**Matsushiro Arr**	**31.95**	**20**	P	**P**	**23 16 18.3**	**-1.5**
	comp=Z,4.0nm,1.0s,baz=195,slow=9.1,SNR=6.2						
MJAR				LR	LR	23 28 51.3	
	comp=Z,232nm,19.2s,baz=200,slow=36						
MJAR	**Matsushiro Arr**	**31.95**	**20**	IAmb	IAmb	23 16 19.9	
	comp=Z,1.4nm,0.9s						
CTA	**Charters Tower**	**33.85**	**143**	P	**P**	**23 16 35.9**	**-0.7**
	comp=Z,5.7nm,0.9s,baz=324,slow=8.6,SNR=4.7						
CTAO	**Charters Tower**	**33.85**	**143**	P	**P**	**23 16 36.0**	**-0.6**
CTAO				IAmb	IAmb	23 16 52.9	
	comp=Z,10.0nm,1.1s						
BJT	**Baijiatuan**	**34.05**	**348**	P	**P**	**23 16 37.7**	**-0.4**
JMM	**Marumori**	**34.06**	**22**	P	**P**	**23 16 37.9**	**-0.4**
BJI	**Beijing**	**34.07**	**348**	P	**P**	**23 16 39.3**	**+1.0**
BJI				pmax	pmax		
	comp=Z,17nm,1.0s						
BJI				pmax	pmax		
	comp=Z,92nm,3.5s						
BJI				LR	LR		
	comp=Z,140nm,7.5s						
BJI				LR	LR		
	comp=Z,280nm,24.6s						
BJI				LR	LR		
	comp=Z,220nm,20.8s						
LZH	**Lanzhou**	**35.07**	**329**	*e*P	**P**	**23 16 48.8**	**+1.6**
LZH				pP	sP	23 16 58.5	+1.9
LZH				sP	pP	23 17 02.3	+8.4
LZH				*e*PP	**PP**	**23 18 09.0**	**+2.0**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,5.4s						
LZH				LR	LR		
	comp=Z,360nm,13.2s						
LZH				LR	LR		
	comp=Z,370nm,13.3s						
LZH				LR	LR		
	comp=Z,510nm,16.5s						
HHC	**Hu-ho-hao-te**	**36.02**	**342**	*e*P	**P**	**23 16 56.3**	**+1.1**
HHC				sP	sP	23 17 11.6	+7.1
HHC				PP	**PP**	**23 18 19.0**	**+1.7**
HHC				S	**S**	**23 22 33.0**	**-0.1**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,84nm,3.8s						
HHC				LR	LR		
	comp=Z,300nm,13.6s						
HHC				LR	LR		
	comp=Z,370nm,15.8s						
HHC				LR	LR		
	comp=Z,440nm,14.8s						
FORT	**Forrest**	**37.45**	**176**	P	**P**	**23 17 08.0**	**+0.6**
USA0B	**Ussuriysk Arra**	**37.75**	**8**	P	**P**	**23 17 09.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**37.75**	**8**	P	**P**	**23 17 08.9**	**-0.9**
	comp=Z,21nm,1.1s,baz=193,slow=7.8,SNR=17						
USRK				LR	LR	23 31 25.5	
	comp=Z,173nm,21.5s,baz=176,slow=34						
USRK	**Ussuriysk Ar.**	**37.75**	**8**	P	**P**	**23 17 09.5**	**-0.2**
MDJ	**Mudanjiang**	**37.89**	**5**	P	**P**	**23 17 10.2**	**-0.8**
MDJ				IAmb	IAmb	23 17 12.5	
	comp=Z,10nm,0.9s						
LSA	**Lhasa**	**39.24**	**310**	P	**P**	**23 17 23.5**	**+0.4**
LSA				IAmb	IAmb	23 17 36.8	
	comp=Z,9.5nm,1.0s						
GTA	**Gaotai**	**39.67**	**329**	*e*P	**P**	**23 17 26.3**	**+0.2**
GTA				pP	sP	23 17 35.4	-0.1
GTA				sP	pP	23 17 39.3	+6.5
GTA				S	**S**	**23 23 30.8**	**+2.3**
GTA				sS	sS	23 23 43.4	+3.9
GTA				SS	**SS**	**23 26 15.5**	**-8.8**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,54nm,4.4s						
GTA				LR	LR		
	comp=Z,170nm,18.5s						
GTA				LR	LR		
	comp=Z,170nm,16.7s						
GTA				LR	LR		
	comp=Z,280nm,18.9s						
BBOO	**Buckleboo**	**40.73**	**166**	P	**P**	**23 17 34.2**	**-0.6**
BBOO				IAmb	IAmb	23 17 40.5	
	comp=Z,28nm,1.1s						
STKA	**Stephens Creek**	**41.54**	**159**	P	**P**	**23 17 41.5**	**0.0**
	comp=Z,3.8nm,0.8s,baz=330,slow=9.1,SNR=7.9						
STKA				LR	LR	23 37 08.5	
	comp=Z,54nm,20.2s,baz=8.2,slow=39						
STKA	**Stephens Creek**	**41.54**	**159**	P	**P**	**23 17 41.5**	**0.0**
HIA	**Hailar**	**42.58**	**355**	P	**P**	**23 17 49.4**	**-0.4**
HIA				IAmb	IAmb	23 17 52.0	
	comp=Z,7.9nm,0.5s						
ULN	**Ulaanbaatar**	**43.74**	**342**	P	**P**	**23 17 59.2**	**-0.1**
SONM	**Songino Array**	**43.91**	**342**	P	**P**	**23 18 01.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=155,slow=4.8,SNR=3.4						
SONM				LR	LR	23 37 35.6	
	comp=Z,301nm,20.3s,baz=154,slow=38						
SONM	**Songino Array**	**43.91**	**342**	P	**P**	**23 18 00.5**	**-0.2**
SANVU	**Saraoutou**	**47.19**	**118**	P	**P**	**23 18 24.8**	**-2.2**
WMQ	**Urumqi**	**49.32**	**325**	*e*P	**P**	**23 18 45.6**	**+2.5**
WMQ				pP	pP	23 18 51.1	+1.2
WMQ				sP	sP	23 19 00.4	+7.8
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,35nm,4.3s						
WMQ				LR	LR		
	comp=Z,150nm,10.5s						
WMQ				LR	LR		
	comp=Z,71nm,11.5s						
WMQ				LR	LR		
	comp=Z,59nm,25.3s						
WMQ	**Urumqi**	**49.32**	**325**	P	**P**	**23 18 44.5**	**+1.4**
WMQ				IAmb	IAmb	23 19 02.1	
	comp=Z,9.6nm,1.2s						
DZM	**Mont Dzumac**	**49.62**	**126**	*e*P	**P**	**23 18 45.5**	**-0.2**
	comp=Z,38nm,1.2s						
DZM	**Mont Dzumac**	**49.62**	**126**	*e*LR	LR	23 32 55.4	
	comp=Z,201nm,24.2s						
DZM	**Mont Dzumac**	**49.62**	**126**	P	**P**	**23 18 45.0**	**-0.8**
PETK	**Petropavlovsk-**	**53.27**	**24**	P	**P**	**23 19 10.4**	**-2.1**
	comp=Z,6.8nm,1.0s,baz=197,slow=4.5,SNR=2.7						
PETK				LR	LR	23 41 45.2	
	comp=Z,119nm,20.0s,baz=234,slow=36						
MKAR	**Makanchi Array**	**54.15**	**325**	P	**P**	**23 19 18.4**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=119,slow=7.5,SNR=11						
MKAR				LR	LR	23 43 30.4	
	comp=Z,107nm,18.5s,baz=122,slow=37						
MKAR	**Makanchi Array**	**54.15**	**325**	P	**P**	**23 19 18.8**	**-0.3**
MAKZ	**Makanchi**	**54.33**	**325**	P	**P**	**23 19 21.0**	**+0.6**
MAKZ				IAmb	IAmb	23 19 31.0	
	comp=Z,5.7nm,1.1s						
KSH	**Kashi**	**54.77**	**314**	P	P	23 19 28.8	+5.0
KSH				S	**S**	**23 27 04.1**	**+0.5**
KSH				pmax	pmax		
	comp=Z,12nm,1.2s						
KSH				pmax	pmax		
	comp=Z,170nm,4.6s						
KSH				LR	LR		
	comp=Z,91nm,9.8s						
KSH				LR	LR		
	comp=Z,110nm,7.1s						
KSH				LR	LR		
	comp=Z,240nm,6.1s						
NIL	**Nilore**	**54.81**	**307**	P	**P**	**23 19 24.6**	**+0.5**
ZAA0	**Zalesovo Array**	**57.15**	**333**	P	**P**	**23 19 40.9**	**+0.4**
ZALV	**Zalesovo Beam**	**57.15**	**333**	P	**P**	**23 19 40.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=127,slow=16,SNR=2.1						
ZALV				LR	LR	23 47 07.8	
	comp=Z,60nm,18.1s,baz=81,slow=39						
MSVF	**Nonsavu**	**57.66**	**116**	P	**P**	**23 19 43.5**	**-1.3**
KURK	**Kurchatov**	**58.32**	**327**	P	**P**	**23 19 48.6**	**-0.1**
KURK				IAmb	IAmb	23 19 51.4	
	comp=Z,8.0nm,1.1s						
KBL	**Kabul**	**58.41**	**306**	P	**P**	**23 19 50.3**	**+0.3**
KBL				IAmb	IAmb	23 19 58.9	
	comp=Z,4.3nm,0.9s						
BTK	**Batken**	**58.66**	**313**	P	**P**	**23 19 51.5**	**0.0**
BTK				IAmb	IAmb	23 20 04.5	
	comp=Z,6.8nm,1.1s						
CHGR	**Chuyangaron**	**59.45**	**311**	P	**P**	**23 19 57.4**	**+0.4**
KK31	**Karatay Array**	**59.92**	**316**	P	**P**	**23 19 59.7**	**-0.4**
KK31				IAmb	IAmb	23 20 10.3	
	comp=Z,11nm,1.1s						
KKAR	**Karatay Array**	**59.92**	**316**	P	**P**	**23 19 59.4**	**-0.7**
KKAR	**Karatay Array**	**59.92**	**316**	P	**P**	**23 19 59.5**	**-0.5**
KKAR				IAmb	IAmb	23 20 10.3	
	comp=Z,11nm,1.1s						
HRA	**Herat**	**63.86**	**305**	P	**P**	**23 20 27.1**	**+0.1**
BRVK	**Borovoye**	**63.97**	**327**	P	**P**	**23 20 26.5**	**-0.6**
BRVK				IAmb	IAmb	23 20 41.1	
	comp=Z,4.5nm,0.9s						
NRIK	**Noril'sk**	**67.10**	**346**	LR	LR	23 52 24.3	
	comp=Z,167nm,20.5s,baz=194,slow=38						
GEYT	**Alibeck**	**67.75**	**308**	P	**P**	**23 20 53.2**	**+1.4**
	comp=Z,2.5nm,1.0s,baz=66,slow=4.0,SNR=6.0						
GEYT				LR	LR	23 53 39.4	
	comp=Z,55nm,20.6s,baz=175,slow=39						
GEYT	**Alibeck**	**67.75**	**308**	P	**P**	**23 20 52.0**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**67.75**	**308**	P	**P**	**23 20 51.4**	**-0.3**
GYA0B				IAmb	IAmb	23 20 59.1	
	comp=Z,3.3nm,0.7s						
ABKAR	**Akbulak array**	**68.78**	**320**	P	**P**	**23 20 57.8**	**-0.1**
ABKAR	**Akbulak array**	**68.78**	**320**	P	**P**	**23 20 57.2**	**-0.8**
AKTO	**Aktyubinsk**	**70.28**	**321**	P	**P**	**23 21 06.1**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=86,slow=6.3,SNR=4.2						
FALS	**False Pass**	**73.85**	**35**	P	**P**	**23 21 25.5**	**-2.9**
KIRV	**Kirov**	**76.79**	**329**	P	**P**	**23 21 44.3**	**-1.0**
	comp=Z,4.5nm,0.6s,baz=141,slow=2.9,SNR=2.5						
AKH	**Akhalkalaki**	**79.27**	**311**	P	**P**	**23 21 59.4**	**-0.3**
AKH				IAmb	IAmb	23 22 05.0	
	comp=Z,8.6nm,1.0s						
GEVA	**Gevas**	**79.60**	**308**	P	**P**	**23 22 01.0**	**-0.6**
GEVA				IAmb	IAmb	23 22 03.9	
	comp=Z,8.2nm,1.0s						
KBZ	**Khabaz**	**79.73**	**313**	LR	LR	00 01 16.7	
	comp=Z,48nm,20.5s,baz=56,slow=39						
IMAR	**Indian Mountai**	**80.23**	**24**	P	**P**	**23 22 03.1**	**-1.1**
ARTV	**Artvin**	**80.45**	**311**	P	**P**	**23 22 03.8**	**-2.4**
BPAW	**Bear Paw Mtn.**	**81.27**	**26**	P	**P**	**23 22 09.5**	**-0.3**
KTH	**Kantishna Hill**	**81.28**	**27**	P	**P**	**23 22 09.3**	**-0.6**
KTH				IAmb	IAmb	23 22 15.8	
	comp=Z,14nm,1.2s						
SUA	**Susitna One**	**81.28**	**29**	P	**P**	**23 22 09.0**	**-1.0**
TRF	**Thorofare Moun**	**81.56**	**27**	P	**P**	**23 22 10.6**	**-0.9**
TRF				IAmb	IAmb	23 22 18.1	
	comp=Z,11nm,1.0s						
KOPT	**Kop Dagi**	**81.56**	**309**	P	**P**	**23 22 11.7**	**-0.5**
KOPT				IAmb	IAmb	23 22 24.7	
	comp=Z,12nm,1.1s						
COLD	**Coldfoot**	**81.73**	**23**	P	**P**	**23 22 10.2**	**-1.9**
COLD				IAmb	IAmb	23 22 21.3	
	comp=Z,13nm,1.2s						
KLMR	**Klimovskoe**	**81.97**	**330**	*e*P	**P**	**23 22 11.7**	**-1.8**
KLMR				AMP		23 22 24.4	
	comp=Z,14nm,1.5s						
MDM	**Murphy Dome**	**82.48**	**25**	P	**P**	**23 22 15.1**	**-1.1**
MDM				IAmb	IAmb	23 22 26.3	
	comp=Z,8.4nm,1.1s						
WRH	**Wood River Hil**	**82.54**	**26**	P	**P**	**23 22 15.7**	**-0.7**
WRH				IAmb	IAmb	23 22 20.8	
	comp=Z,11nm,1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.39**	**306**	P	**Pg**	**23 12 01.6**	**+0.3**
KARP				S	**Sb**	**23 12 07.1**	**-1.7**
	6μm,0.3s						
KARP	**Karpathos**	**0.39**	**306**	P	**Pg**	**23 12 01.5**	**+0.2**
KARP				S	**Sg**	**23 12 06.8**	**+0.4**
KARP				AML	AML	23 12 07.5	
	comp=E,9222μm,0.3s						
KARP				AML	AML	23 12 07.9	
	comp=N,13439μm,0.3s						
KARP	**Karpathos**	**0.39**	**306**	PG	**Pg**	**23 12 01.6**	**+0.3**
KARP				SG	**Sb**	**23 12 07.2**	**-1.6**
KARP	**Karpathos**	**0.39**	**306**	P	**Pg**	**23 12 01.5**	**+0.3**
KARP				AML	AML	23 12 07.1	
	comp=N,9.2nm,0.3s						
KARP				AML	AML	23 12 07.1	
	comp=N,9.2nm,0.3s						
KARP				AML	AML	23 12 07.3	
	comp=N,15nm,0.6s						
KARP				AML	AML	23 12 07.3	
	comp=N,15nm,0.6s						
KARP				S	**Sb**	**23 12 07.4**	**-1.4**
ARG	**Arkhangelos**	**1.01**	**28**	P	**Pg**	**23 12 12.7**	**-0.4**
ARG				S	**Sn**	**23 12 28.1**	**-0.2**
	comp=N,735nm,0.4s						
ARG	**Arkhangelos**	**1.01**	**28**	P	**Pg**	**23 12 12.6**	**-0.4**
ARG				S	**Sb**	**23 12 26.9**	**+0.2**
ARG				AML	AML	23 12 34.2	
	comp=E,1437μm,0.3s						
ARG				AML	AML	23 12 39.0	
	comp=N,1352μm,0.5s						
ARG	**Arkhangelos**	**1.01**	**28**	PG	**Pb**	**23 12 13.7**	**+0.4**
ARG				SG	**Sn**	**23 12 28.5**	**+0.2**
ARG	**Arkhangelos**	**1.01**	**28**	P	**Pg**	**23 12 12.8**	**-0.2**
ARG				S	**Sn**	**23 12 28.8**	**+0.5**
ZKR	**Zakros**	**1.11**	**260**	P	**Pb**	**23 12 14.8**	**-0.2**
ZKR				S	**Sn**	**23 12 34.0**	**+3.2**
	comp=N,645nm,0.7s						
ZKR	**Zakros**	**1.11**	**260**	P	**Pb**	**23 12 14.9**	**-0.1**
ZKR				S	**Sg**	**23 12 29.8**	**+0.5**
ZKR				AML	AML	23 12 42.8	
	comp=N,704μm,0.8s						
ZKR				AML	AML	23 12 46.8	
	comp=E,1940μm,0.6s						
ZKR	**Zakros**	**1.11**	**260**	PG	**Pb**	**23 12 14.7**	**-0.2**
STIA	**Sitia Lasithi**	**1.20**	**265**	P	**Pb**	**23 12 16.4**	**-0.1**
DAT	**Datca**	**1.40**	**1**	P	**Pb**	**23 12 19.8**	**-0.3**
DAT	**Datca**	**1.40**	**1**	**Pn**	**Pn**	**23 12 19.1**	**-0.4**
DAT	**Datca**	**1.40**	**1**	*i* P	**Pn**	**23 12 19.4**	**-0.1**
DAT				*i* S	**Sg**	**23 12 39.1**	**+0.2**
MRSB	**Marmaris-Mugla**	**1.49**	**21**	PN	**Pb**	**23 12 21.3**	**-0.2**
KOSK	**Kos Island**	**1.50**	**342**	P	**Pn**	**23 12 19.5**	**-1.2**
KOSK	**Kos Island**	**1.50**	**342**	PN	**Pn**	**23 12 20.6**	**-0.1**
FRMA	**Ierapetra Chan**	**1.52**	**259**	P	**Pn**	**23 12 20.9**	**-0.1**
TURN	**Turunc**	**1.56**	**21**	PN	**Pb**	**23 12 22.2**	**-0.4**
TURN	**Turunc**	**1.56**	**21**	*i* P	**Pn**	**23 12 20.5**	**-1.0**
TURN				*i* S	**Sn**	**23 12 41.4**	**-0.4**
TURN				IAML		23 12 52.0	
	comp=E,222nm,0.7s						
NPS	**Neapolis**	**1.58**	**268**	P	**Pg**	**23 12 23.7**	**-0.3**
NPS				S	**Sg**	**23 12 44.1**	**-0.5**
	comp=E,688nm,0.5s						
NPS	**Neapolis**	**1.58**	**268**	P	**Pg**	**23 12 24.3**	**+0.3**
NPS				AML	AML	23 12 54.7	
	comp=N,1460μm,1.0s						
NPS				AML	AML	23 12 54.9	
	comp=E,1033μm,0.9s						
LAST	**Lasithi**	**1.70**	**265**	P	**Pb**	**23 12 25.7**	**+0.6**
LAST	**Lasithi**	**1.70**	**265**	P	**Pg**	**23 12 25.9**	**-0.4**
LAST				AML	AML	23 13 01.3	
	comp=N,530μm,0.6s						
LAST				AML	AML	23 13 03.8	
	comp=E,449μm,0.8s						
DALY	**Dalyan (Mula)**	**1.74**	**31**	PN	**Pb**	**23 12 25.1**	**-0.7**
DALY	**Dalyan (Mula)**	**1.74**	**31**	*i* P	**Pb**	**23 12 25.7**	**0.0**
DALY				*i* S	**Sb**	**23 12 48.3**	**+0.6**
DALY				IAML		23 13 04.0	
	comp=N,135nm,0.8s						
BDRM	**Kayabasi**	**1.74**	**357**	*i* P	**Pn**	**23 12 24.7**	**+0.6**
BODT	**Bodrum**	**1.75**	**354**	P	**Pn**	**23 12 24.5**	**+0.3**
BODT	**Bodrum**	**1.75**	**354**	PN	**Pn**	**23 12 24.4**	**+0.3**
ANAF	**Anafi Island**	**1.77**	**306**	P	**Pb**	**23 12 25.6**	**-0.7**
ANAF	**Anafi Island**	**1.77**	**306**	P	**Pb**	**23 12 26.0**	**-0.3**
ANAF				S	**Sb**	**23 12 49.0**	**+0.3**
ANAF				AML	AML	23 12 55.1	
	comp=N,3623μm,0.4s						
ANAF				AML	AML	23 12 57.1	
	comp=E,3954μm,0.4s						
FETY	**Fethiye**	**1.81**	**43**	P	**Pb**	**23 12 26.4**	**-0.6**
FETY	**Fethiye**	**1.81**	**43**	PN	**Pb**	**23 12 26.3**	**-0.7**
FETY	**Fethiye**	**1.81**	**43**	*i* P	**Pg**	**23 12 28.1**	**-0.2**
FETY				*i* S	**Sg**	**23 12 51.4**	**-0.4**
KSL	**Kastellorizon**	**1.85**	**63**	P	**Pn**	**23 12 26.8**	**+1.2**
KSL	**Kastellorizon**	**1.85**	**63**	P	**Pn**	**23 12 26.7**	**+1.2**
KSL				S	**Sb**	**23 12 51.7**	**+0.8**
AKAS	**Kas**	**1.91**	**61**	PN	**Pn**	**23 12 27.8**	**+1.4**
AKAS	**Kas**	**1.91**	**61**	*i* P	**Pn**	**23 12 25.8**	**-0.6**
YER	**Yerkesik**	**1.91**	**18**	P	**Pn**	**23 12 27.1**	**+0.7**
YER	**Yerkesik**	**1.91**	**18**	PN	**Pb**	**23 12 27.7**	**-0.9**
MLSB	**Milas**	**1.98**	**5**	PN	**Pn**	**23 12 28.3**	**+0.9**
SANT	**Santorini**	**1.99**	**302**	P	**Pb**	**23 12 28.8**	**-1.3**
SANT	**Santorini**	**1.99**	**302**	PN	**Pn**	**23 12 28.1**	**+0.5**
HRKL	**Herakleio**	**2.00**	**270**	P	**Pb**	**23 12 29.8**	**-0.4**
HRKL	**Herakleio**	**2.00**	**270**	PN	**Pn**	**23 12 28.2**	**+0.6**
AMGA	**Amorgos Island**	**2.02**	**319**	P	**Pn**	**23 12 28.5**	**+0.6**
SAP2K	**Karterados**	**2.02**	**303**	P	**Pb**	**23 12 29.6**	**-1.0**
KSTL	**Kastelli Herak**	**2.02**	**270**	P	**Pn**	**23 12 27.0**	**-0.9**
SAP1	**Santorini-Akro**	**2.03**	**301**	P	**Pn**	**23 12 28.9**	**+0.9**
THT2	**Imerovigli**	**2.05**	**303**	PN	**Pn**	**23 12 28.9**	**+0.5**
IDI	**Anoyia**	**2.17**	**270**	Pn	**Pb**	**23 12 32.3**	**-0.9**
	comp=E,8.6nm,0.3s,baz=26,slow=5.8,SNR=36						
IDI				Sn	**Sg**	**23 13 02.6**	**-0.9**
	comp=E,9.5nm,0.3s,baz=334,slow=20,SNR=2.6						
IDI	**Anoyia**	**2.17**	**270**	P	**Pn**	**23 12 31.4**	**+1.3**
IDI				S	**Sb**	**23 13 00.4**	**+0.1**
	comp=E,172nm,0.6s						
IDI	**Anoyia**	**2.17**	**270**	P	**Pb**	**23 12 32.0**	**-1.1**
IDI	**Anoyia**	**2.17**	**270**	PN	**Pn**	**23 12 31.2**	**+1.1**
IOSP	**Ios island**	**2.30**	**308**	P	**Pn**	**23 12 32.8**	**+1.0**
AYDN	**Tasoluk**	**2.35**	**6**	*i* P	**Pb**	**23 12 34.5**	**-1.7**
AYDN				*i* S	**Sn**	**23 13 01.2**	**-0.3**
ELL	**Elmali**	**2.38**	**53**	PN	**Pn**	**23 12 35.1**	**+2.1**
ELL	**Elmali**	**2.38**	**53**	P	**Pn**	**23 12 34.9**	**+1.9**
APE	**Apeiranthos**	**2.39**	**318**	P	**Pn**	**23 12 33.6**	**+0.6**
APE				S	**Sn**	**23 13 01.2**	**-1.2**
	comp=E,105nm,0.6s						
APE	**Apeiranthos**	**2.39**	**318**	P	**Pn**	**23 12 34.0**	**+1.0**
APE	**Apeiranthos**	**2.39**	**318**	PN	**Pn**	**23 12 33.4**	**+0.4**
APE	**Apeiranthos**	**2.39**	**318**	P	**Pn**	**23 12 33.7**	**+0.6**
GCAM	**G?zelcaml?**	**2.39**	**354**	PN	**Pn**	**23 12 33.1**	**+0.2**
GCAM	**G?zelcaml?**	**2.39**	**354**	*i* P	**Pn**	**23 12 33.9**	**+1.0**
TAVA	**DENIZLI_Tavas**	**2.41**	**27**	*i* P	**Pn**	**23 12 34.4**	**+1.1**
TAVA				*i* S	**Sb**	**23 13 07.7**	**+0.7**
TAVA				IAML		23 13 17.0	
	comp=E,79nm,0.6s						
TAVA				IAML		23 13 22.0	
	comp=N,73nm,0.6s						
SMG	**Samos**	**2.45**	**347**	P	**Pn**	**23 12 34.5**	**+0.6**
SMG	**Samos**	**2.45**	**347**	P	**Pn**	**23 12 34.4**	**+0.6**
AKUM	**Antalya-Kumluc**	**2.48**	**65**	*i* P	**Pn**	**23 12 34.0**	**-0.3**
GOLH	**Golhisar**	**2.51**	**40**	*i* P	**Pn**	**23 12 36.8**	**+2.1**
GOLH				*i* S	**Sb**	**23 13 09.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.63**	**6**	PN	**Pn**	**23 12 37.7**	**+1.2**
VAM	**Vamos**	**2.74**	**273**	P	**Pb**	**23 12 40.3**	**-2.5**
DGB	**zmir**	**2.78**	**349**	*i* P	**Pn**	**23 12 39.0**	**+0.7**
KORT	**Korkueli**	**2.82**	**53**	PN	**Pn**	**23 12 41.3**	**+2.3**
KORT	**Korkueli**	**2.82**	**53**	*i* P	**Pn**	**23 12 40.2**	**+1.1**
KORT				*i* S	**Sn**	**23 13 14.8**	**+1.5**
GVDS	**Gavdos**	**2.88**	**261**	PN	**Pn**	**23 12 41.4**	**+1.8**
GVD	**Gavdhos**	**2.88**	**261**	P	**Pn**	**23 12 41.9**	**+2.2**
GVD	**Gavdhos**	**2.88**	**261**	PN	**Pn**	**23 12 41.2**	**+1.5**
IMMV	**Iera Moni Meta**	**2.92**	**274**	PN	**Pn**	**23 12 41.5**	**+1.3**
ANTB	**Antalya**	**2.97**	**57**	PN	**Pn**	**23 12 42.8**	**+1.9**
BLCB	**Balcova**	**3.08**	**353**	PN	**Pn**	**23 12 43.8**	**+1.3**
BRDR	**BURDUR-Merkez**	**3.12**	**40**	*i* P	**Pn**	**23 12 45.8**	**+2.7**
BRDR				*i* S	**Sg**	**23 13 33.9**	**+0.1**
URLA	**Izmir**	**3.13**	**346**	*i* P	**Pn**	**23 12 43.6**	**+0.5**
KNDR	**Palaiochora Ch**	**3.16**	**270**	P	**Pn**	**23 12 46.0**	**+2.4**
KNDR	**Palaiochora Ch**	**3.16**	**270**	PN	**Pn**	**23 12 45.8**	**+2.2**
CHOS	**Chios island**	**3.29**	**339**	P	**Pn**	**23 12 44.6**	**-0.8**
CHOS	**Chios island**	**3.29**	**339**	PN	**Pn**	**23 12 46.5**	**+1.1**
ANKY	**Antikythira Is**	**3.50**	**280**	P	**Pn**	**23 12 49.0**	**+0.7**
USAK	**Uak-Merkez**	**3.58**	**19**	*i* P	**Pn**	**23 12 50.1**	**+0.6**
KZIL	**AFYON_Kizioren**	**3.59**	**35**	*i* P	**Pn**	**23 12 52.0**	**+2.3**
KEPZ	**Antalya-Kepez**	**3.64**	**63**	*i* P	**Pn**	**23 12 51.4**	**+1.1**
KEPZ				*i* S	**Sn**	**23 13 31.4**	**-2.0**
ZEDA	**zmir-Bergama**	**3.66**	**354**	*i* P	**Pn**	**23 12 51.9**	**+1.5**
KTHA	**Kythira Island**	**3.76**	**286**	PN	**Pn**	**23 12 52.9**	**+1.0**
AKMS	**Akamas**	**3.93**	**93**	P	**Pn**	**23 12 55.1**	**+0.9**
AKMS				AML	AML	23 13 45.5	
	comp=N,0.2nm,0.6s						
AKMS				AML	AML	23 13 45.9	
	comp=N,0.3nm,0.4s						
GAZI	**Gazipasa**	**3.98**	**75**	*i* P	**Pn**	**23 12 55.3**	**+0.4**
GAZI				*i* S	**Sn**	**23 13 35.8**	**-6.0**
GAZI				IAML		23 13 46.0	
	comp=E,24nm,0.6s						
GAZI				IAML		23 13 46.0	
	comp=N,20nm,0.9s						
STEP	**BALIKESIR_Sava**	**4.05**	**2**	*i* P	**Pn**	**23 12 56.9**	**+1.1**
ALFC	**Alefka**	**4.14**	**91**	P	**Pn**	**23 12 57.4**	**+0.3**
ALFC				AML	AML	23 13 48.7	
	comp=N,0.3nm,0.5s						
ALFC				AML	AML	23 13 50.5	
	comp=N,0.3nm,0.8s						
NATA	**Nata**	**4.16**	**96**	P	**Pn**	**23 12 57.8**	**+0.5**
NATA				S	**Sn**	**23 13 47.9**	**+1.9**
DOGA	**KONYA_Doganhis**	**4.32**	**49**	*i* P	**Pn**	**23 13 01.1**	**+1.4**
DOGA				*i* S	**Sn**	**23 13 53.0**	**+2.7**
SZAC	**Souni**	**4.41**	**96**	P	**Pn**	**23 13 01.4**	**+0.6**
ASGA	**Asgata**	**4.71**	**95**	P	**Pn**	**23 13 06.0**	**+1.1**
CSS	**Mathiatis**	**4.75**	**93**	P	**Pn**	**23 13 06.2**	**+0.7**
MVOU	**Mavrovouni**	**4.99**	**92**	P	**Pn**	**23 13 10.4**	**+1.6**
BRTR	**Keskin Array B**	**6.54**	**46**	Pn	**Pn**	**23 13 32.6**	**+2.5**
	comp=N,0.1nm,0.3s,baz=217,slow=14,SNR=4.9						
BRTR				Sn	**Sn**	**23 14 46.3**	**+1.4**
	comp=N,0.0nm,0.3s,baz=258,slow=20,SNR=1.6						
MMAI	**Mount Meron Ar**	**6.91**	**107**	Pn	**Pn**	**23 13 34.5**	**-0.7**
	comp=N,0.8nm,0.3s,baz=311,slow=12,SNR=13						
MMAI				Sn	**Sn**	**23 14 52.7**	**-1.2**
	comp=N,0.9nm,0.3s,baz=281,slow=29,SNR=2.2						
EIL	**Elat**	**8.42**	**130**	Pn	**Pn**	**23 13 56.9**	**+1.1**
	comp=N,0.4nm,0.3s,baz=358,slow=3.5,SNR=5.4						
EIL				Sn	**Sn**	**23 15 27.1**	**-3.8**
	comp=N,0.4nm,0.3s,baz=9.0,slow=18,SNR=1.7						
KVAR	**Kislovodsk Arr**	**14.49**	**49**	Pn	**P**	**23 15 24.5**	**-1.3**
	baz=230,slow=17,SNR=2.9						
ESDC	**Sonseca Array**	**25.30**	**289**	P	**P**	**23 17 21.4**	**+0.9**
	comp=N,0.7nm,0.6s,baz=84,slow=9.7,SNR=13						
HFS	**Hagfors**	**26.40**	**344**	P	**P**	**23 17 30.9**	**+0.6**
	comp=N,1.2nm,0.8s,baz=159,slow=13,SNR=1.8						
TORD	**Torodi Ar. Bea**	**32.12**	**233**	P	**P**	**23 18 22.1**	**+0.7**
	comp=N,0.3nm,0.5s,baz=36,slow=9.4,SNR=1.5						

UPP 19 23:27:15.6±0.1, 67°.83N×20°.19E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	23 27 18.5	+0.2
KUA				S	Sg	23 27 20.5	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 27 20.2	+0.2
RATU				S	Sg	23 27 23.4	+0.5
KOVU	**Salmi**	**0.40**	**358**	P	Pg	23 27 23.3	0.0
KOVU				S	Sg	23 27 28.6	+0.2
LANU	**Lannavaara**	**0.71**	**71**	S	Sg	23 27 38.9	+0.4
DUNU	**Dundret**	**0.72**	**168**	S	Sg	23 27 38.8	+0.1

*HEL **19** 23:27:49.5, 67°.81N×20°.16E, h0km, ML1.8, Explosion*
*BER **19** 23:27:49.2±1.9, 67°.78N×20°.83E, h0km, ML1.5, Suspected explosion*

UPP 19 23:27:49.5±0.1, 67°.84N×20°.21E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	23 27 52.2	+0.3
KUA				S	Sg	23 27 54.0	+0.5
KUA	**Kurravaara**	**0.13**	**23**	*i* P	Pg	23 27 52.2	+0.3
KUA				*i* S	Sg	23 27 54.0	+0.5
RATU	**Laukkuluspa**	**0.23**	**266**	P	Pg	23 27 54.2	+0.3
RATU				S	Sg	23 27 57.3	+0.3
RATU	**Laukkuluspa**	**0.23**	**266**	*i* P	Pg	23 27 54.2	+0.3
RATU				*i* S	Sg	23 27 57.3	+0.3
KOVU	**Salmi**	**0.39**	**357**	P	Pg	23 27 57.0	+0.1
KOVU				S	Sg	23 28 02.2	+0.3
KOVU	**Salmi**	**0.39**	**357**	*i* P	Pg	23 27 57.0	+0.1
KOVU				*i* S	Sg	23 28 02.2	+0.3
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	23 28 02.9	-0.1
LANU				S	Sg	23 28 12.2	+0.1
LANU	**Lannavaara**	**0.70**	**72**	*e*P	Pg	23 28 02.8	-0.2
	baz=242						
LANU				*e*S	Sg	23 28 12.1	0.0
DUNU	**Dundret**	**0.73**	**169**	S	Sg	23 28 12.9	-0.1
DUNU	**Dundret**	**0.73**	**169**	*i* S	Sg	23 28 12.9	-0.1
SALU	**Saltoluokta**	**0.80**	**236**	P	Pg	23 28 04.6	-0.1
SALU	**Saltoluokta**	**0.80**	**236**	*i* P	Pg	23 28 04.6	-0.1
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PB	Pg	23 28 12.4	+0.1
KIF				MSG		23 28 27.9	
	comp=Z,11nm,0.2s						
KIF				*e*SB	Sb	23 28 28.4	-0.4
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	23 28 12.5	+0.2
KIF				*e*S	Sg	23 28 27.9	+0.2
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 28 17.1	-0.5
ERTU				S	Sg	23 28 37.0	-0.7
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pn	23 28 17.1	-0.6
	baz=330						
ERTU				*e*SN	Sg	23 28 37.7	-0.1
N2IH	**Innhavet**	**1.62**	**276**	*e*P	Pn	23 28 19.6	+0.4
HARU	**Harads**	**1.71**	**169**	P	Pn	23 28 20.7	+0.2
HARU				S	Sg	23 28 44.6	+0.3
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23 28 20.7	+0.2
HARU				*e*S	Sg	23 28 44.6	+0.3
STEI	**Steigen**	**1.88**	**275**	*e*P	Pb	23 28 24.1	-0.5
STEI				*e*S	Sg	23 28 49.6	-0.3
FAUS	**Fauske**	**1.94**	**259**	*e*P	Pb	23 28 24.7	-0.9
FAUS				IAML		23 28 54.3	
	comp=Z,6.0nm,0.5s						
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	23 28 31.5	+1.6
	baz=310						
TOF				MSG		23 28 60.0	
	comp=Z,3.2nm,0.2s						
TOF				*e*SG	Sb	23 29 03.7	+0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	23 28 31.6	+1.0
	baz=284						
LOF	**Lofoten**	**2.53**	**280**	*e*P	Pb	23 28 34.7	-1.0
LOF				IAML		23 29 15.6	
	comp=Z,3.6nm,0.5s						
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	23 28 34.4	+2.0
RNF				*e*SG	Sb	23 29 08.3	-0.3
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*PB	Pn	23 28 34.4	+2.0
	baz=227						
ARE0				*e*SB	Sb	23 29 06.6	-2.1
MOR8	**Moi Rana**	**2.82**	**236**	*e*Pg	Pb	23 28 38.6	-2.0
MOR8				*e*Sg	Sb	23 29 13.0	-2.6
MOR8				IAML		23 29 14.2	
	comp=Z,5.4nm,0.3s						
BURU	**Burvik**	**3.30**	**171**	*e*P	Pn	23 28 44.6	+2.2
OUL	**Oulu**	**3.58**	**138**	*e*PG	Pg	23 28 56.0	-2.1
	baz=318						
UMAU	**Umeaa**	**3.98**	**177**	*e*P	Pn	23 28 53.8	+2.2
	baz=350						
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb	23 29 05.2	+0.7
	baz=290						

MAN 19 23:52:22.1, 11°.54N×123°.77E, h36km, mb4.2, ML3.0, MS2.6, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.95**	**120**	*e*P	Pn	23 52 39.4	+0.4
OCLP				*e*S	Sn	23 52 52.3	+1.0
LLP	**Lapu-Lapu**	**1.23**	**171**	↓*e*P	Pn	23 52 43.7	+1.0
LLP				*i* S	Sn	23 53 06.7	+8.7
GUIM	**Jordan**	**1.47**	**232**	*e*P	Pn	23 52 46.8	+0.8
GUIM				*e*S	Sn	23 53 04.7	+0.7
MSLP	**Maasin**	**1.76**	**142**	*e*P	Pn	23 52 50.5	+0.5
MSLP				*e*S	Sn	23 53 18.4	+7.3

*GEN **20** 00:25:36.0, 46°.25N×7°.20E, h9km±2km, Ml1.8*

*STR **20** 00:25:36.3±1.1, 46°.N±2°.×°.±1°.0, h9km±7km, MLv2.2/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*ROM **20** 00:25:36.6±0.2, 46°.196N±0°.008×7°.24E±0°.01, h10km±1km, ML1.7/8, Error ellipse: s-maj=1.1km s-min=0.5km az=121.0, hypocenter*
*PRU **20** 00:25:37.7±0.0, 45°.56N×8°.12E, h11km*
*LDG **20** 00:25:37.0±0.1, 46°.24N×7°.29E, h8km, Md2.4/2, Ml2.4/33, Error ellipse: s-maj=1.6km s-min=1.1km az=72.0*

ZUR 20 00:25:35.8, 46°.25N×7°.21E, h-1km±1km, MLh2.1/18, 4C-10D, Error ellipse: s-maj=2.5km s-min=0.5km az=294.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRYON	**Gryon**	**0.07**	**273**	↓Pg	Pg	00 25 37.4	+0.3
GRYON				Sg	Sg	00 25 38.4	+0.4
ESION	**College des Cr**	**0.10**	**102**	↓Pg	Pg	00 25 38.4	+0.7
SIOM	**Sion-Mayennets**	**0.11**	**100**	↓Pg	Pg	00 25 38.5	+0.6
SIOV	**Sion-Valere**	**0.11**	**96**	↓Pg	Pg	00 25 38.5	+0.6
SENIN	**Lac Senin/Sane**	**0.13**	**28**	↑Pg	Pg	00 25 38.7	+0.3
SENIN				Sg	Sg	00 25 40.8	+0.7
SMAO	**Martigny, Rue**	**0.18**	**212**	Pg	Pg	00 25 39.7	+0.5
SAIG	**Aigle Rue de l**	**0.18**	**292**	↑Pg	Pg	00 25 39.7	+0.4
SAIG				Sg	Sg	00 25 42.5	+0.9
SALAN	**Lac Salanfe**	**0.19**	**238**	↑Pg	Pg	00 25 40.0	+0.4
SALAN				Sg	Sg	00 25 42.8	+0.8
AIGLE	**Aigle**	**0.20**	**298**	↓Pg	Pg	00 25 39.8	+0.2
AIGLE				Sg	Sg	00 25 43.0	+0.7
DIX	**Grande Dixence**	**0.22**	**140**	↓Pg	Pg	00 25 40.7	+0.7
DIX				Sg	Sg	00 25 44.0	+1.3
DIX	**Grande Dixence**	**0.22**	**140**	P	Pg	00 25 40.7	+0.8
DIX				S	Sg	00 25 43.9	+1.1
DIX				AML	AML		
	comp=N,396μm,0.2s						
DIX				AML	AML		
	comp=N,396μm,0.2s						
DIX				AML	AML		
	comp=E,268μm,1.1s						
VANNI	**Vissoie, Val d**	**0.27**	**98**	↓Pg	Pg	00 25 41.7	+0.7
REMY	**Saint-Rhmy-en**	**0.41**	**185**	↑Pg	Pg	00 25 44.1	+0.4
REMY	**Saint-Rhmy-en**	**0.41**	**185**	P	Pg	00 25 44.1	+0.5
REMY				S	Sg	00 25 49.7	+0.7
REMY	**Saint-Rhmy-en**	**0.41**	**185**	P	Pg	00 25 44.2	+0.5
REMY				S	Sg	00 25 49.7	+0.7
REMY				AML	AML		
	comp=E,189μm,0.6s						
REMY				AML	AML		
	comp=N,195μm,0.5s						
REMY				AML	AML		
	comp=E,190μm,0.6s						
LAUCH	**Lauchernalp**	**0.42**	**66**	Pg	Pg	00 25 44.3	+0.3
LAUCH				Sg	Sg	00 25 50.3	+0.9
SGRA	**Graechen Ausbl**	**0.44**	**97**	Pg	Pg	00 25 44.7	+0.5
MRGE	**Morge**	**0.49**	**192**	P	Pg	00 25 45.8	+0.6
MRGE				S	Sg	00 25 52.3	+0.8
MRGE				AML	AML		
	comp=N,218μm,0.3s						
MRGE				AML	AML		
	comp=E,165μm,0.3s						
TORNY	**Torny/Romont**	**0.55**	**342**	Pg	Pg	00 25 47.3	+0.8
TORNY				Sg	Sb	00 25 55.4	-1.6
MMK	**Mattmark**	**0.56**	**110**	↓Pg	Pg	00 25 46.5	0.0
MMK	**Mattmark**	**0.56**	**110**	P	Pg	00 25 46.5	0.0
MMK				AML	AML		
	comp=E,39μm,0.3s						
MMK				AML	AML		
	comp=N,41μm,1.3s						
MMK				AML	AML		
	comp=N,41μm,1.3s						
MMK				AML	AML		
	comp=E,39μm,0.3s						
SIMPL	**Simplonpass**	**0.56**	**90**	↓Pg	Pg	00 25 46.9	+0.3
SATI	**Passo dei Sala**	**0.59**	**129**	↓Pg	Pg	00 25 47.2	0.0
SATI	**Passo dei Sala**	**0.59**	**129**	P	Pg	00 25 47.2	0.0
SATI				S	Sg	00 25 55.1	+0.3
SATI	**Passo dei Sala**	**0.59**	**129**	P	Pg	00 25 47.2	+0.1
SATI				AML	AML		
	comp=N,71μm,1.2s						
SATI				AML	AML		
	comp=E,66μm,0.9s						
FIESA	**Fiescheralp**	**0.65**	**73**	Pg	Pg	00 25 48.5	+0.2
CIRO	**Champorcher**	**0.69**	**159**	P	Pg	00 25 49.5	+0.4
CIRO				S	Sg	00 25 57.8	-0.3
RSL	**Roselend**	**0.69**	**216**	Pg	Pg	00 25 49.1	+0.1
RSL				Sg	Sg	00 25 58.1	+0.1
GIMEL	**St. Georges /**	**0.71**	**294**	Pg	Pb	00 25 50.6	-0.6
GIMEL	**St. Georges /**	**0.71**	**294**	P	Pb

OGAG	Argentiere	1.85	195	Pn	Pn	00 26 03.8	-5.2
HAU	Haudompre	1.85	342	ePn	Pn	00 26 07.9	-1.0
HAU	Haudompre	1.85	342	ePg	Pg	00 26 11.3	-0.1
HAU				eSg	Sb	00 26 34.8	+0.4
	comp=N,20nm,0.2s						
DAVA	Damuels	2.11	60	ePg	Pg	00 26 16.7	+0.5
	comp=N,1.1nm,0.1s						
DAVA				Sn	Sn	00 26 39.9	+0.4
	comp=N,4.9nm,0.2s						
DAVA				eSg	Sg	00 26 45.5	+1.9
	comp=N,4.4nm,0.2s						
CDF	Champ du Feu	2.17	1	ePn	Pn	00 26 11.9	-1.4
CDF	Champ du Feu	2.17	1	ePg	Pg	00 26 17.3	0.0
CDF				eSn	Sn	00 26 37.2	-3.7
CDF				eSg	Sg	00 26 44.6	-0.8
	comp=N,6.1nm,0.3s						
VIVF	Saint-Julien-l	2.26	233	ePn	Pn	00 26 14.1	-0.4
VIVF				eSg	Sb	00 26 47.2	+1.1
	comp=N,7.9nm,0.2s						
SMF	Signal de Mont	2.36	281	ePn	Pn	00 26 15.7	-0.2
SMF	Signal de Mont	2.36	281	ePg	Pg	00 26 21.1	0.0
SMF				eSn	Sn	00 26 42.9	-2.7
SMF				eSg	Sg	00 26 51.0	-0.7
SBF	Sospel	2.39	176	ePg	Pg	00 26 21.3	-0.3
SBF				eSg	Sg	00 26 52.1	-0.5
	comp=N,5.1nm,0.3s						
SFTF	Sexfontaines	2.46	324	ePn	Pn	00 26 16.5	-0.6
	baz=142						
SFTF	Sexfontaines	2.46	324	ePg	Pg	00 26 22.3	-0.6
	baz=142						
SFTF				eSn	Sn	00 26 44.9	-2.9
SFTF				eSg	Sg	00 26 54.1	-0.6
	comp=N,18nm,0.4s						
LOR	Lormes	2.52	295	ePn	Pn	00 26 17.9	-0.1
LOR	Lormes	2.52	295	ePg	Pg	00 26 24.2	+0.1
LOR				eSg	Sg	00 26 55.5	-1.3
	comp=N,7.0nm,0.2s						
PAGF	Fort de Pagny	2.52	337	ePn	Pn	00 26 17.4	-0.6
PAGF	Fort de Pagny	2.52	337	eP	Pn	00 26 19.5	+1.5
PAGF	Fort de Pagny	2.52	337	ePg	Pg	00 26 23.8	-0.3
PAGF				eSn	Sn	00 26 46.6	-2.8
PAGF				eSg	Sg	00 26 56.1	-0.7
	comp=N,3.9nm,0.3s						
FETA	Feichten	2.54	71	Pn	Pn	00 26 19.8	+1.3
	comp=N,0.2nm,0.1s						
FETA				Sg	Sg	00 26 59.7	+2.1
	comp=N,2.9nm,0.4s						
SMRF	Simiane la Rot	2.55	208	ePn	Pn	00 26 17.4	-1.1
SMRF	Simiane la Rot	2.55	208	ePg	Pg	00 26 24.6	-0.1
SMRF				eSn	Sn	00 26 47.6	-2.6
	comp=N,0.4nm,0.2s						
GRAM	Graiana	2.67	130	P	Pn	00 26 18.8	-1.3
GRAM				S	Sn	00 26 51.0	-2.3
SSF	Saint Saulge	2.68	289	ePn	Pn	00 26 19.6	-0.6
SSF	Saint Saulge	2.68	289	eP	Pn	00 26 21.8	+1.6
SSF	Saint Saulge	2.68	289	ePg	Pg	00 26 26.9	-0.2
SSF				eSn	Sn	00 26 50.2	-3.1
SSF				eSg	Sg	00 27 01.7	-0.1
	comp=N,3.9nm,0.2s						
MEZF	Maizieres J'vi	2.69	328	eP	Pn	00 26 21.5	+1.1
	baz=147						
MEZF	Maizieres J'vi	2.69	328	ePg	Pg	00 26 27.5	+0.1
	baz=140						
MEZF				eSn	Sn	00 26 51.0	-2.6
MEZF				eSg	Sg	00 27 01.7	-0.5
	comp=N,12nm,0.5s						
FRF	La Foret Royal	2.72	189	ePn	Pn	00 26 19.6	-1.1
FRF	La Foret Royal	2.72	189	ePg	Pg	00 26 27.3	-0.6
FRF				eSg	Sg	00 27 03.2	+0.1
	comp=N,2.4nm,0.3s						
AVF	Avril sur Loir	2.72	283	ePn	Pn	00 26 20.5	-0.2
AVF				eSn	Sn	00 26 52.3	-2.0
AVF				eSg	Sg	00 27 02.7	-0.4
	comp=N,2.2nm,0.2s						
SQTA	Sankt Quirin	2.92	69	Pn	Pn	00 26 26.0	+2.4
	comp=N,0.5nm,0.1s						
SQTA				eSg	Sg	00 27 10.9	+1.4
	comp=N,3.0nm,0.3s						
LMR	La Mourre	2.96	190	ePn	Pn	00 26 23.1	-0.9
LMR				eSn	Sn	00 26 57.0	-3.1
	comp=N,0.7nm,0.3s						
BGF	Bois d'Agland	3.04	277	ePn	Pn	00 26 24.9	-0.2
BGF	Bois d'Agland	3.04	277	ePg	Pg	00 26 33.6	-0.4
BGF				eSn	Sn	00 26 59.4	-2.7
BGF				eSg	Sg	00 27 13.7	+0.4
	comp=N,3.5nm,0.2s						
LASF	Ste Croix	3.21	229	ePg	Pg	00 26 36.4	-1.0
LASF				eSg	Sg	00 27 17.5	-1.6
	comp=N,2.6nm,0.3s						
HYF	Humbligny	3.30	290	ePn	Pn	00 26 29.2	+0.4
HYF				eSn	Sn	00 27 06.2	-2.6
HYF				eSg	Sg	00 27 21.1	-0.8
TCF	Toulx Ste Croi	3.47	272	ePn	Pn	00 26 30.9	-0.2
TCF	Toulx Ste Croi	3.47	272	ePg	Pg	00 26 41.3	-1.0
TCF				eSn	Sn	00 27 10.8	-2.1
TCF				eSg	Sg	00 27 27.4	+0.2
	comp=N,0.9nm,0.2s						
CAF	Calviac	3.85	252	ePn	Pn	00 26 35.9	-0.4
CAF				eSg	Sg	00 27 40.2	+0.8
	comp=N,1.6nm,0.3s						
BAIF	Baives	4.31	333	ePn	Pn	00 26 42.7	+0.1
BAIF				eSn	Sn	00 27 30.1	-3.5
BAIF				eSg	Sg	00 27 52.6	-1.7
	comp=N,1.0nm,0.3s						
MTLF	Montolieu	4.59	233	ePn	Pn	00 26 46.8	+0.3
MTLF	Montolieu	4.59	233	ePg	Pg	00 27 02.3	-1.5
MTLF				eSn	Sn	00 27 37.1	-3.4
MTLF				eSg	Sg	00 28 02.0	-1.2
	comp=N,0.3nm,0.2s						
LFF	La Frestale	4.73	256	ePn	Pn	00 26 48.1	-0.2
LFF				eSg	Sg	00 28 06.3	-1.3
	comp=N,1.0nm,0.3s						
MFF	Saint Martin d	5.10	277	ePn	Pn	00 26 53.5	+0.1
MFF				eSn	Sn	00 27 48.6	-4.4
MFF				eSg	Sg	00 28 18.3	-1.2
	comp=N,0.3nm,0.2s						
KHC	Kasperske Hory	5.18	54	eSN	Sn	00 27 51.5	-3.5
KHC				eSG	Sg	00 28 20.9	-1.2
LDF	La Druitiere	5.50	298	ePn	Pn	00 26 58.1	-0.9
LDF				eSn	Sn	00 27 58.3	-4.6
LDF				eSg	Sg	00 28 30.3	-2.2
	comp=N,1.2nm,0.4s						
GRR	Gorron	5.89	294	ePn	Pn	00 27 03.9	-0.4
GRR				eSn	Sn	00 28 07.6	-4.8
	comp=N,0.7nm,0.2s						
SGMF	Saint Gilles	6.94	290	ePn	Pn	00 27 18.1	-0.7
SGMF				eSn	Sn	00 28 32.8	-5.6
	comp=N,0.5nm,0.4s						
QUIF	Quistinic	7.28	287	ePn	Pn	00 27 22.4	-0.9
QUIF				eSn	Sn	00 28 40.7	-5.9
	comp=N,0.5nm,0.2s						

*ANF **20** 00:33:20.8±0.1, 36°.04N×117°.86W, h7km±1km, ML3.2/34, Error ellipse: s-maj=1.0km s-min=1.0km az=145.0*
*SCEDC **20** 00:33:21.3, 36°.05N×117°.86W, h2km*
*PAS **20** 00:33:21.3±1.7, 36°.05N±0°.02×117°.86W±0°.02, h2km±7km, ML3.1/83, Error ellipse: s-maj=2.4km s-min=2.3km az=71.0*
*NEIC **20** 00:33:21.6±1.7, 36°.05N±0°.03×117°.85W±0°.01, h1km±7km, Error ellipse: s-maj=4.7km s-min=1.4km az=176.0*

ISC 20 00:33:21.4±0.8, 36°.05N±0°.01×117°.85W±0°.01, h11km±6km, n104, σ1§28/152, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	Rose V. Centra	0.05	224		Pg	00 33 23.4	-0.3
MFS	McCloud Flat S	0.07	355		Pg	00 33 22.9	-1.1
WNMM	Nine Mile Cany	0.21	193		Pg	00 33 25.4	-0.4
WNMM					Sg	00 33 28.5	-0.3
TOW	Tower One	0.24	164		Pg	00 33 26.6	+0.1
WCHM	Chimney Peak	0.25	229		Pg	00 33 26.1	-0.6
MPMC	Manual Prospec	0.29	87	P	Pg	00 33 26.7	-0.7
	baz=268,SNR=1000						
MPMC				S	Sg	00 33 31.5	+0.1
	baz=268						
MPMC	Manual Prospec	0.29	87		Pg	00 33 27.1	-0.3
MPMC					Sg	00 33 31.6	+0.2
CLC	China Lake	0.30	138		Pg	00 33 27.4	-0.3
CLC					Sg	00 33 31.9	+0.1
SRTC	Snort	0.36	167		Pg	00 33 28.9	+0.2
SRTC					Sb	00 33 35.0	-0.6
WLHM	Little Horse	0.39	286		Pg	00 33 28.7	-0.7
WLHM					Sg	00 33 34.3	-0.3
CWC	Cottonwood Cre	0.44	334	P	Pg	00 33 29.5	-0.6
	baz=155						
CWC				S	Sg	00 33 35.5	-0.4
	baz=155						
CWC	Cottonwood Cre	0.44	334		Pg	00 33 29.5	-0.6
CWC					Sg	00 33 35.6	-0.4
WORM	Onyx Ranch	0.47	223		Pg	00 33 30.2	-0.6
CGO	Cerro Gordo	0.51	4		Pg	00 33 30.8	-0.6
CGO					Sg	00 33 38.4	+0.3
WBSM	Bird Springs	0.56	205		Pg	00 33 31.9	-0.5
WBSM					Sg	00 33 39.9	+0.1
LRMC	Laurel Mtn Rad	0.58	167	P	Pg	00 33 32.3	-0.4
	baz=346,SNR=119						
LRMC				S	Sg	00 33 40.6	+0.2
	baz=346						
LRMC	Laurel Mtn Rad	0.58	167		Pg	00 33 32.4	-0.4
LRMC					Sg	00 33 40.6	+0.2
ISA	Isabella, Lake	0.64	233	P	Pg	00 33 33.3	-0.5
	baz=52,SNR=127						
ISA				S	Sg	00 33 41.9	-0.3
	baz=52						
ISA	Isabella, Lake	0.64	233	Pg	Pg	00 33 33.3	-0.5
ISA				Sg	Sg	00 33 41.9	-0.3
CCCA	Chr Cany lake	0.65	143		Sb	00 33 43.8	-0.2
WASM	Alta Sierra Ca	0.65	242		Pg	00 33 33.6	-0.5
WASM					Sg	00 33 42.6	-0.2
MCA	Marble Canyon	0.76	37		Pg	00 33 35.3	-0.7
SPG2	Springville 2	0.76	282		Pg	00 33 35.2	-0.9
SPG2					Sg	00 33 44.9	-1.2
QSM	Queen of Sheba	0.80	95		Pg	00 33 36.4	-0.4
TMO	Tin Mountain	0.84	25		Pg	00 33 36.8	-0.8
FURC	Furnace Creek,	0.90	62	P	Pg	00 33 38.7	-0.1
	baz=243,SNR=207						
FURC				S	Sb	00 33 51.2	+0.1
	baz=243						
FURC	Furnace Creek,	0.90	62		Pg	00 33 38.7	-0.1
FURC					Sb	00 33 51.1	0.0
GRAC	Grapevine Rang	1.02	22	P	Pg	00 33 40.5	-0.7
	baz=203,SNR=81						
GRAC				S	Sn	00 33 56.0	-0.3
	baz=203						
GRAC	Grapevine Rang	1.02	22		Pg	00 33 40.5	-0.7
VES	Vestal, Richgr	1.02	259	P	Pg	00 33 40.5	-0.6
	baz=78,SNR=94						
VES				S	Sg	00 33 54.5	0.0
	baz=78						
VES	Vestal, Richgr	1.02	259		Pg	00 33 40.5	-0.6
VES					Sg	00 33 53.8	-0.7
FMT	Funeral Mounta	1.04	55		Pg	00 33 40.9	-0.7
TIN	Tinemaha, Big	1.05	343	P	Pg	00 33 41.2	-0.5
	baz=163,SNR=19						
TIN				S	Sb	00 33 55.6	-0.1
	baz=163						
TEJ	El Tejon	1.06	220		Pg	00 33 40.8	-1.1
TEJ					Sg	00 33 55.0	-0.8
GSC	Goldstone, Bar	1.13	131	P	Pb	00 33 42.3	-0.7
	baz=311,SNR=190						
GSC				S	Sg	00 33 57.7	-0.1
	baz=311						
GSC	Goldstone, Bar	1.13	131	Pg	Pb	00 33 42.3	-0.7
EDW2	Edwards Air Fo	1.17	186	P	Pb	00 33 42.9	-0.8
	baz=5.3,SNR=138						
EDW2				S	Sb	00 33 58.3	-0.5
	baz=5.3						
EDW2	Edwards Air Fo	1.17	186		Pb	00 33 43.0	-0.8
EDW2					Sb	00 33 58.3	-0.5
HYS	Haystack Butte	1.20	169		Pb	00 33 43.4	-0.9
TPO	Tropico Hills	1.20	195		Sb	00 33 59.7	-0.2
ARVC	Arvin	1.22	221	P	Pn	00 33 44.0	-0.5
	baz=40,SNR=12						
ARVC				S	Sg	00 34 00.8	+0.1
	baz=40						
ARVC	Arvin	1.22	221		Pn	00 33 44.0	-0.5
BAKC	Calstate	1.24	236		Pn	00 33 44.5	-0.3
VOG	Valley Oaks Go	1.27	283	P	Pn	00 33 44.7	-0.5
	baz=102						
VOG				S	Sb	00 34 01.7	-0.2
	baz=102						
VOG	Valley Oaks Go	1.27	283		Pn	00 33 44.7	-0.5
VOG					Sb	00 34 01.9	+0.1
SHOC	Shoshone, Teco	1.28	96	P	Pn	00 33 44.9	-0.5
	baz=277,SNR=204						
SHOC				S	Sn	00 34 02.8	+0.2
	baz=277						
SHOC	Shoshone, Teco	1.28	96		Pn	00 33 44.9	-0.5
AMDNV	Amargosa	1.33	72		Pn	00 33 45.8	-0.1
AMDNV					Sb	00 34 03.4	-0.1
SBB	Saddle Back Bu	1.35	179		Pn	00 33 46.4	0.0
SBB					Sb	00 34 04.1	-0.1
RRX	Edison Barstow	1.36	149	P	Pb	00 33 47.2	+0.2
	baz=329						
RRX				S	Sg	00 34 05.6	+0.5
	baz=329						
ALV	Alvord Mountai	1.40	134		Pn	00 33 46.6	-0.3
TPNV	Topopah Spring	1.57	54	P	Pn	00 33 49.8	+0.3
	baz=236,SNR=159						
TPNV				S	Sb	00 34 11.3	+0.6
	baz=236						
TPNV	Topopah Spring	1.57	54		Pn	00 33 50.0	+0.5
OSI	Osito Audit: C	1.60	207	Pg	Pg	00 33 52.3	+0.2
	baz=26						
OSI	Osito Audit: C	1.60	207		Pb	00 33 51.5	+0.5
TUQ	Turquoise Moun	1.68	111	P	Pn	00 33 50.6	-0.3
	baz=292,SNR=59						
TUQ				S	Sg	00 34 15.3	-0.1
	baz=292						
TUQ	Turquoise Moun	1.68	111		Pn	00 33 51.0	+0.1
HEC	Hector,Ludlow	1.73	134	P	Pn	00 33 51.4	-0.2
	baz=315,SNR=21						
HEC				S	Sb	00 34 16.3	+1.2
	baz=315						
MLAC	Mammoth, Mammo	1.77	334	Pb	Pb	00 33 54.1	0.0
	baz=153,SNR=24						
MLAC				Sb	Sg	00 34 17.7	-0.7
	baz=153						
MLAC	Mammoth, Mammo	1.77	334		Pb	00 33 54.3	+0.2
BFSC	Mount Baldy Ra	1.81	175	Sb	Sb	00 34 18.5	+1.1
	baz=355						
OMMB	Old Mammoth Mi	1.82	330	Pn	Pb	00 33 54.6	-0.4
MWC	Mount Wilson	1.82	186		Pb	00 33 54.8	-0.2
DECC	Green Verdugo	1.83	193	S	Sb	00 34 18.6	+0.6
	baz=12						
MDPB	Devils Postpil	1.87	328		Pb	00 33 55.5	-0.2
PASC	Pasadena Art C	1.89	189		Pg	00 33 57.3	-0.4
SMMC	Simmler	1.90	248	Pb	Pn	00 33 55.1	+1.3
	baz=66,SNR=28						
SMMC				Sb	Sb	00 34 20.7	+0.9
	baz=66						
BBRC	Big Bear Solar	1.93	157	Pg	Pg	00 33 58.1	-0.4
	baz=337,SNR=6.0						
BBRC				Sb	Sg	00 34 23.6	0.0
	baz=337						
PAGB	Antelope Grade	1.98	262		Pb	00 33 56.5	-1.0
PKM	Mcpherson Peak	1.98	235	Pb	Pb	00 33 56.6	-1.0
	baz=53,SNR=20						
PKM				Sb	Sb	00 34 23.2	+0.9
	baz=53						
MMIM	Miami Mountain	2.05	313		Pb	00 33 58.5	-0.3
TPH	Tonopah	2.09	14		Pn	00 33 57.7	+1.1
GMRC	Granite Mounta	2.18	125	P	Pn	00 33 57.1	-0.8
	baz=306,SNR=31						
GMRC				Sb	Sg	00 34 30.8	-0.8
	baz=306						
SHPR	Sheep Range	2.22	77		Pn	00 33 59.9	+1.5
LHV	Little Huntoon	2.26	347		Pn	00 34 00.7	+1.8
NV11	Mina Array Sit	2.40	354		Pn	00 34 01.7	+0.9
PMPB	Monarch Peak	2.40	275	Pn	Pb	00 34 03.0	-1.6
NVAR	Mina Array Bea	2.41	351	Pn	Pn	00 34 01.6	+0.6
MURC	Murrieta	2.50	167	Sb	Sg	00 34 39.8	-1.8
	baz=348						
BELC	Belle Mtn. Jos	2.54	143	P	Pn	00 34 02.8	0.0
	baz=324						
BELC				Sb	Sg	00 34 41.6	-1.5
	baz=324						
PRN	Pahroc Range	2.62	58	Pn	Pn	00 34 04.8	+0.8
RYN	Ryan	2.63	348		Pn	00 34 05.5	+1.4
CIS	Catalina Islan	2.68	190	Sb	Sg	00 34 45.6	-1.8
	baz=9.6						
PFO	Pinyon Flats O	2.68	154	Pn	Pn	00 34 04.8	+0.1
	baz=335						
PFO				Pb	Pb	00 34 11.1	+1.5
	baz=335						
PFO				Sb	Sg	00 34 46.7	-0.9
	baz=335						
PFO	Pinyon Flats O	2.68	154	Pg	Pb	00 34 11.0	+1.4
XPFO	Pion Flat	2.68	154	Pg	Pb	00 34 11.3	+1.7
SBI	Santa Barbara	2.74	201		Pn	00 34 05.8	+0.5
WAKR	Walker	2.76	333		Pn	00 34 07.9	+2.0
CMB	Columbia Colle	2.84	315	Pn	Pn	00 34 08.9	+2.1
IRM	Iron Mountain	2.91	130	P	Pn	00 34 06.9	-0.9
	baz=311						
IRM				Sb	Sg	00 34 53.2	-1.6
	baz=311						
R11A	Troy Canyon, C	2.92	37	Pn	Pn	00 34 09.0	+0.9
	baz=219,SNR=11						
R11A				Pb	Pb	00 34 14.8	+1.0
	baz=219						
R11A				Sb	Sg	00 34 53.7	-1.7
	baz=219						
R11A	Troy Canyon, C	2.92	37		Pb	00 34 14.0	+0.2
SAO	San Andreas Ge	2.99	285	Pn	Pn	00 34 11.1	+2.2
MONP2	Monument Peak	3.36	159	Pb	Pb	00 34 23.1	+2.0
	baz=340						
MONP2				Sb	Sg	00 35 06.8	-2.6
	baz=340						
W13A	Hualapai Mount	3.36	105	Pg	Pb	00 34 22.6	+1.3
GLA	Glamis	3.89	139		Pg	00 34 38.1	+2.2
CCUT	Cedar City	3.90	66		Pn	00 34 25.1	+3.5
U15A	North Rim	4.51	84	Pg	Pg	00 34 44.8	-3.0
PKCU	Pink Cliffs	4.66	71	Pn	Pn	00 34 33.4	+1.3
ELK	Elko	5.12	23	Pg	Pg	00 34 56.5	-3.1
O03E	Paynes Creek	5.26	325	Sb	Sb	00 36 03.6	+6.8
	baz=143						
WUAZ	Wupatki	5.29	94	Pb	Pb	00 34 58.1	+4.1
	baz=278						
WUAZ	Wupatki	5.29	94	Pg	Pg	00 34 58.6	-4.1
DUG	Dugway, Tooele	5.74	42	Sb	Sg	00 36 20.1	-5.5
	baz=225						

*REY **20** 01:10:11.0, 64°.68N×17°.37W, h3km*
*IDC **20** 01:10:12.1±0.4, 64°.71N×17°.46W, h0km, mb4.3/31, mb1 4.4/37, mb1mx4.2/58, mbtmp4.2/37, ML2.9/4, MS3.9/40, Ms1 3.9/40, ms1mx3.9/45, Error ellipse: s-maj=13.5km s-min=7.4km az=6.0*
*BGS **20** 01:10:12.0±1.9, 64°.69N×17°.23W, h5km, MS4.6*
*MOS **20** 01:10:13.0±1.0, 64°.71N×17°.13W, h8km, mb5.1/67, MS4.3/22, Error ellipse: s-maj=8.3km s-min=5.7km az=100.3*
*BJI **20** 01:10:13.0±0.0, 64°.80N×17°.30W, h10km, mB5.3/29, mb4.7/38, Ms4.7/14, Ms7 4.5/13*
*IEPN **20** 01:10:13.0, 64°.40N×17°.39W, h10km*
*NEIC **20** 01:10:14.3±2.1, 64°.7N±0°.1×17°.2W±0°.2, h8km±3km, mb5.0/241, Error ellipse: s-maj=15.2km s-min=9.6km az=186.0*
*UNK **20** 01:10:14.3, 64°.64N×17°.06W, h5km*
*DNK **20** 01:10:15.2±5.5, 64°.67N×17°.41W, h0km±241km, Ms4.4, Hypocentre not reviewed by the ISC*
*GCMT **20** 01:10:17.3±0.2, 64°.61N±0°.02×17°.13W±0°.03, h12km, MW4.9/128, Moment Tensor Solution. s48, c63; s128, c193; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.09±.05; Mθθ=1.48±.06; Mφφ=1.61±.05; Mrθ=-0.39±.23; Mrφ=-0.65±.05; Mθφ=-1.74±.20; Best double couple: M=3.09100×10^16 NP1:φs=132.00000°, δ=34.00000°, λ=-116.00000°. NP2:φs=343.00000°, δ=60.00000°, λ=-73.00000°. Principal axes: T 2.4550, Plg=13.0000°, Azm=61.0000°; N 1.2730, Plg=14.0000°, Azm=154.0000°; P =-3.7280, Plg=70.0000°, Azm=289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **20** 01:10:22.9±0.0, 64°.65N×15°.19W, h10km, mb5.1, Ms3.9*

ISC 20 01:10:14.5±0.2, 64°.77N±0°.02×17°.26W±0°.02, h10km, n620, σ1§95/575, mb5.0/217, MS4.1/63, 25C-19D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	Dyngjuhals	0.05	300	P	Pg	01 10 13.6	-3.1
	baz=1.5						
IDYN				S	Sg	01 10 15.4	-2.8
	baz=1.5						
IURH	Urdarhals	0.07	42	P	Pg	01 10 14.7	-2.2
	baz=34						
IVON	Vonarskard	0.23	247	P	Pg	01 10 14.8	-4.5
	baz=269						
IDJK	Dyngjujokull	0.26	178	P	Pg	01 10 14.8	-5.1
	baz=161						
IDJK				S	Sg	01 10 18.3	-5.2
	baz=161						
IKVE	Kverkfjoll	0.27	109	P	Pg	01 10 17.4	-2.6
	baz=90						
IGRF	Grimsfjall	0.36	180	P	Pg	01 10 16.7	-5.0
	baz=170						
IBJK	Bruarjokull	0.37	143	P	Pg	01 10 17.4	-4.5
	baz=128						
IKRE	Kreppuhraun	0.38	87	P	Pg	01 10 19.2	-2.8
	baz=75						
IMKO	Mokollar	0.45	61	P	Pg	01 10 20.9	-2.4
	baz=55						
IVOT	Vottur	0.50	176	P	Pg	01 10 18.9	-5.4
	baz=168						
IHUS	Husbondi	0.50	200	P	Pg	01 10 18.8	-5.5
	baz=198						
ISKR	Skrokkalda	0.53	247	P	Pg	01 10 19.1	-5.7
	baz=255						
ISVA	Svartarkot	0.57	0	P	Pg	01 10 22.9	-2.8
	baz=4.3						
IJOK	Jokulheimar	0.61	223	P	Pg	01 10 20.5	-5.9
	baz=226						
IVSH	V-Sauoahnukur	0.66	86	P	Pg	01 10 23.9	-3.4
	baz=79						
IKSK	Karasker	0.70	150	P	Pg	01 10 22.2	-5.8
	baz=143						
IADA	Aoalbol	0.76	70	P	Pg	01 10 25.8	-3.5
	baz=65						
IIEY	Innrieyrar	0.77	209	P	Pg	01 10 22.8	-6.6
	baz=210						
IMEL	Melhnausar	0.85	17	P	Pg	01 10 27.5	-3.4
	baz=18						
IREN	Reynihlio	0.90	9	P	Pg	01 10 28.2	-3.6
	baz=11						
IFAG	Fagurholsmyri	0.93	163	P	Pg	01 10 26.2	-6.2
	baz=158						
IKVO	Krokottuvotn	0.97	9	P	Pg	01 10 29.2	-3.9
	baz=11						
IHVE	Hveravellir	0.99	277	P	Pg	01 10 28.2	-5.4
	baz=283						
IGRS	Grimsstaoir	1.00	28	P	Pg	01 10 30.2	-3.5
	baz=28						
IGHA	Grjothals	1.11	13	P	Pb	01 10 31.9	-3.9
	baz=14						
ISKI	Skildingahlsh	1.11	5	P	Pb	01 10 31.6	-4.2
	baz=6.8						
ISNB	Snabyli	1.19	211	P	Pb	01 10 30.1	-7.1
	baz=211						
IFED	Fedgar	1.29	236	P	Pn	01 10 32.0	-6.6
	baz=238						
IRJU	Rjupnafell	1.31	209	P	Pn	01 10 32.2	-6.7
	baz=209						
BORG	Borgarnes	1.74	271	Pg	Pn	01 10 40.7	-4.1
	33nm,0.3s,baz=102,slow=8.5,SNR=73						
BORG				Lg	Lg	01 11 03.3	
	40nm,0.3s,baz=294,slow=21,SNR=9.1						
BORG	Borgarnes	1.74	271	P	Pn	01 10 40.8	-4.0
BORG					

SUMG Summit 10.92 325 *i* P **Pn 01 12 54.6 +3.7**
SUMG Summit 10.92 325 Pn **Pn 01 12 47.9 -3.0**
PGBU Glenifferbraes 10.97 139 *eP* **Pn 01 12 48.3 -3.0**
EDI Edinburgh 11.25 135 *eP* **Pn 01 12 53.1 -2.0**
EDI IAMs_20 IAMs_20 01 17 56.8
comp=Z,3μm,15.2s
EBL Broad Law 11.42 135 *eP* **Pn 01 12 54.7 -2.7**
ESY Stoneypath 11.43 134 *eP* **Pn 01 12 55.1 -2.5**
EKA Eskdalemuir Ar 11.76 137 Pn **Pn 01 12 59.4 -2.8**
baz=323,slow=12,SNR=23
ESK Eskdalemuir 11.76 137 *eP* **Pn 01 12 59.8 -2.4**
ESK IAMs_20 IAMs_20 01 18 29.9
comp=Z,3μm,11.2s
ESK Eskdalemuir 11.76 137 P Pn 01 12 57.2 -4.9
ESK Eskdalemuir 11.76 137 Pn Pn 01 12 57.2 -4.9
DAG Danmarks Havn 12.08 358 *i* P **Pn 01 13 10.4 +4.1**
DAG Danmarks Havn 12.08 358 *i* P **Pn 01 13 10.4 +4.1**
KESW Keswick, Cumbr 12.42 139 *eP* **Pn 01 13 09.2 -2.0**
KESW IAMs_20 IAMs_20 01 18 53.3
comp=Z,5μm,11.4s
DSB Dublin 12.81 149 Pn Pn 01 13 10.9 -5.6
NC204 NORSAR Array S 13.13 93 Pn **Pn 01 13 17.0 -3.9**
NBO00 NORSAR Array S 13.25 93 **Pn 01 13 19.4 -3.2**
NAO01 NORSAR Array S 13.39 94 Pn Pn 01 13 20.0 -4.4
NC303 NORSAR Array S 13.41 92 Pn 01 13 19.1 -5.6
NB2 NORSAR Subarra 13.44 92 Pn **Pn 01 13 21.5 -3.5**
comp=Z,101nm,3.3s,baz=298,slow=14
NOA NORSAR Array B 13.44 93 Pn **Pn 01 13 21.5 -3.5**
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=8.4
NOA LR LR 01 18 23.9
comp=Z,498nm,21.7s,baz=295,slow=36
NB201 NORSAR Array S 13.47 93 Pn Pn 01 13 21.0 -4.4
SFJD Kangerlussuaq 13.72 294 ⇓*i* P **Pn 01 13 31.6 +2.9**
SFJD Kangerlussuaq 13.72 294 ⇓*i* P **Pn 01 13 31.6 +2.9**
NC602 NORSAR Array S 13.72 94 Pn 01 13 24.5 -4.4
LBWR Ladybower, Pea 13.86 138 *eP* **Pn 01 13 28.5 -2.3**
LBWR IAMs_20 IAMs_20 01 19 46.7
comp=Z,4μm,10.1s
HFS Hagfors 14.95 94 Pn **Pn 01 13 42.6 -3.0**
comp=Z,0.1nm,0.3s,baz=315,slow=8.8,SNR=2.2
HFS LR LR 01 19 09.7
comp=Z,672nm,21.2s,baz=296,slow=36
MUD Monsted U'grnd 15.30 111 *i* P **P 01 13 53.9 -1.2**
comp=Z,2μm,11.0s
MUD Monsted U'grnd 15.30 111 *i* P **P 01 13 53.9 -1.2**
MUD MLR MLR
comp=Z,2μm,11.0s
HSPB Hornsund (broa 15.93 27 *eP* **P 01 14 00.9 -1.1**
HSPB *eS* **Sn 01 17 02.3 +7.6**
KBS Kingsbay 16.51 19 *eP* **Pn 01 14 05.2 -0.6**
KBS *eS* **Sn 01 17 10.3 +1.6**
KBS Kingsbay 16.51 19 *deP* **P 01 14 08.3 -0.1**
KBS pmax pmax
comp=Z,48nm,1.8s
SPA0 Spitsbergen Ar 16.74 23 *eP* **P 01 14 12.1 +1.2**
SPA0 *eS* **S 01 17 22.9 -2.4**
SPA0 Spitsbergen Ar 16.74 23 Pn **Pn 01 14 05.7 -3.0**
SPITS Spitsbergen Ar 16.74 23 LR LR 01 18 54.9
comp=Z,468nm,21.5s,baz=200,slow=31
NOR Nord 16.93 0 *i* P **P 01 14 13.9 +0.9**
NOR Nord 16.93 0 *i* P **P 01 14 13.9 +0.9**
ARCES ARCESS Array B 16.98 55 P **Pn 01 14 09.9 -1.9**
comp=Z,0.1nm,0.3s,baz=24,slow=16,SNR=3.3
COP Copenhagen 17.16 108 *i* P **P 01 14 16.8 +1.2**
COP Copenhagen 17.16 108 *i* P **P 01 14 16.8 +1.2**
KEV Kevo 17.48 54 P **Pn 01 14 14.7 -3.3**
KEV pmax pmax
comp=Z,36nm,1.0s
KEV Kevo 17.48 54 Pn **Pn 01 14 14.7 -3.3**
BSEG Bad Segeberg 17.58 115 *eP* **Pn 01 14 18.4 -0.9**
comp=Z,234nm,1.8s,baz=327,slow=11
HOPEN Hopen 17.70 31 *eP* **P 01 14 23.2 +1.7**
HOPEN *eS* **S 01 17 44.7 0.0**
IBBN Ibbenburen 17.90 122 *eP* **P 01 14 25.1 +1.3**
comp=Z,362nm,2.5s,baz=327,slow=11
RGN Rugen 18.32 109 *eP* **P 01 14 28.9 +0.3**
RGN Rugen 18.32 109 Pn **Pn 01 14 22.8 -5.7**
RGN IAmb IAmb 01 14 35.0
comp=Z,102nm,1.1s
BEBN Eben Emael 18.42 128 P **Pn 01 14 29.7 0.0**
BUG Bochum--Univer 18.43 125 *eP* **P 01 14 29.4 -0.3**
comp=Z,194nm,2.1s,baz=327,slow=11
BMRD Maredsous 18.55 131 P **P 01 14 30.8 -0.2**
BMRD PnPn **PnPn 01 14 42.3 -0.4**
BSTI Sart Tilman 18.57 129 P **P 01 14 29.8 -1.5**
BSD Bornholm Skovb 18.57 106 *i* P **Pn 01 14 31.7 +0.2**
comp=Z,680nm,12.0s
BSD Bornholm Skovb 18.57 106 *i* P **Pn 01 14 31.7 +0.2**
BSD MLR MLR
comp=Z,700nm,12.0s
BGES Gesves 18.58 130 P **Pn 01 14 32.2 +0.6**
BGES PnPn **PnPn 01 14 41.9 -1.3**
NRDL Niedersach Rie 18.62 118 *eP* **P 01 14 30.1 -1.6**
comp=Z,122nm,1.6s,baz=327,slow=11
BCLA Clavier 18.62 130 P **Pn 01 14 32.7 +0.6**
DOU Dourbes 18.67 131 P **Pn 01 14 33.2 +0.5**
MEM Membach 18.69 128 P **Pn 01 14 33.0 +0.1**
BHOU Houvegnez 18.91 129 P **P 01 14 35.0 0.0**
BHOU x x 01 14 38.1
CLZ Clausthal 19.23 119 *eP* **P 01 14 37.1 -1.5**
comp=Z,82nm,1.4s,baz=327,slow=11
GTTG Gottingen 19.32 120 *eP* **P 01 14 38.9 -0.6**
comp=Z,134nm,1.7s,baz=327,slow=11
WLF Walferdange 19.55 130 P P 01 14 33.8 -8.2
WLF pmax pmax
comp=Z,38nm,1.3s
WLF Walferdange 19.55 130 P 01 14 33.8 -8.2
FINES FINESS Array B 19.59 80 P **P 01 14 42.1 -0.2**
comp=Z,0.1nm,0.3s,baz=328,slow=9.3,SNR=12
FINES LR LR 01 22 05.8
comp=Z,420nm,21.4s,baz=290,slow=36
FINES FINESS Array B 19.59 80 P **P 01 14 41.1 -1.2**
FIA1 FINESS Array S 19.59 80 **P 01 14 41.9 -0.4**
CLF Chambon-Foret 19.80 139 P **P 01 14 43.4 -1.4**
CLF IAmb IAmb 01 15 04.8
comp=Z,236nm,2.0s
TNS Taunus Mts 19.86 125 *eP* **Pn 01 14 47.9 +0.8**
comp=Z,460nm,3.1s,baz=327,slow=11
UBBA Unterbreizbach 19.92 121 *eP* **P 01 14 46.6 +0.6**
comp=Z,124nm,1.9s,baz=327,slow=11
RUE Ruedersdorf 20.05 113 *eP* **P 01 14 47.9 +0.5**
RUE Ruedersdorf 20.05 113 *eP* **P 01 14 47.5 +0.1**
comp=Z,98nm,1.7s,baz=327,slow=11
APA Apatity 20.19 59 ⇓*i* P Pn 01 14 56.2 +5.4
APA pmax pmax
comp=Z,23nm,0.9s
NEUB Neuenburg 20.27 118 *eP* **P 01 14 50.2 +0.4**
comp=Z,139nm,1.4s,baz=327,slow=11
LVZ Lovozero 20.55 58 ⇑*eP* Pn 01 14 55.7 +0.6
LVZ pmax pmax
comp=Z,59nm,1.6s
CLL Collm 20.66 116 *i* P **P 01 14 54.1 +0.1**
comp=Z,67nm,1.5s
CLL *e*Pmax 01 14 59.0
CLL *i* 01 15 02.5
CLL *e*S Sn 01 18 47.0 -2.1
CLL *e*SSS SSS 01 19 18.0
CLL LmV 01 23 00.0
comp=N,500nm,18.7s
CLL LmV 01 23 00.0
comp=E,1μm,18.8s
CLL LmV 01 23 00.0
comp=Z,400nm,18.8s
CLL Lmax 01 26 00.0
CLL Collm 20.66 116 *i* P **P 01 14 54.1 +0.1**
CLL *e*S Sn 01 18 47.0 -2.1
CLL pmax pmax
comp=Z,67nm,1.5s
CLL MLR MLR
comp=Z,400nm,18.8s
CLL Collm 20.66 116 *eP* **P 01 14 53.4 -0.7**
comp=Z,149nm,2.0s,baz=327,slow=11
CLL Collm 20.66 116 P **P 01 14 52.6 -1.4**
CLL IAmb IAmb 01 15 08.1
comp=Z,154nm,2.0s
MOX Moxa 20.66 119 *eP* **P 01 14 53.7 -0.5**
comp=Z,160nm,1.8s,baz=327,slow=11
MOX *e*L L 01 22 56.0
comp=Z,482nm,21.2s
GKP Gorka Klasztor 20.85 107 *eP* **P 01 14 56.6 +0.5**
GKP *e*S **S 01 18 49.6 +1.4**
PBUR Paburge 20.91 96 *eP* **P 01 14 56.1 -0.6**
PLN Plauen 21.00 119 *eP* **P 01 14 57.7 -0.1**
comp=Z,145nm,1.7s,baz=327,slow=11

FBE Freiberg 21.10 116 *eP* **P 01 14 58.9 0.0**
comp=Z,194nm,1.8s,baz=327,slow=11
KLNR Kaliningrad 21.13 101 ⇓*eP* **P 01 14 59.4 +0.3**
KLNR pmax pmax
comp=Z,88nm,1.1s
ECH Echery 21.14 130 P **P 01 14 57.0 -2.3**
ECH pmax pmax
comp=Z,92nm,2.0s
ECH Echery 21.14 130 P **P 01 14 57.0 -2.3**
GUNZ Gunzen 21.16 119 *eP* **P 01 14 59.2 -0.3**
comp=Z,403nm,2.3s,baz=327,slow=11
TANN Tannenbergstha 21.17 119 *eP* **P 01 14 59.3 -0.3**
comp=Z,1μm,2.9s,baz=327,slow=11
WERN Wernitzgruen 21.24 119 *eP* **P 01 15 00.4 0.0**
comp=Z,691nm,3.0s,baz=327,slow=11
GRA1 Grafenberg Arr 21.30 121 P **P 01 14 59.6 -1.4**
GRF Grafenberg Arr 21.30 121 P **P 01 14 59.6 -1.4**
GRF pmax pmax
comp=Z,200nm,1.8s
GRF Grafenberg Arr 21.30 121 *eP* **P 01 15 00.3 -0.7**
comp=Z,368nm,2.1s,baz=327,slow=11
GRF *e*L L 01 24 21.5
comp=Z,600nm,18.5s
NKC Novy Kostel 21.31 119 *eP* **P 01 15 03.1 +2.0**
NKC *e*S Sn 01 19 04.7 -0.1
NKC AMS AMS 01 27 20.0
comp=Z,1μm,10.1s
NKC Novy Kostel 21.31 119 *eP* **P 01 15 03.1 +2.0**
NKC *e*S Sn 01 19 04.7 -0.1
NKC MLR MLR
comp=Z,1μm,10.1s
STU Stuttgart 21.35 126 P **P 01 15 00.0 -1.5**
STU pmax pmax
comp=Z,137nm,1.6s
STU Stuttgart 21.35 126 *eP* **P 01 15 02.0 +0.5**
comp=Z,777nm,3.0s,baz=327,slow=11
STU Stuttgart 21.35 126 P **P 01 14 60.0 -1.5**
STU IAmb IAmb 01 15 18.3
comp=Z,137nm,1.6s
BRG Berggiesshubel 21.36 116 *eP* **P 01 15 00.6 -1.0**
comp=Z,42nm,1.4s
BRG *i* 01 15 04.6
comp=Z,63nm,1.4s
BRG S Sn 01 19 04.0 -2.1
comp=N,861nm,12.8s
comp=E,1μm,13.1s
comp=Z,1μm,11.5s
BRG Berggiesshubel 21.36 116 *eP* **P 01 15 00.6 -1.0**
BRG *i* 01 15 04.6
BRG S Sn 01 19 04.0 -2.1
BRG pmax pmax
comp=Z,42nm,1.5s
BRG pmax pmax
comp=Z,63nm,1.4s
BRG MLR MLR
comp=N,861nm,12.8s
BRG MLR MLR
comp=E,1μm,13.1s
BRG MLR MLR
comp=Z,1μm,11.5s
BRG Berggiesshubel 21.36 116 *eP* **P 01 15 00.7 -1.0**
comp=Z,770nm,3.1s,baz=327,slow=11
MANZ Manzenberg 21.38 120 *eP* **P 01 15 01.4 -0.6**
comp=Z,165nm,2.2s,baz=327,slow=11
BFO Black Forest 21.43 128 P **P 01 15 01.4 -1.0**
BFO pmax pmax
comp=Z,47nm,1.3s
BFO Black Forest 21.43 128 *eP* **P 01 15 02.7 +0.3**
comp=Z,385nm,2.6s,baz=327,slow=11
BFO Black Forest 21.43 128 P **P 01 15 01.4 -1.0**
VSU Vasula 21.46 86 *eP* **P 01 15 00.9 -1.6**
VSU Vasula 21.46 86 ⇑*eP* **P 01 15 01.3 -1.3**
VSU pmax pmax
comp=Z,66nm,1.0s
ROTZ Rotzenmuhle 21.60 120 *eP* **P 01 15 04.0 -0.2**
comp=Z,326nm,2.6s,baz=327,slow=11
FRB Frobisher Bay 21.81 291 LR LR 01 23 00.9
comp=Z,422nm,19.4s,baz=60,slow=35
PVCC Panska Ves 21.88 115 AMS AMS 01 27 50.0
comp=Z,900nm,11.3s
SLVR Solovky 21.93 65 *eP* **P 01 15 07.2 -0.5**
comp=Z,52nm,1.0s
PABE Paberze 22.12 95 *eP* **P 01 15 08.4 -1.3**
PRA Prague 22.19 116 AMS AMS 01 27 50.0
comp=Z,500nm,11.1s
PUL Pulkovo 22.24 81 ⇑*eP* **P 01 15 09.9 -1.1**
PUL pmax pmax
comp=Z,68nm,0.8s
PRU Pruhonice 22.30 116 *eP* **P 01 15 11.2 -0.5**
PRU *e*S **S 01 19 21.4 +4.7**
PRU AMS AMS 01 27 10.0
comp=Z,1μm,9.9s
PRU Pruhonice 22.30 116 *eP* **P 01 15 11.2 -0.5**
PRU MLR MLR
comp=Z,1μm,9.9s
KSP Ksiaz 22.31 113 *eP* **P 01 15 10.3 -1.5**
KSP *e*S **S 01 19 19.3 +2.5**
PBCC Pribram 22.34 118 *eP* **P 01 15 14.2 +2.0**
WET Wettzell 22.36 120 *eP* **P 01 15 12.1 -0.4**
comp=Z,211nm,2.1s,baz=327,slow=11
CHVC Chvalec 22.41 113 *eP* **P 01 15 12.9 -0.1**
CHVC *e*S Sn 01 19 26.6 -4.7
CHVC AMS AMS 01 27 40.0
comp=Z,600nm,12.3s
GOPC GO Pecny, Ondr 22.46 116 *eP* **P 01 15 13.5 +0.1**
GOPC *e*S Sn 01 19 26.2 -6.1
GOPC AMS AMS 01 28 30.0
comp=Z,1μm,10.6s
GOPC GO Pecny, Ondr 22.46 116 *eP* **P 01 15 13.5 +0.1**
GOPC MLR MLR
comp=Z,1μm,10.6s
UPC Upice 22.46 114 AMS AMS 01 28 40.0
comp=Z,1μm,11.5s
OSTC Ostas 22.50 113 *eP* **P 01 15 13.9 0.0**
OSTC *e*S **S 01 19 26.6 +6.1**
OSTC AMS AMS 01 27 50.0
comp=Z,700nm,9.7s
UBR Ueberruh 22.60 126 *eP* **P 01 15 15.2 +0.2**
comp=Z,143nm,1.7s,baz=327,slow=11
KHC Kasperske Hory 22.63 119 *eP* **P 01 15 16.4 +1.1**
KHC *e*S **S 01 19 29.6 +6.6**
KHC AMS AMS 01 27 20.0
comp=Z,2μm,10.6s
KHC Kasperske Hory 22.63 119 ⇓*eP* **P 01 15 15.2 -0.1**
KHC pmax pmax
comp=Z,48nm,1.3s
KHC Kasperske Hory 22.63 119 P **P 01 15 13.4 -1.9**
DPC Dobruska-Polom 22.71 113 *eP* **P 01 15 16.1 0.0**
DPC AMS AMS 01 28 50.0
comp=Z,900nm,11.2s
DPC Dobruska-Polom 22.71 113 *eP* **P 01 15 16.1 0.0**
DPC MLR MLR
comp=Z,900nm,11.2s
SUW Suwalki 22.80 99 *eP* **P 01 15 16.5 -0.4**
SUW Suwalki 22.80 99 P **P 01 15 16.8 -0.2**
SUW pmax pmax
comp=Z,68nm,1.2s
SUW Suwalki 22.80 99 P **P 01 15 16.8 -0.2**
SUW IAmb IAmb 01 15 29.7
comp=Z,68nm,1.2s
SENIN Lac Senin/Sane 22.82 132 P **P 01 15 16.8 -0.7**
SENIN IAmb IAmb 01 15 37.0
comp=Z,60nm,1.5s
DAVA Damuels 22.86 127 *es*P **P 01 15 19.5 +1.6**
comp=Z,27nm,1.1s
GEC2 GERESS Array S 22.91 119 *eP* **P 01 15 18.1 -0.3**
comp=Z,169nm,1.9s,baz=327,slow=11
GEC2 GERESS Array S 22.91 119 P **P 01 15 17.4 -1.0**
GEC2 IAmb IAmb 01 15 35.2
comp=Z,120nm,1.7s
GERES GERESS Array B 22.91 119 P **P 01 15 18.0 -0.3**
comp=Z,2.4nm,1.0s,baz=330,slow=5.1,SNR=15
GERES LR LR 01 24 34.2
comp=Z,529nm,20.3s,baz=330,slow=38
GERES GERESS Array B 22.91 119 P **P 01 15 17.6 -0.7**
IZAR Zarasai 22.93 92 *eP* **P 01 15 15.8 -2.5**
RETA Reutte 22.99 125 *ep*P **P 01 15 20.5 +1.4**
comp=Z,44nm,1.7s
ISAL Salakas 23.00 93 *eP* **P 01 15 16.7 -2.4**
KRLC Kraliky 23.10 113 *eP* **P 01 15 20.1 -0.2**
KRLC AMS AMS 01 29 10.0
comp=Z,900nm,10.4s
KRLC Kraliky 23.10 113 *eP* **P 01 15 20.1 -0.2**
KRLC MLR MLR
comp=Z,900nm,10.4s
TMCR Tamitsa 23.21 66 *eP* **P 01 15 21.6 +0.5**
comp=Z,61nm,1.1s
TMCR *e*S **S 01 19 35.9 +3.2**
TMCR Tamitsa 23.21 66 *eP* **P 01 15 21.6 +0.5**
TMCR pmax pmax
comp=Z,61nm,1.1s
TREC Trest 23.23 116 *eP* **P 01 15 21.1 -0.4**
TREC *e*S **S 01 19 36.7 +3.5**
TREC AMS AMS 01 27 40.0
comp=Z,1μm,10.2s
TREC Trest 23.23 116 *eP* **P 01 15 21.1 -0.4**
TREC *e*S **S 01 19 36.7 +3.5**
TREC MLR MLR
comp=Z,1μm,10.2s
MOTA Moosalm 23.23 125 *ep*P **P 01 15 22.2 +0.5**
comp=Z,49nm,1.3s,SNR=5.8
DAVOX Davos/Dischmat 23.30 128 P **P 01 15 21.7 -0.7**
comp=Z,1.7nm,0.7s,baz=346,slow=10,SNR=5.8
DAVOX LR LR 01 24 00.2
comp=Z,204nm,21.1s,baz=342,slow=36
BEL Belsk 23.37 105 *eP* **P 01 15 22.9 +0.1**
BEL *e* 01 15 35.6
SQTA Sankt Quirin 23.38 125 *eP* **P 01 15 22.6 -0.5**
comp=Z,58nm,2.0s,SNR=6.1
FETA Feichten 23.38 126 pP **P 01 15 24.6 +1.4**
comp=Z,27nm,1.3s
TUE Stuetta 23.39 129 P **P 01 15 22.5 -0.8**
WATA Walderalm 23.41 124 *ep*P **P 01 15 24.2 +0.8**
comp=Z,25nm,1.5s
PGAV Gavieira, Arco 23.42 163 *e*S **S 01 19 40.0 +3.4**
PGAV *e*LR LR 01 22 22.6
comp=Z,539nm,16.0s
IDID Didziasalis 23.43 93 *eP* **P 01 15 22.3 -1.1**
WTTA Wattenberg 23.49 124 pP **P 01 15 24.8 +0.5**
comp=Z,34nm,1.4s,SNR=6.3
RJOB Jochberg 23.50 122 *eP* **P 01 15 22.9 -1.4**
comp=Z,295nm,2.4s,baz=327,slow=11
FUORN Ofenpass-Fuorn 23.57 127 P **P 01 15 24.7 -0.5**
EUNU Eureka 23.62 336 P **P 01 15 27.0 +1.8**
MORC Moravsky Berou 23.64 113 ⇓P **P 01 15 26.2 +0.6**
MORC Moravsky Berou 23.64 113 *eP* **P 01 15 24.2 -1.4**
MORC *e*S **S 01 19 44.4 +4.4**
MORC Moravsky Berou 23.64 113 P **P 01 15 24.5 -1.1**
MORC pmax pmax
comp=Z,45nm,1.6s
MORC Moravsky Berou 23.64 113 P **P 01 15 24.5 -1.1**
VRAC Vranov 23.64 115 P **P 01 15 25.5 -0.1**
comp=Z,4.0nm,1.0s,baz=324,slow=11,SNR=20
VRAC LR LR 01 25 10.3
comp=Z,388nm,18.2s,baz=332,slow=38
VRAC Vranov 23.64 115 *eP* **P 01 15 24.3 -1.3**
VRAC *e*S **S 01 19 44.4 +4.5**
PCAB Cabril 23.70 163 A A 01 15 39.1
comp=Z,74nm,2.0s
NACGM Naroch 23.72 94 *eP* **P 01 15 25.0 -1.3**
NACGM *e*S **S 01 19 44.0 +2.9**
NACGM *e*LQ LQ 01 24 15.0
NACGM *e*LR LR 01 26 12.0
KRUC Moravsky 23.76 115 *eP* **P 01 15 25.7 -1.1**
KRUC *e*S **S 01 19 47.8 +6.0**
PBRG Braganca 23.78 160 *eP* **P 01 15 29.1 +2.1**
comp=Z,43nm,2.1s
MOA Molln 23.95 120 *ep*P **P 01 15 29.2 +0.6**
comp=Z,17nm,1.2s,SNR=5.3
PVRL Vila Real 24.17 162 *eP* **P 01 15 30.8 +0.1**
comp=Z,85nm,1.8s
OJC Ojcow 24.20 109 *eP* **P 01 15 30.1 -0.8**
OJC *e* 01 15 42.1
OJC *e*S **S 01 19 53.5 +4.8**
OJC Ojcow 24.20 109 P **P 01 15 30.5 -0.3**
OJC pmax pmax
comp=Z,46nm,1.5s
OJC Ojcow 24.20 109 P **P 01 15 30.5 -0.3**
ABTA Abfaltersbach 24.24 124 pP **P 01 15 32.9 +1.5**
comp=Z,28nm,1.3s
KBA Koelnbreinsper 24.26 122 P **P 01 15 31.6 0.0**
comp=Z,31nm,1.7s
MVO Moncorvo 24.37 161 *eP* **P 01 15 34.0 +1.4**
comp=Z,64nm,1.8s
MVO *e*S **S 01 19 59.4 +7.7**
JAVC Velka Javorina 24.43 114 *eP* **P 01 15 32.9 -0.1**
JAVC *e*S **S 01 20 01.7 +9.2**
MICGM Minsk 24.46 93 ⇓*eP* P 01 15 22.0 -11
MICGM PM 01 15 24.0
comp=Z,0.2nm,2.0s
MICGM *e*PP **PnPn 01 16 00.0 -3.6**
MICGM *e*S S 01 19 30.0 -23
MICGM *e*SS **SnSn 01 20 42.0 +5.4**
MICGM *e*LQ LQ 01 24 10.0
MICGM *e*LR LR 01 25 50.0
MNK Minsk 24.46 93 ⇓*eP* P 01 15 22.0 -11
MNK *e*S S 01 19 40.0 -13
MNK *e*SS **SnSn 01 20 42.0 +5.4**
MNK pmax pmax
comp=Z,150nm,2.0s
CONA Conrad Observa 24.49 118 P **P 01 15 33.4 -0.2**
comp=Z,22nm,1.2s
SALO Salr 24.53 128 P **P 01 15 34.9 +0.9**
SALO IAmb IAmb 01 16 03.0
comp=Z,95nm,1.8s
CTI Castel Tesino 24.54 126 P **P 01 15 32.9 -1.3**
CTI pmax pmax
comp=Z,125nm,1.9s
CTI Castel Tesino 24.54 126 P **P 01 15 32.9 -1.3**
ZOU Zoufplan 24.57 123 P **P 01 15 32.4 -2.1**
ZOU IAmb IAmb 01 15 54.2
comp=Z,61nm,1.6s
CIMO Cimolais 24.59 124 IAmb IAmb 01 16 04.7
comp=Z,85nm,1.8s
SMOL Smolenice 24.61 115 *eP* **P 01 15 34.8 +0.2**
SMOL pmax pmax
comp=Z,75nm,2.0s
SMOL Smolenice 24.61 115 *eP* **P 01 15 34.8 +0.2**
SMOL *e*S S 01 20 06.3 +11
MODS Modra-Piesok 24.66 115 *eP* **P 01 15 35.2 +0.1**
MODS pmax pmax
comp=Z,156nm,2.1s
MODS Modra-Piesok 24.66 115 *eP* **P 01 15 35.2 +0.1**
MODS *e*S **S 01 20 02.2 +5.9**
PVIS Viseu 24.69 163 *eP* **P 01 15 37.1 +1.6**
comp=Z,78nm,2.3s
MYKA Terra Mystica 24.75 122 *eP* **P 01 15 35.3 -0.7**
comp=Z,26nm,1.5s
PRED Cave del Predi 24.88 123 IAmb IAmb 01 16 05.0
comp=Z,55nm,1.6s
LANS Liptovska Anna 24.90 111 *eP* **P 01 15 38.4 +1.1**
LANS pmax pmax
comp=Z,10.0nm,1.2s
LANS Liptovska Anna 24.90 111 *eP* **P 01 15 38.4 +1.1**
ARSA Arzberg 24.92 119 *eP* **P 01 15 36.6 -0.8**
comp=Z,13nm,1.5s
NIE Niedzica 25.03 110 *eP* **P 01 15 38.5 +0.1**
NIE *e*S **S 01 20 04.8 +2.7**
VYHS Vyhne 25.18 113 *eP* **P 01 15 39.6 -0.1**
VYHS pmax pmax
comp=Z,71nm,1.8s
VYHS Vyhne 25.18 113 *eP* **P 01 15 39.6 -0.1**
OBKA Obir 25.18 121 *es*P **P 01 15 42.7 +2.8**
comp=Z,18nm,1.2s
SOKA Soboth 25.22 120 *eP* **P 01 15 40.9 +0.7**
comp=Z,17nm,1.5s
KLMR Klimovskoe 25.48 72 *eP* **P 01 15 41.4 -0.9**
comp=Z,40nm,1.3s
KLMR *i* PcP **PcP 01 19 14.7 +1.2**
KLMR *e*S **S 01 20 09.6 +0.6**
KLMR Klimovskoe 25.48 72 *eP* **P 01 15 41.3 -0.9**
KLMR *e* 01 19 14.8
KLMR *e*S **S 01 20 09.5 +0.6**
KLMR pmax pmax
comp=Z,60nm,1.5s
KLMR Klimovskoe 25.48 72 *eP* **P 01 15 41.4 -0.9**
KLMR AMP 01 15 56.5
comp=Z,60nm,1.5s
KLMR *e*PcP **PcP 01 19 14.8 +1.3**
KLMR *e*S **S 01 20 09.6 +0.6**
KLMR *e*S **S 01 20 09.6 +0.6**
KLMR LQ LQ 01 22 49.8
KLMR LQ LQ 01 22 49.8
KLMR LR LR 01 23 24.3
SRO Srobarova 25.52 114 *eP* **P 01 15 43.0 +0.2**
SRO Srobarova 25.52 114 *eP* **P 01 15 43.0 +0.2**
SRO2 Moca 25.60 114 *eP* **P 01 15 43.5 0.0**
SRO2 Moca 25.60 114 *eP* **P 01 15 43.5 0.0**
LSH Leshukonskoye 25.83 61 *eP* **P 01 15 44.3 -1.2**
comp=Z,87nm,2.1s

LSH *e*S **S** **01 20 14.9 +0.4**
KWP Kalwaria Pacla 25.84 107 *e*P **P** **01 15 44.8 -0.9**
KWP *e*S **S** **01 20 16.4 +1.3**
KECS Kecovo 25.84 111 *e*P **P** **01 15 46.8 +1.0**
KECS pmax pmax
comp=Z,11nm,1.5s
KECS Kecovo 25.84 111 *e*P **P** **01 15 46.8 +1.0**
CRVS Cervenica-Dubn 25.90 109 *e*P **P** **01 15 47.5 +1.2**
CRVS pmax pmax
comp=Z,84nm,1.5s
CRVS Cervenica-Dubn 25.90 109 *e*P **P** **01 15 47.5 +1.2**
PMRV Marv??o 26.03 162 *e*P **P** **01 15 48.0 +0.5**
comp=Z,43nm,1.8s
PMRV *e*S **S** **01 20 23.0 +4.9**
PMRV *e*LR LR 01 23 33.3
comp=Z,419nm,18.0s
PSZ Piszkesteto 26.06 112 ⇑P **P** **01 15 47.6 -0.2**
SCHQ Schefferville 26.14 271 P **P** **01 15 46.6 -1.8**
comp=Z,11nm,1.0s,baz=47,slow=7.2,SNR=7.2
SCHQ LR LR 01 24 46.4
comp=Z,260nm,19.9s,baz=17,slow=34
SCHQ Schefferville 26.14 271 P **P** **01 15 48.4 0.0**
KOLS Kolonicke sedl 26.21 108 *e*P **P** **01 15 48.2 -0.9**
KOLS Kolonicke sedl 26.21 108 *e*P **P** **01 15 48.2 -0.9**
LVV L'vov 26.24 105 *e*P **P** **01 15 49.2 -0.2**
LVV *e* 01 16 37.6
LVV *e*S **S** **01 20 17.4 -3.9**
LVV *e*SS **SnSn** **01 21 28.2 +8.1**
LVV pmax pmax
comp=Z,130nm,1.5s
LVV MLR MLR
comp=Z,400nm,14.0s
ESBB Sonseca Array 26.30 156 IAmb IAmb 01 15 58.2
comp=Z,45nm,1.8s
ESDC Sonseca Array 26.30 156 P **P** **01 15 48.2 -1.8**
comp=Z,3.9nm,0.8s,baz=348,slow=9.3,SNR=21
ESDC LR LR 01 25 15.2
comp=Z,236nm,19.9s,baz=335,slow=34
ESDC Sonseca Array 26.30 156 P **P** **01 15 48.4 -1.6**
RES Resolute Bay 26.45 324 LR LR 01 25 08.6
comp=Z,118nm,19.0s,baz=102,slow=34
UZH Uzhgorod 26.45 108 *e*P **P** **01 15 51.0 -0.3**
UZH *e*S **S** **01 20 21.0 -3.7**
UZH MLR MLR
comp=Z,250nm,15.0s
OSSC Osservatorio P 26.62 129 IAmb IAmb 01 16 26.1
comp=Z,35nm,1.3s
MURB Monte Urbino 27.28 128 IAmb IAmb 01 16 09.6
comp=Z,38nm,1.2s
PRGR Permogore 27.49 67 *e*P **P** **01 16 00.1 -0.3**
PRGR *e*S **S** **01 20 42.8 +2.0**
AKASG Malin Array Be 27.75 98 P **P** **01 16 02.0 -1.0**
comp=Z,9.2nm,0.9s,baz=325,slow=9.6,SNR=13
AKASG LR LR 01 27 09.2
comp=Z,244nm,20.6s,baz=325,slow=36
AKASG Malin Array Be 27.75 98*c e*P **P** **01 16 02.5 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 27.75 98 IAmb IAmb 01 16 17.2
comp=Z,75nm,1.9s
OBN Obninsk 27.77 85 P **P** **01 16 02.4 -0.6**
comp=Z,2.7nm,0.5s,baz=308,slow=1.1,SNR=8.6
OBN LR LR 01 27 35.4
comp=Z,65nm,19.0s,baz=350,slow=37
OBN Obninsk 27.77 85*c i*P **P** **01 16 02.8 -0.2**
OBN *e**PP **pP** **01 16 05.3 -1.1**
OBN *e**SP **sP** **01 16 07.1 -0.6**
OBN *e*PPP PPP 01 16 55.9
OBN *e* 01 19 20.0
OBN *i*S **S** **01 20 48.5 +3.2**
OBN SSS SSS 01 22 04.0
OBN pmax pmax
comp=Z,42nm,1.3s
OBN MLR MLR
comp=Z,323nm,14.0s
OBN Obninsk 27.77 85 P **P** **01 16 02.2 -0.9**
MOS Moscow 27.80 83 *e*P **P** **01 16 02.3 -1.0**
MOS *e* 01 17 00.2
MOS *e*S **S** **01 20 47.8 +2.0**
MOS *e*SS **SnSn** **01 22 08.3 +10**
MOS *e* 01 26 51.8
MOS MLR MLR
comp=Z,600nm,13.0s
PVAQ Vaqueiros 27.98 164 *e*S **S** **01 20 54.2 +5.3**
PVAQ *e*LR LR 01 24 04.0
comp=Z,318nm,16.0s
BUR08 Bucovina Ar. S 28.43 106 P **P** **01 16 08.1 -1.0**
BUR08 IAmb IAmb 01 16 15.7
comp=Z,42nm,1.8s
BURAR Bucovina Array 28.46 106 ⇑P **P** **01 16 10.1 +0.7**
BURAR Bucovina Array 28.46 106 P **P** **01 16 08.7 -0.7**
CJR Cluj-Napoca 28.52 109 ⇓P **P** **01 16 11.6 +1.7**
BZS Buzias 28.62 113 ⇑P **P** **01 16 13.5 +2.7**
SORM Soroca 29.35 102 ⇑P **P** **01 16 18.7 +1.6**
DOPR Dopca 29.85 108 ⇑P **P** **01 16 23.7 +2.1**
VOIR 30.14 109 ⇑P **P** **01 16 25.6 +1.3**
PLOR Plostina 30.46 107 ⇑P **P** **01 16 28.5 +1.5**
MLR Muntele Rosu 30.46 108 P **P** **01 16 26.7 -0.5**
comp=Z,1.6nm,0.5s,baz=304,slow=10,SNR=5.8
MLR LR LR 01 29 41.0
comp=Z,375nm,19.8s,baz=312,slow=38
MLR Muntele Rosu 30.46 108 ⇑P **P** **01 16 28.7 +1.5**
MLR Muntele Rosu 30.46 108 IAmb IAmb 01 16 42.2
comp=Z,33nm,1.5s
VRI Vrincioaia 30.48 107 ⇓P **P** **01 16 28.8 +1.6**
LPSR Galich'ya Gora 30.52 86 *e*P **P** **01 16 27.1 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR MLR MLR
comp=Z,1μm,32.0s
NEHR Nehoiu 30.66 108 ⇓P **P** **01 16 31.1 +2.3**
BISRR Bisoca 30.73 107 ⇓P **P** **01 16 32.3 +2.8**
KIRV Kirov 30.85 70 P **P** **01 16 29.8 -0.5**
comp=Z,13nm,0.5s,baz=321,slow=3.8,SNR=6.6
KIRV LR LR 01 28 35.5
comp=Z,566nm,18.7s,baz=310,slow=36
CFR Carcaliu 31.62 106 ⇑P **P** **01 16 39.3 +2.1**
VSR Storozhevoye 31.63 88 *e*P **P** **01 16 37.0 -0.2**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR MLR MLR
comp=Z,510nm,11.0s
SKO Skopje 31.63 117 *i*P **P** **01 16 39.0 +1.7**
VORD Divnogorie 31.86 88 *e*P **P** **01 16 37.5 -1.8**
VORD pmax pmax
comp=Z,20nm,0.6s
PMOZ Porto Moniz, M 31.97 180 *e*LR LR 01 26 23.4
comp=Z,266nm,18.0s
OHR Ohrid 32.13 119 *i*P P 01 16 52.0 +10
VAY Valandovo 32.62 117 *i*P **P** **01 16 48.2 +2.2**
FNA Florina 32.63 118 P **P** **01 16 45.2 -1.0**
FNA pmax pmax
comp=Z,48nm,1.9s
FNA Florina 32.63 118 P **P** **01 16 45.2 -1.0**
FNA IAmb IAmb 01 17 02.1
comp=Z,48nm,1.9s
VRH Novokhopyorsk 32.73 86 *e*P **P** **01 16 46.2 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VRH MLR MLR
comp=Z,430nm,10.0s
VAE Valguarnera 33.11 130 LR LR 01 29 44.4
comp=Z,154nm,19.2s,baz=267,slow=35
KEST Kesra 33.16 138 LR LR 01 29 09.5
comp=Z,226nm,19.3s,baz=194,slow=34
PKME Peaks-Kenny Pk 34.32 261 P **P** **01 17 00.5 -0.3**
baz=37
ALN Alexandroupoli 34.34 113 P **P** **01 17 01.7 +0.7**
ALN pmax pmax
comp=Z,26nm,1.4s
ALN Alexandroupoli 34.34 113 P **P** **01 17 01.7 +0.7**
ALN IAmb IAmb 01 17 17.9
comp=Z,26nm,1.4s
F60A Warwick 34.89 264 P **P** **01 17 06.5 +0.7**
baz=38
D57A Chemin Vers le 34.89 267 P **P** **01 17 06.2 +0.4**
baz=39
E57A Chemin Saint G 35.48 267 P **P** **01 17 10.8 0.0**
baz=38
E56A St. Veronique 35.76 268 P **P** **01 17 12.9 -0.3**
baz=38
ANN Anapa 35.82 97 *e*P **P** **01 17 12.0 -1.7**
ANN *e*S **S** **01 22 49.6 -1.3**
ANN pmax pmax
comp=Z,59nm,1.8s

ARU Arti 35.95 67 P **P** **01 17 15.6 +0.9**
comp=Z,2.1nm,0.9s,baz=0.2,slow=6.0,SNR=6.6
ARU LR LR 01 31 34.7
comp=Z,537nm,18.6s,baz=316,slow=36
ARU Arti 35.95 67*c i*P **P** **01 17 15.5 +0.8**
ARU 01 18 38.9
ARU S **S** **01 22 55.9 +3.3**
ARU SS **SnSn** **01 25 10.3 -5.6**
ARU pmax pmax
comp=Z,29nm,2.1s
ARU MLR MLR
comp=Z,521nm,19.0s
ARU Arti 35.95 67 P **P** **01 17 13.8 -0.9**
ARU IAmb IAmb 01 17 18.8
comp=Z,58nm,2.0s
ITM Ithomi 36.00 121 P **P** **01 17 15.6 +0.3**
ITM IAmb IAmb 01 17 20.6
comp=Z,56nm,1.9s
NRIK Noril'sk 36.32 35 P **P** **01 17 18.2 +0.5**
comp=Z,2.7nm,0.4s,baz=296,slow=5.3,SNR=5.8
NRIK LR LR 01 34 15.3
comp=Z,118nm,18.0s,baz=18,slow=40
SVE Sverdlovsk 36.48 65 *e*P **P** **01 17 20.5 +1.3**
SVE *e*S **S** **01 23 08.2 +7.5**
SVE pmax pmax
comp=Z,19nm,1.6s
SVE MLR MLR
comp=Z,711nm,23.0s
FRNY Flat Rock 36.49 265 P **P** **01 17 19.9 +0.4**
G57A Newington 36.87 266 P **P** **01 17 23.8 +1.1**
baz=37
ILGA Ilgaz 37.33 104 P **P** **01 17 28.4 +1.5**
ILGA IAmb IAmb 01 17 31.3
comp=Z,54nm,1.5s
K62A Royalston 37.67 261 P **P** **01 17 30.9 +1.4**
baz=35
SOC Sochi 37.78 96 *e*P **P** **01 17 31.4 +1.0**
SOC *e* 01 18 56.1
SOC *e*S **S** **01 23 24.5 +3.8**
SOC *e*SS **SnSn** **01 25 55.4 -5.0**
SOC MLR MLR
comp=Z,388nm,15.0s
H56A Elgin 37.83 267 P **P** **01 17 29.5 -1.3**
baz=37
GOF Gofitskoye 38.02 91⇑*e*P **P** **01 17 33.5 +1.1**
GOF pmax pmax
comp=Z,55nm,1.1s
BRTR Keskin Array B 38.41 106 P **P** **01 17 36.3 +0.4**
comp=Z,3.8nm,1.0s,baz=330,slow=7.1,SNR=7.5
BRTR LR LR 01 34 53.2
comp=Z,51nm,19.4s,baz=292,slow=38
BRTR Keskin Array B 38.41 106 P **P** **01 17 35.5 -0.4**
BRTR Keskin Array B 38.41 106 P **P** **01 17 35.5 -0.4**
KIV Kislovodsk 38.74 93 *e*P **P** **01 17 39.8 +1.1**
KIV *e* 01 19 05.1
KIV *e*S **S** **01 23 37.2 +1.6**
KIV pmax pmax
comp=Z,26nm,0.9s
KIV MLR MLR
comp=Z,632nm,16.0s
IDI Anoyia 38.78 119 LR LR 01 34 28.7
comp=Z,188nm,21.8s,baz=315,slow=38
SADO Sadowa 38.92 270 P **P** **01 17 38.8 -1.2**
comp=Z,13nm,1.1s,baz=42,slow=9.8,SNR=3.3
SADO Sadowa 38.92 270 IAmb IAmb 01 17 41.6
comp=Z,35nm,1.4s
KBZ Khabaz 39.02 93 P **P** **01 17 41.6 +0.9**
comp=Z,8.2nm,0.9s,baz=317,slow=11,SNR=8.5
KBZ LR LR 01 33 57.7
comp=Z,323nm,21.3s,baz=325,slow=36
YKA Yellowknife Ar 39.22 313 P **P** **01 17 42.4 +0.1**
comp=Z,6.0nm,1.1s,baz=37,slow=8.5,SNR=3.8
YKA LR LR 01 33 19.6
comp=Z,131nm,20.8s,baz=0.0,slow=35
INK Inuvik 39.81 329 P **P** **01 17 45.8 -1.4**
comp=Z,4.3nm,1.0s,baz=13,slow=8.7,SNR=5.5
INK Inuvik 39.81 329 P **P** **01 17 49.0 +1.9**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 39.81 329 P **P** **01 17 49.0 +1.9**
MMNY Mt. Morris Dam 40.03 267 IAmb IAmb 01 17 54.9
comp=Z,50nm,1.5s
AKTO Aktyubinsk 40.16 74 P **P** **01 17 49.8 -0.5**
comp=Z,5.5nm,1.1s,baz=329,slow=9.7,SNR=9.7
ZEI Tsey 40.21 93 *e*P **P** **01 17 52.3 +1.3**
ZEI pmax pmax
comp=Z,23nm,2.1s
L56A Greenwood 40.37 266 IAmb IAmb 01 17 58.4
comp=Z,88nm,1.9s
GROC Groznyy 40.69 91 *e*P **P** **01 17 54.9 +0.2**
GROC *e* 01 19 58.4
GROC *e*S **S** **01 24 07.4 +3.0**
GROC pmax pmax
comp=Z,53nm,1.4s
M57A Sunshine Farm, 40.84 265 IAmb IAmb 01 18 00.5
comp=Z,40nm,1.4s
AKH Akhalkalaki 41.16 94 P **P** **01 17 59.4 +0.5**
AKH pmax pmax
comp=Z,36nm,1.4s
AKH Akhalkalaki 41.16 94 P **P** **01 17 59.4 +0.5**
AKH IAmb IAmb 01 18 04.5
comp=Z,36nm,1.4s
MAK Makhachkala 41.61 89 *e*P P 01 17 56.8 -5.5
MAK *e* 01 19 35.1
MAK *e*S S 01 24 09.2 -9.0
MAK pmax pmax
comp=Z,664nm,1.4s
ULM Lac du Bonnet 41.67 289 LR LR 01 34 06.6
comp=Z,79nm,22.0s,baz=97,slow=34
SSPA Standing Stone 41.74 265 P **P** **01 18 04.6 +1.1**
M54A Oil Creek Stat 41.79 267 P **P** **01 18 04.1 +0.4**
baz=35
ABKAR Akbulak array 41.86 73 P **P** **01 18 04.0 -0.3**
ABKAR Akbulak array 41.86 73 IAmb IAmb 01 18 08.4
comp=Z,20nm,1.4s
EPYK Eagle Plains 42.11 328 IAmb IAmb 01 18 11.9
comp=Z,61nm,1.7s
N54A Moraine State 42.37 267 P **P** **01 18 10.0 +1.4**
baz=34
N54A Moraine State 42.37 267 IAmb IAmb 01 18 13.8
comp=Z,39nm,1.2s
TOLK Toolik Lake Re 42.70 336 P **P** **01 18 11.5 +0.5**
baz=28
O55A Ligonier 42.70 266 P **P** **01 18 12.3 +1.0**
baz=34
BMAR Burnt Mountain 42.85 333 P **P** **01 18 14.5 +2.3**
BRVK Borovoye 42.99 62⇑*e*P **P** **01 18 13.1 -0.4**
BRVK pmax pmax
comp=Z,34nm,2.5s
BRVK Borovoye 42.99 62 P **P** **01 18 12.7 -0.8**
BVAR Borovoye Array 43.06 62 P **P** **01 18 14.0 0.0**
comp=Z,4.0nm,0.7s,baz=285,slow=2.9,SNR=22
BVAR Borovoye Array 43.06 62 P **P** **01 18 14.0 0.0**
AGMN Agassiz Nation 43.19 287 IAmb IAmb 01 18 20.4
comp=Z,74nm,1.8s
N52A McGinn's Farm, 43.23 269 P **P** **01 18 15.3 -0.1**
baz=34
MARD Mardin 43.43 100 P **P** **01 18 17.3 0.0**
N51A Ashland 43.43 269 IAmb IAmb 01 18 22.1
comp=Z,38nm,1.1s
L48A N Adams 43.47 272 IAmb IAmb 01 18 22.4
comp=Z,36nm,1.2s
O53A New Philadelph 43.49 268 P **P** **01 18 19.5 +1.9**
baz=34
O53A New Philadelph 43.49 268 IAmb IAmb 01 18 22.9
comp=Z,52nm,1.4s
O52A Adamsville 43.86 268 P **P** **01 18 21.5 +0.9**
baz=34
O52A Adamsville 43.86 268 IAmb IAmb 01 18 25.9
comp=Z,32nm,1.2s
COLD Coldfoot 44.07 336 P **P** **01 18 25.0 +3.0**
COLD IAmb IAmb 01 18 28.2
comp=Z,44nm,2.0s
O51A Pataskala 44.17 269 P **P** **01 18 24.2 +1.1**
baz=34
P53A Whipple 44.20 267 IAmb IAmb 01 18 28.8
comp=Z,36nm,1.1s
N49A Columbus Grove 44.20 271 P **P** **01 18 24.3 +1.0**
ACSO Alum Creek Sta 44.26 269 IAmb IAmb 01 18 28.7
comp=Z,48nm,1.4s
SPMN Marine on St. 44.37 282 IAmb IAmb 01 18 30.8
comp=Z,37nm,1.5s
P52A Corning 44.39 268 IAmb IAmb 01 18 29.8
comp=Z,45nm,1.4s
EGAK Eagle 44.45 329 P **P** **01 18 27.0 +2.0**
EGAK IAmb IAmb 01 18 29.9

comp=Z,38nm,1.6s
TAM Tamanrasset 44.54 149 P **P** **01 18 25.9 -0.5**
TAM pmax pmax
comp=Z,48nm,1.9s
TAM Tamanrasset 44.54 149 P **P** **01 18 25.9 -0.5**
TAM IAmb IAmb 01 18 40.5
comp=Z,48nm,1.9s
O49A Covington 44.88 270 IAmb IAmb 01 18 33.6
comp=Z,33nm,1.1s
MDND Maddock 45.07 289 P **P** **01 18 32.0 +1.8**
K27K Chicken 45.30 329 P **P** **01 18 31.6 -0.1**
baz=30
F33A 5 Mile Ranch, 45.33 285 IAmb IAmb 01 18 37.7
comp=Z,33nm,1.4s
IL31 45.64 333 P **P** **01 18 36.5 +2.1**
IL31 IAmb IAmb 01 18 39.2
comp=Z,42nm,1.6s
ILAR Eielson Array 45.64 333 P **P** **01 18 34.0 -0.5**
comp=Z,5.9nm,1.1s,baz=21,slow=6.1,SNR=23
ILAR PcP **PcP** **01 20 11.3 -1.1**
comp=Z,2.0nm,0.8s,baz=348,slow=3.0,SNR=6.5
ILAR LR LR 01 39 47.8
comp=Z,87nm,18.1s,baz=59,slow=39
ILAR Eielson Array 45.64 333 P **P** **01 18 35.5 +1.0**
ILAR 01 20 11.4
ILAR Eielson Array 45.64 333 P **P** **01 18 35.5 +1.0**
ILAR **PcP** **01 20 11.4 -1.0**
COLA College 45.74 333⇑*e*P **P** **01 18 37.3 +2.1**
COLA pmax pmax
comp=Z,12nm,1.3s
IMAR Indian Mountai 45.81 337 P **P** **01 18 36.3 +0.6**
CCB Clear Creek Bu 45.94 333 IAmb IAmb 01 18 43.4
comp=Z,21nm,1.6s
DOT Dot Lake 46.06 330 IAmb IAmb 01 18 44.8
comp=Z,22nm,1.4s
BCAR Beaver Creek A 46.08 329 P **P** **01 18 38.6 +0.6**
WRH Wood River Hil 46.15 333 P **P** **01 18 40.0 +1.5**
WRH IAmb IAmb 01 18 42.1
comp=Z,31nm,1.7s
NEA2 Nenana 46.23 334 P **P** **01 18 39.5 +0.4**
baz=26
L40A Anamosa 46.27 278 IAmb IAmb 01 18 45.8
comp=Z,27nm,1.2s
BRZS Berezniki 46.35 63 *e*P **P** **01 18 40.2 -0.1**
baz=63
BRZS *e*PP **PP** **01 20 29.1 +0.4**
baz=63
BRZS Berezniki 46.35 63 *e*P **P** **01 18 40.2 -0.1**
BRZS *e* 01 20 29.1
U55A TA2, Sparta 46.55 265 P **P** **01 18 43.2 +1.1**
baz=32
S51A Beattyville 46.68 268 IAmb IAmb 01 18 44.9
comp=Z,24nm,1.2s
HDIL Hopedale 46.69 275 P **P** **01 18 44.6 +1.5**
baz=34
W58A Raeford 47.04 262 P **P** **01 18 46.9 +1.1**
baz=31
ECSD EROS Data Cent 47.17 284 P **P** **01 18 48.3 +1.5**
baz=35
ECSD EROS Data Cent 47.17 284 IAmb IAmb 01 18 49.2
comp=Z,14nm,1.4s
WCI Wyandotte Cave 47.35 271 P **P** **01 18 49.5 +1.3**
WCI pmax pmax
comp=Z,23nm,1.0s
WCI Wyandotte Cave 47.35 271 P **P** **01 18 49.5 +1.3**
ZAA0 Zalesovo Array 47.49 52 P **P** **01 18 49.4 +0.3**
ZAA0 IAmb IAmb 01 18 53.3
comp=Z,37nm,2.0s
ZALV Zalesovo Beam 47.49 52 P **P** **01 18 48.5 -0.6**
comp=Z,2.3nm,0.6s,baz=339,slow=7.9,SNR=9.7
ZALV LR LR 01 41 40.6
comp=Z,115nm,18.3s,baz=338,slow=40
ZALV Zalesovo Beam 47.49 52 P **P** **01 18 50.1 +1.0**
V54A Nebo 47.55 265 P **P** **01 18 50.1 +0.2**
baz=32
KURK Kurchatov 47.97 58*de*P **P** **01 18 51.9 -1.0**
KURK pmax pmax
comp=Z,21nm,1.3s
KURK Kurchatov 47.97 58 P **P** **01 18 52.3 -0.6**
KURK IAmb IAmb 01 18 56.7
comp=Z,15nm,0.9s
W54A Cherokee Point 48.24 265 P **P** **01 18 56.4 +1.3**
baz=31
X56A White Oak 48.26 263 P **P** **01 18 54.9 -0.4**
baz=31
PPLA Purkeypile 48.36 334 P **P** **01 18 58.0 +2.1**
TKL Tuckaleechee C 48.44 267 IAmb IAmb 01 19 01.6
comp=Z,33nm,1.5s
U49A Red Boiling Sp 48.57 269 IAmb IAmb 01 19 02.5
comp=Z,12nm,1.1s
BG3 Lake Jocassee 48.64 265 IAmb IAmb 01 19 00.9
comp=Z,21nm,1.4s
LAO LASA Array 48.65 294 P **P** **01 18 60.0 +1.7**
baz=35
EGMT Eagleton 48.92 297 P **P** **01 19 01.7 +1.4**
baz=35
EGMT Eagleton 48.92 297 P **P** **01 19 01.4 +1.1**
CLTN Cedars of Leba 49.16 269 IAmb IAmb 01 19 06.3
comp=Z,34nm,1.6s
GEYT Alibeck 50.31 84 P **P** **01 19 11.3 +0.3**
comp=Z,2.7nm,0.7s,baz=302,slow=8.5,SNR=6.6
GEYT LR LR 01 43 14.9
comp=Z,191nm,18.2s,baz=10.0,slow=39
GEYT Alibeck 50.31 84 P **P** **01 19 10.9 -0.1**
GYA0B ALIBECK ARRAY 50.31 84 P **P** **01 19 11.7 +0.7**
GYA0B IAmb IAmb 01 19 15.5
comp=Z,24nm,1.6s
BTLS Baital 50.93 66 *e*P **P** **01 19 16.4 +0.8**
comp=Z,19nm,2.1s,baz=66
BTLS Baital 50.93 66 *e*P **P** **01 19 16.3 +0.8**
BTLS pmax pmax
comp=Z,19nm,2.1s
RLMT Red Lodge 51.14 295 P **P** **01 19 16.7 -0.7**
baz=33
RLMT Red Lodge 51.14 295 IAmb IAmb 01 19 21.0
comp=Z,41nm,1.6s
KK31 Karatay Array 51.15 70 P **P** **01 19 17.9 +0.7**
KK31 pmax pmax
comp=Z,25nm,1.4s
KK31 Karatay Array 51.15 70 P **P** **01 19 17.9 +0.7**
KK31 IAmb IAmb 01 19 22.0
comp=Z,25nm,1.4s
KKAR Karatay Array 51.15 70 P **P** **01 19 17.5 +0.3**
KKAR Karatay Array 51.15 70 P **P** **01 19 17.5 +0.3**
BOZ Bozeman (W) 51.65 297 P **P** **01 19 22.3 +1.2**
baz=33
BOZ Bozeman (W) 51.65 297 IAmb IAmb 01 19 26.8
comp=Z,33nm,1.3s
U40A Yellville 51.73 275 P **P** **01 19 21.9 +0.2**
baz=32
U40A Yellville 51.73 275 P **P** **01 19 22.1 +0.5**
U40A IAmb IAmb 01 19 27.0
comp=Z,27nm,1.5s
IUG Iuzhnay 51.75 71 *e*P **P** **01 19 22.6 +0.8**
comp=Z,34nm,2.3s,baz=71
IUG Iuzhnay 51.75 71 *e*P **P** **01 19 22.6 +0.8**
IUG pmax pmax
comp=Z,34nm,2.3s
DGZ Jazzator, Alta 51.94 53⇑*e*P **P** **01 19 23.8 +0.6**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
LRAL Lakeview Retre 52.05 268 P **P** **01 19 23.9 -0.2**
baz=31
K22A Casper 52.12 291 P **P** **01 19 24.6 -0.1**
baz=33
TAS Tashkent 52.14 72 P **P** **01 19 26.4 +1.7**
TAS pmax pmax
comp=Z,35nm,0.5s
TAS Tashkent 52.14 72 P **P** **01 19 26.4 +1.7**
DLMT Dillon 52.22 297 IAmb IAmb 01 19 44.7
comp=Z,25nm,1.6s
BOD Bodaibo 52.27 31 *e*P **P** **01 19 24.6 -0.8**
BOD pmax pmax
comp=Z,13nm,2.2s
MAKZ Makanchi 52.46 59 P **P** **01 19 27.2 +0.3**
MAKZ pmax pmax
comp=Z,12nm,1.2s
MAKZ Makanchi 52.46 59 P **P** **01 19 27.2 +0.3**
SGDS Sogindy 52.49 67 *e*P **P** **01 19 28.8 +1.4**
baz=67
SGDS Sogindy 52.49 67 *e*P **P** **01 19 28.7 +1.4**
MK31 Makanchi Array 52.59 59 P **P** **01 19 28.7 +0.8**
MK31 pmax pmax
comp=Z,30nm,2.0s
MK31 Makanchi Array 52.59 59 P **P** **01 19 28.7 +0.8**
MK31 IAmb IAmb 01 19 45.3

comp=Z,30nm,2.0s
MKAR Makanchi Array 52.59 59 P P 01 19 27.3 -0.6
comp=Z,2.6nm,0.8s,baz=320,slow=5.5,SNR=11
MKAR LR LR 01 42 08.9
comp=Z,103nm,18.4s,baz=317,slow=36
MKAR Makanchi Array 52.59 59*ce*P P 01 19 27.2 -0.7
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 52.59 59 P P 01 19 27.7 -0.2
TDK Taldyqorghan 52.65 63 *e*P P 01 19 30.0 +1.5
baz=63
TDK Taldyqorghan 52.65 63 *e*P P 01 19 29.9 +1.5
KUU Kurty 52.79 65 *e*P P 01 19 29.8 +0.3
baz=65
KUU LR LR 01 41 01.1
comp=Z,256nm,15.1s,baz=65
KUU Kurty 52.79 65 *e*P P 01 19 29.8 +0.3
KUU MLR MLR
comp=Z,256nm,15.0s
FRU1 Bishkek 53.03 67 P P 01 19 31.4 0.0
FRU1 pmax pmax
comp=Z,38nm,1.4s
FRU1 Bishkek 53.03 67 P P 01 19 31.4 0.0
FRU1 IAmb IAmb 01 19 36.6
comp=Z,38nm,1.4s
AAK Ala-Archa 53.13 67⇓*e*P P 01 19 32.3 +0.2
AAK pmax pmax
comp=Z,48nm,1.3s
TOA0 Torodi Ar. Sit 53.19 157 P P 01 19 31.6 -1.0
TORD Torodi Ar. Bea 53.19 157 P P 01 19 30.9 -1.7
comp=Z,3.7nm,0.9s,baz=342,slow=9.2,SNR=8.9
TORD LR LR 01 42 03.8
comp=Z,88nm,18.7s,baz=305,slow=36
TORD Torodi Ar. Bea 53.19 157 P P 01 19 31.1 -1.6
BW06 Boulder Array 53.23 293 P P 01 19 32.4 -0.6
baz=32
BW06 Boulder Array 53.23 293 IAmb IAmb 01 19 37.5
comp=Z,22nm,1.2s
PD31 Pinedale Array 53.23 293 P P 01 19 33.0 0.0
PD31 IAmb IAmb 01 19 37.5
comp=Z,19nm,1.2s
PDAR Pinedale Array 53.23 293 P P 01 19 31.2 -1.8
comp=Z,3.9nm,0.8s,baz=55,slow=5.6,SNR=24
PDAR LR LR 01 41 15.6
comp=Z,231nm,18.9s,baz=32,slow=35
PDAR Pinedale Array 53.23 293 P P 01 19 33.0 0.0
REDW Red Top Meadow 53.23 295 IAmb IAmb 01 19 38.7
comp=Z,30nm,1.6s
X40A Basin Creek Fa 53.31 274 P P 01 19 32.8 -0.5
baz=31
N23A Red Feather La 53.37 289 P P 01 19 33.7 -0.4
baz=32
N23A Red Feather La 53.37 289 IAmb IAmb 01 19 37.3
comp=Z,26nm,1.2s
KSCO Kaye Shedlock' 53.60 285 P P 01 19 36.4 +0.7
MDOK Medeo 53.68 65 *e*P P 01 19 36.6 +0.4
baz=65
MDOK LR LR 01 41 19.9
comp=Z,200nm,14.1s,baz=65
MDOK Medeo 53.68 65 *e*P P 01 19 36.6 +0.4
MDOK MLR MLR
comp=Z,200nm,14.0s
E07A Sunnyside 53.88 304 IAmb IAmb 01 19 55.9
comp=Z,21nm,1.6s
KPKS Kokpek 54.06 63 *e*P P 01 19 39.5 +0.6
comp=Z,12nm,1.2s,baz=64
KPKS Kokpek 54.06 63 *e*P P 01 19 39.4 +0.6
KPKS pmax pmax
comp=Z,12nm,1.2s
ISCO Idaho Springs 54.16 288 IAmb IAmb 01 19 42.2
comp=Z,23nm,1.8s
143A Socs Landing, 54.23 272 P P 01 19 40.0 -0.1
SATY Saty 54.30 64 *e*P P 01 19 41.1 +0.5
comp=Z,25nm,2.5s,baz=64
SATY Saty 54.30 64 *e*P P 01 19 41.1 +0.5
SATY pmax pmax
comp=Z,25nm,2.5s
HLID Hailey 54.44 298 P P 01 19 41.9 +0.2
baz=32
HLID Hailey 54.44 298 IAmb IAmb 01 19 47.4
comp=Z,40nm,2.0s
UZB Uzynbulak 54.46 63 *e*P P 01 19 42.3 +0.5
comp=Z,17nm,1.8s,baz=64
UZB Uzynbulak 54.46 63 *e*P P 01 19 42.3 +0.5
UZB pmax pmax
comp=Z,17nm,1.8s
MOY Mondy 54.52 42 *e*P P 01 19 43.3 +1.2
MOY pmax pmax
comp=Z,70nm,2.8s
G08A Pilot Rock 54.65 302 P P 01 19 44.7 +1.5
O20A White River Ci 54.94 291 P P 01 19 46.0 +0.6
baz=32
HWUT Hardware Ranch 55.00 294 IAmb IAmb 01 19 51.1
comp=Z,29nm,1.2s
HRA Herat 55.08 83 P P 01 19 47.2 +0.7
HRA IAmb IAmb 01 19 50.8
comp=Z,23nm,1.7s
WMOK Wichita Mounta 55.63 279 P P 01 19 51.2 +0.9
baz=31
WMOK Wichita Mounta 55.63 279 IAmb IAmb 01 19 54.5
comp=Z,15nm,1.2s
MA2 Magadan 55.65 7⇓*e*P P 01 19 49.4 -0.6
MA2 pmax pmax
comp=Z,9.0nm,1.3s
T25A Trinidad 55.93 286 IAmb IAmb 01 19 58.2
comp=Z,16nm,1.2s
ZAK Zakamensk 56.32 41 *e*P P 01 19 55.1 0.0
ZAK pmax pmax
comp=Z,7.0nm,1.0s
KSH Kashi 56.37 68 P P 01 19 58.8 +3.2
KSH S **S 01 27 47.1 +1.2**
KSH pmax pmax
comp=Z,23nm,1.1s
KSH pmax pmax
comp=Z,210nm,4.7s
KSH LR LR
comp=Z,190nm,8.3s
KSH LR LR
comp=Z,120nm,6.0s
S22A 4UR Ranch, Cre 56.41 288 P P 01 19 57.0 +0.9
baz=31
S22A 4UR Ranch, Cre 56.41 288 IAmb IAmb 01 19 58.7
comp=Z,24nm,1.8s
NATX Nacogdoches 56.43 274 P P 01 19 56.9 +0.9
DUG Dugway, Tooele 56.70 294 P P 01 19 59.1 +1.1
baz=31
DUG Dugway, Tooele 56.70 294 IAmb IAmb 01 20 04.0
comp=Z,38nm,1.7s
PV16 Nyswonger Mesa 56.77 290 IAmb IAmb 01 20 03.7
comp=Z,38nm,1.6s
AOPR Arecibo Observ 56.83 240 P P 01 19 59.9 +0.9
WMQ Urumqi 57.09 56 *e*P P 01 20 01.8 +1.2
WMQ pP sP 01 20 06.6 +1.1
WMQ sP pP 01 20 15.9 +12
WMQ PP **PP 01 22 07.3 +0.3**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.7s
WMQ LR LR
comp=Z,110nm,14.7s
WMQ LR LR
comp=Z,190nm,23.9s
ELK Elko 57.17 296 IAmb IAmb 01 20 07.6
comp=Z,37nm,1.9s
WHTX Lake Whitney, 57.43 276 P P 01 20 03.1 +0.1
baz=30
WHTX Lake Whitney, 57.43 276 P P 01 20 04.0 +1.0
WHTX IAmb IAmb 01 20 07.4
comp=Z,19nm,1.3s
MVCO Mesa Verde 57.54 289 IAmb IAmb 01 20 20.9
comp=Z,35nm,1.9s
K05A Summer Lake 57.57 302 P P 01 20 05.0 +0.8
KBL Kabul 57.81 77 P P 01 20 06.3 +0.3
KBL pmax pmax
comp=Z,6.0nm,1.1s
KBL Kabul 57.81 77 P P 01 20 06.3 +0.3
GTBY Guantanamo Bay 58.62 249 P P 01 20 11.1 -0.4
GTBY IAmb IAmb 01 20 16.8
comp=Z,20nm,1.1s
ANMO Albuquerque 58.66 286 P P 01 20 13.5 +1.6
ANMO pmax pmax
comp=Z,23nm,1.8s
ANMO Albuquerque 58.66 286 P P 01 20 13.5 +1.6
ANMO IAmb IAmb 01 20 16.9
comp=Z,22nm,1.8s

DBIC Dimbokro 58.66 166 P P 01 20 10.5 -1.3
comp=Z,5.8nm,0.9s,baz=350,slow=11,SNR=5.4
DBIC LR LR 01 45 00.3
comp=Z,97nm,18.6s,baz=336,slow=36
DBIC Dimbokro 58.66 166 P P 01 20 10.5 -1.3
DBIC pmax pmax
comp=Z,35nm,1.7s
DBIC Dimbokro 58.66 166 IAmb IAmb 01 20 17.6
comp=Z,35nm,1.6s
TIC Toumodi 58.67 166 *e*P P 01 20 08.5 -3.4
KIC Kosan Boka 58.98 165 *e*P P 01 20 12.7 -1.3
comp=Z,18nm,0.9s
LIC Lamto 59.08 166 *e*P P 01 20 11.5 -3.2
comp=Z,48nm,1.1s
CCUT Cedar City 59.20 293 P P 01 20 16.8 +1.1
R11A Troy Canyon, C 59.37 295 P P 01 20 16.0 -0.8
baz=30
SONM Songino Array 59.50 41 P P 01 20 16.3 -1.2
comp=Z,1.2nm,0.6s,baz=343,slow=8.1,SNR=5.6
SONM LR LR 01 48 44.7
comp=Z,108nm,18.3s,baz=336,slow=39
SONM Songino Array 59.50 41 P P 01 20 18.0 +0.6
SONM pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 59.50 41 P P 01 20 18.0 +0.6
PAHR Pah Rah Range 59.64 299 IAmb IAmb 01 20 23.6
comp=Z,34nm,1.9s
ULN Ulaanbaatar 59.65 40⇓*e*P P 01 20 19.7 +1.1
ULN pmax pmax
comp=Z,18nm,2.0s
ULN Ulaanbaatar 59.65 40 P P 01 20 19.8 +1.3
KVN Kaiserville 59.73 298 IAmb IAmb 01 20 24.7
comp=Z,20nm,1.4s
JCT Junction City 59.73 278 P P 01 20 19.8 +0.6
JCT pmax pmax
comp=Z,18nm,1.0s
JCT Junction City 59.73 278 P P 01 20 19.5 +0.3
baz=30
JCT Junction City 59.73 278 P P 01 20 19.8 +0.6
JCT IAmb IAmb 01 20 24.0
comp=Z,18nm,0.9s
U15A North Rim 59.74 292 IAmb IAmb 01 20 24.2
comp=Z,12nm,1.2s
PRN Pahroc Range 59.98 294 IAmb IAmb 01 20 28.6
comp=Z,25nm,1.7s
WUAZ Wupatki 60.17 290 P P 01 20 21.3 -1.0
baz=30
NIL Nilore 60.32 74 P P 01 20 22.6 -0.6
NIL pmax pmax
comp=Z,25nm,1.2s
NIL Nilore 60.32 74 P P 01 20 22.6 -0.6
NVAR Mina Array Bea 60.35 297 P P 01 20 22.5 -1.0
comp=Z,1.5nm,1.0s,baz=50,slow=5.9,SNR=7.7
NVAR LR LR 01 45 25.0
comp=Z,270nm,18.8s,baz=30,slow=35
WAKR Walker 60.71 298 IAmb IAmb 01 20 31.1
comp=Z,36nm,1.9s
SHPR Sheep Range 60.81 294 P P 01 20 28.1 +1.5
TPNV Topopah Spring 60.85 295 P P 01 20 26.5 -0.5
baz=29
TPNV Topopah Spring 60.85 295 IAmb IAmb 01 20 33.5
comp=Z,30nm,1.8s
MNTX Cornudas Mount 61.03 283 P P 01 20 28.4 +0.4
baz=29
MNTX Cornudas Mount 61.03 283 P P 01 20 29.3 +1.4
X16A Lo Mia Camp, P 61.15 290 IAmb IAmb 01 20 34.9
comp=Z,16nm,1.4s
121A Cookes Peak, D 61.30 286 P P 01 20 31.1 +1.0
baz=29
121A Cookes Peak, D 61.30 286 IAmb IAmb 01 20 35.1
comp=Z,16nm,1.4s
MPMC Manual Prospec 62.11 296 P P 01 20 36.2 +0.7
baz=28
TXAR Lajitas Array 62.37 280 P P 01 20 35.1 -2.0
comp=Z,2.5nm,1.0s,baz=69,slow=3.0,SNR=14
TXAR LR LR 01 47 08.6
comp=Z,236nm,18.8s,baz=0.0,slow=36
TXAR Lajitas Array 62.37 280 P P 01 20 37.2 0.0
TXAR Lajitas Array 62.37 280 P P 01 20 37.1 0.0
PET Petropavlovsk 62.50 3⇑*e*P P 01 20 39.4 +1.9
GSC Goldstone, Bar 62.51 295 P P 01 20 39.3 +1.3
GSC pmax pmax
comp=Z,27nm,1.9s
GSC Goldstone, Bar 62.51 295 P P 01 20 39.3 +1.3
GSC IAmb IAmb 01 20 45.3
comp=Z,27nm,1.9s
GMRC Granite Mounta 62.51 293 P P 01 20 39.0 +0.9
baz=28
TUC Tucson 62.72 288 P P 01 20 40.2 +0.7
TUC pmax pmax
comp=Z,40nm,1.9s
TUC Tucson 62.72 288 P P 01 20 39.1 -0.3
baz=29
TUC Tucson 62.72 288 P P 01 20 40.2 +0.7
ISA Isabella, Lake 62.84 296 P P 01 20 41.8 +1.6
ISA Isabella, Lake 62.84 296 P P 01 20 41.8 +1.6
GTA Gaotai 65.16 49 *e*P P 01 20 58.6 +3.1
GTA pP sP 01 21 02.8 +2.4
GTA sP pP 01 21 05.9 +6.8
GTA sS sS 01 29 47.4 +3.4
GTA SS **SS 01 33 54.6 +5.1**
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA pmax pmax
comp=Z,140nm,7.3s
GTA LR LR
comp=Z,150nm,16.4s
GTA LR LR
comp=Z,180nm,14.9s
GTA LR LR
comp=Z,220nm,16.7s
HSIG 65.68 286 P P 01 21 00.3 +1.5
HSIG IAmb IAmb 01 21 03.2
comp=Z,11nm,1.1s
SDV Santo Domingo 66.96 240 P P 01 21 07.8 +0.5
YSS Yuzh-Sakhalins 67.53 15 *e*P P 01 21 04.3 -6.0
YSS MLR MLR
comp=Z,600nm,13.0s
ZAIG Zacatecas 67.66 276 P P 01 21 13.6 +1.7
ZAIG IAmb IAmb 01 21 17.9
comp=Z,12nm,1.1s
SRIG Santa Rosalia 67.71 287 P P 01 21 14.0 +2.3
SJCC San Jacinto, C 67.75 244 *e*P P 01 21 14.1 +1.9
SMLC San Martn de 68.33 243 *e*P P 01 21 15.5 -0.3
PAMC Pamplona, Colo 69.15 241 *e*P P 01 21 22.5 +1.0
BJI Beijing 69.35 37 P P 01 21 23.8 +2.0
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI pmax pmax
comp=Z,210nm,5.5s
BJI LR LR
comp=Z,110nm,12.3s
BJI LR LR
comp=Z,210nm,22.1s
BJI LR LR
comp=Z,310nm,24.1s
MTO3 Montecristo 69.46 260 P P 01 21 24.3 +1.3
MTO3 IAmb IAmb 01 21 26.7
comp=Z,14nm,1.4s
LZH Lanzhou 69.49 48 *e*P P 01 21 22.8 -0.2
LZH pP pP 01 21 26.8 +0.2
LZH sP sP 01 21 29.9 +2.0
LZH pmax pmax
comp=Z,19nm,1.1s
BOAB BOACO BROADBAND 69.66 256 P P 01 21 25.2 +1.2
ZARC Zaragoza, Cauc 69.83 243 *e*P P 01 21 25.8 +0.7
PTBC PUERTO BERRIO, 70.55 242 *e*P P 01 21 29.2 -0.3
SPBC San Pablo de B 71.22 242 *e*P P 01 21 33.8 +0.1
ROSC El Rosal 72.06 242 P P 01 21 39.5 +0.4
comp=Z,12nm,0.6s,baz=95,slow=11,SNR=6.8
ROSC LR LR 01 48 21.2
comp=Z,36nm,21.6s,baz=26,slow=32
ROSC El Rosal 72.06 242 P P 01 21 39.6 +0.5
GUY2C Guyana, Caldas 72.10 243 *e*P P 01 21 39.7 +0.2
PTGA Pitinga 72.33 225 P P 01 21 41.6 +1.4
VILC Villavicencio, 72.50 241 *e*P P 01 21 43.5 +2.1
TOLC Tolima 72.67 242 *e*P P 01 21 44.5 +1.8
XAN Xi'an 72.95 45 P P 01 21 46.9 +3.1
XAN pmax pmax
comp=Z,12nm,1.5s
XAN pmax pmax
comp=Z,270nm,4.8s
ORTC Ortega, Tolima 73.27 242 *e*P P 01 21 46.0 +0.2
YOTC Yotoco, Valle 73.62 243 *e*P P 01 21 47.2 -0.8
MBAR Mbarara 73.89 129⇑*e*P P 01 21 49.2 -0.5

MBAR pmax pmax
comp=Z,1.0nm,1.1s
KSRS Korea Array 74.51 28 LR LR 01 58 33.7
comp=Z,52nm,19.2s,baz=336,slow=39
FLOC Florencia 75.56 242 *e*P P 01 21 58.4 -0.8
NJ2 Nanjing 77.60 37 *e*P P 01 22 10.8 +0.3
NJ2 pmax pmax
comp=Z,12nm,0.5s
WHN Wuhan 77.80 41 P P 01 22 16.8 +5.1
OTAV Otavalo 77.86 244 P P 01 22 13.2 +0.5
OTAV pmax pmax
comp=Z,24nm,1.7s
OTAV Otavalo 77.86 244 P P 01 22 13.2 +0.5
OTAV IAmb IAmb 01 22 18.1
comp=Z,24nm,1.6s
KMI Kunming 79.21 53⇑*e*P P 01 22 20.8 +1.0
KMI pmax pmax
comp=Z,7.0nm,0.9s
GYA Guiyang 79.29 49 ⇓P P 01 22 22.5 +2.4
GYA pmax pmax
comp=Z,11nm,1.3s
SAML Samuel 81.08 226 P P 01 22 30.0 +0.4
SAML pmax pmax
comp=Z,9.0nm,1.4s
SAML Samuel 81.08 226 P P 01 22 30.0 +0.4
BDFB Brasilia 83.52 210 P P 01 22 41.9 -0.5
comp=Z,3.6nm,0.9s,baz=64,slow=9.5,SNR=3.5
BDFB LR LR 01 56 15.9
comp=Z,84nm,18.1s,baz=112,slow=33
CMAR Chiang Mai Arr 83.99 59 P P 01 22 44.1 -0.8
comp=Z,0.7nm,0.3s,baz=323,slow=6.5,SNR=6.4
CMAR LR LR 02 03 07.6
comp=Z,50nm,19.4s,baz=346,slow=38
CMAR Chiang Mai Arr 83.99 59*ce*P P 01 22 45.2 +0.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
PBKT Sadao Pong 86.47 58 P P 01 22 56.6 -0.7
PBKT IAmb IAmb 01 23 00.6
comp=Z,13nm,1.4s
LPAZ La Paz 89.54 228 LR LR 02 01 47.0
comp=Z,30nm,18.1s,baz=7.0,slow=35
BOSA Boshof 98.78 143 LR LR 02 10 45.0
comp=Z,125nm,19.6s,baz=349,slow=37
WRAB Tennant Creek 131.38 37*c i*PKIKP PKiKP 01 29 30.7 +3.1
WRAB pmax pmax
comp=Z,11nm,2.5s
WRA Warramunga Arr 131.38 37 PKP PKiKP 01 29 27.3 -0.3
comp=Z,1.0nm,1.0s,baz=334,slow=2.7,SNR=4.2
ASAR Alice Springs 134.82 39 PKP PKPdf 01 29 32.1 -1.0
comp=Z,0.9nm,0.9s,baz=22,slow=2.8,SNR=6.8
SYO Syowa Base 139.32 152⇓*e*PPdiff Pdif 01 26 53.4 +0.3
STKA Stephens Creek 144.58 32 PKP PKPab 01 29 48.2 -0.8
comp=Z,1.5nm,0.7s,baz=9.5,slow=6.1,SNR=4.9
STKA Stephens Creek 144.58 32 PKPdf PKPdf 01 29 50.6 +0.2
ARMA Armidale 144.94 17 PKPbc PKiKP 01 29 53.7 -1.4

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*NIC **20** 01:48:15.9±0.0, 35°.28N±27°.50E, h9km±2km, Ml3.1/3*
*ISK **20** 01:48:16.5, 35°.34N±27°.52E, h12km, ML3.0/17*
*ATH **20** 01:48:16.7, 35°.38N±27°.55E, h17km±3km, ML2.7/3, Error ellipse: s-maj=5.5km s-min=1.8km az=336.0*
*THE **20** 01:48:17.8, 35°.42N±27°.50E, h0km±1km, ML2.6/6, Error ellipse: s-maj=2.6km s-min=0.8km az=164.0*
*DDA **20** 01:48:17.6, 35°.33N±27°.33E, h10km±3km, ML2.7*
ISC 20 01:48:16.8±1.2, 35°.33N±0°.04×27°.50E±0°.02, h14km±9km, n83, σ1§16/106, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.35**	**307**	P	**Pg**	**01 48 24.0**	**0.0**
KARP				S	**Sb**	**01 48 29.7**	**-0.6**
3μm,0.2s							
KARP	**Karpathos**	**0.35**	**307**	P	**Pg**	**01 48 24.0**	**0.0**
KARP				S	**Sb**	**01 48 29.8**	**-0.5**
KARP				AML	AML	01 48 30.3	
comp=N,6589μm,0.3s							
KARP				AML	AML	01 48 30.6	
comp=E,4742μm,0.2s							
KARP	**Karpathos**	**0.35**	**307**	PG	**Pg**	**01 48 24.1**	**0.0**
KARP				SG	**Sb**	**01 48 29.7**	**-0.6**
KARP	**Karpathos**	**0.35**	**307**	P	**Pg**	**01 48 24.0**	**0.0**
KARP				S	**Sb**	**01 48 29.6**	**-0.6**
KARP				AML	AML	01 48 29.8	
comp=E,6.5nm,0.3s							
KARP				AML	AML	01 48 29.8	
comp=E,6.5nm,0.3s							
KARP				AML	AML	01 48 30.2	
comp=E,4.7nm,0.2s							
KARP				AML	AML	01 48 30.2	
comp=E,4.7nm,0.2s							
ARG	**Arkhangelos**	**1.01**	**30**	P	**Pg**	**01 48 36.2**	**-0.2**
ARG				S	**Sn**	**01 48 51.2**	**+0.5**
comp=E,388nm,0.5s							
ARG	**Arkhangelos**	**1.01**	**30**	P	**Pg**	**01 48 35.3**	**-1.1**
ARG				AML	AML	01 48 58.8	
comp=E,819μm,0.4s							
ARG				AML	AML	01 49 01.2	
comp=N,686μm,0.5s							
ARG	**Arkhangelos**	**1.01**	**30**	PG	**Pg**	**01 48 36.2**	**-0.2**
ARG				SG	**Sn**	**01 48 50.6**	**-0.1**
ARG	**Arkhangelos**	**1.01**	**30**	P	**Pg**	**01 48 36.2**	**-0.2**
ARG				S	**Sn**	**01 48 51.7**	**+1.0**
ZKR	**Zakros**	**1.08**	**259**	P	**Pn**	**01 48 37.8**	**+0.4**
ZKR				S	**Sn**	**01 48 56.5**	**+4.3**
comp=N,255nm,0.4s							
ZKR	**Zakros**	**1.08**	**259**	P	**Pn**	**01 48 38.0**	**+0.5**
ZKR				AML	AML	01 49 02.1	
comp=E,684μm,0.4s							
ZKR				AML	AML	01 49 05.6	
comp=N,321μm,0.4s							
ZKR	**Zakros**	**1.08**	**259**	PN	**Pn**	**01 48 37.8**	**+0.4**
DAT	**Datca**	**1.39**	**2**	P	**Pb**	**01 48 42.7**	**0.0**
DAT				S	**Sb**	**01 49 00.1**	**-0.3**
DAT	**Datca**	**1.39**	**2**	PN	**Pn**	**01 48 42.2**	**+0.3**
DAT	**Datca**	**1.39**	**2**	*i* P	**Pb**	**01 48 42.6**	**0.0**
DAT				*i* S	**Sn**	**01 49 00.6**	**+0.4**
KOSK	**Kos Island**	**1.48**	**343**	P	**Pn**	**01 48 42.0**	**-0.9**
KOSK	**Kos Island**	**1.48**	**343**	PN	**Pb**	**01 48 43.7**	**-0.3**
FRMA	**Ierapetra Chan**	**1.48**	**258**	P	**Pn**	**01 48 42.7**	**-0.3**
FRMA				S	**Sg**	**01 49 04.5**	**-0.1**
comp=N,132nm,0.5s							
MRSB	**Marmaris-Mugla**	**1.49**	**22**	PN	**Pn**	**01 48 43.9**	**+0.7**
NPS	**Neapolis**	**1.55**	**268**	P	**Pg**	**01 48 46.7**	**+0.2**
NPS				S	**Sg**	**01 49 08.8**	**+2.1**
comp=N,320nm,0.6s							
NPS	**Neapolis**	**1.55**	**268**	P	**Pg**	**01 48 46.0**	**-0.5**
TURN	**Turunc**	**1.56**	**22**	PN	**Pn**	**01 48 44.9**	**+0.8**
TURN	**Turunc**	**1.56**	**22**	*i* P	**Pb**	**01 48 45.3**	**-0.1**
TURN				*i* S	**Sb**	**01 49 05.3**	**+0.3**
TURN				IAML		01 49 14.0	
comp=E,99nm,0.6s							
LAST	**Lasithi**	**1.67**	**265**	P	**Pg**	**01 48 48.5**	**-0.3**
LAST				S	**Sg**	**01 49 11.0**	**+0.6**
comp=E,135nm,1.0s							
LAST	**Lasithi**	**1.67**	**265**	P	**Pg**	**01 48 48.4**	**-0.3**
BDRM	**Kayabasi**	**1.73**	**358**	*i* P	**Pb**	**01 48 48.0**	**-0.3**
BODT	**Bodrum**	**1.73**	**355**	P	**Pn**	**01 48 46.9**	**+0.4**
BODT				S	**Sn**	**01 49 08.2**	**-0.2**
BODT	**Bodrum**	**1.73**	**355**	PN	**Pn**	**01 48 46.8**	**+0.3**
DALY	**Dalyan (Mula)**	**1.75**	**32**	PN	**Pn**	**01 48 47.5**	**+0.8**
DALY	**Dalyan (Mula)**	**1.75**	**32**	*i* P	**Pb**	**01 48 48.4**	**-0.2**
DALY				*i* S	**Sg**	**01 49 12.8**	**-0.2**
DALY				IAML		01 49 18.0	
comp=E,56nm,0.7s							
DALY				IAML		01 49 27.0	
comp=N,82nm,0.8s							
FETY	**Fethiye**	**1.82**	**44**	P	**Pn**	**01 48 46.9**	**-0.9**
FETY	**Fethiye**	**1.82**	**44**	PN	**Pn**	**01 48 48.4**	**+0.6**
FETY	**Fethiye**	**1.82**	**44**	*i* P	**Pn**	**01 48 46.5**	**-1.3**
FETY				*i* S	**Sg**	**01 49 15.9**	**+0.4**
KSL	**Kastellorizon**	**1.88**	**64**	P	**Pn**	**01 48 49.4**	**+0.9**
KSL	**Kastellorizon**	**1.88**	**64**	P	**Pn**	**01 48 49.4**	**+0.9**
KSL	**Kastellorizon**	**1.88**	**64**	P	**Pn**	**01 48 49.2**	**+0.7**
YER	**Yerkesik**	**1.90**	**19**	P	**Pb**	**01 48 50.9**	**-0.5**
YER				S	**Sb**	**01 49 14.7**	**-0.3**
YER	**Yerkesik**	**1.90**	**19**	PN	**Pn**	**01 48 50.0**	**+1.1**
AKAS	**Kas**	**1.93**	**62**	PN	**Pn**	**01 48 49.9**	**+0.6**
AKAS	**Kas**	**1.93**	**62**	*i* P	**Pn**	**01 48 49.5**	**+0.2**
SANT	**Santorini**	**1.96**	**303**	PN	**Pn**	**01 48 50.3**	**+0.7**
HRKL	**Herakleio**	**1.96**	**270**	PN	**Pn**	**01 48 50.8**	**+1.2**
MLSB	**Milas**	**1.97**	**6**	PN	**Pn**	**01 48 50.3**	**+0.5**
KSTL	**Kastelli Herak**	**1.99**	**270**	P	**Pn**	**01 48 48.5**	**-1.5**
KSTL				S	**Sn**	**01 49 13.2**	**-1.5**

THT2	Imerovigli	2.02	304	PN	Pn	01 48 51.4	+1.0
SNT5	Nea Kammeni, S	2.02	303	P	Pb	01 48 52.4	-0.8
IDI	Anoyia	2.14	270	P	Pb	01 48 54.7	-0.7
IDI	Anoyia	2.14	270	P	Pb	01 48 54.6	-0.7
IDI	Anoyia	2.14	270	PN	Pn	01 48 53.2	+1.1
SIVA	Sivas	2.23	263	P	Pb	01 48 56.6	-0.2
TMBK	Timbaki Herakl	2.26	264	P	Pb	01 48 57.1	-0.2
IOSP	Ios island	2.27	308	P	Pn	01 48 55.6	+1.8
AYDN	Tasoluk	2.34	7	*i* P	Pn	01 48 56.8	+1.9
AYDN				*i* S	Sn	01 49 23.1	-0.4
APE	Apeiranthos	2.35	318	P	Pn	01 48 56.0	+0.9
APE	Apeiranthos	2.35	318	PN	Pn	01 48 56.2	+1.1
APE	Apeiranthos	2.35	318	P	Pn	01 48 55.7	+0.7
APE				S	Sb	01 49 26.4	-1.6
GCAM	G?zelcaml?	2.37	355	PN	Pn	01 48 56.4	+1.2
GCAM	G?zelcaml?	2.37	355	*i* P	Pn	01 48 57.2	+1.9
GCAM				IAML		01 49 30.0	
	comp=N,39nm,1.7s						
GCAM				IAML		01 49 40.0	
	comp=E,37nm,0.7s						
ELL	Elmali	2.41	53	PN	Pn	01 48 56.3	+0.4
ELL	Elmali	2.41	53	P	Pn	01 48 58.1	+2.3
TAVA	DENIZLI_Tavas	2.41	28	*i* P	Pn	01 48 57.5	+1.6
TAVA				*i* S	Sb	01 49 28.9	-0.8
TAVA				IAML		01 49 36.0	
	comp=N,46nm,0.7s						
TAVA				IAML		01 49 37.0	
	comp=E,51nm,0.8s						
SMG	Samos	2.43	347	P	Pn	01 48 56.6	+0.5
GOLH	Golhisar	2.52	41	*i* P	Pn	01 48 58.7	+1.2
GOLH				*i* S	Sb	01 49 31.5	-1.4
GOLH				IAML		01 49 42.0	
	comp=N,44nm,0.9s						
AYDB	Zeytinkoy-Aydi	2.63	7	PN	Pn	01 49 00.1	+1.2
VAM	Vamos	2.70	272	P	Pb	01 49 02.6	-2.3
DGB	zmir	2.76	350	*i* P	Pn	01 48 56.7	-3.8
KORT	Korkueli	2.84	53	PN	Pn	01 49 03.0	+1.1
IMMV	Iera Moni Meta	2.88	274	P	Pb	01 49 05.6	-2.3
IMMV	Iera Moni Meta	2.88	274	PN	Pn	01 49 03.8	+1.5
BLCB	Balcova	3.07	353	PN	Pn	01 49 06.2	+1.4
URLA	Izmir	3.11	347	PN	Pn	01 49 06.9	+1.5
URLA	Izmir	3.11	347	*i* P	Pn	01 49 03.8	-1.6
KNDR	Palaiochora Ch	3.12	269	P	Pb	01 49 10.2	-1.9
BRDR	BURDUR-Merkez	3.13	40	*i* P	Pn	01 49 08.8	+3.0
MANT	Manisa	3.26	15	*i* P	Pn	01 49 07.8	+0.1
KZIL	AFYON_Kizioren	3.60	35	*i* P	Pb	01 49 20.5	+0.1
KTHA	Kythira Island	3.73	286	PN	Pn	01 49 15.4	+1.5
VLI	Veliai	3.95	292	P	Pn	01 49 19.1	+2.1
AKMS	Akamas	3.97	93	P	Pn	01 49 17.4	+0.2
AKMS				AML	AML	01 50 06.5	
	comp=N,0.1nm,0.3s						
STEP	BALIKESIR_Sava	4.04	2	*i* P	Pn	01 49 17.4	-0.9
GDZ	Gediz	4.07	22	*i* P	Pn	01 49 19.1	+0.4
ALFC	Alefka	4.17	91	P	Pn	01 49 20.0	-0.1
ALFC				AML	AML	01 50 10.0	
	comp=N,0.1nm,0.4s						
NATA	Nata	4.19	96	P	Pn	01 49 20.6	+0.2
SZAC	Souni	4.45	96	P	Pn	01 49 23.9	0.0

IDC 20 02:16:31.0±6.2, 38°.95N×111°.12E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/47, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=130.5km s-min=25.1km az=84.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.52	340	Pn	Pn	02 18 50.4	+1.0
	0.2nm,0.3s,baz=160,slow=13,SNR=6.3						
SONM				Lg	Lg	02 21 33.9	
	0.2nm,0.3s,baz=153,slow=32,SNR=5.1						
MKAR	Makanchi Array	22.45	300	P	P	02 21 31.4	-0.1
	0.5nm,0.8s,baz=96,slow=10,SNR=2.7						
CMAR	Chiang Mai Arr	23.00	211	P	P	02 21 37.6	+0.2
	0.8nm,0.3s,baz=17,slow=9.5,SNR=9.0						
KURBB	Kurchatov Arra	25.70	308	P	P	02 22 02.1	-0.5
	0.3nm,0.8s,baz=100,slow=10,SNR=1.9						

*BGR **20** 02:23:33.3±0.0, 18°.81S×177°.69W, h33km*
*IDC **20** 02:24:34.8±1.5, 17°.93S×178°.58W, h560km±18km, mb3.7/18, mb1 3.9/20, mb1mx3.8/31, mbtmp4.6/20, Error ellipse: s-maj=13.6km s-min=10.2km az=135.0*
*NEIC **20** 02:24:36.8±1.1, 17°.9S±0°.1×178°.7W±0°.1, h587km±6km, mb4.2/75, Error ellipse: s-maj=19.0km s-min=15.7km az=148.0*

ISC 20 02:24:36.1±0.4, 17°.87S±0°.08×178°.61W±0°.08, h579km, n221, σ0°81/207, mb4.2/43, 18C-13D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.18	272	P	P	02 25 55.2	+0.5
AFI	Afiamalu	7.67	60	P	P	02 26 28.0	-3.6
	9.9nm,0.3s,baz=84,slow=2.4,SNR=15						
AFI				S	S	02 27 57.8	-8.5
	3.2nm,0.3s,baz=136,slow=20,SNR=1.2						
AFI	Afiamalu	7.67	60		P	02 26 28.6	-3.1
NIUE	Niue	8.33	100	P	P	02 26 40.0	+2.1
DZM	Mont Dzumac	14.65	251	P	P	02 27 40.9	-0.8
	4.1nm,0.3s,baz=132,slow=15,SNR=25						
DZM	Mont Dzumac	14.65	251		P	02 27 41.1	-0.6
URZ	Urewera	20.66	190	P	P	02 28 34.1	-2.3
	33nm,1.1s,baz=3.9,slow=1.8,SNR=7.2						
URZ	Urewera	20.66	190	IAmb	IAmb	02 28 38.2	
	comp=Z,86nm,1.3s						
QRZ	Quartz Range	24.12	197	P	P	02 29 08.8	+1.5
EIDS	Eidsvold	29.10	250	P	P	02 29 50.5	-0.7
ARMA	Armidale	29.79	240	P	P	02 29 55.3	-2.0
CTAO	Charters Tower	33.26	260	P	P	02 30 26.2	-0.6
TOO	Toolangi	37.04	231	P	P	02 30 58.5	+0.5
STKA	Stephens Creek	38.48	241	P	P	02 31 10.4	+0.8
	comp=Z,13nm,0.6s,baz=89,slow=10,SNR=32						
STKA	Stephens Creek	38.48	241	P	P	02 31 09.8	+0.1
STKA				IAmb	IAmb	02 31 11.6	
	comp=Z,5.1nm,1.1s						
JAY	Jayapura	42.71	286	P	P	02 31 44.0	+0.5
	comp=Z,11nm,0.8s,baz=166,slow=14,SNR=4.6						
BBOO	Buckleboo	43.25	241	P	P	02 31 47.3	-0.1
WB0	Warramunga Arr	44.41	260	P	P	02 31 56.5	-0.2
WB0				IAmb	IAmb	02 31 57.3	
	comp=Z,6.4nm,0.7s						
WB2	Warramunga Arr	44.44	260	P	P	02 31 55.7	-1.1
WRA	Warramunga Arr	44.45	260	P	P	02 31 56.8	-0.1
	comp=Z,4.7nm,0.5s,baz=95,slow=7.0,SNR=119						
WRA				PcP	PcP	02 33 27.9	+0.1
	comp=Z,1.7nm,0.5s,baz=92,slow=3.5,SNR=9.6						
WRA				S	S	02 37 49.6	-1.1
	comp=Z,1.2nm,0.9s,baz=99,slow=10,SNR=6.8						
WRA	Warramunga Arr	44.45	260	P	P	02 31 56.0	-0.9
AS31	Alice Springs	44.61	254	P	P	02 31 58.2	+0.1
AS31					S	02 37 52.2	-0.7
ASAR	Alice Springs	44.61	254	P	P	02 31 58.6	+0.5
	comp=Z,51nm,0.6s,baz=88,slow=8.4,SNR=656						
ASAR				PcP	PcP	02 33 28.4	+0.2
	comp=Z,2.6nm,0.5s,baz=106,slow=3.3,SNR=8.0						
ASAR				S	S	02 37 51.5	-1.5
	comp=Z,6.3nm,1.2s,baz=86,slow=16,SNR=21						
ASAR	Alice Springs	44.61	254		P	02 31 57.4	-0.7
FORT	Forrest	49.85	245	P	P	02 32 37.9	+0.7
KNRA	Kununurra	50.30	264		P	02 32 40.2	-0.5
KNRA				IAmb	IAmb	02 32 41.7	
	comp=Z,8.2nm,0.6s						
VNDA	Vanda	60.47	185	P	P	02 33 50.5	+0.4
	comp=Z,0.6nm,0.5s,baz=1.5,slow=6.4,SNR=7.1						
MJAR	Matsushiro Arr	67.76	323	P	P	02 34 37.1	+0.1
	comp=Z,6.4nm,0.6s,baz=161,slow=5.9,SNR=18						
MJAR	Matsushiro Arr	67.76	323	P	P	02 34 37.3	+0.3
MAT	Matsushiro	67.76	323	P	P	02 34 37.2	+0.3
QSPA	South Pole Qui	72.18	180	P	P	02 35 03.1	+0.3
	comp=Z,4.4nm,0.8s,baz=348,slow=0.5,SNR=33						
QSPA	South Pole Qui	72.18	180	P	P	02 35 03.1	+0.3
QSPA				IAmb	IAmb	02 35 04.0	
	comp=Z,4.3nm,0.8s						
KSM	Kuching	72.49	277	P	P	02 35 05.5	+0.1
PETK	Petropavlovsk-	73.59	345	P	P	02 35 11.3	+0.5
	comp=Z,8.2nm,0.7s,baz=141,slow=9.6,SNR=8.5						
KSRS	Korea Array	74.54	318	P	P	02 35 17.2	+0.7
	comp=Z,1.0nm,0.5s,baz=129,slow=6.1,SNR=4.5						
USRK	Ussuriysk Ar.	76.47	326	P	P	02 35 29.2	+2.2
	comp=Z,1.9nm,0.7s,baz=116,slow=3.4,SNR=4.3						
USRK	Ussuriysk Ar.	76.47	326	P	P	02 35 27.5	+0.5
ISA	Isabella, Lake	77.93	46	P	P	02 35 35.9	+0.6
CMB	Columbia Colle	77.94	43	P	P	02 35 35.4	+0.1
AFDM	Forest Hills D	78.08	42	P	P	02 35 36.6	+0.6
ORV	Oroville	78.09	42	P	P	02 35 36.4	+0.4
MDPB	Devils Postpil	78.58	44	P	P	02 35 39.3	+0.3
OMMB	Old Mammoth Mi	78.63	44	P	P	02 35 39.8	+0.5
WAKR	Walker	78.83	43	P	P	02 35 40.5	+0.4
PNTR	Pine Nut	79.05	43	P	P	02 35 41.7	+0.4
PNTR				IAmb	IAmb	02 35 43.1	
	comp=Z,8.9nm,0.9s						
YERR	Yerington	79.22	43	P	P	02 35 42.6	+0.4
YERR				IAmb	IAmb	02 35 43.5	
	comp=Z,4.5nm,0.6s						
LHV	Little Huntoon	79.30	44	P	P	02 35 43.1	+0.7
LHV				IAmb	IAmb	02 35 44.6	
	comp=Z,7.0nm,1.0s						
PAHR	Pah Rah Range	79.53	42	P	P	02 35 44.2	+0.5
NVAR	Mina Array Bea	79.53	44	P	P	02 35 44.8	+0.9
	comp=Z,2.1nm,0.7s,baz=224,slow=9.0,SNR=26						
NVAR	Mina Array Bea	79.53	44	P	P	02 35 44.5	+0.6
CN2	Changchun	79.87	322	*e*P	P	02 35 46.6	+1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KVN	Kaiserville	80.00	43	P	P	02 35 45.9	-0.4
MOD	Modoc Plateau	80.18	40	P	P	02 35 47.6	+0.5
MOD				IAmb	IAmb	02 35 48.7	
	comp=Z,5.1nm,0.8s						
H04A	Detroit Lake	80.68	37	P	P	02 35 49.6	+0.1
H04A				IAmb	IAmb	02 35 50.5	
	comp=Z,23nm,1.7s						
PINE	Pine Mountain	80.88	38	P	P	02 35 51.7	+0.9
PINE				IAmb	IAmb	02 35 52.8	
	comp=Z,6.3nm,0.8s						
PRN	Pahroc Range	81.19	46	P	P	02 35 53.4	+1.0
PRN				IAmb	IAmb	02 35 54.6	
	comp=Z,4.6nm,0.8s						
TUC	Tucson	81.83	52		P	02 35 56.6	+0.8
I07A	Izee	81.90	39	IAmb	IAmb	02 35 57.6	
	comp=Z,6.6nm,0.8s						
J08A	Circle Bar Ran	82.11	40	IAmb	IAmb	02 35 58.6	
	comp=Z,7.3nm,1.1s						
BELA	Belgrano 2	82.23	173	P	P	02 35 55.6	-1.2
CCUT	Cedar City	82.43	47		P	02 35 59.5	+0.6
PSUT	Pine Spring	82.57	46	P	P	02 35 59.7	+0.2
U15A	North Rim	82.64	48	IAmb	IAmb	02 36 02.2	
	comp=Z,5.9nm,0.8s						
ELK	Elko	82.76	43		P	02 36 00.8	+0.4
G08A	Pilot Rock	82.90	38		P	02 36 01.4	+0.5
HAWA	Hanford	83.19	37	IAmb	IAmb	02 36 03.8	
	comp=Z,5.8nm,1.0s						
MAW	Mawson	83.83	200	P	P	02 36 04.7	-0.2
	comp=Z,1.8nm,0.6s,baz=137,slow=3.5,SNR=7.1						
D08A	Wollman Farm,	83.91	36		P	02 36 05.9	+0.2
D08A				IAmb	IAmb	02 36 07.2	
	comp=Z,5.0nm,0.8s						
KTH	Kantishna Hill	83.98	12	P	P	02 36 04.8	-0.9
F10A	Beach Ranch, E	84.29	38	IAmb	IAmb	02 36 08.8	
	comp=Z,9.3nm,1.1s						
B08A	Colville Reser	84.42	35	IAmb	IAmb	02 36 09.0	
	comp=Z,5.6nm,0.9s						
HLID	Hailey	84.73	41		P	02 36 10.2	+0.2
HLID				IAmb	IAmb	02 36 11.9	
	comp=Z,2.9nm,0.8s						
WRH	Wood River Hil	85.38	13	P	P	02 36 11.9	-0.4
DOT	Dot Lake	85.58	15	IAmb	IAmb	02 36 14.1	
	comp=Z,5.6nm,0.8s						
ILAR	Eielson Array	85.89	13	P	P	02 36 14.1	-0.8
	comp=Z,2.1nm,0.5s,baz=222,slow=4.9,SNR=23						
ILAR	Eielson Array	85.89	13	P	P	02 36 13.2	-1.7
XAN	Xi'an	86.08	307	P	P	02 36 17.8	+1.3
XAN				pmax	pmax		
	comp=Z,18nm,1.0s						
XAN				pmax	pmax		
	comp=Z,240nm,4.3s						
XAN	Xi'an	86.08	307	P	P	02 36 18.9	+2.4
TX32	Lajitas Array	86.14	58	IAmb	IAmb	02 36 19.1	
	comp=Z,4.6nm,0.9s						
TXAR	Lajitas Array	86.14	58	P	P	02 36 18.1	+1.2
	comp=Z,2.9nm,0.8s,baz=221,slow=6.0,SNR=20						
FXWY	Fox Creek	86.91	42	IAmb	IAmb	02 36 23.2	
	comp=Z,3.7nm,0.9s						
IMW	Indian Meadow	87.09	42		P	02 36 22.0	+0.6
IMW				IAmb	IAmb	02 36 23.2	
	comp=Z,5.4nm,0.8s						
HHC	Hu-ho-hao-te	87.11	315	*e*P	P	02 36 23.6	+2.3
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,6.3s						
BW06	Boulder Array	87.46	44	IAmb	IAmb	02 36 23.6	
	comp=Z,9.3nm,1.5s						
PD31	Pinedale Array	87.46	44	IAmb	IAmb	02 36 23.6	
	comp=Z,8.4nm,1.5s						
PDAR	Pinedale Array	87.46	44	P	P	02 36 23.4	+0.3
	comp=Z,2.0nm,0.6s,baz=224,slow=3.5,SNR=23						
PDAR	Pinedale Array	87.46	44	P	P	02 36 22.7	-0.4
H17A	Grant Village	87.55	42	IAmb	IAmb	02 36 26.3	
	comp=Z,5.3nm,0.8s						
BMAR	Burnt Mountain	88.66	12	P	P	02 36 28.6	+0.8
CMAR	Chiang Mai Arr	88.69	290	P	P	02 36 31.5	+2.5
	comp=Z,1.0nm,0.3s,baz=120,slow=3.0,SNR=10						
CMAR	Chiang Mai Arr	88.69	290	P	P	02 36 29.3	+0.3
SNAA	Sanae	90.64	179	P	P	02 36 36.4	-0.7
VNA3	Neumayer Olymp	90.79	176	P	P	02 36 37.5	-0.3
SONM	Songino Array	93.39	319	P	P	02 36 51.4	+1.1
	comp=Z,0.4nm,0.4s,baz=122,slow=5.2,SNR=2.4						
SONM	Songino Array	93.39	319	IAmb	IAmb	02 36 51.4	
	comp=Z,1.5nm,1.1s						
MKAR	Makanchi Array	108.97	314	PKiKP	PKiKP	02 41 59.5	-0.9
	comp=Z,0.8nm,0.5s,baz=187,slow=0.4,SNR=8.4						
ABKAR	Akbulak array	123.77	318		PKPdf	02 42 28.4	-0.3
FINES	FINESS Array B	133.10	344	PKP	PKPdf	02 42 46.1	+0.1
	comp=Z,1.6nm,0.7s,baz=208,slow=3.7,SNR=4.2						
NB2	NORSAR Subarra	136.31	353	PKP	PKPpre	02 42 43.1	
	comp=Z,1.4nm,0.6s,baz=17,slow=2.6						
NB2	NORSAR Subarra	136.31	353	PKP	PKPpre	02 42 41.8	
	comp=Z,0.4nm,0.6s,baz=13,slow=4.0						
NOA	NORSAR Array B	136.31	353	PKP	PKiKP	02 42 53.3	-0.6
	comp=Z,0.5nm,0.7s,baz=14,slow=4.0,SNR=4.8						
AKASG	Malin Array Be	140.44	332	PKiKP	PKPpre	02 42 53.2	
	comp=Z,0.4nm,0.4s,baz=46,slow=4.1,SNR=5.3						
AKASG				PKP	PKiKP	02 43 01.7	-0.9
	comp=Z,1.0nm,0.5s,baz=43,slow=3.0,SNR=4.5						
SORM	Soroca	142.66	330	⇑P	PKPdf	02 43 01.1	-2.8
BSEG	Bad Segeberg	143.35	351	*e*PKPbc	PKPab	02 43 03.5	+0.2
	baz=16,slow=2.8						
KWP	Kalwaria Pacla	143.96	336	*e*PKP	PKPbc	02 43 05.9	+0.3
KWP	Kalwaria Pacla	143.96	336		PKPbc	02 43 05.0	-0.5
RUE	Ruedersdorf	144.12	347	*e*PKPbc	PKPbc	02 43 06.2	+0.3
	baz=16,slow=2.8						
TLCR		144.43	326	⇑P	PKPab	02 43 08.0	+0.3
BUR08	Bucovina Ar. S	144.47	332	PKPdf	PKPbc	02 43 07.7	+0.3
BURAR	Bucovina Array	144.49	332	⇓P	PKPab	02 43 08.7	+0.7
BURAR	Bucovina Array	144.49	332	PKPdf	PKPab	02 43 08.0	0.0
OJC	Ojcow	144.51	340	*e*PKP	PKPbc	02 43 07.5	+0.2
OJC	Ojcow	144.51	340	PKPdf	PKPdf	02 43 07.1	0.0
GHRR		144.57	328	⇑P	PKPab	02 43 09.1	+0.9
BIZ	Bicaz	144.58	330	⇓P	PKPab	02 43 08.6	+0.3
BR131	Keskin Array S	144.62	315	PKPdf	PKPdf	02 43 08.0	+0.3
BRTR	Keskin Array B	144.62	315	PKP	PKPdf	02 43 08.1	+0.3
	comp=Z,6.4nm,0.9s,baz=136,slow=4.0,SNR=25						
BRTR	Keskin Array B	144.62	315	PKPdf	PKPdf	02 43 07.8	0.0
BRTR					PKPbc	02 43 08.0	-0.1
NRDL	Niedersach Rie	144.78	351	*e*PKPbc	PKPbc	02 43 08.2	+0.3
	baz=16,slow=2.8						
CFR	Carcaliu	144.80	326	⇑P	PKPbc	02 43 08.4	+0.1
TOPG	Topolog	144.87	326	⇓P	PKPab	02 43 09.4	0.0
KSP	Ksiaz	145.02	343	*e*PKP	PKPbc	02 43 09.4	+0.6
NIE	Niedzica	145.02	338	*e*PKP	PKPab	02 43 09.7	-0.2
ASSE	Asse, Remlinge	145.04	350	*e*PKPbc	PKPbc	02 43 09.0	+0.3
	baz=16,slow=2.8						
VRI	Vrincioaia	145.04	329	⇓P	PKPab	02 43 09.8	-0.3
PLOR	Plostina	145.09	329	⇓P	PKPbc	02 43 09.8	+0.5
BR231	Keskin MP Arra	145.14	315	PKPdf	PKPbc	02 43 09.4	-0.2
HARR	Harsova	145.23	326	⇓P	PKPbc	02 43 10.4	+0.8
TLBR	Topalu	145.26	326	⇑P	PKPbc	02 43 09.8	+0.1
IBBN	Ibbenburen	145.27	353	*e*PKPbc	PKPbc	02 43 09.9	+0.4
	baz=16,slow=2.8						
BISRR	Bisoca	145.28	328	⇓P	PKPab	02 43 11.1	0.0
OSTC	Ostas	145.30	343	*e*PKP	PKPbc	02 43 09.7	+0.1
CHVC	Chvalec	145.31	344	*e*PKP	PKPbc	02 43 10.2	+0.5
OZUR		145.34	330	⇓P	PKPbc	02 43 10.6	+0.6
CLZ	Clausthal	145.37	350	*e*PKPbc	PKPbc	02 43 10.3	+0.5
	baz=16,slow=2.8						
CLL	Collm	145.38	347	⇑*i*PKPbc	PKPbc	02 43 10.1	+0.3
	comp=Z,20nm,0.9s						
CLL	Collm	145.38	347	*e*PKPbc	PKPbc	02 43 10.2	+0.3
	baz=16,slow=2.8						
CLL	Collm	145.38	347	PKPdf	PKPbc	02 43 09.7	-0.1
UPC	Upice	145.40	344	*e*PKP	PKPbc	02 43 10.6	+0.7
DPC	Dobruska-Polom	145.46	343	*e*PKP	PKPbc	02 43 10.8	+0.7
KRLC	Kraliky	145.57	342	*e*PKP	PKPbc	02 43 11.0	+0.5
BRG	Berggiesshubel	145.58	346	*e*PKPbc	PKPbc	02 43 10.8	+0.4
	baz=16,slow=2.8						
MORC	Moravsky Berou	145.61	341	⇓P	PKPbc	02 43 11.0	+0.4
MORC	Moravsky Berou	145.61	341	*e*PKP	PKPbc	02 43 11.0	+0.4
MORC	Moravsky Berou	145.61	341	PKPdf	PKPbc	02 43 10.3	-0.3
DOPR	Dopca	145.63	330	⇑P	PKPbc	02 43 11.6	+0.9
FBE	Freiberg	145.67	347	*e*PKPbc	PKPbc	02 43 11.4	+0.8
	baz=16,slow=2.8						
MLR	Muntele Rosu	145.70	329	⇓P	PKPdf	02 43 10.3	+0.9
MLR	Muntele Rosu	145.70	329	PKPdf	PKPdf	02 43 09.9	+0.5
GTTG	Gottingen	145.72	350	*e*PKPbc	PKPbc	02 43 11.2	+0.4
	baz=16,slow=2.8						
NEUB	Neuenburg	145.72	348	*e*PKPbc	PKPbc	02 43 11.3	+0.5
	baz=16,slow=2.8						
PVCC	Panska Ves	145.75	345	*e*PKP	PKPbc	02 43 11.6	+0.7
MBAR	Mbarara	145.78	241		PKPdf	02 43 10.5	-0.1
CJR	Cluj-Napoca	145.89	332	⇑P	PKPbc	02 43 12.2	+0.7
VOIR		146.18	329	⇓P	PKPbc	02 43 12.8	+0.4
PRU	Pruhonice	146.26	345	*e*PKP	PKPbc	02 43 12.6	+0.3
GOPC	GO Pecny, Ondr	146.26	344	*e*PKP	PKPbc	02 43 13.0	+0.6
MOX	Moxa	146.29	348	*e*PKPbc	PKPbc	02 43 12.7	+0.3
	baz=16,slow=2.8						
VRAC	Vranov	146.31	342	⇑P	PKPbc	02 43 12.9	+0.4
VRAC	Vranov	146.31	342	*e*PKP	PKPbc	02 43 12.9	+0.4
PLN	Plauen	146.34	348	*e*PKPbc	PKPbc	02 43 13.0	+0.5
	baz=16,slow=2.8						
TANN	Tannenbergstha	146.34	347	*e*PKPbc	PKPbc	02 43 13.2	+0.5
	baz=16,slow=2.8						
JAVC	Velka Javorina	146.38	340	*e*PKP	PKiKP	02 43 14.2	-0.8
GUNZ	Gunzen	146.42	347	*e*PKPbc	PKPbc	02 43 13.5	+0.7
	baz=16,slow=2.8						
PSZ	Piszkesteto	146.43	337	⇓P	PKPbc	02 43 13.7	+0.8
PSZ	Piszkesteto	146.43	337	PKPbc	PKPdf	02 43 11.7	+1.2
ARR	Arges	146.43	330	⇑P	PKiKP	02 43 14.3	-0.9
WERN	Wernitzgruen	146.48	347	*e*PKPbc	PKPbc	02 43 13.6	+0.6
	baz=16,slow=2.8						
NKC	Novy Kostel	146.51	347	*e*PKP	PKPbc	02 43 13.2	+0.1
KRUC	Moravsky	146.59	342	*e*PKP	PKPbc	02 43 13.6	+0.3
TREC	Trest	146.64	343	*e*PKP	PKPbc	02 43 13.7	+0.3
PBCC	Pribram	146.67	345	*e*PKP	PKPbc	02 43 13.6	+0.1
MANZ	Manzenberg	146.82	347	*e*PKPbc	PKPbc	02 43 14.4	+0.5
	baz=16,slow=2.8						
ROTZ	Rotzenmuhle	147.01	347	*e*PKPbc	PKPbc	02 43 15.0	+0.6
	baz=16,slow=2.8						
UCC	Uccle	147.06	357	PKPbc	PKPbc	02 43 14.8	+0.4
MEM	Membach	147.13	355	PKPdf	PKPdf	02 43 09.7	-1.8
MEM				PKiKP	PKPbc	02 43 14.7	+0.1
TNS	Taunus Mts	147.23	352	*e*PKPbc	PKPbc	02 43 15.5	+0.5
	baz=16,slow=2.8						
GRA1	Grafenberg Arr	147.28	348	PKPbc	PKPbc	02 43 15.2	+0.1
GRF	Grafenberg Arr	147.28	348	*e*PKPbc	PKPbc	02 43 15.8	+0.7
	baz=16,slow=2.8						
GRF				*e*PKPab	PKPab	02 43 19.1	+0.3
	baz=17,slow=3.6						
KHC	Kasperske Hory	147.29	345	*e*PKP	PKPbc	02 43 15.6	+0.4
KHC				*ex*	x	02 43 19.0	
KHC	Kasperske Hory	147.29	345	PKPbc	PKPbc	02 43 14.7	-0.5
WET	Wettzell	147.44	346	*e*PKPbc	PKPbc	02 43 16.0	+0.4
	baz=16,slow=2.8						
GEC2	GERESS Array S	147.52	345	*e*PKPbc	PKPbc	02 43 16.2	+0.3
	baz=16,slow=2.8						
GEC2	GERESS Array S	147.52	345	PKPbc	PKPbc	02 43 15.8	-0.1
GERES	GERESS Array B	147.52	345	PKPbc	PKPbc	02 43 16

FETY				S	Sn	02 27 48.1	0.0
FETY	**Fethiye**	**0.76**	**336**	PG	Pn	02 27 37.5	+0.9
FETY	**Fethiye**	**0.76**	**336**	*i* P	Pn	02 27 37.5	+0.9
FETY				*i* S	Sn	02 27 46.4	-1.6
FETY				IAML		02 27 48.0	
	comp=E,224nm,0.3s						
FETY				IAML		02 27 49.0	
	comp=N,314nm,0.3s						
AKUM	**Antalya-Kumluc**	**0.80**	**61**	*i* P	Pn	02 27 38.5	+1.4
AKUM				*i* S	Sn	02 27 47.7	-1.1
AKUM				IAML		02 27 50.0	
	comp=N,278nm,0.2s						
AKUM				IAML		02 27 51.0	
	comp=E,528nm,0.3s						
ELL	**Elmali**	**0.88**	**23**	PG	Pn	02 27 39.1	+1.0
ELL	**Elmali**	**0.88**	**23**	P	Pn	02 27 40.1	+2.0
ELL				S	Sn	02 27 54.4	+3.6
DALY	**Dalyan (Mula)**	**1.10**	**323**	PN	Pn	02 27 41.9	+1.2
DALY	**Dalyan (Mula)**	**1.10**	**323**	*i* P	Pn	02 27 41.9	+1.2
DALY				IAML		02 27 56.0	
	comp=N,286nm,0.3s						
DALY				IAML		02 27 58.0	
	comp=E,194nm,0.6s						
KEMT	**Kemer-ANTALYA**	**1.10**	**53**	PN	Pn	02 27 41.9	+1.2
ARG	**Arkhangelos**	**1.12**	**285**	P	Pn	02 27 42.3	+1.2
ARG				S	Sn	02 27 56.2	+0.2
	comp=E,362nm,0.2s						
ARG	**Arkhangelos**	**1.12**	**285**	P	Pn	02 27 42.1	+1.1
ARG				S	Sn	02 27 56.3	+0.2
ARG				AML	AML	02 27 56.7	
	comp=N,771µm,0.3s						
ARG				AML	AML	02 27 58.6	
	comp=E,655µm,0.2s						
ARG	**Arkhangelos**	**1.12**	**285**	PN	Pn	02 27 42.3	+1.2
ARG	**Arkhangelos**	**1.12**	**285**	P	Pn	02 27 42.2	+1.2
KORT	**Korkueli**	**1.27**	**34**	PN	Pn	02 27 44.3	+1.2
KORT	**Korkueli**	**1.27**	**34**	*i* P	Pn	02 27 45.5	+2.4
KORT				IAML		02 28 07.0	
	comp=E,143nm,0.5s						
MRSB	**Marmaris-Mugla**	**1.29**	**307**	PN	Pn	02 27 44.5	+1.3
GOLH	**Golhisar**	**1.29**	**3**	*i* P	Pn	02 27 46.1	+2.7
TURN	**Turunc**	**1.29**	**310**	PN	Pn	02 27 44.7	+1.4
TURN	**Turunc**	**1.29**	**310**	*i* P	Pn	02 27 45.1	+1.8
TURN				*i* S	Sn	02 28 00.4	+0.5
TURN				IAML		02 28 01.0	
	comp=E,157nm,0.3s						
TURN				IAML		02 28 02.0	
	comp=N,319nm,0.4s						
ANTB	**Antalya**	**1.35**	**45**	PN	Pn	02 27 45.7	+1.7
YER	**Yerkesik**	**1.53**	**322**	P	Pn	02 27 49.0	+2.5
YER				S	Sn	02 28 06.3	+0.7
YER	**Yerkesik**	**1.53**	**322**	PN	Pn	02 27 48.2	+1.7
YER				SN	Sn	02 28 07.9	+2.3
TAVA	**DENIZLI_Tavas**	**1.59**	**344**	*i* P	Pn	02 27 49.1	+1.8
TAVA				*i* S	Sn	02 28 07.5	+0.5
TAVA				IAML		02 28 12.0	
	comp=E,86nm,0.6s						
DAT	**Datca**	**1.72**	**298**	P	Pn	02 27 51.0	+2.0
DAT				S	Sn	02 28 10.2	0.0
DAT	**Datca**	**1.72**	**298**	PN	Pn	02 27 50.6	+1.6
DAT				SN	Sn	02 28 11.3	+1.1
DAT	**Datca**	**1.72**	**298**	*i* P	Pn	02 27 50.3	+1.3
DAT				*i* S	Sn	02 28 09.4	-0.8
DAT				IAML		02 28 13.0	
	comp=N,65nm,0.3s						
BRDR	**BURDUR-Merkez**	**1.81**	**15**	*i* P	Pn	02 27 53.1	+2.8
KARP	**Karpathos**	**1.92**	**259**	P	Pn	02 27 53.7	+2.0
KARP	**Karpathos**	**1.92**	**259**	P	Pn	02 27 53.6	+2.0
KARP				S	Sn	02 28 15.5	+0.6
KARP	**Karpathos**	**1.92**	**259**	PN	Pn	02 27 51.6	-0.1
KARP				SN	Sn	02 28 15.6	+0.6
KARP	**Karpathos**	**1.92**	**259**	P	Pn	02 27 53.4	+1.8
KARP				AML	AML	02 27 54.1	
	comp=N,0.5nm,0.1s						
KARP				AML	AML	02 27 54.1	
	comp=N,0.5nm,0.1s						
KARP				S	Sn	02 28 16.0	+1.1
KARP				AML	AML	02 28 17.7	
	comp=N,0.3nm,0.2s						
KARP				AML	AML	02 28 17.7	
	comp=N,0.3nm,0.2s						
KEPZ	**Antalya-Kepez**	**1.97**	**60**	*i* P	Pn	02 27 54.5	+2.2
KEPZ				*i* S	Sn	02 28 16.6	+0.6
BASM	**Basmaki-Afyon**	**2.03**	**13**	PN	Pn	02 27 55.0	+1.8
BODT	**Bodrum**	**2.07**	**303**	P	Pn	02 27 55.5	+1.8
BODT				S	Sn	02 28 18.5	0.0
BODT	**Bodrum**	**2.07**	**303**	PN	Pn	02 27 55.1	+1.4
BAGO	**Egridir - ISPA**	**2.30**	**27**	*i* P	Pn	02 27 57.7	+0.8
GAZI	**Gazipasa**	**2.32**	**82**	PN	Pn	02 27 57.9	+0.8
GAZI	**Gazipasa**	**2.32**	**82**	*i* P	Pn	02 27 57.8	+0.7
GAZI				*i* S	Sn	02 28 20.5	-4.1
GAZI				IAML		02 28 25.0	
	comp=E,48nm,0.2s						
GAZI				IAML		02 28 26.0	
	comp=N,30nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**2.37**	**328**	PN	Pn	02 27 59.2	+1.4
KZIL	**AFYON_Kizioren**	**2.37**	**13**	*i* P	Pn	02 27 58.7	+0.8
SEYD	**Seydisehir-KON**	**2.40**	**52**	PN	Pn	02 28 00.1	+1.9
AKMS	**Akamas**	**2.51**	**111**	P	Pn	02 28 00.9	+1.3
AKMS				AML	AML	02 28 27.8	
	comp=N,0.4nm,0.4s						
AKMS				AML	AML	02 28 27.9	
	comp=N,0.6nm,0.5s						
GCAM	**G?zelcaml?**	**2.51**	**315**	PN	Pn	02 28 00.8	+1.2
GCAM	**G?zelcaml?**	**2.51**	**315**	*i* P	Pn	02 28 00.9	+1.3
GCAM				*i* S	Sn	02 28 24.4	-4.8
GCAM				IAML		02 28 31.0	
	comp=N,234nm,0.2s						
MANT	**Manisa**	**2.65**	**344**	*i* P	Pn	02 27 59.8	-1.9
MANT				*i* S	Sn	02 28 28.8	-4.0
KULA	**Kula-Manisa**	**2.65**	**346**	PN	Pn	02 28 03.1	+1.5
ALFC	**Alefka**	**2.67**	**106**	P	Pn	02 28 02.5	+0.8
ALFC				AML	AML	02 28 33.6	
	comp=N,0.4nm,0.1s						
ALFC				AML	AML	02 28 33.6	
	comp=N,0.4nm,0.1s						
ALFC				AML	AML	02 28 33.9	
	comp=N,0.4nm,0.2s						
ALFC				AML	AML	02 28 33.9	
	comp=N,0.4nm,0.2s						
ALFC				S	Sn	02 28 33.9	+0.9
SHUT	**Suhut-Afyon**	**2.75**	**18**	PN	Pn	02 28 04.4	+1.5
SMG	**Samos**	**2.75**	**311**	P	Pn	02 28 04.6	+1.7
ZKR	**Zakros**	**2.78**	**254**	P	Pn	02 28 05.8	+2.5
ZKR	**Zakros**	**2.78**	**254**	PN	Pn	02 28 03.6	+0.3
NATA	**Nata**	**2.78**	**114**	P	Pn	02 28 04.9	+1.5
DOGA	**KONYA_Doganhis**	**2.79**	**38**	*i* P	Pn	02 28 07.2	+3.7
DOGA				*i* S	Sn	02 28 36.5	+0.5
DOGA				IAML		02 28 42.0	
	comp=E,57nm,0.5s						
DOGA				IAML		02 28 43.0	
	comp=N,72nm,0.3s						
USAK	**Uak-Merkez**	**2.79**	**353**	*i* P	Pn	02 28 04.9	+1.4
OSC1	**CSNet OBS 1**	**2.85**	**148**	P	Pn	02 28 05.0	+0.7
OSC1				S	Sn	02 28 36.1	-1.3
LEF	**Lefka**	**2.91**	**105**	PN	Pn	02 28 04.9	-0.1
LEF	**Lefka**	**2.91**	**105**	*i* P	Pn	02 28 05.3	+0.4
LEF				*i* S	Sn	02 28 32.1	-6.6
LEF				IAML		02 28 45.0	
	comp=E,33nm,0.6s						
LEF				IAML		02 28 46.0	
	comp=N,26nm,0.8s						
AKDN	**Akdeniz- Kıbrı**	**2.92**	**102**	PN	Pn	02 28 05.8	+0.7
KMER	**Konya-Meram**	**2.95**	**51**	*i* P	Pn	02 28 09.0	+3.3
KMER				*i* S	Sn	02 28 41.7	+1.6
KMER				IAML		02 28 49.0	
	comp=E,23nm,0.7s						
DGB	**zmir**	**2.96**	**316**	*i* P	Pn	02 28 07.1	+1.5
DGB				*i* S	Sn	02 28 32.5	-7.4
DGB				IAML		02 28 40.0	
	comp=N,41nm,0.6s						
DGB				IAML		02 28 42.0	
	comp=E,45nm,0.2s						
TEKE	**Tekeli-Mersin**	**2.96**	**85**	PN	Pn	02 28 07.0	+1.3
SZAC	**Souni**	**3.03**	**112**	P	Pn	02 28 08.0	+1.3
KONT	**Konya--Tatoy**	**3.06**	**48**	PN	Pn	02 28 09.3	+2.2
KONT	**Konya--Tatoy**	**3.06**	**48**	*i* P	Pn	02 28 10.7	+3.6
KONT				IAML		02 28 46.0	
	comp=E,61nm,0.4s						
KONT				IAML		02 29 01.0	
	comp=N,60nm,0.8s						
BERE	**Bereket-Mersin**	**3.06**	**81**	PN	Pn	02 28 08.7	+1.4
BLCB	**Balcova**	**3.12**	**322**	P	Pn	02 28 09.3	+1.4
BLCB	**Balcova**	**3.12**	**322**	PN	Pn	02 28 09.1	+1.2
GDZ	**Gediz**	**3.14**	**0**	*i* P	Pn	02 28 09.2	+0.8
SIMA	**Simav-Kutahya**	**3.16**	**353**	PN	Pn	02 28 09.9	+1.3
AKHS	**Akhisar**	**3.22**	**336**	*i* P	Pn	02 28 10.3	+1.1
NPS	**Neapolis**	**3.22**	**259**	P	Pn	02 28 11.0	+1.7
LADK	**Ladik-KONYA**	**3.23**	**45**	PN	Pn	02 28 10.9	+1.4
TEVE	**Tevekalti-Mers**	**3.25**	**80**	PN	Pn	02 28 11.6	+1.9
KRMN	**Karaman**	**3.29**	**67**	PN	Pn	02 28 12.2	+1.9
ASGA	**Asgata**	**3.29**	**109**	P	Pn	02 28 11.8	+1.5
CSS	**Mathiatis**	**3.30**	**106**	PN	Pn	02 28 11.4	+1.1
CSS	**Mathiatis**	**3.30**	**106**	P	Pn	02 28 11.5	+1.2
GULN	**MERSIN_Gulnar**	**3.31**	**85**	*i* P	Pn	02 28 11.9	+1.5
GULN				*i* S	Sn	02 28 47.8	-0.8
AKKU	**Akkuyu-Mersin**	**3.31**	**85**	PN	Pn	02 28 11.9	+1.4
KDHN	**Kadinhani**	**3.33**	**39**	*i* P	Pn	02 28 13.8	+2.9
KDHN				*i* S	Sn	02 28 48.1	-1.2
URLA	**Izmir**	**3.33**	**317**	PN	Pn	02 28 12.9	+2.0
URLA	**Izmir**	**3.33**	**317**	*i* P	Pn	02 28 08.1	-2.7
URLA				IAML		02 28 53.0	
	comp=E,22nm,1.2s						
LAST	**Lasithi**	**3.35**	**258**	P	Pn	02 28 13.4	+2.3
APE	**Apeiranthos**	**3.37**	**291**	P	Pn	02 28 13.4	+2.0
LFK	**Lefkose**	**3.37**	**100**	PN	Pn	02 28 12.1	+0.7
IKL	**Isikli**	**3.42**	**84**	PN	Pn	02 28 13.6	+1.6
KEBE	**Keben-Mersin**	**3.47**	**80**	PN	Pn	02 28 14.4	+1.7
TVSB	**Tavsanli**	**3.50**	**360**	PN	Pn	02 28 14.9	+1.7
KIZT	**Kizilcal**	**3.50**	**32**	PN	Pn	02 28 15.3	+2.0
ZEDA	**zmir-Bergama**	**3.57**	**328**	*i* P	Pn	02 28 14.4	+0.3
ZEDA				*i* S	Sn	02 28 50.4	-4.6
ZEDA				IAML		02 28 53.0	
	comp=E,24nm,1.6s						
ZEDA				IAML		02 28 55.0	
	comp=N,15nm,0.5s						
CHOS	**Chios island**	**3.66**	**313**	P	Pn	02 28 17.5	+2.1
STEP	**BALIKESIR_Sava**	**3.70**	**338**	*i* P	Pn	02 28 15.7	-0.2
STEP				*i* S	Sn	02 28 53.7	-4.6
STEP				IAML		02 28 57.0	
	comp=E,14nm,1.1s						
DURS	**Dursunbey**	**3.74**	**348**	*i* P	Pn	02 28 17.7	+1.3
DURS				IAML		02 28 57.0	
	comp=E,13nm,0.4s						
DURS				IAML		02 28 58.0	
	comp=N,13nm,0.4s						
IDI	**Anoyia**	**3.79**	**261**	P	Pn	02 28 18.6	+1.4
KIZK	**Mersin**	**3.81**	**81**	*i* P	Pn	02 28 19.4	+2.0
KIZK				IAML		02 29 03.0	
	comp=E,9.5nm,0.8s						
KIZK				IAML		02 29 08.0	
	comp=N,11nm,0.6s						
BORA	**Eskisehir**	**4.01**	**11**	*i* P	Pn	02 28 20.7	+0.6
BORA				IAML		02 29 07.0	
	comp=E,24nm,1.2s						
BORA				IAML		02 29 21.0	
	comp=N,8.7nm,0.6s						
KERG	**Konya-Eregli**	**4.02**	**67**	*i* P	Pn	02 28 22.6	+2.3
KERG				*i* S	Sn	02 29 06.3	+0.1
BALY	**Balya**	**4.07**	**339**	*i* P	Pn	02 28 21.4	+0.5
DED	**Mersin**	**4.41**	**75**	*i* P	Pn	02 28 27.0	+1.4
DED				IAML		02 29 20.0	
	comp=N,6.0nm,0.2s						
DED				IAML		02 29 21.0	
	comp=E,6.9nm,0.8s						
BAYC	**CANAKKALE_Bayr**	**4.45**	**329**	*i* P	Pn	02 28 27.5	+1.5
BAYC				*i* S	Sn	02 29 12.2	-4.2
BAYC				IAML		02 29 17.0	
	comp=E,7.6nm,0.2s						
BAYC				IAML		02 29 18.0	
	comp=N,7.1nm,0.3s						
GULE	**Gulek**	**4.47**	**71**	*i* P	Pn	02 28 29.6	+3.1
GULE				IAML		02 29 24.0	
	comp=E,7.6nm,0.3s						
KTHA	**Kythira Island**	**5.20**	**275**	P	Pn	02 28 38.5	+2.2
BHL	**Bhannes**	**5.47**	**110**	*e*P	Pn	02 28 41.0	+0.9
DQRL	**Deir Qamar**	**5.49**	**112**	*e*P	Pn	02 28 40.5	+0.1
QRWL	**Qaraoun**	**5.64**	**113**	*e*P	Pn	02 28 43.0	+0.6
SLUM	**Salum**	**5.68**	**220**	P	Pn	02 28 44.3	+1.4
	baz=224						
SLUM				S	Sn	02 29 41.1	-5.7
	baz=224						
RCY	**Rachaya**	**5.78**	**113**	*e*P	Pn	02 28 44.9	+0.5
HMYD	**Mayadein**	**6.23**	**169**	P	Pn	02 28 51.9	+1.4
	baz=167						
HLW	**Helwan**	**6.27**	**165**	P	Pn	02 28 51.6	+0.7
	baz=162						
KOT	**Kottamia**	**6.32**	**161**	P	Pn	02 28 52.6	+1.0
	baz=158						
HNAT	**Natroun**	**6.36**	**171**	P	Pn	02 28 53.0	+0.7
	baz=169						
HHAG	**Hagoal**	**6.37**	**159**	P	Pn	02 28 53.5	+1.1
	baz=156						
HSAF	**As Saff**	**6.54**	**164**	P	Pn	02 28 55.7	+0.9
	baz=161						
GLL	**Jalalah**	**6.62**	**163**	P	Pn	02 28 56.5	+0.7
	baz=160						
SUZ	**Suez**	**6.71**	**154**	P	Pn	02 28 58.0	+1.0
	baz=151						
NBNS	**Bani Suef**	**7.46**	**168**	P	Pn	02 29 07.9	+0.6
	baz=165						
SWA2		**7.49**	**208**	P	Pn	02 29 08.0	+0.3
	baz=210						
TAMRE	**El Minia**	**8.32**	**171**	P	Pn	02 29 19.6	+0.5
	baz=169						

*VAO **20** 02:44:34.4±0.7, 15°.46S×74°.31W, h85km±6km, mb4.3*
*NEIC **20** 02:44:35.3±1.3, 15°.63S±0°.09×74°.07W±0°.10, h73km±8km, Error ellipse: s-maj=18.2km s-min=6.9km az=45.0*
*ARE **20** 02:44:36±2.3, 15°.65S±0°.09×74°.0W±0°.1, h66km±6km, ML4.5, mb4.2/8(NEIC), Error ellipse: s-maj=17.8km s-min=8.0km az=52.0*
*IDC **20** 02:44:36.5±1.8, 15°.49S×74°.12W, h90km±18km, mb3.6/5, mb1 3.9/9, mb1mx3.6/35, mbtmp4.1/9, MS2.9/2, Ms1 2.9/2, ms1mx2.5/28, Error ellipse: s-maj=26.8km s-min=13.5km az=45.0*

ISC 20 02:44:34.8±0.6, 15°.66S±0°.05×74°.07W±0°.07, h71km, n101, σ1§89/103, mb4.0/5, 4C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.47**	**128**	Pn	Pn	02 45 41.4	+1.3
NNA	**Nana**	**4.54**	**323**	P	Pn	02 45 41.4	+0.4
	18nm,0.3s,baz=144,slow=12,SNR=21						
NNA				S	Sn	02 46 31.4	-1.1
	52nm,0.3s,baz=245,slow=9.4,SNR=3.9						
NNA	**Nana**	**4.54**	**323**		Pn	02 45 40.5	-0.5
PB12	**IPOC Station P**	**4.63**	**130**	⇑*i*P	Pn	02 45 43.2	+0.9
PB12				*i* S	Sn	02 46 33.0	-1.9
PB12	**IPOC Station P**	**4.63**	**130**		Pn	02 45 42.6	+0.2
PB16	**IPOC Station P**	**5.11**	**122**	*e*P	Pn	02 45 51.5	+2.1
PB16	**IPOC Station P**	**5.11**	**122**		Pn	02 45 51.0	+1.7
PSGC	**Pisagua**	**5.43**	**137**	*i* S	Sn	02 46 51.7	-2.8
PSGCX	**Pisagua**	**5.43**	**137**		Pn	02 45 54.1	+0.8
MNMC	**Minye Minye**	**5.49**	**130**	*i* P	Pn	02 45 55.4	+1.1
MNMC				*e*S	Sn	02 46 54.2	-2.1
MNMC	**Minye Minye**	**5.49**	**130**		Pn	02 45 54.9	+0.6
LPAZ	**La Paz**	**5.75**	**97**	P	Pn	02 46 01.8	+3.7
	3.6nm,0.3s,baz=316,slow=5.8,SNR=83						
LPAZ	**La Paz**	**5.75**	**97**		Pn	02 45 59.7	+1.6
LPAZ	**La Paz**	**5.75**	**97**	*e*P	Pn	02 46 01.3	+3.2
PB11	**IPOC Station P**	**5.86**	**135**	⇑*i*P	Pn	02 46 00.2	+1.0
PB11				*e*S	Sn	02 47 01.2	-3.9
PB11	**IPOC Station P**	**5.86**	**135**		Pn	02 46 00.2	+1.0
TA02	**Huaiquique**	**5.92**	**141**	*e*P	Pn	02 46 01.0	+1.1
TA01	**Diego Aracena**	**6.12**	**143**	*e*P	Pn	02 46 03.6	+0.9
TA01				*e*S	Sn	02 47 05.7	-5.7
TA01	**Diego Aracena**	**6.12**	**143**		Pn	02 46 03.3	+0.7
GO01	**Chusmiza**	**6.12**	**131**	⇑*i*P	Pn	02 46 04.4	+1.3
GO01				*e*S	Sn	02 47 10.6	-1.5
GO01	**Chusmiza**	**6.12**	**131**		Pn	02 46 04.6	+1.5
PATCX	**Punta Patache**	**6.34**	**145**	*e*P	Pn	02 46 06.6	+0.9
PATCX				*e*S	Sn	02 47 09.8	-7.0
PATCX	**Punta Patache**	**6.34**	**145**		Pn	02 46 06.4	+0.7
PB08	**IPOC Station P**	**6.46**	**134**	⇑*i*P	Pn	02 46 08.8	+1.2
PB08				*e*S	Sn	02 47 17.4	-2.8
PB08	**IPOC Station P**	**6.46**	**134**		Pn	02 46 08.9	+1.2
PB02	**IPOC Station P**	**6.88**	**146**	⇓*i*P	Pn	02 46 14.3	+1.1
PB01	**IPOC Station P**	**6.90**	**142**	*e*P	Pn	02 46 14.2	+0.8
PB01	**IPOC Station P**	**6.90**	**142**		Pn	02 46 13.8	+0.4
PB07	**IPOC Station P**	**7.22**	**147**	*i* P	Pn	02 46 18.8	+0.9
PB07	**IPOC Station P**	**7.22**	**147**		Pn	02 46 18.4	+0.5
PB04	**IPOC Station P**	**7.61**	**151**		Pn	02 46 23.7	+0.6
PB09	**IPOC Station P**	**7.63**	**144**	*e*P	Pn	02 46 25.2	+1.8
PB09	**IPOC Station P**	**7.63**	**144**		Pn	02 46 24.8	+1.4
CZSB	**Cruzeiro do Su**	**7.99**	**10**	*e*P	Pn	02 46 26.2	-2.1
CZSB				*e*S	Sn	02 47 53.8	-3.4
PB06	**IPOC Station P**	**8.20**	**149**		Pn	02 46 32.2	+1.0
PB06					Sn	02 47 59.9	-2.5
LVC	**Limon Verde**	**8.46**	**146**	P	Pn	02 46 37.2	+2.3
	14nm,0.3s,baz=330,slow=9.4,SNR=123						
LVC				S	Sn	02 48 06.7	-2.4
	7.6nm,0.3s,baz=104,slow=20,SNR=12						
LVC				LR	LR	02 49 43.4	
	comp=Z,65nm,18.9s,baz=312,slow=36						
LVC	**Limon Verde**	**8.46**	**146**		Pn	02 46 36.5	+1.6
PB10	**IPOC Station P**	**8.49**	**158**	Pn	Pn	02 46 34.3	-0.7
PB15	**IPOC Station P**	**8.67**	**151**		Pn	02 46 38.7	+1.0
ATAH	**Atahualpa**	**9.47**	**333**	P	Pn	02 46 48.0	-0.8
	0.3nm,0.3s,baz=159,slow=6.0,SNR=1.5						
PB14	**IPOC Station P**	**9.56**	**159**	Pn	Pn	02 46 50.5	+0.5
ETMB	**Extrema**	**9.61**	**54**	*e*P	Pn	02 46 50.8	+0.3
GO02	**Mina Guanaco**	**10.35**	**157**		Pn	02 47 01.7	+1.0
SIV	**San Ignacio**	**12.51**	**93**	P	Pn	02 47 27.6	-2.4
	0.4nm,0.3s,baz=287,slow=6.8,SNR=4.8						
SIV				LR	LR	02 52 50.6	
	comp=Z,58nm,20.4s,baz=117,slow=39						
SAML	**Samuel**	**12.55**	**59**	*e*P	Pn	02 47 28.6	-1.9
VILB	**Vilhena**	**13.71**	**80**	*e*P	Pn	02 47 48.5	+2.5
PTLB	**Pontes e Lacer**	**14.39**	**91**	*e*P	Pn	02 47 57.4	+2.5
OTAV	**Otavalo**	**16.38**	**344**	*e*P	Pn	02 48 15.9	-4.9
OTAV				*e*S	Sn	02 51 22.6	+0.4
MACA	**Manacapuru-AM**	**18.11**	**48**	*e*P	P	02 48 40.5	-0.6
H03N1	**Juan Fernandez**	**18.24**	**193**	T	T	03 07 21.6	
	baz=16,slow=74,SNR=1277						
H03N2	**Juan Fernandez**	**18.24**	**193**	T	T	03 07 20.8	
	baz=16,slow=74,SNR=1287						
H03N3	**Juan Fernandez**	**18.26**	**193**	T	T	03 07 20.1	
	baz=16,slow=74,SNR=1261						
PRAC	**Prado**	**19.27**	**358**	*e*P	Pn	02 48 58.8	+3.3
ORTC	**Ortega, Tolima**	**19.48**	**356**	*e*P	Pn	02 49 02.8	+4.8
TOLC	**Tolima**	**20.15**	**356**	*e*P	Pn	02 49 08.4	+2.2
CHIC	**Chingaza**	**20.16**	**1**	*e*P	Pn	02 49 05.4	-1.0
NPGB	**Novo Progresso**	**20.23**	**67**	*e*P	P	02 49 03.5	-0.8
PTGA	**Pitinga**	**20.34**	**45**	P	P	02 49 04.8	-0.7
	3.0nm,0.6s,baz=224,slow=14,SNR=12						
PTGA	**Pitinga**	**20.34**	**45**	P	P	02 49 04.6	-0.9
GUY2C	**Guyana, Caldas**	**20.79**	**356**	*e*P	Pn	02 49 13.1	-0.7
ITTB	**Itaituba**	**21.23**	**60**	*e*P	P	02 49 14.3	-0.8
ARAG	**Araguaiana, MT**	**21.43**	**93**	*e*P	P	02 49 19.2	+2.0
RUSC	**La Rusia**	**21.43**	**3**	*e*P	P	02 49 18.9	+1.2
TRCB	**Terra Rica**	**21.43**	**113**	*e*P	P	02 49 18.7	+1.4
CBOC	**Ciudad Bolivar**	**21.47**	**355**	*e*P	P	02 49 18.9	+1.1
PTBC	**PUERTO BERRIO,**	**22.06**	**359**	*e*P	P	02 49 23.2	-0.7
PCMB	**Pacaembu**	**22.40**	**109**	*e*P	P	02 49 28.6	+1.0
PTGB	**Pitanga**	**22.51**	**117**	*e*P	P	02 49 30.6	+1.8
ITRB	**Iturama**	**22.94**	**104**	*e*P	P	02 49 33.6	+0.3
ZARC	**Zaragoza, Cauc**	**23.02**	**358**	*e*P	P	02 49 34.1	+0.1
ITAB	**Concordia**	**23.40**	**123**	*e*P	P	02 49 38.7	+1.1
MALB	**Monte Alegre**	**23.86**	**57**	*e*P	P	02 49 41.0	-0.8
FRTB	**Fartura**	**24.31**	**112**	*e*P	P	02 49 46.9	+1.0
PLTB	**Pedras Altas**	**24.59**	**134**	*e*P	P	02 49 50.0	+1.6
SDV	**Santo Domingo**	**24.62**	**8**	*e*P	P	02 49 45.5	-3.4
BB19B	**Bebedouro**	**24.82**	**106**	*e*P	P	02 49 51.5	+0.9
IPMB	**Ipameri, GO**	**24.85**	**99**	*e*P	P	02 49 51.8	+0.8
BDFB	**Brasilia**	**25.09**	**94**	P	P	02 49 53.6	+0.4
	2.4nm,0.5s,baz=230,slow=17,SNR=4.4						
BDFB	**Brasilia**	**25.09**	**94**	IAmb	IAmb	02 50 04.2	
	comp=Z,9.6nm,1.2s						
PLCA	**Paso Flores**	**25.17**	**174**	P	P	02 49 55.3	+1.7
	comp=Z,1.0nm,0.7s,baz=326,slow=13,SNR=3.4						
PLCA	**Paso Flores**	**25.17**	**174**	*e*P	P	02 49 53.5	-0.1
PEXB	**Peixe**	**25.26**	**85**	*e*P	P	02 49 54.2	-0.4
CNLB	**Canela**	**25.33**	**126**	*e*P	P	02 49 56.3	+1.2
TIJ01	**Guaruva-PR**	**25.33**	**116**	*e*P	P	02 49 56.2	+0.9
JANB	**Januaria**	**28.69**	**93**	*e*P	P	02 50 26.0	+0.5
TMAB	**Tom-Au,PA,Br**	**28.80**	**65**	*e*P	P	02 50 25.2	-1.1
RIB01	**Linhares ES**	**32.29**	**101**	*e*P	P	02 50 57.7	+0.6
NAN01	**Guarapari, ES**	**32.55**	**99**	*e*P	P	02 51 00.3	+0.8
TX31	**Lajitas Ar. Si**	**53.08**	**327**	P	P	02 53 45.4	+0.2
TXAR	**Lajitas Array**	**53.08**	**327**	P	P	02 53 42.2	-3.0
	comp=Z,1

MK31	**Makanchi Array**	**80.61**	**3**	P	**P**	**03 04 01.7**	**+0.7**
MKAR	**Makanchi Array**	**80.61**	**3**	P	**P**	**03 03 59.4**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=180,slow=7.3,SNR=7.2						
MKAR	**Makanchi Array**	**80.61**	**3**	P	**P**	**03 03 59.8**	**-1.2**
MAKZ	**Makanchi**	**80.61**	**3**	P	**P**	**03 04 00.4**	**-0.5**
MAKZ				IAmb	IAmb	03 05 03.6	
	comp=Z,5.0nm,1.4s						
KURK	**Kurchatov**	**84.43**	**1**	P	**P**	**03 04 20.6**	**-0.1**
ABKAR	**Akbulak array**	**84.44**	**348**	P	**P**	**03 04 20.8**	**0.0**
SONM	**Songino Array**	**85.52**	**19**	P	**P**	**03 04 26.3**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=214,slow=4.4,SNR=3.8						
SONM	**Songino Array**	**85.52**	**19**	IAmb	IAmb	03 04 27.3	
	comp=Z,1.6nm,1.1s						
ZAA0	**Zalesovo Array**	**87.88**	**4**	P	**P**	**03 04 37.1**	**-0.6**
ZAA0				IAmb	IAmb	03 04 38.0	
	comp=Z,4.3nm,1.1s						
ZALV	**Zalesovo Beam**	**87.88**	**4**	P	**P**	**03 04 36.6**	**-1.1**

*ATA **20** 02:52:42.2±18.0, 37°.86N×39°.98E, h15km±207km, MD4.0, ML4.7, MW4.0*
*ISK **20** 02:52:57.3, 39°.16N×38°.74E, h4km, ML4.3/42*
*DDA **20** 02:52:57.8, 39°.17N×38°.72E, h8km±1km, ML4.2*
*IDC **20** 02:52:57.8±0.7, 39°.17N×38°.70E, h0km, mb3.6/12, mb1 3.7/20, mb1mx3.6/60, mbtmp3.7/20, ML3.6/8, MS2.8/8, Ms1 2.8/8, ms1mx2.6/42, Error ellipse: s-maj=14.3km s-min=8.7km az=136.0*
*MED_RC **20** 02:52:57.0±0.6, 39°.16N×38°.70E, h10km, MW4.1/8, Moment Tensor Solution. Mantle waves: s8,c10; Duration: 1±0 Moment tensor: Scale 10^15Nm; Mrr=0.32±.18; Mθθ=0.52±.21; Mφφ=0.85±.13; Mrθ=1.05±.56; Mθφ=1.27±.12; Mφr=0.81±.33; Best double couple: M=1.90000×10^15 NP1:φs=343.00000°, δ47.00000°, λ=-176.00000°. NP2: φs=250.00000°, δ87.00000°, λ=-43.00000°. Principal axes: T 2.2200, Plg26.0000°, Azm305.0000°; N -0.6300, Plg47.0000°, Azm67.0000°; P -1.5800, Plg31.0000°, Azm197.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*NEIC **20** 02:53:00.5±1.8, 39°.14N±0°.06×38°.70E±0°.04, h15km±6km Error ellipse: s-maj=8.1km s-min=4.1km az=182.0*

ISC 20 02:52:58.6±1.0, 39°.17N±0°.02×38°.71E±0°.01, h3km±8km, n197, σ1$02/240, mb3.9/23, MS2.7/3, 6C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.19**	**300**	*i* P		**Pg**	**02 53 02.4**	**+0.1**
KEMA				*i* S		**Sg**	**02 53 05.6**	**+0.7**
KEMA				*i* S		**Sg**	**02 53 05.7**	**+0.8**
KEMA				IAML			02 53 06.1	
	comp=Z,8μm,0.4s							
KEMA	**Kemaliye**	**0.19**	**300⇑**	*i* P		**Pg**	**02 53 02.5**	**+0.1**
KEMA				*i* S		**Sg**	**02 53 05.6**	**+0.7**
KEMA				IAML			02 53 07.0	
	comp=N,46μm,0.5s							
ARPR	**Arapgir-MALATY**	**0.30**	**255**	PG		**Pg**	**02 53 04.7**	**+0.3**
ARPR				SG		**Sg**	**02 53 09.4**	**+1.0**
PTK	**Pertek**	**0.60**	**118**	PG		**Pg**	**02 53 09.4**	**-0.7**
TNCL	**Tunceli-Merkez**	**0.65**	**95**	*i* P		**Pg**	**02 53 10.1**	**-1.0**
TNCL				*e*S		**Sg**	**02 53 19.4**	**-0.1**
TNCL	**Tunceli-Merkez**	**0.65**	**95⇑**	*i* P		**Pg**	**02 53 10.0**	**-1.0**
TNCL				*i* S		**Sg**	**02 53 19.9**	**+0.3**
TNCL				IAML			02 53 22.0	
	comp=E,24μm,0.4s							
TNCL				IAML			02 53 23.0	
	comp=N,16μm,0.4s							
HEKM	**Malatya_Hekimh**	**0.65**	**244⇑**	*i* P		**Pg**	**02 53 10.8**	**-0.3**
HEKM				*i* S		**Sb**	**02 53 21.1**	**-1.2**
HEKM				IAML			02 53 23.0	
	comp=N,12μm,0.4s							
ELZG	**Elazig**	**0.71**	**162⇓**	*i* P		**Pg**	**02 53 11.6**	**-0.5**
ELZG				*i* S		**Sb**	**02 53 22.1**	**-1.7**
MALT	**Malatya**	**0.89**	**194**	PG		**Pg**	**02 53 14.4**	**-1.1**
ERZN	**Erzincan**	**0.89**	**62**	PG		**Pg**	**02 53 14.4**	**-1.2**
ERZN				SG		**Sg**	**02 53 27.0**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.92**	**149**	PG		**Pg**	**02 53 14.9**	**-1.3**
SVRC				SG		**Sg**	**02 53 28.2**	**+0.1**
EUZM	**Uzumlu**	**0.93**	**55**	*i* P		**Pg**	**02 53 15.3**	**-1.2**
EUZM				*e*S		**Sg**	**02 53 28.9**	**+0.3**
EUZM	**Uzumlu**	**0.93**	**55⇓**	*i* P		**Pg**	**02 53 15.3**	**-1.2**
EUZM				*i* S		**Sb**	**02 53 29.4**	**-0.9**
EUZM				IAML			02 53 30.0	
	comp=E,6μm,0.3s							
CUKAN	**kangal_SIVAS**	**0.97**	**279⇑**	*i* P		**Pg**	**02 53 16.1**	**-1.2**
CUKAN				*i* S		**Sb**	**02 53 31.0**	**-0.5**
KELT	**Kelkit**	**1.06**	**23**	*i* P		**Pg**	**02 53 17.3**	**-1.6**
KELT				*e*S		**Sg**	**02 53 32.7**	**0.0**
KELT	**Kelkit**	**1.06**	**23⇓**	*i* P		**Pg**	**02 53 17.4**	**-1.6**
KELT				*i* S		**Sg**	**02 53 33.2**	**+0.5**
SUSE	**Susehri**	**1.11**	**339⇓**	*i* P		**Pg**	**02 53 19.3**	**-0.6**
SUSE				*i* S		**Sb**	**02 53 35.2**	**-0.1**
SUSE				IAML			02 53 38.0	
	comp=N,4μm,0.3s							
DARE	**Darende-Malaty**	**1.13**	**238**	PN		**Pg**	**02 53 18.9**	**-1.3**
CUGUR	**Gurin_SVAS**	**1.21**	**249**	*i* P		**Pg**	**02 53 20.6**	**-1.1**
CUGUR				*i* S		**Sb**	**02 53 38.4**	**+0.2**
CUGUR				IAML			02 53 39.0	
	comp=E,11μm,0.4s							
CUGUR				IAML			02 53 43.0	
	comp=N,8μm,0.5s							
SCER	**sogukcermik**	**1.40**	**300⇑**	*i* P		**Pn**	**02 53 24.0**	**-1.2**
SCER				*i* S		**Sg**	**02 53 43.4**	**-0.3**
SCER				IAML			02 53 53.0	
	comp=N,3μm,0.7s							
GUMT	**Gumushane**	**1.42**	**25**	PN		**Pn**	**02 53 23.7**	**-1.7**
YEDI	**Yedisu-Bingol**	**1.45**	**79**	PN		**Pn**	**02 53 24.6**	**-1.2**
SVSK	**Karacayir**	**1.52**	**300**	PN		**Pn**	**02 53 25.9**	**-0.7**
BNGB	**Bingl**	**1.54**	**96**	PN		**Pn**	**02 53 25.7**	**-1.4**
BAYB	**BAYBURT**	**1.61**	**47**	*i* P		**Pn**	**02 53 27.5**	**-0.6**
BAYB				*e*S		**Sg**	**02 53 51.7**	**+1.2**
BAYB				IAML			02 53 53.0	
	comp=Z,872nm,1.0s							
BAYB	**BAYBURT**	**1.61**	**47**	*i* P		**Pn**	**02 53 27.3**	**-0.8**
BAYB				*i* S		**Sg**	**02 53 50.8**	**+0.4**
KOPT	**Kop Dagi**	**1.62**	**58**	*i* S		**Pg**	**02 53 30.8**	**+1.2**
KOPT	**Kop Dagi**	**1.62**	**58**	*i* P		**Pn**	**02 53 28.3**	**0.0**
KOPT				*i* S		**Sg**	**02 53 52.2**	**+1.6**
KOPT	**Kop Dagi**	**1.62**	**58**			**Pn**	**02 53 28.4**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.62**	**319**	PN		**Pn**	**02 53 27.7**	**-0.4**
BAYT	**Aydıntepe-Bayb**	**1.65**	**42**	PN		**Pn**	**02 53 27.8**	**-0.8**
DYBB	**Diyarbakir**	**1.66**	**137**	PN		**Pn**	**02 53 27.7**	**-0.9**
DIYA	**Diyarbakir**	**1.67**	**138**	*i* P		**Pn**	**02 53 28.8**	**+0.1**
DIYA				*i* S		**Sg**	**02 53 52.5**	**+0.3**
URFA	**Urfa**	**1.73**	**177**	PN		**Pn**	**02 53 28.9**	**-0.7**
ATAB	**Bozova**	**1.73**	**191⇓**	*i* P		**Pn**	**02 53 29.7**	**+0.1**
ATAB				*i* S		**Sg**	**02 53 56.4**	**+2.3**
ESPY	**Espiye-Giresun**	**1.74**	**0**	PN		**Pn**	**02 53 29.5**	**-0.2**
ECAT	**Cat-ERZURUM**	**1.81**	**75**	*i* P		**Pn**	**02 53 30.8**	**0.0**
ECAT				IAML			02 54 00.7	
	comp=Z,541nm,0.5s							
ECAT	**Cat-ERZURUM**	**1.81**	**75**	*i* P		**Pn**	**02 53 30.8**	**0.0**
ECAT				*i* S		**Sg**	**02 53 58.1**	**+1.4**
KARO	**Karliova-Bingo**	**1.82**	**85**	PN		**Pn**	**02 53 30.2**	**-0.8**
CUSAR	**Sarkisla-SIVAS**	**1.93**	**278**	*i* P		**Pn**	**02 53 32.4**	**0.0**
CUSAR				*i* S		**Sg**	**02 53 60.0**	**-0.6**
ORDU	**Ordu-Boztepe**	**1.93**	**340**	*i* P		**Pb**	**02 53 33.5**	**-0.9**
ORDU				*i* S		**Sb**	**02 53 59.7**	**+0.7**
ORDU				IAML			02 54 02.0	
	comp=E,2μm,0.8s							
SARI	**SarD1z-Kayseri**	**1.95**	**248**	PN		**Pn**	**02 53 32.5**	**-0.2**
EMRE	**Erzurum,Aziziy**	**1.95**	**63**	*i* P		**Pb**	**02 53 35.1**	**+0.2**
EMRE				*i* S		**Sg**	**02 54 03.9**	**+2.6**
KTUT	**Trabzon**	**1.99**	**24**	PN		**Pn**	**02 53 33.2**	**+0.1**
GZT	**Gaziantep**	**2.02**	**207**	*i* P		**Pn**	**02 53 33.6**	**-0.1**
GZT				*i* S		**Sg**	**02 54 04.2**	**+0.5**
GZT				IAML			02 54 12.0	
	comp=E,2μm,0.7s							
TOKT	**Tokat**	**2.02**	**305**	PN		**Pn**	**02 53 32.9**	**-0.8**
KRIK	**Erzurum-spir**	**2.07**	**55**	*e*P		**Pb**	**02 53 36.2**	**-0.7**
KRIK				*i* Pg		**Pg**	**02 53 37.5**	**-0.7**
KRIK				*e*S		**Sg**	**02 54 07.1**	**+2.1**
KRIK	**Erzurum-spir**	**2.07**	**55**	*i* P		**Pb**	**02 53 36.3**	**-0.7**
KRIK				*i* S		**Sg**	**02 54 06.0**	**+0.9**
TOKA	**Tokat**	**2.07**	**304⇑**	*i* P		**Pn**	**02 53 35.0**	**+0.8**
TOKA				*i* S		**Sg**	**02 54 06.9**	**+1.8**
TOKA	**Tokat**	**2.07**	**304**			**Pn**	**02 53 35.1**	**+0.8**
ATA5	**Erzurum, Merke**	**2.09**	**69**	*i* P		**Pg**	**02 53 38.3**	**-0.4**
ERBA	**Erbaa**	**2.13**	**316**	*i* P		**Pn**	**02 53 35.0**	**-0.1**
ERBA				*i* S		**Sg**	**02 54 06.2**	**-0.8**
VRTB	**Varto-Mus**	**2.13**	**89**	PN		**Pn**	**02 53 34.5**	**-0.8**
VRTB	**Varto-Mus**	**2.13**	**89**	*i* P		**Pn**	**02 53 35.1**	**-0.2**
KHMN	**Narli-Kahraman**	**2.16**	**215**	PN		**Pn**	**02 53 35.1**	**-0.3**
ERZM	**Erzurum**	**2.18**	**70**	*i* P		**Pn**	**02 53 36.5**	**+0.5**
KMRS	**Kahramanmaras**	**2.19**	**221**	PN		**Pn**	**02 53 35.5**	**-0.4**
MAZI	**Mazidag**	**2.19**	**141**	PN		**Pn**	**02 53 35.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**2.20**	**117**	PN		**Pn**	**02 53 35.7**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.20**	**117**	*i* P		**Pn**	**02 53 35.5**	**-0.5**
MUSM	**Mu-Merkez**	**2.23**	**101**	*i* P		**Pn**	**02 53 37.1**	**+0.5**
AKDA	**Akdag**	**2.25**	**65**	*e*P		**Pn**	**02 53 38.1**	**+1.2**
AKDA	**Akdag**	**2.25**	**65**	*i* P		**Pb**	**02 53 38.3**	**-1.7**
BNN	**Bunyan**	**2.25**	**263**	PN		**Pn**	**02 53 36.9**	**0.0**
GAZ	**Gaziantep**	**2.32**	**211**	PN		**Pn**	**02 53 37.3**	**-0.4**
GAZ	**Gaziantep**	**2.32**	**211**			**Pn**	**02 53 36.8**	**-0.9**
SAIM	**ADANA**	**2.38**	**241**	*i* P		**Pn**	**02 53 38.6**	**+0.1**
SAIM				*i* S		**Sb**	**02 54 12.6**	**+0.7**
BTMN	**Batman**	**2.38**	**122**	*i* P		**Pn**	**02 53 38.6**	**0.0**
GUNE	**Kayseri**	**2.42**	**265**	*i* P		**Pn**	**02 53 40.5**	**+1.4**
GUNE				*i* S		**Sb**	**02 54 13.9**	**+0.9**
ANDN	**Andirin**	**2.44**	**230**	*i* P		**Pn**	**02 53 38.9**	**-0.6**
MARD	**Mardin**	**2.47**	**138**	*i* P		**Pn**	**02 53 38.6**	**-1.2**
MARD				*i* S		**Sn**	**02 54 10.8**	**+0.2**
MARD				IAML			02 54 22.0	
	comp=N,1μm,0.9s							
MARD				IAML			02 54 24.0	
	comp=E,1μm,0.8s							
MARD	**Mardin**	**2.47**	**138**			**Pn**	**02 53 39.6**	**-0.2**
KAMA	**Osmaniye**	**2.55**	**220**	*i* P		**Pn**	**02 53 39.4**	**-1.5**
KAMA				*i* S		**Sb**	**02 54 18.3**	**+1.4**
KOPR	**Koprukoy-ERZUR**	**2.56**	**70**	PN		**Pn**	**02 53 40.8**	**-0.4**
EKAR	**Karacoban**	**2.61**	**87**	*i* P		**Pb**	**02 53 45.3**	**-0.8**
EKAR				IAML			02 54 34.0	
	comp=N,880nm,0.8s							
HOMI	**Horasan**	**2.62**	**70**	*e*P		**Pb**	**02 53 45.2**	**-1.1**
HOMI				*e*S		**Sg**	**02 54 25.4**	**+2.7**
HOMI	**Horasan**	**2.62**	**70**	*i* P		**Pn**	**02 53 42.5**	**+0.5**
AMSY	**Amasya-Merkez**	**2.65**	**304**	*i* P		**Pb**	**02 53 45.4**	**-1.4**
AMSY				IAML			02 54 32.0	
	comp=N,1μm,0.6s							
KUZU	**Kuzuini**	**2.72**	**209**	*i* P		**Pn**	**02 53 42.8**	**-0.4**
KUZU				IAML			02 54 34.0	
	comp=E,834nm,0.5s							
BLIS	**Bitlis-Merkez**	**2.77**	**105**	*e*P		**Pb**	**02 53 47.2**	**-1.6**
BLIS	**Bitlis-Merkez**	**2.77**	**105**	*i* P		**Pn**	**02 53 45.3**	**+1.4**
BLIS				*i* S		**Sb**	**02 54 24.9**	**+1.8**
SIRC	**Yozgat**	**2.77**	**275**	*i* P		**Pn**	**02 53 43.9**	**-0.1**
SRTM	**Siirt_Merkez**	**2.78**	**114**	*i* P		**Pn**	**02 53 45.7**	**+1.6**
KVT	**Kavak**	**2.79**	**314**	PN		**Pn**	**02 53 44.3**	**+0.1**
KOZT	**Kozan**	**2.83**	**234**	PN		**Pn**	**02 53 44.7**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**2.83**	**249**	*i* P		**Pn**	**02 53 46.4**	**+1.6**
YAHY				*i* S		**Sb**	**02 54 25.4**	**+0.5**
KAYA	**Kayacik-Havza(**	**2.88**	**309**	PN		**Pn**	**02 53 45.6**	**+0.2**
DDEM	**Demirkent**	**2.90**	**53**	*i* P		**Pn**	**02 53 46.2**	**+0.5**
SAMS	**Samsun-Alacam**	**2.92**	**319**	*i* P		**Pn**	**02 53 44.7**	**-1.1**
DBAD	**Bademkaya**	**2.94**	**50**	*i* P		**Pn**	**02 53 46.5**	**+0.3**
HAVZ	**Havza**	**2.98**	**311**	*i* P		**Pn**	**02 53 48.9**	**+2.1**
HAVZ				*i* S		**Sn**	**02 54 25.6**	**+2.6**
MLAZ	**Malazgirt-MUS**	**2.99**	**89**	PN		**Pn**	**02 53 46.4**	**-0.6**
EATA	**Eleskirt**	**3.01**	**76**	*i* P		**Pb**	**02 53 53.1**	**+0.1**
EATA				*e*S		**Sg**	**02 54 34.0**	**-1.2**
EATA	**Eleskirt**	**3.01**	**76**	*i* P		**Pb**	**02 53 51.7**	**-1.2**
AVNS	**Nevsehir-Avano**	**3.03**	**264**	*i* P		**Pn**	**02 53 47.4**	**-0.1**
AVNS				*i* S		**Sb**	**02 54 31.7**	**+1.0**
AVNS				IAML			02 54 48.0	
	comp=E,727nm,0.8s							
AVNS				IAML			02 54 50.0	
	comp=N,609nm,0.6s							
COAL	**Corum-Alaca**	**3.07**	**292**	*i* P		**Pn**	**02 53 47.4**	**-0.6**
COAL				*i* S		**Sg**	**02 54 35.5**	**-1.6**
AKO	**Adana**	**3.08**	**237**	*i* P		**Pn**	**02 53 47.2**	**-0.9**
DAGI	**Agillar**	**3.11**	**51**	*i* P		**Pn**	**02 53 49.3**	**+0.7**
DAGI				*i* S		**Sb**	**02 54 34.4**	**+1.4**
SENK	**Senkaya-Erzuru**	**3.13**	**63**	PN		**Pn**	**02 53 49.1**	**+0.1**
DBOC	**Borcka**	**3.14**	**45**	*i* P		**Pn**	**02 53 46.5**	**-2.4**
DBOC				*i* S		**Sb**	**02 54 31.0**	**-2.6**
CEYT	**Ceyhan**	**3.18**	**228**	PN		**Pn**	**02 53 49.7**	**+0.2**
BCA	**Borcka**	**3.18**	**44**	PN		**Pn**	**02 53 49.1**	**-0.4**
ARTV	**Artvin**	**3.18**	**50**	*e*P		**Pn**	**02 53 50.5**	**+0.7**
ARTV	**Artvin**	**3.18**	**50**	*i* P		**Pn**	**02 53 48.9**	**-0.8**
ARTV	**Artvin**	**3.18**	**50**	Pn		**Pn**	**02 53 50.7**	**+1.0**
TUTA	**Tutak**	**3.19**	**85**	*e*P		**Pb**	**02 53 55.8**	**-0.2**
CMRD	**Camardi-Nigde**	**3.29**	**244**	PN		**Pn**	**02 53 51.5**	**+0.4**
CORM	**Corum**	**3.30**	**289**	PN		**Pn**	**02 53 52.0**	**+0.7**
CTAK	**Corum_Osmancik**	**3.35**	**297**	*i* P		**Pn**	**02 53 52.4**	**+0.3**
SIRN	**Sırnak**	**3.36**	**119**	*i* P		**Pn**	**02 53 51.8**	**-0.2**
SIRT	**Sırnak**	**3.37**	**118**	PN		**Pn**	**02 53 52.2**	**0.0**
YURE	**YUREGIR**	**3.38**	**227**	PN		**Pn**	**02 53 52.6**	**+0.4**
CDAG	**Cicekdag**	**3.39**	**279**	*i* P		**Pn**	**02 53 52.8**	**+0.3**
TAHT	**Tahtakopru-Hat**	**3.43**	**216**	PN		**Pn**	**02 53 52.4**	**-0.6**
KARA	**Karaisali**	**3.45**	**238**	PN		**Pn**	**02 53 53.2**	**0.0**
GEVA	**Gevas**	**3.51**	**103**	*e*P		**Pb**	**02 54 01.7**	**+0.3**
GEVA	**Gevas**	**3.51**	**103**	*i* P		**Pn**	**02 53 57.2**	**+3.1**
GEVA	**Gevas**	**3.51**	**103**	Pn		**Pn**	**02 53 54.6**	**+0.5**
GULA	**Gulagac**	**3.59**	**258**	PN		**Pn**	**02 53 55.7**	**+0.4**
DIKM	**Dikmen**	**3.62**	**314**	PN		**Pn**	**02 53 55.9**	**+0.4**
GULE	**Gulek**	**3.62**	**240**	*i* P		**Pn**	**02 53 56.2**	**+0.5**
KRTS	**Karatas**	**3.70**	**227**	PN		**Pn**	**02 53 56.9**	**+0.3**
TVAN	**Van**	**3.72**	**98**	*i* P		**Pb**	**02 54 06.6**	**+1.5**
KIRS	**Kırehir-Merke**	**3.73**	**271**	*i* P		**Pn**	**02 53 57.1**	**+0.1**
YAYL	**Yayladag**	**3.75**	**214**	PN		**Pn**	**02 53 57.2**	**-0.3**
KAGI	**orum-Kargı**	**3.79**	**303**	*i* P		**Pn**	**02 53 57.0**	**-0.9**
DELI	**KIRIKKALE**	**3.79**	**284**	*i* P		**Pn**	**02 53 58.4**	**+0.4**
DED	**Mersin**	**3.79**	**236**	*i* P		**Pn**	**02 53 56.8**	**-1.1**
DIGO	**Kars**	**3.80**	**69**	*e*P		**Pb**	**02 54 04.8**	**-1.7**
YAYX	**Yaylak**	**3.82**	**268**	PN		**Pn**	**02 53 58.8**	**+0.4**
DYDN	**Diyadin**	**3.88**	**83**	*e*P		**Pb**	**02 54 07.7**	**0.0**
BR131	**Keskin Array S**	**3.96**	**280**			**Pn**	**02 54 00.7**	**+0.3**
BRTR	**Keskin Array B**	**3.96**	**280**	Pn		**Pn**	**02 54 00.8**	**+0.3**
	comp=N,13nm,0.3s,baz=97,slow=15,SNR=446							
BRTR				Lg		Lg	02 55 05.0	
	comp=N,5.1nm,0.3s,baz=109,slow=34,SNR=4.7							
BRTR	**Keskin Array B**	**3.96**	**280**			**Pn**	**02 54 00.4**	**0.0**
IGDI	**IGDIR**	**4.21**	**79**	*i* P		**Pb**	**02 54 15.6**	**+2.3**
ILGA	**Ilgaz**	**4.26**	**298**			**Pn**	**02 54 06.4**	**+1.8**
AKH	**Akhalkalaki**	**4.29**	**57**	Pn		**Pn**	**02 54 05.0**	**+0.1**
BR231	**Keskin MP Arra**	**4.64**	**280**			**Pn**	**02 54 10.9**	**+1.2**
HWQ	**Hawqa**	**5.36**	**205**	*e*P		**Pn**	**02 54 20.4**	**+0.8**
KBZ	**Khabaz**	**5.53**	**33**	Pn		**Pn**	**02 54 23.1**	**+1.4**
	comp=N,1.3nm,0.3s,baz=194,slow=7.9,SNR=17							
KBZ				LR		LR	02 56 00.1	
	comp=N,31nm,18.5s,baz=200,slow=33							
DGRG	**David-gareji**	**5.58**	**64**	*e*P		**Pn**	**02 54 25.4**	**+2.9**
KIV	**Kislovodsk**	**5.63**	**31**			**Pn**	**02 54 22.3**	**-1.0**
KVAR	**Kislovodsk Arr**	**5.64**	**31**	Pn		**Pn**	**02 54 25.2**	**+1.8**
	baz=265,slow=22,SNR=14							
BHL	**Bhannes**	**5.80**	**206**	*e*P		**Pn**	**02 54 27.3**	**+1.7**
MDUB	**Mudurnu**	**5.93**	**285**	Pn		**Pn**	**02 54 27.8**	**+0.5**
CSS	**Mathiatis**	**6.01**	**227**	Pn		**Pn**	**02 54 28.8**	**+0.4**
DQRL	**Deir Qamar**	**6.01**	**206**	*e*P		**Pn**	**02 54 30.5**	**+2.0**
QRWL	**Qaraoun**	**6.12**	**204**	*e*P		**Pn**	**02 54 31.5**	**+1.5**
SHBL	**Chebaa**	**6.29**	**203**	*e*P		**Pn**	**02 54 34.6**	**+2.3**
MMAI	**Mount Meron Ar**	**6.70**	**205**	Pn		**Pn**	**02 54 38.8**	**+0.8**
	comp=N,1.8nm,0.3s,baz=56,slow=13,SNR=15							
MMAI				Lg		Lg	02 56 31.5	
	comp=N,1.0nm,0.3s,baz=40,slow=23,SNR=1.2							
ASF	**Jabal al Asfar**	**7.14**	**192**	Pn		**Pn**	**02 54 44.3**	**+0.3**
	comp=N,0.5nm,0.3s,baz=325,slow=5.9,SNR=6.6							
ASF				Lg		Lg	02 56 45.7	
	comp=N,0.7nm,0.3s,baz=140,slow=23,SNR=2.1							
EIL	**Elat**	**9.97**	**199**	Pn		**Pn**	**02 55 23.4**	**+0.6**
	comp=N,0.1nm,0.3s,baz=22,slow=19,SNR=1.8							
EIL				LR		LR	02 59 09.4	
	comp=N,45nm,21.7s,baz=344,slow=37							
MLR	**Muntele Rosu**	**11.36**	**308**	LR		LR	03 00 48.2	
	comp=N,76nm,21.9s,baz=126,slow=41							
BURAR	**Bucovina Array**	**12.93**	**315**	Pn		**Pn**	**02 56 05.8**	**+2.6**
AKASG	**Malin Array Be**	**13.33**	**333**	Pn		**Pn**	**02 56 08.4**	**-0.1**
	comp=N,0.5nm,0.3s,baz=138,slow=14,SNR=2.9							
AKTO	**Aktyubinsk**	**17.68**	**44**	P		**P**	**02 57 06.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=245,slow=9.3,SNR=3.6							
AKTO				LR		LR	03 05 15.7	
	comp=N,22nm,18.3s,baz=154,slow=42							
ABKAR	**Akbulak array**	**18.20**	**49**			**Pn**	**02 57 11.5**	**-0.6**
SUW	**Suwalki**	**18.22**	**330**			**P**	**02 57 12.4**	**-0.1**
VRAC	**Vranov**	**18.74**	**310**	LR		LR	03 05 24.9	
	comp=N,28nm,19.0s,baz=108,slow=40							
TRI	**Trieste**	**19.49**	**298**	P		**P**	**02 57 26.3**	**-0.3**
MOA	**Molln**	**19.67**	**304**	Pn		**P**	**02 57 27.9**	**-0.7**
	comp=N,5.9nm,1.2s							
GEC2	**GERESS Array S**	**20.34**	**307**	P		**P**	**02 57 35.6**	**-0.4**
GEC2				IAmb		IAmb	02 57 43.7	
	comp=Z,14nm,2.0s							
GERES	**GERESS Array B**	**20.34**	**307**	P		**P**	**02 57 36.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=105,slow=10,SNR=6.6							
GERES				LR		LR	03 06 50.2	
	comp=Z,25nm,18.1s,baz=94,slow=41							
GERES	**GERESS Array B**	**20.34**	**307**	P		**P**	**02 57 36.5**	**+0.5**
KHC	**Kasperske Hory**	**20.51**	**307**	*e*P		Pn	02 57 42.5	+2.6
ABTA	**Abfaltersbach**	**20.55**	**300**	*e*pP		**P**	**02 57 37.6**	**-0.6**
	comp=Z,2.7nm,1.0s							
CTI	**Castel Tesino**	**21.00**	**298**	P		**P**	**02 57 43.4**	**+0.2**
CTI				IAmb		IAmb	02 57 49.0	
	comp=Z,5.5nm,0.9s							
WTTA	**Wattenberg**	**21.24**	**301**	*e*Pn		**P**	**02 57 45.9**	**0.0**
	comp=Z,4.7nm,1.2s							
WATA	**Walderalm**	**21.30**	**301**	*e*pP		**P**	**02 57 46.1**	**-0.3**
	comp=Z,5.0nm,1.2s							
SQTA	**Sankt Quirin**	**21.52**	**301**	*e*P		**P**	**02 57 49.1**	**+0.3**
	comp=Z,2.2nm,0.6s							
MOTA	**Moosalm**	**21.62**	**301**	*e*pP		**P**	**02 57 49.2**	**-0.6**
	comp=Z,7.8nm,1.5s							
CLL	**Collm**	**21.66**	**312**	*e*P		**P**	**02 57 52.0**	**+1.9**
CLL				*e*			02 58 02.0	
	comp=Z,5.0nm,1.2s							
CLL	**Collm**	**21.66**	**312**	P		**P**	**02 57 51.2**	**+1.1**
ARU	**Arti**	**21.68**	**31**	P		**P**	**02 57 50.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=216,slow=8.7,SNR=1.9							
ARU				LR		LR	03 08 17.5	
	comp=Z,27nm,19.6s,baz=207,slow=42							
ARU	**Arti**	**21.68**	**31**	P		**P**	**02 57 50.6**	**+0.4**
ARU				IAmb		IAmb	02 57 58.6	
	comp=Z,25nm,1.7s							
RETA	**Reutte**	**21.87**	**301**	*e*pP		**P**	**02 57 51.7**	**-0.8**
	comp=Z,4.3nm,1.2s							
DAVA	**Damuels**	**22.42**	**301**	*e*P		**P**	**02 57 57.4**	**-1.1**
	comp=Z,4.1nm,0.7s							
KEST	**Kesra**	**23.52**	**271**	P		**P**	**02 58

mb1 4.6/41,mb1mx4.6/54,mbtmp4.8/41,MS4.9/26, Ms1 4.9/26,ms1mx4.8/33 Error ellipse: s-maj=15.2km s-min=8.2km az=47.0

ISC 20 03:03:50.2±0.4,14°71N±0°04×93°76W±0°03,h22km±3km, h22km:pP-P,n841,σ1°71/733,mb5.2/212,MS5.2/46, 12C-19D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.12**	**28**	*eP*	**Pn**	**03 04 08.8**	**-1.8**
PCIG				*i* S	**Sb**	**03 04 22.9**	**-2.2**
RTAL	**Retalhuleu**	**2.00**	**95**	*eP*	**Pn**	**03 04 23.2**	**+0.4**
RTAL				*e*S	**Sn**	**03 04 48.0**	**+0.7**
RTAL				IAML		03 04 58.5	
	comp=Z,12μm,0.6s						
RTAL	**Retalhuleu**	**2.00**	**95**	Pn	**Pn**	**03 04 22.4**	**-0.4**
TGBT	**Tuxtla Gutierr**	**2.16**	**17**	*eP*	**Pn**	**03 04 24.6**	**-0.3**
TGBT				*i* S	**Sn**	**03 04 50.0**	**-1.0**
CCIG	**Comitan**	**2.21**	**45**	*eP*	**Pn**	**03 04 27.5**	**+1.7**
CCIG				*i* S	**Sn**	**03 04 53.9**	**+1.3**
CCIG	**Comitan**	**2.21**	**45**		**Pn**	**03 04 27.0**	**+1.2**
HUEH	**Huehuetenango**	**2.26**	**74**	*eP*	**Pn**	**03 04 27.7**	**+1.2**
HUEH				*e*S	**Sn**	**03 04 53.5**	**-0.4**
HUEH				IAML		03 05 08.8	
	comp=Z,63μm,0.4s						
HUEH	**Huehuetenango**	**2.26**	**74**		**Pn**	**03 04 27.8**	**+1.3**
HUIG	**Huatulco**	**2.50**	**295**	*eP*	**Pn**	**03 04 27.6**	**-2.0**
HUIG				*i* S	**Sn**	**03 04 56.0**	**-3.5**
APG	**El Apazote**	**3.20**	**84**	P	**Pn**	**03 04 40.1**	**+0.7**
	comp=Z,176nm,0.3s,baz=291,slow=9.9,SNR=242						
APG				S	**Sn**	**03 05 17.2**	**+0.2**
	comp=Z,433nm,0.3s,baz=239,slow=17,SNR=4.9						
APG				LR	LR	03 05 31.3	
	comp=Z,6μm,19.6s,baz=268,slow=32						
TUIG	**Tuzandepetl**	**3.37**	**349**	*eP*	**Pn**	**03 04 41.4**	**-0.1**
TUIG				*i* S	**Sn**	**03 05 20.4**	**-0.5**
PEIG	**Puerto Escondi**	**3.51**	**292**	*eP*	**Pn**	**03 04 41.6**	**-1.9**
PEIG				*i* S	**Sn**	**03 05 21.8**	**-2.7**
VHO	**Vista Hermosa**	**3.71**	**310**	*eP*	**Pn**	**03 04 47.1**	**+0.7**
VHO				*i* S	**Sn**	**03 05 29.6**	**+0.1**
MRL	**Marmol**	**3.96**	**84**	*eP*	**Pn**	**03 04 50.2**	**+0.4**
MRL	**Marmol**	**3.96**	**84**	*eP*	**Pn**	**03 04 50.2**	**+0.4**
RTR	**El Retiro**	**4.07**	**101**	*eP*	**Pn**	**03 04 53.2**	**+2.0**
RTR	**El Retiro**	**4.07**	**101**	*eP*	**Pn**	**03 04 53.2**	**+2.0**
SBLS	**San Blas**	**4.10**	**102**	*eP*	**Pn**	**03 04 53.2**	**+1.4**
SBLS	**San Blas**	**4.10**	**102**	*eP*	**Pn**	**03 04 53.2**	**+1.4**
CEVE	**Cerro Verde**	**4.10**	**102**	*eP*	**Pn**	**03 04 53.1**	**+1.3**
CEVE				*e*S	**Sn**	**03 05 40.1**	**+0.7**
CEVE				IAML		03 06 06.2	
	comp=Z,17μm,0.4s						
CEVE	**Cerro Verde**	**4.10**	**102**	*eP*	**Pn**	**03 04 53.1**	**+1.3**
CEVE				*e*S	**Sn**	**03 05 40.1**	**+0.7**
CEVE				IAML		03 06 06.2	
	comp=Z,17μm,0.4s						
SNJE	**San Jose**	**4.11**	**101**	*eP*	**Pn**	**03 04 53.6**	**+1.7**
SNJE	**San Jose**	**4.11**	**101**	*eP*	**Pn**	**03 04 53.6**	**+1.7**
YOIG	**Yosondua**	**4.23**	**301**	*eP*	**Pn**	**03 04 52.8**	**-0.8**
YOIG				*i* S	**Sn**	**03 05 40.6**	**-1.9**
MTO3	**Montecristo**	**4.27**	**94**	*eP*	**Pn**	**03 04 55.2**	**+1.1**
MTO3	**Montecristo**	**4.27**	**94**	*eP*	**Pn**	**03 04 55.2**	**+1.1**
MTO3	**Montecristo**	**4.27**	**94**		**Pn**	**03 04 54.2**	**+0.1**
ESQI	**Esquipulas**	**4.28**	**91**	*eP*	**Pn**	**03 04 55.1**	**+1.0**
ESQI	**Esquipulas**	**4.28**	**91**		**Pn**	**03 04 55.9**	**+1.7**
CEDA	**San Andres**	**4.32**	**101**	*eP*	**Pn**	**03 04 55.7**	**+0.9**
CEDA				IAML		03 06 11.1	
	comp=Z,7μm,0.6s						
CEDA	**San Andres**	**4.32**	**101**	*eP*	**Pn**	**03 04 55.7**	**+0.9**
CEDA				IAML		03 06 11.1	
	comp=Z,7μm,0.6s						
BOQS	**Boqueron**	**4.45**	**102**	*eP*	**Pn**	**03 04 58.4**	**+1.8**
BOQS	**Boqueron**	**4.45**	**102**	*eP*	**Pn**	**03 04 58.4**	**+1.8**
SNET	**Serv Nac Est T**	**4.50**	**102**		**Pn**	**03 04 57.1**	**-0.2**
PNIG	**Pinotepa**	**4.53**	**292**	*eP*	**Pn**	**03 04 56.2**	**-1.4**
PNIG				*i* S	**Sn**	**03 05 46.6**	**-3.0**
AEIL	**Aeropuerto Ilo**	**4.61**	**102**	IAML		03 06 28.0	
	comp=Z,8μm,0.5s						
AEIL	**Aeropuerto Ilo**	**4.61**	**102**	IAML		03 06 28.0	
	comp=Z,8μm,0.5s						
TXIG	**Tlaxiaco**	**4.61**	**304**	*eP*	**Pn**	**03 04 59.5**	**+0.6**
TOIG	**Toxpalan**	**4.63**	**317**	*eP*	**Pn**	**03 05 00.8**	**+1.8**
LBRS	**Las Brisas**	**4.67**	**101**	*eP*	**Pn**	**03 05 00.4**	**+0.9**
LBRS	**Las Brisas**	**4.67**	**101**	*eP*	**Pn**	**03 05 00.4**	**+0.9**
LFRS	**El Faro**	**4.68**	**103**	*eP*	**Pn**	**03 05 00.5**	**+0.9**
LFRS	**El Faro**	**4.68**	**103**	*eP*	**Pn**	**03 05 00.5**	**+0.9**
COEG	**Centro de Oper**	**4.85**	**102**	*eP*	**Pn**	**03 05 03.7**	**+1.7**
COEG				IAML		03 06 16.1	
	comp=Z,3μm,0.4s						
COEG	**Centro de Oper**	**4.85**	**102**	*eP*	**Pn**	**03 05 03.7**	**+1.7**
COEG				IAML		03 06 16.1	
	comp=Z,3μm,0.4s						
HLIG	**Huajuapan de L**	**4.97**	**309**	*eP*	**Pn**	**03 05 05.0**	**+1.2**
COEB	**Comit de Eme**	**5.21**	**103**	*eP*	**Pn**	**03 05 08.1**	**+1.1**
COEB				IAML		03 06 36.1	
	comp=Z,2μm,0.5s						
COEB	**Comit de Eme**	**5.21**	**103**	*eP*	**Pn**	**03 05 08.1**	**+1.1**
COEB				IAML		03 06 36.1	
	comp=Z,2μm,0.5s						
TLIG	**Tlapa**	**5.42**	**302**	*eP*	**Pn**	**03 05 11.6**	**+1.6**
TLIG	**Tlapa**	**5.42**	**302**		**Pn**	**03 05 11.1**	**+1.2**
BLLM	**Bellamira**	**5.50**	**103**	*eP*	**Pn**	**03 05 12.4**	**+1.5**
BLLM	**Bellamira**	**5.50**	**103**	*eP*	**Pn**	**03 05 12.4**	**+1.5**
FAGO	**Alcalda de S**	**5.57**	**100**	*eP*	**Pn**	**03 05 12.3**	**+0.5**
FAGO	**Alcalda de S**	**5.57**	**100**	*eP*	**Pn**	**03 05 12.3**	**+0.5**
TGUH	**Tegucigalpa,Un**	**6.32**	**95**	*eP*	**Pn**	**03 05 24.5**	**+2.3**
TGUH	**Tegucigalpa,Un**	**6.32**	**95**	Pn	**Pn**	**03 05 22.4**	**+0.2**
MEIG	**Mezcala**	**6.47**	**300**	*eP*	**Pn**	**03 05 26.5**	**+2.2**
YAIG	**Yautepec**	**6.55**	**310**	*eP*	**Pn**	**03 05 28.2**	**+2.7**
CAIG	**El Cayaco**	**6.68**	**291**	*eP*	**Pn**	**03 05 27.1**	**+0.1**
CRIN	**San Cristobal**	**6.82**	**106**	Pn	**Pn**	**03 05 30.1**	**+1.1**
UNM	**Universidad Na**	**6.93**	**312**	P	**Pn**	**03 05 33.7**	**+3.0**
UNM	**Universidad Na**	**6.93**	**312**	Pn	**Pn**	**03 05 33.7**	**+3.0**
ARIG	**Puente Sto Nin**	**7.25**	**300**	*eP*	**Pn**	**03 05 37.4**	**+2.5**
TEIG	**Tepich**	**7.58**	**43**	P	**Pn**	**03 05 40.3**	**+0.9**
	comp=Z,158nm,0.3s,baz=242,slow=2.3,SNR=296						
TEIG				S	**Sn**	**03 07 01.6**	**-3.2**
	comp=Z,140nm,0.3s,baz=346,slow=22,SNR=8.6						
TEIG				LR	LR	03 08 58.7	
	comp=Z,17μm,21.3s,baz=246,slow=41						
TEIG	**Tepich**	**7.58**	**43**	*eP*	**Pn**	**03 05 39.4**	**0.0**
TEIG	**Tepich**	**7.58**	**43**		**Pn**	**03 05 39.2**	**-0.2**
MATN	**Matagalpa**	**7.81**	**102**	Pn	**Pn**	**03 05 42.9**	**+0.2**
BOAB	**BOACO BROADBAN**	**8.18**	**105**	Pn	**Pn**	**03 05 48.2**	**+0.6**
MOIG	**Morelia**	**8.65**	**306**	Pn	**Pn**	**03 05 57.8**	**+3.4**
ACON	**Acoyapa**	**8.79**	**107**	Pn	**Pn**	**03 05 57.1**	**+1.1**
HZTE	**Horizontes, Gu**	**8.90**	**116**	*eP*	**Pn**	**03 06 00.3**	**+2.8**
GBS3	**Finca Las Img**	**8.99**	**115**	*eP*	**Pn**	**03 06 02.0**	**+3.2**
LAPC	**Finca la Perla**	**9.02**	**115**	*eP*	**Pn**	**03 06 00.8**	**+1.7**
GB1A	**Borinquen Arri**	**9.02**	**114**	*eP*	**Pn**	**03 06 02.8**	**+3.5**
BUEV	**Buena Vista**	**9.02**	**115**	*eP*	**Pn**	**03 06 02.7**	**+3.3**
BUAI	**Buenos Aires**	**9.06**	**114**	*eP*	**Pn**	**03 06 01.5**	**+1.8**
GPS3	**Bodega del ICE**	**9.08**	**115**	*eP*	**Pn**	**03 06 02.7**	**+2.6**
GPS1	**Guardaparques**	**9.09**	**114**	*eP*	**Pn**	**03 06 03.6**	**+3.4**
GPS2	**Hotel Rincn d**	**9.09**	**115**	*eP*	**Pn**	**03 06 02.9**	**+2.6**
ORTG	**Ortega, Santa**	**9.18**	**117**	*eP*	**Pn**	**03 06 04.0**	**+2.5**
GUAI	**GUAI**	**9.18**	**118**	*eP*	**Pn**	**03 06 04.3**	**+3.0**
GUAB	**Guayabo de Bag**	**9.22**	**115**	*eP*	**Pn**	**03 06 05.3**	**+3.3**
GRZA	**Playa Garza**	**9.25**	**120**	*eP*	**Pn**	**03 06 05.4**	**+3.0**
COLC	**Colonia**	**9.26**	**115**	*eP*	**Pn**	**03 06 05.8**	**+3.3**
PLVR	**Palo Verde**	**9.28**	**117**	*eP*	**Pn**	**03 06 05.5**	**+2.6**
CUI	**Cuipilapa**	**9.30**	**115**	*eP*	**Pn**	**03 06 06.3**	**+3.2**
PTEN	**Parque Tenorio**	**9.43**	**114**	*eP*	**Pn**	**03 06 08.8**	**+3.9**
ESPN	**Las Esperanzas**	**9.53**	**104**	Pn	**Pn**	**03 06 06.7**	**+0.5**
JTS	**Las Juntas de**	**9.65**	**116**	P	**Pn**	**03 06 10.2**	**+2.3**
	comp=Z,4.5nm,0.3s,baz=323,slow=8.9,SNR=16						
JTS	**Las Juntas de**	**9.65**	**116**	*eP*	**Pn**	**03 06 10.4**	**+2.5**
JTS				pmax	pmax		
	comp=Z,72nm,1.3s						
JTS	**Las Juntas de**	**9.65**	**116**	*eP*	**Pn**	**03 06 11.0**	**+3.1**
CASO	**Castillo**	**9.78**	**115**	*eP*	**Pn**	**03 06 12.8**	**+3.1**
CEDE	**Laguna Cedeo**	**9.78**	**114**	*eP*	**Pn**	**03 06 13.8**	**+4.0**
COVE	**Coope Vega, Sa**	**9.95**	**112**	*eP*	**Pn**	**03 06 15.7**	**+3.8**
JACO	**JACO, Garabito**	**10.21**	**118**	*eP*	**Pn**	**03 06 17.4**	**+1.9**
HDC	**Heredia**	**10.52**	**115**	Pn	**Pn**	**03 06 23.7**	**+3.8**
LCR2	**La Lucha 2**	**10.73**	**116**	*eP*	**Pn**	**03 06 25.1**	**+2.2**
CVTR	**Volcan Turrial**	**10.82**	**114**	*eP*	**Pn**	**03 06 26.2**	**+1.9**
RIMA	**Rio Macho**	**10.84**	**116**	*eP*	**Pn**	**03 06 26.5**	**+2.1**
CDM	**Cerro de Muert**	**11.03**	**117**	*eP*	**Pn**	**03 06 29.8**	**+2.6**
ZAIG	**Zacatecas**	**11.57**	**315**	Pn	**Pn**	**03 06 37.6**	**+3.2**
EDPN	**Palmar Norte**	**11.58**	**118**	*eP*	**Pn**	**03 06 38.3**	**+3.9**
DRK0	**Durika**	**11.62**	**117**	*eP*	**Pn**	**03 06 37.2**	**+2.2**
EDSV	**San Vito**	**12.07**	**118**	*eP*	**Pn**	**03 06 45.3**	**+4.2**
FSCY	**Frank Sound, G**	**12.87**	**67**	Pn	**Pn**	**03 06 52.2**	**+0.4**
LCCY	**Blossom Villag**	**13.97**	**67**	Pn	**Pn**	**03 07 06.1**	**-0.8**
CBCY	**The Bluff, Cay**	**14.28**	**68**	Pn	**Pn**	**03 07 10.3**	**-0.9**
833A	**Chaparral WMA,**	**14.53**	**340**	P	**Pn**	**03 07 15.1**	**+0.6**
	baz=157,SNR=46						
833A	**Chaparral WMA,**	**14.53**	**340**	Pn	**Pn**	**03 07 14.5**	**0.0**
735A	**Kenedy**	**14.57**	**346**	Pn	**Pn**	**03 07 15.4**	**+0.2**
BCIP	**Isla Barro Col**	**14.69**	**110**	*eP*	**Pn**	**03 07 17.5**	**+0.7**
BCIP	**Isla Barro Col**	**14.69**	**110**	P	**Pn**	**03 07 17.5**	**+0.7**
BCIP	**Isla Barro Col**	**14.69**	**110**	Pn	**Pn**	**03 07 17.5**	**+0.7**
HKT	**Hockley**	**15.29**	**353**	P	**Pn**	**03 07 24.2**	**-0.6**
HKT				pmax	pmax		
	comp=Z,276nm,1.7s						
HKT	**Hockley**	**15.29**	**353**	Pn	**Pn**	**03 07 24.1**	**-0.6**
HKT				IAmb	IAmb	03 07 54.0	
	comp=Z,276nm,1.6s						
PAYG	**Puerto Ayora**	**15.66**	**167**	Pn	**Pn**	**03 07 29.1**	**-0.7**
PAYG				IAmb	IAmb	03 07 38.7	
	comp=Z,269nm,1.3s						
MTDJ	**Mount Denham**	**15.95**	**75**	Pn	**Pn**	**03 07 35.2**	**+1.7**
MTDJ				IAmb	IAmb	03 07 58.5	
	comp=Z,287nm,1.1s						
441A	**DeRidder**	**15.98**	**2**	Pn	**Pn**	**03 07 34.0**	**+0.3**
441A				IAmb	IAmb	03 07 38.8	
	comp=Z,167nm,0.9s						
061Z	**Ochoppi**	**16.37**	**45**	Pn	**Pn**	**03 07 36.9**	**-1.9**
435B	**Jarrell**	**16.39**	**348**	P	**Pn**	**03 07 38.9**	**0.0**
	baz=166,SNR=17						
435B	**Jarrell**	**16.39**	**348**	Pn	**Pn**	**03 07 38.5**	**-0.4**
435B				IAmb	IAmb	03 08 07.3	
	comp=Z,130nm,0.6s						
UPD2	**Meteti**	**16.58**	**110**	*eP*	**Pn**	**03 07 40.8**	**-0.7**
342A	**Flagon Creek P**	**16.64**	**4**	Pn	**Pn**	**03 07 40.3**	**-1.9**
342A				IAmb	IAmb	03 07 50.6	
	comp=Z,160nm,1.1s						
JCT	**Junction City**	**16.66**	**342**	P	**P**	**03 07 44.1**	**-0.6**
JCT				pmax	pmax		
	comp=Z,97nm,0.9s						
JCT	**Junction City**	**16.66**	**342**	P	**P**	**03 07 44.5**	**-0.1**
	baz=159,SNR=32						
JCT	**Junction City**	**16.66**	**342**	Pn	**P**	**03 07 44.1**	**-0.6**
344A	**Westbrook Farm**	**16.90**	**9**		**Pn**	**03 07 45.5**	**+0.1**
NATX	**Nacogdoches**	**17.00**	**357**	P	**Pn**	**03 07 47.1**	**+0.5**
	baz=177,SNR=6.1						
NATX	**Nacogdoches**	**17.00**	**357**	Pn	**Pn**	**03 07 45.6**	**-1.0**
346A	**Big Creek Wild**	**17.07**	**13**	Pn	**Pn**	**03 07 46.6**	**-0.9**
346A				IAmb	IAmb	03 08 16.4	
	comp=Z,176nm,1.0s						
TX32	**Lajitas Array**	**17.20**	**329**	Pn	**Pn**	**03 07 49.4**	**+0.2**
TXAR	**Lajitas Array**	**17.20**	**329**	P	**P**	**03 07 50.8**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=148,slow=10,SNR=53						
TXAR				LR	LR	03 14 45.5	
	comp=Z,822nm,20.2s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**17.20**	**329**	Pn	**Pn**	**03 07 49.2**	**-0.1**
TX31	**Lajitas Ar. Si**	**17.20**	**329**	Pn	**Pn**	**03 07 49.5**	**+0.2**
237A	**Washetta, Mont**	**17.32**	**354**	Pn	**Pn**	**03 07 50.8**	**+0.2**
237A				IAmb	IAmb	03 08 26.0	
	comp=Z,486nm,1.7s						
BRAL	**Brewton**	**17.50**	**19**	P	**P**	**03 07 54.5**	**+0.5**
	baz=202						
BRAL	**Brewton**	**17.50**	**19**	Pn	**Pn**	**03 07 52.8**	**-0.1**
060A	**Indiantown**	**17.51**	**43**	Pn	**Pn**	**03 07 52.5**	**-0.5**
WHTX	**Lake Whitney,**	**17.54**	**350**	P	**Pn**	**03 07 53.3**	**0.0**
	baz=168,SNR=18						
WHTX	**Lake Whitney,**	**17.54**	**350**	Pn	**Pn**	**03 07 53.5**	**+0.2**
WHTX				IAmb	IAmb	03 08 20.4	
	comp=Z,109nm,0.7s						
553A	**Crawfordville**	**17.64**	**28**	Pn	**Pn**	**03 07 52.9**	**-1.7**
553A				IAmb	IAmb	03 08 01.8	
	comp=Z,220nm,0.9s						
VBMS	**Vicksburg**	**17.68**	**9**	P	**Pn**	**03 07 54.8**	**-0.3**
	baz=190						
VBMS	**Vicksburg**	**17.68**	**9**	Pn	**Pn**	**03 07 55.0**	**-0.1**
VBMS				IAmb	IAmb	03 08 03.7	
	comp=Z,198nm,1.0s						
656A	**Willston**	**17.90**	**34**	Pn	**Pn**	**03 07 55.4**	**-2.4**
656A				IAmb	IAmb	03 08 11.2	
	comp=Z,179nm,0.8s						
143A	**Socs Landing,**	**18.05**	**6**	P	**Pn**	**03 07 58.0**	**-1.6**
LPIG	**La Paz**	**18.18**	**303**	P	**P**	**03 08 05.5**	**+4.0**
	comp=Z,3.2nm,0.3s,baz=232,slow=2.1,SNR=15						
LPIG				LR	LR	03 15 31.1	
	comp=Z,4μm,18.5s,baz=118,slow=38						
146A	**Union**	**18.36**	**13**	P	**P**	**03 08 03.1**	**-0.3**
146A				IAmb	IAmb	03 08 29.9	
	comp=Z,291nm,1.1s						
Z41A	**Richland Creek**	**18.49**	**3**	P	**P**	**03 08 04.9**	**+0.1**
	baz=182,SNR=33						
Z41A	**Richland Creek**	**18.49**	**3**	P	**P**	**03 08 05.0**	**+0.2**
Z41A				IAmb	IAmb	03 08 11.6	
	comp=Z,256nm,1.1s						
250A	**Grady**	**18.51**	**20**	P	**Pn**	**03 08 05.6**	**+0.3**
250A				IAmb	IAmb	03 08 26.5	
	comp=Z,279nm,1.2s						
Z38A	**Mt. Pleasant**	**18.51**	**357**	P	**Pn**	**03 08 05.5**	**+0.3**
Z38A				IAmb	IAmb	03 08 35.8	
	comp=Z,135nm,1.1s						
GTBY	**Guantanamo Bay**	**18.54**	**71**	*eP*	**P**	**03 08 04.6**	**-0.9**
GTBY	**Guantanamo Bay**	**18.54**	**71**	P	**P**	**03 08 05.0**	**-0.5**
GTBY				IAmb	IAmb	03 08 32.9	
	comp=Z,158nm,1.1s						
352A	**Blakely**	**18.55**	**24**	P	**Pn**	**03 08 06.2**	**+0.4**
352A				IAmb	IAmb	03 08 31.6	
	comp=Z,257nm,1.2s						
ABTX	**Abilene, Hawle**	**18.63**	**344**	P	**Pn**	**03 08 07.5**	**+0.7**
	baz=162,SNR=47						
ABTX	**Abilene, Hawle**	**18.63**	**344**	P	**P**	**03 08 06.5**	**+0.2**
ABTX				IAmb	IAmb	03 08 33.1	
	comp=Z,98nm,0.8s						
MOTC	**Monteria, Cord**	**18.66**	**106**	*eP*	**P**	**03 08 06.1**	**-0.8**
SJCC	**San Jacinto, C**	**18.77**	**103**	*eP*	**P**	**03 08 07.3**	**-0.8**
Z35A	**Perchaven, San**	**18.81**	**351**	P	**Pn**	**03 08 09.0**	**0.0**
Z35A				IAmb	IAmb	03 08 25.0	
	comp=Z,102nm,0.8s						
DBBC	**Dabeiba**	**18.84**	**112**	*eP*	**Pn**	**03 08 11.1**	**+1.6**
WLAR	**White Oak Lake**	**18.91**	**2**	P	**Pn**	**03 08 10.3**	**+0.3**
WLAR				IAmb	IAmb	03 08 38.2	
	comp=Z,192nm,0.9s						
TIGA	**Tifton**	**19.08**	**27**	P	**P**	**03 08 11.3**	**0.0**
	baz=211,SNR=36						
Z47A	**Carrollton**	**19.12**	**15**	IAmb	IAmb	03 08 39.5	
	comp=Z,133nm,0.9s						
UREC	**San Jose de Ur**	**19.16**	**109**	*eP*	**P**	**03 08 11.8**	**-0.5**
LRAL	**Lakeview Retre**	**19.26**	**17**	P	**Pn**	**03 08 14.0**	**-0.3**
	baz=200,SNR=70						
LRAL	**Lakeview Retre**	**19.26**	**17**		**P**	**03 08 13.9**	**+0.6**
LRAL				IAmb	IAmb	03 08 18.9	
	comp=Z,130nm,0.9s						
CBOC	**Ciudad Bolivar**	**19.53**	**115**	*eP*	**P**	**03 08 16.8**	**+0.2**
152A	**Waverly Hall**	**19.69**	**23**	IAmb	IAmb	03 08 46.9	
	comp=Z,211nm,1.4s						
X40A	**Basin Creek Fa**	**19.71**	**2**	P	**P**	**03 08 18.6**	**+0.4**
	baz=182,SNR=14						
X40A	**Basin Creek Fa**	**19.71**	**2**	IAmb	IAmb	03 08 45.3	
	comp=Z,161nm,1.4s						
MIAR	**Mount Ida**	**19.76**	**0**	P	**P**	**03 08 19.0**	**+0.4**
	baz=180,SNR=53						
PLMC	**San Jos del P**	**19.76**	**118**	*eP*	**Pn**	**03 08 21.8**	**+1.1**
CLNB	**Carlsbad**	**19.77**	**334**	P	**Pn**	**03 08 19.9**	**-0.6**
ZARC	**Zaragoza, Cauc**	**19.87**	**109**	*eP*	**P**	**03 08 19.1**	**-1.0**
X43A	**Marvell**	**19.90**	**7**	P	**P**	**03 08 21.2**	**+0.9**
	baz=188,SNR=58						
MNTX	**Cornudas Mount**	**19.98**	**330**	P	**Pn**	**03 08 22.9**	**-0.1**
	baz=145,SNR=51						
MNTX	**Cornudas Mount**	**19.98**	**330**	P	**P**	**03 08 21.3**	**+0.1**
UALR	**University of**	**20.02**	**3**	IAmb	IAmb	03 08 29.6	
	comp=Z,201nm,1.2s						
OXF	**Oxford**	**20.11**	**10**	P	**P**	**03 08 22.6**	**+0.1**
	baz=192,SNR=37						
SMLC	**San Martn de**	**20.14**	**105**	*eP*	**P**	**03 08 23.5**	**+0.5**
YOTC	**Yotoco, Valle**	**20.20**	**120**	*eP*	Pn	03 08 25.9	+0.1
Y49A	**Blount Mountai**	**20.20**	**18**	IAmb	IAmb	03 08 59.0	
	comp=Z,149nm,1.4s						
GUY2C	**Guyana, Caldas**	**20.40**	**116**	*eP*	Pn	03 08 28.2	-0.3
W39A	**Magazine**	**20.40**	**360**	P	Pn	03 08 27.1	-0.8
	baz=180,SNR=21						
W39A	**Magazine**	**20.40**	**360**	IAmb	IAmb	03 08 59.6	
	comp=Z,122nm,1.2s						
W41B	**Gary Mavity, V**	**20.43**	**4**	P	**P**	**03 08 26.0**	**0.0**
	baz=184,SNR=36						
W41B	**Gary Mavity, V**	**20.43**	**4**	IAmb	IAmb	03 08 34.3	
	comp=Z,138nm,0.9s						
WMOK	**Wichita Mounta**	**20.45**	**348**	P	**P**	**03 08 26.7**	**+0.3**
	baz=166,SNR=17						
WHAR	**Wooly Hollow**	**20.54**	**3**	IAmb	IAmb	03 08 36.1	
	comp=Z,165nm,1.0s						
BBAC	**Balboa, Cauca**	**20.61**	**126**	*eP*	Pn	03 08 30.4	-0.2
LGNH	**Logne**	**20.62**	**77**	IAmb	IAmb	03 08 34.6	
	comp=Z,163nm,1.1s						
PTBC	**PUERTO BERRIO,**	**20.62**	**111**	*eP*	**P**	**03 08 28.5**	**+0.3**
ANIL	**Santa Ana**	**20.73**	**117**	*eP*	Pn	03 08 33.1	+0.9
POPC	**Popayan, Colom**	**20.74**	**124**	*eP*	Pn	03 08 32.3	+0.1
TOLC	**Tolima**	**20.75**	**117**	*eP*	Pn	03 08 33.1	+0.7
GOGA	**Godfrey**	**20.83**	**25**	P	**P**	**03 08 30.4**	**0.0**
	baz=209,SNR=15						
GOGA	**Godfrey**	**20.83**	**25**	IAmb	IAmb	03 08 57.1	
	comp=Z,279nm,1.8s						
MSTX	**Muleshoe**	**20.84**	**339**	P	**P**	**03 08 31.6**	**+1.0**
	baz=154						
MSTX				S	**S**	**03 12 24.3**	**+2.0**
	baz=154						
CMBC	**Cumbal**	**20.86**	**130**	*eP*	Pn	03 08 37.7	+3.9
OTAV	**Otavalo**	**20.87**	**132**	*eP*	Pn	03 08 33.2	-0.9
OTAV	**Otavalo**	**20.87**	**132**	P	**P**	**03 08 30.9**	**-0.6**
OTAV				pmax	pmax		
	comp=Z,31nm,1.0s						
OTAV	**Otavalo**	**20.87**	**132**	P	**P**	**03 08 30.9**	**-0.6**
OTAV	**Otavalo**	**20.87**	**132**	*eP*	**P**	**03 08 31.1**	**-0.4**
OCAC	**Ocana**	**21.03**	**106**	*eP*	**P**	**03 08 33.4**	**+0.5**
GCUF	**Volcan Galeras**	**21.03**	**128**	*eP*	**P**	**03 08 35.4**	**+2.2**
BRRC	**Barranca, Sant**	**21.07**	**109**	*eP*	**P**	**03 08 35.2**	**+2.1**
FPAL	**Fort Paine**	**21.07**	**19**	IAmb	IAmb	03 09 00.8	
	comp=Z,111nm,0.9s						
PCON	**Cinco Dias**	**21.09**	**124**	*eP*	**P**	**03 08 36.8**	**+2.8**
BCOK	**Bluff Creek, N**	**21.15**	**351**	P	**P**	**03 08 33.4**	**-0.4**
MARP	**Paez Belalcaza**	**21.15**	**122**	*eP*	**P**	**03 08 38.0**	**+3.7**
ORTC	**Ortega, Tolima**	**21.16**	**119**	*eP*	**P**	**03 08 37.2**	**+3.1**
TUL1	**Leonard**	**21.20**	**355**	P	**P**	**03 08 35.7**	**+1.4**
	baz=174,SNR=20						
TUL1	**Leonard**	**21.20**	**355**	IAmb	IAmb	03 08 44.3	
	comp=Z,137nm,1.1s						
OK029	**Liberty Lake**	**21.26**	**352**	IAmb	IAmb	03 09 09.3	
	comp=Z,135nm,0.8s						
SRIG	**Santa Rosalia**	**21.30**	**309**	IAmb	IAmb	03 08 41.9	
	comp=Z,115nm,1.1s						
AMTX	**Amarillo**	**21.32**	**342**	P	**P**	**03 08 36.4**	**+0.6**
	baz=158						
AMTX				S	**S**	**03 12 32.3**	**+0.6**
	baz=158						
157A	**Early Branch**	**21.33**	**31**	P	**P**	**03 08 37.5**	**+1.7**
	baz=216						
SPBC	**San Pablo de B**	**21.34**	**113**	*eP*	**P**	**03 08 36.9**

CCM	Cathedral Cave	23.36	5	P	P	03 08 55.3	-1.9
CCM	comp=Z,47nm,0.8s			pmax	pmax		
CCM	Cathedral Cave	23.36	5	P	P	03 08 55.8	-1.4
CCM	baz=186			S	S	03 13 02.3	-6.7
CCM	baz=186						
CCM	Cathedral Cave	23.36	5	P	P	03 08 55.3	-1.9
CCM	comp=Z,47nm,0.8s			IAmb	IAmb	03 09 08.3	
TUC	Tucson	23.41	321	P	P	03 08 59.5	+1.6
TUC	comp=Z,152nm,1.4s			pmax	pmax		
TUC	Tucson	23.41	321	P	P	03 08 59.8	+1.9
TUC	baz=134			S	S	03 13 19.7	+10
TUC	baz=134						
TUC	Tucson	23.41	321	P	P	03 08 59.5	+1.6
TUC	comp=Z,152nm,1.4s			IAmb	IAmb	03 09 01.5	
Y59A	Loris	23.45	32	P	P	03 09 01.9	+3.9
V54A	baz=218 Nebo	23.50	25	P	P	03 08 57.6	-1.0
R40A	baz=209 Maddies Statio	23.53	3	IAmb	IAmb	03 09 11.7	
W56A	comp=Z,84nm,1.1s Indian Trail	23.55	28	P	P	03 08 58.9	-0.1
TZTN	baz=213 Tazewell	23.58	21	P	P	03 08 58.8	-0.6
TZTN	baz=205 Tazewell	23.58	21	IAmb	IAmb	03 09 47.0	
PTLC	comp=Z,124nm,1.2s Puerto Leguiza	23.67	126	eP	P	03 09 04.2	+3.8
DR12	Loma Pena Alta	23.69	77	P	P	03 08 59.1	-1.5
PTGC	Puerto Gaitan,	23.72	114	eP	P	03 09 01.6	+0.6
W57A	Gilead	23.83	29	P	P	03 09 00.9	-0.9
W57A	baz=214 Gilead	23.83	29	IAmb	IAmb	03 09 49.7	
V55A	comp=Z,70nm,1.1s Taylorsville	23.87	26	P	P	03 09 01.3	-0.9
V55A	baz=211 Taylorsville	23.87	26	IAmb	IAmb	03 09 25.0	
R32A	comp=Z,52nm,1.1s Long Quarter,	24.03	350	IAmb	IAmb	03 09 21.5	
SLM	comp=Z,79nm,0.8s Saint Louis	24.04	7	IAmb	IAmb	03 09 21.0	
W58A	comp=Z,67nm,0.8s Raeford	24.09	30	P	P	03 09 04.1	0.0
U54A	baz=216 Nelsons Funny	24.20	24	P	P	03 09 05.7	+0.3
T25A	baz=209 Trinidad	24.27	339	P	P	03 09 08.0	+1.9
T25A	baz=154,SNR=32			S	S	03 13 30.2	+6.2
WCI	baz=154 Wyandotte Cave	24.34	14	P	P	03 09 05.4	-1.1
WCI	comp=Z,70nm,0.9s			pmax	pmax		
WCI	Wyandotte Cave	24.34	14	P	P	03 09 05.7	-0.8
WCI	baz=197 Wyandotte Cave	24.34	14	P	P	03 09 05.4	-1.1
WCI	comp=Z,70nm,0.9s			IAmb	IAmb	03 09 44.7	
KSU1	Kansas State U	24.43	355	P	P	03 09 06.6	-0.7
KSU1	baz=173,SNR=16 Kansas State U	24.43	355	IAmb	IAmb	03 09 09.2	
214A	comp=Z,51nm,0.7s Organ Pipe Nat	24.45	318	P	P	03 09 08.9	+1.3
214A	baz=130,SNR=33 Organ Pipe Nat	24.45	318	IAmb	IAmb	03 09 11.7	
U55A	comp=Z,78nm,1.2s TA2, Sparta	24.50	25	P	P	03 09 07.7	-0.3
V57A	baz=211 Coltrane Farms	24.54	28	P	P	03 09 07.1	-1.2
S51A	baz=214 Beattyville	24.56	20	IAmb	IAmb	03 09 50.8	
CBKS	comp=Z,128nm,1.4s Cedar Bluff	24.59	349	P	P	03 09 08.8	0.0
PIX	baz=166,SNR=9.3 Pinacate	24.62	316	P	P	03 09 08.9	-0.3
U56A	King	24.65	27	P	P	03 09 09.6	+0.2
U56A	baz=212,SNR=5.7 King	24.65	27	IAmb	IAmb	03 09 39.6	
R49A	comp=Z,117nm,1.2s Shelbyville	24.69	16	IAmb	IAmb	03 09 38.2	
V58A	comp=Z,76nm,0.9s Windy Hill, Pi	24.77	29	P	P	03 09 10.2	-0.1
V58A	baz=215 Windy Hill, Pi	24.77	29	IAmb	IAmb	03 09 33.9	
P38A	comp=Z,87nm,1.2s Dawn	24.83	0	IAmb	IAmb	03 09 45.1	
W60A	comp=Z,54nm,1.1s Pink Hill	24.88	33	P	P	03 09 12.6	+1.2
W18A	baz=219 Petrified Fore	24.89	328	P	P	03 09 13.6	+1.8
W18A	baz=141			S	S	03 13 49.0	+15
W18A	baz=141 Petrified Fore	24.89	328	IAmb	IAmb	03 09 37.0	
CNNC	comp=Z,66nm,1.2s Cliffs of the	24.93	32	P	P	03 09 11.1	-0.7
P43A	Skaggs, Pawnee	25.12	8	IAmb	IAmb	03 10 09.0	
V59A	comp=Z,82nm,1.1s Middlesex	25.17	31	P	P	03 09 14.2	+0.2
U57A	baz=217 Blanch	25.18	28	P	P	03 09 14.2	+0.1
SDCO	baz=214 Great Sand Dun	25.20	338	P	P	03 09 15.5	+0.9
SDCO	baz=152,SNR=32			S	S	03 13 43.0	+3.9
SDCO	baz=152 Great Sand Dun	25.20	338	IAmb	IAmb	03 09 44.3	
SFX	comp=Z,89nm,1.6s San Felipe	25.26	314	P	P	03 09 15.0	+0.1
X16A	Lo Mia Camp, P	25.30	324	IAmb	IAmb	03 09 28.9	
BLA	comp=Z,47nm,1.1s Blacksburg	25.36	25	P	P	03 09 16.1	+0.3
BLA	baz=211 Blacksburg	25.36	25	IAmb	IAmb	03 10 07.7	
T56A	comp=Z,62nm,0.9s Rocky Mt	25.37	26	P	P	03 09 15.9	0.0
KSCO	baz=212 Kaye Shedlock'	25.44	344	P	P	03 09 20.1	+3.5
S54A	baz=159,SNR=9.9 Dingess, Beckl	25.52	23	P	P	03 09 16.3	-0.9
113A	baz=209 Mohawk Valley,	25.59	318	IAmb	IAmb	03 09 22.9	
V60A	comp=Z,70nm,1.3s Jim Taylor Roa	25.66	32	P	P	03 09 21.4	+2.9
T57A	baz=219 Hurt	25.69	28	P	P	03 09 19.5	+0.7
SPX	baz=214 San Pedro Mart	25.70	313	P	P	03 09 20.5	+1.2
S22A	4UR Ranch, Cre	25.71	336	P	P	03 09 21.1	+1.8
R53A	baz=150,SNR=15 Hurricane	25.75	22	P	P	03 09 18.6	-0.6
O44A	baz=207 Mansfield	25.77	9	IAmb	IAmb	03 10 10.9	
S55A	comp=Z,99nm,1.2s Lewisburg	25.81	25	P	P	03 09 20.2	+0.3
U59A	baz=210 Littleton	25.85	31	P	P	03 09 26.9	+6.7
Q51A	baz=217 Peebles	25.91	19	IAmb	IAmb	03 10 04.7	
MVCO	comp=Z,64nm,0.9s Mesa Verde	25.97	332	P	P	03 09 23.6	+2.0
MVCO	baz=146,SNR=23			S	S	03 13 55.7	+4.6
MVCO	baz=146 Mesa Verde	25.97	332	P	P	03 09 23.2	+1.6
MVCO	comp=Z,46nm,0.9s			IAmb	IAmb	03 09 44.3	
R54A	Victor	25.97	23	P	P	03 09 27.1	+5.8
T58A	baz=209 Grand View Acr	25.97	29	P	P	03 09 22.2	+0.8
P49A	baz=215 Miami Univ. Ec	25.98	16	P	P	03 09 20.4	-1.0
P49A	baz=200 Miami Univ. Ec	25.98	16	IAmb	IAmb	03 09 58.8	
N41A	comp=Z,70nm,1.1s Harden Midland	26.03	5	IAmb	IAmb	03 09 50.5	
HDIL	comp=Z,101nm,1.3s Hopedale	26.05	8	P	P	03 09 19.2	-2.7
HDIL	baz=190 Hopedale	26.05	8	IAmb	IAmb	03 10 01.1	
WUAZ	comp=Z,110nm,1.2s Wupatki	26.07	326	P	P	03 09 24.6	+2.2
WUAZ	baz=138,SNR=44 Wupatki	26.07	326	IAmb	IAmb	03 09 38.1	
	comp=Z,62nm,1.0s						
S56A	Natural Bridge	26.12	26	P	P	03 09 22.2	-0.5
Q24A	baz=212 Divide	26.17	340	P	P	03 09 24.5	+1.1
Q24A	baz=154			S	S	03 13 58.4	+4.0
Q52A	baz=154 Bidwell	26.20	21	P	P	03 09 23.2	-0.1
SFIN	baz=206 Lafayette	26.23	12	P	P	03 09 22.2	-1.4
SFIN	baz=194 Lafayette	26.23	12	IAmb	IAmb	03 10 10.2	
U60A	comp=Z,57nm,1.1s Pendleton	26.26	31	P	P	03 09 23.3	-0.6
Q53A	baz=218 Leroy	26.37	22	P	P	03 09 24.4	-0.5
R55A	baz=207 Marlinton	26.40	25	P	P	03 09 24.8	-0.4
R55A	baz=211 Marlinton	26.40	25	IAmb	IAmb	03 10 19.8	
GLA	comp=Z,51nm,1.1s Glamis	26.45	317	P	P	03 09 27.8	+2.1
T59A	baz=128,SNR=10 Double "B" Far	26.46	30	P	P	03 09 28.8	+3.1
ATAH	baz=217 Atahualpa	26.51	144	P	P	03 09 29.2	+2.3
ATAH	comp=Z,44nm,0.9s,baz=321,slow=5.3,SNR=14			LR	LR	03 18 20.0	
O49A	comp=Z,2μm,19.8s,baz=314,slow=33 Covington	26.69	16	IAmb	IAmb	03 10 15.9	
Q54A	comp=Z,52nm,0.9s Coxs Mills	26.73	23	P	P	03 09 27.1	-1.1
Q54A	baz=208 Coxs Mills	26.73	23	IAmb	IAmb	03 10 05.1	
P52A	comp=Z,44nm,1.1s Corning	26.85	20	P	P	03 09 29.4	+0.2
BGNE	baz=205 Belgrade	26.88	353	P	P	03 09 29.1	-0.4
RMX	baz=170 La Rumorosa	27.02	315	P	P	03 09 32.0	+1.0
SWSC	Sam W. Stewart	27.04	316	P	P	03 09 33.3	+2.4
M44A	baz=127,SNR=11 Midewin, Midew	27.05	9	IAmb	IAmb	03 09 52.4	
IKP	comp=Z,74nm,1.4s In-Ko-Pah, Jac	27.07	315	P	P	03 09 33.9	+2.5
ISCO	baz=126,SNR=10 Idaho Springs	27.08	340	P	P	03 09 32.9	+1.3
BC3	baz=154,SNR=22 Big Chuckawall	27.24	318	P	P	03 09 34.9	+2.0
U15A	baz=128,SNR=38 North Rim	27.24	326	IAmb	IAmb	03 10 20.8	
PV21	comp=Z,60nm,1.6s Cone Mtn., Par	27.30	333	IAmb	IAmb	03 10 02.1	
L40A	comp=Z,70nm,1.3s Anamosa	27.35	4	IAmb	IAmb	03 10 20.9	
IRM	comp=Z,54nm,0.9s Iron Mountain	27.36	319	P	P	03 09 36.1	+2.2
O52A	baz=130,SNR=22 Adamsville	27.38	20	P	P	03 09 32.6	-1.3
O52A	baz=206 Adamsville	27.38	20	IAmb	IAmb	03 10 23.4	
MONP2	comp=Z,52nm,1.0s Monument Peak	27.43	315	P	P	03 09 36.9	+2.2
NEE2	baz=126,SNR=7.2 Needles Airpor	27.43	320	P	P	03 09 36.8	+2.3
L42A	baz=131 Oliver, Polo	27.43	7	IAmb	IAmb	03 10 30.9	
BELC	comp=Z,56nm,1.0s Belle Mtn. Jos	27.81	318	P	P	03 09 39.8	+1.7
K38A	baz=128,SNR=14 Parkersburg	27.86	2	IAmb	IAmb	03 10 31.6	
PFO	comp=Z,79nm,1.2s Pinyon Flats O	27.88	316	P	P	03 09 40.8	+2.2
PFO	comp=Z,7.7nm,0.9s,baz=126,slow=7.4,SNR=9.2 Pinyon Flats O	27.88	316	P	P	03 09 40.6	+2.0
PFO	baz=127,SNR=9.1 Pinyon Flats O	27.88	316	P	P	03 09 39.4	+0.7
109C	Camp Elliot, M	27.89	315	P	P	03 09 41.2	+2.6
109C	baz=125 Camp Elliot, M	27.89	315	IAmb	IAmb	03 09 42.5	
GMRC	comp=Z,58nm,1.4s Granite Mounta	28.09	319	P	P	03 09 42.9	+2.4
N23A	baz=130,SNR=17 Red Feather La	28.17	340	P	P	03 09 42.7	+1.4
JFWS	baz=154 Jewell Farm	28.27	5	P	P	03 09 40.5	-1.4
JFWS	baz=187 Jewell Farm	28.27	5	IAmb	IAmb	03 10 14.0	
L48A	comp=Z,60nm,1.0s N Adams	28.32	15	IAmb	IAmb	03 10 46.0	
O20A	comp=Z,38nm,0.8s White River Ci	28.33	336	P	P	03 09 44.4	+1.7
O20A	baz=149 White River Ci	28.33	336	IAmb	IAmb	03 10 30.6	
MURC	comp=Z,61nm,1.5s Murrieta	28.36	316	P	P	03 09 45.4	+2.5
SRU	baz=126,SNR=5.2 San Rafael Swe	28.44	332	P	P	03 09 43.6	-0.1
SRU	comp=Z,15nm,1.0s			pmax	pmax		
SRU	San Rafael Swe	28.44	332	P	P	03 09 43.6	-0.1
HEC	Hector,Ludlow	28.54	319	P	P	03 09 47.3	+2.8
TUQ	baz=129,SNR=6.6 Turquoise Moun	28.67	320	P	P	03 09 48.2	+2.5
PCRV	baz=130,SNR=14 Puerto La Cruz	28.78	96	LR	LR	03 21 57.1	
ECSD	comp=Z,2μm,20.5s,slow=38 EROS Data Cent	29.03	356	P	P	03 09 47.6	-1.1
ECSD	baz=174,SNR=41 EROS Data Cent	29.03	356	IAmb	IAmb	03 09 55.8	
BFSC	comp=Z,39nm,0.6s Mount Baldy Ra	29.05	316	P	P	03 09 51.4	+2.3
GSC	baz=126,SNR=8.2 Goldstone, Bar	29.14	319	P	P	03 09 51.2	+1.4
GSC	comp=Z,24nm,1.4s			pmax	pmax		
GSC	Goldstone, Bar	29.14	319	P	P	03 09 52.2	+2.3
GSC	baz=129 Goldstone, Bar	29.14	319	P	P	03 09 51.2	+1.4
SHOC	Shoshone, Teco	29.19	320	P	P	03 09 52.5	+2.3
I37A	baz=130 Lemond, Waseca	29.21	1	IAmb	IAmb	03 10 46.6	
RWWY	comp=Z,52nm,1.1s Rawlins	29.31	339	IAmb	IAmb	03 09 55.4	
MWC	comp=Z,49nm,1.1s Mount Wilson	29.31	316	IAmb	IAmb	03 09 54.8	
EDW2	comp=Z,35nm,1.1s Edwards Air Fo	29.65	317	P	P	03 09 56.2	+1.8
LRMC	baz=126,SNR=6.0 Laurel Mtn Rad	29.81	318	P	P	03 09 58.2	+2.3
TPNV	baz=128,SNR=6.0 Topopah Spring	29.86	322	P	P	03 09 58.9	+2.6
FURC	baz=132,SNR=17 Furnace Creek,	29.92	321	P	P	03 09 59.3	+2.7
K22A	baz=130,SNR=12 Casper	29.94	341	P	P	03 09 58.5	+1.6
K22A	baz=154 Casper	29.94	341	IAmb	IAmb	03 10 09.4	
SUSD	comp=Z,44nm,1.4s Miller	29.97	353	P	P	03 09 56.0	-1.0
OSI	baz=170,SNR=6.4 Osito Audit: C	29.98	316	IAmb	IAmb	03 10 00.4	
MPMC	comp=Z,61nm,1.4s Manual Prospec	30.05	319	P	P	03 09 59.8	+1.8
CTU	baz=129,SNR=18 Camp Tracy	30.27	332	P	P	03 10 00.6	+0.7
ARVC	Arvin	30.35	317	P	P	03 10 03.1	+2.6
DUG	baz=126,SNR=5.2 Dugway, Tooele	30.37	330	P	P	03 10 03.0	+2.3
SPMN	baz=141 Marine on St.	30.43	1	P	P	03 09 59.2	-1.9
SPMN	baz=182,SNR=28 Marine on St.	30.43	1	IAmb	IAmb	03 10 11.9	
ISA	comp=Z,44nm,0.9s Isabella, Lake	30.43	318	P	P	03 10 03.8	+2.5
R11A	baz=127,SNR=5.7 Troy Canyon, C	30.44	325	P	P	03 10 03.9	+2.4
CZSB	baz=135,SNR=15 Cruzeiro do Su	30.54	136	eP	P	03 10 02.8	+0.4
GRAC	Grapevine Rang	30.57	321	P	P	03 10 05.3	+2.9
RSSD	baz=130,SNR=15 Black Hills	30.60	345	P	P	03 10 03.0	+0.2
RSSD	comp=Z,9.0nm,0.7s			pmax	pmax		
RSSD	Black Hills	30.60	345	P	P	03 10 03.5	+0.7
RSSD	baz=160 Black Hills	30.60	345	P	P	03 10 03.0	+0.2
CWC	Cottonwood Cre	30.66	319	P	P	03 10 05.5	+2.2
PKM	baz=128 Mcpherson Peak	30.88	315	P	P	03 10 07.8	+2.5
VES	baz=124,SNR=9.7 Vestal, Richgr	30.94	317	P	P	03 10 08.2	+2.6
F36A	baz=126,SNR=20 Milaca	31.06	0	IAmb	IAmb	03 10 05.5	
BW06	comp=Z,38nm,1.4s Boulder Array	31.09	337	P	P	03 10 07.9	+0.6
PDAR	baz=149,SNR=10 Pinedale Array	31.09	337	P	P	03 10 07.6	+0.4
PDAR	comp=Z,4.3nm,0.8s,baz=137,slow=9.3,SNR=31			PcP	PcP	03 13 01.4	-1.1
PDAR	comp=Z,0.8nm,0.6s,baz=124,slow=4.8,SNR=1.9			LR	LR	03 25 21.0	
PDAR	comp=Z,2μm,18.7s,baz=150,slow=41						
PDAR	Pinedale Array	31.09	337	P	P	03 10 07.3	+0.1
TIN	Tinemaha, Big	31.14	320	P	P	03 10 10.8	+3.3
SMMC	baz=129,SNR=5.8 Simmler	31.24	316	P	P	03 10 10.6	+2.2
NNA	baz=124 Nana	31.37	147	P	P	03 10 10.5	+0.8
NNA	comp=Z,56nm,1.3s			pmax	pmax		
NNA	Nana	31.37	147	P	P	03 10 10.5	+0.8
NNA	comp=Z,56nm,1.2s			IAmb	IAmb	03 10 17.9	
COWI	Conover	31.54	6	IAmb	IAmb	03 11 04.1	
PAGB	comp=Z,34nm,1.2s Antelope Grade	31.65	316	IAmb	IAmb	03 10 32.8	
AHID	comp=Z,64nm,1.6s Auburn Hatcher	31.70	335	IAmb	IAmb	03 10 35.1	
BBSR	comp=Z,43nm,1.2s BB Station	31.77	51	P	P	03 10 12.6	-0.4
BBSR	comp=Z,45nm,1.1s			IAmb	IAmb	03 10 13.3	
E38A	The Farm, Brul	31.86	3	IAmb	IAmb	03 11 20.6	
OMMB	comp=Z,30nm,1.1s Old Mammoth Mi	31.96	320	IAmb	IAmb	03 10 18.6	
ELK	comp=Z,38nm,1.3s Elko	31.99	328	P	P	03 10 17.3	+2.2
ELK	comp=Z,11nm,0.9s,baz=140,slow=5.9,SNR=39			PcP	PcP	03 13 05.0	+0.2
ELK	comp=Z,1.7nm,0.9s,baz=130,slow=5.9,SNR=1.8						
ELK	Elko	31.99	328	P	P	03 10 16.1	+0.9
MDPB	Devils Postpil	32.03	320	IAmb	IAmb	03 10 19.1	
NVAR	comp=Z,46nm,1.3s Mina Array Bea	32.06	322	P	P	03 10 18.0	+2.2
NVAR	comp=Z,24nm,0.8s,baz=138,slow=7.7,SNR=111			PcP	PcP	03 13 05.3	+0.2
NVAR	comp=Z,3.1nm,0.8s,baz=122,slow=3.4,SNR=3.5			LR	LR	03 24 52.0	
NVAR	comp=Z,7μm,18.5s,baz=136,slow=39						
NVAR	Mina Array Bea	32.06	322	P	P	03 10 18.2	+2.4
LHV	Little Huntoon	32.07	322	IAmb	IAmb	03 10 50.7	
TPAW	comp=Z,48nm,1.2s Teton Pass	32.24	336	IAmb	IAmb	03 10 46.2	
RYN	comp=Z,47nm,1.1s Ryan	32.32	322	P	P	03 10 18.8	+0.8
KVN	Kaiserville	32.35	323	IAmb	IAmb	03 10 21.8	
H53A	comp=Z,43nm,1.5s Bobcaygeon	32.45	20	P	P	03 10 18.4	-0.3
FLWY	baz=208 Flagg Ranch	32.65	337	IAmb	IAmb	03 11 18.6	
H17A	comp=Z,62nm,1.4s Grant Village	32.87	338	P	P	03 10 25.3	+2.4
LKWY	baz=149 Lake	32.95	338	IAmb	IAmb	03 10 48.9	
YERR	comp=Z,24nm,0.9s Yerington	32.98	322	P	P	03 10 24.6	+0.8
YERR	comp=Z,61nm,1.5s			IAmb	IAmb	03 10 27.5	
RLMT	Red Lodge	33.04	340	P	P	03 10 25.6	+1.4
RLMT	baz=152,SNR=12 Red Lodge	33.04	340	IAmb	IAmb	03 10 39.9	
I58A	comp=Z,77nm,1.7s Old Forge	33.05	25	P	P	03 10 21.7	-2.5
EYMN	baz=215 Ely	33.20	3	P	P	03 10 22.8	-2.5
EYMN	baz=184 Ely	33.20	3	IAmb	IAmb	03 11 21.1	
MDND	comp=Z,41nm,1.4s Maddock	33.40	353	P	P	03 10 26.2	-0.9
YHB	baz=170,SNR=24 Horse Butte	33.41	337	P	P	03 10 28.0	+0.5
AGMN	Agassiz Nation	33.54	357	P	P	03 10 26.8	-1.5
LAO	baz=176,SNR=17 LASA Array	33.55	344	P	P	03 10 29.1	+0.6
B35A	baz=158,SNR=5.4 Bob, Littlefor	33.56	0	IAmb	IAmb	03 10 39.5	
HLID	comp=Z,27nm,0.9s Hailey	33.75	333	P	P	03 10 31.9	+1.5
LONY	baz=142,SNR=18 Lake Ozonia	33.98	25	P	P	03 10 33.2	+1.1
BOZ	baz=214 Bozeman (W)	34.29	338	P	P	03 10 36.7	+1.7
BOZ	baz=148,SNR=12 Bozeman (W)	34.29	338	IAmb	IAmb	03 10 55.7	
MFID	comp=Z,29nm,1.2s Camas Ranch	34.29	331	P	P	03 10 35.5	+0.5
MFID	comp=Z,48nm,1.8s			IAmb	IAmb	03 11 01.5	
DLMT	Dillon	34.46	336	IAmb	IAmb	03 11 07.2	
DGMT	comp=Z,40nm,1.1s Dagmar	34.75	348	P	P	03 10 39.3	+0.4
O03E	baz=162,SNR=16 Paynes Creek	35.34	322	P	P	03 10 45.8	+1.7
E56A	baz=128 St. Veronique	35.40	22	P	P	03 10 43.9	-0.6
ULM	baz=212 Lac du Bonnet	35.49	358	P	P	03 10 43.0	-2.1
ULM	comp=Z,15nm,0.7s,baz=176,slow=11,SNR=12			LR	LR	03 29 36.8	
ULM	comp=Z,1μm,18.3s,baz=170,slow=44						
ULM	Lac du Bonnet	35.49	358	IAmb	IAmb	03 10 56.0	
MOD	comp=Z,22nm,0.9s Modoc Plateau	35.51	325	P	P	03 10 45.8	+0.2
MOD	comp=Z,40nm,1.4s			IAmb	IAmb	03 10 48.2	
EGMT	Eagleton	35.77	342	P	P	03 10 48.7	+1.0
EGMT	baz=153,SNR=6.3 Eagleton	35.77	342	IAmb	IAmb	03 11 29.1	
MSO	comp=Z,36nm,1.1s Missoula	36.20	336	P	P	03 10 52.3	+0.9
K05A	baz=145,SNR=12 Summer Lake	36.38	325	IAmb	IAmb	03 11 28.4	
ETMB	comp=Z,51nm,1.5s Extrema	36.60	130	eP	P	03 10 54.0	-1.0
ETMB				epP	pP	03 10 57.8	-3.7
YBH	Yreka Blue Hor	36.77	323	P	P	03 10 56.1	-0.2
PTGA	comp=Z,2.0nm,0.5s,baz=140,slow=5.7,SNR=14 Pitinga	36.78	112	P	P	03 10 55.8	-0.8
PTGA	comp=Z,36nm,1.2s			IAmb	IAmb	03 10 58.8	
L04D	Klamath Falls	36.84	324	P	P	03 10 58.1	+1.1
KHMM	baz=129 Horse Mountain	36.86	321	IAmb	IAmb	03 11 15.7	
F10A	comp=Z,33nm,1.0s Beach Ranch, E	36.89	332	IAmb	IAmb	03 11 29.0	
J05D	comp=Z,43nm,0.9s Fort Rock, OR	36.94	326	P	P	03 10 59.9	+2.0
MACA	baz=132 Manacapuru-AM	37.27	116	eP	P	03 10 59.9	-0.9
J04D	Umpqua Nationa	37.39	325	P	P	03 11 03.6	+1.9
I05D	baz=131 Terrebonne, OR	37.71	327	P	P	03 11 05.7	+1.5
I04A	baz=133 Tendick Farm,	37.92	326	P	P	03 11 06.2	+0.2
F07A	baz=131 Phinny Hill Vi	38.09	330	P	P	03 11 08.1	+0.8
D62A	Allapoint, All	38.29	27	P	P	03 11 10.6	+1.6
G05D	baz=220 Wamic, OR	38.32	328	P	P	03 11 11.1	+1.8
SAML	baz=134 Samuel	38.36	126	P	P	03 11 08.3	-1.7
SAML	comp=Z,25nm,1.0s			pmax	pmax		
SAML	Samuel	38.36	126	P	P	03 11 08.3	-1.7
SAML	Samuel	38.36	126	eP	P	03 11 08.9	-1.1
J01E	Myrtle Point	38.37	324	P	P	03 11 11.3	+1.6
I03D	baz=128 Drain, OR	38.37	325	P	P	03 11 11.3	+1.6
H04A	baz=130 Detroit Lake	38.39	327	IAmb	IAmb	03 11 33.2	
H04D	comp=Z,46nm,1.2s Lebanon	38.58	326	P	P	03 11 12.1	+0.7
	baz=131						

NEW	**Newport**	38.63	335	P	P	03 11 11.5	-0.4
	comp=Z,5.1nm,0.6s,baz=146,slow=8.5,SNR=16						
NEW	**Newport**	38.63	335	P	P	03 11 12.3	+0.4
	baz=142,SNR=8.0						
F05D	**White Salmon**	38.84	329	P	P	03 11 15.8	+2.1
	baz=134,SNR=9.5						
I02D	**Swisshome**	38.91	325	P	P	03 11 15.8	+1.5
	baz=129						
G03D	**McMinnville, O**	39.31	327	P	P	03 11 19.3	+1.7
	baz=131						
LPAZ	**La Paz**	39.86	140	P	P	03 11 23.4	+0.2
	comp=Z,6.4nm,1.0s,baz=325,slow=9.8,SNR=13						
LPAZ				LR	LR	03 26 15.9	
	comp=Z,1µm,21.3s,baz=326,slow=34						
LPAZ	**La Paz**	39.86	140	P	P	03 11 23.2	0.0
LPAZ				pmax	pmax		
	comp=Z,12nm,1.0s						
LPAZ	**La Paz**	39.86	140	P	P	03 11 23.2	0.0
LPAZ	**La Paz**	39.86	140	*e*P	P	03 11 22.7	-0.5
E03A	**Lebam**	40.35	328	P	P	03 11 27.0	+0.8
E03A				IAmb	IAmb	03 11 30.8	
	comp=Z,39nm,1.0s						
PB16	**IPOC Station P**	40.61	143	P	P	03 11 29.4	0.0
D03D	**Eldon**	40.79	329	P	P	03 11 30.2	+0.4
	baz=133						
B05A	**Bryant**	40.82	331	P	P	03 11 30.1	0.0
	baz=135						
NLWA	**Neilton Lookou**	41.08	329	P	P	03 11 32.7	+0.5
MNMC	**Minye Minye**	41.19	144	IAmb	IAmb	03 11 37.2	
	comp=Z,83nm,1.2s						
A04D	**Lummi Island**	41.43	331	P	P	03 11 36.4	+1.4
	baz=135,SNR=5.7						
PB11	**IPOC Station P**	41.66	145	P	P	03 11 37.7	+0.3
PB11				IAmb	IAmb	03 11 39.6	
	comp=Z,43nm,1.1s						
PGC	**Sidney**	41.73	330	IAmb	IAmb	03 12 04.3	
	comp=Z,84nm,1.8s						
GO01	**Chusmiza**	41.84	144	P	P	03 11 40.3	+0.9
GO01				IAmb	IAmb	03 11 42.3	
	comp=Z,39nm,1.1s						
ITTB	**Itaituba**	42.18	114	*e*S	S	03 18 01.9	+1.0
MALB	**Monte Alegre**	42.42	110	*e*P	P	03 11 44.6	+1.0
VILB	**Vilhena**	43.12	128	*e*P	P	03 11 49.2	-0.1
MCPB	**Macapa, AP**	43.87	106	*e*P	P	03 11 54.1	-1.3
LVC	**Limon Verde**	44.36	146	P	P	03 11 59.6	0.0
LVC				pmax	pmax		
	comp=Z,18nm,1.2s						
LVC	**Limon Verde**	44.36	146	P	P	03 11 59.6	0.0
LVC	**Limon Verde**	44.36	146	*e*P	P	03 11 59.5	0.0
SCHQ	**Schefferville**	45.18	22	P	P	03 12 05.0	-0.3
	comp=Z,5.2nm,0.7s,baz=204,slow=10,SNR=3.8						
SCHQ				LR	LR	03 32 32.6	
	comp=Z,3µm,19.8s,baz=220,slow=38						
SCHQ	**Schefferville**	45.18	22	IAmb	IAmb	03 12 55.3	
	comp=Z,68nm,1.8s						
CLDB	**Colider**	45.40	122	*e*S	S	03 18 49.7	+1.8
PTLB	**Pontes e Lacer**	45.48	130	*e*P	P	03 12 07.5	-0.6
PRPB	**Parauapebas**	48.26	112	*e*P	P	03 12 29.4	-0.6
PRPB				*e*pP	pP	03 12 32.7	-4.0
TMAB	**Tom-Au,PA,Br**	48.29	107	*e*P	P	03 12 30.6	+0.3
LCO	**Las Campanas**	48.84	153	P	P	03 12 34.6	+0.1
LCO				pmax	pmax		
	comp=Z,31nm,1.1s						
LCO	**Las Campanas**	48.84	153	P	P	03 12 34.6	+0.1
LCO				IAmb	IAmb	03 12 36.6	
	comp=Z,31nm,1.1s						
AC05	**El Transito**	48.88	152	IAmb	IAmb	03 12 36.9	
	comp=Z,28nm,1.1s						
H03N2	**Juan Fernandez**	49.92	164	T	T	04 06 57.0	
	baz=347,slow=76,SNR=5.9						
H03N1	**Juan Fernandez**	49.93	164	T	T	04 06 57.3	
	baz=347,slow=76,SNR=6.1						
CO01	**Juntas del Tor**	49.94	153	IAmb	IAmb	03 13 01.4	
	comp=Z,23nm,1.1s						
H03N3	**Juan Fernandez**	49.94	164	T	T	04 06 55.7	
	baz=347,slow=76,SNR=7.7						
YKA	**Yellowknife Ar**	49.96	348	P	P	03 12 42.5	+0.2
	comp=Z,16nm,0.6s,baz=153,slow=7.1,SNR=51						
YKA				LR	LR	03 37 07.4	
	comp=Z,602nm,18.4s,baz=0.0,slow=40						
AQDB	**Aquidauana**	51.20	132	*e*P	P	03 12 51.7	-0.5
ARAG	**Araguaiana, MT**	51.29	124	*e*P	P	03 12 52.1	-0.9
DLBC	**Dease Lake**	51.33	337	P	P	03 12 54.2	+1.4
	comp=Z,6.6nm,0.6s,baz=149,slow=5.5,SNR=7.3						
DLBC	**Dease Lake**	51.33	337	P	P	03 12 53.3	+0.5
DLBC				IAmb	IAmb	03 13 15.7	
	comp=Z,29nm,1.1s						
SMTB	**Santa Maria do**	51.42	114	*e*P	P	03 12 53.8	-0.3
SMTB				*e*pP	pP	03 12 56.4	-4.4
ZON	**Zonda**	51.91	153	IAmb	IAmb	03 12 59.9	
	comp=Z,30nm,1.1s						
ROSB	**Rosrio**	52.17	106	*e*P	P	03 12 60.0	+0.3
ROSB				*e*pP	pP	03 13 02.5	-4.0
PEXB	**Peixe**	52.32	118	*e*P	P	03 13 00.4	-0.3
PEL	**Peldehue**	52.44	155	IAmb	IAmb	03 13 03.3	
	comp=Z,57nm,1.4s						
GO05	**Huala**	53.61	158	IAmb	IAmb	03 13 11.0	
	comp=Z,19nm,0.9s						
BDFB	**Brasilia**	54.34	122	P	P	03 13 15.4	-0.3
	comp=Z,7.7nm,0.6s,baz=294,slow=8.7,SNR=11						
BDFB	**Brasilia**	54.34	122	P	P	03 13 14.7	-1.0
BDFB				pmax	pmax		
	comp=Z,14nm,0.8s						
BDFB	**Brasilia**	54.34	122	P	P	03 13 14.7	-1.0
BDFB				IAmb	IAmb	03 13 24.2	
	comp=Z,14nm,0.8s						
ITRB	**Iturama**	54.70	128	*e*P	P	03 13 18.9	+0.7
BI02	**San Fabin de**	55.32	158	IAmb	IAmb	03 13 24.4	
	comp=Z,32nm,1.4s						
SDBA	**SAO DESIDERIO**	55.38	117	*e*P	P	03 13 23.6	+0.4
IPMB	**Ipameri, GO**	55.42	124	*e*P	P	03 13 23.9	+0.5
LC01	**Cunco**	57.12	160	IAmb	IAmb	03 13 36.5	
	comp=Z,25nm,1.1s						
JANB	**Januaria**	57.13	119	*e*P	P	03 13 35.7	0.0
JANB				*e*pP	pP	03 13 38.4	-4.1
FRTB	**Fartura**	57.43	131	*e*P	P	03 13 37.6	0.0
ITAB	**Concordia**	58.05	136	*e*P	P	03 13 41.6	-0.2
MC01	**Montes Claros**	58.25	121	*e*P	P	03 13 43.6	+0.1
MC01				*e*S	S	03 21 47.9	+3.2
BCAR	**Beaver Creek A**	58.72	337	P	P	03 13 45.6	-0.5
EPYK	**Eagle Plains**	58.92	341	P	P	03 13 48.5	+1.1
EPYK				IAmb	IAmb	03 14 18.9	
	comp=Z,24nm,1.4s						
HMH	**Humu'ula Sheep**	58.92	284	P	P	03 13 48.9	+0.3
POHA	**Pohakuloa**	58.95	284	P	P	03 13 49.3	+0.7
VAO	**Valinhos**	59.17	129	*e*P	P	03 13 49.8	-0.1
PLCA	**Paso Flores**	59.21	160	P	P	03 13 49.8	0.0
	comp=Z,8.0nm,1.1s,baz=328,slow=7.0,SNR=7.9						
PLCA				LR	LR	03 34 22.5	
	comp=Z,494nm,18.3s,baz=346,slow=31						
PLCA	**Paso Flores**	59.21	160	P	P	03 13 49.8	0.0
PLCA				pmax	pmax		
	comp=Z,46nm,1.5s						
PLCA	**Paso Flores**	59.21	160	P	P	03 13 49.8	0.0
PLCA	**Paso Flores**	59.21	160	*e*P	P	03 13 49.2	-0.6
INK	**Inuvik**	59.29	344	P	P	03 13 49.9	0.0
	comp=Z,6.3nm,0.5s,baz=233,slow=9.1,SNR=17						
INK	**Inuvik**	59.29	344	IAmb	IAmb	03 14 44.9	
	comp=Z,27nm,1.1s						
K27K	**Chicken**	59.35	338	P	P	03 13 51.8	+1.4
	baz=123						
EGAK	**Eagle**	59.43	339	IAmb	IAmb	03 14 15.9	
	comp=Z,31nm,1.6s						
PET01	**Itanhaem-SP**	59.68	130	*e*P	P	03 13 54.4	+1.1
RES	**Resolute Bay**	59.98	360	P	P	03 13 53.6	-0.9
	comp=Z,9.1nm,0.6s,baz=191,slow=7.0,SNR=5.7						
SCRK	**Sand Creek**	60.04	337	P	P	03 13 56.4	+1.1
	baz=121,SNR=6.7						
PLTB	**Pedras Altas**	60.14	141	*e*P	P	03 13 55.9	-0.5
TRQA	**Tornquist**	60.36	151	*e*P	P	03 13 58.2	+0.5
PARB	**Paraibuna**	60.38	128	*e*P	P	03 13 59.0	+0.8
GDU01	**Guandu, BA**	60.60	115	*e*P	P	03 14 00.8	+1.1
RCBR	**Riachuelo**	60.87	105	*e*P	P	03 14 03.0	+1.3
GHO	**Glory Hole Cre**	61.01	334	IAmb	IAmb	03 14 08.9	
	comp=Z,22nm,0.8s						
PMR	**Palmer**	61.02	333	P	P	03 14 02.1	+0.2
PMR	**Palmer**	61.02	333	P	P	03 14 02.1	+0.2
HON	**Honolulu**	61.10	286	P	P	03 14 03.8	+0.7
HON				pmax	pmax		
	comp=Z,151nm,1.0s						
HON	**Honolulu**	61.10	286	P	P	03 14 03.8	+0.7
KIP	**Kipapa**	61.10	287	*ce*P	P	03 14 04.9	+1.8
KIP				pmax	pmax		
	comp=Z,176nm,2.5s						
KIP	**Kipapa**	61.10	287	P	P	03 14 03.5	+0.4
PMOR	**Pomariorio Ree**	61.12	243	*e*T	T	04 20 08.3	
	comp=Z,12nm,0.2s						
HDA	**Harding Lake**	61.38	337	P	P	03 14 04.8	+0.5
	baz=118,SNR=10						
MAN01	**Angra dos Reis**	61.40	127	*e*P	P	03 14 06.0	+0.9
SJMB	**Sao Joao De Ma**	61.51	121	*e*P	P	03 14 07.0	+1.2
IL31		61.53	337	IAmb	IAmb	03 14 10.4	
	comp=Z,33nm,1.2s						
ILAR	**Eielson Array**	61.53	337	P	P	03 14 05.2	-0.1
	comp=Z,5.7nm,0.6s,baz=154,slow=5.0,SNR=128						
ILAR				LR	LR	03 44 00.2	
	comp=Z,2µm,18.2s,baz=128,slow=39						
ILAR	**Eielson Array**	61.53	337	P	P	03 14 04.6	-0.6
ILAR	**Eielson Array**	61.53	337	P	P	03 14 04.6	-0.6
SUA	**Susitna One**	61.68	333	IAmb	IAmb	03 14 08.8	
	comp=Z,15nm,0.7s						
BSFB	**Barra de Sao F**	61.85	121	*e*P	P	03 14 08.4	+0.3
POKR	**Poker Plat Res**	61.90	337	P	P	03 14 08.3	+0.5
	baz=118,SNR=9.2						
COLA	**College**	61.94	337⇓	*e*P	P	03 14 07.5	-0.5
COLA				pmax	pmax		
	comp=Z,11nm,0.8s						
COLA	**College**	61.94	337	P	P	03 14 08.5	+0.5
COLA				IAmb	IAmb	03 14 19.8	
	comp=Z,16nm,0.9s						
NAN01	**Guarapari, ES**	61.98	120	*e*P	P	03 14 09.0	0.0
BMAR	**Burnt Mountain**	62.05	340	P	P	03 14 09.3	+0.5
MDM	**Murphy Dome**	62.12	337	IAmb	IAmb	03 14 10.7	
	comp=Z,38nm,1.6s						
RSO	**Redoubt South**	62.22	331	P	P	03 14 10.2	-0.1
SKT	**Skwentna**	62.22	333	IAmb	IAmb	03 14 16.9	
	comp=Z,34nm,1.2s						
NEA2	**Nenana**	62.28	336	P	P	03 14 10.6	+0.3
	baz=116,SNR=7.0						
RIB01	**Linhares ES**	62.46	121	*e*P	P	03 14 12.8	+0.6
MEH	**Mehetia**	62.57	241	*e*T	T	04 21 56.9	
	comp=Z,8.4nm,0.3s						
PPLA	**Purkeypile**	62.85	334	P	P	03 14 14.9	+0.5
TIAR	**Tiarei**	63.51	242	*e*T	T	04 23 07.4	
	comp=Z,2.5nm,0.3s						
TVO	**Taravao**	63.53	241	*e*T	T	04 23 09.0	
	comp=Z,1.1nm,0.3s						
PPT	**Papeete**	63.71	242	LR	LR	03 35 09.4	
	comp=Z,861nm,18.3s,baz=48,slow=29						
PPT2	**Papeete2**	63.72	242	*e*S	S	03 22 48.3	-6.2
	comp=Z,367nm,24.5s						
PPT2	**Papeete2**	63.72	242	*e*LR	LR	03 33 06.7	
	comp=Z,2µm,25.8s,baz=56						
SVW2	**Sparrevohn**	63.74	331	IAmb	IAmb	03 14 38.8	
	comp=Z,28nm,1.4s						
COLD	**Coldfoot**	63.86	339	P	P	03 14 22.0	+1.2
	baz=116						
COLD	**Coldfoot**	63.86	339	IAmb	IAmb	03 14 23.2	
	comp=Z,36nm,1.7s						
TOLK	**Toolik Lake Re**	64.28	340	P	P	03 14 24.6	+0.9
	baz=117						
TTA	**Tatalina**	64.51	333	IAmb	IAmb	03 14 31.2	
	comp=Z,15nm,1.1s						
EUNU	**Eureka**	65.46	1	P	P	03 14 32.0	+0.9
SUMG	**Summit**	66.02	16	*i* P	P	03 14 34.4	-0.8
	comp=Z,69nm,0.7s						
SUMG	**Summit**	66.02	16	*i* P	P	03 14 34.4	-0.8
SUMG				pmax	pmax		
	comp=Z,69nm,0.7s						
SUMG	**Summit**	66.02	16	P	P	03 14 34.8	-0.4
TBI	**Tubuai**	66.31	236	*e*S	S	03 23 22.8	-3.3
	comp=Z,190nm,22.8s						
TBI	**Tubuai**	66.31	236	*e*LR	LR	03 34 32.2	
	comp=Z,2µm,27.2s,baz=60						
TBI	**Tubuai**	66.31	236	*e*T	T	04 26 38.0	
	comp=Z,9.8nm,0.3s						
DAG	**Danmarks Havn**	72.38	14⇓	*i* P	P	03 15 13.3	-0.8
	comp=Z,26nm,0.7s						
DAG	**Danmarks Havn**	72.38	14⇓	*i* P	P	03 15 13.3	-0.8
DAG				pmax	pmax		
	comp=Z,26nm,0.7s						
NOR	**Nord**	73.66	9	*i* P	P	03 15 20.9	-0.7
	comp=Z,12nm,0.8s						
NOR	**Nord**	73.66	9	*i* P	P	03 15 20.9	-0.7
NOR				pmax	pmax		
	comp=Z,12nm,0.8s						
ESK	**Eskdalemuir**	78.37	36	P	P	03 15 47.6	-1.3
ESK				pmax	pmax		
	comp=Z,87nm,2.0s						
ESK	**Eskdalemuir**	78.37	36	P	P	03 15 47.6	-1.3
EKA	**Eskdalemuir Ar**	78.39	36	P	P	03 15 46.7	-2.3
	comp=Z,7.5nm,0.9s,baz=280,slow=5.5,SNR=18						
KBS	**Kingsbay**	78.65	11⇑	*e*P	P	03 15 51.7	+1.7
KBS				pmax	pmax		
	comp=Z,22nm,1.2s						
SPA0	**Spitsbergen Ar**	79.74	11	*e*P	P	03 15 56.5	+0.5
HSPB	**Hornsund (broa**	80.02	13	*e*P	P	03 15 58.1	+0.6
PAB	**San Pablo**	80.35	52	P	P	03 15 59.4	-0.7
PAB				pmax	pmax		
	comp=Z,20nm,1.5s						
PAB	**San Pablo**	80.35	52	P	P	03 15 59.4	-0.7
ESDC	**Sonseca Array**	80.61	51	P	P	03 15 59.4	-2.1
	comp=Z,5.8nm,1.1s,baz=292,slow=5.4,SNR=13						
ESDC				LR	LR	03 49 20.5	
	comp=Z,910nm,19.0s,baz=280,slow=34						
MDT	**Midelt**	81.48	58	P	P	03 16 05.0	-1.4
	comp=Z,2.6nm,1.0s,baz=264,slow=5.5,SNR=5.8						
AKN	**Aaknes**	82.07	28	*e*P	P	03 16 09.1	+0.4
PMSA	**Palmer Station**	82.40	168	P	P	03 16 10.1	0.0
PMSA				IAmb	IAmb	03 16 12.5	
	comp=Z,22nm,1.2s						
PMSA	**Palmer Station**	82.40	168	*e*P	P	03 16 10.3	+0.2
BLS5	**Blasjo**	82.58	30	*e*P	P	03 16 12.0	+0.5
DOMB	**Dombas**	83.03	28	*e*P	P	03 16 14.2	+0.4
SKAR	**Skarslia**	83.11	29	*e*P	P	03 16 14.6	+0.4
TBLU	**Trondheim**	83.17	26	*e*P	P	03 16 15.2	+0.8
CLF	**Chambon-Foret**	83.17	42	IAmb	IAmb	03 16 16.7	
	comp=Z,30nm,1.2s						
STEI	**Steigen**	83.43	21	*e*P	P	03 16 15.8	+0.2
NSS	**Namsos**	83.45	25	*e*P	P	03 16 16.3	+0.5
FAUS	**Fauske**	83.66	22	*e*P	P	03 16 17.5	+0.7
MOR8	**Moi Rana**	83.82	23	*e*P	P	03 16 18.6	+0.9
TRO	**Tromso**	83.94	19	*e*P	P	03 16 19.3	+1.1
KONO	**Kongsberg**	84.04	30	*de*P	P	03 16 20.5	+1.6
KONO				pmax	pmax		
	comp=Z,34nm,1.7s						
KONO	**Kongsberg**	84.04	30	P	P	03 16 18.6	-0.3
KONO				IAmb	IAmb	03 16 26.0	
	comp=Z,24nm,1.2s						
KONO	**Kongsberg**	84.04	30	*e*P	P	03 16 19.4	+0.4
NC204	**NORSAR Array S**	84.05	28	*e*P	P	03 16 19.6	+0.6
HOPE	**Hope Point**	84.12	150	P	P	03 16 12.1	-7.1
HOPE				pmax	pmax		
	comp=Z,254nm,1.6s						
HOPE	**Hope Point**	84.12	150	P	P	03 16 12.1	-7.1
DOU	**Dourbes**	84.12	40	P	P	03 16 18.2	-1.3
DOU				PcP	PcP	03 16 22.2	-1.2
BMRD	**Maredsous**	84.17	40	P	P	03 16 17.9	-1.9
BMRD				PcP	PcP	03 16 22.4	-1.2
NB2	**NORSAR Subarra**	84.34	28	P	P	03 16 20.6	+0.1
	comp=Z,98nm,2.0s,baz=291,slow=5.3						
NB2	**NORSAR Subarra**	84.34	28	P	P	03 16 20.6	+0.1
	baz=291,slow=5.3						
NOA	**NORSAR Array B**	84.34	28	P	P	03 16 20.4	-0.1
	comp=Z,17nm,0.9s,baz=290,slow=5.0,SNR=51						
NOA				LR	LR	03 53 29.1	
	comp=Z,655nm,19.5s,baz=280,slow=35						
BGES	**Gesves**	84.34	39	P	P	03 16 18.6	-2.1
BCLA	**Clavier**	84.47	39	P	P	03 16 20.0	-1.3
OSL	**Oslo**	84.48	29	*e*P	P	03 16 22.3	+1.2
BSTI	**Sart Tilman**	84.58	39	P	P	03 16 21.2	-0.7
BSTI				PcP	PcP	03 16 24.6	-0.8
NC602	**NORSAR Array S**	84.59	28	*e*P	P	03 16 22.6	+0.9
MEM	**Membach**	84.84	39	P	P	03 16 22.5	-0.7
HAMF	**Hammerfest**	84.89	17	*e*P	P	03 16 23.8	+0.8
WLF	**Walferdange**	85.21	40	PcP	PcP	03 16 27.9	-0.3
WLF	**Walferdange**	85.21	40	P	P	03 16 24.3	-0.7
WLF				pmax	pmax		
	comp=Z,39nm,1.6s						
WLF	**Walferdange**	85.21	40	P	P	03 16 24.3	-0.7
WLF				IAmb	IAmb	03 17 24.7	
	comp=Z,39nm,1.6s						
HFS	**Hagfors**	85.81	29	P	P	03 16 27.9	+0.1
	comp=Z,9.1nm,0.8s,baz=243,slow=1.7,SNR=19						
ARCES	**ARCESS Array B**	86.00	18	P	P	03 16 28.5	-0.1
	comp=Z,5.5nm,0.5s,baz=286,slow=4.8,SNR=41						
ECH	**Echery**	86.28	41	P	P	03 16 29.5	-0.9
ECH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ECH	**Echery**	86.28	41	P	P	03 16 29.5	-0.9
SENIN	**Lac Senin/Sane**	86.94	43	P	P	03 16 33.4	-0.6
SENIN				IAmb	IAmb	03 16 54.5	
	comp=Z,15nm,1.1s						
BFO	**Black Forest**	86.98	41	P	P	03 16 33.5	-0.4
BFO				pmax	pmax		
	comp=Z,28nm,1.8s						
BFO	**Black Forest**	86.98	41	P	P	03 16 33.5	-0.4
BFO				IAmb	IAmb	03 16 47.5	
	comp=Z,28nm,1.8s						
TIC	**Toumodi**	87.12	84	*e*P	P	03 16 34.0	-1.2
LIC	**Lamto**	87.22	84	*e*P	P	03 16 34.4	-1.3
	comp=Z,111nm,1.4s						
DBIC	**Dimbokro**	87.28	84	P	P	03 16 35.2	-0.7
	comp=Z,7.8nm,0.9s,baz=282,slow=5.0,SNR=8.0						
DBIC				LR	LR	03 56 32.6	
	comp=Z,365nm,18.0s,baz=270,slow=36						
DBIC	**Dimbokro**	87.28	84	P	P	03 16 34.1	-1.8
DBIC				pmax	pmax		
	comp=Z,37nm,1.6s						
DBIC	**Dimbokro**	87.28	84	P	P	03 16 34.1	-1.8
SEY	**Seymchan**	87.41	335	P	P	03 16 36.0	+0.4
	comp=Z,2.9nm,0.6s,baz=80,slow=8.1,SNR=8.2						
SEY	**Seymchan**	87.41	335⇑	*e*P	P	03 16 36.4	+0.8
KIC	**Kosan Boka**	87.46	84	*e*P	P	03 16 36.4	-0.5
	comp=Z,34nm,0.9s						
MOX	**Moxa**	88.21	38	*e*L	L	03 56 52.2	
	comp=Z,1µm,19.9s						
DAVA	**Damuels**	88.31	41	*e*P	P	03 16 40.5	0.0
	comp=Z,10nm,0.9s,SNR=4.4						
GRF	**Grafenberg Arr**	88.32	39	*e*P	P	03 16 40.5	+0.3
	comp=Z,12nm,1.4s,baz=284,slow=4.7						
GRF				*e*L	L	03 54 08.6	
	comp=Z,1µm,20.5s						
DAVOX	**Davos/Dischmat**	88.48	42	P	P	03 16 41.1	-0.2
	comp=Z,4.0nm,0.8s,baz=312,slow=9.9,SNR=5.6						
CLL	**Collm**	88.78	37	*e*P	P	03 16 43.0	+0.6
	comp=Z,4.0nm,1.0s						
CLL				*e*		03 17 01.0	
CLL				*e*PP	PP	03 20 12.0	+0.9
CLL				*e*pSKS		03 27 19.0	
CLL				*e*PS	PnS	03 28 34.0	+0.4
CLL				*e*SS	SS	03 33 30.0	+10
CLL				*e*SSS	SSS	03 36 48.0	
CLL				*e*SSSS		03 39 42.0	
CLL				Lm	MLR	03 54 00.0	
	comp=Z,800nm,20.7s						
CLL	**Collm**	88.78	37	*e*P	P	03 16 43.0	+0.6
CLL				*e*S	S	03 27 19.0	-9.5
CLL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLL				MLR	MLR		
	comp=Z,800nm,20.7s						
RETA	**Reutte**	88.81	41	*e*P	P	03 16 42.7	0.0
	comp=Z,5.8nm,0.9s						
NKC	**Novy Kostel**	88.86	38	*e*P	P	03 16 44.0	+1.2
NKC				*e*SKS	SKSac	03 27 12.0	+0.8
NKC				AMS	AMS	03 57 00.0	
	comp=Z,1µm,19.6s						
NKC	**Novy Kostel**	88.86	38	*e*P	P	03 16 44.0	+1.2
NKC				*e*		03 27 12.0	
NKC				MLR	MLR		
	comp=Z,1µm,19.6s						
FETA	**Feichten**	88.95	41	*e*P	P	03 16 43.4	-0.1
	comp=Z,3.6nm,0.6s,SNR=4.4						
MOTA	**Moosalm**	89.07	41	*e*P	P	03 16 44.7	+0.6
	comp=Z,5.4nm,0.8s						
SQTA	**Sankt Quirin**	89.19	41	P	P	03 16 44.7	+0.1
	comp=Z,7.4nm,1.3s						
BRG	**Berggiesshubel**	89.50	37	*e*P	P	03 16 45.9	+0.2
	comp=Z,4.4nm,0.9s						
BRG				pP	sP	03 17 00.0	+4.5
BRG				SKS	SKSac	03 27 15.0	+0.1
BRG				S	S	03 27 34.0	-1.2
BRG	**Berggiesshubel**	89.50	37	*e*P	P	03 16 45.9	+0.2
BRG				*PP	sP	03 17 00.0	+4.5
BRG						03 27 15.0	
BRG				S	S	03 27 34.0	-1.2
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
APA	**Apatity**	89.51	18⇑	*i* P	P	03 16 57.1	+12
APA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KHC	**Kasperske Hory**	89.95	39	*e*P	P	03 16 48.9	+0.9
KHC				*e*SKS	SKSac	03 27 18.6	+0.9
KHC				AMS	AMS	03 54 30.0	
	comp=Z,2µm,19.7s						
KHC	**Kasperske Hory**	89.95	39⇓	*e*P	P	03 16 48.8	+0.8
KHC				pmax	pmax		
	comp=Z,13nm,1.3s						
KHC	**Kasperske Hory**	89.95	39	P	P	03 16 47.0	-0.9
PBCC	**Pribram**	89.99	38	*e*P	P	03 16 49.3	+1.2
PVCC	**Panska Ves**	90.00	37	*e*SKS	SKSac	03 27 19.6	+1.8
PVCC				AMS	AMS	03 57 40.0	
	comp=Z,800nm,18.6s						
PRA	**Prague**	90.10	38	AMS	AMS	03 56 20.0	
	comp=Z,400nm,21.5s						
GERES	**GERESS Array B**	90.14	39	P	P	03 16 48.9	0.0
	comp=Z,3.7nm,1.0s,baz=299,slow=2.7,SNR=19						
GERES				LR	LR	03 55 43.4	
	comp=Z,1µm,20.5s,baz=284,slow=35	

TORD	Torodi Ar. Bea	91.87	76	P	P	03 16 55.8	-1.6
	comp=Z,0.9nm,0.5s,baz=292,slow=5.0,SNR=9.8						
TORD				LR	LR	03 53 43.4	
	comp=Z,562nm,22.0s,baz=270,slow=33						
TORD	Torodi Ar. Bea	91.87	76	P	P	03 16 56.1	-1.4
MORC	Moravsky Berou	92.05	37	*e*P	P	03 16 57.6	-0.1
VSU	Vasula	92.49	27⇑	*e*P	P	03 17 01.5	+2.0
VSU				pmax	pmax		
	comp=Z,35nm,1.1s						
MODS	Modra-Piesok	92.50	39	*e*P	P	03 16 57.0	-2.8
MODS				pmax	pmax		
	comp=Z,30nm,1.5s						
MODS	Modra-Piesok	92.50	39	*e*P	P	03 16 57.0	-2.8
SMOL	Smolenice	92.53	38	*e*P	P	03 16 59.6	-0.3
SMOL				pmax	pmax		
	comp=Z,14nm,1.7s						
SMOL	Smolenice	92.53	38	*e*P	P	03 16 59.6	-0.3
TAM	Tamanrasset	92.69	66	P	P	03 17 01.0	-0.4
TAM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TAM	Tamanrasset	92.69	66	P	P	03 17 01.0	-0.4
MSVF	Nonsavu	92.71	252⇓	*e*P	P	03 17 03.3	+1.9
MSVF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MSVF	Nonsavu	92.71	252	P	P	03 17 00.2	-1.1
MSVF				IAmb	IAmb	03 17 05.2	
	comp=Z,14nm,1.1s						
OJC	Ojcow	93.16	36	*e*P	P	03 17 02.7	-0.1
OJC				*e*SKS	SKSac	03 27 34.2	-1.6
OJC	Ojcow	93.16	36	IAmb	IAmb	03 17 05.2	
	comp=Z,6.6nm,0.9s						
SUW	Suwalki	93.16	32	*e*P	P	03 17 02.1	-0.6
VYHS	Vyhne	93.38	38	*e*P	P	03 17 03.2	-0.6
VYHS				pmax	pmax		
	comp=Z,11nm,1.3s						
VYHS	Vyhne	93.38	38	*e*P	P	03 17 03.2	-0.6
NIE	Niedzica	93.82	37	*e*P	P	03 17 05.6	-0.3
CRVS	Cervenica-Dubn	94.73	37	*e*P	P	03 17 09.4	-0.7
CRVS				pmax	pmax		
	comp=Z,21nm,1.3s						
CRVS	Cervenica-Dubn	94.73	37	*e*P	P	03 17 09.4	-0.7
KWP	Kalwaria Pacla	95.09	36	*e*P	P	03 17 12.0	+0.3
KOLS	Kolonicke sedl	95.19	37	*e*P	P	03 17 11.2	-0.9
KOLS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KOLS	Kolonicke sedl	95.19	37	*e*P	P	03 17 11.2	-0.9
UZH	Uzhgorod	95.35	37	*e*P	P	03 17 13.0	+0.2
UZH				*e**PP	sP	03 17 28.4	+5.9
UZH				*e*		03 21 02.0	
UZH				*e*PPP	PPP	03 23 13.8	
UZH				*e*		03 27 43.2	
UZH				*e*S	S	03 28 20.4	-7.2
UZH				*e*PS	PS	03 29 53.2	+5.9
UZH				*e*SS	SS	03 34 53.6	-0.4
LVV	L'vov	95.74	35	*e*P	P	03 17 13.6	-1.0
LVV				MLR	MLR		
	comp=Z,1μm,19.0s						
KLMR	Klimovskoe	96.01	21	*e*P	P	03 17 12.8	-2.8
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KLMR	Klimovskoe	96.01	21	*e*P	P	03 17 12.8	-2.8
KLMR				AMP		03 17 18.6	
	comp=Z,7.0nm,1.3s						
KLMR				LQ	LQ	03 53 43.0	
KLMR				LQ	LQ	03 53 43.0	
KLMR				LR	LR	03 55 49.6	
DIVS	Divibare	96.08	42	IAmb	IAmb	03 18 25.3	
	comp=Z,9.5nm,1.3s						
NRIK	Noril'sk	96.17	360	LR	LR	04 05 45.9	
	comp=Z,405nm,18.3s,baz=15,slow=39						
BURAR	Bucovina Array	97.55	37	P	P	03 17 22.9	-0.1
AKASG	Malin Array Be	98.06	33	P	P	03 17 23.6	-1.5
	comp=Z,1.1nm,0.6s,baz=293,slow=4.1,SNR=4.7						
AKASG				LR	LR	04 04 40.8	
	comp=Z,631nm,18.1s,baz=310,slow=37						
AKASG	Malin Array Be	98.06	33	P	P	03 17 23.6	-1.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,1.4s						
BELA	Belgrano 2	98.14	169	P	P	03 17 24.0	-0.7
OBN	Obninsk	98.82	26	P	Pdif	03 17 29.1	+0.8
	comp=Z,3.2nm,0.4s,baz=300,slow=1.4,SNR=3.1						
OBN	Obninsk	98.82	26⇑	*e*P	Pdif	03 17 29.4	+1.1
OBN				*SP	sP	03 17 43.0	+4.9
OBN				*e*		03 28 05.7	
OBN				*e*		03 28 59.9	
OBN				SS	SS	03 35 44.0	+1.6
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,1μm,20.0s						
MOS	Moscow	98.84	25	*e*P	Pdif	03 17 29.1	+0.6
MOS				*e*		03 27 57.9	
MOS				MLR	MLR		
	comp=N,500nm,20.0s						
MOS				MLR	MLR		
	comp=E,800nm,20.0s						
MOS				MLR	MLR		
	comp=Z,1μm,20.0s						
MLR	Muntele Rosu	99.09	38	P	Pdif	03 17 29.7	-0.3
	comp=Z,3.6nm,0.8s,baz=270,slow=3.2,SNR=4.8						
MAK	Makhachkala	112.51	30	*e*P	Pdif	03 18 28.2	-1.3
MAK				*i*		03 22 24.2	
MAK				*e*		03 23 09.1	
MAK				*e*PPP	PPP	03 25 33.3	
MAK				*e*SS	SS	03 38 46.7	-2.7
MAK				*e*SSS	SSS	03 43 01.1	
MAK				pmax	pmax		
	comp=Z,379nm,1.2s						
KURK	Kurchatov	114.52	5⇑	*i*PKIKP	PKPdf	03 22 29.9	+1.3
DGZ	Jazzator, Alta	115.87	359⇓	*i*PKIKP	PKPdf	03 22 33.1	+1.6
SYO	Syowa Base	118.34	163⇓	*e*PP	PP	03 23 52.6	+1.2
MKAR	Makanchi Array	118.68	3	PKP	PKPdf	03 22 35.9	-1.0
	comp=Z,0.9nm,0.9s,baz=42,slow=2.0,SNR=3.8						
HHC	Hu-ho-hao-te	119.95	338	*e*PKP	PKPdf	03 22 39.3	-0.2
HHC				LR	LR		
	comp=Z,390nm,17.9s						
HHC				LR	LR		
	comp=Z,660nm,17.9s						
WMQ	Urumqi	121.75	359	*e*PKP	PKPdf	03 22 42.9	0.0
WMQ				LR	LR		
	comp=Z,280nm,28.3s						
WMQ				LR	LR		
	comp=Z,180nm,29.5s						
WMQ				LR	LR		
	comp=Z,280nm,24.7s						
BOSA	Boshof	122.20	115	PKP	PKiKP	03 22 44.4	+0.1
	comp=Z,11nm,0.9s,baz=270,slow=2.6,SNR=13						
BOSA	Boshof	122.20	115		PKiKP	03 22 48.8	+4.5
MBAR	Mbarara	123.41	81⇑	*i*PKIKP	PKPdf	03 22 47.0	0.0
NJ2	Nanjing	123.98	327	*e*PKP	PKPdf	03 22 47.3	-0.1
MAW	Mawson	124.99	169	PKP	PKPdf	03 22 47.8	-0.3
	comp=Z,2.1nm,0.6s,baz=122,slow=4.5,SNR=10						
KSH	Kashi	125.22	10	PKP	PKPdf	03 22 48.9	-0.8
KSH				SKKS		03 31 34.3	
KSH				LR	LR		
	comp=Z,350nm,13.5s						
KSH				LR	LR		
	comp=Z,260nm,17.1s						
LZH	Lanzhou	126.81	342	*e*PKP	PKPdf	03 22 52.9	0.0
LZH				sPKP		03 23 08.8	
LZH				LR	LR		
	comp=Z,520nm,15.4s						
LZH				LR	LR		
	comp=Z,630nm,19.8s						
STKA	Stephens Creek	126.91	241	PKP	PKPdf	03 22 52.7	-0.2
	comp=Z,4.2nm,0.8s,baz=354,slow=0.5,SNR=9.4						
XAN	Xi'an	126.93	336	PKP	PKiKP	03 22 56.0	+2.5
XAN				LR	LR		
	comp=Z,700nm,20.6s						
XAN				LR	LR		
	comp=Z,310nm,20.6s						
XAN	Xi'an	126.93	336	PKIKP	PKPdf	03 22 51.2	-1.8
XAN	Xi'an	126.93	336	PKPdf	PKPdf	03 22 51.2	-1.8
KMBO	Kilima Mbogo	129.78	79	PKP	PKPdf	03 22 59.3	+0.1
	comp=Z,0.5nm,0.4s,baz=8.1,slow=5.2,SNR=1.9						
CD2	Chengdu	131.62	340	PKP	PKPdf	03 23 00.0	-2.1
WRAB	Tennant Creek	133.90	256⇑	*i*PKIKP	PKPdf	03 23 06.9	+0.4
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.3s						
WRAB	Tennant Creek	133.90	256	PKPdf	PKPdf	03 23 05.2	-1.3
WRA	Warramunga Arr	133.91	256	PKP	PKPdf	03 23 06.4	-0.1
	comp=Z,2.1nm,0.6s,baz=87,slow=2.1,SNR=33						
WRA	Warramunga Arr	133.91	256	*c* *i*PKIKP	PKPdf	03 23 06.8	+0.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AS31	Alice Springs	134.28	251	PKPdf	PKPdf	03 23 06.7	-0.5
ASAR	Alice Springs	134.29	251	PKhKP	PKPpre	03 22 59.4	
	comp=Z,0.3nm,0.6s,baz=110,slow=3.4,SNR=4.7						
ASAR				PKP	PKPdf	03 23 07.0	-0.2
	comp=Z,2.6nm,1.0s,baz=87,slow=2.3,SNR=12						
ASAR	Alice Springs	134.29	251	PKIKP	PKPdf	03 23 05.9	-1.3
ASAR	Alice Springs	134.29	251	PKPdf	PKPdf	03 23 05.9	-1.3
QIZ	Qiongzhong	139.21	325	PKP	PKPdf	03 23 14.3	-2.1
QIZ				PP	PP	03 26 11.5	+3.0
QIZ				SS	SS	03 44 22.3	-2.3
QIZ				LR	LR		
	comp=Z,140nm,13.5s						
QIZ				LR	LR		
	comp=Z,220nm,16.7s						
QIZ				LR	LR		
	comp=Z,260nm,17.7s						
FITZ	Fitzroy Crossi	142.10	259	PKPdf	PKPdf	03 23 22.2	+0.7
UBPT	Khong Chiam	144.66	327	PKPdf	PKPbc	03 23 25.6	+0.7
CM31	Chiang Mai Arr	144.75	339	PKPdf	PKPab	03 23 24.9	-0.1
CMAR	Chiang Mai Arr	144.75	339	PKP	PKPbc	03 23 25.3	+0.1
	comp=Z,5.4nm,0.8s,baz=340,slow=3.6,SNR=20						
CMAR	Chiang Mai Arr	144.75	339	PKPdf	PKPab	03 23 25.2	+0.1
DLV	T Lat	145.55	319	PKPbc	PKPab	03 23 29.7	+1.4
KAPI	Kappang	145.66	283	PKP2	PKPab	03 23 29.5	+0.9
KAPI	Kappang	145.66	283		PKPab	03 23 29.5	+0.9
PBKT	Sadao Pong	145.69	334		PKPab	03 23 29.1	+0.6
NWAO	Narrogin (SRO)	146.52	232	PKP2	PKPbc	03 23 30.0	-0.4
NWAO	Narrogin (SRO)	146.52	232		PKPbc	03 23 30.0	-0.4
MORW	Morawa	148.99	238	PKPbc	PKPbc	03 23 37.1	0.0
SBUM	Sibu	149.14	301	PKPbc	PKPbc	03 23 38.0	+0.1

THE ***20*** *03:08:48.9, 38.°33N×21.°96E, h9km±1km, ML2.9/20, Error ellipse: s-maj=1.4km s-min=0.4km az=44.0*
ATH ***20*** *03:08:48.1, 38.°37N×21.°96E, h17km±1km, ML3.1/9, Error ellipse: s-maj=1.4km s-min=0.7km az=339.0*
IDC ***20*** *03:08:52.5±5.8, 38.°36N×22.°00E, h32km±51km, mb3.2/7, mb1 3.4/9, mb1mx3.3/41, mbtmp3.4/9, ML3.0/2, Error ellipse: s-maj=24.0km s-min=19.3km az=82.0*

ISC 20 03:08:48.9±0.7, 38.°35N±0.°02×22.°00E±0.°02, h11km±4km, n91, σ1°33/124, mb3.5/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERG	Sergoula	0.08	36	P	Pg	03 08 51.3	-0.1
SERG				S	Sg	03 08 53.6	+0.3
	36μm,0.3s						
SERG	Sergoula	0.08	36	P	Pg	03 08 51.4	-0.1
SERG				S	Sg	03 08 53.4	+0.1
SERG				AML	AML	03 08 53.6	
	comp=E,61026μm,0.3s						
SERG				AML	AML	03 08 53.7	
	comp=N,81731μm,0.3s						
EFP	Efpalio	0.11	318	P	Pg	03 08 50.9	-0.8
EFP				S	Sg	03 08 52.9	-0.8
EFP	Efpalio	0.11	318	P	Pg	03 08 50.9	-0.8
EFP				S	Sg	03 08 53.0	-0.8
EFP				AML	AML	03 08 53.3	
EFP				AML	AML	03 08 53.6	
ALIK	Aliki, Aigiali	0.13	134	P	Pg	03 08 52.2	+0.2
ALIK				S	Sg	03 08 55.3	+1.1
ANX	Ano Chora	0.25	347	P	Pg	03 08 53.8	-0.4
ANX				S	Sg	03 08 58.4	+0.7
ANX	Ano Chora	0.25	347	P	Pg	03 08 53.8	-0.4
ANX				S	Sg	03 08 57.9	+0.2
ANX				AML	AML	03 08 58.4	
	comp=N,32548μm,0.4s						
ANX				AML	AML	03 08 59.4	
	comp=E,22314μm,0.5s						
KLV	Kalavryta, Ach	0.33	158	P	Pg	03 08 55.1	-0.4
KLV				S	Sg	03 08 59.5	-0.4
	comp=E,1μm,0.3s						
KLV	Kalavryta, Ach	0.33	158	P	Pg	03 08 55.1	-0.4
DLFA	Delphi	0.41	71	P	Pb	03 08 56.9	-1.4
DLFA				S	Sb	03 09 03.7	-0.9
DLFA				AML	AML	03 09 07.2	
	comp=E,4235μm,0.4s						
DLFA				AML	AML	03 09 07.3	
	comp=N,4099μm,0.3s						
DSF	Desfina	0.42	81	P	Pb	03 08 56.9	-1.5
DSF				S	Sb	03 09 04.6	-0.2
	comp=N,1μm,0.2s						
GUR	Goura	0.49	146	P	Pg	03 08 57.8	-0.8
GUR				S	Sb	03 09 06.4	-0.5
	comp=N,4μm,0.3s						
GUR	Goura	0.49	146	P	Pg	03 08 58.1	-0.5
GUR				S	Sb	03 09 06.4	-0.5
GUR				AML	AML	03 09 07.5	
	comp=N,8861μm,0.4s						
GUR				AML	AML	03 09 08.5	
	comp=E,4601μm,0.3s						
RLS	Riolos of Patr	0.51	235	P	Pg	03 08 57.9	-0.9
RLS				S	Sg	03 09 05.5	0.0
	comp=E,1μm,0.3s						
RLS	Riolos of Patr	0.51	235	P	Pg	03 08 58.0	-0.9
RLS				S	Sg	03 09 05.7	+0.2
RLS				AML	AML	03 09 06.1	
	comp=E,2606μm,0.4s						
RLS				AML	AML	03 09 07.4	
	comp=N,2854μm,0.3s						
AXS	Araxos	0.51	253	P	Pg	03 08 57.9	-0.9
AXS				S	Sg	03 09 05.3	-0.3
	comp=N,1μm,0.4s						
AXS	Araxos	0.51	253	P	Pg	03 08 58.0	-0.9
AXS				S	Sg	03 09 05.5	-0.1
AXS				AML	AML	03 09 05.6	
	comp=N,3628μm,0.4s						
AXS				AML	AML	03 09 10.5	
	comp=E,1514μm,0.4s						
EVR	Evrytania	0.59	346	P	Pg	03 08 59.8	-0.6
EVR				S	Sb	03 09 09.9	+0.3
	comp=E,2μm,0.5s						
EVR	Evrytania	0.59	346	P	Pg	03 08 59.6	-0.7
AXAR	Agios Charalam	0.67	51	P	Pb	03 09 01.4	-1.2
AXAR				S	Sn	03 09 13.2	-1.6
	comp=E,5μm,0.4s						
AXAR	Agios Charalam	0.67	51	P	Pb	03 09 01.4	-1.2
AST1	Astakos	0.74	286	P	Pg	03 09 02.8	-0.4
AST1				S	Sg	03 09 14.4	+1.6
	comp=E,2μm,0.4s						
VTN	Vitineika	0.77	236	P	Pg	03 09 03.2	-0.6
LTK	Loutraki	0.83	113	P	Pn	03 09 05.2	-1.3
LTK	Loutraki	0.83	113	P	Pb	03 09 04.8	-0.5
LKR	Lokris	0.84	69	P	Pn	03 09 04.8	-1.9
LKR				S	Sn	03 09 18.1	-1.0
	comp=E,848nm,0.3s						
LKR	Lokris	0.84	69	P	Pb	03 09 04.6	-1.0
TRIP	Tripoli	0.85	165	P	Pg	03 09 04.3	-0.9
TRIP				S	Sg	03 09 16.7	+0.4
	comp=E,855nm,0.5s						
TRIP	Tripoli	0.85	165	P	Pg	03 09 04.4	-0.8
TRIP				S	Sg	03 09 16.9	+0.6
TRIP				AML	AML	03 09 24.5	
	comp=N,1811μm,0.5s						
TRIP				AML	AML	03 09 28.6	
	comp=E,1618μm,0.6s						
VIL2	Platees	1.01	97	P	Pn	03 09 08.9	-0.1
VIL2				S	Sn	03 09 24.1	+0.9
VIL2				AML	AML	03 09 28.3	
	comp=N,1238μm,0.4s						
VIL2				AML	AML	03 09 30.1	
	comp=E,1958μm,0.5s						
VILL	Villia	1.05	100	P	Pn	03 09 09.1	-0.5
VILL				S	Sn	03 09 26.2	+1.9
	comp=E,970nm,0.5s						
NYDR	Nydri-Lefkada	1.08	290	P	Pg	03 09 07.9	-1.8
EVGI	Lefkada island	1.09	285	P	Pg	03 09 07.6	-2.2
EVGI	Lefkada island	1.09	285	P	Pg	03 09 08.2	-1.6
VLS	Valsamata	1.12	262	P	Pg	03 09 08.5	-1.9
VLS				S	Sg	03 09 26.1	+1.1
	comp=E,490nm,0.4s						
VLS	Valsamata	1.12	262	P	Pg	03 09 07.8	-2.6
FSK	Fiskardo	1.13	276	P	Pb	03 09 08.6	-1.9
FSK				S	Sg	03 09 26.3	+0.9
	comp=E,418nm,0.7s						
FSK	Fiskardo	1.13	276	P	Pb	03 09 08.5	-1.9
LKD2	Lefkada island	1.14	293	P	Pg	03 09 09.3	-1.5
LKD2	Lefkada island	1.14	293	P	Pg	03 09 09.3	-1.5
VLMS	Volimes, Zakyn	1.15	246	P	Pn	03 09 09.2	-1.7
TSLK	Tsoukalades, L	1.15	295	P	Pb	03 09 09.7	-1.1
TSLK	Tsoukalades, L	1.15	295	P	Pb	03 09 09.8	-1.0
KRI1	kERI	1.16	234	P	Pn	03 09 09.3	-1.7
DRAG	Dragano-Lefkad	1.17	287	P	Pb	03 09 09.7	-1.3
ITM	Ithomi	1.17	183	P	Pb	03 09 09.9	-1.2
ITM				S	Sb	03 09 28.5	+2.3
	comp=E,295nm,0.4s						
KEF5	Kardakata, Kep	1.20	267	P	Pn	03 09 09.6	-2.0
THL	Klokotos Trika	1.22	1	P	Pn	03 09 11.9	+0.1
THL				S	Sn	03 09 29.5	+1.2
	comp=E,385nm,0.7s						
VOL3	Nea Ionia, Vol	1.26	35	P	Pg	03 09 09.4	-3.7
VOL2	Volos	1.26	36	P	Pn	03 09 13.9	+1.5
DMLN	Damoulianata-K	1.28	266	P	Pn	03 09 11.3	-1.4
KRND	KRANIDI	1.33	136	P	Pg	03 09 13.6	-0.8
KRND				S	Sn	03 09 33.3	+2.3
	comp=E,440nm,0.4s						
NEO	Neokhori	1.35	45	P	Pg	03 09 13.2	-1.7
NEO	Neokhori	1.35	45	P	Pg	03 09 13.0	-1.9
XOR	Xorichti	1.38	42	P	Pg	03 09 14.0	-1.4
XOR				S	Sn	03 09 34.8	+2.4
	comp=E,292nm,0.5s						
XOR	Xorichti	1.38	42	P	Pg	03 09 13.8	-1.6
ATH	Athens Observa	1.41	105	P	Pg	03 09 15.3	-0.6
ATH				S	Sn	03 09 35.4	+2.4
	comp=E,330nm,0.5s						
ATH	Athens Observa	1.41	105	P	Pg	03 09 15.3	-0.6
ATHU	Athens Univers	1.46	105	P	Pg	03 09 16.0	-0.9
PYL	PYLOS	1.46	188	P	Pn	03 09 15.0	-0.2
PTL	Penteli	1.50	101	P	Pg	03 09 16.6	-1.1
DION	Dionisos Attik	1.55	99	P	Pg	03 09 17.6	-1.0
DION				S	Sg	03 09 38.3	-0.4
	comp=E,502nm,0.6s						
DION	Dionisos Attik	1.55	99	P	Pg	03 09 17.3	-1.3
KYMI	Kymi, Euboea I	1.68	80	P	Pg	03 09 18.6	-2.4
KYMI	Kymi, Euboea I	1.68	80	P	Pb	03 09 18.3	-1.4
KPRO	Kipourio	1.68	343	P	Pg	03 09 20.4	-0.7
IGT	Igoumenitsa	1.76	313	P	Pb	03 09 21.3	+0.2
VLI	Veliai	1.79	155	P	Pn	03 09 20.7	+1.0
LIT	Litokhoron	1.79	12	P	Pb	03 09 20.6	-1.2
KARY	Karystos	1.95	99	P	Pb	03 09 22.8	-1.6
KZN	Kozani	1.96	355	P	Pb	03 09 23.7	-1.0
KEK	Kerkira	2.19	309	P	Pn	03 09 27.2	+2.0
KTHA	Kythira Island	2.25	158	P	Pn	03 09 27.9	+1.8
SERI	Serifos	2.30	120	P	Pb	03 09 28.2	-2.2
FNA	Florina	2.48	349	P	Pn	03 09 30.7	+1.4
SOH	Sokhos	2.69	23	P	Pn	03 09 33.1	+1.0
KNT	Kendrikon	2.90	14	P	Pn	03 09 36.0	+1.1
OHR	Ohrid	2.91	342	*i* Pn	Pb	03 09 40.9	+0.1
VAY	Valandovo	3.00	8	*i* Pn	Pb	03 09 39.1	-3.2
SRS	Serrai	3.03	23	P	Pn	03 09 36.2	-0.6
SKO	Skopje	3.65	353	*i* Pn	Pb	03 09 50.4	-3.0
IDI	Anoyia	3.84	142	Pn	Pn	03 09 47.8	-0.1
	comp=E,0.4nm,0.3s,baz=91,slow=14,SNR=1.0						
IDI				Sn	Sn	03 10 33.0	0.0
	comp=E,1.4nm,0.3s,baz=23,slow=8.8,SNR=1.7						
MLR	Muntele Rosu	7.72	21	Pn	Pn	03 10 44.4	+3.1
	comp=E,0.1nm,0.3s,baz=210,slow=12,SNR=1.3						
ESDC	Sonseca Array	20.20	282	P	P	03 13 24.3	+0.7
	comp=E,0.6nm,1.0s,baz=74,slow=11,SNR=4.2						
HFS	Hagfors	22.43	349	P	P	03 13 48.0	+0.6
	comp=E,0.9nm,0.4s,baz=148,slow=12,SNR=9.2						
FINES	FINESS Array B	23.26	5	P	P	03 13 56.2	+0.1
	comp=E,1.2nm,0.9s,baz=185,slow=11,SNR=1.4						
NB2	NORSAR Subarra	23.70	347	P	P	03 14 00.2	-0.3
	comp=Z,0.5nm,0.6s,baz=159,slow=9.3						
NOA	NORSAR Array B	23.70	347	P	P	03 14 00.5	0.0
	comp=Z,0.3nm,0.4s,baz=154,slow=9.4,SNR=5.2						
EKA	Eskdalemuir Ar	23.97	323	P	P	03 14 03.5	+0.4
	comp=Z,1.6nm,0.8s,baz=119,slow=12,SNR=5.6						
TORD	Torodi Ar. Bea	30.91	221	P	P	03 15 06.9	+1.3
	comp=Z,0.6nm,0.8s,baz=34,slow=7.7,SNR=3.0						
MKAR	Makanchi Array	44.22	59	P	P	03 16 58.6	+0.6
	comp=Z,0.3nm,0.4s,baz=285,slow=6.7,SNR=9.5						

ISK ***20*** *03:09:38.9, 38.°43N×39.°25E, h7km, ML3.3/27*
DDA ***20*** *03:09:39.6, 38.°40N×39.°23E, h7km±1km, MW3.5*
ATA ***20*** *03:09:40.8±1.3, 38.°54N×39.°19E, h20km±9km, ML3.0, MW3.4*

ISC 20 03:09:39.4±0.9, 38.°42N±0.°02×39.°24E±0.°02, h8km±6km, n81, σ1°17/108, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.07	129	PG	Pg	03 09 41.4	0.0
SVRC				SG	Sg	03 09 42.6	-0.3
ELZG	Elazig	0.21	291	*i* P	Pg	03 09 44.4	+0.7
ELZG				*i* S	Sg	03 09 47.2	+0.5
PTK	Pertek	0.48	14	PG	Pg	03 09 48.7	-0.1
PTK				SG	Sg	03 09 56.2	+1.0
MALT	Malatya	0.65	261	PG	Pg	03 09 51.9	+0.1
MALT				SG	Sb	03 10 01.5	-0.7
TNCL	Tunceli-Merkez	0.73	19	*i* P	Pg	03 09 52.9	-0.6
TNCL				*e*S	Sg	03 10 03.7	+0.7
TNCL				IAML		03 10 07.6	
	comp=Z,409nm,0.5s						
TNCL	Tunceli-Merkez	0.73	19	*i* P	Pg	03 09 53.0	-0.4
TNCL				*i* S	Sg	03 10 00.1	-3.0
TNCL				IAML		03 10 07.0	
	comp=N,800nm,0.6s						
TNCL				IAML		03 10 11.0	
	comp=E,777nm,0.5s						
DYBB	Diyarbakir	0.85	123	PG	Pg	03 09 55.9	+0.2
DIYA	Diyarbakir	0.86	125	*i* P	Pg	03 09 56.0	+0.2
DIYA				*i* S	Sg	03 10 07.8	+0.8
DIYA				IAML		03 10 12.0	
	comp=N,952nm,0.3s						
DIYA				IAML		03 10 16.0	
	comp=E,779nm,0.6s						
ARPR	Arapgir-MALATY	0.97	314	PG	Pg	03 09 57.9	-0.2
KEMA	Kemaliye	1.02	326	*i* P	Pg	03 09 58.1	-0.9
KEMA				*e*S	Sg	03 10 12.0	-0.4
KEMA				IAML		03 10 17.2	
	comp=Z,159nm,0.6s						
KEMA	Kemaliye	1.02	326	*i* P	Pg	03 09 58.2	-0.9
KEMA				*i* S	Sg	03 10 11.0	-1.4
KEMA				IAML		03 10 15.0	
	comp=N,945nm,0.6s						
KEMA				IAML		03 10 17.0	
	comp=E,616nm,0.9s						

comp=N,627nm,0.5s
KARO Karliova-Bingo 1.67 57 PN Pn 03 10 09.3 +0.2
BTMN Batman 1.69 108 i P Pn 03 10 09.5 +0.2
BTMN i S Sn 03 10 31.4 +0.2
BTMN IAML 03 10 33.0
comp=N,309nm,0.5s
BTMN IAML 03 10 37.0
comp=E,289nm,0.8s
GZT Gaziantep 1.70 232 i P Pn 03 10 10.0 +0.5
GZT i S Sb 03 10 33.0 +0.4
GZT IAML 03 10 36.0
comp=N,722nm,0.6s
GZT IAML 03 10 40.0
comp=E,477nm,0.7s
KELT Kelkit 1.72 0 i P Pb 03 10 11.6 +0.2
KELT eS Sg 03 10 34.2 -0.6
KELT IAML 03 10 40.9
comp=Z,49nm,0.7s
KELT Kelkit 1.72 0 i P Pb 03 10 10.8 -0.6
KELT i S Sn 03 10 32.5 +0.2
KELT IAML 03 10 43.0
comp=E,96nm,0.6s
ECAT Cat-ERZURUM 1.80 48 i P Pn 03 10 06.7 -4.2
MUSM Mu-Merkez 1.81 80 i P Pn 03 10 11.3 +0.3
MUSM i S Sn 03 10 34.5 +0.2
MUSM IAML 03 10 38.0
comp=N,110nm,1.0s
MUSM IAML 03 10 41.0
comp=E,107nm,0.5s
KOPT Kop Dagi 1.87 31 i P Pb 03 10 14.2 +0.2
KOPT IAML 03 10 59.4
comp=Z,36nm,0.8s
KOPT Kop Dagi 1.87 31 i P Pb 03 10 13.6 -0.4
VRTB Varto-Mus 1.88 66 PN Pn 03 10 11.9 -0.2
VRTB Varto-Mus 1.88 66 i P Pn 03 10 13.0 +0.9
VRTB IAML 03 10 59.0
comp=E,266nm,1.2s
VRTB IAML 03 11 08.0
comp=N,242nm,1.2s
KHMN Narli-Kahraman 1.94 239 PN Pn 03 10 13.5 +0.8
SUSE Susehri 1.96 336 i P Pb 03 10 15.4 0.0
SUSE i S Sb 03 10 39.7 -0.3
SUSE IAML 03 10 47.0
comp=N,101nm,0.8s
SUSE IAML 03 10 51.0
comp=E,72nm,0.6s
BAYB BAYBURT 2.00 23 eP Pb 03 10 15.7 -0.4
BAYB eS Sb 03 10 42.3 +1.0
BAYB IAML 03 10 57.9
comp=Z,24nm,0.7s
BAYB BAYBURT 2.00 23 i P Pn 03 10 15.0 +1.3
GAZ Gaziantep 2.03 233 PN Pn 03 10 14.2 +0.2
KMRS Kahramanmaras 2.06 244 PN Pn 03 10 14.9 +0.5
BAYT Aydıntepe-Bayb 2.09 19 PN Pn 03 10 14.8 -0.1
SRTM Siirt_Merkez 2.16 101 i P Pn 03 10 16.2 +0.4
SRTM i S Sn 03 10 42.0 -0.9
SRTM IAML 03 10 49.0
comp=N,494nm,0.4s
SRTM IAML 03 10 54.0
comp=E,463nm,0.6s
SCER sogukcermik 2.18 312 i P Pn 03 10 17.0 +0.9
SCER i S Sn 03 10 44.0 +0.6
SCER IAML 03 10 53.0
comp=E,126nm,0.6s
SCER IAML 03 10 56.0
comp=N,192nm,0.6s
SARI SarD1z-Kayseri 2.21 270 PN Pn 03 10 17.4 +0.8
BLIS Bitlis-Merkez 2.26 89 eP Pn 03 10 17.2 0.0
BLIS eS Sn 03 10 46.8 +1.3
BLIS IAML 03 10 59.8
comp=Z,107nm,0.4s
BLIS Bitlis-Merkez 2.26 89 i P Pn 03 10 16.3 -0.9
BLIS i S Sn 03 10 45.2 -0.3
BLIS IAML 03 10 53.0
comp=N,218nm,0.5s
BLIS IAML 03 10 55.0
comp=E,178nm,0.5s
SVSK Karacayir 2.29 311 PN Pn 03 10 18.7 +1.2
KRIK Erzurum-spir 2.32 34 i P Pb 03 10 20.3 -1.3
KRIK Erzurum-spir 2.32 34 i P Pb 03 10 20.0 -1.6
AKDA Akdag 2.35 44 ⇓i P Pn 03 10 20.2 +1.6
AKDA Akdag 2.35 44 i P Pn 03 10 19.2 +0.6
KUZU Kuzuini 2.38 227 i P Pn 03 10 20.5 +1.7
KUZU IAML 03 11 02.0
comp=N,360nm,0.4s
KUZU IAML 03 11 04.0
comp=E,429nm,0.4s
KAMA Osmaniye 2.38 240 i P Pn 03 10 18.6 -0.2
KAMA IAML 03 11 04.0
comp=N,44nm,0.8s
KAMA IAML 03 11 07.0
comp=E,45nm,1.1s
ANDN Andirin 2.43 251 i P Pn 03 10 19.8 +0.2
ANDN IAML 03 11 09.0
comp=E,72nm,1.1s
ANDN IAML 03 11 13.0
comp=N,69nm,0.6s
RSDY Resadiye-TOKAT 2.46 324 PN Pn 03 10 20.6 +0.7
ESPY Espiye-Giresun 2.52 351 PN Pn 03 10 21.5 +0.8
SAIM ADANA 2.52 261 i P Pn 03 10 20.8 0.0
SAIM IAML 03 11 14.0
comp=N,67nm,0.4s
SAIM IAML 03 11 17.0
comp=E,55nm,0.5s
CUSAR Sarkisla-SIVAS 2.54 294 i P Pn 03 10 22.9 +1.8
CUSAR IAML 03 11 10.0
comp=E,32nm,1.4s
CUSAR IAML 03 11 13.0
comp=N,43nm,1.2s
KTUT Trabzon 2.59 9 PN Pn 03 10 22.7 +1.0
HOMI Horasan 2.63 51 eP Pn 03 10 23.8 +1.4
HOMI Horasan 2.63 51 i P Pn 03 10 23.4 +1.0
HOMI IAML 03 11 37.0
comp=E,52nm,1.6s
HOMI IAML 03 11 38.0
comp=N,44nm,1.3s
SIRN Sırnak 2.67 109 i P Pn 03 10 22.2 -0.6
SIRN IAML 03 11 10.0
comp=N,307nm,0.5s
SIRN IAML 03 11 16.0
comp=E,387nm,0.6s
BNN Bunyan 2.69 280 PN Pn 03 10 24.1 +1.0
SIRT Sirnak 2.69 109 PN Pn 03 10 22.9 -0.2
TOKT Tokat 2.82 313 PN Pn 03 10 26.1 +1.3
KOZT Kozan 2.85 252 PN Pn 03 10 26.5 +1.2
AKDM Akdamar-Van 2.94 91 PN Pn 03 10 27.4 +0.8
TUTA Tutak 2.96 70 eP Pn 03 10 29.3 +2.4
GEVA Gevas 3.01 91 eP Pb 03 10 30.7 -2.6
GEVA IAML 03 11 20.4
comp=Z,49nm,0.7s
GEVA Gevas 3.01 91 i P Pn 03 10 29.6 +2.1
GEVA IAML 03 11 23.0
comp=E,78nm,0.6s
GEVA IAML 03 11 24.0
comp=N,65nm,1.2s
AGRB Hanur-Agry 3.14 67 PN Pn 03 10 30.5 +1.1
TAHT Tahtakopru-Hat 3.17 231 PN Pn 03 10 30.8 +1.1
CMRD Camardi-Nigde 3.44 259 PN Pn 03 10 34.6 +1.2
ARTV Artvin 3.45 36 eP Pn 03 10 35.3 +1.6
YAYL Yayladag 3.45 227 PN Pn 03 10 34.9 +1.3
KARA Karaisali 3.51 252 PN Pn 03 10 35.8 +1.5
CUKT Cukurca 3.65 107 PN Pn 03 10 37.5 +1.1
KZRT Kazreti 4.95 52 i S Sb 03 12 10.8 +4.7

NEIC ***20*** *03:29:22.9±2.4, 14°.51N±0°.09×93°.80W±0°.05, h10km±1km, Error ellipse: s-maj=15.3km s-min=5.5km az=201.0*
MEX ***20*** *03:29:26.3±0.4, 14°.71N×93°.80W, h29km±9km, MD4.1*
IDC ***20*** *03:29:32.6±3.1, 14°.80N×93°.54W, h87km±26km, mb3.6/8, mb1 3.9/12, mb1mx3.7/39, mbtmp4.0/12, Error ellipse: s-maj=30.1km s-min=15.1km az=44.0*
ISC 20 03:29:27.0±0.6, 14°.73N±0°.07×93°.75W±0°.06, h36km, n76, σ1§51/67, mb4.2/17, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.09	28	eP	Pn	03 29 44.1	-1.7
PCIG				eS	Sn	03 29 57.5	-2.2
THIG		1.45	83	eP	Pn	03 29 49.1	-1.6
THIG				i S	Sn	03 30 06.6	-1.8
RTAL	Retalhuleu	2.00	96	Pn	Pn	03 29 57.5	-0.8
TGIG		2.12	16	i P	Pn	03 29 58.4	-1.6
TGIG				i S	Sn	03 30 23.4	-1.8
CCIG	Comitan	2.19	45	eP	Pn	03 30 01.4	+0.4
CCIG	Comitan	2.19	45	Pn	Pn	03 30 02.6	+1.5
HUEH	Huehuetenango	2.25	75	Pn	Pn	03 30 03.2	+1.3
HUIG	Huatulco	2.50	295	i P	Pn	03 30 02.5	-2.6
APG	El Apazote	3.19	85	P	Pn	03 30 16.4	+1.5
	18nm,0.3s,baz=339,slow=11,SNR=9.5						
APG				S	Sn	03 30 55.1	+3.3
	32nm,0.3s,baz=319,slow=19,SNR=8.6						
MTO3	Montecristo	4.26	94	Pn	Pn	03 30 29.3	-0.3
ESQI	Esquipulas	4.27	92	Pn	Pn	03 30 30.5	+0.9
PETF	Flores	4.32	59	Pn	Pn	03 30 32.5	+2.2
SNET	Serv Nac Est T	4.50	103	Pn	Pn	03 30 32.9	+0.1
TLIG	Tlapa	5.42	302	Pn	Pn	03 30 45.5	+0.1
TGUH	Tegucigalpa,Un	6.31	95	Pn	Pn	03 30 58.0	+0.2
UNM	Universidad Na	6.92	312	Pn	Pn	03 31 06.8	+0.7
TEIG	Tepich	7.56	43	P	Pn	03 31 15.6	+1.0
	15nm,0.3s,baz=299,slow=1.3,SNR=11						
TEIG				S	Sn	03 32 36.6	-2.5
	7.9nm,0.3s,baz=139,slow=22,SNR=1.7						
TEIG	Tepich	7.56	43	Pn	Pn	03 31 16.6	+1.9
MATN	Matagalpa	7.81	102	Pn	Pn	03 31 18.5	+0.2
BOAB	BOACO BROADBAN	8.18	105	Pn	Pn	03 31 23.2	-0.1
MOIG	Morelia	8.64	306	Pn	Pn	03 31 31.5	+1.6
ACON	Acoyapa	8.79	107		Pn	03 31 30.4	-1.2
JTS	Las Juntas de	9.66	116	P	Pn	03 31 46.2	+2.6
	0.4nm,0.3s,baz=325,slow=14,SNR=1.5						
833A	Chaparral WMA,	14.50	340	Pn	Pn	03 32 51.0	+1.2
435B	Jarrell	16.36	348	Pn	Pn	03 33 14.7	+0.7
435B				IAmb	IAmb	03 33 39.0	
	comp=Z,14nm,0.6s						
JCT	Junction City	16.63	341	Pn	P	03 33 18.9	-0.7
JCT				IAmb	IAmb	03 33 22.8	
	comp=Z,18nm,1.0s						
TX32	Lajitas Array	17.18	329	Pn	P	03 33 25.0	-0.7
TXAR	Lajitas Array	17.18	329	P	P	03 33 27.4	+1.6
	comp=Z,0.2nm,0.3s,baz=151,slow=13,SNR=8.4						
TXAR	Lajitas Array	17.18	329	Pn	Pn	03 33 24.8	+0.4
TX31	Lajitas Ar. Si	17.18	329	Pn	Pn	03 33 24.3	-0.1
TX31				IAmb	IAmb	03 33 30.3	
	comp=Z,37nm,1.4s						
WHTX	Lake Whitney,	17.51	349	Pn	P	03 33 29.0	-0.3
WHTX				IAmb	IAmb	03 33 48.2	
	comp=Z,13nm,0.8s						
ABTX	Abilene, Hawle	18.60	344	P	Pn	03 33 41.7	-0.1
ABTX				IAmb	IAmb	03 33 43.9	
	comp=Z,14nm,0.8s						
MNTX	Cornudas Mount	19.96	330	P	Pn	03 33 57.1	-1.0
UALR	University of	20.00	3	P	P	03 33 55.8	-0.7
W41B	Gary Mavity, V	20.40	4	P	P	03 34 01.4	+0.5
W41B				IAmb	IAmb	03 34 23.9	
	comp=Z,23nm,1.6s						
GUY2C	Guyana, Caldas	20.41	116	eP	Pn	03 34 03.5	-0.4
PTBC	PUERTO BERRIO,	20.62	111	eP	Pn	03 34 04.6	-1.3
POPC	Popayan, Colom	20.75	124	eP	Pn	03 34 06.4	-1.2
TOLC	Tolima	20.76	117	eP	Pn	03 34 11.1	+3.3
FCAR	Ozark Folk Cen	21.12	4	IAmb	IAmb	03 34 20.2	
	comp=Z,8.4nm,1.0s						
ORTC	Ortega, Tolima	21.17	119	eP	P	03 34 12.0	+2.6
HHAR	Hobbs	21.46	360	IAmb	IAmb	03 34 14.9	
	comp=Z,6.1nm,0.5s						
ROSC	El Rosal	21.50	115	P	P	03 34 11.1	-2.3
U40A	Yellville	21.55	2	P	P	03 34 14.8	+1.5
PRAC	Prado	21.57	119	eP	P	03 34 16.1	+2.3
CHIC	Chingaza	22.12	115	eP	P	03 34 22.5	+2.5
RUSC	La Rusia	22.13	111	eP	P	03 34 22.2	+2.0
MGMO	Mountain Grove	22.37	3	P	P	03 34 22.0	-0.1
S39A	Bolivar	22.87	1	P	P	03 34 27.1	-0.2
TUC	Tucson	23.40	321	P	P	03 34 34.3	+1.5
T25A	Trinidad	24.25	339	IAmb	IAmb	03 34 44.4	
	comp=Z,6.5nm,0.9s						
X16A	Lo Mia Camp, P	25.28	324	IAmb	IAmb	03 35 01.8	
	comp=Z,8.6nm,1.6s						
WUAZ	Wupatki	26.05	326	IAmb	IAmb	03 35 38.3	
	comp=Z,6.1nm,1.2s						
PDAR	Pinedale Array	31.07	337	P	P	03 35 41.2	-0.8
	comp=Z,0.4nm,0.7s,baz=134,slow=8.5,SNR=4.6						
NVAR	Mina Array Bea	32.05	322	P	P	03 35 53.5	+2.8
	comp=Z,2.5nm,0.8s,baz=136,slow=8.8,SNR=15						
NVAR	Mina Array Bea	32.05	322	P	P	03 35 53.0	+2.4
REDW	Red Top Meadow	32.08	336	IAmb	IAmb	03 35 54.5	
	comp=Z,3.4nm,0.8s						
LOHW	Long Hollow	32.19	337	IAmb	IAmb	03 35 54.1	
	comp=Z,2.8nm,0.9s						
TPAW	Teton Pass	32.22	336	IAmb	IAmb	03 36 27.3	
	comp=Z,5.4nm,1.2s						
PTGA	Pitinga	36.78	112	P	P	03 36 29.2	-2.5
	comp=Z,1.6nm,0.5s,baz=306,slow=22,SNR=3.8						
PTGA	Pitinga	36.78	112	IAmb	IAmb	03 36 33.0	
	comp=Z,3.7nm,0.9s						
F10A	Beach Ranch, E	36.87	332	IAmb	IAmb	03 36 34.5	
	comp=Z,5.3nm,0.9s						
SIV	San Ignacio	44.43	132	P	P	03 37 33.5	-1.3
	comp=Z,0.4nm,0.4s,baz=306,slow=4.2,SNR=2.5						
YKA	Yellowknife Ar	49.94	348	P	P	03 38 17.2	+0.1
	comp=Z,3.7nm,0.8s,baz=153,slow=6.6,SNR=7.0						
BI03	Tigo	54.90	160	P	P	03 38 52.3	-1.8
BCAR	Beaver Creek A	58.69	337	P	P	03 39 21.5	+0.7
IL31		61.50	337	P	P	03 39 41.3	+1.4
ILAR	Eielson Array	61.50	337	P	P	03 39 40.4	+0.4
	comp=Z,1.7nm,0.8s,baz=144,slow=4.9,SNR=14						
SII	Sitkinak Islan	61.66	327	P	P	03 39 41.7	+0.5
ESDC	Sonseca Array	80.59	51	P	P	03 41 34.2	-2.0
	comp=Z,0.4nm,0.8s,baz=264,slow=5.7,SNR=2.3						
ESDC	Sonseca Array	80.59	51	P	P	03 41 35.7	-0.5
CART	Cartagena	83.30	53	P	P	03 41 51.7	+1.3
NB2	NORSAR Subarra	84.31	28	P	P	03 41 55.7	+0.6
	comp=Z,0.7nm,0.7s,baz=291,slow=5.1						
NOA	NORSAR Array B	84.31	28	P	P	03 41 55.4	+0.3
	comp=Z,1.5nm,0.8s,baz=291,slow=4.8,SNR=6.7						
WRA	Warramunga Arr	133.92	256	PKP	PKPdf	03 48 40.8	-0.5
	comp=Z,0.3nm,0.7s,baz=91,slow=2.3,SNR=5.1						
CMAR	Chiang Mai Arr	144.73	339	PKP	PKPab	03 48 59.5	-0.2
	comp=Z,0.9nm,0.3s,baz=334,slow=3.5,SNR=5.1						

WEL 20 03:31:00.2±2.0, 35°S±30°×17°9E±5°3, h270km±35km, M4.3/5, mB5.2/1, ML4.4/2, MLv4.3/5, Mw(mB)4.5/1, Error ellipse: s-maj=0.1km s-min=0.0km az=111.3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.17	195	S	S	03 32 40.7	+0.9
HAZ	Te Kaha	3.48	201	P	Pn	03 31 59.2	+0.1
HAZ				S	S	03 32 45.8	-0.1
MWZ	Matawai	4.09	200	P	Pn	03 32 06.2	+0.2
MWZ				S	S	03 32 58.3	-0.2
URZ	Urewera	4.16	205	P	Pn	03 32 06.1	-0.6
URZ				S	S	03 33 00.9	+1.2
KNZ	Kokohu	4.71	196	P	Pn	03 32 13.1	+0.1
KNZ				S	S	03 33 11.5	+0.2
ARHZ	Aropaoanui	5.11	201	P	Pn	03 32 18.2	+0.3
BHHZ	Black Hill Sta	5.63	207	P	Pn	03 32 23.9	-0.3
KRHZ	Kereru	5.66	204	P	Pn	03 32 23.8	-0.7
MOVZ	Moawhango	5.68	209	P	Pn	03 32 23.9	-0.9
PNHZ	Pukenui	5.96	204	P	Pn	03 32 26.6	-1.5
PNHZ	Pukenui	5.96	204	P	Pn	03 32 25.6	-2.6
POWZ	Post Office Ro	6.53	205	P	Pn	03 32 31.5	-3.7
POWZ	Post Office Ro	6.53	205	P	Pn	03 32 27.5	-7.7
BFZ	Birch Farm	6.64	201	P	Pn	03 32 35.5	-1.1
TIWZ	Tintock	6.84	203	P	Pn	03 32 37.4	-1.6
HOWZ	Holdsworth Sta	7.07	204	P	Pn	03 32 39.8	-2.1
OGWZ	Otaki Gorge	7.12	206	P	Pn	03 32 40.6	-1.9
TMWZ	Te Maipa	7.14	201	P	Pn	03 32 41.3	-1.4
KIW	Kapiti Island	7.25	208	P	Pn	03 32 42.5	-1.7
CAW	Cannon Point	7.41	206	P	Pn	03 32 43.6	-2.5
TRWZ	Traveller	7.46	202	P	Pn	03 32 45.3	-1.5
MSWZ	Moikau Station	7.62	204	P	Pn	03 32 46.7	-2.1
PLWZ	Palliser	7.76	203	P	Pn	03 32 47.9	-2.6

RSNC ***20*** *03:59:50.9±1.3, 3°.83N×76°.93W, h95km±6km, ML3.5, Mw3.9, Fault plane solution: NP1:φs122.00000°, δ49.00000°, λ98.00000°.*
NEIC ***20*** *03:59:50.7±2.0, 3°.70N±0°.08×77°.00W±0°.06, h98km±6km, mb4.0/7, Error ellipse: s-maj=12.4km s-min=7.6km az=210.0*
IDC ***20*** *03:59:54.6±2.1, 3°.71N×76°.83W, h130km±18km, mb3.3/8, mb1 3.5/12, mb1mx3.4/31, mbtmp3.8/12, Error ellipse: s-maj=21.0km s-min=17.0km az=80.0*
ISC 20 03:59:50.6±0.7, 3°.81N±0°.02×77°.06W±0°.03, h94km±6km, n68, σ1§31/105, mb3.5/9, 7C-19D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALC	Bahia Malaga	0.35	307	⇑i P	Pn	04 00 05.6	+0.9
MALC				eS	Sn	04 00 17.6	+2.3
MALC				i		04 00 23.1	
	comp=Z,3μm,0.5s						
YOTC	Yotoco, Valle	0.73	76	⇑eP	Pn	04 00 06.1	-1.7
YOTC				eS	Sn	04 00 18.3	-2.5
YOTC				i		04 00 21.3	
	comp=Z,1μm,0.3s						
PIZC	Pizarro, Choco	1.19	345	⇓i P	Pn	04 00 13.4	+0.7
PIZC				eS	Sn	04 00 30.4	+1.0
PIZC				i		04 00 41.1	
	comp=Z,971nm,0.4s						
POPC	Popayan, Colom	1.31	163	⇓eP	Pn	04 00 14.5	0.0
POPC				eS	Sn	04 00 32.3	-0.2
POPC				i		04 00 34.7	
	comp=Z,603nm,0.5s						
PLMC	San Jos del P	1.34	35	⇓eP	Pn	04 00 13.2	-1.4
PLMC				eS	Sn	04 00 30.7	-2.0
GR1C	Gorgona, Isla	1.36	234	⇓eP	Pn	04 00 14.5	-0.4
GR1C				eS	Sn	04 00 32.6	-0.5
MARP	Paez Belalcaza	1.46	131	⇑eP	Pn	04 00 17.1	+0.8
MARP				eS	Sn	04 00 36.8	+1.2
MARP				i		04 00 39.4	
	comp=Z,150nm,0.3s						
PCON	Cinco Dias	1.61	156	⇓eP	Pn	04 00 19.2	+0.7
PCON				eS	Sn	04 00 41.1	+1.7
PCON				i		04 00 45.3	
	comp=Z,736nm,0.6s						
SOTA	Rioblanco	1.72	165	eS	Sn	04 00 43.1	+1.2
BBAC	Balboa, Cauca	1.78	186	⇓i P	Pn	04 00 20.8	+0.5
BBAC				eS	Sn	04 00 42.5	-0.4
BBAC				i		04 00 52.5	
	comp=Z,502nm,0.5s						
ANIL	Santa Ana	1.79	68	⇓i P	Pn	04 00 20.2	-0.2
ANIL				eS	Sn	04 00 43.8	+0.7
ANIL				i		04 00 45.2	
	comp=Z,173nm,0.5s						
ORTC	Ortega, Tolima	1.81	87	⇓eP	Pn	04 00 20.5	0.0
ORTC				eS	Sn	04 00 42.7	-0.6
ORTC				i		04 00 45.7	
	comp=Z,354nm,0.4s						
TOLC	Tolima	1.90	66	⇓i P	Pn	04 00 21.8	-0.1
TOLC				eS	Sn	04 00 46.3	+0.6
TOLC				i		04 00 50.1	
	comp=Z,912nm,0.6s						
BETC	Betania	1.96	125	eP	Pn	04 00 23.4	+0.9
BETC				eS	Sn	04 00 47.2	+0.4
PRAC	Prado	2.17	92	⇓i P	Pn	04 00 25.3	+0.1
PRAC				eS	Sn	04 00 50.5	-1.1
PRAC				i		04 00 58.0	
	comp=Z,258nm,0.4s						
GUY2C	Guyana, Caldas	2.20	50	⇓i P	Pn	04 00 26.5	+0.6
GUY2C				eS	Sn	04 00 52.7	-0.2
GUY2C				i		04 00 55.8	
	comp=Z,232nm,0.3s						
CRUC	La Cruz	2.23	177	⇑eP	Pn	04 00 26.8	+0.6
CRUC				eS	Sn	04 00 55.0	+1.5
GARC	Garzon, Huila	2.24	136	⇓eP	Pn	04 00 26.8	+0.4
GARC				eS	Sn	04 00 53.8	+0.2
GARC				i		04 00 55.8	
	comp=Z,475nm,0.3s						
CBOC	Ciudad Bolivar	2.29	27	⇓i P	Pn	04 00 26.5	-0.4
CBOC				eS	Sn	04 00 53.5	-1.3
CBOC				i		04 01 03.5	
	comp=Z,132nm,0.5s						
SOLC	Bahia Solano	2.43	352	eP	Pn	04 00 28.4	-0.2
SOLC				eS	Sn	04 00 57.1	-0.6
SOLC				i		04 00 58.4	
	comp=Z,79nm,0.2s						
GCUF	Volcan Galeras	2.58	186	⇓eP	Pn	04 00 31.4	+0.4
GCUF				eS	Sn	04 01 02.4	+0.5
GCUF				i		04 01 08.6	
	comp=Z,143nm,0.3s						
TUMC	Tumaco	2.58	220	eP	Pn	04 00 30.3	-0.3
TUMC				eS	Sn	04 01 02.7	+1.4
TUMC				i		04 01 16.9	
	comp=Z,165nm,0.3s						
CPAS1	Pasto	2.61	186	eP	Pn	04 00 31.2	-0.2
CPAS1				eS	Sn	04 01 04.4	+1.7
FLOC	Florencia	2.62	148	⇓i P	Pn	04 00 31.8	+0.7
FLOC				eS	Sn	04 01 02.6	+0.4
FLOC				i		04 01 12.6	
	comp=Z,83nm,0.4s						
ROSC	El Rosal	2.92	69	P	Pn	04 00 36.8	+1.4
	comp=Z,44nm,0.3s,baz=120,slow=3.1,SNR=55						
ROSC				S	Sn	04 01 13.7	+3.8
	comp=Z,24nm,0.3s,baz=121,slow=23,SNR=3.5						
ROSC	El Rosal	2.92	69	⇓i P	Pn	04 00 37.1	+1.7
ROSC				eS	Sn	04 01 11.6	+1.7
ROSC				i		04 01 19.0	
	comp=Z,84nm,0.5s						
ROSC	El Rosal	2.92	69		Pn	04 00 37.1	+1.7
CMBC	Cumbal	2.95	195	eP	Pn	04 00 36.9	+0.9
CMBC				eS	Sn	04 01 12.2	+1.4
CMBC				i		04 01 23.7	
	comp=Z,48nm,0.5s						
PUAC	Puerto Asis, P	3.27	171	eP	Pn	04 00 40.5	+0.6
DBBC	Dabeiba	3.30	15	eP	Pn	04 00 40.8	+0.4
DBBC				eS	Sn	04 01 19.9	+1.1
DBBC				i		04 01 35.3	
	comp=Z,278nm,0.6s						
VILC	Villavicencio,	3.37	85	eP	Pn	04 00 42.8	+1.5
VILC				eS	Sn	04 01 21.2	+0.8
VILC				i		04 01 25.4	
	comp=Z,167nm,0.4s						
PTAC	Punta Ardita,	3.40	347	⇑i P	Pn	04 00 42.1	+0.5
PTAC				eS	Sn	04 01 19.4	-1.6
CHIC	Chingaza	3.42	76	⇓eP	Pn	04 00 43.1	+0.9
CHIC				eS	Sn	04 01 22.2	+0.2
CHIC				i		04 01 24.6	
	comp=Z,79nm,0.3s						
SPBC	San Pablo de B	3.50	58	⇓eP	Pn	04 00 43.7	+0.8
MACC	Macarena, Meta	3.60	117	eP	Pn	04 00 44.5	+0.1
CUSE	Cuicocha Este	3.73	201	eP	Pn	04 00 46.2	-0.2
CUSE				eS	Sn	04 01 28.8	-0.7
PTBC	PUERTO BERRIO,	3.75	44	eP	Pn	04 00 46.8	+0.4
OTAV	Otavalo	3.81	201	⇓i P	Pn	04 00 47.2	-0.3
OTAV				eS	Sn	04 01 30.1	-1.5
OTAV				i		04 01 33.6	
	comp=Z,50nm,0.7s						
OTAV	Otavalo	3.81	201		Pn	04 00 46.8	-0.8
PAC1	Pacto, Paraso	3.92	206	eP	Pn	04 00 47.0	-1.7
PAC1				eS	Sn	04 01 30.4	-3.4
UREC	San Jos de Ur	4.20	21	eP	Pn	04 00 52.9	+0.4
PTLC	Puerto Leguiza	4.26	148	eP	Pn	04 00 57.4	+4.2
ZARC	Zaragoza, Cauc	4.27	31	eP	Pn	04 00 53.4	+0.1
ZARC				eS	Sn	04 01 42.9	+0.9
ZARC				i		04 01 52.0	
	comp=Z,31nm,0.4s						
RUSC	La Rusia	4.47	62	eP	Pn	04 00 57.2	+0.7
RUSC				eS	Sn	04 01 48.1	+0.5
BRRC	Barranca, Sant	4.67	45	eP	Pn	04 00 58.4	-0.4
BARC	Barichara	4.75	54	⇑eP	Pn	04 01 01.0	+0.9
BARC				eS	Sn	04 01 53.1	-1.0
BARC				i		04 01 59.4	
	comp=Z,18nm,0.4s						
CAPC	Capurgana	4.81	357	⇑eP	Pn	04 01 01.4	+0.7
SMLC	San Martn de	5.78	31	eP	Pn	04 01 13.9	0.0
BCIP	Isla Barro Col	6.00	333	eP	Pn	04 01 17.9	+1.0
BCIP				eS	Sn	04 02 25.3	+1.1
BCIP				i		04 02 31.2	
	comp=Z,61nm,0.8s						
BCIP	Isla Barro Col	6.00	333		Pn	04 01 18.2	+1.3
BCIP					Sn	04 02 26.6	+2.4
SDV	Santo Domingo	8.14	51	P	Pn	04 01 46.7	+0.5
	comp=Z,2.7nm,0.3s,baz=238,slow=17,SNR=4.0						
ATAH	Atahualpa	10.95	187	P	Pn	04 02 27.8	+3.1
	comp=Z,0.5nm,0.3s,baz=71,slow=5.4,SNR=4.7						
PTGA	Pitinga	17.66	104	P	Pn	04 03 50.3	-0.4
	comp=Z,0.3nm,0.3s,baz=274

SIV	**San Ignacio**	**25.24**	**142**	P	**P**	**04 05 05.7**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=328,slow=11,SNR=2.3						
NVAR	**Mina Array Bea**	**50.95**	**318**	P	**P**	**04 08 45.2**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=121,slow=7.6,SNR=6.8						
NVAR				PcP	**PcP**	**04 09 59.4**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=108,slow=5.2,SNR=2.6						
YKA	**Yellowknife Ar**	**64.81**	**342**	P	**P**	**04 10 19.3**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=135,slow=6.2,SNR=5.0						
DBIC	**Dimbokro**	**71.91**	**84**	P	**P**	**04 11 03.0**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=271,slow=5.3,SNR=4.2						
ESDC	**Sonseca Array**	**74.58**	**50**	P	**P**	**04 11 19.5**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=256,slow=6.9,SNR=1.0						
ILAR	**Eielson Array**	**78.05**	**336**	P	**P**	**04 11 39.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=112,slow=4.1,SNR=6.2						
TORD	**Torodi Ar. Bea**	**78.20**	**77**	P	**P**	**04 11 39.3**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=269,slow=8.9,SNR=5.0						
ASAR	**Alice Springs**	**144.18**	**234**	PKP	**PKPdf**	**04 19 14.6**	**-1.9**
	comp=Z,2.0nm,0.4s,baz=118,slow=3.8,SNR=28						
ASAR	**Alice Springs**	**144.18**	**234**		**PKPdf**	**04 19 14.3**	**-2.1**
WRA	**Warramunga Arr**	**145.45**	**240**	PKPbc	**PKPab**	**04 19 19.2**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=112,slow=3.0,SNR=32						

*MEX **20** 04:12:59.1±0.7, 14°.72N×93°.69W, h20km, MD4.5*
*NEIC **20** 04:12:59.8±1.9, 14°.81N±0°.09×93°.66W±0°.07, h48km±8km, mb4.4/143, Md4.8(MEX), Error ellipse: s-maj=13.0km s-min=9.4km az=203.0*
*UNK **20** 04:13:00.9, 14°.83N×93°.61W, h56km*
*IDC **20** 04:13:02.6±2.8, 14°.94N×93°.49W, h66km±22km, mb4.0/14, mb1 4.2/17, mb1mx4.0/41, mbtmp4.3/17, MS3.6/8, Ms1 3.6/8, ms1mx3.3/37, Error ellipse: s-maj=27.4km s-min=13.2km az=46.0*
*SNET **20** 04:13:05.8±1.1, 14°.64N×93°.02W, h15km±7km, ML4.4*
*UCR **20** 04:13:06.0±1.1, 14°.64N×93°.01W, h15km±7km, ML4.2, mb4.4(NEIC)*

ISC 20 04:12:59.9±1.3, 14°.81N±0°.07×93°.60W±0°.07, h46km±11km, n233, σ1°35/196, mb4.5/49, MS3.6/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.96**	**23**	*i* P	**Pn**	**04 13 15.4**	**-1.6**
PCIG				*e*S	**Sn**	**04 13 28.6**	**-0.9**
THIG		**1.29**	**86**	*e*P	**Pn**	**04 13 20.4**	**-1.2**
THIG				*i* S	**Sn**	**04 13 37.5**	**-0.2**
RTAL	**Retalhuleu**	**1.87**	**99**	*e*P	**Pn**	**04 13 28.3**	**-1.1**
RTAL				*e*S	**Sn**	**04 13 46.3**	**-5.5**
RTAL				IAML		04 14 00.6	
	comp=Z,2μm,0.4s						
TGIG		**2.01**	**13**	*e*P	**Pn**	**04 13 31.6**	**+0.2**
TGIG				*i* S	**Sn**	**04 13 55.7**	**+0.4**
CCIG	**Comitan**	**2.03**	**44**	*e*P	**Pn**	**04 13 33.6**	**+1.8**
CCIG	**Comitan**	**2.03**	**44**		**Pn**	**04 13 33.3**	**+1.5**
HUEH	**Huehuetenango**	**2.09**	**76**	*e*P	**Pn**	**04 13 33.9**	**+1.3**
HUEH				*e*S	**Sn**	**04 13 56.5**	**-1.1**
HUEH				IAML		04 14 13.5	
	comp=Z,13μm,0.3s						
HUEH	**Huehuetenango**	**2.09**	**76**		**Pn**	**04 13 33.4**	**+0.8**
APG	**El Apazote**	**3.04**	**86**	P	**Pn**	**04 13 46.7**	**+1.0**
	comp=Z,65nm,0.3s,baz=249,slow=7.2,SNR=115						
APG				S	**Sn**	**04 14 28.8**	**+7.8**
	comp=Z,113nm,0.3s,baz=320,slow=21,SNR=10						
APG				LR	LR	04 14 46.5	
	comp=Z,203nm,20.4s,baz=272,slow=36						
RTR	**El Retiro**	**3.94**	**103**	*e*P	**Pn**	**04 13 58.3**	**+0.3**
RTR	**El Retiro**	**3.94**	**103**	*e*P	**Pn**	**04 13 58.3**	**+0.3**
SBLS	**San Blas**	**3.98**	**104**	*e*P	**Pn**	**04 13 59.2**	**+0.7**
SBLS	**San Blas**	**3.98**	**104**	*e*P	**Pn**	**04 13 59.2**	**+0.7**
CEVE	**Cerro Verde**	**3.98**	**104**	*e*P	**Pn**	**04 13 58.6**	**0.0**
CEVE				*e*S	**Sn**	**04 14 40.9**	**-3.2**
CEVE				IAML		04 15 15.7	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**3.98**	**104**	*e*P	**Pn**	**04 13 58.6**	**0.0**
CEVE				*e*S	**Sn**	**04 14 40.9**	**-3.2**
CEVE				IAML		04 15 15.7	
	comp=Z,2μm,0.4s						
SNJE	**San Jose**	**3.98**	**103**	*e*P	**Pn**	**04 13 59.2**	**+0.5**
SNJE	**San Jose**	**3.98**	**103**	*e*P	**Pn**	**04 13 59.2**	**+0.5**
MTO3	**Montecristo**	**4.12**	**95**	*e*P	**Pn**	**04 14 00.7**	**0.0**
MTO3	**Montecristo**	**4.12**	**95**	*e*P	**Pn**	**04 14 00.7**	**0.0**
MTO3	**Montecristo**	**4.12**	**95**		**Pn**	**04 14 01.1**	**+0.5**
ESQI	**Esquipulas**	**4.13**	**93**		**Pn**	**04 14 01.6**	**+1.1**
TACO	**Tacachico**	**4.20**	**101**	*e*P	**Pn**	**04 14 00.7**	**-0.8**
TACO	**Tacachico**	**4.20**	**101**	*e*P	**Pn**	**04 14 00.7**	**-0.8**
SNET	**Serv Nac Est T**	**4.38**	**104**		**Pn**	**04 14 04.3**	**+0.3**
LBRS	**Las Brisas**	**4.54**	**103**	*e*P	**Pn**	**04 14 06.4**	**+0.1**
LBRS	**Las Brisas**	**4.54**	**103**	*e*P	**Pn**	**04 14 06.4**	**+0.1**
LFRS	**El Faro**	**4.56**	**104**	*e*P	**Pn**	**04 14 06.7**	**+0.2**
LFRS	**El Faro**	**4.56**	**104**	*e*P	**Pn**	**04 14 06.7**	**+0.2**
PAVA	**Las Pavas**	**4.65**	**103**	*e*P	**Pn**	**04 14 08.1**	**+0.3**
PAVA				IAML		04 15 34.6	
	comp=Z,254nm,0.5s						
PAVA	**Las Pavas**	**4.65**	**103**	*e*P	**Pn**	**04 14 08.1**	**+0.3**
PAVA				IAML		04 15 34.6	
	comp=Z,254nm,0.5s						
COEG	**Centro de Oper**	**4.73**	**104**	*e*P	**Pn**	**04 14 09.6**	**+0.8**
COEG	**Centro de Oper**	**4.73**	**104**	*e*P	**Pn**	**04 14 09.6**	**+0.8**
TLIG	**Tlapa**	**5.50**	**300**		**Pn**	**04 14 17.8**	**-1.6**
TGUH	**Tegucigalpa,Un**	**6.18**	**96**		**Pn**	**04 14 31.2**	**+2.5**
TEIG	**Tepich**	**7.40**	**43**	P	**Pn**	**04 14 45.2**	**-0.2**
	comp=Z,49nm,0.3s,baz=244,slow=2.3,SNR=114						
TEIG				S	**Sn**	**04 16 08.3**	**+0.3**
	comp=Z,41nm,0.3s,baz=340,slow=22,SNR=4.1						
MATN	**Matagalpa**	**7.69**	**103**	Pn	**Pn**	**04 14 49.6**	**+0.2**
ACON	**Acoyapa**	**8.67**	**108**		**Pn**	**04 15 02.0**	**-0.8**
MOIG	**Morelia**	**8.71**	**305**	Pn	**Pn**	**04 15 04.8**	**+1.2**
JTS	**Las Juntas de**	**9.56**	**117**	P	**Pn**	**04 15 18.8**	**+3.7**
	comp=Z,0.7nm,0.3s,baz=287,slow=11,SNR=5.1						
833A	**Chaparral WMA,**	**14.48**	**339**	P	**Pn**	**04 16 21.3**	**-0.7**
	baz=157						
833A	**Chaparral WMA,**	**14.48**	**339**	Pn	**Pn**	**04 16 21.6**	**-0.5**
435B	**Jarrell**	**16.31**	**348**	P	**Pn**	**04 16 46.4**	**+0.6**
	baz=166						
435B	**Jarrell**	**16.31**	**348**		**Pn**	**04 16 46.4**	**+0.6**
435B				IAmb	IAmb	04 17 10.0	
	comp=Z,24nm,0.8s						
JCT	**Junction City**	**16.60**	**341**	P	**Pn**	**04 16 50.2**	**+0.8**
	baz=159,SNR=12						
JCT	**Junction City**	**16.60**	**341**	P	**Pn**	**04 16 50.4**	**+0.9**
JCT				IAmb	IAmb	04 16 53.9	
	comp=Z,34nm,0.9s						
346A	**Big Creek Wild**	**16.93**	**12**	P	**P**	**04 16 54.8**	**-0.1**
346A				IAmb	IAmb	04 17 07.5	
	comp=Z,23nm,0.8s						
TXAR	**Lajitas Array**	**17.18**	**329**	P	**Pn**	**04 16 57.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=151,slow=14,SNR=8.6						
TXAR	**Lajitas Array**	**17.18**	**329**	Pn	**Pn**	**04 16 55.3**	**-1.5**
TX31	**Lajitas Ar. Si**	**17.18**	**329**	Pn	**Pn**	**04 16 55.7**	**-1.1**
TX31				IAmb	IAmb	04 17 10.0	
	comp=Z,23nm,0.9s						
TX32	**Lajitas Array**	**17.18**	**329**		**Pn**	**04 16 56.5**	**-0.3**
237A	**Washetta, Mont**	**17.23**	**354**	Pn	**Pn**	**04 16 56.3**	**-0.9**
237A				IAmb	IAmb	04 17 08.6	
	comp=Z,34nm,1.2s						
WHTX	**Lake Whitney,**	**17.46**	**349**	P	**Pn**	**04 16 59.8**	**-0.3**
	baz=168						
WHTX	**Lake Whitney,**	**17.46**	**349**	IAmb	IAmb	04 17 19.4	
	comp=Z,32nm,1.1s						
VBMS	**Vicksburg**	**17.55**	**9**	Pn	**Pn**	**04 17 00.2**	**-1.0**
143A	**Socs Landing,**	**17.92**	**6**		**Pn**	**04 17 04.2**	**-1.5**
143A				IAmb	IAmb	04 17 09.9	
	comp=Z,28nm,1.0s						
146A	**Union**	**18.22**	**12**	P	**P**	**04 17 08.7**	**-0.5**
Z41A	**Richland Creek**	**18.38**	**2**	P	**Pn**	**04 17 12.5**	**+1.2**
	baz=182						
Z41A	**Richland Creek**	**18.38**	**2**	P	**P**	**04 17 10.3**	**-0.5**
Z41A				IAmb	IAmb	04 17 54.3	
	comp=Z,29nm,1.1s						
352A	**Blakely**	**18.39**	**24**	P	**Pn**	**04 17 11.6**	**+0.2**
352A				IAmb	IAmb	04 17 17.7	
	comp=Z,39nm,1.1s						
Z38A	**Mt. Pleasant**	**18.41**	**356**	P	**P**	**04 17 09.9**	**-1.3**
Z38A				IAmb	IAmb	04 17 18.9	
	comp=Z,44nm,1.4s						
ABTX	**Abilene, Hawle**	**18.57**	**344**	P	**Pn**	**04 17 13.7**	**0.0**
	baz=161,SNR=16						
ABTX	**Abilene, Hawle**	**18.57**	**344**	P	**P**	**04 17 12.7**	**-0.3**
ABTX				IAmb	IAmb	04 17 15.4	
	comp=Z,28nm,0.8s						
Z47A	**Carrollton**	**18.98**	**14**	P	**Pn**	**04 17 18.1**	**-0.4**
Z47A				IAmb	IAmb	04 17 37.2	
	comp=Z,31nm,1.1s						
CCAR	**Cane Creek**	**19.09**	**5**	P	**P**	**04 17 19.1**	**+0.3**
CCAR				IAmb	IAmb	04 17 51.0	
	comp=Z,34nm,1.2s						
LRAL	**Lakeview Retre**	**19.11**	**17**	P	**Pn**	**04 17 20.8**	**+0.7**
	baz=200						
LRAL	**Lakeview Retre**	**19.11**	**17**		**Pn**	**04 17 19.8**	**-0.2**
LRAL				IAmb	IAmb	04 17 24.4	
	comp=Z,20nm,1.1s						
Y45A	**Yeager Farm, C**	**19.32**	**10**	P	**P**	**04 17 21.2**	**0.0**
CBOC	**Ciudad Bolivar**	**19.44**	**115**	*e*P	**Pn**	**04 17 25.4**	**+1.0**
152A	**Waverly Hall**	**19.53**	**23**	P	**P**	**04 17 23.8**	**+0.2**
MIAR	**Mont Ida**	**19.65**	**0**	P	**Pn**	**04 17 28.2**	**+1.7**
	baz=180,SNR=8.3						
MIAR	**Mount Ida**	**19.65**	**0**	P	**P**	**04 17 22.6**	**-2.1**
MIAR				IAmb	IAmb	04 17 30.2	
	comp=Z,20nm,1.1s						
X37A	**Clayton**	**19.75**	**356**	P	**P**	**04 17 23.9**	**-2.1**
X37A				IAmb	IAmb	04 17 41.9	
	comp=Z,30nm,1.2s						
ZARC	**Zaragoza, Cauc**	**19.76**	**110**	*e*P	**P**	**04 17 25.3**	**-0.9**
X43A	**Marvell**	**19.77**	**7**	P	**Pn**	**04 17 29.1**	**+1.1**
	baz=188						
X43A	**Marvell**	**19.77**	**7**	P	**Pn**	**04 17 27.1**	**-0.9**
255A	**Hazlehurst**	**19.84**	**29**	P	**Pn**	**04 17 28.0**	**-0.7**
UALR	**University of**	**19.91**	**3**	P	**P**	**04 17 26.6**	**-1.0**
UALR				IAmb	IAmb	04 17 34.6	
	comp=Z,25nm,1.2s						
MNTX	**Cornudas Mount**	**19.96**	**329**	P	**P**	**04 17 28.3**	**0.0**
	baz=145,SNR=8.0						
MNTX	**Cornudas Mount**	**19.96**	**329**	P	**P**	**04 17 27.5**	**-0.8**
OXF	**Oxford**	**19.98**	**10**	P	**Pn**	**04 17 29.9**	**-0.4**
	baz=192						
SMLC	**San Martn de**	**20.02**	**105**	*e*P	**Pn**	**04 17 30.0**	**-1.1**
X34A	**Smith Ranch, M**	**20.07**	**350**	IAmb	IAmb	04 17 55.8	
	comp=Z,24nm,0.7s						
YOTC	**Yotoco, Valle**	**20.12**	**121**	*e*P	Pn	04 17 32.6	+0.2
W39A	**Magazine**	**20.30**	**360**	P	Pn	04 17 35.5	+1.4
	baz=180,SNR=6.3						
W39A	**Magazine**	**20.30**	**360**	IAmb	IAmb	04 17 36.5	
	comp=Z,13nm,0.8s						
GUY2C	**Guyana, Caldas**	**20.31**	**116**	*e*P	Pn	04 17 34.0	-1.0
W41B	**Gary Mavity, V**	**20.31**	**3**	P	**P**	**04 17 32.2**	**+0.2**
	baz=184						
W41B	**Gary Mavity, V**	**20.31**	**3**	IAmb	IAmb	04 17 56.5	
	comp=Z,28nm,1.4s						
WMOK	**Wichita Mounta**	**20.38**	**348**	P	**P**	**04 17 32.3**	**-0.5**
	baz=166,SNR=6.4						
WMOK	**Wichita Mounta**	**20.38**	**348**	P	**P**	**04 17 32.2**	**-0.7**
WHAR	**Wooly Hollow**	**20.42**	**3**	P	**P**	**04 17 33.2**	**0.0**
WHAR				IAmb	IAmb	04 17 41.7	
	comp=Z,15nm,1.0s						
X48A	**Hartselle**	**20.43**	**16**	IAmb	IAmb	04 17 41.2	
	comp=Z,22nm,0.8s						
PTBC	**PUERTO BERRIO,**	**20.52**	**112**	*e*P	Pn	04 17 36.4	-0.6
BBAC	**Balboa, Cauca**	**20.55**	**127**	*e*P	**P**	**04 17 35.4**	**+0.5**
FNO	**Franklin**	**20.64**	**351**	P	**P**	**04 17 36.4**	**+0.8**
TOLC	**Tolima**	**20.67**	**118**	*e*P	Pn	04 17 38.4	-0.7
GOGA	**Godfrey**	**20.67**	**25**	P	**P**	**04 17 36.2**	**+0.3**
	baz=209						
GOGA	**Godfrey**	**20.67**	**25**	P	Pn	04 17 38.2	-0.4
GOGA				IAmb	IAmb	04 17 43.8	
	comp=Z,16nm,1.1s						
POPC	**Popayan, Colom**	**20.68**	**125**	*e*P	**P**	**04 17 37.3**	**+0.9**
PLAL	**Pickwick Lake**	**20.69**	**13**	P	**P**	**04 17 36.7**	**+0.6**
MSTX	**Muleshoe**	**20.80**	**338**	P	**P**	**04 17 37.4**	**-0.1**
	baz=154						
OKCFA	**Oklahoma City**	**20.80**	**351**	P	**P**	**04 17 36.8**	**-0.6**
OTAV	**Otavalo**	**20.83**	**133**	*e*P	Pn	04 17 40.4	-0.8
Y52A	**Lilburn**	**20.84**	**23**	IAmb	IAmb	04 17 51.8	
	comp=Z,23nm,0.8s						
FPAL	**Fort Paine**	**20.92**	**19**	P	**P**	**04 17 39.1**	**+0.4**
FPAL				IAmb	IAmb	04 18 09.1	
	comp=Z,14nm,1.0s						
BRRC	**Barranca, Sant**	**20.96**	**109**	*e*P	Pn	04 17 41.7	-0.6
PCON	**Cinco Dias**	**21.03**	**125**	*e*P		04 17 43.1	
FCAR	**Ozark Folk Cen**	**21.03**	**3**	P	**P**	**04 17 41.4**	**+1.6**
FCAR				IAmb	IAmb	04 17 43.1	
	comp=Z,14nm,0.8s						
BCOK	**Bluff Creek, N**	**21.07**	**351**	P	**P**	**04 17 39.6**	**-0.6**
ORTC	**Ortega, Tolima**	**21.08**	**119**	*e*P	**P**	**04 17 43.5**	**+3.0**
TUL1	**Leonard**	**21.10**	**355**	P	**P**	**04 17 43.0**	**+2.5**
	baz=174						
TUL1	**Leonard**	**21.10**	**355**	IAmb	IAmb	04 17 49.3	
	comp=Z,15nm,0.7s						
SPBC	**San Pablo de B**	**21.25**	**113**	*e*P	**P**	**04 17 42.2**	**-0.1**
AMTX	**Amarillo**	**21.27**	**341**	P	**P**	**04 17 42.4**	**0.0**
	baz=158						
AMTX	**Amarillo**	**21.27**	**341**	P	**P**	**04 17 42.5**	**0.0**
ROSC	**El Rosal**	**21.41**	**116**	P	**P**	**04 17 47.9**	**+3.4**
	comp=Z,22nm,0.9s,baz=123,slow=12,SNR=12						
ROSC	**El Rosal**	**21.41**	**116**	*e*P	**P**	**04 17 47.2**	**+2.8**
ROSC	**El Rosal**	**21.41**	**116**	P	**P**	**04 17 46.6**	**+2.2**
ROSC				IAmb	IAmb	04 17 49.4	
	comp=Z,22nm,0.9s						
QUOK	**Quay**	**21.45**	**353**	IAmb	IAmb	04 17 47.0	
	comp=Z,22nm,0.8s						
U40A	**Yellville**	**21.46**	**2**	P	**P**	**04 17 45.8**	**+1.3**
	baz=182						
PRAC	**Prado**	**21.49**	**119**	*e*P	**P**	**04 17 47.1**	**+2.2**
BARC	**Barichara**	**21.65**	**110**	*e*P	**P**	**04 17 49.5**	**+2.6**
V48A	**Smith Brothers**	**21.71**	**15**	IAmb	IAmb	04 18 08.8	
	comp=Z,14nm,0.9s						
PAMC	**Pamplona, Colo**	**21.80**	**108**	*e*P	**P**	**04 17 50.2**	**+1.5**
WVT	**Waverly**	**21.85**	**13**	P	**P**	**04 17 48.7**	**+0.2**
	baz=195						
WVT	**Waverly**	**21.85**	**13**	P	**P**	**04 17 48.2**	**-0.3**
WVT				IAmb	IAmb	04 18 10.0	
	comp=Z,9.2nm,0.7s						
121A	**Cookes Peak, D**	**21.86**	**326**	P	**P**	**04 17 50.8**	**+1.9**
	baz=141,SNR=13						
121A	**Cookes Peak, D**	**21.86**	**326**	IAmb	IAmb	04 17 58.7	
	comp=Z,24nm,0.8s						
CHIC	**Chingaza**	**22.02**	**115**	*e*P	**P**	**04 17 52.7**	**+1.7**
RUSC	**La Rusia**	**22.02**	**112**	*e*P	**P**	**04 17 52.6**	**+1.4**
FLOC	**Florencia**	**22.07**	**125**	*e*P	**P**	**04 17 54.1**	**+2.9**
CLTN	**Cedars of Leba**	**22.17**	**16**	IAmb	IAmb	04 18 14.8	
	comp=Z,13nm,1.0s						
TKL	**Tuckaleechee C**	**22.55**	**21**	LR	LR	04 28 58.7	
	comp=Z,206nm,18.4s,baz=130,slow=43						
U49A	**Red Boiling Sp**	**22.71**	**16**	P	**P**	**04 17 56.4**	**-1.4**
U49A				IAmb	IAmb	04 18 21.3	
	comp=Z,23nm,1.1s						
S39A	**Bolivar**	**22.79**	**1**	IAmb	IAmb	04 17 59.2	
	comp=Z,23nm,0.9s						
T47A	**Sharon Grove**	**22.83**	**13**	IAmb	IAmb	04 18 23.9	
	comp=Z,14nm,0.8s						
ANMO	**Albuquerque**	**23.15**	**332**	P	**P**	**04 18 02.7**	**+0.2**
	baz=147						
ANMO	**Albuquerque**	**23.15**	**332**	P	**P**	**04 18 02.7**	**+0.2**
SOCV	**Socops**	**23.20**	**104**	*e*P	**P**	**04 18 00.0**	**-2.9**
MACC	**Macarena, Meta**	**23.21**	**121**	*e*P	**P**	**04 18 05.5**	**+2.5**
R40A	**Maddies Statio**	**23.41**	**3**	IAmb	IAmb	04 18 06.3	
	comp=Z,8.9nm,0.7s						
TUC	**Tucson**	**23.42**	**321**	P	**P**	**04 18 06.3**	**+1.2**
	baz=134						
TUC	**Tucson**	**23.42**	**321**	P	**P**	**04 18 05.9**	**+0.8**
PTGC	**Puerto Gaitan,**	**23.62**	**114**	*e*P	**P**	**04 18 07.0**	**-0.1**
WCI	**Wyandotte Cave**	**24.20**	**14**	P	**P**	**04 18 10.8**	**-1.4**
	baz=197						
WCI	**Wyandotte Cave**	**24.20**	**14**	P	**P**	**04 18 11.4**	**-0.7**
WCI				IAmb	IAmb	04 18 13.2	
	comp=Z,16nm,0.7s						
T25A	**Trinidad**	**24.23**	**339**	P	**P**	**04 18 14.2**	**+1.5**
	baz=154,SNR=8.5						
T25A	**Trinidad**	**24.23**	**339**	IAmb	IAmb	04 18 15.6	
	comp=Z,12nm,0.8s						
KSU1	**Kansas State U**	**24.34**	**354**	P	**P**	**04 18 11.8**	**-1.6**
	baz=173						
214A	**Organ Pipe Nat**	**24.47**	**318**	P	**P**	**04 18 14.1**	**-0.6**
	baz=130,SNR=5.9						
214A	**Organ Pipe Nat**	**24.47**	**318**	P	**P**	**04 18 15.4**	**+0.7**
CBKS	**Cedar Bluff**	**24.51**	**348**	P	**P**	**04 18 14.8**	**-0.3**
	baz=166						
CBKS	**Cedar Bluff**	**24.51**	**348**	IAmb	IAmb	04 18 41.4	
	comp=Z,16nm,0.9s						
T54A	**Tazewell**	**24.61**	**24**	P	**P**	**04 18 15.1**	**-0.8**
	baz=209						
P38A	**Dawn**	**24.72**	**0**	IAmb	IAmb	04 18 16.5	
	comp=Z,18nm,1.0s						
SDCO	**Great Sand Dun**	**25.16**	**337**	P	**P**	**04 18 22.4**	**+1.2**
	baz=152						
S22A	**4UR Ranch, Cre**	**25.68**	**335**	P	**P**	**04 18 27.0**	**+1.0**
	baz=149						
MVCO	**Mesa Verde**	**25.95**	**332**	P	**P**	**04 18 29.3**	**+1.0**
	baz=146						
MVCO	**Mesa Verde**	**25.95**	**332**	IAmb	IAmb	04 18 44.6	
	comp=Z,15nm,1.4s						
WUAZ	**Wupatki**	**26.07**	**325**	P	**P**	**04 18 30.6**	**+1.3**
	baz=138						
ISCO	**Idaho Springs**	**27.03**	**339**	P	**P**	**04 18 38.9**	**+0.8**
	baz=154,SNR=5.3						
ISCO	**Idaho Springs**	**27.03**	**339**	P	**P**	**04 18 38.5**	**+0.4**
BC3	**Big Chuckawall**	**27.26**	**317**	P	**P**	**04 18 41.0**	**+0.9**
	baz=128						
IRM	**Iron Mountain**	**27.38**	**319**	P	**P**	**04 18 41.9**	**+0.9**
	baz=130						
PFO	**Pinyon Flats O**	**27.90**	**316**	LR	LR	04 31 29.5	
	comp=Z,170nm,19.2s,baz=136,slow=40						
GMRC	**Granite Mounta**	**28.10**	**319**	P	**P**	**04 18 48.7**	**+1.1**
	baz=130						
HEC	**Hector,Ludlow**	**28.56**	**318**	P	**P**	**04 18 52.5**	**+0.9**
	baz=129						
TUQ	**Turquoise Moun**	**28.69**	**320**	P	**P**	**04 18 54.7**	**+1.9**
	baz=130						
ECSD	**EROS Data Cent**	**28.94**	**355**	P	**P**	**04 18 53.4**	**-1.4**
	baz=174,SNR=13						
RWWY	**Rawlins**	**29.26**	**339**	IAmb	IAmb	04 18 59.1	
	comp=Z,19nm,1.4s						
TPNV	**Topopah Spring**	**29.87**	**322**	P	**P**	**04 19 05.1**	**+1.8**
	baz=132						
MPMC	**Manual Prospec**	**30.07**	**319**	P	**P**	**04 19 05.9**	**+0.9**
	baz=129						
R11A	**Troy Canyon, C**	**30.44**	**324**	P	**P**	**04 19 09.5**	**+1.2**
	baz=134						
GRAC	**Grapevine Rang**	**30.58**	**321**	P	**P**	**04 19 11.1**	**+1.7**
	baz=130						
PDAR	**Pinedale Array**	**31.05**	**337**	P	**P**	**04 19 13.9**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=141,slow=8.2,SNR=11						
BW06	**Boulder Array**	**31.05**	**337**	P	**P**	**04 19 14.6**	**+0.8**
	baz=149						
ELK	**Elko**	**31.98**	**328**	P	**P**	**04 19 22.9**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=150,slow=10,SNR=7.5						
NV11	**Mina Array Sit**	**31.99**	**322**	IAmb	IAmb	04 19 40.2	
	comp=Z,7.0nm,1.1s						
MDPB	**Devils Postpil**	**32.04**	**320**	P	**P**	**04 19 23.3**	**+0.7**
REDW	**Red Top Meadow**	**32.06**	**336**	IAmb	IAmb	04 19 25.6	
	comp=Z,7.7nm,0.8s						
NVAR	**Mina Array Bea**	**32.07**	**322**	P	**P**	**04 19 24.1**	**+1.4**
	comp=Z,4.2nm,0.7s,baz=133,slow=8.5,SNR=35						
NVAR				PcP	**PcP**	**04 22 12.3**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=117,slow=3.1,SNR=4.2						
NVAR				LR	LR	04 33 51.8	
	comp=Z,240nm,18.3s,baz=136,slow=39						
NVAR	**Mina Array Bea**	**32.07**	**322**	P	**P**	**04 19 23.8**	**+1.0**
LHV	**Little Huntoon**	**32.08**	**321**	IAmb	IAmb	04 19 40.6	
	comp=Z,6.1nm,1.2s						
LOHW	**Long Hollow**	**32.17**	**336**	IAmb	IAmb	04 19 25.3	
	comp=Z,5.7nm,0.9s						
TPAW	**Teton Pass**	**32.21**	**336**	IAmb	IAmb	04 19 28.4	
	comp=Z,5.2nm,0.9s						
SADO	**Sadowa**	**32.28**	**19**	LR	LR	04 33 26.9	
	comp=Z,59nm,18.3s,baz=180,slow=38						
RYN	**Ryan**	**32.33**	**322**	P	**P**	**04 19 25.0**	**0.0**
RYN				IAmb	IAmb	04 19 34.9	
	comp=Z,8.0nm,1.4s						
KVN	**Kaiserville**	**32.36**	**323**	IAmb	IAmb	04 20 20.6	
	comp=Z,6.9nm,1.5s						
RLMT	**Red Lodge**	**32.99**	**339**	P	**P**	**04 19 30.9**	**+0.1**
	baz=151						
RLMT	**Red Lodge**	**32.99**	**339**	IAmb	IAmb	04 19 31.5	
	comp=Z,3.6nm,0.8s						
MDND	**Maddock**	**33.31**	**353**	P	**P**	**04 19 32.3**	**-0.9**
	baz=169,SNR=6.8						
AGMN	**Agassiz Nation**	**33.44**	**357**	P	**P**	**04 19 33.0**	**-1.3**
	baz=176,SNR=5.4						
HLID	**Hailey**	**33.73**	**332**	P	**P**	**04 19 37.8**	**+0.7**
	baz=142						
HLID	**Hailey**	**33.73**	**332**	P	**P**	**04 19 36.5**	**-0.6**
BOZ	**Bozeman (W)**	**34.24**	**337**	P	**P**	**04 19 42.0**

mB5.6/20, mb5.1/22, MLv5.3/3, Mw(mB)5.1/20, Mwp5.2/6
GCMT **20** *04:26:09.5±0.1, 6°.94N±0°.01×125°.03E±0°.01, h12km±1km, MW5.2/142, Moment Tensor Solution. s85, c116; s142, c252; Duration: 1±0 Moment tensor: Scale 10^17 Nm; M_rr0.17±.01; M_θθ0.75±.01; M_φφ-0.92±.02; M_rθ0.14±.04; M_θφ0.09±.01; M_φr-0.03±.03; Best double couple: M_0 0.85700×10^17 NP1:φs41.00000°, δ80.00000°, λ172.00000°. NP2:φs133.00000°, δ83.00000°, λ10.00000°. Principal axes: T 0.7840, Plg13.0000°, Azm357.0000°; N 0.1450, Plg77.0000°, Azm168.0000°; P -0.9290, Plg2.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MAN **20** *04:26:09.9, 6°.75N×124°.98E, h15km, mb6.4, ML5.5, MS6.2*
MAN *Intensity V - Kidapawan City; Makilala North Cotabato; Intensity IV - M""lang and Matalam North Cotabato; Intensity III - Davao City.*
BJI **20** *04:26:09.7±0.0, 6°.83N×125°.49E, h28km, mB5.2/56, mb4.8/65, Ms5.1/69, Ms7 4.8/64*
IDC **20** *04:26:10.6±2.0, 6°.87N×125°.21E, h24km±13km, mb4.4/30, mb1 4.5/30, mb1mx4.4/57, mbtmp4.6/30, MS4.6/30, Ms1 4.6/30, ms1mx4.5/39, Error ellipse: s-maj=17.3km s-min=9.6km az=68.0*
NEIC **20** *04:26:11.5±1.6, 6°.86N±0°.07×125°.23E±0°.07, h26km±4km, mb5.2/118, Error ellipse: s-maj=10.2km s-min=9.0km az=47.0*
MOS **20** *04:26:11.4±1.1, 6°.89N×125°.23E, h39km, mb5.3/43, MS4.6/12, Error ellipse: s-maj=9.6km s-min=5.1km az=114.8*
KLM **20** *04:26:12.0, 6°.99N×125°.24E, h18km, mb5.3*
ISC 20 04:26:12.4±0.5, 6.78N±0°.03×125°.21E±0°.03, h31km±2km, **h30**km:**pP-P, n382,** σ1°.**83**/404, **mb5.1**/133, **MS4.8**/59, **14C-14D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.47**	**51**	Pg	**Pb**	**04 26 19.4**	**-2.9**
	2μm,0.3s,baz=234,slow=2.3,SNR=243						
DAV	**Davao City (W)**	**0.47**	**51**	*e*P	**Pb**	**04 26 19.3**	**-3.1**
SKMP	**Bagumbayan, Su**	**0.71**	**249**	*e*P	Pb	04 26 20.4	-5.9
SKMP				*e*S	**Sb**	**04 26 31.0**	**-4.8**
DDMP	**Don Marcelino,**	**0.83**	**143**	*e*P	**Pn**	**04 26 26.4**	**-1.6**
DDMP				*e*S	**Sn**	**04 26 43.0**	**+3.7**
MATI	**Mati**	**1.05**	**81**	*e*P	**Pn**	**04 26 29.5**	**-1.6**
BUKP	**Musuan**	**1.11**	**352**	*e*P	Pn	04 26 26.6	-5.2
BUKP				*e*S	**Sn**	**04 26 41.9**	**-4.2**
BIP	**Bislig**	**1.77**	**36**⇓	*e*P	**Pn**	**04 26 41.9**	**+0.9**
BIP				*e*S	**Sb**	**04 27 06.6**	**+0.5**
PAGZ	**Pagadian**	**2.10**	**301**	*e*P	**Pn**	**04 26 41.3**	**-4.2**
PAGZ				*e*S	**Sn**	**04 27 10.4**	**-0.3**
ZCP	**Zamboanga City**	**3.12**	**273**⇓	*i*P	**Pn**	**04 26 57.4**	**-2.1**
ZCP				*i* S	**Sn**	**04 27 37.4**	**+1.7**
TBP	**Tagbilaran**	**3.19**	**335**	*e*P	**Pn**	**04 27 02.3**	**+1.9**
TBP				*e*S	Sb	04 27 57.4	+11
MSLP	**Maasin**	**3.35**	**354**	*e*P	**Pn**	**04 27 02.1**	**-0.6**
MSLP				*e*S	**Sn**	**04 27 44.6**	**+3.0**
LLP	**Lapu-Lapu**	**3.73**	**341**⇑	*e*P	**Pn**	**04 27 08.8**	**+0.9**
LLP				*e*S	**Sb**	**04 28 03.6**	**+1.2**
CNOP	**Candoni, Negro**	**3.96**	**320**	*e*P	**Pn**	**04 27 09.5**	**-1.5**
CNOP				*e*S	**Sb**	**04 28 11.6**	**+2.7**
OCLP	**Ormoc**	**4.29**	**352**	*e*P	**Pn**	**04 27 17.2**	**+1.6**
CNP	**Cataman**	**5.72**	**355**	*e*P	**Pn**	**04 27 36.5**	**+1.2**
CNP				*e*S	**Sb**	**04 28 54.3**	**-5.4**
KMSI	**Cibinong**	**6.28**	**191**	P	**Pn**	**04 27 44.4**	**+1.4**
	529nm11μm948nm,0.9s						
TNTI	**Ternate**	**6.34**	**160**	P	**Pn**	**04 27 47.9**	**+4.1**
	4μm4μm321nm,1.1s						
TNTI	**Ternate**	**6.34**	**160**	Pn	**Pn**	**04 27 46.0**	**+2.2**
GTOI	**Gorontalo**	**6.48**	**200**	P	**Pn**	**04 27 43.5**	**-2.3**
	4μm479nm,0.8s						
MYLDM	**Lahad Datu**	**6.86**	**257**	Pn	**Pn**	**04 27 51.6**	**+0.7**
ENPP	**El Nido**	**7.21**	**308**	*e*P	**Pn**	**04 27 54.3**	**-1.5**
ENPP				*e*S	**Sb**	**04 29 36.8**	**-5.7**
LUWI	**Luwuk**	**8.14**	**197**	P	**Pn**	**04 28 12.5**	**+4.0**
	4μm12μm831nm,0.9s						
LUWI	**Luwuk**	**8.14**	**197**	Pn	**Pn**	**04 28 11.7**	**+3.2**
MPSI	**Mapaga**	**8.31**	**220**	P	**Pn**	**04 28 06.2**	**-4.6**
	28nm,0.9s						
SANI	**Sanana**	**8.80**	**175**	P	**Pn**	**04 28 16.8**	**-0.8**
	3μm3μm253nm,1.2s						
KKM	**Kota Kinabalu**	**8.97**	**266**	Pn	**Pn**	**04 28 21.7**	**+1.7**
SIJI	**Sorong**	**9.71**	**141**	Pn	**Pn**	**04 28 32.3**	**+2.3**
	4.6nm,0.3s,baz=322,slow=12,SNR=8.6						
SIJI				LR	LR	04 32 12.7	
	comp=Z,2μm,19.6s,baz=298,slow=37						
NLAI	**Namlea**	**10.13**	**169**	P	**Pn**	**04 28 36.7**	**+0.9**
MSAI	**Masohi**	**10.72**	**160**	P	**Pn**	**04 28 46.4**	**+2.5**
	21nm,0.8s						
SMKI	**Samarinda**	**10.73**	**228**	P	Pn	04 28 35.3	-8.8
KDI	**Kendari**	**10.97**	**194**	P	**Pn**	**04 28 47.2**	**-0.2**
	8μm78nm,1.1s						
SPSI	**Sidrap Palu**	**11.97**	**207**	P	**Pn**	**04 29 00.0**	**-1.1**
	2μm56nm,1.2s						
BNSI	**Bone**	**12.22**	**205**	P	**Pn**	**04 29 07.4**	**+3.0**
	3μm146nm,1.1s						
KAPI	**Kappang**	**12.92**	**205**	Pn	**P**	**04 29 19.6**	**-4.7**
	1.3nm,0.3s,baz=52,slow=12,SNR=6.4						
KAPI	**Kappang**	**12.92**	**205**	P	**Pn**	**04 29 17.3**	**+3.3**
KAPI	**Kappang**	**12.92**	**205**	Pn	**Pn**	**04 29 17.3**	**+3.3**
BKSI	**Bulukumba**	**13.05**	**203**	P	**P**	**04 29 21.5**	**-4.2**
SBUM	**Sibu**	**13.64**	**252**	Pn	**Pn**	**04 29 25.2**	**+1.3**
SBUM	**Sibu**	**13.64**	**252**	P	**Pn**	**04 29 26.0**	**+2.1**
BBKI	**Banjar Baru**	**14.51**	**226**	P	Pn	04 29 27.5	-8.3
MMRI	**Maumere**	**15.59**	**191**	P	**Pn**	**04 29 48.1**	**-2.0**
	8μm193nm,2.0s						
MMRI	**Maumere**	**15.59**	**191**	Pn	**P**	**04 29 52.6**	**-1.5**
KSM	**Kuching**	**15.77**	**251**		**Pn**	**04 29 52.6**	**+0.3**
KSM				IAmb	IAmb	04 30 00.0	
	comp=Z,326nm,1.9s						
EDFI	**Ende, Flores**	**15.82**	**193**	P	**Pn**	**04 29 47.9**	**-5.2**
	comp=Z,974nmcomp=Z,36nm,1.4s						
TWG	**Pinlang**	**16.44**	**346**	Pn	**Pn**	**04 29 59.6**	**-1.4**
SOEI	**Soe**	**16.45**	**183**	P	**Pn**	**04 29 58.5**	**-2.7**
	comp=Z,4μmcomp=Z,158nm,0.8s						
SOEI	**Soe**	**16.45**	**183**	Pn	**Pn**	**04 30 01.8**	**+0.6**
SOEI				IAmb	IAmb	04 30 45.0	
	comp=Z,251nm,1.1s						
DLV	**T Lat**	**17.28**	**289**	Pn	**Pn**	**04 30 11.1**	**-0.6**
DLV				IAmb	IAmb	04 30 31.3	
	comp=Z,327nm,1.6s						
JAY	**Jayapura**	**18.01**	**120**	P	**P**	**04 30 24.1**	**+3.2**
	comp=Z,1.7nm,0.3s,baz=137,slow=3.8,SNR=9.2						
JAY				LR	LR	04 36 06.6	
	comp=Z,2μm,20.8s,baz=306,slow=33						
JAGI	**Jajag, Banyuwa**	**18.73**	**216**	P	**Pn**	**04 30 32.2**	**+2.8**
JAGI				IAmb	IAmb	04 30 36.0	
	comp=Z,114nm,0.9s						
QIZ	**Qiongzhong**	**19.28**	**311**	P	**P**	**04 30 35.3**	**+0.5**
QIZ				PP	**PnPn**	**04 30 52.9**	**+3.5**
QIZ				S	**S**	**04 34 12.3**	**+0.7**
QIZ				SS	**SnSn**	**04 34 37.8**	**+12**
QIZ				pmax	pmax		
	comp=Z,15nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,380nm,5.1s						
QIZ				LR	LR		
	comp=Z,4μm,13.7s						
QIZ				LR	LR		
	comp=Z,3μm,14.9s						
QIZ				LR	LR		
	comp=Z,3μm,20.6s						
QIZ	**Qiongzhong**	**19.28**	**311**		**Pn**	**04 30 36.5**	**+0.5**
SMRI	**Semarang**	**20.14**	**227**	P	**P**	**04 30 45.1**	**+0.9**
MTN	**Manton Dam**	**20.36**	**163**	P	**P**	**04 30 46.6**	**+0.1**
	baz=20,SNR=23						
MTN	**Manton Dam**	**20.36**	**163**	P	**P**	**04 30 46.7**	**+0.1**
MTN				IAmb	IAmb	04 31 05.9	
	comp=Z,135nm,1.1s						
GUMO	**Guam**	**20.49**	**69**	LR	LR	04 37 22.6	
	comp=Z,2μm,21.1s,baz=244,slow=33						
KDU	**Kakadu**	**20.64**	**160**	P	**P**	**04 30 49.5**	**-0.1**
	baz=21,SNR=27						
UBPT	**Khong Chiam**	**21.12**	**295**	P	**P**	**04 30 56.2**	**+1.4**
UBPT				IAmb	IAmb	04 31 02.6	
	comp=Z,160nm,1.3s						
MYKOM	**Kota Tinggi**	**21.86**	**258**	P	**P**	**04 31 02.6**	**-0.2**
MYKOM				IAmb	IAmb	04 31 17.3	
	comp=Z,190nm,1.6s						
LEM	**Lembang**	**22.15**	**233**	P	**P**	**04 31 08.2**	**+2.1**
	comp=Z,152nm,0.9s,baz=52,slow=7.2,SNR=11						
CISI	**Cisompet, Garu**	**22.44**	**231**	P	**P**	**04 31 09.8**	**+0.7**
CISI				IAmb	IAmb	04 31 33.4	
	comp=Z,159nm,1.1s						
KNRA	**Kununurra**	**22.58**	**171**	P	**P**	**04 31 10.8**	**+0.3**
	baz=23,SNR=38						
KNRA	**Kununurra**	**22.58**	**171**	P	**P**	**04 31 10.2**	**-0.3**
IPM	**Ipoh**	**24.18**	**266**	P	**P**	**04 31 26.1**	**-0.2**
IPM				IAmb	IAmb	04 31 30.8	
	comp=Z,95nm,1.4s						
IPM	**Ipoh**	**24.18**	**266**	P	**P**	**04 31 28.0**	**+1.7**
KULM	**Kulim**	**24.47**	**268**	P	**P**	**04 31 29.0**	**0.0**
KULM				IAmb	IAmb	04 31 35.6	
	comp=Z,157nm,1.5s						
KULM	**Kulim**	**24.47**	**268**	P	**P**	**04 31 30.0**	**+1.0**
SSE	**Sheshan**	**24.49**	**352**	P	**P**	**04 31 28.8**	**-0.1**
SSE				S	**S**	**04 35 49.1**	**+1.7**
SSE				pmax	pmax		
	comp=Z,19nm,0.7s						
SSE				pmax	pmax		
	comp=Z,400nm,4.6s						
SSE				LR	LR		
	comp=Z,730nm,19.8s						
SSE				LR	LR		
	comp=Z,1μm,20.6s						
FITZ	**Fitzroy Crossi**	**24.72**	**179**	P	**P**	**04 31 29.4**	**-1.7**
	comp=Z,25nm,0.5s,baz=358,slow=7.1,SNR=65						
FITZ	**Fitzroy Crossi**	**24.72**	**179**	P	**P**	**04 31 30.5**	**-0.6**
	baz=25,SNR=90						
FITZ	**Fitzroy Crossi**	**24.72**	**179**	P	**P**	**04 31 30.8**	**-0.3**
FITZ				IAmb	IAmb	04 31 44.2	
	comp=Z,142nm,1.6s						
WHN	**Wuhan**	**25.75**	**338**	P	P	04 31 50.0	+10
WHN				S	**S**	**04 36 12.6**	**+5.1**
WHN				LR	LR		
	comp=N,3μm,10.0s						
WHN				LR	LR		
	comp=E,8μm,20.3s						
WHN				LR	LR		
	comp=Z,4μm,15.0s						
NJ2	**Nanjing**	**25.84**	**348**	*e*P	**P**	**04 31 40.5**	**-0.6**
NJ2				sP	**sP**	**04 31 52.3**	**-1.7**
NJ2				S	**S**	**04 36 07.5**	**-1.4**
NJ2				sS	**sS**	**04 36 24.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,19nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,510nm,4.4s						
NJ2				LR	LR		
	comp=Z,1μm,14.1s						
NJ2				LR	LR		
	comp=Z,2μm,12.6s						
NJ2				LR	LR		
	comp=Z,2μm,14.5s						
GYA	**Guiyang**	**26.37**	**320**	⇑P	**P**	**04 31 50.8**	**+4.6**
GYA				S	**S**	**04 36 24.4**	**+6.7**
GYA				sS	sS	04 36 36.6	+4.1
GYA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,160nm,4.8s						
GYA				LR	LR		
	comp=Z,2μm,13.1s						
GYA				LR	LR		
	comp=Z,2μm,14.6s						
GYA				LR	LR		
	comp=Z,3μm,17.0s						
PSI	**Prapat**	**26.48**	**263**	P	**P**	**04 31 47.2**	**-0.2**
	comp=Z,32nm,1.2s,baz=360,slow=22,SNR=14						
PSI				LR	LR	04 43 33.1	
	comp=Z,883nm,19.3s,baz=90,slow=39						
PSI	**Prapat**	**26.48**	**263**	P	**P**	**04 31 47.9**	**+0.5**
PSI				pmax	pmax		
	comp=Z,58nm,1.2s						
RPSI	**Rantau Prapat**	**26.50**	**262**	P	**P**	**04 31 47.9**	**+0.5**
RPSI				IAmb	IAmb	04 31 55.8	
	comp=Z,58nm,1.2s						
JNU	**Nakatsue**	**26.74**	**11**	LR	LR	04 42 00.8	
	comp=Z,1μm,21.4s,baz=192,slow=36						
JNU	**Nakatsue**	**26.74**	**11**	P	**P**	**04 31 49.5**	**+0.1**
JNU				IAmb	IAmb	04 32 18.9	
	comp=Z,63nm,1.3s						
PMG	**Port Moresby**	**27.14**	**126**	P	**P**	**04 31 53.3**	**+0.2**
	comp=Z,38nm,1.0s,baz=324,slow=8.3,SNR=8.0						
PMG				LR	LR	04 43 11.0	
	comp=Z,799nm,21.5s,baz=292,slow=38						
PMG	**Port Moresby**	**27.14**	**126**	*ce*P	**P**	**04 31 53.4**	**+0.2**
PMG				pmax	pmax		
	comp=Z,46nm,1.1s						
PMG	**Port Moresby**	**27.14**	**126**	P	**P**	**04 31 52.7**	**-0.4**
PMG				IAmb	IAmb	04 31 56.3	
	comp=Z,82nm,1.1s						
COEN	**Coen**	**27.24**	**139**	P	**P**	**04 31 52.9**	**-1.1**
	baz=27,SNR=14						
COEN	**Coen**	**27.24**	**139**	P	**P**	**04 31 53.1**	**-0.9**
WB0	**Warramunga Arr**	**27.88**	**161**	P	**P**	**04 31 59.2**	**-0.5**
WB0				IAmb	IAmb	04 32 39.6	
	comp=Z,52nm,1.1s						
WRAB	**Tennant Creek**	**28.02**	**161**	*ce*P	**P**	**04 32 00.0**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,53nm,1.5s						
WRAB	**Tennant Creek**	**28.02**	**161**	P	**P**	**04 32 01.2**	**+0.2**
WRAB				IAmb	IAmb	04 32 30.5	
	comp=Z,35nm,0.8s						
WRA	**Warramunga Arr**	**28.03**	**161**	P	**P**	**04 31 59.6**	**-1.4**
	comp=Z,12nm,0.8s,baz=340,slow=9.8,SNR=59						
WRA	**Warramunga Arr**	**28.03**	**161**	P	**P**	**04 32 00.7**	**-0.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WRA	**Warramunga Arr**	**28.03**	**161**	P	**P**	**04 32 00.7**	**-0.3**
WB2	**Warramunga Arr**	**28.03**	**161**	IAmb	IAmb	04 32 25.4	
	comp=Z,55nm,1.1s						
CM31	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**04 32 00.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**04 32 01.7**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=117,slow=7.1,SNR=10						
CMAR				LR	LR	04 43 11.1	
	comp=Z,2μm,18.9s,baz=144,slow=36						
CMAR	**Chiang Mai Arr**	**28.09**	**297**	*ce*P	**P**	**04 32 02.7**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.09**	**297**	P	**P**	**04 32 01.4**	**-0.2**
WR0	**Warramunga Arr**	**28.11**	**161**	IAmb	IAmb	04 32 41.7	
	comp=Z,80nm,1.4s						
LHMI	**Lhok Sumawe**	**28.15**	**268**	P	**P**	**04 32 01.6**	**-0.5**
LHMI				IAmb	IAmb	04 32 14.8	
	comp=Z,86nm,1.1s						
KMI	**Kunming**	**28.19**	**313**⇓	*e*P	**P**	**04 32 03.9**	**+1.2**
KMI				pP	pP	04 32 08.8	-3.0
KMI				sP	sP	04 32 12.3	-3.3
KMI				S	**S**	**04 36 45.3**	**-1.4**
KMI				pmax	pmax		
	comp=Z,22nm,0.5s						
KMI				pmax	pmax		
	comp=Z,250nm,6.2s						
KMI				LR	LR		
	comp=Z,2μm,16.8s						
KMI				LR	LR		
	comp=Z,2μm,19.9s						
KMI				LR	LR		
	comp=Z,3μm,17.5s						
CHTO	**Chiang Mai**	**28.22**	**298**	P	**P**	**04 32 02.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,16nm,1.2s						
CHTO	**Chiang Mai**	**28.22**	**298**	P	**P**	**04 32 02.0**	**-0.8**
PSA00	**Pilbara Seismi**	**28.66**	**190**	IAmb	IAmb	04 32 09.4	
	comp=Z,72nm,1.1s						
KRVT	**Keravat (AS076**	**28.94**	**112**	LR	LR	04 43 16.4	
	comp=Z,1μm,19.2s,baz=285,slow=35						
INU	**Inuyama**	**30.44**	**19**	P	**P**	**04 32 21.7**	**-0.5**
INU				IAmb	IAmb	04 32 29.7	
	comp=Z,46nm,1.4s						
KSAR	**Wonju Array Be**	**30.62**	**4**	P	**P**	**04 32 23.0**	**-0.8**
KSAR	**Wonju Array Be**	**30.62**	**4**	P	**P**	**04 32 23.0**	**-0.8**
QIS	**Mount Isa**	**30.63**	**153**	P	**P**	**04 32 24.3**	**+0.3**
	baz=31,SNR=9.1						
KSRS	**Korea Array**	**30.64**	**4**	P	**P**	**04 32 23.0**	**-0.9**
	comp=Z,3.8nm,0.9s,baz=186,slow=11,SNR=9.7						
KSRS				LR	LR	04 47 54.6	
	comp=Z,1μm,18.2s,baz=200,slow=43						
KS19	**Wonju Array Si**	**30.68**	**4**	P	**P**	**04 32 24.8**	**+0.4**
XAN	**Xi'an**	**31.03**	**333**	P	**P**	**04 32 28.5**	**+0.9**
XAN				S	**S**	**04 37 28.6**	**-2.2**
XAN				SS	**SnSn**	**04 39 20.3**	**+7.2**
XAN				pmax	pmax		
	comp=Z,19nm,1.4s						
XAN				pmax	pmax		
	comp=Z,490nm,5.5s						
XAN				LR	LR		
	comp=Z,2μm,19.5s						
XAN				LR	LR		
	comp=Z,3μm,19.5s						
XAN				LR	LR		
	comp=Z,2μm,15.7s						
XAN	**Xi'an**	**31.03**	**333**	P	**P**	**04 32 27.0**	**-0.6**
XAN				pmax	pmax		
	comp=Z,49nm,1.5s						
XAN	**Xi'an**	**31.03**	**333**	P	**P**	**04 32 27.0**	**-0.6**
XAN				IAmb	IAmb	04 33 07.2	
	comp=Z,49nm,1.5s						
MTSU	**Mount Surprise**	**31.12**	**143**	P	**P**	**04 32 29.2**	**+0.8**
	baz=31,SNR=4.3						
GIRL	**Giralia**	**31.15**	**200**	P	**P**	**04 32 28.4**	**-0.2**
	baz=31,SNR=3.9						
GIRL	**Giralia**	**31.15**	**200**	P	**P**	**04 32 29.6**	**+1.0**
CD2	**Chengdu**	**31.31**	**323**	P	**P**	**04 32 31.0**	**+0.9**
CD2				S	**S**	**04 37 36.8**	**+1.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				pmax	pmax		
	comp=Z,620nm,7.7s						
CD2				LR	LR		
	comp=Z,5μm,20.6s						
CD2				LR	LR		
	comp=Z,4μm,15.7s						
CD2				LR	LR		
	comp=Z,3μm,16.3s						
AS31	**Alice Springs**	**31.43**	**165**	P	**P**	**04 32 30.7**	**-0.4**
ASAR	**Alice Springs**	**31.43**	**165**	P	**P**	**04 32 30.1**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=344,slow=7.6,SNR=39						
ASAR	**Alice Springs**	**31.43**	**165**	P	**P**	**04 32 30.6**	**-0.5**
ASAR	**Alice Springs**	**31.43**	**165**	P	**P**	**04 32 30.6**	**-0.5**
WRKA	**Warakurna**	**31.76**	**175**	P	**P**	**04 32 34.5**	**+0.5**
	baz=32,SNR=12						
MAJO	**Matsushiro**	**31.92**	**20**⇑	*e*P	**P**	**04 32 32.7**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MAJO	**Matsushiro**	**31.92**	**20**	P	**P**	**04 32 35.3**	**0.0**
MAT	**Matsushiro**	**31.92**	**20**	P	**P**	**04 32 34.7**	**-0.6**
MJAR	**Matsushiro Arr**	**31.92**	**20**	P	**P**	**04 32 32.4**	**-2.9**
	comp=Z,3.0nm,0.6s,baz=190,slow=8.3,SNR=5.5						
MJAR				LR	LR	04 44 58.5	
	comp=Z,2μm,19.4s,baz=200,slow=35						
MJAR	**Matsushiro Arr**	**31.92**	**20**	P	**P**	**04 32 33.2**	**-2.1**
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MJAR	**Matsushiro Arr**	**31.92**	**20**	P	**P**	**04 32 33.2**	**-2.1**
DL2	**Dalian**	**32.15**	**355**	*e*P	**P**	**04 32 36.4**	**-0.9**
DL2				S	**S**	**04 37 51.6**	**+3.6**
DL2				pmax	pmax		
	comp=Z,310nm,10.7s						
DL2				LR	LR		
	comp=Z,1μm,15.7s						
DL2				LR	LR		
	comp=Z,1μm,16.7s						
DL2				LR	LR		
	comp=Z,1μm,15.6s						
CTA	**Charters Tower**	**33.78**	**143**	P	**P**	**04 32 52.9**	**+1.2**
	comp=Z,9.0nm,1.0s,baz=310,slow=11,SNR=8.0						
CTAO	**Charters Tower**	**33.78**	**143**	P	**P**	**04 32 52.7**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,36nm,1.3s						
CTAO	**Charters Tower**	**33.78**	**143**	P	**P**	**04 32 52.7**	**+0.9**
CTAO				IAmb	IAmb	04 33 40.6	
	comp=Z,36nm,1.2s						
MEEK	**Meekatharra**	**33.83**	**191**	P	**P**	**04 32 51.5**	**-0.6**
	baz=34,SNR=8.4						
JMM	**Marumori**	**34.03**	**22**	IAmb	IAmb	04 33 13.2	
	comp=Z,48nm,1.0s						
BJT	**Baijiatuau**	**34.08**	**348**	P	**P**	**04 32 52.9**	**-1.2**
BJT				pmax	pmax		
	comp=Z,61nm,1.4s						
BJT	**Baijiatuau**	**34.08**	**348**	P	**P**	**04 32 52.9**	**-1.2**
BJT				IAmb	IAmb	04 33 10.1	
	comp=Z,61nm,1.4s						
BJI	**Beijing**	**34.10**	**348**	P	**P**	**04 32 53.3**	**-1.0**
BJI				S	**S**	**04 38 21.4**	**+3.2**
BJI				pmax	pmax		
	comp=Z,15nm,1.1s						
BJI				pmax	pmax		
	comp=Z,350nm,11.9s						
BJI				LR	LR		
	comp=Z,680nm,14.7s						
BJI				LR	LR		
	comp=Z,2μm,23.0s						
BJI				LR	LR		
	comp=Z,550nm,24.6s						
SAIH	**SAIHA**	**34.76**	**300**	*e*P	**P**	**04 33 00.8**	**+0.4**
SAIH				IAmb	IAmb	04 33 05.0	
	comp=Z,20nm,0.5s						
LZH	**Lanzhou**	**35.13**	**329**	*e*P	**P**	**04 33 03.5**	**0.0**
LZH				*e*S	**S**	**04 38 36.4**	**+1.8**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,310nm,4.3s						
LZH				LR	LR		
	comp=Z,2μm,15.7s						
LZH				LR	LR		
	comp=Z,2μm,15.7s						
LZH				LR	LR		
	comp=Z,1μm,16.3s						
HHC	**Hu-ho-hao-te**	**36.05**	**342**	*e*P	**P**	**04 33 12.4**	**+1.1**
HHC				sP	pP	04 33 21.4	+1.0
HHC				PP	**PP**	**04 34 34.4**	**+0.8**
HHC				S	**S**	**04 38 48.8**	**+0.2**
HHC				ScS	**ScS**	**04 43 28.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,340nm,5.5s						
HHC				LR	LR		
	comp=Z,2μm,17.9s						
HHC				LR	LR		
	comp=Z,2μm,18.8s						
HHC				LR	LR		
	comp=Z,2μm,18.7s						
BTO	**Baotou**	**36.32**	**340**	*e*P	**P**	**04 33 14.8**	**+1.2**
BTO				S	**S**	**04 38 54.9**	**+2.2**
MORW	**Morawa**	**36.71**	**193**	P	**P**	**04 33 15.8**	**-1.1**
	baz=37,SNR=5.0						
MORW	**Morawa**	**36.71**	**193**	IAmb	IAmb	04 33 19.5	
	comp=Z,39nm,1.1s						
CN2	**Changchun**	**36.88**	**0**	*e*P	**P**	**04 33 19.8**	**+1.7**
CN2				*e*S	**S**	**04 39 02.6**	**+1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,100nm,16.0s						
CN2				LR	LR		
	comp=Z,900nm,16.0s						
CN2				LR	LR		
	comp=Z,900nm,18.0s						
SHL	**Shillong**	**36.89**	**304**	*e*P	**P**	**04 33 17.6**	**-1.1**
SHL				IAmb	IAmb	04 33 24.3	

KLBR	**Kellerberrin**	**38.81**	**190**	P	**P**	**04 33 34.1**	**-0.5**
	baz=39,SNR=7.8						
LSA	**Lhasa**	**39.32**	**310**	P	**P**	**04 33 38.4**	**-1.1**
LSA				pmax	pmax		
	comp=Z,53nm,1.4s						
LSA	**Lhasa**	**39.32**	**310**	P	**P**	**04 33 38.4**	**-1.1**
TEY	**Ternei**	**39.38**	**13⇑**	*e*P	**P**	**04 33 38.2**	**-1.0**
TEY				pmax	pmax		
	comp=N,20nm,1.2s						
TEY				pmax	pmax		
	comp=Z,30nm,1.2s						
MUN	**Mundaring**	**39.48**	**192**	P	**P**	**04 33 40.5**	**+0.3**
	baz=40,SNR=4.5						
GTA	**Gaotai**	**39.72**	**329**	*e*P	**P**	**04 33 42.8**	**+0.5**
GTA				pP	pP	04 33 48.3	-3.2
GTA				sP	sP	04 33 51.8	-3.5
GTA				S	**S**	**04 39 43.4**	**-0.9**
GTA				pmax	pmax		
	comp=Z,14nm,1.0s						
GTA				pmax	pmax		
	comp=Z,350nm,11.7s						
GTA				LR	LR		
	comp=Z,1μm,18.2s						
GTA				LR	LR		
	comp=Z,940nm,17.5s						
GTA				LR	LR		
	comp=Z,2μm,20.0s						
NWAO	**Narrogin (SRO)**	**40.20**	**190**	P	**P**	**04 33 46.4**	**+0.2**
	baz=40,SNR=4.4						
NWAO	**Narrogin (SRO)**	**40.20**	**190**	P	**P**	**04 33 46.4**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,47nm,1.0s						
NWAO	**Narrogin (SRO)**	**40.20**	**190**	P	**P**	**04 33 46.4**	**+0.2**
NWAO				IAmb	IAmb	04 33 49.4	
	comp=Z,47nm,1.0s						
EIDS	**Eidsvold**	**40.67**	**143**	P	**P**	**04 33 50.3**	**+0.2**
	baz=41,SNR=3.9						
EIDS	**Eidsvold**	**40.67**	**143**	P	**P**	**04 33 50.3**	**+0.2**
BBOO	**Buckleboo**	**40.70**	**166**	P	**P**	**04 33 49.9**	**-0.4**
	baz=41,SNR=59						
BBOO	**Buckleboo**	**40.70**	**166**	P	**P**	**04 33 50.0**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**41.28**	**23**	*e*P	**P**	**04 33 53.9**	**-1.0**
YUK				S	**S**	**04 40 09.5**	**+2.4**
YUK				pmax	pmax		
	comp=Z,475nm,1.1s						
BOK	**Bokaro**	**41.35**	**299**	*e*P	**P**	**04 33 57.5**	**+1.6**
STKA	**Stephens Creek**	**41.50**	**159**	P	**P**	**04 33 56.8**	**-0.1**
	comp=Z,31nm,1.0s,baz=334,slow=7.2,SNR=24						
STKA				LR	LR	04 53 03.3	
	comp=Z,492nm,21.5s,baz=334,slow=39						
STKA	**Stephens Creek**	**41.50**	**159**	P	**P**	**04 33 57.0**	**+0.1**
	baz=42,SNR=24						
STKA	**Stephens Creek**	**41.50**	**159**	P	**P**	**04 33 57.1**	**+0.2**
STKA				pmax	pmax		
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**41.50**	**159**	P	**P**	**04 33 57.1**	**+0.2**
HTT	**Hallett**	**42.05**	**163**	P	**P**	**04 34 02.6**	**+1.1**
	baz=42,SNR=23						
HIA	**Hailar**	**42.60**	**355⇑**	*e*P	**P**	**04 34 05.2**	**-0.5**
HIA				pmax	pmax		
	comp=Z,13nm,1.0s						
HIA	**Hailar**	**42.60**	**355**	P	**P**	**04 34 04.8**	**-0.8**
YSS	**Yuzh-Sakhalins**	**42.77**	**18**	*e*P	P	04 34 02.3	-4.7
YSS				*e*S	**S**	**04 40 20.8**	**-8.2**
YSS				*e*SSS	SSS	04 44 11.7	
YSS				MLR	MLR		
	comp=Z,800nm,17.0s						
YSS				MLR	MLR		
	comp=N,700nm,13.0s						
CMSA	**Cobar Meteorol**	**42.83**	**154**	P	**P**	**04 34 09.6**	**+1.8**
	baz=43,SNR=12						
ULN	**Ulaanbaatar**	**43.77**	**342⇓**	*e*P	**P**	**04 34 11.1**	**-4.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ULN	**Ulaanbaatar**	**43.77**	**342**	P	**P**	**04 34 13.8**	**-1.6**
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**04 34 15.9**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=161,slow=7.8,SNR=7.1						
SONM				LR	LR	04 53 32.2	
	comp=Z,2μm,21.6s,baz=158,slow=37						
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**04 34 15.5**	**-1.2**
SONM				pmax	pmax		
	comp=Z,14nm,1.2s						
SONM	**Songino Array**	**43.95**	**342**	P	**P**	**04 34 15.5**	**-1.2**
ARMA	**Armidale**	**44.83**	**147**	P	**P**	**04 34 24.5**	**+0.6**
	baz=45,SNR=4.7						
ARMA	**Armidale**	**44.83**	**147**	P	**P**	**04 34 24.6**	**+0.6**
ARMA				IAmb	IAmb	04 34 39.4	
	comp=Z,83nm,1.9s						
GRNR	**Gornyy**	**44.84**	**10⇓**	*i*P	**P**	**04 34 23.9**	**+0.3**
GRNR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GRNR				MLR	MLR		
	comp=E,180nm,18.0s						
GRNR				MLR	MLR		
	comp=N,570nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,830nm,20.0s						
ARPS	**Mount Arapiles**	**46.03**	**161**	P	**P**	**04 34 34.7**	**+1.4**
	baz=46,SNR=10.0						
HYB	**Hyderabad**	**46.72**	**287**	*i* P	**P**	**04 34 41.0**	**+2.0**
HYB	**Hyderabad**	**46.72**	**287**	*e*P	**P**	**04 34 39.0**	**0.0**
HYB				IAmb	IAmb	04 34 42.6	
	comp=Z,9.8nm,0.8s						
ZEA	**Zeya**	**46.85**	**2**	*e*P	**P**	**04 34 38.6**	**-0.9**
ZEA				*e*S	**S**	**04 41 31.0**	**+3.0**
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,36nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,400nm,9.0s						
ZEA				smax	smax		
	comp=E,300nm,10.0s						
ZEA				MLR	MLR		
	comp=N,1μm,20.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,20.0s						
SANVU	**Saraoutou**	**47.10**	**118**	P	**P**	**04 34 41.7**	**-0.2**
CAN	**Canberra**	**47.49**	**153**	P	**P**	**04 34 44.3**	**-0.5**
CAN				pmax	pmax		
	comp=Z,55nm,1.3s						
CAN	**Canberra**	**47.49**	**153**	P	**P**	**04 34 44.3**	**-0.5**
TOO	**Toolangi**	**48.01**	**158**	P	**P**	**04 34 50.8**	**+2.1**
	baz=48,SNR=5.8						
TOO	**Toolangi**	**48.01**	**158**	P	**P**	**04 34 49.1**	**+0.4**
TOO				pmax	pmax		
	comp=Z,61nm,1.3s						
TOO	**Toolangi**	**48.01**	**158**	P	**P**	**04 34 49.1**	**+0.4**
TLY	**Talaya**	**48.18**	**342**	*e*P	P	04 35 00.9	+11
TLY				pmax	pmax		
	comp=Z,58nm,1.1s						
TLY				MLR	MLR		
	comp=Z,2μm,19.0s						
TLY	**Talaya**	**48.18**	**342**	P	**P**	**04 34 49.6**	**-0.3**
WMQ	**Urumqi**	**49.38**	**324**	*e*P	**P**	**04 35 01.8**	**+2.5**
WMQ				pP	pP	04 35 05.6	-3.1
WMQ				sP	sP	04 35 09.0	-3.4
WMQ				S	**S**	**04 42 09.3**	**+5.0**
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,38nm,3.7s						
WMQ				LR	LR		
	comp=Z,850nm,19.1s						
WMQ				LR	LR		
	comp=Z,540nm,20.7s						
WMQ				LR	LR		
	comp=Z,510nm,20.7s						
DZM	**Mont Dzumac**	**49.53**	**127**	*e*P	**P**	**04 35 02.0**	**+1.2**
	comp=Z,90nm,1.4s						
DZM				*e*S	**S**	**04 42 05.7**	**-1.3**
	comp=Z,496nm,27.6s						
DZM				*e*LQ	LQ	04 47 08.1	
	comp=Z,2μm,33.8s						
DZM				*e*LR	LR	04 49 13.5	
	comp=Z,1μm,23.6s						
DZM	**Mont Dzumac**	**49.53**	**127**	P	**P**	**04 35 00.8**	**+0.1**
	comp=Z,23nm,1.1s,baz=329,slow=9.7,SNR=8.7						
DZM				LR	LR	04 54 18.0	
	comp=Z,524nm,21.6s,baz=310,slow=34						
SKR	**Severo-Kuril's**	**50.77**	**25**	*e*P	P	04 35 15.1	+5.6
SKR				*e*		04 35 34.1	
SKR				*e*S	S	04 42 39.1	+16
SKR				pmax	pmax		
	comp=Z,170nm,1.4s						
SKR				pmax	pmax		
	comp=Z,1μm,5.0s						
SKR				pmax	pmax		
	comp=Z,500nm,5.1s						
SKR				MLR	MLR		
	comp=Z,500nm,19.0s						
SMLA	**Simla**	**50.98**	**305**	*e*P	**P**	**04 35 11.2**	**-0.3**
SMLA				IAmb	IAmb	04 35 18.3	
	comp=Z,8.4nm,0.8s						
BOD	**Bodaibo**	**51.66**	**352**	*e*P	**P**	**04 35 16.4**	**+0.3**
BOD				pmax	pmax		
	comp=Z,26nm,1.8s						
DHRM	**DHARAMSHALA**	**52.03**	**306**	*e*P	**P**	**04 35 18.8**	**-0.8**
DHRM				IAmb	IAmb	04 35 28.8	
	comp=Z,49nm,1.3s						
DHRM				*i* x	x	04 36 20.4	
DGZ	**Jazzator, Alta**	**53.22**	**330⇓**	*e*P	**P**	**04 35 26.8**	**-1.2**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
PETK	**Petropavlovsk-**	**53.23**	**24**	P	**P**	**04 35 24.7**	**-3.3**
	comp=Z,17nm,1.1s,baz=174,slow=4.5,SNR=5.7						
PETK				LR	LR	04 58 02.6	
	comp=Z,912nm,19.8s,baz=224,slow=36						
PETK	**Petropavlovsk-**	**53.23**	**24**	P	**P**	**04 35 27.3**	**-0.6**
PETK	**Petropavlovsk-**	**53.23**	**24**	P	**P**	**04 35 27.3**	**-0.6**
MK31	**Makanchi Array**	**54.21**	**325**	P	**P**	**04 35 34.3**	**-0.9**
MK31				pmax	pmax		
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**54.21**	**325**	P	**P**	**04 35 34.3**	**-0.9**
MKAR	**Makanchi Array**	**54.21**	**325**	P	**P**	**04 35 32.5**	**-2.7**
	comp=Z,3.7nm,0.7s,baz=123,slow=6.4,SNR=29						
MKAR				LR	LR	04 59 55.9	
	comp=Z,775nm,18.5s,baz=126,slow=37						
MKAR	**Makanchi Array**	**54.21**	**325**	*ce*P	**P**	**04 35 34.2**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**54.21**	**325**	P	**P**	**04 35 34.0**	**-1.2**
UZB	**Uzynbulak**	**54.33**	**319**	*e*P	**P**	**04 35 36.3**	**-0.1**
	comp=Z,30nm,2.3s,baz=320						
UZB				*e*S	**S**	**04 43 12.4**	**-0.2**
	baz=320						
UZB	**Uzynbulak**	**54.33**	**319**	*e*P	**P**	**04 35 36.3**	**-0.1**
UZB				*e*S	**S**	**04 43 12.3**	**-0.2**
UZB				pmax	pmax		
	comp=Z,30nm,2.3s						
MAKZ	**Makanchi**	**54.40**	**325**	P	**P**	**04 35 35.9**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,18nm,1.1s						
MAKZ	**Makanchi**	**54.40**	**325**	P	**P**	**04 35 35.9**	**-0.7**
SATY	**Saty**	**54.69**	**319**	*e*P	**P**	**04 35 39.1**	**+0.1**
	comp=Z,33nm,2.2s,baz=319						
SATY	**Saty**	**54.69**	**319**	*e*P	**P**	**04 35 39.0**	**+0.1**
SATY				pmax	pmax		
	comp=Z,33nm,2.2s						
KPKS	**Kokpek**	**54.70**	**320**	*e*P	**P**	**04 35 38.8**	**-0.2**
	comp=Z,43nm,1.6s,baz=320						
KPKS	**Kokpek**	**54.70**	**320**	*e*P	**P**	**04 35 38.7**	**-0.2**
KPKS				pmax	pmax		
	comp=Z,43nm,1.6s						
KSH	**Kashi**	**54.84**	**314**	P	**P**	**04 35 44.8**	**+4.7**
KSH				sP	sP	04 35 51.5	-1.8
KSH				S	**S**	**04 43 23.4**	**+3.9**
KSH				pmax	pmax		
	comp=Z,47nm,1.4s						
KSH				pmax	pmax		
	comp=Z,250nm,5.4s						
KSH				LR	LR		
	comp=Z,820nm,14.4s						
KSH				LR	LR		
	comp=Z,930nm,15.2s						
KSH				LR	LR		
	comp=Z,2μm,18.6s						
NIL	**Nilore**	**54.89**	**307**	P	**P**	**04 35 39.7**	**-0.7**
NIL				pmax	pmax		
	comp=Z,65nm,1.2s						
NIL	**Nilore**	**54.89**	**307**	P	**P**	**04 35 39.7**	**-0.7**
KDJ	**Kajisay**	**55.09**	**318**	P	**P**	**04 35 41.5**	**-0.4**
KDJ				pmax	pmax		
	comp=Z,28nm,1.1s						
KDJ	**Kajisay**	**55.09**	**318**	P	**P**	**04 35 41.5**	**-0.4**
KDJ				IAmb	IAmb	04 35 54.2	
	comp=Z,28nm,1.1s						
YAK	**Yakutsk**	**55.24**	**3**	*e*P	**P**	**04 35 43.5**	**+1.2**
YAK				*e**PP	**sP**	**04 35 56.7**	**+1.1**
YAK				*e*		04 36 48.0	
YAK				*e*		04 37 49.0	
YAK				*e*PPP	PPP	04 38 53.6	
YAK				*e*S	**S**	**04 43 24.7**	**+1.0**
YAK				*e**SS	**sS**	**04 43 44.1**	**+4.4**
YAK				*e*		04 45 28.7	
YAK				*e*SS	**SS**	**04 47 09.6**	**+1.4**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s						
YAK				pmax	pmax		
	comp=N,19nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,209nm,3.8s						
YAK				pmax	pmax		
	comp=N,141nm,3.8s						
YAK				pmax	pmax		
	comp=E,170nm,3.9s						
YAK				smax	smax		
	comp=N,87nm,2.7s						
YAK				smax	smax		
	comp=E,92nm,3.0s						
YAK				MLR	MLR		
	comp=Z,673nm,20.0s						
YAK				MLR	MLR		
	comp=N,414nm,20.0s						
YAK				MLR	MLR		
	comp=E,247nm,18.0s						
YAK	**Yakutsk**	**55.24**	**3**	P	**P**	**04 35 42.2**	**-0.1**
TDK	**Taldyqorghan**	**55.61**	**321**	*e*P	**P**	**04 35 45.3**	**0.0**
	baz=321						
TDK				*e*S	**S**	**04 43 29.1**	**-0.3**
	baz=321						
TDK	**Taldyqorghan**	**55.61**	**321**	*e*P	**P**	**04 35 45.3**	**0.0**
TDK				*e*S	**S**	**04 43 29.0**	**-0.3**
MDOK	**Medeo**	**55.63**	**319**	*e*P	**P**	**04 35 46.1**	**+0.3**
	baz=319						
MDOK				*e*S	**S**	**04 43 30.1**	**+0.2**
	baz=319						
MDOK				LR	LR	05 01 18.9	
	comp=E,283nm,17.0s,baz=319						
MDOK	**Medeo**	**55.63**	**319**	*e*P	**P**	**04 35 46.0**	**+0.3**
MDOK				*e*S	**S**	**04 43 30.1**	**+0.2**
MDOK				MLR	MLR		
	comp=Z,283nm,17.0s						
TNSS	**Tian-Shan**	**55.64**	**318**	*e*P	**P**	**04 35 46.4**	**+0.2**
	baz=318						
TNSS	**Tian-Shan**	**55.64**	**318**	*e*P	**P**	**04 35 46.3**	**+0.2**
AAA	**Alma-Ata**	**55.73**	**319**	*e*P	**P**	**04 35 47.0**	**+0.7**
	baz=319						
AAA				*e*S	**S**	**04 43 31.5**	**+0.3**
	baz=319						
AAA				LR	LR	05 01 21.4	
	comp=Z,231nm,15.3s,baz=319						
AAA	**Alma-Ata**	**55.73**	**319**	*e*P	**P**	**04 35 47.0**	**+0.7**
AAA				*e*S	**S**	**04 43 31.5**	**+0.3**
AAA				MLR	MLR		
	comp=Z,231nm,15.0s						
MA2	**Magadan**	**56.16**	**15⇑**	*e*P	**P**	**04 35 50.5**	**+1.5**
MA2				pmax	pmax		
	comp=Z,16nm,1.1s						
MA2	**Magadan**	**56.16**	**15**	P	**P**	**04 35 48.5**	**-0.5**
MA2				IAmb	IAmb	04 36 25.1	
	comp=Z,30nm,1.1s						
KUU	**Kurty**	**56.41**	**319**	*e*P	**P**	**04 35 51.1**	**-0.1**
	comp=Z,81nm,1.7s,baz=319						
KUU				*e*S	**S**	**04 43 39.9**	**-0.2**
	baz=319						
KUU				LR	LR	05 01 42.7	
	comp=Z,207nm,14.3s,baz=319						
KUU	**Kurty**	**56.41**	**319**	*e*P	**P**	**04 35 51.0**	**-0.1**
KUU				*e*S	**S**	**04 43 39.8**	**-0.2**
KUU				pmax	pmax		
	comp=Z,81nm,1.7s						
KUU				MLR	MLR		
	comp=Z,207nm,14.0s						
AAK	**Ala-Archa**	**57.10**	**317**	*ce*P	**P**	**04 35 56.5**	**+0.2**
AAK				pmax	pmax		
	comp=Z,56nm,1.7s						
ZAA0	**Zalesovo Array**	**57.20**	**333**	P	**P**	**04 35 57.0**	**+0.5**
ZAA0				IAmb	IAmb	04 36 09.6	
	comp=Z,51nm,1.9s						
ZALV	**Zalesovo Beam**	**57.20**	**333**	P	**P**	**04 35 53.6**	**-2.9**
	comp=Z,0.8nm,0.4s,baz=126,slow=2.0,SNR=3.2						
ZALV				LR	LR	05 02 53.6	
	comp=Z,366nm,18.5s,baz=140,slow=39						
ZALV	**Zalesovo Beam**	**57.20**	**333**	*i* P	**P**	**04 35 57.9**	**+1.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MSVF	**Nonsavu**	**57.57**	**116**	*ce*P	**P**	**04 36 01.6**	**+1.8**
MSVF				pmax	pmax		
	comp=Z,49nm,1.2s						
MSVF	**Nonsavu**	**57.57**	**116**	P	**P**	**04 36 00.5**	**+0.7**
KURBB	**Kurchatov Arra**	**58.38**	**327**	P	**P**	**04 36 03.7**	**-1.1**
	comp=Z,5.9nm,0.8s,baz=127,slow=5.8,SNR=31						
KURK	**Kurchatov**	**58.38**	**327**	*de*P	**P**	**04 36 03.2**	**-1.6**
KURK				pmax	pmax		
	comp=Z,28nm,1.7s						
KURK	**Kurchatov**	**58.38**	**327**	P	**P**	**04 36 03.6**	**-1.2**
KURK				IAmb	IAmb	04 36 30.8	
	comp=Z,50nm,1.4s						
BTLS	**Baital**	**58.39**	**320**	*e*P	**P**	**04 36 03.8**	**-1.2**
	comp=Z,13nm,1.9s,baz=320						
BTLS				*e*S	**S**	**04 44 04.5**	**-1.4**
	baz=320						
BTLS				LR	LR	05 03 32.6	
	comp=Z,117nm,14.9s,baz=320						
BTLS	**Baital**	**58.39**	**320**	*e*P	**P**	**04 36 03.8**	**-1.2**
BTLS				*e*S	**S**	**04 44 04.5**	**-1.4**
BTLS				pmax	pmax		
	comp=Z,13nm,1.9s						
BTLS				MLR	MLR		
	comp=Z,117nm,15.0s						
KBL	**Kabul**	**58.49**	**306**	P	**P**	**04 36 06.1**	**-0.1**
KBL				pmax	pmax		
	comp=Z,87nm,1.8s						
KBL	**Kabul**	**58.49**	**306**	P	**P**	**04 36 06.1**	**-0.1**
DZA	**Taraz**	**59.35**	**316**	*e*P	**P**	**04 36 11.6**	**-0.3**
	baz=316						
DZA				*e*S	**S**	**04 44 18.1**	**-0.6**
	baz=316						
DZA	**Taraz**	**59.35**	**316**	*e*P	**P**	**04 36 11.5**	**-0.3**
DZA				*e*S	**S**	**04 44 18.1**	**-0.6**
SEY	**Seymchan**	**59.44**	**14⇓**	*e*P	**P**	**04 36 11.0**	**-1.0**
KK31	**Karatay Array**	**59.99**	**316**	P	**P**	**04 36 15.3**	**-0.9**
KK31				pmax	pmax		
	comp=Z,41nm,1.2s						
KK31	**Karatay Array**	**59.99**	**316**	P	**P**	**04 36 15.3**	**-0.9**
KKAR	**Karatay Array**	**59.99**	**316**	P	**P**	**04 36 15.3**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,41nm,1.2s						
KKAR	**Karatay Array**	**59.99**	**316**	P	**P**	**04 36 15.3**	**-0.9**
KKAR	**Karatay Array**	**59.99**	**316**	P	**P**	**04 36 14.7**	**-1.5**
TAS	**Tashkent**	**60.25**	**314**	P	**P**	**04 36 17.1**	**-0.9**
TAS				pmax	pmax		
	comp=Z,105nm,0.3s						
TAS	**Tashkent**	**60.25**	**314**	P	**P**	**04 36 17.1**	**-0.9**
BRZS	**Berezniki**	**61.35**	**324**	*e*P	**P**	**04 36 24.3**	**-1.0**
	baz=324						
BRZS	**Berezniki**	**61.35**	**324**	*e*P	**P**	**04 36 24.3**	**-1.0**
BVAR	**Borovoye Array**	**63.96**	**327**	P	**P**	**04 36 40.1**	**-2.5**
	comp=Z,4.0nm,1.0s,baz=135,slow=15,SNR=8.7						
BRVK	**Borovoye**	**64.03**	**327⇑**	*e*P	**P**	**04 36 41.9**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,27nm,2.5s						
BRVK	**Borovoye**	**64.03**	**327**	P	**P**	**04 36 42.5**	**-0.6**
ATKA	**Atka Island**	**66.89**	**36**	P	**P**	**04 37 01.1**	**-0.5**
NRIK	**Noril'sk**	**67.13**	**346**	LR	LR	05 08 32.5	
	comp=Z,974nm,19.6s,baz=168,slow=38						
GEYT	**Alibeck**	**67.83**	**308**	P	**P**	**04 37 05.8**	**-2.1**
	comp=Z,1.3nm,0.4s,baz=144,slow=1.2,SNR=4.3						
GEYT				LR	LR	05 09 43.1	
	comp=Z,344nm,20.3s,baz=80,slow=39						
GYA0B	**ALIBECK ARRAY**	**67.83**	**308**	P	**P**	**04 37 06.5**	**-1.4**
GYA0B				IAmb	IAmb	04 37 18.8	
	comp=Z,20nm,1.1s						
ABKAR	**Akbulak array**	**68.85**	**320**	P	**P**	**04 37 13.8**	**-0.2**
AKTO	**Aktyubinsk**	**70.35**	**321**	P	**P**	**04 37 22.6**	**-0.7**
	comp=Z,5.0nm,0.7s,baz=98,slow=3.8,SNR=7.8						
SVE	**Sverdlovsk**	**70.59**	**328**	*e*P	**P**	**04 37 23.5**	**-1.1**
ARU	**Arti**	**71.57**	**327**	P	**P**	**04 37 28.3**	**-2.3**
	comp=Z,1.7nm,0.6s,baz=168,slow=8.0,SNR=4.8						
ARU	**Arti**	**71.57**	**327**	*d i*P	**P**	**04 37 28.2**	**-2.3**
ARU						04 40 06.3	
ARU				S	**S**	**04 46 45.7**	**-1.9**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ARU				MLR	MLR		
	comp=Z,537nm,18.0s						
ARU	**Arti**	**71.57**	**327**	P	**P**	**04 37 30.9**	**+0.4**
AKT	**Akhty**	**76.17**	**311**	*e*P	**P**	**04 38 00.0**	**+2.1**
AKT				*e*		04 38 13.0	
AKT				pmax	pmax		
	comp=Z,41nm,1.3s						
MAK	**Makhachkala**	**76.42**	**312**	*e*P	**P**	**04 37 56.1**	**-3.0**
MAK				*e*		04 40 47.5	
MAK				*e*S	**S**	**04 47 38.3**	**-4.3**
MAK				*e*SS	**SS**	**04 52 34.9**	**-2.5**
MAK				pmax	pmax		
	comp=Z,493nm,1.4s						
MAK				MLR	MLR		
	comp=Z,607nm,17.0s						
RDOG	**Red Dog Mine**	**77.01**	**22**	IAmb	IAmb	04 38 06.2	
	comp=Z,37nm,1.2s						
KHLU	**Kahalu`u**	**77.33**	**71**	P	**P**	**04 38 01.6**	**-3.3**
SVW2	**Sparrevohn**	**78.89**	**29**	IAmb	IAmb	04 38 28.2	
	comp=Z,28nm,1.4s						
TTA	**Tatalina**	**78.89**	**27**	P	**P**	**04 38 11.8**	**-0.8**
TTA				pmax	pmax		
	comp=Z,16nm,1.3s						
TTA	**Tatalina**	**78.89**	**27**	P	**P**	**04 38 11.8**	**-0.8**
ZEI	**Tsey**	**79.06**	**312**	*e*P	**P**	**04 38 11.5**	**-2.7**
ZEI				pmax	pmax		
	comp=Z,25nm,1.3s						
AKH	**Akhalkalaki**	**79.35**	**311**	⇓P	**P**	**04 38 16.3**	**+0.6**
AKH	**Akhalkalaki**	**79.35**	**311**	P	**P**	**04 38 15.3**	**-0.5**
AKH				pmax	pmax		
	comp=Z,26nm,1.1s						
AKH	**Akhalkalaki**	**79.35**	**311**	P	**P**	**04 38 15.2**	**-0.5**
AKH				IAmb	IAmb	04 38 20.4	
	comp=Z,26nm,1.1s						
KBZ	**Khabaz**	**79.80**	**313**	P	**P**	**04 38 17.8**	**-0.1**
	comp=Z,5.4nm,1.1s,baz=120,slow=2.1,SNR=5.7						
KBZ				LR	LR	05 17 34.3	
	comp=Z,419nm,20.2s,baz=75,slow=39						
KIV	**Kislovodsk**	**79.96**	**313**	*e*P	**P**	**04 38 18.0**	**-0.9**
KIV				pmax	pmax		
	comp=Z,37nm,1.1s						
IMAR	**Indian Mountai**	**80.20**	**24**	P	**P**	**04 38 19.9**	**+0.3**
ARTV	**Artvin**	**80.53**	**311**	P	**P**	**04 38 22.8**	**+0.7**
PPLA	**Purkeypile**	**80.63**	**27**	P	**P**	**04 38 22.3**	**+0.1**
PPLA				IAmb	IAmb	04 38 28.9	
	comp=Z,21nm,1.0s						
BCA	**Borcka**	**80.75**	**311**	⇓P	**P**	**04 38 23.2**	**+0.1**
SKT	**Skwentna**	**80.89**	**28**	IAmb	IAmb	04 38 29.0	
	comp=Z,27nm,1.1s						
BRLK	**Bradley Lake**	**81.11**	**31**	IAmb	IAmb	04 38 26.8	
	comp=Z,40nm,1.1s						
KTH	**Kantishna Hill**	**81.24**	**27**	IAmb	IAmb	04 38 33.1	
	comp=Z,28nm,1.1s						
TRF	**Thorofare Moun**	**81.52**	**27**	P	**P**	**04 38 26.2**	**-0.7**
TRF				IAmb	IAmb	04 38 42.0	
	comp=Z,42nm,1.2s						
PMR	**Palmer**	**82.02**	**29**	IAmb	IAmb	04 38 35.2	
	comp=Z,27nm,1.1s						
KLMR	**Klimovskoe**	**82.03**	**330**	*e*P	P	04 38 22.3	-7.1
KLMR				pmax	pmax		
	comp=Z,34nm,1.5s						
KLMR	**Klimovskoe

ILAR	Eielson Array	83.02	26	P		P	04 38 32.9	-1.6
MOS	Moscow	83.09	325	eP		P	04 38 34.6	-0.4
MOS				e			04 41 43.6	
MOS				pmax	pmax			
	comp=Z,33nm,0.8s							
ANN	Anapa	83.70	314	eP		P	04 38 36.0	-2.4
ANN				pmax	pmax			
	comp=Z,49nm,1.0s							
OBN	Obninsk	83.72	325	P		P	04 38 37.4	-0.9
	comp=Z,4.7nm,0.3s,baz=329,slow=5.4,SNR=4.3							
OBN	Obninsk	83.72	325‖	eP		P	04 38 38.7	+0.5
OBN				*SP		pP	04 38 47.0	-1.2
OBN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,391nm,20.0s							
BMAR	Burnt Mountain	83.87	23	P		P	04 38 39.2	+0.3
DOT	Dot Lake	84.30	27	IAmb	IAmb		04 38 42.3	
	comp=Z,17nm,1.1s							
GAZ	Gaziantep	84.36	307	P		P	04 38 41.7	-0.4
ASF	Jabal al Asfar	85.02	302	P		P	04 38 44.5	-1.0
	comp=Z,6.9nm,1.0s,baz=26,slow=7.7,SNR=3.7							
EGAK	Eagle	85.47	25	IAmb	IAmb		04 39 09.8	
	comp=Z,20nm,0.9s							
MAW	Mawson	86.08	200	P		P	04 38 49.2	-0.6
	comp=Z,1.5nm,0.6s,baz=48,slow=3.5,SNR=5.4							
MAW				LR	LR		05 16 10.4	
	comp=Z,128nm,19.5s,baz=55,slow=35							
MAW	Mawson	86.08	200	P		P	04 38 50.5	+0.7
MAW				pmax	pmax			
	comp=Z,3.0nm,1.4s							
MAW	Mawson	86.08	200	P		P	04 38 50.5	+0.7
VNDA	Vanda	86.62	173	P		P	04 38 52.6	+0.3
	comp=Z,3.3nm,1.1s,baz=296,slow=5.4,SNR=12							
VNDA				LR	LR		05 16 54.3	
	comp=Z,242nm,21.2s,baz=324,slow=35							
VNDA	Vanda	86.62	173	P		P	04 38 52.1	-0.2
VNDA				pmax	pmax			
	comp=Z,8.0nm,1.1s							
VNDA	Vanda	86.62	173	P		P	04 38 52.1	-0.2
BRTR	Keskin Array B	86.93	309	P		P	04 38 54.9	0.0
	comp=Z,1.0nm,0.7s,baz=108,slow=5.9,SNR=3.7							
BRTR				LR	LR		05 24 09.3	
	comp=Z,118nm,19.9s,baz=63,slow=40							
BRTR	Keskin Array B	86.93	309	P		P	04 38 53.7	-1.2
BRTR	Keskin Array B	86.93	309	P		P	04 38 53.7	-1.2
EPYK	Eagle Plains	87.07	24	IAmb	IAmb		04 39 03.5	
	comp=Z,13nm,0.9s							
PPT	Papeete	87.48	108	LR	LR		05 13 46.0	
	comp=Z,124nm,18.8s,baz=296,slow=33							
PPT2	Papeete2	87.49	108	eLQ	LQ		05 03 04.0	
	comp=Z,499nm,28.8s							
PPT2				eLR	LR		05 06 46.5	
	comp=Z,1μm,25.5s,baz=293							
KMBO	Kilima Mbogo	88.10	269	P		P	04 39 02.2	+1.0
	comp=Z,2.0nm,0.9s,baz=52,slow=2.9,SNR=6.1							
KMBO				LR	LR		05 20 21.5	
	comp=Z,200nm,18.1s,baz=88,slow=37							
KMBO	Kilima Mbogo	88.10	269	P		P	04 39 01.8	+0.6
KMBO				pmax	pmax			
	comp=Z,50nm,1.8s							
KMBO	Kilima Mbogo	88.10	269	P		P	04 39 01.8	+0.6
TBI	Tubuai	88.39	114	eLQ	LQ		05 03 24.0	
	comp=Z,479nm,37.0s							
TBI				eLR	LR		05 07 11.3	
	comp=Z,798nm,27.2s,baz=293							
FINES	FINESS Array B	88.45	332	LR	LR		05 23 52.5	
	comp=Z,575nm,18.3s,baz=81,slow=39							
FINES	FINESS Array B	88.45	332	i P		P	04 38 58.2	-3.3
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	88.59	321	P		P	04 38 59.7	-2.7
	comp=Z,1.3nm,0.7s,baz=66,slow=4.4,SNR=5.1							
AKASG				LR	LR		05 22 49.1	
	comp=Z,312nm,18.0s,baz=70,slow=38							
AKASG	Malin Array Be	88.59	321	i P		P	04 39 02.7	+0.3
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AKASG	Malin Array Be	88.59	321	P		P	04 39 01.1	-1.3
AKBB	Malin Array Si	88.59	321	P		P	04 39 02.3	-0.1
AKBB				pmax	pmax			
	comp=Z,10.0nm,1.2s							
AKBB	Malin Array Si	88.59	321	P		P	04 39 02.3	-0.1
VSU	Vasula	88.69	329⇑	eP		P	04 39 00.6	-2.1
VSU				pmax	pmax			
	comp=Z,9.0nm,0.8s							
BESE	Bessie Mountai	89.42	31	P		P	04 39 05.7	-0.5
BURAR	Bucovina Array	91.74	318	P		P	04 39 16.8	-0.5
UZH	Uzhgorod	93.42	320	eP		P	04 39 24.3	-0.6
CRVS	Cervenica-Dubn	93.88	320	eP		P	04 39 32.9	+5.8
CRVS	Cervenica-Dubn	93.88	320	eP		P	04 39 32.9	+5.8
SYO	Syowa Base	94.70	201‖	eP		P	04 39 31.0	+0.8
NOA	NORSAR Array B	95.40	333	LR	LR		05 28 03.8	
	comp=Z,451nm,18.6s,baz=65,slow=39							
TAOE	Nuku Hiva Isla	95.59	98	eLR	LR		05 10 22.2	
	comp=Z,1μm,23.8s							
YKA	Yellowknife Ar	97.36	24	P		P	04 39 41.5	-1.0
	comp=Z,3.1nm,1.0s,baz=294,slow=5.2,SNR=4.7							
GERES	GERESS Array B	98.77	322	LR	LR		05 27 46.4	
	comp=Z,328nm,21.2s,baz=68,slow=37							
TXAR	Lajitas Array	120.88	50	PKP		PKiKP	04 45 03.0	+0.4
	comp=Z,0.8nm,0.9s,baz=182,slow=3.8,SNR=4.4							
TXAR				PKKPbc		PKKPbc	04 55 06.1	-0.7
	comp=Z,0.8nm,1.0s,baz=142,slow=4.3,SNR=5.0							
JCT	Junction City	123.16	47	PKIKP		PKiKP	04 45 07.6	+0.6
JCT	Junction City	123.16	47	PKPdf		PKiKP	04 45 07.6	+0.6
U40A	Yellville	124.19	37	PKPdf		PKPdf	04 45 07.7	-0.9
MIAR	Mount Ida	124.95	39	PKIKP		PKPdf	04 45 09.8	-0.3
MIAR	Mount Ida	124.95	39	PKPdf		PKPdf	04 45 09.8	-0.3
LCAR	Lake Charles	125.39	36			PKiKP	04 45 11.8	+0.6
WVT	Waverly	127.24	34	PKIKP		PKPdf	04 45 14.7	+0.3
WVT	Waverly	127.24	34	PKPdf		PKPdf	04 45 14.7	+0.3
HUEH	Huehuetenango	137.51	59			PKiKP	04 45 35.7	-0.8
PLCA	Paso Flores	143.37	160	PKIKP		PKPdf	04 45 43.2	-1.1
PLCA	Paso Flores	143.37	160	PKPdf		PKPdf	04 45 43.2	-1.1
BOAB	BOACO BROADBAND	148.85	58	PKPdf		PKPdf	04 45 45.2	-0.5
LC01	Cunco	144.49	157	PKPdf		PKPdf	04 45 47.9	+1.6
ACON	Acoyapa	144.51	58			PKPdf	04 45 47.4	+0.5
ESPN	Las Esperanzas	145.13	57	PKPdf		PKPdf	04 45 48.4	+0.4
JTS	Las Juntas de	145.51	61	PKIKP		PKPab	04 45 50.6	+1.6
JTS	Las Juntas de	145.51	61	PKPdf		PKPab	04 45 50.6	+1.6
BI02	San Fabin de	146.66	155	PKPbc		PKPab	04 45 53.2	+0.4
BO02	Sierra Bellavi	148.46	154	PKPbc		PKPbc	04 45 55.6	-1.0
MT02	Curacav	149.59	152	PKPbc		PKiKP	04 46 01.5	+1.0
MT02						PKPab	04 46 03.8	-0.7
SC01	Santiago de lo	149.60	31	PKPbc		PKPbc	04 45 57.9	-1.9
MT05	Renca	149.66	153	PKPbc		PKiKP	04 46 02.4	+1.6
MT05						PKPab	04 46 03.9	-0.9
PEL	Peldehue	149.90	153	PKP2		PKiKP	04 46 02.5	+1.3
PEL	Peldehue	149.90	153	PKPbc		PKiKP	04 46 02.5	+1.3
DR12	Loma Pena Alta	150.81	29			PKPbc	04 46 03.3	+0.4
LPAZ	La Paz	163.88	127	PKP		PKPdf	04 46 14.8	+0.4
	comp=Z,8.6nm,1.2s,baz=259,slow=5.2,SNR=9.3							
SAML	Samuel	171.41	105	PKIKP		PKPdf	04 46 18.4	-0.6
SAML	Samuel	171.41	105			PKPdf	04 46 18.4	-0.6

*IDC **20** 04:31:35.3±1.3,28°.57N×52°.43E,h0km,mb4.0/11, mb1 4.1/15,mb1mx3.8/55,mbtmp4.0/15,ML3.7/4,MS3.4/8, Ms1 3.4/8,ms1mx3.3/45,Error ellipse: s-maj=25.8km s-min=20.6km az=142.0*

*THR **20** 04:31:36.1±0.5,28°.45N×52°.44E,h8km±5km,ML3.8*

*TEH **20** 04:31:36.2,28°.57N×52°.47E,h8km,ML4.2*

*NEIC **20** 04:31:38.5±1.8,28°.53N±0°.07×52°.47E±0°.08,h20km±4km, Error ellipse: s-maj=11.4km s-min=8.4km az=223.0*

*DSN **20** 04:31:42.6±1.6,28°.14N×52°.72E,h10km,ML4.4/4,Error ellipse: s-maj=19.0km s-min=10.1km az=5.0*

*OMAN **20** 04:31:42.6±0.5,28°.29N×52°.52E,h30km±45km,mb5.1/5, ml4.1/4,Error ellipse: s-maj=9.6km s-min=4.5km az=43.0*

ISC 20 04:31:37.7±0.5,**28°.52N**±0°.05×**52°.46E**±0°.04,**h16km**,**n133**, σ**1§42**/135,**mb4.2**/20,**3C-4D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.52	116	ePg	Pg	04 31 46.2	-1.8
GHIR				IAML		04 32 04.4	
	comp=E,7μm,0.3s						
GHIR	Ghir-Karzin	0.52	116	ePg	Pg	04 31 46.2	-1.8
GHIR	Ghir-Karzin	0.52	116	Pg	Pg	04 31 46.2	-1.8
JHRM	Jahrom	0.98	90	ePg	Pb	04 31 55.2	-1.2
JHRM				e		04 32 25.0	
AHBU	AHRAM	1.08	289	ePg	Pb	04 31 57.2	-0.8
SHI	Shiraz	1.12	2	ePg	Pb	04 31 56.9	-2.0
SHI				e		04 32 24.7	
KAZ1	Kazerun	1.32	327	ePg	Pn	04 32 00.5	-1.1
KAZ1				e		04 32 38.5	
LMD1	Lamerd	1.33	152	ePg	Pg	04 32 03.3	0.0
LMD1				e		04 32 38.9	
LAR1	LAR	1.89	116	ePg	Pb	04 32 12.6	+0.7
KLNJ	Kolanjah	2.60	343	ePn	Pn	04 32 19.5	+0.1
KLNJ				e		04 33 30.6	
KLNJ	Kolanjah	2.60	343	Pn	Pn	04 32 19.5	+0.1
IRAM	Ramesheh	3.28	359	ePn	Pn	04 32 29.9	+1.2
BNDS	Bandar-Abbas	3.46	108	ePn	Pn	04 32 32.4	+1.2
BNDS	Bandar-Abbas	3.46	108	ePn	Pn	04 32 32.4	+1.2
GENO	Geno	3.47	108	ePn	Pn	04 32 32.9	+1.7
GENO	Geno	3.47	108	Pn	Pn	04 32 32.8	+1.6
IBRJ	Brojen	3.54	343	ePn	Pn	04 32 33.4	+1.1
ISAD	Sadrabad	3.55	17	ePn	Pn	04 32 34.0	+1.6
KHGB	Koh Gabri	3.96	61	ePn	Pn	04 32 39.8	+1.7
ROKH	ROKH	4.01	342	ePn	Pn	04 32 40.7	+2.0
JHBN	Jahan bin	4.02	338	ePn	Pn	04 32 39.5	+0.6
KRBR	Kerman	4.03	68	ePn	Pn	04 32 41.5	+2.4
KRBR				IAML		04 33 54.2	
	comp=N,87nm,0.8s						
KRBR				IAML		04 34 08.2	
	comp=E,118nm,0.4s						
KRBR	Kerman	4.03	68	ePn	Pn	04 32 41.5	+2.4
TVBK	TV Kerman	4.03	68	ePn	Pn	04 32 41.1	+1.9
TVBK				e		04 34 03.2	
IBAF	Bafgh	4.08	41	ePn	Pn	04 32 41.2	+1.6
ICHK	Chekchek	4.08	24	ePn	Pn	04 32 41.0	+1.3
SHME	Shamm	4.09	126	P	Pn	04 32 38.8	-0.9
YZKH	Yazd	4.28	25	ePn	Pn	04 32 44.6	+2.3
YZKH	Yazd	4.28	25	ePn	Pn	04 32 44.6	+2.3
BANOM	Banah	4.28	126	P	Pn	04 32 43.4	+1.1
	SNR=14						
IZEF	Zefreh	4.37	359	ePn	Pn	04 32 44.1	+0.4
CHMN	Cheshme madani	4.64	72	ePn	Pn	04 32 49.1	+1.6
CHMN				e		04 33 13.5	
CHMN	Cheshme madani	4.64	72	Pn	Pn	04 32 49.1	+1.6
KHNJ	Kahnooj	4.66	96	ePn	Pn	04 32 49.0	+1.5
MDH	Madha	4.69	132	P	Pn	04 32 48.9	+1.0
MDH				S	Sn	04 33 41.0	-1.0
ANAR	Anarak	4.79	13	ePn	Pn	04 32 50.3	+1.0
IKLH	Kolahrood	4.85	351	ePn	Pn	04 32 51.2	+0.9
UOSS	Minazif	4.88	136	P	Pn	04 32 50.6	+0.1
UOSS	Minazif	4.88	136	P	Pn	04 32 51.5	+0.9
UOSS	Minazif	4.88	136	Pn	Pn	04 32 51.4	+0.9
HATD	Hatta, Dubai	4.93	137	P	Pn	04 32 52.1	+1.0
HATD				S	Sn	04 33 44.3	-3.6
HATD	Hatta, Dubai	4.93	137	P	Pn	04 32 52.6	+1.4
ASHO	Ashiyiah	4.99	139	P	Pn	04 32 53.5	+1.4
ASHO				S	Sn	04 33 49.2	-0.3
KBAM	BAM	5.29	82	ePn	Pn	04 32 58.9	+2.7
KRSH	Karshahi	5.45	357	ePn	Pn	04 32 59.6	+1.2
SOHO	SOHO	5.69	139	P	Pn	04 33 01.8	+0.1
SOHO				S	Sn	04 34 04.9	-1.7
TPRV	Parvadeh(Tabas	5.78	38	ePn	Pn	04 33 03.1	+0.1
BMDN	Meydan	6.01	330	ePn	Pn	04 33 06.8	+0.6
IKMR	Kamar-syah	6.09	326	ePn	Pn	04 33 06.6	-0.5
IKFM	Kafar-mosalman	6.37	323	ePn	Pn	04 33 10.7	-0.2
IQOM	Qom	6.42	350	ePn	Pn	04 33 12.0	+0.2
TKDS	Koohdasht(Taba	6.47	37	ePn	Pn	04 33 13.1	+0.7
TNSJ	Nastanj	6.49	32	ePn	Pn	04 33 14.2	+1.5
IVRN	Varamin	6.49	355	ePn	Pn	04 33 12.8	+0.1
HSAM	Samen	6.57	331	ePn	Pn	04 33 13.9	0.0
HOQ	Hoqain	6.57	137	P	Pn	04 33 14.3	+0.6
HOQ				S	Sn	04 34 26.9	-1.4
HAGD	Aghdareh	6.89	337	ePn	Pn	04 33 18.3	-0.1
IANJ	Anjilo	7.04	10	ePn	Pn	04 33 21.1	+0.7
IDMV	Damavand	7.05	357	ePn	Pn	04 33 20.2	-0.4
IKOM	Komasi	7.05	324	ePn	Pn	04 33 19.2	-1.3
IBZA	Bozab	7.12	328	ePn	Pn	04 33 21.4	0.0
BSY	Bisya	7.16	142	P	Pn	04 33 22.5	+0.6
ISHM	Shahmirzad	7.30	5	ePn	Pn	04 33 25.8	+1.8
IALM	Almabolaq	7.31	331	ePn	Pn	04 33 23.3	-0.8
ZHSF	Zahedan	7.36	79	eP	Pn	04 33 26.9	+2.2
ZHSF	Zahedan	7.36	79	ePn	Pn	04 33 26.9	+2.2
QABG	Abgarm-Qazvin	7.58	342	ePn	Pn	04 33 27.3	-0.4
HSRG	Sareghieh	7.59	333	ePn	Pn	04 33 28.2	+0.2
WSAR	Wadi Sarin	7.65	132	Pn	Pn	04 33 28.7	+0.2
	comp=E,1.0nm,0.3s,baz=333,slow=10,SNR=6.5						
WSAR				Sn	Sn	04 34 51.9	-2.9
	comp=E,0.9nm,0.3s,baz=284,slow=12,SNR=3.9						
WSAR				LR	LR	04 36 47.0	
	comp=E,228nm,20.7s,baz=311,slow=40						
WSAR	Wadi Sarin	7.65	132	P	Pn	04 33 28.6	+0.2
WSAR				S	Sn	04 34 51.0	-3.9
IVIS	Veis	7.67	323	ePn	Pn	04 33 29.6	+0.7
IDHR	Dehrash	8.05	322	ePn	Pn	04 33 33.5	-0.7
WBK	Wadi Bani Khal	8.31	134	P	Pn	04 33 37.3	-0.3
	SNR=14						
QSDN	Sirdan	8.43	342	ePn	Pn	04 33 38.8	-0.7
MHTO	MHTO	9.01	145	P	Pn	04 33 47.6	+0.4
HRA	Herat	10.20	53	Pn	Pn	04 34 04.7	+1.0
GEYT	Alibeck	10.51	25	Pn	Pn	04 34 08.5	+0.7
	comp=E,0.8nm,0.3s,baz=220,slow=13,SNR=12						
GEYT				LR	LR	04 38 52.1	
	comp=E,346nm,19.2s,baz=230,slow=42						
GEYT	Alibeck	10.51	25	Pn	Pn	04 34 09.3	+1.5
GYA0B	ALIBECK ARRAY	10.51	25	Pn	Pn	04 34 08.8	+1.0
MARD	Mardin	13.15	315	Pn	Pn	04 34 44.2	+0.2
AKH	Akhalkalaki	14.80	333	Pn	Pn	04 35 06.8	+0.2
KOPT	Kop Dagi	15.13	322	Pn	Pn	04 35 11.8	+0.8
KOPT				IAmb	IAmb	04 35 15.3	
	comp=Z,15nm,1.3s						
ARTV	Artvin	15.30	328	Pn	Pn	04 35 14.1	+0.9
ARTV				IAmb	IAmb	04 35 20.4	
	comp=Z,9.3nm,1.2s						
MMAI	Mount Meron Ar	15.33	291	Pn	Pn	04 35 13.7	+0.2
	comp=Z,0.3nm,0.3s,baz=106,slow=9.6,SNR=3.4						
MMAI				LR	LR	04 42 36.6	
	comp=Z,210nm,20.2s,baz=145,slow=43						
EIL	Elat	15.35	279	LR	LR	04 41 47.0	
	comp=Z,101nm,19.7s,baz=113,slow=40						
KBL	Kabul	15.36	63	Pn	Pn	04 35 13.2	-0.8
GAZ	Gaziantep	15.44	308	Pn	Pn	04 35 15.5	+0.6
DAMY	Dhamar	15.76	210	Pn	Pn	04 35 20.4	+1.0
DAMY				IAmb	IAmb	04 35 21.0	
	comp=Z,14nm,1.0s						
KBZ	Khabaz	17.02	336	LR	LR	04 42 48.6	
	comp=Z,170nm,18.2s,baz=162,slow=40						
CHGR	Chuyangaron	17.18	50	Pn	Pn	04 35 34.4	-2.7
CSS	Mathiatis	17.48	296		Pn	04 35 40.7	-0.2
CSS				IAmb	IAmb	04 35 47.7	
	comp=Z,20nm,1.2s						
BRTR	Keskin Array B	19.14	311	P	P	04 36 00.4	0.0
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=20						
BRTR				LR	LR	04 45 38.5	
	comp=Z,157nm,18.3s,baz=108,slow=44						
BRTR	Keskin Array B	19.14	311		P	04 36 00.5	+0.2
BR131	Keskin Array S	19.14	311	P	P	04 36 00.6	+0.2
ABKAR	Abkulak array	21.49	13	P	P	04 36 25.7	+0.1
MANT	Manisa	22.22	303	P	P	04 36 34.9	+1.1
AKTO	Aktyubinsk	22.30	9	P	P	04 36 35.6	+1.3
	comp=Z,5.3nm,0.8s,baz=199,slow=13,SNR=4.5						
IDI	Anoyia	24.31	293	LR	LR	04 49 27.5	
	comp=Z,46nm,18.2s,baz=108,slow=44						
CFR	Carcaliu	25.46	317	‖P	P	04 37 05.4	+0.5
VRI	Vrincioaia	26.66	317	⇑P	P	04 37 19.4	+3.6
MLR	Muntele Rosu	26.94	316	‖P	P	04 37 22.0	+3.5
MLR	Muntele Rosu	26.94	316	P	P	04 37 18.7	+0.2
MLR				IAmb	IAmb	04 37 27.0	
	comp=Z,5.6nm,0.8s						
VOIR		27.46	315	‖P	P	04 37 22.9	-0.2
DOPR	Dopca	27.52	317	⇑P	P	04 37 24.6	+1.1
AKASG	Malin Array Be	28.27	328	P	P	04 37 29.0	-1.1
	comp=Z,0.9nm,0.6s,baz=131,slow=8.6,SNR=5.4						
AKASG	Malin Array Be	28.27	328	IAmb	IAmb	04 37 32.3	
	comp=Z,0.6nm,0.8s						
KOLS	Kolonicke sedl	30.84	320	eP	P	04 37 52.9	0.0
WMQ	Urumqi	32.01	52	eP	P	04 38 06.3	+2.9
VYHS	Vyhne	32.64	317	eP	P	04 38 06.9	-1.9
MORC	Moravsky Berou	33.96	318	⇑P	P	04 38 20.7	+0.3
CONA	Conrad Observa	34.25	315	eS	S	04 43 50.9	+1.7
	comp=Z,8.5nm,1.7s						
SOKA	Soboth	34.35	312	eS	S	04 43 55.1	+4.3
	comp=Z,5.7nm,1.5s						
ZALV	Zalesovo Beam	34.67	34	P	P	04 38 26.2	-0.1
	comp=Z,1.8nm,0.4s,baz=244,slow=9.6,SNR=5.1						
KBA	Koelnbreinsper	35.58	312	epP	P	04 38 35.1	+0.6
	comp=Z,3.4nm,0.7s						
GERES	GERESS Array B	35.92	315	P	P	04 38 36.4	-0.9
	comp=Z,0.4nm,0.5s,baz=114,slow=6.6,SNR=4.4						
SQTA	Sankt Quirin	37.02	312	eP	P	04 38 46.1	-0.6
	comp=Z,4.9nm,0.8s						
MOTA	Moosalm	37.12	312	P	P	04 38 47.1	-0.5
	comp=Z,4.6nm,1.0s						
CLL	Collm	37.23	319	eP	P	04 38 48.0	-0.3
	comp=Z,4.0nm,0.9s						
CLL				e		04 38 57.0	
CLL				ePP	PP	04 40 12.0	-1.2
FETA	Feichten	37.28	311	eP	P	04 38 46.6	-2.4
	comp=Z,3.7nm,0.9s						
FINES	FINESS Array B	37.31	339	P	P	04 38 48.2	-0.7
	comp=Z,2.4nm,0.6s,baz=139,slow=10,SNR=18						
DAVA	Damuels	37.91	311	eP	P	04 38 54.0	-0.3
	comp=Z,7.1nm,0.9s						
HFS	Hagfors	41.01	331	P	P	04 39 19.1	-0.8
	comp=Z,1.2nm,0.3s,baz=138,slow=9.8,SNR=17						
NB2	NORSAR Subarra	42.53	332	P	P	04 39 31.1	-1.2
	comp=Z,2.1nm,1.0s,baz=121,slow=8.6						
NOA	NORSAR Array B	42.53	332	P	P	04 39 31.2	-1.1
	comp=Z,0.6nm,0.6s,baz=121,slow=8.1,SNR=7.0						
NOA				LR	LR	04 58 46.8	
	comp=Z,66nm,21.6s,baz=70,slow=38						
NOA	NORSAR Array B	42.53	332	P	P	04 39 31.2	-1.1
KMI	Kunming	44.74	82‖	eP	P	04 39 51.9	+1.1
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC	Hu-ho-hao-te	49.29	59	eP	P	04 40 28.4	+2.4
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,250nm,5.1s						
TOA0	Torodi Ar. Sit	49.49	263	P	P	04 40 28.4	+0.7
TOA0				IAmb	IAmb	04 40 28.6	
	comp=Z,2.5nm,0.8s						
TORD	Torodi Ar. Bea	49.49	263	P	P	04 40 27.4	-0.3
	comp=Z,2.8nm,0.7s,baz=55,slow=7.7,SNR=15						
TORD	Torodi Ar. Bea	49.49	263	IAmb	IAmb	04 40 29.1	
	comp=Z,2.3nm,0.8s						
DBIC	Dimbokro	58.21	260	P	P	04 41 32.1	+0.6
	comp=Z,4.6nm,0.7s,baz=2,3,slow=5.5,SNR=5.9						
DBIC	Dimbokro	58.21	260	IAmb	IAmb	04 41 32.9	
	comp=Z,6.2nm,0.8s						
ILAR	Eielson Array	85.80	8	P	P	04 44 15.4	-0.6
	comp=Z,0.5nm,0.8s,baz=337,slow=5.1,SNR=5.0						

*IDC **20** 04:37:17.9±0.9,11°.60N×85°.26W,h172km±14km,mb3.2/6, mb1 3.5/7,mb1mx3.3/35,mbtmp3.6/7,Error ellipse: s-maj=46.4km s-min=15.2km az=49.0*

*UCR **20** 04:37:18.5±5.0,12°.21N×85°.03W,h17km±27km,MD4.1, ML3.3*

*INET **20** 04:37:18.0,11°.40N×85°.65W,h194km,ML3.9*

*SNET **20** 04:37:23.1±1.1,11°.52N×86°.06W,h182km±37km,ML3.6*

ISC 20 04:37:18.5±0.7,**11°.36N**±0°.09×**85°.70W**±0°.08,**h182**km±6km, **n65**,σ**1§02**/79,**mb3.4**/6,**1C**,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUAI	Buenos Aires	0.60	143	i P	Pn	04 37 44.7	+0.7
GB1A	Borinquen Arri	0.61	151	eP	Pn	04 37 44.6	+0.5
GB1A				i S	Sn	04 38 04.6	+0.6
GBS3	Finca Las Img	0.62	157	i P	Pn	04 37 44.3	+0.1
GBS3				i S	Sn	04 38 03.8	-0.1
BUEV	Buena Vista	0.62	153	eP	Pn	04 37 44.5	+0.2
BUEV				i S	Sn	04 38 04.1	0.0
LAPC	Finca la Perla	0.64	156	i P	Pn	04 37 44.2	0.0
LAPC				i S	Sn	04 38 03.8	-0.4
HZTE	Horizontes, Gu	0.65	171	eP	Pn	04 37 44.7	+0.4
HZTE				eS	Sn	04 38 04.7	+0.5
GPS1	Guardaparques	0.67	149	i P	Pn	04 37 44.9	+0.4
GPS3	Bodega del ICE	0.68	151	i P	Pn	04 37 44.7	+0.2
GPS2	Hotel Rincn d	0.69	150	i P	Pn	04 37 44.8	+0.2
GUAB	Guayabo de Bag	0.79	144	i P	Pn	04 37 45.6	+0.4
GUAB				i S	Sn	04 38 05.5	-0.2
COLC	Colonia	0.84	145	i P	Pn	04 37 45.8	+0.4
CUI	Cuipilapa	0.87	143	eP	Pn	04 37 46.2	+0.6
CUI		

ASAR Alice Springs 140.43 247 PKP **PKPdf 04 56 26.8 -0.1**
comp=Z,1.0nm,0.6s,baz=109,slow=2.0,SNR=13
WRA Warramunga Arr 140.60 252 PKP **PKPdf 04 56 27.5 +0.3**
comp=Z,1.3nm,0.7s,baz=89,slow=1.6,SNR=13

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*NEIC **20** 04:47:52.2±1.5, 20°.8S±0°.2×177°.8W±0°.1, h383km±10km, mb4.1/3, Error ellipse: s-maj=26.7km s-min=17.4km az=173.0*
*IDC **20** 04:47:57.7±5.8, 20°.63S×178°.01W, h434km±59km, mb3.2/7, mb1 3.5/8, mb1mx3.3/30, mbtmp4.0/8, Error ellipse: s-maj=113.0km s-min=24.8km az=156.0*
ISC 20 04:47:53.0±0.7, 20°.8S±0°.2×177°.8W±0°.1, h400km, n19, σ1$59/18, mb3.5/8, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.96**	**307**		**Pn**	**04 49 13.5**	**-1.3**
NIUE	**Niue**	**7.58**	**79**	Pn	**Pn**	**04 49 41.0**	**-2.2**
DZM	**Mont Dzumac**	**14.75**	**262**	P	**P**	**04 51 05.3**	**+2.4**
1.1nm,0.3s,baz=81,slow=19,SNR=9.8							
DZM	**Mont Dzumac**	**14.75**	**262**	P	**P**	**04 51 00.3**	**-2.6**
URZ	**Urewera**	**17.98**	**193**	P	**P**	**04 51 36.8**	**-0.4**
URZ				IAmb	IAmb	04 51 37.9	
comp=Z,180nm,1.7s							
CTA	**Charters Tower**	**33.67**	**265**	P	**P**	**04 53 59.6**	**+1.0**
comp=Z,2.9nm,0.5s,baz=87,slow=11,SNR=7.2							
AS31	**Alice Springs**	**44.66**	**257**	P	**P**	**04 55 28.4**	**+0.1**
AS31				IAmb	IAmb	04 56 27.7	
comp=Z,0.6nm,0.7s							
ASAR	**Alice Springs**	**44.66**	**257**	P	**P**	**04 55 28.6**	**+0.2**
comp=Z,2.2nm,0.7s,baz=96,slow=8.4,SNR=33							
WRA	**Warramunga Arr**	**44.77**	**262**	P	**P**	**04 55 28.9**	**-0.3**
comp=Z,0.5nm,0.3s,baz=96,slow=7.5,SNR=17							
NVAR	**Mina Array Bea**	**81.08**	**43**	P	**P**	**04 59 27.1**	**+1.9**
comp=Z,0.6nm,0.7s,baz=228,slow=8.4,SNR=4.8							
TXAR	**Lajitas Array**	**87.02**	**57**	P	**P**	**04 59 57.5**	**+2.7**
comp=Z,0.4nm,0.7s,baz=211,slow=7.0,SNR=3.6							
ILAR	**Eielson Array**	**88.53**	**13**	P	**P**	**05 00 00.7**	**-0.2**
comp=Z,0.6nm,0.6s,baz=223,slow=6.2,SNR=7.4							
PDAR	**Pinedale Array**	**89.01**	**43**	P	**P**	**05 00 04.8**	**+0.9**
comp=Z,0.5nm,0.5s,baz=224,slow=4.3,SNR=6.7							
AKASG	**Malin Array Be**	**143.35**	**331**	PKP	**PKPdf**	**05 06 38.3**	**-2.0**
comp=Z,1.1nm,0.5s,baz=43,slow=4.4,SNR=20							
AKASG	**Malin Array Be**	**143.35**	**331**		PKPpre	05 06 38.7	
BRTR	**Keskin Array B**	**147.17**	**312**	PKPbc	**PKiKP**	**05 06 51.3**	**-0.9**
comp=Z,0.4nm,0.5s,baz=142,slow=4.1,SNR=2.9							
CLL	**Collm**	**148.37**	**347**	j PKPbc	**PKiKP**	**05 06 54.2**	**+0.1**
comp=Z,6.0nm,0.8s							
CLL				Lm	MLR	05 29 00.0	
comp=Z,800nm,20.9s							
GERES	**GERESS Array B**	**150.51**	**345**	PKPbc	**PKiKP**	**05 06 59.2**	**+0.4**
comp=Z,0.4nm,0.5s,baz=48,slow=2.0,SNR=5.9							
GERES	**GERESS Array B**	**150.51**	**345**		**PKiKP**	**05 06 59.5**	**+0.7**

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*JMA **20** 04:55:34.3±0.3, 33°.24N×138°.21E, h352km, M3.4*
*IDC **20** 04:55:36.0±1.0, 33°.23N×138°.00E, h343km±16km, mb2.9/4, mb1 3.0/6, mb1mx2.8/40, mbtmp3.6/6, Error ellipse: s-maj=46.2km s-min=15.4km az=67.0*
ISC 20 04:55:35.9±1.0, 33°.39N±0°.10×138°.2E±0°.1, h350km, n20, σ0$95/23, mb3.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.35**	**101**	P	**Pn**	**04 56 24.1**	**+0.9**
8.0nm,0.3s,baz=78,slow=22,SNR=3.3							
HMMJ	**Hamamatsu 2**	**1.51**	**345**	P	**Pn**	**04 56 24.0**	**0.0**
JKN2	**Miekihoku**	**1.81**	**298**	P	**Pn**	**04 56 24.7**	**-1.2**
JNY	**Yasuok**	**1.98**	**352**	P	**Pn**	**04 56 27.5**	**+0.4**
JAO	**Obara**	**2.03**	**338**	P	**Pn**	**04 56 27.3**	**-0.1**
JYN	**Shimob**	**2.12**	**8**	P	**Pn**	**04 56 28.7**	**+0.6**
JHU	**Hanno**	**2.61**	**20**	P	**Pn**	**04 56 32.1**	**+0.3**
JRY	**Ryogami san**	**2.68**	**12**	P	**Pn**	**04 56 33.2**	**+0.8**
MJAR	**Matsushiro Arr**	**3.14**	**0**	P	**Pn**	**04 56 36.6**	**+0.1**
0.6nm,0.3s,baz=180,slow=9.8,SNR=28							
MAT	**Matsushiro**	**3.14**	**0**	P	**Pn**	**04 56 36.7**	**+0.2**
MAT				S	**S**	**04 57 26.9**	**+1.6**
MAT	**Matsushiro**	**3.14**	**0**	P	**Pn**	**04 56 36.7**	**+0.2**
JAG	**Ashikaga**	**3.20**	**18**	P	**Pn**	**04 56 36.8**	**-0.1**
JAG				S	**S**	**04 57 24.0**	**-2.1**
JYT	**Yasato**	**3.27**	**30**	P	**Pn**	**04 56 37.4**	**-0.2**
JHO	**Hitachi**	**3.75**	**31**	P	**Pn**	**04 56 42.0**	**-0.3**
JFK	**Kawauchi**	**4.53**	**28**	P	**Pn**	**04 56 50.6**	**+0.3**
JFK				S	**S**	**04 57 48.5**	**-2.0**
KSRS	**Korea Array**	**9.31**	**299**	P	**Pn**	**04 57 45.1**	**-0.4**
0.4nm,0.3s,baz=110,slow=12,SNR=5.9							
MKAR	**Makanchi Array**	**43.93**	**305**	P	**P**	**05 03 09.7**	**+0.4**
0.2nm,0.4s,baz=86,slow=10,SNR=3.6							
WRA	**Warramunga Arr**	**53.16**	**185**	P	**P**	**05 04 18.3**	**-0.8**
0.5nm,0.4s,baz=0.3,slow=7.2,SNR=20							
ASAR	**Alice Springs**	**56.89**	**185**	P	**P**	**05 04 44.9**	**-0.6**
0.4nm,0.8s,baz=18,slow=12,SNR=7.0							
FINES	**FINESS Array B**	**70.79**	**332**	P	**P**	**05 06 16.0**	**+1.3**
1.4nm,0.9s,baz=47,slow=10,SNR=3.2							

IDC 20 05:05:07.5±5.5, 6°.66S×154°.02E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/41, mbtmp3.5/3, Error ellipse: s-maj=163.2km s-min=40.2km az=112.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**233**	P	P	05 10 16.5	0.0
0.9nm,0.6s,baz=56,slow=9.1,SNR=12							
ASAR	**Alice Springs**	**25.68**	**227**	P	P	05 10 38.8	-0.7
0.6nm,0.8s,baz=56,slow=9.3,SNR=5.5							
MKAR	**Makanchi Array**	**82.52**	**319**	P	P	05 17 33.0	+0.6
0.4nm,0.7s,baz=106,slow=5.1,SNR=4.2							

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*MAN **20** 05:10:12.1, 14°.75N×119°.93E, h24km, mb4.5, ML3.4, MS3.2*
*IDC **20** 05:10:15.9±0.9, 14°.59N×120°.26E, h92km±12km, mb3.6/7, mb1 3.8/7, mb1mx3.4/45, mbtmp4.0/7, Error ellipse: s-maj=43.9km s-min=14.7km az=61.0*
*NEIC **20** 05:10:16.3±0.9, 14°.6N±0°.1×120°.3E±0°.2, h100km±12km, mb4.2/9, Error ellipse: s-maj=25.6km s-min=12.9km az=70.0*
ISC 20 05:10:15.0±0.9, 14°.63N±0°.04×120°.04E±0°.08, h75km±11km, n33, σ2$02/40, mb4.2/10, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.91**	**167**	*eP*	**Pn**	**05 10 31.2**	**-1.5**
LUBP				*eS*	**Sn**	**05 10 46.0**	**+0.2**
TGY	**Tagaytay City**	**1.02**	**121**	P	**Pn**	**05 10 32.5**	**-1.5**
43nm,0.3s,baz=278,slow=15,SNR=5.4							
TGY				S	**Sn**	**05 10 48.5**	**+0.2**
693nm,0.3s,baz=131,slow=20,SNR=14							
PGP	**Puerto Galera**	**1.43**	**141**	*eP*	**Pn**	**05 10 37.2**	**-2.0**
PGP				*i S*	**Sn**	**05 11 01.0**	**+3.5**
LQP	**Lukban**	**1.54**	**109**	*eP*	**Pn**	**05 10 39.3**	**-1.6**
LQP				*i S*	**Sn**	**05 11 01.5**	**+1.0**
SMPP	**San Manuel, Pa**	**1.64**	**22**	*eP*	Pn	05 10 38.4	-3.6
SMPP				*eS*	**Sn**	**05 10 58.9**	**-3.6**
BOLP	**Bolinao**	**1.75**	**356**	*eP*	Pn	05 10 39.2	-4.2
BOLP				*eS*	Sn	05 10 58.9	-6.1
BALP	**Baler**	**1.85**	**53**	*eP*	**Pn**	**05 10 43.4**	**-1.5**
BALP				*eS*	**Sn**	**05 11 06.2**	**-1.4**
BOAC	**Boac**	**2.10**	**123**	*eP*	**Pn**	**05 10 50.3**	**+2.1**
BOAC				*eS*	**Sn**	**05 11 14.9**	**+1.4**
CAUP	**Cauayan**	**2.88**	**36**	*eP*	**Pn**	**05 10 59.4**	**+0.8**
CAUP				*eS*	**Sn**	**05 11 37.3**	**+5.1**
APYP	**Conner**	**3.42**	**20**	*eP*	**Pn**	**05 11 05.0**	**-1.0**
APYP				*eS*	**Sn**	**05 11 47.0**	**+1.5**
YULB	**Yu-li**	**8.80**	**8**	Pn	**Pn**	**05 12 20.7**	**+1.2**
SSLB	**Suanglung**	**9.15**	**5**	Pn	**Pn**	**05 12 26.1**	**+1.7**
MYLDM	**Lahad Datu**	**9.51**	**189**	Pn	**Pn**	**05 12 31.8**	**+2.6**
CMAR	**Chiang Mai Arr**	**20.57**	**284**	P	**P**	**05 14 50.0**	**+2.1**
1.0nm,0.3s,baz=90,slow=8.4,SNR=12							
CMAR	**Chiang Mai Arr**	**20.57**	**284**	P	**P**	**05 14 49.7**	**+1.8**
SONM	**Songino Array**	**34.99**	**344**	P	**P**	**05 17 00.1**	**-0.2**
0.7nm,0.5s,baz=147,slow=8.4,SNR=2.5							
WB0	**Warramunga Arr**	**36.98**	**157**	P	**P**	**05 17 14.6**	**-2.8**
WB0				IAmb	IAmb	05 17 16.4	
comp=Z,2.2nm,0.8s							
WRA	**Warramunga Arr**	**37.12**	**157**	P	**P**	**05 17 16.5**	**-2.1**
comp=Z,2.4nm,0.7s,baz=336,slow=9.5,SNR=32							
WRA	**Warramunga Arr**	**37.12**	**157**	P	**P**	**05 17 15.3**	**-3.2**
WB2	**Warramunga Arr**	**37.12**	**157**	P	**P**	**05 17 16.3**	**-2.3**
WR0	**Warramunga Arr**	**37.21**	**157**	P	**P**	**05 17 17.3**	**-2.1**
TLY	**Talaya**	**39.24**	**344**	P	**P**	**05 17 33.5**	**-2.5**
TLY				IAmb	IAmb	05 17 55.7	
comp=Z,4.3nm,0.9s							
AS31	**Alice Springs**	**40.40**	**160**	P	**P**	**05 17 44.0**	**-2.0**
AS31				IAmb	IAmb	05 17 44.9	
comp=Z,1.4nm,0.3s							
ASAR	**Alice Springs**	**40.40**	**160**	P	**P**	**05 17 44.5**	**-1.5**
comp=Z,1.4nm,0.3s,baz=336,slow=7.8,SNR=67							
ASAR	**Alice Springs**	**40.40**	**160**	P	**P**	**05 17 43.8**	**-2.2**
MK31	**Makanchi Array**	**44.91**	**323**	P	**P**	**05 18 22.8**	**+0.5**
MKAR	**Makanchi Array**	**44.91**	**323**	P	**P**	**05 18 23.1**	**+0.8**
comp=Z,1.2nm,0.7s,baz=130,slow=9.8,SNR=8.4							
MKAR	**Makanchi Array**	**44.91**	**323**	P	**P**	**05 18 22.1**	**-0.2**
ZALV	**Zalesovo Beam**	**47.94**	**333**	P	**P**	**05 18 45.6**	**-0.3**
comp=Z,0.9nm,0.5s,baz=126,slow=7.4,SNR=3.3							
CHGR	**Chuyangaron**	**50.63**	**308**	P	**P**	**05 19 07.2**	**+0.4**
KK31	**Karatay Array**	**50.87**	**314**	P	**P**	**05 19 08.7**	**+0.2**
KK31				IAmb	IAmb	05 19 09.8	
comp=Z,1.9nm,0.7s							
KKAR	**Karatay Array**	**50.87**	**314**	P	**P**	**05 19 08.7**	**+0.2**
FINES	**FINESS Array B**	**79.17**	**331**	P	**P**	**05 22 11.6**	**+0.1**
comp=Z,1.3nm,0.9s,baz=57,slow=7.0,SNR=5.2							

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*INET **20** 05:11:57.1, 14°.52N×93°.72W, h15km, ML5.0*
*MOS **20** 05:12:14.8±0.8, 14°.09N×92°.29W, h40km, mb5.1/51, Error ellipse: s-maj=10.5km s-min=4.7km az=112.1*
*MEX **20** 05:12:14.4±0.5, 13°.95N×92°.52W, h82km±30km, MD4.8*
*GCMT **20** 05:12:14.6±0.2, 13°.89N±0°.01×92°.85W±0°.01, h15km, MW5.2/112, Moment Tensor Solution. s77,c106; s112,c189; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.03±.16; $M_{\theta\theta}$-3.14±.10; $M_{\phi\phi}$-1.89±.10; $M_{r\theta}$3.60±.23; $M_{\theta\phi}$1.65±.06; $M_{\phi r}$-3.40±.25; Best double couple: $M_0$6.79200×10^{16} NP1:ϕ_s301.00000°, δ22.00000°, λ81.00000°. NP2:ϕ_s131.00000°, δ68.00000°, λ94.00000°. Principal axes: T 7.1900, Plg66.0000°, Azm47.0000°; N -0.7950, Plg3.0000°, Azm309.0000°; P -6.3950, Plg23.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UNK **20** 05:12:16.9, 13°.99N×92°.41W, h51km*
*NEIC **20** 05:12:16.6±2.1, 13°.97N±0°.06×92°.42W±0°.06, h49km±3km, mb5.0/397, Md4.8(MEX), Error ellipse: s-maj=9.0km s-min=7.6km az=222.0*
*SNET **20** 05:12:21.1±1.0, 13°.90N×91°.89W, h17km±34km, ML4.3*
*IDC **20** 05:12:21.6±2.1, 14°.23N×92°.10W, h82km±17km, mb4.3/20, mb1 4.5/23, mb1mx4.4/32, mbtmp4.6/23, MS4.5/22, Ms1 4.5/22, ms1mx4.4/33, Error ellipse: s-maj=21.1km s-min=10.4km az=57.0*
*UCR **20** 05:12:21.2±1.1, 13°.92N×91°.80W, h6km±27km, ML4.1, mb5.0(NEIC)*
*BGR **20** 05:12:29.4±0.0, 15°.17N×89°.51W, h33km, mb5.1*
ISC 20 05:12:16.1±0.9, 14°.02N±0°.05×92°.37W±0°.05, h40km±7km, n980, σ1$03/971, mb5.0/216, MS4.5/26, 11C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.82**	**52**	*eP*	**Pn**	**05 12 32.5**	**+1.2**
RTAL				*eS*	**Sn**	**05 12 43.2**	**+0.9**
RTAL				IAML		05 13 01.3	
comp=Z,9μm,0.6s							
RTAL	**Retalhuleu**	**0.82**	**52**		**Pn**	**05 12 32.8**	**+1.5**
RTAL				Sn	**Sn**	**05 12 43.5**	**+1.2**
THIG		**0.89**	**6**	*eP*	**Pn**	**05 12 32.0**	**-0.2**
THIG				*eS*	**Sn**	**05 12 46.0**	**+2.1**
HUEH	**Huehuetenango**	**1.54**	**33**		**Pn**	**05 12 43.5**	**+2.1**
HUEH				Sn	**Sn**	**05 12 59.9**	**-0.3**
PCIG		**1.87**	**334**	*eP*	**Pn**	**05 12 43.3**	**-2.3**
PCIG				*eS*	**Sn**	**05 13 06.0**	**-2.0**
APG	**El Apazote**	**2.09**	**62**	P	**Pn**	**05 12 51.1**	**+2.2**
comp=Z,116nm,0.3s,baz=228,slow=10,SNR=691							
APG				LR	LR	05 13 35.0	
comp=Z,2μm,21.4s,baz=218,slow=42							
CCIG	**Comitan**	**2.26**	**6**	*eP*	**Pn**	**05 12 54.4**	**+3.2**
CCIG	**Comitan**	**2.26**	**6**		**Pn**	**05 12 53.5**	**+2.3**
RTR	**El Retiro**	**2.64**	**92**	*eP*	**Pn**	**05 12 57.2**	**+0.7**
RTR	**El Retiro**	**2.64**	**92**	*eP*	**Pn**	**05 12 57.2**	**+0.7**
CEVE	**Cerro Verde**	**2.67**	**94**	*eP*	**Pn**	**05 12 57.1**	**+0.2**
CEVE				*eS*	**Sn**	**05 13 25.7**	**-2.4**
CEVE				IAML		05 13 52.4	
comp=Z,3μm,0.6s							
CEVE	**Cerro Verde**	**2.67**	**94**	*eP*	**Pn**	**05 12 57.1**	**+0.2**
CEVE				*eS*	**Sn**	**05 13 25.7**	**-2.4**
CEVE				IAML		05 13 52.4	
comp=Z,3μm,0.6s							
SBLS	**San Blas**	**2.67**	**93**	*eP*	**Pn**	**05 12 57.1**	**+0.3**
SBLS	**San Blas**	**2.67**	**93**	*eP*	**Pn**	**05 12 57.1**	**+0.3**
SNJE	**San Jose**	**2.69**	**93**	*eP*	**Pn**	**05 12 57.8**	**+0.8**
SNJE	**San Jose**	**2.69**	**93**	*eP*	**Pn**	**05 12 57.8**	**+0.8**
UNIC	**Universidad Ca**	**2.74**	**90**	*eP*	**Pn**	**05 12 58.0**	**+0.4**
UNIC				*eS*	**Sn**	**05 13 26.2**	**-3.3**
UNIC	**Universidad Ca**	**2.74**	**90**	*eP*	**Pn**	**05 12 58.0**	**+0.4**
UNIC				*eS*	**Sn**	**05 13 26.2**	**-3.3**
MRL	**Marmol**	**2.80**	**68**	*eP*	**Pn**	**05 13 00.3**	**+1.6**
MRL	**Marmol**	**2.80**	**68**	*eP*	**Pn**	**05 13 00.3**	**+1.6**
TGIG		**2.84**	**345**	*eP*	**Pn**	**05 12 59.3**	**+0.2**
TGIG				*eS*	**Sn**	**05 13 31.7**	**-0.4**
CEDA	**San Andres**	**2.89**	**94**	*eP*	**Pn**	**05 12 59.6**	**-0.2**
CEDA				IAML		05 13 58.4	
comp=Z,2μm,0.6s							
CEDA	**San Andres**	**2.89**	**94**	*eP*	**Pn**	**05 12 59.6**	**-0.2**
CEDA				IAML		05 13 58.4	
comp=Z,2μm,0.6s							
TACO	**Tacachico**	**2.92**	**91**	*eP*	**Pn**	**05 13 00.9**	**+0.7**
TACO	**Tacachico**	**2.92**	**91**	*eP*	**Pn**	**05 13 00.9**	**+0.7**
MTO3	**Montecristo**	**2.94**	**82**	*eP*	**Pn**	**05 13 01.6**	**+1.0**
MTO3	**Montecristo**	**2.94**	**82**	*eP*	**Pn**	**05 13 01.6**	**+1.0**
MTO3	**Montecristo**	**2.94**	**82**		**Pn**	**05 13 01.4**	**+0.9**
ESQI	**Esquipulas**	**2.98**	**79**	*eP*	**Pn**	**05 13 02.5**	**+1.4**
ESQI	**Esquipulas**	**2.98**	**79**		**Pn**	**05 13 02.6**	**+1.6**
BOQS	**Boqueron**	**3.01**	**95**	*eP*	**Pn**	**05 13 03.0**	**+1.4**
BOQS	**Boqueron**	**3.01**	**95**	*eP*	**Pn**	**05 13 03.0**	**+1.4**
SNET	**Serv Nac Est T**	**3.06**	**96**		**Pn**	**05 13 02.7**	**+0.5**
SNET				Sn	**Sn**	**05 13 37.4**	**-0.2**
LFRS	**El Faro**	**3.23**	**97**	*eP*	**Pn**	**05 13 04.7**	**+0.2**
LFRS	**El Faro**	**3.23**	**97**	*eP*	**Pn**	**05 13 04.7**	**+0.2**
LBRS	**Las Brisas**	**3.24**	**95**	*eP*	**Pn**	**05 13 05.0**	**+0.4**
LBRS	**Las Brisas**	**3.24**	**95**	*eP*	**Pn**	**05 13 05.0**	**+0.4**
LLGN	**La Laguna**	**3.32**	**87**	*eP*	**Pn**	**05 13 06.2**	**+0.5**
LLGN	**La Laguna**	**3.32**	**87**	*eP*	**Pn**	**05 13 06.2**	**+0.5**
PAVA	**Las Pavas**	**3.34**	**95**	*eP*	**Pn**	**05 13 06.5**	**+0.5**
PAVA				IAML		05 14 05.9	
comp=Z,410nm,0.7s							
PAVA	**Las Pavas**	**3.34**	**95**	*eP*	**Pn**	**05 13 06.5**	**+0.5**
PAVA				IAML		05 14 05.9	
comp=Z,410nm,0.7s							
COEG	**Centro de Oper**	**3.41**	**96**	*eP*	**Pn**	**05 13 07.4**	**+0.5**
COEG	**Centro de Oper**	**3.41**	**96**	*eP*	**Pn**	**05 13 07.4**	**+0.5**
COEB	**Comit de Eme**	**3.76**	**97**	*eP*	**Pn**	**05 13 11.9**	**+0.1**
COEB	**Comit de Eme**	**3.76**	**97**	*eP*	**Pn**	**05 13 11.9**	**+0.1**
HUIG	**Huatulco**	**4.01**	**296**	*eP*	Pn	05 13 08.3	-6.8
BLLM	**Bellamira**	**4.05**	**98**	*eP*	**Pn**	**05 13 16.6**	**+0.8**
BLLM	**Bellamira**	**4.05**	**98**	*eP*	**Pn**	**05 13 16.6**	**+0.8**
LCND	**La Caada**	**4.41**	**99**	*eP*	**Pn**	**05 13 21.1**	**+0.6**
LCND	**La Caada**	**4.41**	**99**	*eP*	**Pn**	**05 13 21.1**	**+0.6**
CNCH	**Conchagua**	**4.47**	**99**	*eP*	**Pn**	**05 13 21.9**	**+0.4**
CNCH	**Conchagua**	**4.47**	**99**	*eP*	**Pn**	**05 13 21.9**	**+0.4**
TGUH	**Tegucigalpa,Un**	**4.94**	**89**	Pn	**Pn**	**05 13 28.7**	**+0.6**
TGUH				Sn	**Sn**	**05 14 24.9**	**+0.8**
PEIG	**Puerto Escondi**	**5.02**	**294**	*eP*	Pn	05 13 22.8	-6.2
MATN	**Matagalpa**	**6.36**	**99**	Pn	**Pn**	**05 13 47.4**	**-0.1**
BOAB	**BOACO BROADBAN**	**6.71**	**103**	Pn	**Pn**	**05 13 51.9**	**-0.3**
TLIG	**Tlapa**	**6.93**	**301**		**Pn**	**05 13 54.4**	**-1.0**
TEIG	**Tepich**	**7.31**	**32**	P	**Pn**	**05 14 01.6**	**+1.3**
comp=Z,32nm,0.3s,baz=185,slow=0.9,SNR=108							
TEIG				LR	LR	05 17 20.8	
comp=Z,10μm,20.8s,baz=208,slow=43							
TEIG	**Tepich**	**7.31**	**32**	Pn	**Pn**	**05 14 01.6**	**+1.3**
TEIG				Sn	**Sn**	**05 15 23.2**	**+1.1**
ESPN	**Las Esperanzas**	**8.06**	**102**		**Pn**	**05 14 10.9**	**+0.1**
JTS	**Las Juntas de**	**8.14**	**116**	P	**Pn**	**05 14 13.6**	**+1.7**
comp=Z,2.3nm,0.3s,baz=35,slow=5.4,SNR=17							
UNM	**Universidad Na**	**8.39**	**310**	P	**Pn**	**05 14 14.9**	**-0.7**
UNM	**Universidad Na**	**8.39**	**310**	Pn	**Pn**	**05 14 14.9**	**-0.7**
MOIG	**Morelia**	**10.15**	**305**	Pn	**Pn**	**05 14 40.4**	**+0.8**
FSCY	**Frank Sound, G**	**11.94**	**62**	Pn	**Pn**	**05 15 06.5**	**+2.7**
ZAIG	**Zacatecas**	**13.01**	**313**	Pn	**Pn**	**05 15 18.9**	**+0.1**
LCCY	**Blossom Villag**	**13.03**	**63**		**Pn**	**05 15 20.1**	**+1.3**
BCIP	**Isla Barro Col**	**13.19**	**110**	P	**Pn**	**05 15 20.9**	**0.0**
BCIP	**Isla Barro Col**	**13.19**	**110**	Pn	**Pn**	**05 15 20.9**	**0.0**
CBCY	**The Bluff, Cay**	**13.34**	**63**		**Pn**	**05 15 25.5**	**+2.6**
MTDJ	**Mount Denham**	**14.85**	**72**	P	**P**	**05 15 49.0**	**+0.3**
735A	**Kenedy**	**15.60**	**342**		**Pn**	**05 15 53.6**	**+0.3**
735A				IAmb	IAmb	05 16 03.0	
comp=Z,76nm,0.8s							
833A	**Chaparral WMA,**	**15.66**	**336**	P	**P**	**05 15 56.1**	**-1.5**
baz=154,SNR=7.1							
833A	**Chaparral WMA,**	**15.66**	**336**		**Pn**	**05 15 53.2**	**-0.8**
833A				IAmb	IAmb	05 15 60.0	
comp=Z,105nm,1.0s							
061Z	**Ochoppi**	**15.95**	**41**		**Pn**	**05 15 57.1**	**-0.6**
061Z				IAmb	IAmb	05 16 11.5	
comp=Z,184nm,0.9s							
HKT	**Hockley**	**16.18**	**349**	P	**Pn**	**05 16 00.8**	**+0.3**
HKT				pmax	pmax		
comp=Z,35nm,1.1s							
HKT	**Hockley**	**16.18**	**349**		**Pn**	**05 16 00.8**	**+0.3**
SOLC	**Bahia Solano**	**16.63**	**116**	*eP*	**Pn**	**05 16 01.5**	**-4.9**
MOTC	**Monteria, Cord**	**17.18**	**106**	*eP*	**Pn**	**05 16 09.8**	**-3.5**
342A	**Flagon Creek P**	**17.28**	**0**	P	**Pn**	**05 16 13.4**	**-0.9**
SJCC	**San Jacinto, C**	**17.30**	**102**	*eP*	**Pn**	**05 16 12.3**	**-2.6**
DBBC	**Dabeiba**	**17.33**	**112**	*eP*	**Pn**	**05 16 15.8**	**+0.5**
435B	**Jarrell**	**17.36**	**345**	P	**P**	**05 16 17.6**	**+1.2**
baz=163							
435B	**Jarrell**	**17.36**	**345**		**Pn**	**05 16 14.5**	**-1.0**
344A	**Westbrook Farm**	**17.42**	**5**	P	**P**	**05 16 17.0**	**0.0**
URECC	**San Jos de Ur**	**17.66**	**109**	*eP*	**Pn**	**05 16 14.6**	**-4.7**
BRAL	**Brewton**	**17.76**	**15**	P	**P**	**05 16 22.9**	**+2.2**
baz=197							
JCT	**Junction City**	**17.76**	**339**	P	**Pn**	**05 16 19.9**	**-0.5**
JCT				pmax	pmax		
comp=Z,41nm,0.9s							
JCT	**Junction City**	**17.76**	**339**	P	**P**	**05 16 21.5**	**+0.6**
baz=156,SNR=19							
JCT	**Junction City**	**17.76**	**339**	P	**Pn**	**05 16 19.9**	**-0.5**
656A	**Willston**	**17.78**	**29**	P	**Pn**	**05 16 20.4**	**-0.3**
656A				IAmb	IAmb	05 16 32.9	
comp=Z,150nm,0.9s							
NATX	**Nacogdoches**	**17.79**	**354**	P	**P**	**05 16 22.3**	**+1.2**
baz=173,SNR=5.7							
NATX	**Nacogdoches**	**17.79**	**354**	P	**Pn**	**05 16 20.8**	**+0.2**
CBOC	**Ciudad Bolivar**	**18.02**	**115**	*eP*	**P**	**05 16 25.5**	**+1.5**
237A	**Washetta, Mont**	**18.18**	**351**	P	**Pn**	**05 16 24.0**	**-1.4**
VBMS	**Vicksburg**	**18.20**	**5**	P	**Pn**	**05 16 26.9**	**+1.2**
baz=186							
PLMC	**San Jos del P**	**18.25**	**118**	*eP*	**P**	**05 16 26.0**	**-0.5**
ZARC	**Zaragoza, Cauc**	**18.38**	**109**	*eP*	**P**	**05 16 27.8**	**0.0**
H06E1	**SOCORRO T-PHAS**	**18.42**	**287**	T	T	05 35 07.3	
SNR=29							
TXAR	**Lajitas Array**	**18.49**	**327**	P	**Pn**	**05 16 30.7**	**+1.3**
comp=Z,0.5nm,0.3s,baz=150,slow=14,SNR=96							
TXAR				LR	LR	05 24 32.6	
comp=Z,627nm,20.5s,baz=0.0,slow=40							
TXAR	**Lajitas Array**	**18.49**	**327**	P	**P**	**05 16 29.2**	**+0.3**
TXAR	**Lajitas Array**	**18.49**	**327**		**P**	**05 16 29.2**	**+0.3**
TX31	**Lajitas Ar. Si**	**18.49**	**327**	P	**Pn**	**05 16 30.4**	**+1.0**
TX32	**Lajitas Array**	**18.49**	**327**	P	**Pn**	**05 16 30.3**	**+1.0**
TX32				IAmb	IAmb	05 16 42.3	
comp=Z,113nm,1.1s							
WHTX	**Lake Whitney,**	**18.49**	**346**

UALR IAmb IAmb 05 17 07.8
comp=Z,95nm,1.1s
VILC Villavicencio, 20.88 116 *e*P **P 05 16 55.9 +0.6**
X48A Hartselle 20.91 12 P **P 05 16 54.9 -0.3**
X48A IAmb IAmb 05 17 09.8
comp=Z,104nm,1.4s
GOGA Godfrey 20.93 21 P **P 05 16 55.8 +0.3**
GOGA pmax pmax
comp=Z,45nm,1.0s
GOGA Godfrey 20.93 21 P **P 05 16 56.3 +0.8**
baz=205,SNR=12
GOGA Godfrey 20.93 21 P **P 05 16 55.8 +0.3**
W41B Gary Mavity, V 21.07 0 P **P 05 16 57.6 +0.7**
baz=180,SNR=8.1
W41B Gary Mavity, V 21.07 0 P **P 05 16 57.8 +0.9**
X34A Smith Ranch, M 21.08 347 P 05 16 57.1 0.0
X34A IAmb IAmb 05 17 01.5
comp=Z,67nm,0.7s
W39A Magazine 21.13 357 P **P 05 16 58.4 +0.9**
baz=176,SNR=19
W39A Magazine 21.13 357 P **P 05 16 59.4 +1.9**
W39A IAmb IAmb 05 17 02.1
comp=Z,54nm,0.8s
Y52A Lilburn 21.15 19 P **P 05 16 58.5 +0.7**
Y52A IAmb IAmb 05 17 12.6
comp=Z,80nm,1.2s
GDL2 Guadalupe Moun 21.16 331 P **P 05 16 59.2 +1.1**
WHAR Wooly Hollow 21.18 0 P **P 05 16 59.3 +1.2**
PLAL Pickwick Lake 21.23 10 P **P 05 16 58.5 -0.2**
W45A Hickory Valley 21.24 7 P **P 05 16 59.9 +1.1**
W45A IAmb IAmb 05 17 16.6
comp=Z,102nm,1.0s
MNTX Cornudas Mount 21.26 328 P **P 05 16 59.5 +0.4**
baz=143,SNR=88
MNTX Cornudas Mount 21.26 328 P **P 05 16 59.2 +0.1**
MNTX IAmb IAmb 05 17 08.1
comp=Z,90nm,1.1s
FPAL Fort Paine 21.33 15 P **P 05 16 59.8 +0.1**
FPAL IAmb IAmb 05 17 08.8
comp=Z,89nm,1.0s
SC01 Santiago de lo 21.40 72 P **P 05 17 00.8 +0.2**
SC01 IAmb IAmb 05 17 18.1
comp=Z,130nm,1.2s
WMOK Wichita Mounta 21.43 345 P **P 05 17 00.6 -0.2**
WMOK pmax pmax
comp=Z,29nm,0.8s
WMOK Wichita Mounta 21.43 345 P **P 05 17 00.9 +0.1**
baz=163,SNR=35
WMOK Wichita Mounta 21.43 345 P **P 05 17 00.6 -0.2**
W35A Tecumseh 21.43 350 P **P 05 17 00.3 -0.5**
X51A Calhoun 21.56 17 P **P 05 17 01.7 -0.4**
X51A IAmb IAmb 05 17 17.3
comp=Z,115nm,1.2s
TAMC Tame, Arauca 21.59 108 *e*P **P 05 17 03.6 +0.9**
FNO Franklin 21.63 349 P **P 05 17 03.4 +0.4**
Z56A Williston 21.67 26 P **P 05 17 03.8 +0.5**
baz=210
Z56A Williston 21.67 26 P **P 05 17 04.3 +1.0**
MACC Macarena, Meta 21.77 121 *e*P **P 05 17 05.9 +1.2**
FCAR Ozark Folk Cen 21.78 1 P **P 05 17 04.9 +0.4**
OKCSW OKLAHOMA CITY 21.78 349 P **P 05 17 04.8 +0.3**
OKCFA Oklahoma City 21.79 349 P **P 05 17 05.0 +0.3**
SWET Sewanee 21.89 14 P **P 05 17 05.0 -0.8**
SWET IAmb IAmb 05 17 13.7
comp=Z,43nm,0.8s
SDV Santo Domingo 21.89 101 P **P 05 17 07.5 +1.4**
comp=Z,4.2nm,0.3s,baz=311,slow=9.3,SNR=3.5
SDV LR LR 05 27 26.8
comp=Z,770nm,18.9s,baz=302,slow=42
SDV Santo Domingo 21.89 101 P **P 05 17 06.3 +0.1**
SDV Santo Domingo 21.89 101 *e*P **P 05 17 05.3 -0.9**
OK025 Westminster Rd 21.93 349 P **P 05 17 05.6 -0.6**
LCAR Lake Charles 21.99 3 P **P 05 17 06.2 -0.5**
MSTX Muleshoe 21.99 336 P **P 05 17 06.9 -0.1**
baz=152
MSTX Muleshoe 21.99 336 P **P 05 17 06.6 -0.4**
MSTX IAmb IAmb 05 17 08.9
comp=Z,74nm,0.8s
Y55A Saluda 22.00 24 P **P 05 17 07.8 +0.8**
baz=208
NHSC New Hope 22.01 28 P **P 05 17 07.9 +0.9**
baz=213
TUL1 Leonard 22.02 353 P **P 05 17 06.0 -1.1**
baz=171,SNR=15
TUL1 Leonard 22.02 353 P **P 05 17 06.0 -1.1**
TUL1 IAmb IAmb 05 17 17.4
comp=Z,53nm,0.9s
W50A Signal Mountai 22.03 16 P **P 05 17 07.2 -0.1**
BCOK Bluff Creek, N 22.06 349 P **P 05 17 07.4 -0.2**
Y56A Pelion 22.10 25 P **P 05 17 09.0 +1.0**
baz=210
HODGE Hodges 22.11 23 P **P 05 17 09.0 +0.9**
HODGE IAmb IAmb 05 17 22.5
comp=Z,90nm,1.3s
OK029 Liberty Lake 22.16 349 P **P 05 17 07.9 -0.7**
OK029 IAmb IAmb 05 17 08.7
comp=Z,81nm,0.8s
PTLC Puerto Leguiza 22.18 127 *e*P **P 05 17 13.1 +4.1**
V48A Smith Brothers 22.20 12 P **P 05 17 08.2 -0.8**
V48A IAmb IAmb 05 17 18.1
comp=Z,55nm,1.1s
PTGC Puerto Gaitan, 22.21 114 *e*P **P 05 17 10.1 +0.7**
HHAR Hobbs 22.21 357 P **P 05 17 08.9 -0.3**
U40A Yellville 22.25 359 P **P 05 17 09.5 -0.1**
baz=179,SNR=21
U40A Yellville 22.25 359 P **P 05 17 09.2 -0.4**
X54A Belton 22.35 22 P **P 05 17 11.5 +0.9**
baz=206,SNR=6.9
Z58A St. Stephen 22.37 29 P **P 05 17 10.1 -0.7**
baz=214
WVT Waverly 22.39 10 P **P 05 17 10.6 -0.5**
WVT pmax pmax
comp=Z,20nm,0.8s
WVT Waverly 22.39 10 P **P 05 17 10.9 -0.1**
baz=192
WVT Waverly 22.39 10 P **P 05 17 10.6 -0.5**
U38A Gravette 22.40 356 P **P 05 17 11.6 +0.4**
U38A IAmb IAmb 05 17 13.7
comp=Z,47nm,0.9s
QUOK Quay 22.40 351 P **P 05 17 09.6 -1.7**
QUOK IAmb IAmb 05 17 12.2
comp=Z,100nm,0.9s
AMTX Amarillo 22.41 340 P **P 05 17 11.6 +0.2**
baz=156
AMTX Amarillo 22.41 340 P **P 05 17 11.3 -0.2**
CPCT Cooper Cave 22.48 17 P **P 05 17 11.8 -0.2**
CPCT IAmb IAmb 05 17 29.3
comp=Z,52nm,1.2s
JSC Jenkinsville 22.54 25 P **P 05 17 12.0 -0.8**
JSC pmax pmax
comp=Z,54nm,1.5s
JSC Jenkinsville 22.54 25 P **P 05 17 11.9 -0.8**
BG3 Lake Jocassee 22.55 21 P **P 05 17 12.8 -0.1**
BG3 IAmb IAmb 05 17 22.1
comp=Z,66nm,1.3s
X55A Gracelyn & Ava 22.56 24 P **P 05 17 13.1 +0.2**
baz=208
HICK Hickman 22.60 7 P **P 05 17 12.6 -0.8**
CLTN Cedars of Leba 22.64 13 P **P 05 17 12.7 -1.1**
CLTN IAmb IAmb 05 17 14.5
comp=Z,52nm,0.8s
PARMO Parma 22.67 5 P **P 05 17 13.4 -0.6**
Y57A Sumter 22.68 27 P **P 05 17 14.3 +0.1**
baz=211
Y57A Sumter 22.68 27 P **P 05 17 13.5 -0.6**
Y57A IAmb IAmb 05 17 30.0
comp=Z,57nm,0.9s
PBMO Poplar Bluff 22.73 4 P **P 05 17 14.1 -0.6**
PBMO IAmb IAmb 05 17 15.4
comp=Z,58nm,0.9s
HENM Henderson Moun 22.75 6 P **P 05 17 14.4 -0.5**
SRIG Santa Rosalia 22.78 309 P **P 05 17 15.7 +0.4**
SRIG IAmb IAmb 05 17 29.9
comp=Z,76nm,1.3s
HSIG 22.79 314 P **P 05 17 15.2 -0.2**
PAULI Pauline 22.80 23 P **P 05 17 15.5 +0.1**
PAULI IAmb IAmb 05 17 30.9
comp=Z,53nm,1.2s
X56A White Oak 22.82 25 P **P 05 17 15.4 -0.2**
baz=209
V51A Loudon 22.86 17 P **P 05 17 15.1 -0.9**
V51A IAmb IAmb 05 17 17.1
comp=Z,47nm,1.0s
TKL Tuckaleechee C 22.89 18 P **P 05 17 16.4 0.0**
comp=Z,54nm,1.1s,baz=195,slow=11,SNR=21
TKL LR LR 05 27 57.0
comp=Z,3μm,18.4s,baz=214,slow=41
TKL Tuckaleechee C 22.89 18 P **P 05 17 17.0 +0.6**
TKL pmax pmax
comp=Z,139nm,1.3s
TKL Tuckaleechee C 22.89 18 P **P 05 17 17.0 +0.6**
TKL IAmb IAmb 05 17 25.6
comp=Z,139nm,1.2s
W54A Cherokee Point 22.90 22 P **P 05 17 16.9 +0.4**
baz=206,SNR=12
T42A Van Buren 22.95 3 P **P 05 17 16.2 -0.8**
CROK Carrier 22.95 348 P **P 05 17 15.8 -1.3**
MGMO Mountain Grove 23.04 0 P **P 05 17 18.0 +0.1**
U32A Winter Ranch, 23.05 346 P **P 05 17 17.8 -0.3**
U32A IAmb IAmb 05 17 19.7
comp=Z,96nm,0.9s
T35A Sooner Cattle 23.10 352 P **P 05 17 17.2 -1.3**
T35A IAmb IAmb 05 17 18.9
comp=Z,75nm,0.7s
V52A Sevierville 23.12 18 P **P 05 17 18.7 0.0**
T45A Paducah 23.15 8 P **P 05 17 18.3 -0.7**
U49A Red Boiling Sp 23.16 14 P **P 05 17 18.2 -1.0**
U49A IAmb IAmb 05 17 26.4
comp=Z,88nm,1.2s
X57A Johnson Farm, 23.19 26 P **P 05 17 18.8 -0.6**
baz=212
121A Cookes Peak, D 23.19 325 P **P 05 17 21.1 +1.4**
baz=139,SNR=36
121A Cookes Peak, D 23.19 325 P **P 05 17 20.6 +1.0**
121A IAmb IAmb 05 17 37.0
comp=Z,78nm,0.9s
V53A Saluda 23.21 20 P **P 05 17 20.1 +0.5**
V53A IAmb IAmb 05 17 37.5
comp=Z,47nm,1.0s
KMSC Kings Mountain 23.27 23 P **P 05 17 20.1 -0.1**
baz=208,SNR=16
KMSC Kings Mountain 23.27 23 P **P 05 17 20.3 +0.1**
KMSC IAmb IAmb 05 17 21.9
comp=Z,44nm,0.8s
KAN13 South Haven SW 23.35 350 P **P 05 17 19.9 -1.1**
T47A Sharon Grove 23.35 11 P **P 05 17 19.8 -1.2**
T47A IAmb IAmb 05 17 29.7
comp=Z,70nm,1.0s
W56A Indian Trail 23.56 25 P **P 05 17 22.4 -0.6**
baz=210,SNR=6.7
KAN10 Anthony SW Sta 23.57 348 P **P 05 17 22.7 -0.4**
S39A Bolivar 23.59 358 P **P 05 17 22.0 -1.3**
S39A IAmb IAmb 05 17 24.4
comp=Z,65nm,0.9s
V54A Nebo 23.60 22 P **P 05 17 23.2 -0.2**
baz=206,SNR=14
KAN12 Harper NE Stat 23.72 349 P **P 05 17 23.6 -1.0**
S44A Carbondale 23.74 6 P **P 05 17 23.5 -1.2**
TZTN Tazewell 23.78 18 P **P 05 17 24.7 -0.3**
baz=202,SNR=12
TZTN Tazewell 23.78 18 P **P 05 17 25.1 0.0**
W57A Gilead 23.82 26 P **P 05 17 24.6 -0.8**
baz=211
W57A Gilead 23.82 26 P **P 05 17 25.5 +0.1**
W57A IAmb IAmb 05 17 42.4
comp=Z,99nm,1.4s
BNM Barren Site 23.85 330 P **P 05 17 27.1 +1.1**
T50A Nancy 23.87 15 P **P 05 17 24.6 -1.3**
T50A IAmb IAmb 05 17 33.9
comp=Z,56nm,1.0s
Y22D IRIS PASSCAL I 23.93 329 P **P 05 17 28.3 +1.6**
Y22D IAmb IAmb 05 17 45.5
comp=Z,68nm,1.1s
V55A Taylorsville 23.94 23 P **P 05 17 26.2 -0.4**
baz=208,SNR=10
V55A Taylorsville 23.94 23 P **P 05 17 26.1 -0.4**
V55A IAmb IAmb 05 17 34.8
comp=Z,63nm,1.1s
X59A McDuffie Farm, 23.95 29 P **P 05 17 26.3 -0.4**
baz=215
CCM Cathedral Cave 23.96 2 P **P 05 17 26.2 -0.5**
CCM pmax pmax
comp=Z,31nm,1.1s
CCM Cathedral Cave 23.96 2 P **P 05 17 24.9 -1.9**
baz=183
CCM Cathedral Cave 23.96 2 P **P 05 17 26.2 -0.5**
LENM Lemitar 24.03 329 P **P 05 17 28.8 +1.2**
W58A Raeford 24.04 27 P **P 05 17 26.7 -0.7**
baz=213,SNR=5.2
R40A Maddies Statio 24.18 0 P **P 05 17 26.9 -1.8**
V56A Mocksville 24.18 24 P **P 05 17 28.3 -0.5**
baz=209,SNR=6.0
USIN University of 24.21 9 P **P 05 17 28.4 -0.7**
X60A Albert Glenn T 24.25 30 P **P 05 17 29.7 +0.3**
baz=216
U54A Nelsons Funny 24.32 21 P **P 05 17 29.5 -0.6**
baz=206,SNR=13
U54A Nelsons Funny 24.32 21 P **P 05 17 29.1 -1.0**
U54A IAmb IAmb 05 17 31.1
comp=Z,65nm,0.9s
ANMO Albuquerque 24.41 331 *ce*P **P 05 17 32.1 +1.0**
ANMO pmax pmax
comp=Z,34nm,1.7s
ANMO Albuquerque 24.41 331 P **P 05 17 32.2 +1.1**
baz=145
ANMO Albuquerque 24.41 331 P **P 05 17 31.9 +0.7**
T53A Wise 24.50 19 P **P 05 17 31.2 -0.6**
baz=204,SNR=6.8
V57A Coltrane Farms 24.54 25 P **P 05 17 31.3 -0.7**
baz=211
U55A TA2, Sparta 24.58 22 P **P 05 17 32.1 -0.4**
baz=207,SNR=11
SLM Saint Louis 24.59 4 P **P 05 17 31.8 -0.7**
SLM pmax pmax
comp=Z,72nm,0.7s
SLM Saint Louis 24.59 4 P **P 05 17 31.8 -0.7**
U56A King 24.69 24 P **P 05 17 33.3 -0.1**
baz=209,SNR=13
U56A King 24.69 24 P **P 05 17 32.9 -0.6**
U56A IAmb IAmb 05 17 34.8
comp=Z,58nm,0.9s
WCI Wyandotte Cave 24.71 11 P **P 05 17 32.2 -1.4**
WCI pmax pmax
comp=Z,95nm,0.8s
WCI Wyandotte Cave 24.71 11 P **P 05 17 32.6 -1.0**
baz=194
WCI Wyandotte Cave 24.71 11 P **P 05 17 32.2 -1.4**
V58A Windy Hill, Pi 24.74 26 P **P 05 17 33.2 -0.7**
baz=212,SNR=5.7
V58A Windy Hill, Pi 24.74 26 P **P 05 17 33.6 -0.2**
V58A IAmb IAmb 05 17 34.1
comp=Z,44nm,1.1s
W60A Pink Hill 24.77 30 P **P 05 17 33.3 -0.8**
baz=216
S51A Beattyville 24.79 17 P **P 05 17 33.2 -1.1**
S51A IAmb IAmb 05 17 35.4
comp=Z,48nm,1.0s
TUC Tucson 24.79 320 P **P 05 17 35.1 +0.6**
TUC pmax pmax
comp=Z,36nm,1.1s
TUC Tucson 24.79 320 P **P 05 17 35.4 +0.9**
baz=133
TUC Tucson 24.79 320 P **P 05 17 35.0 +0.6**
CNNC Cliffs of the 24.83 29 P **P 05 17 34.2 -0.5**
baz=215
T54A Tazewell 24.89 21 P **P 05 17 34.2 -1.1**
baz=206,SNR=8.7
R32A Long Quarter, 24.95 348 P **P 05 17 35.7 -0.1**
Q44A Meyer Farm, Va 24.96 6 P **P 05 17 34.0 -1.9**
Q44A IAmb IAmb 05 17 37.3
comp=Z,61nm,0.8s
R49A Shelbyville 25.00 13 P **P 05 17 35.3 -0.9**
R49A IAmb IAmb 05 17 36.8
comp=Z,38nm,0.8s
V59A Middlesex 25.10 28 P **P 05 17 36.2 -0.9**
baz=214
ATAH Atahualpa 25.18 146 P **P 05 17 41.6 +3.1**
comp=Z,13nm,0.9s,baz=48,slow=6.4,SNR=5.4
ATAH LR LR 05 24 59.9
comp=Z,426nm,21.4s,baz=326,slow=30
U57A Blanch 25.19 25 P **P 05 17 37.5 -0.4**
baz=211,SNR=10
R50A Paris 25.20 15 P **P 05 17 36.8 -1.2**
R50A IAmb IAmb 05 17 46.4
comp=Z,56nm,1.1s
T55A Pulaski 25.22 22 P **P 05 17 37.7 -0.5**
baz=207,SNR=5.4
KSU1 Kansas State U 25.26 352 P **P 05 17 37.6 -1.0**
baz=170,SNR=24
KSU1 Kansas State U 25.26 352 P **P 05 17 38.3 -0.3**
KSU1 IAmb IAmb 05 17 39.6
comp=Z,66nm,0.8s
S53A Williamson 25.27 19 P **P 05 17 37.8 -0.9**
baz=204,SNR=6.8
T25A Trinidad 25.41 337 P **P 05 17 41.9 +1.7**
baz=152,SNR=65
T25A Trinidad 25.41 337 P **P 05 17 41.8 +1.6**
T25A IAmb IAmb 05 17 45.4
comp=Z,73nm,0.9s
P40A Paris 25.41 1 P **P 05 17 38.2 -1.8**
T56A Rocky Mt 25.43 23 P **P 05 17 39.8 -0.3**
baz=209,SNR=5.0
BLA Blacksburg 25.44 23 P **P 05 17 39.7 -0.5**
BLA pmax pmax
comp=Z,27nm,0.9s
BLA Blacksburg 25.44 23 P **P 05 17 39.8 -0.5**
baz=208
BLA Blacksburg 25.44 23 P **P 05 17 39.7 -0.5**
U58A Oxford 25.49 27 P **P 05 17 39.9 -0.7**
baz=212
P38A Dawn 25.53 358 P **P 05 17 41.0 0.0**
CBKS Cedar Bluff 25.54 347 P **P 05 17 41.1 -0.1**
CBKS pmax pmax
comp=Z,106nm,0.8s
CBKS Cedar Bluff 25.54 347 P **P 05 17 41.2 -0.1**
baz=163,SNR=19
CBKS Cedar Bluff 25.54 347 P **P 05 17 41.1 -0.1**
V60A Jim Taylor Roa 25.56 29 P **P 05 17 42.5 +1.3**
baz=216
VWCC Virginia Weste 25.64 23 P **P 05 17 41.2 -0.8**
S54A Dingess, Beckl 25.64 21 P **P 05 17 41.3 -0.8**
baz=205,SNR=5.2
S54A Dingess, Beckl 25.64 21 P **P 05 17 41.8 -0.3**
S54A IAmb IAmb 05 17 42.1
comp=Z,32nm,0.8s
P43A Skaggs, Pawnee 25.65 5 P **P 05 17 41.0 -1.0**
T57A Hurt 25.71 25 P **P 05 17 41.9 -0.8**
baz=210
T57A Hurt 25.71 25 P **P 05 17 41.9 -0.8**
U59A Littleton 25.79 28 P **P 05 17 46.1 +2.7**
baz=214
214A Organ Pipe Nat 25.86 317 P **P 05 17 45.2 +1.1**
baz=129,SNR=5.7
214A Organ Pipe Nat 25.86 317 P **P 05 17 44.9 +0.7**
P46A Rosedale 25.90 9 P **P 05 17 43.2 -1.2**
P46A IAmb IAmb 05 17 44.4
comp=Z,48nm,0.7s
S55A Lewisburg 25.91 22 P **P 05 17 43.7 -0.8**
baz=207
R53A Hurricane 25.92 19 P **P 05 17 43.9 -0.7**
baz=204,SNR=5.6
R53A Hurricane 25.92 19 P **P 05 17 44.0 -0.5**
Q51A Peebles 26.15 16 P **P 05 17 46.3 -0.4**
Q51A IAmb IAmb 05 17 47.3
comp=Z,77nm,0.9s
S56A Natural Bridge 26.17 23 P **P 05 17 46.4 -0.5**
baz=209
U60A Pendleton 26.18 29 P **P 05 17 46.2 -0.7**
baz=215
W18A Petrified Fore 26.20 326 P **P 05 17 48.8 +1.4**
baz=139,SNR=6.4
W18A Petrified Fore 26.20 326 P **P 05 17 48.3 +0.9**
O44A Mansfield 26.26 7 P **P 05 17 46.7 -0.9**
O44A IAmb IAmb 05 17 49.1
comp=Z,23nm,0.7s
P49A Miami Univ. Ec 26.30 13 P **P 05 17 46.0 -1.9**
baz=197
P49A Miami Univ. Ec 26.30 13 P **P 05 17 46.3 -1.6**
P49A IAmb IAmb 05 17 47.2
comp=Z,24nm,0.8s
SDCO Great Sand Dun 26.36 336 P **P 05 17 50.5 +1.5**
baz=150,SNR=50
SDCO Great Sand Dun 26.36 336 P **P 05 17 49.6 +0.7**
SDCO IAmb IAmb 05 17 51.8
comp=Z,62nm,1.2s
Q52A Bidwell 26.40 18 P **P 05 17 48.4 -0.5**
baz=202,SNR=8.5
T59A Double "B" Far 26.41 27 P **P 05 17 48.5 -0.5**
baz=214
T59A Double "B" Far 26.41 27 P **P 05 17 48.6 -0.4**
S57A Dark Hollow, R 26.48 24 P **P 05 17 49.0 -0.7**
baz=210
KSCO Kaye Shedlock' 26.49 342 P **P 05 17 50.5 +0.6**
baz=157
KSCO Kaye Shedlock' 26.49 342 P **P 05 17 50.6 +0.8**
KSCO IAmb IAmb 05 17 51.3
comp=Z,55nm,0.9s
R55A Marlinton 26.50 22 P **P 05 17 49.6 -0.2**
baz=207,SNR=8.8
R55A Marlinton 26.50 22 P **P 05 17 49.7 -0.2**
R55A IAmb IAmb 05 17 50.4
comp=Z,52nm,0.9s
Q53A Leroy 26.53 19 P **P 05 17 49.4 -0.7**
baz=204,SNR=6.0
HDIL Hopedale 26.57 5 P **P 05 17 48.8 -1.7**
baz=187
X16A Lo Mia Camp, P 26.65 323 P **P 05 17 50.7 -0.8**
P51A Williamsport 26.66 16 P **P 05 17 50.3 -0.8**
baz=200,SNR=6.6
P51A Williamsport 26.66 16 P **P 05 17 50.4 -0.8**
P51A IAmb IAmb 05 17 51.1
comp=Z,28nm,0.8s
SFIN Lafayette 26.66 9 P **P 05 17 50.2 -1.1**
baz=192,SNR=7.4
SFIN Lafayette 26.66 9 P **P 05 17 50.0 -1.2**
SFIN IAmb IAmb 05 17 50.8
comp=Z,27nm,0.8s
N38A Joes South For 26.69 359 P **P 05 17 50.6 -0.9**
S58A Poland Farm, P 26.73 26 P **P 05 17 50.9 -0.9**
baz=212
S58A Poland Farm, P 26.73 26 P **P 05 17 51.0 -0.9**
R56A Bull Pasture M 26.87 23 P **P 05 17 52.6 -0.6**
baz=209
Q54A Coxs Mills 26.87 20 P **P 05 17 52.5 -0.6**
baz=205
Q54A Coxs Mills 26.87 20 P **P 05 17 52.5 -0.6**
Q54A IAmb IAmb 05 17 53.5
comp=Z,49nm,0.9s
S22A 4UR Ranch, Cre 26.91 334 P **P 05 17 55.6 +1.8**
baz=148,SNR=71
S22A 4UR Ranch, Cre 26.91 334 P **P 05 17 55.1 +1.3**
S22A IAmb IAmb 05 17 56.9
comp=Z,54nm,1.1s
N33A J Bar K, Exete 26.99 351 P **P 05 17 54.3 +0.1**
N33A IAmb IAmb 05 17 57.1
comp=Z,37nm,0.8s
113A Mohawk Valley, 27.00 317 P **P 05 17 54.5 +0.1**
O49A Covington 27.01 14 P **P 05 17 53.5 -0.8**
O49A IAmb IAmb 05 18 02.4
comp=Z,31nm,0.9s
P52A Corning 27.06 18 P **P 05 17 53.8 -1.1**
baz=202
P52A Corning 27.06 18 P **P 05 17 53.6 -1.2**
R58B Mineral 27.10 26 P **P 05 17 54.1 -1.0**
R57A Stanardsville 27.12 24 P **P 05 17 54.5 -0.8**
baz=211,SNR=5.1
Q55A Buckhannon 27.14 21 P **P 05 17 55.0 -0.6**
baz=207
P53A Whipple 27.15 19 P **P 05 17 54.9 -0.8**
baz=204,SNR=6.4
P53A Whipple 27.15 19 P **P 05 17 55.0 -0.6**
P53A IAmb IAmb 05 17 56.0
comp=Z,28nm,1.0s
MVCO Mesa Verde 27.21 331 P **P 05 17 58.1 +1.6**
baz=144,SNR=32
MVCO Mesa Verde 27.21 331 P **P 05 17 57.9 +1.4**
Q24A Divide 27.29 338 P **P 05 17 58.2 +0.9**
baz=152
R58A Rapidan 27.33 25 P **P 05 17 56.6 -0.7**
baz=212
ACSO Alum Creek Sta 27.38 16 P **P 05 17 56.9 -0.8**
baz=200
ACSO Alum Creek Sta 27.38 16 P **P 05 17 57.0 -0.7**
N47A Urbana 27.39 11 P **P 05 17 56.1 -1.7**
N47A IAmb IAmb 05 18 04.8
comp=Z,33nm,1.1s
WUAZ Wupatki 27.40 325 P **P 05 17 59.6 +1.5**
baz=137,SNR=16
WUAZ Wupatki 27.40 325 P **P 05 17 57.3 -0.9**
O51A Pataskala 27.40 16 P **P 05 17 56.9 -1.0**
baz=201,SNR=6.1
Q56A Snyder Ridge, 27.51 23 P **P 05 17 58.6 -0.2**
baz=209
Q56A Snyder Ridge, 27.51 23 P **P 05 17 58.8 -0.1**
CBN Corbin Frederi 27.52 26 P **P 05 17 58.4 -0.5**
baz=213
CBN Corbin Frederi 27.52 26 P **P 05 17 58.7 -0.2**

CBN IAmb IAmb 05 17 59.1
comp=Z,32nm,1.0s
M44A Midewin, Midew 27.53 7 P P 05 17 58.5 -0.5
M44A IAmb IAmb 05 17 58.6
comp=Z,22nm,0.7s
P54A Burton 27.55 20 P P 05 17 58.5 -0.8
baz=206,SNR=9.7
O52A Adamsville 27.59 18 P P 05 17 58.9 -0.7
baz=202,SNR=8.9
O52A Adamsville 27.59 18 P P 05 17 58.9 -0.7
O52A IAmb IAmb 05 17 59.5
comp=Z,38nm,0.8s
R59A King George, V 27.62 27 P P 05 17 60.0 +0.1
baz=213
N49A Columbus Grove 27.74 13 P P 05 17 60.0 -0.9
Q57A Strasburg 27.80 24 P P 05 18 01.2 -0.2
baz=210
MCWV Mont Chateau 27.82 21 P P 05 18 01.0 -0.6
baz=207
MCWV Mont Chateau 27.82 21 P P 05 18 00.8 -0.8
GLA Glamis 27.87 317 P P 05 18 03.2 +1.0
baz=128
O53A New Philadelph 27.90 18 P P 05 18 01.5 -0.8
baz=204
L40A Anamosa 27.96 2 P P 05 18 02.8 -0.1
L42A Oliver, Polo 27.98 4 P P 05 18 02.7 -0.3
PV01 Paradox Valley 27.99 332 P P 05 18 02.9 -0.6
ESJX Sierra Juarez 28.03 314 P P 05 18 04.3 +0.5
P56A Dayton Farm, R 28.04 23 P P 05 18 03.2 -0.4
baz=209
L34A Svendsen Farm, 28.06 354 P P 05 18 04.1 +0.3
L34A IAmb IAmb 05 18 05.8
comp=Z,33nm,0.5s
O54A Avella 28.11 20 P P 05 18 03.1 -1.1
baz=205,SNR=7.7
O54A Avella 28.11 20 P P 05 18 03.1 -1.1
O54A IAmb IAmb 05 18 03.9
comp=Z,35nm,0.7s
PV15 Paradox Valley 28.12 332 P P 05 18 03.8 -0.9
PV13 Radium Mtn., P 28.13 332 P P 05 18 05.8 +1.1
PV02 Paradox Valley 28.13 332 P P 05 18 05.3 +0.6
PV05 Paradox Valley 28.19 331 P P 05 18 06.5 +1.2
ISCO Idaho Springs 28.20 338 P P 05 18 05.9 +0.5
ISCO pmax pmax
comp=Z,41nm,1.5s
ISCO Idaho Springs 28.20 338 P P 05 18 06.6 +1.2
baz=152,SNR=13
ISCO Idaho Springs 28.20 338 P P 05 18 05.9 +0.5
ISCO IAmb IAmb 05 18 15.1
comp=Z,41nm,1.5s
PV03 Paradox Valley 28.22 332 P P 05 18 06.6 +1.1
PV18 Skein Mesa, Pa 28.24 332 P P 05 18 07.1 +1.4
PV12 Saucer Basin, 28.25 332 P P 05 18 07.0 +1.3
PV11 David Mesa, Pa 28.27 332 P P 05 18 07.3 +1.4
PV07 Paradox Valley 28.28 332 P P 05 18 07.4 +1.5
N52A McGinn's Farm, 28.28 17 P P 05 18 04.8 -0.9
baz=202,SNR=8.3
PV17 East Wray Mesa 28.29 332 P P 05 18 06.3 +0.2
PV16 Nyswonger Mesa 28.30 332 P P 05 18 07.0 +0.9
PV19 Morning Glory 28.32 332 P P 05 18 08.0 +1.6
P57A Homestead Farm 28.34 24 P P 05 18 06.2 -0.1
baz=210,SNR=11
P57A Homestead Farm 28.34 24 P P 05 18 06.2 -0.1
P57A IAmb IAmb 05 18 07.2
comp=Z,39nm,0.9s
PV20 West Nyswonger 28.34 332 P P 05 18 07.9 +1.3
PV20 IAmb IAmb 05 18 16.9
comp=Z,86nm,1.2s
PV04 Paradox Valley 28.36 332 P P 05 18 08.0 +1.3
PV14 Lion Creek, Pa 28.39 332 P P 05 18 07.8 +0.7
PV10 Paradox Valley 28.41 332 P P 05 18 08.3 +1.2
PV22 Blue Mesa, Par 28.42 332 P P 05 18 08.7 +1.4
PV23 Carpenter Ridg 28.45 332 P P 05 18 09.0 +1.4
PV23 IAmb IAmb 05 18 17.9
comp=Z,75nm,1.1s
SWSC Sam W. Stewart 28.47 315 P P 05 18 08.7 +1.3
baz=126,SNR=6.1
O55A Ligonier 28.49 21 P P 05 18 06.9 -0.8
baz=207
IKP In-Ko-Pah, Jac 28.51 315 P P 05 18 09.4 +1.4
baz=125
PV21 Cone Mtn., Par 28.52 332 P P 05 18 07.4 -0.8
PV21 IAmb IAmb 05 18 18.5
comp=Z,48nm,1.3s
N53A Lisbon 28.53 19 P P 05 18 06.8 -1.1
baz=204,SNR=8.3
N53A Lisbon 28.53 19 P P 05 18 06.8 -1.1
N53A IAmb IAmb 05 18 07.7
comp=Z,39nm,0.9s
U15A North Rim 28.57 325 P P 05 18 09.5 +0.8
BC3 Big Chuckawall 28.66 317 P P 05 18 10.6 +1.3
baz=128,SNR=18
L48A N Adams 28.66 12 P P 05 18 07.8 -1.4
L48A IAmb IAmb 05 18 08.8
comp=Z,39nm,0.8s
IRM Iron Mountain 28.76 318 P P 05 18 11.6 +1.4
baz=129,SNR=8.8
O56A Blue Knob Stat 28.81 22 P P 05 18 10.0 -0.5
baz=209,SNR=6.6
O56A Blue Knob Stat 28.81 22 P P 05 18 10.1 -0.5
O56A IAmb IAmb 05 18 10.8
comp=Z,37nm,1.0s
MONP2 Monument Peak 28.86 315 P P 05 18 11.7 +0.4
baz=125
N54A Moraine State 28.94 20 P P 05 18 10.8 -0.7
baz=205,SNR=8.7
N54A Moraine State 28.94 20 P P 05 18 10.9 -0.7
N54A IAmb IAmb 05 18 11.5
comp=Z,43nm,0.8s
K31A O'Neill 29.03 350 P P 05 18 11.5 -0.9
K31A IAmb IAmb 05 18 19.2
comp=Z,37nm,0.8s
M52A Chesterland 29.05 17 P P 05 18 11.3 -1.3
baz=202
M52A Chesterland 29.05 17 P P 05 18 12.0 -0.5
M52A IAmb IAmb 05 18 12.2
comp=Z,50nm,0.9s
P59A Jarrettsville 29.09 26 P P 05 18 12.4 -0.6
baz=213
CZSB Cruzeiro do Su 29.11 137 *e*P **P 05 18 16.4 +3.0**
N55A Marion Center 29.11 21 P P 05 18 11.9 -1.3
baz=208
O57A Amberson 29.11 24 P P 05 18 12.6 -0.5
baz=210
M53A WI Miller and 29.15 18 P P 05 18 12.2 -1.2
baz=204,SNR=5.4
M53A WI Miller and 29.15 18 P P 05 18 12.3 -1.2
M53A IAmb IAmb 05 18 13.5
comp=Z,38nm,0.8s
BELC Belle Mtn. Jos 29.23 317 P P 05 18 15.6 +1.2
baz=127,SNR=6.0
N23A Red Feather La 29.28 339 P P 05 18 15.7 +0.8
baz=152,SNR=5.5
N23A Red Feather La 29.28 339 P P 05 18 15.7 +0.8
KNB Kanab 29.29 325 P P 05 18 16.2 +1.2
KNB pmax pmax
comp=Z,16nm,0.9s
KNB Kanab 29.29 325 P P 05 18 16.2 +1.2
PFO Pinyon Flats O 29.30 316 P P 05 18 16.1 +1.1
comp=Z,4.2nm,0.7s,baz=142,slow=13,SNR=7.1
PFO LR LR 05 30 06.9
comp=Z,856nm,21.8s,baz=130,slow=36
PFO Pinyon Flats O 29.30 316 P P 05 18 16.2 +1.1
baz=126
PKCU Pink Cliffs 29.32 326 P P 05 18 17.1 +1.7
SSPA Standing Stone 29.39 23 P P 05 18 14.5 -1.0
baz=210
SSPA Standing Stone 29.39 23 P P 05 18 15.0 -0.6
SSPA IAmb IAmb 05 18 15.8
comp=Z,27nm,0.9s
MVL Millersville 29.45 26 P P 05 18 15.9 -0.2
MVL IAmb IAmb 05 18 24.1
comp=Z,27nm,1.1s
PHWY Pilot Hill 29.48 340 P P 05 18 17.0 +0.3
N56A West Decatur 29.48 22 P P 05 18 15.7 -0.7
baz=209
GMRC Granite Mounta 29.49 319 P P 05 18 18.2 +1.5
baz=129,SNR=7.9
O20A White River Ci 29.51 335 P P 05 18 18.5 +1.6
baz=148,SNR=16
O20A White River Ci 29.51 335 P P 05 18 16.3 -0.6
O20A IAmb IAmb 05 18 27.2
comp=Z,80nm,1.5s
N57A Milroy 29.62 23 P P 05 18 16.6 -1.0
baz=210,SNR=5.1
SRU San Rafael Swe 29.69 331 P P 05 18 18.0 -0.5
SRU pmax pmax
comp=Z,31nm,1.3s
SRU San Rafael Swe 29.69 331 P P 05 18 18.0 -0.5
MTPU Mount Pierson 29.70 327 P P 05 18 19.2 +0.5
MURC Murrieta 29.80 315 P P 05 18 20.4 +1.0
baz=125
M55A Ridgway 29.80 21 P P 05 18 17.9 -1.4
baz=207,SNR=7.0
M55A Ridgway 29.80 21 P P 05 18 18.1 -1.2
M55A IAmb IAmb 05 18 18.9
comp=Z,23nm,0.8s
ECSD EROS Data Cent 29.84 354 P P 05 18 18.7 -0.8
baz=172,SNR=6.7
ECSD EROS Data Cent 29.84 354 P P 05 18 18.7 -0.8
Q16A Castle Valley 29.85 330 P P 05 18 20.2 +0.3
SZCU Shurtz Canyon 29.85 326 P P 05 18 20.2 +0.2
CCUT Cedar City 29.97 325 P P 05 18 21.9 +0.9
N58A Sunbury 30.01 24 P P 05 18 20.2 -0.9
baz=212
N58A Sunbury 30.01 24 P P 05 18 20.9 -0.2
N58A IAmb IAmb 05 18 28.6
comp=Z,36nm,1.3s
M56A Emporium 30.02 22 P P 05 18 20.1 -1.1
baz=208,SNR=6.8
M56A Emporium 30.02 22 P P 05 18 20.3 -0.9
M56A IAmb IAmb 05 18 20.9
comp=Z,24nm,0.8s
MSU Marysvale 30.04 328 P P 05 18 21.8 +0.1
MSU Marysvale 30.04 328 P P 05 18 21.8 +0.1
MVU Marysvale 30.06 328 P P 05 18 21.9 +0.1
TUQ Turquoise Moun 30.06 319 P P 05 18 23.1 +1.3
baz=130,SNR=5.4
P17A Butcher Ranch, 30.08 331 P P 05 18 22.0 +0.1
TMUT Trail Mountain 30.16 330 P P 05 18 22.6 -0.3
TCRU Three Creeks R 30.26 328 P P 05 18 23.8 +0.2
M57A Sunshine Farm, 30.28 23 P P 05 18 22.9 -0.5
baz=210,SNR=6.9
M57A Sunshine Farm, 30.28 23 P P 05 18 23.7 +0.3
M57A IAmb IAmb 05 18 31.7
comp=Z,46nm,1.1s
SHPR Sheep Range 30.29 322 P P 05 18 23.0 -0.8
L54A Sinclairville 30.30 19 P P 05 18 22.6 -1.0
baz=206
LUPA Lehigh Univers 30.37 26 P P 05 18 25.1 +0.8
RDMU Red Mountain 30.43 334 P P 05 18 25.9 +0.8
RWWY Rawlins 30.44 338 P P 05 18 25.6 +0.4
RWWY IAmb IAmb 05 18 26.8
comp=Z,37nm,1.0s
N59A State Game Lan 30.46 25 P P 05 18 24.9 -0.2
baz=213
N59A State Game Lan 30.46 25 P P 05 18 25.6 +0.5
BFSC Mount Baldy Ra 30.48 316 P P 05 18 26.7 +1.3
baz=125
L55A Hinsdale 30.55 21 P P 05 18 24.9 -0.9
baz=207
M58A Price's Panora 30.57 24 P P 05 18 25.8 -0.3
baz=212,SNR=8.7
N60A Cedar Hill Far 30.71 26 P P 05 18 26.6 -0.7
baz=214
BRNJ Basking Ridge 30.79 27 P P 05 18 28.0 +0.1
BRNJ IAmb IAmb 05 18 28.2
comp=Z,20nm,0.8s
PASC Pasadena Art C 30.80 315 P P 05 18 27.9 -0.3
L56A Greenwood 30.81 22 P P 05 18 27.2 -1.0
baz=209
L56A Greenwood 30.81 22 P P 05 18 27.5 -0.7
L56A IAmb IAmb 05 18 35.5
comp=Z,42nm,1.1s
PRN Pahroc Range 30.83 323 P P 05 18 28.2 -0.3
SUSD Miller 30.84 351 P P 05 18 27.7 -0.7
baz=168
SUSD Miller 30.84 351 P P 05 18 28.0 -0.4
SUSD IAmb IAmb 05 18 30.3
comp=Z,38nm,0.9s
K54A Basiliko Farm, 30.84 20 P P 05 18 27.4 -1.0
baz=207,SNR=6.9
PSUT Pine Spring 30.95 326 P P 05 18 31.3 +1.6
L57A Andrews Acres 30.96 23 P P 05 18 28.7 -0.8
baz=210,SNR=7.5
K22A Casper 31.04 340 P P 05 18 31.4 +1.1
baz=153,SNR=15
K22A Casper 31.04 340 P P 05 18 31.6 +1.2
K22A IAmb IAmb 05 18 32.3
comp=Z,25nm,0.9s
EDW2 Edwards Air Fo 31.07 316 P P 05 18 31.3 +0.6
baz=126
SPMN Marine on St. 31.11 359 P P 05 18 30.7 +0.1
baz=179,SNR=8.9
SPMN Marine on St. 31.11 359 P P 05 18 30.8 +0.1
SPMN IAmb IAmb 05 18 40.3
comp=Z,18nm,0.7s
M59A Waymart 31.12 25 P P 05 18 30.3 -0.7
baz=213
K55A Perry 31.16 21 P P 05 18 30.3 -0.9
baz=208
MMNY Mt. Morris Dam 31.21 21 P P 05 18 30.9 -0.8
MMNY IAmb IAmb 05 18 31.4
comp=Z,42nm,1.0s
LRMC Laurel Mtn Rad 31.22 318 P P 05 18 33.2 +1.2
baz=127,SNR=6.3
I51A Listowel 31.23 16 P P 05 18 30.4 -1.5
baz=202
TPNV Topopah Spring 31.24 321 P P 05 18 34.0 +1.8
TPNV pmax pmax
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 31.24 321 P P 05 18 34.0 +1.8
baz=131,SNR=10
TPNV Topopah Spring 31.24 321 P P 05 18 34.0 +1.8
M60A Port Jervis 31.29 26 P P 05 18 31.6 -0.8
baz=215
JLU Jordanelle 31.30 331 P P 05 18 33.5 +0.7
FURC Furnace Creek, 31.30 320 P P 05 18 34.3 +1.7
baz=130,SNR=7.7
PAL Palisades 31.34 27 P P 05 18 31.9 -0.9
baz=216
L58A Harry Jones Me 31.38 24 P P 05 18 32.8 -0.3
baz=212,SNR=7.6
K56A Middlesex 31.39 22 P P 05 18 32.4 -0.9
baz=209,SNR=8.7
MPMC Manual Prospec 31.45 319 P P 05 18 35.3 +1.2
baz=128,SNR=15
BINY Binghamton 31.46 24 P P 05 18 33.3 -0.6
baz=212,SNR=8.0
BINY Binghamton 31.46 24 P P 05 18 33.3 -0.6
BINY IAmb IAmb 05 18 34.0
comp=Z,37nm,0.8s
CTU Camp Tracy 31.51 331 P P 05 18 35.3 +0.8
RSSD Black Hills 31.62 344 P P 05 18 35.3 -0.2
RSSD pmax pmax
comp=Z,16nm,0.8s
RSSD Black Hills 31.62 344 P P 05 18 36.3 +0.8
baz=158
RSSD Black Hills 31.62 344 P P 05 18 35.3 -0.2
RSSD IAmb IAmb 05 18 36.9
comp=Z,16nm,0.8s
DUG Dugway, Tooele 31.64 329 P P 05 18 36.4 +0.8
DUG pmax pmax
comp=Z,19nm,1.5s
DUG Dugway, Tooele 31.64 329 P P 05 18 37.6 +1.9
baz=140,SNR=5.7
DUG Dugway, Tooele 31.64 329 P P 05 18 36.4 +0.8
M61A Granite Spring 31.65 27 P P 05 18 34.8 -0.7
baz=216
TCUT Toone Canyon 31.69 332 P P 05 18 37.0 +0.8
K57A Scipio Center 31.71 23 P P 05 18 35.0 -1.1
baz=210,SNR=5.4
F36A Milaca 31.76 358 P P 05 18 37.0 +0.6
ARVC Arvin 31.78 316 P P 05 18 38.5 +1.8
baz=125
R11A Troy Canyon, C 31.78 324 P P 05 18 38.7 +1.7
baz=134,SNR=10
R11A Troy Canyon, C 31.78 324 P P 05 18 38.2 +1.2
L59A Walton 31.83 25 P P 05 18 36.1 -1.0
baz=213
L59A Walton 31.83 25 P P 05 18 36.6 -0.5
L59A IAmb IAmb 05 18 44.8
comp=Z,48nm,1.2s
ISA Isabella, Lake 31.85 317 P P 05 18 38.6 +1.1
ISA pmax pmax
comp=Z,9.0nm,1.2s
ISA Isabella, Lake 31.85 317 P P 05 18 39.0 +1.6
baz=126
ISA Isabella, Lake 31.85 317 P P 05 18 38.5 +1.1
F33A 5 Mile Ranch, 31.89 355 P P 05 18 36.1 -1.5
GRAC Grapevine Rang 31.95 320 P P 05 18 40.3 +2.0
baz=129,SNR=7.2
L60A Shokan 32.00 26 P P 05 18 37.9 -0.7
baz=215
CWC Cottonwood Cre 32.06 319 P P 05 18 40.5 +1.1
baz=128
J56A Wolcott 32.06 22 P P 05 18 38.1 -1.0
baz=209,SNR=9.4
J56A Wolcott 32.06 22 P P 05 18 38.0 -1.1
K58A Earlville 32.07 24 P P 05 18 38.7 -0.5
baz=212,SNR=9.8
K58A Earlville 32.07 24 P P 05 18 38.5 -0.8
HWUT Hardware Ranch 32.15 332 P P 05 18 40.8 +0.6
HWUT IAmb IAmb 05 18 51.2
comp=Z,42nm,1.2s
BW06 Boulder Array 32.26 336 P P 05 18 41.6 +0.5
baz=148,SNR=17
BW06 Boulder Array 32.26 336 P P 05 18 41.2 0.0
BW06 IAmb IAmb 05 18 44.4
comp=Z,25nm,1.2s
PD31 Pinedale Array 32.26 336 P P 05 18 41.4 +0.2
PD31 IAmb IAmb 05 18 44.4
comp=Z,23nm,1.2s
PDAR Pinedale Array 32.26 336 P P 05 18 41.6 +0.4
comp=Z,9.7nm,0.9s,baz=133,slow=10,SNR=41
PDAR PcP PcP 05 21 32.2 +3.4
comp=Z,1.8nm,0.7s,baz=138,slow=3.5,SNR=4.6
PDAR Pinedale Array 32.26 336 P P 05 18 40.4 -0.8
BGU Big Grassy Mou 32.30 330 P P 05 18 42.0 +0.5
PKM Mcpherson Peak 32.31 315 P P 05 18 42.7 +1.0
baz=123
SPUT South Promonto 32.32 331 P P 05 18 42.7 +1.1
VES Vestal, Richgr 32.36 317 P P 05 18 43.6 +1.7
baz=126,SNR=11
J57A Williamstown 32.49 22 P P 05 18 41.3 -1.5
baz=211
J57A Williamstown 32.49 22 P P 05 18 41.6 -1.3
J57A IAmb IAmb 05 18 50.5
comp=Z,42nm,1.2s
M63A Gales Ferry 32.51 29 P P 05 18 42.3 -0.7
baz=219
TPH Tonopah 32.56 322 P P 05 18 44.1 +0.3
TPH pmax pmax
comp=Z,59nm,1.2s
TPH Tonopah 32.56 322 P P 05 18 44.1 +0.3
I55A Frankford 32.61 20 P P 05 18 42.2 -1.6
baz=207,SNR=7.8
H53A Bobcaygeon 32.64 18 P P 05 18 42.7 -1.5
baz=205,SNR=15
SADO Sadowa 32.65 18 P P 05 18 43.1 -1.1
SADO IAmb IAmb 05 18 43.4
comp=Z,37nm,1.0s
J58A Remsen 32.72 23 P P 05 18 44.2 -0.7
baz=212
J58A Remsen 32.72 23 P P 05 18 43.9 -1.0
J58A IAmb IAmb 05 18 52.1
comp=Z,39nm,1.4s
L62A Suffield 32.72 28 P P 05 18 43.9 -1.0
baz=217
HVU Hansel Valley 32.84 331 P P 05 18 47.4 +1.2
HVU pmax pmax
comp=Z,84nm,1.5s
HVU Hansel Valley 32.84 331 P P 05 18 47.4 +1.2
AHID Auburn Hatcher 32.89 334 P P 05 18 47.1 +0.5
AHID IAmb IAmb 05 18 56.3
comp=Z,51nm,1.1s
DELO Deloro Mine 32.90 20 P P 05 18 45.1 -1.3
K61A Williamstown 32.97 26 P P 05 18 46.8 -0.3
baz=216
H55A Tweed 33.07 20 P P 05 18 46.6 -1.4
baz=208,SNR=5.3
J59A Piesco 33.11 24 P P 05 18 47.2 -1.1
baz=213
J59A Piesco 33.11 24 P P 05 18 47.5 -0.9
J59A IAmb IAmb 05 18 49.2
comp=Z,18nm,0.8s
I58A Old Forge 33.12 23 P P 05 18 47.3 -1.1
baz=212,SNR=12
E28A Huff 33.20 349 P P 05 18 48.9 -0.2
REDW Red Top Meadow 33.28 335 P P 05 18 50.8 +0.8
ELK Elko 33.28 327 P P 05 18 51.1 +0.9
ELK pmax pmax
comp=Z,11nm,1.0s
ELK Elko 33.28 327 P P 05 18 51.1 +0.9
SNOW Snow King Moun 33.32 335 P P 05 18 51.1 +0.6
NV11 Mina Array Sit 33.35 322 P P 05 18 51.7 +1.1
NV11 IAmb IAmb 05 18 53.8
comp=Z,30nm,1.1s
OMMB Old Mammoth Mi 33.35 320 P P 05 18 51.1 +0.1
J60A Lant Hill Farm 33.37 26 P P 05 18 50.2 -0.3
baz=215
LOHW Long Hollow 33.38 336 P P 05 18 51.6 +0.6
MDPB Devils Postpil 33.42 320 P P 05 18 51.0 -0.4
H56A Elgin 33.42 21 P P 05 18 49.9 -1.1
baz=209
TPAW Teton Pass 33.42 335 P P 05 18 51.7 +0.4
NVAR Mina Array Bea 33.44 321 P P 05 18 53.4 +1.9
comp=Z,18nm,0.8s,baz=135,slow=8.7,SNR=159
NVAR PcP PcP 05 21 33.1 +0.8
comp=Z,2.2nm,0.8s,baz=144,slow=4.2,SNR=4.2
NVAR LR LR 05 34 23.4
comp=Z,2μm,18.2s,baz=136,slow=40
NVAR Mina Array Bea 33.44 321 P P 05 18 52.3 +0.8
LHV Little Huntoon 33.44 321 P P 05 18 51.4 +0.2
LHV IAmb IAmb 05 18 54.2
comp=Z,17nm,0.8s
L64A Middleborough 33.50 30 P P 05 18 51.4 -0.2
baz=220,SNR=5.9
G54A Lake Saint Pet 33.54 18 P P 05 18 50.6 -1.4
baz=206,SNR=7.7
FXWY Fox Creek 33.58 335 P P 05 18 53.0 +0.3
FXWY IAmb IAmb 05 18 55.1
comp=Z,32nm,1.1s
H57A Richville 33.62 22 P P 05 18 52.0 -0.7
baz=211
I59A Olmsteadville 33.64 24 P P 05 18 50.8 -2.1
baz=214
RYN Ryan 33.69 322 P P 05 18 54.0 +0.3
KVN Kaiserville 33.71 322 P P 05 18 54.3 +0.4
KVN pmax pmax
comp=Z,21nm,1.1s
KVN Kaiserville 33.71 322 P P 05 18 54.3 +0.4
KVN IAmb IAmb 05 18 56.7
comp=Z,21nm,1.1s
IMW Indian Meadow 33.76 336 P P 05 18 54.4 +0.1
IMW IAmb IAmb 05 19 01.2
comp=Z,22nm,0.9s
FLWY Flagg Ranch 33.81 336 P P 05 18 54.7 0.0
G55A Calabogie 33.84 20 P P 05 18 53.4 -1.3
baz=208,SNR=8.3
I60A Shoreham 33.91 25 P P 05 18 54.1 -1.2
baz=215,SNR=5.1
YPP Pitchstone Pla 34.01 336 P P 05 18 56.7 +0.1
H17A Grant Village 34.03 336 P P 05 18 58.6 +2.0
baz=147,SNR=14
H17A Grant Village 34.03 336 P P 05 18 57.5 +0.9
H17A IAmb IAmb 05 19 09.4
comp=Z,35nm,1.2s
H58A Gabriels 34.04 24 P P 05 18 55.1 -1.3
baz=213
ALGO Algonquin Park 34.05 18 P P 05 18 55.0 -1.4
baz=205,SNR=7.6
LONY Lake Ozonia 34.05 23 P P 05 18 55.4 -1.1
baz=212,SNR=7.3
LKWY Lake 34.10 337 P P 05 18 57.2 -0.1
LKWY pmax pmax
comp=Z,40nm,1.2s
LKWY Lake 34.10 337 P P 05 18 57.2 -0.1
LKWY IAmb IAmb 05 19 08.1
comp=Z,40nm,1.1s
YMP Mirror Lake Pl 34.16 337 P P 05 18 57.4 -0.4
RLMT Red Lodge 34.16 338 P P 05 18 58.4 +0.7
baz=150,SNR=9.9
RLMT Red Lodge 34.16 338 P P 05 18 57.4 -0.3
WAKR Walker 34.17 321 P P 05 18 58.5 +0.6
MDND Maddock 34.26 351 P P 05 18 57.8 -0.5
baz=168,SNR=20
MDND Maddock 34.26 351 P P 05 18 57.5 -0.8
AGMN Agassiz Nation 34.30 356 P P 05 18 57.9 -0.7
baz=174,SNR=6.7
AGMN Agassiz Nation 34.30 356 P P 05 18 58.0 -0.7
AGMN IAmb IAmb 05 19 05.6
comp=Z,17nm,0.9s
G57A Newington 34.32 22 P P 05 18 57.8 -1.0
baz=211
YNE Yellowstone No 34.33 338 P P 05 18 58.8 -0.5
YNR Norris Junctio 34.34 337 P P 05 19 00.6 +1.3
YERR Yerington 34.35 321 P P 05 18 59.5 0.0

YERR IAmb IAmb 05 19 10.9
comp=Z,14nm,1.0s
YMR Madison River 34.41 336 P **P 05 19 00.7 +0.8**
ORIO Orleans, Innes 34.43 21 P **P 05 18 58.4 -1.4**
baz=210,SNR=10.0
YHH Holmes Hill 34.46 336 P **P 05 19 01.4 +1.0**
F55A Otter Lake 34.48 20 P **P 05 18 58.9 -1.3**
baz=208,SNR=8.6
CMB Columbia Colle 34.48 319 P **P 05 19 00.2 -0.2**
CMB pmax pmax
comp=Z,11nm,1.2s
CMB Columbia Colle 34.48 319 P **P 05 19 00.2 -0.2**
YHB Horse Butte 34.57 336 P **P 05 19 02.3 +1.1**
LAO LASA Array 34.58 343 P **P 05 19 01.4 +0.2**
baz=156,SNR=8.7
LAO LASA Array 34.58 343 P **P 05 19 01.3 +0.2**
LAO IAmb IAmb 05 19 02.4
comp=Z,13nm,0.8s
PNTR Pine Nut 34.64 321 P **P 05 19 03.0 +1.1**
PNTR IAmb IAmb 05 19 04.3
comp=Z,18nm,1.0s
YHL Hebgen Lake 34.65 336 P **P 05 19 03.4 +1.4**
G58A Ormstown 34.70 23 P **P 05 19 00.7 -1.4**
baz=212
QLMT Earthquake Lak 34.73 336 P **P 05 19 04.5 +1.9**
GCMT Greycliff 34.88 339 P **P 05 19 03.9 +0.1**
PAHR Pah Rah Range 34.90 322 P **P 05 19 05.7 +1.7**
HLID Hailey 34.99 332 P **P 05 19 06.2 +1.4**
baz=141,SNR=34
HLID Hailey 34.99 332 P **P 05 19 04.8 -0.1**
HLID IAmb IAmb 05 19 07.4
comp=Z,20nm,0.9s
F57A Harrington 35.03 22 P **P 05 19 04.1 -0.9**
baz=211
PTGA Pitinga 35.27 112 P **P 05 19 07.3 -0.2**
PTGA IAmb IAmb 05 19 09.8
comp=Z,31nm,0.8s
MCMT McKenzie Canyo 35.30 334 P **P 05 19 09.0 +1.4**
G60A Masonville 35.34 25 P **P 05 19 06.5 -1.1**
baz=215
TRQ Mont Tremblant 35.43 21 P **P 05 19 07.2 -1.2**
BOZ Bozeman (W) 35.44 336 P **P 05 19 09.4 +0.7**
BOZ pmax pmax
comp=Z,18nm,1.1s
BOZ Bozeman (W) 35.44 336 P **P 05 19 10.1 +1.5**
baz=147,SNR=17
BOZ Bozeman (W) 35.44 336 P **P 05 19 09.4 +0.7**
BOZ IAmb IAmb 05 19 12.6
comp=Z,18nm,1.1s
E56A St. Veronique 35.54 21 P **P 05 19 08.1 -1.2**
baz=210,SNR=12
MFID Camas Ranch 35.55 330 P **P 05 19 10.3 +0.7**
MFID IAmb IAmb 05 19 22.0
comp=Z,30nm,1.4s
DLMT Dillon 35.63 335 P **P 05 19 11.1 +0.7**
DGMT Dagmar 35.72 346 P **P 05 19 11.2 +0.3**
baz=160,SNR=8.5
DGMT Dagmar 35.72 346 P **P 05 19 11.1 +0.2**
E57A Chemin Saint G 35.74 22 P **P 05 19 10.3 -0.8**
baz=211,SNR=5.8
MACA Manacapuru-AM 35.76 116 *e*P **P 05 19 11.3 -0.2**
D55A Sainte-Anne-du 35.81 20 P **P 05 19 10.2 -1.4**
baz=209,SNR=13
LRM Limekiln Ridge 35.95 336 P **P 05 19 13.8 +0.6**
E58A La Victoria 36.03 23 P **P 05 19 12.1 -1.4**
baz=213
D56A ZEC Mazanza, M 36.08 21 P **P 05 19 12.5 -1.4**
baz=210,SNR=5.9
ORV Oroville 36.09 320 P **P 05 19 15.2 +1.1**
ORV pmax pmax
comp=Z,21nm,1.5s
ORV Oroville 36.09 320 P **P 05 19 15.2 +1.1**
ORV IAmb IAmb 05 19 16.4
comp=Z,21nm,1.4s
G62A West of Eustis 36.19 26 P **P 05 19 13.2 -1.7**
baz=218
F60A Warwick 36.20 24 P **P 05 19 13.5 -1.5**
baz=215
ULM Lac du Bonnet 36.25 356 P **P 05 19 13.8 -1.5**
comp=Z,12nm,0.8s,baz=166,slow=9.1,SNR=9.3
ULM LR LR 05 34 58.6
comp=Z,179nm,20.5s,baz=220,slow=38
H64A Troy 36.33 28 P **P 05 19 15.0 -1.1**
baz=220
D57A Chemin Vers le 36.35 21 P **P 05 19 14.8 -1.4**
baz=211
HRY Holter Researc 36.45 337 P **P 05 19 17.8 +0.5**
E60A Ste Agathe de 36.73 24 P **P 05 19 18.1 -1.4**
baz=215
PKME Peaks-Kenny Pk 36.77 28 P **P 05 19 18.8 -1.0**
baz=219
D58A Chemin du LacG 36.78 22 P **P 05 19 18.6 -1.3**
baz=213
J08A Circle Bar Ran 36.84 328 P **P 05 19 20.8 +0.2**
MOD Modoc Plateau 36.84 324 P **P 05 19 20.6 -0.1**
EGMT Eagleton 36.85 340 P **P 05 19 21.6 +1.0**
baz=151,SNR=13
EGMT Eagleton 36.85 340 P **P 05 19 21.1 +0.5**
EGMT IAmb IAmb 05 19 22.0
comp=Z,24nm,0.8s
SAML Samuel 36.87 127 P **P 05 19 20.6 -0.4**
SAML pmax pmax
comp=Z,14nm,1.1s
SAML Samuel 36.87 127 P **P 05 19 20.6 -0.4**
F62A Pittston Farm, 36.97 26 P **P 05 19 21.1 -0.4**
baz=218
G64A Maxfield 37.01 28 P **P 05 19 20.4 -1.4**
baz=220
LATQ La Tuque 37.06 22 P **P 05 19 21.2 -1.1**
baz=213,SNR=5.6
H66A Whiting 37.33 30 P **P 05 19 23.7 -0.9**
baz=223
MSO Missoula 37.37 335 P **P 05 19 26.0 +0.9**
baz=144,SNR=19
MSO Missoula 37.37 335 P **P 05 19 25.4 +0.4**
MSO IAmb IAmb 05 19 34.6
comp=Z,33nm,1.0s
G65A Princeton 37.52 29 P **P 05 19 25.3 -0.9**
baz=222
MATQ Matagami 37.63 16 P **P 05 19 25.5 -1.5**
baz=204,SNR=6.1
M04C Macdoel 37.65 323 P **P 05 19 28.3 +0.7**
baz=129
I07A Izee 37.88 328 P **P 05 19 29.4 0.0**
F10A Beach Ranch, E 38.12 332 P **P 05 19 30.9 -0.5**
K04D Chiloquin, OR 38.13 324 P **P 05 19 32.8 +1.3**
baz=130
L04D Klamath Falls 38.19 323 P **P 05 19 32.7 +0.6**
baz=129
JTMT Jette 38.25 336 P **P 05 19 32.9 +0.4**
JTMT IAmb IAmb 05 19 34.5
comp=Z,38nm,1.0s
J05D Fort Rock, OR 38.27 325 P **P 05 19 33.6 +0.8**
baz=131
D62A Allapoint, All 38.29 26 P **P 05 19 31.6 -1.1**
baz=218
PINE Pine Mountain 38.44 326 P **P 05 19 34.4 +0.1**
PINE IAmb IAmb 05 19 37.7
comp=Z,18nm,1.0s
G08A Pilot Rock 38.45 329 P **P 05 19 34.1 -0.1**
LPAZ La Paz 38.47 141 P **P 05 19 34.7 -0.6**
comp=Z,2.7nm,0.7s,baz=330,slow=11,SNR=14
LPAZ La Paz 38.47 141 P **P 05 19 34.0 -1.2**
LPAZ pmax pmax
comp=Z,7.0nm,1.0s
LPAZ La Paz 38.47 141 P **P 05 19 34.0 -1.2**
D63A Stockholm 38.66 27 P **P 05 19 34.4 -1.4**
baz=220
CHGQ Chibougamau 38.70 19 P **P 05 19 34.2 -1.9**
baz=209,SNR=5.3
J04D Umpqua Nationa 38.73 325 P **P 05 19 38.1 +1.5**
baz=130
WALA Waterton Lakes 39.18 338 P **P 05 19 39.9 -0.4**
WALA IAmb IAmb 05 19 42.6
comp=Z,32nm,1.1s
I04A Tendick Farm, 39.25 325 P **P 05 19 41.4 +0.5**
baz=130,SNR=5.8
PB16 IPOC Station P 39.26 144 P **P 05 19 39.8 -2.0**
PB16 IAmb IAmb 05 19 51.8
comp=Z,30nm,1.2s
G05D Wamic, OR 39.61 328 P **P 05 19 45.6 +1.8**
baz=133,SNR=6.6
H04A Detroit Lake 39.70 326 P **P 05 19 44.6 0.0**
H04A IAmb IAmb 05 19 55.9
comp=Z,33nm,0.9s
D08A Wollman Farm, 39.71 331 P **P 05 19 44.9 +0.3**

I03D Drain, OR 39.71 324 P **P 05 19 45.1 +0.5**
baz=129
J01E Myrtle Point 39.72 323 P **P 05 19 46.1 +1.4**
baz=128
E07A Sunnyside 39.79 330 P **P 05 19 43.6 -1.7**
NEW Newport 39.82 334 P **P 05 19 43.7 -1.9**
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 39.82 334 P **P 05 19 46.0 +0.5**
baz=141,SNR=7.8
NEW Newport 39.82 334 P **P 05 19 43.6 -1.9**
MNMC Minye Minye 39.85 145 P **P 05 19 45.2 -1.1**
H04D Lebanon 39.90 326 P **P 05 19 46.3 +0.2**
baz=130,SNR=7.4
C09A Chrisman Ranch 39.97 333 P **P 05 19 46.5 -0.2**
F05D White Salmon 40.12 328 P **P 05 19 49.4 +1.4**
baz=133,SNR=6.5
I02D Swisshome 40.25 324 P **P 05 19 50.5 +1.4**
baz=128
GO01 Chusmiza 40.51 145 P **P 05 19 52.3 +0.3**
GO01 IAmb IAmb 05 20 02.7
comp=Z,33nm,1.1s
G03D McMinnville, O 40.63 326 P **P 05 19 53.2 +1.1**
baz=130
ITTB Itaituba 40.67 114 *e*P **P 05 19 51.9 -1.1**
LTY Liberty 40.68 330 P **P 05 19 52.8 0.0**
LTY IAmb IAmb 05 19 56.4
comp=Z,28nm,1.2s
B08A Colville Reser 40.86 332 P **P 05 19 54.1 0.0**
LON Longmire 40.89 329 P **P 05 19 55.1 +0.7**
LON pmax pmax
comp=Z,12nm,0.9s
LON Longmire 40.89 329 P **P 05 19 55.0 +0.7**
MALB Monte Alegre 40.92 110 *e*P **P 05 19 54.3 -0.7**
E04D Cinebar 41.14 328 P **P 05 19 58.1 +1.7**
baz=132
VILB Vilhena 41.64 129 *e*P **P 05 20 00.4 -0.5**
B06A Marblemount 41.96 331 P **P 05 20 02.9 -0.2**
B06A IAmb IAmb 05 20 06.6
comp=Z,23nm,0.9s
D03D Eldon 42.06 329 P **P 05 20 03.4 -0.5**
baz=132
B05A Brynt 42.08 330 P **P 05 20 04.1 +0.1**
baz=134,SNR=7.2
NLWA Neilton Lookou 42.36 328 P **P 05 20 05.3 -1.1**
NLWA IAmb IAmb 05 20 09.0
comp=Z,29nm,1.2s
MCPB Macapa, AP 42.39 106 *e*P **P 05 20 06.6 -0.4**
A04D Lummi Island 42.69 330 P **P 05 20 09.7 +0.7**
baz=134,SNR=16
LVC Limon Verde 43.05 147 *e*P **P 05 20 16.0 +3.3**
SCHQ Schefferville 45.33 21 P **P 05 20 27.9 -2.2**
comp=Z,25nm,0.9s,baz=215,slow=5.6,SNR=12
SCHQ PcP **PcP 05 22 09.8 +0.6**
comp=Z,7.0nm,0.8s,baz=279,slow=2.9,SNR=6.5
SCHQ LR LR 05 40 34.2
comp=Z,3μm,19.4s,baz=232,slow=38
SCHQ Schefferville 45.33 21 P **P 05 20 28.6 -1.5**
SCHQ IAmb IAmb 05 20 37.3
comp=Z,44nm,1.1s
TMAB Tom-Au,PA,Br 46.80 107 *e*P **P 05 20 42.5 +0.2**
CO03 El Pedregal 49.23 155 P **P 05 21 01.4 +0.5**
AQDB Aquidauana 49.74 133 *e*P **P 05 21 03.8 -1.0**
ARAG Araguaiana, MT 49.80 125 *e*P **P 05 21 05.2 -0.1**
SMTB Santa Maria do 49.91 115 *e*P **P 05 21 05.5 -0.8**
ZON Zonda 50.69 154 P **P 05 21 12.3 +0.4**
ZON pmax pmax
comp=Z,15nm,0.9s
ZON Zonda 50.69 154 P **P 05 21 12.3 +0.4**
ZON IAmb IAmb 05 21 21.3
comp=Z,15nm,0.9s
ROSB Rosrio 50.69 106 *e*P **P 05 21 12.2 0.0**
PEXB Peixe 50.81 119 *e*P **P 05 21 12.1 -0.9**
YKA Yellowknife Ar 50.93 347 P **P 05 21 13.5 +0.3**
comp=Z,49nm,0.7s,baz=147,slow=7.2,SNR=116
YKA PcP **PcP 05 22 29.3 +0.3**
comp=Z,4.8nm,0.7s,baz=150,slow=2.8,SNR=3.9
YKA LR LR 05 48 01.8
comp=Z,437nm,18.8s,baz=0.0,slow=42
ROC1 El Roble 50.99 157 P **P 05 21 12.7 -1.7**
WRAK Wrangell Islan 52.16 333 P **P 05 21 22.4 -0.2**
GO05 Huala 52.48 159 P **P 05 21 24.6 -0.5**
GO05 IAmb IAmb 05 21 33.0
comp=Z,16nm,0.9s
DLBC Dease Lake 52.49 336 P **P 05 21 24.8 -0.3**
TAOE Nuku Hiva Isla 52.58 247 *e*LR LR 05 36 19.9
comp=Z,382nm,27.6s
BO02 Sierra Bellavi 52.69 158 P **P 05 21 26.7 -0.1**
BO02 IAmb IAmb 05 21 30.7
comp=Z,20nm,1.1s
BDFB Brasilia 52.83 122 P **P 05 21 27.7 -0.5**
comp=Z,3.6nm,0.8s,baz=322,slow=5.1,SNR=6.6
BDFB Brasilia 52.83 122 P **P 05 21 28.0 -0.2**
BDFB pmax pmax
comp=Z,17nm,1.0s
BDFB Brasilia 52.83 122 P **P 05 21 28.0 -0.2**
BDFB IAmb IAmb 05 21 37.5
comp=Z,17nm,1.0s
IPMB Ipameri, GO 53.92 125 *e*P **P 05 21 37.1 +1.0**
BI02 San Fabin de 54.19 159 P **P 05 21 37.0 -0.8**
PTGB Pitanga 55.03 134 *e*P **P 05 21 46.3 +2.2**
JANB Januaria 55.62 119 *e*P **P 05 21 49.5 +1.0**
WHY Whitehorse 55.82 336 P **P 05 21 48.6 -0.7**
WHY IAmb IAmb 05 22 02.4
comp=Z,31nm,1.4s
FRTB Fartura 55.97 131 *e*P **P 05 21 52.5 +1.7**
LC01 Cunco 56.02 161 P **P 05 21 52.4 +1.6**
LC01 IAmb IAmb 05 22 01.8
comp=Z,13nm,0.9s
HYT Haines Junctio 56.95 336 P **P 05 21 55.9 -1.5**
HYT IAmb IAmb 05 22 00.6
comp=Z,20nm,1.2s
VAO Valinhos 57.70 129 *e*P **P 05 22 05.2 +2.1**
CPSB Cacapava Do Su 57.92 140 *e*P **P 05 22 06.3 +1.9**
PLCA Paso Flores 58.11 161 P **P 05 22 08.7 +3.0**
comp=Z,6.6nm,1.1s,baz=336,slow=12,SNR=7.2
PLCA LR LR 05 42 26.6
comp=Z,500nm,18.8s,baz=319,slow=31
PLCA Paso Flores 58.11 161 P **P 05 22 03.8 -1.9**
PLCA pmax pmax
comp=Z,11nm,1.2s
PLCA Paso Flores 58.11 161 P **P 05 22 03.8 -1.9**
PLCA IAmb IAmb 05 22 09.6
comp=Z,11nm,1.1s
PLCA Paso Flores 58.11 161 *e*P **P 05 22 08.4 +2.7**
PLTB Pedras Altas 58.76 141 *e*P **P 05 22 12.5 +2.1**
BARN Barnard Glacie 58.79 334 P **P 05 22 10.0 -0.4**
LL01 San Ignacio de 59.05 163 P **P 05 22 12.6 +0.6**
LL01 IAmb IAmb 05 22 22.1
comp=Z,16nm,0.8s
GDU01 Guandu, BA 59.09 116 *e*P **P 05 22 12.5 -0.4**
MCARA McCarthy VSAT 59.52 334 P **P 05 22 14.2 -0.9**
VRDI Verde Repeater 59.63 334 P **P 05 22 15.1 -1.0**
BCAR Beaver Creek A 59.88 336 P **P 05 22 17.9 +0.2**
GLB Gilahina Butte 59.88 334 P **P 05 22 17.8 +0.1**
EPYK Eagle Plains 60.00 341 P **P 05 22 18.9 +0.5**
baz=128
EPYK Eagle Plains 60.00 341 P **P 05 22 18.8 +0.3**
EPYK IAmb IAmb 05 22 28.8
comp=Z,18nm,1.1s
INK Inuvik 60.32 344 P **P 05 22 20.4 -0.1**
INK pmax pmax
comp=Z,72nm,1.3s
INK Inuvik 60.32 344 P **P 05 22 20.4 -0.1**
BSFB Barra de Sao F 60.34 121 *e*P **P 05 22 21.9 +0.4**
K27K Chicken 60.50 337 P **P 05 22 23.0 +1.2**
baz=122
EGAK Eagle 60.56 338 P **P 05 22 21.8 -0.5**
EGAK IAmb IAmb 05 22 24.9
comp=Z,26nm,1.1s
MENT Mentasta 60.57 336 P **P 05 22 22.1 -0.3**
MENT IAmb IAmb 05 22 37.6
comp=Z,35nm,1.5s
KLU Klutina 60.80 334 P **P 05 22 23.1 -0.9**
RIB01 Linhares ES 60.95 122 *e*P **P 05 22 26.1 +0.5**
DOT Dot Lake 61.06 336 P **P 05 22 25.6 -0.1**
M24K Tolsona, Glenn 61.19 334 P **P 05 22 29.7 +3.0**
baz=117
SCRK Sand Creek 61.19 337 P **P 05 22 27.7 +1.0**
baz=120,SNR=11
RIDG Independent Ri 61.41 336 P **P 05 22 27.9 -0.1**
SCM Sheep Creek Mo 61.56 334 P **P 05 22 28.4 -0.7**
SCM pmax pmax
comp=Z,58nm,1.3s
SCM Sheep Creek Mo 61.56 334 P **P 05 22 28.4 -0.7**

SML Sawmill 61.98 334 P **P 05 22 31.4 -0.6**
PMOR Pomariorio Ree 62.03 244 *e*T T 06 28 34.4
comp=Z,1.1nm,0.3s
GHO Glory Hole Cre 62.22 333 P **P 05 22 33.3 -0.3**
PMR Palmer 62.24 333 P **P 05 22 33.8 +0.2**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 62.24 333 P **P 05 22 33.8 +0.2**
PMR IAmb IAmb 05 22 37.0
comp=Z,16nm,0.8s
BRLK Bradley Lake 62.35 331 P **P 05 22 34.1 -0.3**
CNPM China Poot 62.43 331 P **P 05 22 34.2 -0.7**
HDA Harding Lake 62.54 336 P **P 05 22 36.0 +0.4**
baz=117,SNR=13
HDA Harding Lake 62.54 336 P **P 05 22 35.4 -0.2**
IL31 62.68 337 P **P 05 22 36.5 0.0**
ILAR Eielson Array 62.68 337 P **P 05 22 36.8 +0.2**
comp=Z,23nm,1.0s,baz=137,slow=4.5,SNR=68
ILAR LR LR 05 53 53.2
comp=Z,380nm,18.7s,baz=130,slow=40
ILAR Eielson Array 62.68 337 P **P 05 22 36.5 -0.1**
ILAR Eielson Array 62.68 337 P **P 05 22 36.5 -0.1**
RND Reindeer 62.86 335 P **P 05 22 37.8 0.0**
RND pmax pmax
comp=Z,75nm,1.1s
RND Reindeer 62.86 335 P **P 05 22 37.8 0.0**
SUA Susitna One 62.90 333 P **P 05 22 38.8 +0.6**
CCB Clear Creek Bu 62.98 337 P **P 05 22 38.5 0.0**
CCB IAmb IAmb 05 22 43.5
comp=Z,10nm,0.9s
WRH Wood River Hil 63.01 336 P **P 05 22 38.3 -0.5**
WRH IAmb IAmb 05 22 46.3
comp=Z,8.6nm,0.9s
POKR Poker Plat Res 63.05 337 P **P 05 22 39.6 +0.6**
baz=117,SNR=6.4
CUT Chulitna 63.05 334 P **P 05 22 39.2 +0.2**
baz=113
TCOL CIGO, UAF Yank 63.10 337 P **P 05 22 39.6 +0.4**
baz=116
BMAR Burnt Mountain 63.15 340 P **P 05 22 40.5 +0.8**
MDM Murphy Dome 63.28 337 P **P 05 22 39.9 -0.6**
MDM IAmb IAmb 05 22 42.6
comp=Z,9.6nm,0.9s
BWN Browne 63.43 336 P **P 05 22 41.0 -0.5**
SKT Skwentna 63.44 333 P **P 05 22 41.5 -0.1**
NEA2 Nenana 63.45 336 P **P 05 22 41.7 0.0**
baz=115,SNR=12
RSO Redoubt South 63.47 331 P **P 05 22 42.0 -0.1**
TRF Thorofare Moun 63.47 335 P **P 05 22 41.8 -0.2**
KTH Kantishna Hill 63.77 335 P **P 05 22 43.7 -0.2**
BPAW Bear Paw Mtn. 64.01 335 P **P 05 22 45.1 -0.2**
PPLA Purkeypile 64.06 334 P **P 05 22 45.2 -0.7**
PPT Papeete 64.58 243 LR LR 05 44 31.7
comp=Z,177nm,19.0s,baz=50,slow=30
PPT2 Papeete2 64.59 243 *e*LR LR 05 41 43.9
comp=Z,522nm,27.0s,baz=56
SVW2 Sparrevohn 64.98 331 P **P 05 22 51.8 0.0**
SVW2 IAmb IAmb 05 22 54.6
comp=Z,15nm,0.9s
COLD Coldfoot 64.98 339 P **P 05 22 53.1 +1.5**
baz=115,SNR=8.4
COLD Coldfoot 64.98 339 P **P 05 22 51.5 -0.2**
COLD IAmb IAmb 05 22 54.4
comp=Z,32nm,1.3s
TOLK Toolik Lake Re 65.38 340 P **P 05 22 55.2 +1.0**
baz=116,SNR=5.5
TOLK Toolik Lake Re 65.38 340 P **P 05 22 54.8 +0.5**
TOLK IAmb IAmb 05 22 55.8
comp=Z,21nm,0.8s
TTA Tatalina 65.72 333 P **P 05 22 56.5 -0.1**
TTA pmax pmax
comp=Z,32nm,1.0s
TTA Tatalina 65.72 333 P **P 05 22 56.5 -0.1**
IMAR Indian Mountai 65.80 337 P **P 05 22 56.0 -0.9**
SUMG Summit 66.31 15 *i* P **P 05 23 00.3 -0.3**
comp=Z,32nm,1.1s
SUMG Summit 66.31 15 *i* P **P 05 23 00.3 -0.3**
SUMG pmax pmax
comp=Z,32nm,1.1s
SUMG Summit 66.31 15 P **P 05 22 60.0 -0.6**
TBI Tubuai 67.06 237 *e*LR LR 05 43 05.4
comp=Z,450nm,29.2s,baz=63
PMOZ Porto Moniz, M 70.18 60 A A 05 53 48.4
comp=Z,197nm,20.0s
DAG Danmarks Havn 72.73 13 *i* P **P 05 23 38.0 -1.6**
comp=Z,13nm,0.6s
DAG Danmarks Havn 72.73 13 *i* P **P 05 23 38.0 -1.6**
DAG pmax pmax
comp=Z,13nm,0.6s
NOR Nord 74.14 9 *i* P **P 05 23 46.6 -1.3**
comp=Z,4.0nm,0.8s
NOR Nord 74.14 9 *i* P **P 05 23 46.6 -1.3**
NOR pmax pmax
comp=Z,4.0nm,0.8s
PGAV Gavieira, Arco 76.42 50 A A 05 59 26.3
comp=Z,307nm,18.0s
PCAB Cabril 76.63 50 *e*P **P 05 24 01.1 -1.9**
MORF Marmelete 76.70 55 *e*P **P 05 24 02.7 -0.8**
PMTG Montargil 76.81 53 *e*P **P 05 24 02.5 -1.5**
EVO Evora 77.04 53 *e*P **P 05 24 03.4 -1.9**
PBEJ Beja 77.22 54 *e*P **P 05 24 05.3 -1.0**
PMRV Marv??o 77.40 52 A A 05 52 09.9
comp=Z,290nm,22.0s
PVAQ Vaqueiros 77.43 54 A A 05 55 53.2
comp=Z,338nm,20.0s
MVO Moncorvo 77.44 50 A A 06 00 08.4
comp=Z,340nm,18.0s
ESK Eskdalemuir 78.13 36 P **P 05 24 10.1 -0.9**
ESK pmax pmax
comp=Z,20nm,0.6s
ESK Eskdalemuir 78.13 36 P **P 05 24 10.1 -0.9**
KBS Kingsbay 79.06 11 *c*eP **P 05 24 16.2 +0.5**
KBS pmax pmax
comp=Z,15nm,1.3s
ESDC Sonseca Array 79.98 52 P **P 05 24 20.0 -1.6**
comp=Z,4.3nm,0.8s,baz=286,slow=6.1,SNR=25
ESDC LR LR 05 53 52.2
comp=Z,251nm,21.9s,baz=275,slow=31
ESBB Sonseca Array 79.98 52 P **P 05 24 20.9 -0.7**
CLF Chambon-Foret 82.77 42 P **P 05 24 35.3 -0.7**
CLF IAmb IAmb 05 24 44.7
comp=Z,30nm,1.3s
DOU Dourbes 83.78 40 P **P 05 24 39.6 -1.6**
BGES Gesves 84.01 40 P **P 05 24 41.1 -1.3**
BCLA Clavier 84.14 40 P **P 05 24 41.8 -1.3**
NB2 NORSAR Subarra 84.30 28 P **P 05 24 44.0 +0.3**
comp=Z,306nm,10.0s,baz=290,slow=5.6
NB2 NORSAR Subarra 84.30 28 P **P 05 24 44.0 +0.3**
baz=290,slow=5.6
NOA NORSAR Array B 84.30 28 P **P 05 24 42.9 -0.8**
comp=Z,1.1nm,0.7s,baz=290,slow=5.2,SNR=7.2
NOA LR LR 06 01 15.4
comp=Z,181nm,21.4s,baz=285,slow=35
NC602 NORSAR Array S 84.55 29 P **P 05 24 44.3 -0.7**
TIC Toumodi 85.85 84 *e*P **P 05 24 51.7 -0.7**
LIC Lamto 85.94 85 *e*P **P 05 24 53.4 +0.6**
comp=Z,19nm,0.8s
DBIC Dimbokro 86.01 84 P **P 05 24 52.4 -0.8**
comp=Z,7.9nm,0.8s,baz=284,slow=4.8,SNR=9.5
DBIC LR LR 05 59 42.0
comp=Z,165nm,20.7s,baz=311,slow=33
DBIC Dimbokro 86.01 84 P **P 05 24 53.0 -0.1**
DBIC pmax pmax
comp=Z,12nm,1.0s
DBIC Dimbokro 86.01 84 P **P 05 24 53.0 -0.1**
DBIC IAmb IAmb 05 24 54.4
comp=Z,12nm,0.9s
TNS Taunus Mts 86.13 39 *e*P **P 05 24 52.4 -0.8**
comp=Z,20nm,1.4s,baz=288,slow=5.0
KIC Kosan Boka 86.19 84 *e*P **P 05 24 54.6 +0.6**
comp=Z,33nm,1.0s
ARCES ARCESS Array B 86.23 18 P **P 05 24 51.8 -1.3**
comp=Z,2.1nm,0.7s,baz=281,slow=6.3,SNR=6.4
SENIN Lac Senin/Sane 86.52 43 P **P 05 24 54.6 -0.7**
SENIN IAmb IAmb 05 25 01.5
comp=Z,10nm,1.1s
CLZ Clausthal 86.79 37 *e*P **P 05 24 56.1 -0.2**
comp=Z,27nm,1.8s,baz=288,slow=5.0
ASSE Asse, Remlinge 86.87 37 *e*P **P 05 24 56.4 -0.2**
comp=Z,51nm,2.2s,baz=288,slow=5.0
UBBA Unterbreizbach 86.89 38 *e*P **P 05 24 56.0 -0.6**
comp=Z,15nm,1.6s,baz=288,slow=5.0
NEUB Neuenburg 87.83 38 *e*P **P 05 25 01.0 -0.3**
comp=Z,31nm,1.9s,baz=288,slow=5.0
TUE Stuetta 87.83 43 P **P 05 25 01.0 -0.7**

TUE					IAmb	IAmb	05 25 10.0	
	comp=Z,9.0nm,0.9s							
MOX	**Moxa**	**87.92**	**38**	*eP*		**P**	**05 25 01.2**	**-0.5**
	comp=Z,11nm,1.6s,baz=288,slow=5.0							
UBR	**Ueberruh**	**87.95**	**41**	*eP*		**P**	**05 25 01.0**	**-1.0**
	comp=Z,82nm,2.5s,baz=288,slow=5.0							
GRF	**Grafenberg Arr**	**88.00**	**39**	*eP*		**P**	**05 25 01.8**	**-0.3**
	comp=Z,10nm,1.1s,baz=288,slow=5.0							
FUORN	**Ofenpass-Fuorn**	**88.39**	**42**	P		**P**	**05 25 03.6**	**-0.7**
FUORN					IAmb	IAmb	05 25 05.2	
	comp=Z,8.0nm,1.1s							
GUNZ	**Gunzen**	**88.44**	**38**	*eP*		**P**	**05 25 04.0**	**-0.3**
	comp=Z,15nm,1.6s,baz=288,slow=5.0							
ROTZ	**Rotzenmuhle**	**88.57**	**39**	*eP*		**P**	**05 25 04.6**	**-0.3**
	comp=Z,15nm,1.9s,baz=288,slow=5.0							
SEY	**Seymchan**	**88.59**	**336**	P		**P**	**05 25 05.6**	**+1.0**
	comp=Z,6.6nm,0.9s,baz=114,slow=7.3,SNR=7.1							
SEY	**Seymchan**	**88.59**	**336**	*i P*		**P**	**05 25 06.2**	**+1.6**
WET	**Wettzell**	**89.20**	**39**	*eP*		**P**	**05 25 07.7**	**-0.2**
	comp=Z,15nm,1.7s,baz=288,slow=5.0							
BRG	**Berggiesshubel**	**89.22**	**37**	*e*(P)		P	05 24 56.0	-12
	comp=Z,2.0nm,0.7s							
BRG	**Berggiesshubel**	**89.22**	**37**	*eP*		P	05 24 56.0	-12
BRG					pmax	pmax		
	comp=Z,2.0nm,0.7s							
KHC	**Kasperske Hory**	**89.64**	**39**	*eP*		**P**	**05 25 09.7**	**-0.2**
KHC	**Kasperske Hory**	**89.64**	**39**	*ceP*		**P**	**05 25 09.2**	**-0.7**
KHC					pmax	pmax		
	comp=Z,18nm,2.5s							
GERES	**GERESS Array B**	**89.81**	**39**	P		**P**	**05 25 09.9**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=321,slow=3.4,SNR=5.1							
GERES					LR	LR	06 03 43.6	
	comp=Z,424nm,20.2s,baz=284,slow=34							
FINES	**FINESS Array B**	**90.63**	**25**	P		**P**	**05 25 13.6**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=303,slow=3.3,SNR=13							
FINES					LR	LR	06 07 13.8	
	comp=Z,348nm,19.0s,baz=285,slow=36							
FINES	**FINESS Array B**	**90.63**	**25**	P		**P**	**05 25 13.3**	**-0.9**
FINES	**FINESS Array B**	**90.63**	**25**	P		**P**	**05 25 13.3**	**-0.9**
OSTC	**Ostas**	**90.68**	**37**	*eP*		P	05 25 22.8	+8.1
TORD	**Torodi Ar. Bea**	**90.72**	**76**	P		**P**	**05 25 14.6**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=293,slow=6.4,SNR=8.3							
TORD					LR	LR	06 05 31.0	
	comp=Z,164nm,18.7s,baz=275,slow=35							
DPC	**Dobruska-Polom**	**90.83**	**37**	*eP*		**P**	**05 25 14.9**	**-0.5**
DPC	**Dobruska-Polom**	**90.83**	**37**	*eP*		**P**	**05 25 14.9**	**-0.5**
MA2	**Magadan**	**90.92**	**333**	*ceP*		**P**	**05 25 15.8**	**+0.2**
MA2					pmax	pmax		
	comp=Z,17nm,1.7s							
KEST	**Kesra**	**91.17**	**53**	LR		LR	06 03 16.5	
	comp=Z,94nm,18.8s,baz=289,slow=34							
KRLC	**Kraliky**	**91.21**	**38**	*eP*		**P**	**05 25 19.1**	**+1.9**
KRLC	**Kraliky**	**91.21**	**38**	*eP*		**P**	**05 25 19.1**	**+1.9**
KLMR	**Klimovskoe**	**96.16**	**22**	*eP*		**P**	**05 25 37.8**	**-1.8**
KLMR					pmax	pmax		
	comp=Z,10.0nm,1.1s							
KLMR	**Klimovskoe**	**96.16**	**22**	*eP*		**P**	**05 25 37.9**	**-1.7**
KLMR					AMP		05 25 40.6	
	comp=Z,10.0nm,1.1s							
KLMR					LQ	LQ	06 01 58.0	
KLMR					LQ	LQ	06 01 58.0	
KLMR					LR	LR	06 06 17.0	
NRIK	**Noril'sk**	**96.86**	**0**	LR		LR	06 14 09.9	
	comp=Z,698nm,18.9s,baz=18,slow=38							
YAK	**Yakutsk**	**97.33**	**341**	*i P*		Pdif	05 25 45.5	+0.6
YAK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
AKASG	**Malin Array Be**	**97.91**	**33**	LR		LR	06 11 12.6	
	comp=Z,236nm,19.2s,baz=330,slow=36							
DZM	**Mont Dzumac**	**105.34**	**251**	*eLR*		LR	06 01 07.7	
	comp=Z,156nm,24.0s							
SYO	**Syowa Base**	**117.28**	**162⇑**	*es*Pdiff		Pdif	05 27 32.0	+19
MKAR	**Makanchi Array**	**119.28**	**4**	PKP		**PKPdf**	**05 31 00.4**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=23,slow=1.6,SNR=9.1							
MKAR	**Makanchi Array**	**119.28**	**4**	*c i*PKIKP		**PKPdf**	**05 31 00.7**	**-0.6**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**119.28**	**4**	PKPdf		**PKPdf**	**05 31 01.0**	**-0.2**
HHC	**Hu-ho-hao-te**	**121.08**	**339**	*e*PKP		**PKPdf**	**05 31 03.6**	**-1.4**
HHC					LR	LR		
	comp=Z,200nm,13.6s							
HHC					LR	LR		
	comp=Z,340nm,15.3s							
AAK	**Ala-Archa**	**122.35**	**11**	*c i*PKIKP		**PKiKP**	**05 31 08.7**	**+1.1**
AAK					pmax	pmax		
	comp=Z,9.0nm,1.3s							
WMQ	**Urumqi**	**122.44**	**360**	*e*PKP		**PKPdf**	**05 31 07.6**	**+0.1**
CHGR	**Chuyangaron**	**124.82**	**18**	PKPdf		**PKPdf**	**05 31 12.0**	**-0.3**
NJ2	**Nanjing**	**125.29**	**327**	*e*PKP		**PKPdf**	**05 31 13.0**	**-0.2**
KSH	**Kashi**	**125.64**	**11**	PKP		**PKiKP**	**05 31 15.4**	**+1.2**
GTA	**Gaotai**	**125.65**	**348**	*e*PKP		**PKiKP**	**05 31 17.4**	**+3.2**
STKA	**Stephens Creek**	**127.76**	**240**	PKP		**PKPdf**	**05 31 17.6**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=333,slow=4.2,SNR=3.9							
LZH	**Lanzhou**	**127.86**	**343**	*eP*		PKiKP	05 31 28.3	+10
LZH					pP	sPKPdf	05 31 43.3	+8.0
LZH					sP	pPKPdf	05 31 51.5	+21
LZH					pmax	pmax		
	comp=Z,16nm,1.1s							
LZH	**Lanzhou**	**127.86**	**343**	*e*PKP		**PKiKP**	**05 31 21.4**	**+2.6**
LZH					sPKP		05 31 36.3	
LZH					LR	LR		
	comp=Z,320nm,16.3s							
LZH					LR	LR		
	comp=Z,470nm,17.6s							
XAN	**Xi'an**	**128.09**	**337**	PKP		**PKiKP**	**05 31 22.3**	**+3.2**
CD2	**Chengdu**	**132.72**	**341**	PKP		**PKPdf**	**05 31 26.0**	**-1.4**
WRAB	**Tennant Creek**	**135.04**	**256**	*c i*PKIKP		**PKPdf**	**05 31 33.0**	**+1.1**
WRAB					pmax	pmax		
	comp=Z,9.0nm,1.7s							
WRA	**Warramunga Arr**	**135.05**	**256**	PKP		**PKPdf**	**05 31 31.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=87,slow=2.1,SNR=17							
WRA	**Warramunga Arr**	**135.05**	**256**	*c i*PKIKP		**PKPdf**	**05 31 32.5**	**+0.5**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**135.05**	**256**			**PKPdf**	**05 31 31.9**	**0.0**
ASAR	**Alice Springs**	**135.34**	**250**	PKP		**PKPdf**	**05 31 31.8**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=104,slow=2.5,SNR=10							
ASAR	**Alice Springs**	**135.34**	**250**	PKiKP		**PKPdf**	**05 31 31.9**	**-0.5**
ASAR	**Alice Springs**	**135.34**	**250**	PKPdf		**PKPdf**	**05 31 31.9**	**-0.5**
CHTO	**Chiang Mai**	**145.52**	**341**	PKiKP		**PKPdf**	**05 31 50.2**	**-0.7**
CHTO	**Chiang Mai**	**145.52**	**341**	PKPdf		**PKPdf**	**05 31 50.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**145.86**	**341**	PKPbc		**PKPbc**	**05 31 52.3**	**+0.3**
	comp=Z,27nm,0.8s,baz=342,slow=4.1,SNR=97							
CMAR	**Chiang Mai Arr**	**145.86**	**341**	PKP2		**PKPdf**	**05 31 51.5**	**0.0**
CMAR	**Chiang Mai Arr**	**145.86**	**341**	PKPdf		**PKPdf**	**05 31 51.5**	**0.0**
UBPT	**Khong Chiam**	**145.96**	**328**			**PKPbc**	**05 31 52.9**	**+0.5**
PBKT	**Sadao Pong**	**146.87**	**336**			**PKPbc**	**05 31 55.4**	**+0.4**
NWAO	**Narrogin (SRO)**	**147.14**	**230**	PKP2		**PKPbc**	**05 31 54.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**147.14**	**230**	PKPbc		**PKPbc**	**05 31 54.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**147.14**	**230**	PKPbc		**PKPdf**	**05 31 54.5**	**+1.2**
HYB	**Hyderabad**	**147.50**	**16**	*i* PKP		**PKPbc**	**05 31 56.5**	**-0.4**
SBUM	**Sibu**	**150.64**	**302**	PKPdf		**PKPdf**	**05 31 59.7**	**+0.2**
SBUM				PKPbc		**PKPbc**	**05 32 04.2**	**-0.7**
SBUM				PKPab		**pPKPdf**	**05 32 10.6**	**-1.5**
COCO	**West Island**	**170.85**	**280**	PKiKP		**PKPdf**	**05 32 19.7**	**-1.3**
COCO	**West Island**	**170.85**	**280**	PKPdf		**PKPdf**	**05 32 19.7**	**-1.3**

*KRSC **20** 05:41:36.0±1.6, 51°.58N×157°.22E, h158km±13km, ML3.5*
*IDC **20** 05:41:38.7±1.6, 52°.02N×156°.40E, h159km±12km, mb3.2/6, mb1 3.6/6, mb1mx3.2/37, mbtmp3.6/6, Error ellipse: s-maj=107.7km s-min=21.4km az=129.0*

ISC 20 05:41:38.3±0.8, 51°.63N±0°.07×157°.16E±0°.09, h147km±6km, n30, σ1°24/43, mb3.4/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.27**	**233**	*eP*	**Pn**	**05 41 57.9**	**-0.4**
KDTR	**Khodutka, Kamc**	**0.60**	**72**	*eP*	**Pn**	**05 41 59.0**	**-0.7**
KDTR				*eS*	**Sn**	**05 42 15.4**	**-0.6**
MIPR	**Malaya Ipel'ka**	**0.69**	**339**	*eP*	**Pn**	**05 41 59.1**	**-1.2**
MIPR				*eS*	**Sn**	**05 42 15.2**	**-2.0**
ASAK	**Asacha**	**0.88**	**31**	*eP*	**Pn**	**05 42 01.5**	**-0.3**
ASAK				*eS*	**Sn**	**05 42 23.2**	**+3.4**
MTVR	**Mutnovka**	**1.06**	**36**	*eP*	**Pn**	**05 42 02.6**	**-0.8**
MTVR				*eS*	**Sn**	**05 42 24.4**	**+1.8**
SKR	**Severo-Kuril's**	**1.15**	**215**	*eP*	**Pn**	**05 42 03.7**	**-0.3**
SKR				*eS*	**Sn**	**05 42 23.6**	**-0.1**
RUS	**Russkaya**	**1.16**	**46**	*eP*	**Pn**	**05 42 03.6**	**-0.5**
RUS				*eS*	**Sn**	**05 42 23.6**	**-0.2**
ALID	**Alaid**	**1.27**	**234**	*eP*	**Pn**	**05 42 04.5**	**-0.8**
ALID				*eS*	**Sn**	**05 42 28.5**	**+2.6**
KRMR	**Karymshinskiy**	**1.34**	**26**	*eP*	**Pn**	**05 42 06.6**	**+0.8**
KRMR				*eS*	**Sn**	**05 42 28.4**	**+1.4**
PETK	**Petropavlovsk-**	**1.52**	**12**	P	**Pn**	**05 42 06.7**	**-1.0**
	7.2nm,0.3s,baz=186,slow=10,SNR=109						
PETK				S	**Sn**	**05 42 29.8**	**-0.5**
	1.1nm,0.3s,baz=184,slow=18,SNR=6.3						
PET	**Petropavlovsk**	**1.67**	**33**	*eP*	**Pn**	**05 42 08.5**	**-0.8**
PET				S	**Sn**	**05 42 31.7**	**-1.5**
DALK	**Dalny**	**1.71**	**34**	*eS*	**Sn**	**05 42 34.3**	**+0.3**
KOK	**Koryaka**	**1.89**	**28**	*eP*	**Pn**	**05 42 12.3**	**+0.3**
KOK				*eS*	**Sn**	**05 42 39.6**	**+1.7**
AVH	**Avacha**	**1.90**	**30**	*eP*	**Pn**	**05 42 12.1**	**+0.1**
AVH				*eS*	**Sn**	**05 42 40.4**	**+2.4**
SMAR	**Somma**	**1.92**	**31**	*eP*	**Pn**	**05 42 12.3**	**-0.1**
KRER	**Koryakskii**	**1.94**	**29**	*eP*	**Pn**	**05 42 12.5**	**-0.1**
KRER				*eS*	**Sn**	**05 42 40.9**	**+1.9**
KRX	**Arik**	**1.96**	**27**	*eP*	**Pn**	**05 42 12.5**	**-0.2**
KRX				*eS*	**Sn**	**05 42 39.2**	**-0.1**
SPN	**Mys Shipunski**	**2.29**	**49**	*eP*	**Pn**	**05 42 16.0**	**-0.5**
SPN				*eS*	**Sn**	**05 42 45.1**	**-1.0**
KZV	**Kizimen**	**3.96**	**27**	*eP*	**Pn**	**05 42 37.5**	**-0.4**
KZV				*eS*	**Sn**	**05 43 25.6**	**+1.3**
TUMR	**Tumrok**	**4.07**	**25**	*eP*	**Pn**	**05 42 39.8**	**+0.5**
KBTR	**Krutoberegovo**	**5.67**	**34**	*eP*	**Pn**	**05 42 58.3**	**-2.1**
ILAR	**Eielson Array**	**31.12**	**43**	P	**P**	**05 47 41.4**	**-1.1**
	0.6nm,0.8s,baz=263,slow=9.0,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**32.74**	**163**	T	T	06 22 23.8	
	baz=350,slow=76,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**32.76**	**163**	T	T	06 22 23.7	
	baz=350,slow=76,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**32.76**	**163**	T	T	06 22 25.0	
	baz=350,slow=76,SNR=3.8						
YKA	**Yellowknife Ar**	**45.45**	**41**	P	**P**	**05 49 41.5**	**-0.4**
	0.4nm,0.6s,baz=298,slow=10,SNR=3.9						
NVAR	**Mina Array Bea**	**57.95**	**67**	P	**P**	**05 51 16.4**	**+1.1**
	0.5nm,0.5s,baz=300,slow=7.9,SNR=6.3						
PDAR	**Pinedale Array**	**59.82**	**58**	P	**P**	**05 51 28.4**	**+0.3**
	0.4nm,0.7s,baz=291,slow=4.1,SNR=4.0						
TXAR	**Lajitas Array**	**72.88**	**64**	P	**P**	**05 52 51.6**	**+0.4**
	0.5nm,0.4s,baz=299,slow=4.9,SNR=11						
ASAR	**Alice Springs**	**77.71**	**202**	P	**P**	**05 53 18.7**	**+0.2**
	0.3nm,0.4s,baz=14,slow=5.2,SNR=8.6						

*MOS **20** 06:01:56.7±0.0, 41°.79N×46°.61E, h11km, MPVA3.8*
*TIF **20** 06:01:57.0, 41°.70N×46°.58E, h22km±1km*
*NORS **20** 06:01:58.4±0.0, 41°.81N×46°.70E, h27km, MPVA3.8*
*DRS **20** 06:02:01.3±0.0, 41°.99N×46°.66E, h10km*

ISC 20 06:01:59.2±1.3, 41°.82N±0°.05×46°.67E±0°.04, h10km±9km, n21, σ1°66/31, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.32**	**273**	*e*Pg	Pg	06 02 04.0	-1.5
LGD				*e*Sg	**Sg**	**06 02 08.9**	**-0.9**
LGD	**Lagodekhi**	**0.32**	**273**	P	Pg	06 02 04.0	-1.5
LGD				S	**Sg**	**06 02 08.9**	**-0.9**
KMKR	**Kumukh**	**0.45**	**46**	*i* Pg	**Pg**	**06 02 09.0**	**+1.0**
DDFL	**Dedoflistskaro**	**0.56**	**228**	*e*Pg	Pg	06 02 09.9	-0.1
DDFL	**Dedoflistskaro**	**0.56**	**228**	P	Pg	06 02 09.9	-0.1
GNBR	**Gunib**	**0.61**	**21**	*e*Pg	**Pg**	**06 02 11.7**	**+0.7**
GNBR				*e*Sg	**Sn**	**06 02 19.9**	**-4.0**
XNZR	**Khunzakh**	**0.72**	**2**	*e*Pg	**Pb**	**06 02 13.7**	**-0.2**
XNZR				*e*Sg	**Sn**	**06 02 24.1**	**-2.7**
ARKR	**Arakani**	**0.82**	**17**	*e*Pg	**Pg**	**06 02 15.0**	**0.0**
ARKR				*e*Sg	**Sn**	**06 02 28.0**	**-1.0**
AKT	**Akhty**	**0.87**	**113**	*e*Pg	Pb	06 02 15.4	-0.9
AKT				*e*Sg	**Sb**	**06 02 27.9**	**-0.2**
BTLR	**Botlikh**	**0.91**	**339**	*e*Pg	**Pg**	**06 02 16.1**	**-0.5**
KRNR	**Karanay**	**1.02**	**10**	*e*Pg	**Pb**	**06 02 19.0**	**0.0**
KRNR				*e*Sg	**Sn**	**06 02 34.0**	**-0.1**
DBC	**Dubki**	**1.20**	**6**	*e*Pg	**Pn**	**06 02 23.9**	**+1.8**
DBC				*e*Sg	**Sn**	**06 02 39.1**	**+0.5**
GROC	**Groznyy**	**1.52**	**335**	*e*Pg	**Pn**	**06 02 27.0**	**+0.6**
GROC				*e*Sg	**Sg**	**06 02 48.1**	**-0.1**
PNSH	**Pansheti**	**1.73**	**299**	P	**Pn**	**06 02 28.1**	**-1.3**
PNSH				S	**Sn**	**06 02 50.9**	**-0.7**
KZRT	**Kazreti**	**1.76**	**256**	P	Pn	06 02 27.6	-2.1
KZRT				S	**Sn**	**06 02 49.6**	**-2.6**
DMNI	**Dmanisi**	**1.92**	**256**	P	Pn	06 02 29.2	-2.8
DMNI				S	**Sn**	**06 02 53.8**	**-2.6**
LACR	**Lac**	**2.02**	**301**	*e*Pg	**Pn**	**06 02 33.9**	**+0.4**
LACR				*e*Sg	**Sn**	**06 02 59.7**	**+0.8**
ARNR	**Ardon**	**2.23**	**308**	*e*Pg	**Pn**	**06 02 37.4**	**+1.3**
ARNR				*e*Sg	**Sb**	**06 03 06.1**	**-1.0**
ZEI	**Tsey**	**2.27**	**296**	*e*Pg	**Pn**	**06 02 38.1**	**+1.2**
ZEI				*e*Sg	**Sn**	**06 03 07.2**	**+2.2**
ONI	**Oni**	**2.51**	**289**	*e*Pn	**Pn**	**06 02 42.0**	**+1.9**
ONI				*e*Sn	**Sn**	**06 03 13.0**	**+2.3**
ONI	**Oni**	**2.51**	**289**	P	**Pn**	**06 02 42.0**	**+1.9**
ONI				S	**Sn**	**06 03 13.0**	**+2.3**

IDC 20 06:15:00.2±5.4, 30°.47S×138°.36E, h0km, mb1 3.0/3, mb1mx3.0/22, mbtmp2.7/3, ML2.2/2, Error ellipse: s-maj=141.3km s-min=18.2km az=40.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.10**	**118**	Pn	Pn	06 15 50.7	+0.1
	0.1nm,0.3s,baz=290,slow=10,SNR=2.7						
STKA				Sn	Sn	06 16 29.6	+1.3
	1.4nm,0.3s,baz=257,slow=12,SNR=5.3						
STKA				Lg	Lg	06 16 38.7	
	2.7nm,0.3s,baz=220,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**7.86**	**329**	Pn	Pn	06 16 56.1	+0.3
	0.1nm,0.3s,baz=152,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**11.10**	**340**	Pn	Pn	06 17 39.9	-0.4
	baz=162,slow=14,SNR=3.2						

*IDC **20** 06:40:52.1±2.6, 58°.60N×154°.31W, h66km±36km, mb3.7/1, mb1 4.0/5, mb1mx3.3/63, mbtmp4.0/5, ML4.0/4, Error ellipse: s-maj=35.8km s-min=17.6km az=95.0*
*NEIC **20** 06:40:53.1±1.2, 58°.42N±0°.04×154°.10W±0°.05, h99km±4km, Error ellipse: s-maj=5.2km s-min=3.9km az=177.0*
*AEIC **20** 06:40:54±1.5, 58°.44N±0°.03×154°.08W±0°.06, h91km±5km, ML3.5, Error ellipse: s-maj=4.9km s-min=3.9km az=68.0*
*UNK **20** 06:40:54.5, 58°.44N×154°.08W, h91km*
*ANF **20** 06:40:55.5±1.5, 58°.65N×153°.85W, h130km±13km, ML4.0/5, Error ellipse: s-maj=20.2km s-min=11.6km az=82.0*

ISC 20 06:40:53.1±0.8, 58°.44N±0°.03×154°.07W±0°.04, h100km±7km, n159, σ0°83/180, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPH	**Katmai Pasha**	**0.21**	**316**		**Pn**	**06 41 07.2**	**-0.1**
KAPH					**Sn**	**06 41 17.7**	**-0.3**
KAHG	**Katmai Hook Gl**	**0.26**	**281**		**Pn**	**06 41 07.4**	**-0.1**
KAWH	**Katmai**	**0.39**	**261**		**Pn**	**06 41 07.8**	**-0.4**
KAKN	**Katmai Knife C**	**0.54**	**255**		**Pn**	**06 41 08.7**	**-0.5**
KAKN					**Sn**	**06 41 20.4**	**-0.9**
KABR	**Katmai Barrier**	**0.57**	**237**		**Pn**	**06 41 09.1**	**-0.4**
MGLS	**Mageik Landsli**	**0.66**	**242**		**Pn**	**06 41 09.9**	**-0.1**
KABU	**Katmai Buttres**	**0.66**	**255**		**Pn**	**06 41 10.2**	**0.0**
KABU					**Sn**	**06 41 23.0**	**0.0**
CAHL	**Cahill**	**0.76**	**239**		**Pn**	**06 41 10.9**	**-0.1**
ANCK	**Angle Creek**	**0.79**	**252**		**Pn**	**06 41 11.4**	**0.0**
KELA	**Mount Kelaz**	**0.88**	**270**		**Pn**	**06 41 12.1**	**-0.2**
KELA					**Sn**	**06 41 25.4**	**-1.3**
KJL	**Kejulik**	**0.89**	**244**		**Pn**	**06 41 12.4**	**+0.1**
AUQ	**Augustine Qik'**	**0.97**	**20**		**Pn**	**06 41 13.6**	**+0.4**
AUQ					**Sn**	**06 41 28.9**	**+0.5**
AUP	**Augustine Pinn**	**0.98**	**20**		**Pn**	**06 41 13.7**	**+0.4**
AU2	**Augustine Isla**	**0.99**	**21**		**Pn**	**06 41 13.9**	**+0.5**
AUL	**Augustine Lava**	**1.00**	**19**		**Pn**	**06 41 13.8**	**+0.4**
AU22	**Augustine Moun**	**1.00**	**21**		**Pn**	**06 41 13.8**	**+0.4**
AU22					**Sn**	**06 41 28.9**	**+0.2**
KDAK	**Kodiak Island**	**1.03**	**129**	P	**Pn**	**06 41 13.7**	**0.0**
	67nm,0.3s,baz=334,slow=8.8,SNR=1489						
KDAK				S	**Sn**	**06 41 29.0**	**-0.4**
	207nm,0.3s,baz=226,slow=22,SNR=42						
OPT	**Oil Point**	**1.29**	**19**		**Pn**	**06 41 17.2**	**+0.5**
OHAK	**Old Harbor**	**1.29**	**161**		**Pn**	**06 41 16.9**	**+0.1**
OHAK	**Old Harbor**	**1.29**	**161**		**Sn**	**06 41 34.0**	**-0.6**
PLK2	**Peulik 2**	**1.38**	**241**		**Pn**	**06 41 18.1**	**-0.3**
PLK3	**Peulik 3**	**1.39**	**238**		**Pn**	**06 41 18.2**	**+0.2**
PLK3					**Sn**	**06 41 36.5**	**-0.3**
PLK1	**Peulik 1**	**1.49**	**246**		**Pn**	**06 41 19.5**	**+0.3**
PLK5	**Peulik 5**	**1.55**	**254**		**Pn**	**06 41 20.3**	**+0.4**
ILS	**Iliamna Low So**	**1.60**	**18**		**Pn**	**06 41 20.9**	**+0.3**
IVE	**Iliamna Volcan**	**1.67**	**18**		**Pn**	**06 41 21.7**	**+0.3**
IVE					**Sn**	**06 41 42.7**	**-0.3**
ILW	**Iliamna West**	**1.69**	**16**		**Pn**	**06 41 22.6**	**+0.8**
HOM	**Homer**	**1.75**	**45**	P	**Pn**	**06 41 23.2**	**+0.8**
	baz=227						
HOM				S	**Sn**	**06 41 45.6**	**+1.0**
	baz=227						
HOM	**Homer**	**1.75**	**45**		**Pn**	**06 41 23.4**	**+1.0**
HOM					**Sn**	**06 41 45.7**	**+1.0**
CNPM	**China Poot**	**1.82**	**52**		**Pn**	**06 41 24.1**	**+0.8**
CNPM					**Sn**	**06 41 46.0**	**-0.4**
SII	**Sitkinak Islan**	**1.89**	**182**		**Pn**	**06 41 24.4**	**+0.2**
SII				Sn	**Sn**	**06 41 46.5**	**-1.5**
RED	**Redoubt Volcan**	**2.09**	**18**		**Pn**	**06 41 27.1**	**+0.3**
RED					**Sn**	**06 41 52.8**	**+0.2**
BRLK	**Bradley Lake**	**2.11**	**50**		**Pn**	**06 41 26.8**	**-0.2**
BRLK				Sn	**Sn**	**06 41 51.3**	**-1.6**
RSO	**Redoubt South**	**2.13**	**18**		**Pn**	**06 41 27.9**	**+0.4**
RDWB	**Redoubt West**	**2.14**	**16**		**Pn**	**06 41 27.9**	**+0.3**
BRSE	**Bradley Lake S**	**2.15**	**51**		**Pn**	**06 41 27.6**	**0.0**
BRSE					**Sn**	**06 41 52.4**	**-1.6**
NCT	**North Crescent**	**2.20**	**15**		**Pn**	**06 41 28.7**	**+0.4**
DFR	**Drift River**	**2.27**	**18**		**Pn**	**06 41 29.7**	**+0.6**
DFR					**Sn**	**06 41 56.5**	**-0.2**
CAPN	**Captain Cook N**	**2.76**	**31**	P	**Pn**	**06 41 37.3**	**+1.8**
	baz=214						
CAPN	**Captain Cook N**	**2.76**	**31**		**Pn**	**06 41 36.9**	**+1.4**
CHIR	**Chirikof Islan**	**2.76**	**199**		**Pn**	**06 41 35.3**	**-0.3**
CHIR				Sn	**Sn**	**06 42 06.5**	**-1.8**
SVW2	**Sparrevohn**	**2.77**	**345**		**Pn**	**06 41 35.3**	**-0.4**
SVW2				Sn	**Sn**	**06 42 07.2**	**-1.3**
SLKM	**Skilak Lake**	**2.85**	**42**		**Pn**	**06 41 37.0**	**+0.2**
SEW	**Seward**	**2.90**	**53**		**Pn**	**06 41 36.8**	**-0.5**
SPCR	**Spurr Chakacha**	**2.92**	**18**		**Pn**	**06 41 38.0**	**+0.2**
SPBG	**Spurr Blockage**	**2.95**	**16**		**Pn**	**06 41 38.6**	**+0.5**
SPCP	**Crater Peak Br**	**2.99**	**18**		**Pn**	**06 41 39.1**	**+0.3**
SPNN	**North Nagishla**	**3.01**	**13**		**Pn**	**06 41 39.5**	**+0.4**
O22K	**Cooper Landing**	**3.02**	**45**	P	**Pn**	**06 41 39.1**	**+0.2**
	baz=229						
O22K				S	**Sn**	**06 42 13.0**	**-1.2**
	baz=229						
O22K	**Cooper Landing**	**3.02**	**45**		**Pn**	**06 41 39.1**	**+0.2**
SPCG	**Spurr Capps Gl**	**3.04**	**19**		**Pn**	**06 41 39.6**	**+0.2**
STLK	**Strandline Lak**	**3.26**	**19**		**Pn**	**06 41 42.7**	**+0.3**
SUA	**Susitna One**	**3.46**	**27**		**Pn**	**06 41 45.4**	**+0.4**
VNHG	**Veniaminof 1**	**3.55**	**233**		**Pn**	**06 41 47.0**	**+0.8**
VNFG	**Fog Glacier, M**	**3.67**	**236**		**Pn**	**06 41 48.1**	**+0.2**
SKT	**Skwentna**	**3.77**	**19**		**Pn**	**06 41 49.2**	**+0.2**
PWL	**Port Wells**	**3.79**	**48**		**Pn**	**06 41 49.1**	**-0.1**
PMR	**Palmer**	**4.01**	**36**		**Pn**	**

1.2nm,0.6s,baz=39,slow=7.4,SNR=3.8

IDC ***20*** *06:49:57.7±0.5,3.°18N×79.°22W,h0km,mb4.5/23, mb1 4.6/26,mb1mx4.5/44,mbtmp4.5/26,ML4.5/3,MS3.5/13, Ms1 3.5/13,ms1mx3.3/33,Error ellipse: s-maj=21.4km s-min=11.4km az=61.0*

VAO ***20*** *06:49:58.5±0.4,2.°98N×79.°27W,h10km,mb4.7*

RSNC ***20*** *06:50:00.0±1.2,3.°02N×79.°26W,h10km±5km,ML3.7, Mw4.0,Fault plane solution: NP1:φs5.00000°,δ68.00000°, λ-122.00000°.*

NEIC ***20*** *06:50:01.3±1.5,3.°03N±0.°05×79.°34W±0.°06,h25km±4km, mb4.8/144,Error ellipse: s-maj=10.3km s-min=2.2km az=50.0*

UNK ***20*** *06:50:01.3,3.°03N×79.°34W,h25km*

GCMT ***20*** *06:50:04.3±0.4,3.°08N±0.°05×79.°41W±0.°03,h17km±1km, MW4.7/68,Moment Tensor Solution. s10,c10; s68,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.48±.14; Mθθ0.22±.07; Mφφ1.26±.10; Mrθ0.45±.27; Mφφ0.33±.04; Mφr0.47±.23; Best double couple: M0 1.55700×10^16 NP1:φs8.00000°,δ35.00000°,λ-106.00000°. NP2: φs206.00000°,δ57.00000°,λ-80.00000°. Principal axes: T 1.4720, Plg11.0000°, Azm289.0000°; N 0.1690, Plg9.0000°, Azm20.0000°; P -1.6420, Plg76.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 06:49:59.9±2.4,3.°02N±0.°03×79.°28W±0.°04,h16km±15km, n470,σ1§11/511,mb4.8/84,MS3.6/9,21C,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GR1C	**Gorgona, Isla**	**1.11**	**91**	⇑*i*P	**Pb**	**06 50 19.2**	**-1.6**
GR1C				*e*S	**Sb**	**06 50 33.6**	**-1.4**
TUMC	**Tumaco**	**1.31**	**155**	⇑*i*P	**Pn**	**06 50 22.9**	**-0.6**
TUMC				*e*S	**Sb**	**06 50 39.6**	**-1.1**
TUMC				*i*		06 50 46.5	
	comp=Z,2μm,0.8s						
MALC	**Bahia Malaga**	**2.18**	**63**	⇑*i*P	**Pn**	**06 50 34.9**	**-0.5**
MALC				*e*S	**Sn**	**06 51 01.3**	**-0.8**
MALC				*i*		06 51 04.8	
	comp=Z,631nm,0.6s						
BBAC	**Balboa, Cauca**	**2.26**	**116**	⇑*i*P	**Pn**	**06 50 36.1**	**-0.7**
BBAC				*e*S	**Sn**	**06 51 04.2**	**-0.2**
BBAC				*i*		06 51 15.1	
	comp=Z,570nm,0.3s						
CMBC	**Cumbal**	**2.53**	**145**	⇑*e*P	**Pn**	**06 50 40.0**	**-0.7**
CMBC				*e*S	**Sn**	**06 51 11.7**	**+0.4**
CMBC				*i*		06 51 24.0	
	comp=Z,178nm,0.7s						
CCUFI	**Cufio, Nario**	**2.63**	**133**	*e*P	**Pn**	**06 50 42.7**	**+0.6**
CCUFI				*e*S	**Sn**	**06 51 14.7**	**+0.8**
GCUF	**Volcan Galeras**	**2.63**	**133**	⇑*i*P	**Pn**	**06 50 42.8**	**+0.7**
GCUF				*e*S	**Sn**	**06 51 13.7**	**-0.3**
GCUF				*i*		06 51 20.7	
	comp=Z,405nm,0.6s						
POPC	**Popayan, Colom**	**2.65**	**100**	⇑*i*P	**Pn**	**06 50 41.1**	**-1.0**
POPC				*e*S	**Sn**	**06 51 10.9**	**-3.1**
POPC				*i*		06 51 17.6	
	comp=Z,149nm,0.4s						
CPAS1	**Pasto**	**2.67**	**133**	*e*P	**Pn**	**06 50 43.4**	**+0.8**
CPAS1				*e*S	**Sn**	**06 51 14.6**	**-0.3**
PIZC	**Pizarro, Choco**	**2.72**	**45**	*e*P	**Pn**	**06 50 40.6**	**-2.3**
PIZC				*e*S	**Sn**	**06 51 13.5**	**-2.0**
PIZC				*i*		06 51 30.1	
	comp=Z,150nm,0.7s						
CRUC	**La Cruz**	**2.74**	**122**	*e*P	**Pn**	**06 50 44.4**	**+0.9**
CRUC				*e*S	**Sn**	**06 51 15.8**	**-0.7**
PAC1	**Pacto, Paraso**	**2.78**	**170**	*e*P	Pn	06 50 41.8	-2.1
PAC1				*e*S	**Sn**	**06 51 15.8**	**-1.4**
SOTA	**Rioblanco**	**2.81**	**108**	*e*S	**Sn**	**06 51 18.2**	**-0.2**
CUSE	**Cuicocha Este**	**2.84**	**162**	⇑*e*P	**Pn**	**06 50 44.2**	**-0.7**
CUSE				*e*S	**Sn**	**06 51 16.5**	**-2.5**
OTAV	**Otavalo**	**2.89**	**163**	⇑*e*P	Pn	06 50 44.2	-1.4
OTAV				*e*S	**Sn**	**06 51 16.5**	**-3.7**
OTAV	**Otavalo**	**2.89**	**163**	Pn	**Pn**	**06 50 44.8**	**-0.8**
OTAV	**Otavalo**	**2.89**	**163**	*e*P	Pn	06 50 44.2	-1.4
PCON	**Cinco Dias**	**2.96**	**103**	⇑*i*P	**Pn**	**06 50 47.2**	**+0.5**
PCON				*e*S	**Sn**	**06 51 22.5**	**+0.3**
PCON				*i*		06 51 29.9	
	comp=Z,394nm,0.3s						
YOTC	**Yotoco, Valle**	**3.08**	**72**	*e*P	**Pn**	**06 50 46.1**	**-1.9**
YOTC				*e*S	**Sn**	**06 51 22.3**	**-2.3**
YOTC				*i*		06 51 27.1	
	comp=Z,171nm,0.5s						
MARP	**Paez Belalcaza**	**3.33**	**93**	*e*P	**Pn**	**06 50 52.5**	**+0.9**
MARP				*e*S	**Sn**	**06 51 31.7**	**+0.8**
MARP				*i*		06 51 36.7	
	comp=Z,153nm,0.8s						
PLMC	**San Jos del P**	**3.53**	**58**	⇑*e*P	**Pn**	**06 50 52.1**	**-2.0**
PLMC				*e*S	**Sn**	**06 51 35.5**	**-0.1**
PLMC				*i*		06 51 39.6	
	comp=Z,589nm,0.2s						
PUAC	**Puerto Asis, P**	**3.66**	**132**	⇑*i*P	**Pn**	**06 50 57.4**	**+1.6**
BETC	**Betania**	**3.85**	**95**	*e*P	**Pn**	**06 51 00.8**	**+2.3**
BETC				*e*S	**Sn**	**06 51 43.9**	**+0.4**
GARC	**Garzon, Huila**	**3.87**	**102**	⇑*e*P	**Pn**	**06 51 00.7**	**+1.7**
GARC				*e*S	**Sn**	**06 51 44.2**	**-0.1**
GARC				*i*		06 51 47.5	
	comp=Z,182nm,0.3s						
FLOC	**Florencia**	**3.90**	**111**	⇑*i*P	**Pn**	**06 51 00.6**	**+1.4**
FLOC				*e*S	**Sn**	**06 51 44.2**	**-0.3**
FLOC				*i*		06 51 47.4	
	comp=Z,88nm,0.6s						
ORTC	**Ortega, Tolima**	**4.12**	**78**	⇑*i*P	**Pn**	**06 51 03.6**	**+1.4**
ORTC				*e*S	**Sn**	**06 51 51.9**	**+1.7**
ORTC				*i*		06 52 01.9	
	comp=Z,213nm,0.5s						
ANIL	**Santa Ana**	**4.14**	**69**	*e*P	**Pn**	**06 51 03.4**	**+0.7**
ANIL				*e*S	**Sn**	**06 51 51.2**	**+0.3**
TOLC	**Tolima**	**4.25**	**68**	*e*P	**Pn**	**06 51 04.6**	**+0.4**
TOLC				*e*S	**Sn**	**06 51 54.2**	**+0.6**
CBOC	**Ciudad Bolivar**	**4.31**	**49**	⇑*e*P	**Pn**	**06 51 03.0**	**-1.9**
PRAC	**Prado**	**4.44**	**81**	⇑*e*P	**Pn**	**06 51 08.0**	**+1.4**
PRAC				*e*S	**Sn**	**06 51 57.4**	**-0.7**
PRAC				*i*		06 52 05.7	
	comp=Z,168nm,0.7s						
GUY2C	**Guyana, Caldas**	**4.48**	**61**	⇑*e*P	**Pn**	**06 51 07.7**	**+0.2**
GUY2C				*e*S	**Sn**	**06 51 57.1**	**-2.5**
GUY2C				*i*		06 52 10.2	
	comp=Z,125nm,0.6s						
DBBC	**Dabeiba**	**5.01**	**37**	*e*P	**Pn**	**06 51 15.8**	**+1.3**
ROSC	**El Rosal**	**5.27**	**70**	Pn	**Pn**	**06 51 21.1**	**+2.8**
	comp=Z,14nm,0.3s,baz=249,slow=2.1,SNR=50						
ROSC				Sn	**Sn**	**06 52 23.5**	**+4.5**
	comp=Z,9.6nm,0.3s,baz=59,slow=23,SNR=3.7						
ROSC	**El Rosal**	**5.27**	**70**	⇑*e*P	**Pn**	**06 51 20.6**	**+2.3**
ROSC				*e*S	**Sn**	**06 52 22.1**	**+3.2**
ROSC				*i*		06 52 25.4	
	comp=Z,37nm,0.3s						
PTLC	**Puerto Leguiza**	**5.30**	**122**	*e*P	**Pn**	**06 51 22.0**	**+3.5**
PTLC				*e*S	**Sb**	**06 52 32.0**	**-3.7**
PTLC				*i*		06 52 52.3	
	comp=Z,24nm,0.5s						
MACC	**Macarena, Meta**	**5.50**	**99**	⇑*i*P	**Pn**	**06 51 22.6**	**+1.5**
MACC				*e*S	**Sn**	**06 52 23.6**	**-0.5**
MACC				*i*		06 52 32.8	
	comp=Z,85nm,0.5s						
VILC	**Villavicencio,**	**5.68**	**79**	*e*P	**Pn**	**06 51 25.7**	**+1.9**
VILC				*e*S	**Sn**	**06 52 28.9**	**+0.1**
VILC				*i*		06 52 36.3	
	comp=Z,118nm,0.5s						
CHIC	**Chingaza**	**5.76**	**74**	⇑*e*P	**Pn**	**06 51 27.0**	**+1.8**
CHIC				*e*S	**Sn**	**06 52 32.7**	**+1.5**
CHIC				*i*		06 52 38.1	
	comp=Z,67nm,0.7s						
SPBC	**San Pablo de B**	**5.81**	**63**	*e*P	**Pn**	**06 51 26.4**	**+0.9**
SPBC				*e*S	**Sn**	**06 52 31.4**	**-0.6**
SPBC				*i*		06 52 37.8	
	comp=Z,19nm,0.8s						
PTBC	**PUERTO BERRIO,**	**5.94**	**54**	*e*P	**Pn**	**06 51 27.4**	**+0.1**
PTBC				*e*S	**Sn**	**06 52 34.0**	**-1.1**
PTBC				*i*		06 52 46.2	
	comp=Z,38nm,0.9s						
UREC	**San Jos de Ur**	**6.00**	**38**	*e*P	**Pn**	**06 51 29.9**	**+1.9**
UREC				*e*S	**Sn**	**06 52 39.1**	**+2.6**
UREC				*i*		06 52 49.0	
	comp=Z,16nm,0.7s						
BCIP	**Isla Barro Col**	**6.13**	**355**	Pn	**Pn**	**06 51 29.8**	**-0.1**
BCIP				Sn	**Sn**	**06 52 40.1**	**+0.4**
ZARC	**Zaragoza, Cauc**	**6.25**	**45**	*e*P	**Pn**	**06 51 33.9**	**+2.4**
ZARC				*e*S	**Sn**	**06 52 41.8**	**-1.0**
ZARC				*i*		06 52 52.6	
	comp=Z,14nm,0.4s						
GUVC	**San Jose del G**	**6.66**	**94**	*e*P	**Pn**	**06 51 37.9**	**+0.8**
GUVC				*e*S	**Sn**	**06 52 55.2**	**+2.4**
RUSC	**La Rusia**	**6.81**	**65**	*e*P	**Pn**	**06 51 40.8**	**+1.3**
RUSC				*e*S	**Sn**	**06 52 59.3**	**+2.3**
RUSC				*i*		06 53 10.4	
	comp=Z,20nm,0.8s						
BARC	**Barichara**	**7.04**	**59**	*e*P	**Pn**	**06 51 43.6**	**+1.1**
BARC				*e*S	**Sn**	**06 53 03.9**	**+1.5**
BARC				*i*		06 53 09.7	
	comp=Z,24nm,0.4s						
SMLC	**San Martn de**	**7.73**	**42**	*e*P	**Pn**	**06 51 53.7**	**+1.8**
PAMC	**Pamplona, Colo**	**7.83**	**57**	*e*P	**Pn**	**06 51 54.9**	**+1.2**
PAMC				*e*S	**Sn**	**06 53 22.5**	**+0.2**
PAMC				*i*		06 53 29.5	
	comp=Z,16nm,0.6s						
OCAC	**Ocana**	**7.88**	**49**	*e*P	**Pn**	**06 51 55.8**	**+1.8**
OCAC				*e*S	**Sn**	**06 53 21.6**	**-1.3**
OCAC				*i*		06 53 33.6	
	comp=Z,15nm,0.5s						
SJCC	**San Jacinto, C**	**7.95**	**31**	*e*P	**Pn**	**06 51 57.5**	**+2.6**
HDC	**Heredia**	**8.43**	**326**		**Pn**	**06 52 03.0**	**+1.4**
HDC				Sn	**Sn**	**06 53 34.1**	**-2.5**
JTS	**Las Juntas de**	**9.16**	**322**	Pn	**Pn**	**06 52 10.8**	**-0.6**
	comp=Z,3.0nm,0.3s,baz=267,slow=5.1,SNR=26						
JTS				Sn	**Sn**	**06 53 49.9**	**-4.4**
	comp=Z,2.2nm,0.3s,baz=10,slow=23,SNR=12						
JTS	**Las Juntas de**	**9.16**	**322**	Pn	**Pn**	**06 52 11.2**	**-0.2**
JTS				Sn	**Sn**	**06 53 52.9**	**-1.4**
ATAH	**Atahualpa**	**10.13**	**175**	Pn	**Pn**	**06 52 27.2**	**+2.1**
	comp=Z,1.6nm,0.3s,baz=353,slow=7.7,SNR=16						
ATAH				LR	LR	06 56 48.9	
	comp=Z,234nm,19.8s,baz=5.6,slow=40						
SDV	**Santo Domingo**	**10.39**	**56**	Pn	**Pn**	**06 52 30.9**	**+2.5**
	comp=Z,5.1nm,0.3s,baz=218,slow=15,SNR=3.2						
SDV	**Santo Domingo**	**10.39**	**56**	Pn	**Pn**	**06 52 30.1**	**+1.7**
SDV	**Santo Domingo**	**10.39**	**56**	*e*P	**Pn**	**06 52 27.6**	**-0.8**
BOAB	**BOACO BROADBAN**	**10.30**	**326**	Pn	**Pn**	**06 52 41.1**	**+0.4**
PAYG	**Puerto Ayora**	**11.60**	**252**	Pn	**Pn**	**06 52 45.6**	**+0.7**
CZSB	**Cruzeiro do Su**	**12.53**	**148**	*e*P	**Pn**	**06 52 57.0**	**-0.7**
TGUH	**Tegucigalpa,Un**	**13.51**	**325**		**Pn**	**06 53 11.3**	**+0.2**
MTO3	**Montecristo**	**15.06**	**319**		**Pn**	**06 53 33.3**	**+0.9**
NNA	**Nana**	**15.11**	**171**	Pn	**P**	**06 53 40.1**	**+2.1**
	comp=Z,1.4nm,0.3s,baz=336,slow=13,SNR=7.8						
NNA				LR	LR	06 59 48.0	
	comp=Z,104nm,19.6s,baz=345,slow=39						
NNA	**Nana**	**15.11**	**171**	Pn	**Pn**	**06 53 33.7**	**+0.9**
ESQI	**Esquipulas**	**15.16**	**320**		**Pn**	**06 53 34.9**	**+1.3**
MTDJ	**Mount Denham**	**15.21**	**6**	Pn	**Pn**	**06 53 34.7**	**+0.5**
APG	**El Apazote**	**16.23**	**318**	Pn	**P**	**06 53 49.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=142,slow=12,SNR=10						
APG				LR	LR	06 57 49.2	
	comp=Z,25nm,20.1s,baz=96,slow=29						
FSCY	**Frank Sound, G**	**16.30**	**354**		**Pn**	**06 53 48.1**	**-0.1**
PAPH	**Port-au-Prince**	**16.86**	**23**	P	**P**	**06 53 57.4**	**+0.1**
HUEH	**Huehuetenango**	**17.16**	**316**	P	**Pn**	**06 53 59.1**	**-0.2**
BANI	**BANI**	**17.60**	**29**	P	**P**	**06 54 06.5**	**+0.9**
ETMB	**Extrema**	**18.22**	**135**	*e*P	**Pn**	**06 54 09.8**	**-2.5**
CCIG	**Comitan**	**18.26**	**317**	P	**P**	**06 54 13.6**	**+0.5**
TEIG	**Tepich**	**19.22**	**334**	P	**Pn**	**06 54 24.5**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=357,slow=3.4,SNR=7.5						
AOPR	**Arecibo Observ**	**19.56**	**38**	P	**P**	**06 54 26.9**	**-0.2**
AOPR				IAmb	IAmb	06 54 30.9	
	comp=Z,44nm,0.8s						
MACA	**Manacapuru-AM**	**19.58**	**108**	*e*P	**P**	**06 54 27.0**	**-0.3**
PTGA	**Pitinga**	**19.66**	**101**	P	**P**	**06 54 28.7**	**+0.4**
	comp=Z,5.6nm,0.3s,baz=286,slow=13,SNR=64						
PTGA				LR	LR	07 02 11.9	
	comp=Z,397nm,19.5s,baz=282,slow=37						
PTGA	**Pitinga**	**19.66**	**101**	P	**P**	**06 54 28.4**	**+0.1**
PTGA				IAmb	IAmb	06 54 31.6	
	comp=Z,39nm,1.1s						
GCPR	**Guaynabo City**	**19.95**	**39**	P	**P**	**06 54 32.0**	**+0.6**
SAML	**Samuel**	**19.97**	**127**	P	**P**	**06 54 31.5**	**-0.2**
SAML	**Samuel**	**19.97**	**127**	*e*P	**P**	**06 54 30.5**	**-1.1**
TOSP	**Speyside**	**20.32**	**65**	P	**P**	**06 54 36.2**	**+0.7**
TOSP				IAmb	IAmb	06 54 37.2	
	comp=Z,34nm,0.9s						
CUPR	**Culebra, Puert**	**20.47**	**41**	P	Pn	06 54 38.9	-0.2
CUPR				IAmb	IAmb	06 54 47.4	
	comp=Z,28nm,0.8s						
STVI	**Saint Thomas**	**20.71**	**42**	P	**P**	**06 54 40.9**	**+1.2**
FDF	**Fort de France**	**21.34**	**56**	P	**P**	**06 54 48.3**	**+1.8**
LPAZ	**La Paz**	**22.13**	**150**	P	**P**	**06 54 55.9**	**+0.4**
	comp=Z,5.5nm,0.7s,baz=324,slow=9.1,SNR=24						
LPAZ				LR	LR	07 04 42.9	
	comp=Z,246nm,20.0s,baz=318,slow=40						
LPAZ	**La Paz**	**22.13**	**150**	P	**P**	**06 54 57.0**	**+1.5**
LPAZ	**La Paz**	**22.13**	**150**	*e*P	**P**	**06 54 54.1**	**-1.5**
PB12	**IPOC Station P**	**23.24**	**158**	P	**P**	**06 55 07.5**	**+0.9**
PB16	**IPOC Station P**	**23.30**	**156**	P	**P**	**06 55 08.5**	**+0.6**
PB16				IAmb	IAmb	06 55 21.6	
	comp=Z,33nm,0.8s						
MNMC	**Minye Minye**	**23.99**	**157**	P	**P**	**06 55 15.7**	**+1.6**
PSGCX	**Pisagua**	**24.21**	**159**	P	**P**	**06 55 17.8**	**+1.7**
PSGCX				IAmb	IAmb	06 55 28.5	
	comp=Z,30nm,1.1s						
PB11	**IPOC Station P**	**24.54**	**158**	P	**P**	**06 55 20.5**	**+1.4**
GO01	**Chusmiza**	**24.63**	**157**	P	**P**	**06 55 22.2**	**+1.9**
ITTB	**Itaituba**	**24.65**	**107**	*e*P	**P**	**06 55 19.8**	**-0.3**
VILB	**Vilhena**	**24.71**	**130**	*e*P	**P**	**06 55 20.7**	**+0.1**
PB08	**IPOC Station P**	**25.07**	**157**	P	**P**	**06 55 25.8**	**+1.6**
MALB	**Monte Alegre**	**25.47**	**101**	*e*P	**P**	**06 55 27.3**	**-0.2**
PB01	**IPOC Station P**	**25.77**	**159**	P	**P**	**06 55 30.2**	**0.0**
PB01				IAmb	IAmb	06 55 40.8	
	comp=Z,16nm,0.9s						
NPGB	**Novo Progresso**	**25.89**	**113**	*e*P	**P**	**06 55 30.6**	**-0.7**
SIV	**San Ignacio**	**26.10**	**137**	P	**P**	**06 55 34.0**	**+0.9**
	comp=Z,14nm,0.6s,baz=327,slow=10.0,SNR=57						
SIV				LR	LR	07 06 07.4	
	comp=Z,348nm,19.3s,baz=306,slow=37						
PB09	**IPOC Station P**	**26.55**	**159**	P	**P**	**06 55 38.2**	**+0.9**
PB09				IAmb	IAmb	06 55 52.9	
	comp=Z,37nm,1.2s						
MDP	**Montagnes des**	**26.65**	**85**	LR	LR	07 06 15.1	
	comp=Z,93nm,21.5s,baz=249,slow=37						
PTLB	**Pontes e Lacer**	**27.10**	**133**	*e*P	**P**	**06 55 41.9**	**-0.2**
CLDB	**Colider**	**27.14**	**121**	*e*P	**P**	**06 55 40.1**	**-2.5**
LVC	**Limon Verde**	**27.41**	**159**	P	**P**	**06 55 48.4**	**+3.0**
	comp=Z,8.3nm,0.9s,baz=345,slow=9.5,SNR=5.9						
LVC				LR	LR	07 08 22.0	
	comp=Z,141nm,18.6s,baz=326,slow=40						
LVC	**Limon Verde**	**27.41**	**159**	P	**P**	**06 55 45.8**	**+0.4**
LVC				IAmb	IAmb	06 56 10.2	
	comp=Z,22nm,1.2s						
LVC	**Limon Verde**	**27.41**	**159**	*e*P	**P**	**06 55 43.4**	**-1.9**
MCPB	**Macapa, AP**	**27.42**	**97**	*e*P	**P**	**06 55 45.0**	**-0.2**
TIGA	**Tifton**	**28.56**	**352**	P	**P**	**06 55 55.8**	**+0.8**
	baz=171						
255A	**Hazlehurst**	**28.91**	**354**	P	**P**	**06 55 59.2**	**+1.1**
152A	**Waverly Hall**	**29.93**	**351**	P	**P**	**06 56 07.8**	**+0.5**
152A				IAmb	IAmb	06 56 08.3	
	comp=Z,18nm,0.8s						
344A	**Westbrook Farm**	**30.27**	**340**	P	**P**	**06 56 11.1**	**+0.9**
GOGA	**Godfrey**	**30.49**	**353**	P	**P**	**06 56 12.7**	**+0.6**
	baz=172,SNR=5.4						
GOGA	**Godfrey**	**30.49**	**353**	P	**P**	**06 56 12.7**	**+0.6**
GOGA				IAmb	IAmb	06 56 13.3	
	comp=Z,15nm,0.8s						
LRAL	**Lakeview Retre**	**30.72**	**347**	P	**P**	**06 56 14.4**	**+0.2**
	baz=165,SNR=7.7						
LRAL	**Lakeview Retre**	**30.72**	**347**	P	**P**	**06 56 14.2**	**0.0**
LRAL				IAmb	IAmb	06 56 15.1	
	comp=Z,11nm,0.8s						
Y55A	**Saluda**	**30.85**	**356**	P	**P**	**06 56 16.4**	**+1.0**
	baz=175						
Y52A	**Lilburn**	**31.01**	**352**	P	**P**	**06 56 16.4**	**-0.3**
Z47A	**Carrollton**	**31.13**	**346**	P	**P**	**06 56 17.7**	**-0.1**
Z47A				IAmb	IAmb	06 56 18.4	
	comp=Z,9.7nm,0.8s						
JSC	**Jenkinsville**	**31.16**	**357**	P	**P**	**06 56 18.5**	**+0.4**
JSC				IAmb	IAmb	06 56 19.7	
	comp=Z,11nm,0.9s						
HODGE	**Hodges**	**31.18**	**355**	P	**P**	**06 56 18.4**	**+0.2**
HODGE				IAmb	IAmb	06 56 19.2	
	comp=Z,12nm,0.7s						
X56A	**White Oak**	**31.36**	**357**	P	**P**	**06 56 20.5**	**+0.7**
	baz=177						
X55A	**Gracelyn & Ava**	**31.37**	**356**	P	**P**	**06 56 21.0**	**+1.1**
	baz=176,SNR=5.8						
Y49A	**Blount Mountai**	**31.39**	**349**	P	**P**	**06 56 20.2**	**+0.1**
BIRD	**Birdtown, Kers**	**31.48**	**358**	P	**P**	**06 56 21.8**	**+0.9**
BIRD				IAmb	IAmb	06 56 40.6	
	comp=Z,20nm,1.3s						
X54A	**Belton**	**31.50**	**355**	P	**P**	**06 56 21.9**	**+0.8**
	baz=174						
TMAB	**Tom-Au,PA,Br**	**31.63**	**99**	*e*P	**P**	**06 56 21.8**	**-0.7**
FPAL	**Fort Paine**	**31.91**	**350**	P	**P**	**06 56 24.5**	**-0.2**
FPAL				IAmb	IAmb	06 56 25.3	
	comp=Z,8.2nm,0.8s						
W57A	**Gilead**	**31.98**	**359**	P	**P**	**06 56 25.7**	**+0.5**
	baz=179						
BG3	**Lake Jocassee**	**31.99**	**354**	P	**P**	**06 56 26.0**	**+0.6**
BG3				IAmb	IAmb	06 56 27.0	
	comp=Z,14nm,0.7s						
KMSC	**Kings Mountain**	**32.02**	**357**	P	**P**	**06 56 26.5**	**+0.9**
	baz=176						
X48A	**Hartselle**	**32.10**	**348**	P	**P**	**06 56 25.0**	**-1.3**
X48A				IAmb	IAmb	06 56 26.3	
	comp=Z,6.2nm,0.7s						
W50A	**Signal Mountai**	**32.50**	**351**	P	**P**	**06 56 29.3**	**-0.6**
W50A				IAmb	IAmb	06 56 31.9	
	comp=Z,9.7nm,0.8s						
V58A	**Windy Hill, Pi**	**32.61**	**0**	P	**P**	**06 56 31.6**	**+0.8**
	baz=180						
V58A	**Windy Hill, Pi**	**32.61**	**0**	P	**P**	**06 56 31.3**	**+0.5**
CPCT	**Cooper Cave**	**32.63**	**352**	P	**P**	**06 56 31.1**	**+0.1**
CPCT				IAmb	IAmb	06 56 32.2	
	comp=Z,15nm,0.8s						
Z41A	**Richland Creek**	**32.63**	**339**	P	**P**	**06 56 30.4**	**-0.6**
	baz=154						
V53A	**Saluda**	**32.65**	**355**	P	**P**	**06 56 31.3**	**+0.1**
V53A				IAmb	IAmb	06 56 32.1	
	comp=Z,10.0nm,0.7s						
V54A	**Nebo**	**32.69**	**356**	P	**P**	**06 56 32.4**	**+0.9**
	baz=175						
V55A	**Taylorsville**	**32.72**	**357**	P	**P**	**06 56 32.6**	**+0.9**
	baz=176						
V55A	**Taylorsville**	**32.72**	**357**	P	**P**	**06 56 32.4**	**+0.7**
TKL	**Tuckaleechee C**	**32.74**	**353**	P	**P**	**06 56 31.6**	**-0.3**
AC05	**El Transito**	**32.84**	**165**	P	**P**	**06 56 34.3**	**+1.3**
AC05				IAmb	IAmb	06 56 41.5	
	comp=Z,13nm,0.9s						
CCAR	**Cane Creek**	**32.88**	**341**	P	**P**	**06 56 33.1**	**0.0**
V52A	**Sevierville**	**32.90**	**354**	P	**P**	**06 56 33.3**	**-0.1**
V52A				IAmb	IAmb	06 56 34.5	
	comp=Z,9.9nm,0.8s						
ARAG	**Araguaiana, MT**	**32.93**	**125**	*e*P	**P**	**06 56 33.1**	**-0.8**
WLAR	**White Oak Lake**	**33.13**	**339**	P	**P**	**06 56 34.9**	**-0.5**
U56A	**King**	**33.18**	**358**	P	**P**	**06 56 37.2**	**+1.4**
	baz=178						
U58A	**Oxford**	**33.22**	**1**	P	**P**	**06 56 37.2**	**+1.1**
	baz=181						
U57A	**Blanch**	**33.25**	**360**	P	**P**	**06 56 37.0**	**+0.6**
	baz=180,SNR=5.8						
V48A	**Smith Brothers**	**33.30**	**349**	P	**P**	**06 56 36.0**	**-0.8**
U55A	**TA2, Sparta**	**33.36**	**357**	P	**P**	**06 56 38.3**	**+0.8**
	baz=177						
CLTN	**Cedars of Leba**	**33.55**	**350**	P	**P**	**06 56 38.4**	**-0.6**
CLTN				IAmb	IAmb	06 56 39.2	
	comp=Z,9.9nm,0.9s						
TZTN	**Tazewell**	**33.59**	**354**	P	**P**	**06 56 39.8**	**+0.4**
	baz=172						
TZTN	**Tazewell**	**33.59**	**354**	P	**P**	**06 56 40.0**	**+0.6**
TZTN				IAmb	IAmb	06 56 40.4	
	comp=Z,17nm,0.9s						
SMTB	**Santa Maria do**	**33.73**	**111**	*e*P	**P**	**06 56 40.0**	**-0.9**
X40A	**Basin Creek Fa**	**33.76**	**340**	P	**P**	**06 56 40.6**	**-0.2**
	baz=155						
X40A	**Basin Creek Fa**	**33.76**	**340**	P	**P**	**06 56 41.5**	**+0.7**
T57A	**Hurt**	**33.81**	**0**	P	**P**	**06 56 42.1**	**+0.8**
	baz=180						
T57A	**Hurt**	**33.81**	**0**	P	**P**	**06 56 41.8**	**+0.5**
UALR	**University of**	**33.85**	**340**	P	**P**	**06 56 40.9**	**-0.7**
T56A	**Rocky Mt**	**33.85**	**359**	P	**P**	**06 56 42.9**	**+1.2**
	baz=179						
U49A	**Red Boiling Sp**	**33.86**	**351**	P	**P**	**06 56 40.9**	**-0.8**
U49A				IAmb	IAmb	06 56 42.4	
	comp=Z,15nm,1.4s						
WVT	**Waverly**	**33.88**	**348**	P	**P**	**06 56 40.6**	**-1.3**
	baz=165						
WVT	**Waverly**	**33.88**	**348**	P	**P**	**06 56 40.6**	**-1.3**
WVT				IAmb	IAmb	06 56 41.5	
	comp=Z,7.2nm,0.7s	

baz=183
P53A Whipple 36.35 357 P P 06 57 03.8 +0.6
baz=177
WMOK Wichita Mounta 36.40 332 P P 06 57 02.7 -1.0
baz=146
WMOK Wichita Mounta 36.40 332 P P 06 57 02.5 -1.1
VA04 Juan Fernndez 36.47 179 P P 06 57 04.1 -0.1
TRCB Terra Rica 36.53 136 *eP* **P 06 57 04.0 -1.0**
VA03 San Esteban 36.54 168 P P 06 57 06.2 +1.3
VA03 IAmb IAmb 06 57 16.2
comp=Z,24nm,1.4s
CCM Cathedral Cave 36.55 344 P P 06 57 03.8 -1.1
baz=160
CCM Cathedral Cave 36.55 344 P P 06 57 03.5 -1.4
VA01 Torpederas 36.57 169 P P 06 57 05.8 +0.8
ROC1 El Roble 36.65 168 P P 06 57 06.2 +0.2
P49A Miami Univ. Ec 36.68 353 P P 06 57 04.8 -1.2
baz=171
P48A Milroy 36.70 352 P P 06 57 04.9 -1.2
P48A IAmb IAmb 06 57 05.7
comp=Z,16nm,0.9s
QUOK Quay 36.71 336 P P 06 57 05.0 -1.3
PCMB Pacaembu 36.76 133 *eP* **P 06 57 06.2 -0.6**
S39A Bolivar 36.83 341 P P 06 57 05.9 -1.4
S39A IAmb IAmb 06 57 07.1
comp=Z,16nm,1.0s
O52A Adamsville 37.00 357 P P 06 57 08.7 0.0
baz=176
O54A Avella 37.01 359 P P 06 57 09.2 +0.5
baz=178
O55A Ligonier 37.02 360 P P 06 57 09.9 +1.0
baz=180
O57A Amberson 37.05 2 P P 06 57 10.5 +1.4
baz=183
IPMB Ipameri, GO 37.06 125 *eP* **P 06 57 08.6 -0.9**
R40A Maddies Statio 37.06 343 P P 06 57 08.0 -1.2
R40A IAmb IAmb 06 57 08.2
comp=Z,8.6nm,0.8s
O51A Pataskala 37.08 356 P P 06 57 09.1 -0.3
baz=175
O56A Blue Knob Stat 37.08 1 P P 06 57 10.8 +1.4
baz=181
O56A Blue Knob Stat 37.08 1 P P 06 57 10.3 +0.9
O56A IAmb IAmb 06 57 11.5
comp=Z,17nm,0.8s
O53A New Philadelph 37.10 358 P P 06 57 10.5 +0.9
baz=177
ACSO Alum Creek Sta 37.19 355 P P 06 57 10.6 +0.2
baz=174
ACSO Alum Creek Sta 37.19 355 P P 06 57 10.5 +0.2
ACSO IAmb IAmb 06 57 10.9
comp=Z,13nm,0.8s
O59A Robesonia 37.23 4 P P 06 57 12.1 +1.5
baz=185
SDBA SAO DESIDERIO 37.44 115 *eP* **P 06 57 11.3 -1.5**
SSPA Standing Stone 37.47 2 P P 06 57 13.7 +1.0
baz=182
SSPA Standing Stone 37.47 2 P P 06 57 13.4 +0.7
SSPA IAmb IAmb 06 57 14.5
comp=Z,18nm,0.8s
N55A Marion Center 37.59 0 P P 06 57 14.8 +1.0
baz=181
P43A Skaggs, Pawnee 37.62 347 P P 06 57 15.2 +1.2
P43A IAmb IAmb 06 57 22.2
comp=Z,13nm,0.8s
MNTX Cornudas Mount 37.65 322 P P 06 57 15.1 +0.7
baz=134,SNR=13
MNTX Cornudas Mount 37.65 322 P P 06 57 14.2 -0.1
N58A Sunbury 37.72 3 P P 06 57 16.0 +1.3
baz=184
N56A West Decatur 37.74 1 P P 06 57 16.0 +1.0
baz=182
N54A Moraine State 37.78 359 P P 06 57 15.6 +0.4
baz=179
MSTX Muleshoe 37.79 327 P P 06 57 15.8 +0.2
baz=140,SNR=13
N59A State Game Lan 37.86 4 P P 06 57 17.3 +1.3
baz=186
N59A State Game Lan 37.86 4 P P 06 57 16.0 0.0
AMTX Amarillo 37.92 329 P P 06 57 16.9 +0.2
baz=142
M57A Sunshine Farm, 38.20 3 P P 06 57 20.1 +1.4
baz=184,SNR=8.5
M57A Sunshine Farm, 38.20 3 P P 06 57 19.3 +0.5
PTGB Pitanga 38.20 138 *eP* **P 06 57 18.5 -0.6**
M58A Price's Panora 38.27 3 P P 06 57 20.9 +1.5
baz=185
M55A Ridgway 38.28 1 P P 06 57 20.2 +0.7
baz=181
M56A Emporium 38.30 1 P P 06 57 20.7 +1.0
baz=182,SNR=6.5
M56A Emporium 38.30 1 P P 06 57 20.0 +0.2
HDIL Hopedale 38.45 348 P P 06 57 19.3 -1.6
baz=164
KSPA Keystone Colle 38.49 4 P P 06 57 22.3 +1.0
KSPA IAmb IAmb 06 57 23.5
comp=Z,22nm,0.9s
M59A Waymart 38.51 5 P P 06 57 22.8 +1.4
baz=186
L57A Andrews Acres 38.87 3 P P 06 57 25.6 +1.1
baz=184,SNR=6.8
L56A Greenwood 38.98 2 P P 06 57 26.1 +0.7
baz=183
L58A Harry Jones Me 38.98 4 P P 06 57 26.8 +1.4
baz=186
L55A Hinsdale 39.00 1 P P 06 57 26.4 +0.9
baz=181,SNR=5.1
JANB Januaria 39.01 118 *eP* **P 06 57 25.0 -1.0**
BINY Binghamton 39.12 4 P P 06 57 27.9 +1.3
baz=185,SNR=5.2
L59A Walton 39.18 5 P P 06 57 28.2 +1.0
baz=187
KSU1 Kansas State U 39.23 339 P P 06 57 26.7 -0.8
baz=152
L61A Hillsdale 1, H 39.34 7 P P 06 57 29.5 +1.1
baz=189
R32A Long Quarter, 39.45 336 P P 06 57 29.4 -0.1
R32A IAmb IAmb 06 57 30.1
comp=Z,25nm,1.3s
K56A Middlesex 39.55 2 P P 06 57 30.5 +0.4
baz=183
K55A Perry 39.55 1 P P 06 57 30.7 +0.5
baz=182
K57A Scipio Center 39.62 3 P P 06 57 31.3 +0.6
baz=184
K58A Earlville 39.70 4 P P 06 57 32.6 +1.2
baz=186
121A Cookes Peak, D 39.71 321 P P 06 57 34.0 +2.2
baz=132,SNR=11
121A Cookes Peak, D 39.71 321 P P 06 57 32.9 +1.1
121A IAmb IAmb 06 57 35.0
comp=Z,19nm,0.8s
K59A Cooperstown 39.78 5 P P 06 57 33.1 +1.1
baz=187
ITAB Concordia 39.88 141 *eP* **P 06 57 32.5 -0.6**
K62A Royalston 39.97 8 P P 06 57 34.7 +1.1
baz=191
MC01 Montes Claros 40.03 120 *eP* **P 06 57 34.3 -0.2**
J56A Wolcott 40.14 3 P P 06 57 35.8 +0.8
baz=184
J56A Wolcott 40.14 3 P P 06 57 34.9 -0.1
BI02 San Fabin de 40.18 170 P P 06 57 37.1 +1.5
CBKS Cedar Bluff 40.21 335 P P 06 57 35.9 +0.2
baz=148
LENM Lemitar 40.32 323 P P 06 57 36.6 -0.3
J57A Williamstown 40.32 4 P P 06 57 36.9 +0.3
baz=185
J58A Remsen 40.33 5 P P 06 57 37.4 +0.8
baz=186
J59A Piesco 40.49 5 P P 06 57 39.0 +1.0
baz=187
SPB Sao Paulo 40.77 132 *eP* **P 06 57 39.9 -0.6**
VAO Valinhos 40.77 131 *eP* **P 06 57 39.9 -0.8**
I59A Olmsteadville 40.88 6 P P 06 57 42.4 +1.2
baz=188,SNR=7.3
JFWS Jewell Farm 40.91 348 P P 06 57 39.5 -1.8
baz=163
I60A Shoreham 41.00 7 P P 06 57 43.8 +1.7
baz=189
T25A Trinidad 41.06 329 P P 06 57 44.9 +1.8
baz=140,SNR=17
T25A Trinidad 41.06 329 P P 06 57 43.3 +0.2
T25A IAmb IAmb 06 57 45.6
comp=Z,21nm,0.8s
H55A Tweed 41.40 2 P P 06 57 45.7 +0.3
baz=183
H57A Richville 41.41 4 P P 06 57 46.6 +1.1
baz=186
H56A Elgin 41.49 3 P P 06 57 47.0 +0.9
baz=185,SNR=11
TUC Tucson 41.51 318 P P 06 57 47.8 +1.2
baz=128
PLVO Plevna 41.89 2 P P 06 57 49.3 -0.2
G57A Newington 42.08 5 P P 06 57 51.5 +0.6
baz=188
SDCO Great Sand Dun 42.09 328 P P 06 57 53.1 +1.6
baz=139,SNR=34
SDCO Great Sand Dun 42.09 328 P P 06 57 52.4 +0.8
SDCO IAmb IAmb 06 57 54.0
comp=Z,18nm,0.8s
G55A Calabogie 42.12 3 P P 06 57 51.5 +0.2
baz=184,SNR=5.2
G54A Lake Saint Pet 42.22 1 P P 06 57 51.9 -0.2
baz=182
LC01 Cuneo 42.27 171 P P 06 57 55.0 +2.4
ORIO Orleans, Innes 42.39 4 P P 06 57 53.7 +0.3
baz=186
W18A Petrified Fore 42.63 322 P P 06 57 58.0 +2.1
baz=132,SNR=5.8
214A Organ Pipe Nat 42.68 316 P P 06 57 57.1 +1.1
baz=126
F55A Otter Lake 42.72 3 P P 06 57 56.4 +0.3
baz=184,SNR=5.5
ALGO Algonquin Park 42.77 1 P P 06 57 56.3 -0.3
baz=182,SNR=5.1
S22A 4UR Ranch, Cre 42.80 327 P P 06 57 58.9 +1.6
baz=137
S22A 4UR Ranch, Cre 42.80 327 P P 06 57 58.1 +0.8
Q24A Divide 42.84 330 P P 06 57 58.3 +0.7
baz=140
X16A Lo Mia Camp, P 43.25 320 P P 06 58 01.9 +1.0
MVCO Mesa Verde 43.33 325 P P 06 58 02.8 +1.2
baz=135,SNR=5.9
E55A Montcerf-Lytto 43.35 3 P P 06 58 01.5 +0.2
baz=185
ECSD EROS Data Cent 43.36 342 P P 06 57 59.5 -1.9
baz=154
E57A Chemin Saint G 43.45 5 P P 06 58 02.5 +0.4
baz=188
E58A La Victoria 43.50 6 P P 06 58 02.6 +0.1
baz=189
E56A St. Veronique 43.51 4 P P 06 58 03.1 +0.6
baz=186,SNR=7.9
SPMN Marine on St. 43.68 346 P P 06 58 02.1 -1.9
baz=160,SNR=6.8
ISCO Idaho Springs 43.71 330 P P 06 58 05.6 +1.0
baz=140,SNR=9.8
WUAZ Wupatki 43.91 321 P P 06 58 07.8 +1.7
baz=130,SNR=19
WUAZ Wupatki 43.91 321 P P 06 58 07.0 +0.9
WUAZ IAmb IAmb 06 58 08.7
comp=Z,21nm,0.8s
D55A Sainte-Anne-du 43.95 4 P P 06 58 06.0 -0.1
baz=186
D56A ZEC Mazanza, M 44.03 4 P P 06 58 06.7 0.0
baz=187
D57A Chemin Vers le 44.07 5 P P 06 58 07.1 0.0
baz=188
E62A Clayton Lake 44.25 10 P P 06 58 10.2 +1.7
baz=194
D58A Chemin du LacG 44.25 6 P P 06 58 08.6 +0.1
baz=189
E63A Oxbow 44.25 11 P P 06 58 09.6 +1.1
baz=196
PLCA Paso Flores 44.27 170 P P 06 58 10.8 +2.0
comp=Z,3.9nm,0.5s,baz=356,slow=8.2,SNR=21
PLCA Paso Flores 44.27 170 P P 06 58 10.1 +1.3
PLCA Paso Flores 44.27 170 *eP* **P 06 58 08.3 -0.5**
PV12 Saucer Basin, 44.29 326 P P 06 58 09.9 +0.7
PV12 IAmb IAmb 06 58 11.3
comp=Z,11nm,0.8s
LATQ La Tuque 44.55 6 P P 06 58 11.3 +0.4
baz=189
N23A Red Feather La 44.71 331 P P 06 58 13.5 +0.9
baz=141,SNR=5.1
D62A Allapoint, All 44.78 10 P P 06 58 13.9 +1.2
baz=195
D63A Stockholm 44.91 11 P P 06 58 15.1 +1.4
baz=196
W13A Hualapai Mount 45.26 319 P P 06 58 17.8 +0.8
W13A IAmb IAmb 06 58 19.5
comp=Z,7.9nm,0.9s
O20A White River Ci 45.29 329 P P 06 58 18.1 +0.9
baz=137
BC3 Big Chuckawall 45.47 316 P P 06 58 19.5 +0.9
baz=124
IRM Iron Mountain 45.54 317 P P 06 58 20.5 +1.4
baz=125
BATG Bathurst New B 45.55 13 P 06 58 19.0 +0.2
BATG IAmb IAmb 06 58 20.4
comp=Z,9.9nm,0.9s
KNB Kanab 45.77 322 P P 06 58 21.8 +0.9
SRU San Rafael Swe 45.80 326 P P 06 58 21.4 +0.2
EYMN Ely 45.98 349 P P 06 58 20.5 -1.7
baz=163
Q16A Castle Valley 46.04 325 P P 06 58 24.0 +0.9
BELC Belle Mtn. Jos 46.04 316 P P 06 58 23.8 +0.7
baz=124
MTPU Mount Pierson 46.04 323 P P 06 58 24.0 +0.7
GMRC Granite Mounta 46.25 317 P P 06 58 26.1 +1.3
baz=125
K22A Casper 46.34 332 P P 06 58 26.1 +0.7
baz=141,SNR=8.1
K22A Casper 46.34 332 P P 06 58 25.3 -0.1
K22A IAmb IAmb 06 58 26.7
comp=Z,9.8nm,0.7s
RSSD Black Hills 46.41 335 P P 06 58 26.9 +0.9
baz=145
RSSD Black Hills 46.41 335 P P 06 58 26.1 +0.1
HEC Hector,Ludlow 46.73 317 P P 06 58 30.1 +1.6
baz=124
TUQ Turquoise Moun 46.80 318 P P 06 58 30.3 +1.2
baz=125
CHGQ Chibougamau 46.91 4 P P 06 58 29.1 -0.4
baz=187
SHOC Shoshone, Teco 47.30 318 P P 06 58 34.2 +1.4
baz=125
GSC Goldstone, Bar 47.32 317 P P 06 58 34.0 +0.9
baz=124
PSUT Pine Spring 47.36 323 P P 06 58 33.9 +0.4
DUG Dugway, Tooele 47.83 325 P P 06 58 38.0 +0.9
baz=132
DUG Dugway, Tooele 47.83 325 P P 06 58 36.9 -0.2
TPNV Topopah Spring 47.89 320 P P 06 58 38.9 +1.3
baz=126,SNR=5.8
TPNV Topopah Spring 47.89 320 P P 06 58 38.4 +0.8
BW06 Boulder Array 47.90 330 P P 06 58 37.6 0.0
baz=137
BW06 Boulder Array 47.90 330 P P 06 58 37.9 +0.2
PDAR Pinedale Array 47.90 330 P P 06 58 37.1 -0.5
comp=Z,1.1nm,0.7s,baz=116,slow=8.5,SNR=11
PDAR LR LR 07 20 23.5
comp=Z,45nm,19.1s,baz=140,slow=38
PDAR Pinedale Array 47.90 330 P P 06 58 37.9 +0.2
EDW2 Edwards Air Fo 47.90 316 P P 06 58 38.5 +1.0
baz=123
LRMC Laurel Mtn Rad 48.01 317 P P 06 58 39.7 +1.2
baz=124
FURC Furnace Creek, 48.02 319 P P 06 58 39.6 +1.3
baz=125
HWUT Hardware Ranch 48.11 327 P P 06 58 38.3 -0.9
HWUT IAmb IAmb 06 58 40.3
comp=Z,8.2nm,1.1s
MPMC Manual Prospec 48.20 318 P P 06 58 40.5 +0.5
baz=124
R11A Troy Canyon, C 48.31 321 P P 06 58 41.9 +1.1
baz=128,SNR=10
R11A Troy Canyon, C 48.31 321 P P 06 58 41.2 +0.4
BGU Big Grassy Mou 48.45 326 P P 06 58 41.8 0.0
GRAC Grapevine Rang 48.65 319 P P 06 58 44.7 +1.4
baz=125
ISA Isabella, Lake 48.65 317 P P 06 58 44.4 +1.0
baz=123
CWC Cottonwood Cre 48.81 318 P P 06 58 45.8 +1.1
baz=124
REDW Red Top Meadow 48.98 330 P P 06 58 46.0 0.0
REDW IAmb IAmb 06 58 47.2
comp=Z,7.6nm,1.0s
ULM Lac du Bonnet 49.12 346 P P 06 58 44.8 -1.8
comp=Z,15nm,0.7s,baz=159,slow=7.3,SNR=15
VES Vestal, Richgr 49.17 317 P P 06 58 48.3 +1.1
baz=122
IMW Indian Meadow 49.41 330 P P 06 58 48.8 -0.5
RLMT Red Lodge 49.51 332 P P 06 58 49.8 -0.2
baz=139,SNR=5.7
RLMT Red Lodge 49.51 332 P P 06 58 49.6 -0.4
RLMT IAmb IAmb 06 58 50.3
comp=Z,5.4nm,0.8s
ELK Elko 49.59 324 P P 06 58 51.4 +0.7
comp=Z,0.3nm,0.3s,baz=154,slow=9.9,SNR=4.1
YNE Yellowstone No 49.77 332 P P 06 58 51.1 -0.9
YMR Madison River 49.98 331 P P 06 58 54.5 +1.0
NVAR Mina Array Bea 50.08 320 P P 06 58 55.5 +1.0
comp=Z,4.2nm,0.9s,baz=128,slow=7.3,SNR=28
NVAR PcP PcP 07 00 14.0 -0.1
comp=Z,1.2nm,0.7s,baz=134,slow=4.8,SNR=5.6
NVAR LR LR 07 19 55.9
comp=Z,49nm,19.8s,baz=126,slow=36
NVAR Mina Array Bea 50.08 320 P P 06 58 54.7 +0.3
MDPB Devils Postpil 50.14 319 P P 06 58 55.6 +0.7
MDPB IAmb IAmb 06 58 56.8
comp=Z,8.3nm,0.9s
HLID Hailey 50.98 327 P P 06 59 01.5 +0.4
baz=132,SNR=6.5
HLID Hailey 50.98 327 P P 06 59 00.7 -0.4
BOZ Bozeman (W) 50.98 331 P P 06 59 01.5 +0.5
baz=137,SNR=8.3
BOZ Bozeman (W) 50.98 331 P P 06 59 00.7 -0.3
EGMT Eagleton 51.93 334 P P 06 59 08.0 0.0
baz=140
SCHQ Schefferville 52.64 9 P P 06 59 12.8 -0.2
comp=Z,5.6nm,0.5s,baz=219,slow=5.5,SNR=13
SCHQ Schefferville 52.64 9 P P 06 59 12.8 -0.2
SCHQ IAmb IAmb 06 59 13.3
comp=Z,9.7nm,0.8s
MSO Missoula 52.98 331 P P 06 59 15.8 0.0
baz=135
F10A Beach Ranch, E 54.08 328 P P 06 59 23.1 -0.7
I07A Izee 54.14 325 P P 06 59 24.1 -0.4
I07A IAmb IAmb 06 59 34.6
comp=Z,7.1nm,0.9s
M04C Macdoel 54.20 321 P P 06 59 25.2 +0.3
baz=124
J05D Fort Rock, OR 54.68 323 P P 06 59 29.2 +0.8
baz=125,SNR=7.1
L04D Klamath Falls 54.73 322 P P 06 59 28.9 +0.1
baz=124
PINE Pine Mountain 54.80 324 P P 06 59 29.3 0.0
PINE IAmb IAmb 06 59 31.1
comp=Z,12nm,1.1s
J04D Umpqua Nationa 55.18 323 P P 06 59 32.8 +0.6
baz=124
I05D Terrebonne, OR 55.35 324 P P 06 59 34.7 +1.5
baz=126
KRMB Red Mountain 55.37 320 P P 06 59 33.4 0.0
NEW Newport 55.54 330 P P 06 59 34.2 -0.2
baz=132
K02D Willamette Mer 55.84 321 P P 06 59 36.8 +0.1
baz=123
G05D Wamic, OR 55.87 325 P P 06 59 38.2 +1.4
baz=126
KBO Bosley Butte 55.94 321 P P 06 59 37.2 -0.2
J01E Myrtle Point 56.25 322 P P 06 59 39.3 -0.3
baz=123
NLWA Neilton Lookou 58.56 326 P P 06 59 55.6 -0.2
NLWA IAmb IAmb 06 59 58.3
comp=Z,17nm,1.2s
A04D Lummi Island 58.70 328 P P 06 59 56.4 -0.2
baz=127
FRB Frobisher Bay 61.10 5 P P 07 00 11.3 -1.6
comp=Z,8.1nm,0.7s,baz=190,slow=8.2,SNR=4.7
YKA Yellowknife Ar 64.87 343 P P 07 00 36.9 -1.1
comp=Z,7.6nm,0.9s,baz=130,slow=6.0,SNR=18
PMOZ Porto Moniz, M 65.05 55 P P 07 00 40.5 +0.6
HOPE Hope Point 67.21 154 P P 07 00 54.0 +0.9
SUMG Summit 73.89 12 *i* **P P 07 01 33.2 -0.9**
comp=Z,38nm,0.9s
SUMG Summit 73.89 12 P P 07 01 34.2 +0.1
TIC Toumodi 74.03 84 *eP* **P 07 01 34.9 -0.7**
LIC Lamto 74.03 84 *eP* **P 07 01 35.6 0.0**
comp=Z,9.4nm,0.6s
DBIC Dimbokro 74.19 84 P P 07 01 36.5 0.0
comp=Z,4.7nm,0.9s,baz=262,slow=3.2,SNR=5.0
DBIC LR LR 07 32 49.9
comp=Z,29nm,18.7s,baz=243,slow=35
DBIC Dimbokro 74.19 84 P P 07 01 37.1 +0.6
DBIC IAmb IAmb 07 01 40.3
comp=Z,9.3nm,1.1s
KIC Kosan Boka 74.31 84 *eP* **P 07 01 37.3 0.0**
comp=Z,31nm,1.2s
INK Inuvik 74.60 342 P P 07 01 37.6 -0.2
comp=Z,6.7nm,0.9s,baz=178,slow=2.1,SNR=7.4
INK Inuvik 74.60 342 P P 07 01 37.4 -0.4
INK IAmb IAmb 07 01 38.6
comp=Z,10nm,1.0s
EPYK Eagle Plains 74.66 339 P P 07 01 38.3 0.0
baz=119
BCAR Beaver Creek A 75.13 335 P P 07 01 41.2 +0.1
K27K Chicken 75.64 336 P P 07 01 45.0 +1.1
baz=114
DOT Dot Lake 76.31 335 P P 07 01 47.4 -0.3
DOT IAmb IAmb 07 01 48.8
comp=Z,8.1nm,0.8s
SCRK Sand Creek 76.40 336 P P 07 01 48.7 +0.2
baz=112
ESDC Sonseca Array 76.78 50 P P 07 01 51.5 +0.5
comp=Z,1.7nm,0.6s,baz=262,slow=5.5,SNR=14
ESDC Sonseca Array 76.78 50 P P 07 01 52.3 +1.3
HDA Harding Lake 77.76 336 P P 07 01 55.6 -0.3
baz=109
ILAR Eielson Array 77.86 336 P P 07 01 55.5 -0.9
comp=Z,2.6nm,0.8s,baz=117,slow=4.2,SNR=24
ILAR PP PP 07 04 53.3 +1.1
comp=Z,0.3nm,0.8s,baz=101,slow=6.2,SNR=4.1
NEA2 Nenana 78.69 336 P P 07 02 00.7 -0.4
baz=107
PPLA Purkeypile 79.57 334 P P 07 02 05.0 -1.1
PPLA IAmb IAmb 07 02 06.3
comp=Z,6.7nm,0.8s
EKA Eskdalemuir Ar 79.64 34 P P 07 02 06.2 -0.2
comp=Z,3.0nm,0.8s,baz=252,slow=4.1,SNR=5.7
TOA0 Torodi Ar. Sit 80.54 77 P P 07 02 11.0 -1.1
TORD Torodi Ar. Bea 80.54 77 P P 07 02 11.8 -0.3
comp=Z,2.1nm,0.6s,baz=284,slow=6.4,SNR=11
TORD Torodi Ar. Bea 80.54 77 P P 07 02 12.1 +0.1
BELA Belgrano 2 84.32 171 P P 07 02 30.6 0.0
VNA3 Neumayer Olymp 86.39 162 P P 07 02 41.8 +0.8
DAVOX Davos/Dischmat 87.24 43 P P 07 02 47.2 +1.2
comp=Z,4.8nm,0.9s,baz=260,slow=11,SNR=5.5
NB2 NORSAR Subarra 87.62 29 P P 07 02 47.8 +0.5
comp=Z,0.9nm,0.6s,baz=274,slow=4.6
NOA NORSAR Array B 87.62 29 P P 07 02 47.5 +0.2
comp=Z,2.1nm,0.8s,baz=270,slow=4.5,SNR=8.2
SNAA Sanae 88.60 162 P P 07 02 52.2 +0.5
SNAA Sanae 88.60 162 P P 07 02 51.2 -0.6
SNAA IAmb IAmb 07 03 01.3
comp=Z,6.4nm,1.1s
HFS Hagfors 88.89 30 P P 07 02 52.7 -0.6
comp=Z,1.5nm,0.6s,baz=79,slow=8.3,SNR=4.1
CLL Collm 89.10 39 *eP* **P 07 02 56.0 +1.6**
ARCES ARCESS Array B 92.33 20 P P 07 03 08.6 -0.6
comp=Z,1.8nm,0.5s,baz=274,slow=3.2,SNR=8.6
QSPA South Pole Qui 93.05 180 P P 07 03 11.8 -0.8
QSPA IAmb IAmb 07 03 16.6
comp=Z,6.2nm,1.0s
FINES FINESS Array B 94.66 28 P P 07 03 19.5 -0.5
comp=Z,1.8nm,0.8s,baz=357,slow=9.9,SNR=4.5
ZALV Zalesovo Beam 121.70 11 PKP PKPdf 07 08 53.0 0.0
comp=Z,1.8nm,0.5s,baz=226,slow=3.9,SNR=4.7
ZALV Zalesovo Beam 121.70 11 PKPdf PKPdf 07 08 53.0 0.0
KURBB Kurchatov Arra 123.27 17 PKP PKPdf 07 08 55.8 -0.3
comp=Z,2.0nm,0.7s,baz=327,slow=2.2,SNR=15
MKAR Makanchi Array 127.80 16 PKP PKPdf 07 09 04.3 -0.7
comp=Z,1.3nm,0.7s,baz=20,slow=3.9,SNR=9.5
MKAR Makanchi Array 127.80 16 PKPdf PKPdf 07 09 04.7 -0.2
SONM Songino Array 129.11 355 PKP PKPdf 07 09 07.6 0.0
comp=Z,2.2nm,0.8s,baz=334,slow=2.4,SNR=7.5
STKA Stephens Creek 132.06 229 PKP PKPdf 07 09 13.3 -0.1
comp=Z,2.0nm,0.5s,baz=98,slow=1.3,SNR=3.8
BJI Beijing 134.86 343 PKP PKPdf 07 09 19.0 +0.5
WRA Warramunga Arr 143.14 240 PKhKP PKPpre 07 09 30.0
comp=Z,6.3nm,0.6s,baz=110,slow=2.7,SNR=20
MTN Manton Dam 148.38 250 PKPbc PKPbc 07 09 46.6 0.0
KNRA Kununurra 149.66 244 PKPbc PKPbc 07 09 49.8 0.0
FITZ Fitzroy Crossi 151.35 237 PKPbc PKPbc 07 09 53.3 -0.5
comp=Z,6.7nm,0.8s,baz=237,slow=0.1,SNR=16
FITZ Fitzroy Crossi 151.35 237 PKPbc PKPbc 07 09 54.3 +0.5
CMAR Chiang Mai Arr 158.59 5 PKP PKPdf 07 09 57.1 -0.6
comp=Z,0.6nm,0.3s,baz=322,slow=2.1,SNR=7.1

CMAR	Chiang Mai Arr	158.59	5		PKPdf	07 09 58.1	+0.3

IDC 20 06:50:49.0±565.0, 47°60N×38°24E, h0km, Error ellipse: s-maj=215.4km s-min=97.8km az=167.0, Ukraine-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	9.16	356	*i*		07 44 50.0	
	baz=180,slow=298,SNR=0.8						
I31KZ	AKTYUBINSK INF	13.29	70	*i*		08 07 00.0	
	baz=268,slow=319,SNR=4.5						
I26DE	FREYUNG INFRAS	16.38	283	*i*		08 39 20.0	
	baz=87,slow=308,SNR=4.3						
I37NO	I37NO	23.65	342	*i*		09 17 40.0	
	baz=146,slow=327,SNR=1.6						

NEIC ***20*** *07:01:12.1±1.4, 22°96S±0°08×177°1W±0°1, h102km±7km, mb4.6/35, Error ellipse: s-maj=15.7km s-min=9.9km az=123.0*
IDC ***20*** *07:01:13.9±3.5, 22°89S×177°13W, h109km±31km, mb4.1/12, mb1 4.3/14, mb1mx4.0/38, mbtmp4.5/14, Error ellipse: s-maj=21.5km s-min=15.3km az=136.0*

ISC 20 07:01:16.8±0.4, 23°07S±0°06×176°92W±0°07, h150km, n90, σ2§39/95, mb4.5/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	6.22	188	P	Pn	07 02 48.1	+1.7
RIZ				S	Sn	07 03 55.4	-1.2
RAO	Raoul Island	6.23	188	Pn	Pn	07 02 43.8	-2.7
RAO				Sn	Sn	07 03 52.8	-4.0
GLKZ	Green Lake	6.24	188	P	Pn	07 02 50.8	+4.2
GLKZ				S	Sn	07 03 59.0	+2.1
NIUE	Niue	7.64	60	Pn	Pn	07 03 03.4	-2.1
NIUE				Sn	Sn	07 04 26.0	-4.8
AFI	Afiamalu	10.33	29	P	Pn	07 03 38.3	-3.0
	4.6nm,0.3s,baz=3.0,slow=3.9,SNR=4.1						
AFI				S	Sn	07 05 21.2	-15
	9.5nm,0.3s,baz=19,slow=18,SNR=4.3						
AFI	Afiamalu	10.33	29		Pn	07 03 37.1	-4.2
AFI				Sn	Sn	07 05 32.8	-2.9
OUZ	Omahuta	14.66	212	P	P	07 04 39.1	-0.1
OUZ	Omahuta	14.66	212		Pn	07 04 36.9	-0.1
WCZ	Waipu Caves	14.90	209	P	P	07 04 44.5	+2.7
HAZ	Te Kaha	15.33	196	P	Pn	07 04 45.4	+0.2
HAZ				S	Sn	07 07 19.2	-17
DZM	Mont Dzumac	15.40	270	Pn	Pn	07 04 42.5	-3.9
MWZ	Matawai	15.95	196	P	Pn	07 04 47.9	-4.9
MWZ				S	Sn	07 07 34.4	-16
URZ	Urewera	15.98	197	P	Pn	07 04 53.1	-0.1
	5.0nm,0.3s,baz=313,slow=2.2,SNR=16						
URZ				S	Sn	07 07 35.6	-16
	3.1nm,0.3s,baz=248,slow=23,SNR=9.6						
URZ	Urewera	15.98	197	P	Pn	07 04 51.5	-1.8
URZ				S	Sn	07 07 34.3	-17
URZ	Urewera	15.98	197		Pn	07 04 53.0	-0.3
URZ				IAmb	IAmb	07 04 54.7	
	comp=Z,31nm,0.9s						
RAR	Rarotonga	15.99	87		Pn	07 04 53.7	+0.1
RAR				IAmb	IAmb	07 04 57.8	
	comp=Z,42nm,1.1s						
TOZ	Tahuroa Road	16.00	202	P	Pn	07 04 50.7	-2.8
SNGZ	Shannon Static	16.42	196	P	Pn	07 04 53.9	-4.6
SNGZ				S	S	07 07 47.7	-13
BKZ	Black Stump Fm	17.00	198	P	P	07 05 03.9	-1.2
BFZ	Birch Farm	18.49	197	P	P	07 05 18.9	-2.4
BFZ				S	S	07 08 28.5	-16
BFZ	Birch Farm	18.49	197	P	P	07 05 20.5	-0.8
MRZ	Mangatainoka R	18.65	198	P	P	07 05 19.5	-3.6
MRZ				S	S	07 08 33.1	-14
TIWZ	Tintock	18.67	197	P	P	07 05 21.8	-1.6
TIWZ				S	S	07 08 32.8	-15
HOWZ	Holdsworth Sta	18.89	198	P	P	07 05 22.9	-2.8
HOWZ				S	S	07 08 35.7	-17
TMWZ	Te Maipa	18.98	197	P	P	07 05 22.9	-3.8
TMWZ				S	S	07 08 40.1	-14
CAW	Cannon Point	19.21	199	P	P	07 05 25.2	-4.0
CAW				S	S	07 08 46.0	-13
MSWZ	Moikau Station	19.44	198	P	P	07 05 28.6	-3.1
MSWZ				S	S	07 08 49.5	-14
MSWZ	Moikau Station	19.44	198	P	P	07 05 30.6	-1.0
TCW	Tory Channel	19.55	200	P	P	07 05 27.9	-4.8
TCW				S	S	07 08 52.4	-13
PLWZ	Palliser	19.58	198	P	P	07 05 31.0	-2.2
PLWZ				S	S	07 08 50.1	-16
PLWZ	Palliser	19.58	198	P	P	07 05 32.1	-1.1
QRZ	Quartz Range	19.81	204	P	P	07 05 36.2	+0.5
NNZ	Nelson	19.85	202	P	P	07 05 30.8	-5.2
NNZ				S	S	07 09 02.0	-9.3
TUWZ	Tuamarina	19.85	201	P	P	07 05 31.8	-4.3
TUWZ				S	S	07 08 58.9	-12
TUWZ	Tuamarina	19.85	201	P	P	07 05 34.1	-1.9
BSWZ	Blackbirch Sta	20.13	200	P	P	07 05 39.0	-0.1
THZ	Tophouse	20.50	202	P	P	07 05 43.4	+0.4
THZ				IAmb	IAmb	07 05 55.7	
	comp=Z,60nm,1.5s						
KHZ	Kahutara	20.87	200	P	P	07 05 45.0	-2.0
KHZ				IAmb	IAmb	07 05 57.8	
	comp=Z,58nm,1.4s						
LTZ	Lake Taylor	21.62	202	P	P	07 05 55.2	+0.2
LTZ				IAmb	IAmb	07 05 58.8	
	comp=Z,65nm,1.4s						
OXZ	Oxford	22.18	202	P	P	07 06 00.6	-0.1
OXZ				IAmb	IAmb	07 06 16.3	
	comp=Z,47nm,1.4s						
RPZ	Rata Peaks	22.86	203	P	P	07 06 07.6	+0.4
	comp=Z,6.0nm,0.5s,baz=214,slow=2.1,SNR=5.7						
RPZ	Rata Peaks	22.86	203	P	P	07 06 07.2	0.0
RPZ				IAmb	IAmb	07 06 34.2	
	comp=Z,35nm,1.3s						
FOZ	Fox Glacier	23.17	205	P	P	07 06 09.3	-0.7
ODZ	Otahua Downs	24.17	202	P	P	07 06 18.7	-0.3
ODZ				IAmb	IAmb	07 06 39.9	
	comp=Z,50nm,1.5s						
WKZ	Wanaka	24.57	205	P	P	07 06 22.6	-0.2
MLZ	Mavora Lakes	25.37	205	P	P	07 06 30.2	+0.2
MLZ				IAmb	IAmb	07 06 56.1	
	comp=Z,40nm,1.3s						
DCZ	Deep Cove	25.84	206	P	P	07 06 33.4	-0.7
DCZ				IAmb	IAmb	07 06 56.4	
	comp=Z,16nm,1.2s						
WHZ	Wether Hill Ro	25.88	205	P	P	07 06 34.7	+0.2
WHZ				IAmb	IAmb	07 07 00.7	
	comp=Z,20nm,1.2s						
CTAO	Charters Tower	34.32	268	P	P	07 07 50.8	+1.5
STKA	Stephens Creek	37.65	247	P	P	07 08 17.7	+0.2
	comp=Z,1.7nm,0.5s,baz=98,slow=9.4,SNR=3.8						
COEN	Coen	38.80	276	P	P	07 08 25.4	-1.9
COEN				IAmb	IAmb	07 08 30.6	
	comp=Z,8.5nm,1.1s						
BBOO	Buckleboo	42.37	246	P	P	07 08 54.9	-1.4
BBOO				IAmb	IAmb	07 09 03.2	
	comp=Z,16nm,1.4s						
AS31	Alice Springs	44.96	259	P	P	07 09 16.8	-0.5
ASAR	Alice Springs	44.97	259	P	P	07 09 16.9	-0.4
	comp=Z,6.2nm,0.8s,baz=91,slow=7.1,SNR=52						
ASAR				PcP	PcP	07 10 56.4	+0.4
	comp=Z,1.0nm,0.6s,baz=114,slow=3.9,SNR=4.2						
ASAR	Alice Springs	44.97	259	P	P	07 09 16.1	-1.2
WR0	Warramunga Arr	45.10	264	P	P	07 09 17.1	-1.3
WR0				IAmb	IAmb	07 09 30.4	
	comp=Z,9.2nm,0.8s						
WB2	Warramunga Arr	45.28	264	P	P	07 09 18.8	-1.0
WB2				IAmb	IAmb	07 09 20.7	
	comp=Z,11nm,0.7s						
WB0	Warramunga Arr	45.28	265	P	P	07 09 19.2	-0.6
WRAB	Tennant Creek	45.29	264	P	P	07 09 18.3	-1.5
WRAB				IAmb	IAmb	07 09 19.5	
	comp=Z,11nm,0.8s						
WRA	Warramunga Arr	45.29	264	P	P	07 09 19.1	-0.8
	comp=Z,7.6nm,0.6s,baz=96,slow=8.3,SNR=175						
WRA	Warramunga Arr	45.29	264	P	P	07 09 19.1	-0.8
FITZ	Fitzroy Crossi	53.72	264	P	P	07 10 23.7	0.0
	comp=Z,10nm,0.8s,baz=182,slow=4.1,SNR=12						
SIJI	Sorong	54.89	286	P	P	07 10 32.7	+0.5
	comp=Z,40nm,0.9s,baz=69,slow=9.7,SNR=8.5						
VNDA	Vanda	55.46	185	P	P	07 10 38.9	+3.5
	comp=Z,0.6nm,0.6s,baz=13,slow=7.6,SNR=7.7						
VNDA	Vanda	55.46	185	P	P	07 10 38.4	+3.0
NWAO	Narrogin (SRO)	58.15	245	P	P	07 10 54.8	-0.3
MORW	Morawa	59.81	249	P	P	07 11 06.3	-0.3
QSPA	South Pole Qui	67.02	180	P	P	07 11 55.7	+2.2
MAW	Mawson	79.50	200	P	P	07 13 08.5	+2.1
	comp=Z,4.4nm,0.6s,baz=138,slow=4.7,SNR=16						
NVAR	Mina Array Bea	82.21	43	P	P	07 13 23.6	+2.2
	comp=Z,0.5nm,0.7s,baz=222,slow=7.5,SNR=6.0						
K05A	Summer Lake	83.34	38	P	P	07 13 27.6	+0.4
H03S2	Juan Fernandez	83.72	124	T	T	08 45 53.4	
	baz=246,slow=74,SNR=5.2						
H03S1	Juan Fernandez	83.74	124	T	T	08 45 56.7	
	baz=246,slow=74,SNR=5.5						
H03S3	Juan Fernandez	83.74	124	T	T	08 45 49.3	
	baz=246,slow=74,SNR=3.2						
TUC	Tucson	83.78	51	P	P	07 13 30.9	+1.4
TUC				IAmb	IAmb	07 13 33.5	
	comp=Z,4.0nm,0.8s						
PINE	Pine Mountain	84.00	37	P	P	07 13 31.6	+1.1
SNAA	Sanae	85.43	178	P	P	07 13 38.7	+1.5
SNAA	Sanae	85.43	178	P	P	07 13 38.3	+1.1
VNA3	Neumayer Olymp	85.53	176	P	P	07 13 39.2	+1.6
TMUT	Trail Mountain	87.23	45	P	P	07 13 48.2	+1.5
TXAR	Lajitas Array	87.60	57	P	P	07 13 51.6	+3.2
	comp=Z,1.3nm,0.8s,baz=206,slow=7.9,SNR=6.7						
PDAR	Pinedale Array	90.14	43	P	P	07 14 00.8	+0.6
	comp=Z,0.6nm,0.7s,baz=242,slow=3.2,SNR=5.8						
CMAR	Chiang Mai Arr	91.91	289	P	P	07 14 11.1	+2.4
	comp=Z,1.0nm,0.3s,baz=119,slow=3.2,SNR=7.6						
AKASG	Malin Array Be	145.73	330	PKPbc	PKPdf	07 20 37.5	+0.2
	comp=Z,7.0nm,0.6s,baz=42,slow=4.5,SNR=13						
AKASG	Malin Array Be	145.73	330		PKPbc	07 20 38.0	+0.1
AKBB	Malin Array Si	145.73	330	PKPdf	PKPbc	07 20 38.3	+0.4
BRTR	Keskin Array B	149.27	310	PKPbc	PKPbc	07 20 48.5	+0.4
	comp=Z,1.6nm,0.6s,baz=140,slow=4.0,SNR=6.3						
CLL	Collm	150.78	347	*i* PKPbc	PKiKP	07 20 52.0	+0.3
	comp=Z,3.0nm,0.8s						
CLL				*i* PKiKP	PKPbc	07 20 53.9	+2.8
	comp=Z,5.0nm,0.8s						
BRG	Berggiesshubel	150.98	346	*e*PKP	PKiKP	07 20 53.0	+0.9
	comp=Z,2.9nm,0.9s						
BRG				*e*		07 21 00.1	
	comp=Z,5.2nm,1.0s						
GERES	GERESS Array B	152.93	344	PKPbc	PKiKP	07 20 56.6	+0.2
	comp=Z,1.0nm,0.7s,baz=72,slow=4.3,SNR=4.1						

MAN 20 07:04:09.6, 6°89N×124°95E, h23km, mb4.7, ML3.6, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.19	49	↑*iP*	Pb	07 04 12.2	-2.7
SKMP	Bagumbayan, Su	0.54	228	*eP*	Pb	07 04 20.7	+0.3
SKMP				*eS*	Sn	07 04 31.4	+1.1
BUKP	Musuan	0.99	7	*eP*	Pb	07 04 27.2	-0.9
BUKP				*eS*	Sn	07 04 42.2	+0.7
DDMP	Don Marcelino,	1.09	136	*eP*	Pn	07 04 27.3	-2.1
DDMP				*eS*	Sn	07 04 44.0	+0.2
PAGZ	Pagadian	1.82	302	*eP*	Pb	07 04 42.5	+0.3

TUL ***20*** *07:10:18.8±1.4, 36°822N±0°006×97°72W±0°02, h4km±6km, ML3.0, Error ellipse: s-maj=2.8km s-min=0.9km az=93.0*
UNK ***20*** *07:10:18.8, 36°82N×97°72W, h4km*
NEIC ***20*** *07:10:19.3±1.0, 36°81N±0°02×97°724W±0°009, h3km±6km, Error ellipse: s-maj=3.3km s-min=0.7km az=166.0*
ANF ***20*** *07:10:20.1±1.3, 36°78N×97°71W, h1km±8km, ML3.9/11, Error ellipse: s-maj=4.3km s-min=2.8km az=42.0*

ISC 20 07:10:18.8±1.0, 36°82N±0°02×97°72W±0°02, h6km±10km, n57, σ1§20/71, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	South Haven SW	0.27	45		Pg	07 10 24.7	+0.6
KAN13				Sg	Sg	07 10 28.6	+0.8
CROK	Carrier	0.38	214		Pg	07 10 26.6	+0.3
CROK				Sg	Sg	07 10 31.9	+0.6
KAN10	Anthony SW Sta	0.43	315		Pg	07 10 27.5	+0.4
KAN10				Sg	Sg	07 10 32.4	-0.4
KAN12	Harper NE Stat	0.53	335		Pg	07 10 29.3	+0.3
T35A	Sooner Cattle	0.97	84	Pg	Pg	07 10 37.4	-0.1
T35A				Sg	Sg	07 10 50.1	+0.1
QUOK	Quay	1.04	128		Pg	07 10 38.5	-0.3
OK029	Liberty Lake	1.04	168		Pg	07 10 38.6	-0.3
OK029				Sg	Sb	07 10 52.8	-0.5
U32A	Winter Ranch,	1.12	247		Pb	07 10 39.8	-0.9
U32A				Sg	Sg	07 10 54.8	-0.2
BCOK	Bluff Creek, N	1.17	176	Pg	Pb	07 10 40.6	-0.8
BCOK					Sg	07 10 56.4	+0.1
ADOK	Arcadia Dam	1.20	166	Pn	Pg	07 10 42.9	+1.0
ADOK				Sn	Sn	07 10 59.1	+0.4
OK025	Westminster Rd	1.27	166		Pn	07 10 42.8	-0.4
OK025				Sn	Sn	07 11 00.5	-0.2
OKCFA	Oklahoma City	1.42	171		Pb	07 10 45.2	-0.5
OKCFA				Sn	Sg	07 11 04.6	+0.2
OKCSW	OKLAHOMA CITY	1.43	171		Pb	07 10 45.6	-0.3
OKCSW				Sn	Sg	07 11 04.9	+0.1
FNO	Franklin	1.58	171		Pb	07 10 48.2	-0.3
R32A	Long Quarter,	1.78	334		Pb	07 10 51.2	-0.7
TUL1	Leonard	1.80	120	P	Pb	07 10 51.3	-0.9
	baz=301						
TUL1				S	Sg	07 11 15.8	-0.9
	baz=301						
TUL1	Leonard	1.80	120		Pb	07 10 51.2	-0.9
W35A	Tecumseh	1.80	157		Pb	07 10 51.2	-1.0
X34A	Smith Ranch, M	2.22	182		Pb	07 10 57.4	-1.9
WMOK	Wichita Mounta	2.25	203	P	Pn	07 10 57.2	+0.5
	baz=22						
WMOK				S	Sb	07 11 27.8	-0.3
	baz=22						
WMOK	Wichita Mounta	2.25	203	Pn	Pn	07 10 57.1	+0.5
KSU1	Kansas State U	2.44	21	S	Sb	07 11 32.6	-0.9
	baz=201						
KSU1	Kansas State U	2.44	21	Pn	Pn	07 11 00.2	+0.9
CBKS	Cedar Bluff	2.55	322	P	Pb	07 11 03.2	-2.0
	baz=141						
CBKS				S	Sb	07 11 37.3	+0.5
	baz=141						
CBKS	Cedar Bluff	2.55	322	Pn	Pn	07 11 02.1	+1.2
U38A	Gravette	2.71	97		Pn	07 11 03.7	+0.8
X37A	Clayton	2.93	139		Pn	07 11 07.3	+1.3
HHAR	Hobbs	3.09	99	Pn	Pn	07 11 08.8	+0.6
Z35A	Perchaven, San	3.50	174	Pn	Pn	07 11 15.0	+1.2
W39A	Magazine	3.58	116	Pn	Pn	07 11 16.5	+1.6
S39A	Bolivar	3.61	75		Pn	07 11 16.6	+1.3
AMTX	Amarillo	3.76	240	Pb	Pb	07 11 27.1	+1.5
	baz=58						
N33A	J Bar K, Exete	3.92	3	Pn	Pn	07 11 21.1	+1.5
U40A	Yellville	3.94	95	P	Pn	07 11 21.9	+2.0
	baz=278						
U40A	Yellville	3.94	95		Pn	07 11 21.1	+1.2
MIAR	Mount Ida	4.06	123	Sb	Sg	07 12 26.5	-2.9
	baz=305						
MIAR	Mount Ida	4.06	123	Pn	Pn	07 11 23.0	+1.5
Z38A	Mt. Pleasant	4.20	147	Pn	Pn	07 11 24.5	+1.1
P38A	Dawn	4.32	48	Pn	Pn	07 11 26.4	+1.3
MGMO	Mountain Grove	4.37	84		Pn	07 11 28.1	+2.3
KSCO	Kaye Shedlock'	4.46	301	Sb	Sg	07 12 38.5	-3.5
	baz=118						
ABTX	Abilene, Hawle	4.48	201	P	Pn	07 11 28.8	+1.5
	baz=20						
ABTX	Abilene, Hawle	4.48	201	Pn	Pn	07 11 28.6	+1.4
R40A	Maddies Statio	4.57	70		Pn	07 11 29.7	+1.2
X40A	Basin Creek Fa	4.61	119	Pn	Pn	07 11 29.7	+0.7
FCAR	Ozark Folk Cen	4.61	100	Pn	Pn	07 11 30.9	+1.9
WHAR	Wooly Hollow	4.66	108	Pn	Pn	07 11 30.8	+1.1
W41B	Gary Mavity, V	4.73	109	Pn	Pn	07 11 32.9	+2.2
WHTX	Lake Whitney,	4.82	177	P	Pn	07 11 33.2	+1.2
	baz=358						
WHTX	Lake Whitney,	4.82	177	Pn	Pn	07 11 32.2	+0.2
WLAR	White Oak Lake	4.89	128	Pn	Pn	07 11 33.9	+0.9
237A	Washetta, Mont	5.06	161	Pn	Pn	07 11 35.9	+0.6
P40A	Paris	5.22	57	Pn	Pn	07 11 39.1	+1.6
N38A	Joes South For	5.29	40	Pn	Pn	07 11 39.4	+1.0
CCM	Cathedral Cave	5.29	75	P	Pn	07 11 39.8	+1.3
	baz=258						
CCM	Cathedral Cave	5.29	75	Pn	Pn	07 11 39.4	+0.9
LCAR	Lake Charles	5.34	96	Pn	Pn	07 11 40.4	+1.2

BGR ***20*** *07:14:48.9±0.0, 17°68S×177°45W, h33km*
IDC ***20*** *07:15:44.3±0.9, 17°61S×178°78W, h521km±9km, mb4.4/28, mb1 4.5/31, mb1mx4.4/36, mbtmp5.3/31, Error ellipse: s-maj=9.0km s-min=8.1km az=120.0*
BJI ***20*** *07:15:45.4±0.0, 17°25S×178°36W, h546km, mB4.9/30, mb5.2/56*
UNK ***20*** *07:15:46.2, 17°61S×178°75W, h545km*
NEIC ***20*** *07:15:46.1±1.4, 17°625±0°09×178°78W±0°09, h541km±5km, mb4.9/349, Error ellipse: s-maj=13.1km s-min=11.7km az=140.0*
GCMT ***20*** *07:15:49.1±0.3, 17°47S±0°03×178°76W±0°03, h561km±1km, MW5.4/97, Moment Tensor Solution. s97,c137; Duration: 1±2 Moment tensor: Scale 10¹⁷Nm; Mrr=0.38±.03; Mθθ1.30±.04; Mφφ=0.92±.04; Mrθ0.17±.04; Mθφ0.46±.04; Mφr=0.71±.04; Best double couple: M0=1.44200×10¹⁷ NP1=φs39.00000°, δ66.00000°, λ=-156.00000°. NP2=φs299.00000°, δ68.00000°, λ=-26.00000°. Principal axes: T 1.3910, Plg1.0000°, Azm349.0000°; N 0.1030, Plg57.0000°, Azm81.0000°; P -1.4940, Plg33.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 20 07:15:46.0±0.2, 17°65S±0°04×178°73W±0°04, h547km, n950, σ1§16/1032, mb5.0/245, 39C-31D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.07	268	P	P	07 17 02.6	+1.3
MSVF				S	S	07 18 02.2	-0.5
AFI	Afiamalu	7.66	62	P	P	07 17 37.3	-3.2
	64nm,0.3s,baz=327,slow=0.3,SNR=70						
AFI				S	S	07 19 08.4	-5.8
	baz=317,slow=22,SNR=1.8						
AFI	Afiamalu	7.66	62	P	P	07 17 37.3	-3.2
AFI				S	S	07 19 14.2	+0.1
NIUE	Niue	8.48	101	P	P	07 17 48.6	+0.2
	baz=8.5,SNR=44						
NIUE	Niue	8.48	101	P	P	07 17 48.7	+0.2
FUNA	Funafuti	9.29	347	P	P	07 17 55.1	-1.7
RIZ	Raoul Island	11.56	177	P	P	07 18 19.2	-0.7
RAO	Raoul Island	11.57	176	P	P	07 18 18.9	-1.2
GLKZ	Green Lake	11.58	176	P	P	07 18 18.3	-1.8
GLKZ				S	S	07 20 27.1	+0.2
SANVU	Saraoutou	13.66	277	P	P	07 18 41.4	-0.5
DZM	Mont Dzumac	14.62	250	P	P	07 18 50.6	-1.2
	1.7nm,0.3s,baz=75,slow=20,SNR=31						
DZM				ScP	ScP	07 26 10.3	+3.7
	0.2nm,0.3s,baz=82,slow=14,SNR=5.8						
DZM	Mont Dzumac	14.62	250	P	P	07 18 50.8	-1.1
KNTN	Kanton	16.31	26	P	P	07 19 06.8	-1.9
RAR	Rarotonga	18.22	104	P	P	07 19 27.3	+1.1
	1.1nm,0.3s,baz=248,slow=8.0,SNR=9.7						
RAR	Rarotonga	18.22	104	P	P	07 19 27.5	+1.4
RAR				IAmb	IAmb	07 19 32.2	
	comp=Z,91nm,1.2s						
OUZ	Omahuta	18.79	200	P	P	07 19 33.8	+2.8
MXZ	Matakaoa Point	20.01	187	P	P	07 19 43.1	+0.9
MXZ	Matakaoa Point	20.01	187	P	P	07 19 42.7	+0.6
HAZ	Te Kaha	20.26	188	P	P	07 19 43.9	-0.5
HAZ				S	S	07 22 51.9	-5.8
TGRZ	Tauranga	20.48	191	P	P	07 19 48.6	+2.2
RUGZ	Raukumara Rang	20.48	188	P	P	07 19 46.5	-0.1
RUGZ				S	S	07 22 58.8	-2.6
PUZ	Puketiti	20.52	187	P	P	07 19 47.3	+0.5
PUZ				S	S	07 22 53.5	-8.3
TARA	Tarawa	20.60	336	P	P	07 19 46.7	-1.1
TOZ	Tahuroa Road	20.64	193	P	P	07 19 49.9	+2.1
KMRZ	Kaimai	20.66	192	P	P	07 19 50.3	+2.2
URZ	Urewera	20.85	189	P	P	07 19 48.3	-1.5
	comp=Z,28nm,0.3s,baz=295,slow=1.9,SNR=32						
URZ				S	S	07 23 02.5	-4.5
	comp=Z,25nm,0.6s,baz=203,slow=15,SNR=4.1						
URZ	Urewera	20.85	189	P	P	07 19 48.1	-1.7
URZ				S	S	07 23 00.4	-6.6
URZ	Urewera	20.85	189	P	P	07 19 48.8	-1.0
HRRZ	Handcock Road	21.12	191	P	P	07 19 52.9	+0.6
TLZ	Tolley Road	21.20	193	P	P	07 19 55.0	+1.9
MTHZ	Maungataniwha	21.47	189	P	P	07 19 55.2	-0.3
MTHZ				S	S	07 23 11.8	-5.1
RAHZ	Arahi	21.50	189	P	P	07 19 56.0	+0.3
KNZ	Kokohu	21.52	188	P	P	07 19 55.5	-0.3
KNZ				S	S	07 23 13.0	-4.6
RATZ	Rangitukua	21.68	192	P	P	07 19 57.3	0.0
NMHZ	Naumai	21.72	189	P	P	07 19 57.5	-0.2
NMHZ				S	S	07 23 20.2	-0.6
RITZ	Rihia Road	21.77	191	P	P	07 19 58.5	+0.4
BKZ	Black Stump Fm	21.84	190	P	P	07 19 55.6	-3.1
BKZ				S	S	07 23 12.3	-10
BKZ	Black Stump Fm	21.84	190	P	P	07 19 57.4	-1.4
BKZ				IAmb	IAmb	07 19 57.4	
	comp=Z,53nm,1.4s						
TMVZ	Te Maari	21.93	192	P	P	07 20 00.6	+1.0
TWVZ	Taurewa	21.94	192	P	P	07 19 59.9	+0.2
ETVZ	East Tongariro	21.95	192	P	P	07 19 59.9	0.0
OTVZ	Oturere	21.98	192	P	P	07 19 60.0	-0.2
NGZ	Ngauruhoe	22.01	192	P	P	07 20 00.6	+0.2
MCHZ	McNeill Hill	22.08	189	P	P	07 19 60.0	-0.8
MCHZ				S	S	07 23 22.7	-3.6
TUVZ	Tukino	22.09	192	P	P	07 20 00.6	-0.5
WNVZ	Wahianoa	22.16	192	P	P	07 20 01.7	0.0
MOVZ	Moawhango	22.20	191	P	P	07 20 01.1	-0.9
BHHZ	Black Hill Sta	22.23	191	P	P	07 20 00.3	-1.9
PREZ	Palmer Road	22.48	195	P	P	07 20 06.2	+1.7
PXZ	Pawanui	22.62	189	P	P	07 20 04.5	-1.1
TSZ	Takapari Road	22.80	191	P	P	07 20 07.7	+0.4
DVHZ	Dannevirke	23.00	190	P	P	07 20 09.3	+0.3
BFZ	Birch Farm	23.36	190	P	P	07 20 12.3	+0.1

EIDS	Eidsvold	29.07	249	P	P	07 21 02.3	-0.5
	baz=29,SNR=81						
EIDS	Eidsvold	29.07	249	P	P	07 21 02.2	-0.5
KWAJ	Kwajalein Atol	29.55	332	P	P	07 21 06.3	-0.6
MLZ	Mavora Lakes	29.74	199	P	P	07 21 08.8	+0.5
ARMA	Armidale	29.81	239	P	P	07 21 10.0	+0.9
	baz=30,SNR=143						
ARMA	Armidale	29.81	239	P	P	07 21 09.7	+0.5
DCZ	Deep Cove	30.13	200	P	P	07 21 11.6	0.0
DCZ				IAmb	IAmb	07 21 22.0	
	comp=Z,65nm,1.4s						
WHZ	Wether Hill Ro	30.26	199	P	P	07 21 12.9	+0.1
WHZ				IAmb	IAmb	07 21 14.8	
	comp=Z,40nm,0.8s						
MGCD	Mangrove Creek	31.19	234	P	P	07 21 21.9	+1.0
	baz=31,SNR=34						
RMQ	Roma	31.32	248	P	P	07 21 22.6	+0.6
	baz=31,SNR=65						
RIV	Riverview	31.39	233	P	P	07 21 25.4	+2.8
	baz=32,SNR=3.7						
RABL	Rabaul	31.49	292	P	P	07 21 22.3	-1.4
CTA	Charters Tower	33.19	260	P	P	07 21 37.6	-0.4
	comp=Z,140nm,0.8s,baz=86,slow=11,SNR=174						
CTA				PcP	PcP	07 24 05.2	+0.5
	comp=Z,22nm,0.8s,baz=70,slow=2.5,SNR=5.4						
CTA				ScP	ScP	07 27 01.1	+3.6
	comp=Z,20nm,0.9s,baz=82,slow=1.1,SNR=12						
CTAO	Charters Tower	33.19	260	P	P	07 21 37.6	-0.4
PATS	Pohnpei	33.26	315	P	P	07 21 39.9	+1.2
	baz=33,SNR=3.3						
PATS	Pohnpei	33.26	315	P	P	07 21 39.3	+0.7
PATS				IAmb	IAmb	07 22 02.1	
	comp=Z,62nm,1.1s						
CNB	Canberra Magne	33.34	232	P	P	07 21 40.2	+1.0
	baz=34,SNR=112						
YNG	Young	33.69	234	P	P	07 21 42.8	+0.7
	baz=34,SNR=10						
PMG	Port Moresby	34.12	279	P	P	07 21 46.3	+0.4
CMSA	Cobar Meteorol	35.01	240	P	P	07 21 53.6	+0.4
	baz=35,SNR=219						
MTSU	Mount Surprise	35.13	263	P	P	07 21 53.9	-0.5
	baz=35,SNR=57						
QLP	Quilpie	35.34	249	P	P	07 21 55.9	-0.1
	baz=35,SNR=100						
JOHN	Johnston Islan	35.35	15	P	P	07 21 55.8	-0.3
COEN	Coen	36.80	270	P	P	07 22 08.4	+0.2
	baz=37,SNR=76						
COEN	Coen	36.80	270	P	P	07 22 08.3	+0.2
TOO	Toolangi	37.10	230	P	P	07 22 11.1	+0.8
	baz=37,SNR=63						
TOO	Toolangi	37.10	230	P	P	07 22 11.5	+1.1
MOO	Moorlands	38.07	222	P	P	07 22 19.1	+0.9
	baz=38,SNR=7.9						
TAU	Tasmania Unive	38.23	222	P	P	07 22 19.8	+0.4
TAU				IAmb	IAmb	07 22 21.0	
	comp=Z,63nm,0.8s						
STKA	Stephens Creek	38.49	241	P	P	07 22 22.6	+0.8
	comp=Z,207nm,0.9s,baz=73,slow=9.0						
STKA				ScP	ScP	07 27 20.6	+3.7
	comp=Z,8.5nm,0.7s,baz=13,slow=4.6,SNR=4.4						
STKA	Stephens Creek	38.49	241	P	P	07 22 22.6	+0.8
	baz=39,SNR=90						
STKA	Stephens Creek	38.49	241	P	P	07 22 22.3	+0.6
STKA				IAmb	IAmb	07 22 23.6	
	comp=Z,67nm,1.1s						
QIS	Mount Isa	39.40	259	P	P	07 22 28.6	-0.7
	baz=40,SNR=18						
WAKE	Wake Island	39.41	338	P	P	07 22 28.0	-1.2
ARPS	Mount Arapiles	39.56	233	P	P	07 22 30.7	+0.4
	baz=40,SNR=21						
H11N3	WAKE ISLAND Hy	39.72	339	P	P	07 22 31.3	-0.2
	baz=179,slow=10,SNR=12						
H11N1	WAKE ISLAND Hy	39.73	339	P	P	07 22 31.4	-0.2
	baz=179,slow=10,SNR=5.3						
H11N2	WAKE ISLAND Hy	39.74	339	P	P	07 22 31.5	-0.1
HTT	Hallett	41.01	239	P	P	07 22 42.6	+0.5
	baz=41,SNR=150						
JAY	Jayapura	42.54	286	P	P	07 22 54.6	+0.3
	baz=139,slow=5.5						
JAY	Jayapura	42.54	286	P	P	07 22 54.6	+0.3
	comp=Z,2μmcomp=Z,172nm,1.4s						
GENI	Genyem	43.00	286	P	P	07 22 57.6	-0.3
	comp=Z,12μmcomp=Z,1μm,0.7s						
KHU	Kahuku	43.13	33	P	P	07 22 59.2	+0.2
BBOO	Buckleboo	43.26	241	P	P	07 22 59.9	+0.3
	baz=43,SNR=241						
BBOO	Buckleboo	43.26	241	P	P	07 22 59.7	+0.1
KHLU	Kahalu`u	43.28	32	P	P	07 22 59.9	-0.1
AIN	Ainahou	43.32	33	P	P	07 23 01.1	+0.7
MWH	Moku'aweowe	43.34	33	P	P	07 23 00.6	-0.4
HUH	Hualalai	43.38	32	P	P	07 23 01.4	+0.4
MLOA	Mauna Loa Obse	43.39	33	P	P	07 23 01.0	-0.3
SDHHI	Sand Hill	43.42	33	P	P	07 23 02.1	+1.0
WRMHI	West Rim	43.43	33	P	P	07 23 01.3	+0.1
RIM	Rim	43.43	33	P	P	07 23 01.7	+0.5
KKO	Keanakako`i	43.44	33	P	P	07 23 01.0	-0.2
PUH	Pauahi	43.44	33	P	P	07 23 02.1	+0.8
BYL	Byron's Ledge	43.45	33	P	P	07 23 01.7	+0.3
UWB	Uwekahuna B	43.45	33	P	P	07 23 01.0	-0.3
MLH	Mauna Loa	43.45	33	P	P	07 23 01.7	+0.2
SBLHI	Steaming Bluff	43.46	33	P	P	07 23 02.5	+1.0
HMH	Humu'ula Sheep	43.50	33	P	P	07 23 02.0	+0.1
KEKH	Kekaha	43.57	26	P	P	07 23 02.3	+0.2
POHA	Pohakuloa	43.60	33	P	P	07 23 03.3	+0.7
HPAH	Hawaii Prepara	43.74	32	P	P	07 23 03.7	+0.2
KIP	Kipapa	43.82	28	P	P	07 23 04.0	0.0
OPA	Opana	44.05	28	P	P	07 23 06.5	+0.7
OPA				IAmb	IAmb	07 23 21.8	
	comp=Z,34nm,0.8s						
HLK	Haleakala	44.08	31	P	P	07 23 06.8	+0.4
KHLH	Kahului Airpor	44.11	31	P	P	07 23 06.8	+0.5
WR0	Warramunga Arr	44.19	259	P	P	07 23 05.9	-1.1
WR0				IAmb	IAmb	07 23 07.2	
	comp=Z,115nm,1.2s						
WB0	Warramunga Arr	44.34	260	P	P	07 23 07.6	-0.7
WB2	Warramunga Arr	44.37	259	P	P	07 23 07.1	-1.3
WRAB	Tennant Creek	44.37	259	P	P	07 23 07.5	-1.0
WRA	Warramunga Arr	44.38	259	P	P	07 23 07.1	-1.4
	comp=Z,82nm,0.8s,baz=93,slow=6.8,SNR=370						
WRA				PcP	PcP	07 24 41.0	+0.4
	comp=Z,29nm,0.7s,baz=87,slow=3.6,SNR=11						
WRA				PP	PP	07 25 01.6	-0.8
	comp=Z,5.8nm,0.9s,baz=95,slow=8.3,SNR=4.8						
WRA				ScP	ScP	07 27 43.5	+2.8
	comp=Z,12nm,0.8s,baz=85,slow=4.6,SNR=13						
WRA				PKiKP	PKiKP	07 31 37.6	-1.1
	comp=Z,0.8nm,0.5s,baz=72,slow=0.5,SNR=12						
WRA	Warramunga Arr	44.38	259	P	P	07 23 06.9	-1.6
AS31	Alice Springs	44.57	254	P	P	07 23 10.0	+0.1
ASAR	Alice Springs	44.57	254	P	P	07 23 09.6	-0.3
	comp=Z,660nm,0.7s,baz=87,slow=8.2,SNR=5290						
ASAR				PcP	PcP	07 24 41.5	+0.3
	comp=Z,28nm,0.5s,baz=103,slow=3.9,SNR=10						
ASAR				ScP	ScP	07 27 44.2	+2.7
	comp=Z,14nm,0.9s,baz=102,slow=4.1,SNR=8.8						
ASAR				S	S	07 29 03.2	-3.0
	comp=Z,7.0nm,1.0s,baz=87,slow=17,SNR=8.4						
ASAR				PKiKP	PKiKP	07 31 37.8	-1.1
	comp=Z,0.5nm,0.4s,baz=100,slow=1.5,SNR=5.8						
KDU	Kakadu	47.26	269	P	P	07 23 29.9	-0.5
	baz=47,SNR=110						
GUMO	Guam	47.48	308	P	P	07 23 32.2	+0.1
	comp=Z,483nm,0.7s,baz=151,slow=7.1,SNR=36						
GUMO	Guam	47.48	308	P	P	07 23 32.3	+0.3
MTN	Manton Dam	48.50	268	P	P	07 23 38.9	-0.9
	baz=48,SNR=57						
MTN	Manton Dam	48.50	268	P	P	07 23 38.8	-0.9
RKPI	Ransiki, Papua	48.94	284	P	P	07 23 43.0	0.0
	comp=Z,4μmcomp=Z,288nm,0.8s						
SAUI	Saumlaki	49.53	275	P	P	07 23 47.8	+0.4
	comp=Z,399nm,1.3s						
WRKA	Warakurna	49.63	252	P	P	07 23 48.0	0.0
	baz=50,SNR=508						
FORT	Forrest	49.84	244	P	P	07 23 49.0	-0.4
	baz=50,SNR=338						
FORT	Forrest	49.84	244	P	P	07 23 48.8	-0.6
KNRA	Kununurra	50.21	264	P	P	07 23 51.8	-0.5
	baz=50,SNR=183						
KNRA	Kununurra	50.21	264	P	P	07 23 52.3	0.0
BNDI	Bandanaira	51.90	278	P	P	07 24 04.8	+0.2
	comp=Z,14μmcomp=Z,556nm,1.6s						
FITZ	Fitzroy Crossi	52.77	260	P	P	07 24 10.8	+0.1
	baz=53,SNR=115						
FITZ	Fitzroy Crossi	52.77	260	P	P	07 24 10.6	-0.1
FITZ				IAmb	IAmb	07 24 11.5	
	comp=Z,65nm,0.8s						
MSAI	Masohi	53.20	279	P	P	07 24 13.4	-0.5
	comp=Z,542nmcomp=Z,58nm,0.7s						
AAI	Ambon	53.78	279	P	P	07 24 17.0	-1.0
	comp=Z,3μmcomp=Z,247nm,0.8s						
NLAI	Namlea	54.96	279	P	P	07 24 26.6	+0.3
	comp=Z,3μmcomp=Z,274nm,1.2s						
KMBL	Kambalda	55.15	244	P	P	07 24 26.6	-0.8
	baz=55,SNR=25						
LBMI	Labuha	55.47	282	P	P	07 24 30.8	+1.0
	comp=Z,4μmcomp=Z,446nm,0.9s						
SOEI	Soe	55.77	270	P	P	07 24 33.3	+1.3
	comp=Z,7μmcomp=Z,851nm,0.9s						
SOEI	Soe	55.77	270	P	P	07 24 33.0	+1.0
TNTI	Ternate	56.11	283	P	P	07 24 34.1	-0.1
	comp=Z,3μmcomp=Z,354nm,0.9s						
TNTI	Ternate	56.11	283	P	P	07 24 33.8	-0.4
SANI	Sanana	56.40	280	P	P	07 24 36.1	-0.2
	comp=Z,3μmcomp=Z,344nm,0.9s						
PSA00	Pilbara Seismi	57.68	255	P	P	07 24 44.5	-0.4
PSA00	Pilbara Seismi	57.68	255	P	P	07 24 43.9	-1.0
PSA00				IAmb	IAmb	07 24 44.6	
	comp=Z,128nm,0.8s						
MMRI	Maumere	57.99	271	P	P	07 24 46.7	-0.4
	comp=Z,320nm,0.9s						
MMRI	Maumere	57.99	271	P	P	07 24 46.9	-0.3
MEEK	Meekatharra	58.24	249	P	P	07 24 48.1	-0.6
	baz=58,SNR=55						
JCJ	Chichijima	58.45	319	P	P	07 24 49.2	-0.7
	comp=Z,51nm,0.8s,baz=178,slow=8.3,SNR=5.1						
JCJ	Chichijima	58.45	319	P	P	07 24 49.5	-0.4
JCJ				IAmb	IAmb	07 24 50.0	
	comp=Z,72nm,0.7s						
EDFI	Ende, Flores	58.48	270	P	P	07 24 50.2	-0.4
	comp=Z,1μmcomp=Z,152nm,0.9s						
KLBR	Kellerberrin	58.67	243	P	P	07 24 50.9	-0.5
	baz=59,SNR=26						
KDI	Kendari	58.97	276	P	P	07 24 53.8	+0.1
	comp=Z,139nm,1.1s						
NWAO	Narrogin (SRO)	59.06	242	P	P	07 24 53.9	-0.2
	baz=59,SNR=15						
NWAO	Narrogin (SRO)	59.06	242	P	P	07 24 53.7	-0.3
NWAO				IAmb	IAmb	07 24 54.9	
	comp=Z,256nm,1.5s						
NWAO	Narrogin (SRO)	59.06	242	P	P	07 24 54.3	+0.3
NWAO				IAmb	IAmb	07 24 55.0	
	comp=Z,205nm,1.5s						
BASI	Baing, Sumba	59.17	268	P	P	07 24 55.4	+0.4
	comp=Z,2μmcomp=Z,208nm,1.2s						
KMSI	Cibinong	59.19	282	P	P	07 24 54.9	-0.3
	comp=Z,342nm,0.8s						
BLDU	Ballidu	59.62	244	P	P	07 24 57.3	-0.5
	baz=60,SNR=56						
LUWI	Luwuk	59.76	279	P	P	07 24 59.0	0.0
	comp=Z,371nm,1.3s						
LUWI	Luwuk	59.76	279	P	P	07 24 59.4	+0.4
MUN	Mundaring	59.97	243	P	P	07 25 00.1	-0.1
	baz=60,SNR=15						
GTOI	Gorontalo	60.12	281	P	P	07 25 02.1	+0.7
	comp=Z,1μmcomp=Z,114nm,0.8s						
MORW	Morawa	60.30	246	P	P	07 25 02.0	-0.4
	baz=60,SNR=23						
MORW	Morawa	60.30	246	P	P	07 25 02.0	-0.4
MORW				IAmb	IAmb	07 25 02.5	
	comp=Z,66nm,0.7s						
VNDA	Vanda	60.67	185	P	P	07 25 05.8	+1.8
	comp=Z,6.7nm,0.7s,baz=358,slow=7.5,SNR=75						
VNDA				PcP	PcP	07 25 42.7	+1.3
	comp=Z,2.9nm,0.6s,baz=24,slow=2.8,SNR=3.6						
VNDA	Vanda	60.67	185	P	P	07 25 05.8	+1.8
BKSI	Bulukumba	60.93	274	P	P	07 25 06.1	-0.6
	comp=Z,3μmcomp=Z,797nmcomp=Z,77nm,0.7s						
BNSI	Bone	61.22	275	P	P	07 25 09.0	+0.4
	comp=Z,2μmcomp=Z,265nm,1.1s						
KAPI	Kappang	61.37	274	P	P	07 25 09.9	+0.3
H01W1	Cape Leeuwin H	61.55	239	P	P	07 25 11.7	+1.6
	baz=107,slow=6.3,SNR=5.5						
H01W3	Cape Leeuwin H	61.56	239	P	P	07 25 11.8	+1.5
	baz=107,slow=6.3,SNR=8.2						
H01W2	Cape Leeuwin H	61.56	239	P	P	07 25 11.9	+1.6
	baz=107,slow=6.3,SNR=4.4						
SPSI	Sidrap Palu	61.67	275	P	P	07 25 10.9	-0.7
	comp=Z,2μmcomp=Z,161nm,0.9s						
PLAI	Plampang	62.19	269	P	P	07 25 14.8	-0.2
	comp=Z,3μmcomp=Z,427nm,0.9s						
GIRL	Giralia	62.67	253	P	P	07 25 18.9	+0.9
	baz=63,SNR=38						
GIRL	Giralia	62.67	253	P	P	07 25 19.1	+1.1
MPSI	Mapaga	62.93	280	P	P	07 25 19.7	0.0
	comp=Z,8μmcomp=Z,211nm,0.9s						
TWSI	Taliwang, Sumb	63.07	269	P	P	07 25 20.6	0.0
	comp=Z,2μmcomp=Z,306nm,0.9s						
JHJ2	Mitsune	64.16	322	P	P	07 25 27.7	+0.6
JHJ	Hachijo jima 2	64.18	322	P	P	07 25 28.2	+0.9
	comp=Z,248nm,1.0s,baz=35,slow=23,SNR=3.5						
KBKI	Kotabaru	65.29	275	P	P	07 25 35.4	+0.6
	comp=Z,2μmcomp=Z,104nm,1.0s						
JAGI	Jajag, Banyuwa	65.74	269	P	P	07 25 36.6	-1.0
	comp=Z,3μmcomp=Z,371nm,0.9s						
JAGI	Jajag, Banyuwa	65.74	269	P	P	07 25 36.6	-1.0
MYLDM	Lahad Datu	65.95	284	P	P	07 25 37.5	-1.4
CASY	Casey	66.24	205	P	P	07 25 40.6	+0.9
CASY				IAmb	IAmb	07 25 41.5	
	comp=Z,64nm,1.1s						
KMMI	Kalianget	66.30	270	P	P	07 25 41.8	+0.8
	comp=Z,162nm,0.8s						
BLJI	Banyuglugur	66.47	269	P	P	07 25 42.1	0.0
	comp=Z,3μmcomp=Z,355nm,0.9s						
BBKI	Banjar Baru	66.50	274	P	P	07 25 42.8	+0.5
	comp=Z,156nm,0.9s						
JMM	Marumori	67.06	326	P	P	07 25 44.9	-0.3
JMM				IAmb	IAmb	07 25 46.5	
	comp=Z,17nm,0.8s						
MTKI	Muara Teweh, K	67.23	277	P	P	07 25 46.6	-0.2
	comp=Z,101nm,0.9s						
JGF	Kuroka	67.35	322	P	P	07 25 47.0	-0.1
JGF				IAmb	IAmb	07 25 47.9	
	comp=Z,34nm,0.7s						
INU	Inuyama	67.38	322	P	P	07 25 46.5	-0.7
INU				IAmb	IAmb	07 25 48.2	
	comp=Z,23nm,0.9s						
MJAR	Matsushiro Arr	67.52	323	P	P	07 25 47.6	-0.4
	comp=Z,33nm,0.8s,baz=158,slow=6.2,SNR=91						
MJAR				PcP	PcP	07 26 11.4	+0.9
	comp=Z,8.8nm,0.8s,baz=158,slow=3.7,SNR=5.4						
MJAR	Matsushiro Arr	67.52	323	P	P	07 25 47.7	-0.4
MAJO	Matsushiro	67.52	323	P	P	07 25 48.0	-0.1
MAJO				IAmb	IAmb	07 25 48.8	
	comp=Z,40nm,0.8s						
MAT	Matsushiro	67.52	323	P	P	07 25 47.8	-0.3
MAT				S	S	07 34 02.2	+0.5
GRJI	Gresik	67.76	270	P	P	07 25 50.3	+0.3
	comp=Z,119nm,0.9s						
PWJI	Pagerwojo	68.10	268	P	P	07 25 52.0	-0.1
	comp=Z,2μmcomp=Z,193nm,0.7s						
JMN	Monobe	68.20	319	P	P	07 25 53.4	+1.1
JMN				IAmb	IAmb	07 25 54.8	
	comp=Z,78nm,1.0s						
JWT	Wachi	68.29	321	P	P	07 25 53.4	+0.6
JWT				IAmb	IAmb	07 25 54.0	
	comp=Z,42nm,0.8s						
KKM	Kota Kinabalu	68.38	284	P	P	07 25 53.2	-0.7
TBJI	Tambak Boyo	68.39	270	P	P	07 25 54.5	+0.7
	comp=Z,3μmcomp=Z,282nm,1.0s						
JSD	Sado	68.56	325	P	P	07 25 54.6	+0.3
JSD				IAmb	IAmb	07 25 55.4	
	comp=Z,48nm,0.7s						
NGJI	Ngawi	68.60	269	P	P	07 25 54.9	-0.2
	comp=Z,90nm,1.4s						
AMKA	Amchitka	68.75	359	P	P	07 25 54.7	-0.4
WOJI	Wonogiri, Jawa	68.99	268	P	P	07 25 57.9	+0.5
	comp=Z,197nm,1.1s						
JSU	Suzuyama	69.03	315	P	P	07 25 58.3	+0.9
JSU				IAmb	IAmb	07 25 58.4	
	comp=Z,41nm,0.7s						
ADK	Adak	69.26	1	P	P	07 25 57.5	-0.7
ADK				IAmb	IAmb	07 25 58.3	
	comp=Z,44nm,0.7s						
GSTR	Great Sitkin T	69.49	2	P	P	07 25 59.6	-0.1
JHS	Saijyo	69.50	319	P	P	07 26 01.0	+0.8
YOGI	Yogyakarta	69.59	268	P	P	07 26 01.1	0.0
	comp=Z,313nm,1.1s						
SMRI	Semarang	69.67	269	P	P	07 26 02.6	+1.1
	comp=Z,260nm,1.0s						
ATKA	Atka Island	69.67	3	P	P	07 25 60.0	-0.7
ATKA				IAmb	IAmb	07 26 00.6	
	comp=Z,98nm,1.0s						
JNU	Nakatsue	69.74	316	P	P	07 26 01.7	+0.1
	comp=Z,23nm,0.8s,baz=106,slow=2.3,SNR=9.9						
JNU	Nakatsue	69.74	316	P	P	07 26 01.1	-0.5
JNU				IAmb	IAmb	07 26 02.7	
	comp=Z,35nm,0.9s						
PBKI	Pangkalan Bun	69.75	274	P	P	07 26 02.4	+0.4
	comp=Z,527nm,1.1s						
SMY	Shemya	70.36	355	P	P	07 26 04.3	-0.4
JEW	Eniwo	70.46	330	P	P	07 26 06.4	+0.8
JEW				IAmb	IAmb	07 26 08.2	
	comp=Z,80nm,1.0s						
YOJ	Yonaguni jima	70.55	305	P	P	07 26 06.9	+0.4
STKI	Sintang	70.79	276	P	P	07 26 08.0	-0.2
NIKH	Nikolski High	70.85	6	P	P	07 26 07.2	-0.3
SBUM	Sibu	70.86	279	P	P	07 26 09.2	+0.6
SBUM				IAmb	IAmb	07 26 10.4	
	comp=Z,28nm,0.9s						
SBUM	Sibu	70.86	279	P	P	07 26 10.0	+1.4
JKA	Kamikawa-asahi	70.91	332	P	P	07 26 09.6	+1.4
JKA				IAmb	IAmb	07 26 11.3	
	comp=Z,26nm,1.0s						
ASAJ	Asahikawa	70.91	332	P	P	07 26 09.9	+1.8
	comp=Z,25nm,0.8s,baz=202,slow=4.4,SNR=11						
KPJI	Karang Pucung	71.03	268	P	P	07 26 09.7	+0.1
	comp=Z,2μmcomp=Z,230nm,0.8s						
CMJI	Cimerak	71.36	268	P	P	07 26 10.1	-1.4
	comp=Z,2μmcomp=Z,108nm,0.7s						
YULB	Yu-li	71.37	303	P	P	07 26 10.3	-1.1
YULB				IAmb	IAmb	07 26 11.5	
	comp=Z,29nm,0.6s						
NACB	Ninganchiao	71.52	304	P	P	07 26 12.1	-0.1
SSLB	Suanglung	71.84	303	P	P	07 26 13.2	-1.0
SSLB				IAmb	IAmb	07 26 14.1	
	comp=Z,52nm,0.6s						
TPUB	Ta-pu	71.86	303	P	P	07 26 13.4	-0.8
JCJI	Jatiwangi	71.89	269	P	P	07 26 14.7	+0.1
	comp=Z,546nm,0.9s						
YHNB	Yeheng	71.94	304	P	P	07 26 14.6	-0.2
YHNB				IAmb	IAmb	07 26 15.6	
	comp=Z,101nm,1.0s						
UNV	Unalaska Valle	71.98	8	P	P	07 26 13.3	-0.8
UNV				IAmb	IAmb	07 26 13.8	
	comp=Z,47nm,0.6s						
CISI	Cisompet, Garu	72.03	268	P	P	07 26 14.8	-0.7
	comp=Z,4μmcomp=Z,359nm,0.9s						
CISI	Cisompet, Garu	72.03	268	P	P	07 26 14.5	-1.0
KSM	Kuching	72.35	277	P	P	07 26 18.2	+1.0
KSM	Kuching	72.35	277	P	P	07 26 18.0	+0.7
AKUT	Akutan	72.35	8	P	P	07 26 15.6	-0.7
QSPA	South Pole Qui	72.40	180	P	P	07 26 17.2	+0.5
QSPA				IAmb	IAmb	07 26 19.0	
	comp=Z,50nm,0.7s						
LEM	Lembang	72.42	268	P	P	07 26 18.5	+0.6
	comp=Z,3μmcomp=Z,311nm,0.9s						
CNJI	Cibinong	72.75	268	P	P	07 26 19.0	-0.6
	comp=Z,4μmcomp=Z,418nm,0.9s						
PET	Petropavlovsk	73.05	346	P	P	07 26 20.2	-0.2
PET				IAmb	IAmb	07 26 26.2	
	comp=Z,129nm,1.4s						
XMIS	Christmas Isla	73.30	264	P	P	07 26 22.7	0.0
DBJI	Dramaga	73.32	268	P	P	07 26 23.1	+0.2
	comp=Z,5μmcomp=Z,238nm,1.0s						
PEA0B	Petropavlovsk-	73.36	345	P	P	07 26 21.6	-0.6
PEA0B				IAmb	IAmb	07 26 59.7	
	comp=Z,53nm,1.4s						
PETK	Petropavlovsk-	73.36	345	P	P	07 26 22.1	-0.1
	comp=Z,16nm,0.6s,baz=112,slow=7.2,SNR=20						
PETK				PcP	PcP	07 26 34.9	-0.1
	comp=Z,7.5nm,0.7s,baz=142,slow=7.4,SNR=4.0						
PETK	Petropavlovsk-	73.36	345	P	P	07 26 21.9	-0.3
SKJI	Sukabumi	73.38	268	P	P	07 26 23.0	-0.2
	comp=Z,6μmcomp=Z,868nm,0.7s						
FALS	False Pass	73.39	9	P	P	07 26 21.8	-0.4
TPI	Tanjungpandan	73.56	272	P	P	07 26 24.6	+0.4
	comp=Z,838nmcomp=Z,80nm,1.2s						
SBJI	Serang	74.03	269	P	P	07 26 26.5	-0.4
	comp=Z,572nm,1.0s						
KSRS	Korea Array	74.31	318	P	P	07 26 28.8	+0.9
	comp=Z,11nm,0.7s,baz=130,slow=6.1,SNR=53						
KSRS				PcP	PcP	07 26 39.9	+0.5
	comp=Z,4.7nm,1.0s,baz=170,slow=4.6,SNR=6.9						
CGJI	Cibinong	74.31	268	P	P	07 26 27.9	-0.6
KSAR	Wonju Array Be	74.33	318	P	P	07 26 29.6	+1.6
SDPT	Sand Point	74.35	11	P	P	07 26 27.0	-0.7
SDPT				IAmb	IAmb	07 26 27.1	
	comp=Z,54nm,0.8s						
INCN	Inchon	75.15	318	P	P	07 26 32.6	-0.1
INCN				IAmb	IAmb	07 26 34.5	
	comp=Z,24nm,0.8s						
CHIR	Chirikof Islan	75.75	13	P	P	07 26 35.4	-0.1
CHIR				IAmb	IAmb	07 26 36.1	
	comp=Z,62nm,0.7s						
USA0B	Ussuriysk Arra	76.23	326	P	P	07 26 39.0	+0.6
USRK	Ussuriysk Ar.	76.23	326	P	P	07 26 39.1	+0.7
	comp=Z,13nm,0.7s,baz=114,slow=3.7,SNR=25						
MCCM	Marconi Confer	76.31	42	P	P	07 26 39.8	+0.7
MCCM				IAmb	IAmb	07 27 07.7	
	comp=Z,46nm,1.3s

AFDM	Forest Hills D	78.00	42	P	P	07 26 48.6 +0.3
ORV	Oroville	78.00	42	P	P	07 26 48.9 +0.7
N02D	Trinity Center	78.08	40	P	P	07 26 50.2 +1.5
	baz=234					
PFO	Pinyon Flats O	78.22	49	P	P	07 26 50.7 +1.0
	baz=240					
PFO	Pinyon Flats O	78.22	49	P	P	07 26 51.2 +1.5
XPFO	Pion Flat	78.22	49	P	P	07 26 51.4 +1.7
KDAK	Kodiak Island	78.23	14	P	P	07 26 49.2 +0.2
	comp=Z,30nm,0.6s,baz=228,slow=2.7,SNR=46					
KDAK	Kodiak Island	78.23	14	P	P	07 26 49.2 +0.2
KDAK				IAmb	IAmb	07 26 50.8
	comp=Z,45nm,0.8s					
M02C	Callahan	78.23	40	P	P	07 26 51.3 +1.8
	baz=234,SNR=6.9					
L02E	Cave Junction	78.24	39	P	P	07 26 50.9 +1.4
	baz=233					
O03E	Paynes Creek	78.24	41	P	P	07 26 50.6 +1.0
	baz=235					
KEBM	Edson Butte	78.24	38	P	P	07 26 49.9 +0.3
KEBM				IAmb	IAmb	07 26 59.0
	comp=Z,59nm,1.3s					
LRMC	Laurel Mtn Rad	78.31	47	P	P	07 26 51.4 +1.2
	baz=238,SNR=8.6					
SWSC	Sam W. Stewart	78.36	50	P	P	07 26 51.7 +1.4
	baz=240,SNR=7.5					
MDPB	Devils Postpil	78.51	44	P	P	07 26 52.2 +0.8
MDPB				IAmb	IAmb	07 26 53.3
	comp=Z,21nm,0.8s					
YBH	Yreka Blue Hor	78.52	39	P	P	07 26 52.4 +1.3
	comp=Z,13nm,0.7s,baz=129,slow=1.5,SNR=31					
YBH	Yreka Blue Hor	78.52	39	P	P	07 26 52.2 +1.1
K02D	Willamette Mer	78.53	38	P	P	07 26 52.2 +1.2
	baz=233					
CWC	Cottonwood Cre	78.54	46	P	P	07 26 52.6 +1.2
	baz=238					
OMMB	Old Mammoth Mi	78.55	44	P	P	07 26 52.7 +1.1
OMMB				IAmb	IAmb	07 26 53.6
	comp=Z,36nm,1.5s					
J01E	Myrtle Point	78.65	38	P	P	07 26 52.9 +1.3
	baz=233					
MLAC	Mammoth, Mammo	78.67	44	P	P	07 26 53.7 +1.5
	baz=237,SNR=8.4					
BELC	Belle Mtn. Jos	78.75	49	P	P	07 26 53.8 +1.3
	baz=240,SNR=12					
WAKR	Walker	78.75	43	P	P	07 26 53.8 +1.4
WAKR				IAmb	IAmb	07 26 54.8
	comp=Z,18nm,0.7s					
MPMC	Manual Prospec	78.75	46	P	P	07 26 53.8 +1.3
	baz=238,SNR=14					
TIN	Tinemaha, Big	78.77	45	P	P	07 26 54.0 +1.5
	baz=238,SNR=7.4					
GSC	Goldstone, Bar	78.83	47	P	P	07 26 54.2 +1.3
	baz=239,SNR=6.1					
HUMO	Hull Mountain	78.89	38	P	P	07 26 53.9 +0.9
HEC	Hector,Ludlow	78.92	48	P	P	07 26 54.4 +1.0
	baz=239,SNR=8.8					
PNTR	Pine Nut	78.96	43	P	P	07 26 54.6 +0.9
PNTR				IAmb	IAmb	07 26 55.8
	comp=Z,43nm,0.8s					
BC3	Big Chuckawall	78.97	49	P	P	07 26 55.2 +1.5
	baz=240,SNR=5.6					
VCNR	Virginia City	79.04	43	P	P	07 26 55.0 +0.9
L04D	Klamath Falls	79.05	39	P	P	07 26 55.0 +1.1
	baz=234,SNR=7.3					
M04C	Macdoel	79.08	40	P	P	07 26 55.3 +1.2
	baz=234,SNR=8.9					
GLA	Glamis	79.12	50	P	P	07 26 56.4 +2.0
	baz=241					
YERR	Yerington	79.14	43	P	P	07 26 55.5 +0.9
YERR				IAmb	IAmb	07 26 56.4
	comp=Z,37nm,0.6s					
LHV	Little Huntoon	79.22	44	P	P	07 26 56.1 +1.4
LHV				IAmb	IAmb	07 26 57.3
	comp=Z,24nm,0.9s					
I03D	Drain, OR	79.31	37	P	P	07 26 56.3 +1.2
	baz=233					
GRAC	Grapevine Rang	79.32	46	P	P	07 26 56.9 +1.6
	baz=238,SNR=34					
GMRC	Granite Mounta	79.38	48	P	P	07 26 56.9 +1.1
	baz=240,SNR=6.0					
FURC	Furnace Creek,	79.39	46	P	P	07 26 56.8 +1.2
	baz=239,SNR=11					
RYN	Ryan	79.41	44	P	P	07 26 57.0 +1.0
PIX	Pinacate	79.42	52	P	P	07 26 56.5 +0.6
IRM	Iron Mountain	79.44	49	P	P	07 26 57.5 +1.4
	baz=240,SNR=7.7					
PAHR	Pah Rah Range	79.44	42	P	P	07 26 57.1 +1.0
NVAR	Mina Array Bea	79.45	44	P	P	07 26 57.3 +1.0
	comp=Z,14nm,0.7s,baz=224,slow=8.5,SNR=184					
NVAR				pP	pP	07 28 52.6 +0.6
	comp=Z,4.5nm,1.1s,baz=231,slow=9.1,SNR=4.2					
NVAR				PKKPbc	PKKPbc	07 45 42.7 +0.9
	comp=Z,0.4nm,0.5s,baz=44,slow=5.2,SNR=6.6					
NVAR	Mina Array Bea	79.45	44	P	P	07 26 57.0 +0.8
SHOC	Shoshone, Teco	79.51	47	P	P	07 26 57.6 +1.3
	baz=239,SNR=6.6					
TUQ	Turquoise Moun	79.52	48	P	P	07 26 57.7 +1.1
	baz=240,SNR=10					
NV11	Mina Array Sit	79.55	44	P	P	07 26 57.8 +1.1
CN2	Changchun	79.63	322	*e*P	P	07 26 57.4 +0.6
CN2				*e*S	S	07 36 16.8 +2.6
CN2				pmax	pmax	
	comp=Z,60nm,1.0s					
113A	Mohawk Valley,	79.77	51	P	P	07 26 59.4 +1.7
J04D	Umpqua Nationa	79.77	38	P	P	07 26 59.1 +1.3
	baz=234,SNR=18					
COR	Corvallis	79.88	37	P	P	07 26 59.3 +1.3
COR				IAmb	IAmb	07 27 15.9
	comp=Z,29nm,1.2s					
I04A	Tendick Farm,	79.92	38	P	P	07 26 59.0 +0.6
	baz=234,SNR=6.9					
KVN	Kaiserville	79.92	44	P	P	07 26 59.5 +0.8
KVN				IAmb	IAmb	07 27 00.1
	comp=Z,17nm,0.6s					
TPH	Tonopah	79.98	45	P	P	07 27 00.2 +1.2
TPNV	Topopah Spring	80.06	46	P	P	07 27 00.7 +1.2
	baz=239,SNR=18					
TPNV	Topopah Spring	80.06	46	P	P	07 27 00.7 +1.2
MOD	Modoc Plateau	80.09	40	P	P	07 27 00.3 +0.9
MOD				IAmb	IAmb	07 27 01.3
	comp=Z,24nm,0.7s					
214A	Organ Pipe Nat	80.10	52	P	P	07 27 01.3 +1.8
	baz=242					
CNPM	China Poot	80.11	14	P	P	07 26 59.1 +0.2
CNPM				IAmb	IAmb	07 26 59.8
	comp=Z,25nm,0.7s					
H04D	Lebanon	80.16	37	P	P	07 27 00.7 +1.2
	baz=233					
K05A	Summer Lake	80.19	39	P	P	07 27 01.2 +1.1
K05A				IAmb	IAmb	07 27 01.9
	comp=Z,25nm,0.6s					
WHN	Wuhan	80.21	306	⇑*i*P	P	07 27 01.3 +1.2
WHN				pmax	pmax	
	comp=Z,140nm,1.1s					
J05D	Fort Rock, OR	80.31	39	P	P	07 27 02.0 +1.5
	baz=235,SNR=49					
BRLK	Bradley Lake	80.40	14	P	P	07 27 00.3 -0.2
BRLK				IAmb	IAmb	07 27 01.1
	comp=Z,38nm,0.6s					
H04A	Detroit Lake	80.57	37	P	P	07 27 02.6 +0.8
H04A				IAmb	IAmb	07 27 02.7
	comp=Z,17nm,0.6s					
RSO	Redoubt South	80.62	13	P	P	07 27 01.5 -0.3
SVW2	Sparrevohn	80.65	11	P	P	07 27 01.6 0.0
PINE	Pine Mountain	80.78	38	P	P	07 27 04.5 +1.4
PINE				IAmb	IAmb	07 27 05.3
	comp=Z,24nm,0.8s					
W13A	Hualapai Mount	80.80	49	P	P	07 27 05.0 +1.6
TIA	Tai'an	80.85	313	P	P	07 27 03.6 +0.3
TIA				pmax	pmax	
	comp=Z,29nm,1.0s					
I05D	Terrebonne, OR	80.86	38	P	P	07 27 04.3 +1.0
	baz=234,SNR=8.1					
MA2	Magadan	80.87	345	P	P	07 27 02.3 -0.5
Y14A	Wickenburg	80.89	50	P	P	07 27 04.7 +1.1
E03A	Lebam	80.92	35	P	P	07 27 04.2 +0.8
E03A				IAmb	IAmb	07 27 05.3
	comp=Z,68nm,1.3s					
F04D	Rainier, OR	80.94	36	P	P	07 27 04.9 +1.4
	baz=233					
SEW	Seward	81.04	14	P	P	07 27 03.7 0.0
SEW				IAmb	IAmb	07 27 04.1
	comp=Z,25nm,0.8s					
PRN	Pahroc Range	81.12	46	P	P	07 27 06.4 +1.6
PRN				IAmb	IAmb	07 27 07.4
	comp=Z,18nm,0.9s					
F04A	Amboy	81.18	36	P	P	07 27 05.6 +0.8
F04A				IAmb	IAmb	07 27 06.6
	comp=Z,13nm,0.6s					
R11A	Troy Canyon, C	81.23	45	P	P	07 27 06.3 +0.8
	baz=239,SNR=11					
R11A	Troy Canyon, C	81.23	45	P	P	07 27 06.3 +0.8
NLWA	Neilton Lookou	81.27	34	P	P	07 27 06.0 +0.7
O22K	Cooper Landing	81.31	14	P	P	07 27 05.0 -0.1
	baz=208					
GAMB	Gambell	81.35	3	P	P	07 27 05.9 +0.7
GAMB				IAmb	IAmb	07 27 06.5
	comp=Z,22nm,0.6s					
G05D	Wamic, OR	81.40	37	P	P	07 27 06.8 +0.8
	baz=234					
E04D	Cinebar	81.47	35	P	P	07 27 07.4 +1.2
	baz=233,SNR=7.7					
UBPT	Khong Chiam	81.56	289	P	P	07 27 08.2 +0.8
UBPT				IAmb	IAmb	07 27 09.1
	comp=Z,79nm,1.2s					
F05D	White Salmon	81.69	36	P	P	07 27 08.3 +0.9
	baz=234					
D04E	Lakebay	81.73	35	P	P	07 27 09.1 +1.5
	baz=233					
D03D	Eldon	81.78	34	P	P	07 27 08.9 +1.1
	baz=233,SNR=8.6					
TUC	Tucson	81.79	52	P	P	07 27 10.4 +2.1
	baz=243					
TUC	Tucson	81.79	52	P	P	07 27 10.3 +2.0
I07A	Izee	81.80	39	P	P	07 27 08.8 +0.7
I07A				IAmb	IAmb	07 27 10.2
	comp=Z,18nm,0.8s					
LON	Longmire	82.01	36	P	P	07 27 09.2 +0.1
J08A	Circle Bar Ran	82.02	40	P	P	07 27 10.5 +1.2
J08A				IAmb	IAmb	07 27 11.2
	comp=Z,57nm,1.4s					
IPM	Ipoh	82.09	277	P	P	07 27 10.6 +0.4
IPM	Ipoh	82.09	277	P	P	07 27 11.0 +0.8
KAIM	Kayak Island	82.17	17	P	P	07 27 10.2 +0.7
D05A	Enumclaw	82.17	35	P	P	07 27 10.7 +0.9
D05A				IAmb	IAmb	07 27 14.2
	comp=Z,67nm,1.5s					
LCMT	Little Creek M	82.18	47	P	P	07 27 11.3 +1.0
BBB	Bella Bella	82.24	29	P	P	07 27 11.2 +1.2
BBB				IAmb	IAmb	07 27 20.0
	comp=Z,106nm,1.5s					
SKT	Skwentna	82.25	13	P	P	07 27 09.9 0.0
X16A	Lo Mia Camp, P	82.25	50	P	P	07 27 12.9 +2.1
PGC	Sidney	82.27	33	P	P	07 27 10.9 +0.7
TTA	Tatalina	82.28	10	P	P	07 27 10.5 +0.5
GLI	Glacier Island	82.28	15	P	P	07 27 09.9 -0.2
GLI				IAmb	IAmb	07 27 10.4
	comp=Z,57nm,0.6s					
FID	Port Fidalgo	82.33	15	P	P	07 27 09.7 -0.6
FID				IAmb	IAmb	07 27 32.6
	comp=Z,85nm,1.4s					
EYAK	Cordova Ski Ar	82.34	16	P	P	07 27 10.3 0.0
EYAK				IAmb	IAmb	07 27 11.2
	comp=Z,79nm,1.5s					
CCUT	Cedar City	82.36	47	P	P	07 27 12.3 +1.0
PMR	Palmer	82.43	14	P	P	07 27 10.3 -0.4
PMR				IAmb	IAmb	07 27 10.8
	comp=Z,17nm,0.6s					
KNB	Kanab	82.48	47	P	P	07 27 12.9 +1.0
PSUT	Pine Spring	82.50	46	P	P	07 27 12.8 +0.9
HMT	Hamilton	82.56	16	P	P	07 27 11.6 +0.2
HMT				IAmb	IAmb	07 27 18.0
	comp=Z,91nm,1.2s					
SZCU	Shurtz Canyon	82.57	47	P	P	07 27 13.1 +0.7
F07A	Phinny Hill Vi	82.58	37	P	P	07 27 12.8 +0.9
F07A				IAmb	IAmb	07 27 13.6
	comp=Z,13nm,0.6s					
U15A	North Rim	82.58	48	P	P	07 27 14.5 +2.0
U15A				IAmb	IAmb	07 27 15.1
	comp=Z,20nm,0.7s					
GHO	Glory Hole Cre	82.63	14	P	P	07 27 11.7 -0.2
GHO				IAmb	IAmb	07 27 12.5
	comp=Z,54nm,0.6s					
ELK	Elko	82.68	43	P	P	07 27 13.0 +0.2
KULM	Kulim	82.70	278	P	P	07 27 13.1 -0.1
KULM				IAmb	IAmb	07 27 15.1
	comp=Z,79nm,1.0s					
KULM	Kulim	82.70	278	P	P	07 27 14.0 +0.8
A04D	Lummi Island	82.70	34	P	P	07 27 13.6 +1.2
	baz=233,SNR=11					
B05A	Bryant	82.75	34	P	P	07 27 13.6 +0.9
	baz=233,SNR=11					
G08A	Pilot Rock	82.80	38	P	P	07 27 14.2 +1.0
G08A				IAmb	IAmb	07 27 15.0
	comp=Z,34nm,1.4s					
WUAZ	Wupatki	82.81	49	P	P	07 27 15.0 +1.5
	baz=242					
CUT	Chulitna	82.90	13	P	P	07 27 12.7 -0.4
	baz=207					
LTY	Liberty	82.94	36	P	P	07 27 14.0 +0.3
PPLA	Purkeypile	82.95	12	P	P	07 27 12.7 -0.9
E07A	Sunnyside	82.99	37	P	P	07 27 14.9 +0.9
E07A				IAmb	IAmb	07 27 15.9
	comp=Z,60nm,1.5s					
WAX	Waxell Ridge	83.04	17	P	P	07 27 14.5 +0.6
WAX				IAmb	IAmb	07 27 15.1
	comp=Z,50nm,0.7s					
SCM	Sheep Creek Mo	83.06	14	P	P	07 27 14.1 0.0
SCM				IAmb	IAmb	07 27 14.7
	comp=Z,60nm,0.7s					
MESA	MESA	83.07	18	P	P	07 27 15.1 +0.8
HAWA	Hanford	83.08	37	P	P	07 27 15.5 +1.1
HAWA				IAmb	IAmb	07 27 15.9
	comp=Z,19nm,0.6s					
KLU	Klutina	83.11	15	P	P	07 27 14.5 +0.2
KLU				IAmb	IAmb	07 27 15.8
	comp=Z,34nm,1.4s					
YAH	Yahtse	83.28	18	P	P	07 27 15.9 +0.5
YAH				IAmb	IAmb	07 27 16.6
	comp=Z,42nm,0.7s					
TGL	Tana Glacier	83.30	17	P	P	07 27 15.4 +0.1
TGL				IAmb	IAmb	07 27 15.8
	comp=Z,18nm,0.7s					
ISLE	Juniper Island	83.31	17	P	P	07 27 15.8 +0.4
ISLE				IAmb	IAmb	07 27 16.2
	comp=Z,31nm,0.8s					
BJT	Baijiatuau	83.38	315	P	P	07 27 16.3 +0.3
BJT				IAmb	IAmb	07 27 17.8
	comp=Z,39nm,0.9s					
BJI	Beijing	83.39	315	P	P	07 27 16.9 +0.8
BJI				S	S	07 36 53.1 +1.0
BJI				pmax	pmax	
	comp=Z,46nm,0.8s					
BJI				pmax	pmax	
	comp=Z,100nm,3.5s					
E08A	Dider Farm, El	83.41	37	P	P	07 27 17.0 +1.0
E08A				IAmb	IAmb	07 27 17.8
	comp=Z,14nm,0.6s					
MTPU	Mount Pierson	83.41	47	P	P	07 27 18.6 +1.9
SEY	Seymchan	83.46	347	P	P	07 27 16.0 +0.2
	comp=Z,30nm,0.5s,baz=155,slow=4.9,SNR=107					
TCRU	Three Creeks R	83.50	46	P	P	07 27 18.6 +1.6
RPSI	Rantau Prapat	83.53	275	P	P	07 27 17.5 +0.1
RPSI	Rantau Prapat	83.53	275	P	P	07 27 17.1 -0.3
BMO	Blue Mountains	83.54	39	P	P	07 27 17.6 +0.8
PSI	Prapat	83.56	275	P	P	07 27 17.1 -0.6
PSI				PP	PP	07 30 37.9 -2.5
	comp=Z,7.6nm,0.7s,baz=180,slow=4.2,SNR=7.4					
M24K	Tolsona, Glenn	83.57	15	P	P	07 27 17.0 +0.4
	baz=211					
M24K	Tolsona, Glenn	83.57	15	P	P	07 27 17.1 +0.6
M24K				IAmb	IAmb	07 27 17.9
	comp=Z,59nm,0.6s					
GLB	Gilahina Butte	83.61	16	P	P	07 27 16.9 +0.2
GLB				IAmb	IAmb	07 27 17.4
	comp=Z,39nm,0.6s					
MVU	Marysvale	83.61	46	P	P	07 27 18.8 +1.2
MSU	Marysvale	83.64	46	P	P	07 27 19.0 +1.3
BALM	Baldy	83.66	17	P	P	07 27 17.1 0.0
BALM				IAmb	IAmb	07 27 17.9
	comp=Z,36nm,0.6s					
MFID	Camas Ranch	83.68	41	P	P	07 27 18.8 +1.2
MFID				IAmb	IAmb	07 27 19.6
	comp=Z,31nm,1.5s					
MCARA	McCarthy VSAT	83.77	16	P	P	07 27 17.7 +0.2
MCARA				IAmb	IAmb	07 27 20.6
	comp=Z,69nm,1.5s					
KTH	Kantishna Hill	83.79	12	P	P	07 27 16.7 -0.9
KTH				IAmb	IAmb	07 27 17.3
	comp=Z,19nm,1.0s					
D08A	Wollman Farm,	83.81	36	P	P	07 27 19.1 +1.1
D08A				IAmb	IAmb	07 27 19.4
	comp=Z,11nm,0.7s					
TRF	Thorofare Moun	83.83	12	P	P	07 27 17.5 -0.5
TRF				IAmb	IAmb	07 27 17.9
	comp=Z,37nm,0.8s					
BARN	Barnard Glacie	83.87	17	P	P	07 27 18.7 +0.5
BARN				IAmb	IAmb	07 27 19.3
	comp=Z,30nm,0.8s					
CTGM	Chitina Glacie	83.89	17	P	P	07 27 18.5 +0.2
CTGM				IAmb	IAmb	07 27 19.2
	comp=Z,25nm,0.7s					
MAW	Mawson	84.00	200	P	P	07 27 19.6 +1.0
	comp=Z,23nm,0.6s,baz=137,slow=5.5,SNR=102					
MAW	Mawson	84.00	200	P	P	07 27 19.7 +1.0
	baz=84,SNR=43					
MAW	Mawson	84.00	200	P	P	07 27 19.6 +1.0
JIS	Juneau Island	84.01	22	P	P	07 27 19.4 +0.7
JIS				IAmb	IAmb	07 27 20.2
	comp=Z,20nm,1.2s					
DUG	Dugway, Tooele	84.01	45	P	P	07 27 20.0 +0.6
	baz=241					
DUG	Dugway, Tooele	84.01	45	P	P	07 27 20.6 +1.2
RND	Reindeer	84.09	13	P	P	07 27 19.2 +0.1
RND				IAmb	IAmb	07 27 19.7
	comp=Z,33nm,0.8s					
DHY	Denali Highway	84.13	14	P	P	07 27 19.2 -0.2
DHY				IAmb	IAmb	07 27 20.6
	comp=Z,13nm,0.5s					
F10A	Beach Ranch, E	84.19	38	P	P	07 27 20.9 +0.8
F10A				IAmb	IAmb	07 27 21.4
	comp=Z,22nm,1.0s					
BGU	Big Grassy Mou	84.22	44	P	P	07 27 21.2 +0.8
BPAW	Bear Paw Mtn.	84.27	12	P	P	07 27 18.5 -1.4
B08A	Colville Reser	84.31	35	P	P	07 27 20.3 -0.2
B08A				IAmb	IAmb	07 27 21.4
	comp=Z,11nm,0.7s					
GSI	Gunungsitoli	84.38	273	P	P	07 27 20.6 -1.0
C09A	Chrisman Ranch	84.58	36	P	P	07 27 22.6 +0.8
C09A				IAmb	IAmb	07 27 22.8
	comp=Z,11nm,0.6s					
BWN	Browne	84.64	12	P	P	07 27 21.9 +0.2
BWN				IAmb	IAmb	07 27 23.5
	comp=Z,50nm,1.1s					
HLID	Hailey	84.64	41	P	P	07 27 23.6 +1.2
	baz=240					
HLID	Hailey	84.64	41	P	P	07 27 23.6 +1.2
GYA	Guiyang	84.64	300	⇓P	P	07 27 23.5 +0.7
GYA				pP	pP	07 29 20.6 -0.6
GYA				PP	PP	07 30 47.3 -1.6
GYA				S	S	07 37 05.6 +0.4
GYA				SS	SS	07 42 52.1 -1.2
GYA				pmax	pmax	
	comp=Z,42nm,0.8s					
GYA				pmax	pmax	
	comp=Z,340nm,4.4s					
TMUT	Trail Mountain	84.68	46	P	P	07 27 24.1 +1.3
TIY	Taiyuan	84.87	312	*e*P	P	07 27 24.9 +1.4
TIY				pmax	pmax	
	comp=Z,90nm,0.8s					
MENT	Mentasta	84.88	15	P	P	07 27 24.3 +1.4
HYT	Haines Junctio	84.91	19	P	P	07 27 24.0 +0.7
SRU	San Rafael Swe	85.06	46	P	P	07 27 25.6 +1.0
NEA2	Nenana	85.09	12	P	P	07 27 23.3 -0.6
	baz=208					
WRH	Wood River Hil	85.19	13	P	P	07 27 23.9 -0.5
WRH				IAmb	IAmb	07 27 26.1
	comp=Z,15nm,0.6s					
RIDG	Independent Ri	85.28	14	P	P	07 27 24.9 0.0
RIDG				IAmb	IAmb	07 27 25.2
	comp=Z,13nm,0.8s					
HDA	Harding Lake	85.38	13	P	P	07 27 24.7 -0.6
	baz=210					
HDA	Harding Lake	85.38	13	P	P	07 27 25.1 -0.2
HDA				IAmb	IAmb	07 27 26.2
	comp=Z,17nm,0.4s					
DOT	Dot Lake	85.40	15	P	P	07 27 25.6 +0.1
DOT				IAmb	IAmb	07 27 26.1
	comp=Z,16nm,0.6s					
CCB	Clear Creek Bu	85.40	13	P	P	07 27 24.8 -0.6
CCB				IAmb	IAmb	07 27 26.2
	comp=Z,14nm,0.7s					
LENM	Lemitar	85.47	52	P	P	07 27 26.9 +0.3
IMAR	Indian Mountai	85.48	10	P	P	07 27 25.7 -0.1
NEW	Newport	85.48	36	P	P	07 27 26.3 +0.1
	baz=237,SNR=10					
NEW	Newport	85.48	36	P	P	07 27 26.7 +0.5
BCAR	Beaver Creek A	85.48	16	P	P	07 27 26.6 +0.7
HWUT	Hardware Ranch	85.52	44	P	P	07 27 27.4 +0.6
MDM	Murphy Dome	85.59	13	P	P	07 27 25.6 -0.7
MDM				IAmb	IAmb	07 27 27.1
	comp=Z,15nm,1.0s					
TCOL	CIGO, UAF Yank	85.59	13	P	P	07 27 25.5 -0.8
	baz=209					
PV05	Paradox Valley	85.59	48	P	P	07 27 29.2 +2.0
PV05				IAmb	IAmb	07 27 32.5
	comp=Z,20nm,1.5s					
MVCO	Mesa Verde	85.64	49	P	P	07 27 28.1 +0.6
	baz=244					
BCYI	Bear Canyon	85.64	41	P	P	07 27 28.9 +1.6
MNTX	Cornudas Mount	85.68	55	P	P	07 27 29.1 +1.5
	baz=246,SNR=8.8					
MNTX	Cornudas Mount	85.68	55	P	P	07 27 29.1 +1.5
SCRK	Sand Creek	85.69	15	P	P	07 27 26.8 -0.2
	baz=213					
IL31		85.71	13	P	P	07 27 26.4 -0.4
IL31				IAmb	IAmb	07 27 28.4
	comp=Z,34nm,1.4s					
ILAR	Eielson Array	85.71	13	P	P	07 27 25.9 -0.9
	comp=Z,6.9nm,0.5s,baz=224,slow=5.2,SNR=193					
ILAR				pP	pP	07 29 25.0 -0.2
	comp=Z,2.0nm,1.0s,baz=230,slow=6.3,SNR=4.2					
ILAR				PP	PP	07 30 51.2 -5.2
	comp=Z,2.0nm,0.8s,baz=218,slow=7.1,SNR=4.2					
ILAR	Eielson Array	85.71	13	P	P	07 27 26.4 -0.5
DLBC	Dease Lake	85.72	23	P	P	07 27 27.7 +0.6
BNM	Barren Site	85.72	52	P	P	07 27 29.2 +1.3
PV10	Paradox Valley	85.77	48	P	P	07 27 28.3 +0.2
PV19	Morning Glory	85.78	48	P	P	07 27 29.2 +1.1
PV17	East Wray Mesa	85.78	48	P	P	07 27 28.7 +0.6
PV18	Skein Mesa, Pa	85.80	48	P	P	07 27 29.6 +1.4
PV20	West Nyswonger	85.80	48	P	P	07 27 29.3 +1.1
PV23	Carpenter Ridg	85.82	48	P	P	07 27 29.1 +0.8
PV16	Nyswonger Mesa	85.83	48	P	P	07 27 29.7 +1.4
PV13	Radium Mtn., P	85.83	48	P	P	07 27 29.3 +0.9
PV03	Paradox Valley	85.85	48	P	P	07 27 29.3 +0.8
PV11	David Mesa, Pa	85.85	48	P	P	07 27 29.0 +0.6
XAN	Xi'an	85.86	307	P	P	07 27 29.3 +0.9
XAN				pmax	pmax	
	comp=Z,160nm,1.0s					
XAN				pmax	pmax	
	comp=Z,230nm,3.5s					
XAN	Xi'an	85.86	307	P	P	07 27 29.2 +0.9
PV04	Paradox Valley	85.87	48	P	P	07 27 29.1 +0.6
POKR	Poker Plat Res	85.89	13	P	P	07 27 26.8 -0.9
	baz=210					
PV21	Cone Mtn., Par	85.89	48	P	P	07 27 29.4 +0.7
PV12	Saucer Basin,	85.91	48	P	P	07 27 29.6 +0.8
PV12				IAmb	IAmb	07 27 31.3
	comp=Z,7.7nm,0.6s					
PV01	Paradox Valley	85.99	48	P	P	07 27 29.6 +0.4
PV22	Blue Mesa, Par	86.02	48	P	P	07 27 30.6 +1.4
PBKT	Sadao Pong	86.06	289	P	P	07 27 30.1 +0.5
PBKT				IAmb	IAmb	07 27

MCMT	McKenzie Canyo	86.24	41	P	P	07 27 31.0	+0.8
MSO	Missoula	86.57	38	P	P	07 27 31.5	-0.1
baz=240,SNR=5.8							
MSO	Missoula	86.57	38	P	P	07 27 31.7	+0.1
DLMT	Dillon	86.66	40	P	P	07 27 32.9	+0.9
DLMT				IAmb	IAmb	07 27 33.6	
comp=Z,8.2nm,0.7s							
TPAW	Teton Pass	86.80	42	P	P	07 27 33.2	+0.3
REDW	Red Top Meadow	86.81	43	P	P	07 27 33.8	+0.9
REDW				IAmb	IAmb	07 27 35.0	
comp=Z,13nm,1.1s							
FXWY	Fox Creek	86.82	42	P	P	07 27 34.3	+1.3
JTMT	Jette	86.84	38	P	P	07 27 32.6	-0.1
HHC	Hu-ho-hao-te	86.88	315	eP	P	07 27 33.8	+0.7
HHC				pmax	pmax		
comp=Z,52nm,0.8s							
HHC				pmax	pmax		
comp=Z,130nm,5.5s							
SNOW	Snow King Moun	86.92	43	P	P	07 27 34.8	+1.4
SNOW				IAmb	IAmb	07 27 35.6	
comp=Z,27nm,1.4s							
LRM	Limekiln Ridge	86.97	40	P	P	07 27 34.0	+0.4
IMW	Indian Meadow	87.00	42	P	P	07 27 35.4	+1.5
IMW				IAmb	IAmb	07 27 36.0	
comp=Z,12nm,0.8s							
EGAK	Eagle	87.05	15	P	P	07 27 33.1	-0.1
EGAK				IAmb	IAmb	07 27 34.4	
comp=Z,10nm,0.6s							
S22A	4UR Ranch, Cre	87.07	49	P	P	07 27 35.5	+1.2
baz=245,SNR=8.3							
S22A	4UR Ranch, Cre	87.07	49	P	P	07 27 35.0	+0.7
LOHW	Long Hollow	87.08	42	P	P	07 27 34.9	+0.8
O20A	White River Ci	87.10	46	P	P	07 27 35.2	+0.9
baz=244,SNR=6.6							
O20A	White River Ci	87.10	46	P	P	07 27 34.9	+0.6
QLMT	Earthquake Lak	87.13	41	P	P	07 27 36.4	+2.1
COLD	Coldfoot	87.22	11	P	P	07 27 34.3	+0.4
baz=207							
COLD	Coldfoot	87.22	11	P	P	07 27 34.2	+0.4
COLD				IAmb	IAmb	07 27 37.5	
comp=Z,10.0nm,0.8s							
YHB	Horse Butte	87.24	41	P	P	07 27 36.3	+1.5
FLWY	Flagg Ranch	87.24	42	P	P	07 27 35.8	+0.9
FLWY				IAmb	IAmb	07 27 37.3	
comp=Z,33nm,1.5s							
YPP	Pitchstone Pla	87.26	42	P	P	07 27 36.6	+1.5
YHL	Hebgen Lake	87.29	41	P	P	07 27 36.5	+1.3
YMR	Madison River	87.35	41	P	P	07 27 36.4	+1.1
BOZ	Bozeman (W)	87.37	40	P	P	07 27 36.4	+1.0
baz=242,SNR=7.9							
BOZ	Bozeman (W)	87.37	40	P	P	07 27 35.8	+0.5
BW06	Boulder Array	87.38	44	P	P	07 27 36.2	+0.6
baz=243,SNR=23							
BW06	Boulder Array	87.38	44	P	P	07 27 35.8	+0.2
BW06				IAmb	IAmb	07 27 36.9	
comp=Z,7.9nm,0.6s							
PD31	Pinedale Array	87.38	44	P	P	07 27 36.5	+0.9
PD31				IAmb	IAmb	07 27 36.9	
comp=Z,6.9nm,0.6s							
PDAR	Pinedale Array	87.38	44	P	P	07 27 36.0	+0.5
comp=Z,6.9nm,0.5s,baz=213,slow=3.3,SNR=114							
PDAR				pP	pP	07 29 34.3	0.0
comp=Z,1.3nm,0.8s,baz=231,slow=4.3,SNR=5.2							
PDAR				PP	PP	07 31 08.0	-2.5
comp=Z,4.4nm,1.2s,baz=240,slow=8.4,SNR=5.7							
PDAR				PKKPbc	PKKPbc	07 45 22.9	-0.6
comp=Z,0.8nm,0.9s,baz=92,slow=5.7,SNR=5.4							
PDAR	Pinedale Array	87.38	44	P	P	07 27 36.3	+0.7
KMI	Kunming	87.44	297	⇓iP	P	07 27 37.8	+1.5
KMI				pmax	pmax		
comp=Z,68nm,1.0s							
H17A	Grant Village	87.46	42	P	P	07 27 38.4	+2.5
baz=242,SNR=8.6							
YHH	Holmes Hill	87.47	41	P	P	07 27 34.7	-1.4
FYU	Fort Yukon	87.61	13	P	P	07 27 35.5	-0.2
FYU				IAmb	IAmb	07 27 36.2	
comp=Z,10nm,0.6s							
LKWY	Lake	87.66	42	P	P	07 27 37.9	+1.0
WALA	Waterton Lakes	87.71	37	P	P	07 27 37.4	+0.6
WALA				IAmb	IAmb	07 27 40.8	
comp=Z,17nm,1.5s							
HRY	Holter Researc	87.78	39	P	P	07 27 38.0	+0.8
SDCO	Great Sand Dun	88.03	49	P	P	07 27 39.6	+0.8
baz=246							
SDCO	Great Sand Dun	88.03	49	P	P	07 27 39.3	+0.5
YNE	Yellowstone No	88.11	41	P	P	07 27 40.4	+1.5
RWWY	Rawlins	88.47	45	P	P	07 27 40.3	-0.4
RWWY				IAmb	IAmb	07 27 40.8	
comp=Z,7.3nm,0.6s							
BMAR	Burnt Mountain	88.48	13	P	P	07 27 40.6	+0.7
CMAR	Chiang Mai Arr	88.51	290	P	P	07 27 42.1	+1.0
comp=Z,34nm,0.9s,baz=108,slow=2.9,SNR=121							
CMAR				PP	PP	07 31 19.4	-0.2
comp=Z,1.2nm,0.3s,baz=121,slow=5.7,SNR=6.1							
MSTX	Muleshoe	88.59	54	P	P	07 27 42.0	+0.8
baz=248							
MSTX	Muleshoe	88.59	54	P	P	07 27 42.3	+1.0
MSTX				IAmb	IAmb	07 27 44.3	
comp=Z,9.8nm,1.1s							
TOLK	Toolik Lake Re	88.59	10	P	P	07 27 40.0	-0.4
CHTO	Chiang Mai	88.63	290	P	P	07 27 43.0	+1.4
CHTO				IAmb	IAmb	07 27 43.7	
comp=Z,52nm,1.1s							
RLMT	Red Lodge	88.63	42	P	P	07 27 42.5	+1.2
baz=243							
CD2	Chengdu	88.67	303	P	P	07 27 42.9	+1.2
CD2				pmax	pmax		
comp=Z,30nm,0.7s							
ISCO	Idaho Springs	88.79	48	P	P	07 27 44.0	+1.7
baz=246							
ISCO	Idaho Springs	88.79	48	P	P	07 27 44.3	+2.0
N23A	Red Feather La	89.00	46	P	P	07 27 44.5	+1.3
baz=246,SNR=5.7							
N23A	Red Feather La	89.00	46	P	P	07 27 44.6	+1.3
SYO	Syowa Base	89.34	193	⇑iP	P	07 27 42.4	-1.5
SYO	Syowa Base	89.34	193	⇑ePcP	P	07 27 44.0	+1.0
K22A	Casper	89.34	45	P	P	07 27 45.5	+0.8
baz=245,SNR=5.8							
K22A	Casper	89.34	45	P	P	07 27 45.0	+0.4
K22A				IAmb	IAmb	07 27 46.5	
comp=Z,11nm,1.2s							
EPYK	Eagle Plains	89.44	16	P	P	07 27 44.3	-0.1
baz=220							
EPYK	Eagle Plains	89.44	16	P	P	07 27 44.5	+0.1
PHWY	Pilot Hill	89.51	46	P	P	07 27 46.2	+0.6
AMTX	Amarillo	89.77	53	P	P	07 27 47.5	+0.8
baz=248							
LZH	Lanzhou	90.49	308	eP	P	07 27 51.8	+1.7
LZH				pP	pP	07 29 52.6	+2.3
LZH				sP	sP	07 30 44.9	-0.4
LZH				pmax	pmax		
comp=Z,26nm,1.3s							
ABTX	Abilene, Hawle	90.54	56	P	P	07 27 51.2	+1.0
baz=249							
ABTX	Abilene, Hawle	90.54	56	P	P	07 27 50.9	+0.7
ABTX				IAmb	IAmb	07 27 52.9	
comp=Z,9.6nm,0.7s							
SNAA	Sanae	90.86	179	P	P	07 27 51.0	0.0
SNAA	Sanae	90.86	179	P	P	07 27 50.9	-0.1
SNAA				IAmb	IAmb	07 27 52.0	
comp=Z,16nm,0.6s							
VNA3	Neumayer Olymp	91.01	176	P	P	07 27 51.9	+0.1
LAO	LASA Array	91.22	41	P	P	07 27 54.8	+1.7
baz=245							
LAO	LASA Array	91.22	41	P	P	07 27 54.7	+1.6
LAO				IAmb	IAmb	07 27 57.0	
comp=Z,36nm,1.5s							
VNA2	Neumayer--Watz	91.45	177	P	P	07 27 54.4	+0.7
RSSD	Black Hills	91.59	44	P	P	07 27 55.4	+0.3
baz=247							
RSSD	Black Hills	91.59	44	P	P	07 27 55.1	0.0
RSSD				IAmb	IAmb	07 27 57.3	
comp=Z,9.1nm,1.3s							
VNA1	Neumayer--Stat	91.68	177	P	P	07 27 55.4	+0.7
INK	Inuvik	91.72	15	P	P	07 27 54.4	-0.4
comp=Z,6.5nm,0.6s,baz=268,slow=32,SNR=20							
INK				PKKP	PKKPdf	07 45 10.6	+0.3
comp=Z,2.3nm,1.0s,baz=270,slow=31,SNR=4.4							
INK	Inuvik	91.72	15	P	P	07 27 54.0	-0.8
INK				IAmb	IAmb	07 27 56.7	
comp=Z,7.7nm,0.7s							
PLCA	Paso Flores	91.73	134	P	P	07 27 57.8	+2.1
comp=Z,1.4nm,0.7s,baz=250,slow=7.2,SNR=7.0							
PLCA				PKKPbc	PKKPbc	07 45 11.5	-0.8
comp=Z,2.0nm,1.0s,baz=53,slow=4.1,SNR=4.6							
PLCA	Paso Flores	91.73	134	P	P	07 27 57.3	+1.5
SONM	Songino Array	93.16	319	P	P	07 28 02.0	0.0
comp=Z,5.9nm,0.9s,baz=116,slow=3.8,SNR=20							
SONM				pP	pP	07 30 02.6	+0.5
comp=Z,0.6nm,0.5s,baz=164,slow=37,SNR=2.2							
SONM	Songino Array	93.16	319	P	P	07 28 01.7	-0.4
DGMT	Dagmar	93.19	40	P	P	07 28 03.1	+1.0
baz=247							
DGMT	Dagmar	93.19	40	P	P	07 28 03.6	+1.5
DGMT				IAmb	IAmb	07 28 03.9	
comp=Z,16nm,0.7s							
R32A	Long Quarter,	93.25	51	P	P	07 28 04.1	+1.5
R32A				IAmb	IAmb	07 28 04.5	
comp=Z,12nm,0.8s							
YKA	Yellowknife Ar	94.23	25	P	P	07 28 06.2	-0.2
comp=Z,1.6nm,0.6s,baz=251,slow=4.3,SNR=8.4							
YKA				PKKP	PKKPdf	07 45 04.2	-1.4
comp=Z,0.7nm,0.5s,baz=37,slow=2.4,SNR=10							
GTA	Gaotai	94.64	310	eP	P	07 28 09.4	+0.4
GTA				pP	pP	07 30 11.6	+2.0
GTA				sP	sP	07 31 02.3	-2.1
GTA				pmax	pmax		
comp=Z,19nm,0.9s							
KSU1	Kansas State U	95.03	51	P	P	07 28 12.0	+1.4
baz=251							
LPAZ	La Paz	103.78	112	PKKPbc	PKKPbc	07 44 39.3	-0.3
comp=Z,1.1nm,0.5s,baz=328,slow=2.1,SNR=6.6							
NRIK	Noril'sk	107.68	338	PKiKP	PKiKP	07 33 10.3	-0.1
comp=Z,2.8nm,0.5s,baz=94,slow=2.8,SNR=3.9							
ZALV	Zalesovo Beam	107.84	322	Pdiff	Pdif	07 29 07.0	-0.3
comp=Z,0.5nm,0.3s,baz=79,slow=7.6,SNR=3.6							
ZALV				PKiKP	PKiKP	07 33 10.4	-0.7
comp=Z,5.9nm,0.6s,baz=134,slow=1.4,SNR=17							
MKAR	Makanchi Array	108.74	314	Pdiff	Pdif	07 29 13.8	+2.3
comp=Z,0.8nm,0.6s,baz=90,slow=5.8,SNR=7.5							
MKAR				PKiKP	PKiKP	07 33 12.3	-0.9
comp=Z,6.3nm,0.5s,baz=174,slow=0.6,SNR=74							
MKAR				PKKPbc	PKKPbc	07 44 23.9	-0.6
comp=Z,0.5nm,0.4s,baz=286,slow=4.3,SNR=7.0							
UZB	Uzynbulak	110.70	310	ePKiKP	PKiKP	07 33 16.5	-0.6
comp=Z,5.9nm,1.2s,baz=310							
KPKS	Kokpek	110.97	310	ePKiKP	PKiKP	07 33 16.8	-0.8
baz=310							
SATY	Saty	111.14	310	ePKiKP	PKiKP	07 33 17.3	-0.7
comp=Z,3.2nm,0.7s,baz=310							
KURBB	Kurchatov Arra	111.49	318	PKiKP	PKiKP	07 33 17.3	-0.9
comp=Z,7.9nm,0.7s,baz=94,slow=1.8,SNR=74							
KURBB				PKKPbc	PKKPbc	07 44 15.7	-0.1
comp=Z,0.9nm,0.6s,baz=277,slow=4.1,SNR=8.7							
MDOK	Medeo	112.14	310	ePKiKP	PKiKP	07 33 18.9	-1.0
baz=310							
TNSS	Tian-Shan	112.20	310	ePKiKP	PKiKP	07 33 19.8	-0.6
baz=310							
AAA	Alma-Ata	112.24	310	ePKiKP	PKiKP	07 33 19.7	-0.3
baz=310							
MTBS	Maitube	112.59	310	ePKiKP	PKiKP	07 33 20.1	-0.5
baz=310							
KSH	Kashi	112.68	306	PKP	PKiKP	07 33 22.0	+1.0
KSH				PP	PP	07 34 28.3	+9.2
KSH				AMB	AMB		
comp=Z,120nm,4.4s							
KUU	Kurty	112.70	311	ePKiKP	PKiKP	07 33 19.4	-1.4
baz=311							
SGDS	Sogindy	113.92	310	ePKiKP	PKiKP	07 33 22.3	-0.9
baz=310							
BTLS	Baital	114.38	312	ePKP	PKPdf	07 33 23.3	-0.6
comp=Z,5.1nm,0.5s,baz=312							
BRZS	Berezniki	115.24	317	i PKP	PKPdf	07 33 24.4	-1.1
comp=Z,21nm,1.1s,baz=318							
DZA	Taraz	116.32	310	ePKP	PKPdf	07 33 27.2	-0.6
baz=310							
BVAR	Borovoye Array	116.45	321	PKP	PKPdf	07 33 27.0	-0.7
comp=Z,9.0nm,0.4s,baz=192,slow=5.3,SNR=58							
BRVK	Borovoye	116.52	321	PKPdf	PKPdf	07 33 27.6	-0.2
KKAR	Karatay Array	116.92	310		PKPdf	07 33 28.8	-0.1
GAR	Garm	117.04	305	PKPdf	PKiKP	07 33 29.6	+0.1
PTGA	Pitinga	117.06	100	PKKPbc	PKKPbc	07 43 56.9	+0.6
comp=Z,4.9nm,0.8s,baz=90,slow=7.5,SNR=11							
IUG	Iuzhnay	117.28	309	i PKP	PKPdf	07 33 29.7	0.0
comp=Z,6.2nm,0.5s,baz=309							
KBL	Kabul	117.89	300	PKPdf	PKiKP	07 33 32.0	+0.7
CHGR	Chuyangaron	117.94	305	PKPdf	PKiKP	07 33 31.2	0.0
BDFB	Brasilia	121.23	121	PKP	PKPdf	07 33 38.0	-0.1
comp=Z,3.6nm,0.5s,baz=260,slow=1.9,SNR=8.6							
BDFB				PKKPbc	PKKPbc	07 43 42.6	+0.8
comp=Z,5.1nm,0.7s,baz=71,slow=4.9,SNR=8.1							
ARU	Arti	122.47	326	PKP	PKPdf	07 33 38.8	-0.3
comp=Z,12nm,0.5s,baz=78,slow=1.4,SNR=30							
ARU	Arti	122.47	326	PKPdf	PKPdf	07 33 39.0	-0.1
ABKAR	Akbulak array	123.54	318	PKPdf	PKPdf	07 33 41.3	-0.1
ARCES	ARCESS Array B	126.01	350	PKP	PKPdf	07 33 45.5	-0.1
comp=Z,14nm,0.8s,baz=234,slow=0.1,SNR=24							
KIRV	Kirov	126.16	331	PKP	PKiKP	07 33 46.5	0.0
comp=Z,33nm,0.5s,baz=126,slow=2.6,SNR=13							
GEYT	Alibeck	126.64	304	PKhKP	PKPpre	07 33 34.1	
comp=Z,2.3nm,0.6s,baz=242,slow=2.9,SNR=4.6							
GEYT				PKP	PKPdf	07 33 48.0	+0.2
comp=Z,17nm,0.8s,baz=243,slow=0.7,SNR=25							
GEYT				PP	PP	07 35 50.6	-2.8
comp=Z,6.5nm,1.0s,baz=78,slow=6.8,SNR=6.4							
GEYT	Alibeck	126.64	304	PKPdf	PKiKP	07 33 48.1	-0.2
GYA0B	ALIBECK ARRAY	126.64	304	PKPdf	PKiKP	07 33 48.3	0.0
BOSA	Boshof	128.49	207	PKP	PKiKP	07 33 52.5	0.0
comp=Z,10.0nm,0.8s,baz=156,slow=2.9,SNR=11							
KLMR	Klimovskoe	129.00	337	ePKPdf	PKPdf	07 33 50.3	-1.2
KLMR				AMP		07 33 53.3	
comp=Z,18nm,0.9s							
KLMR				eSKP		07 36 21.4	
FINES	FINESS Array B	132.86	344	PKhKP	PKPpre	07 33 44.2	
comp=Z,0.6nm,0.5s,baz=57,slow=4.2,SNR=6.8							
FINES				SKPbc	SKPab	07 36 37.6	-0.1
comp=Z,7.3nm,0.6s,baz=63,slow=2.9,SNR=14							
NB2	NORSAR Subarra	136.09	353	PKP	PKPdf	07 33 54.2	-11
comp=Z,3.3nm,0.9s,baz=17,slow=2.6							
NOA	NORSAR Array B	136.09	353	PKhKP	PKPpre	07 33 54.5	
comp=Z,1.8nm,0.8s,baz=32,slow=2.0,SNR=8.8							
NOA				PKP	PKPdf	07 34 04.8	-0.1
comp=Z,3.0nm,0.6s,baz=13,slow=4.0,SNR=12							
NOA				SKPbc	SKPbc	07 36 47.2	+1.5
comp=Z,2.5nm,1.0s,baz=6.3,slow=4.0,SNR=5.6							
NOA				SKPab	SKPab	07 36 54.4	+2.4
comp=Z,4.3nm,0.8s,baz=12,slow=3.1,SNR=15							
KBZ	Khabaz	136.41	316	PKP	PKPdf	07 34 06.0	+0.1
comp=Z,3.3nm,0.7s,baz=59,slow=1.7,SNR=6.2							
KAC	Achnashellach	139.91	6	eP	PKPdf	07 34 05.1	-6.8
KMBO	Kilima Mbogo	139.96	246	PKhKP	PKPpre	07 34 09.9	
comp=Z,1.4nm,0.3s,baz=60,slow=4.8,SNR=8.0							
KPL	Plockton	140.04	6	eP	PKPdf	07 34 05.9	-6.1
AKASG	Malin Array Be	140.19	332	PKhKP	PKPpre	07 34 05.2	
comp=Z,4.2nm,0.4s,baz=42,slow=4.2,SNR=20							
AKASG				SKPbc	SKiKP	07 36 59.2	-0.5
comp=Z,6.2nm,0.8s,baz=42,slow=3.6,SNR=10.0							
INVG	Invergeldie, C	141.08	5	eP	PKPdf	07 34 08.2	-5.9
EKA	Eskdalemuir Ar	142.24	4	SKPab	SKPab	07 37 21.0	
comp=Z,1.1nm,0.7s,baz=357,slow=3.3,SNR=4.4							
ESK	Eskdalemuir	142.25	4	eP	PKPdf	07 34 12.8	-3.4
EDMD	Edmundbyers	142.81	3	eP	PKPdf	07 34 13.9	-3.3
MILM	Milestii Mici	143.03	328	⇑P	PKPab	07 34 15.5	+0.2
BZK	Bozkurt	143.03	318	⇑P	PKPbc	07 34 16.9	+0.9
BSEG	Bad Segeberg	143.11	351	ePKPbc	PKPbc	07 34 15.9	0.0
baz=17,slow=1.9							
ILTH	Belurgan, Co L	143.22	7	eP	PKPab	07 34 15.6	-0.2
HPK	Haverah Park	143.70	3	eP	PKPab	07 34 17.4	-0.3
KWP	Kalwaria Pacla	143.71	336	ePKP	PKPbc	07 34 18.4	+0.5
KWP	Kalwaria Pacla	143.71	336	PKPbc	PKPdf	07 34 19.0	+0.1
VASR	Vaslui	143.73	329	⇑P	PKPdf	07 34 18.9	-0.1
RUE	Ruedersdorf	143.88	347	ePKPbc	PKPab	07 34 18.6	+0.2
baz=17,slow=1.9							
YRC	Rhoscolyn	144.18	6	eP	PKPbc	07 34 18.7	-0.5
TLCR		144.19	326	⇑P	PKPdf	07 34 20.2	+0.4
BUR08	Bucovina Ar. S	144.23	332		PKPab	07 34 20.9	+0.9
BURAR	Bucovina Array	144.25	332	⇑P	PKPab	07 34 20.6	+0.5
LBWR	Ladybower, Pea	144.25	3	eP	PKPbc	07 34 19.1	-0.3
OJC	Ojcow	144.27	340	ePKP	PKPdf	07 34 19.9	0.0
OJC	Ojcow	144.27	340	PKPbc	PKPab	07 34 20.1	+0.2
GHRR		144.33	328	⇓P	PKPab	07 34 21.6	+1.3
YLL	Llanberis	144.33	6	eP	PKPbc	07 34 19.7	+0.1
BIZ	Bicaz	144.34	330	⇑P	PKPab	07 34 21.3	+0.9
BR131	Keskin Array S	144.39	315		PKPab	07 34 20.8	-0.2
BRTR	Keskin Array B	144.39	315	PKP	PKPbc	07 34 19.9	-0.6
comp=Z,40nm,0.7s,baz=121,slow=3.8,SNR=144							
BRTR	Keskin Array B	144.39	315		PKPab	07 34 20.8	-0.2
JURR	Jurilovca	144.43	325	⇓P	PKiKP	07 34 22.6	-1.5
KOLS	Kolonicke sedl	144.45	336	ePKP	PKPbc	07 34 19.8	-0.4
SCHL	Schela	144.50	327	⇑P	PKPab	07 34 22.4	+1.5
STNC	Stoke	144.53	4	eP	PKPab	07 34 20.6	-0.2
NRDL	Niedersach Rie	144.54	351	ePKPbc	PKPab	07 34 20.6	-0.1
baz=17,slow=1.9							
CFR	Carcaliu	144.56	327	⇑P	PKPab	07 34 21.2	+0.1
TOPG	Topolog	144.63	326	⇑P	PKPab	07 34 21.9	+0.5
LLW	Llanuwychllyn	144.66	5	eP	PKPdf	07 34 19.6	-0.9
ODBI	Odobesti	144.71	328	⇑P	PKiKP	07 34 23.3	-1.4
NIE	Niedzica	144.78	338	ePKP	PKPab	07 34 22.2	+0.3
IWEX	Carrickbyrne,	144.78	9	eP	PKPbc	07 34 21.0	0.0
KSP	Ksiaz	144.78	343	ePKP	PKPab	07 34 21.9	+0.1
CRVS	Cervenica-Dubn	144.78	337	ePKP	PKPab	07 34 21.8	-0.2
VRI	Vrincioaia	144.80	329	⇑P	PKPab	07 34 22.0	-0.1
ASSE	Asse, Remlinge	144.80	350	ePKPbc	PKPab	07 34 21.6	-0.2
baz=17,slow=1.9							
TIRR	Tirgusor	144.88	325	⇑P	PKPab	07 34 22.4	-0.1
CWF	Charnwood Fore	144.93	3	eP	PKPbc	07 34 21.4	-0.1
HARR	Harsova	144.99	326	⇑P	PKPab	07 34 22.9	+0.1
WACR	West Acre	145.00	1	eP	PKPbc	07 34 21.8	+0.1
ARCR	ARCALIA	145.03	332	⇑P	PKPab	07 34 23.3	+0.3
IBBN	Ibbenburen	145.04	353	ePKPbc	PKPab	07 34 22.5	-0.3
baz=17,slow=1.9							
HLM1	Long Mynd	145.06	4	eP	PKPbc	07 34 21.8	-0.1
OSTC	Ostas	145.06	343	ePKP	PKPab	07 34 23.0	0.0
CHVC	Chvalec	145.07	343	ePKP	PKPab	07 34 22.9	-0.2
OZUR		145.10	330	⇑P	PKPab	07 34 23.1	-0.2
CLZ	Clausthal	145.13	350	ePKPbc	PKPab	07 34 22.9	-0.3
baz=17,slow=1.9							
CLL	Collm	145.15	347	i SKPbc	SKiKP	07 37 12.4	+2.5
comp=Z,11nm,1.0s							
CLL	Collm	145.15	347	ePKPdf	PKPbc	07 34 22.0	-0.3
baz=17,slow=1.6							
CLL				ePKPbc	PKPbc	07 34 22.7	+0.4
baz=17,slow=1.9							
CLL	Collm	145.15	347	PKPbc	PKPab	07 34 22.9	-0.3
CLL	Collm	145.15	347	i PKPdf	PKPdf	07 34 21.6	+0.3
CLL	Collm	145.15	347	⇓iPKPbc	PKPbc	07 34 22.6	+0.4
comp=Z,120nm,0.7s							
CLL	Collm	145.15	347	i PKPab	PKPab	07 34 24.1	+0.9
CLL	Collm	145.15	347	epPKPdf	pPKPdf	07 36 26.0	-3.6
CLL	Collm	145.15	347	e		07 36 47.0	
UPC	Upice	145.16	343	ePKP	PKPab	07 34 23.1	-0.3
MANR	Mangalia	145.20	324	⇑P	PKPab	07 34 23.7	0.0
DPC	Dobruska-Polom	145.22	343	ePKP	PKPab	07 34 23.4	-0.2
RCY	Rachaya	145.25	304	eP	PKPbc	07 34 23.9	+0.6
BHL	Bhannes	145.27	304	eP	PKPbc	07 34 23.7	+0.4
LANS	Liptovska Anna	145.29	339	ePKP	PKPab	07 34 24.1	+0.1
KRLC	Kraliky	145.33	342	ePKP	PKPdf	07 34 22.2	+0.5
KRLC				ex	x	07 34 23.5	
BRG	Berggiesshubel	145.34	346	⇑iPKP	PKPbc	07 34 22.4	-0.3
comp=Z,58nm,0.8s							
BRG				i SKP		07 37 11.2	
comp=Z,3.0nm,0.8s							
BRG	Berggiesshubel	145.34	346	ePKPdf	PKPbc	07 34 22.5	-0.3
baz=17,slow=1.6							
BRG				ePKPbc	PKPab	07 34 23.5	-0.6
baz=17,slow=1.9							
MORC	Moravsky Berou	145.37	341	⇑P	PKPab	07 34 23.8	-0.4
MORC	Moravsky Berou	145.37	341	ePKP	PKPbc	07 34 23.5	+0.5
MORC	Moravsky Berou	145.37	341	PKPbc	PKPab	07 34 24.5	+0.2
DOPR	Dopca	145.38	330	⇑P	PKPab	07 34 24.5	+0.1
DQRL	Deir Qamar	145.40	304	eP	PKPbc	07 34 24.3	+0.6
ISR	Istrita	145.42	328	⇑P	PKPab	07 34 24.1	-0.5
FBE	Freiberg	145.43	346	ePKPdf	PKPbc	07 34 22.9	-0.2
baz=17,slow=1.6							
FBE				ePKPbc	PKPab	07 34 24.1	-0.3
baz=17,slow=1.9							
MLR	Muntele Rosu	145.46	329	⇑P	PKPab	07 34 24.7	-0.2
GTTG	Gottingen	145.49	350	ePKPdf	PKPbc	07 34 22.7	-0.5
baz=17,slow=1.6							
GTTG				ePKPbc	PKPab	07 34 23.9	-0.7
baz=17,slow=1.9		

KHC				*ex*	x	07 34 28.5	
KHC	**Kasperske Hory**	**147.05 345**		PKPbc	**PKiKP**	**07 34 28.9**	**-0.6**
SNF	**Seneffe**	**147.13 356**		x	x	07 34 31.6	
SNF	**Seneffe**	**147.13 356**		PKPdf	**PKPdf**	**07 34 24.5**	**-0.1**
SNF	**Seneffe**	**147.13 356**		PKPbc	**PKPbc**	**07 34 28.2**	**+0.4**
BCLA	**Clavier**	**147.15 355**		PKPbc	**PKPbc**	**07 34 27.4**	**-0.4**
BCLA	**Clavier**	**147.15 355**		PKPdf	**PKPdf**	**07 34 24.8**	**+0.1**
BHOU	**Houvegnez**	**147.16 354**		PKiKP	**PKPbc**	**07 34 28.4**	**+0.5**
BHOU	**Houvegnez**	**147.16 354**		PKPdf	**PKPdf**	**07 34 24.7**	**-0.1**
BGES	**Gesves**	**147.20 355**		PKiKP	**PKiKP**	**07 34 29.6**	**-0.1**
BGES	**Gesves**	**147.20 355**		PKPbc	**PKPbc**	**07 34 27.5**	**-0.5**
WET	**Wettzell**	**147.21 346**		*e*PKPdf	**PKPdf**	**07 34 25.5**	**+0.6**
	baz=17,slow=1.6						
WET				*e*PKPbc	**PKPbc**	**07 34 28.6**	**+0.5**
	baz=17,slow=1.9						
GEC2	**GERESS Array S**	**147.29 345**		*e*PKPdf	**PKPdf**	**07 34 25.6**	**+0.5**
	baz=17,slow=1.6						
GEC2				*e*PKPbc	**PKPbc**	**07 34 28.9**	**+0.5**
	baz=17,slow=1.9						
GEC2	**GERESS Array S**	**147.29 345**		PKPbc	**PKPbc**	**07 34 28.8**	**+0.5**
GERES	**GERESS Array B**	**147.29 345**		PKP	**PKPdf**	**07 34 24.9**	**-0.2**
	comp=Z,28nm,0.5s,baz=78,slow=1.4,SNR=40						
GERES				PKPbc	**PKPbc**	**07 34 28.8**	**+0.5**
	comp=Z,38nm,0.6s,baz=23,slow=3.1,SNR=23						
BMRD	**Maredsous**	**147.31 356**		PKPbc	**PKPbc**	**07 34 28.2**	**0.0**
BMRD	**Maredsous**	**147.31 356**		PKPdf	**PKPdf**	**07 34 24.9**	**0.0**
BZS	**Buzias**	**147.37 333**		⇑P	**PKPbc**	**07 34 29.0**	**+0.5**
SRE	**Strehaia**	**147.38 330**		⇑P	**PKiKP**	**07 34 29.8**	**-0.5**
DOU	**Dourbes**	**147.52 356**		PKiKP	**PKPbc**	**07 34 29.3**	**+0.5**
CONA	**Conrad Observa**	**147.53 342**		*i* PKPdf	**PKPdf**	**07 34 25.5**	**0.0**
	comp=Z,4.7nm,1.1s						
CONA				*i* PKiKP	**PKPbc**	**07 34 29.8**	**+0.8**
	comp=Z,59nm,0.7s,SNR=31						
HERR	**Herculane**	**147.59 331**		⇑P	**PKPbc**	**07 34 29.6**	**+0.5**
WLF	**Walferdange**	**147.82 354**		*e*PKPdf	**PKPdf**	**07 34 27.0**	**+1.1**
	baz=17,slow=1.6						
WLF				*e*PKPbc	**PKiKP**	**07 34 30.8**	**-0.3**
	baz=17,slow=1.9						
WLF	**Walferdange**	**147.82 354**		PKPbc	**PKiKP**	**07 34 31.1**	**+0.1**
MDVR	**Moldovita**	**147.98 332**		⇑P	**PKPbc**	**07 34 30.6**	**+0.4**
MOA	**Molln**	**148.06 343**		*i* PKPdf	**PKPdf**	**07 34 26.5**	**+0.1**
	comp=Z,2.3nm,0.7s						
MOA				*e*PKPbc	**PKPbc**	**07 34 30.6**	**+0.3**
	comp=Z,21nm,0.8s,SNR=15						
ARSA	**Arzberg**	**148.23 341**		*i* PKPbc	**PKPbc**	**07 34 30.7**	**0.0**
	comp=Z,14nm,0.9s,SNR=8.2						
STU	**Stuttgart**	**148.30 350**		*e*PKPdf	**PKPdf**	**07 34 27.6**	**+0.9**
	baz=17,slow=1.6						
STU				*e*PKPbc	**PKiKP**	**07 34 31.6**	**-0.4**
	baz=17,slow=1.9						
KDZ	**Kurdzhali**	**148.39 324**		P	**PKPbc**	**07 34 31.0**	**-0.3**
ELL	**Elmali**	**148.40 313**			**PKPbc**	**07 34 31.9**	**+0.3**
MANT	**Manisa**	**148.41 317**			**PKPbc**	**07 34 32.2**	**+0.5**
JSA	**Saint Aubin**	**148.42 4**		*e*P	**PKPbc**	**07 34 31.4**	**+0.4**
FUR	**Furstenfeldbru**	**148.49 347**		*e*PKPbc	**PKiKP**	**07 34 32.0**	**-0.5**
	baz=17,slow=1.9						
FUR				*e*PKPab	**PKPab**	**07 34 37.5**	**+0.7**
	baz=20,slow=3.8						
FRGS	**Fruska Gora**	**148.50 334**		⇓*i*P	**PKPbc**	**07 34 31.7**	**+0.2**
ALN	**Alexandroupoli**	**148.52 323**		PKPbc	**PKiKP**	**07 34 32.2**	**-0.5**
RZN	**Rozhen**	**148.75 325**		P	**PKPbc**	**07 34 32.0**	**-0.4**
AKAS	**Kas**	**148.86 312**			**PKPbc**	**07 34 32.5**	**-0.2**
BFO	**Black Forest**	**148.86 351**		*e*PKPdf	**PKPdf**	**07 34 28.0**	**+0.4**
	baz=17,slow=1.6						
BFO				*e*PKPbc	**PKPbc**	**07 34 32.8**	**+0.5**
	baz=17,slow=1.9						
BFO				*e*PKPab	**PKPab**	**07 34 38.3**	**-0.1**
	baz=20,slow=3.8						
BFO	**Black Forest**	**148.86 351**		PKPbc	**PKiKP**	**07 34 33.3**	**0.0**
VTS	**Vitosha**	**148.88 328**		P	**PKPbc**	**07 34 32.7**	**0.0**
BISS	**Bistriski jare**	**148.90 341**		*i* PKPbc	**PKPbc**	**07 34 32.3**	**-0.1**
SOKA	**Soboth**	**148.90 342**		*i* PKPdf	**PKPdf**	**07 34 28.0**	**+0.2**
	comp=Z,5.3nm,1.0s						
SOKA				*i* PKPbc	**PKPbc**	**07 34 32.2**	**-0.2**
	comp=Z,46nm,1.1s,SNR=13						
KBA	**Koelnbreinsper**	**149.01 344**		*i* PKPbc	**PKPbc**	**07 34 32.4**	**-0.5**
	comp=Z,37nm,0.5s,SNR=24						
TEKS	**Tekeris**	**149.11 334**		⇓*i*P	**PKPbc**	**07 34 32.5**	**-0.5**
ECH	**Echery**	**149.14 352**		PKPbc	**PKiKP**	**07 34 33.7**	**-0.1**
UBR	**Ueberruh**	**149.19 348**		*e*PKPdf	**PKPdf**	**07 34 28.5**	**+0.3**
	baz=17,slow=1.6						
UBR				*e*PKPbc	**PKiKP**	**07 34 33.6**	**-0.4**
	baz=17,slow=1.9						
UBR				*e*PKPab	**PKPab**	**07 34 40.4**	**+0.6**
	baz=20,slow=3.8						
OBKA	**Obir**	**149.19 342**		*i* PKPbc	**PKPbc**	**07 34 32.8**	**-0.4**
	comp=Z,31nm,1.5s,SNR=5.8						
WATA	**Walderalm**	**149.21 346**		*i* PKPdf	**PKPdf**	**07 34 27.2**	**-1.1**
	comp=Z,4.2nm,1.0s						
WATA				*e*PKPbc	**PKPbc**	**07 34 33.4**	**+0.1**
	comp=Z,37nm,0.5s,SNR=18						
RETA	**Reutte**	**149.24 347**		*i* PKPbc	**PKPbc**	**07 34 33.5**	**+0.2**
	comp=Z,23nm,0.4s,SNR=17						
WTTA	**Wattenberg**	**149.26 346**		*i* PKPdf	**PKPdf**	**07 34 28.5**	**0.0**
	comp=Z,12nm,1.3s						
WTTA				*i* PKiKP	**PKPbc**	**07 34 33.8**	**+0.3**
	comp=Z,66nm,0.4s,SNR=29						
DIVS	**Divibare**	**149.28 333**		⇓*i*P	**PKPbc**	**07 34 33.7**	**+0.2**
MOTA	**Moosalm**	**149.30 347**		*i* PKPdf	**PKPdf**	**07 34 28.6**	**+0.1**
	comp=Z,9.7nm,1.1s						
MOTA				*i* PKPbc	**PKPbc**	**07 34 33.6**	**+0.1**
	comp=Z,91nm,1.1s,SNR=14						
MYKA	**Terra Mystica**	**149.34 343**		*i* PKPbc	**PKPbc**	**07 34 33.1**	**-0.5**
	comp=Z,39nm,0.4s,SNR=20						
MMB	**Musomiste**	**149.35 326**		P	**PKPbc**	**07 34 33.5**	**-0.2**
SQTA	**Sankt Quirin**	**149.40 347**		*i* PKPdf	**PKPdf**	**07 34 28.6**	**-0.1**
	comp=Z,11nm,1.0s						
SQTA				*e*PKPbc	**PKPbc**	**07 34 34.0**	**+0.2**
	comp=Z,54nm,0.5s,SNR=19						
GCIS	**Gornji Cirnik**	**149.43 340**		*i* PKPbc	**PKPbc**	**07 34 34.0**	**+0.4**
PDKS	**Podkum**	**149.46 341**		*i* PKPbc	**PKPbc**	**07 34 33.7**	**-0.1**
KKB	**Krupnik**	**149.50 327**		P	**PKPbc**	**07 34 33.8**	**-0.2**
CRES	**Cresnjev**	**149.53 340**		⇓*i*P	**PKPbc**	**07 34 34.0**	**+0.1**
ABTA	**Abfaltersbach**	**149.53 345**		*i* PKPdf	**PKPdf**	**07 34 28.5**	**-0.3**
	comp=Z,16nm,1.0s						
ABTA				*i* PKPbc	**PKPbc**	**07 34 33.7**	**-0.3**
	comp=Z,64nm,0.6s						
PRED	**Cave del Predi**	**149.54 343**			**PKiKP**	**07 34 34.5**	**-0.2**
PRED				PKPab	**PKPab**	**07 34 41.5**	**+0.2**
DAVA	**Damuels**	**149.61 348**		*i* PKPdf	**PKPdf**	**07 34 28.7**	**-0.3**
	comp=Z,7.9nm,1.0s						
DAVA				*i* PKPbc	**PKPbc**	**07 34 34.6**	**+0.3**
	comp=Z,51nm,0.8s,SNR=13						
LJU	**Ljubljana**	**149.62 342**		*i* PKPbc	**PKPbc**	**07 34 34.4**	**+0.3**
LJU	**Ljubljana**	**149.62 342**		⇓*i*P	**PKPbc**	**07 34 34.1**	**0.0**
FETA	**Feichten**	**149.69 347**		*i* PKPdf	**PKPdf**	**07 34 29.0**	**-0.1**
	comp=Z,16nm,1.0s,SNR=23						
FETA				*i* PKiKP	**PKiKP**	**07 34 34.9**	**-0.3**
	comp=Z,48nm,0.8s						
BBLS	**Lazići**	**149.71 333**		⇓*i*P	**PKPbc**	**07 34 34.7**	**+0.2**
BLY	**Banja Luka**	**149.87 337**		⇓*i*P	**PKPbc**	**07 34 34.1**	**-0.6**
BOJS	**Bojanci**	**149.88 340**		*i* PKPbc	**PKiKP**	**07 34 35.3**	**-0.1**
CEY	**Cerknica**	**149.93 341**		⇓*i*P	**PKPbc**	**07 34 34.9**	**0.0**
RUDO	**Rudo**	**149.93 333**		*e*P	**PKPbc**	**07 34 34.8**	**-0.2**
CIMO	**Cimolais**	**149.96 344**		PKPbc	**PKPbc**	**07 34 35.0**	**0.0**
GBRS	**Gornja Briga**	**149.99 341**		*i* PKPbc	**PKPbc**	**07 34 35.4**	**+0.3**
TRI	**Trieste**	**150.15 342**		PKPbc	**PKiKP**	**07 34 36.0**	**0.0**
PLE	**Pljevlja**	**150.15 333**		⇓*i*PKP	**PKPbc**	**07 34 35.9**	**+0.3**
VAY	**Valandovo**	**150.16 327**		*i* P	**PKPbc**	**07 34 34.9**	**-0.6**
FUORN	**Ofenpass-Fuorn**	**150.17 347**		PKPbc	**PKiKP**	**07 34 37.0**	**+0.7**
SKO	**Skopje**	**150.25 329**		*i* P	**PKPbc**	**07 34 35.9**	**+0.2**
IVA	**Berane**	**150.29 332**		⇓*i*PKP	**PKPbc**	**07 34 36.0**	**+0.1**
CTI	**Castel Tesino**	**150.40 345**		PKPbc	**PKPbc**	**07 34 36.2**	**+0.2**
UPM	**Unac-Piva**	**150.46 333**		⇓*i*PKP	**PKPbc**	**07 34 35.9**	**-0.5**
UPM	**Unac-Piva**	**150.46 333**		*e*P	**PKPbc**	**07 34 36.1**	**-0.3**
KOME	**Kolasin**	**150.48 332**		⇓*i*PKP	**PKPbc**	**07 34 36.4**	**0.0**
PVY	**Plav**	**150.48 331**		⇓*i*PKP	**PKPbc**	**07 34 36.3**	**-0.1**
TUE	**Stuetta**	**150.49 349**		PKPbc	**PKiKP**	**07 34 37.3**	**+0.4**
NKY	**Niksic**	**150.74 333**		⇓*i*PKP	**PKPbc**	**07 34 36.9**	**-0.1**
NKME	**Niksic**	**150.79 333**		⇓*i*PKP	**PKPbc**	**07 34 36.8**	**-0.2**
BRY	**Bratogost**	**150.87 333**		⇑*i*PKP	**PKPbc**	**07 34 36.6**	**-0.7**
BRY	**Bratogost**	**150.87 333**		⇓*i*P	**PKPbc**	**07 34 36.9**	**-0.4**
PDG	**Podgorica**	**150.93 332**		⇓P	**PKPbc**	**07 34 37.3**	**0.0**
PDG	**Podgorica**	**150.93 332**		⇓*i*P	**PKPbc**	**07 34 37.1**	**-0.2**
PDG	**Podgorica**	**150.93 332**			**PKPbc**	**07 34 37.3**	**0.0**
TTG	**Podgorica**	**150.93 332**		⇓*i*PKP	**PKPbc**	**07 34 37.2**	**0.0**
SENIN	**Lac Senin/Sane**	**150.94 351**		PKPbc	**PKiKP**	**07 34 38.7**	**+0.8**
CEME	**Cevo**	**150.99 332**		⇓*i*PKP	**PKPbc**	**07 34 37.2**	**-0.3**
SALO	**Salr**	**151.07 347**			**PKPbc**	**07 34 37.6**	**+0.1**
DRME	**Dracevica, Mon**	**151.16 332**		⇓*i*PKP	**PKPbc**	**07 34 37.9**	**+0.1**
DRME	**Dracevica, Mon**	**151.16 332**		⇓*i*P	**PKPbc**	**07 34 37.4**	**-0.4**
FNA	**Florina**	**151.17 327**		PKPbc	**PKPbc**	**07 34 38.1**	**+0.1**
APE	**Apeiranthos**	**151.19 317**		⇑P	**PKPbc**	**07 34 37.0**	**-1.1**
BUM	**Brajici-Budva**	**151.20 332**		⇓*i*PKP	**PKPbc**	**07 34 37.9**	**-0.1**
OHR	**Ohrid**	**151.22 328**		*i* P	**PKPbc**	**07 34 38.0**	**-0.1**
HCY	**Herceg Novi**	**151.25 333**		⇓*i*PKP	**PKPbc**	**07 34 37.5**	**-0.5**
HCY	**Herceg Novi**	**151.25 333**		*e*P	**PKPbc**	**07 34 37.2**	**-0.8**
ULC	**Ulcinj**	**151.31 331**		⇓*i*PKP	**PKPbc**	**07 34 38.0**	**-0.2**
SANT	**Santorini**	**151.64 316**		⇓P	**PKPbc**	**07 34 38.1**	**-1.0**
SSB	**Saint Sauveur**	**152.32 355**			**PKiKP**	**07 34 41.0**	**+0.5**
ITM	**Ithomi**	**153.38 321**		PKPbc	**PKiKP**	**07 34 42.9**	**0.0**
ITM				PKPab	**PKPab**	**07 34 58.4**	**+0.7**
PBRG	**Braganca**	**154.97 14**		*e*PKPab	**PKPab**	**07 35 04.8**	**+0.4**
PVRL	**Vila Real**	**155.22 16**		*e*PKPab	**PKPab**	**07 35 06.1**	**+0.6**
MVO	**Moncorvo**	**155.50 15**		*e*PKPab	**PKPab**	**07 35 07.6**	**+0.9**
PVIS	**Viseu**	**155.69 17**		*e*PKPab	**PKPab**	**07 35 08.1**	**+0.5**
PCBR	**Castelo Branco**	**156.62 17**		*e*PKPdf	**PKPdf**	**07 34 40.2**	**+1.2**
ESDC	**Sonseca Array**	**157.59 11**		PKP	**PKPdf**	**07 34 41.0**	**+0.7**
	comp=Z,14nm,0.7s,baz=1.4,slow=2.4,SNR=12						
ESDC				PKPab	**PKPab**	**07 35 15.9**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=338,slow=4.0,SNR=6.6						
ESDC	**Sonseca Array**	**157.59 11**		PKPdf	**PKPdf**	**07 34 41.1**	**+0.8**
EVO	**Evora**	**157.67 19**		*e*PKPdf	**PKPdf**	**07 34 41.1**	**+0.8**
PFVI	**Vila Bisbo**	**158.65 23**		*e*PKPdf	**PKPdf**	**07 34 42.1**	**+0.5**
PVAQ	**Vaqueiros**	**158.79 20**		*e*PKPdf	**PKPdf**	**07 34 43.1**	**+1.4**
KEST	**Kesra**	**160.62 340**		PKP	**PKPdf**	**07 34 44.2**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=116,slow=6.1,SNR=3.8						
KEST				PKPab	**PKPab**	**07 35 29.5**	**+0.3**
	comp=Z,12nm,0.9s,baz=266,slow=6.0,SNR=6.3						
LIC	**Lamto**	**167.08 151**		*e*PKIKP	**PKPdf**	**07 34 49.6**	**-0.6**
	comp=Z,77nm,1.2s						
KIC	**Kosan Boka**	**167.33 152**		*e*PKIKP	**PKPdf**	**07 34 49.8**	**-0.6**
	comp=Z,39nm,1.0s						
TIC	**Toumodi**	**167.45 150**		*e*PKIKP	**PKPdf**	**07 34 49.9**	**-0.6**
DBIC	**Dimbokro**	**167.55 151**		PKP	**PKPdf**	**07 34 50.1**	**-0.4**
	comp=Z,11nm,0.9s,baz=212,slow=0.6,SNR=9.6						
TORD	**Torodi Ar. Bea**	**175.50 185**		PKP	**PKPdf**	**07 34 53.7**	**-0.6**
	comp=Z,10nm,0.8s,baz=336,slow=1.3,SNR=36						
TORD				PKPab	**PKPab**	**07 36 35.3**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=175,slow=4.1,SNR=9.2						
TORD				PP	**PP**	**07 40 29.2**	**+2.4**
	comp=Z,1.8nm,0.9s,baz=178,slow=4.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**175.50 185**			**PKPdf**	**07 34 54.1**	**-0.2**
TORD					**PKPab**	**07 36 35.8**	**+0.6**

*JMA **20** 07:28:58.7, 23°.95N×122°.26E, h23km±2km, M3.2*
*TAP **20** 07:28:59.0, 24°.06N×122°.26E, h21km, ML3.6, D*
ISC 20 07:28:58.7±1.1, 23°.99N±0°.02×122°.25E±0°.02, h19km±3km,
n94, σ0°66/178, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.61**	**319**	*i* P	**Pb**	**07 29 10.2**	**-0.5**
	baz=322						
ENAH				S	**Sb**	**07 29 19.1**	**+0.2**
	baz=322						
NACB	**Ninganchiao**	**0.63**	**287**	P	**Pb**	**07 29 11.3**	**+0.3**
	baz=264						
NACB				S	**Sb**	**07 29 19.4**	**-0.1**
	baz=264						
ENA	**Nanau**	**0.64**	**313**	*i* P	**Pb**	**07 29 10.6**	**-0.6**
	baz=318						
ENA				*i* S	**Sg**	**07 29 20.6**	**+0.6**
	baz=318						
TWC	**Suao**	**0.72**	**329**	⇑*i*P	**Pb**	**07 29 11.5**	**-1.1**
	baz=326						
TWC				*i* S	**Sb**	**07 29 20.5**	**-1.6**
	baz=326						
ETLH	**Xiulin Townshi**	**0.74**	**287**	P	**Pb**	**07 29 13.2**	**+0.2**
	baz=268						
ETLH				S	**Sg**	**07 29 24.1**	**+1.0**
	baz=268						
JYNG	**Yonagunijimaku**	**0.78**	**54**	P	**Pb**	**07 29 13.6**	**-0.1**
JYNG				*e*S	**Sb**	**07 29 24.3**	**+0.4**
EGFH	**Guangfu**	**0.82**	**247**	S	**Sg**	**07 29 25.8**	**+0.1**
	baz=244						
YOJ	**Yonaguni jima**	**0.83**	**56**	P	**Pb**	**07 29 14.8**	**+0.2**
	baz=67						
YOJ				S	**Sg**	**07 29 26.2**	**0.0**
	baz=67						
YOJ	**Yonaguni jima**	**0.83**	**56**	P	**Pb**	**07 29 14.6**	**0.0**
YOJ				S	**Sg**	**07 29 26.1**	**0.0**
ILA	**Ilan**	**0.90**	**329**	P	**Pb**	**07 29 15.8**	**+0.1**
	baz=326						
ILA				S	**Sg**	**07 29 28.5**	**+0.3**
	baz=326						
EGS		**0.90**	**341**	P	**Pb**	**07 29 15.2**	**-0.5**
	baz=339						
EGS				S	**Sb**	**07 29 26.3**	**-1.1**
	baz=339						
ENTT	**Nioudou**	**0.90**	**316**	*i* P	**Pb**	**07 29 15.7**	**0.0**
	baz=325						
ENTT				*i* S	**Sb**	**07 29 27.2**	**-0.2**
	baz=325						
TWE	**Neicheng**	**0.90**	**324**	*i* P	**Pb**	**07 29 15.3**	**-0.5**
	baz=328						
TWE				*i* S	**Sb**	**07 29 26.9**	**-0.5**
	baz=328						
NNSB	**Datong**	**0.91**	**299**	⇑P	**Pb**	**07 29 16.1**	**+0.2**
	baz=295						
NNSB				S	**Sb**	**07 29 28.3**	**+0.6**
	baz=295						
NNSH	**Datong**	**0.91**	**299**	*i* P	**Pb**	**07 29 16.1**	**+0.2**
	baz=295						
NNSH				*i* S	**Sg**	**07 29 28.5**	**+0.1**
	baz=295						
HGSD	**Ruisui**	**0.91**	**237**	P	**Pb**	**07 29 15.9**	**0.0**
	baz=235						
HGSD				S	**Sb**	**07 29 28.1**	**+0.5**
	baz=235						
NDT	**Datong Townshi**	**0.91**	**312**	*i* P	**Pb**	**07 29 16.1**	**+0.2**
	baz=321						
NDT				*i* S	**Sb**	**07 29 28.3**	**+0.6**
	baz=321						
WHF	**Hehuan Shan**	**0.92**	**280**	*i* P	**Pb**	**07 29 16.3**	**0.0**
	baz=262						
WHF				*i* S	**Sg**	**07 29 29.2**	**+0.4**
	baz=262						
NNS	**Nan Shan**	**0.92**	**299**	*i* P	**Pb**	**07 29 16.1**	**0.0**
	baz=295						
NNS				*i* S	**Sb**	**07 29 28.1**	**0.0**
	baz=295						
NTC	**Toucheng**	**0.94**	**336**	*e*P	**Pb**	**07 29 16.8**	**+0.3**
	baz=346						
NTC				*e*S	**Sb**	**07 29 28.3**	**-0.3**
	baz=346						
FUSS	**Fushou**	**0.96**	**286**	P	**Pb**	**07 29 17.3**	**+0.4**
	baz=270						
FUSS				S	**Sg**	**07 29 30.5**	**+0.4**
	baz=270						
EHY	**Hungye**	**0.98**	**241**	*i* P	**Pb**	**07 29 16.9**	**-0.2**
	baz=238						
EHY				S	**Sg**	**07 29 30.5**	**-0.2**
	baz=238						
CHGB	**Renai**	**0.99**	**274**	P	**Pb**	**07 29 17.3**	**-0.1**
	baz=258						
CHGB				S	**Sb**	**07 29 30.2**	**+0.1**
	baz=258						
TWT	**Tachien**	**1.02**	**285**	P	**Pg**	**07 29 18.7**	**+0.1**
	baz=270						
TWT				S	**Sb**	**07 29 31.2**	**+0.2**
	baz=270						
TDCB	**Techi**	**1.03**	**285**	P	**Pn**	**07 29 18.5**	**+0.2**
	baz=270						
TDCB				S	**Sn**	**07 29 32.4**	**0.0**
	baz=270						
NWLT	**Wulai**	**1.04**	**319**	P	**Pg**	**07 29 18.9**	**0.0**
	baz=326						
NWLT				S	**Sn**	**07 29 32.1**	**-0.3**
	baz=326						
TWB1	**Santiao Chiao**	**1.04**	**347**	*i* P	**Pb**	**07 29 18.2**	**+0.1**
	baz=344						
TWB1				*i* S	**Sb**	**07 29 31.3**	**-0.1**
	baz=344						
VWDT	**VWDT**	**1.04**	**257**	P	**Pb**	**07 29 18.3**	**+0.1**
	baz=241						
VWDT				S	**Sb**	**07 29 31.8**	**+0.2**
	baz=241						
YHNB	**Yeheng**	**1.05**	**310**	*e*P	**Pb**	**07 29 18.3**	**0.0**
	baz=307						
YHNB				*e*S	**Sb**	**07 29 31.5**	**-0.2**
	baz=307						
TIPB	**Shuangxi**	**1.05**	**338**	*i* P	**Pb**	**07 29 18.1**	**-0.3**
	baz=335						
TIPB				*i* S	**Sb**	**07 29 30.8**	**-1.0**
	baz=335						
YULB	**Yu-li**	**1.06**	**236**	*e*P	**Pb**	**07 29 18.2**	**-0.3**
	baz=252						
YULB				*e*S	**Sb**	**07 29 31.9**	**-0.1**
	baz=252						
NSK	**Sanguang**	**1.06**	**310**	*i* P	**Pb**	**07 29 18.5**	**-0.1**
	baz=306						
NSK				*i* S	**Sb**	**07 29 31.8**	**-0.4**
	baz=306						
EYUL	**Yuli**	**1.07**	**233**	*e*P	**Pb**	**07 29 18.8**	**+0.2**
	baz=219						
EYUL				*e*S	**Sb**	**07 29 32.7**	**+0.4**
	baz=219						
TWF1	**Yuli**	**1.08**	**234**	*i* P	**Pb**	**07 29 18.5**	**-0.4**
	baz=250						
TWF1				*i* S	**Sn**	**07 29 33.8**	**+0.4**
	baz=250						
NWF	**Wu-fen Shan**	**1.16**	**338**	*i* P	**Pb**	**07 29 20.4**	**+0.2**
	baz=335						
NWF				*i* S	**Sb**	**07 29 35.1**	**+0.3**
	baz=335						
TWA	**Mucha**	**1.16**	**328**	*i* P	**Pb**	**07 29 20.6**	**+0.4**
	baz=325						
TWA				*i* S	**Sn**	**07 29 35.4**	**+0.1**
	baz=325						
WFSB	**Wu-fen Shan**	**1.16**	**338**	P	**Pn**	**07 29 19.3**	**-0.6**
	baz=335						
WFSB				S	**Sb**	**07 29 34.4**	**-0.4**
	baz=335						
FULB	**Fuli**	**1.18**	**228**	*i* P	**Pn**	**07 29 19.7**	**-0.6**
	baz=214						
FULB				*i* S	**Sb**	**07 29 35.1**	**-0.4**
	baz=214						
TATO	**Taipei**	**1.20**	**325**	P	**Pb**	**07 29 21.3**	**+0.4**
	baz=321						
TATO				S	**Sn**	**07 29 36.5**	**+0.1**
	baz=321						
SSLB	**Suanglung**	**1.21**	**261**	P	**Pn**	**07 29 20.6**	**0.0**
	baz=247						
SSLB				S	**Sb**	**07 29 35.2**	**-1.0**
	baz=247						
WHP	**Taichung City**	**1.23**	**284**	*i* P	**Pb**	**07 29 22.1**	**+0.7**
	baz=269						
WHP				S	**Sb**	**07 29 37.0**	**+0.1**
	baz=269						
SMLT	**Sun Moon Lake**	**1.24**	**265**	*i* P	**Pn**	**07 29 21.3**	**+0.1**
	baz=251						
SMLT				S	**Sn**	**07 29 37.7**	**+0.2**
	baz=251						
TAP	**Taipei**	**1.25**	**327**	S	**Sb**	**07 29 36.9**	**-0.5**
	baz=324						
TYC	**Yuchr**	**1.28**	**266**	*i* P	**Pn**	**07 29 21.9**	**+0.3**
	baz=264						
TYC				S	**Sn**	**07 29 37.1**	**-1.2**
	baz=264						
LIOB	**Emei**	**1.30**	**300**	P	**Pb**	**07 29 23.3**	**+0.7**
	baz=297						
LIOB				S	**Sb**	**07 29 40.1**	**+1.0**
	baz=297						
YM01	**YM01**	**1.31**	**332**	P	**Pn**	**07 29 22.5**	**+0.5**
	baz=344						
YM01				S	**Sn**	**07 29 38.4**	**-0.7**
	baz=344						
NSTT	**Nanjuang**	**1.31**	**299**	*i* P	**Pb**	**07 29 23.2**	**+0.5**
	baz=297						
NSTT				*i* S	**Sb**	**07 29 40.1**	**+1.0**
	baz=297						
YM10	**YM10**	**1.32**	**332**	P	**Pn**	**07 29 22.4**	**+0.2**
	baz=344						
YM10				S	**Sn**	**07 29 39.0**	**-0.4**
	baz=344						
YM11	**YM11**	**1.32**	**332**	P	**Pn**	**07 29 22.8**	**+0.6**
	baz=345						
YM11				S	**Sn**	**07 29 39.0**	**-0.5**
	baz=345						
YM05	**YM05**	**1.33**	**332**	P	**Pn**	**07 29 22.4**	**+0.1**
	baz=344						
YM05				*e*S	**Sn**	**07 29 37.5**	**-2.0**
	baz=344						
YM04	**YM04**	**1.33**	**331**	P	**Pn**	**07 29 22.7**	**+0.4**
	baz=343						
YM04				S	**Sn**	**07 29 39.4**	**-0.2

STYT				S	Sb	07 29 47.4	-0.3
	baz=227						
TPUB	**Ta-pu**	**1.64**	**246**	P	**Pb**	**07 29 28.2**	**-0.1**
	baz=245						
TPUB				*e*S	**Sb**	**07 29 49.2**	**+0.5**
	baz=245						
CHN4	**Tsaushan**	**1.65**	**248**	P	**Pb**	**07 29 28.9**	**+0.4**
	baz=247						
CHN4				S	**Sb**	**07 29 49.4**	**+0.5**
	baz=247						
WTP	**Ta-pu**	**1.68**	**244**	P	**Pb**	**07 29 28.5**	**-0.5**
	baz=243						
WTP				S	**Sb**	**07 29 50.8**	**+1.0**
	baz=243						
JIJ	**Ishigaki jima**	**1.77**	**77**	P	**Pn**	**07 29 28.1**	**-0.2**
JIJ				*e*S	**Sn**	**07 29 50.4**	**+0.2**
TWK	**Hsinying**	**1.77**	**246**	P	**Pb**	**07 29 30.5**	**-0.1**
	baz=246						
TWK				S	**Sb**	**07 29 52.9**	**+0.3**
	baz=246						
CHN1	**Nanshi**	**1.77**	**243**	P	**Pn**	**07 29 29.6**	**+1.2**
	baz=243						
CHN1				S	**Sb**	**07 29 52.6**	**+0.1**
	baz=243						
SLGT	**Liugui**	**1.78**	**236**	P	**Pb**	**07 29 30.3**	**-0.4**
	baz=226						
SLGT				*e*S	**Sb**	**07 29 53.1**	**+0.5**
	baz=226						
SGST	**Jiashian**	**1.78**	**240**	S	**Sb**	**07 29 53.2**	**+0.5**
	baz=239						
SNST	**Tainan City**	**1.79**	**245**	P	**Pb**	**07 29 30.8**	**0.0**
	baz=244						
SNST				S	**Sb**	**07 29 54.3**	**+1.5**
	baz=244						
ECL	**Taimali**	**1.83**	**221**	*e*S	**Sn**	**07 29 50.6**	**-1.3**
	baz=222						
SSD	**Sandimen**	**1.94**	**231**	*e*P	**Pn**	**07 29 31.4**	**+0.8**
	baz=221						
SCST	**Cishan**	**1.96**	**236**	*e*P	**Pb**	**07 29 34.0**	**+0.3**
	baz=223						
SCST				*e*S	**Sb**	**07 29 59.3**	**+1.6**
	baz=223						
JISG	**Ishigakijimahi**	**1.97**	**72**	P	**Pn**	**07 29 31.0**	**-0.1**
JISG				*e*S	**Sn**	**07 29 55.5**	**+0.3**
MASBT	**Mashibuluo**	**2.03**	**228**	*e*P	**Pn**	**07 29 33.5**	**+1.7**
	baz=219						
MASBT				*e*S	**Sn**	**07 29 58.4**	**+1.7**
	baz=219						
LAY	**Lan-yu**	**2.05**	**199**	P	**Pn**	**07 29 32.1**	**0.0**
	baz=210						
LAY				S	**Sn**	**07 29 56.1**	**-1.1**
	baz=210						
EAST	**Anshuo**	**2.06**	**219**	*e*P	**Pn**	**07 29 31.4**	**-0.9**
	baz=220						
EAST				*e*S	**Sn**	**07 29 56.3**	**-1.2**
	baz=220						
JTJ	**Tarama**	**2.33**	**73**	P	**Pn**	**07 29 37.2**	**+1.2**
JTJ				*e*S	**Sn**	**07 30 04.9**	**+0.8**

RHSSO 20 07:32:09.8±0.6, 44°.95N×16°.45E, h3km, ML1.5/4, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRIJ	**Prijedor**	**0.19**	**83**	*e*Pg	Pg	07 32 13.3	-0.1
PRIJ				*e*Sg	Sg	07 32 16.0	+0.1
BLY	**Banja Luka**	**0.56**	**111⇑**	*i*Pg	Pg	07 32 19.7	-0.8
BLY				*e*Sg	Sg	07 32 27.8	+0.1
CRES	**Cresnjev**	**1.12**	**322**	*e*Pg	Pg	07 32 30.0	-1.3
CRES				*e*Sg	Sg	07 32 45.6	-0.2
CEY	**Cerknica**	**1.63**	**300**	*e*Pg	Pn	07 32 38.8	-0.7
CEY				*e*Sg	Sb	07 33 01.4	-0.1

*IDC **20** 08:01:18.3±6.7, 6°.60S×146°.66E, h140km±64km, mb2.8/2, mb1 3.0/4, mb1mx2.8/38, mbtmp3.3/4, Error ellipse: s-maj=79.3km s-min=51.0km az=139.0*

ISC 20 08:01:16.0±3.0, 6°.4S±0°.2×146°.5E±0°.3, h110km, n6, σ0§43/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.05**	**167**	P	**Pn**	**08 02 02.9**	**+0.3**
	4.3nm,0.3s,baz=349,slow=9.8,SNR=11						
PMG				S	**Sn**	**08 02 38.4**	**-0.2**
	6.4nm,0.3s,baz=124,slow=23,SNR=13						
CTA	**Charters Tower**	**13.59**	**181**	P	**P**	**08 04 29.2**	**-0.1**
	0.3nm,0.3s,baz=357,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**17.86**	**220**	P	**P**	**08 05 16.1**	**-0.6**
	0.1nm,0.3s,baz=42,slow=12,SNR=10						
ASAR	**Alice Springs**	**20.96**	**214**	P	**P**	**08 05 50.6**	**+0.2**
	0.4nm,0.4s,baz=51,slow=8.9,SNR=12						
FITZ	**Fitzroy Crossi**	**23.38**	**238**	P	**P**	**08 06 15.4**	**+0.4**
	0.5nm,0.6s,baz=1.5,slow=21,SNR=3.0						
TORD	**Torodi Ar. Bea**	**144.66**	**284**	PKP	**PKPab**	**08 20 39.4**	**-0.4**
	0.8nm,0.8s,baz=60,slow=3.5,SNR=5.0						

*MOS **20** 08:04:12.4±0.7, 42°.91N×144°.03E, h111km, mb4.4/1, Error ellipse: s-maj=22.4km s-min=10.8km az=61.9*
*IDC **20** 08:04:13.6±2.4, 42°.93N×144°.08E, h98km±18km, mb3.3/6, mb1 3.5/7, mb1mx3.3/44, mbtmp3.7/7, Error ellipse: s-maj=31.2km s-min=17.3km az=92.0*
*SKHL **20** 08:04:13.8±0.3, 42°.86N×144°.05E, h97km±2km, mb4.5/3, msh5.4/4*
*JMA **20** 08:04:13.5±0.1, 42°.91N×144°.00E, h97km±1km, M3.3*
JMA Felt I J1.
*NIED **20** 08:04:13.6, 42°.91N×144°.00E, h97km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=0.61; $M_{\theta\theta}$2.04; $M_{\phi\phi}$-1.43; $M_{r\theta}$2.53; $M_{\phi\theta}$1.39; $M_{\phi r}$-0.68; Fault plane solution: $M_0$3.44000×10^14^ NP1: ϕ_s=289.00000°, δ=84.00000°, λ=-52.00000°. NP2:ϕ_s=26.00000°, δ=39.00000°, λ=-170.00000°.*

ISC 20 08:04:13.3±0.8, 42°.87N±0°.05×144°.03E±0°.03, h96km±6km, n44, σ0§76/64, mb3.5/5, 3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.14**	**282**	P	**Pn**	**08 04 27.5**	**+0.7**
JOB				*e*S	**Sn**	**08 04 37.7**	**+0.8**
JAR	**Ashorobuto**	**0.46**	**336**	P	**Pn**	**08 04 28.4**	**0.0**
JAR				*e*S	**Sn**	**08 04 39.3**	**-0.4**
JAK	**Akkeshi**	**0.51**	**76**	P	**Pn**	**08 04 28.9**	**+0.2**
JAK				*e*S	**Sn**	**08 04 40.6**	**+0.5**
JCH	**Churui**	**0.55**	**242**	P	**Pn**	**08 04 29.4**	**+0.3**
JCH				*e*S	**Sn**	**08 04 40.8**	**0.0**
AKK	**Akkeshi**	**0.61**	**76**	*i*P	**Pn**	**08 04 30.0**	**+0.4**
AKK				*i*S	**Sn**	**08 04 42.1**	**+0.4**
JKHN	**Kushirohamanak**	**0.86**	**75**	P	**Pn**	**08 04 32.3**	**+0.4**
JKHN				*e*S	**Sn**	**08 04 46.0**	**+0.2**
JNK	**Nakash**	**0.87**	**35**	P	**Pn**	**08 04 31.9**	**-0.2**
JEM	**Erimo**	**1.07**	**217**	P	**Pn**	**08 04 34.6**	**+0.4**
ERM	**Erimo**	**1.07**	**217**	*e*PN	**Pn**	**08 04 35.3**	**+1.1**
JFR	**Furan**	**1.09**	**286**	P	**Pn**	**08 04 34.2**	**-0.3**
JFR				*e*S	**Sn**	**08 04 50.1**	**-0.3**
JTKR	**Abashiri--Toko**	**1.10**	**356**	P	**Pn**	**08 04 34.8**	**+0.3**
JTKR				*e*S	**Sn**	**08 04 50.3**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.11**	**238**	P	**Pn**	**08 04 34.7**	**0.0**
JNBK				*e*S	**Sn**	**08 04 50.1**	**-0.7**
JBT2	**Biratori 2**	**1.23**	**266**	P	**Pn**	**08 04 36.1**	**+0.1**
JBT2				*e*S	**Sn**	**08 04 52.4**	**-0.8**
JMP	**Maruseppu**	**1.23**	**337**	P	**Pn**	**08 04 36.0**	**-0.1**
JMP				*e*S	**Sn**	**08 04 52.5**	**-0.8**
JRA	**Rausu**	**1.33**	**36**	P	**Pn**	**08 04 37.7**	**+0.5**
JRA				*e*S	**Sn**	**08 04 56.2**	**+0.9**
NMR	**Nemuro--Hokkai**	**1.34**	**68**	*i*P	**Pn**	**08 04 37.1**	**-0.3**
NMR				*e*S	**Sn**	**08 04 54.3**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.34**	**68**	‖*i*PN	**Pn**	**08 04 37.1**	**-0.3**
NMR				*e*S	**Sn**	**08 04 54.3**	**-1.2**
NEM2	**Nemuro 2**	**1.35**	**68**	P	**Pn**	**08 04 37.1**	**-0.4**
NEM2				*e*S	**Sn**	**08 04 54.3**	**-1.4**
JKK2	**Kamakawa 2**	**1.37**	**317**	P	**Pn**	**08 04 37.9**	**+0.2**
JKK2				*e*S	**Sn**	**08 04 55.6**	**-0.6**
GLVR	**Golovnino**	**1.39**	**51**	*i*P	**Pn**	**08 04 38.4**	**+0.4**
GLVR				AMB	AMB	08 04 39.2	
	30nm,0.2s						
GLVR				*i*S	**Sn**	**08 04 56.8**	**+0.2**
GLVR				A	A	08 04 59.6	
	360nm,0.5s						
GLVR				A	A	08 04 59.6	
	1μm,0.5s						
GLVR	**Golovnino**	**1.39**	**51**	‖*i*PN	**Pn**	**08 04 38.4**	**+0.4**
GLVR				*i*S	**Sn**	**08 04 57.2**	**+0.6**
GLVR				pmax	pmax		
	comp=N,219nm,0.1s						
GLVR				pmax	pmax		
	comp=E,84nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,3μm,0.1s						
GLVR				smax	smax		
	comp=N,360nm,0.2s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
JAB	**Ashibetsu**	**1.46**	**296**	P	**Pn**	**08 04 40.0**	**+1.1**
JAB				*e*S	**Sn**	**08 05 00.3**	**+2.1**
JKA	**Kamikawa-asahi**	**1.62**	**321**	*i*P	**Pn**	**08 04 41.5**	**+0.7**
ASAJ	**Asahikawa**	**1.62**	**321**	P	**Pn**	**08 04 41.5**	**+0.6**
	comp=E,19nm,0.3s,baz=143,slow=14,SNR=91						
ASAJ				S	**Sn**	**08 05 01.9**	**+0.1**
	comp=E,19nm,0.3s,baz=296,slow=32,SNR=17						
GRPR	**Tuman**	**1.69**	**48**	*i*P	**Pn**	**08 04 42.2**	**+0.4**
GRPR				AMB	AMB	08 04 42.9	
	comp=E,90nm,0.2s						
GRPR				*i*S	**Sn**	**08 05 03.5**	**+0.1**
GRPR				A	A	08 05 05.3	
	comp=E,1μm,0.5s						
GRPR				A	A	08 05 05.3	
	comp=E,1μm,0.5s						
GRPR	**Tuman**	**1.69**	**48**	*d*iPN	**Pn**	**08 04 42.2**	**+0.4**
GRPR				*i*S	**Sn**	**08 05 03.5**	**+0.1**
GRPR				pmax	pmax		
	comp=N,251nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,839nm,0.2s						
GRPR				pmax	pmax		
	comp=E,240nm,0.1s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
GRPR				smax	smax		
	comp=N,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.77**	**48**	*e*P	**Pn**	**08 04 43.1**	**+0.4**
YUK				AMB	AMB	08 04 44.0	
	comp=N,180nm,0.3s						
YUK				*e*S	**Sn**	**08 05 05.4**	**+0.3**
YUK				A	A	08 05 08.6	
	comp=N,180nm,0.3s						
YUK				A	A	08 05 08.6	
	comp=N,460nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.77**	**48**	*e*PN	**Pn**	**08 04 43.1**	**+0.4**
YUK				*e*S	**Sn**	**08 05 05.4**	**+0.3**
YUK				pmax	pmax		
	comp=N,288nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,293nm,0.1s						
YUK				smax	smax		
	comp=E,457nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
KUR	**Kuril'sk**	**3.64**	**48**	*e*P	**Pn**	**08 05 09.0**	**+1.5**
KUR				*e*S	**Sn**	**08 05 51.0**	**+1.6**
KUR				A	A	08 05 54.3	
	comp=N,90nm,0.4s						
KUR				A	A	08 05 54.3	
	comp=N,60nm,0.4s						
KUR	**Kuril'sk**	**3.64**	**48**	*e*PN	**Pn**	**08 05 08.5**	**+1.0**
KUR				*e*S	**Sn**	**08 05 51.0**	**+1.6**
KUR				smax	smax		
	comp=N,92nm,0.2s						
KUR				smax	smax		
	comp=E,49nm,0.2s						
MJAR	**Matsshiro Arr**	**7.75**	**217**	P	**Pn**	**08 06 04.1**	**+0.6**
	comp=E,0.1nm,0.3s,baz=25,slow=13,SNR=6.1						
SEY	**Seymchan**	**20.68**	**11**	P	**P**	**08 08 43.3**	**-2.0**
	comp=E,3.5nm,0.5s,baz=193,slow=14,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**30.05**	**133**	T	T	08 41 38.4	
	baz=326,slow=76,SNR=108						
H11N1	**WAKE ISLAND Hy**	**30.06**	**133**	T	T	08 41 51.3	
	baz=326,slow=76,SNR=117						
H11N3	**WAKE ISLAND Hy**	**30.07**	**133**	T	T	08 41 48.5	
	baz=326,slow=76,SNR=108						
H11S1	**WAKE ISLAND Hy**	**30.95**	**135**	T	T	08 42 46.8	
	baz=328,slow=76,SNR=244						
H11S3	**WAKE ISLAND Hy**	**30.96**	**135**	T	T	08 42 57.6	
	baz=328,slow=76,SNR=189						
H11S2	**WAKE ISLAND Hy**	**30.97**	**135**	T	T	08 42 58.6	
	baz=328,slow=76,SNR=128						
MKAR	**Makanchi Array**	**42.97**	**297**	P	**P**	**08 12 03.3**	**+0.5**
	comp=E,0.2nm,0.3s,baz=81,slow=11,SNR=4.5						
ILAR	**Eielson Array**	**43.53**	**36**	P	**P**	**08 12 07.2**	**+0.1**
	comp=E,0.4nm,0.5s,baz=261,slow=5.5,SNR=4.8						
WRA	**Warramunga Arr**	**63.14**	**190**	P	**P**	**08 14 31.2**	**+0.3**
	comp=E,0.3nm,1.0s,baz=10,slow=5.1,SNR=2.8						
FINES	**FINESS Array B**	**64.60**	**332**	P	**P**	**08 14 39.2**	**-0.8**
	comp=E,1.8nm,0.6s,baz=46,slow=8.2,SNR=11						
NB2	**NORSAR Subarra**	**69.57**	**338**	P	**P**	**08 15 11.1**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=32,slow=6.9						
NOA	**NORSAR Array B**	**69.57**	**338**	P	**P**	**08 15 11.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=37,slow=6.2,SNR=4.0						

*MEX **20** 08:08:45.9±0.5, 14°.71N×93°.80W, h14km±11km, MD4.2*
*IDC **20** 08:08:48.7±3.8, 14°.75N×93°.59W, h49km±31km, mb3.8/9, mb1 4.0/11, mb1mx3.8/33, mbtmp4.0/11, ML4.1/3, MS3.5/5, Ms1 3.5/5, ms1mx3.0/29, Error ellipse: s-maj=45.1km s-min=15.9km az=50.0*
*NEIC **20** 08:08:48.6±1.8, 14°.78N±0°.06×93°.70W±0°.06, h49km±12km, Error ellipse: s-maj=9.0km s-min=8.1km az=47.0*
*SNET **20** 08:08:52.8±0.5, 14°.42N×93°.25W, h61km±188km, ML4.6*
*UCR **20** 08:08:52.9±0.5, 14°.42N×93°.24W, h72km±128km, ML4.1, mb4.2(NEIC)*

ISC 20 08:08:47.3±0.5, 14°.74N±0°.06×93°.71W±0°.05, h36km, n110, σ1§39/114, mb4.2/18, MS3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.07**	**26**	*e*P	**Pn**	**08 09 03.8**	**-1.9**
PCIG				*e*S	**Sn**	**08 09 17.3**	**-2.0**
THIG		**1.41**	**83**	*e*P	**Pn**	**08 09 08.8**	**-1.6**
THIG				*e*S	**Sn**	**08 09 26.8**	**-1.0**
TGIG		**2.10**	**16**	*e*P	**Pn**	**08 09 20.1**	**+0.1**
CCIG	**Comitan**	**2.15**	**45**	*e*P	**Pn**	**08 09 22.3**	**+1.4**
CCIG	**Comitan**	**2.15**	**45**		**Pn**	**08 09 22.1**	**+1.2**
HUIG	**Huatulco**	**2.53**	**294**	*e*P	**Pn**	**08 09 22.4**	**-3.4**
APG	**El Apazote**	**3.15**	**85**	P	**Pn**	**08 09 35.2**	**+0.6**
	19nm,0.3s,baz=282,slow=8.4,SNR=53						
APG				LR	LR	08 11 05.8	
	comp=Z,420nm,21.2s,baz=272,slow=45						
VHO	**Vista Hermosa**	**3.72**	**309**	*e*P	**Pn**	**08 09 40.5**	**-1.9**
VHO				*i*S	**Sn**	**08 10 21.7**	**-3.4**
RTR	**El Retiro**	**4.03**	**102**	*e*P	**Pn**	**08 09 46.2**	**-0.5**
RTR	**El Retiro**	**4.03**	**102**	*e*P	**Pn**	**08 09 46.2**	**-0.5**
SBLS	**San Blas**	**4.06**	**102**	*e*P	**Pn**	**08 09 46.9**	**-0.3**
SBLS				*e*S	**Sn**	**08 10 29.3**	**-4.4**
SBLS	**San Blas**	**4.06**	**102**	*e*P	**Pn**	**08 09 46.9**	**-0.3**
SBLS				*e*S	**Sn**	**08 10 29.3**	**-4.4**
CEVE	**Cerro Verde**	**4.07**	**102**	*e*P	**Pn**	**08 09 46.9**	**-0.3**
CEVE				*e*S	**Sn**	**08 10 29.6**	**-4.1**
CEVE				IAML		08 10 55.6	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**4.07**	**102**	*e*P	**Pn**	**08 09 46.9**	**-0.3**
CEVE				*e*S	**Sn**	**08 10 29.6**	**-4.1**
CEVE				IAML		08 10 55.6	
	comp=Z,2μm,0.4s						
MTO3	**Montecristo**	**4.23**	**94**	*e*P	**Pn**	**08 09 49.7**	**+0.3**
MTO3	**Montecristo**	**4.23**	**94**	*e*P	**Pn**	**08 09 49.7**	**+0.3**
MTO3	**Montecristo**	**4.23**	**94**	Pn	**Pn**	**08 09 50.3**	**+0.8**
TACO	**Tacachico**	**4.29**	**100**	*e*P	**Pn**	**08 09 49.8**	**-0.3**
TACO	**Tacachico**	**4.29**	**100**	*e*P	**Pn**	**08 09 49.8**	**-0.3**
SNET	**Serv Nac Est T**	**4.47**	**103**	Pn	**Pn**	**08 09 53.8**	**+1.2**
SNET				Sn	**Sn**	**08 10 45.1**	**+1.6**
PNIG	**Pinotepa**	**4.56**	**292**	*e*P	**Pn**	**08 09 51.6**	**-2.2**
TOIG	**Toxpalan**	**4.63**	**316**	*e*P	**Pn**	**08 09 56.2**	**+1.3**
PAVA	**Las Pavas**	**4.74**	**102**	*e*P	**Pn**	**08 09 55.8**	**-0.6**
PAVA	**Las Pavas**	**4.74**	**102**	*e*P	**Pn**	**08 09 55.8**	**-0.6**
COEG	**Centro de Oper**	**4.82**	**103**	*e*P	**Pn**	**08 09 56.8**	**-0.6**
COEG				IAML		08 11 22.9	
	comp=Z,347nm,0.5s						
COEG	**Centro de Oper**	**4.82**	**103**	*e*P	**Pn**	**08 09 56.8**	**-0.6**
COEG				IAML		08 11 22.9	
	comp=Z,347nm,0.5s						
TLIG	**Tlapa**	**5.44**	**302**		**Pn**	**08 10 07.2**	**+1.1**
TLIG				Sn	**Sn**	**08 11 08.0**	**+0.5**
TGUH	**Tegucigalpa,Un**	**6.28**	**95**		**Pn**	**08 10 18.1**	**+0.6**
TEIG	**Tepich**	**7.52**	**43**	P	**Pn**	**08 10 34.1**	**-0.5**
	comp=Z,21nm,0.3s,baz=236,slow=1.9,SNR=59						
TEIG	**Tepich**	**7.52**	**43**		**Pn**	**08 10 34.4**	**-0.1**
MATN	**Matagalpa**	**7.77**	**102**		**Pn**	**08 10 38.7**	**+0.6**
MOIG	**Morelia**	**8.67**	**306**	Pn	**Pn**	**08 10 51.6**	**+1.2**
JTS	**Las Juntas de**	**9.63**	**116**	P	**Pn**	**08 11 07.1**	**+3.7**
	comp=Z,0.5nm,0.3s,baz=21,slow=18,SNR=4.1						
JTS	**Las Juntas de**	**9.63**	**116**		**Pn**	**08 11 06.0**	**+2.5**
LCCY	**Blossom Villag**	**13.91**	**67**	Pn	**Pn**	**08 12 01.8**	**-0.2**
833A	**Chaparral WMA,**	**14.51**	**340**	Pn	**Pn**	**08 12 10.5**	**+0.4**
061Z	**Ochoppi**	**16.32**	**45**	Pn	**Pn**	**08 12 33.9**	**+0.2**
435B	**Jarrell**	**16.36**	**348**	P	**P**	**08 12 36.4**	**-0.4**
435B				IAmb	IAmb	08 12 43.5	
	comp=Z,21nm,0.7s						
JCT	**Junction City**	**16.63**	**341**	P	**P**	**08 12 39.7**	**-0.2**
346A	**Big Creek Wild**	**17.02**	**12**	P	**Pn**	**08 12 43.5**	**+1.0**
TXAR	**Lajitas Array**	**17.19**	**329**	P	**Pn**	**08 12 46.0**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=12						
TXAR	**Lajitas Array**	**17.19**	**329**	P	**P**	**08 12 46.3**	**+0.2**
TX31	**Lajitas Ar. Si**	**17.19**	**329**	P	**P**	**08 12 47.8**	**+1.7**
TX31				IAmb	IAmb	08 13 07.3	
	comp=Z,14nm,1.0s						
TX32	**Lajitas Array**	**17.19**	**329**	P	**P**	**08 12 47.9**	**+1.8**
WHTX	**Lake Whitney,**	**17.51**	**349**	P	**P**	**08 12 49.7**	**+0.2**
WHTX				IAmb	IAmb	08 12 59.2	
	comp=Z,11nm,0.6s						
656A	**Willston**	**17.85**	**34**	P	**P**	**08 12 54.2**	**+1.0**
250A	**Grady**	**18.45**	**20**	P	**P**	**08 12 59.8**	**-0.1**
250A				IAmb	IAmb	08 13 00.6	
	comp=Z,19nm,1.2s						
ABTX	**Abilene, Hawle**	**18.60**	**344**	P	**Pn**	**08 13 02.5**	**+0.4**
CCAR	**Cane Creek**	**19.17**	**5**	P	**P**	**08 13 08.0**	**+0.3**
CCAR				IAmb	IAmb	08 13 12.6	
	comp=Z,10.0nm,0.8s						
CBOC	**Ciudad Bolivar**	**19.51**	**115**	*e*P	**Pn**	**08 13 12.9**	**-0.3**
MIAR	**Mount Ida**	**19.72**	**0**	P	**P**	**08 13 13.1**	**-0.7**
MIAR				IAmb	IAmb	08 13 20.8	
	comp=Z,11nm,1.1s						
X37A	**Clayton**	**19.82**	**356**	P	**P**	**08 13 15.9**	**+1.0**
GDL2	**Guadalupe Moun**	**19.91**	**333**	P	**P**	**08 13 15.0**	**-1.1**
Z51A	**Franklin**	**20.05**	**21**	P	**P**	**08 13 17.9**	**+0.5**
Z51A				IAmb	IAmb	08 13 29.1	
	comp=Z,18nm,1.4s						
X34A	**Smith Ranch, M**	**20.12**	**350**	P	**P**	**08 13 18.9**	**+0.7**
X34A				IAmb	IAmb	08 13 35.3	
	comp=Z,11nm,0.6s						
GUY2C	**Guyana, Caldas**	**20.38**	**116**	*e*P	Pn	08 13 23.4	-0.4
W35A	**Tecumseh**	**20.52**	**353**	P	**P**	**08 13 23.5**	**+1.0**
BBAC	**Balboa, Cauca**	**20.59**	**126**	*e*P	Pn	08 13 25.5	-0.6
FNO	**Franklin**	**20.70**	**351**	P	**P**	**08 13 25.6**	**+1.2**
POPC	**Popayan, Colom**	**20.73**	**124**	*e*P	Pn	08 13 26.2	-1.5
TOLC	**Tolima**	**20.73**	**117**	*e*P	Pn	08 13 27.5	-0.3
PLAL	**Pickwick Lake**	**20.78**	**13**	P	**P**	**08 13 25.0**	**-0.3**
PLAL				IAmb	IAmb	08 13 38.4	
	comp=Z,10nm,1.2s						
MSTX	**Muleshoe**	**20.82**	**338**	P	**P**	**08 13 25.2**	**-0.7**
MSTX				IAmb	IAmb	08 13 33.5	
	comp=Z,17nm,1.1s						
PAPH	**Port-au-Prince**	**20.85**	**77**	P	**P**	**08 13 27.1**	**+0.8**
FPAL	**Fort Paine**	**21.02**	**19**	P	**P**	**08 13 27.2**	**-0.8**
FPAL				IAmb	IAmb	08 13 27.5	
	comp=Z,12nm,1.3s						
ORTC	**Ortega, Tolima**	**21.14**	**119**	*e*P	**P**	**08 13 30.8**	**+1.4**
AMTX	**Amarillo**	**21.30**	**342**	P	**P**	**08 13 30.2**	**-0.8**
SPBC	**San Pablo de B**	**21.32**	**113**	*e*P	**P**	**08 13 30.5**	**-0.8**
HHAR	**Hobbs**	**21.45**	**359**	P	**P**	**08 13 33.2**	**+0.7**
HHAR				IAmb	IAmb	08 13 34.1	
	comp=Z,6.4nm,0.4s						
PRAC	**Prado**	**21.55**	**119**	*e*P	**P**	**08 13 33.9**	**+0.1**
U38A	**Gravette**	**21.62**	**359**	P	**P**	**08 13 35.2**	**+0.9**
BARC	**Barichara**	**21.72**	**110**	*e*P	**P**	**08 13 37.4**	**+1.5**
121A	**Cookes Peak, D**	**21.86**	**327**	P	**P**	**08 13 36.1**	**-1.1**
121A				IAmb	IAmb	08 13 57.1	
	comp=Z,7.7nm,0.9s						
PAMC	**Pamplona, Colo**	**21.88**	**107**	*e*P	**P**	**08 13 38.1**	**+0.3**
WVT	**Waverly**	**21.94**	**13**	P	**P**	**08 13 37.6**	**-0.1**
CROK	**Carrier**	**22.01**	**351**	P	**P**	**08 13 38.4**	**-0.1**
CHIC	**Chingaza**	**22.09**	**115**	*e*P	**P**	**08 13 41.9**	**+1.9**
RUSC	**La Rusia**	**22.10**	**111**	*e*P	**P**	**08 13 40.4**	**+0.2**
FLOC	**Florencia**	**22.11**	**125**	*e*P	**P**	**08 13 43.2**	**+3.3**
BNM	**Barren Site**	**22.58**	**331**	P	**P**	**08 13 45.5**	**+0.6**
LENM	**Lemitar**	**22.75**	**331**	P	**P**	**08 13 46.8**	**+0.1**
S39A	**Bolivar**	**22.86**	**1**	P	**P**	**08 13 46.2**	**-1.4**
S39A				IAmb	IAmb	08 13 47.4	
	comp=Z,5.1nm,0.7s						
ANMO	**Albuquerque**	**23.16**	**333**	P	**P**	**08 13 50.6**	**-0.3**
R40A	**Maddies Statio**	**23.49**	**3**	P	**P**	**08 13 53.6**	**-0.2**
R32A	**Long Quarter,**	**24.00**	**350**	P	**P**	**08 13 57.8**	**-0.9**
R32A				IAmb	IAmb	08 13 59.3	
	comp=Z,7.6nm,0.7s						
P40A	**Paris**	**24.74**	**3**	P	**P**	**08 14 03.6**	**-1.8**
P40A				IAmb	IAmb	08 14 18.0	
	comp=Z,4.3nm,0.9s						
P38A	**Dawn**	**24.79**	**0**	P	**P**	**08 14 04.7**	**-1.2**
P38A				IAmb	IAmb	08 14 05.4	
	comp=Z,4.1nm,0.6s						
N38A	**Joes South For**	**25.96**	**1**	P	**P**	**08 14 14.9**	**-1.5**
ISCO

BELA	**Belgrano 2**	**22.20 184**	P	**P**	**08 26 16.1**	**-2.0**
QSPA	**South Pole Qui**	**34.32 180**	P	**P**	**08 28 07.0**	**-0.6**
QSPA			IAmb	IAmb	08 28 29.3	
comp=Z,3.6nm,1.5s						
PEL	**Peldehue**	**37.65 289**	P	**P**	**08 28 35.5**	**-0.8**
MT02	**Curacav**	**37.80 288**	P	**P**	**08 28 37.2**	**-0.2**
CO01	**Juntas del Tor**	**39.82 292**	P	**P**	**08 28 54.9**	**+0.2**
CO01			IAmb	IAmb	08 29 02.4	
comp=Z,6.9nm,1.1s						
AC05	**El Transito**	**40.83 293**	P	**P**	**08 29 02.5**	**-0.4**
AC05			IAmb	IAmb	08 29 12.4	
comp=Z,12nm,1.1s						
VNDA	**Vanda**	**46.70 183**	P	**P**	**08 29 50.1**	**+0.9**
comp=Z,0.4nm,0.5s,baz=190,slow=7.1,SNR=8.1						
VNDA	**Vanda**	**46.70 183**	P	**P**	**08 29 48.7**	**-0.5**
LPAZ	**La Paz**	**50.35 305**	P	**P**	**08 30 19.8**	**+1.1**
comp=Z,1.3nm,0.5s,baz=153,slow=5.4,SNR=12						
LPAZ	**La Paz**	**50.35 305**	P	**P**	**08 30 18.6**	**-0.1**
LPAZ			IAmb	IAmb	08 30 21.5	
comp=Z,1.8nm,0.7s						
CASY	**Casey**	**54.00 160**	P	**P**	**08 30 43.3**	**-1.1**
CASY			IAmb	IAmb	08 30 52.0	
comp=Z,10nm,1.4s						
TOA0	**Torodi Ar. Sit**	**72.93 29**	P	**P**	**08 32 49.5**	**-0.3**
TOA0			IAmb	IAmb	08 32 52.7	
comp=Z,3.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**72.93 29**	P	**P**	**08 32 50.3**	**+0.5**
comp=Z,0.9nm,0.4s,baz=199,slow=5.9,SNR=9.2						
TORD	**Torodi Ar. Bea**	**72.93 29**	P	**P**	**08 32 49.5**	**-0.3**
BCAR	**Beaver Creek A**	**147.46 310**	PKPbc	**PKPbc**	**08 41 02.3**	**-0.5**
DOT	**Dot Lake**	**148.61 310**	PKPbc	**PKPbc**	**08 41 05.8**	**0.0**
RIDG	**Independent Ri**	**148.97 310**	PKPbc	**PKPbc**	**08 41 06.9**	**+0.1**
ILAR	**Eielson Array**	**150.08 312**	PKPbc	**PKPbc**	**08 41 08.6**	**-0.8**
comp=Z,1.7nm,0.8s,baz=132,slow=1.8,SNR=16						
ILAR	**Eielson Array**	**150.08 312**	PKPbc	**PKPbc**	**08 41 08.7**	**-0.6**
CNPM	**China Poot**	**150.71 300**	PKPbc	**PKPbc**	**08 41 10.8**	**-0.3**
KDAK	**Kodiak Island**	**150.81 297**	PKPbc	**PKPbc**	**08 41 10.8**	**-0.4**
TRF	**Thorofare Moun**	**151.27 309**	PKPbc	**PKPbc**	**08 41 12.0**	**-0.4**
BPAW	**Bear Paw Mtn.**	**151.70 310**	PKPbc	**PKPbc**	**08 41 12.8**	**-0.4**

IDC 20 08:30:23.7±48.0, 16°24'S×177°39'W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/37, mbtmp4.1/3, Error ellipse: s-maj=888.0km s-min=164.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.30**	**240**	P	P	08 38 02.8	-0.1
1.9nm,0.9s,baz=41,slow=11,SNR=3.3							
WRA	**Warramunga Arr**	**45.91**	**258**	P	P	08 38 48.6	+0.1
0.5nm,0.3s,baz=92,slow=7.3,SNR=35							
ASAR	**Alice Springs**	**46.20**	**253**	P	P	08 38 50.5	-0.3
4.3nm,0.5s,baz=88,slow=8.6,SNR=86							

WEL 20 08:31:11.5, 37°S±3°×17°7E±°, h186km±5km, M3.3/43, MLv3.3/43, Error ellipse: s-maj=0.0km s-min=0.0km az=29.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.85**	**158**	P	Pn	08 31 38.8	+0.1
HAZ				S	Sn	08 32 00.3	+0.3
MXZ	**Matakaoa Point**	**0.95**	**129**	P	Pn	08 31 39.2	-0.1
MXZ				S	Sn	08 31 59.8	-1.2
RUGZ	**Raukumara Rang**	**1.03**	**167**	P	Pn	08 31 39.2	-0.9
RUGZ				S	Sn	08 31 58.8	-3.6
OPRZ	**Ohinepanea**	**1.10**	**217**	P	Pn	08 31 40.3	-0.2
TGRZ	**Tauranga**	**1.18**	**229**	P	Pn	08 31 41.1	0.0
WMGZ	**Waiomatatini S**	**1.19**	**136**	P	Pn	08 31 41.1	0.0
WMGZ				S	Sn	08 32 03.1	-1.2
PUZ	**Puketiti**	**1.31**	**148**	P	Pn	08 31 42.3	+0.1
PUZ				S	Sn	08 32 04.5	-1.7
URZ	**Urewera**	**1.31**	**189**	P	Pn	08 31 42.2	0.0
URZ				S	Sn	08 32 04.3	-1.9
KUZ	**Kuaotunu**	**1.35**	**279**	P	Pn	08 31 42.2	-0.4
MWZ	**Matawai**	**1.38**	**175**	P	Pn	08 31 42.8	0.0
MWZ				S	Sn	08 32 05.5	-1.8
KARZ	**Kaharoa**	**1.39**	**220**	P	Pn	08 31 43.5	+0.5
OMRZ	**Omania**	**1.40**	**215**	P	Pn	08 31 43.5	+0.5
OMRZ				S	Sn	08 32 08.2	+0.6
TARZ	**Mount Tarawera**	**1.45**	**208**	P	Pn	08 31 44.7	+1.2
TKGZ	**Te Karaka**	**1.52**	**166**	P	Pn	08 31 44.3	+0.3
TKGZ				S	Sn	08 32 08.4	-1.2
RRRZ	**Republican Roa**	**1.54**	**206**	P	Pn	08 31 45.1	+0.8
CNGZ	**Carnagh Statio**	**1.65**	**157**	P	Pn	08 31 46.1	+0.8
CNGZ				S	Sn	08 32 12.3	+0.5
RTZ	**Ruatahuna**	**1.68**	**191**	P	Pn	08 31 45.7	0.0
RTZ				S	Sn	08 32 11.3	-1.1
TOZ	**Tahuroa Road**	**1.69**	**242**	P	Pn	08 31 46.6	+0.9
GRZ	**Great Barrier**	**1.71**	**294**	P	Pn	08 31 45.7	-0.2
PRRZ	**Plateau Road**	**1.72**	**207**	P	Pn	08 31 46.9	+0.8
PRRZ				S	Sn	08 32 12.3	-0.8
RIGZ	**Rimuhau**	**1.77**	**170**	P	Pn	08 31 46.8	+0.3
RIGZ				S	Sn	08 32 13.7	-0.3
ALRZ	**Allen Road**	**1.80**	**207**	P	Pn	08 31 47.7	+0.8
SNGZ	**Shannon Statio**	**1.82**	**181**	P	Pn	08 31 47.4	+0.4
SNGZ				S	Sn	08 32 12.8	-2.0
MTHZ	**Maungataniwha**	**1.94**	**193**	P	Pn	08 31 49.1	+0.8
MTHZ				S	Sn	08 32 15.7	-1.4
KUTZ	**Kaahu Road**	**1.96**	**219**	P	Pn	08 31 50.2	+1.6
RAHZ	**Arahi**	**1.96**	**187**	P	Pn	08 31 49.4	+0.8
RAHZ				S	Sn	08 32 16.2	-1.3
ETAZ	**East Tamaki Re**	**1.97**	**270**	P	Pn	08 31 49.3	+0.8
PRGZ	**Paritu Road**	**2.00**	**169**	P	Pn	08 31 49.8	+0.9
PRGZ				S	Sn	08 32 18.9	+0.8
TLZ	**Tolley Road**	**2.00**	**226**	P	Pn	08 31 50.3	+1.4
MRHZ	**Matea Rd**	**2.02**	**202**	P	Pn	08 31 49.7	+0.5
MRHZ				S	Sn	08 32 16.9	-1.7
KNZ	**Kokohu**	**2.07**	**174**	P	Pn	08 31 49.9	+0.3
KNZ				S	Sn	08 32 17.4	-2.0
WHHZ	**Waihua**	**2.12**	**183**	P	Pn	08 31 50.8	+0.6
WHHZ				S	Sn	08 32 19.2	-1.2
NMHZ	**Naumai**	**2.18**	**192**	P	Pn	08 31 51.8	+0.8
NMHZ				S	Sn	08 32 22.1	+0.3
MHGZ	**Mahia Peninsul**	**2.23**	**169**	P	Pn	08 31 52.1	+0.7
MHGZ				S	Sn	08 32 22.2	-0.4
BKZ	**Black Stump Fm**	**2.31**	**197**	P	Pn	08 31 52.3	-0.1
BKZ				S	Sn	08 32 21.9	-2.4
ARHZ	**Aropaoanui**	**2.32**	**187**	P	Pn	08 31 52.9	+0.5
ARHZ				S	Sn	08 32 23.0	-1.4
RITZ	**Rihia Road**	**2.34**	**210**	P	Pn	08 31 54.1	+1.4
HIZ	**Hauiti**	**2.53**	**232**	P	Pn	08 31 57.0	+2.1
MCHZ	**McNeill Hill**	**2.54**	**192**	P	Pn	08 31 55.6	+0.7
MCHZ				S	Sn	08 32 29.5	+0.6
KWHZ	**Kaweka Forest**	**2.57**	**197**	P	Pn	08 31 55.6	+0.2
KWHZ				S	Sn	08 32 28.7	-1.0
WTVZ	**West Tongariro**	**2.58**	**213**	P	Pn	08 31 56.6	+1.1
OTVZ	**Oturere**	**2.58**	**211**	P	Pn	08 31 56.4	+0.8
TWVZ	**Taurewa**	**2.61**	**216**	P	Pn	08 31 56.8	+1.0
NGZ	**Ngauruhoe**	**2.62**	**212**	P	Pn	08 31 57.1	+1.1
TUVZ	**Tukino**	**2.68**	**210**	P	Pn	08 31 57.3	+0.7
TUVZ				S	Sn	08 32 33.2	+1.2
CKHZ	**Cape Kidnapper**	**2.70**	**185**	P	Pn	08 31 56.9	+0.1
CKHZ				S	Sn	08 32 32.4	+0.1
FWVZ	**Far West T-bar**	**2.71**	**212**	P	Pn	08 31 57.8	+0.7
BHHZ	**Black Hill Sta**	**2.73**	**202**	P	Pn	08 31 56.9	-0.3
BHHZ				S	Sn	08 32 31.2	-1.8
WNVZ	**Wahianoa**	**2.75**	**210**	P	Pn	08 31 57.8	+0.3
MOVZ	**Moawhango**	**2.76**	**207**	P	Pn	08 31 57.3	-0.2
KRHZ	**Kereru**	**2.79**	**196**	P	Pn	08 31 57.7	-0.3
PKVZ	**Pokaka**	**2.83**	**214**	P	Pn	08 31 59.3	+1.0
MTVZ	**Mangateitei**	**2.85**	**211**	P	Pn	08 31 59.2	+0.6
KAHZ	**Kahuranaki**	**2.86**	**188**	P	Pn	08 31 58.8	+0.1
VRZ	**Vera Road**	**2.99**	**223**	P	Pn	08 32 02.7	+2.4
PNHZ	**Pukenui**	**3.09**	**197**	P	Pn	08 32 00.9	-0.6
PXZ	**Pawanui**	**3.09**	**187**	P	Pn	08 32 00.9	-0.6
WPHZ	**Waipukurau**	**3.19**	**193**	P	Pn	08 32 01.9	-0.7
TSZ	**Takapari Road**	**3.29**	**199**	P	Pn	08 32 03.0	-0.9
PRHZ	**Porangahau**	**3.35**	**190**	P	Pn	08 32 04.3	-0.4
WAZ	**Wanganui**	**3.37**	**213**	P	Pn	08 32 05.3	+0.5
DVHZ	**Dannevirke**	**3.47**	**196**	P	Pn	08 32 04.8	-1.2
NEZ	**North Egmont**	**3.47**	**227**	P	Pn	08 32 08.8	+2.7
PKE	**Pukeiti**	**3.49**	**229**	P	Pn	08 32 09.3	+3.0
ANWZ	**Angora Road**	**3.56**	**191**	P	Pn	08 32 06.6	-0.7
POWZ	**Post Office Ro**	**3.65**	**200**	P	Pn	08 32 07.5	-0.8
PRWZ	**Pori Road**	**3.75**	**197**	P	Pn	08 32 07.9	-1.7
BFZ	**Birch Farm**	**3.82**	**193**	P	Pn	08 32 09.2	-1.3
MRZ	**Mangatainoka R**	**3.95**	**200**	P	Pn	08 32 10.6	-1.5
TIWZ	**Tintock**	**3.98**	**197**	P	Pn	08 32 11.2	-1.4
CPWZ	**Castlepoint**	**4.05**	**193**	P	Pn	08 32 12.5	-0.8
HOWZ	**Holdsworth Sta**	**4.19**	**200**	P	Pn	08 32 13.2	-1.9
OGWZ	**Otaki Gorge**	**4.22**	**203**	P	Pn	08 32 13.8	-1.6
TMWZ	**Te Maipa**	**4.30**	**195**	P	Pn	08 32 14.9	-1.7
KIW	**Kapiti Island**	**4.34**	**206**	P	Pn	08 32 15.3	-1.8
CAW	**Cannon Point**	**4.51**	**203**	P	Pn	08 32 17.2	-2.1
TRWZ	**Traveller**	**4.62**	**196**	P	Pn	08 32 18.7	-1.9
DUWZ	**D'Urville Isla**	**4.69**	**214**	P	Pn	08 32 19.6	-2.0
MSWZ	**Moikau Station**	**4.75**	**200**	P	Pn	08 32 19.8	-2.4
BHW	**Baring Head**	**4.85**	**203**	P	Pn	08 32 21.0	-2.6
TCW	**Tory Channel**	**4.88**	**209**	P	Pn	08 32 21.6	-2.3
PLWZ	**Palliser**	**4.89**	**199**	P	Pn	08 32 21.5	-2.6
TUWZ	**Tuamarina**	**5.20**	**210**	P	Pn	08 32 25.5	-2.6
NNZ	**Nelson**	**5.27**	**215**	P	Pn	08 32 26.8	-2.1
QRZ	**Quartz Range**	**5.41**	**223**	P	Pn	08 32 28.4	-2.3
BSWZ	**Blackbirch Sta**	**5.47**	**209**	P	Pn	08 32 29.9	-1.6
THZ	**Tophouse**	**5.92**	**215**	P	Pn	08 32 35.3	-2.2
KHZ	**Kahutara**	**6.20**	**207**	P	Pn	08 32 38.6	-2.5
GVZ	**Greta Valley S**	**6.86**	**208**	P	Pn	08 32 46.8	-2.9
LTZ	**Lake Taylor**	**7.02**	**212**	P	Pn	08 32 48.5	-3.3
INZ	**Inchbonnie**	**7.35**	**217**	P	Pn	08 32 54.5	-1.6
OKCZ	**Okains Bay**	**7.52**	**205**	P	Pn	08 32 55.8	-2.6
OXZ	**Oxford**	**7.56**	**211**	P	Pn	08 32 55.2	-3.7
MQZ	**McQueen's Vall**	**7.64**	**207**	P	Pn	08 32 55.8	-4.2
MHCZ	**Mount Hutt**	**7.92**	**212**	P	Pn	08 33 00.6	-3.1
WACZ	**Wakanui South**	**8.15**	**209**	P	Pn	08 33 03.3	-3.3
RPZ	**Rata Peaks**	**8.30**	**214**	P	Pn	08 33 06.4	-2.1
ARCZ	**Arundel**	**8.43**	**212**	P	Pn	08 33 07.7	-2.6
ODZ	**Otahua Downs**	**9.54**	**210**	P	Pn	08 33 22.0	-2.9

*IDC **20** 09:20:10.7±1.1, 8°28S×147°05E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/37, mbtmp3.8/9, ML3.7/2, MS3.0/5, Ms1 3.0/5, ms1mx2.7/30, Error ellipse: s-maj=34.9km s-min=10.5km az=82.0*

ISC 20 09:20:15.6±1.0, 8°4S±0°1×147°1E±0°2, h35km, n14, σ1°38/11, mb3.8/7, MS3.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.01**	**176**	Pg	**Pn**	**09 20 31.5**	**-1.8**
174nm,0.3s,baz=32,slow=7.8,SNR=647							
PMG				LR	LR	09 20 34.7	
comp=Z,46nm,21.1s,baz=60,slow=21							
PMG				Lg	Lg	09 20 47.4	
337nm,0.3s,baz=147,slow=23,SNR=33							
JAY	**Jayapura**	**8.63**	**312**	LR	LR	09 26 01.0	
comp=Z,124nm,18.1s,baz=51,slow=41							
WRA	**Warramunga Arr**	**16.85**	**226**	Pn	**Pn**	**09 24 08.3**	**-0.6**
0.3nm,0.3s,baz=50,slow=11,SNR=20							
SIJI	**Sorong**	**17.44**	**295**	LR	LR	09 32 28.3	
comp=Z,56nm,19.1s,baz=43,slow=42							
ASAR	**Alice Springs**	**19.75**	**218**	P	**P**	**09 24 43.9**	**+1.3**
0.2nm,0.3s,baz=43,slow=13,SNR=25							
GUMO	**Guam**	**21.95**	**354**	LR	LR	09 33 35.4	
comp=Z,23nm,18.9s,baz=174,slow=37							
FITZ	**Fitzroy Crossi**	**22.97**	**243**	P	**P**	**09 25 17.9**	**+0.6**
0.7nm,0.5s,baz=351,slow=5.4,SNR=5.9							
STKA	**Stephens Creek**	**23.92**	**192**	P	**P**	**09 25 28.5**	**+2.2**
1.0nm,0.6s,baz=11,slow=12,SNR=4.5							
STKA				LR	LR	09 35 11.3	
comp=Z,42nm,18.3s,baz=24,slow=38							
KSRS	**Korea Array**	**49.01**	**340**	P	**P**	**09 28 58.4**	**-0.5**
1.1nm,0.9s,baz=158,slow=8.3,SNR=3.1							
KSRS				LR	LR	09 48 04.8	
comp=Z,18nm,19.3s,baz=170,slow=34							
CMAR	**Chiang Mai Arr**	**54.48**	**300**	P	**P**	**09 29 39.5**	**-0.6**
0.8nm,0.4s,baz=130,slow=6.0,SNR=6.3							
MKAR	**Makanchi Array**	**79.39**	**321**	P	**P**	**09 32 17.8**	**-0.3**
0.8nm,0.7s,baz=102,slow=6.7,SNR=6.9							
ZALV	**Zalesovo Beam**	**81.07**	**328**	P	**P**	**09 32 25.5**	**-1.4**
0.7nm,0.3s,baz=108,slow=4.8,SNR=3.7							
ILAR	**Eielson Array**	**87.63**	**23**	P	**P**	**09 33 01.5**	**+1.5**
0.5nm,0.9s,baz=246,slow=5.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**145.69**	**281**	PKPbc	**PKPdf**	**09 39 51.6**	**+0.2**
2.8nm,0.8s,baz=74,slow=4.2,SNR=10							

*REN **20** 09:45:49.0±2.8, 41°87N±0°04×119°63W±0°01, h0km±7km, ML2.5/2, Md2.3/9(SEA), Error ellipse: s-maj=5.4km s-min=1.0km az=187.0*
*SEA **20** 09:45:50±3.6, 41°82N±0°03×119°69W±0°04, h0km±6km, Error ellipse: s-maj=4.3km s-min=4.2km az=202.0*

NEIC 20 09:45:50.8±2.0, 41°95N±0°05×119°73W±0°03, h13km±7km, Error ellipse: s-maj=6.7km s-min=2.6km az=170.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.43**	**264**		Pg	09 45 58.8	-0.6
MOD					Sg	09 46 05.7	+0.6
K05A	**Summer Lake**	**1.16**	**312**	Pg	Pn	09 46 12.9	-0.1
J08A	**Circle Bar Ran**	**1.69**	**33**		Pn	09 46 19.2	-0.9
WVA	**Winnemucca Val**	**2.01**	**182**		Pn	09 46 24.6	0.0
PINE	**Pine Mountain**	**2.04**	**335**		Pb	09 46 28.5	+0.5
I07A	**Izee**	**2.14**	**4**		Pb	09 46 29.7	+0.2
YBH	**Yreka Blue Hor**	**2.23**	**265**		Pn	09 46 27.1	-0.6
PAHR	**Pah Rah Range**	**2.26**	**173**		Pn	09 46 28.5	+0.4
LOY	**Loyalton**	**2.32**	**190**		Pn	09 46 29.9	+1.0
PEAR	**Peavine Mounta**	**2.35**	**184**		Pn	09 46 30.8	+1.4
KBF	**Kyburz Flat**	**2.47**	**189**		Pb	09 46 33.2	-2.0
HUMO	**Hull Mountain**	**2.48**	**286**	Pn	Pn	09 46 30.6	-0.4
WDC	**Whiskeytown Da**	**2.52**	**238**	Pn	Pn	09 46 31.2	-0.3
VCNR	**Virginia City**	**2.65**	**179**	Pn	Pn	09 46 31.7	-1.8
HLID	**Hailey**	**4.24**	**66**	Pn	Pn	09 46 54.5	-0.7

*IDC **20** 09:49:51.9±1.0, 0°75N×146°46E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.8/51, mbtmp4.0/9, ML3.5/1, MS3.1/10, Ms1 3.1/10, ms1mx2.8/38, Error ellipse: s-maj=36.5km s-min=18.3km az=109.0*
*NEIC **20** 09:49:54.3±2.4, 0°7N±0°2×146°4E±0°1, h15km±5km, mb4.2/3, Error ellipse: s-maj=28.2km s-min=4.3km az=147.0*

ISC 20 09:49:57.3±0.7, 0°8N±0°1×146°22E±0°09, h35km, n35, σ1°84/27, mb4.0/10, MS3.0/6, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.40**	**239**	Pn	**Pn**	**09 51 29.6**	**+0.4**
0.9nm,0.3s,baz=209,slow=0.2,SNR=9.1							
JAY				Sn	**Sn**	**09 52 36.1**	**-5.1**
1.5nm,0.3s,baz=193,slow=22,SNR=3.4							
JAY				LR	LR	09 53 36.4	
comp=Z,201nm,21.5s,baz=38,slow=34							
KRVT	**Keravat (AS076**	**7.68**	**131**	Pn	**Pn**	**09 51 48.0**	**+1.2**
20nm,0.3s,baz=188,slow=2.0,SNR=9.4							
KRVT				Sn	Sn	09 52 55.9	-17
33nm,0.3s,baz=128,slow=23,SNR=28							
PMG	**Port Moresby**	**10.14**	**175**	LR	LR	09 55 57.2	
comp=Z,124nm,18.8s,baz=206,slow=36							
GUMO	**Guam**	**12.82**	**354**	LR	LR	09 56 18.0	
comp=Z,42nm,22.0s,baz=186,slow=30							
PATS	**Pohnpei**	**13.49**	**63**	Pn	**Pn**	**09 53 02.7**	**-3.6**
HNR	**Honiara**	**17.01**	**127**	LR	LR	09 59 56.6	
comp=Z,104nm,20.3s,baz=296,slow=36							
DAV	**Davao City (W)**	**21.52**	**287**	LR	LR	10 00 34.7	
comp=Z,33nm,21.6s,baz=136,slow=30							
WB0	**Warramunga Arr**	**23.47**	**209**	Pn	**Pn**	**09 55 01.8**	**+0.4**
WR0	**Warramunga Arr**	**23.56**	**208**	IAmb	IAmb	09 55 06.2	
comp=Z,6.5nm,0.8s							
WR0	**Warramunga Arr**	**23.56**	**208**		**Pn**	**09 55 02.5**	**+1.0**
WRAB	**Tennant Creek**	**23.63**	**209**	IAmb	IAmb	09 55 06.2	
comp=Z,8.6nm,0.7s							
WRAB	**Tennant Creek**	**23.63**	**209**		**P**	**09 55 05.4**	**-1.1**
WB2	**Warramunga Arr**	**23.64**	**209**	IAmb	IAmb	09 55 16.7	
comp=Z,7.6nm,0.8s							
WB2	**Warramunga Arr**	**23.64**	**209**		**P**	**09 55 05.5**	**-1.0**
WC3	**Warramunga Arr**	**23.64**	**209**	Pn	**P**	**09 55 05.4**	**-1.1**
WRA	**Warramunga Arr**	**23.64**	**209**	P	**P**	**09 55 05.4**	**-0.2**
comp=Z,6.6nm,0.7s,baz=32,slow=10,SNR=78							
WRA				LR	LR	10 03 40.6	
comp=Z,68nm,21.8s,baz=50,slow=35							
WRA	**Warramunga Arr**	**23.64**	**209**		**Pn**	**09 55 03.8**	**+0.4**
WRA	**Warramunga Arr**	**23.64**	**209**	Sn	Sn	09 57 46.0	-13
AS31	**Alice Springs**	**27.07**	**205**	P	**Pn**	**09 55 38.3**	**+0.3**
ASAR	**Alice Springs**	**27.07**	**205**	P	**P**	**09 55 37.7**	**+0.9**
comp=Z,2.7nm,0.7s,baz=36,slow=10,SNR=29							
ASAR				LR	LR	10 06 03.0	
comp=Z,64nm,20.4s,baz=30,slow=36							
ASAR	**Alice Springs**	**27.07**	**205**	P	**P**	**09 55 37.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**27.59**	**226**	P	**P**	**09 55 41.9**	**+0.4**
comp=Z,1.1nm,0.7s,baz=359,slow=4.2,SNR=6.5							
FITZ				LR	LR	10 07 32.1	
comp=Z,38nm,19.8s,baz=281,slow=38							
STKA	**Stephens Creek**	**32.75**	**187**	LR	LR	10 10 55.3	
comp=Z,38nm,18.7s,baz=20,slow=39							
CMAR	**Chiang Mai Arr**	**49.60**	**294**	P	**P**	**09 58 48.0**	**+2.3**
comp=Z,1.2nm,0.6s,baz=112,slow=6.8,SNR=5.8							
CMAR				LR	LR	10 18 28.8	
comp=Z,12nm,20.9s,baz=170,slow=34							
CMAR	**Chiang Mai Arr**	**49.60**	**294**	P	**P**	**09 58 47.1**	**+1.4**
PETK	**Petropavlovsk-**	**53.04**	**9**	P	**P**	**09 59 11.1**	**+0.3**
comp=Z,2.3nm,0.9s,baz=157,slow=8.0,SNR=4.6							
MKAR	**Makanchi Array**	**71.85**	**319**	P	**P**	**10 01 17.4**	**+0.6**
comp=Z,0.7nm,0.7s,baz=94,slow=7.7,SNR=6.6							
MKAR	**Makanchi Array**	**71.85**	**319**	P	**P**	**10 01 17.2**	**+0.4**
MAKZ	**Makanchi**	**72.06**	**319**	P	**P**	**10 01 19.0**	**+1.0**
MAKZ				IAmb	IAmb	10 01 19.3	
comp=Z,1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**72.93**	**327**	P	**P**	**10 01 22.7**	**-0.3**
KURK	**Kurchatov**	**75.38**	**323**	P	**P**	**10 01 38.0**	**+0.6**
KURK				IAmb	IAmb	10 01 40.5	
comp=Z,4.3nm,1.3s							
VNDA	**Vanda**	**78.66**	**177**	P	**P**	**10 01 55.9**	**+0.6**
comp=Z,0.6nm,0.8s,baz=346,slow=4.4,SNR=5.3							
VNDA	**Vanda**	**78.66**	**177**	P	**P**	**10 01 56.0**	**+0.6**
VNDA				IAmb	IAmb	10 02 13.3	
comp=Z,3.3nm,1.4s							
ILAR	**Eielson Array**	**79.63**	**24**	P	**P**	**10 01 59.6**	**-1.2**
comp=Z,0.5nm,0.6s,baz=251,slow=5.4,SNR=8.3							
BCAR	**Beaver Creek A**	**81.23**	**26**	P	**P**	**10 02 10.6**	**+1.1**

NEIC 20 09:51:20.7±1.3, 9°76S±0°05×147°0E±0°1, h14km±5km, mb4.2/12, Error ellipse: s-maj=16.2km s-min=5.8km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**0.38**	**25**	Pg	Pn	09 51 28.9	-0.4
PMG				Sg	Sg	09 51 33.4	-0.2
COEN	**Coen**	**5.61**	**221**	Pn	Pn	09 52 41.6	-2.2
CTAO	**Charters Tower**	**10.30**	**184**	Pn	Pn	09 53 45.7	-2.4
CTAO				Sn	Sn	09 55 42.5	-1.0
SANVU	**Saraoutou**	**20.51**	**108**	P	P	09 55 58.7	0.0
SANVU				IAmb	IAmb	09 56 24.9	
comp=Z,63nm,1.3s							
ARMA	**Armidale**	**21.01**	**169**	P	P	09 56 04.5	+0.5
ARMA				IAmb	IAmb	09 56 19.9	
comp=Z,16nm,1.4s							
SBUM	**Sibu**	**36.70**	**288**	P	P	09 58 27.4	-0.2
RAO	**Raoul Island**	**38.12**	**126**	P	P	09 58 40.0	+0.5

*MAN **20** 09:55:08.7, 13°64N×120°57E, h112km, mb4.5, ML3.4, MS3.2*
*NEIC **20** 09:55:08.2±2.3, 13°67N±0°05×120°88E±0°09, h130km±4km, mb4.3/36, Error ellipse: s-maj=13.9km s-min=4.6km az=68.0*
*IDC **20** 09:55:08.2±0.6, 13°66N×120°90E, h128km±4km, mb3.8/17, mb1 3.8/17, mb1mx3.5/55, mbtmp4.2/17, Error ellipse: s-maj=24.4km s-min=12.1km az=65.0*

ISC 20 09:55:08.0±0.6, 13°63N±0°04×120°67E±0°05, h125km±5km, n89, σ1°40/97, mb4.3/30, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.30**	**115**	*i* P	**Pn**	**09 55 26.3**	**+0.6**
PGP				*e* S	**Sn**	**09 55 38.3**	**-0.7**
LUBP	**Lubang**	**0.43**	**284**	*e* P	**Pn**	**09 55 26.6**	**+0.5**
LUBP				*e* S	**Sn**	**09 55 39.5**	**-0.3**
TGY	**Tagaytay City**	**0.53**	**29

CHGR	Chuyangaron	51.73	309	P	P	10 04 03.1 +0.4
KK31	Karatay Array	52.00	314	P	P	10 04 05.5 +0.9
KK31				IAmb	IAmb	10 04 06.2
	comp=Z,2.7nm,0.7s					
KKAR	Karatay Array	52.00	314	P	P	10 04 05.7 +1.7
KKAR	Karatay Array	52.00	314	IAmb	IAmb	10 04 06.2
	comp=Z,2.7nm,0.7s					
KKAR	Karatay Array	52.00	314	P	P	10 04 05.7 +1.1
KKAR	Karatay Array	52.00	314	P	P	10 04 06.0 +1.3
KKAR				IAmb	IAmb	10 04 06.2
	comp=Z,2.7nm,0.7s					
KKAR	Karatay Array	52.00	314	P	P	10 04 06.0 +2.0
BVAR	Borovoye Array	55.81	326	P	P	10 04 32.6 +0.5
	comp=Z,1.3nm,0.6s,baz=135,slow=15,SNR=4.7					
GEYT	Alibeck	60.15	306	P	P	10 05 04.1 +1.3
	comp=Z,3.7nm,0.8s,baz=210,slow=5.0,SNR=5.3					
GEYT	Alibeck	60.15	306	IAmb	IAmb	10 05 05.1
	comp=Z,3.0nm,0.8s					
ABKAR	Akbulak array	60.77	319	P	P	10 05 07.3 +0.7
ABKAR				IAmb	IAmb	10 05 07.7
	comp=Z,3.7nm,0.7s					
ABKAR	Akbulak array	60.77	319	P	P	10 05 06.9 +0.3
AKTO	Aktyubinsk	62.25	320	P	P	10 05 16.9 +0.4
	comp=Z,2.3nm,0.7s,baz=108,slow=10,SNR=5.9					
ARU	Arti	63.43	327	P	P	10 05 23.6 -0.7
ARU				IAmb	IAmb	10 05 24.4
	comp=Z,4.4nm,1.0s					
IMAR	Indian Mountai	75.86	25	P	P	10 06 40.7 +0.4
SKT	Skwentna	77.05	29	P	P	10 06 45.7 -1.4
SKT				IAmb	IAmb	10 06 49.5
	comp=Z,6.4nm,1.0s					
BPAW	Bear Paw Mtn.	77.13	27	P	P	10 06 48.8 +1.2
PMR	Palmer	78.22	29	P	P	10 06 53.7 +0.1
PMR				IAmb	IAmb	10 07 13.1
	comp=Z,14nm,1.5s					
ARCES	ARCESS Array B	79.14	339	P	P	10 06 58.1 -0.4
	comp=Z,2.6nm,0.7s,baz=76,slow=7.3,SNR=8.2					
BRTR	Keskin Array B	79.17	308	P	P	10 07 00.4 +1.0
	comp=Z,0.7nm,0.5s,baz=106,slow=4.6,SNR=3.6					
SPITS	Spitsbergen Ar	79.65	348	P	P	10 07 01.2 0.0
	comp=Z,16nm,1.1s,baz=123,slow=9.1,SNR=5.6					
CASY	Casey	80.04	184	P	P	10 07 02.2 -0.9
CASY				IAmb	IAmb	10 07 26.0
	comp=Z,7.8nm,1.4s					
FIA1	FINESS Array S	80.33	331	P	P	10 07 03.9 -1.1
FIA1				IAmb	IAmb	10 07 09.7
	comp=Z,10.0nm,1.2s					
FINES	FINESS Array B	80.33	331	P	P	10 07 04.3 -0.7
	comp=Z,0.6nm,0.5s,baz=60,slow=5.0,SNR=5.0					
FINES	FINESS Array B	80.33	331	P	P	10 07 03.9 -1.1
EGAK	Eagle	81.23	25	P	P	10 07 09.4 -0.4
C36M	Paulatuk	85.88	19	P	P	10 07 33.7 +0.3
NC405	NORSAR Array S	87.06	333	P	P	10 07 38.6 -0.7
NOA	NORSAR Array B	87.31	333	P	P	10 07 39.4 -1.2
	comp=Z,0.5nm,0.7s,baz=68,slow=4.6,SNR=3.2					
ITM	Ithomi	88.69	308	P	P	10 07 46.2 -1.4
YKA	Yellowknife Ar	92.85	22	P	P	10 08 06.7 +0.3
	comp=Z,0.3nm,0.5s,baz=312,slow=4.8,SNR=5.7					
TXAR	Lajitas Array	119.54	45	PKP	PKiKP	10 13 43.8 0.0
	comp=Z,0.2nm,0.5s,baz=172,slow=1.3,SNR=4.9					

*MEX **20** 10:11:45.8±0.3, 13°.90N×92°.67W, h68km±31km, MD3.9*
*IDC **20** 10:11:45.4±3.7, 14°.21N×92°.59W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.6/47, mbtmp3.6/4, ML3.2/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/27, Error ellipse: s-maj=83.4km s-min=34.1km az=176.0*

ISC 20 11:11:50.2±1.8, 14°.1N±0°.1×92°.6W±0°.1, h46km, n11, σ1§91/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.85	23	eP	Pn	10 12 03.9	-2.0
THIG				i S	Sn	10 12 17.7	+0.4
PCIG		1.68	340	eP	Pn	10 12 14.4	-2.8
PCIG				eS	Sn	10 12 36.4	-1.1
CCIG	Comitan	2.20	12	eP	Pn	10 12 26.2	+1.7
APG	El Apazote	2.26	67	Pn	Pn	10 12 23.2	-2.1
	2.3nm,0.3s,baz=226,slow=11,SNR=37						
APG				LR	LR	10 13 34.4	
	comp=Z,112nm,21.2s,baz=287,slow=49						
TEIG	Tepich	7.35	34	Pn	Pn	10 13 33.9	-1.1
	1.2nm,0.3s,baz=195,slow=2.8,SNR=8.9						
TXAR	Lajitas Array	18.27	328	LR	LR	10 22 29.0	
	comp=Z,25nm,18.8s,baz=0.0,slow=35						
TKL	Tuckaleechee C	22.87	19	LR	LR	10 27 22.9	
	comp=Z,36nm,19.0s,baz=233,slow=41						
SCHQ	Schefferville	45.32	21	LR	LR	10 41 53.8	
	comp=Z,41nm,19.7s,baz=280,slow=40						
YKA	Yellowknife Ar	50.77	347	P	P	10 20 45.6	+0.1
	1.7nm,0.9s,baz=150,slow=7.0,SNR=5.7						
ILAR	Eielson Array	62.49	337	P	P	10 22 10.2	+1.5
	0.3nm,0.8s,baz=101,slow=4.7,SNR=2.6						
CMAR	Chiang Mai Arr	145.68	340	PKPbc	PKPab	10 31 26.5	+1.3
	0.3nm,0.3s,baz=329,slow=3.2,SNR=4.1						

MAN 20 10:20:33.4, 6°.83N×125°.00E, h27km, mb4.4, ML3.2, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.20	27	⇑iP	Pb	10 20 36.3	-3.1
KCP				i S	Sb	10 20 40.6	-2.9
SKMP	Bagumbayan, Su	0.55	236	eP	Pb	10 20 44.6	+0.2
SKMP				eS	Sn	10 20 55.0	+1.3
DDMP	Don Marcelino,	1.01	135	eP	Pn	10 20 51.2	-0.6
DDMP				eS	Sb	10 21 07.5	+2.4
BUKP	Musuan	1.05	4	eP	Pn	10 20 51.2	-1.2
BUKP				eS	Sb	10 21 07.2	+0.8
MATI	Mati	1.26	85	eP	Pn	10 20 54.5	-0.7
MATI				eS	Sn	10 21 11.4	+0.2

*IDC **20** 10:21:19.2±2.0, 7°.01S×129°.08E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/27, mbtmp3.6/3, ML4.0/2, MS3.1/1, Ms1 3.3/1, ms1mx2.4/20, Error ellipse: s-maj=112.2km s-min=31.6km az=67.0*
*NEIC **20** 10:21:30.4±2.2, 7°.08S±0°.06×129°.76E±0°.08, h156km±9km, mb4.5/8, Error ellipse: s-maj=11.0km s-min=8.4km az=83.0*
*DJA **20** 10:21:31.1±0.4, 7°.S±3°×13°.0E±°, h184km±10km, M4.2/6, mb4.0/6, mB4.9/3, MLv4.3/6, Mw(mB)4.2/3*

ISC 20 11:21:30.4±0.7, 7°.18S±0°.05×129°.76E±0°.06, h150km, n29, σ2§48/34, mb4.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.73	118	P	Pn	10 22 06.0	+3.5
SAUI				S	Sn	10 22 31.3	+4.3
SAUI	Saumlaki	1.73	118	Pn	Pn	10 22 05.9	+3.5
SAUI					Sn	10 22 26.9	-0.1
MSAI	Masohi	3.90	348	P	Pn	10 22 31.8	+2.4
FAKI	Fak Fak	4.91	31	P	Pn	10 22 41.5	-1.1
FAKI	Fak Fak	4.91	31	Pn	Pn	10 22 41.6	-1.0
FAKI				Sn	Sn	10 23 34.7	-4.2
MTN	Manton Dam	5.79	167		Pn	10 22 56.9	+2.5
MTN				Sn	Sn	10 24 00.9	+0.9
SOEI	Soe	6.00	244	P	Pn	10 22 59.1	+1.8
	0.4nm26nm,0.6s						
SOEI	Soe	6.00	244	Pn	Pn	10 22 59.1	+1.8
SOEI					Sn	10 24 06.8	+1.5
KNRA	Kununurra	8.50	186		Pn	10 23 32.2	+1.6
KNRA				Sn	Sn	10 25 03.2	-2.0
FITZ	Fitzroy Crossi	11.57	200		Pn	10 24 11.9	+0.7
WB0	Warramunga Arr	13.30	161		Pn	10 24 34.1	+0.6
WRAB	Tennant Creek	13.44	161	Pn	Pn	10 24 36.0	+0.7
WRA	Warramunga Arr	13.45	161	Pn	Pn	10 24 36.3	+0.9
	1.0nm,0.3s,baz=338,slow=14,SNR=48						
WRA				Sn	Sn	10 26 57.6	-6.7
	1.2nm,0.3s,baz=335,slow=21,SNR=9.0						
WRA	Warramunga Arr	13.45	161		Pn	10 24 35.5	+0.1
WB2	Warramunga Arr	13.45	161		Pn	10 24 35.8	+0.4
WR0	Warramunga Arr	13.53	160	Pn	Pn	10 24 37.2	+0.8
COEN	Coen	14.81	118		P	10 24 54.3	-0.3
AS31	Alice Springs	16.87	167	P	Pn	10 25 19.5	+1.6
ASAR	Alice Springs	16.87	167	Pn	Pn	10 25 21.5	+3.6
	0.3nm,0.3s,baz=337,slow=10,SNR=22						
ASAR	Alice Springs	16.87	167	P	Pn	10 25 18.8	+0.9
CTAO	Charters Tower	20.51	130	P	Pn	10 25 58.4	-2.5
FORT	Forrest	23.53	184	P	P	10 26 28.1	+1.0
FORT				IAmb	IAmb	10 26 47.0	
	comp=Z,39nm,1.6s						
NWAO	Narrogin (SRO)	28.14	203	P	P	10 27 04.9	-3.6
CMAR	Chiang Mai Arr	39.66	310	LR	LR	10 44 47.3	
	comp=Z,28nm,21.5s,baz=200,slow=36						
JWT	Wachi	42.57	7	P	P	10 29 13.8	+2.3
MKAR	Makanchi Array	68.24	327	P	P	10 32 18.7	+3.7
	comp=Z,0.2nm,0.4s,baz=109,slow=8.3,SNR=3.7						
MAKZ	Makanchi	68.42	327	P	P	10 32 15.7	-0.4
MAKZ				IAmb	IAmb	10 33 18.8	
	comp=Z,8.7nm,2.0s						
VNDA	Vanda	72.30	173	P	P	10 32 38.3	-0.8
VNDA				IAmb	IAmb	10 33 22.4	
	comp=Z,11nm,2.0s						
ARU	Arti	85.73	328	P	P	10 33 51.8	-0.6
ARU				IAmb	IAmb	10 36 21.2	
	comp=Z,23nm,2.0s						

*MAN **20** 10:28:18.6, 6°.85N×124°.97E, h18km, mb5.1, ML4.1, MS4.1*
*IDC **20** 10:28:20.1±1.1, 6°.49N×125°.49E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/39, mbtmp3.5/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/27, Error ellipse: s-maj=48.9km s-min=8.7km az=95.0*

ISC 20 10:28:18.0±0.8, 6°.87N±0°.05×125°.09E±0°.07, h13km, n15, σ1§36/14, mb3.4/4, MS2.8/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.14	360	⇑iP	Pg	10 28 21.8	+0.1
KCP				i S	Sg	10 28 25.9	+1.7
DAV	Davao City (W)	0.53	67	Pg	Pn	10 28 30.1	-1.1
	339nm,0.3s,baz=262,slow=7.6,SNR=26						
DAV				Lg	Lg	10 28 40.4	
	726nm,0.3s,baz=25,slow=23,SNR=68						
DAV				LR	LR	10 28 52.2	
	comp=Z,2μm,18.9s,baz=352,slow=55						
SKMP	Bagumbayan, Su	0.65	238	eP	Pg	10 28 30.1	-0.5
SKMP				eS	Sg	10 28 40.7	+1.5
DDMP	Don Marcelino,	0.98	141	eP	Pn	10 28 36.8	-0.7
DDMP				eS	Sn	10 28 53.4	+2.2
BUKP	Musuan	1.00	358	eP	Pb	10 28 36.8	-0.6
BUKP				eS	Sg	10 28 52.8	+2.1
MATI	Mati	1.16	86	eP	Pn	10 28 38.7	-1.3
MSLP	Maasin	3.25	356	eP	Pb	10 29 14.4	-1.3
KAPI	Kappang	12.95	204	LR	LR	10 36 32.6	
	comp=Z,81nm,20.9s,baz=84,slow=38						
GUMO	Guam	20.57	69	LR	LR	10 39 20.3	
	comp=Z,37nm,21.1s,baz=200,slow=32						
FITZ	Fitzroy Crossi	24.81	179	P	P	10 33 39.9	-0.1
	1.8nm,0.8s,baz=2.6,slow=4.8,SNR=5.5						
WRA	Warramunga Arr	28.15	161	P	P	10 34 10.0	-0.2
	0.5nm,0.8s,baz=329,slow=11,SNR=6.4						
KSRS	Korea Array	30.55	4	LR	LR	10 50 02.7	
	comp=Z,18nm,18.1s,baz=202,slow=42						
ASAR	Alice Springs	31.55	164	P	P	10 34 40.5	+0.2
	0.4nm,0.7s,baz=345,slow=8.1,SNR=7.5						
MJAR	Matsushiro Arr	31.88	20	LR	LR	10 47 18.3	
	comp=Z,29nm,19.7s,baz=205,slow=36						
MKAR	Makanchi Array	54.07	325	P	P	10 37 51.5	+9.1
	0.2nm,0.5s,baz=136,slow=7.2,SNR=3.4						

WEL 20 10:33:21.8, 41°.S±2°.×17°.3E±°, h122km±5km, M2.8/17, MLv2.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=79.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	Nelson	0.20	91	P	Pn	10 33 38.9	+0.3
THZ	Tophouse	0.57	196	P	Pn	10 33 40.9	+0.4
QRZ	Quartz Range	0.59	311	P	Pn	10 33 40.5	0.0
TUWZ	Tuamarina	0.66	110	P	Pn	10 33 41.5	+0.6
DUWZ	D'Urville Isla	0.73	56	P	Pn	10 33 42.3	+0.7
BSWZ	Blackbirch Sta	0.76	132	P	Pn	10 33 42.3	+0.6
TCW	Tory Channel	0.87	90	P	Pn	10 33 43.4	+0.6
DSZ	Denniston Nort	1.12	241	P	Pn	10 33 45.1	-0.1
WEL	Wellington	1.25	94	P	Pn	10 33 46.5	0.0
BHW	Baring Head	1.33	99	P	Pn	10 33 47.2	-0.2
CAW	Cannon Point	1.48	87	P	Pn	10 33 48.7	-0.3
PLWZ	Palliser	1.65	103	P	Pn	10 33 50.7	-0.3
LTZ	Lake Taylor	1.69	202	P	Pn	10 33 51.4	-0.1
GVZ	Greta Valley S	1.75	182	P	Pn	10 33 52.5	+0.1
INZ	Inchbonnie	1.96	219	P	Pn	10 33 54.5	-0.3
PREZ	Palmer Road	2.03	23	P	Pn	10 33 56.6	+0.8
KHEZ	Kahui Hut	2.04	20	P	Pn	10 33 56.4	+0.6
VRZ	Vera Road	2.44	32	P	Pn	10 34 01.3	+0.5
OKCZ	Okains Bay	2.51	181	P	Pn	10 34 01.3	-0.5
MQZ	McQueen's Vall	2.52	188	P	Pn	10 34 00.5	-1.3
TLZ	Tolley Road	3.43	34	P	Pn	10 34 14.1	+0.2
HRRZ	Handcock Road	3.73	42	P	Pn	10 34 20.2	+2.5

*NEIC **20** 11:03:10.1±1.2, 10°.25N±0°.07×61°.86W±0°.08, h59km±10km, Md4.5(TRN), Error ellipse: s-maj=11.9km s-min=10.1km az=107.0*

ISC 20 11:03:07.8±0.9, 10°.18N±0°.07×61°.95W±0°.08, h28km, n49, σ1§58/54, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	Speyside	1.78	51	eP	Pn	11 03 37.2	+0.5
TOSP	Speyside	1.78	51		Pn	11 03 37.0	+0.3
TOSP				Sn	Sn	11 03 57.5	-0.9
GRGR	Grenville	1.96	9	eP	Pn	11 03 39.0	-0.2
GRGR	Grenville	1.96	9		Pn	11 03 39.1	-0.2
GRGR				Sn	Sn	11 04 01.9	-1.0
GCMP	Grenada, Carri	2.34	13	eP	Pn	11 03 44.9	+0.4
SVB	Belmont	3.14	12	eP	Pn	11 03 58.7	+3.1
SVB	Belmont	3.14	12		Pn	11 03 57.1	+1.5
MCLT	Moule a Chique	3.64	16	eP	Pn	11 04 04.0	+1.6
MCLT	Moule a Chique	3.64	16		Pn	11 04 03.6	+1.2
MCLT				Sn	Sn	11 04 46.8	+2.3
BBGH	Gun Hill	3.76	38	Pn	Pn	11 04 03.8	-0.3
SLBI	Saint Lucia, B	3.93	14	eP	Pn	11 04 07.9	+1.5
MPOM	Morne Pois Mar	4.37	14	eP	Pn	11 04 13.9	+1.6
BIM	Bigot	4.39	11	eP	Pn	11 04 14.6	+1.8
ZAM	Aeronautique	4.45	12	eP	Pn	11 04 16.1	+2.5
MVM	Montagne Vaucl	4.46	13	eP	Pn	11 04 15.0	+1.3
LPMF	Morne Lapointe	4.47	12	eP	Pn	11 04 15.6	+1.9
FDF	Fort de France	4.59	10	eP	Pn	11 04 16.8	+1.4
FDF	Fort de France	4.59	10		Pn	11 04 16.0	+0.6
FDF				Sn	Sn	11 05 07.3	-0.6
PML	Morne Lenard	4.63	9	eP	Pn	11 04 17.6	+1.6
GBMF	Grand Be	4.65	9	eP	Pn	11 04 18.3	+1.9
PCM	Pelee Case Pet	4.66	9	eP	Pn	11 04 17.7	+1.3
BAMF	Morne Balai	4.67	10	eP	Pn	11 04 18.5	+1.9
SVN	Savane Anatole	4.69	9	eP	Pn	11 04 17.9	+1.0
DSLB	Salisbury	5.25	6	eP	Pn	11 04 26.4	+1.9
TDBA	Terre de Bas,	5.64	3	eP	Pn	11 04 32.5	+2.6
MAGL	Barre de l'ile	5.77	6	eP	Pn	11 04 34.4	+2.7
CBE	Ff, Capester	5.86	3	eP	Pn	11 04 34.4	+1.5
ABD	La Joyeuse, An	6.27	4	eP	Pn	11 04 40.8	+2.3
ANBD	Bethesda, Anti	6.83	1	eP	Pn	11 04 47.8	+1.6
SKI	Saint Kitts	7.15	354	Pn	Pn	11 04 51.9	+1.3
SEUS	St. Eustatius	7.33	352	Pn	Pn	11 04 54.2	+1.1
SABA	Saba	7.50	351	Pn	Pn	11 04 58.1	+2.7
SMRT	St. Maarten	7.90	352	Pn	Pn	11 05 02.2	+1.3
CDVI	St. Croix	8.00	340	Pn	Pn	11 05 03.0	+0.6
MTP	Monte Pirata	8.61	336	Pn	Pn	11 05 11.5	+0.9
STVI	Saint Thomas	8.62	341	Pn	Pn	11 05 11.9	+1.0
CUPR	Culebra, Puert	8.70	339	Pn	Pn	11 05 12.0	+0.2
HUMP	Col San Antoni	8.77	335	Pn	Pn	11 05 14.3	+1.5
ICMP	Isla Caja de M	8.85	330	Pn	Pn	11 05 14.1	+0.2
CRPR	Cabo Rojo, PR	9.25	328	Pn	Pn	11 05 21.6	+2.3
AOPR	Arecibo Observ	9.35	331	Pn	Pn	11 05 21.2	+0.3
AOPR				Sn	Sn	11 07 05.8	+0.5
PTGA	Pitinga	11.02	170		Pn	11 05 46.1	+2.4
DR12	Loma Pena Alta	11.17	321	Pn	Pn	11 05 48.4	+2.5
BANI	BANI	11.53	316		Pn	11 05 52.1	+1.3
456A	Hilliard	27.68	320	P	P	11 08 52.7	-0.9
PSGCX	Pisagua	30.67	195	P	P	11 09 19.2	-1.2
T57A	Hurt	30.94	332	P	P	11 09 21.1	-1.3
TRQ	Mont Tremblant	37.49	346	P	P	11 10 17.6	-1.6
L42A	Oliver, Polo	39.95	327	P	P	11 10 39.3	-0.5

*IDC **20** 11:10:12.6±1.5, 7°.46S×128°.40E, h137km±14km, mb4.0/13, mb1 4.1/14, mb1mx3.9/33, mbtmp4.4/14, MS3.0/8, Ms1 3.0/8, ms1mx2.8/27, Error ellipse: s-maj=14.5km s-min=9.1km az=100.0*
*NEIC **20** 11:10:12.4±2.1, 7°.50S±0°.04×128°.48E±0°.06, h138km±6km, mb4.6/42, Error ellipse: s-maj=8.3km s-min=5.5km az=70.0*
*DJA **20** 11:10:12.9±0.2, 8°.S±2°.×12°.9E±°, h132km±3km, M4.7/38, mb4.9/38, mB5.2/21, MLv5.0/15, Mw(mB)4.6/21*

ISC 20 11:10:13.6±0.3, 7°.62S±0°.04×128°.54E±0°.04, h151km, n145, σ1§86/152, mb4.5/33, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.76	98	P	Pn	11 10 58.6	+0.7
SAUI				S	Sn	11 11 30.3	-1.9
SAUI	Saumlaki	2.76	98	Pn	Pn	11 10 58.2	+0.2
SAUI				Sn	Sn	11 11 29.6	-2.6
BNDI	Bandanaira	3.36	24	P	Pn	11 11 05.5	-0.1
BNDI				S	Sn	11 11 45.5	-0.4
AAI	Ambon	3.92	355	P	Pn	11 11 12.9	+0.1
MSAI	Masohi	4.26	5	P	Pn	11 11 18.1	+0.8
NLAI	Namlea	4.58	342	P	Pn	11 11 21.5	0.0
SOEI	Soe	4.73	243	P	Pn	11 11 23.1	-0.5
SOEI	Soe	4.73	243	Pn	Pn	11 11 23.0	-0.5
BATI	Baumata	5.46	242	P	Pn	11 11 32.7	-0.5
	731nm,0.3s,baz=121,slow=4.3,SNR=288						
BATI				S	Sn	11 12 32.1	-3.3
	172nm,0.3s,baz=67,slow=11,SNR=16						
BATI				LR	LR	11 13 10.9	
	comp=Z,224nm,20.0s,baz=149,slow=33						
BATI	Baumata	5.46	242	P	Pn	11 11 32.7	-0.5
	6.8nm19μm2μm,0.6s						
MTN	Manton Dam	5.79	154	P	Pn	11 11 36.7	-0.7
	baz=5.7,SNR=365						
MTN				S	Sn	11 12 38.2	-4.9
	baz=5.7						
MTN	Manton Dam	5.79	154	Pn	Pn	11 11 37.3	-0.2
MTN				Sn	Sn	11 12 39.2	-3.9
FAKI	Fak Fak	5.95	39	P	Pn	11 11 37.1	-2.6
	0.8nm3μm130nm,0.6s						
FAKI	Fak Fak	5.95	39	Pn	Pn	11 11 36.8	-2.9
FAKI				Sn	Sn	11 12 41.7	-5.3
SANI	Sanana	6.09	335	P	Pn	11 11 42.5	+1.0
	0.3nm792nm63nm,0.7s						
MMRI	Maumere	6.32	260	P	Pn	11 11 43.9	-0.7
	1.7nm3μm302nm,0.5s						
MMRI	Maumere	6.32	260	Pn	Pn	11 11 43.4	-1.2
MMRI				Sn	Sn	11 12 50.0	-5.9
KDU	Kakadu	6.35	143	P	Pn	11 11 44.2	-0.8
	baz=6.3,SNR=1000						
KDU				S	Sn	11 12 51.5	-5.1
	baz=6.3						
EDFI	Ende, Flores	6.87	260	P	Pn	11 11 51.1	-1.0
	0.3nm914nm37nm,0.7s						
KDI	Kendari	6.92	301	P	Pn	11 11 52.7	+0.1
	0.3nm20μm82nm,0.9s						
SIJI	Sorong	7.23	22	P	Pn	11 11 55.8	-1.1
	17nm,0.3s,baz=317,slow=11,SNR=31						
SIJI				S	Sn	11 13 15.0	-2.8
	5.6nm,0.3s,baz=198,slow=21,SNR=6.8						
KNRA	Kununurra	8.01	178	P	Pn	11 12 05.4	-1.8
	baz=7.9,SNR=406						
KNRA				S	Sn	11 13 29.9	-6.7
	baz=7.9						
KNRA	Kununurra	8.01	178	Pn	Pn	11 12 06.2	-1.0
KNRA				Sn	Sn	11 13 29.9	-6.7
RKPI	Ransiki, Papua	8.27	43	P	Pn	11 12 09.7	-0.9
	10μm644nm,0.7s						
BASI	Baing, Sumba	8.28	251	P	Pn	11 12 08.3	-2.5
	3μm151nm,0.7s						
TNTI	Ternate	8.41	352	P	Pn	11 12 13.3	+0.7
	39nm,1.1s						
BKSI	Bulukumba	8.67	285	P	Pn	11 12 16.2	+0.2
	686nm35nm,0.8s						
LUWI	Luwuk	8.70	318	P	Pn	11 12 15.4	-1.0
	3μm215nm,1.2s						
BNSI	Bone	8.97	290	P	Pn	11 12 19.5	-0.5
	34nm,0.9s						
KAPI	Kappang	9.11	286	Pn	Pn	11 12 22.0	+0.2
PLAI	Plampang	10.72	263	P	Pn	11 12 40.0	-3.2
	819nm62nm,0.6s						
FITZ	Fitzroy Crossi	10.79	195	P	Pn	11 12 40.8	-3.3
	9.6nm,0.3s,baz=360,slow=11,SNR=176						
FITZ				S	Sn	11 14 31.9	-12
	20nm,0.3s,baz=0.0,slow=7.0,SNR=7.1						
FITZ				LR	LR	11 16 45.4	
	comp=Z,16nm,21.9s,baz=280,slow=36						
FITZ	Fitzroy Crossi	10.79	195	P	Pn	11 12 40.6	-3.5
	baz=11,SNR=83						
FITZ				S	Sn	11 14 32.1	-11
	baz=11						
FITZ	Fitzroy Crossi	10.79	195	Pn	Pn	11 12 41.1	-3.0
FITZ				Sn	Sn	11 14 37.3	-6.2
TWSI	Taliwang, Sumb	11.59	264	P	Pn	11 12 50.6	-4.0
	360nm11nm,0.5s						
MPSI	Mapaga	11.69	312	P	Pn	11 12 54.7	-1.2
	1μm16nm,1.3s						
GENI	Genyem	12.61	67	P	Pn	11 13 05.3	-2.5
	66nm,1.2s						
WB0	Warramunga Arr	13.35	155	Pn	Pn	11 13 14.6	-2.6
WRAB	Tennant Creek	13.48	156	P	Pn	11 13 16.5	-2.4
WRA	Warramunga Arr	13.48	156	P	Pn	11 13 15.8	-3.1
	4.7nm,0.3s,baz=345,slow=12,SNR=244						
WRA				S	Sn	11 15 37.0	-11
	13nm,0.3s,baz=329,slow=22,SNR=17						
WRA				LR	LR	11 19 14.9	
	comp=Z,61nm,19.7s,baz=330,slow=40						
WB2	Warramunga Arr	13.49	156		Pn	11 13 16.5	-2.5
WR0	Warramunga Arr	13.58	155	Pn	Pn	11 13 17.5

MORW	**Morawa**	24.37 207	P	**P**	11 15 19.3	+1.5
KMBL	**Kambalda**	24.43 194	P	**P**	11 15 19.6	+1.2
	baz=24,SNR=26					
BLDU	**Ballidu**	25.42 204	P	**P**	11 15 27.8	+0.5
	baz=25,SNR=27					
KLBR	**Kellerberrin**	25.89 201	P	**P**	11 15 32.7	+1.2
	baz=26,SNR=20					
BBOO	**Buckleboo**	26.02 165	P	**P**	11 15 34.1	+1.5
	baz=26,SNR=108					
BBOO	**Buckleboo**	26.02 165	P	**P**	11 15 34.2	+1.5
MUN	**Mundaring**	26.82 204	P	**P**	11 15 40.6	+0.7
	baz=27,SNR=5.5					
STKA	**Stephens Creek**	27.03 155	P	**P**	11 15 43.4	+1.7
	comp=Z,14nm,0.5s,baz=325,slow=9.5,SNR=36					
STKA			LR	LR	11 27 26.2	
	comp=Z,79nm,20.5s,baz=207,slow=38					
STKA	**Stephens Creek**	27.03 155	P	**P**	11 15 43.4	+1.7
	baz=27,SNR=24					
STKA	**Stephens Creek**	27.03 155	P	**P**	11 15 43.5	+1.7
NWAO	**Narrogin (SRO)**	27.28 201	P	**P**	11 15 45.0	+1.1
	comp=Z,34nm,0.5s,baz=35,slow=7.7,SNR=50					
NWAO	**Narrogin (SRO)**	27.28 201	P	**P**	11 15 45.0	+1.1
	baz=27,SNR=44					
NWAO	**Narrogin (SRO)**	27.28 201	P	**P**	11 15 45.2	+1.2
NWAO	**Narrogin (SRO)**	27.28 201	P	**P**	11 15 45.1	+1.1
NWAO			IAmb	IAmb	11 15 45.7	
	comp=Z,28nm,0.7s					
HTT	**Hallett**	27.43 161	P	**P**	11 15 46.9	+1.6
	baz=27,SNR=17					
CMSA	**Cobar Meteorol**	28.68 148	P	**P**	11 15 58.5	+2.1
	baz=29,SNR=15					
KULM	**Kulim**	30.64 294	P	**P**	11 16 14.0	+0.1
KULM			IAmb	IAmb	11 16 31.7	
	comp=Z,14nm,1.4s					
RPSI	**Rantau Prapat**	31.27 288	P	**P**	11 16 17.7	-1.8
RPSI			IAmb	IAmb	11 16 19.8	
	comp=Z,8.2nm,0.7s					
RPSI	**Rantau Prapat**	31.27 288	P	**P**	11 16 18.3	-1.2
PSI	**Prapat**	31.31 288	P	**P**	11 16 18.3	-1.6
	comp=Z,7.9nm,0.8s,baz=3.9,slow=0.5,SNR=6.7					
ARPS	**Mount Arapiles**	31.45 159	P	**P**	11 16 22.7	+1.9
	baz=32,SNR=64					
YNG	**Young**	32.25 148	P	**P**	11 16 29.8	+2.0
	baz=32,SNR=6.2					
TOO	**Toolangi**	33.55 155	P	**P**	11 16 42.5	+3.4
	baz=34,SNR=20					
TOO	**Toolangi**	33.55 155	P	**P**	11 16 42.8	+3.6
CMAR	**Chiang Mai Arr**	39.04 312	P	**P**	11 17 24.7	-1.2
	comp=Z,2.6nm,1.0s,baz=146,slow=7.1,SNR=12					
CMAR	**Chiang Mai Arr**	39.04 312	P	**P**	11 17 24.4	-1.5
GYA	**Guiyang**	39.98 329	*e*P	**P**	11 17 35.3	+1.6
GYA			pP	pP	11 17 58.6	-7.1
GYA			PcP	**PcP**	11 19 41.3	+5.2
GYA			S	**S**	11 23 30.9	+2.8
GYA			SS	**SnSn**	11 26 44.3	-1.8
GYA			pmax	pmax		
	comp=Z,5.0nm,1.0s					
GYA			pmax	pmax		
	comp=Z,170nm,4.0s					
GYA			LR	LR		
	comp=N,510nm,4.5s					
GYA			LR	LR		
	comp=E,270nm,5.5s					
GYA			LR	LR		
	comp=Z,250nm,5.4s					
JMN	**Monobe**	41.43 7	P	**P**	11 17 45.6	+0.2
JMN			IAmb	IAmb	11 18 04.9	
	comp=Z,37nm,1.4s					
JWT	**Wachi**	43.16 8	P	**P**	11 17 58.1	-1.1
JWT			IAmb	IAmb	11 17 58.7	
	comp=Z,24nm,1.1s					
INU	**Inuyama**	43.48 10	P	**P**	11 18 01.9	0.0
INU			IAmb	IAmb	11 18 01.9	
	comp=Z,10nm,1.1s					
KSAR	**Wonju Array Be**	44.83 359	P	**P**	11 18 14.1	+1.6
KSRS	**Korea Array**	44.84 359	P	**P**	11 18 11.9	-0.7
	comp=Z,1.4nm,0.6s,baz=179,slow=9.2,SNR=11					
KSRS			LR	LR	11 35 35.2	
	comp=Z,8.4nm,21.5s,baz=130,slow=34					
MAT	**Matsushiro**	44.85 11	P	**P**	11 18 10.4	-2.4
MJAR	**Matsushiro Arr**	44.85 11	P	**P**	11 18 10.3	-2.5
	comp=Z,3.3nm,0.6s,baz=187,slow=9.7,SNR=16					
MJAR			ScP	**ScP**	11 23 30.8	+0.5
	comp=Z,1.0nm,0.6s,baz=166,slow=6.6,SNR=4.4					
MJAR	**Matsushiro Arr**	44.85 11	IAmb	IAmb	11 18 17.0	
	comp=Z,1.4nm,0.7s					
XAN	**Xi'an**	45.41 337	P	**P**	11 18 16.0	-1.3
XAN			pmax	pmax		
	comp=Z,15nm,0.7s					
LZH	**Lanzhou**	49.28 333	*e*P	**P**	11 18 48.8	+1.4
LZH			pP	pP	11 19 21.8	+1.3
LZH			sP	sP	11 19 39.3	+2.4
LZH			pmax	pmax		
	comp=Z,19nm,1.0s					
HHC	**Hu-ho-hao-te**	50.70 343	*e*P	**P**	11 18 59.6	+1.8
HHC			pmax	pmax		
	comp=Z,30nm,0.9s					
HHC			pmax	pmax		
	comp=Z,120nm,7.7s					
RPZ	**Rata Peaks**	51.65 141	LR	LR	11 40 40.1	
	comp=Z,50nm,21.6s,baz=326,slow=35					
USRK	**Ussuriysk Ar.**	51.67 3	P	**P**	11 19 04.1	-0.8
	comp=Z,1.7nm,0.5s,baz=189,slow=7.5,SNR=7.8					
ULN	**Ulaanbaatar**	58.42 343	P	**P**	11 19 53.5	+0.1
ULN			IAmb	IAmb	11 19 55.4	
	comp=Z,4.7nm,0.7s					
SONM	**Songino Array**	58.58 343	P	**P**	11 19 53.9	-0.6
	comp=Z,4.4nm,0.9s,baz=134,slow=4.3,SNR=10					
SONM	**Songino Array**	58.58 343	P	**P**	11 19 53.8	-0.8
CASY	**Casey**	59.88 188	P	**P**	11 20 04.1	+1.1
CASY			IAmb	IAmb	11 20 05.2	
	comp=Z,5.4nm,0.8s					
TLY	**Talaya**	62.82 343	P	**P**	11 20 21.7	-1.3
TLY			IAmb	IAmb	11 20 24.8	
	comp=Z,3.9nm,1.0s					
WMQ	**Urumqi**	63.13 328	*e*P	**P**	11 20 27.1	+1.8
WMQ			pmax	pmax		
	comp=Z,19nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,35nm,3.7s					
WMQ			LR	LR		
	comp=N,170nm,28.9s					
WMQ			LR	LR		
	comp=E,480nm,29.1s					
WMQ			LR	LR		
	comp=Z,14nm,29.1s					
PEA0B	**Petropavlovsk-**	65.36 19	P	**P**	11 20 40.0	+0.4
PETK	**Petropavlovsk-**	65.36 19	P	**P**	11 20 39.8	+0.2
	comp=Z,5.1nm,0.5s,baz=170,slow=3.7,SNR=8.8					
PETK	**Petropavlovsk-**	65.36 19	P	**P**	11 20 39.2	-0.4
NIL	**Nilore**	66.53 312	P	**P**	11 20 46.6	-0.9
NIL			IAmb	IAmb	11 20 47.0	
	comp=Z,5.6nm,0.6s					
KSH	**Kashi**	67.50 318	P	**P**	11 20 55.1	+1.5
KSH			S	**S**	11 29 41.0	+2.9
KSH			pmax	pmax		
	comp=Z,82nm,5.4s					
KSH			LR	LR		
	comp=N,130nm,5.8s					
KSH			LR	LR		
	comp=E,100nm,5.4s					
KSH			LR	LR		
	comp=Z,140nm,7.5s					
MK31	**Makanchi Array**	67.96 328	P	**P**	11 20 55.8	-0.4
MKAR	**Makanchi Array**	67.96 328	P	**P**	11 20 55.7	-0.5
	comp=Z,1.4nm,0.5s,baz=122,slow=7.9,SNR=5.5					
MAKZ	**Makanchi**	68.13 327	P	**P**	11 20 55.8	-1.5
MAKZ			IAmb	IAmb	11 21 22.3	
	comp=Z,2.5nm,0.6s					
ZAA0	**Zalesovo Array**	71.50 334	P	**P**	11 21 17.3	-0.4
ZAA0			IAmb	IAmb	11 21 18.8	
	comp=Z,6.1nm,0.9s					
ZALV	**Zalesovo Beam**	71.50 334	P	**P**	11 21 16.5	-1.2
	comp=Z,1.5nm,0.4s,baz=126,slow=5.2,SNR=13					
ZALV	**Zalesovo Beam**	71.50 334	P	**P**	11 21 16.0	-1.7
VNDA	**Vanda**	72.02 173	P	**P**	11 21 21.8	+1.3
	comp=Z,1.0nm,0.4s,baz=313,slow=7.2,SNR=21					
VNDA	**Vanda**	72.02 173	P	**P**	11 21 21.8	+1.3
KURK	**Kurchatov**	72.30 329	P	**P**	11 21 21.2	-1.3
KURK			IAmb	IAmb	11 21 24.7	
	comp=Z,5.9nm,0.9s					
KK31	**Karatay Array**	72.86 319	P	**P**	11 21 25.5	-0.5
KKAR	**Karatay Array**	72.86 319	P	**P**	11 21 24.8	-1.2
KKAR	**Karatay Array**	72.86 319	P	**P**	11 21 25.5	-0.5
KKAR			IAmb	IAmb	11 21 26.5	
	comp=Z,1.8nm,0.9s					
MAW	**Mawson**	73.85 201	P	**P**	11 21 33.2	+1.9
	comp=Z,3.5nm,0.5s,baz=78,slow=5.1,SNR=19					
MAW	**Mawson**	73.85 201	P	**P**	11 21 33.3	+1.9
	baz=74,SNR=9.9					
MAW	**Mawson**	73.85 201	P	**P**	11 21 33.2	+1.9
BRVK	**Borovoye**	77.89 328	P	**P**	11 21 54.2	-0.3
ABKAR	**Akbulak array**	82.09 322	P	**P**	11 22 16.7	-0.5
ABKAR	**Akbulak array**	82.09 322	P	**P**	11 22 16.0	-1.2
QSPA	**South Pole Qui**	82.36 180	P	**P**	11 22 19.5	+1.0
QSPA			IAmb	IAmb	11 22 20.1	
	comp=Z,8.1nm,0.8s					
SYO	**Syowa Base**	82.57 201	*e*P	**P**	11 22 19.2	-0.1
BELA	**Belgrano 2**	94.12 184	P	**P**	11 23 14.7	+0.2
SNAA	**Sanae**	94.73 194	P	**P**	11 23 19.2	+1.7
SNAA	**Sanae**	94.73 194	P	**P**	11 23 18.2	+0.7
SNAA			IAmb	IAmb	11 23 19.6	
	comp=Z,2.6nm,0.8s					
BRTR	**Keskin Array B**	98.58 309	LR	LR	12 14 34.1	
	comp=Z,15nm,21.2s,baz=220,slow=39					
LPAZ	**La Paz**	151.08 145	PKPbc	**PKiKP**	11 29 52.3	+1.2
	comp=Z,1.4nm,0.4s,baz=46,slow=3.9,SNR=10.0					
LPAZ	**La Paz**	151.08 145		**PKiKP**	11 29 52.2	+1.1

*DNK **20** 11:34:26.8±2.6, 51°.11N×14°.96E, h41km±39km, ML2.0, Hypocentre not reviewed by the ISC*
*IPEC **20** 11:34:27.5±0.3, 51°.50N×16°.34E, h0km, ML2.1/3, Error ellipse: s-maj=3.0km s-min=1.7km az=65.0*
*VIE **20** 11:34:29.7±0.9, 51°.34N×16°.18E, h0km, mb2.1/4, ml2.6/5, Error ellipse: s-maj=7.0km s-min=5.0km az=26.0 64 km WNW of Wroclaw Suspected Mining induced.*
*PRU **20** 11:34:29.1±0.0, 51°.44N×16°.17E, h0km*
ISC 20 11:34:27.2±1.0, 51°.51N±0°.04×16°.21E±0°.03, h0km, n26, σ0s66/54, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.67	175	*e*Pg	**Pg**	11 34 40.2	+0.2
KSP				*e*Sg	**Sg**	11 34 48.5	-0.2
CHVC	**Chvalec**	0.93	186	*e*PG	**Pg**	11 34 45.2	+0.2
CHVC				*e*SG	**Sg**	11 34 57.2	+0.2
	comp=Z,33nm,0.4s						
OSTC	**Ostas**	0.96	180	*e*PG	**Pg**	11 34 45.8	+0.3
OSTC				*e*SG	**Sg**	11 34 57.8	-0.1
	comp=Z,32nm,0.4s						
UPC	**Upice**	1.01	187	*e*PG	**Pg**	11 34 46.4	-0.2
UPC				*e*SG	**Sg**	11 34 59.1	-0.6
	comp=Z,73nm,0.5s						
DPC	**Dobruska-Polom**	1.17	176	*e*PG	**Pg**	11 34 49.1	-0.4
DPC				*e*SG	**Sg**	11 35 04.0	-0.6
	comp=Z,28nm,0.4s						
PVCC	**Panska Ves**	1.43	227	*e*PG	**Pn**	11 34 54.6	+0.2
PVCC				*e*SG	**Sn**	11 35 13.9	0.0
	comp=Z,90nm,0.3s						
KRLC	**Kraliky**	1.48	166	*e*PG	**Pn**	11 34 54.6	-0.6
KRLC				*e*SG	**Sg**	11 35 13.6	-1.2
	comp=Z,21nm,0.5s						
BRG	**Berggiesshubel**	1.56	247	PN	**Pn**	11 34 56.3	+0.1
BRG				PG	**Pb**	11 34 56.8	-0.2
BRG				SG	**Sn**	11 35 17.3	+0.1
	40nm,0.5s						
GOPC	**GO Pecny, Ondr**	1.84	210	*e*PG	**Pb**	11 35 01.2	-0.5
PRU	**Pruhonice**	1.86	215	*e*PG	**Pb**	11 35 01.4	-0.6
PRU				*e*SG	**Sb**	11 35 25.5	-0.2
	comp=Z,32nm,0.7s						
MORC	**Moravsky Berou**	1.93	153	*e*PN	**Pn**	11 35 00.9	-0.5
MORC				*e*SG	**Sn**	11 35 26.5	+0.1
MORC	**Moravsky Berou**	1.93	153	*e*Pn	**Pn**	11 35 00.8	-0.6
	baz=336						
MORC				*e*Sg	**Sn**	11 35 26.4	+0.1
	20nm,0.5s,baz=336						
CLL	**Collm**	2.02	265	*e*Pn	**Pn**	11 35 03.0	+0.5
CLL				*e*Pg	**Pg**	11 35 06.0	+0.1
CLL				*e*Sg	**Sg**	11 35 32.0	0.0
	comp=Z,20nm,0.6s						
VRAC	**Vranov**	2.22	173	*e*PN	**Pn**	11 35 05.4	+0.1
VRAC				*e*SG	**Sb**	11 35 36.4	+0.2
VRAC	**Vranov**	2.22	173	*e*Pn	**Pn**	11 35 05.3	0.0
	baz=356						
VRAC				*e*Sg	**Sb**	11 35 36.4	+0.2
	comp=Z,8.3nm,0.3s,baz=356						
KRUC	**Moravsky**	2.46	177	*e*PN	**Pn**	11 35 08.9	+0.4
KRUC				*e*SG	**Sb**	11 35 43.9	+0.9
KRUC	**Moravsky**	2.46	177	*e*Pn	**Pn**	11 35 08.9	+0.4
	baz=359						
KRUC				*e*Sg	**Sb**	11 35 43.9	+0.9
	comp=Z,5.5nm,0.3s,baz=359						
OJC	**Ojcow**	2.62	118	*e*Pg	**Pg**	11 35 17.4	+0.1
OJC				*e*Sg	**Sg**	11 35 52.3	+1.1
NKC	**Novy Kostel**	2.71	243	*e*PN	**Pn**	11 35 12.7	+0.8
NKC				*e*PG	**Pg**	11 35 18.5	-0.5
NKC				*e*SG	**Sg**	11 35 55.7	+1.7
	comp=Z,36nm,0.4s						
KHC	**Kasperske Hory**	2.92	216	*e*PN	**Pn**	11 35 15.1	+0.2
KHC				*e*PG	**Pb**	11 35 20.8	+0.7
KHC				*e*SN	**Sn**	11 35 49.8	-0.9
KHC				*e*SG	**Sg**	11 35 59.6	-1.3
	comp=Z,6.7nm,0.5s						
MODS	**Modra-Piesok**	3.22	167	*e*PG	**Pg**	11 35 28.7	-0.1
MODS				*e*SG	**Sg**	11 36 12.2	+1.7
VYHS	**Vyhne**	3.46	150	*e*PG	**Pg**	11 35 34.0	+0.5
CONA	**Conrad Observa**	3.59	184	*i* Pn	**Pn**	11 35 24.6	+0.4
	comp=Z,0.3nm,0.2s						
CONA				Sg	**Sg**	11 36 21.7	-0.9
	comp=Z,3.4nm,0.3s						
BSD	**Bornholm Skovb**	3.69	348	*i* P	**Pn**	11 35 25.2	-0.2
BSD				*i* S	**Sn**	11 36 08.5	-1.1
MOA	**Molln**	3.88	200	*i* Pn	**Pn**	11 35 28.5	+0.4
	comp=Z,1.7nm,0.3s						
MOA				Sg	**Sg**	11 36 31.9	+0.2
	comp=Z,5.5nm,0.4s						
ARSA	**Arzberg**	4.29	186	Sg	**Sg**	11 36 43.5	-1.4
	comp=Z,5.5nm,0.5s						

*DDA **20** 12:08:51.9, 35°.11N×27°.93E, h13km±5km, ML3.0*
*NIC **20** 12:08:52.8±0.0, 34°.87N×27°.60E, h33km±19km, Ml3.0/1*
*ISK **20** 12:08:55.9, 35°.33N×27°.78E, h11km, ML3.1/14*
*ATH **20** 12:08:56.0, 35°.21N×27°.79E, h13km±3km, ML2.9/2, Error ellipse: s-maj=5.1km s-min=2.0km az=327.0*
*THE **20** 12:08:56.7, 35°.23N×27°.71E, h0km±1km, ML2.9/3, Error ellipse: s-maj=4.5km s-min=0.9km az=172.0*
ISC 20 12:08:53.8±1.4, 35°.14N±0°.04×27°.88E±0°.03, h7km±11km, n54, σ1s08/70, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	0.72	305	P	**Pg**	12 09 07.9	+0.3
KARP				S	**Sb**	12 09 17.1	-1.6
	1μm,0.6s						
KARP	**Karpathos**	0.72	305	P	**Pg**	12 09 07.4	-0.2
KARP				S	**Sb**	12 09 16.8	-1.9
KARP				AML	AML	12 09 22.4	
	comp=E,2250μm,0.5s						
KARP				AML	AML	12 09 27.5	
	comp=N,2551μm,0.7s						
KARP	**Karpathos**	0.72	305	PG	**Pg**	12 09 07.2	-0.4
KARP				SG	**Sg**	12 09 14.9	-2.0
KARP	**Karpathos**	0.72	305	P	**Pg**	12 09 07.3	-0.2
KARP				S	**Sb**	12 09 18.1	-0.6
KARP				AML	AML	12 09 21.6	
	comp=N,2.2nm,0.4s						
KARP				AML	AML	12 09 21.6	
	comp=N,2.2nm,0.4s						
KARP				AML	AML	12 09 25.3	
	comp=N,2.5nm,0.6s						
KARP				AML	AML	12 09 25.3	
	comp=N,2.5nm,0.6s						
ARG	**Arkhangelos**	1.09	10	P	**Pn**	12 09 16.6	+1.0
ARG				S	**Sn**	12 09 32.7	+1.7
	comp=N,820nm,0.6s						
ARG	**Arkhangelos**	1.09	10	P	**Pg**	12 09 16.1	+1.2
ARG				S	**Sn**	12 09 30.4	-0.6
ARG				AML	AML	12 09 39.2	
	comp=N,1347μm,0.7s						
ARG				AML	AML	12 09 41.0	
	comp=E,1837μm,0.6s						
ARG	**Arkhangelos**	1.09	10	PG	**Pb**	12 09 14.4	-0.7
ARG	**Arkhangelos**	1.09	10	P	**Pg**	12 09 16.0	+1.2
ARG				S	**Sn**	12 09 34.3	+3.3
ZKR	**Zakros**	1.36	269	P	**Pg**	12 09 21.0	+1.0
ZKR				S	**Sg**	12 09 38.8	+1.1
	comp=E,510nm,0.6s						
ZKR	**Zakros**	1.36	269	P	**Pg**	12 09 20.6	+0.6
ZKR	**Zakros**	1.36	269	PN	**Pg**	12 09 20.5	+0.6
ZKR				SN	**Sg**	12 09 38.4	+0.7
STIA	**Sitia Lasithi**	1.47	273	P	**Pg**	12 09 22.3	+0.3
MRSB	**Marmaris-Mugla**	1.59 9		PN	**Pn**	12 09 22.4	-0.1
DAT	**Datca**	1.61	351	P	**Pn**	12 09 22.9	+0.2
DAT				S	**Sn**	12 09 43.1	-0.7
DAT	**Datca**	1.61	351	PN	**Pn**	12 09 22.1	-0.6
DATC	**Datca-Mugla**	1.63	354	PN	**Pn**	12 09 22.3	-0.6
TURN	**Turunc**	1.66 10		PN	**Pn**	12 09 23.4	+0.1
TURN	**Turunc**	1.66 10		*i* P	**Pn**	12 09 24.8	+1.4
TURN				*i* S	**Sg**	12 09 47.0	-0.2
AKAS	**Kas**	1.78 52		PN	**Pn**	12 09 25.9	+0.8
AKAS				SN	**Sn**	12 09 49.4	+1.3
AKAS	**Kas**	1.78 52		*i* P	**Pn**	12 09 24.7	-0.5
AKAS				*i* S	**Sn**	12 09 48.2	+0.1
DALY	**Dalyan (Mula)**	1.79 20		PN	**Pn**	12 09 25.5	+0.4
NPS	**Neapolis**	1.86 274		P	**Pb**	12 09 28.6	+0.4
NPS	**Neapolis**	1.86 274		P	**Pb**	12 09 28.8	+0.6
LAST	**Lasithi**	1.97 271		P	**Pb**	12 09 29.9	-0.1
LAST	**Lasithi**	1.97 271		P	**Pb**	12 09 30.5	+0.4
BODT	**Bodrum**	1.98 347		P	**Pn**	12 09 28.7	+1.0
BODT				S	**Sb**	12 09 54.4	-0.5
BODT	**Bodrum**	1.98 347		PN	**Pn**	12 09 27.4	-0.3
YER	**Yerkesik**	2.02 9		P	**Pn**	12 09 29.9	+1.5
YER				S	**Sb**	12 09 55.2	-1.1
YER	**Yerkesik**	2.02 9		PN	**Pn**	12 09 28.5	+0.1
ANAF	**Anafi Island**	2.10 306		P	**Pb**	12 09 31.1	-1.2
MLSB	**Milas**	2.15 358		PN	**Pn**	12 09 29.9	-0.3
ELL	**Elmali**	2.30 45		PN	**Pn**	12 09 33.7	+1.4
ELL	**Elmali**	2.30 45		P	**Pn**	12 09 33.9	+1.6
SANT	**Santorini**	2.32 303		PN	**Pn**	12 09 32.9	+0.4
AKUM	**Antalya-Kumluc**	2.33 59		*i* P	**Pn**	12 09 32.4	-0.1
AKUM				*i* S	Sn	12 09 49.4	-12
IDI	**Anoyia**	2.45 274		P	**Pn**	12 09 36.2	+1.9
IDI	**Anoyia**	2.45 274		P	**Pb**	12 09 36.7	-1.6
TAVA	**DENİZLİ_Tavas**	2.47 19		*i* P	**Pn**	12 09 35.0	+0.5
TAVA				*i* S	**Sb**	12 10 09.7	+0.5
TAVA				IAML		12 10 23.0	
	comp=N,64nm,0.7s						
GOLH	**Golhisar**	2.50 32		*i* P	**Pn**	12 09 36.7	+1.7
AYDN	**Tasoluk**	2.52 360		*i* P	**Pn**	12 09 35.5	+0.3
APE	**Apeiranthos**	2.71 316		PN	**Pn**	12 09 37.8	0.0
APE	**Apeiranthos**	2.71 316		*i* P	**Pn**	12 09 37.9	+0.1
KORT	**Korkueli**	2.73 46		PN	**Pn**	12 09 39.7	+1.5
KORT	**Korkueli**	2.73 46		*i* P	**Pn**	12 09 38.1	-0.1
AYDB	**Zeytinkoy-Aydi**	2.80 0		PN	**Pn**	12 09 38.9	-0.3
DGB	**zmir**	3.02 345		*i* P	**Pn**	12 09 41.9	-0.1
BRDR	**BURDUR-Merkez**	3.10 34		*i* P	**Pn**	12 09 44.3	+1.1
IMMV	**Iera Moni Meta**	3.21 277		P	**Pn**	12 09 46.5	+1.9
OSC1	**CSNet OBS 1**	3.25 119		S	**Sn**	12 10 21.4	-2.8
URLA	**Izmir**	3.38 343		PN	**Pn**	12 09 47.2	+0.2
KEPZ	**Antalya-Kepez**	3.49 59		*i* P	**Pn**	12 09 47.7	-0.9
AKMS	**Akamas**	3.66 91		P	**Pn**	12 09 51.0	+0.2
ALFC	**Alefka**	3.87 88		P	**Pn**	12 09 53.7	0.0
ASGA	**Asgata**	4.42 93		P	**Pn**	12 10 01.5	+0.2

*IDC **20** 12:20:00.4±5.2, 18°.41N×145°.48E, h406km±60km, mb3.0/9, mb1 3.2/10, mb1mx3.0/48, mbtmp3.7/10, Error ellipse: s-maj=30.5km s-min=12.3km az=94.0*
*NEIC **20** 12:20:03.3±0.9, 18°.34N±0°.09×145°.3E±0°.3, h438km±13km, mb3.9/10, Error ellipse: s-maj=40.0km s-min=11.4km az=99.0*
ISC 20 12:20:00.6±0.8, 18°.51N±0°.08×145°.3E±0°.2, h400km, n23, σ1s37/24, mb3.5/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	4.92 185			**Pn**	12 21 24.2	+2.4
GUMO				S	**S**	12 22 28.7	+0.9
MJAR	**Matsushiro Arr**	19.02 342		P	**P**	12 23 56.1	+0.3
	0.1nm,0.3s,baz=163,slow=9.6,SNR=5.3						
JSD	**Sado**	20.41 344		P	**P**	12 24 10.6	+1.9
KSRS	**Korea Array**	24.26 325		P	**P**	12 24 44.7	+1.2
	0.8nm,0.7s,baz=141,slow=8.8,SNR=4.2						
KNRA	**Kununurra**	37.69 207		P	**P**	12 26 37.9	-1.9
KNRA				IAmb	IAmb	12 26 49.9	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	39.52 196		P	**P**	12 26 53.0	-1.9
WB0				IAmb	IAmb	12 26 58.3	
	comp=Z,6.9nm,1.5s						
WR0	**Warramunga Arr**	39.67 196		P	**P**	12 26 54.8	-1.3
WR0				IAmb	IAmb	12 27 21.6	
	comp=Z,5.6nm,1.4s						
WRAB	**Tennant Creek**	39.70 196		P	**P**	12 26 55.2	-1.1
WB2	**Warramunga Arr**	39.70 196		P	**P**	12 26 55.0	-1.4
WB2				IAmb	IAmb	12 26 56.1	
	comp=Z,4.2nm,1.2s						
WRA	**Warramunga Arr**	39.71 196		P	**P**	12 26 55.3	-1.1
	comp=Z,0.7nm,0.5s,baz=12,slow=8.6,SNR=26						
WRA	**Warramunga Arr**	39.71 196		P	**P**	12 26 54.9	-1.5
FITZ	**Fitzroy Crossi**	41.21 209		P	**P**	12 27 07.5	-1.0
	comp=Z,0.9nm,0.3s,baz=3.7,slow=4.6,SNR=25						
FITZ	**Fitzroy Crossi**	41.21 209		P	**P**	12 27 07.6	-0.9
ASAR	**Alice Springs**	43.38 195		P	**P**	12 27 24.4	-1.4
	comp=Z,0.4nm,0.7s,baz=9.8,slow=8.1,SNR=5.1						
CMAR	**Chiang Mai Arr**	43.89 278		P	**P**	12 27 30.9	+1.0
	comp=Z,0.4nm,0.4s,baz=40,slow=7.4,SNR=4.2						
YAK	**Yakutsk**	44.84 350		P	**P**	12 27 37.6	+1.0
YAK				IAmb	IAmb	12 27 38.0	
	comp=Z,8.4nm,0.7s						
MKAR	**Makanchi Array**	58.33 314		P	**P**	12 29 15.9	+0.4
	comp=Z,0.4nm,0.4s,baz=95,slow=8.5,SNR=5.3						
ILAR	**Eielson Array**	63.97 26		P	**P**	12 29 51.9	-0.6
	comp

H11N3 WAKE ISLAND Hy 22.32 72 T T 13 26 48.4
baz=257,slow=75,SNR=7.7
MJAR Matsushiro Arr 23.37 347 P **P** **13 03 48.8 +0.2**
3.8nm,0.8s,baz=172,slow=9.2,SNR=13
MJAR Matsushiro Arr 23.37 347 P **P** **13 03 48.4 -0.2**
MAJO Matsushiro 23.37 347 P **P** **13 03 49.1 +0.5**
KSRS Korea Array 27.82 331 P **P** **13 04 29.2 +0.6**
0.9nm,0.4s,baz=144,slow=10.0,SNR=8.5
ERM Erimo 28.18 358 P **P** **13 04 32.4 +0.5**
KNRA Kununurra 33.09 208 P **P** **13 05 14.6 -0.6**
KNRA IAmb IAmb 13 05 32.0
comp=Z,11nm,1.4s
WB0 Warramunga Arr 34.74 197 P **P** **13 05 28.9 -0.6**
WB2 Warramunga Arr 34.92 197 P **P** **13 05 31.3 +0.3**
WB2 IAmb IAmb 13 05 57.3
comp=Z,8.6nm,1.4s
WRA Warramunga Arr 34.92 197 P **P** **13 05 30.6 -0.4**
comp=Z,1.4nm,0.8s,baz=21,slow=9.9,SNR=7.5
WRA Warramunga Arr 34.92 197 P **P** **13 05 30.5 -0.6**
WC3 Warramunga Arr 34.93 197 P **P** **13 05 31.0 -0.2**
FITZ Fitzroy Crossi 36.67 211 P **P** **13 05 46.0 0.0**
comp=Z,0.7nm,0.3s,baz=89,slow=24,SNR=8.4
FITZ Fitzroy Crossi 36.67 211 P **P** **13 05 46.3 +0.3**
AS31 Alice Springs 38.58 196 P **P** **13 06 02.5 +0.4**
ASAR Alice Springs 38.59 196 P **P** **13 06 01.9 -0.2**
comp=Z,0.5nm,0.6s,baz=16,slow=13,SNR=18
CMAR Chiang Mai Arr 43.87 282 P **P** **13 06 46.4 +1.0**
comp=Z,1.1nm,0.6s,baz=88,slow=6.3,SNR=11
CMAR Chiang Mai Arr 43.87 282 P **P** **13 06 45.7 +0.3**
STKA Stephens Creek 45.45 183 P **P** **13 06 56.7 -0.9**
comp=Z,0.8nm,0.4s,baz=17,slow=8.3,SNR=3.9
STKA Stephens Creek 45.45 183 P **P** **13 06 56.8 -0.9**
BBOO Buckleboo 46.98 190 P **P** **13 07 09.1 -0.6**
BBOO IAmb IAmb 13 07 31.9
comp=Z,4.0nm,1.1s
ATKA Atka Island 50.59 32 P **P** **13 07 36.5 -0.4**
TOO Toolangi 51.06 179 P **P** **13 07 41.7 +1.0**
MK31 Makanchi Array 61.08 316 P **P** **13 08 52.6 +0.7**
MK31 IAmb IAmb 13 08 52.7
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 61.08 316 P **P** **13 08 52.4 +0.5**
comp=Z,1.2nm,0.4s,baz=94,slow=8.4,SNR=22
MAKZ Makanchi 61.29 316 P **P** **13 08 54.2 +0.9**
MAKZ IAmb IAmb 13 08 54.4
comp=Z,2.0nm,0.5s
KDAK Kodiak Island 64.16 32 P **P** **13 09 12.2 +0.1**
comp=Z,1.4nm,0.4s,baz=184,slow=2.3,SNR=6.8
KDAK Kodiak Island 64.16 32 P **P** **13 09 11.4 -0.7**
KURK Kurchatov 64.19 320 P **P** **13 09 12.7 +0.3**
TTA Tatalina 64.20 26 P **P** **13 09 12.5 +0.1**
TTA IAmb IAmb 13 09 30.5
comp=Z,7.5nm,1.4s
CNPM China Poot 65.31 30 P **P** **13 09 19.2 -0.4**
IMAR Indian Mountai 66.22 23 P **P** **13 09 25.9 +0.7**
BPAW Bear Paw Mtn. 66.71 26 P **P** **13 09 28.1 -0.4**
BPAW IAmb IAmb 13 09 55.3
comp=Z,5.6nm,1.4s
TRF Thorofare Moun 66.82 26 P **P** **13 09 28.1 -1.2**
TRF IAmb IAmb 13 09 53.4
comp=Z,4.6nm,1.2s
PMR Palmer 66.85 28 P **P** **13 09 28.6 -0.6**
IL31 68.61 25 P **P** **13 09 38.4 -1.8**
ILAR Eielson Array 68.61 25 P **P** **13 09 38.0 -2.3**
comp=Z,0.8nm,0.5s,baz=248,slow=5.7,SNR=21
ILAR Eielson Array 68.61 25 P **P** **13 09 39.0 -1.3**
TOLK Toolik Lake Re 68.62 21 P **P** **13 09 40.1 -0.2**
IL18 Eielson Array 68.65 25 P **P** **13 09 38.7 -1.9**
RIDG Independent Ri 69.25 27 P **P** **13 09 43.7 -0.7**
BCAR Beaver Creek A 70.50 28 P **P** **13 09 52.1 +0.1**
HUMO Hull Mountain 82.73 48 P **P** **13 11 02.1 +0.9**
HUMO IAmb IAmb 13 11 08.0
comp=Z,7.4nm,1.4s
H04A Detroit Lake 82.84 46 P **P** **13 11 01.2 -0.5**
H04A IAmb IAmb 13 11 05.1
comp=Z,10nm,1.4s
YKA Yellowknife Ar 82.91 27 P **P** **13 11 00.7 -0.9**
comp=Z,0.4nm,0.5s,baz=286,slow=5.0,SNR=5.5
YKA LR LR 13 45 53.7
comp=Z,20nm,20.8s,baz=0.0,slow=34
YBH Yreka Blue Hor 83.09 49 P **P** **13 11 01.8 -1.4**
YBH IAmb IAmb 13 11 03.9
comp=Z,3.1nm,0.8s
PINE Pine Mountain 83.91 47 P **P** **13 11 07.7 +0.2**
PINE IAmb IAmb 13 11 08.2
comp=Z,5.4nm,0.8s
B08A Colville Reser 83.94 42 P **P** **13 11 06.9 -0.4**
B08A IAmb IAmb 13 11 36.3
comp=Z,3.6nm,1.4s
K05A Summer Lake 84.19 48 P **P** **13 11 08.9 0.0**
K05A IAmb IAmb 13 11 09.1
comp=Z,13nm,1.4s
MOD Modoc Plateau 84.81 48 P **P** **13 11 11.7 -0.2**
MOD IAmb IAmb 13 11 12.1
comp=Z,1.6nm,0.6s
I07A Izee 84.85 46 P **P** **13 11 12.0 -0.1**
NVAR Mina Array Bea 87.16 51 P **P** **13 11 23.3 -0.3**
comp=Z,1.1nm,0.6s,baz=260,slow=6.0,SNR=13
NVAR Mina Array Bea 87.16 51 P **P** **13 11 23.7 0.0**
MFID Camas Ranch 87.60 46 P **P** **13 11 25.4 -0.1**
MFID IAmb IAmb 13 11 26.1
comp=Z,4.6nm,0.9s
HRY Holter Researc 89.28 42 P **P** **13 11 33.5 +0.1**
DBIC Dimbokro 143.38 302 PKhKP PKPpre 13 18 08.3
comp=Z,26.0nm,0.9s,baz=59,slow=4.8,SNR=4.8
LPAZ La Paz 148.47 99 PKPbc **PKiKP** **13 18 25.2 -1.1**
comp=Z,3.4nm,0.7s,baz=316,slow=2.4,SNR=11
LPAZ La Paz 148.47 99 **PKiKP** **13 18 25.3 -0.9**

*IDC **20** 13:03:44.1±0.8, 33°.74N×137°.04E, h350km±10km, mb3.3/7, mb1 3.5/12, mb1mx3.2/48, mbtmp4.1/12, Error ellipse: s-maj=17.1km s-min=13.5km az=77.0*
*NEIC **20** 13:03:44.4±1.3, 33°.9N±0°.1×137°.1E±0°.1, h371km±9km, mb4.0/11, Error ellipse: s-maj=16.4km s-min=13.4km az=136.0*
*NIED **20** 13:03:44.6, 33°.90N×136°.97E, h366km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_T0.81; $M_{\theta\theta}$0.93; $M_{\phi\phi}$-1.74; $M_{r\theta}$-0.55; $M_{\phi\phi}$0.26; $M_{\phi r}$-0.30; Fault plane solution: $M_0$1.64000×10^{15} NP1: ϕ_s211.00000°, δ66.00000°, λ144.00000°. NP2: ϕ_s317.00000°, δ57.00000°, λ29.00000°.*
*JMA **20** 13:03:44.6±0.2, 33°.90N×136°.97E, h366km±2km, M3.8*
ISC 20 13:03:44.4±0.7, 33°.86N±0°.07×137°.02E±0°.05, h361km±6km, n69, σ_0**=98/83, mb3.8/15, 13C-3D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.13**	**177**	⇑P	**Pn**	**13 04 30.6**	**+1.4**
TTO1	**TONANKAI O.B.S**	**0.31**	**219**	⇑P	**Pn**	**13 04 30.5**	**+1.2**
TTO3	**TONANKAI O.B.S**	**0.32**	**90**	⇑P	**Pn**	**13 04 31.0**	**+1.6**
JIE	**Ise**	**0.59**	**334**	P	**Pn**	**13 04 31.1**	**+1.1**
TK02	**Tokai 2**	**0.62**	**82**	⇑P	**Pn**	**13 04 31.4**	**+1.5**
JKN2	**Miekihoku**	**0.72**	**302**	⇑P	**Pn**	**13 04 31.1**	**+0.7**
JKN2				S	**S**	**13 05 07.0**	**-0.4**
JTNC	**Tanabenakahech**	**1.17**	**268**	⇑P	**Pn**	**13 04 32.6**	**+0.5**
JTNC				S	**S**	**13 05 10.0**	**-0.4**
JWY	**Kouya**	**1.24**	**287**	⇑P	**Pn**	**13 04 33.3**	**+0.9**
JWY				S	**S**	**13 05 10.4**	**-0.6**
INU	**Inuyama**	**1.48**	**360**		**Pn**	**13 04 34.5**	**+1.0**
JYTA	**Yamagatataniai**	**1.74**	**352**	⇑P	**Pn**	**13 04 36.0**	**+1.0**
JGF	**Kuroka**	**1.76**	**9**	Pn	**Pn**	**13 04 36.1**	**+0.9**
JWT	**Wachi**	**1.95**	**317**	⇑P	**Pn**	**13 04 37.1**	**+0.8**
JWT				S	**S**	**13 05 17.3**	**-0.8**
JWT	**Wachi**	**1.95**	**317**		**Pn**	**13 04 37.2**	**+0.8**
JYN	**Shimob**	**2.06**	**37**	⇑P	**Pn**	**13 04 38.0**	**+0.8**
JAI	**Aioi**	**2.14**	**269**	⇑P	**Pn**	**13 04 38.1**	**+0.4**
JAI				S	**S**	**13 05 19.2**	**-1.4**
JOD2	**Odawara 2**	**2.21**	**50**	P	**Pn**	**13 04 39.2**	**+1.0**
JOD2				S	**S**	**13 05 21.9**	**+0.4**
JKG	**Kaga**	**2.48**	**347**	⇑P	**Pn**	**13 04 40.9**	**+0.8**
JMN	**Monobe**	**2.62**	**268**	⇓P	**Pn**	**13 04 42.0**	**+0.6**
JMN				S	**S**	**13 05 27.1**	**-0.2**
JMN	**Monobe**	**2.62**	**268**		**Pn**	**13 04 42.0**	**+0.6**
JRY	**Ryogami san**	**2.65**	**35**	⇑P	**Pn**	**13 04 42.7**	**+1.1**
JRY				S	**S**	**13 05 27.5**	**-0.2**
MAJO	**Matsushiro**	**2.85**	**20**	Pn	**Pn**	**13 04 43.9**	**+0.7**
MAT	**Matsushiro**	**2.85**	**20**	P	**Pn**	**13 04 43.9**	**+0.7**
MAT				S	**S**	**13 05 30.1**	**-0.6**
MAT	**Matsushiro**	**2.85**	**20**	P	**Pn**	**13 04 43.9**	**+0.7**
MAT				S	**S**	**13 05 30.1**	**-0.6**
MJAR	**Matsushiro Arr**	**2.85**	**20**	P	**Pn**	**13 04 43.9**	**+0.7**
2.9nm,0.3s,baz=198,slow=10,SNR=134
MJAR S **S** **13 05 30.1 -0.6**
0.3nm,0.3s,baz=194,slow=15,SNR=8.9
MJAR Matsushiro Arr 2.85 20 **Pn** **13 04 43.2 0.0**
JAG Ashikaga 3.24 37 P **Pn** **13 04 46.2 -0.5**
JAG S **S** **13 05 34.0 -3.0**
BSO1 Boso 1 3.37 75 P **Pn** **13 04 46.5 -0.8**
BSO1 S **S** **13 05 35.6 -2.6**
JHS Saijyo 3.42 290 P **Pn** **13 04 48.9 +0.5**
JHS S **S** **13 05 40.0 -0.1**
JHS Saijyo 3.42 290 **Pn** **13 04 49.0 +0.6**
JYT Yasato 3.52 47 Pn **Pn** **13 04 46.5 -2.8**
JTO Tosashimizu 3.67 255 ⇓P **Pn** **13 04 51.0 +0.2**
JOI OKI 3.93 309 P **Pn** **13 04 53.7 +0.4**
JOI S **S** **13 05 48.6 -0.3**
JSD Sado 4.29 13 Pn **Pn** **13 04 57.2 +0.3**
JMM Marumori 5.04 36 **Pn** **13 05 04.4 -0.4**
JNU Nakatsue 5.18 264 P **Pn** **13 05 07.0 +0.4**
7.4nm,0.3s,baz=99,slow=2.2,SNR=78
JSU Suzuyama 6.01 249 **Pn** **13 05 16.3 +0.5**
JCJ Chichijima 8.08 145 S S 13 07 04.6 -9.4
10nm,0.3s,baz=95,slow=21,SNR=9.2
KSRS Korea Array 8.22 298 P **P** **13 05 42.3 -1.2**
2.1nm,0.3s,baz=113,slow=12,SNR=98
KSAR Wonju Array Be 8.25 298 **Pn** **13 05 41.7 +0.1**
KS19 Wonju Array Si 8.28 299 P **Pn** **13 05 42.1 +0.2**
USA0B Ussuriysk Arra 11.04 341 P **P** **13 06 15.2 +0.6**
USRK Ussuriysk Ar. 11.04 341 P **P** **13 06 15.8 +1.2**
baz=165,slow=12,SNR=14
ASAJ Asahikawa 11.12 21 P **P** **13 06 16.3 +0.8**
1.0nm,0.3s,baz=230,slow=9.4,SNR=14
JKA Kamikawa-asahi 11.12 21 P **P** **13 06 15.5 0.0**
CN2 Changchun 13.40 321 *eP* **Pn** **13 06 42.8 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
WHN Wuhan 19.46 266 ⇓*iP* **P** **13 07 46.3 +0.2**
WHN pmax pmax
comp=Z,90nm,1.0s
HHC Hu-ho-hao-te 21.36 296 *eP* **P** **13 08 02.9 -1.0**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,160nm,7.9s
XAN Xi'an 23.28 278 P **P** **13 08 20.6 -0.8**
XAN pmax pmax
comp=Z,8.0nm,0.8s
SONM Songino Array 26.84 311 P **P** **13 08 55.9 +2.8**
comp=Z,3.1nm,0.7s,baz=120,slow=9.4,SNR=12
CMAR Chiang Mai Arr 37.22 255 P **P** **13 10 22.3 -0.5**
comp=Z,0.9nm,0.7s,baz=51,slow=7.4,SNR=6.3
WMQ Urumqi 39.17 300 *eP* **P** **13 10 39.3 +0.6**
MK31 Makanchi Array 42.85 304 P **P** **13 11 07.8 -0.5**
MKAR Makanchi Array 42.85 304 P **P** **13 11 08.7 +0.4**
comp=Z,1.2nm,0.7s,baz=85,slow=10,SNR=9.3
KURK Kurchatov 45.15 310 P **P** **13 11 26.6 +0.4**
KURK IAmb IAmb 13 11 27.0
comp=Z,3.6nm,0.7s
MTN Manton Dam 46.78 188 P **P** **13 11 38.8 -0.4**
KNRA Kununurra 49.88 190 P **P** **13 12 02.6 +0.1**
FITZ Fitzroy Crossi 52.80 194 P **P** **13 12 24.5 +0.6**
FITZ IAmb IAmb 13 12 25.0
comp=Z,7.7nm,0.7s
WB0 Warramunga Arr 53.39 183 P **P** **13 12 27.5 -0.7**
WB0 IAmb IAmb 13 12 28.5
comp=Z,6.2nm,0.8s
WB2 Warramunga Arr 53.56 183 P **P** **13 12 29.0 -0.4**
WB2 IAmb IAmb 13 12 29.4
comp=Z,4.4nm,0.6s
WRA Warramunga Arr 53.56 183 P **P** **13 12 29.0 -0.4**
comp=Z,4.7nm,0.5s,baz=359,slow=7.8,SNR=77
WRA Warramunga Arr 53.56 183 P **P** **13 12 29.2 -0.2**
WR0 Warramunga Arr 53.57 183 P **P** **13 12 29.3 -0.2**
WR0 IAmb IAmb 13 12 29.5
comp=Z,7.6nm,0.5s
ABKAR Akbulak array 57.25 311 P **P** **13 12 54.2 -0.9**
ABKAR IAmb IAmb 13 12 55.9
comp=Z,1.2nm,0.7s
AS31 Alice Springs 57.28 183 P **P** **13 12 54.8 -0.9**
ASAR Alice Springs 57.28 183 P **P** **13 12 55.5 -0.1**
comp=Z,1.8nm,0.7s,baz=13,slow=12,SNR=45
ASAR Alice Springs 57.28 183 P **P** **13 12 55.6 0.0**
FINES FINESS Array B 69.91 331 P **P** **13 14 17.2 +0.4**
comp=Z,0.4nm,0.4s,baz=60,slow=7.5,SNR=5.9
FINES FINESS Array B 69.91 331 P **P** **13 14 15.6 -1.2**
NVAR Mina Array Bea 79.77 51 P **P** **13 15 15.8 +2.3**
comp=Z,0.3nm,0.6s,baz=311,slow=4.6,SNR=3.7

*UCR **20** 13:08:04.7±1.9, 10°.67N×86°.62W, h12km±17km, MD3.9, ML3.5, mb4.5(NEIC)*
*INET **20** 13:08:04.6, 10°.58N×86°.68W, h15km, ML3.8*
*NEIC **20** 13:08:06.3±1.7, 10°.65N±0°.05×86°.54W±0°.07, h43km±14km, mb4.5/26, Error ellipse: s-maj=10.0km s-min=6.7km az=69.0*
*IDC **20** 13:08:08.4±4.3, 10°.90N×86°.34W, h34km±35km, mb3.8/6, mb1 4.1/7, mb1mx3.8/29, mbtmp3.9/7, ML3.2/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/24, Error ellipse: s-maj=47.4km s-min=17.8km az=52.0*
*SSS **20** 13:08:10.5, 10°.86N×86°.96W, h35km, ML3.6*
*SNET **20** 13:08:10.5±0.9, 10°.86N×86°.96W, h35km±999km, ML3.6*
*UPA **20** 13:08:11.7±0.3, 9°.21N×86°.69W, h165km±54km, MW4.6*
ISC 20 13:08:05.2±0.7, 10°.72N±0°.06×86°.57W±0°.05, h23km, n119, σ_1**=49/116, mb4.5/19, MS3.6/9, 2C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.96**	**90**	*eP*	**Pn**	**13 08 23.7**	**+0.5**
GBS3	**Finca Las Img**	**1.10**	**87**	*iP*	**Pn**	**13 08 25.4**	**+0.3**
LAPC	**Finca la Perla**	**1.12**	**87**	*iP*	**Pn**	**13 08 25.6**	**+0.1**
GUAI	**GUAI**	**1.13**	**113**	*iP*	**Pn**	**13 08 24.8**	**-0.9**
BUEV	**Buena Vista**	**1.15**	**86**	*eP*	**Pn**	**13 08 26.2**	**+0.3**
ORTG	**Ortega, Santa**	**1.15**	**108**	*eP*	**Pn**	**13 08 25.3**	**-0.7**
ORTG				*eS*	**Sb**	**13 08 40.6**	**-0.4**
GB1A	**Borinquen Arri**	**1.16**	**85**	*eP*	**Pn**	**13 08 26.4**	**+0.4**
GPS3	**Bodega del ICE**	**1.19**	**88**	*iP*	**Pn**	**13 08 26.7**	**+0.3**
GPS2	**Hotel Rincn d**	**1.20**	**88**	*iP*	**Pn**	**13 08 26.9**	**+0.3**
GPS1	**Guardaparques**	**1.20**	**87**	*iP*	**Pn**	**13 08 27.0**	**+0.3**
GRZA	**Playa Garza**	**1.22**	**131**	*eP*	**Pn**	**13 08 25.1**	**-1.6**
BUAI	**Buenos Aires**	**1.23**	**83**	*iP*	**Pb**	**13 08 27.9**	**+0.2**
DUNO	**Dulce Nombre,**	**1.23**	**121**	*eP*	**Pn**	**13 08 25.5**	**-1.5**
PLVR	**Palo Verde**	**1.25**	**107**	*eP*	**Pn**	**13 08 26.9**	**-0.6**
GUAB	**Guayabo de Bag**	**1.32**	**90**	*iP*	**Pn**	**13 08 28.7**	**+0.5**
COLC	**Colonia**	**1.34**	**92**	*iP*	**Pn**	**13 08 28.9**	**+0.4**
CUI	**Cuipilapa**	**1.38**	**92**	*iP*	**Pn**	**13 08 29.6**	**+0.5**
PTEN	**Parque Tenorio**	**1.56**	**90**	*iP*	**Pn**	**13 08 31.9**	**+0.4**
JTS	**Las Juntas de**	**1.65**	**105**	Pn	**Pn**	**13 08 32.6**	**-0.1**
29nm,0.3s,baz=4.9,slow=18,SNR=46
JTS Las Juntas de 1.65 105 *eP* **Pn** **13 08 32.7 -0.1**
JTS Las Juntas de 1.65 105 **Pn** **13 08 32.5 -0.1**
JTS Sn **Sn** **13 08 47.8 -5.5**
CASO Castillo 1.83 99 *iP* **Pn** **13 08 36.0 +0.8**
ACON Acoyapa 1.85 48 **Pn** **13 08 36.4 +0.9**
CEDE Laguna Cedeo 1.85 97 *eP* **Pn** **13 08 36.8 +1.2**
BOAB BOACO BROADBAN .93 27 Pn **Pn** **13 08 37.5 +0.9**
CRIN San Cristobal 2.02 347 Pn **Pn** **13 08 38.7 +0.7**
COVE Coope Vega, Sa 2.13 90 *eP* **Pn** **13 08 39.9 +0.6**
SRA1 San Ramn 2.15 107 *eP* **Pn** **13 08 41.8 +2.0**
JACO JACO, Garabito 2.15 119 *eP* **Pn** **13 08 41.0 +1.3**
MATN Matagalpa 2.29 16 Pn **Pn** **13 08 42.8 +1.2**
ESPN Las Esperanzas 2.67 56 **Pn** **13 08 48.0 +1.3**
LCR2 La Lucha 2 2.71 111 *eP* **Pn** **13 08 49.5 +2.0**
CNCH Conchagua 2.83 334⇑*eP* **Pn** **13 08 49.8 +0.8**
CNCH Conchagua 2.83 334⇑*eP* **Pn** **13 08 49.8 +0.8**
CNCH *eS* **Sn** **13 09 20.1 -2.3**
RIMA Rio Macho 2.83 109 *eP* **Pn** **13 08 51.3 +2.2**
CVTR Volcan Turrial 2.85 104 *eP* **Pn** **13 08 52.5 +2.8**
LCND La Caada 2.88 333 *eP* **Pn** **13 08 50.4 +0.7**
LCND IAML 13 09 28.6
comp=Z,288nm,0.3s
LCND La Caada 2.88 333 *eP* **Pn** **13 08 50.4 +0.7**
LCND IAML 13 09 28.6
comp=Z,288nm,0.3s
CDM Cerro de Muert 3.00 112 *eP* **Pn** **13 08 52.7 +1.0**
JUCU Jucuarn 3.01 327 *eP* **Pn** **13 08 51.3 -0.2**
JUCU IAML 13 09 30.5
comp=Z,294nm,0.3s
JUCU Jucuarn 3.01 327 *eP* **Pn** **13 08 51.3 -0.2**
JUCU *eS* **Sn** **13 09 24.6 -2.2**
JUCU IAML 13 09 30.5
comp=Z,294nm,0.3s
BLLM Bellamira 3.16 329 *eP* **Pn** **13 08 54.4 +0.8**
BLLM Bellamira 3.16 329 *eP* **Pn** **13 08 54.4 +0.8**
BLLM *eS* **Sn** **13 09 28.1 -2.5**
VSM San Miguel 3.17 328 *eP* **Pn** **13 08 54.8 +1.0**
VSM San Miguel 3.17 328 *eP* **Pn** **13 08 54.8 +1.0**
VSM *eS* **Sn** **13 09 28.6 -2.5**
RANC El Ranchito 3.18 328 *eP* **Pn** **13 08 54.6 +0.7**
RANC IAML 13 09 34.0
comp=Z,236nm,0.3s
RANC El Ranchito 3.18 328 *eP* **Pn** **13 08 54.6 +0.7**
RANC IAML 13 09 34.0
comp=Z,236nm,0.3s
FAGO Alcalda de S 3.32 333 *eP* **Pn** **13 08 56.5 +0.8**
FAGO Alcalda de S 3.32 333 *eP* **Pn** **13 08 56.5 +0.8**
FAGO *eS* **Sn** **13 09 32.8 -1.6**
TECA Tecapa 3.34 326 *eP* **Pn** **13 08 56.8 +0.6**
TECA Tecapa 3.34 326 *eP* **Pn** **13 08 56.8 +0.6**
COEB Comit de Eme 3.36 325 *eP* **Pn** **13 08 56.7 +0.3**
COEB IAML 13 09 41.9
comp=Z,149nm,0.3s
COEB Comit de Eme 3.36 325 *eP* **Pn** **13 08 56.7 +0.3**
COEB IAML 13 09 41.9
comp=Z,149nm,0.3s
TGUH Tegucigalpa,Un 3.39 348 *eP* **Pn** **13 08 58.5 +1.7**
TGUH Tegucigalpa,Un 3.39 348 *eP* **Pn** **13 08 58.5 +1.7**
TGUH Tegucigalpa,Un 3.39 348 **Pn** **13 08 57.5 +0.7**
DRK0 Durika 3.58 114 *eP* **Pn** **13 09 00.5 +1.0**
RIOS Rincon, Osa 3.62 123 *eP* **Pn** **13 09 01.6 +1.7**
COEG Centro de Oper 3.66 322 *eP* **Pn** **13 09 00.8 +0.3**
COEG Centro de Oper 3.66 322 *eP* **Pn** **13 09 00.8 +0.3**
LFRS El Faro 3.78 320 *eP* **Pn** **13 09 01.9 -0.2**
LFRS El Faro 3.78 320 *eP* **Pn** **13 09 01.9 -0.2**
LFRS *eS* **Sn** **13 09 42.6 -3.4**
BRU2 Volcan 4.28 116 *eP* **Pn** **13 09 11.9 +2.9**
BRU2 *eS* **Sn** **13 09 57.7 -0.6**
BC3P Paso Ancho 4.34 116 *eP* **Pn** **13 09 14.2 +4.3**
BCO2 Palmira 4.45 116 *eS* **Sn** **13 10 01.6 -1.1**
MTO3 Montecristo 4.56 324 **Pn** **13 09 14.6 +1.6**
DVD David 4.65 119 *eS* **Sn** **13 10 03.3 -4.1**
CHGR2 Aguacate 4.71 112 *eS* **Sn** **13 10 08.8 0.0**
APG El Apazote 5.71 319 Pn **Pn** **13 09 32.2 +3.5**
comp=Z,0.7nm,0.3s,baz=108,slow=10,SNR=4.9
BCIP Isla Barro Col 6.81 103 Pn **Pn** **13 09 43.7 0.0**
HKT Hockley 20.99 337 P **P** **13 12 46.1 -0.8**
152A Waverly Hall 21.91 4 P **P** **13 12 56.2 -0.6**
GOGA Godfrey 22.77 7 P **P** **13 13 05.6 -0.4**
GOGA IAmb IAmb 13 13 16.6
comp=Z,28nm,1.1s
Y49A Blount Mountai 23.03 0 P **P** **13 13 09.3 +0.6**
Y49A IAmb IAmb 13 13 19.3
comp=Z,19nm,0.8s
Y52A Lilburn 23.15 5 P **P** **13 13 09.1 -0.9**
FPAL Fort Paine 23.73 2 P **P** **13 13 15.4 -0.3**
HODGE Hodges 23.73 9 P **P** **13 13 14.0 -1.7**
HODGE IAmb IAmb 13 13 25.2
comp=Z,17nm,0.9s
JSC Jenkinsville 23.95 11 P **P** **13 13 17.8 +0.1**
JSC IAmb IAmb 13 13 27.5
comp=Z,13nm,0.9s
PLAL Pickwick Lake 24.19 357 P **P** **13 13 16.8 -3.2**
PLAL IAmb IAmb 13 13 29.2
comp=Z,13nm,1.0s
W50A Signal Mountai 24.40 2 P **P** **13 13 21.8 -0.1**
TX32 Lajitas Array 24.45 322 **P** **13 13 20.6 -1.9**
TXAR Lajitas Array 24.45 322 P **P** **13 13 23.7 +1.2**
comp=Z,4.6nm,0.8s,baz=136,slow=10.0,SNR=43
TXAR Lajitas Array 24.45 322 P **P** **13 13 21.5 -1.1**
TX31 Lajitas Ar. Si 24.46 322 P **P** **13 13 20.3 -2.2**
TX31 IAmb IAmb 13 13 32.4
comp=Z,15nm,0.8s
BIRD Birdtown, Kers 24.46 12 P **P** **13 13 21.4 -1.1**
MIAR Mount Ida 24.57 346 P **P** **13 13 23.1 -0.3**
CPCT Cooper Cave 24.69 4 P **P** **13 13 24.3 -0.2**
CPCT IAmb IAmb 13 13 35.5
comp=Z,15nm,0.9s
H06E1 SOCORRO T-PHAS 24.86 292 T T 13 39 05.8
SNR=48
TKL Tuckaleechee C 24.96 5 P **P** **13 13 27.7 +0.8**
comp=Z,6.4nm,0.7s,baz=189,slow=15,SNR=5.0
TKL Tuckaleechee C 24.96 5 P **P** **13 13 26.8 -0.1**
TKL IAmb IAmb 13 13 36.2
comp=Z,11nm,0.8s
WHAR Wooly Hollow 25.01 349 P **P** **13 13 26.0 -1.4**
WHAR IAmb IAmb 13 13 35.5
comp=Z,20nm,1.1s
V51A Loudon 25.05 4 P **P** **13 13 26.0 -1.8**
V51A IAmb IAmb 13 13 40.6
comp=Z,25nm,1.2s
V53A Saluda 25.07 7 P **P** **13 13 27.3 -0.7**
V53A IAmb IAmb 13 13 33.6
comp=Z,9.7nm,0.8s
V58A Windy Hill, Pi 25.86 14 P **P** **13 13 35.1 -0.1**
S39A Bolivar 27.53 348 P **P** **13 13 48.5 -1.7**
S39A IAmb IAmb 13 13 58.0
comp=Z,10nm,1.0s
AMTX Amarillo 27.72 333 P **P** **13 13 52.0 0.0**
AMTX IAmb IAmb 13 14 05.9
comp=Z,10nm,1.0s
P53A Whipple 29.02 8 P **P** **13 14 02.5 -0.9**
P57A Homestead Farm 29.64 13 P **P** **13 14 08.4 -0.5**
LPAZ La Paz 32.45 146 LR LR 13 28 09.3
comp=Z,101nm,18.2s,baz=331,slow=37
ECSD EROS Data Cent 34.03 347 P **P** **13 14 45.0 -2.4**
ECSD IAmb IAmb 13 14 55.2
comp=Z,8.6nm,1.0s
PDAR Pinedale Array 37.70 332 P **P** **13 15 20.0 +0.8**
comp=Z,1.1nm,0.6s,baz=129,slow=10,SNR=10
PDAR Pinedale Array 37.70 332 P **P** **13 15 18.2 -1.0**
ELK Elko 39.17 325 LR LR 13 35 20.2
comp=Z,56nm,18.8s,baz=133,slow=42
NVAR Mina Array Bea 39.57 320 P **P** **13 15 37.5 +2.5**
comp=Z,1.0nm,0.9s,baz=131,slow=7.5,SNR=6.3
NVAR PcP **PcP** **13 17 44.5 +2.3**
comp=Z,1.1nm,0.6s,baz=130,slow=4.8,SNR=8.7
MCMT McKenzie Canyo 40.81 331 P **P** **13 15 45.9 +0.8**
YBH Yreka Blue Hor 44.23 321 LR LR 13 37 11.2
comp=Z,91nm,18.2s,baz=148,slow=39
H03N2 Juan Fernandez 44.51 171 T T 14 03 40.3
baz=350,slow=76,SNR=4.3
H03N1 Juan Fernandez 44.52 171 T T 14 03 42.7
baz=350,slow=76,SNR=6.5
H03N3 Juan Fernandez 44.53 171 T T 14 03 41.5
baz=350,slow=76,SNR=5.9
BDFB Brasilia 46.30 124 LR LR 13 36 40.2
comp=Z,137nm,18.0s,baz=312,slow=37
SCHQ Schefferville 46.69 16 LR LR 13 36 40.6
comp=Z,81nm,18.7s,baz=248,slow=37
PLCA Paso Flores 53.29 165 P **P** **13 17 24.9 +2.5**
comp=Z,3.0nm,1.0s,baz=350,slow=12,SNR=4.5
ILAR Eielson Array 67.94 336 P **P** **13 19 01.8 -0.1**
comp=Z,0.6nm,0.8s,baz=121,slow=3.3,SNR=4.9
PPT Papeete 68.28 246 LR LR 13 42 56.2
comp=Z,34nm,20.1s,baz=100,slow=30
ESDC Sonseca Array 77.58 52 LR LR 13 51 52.7
comp=Z,29nm,19.0s,baz=285,slow=34
NOA NORSAR Array B 84.45 29 LR LR 13 57 31.9
comp=Z,12nm,18.7s,baz=300,slow=35
GERES GERESS Array B 88.69 41 LR LR 13 55 12.7
comp=Z,30nm,19.3s,baz=276,slow=32
KSRS Korea Array 122.19 328 PKP **PKiKP** **13 26 59.4 +0.6**
comp=Z,0.7nm,0.7s,baz=359,slow=1.6,SNR=4.6
CMAR Chiang Mai Arr 150.50 349 PKPbc **PKiKP** **13 27 57.1 +0.4**
comp=Z,2.2nm,0.9s,baz=329,slow=3.2,SNR=12

*BJI **20** 13:16:37.7±0.0, 23°.50N×94°.58E, h90km, mB4.9/17, mb4.5/25*
*IDC **20** 13:16:38.9±2.5, 23°.35N×94°.45E, h97km±23km, mb3.9/10, mb1 4.0/11, mb1mx3.6/43, mbtmp4.2/11, Error ellipse: s-maj=41.9km s-min=12.4km az=61.0*
*NEIC **20** 13:16:38.4±1.7, 23°.4N±0°.2×94°.7E±0°.3, h96km±10km, mb4.5/18, Error ellipse: s-maj=48.5km s-min=3.8km az=56.0*
*NDI **20** 13:16:40.8±2.9, 23°.53N×94°.39E, h80km, ML4.3, mb4.5(NEIC)*
ISC 20 13:16:38.4±0.5, 23°.41N±0°.05×94°.42E±0°.05, h99km, n90, σ_0**=19/101, mb4.4/20, 1D, Myan

SILR	**SILCHAR**	**2.02 313**	*e*PG	**Pn**	**13 17 12.6**	**+1.5**
KOHI	**KOHIMA**	**2.32 353**	*e*PG	**Pn**	**13 17 15.6**	**+0.3**
KOHI			*e*SG	**Sn**	**13 17 42.4**	**-1.1**
KOHI			IAML		13 17 42.6	
comp=N,1μm,0.3s						
BELO	**BELONIA**	**2.74 267**	*e*SG	**Sn**	**13 17 53.2**	**0.0**
AGT	**Agartala**	**2.95 280**	*e*SG	**Sn**	**13 17 57.6**	**-0.5**
SHL	**Shillong**	**3.16 313**	*e*PG	**Pn**	**13 17 26.4**	**0.0**
SHL			*e*SG	**Sn**	**13 18 00.1**	**-3.3**
SHL			IAML		13 18 01.0	
comp=N,3μm,0.1s						
SHL			IAML		13 18 01.0	
comp=E,2μm,0.1s						
TEZP	**TEZPUR**	**3.52 336**	*e*PG	**Pn**	**13 17 30.9**	**-0.2**
TEZP			*e*SG	**Sn**	**13 18 08.1**	**-3.7**
TEZP			IAML		13 18 08.4	
comp=N,3μm,0.1s						
GUWA	**GUWAHATI**	**3.72 319**	*e*PG	**Pn**	**13 17 32.8**	**-1.1**
GUWA			*e*SG	**Sn**	**13 18 12.0**	**-4.7**
GUWA			IAML		13 18 13.4	
comp=N,1μm,0.1s						
GUWA			IAML		13 18 14.3	
comp=E,2μm,0.1s						
DIBR	**DIBRUGARH**	**4.07 6**	*e*SG	**Sn**	**13 18 23.3**	**-1.8**
ZIRO	**ZIRO**	**4.13 353**	*e*PG	**Pn**	**13 17 39.7**	**+0.1**
ZIRO			*e*SG	**Sn**	**13 18 21.1**	**-5.9**
ZIRO			IAML		13 18 25.7	
comp=N,2μm,0.1s						
MHMT	**Maesarieng**	**6.15 147**	P	**Pn**	**13 18 07.9**	**+1.1**
CHTO	**Chiang Mai**	**6.22 136**	Pn	**Pn**	**13 18 06.6**	**-1.1**
CMMT	**Chiang Mai**	**6.22 136**	P	**Pn**	**13 18 07.5**	**-0.2**
CRAI	**Chiangrai**	**6.37 119**	P	**Pn**	**13 18 09.6**	**-0.1**
PAYA	**Payao**	**6.48 127**	P	**Pn**	**13 18 10.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**6.49 139**	P	**Pn**	**13 18 10.5**	**-0.9**
comp=N,1.0nm,0.3s,baz=312,slow=14,SNR=17						
CMAR	**Chiang Mai Arr**	**6.49 139**		**Pn**	**13 18 08.7**	**-2.6**
CM13	**Chiang Mai Arr**	**6.49 139**	P	**Pn**	**13 18 10.6**	**-0.8**
CM02	**Chiang Mai Arr**	**6.51 139**	P	**Pn**	**13 18 10.8**	**-0.8**
CM01	**Chiang Mai Arr**	**6.53 139**	P	**Pn**	**13 18 11.4**	**-0.5**
CM09	**Chiang Mai Arr**	**6.53 138**	P	**Pn**	**13 18 11.4**	**-0.5**
CM05	**Chiang Mai Arr**	**6.53 139**	P	**Pn**	**13 18 11.0**	**-0.9**
GTK	**Tadong**	**6.55 308**	*e*PG	**Pn**	**13 18 11.9**	**-0.3**
GTK			*e*SG	**Sn**	**13 19 21.8**	**-3.8**
GTK			IAML		13 19 26.7	
comp=N,411nm,0.4s						
LSA	**Lhasa**	**6.92 336**		**Pn**	**13 18 18.6**	**+1.0**
TAPN	**Taplejung**	**7.23 304**	*e*Pn	**Pn**	**13 18 20.7**	**-1.0**
TAPN			*e*Sn	Sn	13 19 29.2	-13
comp=N,95nm,0.3s						
TAPN	**Taplejung**	**7.23 304**	*e*Pn	**Pn**	**13 18 20.7**	**-1.0**
TAPN			*e*Sn	Sn	13 19 29.2	-13
comp=N,95nm,0.3s						
ODAN	**Odare**	**7.24 300**	*e*Pn	**Pn**	**13 18 20.5**	**-1.3**
ODAN			*e*Sn	Sn	13 19 28.5	-14
comp=N,115nm,0.3s						
ODAN	**Odare**	**7.24 300**	*e*Pn	**Pn**	**13 18 20.5**	**-1.3**
ODAN			*e*Sn	Sn	13 19 28.5	-14
comp=N,115nm,0.3s						
PHRA	**Phrae**	**7.30 131**	P	**Pn**	**13 18 22.1**	**-0.2**
KMI	**Kunming**	**7.78 76⇓**	*e*P	**Pn**	**13 18 27.0**	**-2.1**
KMI			pmax	pmax		
comp=N,6.0nm,1.0s						
BOK	**Bokaro**	**7.84 275**	*e*P	**Pn**	**13 18 30.6**	**+0.8**
BOK			*e*S	**Sn**	**13 19 50.7**	**-6.2**
RAMN	**Ramite**	**7.92 298**	*e*Pn	**Pn**	**13 18 29.9**	**-1.1**
RAMN			*e*Sn	Sn	13 19 43.3	-16
comp=N,74nm,0.3s						
RAMN	**Ramite**	**7.92 298**	*e*Pn	**Pn**	**13 18 29.9**	**-1.1**
RAMN			*e*Sn	Sn	13 19 43.3	-16
comp=N,74nm,0.3s						
JIRN	**Jiri**	**8.56 301**	*e*Pn	**Pn**	**13 18 38.6**	**-1.2**
JIRN			*e*Sn	Sn	13 20 01.2	-14
comp=N,68nm,0.2s						
JIRN	**Jiri**	**8.56 301**	*e*Pn	**Pn**	**13 18 38.6**	**-1.2**
JIRN			*e*Sn	Sn	13 20 01.2	-14
comp=N,68nm,0.2s						
PKI	**Pulchoki**	**9.14 299**	*e*Pn	**Pn**	**13 18 45.9**	**-1.8**
PKI	**Pulchoki**	**9.14 299**	*e*Pn	**Pn**	**13 18 45.9**	**-1.8**
KKN	**Kakani**	**9.34 300**	*e*Pn	**Pn**	**13 18 48.9**	**-1.3**
KKN			*e*Sn	Sn	13 20 18.9	-15
comp=N,37nm,0.3s						
KKN	**Kakani**	**9.34 300**	*e*Pn	**Pn**	**13 18 48.9**	**-1.3**
KKN			*e*Sn	Sn	13 20 18.9	-15
comp=N,37nm,0.3s						
DMN	**Daman**	**9.40 298**	*e*Pn	**Pn**	**13 18 50.0**	**-1.1**
DMN			*e*Sn	Sn	13 20 18.8	-16
comp=N,29nm,0.4s						
DMN	**Daman**	**9.40 298**	*e*Pn	**Pn**	**13 18 50.0**	**-1.1**
DMN			*e*Sn	Sn	13 20 18.8	-16
comp=N,29nm,0.4s						
GKN	**Gorkha**	**9.94 299**	*e*Pn	**Pn**	**13 18 56.4**	**-2.0**
GKN			*e*Sn	Sn	13 20 33.2	-15
comp=N,40nm,0.3s						
GKN	**Gorkha**	**9.94 299**	*e*Pn	**Pn**	**13 18 56.4**	**-2.0**
GKN			*e*Sn	Sn	13 20 33.2	-15
comp=N,40nm,0.3s						
KOLN	**Koldanda**	**10.69 296**	*e*Pn	**Pn**	**13 19 06.0**	**-2.7**
KOLN	**Koldanda**	**10.69 296**	*e*Pn	**Pn**	**13 19 06.0**	**-2.7**
DANN	**Dangsing**	**10.79 299**	*e*Pn	**Pn**	**13 19 07.8**	**-2.3**
DANN	**Dangsing**	**10.79 299**	*e*Pn	**Pn**	**13 19 07.8**	**-2.3**
PYUN	**Piuthan**	**11.31 297**	*e*Pn	**Pn**	**13 19 14.1**	**-3.0**
PYUN	**Piuthan**	**11.31 297**	*e*Pn	**Pn**	**13 19 14.1**	**-3.0**
GYA	**Guiyang**	**11.52 72**	*e*P	**Pn**	**13 19 21.6**	**+1.9**
GYA			S	**Sn**	**13 21 28.6**	**+2.1**
GYA			pmax	pmax		
comp=N,10.0nm,1.2s						
GYA			pmax	pmax		
comp=N,170nm,3.8s						
GYA			LR	LR		
comp=N,150nm,5.2s						
GYA			LR	LR		
comp=N,230nm,5.3s						
GYA			LR	LR		
comp=N,310nm,4.7s						
LZH	**Lanzhou**	**15.04 31**	*e*P	**P**	**13 20 08.4**	**-0.4**
LZH			pP	Pn	13 20 23.3	+17
LZH			sP	sP	13 20 30.3	-10
LZH			pmax	pmax		
comp=N,18nm,1.4s						
BHPL	**Bhopal**	**15.62 273**	*e*S	Sn	13 22 54.9	-11
IPM	**Ipoh**	**19.87 160**	P	**P**	**13 20 58.9**	**-2.9**
IPM			IAmb	IAmb	13 21 02.3	
comp=Z,38nm,1.5s						
PSI	**Prapat**	**20.94 167**	P	**P**	**13 21 15.5**	**+2.0**
comp=Z,4.1nm,0.6s,baz=360,slow=10,SNR=5.4						
WMQ	**Urumqi**	**21.10 346**	*e*P	**P**	**13 21 17.4**	**+2.4**
WMQ			pmax	pmax		
comp=Z,14nm,0.6s						
WMQ			pmax	pmax		
comp=Z,69nm,5.5s						
WMQ			LR	LR		
comp=Z,140nm,29.0s						
WMQ			LR	LR		
comp=Z,430nm,29.1s						
WMQ			LR	LR		
comp=Z,68nm,29.1s						
KSH	**Kashi**	**22.42 320**	P	**P**	**13 21 32.0**	**+3.0**
KSH			S	**S**	**13 25 27.4**	**-1.1**
KSH			SS	**SnSn**	**13 26 18.6**	**+12**
KSH			pmax	pmax		
comp=Z,23nm,0.7s						
KSH			pmax	pmax		
comp=Z,75nm,3.9s						
KSH			LR	LR		
comp=Z,160nm,6.2s						
KSH			LR	LR		
comp=Z,150nm,6.0s						
KSH			LR	LR		
comp=Z,210nm,14.6s						
HHC	**Hu-ho-hao-te**	**22.58 36**	*e*P	**P**	**13 21 29.0**	**-1.7**
HHC			pmax	pmax		
comp=Z,21nm,0.9s						
HHC			pmax	pmax		
comp=Z,280nm,4.5s						
NJ2	**Nanjing**	**23.24 63**	*e*P	**P**	**13 21 34.9**	**-2.1**
NJ2			pmax	pmax		
comp=Z,8.0nm,0.5s						
KDJ	**Kajisay**	**23.56 327**	P	**P**	**13 21 41.0**	**+0.9**
KBL	**Kabul**	**24.75 302**	P	**P**	**13 21 53.2**	**+2.1**
KBL			IAmb	IAmb	13 21 54.4	
comp=Z,6.5nm,0.5s						
SDSI	**Sungai Dareh**	**25.13 163**	P	**P**	**13 21 53.8**	**-0.5**
comp=Z,6.7nm,1.4s						
MK31	**Makanchi Array**	**25.30 340**	P	**P**	**13 21 57.8**	**+2.2**
MK31			IAmb	IAmb	13 21 58.4	
comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**25.30 340**	P	**P**	**13 21 57.6**	**+2.0**
comp=Z,19nm,0.6s,baz=145,slow=9.8,SNR=184						
MKAR	**Makanchi Array**	**25.30 340**	P	**P**	**13 21 57.5**	**+1.9**
MKAR			PcP	**PcP**	**13 25 27.4**	**+1.3**
MAKZ	**Makanchi**	**25.41 340**	P	**P**	**13 21 58.4**	**+1.8**
GAR	**Garm**	**25.71 313**	P	**P**	**13 22 01.5**	**+2.0**
BTK	**Batken**	**25.93 315**	P	**P**	**13 22 04.1**	**+2.6**
BTK			IAmb	IAmb	13 22 05.0	
comp=Z,10nm,0.7s						
KURBB	**Kurchatov Arra**	**29.85 339**	P	**P**	**13 22 37.7**	**+1.5**
comp=Z,2.7nm,0.6s,baz=156,slow=7.9,SNR=12						
KURBB			ScP	**ScP**	**13 29 10.8**	**+0.7**
comp=Z,0.7nm,0.5s,baz=154,slow=3.1,SNR=7.2						
KURK	**Kurchatov**	**29.90 340**	P	**P**	**13 22 35.8**	**-0.8**
KURK			IAmb	IAmb	13 22 39.0	
comp=Z,4.9nm,0.8s						
ZALV	**Zalesovo Beam**	**31.35 349**	P	**P**	**13 22 50.5**	**+1.2**
comp=Z,1.1nm,0.5s,baz=177,slow=7.7,SNR=7.1						
ZALV	**Zalesovo Beam**	**31.35 349**	P	**P**	**13 22 48.7**	**-0.6**
ABKAR	**Abkulak array**	**37.38 322**	P	**P**	**13 23 42.3**	**+0.9**
ABKAR	**Abkulak array**	**37.38 322**	P	**P**	**13 23 43.3**	**+1.8**
ABKAR			IAmb	IAmb	13 23 44.4	
comp=Z,3.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.30 141**	P	**P**	**13 25 31.9**	**-0.7**
FITZ			IAmb	IAmb	13 25 34.2	
comp=Z,6.5nm,1.1s						
KNRA	**Kununurra**	**51.34 136**	P	**P**	**13 25 32.6**	**-0.4**
AKASG	**Malin Array Be**	**56.64 316**	P	**P**	**13 26 11.2**	**+0.1**
comp=Z,0.7nm,0.3s,baz=87,slow=6.0,SNR=5.7						
AKASG	**Malin Array Be**	**56.64 316**	P	**P**	**13 26 09.9**	**-1.2**
WB0	**Warramunga Arr**	**57.98 134**	P	**P**	**13 26 20.1**	**-0.8**
WB0			IAmb	IAmb	13 26 22.1	
comp=Z,7.5nm,1.0s						
WRA	**Warramunga Arr**	**58.06 135**	P	**P**	**13 26 21.6**	**0.0**
comp=Z,5.1nm,0.7s,baz=323,slow=7.4,SNR=28						
WRA	**Warramunga Arr**	**58.06 135**	P	**P**	**13 26 20.7**	**-0.9**
WB2	**Warramunga Arr**	**58.07 135**	P	**P**	**13 26 21.0**	**-0.5**
WR0	**Warramunga Arr**	**58.21 135**	P	**P**	**13 26 21.2**	**-1.3**
FINES	**FINESS Array B**	**59.38 329**	P	**P**	**13 26 31.1**	**+1.0**
comp=Z,1.7nm,0.7s,baz=98,slow=7.9,SNR=5.2						
FINES	**FINESS Array B**	**59.38 329**	P	**P**	**13 26 30.5**	**+0.5**
AS31	**Alice Springs**	**60.50 138**	P	**P**	**13 26 37.9**	**-0.4**
ASAR	**Alice Springs**	**60.50 138**	P	**P**	**13 26 38.7**	**+0.5**
comp=Z,3.4nm,0.5s,baz=321,slow=6.9,SNR=45						
ASAR	**Alice Springs**	**60.50 138**	P	**P**	**13 26 38.3**	**0.0**
NB2	**NORSAR Subarra**	**66.55 328**	P	**P**	**13 27 17.6**	**0.0**
comp=Z,0.9nm,0.8s,baz=90,slow=6.2						
NOA	**NORSAR Array B**	**66.55 328**	P	**P**	**13 27 18.1**	**+0.5**
comp=Z,0.5nm,0.6s,baz=86,slow=6.3,SNR=4.3						
BOSA	**Boshof**	**84.31 236**	P	**P**	**13 29 00.8**	**+1.0**
comp=Z,3.0nm,0.8s,baz=348,slow=2.6,SNR=4.6						

*IDC **20** 13:30:52.3±1.4, 6°.77N×125°.09E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.5/3, MS3.2/5, Ms1 3.3/5, ms1mx2.9/27, Error ellipse: s-maj=28.2km s-min=10.4km az=140.0*

ISC 20 13:30:52.4±0.8, 6°.85N±0°.04×125°.09E±0°.04, h10km, n18, σ1§64/21, mb3.5/3, MS3.2/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.16**	**2⇑**	*e*P	**Pg**	**13 30 55.1**	**-1.0**
KCP				*i*S	**Sg**	**13 30 58.4**	**-0.1**
DAV	**Davao City (W)**	**0.54**	**66**	Pg	**Pb**	**13 31 02.9**	**-1.1**
411nm,0.3s,baz=261,slow=0.7,SNR=22							
DAV				Lg	Lg	13 31 11.8	
468nm,0.3s,baz=55,slow=24,SNR=40							
DAV	**Davao City (W)**	**0.54**	**66⇑**	*e*P	**Pg**	**13 31 00.6**	**-2.3**
SKMP	**Bagumbayan, Su**	**0.63**	**239**	*e*P	**Pb**	**13 31 04.7**	**-0.9**
SKMP				*e*S	**Sn**	**13 31 15.7**	**-1.8**
DDMP	**Don Marcelino,**	**0.97**	**140**	*e*P	**Pb**	**13 31 10.7**	**-0.6**
DDMP				*e*S	**Sn**	**13 31 26.3**	**+0.4**
BUKP	**Musuan**	**1.02**	**359**	*e*P	**Pg**	**13 31 10.4**	**-1.8**
BUKP				*e*S	**Sb**	**13 31 25.6**	**-0.3**
MATI	**Mati**	**1.17**	**85**	*e*P	**Pb**	**13 31 13.2**	**-1.5**
MATI				*e*S	**Sn**	**13 31 30.9**	**0.0**
PAGZ	**Pagadian**	**1.96**	**301**	*e*P	**Pn**	**13 31 24.3**	**-1.5**
PAGZ				*e*S	**Sb**	**13 31 52.9**	**+0.1**
MSLP	**Maasin**	**3.27**	**356**	*e*P	**Pb**	**13 31 48.8**	**-1.9**
MSLP				*e*S	**Sb**	**13 32 30.4**	**-0.2**
LLP	**Lapu-Lapu**	**3.62**	**342**	*e*P	**Pn**	**13 31 51.8**	**+3.2**
LLP				*e*S	**Sb**	**13 32 43.5**	**+2.8**
CMAR	**Chiang Mai Arr**	**27.95**	**297**	LR	LR	13 47 46.0	
comp=Z,59nm,18.9s,baz=174,slow=36							
WRA	**Warramunga Arr**	**28.14**	**161**	P	**P**	**13 36 46.4**	**+1.5**
0.4nm,0.6s,baz=340,slow=9.7,SNR=4.2							
KSRS	**Korea Array**	**30.57**	**4**	LR	LR	13 49 15.5	
comp=Z,25nm,20.8s,baz=208,slow=36							
ASAR	**Alice Springs**	**31.53**	**164**	P	**P**	**13 37 15.1**	**+0.1**
0.3nm,0.5s,baz=344,slow=6.9,SNR=7.7							
MJAR	**Matsushiro Arr**	**31.90**	**20**	LR	LR	13 50 08.9	
comp=Z,28nm,19.0s,baz=235,slow=36							
SONM	**Songino Array**	**43.84**	**342**	LR	LR	13 57 28.6	
comp=Z,59nm,18.4s,baz=169,slow=36							
MKAR	**Makanchi Array**	**54.08**	**325**	P	**P**	**13 40 19.5**	**+2.1**
0.6nm,0.9s,baz=127,slow=8.1,SNR=4.3							
NOA	**NORSAR Array B**	**95.28**	**333**	LR	LR	14 30 59.4	
comp=Z,12nm,18.1s,baz=240,slow=38							

*NEIC **20** 13:50:38.7±1.7, 5°.5S±0°.1×147°.6E±0°.3, h161km±21km, mb4.4/11, Error ellipse: s-maj=44.5km s-min=16.8km az=97.0*

*IDC **20** 13:50:43.3±2.8, 5°.82S×147°.35E, h157km±25km, mb3.8/3, mb1 4.0/6, mb1mx3.4/30, mbtmp4.3/6, MS2.9/1, Ms1 3.1/1, ms1mx2.4/26, Error ellipse: s-maj=40.1km s-min=20.0km az=130.0*

ISC 20 13:50:42.6±1.2, 5°.8S±0°.1×147°.3E±0°.1, h150km, n20, σ0§93/20, mb4.2/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.63**	**182**	P	**Pn**	**13 51 38.6**	**+0.4**
9.4nm,0.3s,baz=5.7,slow=11,SNR=54							
PMG				S	**Sn**	**13 52 21.3**	**0.0**
19nm,0.3s,baz=176,slow=22,SNR=9.0							
KRVT	**Keravat (AS076**	**4.95**	**73**	P	**Pn**	**13 51 55.6**	**+0.2**
4.7nm,0.3s,baz=36,slow=4.5,SNR=3.8							
COEN	**Coen**	**9.10**	**206**	Pn	**Pn**	**13 52 52.8**	**+2.1**
MTN	**Manton Dam**	**17.41**	**245**		**P**	**13 54 35.0**	**-0.5**
MTN				IAmb	IAmb	13 55 28.2	
comp=Z,19nm,1.3s							
WB0	**Warramunga Arr**	**18.74**	**221**	P	**P**	**13 54 50.6**	**+0.5**
WB0				IAmb	IAmb	13 54 51.5	
comp=Z,8.5nm,0.8s							
WR0	**Warramunga Arr**	**18.78**	**220**	P	**P**	**13 54 50.5**	**-0.1**
WRAB	**Tennant Creek**	**18.88**	**221**	P	**P**	**13 54 51.4**	**-0.3**
WRAB				IAmb	IAmb	13 54 53.0	
comp=Z,17nm,0.7s							
WB2	**Warramunga Arr**	**18.89**	**221**	P	**P**	**13 54 52.4**	**+0.7**
WRA	**Warramunga Arr**	**18.90**	**221**	P	**P**	**13 54 52.2**	**+0.4**
comp=Z,2.1nm,0.3s,baz=46,slow=11,SNR=88							
WRA	**Warramunga Arr**	**18.90**	**221**	P	**P**	**13 54 51.2**	**-0.6**
KNRA	**Kununurra**	**20.67**	**240**	P	**P**	**13 55 10.2**	**-0.6**
KNRA				IAmb	IAmb	13 55 13.6	
comp=Z,11nm,0.8s							
AS31	**Alice Springs**	**21.97**	**214**	P	**P**	**13 55 24.9**	**+0.2**
ASAR	**Alice Springs**	**21.98**	**214**	P	**P**	**13 55 25.1**	**+0.3**
comp=Z,5.9nm,0.7s,baz=50,slow=8.4,SNR=54							
ASAR	**Alice Springs**	**21.98**	**214**	P	**P**	**13 55 24.9**	**+0.2**
SOEI	**Soe**	**23.13**	**259**	P	**P**	**13 55 35.7**	**-0.3**
SOEI				IAmb	IAmb	13 55 36.4	
comp=Z,16nm,1.0s							
FITZ	**Fitzroy Crossi**	**24.42**	**238**	P	**P**	**13 55 47.5**	**-0.1**
comp=Z,13nm,0.6s,baz=0.4,slow=6.2,SNR=15							
FITZ	**Fitzroy Crossi**	**24.42**	**238**	P	**P**	**13 55 45.8**	**-1.7**
FITZ				IAmb	IAmb	13 55 49.8	
comp=Z,13nm,0.7s							
STKA	**Stephens Creek**	**26.53**	**191**	P	**P**	**13 56 04.2**	**-2.2**
CMAR	**Chiang Mai Arr**	**53.37**	**298**	LR	LR	14 23 59.6	
comp=Z,12nm,19.5s,baz=65,slow=37							
VNDA	**Vanda**	**72.15**	**177**	P	**P**	**14 01 50.2**	**-0.2**
comp=Z,0.5nm,0.7s,baz=334,slow=7.3,SNR=4.2							

WEL 20 14:20:03.1, 40°S±2°.×17°.7E±°., h45km±6km, M2.6/42, ML2.8/43, MLv2.6/42, Error ellipse: s-maj=0.0km s-min=0.0km az=83.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.22**	**333**	P	Pn	14 20 11.4	+0.3
KAHZ	**Kahuranaki**	**0.26**	**283**	P	Pn	14 20 11.6	+0.1
PXZ	**Pawanui**	**0.32**	**236**	P	Pn	14 20 13.8	+1.8
MCHZ	**McNeill Hill**	**0.57**	**316**	P	Pn	14 20 14.0	-1.0
PRHZ	**Porangahau**	**0.60**	**227**	P	Pn	14 20 17.4	+2.0
ARHZ	**Aropaoanui**	**0.61**	**344**	P	Pn	14 20 15.6	+0.1
WPHZ	**Waipukurau**	**0.63**	**250**	P	Pn	14 20 16.7	+1.0
KRHZ	**Kereru**	**0.68**	**288**	P	Pn	14 20 15.5	-0.9
KWHZ	**Kaweka Forest**	**0.74**	**305**	P	Pn	14 20 16.2	-1.1
WHHZ	**Waihua**	**0.78 2**		P	Pn	14 20 18.6	+0.9
PNHZ	**Pukenui**	**0.78**	**265**	P	Pn	14 20 17.8	+0.1
NMHZ	**Naumai**	**0.82**	**338**	P	Pn	14 20 18.2	-0.1
ANWZ	**Angora Road**	**0.83**	**223**	P	Pn	14 20 20.3	+1.9
BKZ	**Black Stump Fm**	**0.88**	**321**	P	Pn	14 20 18.3	-0.8
MHGZ	**Mahia Peninsul**	**0.88 38**		P	Pn	14 20 21.6	+2.5
KNZ	**Kokohu**	**0.91 24**		P	Pn	14 20 20.9	+1.5
DVHZ	**Dannevirke**	**0.92**	**241**	P	Pn	14 20 20.6	+1.0
RAHZ	**Arahi**	**0.94**	**354**	P	Pn	14 20 20.5	+0.5
BHHZ	**Black Hill Sta**	**0.95**	**292**	P	Pn	14 20 19.3	-0.9
TSZ	**Takapari Road**	**0.98**	**258**	P	Pn	14 20 20.7	+0.2
MTHZ	**Maungataniwha**	**1.04**	**344**	P	Pn	14 20 21.2	-0.1
PRGZ	**Paritu Road**	**1.07 30**		P	Pn	14 20 23.4	+1.7
SNGZ	**Shannon Statio**	**1.07 6**		P	Pn	14 20 22.7	+0.9
BFZ	**Birch Farm**	**1.11**	**221**	P	Pn	14 20 23.7	+1.5
PRWZ	**Pori Road**	**1.18**	**233**	P	Pn	14 20 24.6	+1.5
MRHZ	**Matea Rd**	**1.19**	**329**	P	Pn	14 20 23.3	-0.1
MOVZ	**Moawhango**	**1.21**	**291**	P	Pn	14 20 23.9	+0.3
RIGZ	**Rimuhau**	**1.22 21**		P	Pn	14 20 25.1	+1.3
POWZ	**Post Office Ro**	**1.23**	**244**	P	Pn	14 20 25.1	+1.3
RTZ	**Ruatahuna**	**1.25**	**352**	P	Pn	14 20 24.4	+0.2
CPWZ	**Castlepoint**	**1.31**	**216**	P	Pn	14 20 26.8	+1.9
TUVZ	**Tukino**	**1.34**	**295**	P	Pn	14 20 26.4	+0.9
WNVZ	**Wahianoa**	**1.35**	**292**	P	Pn	14 20 26.5	+0.8
ETVZ	**East Tongariro**	**1.36**	**301**	P	Pn	14 20 26.7	+1.0
TIWZ	**Tintock**	**1.37**	**227**	P	Pn	14 20 27.1	+1.3
TMVZ	**Te Maari**	**1.38**	**302**	P	Pn	14 20 27.0	+1.0
OTVZ	**Oturere**	**1.38**	**300**	P	Pn	14 20 27.0	+1.0
FWVZ	**Far West T-bar**	**1.41**	**294**	P	Pn	14 20 27.4	+0.9
NGZ	**Ngauruhoe**	**1.42**	**298**	P	Pn	14 20 27.6	+1.1
MTVZ	**Mangateitei**	**1.42**	**289**	P	Pn	14 20 27.2	+0.6
KRVZ	**Karewarewa**	**1.43**	**301**	P	Pn	14 20 27.7	+1.0
WTVZ	**West Tongariro**	**1.45**	**300**	P	Pn	14 20 28.2	+1.2
MRZ	**Mangatainoka R**	**1.48**	**237**	P	Pn	14 20 28.1	+0.8
TKGZ	**Te Karaka**	**1.50 20**		P	Pn	14 20 28.3	+0.8
MWZ	**Matawai**	**1.54 9**		P	Pn	14 20 28.4	+0.3
CNGZ	**Carnagh Statio**	**1.57 30**		P	Pn	14 20 29.9	+1.3
URZ	**Urewera**	**1.59**	**357**	P	Pn	14 20 29.0	+0.1
TMWZ	**Te Maipa**	**1.61**	**218**	P	Pn	14 20 29.9	+0.9
HOWZ	**Holdsworth Sta**	**1.66**	**231**	P	Pn	14 20 30.3	+0.5
OGWZ	**Otaki Gorge**	**1.83**	**238**	P	Pn	14 20 32.5	+0.4
RUGZ	**Raukumara Rang**	**1.92 11**		P	Pn	14 20 33.9	+0.5
TRWZ	**Traveller**	**1.93**	**216**	P	Pn	14 20 33.7	+0.3
WHRZ	**Whale Island**	**2.00**	**355**	P	Pn	14 20 41.1	+6.7
KIW	**Kapiti Island**	**2.02**	**239**	P	Pn	14 20 35.1	+0.4
CAW	**Cannon Point**	**2.06**	**232**	P	Pn	14 20 35.7	+0.5
HAZ	**Te Kaha**	**2.14 12**		P	Pn	14 20 37.1	+0.7
MSWZ	**Moikau Station**	**2.16**	**223**	P	Pn	14 20 36.6	0.0
PLWZ	**Palliser**	**2.27**	**220**	P	Pn	14 20 38.0	-0.1
TCW	**Tory Channel**	**2.61**	**238**	P	Pn	14 20 42.7	-0.1
TUWZ	**Tuamarina**	**2.94**	**237**	P	Pn	14 20 46.6	-0.7
GVZ	**Greta Valley S**	**4.42**	**224**	P	Pn	14 21 07.9	+0.3
LTZ	**Lake Taylor**	**4.73**	**230**	P	Pn	14 21 10.4	-1.5
TUZ	**Tuapeka**	**8.25**	**220**	P	Pn	14 22 01.4	+1.4

IDC 20 14:26:08.6±10.0, 17°.64S×178°.84W, h643km±147km, mb2.9/6, mb1 3.2/7, mb1mx2.9/25, mbtmp3.9/7, Error ellipse: s-maj=94.9km s-min=43.6km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.52**	**250**	P	P	14 29 11.8	+0.9
0.3nm,0.3s,baz=127,slow=16,SNR=8.0							
STKA	**Stephens Creek**	**38.40**	**241**	P	P	14 32 37.6	-0.1
1.1nm,0.5s,baz=101,slow=12,SNR=5.3							
WRA	**Warramunga Arr**	**44.27**	**259**	P	P	14 33 24.0	+0.1
0.7nm,0.7s,baz=97,slow=6.9,SNR=15							
ASAR	**Alice Springs**	**44.46

CMAR	Chiang Mai Arr	30.72	257	LR	LR	15 03 38.0
	comp=Z,45nm,19.9s,baz=296,slow=37					
MKAR	Makanchi Array	41.17	309	P	P	14 52 00.8 -0.2
	0.4nm,0.5s,baz=92,slow=9.5,SNR=8.9					
ZALV	Zalesovo Beam	41.20	320	P	P	14 52 00.4 -0.7
	0.7nm,0.5s,baz=105,slow=11,SNR=3.5					
ZALV	Zalesovo Beam	41.20	320	P	P	14 51 58.6 -2.5
KURK	Kurchatov	44.15	314	P	P	14 52 24.9 -0.1
KURK				IAmb	IAmb	14 52 25.6
	comp=Z,4.9nm,0.5s					
KURBB	Kurchatov Arra	44.19	314	P	P	14 52 25.0 -0.4
	comp=Z,3.2nm,0.5s,baz=100,slow=9.0,SNR=15					
WRA	Warramunga Arr	48.99	175	P	P	14 53 16.6 +13
	comp=Z,1.4nm,1.0s,baz=351,slow=8.4,SNR=6.1					
WRA	Warramunga Arr	48.99	175	P	P	14 53 16.6 +13
WB2	Warramunga Arr	49.00	175	P	P	14 53 14.3 +11
WB2				IAmb	IAmb	14 53 19.0
	comp=Z,1.9nm,0.9s					
KKAR	Karatay Array	49.42	303	P	P	14 53 06.7 +0.3
BVAR	Borovoye Array	49.48	316	P	P	14 53 06.4 -0.2
	comp=Z,2.0nm,0.6s,baz=123,slow=13,SNR=18					
BRVK	Borovoye	49.54	316	P	P	14 53 06.5 -0.6
BRVK				IAmb	IAmb	14 53 07.5
	comp=Z,4.2nm,0.7s					
AS31	Alice Springs	52.66	176	P	P	14 53 42.8 +12
ASAR	Alice Springs	52.66	176	P	P	14 53 46.6 +16
	comp=Z,0.6nm,0.9s,baz=8.3,slow=14,SNR=6.9					
ASAR	Alice Springs	52.66	176	P	P	14 53 42.0 +11
ABKAR	Akbulak array	56.15	312	P	P	14 53 55.9 0.0
ABKAR				IAmb	IAmb	14 53 56.7
	comp=Z,4.3nm,0.6s					
ABKAR	Akbulak array	56.15	312	P	P	14 53 55.8 0.0
FINES	FINESS Array B	71.29	331	P	P	14 55 34.8 -0.6
	comp=Z,1.5nm,0.8s,baz=67,slow=6.8,SNR=6.9					
AKASG	Malin Array Be	74.60	320	P	P	14 55 55.1 -0.1
	comp=Z,0.9nm,0.4s,baz=56,slow=6.3,SNR=5.3					
BRTR	Keskin Array B	76.81	308	P	P	14 56 09.2 +0.9
	comp=Z,1.0nm,0.7s,baz=97,slow=5.1,SNR=5.5					

IDC 20 14:49:10.1±5.2, 3°49N×127°59E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/47, mbtmp3.5/3, Error ellipse: s-maj=183.3km s-min=81.1km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.21	164	P	P	14 54 29.8	+1.1
	0.5nm,0.4s,baz=344,slow=9.9,SNR=5.0						
ASAR	Alice Springs	27.68	167	P	P	14 54 59.8	-0.3
	0.3nm,0.4s,baz=351,slow=7.2,SNR=8.0						
STKA	Stephens Creek	37.60	160	P	P	14 56 26.0	-0.7
	0.5nm,0.3s,baz=349,slow=10,SNR=5.0						

*AEIC **20** 14:54:36.2±3.0, 51°.2N±0°.1×178°.35W±0°.06, h28km±5km, ML4.2, mb4.4/57(NEIC), Error ellipse: s-maj=15.1km s-min=5.0km az=172.0*
*IDC **20** 14:54:37.8±2.8, 51°.57N×178°.44W, h50km±25km, mb3.9/22, mb1 4.1/22, mb1mx3.9/44, mbtmp4.1/22, MS3.1/10, Ms1 3.2/10, ms1mx2.9/39, Error ellipse: s-maj=19.5km s-min=11.4km az=159.0*
*NEIC **20** 14:54:38.0±1.7, 51°.45N±0°.07×178°.37W±0°.04, h53km±6km, Error ellipse: s-maj=10.9km s-min=1.5km az=195.0*

ISC 20 14:54:38.1±1.2, 51°.4N±0°.1×178°.39W±0°.04, h56km±9km, n186, σ0°92/181, mb4.4/44, MS3.0/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.42	325		Pn	14 54 48.5	-0.4
TASE	Tanaga Southea	0.47	28		Pn	14 54 48.7	-0.8
TANO	Tanaga North	0.52	19		Pn	14 54 49.6	-0.5
TAFP	Tanaga Falls P	0.54	28		Pn	14 54 49.4	-0.9
KIMD	Kanaga Island	0.80	64		Pn	14 54 52.1	-1.3
KIKV	Kanaga Island	0.89	58		Pn	14 54 53.6	-0.9
KICM	Kanaga Island	0.90	56		Pn	14 54 54.0	-0.6
KINC	Kanaga Island	0.94	57		Pn	14 54 54.5	-0.7
ADK	Adak	1.16	66		Pn	14 54 57.1	-1.0
ADAG	Mount Adagdak	1.25	63		Pn	14 54 58.9	-0.4
CERAA	Semis' Rag'd T	1.29	293		Pn	14 54 59.8	-0.1
CESW	Semis' Southwe	1.36	291		Pn	14 55 00.6	-0.3
CEAP	Semis' Anvil P	1.39	295		Pn	14 55 01.3	+0.1
CETU	Semis' Tuman	1.43	293		Pn	14 55 02.5	+0.8
AMKA	Amchitka	1.45	269		Pn	14 55 00.3	-1.6
GSTD	Great Sitkin T	1.53	65		Pn	14 55 03.3	+0.1
GSTD					Sn	14 55 23.5	+1.4
GSMY	Great Sitkin M	1.58	66		Pn	14 55 03.6	-0.2
GSTR	Great Sitkin T	1.60	64		Pn	14 55 03.9	-0.1
LSPA	Little Sitkin	1.96	287		Pn	14 55 09.2	+0.2
LSSA	Little Sitkin	2.00	287		Pn	14 55 10.0	+0.5
LSNW	Little Sitkin	2.00	287		Pn	14 55 09.6	0.0
ATKA	Atka Island	2.72	72	Pn	Pn	14 55 18.5	-0.8
ATKA	Atka Island	2.72	72		Sn	14 55 52.1	+1.2
KOWE	Korovin West	2.73	68		Pn	14 55 20.2	+0.7
KOFP	Korovin Flat P	2.80	71		Pn	14 55 20.6	+0.2
SMY	Shemya	4.81	289		Pn	14 55 48.5	+0.5
OKSP	Okmok Steeple	6.46	70		Pn	14 56 12.3	+1.8
MAPS	Pakushin South	7.37	67		Pn	14 56 24.1	+1.1
SPIA	Saint Paul Isl	7.47	36	Pn	Pn	14 56 26.1	+1.7
MREP	Makushin Rep't	7.48	67		Pn	14 56 25.8	+1.2
MNAT	Makushin Natee	7.54	66		Pn	14 56 26.6	+1.4
UNV	Unalaska Valle	7.63	67	Pn	Pn	14 56 28.4	+1.9
SDPT	Sand Point	11.39	63	Pn	Pn	14 57 19.1	+1.2
CNBA	Chernabura Isl	11.79	66	Pn	Pn	14 57 23.6	+0.3
GAMB	Gambell	12.88	13	Pn	Pn	14 57 40.2	+2.1
PETK	Petropavlovsk-	14.72	286	P	P	14 58 07.5	-0.3
	0.2nm,0.3s,baz=84,slow=17,SNR=8.6						
ANM	Nome	14.83	22	Pn	Pn	14 58 05.2	+1.1
OHAK	Old Harbor	15.70	59	Pn	Pn	14 58 12.9	-2.5
OHAK				IAmb	IAmb	14 58 19.9	
	comp=Z,20nm,0.5s						
SVW2	Sparrevohn	15.86	44		P	14 58 19.5	-0.8
KDAK	Kodiak Island	16.18	57	P	Pn	14 58 18.5	-3.1
	comp=Z,2.3nm,0.3s,baz=226,slow=3.9,SNR=49						
KDAK				S	Sn	15 01 18.9	-1.0
	comp=Z,0.3nm,0.3s,baz=148,slow=23,SNR=6.9						
KDAK	Kodiak Island	16.18	57	Pn	Pn	14 58 20.1	-1.5
TTA	Tatalina	16.62	38	Pn	P	14 58 28.7	-0.1
RSO	Redoubt South	16.87	48	P	P	14 58 33.0	+1.3
CNPM	China Poot	17.29	51	Pn	Pn	14 58 35.5	0.0
CNPM				IAmb	IAmb	14 58 48.5	
	comp=Z,32nm,1.3s						
SKT	Skwentna	18.00	44	P	P	14 58 44.2	+0.4
SKT				IAmb	IAmb	14 58 49.0	
	comp=Z,12nm,0.5s						
PPLA	Purkeypile	18.11	41	P	Pn	14 58 49.0	+3.4
SEW	Seward	18.32	50	P	P	14 58 47.2	-0.2
SEW				IAmb	IAmb	14 58 53.5	
	comp=Z,32nm,1.4s						
KTH	Kantishna Hill	18.93	40	P	Pn	14 58 55.9	+0.6
KTH				IAmb	IAmb	14 59 01.1	
	comp=Z,25nm,0.6s						
MA2	Magadan	19.13	307	LR	LR	15 05 30.4	
	comp=Z,74nm,20.7s,baz=100,slow=34						
TRF	Thorofare Moun	19.13	40	P	Pn	14 58 57.0	-0.8
TRF				IAmb	IAmb	14 59 12.3	
	comp=Z,26nm,1.4s						
BPAW	Bear Paw Mtn.	19.16	38	P	Pn	14 58 58.1	+0.1
BPAW				IAmb	IAmb	14 59 02.3	
	comp=Z,11nm,0.7s						
IMAR	Indian Mountai	19.20	31	P	Pn	14 58 58.3	-0.2
RND	Reindeer	19.70	41	P	P	14 59 01.5	-1.1
SCM	Sheep Creek Mo	19.81	46	P	P	14 59 02.8	-1.0
SCM				IAmb	IAmb	14 59 11.1	
	comp=Z,10nm,0.7s						
DHY	Denali Highway	20.20	43	P	P	14 59 08.0	0.0
DHY				IAmb	IAmb	14 59 13.2	
	comp=Z,17nm,0.8s						
WRH	Wood River Hil	20.45	39	P	P	14 59 11.2	+0.6
MDM	Murphy Dome	20.61	37	P	P	14 59 12.8	+0.4
MDM				IAmb	IAmb	14 59 28.2	
	comp=Z,11nm,0.9s						
CCB	Clear Creek Bu	20.64	38	P	P	14 59 12.1	-0.6
PAX	Paxson	20.98	44	P	P	14 59 16.5	0.0
PAX				IAmb	IAmb	14 59 23.6	
	comp=Z,8.3nm,0.7s						
IL31		21.05	39	P	P	14 59 16.3	-0.7
ILAR	Eielson Array	21.05	39	P	P	14 59 16.1	-1.0
	comp=Z,1.3nm,0.5s,baz=237,slow=9.2,SNR=32						
ILAR				PcP	PcP	15 03 21.0	-0.5
	comp=Z,0.9nm,0.4s,baz=285,slow=3.5,SNR=9.9						
ILAR				ScP	ScP	15 06 55.1	+1.9
	comp=Z,0.3nm,0.8s,baz=275,slow=2.8,SNR=8.3						
ILAR				LR	LR	15 08 28.8	
	comp=Z,53nm,18.7s,baz=169,slow=40						
ILAR	Eielson Array	21.05	39	P	P	14 59 15.8	-1.3
COLD	Coldfoot	21.09	31	P	P	14 59 18.5	+1.1
RIDG	Independent Ri	21.49	42	P	P	14 59 21.4	-0.5
RIDG				IAmb	IAmb	14 59 28.1	
	comp=Z,7.0nm,0.6s						
DOT	Dot Lake	21.80	43	P	P	14 59 24.9	-0.2
DOT				IAmb	IAmb	14 59 28.5	
	comp=Z,5.8nm,0.6s						
BCAR	Beaver Creek A	22.62	45	P	P	14 59 32.8	-1.1
EGAK	Eagle	23.35	41	P	P	14 59 40.8	-0.4
EPYK	Eagle Plains	25.57	38	P	P	14 59 59.9	-1.6
YSS	Yuzh-Sakhalins	25.57	275	P	P	15 00 01.2	-0.4
ASAJ	Asahikawa	26.96	270	P	P	15 00 15.2	+1.0
	comp=Z,15nm,0.9s,baz=55,slow=8.1,SNR=4.7						
ASAJ				LR	LR	15 11 26.4	
	comp=Z,20nm,18.8s,baz=7.0,slow=38						
INK	Inuvik	27.27	35	P	P	15 00 16.3	-0.4
	comp=Z,0.6nm,0.3s,baz=270,slow=33,SNR=9.5						
INK				PcP	PcP	15 03 35.2	+0.4
	comp=Z,2.7nm,0.8s,baz=270,slow=33,SNR=6.0						
INK	Inuvik	27.27	35	IAmb	IAmb	15 00 33.7	
	comp=Z,8.2nm,1.4s						
INK					PcP	15 03 35.6	+0.8
DLBC	Dease Lake	28.12	57	LR	LR	15 10 44.6	
	comp=Z,59nm,19.8s,baz=288,slow=34						
USA0B	Ussuriysk Arra	33.54	277	P	P	15 01 10.6	-1.7
USA0B				IAmb	IAmb	15 01 12.6	
	comp=Z,5.6nm,0.6s						
USRK	Ussuriysk Ar.	33.54	277	P	P	15 01 12.0	-0.3
	comp=Z,5.2nm,0.6s,baz=54,slow=7.9,SNR=16						
H11N2	WAKE ISLAND Hy	33.68	206	T	T	15 37 00.9	
	baz=17,slow=76,SNR=532						
H11N3	WAKE ISLAND Hy	33.69	206	T	T	15 36 59.3	
	baz=17,slow=76,SNR=632						
H11N1	WAKE ISLAND Hy	33.70	206	T	T	15 37 00.0	
	baz=17,slow=76,SNR=582						
MAT	Matsushiro	34.05	261	P	P	15 01 17.2	+0.4
MJAR	Matsushiro Arr	34.05	261	P	P	15 01 17.4	+0.6
	comp=Z,2.8nm,0.7s,baz=50,slow=6.9,SNR=8.8						
MJAR				LR	LR	15 14 07.3	
	comp=Z,20nm,21.1s,baz=245,slow=34						
H11S1	WAKE ISLAND Hy	34.90	205	T	T	15 38 30.4	
	baz=16,slow=76,SNR=810						
H11S2	WAKE ISLAND Hy	34.91	205	T	T	15 38 31.4	
	baz=16,slow=76,SNR=902						
H11S3	WAKE ISLAND Hy	34.91	205	T	T	15 38 31.4	
	baz=16,slow=76,SNR=595						
YKA	Yellowknife Ar	35.02	47	P	P	15 01 24.8	0.0
	comp=Z,1.0nm,0.6s,baz=294,slow=10.0,SNR=7.8						
YKA				PcP	PcP	15 03 56.1	+0.5
	comp=Z,1.4nm,0.8s,baz=287,slow=3.0,SNR=4.8						
B08A	Colville Reser	37.28	71	P	P	15 01 45.5	+1.2
B08A				IAmb	IAmb	15 01 46.1	
	comp=Z,6.7nm,0.8s						
HAWA	Hanford	38.10	74	P	P	15 01 51.8	+0.5
HAWA				IAmb	IAmb	15 02 03.0	
	comp=Z,5.4nm,0.9s						
NEW	Newport	38.63	70	P	P	15 01 55.1	-0.6
NEW				IAmb	IAmb	15 01 57.0	
	comp=Z,5.5nm,0.6s						
KSRS	Korea Array	39.89	271	P	P	15 02 07.3	+1.0
	comp=Z,3.9nm,0.7s,baz=57,slow=8.4,SNR=19						
KSRS				LR	LR	15 18 07.9	
	comp=Z,15nm,18.7s,baz=49,slow=35						
MSO	Missoula	41.21	70	P	P	15 02 16.6	-0.6
MSO				IAmb	IAmb	15 02 18.2	
	comp=Z,8.7nm,1.2s						
HRY	Holter Researc	42.51	69	P	P	15 02 27.4	-0.5
MCMT	McKenzie Canyo	42.92	72	P	P	15 02 32.0	+0.6
BOZ	Bozeman (W)	43.22	70	P	P	15 02 32.9	-0.8
BOZ				IAmb	IAmb	15 02 34.7	
	comp=Z,6.3nm,0.7s						
NVAR	Mina Array Bea	43.29	83	P	P	15 02 35.3	+0.9
	comp=Z,1.2nm,0.7s,baz=287,slow=8.7,SNR=6.3						
NVAR	Mina Array Bea	43.29	83	P	P	15 02 34.4	0.0
ELK	Elko	43.80	78	P	P	15 02 38.1	-0.3
YHL	Hebgen Lake	43.90	71	P	P	15 02 39.1	-0.2
YHH	Holmes Hill	44.13	71	P	P	15 02 41.7	+0.5
R11A	Troy Canyon, C	45.03	81	P	P	15 02 48.1	-0.1
TPNV	Topopah Spring	45.49	83	P	P	15 02 52.3	+0.4
TPNV				IAmb	IAmb	15 02 57.6	
	comp=Z,3.8nm,0.8s						
DUG	Dugway, Tooele	45.61	77	P	P	15 02 53.7	+0.9
DUG				IAmb	IAmb	15 03 04.5	
	comp=Z,7.4nm,1.1s						
BW06	Boulder Array	46.05	73	P	P	15 02 56.0	-0.3
BW06				IAmb	IAmb	15 02 58.9	
	comp=Z,5.4nm,0.7s						
PD31	Pinedale Array	46.05	73	P	P	15 02 56.3	0.0
PD31				IAmb	IAmb	15 02 58.9	
	comp=Z,4.9nm,0.8s						
PDAR	Pinedale Array	46.05	73	P	P	15 02 56.6	+0.2
	comp=Z,3.5nm,0.5s,baz=316,slow=4.1,SNR=22						
PDAR				LR	LR	15 21 34.6	
	comp=Z,28nm,19.8s,baz=323,slow=35						
PDAR	Pinedale Array	46.05	73	P	P	15 02 56.3	0.0
TLY	Talaya	46.26	303	PcP	PcP	15 04 33.4	+1.2
	comp=Z,4.2nm,0.6s,baz=255,slow=2.2,SNR=6.3						
SONM	Songino Array	46.86	297	PcP	PcP	15 04 35.1	+0.6
	comp=Z,1.7nm,0.8s,baz=95,slow=3.0,SNR=4.3						
SONM				LR	LR	15 23 39.0	
	comp=Z,65nm,18.9s,baz=56,slow=37						
MSU	Marysvale	47.03	79	P	P	15 03 05.5	+1.4
MTPU	Mount Pierson	47.32	79	P	P	15 03 06.9	+0.5
SRU	San Rafael Swe	47.67	77	P	P	15 03 08.9	-0.1
HHC	Hu-ho-hao-te	47.92	286	eP	P	15 03 10.0	-0.8
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,340nm,7.3s						
U15A	North Rim	48.27	81	P	P	15 03 15.1	+1.3
U15A				IAmb	IAmb	15 03 33.2	
	comp=Z,4.6nm,0.9s						
O20A	White River Ci	48.42	75	P	P	15 03 15.2	+0.4
PV02	Paradox Valley	49.33	77	P	P	15 03 21.6	-0.2
SPITS	Spitsbergen Ar	50.35	356	P	P	15 03 28.0	-0.7
	comp=Z,2.5nm,0.4s,baz=98,slow=5.1,SNR=14						
WHN	Wuhan	52.91	274	P	P	15 03 48.3	-0.1
XAN	Xi'an	53.90	281	P	P	15 03 55.8	+0.1
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,460nm,5.1s						
ZALV	Zalesovo Beam	54.19	314	PcP	PcP	15 05 01.2	-0.1
	comp=Z,1.8nm,0.6s,baz=32,slow=3.5,SNR=9.6						
LZH	Lanzhou	55.62	286	eP	P	15 04 01.0	-7.2
LZH				pP	pP	15 04 12.4	-11
LZH				sP	sP	15 04 19.3	-10
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
GTA	Gaotai	55.79	292	eP	P	15 04 10.0	+0.6
GTA				pP	pP	15 04 14.4	-10
GTA				sP	sP	15 04 17.9	-13
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
P40A	Paris	58.32	65	P	P	15 04 26.7	-0.4
TX31	Lajitas Ar. Si	58.39	82	P	P	15 04 28.1	+0.3
TX31				IAmb	IAmb	15 04 32.2	
	comp=Z,7.9nm,1.1s						
TXAR	Lajitas Array	58.39	82	P	P	15 04 27.8	0.0
	comp=Z,0.6nm,0.5s,baz=304,slow=4.5,SNR=12						
TXAR	Lajitas Array	58.39	82	P	P	15 04 27.6	-0.3
WMQ	Urumqi	59.53	303	eP	P	15 04 37.5	+2.0
MKAR	Makanchi Array	60.21	309	P	P	15 04 39.0	-1.1
	comp=Z,0.7nm,0.4s,baz=44,slow=6.8,SNR=11						
MKAR				PcP	PcP	15 05 25.0	0.0
	comp=Z,0.2nm,0.5s,baz=60,slow=7.2,SNR=3.6						
MKAR	Makanchi Array	60.21	309	P	P	15 04 39.2	-0.9
MKAR					PcP	15 05 25.2	+0.2
FCAR	Ozark Folk Cen	60.78	68	P	P	15 04 43.1	-1.0
W41B	Gary Mavity, V	61.21	69	P	P	15 04 46.2	-0.8
PLAL	Pickwick Lake	63.76	66	P	P	15 05 03.0	-1.0
CLTN	Cedars of Leba	63.95	64	P	P	15 05 04.6	-0.7
T50A	Nancy	64.12	63	P	P	15 05 05.5	-0.8
W50A	Signal Mountai	65.17	64	P	P	15 05 13.0	-0.2
CPCT	Cooper Cave	65.44	64	P	P	15 05 14.9	0.0
FPAL	Fort Paine	65.48	65	P	P	15 05 14.5	-0.8
V52A	Sevierville	65.67	63	P	P	15 05 15.8	-0.6
FINES	FINESS Array B	65.80	347	P	P	15 05 15.6	-1.2
	comp=Z,1.4nm,0.5s,baz=22,slow=8.4,SNR=13						
NB2	NORSAR Subarra	67.62	355	P	P	15 05 27.8	-0.7
	comp=Z,1.6nm,0.7s,baz=7.1,slow=6.5						
NOA	NORSAR Array B	67.62	355	P	P	15 05 28.0	-0.5
	comp=Z,0.5nm,0.5s,baz=4.1,slow=6.2,SNR=5.8						
NOA				LR	LR	15 33 25.4	
	comp=Z,10nm,22.0s,baz=300,slow=34						
CMAR	Chiang Mai Arr	71.26	276	P	P	15 05 51.8	+0.2
	comp=Z,1.3nm,0.4s,baz=26,slow=6.9,SNR=10						
TAPN	Taplejung	71.43	291	eP	P	15 05 53.8	+0.9
	comp=Z,59nm,0.8s						
TAPN	Taplejung	71.43	291	eP	P	15 05 53.8	+0.9
	comp=Z,59nm,0.8s						
ODAN	Odare	71.99	290	eP	P	15 05 56.9	+0.8
ODAN	Odare	71.99	290	eP	P	15 05 56.9	+0.8
GUN	Gumba	72.08	292	eP	P	15 05 58.5	+1.7
GUN	Gumba	72.08	292	eP	P	15 05 58.5	+1.7
JIRN	Jiri	72.09	292	eP	P	15 05 57.9	+1.0
	comp=Z,111nm,0.6s						
JIRN	Jiri	72.09	292	eP	P	15 05 57.9	+1.0
	comp=Z,111nm,0.6s						
RAMN	Ramite	72.38	291	eP	P	15 05 59.1	+0.6
	comp=Z,60nm,0.5s						
RAMN	Ramite	72.38	291	eP	P	15 05 59.1	+0.6
	comp=Z,60nm,0.5s						
KKN	Kakani	72.52	293	eP	P	15 06 00.0	+0.8
KKN	Kakani	72.52	293	eP	P	15 06 00.0	+0.8
PKI	Pulchoki	72.61	292	eP	P	15 06 00.4	+0.5
	comp=Z,28nm,0.6s						
PKI	Pulchoki	72.61	292	eP	P	15 06 00.4	+0.5
	comp=Z,28nm,0.6s						
GKN	Gorkha	72.72	293	eP	P	15 06 01.0	+0.6
	comp=Z,33nm,0.6s						
GKN	Gorkha	72.72	293	eP	P	15 06 01.0	+0.6
	comp=Z,33nm,0.6s						
DMN	Daman	72.75	293	eP	P	15 06 01.7	+1.0
	comp=Z,20nm,0.7s						
DMN	Daman	72.75	293	eP	P	15 06 01.7	+1.0
	comp=Z,20nm,0.7s						
DANN	Dangsing	72.97	294	eP	P	15 06 03.1	+1.1
	comp=Z,42nm,0.8s						
DANN	Dangsing	72.97	294	eP	P	15 06 03.1	+1.1
	comp=Z,42nm,0.8s						
KOLN	Koldanda	73.50	294	eP	P	15 06 05.1	+0.1
	comp=Z,24nm,1.0s						
KOLN	Koldanda	73.50	294	eP	P	15 06 05.1	+0.1
	comp=Z,24nm,1.0s						
PYUN	Piuthan	73.59	294	eP	P	15 06 06.5	+0.9
PYUN	Piuthan	73.59	294	eP	P	15 06 06.5	+0.9
AKASG	Malin Array Be	75.58	342	P	P	15 06 15.5	-1.0
	comp=Z,0.8nm,0.3s,baz=20,slow=6.7,SNR=4.7						
KBZ	Khabaz	78.70	331	LR	LR	15 45 08.4	
	comp=Z,22nm,19.5s,baz=16,slow=39						
GERES	GERESS Array B	79.58	352	P	P	15 06 38.0	-0.9
	comp=Z,0.7nm,0.5s,baz=34,slow=5.0,SNR=7.8						
WTTA	Wattenberg	81.32	353	eP	P	15 06 48.1	-0.2
	comp=Z,4.1nm,0.9s						
KBA	Koelnbreinsper	81.36	352	*i* P	P	15 06 48.8	+0.2
	comp=Z,5.2nm,0.5s						
SQTA	Sankt Quirin	81.39	353	eP	P	15 06 48.9	+0.3
	comp=Z,1.9nm,0.5s						
SOKA	Soboth	81.60	351	*i* P	P	15 06 50.7	+1.0
	comp=Z,6.8nm,1.4s						
FETA	Feichten	81.62	354	*i* P	P	15 06 50.2	+0.2
	comp=Z,0.8nm,0.6s						
WRA	Warramunga Arr	82.22	224	P	P	15 06 52.4	-0.7
	comp=Z,0.9nm,0.7s,baz=38,slow=5.8,SNR=5.0						
BRTR	Keskin Array B	85.01	336	P	P	15 07 06.9	-0.6
	comp=Z,1.3nm,0.6s,baz=21,slow=3.2,SNR=6.3						
BRTR	Keskin Array B	85.01	336	P	P	15 07 05.9	-1.6
ASAR	Alice Springs	85.69	223	P	P	15 07 10.8	+0.1
	comp=Z,1.8nm,0.9s,baz=24,slow=5.5,SNR=29						
ASAR	Alice Springs	85.69	223	P	P	15 07 10.7	-0.1
ESDC	Sonseca Array	89.15	4	P	P	15 07 26.5	-0.9
	comp=Z,0.9nm,0.9s,baz=345,slow=4.1,SNR=5.8						
STKA	Stephens Creek	90.10	213	P	P	15 07 32.4	+0.8
	comp=Z,2.2nm,0.8s,baz=333,slow=5.0,SNR=5.2						
TORD	Torodi Ar. Bea	115.70	360	PKP	PKiKP	15 13 13.7	-0.6
	comp=Z,0.7nm,0.6s,baz=335,slow=2.2,SNR=3.6						
H03N2	Juan Fernandez	120.91	106	T	T	17 25 48.8	
	baz=317,slow=77,SNR=17						
H03N1	Juan Fernandez	120.92	106	T	T	17 25 50.3	
	baz=317,slow=77,SNR=20						
H03N3	Juan Fernandez	120.93	106	T	T	17 26 05.9	
	baz=317,slow=77,SNR=22						
DBIC	Dimbokro	121.87	8	PKP	PKPdf	15 13 25.5	-0.7
	comp=Z,2.3nm,0.5s,baz=327,slow=3.0,SNR=11						
MAW	Mawson	146.67	218	PKPbc	PKPbc	15 14 12.3	+0.2
	comp=Z,4.8nm,0.8s,baz=32,slow=4.4,SNR=10						
BOSA	Boshof	151.14	313	PKPbc	PKPbc	15 14 25.0	+0.2
	comp=Z,7.5nm,0.6s,baz=18,slow=3.2,SNR=24						
BOSA	Boshof	151.14	313		PKPbc	15 14 25.3	+0.4

*MDD **20** 15:04:59.4±2.3, 37°.18N×13°.23W, h0km, mb4.0/14, Error ellipse: s-maj=21.

PMTG				*e*S		**Sn**	**15 06 55.9**	**+0.6**
PMTG				A		A	15 07 01.4	
	comp=N,3.7nm,0.6s							
EGRO	**El Granado**	**4.53**	**83**	P		**Pn**	**15 06 08.6**	**+1.3**
	comp=N,0.9nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**15 07 00.5**	**+0.4**
	comp=N,2.0nm,0.1s,SNR=7.9							
PCAS	**Casmilo, Conde**	**4.67**	**50**	*e*P		**Pn**	**15 06 10.7**	**+1.4**
PCAS				*e*S		**Sn**	**15 07 04.3**	**+0.8**
PCAS				A		A	15 07 08.3	
	comp=N,3.6nm,0.6s							
PMPST	**Porto Santo, M**	**4.81**	**214**	*e*S		Sn	15 06 45.0	-22
PMPST				A		A	15 06 49.9	
	comp=N,20nm,0.7s							
PMPS	**Porto Santo**	**4.83**	**214**	*e*S		Sn	15 06 46.6	-21
PMPS				A		A	15 06 47.1	
	comp=N,16nm,0.4s							
PMRV	**Marv??o**	**5.08**	**61**	*e*P		**Pn**	**15 06 16.4**	**+1.5**
PMRV				*e*S		**Sn**	**15 07 13.3**	**-0.3**
PMRV				A		A	15 07 17.0	
	comp=N,4.9nm,0.4s							
EMIN	**Mina Concepcio**	**5.19**	**81**	P		**Pn**	**15 06 17.7**	**+1.3**
	comp=N,0.5nm,0.1s,SNR=11							
EMIN				S		**Sn**	**15 07 15.6**	**-0.7**
	comp=N,0.8nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**5.21**	**57**	*e*P		**Pn**	**15 06 18.6**	**+2.0**
PCBR				*e*S		**Sn**	**15 07 16.9**	**+0.2**
PCBR				A		A	15 07 27.2	
	comp=N,3.4nm,0.3s							
PMOZ	**Porto Moniz, M**	**5.43**	**219**	S		Sn	15 07 01.7	-21
	comp=N,82nm,0.5s,SNR=7.9							
PMOZ	**Porto Moniz, M**	**5.43**	**219**	*e*S		Sn	15 07 00.6	-22
PVIS	**Viseu**	**5.44**	**47**	*e*P		**Pn**	**15 06 21.8**	**+1.9**
PVIS				*e*S		**Sn**	**15 07 22.7**	**+0.1**
PVIS				A		A	15 07 24.4	
	comp=N,4.3nm,0.4s							
ESPR	**Espera**	**5.84**	**90**	P		**Pn**	**15 06 27.1**	**+1.8**
	comp=N,2.2nm,0.1s,SNR=7.8							
ESPR				S		**Sn**	**15 07 32.4**	**+0.1**
	comp=N,2.8nm,0.3s,SNR=7.9							
PVRL	**Vila Real**	**5.91**	**44**	*e*S		**Sn**	**15 07 32.7**	**-1.5**
PVRL				A		A	15 07 37.7	
	comp=N,6.1nm,0.1s							
EZAM	**Zamans**	**6.08**	**33**	P		**Pn**	**15 06 28.4**	**-0.3**
	comp=N,0.3nm,0.1s,SNR=7.9							
EZAM				S		**Sn**	**15 07 33.5**	**-4.8**
	comp=N,2.1nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.13**	**36**	*e*P		**Pn**	**15 06 30.4**	**+1.0**
PGAV				*e*S		**Sn**	**15 07 36.9**	**-2.7**
PGAV				A		A	15 07 42.4	
	comp=N,5.8nm,0.6s							
ELOB	**Lobios**	**6.16**	**38**	P		**Pn**	**15 06 30.5**	**+0.8**
	comp=N,0.7nm,0.1s,SNR=6.3							
ELOB				S		**Sn**	**15 07 36.5**	**-3.7**
	comp=N,3.2nm,0.2s							
ECAB	**El Cabril**	**6.21**	**79**	P		**Pn**	**15 06 31.9**	**+1.5**
	comp=N,0.6nm,0.1s,SNR=14							
ECAB				S		**Sn**	**15 07 39.8**	**-1.6**
	comp=N,12nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**6.23**	**48**	P		**Pn**	**15 06 31.6**	**+0.7**
	comp=N,2.2nm,0.2s,SNR=6.1							
MVO				S		**Sn**	**15 07 40.3**	**-1.8**
	comp=N,3.4nm,0.1s							
MVO	**Moncorvo**	**6.23**	**48**	*e*P		**Pn**	**15 06 31.7**	**+0.9**
MVO				*e*S		**Sn**	**15 07 40.8**	**-1.3**
MVO				A		A	15 07 42.2	
	comp=N,3.4nm,0.2s							
EPLA	**Plasencia**	**6.26**	**60**	P		**Pn**	**15 06 32.8**	**+1.6**
	comp=N,0.4nm,0.1s,SNR=7.9							
EPLA				S		**Sn**	**15 07 41.1**	**-1.7**
	comp=N,1.4nm,0.1s,SNR=7.9							
HORN	**Hornachuelos**	**6.31**	**81**	P		**Pn**	**15 06 32.9**	**+1.1**
HORN				S		**Sn**	**15 07 43.2**	**-0.8**
ZHG	**ZHG**	**6.46**	**123**	S		**Sn**	**15 07 40.9**	**-6.9**
EMAZ	**Mazaricos**	**6.64**	**27**	S		**Sn**	**15 07 43.5**	**-8.5**
	SNR=7.9							
PBRG	**Braganca**	**6.81**	**45**	*e*P		**Pn**	**15 06 40.1**	**+1.4**
PBRG				*e*S		**Sn**	**15 07 54.9**	**-1.4**
PBRG				A		A	15 07 57.0	
	comp=N,2.0nm,0.4s							
EADA	**Adamuz**	**6.88**	**79**	P		**Pn**	**15 06 40.6**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**15 07 56.8**	**-1.1**
	comp=N,0.6nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**6.90**	**44**	P		**Pn**	**15 06 40.9**	**+0.9**
	comp=N,0.4nm,0.1s,SNR=7.1							
ECAL				S		**Sn**	**15 07 55.3**	**-3.3**
	comp=N,1.4nm,0.2s							
PAB	**San Pablo**	**7.32**	**68**	P		**Pn**	**15 06 47.4**	**+1.6**
	comp=N,0.2nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**15 08 07.8**	**-1.2**
	comp=N,0.9nm,0.2s,SNR=7.9							
OUK	**Oukaimeden**	**7.34**	**142**	P		Pn	15 06 44.6	-1.8
OUK				S		Sn	15 08 01.3	-8.6
ESDC	**Sonseca Array**	**7.64**	**68**	P		**Pn**	**15 06 51.6**	**+1.5**
	comp=N,0.7nm,0.1s,baz=255,slow=13,SNR=6.4							
EQES	**Quesada**	**8.04**	**82**	P		**Pn**	**15 06 57.9**	**+2.2**
	comp=N,0.1nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**15 08 25.5**	**-1.2**
	comp=N,0.5nm,0.2s,SNR=7.9							
MD31	**MD31**	**8.08**	**119**	P		**Pn**	**15 06 54.9**	**-1.4**
MD31				S		**Sn**	**15 08 20.3**	**-7.5**
MDT	**Midelt**	**8.22**	**119**	P		**Pn**	**15 06 56.6**	**-1.5**
MDT				S		**Sn**	**15 08 25.4**	**-5.7**

IDC 20 15:50:56.9±8.2, 7°.23N×94°.20E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/34, mbtmp3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/27, Error ellipse: s-maj=427.3km s-min=30.1km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.21**	**236**	T	T	16 23 21.9	
	baz=55,slow=75,SNR=6.7						
H08S2	**Diego Garcia H**	**26.21**	**236**	T	T	16 23 22.1	
	baz=55,slow=75,SNR=6.4						
H08S1	**Diego Carcia H**	**26.23**	**236**	T	T	16 23 22.1	
	baz=55,slow=75,SNR=4.9						
MKAR	**Makanchi Array**	**40.72**	**347**	P	P	15 58 39.2	-0.2
	0.4nm,0.7s,baz=167,slow=7.0,SNR=4.1						
NWAO	**Narrogin (SRO)**	**45.56**	**153**	LR	LR	16 17 31.8	
	comp=Z,35nm,20.3s,baz=265,slow=35						
WRA	**Warramunga Arr**	**47.85**	**125**	P	P	15 59 36.3	-0.6
	0.3nm,0.6s,baz=304,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**49.46**	**130**	P	P	15 59 49.8	+0.4
	0.2nm,0.8s,baz=303,slow=8.1,SNR=5.4						

*SNET **20** 15:58:21.9±0.8, 12°.80N×87°.53W, h272km±8km, ML3.9*
*INET **20** 15:58:26.8, 14°.37N×87°.85W, h180km, ML3.5*
*UCR **20** 15:58:30.8±1.2, 12°.94N×87°.86W, h208km±36km, ML3.5*

ISC 20 15:58:30.6±2.4, 13°.2N±0°.2×87°.7W±0°.1, h226km±16km, n35, σ1§48/36, 9C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.17**	**283**	⇑*i*P	**Pn**	**15 58 58.0**	**-2.1**
CNCH				IAML		15 59 31.6	
	comp=Z,924nm,0.3s						
CNCH	**Conchagua**	**0.17**	**283**	*i*P	**Pn**	**15 58 58.0**	**-2.1**
CNCH				*e*S	**S**	**15 59 26.7**	**+3.6**
CNCH				IAML		15 59 31.6	
	comp=Z,924nm,0.3s						
LCND	**La Caada**	**0.23**	**287**	⇑*e*P	**Pn**	**15 58 58.0**	**-2.0**
LCND				IAML		15 59 29.8	
	comp=Z,281nm,0.3s						
LCND	**La Caada**	**0.23**	**287**	⇑*e*P	**Pn**	**15 58 58.0**	**-2.0**
LCND				IAML		15 59 29.8	
	comp=Z,281nm,0.3s						
JUCU	**Jucuarın**	**0.57**	**272**	*e*P	**Pn**	**15 58 58.7**	**-2.3**
JUCU				IAML		15 59 26.6	
	comp=Z,538nm,0.3s						
JUCU	**Jucuarın**	**0.57**	**272**	*e*P	**Pn**	**15 58 58.7**	**-2.3**
JUCU				IAML		15 59 26.6	
	comp=Z,538nm,0.3s						
FAGO	**Alcalda de S**	**0.63**	**316**	*e*P	**Pn**	**15 58 59.5**	**-1.7**
LCY	**Lacayo**	**0.64**	**287**	*e*P	**Pn**	**15 58 59.9**	**-1.5**
LCY	**Lacayo**	**0.64**	**287**	*e*P	**Pn**	**15 58 59.9**	**-1.5**
PACA	**Pacayal**	**0.68**	**290**	*e*P	**Pn**	**15 59 01.1**	**-0.4**
PACA	**Pacayal**	**0.68**	**290**	*e*P	**Pn**	**15 59 01.1**	**-0.4**
CRIN	**San Cristobal**	**0.80**	**132**	*e*P	**Pn**	**15 59 01.0**	**-1.0**
TECA	**Tecapa**	**0.86**	**287**	*e*P	**Pn**	**15 59 01.8**	**-0.7**
TECA	**Tecapa**	**0.86**	**287**	*e*P	**Pn**	**15 59 01.8**	**-0.7**
COEB	**Comit de Eme**	**0.89**	**287**	*e*P	**Pn**	**15 59 01.4**	**-1.1**
COEB	**Comit de Eme**	**0.89**	**287**	*e*P	**Pn**	**15 59 01.4**	**-1.1**
TGUH	**Tegucigalpa,Un**	**0.90**	**25**	⇓*i*P	**Pn**	**15 59 01.5**	**-1.2**
COEG	**Centro de Oper**	**1.25**	**288**	*e*P	**Pn**	**15 59 03.5**	**-1.2**
COEG	**Centro de Oper**	**1.25**	**288**	*e*P	**Pn**	**15 59 03.5**	**-1.2**
PAVA	**Las Pavas**	**1.33**	**291**	⇑*i*P	**Pn**	**15 59 04.3**	**-1.1**
PAVA	**Las Pavas**	**1.33**	**291**	⇑*i*P	**Pn**	**15 59 04.3**	**-1.1**
LFRS	**El Faro**	**1.42**	**286**	*e*P	**Pn**	**15 59 04.8**	**-1.3**
LFRS	**El Faro**	**1.42**	**286**	*e*P	**Pn**	**15 59 04.8**	**-1.3**
LBRS	**Las Brisas**	**1.43**	**290**	*e*P	**Pn**	**15 59 05.4**	**-0.8**
LBRS	**Las Brisas**	**1.43**	**290**	*e*P	**Pn**	**15 59 05.4**	**-0.8**
TACO	**Tacachico**	**1.80**	**294**	⇑*i*P	**Pn**	**15 59 08.4**	**-0.8**
TACO	**Tacachico**	**1.80**	**294**	⇑*i*P	**Pn**	**15 59 08.4**	**-0.8**
CEVE	**Cerro Verde**	**2.00**	**287**	*e*P	**Pn**	**15 59 10.4**	**-0.9**
CEVE	**Cerro Verde**	**2.00**	**287**	*e*P	**Pn**	**15 59 10.4**	**-0.9**
MTO3	**Montecristo**	**2.01**	**305**	⇑*i*P	**Pn**	**15 59 11.2**	**-0.3**
CUI	**Cuipilapa**	**3.54**	**136**	*e*P	**Pn**	**15 59 27.7**	**-0.3**
PLVR	**Palo Verde**	**3.66**	**142**	*e*P	**Pn**	**15 59 28.9**	**-0.6**
DUNO	**Dulce Nombre,**	**3.79**	**146**	*e*P	**Pn**	**15 59 30.2**	**-0.7**
GRZA	**Playa Garza**	**3.85**	**149**	*e*P	**Pn**	**15 59 30.6**	**-1.0**
LAFE	**Finca La Fe, P**	**4.35**	**141**	*e*P	**Pn**	**15 59 36.7**	**-1.0**

IDC 20 16:12:60.0±2.9, 6°.10S×130°.65E, h59km±37km, mb3.5/2, mb1 3.9/6, mb1mx3.5/36, mbtmp3.9/6, ML4.0/4, Error ellipse: s-maj=64.6km s-min=22.7km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.24**	**7**	P	Pn	16 14 16.1	+0.3
	12nm,0.3s,baz=200,slow=11,SNR=49						
SIJI				S	Sn	16 15 09.6	-5.2
	8.8nm,0.3s,baz=211,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**12.88**	**202**	P	Pn	16 16 00.3	-0.1
	0.5nm,0.3s,baz=359,slow=9.9,SNR=28						
FITZ				S	Sn	16 18 17.1	-5.1
	0.6nm,0.3s,baz=1.1,slow=6.3,SNR=4.8						
WRA	**Warramunga Arr**	**14.22**	**166**	P	Pn	16 16 16.8	-1.6
	0.6nm,0.3s,baz=350,slow=13,SNR=9.3						
WRA				S	Sn	16 18 45.8	-9.0
	1.0nm,0.3s,baz=354,slow=22,SNR=9.6						
ASAR	**Alice Springs**	**17.74**	**170**	P	P	16 17 04.2	+1.0
	0.5nm,0.3s,baz=344,slow=8.5,SNR=59						
ASAR				S	Sn	16 20 11.0	-9.1
	0.2nm,0.3s,baz=347,slow=25,SNR=6.5						
CMAR	**Chiang Mai Arr**	**39.66**	**309**	P	P	16 20 26.5	0.0
	0.7nm,0.4s,baz=129,slow=6.8,SNR=5.9						
MKAR	**Makanchi Array**	**67.84**	**326**	P	P	16 23 51.8	-0.2
	0.3nm,0.4s,baz=116,slow=7.6,SNR=7.0						

MAN 20 16:13:10.4, 6°.86N×124°.98E, h22km, mb4.3, ML3.1, MS2.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.18**	**36**	*i*S	Sb	16 13 17.7	-2.1
KCP	**Kidapawan**	**0.18**	**36**	⇓*i*P	Pb	16 13 12.1	-3.9
SKMP	**Bagumbayan, Su**	**0.55**	**232**	*e*S	Sn	16 13 32.4	+0.9
SKMP	**Bagumbayan, Su**	**0.55**	**232**	*e*P	Pb	16 13 21.7	+0.3
BUKP	**Musuan**	**1.02**	**4**	*e*S	Sn	16 13 43.9	+0.8
BUKP	**Musuan**	**1.02**	**4**	*e*P	Pb	16 13 28.3	-1.1
DDMP	**Don Marcelino,**	**1.04**	**136**	*e*S	Sn	16 13 44.2	+0.6
DDMP	**Don Marcelino,**	**1.04**	**136**	*e*P	Pn	16 13 28.5	-1.2
MATI	**Mati**	**1.27**	**86**	*e*P	Pn	16 13 31.4	-1.5

*IDC **20** 16:19:35.7±2.3, 5°.11S×145°.08E, h68km±21km, mb3.7/10, mb1 4.0/14, mb1mx3.8/35, mbtmp4.1/14, MS3.0/3, Ms1 3.1/3, ms1mx2.7/31, Error ellipse: s-maj=23.6km s-min=13.3km az=63.0*
*NEIC **20** 16:19:37.4±1.8, 5°.2S±0°.1×145°.0E±0°.1, h90km±10km, mb4.0/10, Error ellipse: s-maj=20.7km s-min=12.0km az=60.0*

ISC 20 16:19:34.2±0.7, 5°.08S±0°.07×145°.0E±0°.1, h54km, n34, σ1§33/34, mb3.9/11, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.81**	**154**	P	**Pn**	**16 20 45.8**	**+1.7**
	12nm,0.3s,baz=330,slow=6.7,SNR=20						
PMG				S	**Sn**	**16 21 38.4**	**-0.1**
	9.5nm,0.3s,baz=333,slow=21,SNR=9.7						
PMG				LR	LR	16 23 08.8	
	comp=Z,102nm,20.0s,baz=38,slow=45						
PMG	**Port Moresby**	**4.81**	**154**		**Pn**	**16 20 45.3**	**+1.2**
JAY	**Jayapura**	**4.98**	**301**	P	**Pn**	**16 20 50.0**	**+3.5**
	8.9nm,0.3s,baz=115,slow=4.7,SNR=57						
COEN	**Coen**	**9.01**	**191**	Pn	**Pn**	**16 21 44.6**	**+2.9**
SIJI	**Sorong**	**14.33**	**287**	P	**P**	**16 22 57.0**	**-3.0**
	0.5nm,0.3s,baz=92,slow=9.6,SNR=5.0						
WB0	**Warramunga Arr**	**17.88**	**214**	P	**Pn**	**16 23 37.9**	**-1.4**
WB0				IAmb	IAmb	16 23 40.5	
	comp=Z,7.6nm,1.0s						
WR0	**Warramunga Arr**	**17.95**	**214**		**Pn**	**16 23 40.4**	**+0.2**
WR0				IAmb	IAmb	16 23 41.3	
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**18.05**	**214**	P	**Pn**	**16 23 41.6**	**+0.3**
WB2				IAmb	IAmb	16 23 42.5	
	comp=Z,9.6nm,0.7s						
WRA	**Warramunga Arr**	**18.05**	**214**	P	**Pn**	**16 23 41.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=40,slow=11,SNR=37						
WRA	**Warramunga Arr**	**18.05**	**214**	P	**P**	**16 23 39.9**	**-1.3**
KNRA	**Kununurra**	**19.11**	**235**	P	**P**	**16 23 52.3**	**-0.5**
AS31	**Alice Springs**	**21.35**	**209**	P	**P**	**16 24 17.4**	**+0.3**
ASAR	**Alice Springs**	**21.35**	**209**	P	**P**	**16 24 16.7**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=34,slow=12,SNR=25						
ASAR	**Alice Springs**	**21.35**	**209**	P	**P**	**16 24 17.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.92**	**234**	P	**P**	**16 24 33.8**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=358,slow=7.7,SNR=6.9						
FITZ	**Fitzroy Crossi**	**22.92**	**234**	P	**P**	**16 24 33.5**	**-0.3**
FITZ				IAmb	IAmb	16 24 34.6	
	comp=Z,4.8nm,1.0s						
STKA	**Stephens Creek**	**26.85**	**186**	P	**P**	**16 25 10.3**	**+0.5**
	comp=Z,2.0nm,1.0s,baz=350,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**26.85**	**186**	P	**P**	**16 25 07.7**	**-2.2**
GIRL	**Giralia**	**34.47**	**237**	P	**P**	**16 26 14.6**	**-2.6**
KSRS	**Korea Array**	**45.20**	**341**	LR	LR	16 44 24.6	
	comp=Z,24nm,21.6s,baz=160,slow=33						
USRK	**Ussuriysk Ar.**	**50.43**	**348**	P	**P**	**16 28 26.8**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=198,slow=9.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**51.06**	**299**	P	**P**	**16 28 32.6**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=121,slow=6.2,SNR=29						
CMAR				LR	LR	16 49 11.7	
	comp=Z,19nm,21.7s,baz=115,slow=35						
VNDA	**Vanda**	**72.95**	**176**	P	**P**	**16 30 57.9**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=329,slow=6.3,SNR=8.7						
MKAR	**Makanchi Array**	**75.52**	**321**	P	**P**	**16 31 13.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=99,slow=7.5,SNR=9.0						
MKAR	**Makanchi Array**	**75.52**	**321**	P	**P**	**16 31 11.5**	**-1.5**
MAKZ	**Makanchi**	**75.73**	**321**	P	**P**	**16 31 14.0**	**-0.2**
MAKZ				IAmb	IAmb	16 31 15.9	
	comp=Z,3.5nm,1.2s						
ZALV	**Zalesovo Beam**	**77.18**	**328**	P	**P**	**16 31 21.8**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=114,slow=3.6,SNR=3.2						
NRIK	**Noril'sk**	**83.80**	**342**	P	**P**	**16 31 57.6**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=160,slow=3.6,SNR=4.2						
ILAR	**Eielson Array**	**85.43**	**24**	P	**P**	**16 32 04.8**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=251,slow=5.5,SNR=9.1						
GERES	**GERESS Array B**	**120.02**	**325**	PKP	**PKPdf**	**16 38 18.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=90,slow=2.7,SNR=6.1						
KIC	**Kosan Boka**	**149.86**	**274**	*e*PKP1	**PKPbc**	**16 39 19.7**	**+0.1**
	comp=Z,0.7nm,0.4s						
DBIC	**Dimbokro**	**149.97**	**275**	PKPbc	**PKPbc**	**16 39 20.1**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=138,slow=1.9,SNR=6.2						
TIC	**Toumodi**	**150.13**	**274**	*e*PKP1	**PKPbc**	**16 39 20.2**	**0.0**
LIC	**Lamto**	**150.15**	**274**	*e*PKP1	**PKPbc**	**16 39 20.4**	**+0.2**
	comp=Z,14nm,0.6s						

*IDC **20** 16:23:57.0±0.9, 1°.95S×139°.07E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/25, mbtmp3.8/7, MS3.5/7, Ms1 3.5/7, ms1mx3.1/34, Error ellipse: s-maj=23.9km s-min=18.8km az=46.0*
*DJA **20** 16:23:59.7±0.4, 2°.S±5°.×13°.9E±°, h10km, M4.3/10, mb4.4/10, mB4.6/2, MLv4.3/6, Mw(mB)3.8/2*
*NEIC **20** 16:24:01.5±2.0, 2°.1S±0°.2×139°.11E±0°.06, h33km±14km, mb4.1/8, Error ellipse: s-maj=27.4km s-min=5.1km az=193.0*

ISC 20 16:24:01.0±0.8, 2°.0S±0°.1×139°.06E±0°.05, h29km, n33, σ1§17/29, mb3.8/7, MS3.4/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.25**	**118**	P	**Pb**	**16 24 23.3**	**-0.7**
GENI				S	**Sb**	**16 24 42.9**	**+3.2**
JAY	**Jayapura**	**1.72**	**107**	Pn	**Pn**	**16 24 28.7**	**-0.3**
	19nm,0.3s,baz=273,slow=4.5,SNR=74						
JAY				Sn	**Sb**	**16 24 51.5**	**-1.7**
	25nm,0.3s,baz=126,slow=23,SNR=14						
JAY				LR	LR	16 25 21.2	
	comp=Z,939nm,19.7s,baz=340,slow=49						
JAY	**Jayapura**	**1.72**	**107**	P	**Pn**	**16 24 28.8**	**-0.3**
JAY				S	**Sb**	**16 24 52.7**	**-0.5**
SRPI	**Serui, Papua**	**2.82**	**273**	P	**Pn**	**16 24 43.3**	**-0.9**
SRPI				S	**Sn**	**16 25 17.8**	**+0.5**
FAKI	**Fak Fak**	**6.87**	**262**	P	**Pn**	**16 25 39.6**	**-0.3**
	0.2nm29nm,0.9s						
FAKI	**Fak Fak**	**6.87**	**262**	Pn	**Pn**	**16 25 40.0**	**+0.2**
PMG	**Port Moresby**	**10.90**	**133**	LR	LR	16 31 33.5	
	comp=Z,426nm,21.4s,baz=319,slow=42						
KRVT	**Keravat (AS076**	**13.14**	**100**	LR	LR	16 31 40.0	
	comp=Z,209nm,19.1s,baz=279,slow=35						
MTN	**Manton Dam**	**13.33**	**216**	Pn	**Pn**	**16 27 07.3**	**-1.1**
GUMO	**Guam**	**16.53**	**20**	LR	LR	16 34 22.9	
	comp=Z,46nm,18.2s,baz=195,slow=38						
SOEI	**Soe**	**16.60**	**242**	P	**Pn**	**16 27 50.7**	**-1.3**
	54nm,1.2s						
KNRA	**Kununurra**	**16.96**	**216**	Pn	**Pn**	**16 27 55.4**	**-1.0**
KNRA				IAmb	IAmb	16 28 09.9	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**18.23**	**194**	P	**Pn**	**16 28 12.5**	**+0.4**
WR0	**Warramunga Arr**	**18.38**	**194**		**P**	**16 28 12.8**	**-1.0**
WR0				IAmb	IAmb	16 28 23.0	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**18.41**	**194**	P	**P**	**16 28 13.5**	**-0.6**
WB2				IAmb	IAmb	16 28 16.7	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**18.42**	**194**	P	**P**	**16 28 11.2**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=14,slow=12,SNR=26						
WRA				LR	LR	16 36 20.5	
	comp=Z,378nm,18.4s,baz=10.0,slow=40						
WRA	**Warramunga Arr**	**18.42**	**194**	P	**Pn**	**16 28 14.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.72**	**219**	P	**P**	**16 28 38.5**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=359,slow=7.5,SNR=5.9						
FITZ	**Fitzroy Crossi**	**20.72**	**219**	P	**P**	**16 28 39.5**	**+0.2**
FITZ				IAmb	IAmb	16 28 53.5	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**22.10**	**193**	P	**P**	**16 28 54.7**	**+0.5**
AS31				IAmb	IAmb	16 29 01.6	
	comp=Z,3.6nm,0.7s						
ASAR	**Alice Springs**	**22.11**	**193**	P	**P**	**16 28 54.4**	**+0.2**
	comp=Z,13nm,0.9s,baz=24,slow=10.0,SNR=60						
ASAR				LR	LR	16 38 35.9	
	comp=Z,264nm,19.0s,baz=7.0,slow=40						
ASAR	**Alice Springs**	**22.11**	**193**	P	**P**	**16 28 54.2**	**0.0**
STKA	**Stephens Creek**	**29.81**	**176**	P	**P**	**16 30 06.7**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=11,slow=10,SNR=4.4						
STKA	**Stephens Creek**	**29.81**	**176**	P	**P**	**16 30 04.0**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**33.97**	**52**	T	T	17 06 27.8	
	baz=236,slow=76,SNR=164						
H11S2	**WAKE ISLAND Hy**	**33.98**	**52**	T	T	17 06 26.4	
	baz=236,slow=76,SNR=193						
H11S1	**WAKE ISLAND Hy**	**33.99**	**52**	T	T	17 06 26.8	
	baz=236,slow=76,SNR=168						
CMAR	**Chiang Mai Arr**	**44.40**	**299**	P	**P**	**16 32 09.9**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=120,slow=5.9,SNR=6.7						
PETK	**Petropavlovsk-**	**57.10**	**13**	LR	LR	16 56 08.6	
	comp=Z,23nm,20.7s,baz=229,slow=34						
MKAR	**Makanchi Array**	**69.45**	**322**	P	**P**	**16 35 07.3**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=108,slow=7.3,SNR=5.9						
PPT	**Papeete**	**71.63**	**108**	LR	LR	17 06 27.3	
	comp=Z,20nm,18.0s,baz=332,slow=36						
VNDA	**Vanda**	**76.45**	**175**	P	**P**	**16 35 48.8**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=336,slow=5.0,SNR=6.4						
ILAR	**Eielson Array**	**85.05**	**24**	P	**P**	**16 36 33.4**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=311,slow=3.5

STKA				IAmb	IAmb	16 44 56.4	
	comp=Z,2.2nm,1.5s						
MKAR	**Makanchi Array**	**54.08**	**325**	P	**P**	**16 46 30.7**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=126,slow=9.8,SNR=4.0						

BGR ***20*** *17:05:33.1±0.0, 66°.12N×20°.10W, h10km, mb4.3*
REY ***20*** *17:05:47.6, 64°.61N×17°.50W, h1km*
IDC ***20*** *17:05:48.5±1.2, 64°.51N×17°.86W, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/43, mbtmp3.6/7, ML3.9/1, Error ellipse: s-maj=45.3km s-min=17.3km az=22.0*
NEIC ***20*** *17:05:50.0±1.4, 64°.44N±0°.09×17°.8W±0°.2, h8km±5km, mb4.3/30, Error ellipse: s-maj=13.3km s-min=9.5km az=193.0*
ISC 20 17:05:50.4±0.5, 64°.60N±0°.02×17°.52W±0°.02, h10km, n78, σ1s97/87, mb4.2/22, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.13**	**305**	P	**Pg**	**17 05 50.5**	**-3.0**
	baz=299						
IVON				S	**Sg**	**17 05 53.0**	**-2.6**
	baz=299						
IDJK	**Dyngjujokull**	**0.15**	**129**	P	**Pg**	**17 05 51.1**	**-2.8**
	baz=134						
IDJK				S	**Sg**	**17 05 54.8**	**-1.6**
	baz=134						
IDYN	**Dyngjuhals**	**0.20**	**19**	P	**Pg**	**17 05 51.7**	**-2.9**
	baz=17						
IGRF	**Grimsfjall**	**0.22**	**151**	P	**Pg**	**17 05 52.3**	**-2.7**
	baz=154						
IURH	**Urdarhals**	**0.27**	**36**	P	**Pg**	**17 05 52.9**	**-3.0**
	baz=35						
IURH				S	**Sg**	**17 05 57.3**	**-2.3**
	baz=35						
IHUS	**Husbondi**	**0.31**	**191**	P	**Pg**	**17 05 54.2**	**-2.4**
	baz=192						
IHUS				S	**Sg**	**17 05 59.5**	**-1.4**
	baz=192						
IBJK	**Bruarjokull**	**0.36**	**112**	P	**Pg**	**17 05 54.2**	**-3.3**
	baz=114						
IBJK				S	**Sg**	**17 06 00.1**	**-2.1**
	baz=114						
IVOT	**Vottur**	**0.36**	**156**	P	**Pg**	**17 05 54.7**	**-2.9**
	baz=158						
IVOT				S	**Sg**	**17 06 00.9**	**-1.4**
	baz=158						
IKVE	**Kverkfjoll**	**0.37**	**78**	P	**Pg**	**17 05 54.8**	**-2.9**
	baz=79						
ISKR	**Skrokkalda**	**0.38**	**264**	P	**Pg**	**17 05 55.0**	**-2.9**
	baz=263						
IJOK	**Jokulheimar**	**0.42**	**227**	P	**Pg**	**17 05 55.9**	**-2.7**
	baz=227						
IJOK				S	**Sg**	**17 06 02.9**	**-1.3**
	baz=227						
IKRE	**Kreppuhraun**	**0.52**	**69**	S	**Sg**	**17 06 05.0**	**-2.4**
	baz=70						
IIEY	**Innrieyrar**	**0.57**	**208**	P	**Pg**	**17 05 58.3**	**-3.2**
	baz=208						
IIEY				S	**Sg**	**17 06 07.2**	**-1.8**
	baz=208						
IMKO	**Mokollar**	**0.63**	**53**	P	**Pg**	**17 05 59.2**	**-3.3**
	baz=53						
IMKO				S	**Sg**	**17 06 08.3**	**-2.5**
	baz=53						
IKSK	**Karasker**	**0.63**	**134**	P	**Pg**	**17 05 58.7**	**-4.0**
	baz=135						
IKSK				S	**Sg**	**17 06 08.1**	**-2.8**
	baz=135						
IKAL	**Kalfafell**	**0.66**	**187**	P	**Pg**	**17 05 60.0**	**-3.1**
	baz=187						
IKAL				S	**Sg**	**17 06 09.9**	**-1.9**
	baz=187						
IVAT	**Vatnsfell**	**0.74**	**236**	P	**Pg**	**17 06 01.4**	**-3.2**
	baz=236						
IVAT				S	**Sg**	**17 06 12.6**	**-1.6**
	baz=236						
ISVA	**Svartarkot**	**0.75**	**8**	P	**Pg**	**17 06 00.8**	**-4.0**
	baz=7.9						
BORG	**Borgarnes**	**1.65**	**277**	Pn	**Pn**	**17 06 16.0**	**-3.2**
	12nm,0.3s,baz=91,slow=5.9,SNR=15						
BORG	**Borgarnes**	**1.65**	**277**		**Pn**	**17 06 15.9**	**-3.4**
SCO	**Scoresbysund**	**6.15**	**346**	Pn	**Pn**	**17 07 24.1**	**+3.1**
SUMG	**Summit**	**10.99**	**326**	Pn	**Pn**	**17 08 28.4**	**+0.7**
EKA	**Eskdalemuir Ar**	**11.72**	**136**	Pn	**Pn**	**17 08 36.5**	**-0.9**
	baz=330,slow=13,SNR=6.5						
ESK	**Eskdalemuir**	**11.72**	**136**	Pn	**Pn**	**17 08 37.6**	**+0.2**
NBO00	**NORSAR Array S**	**13.35**	**92**	Pn	**Pn**	**17 08 58.6**	**-1.1**
NAO01	**NORSAR Array S**	**13.49**	**93**	Pn	**Pn**	**17 09 01.9**	**+0.4**
SPB2	**Spitsbergen Ar**	**16.93**	**23**		**P**	**17 09 50.8**	**+1.9**
SPB1	**Spitsbergen Ar**	**16.93**	**23**		**P**	**17 09 51.4**	**+2.5**
FINES	**FINESS Array B**	**19.72**	**79**	P	**Pn**	**17 10 21.0**	**-0.1**
CLL	**Collm**	**20.68**	**116**	*i* P	Pn	17 10 30.1	-2.4
	comp=Z,10.0nm,1.6s						
CLL				*i* (pP)	pP	17 10 32.2	-1.3
	comp=Z,13nm,1.5s						
CLL	**Collm**	**20.68**	**116**	P	**P**	**17 10 29.6**	**-0.5**
ECH	**Echery**	**21.12**	**129**	P	**P**	**17 10 34.8**	**-0.1**
ECH				IAmb	IAmb	17 10 41.6	
	comp=Z,14nm,1.3s						
GRA1	**Grafenberg Arr**	**21.31**	**121**	P	**P**	**17 10 37.3**	**+0.4**
GRA1				IAmb	IAmb	17 10 55.9	
	comp=Z,45nm,1.9s						
GRF	**Grafenberg Arr**	**21.31**	**121**	*e*P	**P**	**17 10 37.4**	**+0.5**
	comp=Z,14nm,1.6s,baz=326,slow=10						
STU	**Stuttgart**	**21.34**	**125**	P	**P**	**17 10 37.8**	**+0.5**
STU				IAmb	IAmb	17 10 41.6	
	comp=Z,8.3nm,0.9s						
BRG	**Berggiesshubel**	**21.39**	**115**	*e*P	**P**	**17 10 37.5**	**-0.3**
	comp=Z,11nm,1.3s						
BRG				*e*		17 10 40.1	
	comp=Z,11nm,1.6s						
BFO	**Black Forest**	**21.42**	**127**	P	**P**	**17 10 38.6**	**+0.5**
CHVC	**Chvalec**	**22.45**	**113**	*e*P	**P**	**17 10 50.7**	**+1.5**
KHC	**Kasperske Hory**	**22.65**	**118**	*e*P	**P**	**17 10 51.3**	**-0.1**
KHC	**Kasperske Hory**	**22.65**	**118**	P	**P**	**17 10 52.5**	**+1.1**
DPC	**Dobruska-Polom**	**22.74**	**113**	*e*P	**P**	**17 10 52.7**	**+0.4**
GEC2	**GERESS Array S**	**22.93**	**119**	P	**P**	**17 10 54.9**	**+0.5**
GEC2B	**GERESS ARRAY S**	**22.93**	**119**	P	**P**	**17 10 54.9**	**+0.5**
GERES	**GERESS Array B**	**22.93**	**119**	P	**P**	**17 10 54.5**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=326,slow=8.5,SNR=5.9						
MORC	**Moravsky Berou**	**23.68**	**112**	P	**P**	**17 11 03.5**	**+1.6**
MORC				IAmb	IAmb	17 11 14.0	
	comp=Z,22nm,2.0s						
OJC	**Ojcow**	**24.25**	**109**	P	**P**	**17 11 08.3**	**+1.2**
OJC				IAmb	IAmb	17 11 10.5	
	comp=Z,11nm,1.5s						
CTI	**Castel Tesino**	**24.54**	**125**	P	**P**	**17 11 08.6**	**-1.4**
CTI				IAmb	IAmb	17 11 11.6	
	comp=Z,5.5nm,1.0s						
ZOU	**Zoufplan**	**24.57**	**123**	P	**P**	**17 11 11.2**	**+0.8**
ZOU				IAmb	IAmb	17 11 16.2	
	comp=Z,12nm,1.6s						
CIMO	**Cimolais**	**24.59**	**124**	P	**P**	**17 11 10.3**	**0.0**
CIMO				IAmb	IAmb	17 11 25.9	
	comp=Z,19nm,1.9s						
PRED	**Cave del Predi**	**24.89**	**122**	P	**P**	**17 11 15.0**	**+2.0**
PRED				IAmb	IAmb	17 11 16.8	
	comp=Z,6.6nm,1.3s						
TEOL	**Teolo**	**25.14**	**126**	P	**P**	**17 11 14.7**	**-0.5**
TEOL				IAmb	IAmb	17 11 17.4	
	comp=Z,6.6nm,0.8s						
KWP	**Kalwaria Pacla**	**25.90**	**106**	P	**P**	**17 11 22.2**	**+0.1**
KWP				IAmb	IAmb	17 11 27.1	
	comp=Z,13nm,1.0s						
PSZ	**Piszkesteto**	**26.10**	**112**	P	**P**	**17 11 24.1**	**+0.1**
PSZ				IAmb	IAmb	17 11 29.1	
	comp=Z,7.7nm,1.2s						
ESDC	**Sonseca Array**	**26.20**	**156**	P	**P**	**17 11 24.6**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=354,slow=7.9,SNR=3.3						
AKASG	**Malin Array Be**	**27.84**	**97**	P	**P**	**17 11 40.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=318,slow=10,SNR=4.3						
AKASG	**Malin Array Be**	**27.84**	**97**	IAmb	IAmb	17 11 46.9	
	comp=Z,0.9nm,1.2s						
AKBB	**Malin Array Si**	**27.84**	**97**	P	**P**	**17 11 40.8**	**+1.3**
AKBB				IAmb	IAmb	17 11 43.1	
	comp=Z,4.3nm,1.2s						
HAL	**Halifax**	**32.29**	**254**	P	**P**	**17 12 18.3**	**-0.7**
TIRR	**Tirgusor**	**32.38**	**106**	P	**P**	**17 12 20.6**	**+0.9**
PQI	**Presque Isle**	**32.53**	**261**	P	**P**	**17 12 19.0**	**-2.0**
FNA	**Florina**	**32.65**	**118**	P	**P**	**17 12 22.6**	**+0.3**
FNA				IAmb	IAmb	17 12 24.1	
	comp=Z,10.0nm,1.3s						
ITM	**Ithomi**	**36.01**	**120**	P	**P**	**17 12 53.7**	**+2.4**
BR131	**Keskin Array S**	**38.47**	**105**	P	**P**	**17 13 14.2**	**+1.9**
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**17 13 12.9**	**+0.6**
	comp=Z,1.4nm,1.0s,baz=331,slow=9.5,SNR=4.3						
KARP	**Karpathos**	**39.44**	**116**	P	**P**	**17 13 23.4**	**+3.1**
AB05	**Akbulak array**	**42.00**	**73**	P	**P**	**17 13 42.9**	**+1.6**
AB04	**Akbulak array**	**42.01**	**73**	P	**P**	**17 13 42.4**	**+1.0**
AB02	**Akbulak array**	**42.02**	**73**	P	**P**	**17 13 42.8**	**+1.4**
ABKAR	**Akbulak array**	**42.02**	**73**	P	**P**	**17 13 42.6**	**+1.2**
R61A	**Willards**	**42.45**	**260**	P	**P**	**17 13 46.6**	**+1.6**
BRVK	**Borovoye**	**43.17**	**62**	P	**P**	**17 13 52.3**	**+1.6**
KK09	**Karatay Array**	**51.28**	**70**	P	**P**	**17 14 56.1**	**+2.0**
KK04	**Karatay Array**	**51.30**	**70**	P	**P**	**17 14 55.8**	**+1.6**
KKAR	**Karatay Array**	**51.30**	**70**	P	**P**	**17 14 55.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**53.09**	**156**	P	**P**	**17 15 07.2**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=342,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**53.09**	**156**	IAmb	IAmb	17 15 09.3	
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**53.20**	**293**	P	**P**	**17 15 07.9**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=42,slow=8.7,SNR=4.4						
BTK	**Batken**	**53.99**	**72**	P	**P**	**17 15 15.7**	**+1.5**
BTK				IAmb	IAmb	17 15 21.9	
	comp=Z,9.3nm,1.5s						

REY ***20*** *17:11:41.6, 64°.67N×17°.47W, h8km*
IDC ***20*** *17:11:42.8±0.6, 64°.60N×17°.75W, h0km, mb3.9/18, mb1 4.1/21, mb1mx4.0/42, mbtmp3.9/21, ML2.6/2, MS3.5/28, Ms1 3.5/28, ms1mx3.3/43, Error ellipse: s-maj=19.3km s-min=10.6km az=18.0*
MOS ***20*** *17:11:43.9±1.2, 64°.64N×17°.30W, h10km, mb4.8/21, Error ellipse: s-maj=12.0km s-min=7.0km az=127.6*
NEIC ***20*** *17:11:45.5±2.9, 64°.64N±0°.08×17°.4W±0°.2, h10km±1km, mb4.8/134, Error ellipse: s-maj=15.0km s-min=10.2km az=27.0*
BGR ***20*** *17:11:57.8±0.0, 64°.07N×15°.48W, h10km, mb4.5*
ISC 20 17:11:44.7±0.3, 64°.64N±0°.02×17°.46W±0°.02, h10km, n372, σ2s01/364, mb4.8/134, MS3.6/37, 5C-2D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.13**	**286**	P	**Pg**	**17 11 44.3**	**-3.6**
	baz=270						
IVON				S	**Sg**	**17 11 47.5**	**-2.6**
	baz=270						
IDYN	**Dyngjuhals**	**0.16**	**14**	P	**Pg**	**17 11 44.6**	**-3.7**
	baz=21						
IDYN				S	**Sg**	**17 11 47.2**	**-3.6**
	baz=21						
IDJK	**Dyngjujokull**	**0.17**	**144**	P	**Pg**	**17 11 45.6**	**-2.8**
	baz=149						
IURH	**Urdarhals**	**0.23**	**36**	P	**Pg**	**17 11 45.8**	**-3.6**
	baz=43						
IURH				S	**Sg**	**17 11 50.4**	**-2.2**
	baz=43						
IGRF	**Grimsfjall**	**0.25**	**160**	P	**Pg**	**17 11 47.1**	**-2.7**
	baz=162						
IKVE	**Kverkfjoll**	**0.34**	**83**	P	**Pg**	**17 11 48.2**	**-3.3**
	baz=89						
IKVE				S	**Sg**	**17 11 53.4**	**-2.6**
	baz=89						
IBJK	**Bruarjokull**	**0.35**	**119**	P	**Pg**	**17 11 48.4**	**-3.2**
	baz=123						
IBJK				S	**Sg**	**17 11 54.8**	**-1.6**
	baz=123						
IHUS	**Husbondi**	**0.35**	**194**	P	**Pg**	**17 11 49.1**	**-2.7**
	baz=192						
IHUS				S	**Sg**	**17 11 55.2**	**-1.3**
	baz=192						
IVOT	**Vottur**	**0.39**	**162**	P	**Pg**	**17 11 49.6**	**-2.8**
	baz=163						
ISKR	**Skrokkalda**	**0.41**	**259**	P	**Pg**	**17 11 49.1**	**-3.6**
	baz=254						
IJOK	**Jokulheimar**	**0.46**	**226**	P	**Pg**	**17 11 50.7**	**-3.1**
	baz=223						
IJOK				S	**Sg**	**17 11 58.0**	**-1.9**
	baz=223						
IKRE	**Kreppuhraun**	**0.48**	**72**	P	**Pg**	**17 11 50.2**	**-3.9**
	baz=76						
IKRE				S	**Sg**	**17 11 57.8**	**-2.8**
	baz=76						
IMKO	**Mokollar**	**0.59**	**54**	P	**Pg**	**17 11 52.0**	**-4.1**
	baz=57						
IIEY	**Innrieyrar**	**0.62**	**208**	P	**Pg**	**17 11 53.2**	**-3.4**
	baz=206						
IIEY				S	**Sg**	**17 12 02.3**	**-2.5**
	baz=206						
IKSK	**Karasker**	**0.64**	**138**	P	**Pg**	**17 11 53.1**	**-4.0**
	baz=140						
IKSK				S	**Sg**	**17 12 02.9**	**-2.6**
	baz=140						
IKAL	**Kalfafell**	**0.70**	**188**	P	**Pg**	**17 11 54.7**	**-3.5**
	baz=188						
IKAL				S	**Sg**	**17 12 05.8**	**-1.5**
	baz=188						
ISVA	**Svartarkot**	**0.71**	**7**	P	Pg	17 11 53.6	-4.8
	baz=7.7						
ISVA				S	**Sg**	**17 12 03.2**	**-4.4**
	baz=7.7						
IVSH	**V-Sauoahnukur**	**0.76**	**76**	P	Pg	17 11 54.9	-4.5
	baz=79						
IVSH				S	**Sg**	**17 12 06.1**	**-3.3**
	baz=79						
IVAT	**Vatnsfell**	**0.78**	**235**	P	**Pg**	**17 11 56.0**	**-3.7**
	baz=233						
IFAG	**Fagurholsmyri**	**0.84**	**155**	P	**Pg**	**17 11 57.0**	**-3.9**
	baz=156						
IADA	**Aoalbol**	**0.89**	**64**	P	Pg	17 11 56.9	-5.0
	baz=66						
IADA				S	**Sg**	**17 12 10.0**	**-3.5**
	baz=66						
IHVE	**Hveravellir**	**0.93**	**285**	P	Pg	17 11 57.5	-5.2
	baz=283						
IMEL	**Melhnausar**	**1.00**	**20**	P	Pg	17 11 58.4	-5.5
	baz=20						
ISNB	**Snabyli**	**1.04**	**210**	P	**Pg**	**17 12 00.4**	**-4.3**
	baz=209						
IREN	**Reynihlio**	**1.04**	**13**	P	Pg	17 11 59.2	-5.5
	baz=14						
ISLY	**Slysaalda**	**1.09**	**222**	P	Pg	17 12 01.3	-4.4
	baz=221						
ISLY				S	**Sg**	**17 12 15.5**	**-4.3**
	baz=221						
IKVO	**Krokottuvotn**	**1.11**	**12**	P	Pb	17 12 00.3	-5.6
	baz=13						
IFED	**Fedgar**	**1.15**	**239**	P	**Pb**	**17 12 02.3**	**-4.4**
	baz=237						
IGRS	**Grimsstaoir**	**1.15**	**29**	P	Pb	17 12 01.2	-5.5
	baz=30						
IGRS				S	**Sb**	**17 12 16.7**	**-5.0**
	baz=30						
IRJU	**Rjupnafell**	**1.15**	**208**	P	**Pb**	**17 12 02.4**	**-4.3**
	baz=207						
IGYG	**Gygjarholskot**	**1.25**	**255**	P	Pn	17 12 03.2	-5.0
	baz=253						
ISKI	**Skildingahlsh**	**1.25**	**8**	P	Pn	17 12 02.6	-5.6
	baz=8.6						
IGHA	**Grjothals**	**1.26**	**15**	P	Pn	17 12 02.6	-5.7
	baz=16						
IGRA	**Granastaoir**	**1.29**	**358**	P	Pn	17 12 03.1	-5.6
	baz=358						
BORG	**Borgarnes**	**1.67**	**276**	Pn	**Pn**	**17 12 09.4**	**-4.5**
	42nm,0.3s,baz=105,slow=8.7,SNR=110						
BORG				Sn	**Sn**	**17 12 33.3**	**-2.0**
	23nm,0.3s,baz=98,slow=23,SNR=6.1						
SCO	**Scoresbysund**	**6.12**	**346**	*i* P	**Pn**	**17 13 13.2**	**-1.8**
SCO				*e*S	**Sn**	**17 14 26.4**	**+1.5**
SCO	**Scoresbysund**	**6.12**	**346**	*i* P	**Pn**	**17 13 13.2**	**-1.8**
SCO				*e*S	**Sn**	**17 14 26.4**	**+1.5**
SCO	**Scoresbysund**	**6.12**	**346**	Pn	**Pn**	**17 13 12.7**	**-2.3**
JMIC	**Jan Mayen**	**7.21**	**24**	LR	LR	17 15 23.7	
	comp=Z,105nm,20.1s,baz=308,slow=30						
SUMG	**Summit**	**10.98**	**325**	P	**Pn**	**17 14 21.3**	**-0.6**
SUMG	**Summit**	**10.98**	**325**	Pn	**Pn**	**17 14 21.3**	**-0.6**
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn	**Pn**	**17 14 30.5**	**-1.3**
	baz=321,slow=13,SNR=18						
ESK	**Eskdalemuir**	**11.73**	**136**	P	**Pn**	**17 14 31.0**	**-0.9**
ESK	**Eskdalemuir**	**11.73**	**136**	Pn	**Pn**	**17 14 31.0**	**-0.9**
NC204	**NORSAR Array S**	**13.21**	**92**	Pn	**Pn**	**17 14 49.9**	**-2.3**
NBO00	**NORSAR Array S**	**13.33**	**93**		**Pn**	**17 14 52.3**	**-1.5**
NAO01	**NORSAR Array S**	**13.47**	**93**	Pn	**Pn**	**17 14 55.0**	**-0.6**
NOA	**NORSAR Array B**	**13.52**	**92**	Pn	**Pn**	**17 14 54.8**	**-1.5**
	0.0nm,0.3s,baz=295,slow=14,SNR=5.0						
NOA				LR	LR	17 20 41.2	
	comp=Z,84nm,20.0s,baz=295,slow=40						
KONO	**Kongsberg**	**13.53**	**99**	P	**Pn**	**17 14 54.6**	**-1.8**
KONO	**Kongsberg**	**13.53**	**99**	Pn	**Pn**	**17 14 54.6**	**-1.8**
SFJD	**Kangerlussuaq**	**13.69**	**295**	LR	LR	17 19 48.7	
	comp=Z,374nm,19.4s,baz=86,slow=36						
SFJD	**Kangerlussuaq**	**13.69**	**295**	P	**Pn**	**17 14 59.8**	**+1.2**
SFJD	**Kangerlussuaq**	**13.69**	**295**	Pn	**Pn**	**17 14 59.8**	**+1.2**
NC602	**NORSAR Array S**	**13.80**	**93**	Pn	**Pn**	**17 14 60.0**	**-0.2**
HFS	**Hagfors**	**15.03**	**93**	LR	LR	17 21 38.0	
	comp=Z,43nm,21.2s,baz=314,slow=39						
SPA0	**Spitsbergen Ar**	**16.89**	**23**		**P**	**17 15 43.3**	**+0.5**
KEV	**Kevo**	**17.63**	**54**	P	**P**	**17 15 51.8**	**+0.9**
KEV				pmax	pmax		
	comp=Z,73nm,1.6s						
KEV	**Kevo**	**17.63**	**54**		**P**	**17 15 51.8**	**+0.9**
BUG	**Bochum--Univer**	**18.43**	**124**	*e*P	**Pn**	**17 16 01.1**	**+1.1**
	comp=Z,53nm,1.6s,baz=325,slow=11						
BMRD	**Maredsous**	**18.53**	**130**	P	**Pn**	**17 16 03.1**	**+2.0**
BGES	**Gesves**	**18.56**	**130**	P	**P**	**17 16 00.2**	**-1.2**
	comp=Z,18nm,2.3s						
MEM	**Membach**	**18.68**	**128**	P	**Pn**	**17 16 03.5**	**+0.5**
ASSE	**Asse, Remlinge**	**19.13**	**118**	*e*P	**Pn**	**17 16 08.3**	**-0.1**
	comp=Z,54nm,1.7s,baz=325,slow=11						
CLZ	**Clausthal**	**19.25**	**119**	*e*P	**Pn**	**17 16 10.5**	**+0.6**
	comp=Z,41nm,1.4s,baz=325,slow=11						
GTTG	**Gottingen**	**19.33**	**120**	*e*P	**Pn**	**17 16 11.3**	**+0.4**
	comp=Z,31nm,1.2s,baz=325,slow=11						
WLF	**Walferdange**	**19.54**	**129**	P	**Pn**	**17 16 12.9**	**-0.4**
WLF	**Walferdange**	**19.54**	**129**	P	**P**	**17 16 11.3**	**-0.7**
WLF				pmax	pmax		
	comp=Z,16nm,1.1s						
WLF	**Walferdange**	**19.54**	**129**	P	**P**	**17 16 11.3**	**-0.7**
FINES	**FINESS Array B**	**19.69**	**79**	P	**Pn**	**17 16 14.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=322,slow=7.7,SNR=5.8						
FINES	**FINESS Array B**	**19.69**	**79**	P	**P**	**17 16 13.9**	**+0.3**
FIA1	**FINESS Array S**	**19.69**	**79**		**Pn**	**17 16 14.5**	**-0.6**
CLF	**Chambon-Foret**	**19.76**	**138**		**Pn**	**17 16 15.9**	**-0.1**
CLF				IAmb	IAmb	17 16 19.1	
	comp=Z,74nm,1.4s						
TNS	**Taunus Mts**	**19.86**	**124**	*e*P	**Pn**	**17 16 16.9**	**-0.3**
	comp=Z,17nm,1.2s,baz=325,slow=11						
UBBA	**Unterbreizbach**	**19.93**	**121**	*e*P	**Pn**	**17 16 18.2**	**+0.3**
	comp=Z,71nm,1.8s,baz=325,slow=11						
NEUB	**Neuenburg**	**20.28**	**118**	*e*P	Pn	17 16 21.8	-0.4
	comp=Z,75nm,1.5s,baz=325,slow=11						
APA	**Apatity**	**20.33**	**59**	*i* P	Pn	17 16 30.2	+7.6
APA				pmax	pmax		
	comp=Z,11nm,1.2s						
APA				MLR	MLR		
	comp=Z,200nm,11.0s						
MOX	**Moxa**	**20.67**	**119**	*e*P	Pn	17 16 25.9	-0.8
	comp=Z,65nm,1.6s,baz=325,slow=11						
CLL	**Collm**	**20.68**	**116**	*i* P	**P**	**17 16 24.8**	**+0.4**
	comp=Z,80nm,1.7s						
CLL				*e*Pmax		17 16 27.0	
CLL				*e*S	**S**	**17 20 17.0**	**+1.9**
CLL	**Collm**	**20.68**	**116**	*i* P	**P**	**17 16 24.8**	**+0.4**
CLL				pmax	pmax		
	comp=Z,80nm,1.7s						
CLL	**Collm**	**20.68**	**116**	*e*P	Pn	17 16 25.7	-1.1
	comp=Z,80nm,1.7s,baz=325,slow=11						
CLL	**Collm**	**20.68**	**116**	P	**P**	**17 16 24.5**	**0.0**
CLL				IAmb	IAmb	17 16 27.7	
	comp=Z,69nm,1.6s						
FBE	**Freiberg**	**21.12**	**116**	*e*P	**P**	**17 16 30.5**	**+1.2**
	comp=Z,103nm,1.9s,baz=325,slow=11						
ECH	**Echery**	**21.12**	**129**	P	**P**	**17 16 29.9**	**+0.6**
ECH				pmax	pmax		
	comp=Z,31nm,1.6s						
ECH	**Echery**	**21.12**	**129**	P	**P**	**17 16 29.9**	**+0.6**
GUNZ	**Gunzen**	**21.17**	**118**	*e*P	**P**	**17 16 31.0**	**+1.2**
	comp=Z,99nm,2.1s,baz=325,slow=11						
TANN	**Tannenbergstha**	**21.18**	**118**	*e*P	**P**	**17 16 31.1**	**+1.1**
	comp=Z,156nm,1.9s,baz=325,slow=11						
KLNR	**Kaliningrad**	**21.19**	**100**	*i* P	**P**	**17 16 30.5**	**+0.6**
KLNR				pmax	pmax		
	comp=Z,50nm,1.2s						
WERN	**Wernitzgruen**	**21.25**	**118**	*e*P	**P**	**17 16 32.0**	**+1.3**
	comp=Z,130nm,2.1s,baz=325,slow=11						
GRA1	**Grafenberg Arr**	**21.30**	**121**		**P**	**17 16 31.4**	**+0.2**
GRA1				IAmb	IAmb	17 16 34.1	
	comp=Z,56nm,1.7s						
GRF	**Grafenberg Arr**	**21.30**	**121**	P	**P**	**17 16 31.4**	**+0.2**
GRF				pmax	pmax		
	comp=Z,55nm,1.7s						
GRF	**Grafenberg Arr**	**21.30**	**121**	*e*P	**P**	**17 16 32.9**	**+1.6**
	comp=Z,55nm,1.7s,baz=325,slow=11						
NKC	**Novy Kostel**	**21.32**	**118**	*e*P	**P**	**17 16 32.4**	**+1.0**
NKC				*e*S	Sn	17 20 33.7	-1.6
NKC				AMS	AMS	17 27 20.0	
	comp=Z,300nm,13.9s						
NKC	**Novy Kostel**	**21.32**	**118**	*e*P	**P**	**17 16 32.4**	**+1.0**
NKC				*e*S	Sn	17 20 33.7	-1.6
NKC				MLR	MLR		
	comp=Z,300nm,13.9s						
STU	**Stuttgart**	**21.34**	**125**	P	**P**	**17 16 32.5**	**+0.8**
STU				pmax	pmax		
	comp=Z,99nm,2.0s						
STU	**Stuttgart**	**21.34**	**125**	P	**P**	**17 16 32.5**	**+0.8**
STU				IAmb	IAmb	17 16 36.0	
	comp=Z,99nm,2.0s						
BRG	**Berggiesshubel**	**21.39**	**115**	*i* P	**P**	**17 16 32.9**	**+0.8**
	comp=Z,56nm,1.6s						
BRG				S	Sn	17 20 36.0	-0.8
	comp=N,293nm,11.1s						
	comp=E,297nm,12.4s						
	comp=Z,237nm,13.3s						
BRG	**Berggiesshubel**	**21.39**	**115**	*i* P	**P**	**17 16 32.9**	**+0.8**
BRG				S	Sn	17 20 36.0	-0.8
BRG				pmax	pmax		
	comp=Z,56nm,1.6s

DPC Dobruska-Polom 22.73 113 *e*P **P** **17 16 47.5 +0.9**
DPC *ex* x 17 17 04.0
DPC *e*S **S** **17 20 58.6 +3.7**
DPC AMS AMS 17 30 20.0
comp=Z,200nm,9.4s
DPC Dobruska-Polom 22.73 113 *e*P **P** **17 16 47.5 +0.9**
DPC *e*S **S** **17 20 58.6 +3.7**
DPC MLR MLR
comp=Z,200nm,9.4s
SENIN Lac Senin/Sane 22.79 132 **P** **17 16 48.3 +0.9**
DAVA Damuels 22.85 126 *e*P **P** **17 16 49.5 +1.5**
comp=Z,20nm,1.2s,SNR=5.9
SUW Suwalki 22.86 98 *e*P **P** **17 16 48.0 +0.2**
SUW Suwalki 22.86 98 P **P** **17 16 48.2 +0.4**
SUW pmax pmax
comp=Z,35nm,1.1s
SUW Suwalki 22.86 98 P **P** **17 16 48.2 +0.4**
SUW IAmb IAmb 17 17 07.2
comp=Z,35nm,1.1s
SSB Saint Sauveur 22.92 137 P **P** **17 16 49.4 +0.9**
SSB pmax pmax
comp=Z,20nm,1.3s
SSB Saint Sauveur 22.92 137 P **P** **17 16 49.4 +0.9**
GEC2 GERESS Array S 22.93 119 P **P** **17 16 47.8 -0.9**
GEC2 IAmb IAmb 17 16 58.0
comp=Z,46nm,1.6s
GERES GERESS Array B 22.93 119 P **P** **17 16 48.5 -0.2**
comp=Z,1.8nm,0.9s,baz=323,slow=8.4,SNR=12
GERES LR LR 17 26 06.4
comp=Z,151nm,19.7s,baz=324,slow=38
GERES GERESS Array B 22.93 119 **P** **17 16 46.8 -1.8**
RETA Reutte 22.99 125 P **P** **17 16 50.8 +1.5**
comp=Z,26nm,1.3s
KRLC Kraliky 23.13 113 *e*P **P** **17 16 51.6 +0.9**
KRLC *ex* x 17 17 01.2
KRLC *e*S **S** **17 21 05.8 +3.9**
KRLC AMS AMS 17 30 30.0
comp=Z,200nm,11.3s
KRLC Kraliky 23.13 113 *e*P **P** **17 16 51.6 +0.9**
KRLC *e*S **S** **17 21 05.8 +3.9**
KRLC MLR MLR
comp=Z,200nm,11.3s
MOTA Moosalm 23.23 124 P **P** **17 16 53.4 +1.6**
comp=Z,26nm,1.4s,SNR=7.0
DAVOX Davos/Dischmat 23.29 127 P **P** **17 16 53.1 +0.7**
comp=Z,1.1nm,0.4s,baz=273,slow=3.2,SNR=7.3
DAVOX LR LR 17 26 44.7
comp=Z,120nm,18.1s,baz=61,slow=39
TMCR Tamitsa 23.34 66 *e*P **P** **17 16 52.4 -0.2**
comp=Z,22nm,0.9s
TMCR Tamitsa 23.34 66 *e*P **P** **17 16 52.4 -0.2**
TMCR pmax pmax
comp=Z,22nm,0.9s
SQTA Sankt Quirin 23.37 124 *e*pP **P** **17 16 54.9 +1.6**
comp=Z,42nm,1.5s,SNR=6.5
TUE Stuetta 23.37 128 P **P** **17 16 53.4 0.0**
FETA Feichten 23.37 125 *e*pP **P** **17 16 56.6 +3.2**
comp=Z,27nm,1.4s
WATA Walderalm 23.41 124 *e*P **P** **17 16 55.0 +1.4**
comp=Z,19nm,1.5s,SNR=6.2
BEL Belsk 23.42 105 *e*P **P** **17 16 54.8 +1.2**
WTTA Wattenberg 23.49 124 *e*pP **P** **17 16 56.2 +1.7**
comp=Z,20nm,1.4s,SNR=8.3
FUORN Ofenpass-Fuorn 23.56 127 **P** **17 16 55.6 +0.4**
VRAC Vranov 23.67 114 P **P** **17 16 56.5 +0.5**
comp=Z,4.3nm,1.0s,baz=327,slow=10,SNR=15
VRAC LR LR 17 27 38.6
comp=Z,116nm,18.2s,baz=329,slow=40
VRAC Vranov 23.67 114 *e*P **P** **17 16 57.6 +1.6**
MORC Moravsky Berou 23.67 112 *e*P **P** **17 16 57.6 +1.5**
MORC Moravsky Berou 23.67 112 P **P** **17 16 57.3 +1.2**
MORC pmax pmax
comp=Z,69nm,1.8s
MORC Moravsky Berou 23.67 112 P **P** **17 16 57.3 +1.2**
MORC IAmb IAmb 17 16 59.6
comp=Z,69nm,1.8s
EUNU Eureka 23.70 336 P **P** **17 16 57.5 +1.3**
EUNU IAmb IAmb 17 17 05.5
comp=Z,54nm,1.7s
KRUC Moravsky 23.79 115 *e*P **P** **17 16 58.2 +1.0**
MOA Molln 23.96 119 *e*P **P** **17 16 59.3 +0.4**
comp=Z,15nm,1.3s
PVRL Vila Real 24.07 162 *e*P **P** **17 17 05.2 +5.2**
OJC Ojcow 24.23 109 *e*P **P** **17 17 01.8 +0.5**
OJC *e*S **S** **17 21 23.9 +4.4**
OJC Ojcow 24.23 109 P **P** **17 17 01.2 -0.2**
OJC pmax pmax
comp=Z,56nm,1.9s
OJC Ojcow 24.23 109 P **P** **17 17 01.2 -0.2**
OJC IAmb IAmb 17 17 04.2
comp=Z,56nm,1.9s
ABTA Abfaltersbach 24.24 123 *e*pP **P** **17 17 03.8 +2.2**
comp=Z,16nm,1.2s
KBA Koelnbreinsper 24.27 122 *e*P **P** **17 17 00.4 -1.5**
comp=Z,14nm,1.4s
JAVC Velka Javorina 24.45 113 *e*P **P** **17 17 05.5 +2.1**
CONA Conrad Observa 24.50 117 *e*P **P** **17 17 04.1 +0.2**
comp=Z,13nm,1.2s
CTI Castel Tesino 24.54 125 P **P** **17 17 03.3 -1.0**
CTI pmax pmax
comp=Z,34nm,1.5s
CTI Castel Tesino 24.54 125 P **P** **17 17 03.3 -1.0**
CTI IAmb IAmb 17 17 16.8
comp=Z,34nm,1.5s
ZOU Zoufplan 24.57 123 P **P** **17 17 05.5 +0.8**
ZOU IAmb IAmb 17 17 47.0
comp=Z,47nm,1.7s
CIMO Cimolais 24.59 124 **P** **17 17 05.5 +0.8**
CIMO IAmb IAmb 17 17 23.7
comp=Z,36nm,1.7s
SMOL Smolenice 24.63 114 *e*P **P** **17 17 07.2 +2.2**
SMOL Smolenice 24.63 114 *e*P **P** **17 17 07.2 +2.2**
MODS Modra-Piesok 24.69 115 *e*P **P** **17 17 06.3 +0.8**
MODS pmax pmax
comp=Z,41nm,1.8s
MODS Modra-Piesok 24.69 115 *e*P **P** **17 17 06.3 +0.8**
STAL STALIGIAL 24.73 124 P **P** **17 17 05.7 -0.2**
MYKA Terra Mystica 24.75 122 *e*P **P** **17 17 07.9 +1.7**
comp=Z,16nm,1.7s
PRED Cave del Predi 24.88 122 **P** **17 17 07.6 +0.2**
PRED IAmb IAmb 17 17 16.0
comp=Z,25nm,1.4s
ARSA Arzberg 24.93 118 *e*P **P** **17 17 09.4 +1.7**
comp=Z,8.2nm,1.2s
LANS Liptovska Anna 24.94 111 *e*P **P** **17 17 10.0 +2.2**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 24.94 111 *e*P **P** **17 17 10.0 +2.2**
NIE Niedzica 25.06 109 *e*P **P** **17 17 09.2 +0.3**
NIE *e*S **S** **17 21 36.0 +3.0**
TEOL Teolo 25.14 126 P **P** **17 17 10.7 +1.1**
PCAS Casmilo, Conde 25.17 164 *e*P **P** **17 17 15.1 +5.2**
comp=Z,63nm,1.9s
OBKA Obir 25.19 121 *e*P **P** **17 17 09.8 -0.4**
comp=Z,9.0nm,1.4s
VYHS Vyhne 25.21 112 *e*P **P** **17 17 11.0 +0.8**
VYHS pmax pmax
comp=Z,38nm,1.7s
VYHS Vyhne 25.21 112 *e*P **P** **17 17 11.0 +0.8**
SOKA Soboth 25.23 120 *e*P **P** **17 17 11.9 +1.4**
comp=Z,13nm,1.3s
PCBR Castelo Branco 25.51 162 *e*P **P** **17 17 17.9 +4.9**
comp=Z,41nm,1.5s
SRO Srobarova 25.55 114 *e*P **P** **17 17 14.9 +1.6**
SRO Srobarova 25.55 114 *e*P **P** **17 17 14.9 +1.6**
TRI Trieste 25.58 123 P **P** **17 17 14.1 +0.5**
TRI pmax pmax
comp=Z,27nm,1.2s
TRI Trieste 25.58 123 P **P** **17 17 14.1 +0.5**
TRI IAmb IAmb 17 17 56.5
comp=Z,27nm,1.2s
KLMR Klimovskoe 25.60 72 *e*P **P** **17 17 12.8 -0.7**
comp=Z,33nm,1.4s
KLMR *e*S **S** **17 21 42.0 +0.9**
KLMR Klimovskoe 25.60 72 *e*P **P** **17 17 12.8 -0.7**
KLMR pmax pmax
comp=Z,33nm,1.4s
KLMR Klimovskoe 25.60 72 *e*P **P** **17 17 12.9 -0.7**
KLMR AMP 17 17 16.6
comp=Z,33nm,1.4s
VLC Villacollemand 25.76 129 P **P** **17 17 15.1 -0.2**
VLC IAmb IAmb 17 17 32.3
comp=Z,43nm,1.5s
KWP Kalwaria Pacla 25.89 106 *e*P **P** **17 17 17.0 +0.7**
KWP Kalwaria Pacla 25.89 106 P **P** **17 17 17.2 +0.9**
KWP pmax pmax
comp=Z,143nm,1.7s
KWP Kalwaria Pacla 25.89 106 P **P** **17 17 17.2 +0.9**
PMRV Marv??o 25.93 162 *e*P **P** **17 17 22.1 +5.3**
comp=Z,22nm,2.1s
CRVS Cervenica-Dubn 25.94 109 *e*P **P** **17 17 18.1 +1.2**
CRVS pmax pmax
comp=Z,36nm,1.5s
CRVS Cervenica-Dubn 25.94 109 *e*P **P** **17 17 18.1 +1.2**
LSH Leshukonskoye 25.97 60 *e*P **P** **17 17 15.1 -1.8**
comp=Z,40nm,1.5s
LSH *e*S **S** **17 21 45.4 -1.4**
SCHQ Schefferville 26.06 271 LR LR 17 26 25.7
comp=Z,135nm,21.0s,baz=354,slow=34
PSZ Piszkesteto 26.09 112 P **P** **17 17 19.5 +1.2**
PSZ pmax pmax
comp=Z,103nm,1.8s
PSZ Piszkesteto 26.09 112 P **P** **17 17 19.5 +1.2**
ESBB Sonseca Array 26.22 156 P **P** **17 17 19.0 -0.4**
ESBB IAmb IAmb 17 17 47.1
comp=Z,30nm,1.8s
ESDC Sonseca Array 26.22 156 P **P** **17 17 19.7 +0.2**
comp=Z,3.1nm,0.9s,baz=348,slow=9.6,SNR=16
ESDC LR LR 17 26 38.4
comp=Z,50nm,21.2s,baz=345,slow=34
ESDC Sonseca Array 26.22 156 P **P** **17 17 19.9 +0.4**
KOLS Kolonicke sedl 26.25 108 *e*P **P** **17 17 19.8 +0.2**
KOLS pmax pmax
comp=Z,31nm,1.6s
KOLS Kolonicke sedl 26.25 108 *e*P **P** **17 17 19.8 +0.2**
LVV L'vov 26.29 104 *e*P **P** **17 17 19.4 -0.6**
UZH Uzhgorod 26.50 108 *e*P **P** **17 17 21.9 +0.1**
UZH *e* 17 17 24.7
UZH *e*S **S** **17 21 50.4 -5.1**
RES Resolute Bay 26.50 324 LR LR 17 26 47.5
comp=Z,77nm,19.8s,baz=138,slow=34
OSSC Osservatorio P 26.61 129 P **P** **17 17 23.0 +0.1**
OSSC IAmb IAmb 17 17 32.3
comp=Z,18nm,0.9s
AKASG Malin Array Be 27.82 98 P **P** **17 17 33.8 +0.1**
comp=Z,0.5nm,0.5s,baz=323,slow=9.4,SNR=12
AKASG Malin Array Be 27.82 98 P **P** **17 17 33.0 -0.8**
AKBB Malin Array Si 27.82 98 P **P** **17 17 33.2 -0.5**
AKBB pmax pmax
comp=Z,14nm,1.5s
AKBB Malin Array Si 27.82 98 P **P** **17 17 33.2 -0.5**
NRCA Norcia 27.85 127 P **P** **17 17 37.0 +2.8**
OBN Obninsk 27.87 84 P **P** **17 17 34.2 +0.2**
comp=Z,2.3nm,0.4s,baz=301,slow=6.6,SNR=7.1
OBN Obninsk 27.87 84 ‖ *e*P **P** **17 17 34.3 +0.2**
OBN *PP **pP** **17 17 38.0 +0.4**
OBN *SP **sP** **17 17 39.0 -0.1**
OBN SSS SSS 17 23 55.0
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,77nm,14.0s
OBN Obninsk 27.87 84 P **P** **17 17 34.3 +0.2**
OBN IAmb IAmb 17 17 35.8
comp=Z,28nm,1.2s
BUR08 Bucovina Ar. S 28.47 106 P **P** **17 17 41.2 +1.6**
BURAR Bucovina Array 28.50 106 P **P** **17 17 40.4 +0.4**
MLR Muntele Rosu 30.50 108 P **P** **17 17 59.3 +1.5**
MLR pmax pmax
comp=Z,18nm,1.5s
MLR Muntele Rosu 30.50 108 P **P** **17 17 59.3 +1.5**
MLR IAmb IAmb 17 18 03.4
comp=Z,18nm,1.5s
VSR Storozhevoye 31.72 88 *e*P **P** **17 18 07.8 -0.4**
VSR pmax pmax
comp=Z,30nm,2.0s
CORL Corleone 32.35 131 P **P** **17 18 14.1 +0.2**
TIRR Tirgusor 32.36 106 P **P** **17 18 15.5 +1.6**
TIRR pmax pmax
comp=Z,97nm,1.7s
TIRR Tirgusor 32.36 106 P **P** **17 18 15.5 +1.6**
CLTB Caltabellotta 32.61 131 P **P** **17 18 16.9 +0.7**
FNA Florina 32.65 118 P **P** **17 18 15.4 -1.1**
FNA pmax pmax
comp=Z,23nm,1.5s
FNA Florina 32.65 118 P **P** **17 18 15.4 -1.1**
FNA IAmb IAmb 17 18 18.1
comp=Z,23nm,1.5s
VRH Novokhopyorsk 32.82 85 *e*P **P** **17 18 17.2 -0.7**
VRH pmax pmax
comp=Z,40nm,1.9s
KEST Kesra 33.12 138 LR LR 17 31 06.6
comp=Z,77nm,19.6s,baz=300,slow=35
ALN Alexandroupoli 34.37 112 P **P** **17 18 31.6 +0.2**
ALN pmax pmax
comp=Z,45nm,2.0s
ALN Alexandroupoli 34.37 112 P **P** **17 18 31.6 +0.2**
I63A Otisfield 35.74 261 P **P** **17 18 44.9 +1.7**
ITM Ithomi 36.01 120 P **P** **17 18 45.2 -0.4**
ARU Arti 36.08 66 *c i*P **P** **17 18 46.3 +0.3**
ARU 17 20 03.7
ARU S **S** **17 24 27.9 +3.1**
ARU SS **SnSn** **17 26 51.0 +1.8**
ARU pmax pmax
comp=Z,19nm,1.9s
ARU MLR MLR
comp=Z,165nm,23.0s
ARU Arti 36.08 66 P **P** **17 18 46.7 +0.7**
ARU IAmb IAmb 17 18 49.2
comp=Z,39nm,1.9s
LBNH Lisbon 36.16 262 P **P** **17 18 47.4 +0.6**
LBNH pmax pmax
comp=Z,43nm,1.8s
LBNH Lisbon 36.16 262 P **P** **17 18 47.4 +0.6**
MACI Morro de la Ar 36.40 179 P **P** **17 18 50.2 +0.9**
NRIK Noril'sk 36.47 35 P **P** **17 18 50.5 +1.3**
comp=Z,2.4nm,0.7s,baz=329,slow=5.8,SNR=4.7
FFD Franklin Falls 36.66 261 P **P** **17 18 51.6 +0.5**
ORIO Orleans, Innes 36.73 267 P **P** **17 18 52.2 +0.6**
HNH Hanover 36.74 262 P **P** **17 18 53.9 +2.1**
HNH IAmb IAmb 17 19 06.6
comp=Z,29nm,1.4s
MDUB Mudurnu 36.82 107 P **P** **17 18 52.8 +0.2**
SOC Sochi 37.85 96 *e*P **P** **17 19 02.2 +1.0**
SOC *e*PPP PPP 17 20 55.5
SOC *e*S **S** **17 24 56.4 +4.4**
SOC *e*SSS SSS 17 27 58.9
SOC pmax pmax
comp=Z,35nm,1.0s
SOC MLR MLR
comp=Z,87nm,17.0s
BRYW Bryant College 37.88 260 P **P** **17 19 01.5 0.0**
BRYW IAmb IAmb 17 19 03.6
comp=Z,31nm,1.2s
J58A Remsen 38.31 265 P **P** **17 19 07.2 +2.1**
DELO Deloro Mine 38.38 268 P **P** **17 19 07.5 +1.9**
BR131 Keskin Array S 38.45 105 P **P** **17 19 07.8 +1.3**
BR131 pmax pmax
comp=Z,7.0nm,1.4s
BR131 Keskin Array S 38.45 105 P **P** **17 19 07.8 +1.3**
BRTR Keskin Array B 38.45 105 P **P** **17 19 08.2 +1.6**
comp=Z,1.6nm,1.0s,baz=340,slow=8.1,SNR=6.2
BRTR LR LR 17 37 19.9
comp=Z,14nm,18.6s,baz=284,slow=40
BRTR Keskin Array B 38.45 105 P **P** **17 19 06.6 0.0**
KIV Kislovodsk 38.82 92 *e*P **P** **17 19 08.1 -1.4**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,141nm,16.0s
KBZ Khabaz 39.10 92 P **P** **17 19 13.2 +1.6**
comp=Z,4.5nm,0.9s,baz=4.4,slow=11,SNR=3.9
KBZ LR LR 17 36 34.5
comp=Z,32nm,18.5s,baz=326,slow=38
YKA Yellowknife Ar 39.24 313 LR LR 17 35 10.2
comp=Z,76nm,18.8s,baz=0.0,slow=36
FFC Flin Flon 40.62 298 P **P** **17 19 26.6 +2.4**
FFC pmax pmax
comp=Z,12nm,1.3s
FFC Flin Flon 40.62 298 P **P** **17 19 26.6 +2.4**
AKH Akhalkalaki 41.24 94 P **P** **17 19 29.0 -0.7**
AKH pmax pmax
comp=Z,45nm,1.6s
AKH Akhalkalaki 41.24 94 P **P** **17 19 29.0 -0.7**
AKH IAmb IAmb 17 19 34.0
comp=Z,45nm,1.6s
ULM Lac du Bonnet 41.63 289 LR LR 17 36 03.7
comp=Z,96nm,18.8s,baz=360,slow=35
ABKAR Akbulak array 41.98 73 P **P** **17 19 34.3 -1.1**
TOLK Toolik Lake Re 42.78 336 P **P** **17 19 43.9 +2.1**
BMAR Burnt Mountain 42.93 333 P **P** **17 19 46.0 +3.0**
BRVK Borovoye 43.13 62 *c e*P **P** **17 19 46.5 +1.8**
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 43.13 62 P **P** **17 19 44.8 0.0**
FYU Fort Yukon 43.81 333 pP 17 19 53.8 +0.3
N49A Columbus Grove 44.12 271 P **P** **17 19 56.5 +3.6**
Q51A Peebles 45.33 269 P **P** **17 20 03.1 +0.6**
Q51A IAmb IAmb 17 20 08.0
comp=Z,17nm,1.1s
ILAR Eielson Array 45.72 332 P **P** **17 20 05.2 -0.1**
comp=Z,1.0nm,1.0s,baz=18,slow=7.0,SNR=11
ILAR PcP **PcP** **17 21 42.1 -0.7**
comp=Z,1.0nm,0.9s,baz=1.9,slow=2.7,SNR=3.0
ILAR LR LR 17 41 03.6
comp=Z,36nm,18.1s,baz=74,slow=38
ILAR Eielson Array 45.72 332 P **P** **17 20 05.6 +0.3**
ILAR Eielson Array 45.72 332 P **P** **17 20 05.6 +0.3**
MDM Murphy Dome 45.82 333 P **P** **17 20 07.5 +1.5**
MDM IAmb IAmb 17 20 13.1
comp=Z,21nm,1.4s
COLA College 45.82 333 *i* P **P** **17 20 08.5 +2.5**
COLA pmax pmax
comp=Z,10.0nm,1.3s
IMAR Indian Mountai 45.89 337 P **P** **17 20 06.8 +0.2**
HDA Harding Lake 46.05 332 P **P** **17 20 08.8 +0.8**
HDA IAmb IAmb 17 20 13.3
comp=Z,14nm,1.5s
DOT Dot Lake 46.13 330 P **P** **17 20 10.9 +2.3**
DOT IAmb IAmb 17 20 15.8
comp=Z,16nm,1.7s
BCAR Beaver Creek A 46.14 329 P **P** **17 20 11.6 +2.9**
RIDG Independent Ri 46.22 331 P **P** **17 20 11.0 +1.7**
RIDG IAmb IAmb 17 20 18.3
comp=Z,17nm,1.3s
ZALV Zalesovo Beam 47.64 51 P **P** **17 20 19.8 -0.6**
comp=Z,0.8nm,0.6s,baz=325,slow=7.6,SNR=6.3
ZALV LR LR 17 43 11.4
comp=Z,22nm,18.3s,baz=12,slow=40
ZALV Zalesovo Beam 47.64 51 *i* P **P** **17 20 22.5 +2.1**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 47.64 51 P **P** **17 20 18.9 -1.5**
KURK Kurchatov 48.11 58 *c e*P **P** **17 20 22.9 -1.2**
KURK pmax pmax
comp=Z,15nm,1.7s
KURK Kurchatov 48.11 58 P **P** **17 20 22.8 -1.4**
KURK IAmb IAmb 17 20 26.1
comp=Z,15nm,1.4s
T47A Sharon Grove 48.65 271 P **P** **17 20 29.5 +1.0**
EGMT Eagleton 48.90 297 P **P** **17 20 31.1 +0.7**
GEYT Alibeck 50.41 84 P **P** **17 20 43.8 +1.8**
comp=Z,1.2nm,0.6s,baz=305,slow=5.2,SNR=4.4
GEYT LR LR 17 44 36.4
comp=Z,66nm,18.8s,baz=355,slow=39
GEYT Alibeck 50.41 84 IAmb IAmb 17 20 46.7
comp=Z,6.0nm,1.5s
HRY Holter Researc 50.78 298 P **P** **17 20 48.1 +3.3**
RLMT Red Lodge 51.12 295 P **P** **17 20 49.8 +2.4**
RLMT IAmb IAmb 17 20 53.4
comp=Z,28nm,1.6s
KKAR Karatay Array 51.27 70 P **P** **17 20 47.5 -0.8**
KKAR pmax pmax
comp=Z,36nm,1.9s
KKAR Karatay Array 51.27 70 P **P** **17 20 47.5 -0.8**
KKAR Karatay Array 51.27 70 P **P** **17 20 48.7 +0.4**
KKAR IAmb IAmb 17 20 52.4
comp=Z,36nm,1.9s
BOZ Bozeman (W) 51.64 297 P **P** **17 20 53.9 +2.7**
BOZ pmax pmax
comp=Z,21nm,1.4s
BOZ Bozeman (W) 51.64 297 P **P** **17 20 53.9 +2.7**
BOZ IAmb IAmb 17 20 56.3
comp=Z,21nm,1.4s
YMP Mirror Lake Pl 51.78 295 P **P** **17 20 54.7 +2.2**
YHH Holmes Hill 52.01 296 P **P** **17 20 57.0 +2.8**
DGZ Jazzator, Alta 52.08 53 *i* P **P** **17 20 55.6 +1.1**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
YHL Hebgen Lake 52.09 296 P **P** **17 20 57.7 +2.9**
YPP Pitchstone Pla 52.43 295 P **P** **17 21 00.5 +3.2**
MAKZ Makanchi 52.60 59 P **P** **17 20 58.5 +0.3**
MAKZ pmax pmax
comp=Z,29nm,1.9s
MAKZ Makanchi 52.60 59 P **P** **17 20 58.5 +0.3**
MAKZ IAmb IAmb 17 21 01.4
comp=Z,29nm,1.9s
MKAR Makanchi Array 52.73 58 P **P** **17 20 58.6 -0.5**
comp=Z,2.1nm,1.0s,baz=331,slow=4.7,SNR=9.2
MKAR Makanchi Array 52.73 58 *i* P **P** **17 21 00.1 +1.0**
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 52.73 58 P **P** **17 20 58.2 -0.9**
MCMT McKenzie Canyo 52.75 297 P **P** **17 21 02.4 +2.8**
PHWY Pilot Hill 52.79 289 P **P** **17 21 03.2 +3.2**
FXWY Fox Creek 53.05 295 P **P** **17 21 04.9 +3.1**
TORD Torodi Ar. Bea 53.11 156 P **P** **17 21 01.9 -0.3**
comp=Z,3.5nm,1.1s,baz=342,slow=7.8,SNR=8.8
TORD LR LR 17 43 21.4
comp=Z,23nm,19.5s,baz=115,slow=36
TORD Torodi Ar. Bea 53.11 156 P **P** **17 21 00.5 -1.7**
BW06 Boulder Array 53.20 293 P **P** **17 21 04.8 +1.9**
BW06 IAmb IAmb 17 21 07.7
comp=Z,13nm,1.2s
PD31 Pinedale Array 53.20 293 IAmb IAmb 17 21 07.7
comp=Z,13nm,1.2s
PDAR Pinedale Array 53.20 293 P **P** **17 21 01.6 -1.4**
comp=Z,7.1nm,1.1s,baz=54,slow=5.8,SNR=10
PDAR LR LR 17 43 29.9
comp=Z,62nm,18.4s,baz=28,slow=36
PDAR Pinedale Array 53.20 293 P **P** **17 21 01.4 -1.5**
REDW Red Top Meadow 53.21 295 P **P** **17 21 05.9 +2.9**
REDW IAmb IAmb 17 21 08.8
comp=Z,14nm,1.3s
KDAK Kodiak Island 53.23 332 LR LR 17 44 55.3
comp=Z,76nm,18.0s,baz=64,slow=38
AAK Ala-Archa 53.26 67 *c e*P **P** **17 21 02.4 -0.9**
AAK pmax pmax
comp=Z,49nm,1.7s
N23A Red Feather La 53.33 289 P **P** **17 21 05.2 +1.3**
BMO Blue Mountains 54.41 300 P **P** **17 21 14.2 +2.6**
BMO pmax pmax
comp=Z,9.0nm,1.6s
BMO Blue Mountains 54.41 300 P **P** **17 21 14.2 +2.6**
HWUT Hardware Ranch 54.98 294 P **P** **17 21 17.3 +1.4**
ZAK Zakamensk 56.47 41 *e*P **P** **17 21 25.7 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
ZAK pmax pmax
comp=Z,3.0nm,1.6s
KSH Kashi 56.49 68 P **P** **17 21 29.8 +3.1**
KSH S **S** **17 29 18.3 +0.6**
KSH pmax pmax
comp=Z,48nm,1.4s
KSH pmax pmax
comp=Z,120nm,5.7s
KSH LR LR
comp=N,390nm,13.0s
KSH LR LR
comp=E,240nm,12.5s
KSH LR LR
comp=Z,85nm,12.0s
PV21 Cone Mtn., Par 56.54 290 P **P** **17 21 29.8 +2.6**
PV21 IAmb IAmb 17 21 34.8
comp=Z,8.1nm,1.1s
DUG Dugway, Tooele 56.67 294 IAmb IAmb 17 21 33.4
comp=Z,11nm,1.3s
PV12 Saucer Basin, 56.68 290 P **P** **17 21 31.2 +3.1**
PV12 IAmb IAmb 17 21 32.9
comp=Z,21nm,1.5s
PV14 Lion Creek, Pa 56.72 290 IAmb IAmb 17 21 32.8
comp=Z,10nm,1.2s
PV11 David Mesa, Pa 56.73 290 P **P** **17 21 32.2 +3.8**
PV16 Nyswonger Mesa 56.73 290 IAmb IAmb 17 21 33.9
comp=Z,18nm,1.4s
PV01 Paradox Valley 56.74 289 IAmb IAmb 17 21 34.7
comp=Z,11nm,1.2s
PV02 Paradox Valley 56.75 290 P **P** **17 21 32.2 +3.6**
PV02 IAmb IAmb 17 21 34.0
comp=Z,16nm,1.2s
PV03 Paradox Valley 56.75 290 P **P** **17 21 31.1 +2.4**
PV03 IAmb IAmb 17 21 34.0
comp=Z,15nm,1.3s
PV17 East Wray Mesa 56.78 290 IAmb IAmb 17 21 33.5

comp=Z,14nm,1.3s
PV18 Skein Mesa, Pa 56.78 290 IAmb IAmb 17 21 34.2
comp=Z,14nm,1.3s
ELK Elko 57.15 296 P **P 17 21 34.7 +3.2**
ELK pmax pmax
comp=Z,6.0nm,1.4s
ELK Elko 57.15 296 P **P 17 21 34.7 +3.2**
WMQ Urumqi 57.23 56 *e*P **P 17 21 35.1 +3.3**
MVU Marysvale 57.89 293 P **P 17 21 40.6 +3.9**
TIC Toumodi 58.56 165 *e*P **P 17 21 41.4 +0.1**
ANMO Albuquerque 58.61 286 *c*e**P P 17 21 41.4 -0.4**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
KIC Kosan Boka 58.88 165 *e*P **P 17 21 42.4 -1.1**
comp=Z,60nm,1.7s
LIC Lamto 58.98 166 *e*P **P 17 21 45.2 +1.0**
comp=Z,18nm,0.9s
CCUT Cedar City 59.17 293 P **P 17 21 49.1 +3.4**
R11A Troy Canyon, C 59.35 295 IAmb IAmb 17 21 52.1
comp=Z,11nm,1.4s
BNM Barren Site 59.37 285 P **P 17 21 50.3 +3.2**
KNB Kanab 59.42 292 P **P 17 21 50.0 +2.7**
KNB pmax pmax
comp=Z,14nm,1.5s
KNB Kanab 59.42 292 P **P 17 21 50.0 +2.7**
SONM Songino Array 59.65 40 LR LR 17 50 16.3
comp=Z,32nm,18.7s,baz=32,slow=39
KVN Kaiserville 59.71 298 IAmb IAmb 17 21 54.0
comp=Z,7.9nm,1.3s
U15A North Rim 59.71 291 P **P 17 21 52.0 +2.5**
U15A IAmb IAmb 17 21 53.6
comp=Z,7.0nm,1.2s
PRN Pahroc Range 59.96 294 P **P 17 21 55.5 +4.6**
PRN IAmb IAmb 17 21 60.0
comp=Z,11nm,1.5s
YERR Yerington 60.20 298 P **P 17 21 53.7 +1.1**
NVAR Mina Array Bea 60.33 297 P **P 17 21 53.5 -0.1**
comp=Z,0.6nm,0.9s,baz=52,slow=9.6,SNR=4.6
NVAR LR LR 17 47 41.5
comp=Z,132nm,20.2s,baz=24,slow=36
WAKR Walker 60.70 298 IAmb IAmb 17 22 07.5
comp=Z,13nm,1.5s
SHPR Sheep Range 60.79 294 P **P 17 21 59.9 +3.2**
SHPR IAmb IAmb 17 22 02.9
comp=Z,9.8nm,1.4s
TPNV Topopah Spring 60.83 295 IAmb IAmb 17 22 03.7
comp=Z,13nm,1.8s
X16A Lo Mia Camp, P 61.12 290 P **P 17 21 59.7 +0.7**
X16A IAmb IAmb 17 22 04.9
comp=Z,12nm,1.4s
OMMB Old Mammoth Mi 61.31 298 P **P 17 22 04.6 +4.2**
TXAR Lajitas Array 62.31 280 P **P 17 22 06.3 -0.7**
comp=Z,1.1nm,1.0s,baz=15,slow=3.9,SNR=4.1
TXAR LR LR 17 48 14.9
comp=Z,102nm,20.9s,baz=0.0,slow=35
TUC Tucson 62.68 288 P **P 17 22 11.8 +2.4**
TUC pmax pmax
comp=Z,9.0nm,1.4s
TUC Tucson 62.68 288 P **P 17 22 11.8 +2.4**
TUC IAmb IAmb 17 22 15.6
comp=Z,9.3nm,1.4s
113A Mohawk Valley, 63.49 291 P **P 17 22 18.2 +3.5**
113A IAmb IAmb 17 22 19.4
comp=Z,17nm,1.9s
GTA Gaotai 65.31 49 *e*P **P 17 22 27.6 +1.0**
GTA pP sP 17 22 32.1 +0.3
GTA sP pP 17 22 35.1 +4.7
GTA pmax pmax
comp=Z,7.0nm,1.9s
HHC Hu-ho-hao-te 67.52 40 *e*P **P 17 22 44.4 +3.7**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,270nm,5.4s
ZAIG Zacatecas 67.59 276 P **P 17 22 43.1 +1.5**
CN2 Changchun 68.05 28 *e*P **P 17 22 45.6 +1.7**
KSRS Korea Array 74.67 28 LR LR 18 01 12.9
comp=Z,16nm,18.2s,baz=345,slow=40
NJ2 Nanjing 77.75 37 *e*P **P 17 23 43.1 +1.6**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
WHN Wuhan 77.96 41 P **P 17 23 40.8 -1.9**
BDFB Brasilia 83.37 210 LR LR 17 56 50.0
comp=Z,30nm,19.7s,baz=127,slow=32
CHTO Chiang Mai 83.81 59 P **P 17 24 14.6 +0.5**
CHTO Chiang Mai 83.81 59 P **P 17 24 14.6 +0.5**
CHTO IAmb IAmb 17 24 17.9
comp=Z,5.4nm,1.1s
CMAR Chiang Mai Arr 84.13 59 P **P 17 24 16.0 +0.3**
comp=Z,0.5nm,0.3s,baz=316,slow=5.7,SNR=5.7
CMAR LR LR 18 04 24.8
comp=Z,22nm,18.6s,baz=320,slow=38

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*IDC **20** 17:25:10.0±8.5, 15°.59S×167°.16E, h75km±114km, mb3.8/5, mb1 3.9/6, mb1mx3.5/35, mbtmp4.0/6, ML3.6/1, MS3.9/2, Ms1 3.9/2, ms1mx2.7/30, Error ellipse: s-maj=98.5km s-min=32.1km az=128.0*
*NEIC **20** 17:25:17.3±1.3, 16°.13S±0°.09×167°.6E±0°.2, h183km±8km, mb4.4/15, Error ellipse: s-maj=28.2km s-min=12.3km az=84.0*
ISC 20 17:25:16.8±1.5, 16°.15S±0°.08×167°.9E±0°.2, h200km, n29, σ1§24/26, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.95**	**317**		**Pn**	**17 25 43.8**	**-2.4**
DZM	**Mont Dzumac**	**6.04**	**193**	P	**Pn**	**17 26 43.3**	**-1.4**
	1.2nm,0.3s,baz=78,slow=11,SNR=23						
DZM				S	**Sn**	**17 27 55.9**	**+1.6**
	baz=135,slow=19,SNR=4.2						
DZM	**Mont Dzumac**	**6.04**	**193**		**Pn**	**17 26 43.2**	**-1.5**
EIDS	**Eidsvold**	**18.16**	**237**	P	**P**	**17 29 12.4**	**-2.1**
EIDS				IAmb	IAmb	17 29 14.2	
	comp=Z,27nm,1.6s						
COEN	**Coen**	**23.94**	**272**	P	**P**	**17 30 14.8**	**+1.8**
COEN				IAmb	IAmb	17 30 16.6	
	comp=Z,6.8nm,1.0s						
WB0	**Warramunga Arr**	**32.02**	**258**	P	**P**	**17 31 24.4**	**-0.4**
WB0				IAmb	IAmb	17 31 30.7	
	comp=Z,11nm,1.5s						
WB2	**Warramunga Arr**	**32.06**	**258**	P	**P**	**17 31 25.2**	**+0.1**
WRAB	**Tennant Creek**	**32.06**	**258**	P	**P**	**17 31 24.0**	**-1.1**
WRA	**Warramunga Arr**	**32.07**	**258**	P	**P**	**17 31 25.2**	**0.0**
	comp=Z,0.4nm,0.5s,baz=85,slow=8.4,SNR=5.9						
AS31	**Alice Springs**	**32.74**	**251**	P	**P**	**17 31 31.1**	**+0.2**
ASAR	**Alice Springs**	**32.74**	**251**	P	**P**	**17 31 31.3**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=77,slow=8.9,SNR=54						
ASAR	**Alice Springs**	**32.74**	**251**	P	**P**	**17 31 31.4**	**+0.4**
MTN	**Manton Dam**	**35.69**	**270**	P	**P**	**17 31 56.9**	**+0.5**
KNRA	**Kununurra**	**37.57**	**265**	P	**P**	**17 32 12.7**	**+0.4**
KNRA				IAmb	IAmb	17 32 17.6	
	comp=Z,13nm,1.4s						
FITZ	**Fitzroy Crossi**	**40.34**	**261**	P	**P**	**17 32 36.4**	**+1.1**
	comp=Z,5.1nm,0.7s,baz=4.8,slow=1.5,SNR=14						
FITZ	**Fitzroy Crossi**	**40.34**	**261**	IAmb	IAmb	17 32 37.0	
	comp=Z,4.2nm,0.7s						
DAV	**Davao City (W)**	**47.79**	**296**	LR	LR	17 50 01.8	
	comp=Z,356nm,20.8s,baz=354,slow=32						
JHJ2	**Mitsune**	**55.84**	**332**	P	**P**	**17 34 34.9**	**+1.4**
MJAR	**Matsushiro Arr**	**59.42**	**332**	P	**P**	**17 34 59.0**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=168,slow=7.0,SNR=5.0						
MJAR	**Matsushiro Arr**	**59.42**	**332**	IAmb	IAmb	17 34 59.7	
	comp=Z,1.4nm,0.8s						
MAJO	**Matsushiro**	**59.42**	**332**	P	**P**	**17 34 59.3**	**+0.8**
MAJO				IAmb	IAmb	17 34 59.8	
	comp=Z,4.1nm,0.9s						
JHS	**Saijyo**	**60.63**	**328**	P	**P**	**17 35 06.6**	**-0.1**
JHS				IAmb	IAmb	17 35 30.0	
	comp=Z,10.0nm,1.1s						
JSD	**Sado**	**60.65**	**333**	P	**P**	**17 35 08.2**	**+1.5**
JSD				IAmb	IAmb	17 35 22.7	
	comp=Z,8.4nm,1.0s						
USRK	**Ussuriysk Ar.**	**68.41**	**333**	P	**P**	**17 35 58.7**	**+1.9**
	comp=Z,1.1nm,0.6s,baz=118,slow=7.5,SNR=6.4						
QSPA	**South Pole Qui**	**73.89**	**180**	LR	LR	18 05 15.5	
	comp=Z,21nm,18.1s,baz=349,slow=32						
ABTA	**Abfaltersbach**	**143.26**	**331**	*e*PKPdf	**PKPdf**	**17 44 25.8**	**-1.5**
	comp=Z,2.6nm,0.6s,SNR=5.7						
WTTA	**Wattenberg**	**143.27**	**333**	*e*PKPdf	**PKPdf**	**17 44 27.1**	**-0.3**
	comp=Z,1.6nm,0.6s						
SQTA	**Sankt Quirin**	**143.49**	**333**	*e*PKPdf	**PKPdf**	**17 44 26.9**	**-0.9**
	comp=Z,3.4nm,0.9s						
FETA	**Feichten**	**143.85**	**333**	*e*PKPdf	**PKPdf**	**17 44 28.7**	**+0.3**
	comp=Z,3.9nm,0.9s						

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*IDC **20** 17:39:18.0±1.7, 9°.20S×125°.64E, h0km, mb4.0/1, mb1 4.0/5, mb1mx3.6/43, mbtmp3.8/5, ML3.7/4, MS4.0/1, Ms1 4.0/1, ms1mx2.5/38, Error ellipse: s-maj=39.8km s-min=26.1km az=72.0*
*DJA **20** 17:39:22.2±0.4, 9°.5±3°.×12°.5E±°, h10km, M3.9/6, mb4.2/5, MLv3.8/6*
*NEIC **20** 17:39:25.4±2.9, 9°.58S±0°.10×125°.44E±0°.08, h68km±14km, mb4.0/3, Error ellipse: s-maj=14.5km s-min=11.1km az=203.0*
ISC 20 17:39:22.4±1.0, 9°.46S±0°.09×125°.63E±0°.07, h35km, n24, σ2§04/28, mb4.0/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.38**	**258**	P	**Pn**	**17 39 45.5**	**+0.3**
SOEI				S	**Sn**	**17 40 02.5**	**+0.2**
SOEI	**Soe**	**1.38**	**258**		**Pn**	**17 39 45.6**	**+0.3**
BATI	**Baumata**	**2.08**	**249**	Pn	**Pn**	**17 39 55.7**	**+0.9**
	11nm,0.3s,baz=127,slow=2.8,SNR=26						
BATI	**Baumata**	**2.08**	**249**	P	**Pn**	**17 39 55.7**	**+0.9**
BATI				S	**Sn**	**17 40 20.5**	**+1.0**
MMRI	**Maumere**	**3.45**	**283**		**Pn**	**17 40 14.9**	**+1.3**
EDFI	**Ende, Flores**	**3.95**	**280**	P	**Pn**	**17 40 20.4**	**-0.3**
EDFI				S	**Sn**	**17 41 04.5**	**-1.5**
MTN	**Manton Dam**	**6.36**	**122**		Pn	17 41 00.4	+6.7
KNRA	**Kununurra**	**6.89**	**154**		Pn	17 41 06.0	+4.9
PLAI	**Plampang**	**7.78**	**274**	P	**Pn**	**17 41 12.7**	**-0.5**
	0.1nm17nm,1.1s						
FITZ	**Fitzroy Crossi**	**8.59**	**180**	Pn	**Pn**	**17 41 27.2**	**+2.9**
	0.9nm,0.3s,baz=360,slow=11,SNR=33						
FITZ				Sn	**Sn**	**17 42 59.5**	**-0.5**
	2.0nm,0.3s,baz=0.1,slow=2.6,SNR=10						
FITZ	**Fitzroy Crossi**	**8.59**	**180**		**Pn**	**17 41 27.0**	**+2.7**
FITZ					**Sn**	**17 42 59.9**	**-0.1**
TWSI	**Taliwang, Sumb**	**8.67**	**274**	P	**Pn**	**17 41 23.2**	**-2.2**
	11nm,1.4s						
FAKI	**Fak Fak**	**9.24**	**46**	Pn	Pn	17 41 38.8	+5.4
WB0	**Warramunga Arr**	**13.29**	**141**	Pn	**Pn**	**17 42 30.8**	**+2.0**
WB0					**Sn**	**17 44 54.1**	**-1.3**
WRA	**Warramunga Arr**	**13.39**	**142**	Pn	**Pn**	**17 42 32.5**	**+2.4**
	0.3nm,0.3s,baz=318,slow=13,SNR=9.1						
WRA				Sn	**Sn**	**17 44 56.0**	**-1.8**
	0.5nm,0.3s,baz=224,slow=25,SNR=9.5						
WRAB	**Tennant Creek**	**13.39**	**142**	Pn	**Pn**	**17 42 34.7**	**+4.5**
WB2	**Warramunga Arr**	**13.40**	**142**	Pn	**Pn**	**17 42 31.9**	**+1.7**
WR0	**Warramunga Arr**	**13.53**	**141**	Pn	**Pn**	**17 42 33.6**	**+1.6**
AS31	**Alice Springs**	**16.19**	**152**	P	**Pn**	**17 43 08.6**	**+1.2**
AS31				IAmb	IAmb	17 43 31.9	
	comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**16.19**	**152**	Pn	**Pn**	**17 43 09.4**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=320,slow=10,SNR=38						
ASAR				Sn	**Sn**	**17 46 00.6**	**-5.4**
	comp=Z,0.2nm,0.3s,baz=316,slow=19,SNR=7.8						
HNR	**Honiara**	**33.84**	**93**	P	**P**	**17 46 01.4**	**-0.5**
HNR				IAmb	IAmb	17 46 30.6	
	comp=Z,42nm,0.9s						
RAO	**Raoul Island**	**56.23**	**119**	LR	LR	18 12 39.8	
	comp=Z,119nm,19.6s,baz=265,slow=36						
MK31	**Makanchi Array**	**68.02**	**329**	P	**P**	**17 50 18.4**	**+0.2**
MK31				IAmb	IAmb	17 50 55.7	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**68.02**	**329**	P	**P**	**17 50 17.8**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=132,slow=7.8,SNR=12						

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*IDC **20** 17:40:28.4±4.2, 19°.00S×169°.18E, h131km±32km, mb3.7/7, mb1 3.9/8, mb1mx3.6/40, mbtmp4.1/8, Error ellipse: s-maj=33.2km s-min=27.1km az=29.0*
*NEIC **20** 17:40:32.1±3.0, 19°.12S±0°.08×169°.0E±0°.1, h160km±8km, mb4.6/20, Error ellipse: s-maj=14.3km s-min=10.9km az=112.0*
ISC 20 17:40:30.7±0.6, 19°.09S±0°.07×169°.09E±0°.08, h147km, n52, σ1§16/46, mb4.6/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.87**	**219**	P	**Pn**	**17 41 29.6**	**+0.3**
	15nm,0.3s,baz=309,slow=23,SNR=185						
DZM				S	**Sn**	**17 42 13.9**	**-0.8**
	48nm,0.3s,baz=331,slow=20,SNR=16						
SANVU	**Saraoutou**	**4.05**	**333**	Pn	**Pn**	**17 41 31.4**	**-0.1**
MSVF	**Nonsavu**	**8.61**	**82**	Pn	**Pn**	**17 42 31.4**	**-1.0**
EIDS	**Eidsvold**	**17.80**	**246**	P	**Pn**	**17 44 30.2**	**+0.9**
EIDS				IAmb	IAmb	17 44 33.0	
	comp=Z,32nm,1.4s						
CTA	**Charters Tower**	**21.54**	**264**	P	**P**	**17 45 09.9**	**+1.5**
	comp=Z,4.3nm,0.4s,baz=94,slow=12,SNR=11						
CTAO	**Charters Tower**	**21.54**	**264**	P	**P**	**17 45 09.0**	**+0.5**
CTAO				IAmb	IAmb	17 45 42.0	
	comp=Z,27nm,1.6s						
BFZ	**Birch Farm**	**22.38**	**166**	P	**P**	**17 45 17.9**	**+1.1**
BFZ				IAmb	IAmb	17 45 32.1	
	comp=Z,34nm,1.0s						
TUWZ	**Tuamarina**	**22.65**	**170**	P	**P**	**17 45 20.7**	**+1.4**
SNZO	**South Karori**	**22.66**	**169**	P	**P**	**17 45 20.8**	**+1.4**
BHW	**Baring Head**	**22.79**	**169**	P	**P**	**17 45 19.8**	**-0.8**
THZ	**Tophouse**	**22.83**	**173**	P	**P**	**17 45 23.1**	**+2.0**
MSWZ	**Moikau Station**	**22.87**	**168**	P	**P**	**17 45 22.5**	**+1.1**
PLWZ	**Palliser**	**23.02**	**168**	P	**P**	**17 45 22.8**	**0.0**
STKA	**Stephens Creek**	**27.81**	**237**	P	**P**	**17 46 06.9**	**+0.8**
	comp=Z,2.2nm,0.4s,baz=85,slow=12,SNR=5.1						
STKA	**Stephens Creek**	**27.81**	**237**	IAmb	IAmb	17 46 15.2	
	comp=Z,1.4nm,1.2s						
BBOO	**Buckleboo**	**32.55**	**239**	P	**P**	**17 46 47.9**	**0.0**
BBOO				IAmb	IAmb	17 46 54.8	
	comp=Z,50nm,1.9s						
WB0	**Warramunga Arr**	**32.70**	**263**	P	**P**	**17 46 48.5**	**-0.9**
WB0				IAmb	IAmb	17 47 09.1	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**32.73**	**263**	P	**P**	**17 46 48.7**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=98,slow=7.9,SNR=4.4						
WRA	**Warramunga Arr**	**32.73**	**263**	IAmb	IAmb	17 46 51.3	
	comp=Z,0.3nm,1.1s						
AS31	**Alice Springs**	**33.03**	**256**	P	**P**	**17 46 51.9**	**-0.4**
AS31				IAmb	IAmb	17 46 52.4	
	comp=Z,5.4nm,0.5s						
ASAR	**Alice Springs**	**33.03**	**256**	P	**P**	**17 46 51.8**	**-0.5**
	comp=Z,7.9nm,0.5s,baz=83,slow=8.8,SNR=56						
ASAR	**Alice Springs**	**33.03**	**256**	P	**P**	**17 46 50.4**	**-1.8**
MTN	**Manton Dam**	**36.97**	**274**	P	**P**	**17 47 25.7**	**-0.3**
MTN				IAmb	IAmb	17 47 32.7	
	comp=Z,24nm,1.6s						
KNRA	**Kununurra**	**38.58**	**269**	P	**P**	**17 47 39.0**	**-0.5**
KNRA				IAmb	IAmb	17 48 02.3	
	comp=Z,21nm,1.6s						
FITZ	**Fitzroy Crossi**	**41.12**	**264**	P	**P**	**17 48 00.9**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=193,slow=2.0,SNR=5.0						
SOEI	**Soe**	**44.28**	**276**	P	**P**	**17 48 25.9**	**-0.3**
SOEI				IAmb	IAmb	17 49 44.8	
	comp=Z,32nm,1.4s						
PSA00	**Pilbara Seismi**	**46.10**	**258**	P	**P**	**17 48 40.9**	**+0.6**
PSA00				IAmb	IAmb	17 50 11.1	
	comp=Z,55nm,2.0s						
VNDA	**Vanda**	**58.58**	**182**	P	**P**	**17 50 11.8**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=352,slow=7.0,SNR=3.8						
CASY	**Casey**	**60.21**	**203**	P	**P**	**17 50 20.2**	**-2.6**
CASY				IAmb	IAmb	17 51 42.8	
	comp=Z,17nm,1.7s						
JSD	**Sado**	**63.79**	**333**	P	**P**	**17 50 47.5**	**+0.5**
QSPA	**South Pole Qui**	**70.96**	**180**	P	**P**	**17 51 31.7**	**-0.3**
YBH	**Yreka Blue Hor**	**87.29**	**44**		pP	17 53 42.6	+4.9
ILAR	**Eielson Array**	**90.13**	**17**	P	**P**	**17 53 12.1**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=238,slow=4.9,SNR=6.3						
PRN	**Pahroc Range**	**90.72**	**51**	P	**P**	**17 53 19.0**	**+1.7**
J08A	**Circle Bar Ran**	**90.81**	**44**	P	**P**	**17 53 21.4**	**+4.0**
H03N3	**Juan Fernandez**	**96.75**	**129**	T	T	19 43 50.7	
	baz=236,slow=72,SNR=8.5						
H03N2	**Juan Fernandez**	**96.75**	**129**	T	T	19 43 48.1	
	baz=236,slow=72,SNR=6.9						
H03N1	**Juan Fernandez**	**96.77**	**129**	T	T	19 43 51.4	
	baz=236,slow=72,SNR=8.8						
CONA	**Conrad Observa**	**143.94**	**329**	*i* PKPdf	**PKPdf**	**17 59 48.5**	**-0.2**
	comp=Z,1.5nm,0.5s						
GERES	**GERESS Array B**	**144.29**	**332**	PKP	PKPbc	17 59 47.6	-0.3
	comp=Z,0.9nm,0.5s,baz=38,slow=3.1,SNR=15						
ARSA	**Arzberg**	**144.58**	**328**	*i* PKPdf	**PKPdf**	**17 59 49.4**	**-0.3**
	comp=Z,0.9nm,0.5s						
MOA	**Molln**	**144.76**	**330**	*i* PKPdf	**PKPdf**	**17 59 49.7**	**-0.3**
	comp=Z,5.6nm,0.6s						
SOKA	**Soboth**	**145.21**	**328**	*i* PKPab	**PKPab**	**17 59 51.4**	**+0.3**
	comp=Z,2.4nm,0.6s						
KBA	**Koelnbreinsper**	**145.75**	**330**	*i* PKPdf	**PKPdf**	**17 59 50.0**	**-2.0**
	comp=Z,2.5nm,0.6s						
MYKA	**Terra Mystica**	**145.93**	**329**	*i* PKPab	**PKPbc**	**17 59 52.8**	**-0.3**
	comp=Z,1.7nm,0.4s						
WATA	**Walderalm**	**146.37**	**332**	*e*PKPab	**PKPbc**	**17 59 53.9**	**-0.5**
	comp=Z,1.3nm,0.5s						
ABTA	**Abfaltersbach**	**146.38**	**330**	*e*PKPab	**PKPbc**	**17 59 54.1**	**-0.4**
	comp=Z,4.9nm,1.1s						
WTTA	**Wattenberg**	**146.40**	**332**	*e*PKPbc	**PKPdf**	**17 59 52.8**	**-0.2**
	comp=Z,3.9nm,1.1s						
MOTA	**Moosalm**	**146.57**	**332**	*e*PKPab	**PKPbc**	**17 59 54.6**	**-0.5**
	comp=Z,4.1nm,0.9s,SNR=4.4						
RETA	**Reutte**	**146.61**	**333**	*i* PKPbc	**PKPbc**	**17 59 54.1**	**-0.9**
	comp=Z,1.3nm,0.5s						
SQTA	**Sankt Quirin**	**146.62**	**332**	*e*PKPbc	**PKPbc**	**17 59 54.2**	**-1.0**
	comp=Z,4.6nm,0.6s,SNR=4.0						
FETA	**Feichten**	**146.98**	**332**	*i* PKPab	**PKPbc**	**17 59 56.1**	**-0.1**
	comp=Z,2.5nm,0.5s						

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*IDC **20** 17:55:12.2±49.0, 23°.87S×178°.26W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/29, mbtmp4.4/3, Error ellipse: s-maj=896.7km s-min=151.2km az=87.0*
*NEIC **20** 17:55:51.0±1.6, 24°.7S±0°.2×178°.0W±0°.2, h401km±14km, mb4.1/18, Error ellipse: s-maj=32.5km s-min=21.5km az=139.0*
ISC 20 17:55:51.7±1.4, 24°.6S±0°.2×178°.1W±0°.2, h400km, n23, σ1§24/23, mb4.0/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.42**	**277**	P	**P**	**17 58 58.5**	**+0.3**
ARMA	**Armidale**	**27.43**	**251**	P	**P**	**18 01 02.8**	**-0.3**
EIDS	**Eidsvold**	**27.93**	**262**	P	**P**	**18 01 07.0**	**-0.4**
EIDS				IAmb	IAmb	18 01 30.2	
	comp=Z,19nm,1.4s						
CTAO	**Charters Tower**	**33.22**	**271**	P	**P**	**18 01 54.5**	**+1.1**
CTAO				IAmb	IAmb	18 02 00.3	
	comp=Z,20nm,1.6s						
TOO	**Toolangi**	**33.56**	**239**	P	**P**	**18 01 56.0**	**-0.2**
TOO				IAmb	IAmb	18 02 14.3	
	comp=Z,9.9nm,1.1s						
STKA	**Stephens Creek**	**36.10**	**249**	P	**P**	**18 02 16.6**	**-1.1**
	comp=Z,2.2nm,0.4s,baz=93,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**36.10**	**249**	P	**P**	**18 02 16.2**	**-1.5**
COEN	**Coen**	**37.94**	**279**	P	**P**	**18 02 35.8**	**+2.6**
COEN				IAmb	IAmb	18 02 36.3	
	comp=Z,4.5nm,0.8s						
BBOO	**Buckleboo**	**40.79**	**248**	P	**P**	**18 02 54.0**	**-2.2**
BBOO				IAmb	IAmb	18 03 13.5	
	comp=Z,22nm,1.6s						
AS31	**Alice Springs**	**43.64**	**261**	P	**P**	**18 03 18.3**	**-0.8**
ASAR	**Alice Springs**	**43.64**	**261**	P	**P**	**18 03 18.3**	**-0.8**
	comp=Z,2.2nm,0.4s,baz=91,slow=7.3,SNR=165						
ASAR	**Alice Springs**	**43.64**	**261**	P	**P**	**18 03 18.0**	**-1.1**
WR0	**Warramunga Arr**	**43.91**	**266**	P	**P**	**18 03 20.6**	**-0.6**
WB2	**Warramunga Arr**	**44.09**	**266**	P	**P**	**18 03 22.1**	**-0.5**
WB2				IAmb	IAmb	18 03 32.3	
	comp=Z,18nm,1.6s						
WB0	**Warramunga Arr**	**44.09**	**266**	P	**P**	**18 03 22.0**	**-0.6**
WB0				IAmb	IAmb	18 03 23.2	
	comp=Z,5.2nm,0.8s						
WRA	**Warramunga Arr**	**44.10**	**266**	P	**P**	**18 03 22.0**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=104,slow=8.0,SNR=52						
WRA	**Warramunga Arr**	**44.10**	**266**	P	**P**	**18 03 21.8**	**-0.9**
FORT	**Forrest**	**47.71**	**250**	P	**P**	**18 03 48.0**	**-2.3**
KHLU	**Kahalu`u**	**48.94**	**28**	P	**P**	**18 03 59.2**	**-0.5**
KNRA	**Kununurra**	**50.42**	**270**	P	**P**	**18 04 11.4**	**+0.7**
KNRA				IAmb	IAmb	18 04 27.0	
	comp=Z,8.7nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.51**	**265**	P	**P**	**18 04 26.7**	**+0.7**
MORW	**Morawa**	**58.28**	**250**	P	**P**	**18 05 05.8**	**-0.6**
CASY	**Casey**	**60.27**	**206**	P	**P**	**18 05 21.0**	**+1.8**
CASY				IAmb	IAmb	18 05 33.8	
	comp=Z,8.6nm,1.5s						

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*INET **20** 18:03:19.9, 10°.26N×86°.86W, h134km, ML3.8*
*IDC **20** 18:03:27.2±1.3, 11°.47N×85°.85W, h0km, mb3.7/2, mb1 4.2/2, mb1mx3.6/27, mbtmp3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/32, Error ellipse: s-maj=222.0km s-min=18.2km az=54.0*
*UCR **20** 18:03:29.4±1.5, 10°.56N×86°.50W, h15km, MD3.7, mb4.4(NEIC)*
*NEIC **20** 18:03:29.4±1.3, 10°.66N±0°.08×86°.55W±0°.08, h37km±17km, mb4.4/17, Error ellipse: s-maj=15.3km s-min=7.0km az=45.0*
ISC 20 18:03:25.9±2.4, 10°.61N±0°.06×86°.61W±0°.06, h11km±14km, n56, σ1§06/63, mb4.5/11, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.00**	**84**	*e*P	**Pn**	**18 03 46.1**	**+0.3**
GUAI	**GUAI**	**1.13**	**107**	*i* P	**Pb**	**18 03 47.2**	**-0.3**
GUAI				*i* S	**Sb**	**18 04 01.9**	**-0.4**
GBS3	**Finca Las Img**	**1.15**	**81**	*i* P	**Pb**	**18 03 47.7**	**0.0**
ORTG	**Ortega, Santa**	**1.16**	**102**	*e*P	**Pb**	**18 03 47.8**	**-0.2**
ORTG				*e*S	**Sn**	**18 04 03.2**	**-0.8**
LAPC	**Finca la Perla**	**1.17**	**82**	*i* P	**Pn**	**18 03 47.9**	**-0.3**
GRZA	**Playa Garza**	**1.18**	**126**	*e*P	**Pn**	**18 03 47.5**	**-0.8**
GRZA				*e*S	**Sb**	**18 04 01.8**	**-1.8**
BUEV	**Buena Vista**	**1.20**	**81**	*e*P	**Pn**	**18 03 48.5**	**-0.1**
BUEV				*e*S	**Sg**	**18 04 05.6**	**+1.1**
GB1A	**Borinquen Arri**	**1.21**	**80**	*e*P	**Pb**	**18 03 48.9**	**+0.1**
GB1A				*e*S	**Sg**	**18 04 05.4**	**+0.6**
DUNO	**Dulce Nombre,**	**1.22**	**116**	*e*P	**Pn**	**18 03 48.2**	**-0.7**
DUNO				*e*S	**Sb**	**18 04 03.7**	**-1.0**
GPS3	**Bodega del ICE**	**1.23**	**83**	*i* P	**Pb**	**18 03 49.1**	**-0.1**
GPS2	**Hotel Rincn d**	**1.24**	**83**	*i* P	**Pb**	**18 03 49.3**	**-0.2**
GPS1	**Guardaparques**	**1.25**	**82**

comp=Z,13nm,1.1s
ABTX Abilene, Hawle 24.98 333 P **P 18 08 49.4 -0.3**
TKL Tuckaleechee C 25.07 5 P **P 18 08 50.9 +0.5**
TKL IAmb IAmb 18 09 05.8
comp=Z,12nm,1.1s
W57A Gilead 25.16 13 P **P 18 08 50.6 -0.6**
X37A Clayton 25.17 343 P **P 18 08 50.5 -0.8**
X37A IAmb IAmb 18 09 08.5
comp=Z,24nm,1.6s
V53A Saluda 25.18 7 P **P 18 08 51.0 -0.5**
V58A Windy Hill, Pi 25.98 14 P **P 18 08 58.1 -0.6**
LPIG La Paz 26.24 304 LR LR 18 20 42.4
comp=Z,25nm,20.3s,baz=232,slow=39
WMOK Wichita Mounta 26.46 337 P **P 18 09 04.7 +1.6**
QUOK Quay 27.04 342 P **P 18 09 06.9 -1.4**
PDAR Pinedale Array 37.77 332 P **P 18 10 42.5 +0.1**
comp=Z,0.5nm,0.6s,baz=133,slow=12,SNR=5.3
CMAR Chiang Mai Arr 150.60 349 PKPbc **PKiKP 18 23 19.4 -0.2**
comp=Z,0.6nm,0.7s,baz=342,slow=2.7,SNR=6.4

DDA ***20*** *18:23:42.1, 35.°54N×29.°94E, h21km±2km, ML3.0*
ISK ***20*** *18:23:43.9, 35.°71N×29.°96E, h4km, ML3.4/34*
NIC ***20*** *18:23:46.2±0.0, 35.°88N×29.°99E, h15km±2km, Ml3.2/3*
IDC ***20*** *18:23:48.0±4.2, 35.°82N×30.°07E, h33km±37km, mb3.6/7, mb1 3.7/11, mb1mx3.5/53, mbtmp3.8/11, ML3.7/4, MS3.9/1, Ms1 3.9/1, ms1mx2.2/43, Error ellipse: s-maj=21.4km s-min=15.0km az=161.0*
GII ***20*** *18:23:47.4±0.0, 35.°77N×30.°20E, h6km*
NEIC ***20*** *18:23:48.0±2.2, 35.°84N±0.°06×29.°94E±0.°06, h39km±5km, Error ellipse: s-maj=8.5km s-min=7.3km az=208.0*
HLW ***20*** *18:23:52.0, 35.°33N×29.°82E, h11km±10km, Md3.6, Ml4.0*
ISC 20 18:23:44.7±1.3**, 35.°75N**±0.°03×**29.°97E**±0.°03**, h11**km±8km**, n116,** σ1**§73**/134**, mb3.8**/10**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMR	**Demre-Antalya**	**0.49**	**354**	PG	**Pg**	**18 23 54.7**	**+0.4**
KSL	**Kastellorizon**	**0.51**	**322**	P	**Pg**	**18 23 54.0**	**-0.7**
KSL				S	**Sg**	**18 24 01.6**	**+0.2**
AKAS	**Kas**	**0.57**	**329**	PG	**Pg**	**18 23 55.9**	**+0.1**
AKAS	**Kas**	**0.57**	**329**	*i* P	**Pg**	**18 23 55.4**	**-0.4**
AKAS	**Kas**	**0.57**	**329**		**Pg**	**18 23 55.6**	**-0.2**
AKUM	**Antalya-Kumluc**	**0.65**	**28**	*i* P	**Pg**	**18 23 56.0**	**-1.3**
AKUM				IAML		18 24 11.0	
	comp=N,2μm,0.4s						
AKUM				IAML		18 24 11.0	
	comp=E,2μm,0.3s						
AKUM				*i* S	**Sn**	**18 24 11.3**	**+1.3**
KEMT	**Kemer-ANTALYA**	**0.98**	**29**	PG	**Pb**	**18 24 04.2**	**+0.6**
ELL	**Elmali**	**1.00**	**357**	PG	**Pb**	**18 24 04.7**	**+0.6**
ELL	**Elmali**	**1.00**	**357**	P	**Pg**	**18 24 02.8**	**-1.2**
ELL	**Elmali**	**1.00**	**357**		**Pg**	**18 24 02.9**	**-1.1**
FETY	**Fethiye**	**1.14**	**321**	PN	**Pb**	**18 24 06.9**	**+0.5**
FETY	**Fethiye**	**1.14**	**321**	*i* P	**Pb**	**18 24 06.7**	**+0.3**
FETY				*i* S	**Sn**	**18 24 24.4**	**+2.2**
FETY				IAML		18 24 32.0	
	comp=E,176nm,1.0s						
FETY				IAML		18 24 36.0	
	comp=N,203nm,0.8s						
ANTB	**Antalya**	**1.28**	**25**	PN	**Pn**	**18 24 09.6**	**+1.2**
ANTB				SN	**Sn**	**18 24 28.5**	**+3.0**
KORT	**Korkueli**	**1.29**	**14**	PN	**Pn**	**18 24 09.7**	**+1.0**
KORT	**Korkueli**	**1.29**	**14**	*i* P	**Pn**	**18 24 11.0**	**+2.2**
KORT				*i* S	**Sn**	**18 24 30.6**	**+4.6**
KORT				IAML		18 24 40.0	
	comp=E,404nm,0.7s						
KORT				IAML		18 24 41.0	
	comp=N,258nm,0.5s						
DALY	**Dalyan (Mula)**	**1.51**	**316**	PN	**Pb**	**18 24 12.8**	**+0.2**
DALY	**Dalyan (Mula)**	**1.51**	**316**	*i* P	**Pb**	**18 24 13.3**	**+0.7**
GOLH	**Golhisar**	**1.52**	**348**	*i* P	**Pg**	**18 24 13.7**	**-0.2**
GOLH				IAML		18 24 44.0	
	comp=N,325nm,0.8s						
GOLH				IAML		18 24 47.0	
	comp=E,159nm,1.7s						
ARG	**Arkhangelos**	**1.56**	**288**	PN	**Pn**	**18 24 13.3**	**+0.9**
ARG	**Arkhangelos**	**1.56**	**288**	P	**Pn**	**18 24 13.1**	**+0.8**
TURN	**Turunc**	**1.73**	**307**	PN	**Pn**	**18 24 16.1**	**+1.5**
TURN	**Turunc**	**1.73**	**307**	*i* P	**Pb**	**18 24 17.3**	**+0.8**
KEPZ	**Antalya-Kepez**	**1.75**	**48**	*i* P	**Pn**	**18 24 15.5**	**+0.5**
KEPZ				*i* S	**Sn**	**18 24 38.4**	**+1.1**
KEPZ				IAML		18 24 44.0	
	comp=E,116nm,0.7s						
KEPZ				IAML		18 24 50.0	
	comp=N,114nm,1.0s						
BCK	**Bucak**	**1.78**	**16**	PN	**Pn**	**18 24 16.9**	**+1.4**
TAVA	**DENIZLI_Tavas**	**1.92**	**334**	*i* P	**Pn**	**18 24 17.9**	**+0.6**
TAVA				IAML		18 24 52.0	
	comp=N,152nm,0.6s						
TAVA				IAML		18 24 55.0	
	comp=E,123nm,0.8s						
YER	**Yerkesik**	**1.94**	**316**	PN	**Pn**	**18 24 19.1**	**+1.5**
BRDR	**BURDUR-Merkez**	**1.95**	**2**	*i* P	**Pb**	**18 24 19.5**	**-0.7**
GAZI	**Gazipasa**	**1.97**	**75**	PN	**Pn**	**18 24 18.9**	**+1.0**
GAZI	**Gazipasa**	**1.97**	**75**	*i* P	**Pn**	**18 24 18.3**	**+0.4**
GAZI				*i* S	**Sn**	**18 24 44.4**	**+1.8**
GAZI				IAML		18 24 51.0	
	comp=E,108nm,0.5s						
GAZI				IAML		18 24 56.0	
	comp=N,77nm,0.6s						
AKMS	**Akamas**	**2.07**	**110**	P	**Pn**	**18 24 20.6**	**+1.4**
AKMS				AML	AML	18 24 46.7	
	comp=N,0.5nm,0.6s						
AKMS				AML	AML	18 24 48.9	
	comp=N,0.5nm,0.8s						
ISP	**Isparta**	**2.12**	**12**	PN	**Pn**	**18 24 21.6**	**+1.5**
ISP	**Isparta**	**2.12**	**12**	Pn	**Pb**	**18 24 22.7**	**-0.5**
ISP	**Isparta**	**2.12**	**12**		**Pn**	**18 24 19.6**	**-0.5**
DAT	**Datca**	**2.17**	**298**	PN	**Pn**	**18 24 22.3**	**+1.5**
BASM	**Basmaki-Afyon**	**2.17**	**2**	PN	**Pn**	**18 24 22.6**	**+1.8**
ALFC	**Alefka**	**2.23**	**105**	P	**Pn**	**18 24 22.5**	**+1.0**
ALFC				S	**Sn**	**18 24 51.8**	**+2.7**
ALFC				AML	AML	18 24 54.5	
	comp=N,0.3nm,0.5s						
ALFC				AML	AML	18 24 54.5	
	comp=N,0.3nm,0.5s						
ALFC				AML	AML	18 24 57.2	
	comp=N,0.4nm,0.3s						
ALFC				AML	AML	18 24 57.2	
	comp=N,0.4nm,0.3s						
SEYD	**Seydisehir-KON**	**2.24**	**42**	PN	**Pn**	**18 24 23.6**	**+1.9**
KARP	**Karpathos**	**2.29**	**266**	P	**Pn**	**18 24 24.4**	**+1.9**
KARP				S	**Sn**	**18 24 53.1**	**+2.4**
KARP	**Karpathos**	**2.29**	**266**		**Pn**	**18 24 24.1**	**+1.7**
NATA	**Nata**	**2.34**	**114**	P	**Pn**	**18 24 24.9**	**+1.9**
MLSB	**Milas**	**2.35**	**312**	PN	**Pn**	**18 24 24.6**	**+1.4**
LEF	**Lefka**	**2.47**	**104**	PN	**Pn**	**18 24 25.9**	**+1.1**
KZIL	**AFYON_Kizioren**	**2.51**	**3**	*i* P	**Pn**	**18 24 26.4**	**+0.9**
BODT	**Bodrum**	**2.51**	**302**	PN	**Pn**	**18 24 26.3**	**+0.9**
SZAC	**Souni**	**2.58**	**112**	P	**Pn**	**18 24 28.1**	**+1.7**
SZAC				S	**Sn**	**18 25 00.5**	**+2.7**
SZAC				AML	AML	18 25 02.7	
	comp=N,0.3nm,0.5s						
SZAC				AML	AML	18 25 02.7	
	comp=N,0.3nm,0.5s						
SZAC				AML	AML	18 25 03.6	
	comp=N,0.3nm,0.3s						
SZAC				AML	AML	18 25 03.6	
	comp=N,0.3nm,0.3s						
TEKE	**Tekeli-Mersin**	**2.58**	**80**	PN	**Pn**	**18 24 27.7**	**+1.3**
BERE	**Bereket-Mersin**	**2.71**	**76**	PN	**Pn**	**18 24 29.8**	**+1.6**
DOGA	**KONYA_Doganhis**	**2.72**	**30**	*i* P	**Pn**	**18 24 31.4**	**+3.0**
DOGA				IAML		18 25 06.0	
	comp=N,86nm,0.9s						
DOGA				IAML		18 25 12.0	
	comp=E,60nm,0.8s						
AYDB	**Zeytinkoy-Aydi**	**2.76**	**323**	PN	**Pn**	**18 24 30.6**	**+1.7**
SHUT	**Suhut-Afyon**	**2.84**	**9**	PN	**Pn**	**18 24 31.8**	**+1.8**
ASGA	**Asgata**	**2.85**	**109**	P	**Pn**	**18 24 32.2**	**+2.1**
ASGA				S	**Sn**	**18 25 07.4**	**+3.1**
CSS	**Mathiatis**	**2.86**	**105**	Pn	**Pn**	**18 24 31.2**	**+1.1**
CSS	**Mathiatis**	**2.86**	**105**	P	**Pn**	**18 24 31.2**	**+1.1**
CSS	**Mathiatis**	**2.86**	**105**		**Pn**	**18 24 32.6**	**+2.5**
TEVE	**Tevekalti-Mers**	**2.90**	**75**	PN	**Pn**	**18 24 32.5**	**+1.7**
KONT	**Konya--Tatoy**	**2.92**	**40**	PN	**Pn**	**18 24 32.8**	**+1.8**
AKKU	**Akkuyu-Mersin**	**2.94**	**81**	PN	**Pn**	**18 24 33.2**	**+2.0**
KULA	**Kula-Manisa**	**2.95**	**340**	PN	**Pn**	**18 24 33.7**	**+2.1**
MANT	**Manisa**	**2.96**	**338**		**Pn**	**18 24 31.3**	**-0.5**
KRMN	**Karaman**	**3.02**	**61**	PN	**Pn**	**18 24 34.2**	**+1.8**
IKL	**Isikli**	**3.06**	**80**	PN	**Pn**	**18 24 34.4**	**+1.6**
BOLV	**Bolvadin**	**3.07**	**15**		**Pn**	**18 24 32.9**	**-0.3**
MVOU	**Mavrovouni**	**3.08**	**103**	P	**Pn**	**18 24 34.3**	**+1.1**
LADK	**Ladik-KONYA**	**3.11**	**37**	PN	**Pn**	**18 24 35.8**	**+2.0**
KEBE	**Keben-Mersin**	**3.11**	**76**	PN	**Pn**	**18 24 36.8**	**+3.1**
KDHN	**Kadinhani**	**3.26**	**31**	*i* P	**Pn**	**18 24 37.5**	**+1.7**
KDHN				*i* S	**Sn**	**18 25 17.3**	**+2.7**
KDHN				IAML		18 25 19.0	
	comp=E,27nm,0.4s						
SIMA	**Simav-Kutahya**	**3.42**	**347**	PN	**Pn**	**18 24 40.2**	**+2.2**
KIZT	**Kizilcal**	**3.48**	**25**	PN	**Pn**	**18 24 41.0**	**+2.2**
CHBY	**Cihanbeyli**	**3.67**	**39**	PN	**Pn**	**18 24 43.9**	**+2.5**
CIFT	**Cifteler, Eski**	**3.71**	**13**	PN	**Pn**	**18 24 44.4**	**+2.4**
SVRH	**Sivrihisar-ESK**	**3.90**	**18**	PN	**Pn**	**18 24 46.9**	**+2.4**
IDI	**Anoyia**	**4.17**	**265**	Pn	**Pn**	**18 24 49.7**	**+1.5**
	comp=E,3.5nm,0.3s,baz=69,slow=18,SNR=12						
IDI				Sn	**Sn**	**18 25 36.9**	**-0.1**
	comp=E,2.3nm,0.3s,baz=279,slow=20,SNR=3.0						
MDUB	**Mudurnu**	**4.82**	**11**	Pn	**Pn**	**18 24 57.6**	**+0.4**
BRTR	**Keskin Array B**	**4.92**	**35**	Pn	**Pn**	**18 24 59.6**	**+0.9**
	comp=E,0.8nm,0.3s,baz=206,slow=16,SNR=25						
BRTR				Sn	**Sn**	**18 25 56.4**	**+0.7**
	comp=E,0.7nm,0.3s,baz=207,slow=24,SNR=10						
BRTR	**Keskin Array B**	**4.92**	**35**		**Pn**	**18 24 59.5**	**+0.8**
BR131	**Keskin Array S**	**4.92**	**35**		**Pn**	**18 24 59.7**	**+1.0**
OFRI	**`Ofer**	**5.20**	**125**	Pn	**Pn**	**18 25 04.3**	**+2.0**
MMA0B	**Mount Meron ar**	**5.25**	**120**	Pn	**Pn**	**18 25 04.1**	**+0.9**
MMA0B				Sn	**Sn**	**18 26 04.0**	**+0.2**
MMAI	**Mount Meron Ar**	**5.25**	**120**	Pn	**Pn**	**18 25 04.0**	**+0.9**
	comp=E,13nm,0.3s,baz=310,slow=12,SNR=62						
MMAI				Sn	**Sn**	**18 26 02.8**	**-1.0**
	comp=E,5.7nm,0.3s,baz=305,slow=30,SNR=5.9						
GEM	**Giv'at Ha'Em**	**5.34**	**117**	Pn	**Pn**	**18 25 06.0**	**+1.7**
NATI	**Neve Ativ**	**5.37**	**116**	Pn	**Pn**	**18 25 05.8**	**+1.2**
NATI				Sn	**Sn**	**18 26 07.1**	**+0.7**
SLTI	**Sal'it**	**5.47**	**128**	Pn	**Pn**	**18 25 08.3**	**+2.2**
MMLI	**Mount Malkishu**	**5.60**	**125**	Pn	**Pn**	**18 25 09.8**	**+1.9**
MMLI				Sn	**Sn**	**18 26 12.5**	**+0.3**
HMDT	**Nahal Hemdat**	**5.78**	**125**	Pn	**Pn**	**18 25 12.2**	**+1.8**
SLUM	**Salum**	**5.81**	**224**	P	**Pn**	**18 25 12.8**	**+2.1**
	baz=227						
SLUM				AMP		18 26 00.0	
	baz=227						
SLUM				S	**Sn**	**18 26 11.9**	**-5.4**
	baz=227						
KZIT	**Kziot**	**6.08**	**141**	Pn	**Pn**	**18 25 17.2**	**+2.7**
DSI	**Dead Sea**	**6.14**	**131**	Pn	**Pn**	**18 25 16.7**	**+1.4**
DSI				Sn	**Sn**	**18 26 27.0**	**+1.5**
HSAF	**As Saff**	**6.25**	**167**	P	**Pn**	**18 25 19.1**	**+2.2**
	baz=165						
GLL	**Jalalah**	**6.32**	**166**	P	**Pn**	**18 25 19.8**	**+1.9**
	baz=163						
SUZ	**Suez**	**6.36**	**157**	P	**Pn**	**18 25 20.4**	**+2.1**
	baz=154						
GHAJ	**Ghor Haditha**	**6.44**	**132**	Pn	**Pn**	**18 25 22.1**	**+2.7**
ITM	**Ithomi**	**6.64**	**285**	Pn	**Pn**	**18 25 24.4**	**+2.3**
PRNI	**Paran**	**6.84**	**140**	Pn	**Pn**	**18 25 27.4**	**+2.5**
HRFI	**Mount Harif**	**7.11**	**142**	Pn	**Pn**	**18 25 30.9**	**+2.2**
MBRI	**Mt Berech**	**7.25**	**144**	Pn	**Pn**	**18 25 32.7**	**+2.1**
EIL	**Elat**	**7.37**	**144**	Pn	**Pn**	**18 25 34.1**	**+1.9**
	comp=E,1.3nm,0.3s,baz=343,slow=10,SNR=11						
EIL	**Elat**	**7.37**	**144**	Pn	**Pn**	**18 25 33.7**	**+1.5**
MLR	**Muntele Rosu**	**10.20**	**344**	LR	LR	18 31 07.2	
	comp=E,33nm,18.2s,baz=300,slow=43						
RAFF	**Raffo Rosso**	**12.65**	**281**	Pn	**Pn**	**18 26 43.8**	**-0.6**
KEST	**Kesra**	**16.75**	**276**	P	**Pn**	**18 27 41.2**	**+2.0**
KEST				IAmb	IAmb	18 27 56.9	
	comp=Z,13nm,1.5s						
AKTO	**Aktyubinsk**	**25.01**	**45**	P	**P**	**18 29 07.8**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=254,slow=9.2,SNR=10						
ABKAR	**Abkulak array**	**25.70**	**49**	P	**P**	**18 29 14.1**	**-0.5**
ABKAR	**Abkulak array**	**25.70**	**49**	P	**P**	**18 29 14.2**	**-0.4**
ABKAR				IAmb	IAmb	18 29 23.1	
	comp=Z,2.4nm,1.1s						
FIA1	**FINESS Array S**	**25.84**	**356**	P	**P**	**18 29 13.4**	**-2.3**
FIA1				IAmb	IAmb	18 29 27.9	
	comp=Z,25nm,1.6s						
FINES	**FINESS Array B**	**25.84**	**356**	P	**P**	**18 29 15.0**	**-0.7**
	comp=Z,2.1nm,1.0s,baz=162,slow=19,SNR=3.4						
ESDC	**Sonseca Array**	**27.03**	**289**	P	**P**	**18 29 28.7**	**+1.8**
	comp=Z,0.8nm,1.0s,baz=82,slow=9.5,SNR=5.1						
ESDC	**Sonseca Array**	**27.03**	**289**	P	**P**	**18 29 25.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**33.97**	**236**	P	**P**	**18 30 29.8**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=27,slow=8.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**33.97**	**236**	P	**P**	**18 30 27.9**	**-0.4**
KEV	**Kevo**	**34.10**	**358**	P	**P**	**18 30 29.2**	**+0.3**
KEV				IAmb	IAmb	18 30 59.0	
	comp=Z,21nm,1.2s						
MK31	**Makanchi Array**	**40.16**	**57**	P	**P**	**18 31 20.4**	**-0.2**
MKAR	**Makanchi Array**	**40.16**	**57**	P	**P**	**18 31 19.9**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=275,slow=7.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**41.76**	**47**	P	**P**	**18 31 32.2**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=270,slow=9.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**62.61**	**86**	P	**P**	**18 34 08.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=299,slow=7.9,SNR=4.9						
G65A	**Princeton**	**70.37**	**312**	P	**P**	**18 34 55.2**	**-3.2**
JHJ	**Hachijo jima 2**	**85.13**	**52**	LR	LR	19 18 20.0	
	comp=Z,59nm,18.9s,baz=270,slow=38						

BJI ***20*** *18:27:05.9±0.0, 1.°28S×134.°92E, h10km, mB5.3/46, mb5.1/71, Ms4.8/35, Ms7 4.5/36*
IDC ***20*** *18:27:12.2±0.3, 0.°70S×134.°28E, h0km, mb5.1/27, mb1 5.1/33, mb1mx5.0/39, mbtmp5.1/33, ML4.6/5, MS4.1/30, Ms1 4.1/30, ms1mx4.1/37, Error ellipse: s-maj=13.9km s-min=10.1km az=68.0*
UNK ***20*** *18:27:13.9, 0.°76S×134.°30E, h13km*
NEIC ***20*** *18:27:13.7±1.8, 0.°77S±0.°07×134.°30E±0.°06, h12km±3km, mb5.5/164, Error ellipse: s-maj=9.8km s-min=8.4km az=190.0*
MOS ***20*** *18:27:15.9±1.1, 0.°70S×134.°29E, h36km, mb5.5/37, MS4.4/7, Error ellipse: s-maj=8.8km s-min=4.8km az=124.2*
GCMT ***20*** *18:27:16.7±0.1, 0.°65S±0.°01×134.°21E±0.°01, h18km, MW5.1/108, Moment Tensor Solution. s72,c99; s108,c173; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.29±.14; Mθθ-4.36±.09; Mφφ0.06±.09; Mrθ-3.69±.24; Mθφ1.94±.06; Mφr0.14±.24; Best double couple: M0=5.98900×10^16^ NP1:φs=125.00000°, δ28.00000°, λ114.00000°. NP2:φs=278.00000°, δ65.00000°, λ78.00000°. Principal axes: T 5.7050, Plg68.0000°, Azm164.0000°; N 0.5660, Plg11.0000°, Azm284.0000°; P -6.2730, Plg19.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***20*** *18:27:18.6±0.3, 1.°S±2.°×13.°4E±.°, h40km±2km, M5.1/91, mb5.5/91, mB5.6/63, MLv5.4/13, Mw(mB)5.1/63, Mwp5.1/6*
ISC 20 18:27:15.9±0.2**, 0.°82S**±0.°03×**134.°34E**±0.°04**, h27km, n655,** σ1**§42**/675**, mb5.4**/191**, MS4.3**/42**, 40C-7D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.17**	**119**	P	**Pn**	**18 27 51.9**	**+1.6**
SRPI				S	**Sb**	**18 28 19.5**	**-1.5**
KMPI	**Kaimana, Papua**	**2.90**	**193**	Pn	**Pn**	**18 28 02.2**	**+1.9**
FAKI	**Fak Fak**	**2.96**	**225**	P	Pb	18 28 02.6	-5.3
FAKI				Pn	**Pn**	**18 28 02.2**	**+1.1**
FAKI				S	**Sn**	**18 28 36.5**	**+0.8**
FAKI	**Fak Fak**	**2.96**	**225**		**Pn**	**18 28 02.5**	**+1.4**
SIJI	**Sorong**	**3.07**	**269**	Pn	**Pn**	**18 28 02.3**	**-0.4**
	11nm,0.3s,baz=112,slow=2.0,SNR=115						
SIJI				LR	LR	18 29 39.7	
	comp=Z,7μm,19.4s,baz=121,slow=49						
SMPI	**Sarmi**	**4.52**	**105**	Pn	**Pn**	**18 28 23.1**	**+0.5**
BNDI	**Bandanaira**	**5.76**	**230**	P	Pb	18 28 42.5	-13
	17nm8μm46μm3μm,0.8s						
BNDI				Pn	**Pn**	**18 28 41.2**	**+1.5**
	17nm8μm46μm3μm,0.8s						
MSAI	**Masohi**	**5.96**	**245**	P	Pb	18 28 46.0	-13
	0.9nm2μm244nm,0.6s						
MSAI				Pn	**Pn**	**18 28 44.5**	**+2.0**
	0.9nm2μm244nm,0.6s						
GENI	**Genyem**	**6.09**	**107**	P	**Pn**	**18 28 46.9**	**+2.7**
	1.6nm3μm4μm317nm,1.1s						
JAY	**Jayapura**	**6.58**	**105**	Pn	**Pn**	**18 28 51.9**	**+0.9**
	2.6nm,0.3s,baz=260,slow=7.7,SNR=6.7						
JAY				LR	LR	18 31 33.7	
	comp=Z,2μm,18.9s,baz=322,slow=39						
JAY	**Jayapura**	**6.58**	**105**	P	**Pn**	**18 28 52.6**	**+1.6**
	0.2nm507nm35nm,0.8s						
TNTI	**Ternate**	**7.15**	**283**	P	**Pn**	**18 29 01.8**	**+3.0**
	0.4nm1μm106nm,1.0s						
TNTI	**Ternate**	**7.15**	**283**	Pn	**Pn**	**18 28 57.0**	**-1.8**
NLAI	**Namlea**	**7.62**	**251**	P	**Pn**	**18 29 08.0**	**+2.7**
	0.9nm3μm281nm,0.6s						
SAUI	**Saumlaki**	**7.74**	**203**	Pn	**Pn**	**18 29 08.6**	**+1.7**
	2.2nm8μm566nm,0.8s						
SAUI	**Saumlaki**	**7.74**	**203**	Pn	**Pn**	**18 29 04.8**	**-2.1**
SANI	**Sanana**	**8.44**	**262**	P	**Pn**	**18 29 18.6**	**+2.1**
	844nm95nm,1.0s						
KMSI	**Cibinong**	**10.45**	**278**	P	**Pn**	**18 29 43.0**	**-1.1**
	3μm227nm,0.8s						
LUWI	**Luwuk**	**11.57**	**269**	P	**Pn**	**18 30 02.5**	**+3.1**
	2μm198nm,0.9s						
LUWI				Pn	**Pn**	**18 30 02.1**	**+2.7**
	2μm198nm,0.9s						
LUWI	**Luwuk**	**11.57**	**269**	Pn	**Pn**	**18 29 58.3**	**-1.1**
DAV	**Davao City (W)**	**11.74**	**312**	LR	LR	18 35 04.4	
	comp=Z,513nm,19.0s,baz=136,slow=41						
DAV	**Davao City (W)**	**11.74**	**312**	Pn	**Pn**	**18 30 02.0**	**+0.3**
KDU	**Kakadu**	**11.94**	**189**	P	**Pn**	**18 30 04.6**	**+0.2**
	baz=12,SNR=48						
KDI	**Kendari**	**12.12**	**255**	P	**Pn**	**18 30 08.1**	**+1.2**
	14μm102nm,0.9s						
MTN	**Manton Dam**	**12.37**	**195**	Pn	**Pn**	**18 30 09.6**	**-0.7**
SOEI	**Soe**	**13.39**	**228**	P	P	18 30 26.9	-6.7
	3μm242nm,0.8s						
SOEI				Pn	**Pn**	**18 30 26.2**	**+1.8**
	3μm242nm,0.8s						
SOEI	**Soe**	**13.39**	**228**	Pn	**Pn**	**18 30 24.5**	**+0.1**
BATI	**Baumata**	**14.13**	**228**	Pn	**Pn**	**18 30 33.9**	**-0.6**
	7.3nm,0.3s,baz=107,slow=1.3,SNR=20						
BATI				LR	LR	18 35 19.4	
	comp=Z,1μm,21.9s,baz=62,slow=34						
BATI	**Baumata**	**14.13**	**228**	P	**Pn**	**18 30 34.1**	**-0.4**
	2μm162nm,0.9s						
MMRI	**Maumere**	**14.34**	**237**	P	**Pn**	**18 30 37.8**	**+0.5**
	3μm223nm,1.5s						
MMRI	**Maumere**	**14.34**	**237**	P	**P**	**18 30 42.4**	**-1.6**
MPSI	**Mapaga**	**14.49**	**274**	P	**Pn**	**18 30 39.7**	**+0.4**
	475nm36nm,1.1s						
BNSI	**Bone**	**14.65**	**256**	P	Pn	18 30 51.9	+10
BNSI				Pn	**P**	**18 30 48.7**	**+1.1**
EDFI	**Ende, Flores**	**14.86**	**238**	P	**P**	**18 30 47.6**	**-2.4**
	1μm96nm,0.9s						
BKSI	**Bulukumba**	**14.88**	**252**	P	**Pn**	**18 30 45.9**	**+1.2**
	2μm184nm,1.0s						
SPSI	**Sidrap Palu**	**14.89**	**258**	P	**P**	**18 30 47.8**	**-2.4**
	2μm117nm,1.2s						
KAPI	**Kappang**	**15.15**	**254**	P	**P**	**18 30 52.4**	**-0.7**
KAPI				pmax	pmax		
	comp=Z,120nm,1.1s						
KAPI	**Kappang**	**15.15**	**254**	P	**P**	**18 30 52.4**	**-0.7**
PMG	**Port Moresby**	**15.35**	**124**	Pn	**P**	**18 30 53.8**	**-1.5**
	comp=Z,2.9nm,0.3s,baz=316,slow=9.2,SNR=35						
PMG				LR	LR	18 39 08.0	
	comp=Z,1μm,18.1s,baz=308,slow=46						
PMG	**Port Moresby**	**15.35**	**124**	*ce*P	**P**	**18 30 53.7**	**-1.5**
PMG				pmax	pmax		
	comp=Z,400nm,1.3s						
PMG	**Port Moresby**	**15.35**	**124**		**P**	**18 30 53.3**	**-2.0**
PMG				IAmb	IAmb	18 30 55.8	
	comp=Z,274nm,0.9s						
COEN	**Coen**	**15.71**	**147**	P	**Pn**	**18 30 55.2**	**-0.4**
	baz=16,SNR=20						
COEN	**Coen**	**15.71**	**147**		**Pn**	**18 30 54.6**	**-1.0**
KNRA	**Kununurra**	**15.76**	**200**		**Pn**	**18 30 53.5**	**-2.6**
KNRA				IAmb	IAmb	18 31 06.0	
	comp=Z,325nm,0.8s						
WSI	**Waingapu**	**16.51**	**237**	P	**P**	**18 31 08.8**	**+0.6**
	comp=Z,4μmcomp=Z,427nm,0.7s						
BASI	**Baing, Sumba**	**16.57**	**235**	P	**P**	**18 31 08.3**	**-0.5**
	comp=Z,2μmcomp=Z,241nm,1.0s						
MYLDM	**Lahad Datu**	**16.90**	**291**	P	**P**	**18 31 13.0**	**+0.4**
SMKI	**Samarinda**	**17.13**	**271**	P	**P**	**18 31 17.0**	**+1.9**
	comp=Z,5μmcomp=Z,472nm,1.0s						
BKB	**Balikpapan**	**17.45**	**268**	Pn	**Pn**	**18 31 16.4**	**-1.1**
GUMO	**Guam**	**17.71**	**36**	LR	LR	18 38 56.9	
	comp=Z,253nm,18.4s,baz=206,slow=40						
KRVT	**Keravat (AS076**	**18.00**	**101**	P	**P**	**18 31 25.5**	**+0.8**
	comp=Z,5.0nm,0.3s,baz=126,slow=7.4,SNR=37		

YOGI	**Yogyakarta**	**24.95 253**	P	**P**	**18 32 39.5**	**+2.2**
	comp=Z,4µmcomp=Z,301nm,1.6s					
PSA00	**Pilbara Seismi**	**25.01 213**	P	**P**	**18 32 37.8**	**+0.1**
PSA00			IAmb	IAmb	18 32 56.6	
	comp=Z,102nm,1.1s					
PSA00	**Pilbara Seismi**	**25.01 213**	P	**P**	**18 32 37.1**	**-0.7**
PSA00			IAmb	IAmb	18 32 58.8	
	comp=Z,36nm,0.9s					
PATS	**Pohnpei**	**25.10 72**	P	**P**	**18 32 39.9**	**+1.2**
KPJI	**Karang Pucung**	**26.14 255**	P	**P**	**18 32 49.4**	**+1.2**
	comp=Z,2µmcomp=Z,176nm,0.8s					
CMJI	**Cimerak**	**26.71 254**	P	**P**	**18 32 52.1**	**-1.2**
	comp=Z,1µmcomp=Z,147nm,0.9s					
TPI	**Tanjungpandan**	**26.74 266**	P	**P**	**18 32 55.3**	**+1.7**
	comp=Z,44nm,1.5s					
HNR	**Honiara**	**26.88 109**	P	**P**	**18 32 54.1**	**-0.7**
	comp=Z,51nm,0.6s,baz=356,slow=3.0,SNR=6.3					
HNR	**Honiara**	**26.88 109**	P	**P**	**18 32 54.1**	**-0.7**
HNR			pmax	pmax		
	comp=Z,131nm,1.0s					
HNR	**Honiara**	**26.88 109**	P	**P**	**18 32 54.1**	**-0.7**
HNR			IAmb	IAmb	18 33 32.2	
	comp=Z,132nm,1.0s					
YULB	**Yu-li**	**27.20 333**	P	**P**	**18 32 55.3**	**-2.3**
YULB			IAmb	IAmb	18 33 01.4	
	comp=Z,213nm,2.0s					
CISI	**Cisompet, Garu**	**27.27 255**	P	**P**	**18 32 57.7**	**-0.7**
	comp=Z,2µmcomp=Z,220nm,0.9s					
CISI	**Cisompet, Garu**	**27.27 255**	P	**P**	**18 32 57.0**	**-1.4**
LEM	**Lembang**	**27.31 257**	P	**P**	**18 32 58.5**	**-0.4**
	comp=Z,18nm,0.7s,baz=108,slow=11,SNR=4.3					
LEM			LR	LR	18 45 11.6	
	comp=Z,627nm,18.8s,baz=81,slow=40					
QLP	**Quilpie**	**27.33 160**	P	**P**	**18 32 59.8**	**+1.1**
	baz=27,SNR=31					
TPUB	**Ta-pu**	**27.43 332**	P	**P**	**18 32 59.3**	**-0.4**
TPUB			IAmb	IAmb	18 33 31.4	
	comp=Z,180nm,1.6s					
SSLB	**Suanglung**	**27.70 333**	P	**P**	**18 33 02.1**	**+0.1**
SSLB			IAmb	IAmb	18 33 19.6	
	comp=Z,94nm,1.2s					
NACB	**Ninganchiao**	**27.75 334**	P	**P**	**18 33 03.4**	**+0.9**
NACB			IAmb	IAmb	18 33 13.2	
	comp=Z,144nm,1.3s					
CNJI	**Cibinong**	**27.88 256**	P	**P**	**18 33 03.1**	**-0.7**
	comp=Z,2µmcomp=Z,200nm,1.1s					
CBJI	**Citeko**	**27.98 258**	P	**P**	**18 33 04.7**	**0.0**
	comp=Z,87nm,0.9s					
DBJI	**Dramaga**	**28.11 258**	P	**P**	**18 33 04.5**	**-1.3**
	comp=Z,3µmcomp=Z,18nm,0.6s					
YHNB	**Yeheng**	**28.28 334**	P	**P**	**18 33 07.4**	**+0.1**
DLV	**T Lat**	**28.63 297**	P	**P**	**18 33 10.7**	**-0.1**
DLV			IAmb	IAmb	18 33 20.2	
	comp=Z,121nm,1.1s					
JCJ	**Chichijima**	**28.76 15**	LR	LR	18 43 03.6	
	comp=Z,427nm,18.1s,baz=171,slow=33					
RMQ	**Roma**	**29.05 153**	P	**P**	**18 33 15.8**	**+1.7**
	baz=29,SNR=11					
CGJI	**Cibinong**	**29.15 258**	P	**P**	**18 33 14.0**	**-1.1**
	comp=Z,61nm,0.8s					
GIRL	**Giralia**	**29.21 221**	P	**P**	**18 33 17.8**	**+2.4**
GIRL			IAmb	IAmb	18 33 49.7	
	comp=Z,91nm,1.1s					
EIDS	**Eidsvold**	**29.28 148**	P	**P**	**18 33 17.7**	**+1.6**
	baz=29,SNR=23					
EIDS	**Eidsvold**	**29.28 148**	P	**P**	**18 33 17.1**	**+1.1**
EIDS			IAmb	IAmb	18 33 23.0	
	comp=Z,74nm,0.8s					
MEEK	**Meekatharra**	**29.80 209**	P	**P**	**18 33 21.2**	**+0.4**
	baz=30,SNR=5.7					
KLSI		**29.82 262**	P	**P**	**18 33 21.9**	**+0.9**
	comp=Z,12nm,1.2s					
MDSI	**Maura Dua**	**30.34 263**	P	**P**	**18 33 25.2**	**-0.5**
	comp=Z,788nmcomp=Z,97nm,0.9s					
FORT	**Forrest**	**30.39 191**	P	**P**	**18 33 26.3**	**+0.4**
FORT			IAmb	IAmb	18 34 26.5	
	comp=Z,77nm,0.8s					
MYKOM	**Kota Tinggi**	**30.59 275**	P	**P**	**18 33 27.6**	**-0.3**
MYKOM	**Kota Tinggi**	**30.59 275**	P	**P**	**18 33 29.0**	**+1.1**
LHSI	**Lahat**	**30.93 264**	P	**P**	**18 33 32.2**	**+1.3**
	comp=Z,66nm,1.0s					
QIZ	**Qiongzhong**	**31.11 311**	P	**P**	**18 33 32.1**	**-0.2**
QIZ			sP	**pP**	**18 33 38.8**	**-0.9**
QIZ			S	**S**	**18 38 40.5**	**+4.0**
QIZ			pmax	pmax		
	comp=Z,21nm,1.3s					
QIZ			LR	LR		
	comp=Z,670nm,13.7s					
QIZ			LR	LR		
	comp=Z,430nm,17.6s					
QIZ			LR	LR		
	comp=Z,370nm,19.6s					
QIZ	**Qiongzhong**	**31.11 311**	P	**P**	**18 33 31.9**	**-0.4**
QIZ			IAmb	IAmb	18 33 41.3	
	comp=Z,101nm,1.1s					
MNAI	**Manna**	**31.54 263**	P	**P**	**18 33 36.4**	**+0.1**
STKA	**Stephens Creek**	**31.65 168**	P	**P**	**18 33 37.2**	**+0.3**
	comp=Z,34nm,0.8s,baz=339,slow=9.0,SNR=59					
STKA			LR	LR	18 47 20.3	
	comp=Z,504nm,19.1s,baz=344,slow=38					
STKA	**Stephens Creek**	**31.65 168**	P	**P**	**18 33 37.2**	**+0.3**
	baz=32,SNR=30					
STKA	**Stephens Creek**	**31.65 168**	P	**P**	**18 33 36.9**	**0.0**
KSI	**Kapahiang**	**31.84 264**	P	**P**	**18 33 39.2**	**+0.2**
	comp=Z,165nm,0.9s					
BBOO	**Buckleboo**	**31.87 177**	P	**P**	**18 33 39.9**	**+1.0**
	baz=32,SNR=11					
BBOO	**Buckleboo**	**31.87 177**	P	**P**	**18 33 38.8**	**0.0**
BBOO			IAmb	IAmb	18 33 41.4	
	comp=Z,76nm,1.1s					
MASI	**Maura Aman, Be**	**32.16 265**	P	**P**	**18 33 42.9**	**+1.1**
	comp=Z,234nm,0.9s					
JSU	**Suzuyama**	**32.35 354**	P	**P**	**18 33 43.2**	**0.0**
CMSA	**Cobar Meteorol**	**32.39 162**	P	**P**	**18 33 44.4**	**+1.0**
	baz=32,SNR=27					
KMBL	**Kambalda**	**32.59 200**	P	**P**	**18 33 46.0**	**+0.7**
	baz=33,SNR=19					
UBPT	**Khong Chiam**	**32.72 300**		**P**	**18 33 46.6**	**+0.1**
HTT	**Hallett**	**32.73 173**	P	**P**	**18 33 47.6**	**+1.2**
	baz=33,SNR=9.3					
KRJI	**Kerinci**	**32.89 267**	P	P	18 33 53.9	+5.7
SDSI	**Sungai Dareh**	**32.91 270**	P	**P**	**18 33 48.4**	**+0.1**
	comp=Z,15nm,0.9s					
MORW	**Morawa**	**33.08 210**	P	**P**	**18 33 49.3**	**-0.3**
IPM	**Ipoh**	**33.70 279**	P	**P**	**18 33 54.6**	**-0.6**
IPM	**Ipoh**	**33.70 279**	P	**P**	**18 33 55.0**	**-0.2**
ARMA	**Armidale**	**33.71 152**	P	**P**	**18 33 55.4**	**+0.2**
	baz=34,SNR=39					
ARMA	**Armidale**	**33.71 152**	P	**P**	**18 33 56.6**	**+1.4**
ARMA			IAmb	IAmb	18 33 58.0	
	comp=Z,79nm,0.8s					
PDSI	**Padang**	**33.87 270**	P	P	18 34 08.7	+12
JNU	**Nakatsue**	**33.91 355**	P	**P**	**18 33 55.9**	**-0.9**
BLDU	**Ballidu**	**34.04 208**	P	**P**	**18 33 58.7**	**+0.9**
	baz=34,SNR=15					
KULM	**Kulim**	**34.19 281**	P	**P**	**18 33 58.3**	**-1.1**
KULM			IAmb	IAmb	18 34 08.1	
	comp=Z,41nm,0.9s					
KULM	**Kulim**	**34.19 281**	P	**P**	**18 33 59.0**	**-0.4**
JMN	**Monobe**	**34.36 359**		**P**	**18 34 01.3**	**+0.6**
JMN			IAmb	IAmb	18 34 11.0	
	comp=Z,48nm,1.0s					
KLBR	**Kellerberrin**	**34.40 206**	P	**P**	**18 34 01.9**	**+1.0**
	baz=35,SNR=8.3					
MNSI	**Mandailing Nat**	**34.80 273**	P	P	18 34 15.3	+11
SISI	**Saibi**	**35.25 269**	P	**P**	**18 34 08.9**	**+0.3**
JTU	**Tsushima**	**35.46 353**	P	**P**	**18 34 09.9**	**-0.2**
JTU			IAmb	IAmb	18 34 51.7	
	comp=Z,190nm,1.6s					
SANVU	**Saraoutou**	**35.55 116**	P	**P**	**18 34 12.0**	**+1.0**
SANVU			IAmb	IAmb	18 34 13.5	
	comp=Z,41nm,0.8s					
RPSI	**Rantau Prapat**	**35.58 276**	P	**P**	**18 34 10.7**	**-0.7**
RPSI			IAmb	IAmb	18 34 19.7	
	comp=Z,53nm,1.0s					
PSI	**Prapat**	**35.59 276**	P	**P**	**18 34 10.7**	**-0.9**
PSI			pmax	pmax		
	comp=Z,53nm,1.0s					
JHS	**Saijyo**	**35.65 358**	P	**P**	**18 34 10.8**	**-0.9**
JHS			IAmb	IAmb	18 34 21.8	
	comp=Z,49nm,1.0s					
NWAO	**Narrogin (SRO)**	**35.77 205**	P	**P**	**18 34 13.9**	**+1.2**
	comp=Z,26nm,1.0s,baz=52,slow=6.5,SNR=5.3					
NWAO	**Narrogin (SRO)**	**35.77 205**	P	**P**	**18 34 15.1**	**+2.3**
	baz=36,SNR=3.7					
NWAO	**Narrogin (SRO)**	**35.77 205**	P	**P**	**18 34 14.0**	**+1.2**
NWAO			pmax	pmax		
	comp=Z,108nm,1.6s					
NWAO	**Narrogin (SRO)**	**35.77 205**	P	**P**	**18 34 13.9**	**+1.2**
NWAO			IAmb	IAmb	18 34 14.8	
	comp=Z,108nm,1.6s					
NWAO	**Narrogin (SRO)**	**35.77 205**	IAmb	IAmb	18 34 14.8	
	comp=Z,86nm,1.6s					
YNG	**Young**	**35.81 160**	P	**P**	**18 34 13.7**	**+0.6**
	baz=36,SNR=11					
NJ2	**Nanjing**	**35.83 337**	*e*P	**P**	**18 34 14.3**	**+1.1**
NJ2			pmax	pmax		
	comp=Z,12nm,0.9s					
JWT	**Wachi**	**35.92 1**	P	**P**	**18 34 13.1**	**-1.0**
JWT			IAmb	IAmb	18 34 26.5	
	comp=Z,58nm,0.8s					
INU	**Inuyama**	**36.06 4**	P	**P**	**18 34 14.8**	**-0.4**
JGF	**Kuroka**	**36.34 4**	P	**P**	**18 34 17.5**	**-0.2**
ARPS	**Mount Arapiles**	**36.44 170**	P	**P**	**18 34 19.8**	**+1.3**
	baz=37,SNR=77					
WHN	**Wuhan**	**36.53 330**	P	**P**	**18 34 20.6**	**+1.3**
SLVN	**Son La**	**37.00 308**	P	**P**	**18 34 23.6**	**0.0**
CNB	**Canberra Magne**	**37.07 159**	P	**P**	**18 34 26.0**	**+2.1**
	baz=37,SNR=8.6					
JYT	**Yasato**	**37.26 8**	P	**P**	**18 34 25.7**	**+0.3**
MJAR	**Matsushiro Arr**	**37.34 5**	P	**P**	**18 34 25.9**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=179,slow=7.7,SNR=7.4					
MJAR			PcP	**PcP**	**18 36 45.6**	**+0.5**
	comp=Z,3.4nm,1.0s,baz=161,slow=2.9,SNR=4.1					
MJAR			LR	LR	18 47 24.0	
	comp=Z,521nm,19.6s,baz=190,slow=33					
MJAR	**Matsushiro Arr**	**37.34 5**	P	**P**	**18 34 26.3**	**+0.1**
MAJO	**Matsushiro**	**37.34 5**	*i* P	**P**	**18 34 26.4**	**+0.2**
MAJO			pmax	pmax		
	comp=Z,2.0nm,0.5s					
MAJO	**Matsushiro**	**37.34 5**	P	**P**	**18 34 26.1**	**0.0**
MAT	**Matsushiro**	**37.34 5**	P	**P**	**18 34 26.6**	**+0.4**
MAT			S	**S**	**18 40 08.2**	**-4.2**
TJN	**Taejon**	**37.57 351**	*ce*P	**P**	**18 34 26.9**	**-1.1**
DZM	**Mont Dzumac**	**37.73 126**	*e*LR	LR	18 44 48.7	
	comp=Z,476nm,23.7s					
DZM	**Mont Dzumac**	**37.73 126**	P	**P**	**18 34 29.9**	**+0.2**
LHMI	**Lhok Sumawe**	**37.83 280**	P	P	18 34 39.1	+8.5
LHMI	**Lhok Sumawe**	**37.83 280**	P	**P**	**18 34 29.4**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**37.88 56**	T	T	19 14 52.0	
	baz=243,slow=76,SNR=52					
H11N2	**WAKE ISLAND Hy**	**37.89 56**	T	T	19 15 06.5	
	baz=243,slow=76,SNR=40					
H11N3	**WAKE ISLAND Hy**	**37.90 56**	T	T	19 14 56.3	
	baz=243,slow=76,SNR=56					
TOO	**Toolangi**	**37.99 166**	P	**P**	**18 34 32.5**	**+0.7**
	baz=38,SNR=21					
TOO	**Toolangi**	**37.99 166**	P	**P**	**18 34 33.2**	**+1.5**
TOO			pmax	pmax		
	comp=Z,88nm,1.0s					
TOO	**Toolangi**	**37.99 166**	P	**P**	**18 34 33.2**	**+1.5**
TOO			IAmb	IAmb	18 34 34.9	
	comp=Z,88nm,1.0s					
GYA	**Guiyang**	**38.04 317**	⇑P	P	18 34 40.3	+7.9
GYA			pmax	pmax		
	comp=Z,27nm,1.2s					
MLSI	**Meulaboh, Aceh**	**38.24 278**	P	**P**	**18 34 34.3**	**+0.2**
	comp=Z,267nm,1.0s					
KSAR	**Wonju Array Be**	**38.53 352**	P	**P**	**18 34 35.7**	**-0.4**
KSAR	**Wonju Array Be**	**38.53 352**	P	**P**	**18 34 35.7**	**-0.4**
KSRS	**Korea Array**	**38.54 352**	P	**P**	**18 34 35.2**	**-1.0**
	comp=Z,4.4nm,0.8s,baz=168,slow=8.6,SNR=18					
KSRS			LR	LR	18 48 38.2	
	comp=Z,196nm,21.2s,baz=170,slow=34					
KS19	**Wonju Array Si**	**38.59 352**	P	**P**	**18 34 37.0**	**+0.4**
TARA	**Tarawa**	**38.64 87**	P	**P**	**18 34 34.3**	**-3.2**
TARA			IAmb	IAmb	18 34 40.0	
	comp=Z,140nm,1.0s					
JSD	**Sado**	**38.83 5**	P	**P**	**18 34 36.8**	**-1.9**
ENH	**Enshi**	**38.94 325**	P	**P**	**18 34 39.2**	**-0.6**
JMM	**Marumori**	**38.95 8**	P	**P**	**18 34 40.4**	**+0.8**
CM31	**Chiang Mai Arr**	**39.72 301**	P	**P**	**18 34 47.0**	**+0.6**
	SNR=64					
CM31	**Chiang Mai Arr**	**39.72 301**	P	**P**	**18 34 46.0**	**-0.4**
CM31			IAmb	IAmb	18 34 56.3	
	comp=Z,238nm,1.3s					
CMAR	**Chiang Mai Arr**	**39.72 301**	P	**P**	**18 34 46.6**	**+0.2**
	comp=Z,14nm,0.9s,baz=121,slow=6.8,SNR=91					
CMAR			LR	LR	18 51 54.5	
	comp=Z,150nm,18.6s,baz=158,slow=37					
CMAR			PKPPKP	**P'P'df**	**19 07 15.3**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=291,slow=4.4,SNR=4.4					
CMAR	**Chiang Mai Arr**	**39.72 301**	P	**P**	**18 34 45.8**	**-0.6**
CHTO	**Chiang Mai**	**39.87 301**	P	**P**	**18 34 47.6**	**0.0**
CHTO	**Chiang Mai**	**39.87 301**	P	**P**	**18 34 46.8**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,113nm,1.2s					
CHTO	**Chiang Mai**	**39.87 301**	P	**P**	**18 34 46.8**	**-0.8**
CHTO			IAmb	IAmb	18 34 57.2	
	comp=Z,113nm,1.2s					
KMI	**Kunming**	**40.00 312**	⇓*e*P	**P**	**18 34 49.6**	**+0.7**
KMI			pP	pP	18 34 53.5	-2.9
KMI			sP	pwP	18 34 55.5	-3.5
KMI			pmax	pmax		
	comp=Z,14nm,1.5s					
KMI			LR	LR		
	comp=Z,280nm,5.9s					
KMI			LR	LR		
	comp=Z,430nm,5.6s					
KMI			LR	LR		
	comp=Z,310nm,5.9s					
KMI	**Kunming**	**40.00 312**	P	**P**	**18 34 46.5**	**-2.4**
KMI			pmax	pmax		
	comp=Z,81nm,1.2s					
KMI	**Kunming**	**40.00 312**	P	**P**	**18 34 46.5**	**-2.4**
TIA	**Tai'an**	**40.17 338**	P	**P**	**18 34 49.8**	**-0.1**
TIA			pmax	pmax		
	comp=Z,9.0nm,0.7s					
DL2	**Dalian**	**41.22 345**	P	**P**	**18 34 55.5**	**-3.0**
DL2			S	**S**	**18 41 10.3**	**-0.3**
DL2			pmax	pmax		
	comp=Z,37nm,1.7s					
DL2			LR	LR		
	comp=Z,540nm,15.8s					
DL2			LR	LR		
	comp=Z,670nm,23.1s					
DL2			LR	LR		
	comp=Z,500nm,17.7s					
JTM	**Tenmabayashi**	**41.86 8**	P	**P**	**18 35 02.2**	**-1.5**
XAN	**Xi'an**	**42.09 328**	P	**P**	**18 35 05.4**	**-0.4**
XAN			pmax	pmax		
	comp=Z,72nm,1.3s					
XAN			pmax	pmax		
	comp=Z,470nm,5.1s					
XAN	**Xi'an**	**42.09 328**	P	**P**	**18 35 04.6**	**-1.2**
XAN			pmax	pmax		
	comp=Z,63nm,1.0s					
XAN	**Xi'an**	**42.09 328**	P	**P**	**18 35 04.5**	**-1.2**
CD2	**Chengdu**	**42.89 320**	P	**P**	**18 35 12.3**	**-0.1**
CD2			pmax	pmax		
	comp=Z,40nm,0.8s					
MOO	**Moorlands**	**43.02 166**	P	**P**	**18 35 14.0**	**+0.8**
	baz=43,SNR=4.1					
TIY	**Taiyuan**	**43.35 334**	*e*P	P	18 35 23.4	+7.4
TIY			pmax	pmax		
	comp=Z,12nm,0.6s					
ERM	**Erimo**	**43.37 10**	P	**P**	**18 35 16.9**	**+1.0**
ERM			pmax	pmax		
	comp=Z,20nm,1.2s					
ERM	**Erimo**	**43.37 10**	P	**P**	**18 35 16.9**	**+1.0**
SNY	**Shenyang**	**43.55 348**	⇑P	**P**	**18 35 17.1**	**-0.3**
SNY			S	**S**	**18 41 52.6**	**+7.8**
SNY			pmax	pmax		
	comp=Z,16nm,0.4s					
SNY			pmax	pmax		
	comp=Z,130nm,5.1s					
SNY			LR	LR		
	comp=Z,480nm,13.7s					
SNY			LR	LR		
	comp=Z,310nm,10.4s					
SNY			LR	LR		
	comp=Z,500nm,14.5s					
BJT	**Baijiatuau**	**43.90 340**	P	**P**	**18 35 20.0**	**-0.3**
BJT			pmax	pmax		
	comp=Z,56nm,1.0s					
BJT	**Baijiatuau**	**43.90 340**	P	**P**	**18 35 20.0**	**-0.3**
BJT			IAmb	IAmb	18 35 28.8	
	comp=Z,56nm,1.0s					
BJI	**Beijing**	**43.92 340**	P	**P**	**18 35 20.3**	**-0.1**
BJI			S	**S**	**18 41 53.4**	**+3.1**
BJI			pmax	pmax		
	comp=Z,31nm,0.9s					
BJI			pmax	pmax		
	comp=Z,230nm,3.6s					
BJI			LR	LR		
	comp=Z,510nm,15.5s					
BJI			LR	LR		
	comp=Z,280nm,11.9s					
BJI			LR	LR		
	comp=Z,260nm,17.2s					
JEW	**Eniwo**	**43.93 8**	P	**P**	**18 35 20.6**	**+0.2**
JEW			IAmb	IAmb	18 35 44.8	
	comp=Z,122nm,1.2s					
USA0B	**Ussuriysk Arra**	**44.87 358**	P	**P**	**18 35 26.7**	**-1.2**
USA0B			pmax	pmax		
	comp=Z,17nm,1.0s					
USA0B	**Ussuriysk Arra**	**44.87 358**	P	**P**	**18 35 26.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**44.87 358**	P	**P**	**18 35 27.3**	**-0.6**
	comp=Z,8.4nm,0.8s,baz=172,slow=6.9,SNR=21					
USRK			LR	LR	18 52 00.9	
	comp=Z,275nm,20.5s,baz=161,slow=33					
USRK	**Ussuriysk Ar.**	**44.87 358**	P	**P**	**18 35 27.1**	**-0.8**
USRK			PcP	**PcP**	**18 37 09.3**	**0.0**
CN2	**Changchun**	**45.13 351**	*e*P	**P**	**18 35 28.8**	**-1.2**
CN2			*e*S	**S**	**18 42 07.6**	**-0.2**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CN2			LR	LR		
	comp=Z,100nm,16.0s					
CN2			LR	LR		
	comp=Z,300nm,16.0s					
CN2			LR	LR		
	comp=Z,300nm,17.0s					
FUNA	**Funafuti**	**45.32 101**	P	**P**	**18 35 31.2**	**-0.8**
MDJ	**Mudanjiang**	**45.43 355**	P	**P**	**18 35 31.9**	**-0.6**
MDJ			IAmb	IAmb	18 35 42.9	
	comp=Z,41nm,0.9s					
MSVF	**Nonsavu**	**46.12 114**	P	**P**	**18 35 38.5**	**+0.1**
MSVF			pmax	pmax		
	comp=Z,80nm,1.2s					
MSVF	**Nonsavu**	**46.12 114**	P	**P**	**18 35 38.5**	**+0.1**
MSVF			IAmb	IAmb	18 35 42.2	
	comp=Z,80nm,1.1s					
HHC	**Hu-ho-hao-te**	**46.36 336**	*e*P	**P**	**18 35 40.8**	**+0.9**
HHC			S	**S**	**18 42 25.8**	**0.0**
HHC			ScS	**ScS**	**18 45 31.0**	**-2.6**
HHC			SS	**SS**	**18 45 48.8**	**-3.0**
HHC			pmax	pmax		
	comp=Z,27nm,0.9s					
HHC			pmax	pmax		
	comp=Z,380nm,4.5s					
HHC			LR	LR		
	comp=Z,500nm,17.0s					
HHC			LR	LR		
	comp=Z,310nm,16.2s					
HHC			LR	LR		
	comp=Z,420nm,16.2s					
LZH	**Lanzhou**	**46.40 325**	*e*P	**P**	**18 35 41.8**	**+1.4**
LZH			pP	pP	18 35 48.8	+0.8
LZH			sP	sP	18 35 51.8	+0.2
LZH			pmax	pmax		
	comp=Z,70nm,1.1s					
BTO	**Baotou**	**46.80 335**	*e*P	**P**	**18 35 41.0**	**-2.4**
YSS	**Yuzh-Sakhalins**	**48.14 8**	*e*P	P	18 35 46.3	-7.2
YSS			*e*'SP	pP	18 35 55.6	-5.6
YSS			*e*S	**S**	**18 42 42.5**	**-8.3**
YSS			MLR	MLR		
	comp=Z,300nm,14.0s					
YSS	**Yuzh-Sakhalins**	**48.14 8**	P	**P**	**18 35 53.4**	**-0.1**
YSS			IAmb	IAmb	18 36 07.6	
	comp=Z,34nm,1.1s					
SHL	**Shillong**	**48.68 306**	P	**P**	**18 35 58.2**	**-0.1**
	SNR=18					
SHL	**Shillong**	**48.68 306**	P	**P**	**18 35 57.9**	**-0.5**
SHL			pmax	pmax		
	comp=Z,103nm,0.9s					
SHL	**Shillong**	**48.68 306**	P	**P**	**18 35 57.9**	**-0.5**
GTA	**Gaotai**	**51.00 326**	⇑P	**P**	**18 36 16.4**	**+0.7**
GTA			pP	pP	18 36 20.8	-2.6
GTA			sP	pwP	18 36 24.3	-1.8
GTA			pmax	pmax		
	comp=Z,34nm,1.0s					
GTA			pmax	pmax		
	comp=Z,190nm,6.8s					
GTA			LR	LR		
	comp=Z,170nm,11.1s					
GTA			LR	LR		
	comp=Z,140nm,13.1s					
GTA			LR	LR		
	comp=Z,210nm,13.5s					
LSA	**Lhasa**	**51.15 310**	P	**P**	**18 36 18.2**	**+0.9**
LSA			P	**P**	**18 36 18.2**	**+0.9**
LSA	**Lhasa**	**51.15 310**	P	**P**	**18 36 17.8**	**+0.4**
LSA			pmax	pmax		
	comp=Z,53nm,1.0s					
LSA	**Lhasa**	**51.15 310**	P	**P**	**18 36 17.8**	**+0.4**
LSA			IAmb	IAmb	18 36 27.9	
	comp=Z,53nm,1.0s					
TYV	**Tymovskoe**	**51.97 7**	*e*P	P	18 36 09.7	-13
TYV			pmax	pmax		
	comp=Z,28nm,1.5s					
TAPN	**Taplejung**	**52.82 306**	*e*P	**P**	**18 36 29.3**	**-0.4**
	comp=Z,259nm,1.1s					
TAPN	**Taplejung**	**52.82 306**	*e*P	**P**	**18 36 29.3**	**-0.4**
	comp=Z,259nm,1.1s					
ODAN	**Odare**	**52.88 305**	*e*P	**P**	**18 36 30.0**	**-0.1**
	comp=Z,214nm,1.0s					
ODAN	**Odare**	**52.88 305**	*e*P	**P**	**18 36 30.0**	**-0.1**
	comp=Z,214nm,1.0s					
CHLP	**Challavanipeta**	**53.00 294**	*e*P	**P**	**18 36 30.9**	**+0.2**
CHLP			IVmB_BB		18 36 39.1	
	comp=Z,340nm,0.9s					
MLZ	**Mavora Lakes**	**53.42 151**	P	**P**	**18 36 35.0**	**+1.6**
MLZ			IAmb	IAmb	18 36 36.5	
	comp=Z,145nm,1.6s					
RAO	**Raoul Island**	**53.53 126**	P	**P**	**18 36 35.3**	**+0.8**
RAO			pmax	pmax		
	comp=Z,686nm,1.1s					
RAO	**Raoul Island**	**53.53 126**	P	**P**	**18 36 35.3**	**+0.8**
THZ	**Tophouse**	**53.54 145**	P	**P**	**18 36 36.7**	**+2.2**
THZ			IAmb	IAmb	18 36 38.1	
	comp=Z,41nm,0.6s					
RAMN	**Ramite**	**53.57 305**	*e*P	**P**	**18 36 35.1**	**0.0**
	comp=Z,208nm,1.0s					
RAMN	**Ramite**	**53.57 305**	*e*P	**P**	**18 36 35.1**	**0.0**
	comp=Z,208nm,1.0s					
RPZ	**Rata Peaks**	**53.78 147**	P	**P**	**18 36 37.5**	**+1.4**
TUWZ	**Tuamarina**	**53.94 144**	P	**P**	**18 36 37.6**	**+0.3**
ULN	**Ulaanbaatar**	**53.99 338**	P	**P**	**18 36 38.7**	**+0.9**
OXZ	**Oxford**	**54.05 147**	P	**P**	**18 36 38.3**	**+0.2**
OXZ			IAmb	IAmb	18 36 39.3	
	comp=Z,120nm,1.7s					
BSWZ	**Blackbirch Sta**	**54.08 144**	P	**P**	**18 36 38.8**	**+0.5**
PALK	**Pallekele**	**54.10 280**	P	**P**	**18 36 38.7**	**-0.3**
PALK			pmax	pmax		
	comp=Z,39nm,1.1s					
PALK	**Pallekele**	**54.10 280**	P	**P**	**18 36 38.6**	**-0.3**
PALK			IAmb	IAmb	18 36 54.8	
	comp=Z,39nm,1.1s					
JIRN	**Jiri**	**54.18 305**	*e*P	**P**	**18 36 39.6**	**-0.2**
	comp=Z,211nm,1.2s					
JIRN	**Jiri**	**54.18 305**	*e*P	**P**	**18 36 39.6**

comp=Z,126nm,1.1s
KKN Kakani 54.98 305 *e*P **P 18 36 44.8 -0.6**
comp=Z,126nm,1.1s
DMN Daman 55.05 305 *e*P **P 18 36 45.8 -0.1**
comp=Z,176nm,1.1s
DMN Daman 55.05 305 *e*P **P 18 36 45.8 -0.1**
comp=Z,176nm,1.1s
CIT Chita 55.49 345 *e*P P 18 36 55.2 +6.8
CIT *e* 18 37 07.6
CIT *e* 18 37 13.8
CIT *e* 18 37 48.7
CIT pmax pmax
comp=Z,93nm,2.6s
GKN Gorkha 55.58 305 *e*P **P 18 36 49.4 -0.3**
comp=Z,178nm,1.1s
GKN Gorkha 55.58 305 *e*P **P 18 36 49.4 -0.3**
comp=Z,178nm,1.1s
MYLAV Mylavaram 55.73 291 *e*P **P 18 36 50.3 -0.4**
MYLAV IVmB_BB 18 36 58.6
comp=Z,255nm,0.9s
SKHT Srikalahasti 56.01 287 *e*P **P 18 36 51.9 -0.8**
ADKI Addanki 56.17 290 *e*P **P 18 36 53.0 -0.8**
ADKI IVmB_BB 18 37 01.6
comp=Z,158nm,0.8s
KOLN Koldanda 56.35 304 *e*P **P 18 36 55.4 +0.2**
comp=Z,389nm,1.0s
KOLN Koldanda 56.35 304 *e*P **P 18 36 55.4 +0.2**
comp=Z,389nm,1.0s
DANN Dangsing 56.43 305 *e*P **P 18 36 55.9 0.0**
comp=Z,281nm,1.0s
DANN Dangsing 56.43 305 *e*P **P 18 36 55.9 0.0**
comp=Z,281nm,1.0s
NJS Nagarjunasagar 56.94 290 *e*P **P 18 36 59.0 -0.2**
NJS IVmB_BB 18 37 06.5
comp=Z,170nm,0.8s
PYUN Piuthan 56.97 305 *e*P **P 18 37 00.0 +0.4**
comp=Z,901nm,1.1s
PYUN Piuthan 56.97 305 *e*P **P 18 37 00.0 +0.4**
comp=Z,901nm,1.1s
PETK Petropavlovsk- 57.17 17 P **P 18 37 00.8 +0.5**
comp=Z,6.5nm,1.0s,baz=204,slow=13,SNR=3.4
PETK LR LR 18 58 48.4
comp=Z,96nm,21.5s,baz=225,slow=33
PETK Petropavlovsk- 57.17 17 P **P 18 37 00.0 -0.3**
SRLM Srisailam 57.23 290 *e*P **P 18 37 00.5 -0.9**
SRLM IVmB_BB 18 37 08.5
comp=Z,218nm,0.8s
PET Petropavlovsk 57.37 17 *e*P P 18 37 11.8 +10
PET *e*SS S 18 45 08.7 +12
PET *e*SS **SS 18 48 48.0 +1.5**
PET pmax pmax
comp=Z,69nm,0.7s
PET MLR MLR
comp=Z,100nm,15.0s
CUPL Choutuppal 57.45 291 *e*P **P 18 37 01.8 -1.2**
ZAK Zakamensk 57.48 337 *e*P **P 18 37 02.8 +0.1**
ZAK pmax pmax
comp=Z,22nm,1.8s
HYB Hyderabad 57.82 291 *i* P **P 18 37 04.5 -1.1**
HYB *e* 18 37 13.0
HYBB Hyderabad (bro 57.82 291 *e*P **P 18 37 04.2 -1.3**
HYBB IVmB_BB 18 37 12.6
comp=Z,259nm,1.1s
SRSP Sriramsagar 58.35 293 *e*P **P 18 37 08.1 -1.1**
SRSP IVmBBB 18 37 16.8
comp=Z,196nm,0.9s
TLY Talaya 58.38 338 *e*P P 18 37 17.3 +8.4
TLY pmax pmax
comp=Z,74nm,2.0s
TLY MLR MLR
comp=Z,399nm,14.0s
URV Uravakonda 58.56 288 *e*P **P 18 37 09.6 -1.2**
MOY Mondy 59.39 337 *e*P **P 18 37 16.9 +0.9**
MOY pmax pmax
comp=Z,123nm,2.2s
WMQ Urumqi 60.85 323 *e*P **P 18 37 27.3 +1.2**
WMQ sP pP 18 37 35.0 +1.2
WMQ PcP **PcP 18 38 06.8 -2.8**
WMQ S **S 18 45 46.1 +3.9**
WMQ sS pS 18 45 52.8 +1.3
WMQ pmax pmax
comp=Z,71nm,1.3s
WMQ pmax pmax
comp=Z,160nm,3.8s
WMQ LR LR
comp=Z,98nm,7.9s
WMQ LR LR
comp=Z,130nm,11.3s
WMQ Urumqi 60.85 323 P **P 18 37 27.1 +1.0**
WMQ pmax pmax
comp=Z,122nm,1.0s
WMQ Urumqi 60.85 323 P **P 18 37 27.1 +1.0**
MA2 Magadan 61.58 9 P **P 18 37 30.5 -0.1**
MA2 IAmb IAmb 18 37 40.2
comp=Z,32nm,1.0s
POO Poona 62.43 291 *e*P **P 18 37 35.0 -2.2**
YAK Yakutsk 62.78 358 *c i*P **P 18 37 38.4 -0.2**
YAK *e**PP **sP 18 37 53.4 +3.6**
YAK *e* 18 38 13.7
YAK *e* 18 39 57.0
YAK *e*PPP PPP 18 41 27.3
YAK *e*S **S 18 46 03.8 -2.0**
YAK *e**SS sS 18 46 32.5 +14
YAK *e* 18 47 24.0
YAK *e*SS **SS 18 50 10.4 -0.7**
YAK pmax pmax
comp=Z,37nm,0.7s
YAK pmax pmax
comp=N,17nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,27nm,2.3s
YAK pmax pmax
comp=N,91nm,2.3s
YAK pmax pmax
comp=E,66nm,2.5s
YAK smax smax
comp=N,75nm,2.4s
YAK smax smax
comp=E,77nm,2.3s
YAK Yakutsk 62.78 358 P **P 18 37 38.0 -0.6**
BHK Bhakra 63.47 306 *ex* x 18 37 43.3
DGZ Jazzator, Alta 64.36 328⇑ *i*P **P 18 37 49.9 +0.4**
DGZ pmax pmax
comp=Z,36nm,1.2s
ZSN Zaisan 64.50 325⇑ *i*P **P 18 37 50.8 +0.5**
comp=Z,15nm,1.3s,baz=325
ZSN Zaisan 64.50 325 *c i*P **P 18 37 50.8 +0.5**
ZSN pmax pmax
comp=Z,15nm,1.3s
SEY Seymchan 65.02 9 *e*P **P 18 37 53.4 +0.1**
MK31 Makanchi Array 65.66 324 P **P 18 37 58.1 +0.2**
MK31 pmax pmax
comp=Z,95nm,1.2s
MK31 Makanchi Array 65.66 324 P **P 18 37 58.1 +0.2**
MKAR Makanchi Array 65.66 324 P **P 18 37 58.4 +0.6**
comp=Z,34nm,0.8s,baz=116,slow=7.9,SNR=266
MKAR PKP2bc 19 06 41.0
comp=Z,0.7nm,0.8s,baz=287,slow=4.5,SNR=4.0
MKAR LR LR 19 06 46.7
comp=Z,113nm,21.2s,baz=106,slow=36
SHLS Shalkode 65.71 319 *e*P **P 18 37 57.4 -1.0**
comp=Z,29nm,0.8s,baz=319
SHLS Shalkode 65.71 319 *e*P **P 18 37 57.4 -1.0**
SHLS pmax pmax
comp=Z,29nm,0.8s
MAKZ Makanchi 65.85 323 P **P 18 37 59.8 +0.7**
MAKZ pmax pmax
comp=Z,147nm,1.1s
MAKZ Makanchi 65.85 323 P **P 18 37 59.8 +0.7**
UZB Uzynbulak 66.00 319⇑ *i*P **P 18 38 00.8 +0.5**
comp=Z,18nm,0.8s,baz=319
UZB *e*S **S 18 46 48.3 +1.7**
baz=319
UZB Uzynbulak 66.00 319 *c i*P **P 18 38 00.8 +0.5**
UZB *e*S **S 18 46 48.3 +1.7**
UZB pmax pmax
comp=Z,18nm,0.8s
KPKS Kokpek 66.36 319⇑ *i*P **P 18 38 02.9 +0.3**
comp=Z,36nm,0.9s,baz=319
KPKS Kokpek 66.36 319 *c i*P **P 18 38 02.8 +0.3**
KPKS pmax pmax
comp=Z,36nm,0.9s
SATY Saty 66.36 318⇑ *i*P **P 18 38 03.5 +0.8**
comp=Z,26nm,0.8s,baz=318
SATY *e*S **S 18 46 53.2 +2.1**
baz=318
SATY Saty 66.36 318 *c i*P **P 18 38 03.4 +0.8**
SATY *e*S **S 18 46 53.2 +2.1**
SATY pmax pmax
comp=Z,26nm,0.8s
KSH Kashi 66.63 314⇓ *i*P **P 18 38 06.5 +2.1**
KSH sP sP 18 38 14.3 -1.4
KSH S **S 18 46 58.4 +4.0**
KSH pmax pmax
comp=Z,120nm,1.2s
KSH pmax pmax
comp=Z,180nm,4.9s
KSH LR LR
comp=Z,130nm,5.8s
KSH LR LR
comp=Z,120nm,5.3s
KSH LR LR
comp=Z,280nm,9.4s
ADK Adak 66.69 31 P **P 18 38 04.0 -0.3**
ADK pmax pmax
comp=Z,80nm,1.7s
ADK Adak 66.69 31 P **P 18 38 04.0 -0.3**
ADK IAmb IAmb 18 38 08.4
comp=Z,80nm,1.6s
NIL Nilore 66.71 307 P **P 18 38 04.9 0.0**
NIL Nilore 66.71 307 P **P 18 38 04.7 -0.2**
NIL pmax pmax
comp=Z,61nm,1.0s
NIL Nilore 66.71 307 P **P 18 38 04.7 -0.2**
TDK Taldyqorghan 67.21 320 *e*P **P 18 38 08.7 +0.8**
comp=Z,46nm,1.0s,baz=320
TDK *e*S **S 18 47 03.0 +2.1**
baz=320
TDK Taldyqorghan 67.21 320 *e*P **P 18 38 08.6 +0.8**
TDK *e*S **S 18 47 03.0 +2.1**
TDK pmax pmax
comp=Z,47nm,1.0s
RAR Rarotonga 67.28 113 P **P 18 38 08.5 -0.2**
RAR pmax pmax
comp=Z,47nm,1.2s
RAR Rarotonga 67.28 113 P **P 18 38 08.5 -0.2**
RAR IAmb IAmb 18 38 10.7
comp=Z,47nm,1.1s
MDOK Medeo 67.31 318 *i* P **P 18 38 09.6 +0.8**
MDOK *e*S **S 18 47 04.7 +2.1**
baz=318
MDOK Medeo 67.31 318 *i* P **P 18 38 09.5 +0.8**
MDOK *e*S **S 18 47 04.6 +2.1**
TNSS Tian-Shan 67.33 318⇑ *i*P **P 18 38 10.3 +1.1**
baz=318
TNSS Tian-Shan 67.33 318 *c i*P **P 18 38 10.2 +1.1**
AAA Alma-Ata 67.42 318⇑ *i*P **P 18 38 10.1 +0.8**
comp=Z,23nm,0.9s,baz=318
AAA *e*S **S 18 47 05.7 +1.9**
baz=318
AAA Alma-Ata 67.42 318 *c i*P **P 18 38 10.1 +0.8**
AAA *e*S **S 18 47 05.6 +1.9**
AAA pmax pmax
comp=Z,23nm,0.9s
CASY Casey 67.48 190 P **P 18 38 10.0 +1.0**
CASY IAmb IAmb 18 38 11.4
comp=Z,43nm,1.2s
ULHL Ulahol 67.49 317 P P 18 38 18.9 +9.0
SNR=5.9
CHKK Chushkaly 67.64 319 *e*P **P 18 38 10.8 +0.2**
baz=319
CHKK Chushkaly 67.64 319 *e*P **P 18 38 10.7 +0.2**
MTBS Maitube 67.71 318⇑ *i*P **P 18 38 11.7 +0.5**
baz=318
MTBS Maitube 67.71 318⇑ *i*P **P 18 38 11.6 +0.5**
KUU Kurty 68.08 319⇑ *i*P **P 18 38 13.8 +0.4**
comp=Z,18nm,0.9s,baz=319
KUU Kurty 68.08 319 *c i*P **P 18 38 13.7 +0.4**
KUU pmax pmax
comp=Z,18nm,0.9s
KZA Kyzart 68.10 316 P **P 18 38 15.4 +1.4**
SNR=26
ZAA0 Zalesovo Array 68.14 331 IAmb IAmb 18 38 21.6
comp=Z,55nm,1.1s
ZALV Zalesovo Beam 68.14 331 P **P 18 38 12.7 -0.8**
comp=Z,14nm,0.7s,baz=111,slow=5.7,SNR=58
ZALV PKP2bc 19 06 34.4
comp=Z,1.3nm,0.8s,baz=258,slow=4.4,SNR=5.9
ZALV LR LR 19 08 35.7
comp=Z,70nm,19.4s,baz=108,slow=36
ZALV Zalesovo Beam 68.14 331 P **P 18 38 12.3 -1.2**
ATKA Atka Island 68.15 31 P **P 18 38 13.1 -0.4**
ATKA IAmb IAmb 18 38 22.9
comp=Z,32nm,0.8s
TKM2 Tokmak 2 68.19 317 P **P 18 38 15.0 +0.7**
SNR=30
KBK Karagaybulak 68.53 317 P **P 18 38 17.7 +1.3**
SNR=6.2
UCH Uchtor 68.67 316 P **P 18 38 18.9 +1.3**
SNR=29
CHMS Chumysh 68.79 317 P **P 18 38 18.3 +0.4**
SNR=10
FRU1 Bishkek 68.80 317 P **P 18 38 18.4 +0.4**
FRU1 pmax pmax
comp=Z,54nm,1.3s
FRU1 Bishkek 68.80 317 P **P 18 38 18.4 +0.4**
FRU1 IAmb IAmb 18 38 27.5
comp=Z,54nm,1.3s
AAK Ala-Archa 68.83 317 *ce*P **P 18 38 18.7 +0.4**
AAK pmax pmax
comp=Z,93nm,1.7s
SGDS Sogindy 69.05 318 *e*P **P 18 38 19.7 +0.2**
comp=Z,22nm,1.5s,baz=318
SGDS Sogindy 69.05 318 *e*P **P 18 38 19.6 +0.2**
SGDS pmax pmax
comp=Z,22nm,1.5s
USP Ospenovka 69.06 317 P **P 18 38 20.2 +0.6**
SNR=32
AML Almayashu 69.20 316 P **P 18 38 22.0 +1.2**
SNR=20
EKS2 Erkin-Say 69.33 317 P **P 18 38 22.4 +1.1**
SNR=35
HON Honolulu 69.56 67 P **P 18 38 23.9 +0.9**
HON pmax pmax
comp=Z,90nm,0.8s
HON Honolulu 69.56 67 P **P 18 38 23.9 +0.9**
KIP Kipapa 69.56 67 *ce*P **P 18 38 24.2 +1.2**
KIP pmax pmax
comp=Z,150nm,2.5s
KIP Kipapa 69.56 67 P **P 18 38 23.6 +0.6**
KIP IAmb IAmb 18 38 25.6
comp=Z,53nm,0.9s
OPA Opana 69.61 67 P **P 18 38 22.8 -0.5**
OPA pmax pmax
comp=Z,45nm,1.1s
OPA Opana 69.61 67 P **P 18 38 22.8 -0.5**
OPA IAmb IAmb 18 38 31.0
comp=Z,45nm,1.1s
KURK Kurchatov 69.69 326 P **P 18 38 23.3 +0.2**
KURK Kurchatov 69.69 326 *ce*P **P 18 38 22.3 -0.9**
KURK pmax pmax
comp=Z,74nm,1.7s
KURK Kurchatov 69.69 326 P **P 18 38 23.1 -0.1**
BTLS Baital 70.04 319⇑ *i*P **P 18 38 25.7 +0.1**
comp=Z,23nm,1.6s,baz=319
BTLS *e*S **S 18 47 36.1 +1.4**
baz=319
BTLS Baital 70.04 319 *c i*P **P 18 38 25.6 +0.1**
BTLS *e*S **S 18 47 36.0 +1.4**
BTLS pmax pmax
comp=Z,23nm,1.6s
KBL Kabul 70.31 307 P **P 18 38 27.8 +0.2**
SNR=26
KBL Kabul 70.31 307 P **P 18 38 26.9 -0.7**
KBL pmax pmax
comp=Z,52nm,0.9s
KBL Kabul 70.31 307 P **P 18 38 26.9 -0.7**
KBL IAmb IAmb 18 38 36.4
comp=Z,52nm,0.9s
BTK Batken 70.54 313 P **P 18 38 29.0 +0.2**
BTK pmax pmax
comp=Z,109nm,1.3s
BTK Batken 70.54 313 P **P 18 38 29.0 +0.2**
GAR Garm 70.58 312 P **P 18 38 29.0 -0.1**
DZA Taraz 71.10 316⇑ *i*P **P 18 38 32.3 +0.3**
comp=Z,14nm,0.8s,baz=316
DZA *e*S **S 18 47 48.5 +1.4**
baz=316
DZA Taraz 71.10 316 *c i*P **P 18 38 32.3 +0.3**
DZA *e*S **S 18 47 48.4 +1.4**
DZA pmax pmax
comp=Z,14nm,0.8s
KHLU Kahalu`u 71.26 69 P **P 18 38 32.8 -0.8**
KHLU IAmb IAmb 18 38 36.0
comp=Z,52nm,1.1s
CHGR Chuyangaron 71.35 311 P **P 18 38 33.3 -0.4**
KK31 Karatay Array 71.74 316 IAmb IAmb 18 38 45.1
comp=Z,66nm,1.0s
KKAR Karatay Array 71.74 316 P **P 18 38 35.8 -0.1**
KKAR Karatay Array 71.74 316 P **P 18 38 35.8 -0.1**
KKAR Karatay Array 71.74 316 IAmb IAmb 18 38 45.1
comp=Z,66nm,1.0s
IUG Iuzhnay 71.77 315⇑ *i*P **P 18 38 36.8 +0.6**
comp=Z,27nm,1.3s,baz=315
IUG *e*S **S 18 47 56.6 +1.7**
baz=315
IUG Iuzhnay 71.77 315 *c i*P **P 18 38 36.8 +0.6**
IUG *e*S **S 18 47 56.6 +1.7**
IUG pmax pmax
comp=Z,27nm,1.3s
BRZS Berezniki 72.81 324 *i* P **P 18 38 42.1 0.0**
comp=Z,36nm,1.2s,baz=324
BRZS Berezniki 72.81 324 *i* P **P 18 38 42.1 0.0**
BRZS pmax pmax
comp=Z,36nm,1.2s
BRVK Borovoye 75.36 326 P **P 18 38 56.9 +0.1**
BRVK P **P 18 38 56.9 +0.1**
BRVK Borovoye 75.36 326 *ce*P **P 18 38 57.0 +0.1**
BRVK pmax pmax
comp=Z,56nm,1.7s
BRVK Borovoye 75.36 326 P **P 18 38 56.6 -0.3**
BRVK IAmb IAmb 18 39 06.0
comp=Z,97nm,1.2s
PPT Papeete 76.49 108 P **P 18 39 06.9 +2.8**
comp=Z,73nm,0.8s,baz=284,slow=3.5,SNR=10.0
PPT LR LR 19 08 49.0
comp=Z,52nm,21.6s,baz=257,slow=33
PPT2 Papeete2 76.49 108 *e*P **P 18 39 06.4 +2.2**
comp=Z,68nm,0.9s
PAE Paea 76.49 108 *e*P **P 18 39 06.1 +2.0**
comp=Z,8.7nm,0.9s
TIAR Tiarei 76.71 108 *e*P **P 18 39 07.7 +2.4**
comp=Z,12nm,1.0s
NRIK Noril'sk 76.72 345 P **P 18 39 04.2 -0.1**
comp=Z,15nm,0.9s,baz=113,slow=6.0,SNR=10
NRIK LR LR 19 13 02.0
comp=Z,182nm,20.2s,baz=192,slow=36
TVO Taravao 76.81 108 *e*P **P 18 39 08.4 +2.4**
comp=Z,7.4nm,0.8s
WBK Wadi Bani Khal 76.82 293 P **P 18 39 06.8 +0.9**
SNR=7.4
WBK P **P 18 39 06.8 +0.9**
SNR=7.4
WSAR Wadi Sarin 77.20 294 P **P 18 39 08.4 +0.3**
comp=Z,22nm,1.1s,baz=134,slow=6.9,SNR=7.2
WSAR Wadi Sarin 77.20 294 P **P 18 39 08.4 +0.3**
SNR=9.3
MHTO MHTO 77.58 292 P **P 18 39 10.2 +0.1**
MHTO P **P 18 39 10.2 +0.1**
BIDO Bidbid 77.69 294 P **P 18 39 11.3 +0.6**
SNR=18
BIDO P **P 18 39 11.3 +0.6**
SNR=18
SMDO Samad 77.72 294 P **P 18 39 11.3 +0.2**
VNDA Vanda 78.07 174 P **P 18 39 13.4 +1.6**
comp=Z,39nm,0.9s,baz=323,slow=6.3,SNR=184
VNDA LR LR 19 13 02.1
comp=Z,278nm,20.8s,baz=350,slow=35
VNDA Vanda 78.07 174 P **P 18 39 13.3 +1.5**
VNDA IAmb IAmb 18 39 14.6
comp=Z,49nm,0.9s
HOQ Hoqain 78.45 294 P **P 18 39 15.6 +0.6**
SNR=18
HOQ P **P 18 39 15.6 +0.6**
SNR=18
BSY Bisya 78.46 293 P **P 18 39 15.5 +0.5**
BSY P **P 18 39 15.5 +0.5**
ARQ Araqi 79.14 294 P **P 18 39 19.1 +0.3**
SNR=8.5
ARQ P **P 18 39 19.1 +0.3**
SNR=8.5
UOSS Minazif 79.59 295 P **P 18 39 21.1 -0.1**
UOSS P **P 18 39 21.1 -0.1**
BANOM Banah 79.60 296 P **P 18 39 22.2 +0.9**
GEYT Alibeck 79.65 309 P **P 18 39 22.1 +0.8**
comp=Z,22nm,0.8s,baz=147,slow=3.0,SNR=47
GEYT Alibeck 79.65 309 P **P 18 39 21.7 +0.4**
GYA0B ALIBECK ARRAY 79.65 309 P **P 18 39 21.7 +0.4**
GYA0B IAmb IAmb 18 39 31.0
comp=Z,68nm,1.0s
ASHO Ashiyiah 79.69 295 P **P 18 39 22.0 +0.2**
ASHO P **P 18 39 22.0 +0.2**
ABKAR Akbulak array 80.47 320 P **P 18 39 25.1 -0.4**
SVW2 Sparrevohn 81.19 28 P **P 18 39 29.5 +0.5**
OHAK Old Harbor 81.21 32 IAmb IAmb 18 39 31.1
comp=Z,52nm,1.2s
TTA Tatalina 81.57 26 P **P 18 39 31.6 +0.5**
TTA pmax pmax
comp=Z,24nm,1.0s
TTA Tatalina 81.57 26 P **P 18 39 31.6 +0.5**
KDAK Kodiak Island 81.72 31 P **P 18 39 32.7 +0.8**
KDAK pmax pmax
comp=Z,51nm,1.0s
KDAK Kodiak Island 81.72 31 P **P 18 39 32.7 +0.8**
KDAK IAmb IAmb 18 39 33.7
comp=Z,51nm,1.0s
SVE Sverdlovsk 81.81 328 *e*P **P 18 39 32.8 +0.4**
SVE pmax pmax
comp=Z,44nm,1.3s
AKTO Aktyubinsk 81.93 321 P **P 18 39 33.1 -0.1**
comp=Z,11nm,1.0s,baz=97,slow=7.4,SNR=16
MAW Mawson 82.25 202 P **P 18 39 36.1 +1.6**
comp=Z,38nm,1.1s,baz=67,slow=6.8,SNR=38
MAW LR LR 19 14 17.7
comp=Z,149nm,18.9s,baz=56,slow=34
MAW Mawson 82.25 202 P **P 18 39 35.1 +0.6**
baz=82,SNR=32
MAW Mawson 82.25 202 P **P 18 39 35.8 +1.3**
RSO Redoubt South 82.34 29 P **P 18 39 34.8 -0.5**
ARU Arti 82.83 327 P **P 18 39 37.3 -0.4**
comp=Z,2.4nm,0.7s,baz=103,slow=3.5,SNR=14
ARU Arti 82.83 327 *c i*P **P 18 39 37.2 -0.5**
ARU 18 42 49.2
ARU S **S 18 49 56.4 +2.0**
ARU SS **SS 18 55 14.9 -2.5**
ARU pmax pmax
comp=Z,36nm,1.6s
ARU Arti 82.83 327 P **P 18 39 36.6 -1.1**
ARU IAmb IAmb 18 39 46.4
comp=Z,52nm,1.2s
CNPM China Poot 82.84 30 P **P 18 39 37.7 0.0**
CNPM IAmb IAmb 18 39 38.9
comp=Z,34nm,1.0s
PPLA Purkeypile 83.24 26 IAmb IAmb 18 39 55.6
comp=Z,24nm,0.9s
SKT Skwentna 83.30 27 IAmb IAmb 18 39 41.0
comp=Z,34nm,1.0s
SUA Susitna One 83.54 28 P **P 18 39 41.1 -0.4**
SUA IAmb IAmb 18 39 42.5
comp=Z,35nm,0.8s
O22K Cooper Landing 83.80 29 P **P 18 39 42.5 -0.1**
baz=257
SEW Seward 83.85 29 IAmb IAmb 18 39 47.2
comp=Z,44nm,1.0s
KTH Kantishna Hill 83.96 26 P **P 18 39 43.5 0.0**
KTH IAmb IAmb 18 39 44.5
comp=Z,29nm,0.9s
CUT Chulitna 83.98 27 P **P 18 39 43.3 -0.1**
baz=257
TRF Thorofare Moun 84.21 26 IAmb IAmb 18 40 31.4
comp=Z,65nm,1.8s
RND Reindeer 84.83 26 P **P 18 39 47.1 -0.8**
RND pmax pmax
comp=Z,33nm,0.8s
RND Reindeer 84.83 26 P **P 18 39 47.1 -0.8**
RND IAmb IAmb 18 39 48.6
comp=Z,34nm,0.8s
NEA2 Nenana 84.99 25 P **P 18 39 48.9 +0.3**
baz=258
COLD Coldfoot 85.14 22 P **P 18 39 50.1 +0.8**
baz=256
COLD Coldfoot 85.14 22 IAmb IAmb 18 39 51.4
comp=Z,20nm,0.9s
GLI Glacier Island 85.14 29 P **P 18 39 49.8 +0.3**

FID	**Port Fidalgo**	**85.42**	**29**	IAmb	IAmb	18 39 52.1	
	comp=Z,36nm,0.7s						
DHY	**Denali Highway**	**85.42**	**27**	IAmb	IAmb	18 39 52.5	
	comp=Z,51nm,1.0s						
MDM	**Murphy Dome**	**85.42**	**25**	P	**P**	**18 39 50.3**	**-0.5**
CCB	**Clear Creek Bu**	**85.54**	**25**	IAmb	IAmb	18 39 51.8	
	comp=Z,54nm,0.9s						
TCOL	**CIGO, UAF Yank**	**85.56**	**25**	P	**P**	**18 39 51.3**	**-0.1**
	baz=259						
COLA	**College**	**85.56**	**25**	*e*P	**P**	**18 39 51.4**	**0.0**
COLA				pmax	pmax		
	comp=Z,19nm,0.8s						
M24K	**Tolsona, Glenn**	**85.79**	**28**	P	**P**	**18 39 53.5**	**+0.8**
	baz=260						
HDA	**Harding Lake**	**85.86**	**25**	P	**P**	**18 39 52.1**	**-0.8**
	baz=260						
HDA	**Harding Lake**	**85.86**	**25**	IAmb	IAmb	18 39 54.5	
	comp=Z,29nm,0.8s						
IL31		**85.95**	**25**	IAmb	IAmb	18 39 53.4	
	comp=Z,22nm,0.8s						
ILAR	**Eielson Array**	**85.95**	**25**	P	**P**	**18 39 52.1**	**-1.3**
	comp=Z,19nm,0.8s,baz=257,slow=4.9,SNR=144						
ILAR				PKKPbc	**PKKPbc**	**18 57 55.2**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=1.5,slow=2.4,SNR=4.1						
ILAR				LR	LR	19 13 08.3	
	comp=Z,113nm,21.2s,baz=264,slow=32						
ILAR	**Eielson Array**	**85.95**	**25**	P	**P**	**18 39 52.4**	**-1.0**
ILAR	**Eielson Array**	**85.95**	**25**	P	**P**	**18 39 52.4**	**-1.0**
RIDG	**Independent Ri**	**86.66**	**26**	P	**P**	**18 39 57.3**	**+0.3**
RIDG				IAmb	IAmb	18 39 58.3	
	comp=Z,34nm,0.9s						
VRDI	**Verde Repeater**	**86.95**	**29**	IAmb	IAmb	18 40 00.1	
	comp=Z,29nm,0.9s						
DOT	**Dot Lake**	**86.99**	**26**	P	**P**	**18 39 58.8**	**+0.3**
DOT				IAmb	IAmb	18 40 00.0	
	comp=Z,25nm,1.0s						
ABPO	**Ambohimpanom**	**87.00**	**251**	P	**P**	**18 39 59.9**	**+0.1**
ABPO				pmax	pmax		
	comp=Z,26nm,1.0s						
ABPO	**Ambohimpanom**	**87.00**	**251**	P	**P**	**18 39 59.9**	**+0.1**
ABPO				IAmb	IAmb	18 40 01.5	
	comp=Z,26nm,1.0s						
CRQM	**Cirque**	**87.04**	**29**	P	**P**	**18 39 59.8**	**+0.7**
SCRK	**Sand Creek**	**87.07**	**26**	P	**P**	**18 39 59.6**	**+0.5**
	baz=262						
YAH	**Yahtse**	**87.68**	**30**	P	**P**	**18 40 03.3**	**+1.1**
BARN	**Barnard Glacie**	**87.79**	**29**	P	**P**	**18 40 03.5**	**+0.8**
K27K	**Chicken**	**87.91**	**26**	P	**P**	**18 40 04.6**	**+1.7**
	baz=264						
AKT	**Akhty**	**87.99**	**311**	*e*P	**P**	**18 40 04.8**	**+0.8**
AKT				*e*		18 43 30.5	
AKT				pmax	pmax		
	comp=Z,73nm,1.2s						
KIRV	**Kirov**	**88.03**	**329**	P	**P**	**18 40 01.9**	**-1.6**
	comp=Z,7.1nm,0.6s,baz=310,slow=2.4,SNR=4.4						
MAK	**Makhachkala**	**88.23**	**313**	*e*P	P	18 39 58.6	-6.3
MAK				*e*		18 50 23.6	
MAK				pmax	pmax		
	comp=Z,333nm,1.1s						
QSPA	**South Pole Qui**	**89.12**	**180**	P	**P**	**18 40 09.8**	**+1.0**
ZEI	**Tsey**	**90.87**	**313**	*e*P	**P**	**18 40 15.4**	**-2.2**
ZEI				pmax	pmax		
	comp=Z,22nm,1.4s						
SYO	**Syowa Base**	**90.95**	**201⇓**	*e*P	**P**	**18 40 16.7**	**-0.4**
SYO	**Syowa Base**	**90.95**	**201⇑**	*e*PcP	**PcP**	**18 40 18.4**	**+0.3**
SYO	**Syowa Base**	**90.95**	**201⇑**	*e*pP	pP	18 40 22.0	-3.6
INK	**Inuvik**	**91.55**	**22**	P	**P**	**18 40 18.7**	**-1.1**
	comp=Z,6.4nm,0.9s,baz=124,slow=6.3,SNR=4.7						
INK				LR	LR	19 14 56.4	
	comp=Z,71nm,20.9s,baz=182,slow=31						
INK	**Inuvik**	**91.55**	**22**	IAmb	IAmb	18 40 27.6	
	comp=Z,33nm,1.6s						
KBZ	**Khabaz**	**91.60**	**314**	LR	LR	19 25 31.1	
	comp=Z,19nm,19.3s,baz=53,slow=38						
KIV	**Kislovodsk**	**91.75**	**314**	*e*P	**P**	**18 40 19.3**	**-2.2**
KIV				pmax	pmax		
	comp=Z,29nm,1.1s						
VRH	**Novokhopyorsk**	**92.28**	**321**	*e*P	**P**	**18 40 21.1**	**-2.5**
VRH				*e*		18 40 29.1	
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLMR	**Klimovskoe**	**93.06**	**331**	*e*P	**P**	**18 40 24.0**	**-3.0**
KLMR				pmax	pmax		
	comp=Z,42nm,1.5s						
KLMR	**Klimovskoe**	**93.06**	**331**	*e*P	**P**	**18 40 24.0**	**-3.0**
KLMR				AMP		18 40 34.8	
	comp=Z,42nm,1.5s						
KLMR				*e*PP	**PP**	**18 44 04.0**	**-6.0**
TMCR	**Tamitsa**	**93.49**	**334**	*e*P	**P**	**18 40 26.4**	**-2.5**
TMCR				pmax	pmax		
	comp=Z,25nm,0.8s						
DLBC	**Dease Lake**	**93.65**	**32**	P	**P**	**18 40 30.3**	**+0.4**
	comp=Z,5.2nm,0.9s,baz=282,slow=1.7,SNR=4.8						
DLBC				LR	LR	19 16 31.0	
	comp=Z,102nm,21.5s,baz=303,slow=32						
DLBC	**Dease Lake**	**93.65**	**32**	IAmb	IAmb	18 40 40.3	
	comp=Z,67nm,1.9s						
VSR	**Storozhevoye**	**93.88**	**321**	*e*P	**P**	**18 40 28.8**	**-2.2**
VSR				*e*		18 40 36.1	
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LPSR	**Galich'ya Gora**	**93.94**	**323**	*e*P	**P**	**18 40 29.4**	**-1.8**
LPSR				*e*		18 40 37.0	
LPSR				pmax	pmax		
	comp=Z,20nm,1.0s						
MOS	**Moscow**	**94.46**	**326**	*e*P	**P**	**18 40 30.5**	**-3.0**
MOS				*e*		18 44 25.9	
APA	**Apatity**	**94.92**	**338⇓**	*i*P	P	18 40 40.3	+4.9
APA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,400nm,22.0s						
OBN	**Obninsk**	**95.12**	**325⇓**	*e*P	**P**	**18 40 34.7**	**-1.8**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,91nm,21.0s						
KMBO	**Kilima Mbogo**	**97.07**	**269**	P	Pdif	18 40 49.2	+2.4
	comp=Z,1.2nm,0.5s,baz=125,slow=4.7,SNR=4.7						
KMBO	**Kilima Mbogo**	**97.07**	**269**	P	Pdif	18 40 49.2	+2.4
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BRTR	**Keskin Array B**	**98.75**	**310**	P	**P**	**18 40 51.6**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=80,slow=3.4,SNR=6.7						
BRTR				PP	**PP**	**18 44 56.0**	**+1.1**
	comp=Z,1.5nm,1.0s,baz=99,slow=8.9,SNR=2.3						
BRTR				LR	LR	19 33 43.7	
	comp=Z,13nm,18.1s,baz=23,slow=40						
BRTR	**Keskin Array B**	**98.75**	**310**	P	**P**	**18 40 51.5**	**-2.1**
FINES	**FINESS Array B**	**99.38**	**332**	P	**Pdif**	**18 40 54.3**	**-1.4**
	comp=Z,2.4nm,0.8s,baz=74,slow=8.1,SNR=6.7						
FINES				LR	LR	19 27 51.1	
	comp=Z,141nm,21.1s,baz=70,slow=37						
AKASG	**Malin Array Be**	**100.18**	**321**	P	**Pdif**	**18 40 57.5**	**-2.0**
	comp=Z,1.4nm,0.6s,baz=66,slow=4.3,SNR=9.6						
AKASG	**Malin Array Be**	**100.18**	**321**	Pdif	**Pdif**	**18 40 57.3**	**-2.2**
YKA	**Yellowknife Ar**	**100.33**	**26**	P	**Pdif**	**18 40 58.8**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=304,slow=5.0,SNR=8.4						
SNAA	**Sanae**	**102.63**	**193**	Pdiff	**Pdif**	**18 41 15.4**	**+5.4**
VRI	**Vrincioaia**	**102.80**	**317**	⇓P	**Pdif**	**18 41 18.3**	**+7.0**
MLR	**Muntele Rosu**	**103.41**	**317**	⇑P	**Pdif**	**18 41 13.3**	**-0.9**
BURAR	**Bucovina Array**	**103.42**	**319**	⇑P	**Pdif**	**18 41 12.5**	**-1.6**
CRVS	**Cervenica-Dubn**	**105.49**	**321**	*e*P	**Pdif**	**18 41 23.5**	**+0.3**
CRVS	**Cervenica-Dubn**	**105.49**	**321**	*e*PDIFF	**Pdif**	**18 41 23.5**	**+0.3**
BZS	**Buzias**	**106.33**	**318**	⇑P	**Pdif**	**18 41 33.6**	**+6.7**
KRLC	**Kraliky**	**107.99**	**323**	*e*PKP	**PKiKP**	**18 45 42.0**	**+0.7**
KRLC				AMS	AMS	19 41 20.0	
	comp=Z,100nm,21.6s						
DPC	**Dobruska-Polom**	**108.17**	**323**	AMS	AMS	19 36 30.0	
	comp=Z,100nm,20.6s						
CHVC	**Chvalec**	**108.23**	**324**	*e*PKP	**PKiKP**	**18 45 42.3**	**+0.6**
CONA	**Conrad Observa**	**109.34**	**321**	*e*PKiKP	**PKiKP**	**18 45 44.6**	**+0.7**
	comp=Z,3.7nm,1.3s						
PRU	**Pruhonice**	**109.36**	**324**	AMS	AMS	19 33 30.0	
	comp=Z,100nm,19.4s						
PDAR	**Pinedale Array**	**109.48**	**45**	PKiKP	**PKiKP**	**18 45 45.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=188,slow=2.6,SNR=5.3						
PDAR				PKKPbc	**PKKPbc**	**18 56 49.9**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=120,slow=8.7,SNR=4.9						
CLL	**Collm**	**109.72**	**325**	*e*Pdif	**Pdif**	**18 41 41.0**	**-0.9**
CLL				*e*PKiKP	**PKiKP**	**18 45 44.0**	**-0.4**
CLL				*e*PP	**PP**	**18 46 18.0**	**+2.2**
CLL				*i*		18 46 25.7	
	comp=Z,13nm,1.4s						
CLL				*e*(SP)		18 55 36.0	
CLL				*e*PPS	PPS	18 56 42.0	
CLL				*e*SS	SS	19 01 36.0	-1.4
CLL				LmH		19 27 00.0	
	comp=N,200nm,20.2s						
CLL				LmH		19 27 00.0	
	comp=E,200nm,20.2s						
CLL				LmV		19 36 00.0	
	comp=Z,200nm,19.6s						
PBCC	**Pribram**	**109.81**	**323**	*e*PKP	**PKiKP**	**18 45 45.2**	**+0.5**
KHC	**Kasperske Hory**	**110.28**	**323**	*e*PKP	**PKiKP**	**18 45 45.8**	**+0.2**
KHC				AMS	AMS	19 42 20.0	
	comp=Z,100nm,17.4s						
KHC	**Kasperske Hory**	**110.28**	**323**	*e*PKIKP	**PKiKP**	**18 45 45.8**	**+0.2**
KHC				MLR	MLR		
	comp=Z,100nm,17.4s						
GERES	**GERESS Array B**	**110.32**	**323**	PKiKP	**PKiKP**	**18 45 45.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=88,slow=1.4,SNR=9.7						
SOKA	**Soboth**	**110.32**	**320**	*e*PKiKP	**PKiKP**	**18 45 46.4**	**+0.6**
	comp=Z,3.7nm,1.1s						
MOA	**Molln**	**110.36**	**322**	PKiKP	**PKiKP**	**18 45 46.2**	**+0.4**
	comp=Z,2.8nm,0.9s						
NKC	**Novy Kostel**	**110.49**	**324**	AMS	AMS	19 38 00.0	
	comp=Z,100nm,16.9s						
MOX	**Moxa**	**110.80**	**325**	*e*L	L	19 36 55.4	
	comp=Z,128nm,18.9s						
O20A	**White River Ci**	**111.23**	**47**	P	**PKiKP**	**18 45 49.1**	**+1.2**
	baz=288						
ABTA	**Abfaltersbach**	**111.89**	**321**	*e*PKiKP	**PKiKP**	**18 45 48.7**	**-0.1**
	comp=Z,8.3nm,0.9s						
WTTA	**Wattenberg**	**112.23**	**322**	*i* PKiKP	**PKiKP**	**18 45 49.8**	**+0.2**
	comp=Z,11nm,1.0s						
WATA	**Walderalm**	**112.23**	**322**	*i* PKiKP	**PKiKP**	**18 45 49.5**	**0.0**
	comp=Z,5.0nm,0.8s						
SQTA	**Sankt Quirin**	**112.51**	**322**	*i* PKiKP	**PKiKP**	**18 45 50.2**	**+0.2**
	comp=Z,7.1nm,1.1s						
MOTA	**Moosalm**	**112.52**	**322**	*e*PKiKP	**PKiKP**	**18 45 50.2**	**+0.1**
	comp=Z,7.9nm,1.1s						
RETA	**Reutte**	**112.67**	**322**	*i* PKiKP	**PKiKP**	**18 45 51.4**	**+1.1**
	comp=Z,2.3nm,0.9s						
FETA	**Feichten**	**112.89**	**322**	*e*PKiKP	**PKiKP**	**18 45 51.3**	**+0.4**
	comp=Z,6.0nm,1.0s						
DAVA	**Damuels**	**113.30**	**322**	*e*PKiKP	**PKiKP**	**18 45 51.9**	**+0.3**
	comp=Z,5.2nm,0.7s,SNR=5.1						
ULM	**Lac du Bonnet**	**114.94**	**33**	PKP	**PKiKP**	**18 45 54.4**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=346,slow=3.7,SNR=4.2						
SNF	**Seneffe**	**114.94**	**327**	PKiKP	PKPdf	18 45 54.9	+0.5
MNTX	**Cornudas Mount**	**115.92**	**55**	P	**PKiKP**	**18 45 57.6**	**+0.7**
	baz=286						
ECSD	**EROS Data Cent**	**117.80**	**40**	P	**PKiKP**	**18 46 00.2**	**0.0**
	baz=299						
TXAR	**Lajitas Array**	**118.00**	**57**	PKP	**PKiKP**	**18 46 01.4**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=241,slow=1.3,SNR=6.9						
TXAR				PKKPbc	**PKKPbc**	**18 56 22.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=111,slow=6.9,SNR=5.0						
KEST	**Kesra**	**118.34**	**311**	PKP	**PKiKP**	**18 46 02.5**	**+0.9**
	comp=Z,7.6nm,1.1s,baz=206,slow=6.7,SNR=4.2						
WMOK	**Wichita Mounta**	**120.15**	**50**	P	**PKPdf**	**18 46 03.6**	**-1.4**
	baz=292						
JCT	**Junction City**	**120.85**	**55**	P	**PKiKP**	**18 46 07.0**	**+0.4**
	baz=289						
R40A	**Maddies Statio**	**123.32**	**43**	PKPdf	**PKPdf**	**18 46 10.7**	**-0.2**
W39A	**Magazine**	**123.69**	**47**	P	**PKiKP**	**18 46 12.0**	**+0.1**
	baz=297						
U40A	**Yellville**	**123.84**	**45**	P	**PKPdf**	**18 46 12.0**	**0.0**
	baz=298						
U40A	**Yellville**	**123.84**	**45**	PKPdf	**PKPdf**	**18 46 11.4**	**-0.5**
MGMO	**Mountain Grove**	**123.87**	**44**		**PKPdf**	**18 46 11.5**	**-0.5**
CCM	**Cathedral Cave**	**124.13**	**43**	PKIKP	**PKPdf**	**18 46 12.4**	**-0.1**
CCM	**Cathedral Cave**	**124.13**	**43**	P	**PKPdf**	**18 46 12.4**	**-0.1**
	baz=301						
CCM	**Cathedral Cave**	**124.13**	**43**		**PKPdf**	**18 46 12.4**	**-0.1**
MIAR	**Mount Ida**	**124.14**	**48**	PKIKP	**PKiKP**	**18 46 13.4**	**+0.5**
MIAR	**Mount Ida**	**124.14**	**48**	P	**PKiKP**	**18 46 13.9**	**+1.0**
	baz=296						
MIAR	**Mount Ida**	**124.14**	**48**	PKPdf	**PKiKP**	**18 46 13.4**	**+0.5**
LCAR	**Lake Charles**	**125.18**	**45**		**PKPdf**	**18 46 14.3**	**-0.2**
ESDC	**Sonseca Array**	**125.82**	**321**	PKP	**PKiKP**	**18 46 16.1**	**0.0**
	comp=Z,2.0nm,0.8s,baz=8.0,slow=3.2,SNR=16						
ESDC				PP	**PP**	**18 48 10.4**	**+2.6**
	comp=Z,1.3nm,1.0s,baz=51,slow=5.6,SNR=4.0						
ESDC	**Sonseca Array**	**125.82**	**321**	PKPdf	**PKPdf**	**18 46 15.8**	**+0.1**
MVO	**Moncorvo**	**126.80**	**324**	*e*PKPdf	**PKiKP**	**18 46 18.9**	**+0.8**
PGAV	**Gavieira, Arco**	**127.00**	**325**	*e*PKPdf	**PKiKP**	**18 46 19.1**	**+0.6**
N49A	**Columbus Grove**	**127.02**	**36**		**PKPdf**	**18 46 17.8**	**-0.1**
PVRL	**Vila Real**	**127.13**	**324**	*e*PKPdf	**PKiKP**	**18 46 19.7**	**+1.0**
WCI	**Wyandotte Cave**	**127.32**	**40**	PKIKP	**PKPdf**	**18 46 18.2**	**-0.4**
WCI	**Wyandotte Cave**	**127.32**	**40**	P	**PKiKP**	**18 46 19.0**	**-0.1**
	baz=305						
WCI	**Wyandotte Cave**	**127.32**	**40**		**PKPdf**	**18 46 18.2**	**-0.4**
D56A	**ZEC Mazanza, M**	**127.43**	**25**	P	**PKiKP**	**18 46 19.1**	**0.0**
	baz=322						
WVT	**Waverly**	**127.46**	**43**	PKIKP	**PKiKP**	**18 46 19.5**	**0.0**
WVT	**Waverly**	**127.46**	**43**	P	**PKPdf**	**18 46 19.2**	**+0.3**
	baz=302						
WVT	**Waverly**	**127.46**	**43**		**PKiKP**	**18 46 19.5**	**0.0**
PCBR	**Castelo Branco**	**127.89**	**323**	*e*PKPdf	**PKiKP**	**18 46 20.5**	**+0.3**
PMRV	**Marv??o**	**128.09**	**322**	*e*PKPdf	**PKiKP**	**18 46 21.3**	**+0.7**
PCAS	**Casmilo, Conde**	**128.37**	**324**	*e*PKPdf	**PKiKP**	**18 46 21.5**	**+0.3**
U49A	**Red Boiling Sp**	**128.64**	**42**		**PKPdf**	**18 46 21.0**	**-0.1**
EVO	**Evora**	**129.03**	**322**	*e*PKPdf	**PKiKP**	**18 46 23.8**	**+1.3**
PBEJ	**Beja**	**129.25**	**321**	*e*PKPdf	**PKiKP**	**18 46 24.2**	**+1.2**
P53A	**Whipple**	**129.58**	**36**		**PKiKP**	**18 46 23.5**	**-0.1**
PCVE	**Castro Verde**	**129.60**	**321**	*e*PKPdf	**PKiKP**	**18 46 24.6**	**+0.9**
PNCL	**Nicolau / Gran**	**129.61**	**322**	*e*PKPdf	**PKiKP**	**18 46 23.9**	**+0.2**
LRAL	**Lakeview Retre**	**129.67**	**46**	P	**PKiKP**	**18 46 23.6**	**-0.3**
	baz=301						
O54A	**Avella**	**129.70**	**35**	P	**PKiKP**	**18 46 24.0**	**+0.2**
	baz=312						
PBDV	**Barranco-do-Ve**	**129.76**	**321**	*e*PKPdf	**PKiKP**	**18 46 26.0**	**+1.9**
NCB	**Newcomb**	**130.08**	**27**	PKPdf	**PKPdf**	**18 46 22.4**	**-1.3**
MORF	**Marmelete**	**130.18**	**321**	*e*PKPdf	**PKiKP**	**18 46 26.3**	**+1.4**
TKL	**Tuckaleechee C**	**130.46**	**41**	PKP	**PKiKP**	**18 46 25.3**	**-0.1**
	comp=Z,7.8nm,0.6s,baz=152,slow=5.4,SNR=12						
TKL	**Tuckaleechee C**	**130.46**	**41**	PKIKP	**PKPdf**	**18 46 24.6**	**0.0**
TKL	**Tuckaleechee C**	**130.46**	**41**		**PKPdf**	**18 46 24.6**	**0.0**
TOA0	**Torodi Ar. Sit**	**131.53**	**287**	PKPdf	**PKPdf**	**18 46 27.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**131.53**	**287**	PKP	**PKPdf**	**18 46 27.4**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=62,slow=2.2,SNR=15						
TORD	**Torodi Ar. Bea**	**131.53**	**287**	PKPdf	**PKPdf**	**18 46 27.0**	**-0.2**
PLCA	**Paso Flores**	**132.85**	**154**	PKP	**PKiKP**	**18 46 30.4**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=197,slow=2.5,SNR=13						
PLCA	**Paso Flores**	**132.85**	**154**		**PKiKP**	**18 46 30.7**	**+0.4**
KIC	**Kosan Boka**	**138.81**	**279**	*e*PKP1	**PKPdf**	**18 46 40.6**	**-0.2**
	comp=Z,21nm,1.2s						
DBIC	**Dimbokro**	**138.89**	**279**	PKP	**PKPdf**	**18 46 41.8**	**+0.8**
	comp=Z,8.3nm,1.0s,baz=46,slow=4.6,SNR=3.2						
TIC	**Toumodi**	**139.05**	**279**	*e*PKP1	**PKPdf**	**18 46 41.0**	**-0.3**
LIC	**Lamto**	**139.11**	**279**	*e*PKP1	**PKPdf**	**18 46 40.1**	**-1.3**
	comp=Z,19nm,1.0s						
AC01	**Pan de Azucar**	**143.97**	**140**		**PKPdf**	**18 46 49.4**	**-0.4**
BCIP	**Isla Barro Col**	**144.99**	**75**	PKIKP	**PKPdf**	**18 46 52.0**	**+0.2**
BCIP	**Isla Barro Col**	**144.99**	**75**		**PKPdf**	**18 46 52.0**	**+0.2**
PB14	**IPOC Station P**	**145.15**	**138**		**PKPdf**	**18 46 53.8**	**+1.5**
GO02	**Mina Guanaco**	**145.31**	**140**		**PKPdf**	**18 46 53.6**	**+1.1**
OTAV	**Otavalo**	**147.21**	**91**	*e*P	**PKPbc**	**18 46 58.5**	**0.0**
OTAV	**Otavalo**	**147.21**	**91**	PKP2	**PKPbc**	**18 46 59.3**	**+0.8**
OTAV	**Otavalo**	**147.21**	**91**		**PKPbc**	**18 46 59.3**	**+0.8**
LVC	**Limon Verde**	**147.51**	**137**	PKP2	**PKPbc**	**18 46 58.6**	**-0.3**
LVC	**Limon Verde**	**147.51**	**137**		**PKPbc**	**18 46 58.6**	**-0.3**
TA01	**Diego Aracena**	**147.94**	**133**		**PKPdf**	**18 46 57.3**	**+0.6**
PB01	**IPOC Station P**	**148.14**	**134**		**PKPdf**	**18 46 58.1**	**+1.0**
GCUF	**Volcan Galeras**	**148.32**	**89**	*e*P	**PKiKP**	**18 47 03.1**	**-0.1**
BBAC	**Balboa, Cauca**	**148.40**	**87**	*e*P	**PKPdf**	**18 46 57.9**	**0.0**
PB11	**IPOC Station P**	**148.83**	**132**		**PKPdf**	**18 47 00.1**	**+1.7**
PB11				PKPbc	**PKPbc**	**18 47 03.6**	**0.0**
POPC	**Popayan, Colom**	**148.95**	**86**	*e*P	**PKPbc**	**18 47 02.1**	**-0.7**
MOTC	**Monteria, Cord**	**149.10**	**74**	*e*P	**PKPbc**	**18 47 01.9**	**-1.0**
YOTC	**Yotoco, Valle**	**149.19**	**84**	*e*P	**PKPbc**	**18 47 02.4**	**-0.8**
PCON	**Cinco Dias**	**149.24**	**87**	*e*P	**PKPbc**	**18 47 04.2**	**+0.3**
SJCC	**San Jacinto, C**	**149.29**	**72**	*e*P	**PKPbc**	**18 47 03.3**	**-0.1**
CBOC	**Ciudad Bolivar**	**149.30**	**80**	*e*P	**PKPbc**	**18 47 02.7**	**-0.9**
UREC	**San Jos de Ur**	**149.44**	**76**	*e*P	**PKPbc**	**18 47 03.6**	**-0.2**
MARP	**Paez Belalcaza**	**149.66**	**86**	*e*P	**PKiKP**	**18 47 05.6**	**-0.1**
SMRC	**Santa Marta, M**	**149.83**	**69**	*e*P	**PKPbc**	**18 47 03.7**	**-1.0**
FLOC	**Florencia**	**150.00**	**88**	*e*P	**PKPbc**	**18 47 05.0**	**-0.2**
GUY2C	**Guyana, Caldas**	**150.02**	**81**	*e*P	**PKPbc**	**18 47 05.5**	**-0.3**
TOLC	**Tolima**	**150.14**	**82**	*e*P	**PKPdf**	**18 47 01.9**	**+1.1**
ZARC	**Zaragoza, Cauc**	**150.15**	**76**	*e*P	**PKPdf**	**18 47 00.2**	**-0.3**
BETC	**Betania**	**150.18**	**86**	*e*P	**PKPdf**	**18 47 02.1**	**+1.6**
ORTC	**Ortega, Tolima**	**150.28**	**84**	*e*P	**PKPdf**	**18 47 01.1**	**+0.4**
SMLC	**San Martn de**	**150.62**	**73**	*e*P	**PKPdf**	**18 47 03.1**	**+2.0**
PRAC	**Prado**	**150.66**	**84**	*e*P	**PKiKP**	**18 47 07.2**	**-0.3**
DR12	**Loma Pena Alta**	**150.67**	**51**	PKPdf	**PKPdf**	**18 46 57.6**	**-3.5**
DR12					**PKPbc**	**18 47 06.2**	**-0.4**
PTBC	**PUERTO BERRIO**	**150.72**	**78**	*e*P	**PKPbc**	**18 47 05.6**	**-1.3**
ROSC	**El Rosal**	**151.10**	**81**	PKP	**PKPdf**	**18 47 04.0**	**+1.6**
	comp=Z,55nm,0.9s,baz=109,slow=20,SNR=4.3						
ROSC				PKPbc	**PKiKP**	**18 47 09.6**	**+0.8**
	comp=Z,67nm,0.7s,baz=141,slow=3.1,SNR=22						
ROSC	**El Rosal**	**151.10**	**81**	*e*P	**PKiKP**	**18 47 08.7**	**-0.1**
SPBC	**San Pablo de B**	**151.24**	**80**	*e*P	**PKPbc**	**18 47 05.3**	**-2.9**
CHIC	**Chingaza**	**151.71**	**82**	*e*P	**PKPbc**	**18 47 08.7**	**-1.0**
URIC	**Uribia, Colomb**	**151.72**	**66**	*e*P	**PKPbc**	**18 47 09.2**	**+0.1**
MACC	**Macarena, Meta**	**151.79**	**87**	*e*P	**PKPbc**	**18 47 08.9**	**-0.4**
VILC	**Villavicencio,**	**151.81**	**83**	*e*P	**PKiKP**	**18 47 09.8**	**-0.1**
LPAZ	**La Paz**	**152.06**	**128**	PKP	**PKPdf**	**18 47 05.9**	**+1.9**
	comp=Z,5.6nm,1.0s,baz=28,slow=2.6,SNR=14						
LPAZ				PKPbc	**pPKPdf**	**18 47 12.3**	**-0.2**
	comp=Z,29nm,0.9s,baz=337,slow=2.1,SNR=46						
RUSC	**La Rusia**	**152.17**	**79**	*e*P	**PKPbc**	**18 47 10.3**	**-0.5**
PAMC	**Pamplona, Colo**	**152.28**	**76**	*e*P	**PKiKP**	**18 47 11.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**152.87**	**50**	PKPdf	**PKPdf**	**18 47 02.0**	**-2.3**
CRPR					**PKPbc**	**18 47 11.2**	**-0.4**
MLPR	**Magueyes Islan**	**152.94**	**50**		**PKPbc**	**18 47 11.3**	**-0.5**
BDFB	**Brasilia**	**163.48**	**172**	PKP	**PKPdf**	**18 47 18.6**	**+1.1**
	comp=Z,6.8nm,0.9s,baz=1.0,slow=4.6,SNR=7.0						
BDFB				PKPab	**PKPab**	**18 48 10.3**	**+2.0**
	comp=Z,2.5nm,0.6s,baz=208,slow=25,SNR=3.2						

DDA ***20*** *19:06:30.1, 41.°51N×44.°01E, h7km±5km, ML1.9*
TIF ***20*** *19:06:30.4, 41.°47N×44.°02E, h12km±1km*
NORS ***20*** *19:06:33.0±0.0, 41.°53N×43.°98E, h1km, MPVA3.5*

ISC 20 19:06:30.3±0.9, 41.°44N±0.°02×44.°02E±0.°02, h16km±6km, n25, σ0=84/47, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRLG	**Trialeti**	**0.12**	**31**	P	**Pg**	**19 06 33.8**	**-0.4**
TRLG				S	**Sg**	**19 06 35.5**	**-1.1**
DMNI	**Dmanisi**	**0.17**	**130**	P	**Pg**	**19 06 35.3**	**+0.6**
DMNI				S	**Sb**	**19 06 38.2**	**-0.2**
KZRT	**Kazreti**	**0.29**	**100**	*i* P	**Pg**	**19 06 37.1**	**+0.5**
KZRT				*i* S

comp=E,141nm,0.2s
ZEDA IAML 19 57 51.0
comp=N,183nm,0.2s
BAYC CANAKKALE_Bayr 0.84 17 *i* P **Pb** **19 57 42.0 -0.8**
BAYC *i* S **Sn** **19 57 55.5 -0.1**
BAYC IAML 19 57 56.0
comp=E,308nm,0.5s
BAYC IAML 19 57 57.0
comp=N,262nm,0.3s
BLCB Balcova 0.84 131 P **Pb** **19 57 42.9 +0.1**
BLCB S **Sg** **19 57 54.4 +0.3**
BLCB Balcova 0.84 131 PG **Pb** **19 57 42.9 +0.1**
BOZC Bozcaada 0.91 351 PG **Pb** **19 57 43.9 -0.1**
BOZC Bozcaada 0.91 351 *i* P **Pb** **19 57 43.7 -0.3**
BOZC *i* S **Sn** **19 57 57.2 -0.3**
BOZC IAML 19 57 58.0
comp=N,340nm,0.2s
BOZC IAML 19 57 58.0
comp=E,428nm,0.3s
GMLD Gumuldur 1.01 148 PG **Pn** **19 57 46.1 0.0**
DGB zmir 1.02 150 *i* P **Pb** **19 57 45.6 -0.2**
DGB IAML 19 58 00.0
comp=N,84nm,0.3s
DGB *i* S **Sg** **19 58 00.0 +0.2**
DGB IAML 19 58 03.0
comp=E,107nm,0.2s
EFSA Agios Efstrati 1.14 302 P **Pn** **19 57 47.8 0.0**
AKHS Akhisar 1.24 92 *i* P **Pg** **19 57 50.5 0.0**
AKHS *i* S **Sg** **19 58 06.8 +0.2**
AKHS IAML 19 58 08.0
comp=E,49nm,0.3s
AKS Akhisar 1.24 92 PN **Pg** **19 57 50.2 -0.3**
LIA Limnos Island 1.25 320 P **Pn** **19 57 49.6 +0.2**
LIA S **Sn** **19 58 05.9 0.0**
comp=E,148nm,0.4s
LIA Limnos Island 1.25 320 P **Pb** **19 57 49.7 -0.1**
LIA S **Sn** **19 58 06.0 +0.1**
LIA AML AML 19 58 08.1
comp=E,310µm,0.6s
LIA AML AML 19 58 08.9
comp=N,287µm,0.2s
GOKA anakkale-Gk 1.27 349 *i* P **Pb** **19 57 50.5 +0.3**
GOKA *i* S **Sg** **19 58 07.7 -0.2**
GOKA IAML 19 58 08.0
comp=E,420nm,0.5s
GOKA IAML 19 58 09.0
comp=N,391nm,0.5s
GADA Gvkgeada 1.28 349 P **Pb** **19 57 50.0 -0.2**
GADA S **Sn** **19 58 07.0 +0.6**
comp=N,145nm,0.3s
GADA Gvkgeada 1.28 349 PN **Pb** **19 57 50.4 +0.2**
GOKC Gokceada-Canak 1.28 349 PN **Pb** **19 57 50.6 +0.3**
SKY Skiros Island 1.31 268 P **Pb** **19 57 51.3 +0.5**
SMG Samos 1.32 159 P **Pn** **19 57 50.3 0.0**
SMG S **Sg** **19 58 08.7 -0.5**
comp=N,350nm,0.3s
SMG Samos 1.32 159 P **Pn** **19 57 50.0 -0.3**
SMG S **Sg** **19 58 08.7 -0.5**
SMG AML AML 19 58 12.1
comp=E,723µm,0.4s
SMG AML AML 19 58 12.9
comp=N,673µm,0.3s
BALB Balikesir 1.46 61 PN **Pn** **19 57 52.4 +0.2**
GCAM G?zelcaml? 1.47 147 PN **Pb** **19 57 53.7 +0.3**
GCAM G?zelcaml? 1.47 147 *i* P **Pb** **19 57 53.8 +0.4**
GCAM *i* S **Sg** **19 58 14.6 +0.6**
GCAM IAML 19 58 17.0
comp=N,68nm,0.7s
GCAM IAML 19 58 19.0
comp=E,45nm,0.3s
GELI Tayfur-Gelibol 1.47 7 PN **Pb** **19 57 53.1 -0.4**
LPK Lapseki 1.49 16 PN **Pb** **19 57 53.5 -0.4**
GONE Gonen-Balikesi 1.58 45 PN **Pb** **19 57 54.9 -0.5**
SMTH Samothraki Isl 1.62 341 P **Pn** **19 57 55.0 +0.5**
SMTH Samothraki Isl 1.62 341 P **Pn** **19 57 54.8 +0.3**
SMTH AML AML 19 58 21.6
comp=N,107µm,0.3s
SMTH AML AML 19 58 21.9
comp=E,129µm,0.4s
AYDB Zeytinkoy-Aydi 1.64 127 PN **Pb** **19 57 55.8 -0.7**
KNL Balıkesir 1.67 37 *i* P **Pn** **19 57 55.7 +0.6**
KRBG Karabiga-Canak 1.67 29 PN **Pb** **19 57 56.1 -0.8**
KARY Karystos 1.67 238 P **Pn** **19 57 54.6 -0.5**
KYMI Kymi, Euboea I 1.69 260 P **Pn** **19 57 55.3 -0.1**
ERIK Erikli-Kesan 1.74 7 PN **Pb** **19 57 57.2 -1.0**
ENEZ Enez 1.80 358 P **Pb** **19 57 58.3 -0.8**
ENEZ S **Sb** **19 58 20.7 -0.6**
comp=E,122nm,0.5s
ENEZ Enez 1.80 358 PN **Pb** **19 57 58.3 -0.8**
DURS Dursunbey 1.86 68 *i* P **Pn** **19 57 58.2 +0.4**
DURS IAML 19 58 26.0
comp=N,34nm,0.3s
DURS IAML 19 58 27.0
comp=E,54nm,0.6s
EDC Edincik 1.89 41 PN **Pn** **19 57 58.8 +0.7**
RKY Sarkoy-Tekirda 1.89 22 PN **Pn** **19 57 59.5 +1.3**
MAR6 Marsite Statio 1.94 24 PN **Pn** **19 58 00.0 +1.2**
APE Apeiranthos 1.95 197 P **Pn** **19 57 58.6 -0.3**
APE Apeiranthos 1.95 197 PN **Pn** **19 58 00.2 +1.2**
KULA Kula-Manisa 1.95 102 PN **Pn** **19 58 00.4 +1.4**
ALN Alexandroupoli 1.96 356 P **Pn** **19 57 59.9 +0.8**
ALN S **Sn** **19 58 23.6 +0.3**
comp=E,38nm,0.4s
ALN Alexandroupoli 1.96 356 P **Pn** **19 57 59.8 +0.7**
ALN S **Sn** **19 58 22.6 -0.7**
ALN AML AML 19 58 30.6
comp=E,98µm,0.3s
ALN AML AML 19 58 33.2
comp=N,53µm,0.4s
ALN Alexandroupoli 1.96 356 PN **Pn** **19 58 00.2 +1.1**
MAR2 Marsite Statio 1.96 25 PN **Pn** **19 58 00.2 +1.1**
MRMT Marmara Adasi 1.97 32 PN **Pn** **19 58 00.1 +0.8**
MAR3 Marsite Statio 1.98 24 PN **Pn** **19 58 00.6 +1.2**
DION Dionisos Attik 2.00 245 P **Pn** **19 57 59.8 +0.2**
MAR4 Marsite Statio 2.02 24 PN **Pn** **19 58 01.3 +1.2**
MAR9 Marsite Statio 2.03 34 PN **Pn** **19 58 01.4 +1.4**
THAS Thassos island 2.03 326 P **Pn** **19 58 00.6 +0.5**
THAS S **Sn** **19 58 23.8 -1.3**
comp=N,32nm,0.3s
THAS Thassos island 2.03 326 P **Pn** **19 58 00.4 +0.3**
THAS S **Sn** **19 58 23.9 -1.2**
THAS AML AML 19 58 34.9
comp=E,63µm,0.4s
THAS AML AML 19 58 35.8
comp=N,68µm,0.3s
MLSB Milas 2.04 143 PN **Pb** **19 58 01.9 -1.4**
BODT Bodrum 2.06 155 PN **Pn** **19 58 02.0 +1.5**
AMGA Amorgos Island 2.12 187 P **Pn** **19 58 00.7 -0.6**
SIMA Simav-Kutahya 2.15 85 PN **Pn** **19 58 03.5 +1.7**
PAIG Paliouri 2.21 297 P **Pn** **19 58 03.1 +0.6**
SERI Serifos 2.25 218 P **Pn** **19 58 03.5 +0.5**
RDO Rodhopi 2.27 347 P **Pn** **19 58 04.0 +0.7**
RDO Rodhopi 2.27 347 P **Pn** **19 58 03.3 -0.1**
RDO S **Sn** **19 58 29.7 -1.2**
IOSP Ios island 2.33 199 P **Pn** **19 58 03.5 -0.7**
KAVA Kavala 2.44 328 P **Pn** **19 58 06.4 +0.7**
MDNY Mudanya-Bursa 2.50 54 PN **Pn** **19 58 08.5 +2.0**
TVSB Tavsanli 2.56 77 PN **Pn** **19 58 08.8 +1.3**
ARMT Armutlu 2.60 50 PN **Pn** **19 58 09.9 +2.0**

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*BEO **20** 20:22:09.2±1.7,38°.98N×18°.81E,h28km±1km,ML3.4/3*
*THE **20** 20:22:10.4,39°.23N×18°.84E,h0km±2km,ML3.2/10,Error ellipse: s-maj=3.3km s-min=1.1km az=286.0*
*IDC **20** 20:22:10.2±1.6,39°.39N×18°.96E,h0km,mb3.3/4, mb1 3.5/13,mb1mx3.4/56,mbtmp3.4/13,ML3.4/8,MS3.2/1, Ms1 3.2/1,ms1mx2.2/31,Error ellipse: s-maj=23.3km s-min=17.1km az=14.0*
*TIR **20** 20:22:10.5,39°.24N×18°.82E,h42km±2km,Md3.6,Ml3.5*
ISC 20 20:22:12.0±1.1,39°.14N±0°.03×18°.86E±0°.03,h33km±6km, n107,σ2°29/141,mb3.4/4,3C-2D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.92**	**52**	P	**Pb**		**20 22 27.0**	**-2.6**
KEK				S	**Sb**		**20 22 40.5**	**-1.1**
	3µm,0.5s							
SCTE	**Santa Cesarea**	**0.97**	**342**	P	**Pb**		**20 22 28.2**	**-2.2**
	baz=343							
SCTE				S	**Sb**		**20 22 41.0**	**-2.0**
	baz=343							
SRN	**Sarande**	**1.15**	**50**	P	**Pn**		**20 22 30.8**	**-1.0**
SRN				S	**Sn**		**20 22 47.5**	**+1.1**
	602nm,0.5s							
SRN	**Sarande**	**1.15**	**50**	P	**Pn**		**20 22 31.0**	**-0.8**
	baz=54							
SRN				S	**Sn**		**20 22 47.6**	**+1.3**
	baz=54							
SRN				AMP				
	comp=E,2.3nm,0.5s,baz=54							
IGT	**Igoumenitsa**	**1.21**	**71**	P	**Pb**		**20 22 33.0**	**-1.3**
IGT				S	**Sn**		**20 22 49.8**	**+1.9**
	comp=E,712nm,0.5s							
IGT	**Igoumenitsa**	**1.21**	**71**	*e*Pg	**Pb**		**20 22 33.1**	**-1.3**
IGT				*e*Sg	**Sn**		**20 22 50.4**	**+2.5**
IGT	**Igoumenitsa**	**1.21**	**71**	P	**Pb**		**20 22 33.0**	**-1.3**
	baz=75							
IGT				S	**Sn**		**20 22 50.2**	**+2.3**
	baz=75							
VLO	**Vlora**	**1.41**	**20**	P	**Pb**		**20 22 36.1**	**-1.7**
VLO	**Vlora**	**1.41**	**20**	P	**Pb**		**20 22 36.0**	**-1.7**
	baz=22							
VLO				S	**Sb**		**20 22 53.6**	**-1.8**
	baz=22							
DRAG	**Dragano-Lefkad**	**1.42**	**108**	P	**Pb**		**20 22 37.4**	**-0.5**
DRAG				S	**Sb**		**20 22 59.2**	**+3.6**
	comp=E,3µm,0.4s							
TSLK	**Tsoukalades, L**	**1.44**	**102**	P	**Pb**		**20 22 37.9**	**-0.3**
TSLK				S	**Sb**		**20 22 59.2**	**+3.1**
	comp=E,950nm,0.8s							
LKD2	**Lefkada island**	**1.45**	**104**	P	**Pb**		**20 22 38.1**	**-0.3**
LKD2				S	**Sb**		**20 22 59.0**	**+2.5**
	comp=E,1µm,0.5s							
LKD2	**Lefkada island**	**1.45**	**104**	P	**Pb**		**20 22 37.9**	**-0.5**
	baz=106							
LKD2				S	**Sb**		**20 22 58.0**	**+1.5**
	baz=106							
DMLN	**Damoulianata-K**	**1.49**	**127**	P	**Pb**		**20 22 39.4**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.50**	**106**	P	**Pb**		**20 22 38.4**	**-0.8**
NYDR				S	**Sb**		**20 23 00.9**	**+3.0**
	comp=E,975nm,0.6s							
VLS	**Valsamata**	**1.66**	**125**	P	**Pb**		**20 22 41.0**	**-1.1**
LSK	**Leskovik**	**1.68**	**53**	P	**Pn**		**20 22 39.7**	**+0.5**
	baz=55							
LSK				S	**Sb**		**20 23 01.6**	**-1.6**
	baz=55							
LSK				AMP				
	comp=N,3.5nm,0.7s,baz=55							
TAR1	**Taranto**	**1.84**	**319**	*e*Pn	**Pn**		**20 22 41.0**	**-0.2**
TAR1				(Sn)	**Sb**		**20 23 11.1**	**+3.5**
CGL1	**Ceglie Messapi**	**1.85**	**325**	*e*Pn	**Pn**		**20 22 41.0**	**-0.4**
CGL1				(Sn)	**Sb**		**20 23 13.2**	**+5.4**
KPRO	**Kipourio**	**2.10**	**67**	P	**Pb**		**20 22 47.0**	**-2.5**
NEST	**Nestorio**	**2.11**	**52**	P	**Pb**		**20 22 47.5**	**-2.2**
AXS	**Araxos**	**2.19**	**115**	P	**Pb**		**20 22 48.8**	**-2.1**
AXS				S	**Sb**		**20 23 18.1**	**+0.5**
	comp=N,330nm,0.6s							
MATE	**Matera**	**2.24**	**313**	⇑P	**Pb**		**20 22 50.7**	**-1.0**
EVR	**Evrytania**	**2.31**	**95**	P	**Pb**		**20 22 50.7**	**-2.4**
EVR				S	**Sb**		**20 23 21.6**	**+0.4**
	comp=N,225nm,0.7s							
RLS	**Riolos of Patr**	**2.31**	**117**	P	**Pb**		**20 22 51.0**	**-2.1**
TIR	**Tirane**	**2.33**	**19**	*e*Pn	**Pn**		**20 22 48.6**	**+0.5**
TIR				*e*Sg	**Sb**		**20 23 29.0**	**+7.2**
TIR	**Tirane**	**2.33**	**19**	⇑P	**Pn**		**20 22 46.8**	**-1.3**
TIR	**Tirane**	**2.33**	**19**	P	**Pn**		**20 22 46.4**	**-1.6**
	baz=20							
TIR				S	**Sn**		**20 23 17.7**	**+2.1**
	baz=20							
TIR				AMP				
	comp=N,0.7nm,0.7s,baz=20							
OHR	**Ohrid**	**2.46**	**37**	*i* Pn	**Pb**		**20 22 56.3**	**+0.7**
BAI	**Bari**	**2.48**	**323**	*e*Pn	**Pb**		**20 22 55.6**	**-0.3**
BAI				(Sn)	**Sb**		**20 23 31.8**	**+5.8**
THL	**Klokotos Trika**	**2.48**	**79**	P	**Pb**		**20 22 52.7**	**-3.2**
EFP	**Efpalio**	**2.49**	**106**	P	**Pb**		**20 22 53.4**	**-2.6**
KZN	**Kozani**	**2.53**	**62**	P	**Pn**		**20 22 52.8**	**+1.9**
FNA	**Florina**	**2.54**	**49**	P	**Pn**		**20 22 52.2**	**+1.3**
FNA				S	**Sn**		**20 23 23.4**	**+2.7**
	comp=N,248nm,0.8s							
FNA	**Florina**	**2.54**	**49**	*e*Pn	**Pn**		**20 22 51.9**	**+1.0**
FNA	**Florina**	**2.54**	**49**	P	**Pn**		**20 22 52.2**	**+1.3**
	baz=51							
FNA				S	**Sn**		**20 23 23.4**	**+2.7**
	baz=51							
KLV	**Kalavryta, Ach**	**2.80**	**112**	P	**Pb**		**20 22 57.7**	**-3.8**
PHP	**Peshkopia**	**2.81**	**25**	P	**Pn**		**20 22 55.0**	**+0.3**
PHP	**Peshkopia**	**2.81**	**25**	P	**Pn**		**20 22 54.8**	**+0.1**
	baz=26							
PHP				S	**Sn**		**20 23 28.9**	**+1.4**
	baz=26							
DSF	**Desfina**	**2.96**	**103**	P	**Pb**		**20 23 00.6**	**-3.5**
LIT	**Litokhoron**	**2.96**	**70**	P	**Pn**		**20 22 58.5**	**+1.7**
GUR	**Goura**	**2.99**	**113**	P	**Pb**		**20 23 00.9**	**-3.7**
AXAR	**Agios Charalam**	**2.99**	**96**	P	**Pb**		**20 23 00.6**	**-3.9**
PUK	**Puka**	**3.00**	**15**	P	**Pn**		**20 22 58.1**	**+0.8**
	baz=15							
PUK				S	**Sn**		**20 23 34.8**	**+2.6**
	baz=15							
DRME	**Dracevica, Mon**	**3.05**	**5**	*e*Pn	**Pn**		**20 22 56.8**	**-1.1**
ITM	**Ithomi**	**3.11**	**128**	P	**Pb**		**20 23 02.4**	**-4.3**
TRIP	**Tripoli**	**3.13**	**120**	P	**Pb**		**20 23 03.8**	**-3.2**
PYL	**PYLOS**	**3.20**	**134**	P	**Pn**		**20 23 02.4**	**+2.4**
VLX	**Vlachokerasia**	**3.29**	**121**	P	**Pb**		**20 23 06.1**	**-3.6**
PDG	**Podgorica**	**3.30**	**5**	⇓P	**Pn**		**20 23 01.0**	**-0.3**
PDG	**Podgorica**	**3.30**	**5**	*e*Pn	**Pn**		**20 23 00.3**	**-1.0**
HCY	**Herceg Novi**	**3.31**	**355**	*e*Pn	**Pn**		**20 22 59.6**	**-1.9**
XOR	**Xorichti**	**3.37**	**85**	P	**Pn**		**20 23 06.0**	**+3.6**
NEO	**Neokhori**	**3.39**	**86**	P	**Pn**		**20 23 05.7**	**+3.0**
SKO	**Skopje**	**3.44**	**34**	*i* Pn	**Pn**		**20 23 03.8**	**+0.5**
VAY	**Valandovo**	**3.58**	**51**	*i* Pn	**Pn**		**20 23 05.0**	**-0.2**
PLG	**Polygyros**	**3.74**	**69**	P	**Pn**		**20 23 08.4**	**+0.9**
BRY	**Bratogost**	**3.76**	**356**	*e*Pn	**Pn**		**20 23 04.7**	**-3.2**
KRND	**KRANIDI**	**3.81**	**116**	P	**Pn**		**20 23 12.3**	**+3.9**
VAE	**Valguarnera**	**3.87**	**246**	Pn	**Pb**		**20 23 15.9**	**-3.7**
	comp=N,0.3nm,0.3s,baz=356,slow=19,SNR=1.7							
VAE				Sn	**Sn**		**20 23 54.5**	**+0.7**
	comp=N,1.0nm,0.3s,baz=259,slow=9.3,SNR=4.4							
VLI	**Veliai**	**4.03**	**126**	P	**Pn**		**20 23 15.4**	**+3.9**
UPM	**Unac-Piva**	**4.05**	**0**	*e*Pn	**Pn**		**20 23 11.8**	**-0.1**
VLY	**Voula,Athens**	**4.08**	**107**	P	**Pn**		**20 23 14.5**	**+2.4**
SRS	**Serrai**	**4.13**	**60**	*e*Pn	**Pn**		**20 23 11.9**	**-0.9**
SJES	**Sjenica**	**4.20**	**11**	*e*Pn	**Pn**		**20 23 14.1**	**+0.3**
BARS	**Barje**	**4.30**	**30**	*e*Pn	**Pn**		**20 23 15.4**	**+0.3**
BOSS	**Bosilegrad**	**4.33**	**38**	*e*Pn	**Pn**		**20 23 15.4**	**-0.2**
KTHA	**Kythira Island**	**4.41**	**130**	P	**Pn**		**20 23 20.6**	**+4.0**
SELS	**Selova**	**4.41**	**22**	*e*Pn	**Pn**		**20 23 17.1**	**+0.4**
BBLS	**Lazići**	**4.74**	**5**	*e*Pn	**Pn**		**20 23 21.5**	**+0.3**
BBLS	**Lazići**	**4.74**	**5**	*e*Pn	**Pn**		**20 23 20.4**	**-0.8**
GRUS	**Gruza**	**4.94**	**16**	*e*Pn	**Pn**		**20 23 24.0**	**+0.1**
BOVS	**Bovan**	**4.97**	**25**	*e*Pn	**Pn**		**20 23 24.0**	**-0.3**
ZAPS	**Zavoj**	**5.01**	**33**	*e*Pn	**Pn**		**20 23 24.0**	**-0.9**
DIVS	**Divibare**	**5.02**	**9**	*e*Pn	**Pn**		**20 23 24.7**	**-0.4**
DIVS	**Divibare**	**5.02**	**9**	*e*Pn	**Pn**		**20 23 24.9**	**-0.2**
TRUS	**Trudelj**	**5.21**	**12**	*e*Pn	**Pn**		**20 23 26.0**	**-1.6**
ZAGS	**Zajecar**	**5.31**	**27**	*e*Pn	**Pn**		**20 23 27.7**	**-1.3**
MGRS	**Mrkonjic Grad**	**5.43**	**346**	*e*Pn	**Pb**		**20 23 45.3**	**-0.8**
BLY	**Banja Luka**	**5.74**	**348**	*e*Pn	**Pn**		**20 23 34.7**	**-0.2**
FRGS	**Fruska Gora**	**6.05**	**6**	*e*Pn	**Pn**		**20 23 38.0**	**-1.2**
FRGS	**Fruska Gora**	**6.05**	**6**	*e*Pn	**Pn**		**20 23 37.7**	**-1.5**
IDI	**Anoyia**	**6.16**	**127**	Pn	**Pn**		**20 23 43.1**	**+2.3**
	comp=N,1.2nm,0.3s,baz=333,slow=15,SNR=13							
IDI				Sn	**Sn**		**20 24 50.0**	**-0.2**
	comp=N,1.6nm,0.3s,baz=305,slow=19,SNR=2.0							
BZS	**Buzias**	**6.78**	**17**	⇑P	**Pn**		**20 23 48.5**	**-0.7**
CRES	**Cresnjev**	**7.13**	**340**	*e*Pn	**Pn**		**20 23 53.6**	**-0.4**
CEY	**Cerknica**	**7.36**	**335**	*e*Pn	**Pn**		**20 23 56.6**	**-0.5**
VOIR		**7.78**	**34**	⇓P	**Pn**		**20 24 04.9**	**+1.9**
OBKA	**Obir**	**8.01**	**338**	*e*Pn	**Pn**		**20 24 06.2**	**+0.1**
	comp=N,1.6nm,0.3s							
OBKA				*e*Sn	**Sn**		**20 25 32.3**	**-3.3**
	comp=N,8.3nm,0.6s							
SOKA	**Soboth**	**8.04**	**341**	*e*Pn	**Pn**		**20 24 05.8**	**-0.7**
	comp=N,1.7nm,0.4s,SNR=5.8							
SOKA				*e*Sn	**Sn**		**20 25 31.0**	**-5.2**
	comp=N,1.9nm,0.6s							
MLR	**Muntele Rosu**	**8.23**	**37**	Pn	**Pn**		**20 24 09.4**	**+0.2**
	comp=N,0.1nm,0.3s,baz=176,slow=13,SNR=2.1							
ARSA	**Arzberg**	**8.46**	**344**	*e*Pn	**Pn**		**20 24 11.4**	**-0.8**
	comp=N,0.7nm,0.2s							
ABTA	**Abfaltersbach**	**8.91**	**331**	*e*Pn	**Pn**		**20 24 17.6**	**-0.9**
	comp=N,2.5nm,0.4s,SNR=7.4							
ABTA				*e*Sn	**Sn**		**20 25 54.2**	**-3.4**
	comp=N,5.2nm,0.8s							
WTTA	**Wattenberg**	**9.67**	**329**	*e*Pn	**Pn**		**20 24 29.5**	**+0.5**
	comp=N,1.2nm,0.4s							
WTTA				*e*Sn	**Sn**		**20 26 14.9**	**-1.6**
	comp=N,2.7nm,0.5s							
WATA	**Walderalm**	**9.76**	**329**	*i* Pn	**Pn**		**20 24 31.0**	**+0.9**
	comp=N,0.7nm,0.2s							
WATA				*e*Sn	**Sn**		**20 26 16.4**	**-2.1**
	comp=N,1.2nm,0.4s							
DAVOX	**Davos/Dischmat**	**10.07**	**322**	Pn	**Pn**		**20 24 35.3**	**+0.8**
	comp=N,0.4nm,0.3s,baz=177,slow=19,SNR=3.1							
DAVOX				Sn	**Sn**		**20 26 28.2**	**+1.9**
	comp=N,0.1nm,0.3s,baz=342,slow=20,SNR=1.9							
GERES	**GERESS Array B**	**10.38**	**341**	Pn	**Pn**		**20 24 37.0**	**-1.6**
	comp=N,0.1nm,0.3s,baz=150,slow=12,SNR=3.8							
GERES				Sn	**Sn**		**20 26 26.0**	**-7.8**
	comp=N,0.2nm,0.3s,baz=155,slow=24,SNR=4.1							
KHC	**Kasperske Hory**	**10.68**	**341**	*e*PN	**Pn**		**20 24 42.9**	**+0.3**
KHC				*e*SN	**Sn**		**20 26 35.0**	**-5.9**
BRTR	**Keskin Array B**	**11.45**	**82**	Pn	**Pn**		**20 24 55.2**	**+1.9**
	comp=N,0.0nm,0.3s,baz=276,slow=6.6,SNR=1.3							
AKASG	**Malin Array Be**	**13.67**	**29**	Pn	**Pn**		**20 25 22.0**	**-1.4**
	comp=N,0.5nm,0.3s,baz=217,slow=12,SNR=2.7							
MMAI	**Mount Meron Ar**	**14.70**	**109**	Pn	**Pn**		**20 25 35.8**	**-1.9**
	comp=N,0.7nm,0.3s,baz=316,slow=12,SNR=4.6							
ESDC	**Sonseca Array**	**17.64**	**279**	P	**P**		**20 26 17.6**	**+1.7**
	comp=N,0.0nm,0.3s,baz=74,slow=9.5,SNR=6.9							
KBZ	**Khabaz**	**18.57**	**68**	P	**Pn**		**20 26 27.2**	**+0.7**
	comp=N,0.1nm,0.3s,baz=267,slow=7.3,SNR=2.2							
HFS	**Hagfors**	**21.26**	**353**	P	**P**		**20 26 54.8**	**-0.4**
	comp=N,2.0nm,0.7s,baz=147,slow=12,SNR=2.2							
EKA	**Eskdalemuir Ar**	**21.89**	**325**	P	**P**		**20 27 03.2**	**+1.3**
	comp=N,0.4nm,0.5s,baz=120,slow=9.9,SNR=3.5							
FINES	**FINESS Array B**	**22.77**	**9**	P	**P**		**20 27 11.9**	**+0.6**
	comp=N,1.0nm,0.7s,baz=171,slow=13,SNR=5.5							
KMBO	**Kilima Mbogo**	**43.49**	**153**	LR	LR		20 49 04.5	
	comp=N,29nm,18.9s,baz=345,slow=37							
MKAR	**Makanchi Array**	**45.91**	**59**	P	**P**		**20 30 32.0**	**+0.6**
	comp=N,0.3nm,0.6s,baz=284,slow=7.3,SNR=2.6							

IDC 20 20:34:43.6±2.1,5°.55S×129°.98E,h221km±26km, mb1 2.8/4,mb1mx2.6/37,mbtmp3.3/4,Error ellipse: s-maj=69.7km s-min=19.2km az=97.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.83**	**15**	P		Pn	20 35 58.1	+1.6
	0.8nm,0.3s,baz=217,slow=20,SNR=11							
SIJI				S		S	20 36 53.7	-0.3
	0.7nm,0.3s,baz=200,slow=22,SNR=6.5							
FITZ	**Fitzroy Crossi**	**13.17**	**198**	P		Pn	20 37 41.0	-1.6
	0.0nm,0.3s,baz=0.0,slow=9.1,SNR=1.6							
WRA	**Warramunga Arr**	**14.92**	**164**	P		Pn	20 38 03.1	-0.9
	0.1nm,0.3s,baz=345,slow=10,SNR=6.3							
ASAR	**Alice Springs**	**18.40**	**169**	P		P	20 38 43.0	+0.5
	0.1nm,0.3s,baz=350,slow=11,SNR=14							
TXAR	**Lajitas Array**	**124.20**	**58**	PKP		PKPdf	20 53 16.4	-0.4
	0.2nm,0.7s,baz=279,slow=2.4,SNR=2.2							

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*IDC **20** 20:50:30.1±1.3,40°.91N×29°.43W,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.5/32,mbtmp3.6/7,MS3.4/18, Ms1 3.4/18,ms1mx3.2/31,Error ellipse: s-maj=46.7km s-min=24.3km az=7.0*
ISC 20 20:50:29.3±2.2,40°.35N±0°.09×29°.3W±0°.1,h8km±14km,n37, σ1°.00/31,mb3.7/6,MS3.4/17,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**1.68**	**142**	*e*P		**Pb**	**20 51 00.0**	**-0.5**
PCED	**Cedros**	**1.79**	**164**	*e*P		**Pg**	**20 51 04.0**	**+0.4**
ROSA	**Rosais**	**1.83**	**153**	*e*P		**Pb**	**20 51 03.1**	**0.0**
ROSA				*e*S		**Sb**	**20 51 26.7**	**+0.5**
ROSA				A		A	20 51 29.7	
	38nm,0.2s							
CALA	**Caldeira**	**1.83**	**165**	*e*P		**Pg**	**20 51 04.6**	**+0.2**
CALA				*e*S		**Sg**	**20 51 27.9**	**-0.3**
CALA				A		A	20 51 29.8	
	156nm,0.3s							
HOR	**Horta**	**1.90**	**163**	*e*S		**Sg**	**20 51 29.4**	**-0.9**
HOR				A		A	20 51 31.4	
	206nm,0.3s							
PMAN	**Manadas**	**1.96**	**151**	*e*P		**Pb**	**20 51 04.8**	**-0.6**
PMAN				*e*S		**Sb**	**20 51 29.6**	**-0.4**
PMAN				A		A	20 51 33.5	
	46nm,0.3s							
PICO	**Pico**	**1.97**	**159**	*e*P		**Pb**	**20 51 06.0**	**+0.4**
PICO				*e*S		**Sg**	**20 51 31.4**	**-1.3**
PICO				A		A	20 51 34.0	
	49nm,0.3s							
PCAN	**Candelaria**	**1.99**	**161**	*e*P		**Pb**	**20 51 06.0**	**+0.1**
PCAN				*e*S		**Sb**	**20 51 31.4**	**+0.5**
PCAN				A		A	20 51 36.4	
	81nm,0.3s							
PPNO	**Prainha do Nor**	**2.05**	**156**	*e*P		**Pb**	**20 51 06.5**	**-0.3**
PPNO				*e*S		**Sb**	**20 51 32.5**	**0.0**
PPNO				A		A	20 51 34.9	
	33nm,0.4s							
ADH	**Angra Heroismo**	**2.34**	**136**	*e*P		**Pn**	**20 51 08.7**	**+0.6**
ADH				*e*S		**Sn**	**20 51 36.3**	**-0.8**
ADH				A		A	20 51 41.6	
	24nm,0.3s							
PSCM	**Serra do Cume**	**2.37**	**133**	*e*P		**Pn**	**20 51 09.5**	**+0.9**
PSCM				*e*S		**Sn**	**20 51 37.4**	**-0.5**
PSCM				A		A	20 51 39.8	
	28nm,0.2s							
PSET	**Sete Cidades**	**3.77**	**131**	*e*P		**Pn**	**20 51 28.5**	**+0.7**
GRON	**Grota Negra**	**3.92**	**130**	*e*P		**Pn**	**20 51 33.4**	**+3.5**
CMLA	**Cha da Macela**	**3.92**	**130**	*e*P		**Pn**	**20 51 31.0**	**+1.0**

δ82.00000°, λ100.00000°. NP2:φs172.00000°, δ13.00000°, λ38.00000°.
BJI **20** 21:14:02.7±0.0, 23.°67N×121.°58E, h10km, mB4.7/23, mb4.2/34, ML4.4/6, Ms4.2/15, Ms7 4.1/15
JMA **20** 21:14:02.5±0.1, 23.°59N×121.°59E, h32km±3km, M4.5
TAP **20** 21:14:03.8, 23.°59N×121.°56E, h32km, ML5.0, B
NEIC **20** 21:14:03.5±2.1, 23.°54N±0.°05×121.°56E±0.°06, h31km±3km, Error ellipse: s-maj=10.0km s-min=5.1km az=127.0
NEIC **20** 21:14:03.1, 23.°53N×121.°58E, h32km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.44; $M_{\theta\theta}$-1.52; $M_{\phi\phi}$0.08; $M_{r\theta}$-0.94; $M_{\theta\phi}$-2.11; $M_{\phi r}$2.20; Fault plane solution: M_o3.52000×10^{15} NP1:φs269.64000°, δ53.37000°, λ150.49000°. NP2:φs18.31000°, δ66.71000°, λ40.51000°. Principal axes: T 3.8460, Plg45.0000°, Azm239.0000°; N -0.7986, Plg44.0000°, Azm43.0000°; P -3.0473, Plg8.0000°, Azm141.0000°;
ASIES **20** 21:14:04.0, 23.°59N×121.°54E, h28km, MW4.2
IDC **20** 21:14:07.2±2.7, 23.°60N×121.°78E, h71km±25km, mb3.8/18, mb1 4.0/20, mb1mx3.9/41, mbtmp4.1/20, MS3.6/13, Ms1 3.6/13, ms1mx3.3/39, Error ellipse: s-maj=19.3km s-min=11.5km az=72.0
ISC 20 21:14:03.6±0.7, **23.°59N**±0.°02×**121.°60E**±0.°02, **h31**km±4km, **n318**, σ1§**03**/428, **mb4.5**/68, **MS3.7**/13, **2C-36D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.17**	**297**	*i* P			**Pb**	**21 14 09.9**	**+0.2**
EGFH	baz=303			S			**Sn**	**21 14 14.2**	**+0.1**
HGSD	**Ruisui**	**0.19**	**239**	⇑*i*P			**Pn**	**21 14 10.3**	**0.0**
HGSD	baz=231			S			**Sn**	**21 14 15.1**	**+0.6**
EHY	**Hungye**	**0.27**	**252**	⇓*i*P			**Pb**	**21 14 10.4**	**-0.3**
EHY	baz=257			*e*S			**Sb**	**21 14 15.1**	**-0.5**
ESL	**Shilin**	**0.27**	**326**	⇓*i*P			**Pb**	**21 14 10.5**	**-0.3**
ESL	baz=329			S			**Sb**	**21 14 15.3**	**-0.4**
YULB	**Yu-li**	**0.34**	**235**	⇓*i*P			**Pb**	**21 14 11.5**	**-0.2**
YULB	baz=241			*i* S			**Sb**	**21 14 16.5**	**-0.7**
YULB	**Yu-li**	**0.34**	**235**				**Pb**	**21 14 11.3**	**-0.4**
EYUL	**Yuli**	**0.35**	**227**	*i* P			**Pb**	**21 14 12.0**	**+0.1**
EYUL	baz=235			*i* S			**Sb**	**21 14 17.4**	**0.0**
TWF1	**Yuli**	**0.36**	**229**	⇓*i*P			**Pb**	**21 14 11.8**	**-0.2**
TWF1	baz=235			S			**Sb**	**21 14 17.2**	**-0.6**
HWA	**Hwalien**	**0.39**	**1**	⇑*i*P			**Pb**	**21 14 12.8**	**+0.4**
HWA	baz=15			*e*S			**Sn**	**21 14 19.9**	**+0.5**
VWDT	**VWDT**	**0.45**	**291**	⇓*i*P			**Pb**	**21 14 13.3**	**0.0**
VWDT	baz=293			*i* S			**Sb**	**21 14 19.9**	**0.0**
FULB	**Fuli**	**0.48**	**216**	*i* P			**Pn**	**21 14 14.2**	**-0.2**
FULB	baz=225			*i* S			**Sn**	**21 14 22.9**	**+1.2**
OWD	**Renai**	**0.53**	**313**	⇓*i*P			**Pb**	**21 14 14.2**	**-0.4**
OWD	baz=316			*e*S			**Sb**	**21 14 21.6**	**-0.6**
CHKT	**Chengkung**	**0.53**	**204**	P			**Pb**	**21 14 14.5**	**-0.1**
CHKT	baz=186			S			**Sn**	**21 14 23.9**	**+0.8**
NACB	**Ninganchiao**	**0.58**	**360**	⇓*i*P			**Pb**	**21 14 14.7**	**-0.6**
NACB	baz=354			S			**Sb**	**21 14 22.8**	**-0.7**
NACB	**Ninganchiao**	**0.58**	**360**				**Pb**	**21 14 14.8**	**-0.6**
YUS	**Yu-Shan**	**0.60**	**261**	P			**Pb**	**21 14 15.6**	**-0.4**
YUS	baz=268			*e*S			**Sn**	**21 14 24.9**	**-0.5**
CHGB	**Renai**	**0.61**	**320**	⇓*i*P			**Pb**	**21 14 15.7**	**-0.3**
CHGB	baz=323			S			**Sb**	**21 14 23.5**	**-0.9**
SSLB	**Suanglung**	**0.62**	**289**	⇓*i*P			**Pb**	**21 14 15.4**	**-0.7**
SSLB	baz=290			S			**Sb**	**21 14 22.9**	**-1.7**
SSLB	**Suanglung**	**0.62**	**289**				**Pb**	**21 14 15.1**	**-1.0**
ETLH	**Xiulin Townshi**	**0.62**	**350**	⇓*i*P			**Pb**	**21 14 15.3**	**-0.8**
ETLH	baz=354			*e*S			**Sb**	**21 14 23.3**	**-1.4**
WHF	**Hehuan Shan**	**0.63**	**331**	⇓*i*P			**Pb**	**21 14 15.7**	**-0.8**
WHF	baz=335			*i* S			**Sb**	**21 14 24.3**	**-1.0**
ELDTW	**Lidau**	**0.67**	**233**	*i* P			**Pb**	**21 14 15.9**	**-1.0**
ELDTW	baz=231			*e*S			**Sb**	**21 14 25.0**	**-0.9**
EDH	**Donghe**	**0.67**	**204**	*i* P			**Pb**	**21 14 16.6**	**-0.3**
EDH	baz=189			S			**Sn**	**21 14 27.4**	**+1.0**
WHYT	**Xinyi Township**	**0.69**	**279**	⇓*i*P			**Pb**	**21 14 17.1**	**-0.1**
WHYT	baz=278			S			**Sb**	**21 14 26.2**	**-0.3**
SMLT	**Sun Moon Lake**	**0.70**	**295**	⇓*i*P			**Pb**	**21 14 17.0**	**-0.5**
SMLT	baz=299			*e*S			**Sb**	**21 14 25.3**	**-1.7**
FUSS	**Fushou**	**0.73**	**334**	⇓*i*P			**Pn**	**21 14 17.5**	**-0.5**
FUSS	baz=336			*e*S			**Sb**	**21 14 26.6**	**-1.2**
ALS	**Alishan**	**0.73**	**264**	⇓*i*P			**Pn**	**21 14 18.0**	**-0.1**
ALS	baz=270			*e*S			**Sb**	**21 14 27.6**	**-0.3**
TYC	**Yuchr**	**0.75**	**295**	⇓*i*P			**Pn**	**21 14 17.6**	**-0.4**
TYC	baz=297			S			**Sn**	**21 14 28.2**	**-0.1**
TDCB	**Techi**	**0.77**	**329**	⇓*i*P			**Pn**	**21 14 18.4**	**-0.2**
TDCB	baz=331			S			**Sb**	**21 14 27.7**	**-1.3**
LONT	**Longtian**	**0.81**	**212**	*e*P			**Pn**	**21 14 17.6**	**-1.3**
LONT	baz=208			*e*S			**Sn**	**21 14 27.8**	**-2.0**
WJS	**Zhushan**	**0.83**	**286**	⇓*i*P			**Pb**	**21 14 19.8**	**+0.3**
WJS	baz=288			S			**Sb**	**21 14 31.1**	**+0.7**
CHN5	**Tsauling**	**0.84**	**271**	⇓*i*P			**Pb**	**21 14 19.9**	**0.0**
CHN5	baz=272			*e*S			**Sb**	**21 14 31.7**	**+0.8**
ENA	**Nanau**	**0.84**	**9**	⇓*i*P			**Pn**	**21 14 18.9**	**-0.5**
ENA	baz=358			*e*S			**Sn**	**21 14 29.9**	**-0.8**
NNSB	**Datong**	**0.86**	**347**	⇓*i*P			**Pn**	**21 14 19.2**	**-0.5**
NNSB	baz=359			*e*S			**Sn**	**21 14 29.8**	**-1.5**
NNSH	**Datong**	**0.86**	**347**	*i* P			**Pn**	**21 14 19.3**	**-0.4**
NNSH	baz=357			*e*S			**Sn**	**21 14 30.0**	**-1.3**
NNS	**Nan Shan**	**0.87**	**346**	P			**Pn**	**21 14 19.6**	**-0.3**
NNS	baz=359			*e*S			**Sn**	**21 14 29.7**	**-1.9**
ENAH	**Nanao**	**0.88**	**13**	*e*P			**Pn**	**21 14 19.9**	**0.0**
ENAH	baz=1.0			*e*S			**Sn**	**21 14 30.7**	**-0.8**
STYT	**Tauyuan**	**0.88**	**241**	*i* P			**Pn**	**21 14 20.1**	**+0.2**
STYT	baz=241			*e*S			**Sn**	**21 14 31.3**	**-0.5**
WNT	**Mingjian**	**0.89**	**289**	⇓*i*P			**Pb**	**21 14 20.7**	**+0.2**
WNT	baz=291			S			**Sb**	**21 14 32.8**	**+0.8**
TWGBT	**Beinan**	**0.90**	**212**	*e*P			**Pn**	**21 14 18.9**	**-1.3**
TWGBT	baz=208			*e*S			**Sn**	**21 14 31.8**	**-0.4**
TWG	**Pinlang**	**0.91**	**212**	P			**Pn**	**21 14 18.8**	**-1.4**
TWG	baz=208			*e*S			**Sn**	**21 14 31.6**	**-0.6**
TWG	**Pinlang**	**0.91**	**212**				**Pn**	**21 14 18.8**	**-1.4**
WHP	**Taichung City**	**0.91**	**319**	⇓*i*P			**Pn**	**21 14 20.5**	**+0.2**
WHP	baz=324			S			**Sn**	**21 14 31.9**	**-0.6**
LDUT	**Ludao**	**0.92**	**187**	*e*P			**Pn**	**21 14 19.1**	**-1.3**
LDUT	baz=174			*e*S			**Sn**	**21 14 31.5**	**-1.0**
TTN	**Taitung**	**0.93**	**207**	*e*P			**Pn**	**21 14 19.8**	**-0.7**
TPUB	**Ta-pu**	**0.93**	**252**	*i* P			**Pb**	**21 14 21.4**	**+0.1**
TPUB	baz=253			*e*S			**Sb**	**21 14 34.3**	**+0.9**
TPUB	**Ta-pu**	**0.93**	**252**				**Pn**	**21 14 20.8**	**+0.1**
CHN4	**Tsaushan**	**0.95**	**256**	⇓*i*P			**Pb**	**21 14 21.7**	**+0.1**
CHN4	baz=257			S			**Sb**	**21 14 34.9**	**+1.0**
WGK	**Gukeng**	**0.95**	**276**	⇓*i*P			**Pb**	**21 14 21.6**	**0.0**
WGK	baz=278			S			**Sb**	**21 14 34.7**	**+0.8**
WTP	**Ta-pu**	**0.97**	**249**	⇓*i*P			**Pb**	**21 14 21.8**	**-0.1**
WTP	baz=250			*i* S			**Sb**	**21 14 35.5**	**+1.2**
WDLH	**Douliu**	**0.98**	**276**	⇓*i*P			**Pb**	**21 14 22.0**	**+0.1**
WDLH	baz=278			*e*S			**Sb**	**21 14 34.9**	**+0.4**
TCU	**Taichung**	**1.01**	**304**	P			**Pb**	**21 14 23.1**	**+0.5**
TCU	baz=305			*e*S			**Sb**	**21 14 37.1**	**+1.6**
NDT	**Datong Townshi**	**1.01**	**356**	P			**Pn**	**21 14 21.6**	**-0.1**
NDT	baz=357			*e*S			**Sn**	**21 14 34.2**	**-0.6**
TWC	**Suao**	**1.04**	**13**	P			**Pn**	**21 14 22.3**	**+0.2**
TWC	baz=27			*e*S			**Sn**	**21 14 35.3**	**-0.3**
ENTT	**Nioudou**	**1.05**	**358**	*i* P			**Pn**	**21 14 22.1**	**-0.1**
ENTT				*e*S			**Sn**	**21 14 34.1**	**-1.6**
SLGT	**Liugui**	**1.06**	**236**	P			**Pb**	**21 14 23.2**	**-0.2**
SLGT	baz=235			S			**Sb**	**21 14 36.9**	**+0.1**
SGST	**Jiashian**	**1.06**	**242**	*i* P			**Pn**	**21 14 22.8**	**+0.5**
SGST	baz=241			S			**Sn**	**21 14 36.2**	**+0.1**
CHN1	**Nanshi**	**1.06**	**248**	*i* P			**Pb**	**21 14 23.6**	**+0.1**
CHN1	baz=249			S			**Sb**	**21 14 37.7**	**+0.7**
TWK	**Hsinying**	**1.07**	**253**	*i* P			**Pb**	**21 14 23.2**	**-0.3**
TWK	baz=254			S			**Sb**	**21 14 37.9**	**+0.7**
WCHH	**Zhanghua**	**1.07**	**297**	⇓*i*P			**Pb**	**21 14 23.8**	**+0.2**
WCHH	baz=299			*e*S			**Sb**	**21 14 38.4**	**+1.2**
SNST	**Tainan City**	**1.08**	**250**	*e*P			**Pb**	**21 14 23.5**	**-0.2**
SNST	baz=252			*e*S			**Sb**	**21 14 38.1**	**+0.7**
CHY	**Chiayi**	**1.08**	**265**	*i* P			**Pb**	**21 14 23.9**	**+0.2**
CHY	baz=267			S			**Sb**	**21 14 37.8**	**+0.3**
YHNB	**Yeheng**	**1.09**	**349**	⇓*i*P			**Pn**	**21 14 23.1**	**+0.2**
YHNB	baz=1.0			S			**Sn**	**21 14 36.5**	**-0.5**
YHNB	**Yeheng**	**1.09**	**349**	Pn			**Pn**	**21 14 22.9**	**0.0**
NSK	**Sanguang**	**1.10**	**349**	⇓*i*P			**Pn**	**21 14 23.2**	**+0.2**
NSK	baz=350			*e*S			**Sn**	**21 14 36.8**	**-0.4**
WTK	**Tuku**	**1.11**	**275**	P			**Pb**	**21 14 24.1**	**-0.1**
WTK	baz=277			S			**Sb**	**21 14 39.0**	**+0.6**
NSY	**Sanyi**	**1.12**	**317**	⇓*i*P			**Pb**	**21 14 24.8**	**+0.3**
NSY	baz=332			*e*S			**Sb**	**21 14 39.9**	**+1.2**
TWE	**Neicheng**	**1.13**	**3**	*i* P			**Pn**	**21 14 23.3**	**0.0**
TWE	baz=6.0			*e*S			**Sn**	**21 14 38.2**	**+0.5**
ECL	**Taimali**	**1.15**	**211**	*e*P			**Pn**	**21 14 22.9**	**-0.7**
ECL	baz=196			*e*S			**Sn**	**21 14 36.5**	**-1.8**
WDJ	**Dajia District**	**1.16**	**311**	*i* P			**Pb**	**21 14 25.4**	**+0.4**
WDJ	baz=312			S			**Sb**	**21 14 41.3**	**+1.6**
NSTT	**Nanjuang**	**1.17**	**332**	⇓*i*P			**Pb**	**21 14 25.1**	**-0.1**
NSTT	baz=344			*e*S			**Sb**	**21 14 39.4**	**-0.7**
RLNB	**Erlin**	**1.17**	**285**	*e*P			**Pb**	**21 14 24.9**	**-0.3**
RLNB	baz=287			*e*S			**Sb**	**21 14 40.8**	**+0.6**
ILA	**Ilan**	**1.18**	**7**	*e*P			**Pn**	**21 14 24.1**	**+0.1**
ILA	baz=357			*e*S			**Sn**	**21 14 39.3**	**+0.3**
LIOB	**Emei**	**1.18**	**333**	*i* P			**Pb**	**21 14 25.4**	**0.0**
LIOB	baz=344			*e*S			**Sb**	**21 14 40.3**	**0.0**
PTSB	**Yuanli**	**1.18**	**316**	⇓*i*P			**Pb**	**21 14 25.4**	**-0.1**
PTSB	baz=318			S			**Sb**	**21 14 41.3**	**+0.9**
NWLT	**Wulai**	**1.19**	**356**	*e*P			**Pn**	**21 14 24.1**	**0.0**
NWLT	baz=357			*e*S			**Sn**	**21 14 37.5**	**-1.7**
WLGB	**Puzi**	**1.20**	**265**	P			**Pn**	**21 14 24.9**	**+0.7**
WLGB	baz=267			*e*S			**Sb**	**21 14 41.0**	**+0.2**
NMLH	**Miaoli**	**1.20**	**322**	⇓*i*P			**Pb**	**21 14 25.5**	**-0.2**
NMLH	baz=323			*i* S			**Sb**	**21 14 41.1**	**+0.2**
SSD	**Sandimen**	**1.22**	**227**	P			**Pn**	**21 14 24.9**	**+0.4**
SSD	baz=223			*e*S			**Sb**	**21 14 42.5**	**+0.9**
ICHU	**Yijhu**	**1.23**	**260**	P			**Pb**	**21 14 26.2**	**-0.1**
ICHU	baz=262			*e*S			**Sb**	**21 14 43.3**	**+1.4**
SCST	**Cishan**	**1.23**	**236**	P			**Pb**	**21 14 27.0**	**+0.6**
SCST	baz=252			*e*S			**Sb**	**21 14 43.6**	**+1.7**
WTCT	**Ta-ch'eng**	**1.24**	**283**	P			**Pb**	**21 14 25.6**	**-0.8**
WTCT	baz=276			*e*S			**Sb**	**21 14 42.7**	**+0.7**
TSMG	**Majia**	**1.24**	**225**	*e*P			**Pb**	**21 14 26.0**	**-0.4**
TSMG	baz=223			*e*S			**Sb**	**21 14 42.9**	**+0.8**
CHN3	**Shinhua**	**1.24**	**246**	P			**Pb**	**21 14 27.3**	**+0.8**
CHN3	baz=260			S			**Sb**	**21 14 45.4**	**+3.2**
WSF	**Szhu**	**1.26**	**272**	P			**Pb**	**21 14 26.1**	**-0.7**
WSF	baz=275			S			**Sb**	**21 14 42.8**	**+0.1**
NTC	**Toucheng**	**1.28**	**10**	*e*P			**Pn**	**21 14 26.0**	**+0.7**
NTC	baz=359			*e*S			**Sb**	**21 14 42.7**	**-0.4**
WMLT	**Mailiao**	**1.28**	**280**	P			**Pb**	**21 14 26.8**	**-0.3**
WMLT	baz=282			*e*S			**Sb**	**21 14 43.4**	**+0.3**
EGS		**1.29**	**14**	*e*P			**Pb**	**21 14 26.9**	**-0.3**
CHN8	baz=4.0 **Yiju**	**1.30**	**259**	P			**Pb**	**21 14 26.8**	**-0.6**
CHN8	baz=262			*e*S			**Sb**	**21 14 44.1**	**+0.5**
MASBT	**Mashibuluo**	**1.32**	**223**	P			**Pn**	**21 14 26.0**	**+0.1**
MASBT	baz=223			*e*S			**Sb**	**21 14 44.4**	**+0.1**
SBCB	**Hsinchu**	**1.32**	**335**	*e*P			**Pb**	**21 14 27.2**	**-0.6**
SBCB	baz=335			*e*S			**Sb**	**21 14 46.2**	**+1.8**
TWM1	**Shoushan**	**1.32**	**235**	P			**Pb**	**21 14 28.6**	**+0.7**
TWM1	baz=250			*e*S			**Sb**	**21 14 48.1**	**+3.6**
SGLT	**Jiouru**	**1.33**	**230**	*e*P			**Pb**	**21 14 28.6**	**+0.6**
SGLT	baz=213			*e*S			**Sb**	**21 14 48.0**	**+3.3**
HSN	**Hsinchu**	**1.34**	**335**	*e*P			**Pb**	**21 14 27.6**	**-0.5**
HSN	baz=324			*e*S			**Sb**	**21 14 46.5**	**+1.7**
TAI1	**Yung-k'ang**	**1.37**	**247**	*e*P			**Pb**	**21 14 28.7**	**+0.1**
TAI1	baz=263			*e*S			**Sb**	**21 14 47.7**	**+1.9**
TATO	**Taipei**	**1.38**	**356**	P			**Pn**	**21 14 27.6**	**+0.8**
TATO	baz=8.0			*e*S			**Sn**	**21 14 43.5**	**-0.5**
TATO	**Taipei**	**1.38**	**356**				**Pn**	**21 14 27.6**	**+0.8**
EAST	**Anshuo**	**1.39**	**210**	*e*P			**Pn**	**21 14 25.9**	**-1.0**
TAW	**Tawu**	**1.39**	**208**	*e*P			**Pn**	**21 14 25.7**	**-1.1**
TIPB	**Shuangxi**	**1.39**	**9**	P			**Pn**	**21 14 27.6**	**+0.7**
TIPB	baz=359			*e*S			**Sn**	**21 14 42.9**	**-1.4**
NCUH	**Zhongli**	**1.42**	**345**	*e*P			**Pb**	**21 14 29.0**	**-0.5**
NCUH	baz=344			*e*S			**Sb**	**21 14 49.1**	**+1.8**
SNJT	**Kaohsiung City**	**1.43**	**235**	*e*P			**Pb**	**21 14 29.9**	**+0.3**
SNJT	baz=236			*e*S			**Sb**	**21 14 49.7**	**+2.2**
TAP	**Taipei**	**1.45**	**357**	*e*P			**Pn**	**21 14 28.5**	**+0.8**
TAP	baz=357			*e*S			**Sn**	**21 14 46.5**	**+1.0**
SSPT	**Xinbi**	**1.45**	**221**	*e*P			**Pn**	**21 14 28.8**	**+1.1**
TWB1	**Santiao Chiao**	**1.46**	**14**	*e*P			**Pn**	**21 14 29.1**	**+1.3**
TWB1	baz=2.0			*e*S			**Sn**	**21 14 47.1**	**+1.3**
NWF	**Wu-fen Shan**	**1.48**	**6**	*e*P			**Pn**	**21 14 29.2**	**+1.0**
WFSB	**Wu-fen Shan**	**1.48**	**6**	*e*P			**Pn**	**21 14 28.9**	**+0.7**
JYNG	**Yonagunijimaku**	**1.50**	**55**	P			**Pn**	**21 14 29.5**	**+1.1**
JYNG				S			**Sn**	**21 14 47.2**	**+0.3**
SCZT	**Fangliau**	**1.51**	**217**	*e*P			**Pn**	**21 14 29.6**	**+1.1**
SCZT	baz=197			*e*S			**Sb**	**21 14 50.3**	**+0.5**
TWS1	**Kuangyinshan**	**1.51**	**354**	P			**Pn**	**21 14 29.4**	**+0.9**
TWS1	baz=5.0			*e*S			**Sb**	**21 14 49.5**	**-0.4**
LAY	**Lan-yu**	**1.54**	**182**	P			**Pn**	**21 14 27.9**	**-1.1**
LAY	baz=170			*e*S			**Sn**	**21 14 48.5**	**+0.5**
YM01	**YM01**	**1.55**	**359**	*e*P			**Pn**	**21 14 29.6**	**+0.4**
YM01	baz=359			*e*S			**Sn**	**21 14 48.8**	**+0.6**
SLIU	**Shizi**	**1.55**	**208**	*e*P			**Pn**	**21 14 30.1**	**+1.0**
YOJ	**Yonaguni jima**	**1.56**	**56**	*e*P			**Pn**	**21 14 30.2**	**+1.0**
YOJ	**Yonaguni jima**	**1.56**	**56**	P			**Pn**	**21 14 30.0**	**+0.9**
YOJ				S			**Sn**	**21 14 49.1**	**+0.8**
YOJ	**Yonaguni jima**	**1.56**	**56**				**Pn**	**21 14 30.1**	**+0.9**
YM04	**YM04**	**1.56**	**358**	P			**Pn**	**21 14 29.6**	**+0.3**
YM04	baz=358			*e*S			**Sn**	**21 14 48.2**	**-0.2**
YM10	**YM10**	**1.56**	**359**	P			**Pn**	**21 14 29.7**	**+0.4**
YM10	baz=359			*e*S			**Sb**	**21 14 50.1**	**-1.2**
KAU	**Kaohsiung**	**1.56**	**230**	*e*P			**Pb**	**21 14 31.0**	**-0.9**
YM05	**YM05**	**1.57**	**359**	P			**Pn**	**21 14 29.6**	**+0.2**
YM05	baz=359			*e*S			**Sn**	**21 14 48.8**	**+0.1**
YM11	**YM11**	**1.57**	**359**	P			**Pn**	**21 14 30.1**	**+0.6**
YM11	baz=359			*e*S			**Sn**	**21 14 50.0**	**+1.2**
YM03	**YM03**	**1.58**	**358**	*e*P			**Pn**	**21 14 29.9**	**+0.3**
ANP	**Anpu**	**1.59**	**357**	*e*P			**Pn**	**21 14 30.7**	**+1.0**
YM08	**YM08**	**1.59**	**360**	P			**Pn**	**21 14 29.6**	**-0.1**
NWRT	**Kuosheng**	**1.61**	**2**	*e*P			**Pn**	**21 14 30.9**	**+1.0**
HEN	**Hengchun**	**1.77**	**207**	*e*P			**Pb**	**21 14 34.5**	**-0.8**
WDGT	**Dungji**	**1.81**	**260**	*e*P			**Pn**	**21 14 33.2**	**+0.5**
WDGT	baz=262			*e*S			**Sn**	**21 14 54.1**	**-0.4**
PHUB	**P'eng-hu**	**1.86**	**268**	*e*P			**Pn**	**21 14 33.9**	**+0.6**
PHUB	baz=271			*e*S			**Sn**	**21 14 55.4**	**-0.4**
PNG	**Penghu**	**1.87**	**270**	*i* P			**Pn**	**21 14 34.0**	**+0.5**
PNG	baz=272			*e*S			**Sn**	**21 14 55.9**	**-0.2**
VCHM	**Qimei**	**2.03**	**260**	P			**Pn**	**21 14 36.0**	**+0.3**
VCHM	baz=262			*e*S			**Sn**	**21 15 00.2**	**+0.2**
HATJ	**Hateruma jima**	**2.08**	**77**	P			**Pn**	**21 14 37.0**	**+0.7**
HATJ				S			**Sn**	**21 15 01.3**	**+0.2**
PCYT	**Pengchaiyu**	**2.08**	**12**	*e*P			**Pb**	**21 14 39.0**	**-1.6**
IRIF	**Iriomote-Funau**	**2.09**	**69**	P			**Pn**	**21 14 37.3**	**+0.8**
IRIF				S			**Sn**	**21 15 02.2**	**+0.8**
JKRS	**Kuro-shima**	**2.30**	**73**	P			**Pn**	**21 14 40.2**	**+0.8**
JKRS				S			**Sn**	**21 15 07.4**	**+0.8**
VWUC	**VWUC**	**2.41**	**306**	P			**Pn**	**21 14 40.7**	**-0.1**
JIJ	baz=307 **Ishigaki jima**	**2.45**	**71**	P			**Pn**	**21 14 41.8**	**+0.3**
JIJ				S			**Sn**	**21 15 10.4**	**0.0**
PTTC	**Pingtan**	**2.53**	**319**	*e*P			**Pn**	**21 14 42.2**	**-0.3**
JISG	baz=319 **Ishigakijimahi**	**2.67**	**68**	P			**Pn**	**21 14 44.8**	**+0.3**
JISG				S			**Sn**	**21 15 15.1**	**-0.7**

PTMZ	Houxiangcun	2.68	303	P	Pn	21 14 45.2 +0.5
	baz=304					
MATB	Ma-tsu	2.96	330	eP	Pn	21 14 48.2 -0.3
	baz=329					
KNM	Kinmen	3.01	287	eP	Pn	21 14 50.9 +1.7
	baz=287					
JTJ	Tarama	3.02	69	P	Pn	21 14 50.2 +0.9
JTJ				eS	Sn	21 15 24.6 +0.1
QZH	Quanzhou	3.06	297	⇓/Pn	Pn	21 14 49.8 0.0
QZH				Sn	Sn	21 15 23.3 -2.0
QZH				smax	smax	
	comp=N,1μm,0.3s					
QZH				smax	smax	
	comp=E,920nm,0.4s					
KNMB	Chin-men Tao	3.06	287	eP	Pn	21 14 49.9 +0.1
	baz=289					
KNMB	Chin-men Tao	3.06	287		Pn	21 14 50.0 +0.1
LYJJ	Jianjiangzhen	3.38	331	eP	Pn	21 14 53.8 -0.5
	baz=331					
MHZQ	Yeshan	3.42	318	eP	Pn	21 14 54.4 -0.4
	baz=318					
ZPLA	Ao Xicun	3.54	276	eP	Pn	21 14 56.8 +0.3
	baz=277					
AXDP	Jialang	3.56	292	eP	Pn	21 14 56.9 +0.2
	baz=294					
XPSS	Dashiqiu	3.56	339	eP	Pn	21 14 56.5 -0.3
	baz=338					
JMJ	Miyako jima 2	3.59	69	eP	Pn	21 14 57.6 +0.5
	baz=85					
ZZJH	Jiuhuzhen	3.73	284	eP	Pn	21 14 58.9 -0.2
	baz=286					
VDOS	Pratas Island	5.35	238	eP	Pn	21 15 22.7 +1.4
	baz=237					
HKPS	Hong Kong Po S	7.00	261	eP	Pn	21 15 44.8 +0.8
	baz=259					
HKPS	Hong Kong Po S	7.00	261	Pn	Pn	21 15 44.8 +0.8
TGY	Tagaytay City	9.46	184	P	Pn	21 16 20.1 +2.2
	19nm,0.3s,baz=84,slow=18,SNR=1.3					
WHN	Wuhan	9.47	319	P	Pn	21 16 18.0 +0.2
WHN				S	Sn	21 18 07.3 +4.1
WHN				LR	LR	
	comp=Z,2μm,13.8s					
QIZ	Qiongzhong	11.86	250	P	Pn	21 16 50.4 -0.2
QIZ				S	Sn	21 19 01.6 -0.3
QIZ				LR	LR	
	comp=N,470nm,19.6s					
QIZ				LR	LR	
	comp=E,360nm,27.0s					
QIZ				LR	LR	
	comp=Z,370nm,23.5s					
QIZ	Qiongzhong	11.86	250	Pn	Pn	21 16 51.8 +1.2
JNU	Nakatsue	12.52	39	P	Pn	21 17 02.4 +2.7
	0.1nm,0.3s,baz=144,slow=14,SNR=1.5					
JNU	Nakatsue	12.52	39	Pn	Pn	21 16 59.5 -0.2
GYA	Guiyang	13.84	285	eP	Pn	21 17 19.4 +1.6
GYA				S	Sn	21 19 49.3 -1.2
GYA				pmax	pmax	
	comp=Z,7.0nm,0.8s					
GYA				LR	LR	
	comp=N,660nm,4.7s					
GYA				LR	LR	
	comp=E,750nm,5.1s					
GYA				LR	LR	
	comp=Z,420nm,6.1s					
KSRS	Korea Array	14.85	20	P	Pn	21 17 33.0 +1.7
	0.7nm,0.3s,baz=196,slow=12,SNR=16					
KSRS				LR	LR	21 24 08.2
	comp=Z,110nm,19.4s,baz=200,slow=41					
KS19	Wonju Array Si	14.87	20	Pn	Pn	21 17 33.0 +1.3
JHS	Saijyo	15.16	39	Pn	Pn	21 17 37.0 +1.4
XAN	Xi'an	15.21	316	P	P	21 17 40.4 -0.5
XAN				pP	pP	21 17 45.9 -3.3
XAN				pmax	pmax	
	comp=Z,11nm,1.0s					
XAN				LR	LR	
	comp=E,440nm,13.0s					
XAN				LR	LR	
	comp=Z,740nm,17.4s					
SLVN	Son La	16.51	266	P	Pn	21 17 51.2 -1.8
JWT	Wachi	16.72	43	Pn	Pn	21 17 54.3 -1.2
DLV	T Lat	17.01	229	Pn	Pn	21 17 56.1 -3.4
KMI	Kunming	17.25	279	⇓eP	Pn	21 18 00.9 -1.6
KMI				pmax	pmax	
	comp=Z,5.0nm,0.5s					
UBPT	Khong Chiam	17.30	244	Pn	Pn	21 18 03.4 +0.5
CD2	Chengdu	17.45	299	eP	Pn	21 18 04.0 -0.7
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
INU	Inuyama	17.79	45		P	21 18 10.7 +1.2
HHC	Hu-ho-hao-te	19.16	336	eP	Pn	21 18 26.4 +0.7
HHC				pmax	pmax	
	comp=Z,10.0nm,0.7s					
HHC				pmax	pmax	
	comp=Z,260nm,5.5s					
MJAR	Matsushiro Arr	19.28	44	LR	LR	21 26 12.9
	comp=Z,57nm,20.9s,baz=185,slow=38					
LZH	Lanzhou	19.77	313	eP	Pn	21 18 37.9 +4.9
LZH				pP	sP	21 18 43.8 +0.2
LZH				sP	pP	21 18 47.4 +7.8
LZH				pmax	pmax	
	comp=Z,16nm,1.0s					
CHTO	Chiang Mai	21.64	262	P	P	21 18 52.5 +1.0
CMAR	Chiang Mai Arr	21.75	261	P	P	21 18 54.6 +2.0
	3.0nm,0.7s,baz=64,slow=8.4,SNR=27					
CMAR				PcP	PcP	21 22 52.7 0.0
	0.7nm,0.5s,baz=28,slow=1.2,SNR=7.7					
CMAR				LR	LR	21 28 10.4
	comp=Z,134nm,18.5s,baz=121,slow=38					
USA0B	Ussuriysk Arra	22.26	20	P	P	21 18 58.2 +0.3
USRK	Ussuriysk Ar.	22.26	20	P	P	21 18 57.9 0.0
	1.7nm,0.7s,baz=178,slow=7.8,SNR=3.5					
USRK	Ussuriysk Ar.	22.26	20	P	P	21 18 58.7 +0.8
SBUM	Sibu	22.89	205	P	P	21 19 04.5 -0.4
SBUM				IAmb	IAmb	21 19 06.4
	comp=Z,8.9nm,0.7s					
TNTI	Ternate	23.36	165	P	P	21 19 09.7 +0.1
TNTI				IAmb	IAmb	21 19 14.6
	comp=Z,18nm,0.8s					
GTA	Gaotai	24.27	316	eP	P	21 19 19.3 +1.1
GTA				pP	pP	21 19 28.8 +1.5
GTA				sP	sP	21 19 32.6 +1.4
GTA				pmax	pmax	
	comp=Z,2.0nm,0.9s					
GTA				pmax	pmax	
	comp=Z,60nm,6.8s					
GTA				LR	LR	
	comp=Z,160nm,14.7s					
GTA				LR	LR	
	comp=Z,250nm,15.9s					
GTA				LR	LR	
	comp=Z,310nm,15.5s					
LUWI	Luwuk	24.51	177	P	P	21 19 19.5 -0.9
KSM	Kuching	24.56	208	P	P	21 19 20.9 0.0
JKA	Kamikawa-asahi	26.76	35	P	P	21 19 41.2 +0.7
JKA				IAmb	IAmb	21 19 54.5
	comp=Z,12nm,1.0s					
ULN	Ulaanbaatar	26.86	338	P	P	21 19 40.7 -0.9
SONM	Songino Array	27.06	337	P	P	21 19 42.9 -0.4
	comp=Z,2.5nm,0.6s,baz=159,slow=9.6,SNR=9.8					
SONM				LR	LR	21 31 52.5
	comp=Z,130nm,19.7s,baz=108,slow=39					
SONM	Songino Array	27.06	337	P	P	21 19 43.0 -0.4
LSA	Lhasa	27.84	289	P	P	21 19 51.4 +0.4
LSA				IAmb	IAmb	21 19 58.0
	comp=Z,5.3nm,0.6s					
TLY	Talaya	31.27	338	P	P	21 20 20.0 -0.5
TLY				IAmb	IAmb	21 20 39.3
	comp=Z,11nm,0.9s					
MMRI	Maumere	32.03	179	P	P	21 20 27.0 -0.5
WMQ	Urumqi	34.34	314	eP	P	21 20 51.8 +4.2
WMQ				pmax	pmax	
	comp=Z,10.0nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,68nm,3.7s					
WMQ				LR	LR	
	comp=Z,170nm,29.2s					
WMQ				LR	LR	
	comp=Z,340nm,29.2s					
MTN	Manton Dam	37.39	165	P	P	21 21 12.0 -1.8
MTN				IAmb	IAmb	21 21 12.5
	comp=Z,5.5nm,0.7s					
MK31	Makanchi Array	39.03	316	P	P	21 21 27.9 +0.5
MKAR	Makanchi Array	39.03	316	P	P	21 21 27.9 +0.5
	comp=Z,4.8nm,0.6s,baz=106,slow=10,SNR=41					
MKAR				PcP	PcP	21 23 34.7 -2.5
	comp=Z,0.5nm,0.6s,baz=119,slow=1.8,SNR=2.9					
MKAR	Makanchi Array	39.03	316	P	P	21 21 27.6 +0.2
MAKZ	Makanchi	39.23	316	P	P	21 21 29.2 +0.1
MAKZ				IAmb	IAmb	21 21 30.7
	comp=Z,5.8nm,0.7s					
KNRA	Kununurra	39.65	169	P	P	21 21 30.9 -1.9
KNRA				IAmb	IAmb	21 21 44.9
	comp=Z,7.5nm,1.1s					
PETK	Petropavlovsk-	40.15	33	P	P	21 21 40.3 +3.6
KRVT	Keravat (AS076	40.61	129	LR	LR	21 34 15.6
	comp=Z,98nm,21.8s,baz=276,slow=30					
ZAA0	Zalesovo Array	40.95	327	P	P	21 21 42.5 -0.7
ZALV	Zalesovo Beam	40.95	327	P	P	21 21 42.5 -0.7
	comp=Z,2.7nm,0.4s,baz=117,slow=8.7,SNR=17					
ZALV				LR	LR	21 39 56.1
	comp=Z,80nm,20.0s,baz=108,slow=38					
ZALV	Zalesovo Beam	40.95	327	P	P	21 21 43.0 -0.2
KDJ	Kajisay	41.12	308	P	P	21 21 46.2 +1.2
MA2	Magadan	41.39	22	P	P	21 21 48.0 +1.2
MA2				IAmb	IAmb	21 21 52.4
	comp=Z,14nm,1.1s					
FITZ	Fitzroy Crossi	41.62	174	P	P	21 21 47.2 -1.8
H11N1	WAKE ISLAND Hy	42.15	86	T	T	22 06 56.3
	baz=283,slow=74,SNR=189					
H11N2	WAKE ISLAND Hy	42.15	86	T	T	22 06 55.9
	baz=283,slow=74,SNR=175					
H11N3	WAKE ISLAND Hy	42.16	86	T	T	22 06 57.6
	baz=283,slow=74,SNR=169					
H11S3	WAKE ISLAND Hy	42.26	88	T	T	22 07 05.1
	baz=284,slow=75,SNR=485					
H11S1	WAKE ISLAND Hy	42.27	88	T	T	22 07 10.8
	baz=284,slow=75,SNR=186					
H11S2	WAKE ISLAND Hy	42.28	88	T	T	22 07 07.5
	baz=284,slow=75,SNR=192					
KURK	Kurchatov	42.79	320	P	P	21 21 58.3 0.0
KURK				IAmb	IAmb	21 21 59.7
	comp=Z,5.0nm,0.5s					
COEN	Coen	42.87	148	P	P	21 22 00.9 +1.6
COEN				IAmb	IAmb	21 22 06.4
	comp=Z,8.3nm,0.9s					
WB0	Warramunga Arr	44.87	163	P	P	21 22 14.3 -0.9
WB0				IAmb	IAmb	21 22 14.4
	comp=Z,2.8nm,0.6s					
PSA00	Pilbara Seismi	44.92	182	P	P	21 22 14.2 -1.4
WRA	Warramunga Arr	45.02	163	P	P	21 22 15.0 -1.5
	comp=Z,2.9nm,0.5s,baz=345,slow=8.8,SNR=55					
WRA				PcP	PcP	21 23 54.2 -3.0
	comp=Z,0.5nm,0.7s,baz=343,slow=3.0,SNR=1.9					
WRA	Warramunga Arr	45.02	163	P	P	21 22 15.5 -1.0
WB2	Warramunga Arr	45.02	163	P	P	21 22 15.2 -1.4
WB2				IAmb	IAmb	21 22 15.7
	comp=Z,3.8nm,0.6s					
WR0	Warramunga Arr	45.09	163	P	P	21 22 15.9 -1.1
WR0				IAmb	IAmb	21 22 16.6
	comp=Z,4.5nm,0.6s					
GAR	Garm	45.85	302	P	P	21 22 24.0 +0.9
GAR				IAmb	IAmb	21 22 25.0
	comp=Z,6.8nm,0.7s					
KK31	Karatay Array	46.13	308	P	P	21 22 26.3 +1.1
KK31				IAmb	IAmb	21 22 27.3
	comp=Z,3.6nm,0.8s					
KKAR	Karatay Array	46.13	308	P	P	21 22 26.1 +1.0
KKAR	Karatay Array	46.13	308	P	P	21 22 25.7 +0.5
KKAR				IAmb	IAmb	21 22 27.3
	comp=Z,3.6nm,0.8s					
GIRL	Giralia	46.51	189	P	P	21 22 28.3 +0.1
CHGR	Chuyangaron	46.73	302	P	P	21 22 31.4 +1.4
CHGR				IAmb	IAmb	21 22 31.5
	comp=Z,5.3nm,0.8s					
BRVK	Borovoye	48.44	321	P	P	21 22 42.8 -0.1
BRVK				IAmb	IAmb	21 22 44.1
	comp=Z,3.0nm,0.7s					
AS31	Alice Springs	48.47	165	P	P	21 22 43.1 -0.4
ASAR	Alice Springs	48.47	165	P	P	21 22 42.4 -1.2
	comp=Z,0.7nm,0.4s,baz=341,slow=6.8,SNR=18					
ASAR				PcP	PcP	21 24 06.9 -2.5
	comp=Z,0.3nm,0.4s,baz=347,slow=4.5,SNR=2.0					
ASAR	Alice Springs	48.47	165	P	P	21 22 43.0 -0.5
CTAO	Charters Tower	49.62	149	P	P	21 22 52.6 +0.2
CTAO				IAmb	IAmb	21 23 06.5
	comp=Z,5.7nm,1.1s					
NRIK	Noril'sk	50.07	345	LR	LR	21 45 39.9
	comp=Z,50nm,18.1s,baz=199,slow=38					
AMKA	Amchitka	51.88	42	P	P	21 23 08.9 -0.1
MORW	Morawa	52.63	186	P	P	21 23 12.9 -1.8
MORW				IAmb	IAmb	21 23 29.9
	comp=Z,11nm,1.1s					
ABKAR	Akbulak array	54.12	315	P	P	21 23 26.3 +0.7
ABKAR	Akbulak array	54.12	315	P	P	21 23 25.9 +0.2
ABKAR				IAmb	IAmb	21 23 27.0
	comp=Z,3.9nm,0.7s					
KIWB	Kanaga Island	54.14	42	P	P	21 23 25.0 -0.7
FORT	Forrest	54.41	173	P	P	21 23 28.6 +0.8
GEYT	Alibeck	55.42	301	P	P	21 23 36.2 +0.9
	comp=Z,2.8nm,0.8s,baz=98,slow=6.1,SNR=4.9					
GEYT				LR	LR	21 51 55.4
	comp=Z,77nm,18.4s,baz=5.0,slow=41					
ARU	Arti	55.81	323	P	P	21 23 36.0 -1.6
ARU				IAmb	IAmb	21 23 38.1
	comp=Z,5.8nm,1.0s					
ATKA	Atka Island	55.99	42	P	P	21 23 37.8 -1.2
NWAO	Narrogin (SRO)	56.35	184	P	P	21 23 39.9 -1.9
NWAO	Narrogin (SRO)	56.35	184	P	P	21 23 39.7 -2.0
NWAO				IAmb	IAmb	21 23 43.5
	comp=Z,10nm,0.8s					
EIDS	Eidsvold	56.43	148	P	P	21 23 42.4 -0.1
EIDS				IAmb	IAmb	21 23 47.1
	comp=Z,7.8nm,1.1s					
BBOO	Buckleboo	57.76	166	P	P	21 23 51.3 -0.4
BBOO				IAmb	IAmb	21 24 09.1
	comp=Z,10.0nm,1.1s					
STKA	Stephens Creek	58.38	160	P	P	21 23 55.7 -0.4
	comp=Z,2.7nm,0.5s,baz=346,slow=6.5,SNR=21					
STKA	Stephens Creek	58.38	160	P	P	21 23 55.7 -0.4
TOO	Toolangi	64.86	159	P	P	21 24 40.0 +0.3
TOO				IAmb	IAmb	21 24 44.1
	comp=Z,5.1nm,1.1s					
TTA	Tatalina	65.83	30	P	P	21 24 46.2 +0.4
TTA				IAmb	IAmb	21 24 47.8
	comp=Z,5.8nm,1.1s					
KBZ	Khabaz	66.14	309	P	P	21 24 49.1 +1.0
	comp=Z,2.9nm,0.8s,baz=342,slow=8.2,SNR=3.6					
KBZ				LR	LR	21 58 36.7
	comp=Z,42nm,18.3s,baz=84,slow=40					
SVW2	Sparrevohn	66.20	32	P	P	21 24 49.8 +1.6
SVW2				IAmb	IAmb	21 24 50.4
	comp=Z,4.6nm,1.1s					
KIV	Kislovodsk	66.25	309	P	P	21 24 48.5 -0.4
KIV				IAmb	IAmb	21 24 49.4
	comp=Z,7.1nm,1.1s					
IMAR	Indian Mountai	66.54	26	P	P	21 24 51.6 +1.4
GEVA	Gevas	67.10	303	P	P	21 24 55.2 +0.7
GEVA				IAmb	IAmb	21 24 55.9
	comp=Z,3.7nm,0.7s					
PPLA	Purkeypile	67.57	30	P	P	21 24 58.6 +1.6
COLD	Coldfoot	67.81	25	P	P	21 24 59.4 +1.1
COLD				IAmb	IAmb	21 25 07.1
	comp=Z,3.2nm,1.0s					
OHAK	Old Harbor	67.89	36	P	P	21 24 59.1 +0.2
BPAW	Bear Paw Mtn.	67.93	28	P	P	21 25 00.9 +1.7
BPAW				IAmb	IAmb	21 25 01.0
	comp=Z,3.6nm,0.7s					
SKT	Skwentna	68.01	31	P	P	21 25 01.1 +1.4
KTH	Kantishna Hill	68.05	29	P	P	21 25 00.8 +0.9
KTH				IAmb	IAmb	21 25 02.0
	comp=Z,2.5nm,0.9s					
KDAK	Kodiak Island	68.17	35	P	P	21 25 01.0 +0.3
TRF	Thorofare Moun	68.34	29	P	P	21 25 03.1 +1.2
TRF				IAmb	IAmb	21 25 14.4
	comp=Z,4.1nm,1.0s					
SUA	Susitna One	68.47	31	P	P	21 25 03.8 +1.2
MDM	Murphy Dome	68.97	27	P	P	21 25 05.8 +0.2
MDM				IAmb	IAmb	21 25 07.9
	comp=Z,5.3nm,1.0s					
RND	Reindeer	68.99	29	P	P	21 25 05.8 0.0
MARD	Mardin	69.09	303	P	P	21 25 06.9 -0.1
WRH	Wood River Hil	69.12	28	P	P	21 25 07.0 +0.5
PMR	Palmer	69.20	31	P	P	21 25 08.0 +0.9
PMR				IAmb	IAmb	21 25 15.1
	comp=Z,6.4nm,0.8s					
CCB	Clear Creek Bu	69.20	27	P	P	21 25 06.3 -0.8
GHO	Glory Hole Cre	69.27	31	P	P	21 25 07.2 -0.4
SML	Sawmill	69.53	30	P	P	21 25 08.8 -0.4
SML				IAmb	IAmb	21 25 15.4
	comp=Z,6.6nm,1.0s					
KNK	Knik Glacier	69.56	31	P	P	21 25 09.9 +0.6
IL31		69.57	27	P	P	21 25 10.8 +1.6
ILAR	Eielson Array	69.57	27	P	P	21 25 07.7 -1.6
	comp=Z,0.5nm,0.6s,baz=282,slow=5.5,SNR=6.8					
ILAR	Eielson Array	69.57	27	P	P	21 25 10.7 +1.4
DHY	Denali Highway	69.71	29	P	P	21 25 10.9 +0.6
DHY				IAmb	IAmb	21 25 23.9
	comp=Z,2.0nm,0.7s					
FYU	Fort Yukon	69.85	25	P	P	21 25 10.6 -0.4
FYU				IAmb	IAmb	21 25 13.8
	comp=Z,2.9nm,1.0s					
BMAR	Burnt Mountain	69.91	24	P	P	21 25 12.6 +1.2
SCM	Sheep Creek Mo	69.99	30	P	P	21 25 11.2 -0.9
SUCK	Suckling Hills	72.11	32	P	P	21 25 25.5 +0.7
FIA1	FINESS Array S	72.14	330	P	P	21 25 24.4 -0.5
FIA1				IAmb	IAmb	21 25 36.7
	comp=Z,3.5nm,0.8s					
FINES	FINESS Array B	72.15	330	P	P	21 25 24.2 -0.8
	comp=Z,0.6nm,0.4s,baz=56,slow=5.4,SNR=9.0					
FINES				LR	LR	22 00 02.8
	comp=Z,54nm,19.8s,baz=117,slow=38					
BCAR	Beaver Creek A	72.17	28	P	P	21 25 26.6 +1.4
CRQM	Cirque	72.22	31	P	P	21 25 26.5 +0.8
AKASG	Malin Array Be	73.56	319	P	P	21 25 32.4 -1.2
	comp=Z,0.2nm,0.3s,baz=64,slow=6.3,SNR=2.3					
INK	Inuvik	73.63	22	P	P	21 25 34.1 +0.5
INK				IAmb	IAmb	21 25 42.9
	comp=Z,5.3nm,1.1s					
BR131	Keskin Array S	73.83	307	P	P	21 25 35.1 -0.5
BRTR	Keskin Array B	73.83	307	P	P	21 25 35.3 -0.3
	comp=Z,1.5nm,0.5s,baz=131,slow=2.9,SNR=12					
CSS	Mathiatis	75.53	302	P	P	21 25 44.8 -0.6
C36M	Paulatuk	76.23	19	P	P	21 25 50.0 +1.3
BUR08	Bucovina Ar. S	77.05	316	P	P	21 25 53.6 -0.3
BURAR	Bucovina Array	77.05	316	P	P	21 25 53.7 -0.2
MLR	Muntele Rosu	77.33	314	P	P	21 25 55.5 0.0
MLR				IAmb	IAmb	21 25 56.2
	comp=Z,3.8nm,0.8s					
NC405	NORSAR Array S	78.67	332	P	P	21 26 01.9 -0.6
NC303	NORSAR Array S	78.77	332	P	P	21 26 02.3 -0.7
NC303				IAmb	IAmb	21 26 11.9
	comp=Z,6.9nm,1.0s					
NB201	NORSAR Array S	78.89	332	P	P	21 26 03.4 -0.3
NB201				IAmb	IAmb	21 26 19.6
	comp=Z,4.4nm,0.8s					
ALN	Alexandroupoli	78.92	310	P	P	21 26 02.6 -1.6
ALN				IAmb	IAmb	21 26 21.3
	comp=Z,3.2nm,1.0s					
NB2	NORSAR Subarra	78.92	332	P	P	21 26 02.3 -1.6
	comp=Z,0.7nm,0.6s,baz=55,slow=5.6					
NOA	NORSAR Array B	78.92	332	P	P	21 26 02.7 -1.2
	comp=Z,1.2nm,0.7s,baz=59,slow=5.2,SNR=8.5					
NOA				LR	LR	22 04 23.7
	comp=Z,69nm,19.9s,baz=65,slow=38					
VYHS	Vyhne	80.66	319	eP	P	21 26 13.2 -0.3
KRLC	Kraliky	81.19	321	eP	P	21 26 16.1 -0.3
DPC	Dobruska-Polom	81.33	321	eP	P	21 26 17.3 +0.2
CHVC	Chvalec	81.38	322	eP	P	21 26 17.4 0.0
CLL	Collm	82.75	323	/ P	P	21 26 23.7 -0.8
	comp=Z,4.0nm,0.9s					
ITM	Ithomi	83.32	308	P	P	21 26 26.7 -1.1
YKA	Yellowknife Ar	83.37	23	P	P	21 26 26.0 -1.5
	comp=Z,1.3nm,0.7s,baz=316,slow=5.0,SNR=7.4					
KHC	Kasperske Hory	83.47	321	eP	P	21 26 28.3 0.0
KHC	Kasperske Hory	83.47	321	P	P	21 26 28.0 -0.3
GEC2	GERESS Array S	83.54	321	P	P	21 26 28.2 -0.5
GEC2				IAmb	IAmb	21 26 29.1
	comp=Z,4.4nm,0.9s					
GERES	GERESS Array B	83.54	321	P	P	21 26 28.2 -0.5
	comp=Z,2.4nm,0.8s,baz=57,slow=4.9,SNR=22					
ABPO	Ambohimpanom	83.97	246	P	P	21 26 31.3 -0.2
ABPO				IAmb	IAmb	21 26 45.7
	comp=Z,5.5nm,1.1s					
ZOU	Zoufplan	85.08	319	P	P	21 26 35.6 -1.1
KMBO	Kilima Mbogo	85.26	267	P	P	21 26 38.6 +0.3
	comp=Z,0.9nm,0.5s,baz=38,slow=18,SNR=4.0					
FUORN	Ofenpass-Fuorn	86.66	320	P	P	21 26 44.4 -0.2
FUORN				IAmb	IAmb	21 26 45.9
	comp=Z,3.2nm,0.7s					
BORG	Borgarnes	87.39	345	LR	LR	22 10 37.8
	comp=Z,42nm,18.5s,baz=58,slow=39					
SFJD	Kangerlussuaq	89.50	357	LR	LR	22 09 19.1
	comp=Z,24nm,18.1s,baz=2.5,slow=37					

*NNC **20** 21:39:40.4±2.4, 46°.64N×89°.92E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=20.8km s-min=17.0km az=173.0
*ASRS **20** 21:39:42.1±0.5, 47°N±2°×9°0E±°, h1km, MLh3.5/11,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
ISC 20 21:39:42.2±1.3, **46.74N**±0.07×**90.14E**±0.04, **h10**km, **n28,**
o28:31/45, **7C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
DGZ	Jazzator, Alta	3.47	330	Pg	Pb	21 40 41.9	-1.8	
DGZ				Sg	Sg	21 41 30.8	-2.8	
CUR	Chagan-Uzun	3.56	341	Pg	Pg	21 40 51.0	+0.6	
CUR				Sg	Sg	21 41 37.5	+0.9	
ZSN	Zaisan	3.67	283	Pg	Pb	21 40 45.6	-1.5	
	3.2nm,0.3s							
ZSN				Lg	Lg	21 41 34.8		
	10nm,0.5s							
CHBI	Chibit, Altay	3.98	335	Pg	Pg	21 40 57.7	-0.7	
CHBI				Sg	Sg	21 41 50.4	+0.5	
ULGR	Ulagan, Altay	4.14	340	Pg	Pg	21 41 01.1	-0.4	
ULGR				Sg	Sg	21 41 55.2	0.0	
TUNR	Tungur	4.25	325	Pn	Pn	21 40 51.5	+4.4	
TUNR				Pg	Pg	21 41 04.2	+0.5	
TUNR				Sg	Sg	21 42 01.2	+2.5	
TEL	Teeli	4.28	1	Pn	Pn	21 40 51.5	+4.1	
TEL				Pg	Pg	21 41 04.3	+0.2	
TEL				Sg	Sg	21 42 02.0	+2.4	
ERNS	Erzin	4.85	42	Pn	Pn	21 40 57.2	+1.9	
ERNS				Pg	Pb	21 41 09.0	+1.8	
ERNS				Sg	Sg	21 42 13.7	-4.1	
MK31	Makanchi Array	5.39	273	⇑Pn	Pn	21 40 59.9	-2.7	
	0.1nm,0.3s,baz=93,slow=15,SNR=10							
MK31				⇑Pg	Pb	21 41 15.0	-1.4	
	0.7nm,0.4s,baz=86,slow=19,SNR=11							
MK31				⇑Lg	Lg	21 42 27.4		
	2.6nm,0.5s,baz=80,slow=28,SNR=5.7							
MKAR	Makanchi Array	5.39	273	Pn	Pn	21 41 00.2	-2.5	
MKAR				Pg	Pb	21 41 19.9	+3.4	
MKAR				Sg	Sg	21 42 31.4	-3.8	
ARTR	Artybash	5.39	341	Pg	Pg	21 41 23.8	-1.6	
ARTR				Sg	Sg	21 42 36.5	+1.2	
UKR	Ust'-Kan	5.49	322	Pn	Pn	21 41 06.9	+2.8	
UKR				Pg	Pg	21 41 26.8	-0.5	
UKR				Sg	Sg	21 42 37.2

MNBS Lg Lg 21 44 09.5
0.1nm,0.6s
ARXS Arharly 9.01 258 Pg Pn 21 42 23.0 +31
2.4nm,0.2s
ARXS Lg Lg 21 44 22.3
2.6nm,0.5s

*IDC **20** 22:29:11.5±0.7, 36.21S×52.56E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/33, mbtmp4.1/9, MS3.4/10, Ms1 3.4/10, ms1mx3.1/45, Error ellipse: s-maj=24.6km s-min=23.5km az=110.0*
*NEIC **20** 22:29:12.4±1.6, 36.4S±0.1×52.5E±0.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=23.7km s-min=19.3km az=261.0*
ISC 20 22:29:12.6±0.6, 36.3S±0.1×52.5E±0.1, h10km, n43, σ0.96/33, mb4.3/12, MS3.5/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**12.28**	**336**	Pn	**Pn**	**22 32 08.1**	**+0.6**
ABPO	**Ambohimpanom**	**17.86**	**343**		**P**	**22 33 23.8**	**+1.7**
OPO	**Ambohidratompo**	**18.30**	**344**	LR	LR	22 38 55.0
	comp=Z,94nm,21.4s,baz=359,slow=32					
BOSA	**Boshof**	**24.20**	**281**	P	**P**	**22 34 28.5**	**-0.9**
	7.3nm,1.0s,baz=133,slow=10,SNR=5.3					
BOSA				LR	LR	22 42 17.8
	comp=Z,26nm,20.9s,baz=97,slow=32					
BOSA	**Boshof**	**24.20**	**281**	IAmb	IAmb	22 34 53.6
	comp=Z,34nm,1.8s					
LBTB	**Lobatse**	**25.67**	**289**	LR	LR	22 43 13.4
	comp=Z,64nm,18.1s,baz=113,slow=33					
LBTB	**Lobatse**	**25.67**	**289**	P	**P**	**22 34 40.8**	**-2.1**
MATP	**Matopo**	**26.31**	**301**	LR	LR	22 43 55.1
	comp=Z,88nm,19.7s,baz=130,slow=34					
SUR	**Sutherland**	**26.41**	**269**	P	**P**	**22 34 47.2**	**-2.4**
SUR				IAmb	IAmb	22 34 47.6
	comp=Z,30nm,1.3s					
MAW	**Mawson**	**31.88**	**173**	LR	LR	22 45 13.6
	comp=Z,114nm,20.3s,baz=38,slow=30					
SNAA	**Sanae**	**45.19**	**202**	P	**P**	**22 37 31.6**	**+2.3**
	comp=Z,1.0nm,0.5s,baz=113,slow=3.7,SNR=9.7					
SNAA	**Sanae**	**45.19**	**202**	P	**P**	**22 37 28.8**	**-0.6**
SNAA				IAmb	IAmb	22 37 36.2
	comp=Z,5.7nm,1.3s					
PALK	**Pallekele**	**50.80**	**37**	LR	LR	22 54 51.8
	comp=Z,28nm,18.8s,baz=260,slow=30					
QSPA	**South Pole Qui**	**53.86**	**180**	P	**P**	**22 38 36.5**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=297,slow=5.4,SNR=4.7					
QSPA	**South Pole Qui**	**53.86**	**180**	P	**P**	**22 38 35.9**	**+0.3**
QSPA				IAmb	IAmb	22 38 46.7
	comp=Z,10nm,1.4s					
VNDA	**Vanda**	**58.83**	**166**	LR	LR	23 01 27.2
	comp=Z,50nm,20.5s,baz=248,slow=33					
IPM	**Ipoh**	**60.81**	**59**	P	**P**	**22 39 24.2**	**-1.0**
DBIC	**Dimbokro**	**68.63**	**296**	LR	LR	23 07 23.5
	comp=Z,29nm,20.6s,baz=120,slow=33					
TORD	**Torodi Ar. Bea**	**68.68**	**306**	LR	LR	23 09 33.3
	comp=Z,35nm,19.1s,baz=195,slow=35					
ASAR	**Alice Springs**	**69.74**	**105**	P	**P**	**22 40 23.2**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=231,slow=6.0,SNR=24					
ASAR	**Alice Springs**	**69.74**	**105**	P	**P**	**22 40 22.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**69.95**	**47**	P	**P**	**22 40 24.1**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=227,slow=6.4,SNR=6.0					
CMAR	**Chiang Mai Arr**	**69.95**	**47**	P	**P**	**22 40 23.6**	**-0.6**
WRA	**Warramunga Arr**	**72.06**	**102**	P	**P**	**22 40 37.5**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=233,slow=5.4,SNR=19					
WRA	**Warramunga Arr**	**72.06**	**102**	P	**P**	**22 40 37.5**	**+0.3**
WB0	**Warramunga Arr**	**72.19**	**102**	P	**P**	**22 40 37.6**	**-0.5**
WB0				IAmb	IAmb	22 40 54.5
	comp=Z,18nm,1.6s					
CHGR	**Chuyangaron**	**76.18**	**13**	P	**P**	**22 41 00.2**	**-0.6**
KKAR	**Karatay Array**	**80.74**	**13**	P	**P**	**22 41 26.4**	**+0.6**
AAK	**Ala-Archa**	**81.11**	**16**	P	**P**	**22 41 29.0**	**+1.1**
AAK				IAmb	IAmb	22 41 38.9
	comp=Z,4.8nm,1.2s					
MKAR	**Makanchi Array**	**86.96**	**20**	P	**P**	**22 41 58.5**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=205,slow=11,SNR=3.9					
MKAR	**Makanchi Array**	**86.96**	**20**	P	**P**	**22 41 57.0**	**-0.5**
BURAR	**Bucovina Array**	**87.07**	**342**	P	**P**	**22 41 58.3**	**+0.2**
AKASG	**Malin Array Be**	**89.06**	**345**	P	**P**	**22 42 07.8**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=184,slow=5.0,SNR=6.5					
ZALV	**Zalesovo Beam**	**94.14**	**18**	P	**P**	**22 42 30.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=208,slow=2.8,SNR=4.5					
ZALV	**Zalesovo Beam**	**94.14**	**18**	P	**P**	**22 42 29.9**	**-0.9**
GUMO	**Guam**	**99.78**	**80**	LR	LR	23 21 00.2
	comp=Z,41nm,21.2s,baz=63,slow=31					
IMAR	**Indian Mountai**	**146.57**	**19**		**PKPdf**	**22 48 52.1**	**+0.3**
INK	**Inuvik**	**147.79**	**4**	PKPbc	**PKPbc**	**22 48 56.5**	**-0.1**
	comp=Z,7.7nm,1.1s,baz=270,slow=33,SNR=5.4					
INK	**Inuvik**	**147.79**	**4**		**PKPbc**	**22 48 56.3**	**-0.3**
WRH	**Wood River Hil**	**149.22**	**17**		**PKPbc**	**22 49 00.4**	**0.0**
IL31		**149.24**	**16**		**PKPdf**	**22 48 56.1**	**0.0**
ILAR	**Eielson Array**	**149.24**	**16**	PKPbc	**PKPbc**	**22 49 00.3**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=315,slow=3.2,SNR=30					
YKA	**Yellowknife Ar**	**152.61**	**347**	PKPbc	**PKiKP**	**22 49 08.9**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=30,slow=2.9,SNR=6.7					

*IDC **20** 22:53:31.6±0.8, 6.76N×124.99E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.7/54, mbtmp3.9/11, MS3.4/16, Ms1 3.4/16, ms1mx3.2/48, Error ellipse: s-maj=16.4km s-min=9.4km az=150.0*
ISC 20 22:53:32.4±1.5, 6.82N±0.05×125.03E±0.04, h7km±10km, n31, σ1.48/29, mb3.8/11, MS3.4/14, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.19**	**17**	⇑*i*P	**Pg**	**22 53 36.8**	**+0.4**
KCP				*i* S	**Sg**	**22 53 40.6**	**+1.5**
SKMP	**Bagumbayan, Su**	**0.57**	**238**	*e*P	**Pn**	**22 53 45.9**	**-1.1**
SKMP				*e*S	**Sn**	**22 53 57.1**	**+0.3**
DAV	**Davao City (W)**	**0.60**	**66**	Pg	**Pb**	**22 53 44.7**	**-0.5**
	946nm,0.3s,baz=260,slow=7.5,SNR=43					
DAV				Lg	Lg	22 53 53.1
	488nm,0.3s,baz=131,slow=19,SNR=7.5					
DAV				LR	LR	22 54 05.9
	comp=Z,6μm,18.1s,baz=349,slow=52					
DDMP	**Don Marcelino,**	**0.98**	**137**	*e*P	**Pn**	**22 53 52.2**	**-0.6**
DDMP				*e*S	**Sn**	**22 54 07.7**	**+0.8**
BUKP	**Musuan**	**1.05**	**2**	*e*P	**Pb**	**22 53 52.1**	**-0.9**
BUKP				*e*S	**Sg**	**22 54 07.6**	**+1.3**
MATI	**Mati**	**1.22**	**84**	*e*P	**Pn**	**22 53 54.6**	**-1.4**
MATI				*e*S	**Sn**	**22 54 12.7**	**-0.1**
PAGZ	**Pagadian**	**1.93**	**302**	*e*P	**Pb**	**22 54 07.5**	**-0.5**
PAGZ				*e*S	**Sg**	**22 54 34.1**	**-0.3**
MSLP	**Maasin**	**3.29**	**357**	*e*P	**Pg**	**22 54 35.4**	**-0.3**
MSLP				*e*S	**Sg**	**22 55 16.5**	**-1.9**
LLP	**Lapu-Lapu**	**3.63**	**343**	*e*P	**Pn**	**22 54 32.9**	**+3.7**
LLP				*e*S	**Sg**	**22 55 27.8**	**-1.3**
OCLP	**Ormoc**	**4.22**	**354**	*e*P	**Pn**	**22 54 32.9**	**-4.4**
KAPI	**Kappang**	**12.88**	**204**	LR	LR	23 01 48.1
	comp=Z,259nm,20.4s,baz=70,slow=39					
JAY	**Jayapura**	**18.19**	**120**	LR	LR	23 04 51.9
	comp=Z,73nm,18.9s,baz=176,slow=37					
GUMO	**Guam**	**20.64**	**69**	LR	LR	23 04 34.0
	comp=Z,88nm,21.5s,baz=255,slow=32					
FITZ	**Fitzroy Crossi**	**24.77**	**179**	P	**P**	**22 58 54.9**	**-0.2**
	1.8nm,0.6s,baz=358,slow=9.3,SNR=2.9					
FITZ				LR	LR	23 10 53.4
	comp=Z,54nm,18.3s,baz=52,slow=42					
PSI	**Prapat**	**26.32**	**263**	LR	LR	23 11 37.0
	comp=Z,60nm,19.5s,baz=86,slow=41					
JNU	**Nakatsue**	**26.73**	**11**	LR	LR	23 09 33.9
	comp=Z,65nm,18.9s,baz=184,slow=36					
CMAR	**Chiang Mai Arr**	**27.91**	**297**	P	**P**	**22 59 23.6**	**0.0**
	0.4nm,0.4s,baz=119,slow=9.4,SNR=1.1					
WRA	**Warramunga Arr**	**28.13**	**161**	P	**P**	**22 59 23.7**	**-1.7**
	0.4nm,0.6s,baz=333,slow=11,SNR=3.1					
KSRS	**Korea Array**	**30.60**	**5**	LR	LR	23 15 18.6
	comp=Z,73nm,18.1s,baz=194,slow=43					
ASAR	**Alice Springs**	**31.52**	**164**	P	**P**	**22 59 55.1**	**-0.3**
	0.6nm,0.5s,baz=340,slow=6.9,SNR=12					
MJAR	**Matsushiro Arr**	**31.94**	**20**	P	**P**	**22 59 59.8**	**+0.7**
	1.1nm,0.8s,baz=201,slow=9.5,SNR=2.7					
MJAR				LR	LR	23 12 32.2
	comp=Z,80nm,19.4s,baz=210,slow=36					
USRK	**Ussuriysk Ar.**	**37.73**	**8**	P	**P**	**23 00 49.2**	**+0.4**
	3.0nm,0.8s,baz=160,slow=4.6,SNR=4.6					
USRK				LR	LR	23 15 05.5
	comp=Z,50nm,19.8s,baz=173,slow=34					
STKA	**Stephens Creek**	**41.60**	**159**	P	**P**	**23 01 22.4**	**+1.0**
	1.5nm,0.5s,baz=341,slow=9.3,SNR=3.2					
STKA				LR	LR	23 19 35.2
	comp=Z,75nm,19.0s,baz=22,slow=38					
PETK	**Petropavlovsk-**	**53.26**	**24**	P	**P**	**23 02 52.1**	**+0.3**
	5.1nm,1.0s,baz=262,slow=10,SNR=3.7					
PETK				LR	LR	23 25 36.2
	comp=Z,40nm,19.9s,baz=234,slow=36					
MKAR	**Makanchi Array**	**54.07**	**325**	P	**P**	**23 02 58.3**	**+0.4**
	0.7nm,0.8s,baz=138,slow=7.4,SNR=5.3					
MKAR				LR	LR	23 27 12.5
	comp=Z,29nm,19.5s,baz=104,slow=37					
AAK	**Ala-Archa**	**56.95**	**317**	LR	LR	23 30 07.0
	comp=Z,55nm,19.9s,baz=92,slow=38					
KURBB	**Kurchatov Arra**	**58.24**	**327**	P	**P**	**23 03 28.4**	**+0.8**
	0.6nm,0.5s,baz=121,slow=5.6,SNR=5.9					
GEYT	**Alibeck**	**67.66**	**308**	LR	LR	23 38 07.0
	comp=Z,30nm,18.1s,baz=145,slow=40					
ARU	**Arti**	**71.44**	**327**	LR	LR	23 39 08.3
	comp=Z,40nm,18.3s,baz=122,slow=38					
ILAR	**Eielson Array**	**83.06**	**26**	P	**P**	**23 05 58.7**	**+0.1**
	0.6nm,0.9s,baz=261,slow=5.4,SNR=4.6					
NOA	**NORSAR Array B**	**95.28**	**333**	LR	LR	23 52 52.4
	comp=Z,30nm,18.1s,baz=315,slow=37					

WEL 20 22:55:45.7, 44.S±14.×17.2E±1.2, h8km±35km, M2.6/7, ML2.6/7, MLv2.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=158.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.32**	**318**	P	Pg	22 55 52.9	+0.8
AMCZ	**Amberley**	**0.45**	**31**	P	Pb	22 55 55.9	0.0
AKCZ	**Akaroa Harbour**	**0.52**	**127**	P	Pb	22 55 57.5	+0.4
WACZ	**Wakanui South**	**0.52**	**224**	P	Pb	22 55 58.2	+1.1
OKCZ	**Okains Bay**	**0.55**	**107**	P	Pb	22 55 58.0	+0.4
MHCZ	**Mount Hutt**	**0.56**	**273**	P	Pb	22 55 58.2	+0.4
GVZ	**Greta Valley S**	**0.79**	**41**	P	Pn	22 56 02.4	-0.7
ARCZ	**Arundel**	**0.92**	**245**	P	Pn	22 56 05.1	+0.1
RPZ	**Rata Peaks**	**0.94**	**261**	P	Pn	22 56 05.5	+0.3

*IDC **20** 23:09:47.6±5.9, 7.88S×128.69E, h158km±60km, mb3.2/3, mb1 3.2/7, mb1mx3.1/34, mbtmp3.6/7, Error ellipse: s-maj=55.4km s-min=19.7km az=45.0*
ISC 20 23:09:46.7±1.2, 7.90S±0.09×128.8E±0.1, h150km, n7, σ1.88/11, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.56**	**245**	P	**Pn**	**23 11 08.8**	**+1.2**
	16nm,0.3s,baz=103,slow=3.9,SNR=13						
BATI				S	**Sn**	**23 12 09.6**	**-1.3**
	6.1nm,0.3s,baz=170,slow=5.2,SNR=8.5						
FITZ	**Fitzroy Crossi**	**10.60**	**197**	P	**Pn**	**23 12 14.9**	**+0.3**
	0.1nm,0.3s,baz=6.8,slow=9.7,SNR=7.7						
FITZ				S	**Sn**	**23 14 11.2**	**-0.7**
	0.7nm,0.3s,baz=180,slow=18,SNR=8.2						
WRA	**Warramunga Arr**	**13.13**	**156**	P	**Pn**	**23 12 49.2**	**+1.7**
	0.3nm,0.3s,baz=344,slow=13,SNR=8.4						
WRA				S	**Sn**	**23 15 09.3**	**-3.6**
	0.8nm,0.3s,baz=337,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**16.43**	**163**	P	**Pn**	**23 13 31.4**	**+2.6**
	0.1nm,0.3s,baz=337,slow=9.8,SNR=3.7						
ASAR				S	**S**	**23 16 32.4**	**+1.0**
	0.2nm,0.3s,baz=206,slow=38,SNR=4.1						
CMAR	**Chiang Mai Arr**	**39.41**	**312**	P	**P**	**23 17 01.5**	**-0.7**
	0.2nm,0.3s,baz=126,slow=4.6,SNR=1.4						
MKAR	**Makanchi Array**	**68.33**	**328**	P	**P**	**23 20 31.4**	**-0.3**
	0.3nm,0.5s,baz=124,slow=8.1,SNR=7.2						
ZALV	**Zalesovo Beam**	**71.86**	**334**	P	**P**	**23 20 52.3**	**-0.7**
	0.4nm,0.3s,baz=118,slow=5.2,SNR=2.2						

*IDC **20** 23:24:22.1±0.6, 41.81N×35.90E, h0km, mb3.6/8, mb1 3.7/16, mb1mx3.5/57, mbtmp3.6/16, ML3.7/7, MS2.8/4, Ms1 2.8/4, ms1mx2.4/43, Error ellipse: s-maj=10.9km s-min=7.0km az=151.0*
*ISK **20** 23:24:25.9, 41.74N×35.88E, h15km, ML4.0/17*
*DDA **20** 23:24:25.0, 41.82N×35.95E, h12km±7km, MW4.0*
ISC 20 23:24:23.1±1.2, 41.85N±0.03×35.92E±0.02, h10km±9km, n109, σ1.48/139, mb3.6/6, 8C-42D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMS	**Samsun-Alacam**	**0.53**	**157**	⇓*i*P	**Pb**	**23 24 35.4**	**+1.1**
SAMS				IAML		23 24 42.0
	comp=N,10μm,0.2s					
SAMS				IAML		23 24 42.0
	comp=E,12μm,0.3s					
SAMS				*i* S	**Sb**	**23 24 42.3**	**+0.3**
DIKM	**Dikmen**	**0.53**	**248**	⇓P	**Pn**	**23 24 36.2**	**-0.5**
DIKM				⇑S	**Sb**	**23 24 43.6**	**+1.4**
DIKM	**Dikmen**	**0.53**	**248**	PG	**Pn**	**23 24 36.1**	**-0.6**
DIKM				SG	**Sb**	**23 24 43.0**	**+0.8**
SNOP	**Sinop**	**0.56**	**288**	PG	**Pn**	**23 24 37.4**	**+0.3**
SINO	**SINOP_Merkez**	**0.56**	**288**	⇓*i*P	**Pn**	**23 24 37.4**	**+0.3**
SINO				*i* P	**Pn**	**23 24 37.4**	**+0.3**
SINO				*i* S	**Sn**	**23 24 45.9**	**-0.6**
SINO				IAML		23 24 52.0
	comp=E,4μm,0.7s					
SINO				IAML		23 24 52.0
	comp=E,3μm,0.6s					
SINO				IAML		23 24 53.0
	comp=N,4μm,0.1s					
SINO				IAML		23 24 53.0
	comp=N,4μm,0.1s					
KVT	**Kavak**	**0.77**	**173**	PG	**Pn**	**23 24 39.7**	**-0.3**
HAVZ	**Havza**	**0.79**	**191**	⇓*i*P	**Pn**	**23 24 39.5**	**-0.7**
HAVZ				IAML		23 24 50.0
	comp=N,24μm,0.4s					
HAVZ				*i* S	**Sb**	**23 24 50.3**	**+0.7**
HAVZ				IAML		23 24 51.0
	comp=E,13μm,0.4s					
KAYA	**Kayacik-Havza(**	**0.91**	**188**	PG	**Pn**	**23 24 41.8**	**-0.2**
GULF	**Gulfidan-Ladik**	**0.93**	**182**	PG	**Pn**	**23 24 42.4**	**+0.1**
KUPE	**Kupecik-Ladik(**	**0.97**	**174**	PG	**Pn**	**23 24 43.0**	**+0.1**
AMSY	**Amasya-Merkez**	**1.21**	**183**	*i* P	**Pn**	**23 24 48.0**	**+1.9**
AMSY				*i* S	**Sn**	**23 25 03.6**	**+1.0**
AMSY				IAML		23 25 05.0
	comp=E,6μm,0.4s					
AMSY				IAML		23 25 07.0
	comp=N,10μm,0.6s					
KAGI	**orum-Kargı**	**1.29**	**237**	⇑*i*P	**Pg**	**23 24 48.6**	**+0.6**
KAGI				*i* S	**Sn**	**23 25 06.2**	**+1.7**
ERBA	**Erbaa**	**1.32**	**151**	⇓*i*P	**Pb**	**23 24 48.0**	**-0.1**
ERBA				*i* S	**Sg**	**23 25 04.7**	**-1.0**
ERBA				IAML		23 25 08.0
	comp=N,2μm,0.7s					
BZK	**Bozkurt**	**1.43**	**275**	⇓P	**Pg**	**23 24 51.3**	**+0.7**
BZK	**Bozkurt**	**1.43**	**275**	PN	**Pg**	**23 24 51.5**	**+0.9**
CTAK	**Corum_Osmancik**	**1.47**	**216**	⇑*i*P	**Pg**	**23 24 51.1**	**-0.2**
CTAK				*i* S	**Sg**	**23 25 10.7**	**+0.3**
CTAK				IAML		23 25 11.0
	comp=E,2μm,0.4s					
CTAK				IAML		23 25 12.0
	comp=N,3μm,0.3s					
TOKA	**Tokat**	**1.58**	**164**	⇓*i*P	**Pg**	**23 24 53.7**	**+0.3**
TOKA				*i* S	**Sg**	**23 25 15.5**	**+1.6**
TOKA				IAML		23 25 16.0
	comp=N,3μm,0.8s					
TOKT	**Tokat**	**1.60**	**163**	PN	**Pg**	**23 24 53.1**	**-0.6**
TOS	**Tosya**	**1.64**	**241**	PN	**Pb**	**23 24 53.9**	**+0.5**
KMON	**Kastamonu**	**1.67**	**254**	PN	**Pb**	**23 24 54.6**	**+0.7**
ORDU	**Ordu-Boztepe**	**1.69**	**120**	*i* P	**Pn**	**23 24 53.2**	**+0.6**
ORDU				*i* S	**Sn**	**23 25 14.1**	**-0.2**
ORDU				IAML		23 25 27.0
	comp=N,1000nm,0.6s					
ORDU				IAML		23 25 29.0
	comp=E,1μm,0.8s					
COAL	**Corum-Alaca**	**1.74**	**204**	⇑*i*P	**Pb**	**23 24 54.6**	**-0.6**
COAL				*i* S	**Sb**	**23 25 16.0**	**-1.1**
COAL				IAML		23 25 18.0
	comp=E,820nm,0.7s					
COAL				IAML		23 25 20.0
	comp=N,1μm,0.7s					
RSDY	**Resadiye-TOKAT**	**1.80**	**143**	PN	**Pb**	**23 24 55.9**	**-0.2**
ILGA	**Ilgaz**	**1.84**	**245**	⇑*i*P	**Pb**	**23 24 56.7**	**-0.1**
ILGA				*i* S	**Sg**	**23 25 23.1**	**+0.9**
ILGA				IAML		23 25 26.0
	comp=N,1μm,0.8s					
ILGA				IAML		23 25 26.0
	comp=E,831nm,0.4s					
CORM	**Corum**	**1.93**	**211**	PN	**Pb**	**23 24 57.8**	**-0.6**
PELI	**Kastamonı-Ara**	**2.03**	**255**	⇑*i*P	**Pb**	**23 24 59.5**	**-0.7**
PELI				*i* S	**Sn**	**23 25 24.2**	**+1.3**
PELI				IAML		23 25 31.0
	comp=E,304nm,0.5s					
PELI				IAML		23 25 34.0
	comp=N,371nm,0.6s					
SVSK	**Karacayir**	**2.10**	**157**	PN	**Pb**	**23 25 00.1**	**-1.0**
CANT	**Cankiri**	**2.13**	**235**	PN	**Pn**	**23 24 59.7**	**+0.9**
SCER	**sogukcermik**	**2.19**	**155**	*i* P	**Pn**	**23 25 00.9**	**+1.3**
SCER				*i* S	**Sb**	**23 25 30.7**	**+0.7**
SCER				IAML		23 25 44.0
	comp=N,528nm,0.9s					
SCER				IAML		23 25 45.0
	comp=E,683nm,0.7s					
ESPY	**Espiye-Giresun**	**2.31**	**113**	PN	**Pb**	**23 25 04.7**	**-0.1**
KURC	**Kurucasile-Bar**	**2.37**	**271**	PN	**Pb**	**23 25 05.4**	**-0.5**
SUSE	**Susehri**	**2.38**	**133**	*i* P	**Pb**	**23 25 04.8**	**-1.3**
SUSE				*i* S	**Sg**	**23 25 37.7**	**-1.9**
SUSE				IAML		23 25 38.0
	comp=E,600nm,0.4s					
SUSE				IAML		23 25 39.0
	comp=N,721nm,0.6s					
DELI	**KIRIKKALE**	**2.39**	**220**	⇑*i*P	**Pn**	**23 25 03.5**	**+1.2**
DELI				*i* S	**Sg**	**23 25 38.9**	**-0.9**
DELI				IAML		23 25 40.0
	comp=N,241nm,0.8s					
DELI				IAML		23 25 41.0
	comp=E,190nm,0.6s					
CUSAR	**Sarkisla-SIVAS**	**2.44**	**174**	*i* P	**Pn**	**23 25 04.4**	**+1.3**
CUSAR				*i* S	**Sg**	**23 25 39.6**	**-1.8**
CUSAR				IAML		23 25 41.0
	comp=E,822nm,0.7s					
CUSAR				IAML		23 25 42.0
	comp=N,1μm,0.5s					
SAFT	**Safranbolu**	**2.50**	**257**	PN	**Pb**	**23 25 06.6**	**-1.5**
CDAG	**Cicekdag**	**2.51**	**208**	*i* P	**Pn**	**23 25 05.2**	**+1.1**
CDAG				*i* S	**Sg**	**23 25 40.9**	**-2.9**
CDAG				IAML		23 25 43.0
	comp=N,482nm,0.5s					
CDAG				IAML		23 25 45.0
	comp=E,458nm,0.4s					
KBUK	**KARABUK-Merkez**	**2.54**	**257**	*i* P	**Pn**	**23 25 06.7**	**+2.3**
KBUK				*i* S	**Sg**	**23 25 43.9**	**-1.0**
KBUK				IAML		23 25 52.0
	comp=E,232nm,0.6s					
KBUK				IAML		23 25 54.0
	comp=N,240nm,0.6s					
SIRC	**Yozgat**	**2.58**	**193**	*i* P	**Pn**	**23 25 06.0**	**+1.0**
SIRC				*i* S	**Sb**	**23 25 42.1**	**+1.0**
SIRC				IAML		23 25 46.0
	comp=N,163nm,0.4s					
SIRC				IAML		23 25 48.0
	comp=E,315nm,0.6s					
BRTR	**Keskin Array B**	**2.74**	**220**	Pn	**Pn**	**23 25 08.0**	**+0.8**
	comp=E,9.3nm,0.3s,baz=46,slow=12,SNR=340					
BRTR				Sn	**Sn**	**23 25 41.8**	**+1.5**
	comp=E,8.6nm,0.3s,baz=29,slow=12,SNR=5.9					
BRTR				Lg	Lg	23 25 49.3
	comp=E,18nm,0.3s,baz=50,slow=16,SNR=11					
BRTR				LR	LR	23 26 36.5
	comp=E,85nm,19.9s,baz=51,slow=50					
BRTR	**Keskin Array B**	**2.74**	**220**	PN	**Pn**	**23 25 08.9**	**+1.7**
CUKAN	**kangal_SIVAS**	**2.79**	**155**	*i* P	**Pn**	**23 25 09.3**	**+1.4**
CUKAN				*i* S	**Sn**	**23 25 42.5**	**+0.8**
CUKAN				IAML		23 25 44.0
	comp=E,346nm,0.6s					
CUKAN				IAML		23 25 59.0
	comp=N,195nm,0.8s					
CMDR	**Camlidere-ANKA**	**2.93**	**244**	*i* P	**Pn**	**23 25 11.2**	**+1.4**
CMDR				*i* S	**Sg**	**23 25 55.8**	**-1.4**
CMDR				IAML		23 26 04.0
	comp=N,218nm,1.5s					
CMDR				IAML		23 26 05.0
	comp=E,187nm,1.1s					
BNN	**Bunyan**	**2.99**	**181**	PN	**Pn**	**23 25 12.9**	**+2.2**
KTUT	**Trabzon**	**3.02**	**105**	⇓P	**Pn**	**23 25 12.6**	**+1.7**
KTUT	**Trabzon**	**3.02**	**105**	⇓S	**Sn**	**23 25 50.6**	**+3.6**
MACK	**Trabzon**	**3.03**	**106**	*i* P	**Pn**	**23 25 12.9**	**+1.8**
MACK				*i* S	**Sn**	**23 25 46.8**	**-0.7**
MACK				IAML		23 25 48.0
	comp=E,354nm,0.3s					
MACK				IAML		23 25 49.0
	comp=N,278nm,0.3s					
KIRS	**Kırehir-Merke**	**3.11**	**210**	*i* P	**Pn**	**23 25 13.9**	**+1.6**
KIRS				*i* S	**Sb**	**23 25 58.5**	**+1.9**
KIRS				IAML		23 26 01.0
	comp=E,175nm,0.6s					
KIRS				IAML		23 26 07.0
	comp=N,93nm,1.0s					
AVNS	**Nevsehir-Avano**	**3.15**	**195**	*i* P	**Pn**	**23 25 13.6**	**+0.9**
AVNS				*i* S	**Sg**	**23 26 01.6**	**-2.6**
AVNS				IAML		23 26 11.0
	comp=N,653nm,0.7s					
AVNS				IAML		23 26 11.0
	comp=E,552nm,0.6s					
REFA	**Refahiye_ERZN**	**3.27**	**138**	*e*P	**Pn**	**23 25 12.2**	**-2.3**
REFA				*i* S	**Sn**	**23 25 52.7**	**-0.8**
REFA				IAML		23 25 59.0
	comp=N,77nm,0.5s					
REFA				IAML		23 26 06.0
	comp=E,115nm,0.6s					
ARPR	**Arapgir-MALATY**	**3.31**	**145**	PN	**Pn**	**23 25 17.8**	**+2.7**
KDZE	**Karadeniz Ereo**	**3.40**	**262**	⇓P	**Pn**	**23 25 18.8**	**+2.6**
SARI	**SarD1z-Kayseri**	**3.46**	**173**	P

baz=115,slow=15,SNR=1.7
AKTO Aktyubinsk 17.50 53 P **Pn 23 28 27.8 +0.7**
comp=E,0.2nm,0.3s,baz=260,slow=7.7,SNR=4.4
FINES FINESS Array B 20.51 346 P **P 23 29 01.6 +0.6**
comp=E,1.6nm,0.7s,baz=141,slow=12,SNR=14
ARU Arti 20.65 37 P **P 23 29 04.2 +1.6**
comp=E,0.6nm,0.3s,baz=109,slow=15,SNR=3.7
HFS Hagfors 22.84 331 P **P 23 29 26.8 +0.7**
comp=E,1.4nm,0.7s,baz=128,slow=13,SNR=2.0
NB2 NORSAR Subarra 24.36 330 P P 23 29 51.0 +10
comp=Z,3.9nm,1.2s,baz=131,slow=9.3
NOA NORSAR Array B 24.36 330 P **P 23 29 41.4 +0.4**
comp=Z,0.4nm,0.8s,baz=116,slow=8.9,SNR=2.1
NOA LR LR 23 39 06.4
comp=Z,20nm,19.1s,baz=100,slow=36
KURBB Kurchatov Arra 30.39 58 P **P 23 30 36.5 +1.5**
comp=Z,1.0nm,0.7s,baz=276,slow=9.3,SNR=7.9
MKAR Makanchi Array 33.16 65 P **P 23 31 01.2 +1.7**
comp=Z,0.2nm,0.6s,baz=282,slow=7.2,SNR=3.7
ZALV Zalesovo Beam 34.27 52 P **P 23 31 10.1 +1.1**
comp=Z,1.0nm,0.4s,baz=277,slow=10,SNR=4.1
TORD Torodi Ar. Bea 41.23 236 P **P 23 32 08.2 -0.1**
comp=Z,1.3nm,0.9s,baz=35,slow=8.8,SNR=7.1

IDC 21 00:20:53.2±1.1,5.96N×127.51E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.6/32,mbtmp3.6/6,Error ellipse: s-maj=63.0km s-min=20.2km az=76.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.97**	**184**	P	P	00 26 08.8	-0.7
	1.4nm,0.9s,baz=0.0,slow=9.1,SNR=3.0						
WRA	**Warramunga Arr**	**26.60**	**166**	P	P	00 26 35.1	+1.7
	0.2nm,0.4s,baz=345,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**30.10**	**168**	P	P	00 27 04.0	-0.6
	0.2nm,0.3s,baz=341,slow=7.2,SNR=8.0						
MKAR	**Makanchi Array**	**56.20**	**324**	P	P	00 30 35.5	+0.5
	0.8nm,0.4s,baz=115,slow=7.8,SNR=17						
ZALV	**Zalesovo Beam**	**58.98**	**332**	P	P	00 30 54.2	-0.3
	0.3nm,0.4s,baz=143,slow=8.4,SNR=1.8						
ILAR	**Eielson Array**	**82.77**	**26**	P	P	00 33 18.2	-0.7
	0.3nm,0.5s,baz=246,slow=5.2,SNR=5.3						

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*IDC **21** 00:32:19.3±1.2,3.68N×32.07W,h0km,mb3.9/7,mb1 4.0/8, mb1mx3.7/50,mbtmp4.0/8,ML4.7/1,MS3.5/5,Ms1 3.5/5, ms1mx3.1/46,Error ellipse: s-maj=49.3km s-min=21.2km az=128.0*
*NEIC **21** 00:32:19.6±1.0,3.8N±0.1×32.2W±0.1,h10km±1km, mb4.5/7,Error ellipse: s-maj=30.3km s-min=11.3km az=318.0*

ISC 21 00:32:19.7±0.8,3.6N±0.1×32.1W±0.2,h10km,n28, σ19.71/19,mb4.1/10,MS3.4/4,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.13**	**202**	Pn	**Pn**	**00 34 47.4**	**+1.9**
	7.0nm,0.3s,baz=12,slow=16,SNR=63						
RCBR				Sn	**Sn**	**00 36 35.8**	**-3.6**
	3.5nm,0.3s,baz=64,slow=17,SNR=5.9						
RCBR				LR	LR	00 37 51.0	
	comp=Z,352nm,21.6s,baz=356,slow=32						
RCBR	**Riachuelo**	**10.13**	**202**		**Pn**	**00 34 47.1**	**+1.6**
RCBR				Sn	**Sn**	**00 36 36.3**	**-3.0**
SACV	**Santiago Islan**	**14.03**	**36**		**Pn**	**00 35 35.4**	**-3.4**
H10N3	**ASCENSION HYDR**	**20.94**	**123**	T	T	00 59 02.6	
	baz=303,slow=75,SNR=316						
H10N2	**ASCENSION HYDR**	**20.94**	**123**	T	T	00 58 48.1	
	baz=303,slow=75,SNR=396						
H10N1	**ASCENSION HYDR**	**20.96**	**123**	T	T	00 59 03.5	
	baz=303,slow=75,SNR=302						
H10S3	**ASCENSION HYDR**	**21.42**	**126**	T	T	00 59 31.4	
	baz=304,slow=74,SNR=92						
H10S2	**ASCENSION HYDR**	**21.44**	**126**	T	T	00 59 31.6	
	baz=276,slow=74,SNR=52						
BDFB	**Brasilia**	**24.79**	**219**	P	**P**	**00 37 43.7**	**+1.4**
	1.5nm,0.5s,baz=62,slow=11,SNR=4.3						
BDFB				LR	LR	00 46 19.0	
	comp=Z,110nm,21.4s,baz=50,slow=34						
DBIC	**Dimbokro**	**27.30**	**83**	P	**P**	**00 38 05.8**	**+0.9**
	3.5nm,0.7s,baz=249,slow=8.6,SNR=4.6						
DBIC	**Dimbokro**	**27.30**	**83**	P	**P**	**00 38 05.8**	**+0.9**
DBIC				IAmb	IAmb	00 38 17.1	
	comp=Z,6.3nm,1.0s						
PTGA	**Pitinga**	**28.18**	**262**	LR	LR	00 48 10.3	
	comp=Z,61nm,20.9s,baz=81,slow=34						
H05S1	**Guadeloupe/Mar**	**30.29**	**293**	T	T	01 10 03.0	
	SNR=60						
H05N1	**Guadeloupe/Mar**	**31.11**	**296**	T	T	01 11 02.5	
	SNR=12						
TOA0	**Torodi Ar. Sit**	**34.70**	**72**	P	**P**	**00 39 10.5**	**+0.3**
TOA0				IAmb	IAmb	00 39 11.5	
	comp=Z,2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**34.70**	**72**	P	**P**	**00 39 10.6**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=265,slow=9.0,SNR=14						
TORD	**Torodi Ar. Bea**	**34.70**	**72**	P	**P**	**00 39 10.2**	**0.0**
MDT	**Midelt**	**38.79**	**38**	P	**P**	**00 39 45.8**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=254,slow=7.4,SNR=5.0						
LPAZ	**La Paz**	**40.75**	**240**	LR	LR	00 56 18.5	
	comp=Z,55nm,18.2s,baz=103,slow=35						
PAB	**San Pablo**	**43.71**	**31**	P	**P**	**00 40 24.6**	**-0.7**
ESDC	**Sonseca Array**	**44.01**	**32**	P	**P**	**00 40 28.1**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=226,slow=8.2,SNR=11						
PB09	**IPOC Station P**	**44.26**	**234**	P	**P**	**00 40 29.8**	**-0.2**
PB09				IAmb	IAmb	00 40 36.4	
	comp=Z,9.6nm,0.7s						
H09W1	**TRISTAN DA CUN**	**44.51**	**157**	T	T	01 28 32.2	
PB07	**IPOC Station P**	**44.74**	**234**	P	**P**	**00 40 33.5**	**-0.4**
AC05	**El Transito**	**48.84**	**226**	P	**P**	**00 41 06.2**	**+0.4**
AC05				IAmb	IAmb	00 41 16.6	
	comp=Z,6.7nm,0.8s						
PLCA	**Paso Flores**	**56.42**	**215**	LR	LR	01 06 27.6	
	comp=Z,83nm,18.5s,baz=347,slow=36						
GERES	**GERESS Array B**	**59.55**	**33**	P	**P**	**00 42 24.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=224,slow=5.3,SNR=2.1						
AKASG	**Malin Array Be**	**69.32**	**37**	P	**P**	**00 43 28.5**	**+1.1**
	comp=Z,0.2nm,0.2s,baz=253,slow=5.9,SNR=5.8						

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*TIR **21** 00:43:34.8,38.15N×21.97E,h7km±2km,Md4.8*
*BJI **21** 00:43:38.3±0.0,38.59N×21.55E,h15km,mB5.2/34, mb5.0/55,Ms4.8/18,Ms7 4.4/18*
*MOS **21** 00:43:39.7±1.0,38.41N×21.82E,h14km,mb5.3/94, MS4.5/28,Error ellipse: s-maj=4.3km s-min=2.7km az=90.2*
*ATH **21** 00:43:39.2,38.36N×21.84E,h17km,ML4.5/24,Error ellipse: s-maj=0.8km s-min=0.5km az=289.0*
*PDG **21** 00:43:39.6±0.5,38.34N×21.83E,h5km,ML4.9/14,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
*HLW **21** 00:43:39.6,38.56N×22.25E,h10km±19km,Md4.5*
*GCMT **21** 00:43:40.0±0.1,38.25N±0.01×21.83E±0.02,h12km, MW5.0/135,Moment Tensor Solution. s69,c86; s135,c221; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.92±.11; $M_{\theta\theta}$3.82±.08; $M_{\phi\phi}$0.10±.07; $M_{r\theta}$0.08±.17; $M_{r\phi}$0.17±.05; $M_{\theta r}$-1.08±.25; Best double couple: M_0=4.01000×10^{16} NP1:ϕ_s=74.00000°,δ=46.00000°, λ=-110.00000°. NP2:ϕ_s=281.00000°,δ=47.00000°, λ=-70.00000°. Principal axes: T 3.8280, Plg0.0000°, Azm358.0000°; N 0.3720, Plg14.0000°, Azm88.0000°; P -4.1930, Plg76.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 00:43:40.8±1.6,38.38N±0.03×21.88E±0.06,h10km±1km Error ellipse: s-maj=7.5km s-min=4.4km az=280.0*
*GII **21** 00:43:40.4±0.0,38.35N×21.83E,h11km*
*THE **21** 00:43:40.0,38.35N×21.83E,h11km±2km,ML4.6/26,Error ellipse: s-maj=2.2km s-min=0.7km az=99.0*
*MED_RC **21** 00:43:40.0±0.2,38.29N×21.79E,h11km,MW5.0/36, Moment Tensor Solution. Body waves: s12,c14;Mantle waves: s36,c75; Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.60±.14; $M_{\theta\theta}$3.69±.10; $M_{\phi\phi}$-0.09±.08; $M_{r\theta}$-0.96±.26; $M_{\theta\phi}$0.41±.07; $M_{\theta r}$-0.79±.35; Best double couple: M_0=3.87000×10^{16} NP1:ϕ_s=274.00000°,δ=38.00000°, λ=-74.00000°. NP2:ϕ_s=74.00000°,δ=54.00000°, λ=-102.00000°. Principal axes: T 3.8800, Plg8.0000°, Azm172.0000°; N -0.0200, Plg10.0000°, Azm81.0000°; P -3.8700, Plg77.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
*UNK **21** 00:43:40.6,38.36N×21.85E,h10km*
*IDC **21** 00:43:41.3±2.5,38.40N×21.82E,h15km±15km,mb4.7/33, mb1 4.7/47,mb1mx4.7/58,mbtmp4.7/47,ML3.8/14, MS4.3/41,Ms1 4.3/41,ms1mx4.3/43,Error ellipse: s-maj=9.5km s-min=9.0km az=31.0*
*BEO **21** 00:43:43.3±0.6,38.53N×21.87E,h0km,ML4.6/5*
*NEIC **21** 00:43:43.2,38.38N×21.80E,h3km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.00; $M_{\theta\theta}$1.94; $M_{\phi\phi}$0.06; $M_{r\theta}$0.06; $M_{\theta\phi}$0.20; $M_{\theta r}$-1.19; Fault plane solution: $M_0$2.31000×10^{16} NP1:ϕ_s286.20000°, δ48.95000°,λ-56.46000°. NP2:ϕ_s60.94000°,δ51.05000°, λ-122.40000°. Principal axes: T 1.9602, Plg1.0000°, Azm173.0000°; N 0.5874, Plg25.0000°, Azm83.0000°; P -2.5476, Plg65.0000°, Azm266.0000°;*
*NEIC **21** 00:43:44,38.38N×21.67E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-3.75; $M_{\theta\theta}$3.02; $M_{\phi\phi}$0.73; $M_{r\theta}$0.28; $M_{\theta\phi}$-0.08; $M_{\theta r}$2.62; Fault plane solution: $M_0$4.34000×10^{16} NP1:ϕ_s112.00000°, δ47.00000°,λ-55.00000°. NP2:ϕ_s247.00000°,δ53.00000°, λ-121.00000°. Principal axes: T 3.0373, Plg3.0000°, Azm359.0000°; N 1.9334, Plg25.0000°, Azm268.0000°; P -4.9707, Plg65.0000°, Azm95.0000°;*

ISC 21 00:43:40.8±0.6,38.34N±0.01×21.85E±0.01,h12km±3km, n1540,σ1.28/1682,mb5.2/344,MS4.4/46,71C-34D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.10**	**28**	P	**Pg**	**00 43 42.1**	**-1.5**
EFP	**Efpalio**	**0.10**	**28**	P	**Pg**	**00 43 42.3**	**-1.4**
EFP				S	**Sg**	**00 43 44.4**	**-1.3**
LAKA	**Lakka**	**0.14**	**133**	P	**Pg**	**00 43 43.2**	**-1.0**
ALIK	**Aliki, Aigiali**	**0.22**	**110**	P	**Pg**	**00 43 44.9**	**-0.6**
ALIK				S	**Sg**	**00 43 49.1**	**+0.4**
KLV	**Kalavryta, Ach**	**0.38**	**141**	P	**Pg**	**00 43 47.1**	**-1.3**
KLV	**Kalavryta, Ach**	**0.38**	**141**	P	**Pg**	**00 43 47.4**	**-0.9**
KLV				S	**Sg**	**00 43 53.6**	**+0.1**
KLV				AML	AML	00 43 55.5	
	comp=N,67084μm,0.4s						
KLV				AML	AML	00 44 05.0	
	comp=E,57323μm,1.0s						
AXS	**Araxos**	**0.40**	**249**	P	**Pg**	**00 43 47.2**	**-1.4**
AXS	**Araxos**	**0.40**	**249**	P	**Pg**	**00 43 47.3**	**-1.4**
AXS				S	**Sg**	**00 43 54.0**	**+0.1**
RLS	**Riolos of Patr**	**0.41**	**227**	P	**Pg**	**00 43 48.0**	**-0.8**
RLS				S	**Sb**	**00 43 55.4**	**-0.7**
	comp=E,59μm,0.7s						
RLS	**Riolos of Patr**	**0.41**	**227**	P	**Pg**	**00 43 48.1**	**-0.8**
RLS				S	**Sg**	**00 43 55.0**	**+0.6**
RLS				AML	AML	00 43 55.0	
RLS				AML	AML	00 43 55.9	
DLFA	**Delphi**	**0.53**	**74**	P	**Pg**	**00 43 49.8**	**-1.3**
DLFA				S	**Sg**	**00 43 56.9**	**-1.2**
DLFA				AML	AML	00 44 07.5	
DLFA				AML	AML	00 44 09.8	
	comp=E,68484μm,1.0s						
DSF	**Desfina**	**0.54**	**82**	P	**Pg**	**00 43 49.9**	**-1.4**
DSF	**Desfina**	**0.54**	**82**	P	**Pg**	**00 43 50.1**	**-1.2**
DSF				S	**Sg**	**00 43 58.1**	**-0.4**
DSF				AML	AML	00 44 02.8	
	comp=N,82154μm,0.5s						
DSF				AML	AML	00 44 03.1	
	comp=E,49941μm,0.3s						
GUR	**Goura**	**0.56**	**136**	P	**Pg**	**00 43 50.3**	**-1.4**
GUR	**Goura**	**0.56**	**136**	P	**Pg**	**00 43 50.5**	**-1.3**
GUR				S	**Sg**	**00 43 59.5**	**+0.3**
GUR				AML	AML	00 44 02.8	
GUR				AML	AML	00 44 02.9	
	comp=N,94440μm,0.3s						
EVR	**Evrytania**	**0.58**	**357**	P	**Pg**	**00 43 50.3**	**-1.8**
EVR				S	**Sb**	**00 44 00.4**	**-0.7**
	comp=N,108μm,1.2s						
EVR	**Evrytania**	**0.58**	**357**	P	**Pg**	**00 43 50.8**	**-1.3**
EVR				S	**Sg**	**00 43 58.4**	**-1.4**
EVR				AML	AML	00 44 05.3	
EVR				AML	AML	00 44 10.1	
AST1	**Astakos**	**0.63**	**289**	P	**Pg**	**00 43 51.3**	**-1.7**
VTN	**Vitineika**	**0.67**	**231**	P	**Pg**	**00 43 53.0**	**-0.8**
AXAR	**Agios Charalam**	**0.77**	**56**	P	**Pg**	**00 43 53.9**	**-1.7**
AXAR				S	**Sb**	**00 44 07.2**	**+0.8**
	comp=N,121μm,1.1s						
AXAR	**Agios Charalam**	**0.77**	**56**	P	**Pg**	**00 43 54.2**	**-1.4**
AXAR				S	**Sg**	**00 44 04.4**	**-1.3**
AXAR				AML	AML	00 44 17.7	
AXAR				AML	AML	00 44 19.9	
TRIP	**Tripoli**	**0.88**	**157**	P	**Pg**	**00 43 56.3**	**-1.4**
TRIP	**Tripoli**	**0.88**	**157**	P	**Pg**	**00 43 56.3**	**-1.4**
TRIP				S	**Sg**	**00 44 08.1**	**-1.0**
TRIP				AML	AML	00 44 19.6	
	comp=E,61570μm,0.9s						
TRIP				AML	AML	00 44 20.1	
	comp=N,48544μm,1.1s						
ZAK2	**Zakynthos**	**0.93**	**234**	P	**Pg**	**00 43 57.4**	**-1.2**
ZAK2				S	**Sn**	**00 44 12.4**	**-0.3**
	comp=N,132μm,0.7s						
LTK	**Loutraki**	**0.94**	**109**	P	**Pg**	**00 43 57.5**	**-1.3**
LTK	**Loutraki**	**0.94**	**109**	P	**Pg**	**00 43 57.9**	**-0.9**
LTK				AML	AML	00 44 15.4	
	comp=E,61316μm,1.2s						
LTK				AML	AML	00 44 16.1	
	comp=N,49966μm,1.1s						
LKR	**Lokris**	**0.96**	**71**	P	**Pg**	**00 43 57.0**	**-2.2**
LKR				S	**Sn**	**00 44 14.1**	**+0.6**
	comp=N,23μm,0.7s						
LKR	**Lokris**	**0.96**	**71**	P	**Pg**	**00 43 57.3**	**-1.9**
LKR				S	**Sg**	**00 44 11.2**	**-0.5**
LKR				AML	AML	00 44 18.3	
	comp=N,40359μm,0.5s						
LKR				AML	AML	00 44 21.7	
	comp=E,52294μm,1.0s						
EVGI	**Lefkada island**	**0.98**	**287**	P	**Pg**	**00 43 57.5**	**-2.1**
EVGI	**Lefkada island**	**0.98**	**287**	P	**Pg**	**00 43 57.5**	**-2.1**
NYDR	**Nydri-Lefkada**	**0.98**	**293**	P	**Pb**	**00 43 57.3**	**-2.3**
VLS	**Valsamata**	**1.00**	**261**	P	**Pb**	**00 43 57.8**	**-2.2**
VLS				S	**Sg**	**00 44 13.1**	**-0.1**
	comp=E,15μm,0.6s						
VLS	**Valsamata**	**1.00**	**261**	P	**Pb**	**00 43 58.2**	**-1.8**
VLS				AML	AML	00 44 23.0	
	comp=E,34794μm,0.9s						
VLS				AML	AML	00 44 26.7	
	comp=N,38784μm,1.0s						
VSK1	**VASILIKIADES**	**1.01**	**274**	P	**Pb**	**00 43 57.1**	**-3.1**
VSK1				S	**Sb**	**00 44 13.5**	**+0.1**
	comp=N,26μm,0.8s						
LKD2	**Lefkada island**	**1.03**	**296**	P	**Pb**	**00 43 58.5**	**-2.1**
LKD2	**Lefkada island**	**1.03**	**296**	P	**Pb**	**00 43 58.6**	**-2.1**
LKD2				S	**Sb**	**00 44 12.7**	**-1.5**
LKD2				AML	AML	00 44 21.3	
	comp=N,62144μm,1.4s						
LKD2				AML	AML	00 44 22.2	
	comp=E,70042μm,0.8s						
LKD2	**Lefkada island**	**1.03**	**296**	P	**Pb**	**00 43 58.8**	**-1.8**
	baz=303						
LKD2				S	**Sn**	**00 44 16.5**	**+1.0**
	baz=303						
VLMS	**Volimes, Zakyn**	**1.04**	**244**	P	**Pb**	**00 43 59.0**	**-1.7**
VLMS				AML	AML	00 44 18.4	
VLMS				AML	AML	00 44 18.4	
	comp=E,51668μm,0.5s						
TSLK	**Tsoukalades, L**	**1.05**	**298**	P	**Pb**	**00 43 58.8**	**-2.1**
TSLK	**Tsoukalades, L**	**1.05**	**298**	P	**Pb**	**00 43 59.1**	**-1.7**
TSLK				AML	AML	00 44 22.9	
	comp=E,63192μm,0.8s						
TSLK				AML	AML	00 44 24.7	
	comp=N,68100μm,1.2s						
VLX	**Vlachokerasia**	**1.05**	**156**	P	**Pb**	**00 43 59.1**	**-1.9**
DRAG	**Dragano-Lefkad**	**1.06**	**289**	P	**Pb**	**00 43 58.8**	**-2.2**
KRI1	**kERI**	**1.06**	**231**	P	**Pb**	**00 43 59.5**	**-1.4**
KRI1				S	**Sn**	**00 44 17.8**	**+1.8**
	comp=N,47μm,0.7s						
ARG2	**Argostoli**	**1.08**	**262**	P	**Pb**	**00 43 59.3**	**-2.1**
ARG2				S	**Sn**	**00 44 16.5**	**-0.1**
	comp=N,46μm,0.5s						
KEF5	**Kardakata, Kep**	**1.09**	**267**	P	**Pb**	**00 43 59.1**	**-2.4**
ARGA	**Argostoli. Kep**	**1.09**	**262**	P	**Pb**	**00 43 59.3**	**-2.2**
VIL2	**Platees**	**1.13**	**96**	P	**Pb**	**00 44 02.0**	**-0.1**
VIL2				AML	AML	00 44 28.7	
	comp=N,76262μm,1.0s						
VIL2				AML	AML	00 44 29.6	
ITM	**Ithomi**	**1.16**	**177**	P	**Pb**	**00 44 01.2**	**-1.5**
ITM				S	**Sn**	**00 44 18.8**	**+0.3**
	comp=N,22μm,1.1s						
ITM	**Ithomi**	**1.16**	**177**	P	**Pb**	**00 44 01.4**	**-1.3**
ITM				AML	AML	00 44 29.2	
	comp=E,44421μm,0.8s						
ITM				AML	AML	00 44 31.1	
	comp=N,41962μm,1.3s						
ITM	**Ithomi**	**1.16**	**177**		**Pb**	**00 44 01.3**	**-1.5**
DMLN	**Damoulianata-K**	**1.16**	**266**	P	**Pb**	**00 44 00.6**	**-2.2**
VILL	**Vilia**	**1.17**	**98**	P	**Pn**	**00 44 03.0**	**+0.1**
VILL				S	**Sn**	**00 44 19.7**	**+0.9**
	comp=N,51μm,1.0s						
THL	**Klokotos Trika**	**1.23**	**6**	P	**Pn**	**00 44 02.1**	**-1.6**
THL	**Klokotos Trika**	**1.23**	**6**	P	**Pn**	**00 44 02.2**	**-1.6**
THL				AML	AML	00 44 23.1	
	comp=E,81999μm,1.0s						
THL				AML	AML	00 44 24.6	
	comp=N,38169μm,0.7s						
VOL3	**Nea Ionia, Vol**	**1.34**	**39**	P	**Pn**	**00 44 01.7**	**-3.5**
VOL2	**Volos**	**1.34**	**40**	P	**Pb**	**00 44 05.8**	**0.0**
LRSO	**Larissa Observ**	**1.40**	**18**	P	**Pn**	**00 44 05.5**	**-0.5**
LRSO				S	**Sb**	**00 44 24.8**	**+0.3**
	comp=N,88μm,1.4s						
LRSO	**Larissa Observ**	**1.40**	**18**	P	**Pn**	**00 44 06.1**	**+0.1**
LRSO				S	**Sg**	**00 44 25.1**	**-0.6**
KRND	**KRANIDI**	**1.41**	**132**	P	**Pn**	**00 44 05.5**	**-0.6**
KRND				S	**Sg**	**00 44 25.9**	**-0.1**
	comp=N,21μm,0.8s						
KRND	**KRANIDI**	**1.41**	**132**	P	**Pn**	**00 44 06.1**	**-0.1**
KRND				S	**Sg**	**00 44 25.5**	**-0.5**
KRND				AML	AML	00 44 33.7	
	comp=N,50179μm,1.0s						
KRND				AML	AML	00 44 34.7	
	comp=E,33775μm,0.7s						
PYL	**PYLOS**	**1.44**	**183**	P	**Pn**	**00 44 05.8**	**-0.9**
PYL	**PYLOS**	**1.44**	**183**	P	**Pn**	**00 44 06.3**	**-0.4**
NEO	**Neokhori**	**1.45**	**48**	P	**Pn**	**00 44 06.2**	**-0.5**
NEO	**Neokhori**	**1.45**	**48**	P	**Pn**	**00 44 06.3**	**-0.5**
NEO				S	**Sb**	**00 44 26.4**	**+0.4**
XOR	**Xorichti**	**1.47**	**45**	P	**Pn**	**00 44 06.5**	**-0.6**
XOR	**Xorichti**	**1.47**	**45**	P	**Pn**	**00 44 07.0**	**-0.1**
XOR				AML	AML	00 44 29.2	
	comp=N,28193μm,0.9s						
XOR				AML	AML	00 44 34.0	
	comp=E,18564μm,0.7s						
ATH	**Athens Observa**	**1.52**	**103**	P	**Pn**	**00 44 07.7**	**0.0**
ATH				S	**Sg**	**00 44 29.1**	**-0.5**
	comp=E,18μm,1.0s						
ATH	**Athens Observa**	**1.52**	**103**	P	**Pn**	**00 44 07.8**	**+0.2**
ATH				S	**Sb**	**00 44 28.0**	**0.0**
ATH				AML	AML	00 44 35.5	
	comp=E,47205μm,1.1s						
ATH				AML	AML	00 44 44.0	
	comp=N,26840μm,0.9s						
ATHU	**Athens Univers**	**1.57**	**103**	P	**Pn**	**00 44 09.1**	**+0.7**
ATHU	**Athens Univers**	**1.57**	**103**	P	**Pn**	**00 44 08.6**	**+0.1**
VLY	**Voula,Athens**	**1.61**	**107**	P	**Pn**	**00 44 09.5**	**+0.5**
VLY	**Voula,Athens**	**1.61**	**107**	P	**Pn**	**00 44 09.1**	**+0.1**
VLY				S	**Sb**	**00 44 30.7**	**0.0**
PTL	**Penteli**	**1.62**	**100**	P	**Pn**	**00 44 09.2**	**+0.1**
PTL	**Penteli**	**1.62**	**100**	P	**Pn**	**00 44 09.0**	**0.0**
PTL				AML	AML	00 44 33.2	
	comp=E,18031μm,1.0s						
PTL				AML	AML	00 44 48.5	
	comp=N,20814μm,1.6s						
YDRA	**Hydra**	**1.62**	**127**	P	**Pn**	**00 44 09.6**	**+0.6**
KPRO	**Kipourio**	**1.66**	**347**	P	**Pn**	**00 44 09.3**	**-0.4**
KPRO	**Kipourio**	**1.66**	**347**	P	**Pn**	**00 44 09.5**	**-0.2**
DION	**Dionisos Attik**	**1.66**	**98**	P	**Pb**	**00 44 10.6**	**-0.7**
DION				S	**Sb**	**00 44 32.7**	**+0.5**
	comp=N,29μm,1.3s						
DION	**Dionisos Attik**	**1.66**	**98**	P	**Pn**	**00 44 10.1**	**+0.4**
DION				AML	AML	00 44 44.5	
	comp=N,70772μm,1.4s						
DION				AML	AML	00 44 47.8	
	comp=E,39614μm,0.9s						
IGT	**Igoumenitsa**	**1.68**	**316**	P	**Pn**	**00 44 09.4**	**-0.5**
IGT	**Igoumenitsa**	**1.68**	**316**	*e*Pg	**Pb**	**00 44 11.6**	**0.0**
IGT				*e*Sg	**Sb**	**00 44 32.7**	**0.0**
IGT	**Igoumenitsa**	**1.68**	**316**	P	**Pn**	**00 44 10.0**	**+0.1**
IGT				AML	AML	00 44 43.2	
	comp=E,19366μm,0.9s						
IGT				AML	AML	00 44 47.0	
	comp=N,18956μm,1.0s						
IGT	**Igoumenitsa**	**1.68**	**316**	P	**Pb**	**00 44 10.9**	**-0.6**
	baz=318						
IGT				S	**Sg**	**00 44 36.8**	**+2.0**
	baz=318						
ALNA	**Alonissos**	**1.77**	**62**	P	**Pn**	**00 44 11.1**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.79**	**80**	P	**Pn**	**00 44 11.8**	**+0.3**
KYMI				S	**Sn**	**00 44 33.9**	**-0.3**
	comp=N,10μm,1.3s						
KYMI	**Kymi, Euboea I**	**1.79**	**80**	P	**Pn**	**00 44 11.4**	**0.0**
LIT	**Litokhoron**	**1.83**	**16**	P	**Pn**	**00 44 11.7**	**-0.3**
LIT	**Litokhoron**	**1.83**	**16**	P	**Pn**	**00 44 11.9**	**-0.1**
LIT	**Litokhoron**	**1.83**	**16**	P	**Pn**	**00 44 11.8**	**-0.3**
LIT	**Litokhoron**	**1.83**	**16**		**Pn**	**00 44 11.8**	**-0.3**
VLI	**Veliai**	**1.83**	**151**	P	**Pn**	**00 44 12.6**	**+0.5**
VLI	**Veliai**	**1.83**	**151**	P	**Pn**	**00 44 12.3**	**+0.3**
PENT	**Pentalofos**	**1.94**	**344**	P	**Pn**	**00 44 13.2**	**-0.3**
PENT				S	**Sn**	**00 44 38.6**	**+0.8**
	comp=N,19μm,1.6s						
KZN	**Kozani**	**1.97**	**358**	P	**Pn**	**00 44 14.5**	**+0.5**
KZN				S	**Sb**	**00 44 39.8**	**-1.2**
	comp=N,7μm,1.1s						
KZN	**Kozani**	**1.97**	**358**	P	**Pn**	**00 44 14.7**	**+0.7**
LSK	**Leskovik**	**2.05**	**332**	P	**Pn**	**00 44 16.1**	**+1.0**
	baz=333						
LSK				S	**Sg**	**00 44 49.3**	**+2.6**
	baz=333						
KARY	**Karystos**	**2.06**	**98**	P	**Pn**	**00 44 15.9**	**+0.7**
KARY				S	**Sn**	**00 44 41.6**	**+0.8**
	comp=N,6μm,1.2s						
KARY	**Karystos**	**2.06**	**98**	P	**Pn**	**00

VAY	Valandovo	3.03	10	⇑	*i*Pn	Pn	00 44 30.4	+1.9
SRS	Serrai	3.08	25		P	Pn	00 44 27.7	-1.6
SRS					S	Sn	00 45 05.2	-0.9
comp=N,2μm,1.8s								
SRS	Serrai	3.08	25		*e*Pn	Pn	00 44 29.8	+0.5
SCTE	Santa Cesarea	3.15	304			Pn	00 44 30.8	+0.7
SCTE	Santa Cesarea	3.15	304		P	Pn	00 44 30.6	+0.6
baz=307								
RODP	Rodopos	3.17	151		P	Pn	00 44 32.1	+1.7
RODP					S	Sn	00 45 09.5	+1.4
comp=N,662nm,0.8s								
IOSP	Ios island	3.18	119		P	Pn	00 44 30.6	+0.1
APE	Apeiranthos	3.18	112		P	Pn	00 44 31.2	+0.5
APE	Apeiranthos	3.18	112		P	Pn	00 44 30.8	+0.2
APE	Apeiranthos	3.18	112	⇓	P	Pn	00 44 31.7	+1.0
APE	Apeiranthos	3.18	112	⇑	S	Sn	00 45 10.4	+1.9
APE	Apeiranthos	3.18	112	*c*	*i*P	Pn	00 44 31.9	+1.2
CHOS	Chios island	3.31	88		P	Pn	00 44 33.2	+0.8
CHAN	Chania	3.32	147		P	Pn	00 44 33.7	+1.3
IMMV	Iera Moni Meta	3.34	149		P	Pn	00 44 33.7	+0.9
TIR	Tirane	3.37	334		*e*Pn	Pn	00 44 34.7	+1.5
TIR	Tirane	3.37	334		P	Pn	00 44 33.5	+0.3
TIR	Tirane	3.37	334			Pn	00 44 33.5	+0.3
TIR	Tirane	3.37	334		P	Pn	00 44 35.8	+2.7
baz=334								
TIR					S	Sb	00 45 21.3	0.0
baz=334								
VAM	Vamos	3.48	146		P	Pn	00 44 36.4	+1.7
VAM					S	Sn	00 45 15.7	-0.1
comp=N,3μm,1.6s								
VAM	Vamos	3.48	146		P	Pn	00 44 34.8	+0.1
SANT	Santorini	3.48	123	⇑	P	Pn	00 44 36.7	+1.9
SANT	Santorini	3.48	123	⇑	S	Sn	00 45 18.8	+2.9
SANT	Santorini	3.48	123			Pn	00 44 36.3	+1.6
PHP	Peshkopia	3.51	343		P	Pn	00 44 37.2	+2.0
baz=343								
PHP					S	Sb	00 45 25.1	-0.3
baz=343								
AMGA	Amorgos Island	3.55	114		P	Pn	00 44 36.8	+1.2
MMB	Musomiste	3.55	23		*i* P	Pn	00 44 36.5	+0.8
SMTH	Samothraki Isl	3.56	52		P	Pn	00 44 35.3	-0.5
SMTH	Samothraki Isl	3.56	52		P	Pn	00 44 35.5	-0.3
PRK	Paraskevi	3.57	74		P	Pn	00 44 37.2	+1.2
PRK	Paraskevi	3.57	74		P	Pn	00 44 37.2	+1.2
SKO	Skopje	3.64	355		*e*Pn	Pn	00 44 38.9	+2.0
SKO					*e*Sg	Sb	00 45 32.9	+3.7
SKO	Skopje	3.64	355	⇓	*i*Pn	Pn	00 44 40.2	+3.3
GADA	Gvkgeada	3.65	58		P	Pn	00 44 37.2	+0.2
KKB	Krupnik	3.65	15		*i* P	Pn	00 44 37.8	+0.8
IDI	Anoyia	3.90	140		Pn	Pn	00 44 41.0	+0.4
comp=N,4.4nm,0.3s,baz=306,slow=12,SNR=54								
IDI					Sn	Sn	00 45 28.6	+2.2
comp=N,33nm,0.3s,baz=291,slow=20,SNR=5.8								
IDI	Anoyia	3.90	140		P	Pn	00 44 40.9	+0.4
IDI	Anoyia	3.90	140	⇑	P	Pn	00 44 41.3	+0.7
IDI	Anoyia	3.90	140	⇑	S	Sn	00 45 28.7	+2.4
IDI	Anoyia	3.90	140			Pn	00 44 43.0	+2.4
SMG	Samos	3.99	98		P	Pn	00 44 42.9	+1.2
SMG					S	Sn	00 45 28.1	-0.3
comp=N,1μm,0.9s								
PUK	Puka	3.99	339		P	Pn	00 44 43.1	+1.3
baz=339								
PUK					S	Sb	00 45 38.2	-1.0
baz=339								
RZN	Rozhen	4.01	32		*i* P	Pn	00 44 42.5	+0.4
BLCB	Balcova	4.08	88		P	Pn	00 44 44.0	+1.0
CGL1	Ceglie Messapi	4.10	306	⇓	*i*Pn	Pn	00 44 43.1	-0.1
ALN	Alexandroupoli	4.13	50		P	Pn	00 44 44.1	+0.5
ALN	Alexandroupoli	4.13	50			Pn	00 44 44.0	+0.5
ULC	Ulcinj	4.13	332	⇑	*i*Pn	Pn	00 44 44.6	+0.9
ULC					*i* Sn	Sn	00 45 34.1	+2.2
TAR1	Taranto	4.15	303	⇑	*i*Pn	Pn	00 44 44.4	+0.5
TAR1					(Sn)	Sg	00 45 57.0	+2.9
BOSS	Bosilegrad	4.18	6		*e*Pn	Pn	00 44 45.5	+1.2
KDZ	Kurdzhali	4.30	39		*i* P	Pn	00 44 45.1	-0.8
LAST	Lasithi	4.31	136		P	Pn	00 44 47.3	+1.2
DRME	Dracevica, Mon	4.35	333	⇑	*i*Pn	Pn	00 44 47.3	+0.7
DRME					*i* Sn	Sn	00 45 39.2	+2.0
DRME	Dracevica, Mon	4.35	333		*e*Pn	Pn	00 44 46.9	+0.3
PLD	Plovdiv	4.35	29		*i* P	Pn	00 44 47.8	+1.2
VTS	Vitosha	4.40	13		*i* P	Pn	00 44 48.5	+1.0
PVY	Plav	4.49	342	⇓	*i*Pn	Pn	00 44 50.0	+1.3
PVY					*i* Sn	Sn	00 45 42.5	+1.7
BODT	Bodrum	4.52	105		P	Pn	00 44 50.1	+1.2
PDG	Podgorica	4.54	335		*e*Pn	Pn	00 44 49.8	+0.6
PDG					*e*Sn	Sn	00 45 42.4	+0.5
PDG	Podgorica	4.54	335	⇑	P	Pn	00 44 50.0	+0.8
PDG	Podgorica	4.54	335	⇑	S	Sn	00 45 45.7	+3.8
PDG	Podgorica	4.54	335		*e*Pn	Pn	00 44 49.8	+0.6
PDG	Podgorica	4.54	335			Pn	00 44 50.0	+0.8
TTG	Podgorica	4.54	335		*e*Pn	Pn	00 44 50.3	+1.1
TTG					*i* Sn	Sn	00 45 44.4	+2.5
BUM	Brajici-Budva	4.56	331	⇓	*i*Pn	Pn	00 44 49.8	+0.3
BUM					*i* Sn	Sn	00 45 44.6	+2.2
MATE	Matera	4.60	302	⇓	P	Pn	00 44 50.3	+0.3
MATE	Matera	4.60	302	⇑	S	Sn	00 45 44.3	+1.0
CEL	Celeste	4.68	271		Pn	Pn	00 44 51.5	+0.2
BAI	Bari	4.72	307	⇑	*i*Pn	Pn	00 44 52.1	+0.4
CEME	Cevo	4.76	333	⇑	*i*Pn	Pn	00 44 52.9	+0.6
CEME					*i* Sn	Sn	00 45 49.7	+2.2
IVA	Berane	4.77	342	⇓	*i*Pn	Pn	00 44 53.9	+1.5
IVA					*i* Sn	Sn	00 45 50.1	+2.5
HCY	Herceg Novi	4.84	329	⇑	*i*Pn	Pn	00 44 53.3	0.0
HCY					*i* Sn	Sn	00 45 51.2	+2.0
HCY	Herceg Novi	4.84	329		*e*Pn	Pn	00 44 52.8	-0.5
KOME	Kolasin	4.84	339	⇓	*i*Pn	Pn	00 44 54.9	+1.4
KOME					*i* Sn	Sn	00 45 51.9	+2.3
SELS	Selova	4.91	354		*e*Pn	Pn	00 44 55.7	+1.4
NKME	Niksic	4.94	334	⇓	*i*Pn	Pn	00 44 55.8	+1.0
NKME					*i* Sn	Sn	00 45 53.9	+2.0
ZAPS	Zavoj	4.97	7		*e*Pn	Pn	00 44 56.4	+1.3
NKY	Niksic	4.97	335	⇑	*i*Pn	Pn	00 44 56.1	+0.8
NKY					*i* Sn	Sn	00 45 54.6	+1.9
KARP	Karpathos	5.09	122			Pn	00 44 58.3	+1.5
SJES	Sjenica	5.12	344		*e*Pn	Pn	00 44 59.0	+1.7
BRY	Bratogost	5.21	332	⇓	*i*Pn	Pn	00 44 59.1	+0.6
BRY					*i* Sn	Sn	00 46 00.3	+1.7
BRY	Bratogost	5.21	332		*e*Pn	Pn	00 44 58.1	-0.4
MPEP	Malo Peshtene	5.21	15		*i* P	Pn	00 44 49.9	-8.6
MANT	Manisa	5.27	86			Pn	00 45 02.5	+2.9
BOVS	Bovan	5.29	359		*e*Pn	Pn	00 45 00.8	+1.2
PLE	Pljevlja	5.32	340	⇓	*i*Pn	Pn	00 45 01.1	+1.0
PLE					*i* Sn	Sn	00 46 03.3	+1.9
UPM	Unac-Piva	5.35	336	⇑	*i*Pn	Pn	00 45 01.6	+1.0
UPM					*i* Sn	Sn	00 46 03.2	+1.1
UPM	Unac-Piva	5.35	336		*e*Pn	Pn	00 45 01.5	+1.0
ZAGS	Zajecar	5.48	3		*e*Pn	Pn	00 45 03.0	+0.9
GRUS	Gruza	5.61	352		*e*Pn	Pn	00 45 05.0	+1.1
SGRT	San Giovanni R	5.79	308		Pn	Pn	00 45 06.3	-0.3
SZH	Strazhica	5.82	31		*i* P	Pn	00 45 08.1	+1.3
BBLS	Lazići	5.82	342		*e*Pn	Pn	00 45 07.1	+0.2
BBLS	Lazići	5.82	342	⇓	*i*Pn	Pn	00 45 07.1	+0.2
DIVS	Divibare	5.92	347		*e*Pn	Pn	00 45 08.6	+0.3
DIVS	Divibare	5.92	347	⇓	*i*Pn	Pn	00 45 08.2	-0.1
DIVS	Divibare	5.92	347		Pn	Pn	00 45 08.9	+0.6
VAE	Valguarnera	5.94	264		Pn	Pn	00 45 11.1	+2.5
comp=N,1.3nm,0.3s,baz=68,slow=14,SNR=5.5								
VAE					Sn	Sn	00 46 20.3	+3.7
comp=N,2.4nm,0.3s,baz=57,slow=20,SNR=3.1								
VAE					LR	LR	00 47 42.7	
comp=N,924nm,19.1s,baz=77,slow=40								
TRUS	Trudelj	5.98	350		*e*Pn	Pn	00 45 10.0	+1.0
RAFF	Raffo Rosso	6.03	262			Pn	00 45 10.7	+0.9
PAOL	Paolisi	6.22	298			Pn	00 45 13.3	+0.9
RAZG	Razgrad	6.30	33	⇑	P	Pn	00 45 15.6	+2.2
SRE	Strehaia	6.40	9	⇑	P	Pn	00 45 17.4	+2.6
MDVR	Moldovita	6.44	359	⇑	P	Pn	00 45 17.9	+2.6
TEKS	Tekeris	6.45	345		*e*Pn	Pn	00 45 15.7	+0.3
TEKS	Tekeris	6.45	345		*e*Pn	Pn	00 45 15.2	-0.2
AKAS	Kas	6.53	106			Pn	00 45 18.8	+2.1
HERR	Herculane	6.55	4	⇓	P	Pn	00 45 18.9	+2.0
ELL	Elmali	6.60	101		P	Pn	00 45 19.3	+1.6
ELL	Elmali	6.60	101		Pn	Pn	00 45 19.3	+1.6
HUMR	Humele	6.62	20	⇓	P	Pn	00 45 21.1	+3.4
SGRR	Singureni	6.65	27	⇑	P	Pn	00 45 19.9	+1.8
CORL	Corleone	6.75	269			Pn	00 45 20.9	+1.2
ORH	Orhaniye	6.83	66		*i* P	Pn	00 45 09.3	-11
CLTB	Caltabellotta	6.86	266		Pn	Pn	00 45 23.1	+1.9
ISP	Isparta	6.86	92		P	Pn	00 45 24.6	+3.4
ISP	Isparta	6.86	92		Pn	Pn	00 45 22.8	+1.5
ISP	Isparta	6.86	92		Pn	Pn	00 45 24.6	+3.4
FRGS	Fruska Gora	6.98	348		*e*Pn	Pn	00 45 22.5	-0.3
FRGS	Fruska Gora	6.98	348	⇓	*i*Pn	Pn	00 45 22.3	-0.5
INTR	Introdacqua	7.10	304		Pn	Pn	00 45 24.7	+0.2
SULR		7.14	26	⇑	P	Pn	00 45 27.7	+2.7
BOLV	Bolvadin	7.15	84			Pn	00 45 27.6	+2.4
LOT	Lotru	7.25	11	⇑	P	Pn	00 45 28.0	+1.5
BZS	Buzias	7.28	359		*e*Pn	Pn	00 45 27.4	+0.6
BZS	Buzias	7.28	359	⇑	P	Pn	00 45 29.6	+2.9
MTUR	Matau	7.29	18	⇑	P	Pn	00 45 30.0	+2.9
BLY	Banja Luka	7.30	333		*e*Pn	Pn	00 45 27.9	+0.8
BLY	Banja Luka	7.30	333	⇓	*i*Pn	Pn	00 45 26.0	-1.1
ARR	Arges	7.33	16	⇑	P	Pn	00 45 29.8	+2.2
SLUM	Salum	7.37	157		P	Pn	00 45 28.6	+0.5
baz=160								
SLUM					S	Sn	00 46 48.3	-3.3
baz=160								
SECR		7.40	24	⇑	P	Pn	00 45 31.2	+2.7
MANR	Mangalia	7.47	41	⇑	P	Pn	00 45 32.1	+2.6
VOIR		7.48	18	⇑	P	Pn	00 45 32.4	+2.6
MDUB	Mudurnu	7.55	71		Pn	Pn	00 45 31.8	+1.2
DEV	Deva	7.58	6	⇑	P	Pn	00 45 33.8	+2.8
ISR	Istrita	7.63	26	⇑	P	Pn	00 45 33.6	+1.9
MLR	Muntele Rosu	7.77	22		Pn	Pn	00 45 35.8	+2.1
comp=N,1.0nm,0.3s,baz=184,slow=5.9,SNR=54								
MLR					Sn	Sn	00 47 05.8	+4.1
baz=266,slow=15,SNR=0.9								
MLR					LR	LR	00 48 44.1	
comp=N,4μm,20.7s,baz=303,slow=39								
MLR	Muntele Rosu	7.77	22	⇑	P	Pn	00 45 36.4	+2.7
MLR	Muntele Rosu	7.77	22			Pn	00 45 34.8	+1.1
HARR	Harsova	7.81	34	⇑	P	Pn	00 45 37.3	+3.1
NEHR	Nehoiu	7.82	24	⇓	P	Pn	00 45 36.8	+2.5
TIRR	Tirgusor	7.86	37	⇑	P	Pn	00 45 37.5	+2.8
TIRR	Tirgusor	7.86	37		P	Pn	00 45 36.4	+1.7
TIRR	Tirgusor	7.86	37		Pn	Pn	00 45 36.4	+1.7
GRER		8.01	27	⇑	P	Pn	00 45 40.2	+3.4
NRCA	Norcia	8.02	307			Pn	00 45 37.1	+0.1
BISRR	Bisoca	8.06	25	⇑	P	Pn	00 45 40.9	+3.3
DOPR	Dopca	8.06	18	⇑	P	Pn	00 45 39.5	+1.9
TOPG	Topolog	8.16	35	⇓	P	Pn	00 45 42.3	+3.4
OZUR		8.28	19	⇑	P	Pn	00 45 42.8	+2.1
CFR	Carcaliu	8.29	32	⇑	P	Pn	00 45 42.9	+2.2
JURR	Jurilovca	8.30	37	⇑	P	Pn	00 45 44.5	+3.6
PLOR	Plostina	8.31	24	⇑	P	Pn	00 45 44.5	+3.4
VRI	Vrincioaia	8.35	24	⇑	P	Pn	00 45 44.7	+3.1
ODBI	Odobesti	8.37	26	⇑	P	Pn	00 45 44.8	+3.0
PETR	Petresti	8.39	27	⇑	P	Pn	00 45 45.4	+3.3
CJR	Cluj-Napoca	8.47	8	⇑	P	Pn	00 45 45.0	+1.8
MURB	Monte Urbino	8.61	308			Pn	00 45 46.2	+1.0
BR231	Keskin MP Arra	8.63	77			Pn	00 45 47.5	+1.9
BOJS	Bojanci	8.68	328		*i* Pn	Pn	00 45 45.3	-0.8
BOJS					*i* Sn	Sn	00 47 21.2	-2.7
comp=Z,4μm,5.7s								
GHRR		8.75	26	⇑	P	Pn	00 45 50.1	+3.2
LATE	Laterza	8.76	302		Pn	Pn	00 45 47.6	+0.4
CRES	Cresnjev	8.86	330	⇓	*i*Pn	Pn	00 45 46.6	-1.9
BEHE	Becsehely	8.95	337	⇓	*i*Pn	Pn	00 45 51.3	+1.6
BIZ	Bicaz	9.15	19	⇑	P	Pn	00 45 55.9	+3.4
CEY	Cerknica	9.22	326	⇓	*i*Pn	Pn	00 45 52.2	-1.3
BR131	Keskin Array S	9.28	78		P	Pn	00 45 57.2	+2.7
SNR=18								
BR131	Keskin Array S	9.28	78		P	Pn	00 45 56.6	+2.1
BR131	Keskin Array S	9.28	78			Pn	00 45 56.6	+2.1
BRTR	Keskin Array B	9.28	78		Pn	Pn	00 45 57.3	+2.8
comp=Z,1.2nm,0.3s,baz=261,slow=12,SNR=46								
BRTR					Lg	Lg	00 48 39.9	
baz=269,slow=28,SNR=0.7								
BRTR					LR	LR	00 49 45.9	
comp=Z,574nm,20.4s,baz=240,slow=39								
BRTR	Keskin Array B	9.28	78		*i* P	Pn	00 45 57.2	+2.7
BRTR					pmax	pmax		
comp=Z,16nm,0.8s								
BRTR	Keskin Array B	9.28	78		Pn	Pn	00 45 56.3	+1.9
LJU	Ljubljana	9.42	327	⇓	*i*Pn	Pn	00 45 54.5	-1.7
LEF	Lefka	9.43	107	⇑	P	Pn	00 45 57.6	+1.2
CASP	Castiglione de	9.46	301		Pn	Pn	00 45 57.4	+0.6
TRI	Trieste	9.50	323		P	Pn	00 45 55.7	-1.7
TRI	Trieste	9.50	323			Pn	00 45 55.7	-1.7
ILGA	Ilgaz	9.54	70			Pn	00 46 00.0	+1.9
OSSC	Osservatorio P	9.55	306			Pn	00 45 58.9	+1.0
SWA2		9.55	161		P	Pn	00 45 59.5	+1.5
baz=163								
BURAR	Bucovina Array	9.59	14	⇑	P	Pn	00 46 00.6	+1.9
BURAR	Bucovina Array	9.59	14			Pn	00 45 59.9	+1.2
BUR08	Bucovina Ar. S	9.62	14			Pn	00 46 00.3	+1.3
PSZ	Piszkesteto	9.68	352	⇑	P	Pn	00 46 01.7	+1.8
PSZ	Piszkesteto	9.68	352		P	Pn	00 46 00.5	+0.6
PSZ	Piszkesteto	9.68	352		Pn	Pn	00 46 00.5	+0.6
SOKA	Soboth	9.73	331		*e*Pn	Pn	00 45 59.1	-1.4
comp=Z,10nm,0.5s,SNR=34								
SOKA					*e*Sn	Sn	00 47 45.8	-4.0
comp=Z,7.5nm,0.5s								
SRO2	Moca	9.75	346		*e*P	Pn	00 46 01.3	+0.6
SRO2					*e*		00 47 49.5	
SRO2	Moca	9.75	346		*e*PN	Pn	00 46 01.3	+0.6
SRO2					*e*SN	Sn	00 47 49.5	-0.6
OBKA	Obir	9.78	329		*e*Pn	Pn	00 45 59.3	-1.9
comp=Z,5.6nm,0.8s,SNR=14								
OBKA					Sn	Sn	00 47 49.3	-1.7
comp=Z,49nm,0.6s								
VSL	Villasalto	9.79	281		Pn	Pn	00 46 00.9	-0.4
SRO	Srobarova	9.81	346		*e*P	Pn	00 46 03.2	+1.6
SRO					*e*		00 47 53.8	
SRO	Srobarova	9.81	346		*e*PN	Pn	00 46 03.2	+1.6
SRO					*e*SN	Sn	00 47 53.8	+2.2
CSS	Mathiatis	9.82	107		Pn	Pn	00 46 01.7	-0.1
CSS	Mathiatis	9.82	107		Pn	Pn	00 46 03.5	+1.7
MILM	Milestii Mici	9.99	29	⇑	P	Pn	00 46 07.3	+3.4
ARSA	Arzberg	10.04	335		*e*Pn	Pn	00 46 03.2	-1.6
comp=Z,36nm,0.8s,SNR=26								
KIS	Kishinev	10.06	28		*e*P	Pn	00 46 05.0	+0.1
KIS	Kishinev	10.06	28		*e*PP	Pn	00 46 09.0	+4.1
KIS					*e*S	Sn	00 47 54.0	-3.6
KIS					*e*LQ	LQ	00 49 00.0	
KIS					*e*LR	LR	00 49 42.0	
comp=Z,1μm,12.0s								
KIS	Kishinev	10.06	28		*e*P	Pn	00 46 05.0	+0.1
KIS					*e*S	Sn	00 47 54.0	-3.6
KIS					MLR	MLR		
comp=N,2μm,12.0s								
KIS					MLR	MLR		
comp=Z,1μm,12.0s								
ZCCA	Zocca	10.14	310			Pn	00 46 05.8	-0.4
PRED	Cave del Predi	10.15	326		Pn	Pn	00 46 05.9	-0.4
MYKA	Terra Mystica	10.26	326		*e*Pn	Pn	00 46 06.8	-0.9
comp=Z,7.3nm,0.7s,SNR=13								
MYKA					*e*Sn	Sn	00 47 58.9	-3.8
comp=Z,11nm,0.7s								
UZH	Uzhgorod	10.29	2		*e*P	Pn	00 46 10.7	+2.6
UZH					*e*S	Sn	00 48 08.0	+4.6
UZH					MLR	MLR		
comp=N,770nm,10.0s								
UZH					MLR	MLR		
comp=E,210nm,10.0s								
UZH					MLR	MLR		
comp=Z,600nm,10.0s								
KEST	Kesra	10.33	259		Pn	Pn	00 46 09.9	+1.2
comp=Z,0.2nm,0.3s,baz=354,slow=5.2,SNR=13								
KEST					Sn	Sn	00 48 03.7	-0.7
comp=Z,0.1nm,0.3s,baz=229,slow=14,SNR=1.4								
KEST					LR	LR	00 51 00.7	
comp=Z,861nm,21.2s,baz=20,slow=43								
KEST	Kesra	10.33	259		Pn	Pn	00 46 09.8	+1.1
TEOL	Teolo	10.33	316		Pn	Pn	00 46 07.9	-0.8
VYHS	Vyhne	10.38	349		*e*P	Pn	00 46 09.5	+0.1
VYHS					*e*		00 48 07.8	
VYHS	Vyhne	10.38	349		*e*PN	Pn	00 46 09.5	+0.1
VYHS					*e*SN	Sn	00 48 07.8	+2.2
VYHS					*e*SG		00 49 05.1	
VLC	Villacollemand	10.40	308			Pn	00 46 08.6	-1.0
STAL	STALIGIAL	10.41	322			Pn	00 46 08.2	-1.5
ZOU	Zoufplan	10.50	324			Pn	00 46 10.1	-1.1
CONA	Conrad Observa	10.53	337		*e*Pn	Pn	00 46 10.2	-1.3
comp=Z,6.9nm,1.0s,SNR=12								
CRVS	Cervenica-Dubn	10.56	359		*e*P	Pn	00 46 13.8	+1.9
CRVS	Cervenica-Dubn	10.56	359		*e*PN	Pn	00 46 13.8	+1.9
MODS	Modra-Piesok	10.57	343		*e*P	Pn	00 46 11.1	-0.8
MODS	Modra-Piesok	10.57	343		*e*PN	Pn	00 46 11.1	-0.8
CIMO	Cimolais	10.57	322		Pn	Pn	00 46 10.0	-2.0
KOLS	Kolonicke sedl	10.60	2		*e*P	Pn	00 46 13.7	+1.4
KOLS	Kolonicke sedl	10.60	2		*e*PN	Pn	00 46 13.6	+1.3
KBA	Koelnbreinsper	10.74	327		*e*Pn	Pn	00 46 12.8	-1.6
comp=Z,37nm,1.3s,SNR=20								
PRMA	PARMA	10.76	310			Pn	00 46 14.1	-0.4
CTI	Castel Tesino	10.79	319		P	Pn	00 46 12.7	-2.3
CTI	Castel Tesino	10.79	319		Pn	Pn	00 46 12.7	-2.3
ABTA	Abfaltersbach	10.86	324		*e*Pn	Pn	00 46 13.1	-2.9
comp=Z,23nm,0.7s,SNR=33								
ABTA					Sn	Sn	00 48 13.9	-3.4
comp=Z,65nm,0.9s								
SORM	Soroca	10.88	24	⇑	P	Pn	00 46 17.7	+1.7
JAVC	Velka Javorina	10.94	345		*e*PN	Pn	00 46 17.1	0.0
MOA	Molln	11.00	332		*e*Pn	Pn	00 46 17.8	0.0
comp=Z,9.2nm,0.7s,SNR=28								
MOA					*e*Sn	Sn	00 48 20.3	-0.4
comp=Z,21nm,0.8s								
MSSA	Maissana	11.02	307		Pn	Pn	00 46 17.8	-0.4
SALO	Salr	11.12	314		Pn	Pn	00 46 18.8	-0.8
NIE	Niedzica	11.13	355		*e*P	Pn	00 46 21.2	+1.6
KWP	Kalwaria Pacla	11.31	3		*e*P	Pn	00 46 26.0	+3.9
KWP	Kalwaria Pacla	11.31	3		P	Pn	00 46 22.7	+0.6
KWP	Kalwaria Pacla	11.31	3			Pn	00 46 22.7	+0.6
KRUC	Moravsky	11.42	342		*e*PN	Pn	00 46 22.2	-1.3
TOKA	Tokat	11.51	76			Pn	00 46 25.1	+0.3
LVV	L'vov	11.58	7		*e*P	Pn	00 46 27.9	+2.1
LVV					*e*S	Sn	00 48 37.0	+2.0
LVV					MLR	MLR		
comp=E,1μm,12.0s								
LVV					MLR	MLR		
comp=N,1μm,14.0s								
LVV					MLR	MLR		
comp=Z,2μm,13.0s								
VRAC	Vranov	11.60	343		Pn	Pn	00 46 25.6	-0.4
comp=Z,0.3nm,0.3s,baz=176,slow=13,SNR=20								
VRAC					Sn	Sn	00 48 33.6	-1.8
comp=Z,0.3nm,0.3s,baz=184,slow=14,SNR=1.3								
VRAC					LR	LR	00 51 53.8	
comp=Z,3μm,19.1s,baz=180,slow=43								
VRAC	Vranov	11.60	343	⇑	P	Pn	00 46 26.4	+0.4
VRAC	Vranov	11.60	343		*e*PN	Pn	00 46 25.2	-0.8
WTTA	Wattenberg	11.64	323		*e*Pn	Pn	00 46 26.3	-0.5
comp=Z,15nm,0.4s,SNR=48								
WTTA					*e*Sn	Sn	00 48 34.0	-2.8
comp=Z,64nm,0.8s								
WATA	Walderalm	11.72	323		*i* Pn	Pn	00 46 27.4	-0.5
comp=Z,25nm,0.7s,SNR=65								
WATA					*e*Sn	Sn	00 48 34.1	-4.6
comp=Z,60nm,0.8s								
SQTA	Sankt Quirin	11.82	322		*e*Pn	Pn	00 46 27.6	-1.5
comp=Z,14nm,0.5s,SNR=31								
SQTA					*e*Sn

CHVC AMS AMS 00 52 40.0
comp=Z,3μm,17.5s
YTIR Yattir 12.92 119 Pn **Pn 00 46 44.4 +0.1**
DSI Dead Sea 12.99 117 Pn **Pn 00 46 45.1 +0.1**
KSP Ksiaz 13.11 344 *e*P **Pn 00 46 49.4 +2.7**
PVCC Panska Ves 13.24 339 *e*PN **Pn 00 46 47.6 -0.8**
PVCC AMS AMS 00 52 10.0
comp=Z,5μm,10.9s
PVCC Panska Ves 13.24 339 *e*P **Pn 00 46 47.6 -0.8**
PVCC MLR MLR
comp=Z,5μm,10.9s
GHAJ Ghor Haditha 13.27 118 Pn **Pn 00 46 49.3 +0.4**
SET Setif 13.28 266 P **Pn 00 46 53.0 +3.9**
ROTZ Rotzenmuhle 13.35 332 *e*Pn **Pn 00 46 49.7 -0.2**
baz=141,slow=14
SENIN Lac Senin/Sane 13.40 311 Pn **Pn 00 46 51.9 +1.0**
AKASG Malin Array Be 13.42 21 Pn **Pn 00 46 51.6 +0.8**
comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=22
AKASG LR LR 00 52 36.5
comp=Z,2μm,18.5s,baz=200,slow=40
AKASG ScP **ScP 00 55 51.1 -0.5**
baz=229,slow=1.0,SNR=4.7
AKASG Malin Array Be 13.42 21 *i* P **Pn 00 46 51.7 +0.8**
AKASG pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 13.42 21 P **Pn 00 46 51.0 +0.1**
AKBB Malin Array Si 13.42 21 Pn **Pn 00 46 51.0 +0.1**
KRMI Paran Flat 13.43 124 Pn **Pn 00 46 51.3 +0.1**
KARJ KARJ 13.44 118 Pn Pn 00 46 44.2 -7.0
PRNI Paran 13.47 122 Pn **Pn 00 46 52.5 +0.9**
BEL Belsk 13.52 357 *e*P **P 00 46 60.0 -1.4**
BEL *e*S **S 00 49 46.7 +1.0**
MANZ Manzenberg 13.57 332 *e*Pn **Pn 00 46 53.3 +0.4**
baz=141,slow=14
NKC Novy Kostel 13.65 334 *e*PN **Pn 00 46 54.4 +0.4**
NKC AMS AMS 00 52 30.0
comp=Z,7μm,14.6s
NKC Novy Kostel 13.65 334 *e*P **Pn 00 46 54.4 +0.4**
NKC MLR MLR
comp=Z,7μm,14.6s
GRA1 Grafenberg Arr 13.67 330 **Pn 00 46 54.0 -0.3**
GRF Grafenberg Arr 13.67 330 P **Pn 00 46 54.0 -0.3**
GRF Grafenberg Arr 13.67 330 *e*P **P 00 47 05.3 +2.2**
GRF *e*L L 00 53 02.7
comp=Z,6μm,18.8s
HRFI Mount Harif 13.69 123 Pn **Pn 00 46 55.2 +0.5**
BRG Berggiesshubel 13.73 338 *i* P **Pn 00 46 53.6 -1.5**
comp=Z,8.2nm,1.3s
BRG *i* PP **PnPn 00 47 02.0 -1.0**
comp=Z,26nm,1.1s
BRG S **S 00 49 53.0 +2.9**
comp=N,3μm,13.8s
comp=E,3μm,11.5s
comp=Z,4μm,13.5s
BRG Berggiesshubel 13.73 338 *i* P **Pn 00 46 53.6 -1.5**
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=Z,27nm,1.1s
BRG MLR MLR
comp=N,3μm,13.8s
BRG MLR MLR
comp=E,3μm,11.5s
BRG MLR MLR
comp=Z,4μm,13.5s
BRG Berggiesshubel 13.73 338 *e*Pn **Pn 00 46 55.4 +0.3**
baz=141,slow=14
ASF Jabal al Asfar 13.74 112 Pn **Pn 00 46 57.5 +2.0**
comp=Z,0.2nm,0.3s,baz=240,slow=5.3,SNR=10
ASF Sn **Sn 00 49 27.2 -0.9**
comp=Z,0.1nm,0.3s,baz=56,slow=18,SNR=1.5
MBRI Mt Berech 13.77 124 Pn **Pn 00 46 55.9 +0.1**
STU Stuttgart 13.87 323 P **Pn 00 46 54.8 -2.2**
STU Stuttgart 13.87 323 *e*Pn **Pn 00 46 55.8 -1.3**
baz=141,slow=14
STU Stuttgart 13.87 323 Pn **Pn 00 46 54.8 -2.2**
EIL Elat 13.88 125 Pn **Pn 00 46 58.6 +1.4**
comp=Z,0.5nm,0.3s,baz=267,slow=2.4,SNR=7.5
EIL Sn **Sn 00 49 26.8 -4.5**
comp=Z,0.4nm,0.3s,baz=67,slow=18,SNR=3.0
EIL Elat 13.88 125 Pn **Pn 00 46 57.3 +0.1**
AQBJ Aqaba 13.90 124 Pn **Pn 00 46 57.6 0.0**
PLN Plauen 13.96 334 *e*Pn **Pn 00 46 59.0 +0.7**
baz=141,slow=14
BFO Black Forest 14.00 320 P **Pn 00 46 57.6 -1.2**
BFO Black Forest 14.00 320 *e*Pn **Pn 00 46 59.1 +0.3**
baz=141,slow=14
BFO Black Forest 14.00 320 Pn **Pn 00 46 57.6 -1.2**
MOX Moxa 14.29 333 *e*Pn **Pn 00 47 02.4 -0.3**
baz=141,slow=14
MOX *e*L L 00 53 18.5
comp=Z,6μm,19.0s
CLL Collm 14.39 337 *e*P **Pn 00 47 02.0 -2.1**
CLL *es*P **P 00 47 07.0 -4.1**
CLL *i* PP **PnPn 00 47 10.7 -1.3**
comp=Z,35nm,1.2s
CLL *i* sPP 00 47 16.1
comp=Z,60nm,0.9s
CLL *e* 00 48 10.0
CLL *e*(SS) 00 50 10.0
CLL *e* 00 50 30.0
CLL Lmax 00 53 00.0
CLL Collm 14.39 337 *e*P **Pn 00 47 02.0 -2.1**
CLL pmax pmax
comp=Z,35nm,1.2s
CLL Collm 14.39 337 **Pn 00 47 03.8 -0.4**
SOC Sochi 14.48 63 *e*P **Pn 00 47 06.8 +1.4**
SOC *e* 00 49 49.6
SOC pmax pmax
comp=Z,25nm,0.8s
SOC MLR MLR
comp=Z,363nm,16.0s
ECH Echery 14.53 317 P **Pn 00 47 05.8 -0.4**
ECH Echery 14.53 317 Pn **Pn 00 47 05.8 -0.4**
KOPT Kop Dagi 14.57 78 **Pn 00 47 08.0 +1.1**
SSB Saint Sauveur 14.64 304 P **Pn 00 47 07.6 0.0**
SSB Saint Sauveur 14.64 304 Pn **Pn 00 47 07.6 0.0**
MARD Mardin 15.00 88 **Pn 00 47 15.2 +2.6**
MARD IAmb IAmb 00 47 26.2
comp=Z,74nm,1.1s
RUE Ruedersdorf 15.22 341 *e*P **P 00 47 20.3 0.0**
GKP Gorka Klasztor 15.27 349 *e*P **P 00 47 21.9 +1.1**
GKP *e*S **S 00 50 19.8 -1.7**
ARTV Artvin 15.70 73 P **Pn 00 47 23.1 +1.2**
SUW Suwalki 15.71 3 *e*P **Pn 00 47 22.4 +0.7**
SUW Suwalki 15.71 3 P **Pn 00 47 22.5 +0.9**
SUW pmax pmax
comp=Z,807nm,1.1s
SUW Suwalki 15.71 3 **Pn 00 47 22.5 +0.9**
WLF Walferdange 15.95 320 P **Pn 00 47 26.5 +1.6**
WLF Walferdange 15.95 320 P **Pn 00 47 25.1 +0.2**
WLF pmax pmax
comp=Z,49nm,1.1s
WLF Walferdange 15.95 320 Pn **Pn 00 47 25.1 +0.2**
EBNR Beni Rached 16.29 269 P **P 00 47 33.2 +0.8**
KLNR Kaliningrad 16.31 357 *i* P **Pn 00 47 29.9 +0.5**
KLNR pmax pmax
comp=Z,110nm,1.3s
ECHA Ech Chlef 16.45 269 P **P 00 47 34.4 +0.3**
BHOU Houvegnez 16.47 322 P **P 00 47 33.8 -0.4**
MEM Membach 16.64 323 Pn **Pn 00 47 34.3 +0.6**
GEVA Gevas 16.65 83 **Pn 00 47 35.2 +1.2**
KIV Kislovodsk 16.65 64 P **P 00 47 36.7 +0.3**
KIV Kislovodsk 16.65 64 *e*P **P 00 47 36.3 -0.1**
KIV *e*S **Sn 00 50 41.9 +3.1**
KIV pmax pmax
comp=Z,77nm,1.1s
KIV MLR MLR
comp=Z,311nm,13.0s
KIV Kislovodsk 16.65 64 **Pn 00 47 33.3 -0.7**
KVAR Kislovodsk Arr 16.66 64 LR LR 00 56 15.5
comp=Z,430nm,18.1s,baz=99,slow=45
MICGM Minsk 16.68 12 *e*P **Pn 00 47 34.0 -0.2**
MICGM *e*PP **sP 00 47 42.0 +0.4**
MICGM *e*S **Sn 00 50 36.0 -3.2**
MICGM *e*SS **SnSn 00 50 52.0 -0.4**
MICGM *e*LQ LQ 00 52 30.0
MICGM *e*LR LR 00 53 50.0
MICGM LRM MLR 00 54 50.0
comp=Z,3.4nm,14.0s
MNK Minsk 16.68 12 *e*P **Pn 00 47 34.0 -0.2**
MNK *e*S **Sn 00 50 36.0 -3.2**
MNK MLR MLR
comp=Z,3μm,14.0s

ETRT Tiaret 16.70 266 P **P 00 47 37.2 +0.2**
EANR 'Ain N'Sour 16.71 268 P **Pn 00 47 33.9 -0.8**
KBZ Khabaz 16.76 65 Pn **P 00 47 39.4 +2.0**
comp=Z,0.2nm,0.3s,baz=280,slow=10,SNR=8.7
KBZ LR LR 00 55 40.6
comp=Z,288nm,19.8s,baz=264,slow=43
BSTI Sart Tilman 16.83 322 P **P 00 47 38.1 -0.1**
BCLA Clavier 16.86 321 P **P 00 47 38.2 -0.3**
comp=Z,24nm,1.5s
AKH Akhalkalaki 16.89 73 P **P 00 47 38.7 -0.4**
AKH pmax pmax
comp=Z,52nm,1.2s
AKH Akhalkalaki 16.89 73 P **P 00 47 38.7 -0.4**
NACGM Naroch 16.91 10 *e*P **Pn 00 47 36.0 -1.0**
NACGM *e*S **Sn 00 50 40.0 -4.6**
NACGM *e*SSS SSS 00 51 18.0
NACGM *e*LQ LQ 00 53 12.0
NACGM *e*LR LR 00 54 32.0
BEBN Eben Emael 16.92 323 P **P 00 47 39.3 +0.2**
DOU Dourbes 17.01 319 Pn **Pn 00 47 39.2 +0.8**
comp=Z,38nm,1.9s
BMRD Maredsous 17.05 320 Pn **Pn 00 47 39.0 +0.2**
GOF Gofitskoye 17.17 60[] *e*P **P 00 47 43.4 +1.4**
GOF pmax pmax
comp=Z,50nm,0.9s
CLF Chambon-Foret 17.21 310 P **P 00 47 42.9 +0.5**
RGN Rugen 17.22 343 *e*P **Pn 00 47 40.4 -0.5**
RGN *e*S **S 00 51 00.4 -0.9**
RGN Rugen 17.22 343 **Pn 00 47 38.1 -2.8**
PABE Paberze 17.23 4 *e*P **Pn 00 47 40.7 -0.3**
PABE *e*S **S 00 51 00.4 -1.1**
IIGN Ignalina 17.27 8 *e*P **P 00 47 43.3 +0.2**
IIGN IAmb IAmb 00 47 47.0
comp=Z,40nm,1.3s
IIGN *e*S **S 00 51 00.9 -1.5**
IDID Didziasalis 17.30 9 *e*P **P 00 47 43.4 0.0**
ZEI Tsey 17.32 68 *e*P **P 00 47 45.4 +1.5**
ZEI pmax pmax
comp=Z,22nm,1.2s
SNF Seneffe 17.42 320 Pn **Pn 00 47 43.9 +0.4**
SNF PnPn **PnPn 00 47 54.2 +0.7**
BSD Bornholm Skovb 17.43 347 *i* P **Pn 00 47 42.2 -1.2**
comp=Z,22nm,1.1s
comp=Z,2μm,13.0s
BSD Bornholm Skovb 17.43 347 *i* P **Pn 00 47 42.2 -1.2**
BSD pmax pmax
comp=Z,22nm,1.1s
BSD MLR MLR
comp=Z,2μm,13.0s
ISAL Salakas 17.48 8 *e*P **P 00 47 45.3 0.0**
ISAL IAmb IAmb 00 47 50.0
comp=Z,24nm,1.1s
UCC Uccle 17.56 321 P **Pn 00 47 44.7 -0.5**
UCC pmax pmax
comp=Z,43nm,1.1s
UCC Uccle 17.56 321 P **Pn 00 47 44.7 -0.5**
VORD Divnogorie 17.65 39 *e*P **P 00 47 48.1 +0.9**
VORD pmax pmax
comp=Z,60nm,1.1s
IZAR Zarasai 17.67 8 *e*P **P 00 47 47.4 0.0**
IZAR IAmb IAmb 00 48 07.8
comp=Z,47nm,1.4s
PBUR Paburge 17.69 0 *e*P **Pn 00 47 46.0 -0.8**
PBUR IAmb IAmb 00 47 51.8
comp=Z,60nm,0.8s
VSR Storozhevoye 17.74 38 *e*P **P 00 47 48.6 +0.4**
VSR *e*S **Sn 00 51 06.0 +1.1**
VSR pmax pmax
comp=Z,70nm,1.4s
VSR smax smax
comp=E,190nm,7.4s
VSR MLR MLR
comp=Z,2μm,14.0s
CART Cartagena 18.03 275 **Pn 00 47 50.8 -0.3**
COP Copenhagen 18.47 343 *i* P **Pn 00 47 57.7 +1.4**
comp=Z,50nm,1.2s
COP *i* 00 51 28.4
comp=Z,1μm,20.0s
COP Copenhagen 18.47 343 *i* P **Pn 00 47 57.7 +1.4**
COP pmax pmax
comp=Z,50nm,1.2s
COP MLR MLR
comp=Z,1μm,20.0s
LPSR Galich'ya Gora 18.56 34 *e*P **P 00 47 57.2 0.0**
LPSR *e*S **Sn 00 51 20.2 -4.3**
LPSR pmax pmax
comp=Z,70nm,1.1s
LPSR smax smax
comp=E,200nm,8.3s
LPSR MLR MLR
comp=Z,770nm,10.0s
GROC Groznyy 18.76 67 *e*P **P 00 47 58.2 -1.3**
GROC pmax pmax
comp=Z,34nm,1.1s
VRH Novokhopyorsk 19.01 41 *e*P **Pn 00 48 05.0 +2.1**
VRH *e*S **Sn 00 51 35.5 -0.1**
VRH pmax pmax
comp=Z,140nm,1.3s
VRH smax smax
comp=E,750nm,13.1s
VRH MLR MLR
comp=Z,830nm,11.0s
SLIT Slitere, Latvi 19.31 1 *e*P **Pn 00 48 07.0 +0.6**
SLIT *e*S **Sn 00 51 42.3 -0.2**
OBN Obninsk 19.51 26 P **P 00 48 07.3 -0.3**
comp=Z,0.8nm,0.3s,baz=215,slow=7.6,SNR=13
OBN LR LR 00 55 39.8
comp=Z,331nm,21.1s,baz=210,slow=37
OBN Obninsk 19.51 26 *ce*P **P 00 48 07.5 -0.1**
OBN *e*S **S 00 51 49.4 +1.8**
OBN pmax pmax
comp=Z,115nm,1.3s
OBN MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 19.51 26 P **P 00 48 07.6 0.0**
MAK Makhachkala 19.98 68 *e*P **Pn 00 48 14.2 -0.3**
MAK *e*S **Sn 00 51 59.9 +0.9**
MAK pmax pmax
comp=Z,785nm,1.3s
MAK MLR MLR
comp=Z,548nm,12.0s
MUD Monsted U'grnd 19.99 339 *i* P **P 00 48 13.0 +0.2**
comp=Z,29nm,1.0s
comp=Z,2μm,12.0s
MUD Monsted U'grnd 19.99 339 *i* P **P 00 48 13.0 +0.2**
MUD pmax pmax
comp=Z,29nm,1.0s
MUD MLR MLR
comp=Z,2μm,12.0s
ESBB Sonseca Array 20.08 282 P **P 00 48 14.6 +0.5**
ESBB IAmb IAmb 00 48 17.7
comp=Z,138nm,1.1s
ESDC Sonseca Array 20.09 282 P **P 00 48 14.6 +0.5**
comp=Z,111nm,1.0s,baz=74,slow=9.5,SNR=424
ESDC Sonseca Array 20.09 282 P **P 00 48 13.8 -0.4**
MOS Moscow 20.37 26 *e*P **P 00 48 16.6 -0.4**
MOS *e* 00 48 40.9
MOS *e*S Sn 00 52 09.3 +1.0
MOS pmax pmax
comp=N,120nm,1.2s
MOS pmax pmax
comp=E,143nm,1.2s
MOS pmax pmax
comp=Z,272nm,1.2s
MOS pmax pmax
comp=N,200nm,1.3s
MOS pmax pmax
comp=Z,300nm,1.3s
MOS pmax pmax
comp=E,100nm,1.2s
MOS MLR MLR
comp=Z,600nm,11.0s
VSU Vasula 20.39 7 *e*P **P 00 48 17.3 +0.2**
VSU *e*S **S 00 52 02.2 -2.8**
VSU Vasula 20.39 7 *c i*P **P 00 48 17.5 +0.4**
VSU pmax pmax
comp=Z,720nm,1.1s
PAB San Pablo 20.39 282 P **P 00 48 18.0 +0.5**
PAB pmax pmax
comp=Z,122nm,1.1s
PAB San Pablo 20.39 282 P **P 00 48 18.0 +0.5**
PAB IAmb IAmb 00 48 20.4
comp=Z,122nm,1.1s
TAM Tamanrasset 20.87 227 P Pn 00 48 24.5 -0.8
TAM pmax pmax

comp=Z,22nm,1.0s
TAM Tamanrasset 20.87 227 Pn 00 48 24.5 -0.8
HOMB Homborsund 21.75 341 *e*P **P 00 48 30.9 -0.9**
PBRG Braganca 22.11 288 *e*P **P 00 48 35.7 -0.2**
comp=Z,67nm,1.2s
PUL Pulkovo 22.12 11 *ce*P **P 00 48 34.4 -1.4**
PUL pmax pmax
comp=Z,78nm,1.1s
SNART Snartemo 22.16 339 *e*P **P 00 48 36.8 +0.6**
MDT Midelt 22.17 264 P **P 00 48 37.0 +0.3**
comp=Z,29nm,0.9s,baz=92,slow=12,SNR=44
SFS San Fernando 22.33 274 P **P 00 48 39.1 +0.8**
SFS pmax pmax
comp=Z,67nm,1.0s
SFS San Fernando 22.33 274 P **P 00 48 39.1 +0.8**
SFS IAmb IAmb 00 48 43.1
comp=Z,67nm,1.0s
MVO Moncorvo 22.34 286 *e*P **P 00 48 37.6 -0.8**
comp=Z,93nm,1.2s
HFS Hagfors 22.42 349 P **P 00 48 37.6 -1.4**
comp=Z,42nm,1.0s,baz=162,slow=12,SNR=23
HFS S **S 00 52 43.7 -1.1**
comp=Z,11nm,1.0s,baz=174,slow=16,SNR=5.8
HFS LR LR 00 59 43.3
comp=Z,1μm,20.8s,baz=172,slow=43
KONO Kongsberg 22.72 344 *ce*P **P 00 48 41.0 -1.1**
KONO pmax pmax
comp=Z,158nm,1.3s
KONO Kongsberg 22.72 344 P **P 00 48 41.1 -1.1**
KONO IAmb IAmb 00 48 43.8
comp=Z,134nm,1.1s
KONO Kongsberg 22.72 344 *e*P **P 00 48 40.7 -1.4**
PMRV Marv??o 22.75 282 *e*P **P 00 48 41.5 -1.2**
comp=Z,108nm,1.2s
OSL Oslo 22.75 345 *e*P **P 00 48 40.8 -1.6**
PCBR Castelo Branco 22.77 283 *e*P **P 00 48 41.5 -1.4**
comp=Z,73nm,1.2s
PVRL Vila Real 22.85 287 *e*P **P 00 48 44.9 +1.1**
comp=Z,38nm,1.3s
PVIS Viseu 23.02 285 *e*P **P 00 48 44.5 -1.0**
comp=Z,106nm,1.2s
PCAB Cabril 23.07 288 *e*P **P 00 48 44.8 -1.3**
comp=Z,52nm,1.3s
PGAV Gavieira, Arco 23.24 289 *e*P **P 00 48 47.1 -0.8**
comp=Z,47nm,1.5s
PGAV *e*S **S 00 52 58.5 -1.4**
FINES FINESS Array B 23.28 5 P **P 00 48 46.5 -1.4**
comp=Z,60nm,1.0s,baz=178,slow=9.2,SNR=40
FINES PcP **PcP 00 52 35.5 +0.5**
comp=Z,5.5nm,0.8s,baz=140,slow=1.5,SNR=5.0
FINES S **S 00 53 00.1 +0.3**
comp=Z,6.5nm,0.9s,baz=183,slow=21,SNR=4.1
FINES LR LR 00 58 34.1
comp=Z,2μm,19.5s,baz=189,slow=38
FINES FINESS Array B 23.28 5 P **P 00 48 46.1 -1.9**
FIA1 FINESS Array S 23.28 5 P **P 00 48 46.7 -1.3**
FIA1 IAmb IAmb 00 48 50.5
comp=Z,104nm,1.1s
BLS5 Blasjo 23.29 340 *e*P **P 00 48 45.6 -2.5**
PVAQ Vaqueiros 23.32 277 P **P 00 48 47.6 -0.9**
PVAQ IAmb IAmb 00 48 50.8
comp=Z,78nm,1.0s
PVAQ Vaqueiros 23.32 277 *e*P **P 00 48 47.8 -0.8**
comp=Z,104nm,1.1s
PVAQ *e*S **S 00 53 00.8 -0.1**
PBEJ Beja 23.32 279 *e*P **P 00 48 46.9 -1.7**
comp=Z,92nm,1.2s
NC602 NORSAR Array S 23.34 347 P **P 00 48 47.6 -1.0**
EVO Evora 23.35 280 *e*P **P 00 48 47.2 -1.7**
comp=Z,80nm,1.2s
PMTG Montargil 23.43 281 *e*P **P 00 48 48.0 -1.7**
comp=Z,54nm,1.2s
COI Coimbra 23.45 284 P **P 00 48 48.4 -1.4**
COI pmax pmax
comp=Z,85nm,1.0s
COI Coimbra 23.45 284 P **P 00 48 48.4 -1.4**
COI IAmb IAmb 00 48 50.8
comp=Z,85nm,0.9s
COI Coimbra 23.45 284 *e*P **P 00 48 48.9 -1.0**
comp=Z,121nm,1.1s
PBDV Barranco-do-Ve 23.52 277 *e*P **P 00 48 49.4 -1.2**
comp=Z,131nm,1.3s
PBDV *e*S **S 00 53 07.5 +3.3**
PCVE Castro Verde 23.52 278 *e*P **P 00 48 48.5 -2.1**
comp=Z,50nm,1.2s
PTO Porto 23.52 286 *e*P **P 00 48 50.2 -0.4**
comp=Z,126nm,1.2s
PCAS Casmilo, Conde 23.53 284 *e*P **P 00 48 49.2 -1.5**
comp=Z,56nm,1.2s
PCAS *e*S **S 00 53 11.3 +7.0**
NAO01 NORSAR Array S 23.56 347 P **P 00 48 49.0 -1.8**
NC405 NORSAR Array S 23.66 348 P **P 00 48 50.9 -0.9**
NB201 NORSAR Array S 23.68 347 P **P 00 48 50.1 -1.8**
NB201 NORSAR Array S 23.68 347 *e*P **P 00 48 51.1 -0.9**
NB2 NORSAR Subarra 23.68 347 P **P 00 48 50.8 -1.2**
comp=Z,125nm,1.2s,baz=153,slow=10
NB2 NORSAR Subarra 23.68 347 P **P 00 48 50.8 -1.2**
baz=153,slow=10
NOA NORSAR Array B 23.68 347 P **P 00 48 50.6 -1.4**
comp=Z,48nm,1.0s,baz=153,slow=9.3,SNR=73
NOA PcP **PcP 00 52 35.6 -0.3**
comp=Z,1.7nm,0.8s,baz=151,slow=1.9,SNR=4.4
NBO00 NORSAR Array S 23.75 347 P **P 00 48 51.2 -1.4**
PSBE So Bento 23.82 282 *e*P **P 00 48 52.7 -0.8**
comp=Z,55nm,1.7s
PNCL Nicolau / Gran 23.82 279 *e*P **P 00 48 52.4 -1.1**
comp=Z,83nm,1.3s
NC303 NORSAR Array S 23.83 347 P **P 00 48 52.0 -1.3**
EKA Eskdalemuir Ar 23.91 323 P **P 00 48 53.5 -0.7**
comp=Z,95nm,0.9s,baz=123,slow=10,SNR=88
EKA LR LR 00 59 49.4
comp=Z,2μm,20.0s,baz=140,slow=41
ESK Eskdalemuir 23.92 323 P **P 00 48 54.1 -0.2**
ESK pmax pmax
comp=Z,105nm,0.9s
ESK Eskdalemuir 23.92 323 P **P 00 48 54.1 -0.2**
SKAR Skarslia 23.93 343 *e*P **P 00 48 53.9 -0.5**
NC204 NORSAR Array S 23.98 347 P **P 00 48 54.7 -0.2**
MORF Marmelete 24.06 277 *e*P **P 00 48 55.6 -0.3**
MORF AMb AMB 00 49 00.2
comp=Z,38nm,1.3s
MORF *e*S **S 00 53 14.0 +1.0**
MORF Marmelete 24.06 277 *e*P **P 00 48 55.6 -0.3**
MORF *e*S **S 00 53 14.0 +1.0**
MORF pmax pmax
comp=Z,38nm,1.3s
MORF Marmelete 24.06 277 *e*P **P 00 48 56.0 +0.1**
comp=Z,38nm,1.4s
PTEO Sao Teotonio 24.07 278 *e*P **P 00 48 54.8 -1.1**
comp=Z,139nm,1.1s
LIS Lisbon 24.20 281 *e*P **P 00 48 56.7 -0.3**
LIS AMb AMB 00 48 58.7
comp=Z,160nm,1.1s
LIS Lisbon 24.20 281 *e*P **P 00 48 56.7 -0.3**
LIS pmax pmax
comp=Z,160nm,1.1s
LIS Lisbon 24.20 281 *e*P **P 00 48 56.9 -0.1**
comp=Z,199nm,1.2s
PFVI Vila Bisbo 24.24 277 P **P 00 48 56.8 -0.6**
PFVI IAmb IAmb 00 49 00.4
comp=Z,56nm,1.0s
PFVI Vila Bisbo 24.24 277 *e*P **P 00 48 57.0 -0.4**
comp=Z,93nm,1.9s
PFVI *e*S **S 00 53 15.8 +0.1**
PMAFR Mafra 24.27 281 *e*P **P 00 48 59.0 +1.3**
BER Bergen 24.41 340 *e*P **P 00 48 59.2 +0.5**
DSB Dublin 24.47 317 P **P 00 48 59.5 +0.1**
DSB IAmb IAmb 00 49 03.3
comp=Z,80nm,1.1s
HYA Hoyanger 24.86 342 *e*P **P 00 49 02.8 0.0**
DOMB Dombas 25.01 346 *e*P **P 00 49 05.5 +1.3**
KLMR Klimovskoe 25.12 20 *e*P **P 00 49 02.4 -2.7**
KLMR *e* 00 52 36.9
KLMR *e*S **S 00 53 26.3 -3.0**
KLMR pmax pmax
comp=Z,247nm,1.2s
KLMR MLR MLR
comp=Z,560nm,11.0s
KLMR Klimovskoe 25.12 20 *e*P **P 00 49 02.5 -2.7**
KLMR AMP 00 49 09.5
comp=Z,247nm,1.2s
KLMR *e*PcP **PcP 00 52 37.0 -2.0**
KLMR *e*S **S 00 53 26.4 -2.9**
KLMR *e*S **S 00 53 26.4 -2.9**
KLMR LQ LQ 00 56 52.9

KLMR				LQ	LQ	00 56 52.9	
KLMR				LR	LR	00 58 02.0	
KLMR				AMP		01 00 09.8	
	comp=Z,560nm,11.3s						
SUE	**Sulen**	**25.13**	**340**	*e*P	**P**	**00 49 05.2**	**0.0**
AKN	**Aaknes**	**25.56**	**344**	*e*P	**P**	**00 49 10.7**	**+1.6**
MOL	**Molde**	**25.79**	**345**	*e*P	**P**	**00 49 14.6**	**+3.4**
KIRV	**Kirov**	**26.96**	**32**	P	**P**	**00 49 21.6**	**-0.2**
	comp=Z,192nm,1.2s,baz=235,slow=3.7,SNR=46						
KIRV				LR	LR	01 00 10.4	
	comp=Z,763nm,19.8s,baz=238,slow=37						
PRGR	**Permogore**	**27.58**	**25**	*i* P	**P**	**00 49 24.8**	**-2.5**
TMCR	**Tamitsa**	**27.60**	**15**	*e*P	**P**	**00 49 28.1**	**+0.6**
TMCR				pmax	pmax		
	comp=Z,21nm,0.8s						
AKTO	**Aktyubinsk**	**28.25**	**53**	P	**P**	**00 49 33.8**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=258,slow=10,SNR=8.6						
AKTO				LR	LR	01 02 37.7	
	comp=Z,256nm,20.9s,baz=269,slow=40						
GEYT	**Alibeck**	**28.42**	**79**	P	**P**	**00 49 35.2**	**0.0**
	comp=Z,3.6nm,0.9s,baz=276,slow=13,SNR=11						
GEYT	**Alibeck**	**28.42**	**79**	P	**P**	**00 49 35.0**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**28.42**	**79**	P	**P**	**00 49 35.7**	**+0.5**
AB31	**Akbulak array**	**29.29**	**56**	*i* P	**P**	**00 49 43.1**	**+0.3**
ABKAR	**Akbulak array**	**29.29**	**56**	P	**P**	**00 49 43.6**	**+0.8**
ABKAR	**Akbulak array**	**29.29**	**56**	P	**P**	**00 49 42.8**	**0.0**
ABKAR				IAmb	IAmb	00 49 49.0	
	comp=Z,5.8nm,1.1s						
APA	**Apatity**	**29.99**	**9⇑**	*i* P	**P**	**00 49 49.0**	**+0.3**
APA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
APA				MLR	MLR		
	comp=Z,2μm,17.0s						
ARU	**Arti**	**30.25**	**41**	P	**P**	**00 49 50.4**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=238,slow=11,SNR=11						
ARU				LR	LR	01 02 53.8	
	comp=Z,651nm,18.5s,baz=248,slow=38						
ARU	**Arti**	**30.25**	**41**	*c i* P	**P**	**00 49 50.9**	**-0.3**
ARU				PPP	PPP	00 50 56.5	
ARU						00 52 53.4	
ARU				S	**S**	**00 54 51.3**	**+1.0**
ARU				SS	**SnSn**	**00 56 24.7**	**+0.6**
ARU				pmax	pmax		
	comp=Z,19nm,1.3s						
ARU				MLR	MLR		
	comp=Z,592nm,17.0s						
ARU	**Arti**	**30.25**	**41**	P	**P**	**00 49 50.4**	**-0.7**
TOA0	**Torodi Ar. Sit**	**30.82**	**221**	P	**P**	**00 49 57.2**	**+0.6**
	SNR=10.0						
TOA0	**Torodi Ar. Sit**	**30.82**	**221**	P	**P**	**00 49 56.9**	**+0.3**
TOA0				IAmb	IAmb	00 49 59.9	
	comp=Z,37nm,1.0s						
TORD	**Torodi Ar. Bea**	**30.82**	**221**	P	**P**	**00 49 57.0**	**+0.4**
	comp=Z,40nm,1.1s,baz=31,slow=8.8,SNR=58						
TORD				LR	LR	01 03 50.4	
	comp=Z,203nm,18.8s,baz=45,slow=39						
TORD	**Torodi Ar. Bea**	**30.82**	**221**	P	**P**	**00 49 56.6**	**+0.1**
DAMY	**Dhamar**	**30.94**	**134**	P	**P**	**00 49 58.8**	**+0.8**
SVE	**Sverdlovsk**	**31.46**	**41⇓**	*e*P	**P**	**00 50 02.2**	**+0.3**
SVE				*e*S	**S**	**00 55 11.7**	**+2.4**
SVE				pmax	pmax		
	comp=Z,64nm,1.4s						
SVE				MLR	MLR		
	comp=Z,475nm,13.0s						
BANOM	**Banah**	**31.51**	**103**	P	**P**	**00 50 02.4**	**-0.3**
BANOM				P	**P**	**00 50 02.4**	**-0.3**
KEV	**Kevo**	**31.60**	**3**	P	**P**	**00 50 01.4**	**-1.5**
KEV				pmax	pmax		
	comp=Z,19nm,0.9s						
KEV	**Kevo**	**31.60**	**3**	P	**P**	**00 50 01.4**	**-1.5**
KEV				IAmb	IAmb	00 50 04.8	
	comp=Z,19nm,0.9s						
UOSS	**Minazif**	**31.96**	**105**	P	**P**	**00 50 05.2**	**-1.3**
UOSS				IAmb	IAmb	00 50 08.0	
	comp=Z,30nm,1.1s						
HATD	**Hatta, Dubai**	**31.97**	**105**	P	**P**	**00 50 06.5**	**-0.2**
ASHO	**Ashiyiah**	**31.99**	**105**	P	**P**	**00 50 06.2**	**-0.7**
	SNR=5.9						
HRA	**Herat**	**32.59**	**84**	P	**P**	**00 50 11.7**	**-0.5**
ATD	**Arta Tunnel**	**32.63**	**139**	P	**P**	**00 50 15.8**	**+3.3**
ATD	**Arta Tunnel**	**32.63**	**139**	P	**P**	**00 50 13.2**	**+0.7**
SOHO	**SOHO**	**32.66**	**106**	P	**P**	**00 50 12.4**	**-0.2**
SOHO				P	**P**	**00 50 12.4**	**-0.2**
FURI	**Furi**	**33.00**	**148**	P	**P**	**00 50 17.9**	**+1.8**
FURI				IAmb	IAmb	00 50 23.6	
	comp=Z,34nm,1.1s						
ARQ	**Araqi**	**33.10**	**107**	P	**P**	**00 50 16.9**	**+0.4**
	SNR=7.6						
MACI	**Morro de la Ar**	**33.40**	**264**	P	**P**	**00 50 20.5**	**+1.2**
MACI				IAmb	IAmb	00 50 23.7	
	comp=Z,34nm,0.9s						
HOQ	**Hoqain**	**33.55**	**106**	P	**P**	**00 50 21.4**	**+0.9**
HOQ				P	**P**	**00 50 21.4**	**+0.9**
BSY	**Bisya**	**33.95**	**107**	P	**P**	**00 50 24.0**	**0.0**
SMDO	**Samad**	**34.41**	**106**	P	**P**	**00 50 27.8**	**-0.2**
	SNR=9.8						
SMDO				P	**P**	**00 50 27.8**	**-0.2**
	SNR=9.8						
WSAR	**Wadi Sarin**	**34.75**	**105**	P	**P**	**00 50 31.1**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=325,slow=12,SNR=1.7						
JMDO	**Jabal Madar**	**34.84**	**107**	P	**P**	**00 50 33.0**	**+1.3**
	SNR=5.2						
MHTO	**MHTO**	**35.56**	**109**	P	**P**	**00 50 38.9**	**+1.1**
	SNR=5.1						
BRVK	**Borovoye**	**36.15**	**50**	P	**P**	**00 50 43.3**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s						
BRVK	**Borovoye**	**36.15**	**50**	P	**P**	**00 50 43.3**	**+0.6**
JMIC	**Jan Mayen**	**36.29**	**344**	LR	LR	01 06 22.5	
	comp=Z,182nm,18.4s,baz=121,slow=38						
IUG	**luzhnay**	**36.59**	**68**	*e*P	**P**	**00 50 46.3**	**-0.4**
	baz=68						
IUG	**luzhnay**	**36.59**	**68**	*e*P	**P**	**00 50 46.3**	**-0.4**
CHGR	**Chuyangaron**	**36.70**	**74**	P	**P**	**00 50 48.1**	**+0.5**
KK31	**Karatay Array**	**36.77**	**67**	P	**P**	**00 50 48.4**	**+0.3**
KK31				pmax	pmax		
	comp=Z,27nm,0.8s						
KK31	**Karatay Array**	**36.77**	**67**	P	**P**	**00 50 48.4**	**+0.3**
KK31				IAmb	IAmb	00 50 51.4	
	comp=Z,27nm,0.8s						
KKAR	**Karatay Array**	**36.77**	**67**	P	**P**	**00 50 48.0**	**-0.2**
KKAR						00 50 48.4	
KKAR				pmax	pmax		
	comp=Z,27nm,0.8s						
KKAR	**Karatay Array**	**36.77**	**67**	P	**P**	**00 50 48.0**	**-0.2**
KKAR	**Karatay Array**	**36.77**	**67**	P	**P**	**00 50 48.4**	**+0.3**
KKAR				IAmb	IAmb	00 50 51.4	
	comp=Z,27nm,0.8s						
LODK	**Lodwar**	**36.88**	**157**	P	**P**	**00 50 51.3**	**+2.0**
	SNR=6.8						
CMLA	**Cha da Macela**	**36.98**	**284**	P	**P**	**00 50 47.2**	**-2.7**
CMLA				pmax	pmax		
	comp=Z,41nm,0.7s						
CMLA	**Cha da Macela**	**36.98**	**284**	P	**P**	**00 50 47.2**	**-2.7**
CMLA				IAmb	IAmb	00 50 50.5	
	comp=Z,41nm,0.7s						
DZA	**Taraz**	**37.40**	**67**	*e*P	**P**	**00 50 53.4**	**-0.1**
	baz=67						
DZA	**Taraz**	**37.40**	**67**	*e*P	**P**	**00 50 53.4**	**-0.1**
GAR	**Garm**	**37.49**	**73**	P	**P**	**00 50 54.2**	**-0.2**
BTK	**Batken**	**37.61**	**72**	P	**P**	**00 50 55.3**	**-0.1**
BTK				pmax	pmax		
	comp=Z,34nm,1.0s						
BTK	**Batken**	**37.61**	**72**	P	**P**	**00 50 55.3**	**-0.1**
BTK				IAmb	IAmb	00 50 58.2	
	comp=Z,34nm,0.9s						
BTLS	**Baital**	**38.98**	**63**	*i* P	**P**	**00 51 06.9**	**+0.1**
BTLS				*e*S	**S**	**00 57 05.4**	**+0.3**
	comp=Z,19nm,1.7s,baz=63						
	baz=63						
BTLS	**Baital**	**38.98**	**63**	*i* P	**P**	**00 51 06.8**	**+0.1**
BTLS				*e*S	**S**	**00 57 05.4**	**+0.3**
BTLS				pmax	pmax		
	comp=Z,19nm,1.7s						
EKS2	**Erkin-Say**	**39.22**	**67**	P	**P**	**00 51 09.8**	**+0.9**
	SNR=35						
AML	**Almayashu**	**39.27**	**68**	P	**P**	**00 51 10.9**	**+1.3**
	SNR=14						
MBAR	**Mbarara**	**39.61**	**166**	*ce*P	**P**	**00 51 11.5**	**-0.8**
MBAR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MBAR	**Mbarara**	**39.61**	**166**	P	**P**	**00 51 11.2**	**-1.2**
USP	**Ospenovka**	**39.61**	**66**	P	**P**	**00 51 13.6**	**+1.5**
	SNR=8.8						
SGDS	**Sogindy**	**39.67**	**65**	*i* P	**P**	**00 51 12.0**	**-0.7**
	baz=65						
SGDS	**Sogindy**	**39.67**	**65**	*i* P	**P**	**00 51 11.9**	**-0.7**
DBIC	**Dimbokro**	**39.73**	**224**	P	**P**	**00 51 13.6**	**+0.5**
	comp=Z,52nm,1.2s,baz=17,slow=9.7,SNR=16						
DBIC				LR	LR	01 09 34.9	
	comp=Z,228nm,18.5s,baz=18,slow=39						
DBIC	**Dimbokro**	**39.73**	**224**	P	**P**	**00 51 12.9**	**-0.2**
DBIC				IAmb	IAmb	00 51 16.1	
	comp=Z,42nm,1.1s						
AAK	**Ala-Archa**	**39.74**	**67**	P	**P**	**00 51 13.4**	**+0.1**
	SNR=23						
AAK	**Ala-Archa**	**39.74**	**67**	P	**P**	**00 51 14.5**	**+1.2**
AAK				P	**P**	**00 51 14.5**	**+1.2**
AAK	**Ala-Archa**	**39.74**	**67**	*ce*P	**P**	**00 51 13.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,96nm,1.0s						
FRU1	**Bishkek**	**39.80**	**66**	P	**P**	**00 51 14.0**	**+0.3**
FRU1				pmax	pmax		
	comp=Z,89nm,1.1s						
FRU1	**Bishkek**	**39.80**	**66**	P	**P**	**00 51 14.0**	**+0.3**
FRU1				IAmb	IAmb	00 51 17.5	
	comp=Z,89nm,1.1s						
TIC	**Toumodi**	**39.84**	**224**	*e*P	**P**	**00 51 13.9**	**-0.2**
UCH	**Uchtor**	**39.84**	**67**	P	**P**	**00 51 15.1**	**+0.7**
	SNR=19						
CHMS	**Chumysh**	**39.85**	**66**	P	**P**	**00 51 14.8**	**+0.7**
	SNR=20						
KIC	**Kosan Boka**	**39.92**	**224**	*e*P	**P**	**00 51 14.7**	**-0.1**
	comp=Z,155nm,1.6s						
SPA0	**Spitsbergen Ar**	**40.02**	**358**	P	**P**	**00 51 15.3**	**+0.4**
SPA0				IAmb	IAmb	00 51 29.8	
	comp=Z,42nm,1.1s						
SPITS	**Spitsbergen Ar**	**40.02**	**358**	LR	LR	01 09 29.9	
	comp=Z,1μm,20.8s,baz=185,slow=39						
KBK	**Karagaybulak**	**40.06**	**66**	P	**P**	**00 51 16.0**	**0.0**
	SNR=9.5						
LIC	**Lamto**	**40.19**	**224**	*e*P	**P**	**00 51 17.0**	**0.0**
	comp=Z,228nm,1.7s						
KZA	**Kyzart**	**40.41**	**67**	P	**P**	**00 51 20.7**	**+1.6**
	SNR=9.8						
TKM2	**Tokmak 2**	**40.47**	**66**	P	**P**	**00 51 21.3**	**+1.8**
	SNR=8.8						
KUU	**Kurty**	**40.80**	**64**	*i* P	**P**	**00 51 22.1**	**+0.2**
	comp=Z,115nm,2.0s,baz=64						
KUU				*e*S	**S**	**00 57 32.8**	**+0.3**
	baz=64						
KUU	**Kurty**	**40.80**	**64**	*d i* P	**P**	**00 51 22.0**	**+0.2**
KUU				*e*S	**S**	**00 57 32.7**	**+0.3**
KUU				pmax	pmax		
	comp=Z,115nm,2.0s						
KBS	**Kingsbay**	**40.90**	**357**	*ce*P	**P**	**00 51 21.7**	**-0.5**
KBS				pmax	pmax		
	comp=Z,38nm,1.3s						
KBS	**Kingsbay**	**40.90**	**357**	P	**P**	**00 51 21.8**	**-0.4**
MTBS	**Maitube**	**41.02**	**65**	*e*P	**P**	**00 51 23.8**	**0.0**
	baz=65						
MTBS	**Maitube**	**41.02**	**65**	*e*P	**P**	**00 51 23.8**	**0.0**
ULHL	**Ulahol**	**41.09**	**67**	P	**P**	**00 51 26.9**	**+2.4**
	SNR=9.2						
CHKK	**Chushkaly**	**41.27**	**64**	*e*P	**P**	**00 51 25.2**	**-0.5**
	baz=64						
CHKK	**Chushkaly**	**41.27**	**64**	*e*P	**P**	**00 51 25.2**	**-0.5**
KURBB	**Kurchatov Arra**	**41.29**	**54**	P	**P**	**00 51 24.8**	**-1.0**
KURK	**Kurchatov**	**41.34**	**54**	P	**P**	**00 51 26.6**	**+0.4**
KURK				P	**P**	**00 51 26.6**	**+0.4**
KURK	**Kurchatov**	**41.34**	**54**	*ce*P	**P**	**00 51 25.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,31nm,1.3s						
KURK	**Kurchatov**	**41.34**	**54**	P	**P**	**00 51 26.2**	**0.0**
AAA	**Alma-Ata**	**41.35**	**65**	*e*P	**P**	**00 51 27.0**	**+0.5**
	baz=65						
AAA				LR	LR	01 11 34.4	
	comp=Z,108nm,15.4s,baz=65						
AAA	**Alma-Ata**	**41.35**	**65**	*e*P	**P**	**00 51 27.0**	**+0.5**
AAA				MLR	MLR		
	comp=Z,109nm,15.0s						
TNSS	**Tian-Shan**	**41.41**	**65**	*e*P	**P**	**00 51 27.4**	**0.0**
	baz=65						
TNSS	**Tian-Shan**	**41.41**	**65**	*e*P	**P**	**00 51 27.4**	**0.0**
NIL	**Nilore**	**41.42**	**80**	P	**P**	**00 51 27.8**	**+0.7**
NIL				pmax	pmax		
	comp=Z,12nm,0.9s						
NIL	**Nilore**	**41.42**	**80**	P	**P**	**00 51 27.8**	**+0.7**
MDOK	**Medeo**	**41.46**	**65**	*i* P	**P**	**00 51 27.7**	**+0.2**
	baz=65						
MDOK				LR	LR	01 10 39.3	
	comp=Z,102nm,13.2s,baz=65						
MDOK	**Medeo**	**41.46**	**65**	*i* P	**P**	**00 51 27.7**	**+0.2**
MDOK				MLR	MLR		
	comp=Z,102nm,13.0s						
KSH	**Kashi**	**41.59**	**71**	P	**P**	**00 51 27.5**	**-1.0**
KSH				sP	sP	00 51 37.9	+4.0
KSH				S	**S**	**00 57 39.0**	**-5.5**
KSH				SS	**SS**	**01 00 39.1**	**-10**
KSH				pmax	pmax		
	comp=Z,27nm,1.0s						
KSH				pmax	pmax		
	comp=Z,200nm,5.2s						
KSH				LR	LR		
	comp=Z,180nm,10.3s						
KSH				LR	LR		
	comp=Z,200nm,13.7s						
KSH				LR	LR		
	comp=Z,170nm,14.3s						
KMBO	**Kilima Mbogo**	**41.76**	**156**	P	**P**	**00 51 31.9**	**+1.6**
	comp=Z,3.2nm,0.9s,baz=355,slow=7.5,SNR=5.2						
KMBO	**Kilima Mbogo**	**41.76**	**156**	*i* P	**P**	**00 51 34.0**	**+3.8**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**41.76**	**156**	P	**P**	**00 51 31.2**	**+1.0**
KDJ	**Kajisay**	**41.79**	**67**	P	**P**	**00 51 30.8**	**+0.5**
KDJ				pmax	pmax		
	comp=Z,36nm,1.1s						
KDJ	**Kajisay**	**41.79**	**67**	P	**P**	**00 51 30.8**	**+0.5**
KDJ				IAmb	IAmb	00 51 40.1	
	comp=Z,36nm,1.1s						
TDK	**Taldyqorghan**	**42.03**	**62**	*i* P	**P**	**00 51 31.7**	**-0.3**
	baz=62						
TDK	**Taldyqorghan**	**42.03**	**62**	*i* P	**P**	**00 51 31.6**	**-0.3**
DAG	**Danmarks Havn**	**42.37**	**347**	*i* P	**P**	**00 51 34.1**	**-0.1**
	comp=Z,13nm,1.0s						
	comp=Z,850nm,30.0s						
DAG	**Danmarks Havn**	**42.37**	**347**	*i* P	**P**	**00 51 34.1**	**-0.1**
DAG				pmax	pmax		
	comp=Z,13nm,1.0s						
DAG				MLR	MLR		
	comp=Z,870nm,30.0s						
SATY	**Saty**	**42.45**	**65⇓**	*i* P	**P**	**00 51 36.0**	**+0.5**
	comp=Z,25nm,1.3s,baz=65						
SATY	**Saty**	**42.45**	**65**	*d i* P	**P**	**00 51 36.0**	**+0.5**
SATY				pmax	pmax		
	comp=Z,25nm,1.3s						
KPKS	**Kokpek**	**42.55**	**64**	*e*P	**P**	**00 51 36.0**	**-0.4**
	comp=Z,57nm,2.5s,baz=64						
KPKS				LR	LR	01 11 49.7	
	comp=Z,74nm,11.6s,baz=64						
KPKS	**Kokpek**	**42.55**	**64**	*e*P	**P**	**00 51 35.9**	**-0.4**
KPKS				pmax	pmax		
	comp=Z,57nm,2.5s						
KPKS				MLR	MLR		
	comp=Z,73nm,12.0s						
UZB	**Uzynbulak**	**42.87**	**65⇓**	*i* P	**P**	**00 51 38.6**	**-0.4**
	comp=Z,16nm,1.9s,baz=65						
UZB	**Uzynbulak**	**42.87**	**65**	*d i* P	**P**	**00 51 38.5**	**-0.4**
UZB				pmax	pmax		
	comp=Z,16nm,1.9s						
PDGK	**Podgornoye**	**43.16**	**64**	P	**P**	**00 51 40.4**	**-0.9**
SHLS	**Shalkode**	**43.18**	**65**	*e*P	**P**	**00 51 44.0**	**+2.5**
	comp=Z,43nm,2.4s,baz=64						
SHLS	**Shalkode**	**43.18**	**65**	*e*P	**P**	**00 51 43.9**	**+2.5**
SHLS				pmax	pmax		
	comp=Z,43nm,2.4s						
MAKZ	**Makanchi**	**44.11**	**59**	P	**P**	**00 51 49.2**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,18nm,1.0s						
MAKZ	**Makanchi**	**44.11**	**59**	P	**P**	**00 51 49.2**	**+0.4**
MK31	**Makanchi Array**	**44.33**	**59**	P	**P**	**00 51 50.6**	**+0.1**
MK31				pmax	pmax		
	comp=Z,20nm,0.9s						
MK31	**Makanchi Array**	**44.33**	**59**	P	**P**	**00 51 50.6**	**+0.1**
MKAR	**Makanchi Array**	**44.33**	**59**	P	**P**	**00 51 50.6**	**+0.1**
	comp=Z,16nm,0.7s,baz=277,slow=6.9,SNR=66						
MKAR				PcP	**PcP**	**00 53 34.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=284,slow=4.7,SNR=3.6						
MKAR				ScP	**ScP**	**00 57 26.6**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=295,slow=3.0,SNR=6.9						
MKAR				S	**S**	**00 58 23.1**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=287,slow=14,SNR=2.8						
MKAR				LR	LR	01 13 35.1	
	comp=Z,176nm,19.1s,baz=280,slow=40						
MKAR	**Makanchi Array**	**44.33**	**59**	P	**P**	**00 51 50.1**	**-0.5**
ZAA0	**Zalesovo Array**	**44.81**	**48**	P	**P**	**00 51 54.1**	**-0.1**
ZAA0				IAmb	IAmb	00 51 56.7	
	comp=Z,38nm,0.9s						
ZALV	**Zalesovo Beam**	**44.81**	**48**	P	**P**	**00 51 54.1**	**-0.1**
	comp=Z,24nm,0.7s,baz=275,slow=8.5,SNR=60						
ZALV				LR	LR	01 12 19.8	
	comp=Z,196nm,21.6s,baz=300,slow=38						
ZALV	**Zalesovo Beam**	**44.81**	**48**	P	**P**	**00 51 53.5**	**-0.7**
SUMG	**Summit**	**45.06**	**338**	*i* P	**P**	**00 51 57.1**	**+0.7**
	comp=Z,59nm,1.2s						
SUMG	**Summit**	**45.06**	**338**	P	**P**	**00 51 57.3**	**+0.9**
SUMG				pmax	pmax		
	comp=Z,17nm,1.1s						
SUMG	**Summit**	**45.06**	**338**	P	**P**	**00 51 57.3**	**+0.9**
NOR	**Nord**	**45.45**	**353**	*i* P	**P**	**00 51 59.1**	**+0.1**
	comp=Z,38nm,1.2s						
NOR	**Nord**	**45.45**	**353**	*i* P	**P**	**00 51 59.1**	**+0.1**
NOR				pmax	pmax		
	comp=Z,38nm,1.2s						
ZSN	**Zaisan**	**45.91**	**57**	*e*P	**P**	**00 52 03.2**	**+0.2**
	comp=Z,36nm,1.6s,baz=57						
ZSN	**Zaisan**	**45.91**	**57**	*e*P	**P**	**00 52 03.2**	**+0.2**
ZSN				pmax	pmax		
	comp=Z,36nm,1.6s						
NRIK	**Noril'sk**	**46.19**	**27**	P	**P**	**00 52 05.2**	**+0.3**
	comp=Z,21nm,1.1s,baz=258,slow=5.2,SNR=10						
NRIK				LR	LR	01 12 55.1	
	comp=Z,805nm,21.6s,baz=247,slow=38						
SACV	**Santiago Islan**	**46.23**	**253**	P	**P**	**00 52 06.3**	**+0.3**
DGZ	**Jazzator, Alta**	**47.09**	**54**	*c i* P	**P**	**00 52 12.9**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,19nm,0.8s						
SFJD	**Kangerlussuaq**	**48.61**	**330**	P	**P**	**00 52 24.0**	**+0.2**
	comp=Z,20nm,1.1s,baz=79,slow=11,SNR=4.2						
SFJD	**Kangerlussuaq**	**48.61**	**330**	P	**P**	**00 52 24.0**	**+0.2**
SFJD	**Kangerlussuaq**	**48.61**	**330**	IAmb	IAmb	00 52 32.9	
	comp=Z,33nm,1.1s						
ILULI	**Ilulissat**	**48.75**	**333**	P	**P**	**00 52 23.1**	**-1.7**
ILULI				pmax	pmax		
	comp=Z,22nm,1.0s						
ILULI	**Ilulissat**	**48.75**	**333**	P	**P**	**00 52 23.1**	**-1.7**
ILULI				IAmb	IAmb	00 52 25.2	
	comp=Z,22nm,1.0s						
WMQ	**Urumqi**	**48.77**	**61**	*e*P	**P**	**00 52 26.3**	**+0.9**
WMQ				pP	sP	00 52 34.3	+3.4
WMQ				sP	pP	00 52 40.3	+11
WMQ				pmax	pmax		
	comp=Z,18nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,230nm,5.1s						
WMQ				LR	LR		
	comp=Z,170nm,16.3s						
WMQ				LR	LR		
	comp=Z,140nm,14.7s						
WMQ	**Urumqi**	**48.77**	**61**	P	**P**	**00 52 25.7**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
WMQ	**Urumqi**	**48.77**	**61**	P	**P**	**00 52 25.7**	**+0.3**
WMQ				IAmb	IAmb	00 52 29.8	
	comp=Z,24nm,0.9s						
TULEG	**Thule**	**53.25**	**343**	P	**P**	**00 52 59.2**	**+0.6**
TULEG				IAmb	IAmb	00 53 00.9	
	comp=Z,49nm,1.1s						
LSZ	**Lusaka**	**53.66**	**172**	P	**P**	**00 53 02.3**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LSZ	**Lusaka**	**53.66**	**172**	P	**P**	**00 53 02.2**	**-0.1**
EUNU	**Eureka**	**55.56**	**348**	P	**P**	**00 53 15.8**	**+0.3**
DRLN	**Deer Lake**	**55.81**	**309**	P	**P**	**00 53 17.0**	**-0.5**
TLY	**Talaya**	**56.41**	**48**	P	**P**	**00 53 22.5**	**+0.7**
TLY	**Talaya**	**56.41**	**48**	*e*P	**P**	**00 53 22.9**	**+1.0**
TLY				*e*PPP	PPP	00 56 39.7	
TLY				*e*S	**S**	**01 01 10.3**	**-1.9**
TLY				pmax	pmax		
	comp=Z,67nm,1.1s						
TLY				MLR	MLR		
	comp=Z,1μm,16.0s						
TLY	**Talaya**	**56.41**	**48**	P	**P**	**00 53 22.3**	**+0.5**
TLY				IAmb	IAmb	00 53 25.7	
	comp=Z,24nm,1.1s						
ZAK	**Zakamensk**	**56.66**	**49**	*e*P	**P**	**00 53 24.1**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s						
LSA	**Lhasa**	**56.88**	**76**	P	**P**	**00 53 25.7**	**-0.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
LSA	**Lhasa**	**56.88**	**76**	P	**P**	**00 53 25.7**	**-0.4**
LSA				IAmb	IAmb	00 53 29.0	
	comp=Z,7.4nm,0.4s						
TSUM	**Tsumeb**	**57.37**	**185**	P	**P**	**00 53 28.9**	**-0.1**
GTA	**Gaotai**	**58.83**	**62**	*e*P	**P**	**00 53 38.9**	**-0.3**
GTA				pP	pP	00 53 43.9	+0.7
GTA				sP	sP	00 53 46.8	+2.1
GTA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,130nm,5.6s						
GTA				LR	LR		
	comp=Z,150nm,13.8s						
GTA				LR	LR		
	comp=Z,180nm,15.3s						
GTA				LR	LR		
	comp=Z,210nm,16.7s						
SCHQ	**Schefferville**	**59.05**	**318**	P	**P**	**00 53 39.7**	**-0.6**
	comp=Z,12nm,0.9s,baz=47,slow=5.0,SNR=6.7						
SCHQ				LR	LR	01 18 53.8	
	comp=Z,239nm,20.9s,baz=66,slow=36						
SCHQ	**Schefferville**	**59.05**	**318**	P	**P**	**00 53 40.7**	**+0.4**
SCHQ				IAmb	IAmb	00 53 42.6	
	comp=Z,16nm,0.9s						
SHL	**Shillong**	**59.49**	**80**	P	**P**	**00 53 42.9**	**-1.2**
SHL				pmax	pmax		
	comp=Z,29nm,1.1s						
SHL	**Shillong**	**59.49**	**80**	P	**P**	**00 53 42.9**	**-1.2**
SHL				IA

baz=61
E63A Oxbow 63.67 309 P P 00 54 11.7 0.0
E63A IAmb IAmb 00 54 15.2
comp=Z,16nm,1.0s
G65A Princeton 63.73 308 P P 00 54 12.6 +0.4
D62A Allapoint, All 63.73 310 P P 00 54 13.0 +0.9
baz=61,SNR=8.3
D62A Allapoint, All 63.73 310 P P 00 54 12.3 +0.2
F64A Sherman 63.90 309 P P 00 54 13.9 +0.6
baz=61
F64A Sherman 63.90 309 P P 00 54 12.7 -0.6
F64A IAmb IAmb 00 54 16.7
comp=Z,24nm,1.1s
EMMW East Machias 63.90 307 P P 00 54 12.0 -1.3
E62A Clayton Lake 64.24 310 P P 00 54 15.9 +0.4
baz=61
E62A Clayton Lake 64.24 310 P P 00 54 16.5 +1.0
G64A Maxfield 64.44 308 P P 00 54 18.0 +1.2
baz=60
PKME Peaks-Kenny Pk 64.77 309 P P 00 54 20.3 +1.4
baz=60
PKME Peaks-Kenny Pk 64.77 309 P P 00 54 18.6 -0.3
PKME IAmb IAmb 00 54 22.6
comp=Z,27nm,1.1s
F62A Pittston Farm, 64.86 310 P P 00 54 20.9 +1.3
baz=60
CHGQ Chibougamau 65.41 315 P P 00 54 23.4 +0.4
baz=59
H63A New Sharon 65.52 308 P P 00 54 25.1 +1.3
baz=60
G62A West of Eustis 65.55 309 P P 00 54 24.1 +0.1
CD2 Chengdu 65.74 69 *e*P **P 00 54 25.5 -0.1**
LATQ La Tuque 65.79 312 P P 00 54 26.4 +0.8
baz=59
F60A Warwick 66.02 310 P P 00 54 28.0 +0.9
baz=59
HHC Hu-ho-hao-te 66.08 56 *e*P **P 00 54 31.5 +3.8**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.7s
HHC LR LR
comp=Z,260nm,14.5s
HHC LR LR
comp=Z,320nm,13.6s
G61A St-Isidore-de- 66.12 310 P P 00 54 29.4 +1.7
baz=59
H62A Milan 66.26 309 P P 00 54 31.6 +3.0
baz=59
E58A La Victoria 66.60 311 P P 00 54 31.7 +0.9
baz=58,SNR=5.8
HIA Hailar 66.67 45 P P 00 54 31.5 +0.3
HIA pmax pmax
comp=Z,23nm,0.8s
HIA Hailar 66.67 45 P P 00 54 31.5 +0.3
BOSA Boshof 66.68 177 P P 00 54 31.1 -0.3
comp=Z,8.9nm,1.1s,baz=352,slow=4.8,SNR=4.4
BOSA LR LR 01 26 43.5
comp=Z,537nm,18.3s,baz=5.5,slow=39
BOSA Boshof 66.68 177 IAmb IAmb 00 54 32.8
comp=Z,12nm,1.1s
G60A Masonville 66.70 310 P P 00 54 32.4 +1.0
baz=58
H61A Lyndonville 66.75 309 P P 00 54 33.7 +2.0
baz=58
LBNH Lisbon 66.90 309 P P 00 54 33.6 +0.8
LBNH pmax pmax
comp=Z,21nm,1.1s
LBNH Lisbon 66.90 309 P P 00 54 36.0 +3.3
baz=58
LBNH Lisbon 66.90 309 P P 00 54 33.5 +0.8
LBNH IAmb IAmb 00 54 36.6
comp=Z,21nm,1.1s
E57A Chemin Saint G 67.10 312 P P 00 54 35.0 +1.1
baz=58,SNR=7.0
D56A ZEC Mazanza, M 67.11 312 P P 00 54 34.7 +0.7
baz=58
MATQ Matagami 67.28 316 P P 00 54 35.8 +0.8
baz=57
LSQQ Lebel-sur-Quev 67.30 315 P P 00 54 36.4 +1.2
baz=57
TRQ Mont Tremblant 67.44 312 P P 00 54 36.8 +0.6
WES Weston 67.50 307 P P 00 54 36.5 0.0
WES pmax pmax
comp=Z,27nm,1.0s
WES Weston 67.50 307 P P 00 54 36.5 0.0
WES IAmb IAmb 00 54 41.0
comp=Z,27nm,1.0s
D55A Sainte-Anne-du 67.55 313 P P 00 54 37.8 +1.0
baz=58,SNR=5.7
E56A St. Veronique 67.55 312 P P 00 54 37.7 +0.9
baz=58
FRNY Flat Rock 67.60 310 P P 00 54 36.5 -0.6
G58A Ormstown 67.71 310 P P 00 54 38.7 +0.9
baz=58
H59A Cadyville 67.76 310 P P 00 54 39.1 +1.0
baz=58
XAN Xi'an 67.82 64 P P 00 54 40.3 +1.5
XAN pP sP 00 54 48.8 +4.5
XAN pmax pmax
comp=Z,15nm,1.7s
XAN Xi'an 67.82 64 P P 00 54 37.9 -0.9
XAN pmax pmax
comp=Z,14nm,1.1s
XAN Xi'an 67.82 64 P P 00 54 37.9 -0.9
XAN IAmb IAmb 00 54 43.1
comp=Z,14nm,1.1s
KMI Kunming 68.06 75⇓ *e*P **P 00 54 41.8 +1.2**
KMI pP sP 00 54 54.0 +7.8
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,210nm,4.3s
KMI LR LR
comp=Z,520nm,5.2s
KMI LR LR
comp=Z,430nm,4.8s
KMI LR LR
comp=Z,390nm,4.7s
VLDQ Val d'Or 68.08 315 P P 00 54 42.0 +1.9
VLDQ IAmb IAmb 00 54 43.9
comp=Z,12nm,0.9s
H58A Gabriels 68.18 310 P P 00 54 42.1 +1.3
baz=57
E55A Montcerf-Lytto 68.19 312 P P 00 54 42.2 +1.4
baz=57
TIY Taiyuan 68.29 59 *e*P **P 00 54 43.8 +2.1**
TIY pmax pmax
comp=Z,13nm,0.6s
LONY Lake Ozonia 68.31 310 P P 00 54 43.0 +1.4
baz=57
LONY Lake Ozonia 68.31 310 P P 00 54 42.5 +0.8
LONY IAmb IAmb 00 54 45.6
comp=Z,19nm,1.1s
BBSR BB Station 68.33 295 P P 00 54 41.9 0.0
BBSR IAmb IAmb 00 54 43.9
comp=Z,28nm,1.1s
I59A Olmsteadville 68.33 309 P P 00 54 43.4 +1.7
baz=57
ORIO Orleans, Innes 68.42 311 P P 00 54 43.7 +1.5
baz=57,SNR=6.6
ORIO Orleans, Innes 68.42 311 P P 00 54 42.7 +0.4
ACCN Adirondack Com 68.42 309 P P 00 54 43.0 +0.6
ACCN IAmb IAmb 00 54 46.8
comp=Z,23nm,1.1s
NCB Newcomb 68.45 309 P P 00 54 41.4 -1.1
K61A Williamstown 68.56 308 P P 00 54 45.4 +2.2
baz=57
CHTO Chiang Mai 68.63 83 P P 00 54 43.3 -0.7
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 68.63 83 P P 00 54 43.3 -0.7
CM31 Chiang Mai Arr 68.83 83 P P 00 54 44.2 -1.0
CM31 IAmb IAmb 00 54 47.5
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 68.83 83 P P 00 54 44.8 -0.5
comp=Z,4.4nm,0.8s,baz=304,slow=6.9,SNR=22
CMAR LR LR 01 30 43.3
comp=Z,62nm,19.8s,baz=336,slow=41
CMAR Chiang Mai Arr 68.83 83 P P 00 54 43.8 -1.4
H57A Richville 68.88 310 P P 00 54 47.0 +1.9
baz=57
J59A Piesco 68.89 309 P P 00 54 46.3 +1.0
baz=57
J59A Piesco 68.89 309 P P 00 54 46.0 +0.6
I58A Old Forge 69.06 310 P P 00 54 47.5 +1.2

baz=57
YLE Yale 69.09 307 P P 00 54 43.5 -3.0
YLE IAmb IAmb 00 55 00.5
comp=Z,23nm,0.9s
KSCT Kent School, K 69.21 307 P P 00 54 46.8 -0.5
H56A Elgin 69.33 311 P P 00 54 48.0 +0.1
baz=56
I57A Carthage 69.33 310 P P 00 54 49.0 +1.0
baz=56
J58A Remsen 69.43 309 P P 00 54 50.4 +1.8
baz=56
J58A Remsen 69.43 309 P P 00 54 48.0 -0.6
J58A IAmb IAmb 00 54 52.8
comp=Z,15nm,1.1s
K59A Cooperstown 69.48 309 P P 00 54 51.8 +2.8
baz=56
BJI Beijing 69.50 55 P P 00 54 48.4 -0.6
BJI pmax pmax
comp=Z,10.0nm,1.2s
BJT Baijiatuau 69.50 55 P P 00 54 47.5 -1.6
BJT pmax pmax
comp=Z,7.0nm,0.9s
BJT Baijiatuau 69.50 55 P P 00 54 47.5 -1.6
PLVO Plevna 69.56 312 P P 00 54 50.0 +0.6
ALGO Algonquin Park 69.62 313 P P 00 54 50.7 +1.0
baz=56
C36M Paulatuk 69.73 348 P P 00 54 50.1 +0.2
J57A Williamstown 69.83 310 P P 00 54 52.6 +1.6
baz=56
J57A Williamstown 69.83 310 P P 00 54 51.0 0.0
J57A IAmb IAmb 00 54 55.3
comp=Z,17nm,1.0s
H55A Tweed 69.90 311 P P 00 54 51.8 +0.3
baz=56
L59A Walton 69.93 308 P P 00 54 53.1 +1.3
baz=56
L59A Walton 69.93 308 P P 00 54 52.6 +0.9
L59A IAmb IAmb 00 54 56.1
comp=Z,17nm,1.0s
G54A Lake Saint Pet 69.95 312 P P 00 54 52.6 +0.8
baz=55,SNR=8.0
K58A Earlville 69.98 309 P P 00 54 53.5 +1.5
baz=56
K58A Earlville 69.98 309 P P 00 54 52.5 +0.5
K58A IAmb IAmb 00 54 55.7
comp=Z,14nm,0.9s
CPNY Central Park 70.03 307 P P 00 54 52.0 -0.3
CPNY IAmb IAmb 00 54 56.4
comp=Z,22nm,0.9s
PECO Prince Edward 70.14 311 P P 00 54 53.8 +0.9
PECO IAmb IAmb 00 54 56.5
comp=Z,15nm,0.9s
DELO Deloro Mine 70.18 311 P P 00 54 52.2 -1.0
GYA Guiyang 70.28 72 ⇑P **P 00 54 54.1 -0.2**
GYA pmax pmax
comp=Z,13nm,1.2s
BINY Binghamton 70.50 309 P P 00 54 56.2 +1.0
baz=56
BINY Binghamton 70.50 309 P P 00 54 54.9 -0.4
BINY IAmb IAmb 00 54 59.4
comp=Z,22nm,1.1s
L58A Harry Jones Me 70.50 308 P P 00 54 56.2 +0.9
baz=56
M59A Waymart 70.53 308 P P 00 54 56.1 +0.6
baz=56
H53A Bobcaygeon 70.71 312 P P 00 54 56.9 +0.4
baz=55
KSPA Keystone Colle 70.73 308 P P 00 54 57.1 +0.5
KSPA IAmb IAmb 00 55 00.3
comp=Z,13nm,0.9s
SADO Sadowa 70.92 312 P P 00 54 58.2 +0.4
J55A Hilton 71.01 310 P P 00 54 59.4 +1.1
J55A IAmb IAmb 00 55 02.6
comp=Z,25nm,0.9s
LUPA Lehigh Univers 71.02 307 P P 00 54 59.2 +0.8
K56A Middlesex 71.03 310 P P 00 54 59.6 +1.1
baz=55
N59A State Game Lan 71.09 307 P P 00 54 59.8 +0.9
baz=55
N59A State Game Lan 71.09 307 P P 00 54 58.9 0.0
N59A IAmb IAmb 00 55 03.2
comp=Z,29nm,1.1s
L57A Andrews Acres 71.14 309 P P 00 55 00.7 +1.6
baz=55
O60A Telford 71.20 307 P P 00 55 00.5 +1.1
baz=55
M58A Price's Panora 71.26 308 P P 00 55 00.9 +1.0
baz=55
MMNY Mt. Morris Dam 71.37 310 P P 00 55 00.8 +0.4
MMNY IAmb IAmb 00 55 04.5
comp=Z,23nm,1.1s
MEDO Medina 71.45 311 P P 00 55 00.8 -0.2
MEDO IAmb IAmb 00 55 02.6
comp=Z,20nm,0.9s
K55A Perry 71.47 310 P P 00 55 02.1 +1.0
baz=55
J54A Appleton 71.49 311 P P 00 55 01.8 +0.6
J54A IAmb IAmb 00 55 19.6
comp=Z,11nm,0.7s
L56A Greenwood 71.50 309 P P 00 55 02.8 +1.4
baz=55
L56A Greenwood 71.50 309 P P 00 55 02.5 +1.2
L56A IAmb IAmb 00 55 05.5
comp=Z,18nm,0.9s
M57A Sunshine Farm, 71.69 308 P P 00 55 04.2 +1.8
baz=55
M57A Sunshine Farm, 71.69 308 P P 00 55 02.7 +0.2
M57A IAmb IAmb 00 55 06.2
comp=Z,12nm,0.8s
N58A Sunbury 71.72 308 P P 00 55 05.2 +2.6
baz=55
N58A Sunbury 71.72 308 P P 00 55 03.7 +1.1
N58A IAmb IAmb 00 55 06.7
comp=Z,14nm,1.0s
WVNY West Valley, N 71.98 310 P P 00 55 05.2 +1.1
WVNY IAmb IAmb 00 55 08.3
comp=Z,35nm,1.1s
INK Inuvik 72.08 351 P P 00 55 03.4 -0.9
comp=Z,12nm,1.1s,baz=360,slow=9.8,SNR=7.4
INK Inuvik 72.08 351 IAmb IAmb 00 55 06.2
comp=Z,14nm,1.1s
M56A Emporium 72.26 309 P P 00 55 07.1 +1.2
baz=54
M56A Emporium 72.26 309 P P 00 55 07.5 +1.7
M56A IAmb IAmb 00 55 10.2
comp=Z,27nm,1.1s
N57A Milroy 72.29 308 P P 00 55 07.0 +1.0
baz=54
SSPA Standing Stone 72.57 308 P P 00 55 09.1 +1.4
baz=54
SSPA Standing Stone 72.57 308 P P 00 55 09.4 +1.7
SSPA IAmb IAmb 00 55 11.9
comp=Z,29nm,1.1s
M55A Ridgway 72.62 309 P P 00 55 09.5 +1.4
baz=54
M55A Ridgway 72.62 309 P P 00 55 08.7 +0.6
M55A IAmb IAmb 00 55 11.7
comp=Z,22nm,0.9s
SDMD Soldier's Deli 72.63 307 P P 00 55 08.0 -0.1
N56A West Decatur 72.66 309 P P 00 55 08.4 +0.1
baz=54
O57A Amberson 72.66 308 P P 00 55 09.4 +1.2
baz=54
P58A Pank, Wackersv 72.87 307 P P 00 55 10.2 +0.7
baz=54
E46A Sault Ste Mari 72.89 316 P P 00 55 10.2 +0.7
E46A IAmb IAmb 00 55 13.7
comp=Z,21nm,1.1s
ERPA Erie 72.98 310 P P 00 55 10.2 +0.1
baz=54
ERPA Erie 72.98 310 P P 00 55 10.0 -0.1
M54A Oil Creek Stat 73.14 310 P P 00 55 12.4 +1.3
baz=54
M54A Oil Creek Stat 73.14 310 P P 00 55 11.5 +0.4
M54A IAmb IAmb 00 55 14.7
comp=Z,20nm,1.1s
TOLK Toolik Lake Re 73.15 357 P P 00 55 11.8 +1.1
baz=7.0
TOLK Toolik Lake Re 73.15 357 P P 00 55 10.7 0.0
N55A Marion Center 73.16 309 P P 00 55 12.8 +1.5
baz=54
O56A Blue Knob Stat 73.20 308 P P 00 55 12.3 +0.8
baz=54
O56A Blue Knob Stat 73.20 308 P P 00 55 10.2 -1.4
ROSB Rosrio 73.21 252 *e*P **P 00 55 11.8 0.0**
P57A Homestead Farm 73.32 307 P P 00 55 13.5 +1.3

baz=54
P57A Homestead Farm 73.32 307 P P 00 55 12.2 0.0
P57A IAmb IAmb 00 55 17.0
comp=Z,22nm,1.1s
Q58A Fox Den Farm, 73.43 307 P P 00 55 14.1 +1.2
baz=54
YKA Yellowknife Ar 73.59 341 P P 00 55 13.0 -0.3
comp=Z,11nm,0.9s,baz=31,slow=6.1,SNR=26
YKA LR LR 01 29 16.0
comp=Z,290nm,18.5s,baz=0.0,slow=37
N54A Moraine State 73.67 309 P P 00 55 15.8 +1.6
baz=53
N54A Moraine State 73.67 309 P P 00 55 14.9 +0.7
CBN Corbin Frederi 73.67 306 P P 00 55 14.8 +0.5
CBN IAmb IAmb 00 55 17.6
comp=Z,32nm,1.1s
O55A Ligonier 73.69 308 P P 00 55 15.8 +1.4
baz=53
M53A Wl Miller and 73.79 310 P P 00 55 15.8 +0.8
baz=53
M53A Wl Miller and 73.79 310 P P 00 55 15.1 +0.1
M53A IAmb IAmb 00 55 18.2
comp=Z,22nm,0.9s
P56A Dayton Farm, R 73.82 308 P P 00 55 15.6 +0.5
baz=53
RDOG Red Dog Mine 73.87 2 P P 00 55 14.5 -0.4
RDOG IAmb IAmb 00 55 18.6
comp=Z,34nm,1.1s
GLMI Grayling 74.02 315 P P 00 55 15.5 -0.7
BMAR Burnt Mountain 74.05 355 P P 00 55 17.4 +1.3
R58B Mineral 74.13 306 P P 00 55 18.3 +1.3
baz=54
R58B Mineral 74.13 306 P P 00 55 16.5 -0.5
K50A Casco 74.14 312 P P 00 55 16.5 -0.4
M52A Chesterland 74.14 311 P P 00 55 17.1 +0.1
M52A IAmb IAmb 00 55 20.4
comp=Z,23nm,0.8s
N53A Lisbon 74.27 310 P P 00 55 17.0 -0.7
baz=53
N53A Lisbon 74.27 310 P P 00 55 17.7 0.0
N53A IAmb IAmb 00 55 21.9
comp=Z,31nm,1.1s
V62A Hyde County Ai 74.30 303 P P 00 55 16.2 -1.8
Q56A Snyder Ridge, 74.32 307 P P 00 55 18.5 +0.5
baz=53
Q56A Snyder Ridge, 74.32 307 P P 00 55 17.7 -0.4
Q56A IAmb IAmb 00 55 22.1
comp=Z,29nm,1.1s
EPYK Eagle Plains 74.32 351 P P 00 55 17.7 +0.1
baz=17
EPYK Eagle Plains 74.32 351 P P 00 55 17.6 -0.1
EPYK IAmb IAmb 00 55 20.7
comp=Z,26nm,0.8s
E43A Lone Tree Farm 74.34 317 P P 00 55 18.3 +0.2
E43A IAmb IAmb 00 55 21.2
comp=Z,22nm,1.1s
R57A Stanardsville 74.34 307 P P 00 55 19.4 +1.2
baz=53
MCWV Mont Chateau 74.36 308 P P 00 55 19.5 +1.2
baz=53
MCWV Mont Chateau 74.36 308 P P 00 55 18.6 +0.4
GRNR Gornyy 74.36 37⇓ *i*P **P 00 55 17.8 -0.3**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=Z,340nm,13.0s
O54A Avella 74.37 309 P P 00 55 17.3 -1.0
baz=53
O54A Avella 74.37 309 P P 00 55 17.9 -0.5
O54A IAmb IAmb 00 55 21.8
comp=Z,14nm,0.8s
P55A Reedsville 74.44 308 P P 00 55 19.9 +1.1
baz=53
G45A Suttons Bay 74.46 315 P P 00 55 18.9 +0.2
G45A IAmb IAmb 00 55 21.4
comp=Z,33nm,0.9s
T59A Double "B" Far 74.51 305 P P 00 55 19.9 +0.8
baz=54
T59A Double "B" Far 74.51 305 P P 00 55 19.3 +0.1
COLD Coldfoot 74.58 357 P P 00 55 19.5 +0.4
baz=6.5,SNR=13
COLD Coldfoot 74.58 357 P P 00 55 19.0 -0.1
COLD IAmb IAmb 00 55 23.0
comp=Z,25nm,1.1s
D41A Chassel 74.73 318 P P 00 55 21.0 +0.7
D41A IAmb IAmb 00 55 23.7
comp=Z,30nm,1.1s
N52A McGinn's Farm, 74.78 310 P P 00 55 21.3 +0.6
baz=52
P54A Burton 74.78 309 P P 00 55 22.3 +1.5
baz=53
R56A Bull Pasture M 74.83 307 P P 00 55 21.6 +0.5
baz=53
O53A New Philadelph 74.84 309 P P 00 55 22.3 +1.3
baz=52
O53A New Philadelph 74.84 309 P P 00 55 21.4 +0.4
O53A IAmb IAmb 00 55 25.2
comp=Z,23nm,1.1s
MDJ Mudanjiang 74.86 45 P P 00 55 21.0 -0.1
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,140nm,5.8s
Q55A Buckhannon 74.90 308 P P 00 55 22.1 +0.6
baz=53
S57A Dark Hollow, R 74.94 306 P P 00 55 23.1 +1.5
baz=53
FYU Fort Yukon 74.95 355 P P 00 55 21.9 +0.8
FYU IAmb IAmb 00 55 25.4
comp=Z,31nm,1.0s
AAM Ann Arbor 75.03 312 P P 00 55 21.8 -0.3
AAM pmax pmax
comp=Z,22nm,1.0s
AAM Ann Arbor 75.03 312 P P 00 55 23.5 +1.4
baz=52
AAM Ann Arbor 75.03 312 P P 00 55 21.8 -0.3
AAM IAmb IAmb 00 55 24.7
comp=Z,22nm,0.9s
U59A Littleton 75.03 305 P P 00 55 23.5 +1.3
baz=53,SNR=5.3
U59A Littleton 75.03 305 P P 00 55 22.8 +0.6
V60A Jim Taylor Roa 75.04 304 P P 00 55 22.4 +0.2
V60A IAmb IAmb 00 55 24.0
comp=Z,28nm,1.1s
J47A Sunmer 75.12 314 P P 00 55 22.6 0.0
J47A IAmb IAmb 00 55 26.5
comp=Z,30nm,1.1s
N51A Ashland 75.13 311 P P 00 55 24.0 +1.2
baz=52
N51A Ashland 75.13 311 P P 00 55 22.7 0.0
M50A Fremont 75.23 311 P P 00 55 22.1 -1.2
M50A IAmb IAmb 00 55 23.4
comp=Z,16nm,0.8s
O52A Adamsville 75.30 310 P P 00 55 24.4 +0.8
baz=52
O52A Adamsville 75.30 310 P P 00 55 23.7 0.0
O52A IAmb IAmb 00 55 27.5
comp=Z,36nm,1.1s
RCRC Randolf Colleg 75.33 306 P P 00 55 22.9 -1.1
F42A Maple Grove Fa 75.35 317 P P 00 55 24.6 +0.8
R55A Marlinton 75.36 307 P P 00 55 25.3 +1.2
baz=52
R55A Marlinton 75.36 307 P P 00 55 24.6 +0.4
R55A IAmb IAmb 00 55 27.8
comp=Z,17nm,0.9s
Q54A Coxs Mills 75.38 308 P P 00 55 24.4 +0.2
baz=52
Q54A Coxs Mills 75.38 308 P P 00 55 24.1 -0.1
Q54A IAmb IAmb 00 55 29.6
comp=Z,24nm,1.1s
P53A Whipple 75.41 309 P P 00 55 25.7 +1.4
baz=52
P53A Whipple 75.41 309 P P 00 55 23.7 -0.7
P53A IAmb IAmb 00 55 26.2
comp=Z,23nm,1.1s
U58A Oxford 75.50 305 P P 00 55 25.3 +0.4
baz=53
SABA Saba 75.52 281 P P 00 55 24.0 -1.3
FFC Flin Flon 75.57 330 P P 00 55 25.8 +0.9
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 75.57 330 P P 00 55 25.8 +0.9
T57A Hurt 75.58 306 P P 00 55 26.2 +0.8
baz=53
T57A Hurt 75.58 306 P P 00 55 25.4 0.0
EYMN Ely 75.65 320 P P 00 55 25.8 +0.2

baz=48
EYMN Ely 75.65 320 P P 00 55 26.4 +0.8
EYMN IAmb IAmb 00 55 28.1
comp=Z,17nm,1.1s
COWI Conover 75.66 318 P P 00 55 26.4 +0.7
COWI IAmb IAmb 00 55 29.4
comp=Z,34nm,1.1s
V59A Middlesex 75.67 304 P P 00 55 25.3 -0.6
baz=53
L48A N Adams 75.71 312 P P 00 55 27.1 +1.0
L48A IAmb IAmb 00 55 29.1
comp=Z,21nm,0.9s
O51A Pataskala 75.74 310 P P 00 55 26.9 +0.6
baz=52
P52A Corning 75.77 309 P P 00 55 27.3 +0.9
baz=52
P52A Corning 75.77 309 P P 00 55 26.6 +0.2
P52A IAmb IAmb 00 55 29.6
comp=Z,28nm,1.1s
NJ2 Nanjing 75.83 60 eP P 00 55 27.5 +0.6
NJ2 pmax pmax
comp=Z,15nm,0.5s
Q53A Leroy 75.88 308 P P 00 55 27.9 +0.8
baz=52
VWCC Virginia Weste 75.89 306 P P 00 55 26.6 -0.6
S55A Lewisburg 75.91 307 P P 00 55 29.3 +2.0
baz=52
ACSO Alum Creek Sta 75.92 310 P P 00 55 27.9 +0.7
baz=52
ACSO Alum Creek Sta 75.92 310 P P 00 55 28.2 +1.0
ACSO IAmb IAmb 00 55 30.9
comp=Z,25nm,1.0s
IMAR Indian Mountai 75.95 358 P P 00 55 28.0 +1.1
R54A Victor 75.96 308 P P 00 55 27.8 +0.2
baz=52
T56A Rocky Mt 76.06 306 P P 00 55 28.8 +0.6
baz=52
ULM Lac du Bonnet 76.19 324 P P 00 55 28.4 -0.2
comp=Z,29nm,0.9s,baz=52,slow=6.1,SNR=16
ULM LR LR 01 30 54.1
comp=Z,545nm,18.1s,baz=44,slow=37
ULM Lac du Bonnet 76.19 324 P P 00 55 29.0 +0.4
ULM pmax pmax
comp=Z,43nm,1.0s
ULM Lac du Bonnet 76.19 324 P P 00 55 29.0 +0.4
N49A Columbus Grove 76.20 311 P P 00 55 28.8 0.0
N49A IAmb IAmb 00 55 32.3
comp=Z,24nm,1.1s
Q52A Bidwell 76.27 309 P P 00 55 30.1 +0.9
baz=52
EGAK Eagle 76.35 353 P P 00 55 30.1 +0.9
P51A Williamsport 76.43 310 P P 00 55 29.1 -1.0
P51A IAmb IAmb 00 55 33.3
comp=Z,13nm,0.9s
USA0B Ussuriysk Arra 76.44 44 P P 00 55 29.5 -0.6
USA0B pmax pmax
comp=Z,22nm,1.0s
USA0B Ussuriysk Arra 76.44 44 P P 00 55 29.5 -0.6
USA0B IAmb IAmb 00 55 32.1
comp=Z,22nm,1.0s
USRK Ussuriysk Ar. 76.44 44 P P 00 55 29.5 -0.7
comp=Z,14nm,0.8s,baz=288,slow=5.3,SNR=22
USRK LR LR 01 33 03.7
comp=Z,384nm,18.2s,baz=318,slow=39
USRK Ussuriysk Ar. 76.44 44 P P 00 55 29.1 -1.0
R53A Hurricane 76.47 308 P P 00 55 30.9 +0.5
baz=52
R53A Hurricane 76.47 308 P P 00 55 29.8 -0.6
R53A IAmb IAmb 00 55 33.7
comp=Z,22nm,0.8s
B35A Bob, Littlefor 76.47 322 P P 00 55 31.7 +1.4
POKR Poker Plat Res 76.54 355 P P 00 55 31.7 +1.4
baz=8.6,SNR=11
E38A The Farm, Brul 76.58 319 P P 00 55 31.6 +0.7
E38A IAmb IAmb 00 55 33.5
comp=Z,18nm,0.9s
V57A Coltrane Farms 76.59 305 P P 00 55 31.4 +0.3
baz=52
U56A King 76.70 306 P P 00 55 32.2 +0.4
U56A IAmb IAmb 00 55 36.6
comp=Z,15nm,1.0s
MDM Murphy Dome 76.74 356 P P 00 55 32.3 +0.8
O49A Covington 76.75 311 P P 00 55 31.5 -0.5
O49A IAmb IAmb 00 55 34.8
comp=Z,25nm,0.9s
G40A Rib Lake 76.77 318 P P 00 55 32.4 +0.4
G40A IAmb IAmb 00 55 35.2
comp=Z,15nm,1.0s
COLA College 76.81 356 i P P 00 55 32.5 +0.7
COLA pmax pmax
comp=Z,21nm,1.1s
COLA College 76.81 356 P P 00 55 31.9 +0.2
COLA IAmb IAmb 00 55 35.5
comp=Z,20nm,0.9s
TCOL CIGO, UAF Yank 76.81 356 P P 00 55 33.4 +1.6
baz=8.3
IL31 76.84 355 P P 00 55 32.0 0.0
ILAR Eielson Array 76.84 355 P P 00 55 32.3 +0.2
comp=Z,5.8nm,0.9s,baz=1.8,slow=4.3,SNR=36
ILAR LR LR 01 29 57.9
comp=Z,118nm,21.9s,baz=360,slow=36
ILAR Eielson Array 76.84 355 P P 00 55 32.1 0.0
Q51A Peebles 76.89 309 P P 00 55 33.0 +0.2
S53A Williamson 76.98 308 P P 00 55 34.0 +0.7
baz=51
I42A Draeger Farm, 76.98 316 P P 00 55 33.3 +0.1
I42A IAmb IAmb 00 55 36.3
comp=Z,16nm,1.0s
T54A Tazewell 77.02 307 P P 00 55 34.5 +0.8
baz=52
CCB Clear Creek Bu 77.03 355 P P 00 55 33.4 +0.3
U55A TA2, Sparta 77.03 306 P P 00 55 35.1 +1.4
baz=52
V56A Mocksville 77.10 305 P P 00 55 35.0 +1.0
baz=52
N47A Urbana 77.11 312 P P 00 55 33.4 -0.6
N47A IAmb IAmb 00 55 36.6
comp=Z,26nm,1.0s
X58A Rowland 77.12 304 P P 00 55 33.4 -0.7
NEA2 Nenana 77.16 356 P P 00 55 34.5 +0.7
baz=7.3,SNR=17
K27K Chicken 77.18 353 P P 00 55 35.3 +1.4
baz=13,SNR=36
HDA Harding Lake 77.21 355 P P 00 55 34.8 +0.7
baz=9.0,SNR=31
HDA Harding Lake 77.21 355 P P 00 55 34.5 +0.4
WRH Wood River Hil 77.22 356 P P 00 55 35.0 +0.8
SCRK Sand Creek 77.41 354 P P 00 55 36.2 +0.8
baz=11,SNR=16
PDPR Patillas Dam, 77.42 283 P P 00 55 36.2 +0.1
PDPR IAmb IAmb 00 55 38.1
comp=Z,26nm,1.1s
K43A Burlington 77.44 315 P P 00 55 36.0 +0.2
K43A IAmb IAmb 00 55 37.7
comp=Z,32nm,1.1s
U54A Nelsons Funny 77.50 307 P P 00 55 37.0 +0.6
baz=51
U54A Nelsons Funny 77.50 307 P P 00 55 36.2 -0.2
GRGR Grenville 77.52 276 P P 00 55 37.1 +0.4
V55A Taylorsville 77.54 306 P P 00 55 37.0 +0.5
baz=52
V55A Taylorsville 77.54 306 P P 00 55 36.2 -0.3
V55A IAmb IAmb 00 55 42.4
comp=Z,18nm,1.1s
AGMN Agassiz Nation 77.55 323 P P 00 55 37.0 +0.7
baz=45
AGMN Agassiz Nation 77.55 323 P P 00 55 36.3 +0.1
L44A Lake County Fo 77.55 314 P P 00 55 35.9 -0.5
L44A IAmb IAmb 00 55 39.3
comp=Z,32nm,1.1s
BWN Browne 77.60 356 P P 00 55 37.2 +0.9
BWN IAmb IAmb 00 55 42.0
comp=Z,26nm,1.2s
MCPB Macapa, AP 77.63 260 eP P 00 55 38.6 +1.3
RIDG Independent Ri 77.71 354 P P 00 55 36.7 -0.3
DOT Dot Lake 77.73 354 P P 00 55 38.1 +1.0
DOT IAmb IAmb 00 55 41.2
comp=Z,33nm,1.0s
BPAW Bear Paw Mtn. 77.74 357 P P 00 55 37.2 +0.1
BPAW IAmb IAmb 00 55 40.1
comp=Z,26nm,1.0s
HQIL Hanson Quary C 77.76 314 P P 00 55 35.9 -1.7
HQIL IAmb IAmb 00 55 40.6
comp=Z,34nm,1.1s
P48A Milroy 77.86 311 P P 00 55 38.7 +0.4
I40A Norwalk 77.91 317 P P 00 55 39.1 +0.7
I40A IAmb IAmb 00 55 42.0
comp=Z,27nm,1.1s
R50A Paris 77.95 309 P P 00 55 38.6 -0.1
MCK McKinley 78.00 356 P P 00 55 38.4 -0.2
MCK pmax pmax
comp=Z,41nm,1.0s
MCK McKinley 78.00 356 P P 00 55 38.4 -0.2
V54A Nebo 78.05 306 P P 00 55 40.6 +1.2
baz=51
KMSC Kings Mountain 78.05 305 P P 00 55 40.1 +0.7
baz=51
KMSC Kings Mountain 78.05 305 P P 00 55 39.5 +0.2
KMSC IAmb IAmb 00 55 43.1
comp=Z,17nm,1.1s
F36A Milaca 78.09 320 P P 00 55 39.3 -0.1
F36A IAmb IAmb 00 55 42.6
comp=Z,28nm,1.1s
BCAR Beaver Creek A 78.09 352 P P 00 55 40.2 +1.1
PSI Prapat 78.13 96 P P 00 55 40.9 +0.7
comp=Z,3.9nm,0.4s,baz=360,slow=4.2,SNR=4.8
Y57A Sumter 78.14 304 P P 00 55 40.7 +0.8
Y57A IAmb IAmb 00 55 53.1
comp=Z,19nm,1.1s
SPMN Marine on St. 78.16 319 P P 00 55 40.5 +0.8
baz=47,SNR=7.3
SPMN Marine on St. 78.16 319 P P 00 55 40.7 +1.0
SPMN IAmb IAmb 00 55 43.3
comp=Z,29nm,1.1s
RPSI Rantau Prapat 78.20 96 P P 00 55 40.3 -0.1
RPSI Rantau Prapat 78.20 96 P P 00 55 40.9 +0.5
SFIN Lafayette 78.25 312 P P 00 55 40.6 +0.3
baz=49
SFIN Lafayette 78.25 312 P P 00 55 41.1 +0.8
SFIN IAmb IAmb 00 55 43.1
comp=Z,21nm,0.9s
X56A White Oak 78.26 305 P P 00 55 40.8 +0.3
baz=51
KTH Kantishna Hill 78.29 357 P P 00 55 40.2 0.0
KTH IAmb IAmb 00 55 43.9
comp=Z,19nm,1.1s
RND Reindeer 78.33 356 P P 00 55 40.5 0.0
RND pmax pmax
comp=Z,11nm,0.8s
RND Reindeer 78.33 356 P P 00 55 40.5 0.0
KS19 Wonju Array Si 78.35 51 P P 00 55 41.0 +0.1
KS19 IAmb IAmb 00 55 43.5
comp=Z,27nm,1.1s
JFWS Jewell Farm 78.36 316 P P 00 55 41.6 +0.7
JFWS pmax pmax
comp=Z,21nm,1.1s
JFWS Jewell Farm 78.36 316 P P 00 55 41.3 +0.4
baz=48
JFWS Jewell Farm 78.36 316 P P 00 55 41.6 +0.7
JFWS IAmb IAmb 00 55 43.6
comp=Z,21nm,1.1s
TRF Thorofare Moun 78.36 356 P P 00 55 41.4 +0.6
TRF IAmb IAmb 00 55 42.1
comp=Z,17nm,1.0s
KSAR Wonju Array Be 78.40 51 P P 00 55 39.7 -1.5
KSAR Wonju Array Be 78.40 51 P P 00 55 39.7 -1.5
MENT Mentasta 78.40 353 P P 00 55 41.9 +1.0
KSRS Korea Array 78.42 51 P P 00 55 40.9 -0.4
comp=Z,9.6nm,0.8s,baz=309,slow=4.8,SNR=23
KSRS LR LR 01 35 48.8
comp=Z,166nm,18.9s,baz=319,slow=40
R49A Shelbyville 78.46 310 P P 00 55 41.9 +0.3
R49A IAmb IAmb 00 55 44.5
comp=Z,21nm,1.1s
PAX Paxson 78.52 354 P P 00 55 42.2 +0.6
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX Paxson 78.52 354 P P 00 55 42.2 +0.6
JSC Jenkinsville 78.54 305 P P 00 55 41.9 -0.2
JSC pmax pmax
comp=Z,7.0nm,1.0s
JSC Jenkinsville 78.54 305 P P 00 55 41.9 -0.2
DHY Denali Highway 78.56 355 P P 00 55 42.3 +0.4
PAULI Pauline 78.56 305 P P 00 55 42.3 +0.2
PAULI IAmb IAmb 00 55 52.5
comp=Z,21nm,1.2s
TZTN Tazewell 78.57 308 P P 00 55 42.2 0.0
baz=50
TZTN Tazewell 78.57 308 P P 00 55 41.6 -0.7
TZTN IAmb IAmb 00 55 45.5
comp=Z,17nm,1.1s
L42A Oliver, Polo 78.64 315 P P 00 55 43.5 +1.0
L42A IAmb IAmb 00 55 45.4
comp=Z,26nm,1.1s
X55A Gracelyn & Ava 78.66 305 P P 00 55 43.7 +1.0
baz=51
V53A Saluda 78.66 307 P P 00 55 44.0 +1.2
IPM Ipoh 78.75 93 P P 00 55 43.0 -0.5
TJN Taejon 78.75 52 ceP P 00 55 44.4 +1.2
P46A Rosedale 78.81 312 P P 00 55 43.2 -0.2
P46A IAmb IAmb 00 55 47.5
comp=Z,16nm,0.8s
PPLA Purkeypile 79.00 357 P P 00 55 45.3 +1.1
PPLA IAmb IAmb 00 55 47.3
comp=Z,26nm,0.9s
V52A Sevierville 79.05 307 P P 00 55 46.9 +2.0
TTA Tatalina 79.06 359 P P 00 55 46.1 +1.6
TTA pmax pmax
comp=Z,14nm,1.0s
TTA Tatalina 79.06 359 P P 00 55 46.1 +1.6
T50A Nancy 79.07 309 P P 00 55 46.2 +1.2
T50A IAmb IAmb 00 55 48.7
comp=Z,20nm,1.1s
X54A Belton 79.09 305 P P 00 55 45.7 +0.6
baz=51
BG3 Lake Jocassee 79.17 306 P P 00 55 47.2 +1.7
WCI Wyandotte Cave 79.17 310 P P 00 55 46.7 +1.2
WCI pmax pmax
comp=Z,20nm,0.9s
WCI Wyandotte Cave 79.17 310 P P 00 55 45.7 +0.3
baz=49
WCI Wyandotte Cave 79.17 310 P P 00 55 46.7 +1.2
WCI IAmb IAmb 00 55 48.6
comp=Z,20nm,0.9s
O44A Mansfield 79.19 313 P P 00 55 46.6 +1.1
O44A IAmb IAmb 00 55 48.5
comp=Z,30nm,1.1s
TKL Tuckaleechee C 79.28 307 P P 00 55 47.1 +1.0
TKL pmax pmax
comp=Z,15nm,1.1s
TKL Tuckaleechee C 79.28 307 P P 00 55 47.1 +1.0
I37A Lemond, Waseca 79.30 318 P P 00 55 45.2 -0.8
HDIL Hopedale 79.40 314 P P 00 55 47.4 +0.8
baz=48
HDIL Hopedale 79.40 314 P P 00 55 46.5 -0.2
HDIL IAmb IAmb 00 55 49.1
comp=Z,19nm,0.8s
CUT Chulitna 79.40 356 P P 00 55 46.1 -0.1
baz=6.3
M24K Tolsona, Glenn 79.43 354 P P 00 55 46.5 0.0
baz=9.5
M24K Tolsona, Glenn 79.43 354 P P 00 55 47.8 +1.3
M24K IAmb IAmb 00 55 50.4
comp=Z,36nm,1.1s
L40A Anamosa 79.46 316 P P 00 55 47.3 +0.3
F33A 5 Mile Ranch, 79.49 321 P P 00 55 47.7 +0.6
WHY Whitehorse 79.52 349 P P 00 55 47.8 +0.7
V51A Loudon 79.55 307 P P 00 55 48.6 +1.0
V51A IAmb IAmb 00 55 53.5
comp=Z,21nm,1.1s
MDND Maddock 79.62 324 P P 00 55 49.4 +1.7
baz=43
MDND Maddock 79.62 324 P P 00 55 48.5 +0.7
MDND IAmb IAmb 00 55 50.5
comp=Z,41nm,1.1s
PRPB Parauapebas 79.63 254 eP P 00 55 48.9 +0.6
SMTB Santa Maria do 79.72 250 eP P 00 55 49.9 +1.1
W52A Murphy 79.73 307 P P 00 55 48.4 -0.2
W52A IAmb IAmb 00 55 52.2
comp=Z,23nm,1.1s
HYT Haines Junctio 79.75 350 P P 00 55 49.0 +0.6
HYT IAmb IAmb 00 55 50.6
comp=Z,33nm,1.2s
SCM Sheep Creek Mo 79.79 355 P P 00 55 49.7 +1.2
SCM pmax pmax
comp=Z,44nm,1.2s
SCM Sheep Creek Mo 79.79 355 P P 00 55 49.7 +1.2
SCM IAmb IAmb 00 55 51.3
comp=Z,44nm,1.2s
MCARA McCarthy VSAT 79.86 353 P P 00 55 49.4 +0.6
MCARA IAmb IAmb 00 55 53.9
comp=Z,25nm,0.9s
CPCT Cooper Cave 79.88 307 P P 00 55 49.5 +0.1
CPCT IAmb IAmb 00 55 53.4
comp=Z,37nm,1.2s
SML Sawmill 79.88 355 P P 00 55 49.2 +0.2
SML IAmb IAmb 00 55 52.3
comp=Z,32nm,0.9s
SKT Skwentna 79.89 357 P P 00 55 48.4 -0.5
SKT IAmb IAmb 00 55 51.5
comp=Z,33nm,1.0s
K38A Parkersburg 79.90 317 P P 00 55 49.3 0.0
K38A IAmb IAmb 00 55 52.1
comp=Z,23nm,1.1s
GHO Glory Hole Cre 79.96 356 P P 00 55 50.3 +0.9
GHO IAmb IAmb 00 55 54.2
comp=Z,27nm,0.9s
U49A Red Boiling Sp 79.97 309 P P 00 55 51.1 +1.2
U49A IAmb IAmb 00 55 53.1
comp=Z,38nm,1.1s
YSS Yuzh-Sakhalins 80.02 37 eP P 00 55 50.0 +0.1
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,200nm,18.0s
YSS MLR MLR
comp=E,200nm,16.0s
YSS Yuzh-Sakhalins 80.02 37 P P 00 55 49.6 -0.3
KLU Klutina 80.02 354 P P 00 55 50.8 +1.0
VRDI Verde Repeater 80.06 353 P P 00 55 50.5 +0.4
CTGM Chitina Glacie 80.09 352 P P 00 55 51.0 +0.7
SDBA SAO DESIDERIO 80.13 246 eP P 00 55 52.0 +1.0
BALM Baldy 80.14 352 P P 00 55 50.8 +0.3
BALM IAmb IAmb 00 55 52.5
comp=Z,27nm,1.0s
P43A Skaggs, Pawnee 80.14 313 P P 00 55 50.9 +0.2
PMR Palmer 80.15 356 P P 00 55 50.9 +0.6
PMR pmax pmax
comp=Z,28nm,1.0s
PMR Palmer 80.15 356 P P 00 55 50.9 +0.6
PMR IAmb IAmb 00 55 53.6
comp=Z,28nm,1.0s
N41A Harden Midland 80.18 315 P P 00 55 50.6 -0.3
N41A IAmb IAmb 00 55 54.0
comp=Z,42nm,1.1s
MALB Monte Alegre 80.28 260 eP P 00 55 53.1 +1.3
KNK Knik Glacier 80.28 355 P P 00 55 51.3 +0.2
KNK IAmb IAmb 00 55 54.8
comp=Z,30nm,0.9s
Q44A Meyer Farm, Va 80.34 312 P P 00 55 52.1 +0.3
Q44A IAmb IAmb 00 55 55.3
comp=Z,26nm,1.1s
SUA Susitna One 80.36 356 P P 00 55 51.3 -0.4
TGL Tana Glacier 80.46 352 P P 00 55 52.6 +0.5
T47A Sharon Grove 80.47 310 P P 00 55 53.0 +0.5
CRQM Cirque 80.49 353 P P 00 55 51.8 -0.6
CRQM IAmb IAmb 00 55 56.6
comp=Z,24nm,0.8s
GOGA Godfrey 80.51 305 P P 00 55 52.1 -0.7
GOGA Godfrey 80.51 305 P P 00 55 54.7 +1.9
baz=50
GOGA Godfrey 80.51 305 P P 00 55 52.1 -0.7
W50A Signal Mountai 80.53 308 P P 00 55 53.0 +0.1
ISLE Juniper Island 80.56 352 P P 00 55 53.0 +0.3
ISLE IAmb IAmb 00 55 54.5
comp=Z,20nm,1.0s
CLTN Cedars of Leba 80.58 309 P P 00 55 53.4 +0.3
CLTN IAmb IAmb 00 55 56.2
comp=Z,17nm,1.0s
Y52A Lilburn 80.60 306 P P 00 55 53.0 -0.3
Y52A IAmb IAmb 00 55 57.3
comp=Z,32nm,1.1s
SKAG Skagway 80.74 348 P P 00 55 54.3 +0.8
DLBC Dease Lake 80.76 345 P P 00 55 54.6 +0.9
WAX Waxell Ridge 80.76 352 P P 00 55 55.3 +1.5
WAX IAmb IAmb 00 55 57.2
comp=Z,23nm,0.9s
FID Port Fidalgo 80.80 354 P P 00 55 54.8 +0.9
FID IAmb IAmb 00 55 57.8
comp=Z,24nm,0.9s
PCA Pinnacle 80.81 351 P P 00 55 54.4 +0.4
SDDR Presa de Saban 80.85 287 P P 00 55 55.1 +0.2
SDDR IAmb IAmb 00 55 59.5
comp=Z,18nm,1.0s
SVW2 Sparrevohn 80.89 359 P P 00 55 54.4 0.0
SVW2 IAmb IAmb 00 55 56.7
comp=Z,20nm,1.0s
EYAK Cordova Ski Ar 80.94 354 P P 00 55 54.6 +0.1
EYAK IAmb IAmb 00 55 56.8
comp=Z,29nm,1.2s
E28A Huff 81.06 324 P P 00 55 56.1 +0.6
V48A Smith Brothers 81.11 309 P P 00 55 56.4 +0.4
V48A IAmb IAmb 00 55 58.8
comp=Z,19nm,1.1s
ECSD EROS Data Cent 81.15 320 P P 00 55 56.9 +0.8
baz=44,SNR=14
ECSD EROS Data Cent 81.15 320 P P 00 55 57.1 +1.0
ECSD IAmb IAmb 00 55 59.6
comp=Z,24nm,1.1s
FPAL Fort Paine 81.15 307 P P 00 55 56.6 +0.3
FPAL IAmb IAmb 00 55 59.4
comp=Z,22nm,1.1s
DGMT Dagmar 81.19 327 P P 00 55 57.4 +1.1
DGMT IAmb IAmb 00 56 00.3
comp=Z,13nm,0.8s
SLM Saint Louis 81.22 313 P P 00 55 56.9 +0.4
SLM pmax pmax
comp=Z,19nm,0.9s
SLM Saint Louis 81.22 313 P P 00 55 56.9 +0.4
SLM IAmb IAmb 00 55 59.6
comp=Z,19nm,0.8s
S44A Carbondale 81.28 312 P P 00 55 57.7 +0.8
S44A IAmb IAmb 00 56 00.2
comp=Z,33nm,1.1s
N38A Joes South For 81.44 316 P P 00 55 58.0 +0.3
RSO Redoubt South 81.45 357 P P 00 55 57.9 +0.3
WVT Waverly 81.47 310 P P 00 55 58.1 +0.2
WVT pmax pmax
comp=Z,14nm,1.2s
WVT Waverly 81.47 310 P P 00 55 57.7 -0.2
baz=48
WVT Waverly 81.47 310 P P 00 55 58.1 +0.2
BESE Bessie Mountai 81.50 348 P P 00 55 58.9 +1.2
BESE IAmb IAmb 00 56 02.0
comp=Z,26nm,1.0s
JANB Januaria 81.51 243 eP P 00 55 58.9 +0.6
P40A Paris 81.65 314 P P 00 55 58.5 -0.2
P40A IAmb IAmb 00 56 02.0
comp=Z,31nm,1.1s
SEW Seward 81.65 356 P P 00 55 58.7 +0.4
SEW IAmb IAmb 00 56 01.8
comp=Z,24nm,0.9s
JIS Juneau Island 81.71 348 P P 00 55 59.4 +0.8
JIS IAmb IAmb 00 56 01.3
comp=Z,20nm,1.0s
BSFB Barra de Sao F 81.75 238 eP P 00 55 59.2 -0.2
152A Waverly Hall 81.79 305 P P 00 56 00.8 +1.2
152A IAmb IAmb 00 56 03.3
comp=Z,22nm,1.1s
SUSD Miller 81.80 322 P P 00 56 00.6 +1.1
baz=43
SUSD Miller 81.80 322 P P 00 56 00.3 +0.8
SJMB Sao Joao De Ma 81.89 239 eP P 00 56 03.0 +2.8
HICK Hickman 82.04 311 P P 00 56 00.3 -0.5
BRLK Bradley Lake 82.07 356 P P 00 56 01.6 +1.0
Y49A Blount Mountai 82.09 307 P P 00 56 02.8 +1.6
X48A Hartselle 82.10 308 P P 00 56 02.3 +1.0
X48A IAmb IAmb 00 56 04.8
comp=Z,32nm,1.0s
CCM Cathedral Cave 82.20 313 P P 00 56 01.9 +0.2
CCM pmax pmax
comp=Z,10.0nm,0.9s
CCM Cathedral Cave 82.20 313 P P 00 56 02.5 +0.8
baz=47
CCM Cathedral Cave 82.20 313 P P 00 56 01.9 +0.2
HOM Homer 82.21 357 P P 00 56 02.6 +1.3
baz=5.1
L34A Svendsen Farm, 82.29 318 P P 00 56 02.7 +0.6
CNPM China Poot 82.32 356 P P 00 56 01.0 -1.0
MC01 Montes Claros 82.38 242 eP P 00 56 04.5 +1.7
PLAL Pickwick Lake 82.38 309 P P 00 56 03.2 +0.5
PLAL IAmb IAmb 00 56 05.1
comp=Z,21nm,1.1s

PEXB Peixe 82.39 248 *eP* **P 00 56 03.4 +0.5**
P38A Dawn 82.41 315 P **P 00 56 03.5 +0.8**
R40A Maddies Statio 82.62 314 P **P 00 56 04.8 +0.9**
N35A Tabor 82.69 317 P **P 00 56 05.4 +1.2**
N35A IAmb IAmb 00 56 07.3
comp=Z,19nm,0.8s
T42A Van Buren 82.81 312 P **P 00 56 05.7 +0.8**
T42A IAmb IAmb 00 56 08.6
comp=Z,26nm,1.1s
GNAR Gosnell 82.90 311 P **P 00 56 07.0 +1.6**
W45A Hickory Valley 82.94 310 P **P 00 56 06.3 +0.7**
ITTB Itaituba 83.00 259 *eP* **P 00 56 07.3 +1.1**
LRAL Lakeview Retre 83.00 307 P **P 00 56 07.0 +1.0**
baz=48,SNR=9.4
LRAL Lakeview Retre 83.00 307 P **P 00 56 06.7 +0.8**
250A Grady 83.24 306 P **P 00 56 09.6 +2.4**
MGMO Mountain Grove 83.41 313 P **P 00 56 09.6 +1.6**
MGMO IAmb IAmb 00 56 11.7
comp=Z,21nm,1.1s
LAO LASA Array 83.44 327 P **P 00 56 09.5 +1.4**
baz=38,SNR=20
LAO LASA Array 83.44 327 P **P 00 56 09.6 +1.5**
LCAR Lake Charles 83.50 311 P **P 00 56 09.8 +1.4**
LCAR IAmb IAmb 00 56 11.7
comp=Z,21nm,1.1s
OXF Oxford 83.51 309 P **P 00 56 09.9 +1.3**
OXF pmax pmax
comp=Z,31nm,1.1s
OXF Oxford 83.51 309 P **P 00 56 09.4 +0.8**
baz=47
OXF Oxford 83.51 309 P **P 00 56 09.9 +1.3**
BGNE Belgrade 83.61 319 P **P 00 56 10.1 +1.1**
baz=43
BGNE Belgrade 83.61 319 P **P 00 56 10.4 +1.4**
S39A Bolivar 83.64 314 P **P 00 56 10.2 +1.0**
S39A IAmb IAmb 00 56 12.4
comp=Z,17nm,1.1s
JTM Tenmabayashi 83.66 42 P **P 00 56 07.1 -2.0**
ERM Erimo 83.83 40 *ceP* **P 00 56 09.7 -0.3**
ERM pmax pmax
comp=Z,49nm,1.3s
ERM Erimo 83.83 40 P **P 00 56 11.0 +0.9**
ERM IAmb IAmb 00 56 27.7
comp=Z,18nm,1.0s
EGMT Eagleton 83.84 330 P **P 00 56 11.5 +1.4**
baz=36,SNR=26
EGMT Eagleton 83.84 330 P **P 00 56 11.5 +1.4**
PTGA Pitinga 84.02 264 P **P 00 56 13.0 +1.6**
Y45A Yeager Farm, C 84.03 309 P **P 00 56 11.9 +0.7**
KDAK Kodiak Island 84.12 357 P **P 00 56 12.6 +1.4**
KDAK Kodiak Island 84.12 357 P **P 00 56 12.6 +1.4**
FCAR Ozark Folk Cen 84.20 312 P **P 00 56 13.2 +1.2**
U40A Yellville 84.30 313 P **P 00 56 13.4 +0.8**
baz=46,SNR=15
U40A Yellville 84.30 313 P **P 00 56 13.7 +1.1**
U40A IAmb IAmb 00 56 18.0
comp=Z,23nm,1.1s
NPGB Novo Progresso 84.40 257 *eP* **P 00 56 14.1 +0.8**
RSSD Black Hills 84.46 324 P **P 00 56 14.8 +1.3**
RSSD pmax pmax
comp=Z,13nm,1.1s
RSSD Black Hills 84.46 324 P **P 00 56 14.7 +1.1**
baz=40
RSSD Black Hills 84.46 324 P **P 00 56 14.8 +1.3**
RSSD IAmb IAmb 00 56 15.5
comp=Z,13nm,1.1s
KSU1 Kansas State U 84.46 317 P **P 00 56 14.4 +1.0**
baz=44
KSU1 Kansas State U 84.46 317 P **P 00 56 14.7 +1.3**
BDFB Brasilia 84.53 245 P **P 00 56 13.6 -0.5**
comp=Z,1.5nm,0.5s,baz=22,slow=7.0,SNR=3.0
BDFB LR LR 01 35 32.0
comp=Z,243nm,18.3s,baz=104,slow=37
BDFB Brasilia 84.53 245 IAmb IAmb 00 56 20.2
comp=Z,4.4nm,0.9s
WALA Waterton Lakes 84.57 333 P **P 00 56 14.3 +0.5**
WALA IAmb IAmb 00 56 15.0
comp=Z,16nm,1.0s
WHAR Wooly Hollow 84.71 311 P **P 00 56 15.8 +1.2**
OHAK Old Harbor 84.71 357 P **P 00 56 15.5 +1.3**
OHAK IAmb IAmb 00 56 17.6
comp=Z,16nm,0.8s
W41B Gary Mavity, V 84.76 311 P **P 00 56 15.6 +0.6**
baz=46,SNR=9.6
W41B Gary Mavity, V 84.76 311 P **P 00 56 15.8 +0.8**
W41B IAmb IAmb 00 56 16.3
comp=Z,15nm,1.1s
HHAR Hobbs 84.98 313 P **P 00 56 17.0 +0.9**
UALR University of 85.10 311 P **P 00 56 17.3 +0.7**
UALR IAmb IAmb 00 56 21.9
comp=Z,18nm,1.1s
MJB9 Matsu-Tunnel 85.12 46 P **P 00 56 14.3 -2.5**
MAJO Matsushiro 85.12 46 P **P 00 56 16.7 0.0**
MAJO pmax pmax
comp=Z,11nm,1.0s
MAJO Matsushiro 85.12 46 P **P 00 56 16.7 0.0**
MAJO IAmb IAmb 00 56 18.8
comp=Z,11nm,1.0s
MAT Matsushiro 85.12 46 P **P 00 56 15.5 -1.2**
U38A Gravette 85.12 313 P **P 00 56 17.8 +1.0**
MJAR Matsushiro Arr 85.12 46 P **P 00 56 16.2 -0.6**
comp=Z,9.4nm,0.9s,baz=310,slow=5.1,SNR=17
MJAR LR LR 01 38 16.4
comp=Z,159nm,18.1s,baz=5.0,slow=38
MJAR Matsushiro Arr 85.12 46 P **P 00 56 16.9 +0.1**
MJAR pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 85.12 46 P **P 00 56 16.9 +0.1**
JGF Kuroka 85.30 48 P **P 00 56 17.8 +0.2**
CCAR Cane Creek 85.35 310 P **P 00 56 19.9 +2.1**
JOW Kunigami 85.49 59 P **P 00 56 21.4 +2.7**
X40A Basin Creek Fa 85.59 311 P **P 00 56 20.1 +1.0**
baz=46,SNR=6.7
X40A Basin Creek Fa 85.59 311 P **P 00 56 20.2 +1.2**
X40A IAmb IAmb 00 56 22.2
comp=Z,15nm,1.1s
GCMT Greycliff 85.60 328 P **P 00 56 20.7 +1.6**
W39A Magazine 85.65 312 P **P 00 56 20.6 +1.3**
baz=45
W39A Magazine 85.65 312 P **P 00 56 20.7 +1.3**
346A Big Creek Wild 85.66 307 P **P 00 56 21.6 +2.2**
HRY Holter Researc 85.73 330 P **P 00 56 20.4 +0.8**
JTMT Jette 85.80 332 P **P 00 56 21.2 +1.1**
VAS01 Vassouras-RJ 85.89 238 *eP* **P 00 56 21.1 +0.5**
143A Socs Landing, 85.96 309 P **P 00 56 22.8 +1.8**
RLMT Red Lodge 85.98 328 P **P 00 56 22.6 +1.5**
baz=36,SNR=16
RLMT Red Lodge 85.98 328 P **P 00 56 22.6 +1.5**
RLMT IAmb IAmb 00 56 24.8
comp=Z,16nm,1.0s
T35A Sooner Cattle 85.98 315 P **P 00 56 22.0 +1.0**
MIAR Mount Ida 85.98 312 P **P 00 56 21.2 +0.2**
MIAR pmax pmax
comp=Z,25nm,1.1s
MIAR Mount Ida 85.98 312 P **P 00 56 22.4 +1.4**
baz=45,SNR=18
MIAR Mount Ida 85.98 312 P **P 00 56 21.2 +0.2**
MIAR IAmb IAmb 00 56 24.8
comp=Z,25nm,1.1s
R32A Long Quarter, 86.08 317 P **P 00 56 21.4 -0.1**
MACA Manacapuru-AM 86.09 263 *eP* **P 00 56 23.7 +1.9**
TUL1 Leonard 86.30 314 P **P 00 56 23.6 +1.0**
baz=44,SNR=17
TUL1 Leonard 86.30 314 P **P 00 56 23.3 +0.7**
WLAR White Oak Lake 86.31 311 P **P 00 56 23.2 +0.6**
WLAR IAmb IAmb 00 56 25.8
comp=Z,20nm,1.0s
CBKS Cedar Bluff 86.34 318 P **P 00 56 23.4 +0.6**
CBKS pmax pmax
comp=Z,53nm,1.1s
CBKS Cedar Bluff 86.34 318 P **P 00 56 23.7 +0.9**
baz=42
CBKS Cedar Bluff 86.34 318 P **P 00 56 23.4 +0.6**
NEW Newport 86.38 334 P **P 00 56 22.5 -0.3**
NEW pmax pmax
comp=Z,19nm,1.1s
NEW Newport 86.38 334 P **P 00 56 23.8 +1.0**
baz=31,SNR=11
NEW Newport 86.38 334 P **P 00 56 22.5 -0.3**
NEW IAmb IAmb 00 56 24.7
comp=Z,19nm,1.1s
YNE Yellowstone No 86.38 328 P **P 00 56 24.5 +1.4**
344A Westbrook Farm 86.40 308 P **P 00 56 23.6 +0.4**
Z41A Richland Creek 86.42 310 P **P 00 56 24.6 +1.4**
baz=46
Z41A Richland Creek 86.42 310 P **P 00 56 23.7 +0.5**
MSO Missoula 86.44 331 P **P 00 56 23.8 +0.6**
baz=33,SNR=9.1
MSO Missoula 86.44 331 P **P 00 56 23.0 -0.2**
MSO IAmb IAmb 00 56 26.6
comp=Z,14nm,1.1s
KAN13 South Haven SW 86.44 316 P **P 00 56 23.9 +0.6**
SDV Santo Domingo 86.49 278 P **P 00 56 24.7 +0.6**
SDV IAmb IAmb 00 56 25.7
comp=Z,15nm,0.8s
SDV Santo Domingo 86.49 278 *eP* **P 00 56 23.8 -0.2**
KAN12 Harper NE Stat 86.52 316 P **P 00 56 24.1 +0.5**
BOZ Bozeman (W) 86.56 329 P **P 00 56 24.0 +0.1**
BOZ pmax pmax
comp=Z,14nm,1.1s
BOZ Bozeman (W) 86.56 329 P **P 00 56 25.1 +1.2**
baz=35,SNR=15
BOZ Bozeman (W) 86.56 329 P **P 00 56 24.0 +0.1**
BOZ IAmb IAmb 00 56 28.0
comp=Z,14nm,1.1s
QUOK Quay 86.63 315 P **P 00 56 24.6 +0.5**
YMP Mirror Lake PI 86.66 328 P **P 00 56 24.1 -0.5**
LRM Limekiln Ridge 86.70 330 P **P 00 56 25.4 +0.7**
KAN10 Anthony SW Sta 86.70 316 P **P 00 56 24.8 +0.3**
K22A Casper 86.74 325 P **P 00 56 24.8 0.0**
baz=38,SNR=8.7
K22A Casper 86.74 325 P **P 00 56 24.1 -0.7**
K22A IAmb IAmb 00 56 32.7
comp=Z,16nm,1.1s
YNR Norris Junctio 86.89 328 P **P 00 56 26.9 +1.2**
LKWY Lake 86.90 328 P **P 00 56 26.9 +1.2**
LKWY pmax pmax
comp=Z,10.0nm,1.0s
LKWY Lake 86.90 328 P **P 00 56 26.9 +1.2**
LKWY IAmb IAmb 00 56 29.1
comp=Z,10nm,1.0s
YHH Holmes Hill 86.91 328 P **P 00 56 27.0 +1.2**
LCCY Blossom Villag 86.93 293 P **P 00 56 25.3 -0.6**
YHL Hebgen Lake 86.99 329 P **P 00 56 27.1 +0.9**
X37A Clayton 87.00 313 P **P 00 56 26.8 +0.7**
B08A Colville Reser 87.04 335 P **P 00 56 26.7 +0.7**
YMR Madison River 87.05 328 P **P 00 56 27.6 +1.3**
FALS False Pass 87.06 3 P **P 00 56 25.9 0.0**
YHB Horse Butte 87.08 329 P **P 00 56 27.5 +1.0**
QLMT Earthquake Lak 87.11 329 P **P 00 56 28.1 +1.4**
H17A Grant Village 87.11 328 P **P 00 56 30.0 +3.3**
baz=35,SNR=9.2
H17A Grant Village 87.11 328 P **P 00 56 28.2 +1.5**
H17A IAmb IAmb 00 56 33.1
comp=Z,17nm,1.1s
DLMT Dillon 87.14 330 P **P 00 56 27.4 +0.7**
DLMT IAmb IAmb 00 56 31.4
comp=Z,15nm,1.1s
C09A Chrisman Ranch 87.17 334 P **P 00 56 27.2 +0.5**
PHWY Pilot Hill 87.30 323 P **P 00 56 27.6 -0.2**
PHWY IAmb IAmb 00 56 31.4
comp=Z,17nm,1.1s
YPP Pitchstone Pla 87.31 328 P **P 00 56 28.5 +0.8**
OK029 Liberty Lake 87.31 315 P **P 00 56 26.9 -0.7**
OK025 Westminster Rd 87.41 315 P **P 00 56 28.6 +0.6**
FLWY Flagg Ranch 87.42 328 P **P 00 56 28.8 +0.6**
342A Flagon Creek P 87.44 309 P **P 00 56 28.6 +0.4**
W35A Tecumseh 87.45 314 P **P 00 56 29.0 +0.7**
BCOK Bluff Creek, N 87.50 315 P **P 00 56 29.5 +1.0**
OKCFA Oklahoma City 87.59 315 P **P 00 56 30.0 +1.1**
IMW Indian Meadow 87.67 328 P **P 00 56 29.7 +0.2**
IMW IAmb IAmb 00 56 34.0
comp=Z,12nm,1.1s
FNO Franklin 87.68 314 P **P 00 56 29.0 -0.3**
KSCO Kaye Shedlock' 87.68 320 P **P 00 56 30.7 +1.3**
baz=40
KSCO Kaye Shedlock' 87.68 320 P **P 00 56 29.2 -0.2**
MCMT McKenzie Canyo 87.68 330 P **P 00 56 28.9 -0.6**
Z38A Mt. Pleasant 87.72 312 P **P 00 56 30.5 +1.0**
U32A Winter Ranch, 87.74 316 P **P 00 56 29.8 +0.1**
LOHW Long Hollow 87.76 328 P **P 00 56 30.1 +0.3**
RWWY Rawlins 87.81 324 P **P 00 56 29.2 -1.0**
RWWY IAmb IAmb 00 56 31.8
comp=Z,9.0nm,1.0s
N23A Red Feather La 87.85 323 P **P 00 56 31.3 +0.9**
baz=38,SNR=13
N23A Red Feather La 87.85 323 P **P 00 56 29.4 -1.0**
KSM Kuching 87.89 90 P **P 00 56 30.1 -0.5**
KSM IAmb IAmb 00 56 34.5
comp=Z,12nm,1.0s
FXWY Fox Creek 87.92 328 P **P 00 56 30.9 +0.3**
SNOW Snow King Moun 87.95 328 P **P 00 56 30.9 +0.1**
SNOW IAmb IAmb 00 56 34.6
comp=Z,9.7nm,1.1s
BW06 Boulder Array 88.00 326 P **P 00 56 31.0 0.0**
baz=36,SNR=9.1
BW06 Boulder Array 88.00 326 P **P 00 56 31.1 +0.1**
BW06 IAmb IAmb 00 56 31.9
comp=Z,9.5nm,1.1s
PD31 Pinedale Array 88.00 326 P **P 00 56 30.5 -0.5**
PDAR Pinedale Array 88.00 326 P **P 00 56 30.9 -0.1**
comp=Z,3.6nm,0.9s,baz=57,slow=5.5,SNR=16
PDAR LR LR 01 36 10.2
comp=Z,506nm,21.9s,baz=26,slow=36
PDAR Pinedale Array 88.00 326 P **P 00 56 30.6 -0.4**
TPAW Teton Pass 88.01 328 P **P 00 56 31.5 +0.4**
TPAW IAmb IAmb 00 56 34.0
comp=Z,11nm,0.9s
D08A Wollman Farm, 88.03 334 P **P 00 56 31.7 +0.9**
REDW Red Top Meadow 88.07 328 P **P 00 56 30.7 -0.6**
BCYI Bear Canyon 88.33 330 P **P 00 56 33.0 +0.4**
F10A Beach Ranch, E 88.38 333 P **P 00 56 32.9 +0.4**
F10A IAmb IAmb 00 56 33.8
comp=Z,11nm,1.1s
X34A Smith Ranch, M 88.40 314 P **P 00 56 33.0 +0.3**
X34A IAmb IAmb 00 56 38.1
comp=Z,19nm,1.0s
ISCO Idaho Springs 88.55 322 P **P 00 56 34.1 +0.4**
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 88.55 322 P **P 00 56 34.0 +0.2**
baz=38,SNR=10
ISCO Idaho Springs 88.55 322 P **P 00 56 34.1 +0.4**
E08A Dider Farm, El 88.57 334 P **P 00 56 33.5 +0.2**
AHID Auburn Hatcher 88.66 327 P **P 00 56 34.2 +0.1**
AHID IAmb IAmb 00 56 42.2
comp=Z,10nm,1.1s
HAWA Hanford 88.82 334 P **P 00 56 35.8 +1.3**
HAWA IAmb IAmb 00 56 38.3
comp=Z,9.4nm,0.8s
WMOK Wichita Mounta 88.83 315 P **P 00 56 35.5 +0.7**
WMOK pmax pmax
comp=Z,16nm,1.1s
WMOK Wichita Mounta 88.83 315 P **P 00 56 36.0 +1.2**
baz=42,SNR=19
WMOK Wichita Mounta 88.83 315 P **P 00 56 35.5 +0.7**
WMOK IAmb IAmb 00 56 39.5
comp=Z,16nm,1.1s
D03D Eldon 88.96 337 P **P 00 56 36.2 +1.1**
baz=27
Q24A Divide 88.97 321 P **P 00 56 36.9 +1.2**
baz=39
Q24A Divide 88.97 321 P **P 00 56 35.1 -0.6**
Z35A Perchaven, San 88.99 313 P **P 00 56 36.4 +0.8**
237A Washetta, Mont 89.10 311 P **P 00 56 37.0 +1.0**
237A IAmb IAmb 00 56 39.9
comp=Z,22nm,1.1s
HLID Hailey 89.36 330 P **P 00 56 37.9 +0.6**
baz=33
BMO Blue Mountains 89.36 332 P **P 00 56 36.7 -0.5**
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 89.36 332 P **P 00 56 36.7 -0.5**
O20A White River Ci 89.52 324 P **P 00 56 38.5 +0.4**
baz=37,SNR=7.5
O20A White River Ci 89.52 324 P **P 00 56 37.7 -0.5**
O20A IAmb IAmb 00 56 43.1
comp=Z,20nm,1.1s
G08A Pilot Rock 89.58 334 P **P 00 56 38.1 -0.2**
RDMU Red Mountain 89.78 325 P **P 00 56 39.0 -0.4**
HWUT Hardware Ranch 89.81 327 P **P 00 56 38.9 -0.6**
HWUT IAmb IAmb 00 56 40.8
comp=Z,17nm,0.9s
T25A Trinidad 90.02 320 P **P 00 56 41.3 +0.7**
baz=39,SNR=6.2
T25A Trinidad 90.02 320 P **P 00 56 39.3 -1.3**
T25A IAmb IAmb 00 56 44.2
comp=Z,16nm,1.1s
MFID Camas Ranch 90.03 331 P **P 00 56 39.5 -0.9**
WHTX Lake Whitney, 90.08 312 P **P 00 56 42.1 +1.4**
baz=43
WHTX Lake Whitney, 90.08 312 P **P 00 56 40.5 -0.2**
WHTX IAmb IAmb 00 56 45.5
comp=Z,13nm,1.1s
SDCO Great Sand Dun 90.09 321 P **P 00 56 41.4 +0.4**
baz=39,SNR=13
SDCO Great Sand Dun 90.09 321 P **P 00 56 41.5 +0.5**
TCUT Toone Canyon 90.14 327 P **P 00 56 41.3 +0.2**
HVU Hansel Valley 90.18 328 P **P 00 56 41.3 +0.2**
HVU pmax pmax
comp=Z,14nm,1.0s
HVU Hansel Valley 90.18 328 P **P 00 56 41.3 +0.2**
AMTX Amarillo 90.31 317 P **P 00 56 42.3 +0.5**
baz=41
JLU Jordanelle 90.58 326 P **P 00 56 42.9 -0.2**
HKT Hockley 90.58 310 P **P 00 56 43.0 0.0**
HKT pmax pmax
comp=Z,14nm,1.2s
HKT Hockley 90.58 310 P **P 00 56 43.0 0.0**
HKT IAmb IAmb 00 56 47.6
comp=Z,14nm,1.1s
CTU Camp Tracy 90.64 327 P **P 00 56 43.9 +0.6**
S22A 4UR Ranch, Cre 90.75 322 P **P 00 56 44.9 +0.8**
baz=38,SNR=12
S22A 4UR Ranch, Cre 90.75 322 P **P 00 56 44.0 -0.1**
S22A IAmb IAmb 00 56 47.7
comp=Z,11nm,1.1s
I07A Izee 90.82 333 P **P 00 56 45.0 +1.0**
ABTX Abilene, Hawle 90.87 314 P **P 00 56 45.8 +1.5**
baz=42
ABTX Abilene, Hawle 90.87 314 P **P 00 56 45.3 +0.9**
BGU Big Grassy Mou 90.99 328 P **P 00 56 44.7 -0.3**
435B Jarrell 91.03 311 P **P 00 56 47.3 +2.2**
baz=43
435B Jarrell 91.03 311 P **P 00 56 46.0 +0.9**
435B IAmb IAmb 00 56 48.8
comp=Z,16nm,1.0s
PV22 Blue Mesa, Par 91.05 323 P **P 00 56 46.2 +0.9**
PV15 Paradox Valley 91.06 323 P **P 00 56 45.6 +0.2**
PV07 Paradox Valley 91.06 323 P **P 00 56 45.0 -0.4**
J08A Circle Bar Ran 91.08 332 P **P 00 56 45.0 -0.3**
PV21 Cone Mtn., Par 91.12 324 P **P 00 56 46.1 +0.4**
P17A Butcher Ranch, 91.19 325 P **P 00 56 47.0 +1.1**
PV04 Paradox Valley 91.22 323 P **P 00 56 46.1 0.0**
PV23 Carpenter Ridg 91.22 324 P **P 00 56 46.5 +0.3**
PV12 Saucer Basin, 91.23 323 P **P 00 56 47.1 +0.9**
PV01 Paradox Valley 91.27 323 P **P 00 56 47.1 +0.7**
PV11 David Mesa, Pa 91.28 323 P **P 00 56 47.1 +0.7**
PV02 Paradox Valley 91.29 323 P **P 00 56 46.3 -0.2**
PV02 IAmb IAmb 00 56 49.9
comp=Z,20nm,1.2s
PV16 Nyswonger Mesa 91.29 323 P **P 00 56 46.6 +0.1**
PV20 West Nyswonger 91.29 323 P **P 00 56 46.0 -0.5**
PV14 Lion Creek, Pa 91.29 324 P **P 00 56 46.8 +0.3**
PV10 Paradox Valley 91.30 324 P **P 00 56 47.2 +0.6**
PV03 Paradox Valley 91.31 323 P **P 00 56 47.3 +0.8**
PV19 Morning Glory 91.33 323 P **P 00 56 46.6 -0.1**
PV17 East Wray Mesa 91.34 323 P **P 00 56 46.5 -0.2**
PV18 Skein Mesa, Pa 91.34 323 P **P 00 56 46.8 +0.1**
PV18 IAmb IAmb 00 56 50.7
comp=Z,18nm,1.0s
PV13 Radium Mtn., P 91.37 323 P **P 00 56 46.8 -0.1**
PV13 IAmb IAmb 00 56 50.8
comp=Z,14nm,1.0s
SRU San Rafael Swe 91.39 325 P **P 00 56 47.1 +0.2**
SRU pmax pmax
comp=Z,19nm,1.1s
SRU San Rafael Swe 91.39 325 P **P 00 56 47.1 +0.2**
DUG Dugway, Tooele 91.51 327 P **P 00 56 47.1 -0.2**
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG Dugway, Tooele 91.51 327 P **P 00 56 48.1 +0.8**
baz=34
DUG Dugway, Tooele 91.51 327 P **P 00 56 47.1 -0.2**
DUG IAmb IAmb 00 56 50.8
comp=Z,9.8nm,1.0s
TMUT Trail Mountain 91.54 325 P **P 00 56 47.3 -0.5**
PINE Pine Mountain 91.58 334 P **P 00 56 47.8 +0.1**
PINE IAmb IAmb 00 56 52.3
comp=Z,11nm,1.1s
MSTX Muleshoe 91.59 317 P **P 00 56 48.7 +0.9**
baz=40
MSTX Muleshoe 91.59 317 P **P 00 56 47.8 0.0**
MSTX IAmb IAmb 00 56 51.7
comp=Z,13nm,1.1s
SAML Samuel 91.61 260 *eP* **P 00 56 46.7 -1.3**
VILB Vilhena 91.81 255 *eP* **P 00 56 50.5 +1.6**
Q16A Castle Valley 91.84 325 P **P 00 56 48.8 -0.1**
ROSC El Rosal 91.86 278 LR LR 01 34 53.4
comp=Z,48nm,21.6s,baz=32,slow=34
MVCO Mesa Verde 91.98 322 P **P 00 56 50.3 +0.6**
baz=37
MVCO Mesa Verde 91.98 322 P **P 00 56 50.1 +0.5**
MVCO IAmb IAmb 00 56 53.1
comp=Z,15nm,1.1s
MYLDM Lahad Datu 92.03 82 P **P 00 56 50.5 +0.5**
MYLDM IAmb IAmb 00 57 08.0
comp=Z,17nm,1.1s
ELK Elko 92.06 329 P **P 00 56 49.8 -0.2**
ELK pmax pmax
comp=Z,5.0nm,1.2s
ELK Elko 92.06 329 P **P 00 56 49.8 -0.2**
I04A Tendick Farm, 92.07 335 P **P 00 56 50.5 +0.7**
baz=27
J05D Fort Rock, OR 92.12 334 P **P 00 56 51.9 +1.7**
baz=28
K05A Summer Lake 92.50 333 P **P 00 56 51.7 -0.2**
K05A IAmb IAmb 00 56 58.5
comp=Z,8.9nm,1.1s
JCT Junction City 92.55 313 P **P 00 56 52.4 +0.2**
JCT pmax pmax
comp=Z,5.0nm,1.0s
JCT Junction City 92.55 313 P **P 00 56 52.4 +0.2**
MSU Marysvale 92.62 326 P **P 00 56 52.4 -0.2**
MSU Marysvale 92.62 326 P **P 00 56 52.4 -0.2**
MVU Marysvale 92.64 326 P **P 00 56 52.8 +0.1**
TCRU Three Creeks R 92.66 326 P **P 00 56 53.4 +0.5**
ANMO Albuquerque 92.76 320 *ceP* **P 00 56 53.6 +0.3**
ANMO pmax pmax
comp=Z,10.0nm,2.5s
ANMO Albuquerque 92.76 320 P **P 00 56 53.8 +0.5**
baz=38
ANMO Albuquerque 92.76 320 P **P 00 56 52.9 -0.5**
MTPU Mount Pierson 93.01 325 P **P 00 56 55.2 +0.6**
MOD Modoc Plateau 93.01 333 P **P 00 56 54.5 +0.3**
MOD IAmb IAmb 00 57 00.1
comp=Z,7.7nm,1.1s
PSUT Pine Spring 93.33 327 P **P 00 56 56.0 +0.1**
BNM Barren Site 93.47 319 P **P 00 56 55.7 -1.0**
PKCU Pink Cliffs 93.56 325 P **P 00 56 57.7 +0.6**
M04C Macdoel 93.66 334 P **P 00 56 58.6 +1.3**
baz=28
SZCU Shurtz Canyon 93.78 326 P **P 00 56 58.2 +0.2**
R11A Troy Canyon, C 94.23 328 P **P 00 57 00.1 +0.1**
baz=32
R11A Troy Canyon, C 94.23 328 P **P 00 57 00.2 +0.3**
U15A North Rim 94.38 325 P **P 00 57 01.4 +0.6**
PAHR Pah Rah Range 94.58 331 P **P 00 57 01.6 0.0**
WUAZ Wupatki 94.71 323 P **P 00 57 03.8 +1.6**
baz=35
WUAZ Wupatki 94.71 323 P **P 00 57 03.3 +1.1**
MNTX Cornudas Mount 94.73 317 P **P 00 57 02.6 +0.4**
baz=39
MNTX Cornudas Mount 94.73 317 P **P 00 57 02.7 +0.5**
MNTX IAmb IAmb 00 57 06.0
comp=Z,8.4nm,1.1s
PRN Pahroc Range 94.79 327 P **P 00 57 03.0 +0.4**
PRN IAmb IAmb 00 57 09.8
comp=Z,7.7nm,1.0s
NVAR Mina Array Bea 95.27 330 P **P 00 57 05.1 +0.3**
comp=Z,1.1nm,0.8s,baz=25,slow=2.0,SNR=4.3
NVAR LR LR 01 42 22.3
comp=Z,592nm,19.9s,baz=44,slow=37
SHPR Sheep Range 95.60 326 P **P 00 57 05.9 -0.3**
TX31 Lajitas Ar. Si 95.61 314 P **P 00 57 06.0 -0.3**
TX32 Lajitas Array 95.61 314 P **P 00 57 06.3 -0.1**
TX32 IAmb IAmb 00 57 11.0
comp=Z,8.2nm,1.1s
TXAR Lajitas Array 95.61 314 P **P 00 57 07.0 +0.7**
comp=Z,5.6nm,0.9s,baz=64,slow=2.9,SNR=20
TXAR PP **PP 01 00 55.9 -1.0**
comp=Z,0.2nm,0.5s,baz=69,slow=6.9,SNR=3.6

TXAR			LR	LR	01 41 55.9	
	comp=Z,217nm,19.6s,baz=0.0,slow=37					
TXAR	**Lajitas Array**	**95.61 314**	P	**P**	**00 57 06.7**	**+0.4**
X16A	**Lo Mia Camp, P**	**95.64 323**	P	**P**	**00 57 06.2**	**-0.2**
X16A			IAmb	IAmb	00 57 10.8	
	comp=Z,8.0nm,1.1s					
WAKR	**Walker**	**95.65 330**	P	**P**	**00 57 06.3**	**-0.2**
W13A	**Hualapai Mount**	**96.21 325**	P	**P**	**00 57 09.0**	**-0.1**
CWC	**Cottonwood Cre**	**96.89 328**	P	**P**	**00 57 13.1**	**+1.0**
	baz=30					
MPMC	**Manual Prospec**	**96.97 328**	P	**P**	**00 57 13.6**	**+1.1**
	baz=31					
TUC	**Tucson**	**97.03 321**	P	**P**	**00 57 12.5**	**-0.2**
TUC			pmax	pmax		
	comp=Z,4.0nm,1.2s					
TUC	**Tucson**	**97.03 321**	P	Pdif	00 57 13.6	+0.8
	baz=36					
TUC	**Tucson**	**97.03 321**	P	**P**	**00 57 12.5**	**-0.2**
IRM	**Iron Mountain**	**97.56 325**	P	Pdif	00 57 16.7	+1.6
	baz=33					
ISA	**Isabella, Lake**	**97.72 328**	P	**P**	**00 57 15.6**	**-0.2**
ISA			pmax	pmax		
	comp=Z,5.0nm,1.1s					
ISA	**Isabella, Lake**	**97.72 328**	P	Pdif	00 57 17.1	+1.3
	baz=30					
ISA	**Isabella, Lake**	**97.72 328**	P	**P**	**00 57 15.6**	**-0.2**
ISA			IAmb	IAmb	00 57 19.6	
	comp=Z,5.3nm,1.1s					
LPAZ	**La Paz**	**99.90 257**	LR	LR	01 45 49.6	
	comp=Z,72nm,19.1s,baz=63,slow=37					
WRA	**Warramunga Arr**	**119.50 93**	PKP	**PKPdf**	**01 02 28.8**	**-1.8**
	comp=Z,0.8nm,0.9s,baz=296,slow=1.4,SNR=4.4					
ASAR	**Alice Springs**	**121.15 97**	PKP	**PKPdf**	**01 02 33.2**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=250,slow=1.2,SNR=7.2					
DZM	**Mont Dzumac**	**145.62 72**	*e*PKPbc	**PKPab**	**01 03 20.9**	**+1.0**
	comp=Z,124nm,1.2s					
DZM	**Mont Dzumac**	**145.62 72**	*e*LR	LR	01 51 19.1	
	comp=Z,134nm,24.1s					
PPT2	**Papeete2**	**158.01 338**	*e*LR	LR	01 56 45.6	
	comp=Z,181nm,23.5s					
TBI	**Tubuai**	**163.31 331**	*e*LR	LR	01 59 26.6	
	comp=Z,270nm,25.8s					

DRS ***21*** *00:47:57.3±0.0, 40°.99N×49°.92E, h16km*
AZER 21 00:47:55.9, 41°.00N×49°.88E, h41km, ML3.0, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**0.43**	**169**	P	Pn	00 48 06.4	+0.7
	SNR=7.5						
NDR				S	Sn	00 48 15.8	+3.2
GOBA	**Gobu**	**0.61**	**191**	P	Pn	00 48 09.8	+1.7
	SNR=22						
GOBA				S	Sn	00 48 20.3	+3.5
GALA	**Gala**	**0.62**	**160**	P	Pn	00 48 11.3	+2.9
GALA				S	Sn	00 48 19.4	+2.2
ATGJ	**Altiaghaj**	**0.73**	**259**	P	Pn	00 48 09.6	-0.3
	SNR=30						
ATGJ				S	Sn	00 48 21.6	+1.8
SIZA	**Siyzn**	**0.75**	**276**	P	Pn	00 48 10.8	+0.7
	SNR=36						
SIZA				S	Sn	00 48 23.7	+3.4
GBS	**Qobustan**	**0.85**	**237**	P	Pn	00 48 13.8	+2.3
	SNR=153						
GBS				S	Sn	00 48 25.8	+2.9
PQL	**Pirkuli**	**1.00**	**258**	P	Pn	00 48 14.7	+1.1
	SNR=72						
PQL				S	Sn	00 48 29.3	+2.7
ALIB	**Äli-Bayra**	**1.24**	**213**	P	Pn	00 48 20.6	+3.9
	SNR=11						
ALIB				S	Sn	00 48 34.8	+2.6
IML	**Ismayilli**	**1.30**	**261**	P	Pn	00 48 20.4	+2.7
	SNR=34						
IML				S	Sn	00 48 35.8	+1.8
QSAR	**Qusar**	**1.32**	**293**	P	Pn	00 48 20.7	+2.8
	SNR=115						
QSAR				S	Sn	00 48 38.8	+4.4
XNQ	**Khinaliq**	**1.33**	**278**	P	Pn	00 48 20.0	+1.8
	SNR=25						
XNQ				S	Sn	00 48 37.8	+3.1
KDMR	**Kurdemir**	**1.43**	**245**	P	Pn	00 48 21.2	+1.8
	SNR=7.1						
KDMR				S	Sn	00 48 41.9	+4.9
KSMR	**Kasumkent**	**1.45**	**295**	*e*Pg	Pn	00 48 24.0	+4.3
KSMR				*e*Sg	Sn	00 48 44.0	+6.4
	854nm,0.3s						
KSMR	**Kasumkent**	**1.45**	**295**	*e*P	Pn	00 48 24.0	+4.3
KSMR	**Kasumkent**	**1.45**	**295**	S	Sn	00 48 44.0	+6.4
QBL	**Gabala**	**1.55**	**269**	P	Pn	00 48 23.3	+2.2
	SNR=10						
QBL				S	Sn	00 48 44.5	+4.6
DRN	**Derbent**	**1.55**	**312**	*e*Pg	Pn	00 48 24.9	+3.8
	133nm,0.8s						
DRN				*e*Sg	Sn	00 48 45.2	+5.2
	344nm,0.6s						
DRN	**Derbent**	**1.55**	**312**	pmax	pmax		
	comp=Z,133nm,0.8s						
DRN	**Derbent**	**1.55**	**312**	*e*S	Sn	00 48 45.2	+5.2
DRN	**Derbent**	**1.55**	**312**	*e*P	Pn	00 48 24.8	+3.8
SAAT	**Saatly**	**1.59**	**225**	Pn	Pn	00 48 24.2	+2.6
	SNR=6.9						
SAAT				Sn	Sn	00 48 44.3	+3.5
AKT	**Akhty**	**1.69**	**287**	*e*Pg	Pn	00 48 26.9	+3.8
	comp=Z,166nm,0.5s						
AKT				*e*Sg	Sn	00 48 48.7	+5.1
	comp=Z,323nm,0.3s						
ZRD	**Zardab**	**1.82**	**247**	Pn	Pn	00 48 27.1	+2.4
	SNR=14						
ZRD				Sn	Sn	00 48 50.8	+4.3
SEKA	**Sheki**	**2.04**	**277**	Pn	Pn	00 48 29.3	+1.5
	SNR=5.1						
SEKA				Sn	Sn	00 48 53.1	+1.0
URKR	**Urkarakh**	**2.05**	**305**	*e*Pg	Pn	00 48 34.2	+6.2
	comp=Z,51nm,0.4s						
URKR				*e*Sg	Sn	00 49 01.6	+9.2
	comp=Z,158nm,0.7s						
BRDA	**Brd**	**2.18**	**251**	Pn	Pn	00 48 32.4	+2.7
	SNR=4.3						
BRDA				Sn	Sn	00 48 56.5	+1.0
BLQ	**Beylaqan**	**2.19**	**235**	Pn	Pn	00 48 31.1	+1.3
	SNR=15						
BLQ				Sn	Sn	00 48 56.9	+1.3
AGDM	**Agdam**	**2.29**	**248**	Pn	Pn	00 48 32.9	+1.6
	SNR=10						
AGDM				Sn	Sn	00 48 58.4	+0.2
QRD	**Qoradiz**	**2.49**	**233**	Pn	Pn	00 48 36.3	+2.3
	SNR=60						
QRD				Sn	Sn	00 49 04.5	+1.4
ZKTA	**Zakatala**	**2.54**	**286**	Pg	Pn	00 48 40.3	+5.8
ZKTA				Sn	Sn	00 49 07.9	+3.7
ZKTA				Sg		00 49 17.7	
ASTR	**Astara**	**2.58**	**199**	Pn	Pn	00 48 36.6	+1.5
	SNR=5.2						
ASTR				Sn	Sn	00 49 07.7	+2.5
LRK	**Lerik**	**2.64**	**207**	Pn	Pn	00 48 38.0	+1.9
	SNR=8.0						
LRK				Sn	Sn	00 49 09.4	+2.5
GANJ	**Ganja**	**2.72**	**264**	Pn	Pn	00 48 38.2	+1.0
	SNR=7.6						
GANJ				Sn	Sn	00 49 10.3	+1.4
GDB	**GEDABAY**	**3.14**	**266**	Pn	Pn	00 48 43.4	+0.3
	SNR=7.4						
GDB				Sn	Sn	00 49 20.5	+1.1
QZX	**Qazax, Azerbai**	**3.41**	**272**	Pn	Pn	00 48 48.2	+1.6
	SNR=20						

BGR ***21*** *00:57:37.1±0.0, 65°.61N×20°.23W, h10km, mb5.1*
REY ***21*** *00:57:48.8, 64°.67N×17°.45W, h1km*
IDC ***21*** *00:57:50.3±0.6, 64°.58N×17°.73W, h0km, mb4.0/18, mb1 4.1/23, mb1mx4.0/42, mbtmp4.0/23, ML2.5/3, MS3.7/6, Ms1 3.7/6, ms1mx3.3/47, Error ellipse: s-maj=18.1km s-min=10.4km az=20.0*
MOS ***21*** *00:57:50.9±1.3, 64°.72N×17°.56W, h10km, mb4.4/35, Error ellipse: s-maj=12.5km s-min=7.0km az=113.3*
NEIC ***21*** *00:57:52.8±1.6, 64°.68N±0°.06×17°.6W±0°.1, h8km±4km, mb4.4/198, Error ellipse: s-maj=8.5km s-min=7.6km az=218.0*
ISC 21 00:57:52.7±0.3, 64°.60N±0°.03×17°.62W±0°.02, h10km, n383, σ1°68/354, mb4.4/135, MS3.8/7, 3C, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.19**	**120**	P	**Pg**	**00 57 53.0**	**-3.9**
	baz=151						
IGRF	**Grimsfjall**	**0.25**	**141**	P	**Pg**	**00 57 54.4**	**-3.4**
	baz=163						
IURH	**Urdarhals**	**0.30**	**43**	P	Pg	00 57 53.1	-5.6
	baz=40						
ISKR	**Skrokkalda**	**0.33**	**263**	P	**Pg**	**00 57 56.7**	**-2.6**
	baz=255						
IVOT	**Vottur**	**0.38**	**150**	P	**Pg**	**00 57 56.9**	**-3.4**
	baz=164						
IJOK	**Jokulheimar**	**0.39**	**222**	P	**Pg**	**00 57 57.9**	**-2.5**
	baz=224						
IJOK				S	**Sg**	**00 58 05.3**	**-0.1**
	baz=224						
IBJK	**Bruarjokull**	**0.40**	**109**	P	**Pg**	**00 57 55.9**	**-4.7**
	baz=123						
IKVE	**Kverkfjoll**	**0.41**	**79**	P	Pg	00 57 55.8	-5.1
	baz=88						
IIEY	**Innrieyrar**	**0.55**	**203**	P	**Pg**	**00 58 00.7**	**-2.7**
	baz=207						
IKAL	**Kalfafell**	**0.66**	**182**	P	**Pg**	**00 58 02.2**	**-3.2**
	baz=188						
IKSK	**Karasker**	**0.67**	**131**	P	Pg	00 58 00.4	-5.2
	baz=140						
IMKO	**Mokollar**	**0.67**	**55**	P	Pg	00 57 59.3	-6.3
	baz=56						
IVAT	**Vatnsfell**	**0.70**	**234**	P	**Pg**	**00 58 03.3**	**-2.8**
	baz=233						
ISVA	**Svartarkot**	**0.76**	**12**	P	Pg	00 58 01.0	-6.2
	baz=7.0						
IVSH	**V-Sauoahnukur**	**0.84**	**75**	P	Pg	00 58 02.1	-6.7
	baz=79						
IFAG	**Fagurholsmyri**	**0.84**	**149**	P	Pg	00 58 04.4	-4.5
	baz=156						
IHVE	**Hveravellir**	**0.88**	**289**	P	**Pg**	**00 58 05.2**	**-4.4**
	baz=284						
IADA	**Aoalbol**	**0.97**	**64**	P	Pg	00 58 04.2	-7.2
	baz=66						
ISNB	**Snabyli**	**0.97**	**207**	P	**Pg**	**00 58 07.8**	**-3.6**
	baz=209						
ISLY	**Slysaalda**	**1.02**	**221**	P	**Pg**	**00 58 08.7**	**-3.5**
	baz=221						
IMEL	**Melhnausar**	**1.06**	**22**	P	Pg	00 58 05.8	-7.2
	baz=20						
IFED	**Fedgar**	**1.07**	**238**	P	**Pb**	**00 58 10.0**	**-3.3**
	baz=238						
IRJU	**Rjupnafell**	**1.09**	**205**	P	**Pb**	**00 58 09.9**	**-3.7**
	baz=207						
IREN	**Reynihlio**	**1.09**	**16**	P	Pg	00 58 06.5	-7.2
	baz=13						
IMJO	**Mjoaskard**	**1.12**	**234**	P	**Pb**	**00 58 10.9**	**-3.2**
	baz=234						
IKVO	**Krokottuvotn**	**1.16**	**15**	P	Pb	00 58 07.6	-7.2
	baz=13						
IGYG	**Gygjarholskot**	**1.17**	**255**	P	**Pb**	**00 58 10.8**	**-4.1**
	baz=253						
IHAU	**Haukadalur**	**1.20**	**239**	P	**Pn**	**00 58 11.7**	**-3.8**
	baz=238						
IGOD	**Go??abunga**	**1.20**	**219**	P	**Pn**	**00 58 12.4**	**-3.2**
	baz=220						
IHVO	**Lagu-Hvolar**	**1.21**	**207**	P	**Pn**	**00 58 12.2**	**-3.3**
	baz=209						
IGRS	**Grimsstaoir**	**1.22**	**31**	P	Pb	00 58 08.5	-7.3
	baz=29						
ISMJ	**Smjorgil**	**1.29**	**225**	P	**Pn**	**00 58 13.6**	**-3.1**
	baz=225						
ISKI	**Skildingahlsh**	**1.30**	**11**	P	Pn	00 58 10.0	-6.9
	baz=8.2						
IALF	**Alftagrof**	**1.31**	**212**	P	**Pn**	**00 58 13.5**	**-3.4**
	baz=214						
IGHA	**Grjothals**	**1.31**	**18**	P	Pn	00 58 10.1	-6.9
	baz=15						
IGRA	**Granastaoir**	**1.32**	**1**	P	Pn	00 58 10.6	-6.6
	baz=358						
IHLA	**Hella**	**1.39**	**347**	P	Pn	00 58 12.2	-5.8
	baz=343						
IDIM	**Dimmadalss**	**1.40**	**12**	P	Pn	00 58 11.8	-6.4
	baz=9.3						
IHED	**Heoinshofoi**	**1.49**	**5**	P	Pn	00 58 13.3	-6.2
	baz=2.3						
BORG	**Borgarnes**	**1.60**	**277**	Pn	**Pn**	**00 58 17.2**	**-3.7**
	118nm,0.3s,baz=98,slow=9.6,SNR=121						
BORG				Sn	**Sn**	**00 58 40.5**	**-1.1**
	38nm,0.3s,baz=66,slow=18,SNR=4.2						
BORG	**Borgarnes**	**1.60**	**277**	P	**Pn**	**00 58 17.9**	**-3.0**
BORG						00 58 44.7	
BORG	**Borgarnes**	**1.60**	**277**	Pn	**Pn**	**00 58 17.9**	**-3.0**
BORG					**Sg**	**00 58 44.7**	**+0.6**
SCO	**Scoresbysund**	**6.13**	**346**	*i* P	**Pn**	**00 59 21.7**	**-1.5**
SCO				*i* S	**Sn**	**01 00 34.3**	**+1.0**
SCO	**Scoresbysund**	**6.13**	**346**	*i* P	**Pn**	**00 59 21.7**	**-1.5**
SCO				*i* S	**Sn**	**01 00 34.3**	**+1.0**
SCO	**Scoresbysund**	**6.13**	**346**	Pn	**Pn**	**00 59 22.2**	**-1.0**
ANGG	**Ammassalik, Gr**	**8.49**	**286**	Pn	**Pn**	**00 59 56.9**	**+1.4**
SUMG	**Summit**	**10.96**	**326**	*i* P	**Pn**	**01 00 34.0**	**+4.3**
SUMG	**Summit**	**10.96**	**326**	*i* P	**Pn**	**01 00 34.0**	**+4.3**
SUMG	**Summit**	**10.96**	**326**	Pn	**Pn**	**01 00 28.9**	**-0.8**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**	**01 00 38.8**	**-1.4**
	baz=323,slow=13,SNR=25						
ESK	**Eskdalemuir**	**11.75**	**136**	P	**Pn**	**01 00 40.8**	**+0.6**
ESK	**Eskdalemuir**	**11.75**	**136**	Pn	**Pn**	**01 00 40.8**	**+0.6**
DSB	**Dublin**	**12.76**	**148**	Pn	**Pn**	**01 00 56.1**	**+2.3**
NC204	**NORSAR Array S**	**13.28**	**91**	Pn	**Pn**	**01 01 01.7**	**+0.6**
NBO00	**NORSAR Array S**	**13.40**	**92**	Pn	**Pn**	**01 01 03.5**	**+0.8**
NC303	**NORSAR Array S**	**13.57**	**91**	Pn	**Pn**	**01 01 05.1**	**+0.2**
NOA	**NORSAR Array B**	**13.59**	**92**	Pn	**Pn**	**01 01 02.4**	**-2.9**
	0.0nm,0.3s,baz=299,slow=13,SNR=1.4						
KONO	**Kongsberg**	**13.60**	**99**	P	**Pn**	**01 01 02.3**	**-3.0**
KONO	**Kongsberg**	**13.60**	**99**	Pn	**Pn**	**01 01 02.2**	**-3.0**
NB201	**NORSAR Array S**	**13.62**	**92**	Pn	**Pn**	**01 01 03.5**	**-2.1**
NC405	**NORSAR Array S**	**13.77**	**91**	Pn	**Pn**	**01 01 07.9**	**+0.2**
HFS	**Hagfors**	**15.10**	**93**	Pn	**Pn**	**01 01 23.7**	**-2.1**
	0.0nm,0.3s,baz=309,slow=9.1,SNR=1.8						
SPITS	**Spitsbergen Ar**	**16.95**	**23**	Pn	**Pn**	**01 01 48.6**	**-0.9**
	baz=265,slow=7.2,SNR=1.8						
RGN	**Rugen**	**18.42**	**109**	P	**P**	**01 02 07.2**	**-0.5**
RGN				IAmb	IAmb	01 02 13.2	
	comp=Z,36nm,1.1s						
DOU	**Dourbes**	**18.68**	**130**	x	**Pn**	**01 02 14.6**	**+3.6**
MEM	**Membach**	**18.72**	**127**	x	**Pn**	**01 02 15.0**	**+3.6**
WLF	**Walferdange**	**19.57**	**129**	P	**Pn**	**01 02 21.3**	**-0.4**
WLF				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WLF	**Walferdange**	**19.57**	**129**	P	**Pn**	**01 02 21.3**	**-0.4**
FINES	**FINESS Array B**	**19.77**	**79**	P	**P**	**01 02 20.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=297,slow=9.2,SNR=1.7						
FINES				LR	LR	01 08 15.2	
	comp=Z,127nm,21.9s,baz=212,slow=32						
FINES	**FINESS Array B**	**19.77**	**79**	P	**Pn**	**01 02 23.2**	**-0.8**
FINES	**FINESS Array B**	**19.77**	**79**	P	**Pn**	**01 02 23.2**	**-0.8**
FIA1	**FINESS Array S**	**19.77**	**79**	P	**Pn**	**01 02 23.5**	**-0.5**
CLF	**Chambon-Foret**	**19.78**	**138**		**Pn**	**01 02 24.2**	**0.0**
CLL	**Collm**	**20.73**	**115**	*e*P	**P**	**01 02 32.0**	**-0.9**
	comp=Z,15nm,1.5s						
CLL				*i* (sP)	**pP**	**01 02 36.3**	**+0.1**
CLL				*e*		01 02 43.0	
CLL				*e*S	**S**	**01 06 24.0**	**0.0**
CLL	**Collm**	**20.73**	**115**	P	**P**	**01 02 32.7**	**-0.2**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	**Collm**	**20.73**	**115**		**P**	**01 02 32.7**	**-0.2**
PBUR	**Paburge**	**21.05**	**95**	*e*P	P	01 02 20.3	-16
ECH	**Echery**	**21.15**	**129**	P	**P**	**01 02 37.9**	**+0.3**
ECH				pmax	pmax		
	comp=Z,14nm,1.0s						
ECH	**Echery**	**21.15**	**129**		**P**	**01 02 37.9**	**+0.3**
ECH				IAmb	IAmb	01 02 43.0	
	comp=Z,14nm,1.0s						
KLNR	**Kaliningrad**	**21.25**	**100**	*i* P	**P**	**01 02 36.8**	**-1.8**
KLNR				pmax	pmax		
	comp=Z,18nm,0.7s						
GRA1	**Grafenberg Arr**	**21.35**	**121**	P	**P**	**01 02 40.9**	**+1.2**
GRA1				IAmb	IAmb	01 02 56.0	
	comp=Z,20nm,1.1s						
GRF	**Grafenberg Arr**	**21.35**	**121**	P	**P**	**01 02 40.9**	**+1.2**
GRF				pmax	pmax		
	comp=Z,20nm,1.1s						
GRF	**Grafenberg Arr**	**21.35**	**121**	*e*P	**P**	**01 02 39.3**	**-0.4**
	comp=Z,139nm,2.2s,baz=325,slow=10						
NKC	**Novy Kostel**	**21.37**	**118**	*e*P	**P**	**01 02 45.2**	**+5.3**
NKC				*e*S	Sn	01 06 42.5	-1.9
NKC	**Novy Kostel**	**21.37**	**118**	*e*P	**P**	**01 02 45.2**	**+5.3**
NKC				*e*S	Sn	01 06 42.5	-1.9
STU	**Stuttgart**	**21.38**	**125**	P	**P**	**01 02 40.0**	**0.0**
STU				pmax	pmax		
	comp=Z,17nm,0.9s						
STU	**Stuttgart**	**21.38**	**125**		**P**	**01 02 40.0**	**0.0**
STU				IAmb	IAmb	01 02 45.7	
	comp=Z,17nm,0.9s						
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P	**P**	**01 02 39.2**	**-1.4**
	comp=Z,12nm,1.4s						
BRG				S	Sn	01 06 50.0	+4.1
	comp=N,519nm,13.4s						
	comp=E,457nm,10.8s						
	comp=Z,658nm,13.4s						
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P	**P**	**01 02 39.2**	**-1.4**
BRG				S	Sn	01 06 50.0	+4.1
BRG				pmax	pmax		
	comp=Z,12nm,1.4s						
BRG				MLR	MLR		
	comp=N,519nm,13.4s						
BRG				MLR	MLR		
	comp=E,457nm,10.8s						
BRG				MLR	MLR		
	comp=Z,658nm,13.4s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**01 02 40.5**	**-0.4**
BFO				pmax	pmax		
	comp=Z,12nm,1.0s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**01 02 40.5**	**-0.4**
BFO				IAmb	IAmb	01 02 46.4	
	comp=Z,12nm,1.0s						
VSU	**Vasula**	**21.63**	**86**	*e*P	**P**	**01 02 43.2**	**+0.7**
VSU	**Vasula**	**21.63**	**86**	*i* P	**P**	**01 02 41.2**	**-1.3**
VSU				pmax	pmax		
	comp=Z,15nm,0.7s						
FRB	**Frobisher Bay**	**21.72**	**291**	LR	LR	01 10 23.2	
	comp=Z,214nm,21.2s,baz=38,slow=35						
PVCC	**Panska Ves**	**21.95**	**115**	*e*S	**S**	**01 06 52.3**	**+4.1**
PABE	**Paberze**	**22.26**	**94**	*e*P	**P**	**01 02 50.2**	**+0.8**
PRA	**Prague**	**22.26**	**115**	*e*S	**S**	**01 06 57.7**	**+3.6**
PRU	**Pruhonice**	**22.37**	**115**	*e*P	**P**	**01 02 50.2**	**-0.4**
PRU				*e*S	**S**	**01 06 55.7**	**-0.4**
PRU	**Pruhonice**	**22.37**	**115**	*e*P	**P**	**01 02 50.2**	**-0.4**
PRU				*e*S	**S**	**01 06 55.7**	**-0.4**
KSP	**Ksiaz**	**22.39**	**112**	*e*P	**P**	**01 02 49.5**	**-1.4**
CHVC	**Chvalec**	**22.49**	**112**	*e*P	**P**	**01 02 52.2**	**+0.2**
CHVC				*e*x	x	01 03 07.3	
GOPC	**GO Pecny, Ondr**	**22.52**	**115**	*e*S	**S**	**01 07 03.1**	**+4.0**
UPC	**Upice**	**22.54**	**113**	*e*P	**P**	**01 02 55.3**	**+2.9**
UPC				*e*S	**S**	**01 06 59.9**	**+0.6**
UPC	**Upice**	**22.54**	**113**	*e*P	**P**	**01 02 55.3**	**+2.9**
UPC				*e*S	**S**	**01 06 59.9**	**+0.6**
OSTC	**Ostas**	**22.58**	**112**	*e*P	**P**	**01 02 52.8**	**-0.1**
OSTC				*e*S	**S**	**01 07 05.3**	**+5.2**
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P	**P**	**01 02 53.8**	**-0.3**
KHC				*e*x	x	01 03 04.8	
KHC				*e*S	**S**	**01 07 04.2**	**+2.0**
KHC	**Kasperske Hory**	**22.69**	**118**	*e*P	**P**	**01 02 53.8**	**-0.3**
KHC				*e*S	**S**	**01 07 04.2**	**+2.0**
KHC	**Kasperske Hory**	**22.69**	**118**		**P**	**01 02 53.9**	**-0.3**
DPC	**Dobruska-Polom**	**22.79**	**113**	*e*P	**P**	**01 02 54.2**	**-0.9**
DPC				*e*x	x	01 03 07.3	
DPC				*e*S	**S**	**01 07 06.4**	**+2.6**
DPC	**Dobruska-Polom**	**22.79**	**113**	*e*P	**P**	**01 02 54.2**	**-0.9**
DPC				*e*S	**S**	**01 07 06.4**	**+2.6**
SENIN	**Lac Senin/Sane**	**22.82**	**131**	P	**P**	**01 02 56.3**	**+0.6**
DAVA	**Damuels**	**22.89**	**126**	*e*P	**P**	**01 02 57.8**	**+1.5**
	comp=Z,8.3nm,1.2s						
SUW	**Suwalki**	**22.93**	**98**	P	**P**	**01 02 57.6**	**+1.1**
SUW				pmax	pmax		
	comp=Z,22nm,1.1s						
SUW	**Suwalki**	**22.93**	**98**	P	**P**	**01 02 57.6**	**+1.1**
SUW				IAmb	IAmb	01 03 11.6	
	comp=Z,22nm,1.1s						
SSB	**Saint Sauveur**	**22.94**	**137**	P	**P**	**01 02 57.7**	**+1.0**
SSB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SSB	**Saint Sauveur**	**22.94**	**137**	P	**P**	**01 02 57.7**	**+1.0**
GEC2	**GERESS Array S**	**22.97**	**118**	P	**P**	**01 02 57.7**	**+0.6**
GERES	**GERESS Array B**	**22.97**	**118**	P	**P**	**01 02 55.9**	**-1.2**
	comp=Z,2.9nm,1.0s,baz=328,slow=9.4,SNR=12						
GERES	**GERESS Array B**	**22.97**	**118**	P	**P**	**01 02 57.7**	**+0.6**
GERES	**GERESS Array B**	**22.97**	**118**		**P**	**01 02 57.6**	**+0.6**
RETA	**Reutte**	**23.02**	**124**	*e*pP	**P**	**01 02 59.2**	**+1.6**
	comp=Z,3.0nm,1.0s						
IZAR	**Zarasai**	**23.08**	**92**	*e*P	**P**	**01 02 58.8**	**+0.7**
ISAL	**Salakas**	**23.14**	**92**	*e*P	**P**	**01 02 59.8**	**+1.1**
MOTA	**Moosalm**	**23.27**	**124**	*e*P	**P**	**01 03 01.3**	**+1.1**
	comp=Z,5.1nm,1.2s						
DAVOX	**Davos/Dischmat**	**23.32**	**127**	P	**P**	**01 03 00.9**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=338,slow=11,SNR=5.0						
IIGN	**Ignalina**	**23.33**	**93**	*e*P	**P**	**01 03 01.7**	**+1.1**
TUE	**Stuetta**	**23.41**	**128**	P	**P**	**01 03 03.2**	**+1.6**
SQTA	**Sankt Quirin**	**23.41**	**124**	*e*P	**P**	**01 03 02.9**	**+1.3**
	comp=Z,9.0nm,1.5s						
FETA	**Feichten**	**23.41**	**125**	*e*P	**P**	**01 03 02.9**	**+1.2**
	comp=Z,1.8nm,1.2s						
WATA	**Walderalm**	**23.45**	**123**	*e*P	**P**	**01 03 01.8**	**-0.2**
	comp=Z,5.0nm,1.3s						
WTTA	**Wattenberg**	**23.53**	**123**	*e*P	**P**	**01 03 02.7**	**-0.2**
	comp=Z,4.8nm,1.3s						
IDID	**Didziasalis**	**23.58**	**92**	*e*P	**P**	**01 03 04.0**	**+1.0**
FUORN	**Ofenpass-Fuorn**	**23.59**	**126**		**P**	**01 03 05.1**	**+1.5**
VRAC	**Vranov**	**23.72**	**114**	P	**P**	**01 03 03.9**	**-0.7**
	comp=Z,3.8nm,1.0s,baz=324,slow=10,SNR=6.2						
VRAC	**Vranov**	**23.72**	**114**	*e*P	**P**	**01 03 03.8**	**-0.7**
MORC	**Moravsky Berou**	**23.72**	**112**	*e*P	**P**	**01 03 03.7**	**-0.9**
MORC	**Moravsky Berou**	**23.72**	**112**	P	**P**	**01 03 03.9**	**-0.7**
MORC

KLMR AMP 01 03 35.3
comp=Z,17nm,1.5s
ZCCA Zocca 25.82 128 P **P** **01 03 25.8 +2.0**
ZCCA IAmb IAmb 01 03 44.4
comp=Z,12nm,1.1s
PMRV Marv??o 25.92 162 *e*P **P** **01 03 30.4 +5.7**
KWP Kalwaria Pacla 25.94 106 *e*P **P** **01 03 25.2 +0.4**
KWP Kalwaria Pacla 25.94 106 P **P** **01 03 25.9 +1.1**
KWP pmax pmax
comp=Z,20nm,1.1s
KWP Kalwaria Pacla 25.94 106 P **P** **01 03 25.9 +1.1**
SCHQ Schefferville 25.99 271 P **P** **01 03 25.2 0.0**
comp=Z,8.1nm,0.8s,baz=36,slow=8.1,SNR=7.1
SCHQ Schefferville 25.99 271 IAmb IAmb 01 03 37.1
comp=Z,14nm,1.1s
LSH Leshukonskoye 26.05 60 *e*P **P** **01 03 23.7 -1.9**
comp=Z,30nm,2.0s
PSZ Piszkesteto 26.14 112 P **P** **01 03 26.5 -0.2**
PSZ pmax pmax
comp=Z,9.0nm,1.1s
PSZ Piszkesteto 26.14 112 P **P** **01 03 26.5 -0.2**
PSZ IAmb IAmb 01 03 39.7
comp=Z,9.0nm,1.1s
ESBB Sonseca Array 26.21 156 P **P** **01 03 28.5 +1.1**
ESDC Sonseca Array 26.22 156 P **P** **01 03 26.6 -0.8**
comp=Z,1.4nm,0.8s,baz=347,slow=9.0,SNR=15
ESDC Sonseca Array 26.22 156 P **P** **01 03 29.0 +1.6**
PAB San Pablo 26.27 156 P **P** **01 03 30.3 +2.3**
PAB pmax pmax
comp=Z,1.0nm,1.0s
PAB San Pablo 26.27 156 P **P** **01 03 30.3 +2.3**
KOLS Kolonicke sedl 26.31 107 *e*P **P** **01 03 31.1 +3.0**
KOLS pmax pmax
comp=Z,10.0nm,1.3s
KOLS Kolonicke sedl 26.31 107 *e*P **P** **01 03 31.1 +3.0**
OSSC Osservatorio P 26.64 128 P **P** **01 03 33.1 +1.9**
OSSC IAmb IAmb 01 03 45.5
comp=Z,15nm,1.2s
MURB Monte Urbino 27.31 127 P **P** **01 03 37.1 -0.2**
MURB IAmb IAmb 01 03 50.0
comp=Z,15nm,1.1s
AKASG Malin Array Be 27.89 97 P **P** **01 03 41.0 -1.3**
comp=Z,1.4nm,0.7s,baz=320,slow=9.1,SNR=5.0
AKASG Malin Array Be 27.89 97 IAmb IAmb 01 03 41.5
comp=Z,0.8nm,1.1s
OBN Obninsk 27.94 84 *e*P **P** **01 03 40.8 -1.9**
OBN *e* 01 04 26.8
OBN *e*PPP PPP 01 04 39.3
OBN *e* 01 06 54.6
OBN pmax pmax
comp=Z,9.0nm,1.0s
BURAR Bucovina Array 28.56 106 P **P** **01 03 48.3 -0.1**
KIRV Kirov 31.05 69 LR LR 01 16 51.6
comp=Z,160nm,18.4s,baz=281,slow=37
RAFF Raffo Rosso 33.34 130 P **P** **01 04 31.7 +1.2**
I63A Otisfield 35.66 261 P **P** **01 04 52.0 +1.5**
ARU Arti 36.16 66 LR LR 01 18 59.0
comp=Z,164nm,18.5s,baz=262,slow=35
MACI Morro de la Ar 36.37 178 P **P** **01 04 57.3 +0.4**
FFD Franklin Falls 36.59 261 P **P** **01 04 59.4 +0.9**
BCX Boston College 37.31 260 P **P** **01 05 06.1 +1.5**
BR131 Keskin Array S 38.52 105 P **P** **01 05 16.2 +1.2**
BR131 pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 38.52 105 P **P** **01 05 16.2 +1.2**
BRTR Keskin Array B 38.52 105 P **P** **01 05 15.2 +0.2**
comp=Z,2.0nm,0.9s,baz=333,slow=8.8,SNR=8.7
KIV Kislovodsk 38.89 92 *e*P **P** **01 05 18.5 +0.4**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,238nm,16.0s
KBZ Khabaz 39.17 92 LR LR 01 21 42.7
comp=Z,139nm,19.8s,baz=300,slow=36
YKA Yellowknife Ar 39.22 313 P **P** **01 05 19.5 -1.0**
comp=Z,1.6nm,0.9s,baz=37,slow=8.5,SNR=5.5
WVNY West Valley, N 40.43 267 P **P** **01 05 31.4 +0.5**
ARTV Artvin 40.82 95 P **P** **01 05 31.2 -3.0**
KOPT Kop Dagi 41.17 98 P **P** **01 05 37.7 +0.5**
KOPT IAmb IAmb 01 05 41.2
comp=Z,14nm,1.2s
M54A Oil Creek Stat 41.62 267 P **P** **01 05 41.7 +1.1**
M54A IAmb IAmb 01 05 42.5
comp=Z,13nm,1.1s
ALLY Alegheny Colle 41.71 268 P **P** **01 05 42.0 +0.7**
ALLY IAmb IAmb 01 05 45.7
comp=Z,11nm,0.9s
ABKAR Akbulak array 42.06 73 P **P** **01 05 42.9 -1.2**
ABKAR Akbulak array 42.06 73 P **P** **01 05 42.6 -1.4**
ABKAR IAmb IAmb 01 05 53.5
comp=Z,2.6nm,1.1s
B35A Bob, Littlefor 42.15 285 P **P** **01 05 45.7 +0.8**
B35A IAmb IAmb 01 05 50.5
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 42.79 336 P **P** **01 05 50.3 +0.5**
TOLK IAmb IAmb 01 05 51.2
comp=Z,13nm,1.1s
BMAR Burnt Mountain 42.93 333 P **P** **01 05 51.0 0.0**
AGMN Agassiz Nation 43.09 287 P **P** **01 05 52.8 +0.3**
S61A Accomac 43.09 260 P **P** **01 05 53.4 +0.9**
G40A Rib Lake 43.11 280 P **P** **01 05 52.8 +0.1**
G40A IAmb IAmb 01 05 58.9
comp=Z,8.1nm,1.1s
BRVK Borovoye 43.21 62 *ce*P **P** **01 05 52.4 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 43.21 62 P **P** **01 05 53.6 +0.3**
N51A Ashland 43.27 269 P **P** **01 05 54.4 +0.3**
O53A New Philadelph 43.32 268 P **P** **01 05 55.6 +1.2**
O53A IAmb IAmb 01 05 57.1
comp=Z,11nm,1.1s
CBN Corbin Frederi 43.38 262 P **P** **01 05 56.3 +1.4**
MARD Mardin 43.55 100 P **P** **01 05 57.0 +0.5**
MARD IAmb IAmb 01 06 00.1
comp=Z,6.9nm,0.9s
O52A Adamsville 43.70 268 P **P** **01 05 58.5 +1.1**
O52A IAmb IAmb 01 05 59.3
comp=Z,14nm,1.1s
FYU Fort Yukon 43.81 333 P **P** **01 05 58.8 +0.8**
P53A Whipple 44.03 267 P **P** **01 06 01.4 +1.2**
P53A IAmb IAmb 01 06 02.8
comp=Z,6.4nm,0.8s
N49A Columbus Grove 44.05 271 P **P** **01 06 00.6 +0.4**
L46A Eue Claire 44.07 274 P **P** **01 06 00.4 0.0**
ACSO Alum Creek Sta 44.10 269 P **P** **01 06 00.7 +0.1**
ACSO IAmb IAmb 01 06 02.8
comp=Z,12nm,1.1s
COLD Coldfoot 44.16 336 P **P** **01 06 00.7 -0.1**
COLD IAmb IAmb 01 06 14.8
comp=Z,5.3nm,1.2s
SPMN Marine on St. 44.25 282 P **P** **01 06 02.1 +0.2**
SPMN IAmb IAmb 01 06 06.6
comp=Z,3.1nm,0.6s
I40A Norwalk 44.40 279 P **P** **01 06 03.7 +0.7**
O49A Covington 44.72 270 P **P** **01 06 07.0 +1.3**
F33A 5 Mile Ranch, 45.22 285 P **P** **01 06 10.8 +1.2**
F33A IAmb IAmb 01 06 14.6
comp=Z,4.5nm,0.9s
Q51A Peebles 45.26 269 P **P** **01 06 10.8 +0.9**
Q51A IAmb IAmb 01 06 13.3
comp=Z,4.7nm,0.8s
RDOG Red Dog Mine 45.35 342 P **P** **01 06 11.1 +0.8**
IL31 45.72 332 P **P** **01 06 13.2 0.0**
ILAR Eielson Array 45.72 332 P **P** **01 06 13.4 +0.1**
comp=Z,3.5nm,1.2s,baz=24,slow=6.5,SNR=13
ILAR PcP **PcP** **01 07 48.9 -1.9**
comp=Z,0.7nm,1.0s,baz=346,slow=1.1,SNR=5.4
SFIN Lafayette 45.75 273 P **P** **01 06 15.6 +1.7**
MDM Murphy Dome 45.82 333 P **P** **01 06 15.0 +0.9**
MDM IAmb IAmb 01 06 16.7
comp=Z,5.9nm,1.1s
IMAR Indian Mountai 45.90 337 P **P** **01 06 14.5 -0.1**
CCB Clear Creek Bu 46.01 333 P **P** **01 06 16.1 +0.5**
HDA Harding Lake 46.05 332 P **P** **01 06 16.5 +0.6**
HDA IAmb IAmb 01 06 18.2
comp=Z,3.9nm,1.1s
DOT Dot Lake 46.12 330 P **P** **01 06 16.6 0.0**
BCAR Beaver Creek A 46.13 328 P **P** **01 06 17.1 +0.4**
RIDG Independent Ri 46.21 331 P **P** **01 06 17.8 +0.6**
RIDG IAmb IAmb 01 06 24.4
comp=Z,3.3nm,1.0s
WRH Wood River Hil 46.22 333 P **P** **01 06 17.6 +0.3**
WRH IAmb IAmb 01 06 28.4
comp=Z,3.3nm,1.2s

HDIL Hopedale 46.55 275 P **P** **01 06 21.4 +1.3**
MCK McKinley 47.05 333 P **P** **01 06 24.2 +0.4**
MCK pmax pmax
comp=Z,7.0nm,1.2s
MCK McKinley 47.05 333 P **P** **01 06 24.2 +0.4**
MCK IAmb IAmb 01 06 24.7
comp=Z,7.2nm,1.2s
ECSD EROS Data Cent 47.06 284 P **P** **01 06 24.8 +0.7**
ECSD IAmb IAmb 01 06 26.1
comp=Z,3.7nm,1.1s
WCI Wyandotte Cave 47.19 271 P **P** **01 06 26.0 +0.9**
WCI pmax pmax
comp=Z,12nm,1.0s
WCI Wyandotte Cave 47.19 271 P **P** **01 06 26.0 +0.9**
P43A Skaggs, Pawnee 47.41 274 P **P** **01 06 27.6 +0.9**
ZAA0 Zalesovo Array 47.72 51 P **P** **01 06 28.6 -0.4**
ZALV Zalesovo Beam 47.72 51 P **P** **01 06 27.9 -1.1**
comp=Z,0.4nm,0.3s,baz=322,slow=9.4,SNR=5.2
ZALV Zalesovo Beam 47.72 51 *i*P **P** **01 06 31.2 +2.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 47.72 51 P **P** **01 06 28.5 -0.5**
KURK Kurchatov 48.19 58 P **P** **01 06 31.2 -1.5**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 48.19 58 P **P** **01 06 31.2 -1.5**
KURK IAmb IAmb 01 06 35.6
comp=Z,4.0nm,1.0s
LAO LASA Array 48.57 293 P **P** **01 06 36.8 +1.0**
LAO IAmb IAmb 01 06 39.1
comp=Z,7.4nm,1.1s
T47A Sharon Grove 48.58 270 P **P** **01 06 36.0 +0.1**
SML Sawmill 48.67 331 P **P** **01 06 37.5 +1.1**
EGMT Eagleton 48.86 297 P **P** **01 06 38.9 +0.9**
TTA Tatalina 49.10 336 P **P** **01 06 38.8 -0.9**
TTA pmax pmax
comp=Z,2.0nm,0.8s
TTA Tatalina 49.10 336 P **P** **01 06 38.8 -0.9**
TTA IAmb IAmb 01 06 52.8
comp=Z,2.2nm,0.8s
Y52A Lilburn 49.92 265 P **P** **01 06 46.6 +0.4**
T42A Van Buren 50.27 274 P **P** **01 06 48.7 0.0**
GEYT Alibeck 50.49 83 P **P** **01 06 51.4 +0.9**
comp=Z,1.1nm,0.7s,baz=333,slow=4.8,SNR=2.6
GEYT LR LR 01 28 53.3
comp=Z,62nm,19.0s,baz=225,slow=37
GEYT Alibeck 50.49 83 IAmb IAmb 01 06 59.8
comp=Z,1.9nm,1.1s
RLMT Red Lodge 51.07 295 P **P** **01 06 55.9 +0.9**
KKAR Karatay Array 51.35 70 P **P** **01 06 57.3 +0.4**
KKAR Karatay Array 51.35 70 P **P** **01 06 57.2 +0.4**
KKAR Karatay Array 51.35 70 P **P** **01 06 57.3 +0.4**
KKAR IAmb IAmb 01 07 07.1
comp=Z,1.9nm,0.9s
BOZ Bozeman (W) 51.59 297 IAmb IAmb 01 07 01.0
comp=Z,6.0nm,1.1s
LRM Limekiln Ridge 51.72 297 P **P** **01 07 00.1 +0.3**
K22A Casper 52.04 291 P **P** **01 07 01.8 -0.5**
K22A IAmb IAmb 01 07 14.5
comp=Z,6.5nm,1.1s
QLMT Earthquake Lak 52.15 296 P **P** **01 07 03.6 +0.4**
DLMT Dillon 52.16 297 P **P** **01 07 04.6 +1.5**
DLMT IAmb IAmb 01 07 05.8
comp=Z,2.3nm,0.6s
DGZ Jazzator, Alta 52.16 53 *i*P **P** **01 07 01.8 -1.2**
DGZ pmax pmax
comp=Z,6.0nm,1.4s
H17A Grant Village 52.19 295 P **P** **01 07 03.4 0.0**
H17A IAmb IAmb 01 07 06.1
comp=Z,5.7nm,1.0s
YPP Pitchstone Pla 52.38 295 P **P** **01 07 06.0 +1.1**
SEY Seymchan 52.56 6 *i*P **P** **01 07 03.0 -2.6**
T35A Sooner Cattle 52.68 279 P **P** **01 07 06.8 -0.1**
T35A IAmb IAmb 01 07 08.0
comp=Z,4.2nm,0.8s
MCMT McKenzie Canyo 52.70 297 P **P** **01 07 07.6 +0.4**
PHWY Pilot Hill 52.73 289 P **P** **01 07 06.5 -1.1**
IMW Indian Meadow 52.74 295 IAmb IAmb 01 07 09.5
comp=Z,3.8nm,1.1s
MK31 Makanchi Array 52.80 58 P **P** **01 07 06.3 -1.4**
MK31 pmax pmax
comp=Z,3.0nm,1.2s
MK31 Makanchi Array 52.80 58 P **P** **01 07 06.2 -1.4**
MKAR Makanchi Array 52.80 58 P **P** **01 07 06.5 -1.2**
comp=Z,1.3nm,0.9s,baz=311,slow=6.0,SNR=5.2
MKAR Makanchi Array 52.80 58 *ce*P **P** **01 07 08.3 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 52.80 58 P **P** **01 07 06.3 -1.4**
SNOW Snow King Moun 53.04 295 P **P** **01 07 10.8 +1.1**
SNOW IAmb IAmb 01 07 12.1
comp=Z,4.5nm,0.9s
TOA0 Torodi Ar. Sit 53.10 156 P **P** **01 07 09.6 -0.5**
TOA0 IAmb IAmb 01 07 14.1
comp=Z,4.1nm,0.9s
TORD Torodi Ar. Bea 53.10 156 P **P** **01 07 08.4 -1.7**
comp=Z,5.2nm,1.0s,baz=336,slow=6.5,SNR=4.6
TORD Torodi Ar. Bea 53.10 156 IAmb IAmb 01 07 10.5
comp=Z,2.9nm,0.8s
RWWY Rawlins 53.12 291 P **P** **01 07 10.2 -0.2**
RWWY IAmb IAmb 01 07 10.5
comp=Z,5.0nm,1.1s
PD31 Pinedale Array 53.15 293 IAmb IAmb 01 07 14.4
comp=Z,6.2nm,1.1s
PDAR Pinedale Array 53.15 293 P **P** **01 07 08.9 -1.6**
comp=Z,3.2nm,0.9s,baz=46,slow=7.7,SNR=16
BW06 Boulder Array 53.15 293 IAmb IAmb 01 07 14.4
comp=Z,6.8nm,1.1s
REDW Red Top Meadow 53.16 295 IAmb IAmb 01 07 12.8
comp=Z,4.1nm,1.1s
TUL1 Leonard 53.23 277 P **P** **01 07 11.2 +0.3**
TUL1 IAmb IAmb 01 07 20.9
comp=Z,7.2nm,1.1s
N23A Red Feather La 53.27 289 IAmb IAmb 01 07 22.8
comp=Z,4.4nm,1.0s
AAK Ala-Archa 53.34 67 *ce*P **P** **01 07 09.3 -2.5**
AAK pmax pmax
comp=Z,17nm,1.3s
BCYI Bear Canyon 53.35 297 P **P** **01 07 12.8 +0.8**
QUOK Quay 53.40 278 P **P** **01 07 12.7 +0.6**
QUOK IAmb IAmb 01 07 26.2
comp=Z,6.5nm,0.8s
451A Vernon 53.43 265 P **P** **01 07 14.1 +1.7**
KSCO Kaye Shedlock' 53.49 285 P **P** **01 07 13.2 +0.2**
KSCO IAmb IAmb 01 07 21.7
comp=Z,7.7nm,1.0s
AHID Auburn Hatcher 53.76 294 P **P** **01 07 15.8 +0.8**
AHID IAmb IAmb 01 07 22.6
comp=Z,4.3nm,1.1s
BMO Blue Mountains 54.37 300 P **P** **01 07 18.4 -0.9**
BMO pmax pmax
comp=Z,1.0nm,1.1s
BMO Blue Mountains 54.37 300 P **P** **01 07 18.4 -0.9**
HWUT Hardware Ranch 54.93 294 IAmb IAmb 01 07 25.3
comp=Z,6.1nm,1.1s
X34A Smith Ranch, M 55.21 278 P **P** **01 07 26.7 +1.3**
HRA Herat 55.25 82 P **P** **01 07 25.9 -0.1**
HRA IAmb IAmb 01 07 45.4
comp=Z,1.9nm,0.6s
TCUT Toone Canyon 55.28 293 P **P** **01 07 26.2 +0.1**
WMOK Wichita Mounta 55.50 279 IAmb IAmb 01 07 29.7
comp=Z,5.3nm,1.1s
061Z Ochoppi 55.52 258 P **P** **01 07 28.7 +1.0**
SPUT South Promonto 55.53 294 P **P** **01 07 28.1 +0.3**
JLU Jordanelle 55.74 293 P **P** **01 07 29.4 -0.1**
CTU Camp Tracy 55.78 293 P **P** **01 07 30.6 +1.0**
Z35A Perchaven, San 56.05 277 P **P** **01 07 31.9 +0.5**
BGU Big Grassy Mou 56.08 295 P **P** **01 07 32.7 +0.9**
P17A Butcher Ranch, 56.42 292 P **P** **01 07 34.2 0.0**
PV22 Blue Mesa, Par 56.43 290 P **P** **01 07 35.1 +0.7**
PV22 IAmb IAmb 01 07 40.7
comp=Z,3.4nm,1.0s
PV15 Paradox Valley 56.47 289 P **P** **01 07 34.2 -0.5**
PV15 IAmb IAmb 01 07 43.7
comp=Z,3.6nm,1.0s
PV21 Cone Mtn., Par 56.49 290 P **P** **01 07 34.9 +0.1**
PV21 IAmb IAmb 01 07 41.1
comp=Z,6.6nm,1.2s
PV23 Carpenter Ridg 56.59 290 P **P** **01 07 35.4 -0.2**
PV04 Paradox Valley 56.60 290 P **P** **01 07 35.3 -0.2**
PV04 IAmb IAmb 01 07 40.9
comp=Z,6.9nm,1.1s
DUG Dugway, Tooele 56.62 294 IAmb IAmb 01 07 56.1
comp=Z,3.4nm,0.9s
PV12 Saucer Basin, 56.63 290 P **P** **01 07 36.3 +0.5**

PV12 IAmb IAmb 01 07 44.9
comp=Z,4.2nm,1.0s
PV14 Lion Creek, Pa 56.67 290 IAmb IAmb 01 07 43.9
comp=Z,3.8nm,0.8s
PV11 David Mesa, Pa 56.67 290 IAmb IAmb 01 07 39.2
comp=Z,6.0nm,1.1s
PV10 Paradox Valley 56.67 290 P **P** **01 07 36.6 +0.5**
PV20 West Nyswonger 56.67 290 P **P** **01 07 36.3 +0.3**
PV20 IAmb IAmb 01 07 43.7
comp=Z,3.5nm,1.0s
PV16 Nyswonger Mesa 56.68 290 IAmb IAmb 01 07 37.4
comp=Z,6.2nm,1.2s
PV02 Paradox Valley 56.69 290 IAmb IAmb 01 07 37.3
comp=Z,7.5nm,1.1s
PV03 Paradox Valley 56.70 290 IAmb IAmb 01 07 37.4
comp=Z,8.2nm,1.2s
PV18 Skein Mesa, Pa 56.73 290 IAmb IAmb 01 07 43.1
comp=Z,5.2nm,1.1s
PV05 Paradox Valley 56.95 290 P **P** **01 07 33.5 -4.5**
ELK Elko 57.10 296 P **P** **01 07 39.0 -0.1**
ELK pmax pmax
comp=Z,1.0nm,0.5s
ELK Elko 57.10 296 P **P** **01 07 39.0 -0.1**
WHTX Lake Whitney, 57.29 276 P **P** **01 07 40.3 +0.1**
WMQ Urumqi 57.31 56 *e*P **P** **01 07 43.4 +3.1**
MVCO Mesa Verde 57.45 289 P **P** **01 07 42.3 +0.7**
ABTX Abilene, Hawle 57.68 279 P **P** **01 07 42.7 -0.3**
ABTX IAmb IAmb 01 07 46.7
comp=Z,4.2nm,0.9s
TCRU Three Creeks R 57.84 293 P **P** **01 07 45.0 +0.6**
MTPU Mount Pierson 58.23 292 P **P** **01 07 48.4 +1.2**
PSUT Pine Spring 58.46 294 P **P** **01 07 49.8 +1.1**
DBIC Dimbokro 58.54 165 P **P** **01 07 48.6 -0.5**
comp=Z,4.6nm,1.0s,baz=9.1,slow=2.4,SNR=4.6
DBIC Dimbokro 58.54 165 IAmb IAmb 01 07 53.3
comp=Z,8.1nm,1.1s
TIC Toumodi 58.55 165 *e*P **P** **01 07 51.9 +2.7**
ANMO Albuquerque 58.55 286 P **P** **01 07 50.2 +0.9**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
ANMO Albuquerque 58.55 286 P **P** **01 07 50.2 +0.9**
PKCU Pink Cliffs 58.79 292 P **P** **01 07 51.4 +0.3**
KIC Kosan Boka 58.86 165 *e*P **P** **01 07 54.8 +3.5**
comp=Z,47nm,1.4s
LIC Lamto 58.96 165 *e*P **P** **01 07 50.6 -1.4**
comp=Z,2.0nm,0.2s
SZCU Shurtz Canyon 58.97 293 P **P** **01 07 52.6 +0.4**
CCUT Cedar City 59.12 293 P **P** **01 07 53.8 +0.5**
BNM Barren Site 59.31 285 P **P** **01 07 55.2 +0.5**
PAHR Pah Rah Range 59.58 299 P **P** **01 07 56.9 +0.6**
PAHR IAmb IAmb 01 08 04.2
comp=Z,2.9nm,1.1s
U15A North Rim 59.66 291 IAmb IAmb 01 07 57.0
comp=Z,3.7nm,1.1s
KVN Kaiserville 59.66 297 P **P** **01 07 57.8 +0.8**
KVN pmax pmax
comp=Z,3.0nm,0.9s
KVN Kaiserville 59.66 297 P **P** **01 07 57.8 +0.8**
KVN IAmb IAmb 01 08 12.3
comp=Z,3.1nm,0.9s
SONM Songino Array 59.73 40 P **P** **01 07 56.8 -0.3**
comp=Z,0.6nm,0.6s,baz=46,slow=4.2,SNR=2.5
YERR Yerington 60.16 298 P **P** **01 07 59.6 -0.8**
YERR IAmb IAmb 01 08 01.9
comp=Z,4.3nm,1.0s
NIL Nilore 60.52 73 P **P** **01 08 03.1 +0.4**
NIL pmax pmax
comp=Z,7.0nm,1.0s
NIL Nilore 60.52 73 P **P** **01 08 03.1 +0.4**
SHPR Sheep Range 60.74 294 P **P** **01 08 04.4 +0.1**
SHPR IAmb IAmb 01 08 06.3
comp=Z,2.9nm,1.1s
X16A Lo Mia Camp, P 61.06 290 P **P** **01 08 06.4 -0.2**
X16A IAmb IAmb 01 08 11.7
comp=Z,4.7nm,1.1s
TX31 Lajitas Ar. Si 62.24 280 P **P** **01 08 14.9 +0.4**
TXAR Lajitas Array 62.24 280 P **P** **01 08 13.6 -0.9**
comp=Z,1.7nm,1.1s,baz=28,slow=5.7,SNR=7.1
TXAR Lajitas Array 62.24 280 P **P** **01 08 13.8 -0.7**
TXAR Lajitas Array 62.24 280 P **P** **01 08 13.8 -0.7**
TUC Tucson 62.63 288 P **P** **01 08 18.7 +1.7**
TUC pmax pmax
comp=Z,2.0nm,1.0s
TUC Tucson 62.63 288 P **P** **01 08 18.7 +1.7**
TUC IAmb IAmb 01 08 25.2
comp=Z,2.3nm,1.0s
ISA Isabella, Lake 62.77 296 P **P** **01 08 18.7 +0.8**
ISA pmax pmax
comp=Z,1.0nm,0.8s
ISA Isabella, Lake 62.77 296 P **P** **01 08 18.7 +0.8**
214A Organ Pipe Nat 63.76 289 P **P** **01 08 25.1 +0.6**
214A IAmb IAmb 01 08 25.9
comp=Z,3.9nm,1.1s
HHC Hu-ho-hao-te 67.60 39 *e*P **P** **01 08 50.5 +1.3**
HHC pmax pmax
comp=Z,26nm,0.6s
HHC pmax pmax
comp=Z,220nm,6.6s
MTO3 Montecristo 69.27 260 P **P** **01 09 00.2 +0.2**
MTO3 IAmb IAmb 01 09 06.2
comp=Z,2.4nm,0.6s
CMAR Chiang Mai Arr 84.21 59 P **P** **01 10 24.1 0.0**
comp=Z,0.5nm,0.3s,baz=322,slow=7.2,SNR=5.0

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*PDG **21** 01:13:26.9±0.4, 38°.37N×21°.83E, h8km, MD5.4/1, ML4.1/14, Error ellipse: s-maj=0.4km s-min=0.4km az=90.0*
*ATH **21** 01:13:26.3, 38°.37N×21°.83E, h15km, ML4.0/28, Error ellipse: s-maj=0.9km s-min=0.6km az=329.0*
*MOS **21** 01:13:26.2±1.1, 38°.42N×21°.78E, h11km, mb4.5/11, Error ellipse: s-maj=8.2km s-min=4.8km az=81.0*
*NEIC **21** 01:13:27.6±2.0, 38°.37N±0°.05×21°.92E±0°.07, h10km±1km, Error ellipse: s-maj=10.2km s-min=8.1km az=244.0*
*MED_RC **21** 01:13:27.0±0.3, 38°.37N×21°.81E, h14km±1km, MW4.5/20, Moment Tensor Solution. Mantle waves: s20, c31; Duration: 1ŝ0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.73±.08; $M_{\theta\theta}$0.85±.05; $M_{\phi\phi}$-0.12±.04; $M_{r\theta}$-0.08±.07; $M_{\theta\phi}$0.04±.04; $M_{\phi r}$-0.15±.06; Best double couple: $M_0$0.81000×10^{16} NP1:ϕ_s280.00000°, δ43.00000°, λ-72.00000°. NP2:ϕ_s76.00000°, δ50.00000°, λ-106.00000°. Principal axes: T 0.8600, Plg3.0000°, Azm177.0000°; N -0.0900, Plg12.0000°, Azm86.0000°; P -0.7700, Plg77.0000°, Azm282.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*TIR **21** 01:13:27.8, 38°.40N×21°.70E, h23km±1km, Md4.2*
*THE **21** 01:13:27.0, 38°.37N×21°.81E, h10km±2km, ML4.0/27, Error ellipse: s-maj=2.4km s-min=0.7km az=47.0*
*ISK **21** 01:13:27.6, 38°.41N×22°.08E, h5km, ML4.0/28*
*INMG **21** 01:13:27.2, 38°.36N×21°.98E, h10km, Mb5.2*
*IDC **21** 01:13:29.8±4.6, 38°.45N×21°.80E, h22km±31km, mb4.0/20, mb1 4.0/29, mb1mx3.9/42, mbtmp4.0/29, ML3.6/8, MS3.6/28, Ms1 3.6/28, ms1mx3.4/63, Error ellipse: s-maj=13.1km s-min=11.2km az=147.0*
*BEO **21** 01:13:39.0±0.8, 39°.13N×21°.72E, h0km, ML3.5/4*
ISC 21 01:13:27.3±0.7, 38°.38N±0°.01×21°.82E±0°.01, h9km±4km, n451,σ1ŝ70/514, mb4.3/36, MS3.7/20, 31C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.08**	**57**	P	**Pg**	**01 13 29.1**	**-0.4**
EFP				S	**Sg**	**01 13 31.3**	**+0.1**
EFP	**Efpalio**	**0.08**	**57**	P	**Pg**	**01 13 29.2**	**-0.4**
EFP				S	**Sg**	**01 13 30.8**	**-0.4**
EFP				AML	AML	01 13 32.7	
EFP				AML	AML	01 13 33.4	
LAKA	**Lakka**	**0.19**	**140**	P	**Pg**	**01 13 30.6**	**-0.7**
ALIK	**Aliki, Aigiali**	**0.26**	**119**	P	**Pg**	**01 13 32.2**	**-0.4**
AXS	**Araxos**	**0.40**	**242**	P	**Pg**	**01 13 34.4**	**-0.8**
AXS				S	**Sg**	**01 13 40.4**	**0.0**
AXS	**Araxos**	**0.40**	**242**	P	**Pg**	**01 13 34.3**	**-0.8**
AXS				S	**Sg**	**01 13 41.0**	**+0.6**
KLV	**Kalavryta, Ach**	**0.43**	**143**	P	**Pg**	**01 13 34.7**	**-1.0**
KLV				S	**Sg**	**01 13 39.9**	**-1.5**
	17μm,0.6s						
KLV	**Kalavryta, Ach**	**0.43**	**143**	P	**Pg**	**01 13 34.7**	**-1.0**
KLV				S	**Sg**	**01 13 40.2**	**-1.2**
KLV				AML	AML	01 13 42.4	
	comp=E,29589μm,0.8s						
KLV				AML	AML	01 13 43.2	

comp=N,36195µm,0.5s
RLS Riolos of Patr 0.43 221 P Pg 01 13 35.0 -0.8
RLS S **Sg 01 13 41.5 +0.1**
comp=N,18µm,0.5s
RLS Riolos of Patr 0.43 221 P Pg 01 13 35.1 -0.6
RLS S **Sg 01 13 42.0 +0.6**
RLS AML AML 01 13 43.8
comp=N,37031µm,0.5s
RLS AML AML 01 13 49.1
comp=E,35318µm,0.5s
EVR Evrytania 0.53 359 P Pg 01 13 37.0 -0.7
EVR Evrytania 0.53 359 P Pg 01 13 37.3 -0.4
EVR S **Sg 01 13 45.3 +0.6**
EVR AML AML 01 13 55.0
comp=N,33673µm,0.8s
EVR AML AML 01 13 55.8
comp=E,32530µm,1.2s
DLFA Delphi 0.54 80 P Pg 01 13 37.1 -0.7
DLFA S **Sg 01 13 45.1 +0.2**
DLFA AML AML 01 13 48.9
comp=N,22818µm,0.6s
DLFA AML AML 01 13 52.5
comp=E,23480µm,0.8s
DSF Desfina 0.55 87 P Pg 01 13 37.1 -1.0
DSF S **Sb 01 13 46.7 -0.6**
comp=E,10µm,0.5s
DSF Desfina 0.55 87 P Pg 01 13 37.2 -1.0
DSF S **Sg 01 13 44.6 -0.8**
DSF AML AML 01 13 50.6
comp=N,23012µm,0.4s
DSF AML AML 01 13 55.3
comp=E,14133µm,0.5s
AST1 Astakos 0.60 285 P Pg 01 13 38.0 -0.9
AST1 S **Sg 01 13 47.4 +0.7**
comp=E,20µm,0.3s
GUR Goura 0.61 137 P Pg 01 13 37.6 -1.5
GUR S **Sg 01 13 47.2 +0.1**
comp=E,34µm,0.5s
GUR Goura 0.61 137 P Pg 01 13 37.7 -1.4
GUR S **Sg 01 13 46.9 -0.2**
GUR AML AML 01 13 48.7
comp=N,76292µm,0.5s
GUR AML AML 01 13 53.7
comp=E,58014µm,0.5s
VTN Vitineika 0.69 227 P Pg 01 13 40.2 -0.4
AXAR Agios Charalam 0.76 60 P Pg 01 13 41.1 -0.9
AXAR S **Sn 01 13 54.8 -1.0**
comp=E,25µm,0.8s
AXAR Agios Charalam 0.76 60 P Pg 01 13 41.1 -0.9
AXAR S **Sg 01 13 51.9 0.0**
AXAR AML AML 01 14 01.6
comp=E,41661µm,0.9s
AXAR AML AML 01 14 02.2
comp=N,59252µm,0.7s
TRIP Tripoli 0.93 157 P Pg 01 13 43.5 -1.7
TRIP S **Sn 01 13 59.0 -1.0**
comp=N,11µm,0.8s
TRIP Tripoli 0.93 157 P Pg 01 13 43.7 -1.4
TRIP AML AML 01 14 05.5
comp=N,20222µm,0.7s
TRIP AML AML 01 14 06.1
comp=E,21948µm,1.0s
NYDR Nydri-Lefkada 0.94 291 P Pg 01 13 43.7 -1.7
ZAK2 Zakynthos 0.94 231 P Pg 01 13 44.5 -0.9
ZAK2 S **Sn 01 14 00.5 +0.3**
comp=E,29µm,0.5s
EVGI Lefkada island 0.94 285 P Pg 01 13 44.0 -1.5
EVGI Lefkada island 0.94 285 P Pg 01 13 43.7 -1.8
LKR Lokris 0.96 74 P Pg 01 13 44.7 -1.1
LKR Lokris 0.96 74 P Pg 01 13 44.7 -1.1
LKR AML AML 01 14 05.9
comp=E,7019µm,0.5s
LKR AML AML 01 14 11.9
comp=N,7993µm,0.8s
LTK Loutraki 0.97 111 P Pg 01 13 45.6 -0.4
LTK S **Sn 01 14 00.8 -0.2**
comp=N,12µm,0.8s
LTK Loutraki 0.97 111 P Pg 01 13 45.3 -0.8
LTK AML AML 01 14 02.8
comp=E,28956µm,1.0s
LTK AML AML 01 14 05.7
comp=N,18310µm,0.8s
VSK1 VASILIKIADES 0.99 272 P Pg 01 13 43.6 -2.8
VSK1 S **Sg 01 13 59.5 +0.3**
comp=N,6µm,0.3s
VLS Valsamata 0.99 258 P Pg 01 13 44.7 -1.7
VLS S **Sn 01 14 01.2 -0.4**
comp=N,7µm,0.4s
VLS Valsamata 0.99 258 P Pg 01 13 44.8 -1.7
VLS S **Sb 01 13 60.0 +0.1**
VLS AML AML 01 14 04.0
comp=E,10460µm,0.3s
VLS AML AML 01 14 04.5
comp=N,17012µm,0.5s
LKD2 Lefkada island 1.00 294 P Pg 01 13 45.3 -1.2
LKD2 Lefkada island 1.00 294 P Pg 01 13 45.2 -1.4
LKD2 AML AML 01 14 11.5
comp=N,13203µm,0.6s
LKD2 AML AML 01 14 13.3
comp=E,12041µm,0.7s
LKD2 Lefkada island 1.00 294 P Pg 01 13 45.2 -1.4
baz=296
LKD2 S **Sg 01 13 58.6 -0.9**
baz=296
TSLK Tsoukalades, L 1.01 296 P Pg 01 13 45.8 -1.1
TSLK Tsoukalades, L 1.01 296 P Pg 01 13 45.6 -1.2
TSLK AML AML 01 14 09.8
comp=N,11830µm,0.5s
TSLK AML AML 01 14 16.1
comp=E,9169µm,0.8s
DRAG Dragano-Lefkad 1.02 287 P Pg 01 13 45.3 -1.7
VLMS Volimes, Zakyn 1.05 241 P Pg 01 13 45.9 -1.6
VLMS AML AML 01 14 05.9
comp=E,22424µm,0.3s
VLMS AML AML 01 14 08.3
comp=N,26704µm,0.3s
ARG2 Argostoli 1.07 259 P Pg 01 13 46.2 -1.7
ARG2 S **Sn 01 14 03.2 -0.2**
comp=N,16µm,0.5s
KEF5 Kardakata, Kep 1.07 265 P Pg 01 13 46.1 -1.8
KRI1 kERI 1.07 228 P Pg 01 13 46.2 -1.8
ARGA Argostoli. Kep 1.08 259 P Pg 01 13 46.3 -1.7
VLX Vlachokerasia 1.10 156 P Pg 01 13 46.5 -2.1
VLX Vlachokerasia 1.10 156 P Pg 01 13 46.6 -1.9
KEF4 Livadi, Kephal 1.11 264 P Pg 01 13 46.9 -1.8
DMLN Damoulianata-K 1.15 263 P Pb 01 13 47.6 -1.8
DMLN S **Sn 01 14 06.8 +1.4**
comp=N,10µm,0.7s
VIL2 Platees 1.15 98 P Pn 01 13 49.6 0.0
VIL2 AML AML 01 14 11.4
comp=N,17047µm,0.8s
VIL2 AML AML 01 14 15.6
comp=E,27852µm,1.0s
THL Klokotos Trika 1.19 7 P Pb 01 13 48.8 -1.2
THL S **Sn 01 14 07.6 +1.2**
comp=E,3µm,0.8s
THL Klokotos Trika 1.19 7 P Pb 01 13 48.9 -1.2
THL AML AML 01 14 10.1
comp=E,8424µm,0.9s
THL AML AML 01 14 20.3
comp=N,3816µm,0.8s
VILL Villia 1.19 100 P Pb 01 13 49.5 -0.6
VILL S **Sb 01 14 04.2 -1.5**
comp=N,12µm,0.9s
ITM Ithomi 1.21 176 P Pb 01 13 48.2 -2.1
ITM S **Sg 01 14 06.2 +0.1**
comp=N,9µm,0.6s
ITM Ithomi 1.21 176 P Pb 01 13 48.7 -1.7
ITM AML AML 01 14 15.9
comp=N,19524µm,0.6s
ITM AML AML 01 14 16.3
comp=E,14609µm,0.6s
ITM Ithomi 1.21 176 PN **Pg 01 13 51.5 +1.0**
ITM SN **Sn 01 14 10.4 +3.6**
ITM Ithomi 1.21 176 Pn **Pb 01 13 49.6 -0.7**
VOL3 Nea Ionia, Vol 1.31 41 P Pn 01 13 48.8 -3.0
VOL2 Volos 1.32 42 P Pg 01 13 52.9 +0.3
NEO Neokhori 1.43 49 P Pn 01 13 53.4 -0.1
NEO Neokhori 1.43 49 P Pn 01 13 53.6 +0.1
NEO AML AML 01 14 26.5
comp=E,4770µm,1.1s
NEO AML AML 01 14 28.0
comp=N,5212µm,1.5s
KRND KRANIDI 1.45 133 P Pn 01 13 53.1 -0.6
KRND S **Sn 01 14 12.4 -0.4**
comp=N,10µm,0.7s
KRND KRANIDI 1.45 133 P Pn 01 13 53.2 -0.5
KRND AML AML 01 14 17.6
comp=E,15710µm,1.0s
KRND AML AML 01 14 19.1
comp=N,21421µm,0.7s
XOR Xorichti 1.45 47 P Pn 01 13 53.8 0.0
XOR S **Sg 01 14 14.7 +0.7**
comp=N,3µm,1.0s
XOR Xorichti 1.45 47 P Pn 01 13 53.8 0.0
XOR S **Sg 01 14 14.5 +0.5**
XOR AML AML 01 14 21.8
comp=N,7552µm,1.2s
XOR AML AML 01 14 29.5
comp=E,4389µm,0.9s
PYL PYLOS 1.49 182 P Pn 01 13 53.2 -1.0
PYL PYLOS 1.49 182 P Pn 01 13 53.4 -0.8
ATH Athens Observa 1.55 105 P Pn 01 13 55.3 +0.3
ATH S **Sb 01 14 15.7 -0.1**
comp=E,6µm,0.7s
ATH Athens Observa 1.55 105 P Pn 01 13 55.2 +0.1
ATH S **Sb 01 14 15.6 -0.3**
ATH AML AML 01 14 22.8
comp=E,14833µm,0.7s
ATH AML AML 01 14 24.0
comp=N,8062µm,0.6s
ATHU Athens Univers 1.60 104 P Pn 01 13 56.1 +0.3
ATHU S **Sn 01 14 15.6 -1.0**
comp=N,2µm,0.7s
ATHU Athens Univers 1.60 104 P Pn 01 13 55.8 0.0
ATHU S **Sn 01 14 16.9 +0.4**
KPRO Kipourio 1.61 347 P Pb 01 13 57.4 +0.2
KPRO Kipourio 1.61 347 P Pb 01 13 57.2 0.0
IGT Igoumenitsa 1.63 315 P Pb 01 13 57.8 +0.2
IGT S **Sn 01 14 15.6 -1.8**
IGT Igoumenitsa 1.63 315 *e*Pg **Pb 01 13 58.0 +0.4**
IGT *e*Sg **Sn 01 14 16.3 -1.1**
IGT Igoumenitsa 1.63 315 P Pb 01 13 57.2 -0.4
IGT Igoumenitsa 1.63 315 P Pb 01 13 57.5 -0.1
baz=318
IGT S **Sb 01 14 18.4 +0.1**
baz=318
PTL Penteli 1.64 101 P Pb 01 13 57.1 -0.7
PTL S **Sn 01 14 16.0 -1.6**
comp=N,4µm,0.8s
PTL Penteli 1.64 101 P Pn 01 13 56.4 0.0
PTL AML AML 01 14 26.3
comp=E,8472µm,0.8s
PTL AML AML 01 14 26.6
comp=N,5656µm,0.8s
VLY Voula,Athens 1.64 108 P Pn 01 13 56.5 +0.1
VLY Voula,Athens 1.64 108 P Pn 01 13 56.4 0.0
VLY AML AML 01 14 31.9
comp=N,5772µm,0.6s
VLY AML AML 01 14 33.0
comp=E,6352µm,0.7s
DION Dionisos Attik 1.69 100 P Pn 01 13 57.5 +0.5
DION S **Sb 01 14 19.8 -0.2**
comp=E,8µm,0.8s
DION Dionisos Attik 1.69 100 P Pn 01 13 57.3 +0.3
DION AML AML 01 14 31.7
comp=N,14616µm,1.0s
DION AML AML 01 14 32.6
comp=E,15680µm,0.7s
LIT Litokhoron 1.79 17 P Pn 01 13 58.1 -0.3
LIT Litokhoron 1.79 17 P Pn 01 13 58.6 +0.1
LIT Litokhoron 1.79 17 P Pn 01 13 59.0 +0.6
LIT Litokhoron 1.79 17 Pn 01 13 59.0 +0.6
KYMI Kymi, Euboea I 1.80 81 P Pn 01 13 58.5 -0.1
KYMI S **Sb 01 14 23.3 +0.1**
comp=E,2µm,0.8s
KYMI Kymi, Euboea I 1.80 81 P Pn 01 13 58.6 +0.1
KYMI AML AML 01 14 35.8
comp=N,2753µm,1.1s
KYMI AML AML 01 14 37.0
comp=E,3324µm,0.8s
VLI Veliai 1.88 152 P Pn 01 13 59.4 -0.3
VLI Veliai 1.88 152 P Pn 01 13 59.1 -0.6
KZN Kozani 1.92 359 P Pn 01 14 01.2 +0.9
KZN S **Sn 01 14 24.1 -0.5**
comp=E,1µm,1.2s
KZN Kozani 1.92 359 P Pb 01 14 01.6 -0.9
KZN AML AML 01 14 40.1
comp=N,2456µm,1.4s
KZN AML AML 01 14 52.7
comp=E,3457µm,1.1s
LSK Leskovik 2.00 332 P Pg 01 14 05.3 -0.4
baz=335
LSK S **Sb 01 14 29.4 +0.3**
baz=335
SRN Sarande 2.06 317 P Pb 01 14 03.5 -1.4
SRN Sarande 2.06 317 P Pb 01 14 03.8 -1.1
baz=319
SRN S **Sb 01 14 30.8 +0.3**
baz=319
KEK Kerkira 2.06 311 P Pb 01 14 03.7 -1.2
KEK Kerkira 2.06 311 P Pb 01 14 03.6 -1.3
KARY Karystos 2.09 99 P Pn 01 14 03.1 +0.6
KARY Karystos 2.09 99 P Pn 01 14 03.1 +0.6
KARY AML AML 01 14 42.3
comp=N,5779µm,1.0s
KARY AML AML 01 14 43.1
comp=E,2385µm,1.1s
PAIG Paliouri 2.11 43 P Pn 01 14 02.5 -0.3
PAIG Paliouri 2.11 43 P Pn 01 14 02.3 -0.5
SKY Skiros Island 2.19 76 P Pn 01 14 04.2 +0.3
KTHA Kythira Island 2.34 155 P Pb 01 14 08.0 -1.8
KTHA Kythira Island 2.34 155 P Pn 01 14 07.3 +1.3
KTHA Kythira Island 2.34 155 PN **Pb 01 14 07.9 -1.8**
KTHA SN **Sb 01 14 37.5 -1.2**
PLG Polygyros 2.35 32 P Pn 01 14 06.2 +0.1
FNA Florina 2.42 352 P Pn 01 14 08.9 +1.8
FNA Florina 2.42 352 *e*Pg **Pn 01 14 08.9 +1.8**
FNA *e*Sg **Sn 01 14 31.6 -5.3**
FNA Florina 2.42 352 PN **Pb 01 14 09.6 -1.5**
FNA Florina 2.42 352 P Pn 01 14 08.9 +1.8
FNA Florina 2.42 352 Pn **Pn 01 14 08.9 +1.8**
FNA Florina 2.42 352 P Pn 01 14 09.0 +1.9
baz=355
FNA S **Sb 01 14 41.0 -0.1**
baz=355
HORT Hortiatis 2.42 24 P Pn 01 14 06.6 -0.6
HORT Hortiatis 2.42 24 PN **Pn 01 14 08.7 +1.5**
HORT SN **Sn 01 14 38.4 +1.5**
SERI Serifos 2.44 119 P Pn 01 14 07.1 -0.2
SERI Serifos 2.44 119 P Pn 01 14 07.0 -0.4
OUR Ouranopolis 2.57 40 PN **Pn 01 14 09.9 +0.8**
MHLA Plaka, Milos I 2.63 128 P Pn 01 14 10.9 +0.9
MHLO Agia Marina, M 2.66 129 P Pn 01 14 11.0 +0.7
SOH Sokhos 2.71 25 P Pn 01 14 11.3 +0.3
SOH S **Sn 01 14 43.3 -0.6**
comp=E,560nm,0.8s
VLO Vlora 2.75 320 P Pn 01 14 14.1 +2.5
baz=322
VLO S **Sb 01 14 48.6 -1.9**
baz=322
ANKY Antikythira Is 2.78 154 P Pb 01 14 15.8 -1.3
ANKY Antikythira Is 2.78 154 P Pn 01 14 13.3 +1.4
OHR Ohrid 2.84 344 *i* Pn **Pb 01 14 19.3 +1.2**
KNT Kendrikon 2.90 16 P Pn 01 14 14.0 +0.4
KNT S **Sn 01 14 48.0 -0.5**
comp=E,425nm,1.1s
KNT Kendrikon 2.90 16 PN **Pn 01 14 15.6 +2.0**
VAY Valandovo 2.99 11 *e*Pn **Pn 01 14 17.3 +2.4**
VAY Valandovo 2.99 11 *i* Pn **Pn 01 14 17.7 +2.9**
LIA Limnos Island 3.02 59 P Pn 01 14 15.3 +0.1
SRS Serrai 3.05 26 *e*Pn **Pb 01 14 19.4 -2.4**
SCTE Santa Cesarea 3.10 304 Pn 01 14 18.9 +2.5
SCTE Santa Cesarea 3.10 304 P Pn 01 14 17.4 +1.0
baz=305
SCTE S **Sn 01 14 56.3 +2.7**
baz=305
IOSP Ios island 3.21 120 P Pn 01 14 18.5 +0.5
IOSP S **Sn 01 14 54.6 -1.8**
comp=E,638nm,0.8s
RODP Rodopos 3.22 151 P Pn 01 14 19.6 +1.6
RODP Rodopos 3.22 151 PN **Pn 01 14 20.2 +2.2**
APE Apeiranthos 3.22 113 P Pn 01 14 18.4 +0.3
APE Apeiranthos 3.22 113 ⇑P **Pn 01 14 19.0 +0.9**
APE Apeiranthos 3.22 113 PN **Pn 01 14 18.9 +0.8**
APE Apeiranthos 3.22 113 *i* P **Pn 01 14 18.9 +0.8**
SIGR SIGRI 3.26 74 P Pn 01 14 18.9 +0.3
SIGR SIGRI 3.26 74 PN **Pn 01 14 18.9 +0.3**
TIR Tirane 3.32 334 *e*Pn **Pn 01 14 22.9 +3.5**
TIR Tirane 3.32 334 P Pn 01 14 22.1 +2.6
TIR Tirane 3.32 334 Pn 01 14 22.1 +2.6
TIR Tirane 3.32 334 P Pn 01 14 22.6 +3.2
baz=336
TIR S **Sb 01 15 03.2 -3.7**
baz=336
CHOS Chios island 3.33 89 P Pn 01 14 20.6 +1.0
CHOS Chios island 3.33 89 PN **Pn 01 14 19.9 +0.3**
IMMV Iera Moni Meta 3.39 149 P Pn 01 14 21.2 +0.7
IMMV Iera Moni Meta 3.39 149 PN **Pn 01 14 22.3 +1.9**
PHP Peshkopia 3.46 343 P Pn 01 14 24.3 +2.8
baz=345
PHP S **Sb 01 15 07.9 -3.1**
baz=345
THT2 Imerovigli 3.46 123 PN **Pn 01 14 22.8 +1.4**
KNDR Palaiochora Ch 3.48 154 P Pn 01 14 24.4 +2.8
KNDR Palaiochora Ch 3.48 154 PN **Pn 01 14 24.2 +2.6**
MMB Musomiste 3.52 24 *i* P **Pn 01 14 23.2 +1.0**
SANT Santorini 3.52 124 ⇑P **Pn 01 14 23.7 +1.4**
SANT Santorini 3.52 124 PN **Pn 01 14 23.4 +1.1**
SANT Santorini 3.52 124 Pn **Pn 01 14 21.6 -0.7**
VAM Vamos 3.53 147 P Pn 01 14 22.9 +0.5
PRK Paraskevi 3.58 75 P Pn 01 14 24.5 +1.5
SKO Skopje 3.60 355 *e*Pn **Pn 01 14 26.1 +2.9**
SKO Skopje 3.60 355 *i* Pn **Pb 01 14 28.4 -2.7**
BOZC Bozcaada 3.60 65 PN **Pn 01 14 23.9 +0.7**
KKB Krupnik 3.61 15 *i* P **Pb 01 14 29.4 -1.9**
GADA Gvkgeada 3.64 59 PN **Pn 01 14 24.7 +0.9**
URLA Izmir 3.75 89 PN **Pn 01 14 25.9 +0.5**
EZN Ezine 3.79 66 PN **Pn 01 14 26.7 +0.9**
PUK Puka 3.94 339 P Pn 01 14 30.1 +2.1
baz=340
PUK S **Sn 01 15 19.1 +4.7**
baz=340
IDI Anoyia 3.95 141 Pn **Pn 01 14 28.4 +0.2**
comp=E,3.2nm,0.3s,baz=331,slow=15,SNR=37
IDI Sn **Sn 01 15 16.3 +1.7**
comp=E,7.8nm,0.3s,baz=336,slow=20,SNR=5.4
IDI Anoyia 3.95 141 P Pn 01 14 28.8 +0.6
IDI Anoyia 3.95 141 P Pn 01 14 28.3 +0.1
IDI Anoyia 3.95 141 ⇓P **Pn 01 14 29.1 +1.0**
IDI Anoyia 3.95 141 PN **Pn 01 14 30.2 +2.0**
IDI Anoyia 3.95 141 Pn **Pn 01 14 28.1 -0.1**
RDO Rodhopi 3.98 45 PN **Pn 01 14 29.9 +1.5**
GVDS Gavdos 3.98 152 PN **Pn 01 14 31.2 +2.7**
RZN Rozhen 3.98 33 *i* P **Pn 01 14 30.3 +1.7**
GVD Gavdhos 3.98 152 PN **Pn 01 14 31.2 +2.7**
DKL Dikili 4.03 79 PN **Pn 01 14 29.9 +0.7**
HRKL Herakleio 4.04 138 PN **Pn 01 14 31.2 +1.9**
CGL1 Ceglie Messapi 4.05 305 *e*Pn **Pn 01 14 31.4 +1.9**
ULC Ulcinj 4.08 332 ⇓*i*Pn **Pn 01 14 31.6 +1.6**
ULC *i* Sn **Sn 01 15 20.4 +2.5**
ENEZ Enez 4.09 54 PN **Pn 01 14 30.9 +0.9**
BLCB Balcova 4.10 88 P Pn 01 14 30.9 +0.7
BLCB Balcova 4.10 88 PN **Pn 01 14 30.9 +0.7**
TAR1 Taranto 4.11 303 *e*Pn **Pn 01 14 31.0 +0.7**
ALN Alexandroupoli 4.11 51 PN **Pn 01 14 31.7 +1.4**
ALN Alexandroupoli 4.11 51 P Pn 01 14 29.0 -1.3
ALN Alexandroupoli 4.11 51 Pn **Pn 01 14 29.0 -1.3**
GELI Tayfur-Gelibol 4.13 59 PN **Pn 01 14 31.7 +1.2**
BOSS Bosilegrad 4.14 7 *e*Pn **Pn 01 14 33.5 +2.8**
KDZ Kurdzhali 4.27 39 PN **Pn 01 14 33.3 +0.8**
KDZ Kurdzhali 4.27 39 *i* P **Pn 01 14 34.6 +2.1**
DRME Dracevica, Mon 4.30 333 ⇓*i*Pn **Pn 01 14 34.7 +1.8**
DRME *i* Sn **Sn 01 15 25.6 +2.4**
DRME Dracevica, Mon 4.30 333 *e*Pn **Pn 01 14 34.6 +1.7**
LPK Lapseki 4.31 61 PN **Pn 01 14 34.0 +1.0**
PLD Plovdiv 4.32 30 PN **Pn 01 14 35.4 +2.2**
PLD Plovdiv 4.32 30 *i* P **Pn 01 14 37.5 +4.3**
GCAM G?zelcaml? 4.33 97 PN **Pn 01 14 34.1 +0.9**
VTS Vitosha 4.36 14 *i* P **Pn 01 14 35.9 +2.0**
KOSK Kos Island 4.41 110 PN **Pn 01 14 35.7 +1.3**
BARS Barje 4.43 360 *e*Pn **Pn 01 14 36.9 +2.2**
PVY Plav 4.44 342 ⇑*i*Pn **Pn 01 14 36.4 +1.5**
PVY *i* Sn **Sn 01 15 28.6 +1.8**
PDG Podgorica 4.49 335 ⇑P **Pn 01 14 38.1 +2.6**
PDG Podgorica 4.49 335 *e*Pn **Pn 01 14 37.4 +1.9**
PDG Podgorica 4.49 335 Pn **Pn 01 14 36.8 +1.3**
TTG Podgorica 4.49 335 ⇑*i*Pn **Pn 01 14 37.1 +1.6**
TTG *i* Sn **Sn 01 15 30.3 +2.5**
BUM Brajici-Budva 4.51 331 ⇑*i*Pn **Pn 01 14 36.8 +1.0**
BUM *i* Sn **Sn 01 15 30.5 +2.2**
BODT Bodrum 4.55 105 PN **Pn 01 14 37.5 +1.2**
MATE Matera 4.56 301 ⇑P **Pn 01 14 37.3 +0.9**
UKOP Uzunkopru-Edir 4.61 52 PN **Pn 01 14 38.5 +1.4**
DIM Dimitrovgrad 4.63 37 *i* P Pn 01 14 42.3 +4.8
CEL Celeste 4.66 270 Pn **Pn 01 14 38.9 +0.9**
BAI Bari 4.68 307 *e*Pn **Pn 01 14 39.0 +0.9**
KRBG Karabiga-Canak 4.69 63 PN **Pn 01 14 39.4 +1.1**
CEME Cevo 4.71 333 ⇑*i*Pn **Pn 01 14 39.6 +1.0**
CEME *i* Sn **Sn 01 15 35.4 +2.0**
IVA Berane 4.72 342 ⇓*i*Pn **Pn 01 14 40.5 +1.8**
IVA *i* Sn **Sn 01 15 35.7 +2.1**
HCY Herceg Novi 4.79 329 ⇑*i*Pn **Pn 01 14 40.7 +1.1**
HCY *i* Sn **Sn 01 15 37.0 +1.8**
HCY Herceg Novi 4.79 329 *e*Pn **Pn 01 14 40.0 +0.4**
KOME Kolasin 4.79 339 ⇑*i*Pn **Pn 01 14 41.4 +1.6**
KOME *i* Sn **Sn 01 15 38.0 +2.5**
AYDB Zeytinkoy-Aydi 4.80 93 PN **Pn 01 14 40.9 +1.0**
MAR6 Marsite Statio 4.80 59 PN **Pn 01 14 41.2 +1.4**
ZKR Zakros 4.81 131 PN **Pn 01 14 42.2 +2.3**
MLSB Milas 4.84 101 PN **Pn 01 14 41.5 +1.2**
MAR3 Marsite Statio 4.84 59 PN **Pn 01 14 41.7 +1.4**
SELS Selova 4.86 354 *e*Pn **Pn 01 14 42.8 +2.2**
MAR4 Marsite Statio 4.87 59 PN **Pn 01 14 42.2 +1.5**
BALB Balikesir 4.88 73 PN **Pn 01 14 41.7 +0.8**
NKME Niksic 4.89 334 ⇑*i*Pn **Pn 01 14 42.8 +1.7**
NKME *i* Sn **Sn 01 15 39.4 +1.6**
NKY Niksic 4.92 335 ⇑*i*Pn **Pn 01 14 43.3 +1.8**
NKY *i* Sn **Sn 01 15 40.7 +2.1**
ZAPS Zavoj 4.92 7 *e*Pn **Pn 01 14 44.6 +3.1**
MRMT Marmara Adasi 4.99 62 PN **Pn 01 14 43.8 +1.4**
MAR9 Marsite Statio 5.07 62 PN **Pn 01 14 44.9 +1.5**
SJES Sjenica 5.07 345 *e*Pn **Pn 01 14 45.3 +1.7**
EDC Edincik 5.08 65 PN **Pn 01 14 44.9 +1.4**
EDRB Edirne 5.12 46 PN **Pn 01 14 46.0 +1.9**
KARP Karpathos 5.13 122 PN **Pn 01 14 46.1 +1.8**
KARP Karpathos 5.13 122 Pn **Pn 01 14 44.1 -0.2**
BRY Bratogost 5.16 332 ⇑*i*Pn **Pn 01 14 45.5 +0.7**
BRY *i* Sn **Sn 01 15 46.0 +1.5**
BRY Bratogost 5.16 332 *e*Pn **Pn 01 14 45.6 +0.7**
BOVS Bovan 5.25 359 *e*Pn **Pn 01 14 48.1 +2.2**
YER Yerkesik 5.27 102 PN **Pn 01 14 47.7 +1.4**
PLE Pljevlja 5.27 340 ⇑*i*Pn **Pn 01 14 47.6 +1.2**
PLE *i* Sn **Sn 01 15 49.0 +1.7**
UPM Unac-Piva 5.30 336 ⇑*i*Pn **Pn 01 14 48.4 +1.6**
UPM *i* Sn **Sn 01 15 49.8 +1.8**
UPM Unac-Piva 5.30 336 *e*Pn **Pn 01 14 49.1 +2.3**
TURN Turunc 5.35 106 PN **Pn 01 14 48.9 +1.6**
KULA Kula-Manisa 5.37 86 PN **Pn 01 14 48.8 +1.1**
ZAGS Zajecar 5.43 3 *e*Pn **Pn 01 14 51.2 +2.8**
RUDO Rudo 5.55 341 *e*Pn **Pn 01 14 51.4 +1.4**
GRUS Gruza 5.56 352 *e*Pn **Pn 01 14 52.8 +2.6**
SIMA Simav-Kutahya 5.64 81 PN **Pn 01 14 52.9 +1.5**
SGRT San Giovanni R 5.75 308 Pn **Pn 01 14 52.5 -0.4**
BBLS Lazići 5.77 342 *e*Pn **Pn 01 14 55.0 +1.8**
BBLS Lazići 5.77 342 *e*Pn **Pn 01 14 54.2 +1.0**
DIVS Divibare 5.87 347 *e*Pn **Pn 01 14 56.5 +1.9**
DIVS Divibare 5.87 347 *e*Pn **Pn 01 14 56.2 +1.6**
DIVS Divibare 5.87 347 Pn 01 14 55.5 +0.9
VAE Valguarnera 5.93 264 Pn **Pn 01 14 58.4 +3.1**
comp=E,0.4nm,0.3s,baz=169,slow=16,SNR=1.3
VAE Sn **Sn 01 16 05.3 +1.9**
comp=E,1.6nm,0.3s,baz=357,slow=18,SNR=1.5
TRUS Trudelj 5.93 350 *e*Pn **Pn 01 14 58.2 +2.9**
RAFF Raffo Rosso 6.02 261 Pn 01 14 57.9 +1.3
PAOL Paolisi 6.19 298 Pn 01 15 00.2 +1.3
MDVR Moldovita 6.39 359 ⇑P **Pn 01 15 05.2 +3.5**
TEKS Tekeris 6.40 345 *e*Pn **Pn 01 15 04.4 +2.7**
HERR Herculane 6.51 4 ⇑P **Pn 01 15 06.5 +3.3**
AKAS Kas 6.56 107 Pn **Pn 01 15 02.3 -1.8**
ELL Elmali 6.63 102 P Pn 01 15 02.0 -3.0
ELL Elmali 6.63 102 Pn **Pn 01 15 01.9 -3.0**
CORL Corleone 6.73 268 Pn 01 15 07.8 +1.4
CLTB Caltabellotta 6.85 266 Pn 01 15 10.6 +2.6
FRGS Fruska Gora 6.93 348 *e*Pn **Pn 01 15 10.6 +1.5**
FRGS Fruska Gora 6.93 348 *e*Pn **Pn 01 15 10.6 +1.5**
INTR Introdacqua 7.06 303 Pn **Pn 01 15 12.7 +1.8**
BOLV Bolvadin 7.16 85 Pn **Pn 01 15 09.9 -2.4**
BZS Buzias 7.23 359 *e*Pn **Pn 01 15 15.5 +2.4**

BZS	Buzias	7.23	359	⇑P	Pn	01 15 16.9	+3.8
BLY	Banja Luka	7.25	333	*e*Pn	Pn	01 15 12.6	-0.7
ARR	Arges	7.29	16	⇑P	Pn	01 15 17.4	+3.5
VOIR		7.45	18	⇑P	Pn	01 15 19.5	+3.3
MDUB	Mudurnu	7.55	71	Pn	Pn	01 15 17.7	+0.1
MLR	Muntele Rosu	7.74	22	Pn	Pn	01 15 22.2	+2.0
	comp=E,0.5nm,0.3s,baz=226,slow=6.5,SNR=9.6						
MLR				LR	LR	01 18 30.8	
	comp=E,564nm,21.2s,baz=246,slow=39						
MLR	Muntele Rosu	7.74	22	⇑P	Pn	01 15 23.8	+3.6
MLR	Muntele Rosu	7.74	22		Pn	01 15 21.4	+1.2
NEHR	Nehoiu	7.79	24	⇑P	Pn	01 15 25.3	+4.5
BISRR	Bisoca	8.03	25	⇑P	Pn	01 15 28.0	+3.8
OZUR		8.25	20	⇑P	Pn	01 15 31.2	+4.1
CFR	Carcaliu	8.26	33	⇑P	Pn	01 15 30.0	+2.8
PLOR	Plostina	8.28	24	⇑P	Pn	01 15 31.4	+3.9
VRI	Vrincioaia	8.32	24	⇑P	Pn	01 15 31.4	+3.4
CJR	Cluj-Napoca	8.43	8	⇑P	Pn	01 15 32.6	+3.1
BOJS	Bojanci	8.63	328	*i* Pn	Pn	01 15 32.5	+0.1
BOJS				*i* Sn	Sn	01 17 06.2	-3.6
	comp=Z,615nm,5.9s						
CRES	Cresnjev	8.81	330	*e*Pn	Pn	01 15 33.6	-1.2
BEHE	Becsehely	8.90	337	*e*Pn	Pn	01 15 41.1	+5.1
CEY	Cerknica	9.18	326	*e*Pn	Pn	01 15 39.5	-0.3
BR131	Keskin Array S	9.29	78	P	Pn	01 15 39.2	-2.3
BR131	Keskin Array S	9.29	78		Pn	01 15 39.2	-2.3
BRTR	Keskin Array B	9.29	78	Pn	Pn	01 15 44.1	+2.6
	comp=Z,0.8nm,0.3s,baz=261,slow=12,SNR=21						
BRTR				LR	LR	01 19 32.6	
	comp=Z,97nm,19.4s,baz=256,slow=39						
LJU	Ljubljana	9.37	327	*e*Pn	Pn	01 15 42.3	-0.2
OSSC	Osservatorio P	9.50	306		Pn	01 15 46.3	+2.0
BURAR	Bucovina Array	9.55	14	⇑P	Pn	01 15 48.7	+3.6
BURAR	Bucovina Array	9.55	14	Pn	Pn	01 15 45.6	+0.5
PSZ	Piszkesteto	9.63	352	⇑P	Pn	01 15 48.9	+2.8
PSZ	Piszkesteto	9.63	352	P	Pn	01 15 45.4	-0.7
PSZ	Piszkesteto	9.63	352	Pn	Pn	01 15 45.4	-0.7
SOKA	Soboth	9.68	331	*e*Pn	Pn	01 15 47.2	+0.4
	comp=Z,2.5nm,0.5s,SNR=5.6						
SOKA				*e*Sn	Sn	01 17 31.5	-4.2
	comp=Z,3.9nm,0.6s						
OBKA	Obir	9.73	329	*e*Pn	Pn	01 15 48.2	+0.7
	comp=Z,2.1nm,0.5s,SNR=7.0						
OBKA				*e*Sn	Sn	01 17 34.4	-2.5
	comp=Z,12nm,0.6s						
ARSA	Arzberg	9.99	334	*e*Pn	Pn	01 15 49.6	-1.4
	comp=Z,1.3nm,0.4s						
PRED	Cave del Predi	10.10	326		Pn	01 15 53.1	+0.5
KEST	Kesra	10.32	259	Pn	Pn	01 15 58.1	+2.5
	comp=Z,0.1nm,0.3s,baz=3.5,slow=22,SNR=2.7						
KEST				LR	LR	01 20 33.2	
	comp=Z,121nm,18.4s,baz=344,slow=41						
VYHS	Vyhne	10.34	349	*e*P	Pn	01 15 55.6	-0.1
VYHS	Vyhne	10.34	349	*e*PN	Pn	01 15 55.6	-0.1
ZOU	Zoufplan	10.45	324		Pn	01 15 58.4	+0.9
CONA	Conrad Observa	10.48	337	*e*Pn	Pn	01 15 58.8	+1.1
	comp=Z,0.5nm,0.4s						
CIMO	Cimolais	10.53	322	Pn	Pn	01 15 57.8	-0.5
KOLS	Kolonicke sedl	10.55	2	*e*P	Pn	01 16 07.1	+8.5
KOLS	Kolonicke sedl	10.55	2	*e*PN	Pn	01 16 07.1	+8.5
PRMA	PARMA	10.72	310	Pn	Pn	01 16 00.2	-0.7
CTI	Castel Tesino	10.74	319	P	Pn	01 16 00.7	-0.7
CTI	Castel Tesino	10.74	319		Pn	01 16 00.7	-0.7
ABTA	Abfaltersbach	10.81	324	*e*Pn	Pn	01 16 02.5	+0.2
	comp=Z,3.4nm,0.6s,SNR=9.7						
ABTA				*e*Sn	Sn	01 17 57.0	-6.3
	comp=Z,7.8nm,0.5s						
MOA	Molln	10.95	332	*e*Pn	Pn	01 16 04.4	+0.3
	comp=Z,0.6nm,0.2s,SNR=4.3						
MOA				*e*Sn	Sn	01 18 03.4	-3.3
	comp=Z,2.8nm,0.5s						
WTTA	Wattenberg	11.60	323	*e*Pn	Pn	01 16 13.4	+0.3
	comp=Z,3.1nm,0.5s						
WTTA				*e*Sn	Sn	01 18 17.8	-4.9
	comp=Z,10nm,0.6s						
WATA	Walderalm	11.68	323	*e*Pn	Pn	01 16 14.3	+0.2
	comp=Z,4.1nm,0.5s,SNR=5.5						
WATA				*e*Sn	Sn	01 18 21.7	-3.0
	comp=Z,24nm,0.9s						
SQTA	Sankt Quirin	11.77	322	*e*Pn	Pn	01 16 13.2	-2.2
	comp=Z,2.4nm,0.4s						
SQTA				*e*Sn	Sn	01 18 22.5	-4.4
	comp=Z,5.8nm,0.6s						
TREC	Trest	11.82	339	AMS	AMS	01 21 10.0	
	comp=Z,800nm,13.9s						
FUORN	Ofenpass-Fuorn	11.84	318	Pn	Pn	01 16 16.6	0.0
FETA	Feichten	11.87	320	*e*Pn	Pn	01 16 18.2	+1.4
	comp=Z,2.0nm,0.5s						
FETA				*e*Sn	Sn	01 18 28.3	-1.1
	comp=Z,3.8nm,0.7s						
MOTA	Moosalm	11.91	322	*e*Pn	Pn	01 16 15.4	-1.9
	comp=Z,5.0nm,0.6s,SNR=13						
MOTA				Sn	Sn	01 18 26.8	-3.5
	comp=Z,11nm,0.7s						
GERES	GERESS Array B	11.99	333	Pn	Pn	01 16 19.6	+1.1
	comp=Z,0.2nm,0.3s,baz=156,slow=14,SNR=10						
GERES				Sn	Sn	01 18 31.1	-1.2
	comp=Z,0.3nm,0.3s,baz=156,slow=24,SNR=11						
GERES				LR	LR	01 21 55.8	
	comp=Z,1μm,19.9s,baz=149,slow=42						
DAVOX	Davos/Dischmat	12.15	317	Pn	Pn	01 16 24.1	+3.5
	comp=Z,0.5nm,0.3s,baz=125,slow=15,SNR=7.2						
DAVOX				Sn	Sn	01 18 29.9	-6.4
	comp=Z,0.1nm,0.3s,baz=150,slow=20,SNR=2.6						
DAVOX				LR	LR	01 22 17.7	
	comp=Z,105nm,18.4s,baz=136,slow=44						
RETA	Reutte	12.17	322	*e*Pn	Pn	01 16 18.2	-2.6
	comp=Z,0.6nm,0.2s						
RETA				*e*Sn	Sn	01 18 34.3	-2.3
	comp=Z,7.9nm,0.7s						
KRLC	Kraliky	12.23	344	AMS	AMS	01 22 30.0	
	comp=Z,500nm,16.4s						
TUE	Stuetta	12.25	315		Pn	01 16 22.1	+0.1
MMAI	Mount Meron Ar	12.27	112	Pn	Pn	01 16 22.0	-0.2
	comp=Z,0.8nm,0.3s,baz=298,slow=11,SNR=7.1						
MMAI				LR	LR	01 22 04.2	
	comp=Z,140nm,20.3s,baz=260,slow=42						
KHC	Kasperske Hory	12.28	334	*e*PN	Pn	01 16 23.6	+1.3
KHC				*ex*	x	01 16 30.0	
KHC				*e*SN	Sn	01 18 37.6	-1.5
KHC				AMS	AMS	01 21 30.0	
	comp=Z,1μm,16.2s						
KHC	Kasperske Hory	12.28	334	*e*P	Pn	01 16 23.6	+1.3
KHC				*e*		01 18 37.6	
KHC				MLR	MLR		
	comp=Z,1μm,16.2s						
DAVA	Damuels	12.48	319	*e*Pn	Pn	01 16 26.7	+1.6
	comp=Z,2.8nm,0.7s						
DAVA				*e*Sn	Sn	01 18 40.6	-3.6
	comp=Z,7.5nm,0.6s						
GOPC	GO Pecny, Ondr	12.58	339	AMS	AMS	01 21 40.0	
	comp=Z,700nm,12.5s						
DPC	Dobruska-Polom	12.59	344	AMS	AMS	01 22 20.0	
	comp=Z,500nm,16.7s						
PRU	Pruhonice	12.71	338	AMS	AMS	01 21 40.0	
	comp=Z,700nm,13.7s						
OSTC	Ostas	12.81	344	AMS	AMS	01 22 30.0	
	comp=Z,600nm,23.0s						
UPC	Upice	12.81	343	AMS	AMS	01 22 30.0	
	comp=Z,600nm,12.4s						
PRA	Prague	12.82	338	AMS	AMS	01 21 50.0	
	comp=Z,400nm,14.0s						
CHVC	Chvalec	12.87	343	AMS	AMS	01 22 30.0	
	comp=Z,500nm,16.0s						
PVCC	Panska Ves	13.19	339	AMS	AMS	01 22 30.0	
	comp=Z,500nm,11.4s						
SENIN	Lac Senin/Sane	13.36	311		Pn	01 16 38.6	+1.4
AKASG	Malin Array Be	13.39	21	Pn	Pn	01 16 38.1	+0.7
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=2.0						
AKASG				LR	LR	01 22 23.5	
	comp=Z,266nm,18.8s,baz=190,slow=40						
NKC	Novy Kostel	13.60	334	AMS	AMS	01 22 20.0	
	comp=Z,1μm,14.0s						
ASF	Jabal al Asfar	13.78	112	Pn	Pn	01 16 45.6	+2.6
	comp=Z,0.1nm,0.3s,baz=252,slow=14,SNR=2.1						
STU	Stuttgart	13.82	323	P	Pn	01 16 42.7	-0.6
STU	Stuttgart	13.82	323	Pn	Pn	01 16 42.7	-0.6
EIL	Elat	13.92	125	Pn	Pn	01 16 48.6	+3.9
	comp=Z,0.2nm,0.3s,baz=344,slow=22,SNR=3.1						
EIL				Sn	Sn	01 19 12.1	-7.3
	comp=Z,0.2nm,0.3s,baz=230,slow=16,SNR=1.9						
CLL	Collm	14.34	337	*es*PP		01 17 00.0	
CLL				*i*		01 17 05.6	
	comp=Z,5.0nm,1.0s						
CLL	Collm	14.34	337	P	Pn	01 16 51.1	+0.7
CLL	Collm	14.34	337	Pn	Pn	01 16 51.1	+0.7
SUW	Suwalki	15.66	3	P	Pn	01 17 06.2	-1.8
SUW				pmax	pmax		
	comp=Z,50nm,1.0s						
SUW	Suwalki	15.66	3	Pn	Pn	01 17 06.2	-1.8
KLNR	Kaliningrad	16.26	357	*i* P	Pn	01 17 11.3	-4.5
VSR	Storozhevoye	17.72	38	*e*P	P	01 17 35.2	+0.2
VSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LPSR	Galich'ya Gora	18.53	34	*e*P	Pn	01 17 45.7	+1.7
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VRH	Novokhopyorsk	18.99	41	*e*P	Pn	01 17 51.7	+2.0
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
OBN	Obninsk	19.48	26	LR	LR	01 25 26.6	
	comp=Z,49nm,21.0s,baz=186,slow=37						
OBN	Obninsk	19.48	26	*e*P	P	01 17 53.9	-0.3
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ESBB	Sonseca Array	20.06	282	P	P	01 18 01.0	+0.2
ESDC	Sonseca Array	20.06	282	P	P	01 18 01.5	+0.7
	comp=Z,7.3nm,0.8s,baz=76,slow=11,SNR=93						
ESDC				LR	LR	01 26 14.6	
	comp=Z,44nm,18.8s,baz=165,slow=38						
ESDC	Sonseca Array	20.06	282	P	P	01 18 00.6	-0.2
MOS	Moscow	20.34	26	*e*P	P	01 18 02.8	-0.9
VSU	Vasula	20.34	7	*i* P	P	01 18 03.4	-0.3
VSU				pmax	pmax		
	comp=Z,45nm,0.6s						
PAB	San Pablo	20.36	281	P	P	01 18 05.2	+1.0
PAB				pmax	pmax		
	comp=Z,24nm,1.6s						
PAB	San Pablo	20.36	281	P	Pn	01 18 05.2	-1.0
PAB				IAmb	IAmb	01 18 09.8	
	comp=Z,24nm,1.6s						
TAM	Tamanrasset	20.89	227	P	P	01 18 09.3	-0.7
TAM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TAM	Tamanrasset	20.89	227	P	P	01 18 09.3	-0.7
MDT	Midelt	22.16	264	P	P	01 18 23.2	-0.4
	comp=Z,2.0nm,0.7s,baz=92,slow=14,SNR=8.4						
MVO	Moncorvo	22.30	286	*e*P	P	01 18 26.0	+0.9
HFS	Hagfors	22.37	349	P	P	01 18 25.4	-0.1
	comp=Z,2.9nm,0.6s,baz=159,slow=9.5,SNR=17						
HFS				LR	LR	01 27 43.7	
	comp=Z,204nm,21.8s,baz=176,slow=38						
PMRV	Marv??o	22.72	282	*e*P	P	01 18 29.3	-0.1
PCBR	Castelo Branco	22.74	283	*e*P	P	01 18 30.5	+0.9
PVIS	Viseu	22.98	285	*e*P	P	01 18 34.3	+2.1
PGAV	Gavieira, Arco	23.21	288	*e*P	P	01 18 35.0	+0.4
FINES	FINESS Array B	23.24	5	P	P	01 18 33.1	-1.4
	comp=Z,2.4nm,0.6s,baz=155,slow=10,SNR=13						
FINES				PcP	PcP	01 22 21.6	-0.3
	comp=Z,0.8nm,0.6s,baz=205,slow=2.9,SNR=4.5						
FINES				LR	LR	01 28 39.6	
	comp=Z,257nm,18.9s,baz=200,slow=39						
FINES	FINESS Array B	23.24	5	*i* P	P	01 18 33.9	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NC602	NORSAR Array S	23.29	347	P	P	01 18 34.9	-0.2
NC602				IAmb	IAmb	01 18 36.9	
	comp=Z,13nm,0.8s						
PVAQ	Vaqueiros	23.29	277	*e*P	P	01 18 35.9	+0.6
EVO	Evora	23.32	280	*e*P	P	01 18 37.5	+1.9
PBDV	Barranco-do-Ve	23.49	277	*e*P	P	01 18 40.3	+2.9
PCAS	Casmilo, Conde	23.50	284	*e*P	P	01 18 39.8	+2.4
NC405	NORSAR Array S	23.61	348	P	P	01 18 38.3	0.0
NB201	NORSAR Array S	23.63	347	P	P	01 18 38.4	-0.1
NB2	NORSAR Subarra	23.63	347	P	P	01 18 38.2	-0.4
	comp=Z,28nm,1.7s,baz=152,slow=11						
NOA	NORSAR Array B	23.63	347	P	P	01 18 37.4	-1.2
	comp=Z,2.9nm,0.7s,baz=167,slow=10,SNR=13						
NOA				LR	LR	01 30 04.7	
	comp=Z,122nm,20.8s,baz=160,slow=42						
EKA	Eskdalemuir Ar	23.86	323	P	P	01 18 40.4	-0.4
	comp=Z,6.5nm,0.7s,baz=126,slow=9.6,SNR=20						
KLMR	Klimovskoe	25.08	21	*e*P	P	01 18 51.5	-0.3
KLMR				pmax	pmax		
	comp=Z,19nm,1.2s						
KLMR	Klimovskoe	25.08	21	*e*P	P	01 18 51.5	-0.3
KLMR				AMP		01 19 00.9	
	comp=Z,19nm,1.2s						
KIRV	Kirov	26.93	32	LR	LR	01 30 30.0	
	comp=Z,127nm,18.6s,baz=242,slow=38						
AKTO	Aktyubinsk	28.24	53	P	P	01 19 21.6	+1.1
	comp=Z,0.8nm,0.5s,baz=239,slow=12,SNR=4.0						
GEYT	Allbeck	28.43	79	P	P	01 19 21.2	-1.2
ARU	Arti	30.23	41	LR	LR	01 32 08.5	
	comp=Z,104nm,18.6s,baz=258,slow=37						
ARU	Arti	30.23	41c	*i* P	P	01 19 37.1	-0.9
ARU				S	S	01 24 36.6	-0.7
ARU				pmax	pmax		
	comp=Z,5.0nm,1.4s						
TOA0	Torodi Ar. Sit	30.84	221	P	P	01 19 44.6	+0.7
TOA0				IAmb	IAmb	01 19 47.5	
	comp=Z,4.0nm,0.8s						
TORD	Torodi Ar. Bea	30.84	221	P	P	01 19 44.3	+0.4
	comp=Z,3.6nm,0.7s,baz=30,slow=9.1,SNR=6.5						
TORD				LR	LR	01 32 27.3	
	comp=Z,55nm,18.5s,baz=45,slow=37						
SVE	Sverdlovsk	31.44	41	*e*P	P	01 19 49.5	+0.8
SVE				pmax	pmax		
	comp=Z,11nm,1.4s						
BRVK	Borovoye	36.14	50	*i* P	P	01 20 29.8	+0.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KK31	Karatay Array	36.77	67	P	P	01 20 33.7	-1.5
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KK31	Karatay Array	36.77	67	P	P	01 20 33.7	-1.5
KK31				IAmb	IAmb	01 20 43.5	
	comp=Z,5.4nm,0.7s						
KKAR	Karatay Array	36.77	67	P	P	01 20 35.3	+0.1
KKAR	Karatay Array	36.77	67		P	01 20 35.3	+0.1
AAK	Ala-Archa	39.74	67	*i* P	P	01 21 00.8	+0.5
AAK				pmax	pmax		
	comp=Z,15nm,1.0s						
DBIC	Dimbokro	39.75	224	P	P	01 21 00.7	+0.3
	comp=Z,3.8nm,0.8s,baz=6.7,slow=11,SNR=5.4						
DBIC				LR	LR	01 38 36.5	
	comp=Z,37nm,20.0s,baz=19,slow=38						
FRU1	Bishkek	39.80	66	P	P	01 21 00.7	0.0
FRU1				pmax	pmax		
	comp=Z,23nm,0.3s						
FRU1	Bishkek	39.80	66	P	P	01 21 00.7	0.0
TIC	Toumodi	39.86	224	*e*P	P	01 21 02.7	+1.3
KIC	Kosan Boka	39.94	224	*e*P	P	01 21 04.2	+2.2
	comp=Z,4.3nm,0.5s						
LIC	Lamto	40.21	224	*e*P	P	01 21 04.7	+0.4
	comp=Z,22nm,0.9s						
KURK	Kurchatov	41.33	54	P	P	01 21 12.8	-0.4
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	Kurchatov	41.33	54	P	P	01 21 12.8	-0.4
KURK				IAmb	IAmb	01 21 15.1	
	comp=Z,7.0nm,0.9s						
MAKZ	Makanchi	44.11	59	P	P	01 21 35.8	0.0
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	Makanchi	44.11	59	P	P	01 21 35.8	0.0
MK31	Makanchi Array	44.32	59	IAmb	IAmb	01 21 38.8	
	comp=Z,5.1nm,0.8s						
MKAR	Makanchi Array	44.32	59	P	P	01 21 38.0	+0.5
	comp=Z,5.0nm,0.6s,baz=279,slow=7.0,SNR=42						
MKAR				PcP	PcP	01 23 21.7	+0.1
	comp=Z,0.6nm,0.7s,baz=278,slow=2.0,SNR=3.8						
MKAR				LR	LR	01 43 14.6	
	comp=Z,50nm,18.1s,baz=292,slow=40						
MKAR	Makanchi Array	44.32	59	P	P	01 21 37.6	+0.1
MKAR						01 23 21.7	
MKAR	Makanchi Array	44.32	59	P	P	01 21 37.6	+0.1
ZAA0	Zalesovo Array	44.79	48	P	P	01 21 40.9	-0.2
ZAA0				IAmb	IAmb	01 21 42.1	
	comp=Z,8.5nm,1.1s						
ZALV	Zalesovo Beam	44.79	48	P	P	01 21 41.4	+0.3
	comp=Z,3.8nm,0.6s,baz=278,slow=8.7,SNR=14						
ZALV	Zalesovo Beam	44.79	48	P	P	01 21 41.1	0.0
NRIK	Noril'sk	46.15	27	P	P	01 21 52.5	+0.8
	comp=Z,1.8nm,0.5s,baz=197,slow=6.4,SNR=2.2						
NRIK				LR	LR	01 42 42.2	
	comp=Z,128nm,20.7s,baz=210,slow=38						
DGZ	Jazzator, Alta	47.08	54	*i* P	P	01 21 59.5	+0.1
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ	Urumqi	48.76	61	*e*P	P	01 22 13.5	+1.0
SCHQ	Schefferville	59.00	318	LR	LR	01 50 05.7	
	comp=Z,48nm,18.2s,baz=86,slow=37						
SONM	Songino Array	59.53	51	P	P	01 23 31.5	+0.4
	comp=Z,1.9nm,0.8s,baz=292,slow=7.8,SNR=5.5						
SONM	Songino Array	59.53	51	P	P	01 23 30.3	-0.7
HHC	Hu-ho-hao-te	66.07	56	*e*P	P	01 24 14.8	+0.1
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,7.1s						
BOSA	Boshof	66.73	177	P	P	01 24 21.4	+2.6
	comp=Z,1.3nm,0.6s,baz=347,slow=7.4,SNR=5.7						
CMAR	Chiang Mai Arr	68.85	83	*i* P	P	01 24 33.5	+1.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SEY	Seymchan	71.57	21	LR	LR	01 59 51.4	
	comp=Z,86nm,19.0s,baz=324,slow=39						
INK	Inuvik	72.03	351	LR	LR	01 59 12.0	
	comp=Z,41nm,18.1s,baz=296,slow=38						
YKA	Yellowknife Ar	73.54	341	LR	LR	01 59 11.6	
	comp=Z,48nm,18.0s,baz=0.0,slow=37						
MA2	Magadan	73.69	24	LR	LR	02 02 15.0	
	comp=Z,42nm,18.3s,baz=301,slow=40						
ULM	Lac du Bonnet	76.14	324	P	P	01 25 15.9	+0.5
	comp=Z,2.6nm,0.6s,baz=81,slow=3.2,SNR=3.3						
ULM				LR	LR	01 59 18.0	
	comp=Z,54nm,18.4s,baz=14,slow=36						
ULM	Lac du Bonnet	76.14	324	IAmb	IAmb	01 25 23.7	
	comp=Z,31nm,1.9s						
USRK	Ussuriysk Ar.	76.42	44	P	P	01 25 16.7	-0.5
	comp=Z,0.6nm,0.7s,baz=306,slow=5.2,SNR=2.9						
ILAR	Eielson Array	76.80	355	P	P	01 25 19.2	+0.4
	comp=Z,0.5nm,0.6s,baz=350,slow=4.0,SNR=9.3						
BCAR	Beaver Creek A	78.04	352	P	P	01 25 27.0	+1.0
KSAR	Wonju Array Be	78.39	51	P	P	01 25 28.0	-0.2
KSAR	Wonju Array Be	78.39	51	P	P	01 25 28.0	-0.2
KSRS	Korea Array	78.40	51	P	P	01 25 28.1	-0.1
	comp=Z,1.5nm,0.8s,baz=300,slow=5.3,SNR=5.0						
PETK	Petropavlovsk-	81.19	25	LR	LR	02 05 57.9	
	comp=Z,67nm,19.3s,baz=290,slow=39						
MJAR	Matsushiro Arr	85.11	46	P	P	01 26 03.0	-0.7
	comp=Z,1.1nm,0.7s,baz=349,slow=4.2,SNR=4.0						
NEW	Newport	86.33	334	LR	LR	02 06 25.0	
	comp=Z,59nm,18.8s,baz=34,slow=37						
PDAR	Pinedale Array	87.95	326	P	P	01 26 17.9	+0.1
	comp=Z,0.4nm,0.3s,baz=39,slow=7.2,SNR=2.0						
PDAR				LR	LR	02 05 57.1	
	comp=Z,63nm,21.6s,baz=7.5,slow=36						
NVAR	Mina Array Bea	95.22	330	LR	LR	02 11 38.6	
	comp=Z,96nm,19.9s,baz=76,slow=37						
WRA	Warramunga Arr	119.52	93	PKP	PKPdf	01 32 17.3	-0.4
	comp=Z,0.3nm,0.8s,baz=332,slow=1.5,SNR=1.9						
ASAR	Alice Springs	121.18	97	PKP	PKPdf	01 32 20.1	-0.7
	comp=Z,0.4nm,0.7s,baz=326,slow=1.1,SNR=1.8						

OMAN ***21*** *01:17:07.9±2.7,28°.07N×56°.94E,h25km±132km,ml3.0/6,*
Error ellipse: s-maj=181.8km s-min=17.1km az=248.0
TEH ***21*** *01:17:09.1,27°.68N×57°.40E,h17km,ML3.0*
ISC 21 01:17:08.2±1.0,27°.66N±0°.04×57°.26E±0°.07,h10km,n16,
σ1§70/18,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.49	54	*e*Pg	Pg	01 17 17.1	-0.6
KHNJ				*e*Sg	Sg	01 17 23.1	-1.0
IBND	Bandar-abas	0.68	252	*e*Pg	Pn	01 17 24.9	+1.1
IBND				*e*		01 17 48.3	
GENO	Geno	1.00	255	*e*Pg	Pn	01 17 30.0	+1.5
BNDS	Bandar-Abbas	1.00	255	*e*Pg	Pn	01 17 30.1	+1.6
KBAM	BAM	1.81	35	*e*Pn	Pb	01 17 40.0	-1.4
KBAM				*e*		01 18 12.6	
BANOM	Banah	1.93	207	P	Pb	01 17 43.0	-0.5
BANOM	SNR=77			S	Sg	01 18 09.5	-0.9
NGRK	Negar Kerman	2.03	347	*e*Pn	Pb	01 17 44.3	-1.1
CHMN	Cheshme madani	2.21	6	*e*Pn	Pb	01 17 47.0	-1.4
CHMN				*e*		01 18 23.1	
KRBR	Kerman	2.35	349	*e*Pn	Pb	01 17 50.0	-0.9
TVBK	TV Kerman	2.36	349	*e*Pn	Pb	01 17 49.4	-1.6
TVBK				*e*		01 18 27.0	
MDH	Madha	2.51	200	P	Pn	01 17 50.2	+1.2
UOSS	Minazif	2.87	200	P	Pb	01 17 58.1	-1.3
HATD	Hatta, Dubai	3.00	200	P	Pb	01 18 00.4	-1.3
ASHO	Ashiyiah	3.16	200	P	Pn	01 18 00.7	+2.7
ASHO	SNR=8.1						
BSRN	Basiran	4.58	20	*e*Pn	Pn	01 18 21.0	+3.3
IKOO	Kooshah	4.98	17	*e*Pn	Pn	01 18 25.2	+1.9

NNC 21 01:18:01.1±3.7,37°.30N×71°.08E,h142km±82km,mb2.9,
mpv3.5,4C-1D,Error ellipse: s-maj=37.2km
**s-

IDI	**Anoyia**	**1.15**	**352**	Pg	**Pg**	**01 43 44.0**	**-1.9**
	comp=N,85nm,0.3s,baz=186,slow=10,SNR=578						
IDI				Lg	Lg	01 43 58.8	
	comp=N,106nm,0.3s,baz=156,slow=20,SNR=6.0						
IDI	**Anoyia**	**1.15**	**352**	P	**Pg**	**01 43 45.3**	**-0.6**
IDI				S	**Sg**	**01 43 59.0**	**-1.9**
IDI	**Anoyia**	**1.15**	**352**	P	**Pg**	**01 43 45.4**	**-0.6**
IDI				S	**Sg**	**01 43 58.7**	**-2.2**
IDI				AML	AML	01 44 06.7	
	comp=N,3180μm,0.6s						
IDI				AML	AML	01 44 13.3	
	comp=E,3160μm,0.7s						
IDI	**Anoyia**	**1.15**	**352**	PG	**Pg**	**01 43 45.0**	**-1.0**
IDI				SG	**Sg**	**01 43 58.7**	**-2.2**
IDI	**Anoyia**	**1.15**	**352**	Pn	**Pg**	**01 43 45.7**	**-0.3**
KSTL	**Kastelli Herak**	**1.16**	**359**	P	**Pg**	**01 43 44.9**	**-1.1**
KSTL				S	**Sg**	**01 44 00.6**	**-0.5**
HRKL	**Herakleio**	**1.17**	**1**	P	**Pb**	**01 43 46.5**	**+0.2**
HRKL	**Herakleio**	**1.17**	**1**	PG	**Pg**	**01 43 45.6**	**-0.6**
HRKL				SG	**Sg**	**01 43 59.7**	**-1.6**
NPS	**Neapolis**	**1.20**	**21**	P	**Pg**	**01 43 46.8**	**0.0**
NPS				S	**Sn**	**01 44 04.8**	**+1.1**
	comp=E,2μm,0.6s						
NPS	**Neapolis**	**1.20**	**21**	P	**Pg**	**01 43 46.8**	**0.0**
NPS				AML	AML	01 44 09.9	
	comp=E,4304μm,0.8s						
NPS				AML	AML	01 44 13.4	
	comp=N,3467μm,0.5s						
PRNS	**Prines Rethymn**	**1.31**	**339**	P	**Pn**	**01 43 48.3**	**-0.3**
PRNS				S	**Sn**	**01 44 06.6**	**+0.3**
STIA	**Sitia Lasithi**	**1.34**	**38**	P	**Pg**	**01 43 50.5**	**+0.9**
STIA				S	**Sn**	**01 44 08.0**	**+0.8**
ZKR	**Zakros**	**1.35**	**44**	P	**Pg**	**01 43 50.2**	**+0.6**
ZKR				S	**Sn**	**01 44 09.4**	**+2.1**
	comp=N,2μm,1.1s						
ZKR	**Zakros**	**1.35**	**44**	P	**Pg**	**01 43 50.3**	**+0.6**
ZKR				S	**Sn**	**01 44 08.9**	**+1.6**
ZKR				AML	AML	01 44 20.0	
	comp=E,4917μm,0.7s						
ZKR				AML	AML	01 44 22.3	
	comp=N,2118μm,1.0s						
ZKR	**Zakros**	**1.35**	**44**	PN	**Pg**	**01 43 50.3**	**+0.6**
ZKR				SN	**Sn**	**01 44 08.1**	**+0.8**
VAM	**Vamos**	**1.46**	**330**	P	**Pn**	**01 43 50.4**	**-0.2**
VAM	**Vamos**	**1.46**	**330**	P	**Pn**	**01 43 49.6**	**-0.9**
VAM				S	**Sn**	**01 44 08.7**	**-1.2**
VAM				AML	AML	01 44 24.1	
	comp=E,4889μm,0.5s						
VAM				AML	AML	01 44 25.0	
	comp=N,4856μm,0.6s						
KNDR	**Palaiochora Ch**	**1.58**	**314**	P	**Pb**	**01 43 53.6**	**+0.1**
IMMV	**Iera Moni Meta**	**1.60**	**326**	P	**Pn**	**01 43 52.8**	**+0.3**
IMMV				S	**Sn**	**01 44 12.2**	**-1.3**
	comp=N,2μm,0.9s						
IMMV	**Iera Moni Meta**	**1.60**	**326**	P	**Pn**	**01 43 52.8**	**+0.3**
IMMV				S	**Sn**	**01 44 11.3**	**-2.2**
IMMV				AML	AML	01 44 23.1	
	comp=N,4129μm,0.4s						
IMMV				AML	AML	01 44 39.9	
	comp=E,4537μm,1.3s						
CHAN	**Chania**	**1.62**	**328**	P	**Pn**	**01 43 53.5**	**+0.7**
RODP	**Rodopos**	**1.79**	**323**	P	**Pb**	**01 43 56.9**	**0.0**
KARP	**Karpathos**	**2.21**	**50**	P	**Pb**	**01 44 04.8**	**+0.6**
KARP				S	**Sb**	**01 44 32.6**	**+0.8**
	comp=E,755nm,0.9s						
KARP	**Karpathos**	**2.21**	**50**	P	**Pb**	**01 44 04.1**	**-0.1**
KARP				AML	AML	01 45 00.5	
	comp=N,1815μm,0.8s						
KARP				AML	AML	01 45 02.0	
	comp=E,1160μm,0.9s						
KARP	**Karpathos**	**2.21**	**50**	PN	**Pb**	**01 44 02.9**	**-1.3**
KARP	**Karpathos**	**2.21**	**50**	Pn	**Pb**	**01 44 03.7**	**-0.4**
THR9	**Santorini-Faro**	**2.22**	**6**	P	**Pn**	**01 44 01.6**	**+0.5**
THR6	**Thira Island,**	**2.22**	**7**	P	**Pb**	**01 44 03.4**	**-1.0**
THR6	**Thira Island,**	**2.22**	**7**	P	**Pn**	**01 44 02.0**	**+0.9**
SAP1	**Santorini-Akro**	**2.23**	**7**	P	**Pn**	**01 44 02.1**	**+1.0**
SANT	**Santorini**	**2.24**	**8**	P	**Pn**	**01 44 01.9**	**+0.4**
SANT	**Santorini**	**2.24**	**8**	P	**Pn**	**01 44 01.8**	**+0.3**
SANT				AML	AML	01 44 44.8	
	comp=N,634μm,0.6s						
SANT				AML	AML	01 44 44.8	
	comp=E,1835μm,0.7s						
SANT	**Santorini**	**2.24**	**8**	PN	**Pn**	**01 44 01.3**	**-0.2**
SANT	**Santorini**	**2.24**	**8**	Pn	**Pn**	**01 44 02.7**	**+1.2**
ANKY	**Antikythira Is**	**2.26**	**320**	P	**Pn**	**01 44 03.2**	**+1.6**
ANKY	**Antikythira Is**	**2.26**	**320**	P	**Pn**	**01 44 03.3**	**+1.6**
ANKY				AML	AML	01 44 51.3	
	comp=N,1168μm,0.7s						
ANKY				AML	AML	01 44 57.3	
	comp=E,1316μm,0.6s						
SNT5	**Nea Kammeni, S**	**2.27**	**6**	P	**Pn**	**01 44 02.6**	**+0.8**
THR3	**Thira Island,**	**2.28**	**6**	P	**Pn**	**01 44 02.6**	**+0.7**
ANAF	**Anafi Island**	**2.28**	**14**	P	**Pn**	**01 44 03.2**	**+1.3**
ANAF	**Anafi Island**	**2.28**	**14**	P	**Pn**	**01 44 03.1**	**+1.1**
THR5	**Thira Island,**	**2.28**	**5**	P	**Pn**	**01 44 03.2**	**+1.3**
THR5	**Thira Island,**	**2.28**	**5**	P	**Pn**	**01 44 03.0**	**+1.1**
SAP2K	**Karterados**	**2.28**	**7**	P	**Pn**	**01 44 02.2**	**+0.3**
THR8	**Santorini-Mono**	**2.28**	**8**	P	**Pn**	**01 44 02.8**	**+0.9**
THR8	**Santorini-Mono**	**2.28**	**8**	P	**Pn**	**01 44 02.6**	**+0.7**
SAP3	**Santorini-Thir**	**2.30**	**5**	P	**Pn**	**01 44 03.0**	**+0.8**
SAP3	**Santorini-Thir**	**2.30**	**5**	P	**Pn**	**01 44 03.0**	**+0.8**
THT2	**Imerovigli**	**2.30**	**7**	PN	**Pn**	**01 44 02.2**	**-0.1**
THR2	**Thira island,**	**2.32**	**7**	P	**Pn**	**01 44 02.5**	**+0.1**
CMBO	**Columbo, Santo**	**2.34**	**6**	P	**Pn**	**01 44 03.2**	**+0.5**
IOSP	**Ios island**	**2.58**	**4**	P	**Pn**	**01 44 06.7**	**+0.6**
IOSP	**Ios island**	**2.58**	**4**	P	**Pn**	**01 44 06.9**	**+0.9**
MHLO	**Agia Marina, M**	**2.60**	**348**	P	**Pn**	**01 44 06.9**	**+0.5**
MHLO	**Agia Marina, M**	**2.60**	**348**	P	**Pn**	**01 44 06.8**	**+0.5**
MHLA	**Plaka, Milos I**	**2.65**	**348**	P	**Pn**	**01 44 07.7**	**+0.6**
KTHA	**Kythira Island**	**2.68**	**322**	P	**Pn**	**01 44 09.2**	**+1.7**
KTHA	**Kythira Island**	**2.68**	**322**	P	**Pn**	**01 44 08.9**	**+1.4**
KTHA				AML	AML	01 45 05.7	
	comp=N,636μm,0.9s						
KTHA				AML	AML	01 45 15.0	
	comp=E,1105μm,1.5s						
AMGA	**Amorgos Island**	**2.76**	**14**	P	**Pn**	**01 44 09.2**	**+0.6**
AMGA	**Amorgos Island**	**2.76**	**14**	P	**Pn**	**01 44 09.1**	**+0.5**
AMGA				S	**Sn**	**01 44 41.0**	**-1.3**
AMGA				AML	AML	01 45 09.3	
	comp=E,922μm,1.0s						
AMGA				AML	AML	01 45 16.5	
	comp=N,638μm,1.0s						
APE	**Apeiranthos**	**2.94**	**7**	P	**Pn**	**01 44 11.4**	**+0.3**
APE	**Apeiranthos**	**2.94**	**7**	P	**Pn**	**01 44 11.4**	**+0.3**
APE	**Apeiranthos**	**2.94**	**7**	PN	**Pn**	**01 44 11.2**	**+0.1**
KOSK	**Kos Island**	**3.03**	**30**	PN	**Pn**	**01 44 13.5**	**+1.3**
SERI	**Serifos**	**3.05**	**351**	P	**Pn**	**01 44 12.0**	**-0.5**
SERI	**Serifos**	**3.05**	**351**	P	**Pn**	**01 44 12.2**	**-0.4**
VLI	**Veliai**	**3.11**	**326**	P	**Pn**	**01 44 13.9**	**+0.5**
VLI	**Veliai**	**3.11**	**326**	P	**Pn**	**01 44 13.9**	**+0.5**
ARG	**Arkhangelos**	**3.24**	**49**	P	**Pn**	**01 44 18.1**	**+3.0**
ARG	**Arkhangelos**	**3.24**	**49**	P	**Pn**	**01 44 18.1**	**+3.0**
ARG	**Arkhangelos**	**3.24**	**49**	PN	**Pn**	**01 44 17.5**	**+2.4**
DAT	**Datca**	**3.29**	**38**	P	**Pn**	**01 44 18.2**	**+2.3**
DAT	**Datca**	**3.29**	**38**	PN	**Pn**	**01 44 17.5**	**+1.6**
DATC	**Datca-Mugla**	**3.35**	**38**	PN	**Pn**	**01 44 18.6**	**+1.9**
BODT	**Bodrum**	**3.43**	**31**	P	**Pn**	**01 44 20.3**	**+2.5**
BODT	**Bodrum**	**3.43**	**31**	PN	**Pn**	**01 44 19.2**	**+1.4**
KRND	**KRANIDI**	**3.59**	**335**	P	**Pn**	**01 44 21.1**	**+1.1**
KRND				S	**Sn**	**01 45 01.6**	**-1.1**
	comp=N,152nm,1.2s						
KRND	**KRANIDI**	**3.59**	**335**	P	**Pn**	**01 44 20.2**	**+0.2**
TURN	**Turunc**	**3.68**	**44**	PN	**Pn**	**01 44 23.5**	**+2.3**
SMG	**Samos**	**3.83**	**21**	P	**Pn**	**01 44 24.2**	**+0.9**
SMG	**Samos**	**3.83**	**21**	P	**Pn**	**01 44 24.2**	**+0.9**
MLSB	**Milas**	**3.83**	**34**	PN	**Pn**	**01 44 25.2**	**+1.9**
VLY	**Voula,Athens**	**3.85**	**345**	P	**Pn**	**01 44 24.0**	**+0.5**
VLY				S	**Sn**	**01 45 07.7**	**-1.2**
	comp=N,88nm,0.9s						
VLY	**Voula,Athens**	**3.85**	**345**	P	**Pn**	**01 44 23.7**	**+0.2**
PYL	**PYLOS**	**3.87**	**316**	P	**Pn**	**01 44 24.4**	**+0.6**
KARY	**Karystos**	**3.92**	**353**	P	**Pn**	**01 44 24.8**	**+0.4**
KARY	**Karystos**	**3.92**	**353**	P	**Pn**	**01 44 24.6**	**+0.1**
DALY	**Dalyan (Mula)**	**3.95**	**46**	PN	**Pn**	**01 44 27.4**	**+2.5**
GCAM	**G?zelcaml?**	**3.96**	**26**	PN	**Pn**	**01 44 26.6**	**+1.7**
ATHU	**Athens Univers**	**3.96**	**345**	P	**Pn**	**01 44 25.4**	**+0.4**
YER	**Yerkesik**	**3.96**	**40**	P	**Pn**	**01 44 27.6**	**+2.5**
YER	**Yerkesik**	**3.96**	**40**	PN	**Pn**	**01 44 27.3**	**+2.2**
ITM	**Ithomi**	**3.97**	**321**	P	**Pn**	**01 44 25.4**	**+0.2**
ITM	**Ithomi**	**3.97**	**321**	P	**Pn**	**01 44 25.4**	**+0.2**
ITM	**Ithomi**	**3.97**	**321**	Pn	**Pn**	**01 44 25.8**	**+0.5**
PTL	**Penteli**	**4.02**	**346**	P	**Pn**	**01 44 26.2**	**+0.3**
PTL	**Penteli**	**4.02**	**346**	P	**Pn**	**01 44 26.2**	**+0.3**
DION	**Dionisos Attik**	**4.04**	**347**	P	**Pn**	**01 44 26.7**	**+0.6**
DION	**Dionisos Attik**	**4.04**	**347**	P	**Pn**	**01 44 26.7**	**+0.6**
FETY	**Fethiye**	**4.11**	**52**	P	**Pn**	**01 44 28.8**	**+1.7**
FETY	**Fethiye**	**4.11**	**52**	PN	**Pn**	**01 44 29.2**	**+2.1**
KSL	**Kastellorizon**	**4.20**	**60**	P	**Pn**	**01 44 30.1**	**+1.9**
KSL	**Kastellorizon**	**4.20**	**60**	P	**Pn**	**01 44 30.2**	**+2.0**
LTK	**Loutraki**	**4.23**	**337**	P	**Pn**	**01 44 29.8**	**+1.0**
LTK	**Loutraki**	**4.23**	**337**	P	**Pn**	**01 44 28.8**	**-0.1**
AKAS	**Kas**	**4.25**	**59**	PN	**Pn**	**01 44 32.1**	**+3.0**
AKAS	**Kas**	**4.25**	**59**		**Pn**	**01 44 30.6**	**+1.5**
VILL	**Villia**	**4.26**	**341**	P	**Pn**	**01 44 29.5**	**+0.3**
CHOS	**Chios island**	**4.31**	**10**	P	**Pn**	**01 44 30.9**	**+1.0**
CHOS	**Chios island**	**4.31**	**10**	PN	**Pn**	**01 44 30.7**	**+0.8**
VIL2	**Platees**	**4.32**	**341**	P	**Pn**	**01 44 29.5**	**-0.4**
URLA	**Izmir**	**4.38**	**16**	PN	**Pn**	**01 44 32.1**	**+1.2**
GUR	**Goura**	**4.39**	**330**	P	**Pn**	**01 44 32.1**	**+1.1**
GUR				S	**Sn**	**01 45 21.3**	**-1.2**
	comp=N,205nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**4.42**	**30**	PN	**Pn**	**01 44 33.5**	**+2.0**
BLCB	**Balcova**	**4.52**	**20**	PN	**Pn**	**01 44 34.0**	**+1.3**
KYMI	**Kymi, Euboea I**	**4.55**	**350**	P	**Pn**	**01 44 33.6**	**+0.5**
KYMI	**Kymi, Euboea I**	**4.55**	**350**	P	**Pn**	**01 44 33.6**	**+0.5**
KLV	**Kalavryta, Ach**	**4.56**	**329**	P	**Pn**	**01 44 35.0**	**+1.7**
KLV	**Kalavryta, Ach**	**4.56**	**329**	P	**Pn**	**01 44 34.1**	**+0.8**
ELL	**Elmali**	**4.72**	**55**	PN	**Pn**	**01 44 38.6**	**+3.0**
ELL	**Elmali**	**4.72**	**55**	Pn	**Pn**	**01 44 37.1**	**+1.6**
AXAR	**Agios Charalam**	**5.01**	**338**	P	**Pn**	**01 44 41.4**	**+1.9**
SIGR	**SIGRI**	**5.10**	**7**	PN	**Pn**	**01 44 41.9**	**+1.3**
DKL	**Dikili**	**5.13**	**16**	PN	**Pn**	**01 44 42.8**	**+1.7**
KORT	**Korkueli**	**5.15**	**55**	PN	**Pn**	**01 44 45.0**	**+3.5**
MANT	**Manisa**	**5.17**	**32**		**Pn**	**01 44 43.2**	**+1.4**
KULA	**Kula-Manisa**	**5.23**	**32**	PN	**Pn**	**01 44 44.9**	**+2.3**
ANTB	**Antalya**	**5.31**	**57**	PN	**Pn**	**01 44 47.5**	**+3.9**
VLS	**Valsamata**	**5.42**	**319**	P	**Pn**	**01 44 46.2**	**+1.1**
EVR	**Evrytania**	**5.45**	**332**	P	**Pn**	**01 44 49.1**	**+3.6**
BASM	**Basmaki-Afyon**	**5.51**	**45**	PN	**Pn**	**01 44 49.5**	**+3.1**
BCK	**Bucak**	**5.57**	**52**	PN	**Pn**	**01 44 50.6**	**+3.4**
DMLN	**Damoulianata-K**	**5.59**	**318**	P	**Pn**	**01 44 49.5**	**+2.1**
EVGI	**Lefkada island**	**5.72**	**323**	P	**Pn**	**01 44 51.5**	**+2.3**
NYDR	**Nydri-Lefkada**	**5.77**	**323**	P	**Pn**	**01 44 51.6**	**+1.7**
DRAG	**Dragano-Lefkad**	**5.81**	**323**	P	**Pn**	**01 44 52.6**	**+2.2**
SIMA	**Simav-Kutahya**	**5.84**	**31**	PN	**Pn**	**01 44 53.1**	**+2.1**
LKD2	**Lefkada island**	**5.85**	**324**	P	**Pn**	**01 44 51.4**	**+0.4**
TSLK	**Tsoukalades, L**	**5.88**	**324**	P	**Pn**	**01 44 53.4**	**+2.0**
SHUT	**Suhut-Afyon**	**6.23**	**43**	PN	**Pn**	**01 44 59.9**	**+3.6**
LIT	**Litokhoron**	**6.30**	**342**	P	**Pn**	**01 44 57.3**	**+0.1**
LIT				S	**Sn**	**01 46 08.9**	**-0.5**
	comp=N,20nm,0.6s						
LIT	**Litokhoron**	**6.30**	**342**		**Pn**	**01 44 58.9**	**+1.7**
TVSB	**Tavsanli**	**6.36**	**32**	PN	**Pn**	**01 45 00.5**	**+2.5**
ALN	**Alexandroupoli**	**6.79**	**6**	Pn	**Pn**	**01 45 06.3**	**+2.5**
CSS	**Mathiatis**	**6.85**	**81**	Pn	**Pn**	**01 45 04.8**	**0.0**
CSS				Sn	**Sn**	**01 46 15.9**	**-7.2**
CSS	**Mathiatis**	**6.85**	**81**	Pn	**Pn**	**01 45 04.2**	**-0.6**
SRN	**Sarande**	**7.02**	**326**	P	**Pn**	**01 45 06.7**	**-0.4**
NEST	**Nestorio**	**7.04**	**334**	P	**Pn**	**01 45 09.5**	**+2.1**
FNA	**Florina**	**7.25**	**337**	P	**Pn**	**01 45 10.8**	**+0.5**
FNA	**Florina**	**7.25**	**337**	Pn	**Pn**	**01 45 11.7**	**+1.4**
OFRI	**`Ofer**	**8.42**	**98**	Pn	**Pn**	**01 45 26.5**	**+0.2**
KZIT	**Kziot**	**8.50**	**110**	Pn	**Pn**	**01 45 27.8**	**+0.4**
SLTI	**Sal'it**	**8.56**	**100**	Pn	**Pn**	**01 45 28.3**	**+0.1**
AMAZ	**Amatzia**	**8.67**	**105**	Pn	**Pn**	**01 45 30.2**	**+0.4**
AMAZ				Sn	**Sn**	**01 47 03.9**	**-4.0**
MMA0B	**Mount Meron ar**	**8.69**	**95**	Pn	**Pn**	**01 45 29.8**	**-0.2**
MMA0B				Sn	**Sn**	**01 47 05.5**	**-2.7**
MMAI	**Mount Meron Ar**	**8.69**	**95**	Pn	**Pn**	**01 45 30.5**	**+0.5**
	comp=N,3.9nm,0.3s,baz=290,slow=12,SNR=15						
MMAI				Sn	**Sn**	**01 47 05.9**	**-2.3**
	comp=N,5.0nm,0.3s,baz=291,slow=28,SNR=7.4						
MMLI	**Mount Malkishu**	**8.82**	**98**	Pn	**Pn**	**01 45 32.1**	**+0.3**
MMLI				Sn	**Sn**	**01 47 07.2**	**-4.3**
BR131	**Keskin Array S**	**8.83**	**48**	Pn	**Pn**	**01 45 33.4**	**+1.4**
BRTR	**Keskin Array B**	**8.83**	**48**	Pn	**Pn**	**01 45 33.9**	**+1.9**
	comp=N,0.1nm,0.3s,baz=220,slow=17,SNR=5.4						
BRTR				Sn	**Sn**	**01 47 09.9**	**-1.9**
	comp=N,0.2nm,0.3s,baz=221,slow=24,SNR=6.3						
BRTR				LR	LR	01 49 54.6	
	comp=N,69nm,19.2s,baz=212,slow=45						
BRTR	**Keskin Array B**	**8.83**	**48**	Pn	**Pn**	**01 45 34.4**	**+2.4**
GEM	**Giv'at Ha'Em**	**8.87**	**93**	Pn	**Pn**	**01 45 31.6**	**-0.8**
YTIR	**Yattir**	**8.89**	**105**	Pn	**Pn**	**01 45 32.9**	**0.0**
YTIR				Sn	**Sn**	**01 47 09.9**	**-3.5**
NATI	**Neve Ativ**	**8.92**	**93**	Pn	**Pn**	**01 45 33.2**	**+0.1**
NATI				Sn	**Sn**	**01 47 10.4**	**-3.5**
HMDT	**Nahal Hemdat**	**8.95**	**99**	Pn	**Pn**	**01 45 33.6**	**0.0**
HMDT				Sn	**Sn**	**01 47 10.4**	**-4.3**
UJAP	**Al Uja**	**8.98**	**101**	Pn	**Pn**	**01 45 34.1**	**+0.1**
DSI	**Dead Sea**	**9.03**	**104**	Pn	**Pn**	**01 45 34.9**	**+0.2**
DSI				Sn	**Sn**	**01 47 12.4**	**-4.3**
KRMI	**Paran Flat**	**9.11**	**114**	Pn	**Pn**	**01 45 36.1**	**+0.4**
KRMI				Sn	**Sn**	**01 47 12.7**	**-5.9**
PRNI	**Paran**	**9.21**	**112**	Pn	**Pn**	**01 45 37.8**	**+0.6**
ZFRI	**Zfri**	**9.26**	**110**	Pn	**Pn**	**01 45 37.3**	**-0.5**
GHAJ	**Ghor Haditha**	**9.27**	**105**	Pn	**Pn**	**01 45 39.1**	**+1.1**
VAE	**Valguarnera**	**9.28**	**294**	Pn	**Pn**	**01 45 38.2**	**0.0**
	comp=N,0.9nm,0.3s,baz=56,slow=11,SNR=2.0						
VAE				Sn	**Sn**	**01 47 17.4**	**-5.5**
	comp=N,0.3nm,0.3s,baz=180,slow=20,SNR=1.4						
HRFI	**Mount Harif**	**9.38**	**113**	Pn	**Pn**	**01 45 40.2**	**+0.7**
MBRI	**Mt Berech**	**9.41**	**115**	Pn	**Pn**	**01 45 40.6**	**+0.7**
MBRI				Sn	**Sn**	**01 47 21.7**	**-4.3**
KARJ	**KARJ**	**9.41**	**106**	Pn	**Pn**	**01 45 35.3**	**-4.5**
EIL	**Elat**	**9.50**	**115**	Pn	**Pn**	**01 45 41.6**	**+0.5**
	comp=N,3.5nm,0.3s,baz=341,slow=13,SNR=14						
EIL				Sn	**Sn**	**01 47 24.4**	**-3.7**
	comp=N,1.0nm,0.3s,baz=240,slow=20,SNR=1.7						
EIL	**Elat**	**9.50**	**115**	Pn	**Pn**	**01 45 40.9**	**-0.2**
ASF	**Jabal al Asfar**	**10.10**	**98**	Pn	**Pn**	**01 45 48.7**	**-0.7**
	comp=N,0.5nm,0.3s,baz=249,slow=17,SNR=7.3						
MLR	**Muntele Rosu**	**11.35**	**3**	LR	LR	01 51 23.0	
	comp=N,113nm,18.2s,baz=120,slow=43						
SOKA	**Soboth**	**14.66**	**332**	*eP*	**P**	**01 46 58.3**	**+0.3**
	comp=N,5.5nm,1.0s						
VYHS	**Vyhne**	**15.08**	**344**	*eP*	**P**	**01 47 01.3**	**-1.3**
PRED	**Cave del Predi**	**15.08**	**328**	Pn	**Pn**	**01 46 57.7**	**+0.3**
PRED				IAmb	IAmb	01 47 18.9	
	comp=Z,5.1nm,1.0s						
STAL	**STALIGIAL**	**15.33**	**326**	Pn	**Pn**	**01 47 02.0**	**+1.3**
STAL				IAmb	IAmb	01 47 18.9	
	comp=Z,6.3nm,1.0s						
MODS	**Modra-Piesok**	**15.37**	**340**	*eP*	**P**	**01 47 05.4**	**-0.5**
ZOU	**Zoufplan**	**15.44**	**327**	Pn	**Pn**	**01 47 03.1**	**+0.9**
ZOU				IAmb	IAmb	01 47 16.2	
	comp=Z,8.2nm,0.8s						
CIMO	**Cimolais**	**15.50**	**325**	Pn	**Pn**	**01 47 04.3**	**+1.5**
CTI	**Castel Tesino**	**15.69**	**323**	Pn	**Pn**	**01 47 06.5**	**+1.0**
CTI				IAmb	IAmb	01 47 21.0	
	comp=Z,7.1nm,1.1s						
ABTA	**Abfaltersbach**	**15.79**	**327**	*eP*	**P**	**01 47 11.4**	**+0.8**
	comp=Z,5.7nm,0.7s,SNR=8.7						
MOA	**Molln**	**15.92**	**333**	*eP*	**P**	**01 47 12.3**	**+0.3**
	comp=Z,4.6nm,0.7s						
KRUC	**Moravsky**	**16.24**	**339**	*e*PN	**Pn**	**01 47 14.1**	**+1.7**
VRAC	**Vranov**	**16.41**	**340**	Pn	**Pn**	**01 47 13.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=144,slow=17,SNR=2.6						
VRAC				LR	LR	01 54 22.3	
	comp=Z,12nm,21.8s,baz=179,slow=40						
VRAC	**Vranov**	**16.41**	**340**	*e*PN	**Pn**	**01 47 13.2**	**-1.3**
WTTA	**Wattenberg**	**16.57**	**326**	*eP*	**P**	**01 47 20.8**	**+1.4**
	comp=Z,8.4nm,0.9s,SNR=6.9						
WATA	**Walderalm**	**16.65**	**326**	*eP*	**P**	**01 47 21.1**	**+0.8**
	comp=Z,9.6nm,1.5s						
TREC	**Trest**	**16.73**	**338**	*eP*	**Pn**	**01 47 20.0**	**+1.4**
SQTA	**Sankt Quirin**	**16.74**	**325**	*eP*	**P**	**01 47 23.8**	**+2.6**
	comp=Z,3.5nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**16.78**	**322**	Pn	**Pn**	**01 47 19.3**	**-0.2**
KBZ	**Khabaz**	**16.81**	**50**	Pn	**P**	**01 47 21.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=220,slow=8.1,SNR=6.2						
AKASG	**Malin Array Be**	**16.82**	**9**	Pn	**Pn**	**01 47 19.9**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=200,slow=11,SNR=29						
FETA	**Feichten**	**16.83**	**324**	*eP*	**P**	**01 47 24.2**	**+1.9**
	comp=Z,5.8nm,1.0s						
GEC2	**GERESS Array S**	**16.95**	**333**		**Pn**	**01 47 21.4**	**-0.1**
GEC2				IAmb	IAmb	01 47 24.4	
	comp=Z,8.3nm,0.7s						
GERES	**GERESS Array B**	**16.95**	**333**	Pn	**P**	**01 47 23.6**	**0.0**
	comp=Z,1.0nm,0.3s,baz=145,slow=12,SNR=66						
GERES				LR	LR	01 55 27.1	
	comp=Z,78nm,19.5s,baz=294,slow=43						
GERES	**GERESS Array B**	**16.95**	**333**	Pn	**Pn**	**01 47 22.4**	**+0.9**
DAVOX	**Davos/Dischmat**	**17.08**	**322**	P	**P**	**01 47 25.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=138,slow=12,SNR=3.7						
RETA	**Reutte**	**17.14**	**325**	*eP*	**P**	**01 47 26.4**	**+0.8**
	comp=Z,1.6nm,0.6s						
KHC	**Kasperske Hory**	**17.24**	**334**	*eP*	**P**	**01 47 27.0**	**+0.4**
KHC				*ex*	x	01 47 38.9	
KHC	**Kasperske Hory**	**17.24**	**334**		**Pn**	**01 47 25.6**	**+0.6**
DPC	**Dobruska-Polom**	**17.43**	**341**	*eP*	**P**	**01 47 28.6**	**-0.1**
DPC				*ep*P	**pwP**	**01 47 34.0**	**+0.2**
DAVA	**Damuels**	**17.43**	**323**	*e*Pn	**P**	**01 47 28.6**	**-0.3**
	comp=Z,2.7nm,0.8s						
GOPC	**GO Pecny, Ondr**	**17.49**	**337**	*eP*	**Pn**	**01 47 28.6**	**+0.4**
PBCC	**Pribram**	**17.55**	**336**	*eP*	**Pn**	**01 47 29.7**	**+0.7**
PRU	**Pruhonice**	**17.63**	**337**	*eP*	**Pn**	**01 47 30.1**	**+0.2**
OSTC	**Ostas**	**17.64**	**341**	*eP*	**P**	**01 47 34.7**	**+3.7**
CHVC	**Chvalec**	**17.71**	**341**	*eP*	**P**	**01 47 31.9**	**+0.1**
GRA1	**Grafenberg Arr**	**18.60**	**331**	P	**P**	**01 47 41.8**	**+0.2**
GRF	**Grafenberg Arr**	**18.60**	**331**	*eP*	**P**	**01 47 41.8**	**+0.2**
	comp=Z,20nm,1.2s,baz=142,slow=12						
CLL	**Collm**	**19.27**	**337**	P	**Pn**	**01 47 49.8**	**-0.1**
SUW	**Suwalki**	**19.91**	**357**	IAmb	IAmb	01 48 09.6	
	comp=Z,37nm,1.0s						
TAM	**Tamanrasset**	**20.54**	**242**	P	Pn	01 48 04.8	-0.5
WLF	**Walferdange**	**20.86**	**324**	P	Pn	01 48 07.9	-0.8
WLF				IAmb	IAmb	01 48 42.1	
	comp=Z,32nm,1.7s						
MEM	**Membach**	**21.56**	**325**	P	**P**	**01 48 13.7**	**-0.1**
ESDC	**Sonseca Array**	**23.82**	**292**	P	**P**	**01 48 37.0**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=86,slow=10.0,SNR=13						
GEYT	**Alibeck**	**26.90**	**72**	P	**P**	**01 49 03.8**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=271,slow=11,SNR=1.8						
HFS	**Hagfors**	**27.05**	**347**	P	**P**	**01 49 05.0**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=146,slow

comp=Z,0.5nm,0.7s,baz=324,slow=7.9,SNR=5.1
WRA Warramunga Arr 62.24 138 IAmb IAmb 01 56 36.1
comp=Z,0.1nm,1.1s
CLL Collm 62.64 316 *e*pP pP 01 56 39.0 -5.2
ASAR Alice Springs 64.94 141 P **P 01 56 46.2 -1.3**
comp=Z,0.4nm,0.6s,baz=327,slow=6.4,SNR=6.2
TOA0 Torodi Ar. Sit 86.67 283 P **P 01 58 49.0 -2.9**
TOA0 IAmb IAmb 01 58 55.3
comp=Z,2.1nm,1.1s
TORD Torodi Ar. Bea 86.67 283 P **P 01 58 51.6 -0.4**
comp=Z,1.1nm,1.0s,baz=59,slow=5.1,SNR=3.6
TORD Torodi Ar. Bea 86.67 283 IAmb IAmb 01 58 52.9
comp=Z,1.1nm,1.0s

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*IDC **21** 01:56:18.4±1.1, 38.°36N×21.°88E, h0km, mb3.4/7, mb1 3.5/10, mb1mx3.3/54, mbtmp3.4/10, ML3.1/3, Error ellipse: s-maj=20.8km s-min=20.0km az=47.0*
*ATH **21** 01:56:18.9, 38.°37N×21.°89E, h16km, ML3.0/34, Error ellipse: s-maj=0.9km s-min=0.5km az=338.0*
*THE **21** 01:56:19.7, 38.°36N×21.°86E, h7km, ML3.0/18, Error ellipse: s-maj=0.9km s-min=0.4km az=314.0*
*BEO **21** 01:56:22.1±0.9, 38.°55N×22.°20E, h0km, ML2.9/2*
ISC 21 01:56:19.3±0.7, 38.°36N±0.°01×21.°89E±0.°01, h12km±3km, n122, σ1°21/167, mb3.5/6, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**10**	P	**Pg**	**01 56 21.4**	**-0.3**
EFP				S	**Sg**	**01 56 22.5**	**-1.0**
64μm,0.2s							
EFP	**Efpalio**	**0.07**	**10**	P	**Pg**	**01 56 21.4**	**-0.3**
EFP				S	**Sg**	**01 56 23.0**	**-0.5**
EFP				AML	AML	01 56 23.1	
EFP				AML	AML	01 56 24.4	
LAKA	**Lakka**	**0.14**	**150**	P	**Pg**	**01 56 22.9**	**+0.3**
LAKA				S	**Sg**	**01 56 25.5**	**+0.4**
LAKA	**Lakka**	**0.14**	**150**	P	**Pg**	**01 56 23.0**	**+0.3**
SERG	**Sergoula**	**0.14**	**68**	P	**Pb**	**01 56 23.0**	**-0.9**
SERG				S	**Sb**	**01 56 25.9**	**+0.8**
14μm,0.3s							
SERG	**Sergoula**	**0.14**	**68**	P	**Pb**	**01 56 23.1**	**-0.9**
SERG				S	**Sg**	**01 56 25.2**	**+0.1**
SERG				AML	AML	01 56 26.1	
comp=E,23079μm,0.3s							
SERG				AML	AML	01 56 27.0	
comp=N,33616μm,0.3s							
ALIK	**Aliki, Aigiali**	**0.20**	**120**	P	**Pb**	**01 56 24.3**	**-0.7**
ALIK				S	**Sb**	**01 56 28.2**	**+1.6**
ANX	**Ano Chora**	**0.23**	**6**	P	**Pg**	**01 56 24.3**	**0.0**
ANX				S	**Sb**	**01 56 28.2**	**+0.5**
comp=N,32μm,0.4s							
ANX	**Ano Chora**	**0.23**	**6**	P	**Pg**	**01 56 24.3**	**0.0**
ANX				S	**Sb**	**01 56 28.1**	**+0.5**
ANX				AML	AML	01 56 28.9	
comp=N,65031μm,0.3s							
ANX				AML	AML	01 56 30.3	
comp=E,62389μm,0.4s							
KLV	**Kalavryta, Ach**	**0.38**	**147**	P	**Pb**	**01 56 27.1**	**-0.9**
KLV	**Kalavryta, Ach**	**0.38**	**147**	P	**Pb**	**01 56 27.2**	**-0.9**
KLV				S	**Sg**	**01 56 31.9**	**0.0**
KLV				AML	AML	01 56 35.0	
comp=E,2919μm,0.2s							
KLV				AML	AML	01 56 35.4	
comp=N,2591μm,0.3s							
AXS	**Araxos**	**0.44**	**248**	P	**Pg**	**01 56 27.8**	**-0.1**
AXS				S	**Sb**	**01 56 34.2**	**-1.3**
AXS	**Araxos**	**0.44**	**248**	P	**Pg**	**01 56 27.8**	**-0.1**
AXS				S	**Sg**	**01 56 34.0**	**+0.3**
AXS				AML	AML	01 56 40.4	
comp=E,1920μm,0.3s							
AXS				AML	AML	01 56 45.0	
comp=N,2433μm,0.5s							
RLS	**Riolos of Patr**	**0.45**	**228**	P	**Pg**	**01 56 28.1**	**-0.1**
RLS				S	**Sb**	**01 56 35.3**	**-0.7**
comp=N,2μm,0.3s							
RLS	**Riolos of Patr**	**0.45**	**228**	P	**Pg**	**01 56 28.1**	**-0.1**
RLS				S	**Sb**	**01 56 35.2**	**-0.7**
RLS				AML	AML	01 56 35.7	
comp=N,3213μm,0.3s							
RLS				AML	AML	01 56 37.5	
comp=E,3278μm,0.3s							
DLFA	**Delphi**	**0.49**	**76**	P	**Pg**	**01 56 28.8**	**-0.2**
DLFA				S	**Sb**	**01 56 36.5**	**-0.6**
DLFA				AML	AML	01 56 39.3	
comp=E,2626μm,0.2s							
DLFA				AML	AML	01 56 39.6	
comp=N,2675μm,0.4s							
DSF	**Desfina**	**0.50**	**84**	P	**Pb**	**01 56 29.1**	**-1.1**
DSF				S	**Sb**	**01 56 37.7**	**+0.2**
comp=N,2μm,0.2s							
DSF	**Desfina**	**0.50**	**84**	P	**Pb**	**01 56 29.1**	**-1.1**
DSF				S	**Sb**	**01 56 36.6**	**-0.9**
DSF				AML	AML	01 56 40.2	
comp=N,3885μm,0.3s							
DSF				AML	AML	01 56 42.2	
comp=E,3166μm,0.2s							
GUR	**Goura**	**0.55**	**140**	P	**Pg**	**01 56 30.0**	**-0.1**
GUR				S	**Sb**	**01 56 38.3**	**-0.7**
comp=E,3μm,0.3s							
GUR	**Goura**	**0.55**	**140**	P	**Pg**	**01 56 30.0**	**-0.1**
GUR				S	**Sg**	**01 56 37.5**	**0.0**
GUR				AML	AML	01 56 41.0	
comp=N,7370μm,0.3s							
GUR				AML	AML	01 56 46.9	
comp=E,5263μm,0.3s							
EVR	**Evrytania**	**0.56**	**353**	P	**Pg**	**01 56 30.0**	**-0.2**
EVR				S	**Sb**	**01 56 38.9**	**-0.2**
comp=E,2μm,0.5s							
EVR	**Evrytania**	**0.56**	**353**	P	**Pg**	**01 56 29.9**	**-0.4**
EVR				S	**Sb**	**01 56 38.4**	**-0.8**
EVR				AML	AML	01 56 43.7	
comp=E,4952μm,0.5s							
EVR				AML	AML	01 56 43.8	
comp=N,3840μm,0.5s							
AST1	**Astakos**	**0.65**	**286**	P	**Pg**	**01 56 31.2**	**-0.8**
VTN	**Vitineika**	**0.71**	**232**	P	**Pg**	**01 56 33.5**	**+0.4**
AXAR	**Agios Charalam**	**0.72**	**56**	P	**Pg**	**01 56 33.0**	**-0.4**
AXAR				S	**Sn**	**01 56 45.4**	**-1.1**
comp=N,4μm,0.4s							
AXAR	**Agios Charalam**	**0.72**	**56**	P	**Pb**	**01 56 32.7**	**-1.2**
AXAR				S	**Sb**	**01 56 42.3**	**-1.6**
AXAR				AML	AML	01 56 49.1	
comp=E,7169μm,0.4s							
AXAR				AML	AML	01 56 50.9	
comp=N,6918μm,0.3s							
TRIP	**Tripoli**	**0.89**	**160**	P	**Pg**	**01 56 36.1**	**-0.3**
TRIP	**Tripoli**	**0.89**	**160**	P	**Pg**	**01 56 36.1**	**-0.3**
TRIP				S	**Sn**	**01 56 49.0**	**-1.6**
TRIP				AML	AML	01 56 55.6	
comp=E,1400μm,0.5s							
TRIP				AML	AML	01 56 56.5	
comp=N,1309μm,0.4s							
LTK	**Loutraki**	**0.91**	**111**	P	**Pn**	**01 56 37.4**	**-0.6**
LTK				S	**Sn**	**01 56 51.7**	**+0.5**
comp=N,775nm,0.6s							
LTK	**Loutraki**	**0.91**	**111**	P	**Pn**	**01 56 36.9**	**-1.1**
LTK				S	**Sn**	**01 56 49.8**	**-1.4**
LTK				AML	AML	01 56 53.9	
comp=E,1615μm,0.5s							
LTK				AML	AML	01 56 54.7	
comp=N,1494μm,0.7s							
LKR	**Lokris**	**0.92**	**71**	P	**Pn**	**01 56 36.9**	**-1.2**
LKR	**Lokris**	**0.92**	**71**	P	**Pn**	**01 56 36.9**	**-1.2**
LKR				S	**Sn**	**01 56 49.4**	**-1.8**
LKR				AML	AML	01 56 55.0	
comp=E,1416μm,0.2s							
LKR				AML	AML	01 56 56.2	
comp=N,1398μm,0.3s							
NYDR	**Nydri-Lefkada**	**1.00**	**291**	P	**Pb**	**01 56 37.5**	**-1.1**
NYDR				S	**Sn**	**01 56 52.6**	**-0.6**
comp=N,395nm,0.6s							
EVGI	**Lefkada island**	**1.00**	**285**	P	**Pb**	**01 56 37.4**	**-1.2**
EVGI	**Lefkada island**	**1.00**	**285**	P	**Pb**	**01 56 37.4**	**-1.2**
VLS	**Valsamata**	**1.04**	**260**	P	**Pb**	**01 56 38.1**	**-1.2**
VLS				S	**Sn**	**01 56 54.3**	**0.0**
comp=N,715nm,0.5s							
VLS	**Valsamata**	**1.04**	**260**	P	**Pb**	**01 56 38.0**	**-1.3**
VLS				S	**Sn**	**01 56 53.2**	**-1.1**
VLS				AML	AML	01 56 59.4	
comp=N,1693μm,0.5s							
VLS				AML	AML	01 57 03.8	
comp=E,1174μm,0.5s							
VSK1	**VASILIKIADES**	**1.04**	**273**	P	**Pb**	**01 56 37.8**	**-1.6**
VSK1				S	**Sn**	**01 56 53.8**	**-0.6**
comp=E,810nm,0.3s							
FSK	**Fiskardo**	**1.05**	**276**	P	**Pb**	**01 56 38.0**	**-1.4**
FSK				S	**Sg**	**01 56 53.3**	**+0.2**
FSK				AML	AML	01 56 59.3	
comp=N,1036μm,0.7s							
FSK				AML	AML	01 57 01.8	
comp=E,1447μm,0.5s							
LKD2	**Lefkada island**	**1.06**	**294**	P	**Pn**	**01 56 38.8**	**-1.2**
LKD2	**Lefkada island**	**1.06**	**294**	P	**Pn**	**01 56 38.8**	**-1.2**
LKD2				AML	AML	01 57 04.2	
comp=E,1608μm,0.6s							
LKD2				AML	AML	01 57 05.3	
comp=N,1952μm,0.6s							
VLX	**Vlachokerasia**	**1.06**	**159**	P	**Pn**	**01 56 39.1**	**-1.1**
VLX	**Vlachokerasia**	**1.06**	**159**	P	**Pn**	**01 56 39.1**	**-1.1**
VLX				AML	AML	01 57 00.0	
comp=E,1554μm,0.7s							
VLX				AML	AML	01 57 10.7	
comp=N,1531μm,0.8s							
TSLK	**Tsoukalades, L**	**1.07**	**296**	P	**Pg**	**01 56 39.6**	**-0.4**
TSLK	**Tsoukalades, L**	**1.07**	**296**	P	**Pg**	**01 56 39.4**	**-0.6**
TSLK				AML	AML	01 57 04.0	
comp=E,1224μm,0.6s							
TSLK				AML	AML	01 57 04.3	
comp=N,1401μm,0.8s							
DRAG	**Dragano-Lefkad**	**1.08**	**288**	P	**Pb**	**01 56 39.1**	**-0.9**
VLMS	**Volimes, Zakyn**	**1.08**	**244**	P	**Pn**	**01 56 39.4**	**-1.0**
VLMS				AML	AML	01 56 57.6	
comp=N,3188μm,0.4s							
VLMS				AML	AML	01 57 03.3	
comp=E,3016μm,0.4s							
VIL2	**Platees**	**1.09**	**97**	P	**Pg**	**01 56 40.9**	**+0.5**
VIL2				S	**Sg**	**01 56 57.6**	**+3.0**
VIL2				AML	AML	01 57 00.4	
comp=N,1169μm,0.4s							
VIL2				AML	AML	01 57 02.3	
comp=E,2002μm,0.6s							
KEF5	**Kardakata, Kep**	**1.12**	**266**	P	**Pn**	**01 56 39.4**	**-1.5**
VILL	**Villia**	**1.14**	**100**	P	**Pg**	**01 56 42.0**	**+0.8**
VILL				S	**Sg**	**01 56 58.5**	**+2.5**
comp=E,908nm,0.5s							
ITM	**Ithomi**	**1.18**	**179**	P	**Pg**	**01 56 41.4**	**-0.6**
ITM	**Ithomi**	**1.18**	**179**	P	**Pg**	**01 56 41.3**	**-0.6**
ITM				S	**Sg**	**01 56 57.6**	**+0.3**
ITM				AML	AML	01 57 04.8	
comp=E,502μm,0.5s							
ITM				AML	AML	01 57 05.4	
comp=N,927μm,0.6s							
DMLN	**Damoulianata-K**	**1.20**	**265**	P	**Pb**	**01 56 41.4**	**-0.6**
THL	**Klokotos Trika**	**1.21**	**5**	P	**Pg**	**01 56 42.0**	**-0.5**
THL				S	**Sg**	**01 56 59.5**	**+1.3**
comp=N,565nm,0.8s							
THL	**Klokotos Trika**	**1.21**	**5**	P	**Pg**	**01 56 42.1**	**-0.4**
THL				S	**Sg**	**01 56 59.2**	**+1.1**
THL				AML	AML	01 57 02.4	
comp=N,847μm,0.6s							
THL				AML	AML	01 57 02.6	
comp=E,1363μm,1.1s							
VOL3	**Nea Ionia, Vol**	**1.30**	**39**	P	**Pn**	**01 56 40.8**	**-2.5**
VOL2	**Volos**	**1.30**	**39**	P	**Pg**	**01 56 45.3**	**+1.0**
KRND	**KRANIDI**	**1.40**	**134**	P	**Pb**	**01 56 45.0**	**-0.3**
KRND	**KRANIDI**	**1.40**	**134**	P	**Pg**	**01 56 45.4**	**-0.7**
KRND				S	**Sg**	**01 57 05.3**	**+1.1**
KRND				AML	AML	01 57 10.2	
comp=E,1080μm,0.6s							
KRND				AML	AML	01 57 10.3	
comp=N,1282μm,0.6s							
NEO	**Neokhori**	**1.41**	**47**	P	**Pg**	**01 56 45.9**	**-0.4**
NEO	**Neokhori**	**1.41**	**47**	P	**Pg**	**01 56 45.5**	**-0.8**
NEO				S	**Sg**	**01 57 03.9**	**-0.6**
NEO				AML	AML	01 57 10.6	
comp=E,631μm,0.6s							
NEO				AML	AML	01 57 10.9	
comp=N,714μm,0.4s							
XOR	**Xorichti**	**1.43**	**45**	P	**Pg**	**01 56 45.9**	**-0.8**
XOR	**Xorichti**	**1.43**	**45**	P	**Pg**	**01 56 46.0**	**-0.8**
XOR				S	**Sg**	**01 57 05.2**	**0.0**
XOR				AML	AML	01 57 10.9	
comp=E,424μm,0.6s							
XOR				AML	AML	01 57 13.5	
comp=N,601μm,0.5s							
PYL	**PYLOS**	**1.47**	**185**	P	**Pb**	**01 56 46.1**	**-0.5**
PYL	**PYLOS**	**1.47**	**185**	P	**Pb**	**01 56 46.1**	**-0.5**
PYL				AML	AML	01 57 17.1	
comp=E,585μm,0.5s							
PYL				AML	AML	01 57 21.5	
comp=N,489μm,0.5s							
ATH	**Athens Observa**	**1.49**	**105**	P	**Pg**	**01 56 47.2**	**-0.7**
ATH				S	**Sg**	**01 57 06.6**	**-0.7**
comp=N,412nm,0.5s							
ATH	**Athens Observa**	**1.49**	**105**	P	**Pb**	**01 56 46.5**	**-0.5**
ATH				S	**Sg**	**01 57 07.3**	**0.0**
ATH				AML	AML	01 57 08.1	
comp=N,864μm,0.4s							
ATH				AML	AML	01 57 08.8	
comp=E,765μm,0.3s							
ATHU	**Athens Univers**	**1.54**	**104**	P	**Pg**	**01 56 48.0**	**-0.9**
ATHU				S	**Sg**	**01 57 07.6**	**-1.4**
comp=E,145nm,0.3s							
ATHU	**Athens Univers**	**1.54**	**104**	P	**Pb**	**01 56 47.6**	**-0.3**
VLY	**Voula,Athens**	**1.58**	**108**	P	**Pg**	**01 56 48.6**	**-1.1**
VLY	**Voula,Athens**	**1.58**	**108**	P	**Pb**	**01 56 48.4**	**-0.2**
VLY				AML	AML	01 57 17.2	
comp=E,403μm,0.4s							
VLY				AML	AML	01 57 25.4	
comp=N,503μm,0.8s							
PTL	**Penteli**	**1.59**	**101**	P	**Pb**	**01 56 48.5**	**-0.1**
PTL				S	**Sb**	**01 57 08.7**	**0.0**
comp=N,222nm,0.6s							
PTL	**Penteli**	**1.59**	**101**	P	**Pb**	**01 56 48.3**	**-0.3**
PTL				S	**Sg**	**01 57 09.4**	**-0.9**
PTL				AML	AML	01 57 17.7	
comp=E,528μm,0.6s							
PTL				AML	AML	01 57 18.9	
comp=N,368μm,0.5s							
DION	**Dionisos Attik**	**1.63**	**99**	P	**Pg**	**01 56 49.5**	**-1.2**
DION				S	**Sg**	**01 57 10.8**	**-1.1**
comp=N,768nm,0.4s							
DION	**Dionisos Attik**	**1.63**	**99**	P	**Pb**	**01 56 49.4**	**-0.1**
DION				S	**Sg**	**01 57 10.8**	**-1.1**
DION				AML	AML	01 57 11.6	
comp=N,1440μm,0.4s							
DION				AML	AML	01 57 12.4	
comp=E,1569μm,0.3s							
KPRO	**Kipourio**	**1.64**	**346**	P	**Pg**	**01 56 49.6**	**-1.3**
IGT	**Igoumenitsa**	**1.69**	**314**	*e*Pg	**Pg**	**01 56 53.5**	**+1.8**
IGT				*e*Sg	**Sg**	**01 57 18.0**	**+4.4**
IGT	**Igoumenitsa**	**1.69**	**314**	P	**Pg**	**01 56 50.5**	**-1.2**
IGT				AML	AML	01 57 23.1	
comp=E,357μm,0.5s							
IGT				AML	AML	01 57 23.2	
comp=N,326μm,0.9s							
KYMI	**Kymi, Euboea I**	**1.75**	**80**	P	**Pb**	**01 56 51.0**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.75**	**80**	P	**Pb**	**01 56 50.6**	**-0.9**
LIT	**Litokhoron**	**1.80**	**15**	P	**Pb**	**01 56 51.5**	**-0.7**
LIT	**Litokhoron**	**1.80**	**15**	P	**Pb**	**01 56 51.3**	**-1.0**
LIT				AML	AML	01 57 21.5	
comp=N,480μm,0.5s							
LIT				AML	AML	01 57 22.9	
comp=E,514μm,0.7s							
VLI	**Veliai**	**1.84**	**153**	P	**Pb**	**01 56 51.9**	**-1.1**
VLI	**Veliai**	**1.84**	**153**	P	**Pb**	**01 56 51.8**	**-1.1**
KZN	**Kozani**	**1.94**	**357**	P	**Pb**	**01 56 54.2**	**-0.6**
KARY	**Karystos**	**2.03**	**99**	P	**Pb**	**01 56 54.8**	**-1.4**
KARY				AML	AML	01 57 20.9	
comp=N,260μm,0.5s							
KARY				AML	AML	01 57 22.2	
comp=E,131μm,0.6s							
PAIG	**Paliouri**	**2.09**	**41**	P	**Pn**	**01 56 54.4**	**+0.2**
PAIG	**Paliouri**	**2.09**	**41**	P	**Pn**	**01 56 54.5**	**+0.2**
KEK	**Kerkira**	**2.12**	**310**	P	**Pb**	**01 56 56.5**	**-1.1**
KTHA	**Kythira Island**	**2.30**	**156**	P	**Pb**	**01 56 58.8**	**-1.9**
PLG	**Polygyros**	**2.34**	**30**	P	**Pn**	**01 56 58.3**	**+0.5**
SERI	**Serifos**	**2.38**	**119**	P	**Pb**	**01 56 59.5**	**-2.7**
FNA	**Florina**	**2.45**	**351**	*e*Pn	**Pb**	**01 57 01.6**	**-1.8**
FNA				*e*Sg	**Sg**	**01 57 35.8**	**-2.3**
LIA	**Limnos Island**	**2.98**	**58**	P	**Pn**	**01 57 07.1**	**+0.6**
VAY	**Valandovo**	**3.00**	**10**	*i* Pn	**Pb**	**01 57 10.4**	**-2.3**
SRS	**Serrai**	**3.05**	**25**	*e*Pn	**Pb**	**01 57 08.0**	**+0.6**
APE	**Apeiranthos**	**3.16**	**113**	P	**Pn**	**01 57 10.3**	**+1.3**
IMMV	**Iera Moni Meta**	**3.34**	**149**	P	**Pn**	**01 57 13.0**	**+1.5**
VAM	**Vamos**	**3.48**	**147**	P	**Pn**	**01 57 14.8**	**+1.5**
MMB	**Musomiste**	**3.52**	**23**	*i* P	**Pn**	**01 57 16.0**	**+2.1**
IDI	**Anoyia**	**3.90**	**141**	Pn	**Pn**	**01 57 19.5**	**+0.4**
comp=E,0.7nm,0.3s,baz=325,slow=16,SNR=12							
IDI				Sn	**Sn**	**01 58 06.5**	**+1.6**
comp=E,1.8nm,0.3s,baz=288,slow=19,SNR=2.7							
RZN	**Rozhen**	**3.97**	**32**	*i* P	Pb	01 57 23.9	-5.4
BOSS	**Bosilegrad**	**4.15**	**6**	*e*Pn	**Pn**	**01 57 24.6**	**+2.0**
VTS	**Vitosha**	**4.37**	**13**	*i* P	**Pn**	**01 57 28.2**	**+2.5**
BARS	**Barje**	**4.45**	**359**	*e*Pn	**Pn**	**01 57 27.8**	**+1.1**
SELS	**Selova**	**4.89**	**353**	*e*Pn	**Pn**	**01 57 34.1**	**+1.4**
ZAPS	**Zavoj**	**4.94**	**6**	*e*Pn	**Pn**	**01 57 34.4**	**+1.0**
SJES	**Sjenica**	**5.11**	**344**	*e*Pn	**Pn**	**01 57 38.8**	**+3.0**
ZAGS	**Zajecar**	**5.45**	**3**	*e*Pn	**Pn**	**01 57 40.6**	**+0.2**
GRUS	**Gruza**	**5.59**	**351**	*e*Pn	**Pn**	**01 57 43.3**	**+1.0**
VOIR		**7.45**	**17**	⇓P	**Pn**	**01 58 11.3**	**+3.3**
MLR	**Muntele Rosu**	**7.74**	**22**	Pn	**Pn**	**01 58 15.4**	**+3.5**
comp=E,0.1nm,0.3s,baz=158,slow=19,SNR=2.5							
MLR	**Muntele Rosu**	**7.74**	**22**	⇓P	Pn	01 58 18.4	+6.5
PLOR	**Plostina**	**8.28**	**24**	⇑P	Pn	01 58 25.5	+6.3
BRTR	**Keskin Array B**	**9.24**	**78**	Pn	**Pn**	**01 58 35.9**	**+3.4**
comp=E,0.1nm,0.3s,baz=259,slow=13,SNR=6.8							
ESDC	**Sonseca Array**	**20.11**	**282**	P	Pn	02 00 54.6	-0.3
comp=E,0.4nm,0.7s,baz=76,slow=11,SNR=9.6							
HFS	**Hagfors**	**22.40**	**349**	P	**P**	**02 01 18.0**	**+0.5**
comp=E,0.8nm,0.6s,baz=171,slow=10,SNR=1.5							
NOA	**NORSAR Array B**	**23.66**	**347**	P	**P**	**02 01 30.0**	**-0.5**
comp=E,0.4nm,0.7s,baz=160,slow=10,SNR=2.0							
EKA	**Eskdalemuir Ar**	**23.91**	**323**	P	**P**	**02 01 32.8**	**0.0**
comp=E,1.3nm,0.8s,baz=133,slow=8.8,SNR=2.2							
TORD	**Torodi Ar. Bea**	**30.86**	**221**	P	**P**	**02 02 36.9**	**+1.3**
comp=E,0.3nm,0.5s,baz=45,slow=9.2,SNR=2.2							
MKAR	**Makanchi Array**	**44.28**	**59**	P	**P**	**02 04 29.6**	**+0.8**
comp=E,0.4nm,0.5s,baz=278,slow=6.7,SNR=7.3							
ZALV	**Zalesovo Beam**	**44.76**	**48**	P	**P**	**02 04 32.8**	**+0.3**
comp=E,0.7nm,0.4s,baz=269,slow=9.9,SNR=2.2							

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*IGIL **21** 02:01:10.4, 36.°01N×4.°54W, h74km, ML3.0*
*SFS **21** 02:01:11.0, 36.°00N×4.°53W, h74km, ML3.3, ALBORAN W.*
*MDD **21** 02:01:11.2±0.6, 36.°03N×4.°61W, h72km±7km, mb3.5/40, Error ellipse: s-maj=4.7km s-min=3.5km az=180.0, PRXIMO*
*LDG **21** 02:01:11.7±0.1, 36.°04N×4.°63W, h30km, Ml3.0/3*
*INMG **21** 02:01:12.2±1.7, 36.°14N×4.°68W, h44km±9km, ML2.7, Error ellipse: s-maj=4.3km s-min=2.8km az=173.0*
*CNRM **21** 02:01:13.7±1.3, 35.°70N×4.°66W, h69km±17km, Error ellipse: s-maj=11.4km s-min=6.4km az=162.0*
ISC 21 02:01:08.9±1.1, 36.°04N±0.°03×4.°63W±0.°02, h84km±9km, n96, σ2°07/182, 2C-10D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.62**	**257**	P	**Pn**	**02 01 24.4**	**+0.4**
CEU				S	**Sn**	**02 01 35.0**	**-0.3**
CEU	**Ceuta**	**0.62**	**257**	*e*P	**Pn**	**02 01 24.4**	**+0.4**
CEU				*e*S	**Sn**	**02 01 35.0**	**-0.3**
ECEU	**Ceuta**	**0.62**	**257**	⇓P	**Pn**	**02 01 25.7**	**+1.6**
11nm,0.1s,SNR=18							
ECEU				S	**Sn**	**02 01 36.2**	**+0.8**
20nm,0.2s,SNR=15							
EMAL	**Malaga-Limoner**	**0.74**	**12**	P	**Pn**	**02 01 25.6**	**+0.4**
EMAL				S	**Sn**	**02 01 36.8**	**-0.7**
EMAL	**Malaga-Limoner**	**0.74**	**12**	*e*P	**Pn**	**02 01 25.6**	**+0.4**
EMAL				*e*S	**Sn**	**02 01 36.8**	**-0.7**
PVLZ	**Peæn de**	**0.90**	**163**	P	**Pn**	**02 01 28.2**	**+1.2**
PVLZ				S	**Sn**	**02 01 38.8**	**-1.8**
PVLZ	**Peæn de**	**0.90**	**163**	*e*P	**Pn**	**02 01 28.2**	**+1.2**
PVLZ				*e*S	**Sn**	**02 01 38.8**	**-1.8**
PALE	**Palemas**	**0.99**	**145**	P	**Pn**	**02 01 29.3**	**+1.2**
PALE				S	**Sn**	**02 01 42.1**	**-0.4**
EGOR	**Sierra Gorda,**	**1.15**	**21**	P	**Pn**	**02 01 32.1**	**+1.9**
3.3nm,0.1s,SNR=7.9							
EGOR				S	**Sn**	**02 01 47.9**	**+1.9**
28nm,0.2s,SNR=7.9							
ELGU	**Los Guajares,**	**1.16**	**44**	⇓P	**Pn**	**02 01 30.1**	**0.0**
22nm,0.1s,SNR=18							
ELGU				S	**Sn**	**02 01 44.8**	**-1.2**
93nm,0.2s,SNR=7.9							
ESPR	**Espera**	**1.29**	**310**	P	**Pn**	**02 01 34.0**	**+2.3**
3.0nm,0.1s,SNR=23							
ESPR				S	**Sn**	**02 01 50.3**	**+1.4**
17nm,0.5s,SNR=9.1							
EALB	**Alboran**	**1.30**	**94**	P	**Pn**	**02 01 32.2**	**+0.5**
8.0nm,0.1s,SNR=19							
EALB				S	**Sn**	**02 01 48.1**	**-0.9**
28nm,0.4s							
EQUE	**Quentar**	**1.51**	**39**	P	**Pn**	**02 01 36.5**	**+2.0**
10nm,0.2s,SNR=29							
EQUE				S	**Sn**	**02 01 54.5**	**+0.6**
2.1nm,0.4s,SNR=6.6							
RSA	**Sarsar**	**1.51**	**221**	P	**Pn**	**02 01 37.3**	**+2.8**
RSA				S	**Sn**	**02 01 51.4**	**-2.5**
EMEL	**Melilla**	**1.55**	**118**	P	**Pn**	**02 01 35.9**	**+0.9**
26nm,0.1s,SNR=7.9							
EMEL				S	**Sn**	**02 01 54.0**	**-0.7**
57nm,0.3s,SNR=6.2							
GOG	**Mont Gurugu**	**1.56**	**121**	P	**Pn**	**02 01 36.3**	**+1.2**
GOG				S	**Sn**	**02 01 54.5**	**-0.5**
MELI	**Melilla**	**1.56**	**118**	S	**Sn**	**02 01 53.6**	**-1.4**
25nm,0.2s,SNR=7.9							
EBER	**Berja**	**1.64**	**58**	⇓P	**Pn**	**02 01 37.2**	**+0.9**
8.8nm,0.1s,SNR=18							
EBER				S	**Sn**	**02 01 57.2**	**0.0**
8.7nm,0.4s,SNR=5.6							
GORA	**Gorafe**	**1.92**	**41**	P	**Pn**	**02 01 42.8**	**+2.8**
6.2nm,0.1s,SNR=7.9							
GORA				S	**Sn**	**02 02 05.1**	**+1.6**
19nm,0.6s,SNR=7.9							
EADA	**Adamuz**	**2.13**	**1**	⇓P	**Pn**	**02 01 44.1**	**+1.5**
7

PBEJ S Sn 02 02 34.1 -1.6
PBEJ A A 02 02 35.8
20nm,0.3s
MORF Marmelete 3.47 293 eP Pn 02 02 01.8 +1.1
MORF eS Sn 02 02 39.1 -1.7
MORF AML AML 02 02 40.5
comp=N,40nm,0.2s
MORF Marmelete 3.47 293 P Pn 02 02 01.8 +1.1
MORF S Sn 02 02 39.1 -1.7
comp=N,40nm,0.2s
MORF Marmelete 3.47 293 eP Pn 02 02 01.9 +1.1
MORF S Sn 02 02 39.1 -1.7
MORF A A 02 02 41.5
comp=N,26nm,0.1s
PAB San Pablo 3.51 4 P Pn 02 02 02.5 +1.2
comp=N,0.6nm,0.1s,SNR=7.9
PAB S Sn 02 02 39.5 -2.2
comp=N,6.6nm,0.4s,SNR=7.9
PFVI Vila Bisbo 3.55 289 P Pn 02 02 03.2 +1.5
comp=N,2.8nm,0.1s,SNR=10
PFVI S Sn 02 02 40.9 -1.7
comp=N,29nm,0.7s,SNR=6.4
PFVI Vila Bisbo 3.55 289 eP Pn 02 02 03.2 +1.5
PFVI S Sn 02 02 41.0 -1.6
PFVI A A 02 02 43.3
comp=N,21nm,0.1s
AVE Averroes 3.57 221 P Pn 02 02 03.1 +1.1
AVE S Sn 02 02 39.3 -3.8
AVE Averroes 3.57 221 eP Pn 02 02 03.4 +1.4
AVE eS Sn 02 02 40.2 -2.8
ETOB Tobarra 3.58 42 ⇓P Pn 02 02 03.8 +1.6
comp=N,5.2nm,0.2s,SNR=18
ETOB S Sn 02 02 42.1 -1.3
comp=N,2.3nm,0.3s,SNR=7.9
PTEO Sao Teotonio 3.62 296 eP Pn 02 02 04.7 +2.1
PTEO S Sn 02 02 43.0 -1.2
PTEO A A 02 02 46.4
comp=N,13nm,0.3s
ESDC Sonseca Array 3.67 8 P Pn 02 02 04.7 +1.3
comp=N,1.3nm,0.1s,baz=183,slow=12,SNR=20
ESDC S Sn 02 02 43.0 -2.5
comp=N,3.7nm,0.3s,baz=184,slow=23,SNR=46
EVO Evora 3.67 314 P Pn 02 02 05.0 +1.7
EVO S Sn 02 02 44.0 -1.6
EVO Evora 3.67 314 eP Pn 02 02 05.0 +1.7
EVO eS Sn 02 02 44.0 -1.6
EVO Evora 3.67 314 eP Pn 02 02 05.2 +1.8
EVO S Sn 02 02 44.1 -1.5
EVO A A 02 02 44.6
comp=N,26nm,0.1s
PNCL Nicolau / Gran 3.75 305 eP Pn 02 02 05.9 +1.6
PNCL S Sn 02 02 46.0 -1.3
PNCL A A 02 02 47.6
comp=N,27nm,0.3s
PMRV Marv??o 4.03 328 eP Pn 02 02 10.0 +1.7
PMRV S Sn 02 02 52.7 -1.6
PMRV A A 02 03 07.0
comp=N,5.7nm,0.3s
PMTG Montargil 4.16 318 eP Pn 02 02 11.5 +1.5
PMTG S Sn 02 02 55.4 -2.1
PMTG A A 02 03 08.1
comp=N,4.3nm,0.2s
AFON Font Roja 4.18 50 P Pn 02 02 12.8 +2.4
comp=N,1.2nm,0.1s,SNR=9.2
AFON S Sn 02 02 55.9 -2.2
comp=N,72nm,1.7s
EPLA Plasencia 4.18 345 P Pn 02 02 11.9 +1.6
comp=N,0.4nm,0.0s,SNR=11
EPLA S Sn 02 02 55.3 -2.6
comp=N,1.2nm,0.7s,SNR=5.5
UCM Universidad Co 4.40 14 P Pn 02 02 15.1 +1.8
UCM S Sn 02 03 00.5 -2.8
UCM Universidad Co 4.40 14 eP Pn 02 02 15.1 +1.8
UCM eS Sn 02 03 00.5 -2.8
PCBR Castelo Branco 4.42 330 eP Pn 02 02 15.2 +1.8
PCBR S Sn 02 03 01.1 -2.5
PCBR A A 02 03 01.3
comp=N,4.2nm,0.4s
SRHM Skhour des Reh 4.47 218 P Pn 02 02 19.6 +5.3
ECHE Chera 4.58 38 P Pn 02 02 17.1 +1.3
comp=N,1.2nm,0.1s,SNR=7.9
ECHE S Sn 02 03 04.1 -3.6
comp=N,0.5nm,0.2s,SNR=7.9
PMAFR Mafra 4.71 310 P Pn 02 02 19.4 +1.9
comp=N,1.8nm,0.1s,SNR=10
PMAFR S Sn 02 03 08.8 -2.1
comp=N,64nm,1.3s,SNR=5.6
PMAFR Mafra 4.71 310 eP Pn 02 02 19.4 +1.9
PMAFR S Sn 02 03 09.2 -1.6
PMAFR A A 02 03 23.1
comp=N,11nm,0.7s
PSBE So Bento 4.79 318 eP Pn 02 02 20.9 +2.3
PSBE S Sn 02 03 11.2 -1.6
PSBE A A 02 03 14.7
comp=N,4.3nm,0.7s
PCAS Casmilo, Conde 5.04 324 eP Pn 02 02 24.1 +2.1
PCAS S Sn 02 03 15.8 -3.1
PCAS A A 02 03 18.3
comp=N,3.5nm,0.3s
ETOR Torete 5.18 22 ⇓P Pn 02 02 25.4 +1.3
comp=N,20nm,0.2s,SNR=18
ETOR S Sn 02 03 18.3 -4.2
comp=N,5.2nm,0.3s,SNR=6.2
TZRR Tazzarine 5.30 189 P Pn 02 02 27.8 +2.2
TZRR S Sn 02 03 22.1 -3.3
PVIS Viseu 5.33 332 eP Pn 02 02 28.0 +2.0
PVIS S Sn 02 03 25.0 -1.0
PVIS A A 02 03 26.3
comp=N,7.0nm,0.5s
OUZM OUZ 5.42 200 P Pn 02 02 28.9 +1.6
OUZM S Sn 02 03 26.8 -1.5
EMOS Mosqueruela 5.42 36 P Pn 02 02 29.5 +2.2
comp=N,0.3nm,0.1s,SNR=7.9
EMOS S Sn 02 03 24.5 -3.9
comp=N,15nm,1.4s
MVO Moncorvo 5.45 341 P Pn 02 02 29.5 +1.8
comp=N,1.4nm,0.1s,SNR=10
MVO S Sn 02 03 25.9 -3.2
comp=N,6.2nm,0.9s
MVO Moncorvo 5.45 341 eP Pn 02 02 29.5 +1.8
MVO S Sn 02 03 27.2 -1.9
MVO A A 02 03 32.1
comp=N,3.3nm,0.3s
OUK Oukaimeden 5.52 210 P Pn 02 02 29.1 +0.2
OUK S Sn 02 03 28.6 -2.6
PVRL Vila Real 5.76 336 S Sn 02 03 34.2 -2.3
PVRL A A 02 03 38.2
comp=N,13nm,0.1s
ZGR Zagora 5.96 188 P Pn 02 02 36.9 +2.2
ZGR S Sn 02 03 39.6 -2.0
PTO Porto 5.97 330 S Sn 02 03 39.6 -1.9
PTO A A 02 03 43.8
comp=N,14nm,0.2s
PBRG Braganca 5.99 345 eP Pn 02 02 37.0 +2.0
PBRG S Sn 02 03 38.6 -3.5
PBRG A A 02 03 42.1
comp=N,2.6nm,0.2s
ECAL Calabor 6.12 345 P Pn 02 02 39.1 +2.3
comp=N,0.2nm,0.1s,SNR=7.9
ECAL S Sn 02 03 42.8 -2.6
comp=N,2.9nm,0.3s,SNR=7.4
ELOB Lobios 6.41 336 P Pn 02 02 42.5 +1.8
comp=N,0.3nm,0.1s,SNR=7.9
ELOB S Sn 02 03 49.5 -2.9
comp=N,5.4nm,0.9s,SNR=6.3
PGAV Gavieira, Arco 6.56 336 eP Pn 02 02 45.1 +2.3
PGAV S Sn 02 03 54.8 -1.4
EZAM Zamans 6.87 334 S Sn 02 04 00.5 -3.1
comp=N,2.3nm,0.4s,SNR=7.9
EPOB Poblet 6.93 38 P Pn 02 02 49.8 +2.0
comp=N,0.6nm,0.2s,SNR=7.9
ELAN Lanestosa 7.24 7 P Pn 02 02 54.3 +2.3
comp=N,0.4nm,0.1s,SNR=7.9
ELAN S Sn 02 04 09.2 -3.6
comp=N,2.8nm,0.8s,SNR=9.9
EARI Arriondas 7.27 357 P Pn 02 02 54.8 +2.4
comp=N,0.2nm,0.1s,SNR=7.9
EARI S Sn 02 04 09.0 -4.3
comp=N,2.6nm,0.8s,SNR=6.9
EORO Oroz-Betelu 7.31 20 P Pn 02 02 54.8 +1.9
comp=N,0.3nm,0.1s,SNR=7.9
EORO S Sn 02 04 11.3 -3.1
comp=N,0.7nm,0.4s,SNR=8.1
EPON Pontenova 7.54 346 P Pn 02 02 59.7 +3.7
comp=N,0.1nm,0.1s,SNR=7.9
EPON S Sn 02 04 16.5 -3.3
comp=N,1.1nm,0.2s,SNR=7.9
ETSF Etsaut 7.54 23 ePn Pn 02 02 58.4 +2.3
ETSF eSn Sn 02 04 16.0 -4.0
comp=N,1.0nm,0.3s
ETSF Etsaut 7.54 23 P Pn 02 02 58.4 +2.3
ETSF S Sn 02 04 16.0 -4.0
comp=N,0.5nm,0.3s
SJPF Ste Jean 7.54 19 ePn Pn 02 02 57.5 +1.5
SJPF eSn Sn 02 04 16.6 -3.3
comp=N,1.7nm,0.3s
SJPF Ste Jean 7.54 19 P Pn 02 02 57.5 +1.5
SJPF S Sn 02 04 16.6 -3.3
comp=N,0.9nm,0.3s
EALK Alkurruntz 7.57 18 P Pn 02 02 58.5 +2.0
comp=N,1.1nm,0.1s,SNR=7.9
EALK S Sn 02 04 16.6 -4.0
comp=N,2.0nm,0.3s,SNR=18
ATE Arette 7.66 22 P Pn 02 02 59.9 +2.2
comp=N,0.7nm,0.1s,SNR=7.9
ATE S Sn 02 04 18.9 -4.0
comp=N,0.5nm,0.2s,SNR=7.9
CSOR Sort 7.75 33 P Pn 02 03 00.8 +1.8
comp=N,0.2nm,0.1s,SNR=7.9
CSOR S Sn 02 04 22.2 -3.0
comp=N,3.5nm,0.8s,SNR=7.9
EPF Esparros 7.97 27 ePn Pn 02 03 02.8 +0.9
EPF eSn Sn 02 04 26.2 -4.2
comp=N,1.1nm,0.3s
EPF Esparros 7.97 27 P Pn 02 03 02.8 +0.9
EPF S Sn 02 04 26.2 -4.2
comp=N,0.6nm,0.3s
CLLI Llivia 8.22 37 P Pn 02 03 08.0 +2.6
comp=N,0.1nm,0.1s,SNR=7.9

*IDC **21** 02:01:18.4±1.3, 15.°59N×147.°87E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/56, mbtmp3.7/9, ML3.4/1, Error ellipse: s-maj=37.7km s-min=19.2km az=103.0*
ISC 21 02:01:22.7±1.3, 15.°6N±0.°1×147.°9E±0.°2, h29km, n15, σ0§40/10, mb3.6/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.51**	**236**	Pn	Pn	02 02 15.2	-0.2
GUMO	3.5nm,0.3s,baz=192,slow=15,SNR=1.8			Sn	Sn	02 02 56.2	+0.3
	12nm,0.3s,baz=186,slow=20,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**18.24**	**78**	T	T	02 24 01.4	
	baz=262,slow=73,SNR=20						
H11S1	**WAKE ISLAND Hy**	**18.25**	**78**	T	T	02 24 02.4	
	baz=262,slow=73,SNR=16						
H11S2	**WAKE ISLAND Hy**	**18.25**	**78**	T	T	02 24 03.2	
	baz=262,slow=73,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**18.60**	**74**	T	T	02 24 30.0	
	baz=258						
H11N2	**WAKE ISLAND Hy**	**18.61**	**74**	T	T	02 24 32.7	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**18.61**	**74**	T	T	02 24 33.1	
	baz=258						
MJAR	**Matsushiro Arr**	**22.57**	**339**	P	**P**	02 06 20.3	-0.4
	0.8nm,0.7s,baz=164,slow=8.8,SNR=2.1						
WRA	**Warramunga Arr**	**37.73**	**201**	P	**P**	02 08 35.6	-0.5
	0.9nm,0.9s,baz=24,slow=8.6,SNR=4.9						
ASAR	**Alice Springs**	**41.33**	**200**	P	**P**	02 09 06.5	+0.4
	0.6nm,0.6s,baz=25,slow=7.5,SNR=12						
CMAR	**Chiang Mai Arr**	**46.75**	**281**	P	**P**	02 09 49.6	-0.1
	0.8nm,0.3s,baz=86,slow=6.4,SNR=1.4						
MKAR	**Makanchi Array**	**62.10**	**315**	P	**P**	02 11 41.2	+0.2
	0.3nm,0.5s,baz=109,slow=7.8,SNR=2.3						
KURBB	**Kurchatov Arra**	**65.00**	**319**	P	**P**	02 12 00.6	+0.6
	0.6nm,0.5s,baz=100,slow=7.1,SNR=10						
ILAR	**Eielson Array**	**65.53**	**25**	P	**P**	02 12 03.4	+0.2
	0.2nm,0.6s,baz=274,slow=4.3,SNR=1.8						
FINES	**FINESS Array B**	**90.55**	**336**	P	**P**	02 14 21.7	-0.2
	1.1nm,0.6s,baz=75,slow=4.6,SNR=15						

IDC 21 02:09:11.6±22.0, 19.°81S×179.°06W, h650km±204km, mb3.1/4, mb1 3.3/4, mb1mx2.8/35, mbtmp4.2/4, Error ellipse: s-maj=238.2km s-min=85.3km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.57**	**263**	P	P	02 14 53.5	+0.7
	2.1nm,0.4s,baz=100,slow=14						
ASAR	**Alice Springs**	**43.71**	**256**	P	P	02 16 21.9	-0.3
	2.9nm,0.5s,baz=96,slow=7.6,SNR=64						
ASAR				PcP	PcP	02 17 54.3	+0.2
	0.3nm,0.5s,baz=109,slow=4.0,SNR=5.9						
WRA	**Warramunga Arr**	**43.71**	**262**	P	P	02 16 22.0	-0.3
	1.5nm,0.3s,baz=96,slow=7.0,SNR=41						
FITZ	**Fitzroy Crossi**	**52.13**	**262**	P	P	02 17 25.1	+0.6
	0.6nm,0.5s,baz=135,slow=1.4,SNR=1.8						
AKASG	**Malin Array Be**	**141.93**	**331**	PKP	PKPdf	02 27 28.3	-2.8
	0.4nm,0.4s,baz=41,slow=4.3,SNR=8.7						
BRTR	**Keskin Array B**	**145.64**	**312**	PKPbc	PKPbc	02 27 39.2	-0.8
	0.4nm,0.4s,baz=49,slow=2.0,SNR=4.7						
GERES	**GERESS Array B**	**149.26**	**343**	PKPbc	PKPbc	02 27 48.8	-0.1
	0.1nm,0.3s,baz=42,slow=1.6,SNR=2.4						

*BJI **21** 02:26:06.3±0.0, 51.°07N×169.°39W, h6km, mB5.1/10, mb4.8/11*
*IDC **21** 02:26:06.4±0.7, 51.°14N×169.°16W, h0km, mb4.2/29, mb1 4.5/29, mb1mx4.3/52, mbtmp4.3/29, MS3.1/6, Ms1 3.1/6, ms1mx2.8/42, Error ellipse: s-maj=21.2km s-min=12.4km az=174.0*
*UNK **21** 02:26:08.2, 51.°33N×169.°05W, h4km*
*NEIC **21** 02:26:10.1±2.1, 51.°29N±0.°07×169.°11W±0.°08, h20km±1km, Error ellipse: s-maj=10.1km s-min=6.5km az=157.0*
*AEIC **21** 02:26:11.9±2.4, 51.°30N±0.°06×169.°11W±0.°08, h30km±4km, ML3.8/46, mb4.5/121(NEIC), Error ellipse: s-maj=8.9km s-min=6.7km az=159.0*
*MOS **21** 02:26:12.3±0.7, 51.°36N×169.°15W, h35km, mb4.7/18, Error ellipse: s-maj=25.4km s-min=9.0km az=100.4*
*BGR **21** 02:26:15.4±0.0, 51.°26N×171.°46W, h33km, mb4.9*
ISC 21 02:26:12.6±0.5, 51.°30N±0.°07×169.°09W±0.°04, h35km, n398, σ1§36/396, mb4.5/89, MS3.0/6, 22C-7D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.68**	**5**		**Pn**	02 26 37.8	-1.7
NIKH					**Sn**	02 26 59.0	-0.8
OKSP	**Okmok Steeple**	**2.02**	**14**		**Pn**	02 26 42.3	-1.8
OKFG	**Magazine Ridge**	**2.23**	**18**		**Pn**	02 26 45.7	-1.4
OKFG					**Sn**	02 27 12.6	-0.9
MAPS	**Pakushin South**	**2.83**	**27**		**Pn**	02 26 53.8	-1.5
MGOD	**Makushin Gods**	**2.84**	**28**		**Pn**	02 26 54.2	-1.3
MGOD					**Sn**	02 27 27.1	-1.4
MREP	**Makushin Rep't**	**2.89**	**29**		**Pn**	02 26 54.9	-1.3
MSW	**Makushin Switc**	**2.97**	**27**		**Pn**	02 26 56.0	-1.2
MNAT	**Makushin Natee**	**2.98**	**29**		**Pn**	02 26 56.1	-1.2
UNV	**Unalaska Valle**	**3.00**	**31**	Pn	**Pn**	02 26 56.0	-1.5
UNV	**Unalaska Valle**	**3.00**	**31**		**Sn**	02 27 31.8	-0.5
KOSE	**Korovin Southe**	**3.25**	**291**		**Pn**	02 26 59.8	-1.3
ATKA	**Atka Island**	**3.30**	**288**	Pn	**Pn**	02 26 59.5	-2.2
ATKA	**Atka Island**	**3.30**	**288**		**Sn**	02 27 37.7	-2.0
AKMO	**Akutan Morgan**	**3.37**	**33**		**Pn**	02 27 01.8	-0.8
AKMO					**Sn**	02 27 40.1	-1.2
AKRB	**Akutan Reef Bi**	**3.38**	**32**		**Pn**	02 27 02.6	-0.2
AKBBA	**Akutan Broad B**	**3.40**	**33**		**Pn**	02 27 02.3	-0.8
AKLV	**Akutan Long Va**	**3.44**	**32**		**Pn**	02 27 03.1	-0.7
AKUT	**Akutan**	**3.48**	**34**	Pn	**Pn**	02 27 02.7	-1.5
AKSA	**Akutan Strait**	**3.51**	**35**		**Pn**	02 27 03.3	-1.3
WESP	**Westdahl Peak**	**4.15**	**38**		**Pn**	02 27 13.1	-0.4
WEBT	**Westdahl Beart**	**4.21**	**37**		**Pn**	02 27 13.6	-0.7
GSMY	**Great Sitkin M**	**4.40**	**282**		**Pn**	02 27 16.0	-0.9
GSTR	**Great Sitkin T**	**4.41**	**283**	Pn	**Pn**	02 27 16.1	-0.9
GSTD	**Great Sitkin T**	**4.46**	**283**		**Pn**	02 27 16.6	-1.0
ADAG	**Mount Adagdak**	**4.73**	**281**		**Pn**	02 27 21.1	-0.3
ADK	**Adak**	**4.77**	**280**	Pn	**Pn**	02 27 20.1	-1.8
FALS	**False Pass**	**4.94**	**42**	Pn	**Pn**	02 27 23.0	-1.2
DT1	**Dutton Round H**	**5.59**	**44**		**Pn**	02 27 32.7	-0.5
TASE	**Tanaga Southea**	**5.61**	**279**		**Pn**	02 27 33.0	-0.4
HAG	**Hague Volcano**	**5.89**	**44**		**Pn**	02 27 37.2	-0.2
SPIA	**Saint Paul Isl**	**5.93**	**354**		**Pn**	02 27 37.4	-0.4
PS4A	**Pavlof South-4**	**5.93**	**44**		**Pn**	02 27 37.4	-0.5
SDPT	**Sand Point**	**6.56**	**48**		**Pn**	02 27 45.5	-1.0
CNBA	**Chernabura Isl**	**6.72**	**55**	Pn	**Pn**	02 27 47.0	-1.7
AMKA	**Amchitka**	**7.28**	**275**		**Pn**	02 27 55.0	-1.3
VNWF	**Veniaminof 8**	**7.45**	**46**		**Pn**	02 27 58.8	+0.1
CHIR	**Chirikof Islan**	**9.20**	**55**		**Pn**	02 28 21.1	-1.6
SII	**Sitkinak Islan**	**10.24**	**53**		**Pn**	02 28 35.0	-1.9
OHAK	**Old Harbor**	**10.97**	**51**	Pn	**Pn**	02 28 44.4	-2.4
KDAK	**Kodiak Island**	**11.56**	**49**	Pn	**Pn**	02 28 52.0	-2.9
	6.6nm,0.3s,baz=244,slow=6.6,SNR=57						
KDAK	**Kodiak Island**	**11.56**	**49**	Pn	**Pn**	02 28 51.5	-3.4
SVW2	**Sparrevohn**	**12.34**	**32**	Pn	**Pn**	02 29 04.8	-0.7
HOM	**Homer**	**12.93**	**43**	P	**Pn**	02 29 12.1	-1.5
	baz=237						
RSO	**Redoubt South**	**12.94**	**38**		**Pn**	02 29 12.8	-1.0
CNPM	**China Poot**	**13.03**	**44**	Pn	**Pn**	02 29 12.4	-2.6
BRLK	**Bradley Lake**	**13.31**	**43**	Pn	**Pn**	02 29 17.0	-1.8
SEW	**Seward**	**14.10**	**44**	Pn	**Pn**	02 29 27.2	-2.4
O22K	**Cooper Landing**	**14.18**	**42**	P	**Pn**	02 29 28.7	-2.0
	baz=238,SNR=6.0						
SUA	**Susitna One**	**14.32**	**38**		**Pn**	02 29 31.0	-1.7
SKT	**Skwentna**	**14.36**	**35**		**Pn**	02 29 33.0	-0.1
PPLA	**Purkeypile**	**14.75**	**32**	Pn	**Pn**	02 29 36.5	-2.0
KNK	**Knik Glacier**	**15.20**	**40**		**Pn**	02 29 41.1	-3.3
KNK				IAmb	IAmb	02 29 51.9	
	comp=Z,14nm,0.7s						
GHO	**Glory Hole Cre**	**15.21**	**39**	Pn	**Pn**	02 29 42.3	-2.3
GHO				IAmb	IAmb	02 30 26.5	
	comp=Z,26nm,1.4s						
SML	**Sawmill**	**15.47**	**39**		**Pn**	02 29 45.1	-2.8
HIN	**Hinchinbrook I**	**15.54**	**45**	Pn	**Pn**	02 29 46.0	-2.8
KTH	**Kantishna Hill**	**15.62**	**31**	Pn	**Pn**	02 29 49.3	-0.5
KTH				IAmb	IAmb	02 29 50.7	
	comp=Z,31nm,1.0s						
TRF	**Thorofare Moun**	**15.76**	**32**		**Pn**	02 29 51.7	0.0
SCM	**Sheep Creek Mo**	**15.88**	**40**		**Pn**	02 29 49.9	-3.3
EYAK	**Cordova Ski Ar**	**15.94**	**45**		**Pn**	02 29 50.3	-3.6
EYAK				IAmb	IAmb	02 29 51.4	
	comp=Z,18nm,0.6s						
BPAW	**Bear Paw Mtn.**	**15.98**	**30**		**Pn**	02 29 54.0	-0.4
BPAW				IAmb	IAmb	02 29 59.7	
	comp=Z,15nm,0.6s						
RND	**Reindeer**	**16.22**	**34**		**Pn**	02 29 56.5	-1.1
KLU	**Klutina**	**16.29**	**42**	P	**Pn**	02 29 55.0	-3.5
RAGM	**Ragged Mountai**	**16.36**	**47**		**Pn**	02 29 57.6	-1.8
MCK	**McKinley**	**16.40**	**33**	P	**P**	02 30 02.8	+0.5
M24K	**Tolsona, Glenn**	**16.49**	**40**	P	**Pn**	02 29 58.1	-2.9
	baz=239,SNR=13						
M24K	**Tolsona, Glenn**	**16.49**	**40**	Pn	**Pn**	02 29 58.1	-2.9
HMT	**Hamilton**	**16.53**	**47**		**Pn**	02 29 60.0	-1.5
DHY	**Denali Highway**	**16.55**	**36**		**Pn**	02 29 59.0	-2.8
IMAR	**Indian Mountai**	**16.67**	**22**		**Pn**	02 30 02.9	-0.2
NEA2	**Nenana**	**16.93**	**30**	P	**Pn**	02 30 04.4	-2.0
	baz=228						
WRH	**Wood River Hil**	**17.16**	**32**	Pn	**Pn**	02 30 06.4	-3.0
GLB	**Gilahina Butte**	**17.18**	**44**		**Pn**	02 30 07.3	-2.3
GLB				IAmb	IAmb	02 30 14.3	
	comp=Z,35nm,0.9s						
CRQM	**Cirque**	**17.20**	**47**		**Pn**	02 30 08.6	-1.4
CRQM				IAmb	IAmb	02 30 15.9	
	comp=Z,67nm,1.4s						
PAX	**Paxson**	**17.22**	**38**		**Pn**	02 30 09.1	-1.1
WAX	**Waxell Ridge**	**17.23**	**48**	Pn	**Pn**	02 30 04.2	-6.0
VRDI	**Verde Repeater**	**17.25**	**45**		**Pn**	02 30 07.9	-2.7
VRDI				IAmb	IAmb	02 30 15.5	
	comp=Z,34nm,0.8s						
TGL	**Tana Glacier**	**17.34**	**47**	P	**Pn**	02 30 10.6	-1.1
TGL				IAmb	IAmb	02 30 19.5	
	comp=Z,54nm,1.3s						
CCB	**Clear Creek Bu**	**17.37**	**32**		**Pn**	02 30 08.9	-3.0
MDM	**Murphy Dome**	**17.44**	**30**	P	**Pn**	02 30 09.9	-2.9
MCARA	**McCarthy VSAT**	**17.50**	**45**	P	**Pn**	02 30 12.7	-0.8
COLA	**College**	**17.50**	**31**	*i* P	**Pn**	02 30 09.8	-3.7
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HDA	**Harding Lake**	**17.51**	**33**	P	**Pn**	02 30 10.4	-3.3
	baz=232						
HDA	**Harding Lake**	**17.51**	**33**	P	**P**	02 30 14.2	-0.3
ISLE	**Juniper Island**	**17.52**	**48**	P	**Pn**	02 30 13.9	0.0
ISLE				IAmb	IAmb	02 30 23.5	
	comp=Z,18nm,0.7s						
BALM	**Baldy**	**17.67**	**46**		**Pn**	02 30 14.4	-1.3
BALM				IAmb	IAmb	02 30 20.6	
	comp=Z,42nm,1.4s						
YAH	**Yahtse**	**17.71**	**49**	P	**Pn**	02 30 16.6	+0.1
YAH				IAmb	IAmb	02 30 27.3	
	comp=Z,24nm,0.8s						
IL31		**17.75**	**32**	P	**Pn**	02 30 16.1	-0.5
ILAR	**Eielson Array**	**17.75**	**32**	P	**Pn**	02 30 12.4	-4.3
	comp=Z,0.4nm,0.3s,baz=229,slow=10,SNR=23						
ILAR	**Eielson Array**	**17.75**	**32**	P	**Pn**	02 30 15.8	-0.8
RIDG	**Independent Ri**	**17.87**	**37**	P	**Pn**	02 30 17.6	-0.6
MENT	**Mentasta**	**17.89**	**40**	P	**P**	02 30 19.7	+0.9
BARN	**Barnard Glacie**	**17.99**	**47**	P	**Pn**	02 30 19.4	-0.3
BARN				IAmb	IAmb	02 30 27.3	
	comp=Z,24nm,0.7s						
CTGM	**Chitina Glacie**	**18.10**	**47**	P	**P**	02 30 21.3	+0.1
DOT	**Dot Lake**	**18.12**	**37**	Pn	**Pn**	02 30 19.2	-2.0
SCRK	**Sand Creek**	**18.32**	**37**	P	**P**	02 30 20.5	-3.1
	baz=238,SNR=7.5						
COLD	**Coldfoot**	**18.52**	**23**	P	**Pn**	02 30 26.6	+0.6
	baz=220,SNR=17						
COLD	**Coldfoot**	**18.52**	**23**	P	**P**	02 30 25.1	-0.5
COLD				IAmb	IAmb	02 30 27.7	
	comp=Z,24nm,0.9s						
BCAR	**Beaver Creek A**	**18.73**	**41**	P	**P**	02 30 26.4	-1.7
K27K	**Chicken**	**19.07**	**38**	P	**P**	02 30 31.5	-0.2
	baz=241						
FYU	**Fort Yukon**	**19.43**	**29**	P	**P**	02 30 36.2	+0.6
TOLK	**Toolik Lake Re**	**19.77**	**21**	P	**P**	02 30 40.1	+0.7
	baz=218						
TOLK	**Toolik Lake Re**	**19.77**	**21**	P	**P**	02 30 38.3	-1.0
TOLK				IAmb	IAmb	02 30 47.6	
	comp=Z,12nm,0.7s						
BMAR	**Burnt Mountain**	**20.19**	**28**	P	Pn	02 30 45.2	-0.8
PETK	**Petropavlovsk-**	**20.34**	**288**	P	**P**	02 30 43.6	-1.9
	comp=Z,3.5nm,0.6s,baz=93,slow=14,SNR=16						
WHY	**Whitehorse**	**21.07**	**50**	P	**P**	02 30 52.9	-0.7
EPYK	**Eagle Plains**	**22.17**	**35**	P	**P**	02 31 04.4	-0.8
	baz=243,SNR=12						
DLBC	**Dease Lake**	**23.31**	**57**	P	**P**	02 31 16.7	-0.4
	comp=Z,5.3nm,1.0s,baz=249,slow=11,SNR=4.0						
SEY	**Seymchan**	**23.54**	**314**	P	**P**	02 31 18.5	-0.7
	comp=Z,3.8nm,0.8s,baz=106,slow=9.1,SNR=4.4						
SEY	**Seymchan**	**23.54**	**314**	*i* P	**P**	02 31 18.3	-0.9
MA2	**Magadan**	**23.90**	**306**	P	**P**	02 31 22.4	-0.3
	comp=Z,12nm,0.8s,baz=93,slow=15,SNR=4.3						
MA2				LR	LR	02 39 17.6	
	comp=Z,23nm,20.9s,baz=337,slow=33						
MA2	**Magadan**	**23.90**	**306**	P	**P**	02 31 22.0	-0.7
INK	**Inuvik**	**24.16**	**32**	P	**P**	02 31 25.3	+0.4
	comp=Z,9.0nm,0.6s,baz=269,slow=31,SNR=37						
INK				LR	LR	02 42 16.1	
	comp=Z,36nm,19.5s,baz=187,slow=40						
INK	**Inuvik**	**24.16**	**32**	P	**P**	02 31 24.0	-0.9
INK				IAmb	IAmb	02 31 26.5	
	comp=Z,10nm,0.7s						
INK					**S**	02 35 43.7	+3.5
BBB	**Bella Bella**	**25.15**	**72**	LR	LR	02 39 27.0	
	comp=Z,39nm,19.7s,baz=204,slow=32						
E04D	**Cinebar**	**30.52**	**80**	P	**P**	02 32 23.6	+1.4
	baz=296						
YKA	**Yellowknife Ar**	**30.83**	**48**	P	**P**	02 32 25.0	+0.3
	comp=Z,1.7nm,0.8s,baz=277,slow=8.4,SNR=5.3						
YKA	**Yellowknife Ar**	**30.83**	**48⇑**	*e*P	**P**	02 32 26.2	+1.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
H04A	**Detroit Lake**	**31.63**	**83**

WAKR Walker 36.73 91 P **P** **02 33 18.2 +1.8**
WAKR IAmb IAmb 02 33 18.3
comp=Z,3.8nm,0.7s
H11N2 WAKE ISLAND Hy 36.73 220 T T 03 14 42.0
baz=24,slow=75,SNR=33
H11N3 WAKE ISLAND Hy 36.74 220 T T 03 14 55.5
baz=24,slow=75,SNR=4.0
H11N1 WAKE ISLAND Hy 36.75 220 T T 03 14 43.1
baz=24,slow=75,SNR=4.6
MCMT McKenzie Canyo 37.33 77 P **P** **02 33 21.5 -0.1**
MDPB Devils Postpil 37.48 91 P **P** **02 33 24.7 +1.7**
MDPB IAmb IAmb 02 33 25.2
comp=Z,7.6nm,0.9s
NVAR Mina Array Bea 37.48 90 P **P** **02 33 21.6 -1.3**
comp=Z,0.6nm,0.4s,baz=289,slow=9.0,SNR=8.1
NVAR Mina Array Bea 37.48 90 P **P** **02 33 23.2 +0.3**
NVAR **PcP** **02 35 40.4 -0.3**
OMMB Old Mammoth Mi 37.54 91 P **P** **02 33 25.2 +1.7**
OMMB IAmb IAmb 02 33 26.4
comp=Z,6.9nm,1.1s
EGMT Eagleton 37.64 71 P **P** **02 33 24.2 +0.2**
baz=298,SNR=5.6
EGMT Eagleton 37.64 71 P **P** **02 33 24.2 +0.2**
BOZ Bozeman (W) 37.69 75 P **P** **02 33 24.5 0.0**
baz=300
H11S1 WAKE ISLAND Hy 37.91 219 T T 03 16 18.7
baz=23,slow=76,SNR=14
H11S2 WAKE ISLAND Hy 37.93 219 T T 03 16 23.6
baz=23,slow=76,SNR=8.5
H11S3 WAKE ISLAND Hy 37.93 219 T T 03 16 31.7
baz=23,slow=76,SNR=7.6
TPH Tonopah 38.37 89 P **P** **02 33 32.1 +1.6**
YHH Holmes Hill 38.57 76 P **P** **02 33 31.3 -0.9**
PKM Mcpherson Peak 38.75 96 P **P** **02 33 35.0 +1.4**
baz=311
ISA Isabella, Lake 39.09 93 P **P** **02 33 36.6 +0.3**
baz=310
ISA Isabella, Lake 39.09 93 P **P** **02 33 37.0 +0.7**
ISA IAmb IAmb 02 33 37.5
comp=Z,6.4nm,0.9s
R11A Troy Canyon, C 39.24 88 P **P** **02 33 38.1 +0.5**
baz=307
USRK Ussuriysk Ar. 39.30 283 P **P** **02 33 37.1 -0.7**
comp=Z,1.8nm,0.8s,baz=78,slow=10.0,SNR=2.7
RLMT Red Lodge 39.36 75 P **P** **02 33 39.1 +0.5**
baz=301
RLMT Red Lodge 39.36 75 P **P** **02 33 39.3 +0.7**
MPMC Manual Prospec 39.45 92 P **P** **02 33 40.3 +0.8**
baz=309
FURC Furnace Creek, 39.59 91 P **P** **02 33 41.5 +1.2**
baz=309
TPNV Topopah Spring 39.67 90 P **P** **02 33 42.0 +0.7**
baz=309
TPNV Topopah Spring 39.67 90 P **P** **02 33 41.9 +0.7**
MJAR Matsushiro Arr 39.84 269 P **P** **02 33 39.8 -2.7**
comp=Z,1.3nm,0.7s,baz=41,slow=6.1,SNR=5.3
MJAR Matsushiro Arr 39.84 269 P **P** **02 33 42.7 +0.2**
MAT Matsushiro 39.84 269 P **P** **02 33 40.8 -1.7**
DUG Dugway, Tooele 39.88 84 P **P** **02 33 44.0 +1.1**
baz=306
PRN Pahroc Range 40.15 89 P **P** **02 33 46.9 +1.7**
PRN IAmb IAmb 02 33 47.6
comp=Z,14nm,1.4s
GSC Goldstone, Bar 40.36 93 P **P** **02 33 47.8 +1.0**
baz=310,SNR=7.0
GSC Goldstone, Bar 40.36 93 P **P** **02 33 47.9 +1.0**
GSC IAmb IAmb 02 33 48.6
comp=Z,9.6nm,1.1s
BW06 Boulder Array 40.44 78 P **P** **02 33 47.9 +0.3**
baz=304,SNR=6.2
BW06 Boulder Array 40.44 78 P **P** **02 33 48.0 +0.3**
PD31 Pinedale Array 40.44 78 P **P** **02 33 47.9 +0.2**
PDAR Pinedale Array 40.44 78 P **P** **02 33 47.2 -0.5**
comp=Z,2.8nm,0.9s,baz=308,slow=4.8,SNR=20
PDAR Pinedale Array 40.44 78 P **P** **02 33 47.5 -0.2**
BFSC Mount Baldy Ra 40.52 94 P **P** **02 33 49.2 +1.0**
baz=311,SNR=5.2
GMRC Granite Mounta 41.42 92 P **P** **02 33 56.1 +0.5**
baz=310
Q16A Castle Valley 41.66 84 P **P** **02 33 59.5 +1.8**
109C Camp Elliot, M 41.76 96 P **P** **02 33 58.9 +0.7**
baz=312
KNB Kanab 41.78 87 P **P** **02 34 00.6 +1.9**
BAR Barrett 42.17 95 P **P** **02 34 03.0 +1.4**
BAR IAmb IAmb 02 34 03.2
comp=Z,6.4nm,0.8s
MONP2 Monument Peak 42.18 95 P **P** **02 34 02.9 +0.9**
baz=312
W13A Hualapai Mount 42.33 90 P **P** **02 34 03.9 +0.7**
U15A North Rim 42.48 88 P **P** **02 34 05.5 +1.0**
U15A IAmb IAmb 02 34 06.3
comp=Z,8.9nm,1.3s
O20A White River Ci 42.76 80 P **P** **02 34 07.2 +0.6**
baz=306
O20A White River Ci 42.76 80 P **P** **02 34 07.2 +0.6**
O20A IAmb IAmb 02 34 07.5
comp=Z,6.7nm,0.8s
ESJX Sierra Juarez 43.07 96 P **P** **02 34 10.1 +0.9**
ESJX IAmb IAmb 02 34 10.9
comp=Z,5.8nm,0.8s
PV02 Paradox Valley 43.61 83 P **P** **02 34 14.2 +0.7**
PV02 IAmb IAmb 02 34 14.3
comp=Z,8.6nm,1.1s
WUAZ Wupatki 43.64 88 P **P** **02 34 14.6 +1.0**
baz=310
WUAZ Wupatki 43.64 88 P **P** **02 34 14.7 +1.0**
MDND Maddock 43.66 66 P **P** **02 34 13.9 +0.3**
baz=302
PV15 Paradox Valley 43.68 83 P **P** **02 34 14.8 +0.6**
PV15 IAmb IAmb 02 34 15.5
comp=Z,11nm,1.4s
N23A Red Feather La 43.73 78 P **P** **02 34 15.0 +0.5**
baz=306
N23A Red Feather La 43.73 78 P **P** **02 34 15.2 +0.6**
N23A IAmb IAmb 02 34 15.5
comp=Z,8.9nm,1.1s
PV01 Paradox Valley 43.76 83 P **P** **02 34 15.1 +0.3**
PV01 IAmb IAmb 02 34 15.5
comp=Z,4.6nm,0.9s
ULM Lac du Bonnet 44.51 61 P **P** **02 34 19.6 -0.7**
comp=Z,2.5nm,0.6s,baz=282,slow=9.3,SNR=3.5
ULM Lac du Bonnet 44.51 61 IAmb IAmb 02 34 28.8
comp=Z,34nm,1.9s
AGMN Agassiz Nation 45.54 64 P **P** **02 34 27.7 -0.8**
baz=303
AGMN Agassiz Nation 45.54 64 P **P** **02 34 27.9 -0.7**
AGMN IAmb IAmb 02 34 28.4
comp=Z,6.9nm,0.8s
SUSD Miller 45.90 70 P **P** **02 34 31.0 -0.4**
TUC Tucson 46.10 91 P **P** **02 34 33.6 +0.3**
baz=312
TUC Tucson 46.10 91 P **P** **02 34 33.0 -0.2**
TUC IAmb IAmb 02 34 37.1
comp=Z,5.5nm,1.4s
T25A Trinidad 46.96 81 P **P** **02 34 40.8 +0.7**
baz=309
T25A Trinidad 46.96 81 P **P** **02 34 40.8 +0.7**
ANMO Albuquerque 47.08 85 *ceP* **P** **02 34 41.1 0.0**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 47.08 85 P **P** **02 34 41.5 +0.4**
baz=311
ECSD EROS Data Cent 47.68 69 P **P** **02 34 43.9 -1.5**
baz=306,SNR=5.3
ECSD EROS Data Cent 47.68 69 P **P** **02 34 44.0 -1.4**
ECSD IAmb IAmb 02 34 44.3
comp=Z,4.8nm,0.7s
CBKS Cedar Bluff 48.79 76 P **P** **02 34 53.5 -0.5**
baz=309
SPMN Marine on St. 49.01 65 P **P** **02 34 54.6 -1.0**
baz=306
I37A Lemond, Waseca 49.39 67 P **P** **02 34 58.0 -0.4**
MNTX Cornudas Mount 49.91 87 P **P** **02 35 03.0 +0.4**
baz=313,SNR=6.0
MNTX Cornudas Mount 49.91 87 P **P** **02 35 02.2 -0.4**
MNTX IAmb IAmb 02 35 03.8
comp=Z,3.1nm,0.8s
N35A Tabor 49.99 72 P **P** **02 35 02.6 -0.5**
MSTX Muleshoe 50.02 83 P **P** **02 35 03.4 -0.1**
baz=312,SNR=6.0
MSTX Muleshoe 50.02 83 P **P** **02 35 03.5 -0.1**
DAG Danmarks Havn 50.83 8 *i P* **P** **02 35 10.0 +1.1**
comp=Z,9.6nm,0.8s
DAG Danmarks Havn 50.83 8 *i P* **P** **02 35 10.0 +1.1**
DAG pmax pmax
comp=Z,10.0nm,0.8s

TLY Talaya 51.12 307 *eP* **P** **02 35 12.7 +1.2**
TLY pmax pmax
comp=Z,32nm,1.2s
SUMG Summit 51.76 17 *i P* **P** **02 35 17.7 +1.3**
comp=Z,22nm,0.8s
SUMG Summit 51.76 17 *i P* **P** **02 35 17.7 +1.3**
SUMG pmax pmax
comp=Z,22nm,0.8s
SUMG Summit 51.76 17 P **P** **02 35 16.8 +0.4**
WMOK Wichita Mounta 51.99 80 P **P** **02 35 18.0 -0.2**
baz=312,SNR=5.5
WMOK Wichita Mounta 51.99 80 P **P** **02 35 18.1 -0.2**
WMOK IAmb IAmb 02 35 18.7
comp=Z,6.0nm,1.0s
P38A Dawn 52.02 72 P **P** **02 35 17.0 -1.3**
ZAK Zakamensk 52.08 306 *eP* **P** **02 35 19.8 +1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
MOY Mondy 52.44 308 *eP* **P** **02 35 22.7 +1.2**
MOY pmax pmax
comp=Z,20nm,1.9s
TX31 Lajitas Ar. Si 52.60 88 P **P** **02 35 22.9 -0.1**
TX32 Lajitas Array 52.60 88 P **P** **02 35 22.9 0.0**
TX32 IAmb IAmb 02 35 23.3
comp=Z,4.8nm,0.7s
TXAR Lajitas Array 52.60 88 P **P** **02 35 22.5 -0.4**
comp=Z,5.2nm,0.7s,baz=301,slow=5.7,SNR=53
ABTX Abilene, Hawle 52.87 82 P **P** **02 35 24.3 -0.5**
baz=313
P40A Paris 52.96 71 P **P** **02 35 23.8 -1.6**
HHC Hu-ho-hao-te 53.47 292 *eP* **P** **02 35 30.4 +1.2**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,140nm,6.7s
R40A Maddies Statio 53.63 72 P **P** **02 35 27.9 -2.4**
HDIL Hopedale 53.92 68 P **P** **02 35 30.6 -1.8**
baz=310
JCT Junction City 54.23 84 P **P** **02 35 33.9 -0.9**
baz=314
JCT Junction City 54.23 84 P **P** **02 35 33.9 -0.9**
JCT IAmb IAmb 02 35 34.6
comp=Z,6.0nm,0.8s
P43A Skaggs, Pawnee 54.38 69 P **P** **02 35 34.5 -1.2**
U40A Yellville 54.55 74 P **P** **02 35 35.0 -2.0**
baz=312,SNR=6.2
U40A Yellville 54.55 74 P **P** **02 35 35.0 -2.0**
WHTX Lake Whitney, 54.66 81 P **P** **02 35 36.7 -1.1**
W39A Magazine 54.76 76 P **P** **02 35 37.3 -1.2**
baz=312
FCAR Ozark Folk Cen 55.30 74 P **P** **02 35 40.5 -1.9**
X40A Basin Creek Fa 55.81 76 P **P** **02 35 45.4 -0.7**
baz=313
833A Chaparral WMA, 55.98 86 P **P** **02 35 47.0 -0.4**
baz=315
ALGO Algonquin Park 56.65 57 P **P** **02 35 51.4 -0.5**
baz=311
X43A Marvell 56.98 75 P **P** **02 35 53.3 -1.1**
baz=313
P49A Miami Univ. Ec 57.24 66 P **P** **02 35 54.1 -2.1**
baz=312
D55A Sainte-Anne-du 57.28 54 P **P** **02 35 55.5 -0.8**
baz=312
WVT Waverly 57.71 71 P **P** **02 35 58.4 -1.1**
baz=313
G55A Calabogie 57.82 56 P **P** **02 35 59.6 -0.5**
baz=312
OXF Oxford 57.87 74 P **P** **02 36 00.0 -0.7**
ZAIG Zacatecas 57.97 93 P **P** **02 36 00.7 -1.2**
ZAA0 Zalesovo Array 58.34 318 P **P** **02 36 03.6 -0.1**
ZAA0 IAmb IAmb 02 36 05.6
comp=Z,4.4nm,1.2s
ZALV Zalesovo Beam 58.34 318 P **P** **02 36 03.5 -0.2**
comp=Z,1.1nm,0.6s,baz=19,slow=6.3,SNR=6.6
ZALV PcP **PcP** **02 36 54.1 -0.2**
comp=Z,1.2nm,0.6s,baz=29,slow=3.3,SNR=4.2
ZALV Zalesovo Beam 58.34 318 *i P* **P** **02 36 04.8 +1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 58.34 318 P **P** **02 36 03.6 -0.1**
H56A Elgin 58.50 57 P **P** **02 36 04.4 -0.6**
baz=313
K56A Millesex 59.23 59 P **P** **02 36 09.6 -0.5**
baz=313
I57A Carthage 59.26 57 P **P** **02 36 09.9 -0.4**
baz=313
O54A Avella 59.27 63 P **P** **02 36 09.1 -1.2**
baz=313
M55A Ridgway 59.28 61 P **P** **02 36 09.6 -0.8**
baz=313
SSLB Suanglung 59.38 270 P **P** **02 36 12.9 +1.5**
L56A Greenwood 59.48 60 P **P** **02 36 11.3 -0.6**
baz=313
M56A Emporium 59.59 61 P **P** **02 36 11.7 -0.9**
baz=313
N55A Marion Center 59.63 62 P **P** **02 36 11.8 -1.1**
baz=313
I58A Old Forge 59.80 57 P **P** **02 36 13.5 -0.5**
baz=314
J58A Remsen 59.86 57 P **P** **02 36 14.1 -0.3**
baz=314
MCWV Mont Chateau 59.92 63 P **P** **02 36 14.1 -0.8**
baz=314
L57A Andrews Acres 59.96 59 P **P** **02 36 14.7 -0.5**
baz=314
J59A Piesco 60.20 57 P **P** **02 36 16.2 -0.6**
baz=314
DGZ Jazzator, Alta 60.20 313 *i P* **P** **02 36 17.8 +1.0**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
M57A Sunshine Farm, 60.27 60 P **P** **02 36 16.5 -0.7**
baz=314
BINY Binghamton 60.29 59 P **P** **02 36 17.1 -0.3**
baz=314
R54A Victor 60.29 65 P **P** **02 36 16.6 -0.9**
baz=314
SSPA Standing Stone 60.34 61 P **P** **02 36 16.7 -0.9**
baz=314
S54A Dingess, Beckl 60.37 66 P **P** **02 36 17.2 -0.9**
baz=314
N57A Milroy 60.44 61 P **P** **02 36 17.3 -1.1**
baz=314
L58A Harry Jones Me 60.47 59 P **P** **02 36 18.0 -0.6**
baz=314
P56A Dayton Farm, R 60.59 63 P **P** **02 36 18.8 -0.6**
baz=314
M58A Price's Panora 60.60 60 P **P** **02 36 18.7 -0.8**
baz=314
O57A Amberson 60.77 61 P **P** **02 36 19.8 -0.9**
baz=314
S55A Lewisburg 60.85 65 P **P** **02 36 20.6 -0.7**
baz=314
J60A Lant Hill Farm 60.92 56 P **P** **02 36 21.4 -0.2**
baz=314
N59A State Game Lan 61.30 60 P **P** **02 36 23.8 -0.4**
baz=314
S56A Natural Bridge 61.45 65 P **P** **02 36 25.0 -0.3**
baz=314
R57A Stanardsville 61.61 63 P **P** **02 36 26.0 -0.3**
baz=315
M60A Port Jervis 61.62 59 P **P** **02 36 25.6 -0.8**
baz=315
Q58A Fox Den Farm, 61.63 62 P **P** **02 36 25.8 -0.7**
baz=315
KURK Kurchatov 63.29 319 *ceP* **P** **02 36 38.2 +0.8**
KURK pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 63.29 319 P **P** **02 36 37.9 +0.5**
WMQ Urumqi 64.33 309 *eP* **P** **02 36 46.8 +2.3**
MKAR Makanchi Array 64.67 314 P **P** **02 36 46.3 -0.3**
comp=Z,0.8nm,0.7s,baz=35,slow=4.4,SNR=5.0
MKAR Makanchi Array 64.67 314 P **P** **02 36 46.6 0.0**
BRVK Borovoye 64.69 325 *ceP* **P** **02 36 47.6 +1.1**
BRVK pmax pmax
comp=Z,32nm,1.7s
BRVK Borovoye 64.69 325 P **P** **02 36 47.0 +0.5**
SVE Sverdlovsk 64.72 332 *eP* **P** **02 36 48.1 +1.4**
ARU Arti 65.66 333 *c i P* **P** **02 36 53.1 +0.3**
ARU 02 39 14.9
ARU S **S** **02 45 38.6 +3.0**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 65.66 333 P **P** **02 36 53.0 +0.3**
KLMR Klimovskoe 65.86 345 *eP* **P** **02 36 50.9 -3.1**
KLMR pmax pmax
comp=Z,11nm,1.5s

KLMR Klimovskoe 65.86 345 *eP* **P** **02 36 51.0 -3.1**
KLMR AMP 02 36 55.3
comp=Z,11nm,1.5s
FINES FINESS Array B 66.95 352 P **P** **02 37 01.7 +0.7**
comp=Z,2.1nm,0.6s,baz=31,slow=7.8,SNR=13
NB2 NORSAR Subarra 68.01 360 P **P** **02 37 08.7 +1.0**
comp=Z,0.7nm,0.5s,baz=2.0,slow=6.5
NOA NORSAR Array B 68.01 360 P **P** **02 37 08.0 +0.2**
comp=Z,1.2nm,0.6s,baz=0.5,slow=6.3,SNR=6.9
AAK Ala-Archa 71.39 316 *ceP* **P** **02 37 30.1 +1.1**
AAK pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 71.44 329 P **P** **02 37 29.9 +1.0**
OBN Obninsk 71.82 345 *eP* **P** **02 37 32.1 +1.0**
OBN *e* 02 37 49.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
KK31 Karatay Array 72.71 319 P **P** **02 37 37.1 +0.4**
KK31 IAmb IAmb 02 37 37.9
comp=Z,3.8nm,0.7s
KKAR Karatay Array 72.71 319 P **P** **02 37 37.3 +0.6**
BTK Batken 75.09 317 P **P** **02 37 50.5 -0.3**
BTK IAmb IAmb 02 37 52.6
comp=Z,4.7nm,0.8s
CHGR Chuyangaron 76.97 317 P **P** **02 38 02.0 +0.5**
CMAR Chiang Mai Arr 77.03 283 P **P** **02 38 01.2 -0.8**
comp=Z,1.3nm,0.3s,baz=29,slow=6.6,SNR=7.1
CMAR Chiang Mai Arr 77.03 283 *ceP* **P** **02 38 02.7 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 77.03 283 P **P** **02 38 01.4 -0.6**
AKASG Malin Array Be 77.19 348 P **P** **02 38 02.4 0.0**
comp=Z,4.9nm,0.7s,baz=15,slow=5.7,SNR=16
CLL Collm 77.75 359 *e*(P) **P** **02 38 03.0 -2.5**
CLL Collm 77.75 359 *eP* **P** **02 38 03.0 -2.5**
CLL pmax pmax
comp=Z,1.0nm,0.7s
BRG Berggiesshubel 78.17 358 *i P* **P** **02 38 09.0 +1.1**
comp=Z,3.3nm,0.8s
BRG Berggiesshubel 78.17 358 *i P* **P** **02 38 09.0 +1.1**
BRG pmax pmax
comp=Z,3.0nm,0.8s
CHVC Chvalec 78.40 357 *eP* **P** **02 38 10.2 +1.0**
OSTC Ostas 78.42 357 *eP* **P** **02 38 10.9 +1.6**
PVCC Panska Ves 78.50 358 *eP* **P** **02 38 11.0 +1.3**
PVCC Panska Ves 78.50 358 *eP* **P** **02 38 11.0 +1.3**
DPC Dobruska-Polom 78.62 356 *eP* **P** **02 38 12.0 +1.6**
DPC Dobruska-Polom 78.62 356 *eP* **P** **02 38 12.0 +1.6**
NKC Novy Kostel 78.84 359 *eP* **P** **02 38 13.4 +1.8**
NKC Novy Kostel 78.84 359 *eP* **P** **02 38 13.4 +1.8**
KRLC Kraliky 78.88 356 *eP* **P** **02 38 13.4 +1.5**
KRLC Kraliky 78.88 356 *eP* **P** **02 38 13.4 +1.5**
PRU Pruhonice 79.04 358 *eP* **P** **02 38 14.2 +1.5**
PRU Pruhonice 79.04 358 *eP* **P** **02 38 14.2 +1.5**
MORC Moravsky Berou 79.14 356 ⇓P **P** **02 38 14.8 +1.5**
MORC Moravsky Berou 79.14 356 *eP* **P** **02 38 14.6 +1.3**
MORC Moravsky Berou 79.14 356 ⇓P **P** **02 38 14.8 +1.5**
MORC Moravsky Berou 79.14 356 P **P** **02 38 13.9 +0.6**
MORC IAmb IAmb 02 38 15.6
comp=Z,3.3nm,0.8s
NIL Nilore 79.27 311 P **P** **02 38 14.2 -0.1**
NIL IAmb IAmb 02 38 16.1
comp=Z,4.9nm,0.7s
PBCC Pribram 79.36 358 *eP* **P** **02 38 15.8 +1.4**
GRF Grafenberg Arr 79.39 360 *eP* **P** **02 38 16.6 +2.0**
comp=Z,8.5nm,0.9s,baz=4.1,slow=4.9
VRAC Vranov 79.65 356 P **P** **02 38 15.8 -0.3**
comp=Z,6.5nm,0.8s,baz=352,slow=5.1,SNR=13
VRAC Vranov 79.65 356 ⇓P **P** **02 38 17.8 +1.8**
VRAC Vranov 79.65 356 *eP* **P** **02 38 17.6 +1.6**
VRAC Vranov 79.65 356 ⇓P **P** **02 38 17.8 +1.8**
LANS Liptovska Anna 79.66 354 *eP* **P** **02 38 18.1 +2.0**
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 79.66 354 *eP* **P** **02 38 18.1 +2.0**
KOLS Kolonicke sedl 79.67 352 *eP* **P** **02 38 16.2 0.0**
KOLS Kolonicke sedl 79.67 352 *eP* **P** **02 38 16.2 0.0**
SORM Soroca 79.82 348 ⇑P **P** **02 38 17.2 +0.3**
SORM Soroca 79.82 348 ⇑P **P** **02 38 17.2 +0.3**
KRUC Moravsky 79.91 356 *eP* **P** **02 38 18.7 +1.3**
KHC Kasperske Hory 79.92 358 *eP* **P** **02 38 18.9 +1.4**
KHC *ex* x 02 38 30.5
KHC Kasperske Hory 79.92 358 *ceP* **P** **02 38 18.7 +1.2**
KHC pmax pmax
comp=Z,11nm,1.7s
KHC Kasperske Hory 79.92 358 P **P** **02 38 17.9 +0.4**
JAVC Velka Javorina 80.05 355 *eP* **P** **02 38 20.9 +2.6**
GEC2 GERESS Array S 80.21 358 P **P** **02 38 20.2 +1.1**
GERES GERESS Array B 80.21 358 P **P** **02 38 19.7 +0.5**
comp=Z,1.7nm,0.7s,baz=7.1,slow=5.4,SNR=18
GERES GERESS Array B 80.21 358 P **P** **02 38 19.5 +0.3**
VYHS Vyhne 80.36 355 *eP* **P** **02 38 20.7 +0.8**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 80.36 355 *eP* **P** **02 38 20.7 +0.8**
BUR08 Bucovina Ar. S 80.67 350 P **P** **02 38 20.5 -1.2**
BURAR Bucovina Array 80.70 350 ⇑P **P** **02 38 22.5 +0.7**
BURAR Bucovina Array 80.70 350 ⇑P **P** **02 38 22.5 +0.7**
BURAR Bucovina Array 80.70 350 P **P** **02 38 22.6 +0.8**
PRAR RASCA 80.84 350 ⇑P **P** **02 38 23.6 +1.1**
CONA Conrad Observa 81.06 357 *ePcP* **P** **02 38 25.6 +1.9**
comp=Z,4.3nm,0.8s,SNR=7.1
BIZ Bicaz 81.27 350 ⇑P **P** **02 38 26.4 +1.7**
KBZ Khabaz 81.37 337 P **P** **02 38 25.9 +0.7**
comp=Z,4.4nm,1.0s,baz=317,slow=4.9,SNR=3.9
MOTA Moosalm 81.74 360 *eP* **P** **02 38 28.5 +1.1**
comp=Z,5.9nm,0.9s,SNR=8.7
WATA Walderalm 81.74 360 *i PcP* **P** **02 38 28.8 +1.4**
comp=Z,2.6nm,0.6s
DAVA Damuels 81.79 1 *i PcP* **P** **02 38 28.9 +1.2**
comp=Z,4.2nm,1.1s
WTTA Wattenberg 81.81 360 *ePcP* **P** **02 38 29.6 +1.7**
comp=Z,5.0nm,0.6s
SQTA Sankt Quirin 81.86 360 *ePcP* **P** **02 38 29.4 +1.4**
comp=Z,6.9nm,0.8s,SNR=5.2
KBA Koelnbreinsper 81.98 358 *ePcP* **P** **02 38 30.9 +2.1**
comp=Z,5.3nm,0.5s
FETA Feichten 82.06 0 *i PcP* **P** **02 38 30.4 +1.3**
comp=Z,5.6nm,0.9s
VRI Vrincioaia 82.26 349 ⇓P **P** **02 38 30.4 +0.4**
VRI Vrincioaia 82.26 349 ⇓P **P** **02 38 30.4 +0.4**
DAVOX Davos/Dischmat 82.30 1 P **P** **02 38 31.3 +0.9**
comp=Z,2.4nm,0.7s,baz=325,slow=17,SNR=7.1
DOPR Dopca 82.31 350 ⇑P **P** **02 38 32.1 +1.8**
ABTA Abfaltersbach 82.32 359 *ePcP* **P** **02 38 31.9 +1.5**
comp=Z,3.0nm,0.7s
SOKA Soboth 82.34 357 *ePcP* **P** **02 38 31.8 +1.3**
comp=Z,5.3nm,0.9s,SNR=7.0
FUORN Ofenpass-Fuorn 82.46 0 P **P** **02 38 31.7 +0.3**
OBKA Obir 82.52 357 *ePcP* **P** **02 38 32.7 +1.2**
comp=Z,3.1nm,0.7s,SNR=6.2
TUE Stuetta 82.60 1 P **P** **02 38 32.9 +0.9**
TUE IAmb IAmb 02 38 35.0
comp=Z,5.2nm,0.9s
PRED Cave del Predi 82.61 358 P **P** **02 38 32.0 +0.1**
PRED IAmb IAmb 02 38 33.6
comp=Z,3.8nm,0.7s
CFR Carcaliu 82.75 348 ⇑P **P** **02 38 34.3 +1.8**
CFR Carcaliu 82.75 348 ⇑P **P** **02 38 34.3 +1.8**
BZS Buzias 83.02 352 ⇑P **P** **02 38 34.8 +0.9**
BZS Buzias 83.02 352 ⇑P **P** **02 38 34.8 +0.9**
CTI Castel Tesino 83.03 359 P **P** **02 38 35.2 +1.0**
HARR Harsova 83.26 348 ⇑P **P** **02 38 35.3 +0.2**
HARR Harsova 83.26 348 ⇑P **P** **02 38 35.3 +0.2**
TEOL Teolo 83.72 359 P **P** **02 38 37.9 +0.4**
MDVR Moldovita 83.84 352 ⇓P **P** **02 38 39.0 +0.7**
WRA Warramunga Arr 86.48 232 P **P** **02 38 51.0 -0.6**
comp=Z,0.6nm,0.9s,baz=34,slow=5.9,SNR=5.3
WRA Warramunga Arr 86.48 232 *i P* **P** **02 38 53.5 +2.0**
WRA pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 87.20 343 P **P** **02 38 54.4 -0.8**
comp=Z,0.7nm,0.6s,baz=8.3,slow=3.2,SNR=4.9
BRTR LR LR 03 24 21.0
comp=Z,8.7nm,19.0s,baz=291,slow=40
BRTR Keskin Array B 87.20 343 *ceP* **P** **02 38 56.2 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 88.47 11 P **P** **02 39 00.8 -0.4**
comp=Z,1.4nm,0.9s,baz=345,slow=4.9,SNR=9.6
ESDC Sonseca Array 88.47 11 P **P** **02 39 01.4 +0.2**
PSI Prapat 89.08 273 P **P** **02 39 03.7 -0.7**
comp=Z,3.2nm,0.3s,baz=360,slow=5.5,SNR=5.0
RPSI Rantau Prapat 89.16 273 P **P** **02 39 03.7 -0.9**

FITZ	**Fitzroy Crossi**	**89.46**	**240**	P	**P**	**02 39 04.7**	**-1.1**
	comp=Z,2.3nm,0.9s,baz=0.2,slow=16,SNR=4.0						
AS31	**Alice Springs**	**89.84**	**230**	P	**P**	**02 39 07.8**	**+0.3**
ASAR	**Alice Springs**	**89.84**	**230**	P	**P**	**02 39 06.3**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=38,slow=4.9,SNR=11						
MDT	**Midelt**	**95.14**	**13**	P	**P**	**02 39 32.4**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=352,slow=7.1,SNR=3.9						
MDT				LR	LR	03 25 51.6	
	comp=Z,20nm,19.2s,baz=334,slow=38						
EIL	**Elat**	**96.64**	**339**	LR	LR	03 30 17.2	
	comp=Z,13nm,18.4s,baz=280,slow=40						

ROM 21 02:35:54.5±0.0, 42°.715N±0°.002×13°.098E±0°.006, h10km, ML1.0/3, Error ellipse: s-maj=0.5km s-min=0.2km az=99.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.12**	**6**	P	Pg	02 35 57.8	+0.3
NRCA				S	Sg	02 36 00.4	+0.8
NRCA				AML	AML		
	comp=E,252μm,0.1s						
NRCA				AML	AML		
	comp=N,116μm,0.5s						
LNSS	**Leonessa**	**0.12**	**201**	P	Pg	02 35 58.0	+0.4
LNSS				S	Sg	02 36 00.2	+0.6
LNSS				AML	AML		
	comp=E,106μm,0.2s						
LNSS				AML	AML		
	comp=N,112μm,1.5s						
RM33	**Pellescritta (**	**0.22**	**157**	P	Pg	02 35 59.9	+0.7
RM33				S	Sg	02 36 03.9	+1.5
ARRO	**Arrone**	**0.28**	**241**	P	Pb	02 36 01.0	-0.7
ARRO				S	Sb	02 36 05.6	-0.8
FDMO	**Fiordimonte**	**0.32**	**359**	P	Pg	02 36 01.4	+0.4
FDMO				S	Sb	02 36 06.8	-0.9
FDMO				AML	AML		
	comp=N,24μm,1.5s						
FDMO				AML	AML		
	comp=E,20μm,1.3s						
CESI	**CESI - Serrava**	**0.32**	**334**	P	Pg	02 36 01.5	+0.5
CESI				S	Sb	02 36 06.9	-0.9

DDA 21 02:36:33.5, 40°.64N×29°.03E, h7km±3km, ML1.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGD	**Bursa**	**0.40**	**161**	*i* P	Pb	02 36 42.1	-0.8
IGD				IAML		02 36 47.0	
	comp=N,20nm,0.3s						
IGD				IAML		02 36 47.0	
	comp=E,14nm,0.6s						
IGD				*i* S	Sg	02 36 47.5	+1.1
ULDT	**Uludag**	**0.51**	**171**	*i* P	Pb	02 36 44.2	-0.7
ULDT				IAML		02 36 51.0	
	comp=E,13nm,0.2s						
ULDT				IAML		02 36 51.0	
	comp=N,11nm,0.6s						
ULDT				*i* S	Sg	02 36 51.0	+1.1
ELBA	**Catalca**	**0.68**	**318**	*i* P	Pg	02 36 47.1	+0.5
ELBA				*i* S	Sg	02 36 56.0	+0.6
ELBA				IAML		02 36 57.0	
	comp=E,4.8nm,0.2s						
DURS	**Dursunbey**	**1.12**	**203**	*i* P	Pn	02 36 55.8	+0.1
DURS				*i* S	Sn	02 37 11.2	-0.3
DURS				IAML		02 37 13.0	
	comp=E,12nm,0.3s						
BORA	**Eskisehir**	**1.33**	**125**	*i* P	Pg	02 37 00.0	+1.1
BORA				*i* S	Sn	02 37 18.0	+1.5
BORA				IAML		02 37 19.0	
	comp=E,4.7nm,0.7s						
BORA				IAML		02 37 20.0	
	comp=N,2.5nm,0.8s						

IDC 21 03:12:25.2±1.9, 17°.71S×177°.41W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/36, mbtmp3.9/5, Error ellipse: s-maj=112.7km s-min=26.9km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.56**	**241**	P	P	03 19 58.8	+0.5
	1.5nm,0.5s,baz=67,slow=9.4,SNR=5.3						
WRA	**Warramunga Arr**	**45.61**	**259**	P	P	03 20 47.3	-0.4
	1.8nm,0.4s,baz=97,slow=7.9,SNR=40						
ASAR	**Alice Springs**	**45.76**	**254**	P	P	03 20 48.5	-0.3
	2.3nm,0.4s,baz=91,slow=7.7,SNR=55						
TXAR	**Lajitas Array**	**85.08**	**57**	P	P	03 25 03.5	+0.1
	0.1nm,0.6s,baz=218,slow=8.0,SNR=4.1						
ILAR	**Eielson Array**	**85.48**	**13**	P	P	03 25 04.3	-0.2
	0.2nm,0.6s,baz=216,slow=4.5,SNR=1.8						

*AEIC **21** 03:18:14.2±2.6, 52°.06N±0°.09×170°.20W±0°.06, h27km±6km, ML3.6/35, Error ellipse: s-maj=13.2km s-min=2.4km az=159.0*
*NEIC **21** 03:18:16.8±2.3, 52°.5N±0°.1×170°.39W±0°.10, h82km±6km, Error ellipse: s-maj=17.5km s-min=5.4km az=155.0*
*IDC **21** 03:18:18.5±4.3, 52°.90N×170°.35W, h90km±36km, mb3.5/10, mb1 3.6/13, mb1mx3.3/74, mbtmp3.7/13, Error ellipse: s-maj=40.5km s-min=17.1km az=17.0*
ISC 21 03:18:12.3±1.1, 52°.3N±0°.1×170°.74W±0°.07, h55km, n51, σ1§85/41, mb3.7/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.33**	**59**		**Pn**	**03 18 35.5**	**+1.0**
NIKH					**Sn**	**03 18 50.1**	**-1.2**
OKSP	**Okmok Steeple**	**1.77**	**56**		**Pn**	**03 18 41.4**	**+0.9**
OKWE	**Okmok W'ng Wal**	**1.92**	**51**		**Pn**	**03 18 43.5**	**+1.0**
OKFG	**Magazine Ridge**	**2.05**	**56**		**Pn**	**03 18 45.5**	**+1.3**
KOFP	**Korovin Flat P**	**2.06**	**271**		Pn	03 18 52.6	+8.0
ATKA	**Atka Island**	**2.13**	**269**		Pn	03 18 53.1	+7.7
MAPS	**Pakushin South**	**2.75**	**55**		**Pn**	**03 18 54.9**	**+1.1**
MAPS					**Sn**	**03 19 27.4**	**+1.6**
MGOD	**Makushin Gods**	**2.78**	**56**		**Pn**	**03 18 55.4**	**+1.1**
MREP	**Makushin Rep't**	**2.85**	**56**		**Pn**	**03 18 56.5**	**+1.3**
MSW	**Makushin Switc**	**2.88**	**54**		**Pn**	**03 18 56.8**	**+1.0**
MNAT	**Makushin Natee**	**2.92**	**55**		**Pn**	**03 18 57.4**	**+1.2**
UNV	**Unalaska Valle**	**2.99**	**57**		**Pn**	**03 18 58.4**	**+1.3**
UNV					**Sn**	**03 19 33.9**	**+2.2**
GSTR	**Great Sitkin T**	**3.28**	**269**		Pn	03 19 07.5	+6.3
GSMY	**Great Sitkin M**	**3.29**	**268**		Pn	03 19 09.5	+8.3
AKRB	**Akutan Reef Bi**	**3.36**	**55**		**Pn**	**03 19 04.2**	**+2.1**
AKMO	**Akutan Morgan**	**3.37**	**56**		**Pn**	**03 19 04.4**	**+2.1**
AKMO					**Sn**	**03 19 44.7**	**+3.8**
AKBBA	**Akutan Broad B**	**3.41**	**56**		**Pn**	**03 19 05.0**	**+2.2**
AKLV	**Akutan Long Va**	**3.43**	**55**		**Pn**	**03 19 05.0**	**+1.9**
AKGG	**Akutan Green G**	**3.43**	**54**		**Pn**	**03 19 04.9**	**+1.7**
AKUT	**Akutan**	**3.51**	**56**		**Pn**	**03 19 06.9**	**+2.7**
AKSA	**Akutan Strait**	**3.55**	**57**		**Pn**	**03 19 06.8**	**+2.0**
ADK	**Adak**	**3.69**	**266**		Pn	03 19 15.3	+8.5
WESP	**Westdahl Peak**	**4.22**	**56**		**Pn**	**03 19 16.6**	**+2.5**
WTUG	**Tugumak**	**4.57**	**53**		**Pn**	**03 19 20.2**	**+1.5**
SSLS	**Shishaldin Sou**	**4.70**	**56**		**Pn**	**03 19 21.9**	**+1.4**
SPIA	**Saint Paul Isl**	**4.90**	**3**		**Pn**	**03 19 24.6**	**+1.3**
DT1	**Dutton Round H**	**5.76**	**57**		**Pn**	**03 19 37.1**	**+2.1**
SDPT	**Sand Point**	**6.80**	**59**		**Pn**	**03 19 50.5**	**+1.2**
CNBA	**Chernabura Isl**	**7.11**	**65**		**Pn**	**03 19 54.1**	**+0.7**
KDAK	**Kodiak Island**	**11.76**	**55**	P	**Pn**	**03 20 54.8**	**-2.2**
	0.6nm,0.3s,baz=217,slow=4.0,SNR=10						
KDAK				S	Sn	03 22 53.2	-13
	0.3nm,0.3s,baz=107,slow=9.1,SNR=1.4						
ILAR	**Eielson Array**	**17.49**	**35**	P	**Pn**	**03 22 09.1**	**-2.9**
	0.1nm,0.3s,baz=217,slow=11,SNR=11						
PETK	**Petropavlovsk-**	**19.07**	**285**	P	**Pn**	**03 22 33.9**	**+2.7**
	0.2nm,0.3s,baz=87,slow=13,SNR=2.5						
SEY	**Seymchan**	**22.11**	**313**	P	**P**	**03 23 04.6**	**+2.0**
	1.0nm,0.6s,baz=28,slow=3.3,SNR=4.0						
DLBC	**Dease Lake**	**23.64**	**59**	P	**P**	**03 23 16.7**	**-1.6**
	0.9nm,0.4s,baz=239,slow=8.2,SNR=4.8						
INK	**Inuvik**	**23.87**	**34**	P	**P**	**03 23 17.6**	**-2.6**
	1.6nm,0.7s,baz=271,slow=32,SNR=6.9						
NEW	**Newport**	**33.84**	**75**	P	**P**	**03 24 48.8**	**-0.3**
	1.3nm,0.5s,baz=297,slow=14,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**36.88**	**217**	T	T	04 04 50.8	
	baz=32,slow=78,SNR=20						
H11N3	**WAKE ISLAND Hy**	**36.89**	**217**	T	T	04 04 50.1	
	baz=32,slow=78,SNR=14						
H11N1	**WAKE ISLAND Hy**	**36.90**	**217**	T	T	04 04 49.0	
	baz=32,slow=78,SNR=50						
H11S1	**WAKE ISLAND Hy**	**38.07**	**216**	T	T	04 06 42.0	
	baz=22,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**38.09**	**216**	T	T	04 06 38.5	
	baz=22,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**38.09**	**216**	T	T	04 06 41.9	
	baz=22,slow=76,SNR=17						
NVAR	**Mina Array Bea**	**38.50**	**90**	P	**P**	**03 25 31.4**	**+2.1**
	0.3nm,0.3s,baz=307,slow=7.8,SNR=2.4						
PDAR	**Pinedale Array**	**41.24**	**78**	P	**P**	**03 25 51.8**	**0.0**
	0.4nm,0.6s,baz=282,slow=4.5,SNR=5.2						
TXAR	**Lajitas Array**	**53.59**	**88**	P	**P**	**03 27 27.7**	**0.0**
	0.3nm,0.3s,baz=301,slow=6.3,SNR=11						
FINES	**FINESS Array B**	**65.82**	**351**	P	**P**	**03 28 49.3**	**-1.9**
	1.1nm,0.8s,baz=350,slow=7.3,SNR=3.8						
HFS	**Hagfors**	**67.87**	**358**	P	**P**	**03 29 02.9**	**-1.3**
	0.9nm,0.4s,baz=41,slow=4.6,SNR=11						
EKA	**Eskdalemuir Ar**	**72.25**	**7**	P	**P**	**03 29 29.9**	**-1.2**
	1.4nm,0.8s,baz=0.0,slow=4.3,SNR=2.4						
H03N2	**Juan Fernandez**	**116.68**	**111**	T	T	05 44 14.8	
	baz=313						
H03N1	**Juan Fernandez**	**116.69**	**111**	T	T	05 44 12.7	
	baz=313						
H03N3	**Juan Fernandez**	**116.69**	**111**	T	T	05 44 14.8	
	baz=313						

*IDC **21** 03:26:29.5±1.5, 6°.46S×151°.88E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/34, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=61.2km s-min=18.5km az=118.0*
ISC 21 03:26:35.0±1.6, 6°.4S±0°.2×151°.8E±0°.4, h37km, n6, σ0§66/8, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.13**	**6**	Pn	**Pn**	**03 27 07.2**	**-0.9**
	34nm,0.3s,baz=207,slow=2.3,SNR=14						
KRVT				Sn	**Sn**	**03 27 34.2**	**+1.0**
	65nm,0.3s,baz=358,slow=16,SNR=13						
WRA	**Warramunga Arr**	**21.63**	**230**	P	**P**	**03 31 21.9**	**-0.3**
	1.3nm,0.6s,baz=56,slow=10,SNR=12						
WRA				PcP	**PcP**	**03 35 23.6**	**+0.4**
	0.3nm,0.9s,baz=48,slow=2.0,SNR=1.6						
ASAR	**Alice Springs**	**24.28**	**223**	P	**P**	**03 31 49.4**	**+0.3**
	2.7nm,0.7s,baz=57,slow=9.1,SNR=29						
FITZ	**Fitzroy Crossi**	**28.02**	**243**	P	**P**	**03 32 22.9**	**0.0**
	1.4nm,0.6s,baz=359,slow=6.5,SNR=7.8						
ILAR	**Eielson Array**	**84.04**	**22**	P	**P**	**03 39 01.5**	**+0.1**
	1.0nm,0.7s,baz=247,slow=5.2,SNR=17						
TORD	**Torodi Ar. Bea**	**149.82**	**285**	PKPbc	**PKPbc**	**03 46 22.2**	**0.0**
	0.9nm,0.6s,baz=68,slow=3.1,SNR=4.3						

*IDC **21** 03:26:49.2±1.1, 38°.50N×21°.86E, h0km, mb3.5/9, mb1 3.6/12, mb1mx3.5/37, mbtmp3.5/12, ML3.2/3, MS2.8/2, Ms1 2.8/2, ms1mx2.2/47, Error ellipse: s-maj=22.8km s-min=19.2km az=36.0*
*ATH **21** 03:26:49.7, 38°.35N×21°.87E, h16km±1km, ML3.2/17, Error ellipse: s-maj=1.3km s-min=0.7km az=339.0*
*THE **21** 03:26:50.3, 38°.33N×21°.86E, h3km±1km, ML3.2/18, Error ellipse: s-maj=1.1km s-min=0.4km az=308.0*
*BEO **21** 03:26:53.9±0.8, 38°.54N×22°.08E, h0km, ML3.0/2*
ISC 21 03:26:49.6±0.9, 38°.33N±0°.02×21°.81E±0°.02, h8km±6km, n121, σ1§34/142, mb3.5/8, 7C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.12**	**38**	P	**Pg**	**03 26 52.5**	**+0.3**
EFP				S	**Sg**	**03 26 54.3**	**+0.2**
	120μm,0.4s						
EFP	**Efpalio**	**0.12**	**38**	P	**Pg**	**03 26 52.6**	**+0.3**
EFP				S	**Sg**	**03 26 54.7**	**+0.6**
EFP				AML	AML	03 26 54.9	
EFP				AML	AML	03 26 55.0	
SERG	**Sergoula**	**0.21**	**67**	P	**Pg**	**03 26 54.0**	**+0.2**
SERG				S	**Sg**	**03 26 57.2**	**+0.5**
	40μm,0.2s						
SERG	**Sergoula**	**0.21**	**67**	P	**Pg**	**03 26 53.9**	**+0.1**
SERG				S	**Sg**	**03 26 57.2**	**+0.5**
SERG				AML	AML	03 26 57.9	
	comp=N,84738μm,0.2s						
SERG				AML	AML	03 26 58.3	
	comp=E,74042μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.24**	**107**	P	**Pg**	**03 26 54.9**	**+0.4**
ALIK				S	**Sg**	**03 26 58.3**	**+0.5**
ANX	**Ano Chora**	**0.27**	**18**	P	**Pb**	**03 26 55.5**	**-1.4**
ANX				S	**Sb**	**03 26 59.9**	**-1.9**
	comp=E,49μm,0.5s						
ANX	**Ano Chora**	**0.27**	**18**	P	**Pb**	**03 26 55.6**	**-1.3**
ANX				S	**Sg**	**03 26 58.6**	**-0.1**
ANX				AML	AML	03 27 00.9	
ANX				AML	AML	03 27 02.2	
	comp=E,93378μm,0.4s						
AXS	**Araxos**	**0.37**	**248**	P	**Pn**	**03 26 58.0**	**-3.3**
AXS	**Araxos**	**0.37**	**248**	P	**Pn**	**03 26 58.1**	**-3.2**
AXS				S	**Sb**	**03 27 04.9**	**+0.5**
AXS				AML	AML	03 27 08.0	
	comp=N,4025μm,0.7s						
AXS				AML	AML	03 27 08.0	
	comp=E,3456μm,0.4s						
RLS	**Riolos of Patr**	**0.39**	**225**	P	**Pb**	**03 26 58.4**	**-0.3**
RLS				S	**Sb**	**03 27 05.0**	**+0.1**
	comp=E,3μm,0.5s						
RLS	**Riolos of Patr**	**0.39**	**225**	P	**Pb**	**03 26 58.4**	**-0.3**
RLS				S	**Sb**	**03 27 05.4**	**+0.4**
RLS				AML	AML	03 27 06.0	
	comp=N,6590μm,0.5s						
RLS				AML	AML	03 27 09.8	
	comp=E,4219μm,0.6s						
KLV	**Kalavryta, Ach**	**0.39**	**137**	P	**Pg**	**03 26 57.2**	**-0.1**
KLV				S	**Sg**	**03 27 02.1**	**-0.3**
	comp=E,2μm,0.6s						
KLV	**Kalavryta, Ach**	**0.39**	**137**	P	**Pg**	**03 26 57.2**	**-0.1**
KLV				S	**Sg**	**03 27 02.2**	**-0.3**
KLV				AML	AML	03 27 07.3	
	comp=N,3559μm,0.6s						
KLV				AML	AML	03 27 07.4	
	comp=E,3776μm,0.6s						
DLFA	**Delphi**	**0.56**	**75**	P	**Pg**	**03 26 59.8**	**-0.5**
DSF	**Desfina**	**0.57**	**82**	P	**Pg**	**03 26 59.8**	**-0.8**
DSF				S	**Sg**	**03 27 07.8**	**-0.2**
	comp=E,2μm,0.3s						
DSF	**Desfina**	**0.57**	**82**	P	**Pg**	**03 26 59.8**	**-0.8**
DSF				AML	AML	03 27 10.0	
	comp=N,4920μm,0.2s						
DSF				AML	AML	03 27 15.9	
	comp=E,3028μm,0.4s						
GUR	**Goura**	**0.57**	**133**	P	**Pg**	**03 27 00.1**	**-0.7**
GUR				S	**Sg**	**03 27 08.7**	**+0.4**
	comp=E,5μm,0.4s						
GUR	**Goura**	**0.57**	**133**	P	**Pg**	**03 27 00.4**	**-0.4**
GUR				S	**Sg**	**03 27 08.7**	**+0.4**
GUR				AML	AML	03 27 09.5	
	comp=N,12392μm,0.4s						
GUR				AML	AML	03 27 15.1	
	comp=E,8067μm,0.3s						
EVR	**Evrytania**	**0.58**	**360**	P	**Pb**	**03 27 01.2**	**-1.0**
EVR				S	**Sb**	**03 27 10.9**	**+0.2**
	comp=E,4μm,0.8s						
EVR	**Evrytania**	**0.58**	**360**	P	**Pb**	**03 27 01.3**	**-0.9**
EVR				AML	AML	03 27 13.7	
	comp=N,8013μm,0.8s						
EVR				AML	AML	03 27 15.6	
	comp=E,9321μm,0.7s						
VTN	**Vitineika**	**0.65**	**230**	P	**Pn**	**03 27 03.8**	**-1.3**
AXAR	**Agios Charalam**	**0.79**	**57**	P	**Pg**	**03 27 04.2**	**-0.6**
AXAR				S	**Sg**	**03 27 16.3**	**+1.1**
	comp=E,5μm,0.4s						
AXAR	**Agios Charalam**	**0.79**	**57**	P	**Pg**	**03 27 04.2**	**-0.6**
TRIP	**Tripoli**	**0.88**	**156**	P	**Pg**	**03 27 06.3**	**-0.3**
TRIP	**Tripoli**	**0.88**	**156**	P	**Pg**	**03 27 06.4**	**-0.2**
TRIP				AML	AML	03 27 23.3	
	comp=N,1936μm,0.6s						
TRIP				AML	AML	03 27 32.0	
	comp=E,2460μm,0.6s						
EVGI	**Lefkada island**	**0.95**	**288**	P	**Pn**	**03 27 08.1**	**-1.2**
EVGI	**Lefkada island**	**0.95**	**288**	P	**Pn**	**03 27 08.1**	**-1.2**
NYDR	**Nydri-Lefkada**	**0.95**	**294**	P	**Pn**	**03 27 08.1**	**-1.2**
LTK	**Loutraki**	**0.96**	**108**	P	**Pg**	**03 27 07.7**	**-0.4**
LTK	**Loutraki**	**0.96**	**108**	P	**Pg**	**03 27 07.5**	**-0.6**
VLS	**Valsamata**	**0.98**	**261**	P	**Pn**	**03 27 08.7**	**-1.0**
VLS				S	**Sn**	**03 27 24.4**	**+0.7**
	comp=E,1μm,0.4s						
VLS	**Valsamata**	**0.98**	**261**	P	**Pn**	**03 27 08.8**	**-1.0**
VLS				AML	AML	03 27 26.5	
	comp=E,2286μm,0.5s						
VLS				AML	AML	03 27 27.2	
	comp=N,2515μm,0.3s						
LKR	**Lokris**	**0.98**	**71**	P	**Pg**	**03 27 07.6**	**-0.9**
LKR				AML	AML	03 27 25.4	
	comp=E,2698μm,0.3s						
LKR				AML	AML	03 27 25.6	
	comp=N,1814μm,0.4s						
FSK	**Fiskardo**	**0.99**	**278**	P	**Pn**	**03 27 08.9**	**-1.0**
FSK				S	**Sn**	**03 27 24.7**	**+0.6**
	comp=N,980nm,0.5s						
FSK	**Fiskardo**	**0.99**	**278**	P	**Pn**	**03 27 08.8**	**-1.0**
LKD2	**Lefkada island**	**1.01**	**297**	P	**Pn**	**03 27 09.4**	**-0.8**
LKD2	**Lefkada island**	**1.01**	**297**	P	**Pn**	**03 27 09.5**	**-0.7**
VLMS	**Volimes, Zakyn**	**1.02**	**244**	P	**Pn**	**03 27 09.7**	**-0.6**
TSLK	**Tsoukalades, L**	**1.03**	**299**	P	**Pn**	**03 27 10.0**	**-0.5**
TSLK	**Tsoukalades, L**	**1.03**	**299**	P	**Pn**	**03 27 09.9**	**-0.5**
KEF5	**Kardakata, Kep**	**1.06**	**267**	P	**Pn**	**03 27 10.0**	**-0.8**
VLX	**Vlachokerasia**	**1.06**	**155**	P	**Pg**	**03 27 09.1**	**-0.9**
VLX	**Vlachokerasia**	**1.06**	**155**	P	**Pg**	**03 27 09.4**	**-0.6**
VLX				AML	AML	03 27 36.2	
	comp=E,2668μm,0.6s						
VLX				AML	AML	03 27 41.9	
	comp=N,2539μm,0.7s						
DMLN	**Damoulianata-K**	**1.14**	**266**	P	**Pn**	**03 27 11.5**	**-0.4**
DMLN				S	**Sn**	**03 27 30.2**	**+2.5**
	comp=N,2μm,0.6s						
VIL2	**Platees**	**1.15**	**96**	P	**Pb**	**03 27 12.1**	**+0.3**
VIL2				AML	AML	03 27 34.5	
	comp=E,3621μm,0.9s						
VIL2				AML	AML	03 27 36.4	
	comp=N,1953μm,0.8s						
ITM	**Ithomi**	**1.16**	**176**	P	**Pn**	**03 27 11.6**	**-0.6**
ITM				S	**Sn**	**03 27 29.1**	**+0.9**
	comp=N,665nm,0.8s						
ITM	**Ithomi**	**1.16**	**176**	P	**Pn**	**03 27 11.9**	**-0.3**
ITM				AML	AML	03 27 39.1	
	comp=E,1436μm,1.0s						
ITM				AML	AML	03 27 39.4	
	comp=N,1225μm,0.7s						
VILL	**Villia**	**1.19**	**98**	P	**Pg**	**03 27 12.6**	**+0.1**
THL	**Klokotos Trika**	**1.24**	**7**	P	**Pn**	**03 27 13.1**	**-0.2**
THL				AML	AML	03 27 32.0	
	comp=E,1494μm,0.7s						
THL				AML	AML	03 27 33.9	
	comp=N,883μm,0.6s						
VOL3	**Nea Ionia, Vol**	**1.36**	**40**	P	**Pn**	**03 27 12.4**	**-2.6**
VOL2	**Volos**	**1.36**	**40**	P	**Pb**	**03 27 16.4**	**+1.1**
KRND	**KRANIDI**	**1.42**	**131**	P	**Pn**	**03 27 15.9**	**+0.1**
KRND				S	**Sg**	**03 27 35.7**	**+0.4**
	comp=N,842nm,0.8s						
KRND	**KRANIDI**	**1.42**	**131**	P	**Pn**	**03 27 15.7**	**0.0**
PYL	**PYLOS**	**1.44**	**182**	P	**Pg**	**03 27 16.2**	**-0.9**
PYL	**PYLOS**	**1.44**	**182**	P	**Pg**	**03 27 16.3**	**-0.9**
PYL				AML	AML	03 27 44.8	
	comp=E,1411μm,0.6s						
PYL				AML	AML	03 27 46.4	
	comp=N,1451μm,0.7s						
NEO	**Neokhori**	**1.47**	**48**	P	**Pn**	**03 27 16.5**	**0.0**
NEO	**Neokhori**	**1.47**	**48**	P	**Pn**	**03 27 16.2**	**-0.3**
XOR	**Xorichti**	**1.49**	**46**	P	**Pn**	**03 27 16.6**	**-0.2**
XOR	**Xorichti**	**1.49**	**46**	P	**Pn**	**03 27 16.8**	**0.0**
ATH	**Athens Observa**	**1.54**	**103**	P	**Pn**	**03 27 17.9**	**+0.5**
ATH				S	**Sn**	**03 27 38.5**	**+0.8**
	comp=N,492nm,0.6s						
ATH	**Athens Observa**	**1.54**	**103**	P	**Pn**	**03 27 17.9**	**+0.5**
ATHU	**Athens Univers**	**1.60**	**103**	P	**Pn**	**03 27 18.4**	**+0.2**
ATHU				S	**Sn**	**03 27 39.6**	**+0.6**
	comp=N,212nm,0.5s						
ATHU	**Athens Univers**	**1.60**	**103**	P	**Pn**	**03 27 18.5**	**+0.3**
VLY	**Voula,Athens**	**1.64**	**106**	P	**Pn**	**03 27 19.2**	**+0.5**
VLY	**Voula,Athens**	**1.64**	**106**	P	**Pn**	**03 27 19.0**	**+0.3**
PTL	**Penteli**	**1.64**	**99**	P	**Pn**	**03 27 18.9**	**+0.1**
PTL				S	**Sn**	**03 27 40.4**	**+0.2**
	comp=N,455nm,0.5s						
IGT	**Igoumenitsa**	**1.66**	**316**	*e*Pg	**Pg**	**03 27 23.3**	**+1.8**
IGT				*e*Sg	**Sg**	**03 27 47.6**	**+4.5**
DION	**Dionisos Attik**	**1.69**	**98**	P	**Pn**	**03 27 19.9**	**+0.4**
DION				S	**Sn**	**03 27 41.6**	**+0.2**
	comp=N,1μm,0.5s						
DION	**Dionisos Attik**	**1.69**	**98**	P	**Pn**	**03 27 20.0**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.82**	**80**	P	**Pn**	**03 27 21.1**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.82**	**80**	P	**Pn**	**03 27 21.4**	**+0.2**
LIT	**Litokhoron**	**1.84**	**16**	P	**Pb**	**03 27 22.5**	**-1.1**
LIT	**Litokhoron**	**1.84**	**16**	P	**Pb**	**03 27 22.5**	**-1.1**
VLI	**Veliai**	**1.84**	**151**	P	**Pb**	**03 27 23.0**	**-0.6**
VLI	**Veliai**	**1.84**	**151**	P	**Pn**	**03 27 22.3**	**+0.7**
KZN	**Kozani**	**1.97**	**359**	P	**Pg**	**03 27 25.6**	**-1.8**
KARY	**Karystos**	**2.09**	**97**	P	**Pn**	**03 27 25.2**	**+0.3**
FNA	**Florina**	**2.47**	**352**	*e*Pn	**Pb**	**03 27 32.9**	**-1.4**
FNA				*e*Sg	**Sg**	**03 28 06.8**	**-2.2**
OHR	**Ohrid**	**2.88**	**345**	*i* Pn	**Pg**	**03 27 44.2**	**-0.7**
KNT	**Kendrikon**	**2.95**	**16**	P	**Pn**	**03 27 37.6**	**+0.8**
VAY	**Valandovo**	**3.04**	**11**	*e*Pn	**Pb**	**03 27 40.4**	**-3.6**
SRS	**Serrai**	**3.10**	**26**	*e*Pn	**Pn**	**03 27 39.3**	**+0.4**
TIR	**Tirane**	**3.36**	**334**	*e*Pn	**Pb**	**03 27 46.5**	**-3.0**
MMB	**Musomiste**	**3.57**	**24**	*i* P	**Pn**	**03 27 46.5**	**+1.1**
SKO	**Skopje**	**3.65**	**356**	*e*Pn	**Pn**	**03 27 48.9**	**+2.5**
IDI	**Anoyia**	**3.92**	**140**	Pn	**Pn**	**03 27 52.2**	**+2.0**
	comp=N,0.9nm,0.3s,baz=316,slow=19,SNR=9.9	

σ1§65/55, **7C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POMOR	**Pomortsevo, Ku**	**0.23**	**48**	P	**Pb**	**03 46 33.2**	**+2.7**
POMOR				S	**Sb**	**03 46 38.6**	**+5.1**
SALR	**Pechorkino, Sa**	**0.35**	**299**	P	**Pg**	**03 46 32.9**	**+0.3**
SALR				Sg	**Sg**	**03 46 37.9**	**+0.7**
KEM	**Kemerovo**	**1.10**	**356**	P	**Pg**	**03 46 45.8**	**-1.2**
KEM				S	**Sb**	**03 47 02.4**	**-0.3**
KHAR	**Kharino, NSO,**	**1.58**	**284**	P	**Pg**	**03 46 55.7**	**-0.6**
KHAR				S	**Sg**	**03 47 16.7**	**-0.1**
TASR	**Tashtagol**	**1.79**	**146**	P	**Pg**	**03 46 59.8**	**-0.4**
TASR				S	**Sg**	**03 47 23.3**	**-0.1**
NVSII	**Novosibirsk**	**1.84**	**290**	P	**Pb**	**03 46 59.7**	**-0.7**
NVSII				S	**Sn**	**03 47 21.8**	**-1.0**
NVS	**Novosibirsk**	**1.84**	**290**	P	**Pb**	**03 46 59.7**	**-0.8**
NVS				S	**Sn**	**03 47 22.3**	**-0.5**
NHES	**Novosibirsk, N**	**1.98**	**289**	P	**Pn**	**03 47 00.6**	**-0.1**
NHES				S	**Sb**	**03 47 27.5**	**-0.6**
BSTK	**Bystrovka, Nov**	**2.11**	**280**	P	**Pb**	**03 47 03.6**	**-1.5**
BSTK				S	**Sb**	**03 47 30.8**	**-1.0**
ALXA	**Alekseevka, NS**	**2.23**	**289**	P	**Pn**	**03 47 03.8**	**-0.3**
ALXA				S	**Sb**	**03 47 34.7**	**-0.4**
GALT	**Gorno-Altaysk,**	**2.30**	**184**	P	**Pb**	**03 47 07.0**	**-1.4**
GALT				S	**Sg**	**03 47 39.9**	**+0.1**
SHRR	**Shira**	**2.31**	**82**	P	**Pb**	**03 47 08.6**	**0.0**
SHRR				S	**Sg**	**03 47 39.6**	**-0.6**
ARTR	**Artybash**	**2.54**	**165**	P	**Pb**	**03 47 11.5**	**-0.8**
ARTR				S	**Sb**	**03 47 41.6**	**-2.5**
TBTR	**Tabat**	**2.99**	**114**	P	**Pb**	**03 47 17.7**	**-2.3**
TBTR				S	**Sn**	**03 47 52.2**	**+1.1**
ABNR	**Abakan**	**3.12**	**98**	S	**Sn**	**03 47 55.1**	**+0.8**
DJO	**Djoy, Khakassi**	**3.32**	**114**	Pg	**Pg**	**03 47 27.6**	**-2.0**
DJO				Sg	**Sg**	**03 48 11.0**	**-1.6**
CERR	**Cheremushki**	**3.40**	**112**	Pg	**Pg**	**03 47 30.1**	**-0.8**
CERR				Sg	**Sg**	**03 48 14.4**	**-0.6**
DJOS	**Djoyskaya Sosn**	**3.41**	**113**	Sg	**Sg**	**03 48 17.5**	**+2.0**
UKR	**Ust'-Kan**	**3.44**	**196**	Pg	**Pg**	**03 47 33.0**	**+1.3**
UKR				Sg	**Sg**	**03 48 15.1**	**-1.1**
ULGR	**Ulagan, Altay**	**3.78**	**163**	Pg	**Pg**	**03 47 38.2**	**-0.3**
ULGR				Sg	**Sg**	**03 48 28.9**	**+1.4**
CHBI	**Chibit, Altay**	**4.02**	**168**	Sg	**Sg**	**03 48 35.1**	**+0.1**
TEL	**Teeli**	**4.04**	**142**	Pg	**Pg**	**03 47 42.5**	**-0.9**
TEL				Sg	**Sg**	**03 48 35.0**	**-0.7**
CUR	**Chagan-Uzun**	**4.36**	**162**	Pg	**Pg**	**03 47 48.3**	**-1.1**
CUR				Sg	**Sg**	**03 48 46.5**	**+0.6**
DGZ	**Jazzator, Alta**	**4.62**	**170**	Sg	**Sg**	**03 48 55.4**	**+1.2**
ARDR	**Aradan**	**4.62**	**108**	Pg	**Pg**	**03 47 51.6**	**-2.9**
ARDR				Sg	**Sg**	**03 48 52.8**	**-1.5**
SHTK	**Zheleznogorsk-**	**4.71**	**61**	Pg	**Pb**	**03 47 44.6**	**-4.6**
SHTK				Sg	**Sb**	**03 48 47.6**	**+1.3**
ORY	**Orie**	**5.22**	**78**	Sg	**Sg**	**03 49 12.6**	**-0.7**
KURK	**Kurchatov**	**5.84**	**236**	⇓Pn	**Pn**	**03 47 56.8**	**+3.0**
KURK	5.5nm,0.7s			⇑Sn	**Sn**	**03 49 02.5**	**+1.2**
KURK	2.8nm,0.7s			⇑Lg	Lg	03 49 33.5	
KURBB	**Kurchatov Arra**	**5.95**	**235**	⇑Pn	**Pn**	**03 47 57.9**	**+2.7**
KURBB	8.0nm,0.3s			⇑Sn	**Sn**	**03 49 04.2**	**+0.3**
KURBB	11nm,0.6s			⇑Lg	Lg	03 49 37.1	
MK31	**Makanchi Array**	**7.87**	**200**	⇑Pn	**Pn**	**03 48 24.8**	**+3.1**
MK31	1.6nm,0.3s,baz=27,slow=12,SNR=63			⇑Sn	**Sn**	**03 49 51.9**	**+0.5**
MK31	2.1nm,0.6s,baz=23,slow=25,SNR=5.4			⇓Lg	Lg	03 50 33.3	
	14nm,1.0s,baz=26,slow=30,SNR=8.8						

JMA ***21*** *04:10:03.0±0.1, 33.°61N×140.°94E, h33km, M3.2*
IDC ***21*** *04:10:05.3±3.9, 33.°51N×140.°79E, h66km±32km, mb3.3/2, mb1 3.5/3, mb1mx3.0/43, mbtmp3.4/3, ML2.2/1, Error ellipse: s-maj=58.2km s-min=13.4km az=86.0*
ISC 21 04:10:03.0±1.6, 33.°55N±0.°06×140.°99E±0.°09, h46km±20km, n18, σ0§66/27, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.07**	**246**	P	**Pn**	**04 10 21.9**	**+0.3**
JHJ2				*e*S	**Sn**	**04 10 35.7**	**+0.4**
JHJ	**Hachijo jima 2**	**1.09**	**247**	P	**Pn**	**04 10 22.1**	**+0.2**
JHJ	74nm,0.3s,baz=162,slow=23,SNR=24			S	**Sn**	**04 10 35.8**	**-0.1**
JHJ	229nm,0.3s,baz=120,slow=24,SNR=36						
JHCJ	**Hachijojimakas**	**1.10**	**245**	P	**Pn**	**04 10 22.2**	**+0.2**
JHCJ				*e*S	**Sn**	**04 10 35.9**	**-0.2**
BSO1	**Boso 1**	**1.10**	**360**	P	**Pn**	**04 10 21.6**	**+0.1**
BSO1				*e*S	**Sn**	**04 10 34.7**	**-0.2**
JMKN	**Mikurajimanish**	**1.21**	**287**	P	**Pn**	**04 10 23.2**	**-0.3**
JMKN				*e*S	**Sn**	**04 10 37.8**	**-1.0**
BSO2	**Boso 2**	**1.22**	**351**	*e*S	**Sn**	**04 10 38.2**	**-0.3**
BSO3	**Boso 3**	**1.31**	**343**	P	**Pn**	**04 10 24.8**	**+0.2**
BSO3				*e*S	**Sn**	**04 10 40.3**	**-0.6**
BSO4	**Boso 4**	**1.54**	**340**	P	**Pn**	**04 10 28.6**	**+0.7**
BSO4				*e*S	**Sn**	**04 10 47.4**	**+0.8**
JKO	**Kozu shima**	**1.67**	**293**	P	**Pn**	**04 10 30.2**	**+0.5**
JKO				*e*S	**Sn**	**04 10 50.3**	**+0.4**
JTHY	**Toshimahigashi**	**1.71**	**305**	P	**Pn**	**04 10 30.9**	**+0.5**
JTHY				*e*S	**Sn**	**04 10 51.3**	**+0.2**
JIM2	**Oshima 3**	**1.74**	**313**	P	**Pn**	**04 10 30.5**	**-0.3**
JIM2				*e*S	**Sn**	**04 10 50.4**	**-1.4**
JOD2	**Odawara 2**	**2.32**	**318**	P	**Pn**	**04 10 38.8**	**+0.1**
JOD2				*e*S	**Sn**	**04 11 05.0**	**-1.1**
MJAR	**Matsushiro Arr**	**3.76**	**323**	P	**Pn**	**04 10 59.9**	**+1.4**
MJAR	0.2nm,0.3s,baz=154,slow=14,SNR=9.3			S	**Sn**	**04 11 42.0**	**+0.6**
MJAR	0.2nm,0.3s,baz=142,slow=13,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**26.85**	**114**	T	T	04 44 39.1	
H11N2	baz=306,slow=75,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**26.85**	**114**	T	T	04 44 38.9	
H11N1	baz=306,slow=75,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**26.86**	**114**	T	T	04 44 40.0	
H11N3	baz=306,slow=75,SNR=3.3						
WRA	**Warramunga Arr**	**53.56**	**188**	P	**P**	**04 19 18.9**	**-0.5**
WRA	0.5nm,0.3s,baz=5.7,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**57.29**	**188**	P	**P**	**04 19 46.1**	**0.0**
ASAR	0.2nm,0.4s,baz=2.3,slow=6.9,SNR=6.4						

KRNET ***21*** *04:29:26.6±0.1, 40.°57N×77.°71E, mb3.0*
SOME ***21*** *04:29:26.4, 40.°52N×77.°40E, h10km*
NNC ***21*** *04:29:27.4±1.0, 40.°56N×77.°41E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=6.9km s-min=4.6km az=169.0*
ISC 21 04:29:31.1±1.8, 40.°67N±0.°08×77.°48E±0.°04, h10km, n51, σ1§65/82, 22C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.48**	**351**	⇓*i*P	**Pn**	**04 29 56.8**	**-1.2**
KDJ	baz=46			⇓*i*S	**Sg**	**04 30 19.1**	**+0.4**
PRZ	**Przheval'sk**	**1.94**	**20**	⇑*i*P	**Pn**	**04 30 03.8**	**-0.5**
PRZ	baz=15			⇑*e*S	**Sb**	**04 30 30.7**	**-0.3**
ANVS	**Anan'yevo**	**2.12**	**4**	⇑*i*P	**Pn**	**04 30 07.0**	**+0.2**
ANVS	baz=59			⇑*i*S	**Sb**	**04 30 36.3**	**+0.2**
BOOM	**Boomskoye usch**	**2.16**	**328**	⇓*i*P	**Pn**	**04 30 08.4**	**+1.1**
BOOM	baz=26			⇓*i*S	**Sb**	**04 30 39.1**	**+1.8**
KZA	**Kyzart**	**2.19**	**311**	⇑*i*P	**Pn**	**04 30 09.1**	**+1.1**
KZA	baz=10.0			⇑*i*S	**Sb**	**04 30 40.5**	**+2.0**
TNSS	**Tian-Shan**	**2.40**	**351**	*e*P	**Pb**	**04 30 14.1**	**-0.6**
TNSS	25nm,0.5s			*e*S	**Sg**	**04 30 48.2**	**-0.1**
TNSS	34nm,0.7s						
TNSS	**Tian-Shan**	**2.40**	**351**	Pg	**Pb**	**04 30 14.1**	**-0.6**
TNSS	39nm,0.6s			Lg	Lg	04 30 48.2	
TNSS	34nm,0.7s						
SATY	**Saty**	**2.49**	**16**	*e*P	**Pb**	**04 30 15.5**	**-0.5**
SATY	8.6nm,0.7s			*e*S	**Sg**	**04 30 51.0**	**0.0**
SATY	32nm,0.7s						
SATY	**Saty**	**2.49**	**16**	Pg	**Pb**	**04 30 15.5**	**-0.5**
SATY	8.6nm,0.7s			Lg	Lg	04 30 51.0	
SATY	32nm,0.7s						
MDOK	**Medeo**	**2.51**	**353**	*e*P	**Pb**	**04 30 15.8**	**-0.7**
MDOK	15nm,0.4s			*e*S	**Sg**	**04 30 51.0**	**-0.9**
MDOK	28nm,0.6s						
MDOK	**Medeo**	**2.51**	**353**	Pg	**Pb**	**04 30 15.8**	**-0.7**
MDOK	15nm,0.4s			Lg	Lg	04 30 51.0	
MDOK	28nm,0.6s						
KOTS	**Kotyrbulak**	**2.58**	**354**	*e*P	**Pb**	**04 30 17.3**	**-0.3**
KOTS	58nm,0.4s			*e*S	**Sg**	**04 30 53.7**	**-0.3**
KOTS	64nm,0.6s						
KOTS	**Kotyrbulak**	**2.58**	**354**	Pg	**Pb**	**04 30 17.3**	**-0.3**
KOTS	58nm,0.4s			Lg	Lg	04 30 53.7	
KOTS	64nm,0.6s						
KST	**Kastek**	**2.63**	**335**	*e*P	**Pb**	**04 30 16.7**	**-1.8**
KST	4.5nm,0.4s			*e*S	**Sb**	**04 30 52.5**	**+1.7**
KST	16nm,0.7s						
KST	**Kastek**	**2.63**	**335**	Pg	**Pb**	**04 30 16.7**	**-1.8**
KST	4.5nm,0.4s			Lg	Lg	04 30 52.5	
KST	16nm,0.7s						
TKM2	**Tokmak 2**	**2.66**	**329**	⇑*i*P	**Pn**	**04 30 15.4**	**+1.2**
TKM2	baz=27			⇑*i*S	**Sb**	**04 30 50.9**	**-0.8**
TKM2	baz=27						
TKM2	**Tokmak 2**	**2.66**	**329**	⇓Pg	**Pb**	**04 30 16.6**	**-2.3**
TKM2	6.9nm,0.8s			⇑Lg	Lg	04 30 54.6	
TKM2	7.6nm,0.6s						
ARLS	**Aral**	**2.66**	**298**	⇑*i*P	**Pn**	**04 30 15.9**	**+1.6**
ARLS	baz=98			⇑*i*S	**Sb**	**04 30 51.7**	**-0.1**
ARLS	baz=98						
UCH	**Uchtor**	**2.72**	**306**	⇓*i*P	**Pn**	**04 30 16.7**	**+1.4**
UCH	baz=6.0			⇓*i*S	**Sb**	**04 30 53.5**	**-0.3**
UCH	baz=6.0						
UZB	**Uzynbulak**	**2.73**	**24**	*e*P	**Pb**	**04 30 19.1**	**-1.0**
UZB	2.9nm,0.5s			*e*S	**Sg**	**04 30 57.2**	**-1.6**
UZB	12nm,0.7s						
UZB	**Uzynbulak**	**2.73**	**24**	Pg	**Pb**	**04 30 19.1**	**-1.0**
UZB	2.9nm,0.5s			Lg	Lg	04 30 57.2	
UZB	12nm,0.7s						
KBK	**Karagaybulak**	**2.75**	**317**	⇑*i*P	**Pn**	**04 30 16.8**	**+1.3**
KBK	baz=16			⇑*i*S	**Sb**	**04 30 53.7**	**-0.6**
KBK	baz=16						
KURS	**Kuram**	**2.86**	**10**	*e*P	**Pb**	**04 30 21.6**	**-0.8**
KURS	7.2nm,0.7s			*e*S	**Sg**	**04 31 00.9**	**-2.2**
KURS	7.8nm,0.5s						
KURS	**Kuram**	**2.86**	**10**	Pg	**Pb**	**04 30 21.6**	**-0.8**
KURS	7.2nm,0.7s			Lg	Lg	04 31 00.9	
KURS	7.8nm,0.5s						
DGS	**Degeres**	**2.87**	**334**	*e*P	**Pb**	**04 30 21.5**	**-1.0**
DGS	6.9nm,0.6s			*e*S	**Sb**	**04 31 00.7**	**+3.0**
DGS	15nm,0.8s						
DGS	**Degeres**	**2.87**	**334**	Pg	**Pb**	**04 30 21.5**	**-1.0**
DGS	6.9nm,0.6s			Lg	Lg	04 31 00.7	
DGS	15nm,0.8s						
SHLS	**Shalkode**	**2.89**	**30**	*e*P	**Pg**	**04 30 25.4**	**-1.2**
SHLS	4.4nm,0.3s			*e*S	**Sg**	**04 31 07.8**	**+3.8**
SHLS	20nm,0.7s						
SHLS	**Shalkode**	**2.89**	**30**	Pg	**Pg**	**04 30 25.4**	**-1.2**
SHLS	4.4nm,0.3s			Lg	Lg	04 31 07.8	
SHLS	20nm,0.7s						
KPKS	**Kokpek**	**2.94**	**17**	*e*P	**Pb**	**04 30 23.4**	**-0.2**
KPKS	7.6nm,0.5s			*e*S	**Sg**	**04 31 04.1**	**-1.3**
KPKS	32nm,0.6s						
AAK	**Ala-Archa**	**2.98**	**312**	⇑*i*P	**Pn**	**04 30 20.2**	**+1.6**
AAK	baz=12			⇑*i*S	**Sb**	**04 30 59.4**	**-1.6**
AAK	baz=12						
AAK	**Ala-Archa**	**2.98**	**312**	⇓Pg	**Pn**	**04 30 21.3**	**+2.7**
AAK	2.9nm,0.4s			⇑Lg	Lg	04 31 03.7	
AAK	22nm,1.0s						
PDGK	**Podgornoye**	**3.05**	**29**	⇑Pg	**Pb**	**04 30 24.1**	**-1.5**
PDGK	4.2nm,0.7s			⇑Lg	Lg	04 31 05.7	
PDGK	26nm,0.8s						
CHMS	**Chumysh**	**3.10**	**320**	⇑*i*P	**Pn**	**04 30 21.5**	**+1.4**
CHMS	baz=19			⇑*i*S	**Sb**	**04 31 01.7**	**-2.5**
CHMS	baz=19						
KTBS	**Karatobe**	**3.10**	**349**	*e*P	**Pb**	**04 30 25.8**	**-0.6**
KTBS	12nm,0.6s			*e*S	**Sg**	**04 31 08.1**	**-2.6**
KTBS	14nm,0.3s						
KTBS	**Karatobe**	**3.10**	**349**	Pg	**Pb**	**04 30 25.8**	**-0.6**
KTBS	12nm,0.6s			Lg	Lg	04 31 08.1	
KTBS	14nm,0.3s						
AML	**Almayashu**	**3.20**	**298**	⇑*i*P	**Pn**	**04 30 23.6**	**+1.7**
AML	baz=99			⇑*i*S	**Sb**	**04 31 05.0**	**-2.6**
AML	baz=99						
CHKK	**Chushkaly**	**3.21**	**354**	*e*P	**Pb**	**04 30 27.5**	**-0.7**
CHKK	7.4nm,0.6s			*e*S	**Sg**	**04 31 11.0**	**-3.0**
CHKK	17nm,0.3s						
CHKK	**Chushkaly**	**3.21**	**354**	Pg	**Pb**	**04 30 27.5**	**-0.7**
CHKK	7.4nm,0.6s			Lg	Lg	04 31 11.0	
CHKK	17nm,0.3s						
KUU	**Kurty**	**3.33**	**346**	*e*P	**Pb**	**04 30 29.6**	**-0.7**
KUU	3.8nm,0.5s			*e*S	**Sb**	**04 31 14.7**	**+3.8**
KUU	7.7nm,0.5s						
KUU	**Kurty**	**3.33**	**346**	Pg	**Pb**	**04 30 29.6**	**-0.7**
KUU	3.8nm,0.5s			Lg	Lg	04 31 14.7	
KUU	7.7nm,0.5s						
USP	**Ospenovka**	**3.42**	**320**	⇓*i*P	**Pn**	**04 30 25.9**	**+1.4**
USP	baz=19			⇓*i*S	**Sn**	**04 31 09.4**	**+4.2**
USP	baz=19						
MNBS	**Baschi**	**3.48**	**11**	*e*P	**Pb**	**04 30 33.4**	**+0.6**
MNBS	3.3nm,0.4s			*e*S	**Sg**	**04 31 21.5**	**-1.3**
MNBS	18nm,0.6s						
MNBS	**Baschi**	**3.48**	**11**	Pg	**Pb**	**04 30 33.4**	**+0.6**
MNBS	3.3nm,0.4s			Lg	Lg	04 31 21.5	
MNBS	18nm,0.6s						
ARXS	**Arharly**	**3.55**	**4**	*e*P	**Pb**	**04 30 34.5**	**+0.4**
ARXS	6.6nm,0.8s			*e*S	**Sg**	**04 31 22.9**	**-2.2**
ARXS	11nm,0.6s						
ARXS	**Arharly**	**3.55**	**4**	Pg	**Pb**	**04 30 34.5**	**+0.4**
ARXS	6.6nm,0.8s			Lg	Lg	04 31 22.9	
ARXS	11nm,0.6s						
MRKS	**Merke**	**3.80**	**304**	*e*P	**Pb**	**04 30 36.5**	**-1.9**
MRKS	2.7nm,0.4s			*e*S	**Sb**	**04 31 27.0**	**+2.4**
MRKS	3.3nm,0.4s						
MRKS	**Merke**	**3.80**	**304**	Pg	**Pb**	**04 30 36.5**	**-1.9**
MRKS	2.7nm,0.4s			Lg	Lg	04 31 27.0	
MRKS	3.3nm,0.4s						
DJR	**Jarkent**	**4.04**	**24**	*e*P	**Pb**	**04 30 42.7**	**+0.3**
DJR				*e*S	**Sg**	**04 31 37.1**	**-3.7**
DJR	**Jarkent**	**4.04**	**24**	Pg	**Pb**	**04 30 42.7**	**+0.3**
DJR				Lg	Lg	04 31 37.1	
KAPS	**Kapalarasan**	**4.81**	**16**	*e*P	**Pb**	**04 30 57.3**	**+1.7**
KAPS	1.3nm,0.9s			*e*S	**Sg**	**04 32 02.2**	**-3.5**
KAPS	2.9nm,0.5s						
KAPS	**Kapalarasan**	**4.81**	**16**	Pg	**Pb**	**04 30 57.3**	**+1.7**
KAPS	1.3nm,0.9s			Lg	Lg	04 32 02.2	
KAPS	2.9nm,0.5s						

IDC ***21*** *04:30:14.8±1.5, 34.°28N×25.°14E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/42, mbtmp3.6/6, ML3.8/3, Error ellipse: s-maj=28.7km s-min=20.3km az=74.0*
ATH ***21*** *04:30:17.4, 34.°27N×25.°07E, h23km±3km, ML2.8/2, Error ellipse: s-maj=4.5km s-min=2.2km az=358.0*
THE ***21*** *04:30:19.0, 34.°35N×25.°04E, h3km±2km, ML2.8/2, Error ellipse: s-maj=2.3km s-min=1.3km az=127.0*
ISC 21 04:30:15.7±2.0, 34.°23N±0.°07×25.°09E±0.°05, h9km±13km, n26, σ0§60/32, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.82**	**344**	P	**Pb**	**04 30 32.6**	**+0.4**
SIVA				S	**Sg**	**04 30 42.5**	**+0.2**
SIVA	2μm,0.7s						
SIVA	**Sivas**	**0.82**	**344**	P	**Pn**	**04 30 32.7**	**-0.8**
SIVA				S	**Sb**	**04 30 44.3**	**+0.8**
SIVA				AML	AML	04 30 50.4	
SIVA	comp=E,4782μm,0.6s			AML	AML	04 30 51.8	
SIVA	comp=N,2703μm,0.4s						
TMBK	**Timbaki Herakl**	**0.89**	**343**	P	**Pn**	**04 30 34.1**	**-0.3**
LAST	**Lasithi**	**0.99**	**19**	P	**Pn**	**04 30 35.9**	**0.0**
LAST	**Lasithi**	**0.99**	**19**	P	**Pn**	**04 30 36.0**	**+0.1**
GVD	**Gavdhos**	**1.03**	**307**	P	**Pn**	**04 30 36.4**	**+0.1**
GVD	**Gavdhos**	**1.03**	**307**	P	**Pn**	**04 30 36.5**	**+0.1**
GVDS	**Gavdos**	**1.03**	**307**	P	**Pn**	**04 30 36.8**	**+0.4**
IDI	**Anoyia**	**1.07**	**351**	Pn	**Pn**	**04 30 36.8**	**-0.2**
IDI	comp=N,8.0nm,0.3s,baz=173,slow=16,SNR=63			Sn	**Sb**	**04 30 51.0**	**+0.3**
IDI	comp=N,37nm,0.3s,baz=273,slow=22,SNR=16						
IDI	**Anoyia**	**1.07**	**351**	P	**Pn**	**04 30 36.8**	**-0.2**
IDI				S	**Sb**	**04 30 51.1**	**+0.4**
IDI	comp=N,235nm,0.4s						
IDI	**Anoyia**	**1.07**	**351**	P	**Pn**	**04 30 36.8**	**-0.2**
IDI				S	**Sb**	**04 30 51.4**	**+0.7**
IDI				AML	AML	04 30 55.4	
IDI	comp=N,388μm,0.3s			AML	AML	04 30 59.0	
IDI	comp=E,560μm,0.5s						
NPS	**Neapolis**	**1.12**	**22**	P	**Pn**	**04 30 38.0**	**+0.3**
NPS	**Neapolis**	**1.12**	**22**	P	**Pn**	**04 30 38.0**	**+0.3**
VAM	**Vamos**	**1.39**	**328**	P	**Pg**	**04 30 42.3**	**0.0**
VAM	**Vamos**	**1.39**	**328**	P	**Pg**	**04 30 42.5**	**+0.2**
IMMV	**Iera Moni Meta**	**1.53**	**324**	P	**Pb**	**04 30 44.0**	**-0.3**
IMMV				S	**Sb**	**04 31 03.8**	**-0.1**
IMMV	**Iera Moni Meta**	**1.53**	**324**	P	**Pg**	**04 30 45.3**	**+0.2**
KARP	**Karpathos**	**2.15**	**52**	P	**Pb**	**04 30 54.5**	**-0.4**
KTHA	**Kythira Island**	**2.62**	**321**	P	**Pb**	**04 31 00.9**	**-2.0**
VLI	**Veliai**	**3.04**	**325**	P	**Pn**	**04 31 05.3**	**+1.2**
EIL	**Elat**	**9.53**	**116**	Pn	**Pn**	**04 32 33.1**	**0.0**
AKASG	comp=E,0.4nm,0.3s,baz=189,slow=2.6,SNR=8.2 **Malin Array Be**	**16.74**	**9**	Pn	**Pn**	**04 34 09.7**	**-0.6**
GERES	comp=E,0.6nm,0.3s,baz=201,slow=11,SNR=4.4 **GERESS Array B**	**16.88**	**333**	Pn	**P**	**04 34 14.5**	**+0.1**
TORD	comp=E,0.2nm,0.3s,baz=146,slow=11,SNR=9.7 **Torodi Ar. Bea**	**29.85**	**231**	P	**P**	**04 36 24.2**	**+0.6**
MKAR	comp=E,0.2nm,0.4s,baz=34,slow=8.0,SNR=1.8 **Makanchi Array**	**44.34**	**56**	P	**P**	**04 38 26.3**	**+0.1**
ZALV	comp=E,0.4nm,0.7s,baz=294,slow=7.7,SNR=2.7 **Zalesovo Beam**	**45.70**	**46**	P	**P**	**04 38 36.0**	**-0.8**
	comp=E,0.8nm,0.4s,baz=269,slow=9.0,SNR=2.3						

IDC 21 04:32:26.6±9.4, 23.°40N×143.°39E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/44, mbtmp3.5/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/29, Error ellipse: s-maj=349.8km s-min=36.0km az=73.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.84**	**344**	Sn	Sn	04 34 08.7	-4.2
JCJ	1.5nm,0.3s,baz=284,slow=23,SNR=1.5						
KSRS	**Korea Array**	**19.30**	**320**	LR	LR	04 44 19.2	
KSRS	comp=Z,12nm,19.0s,baz=190,slow=37						
DAV	**Davao City (W)**	**23.59**	**229**	LR	LR	04 45 51.4	
DAV	comp=Z,106nm,20.8s,baz=223,slow=34						
WRA	**Warramunga Arr**	**43.97**	**192**	P	P	04 40 35.8	0.0
WRA	0.2nm,0.4s,baz=14,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**47.68**	**192**	P	P	04 41 04.8	-0.3
ASAR	0.9nm,1.2s,baz=9.7,slow=7.1,SNR=2.2						
MKAR	**Makanchi Array**	**53.70**	**312**	P	P	04 41 50.2	-0.2
MKAR	0.2nm,0.5s,baz=82,slow=9.0,SNR=2.7						

BJI ***21*** *04:41:43.5±0.0, 2.°13N×128.°38E, h163km, mB4.8/12, mb4.7/29*
IDC ***21*** *04:41:45.1±1.3, 2.°25N×128.°19E, h161km±12km, mb4.0/20, mb1 4.1/25, mb1mx3.9/38, mbtmp4.5/25, MS2.8/2, Ms1 3.0/2, ms1mx2.5/23, Error ellipse: s-maj=16.0km s-min=8.2km az=70.0*
NEIC ***21*** *04:41:45.4±1.2, 2.°22N±0.°07×128.°19E±0.°08, h167km±4km, mb4.5/41, Error ellipse: s-maj=12.1km s-min=8.8km az=63.0*
DJA ***21*** *04:41:45.1±0.3, 2.°N±2.°×12.°8E±.°, h148km±2km, M4.5/24, mb4.8/24, mB5.0/11, MLv4.8/14, Mw(mB)4.3/11*
ISC 21 04:41:45.2±0.6, 2.°22N±0.°04×128.°19E±0.°06, h163km±5km, n135, σ1§21/143, mb4.4/38, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.66**	**210**	P	**Pn**	**04 42 17.6**	**+0.1**
TNTI				S	**Sn**	**04 42 42.6**	**+0.3**
TNTI	**Ternate**	**1.66**	**210**	Pn	**Pn**	**04 42 18.2**	**+0.7**
LBMI	**Labuha**	**2.92**	**194**	P	**Pn**	**04 42 32.6**	**+0.4**
LBMI				S	**Sn**	**04 43 08.2**	**-0.5**
SIJI	**Sorong**	**4.34**	**135**	P	**Pn**	**04 42 51.1**	**+0.7**
SIJI	18nm,0.3s,baz=324,slow=7.2,SNR=3.7			S	**Sn**	**04 43 42.1**	**+0.9**
SIJI	0.4nm,0.3s,baz=142,slow=24,SNR=1.2						
KMSI	**Cibinong**	**4.52**	**249**	P	**Pn**	**04 42 52.8**	**+0.2**
DDMP	**Don Marcelino,**	**4.58**	**327**	*e*P	**Pn**	**04 42 51.9**	**-1.5**
DDMP				*e*S	**Sn**	**04 43 46.1**	**-0.6**
SANI	**Sanana**	**4.78**	**207**	P	**Pn**	**04 42 55.1**	**-0.9**
MATI	**Mati**	**5.07**	**338**	*e*P	**Pn**	**04 42 59.0**	**-0.9**
MATI				*e*S	**Sn**	**04 43 56.1**	**-2.2**
GTOI	**Gorontalo**	**5.41**	**253**	P	**Pn**	**04 43 05.4**	**+1.1**
DAV	1.1nm3μm229nm,0.7s **Davao City (W)**	**5.47**	**332**	P	**Pn**	**04 43 04.7**	**-0.4**
DAV	72nm,0.3s,baz=129,slow=2.2,SNR=14			S	**Sn**	**04 44 12.3**	**+4.5**
DAV	16nm,0.3s,baz=93,slow=22,SNR=0.9 **Davao City (W)**	**5.47**	**332**	Pn	**Pn**	**04 43 05.1**	**0.0**
NLAI	**Namlea**	**5.53**	**191**	P	**Pn**	**04 43 07.1**	**+1.2**
NLAI	0.6nm138nm,0.7s						
MSAI	**Masohi**	**5.58**	**172**	P	**Pn**	**04 43 08.0**	**+1.4**
MSAI	0.2nm581nm49nm,1.0s						
SKMP	**Bagumbayan, Su**	**5.61**	**320**	*

JAGI Jajag, Banyuwa 17.57 233 P **Pn** **04 45 41.6 +1.2**
65nm,1.4s
JAGI Jajag, Banyuwa 17.57 233 P **P** **04 45 39.0 -0.1**
KNRA Kununurra 17.79 178 **P** **04 45 41.3 -0.1**
KSM Kuching 17.89 268 P **Pn** **04 45 43.7 -0.4**
KSM IAmb IAmb 04 45 47.6
comp=Z,30nm,1.3s
NGJI Ngawi 19.22 240 P **Pn** **04 45 59.0 -0.7**
comp=Z,100nm,1.1s
PWJI Pageruojo 19.25 238 P **P** **04 45 58.9 +1.6**
comp=Z,53nm,0.8s
FITZ Fitzroy Crossi 20.35 187 P **P** **04 46 08.4 -0.7**
comp=Z,4.1nm,0.3s,baz=0.4,slow=9.6,SNR=70
FITZ Fitzroy Crossi 20.35 187 P **P** **04 46 08.7 -0.4**
FITZ IAmb IAmb 04 46 19.3
comp=Z,22nm,1.6s
TPUB Ta-pu 22.20 341 P **P** **04 46 27.7 -0.8**
WB0 Warramunga Arr 22.68 165 P **P** **04 46 32.6 -0.4**
WRAB Tennant Creek 22.83 165 P **P** **04 46 33.5 -0.9**
WRA Warramunga Arr 22.84 165 P **P** **04 46 34.5 0.0**
comp=Z,18nm,0.6s,baz=340,slow=11,SNR=298
WRA PcP **PcP** **04 50 21.1 +0.8**
comp=Z,0.7nm,0.3s,baz=332,slow=2.1,SNR=3.7
WRA S **S** **04 50 28.0 -3.6**
comp=Z,1.0nm,0.8s,baz=346,slow=17,SNR=3.2
WRA Warramunga Arr 22.84 165 P **P** **04 46 34.5 0.0**
WB2 Warramunga Arr 22.84 165 P **P** **04 46 34.6 +0.1**
WR0 Warramunga Arr 22.91 164 P **P** **04 46 34.7 -0.4**
WR0 IAmb IAmb 04 46 37.1
comp=Z,23nm,0.8s
PSA00 Pilbara Seismi 25.02 199 P **P** **04 46 53.6 -0.7**
AS31 Alice Springs 26.33 168 P **P** **04 47 05.3 -0.8**
AS31 IAmb IAmb 04 47 12.8
comp=Z,4.9nm,0.3s
ASAR Alice Springs 26.33 168 P **P** **04 47 06.2 +0.2**
comp=Z,7.0nm,0.4s,baz=351,slow=7.8,SNR=224
ASAR PcP **PcP** **04 50 28.3 +0.2**
comp=Z,5.6nm,0.5s,baz=353,slow=2.2,SNR=22
CTA Charters Tower 28.39 142 P **P** **04 47 24.5 0.0**
comp=Z,3.6nm,0.8s,baz=315,slow=10.0,SNR=1.4
PSI Prapat 29.24 272 P **P** **04 47 32.4 +0.1**
comp=Z,2.1nm,0.4s,baz=359,slow=6.8,SNR=4.0
RPSI Rantau Prapat 29.24 272 P **P** **04 47 32.4 +0.3**
JNU Nakatsue 30.84 4 P **P** **04 47 45.5 -0.5**
comp=Z,5.8nm,0.9s,baz=215,slow=7.6,SNR=1.4
NJ2 Nanjing 30.95 344 *eP* **P** **04 47 48.3 +1.4**
NJ2 pmax pmax
comp=Z,13nm,0.6s
CMAR Chiang Mai Arr 32.89 301 P **P** **04 48 04.5 +0.3**
comp=Z,0.7nm,0.4s,baz=115,slow=6.5,SNR=1.5
CMAR PcP **PcP** **04 50 44.9 -0.1**
comp=Z,0.6nm,0.3s,baz=149,slow=2.0,SNR=5.0
CMAR LR LR 05 02 23.6
comp=Z,14nm,19.1s,baz=195,slow=38
KMI Kunming 33.47 315 *eP* P 04 48 14.8 +5.5
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,160nm,4.4s
KSRS Korea Array 35.06 360 P **P** **04 48 22.6 0.0**
comp=Z,2.6nm,0.6s,baz=177,slow=9.3,SNR=13
KSRS PcP **PcP** **04 50 50.6 -0.2**
comp=Z,2.8nm,0.9s,baz=175,slow=2.5,SNR=4.3
MJAR Matsushiro Arr 35.38 14 P **P** **04 48 21.8 -3.6**
comp=Z,3.3nm,0.7s,baz=186,slow=9.8,SNR=12
MJAR LR LR 05 01 02.3
comp=Z,22nm,21.4s,baz=180,slow=33
MJAR Matsushiro Arr 35.38 14 P **P** **04 48 24.2 -1.2**
MAJO Matsushiro 35.38 14 P **P** **04 48 23.9 -1.4**
MAT Matsushiro 35.38 14 P **P** **04 48 23.3 -2.1**
BBOO Buckleboo 35.63 169 P **P** **04 48 26.8 -0.7**
STKA Stephens Creek 36.22 161 P **P** **04 48 33.0 +0.4**
comp=Z,19nm,0.4s,baz=340,slow=8.2,SNR=99
STKA PcP **PcP** **04 50 54.2 -0.1**
comp=Z,4.2nm,0.4s,baz=334,slow=3.3,SNR=6.3
STKA Stephens Creek 36.22 161 P **P** **04 48 32.0 -0.6**
STKA IAmb IAmb 04 48 34.0
comp=Z,5.7nm,0.5s
XAN Xi'an 36.41 333 P **P** **04 48 34.8 +0.6**
XAN Xi'an 36.41 333 P **P** **04 48 35.1 +0.9**
XAN IAmb IAmb 04 48 35.5
comp=Z,9.4nm,0.7s
CD2 Chengdu 36.71 324 *eP* **P** **04 48 38.0 +1.2**
BJT Baijiatuau 39.17 345 P **P** **04 48 57.8 +0.6**
BJT IAmb IAmb 04 48 58.2
comp=Z,11nm,0.6s
BJI Beijing 39.19 345 P **P** **04 48 57.8 +0.5**
BJI pmax pmax
comp=Z,14nm,0.5s
LZH Lanzhou 40.53 329 *eP* **P** **04 49 10.4 +1.7**
LZH pP pwP 04 49 47.3 0.0
LZH pmax pmax
comp=Z,22nm,1.2s
H11S3 WAKE ISLAND Hy 41.03 64 T T 05 32 56.2
baz=252,slow=75,SNR=6.3
H11S2 WAKE ISLAND Hy 41.05 64 T T 05 33 10.5
baz=252,slow=75,SNR=5.9
H11S1 WAKE ISLAND Hy 41.05 64 T T 05 33 01.8
baz=252,slow=75,SNR=4.2
HHC Hu-ho-hao-te 41.28 341 *eP* **P** **04 49 15.5 +0.8**
HHC pmax pmax
comp=Z,34nm,0.7s
HHC pmax pmax
comp=Z,160nm,6.9s
H11N1 WAKE ISLAND Hy 41.62 62 T T 05 33 49.2
baz=250
H11N2 WAKE ISLAND Hy 41.63 62 T T 05 33 55.0
baz=250
H11N3 WAKE ISLAND Hy 41.63 62 T T 05 33 43.1
baz=250
USRK Ussuriysk Ar. 41.94 4 P **P** **04 49 19.5 -0.3**
comp=Z,1.6nm,0.7s,baz=179,slow=7.5,SNR=4.6
TOO Toolangi 42.72 160 P **P** **04 49 26.5 +0.2**
TOO IAmb IAmb 04 49 29.1
comp=Z,31nm,1.4s
GTA Gaotai 45.13 329 *eP* **P** **04 49 47.9 +2.3**
GTA pP pP 04 50 20.8 -0.1
GTA sP sP 04 50 39.0 +0.2
GTA PcP **PcP** **04 51 23.6 +0.3**
GTA pmax pmax
comp=Z,5.0nm,1.0s
ODAN Odare 46.13 306 *eP* **P** **04 49 55.3 +1.5**
ODAN Odare 46.13 306 *eP* **P** **04 49 55.3 +1.5**
RAMN Ramite 46.81 306 *eP* **P** **04 50 00.9 +1.8**
RAMN Ramite 46.81 306 *eP* **P** **04 50 00.9 +1.8**
JIRN Jiri 47.43 306 *eP* **P** **04 50 05.6 +1.5**
comp=Z,23nm,0.6s
JIRN Jiri 47.43 306 *eP* **P** **04 50 05.6 +1.5**
comp=Z,23nm,0.6s
GUN Gumba 47.79 306 *eP* **P** **04 50 07.5 +0.7**
comp=Z,12nm,0.4s
GUN Gumba 47.79 306 *eP* **P** **04 50 07.5 +0.7**
comp=Z,12nm,0.4s
DMN Daman 48.29 306 *eP* **P** **04 50 12.3 +1.8**
DMN Daman 48.29 306 *eP* **P** **04 50 12.3 +1.8**
ULN Ulaanbaatar 49.00 341 P **P** **04 50 16.7 +1.3**
ULN IAmb IAmb 04 50 17.1
comp=Z,7.3nm,0.8s
SONM Songino Array 49.19 341 P **P** **04 50 16.8 -0.1**
comp=Z,2.3nm,0.5s,baz=157,slow=7.9,SNR=5.0
SONM Songino Array 49.19 341 IAmb IAmb 04 50 18.4
comp=Z,2.4nm,0.6s
KOLN Koldanda 49.58 305 *eP* **P** **04 50 21.8 +1.5**
comp=Z,17nm,0.5s
KOLN Koldanda 49.58 305 *eP* **P** **04 50 21.8 +1.5**
comp=Z,17nm,0.5s
DANN Dangsing 49.67 306 *eP* **P** **04 50 22.2 +1.1**
comp=Z,24nm,0.7s
DANN Dangsing 49.67 306 *eP* **P** **04 50 22.2 +1.1**
comp=Z,24nm,0.7s
WMQ Urumqi 54.79 325 *eP* **P** **04 50 59.8 +1.5**
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,52nm,3.9s
PETK Petropavlovsk- 56.29 21 P **P** **04 51 07.8 -0.9**
comp=Z,2.0nm,0.6s,baz=164,slow=5.7,SNR=2.7
MK31 Makanchi Array 59.62 325 P **P** **04 51 32.5 +0.4**
MK31 IAmb IAmb 04 51 33.6
comp=Z,4.4nm,0.7s
MKAR Makanchi Array 59.62 325 P **P** **04 51 32.8 +0.7**
comp=Z,6.0nm,0.5s,baz=118,slow=8.5,SNR=74
MKAR pP **pP** **04 52 09.7 +0.7**
comp=Z,2.8nm,0.6s,baz=118,slow=8.0,SNR=6.3
MKAR ScP **ScP** **04 56 02.9 -0.2**
comp=Z,0.6nm,0.8s,baz=136,slow=3.9,SNR=3.0

MAKZ Makanchi 59.80 325 P **P** **04 51 32.8 -0.6**
MAKZ IAmb IAmb 04 51 34.8
comp=Z,6.8nm,0.6s
ZALV Zalesovo Beam 62.59 333 P **P** **04 51 51.1 -0.8**
comp=Z,0.9nm,0.4s,baz=136,slow=6.4,SNR=4.2
ZALV pP **pP** **04 52 27.5 -1.7**
comp=Z,1.3nm,0.7s,baz=131,slow=7.9,SNR=4.2
ZALV Zalesovo Beam 62.59 333 P **P** **04 51 50.7 -1.1**
KBL Kabul 63.59 308 P **P** **04 51 58.5 -0.6**
KBL IAmb IAmb 04 51 59.9
comp=Z,3.9nm,0.8s
KURK Kurchatov 63.79 327 P **P** **04 51 59.9 0.0**
CHGR Chuyangaron 64.75 312 P **P** **04 52 06.6 +0.1**
KK31 Karatay Array 65.32 317 P **P** **04 52 09.8 -0.2**
KKAR Karatay Array 65.32 317 P **P** **04 52 10.2 +0.2**
KKAR Karatay Array 65.32 317 IAmb IAmb 04 52 11.2
comp=Z,4.9nm,1.0s
BRVK Borovoye 69.44 327 P **P** **04 52 36.3 +0.7**
BRVK IAmb IAmb 04 52 36.7
comp=Z,7.7nm,0.8s
CASY Casey 69.51 188 P **P** **04 52 36.0 +0.2**
NRIK Noril'sk 72.23 346 P **P** **04 52 51.9 -0.2**
comp=Z,2.3nm,0.6s,baz=115,slow=6.1,SNR=3.6
GEYT Alibeck 72.97 309 P **P** **04 52 57.5 +0.2**
comp=Z,4.1nm,0.7s,baz=170,slow=9.0,SNR=6.2
GEYT Alibeck 72.97 309 P **P** **04 52 57.4 +0.2**
ABKAR Akbulak array 74.23 321 P **P** **04 53 03.5 -0.7**
ARU Arti 76.98 328 P **P** **04 53 19.6 -0.2**
SVW2 Sparrevohn 81.42 29 P **P** **04 53 43.6 -0.2**
VNDA Vanda 81.76 173 P **P** **04 53 45.5 +0.3**
comp=Z,3.2nm,0.5s,baz=317,slow=6.8,SNR=42
VNDA Vanda 81.76 173 P **P** **04 53 44.7 -0.5**
MAW Mawson 82.86 201 P **P** **04 53 51.3 +0.3**
comp=Z,3.0nm,0.8s,baz=22,slow=8.4,SNR=6.1
ILAR Eielson Array 85.83 25 P **P** **04 54 06.2 0.0**
comp=Z,0.3nm,0.4s,baz=246,slow=4.9,SNR=8.5
CRQM Cirque 87.42 29 P **P** **04 54 14.4 +0.2**
KLMR Klimovskoe 87.43 331 *eP* **P** **04 54 11.9 -2.0**
KLMR AMP 04 54 13.6
comp=Z,6.0nm,0.6s
WAX Waxell Ridge 87.57 30 P **P** **04 54 13.7 -1.0**
QSPA South Pole Qui 92.14 180 P **P** **04 54 35.5 -0.5**
FINES FINESS Array B 93.84 332 P **P** **04 54 42.7 -1.1**
comp=Z,1.2nm,0.5s,baz=70,slow=5.6,SNR=16
NB2 NORSAR Subarra100.78 334 P **Pdif** **04 55 13.6 -1.5**
comp=Z,1.3nm,0.8s,baz=65,slow=4.6
NOA NORSAR Array B 100.78 334 P **Pdif** **04 55 13.6 -1.5**
comp=Z,0.7nm,0.7s,baz=65,slow=4.5,SNR=3.8
TXAR Lajitas Array 121.34 54 PKP **PKiKP** **05 00 20.5 +0.5**
comp=Z,0.7nm,0.6s,baz=216,slow=0.8,SNR=9.1
TORD Torodi Ar. Bea 124.77 288 PKP **PKPdf** **05 00 26.4 -0.3**
comp=Z,1.3nm,0.3s,baz=85,slow=1.7,SNR=34
LPAZ La Paz 158.70 132 PKPab **PKPab** **05 02 02.2 +0.8**
comp=Z,1.7nm,0.8s,baz=203,slow=7.3,SNR=5.6

IDC 21 05:34:06.3±2.0, 6°.44S×151°.87E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/26, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=78.8km s-min=20.3km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.12**	**4**	Pn	Pn	05 34 43.6	+0.5
	31nm,0.3s,baz=180,slow=2.0,SNR=14						
KRVT				Sn	Sn	05 35 09.4	-0.8
	38nm,0.3s,baz=70,slow=23,SNR=12						
WRA	**Warramunga Arr**	**21.68**	**230**	P	P	05 38 59.0	+0.1
	0.5nm,0.6s,baz=57,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**24.33**	**223**	P	P	05 39 25.9	-0.1
	0.7nm,0.6s,baz=56,slow=8.9,SNR=12						
ILAR	**Eielson Array**	**84.02**	**22**	P	P	05 46 38.5	+0.2
	0.5nm,0.9s,baz=257,slow=5.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.89**	**285**	PKPbc	PKPbc	05 53 58.9	-0.7
	0.4nm,0.6s,baz=63,slow=2.8,SNR=2.7						

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*IDC **21** 05:44:49.2±1.6, 38°.23N×21°.89E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/33, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=59.4km s-min=24.9km az=161.0*
*ATH **21** 05:44:49.5, 38°.35N×21°.81E, h16km±1km, ML2.9/7, Error ellipse: s-maj=1.5km s-min=0.7km az=355.0*
*THE **21** 05:44:50.0, 38°.34N×21°.80E, h0km±2km, ML3.1/7, Error ellipse: s-maj=2.4km s-min=0.6km az=255.0*
ISC 21 05:44:50.3±0.8, 38°.35N±0°.02×21°.80E±0°.02, h11km±6km, n77, σ0s94/91, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.11**	**46**	P	**Pg**	**05 44 52.5**	**-0.6**
EFP				S	**Sg**	**05 44 55.0**	**-0.2**
	34μm,0.3s						
EFP	**Efpalio**	**0.11**	**46**	P	**Pg**	**05 44 52.5**	**-0.6**
EFP				S	**Sg**	**05 44 55.0**	**-0.2**
EFP				AML	AML	05 44 55.2	
	comp=E,89862μm,0.3s						
EFP				AML	AML	05 44 55.8	
	comp=N,38379μm,0.3s						
SERG	**Sergoula**	**0.21**	**72**	P	**Pg**	**05 44 54.3**	**-0.5**
SERG				S	**Sg**	**05 44 57.8**	**0.0**
	comp=N,9μm,0.4s						
SERG	**Sergoula**	**0.21**	**72**	P	**Pg**	**05 44 54.3**	**-0.5**
SERG				S	**Sg**	**05 44 57.5**	**-0.2**
ALIK	**Aliki, Aigiali**	**0.26**	**110**	P	**Pg**	**05 44 55.4**	**-0.2**
ANX	**Ano Chora**	**0.26**	**21**	P	**Pg**	**05 44 55.3**	**-0.4**
ANX				S	**Sg**	**05 44 59.8**	**+0.4**
	comp=N,12μm,0.4s						
ANX	**Ano Chora**	**0.26**	**21**	P	**Pg**	**05 44 55.4**	**-0.4**
ANX				S	**Sg**	**05 44 59.8**	**+0.4**
ANX				AML	AML	05 45 00.5	
	comp=N,29500μm,0.6s						
ANX				AML	AML	05 45 01.5	
	comp=E,18803μm,0.4s						
AXS	**Araxos**	**0.37**	**246**	P	**Pg**	**05 44 57.1**	**-0.5**
AXS	**Araxos**	**0.37**	**246**	P	**Pg**	**05 44 57.1**	**-0.5**
AXS				AML	AML	05 45 04.3	
	comp=N,2732μm,0.6s						
AXS				AML	AML	05 45 06.8	
	comp=E,1569μm,0.2s						
RLS	**Riolos of Patr**	**0.39**	**223**	P	**Pg**	**05 44 58.0**	**-0.1**
RLS				S	**Sb**	**05 45 04.5**	**-0.9**
	comp=E,1μm,0.3s						
RLS	**Riolos of Patr**	**0.39**	**223**	P	**Pg**	**05 44 58.0**	**-0.1**
RLS				S	**Sb**	**05 45 04.0**	**-1.4**
RLS				AML	AML	05 45 04.7	
	comp=N,1792μm,0.4s						
RLS				AML	AML	05 45 05.9	
	comp=E,2672μm,0.6s						
KLV	**Kalavryta, Ach**	**0.41**	**138**	P	**Pg**	**05 44 57.7**	**-0.7**
KLV				S	**Sg**	**05 45 03.3**	**-0.5**
KLV	**Kalavryta, Ach**	**0.41**	**138**	P	**Pg**	**05 44 57.7**	**-0.7**
DLFA	**Delphi**	**0.56**	**76**	P	**Pg**	**05 45 00.1**	**-1.1**
EVR	**Evrytania**	**0.57**	**0**	P	**Pg**	**05 45 00.8**	**-0.6**
EVR				S	**Sb**	**05 45 10.0**	**-0.6**
	comp=E,2μm,0.8s						
EVR	**Evrytania**	**0.57**	**0**	P	**Pg**	**05 45 00.8**	**-0.6**
DSF	**Desfina**	**0.57**	**83**	P	**Pg**	**05 45 00.4**	**-1.1**
DSF				S	**Sg**	**05 45 09.4**	**+0.4**
	comp=E,878nm,0.2s						
DSF	**Desfina**	**0.57**	**83**	P	**Pg**	**05 45 00.4**	**-1.1**
DSF				AML	AML	05 45 12.1	
	comp=N,2084μm,0.2s						
DSF				AML	AML	05 45 16.1	
	comp=E,1601μm,0.3s						
GUR	**Goura**	**0.59**	**134**	P	**Pg**	**05 45 00.9**	**-1.0**
GUR				S	**Sg**	**05 45 09.8**	**+0.2**
GUR	**Goura**	**0.59**	**134**	P	**Pg**	**05 45 00.8**	**-1.0**
GUR				S	**Sg**	**05 45 09.8**	**+0.2**
GUR				AML	AML	05 45 11.6	
	comp=N,4984μm,0.3s						
GUR				AML	AML	05 45 12.1	
	comp=E,3242μm,0.4s						
AXAR	**Agios Charalam**	**0.79**	**58**	P	**Pg**	**05 45 04.5**	**-1.1**
AXAR				S	**Sb**	**05 45 17.1**	**+0.2**
	comp=E,3μm,0.4s						
AXAR	**Agios Charalam**	**0.79**	**58**	P	**Pg**	**05 45 04.1**	**-1.5**
TRIP	**Tripoli**	**0.90**	**156**	P	**Pg**	**05 45 06.8**	**-0.9**
TRIP	**Tripoli**	**0.90**	**156**	P	**Pg**	**05 45 06.8**	**-0.9**
EVGI	**Lefkada island**	**0.94**	**287**	P	**Pg**	**05 45 07.2**	**-1.2**
VLS	**Valsamata**	**0.97**	**260**	P	**Pg**	**05 45 07.7**	**-1.3**
VLS	**Valsamata**	**0.97**	**260**	P	**Pg**	**05 45 07.7**	**-1.3**
LTK	**Loutraki**	**0.97**	**109**	P	**Pg**	**05 45 07.8**	**-1.2**
LTK	**Loutraki**	**0.97**	**109**	P	**Pg**	**05 45 07.8**	**-1.2**
LTK				AML	AML	05 45 24.8	
	comp=E,1096μm,1.1s						
LTK				AML	AML	05 45 29.4	
	comp=N,1127μm,0.4s						
FSK	**Fiskardo**	**0.98**	**277**	P	**Pg**	**05 45 07.7**	**-1.5**
FSK	**Fiskardo**	**0.98**	**277**	P	**Pg**	**05 45 07.7**	**-1.5**
LKR	**Lokris**	**0.99**	**72**	P	**Pg**	**05 45 07.6**	**-1.7**
LKR	**Lokris**	**0.99**	**72**	P	**Pg**	**05 45 07.6**	**-1.7**
LKD2	**Lefkada island**	**1.00**	**296**	P	**Pg**	**05 45 08.4**	**-1.2**
LKD2	**Lefkada island**	**1.00**	**296**	P	**Pg**	**05 45 08.4**	**-1.2**
VLMS	**Volimes, Zakyn**	**1.01**	**243**	P	**Pg**	**05 45 08.9**	**-0.9**
TSLK	**Tsoukalades, L**	**1.02**	**298**	P	**Pg**	**05 45 08.9**	**-1.0**
TSLK	**Tsoukalades, L**	**1.02**	**298**	P	**Pg**	**05 45 08.9**	**-1.0**
KEF5	**Kardakata, Kep**	**1.05**	**267**	P	**Pg**	**05 45 09.2**	**-1.4**
VLX	**Vlachokerasia**	**1.08**	**155**	P	**Pg**	**05 45 09.8**	**-1.2**
VLX	**Vlachokerasia**	**1.08**	**155**	P	**Pg**	**05 45 09.8**	**-1.2**
VIL2	**Platees**	**1.16**	**96**	P	**Pb**	**05 45 12.5**	**+0.1**
ITM	**Ithomi**	**1.17**	**175**	P	**Pg**	**05 45 12.0**	**-0.8**
ITM	**Ithomi**	**1.17**	**175**	P	**Pg**	**05 45 12.0**	**-0.8**
VILL	**Villia**	**1.20**	**98**	P	**Pg**	**05 45 12.5**	**-0.9**
THL	**Klokotos Trika**	**1.23**	**8**	P	**Pg**	**05 45 12.7**	**-1.2**
THL	**Klokotos Trika**	**1.23**	**8**	P	**Pg**	**05 45 12.7**	**-1.2**
VOL3	**Nea Ionia, Vol**	**1.35**	**40**	P	**Pg**	**05 45 13.4**	**-2.9**
VOL2	**Volos**	**1.35**	**41**	P	**Pb**	**05 45 16.6**	**+0.8**
KRND	**KRANIDI**	**1.44**	**132**	P	**Pn**	**05 45 16.4**	**+0.1**
KRND	**KRANIDI**	**1.44**	**132**	P	**Pn**	**05 45 16.4**	**+0.1**
PYL	**PYLOS**	**1.45**	**182**	P	**Pn**	**05 45 16.4**	**-0.2**
PYL	**PYLOS**	**1.45**	**182**	P	**Pn**	**05 45 16.4**	**-0.2**
NEO	**Neokhori**	**1.47**	**49**	P	**Pn**	**05 45 17.0**	**+0.2**
NEO	**Neokhori**	**1.47**	**49**	P	**Pn**	**05 45 17.0**	**+0.2**
XOR	**Xorichti**	**1.49**	**46**	P	**Pn**	**05 45 16.8**	**-0.3**
XOR	**Xorichti**	**1.49**	**46**	P	**Pn**	**05 45 16.8**	**-0.3**
VLY	**Voula,Athens**	**1.65**	**107**	P	**Pn**	**05 45 19.7**	**+0.5**
VLY	**Voula,Athens**	**1.65**	**107**	P	**Pn**	**05 45 19.7**	**+0.5**
DION	**Dionisos Attik**	**1.70**	**98**	P	**Pn**	**05 45 20.5**	**+0.5**
DION	**Dionisos Attik**	**1.70**	**98**	P	**Pn**	**05 45 20.5**	**+0.5**
KYMI	**Kymi, Euboea I**	**1.82**	**80**	P	**Pn**	**05 45 21.9**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.82**	**80**	P	**Pn**	**05 45 21.9**	**+0.2**
LIT	**Litokhoron**	**1.83**	**17**	P	**Pb**	**05 45 23.6**	**-0.3**
LIT	**Litokhoron**	**1.83**	**17**	P	**Pn**	**05 45 22.5**	**+0.7**
VLI	**Veliai**	**1.86**	**151**	P	**Pn**	**05 45 23.3**	**+1.1**
VLI	**Veliai**	**1.86**	**151**	P	**Pn**	**05 45 23.3**	**+1.1**
KTHA	**Kythira Island**	**2.32**	**154**	P	**Pb**	**05 45 31.4**	**-0.7**
KTHA	**Kythira Island**	**2.32**	**154**	P	**Pn**	**05 45 29.6**	**+1.1**
SERI	**Serifos**	**2.43**	**118**	P	**Pn**	**05 45 30.7**	**+0.6**
SERI	**Serifos**	**2.43**	**118**	P	**Pn**	**05 45 30.7**	**+0.6**
OHR	**Ohrid**	**2.87**	**345**	*i* Pn	**Pb**	**05 45 42.4**	**+0.9**
VAY	**Valandovo**	**3.03**	**11**	*i* Pn	**Pb**	**05 45 43.9**	**-0.4**
BRTR	**Keskin Array B**	**9.31**	**78**	**Pn**	**Pn**	**05 47 07.2**	**+2.5**
	comp=N,0.1nm,0.3s,baz=259,slow=12,SNR=3.2						
ESDC	**Sonseca Array**	**20.05**	**282**	P	**P**	**05 49 24.9**	**+1.4**
	comp=N,1.2nm,0.8s,baz=76,slow=10,SNR=13						
TORD	**Torodi Ar. Bea**	**30.81**	**221**	P	**P**	**05 51 06.4**	**+0.2**
	comp=N,0.4nm,0.8s,baz=32,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**44.35**	**59**	P	**P**	**05 53 00.9**	**+0.4**
	comp=N,0.3nm,0.5s,baz=273,slow=7.6,SNR=4.4						

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*NEIC **21** 05:45:42.5±2.7, 5°.4S±0°.1×151°.4E±0°.1, h152km±9km, mb4.1/12, Error ellipse: s-maj=24.6km s-min=5.9km az=123.0*
*IDC **21** 05:45:46.3±1.0, 5°.12S×151°.34E, h142km±21km, mb3.5/3, mb1 3.7/3, mb1mx3.2/28, mbtmp3.9/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=102.1km s-min=31.7km az=124.0*
ISC 21 05:45:42.5±0.8, 5°.4S±0°.1×151°.6E±0°.1, h150km, n22, σ2s72/24, mb4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.18**	**22**	P	**Pn**	**05 46 10.8**	**+1.9**
	42nm,0.3s,baz=180,slow=2.0,SNR=17						
KRVT				S	**Sn**	**05 46 29.9**	**+0.8**
	44nm,0.3s,baz=37,slow=20,SNR=8.4						
RABL	**Rabaul**	**1.34**	**25**		**Pn**	**05 46 11.5**	**+1.1**
RABL				Sn	**Sn**	**05 46 32.6**	**+0.8**
PMG	**Port Moresby**	**5.92**	**228**	S	**Sn**	**05 48 20.5**	**+5.3**
	5.7nm,0.3s,baz=345,slow=14,SNR=8.9						
PMG	**Port Moresby**	**5.92**	**228**	Pn	**Pn**	**05 47 06.9**	**-1.2**
PMG				Sn	**Sn**	**05 48 17.5**	**+2.4**
HNR	**Honiara**	**9.20**	**116**	LR	LR	05 51 33.2	
	comp=Z,56nm,18.4s,baz=176,slow=36						
CTAO	**Charters Tower**	**15.48**	**199**	Pn	**Pn**	**05 49 10.2**	**-2.8**
CTAO				IAmb	IAmb	05 49 31.7	
	comp=Z,17nm,1.3s						
EIDS	**Eidsvold**	**19.85**	**181**	P	**P**	**05 50 01.8**	**0.0**
DZM	**Mont Dzumac**	**21.93**	**140**	P	**P**	**05 50 25.4**	**+1.3**
WB0	**Warramunga Arr**	**21.99**	**228**	P	**P**	**05 50 25.8**	**+1.0**
WB0				IAmb	IAmb	05 50 31.8	
	comp=Z,9.3nm,1.4s						
WR0	**Warramunga Arr**	**22.00**	**227**	P	**P**	**05 50 25.3**	**+0.5**
WR0				IAmb	IAmb	05 50 27.7	
	comp=Z,6.3nm,1.4s						
WRAB	**Tennant Creek**	**22.13**	**228**	P	**P**	**05 50 22.8**	**-3.3**
WRAB				IAmb	IAmb	05 50 23.7	
	comp=Z,7.8nm,0.9s						
WB2	**Warramunga Arr**	**22.13**	**228**	P	**P**	**05 50 23.4**	**-2.8**
WRA	**Warramunga Arr**	**22.14**	**228**	P	**P**	**05 50 30.5**	**+4.3**
	comp=Z,0.5nm,0.3s,baz=52,slow=9.7,SNR=18						
WRA	**Warramunga Arr**	**22.14**	**228**	P	**P**	**05 50 24.8**	**-1.5**
KNRA	**Kununurra**	**24.62**	**244**	P	**P**	**05 50 48.8**	**-0.4**
KNRA				IAmb	IAmb	05 51 12.7	
	comp=Z,7.8nm,1.1s						
AS31	**Alice Springs**	**24.89**	**221**	P	**P**	**05 50 51.4**	**-0.2**
ASAR	**Alice Springs**	**24.89**	**221**	P	**P**	**05 50 57.2**	**+5.6**
	comp=Z,1.2nm,0.4s,baz=57,slow=8.9,SNR=22						
ASAR	**Alice Springs**	**24.89**	**221**	P	**P**	**05 50 48.9**	**-2.7**
FITZ	**Fitzroy Crossi**	**28.31**	**241**	P	**P**	**05 51 26.2**	**+4.0**
	comp=Z,1.8nm,0.6s,baz=16,slow=2.2,SNR=7.2						
FITZ	**Fitzroy Crossi**	**28.31**	**241**	P	**P**	**05 51 20.2**	**-2.0**
FITZ				IAmb	IAmb	05 51 26.3	
	comp=Z,8.2nm,1.4s						
MK31	**Makanchi Array**	**80.00**	**319**	P	**P**	**05 57 33.9**	**-1.3**
MK31				IAmb	IAmb	05 57 41.8	
	comp=Z,4.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**149.34**	**287**	PKPbc	**PKPab**	**06 05 17.9**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=61,slow=3.1,SNR=4.4						

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*IDC **21** 05:53:17.9±0.6, 4°.95S×151°.26E, h147km±11km, mb3.6/6, mb1 3.7/7, mb1mx3.4/30, mbtmp4.0/7, Error ellipse: s-maj=49.6km s-min=16.7km az=121.0*
ISC 21 05:53:18.0±0.8, 5°.0S±0°.2×151°.3E±0°.2, h150km, n10, σ0s74/13, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.01**	**51**	P	**Pn**	**05 53 42.7**	**-0.1**
	78nm,0.3s,baz=171,slow=0.7,SNR=31						
KRVT				S	**Sn**	**05 54 01.4**	**-0.4**
	121nm,0.3s,baz=267,slow=19,SNR=31						
PMG	**Port Moresby**	**6.00**	**222**	S	**Sn

22nm,0.3s
ZSN eS **Sb** **05 59 23.2 -0.2**
141nm,0.3s
MK31 Makanchi Array 2.06 213 Pn **Pg** **05 59 22.1 -0.6**
0.1nm,0.1s,baz=38,slow=17,SNR=76
MK31 ⇑Sn **Sg** **05 59 48.7 -0.7**
3.7nm,0.2s,baz=40,slow=28,SNR=12
KURK Kurchatov 4.08 304 ⇓Pn **Pn** **05 59 46.4 +0.6**
0.5nm,0.3s
KURK ⇓Sn **Sn** **06 00 32.7 -0.7**
1.1nm,0.3s
KURK ⇑Lg Lg 06 00 53.0
7.4nm,0.4s
KURBB Kurchatov Arra 4.08 303 ⇓Pn **Pn** **05 59 46.8 +1.0**
1.2nm,0.4s
KURBB ⇓Sn **Sn** **06 00 32.3 -1.3**
4.8nm,0.4s
KURBB ⇑Lg Lg 06 00 54.2
35nm,0.6s
KAPS Kapalarasan 4.50 226 eP **Pb** **06 00 02.7 +0.1**
0.9nm,1.1s
KAPS eS **Sb** **06 00 58.3 +1.4**
5.4nm,0.5s

*IDC **21** 06:10:56.5±3.4,36°.10N×71°.08E,h107km±30km,mb3.5/8, mb1 3.6/14,mb1mx3.3/53,mbtmp3.9/14,MS3.4/1, Ms1 3.4/1,ms1mx2.5/35,Error ellipse: s-maj=23.4km s-min=19.5km az=168.0*
*NEIC **21** 06:10:57.3±2.1,36°.25N±0°.05×71°.03E±0°.07,h111km±5km, mb4.0/12,Error ellipse: s-maj=9.0km s-min=7.1km az=68.0*
*NNC **21** 06:11:00.3±7.8,36°.91N×70°.65E,h0km,mb4.6,mpv4.2, Error ellipse: s-maj=77.1km s-min=43.9km az=152.0*
*SOME **21** 06:11:03.6,38°.22N×71°.65E,h5km*
ISC 21 06:10:55.4±0.5,36°.20N±0°.05×71°.18E±0°.05,h102km,n88, σ2s06/100,mb4.0/8,3C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.41**	**227**	Pn	Pn	06 11 36.9	+3.3
KBL				Sn	**Sn**	**06 12 05.5**	**+2.6**
GAR	**Garm**	**2.88**	**346**	Pn	**Pn**	**06 11 41.7**	**+2.0**
GAR				Sn	**Sn**	**06 12 15.6**	**+1.9**
CHGR	**Chuyangaron**	**2.93**	**327**	Pn	**Pn**	**06 11 41.4**	**+1.0**
CHGR				Sn	**Sn**	**06 12 14.3**	**-0.7**
NIL	**Nilore**	**3.06**	**146**		**Pn**	**06 11 45.2**	**+3.1**
BTK	**Batken**	**3.86**	**356**	Pn	**Pn**	**06 11 55.8**	**+3.0**
THN	**Thein Dam**	**5.31**	**134**	eP	**Pn**	**06 12 16.5**	**+4.1**
THN				eS	**Sn**	**06 13 13.0**	**+0.7**
DHRM	**DHARAMSHALA**	**5.79**	**131**	eP	**Pn**	**06 12 20.7**	**+1.6**
DHRM				eS	**Sn**	**06 13 21.2**	**-3.1**
DHRM				IAML		06 13 25.3	
	comp=E,246nm,0.7s						
DHRM				IAML		06 13 25.8	
	comp=N,208nm,0.2s						
IUG	**Iuzhnay**	**6.00**	**352**	eP	**Pn**	**06 12 23.1**	**+1.2**
	comp=N,39nm,0.4s						
IUG				eS	**Sn**	**06 13 26.6**	**-2.6**
	comp=N,136nm,0.7s						
AML	**Almayashu**	**6.23**	**17**	P	**Pn**	**06 12 27.2**	**+2.0**
	SNR=22						
BHK	**Bhakra**	**6.46**	**136**	ex	Pn	06 12 33.8	+5.8
UCH	**Uchtor**	**6.55**	**22**	P	**Pn**	**06 12 31.6**	**+2.1**
	SNR=14						
DZA	**Taraz**	**6.68**	**1**	eP	**Pn**	**06 12 32.6**	**+1.7**
	comp=N,124nm,0.1s						
DZA				eS	**Sn**	**06 13 43.9**	**-1.7**
	comp=N,165nm,0.3s						
MRKS	**Merke**	**6.72**	**13**	eP	**Pn**	**06 12 32.9**	**+1.4**
	comp=N,36nm,0.3s						
MRKS				eS	**Sn**	**06 13 44.4**	**-2.3**
	comp=N,39nm,0.5s						
EKS2	**Erkin-Say**	**6.76**	**16**	P	**Pn**	**06 12 34.2**	**+2.1**
	SNR=14						
BRLS	**Borolday**	**6.90**	**352**	eP	**Pn**	**06 12 31.3**	**-2.6**
	comp=N,13nm,0.2s						
BRLS				eS	Sn	06 13 41.2	-10
	comp=N,30nm,0.3s						
KK31	**Karatay Array**	**6.91**	**356**	P	**Pn**	**06 12 35.3**	**+1.2**
	comp=N,8.0nm,0.3s,baz=179,slow=12,SNR=249						
KK31				⇑S	**Sn**	**06 13 48.2**	**-3.0**
	comp=N,32nm,0.6s,baz=186,slow=22,SNR=7.5						
KK31	**Karatay Array**	**6.91**	**356**	Pn	**Pn**	**06 12 35.0**	**+0.9**
KKAR	**Karatay Array**	**6.91**	**356**		**Pn**	**06 12 35.1**	**+1.0**
KKAR	**Karatay Array**	**6.91**	**356**	Pn	**Pn**	**06 12 34.8**	**+0.8**
AAK	**Ala-Archa**	**6.92**	**21**	P	**Pn**	**06 12 36.9**	**+2.6**
	comp=N,7.2nm,0.3s,baz=197,slow=2.0,SNR=52						
AAK				S	**Sn**	**06 13 51.0**	**-0.5**
	comp=N,1.3nm,0.3s,baz=346,slow=23,SNR=8.3						
AAK	**Ala-Archa**	**6.92**	**21**	P	**Pn**	**06 12 36.5**	**+2.2**
	SNR=28						
AAK	**Ala-Archa**	**6.92**	**21**	⇓P	**Pn**	**06 12 36.7**	**+2.4**
	comp=N,8.5nm,0.4s						
AAK				S	**Sn**	**06 13 51.9**	**+0.3**
	comp=N,22nm,0.7s						
SMLA	**Simla**	**7.11**	**134**	eP	**Pn**	**06 12 38.0**	**+1.3**
SMLA				eS	**Sn**	**06 13 50.7**	**-5.2**
SMLA				IAML		06 13 55.1	
	comp=N,68nm,0.2s						
SMLA				IAML		06 13 55.3	
	comp=E,52nm,0.6s						
SMLA				IAML		06 13 55.6	
	comp=E,52nm,0.6s						
CHMS	**Chumysh**	**7.33**	**21**	P	**Pn**	**06 12 42.2**	**+2.5**
	SNR=6.4						
USP	**Ospenovka**	**7.50**	**19**	P	**Pn**	**06 12 44.5**	**+2.3**
	SNR=5.4						
TKM2	**Tokmak 2**	**7.53**	**26**	P	**Pn**	**06 12 44.8**	**+2.2**
	SNR=17						
TKM2	**Tokmak 2**	**7.53**	**26**	⇑P	**Pn**	**06 12 45.0**	**+2.4**
	comp=E,9.5nm,0.6s						
TKM2				⇑S	**Sn**	**06 14 06.2**	**-0.2**
	comp=E,6.8nm,0.9s						
GEYT	**Alibeck**	**10.58**	**283**	P	**Pn**	**06 13 23.3**	**-0.7**
	comp=E,1.1nm,0.3s,baz=105,slow=9.1,SNR=6.8						
GEYT				S	**Sn**	**06 15 13.8**	**-6.8**
	comp=E,1.9nm,0.3s,baz=85,slow=19,SNR=3.5						
GEYT	**Alibeck**	**10.58**	**283**		**Pn**	**06 13 23.0**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**10.58**	**283**	Pn	**Pn**	**06 13 23.3**	**-0.7**
GYA0B					**Sn**	**06 15 14.9**	**-5.6**
PYUN	**Piuthan**	**12.85**	**126**	eP	**Pn**	**06 13 52.4**	**-2.1**
	comp=E,72nm,0.4s						
PYUN	**Piuthan**	**12.85**	**126**	eP	**Pn**	**06 13 52.4**	**-2.1**
	comp=E,72nm,0.4s						
DANN	**Dangsing**	**13.20**	**123**	eP	**Pn**	**06 13 56.9**	**-2.3**
	comp=E,52nm,0.8s						
DANN	**Dangsing**	**13.20**	**123**	eP	**Pn**	**06 13 56.9**	**-2.3**
	comp=E,52nm,0.8s						
MAKZ	**Makanchi**	**13.32**	**34**	Pn	**Pn**	**06 14 00.9**	**+0.6**
MKAR	**Makanchi Array**	**13.45**	**35**	P	**Pn**	**06 14 05.8**	**+3.8**
	baz=210,slow=9.1,SNR=1.1						
KOLN	**Koldanda**	**13.47**	**125**	eP	**Pn**	**06 14 00.2**	**-2.4**
	comp=E,12nm,0.4s						
KOLN	**Koldanda**	**13.47**	**125**	eP	**Pn**	**06 14 00.2**	**-2.4**
	comp=E,12nm,0.4s						
GKN	**Gorkha**	**14.02**	**122**	eP	**Pn**	**06 14 07.0**	**-2.7**
	comp=E,21nm,0.5s						
GKN	**Gorkha**	**14.02**	**122**	eP	**Pn**	**06 14 07.0**	**-2.7**
	comp=E,21nm,0.5s						
DMN	**Daman**	**14.59**	**122**	eP	**Pn**	**06 14 15.2**	**-1.9**
DMN	**Daman**	**14.59**	**122**	eP	**Pn**	**06 14 15.2**	**-1.9**
KKN	**Kakani**	**14.60**	**121**	eP	**Pn**	**06 14 14.7**	**-2.5**
	comp=E,19nm,0.6s						
KKN	**Kakani**	**14.60**	**121**	eP	**Pn**	**06 14 14.7**	**-2.5**
	comp=E,19nm,0.6s						
PKI	**Pulchoki**	**14.82**	**121**	eP	**Pn**	**06 14 18.0**	**-2.1**
	comp=E,19nm,0.5s						
PKI	**Pulchoki**	**14.82**	**121**	eP	**Pn**	**06 14 18.0**	**-2.1**
	comp=E,19nm,0.5s						
GUN	**Gumba**	**14.94**	**119**	eP	**Pn**	**06 14 19.9**	**-1.8**
GUN	**Gumba**	**14.94**	**119**	eP	**Pn**	**06 14 19.9**	**-1.8**
JIRN	**Jiri**	**15.31**	**120**	eP	**Pn**	**06 14 24.7**	**-1.7**
	comp=E,29nm,0.4s						
JIRN	**Jiri**	**15.31**	**120**	eP	**Pn**	**06 14 24.7**	**-1.7**
	comp=E,29nm,0.4s						
KURBB	**Kurchatov Arra**	**15.36**	**18**	P	**P**	**06 14 30.1**	**+1.4**
	comp=E,0.1nm,0.3s,baz=208,slow=10,SNR=6.0						
AB31	**Akbulak array**	**15.41**	**331**	P	**Pn**	**06 14 26.7**	**-0.4**
	comp=E,4.0nm,0.5s,baz=141,slow=12,SNR=66						
ABKAR	**Akbulak array**	**15.41**	**331**		**Pn**	**06 14 27.0**	**-0.1**
ABKAR				IAmb	IAmb	06 14 28.5	
	comp=Z,7.0nm,0.6s						
ABKAR	**Akbulak array**	**15.41**	**331**	Pn	**Pn**	**06 14 27.1**	**0.0**
KURK	**Kurchatov**	**15.47**	**18**	Pn	**Pn**	**06 14 28.1**	**+0.4**
RAMN	**Ramite**	**16.04**	**121**	eP	**Pn**	**06 14 34.0**	**-1.3**
	comp=Z,24nm,0.7s						
RAMN	**Ramite**	**16.04**	**121**	eP	**Pn**	**06 14 34.0**	**-1.3**
	comp=Z,24nm,0.7s						
TAPN	**Taplejung**	**16.58**	**118**	eP	**Pn**	**06 14 41.3**	**-0.7**
TAPN	**Taplejung**	**16.58**	**118**	eP	**Pn**	**06 14 41.3**	**-0.7**
ODAN	**Odare**	**16.64**	**119**	eP	**Pn**	**06 14 41.9**	**-0.9**
ODAN	**Odare**	**16.64**	**119**	eP	**Pn**	**06 14 41.9**	**-0.9**
BVAR	**Borovoye Array**	**16.83**	**358**	P	**P**	**06 14 46.4**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=170,slow=17,SNR=8.2						
BRVK	**Borovoye**	**16.87**	**358**	P	**Pn**	**06 14 46.3**	**+1.3**
BRVK				IAmb	IAmb	06 14 50.2	
	comp=Z,3.2nm,0.7s						
AKTO	**Aktyubinsk**	**17.11**	**330**	P	**P**	**06 14 49.7**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=133,slow=10,SNR=33						
AKTO	**Aktyubinsk**	**17.11**	**330**	⇓P	**P**	**06 14 49.5**	**+1.3**
	comp=Z,13nm,0.7s						
ZAA0	**Zalesovo Array**	**20.13**	**24**	P	**P**	**06 15 22.4**	**+1.3**
ZALV	**Zalesovo Beam**	**20.13**	**24**	P	**P**	**06 15 22.8**	**+1.8**
	comp=Z,1.7nm,0.4s,baz=220,slow=9.2,SNR=7.1						
ZALV	**Zalesovo Beam**	**20.13**	**24**	P	**P**	**06 15 22.5**	**+1.5**
FINES	**FINESS Array B**	**37.81**	**326**	P	**P**	**06 18 03.2**	**+1.6**
	comp=Z,1.3nm,0.4s,baz=120,slow=8.2,SNR=18						
NB201	**NORSAR Array S**	**44.67**	**323**	P	**P**	**06 18 59.0**	**+1.3**
NB2	**NORSAR Subarra**	**44.71**	**323**	P	**P**	**06 18 59.1**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.71**	**323**	P	**P**	**06 18 59.0**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=96,slow=7.9,SNR=7.9						
NBO00	**NORSAR Array S**	**44.92**	**323**	P	**P**	**06 19 00.7**	**+1.1**
DAV	**Davao City (W)**	**57.37**	**107**	LR	LR	06 47 00.3	
	comp=Z,33nm,21.0s,baz=70,slow=38						
TOA0	**Torodi Ar. Sit**	**65.86**	**269**	P	**P**	**06 21 29.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P	**P**	**06 21 29.5**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=50,slow=5.9,SNR=30						
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P	**P**	**06 21 29.6**	**-0.9**
KOWA	**Kowa**	**69.73**	**273**	P	**P**	**06 21 52.6**	**-2.1**
IMAR	**Indian Mountai**	**72.41**	**18**	P	**P**	**06 22 10.9**	**+0.8**
C36M	**Paulatuk**	**74.16**	**6**	P	**P**	**06 22 21.1**	**+0.8**
LBTB	**Lobatse**	**74.56**	**222**	P	**P**	**06 22 25.1**	**+1.8**
ILAR	**Eielson Array**	**75.03**	**16**	P	**P**	**06 22 25.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=340,slow=2.1,SNR=3.3						
ILAR	**Eielson Array**	**75.03**	**16**	P	**P**	**06 22 25.0**	**-0.3**
BOSA	**Boshof**	**77.61**	**220**	P	**P**	**06 22 41.6**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=29,slow=4.3,SNR=7.4						
BOSA	**Boshof**	**77.61**	**220**	P	**P**	**06 22 41.7**	**+1.1**
BOSA				IAmb	IAmb	06 23 05.9	
	comp=Z,7.2nm,1.4s						
WRA	**Warramunga Arr**	**81.71**	**122**	P	**P**	**06 23 03.2**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=324,slow=4.9,SNR=4.9						
WB2	**Warramunga Arr**	**81.72**	**122**	P	**P**	**06 23 04.3**	**+1.4**
WB2				IAmb	IAmb	06 23 07.0	
	comp=Z,3.0nm,1.1s						
ASAR	**Alice Springs**	**83.96**	**125**	P	**P**	**06 23 14.7**	**+0.3**
	comp=Z,0.1nm,0.2s,baz=317,slow=5.3,SNR=1.9						

*NDI **21** 06:31:15.4±1.3,30°.37N×95°.84E,h33km,ML3.6, mb4.0(NEIC)*
*IDC **21** 06:31:17.6±1.0,29°.82N×95°.24E,h0km,mb3.7/7, mb1 3.8/9,mb1mx3.5/42,mbtmp3.7/9,ML3.7/2,Error ellipse: s-maj=45.6km s-min=18.6km az=57.0*
*NEIC **21** 06:31:20.6±1.7,29°.86N±0°.07×95°.3E±0°.1,h25km±7km, mb4.0/12,Error ellipse: s-maj=15.0km s-min=8.0km az=120.0*
ISC 21 06:31:22.4±0.7,29°.98N±0°.06×95°.41E±0°.09,h35km,n29, σ1s71/32,mb3.9/9,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**2.54**	**190**	eP	**Pn**	**06 32 01.5**	**+0.4**
DIBR				eS	**Sn**	**06 32 34.5**	**+3.6**
DIBR				IAML		06 32 35.4	
	comp=N,750nm,0.6s						
DIBR				IAML		06 32 35.5	
	comp=E,845nm,0.4s						
ZIRO	**ZIRO**	**2.81**	**210**	eP	**Pn**	**06 32 04.6**	**-0.3**
ZIRO				eS	**Sn**	**06 32 41.2**	**+3.5**
ZIRO				IAML		06 32 44.4	
	comp=E,940nm,0.7s						
ZIRO				IAML		06 32 46.5	
	comp=N,960nm,0.0s						
LSA	**Lhasa**	**3.71**	**267**		**Pn**	**06 32 16.9**	**-0.8**
TEZP	**TEZPUR**	**4.07**	**215**	eP	**Pn**	**06 32 23.4**	**+1.2**
TEZP				eS	**Sn**	**06 33 11.7**	**+3.2**
TEZP				IAML		06 33 17.5	
	comp=E,80nm,0.2s						
TEZP				IAML		06 33 20.8	
	comp=N,86nm,0.3s						
KOHI	**KOHIMA**	**4.40**	**196**	eP	**Pn**	**06 32 24.9**	**-2.0**
GUWA	**GUWAHATI**	**5.00**	**222**	eP	Pn	06 32 44.2	+9.2
GUWA				eS	Sn	06 33 42.9	+11
GUWA				IAML		06 33 50.6	
	comp=E,39nm,0.4s						
GUWA				IAML		06 33 52.0	
	comp=N,25nm,0.1s						
SHL	**Shillong**	**5.40**	**216**		**Pn**	**06 32 36.7**	**-3.8**
SAIH	**SAIHA**	**7.77**	**197**	eP	**Pn**	**06 33 11.9**	**-1.2**
SAIH				eS	**Sn**	**06 34 37.0**	**-3.1**
NIL	**Nilore**	**19.18**	**287**	P	**P**	**06 35 41.9**	**-1.1**
NIL				IAmb	IAmb	06 36 10.9	
	comp=Z,4.5nm,0.9s						
MK31	**Makanchi Array**	**19.64**	**332**	P	**P**	**06 35 48.2**	**+0.3**
MKAR	**Makanchi Array**	**19.64**	**332**	P	**Pn**	**06 35 49.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=152,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**19.64**	**332**	P	**P**	**06 35 47.4**	**-0.5**
SONM	**Songino Array**	**19.73**	**22**	P	**P**	**06 35 50.5**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=196,slow=14,SNR=4.1						
SONM	**Songino Array**	**19.73**	**22**	P	**P**	**06 35 49.8**	**+0.7**
AAK	**Ala-Archa**	**21.00**	**313**	P	**P**	**06 36 02.3**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=189,slow=5.1,SNR=2.9						
DLV	**T Lat**	**21.67**	**143**	P	**P**	**06 36 09.1**	**-1.2**
KBL	**Kabul**	**22.73**	**288**	P	**P**	**06 36 21.1**	**-0.5**
KBL				IAmb	IAmb	06 36 32.7	
	comp=Z,4.1nm,0.7s						
KURBB	**Kurchatov Arra**	**24.20**	**333**	P	**P**	**06 36 36.3**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=143,slow=10,SNR=8.7						
KURK	**Kurchatov**	**24.24**	**333**	P	**P**	**06 36 37.6**	**+1.8**
KURK				IAmb	IAmb	06 36 40.4	
	comp=Z,2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**25.15**	**345**	P	**P**	**06 36 45.3**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=163,slow=9.4,SNR=8.9						
ZALV	**Zalesovo Beam**	**25.15**	**345**	P	**P**	**06 36 45.4**	**+1.3**
SCTE	**Santa Cesarea**	**62.02**	**302**	P	**P**	**06 41 37.9**	**-1.3**
WB0	**Warramunga Arr**	**62.09**	**138**	P	**P**	**06 41 39.8**	**-0.1**
WB0				IAmb	IAmb	06 41 59.3	
	comp=Z,4.5nm,1.1s						
WRAB	**Tennant Creek**	**62.20**	**138**	P	**P**	**06 41 39.4**	**-1.1**
WRA	**Warramunga Arr**	**62.20**	**138**	P	**P**	**06 41 41.0**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=329,slow=7.1,SNR=6.6						
WRA	**Warramunga Arr**	**62.20**	**138**	P	**P**	**06 41 40.6**	**+0.1**
GERES	**GERESS Array B**	**62.88**	**313**	P	**P**	**06 41 45.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=56,slow=6.0,SNR=2.4						
ASAR	**Alice Springs**	**64.90**	**141**	P	**P**	**06 41 58.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=322,slow=6.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**86.70**	**283**	P	**P**	**06 44 02.6**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=90,slow=5.8,SNR=3.0						

IDC 21 06:42:11.7±16.0,8°.02S×119°.00E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.3/30,mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=265.9km s-min=174.0km az=177.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.00**	**130**	P	P	06 46 34.7	-0.4
	0.1nm,0.3s,baz=304,slow=13,SNR=10						
ASAR	**Alice Springs**	**21.12**	**139**	P	P	06 46 59.0	+0.7
	0.7nm,0.4s,baz=316,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**31.71**	**142**	P	P	06 48 36.9	-0.4
	0.7nm,0.3s,baz=318,slow=12,SNR=1.9						

*JMA **21** 07:35:48.4±0.2,35°.76N×141°.06E,h35km±1km,M2.9*
*IDC **21** 07:35:52.3±3.1,35°.71N×140°.86E,h60km±28km,mb3.4/5, mb1 3.5/7,mb1mx3.3/40,mbtmp3.6/7,ML2.5/2,MS2.8/7, Ms1 2.9/7,ms1mx2.7/26,Error ellipse: s-maj=35.7km s-min=15.6km az=80.0*
ISC 21 07:35:49.2±1.2,35°.82N±0°.05×141°.01E±0°.08,h31km±7km, n28,σ0s98/20,mb3.6/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.17**	**226**	P	**Pb**	**07 35 54.9**	**-0.4**
CHOJ				S	**Sb**	**07 35 59.3**	**0.0**
JIHU	**Itakohorinouch**	**0.42**	**291**	P	**Pn**	**07 35 59.1**	**0.0**
JSMT	**Sammumatsuo**	**0.49**	**249**	P	**Pb**	**07 35 59.3**	**-0.2**
JSMT				S	**Sn**	**07 36 07.9**	**+0.4**
JHYU	**Hitachinakayam**	**0.62**	**327**	P	**Pn**	**07 36 02.1**	**+0.2**
JCN	**Nagara**	**0.77**	**239**	P	**Pb**	**07 36 04.0**	**-0.2**
JYT	**Yasato**	**0.78**	**302**	P	**Pn**	**07 36 03.5**	**-0.5**
JHO	**Hitachi**	**0.87**	**336**	P	**Pn**	**07 36 05.3**	**0.0**
JHO				S	**Sb**	**07 36 18.5**	**+1.4**
MJAR	**Matsushiro Arr**	**2.38**	**288**	P	**Pn**	**07 36 27.1**	**+1.0**
	0.4nm,0.3s,baz=92,slow=12,SNR=25						
MJAR				LR	LR	07 37 32.3	
	comp=Z,162nm,18.8s,baz=125,slow=44						
MAT	**Matsushiro**	**2.38**	**288**	P	**Pn**	**07 36 26.8**	**+0.7**
MAT				S	**Sn**	**07 36 54.2**	**0.0**
JHJ	**Hachijo jima 2**	**2.88**	**201**	P	**Pn**	**07 36 34.6**	**+1.7**
	6.2nm,0.3s,baz=61,slow=21,SNR=2.5						
JHJ				S	**Sn**	**07 37 05.8**	**-0.7**
	12nm,0.3s,baz=69,slow=21,SNR=1.3						
JCJ	**Chichijima**	**8.76**	**173**	LR	LR	07 40 35.5	
	comp=Z,26nm,21.5s,baz=349,slow=33						
JNU	**Nakatsue**	**8.79**	**255**	LR	LR	07 41 29.4	
	comp=Z,86nm,18.4s,baz=92,slow=39						
KSRS	**Korea Array**	**10.64**	**283**	LR	LR	07 42 19.2	
	comp=Z,81nm,18.8s,baz=110,slow=37						
USRK	**Ussuriysk Ar.**	**10.85**	**323**	LR	LR	07 42 27.9	
	comp=Z,71nm,18.6s,baz=208,slow=36						
MA2	**Magadan**	**24.61**	**12**	LR	LR	07 52 51.1	
	comp=Z,13nm,19.5s,baz=42,slow=41						
H11N2	**WAKE ISLAND Hy**	**27.83**	**118**	T	T	08 10 35.6	
	baz=311,slow=75,SNR=46						
H11N1	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	08 10 32.6	
	baz=311,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	08 10 37.7	
	baz=311,slow=75,SNR=43						
SONM	**Songino Array**	**28.21**	**306**	P	P	07 41 46.0	+6.8
	1.1nm,0.7s,baz=94,slow=9.2,SNR=1.5						
H11S1	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	08 11 32.2	
	baz=312,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	08 11 25.3	
	baz=312,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	08 11 32.0	
	baz=312,slow=75,SNR=19						
CMAR	**Chiang Mai Arr**	**40.88**	**256**	LR	LR	08 01 01.8	
	comp=Z,21nm,18.1s,baz=280,slow=37						
ZALV	**Zalesovo Beam**	**42.50**	**313**	P	**P**	**07 43 40.8**	**-0.6**
	0.9nm,0.6s,baz=96,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**07 43 57.7**	**0.0**
	1.6nm,0.7s,baz=89,slow=9.7,SNR=13						
ILAR	**Eielson Array**	**50.70**	**32**	P	**P**	**07 44 46.5**	**+1.0**
	0.6nm,0.8s,baz=268,slow=6.2,SNR=7.2						
WRA	**Warramunga Arr**	**55.82**	**188**	P	**P**	**07 45 21.0**	**-2.6**
	0.5nm,0.8s,baz=9.1,slow=7.6,SNR=3.6						
ASAR	**Alice Springs**	**59.54**	**188**	P	**P**	**07 45 49.9**	**+0.2**
	0.4nm,0.8s,baz=22,slow=10,SNR=2.1						

*NEIC **21** 07:41:32.6±1.1,17°.90S±0°.07×178°.6W±0°.1,h633km±8km, mb4.2/35,Error ellipse: s-maj=16.2km s-min=6.1km az=55.0*
*IDC **21** 07:41:34.4±5.2,17°.57S×178°.81W,h644km±67km, mb3.3/10,mb1 3.5/11,mb1mx3.3/37,mbtmp4.3/11,Error ellipse: s-maj=39.0km s-min=24.9km az=146.0*
ISC 21 07:41:33.8±0.5,17°.89S±0°.09×178°.6W±0°.1,h650km,n54, σ0s74/56,mb4.2/28,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19**	**272**	P	**P**	**07 42 57.6**	**-0.7**
DZM	**Mont Dzumac**	**14.66**	**251**	P	**P**	**07 44 37.9**	**+0.8**
	0.2nm,0.3s,baz=301,slow=19,SNR=1.5						
KNTN	**Kanton**	**16.46**	**25**	P	**P**	**07 44 51.7**	**-1.9**
EIDS	**Eidsvold**	**29.10**	**250**	P	**P**	**07 46 45.7**	**+0.3**
MLZ	**Mavora Lakes**	**29.56**	**199**	P	**P**	**07 46 48.0**	**-1.0**
ARMA	**Armidale**	**29.79**	**240**	P	**P**	**07 46 52.2**	**+0.7**
ARMA				IAmb	IAmb	07 47 06.6	
	comp=Z,19nm,1.4s						
RABL	**Rabaul**	**31.69**	**292**	P	**P**	**07 47 07.2**	**-0.4**
CTAO	**Charters Tower**	**33.27**	**260**	P	**P**	**07 47 21.2**	**+0.4**
CTAO				IAmb	IAmb	07 47 27.5	
	comp=Z,23nm,1.4s						
COEN	**Coen**	**36.92**	**270**	P	**P**	**07 47 52.2**	**+1.3**
TOO	**Toolangi**	**37.04**	**231**	P	**P**	**07 47 52.4**	**+0.8**
TOO				IAmb	IAmb	07 47 52.7	
	comp=Z,6.8nm,0.8s						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**07 48 04.0**	**+0.8**
	comp=Z,4.6nm,0.5s,baz=90,slow=9.5,SNR=20						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**07 48 04.0**	**+0.8**
BBOO	**Buckleboo**	**43.26**	**241**	P	**P**	**07 48 41.0**	**+0.2**
BBOO				IAmb	IAmb	07 48 41.4	
	comp=Z,7.3nm,0.6s						
WR0	**Warramunga Arr**	**

TXAR	Lajitas Array	86.14	58	P		P	07 53 09.9 +1.3
	comp=Z,0.5nm,0.7s,baz=226,slow=5.5,SNR=6.8						
EGAK	Eagle	87.24	15	P		P	07 53 13.2 +0.5
EGAK				IAmb		IAmb	07 53 17.2
	comp=Z,4.3nm,1.3s						
PDAR	Pinedale Array	87.46	44	P		P	07 53 14.8 +0.2
	comp=Z,0.4nm,0.5s,baz=219,slow=4.2,SNR=4.5						
PDAR	Pinedale Array	87.46	44	P		P	07 53 15.0 +0.4
SNAA	Sanae	90.62	179	P		P	07 53 27.4 -1.2
VNA3	Neumayer Olymp	90.77	176	P		P	07 53 28.4 -0.8
GERES	GERESS Array B	147.54	345	PKPbc		PKPbc	08 00 07.0 +0.1
	comp=Z,0.3nm,0.4s,baz=60,slow=5.8,SNR=3.9						

IDC 21 07:41:27.1±1.0, 52.°05N×158.°24E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/44, mbtmp3.6/7, Error ellipse: s-maj=42.8km s-min=22.2km az=133.0

ISC 21 07:41:41.2±1.1, 52.°2N±0.°2×158.°2E±0.°2, h115km, n7, σ1°43/7, mb3.4/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	30.27	44	P		P	07 47 40.3 -0.6
	0.4nm,0.6s,baz=270,slow=7.7,SNR=7.5						
INK	Inuvik	35.28	37	P		P	07 48 22.2 -2.2
	2.8nm,0.9s,baz=324,slow=8.7,SNR=6.1						
ZALV	Zalesovo Beam	42.25	303	P		P	07 49 23.2 +0.6
	0.5nm,0.4s,baz=74,slow=5.9,SNR=2.0						
PDAR	Pinedale Array	58.99	59	P		P	07 51 29.9 +1.3
	0.2nm,0.4s,baz=315,slow=0.6,SNR=3.8						
TXAR	Lajitas Array	72.08	65	P		P	07 52 53.6 +0.7
	0.1nm,0.4s,baz=295,slow=4.4,SNR=4.7						
WRA	Warramunga Arr	74.80	203	P		P	07 53 08.0 -0.6
	0.2nm,0.5s,baz=18,slow=6.2,SNR=1.5						
ASAR	Alice Springs	78.48	203	P		P	07 53 28.7 -0.5
	0.3nm,0.4s,baz=14,slow=4.7,SNR=6.7						

IDC 21 08:03:16.7±1.6, 35.°80N×141.°26E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.4/39, mbtmp3.4/5, ML2.7/2, MS2.3/1, Ms1 2.3/1, ms1mx1.9/23, Error ellipse: s-maj=35.3km s-min=28.9km az=93.0

JMA 21 08:03:21.2±0.2, 35.°76N×141.°07E, h35km±1km, M2.7

ISC 21 08:03:21.1±1.3, 35.°77N±0.°05×141.°12E±0.°09, h31km±7km, n17, σ0°57/21, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.22	253	P		Pb	08 03 27.7 +0.1
CHOJ				S		Sb	08 03 32.1 0.0
JIHU	Itakohorinouch	0.52	292	P		Pb	08 03 32.0 +0.2
JIHU				eS		Sn	08 03 39.8 -0.3
JSMT	Sammumatsuo	0.56	257	P		Pb	08 03 32.2 -0.3
JSMT				S		Sn	08 03 41.1 0.0
JHYU	Hitachinakayam	0.71	323	P		Pb	08 03 34.9 -0.2
JCN	Nagara	0.82	245	P		Pb	08 03 36.8 -0.1
JYT	Yasato	0.88	302	P		Pn	08 03 36.3 -0.9
BSO4	Boso 4	1.00	220	P		Pb	08 03 39.9 +0.1
BSO3	Boso 3	1.08	207	P		Pn	08 03 39.5 -0.4
BSO1	Boso 1	1.12	186	P		Pn	08 03 39.6 -0.5
JAG	Ashikaga	1.50	296	P		Pn	08 03 45.3 -0.5
MJAR	Matsushiro Arr	2.48	289	Pn		Pn	08 04 00.0 +0.7
	0.4nm,0.3s,baz=119,slow=7.2,SNR=16						
MAT	Matsushiro	2.48	289	P		Pn	08 04 00.1 +0.8
MAT				eS		Sn	08 04 27.5 -1.0
JHJ	Hachijo jima 2	2.86	203	Pn		Pn	08 04 04.7 +0.1
	11nm,0.3s,baz=65,slow=22,SNR=1.3						
JHJ				Sn		Sn	08 04 37.0 -0.9
	10nm,0.3s,baz=79,slow=7.5,SNR=1.6						
KSRS	Korea Array	10.74	283	LR		LR	08 10 10.9
	comp=Z,15nm,19.0s,baz=110,slow=38						
MKAR	Makanchi Array	44.60	303	P		P	08 11 30.7 +0.4
	0.5nm,0.6s,baz=106,slow=7.3,SNR=4.4						
ILAR	Eielson Array	50.69	32	P		P	08 12 17.0 -0.2
	0.4nm,0.9s,baz=268,slow=6.3,SNR=2.7						
WRA	Warramunga Arr	55.78	188	P		P	08 12 55.8 +0.7
	0.2nm,0.6s,baz=4.8,slow=7.7,SNR=1.5						

ISN 21 08:16:25.8±9.2, 33.°79N×45.°47E, h1km±36km, ML2.9

TEH 21 08:16:29.4, 33.°76N×45.°54E, h12km, ML3.4

ISC 21 08:16:29.4±0.9, 33.°73N±0.°04×45.°53E±0.°04, h10km, n24, σ0°99/29, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.70	152	ePg		Pb	08 16 43.0 -0.7
IBDR				eSg		Sb	08 16 53.0 -0.4
IBDR				AML		AML	08 16 57.5
	comp=E,263nm,0.4s						
IBDR				AML		AML	08 17 00.5
	comp=N,358nm,0.4s						
IGHG	Ghaleghazi	1.05	55	ePg		Pg	08 16 48.8 -0.8
BHD	Baghdad	1.06	245	ePg		Pg	08 16 49.0 -0.9
BHD				eSg		Sn	08 17 04.5 -0.7
BHD				AML		AML	08 17 14.5
	comp=E,1μm,0.6s						
IDHR	Dehrash	1.20	36	ePg		Pb	08 16 51.8 -0.5
IDHR				e			08 17 13.0
IVIS	Veis	1.35	54	ePg		Pn	08 16 54.6 +0.2
IVIS				e			08 17 16.4
KCHF	Cheshme Sefid,	1.37	66	ePg		Pn	08 16 54.4 -0.3
KCHF				e			08 17 16.4
KER	Kermanshah	1.48	63	ePg		Pn	08 16 56.7 +0.5
KER				eSg		Sg	08 17 17.8 +0.7
KER				e			08 17 18.6
ILIN	Lien	1.68	45	ePg		Pb	08 17 00.3 -0.2
ILIN				e			08 17 24.5
IKOM	Komasi	1.70	74	ePg		Pb	08 17 00.4 -0.5
IKOM				e			08 17 26.9
DHL1	Dehloran	1.80	125	ePg		Pg	08 17 03.3 -0.6
IKFM	Kafar-mosalman	1.94	95	ePn		Pn	08 17 03.5 +1.1
IBZA	Bozab	2.07	68	e			08 17 08.0
IBZA				ePg		Pn	08 17 05.7 +1.3
IDOB	Doab	2.21	88	ePn		Pn	08 17 07.6 +1.3
IKMR	Kamar-syah	2.39	94	ePn		Pn	08 17 09.5 +1.0
IALM	Almabolaq	2.46	62	ePn		Pn	08 17 10.0 +0.2
HSAM	Samen	2.60	78	ePn		Pn	08 17 12.1 +0.4
HSRG	Sareghieh	2.73	56	ePn		Pn	08 17 15.3 +1.8
BMDN	Meydan	2.75	90	ePn		Pn	08 17 14.5 +0.8
NSR	Nassriya	2.76	169	ePn		Pn	08 17 15.0 +1.3
NSR				eSn		Sn	08 17 47.0 -0.1
HAGD	Aghdareh	3.18	69	ePn		Pn	08 17 20.8 +1.1
SHGR	Shooshtar-Gavs	3.19	120	ePn		Pn	08 17 21.6 +2.0
MSL	Mosul	3.32	324	ePn		Pn	08 17 23.0 +1.6
MSL				eSN4			08 17 48.1
MSL				eSn		Sn	08 18 01.0 0.0
MSL				AML		AML	08 18 23.6
	comp=N,39nm,0.7s						
MSL				AML		AML	08 18 27.8
	comp=E,36nm,0.5s						
QABG	Abgarm-Qazvin	3.88	58	ePn		Pn	08 17 29.9 +0.6
IRAZ	Razeghan	4.00	64	ePn		Pn	08 17 32.1 +1.2

LJU 21 08:39:17.6, 46.°49N×13.°58E, h3km

VIE 21 08:39:16.8±1.0, 46.°52N×13.°48E, h9km±7km, ml0.2/1, 1C-2D, Error ellipse: s-maj=9.3km s-min=2.2km az=108.0 13 km SW of Sankt Georgen im Gailtal, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACOM	Acomizza, Ital	0.04	34⇓	ePg		Pg	08 39 19.2 +0.4
ACOM				eSg		Sg	08 39 20.8 +0.6
LSR	Lussari	0.05	141⇑	ePg		Pg	08 39 18.6 -0.2
LSR				eSg		Sg	08 39 19.5 -0.8
PRED	Cave del Predi	0.09	141⇓	ePg		Pg	08 39 18.6 -0.7
PRED				eSg		Sg	08 39 19.3 -1.6
MYKA	Terra Mystica	0.16	44	i Pg		Pg	08 39 20.4 +0.1
	0.3nm,0.1s						
MYKA				eSg		Sg	08 39 22.9 +0.3
	1.6nm,0.1s						
ROBS	Robic	0.27	176	i Pg		Pg	08 39 22.3 +0.1
ROBS				i Sg		Sg	08 39 26.3 +0.5
CADS	Cadrg	0.34	148	i Sg		Sg	08 39 27.4 -0.5

ZUR 21 08:40:44.9, 46.°65N×7.°57E, h8km±2km, MLh-0.1/3, Error ellipse: s-maj=4.0km s-min=1.6km az=123.0,

Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIMIS	Wimmis	0.04	73	Pg		Pg	08 40 46.6 +0.1
WIMIS				Sg		Sg	08 40 48.0 +0.3

ISK 21 08:40:57.1, 40.°08N×41.°49E, h2km, ML2.3/5, Suspected Mining explosion.

DDA 21 08:40:57.5, 40.°14N×41.°46E, h7km±3km, ML2.6

ISC 21 08:40:56.3±0.9, 40.°10N±0.°03×41.°51E±0.°03, h0km, n13, σ0°72/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPR	Koprukoy-ERZUR	0.28	113	PG		Pb	08 41 03.9 -0.5
HOMI	Horasan	0.31	101	i P		Pb	08 41 04.4 -0.4
HOMI				i S		Sb	08 41 10.2 -0.3
HOMI				IAML			08 41 18.0
	comp=N,717nm,0.5s						
HOMI				IAML			08 41 18.0
	comp=E,763nm,0.6s						
EJDE	Erzurum, Palan	0.31	211	i P		Pb	08 41 04.3 -0.7
EJDE				i S		Sb	08 41 10.0 -0.7
EJDE				IAML			08 41 12.0
	comp=E,3μm,0.7s						
EJDE				IAML			08 41 14.0
	comp=N,1μm,0.8s						
EMRE	Erzurum,Aziziy	0.42	260	i P		Pb	08 41 05.7 -1.1
EMRE				i S		Sg	08 41 11.0 +1.3
EMRE				IAML			08 41 12.0
	comp=E,312nm,0.3s						
KRIK	Erzurum-spir	0.51	298	i P		Pb	08 41 07.2 -1.0
KRIK				i S		Sg	08 41 13.6 +1.0
KOPT	Kop Dagi	0.78	264	i P		Pb	08 41 12.7 -0.3
KOPT				i S		Sb	08 41 23.4 -0.9
EATA	Eleskirt	0.79	107	i P		Pb	08 41 12.5 -0.6
EATA				i S		Sb	08 41 24.4 0.0
DBAD	Bademkaya	0.93	9	i P		Pb	08 41 15.1 -0.3
DBAD				i S		Sb	08 41 27.3 -0.9
YEDI	Yedisu-Bingol	1.00	229	PG		Pb	08 41 16.9 +0.3
DAGI	Agillar	1.02	17	i P		Pn	08 41 17.6 -0.4
DAGI				i S		Sb	08 41 30.9 -0.1
BAYT	Aydıntepe-Bayb	1.09	286	PG		Pn	08 41 18.6 -0.4
CHOM	Cayeli-Rize	1.15	330	PN		Pn	08 41 20.2 +0.6
CHOM				SN		Sn	08 41 36.9 +0.8
BNGB	Bingl	1.28	210	PN		Pn	08 41 21.6 0.0
BNGB				SN		Sn	08 41 40.0 +0.5

BJI 21 09:16:33.5±0.0, 5.°14S×128.°42E, h334km, mB4.6/23, mb4.4/40

NEIC 21 09:16:34.8±1.8, 5.°26S±0.°07×128.°24E±0.°07, h336km±8km, mb4.6/50, Error ellipse: s-maj=11.1km s-min=9.7km az=110.0

IDC 21 09:16:35.0±0.8, 5.°31S×128.°25E, h334km±9km, mb4.1/19, mb1 4.2/25, mb1mx4.0/36, mbtmp4.9/25, Error ellipse: s-maj=9.3km s-min=6.2km az=83.0

DJA 21 09:16:35.3±0.1, 5.°S±2.°×12.°8E±.°, h325km±2km, M4.9/45, mb5.2/45, mB5.4/33, MLv5.5/20, Mw(mB)4.8/33

ISC 21 09:16:35.0±0.3, 5.°28S±0.°04×128.°27E±0.°04, h337km, n196, σ1°15/210, mb4.4/40, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.59	357	P		Pn	09 17 22.0 -0.4
AAI				S		S	09 17 59.5 -0.9
BNDI	Bandanaira	1.79	65	P		Pn	09 17 23.6 -0.1
BNDI				S		S	09 18 02.0 -0.6
MSAI	Masohi	2.03	19	P		Pn	09 17 24.4 -1.0
MSAI				S		S	09 18 03.4 -2.4
NLAI	Namlea	2.34	330	P		Pn	09 17 28.2 +0.4
NLAI				S		S	09 18 08.8 -1.3
SANI	Sanana	3.94	325	P		Pn	09 17 42.2 -0.5
SANI				S		S	09 18 34.2 -2.9
SAUI	Saumlaki	4.03	132	P		Pn	09 17 44.1 +0.5
SAUI				S		S	09 18 37.9 -0.9
SAUI	Saumlaki	4.03	132	Pn		Pn	09 17 44.0 +0.5
SAUI				S		S	09 18 37.6 -1.2
FAKI	Fak Fak	4.61	60	P		Pn	09 17 49.6 -0.2
FAKI				S		S	09 18 48.4 -1.7
FAKI	Fak Fak	4.61	60	Pn		Pn	09 17 49.9 +0.1
FAKI				S		S	09 18 45.0 -5.1
SIJI	Sorong	5.30	34	P		Pn	09 17 57.8 +0.2
	73nm,0.3s,baz=250,slow=23,SNR=88						
SIJI				S		S	09 19 01.0 -3.2
	81nm,0.3s,baz=120,slow=24,SNR=26						
KMPI	Kaimana, Papua	5.65	74	P		Pn	09 18 01.4 0.0
	15nm46μm3μm,0.6s						
SOEI	Soe	5.96	222	P		Pn	09 18 05.9 +0.8
	6.8nm7μm724nm,0.7s						
SOEI	Soe	5.96	222	Pn		Pn	09 18 05.6 +0.5
TNTI	Ternate	6.08	351	P		Pn	09 18 17.6 +11
BATI	Baumata	6.69	223	P		Pn	09 18 14.5 +1.0
	229nm,0.3s,baz=102,slow=1.0,SNR=187						
BATI				S		S	09 19 31.9 -1.6
	110nm,0.3s,baz=229,slow=2.1,SNR=22						
BATI	Baumata	6.69	223	P		Pn	09 18 14.4 +0.8
	4.0nm9μm1μm,0.7s						
MMRI	Maumere	6.86	241	P		Pn	09 18 16.3 +0.8
	5.0nm13μm1μm,0.7s						
MMRI	Maumere	6.86	241	Pn		Pn	09 18 16.4 +1.0
LUWI	Luwuk	6.92	307	P		Pn	09 18 16.8 +0.5
	1.0nm7μm324nm,1.1s						
LUWI	Luwuk	6.92	307	Pn		Pn	09 18 17.0 +0.8
RKPI	Ransiki, Papua	6.98	58	P		Pn	09 18 18.0 +1.0
	8.2nm23μm3μm,0.8s						
KMSI	Cibinong	7.23	323	P		Pn	09 18 20.3 +0.4
	1.1nm337nm,0.8s						
EDFI	Ende, Flores	7.39	242	P		Pn	09 18 22.5 +0.7
	1.1nm3μm258nm,0.7s						
MTN	Manton Dam	8.03	160	P		Pn	09 18 29.1 -0.3
	baz=8.1,SNR=398						
MTN	Manton Dam	8.03	160	Pn		Pn	09 18 28.8 -0.5
BKSI	Bulukumba	8.12	269	P		Pn	09 18 30.8 +0.3
	2μm261nm,1.1s						
BNSI	Bone	8.19	276	P		Pn	09 18 32.2 +0.9
	2μm216nm,0.7s						
KDU	Kakadu	8.44	151	P		Pn	09 18 34.1 -0.2
	baz=8.5,SNR=299						
KDU				S		S	09 20 09.4 -2.2
	baz=8.5						
KAPI	Kappang	8.49	271	P		Pn	09 18 35.9 +0.9
	12nm,0.3s,baz=90,slow=5.2,SNR=35						
KAPI	Kappang	8.49	271	Pn		Pn	09 18 35.4 +0.4
SPSI	Sidrap Palu	8.58	278	P		Pn	09 18 36.8 +0.8
	4μm443nm,0.8s						
SRPI	Serui, Papua	8.64	67	P		P	09 18 37.9 -2.1
	10μm1μm,0.8s						
BASI	Baing, Sumba	9.07	237	P		Pn	09 18 41.0 -0.8
	9μm427nm,0.5s						
MPSI	Mapaga	10.06	303	P		Pn	09 18 54.9 +1.1
	824nm48nm,0.7s						
KNRA	Kununurra	10.34	177	P		Pn	09 18 57.0 -0.1
	baz=10,SNR=326						
KNRA	Kununurra	10.34	177	Pn		Pn	09 18 56.8 -0.3
SMPI	Sarmi	10.91	73	P		P	09 19 05.6 +0.3
PLAI	Plampang	11.00	251	P		Pn	09 19 03.5 -1.6
	5μm480nm,0.9s						
TWSI	Taliwang, Sumb	11.82	252	P		Pn	09 19 13.1 -1.8
	1μm106nm,0.8s						
GENI	Genyem	12.16	78	P		P	09 19 20.6 +1.5
	5μm312nm,0.6s						
DAV	Davao City (W)	12.56	348	P		Pn	09 19 27.0 +3.3
	46nm,0.3s,baz=96,slow=11,SNR=4.2						
DAV				S		S	09 21 44.7 +2.0
	49nm,0.3s,baz=213,slow=3.2,SNR=1.6						
DAV	Davao City (W)	12.56	348	P		Pn	09 19 26.1 +2.3
JAY	Jayapura	12.70	78	P		Pn	09 19 26.8 +1.3
	13nm,0.3s,baz=231,slow=8.4,SNR=42						
JAY	Jayapura	12.70	78	P		Pn	09 19 26.4 +0.9
	1μm85nm,0.8s						
FITZ	Fitzroy Crossi	12.99	191	P		P	09 19 28.4 +0.2
	7.2nm,0.3s,baz=0.1,slow=9.2,SNR=131						
FITZ				S		S	09 21 48.7 -2.8
	3.1nm,0.3s,baz=180,slow=7.7,SNR=1.5						
FITZ	Fitzroy Crossi	12.99	191	P		P	09 19 28.0 -0.2
	baz=13,SNR=47						
FITZ	Fitzroy Crossi	12.99	191			P	09 19 27.6 -0.6
SRBI	Singaraja	13.27	257	P		P	09 19 31.9 +0.6
	3μm288nm,0.8s						
BBKI	Banjar Baru	13.52	277	P		Pn	09 19 35.8 +0.8
	4μm281nm,1.0s						

ABJI	Asem Bagus	14.17	259	P		Pn	09 19 43.5 +0.8
	186nm,1.0s						
MYLDM	Lahad Datu	14.26	317	P		Pn	09 19 45.3 +1.6
KMMI	Kalianget	14.33	262	P		Pn	09 19 45.8 +1.2
	196nm,1.0s						
JAGI	Jajag, Banyuwa	14.37	256	P		P	09 19 42.9 -0.6
JAGI	Jajag, Banyuwa	14.37	256	P		P	09 19 41.1 -2.4
BLJI	Banyuglugur	14.79	260	P		P	09 19 49.5 +1.5
	2μm148nm,0.6s						
GMJI	Gumukmas	15.02	258	P		P	09 19 51.1 +0.5
	89nm,0.8s						
WB0	Warramunga Arr	15.58	158	P		P	09 19 56.8 +0.1
WRAB	Tennant Creek	15.72	158	P		P	09 19 58.3 +0.1
WRA	Warramunga Arr	15.72	158	P		P	09 19 58.6 +0.4
	99nm,0.3s,baz=335,slow=12,SNR=1875						
WRA				S		S	09 22 43.0 -3.8
	5.4nm,0.3s,baz=338,slow=19,SNR=11						
WRA	Warramunga Arr	15.72	158	P		P	09 19 56.8 -1.4
WB2	Warramunga Arr	15.73	158	P		P	09 19 58.5 +0.2
WR0	Warramunga Arr	15.81	158	P		P	09 19 59.1 0.0
KKM	Kota Kinabalu	16.48	313	P		P	09 20 07.0 +0.4
KKM				IAmb		IAmb	09 20 08.3
	comp=Z,45nm,1.0s						
PWJI	Pagerwojo	16.58	260	P		Pn	09 20 09.9 -0.9
COEN	Coen	17.02	121	P		P	09 20 13.2 +0.9
	baz=17,SNR=72						
COEN	Coen	17.02	121	P		P	09 20 13.3 +0.9
COEN				IAmb		IAmb	09 20 17.3
	comp=Z,27nm,0.8s						
WOJI	Wonogiri, Jawa	17.42	261	P		P	09 20 18.7 +2.1
	comp=Z,45nm,0.9s						
SBUM	Sibu	17.78	295	P		P	09 20 21.0 +0.5
SBUM				IAmb		IAmb	09 20 24.1
	comp=Z,34nm,0.8s						
PSA00	Pilbara Seismi	18.14	206	P		P	09 20 22.7 -1.5
PSA00				IAmb		IAmb	09 20 26.7
	comp=Z,24nm,0.8s						
QIS	Mount Isa	18.75	145	P		P	09 20 31.2 +0.5
	baz=19,SNR=277						
AS31	Alice Springs	19.07	164	P		P	09 20 33.8 -0.3
AS31				IAmb		IAmb	09 20 35.4
	comp=Z,55nm,0.8s						
ASAR	Alice Springs	19.07	164	P		P	09 20 34.3 +0.2
	comp=Z,18nm,0.3s,baz=346,slow=12,SNR=1591						
ASAR				S		S	09 23 48.8 -3.4
	comp=Z,3.1nm,0.3s,baz=344,slow=22,SNR=18						
ASAR	Alice Springs	19.07	164	P		P	09 20 33.9 -0.2
KSM	Kuching	19.16	290	P		P	09 20 35.0 -0.1
KSM				IAmb		IAmb	09 20 38.5
	comp=Z,18nm,0.6s						
PMG	Port Moresby	19.17	103	P		P	09 20 37.3 +2.0
	comp=Z,2.5nm,0.3s,baz=307,slow=6.3,SNR=12						
PMG	Port Moresby	19.17	103	P		P	09 20 37.5 +2.3
PMG				IAmb		IAmb	09 20 38.4
	comp=Z,55nm,0.8s						
KPJI	Karang Pucung	19.33	263	P		P	09 20 38.9 +1.9
	comp=Z,181nm,0.8s						
CMJI	Cimerak	19.85	262	P		P	09 20 44.3 +1.8
	comp=Z,98nm,0.9s						
MTSU	Mount Surprise	20.22	131	P		P	09 20 47.0 +0.9
	baz=20,SNR=18						
CISI	Cisompet, Garu	20.45	263	P		P	09 20 48.7 +0.3
	comp=Z,307nm,0.6s						
CISI	Cisompet, Garu	20.45	263	P		P	09 20 46.2 -2.2
TGY	Tagaytay City	20.59	339	P		P	09 20 49.2 -0.4
	comp=Z,277nm,0.5s,baz=71,slow=3.8,SNR=7.3						
LEM	Lembang	20.60	265	P		P	09 20 50.2 +0.3
	comp=Z,84nm,0.8s,baz=51,slow=8.7,SNR=13						
LEM	Lembang	20.60	265	P		P	09 20 49.7 -0.1
	comp=Z,57nm,0.7s						
TPI	Tanjungpandan	20.72	276	P		P	09 20 50.3 -0.5
	comp=Z,38nm,0.9s						
CNJI	Cibinong	21.11	263	P		P	09 20 53.3 -1.0
	comp=Z,3μmcomp=Z,155nm,0.7s						
GIRL	Giralia	21.95	217	P		P	09 21 03.4 +1.5
	baz=22,SNR=8.4						
GIRL	Giralia	21.95	217	P		P	09 21 03.5 +1.7
CTA	Charters Tower	22.86	132	P		P	09 21 11.6 +1.4
	comp=Z,14nm,0.6s,baz=308,slow=11,SNR=20						
CTAO	Charters Tower	22.86	132	P		P	09 21 09.6 -0.6
CTAO				IAmb		IAmb	09 21 12.8
	comp=Z,20nm,0.8s						
XMIS	Christmas Isla	22.99	256	P		P	09 21 11.8 +0.4
MEEK	Meekatharra	23.15	202	P		P	09 21 12.9 +0.2
	baz=23,SNR=15						
FORT	Forrest	25.36	180	P		P	09 21 32.8 +0.2
	baz=26,SNR=38						
FORT	Forrest	25.36	180	P		P	09 21 32.8 +0.2
MORW	Morawa	26.34	205	P		P	09 21 41.3 0.0
	baz=26,SNR=3.8						
KMBL	Kambalda	26.63	192	P		P	09 21 44.0 +0.1
	baz=27,SNR=13						
BLDU	Ballidu	27.45	202	P		P	09 21 51.8 +0.6
	baz=28,SNR=7.3						
BKNI	Bangkinang	27.76	281	P		P	09 21 54.3 +0.2
BKNI				IAmb		IAmb	09 21 56.5
	comp=Z,49nm,0.7s						
KLBR	Kellerberrin	27.97	199	P		P	09 21 55.8 +0.1
	baz=28,SNR=20						
BBOO	Buckleboo	28.34	166	P		P	09 21 59.1 +0.2
	baz=28,SNR=140						
BBOO	Buckleboo	28.34	166	P		P	09 21 58.5 -0.4
BBOO				IAmb		IAmb	09 21 59.8
	comp=Z,37nm,0.6s						
MUN	Mundaring	28.86	202	P		P	09 22 03.6 0.0
	baz=29,SNR=3.2						
STKA	Stephens Creek	29.25	156	P		P	09 22 07.5 +0.5
	comp=Z,18nm,0.5s,baz=329,slow=8.9,SNR=83						
STKA	Stephens Creek	29.25	156	P		P	09 22 07.5 +0.5
	baz=29,SNR=54						
STKA	Stephens Creek	29.25	156	P		P	09 22 06.6 -0.4
NWAO	Narrogin (SRO)	29.37	199	P		P	09 22 07.7 -0.2
	comp=Z,6.0nm,0.4s,baz=38,slow=7.9,SNR=10						
NWAO	Narrogin (SRO)	29.37	199	P		P	09 22 08.4 +0.4
	baz=30,SNR=6.4						
NWAO	Narrogin (SRO)	29.37	199	P		P	09 22 07.8 -0.2
NWAO				IAmb		IAmb	09 22 08.8
	comp=Z,30nm,1.1s						
NWAO	Narrogin (SRO)	29.37	199	P		P	09 22 07.5 -0.5
NWAO				IAmb		IAmb	09 22 08.8
	comp=Z,37nm,1.1s						
TPUB	Ta-pu	29.37	346	P		P	09 22 06.4 -1.8
KULM	Kulim	29.52	290	P		P	09 22 08.7 -0.9
KULM				IAmb		IAmb	09 22 12.4
	comp=Z,13nm,0.7s						
HTT	Hallett	29.71	162	P		P	09 22 11.4 +0.3
	ba

comp=Z,11nm,0.7s
NJ2 Nanjing 38.20 347 *eP* **P 09 23 25.0 +1.6**
NJ2 pmax pmax
comp=Z,21nm,0.5s
JNU Nakatsue 38.27 4 P **P 09 23 23.9 -0.2**
comp=Z,16nm,1.0s,baz=286,slow=1.5,SNR=7.5
JNU Nakatsue 38.27 4 P **P 09 23 23.3 -0.7**
JNU IAmb IAmb 09 23 24.5
comp=Z,16nm,0.9s
JWT Wachi 40.90 9 P **P 09 23 45.1 -0.4**
JWT IAmb IAmb 09 23 46.8
comp=Z,26nm,0.6s
KSAR Wonju Array Be 42.51 360 P **P 09 23 59.6 +1.3**
KSRS Korea Array 42.52 360 P **P 09 23 59.2 +0.8**
comp=Z,8.3nm,0.6s,baz=178,slow=9.3,SNR=42
KS19 Wonju Array Si 42.56 360 P **P 09 23 58.4 -0.4**
MJAR Matsushiro Arr 42.63 12 P **P 09 23 58.6 -0.8**
comp=Z,7.8nm,0.8s,baz=188,slow=9.5,SNR=28
MJAR Matsushiro Arr 42.63 12 P **P 09 23 57.2 -2.1**
MAJO Matsushiro 42.63 12 P **P 09 23 58.3 -1.1**
MAT Matsushiro 42.63 12 P **P 09 23 58.2 -1.2**
XAN Xi'an 43.18 336 P **P 09 24 02.8 -1.0**
XAN pmax pmax
comp=Z,14nm,0.8s
XAN Xi'an 43.18 336 P **P 09 24 02.1 -1.7**
JMM Marumori 44.48 14 P **P 09 24 14.2 +0.3**
JMM IAmb IAmb 09 24 17.1
comp=Z,23nm,0.9s
BJT Baijiatuau 46.44 347 P **P 09 24 27.8 -1.3**
BJI Beijing 46.46 347 P **P 09 24 28.8 -0.4**
BJI pmax pmax
comp=Z,9.0nm,0.7s
LZH Lanzhou 47.10 333 *eP* **P 09 24 34.4 -0.1**
LZH pP pP 09 25 43.4 +0.3
LZH sP sP 09 26 21.8 +0.9
LZH pmax pmax
comp=Z,14nm,1.1s
HHC Hu-ho-hao-te 48.40 343 *eP* **P 09 24 43.5 -0.7**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,180nm,6.6s
USA0B Ussuriysk Arra 49.37 4 P **P 09 24 51.1 -0.2**
USA0B IAmb IAmb 09 24 52.6
comp=Z,12nm,0.7s
USRK Ussuriysk Ar. 49.37 4 P **P 09 24 51.8 +0.5**
comp=Z,11nm,0.5s,baz=187,slow=6.8,SNR=34
USRK Ussuriysk Ar. 49.37 4 P **P 09 24 51.1 -0.2**
MDJ Mudanjiang 49.69 1 P **P 09 24 54.8 +1.1**
MDJ pmax pmax
comp=Z,9.0nm,0.5s
MDJ pmax pmax
comp=Z,120nm,3.9s
ODAN Odare 50.84 311 *eP* **P 09 25 02.3 -0.6**
comp=Z,18nm,0.4s
ODAN Odare 50.84 311 *eP* **P 09 25 02.3 -0.6**
comp=Z,18nm,0.4s
TAPN Taplejung 50.87 312 *eP* **P 09 25 02.8 -0.4**
comp=Z,16nm,0.3s
TAPN Taplejung 50.87 312 *eP* **P 09 25 02.8 -0.4**
comp=Z,16nm,0.3s
RAMN Ramite 51.49 311 *eP* **P 09 25 06.9 -0.8**
comp=Z,22nm,0.4s
RAMN Ramite 51.49 311 *eP* **P 09 25 06.9 -0.8**
comp=Z,22nm,0.4s
GTA Gaotai 51.66 332 ⇑P **P 09 25 08.9 +0.4**
GTA pmax pmax
comp=Z,13nm,0.7s
JIRN Jiri 52.17 311 *eP* **P 09 25 12.4 -0.4**
comp=Z,15nm,0.4s
JIRN Jiri 52.17 311 *eP* **P 09 25 12.4 -0.4**
comp=Z,15nm,0.4s
GUN Gumba 52.54 311 *eP* **P 09 25 14.9 -0.6**
comp=Z,39nm,0.6s
GUN Gumba 52.54 311 *eP* **P 09 25 14.9 -0.6**
comp=Z,39nm,0.6s
PKI Pulchoki 52.71 311 *eP* **P 09 25 16.2 -0.5**
comp=Z,12nm,0.5s
PKI Pulchoki 52.71 311 *eP* **P 09 25 16.2 -0.5**
comp=Z,12nm,0.5s
GKN Gorkha 53.52 311 *eP* **P 09 25 21.9 -0.4**
comp=Z,20nm,0.3s
GKN Gorkha 53.52 311 *eP* **P 09 25 21.9 -0.4**
comp=Z,20nm,0.3s
KOLN Koldanda 54.19 310 *eP* **P 09 25 27.2 0.0**
KOLN Koldanda 54.19 310 *eP* **P 09 25 27.2 0.0**
ULN Ulaanbaatar 56.12 343 P **P 09 25 40.5 +0.1**
SONM Songino Array 56.29 342 P **P 09 25 42.0 +0.5**
comp=Z,6.7nm,0.7s,baz=162,slow=8.1,SNR=29
SONM Songino Array 56.29 342 P **P 09 25 42.3 +0.7**
WMQ Urumqi 61.03 327 *eP* **P 09 26 14.8 +0.8**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,74nm,4.7s
PETK Petropavlovsk- 63.26 19 P **P 09 26 29.6 +1.1**
comp=Z,4.4nm,0.8s,baz=165,slow=3.5,SNR=8.3
PETK Petropavlovsk- 63.26 19 P **P 09 26 28.6 +0.2**
MK31 Makanchi Array 65.86 327 P **P 09 26 44.9 -0.4**
MKAR Makanchi Array 65.86 327 P **P 09 26 45.4 +0.1**
comp=Z,6.0nm,0.4s,baz=122,slow=8.1,SNR=62
MKAR Makanchi Array 65.86 327 P **P 09 26 44.9 -0.4**
MAKZ Makanchi 66.04 327 P **P 09 26 46.2 -0.2**
MAKZ IAmb IAmb 09 26 47.1
comp=Z,4.8nm,0.7s
YAK Yakutsk 67.13 1 P **P 09 26 52.8 0.0**
ZAA0 Zalesovo Array 69.30 334 P **P 09 27 05.4 -1.0**
ZAA0 IAmb IAmb 09 27 06.6
comp=Z,7.3nm,0.8s
ZALV Zalesovo Beam 69.30 334 P **P 09 27 05.8 -0.6**
comp=Z,5.8nm,0.5s,baz=123,slow=5.1,SNR=24
ZALV Zalesovo Beam 69.30 334 P **P 09 27 05.5 -0.9**
CHGR Chuyangaron 69.92 314 P **P 09 27 10.4 -0.2**
CHGR IAmb IAmb 09 27 18.1
comp=Z,5.7nm,0.7s
KURK Kurchatov 70.17 329 P **P 09 27 11.3 -0.4**
KURK IAmb IAmb 09 27 12.7
comp=Z,8.6nm,0.8s
VNDA Vanda 74.35 173 P **P 09 27 36.0 +0.2**
comp=Z,1.3nm,0.8s,baz=314,slow=7.1,SNR=10
GEYT Alibeck 77.80 310 P **P 09 27 57.1 +1.1**
comp=Z,1.7nm,0.7s,baz=98,slow=10,SNR=2.2
GEYT Alibeck 77.80 310 P **P 09 27 56.4 +0.5**
ABKAR Akbulak array 80.11 322 P **P 09 28 07.0 -1.0**
ILAR Eielson Array 92.54 25 P **P 09 29 07.8 -0.4**
comp=Z,0.5nm,0.9s,baz=264,slow=3.6,SNR=2.9
BOSA Boshof 98.84 240 P Pdif 09 29 37.4 -0.4
comp=Z,1.3nm,0.6s,baz=112,slow=5.2,SNR=3.5
BOSA Boshof 98.84 240 Pdif Pdif 09 29 37.6 -0.2
BOSA IAmb IAmb 09 29 56.6
comp=Z,6.0nm,1.1s
TORD Torodi Ar. Bea 126.78 282 PKP **PKPdf 09 34 60.0 +0.1**
comp=Z,0.8nm,0.6s,baz=54,slow=1.9,SNR=3.9
TORD Torodi Ar. Bea 126.78 282 PKPdf **PKPdf 09 35 00.0 +0.1**

VAO ***21*** *09:18:07.7±0.3, 19°.98S×68°.93W, h106$^{km}_{\pm 2}$^{km}, mb4.5*
SJA ***21*** *09:18:08.3±0.6, 20°.12S×69°.09W, h112$^{km}_{\pm 2}$^{km}, ML4.2, MW4.2*
NEIC ***21*** *09:18:08.5±1.9, 20°.12S±0°.04×69°.05W±0°.07, h111$^{km}_{\pm 4}$^{km}, mb4.5/21, ML4.4(GUC), Error ellipse: s-maj=9.7km s-min=5.3km az=100.0*
IDC ***21*** *09:18:08.9±0.8, 20°.06S×68°.81W, h115$^{km}_{\pm 7}$^{km}, mb3.8/11, mb1 4.0/13, mb1mx3.8/29, mbtmp4.2/13, MS3.0/4, Ms1 3.0/4, ms1mx2.7/25, Error ellipse: s-maj=18.9km s-min=9.5km az=100.0*
GUC ***21*** *09:18:09.1±0.7, 20°.10S×68°.98W, h108$^{km}_{\pm 2}$^{km}, ML4.3*
ISC 21 09:18:07.7±0.4,**20°.12S**±0°.02×**69°.04W**±0°.04, **h110**$^{km}_{\pm 4}$^{km}, **n173**, σ1°**59**/232, **mb4.4**/16, **8C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.11**	**259**	⇓*iP*	**Pn**	**09 18 24.3**	**+0.9**
PB08				*eS*	**Sn**	**09 18 36.0**	**+0.9**
PB08				IAML		09 18 37.2	
comp=N,27μm,0.3s							
PB08	**IPOC Station P**	**0.11**	**259**		**Pn**	**09 18 24.1**	**+0.7**
PB08				Sn	**Sn**	**09 18 36.0**	**+0.9**
PB08	**IPOC Station P**	**0.11**	**259**	*eP*	**Pn**	**09 18 24.3**	**+0.9**
PB08				*eS*	**Sn**	**09 18 36.7**	**+1.6**
PB08				IAML		09 18 38.0	
comp=Z,11μm,0.3s							
GO01	**Chusmiza**	**0.47**	**342**	⇑*iP*	**Pn**	**09 18 25.6**	**+0.6**
GO01				*eS*	**Sn**	**09 18 38.7**	**+0.8**
GO01	**Chusmiza**	**0.47**	**342**	Pn	**Pn**	**09 18 25.9**	**+0.9**
GO01				Sn	**Sn**	**09 18 39.0**	**+1.1**
PB11	**IPOC Station P**	**0.68**	**302**	⇑*iP*	**Pn**	**09 18 27.1**	**+0.9**
PB11				*i* S	**Sn**	**09 18 41.2**	**+1.2**
PB11				IAML		09 18 42.4	
comp=E,20μm,0.4s							
PB11	**IPOC Station P**	**0.68**	**302**		**Pn**	**09 18 27.1**	**+0.9**
PB11				Sn	**Sn**	**09 18 40.6**	**+0.7**
PB11	**IPOC Station P**	**0.68**	**302**	*eP*	**Pn**	**09 18 27.0**	**+0.9**
PB11				*eS*	**Sn**	**09 18 41.4**	**+1.5**
PB11				IAML		09 18 41.9	
comp=Z,6μm,0.5s							
PB01	**IPOC Station P**	**1.01**	**205**	⇑*iP*	**Pn**	**09 18 30.4**	**+1.3**
PB01				*eS*	**Sn**	**09 18 46.7**	**+1.5**
PB01				IAML		09 18 48.9	
comp=N,9μm,0.3s							
PB01	**IPOC Station P**	**1.01**	**205**		**Pn**	**09 18 30.6**	**+1.5**
PB01				Sn	**Sn**	**09 18 46.8**	**+1.5**
PB01	**IPOC Station P**	**1.01**	**205**	*eP*	**Pn**	**09 18 30.5**	**+1.3**
PB01				*eS*	**Sn**	**09 18 47.1**	**+1.9**
PB01				IAML		09 18 47.9	
comp=Z,4μm,0.4s							
TA02	**Huaiquique**	**1.04**	**262**	⇑*iP*	**Pn**	**09 18 30.2**	**+1.0**
TA02				*eS*	**Sn**	**09 18 47.1**	**+1.5**
MNMC	**Minye Minye**	**1.12**	**332**	⇓*iP*	**Pn**	**09 18 31.9**	**+1.4**
MNMC				*i* S	**Sn**	**09 18 49.0**	**+1.5**
MNMC	**Minye Minye**	**1.12**	**332**		**Pn**	**09 18 31.8**	**+1.4**
MNMC				Sn	**Sn**	**09 18 49.2**	**+1.6**
MNMCX	**Minye Minye**	**1.12**	**332**	*eP*	**Pn**	**09 18 31.9**	**+1.5**
MNMCX				*eP*	**Pn**	**09 18 31.9**	**+1.5**
MNMCX				*eS*	**Sn**	**09 18 49.3**	**+1.7**
MNMCX				*eS*		09 18 49.5	
PSGC	**Pisagua**	**1.15**	**297**	⇑*iP*	**Pn**	**09 18 31.4**	**+0.8**
PSGC				*i* S	**Sn**	**09 18 48.5**	**+0.6**
PSGC				IAML		09 18 50.0	
comp=E,10μm,0.4s							
PSGCX	**Pisagua**	**1.15**	**297**		**Pn**	**09 18 31.4**	**+0.8**
PSGCX				Sn	**Sn**	**09 18 48.2**	**+0.3**
PSGCX	**Pisagua**	**1.15**	**297**	*eP*	**Pn**	**09 18 29.7**	**-0.9**
PSGCX				*eP*		09 18 31.4	
PSGCX				*eP*		09 18 31.5	
PSGCX				*eS*	**Sn**	**09 18 48.8**	**+0.9**
TA01	**Diego Aracena**	**1.16**	**247**	⇑*iP*	**Pn**	**09 18 31.4**	**+0.8**
TA01				*i* S	**Sn**	**09 18 49.0**	**+1.1**
TA01	**Diego Aracena**	**1.16**	**247**	Pn	**Pn**	**09 18 31.4**	**+0.8**
TA01				Sn	**Sn**	**09 18 48.4**	**+0.5**
PATCX	**Punta Patache**	**1.26**	**236**	⇑*iP*	**Pn**	**09 18 32.9**	**+1.1**
PATCX				*i* S	**Sn**	**09 18 51.0**	**+1.0**
PATCX				IAML		09 18 52.3	
comp=E,4μm,0.3s							
PATCX	**Punta Patache**	**1.26**	**236**		**Pn**	**09 18 32.8**	**+1.1**
PATCX				Sn	**Sn**	**09 18 50.9**	**+0.9**
PATCX	**Punta Patache**	**1.26**	**236**	*eP*	**Pn**	**09 18 32.9**	**+1.1**
PATCX				*eP*	**Pn**	**09 18 32.9**	**+1.1**
PATCX				*eS*	**Sn**	**09 18 51.5**	**+1.5**
PB02	**IPOC Station P**	**1.44**	**214**	*eP*	**Pn**	**09 18 35.4**	**+1.5**
PB02				*eS*	**Sn**	**09 18 55.8**	**+2.0**
PB02				IAML		09 18 57.1	
comp=Z,4μm,0.3s							
PB09	**IPOC Station P**	**1.68**	**186**	⇓*iP*	**Pn**	**09 18 38.6**	**+1.8**
PB09				*eS*	**Sn**	**09 19 01.2**	**+2.1**
PB09	**IPOC Station P**	**1.68**	**186**		**Pn**	**09 18 38.7**	**+1.8**
PB09				Sn	**Sn**	**09 19 01.0**	**+1.9**
PB09	**IPOC Station P**	**1.68**	**186**	*eP*	**Pn**	**09 18 38.7**	**+1.8**
PB09				*eS*	**Sn**	**09 19 01.8**	**+2.7**
PB09				IAML		09 19 11.2	
comp=Z,1μm,0.9s							
PB07	**IPOC Station P**	**1.78**	**206**	*eP*	**Pn**	**09 18 39.1**	**+0.9**
PB07				IAML		09 19 07.5	
comp=N,2μm,0.3s							
PB07	**IPOC Station P**	**1.78**	**206**		**Pn**	**09 18 39.6**	**+1.4**
PB07				Sn	**Sn**	**09 19 02.3**	**+1.0**
PB07	**IPOC Station P**	**1.78**	**206**	*eP*	**Pn**	**09 18 39.5**	**+1.4**
PB07				*eS*	**Sn**	**09 19 02.9**	**+1.5**
PB07				IAML		09 19 06.3	
comp=Z,2μm,0.4s							
PB16	**IPOC Station P**	**1.83**	**346**	⇓*iP*	**Pn**	**09 18 41.0**	**+1.8**
PB16				*i* S	**Sn**	**09 19 04.9**	**+1.9**
PB16				IAML		09 19 07.2	
comp=N,2μm,0.5s							
PB16	**IPOC Station P**	**1.83**	**346**		**Pn**	**09 18 41.0**	**+1.8**
PB16				Sn	**Sn**	**09 19 04.5**	**+1.4**
PB16	**IPOC Station P**	**1.83**	**346**	*eP*	**Pn**	**09 18 41.0**	**+1.8**
PB16				*eS*	**Sn**	**09 19 05.5**	**+2.5**
PB16				IAML		09 19 10.3	
comp=Z,2μm,0.6s							
PB12	**IPOC Station P**	**1.93**	**321**	⇑*iP*	**Pn**	**09 18 40.5**	**+0.5**
PB12				*i* S	**Sn**	**09 19 05.0**	**+0.5**
PB12				IAML		09 19 11.0	
comp=N,5μm,0.4s							
PB12	**IPOC Station P**	**1.93**	**321**	Pn	**Pn**	**09 18 40.4**	**+0.5**
PB12				Sn	**Sn**	**09 19 05.0**	**+0.5**
PB12	**IPOC Station P**	**1.93**	**321**	*eP*	**Pn**	**09 18 40.7**	**+0.7**
PB12				*eS*	**Sn**	**09 19 05.9**	**+1.4**
PB12				IAML		09 19 09.9	
comp=Z,3μm,0.4s							
PB03	**IPOC Station P**	**2.03**	**199**	*eP*	**Pn**	**09 18 42.5**	**+1.2**
PB03				*eS*	**Sn**	**09 19 07.0**	**+0.1**
PB03				IAML		09 19 08.9	
comp=E,1μm,0.1s							
PB03	**IPOC Station P**	**2.03**	**199**	*eP*	**Pn**	**09 18 42.8**	**+1.5**
PB03				*eS*	**Sn**	**09 19 08.4**	**+1.6**
PB03				IAML		09 19 12.3	
comp=Z,1μm,0.3s							
AP01	**Chacalluta**	**2.13**	**324**	*eP*	**Pn**	**09 18 43.0**	**+0.6**
AP01				*eS*	**Sn**	**09 19 08.9**	**0.0**
AP01	**Chacalluta**	**2.13**	**324**		**Pn**	**09 18 43.0**	**+0.6**
AP01				Sn	**Sn**	**09 19 09.1**	**+0.2**
PB04	**IPOC Station P**	**2.43**	**205**	*eP*	**Pn**	**09 18 47.6**	**+1.2**
PB04				IAML		09 19 27.1	
comp=N,1μm,0.2s							
PB04	**IPOC Station P**	**2.43**	**205**		**Pn**	**09 18 48.1**	**+1.6**
PB04				Sn	**Sn**	**09 19 15.3**	**-0.9**
PB04	**IPOC Station P**	**2.43**	**205**	*eP*	**Pn**	**09 18 48.1**	**+1.6**
PB04				*eS*	**Sn**	**09 19 17.1**	**+0.9**
PB04				IAML		09 19 27.3	
comp=Z,773nm,0.7s							
LVC	**Limon Verde**	**2.48**	**177**	P	**Pn**	**09 18 49.5**	**+2.2**
comp=Z,17nm,0.3s,baz=18,slow=7.8,SNR=199							
LVC				S	**Sn**	**09 19 20.5**	**+3.0**
comp=Z,127nm,0.3s,baz=328,slow=23,SNR=36							
LVC	**Limon Verde**	**2.48**	**177**	*eP*	**Pn**	**09 18 49.2**	**+2.0**
LVC				*eS*	**Sn**	**09 19 19.8**	**+2.2**
LVC	**Limon Verde**	**2.48**	**177**		**Pn**	**09 18 49.3**	**+2.0**
LVC				Sn	**Sn**	**09 19 20.3**	**+2.8**
LVC	**Limon Verde**	**2.48**	**177**	*eP*	**Pn**	**09 18 49.3**	**+2.0**
LVC				*eS*	**Sn**	**09 19 20.2**	**+2.7**
LVC	**Limon Verde**	**2.48**	**177**	*eP*	**Pn**	**09 18 49.2**	**+2.0**
LVC				*eS*	**Sn**	**09 19 20.0**	**+2.5**
PB06	**IPOC Station P**	**2.62**	**191**	*eP*	**Pn**	**09 18 49.5**	**+0.6**
PB06				IAML		09 19 21.5	
comp=E,893nm,0.5s							
PB06	**IPOC Station P**	**2.62**	**191**		**Pn**	**09 18 50.0**	**+1.2**
PB06				Sn	**Sn**	**09 19 20.2**	**-0.3**
PB06	**IPOC Station P**	**2.62**	**191**	*eP*	**Pn**	**09 18 50.5**	**+1.6**
PB06				*eS*	**Sn**	**09 19 21.4**	**+0.9**
PB06				IAML		09 19 33.1	
comp=Z,678nm,0.7s							
PB05	**IPOC Station P**	**2.93**	**202**	*eP*	**Pn**	**09 18 53.6**	**+0.8**
PB05				*eS*	**Sn**	**09 19 20.8**	**-6.9**
PB05				IAML		09 19 27.8	
comp=E,773nm,0.8s							
PB05	**IPOC Station P**	**2.93**	**202**	*eP*	**Pn**	**09 18 54.1**	**+1.2**
PB05				*eS*	**Sn**	**09 19 26.8**	**-0.8**
PB05				IAML		09 19 52.1	
comp=Z,468nm,0.8s							
PB15	**IPOC Station P**	**3.10**	**187**	*eP*	**Pn**	**09 18 56.0**	**+0.8**
PB15	**IPOC Station P**	**3.10**	**187**		**Pn**	**09 18 57.2**	**+2.0**
PB15				Sn	**Sn**	**09 19 32.6**	**+0.7**
PB15	**IPOC Station P**	**3.10**	**187**	*eP*	**Pn**	**09 18 57.0**	**+1.7**
PB15				*eS*	**Sn**	**09 19 33.4**	**+1.5**
PB15				IAML		09 19 37.8	
comp=Z,1μm,0.2s							
PB10	**IPOC Station P**	**3.66**	**202**	*eP*	**Pn**	**09 19 02.5**	**0.0**
PB10	**IPOC Station P**	**3.66**	**202**		**Pn**	**09 19 03.2**	**+0.7**
PB10	**IPOC Station P**	**3.66**	**202**	*eP*	**Pn**	**09 19 02.7**	**+0.2**
PB10				*eS*	Sn	09 19 35.2	-10
YJA	**Yavi**	**3.87**	**122**	*eP*	**Pn**	**09 19 09.0**	**+3.3**
LPAZ	**La Paz**	**3.91**	**13**	P	**Pn**	**09 19 09.3**	**+2.9**
comp=Z,16nm,0.3s,baz=198,slow=5.2,SNR=368							
LPAZ				S	**Sn**	**09 19 52.7**	**+0.9**
comp=Z,3.5nm,0.3s,baz=201,slow=7.2,SNR=5.1							
LPAZ	**La Paz**	**3.91**	**13**	*eP*	**Pn**	**09 19 09.2**	**+2.8**
LPAZ				*eS*	**Sn**	**09 19 55.0**	**+3.2**
PB14	**IPOC Station P**	**4.66**	**195**		**Pn**	**09 19 16.7**	**+0.5**
PB14	**IPOC Station P**	**4.66**	**195**	*eP*	**Pn**	**09 19 16.5**	**+0.3**
PB14				*eS*	**Sn**	**09 20 05.6**	**-3.8**
PB14				IAML		09 20 33.2	
comp=Z,134nm,1.1s							
GO02	**Mina Guanaco**	**5.04**	**186**	Pn	**Pn**	**09 19 22.0**	**+0.6**
SLA	**San Lorenzo**	**5.63**	**145**	*eP*	**Pn**	**09 19 31.6**	**+2.4**
AC01	**Pan de Azucar**	**6.17**	**193**	Pn	**Pn**	**09 19 34.9**	**-1.5**
GO03	**Copiap**	**7.52**	**188**	Pn	**Pn**	**09 19 53.0**	**-1.7**
AC04	**Llanos de Chal**	**8.26**	**193**	Pn	**Pn**	**09 20 00.9**	**-3.9**
SIV	**San Ignacio**	**8.62**	**63**	P	**Pn**	**09 20 07.4**	**-2.3**
comp=Z,9.4nm,0.3s,baz=269,slow=9.4,SNR=232							
AC05	**El Transito**	**8.75**	**187**	Pn	**Pn**	**09 20 09.2**	**-2.3**
LCO	**Las Campanas**	**8.98**	**189**	Pn	**Pn**	**09 20 10.8**	**-3.9**
CO01	**Juntas del Tor**	**9.86**	**185**	Pn	**Pn**	**09 20 23.8**	**-2.9**
GO04	**Tololo Observa**	**10.13**	**189**	Pn	**Pn**	**09 20 26.9**	**-3.5**
PTLB	**Pontes e Lacer**	**10.51**	**65**	*eP*	**Pn**	**09 20 32.9**	**-2.5**
ETMB	**Extrema**	**10.60**	**15**	*eP*	**Pn**	**09 20 34.5**	**-2.1**
CO03	**El Pedregal**	**10.78**	**188**	Pn	**Pn**	**09 20 35.4**	**-3.5**
VILB	**Vilhena**	**11.07**	**51**	*eP*	**Pn**	**09 20 40.7**	**-2.2**
CO02	**Combarbal**	**11.18**	**189**	Pn	**Pn**	**09 20 44.9**	**+0.6**
SAML	**Samuel**	**12.46**	**28**	Pn	**Pn**	**09 21 00.8**	**-0.5**
SAML	**Samuel**	**12.46**	**28**	*eP*	**Pn**	**09 20 59.8**	**-1.6**
AQDB	**Aquidauana**	**12.52**	**94**	*eP*	**Pn**	**09 21 01.0**	**-1.1**
AQDB				*eS*	**Sn**	**09 23 18.9**	**-1.0**
VA03	**San Esteban**	**12.66**	**186**	Pn	**Pn**	**09 21 04.8**	**+0.8**
CZSB	**Cruzeiro do Su**	**12.82**	**343**	*eP*	**Pn**	**09 21 04.6**	**-1.5**
ROC1	**El Roble**	**12.93**	**187**	Pn	**Pn**	**09 21 09.5**	**+2.0**
MT02	**Curacav**	**13.22**	**188**	Pn	**Pn**	**09 21 12.0**	**+0.9**
MT05	**Renca**	**13.30**	**186**	Pn	**P**	**09 21 15.4**	**-2.5**
BO02	**Sierra Bellavi**	**14.70**	**186**	Pn	**Pn**	**09 21 31.6**	**+1.4**
TRCB	**Terra Rica**	**15.50**	**103**	*eP*	**Pn**	**09 21 39.8**	**-0.6**
CLDB	**Colider**	**15.72**	**56**	*eP*	**Pn**	**09 21 41.5**	**-1.7**
ATAH	**Atahualpa**	**15.78**	**324**	LR	LR	09 28 04.3	
comp=Z,55nm,21.1s,baz=184,slow=38							
PTGB	**Pitanga**	**16.34**	**109**	*eP*	**Pn**	**09 21 51.5**	**+0.7**
BI02	**San Fabin de**	**16.60**	**186**	P	**P**	**09 21 55.8**	**+1.3**
BI02				IAmb	IAmb	09 21 56.8	
comp=Z,30nm,1.0s							
PCMB	**Pacaembu**	**16.68**	**98**	*eP*	**Pn**	**09 21 55.2**	**+0.2**
ARAG	**Araguaiana, MT**	**16.97**	**78**	*eP*	**P**	**09 21 58.2**	**-0.4**
ITAB	**Concordia**	**17.02**	**118**	*eP*	**P**	**09 21 59.4**	**+0.3**
BI03	**Tigo**	**17.02**	**191**	P	**Pn**	**09 22 01.7**	**+2.7**
ITRB	**Iturama**	**17.57**	**92**	*eP*	**P**	**09 22 05.0**	**-0.3**
FRTB	**Fartura**	**18.37**	**104**	*eP*	**P**	**09 22 14.2**	**+0.1**
NPGB	**Novo Progresso**	**18.57**	**47**	*eP*	**P**	**09 22 14.6**	**-1.7**
MACA	**Manacapuru-AM**	**18.72**	**27**	*eP*	**P**	**09 22 16.8**	**-1.1**
MACA				*eS*	**S**	**09 25 43.3**	**-2.2**
CNLB	**Canela**	**18.87**	**123**	*eP*	**P**	**09 22 19.3**	**-0.2**
LC01	**Cunco**	**18.87**	**187**	P	**Pn**	**09 22 21.3**	**+0.1**
LC01				IAmb	IAmb	09 22 22.6	
comp=Z,20nm,1.1s							
TRQA	**Tornquist**	**18.89**	**163**	*eP*	**Pn**	**09 22 21.2**	**-0.3**
TIJ01	**Guaruva-PR**	**19.18**	**109**	*eP*	**P**	**09 22 22.1**	**-0.9**
BB19B	**Bebedouro**	**19.23**	**96**	*eP*	**P**	**09 22 22.5**	**-0.9**
IPMB	**Ipameri, GO**	**19.80**	**87**	*eP*	**P**	**09 22 27.9**	**-1.8**
ITTB	**Itaituba**	**20.32**	**41**	*eP*	**P**	**09 22 33.1**	**-2.2**
SPB	**Sao Paulo**	**20.35**	**104**	*eP*	**P**	**09 22 35.1**	**-0.4**
BDFB	**Brasilia**	**20.49**	**81**	P	**P**	**09 22 36.6**	**-0.7**
comp=Z,7.4nm,0.5s,baz=262,slow=11,SNR=24							
BDFB	**Brasilia**	**20.49**	**81**	P	**P**	**09 22 36.9**	**-0.3**
BDFB				IAmb	IAmb	09 22 41.5	
comp=Z,19nm,1.3s							
PET01	**Itanhaem-SP**	**20.57**	**106**	*eP*	**P**	**09 22 37.1**	**-0.7**
PLCA	**Paso Flores**	**20.59**	**183**	P	Pn	09 22 40.0	-1.3
comp=Z,14nm,0.8s,baz=357,slow=11,SNR=19							
PLCA	**Paso Flores**	**20.59**	**183**	P	**P**	**09 22 39.1**	**+1.1**
PLCA				IAmb	IAmb	09 22 40.8	
comp=Z,21nm,1.0s							
PLCA	**Paso Flores**	**20.59**	**183**	*eP*	**P**	**09 22 39.6**	**+1.6**
VAO	**Valinhos**	**20.73**	**102**	*eP*	**P**	**09 22 38.5**	**-1.2**
PTGA	**Pitinga**	**21.22**	**26**	P	**P**	**09 22 42.5**	**-2.4**
comp=Z,2.3nm,0.3s,baz=268,slow=22,SNR=8.2							
PTGA				LR	LR	09 32 17.6	
comp=Z,29nm,20.9s,baz=198,slow=40							
PTGA	**Pitinga**	**21.22**	**26**	P	**P**	**09 22 42.7**	**-2.1**
PARB	**Paraibuna**	**21.98**	**103**	*eP*	**P**	**09 22 51.4**	**-1.7**
OTAV	**Otavalo**	**22.23**	**334**	P	**P**	**09 22 56.0**	**-0.2**
OTAV	**Otavalo**	**22.23**	**334**	*eP*	**P**	**09 22 55.8**	**-0.3**
LL01	**San Ignacio de**	**22.37**	**187**	P	**P**	**09 22 57.3**	**+0.5**
LL01				IAmb	IAmb	09 22 59.4	
comp=Z,21nm,0.8s							
BSCB	**Bom Sucesso**	**22.73**	**96**	*eP*	**P**	**09 22 59.3**	**-1.5**
MALB	**Monte Alegre**	**23.20**	**40**	*eP*	**P**	**09 23 03.4**	**-1.7**
PRPB	**Parauapebas**	**23.25**	**56**	*eP*	**P**	**09 23 03.6**	**-2.1**
MAN01	**Angra dos Reis**	**23.48**	**101**	*eP*	**P**	**09 23 07.9**	**+0.1**
SMTB	**Santa Maria do**	**23.56**	**65**	*eP*	**P**	**09 23 07.4**	**-1.1**
VAS01	**Vassouras-RJ**	**23.95**	**100**	*eP*	**P**	**09 23 11.7**	**-0.3**
MC01	**Montes Claros**	**24.04**	**86**	*eP*	**P**	**09 23 12.0**	**-0.9**
JANB	**Januaria**	**24.09**	**82**	*eP*	**P**	**09 23 11.5**	**-1.8**
SDBA	**SAO DESIDERIO**	**24.38**	**75**	*eP*	**P**	**09 23 14.9**	**-1.1**
ROSC	**El Rosal**	**25.34**	**348**	LR	LR	09 34 25.0	
comp=Z,64nm,19.9s,baz=171,slow=38							
MCPB	**Macapa, AP**	**25

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	134.07	211	PKPdf	PKPdf	09 37 13.4	+0.3
USRK	Ussuriysk Ar.	150.28	329	PKPbc	PKPbc	09 37 45.1	-1.0
	comp=Z,2.4nm,0.9s,baz=46,slow=4.2,SNR=5.5						
USRK	Ussuriysk Ar.	150.28	329	PKPbc	PKPbc	09 37 45.6	-0.5
SONM	Songino Array	152.11	7	PKPbc	PKiKP	09 37 51.9	+1.2
	comp=Z,0.7nm,0.4s,baz=349,slow=1.6,SNR=2.1						
SONM	Songino Array	152.11	7	PKPbc	PKPbc	09 37 50.6	+0.2

*ISN **21** 09:33:08.8±0.3, 37.°27N×42.°72E, h0km, ML2.5*
*DDA **21** 09:33:09.4, 37.°25N×42.°58E, h7km±2km, ML2.8*
*ISK **21** 09:33:09.6, 37.°39N×42.°62E, h7km, ML2.6/5*
ISC 21 09:33:09.2±1.4, 37.°30N±0.°05×42.°63E±0.°03, h5km±11km, n14, σ0s74/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	Sirnak	0.25	323	PG	Pg	09 33 13.8	-0.4
CUKT	Cukurca	0.78	94	PG	Pb	09 33 25.4	0.0
CUKT				SG	Sb	09 33 36.8	+0.4
SRTM	Siirt_Merkez	0.89	321	*i* P	Pg	09 33 26.6	+0.3
SRTM				*i* S	Sb	09 33 39.5	0.0
HAKT	HAKKARI	0.90	73	*i* P	Pg	09 33 26.3	-0.1
HAKT				*i* S	Sn	09 33 41.6	-0.7
MSL	Mosul	0.98	157	*e*Pg	Pn	09 33 29.1	-0.5
	baz=340						
MSL				*e*Sg	Sn	09 33 43.4	-0.5
MSL				AML	AML	09 33 49.3	
	comp=E,141nm,0.8s						
MSL				AML	AML	09 33 49.5	
	comp=N,130nm,0.4s						
AKDM	Akdamar-Van	1.06	15	PG	Pg	09 33 28.8	-0.8
BLIS	Bitlis-Merkez	1.19	340	*i* P	Pg	09 33 32.2	+0.2
BLIS				*i* S	Sn	09 33 49.6	+0.3
BTMN	Batman	1.23	299	*i* P	Pn	09 33 33.4	+0.1
BTMN				*i* S	Sn	09 33 51.1	+0.8
BTMN				IAML		09 33 54.0	
	comp=N,115nm,0.8s						
BTMN				IAML		09 33 55.0	
	comp=E,181nm,0.6s						
YOVA	Hakkari_Yksek	1.35	77	*i* P	Pb	09 33 35.4	+0.2
YOVA				IAML		09 33 55.0	
	comp=E,173nm,1.3s						
YOVA				*i* S	Sn	09 33 55.4	+1.9
SVAN	Silvan-Diyarba	1.42	307	PN	Pn	09 33 35.6	-0.2
SVAN				SN	Sb	09 33 54.6	-0.1
SVAN	Silvan-Diyarba	1.42	307	*i* P	Pb	09 33 36.2	0.0
SVAN				*i* S	Sb	09 33 54.0	-0.7
MARD	Mardin	1.48	271	*i* P	Pn	09 33 36.8	+0.1
MARD				*i* S	Sg	09 33 57.2	+0.5
MARD				IAML		09 34 00.0	
	comp=E,207nm,0.6s						
MARD				IAML		09 34 03.0	
	comp=N,194nm,0.5s						
MUSM	Mu-Merkez	1.67	328	*i* P	Pn	09 33 39.8	+0.4
MUSM				*i* S	Sn	09 33 59.4	-1.9
MAZI	Mazidag	1.75	276	PN	Pn	09 33 40.8	+0.4

*NEIC **21** 09:33:55.0±2.4, 35.°42N±0.°10×23.°37E±0.°09, h59km±3km, mb4.3/11, Error ellipse: s-maj=15.5km s-min=7.9km az=210.0*
*ATH **21** 09:33:55.3, 35.°54N×23.°41E, h45km±1km, ML3.5/10, Error ellipse: s-maj=3.2km s-min=1.1km az=224.0*
*THE **21** 09:33:55.9, 35.°44N×23.°31E, h27km, ML3.5/8, Error ellipse: s-maj=1.1km s-min=0.5km az=55.0*
*IDC **21** 09:33:58.4±1.6, 35.°65N×23.°58E, h81km±14km, mb3.5/9, mb1 3.5/10, mb1mx3.3/47, mbtmp3.8/10, MS2.8/2, Ms1 2.8/2, ms1mx2.4/38, Error ellipse: s-maj=30.9km s-min=19.1km az=23.0*
*GII **21** 09:34:02.2±0.0, 35.°32N×24.°41E, h20km*
ISC 21 09:33:54.1±0.7, 35.°46N±0.°04×23.°36E±0.°05, h47km±6km, n109, σ1s66/125, mb4.0/15, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODP	Rodopos	0.34	72	P	Pn	09 34 04.2	+0.8
RODP				S	Sn	09 34 11.0	+1.0
KNDR	Palaiochora Ch	0.35	129	P	Pn	09 34 03.2	-0.2
KNDR				S	Sn	09 34 09.5	-0.5
ANKY	Antikythira Is	0.41	354	P	Pn	09 34 04.5	+0.3
ANKY				S	Sn	09 34 12.5	+1.1
	6μm,0.5s						
ANKY	Antikythira Is	0.41	354	P	Pn	09 34 04.5	+0.3
ANKY				S	Sn	09 34 12.4	+1.1
ANKY				AML	AML	09 34 14.1	
	comp=E,14928μm,0.5s						
ANKY				AML	AML	09 34 15.5	
	comp=N,9997μm,0.4s						
IMMV	Iera Moni Meta	0.51	89	P	Pn	09 34 06.4	+1.1
IMMV				S	Sn	09 34 15.0	+1.7
	comp=N,11μm,0.4s						
IMMV	Iera Moni Meta	0.51	89	P	Pn	09 34 06.4	+1.1
IMMV				S	Sn	09 34 14.6	+1.3
IMMV				AML	AML	09 34 16.9	
	comp=N,18691μm,0.3s						
IMMV				AML	AML	09 34 18.2	
	comp=E,23057μm,0.4s						
CHAN	Chania	0.56	83	P	Pn	09 34 07.2	+1.3
CHAN				S	Sn	09 34 16.4	+2.0
	comp=E,2μm,0.7s						
VAM	Vamos	0.69	94	P	Pn	09 34 09.2	+1.6
VAM				S	Sn	09 34 20.6	+3.2
	comp=E,6μm,0.5s						
VAM	Vamos	0.69	94	P	Pn	09 34 09.2	+1.6
VAM				S	Sn	09 34 19.8	+2.5
VAM				AML	AML	09 34 21.3	
	comp=N,13327μm,0.4s						
VAM				AML	AML	09 34 22.1	
	comp=E,12528μm,0.5s						
KTHA	Kythira Island	0.84	343	P	Pn	09 34 11.1	+1.5
KTHA				S	Sn	09 34 23.4	+2.5
	comp=E,4μm,0.4s						
KTHA	Kythira Island	0.84	343	P	Pn	09 34 11.1	+1.5
KTHA				S	Sn	09 34 22.8	+1.9
KTHA				AML	AML	09 34 28.7	
	comp=E,12898μm,0.5s						
KTHA				AML	AML	09 34 29.4	
	comp=N,3491μm,0.4s						
GVDS	Gavdos	0.85	135	P	Pn	09 34 11.1	+1.3
GVDS				S	Sn	09 34 23.2	+1.9
	comp=N,3μm,0.3s						
GVD	Gavdhos	0.86	136	P	Pn	09 34 11.5	+1.7
GVD				S	Sn	09 34 24.1	+2.8
	comp=N,3μm,0.3s						
GVD	Gavdhos	0.86	136	P	Pn	09 34 11.5	+1.7
GVD				AML	AML	09 34 28.8	
	comp=E,6278μm,0.3s						
GVD				AML	AML	09 34 33.2	
	comp=N,6649μm,0.4s						
PRNS	Prines Rethymn	0.94	95	P	Pn	09 34 12.5	+1.6
PRNS				S	Sn	09 34 25.0	+1.8
MNVA	Monemvasia	1.26	348	P	Pn	09 34 17.4	+2.2
IDI	Anoyia	1.26	97	P	Pn	09 34 17.6	+2.2
	comp=N,21nm,0.3s,baz=275,slow=13,SNR=94						
IDI				S	Sn	09 34 35.1	+3.8
	comp=N,39nm,0.3s,baz=359,slow=19,SNR=7.6						
IDI				LR	LR	09 35 06.0	
	comp=N,91nm,18.4s,baz=262,slow=60						
IDI	Anoyia	1.26	97	P	Pn	09 34 17.6	+2.2
IDI	Anoyia	1.26	97	P	Pn	09 34 17.7	+2.2
IDI				AML	AML	09 34 39.5	
	comp=N,1166μm,0.6s						
IDI				AML	AML	09 34 46.7	
	comp=E,1420μm,0.5s						
SIVA	Sivas	1.27	110	P	Pn	09 34 18.1	+2.8
SIVA				AML	AML	09 34 48.9	
	comp=E,3686μm,0.8s						
SIVA				AML	AML	09 34 49.2	
	comp=N,3263μm,0.6s						
VLI	Velial	1.31	345	P	Pn	09 34 17.5	+1.6
VLI				S	Sn	09 34 34.9	+2.7
	comp=N,1μm,0.7s						
VLI	Velial	1.31	345	P	Pn	09 34 17.4	+1.4
VLI				AML	AML	09 34 38.9	
	comp=N,2845μm,0.6s						
VLI				AML	AML	09 34 39.7	
	comp=E,2050μm,0.5s						
MHLO	Agia Marina, M	1.50	34	P	Pn	09 34 20.0	+1.5
MHLO				S	Sn	09 34 39.7	+2.9
MHLO	Agia Marina, M	1.50	34	P	Pn	09 34 19.5	+1.0
MHLA	Plaka, Milos I	1.55	33	P	Pn	09 34 20.7	+1.5
LAST	Lasithi	1.76	99	P	Pn	09 34 24.7	+2.5
LAST	Lasithi	1.76	99	P	Pn	09 34 24.7	+2.5
NPS	Neapolis	1.85	95	P	Pn	09 34 25.8	+2.4
KRND	KRANIDI	1.93	355	P	Pn	09 34 26.3	+1.8
KRND	KRANIDI	1.93	355	P	Pn	09 34 25.0	+0.5
SANT	Santorini	1.94	61	P	Pn	09 34 26.1	+1.5
SANT				AML	AML	09 35 03.5	
	comp=E,908μm,0.6s						
SANT				AML	AML	09 35 03.5	
	comp=N,455μm,0.8s						
SANT	Santorini	1.94	61	Pn	Pn	09 34 25.9	+1.4
IOSP	Ios island	2.01	50	P	Pn	09 34 26.8	+1.2
IOSP				AML	AML	09 34 53.9	
	comp=E,2034μm,0.4s						
IOSP				AML	AML	09 34 54.0	
	comp=N,1412μm,0.5s						
VLX	Vlachokerasia	2.07	338	P	Pn	09 34 27.1	+0.7
ITM	Ithomi	2.07	327	P	Pn	09 34 27.1	+0.6
ITM	Ithomi	2.07	327	Pn	Pn	09 34 27.8	+1.3
ANAF	Anafi Island	2.16	65	P	Pn	09 34 28.8	+1.2
APE	Apeiranthos	2.38	47	P	Pn	09 34 31.8	+1.1
APE				S	Sn	09 34 58.6	-0.1
VLY	Voula,Athens	2.42	8	P	Pn	09 34 31.9	+0.7
AMGA	Amorgos Island	2.47	55	P	Pn	09 34 33.1	+1.2
AMGA				S	Sn	09 35 04.1	+3.3
AMGA	Amorgos Island	2.47	55	P	Pn	09 34 33.0	+1.1
GUR	Goura	2.61	342	P	Pn	09 34 35.9	+2.0
PTL	Penteli	2.62	9	P	Pn	09 34 35.4	+1.4
DION	Dionisos Attik	2.66	10	P	Pn	09 34 35.5	+1.0
KARY	Karystos	2.71	18	P	Pn	09 34 36.0	+0.8
VIL2	Platees	2.75	359	P	Pn	09 34 36.1	+0.4
KLV	Kalavryta, Ach	2.76	340	P	Pn	09 34 37.7	+1.8
KLV	Kalavryta, Ach	2.76	340	P	Pn	09 34 37.8	+1.9
DSF	Desfina	3.02	348	P	Pn	09 34 41.3	+1.8
DSF	Desfina	3.02	348	P	Pn	09 34 40.6	+1.1
KARP	Karpathos	3.10	87	P	Pn	09 34 41.7	+1.1
KARP	Karpathos	3.10	87	Pn	Pn	09 34 42.2	+1.6
LIT	Litokhoron	4.69	352	Pn	Pn	09 35 02.5	+0.2
AKAS	Kas	5.13	79	Pn	Pn	09 35 08.8	+0.3
ELL	Elmali	5.46	74	Pn	Pn	09 35 14.3	+1.3
FNA	Florina	5.54	344	Pn	Pn	09 35 14.6	+0.5
PDG	Podgorica	7.66	337	Pn	Pn	09 35 46.7	+3.6
CSS	Mathiatis	8.18	91	Pn	Pn	09 35 47.2	-3.0
DIVS	Divibare	9.01	344	Pn	Pn	09 35 59.9	-1.7
BR131	Keskin Array S	9.20	59	Pn	Pn	09 36 06.2	+1.9
BRTR	Keskin Array B	9.20	59	P	Pn	09 36 06.9	+2.6
	comp=N,0.2nm,0.3s,baz=229,slow=13,SNR=9.9						
BRTR				LR	LR	09 40 03.0	
	comp=N,22nm,21.7s,baz=250,slow=41						
BRTR	Keskin Array B	9.20	59	Pn	Pn	09 36 07.7	+3.3
MMAI	Mount Meron Ar	10.26	100	P	Pn	09 36 18.3	-0.6
	comp=N,0.9nm,0.3s,baz=297,slow=13,SNR=2.3						
HMDT	Nahal Hemdat	10.61	104	Pn	Pn	09 36 21.8	-1.7
HMDT				Sn	Sn	09 38 11.3	-10
YTIR	Yattir	10.64	109	Pn	Pn	09 36 22.4	-1.6
YTIR				Sn	Sn	09 38 12.1	-10
DSI	Dead Sea	10.76	108	Pn	Pn	09 36 24.1	-1.4
KRMI	Paran Flat	10.94	116	Sn	Sn	09 38 19.4	-10
GHAJ	Ghor Haditha	11.01	109	Pn	Pn	09 36 27.6	-1.4
MBRI	Mt Berech	11.26	117	Pn	Pn	09 36 30.7	-1.7
MBRI				Sn	Sn	09 38 27.6	-9.2
EIL	Elat	11.35	117	P	Pn	09 36 31.1	-2.6
	comp=N,0.3nm,0.3s,baz=297,slow=4.5,SNR=1.7						
EIL				S	Sn	09 38 27.4	-12
	comp=N,0.6nm,0.3s,baz=23,slow=15,SNR=1.9						
EIL	Elat	11.35	117	Sn	Sn	09 38 29.7	-9.3
BURAR	Bucovina Array	12.23	6	Pn	Pn	09 36 44.9	-0.7
ZOU	Zoufplan	13.57	328	P	P	09 37 12.4	+0.5
FUORN	Ofenpass-Fuorn	14.88	323	P	P	09 37 28.3	+1.8
GERES	GERESS Array B	15.16	335	P	P	09 37 30.3	+0.9
	comp=N,0.2nm,0.3s,baz=143,slow=11,SNR=8.5						
DAVOX	Davos/Dischmat	15.18	322	P	P	09 37 32.0	+2.3
	comp=N,0.2nm,0.3s,baz=260,slow=0.7,SNR=5.6						
KHC	Kasperske Hory	15.44	335	P	P	09 37 33.0	+0.5
AKASG	Malin Array Be	15.82	14	P	P	09 37 36.9	+0.4
ESDC	Sonseca Array	22.03	289	P	P	09 38 48.5	+3.9
	comp=N,0.5nm,0.9s,baz=79,slow=13,SNR=4.7						
HFS	Hagfors	25.48	349	P	P	09 39 16.8	-0.7
	comp=N,2.5nm,0.6s,baz=139,slow=12,SNR=7.0						
FINES	FINESS Array B	26.07	3	P	P	09 39 21.0	-1.8
	comp=N,2.0nm,0.9s,baz=161,slow=12,SNR=5.5						
FINES	FINESS Array B	26.07	3	P	P	09 39 21.6	-1.2
NC602	NORSAR Array S	26.41	347	P	P	09 39 26.7	+0.7
NC602				IAmb	IAmb	09 39 44.9	
	comp=Z,17nm,1.1s						
NAO01	NORSAR Array S	26.64	346	P	P	09 39 27.1	-0.9
NAO01				IAmb	IAmb	09 39 46.7	
	comp=Z,16nm,1.3s						
NB2	NORSAR Subarra	26.76	347	P	P	09 39 27.6	-1.5
	comp=Z,1.3nm,0.6s,baz=149,slow=10						
NOA	NORSAR Array B	26.76	347	P	P	09 39 29.8	+0.7
	comp=Z,0.3nm,0.6s,baz=159,slow=9.8,SNR=5.0						
AKTO	Aktyubinsk	29.14	48	P	P	09 39 49.2	-1.3
	comp=Z,0.8nm,0.4s,baz=234,slow=8.7,SNR=2.6						
KK31	Karatay Array	36.89	63	P	P	09 40 57.9	-0.2
KK31				IAmb	IAmb	09 41 09.7	
	comp=Z,3.1nm,1.4s						
KKAR	Karatay Array	36.89	63	P	P	09 40 57.5	-0.6
MK31	Makanchi Array	44.84	57	P	P	09 42 02.5	-1.1
MKAR	Makanchi Array	44.84	57	P	P	09 42 01.9	-1.6
	comp=Z,0.7nm,0.4s,baz=266,slow=8.4,SNR=8.6						
MKAR	Makanchi Array	44.84	57	P	P	09 42 02.5	-1.0
ZALV	Zalesovo Beam	45.87	46	P	P	09 42 10.1	-1.4
	comp=Z,2.2nm,0.4s,baz=270,slow=9.8,SNR=8.3						
ZALV	Zalesovo Beam	45.87	46	P	P	09 42 10.2	-1.2
NRIK	Noril'sk	48.24	25	LR	LR	10 03 39.1	
	comp=Z,34nm,18.6s,baz=222,slow=37						
TSUM	Tsumeb	54.63	187		P	09 43 17.8	-0.4
TSUM				IAmb	IAmb	09 43 37.5	
	comp=Z,3.1nm,1.1s						
SCHQ	Schefferville	62.00	319	P	P	09 44 09.2	0.0
SCHQ				IAmb	IAmb	09 44 17.9	
	comp=Z,1.6nm,0.8s						
USRK	Ussuriysk Ar.	77.67	44	P	P	09 45 44.9	-0.7
	comp=Z,0.9nm,0.5s,baz=262,slow=4.4,SNR=3.3						
USRK	Ussuriysk Ar.	77.67	44	P	P	09 45 44.5	-1.1
IMAR	Indian Mountai	78.86	359	P	P	09 45 52.1	+0.3
V58A	Windy Hill, Pi	78.88	306	P	P	09 45 52.2	-0.2
KSRS	Korea Array	79.26	52	P	P	09 45 54.6	+0.1
	comp=Z,0.7nm,0.7s,baz=320,slow=5.1,SNR=2.7						
PPLA	Purkeypile	81.92	358	P	P	09 46 08.9	+0.4
SKT	Skwentna	82.82	358	P	P	09 46 12.4	-0.6
SKT				IAmb	IAmb	09 46 12.8	
	comp=Z,2.9nm,0.5s						
COCO	West Island	83.92	109	P	P	09 46 17.4	-1.9
WRA	Warramunga Arr	118.09	95	PKP	PKPdf	09 52 35.4	-0.8
	comp=Z,0.2nm,0.7s,baz=321,slow=1.5,SNR=1.8						
WRA	Warramunga Arr	118.09	95	PKPdf	PKiKP	09 52 36.6	+0.4
ASAR	Alice Springs	119.55	99	PKP	PKiKP	09 52 38.4	-0.6
	comp=Z,0.2nm,0.6s,baz=288,slow=1.2,SNR=4.4						
ASAR	Alice Springs	119.55	99	PKPdf	PKiKP	09 52 38.8	-0.2

*IDC **21** 09:34:58.6±2.1, 21.°60N×143.°22E, h317km±21km, mb2.8/6, mb1 3.0/8, mb1mx2.8/45, mbtmp3.6/8, Error ellipse: s-maj=38.3km s-min=16.0km az=89.0*
ISC 21 09:34:58.0±1.2, 21.°6N±0.°1×143.°2E±0.°3, h311km, n8, σ0s94/9, mb2.8/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.58	351	P	Pn	09 36 24.2	+1.6
	6.9nm,0.3s,baz=308,slow=23,SNR=6.4						
JCJ				S	S	09 37 30.2	-0.7
	5.2nm,0.3s,baz=293,slow=23,SNR=2.2						
MJAR	Matsushiro Arr	15.54	345	P	Pn	09 38 21.5	-0.8
	baz=168,slow=11,SNR=1.6						
KSRS	Korea Array	20.63	323	P	P	09 39 14.8	+0.3
	0.9nm,0.7s,baz=144,slow=8.9,SNR=4.7						
WRA	Warramunga Arr	42.16	192	P	P	09 42 21.0	0.0
	0.3nm,0.5s,baz=16,slow=9.0,SNR=8.4						
ASAR	Alice Springs	45.87	192	P	P	09 42 50.4	+0.2
	0.1nm,0.5s,baz=17,slow=9.7,SNR=4.0						
MKAR	Makanchi Array	54.80	313	P	P	09 43 56.7	+0.3
	0.2nm,0.5s,baz=92,slow=7.5,SNR=2.5						
ILAR	Eielson Array	62.14	27	P	P	09 44 46.5	0.0
	0.3nm,0.6s,baz=250,slow=5.4,SNR=5.7						
FINES	FINESS Array B	83.31	334	P	P	09 46 48.9	-1.2
	2.1nm,0.9s,baz=71,slow=4.2,SNR=7.8						

*REY **21** 09:36:44.2, 64.°69N×17.°48W, h9km*
*NEIC **21** 09:36:44.8±1.8, 64.°60N±0.°09×17.°8W±0.°2, h7km±4km, mb4.3/35, Error ellipse: s-maj=13.0km s-min=9.4km az=197.0*
*IDC **21** 09:36:44.8±0.6, 64.°59N×17.°70W, h0km, mb3.8/16, mb1 4.0/17, mb1mx3.8/48, mbtmp3.8/17, ML4.3/1, Error ellipse: s-maj=20.7km s-min=10.0km az=14.0*
ISC 21 09:36:45.6±0.4, 64.°69N±0.°02×17.°53W±0.°03, h10km, n110, σ1s79/112, mb4.1/33, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.10	258	P	Pg	09 36 46.9	-1.4
	baz=264						
IDYN	Dyngjuhals	0.12	35	S	Sg	09 36 49.8	-0.8
	baz=25						
IDYN				P	Pg	09 36 47.1	-1.5
	baz=25						
IURH	Urdarhals	0.21	52	P	Pg	09 36 48.4	-1.5
	baz=47						
IDJK	Dyngjujokull	0.23	147	P	Pg	09 36 48.7	-1.6
	baz=150						
IGRF	Grimsfjall	0.31	159	P	Pg	09 36 50.8	-1.1
	baz=162						
IKVE	Kverkfjoll	0.36	92	P	Pg	09 36 50.9	-1.9
	baz=91						
ISKR	Skrokkalda	0.39	251	P	Pg	09 36 52.0	-1.4
	baz=252						
IBJK	Bruarjokull	0.40	124	P	Pg	09 36 51.0	-2.5
	baz=124						
IVOT	Vottur	0.45	161	P	Pg	09 36 52.2	-2.1
	baz=163						
IJOK	Jokulheimar	0.49	219	P	Pg	09 36 53.3	-1.7
	baz=221						
IKRE	Kreppuhraun	0.50	79	P	Pg	09 36 52.8	-2.5
	baz=78						
IKRE				S	Sg	09 37 00.1	-1.8
	baz=78						
IMKO	Mokollar	0.58	60	P	Pg	09 36 54.6	-2.3
	baz=58						
IMKO				S	Sg	09 37 03.2	-1.3
	baz=58						
IIEY	Innrieyrar	0.66	204	P	Pg	09 36 56.0	-2.2
	baz=206						
ISVA	Svartarkot	0.66	10	P	Pg	09 36 56.3	-2.0
	baz=8.3						
IKSK	Karasker	0.70	139	P	Pg	09 36 55.7	-3.4
	baz=140						
IKAL	Kalfafell	0.75	185	P	Pg	09 36 57.3	-2.8
	baz=187						
IVSH	V-Sauoahnukur	0.78	81	P	Pg	09 36 57.4	-3.2
	baz=80						
IVAT	Vatnsfell	0.79	231	P	Pg	09 36 58.5	-2.3
	baz=232						
IHVE	Hveravellir	0.89	282	P	Pg	09 37 00.0	-2.7
	baz=283						
IADA	Aoalbol	0.90	68	P	Pg	09 36 59.4	-3.4
	baz=67						
IFAG	Fagurholsmyri	0.91	155	P	Pg	09 36 59.6	-3.4
	baz=156						
IMEL	Melhnausar	0.95	22	P	Pg	09 37 01.2	-2.7
	baz=21						
IREN	Reynihlio	0.99	15	P	Pg	09 37 01.8	-2.9
	baz=14						
IKVO	Krokottuvotn	1.06	15	P	Pg	09 37 02.9	-3.0
	baz=14						
ISNB	Snabyli	1.08	207	P	Pg	09 37 03.1	-3.2
	baz=208						
IGRS	Grimsstaoir	1.12	31	P	Pb	09 37 03.8	-3.2
	baz=30						
IRJU	Rjupnafell	1.19	205	P	Pb	09 37 05.5	-2.7
	baz=206						
ISKI	Skildingahlsh	1.20	10	P	Pb	09 37 05.2	-3.1
	baz=8.9						
BORG	Borgarnes	1.63	274	Pg	Pn	09 37 12.2	-2.1
	20nm,0.3s,baz=93,slow=11,SNR=41						
BORG				Lg	Lg	09 37 34.4	
	14nm,0.3s,baz=55,slow=18,SNR=2.5						
BORG	Borgarnes	1.63	274	Pn	Pn	09 37 12.0	-2.3
SCO	Scoresbysund	6.06	346	*i* P	Pn	09 38 16.0	+1.0
SCO				*i*		09 38 17.0	
SCO	Scoresbysund	6.06	346	Pn	Pn	09 38 15.5	+0.5
SUMG	Summit	10.91	325	Pn	Pn	09 39 20.4	-1.4
EKA	Eskdalemuir Ar	11.79	136	Pn	Pn	09 39 33.8	+0.2
	baz=323,slow=13,SNR=16						
ESK	Eskdalemuir	11.79	136	Pn	Pn	09 39 32.9	-0.6
NRS	Narsarsuaq	13.13	267	Pn	Pn	09 39 49.8	-2.0
CLL	Collm	20.73	116	*i* P	Pn	09 41 26.9	-1.3
	comp=Z,21nm,1.7s						
CLL				*e*		09 41 33.0	
CLL	Collm	20.73	116	P	P	09 41 25.6	-0.3
ECH	Echery	21.18	129	P	P	09 41 29.9	-0.9
ECH				IAmb	IAmb	09 41 41.0	
	comp=Z,15nm,1.5s						
GRA1	Grafenberg Arr	21.36	121	P	P	09 41 32.5	-0.2
GRA1				IAmb	IAmb	09 41 43.4	
	comp=Z,16nm,1.5s						
STU	Stuttgart	21.40	125	P	P	09 41 33.4	+0.3
STU				IAmb	IAmb	09 41 41.0	
	comp=Z,11nm,0.4s						
BRG	Berggiesshubel	21.43	115	*i* P	P	09 41 33.7	+0.3
	comp=Z,6.1nm,1.1s						
BFO	Black Forest	21.48	127	P	P	09 41 34.0	0.0
PRU	Pruhonice	22.37	116	*e*P	P	09 41 49.2	+5.7
KHC	Kasperske Hory	22.70	118	*e*P	P	09 41 47.3	+0.2
KHC				*ex*	x	09 41 57.5	
KHC	Kasperske Hory	22.70	118	P	P	09 41 47.6	+0.5
DPC	Dobruska-Polom	22.78	113	*e*P	P	09 41 49.4	+1.5
GERES	GERESS Array B	22.98	119	P	P	09 41 49.8	-0.3
	comp=Z,0.7nm,0.7s,baz=306,slow=11,SNR=5.6						
GERES	GERESS Array B	22.98	119	P	P	09 41 50.1	0.0
EUNU	Eureka	23.64	336		P	09 41 58.8	+2.4
EUNU				IAmb	IAmb	09 42 13.9	
	comp=Z,23nm,1.4s						
MORC	Moravsky Berou	23.72	112	P	P	09 42 01.6	+4.2
OJC	Ojcow	24.28	109	P	P	09 42 03.6	+0.9
CTI	Castel Tesino	24.59	125	P	P	09 42 06.2	+0.6
CTI				IAmb	IAmb	09 42 18.4	
	comp=Z,5.6nm,1.2s						
CIMO	Cimolais	24.65	124	P	P	09 42 06.1	0.0
LANS	Liptovska Anna

KURK IAmb IAmb 09 45 26.5
comp=Z,3.6nm,1.0s
KLU Klutina 48.38 330 P **P 09 45 25.8 -1.3**
GEYT Alibeck 50.43 84 P **P 09 45 45.3 +2.4**
comp=Z,1.3nm,0.6s,baz=284,slow=15,SNR=1.9
GEYT Alibeck 50.43 84 P **P 09 45 44.5 +1.5**
RLMT Red Lodge 51.07 295 P **P 09 45 47.8 0.0**
RLMT IAmb IAmb 09 45 51.5
comp=Z,9.4nm,1.4s
KK31 Karatay Array 51.28 70 P **P 09 45 50.0 +0.8**
KK31 IAmb IAmb 09 45 54.1
comp=Z,2.4nm,1.1s
KKAR Karatay Array 51.28 70 P **P 09 45 50.0 +0.8**
KKAR Karatay Array 51.28 70 P **P 09 45 50.3 +1.0**
KKAR IAmb IAmb 09 45 54.1
comp=Z,2.4nm,1.1s
BOZ Bozeman (W) 51.59 297 P **P 09 45 50.2 -1.4**
BOZ IAmb IAmb 09 45 54.2
comp=Z,4.2nm,1.1s
MKAR Makanchi Array 52.72 58 P **P 09 46 00.8 +0.8**
comp=Z,1.3nm,1.0s,baz=343,slow=3.8,SNR=5.8
MKAR Makanchi Array 52.72 58 P **P 09 46 00.1 +0.2**
BW06 Boulder Array 53.16 293 P **P 09 46 03.2 -0.2**
BW06 IAmb IAmb 09 46 06.7
comp=Z,3.9nm,1.1s
PD31 Pinedale Array 53.16 293 P **P 09 46 02.5 -0.9**
PD31 IAmb IAmb 09 46 06.7
comp=Z,3.5nm,1.1s
PDAR Pinedale Array 53.16 293 P **P 09 46 04.2 +0.8**
comp=Z,1.5nm,0.8s,baz=54,slow=6.9,SNR=10
PDAR Pinedale Array 53.16 293 P **P 09 46 02.8 -0.6**
TORD Torodi Ar. Bea 53.17 156 P **P 09 46 03.0 -0.5**
comp=Z,1.1nm,0.7s,baz=346,slow=10,SNR=4.7
TORD Torodi Ar. Bea 53.17 156 P **P 09 46 01.6 -1.9**
BTK Batken 53.96 72 P **P 09 46 09.9 +0.7**
GAR Garm 54.65 73 P **P 09 46 16.1 +1.7**
WMQ Urumqi 57.23 56 *eP* P 09 46 36.4 +3.8
NVAR Mina Array Bea 60.28 297 P **P 09 46 55.4 +1.3**
comp=Z,0.2nm,0.5s,baz=25,slow=3.0,SNR=2.4
NVAR Mina Array Bea 60.28 297 P **P 09 46 53.8 -0.3**
TXAR Lajitas Array 62.27 280 P **P 09 47 08.4 +0.9**
comp=Z,0.5nm,0.9s,baz=338,slow=1.3,SNR=4.4
TXAR Lajitas Array 62.27 280 P **P 09 47 07.5 -0.1**
HHC Hu-ho-hao-te 67.50 40 *eP* **P 09 47 41.8 +0.4**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.8s
KSAR Wonju Array Be 74.63 28 P **P 09 48 27.5 +2.9**
CMAR Chiang Mai Arr 84.13 59 P **P 09 49 17.4 +0.8**
comp=Z,0.8nm,0.4s,baz=354,slow=5.7,SNR=2.2
CMAR Chiang Mai Arr 84.13 59 P **P 09 49 15.8 -0.8**

*SOME **21** 09:57:56.9, 44°.20N×83°.00E, h5km*
*NNC **21** 09:57:58.5±2.1, 44°.21N×83°.06E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=17.7km s-min=8.3km az=132.0
ISC 21 09:58:02.0±1.6, 44°.19N±0°.07×83°.21E±0°.07, h24km, n38,
σ2°53/52, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.46**	**275**	*eP*	**Pn**	**09 58 42.5**	**+1.9**
DJR	54nm,0.4s			*eS*	**Sb**	**09 59 14.9**	**-0.5**
	84nm,0.3s						
DJR	**Jarkent**	**2.46**	**275**	Pg	**Pn**	**09 58 42.2**	**+1.6**
DJR	54nm,0.4s			Lg	Lg	09 59 12.2	
	84nm,0.3s						
MK31	**Makanchi Array**	**2.69**	**346**	⇑Pg	**Pn**	**09 58 46.2**	**+2.5**
	1.4nm,0.2s,baz=159,slow=16,SNR=5.6						
MK31				Lg	Lg	09 59 21.0	
	2.4nm,0.2s,baz=159,slow=29,SNR=10.0						
MAKZ	**Makanchi**	**2.76**	**342**	⇑Pg	**Pb**	**09 58 48.0**	**-2.6**
MAKZ	4.5nm,0.5s			⇑Lg	Lg	09 59 22.4	
	5.3nm,0.5s						
PDGK	**Podgornoye**	**2.83**	**254**	⇓Pg	**Pb**	**09 58 50.5**	**-1.3**
PDGK	2.8nm,0.4s			⇑Lg	Lg	09 59 23.5	
	25nm,0.6s						
SHLS	**Shalkode**	**2.91**	**251**	*eP*	**Pn**	**09 58 43.8**	**-3.0**
SHLS	22nm,0.5s			*eS*	**Sn**	**09 59 17.8**	**-3.3**
	58nm,0.5s						
SHLS	**Shalkode**	**2.91**	**251**	Pg	**Pn**	**09 58 43.8**	**-3.0**
SHLS	22nm,0.5s			Lg	Lg	09 59 14.8	
	58nm,0.5s						
KAPS	**Kapalarasan**	**2.96**	**293**	*eP*	**Pn**	**09 58 50.2**	**+2.8**
KAPS	0.7nm,0.2s			*eS*	**Sb**	**09 59 28.7**	**-1.0**
	49nm,0.7s						
KAPS	**Kapalarasan**	**2.96**	**293**	Pg	**Pb**	**09 58 51.7**	**-2.3**
KAPS	3.6nm,0.3s			Lg	Lg	09 59 28.7	
	49nm,0.7s						
UZB	**Uzynbulak**	**3.21**	**253**	*eP*	**Pn**	**09 58 52.9**	**+1.9**
UZB	1.5nm,0.2s			*eS*	**Sb**	**09 59 33.8**	**-3.3**
	7.6nm,0.4s						
UZB	**Uzynbulak**	**3.21**	**253**	Pg	**Pn**	**09 58 55.8**	**+4.7**
UZB	2.4nm,0.4s			Lg	Lg	09 59 34.7	
	11nm,0.4s						
MNBS	**Baschi**	**3.46**	**270**	*eP*	**Pn**	**09 58 58.5**	**+4.1**
MNBS	3.6nm,0.4s			*eS*	**Sb**	**09 59 42.6**	**-1.6**
	58nm,0.5s						
MNBS	**Baschi**	**3.46**	**270**	Pg	**Pb**	**09 59 00.3**	**-2.3**
MNBS	8.4nm,0.3s			Lg	Lg	09 59 42.6	
	58nm,0.5s						
ZSN	**Zaisan**	**3.46**	**19**	*eP*	**Pb**	**09 58 59.9**	**-2.6**
ZSN	2.4nm,0.3s			*eS*	**Sb**	**09 59 45.3**	**+1.2**
	25nm,0.7s						
ZSN	**Zaisan**	**3.46**	**19**	Pg	**Pb**	**09 59 01.7**	**-0.8**
ZSN	6.1nm,0.2s			Lg	Lg	09 59 45.0	
	20nm,0.3s						
TDK	**Taldyqorghan**	**3.52**	**285**	*eP*	**Pb**	**09 59 00.8**	**-2.9**
TDK	19nm,0.3s			*eS*	**Sb**	**09 59 46.6**	**+0.6**
	68nm,0.6s						
TDK	**Taldyqorghan**	**3.52**	**285**	Pg	**Pb**	**09 59 02.7**	**-1.0**
TDK	43nm,0.2s			Lg	Lg	09 59 46.6	
	68nm,0.6s						
SATY	**Saty**	**3.66**	**254**	*eP*	**Pn**	**09 59 01.5**	**+4.2**
SATY	1.9nm,0.4s			*eS*	**Sb**	**09 59 48.5**	**-1.6**
	24nm,0.2s						
SATY	**Saty**	**3.66**	**254**	Pg	**Pb**	**09 59 03.7**	**-2.4**
SATY	6.4nm,0.4s			Lg	Lg	09 59 48.5	
	24nm,0.2s						
KURS	**Kuram**	**3.71**	**261**	*eP*	**Pb**	**09 59 05.2**	**-1.6**
KURS	5.0nm,0.6s			*eS*	**Sb**	**09 59 54.5**	**+3.1**
	20nm,0.6s						
KURS	**Kuram**	**3.71**	**261**	Pg	**Pb**	**09 59 05.9**	**-1.0**
KURS	5.8nm,0.7s			Lg	Lg	09 59 52.5	
	20nm,0.6s						
ARXS	**Arharly**	**3.87**	**272**	*eP*	**Pb**	**09 59 05.6**	**-4.0**
ARXS	5.2nm,0.3s			*eS*	**Sb**	**09 59 54.9**	**-1.1**
	20nm,0.4s						
ARXS	**Arharly**	**3.87**	**272**	Pg	**Pb**	**09 59 07.2**	**-2.4**
ARXS	22nm,0.9s			Lg	Lg	09 59 54.8	
	20nm,0.4s						
CHKK	**Chushkaly**	**4.50**	**268**	*eP*	**Pb**	**09 59 19.2**	**-1.0**
CHKK	5.9nm,0.4s			*eS*	**Sb**	**10 00 18.6**	**+4.7**
	13nm,0.3s						
CHKK	**Chushkaly**	**4.50**	**268**	Pg	**Pb**	**09 59 20.2**	**0.0**
CHKK	7.6nm,0.5s			Lg	Lg	10 00 17.2	
	13nm,0.3s						
KOTS	**Kotyrbulak**	**4.52**	**260**	*eP*	**Pb**	**09 59 18.7**	**-1.9**
KOTS	4.9nm,0.5s			*eS*	**Sb**	**10 00 17.8**	**+3.1**
	39nm,0.5s						
KOTS	**Kotyrbulak**	**4.52**	**260**	Pg	**Pb**	**09 59 20.8**	**+0.1**
KOTS	11nm,0.5s			Lg	Lg	10 00 17.8	
	39nm,0.5s						
MDOK	**Medeo**	**4.58**	**259**	*eP*	**Pb**	**09 59 19.8**	**-1.9**
MDOK	1.8nm,0.6s			*eS*	**Sb**	**10 00 19.9**	**+3.3**
	7.7nm,0.6s						
MDOK	**Medeo**	**4.58**	**259**	Pg	**Pb**	**09 59 20.6**	**-1.1**
MDOK	3.9nm,0.9s			Lg	Lg	10 00 17.7	
	9.3nm,0.6s						
KTBS	**Karatobe**	**4.74**	**267**	*eP*	**Pb**	**09 59 23.1**	**-1.2**
KTBS	3.2nm,0.4s			*eS*	**Sb**	**10 00 24.8**	**+3.9**
	16nm,0.5s						
KTBS	**Karatobe**	**4.74**	**267**	Pg	**Pb**	**09 59 23.4**	**-0.8**
KTBS	3.2nm,0.4s			Lg	Lg	10 00 23.3	
	16nm,0.5s						
KUU	**Kurty**	**4.96**	**269**	*eP*	**Pb**	**09 59 24.3**	**-3.8**
KUU	0.6nm,0.7s			*eS*	**Sb**	**10 00 27.2**	**-0.1**
	12nm,0.6s						
KUU	**Kurty**	**4.96**	**269**	Pg	**Pb**	**09 59 26.3**	**-1.8**
KUU	3.2nm,0.6s			Lg	Lg	10 00 27.2	
	12nm,0.6s						
DGS	**Degeres**	**5.47**	**263**	*eP*	**Pb**	**09 59 34.0**	**-2.8**
DGS	0.8nm,0.3s			*eS*	**Sb**	**10 00 43.5**	**+1.5**
	11nm,0.7s						
DGS	**Degeres**	**5.47**	**263**	Pg	**Pb**	**09 59 36.3**	**-0.5**
DGS	2.2nm,0.6s			Lg	Lg	10 00 44.6	
	11nm,0.7s						
TKM2	**Tokmak 2**	**5.67**	**260**	⇓Pg	**Pb**	**09 59 43.8**	**+3.4**
TKM2	2.8nm,0.8s			⇓Lg	Lg	10 00 54.0	
	2.2nm,0.5s						
KURBB	**Kurchatov Arra**	**7.18**	**335**	⇑Lg	Lg	10 01 45.7	
	6.0nm,0.7s						
KURK	**Kurchatov**	**7.23**	**336**	⇓Lg	Lg	10 01 45.5	
	3.5nm,0.8s						

*IDC **21** 10:05:47.8±1.1, 24°.96N×125°.49E, h0km, mb3.7/8,*
mb1 3.8/9, mb1mx3.6/41, mbtmp3.7/9, ML3.1/1, MS2.4/1,
Ms1 2.4/1, ms1mx2.1/46, Error ellipse: s-maj=58.1km
s-min=19.5km az=69.0
*NEIC **21** 10:05:50.4±1.6, 24°.9N±0°.1×125°.5E±0°.1, h17km±6km,*
mb4.2/9, Error ellipse: s-maj=18.5km s-min=17.7km
az=132.0
*JMA **21** 10:05:55.2±0.1, 24°.81N×125°.19E, h53km±1km, M3.4*
ISC 21 10:05:55.0±0.7, 24°.81N±0°.09×125°.25E±0°.06, h53km±5km,
n39, σ1°11/47, mb3.8/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRB	**Irabujima**	**0.07**	**286**	P	**Pn**	**10 06 03.0**	**-0.1**
JIRB				*eS*	**Sn**	**10 06 08.7**	**-0.2**
JMJ2	**Miyako jima3**	**0.10**	**133**	P	**Pn**	**10 06 03.5**	**+0.3**
JMJ2				S	**Sn**	**10 06 09.7**	**+0.7**
JIKM	**Ikemajima**	**0.11**	**360**	P	**Pn**	**10 06 03.5**	**+0.2**
JIKM				*eS*	**Sn**	**10 06 09.7**	**+0.5**
JOGS	**Gusukube**	**0.15**	**109**	P	**Pn**	**10 06 03.9**	**+0.5**
JOGS				S	**Sn**	**10 06 10.5**	**+1.1**
JTJ	**Tarama**	**0.52**	**251**	P	**Pn**	**10 06 06.5**	**-0.3**
JTJ				S	**Sn**	**10 06 14.8**	**-0.4**
JISG	**Ishigakijimahi**	**0.88**	**256**	P	**Pn**	**10 06 10.7**	**-0.6**
JISG				*eS*	**Sn**	**10 06 22.9**	**-0.3**
JIJ	**Ishigaki jima**	**1.10**	**246**	P	**Pn**	**10 06 14.0**	**-0.2**
JIJ				S	**Sn**	**10 06 27.6**	**-0.8**
JKRS	**Kuro-shima**	**1.26**	**244**	P	**Pn**	**10 06 16.6**	**+0.2**
JKRS				*eS*	**Sn**	**10 06 32.6**	**+0.3**
IRIF	**Iriomote-Funau**	**1.46**	**251**	P	**Pn**	**10 06 18.9**	**-0.1**
IRIF				*eS*	**Sn**	**10 06 36.6**	**-0.5**
YOJ	**Yonaguni jima**	**2.06**	**261**	Pn	**Pn**	**10 06 27.3**	**0.0**
TATO	**Taipei**	**3.42**	**274**	Pn	**Pn**	**10 06 49.3**	**+3.4**
YHNB	**Yeheng**	**3.52**	**269**	Pn	**Pn**	**10 06 49.7**	**+2.3**
SSLB	**Suanglung**	**4.05**	**256**	Pn	**Pn**	**10 06 54.6**	**+0.1**
TPUB	**Ta-pu**	**4.48**	**251**	Pn	**Pn**	**10 07 01.0**	**+0.6**
KSRS	**Korea Array**	**12.81**	**10**	LR	LR	10 12 59.0	
	comp=Z,19nm,19.8s,baz=194,slow=34						
MJAR	**Matsushiro Arr**	**16.14**	**41**	Pn	**Pn**	**10 09 38.2**	**-0.1**
	0.0nm,0.3s,baz=289,slow=16,SNR=2.5						
USA0B	**Ussuriysk Arra**	**20.11**	**14**	P	**P**	**10 10 20.8**	**-3.5**
USRK	**Ussuriysk Ar.**	**20.11**	**14**	P	**P**	**10 10 21.0**	**-3.4**
	baz=157,slow=13,SNR=4.5						
MK31	**Makanchi Array**	**40.52**	**314**	P	**P**	**10 13 29.2**	**+0.3**
MKAR	**Makanchi Array**	**40.52**	**314**	P	**P**	**10 13 29.0**	**+0.1**
	0.7nm,0.5s,baz=98,slow=10.0,SNR=8.3						
MKAR	**Makanchi Array**	**40.52**	**314**	P	**P**	**10 13 29.1**	**+0.2**
ZALV	**Zalesovo Beam**	**41.80**	**325**	P	**P**	**10 13 38.3**	**-1.0**
	0.6nm,0.6s,baz=144,slow=6.4,SNR=2.1						
ZALV	**Zalesovo Beam**	**41.80**	**325**	P	**P**	**10 13 38.4**	**-0.9**
KURK	**Kurchatov**	**44.04**	**318**	P	**P**	**10 13 57.3**	**-0.2**
KURK				IAmb	IAmb	10 14 15.5	
	comp=Z,2.8nm,1.4s						
KURBB	**Kurchatov Arra**	**44.07**	**318**	P	**P**	**10 13 57.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=103,slow=8.7,SNR=4.4						
WB0	**Warramunga Arr**	**45.19**	**168**	P	**P**	**10 14 07.9**	**+0.9**
WB0				IAmb	IAmb	10 14 16.2	
	comp=Z,4.7nm,1.2s						
WRA	**Warramunga Arr**	**45.35**	**168**	P	**P**	**10 14 08.6**	**+0.4**
	comp=Z,2.2nm,1.2s,baz=348,slow=8.8,SNR=6.2						
WRA	**Warramunga Arr**	**45.35**	**168**	P	**P**	**10 14 08.4**	**+0.2**
WR0	**Warramunga Arr**	**45.41**	**168**	P	**P**	**10 14 09.4**	**+0.7**
ASAR	**Alice Springs**	**48.91**	**169**	P	**P**	**10 14 36.3**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=354,slow=13,SNR=7.0						
ASAR	**Alice Springs**	**48.91**	**169**	P	**P**	**10 14 35.3**	**-0.6**
KBL	**Kabul**	**49.25**	**295**	P	**P**	**10 14 38.4**	**-0.4**
ABKAR	**Akbulak array**	**55.67**	**314**	P	**P**	**10 15 26.3**	**+0.6**
ABKAR				IAmb	IAmb	10 15 34.7	
	comp=Z,1.8nm,1.1s						
BPAW	**Bear Paw Mtn.**	**65.28**	**29**	P	**P**	**10 16 31.2**	**+0.2**
BPAW				IAmb	IAmb	10 16 46.5	
	comp=Z,5.3nm,1.5s						
FINES	**FINESS Array B**	**72.76**	**330**	P	**P**	**10 17 17.8**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=79,slow=7.2,SNR=1.6						
FINES	**FINESS Array B**	**72.76**	**330**	P	**P**	**10 17 18.1**	**+0.6**
AKASG	**Malin Array Be**	**74.85**	**319**	P	**P**	**10 17 29.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=66,slow=5.8,SNR=2.5						
BRTR	**Keskin Array B**	**75.76**	**307**	P	**P**	**10 17 36.8**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=80,slow=6.8,SNR=4.3						
BRTR	**Keskin Array B**	**75.76**	**307**	P	**P**	**10 17 36.6**	**+1.0**

*UNK **21** 10:18:18.4±5.6, 0°.81N×30°.08E, h10km, MW3.8(ISC),*
Hypocentre not reviewed by the ISC
*IDC **21** 10:18:24.9±0.7, 0°.70N×30°.15E, h0km, mb3.8/12,*
mb1 3.9/14, mb1mx3.8/38, mbtmp3.9/14, ML4.6/2, MS3.5/7,
Ms1 3.5/7, ms1mx3.3/45, Error ellipse: s-maj=21.6km
s-min=17.3km az=83.0
*NEIC **21** 10:18:26.7±1.8, 0°.75N±0°.04×30°.2E±0°.1, h10km±1km,*
mb4.4/15, Error ellipse: s-maj=19.6km s-min=4.1km
az=251.0
ISC 21 10:18:26.8±0.5, 0°.66N±0°.05×30°.13E±0°.07, h14km, n51,
σ0°91/54, mb4.1/17, MS3.5/5, 1C, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.39**	**154**		**Pb**	**10 18 53.1**	**+0.4**
MBAR				Sn	**Sg**	**10 19 12.2**	**+0.5**
MBAR	**Mbarara**	**1.39**	**154**	*eP*	**Pg**	**10 18 54.0**	**+0.5**
MBAR				*eS*	**Sg**	**10 19 12.0**	**+0.3**
MBAR	**Mbarara**	**1.39**	**154**	⇑*iP*	**Pb**	**10 18 53.0**	**+0.4**
MBAR				*i S*	**Sb**	**10 19 10.5**	**+0.2**
MBAR				IAML		10 19 12.4	
	comp=Z,2μm,0.5s						
TEBE	**Entebbe**	**2.42**	**104**	*i P*	**Pn**	**10 19 05.4**	**-0.6**
TEBE				*i S*	**Sn**	**10 19 35.6**	**+0.1**
NG54	**Nasera Bomas**	**6.22**	**123**	*i P*	**Pn**	**10 19 56.7**	**-1.8**
NG54				IAML		10 24 02.7	
	comp=Z,31nm,0.7s						
LN15	**Lekule Girls S**	**6.88**	**118**	*i P*	**Pn**	**10 20 06.6**	**-0.8**
LN15				IAML		10 24 09.5	
	comp=Z,49nm,0.6s						
KMBO	**Kilima Mbogo**	**7.34**	**104**	Pn	**Pn**	**10 20 14.8**	**+0.9**
	comp=Z,8.3nm,0.3s,baz=261,slow=16,SNR=42						
KMBO				Sn	**Sn**	**10 21 39.0**	**+1.9**
	comp=Z,2.7nm,0.3s,baz=217,slow=18,SNR=1.9						
KMBO				Lg	Lg	10 22 10.7	
	comp=Z,8.4nm,0.3s,baz=209,slow=18,SNR=5.4						
KMBO				LR	LR	10 23 14.7	
	comp=Z,379nm,18.7s,baz=274,slow=40						
KMBO	**Kilima Mbogo**	**7.34**	**104**		**Pn**	**10 20 13.1**	**-0.8**
KMBO	**Kilima Mbogo**	**7.34**	**104**	*i P*	**Pn**	**10 20 14.3**	**+0.5**
KOND	**Kondoa**	**7.91**	**134**	*i P*	**Pn**	**10 20 20.0**	**-1.6**
KOND				*i S*	**Sn**	**10 21 48.9**	**-2.2**
LSZ	**Lusaka**	**15.95**	**187**	Pn	**P**	**10 22 13.5**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=0.0,slow=16,SNR=1.7						
LSZ				Lg	Lg	10 26 49.1	
	comp=Z,0.3nm,0.3s,baz=99,slow=14,SNR=4.8						
ATD	**Arta Tunnel**	**16.62**	**49**	LR	LR	10 28 44.4	
	comp=Z,102nm,18.8s,baz=266,slow=37						
MATP	**Matopo**	**21.01**	**184**	P	**P**	**10 23 10.1**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=4.1,slow=14,SNR=2.0						
MATP				Lg	Lg	10 29 31.8	
	comp=Z,4.3nm,1.0s,baz=264,slow=21,SNR=2.5						
MATP				LR	LR	10 30 59.5	
	comp=Z,72nm,18.6s,baz=182,slow=36						
LBTB	**Lobatse**	**25.89**	**189**	P	**P**	**10 23 59.1**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=247,slow=19,SNR=6.1						
LBTB				LR	LR	10 33 13.1	
	comp=Z,134nm,18.3s,baz=110,slow=34						
LBTB	**Lobatse**	**25.89**	**189**		**P**	**10 23 58.7**	**+0.1**
BOSA	**Boshof**	**29.48**	**189**	P	**P**	**10 24 33.2**	**+2.5**
BOSA				IAmb	IAmb	10 24 36.5	
	comp=Z,7.8nm,1.2s						
TOA0	**Torodi Ar. Sit**	**30.78**	**295**	P	**P**	**10 24 42.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**30.78**	**295**	P	**P**	**10 24 42.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=103,slow=7.6,SNR=2.0						
TORD				LR	LR	10 36 40.7	
	comp=Z,72nm,19.5s,baz=120,slow=36						
TORD	**Torodi Ar. Bea**	**30.78**	**295**	P	**P**	**10 24 42.3**	**+0.1**
DBIC	**Dimbokro**	**35.41**	**281**	P	**P**	**10 25 23.2**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=78,slow=11,SNR=5.3						
DBIC				LR	LR	10 39 15.2	
	comp=Z,108nm,19.0s,baz=111,slow=35						
DBIC	**Dimbokro**	**35.41**	**281**	P	**P**	**10 25 23.4**	**+0.7**
BRTR	**Keskin Array B**	**39.02**	**4**	P	**P**	**10 25 54.0**	**+0.8**
	comp=Z,1.4nm,1.1s,baz=181,slow=7.2,SNR=4.9						
BRTR	**Keskin Array B**	**39.02**	**4**	P	**P**	**10 25 53.0**	**-0.2**
KEST	**Kesra**	**39.90**	**333**	LR	LR	10 43 54.3	
	comp=Z,72nm,18.4s,baz=320,slow=38						
MLR	**Muntele Rosu**	**44.80**	**356**	P	**P**	**10 26 41.9**	**+1.5**
MLR				IAmb	IAmb	10 26 45.1	
	comp=Z,11nm,1.5s						
TUE	**Stuetta**	**49.13**	**341**	P	**P**	**10 27 15.7**	**+1.4**
TUE				IAmb	IAmb	10 27 28.5	
	comp=Z,5.5nm,1.0s						
KBL	**Kabul**	**49.56**	**43**	P	**P**	**10 27 17.1**	**-0.7**
KBL				IAmb	IAmb	10 27 27.1	
	comp=Z,3.5nm,0.8s						
ESDC	**Sonseca Array**	**49.73**	**325**	P	**P**	**10 27 18.9**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=134,slow=9.2,SNR=4.8						
ESDC	**Sonseca Array**	**49.73**	**325**	P	**P**	**10 27 18.8**	**-0.1**
AKASG	**Malin Array Be**	**49.87**	**359**	P	**P**	**10 27 19.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=176,slow=6.1,SNR=1.7						
AKASG	**Malin Array Be**	**49.87**	**359**	P	**P**	**10 27 19.7**	**+0.2**
GERES	**GERESS Array B**	**50.05**	**346**	P	**P**	**10 27 20.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=160,slow=9.1,SNR=2.0						
GERES	**GERESS Array B**	**50.05**	**346**	P	**P**	**10 27 20.2**	**-0.9**
KHC	**Kasperske Hory**	**50.35**	**346**	*eP*	**P**	**10 27 22.0**	**-1.3**
CHGR	**Chuyangaron**	**52.03**	**39**	P	**P**	**10 27 36.7**	**+0.4**
KK31	**Karatay Array**	**55.56**	**35**	P	**P**	**10 28 01.9**	**+0.1**
KK31				IAmb	IAmb	10 28 03.2	
	comp=Z,2.7nm,1.0s						
KKAR	**Karatay Array**	**55.56**	**35**	P	**P**	**10 28 01.2**	**-0.6**
KKAR	**Karatay Array**	**55.56**	**35**	P	**P**	**10 28 01.5**	**-0.4**
KKAR				IAmb	IAmb	10 28 03.2	
	comp=Z,2.7nm,1.0s						
ARU	**Arti**	**60.14**	**18**	P	**P**	**10 28 33.3**	**-0.5**
FINES	**FINESS Array B**	**60.71**	**358**	P	**P**	**10 28 37.9**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=173,slow=13,SNR=1.6						
NOA	**NORSAR Array B**	**61.95**	**350**	P	**P**	**10 28 45.3**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=148,slow=6.8,SNR=2.4						
MKAR	**Makanchi Array**	**64.55**	**37**	P	**P**	**10 29 03.1**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=234,slow=5.4,SNR=10						
MKAR	**Makanchi Array**	**64.55**	**37**	P	**P**	**10 29 02.9**	**-0.7**
ZALV	**Zalesovo Beam**	**69.46**	**31**	P	**P**	**10 29 33.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=237,slow=7.9,SNR=2.1						
ZALV	**Zalesovo Beam**	**69.46**	**31**	P	**P**	**10 29 33.0**	**-1.6**
CTA	**Charters Tower**	**114.69**	**112**	PKP	**PKiKP**	**10 37 08.8**	**+1.0**
	comp=Z,7.1nm,1.1s,baz=328,slow=1.4,SNR=3.0						
ILAR	**Eielson Array**	**114.69**	**359**	PKP	PKPdf	10 37 07.2	+0.7
	comp=Z,0.6nm,1.2s,baz=0.0,slow=0.3,SNR=1.8						
KRVT	**Keravat (AS076**	**121.85**	**95**	PKP	**PKPdf**	**10 37 21.0**	**-0.7**
	comp=Z,142nm,1.0s,baz=0.0,slow=10,SNR=2.3						
TXAR	**Lajitas Array**	**126.78**	**308**	PKP	**PKPdf**	**10 37 30.7**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=152,slow=4.9,SNR=1.9						
TXAR	**Lajitas Array**	**126.78**	**308**		**PKPdf**	**10 37 30.5**	**-0.5**
NVAR	**Mina Array Bea**	**131.46**	**327**	PKP	**PKiKP**	**10 37 40.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=57,slow=6.6,SNR=2.0						

*NIED **21** 10:23:32.7, 37°.98N×142°.28E, h40km, MW3.5, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^14Nm;
Mrr-1.78; Mθθ0.36; Mφφ1.41; Mrθ-0.18; Mθφ0.56; Mφr-0.42;
Fault plane solution: M0 1.77000×10^14 NP1:φ0=23.00000°,
δ52.00000°, λ-90.00000°. NP2:φ0=204.00000°, δ38.00000°,
λ-90.00000°.
JMA 21 10:23:32.7±0.2, 37°.98N×142°.28E, h40km±2km, M3.5, Off
east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.72**	**297**	P	Pn	10 23 46.5	+0.1
JIKH				S	Sn	10 23 56.3	0.0
JIO	**Ouri**	**0.87**	**303**	P	Pn	10 23 48.9	+0.4
JIO				S	Sn	10 24 00.1	+0.1
JKMT	**Kesennumamotoy**	**1.04**	**323**	P	Pn	10 23 51.2	+0.4
JKMT				S	Sn	10 24 04.2	0.0
JMST	**Minamisoumatoc**	**1.13**	**257**	P	Pn	10 23 52.2	+0.2
JMST				*eS*	Sn	10 24 06.2	-0.1
JMM	**Marumori**	**1.18**	**265**	P	Pn	10 23 53.1	+0.4
JMM				*eS*	Sn	10 24 08.0	+0.4
JFK	**Kawauchi**

WB0				IAmb	IAmb	10 46 13.6	
	comp=Z,7.5nm,1.0s						
WRAB	**Tennant Creek**	**26.13**	**160**	P	P	10 46 05.1	-7.0
WRAB				IAmb	IAmb	10 46 15.5	
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**26.13**	**160**	P	**P**	**10 46 11.7**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=343,slow=9.9,SNR=35						
WRA	**Warramunga Arr**	**26.13**	**160**	P	**P**	**10 46 11.0**	**-1.2**
WB2	**Warramunga Arr**	**26.14**	**160**	P	**P**	**10 46 11.6**	**-0.6**
WB2				IAmb	IAmb	10 46 27.3	
	comp=Z,9.6nm,0.9s						
WR0	**Warramunga Arr**	**26.22**	**159**	P	**P**	**10 46 12.3**	**-0.7**
WR0				IAmb	IAmb	10 46 22.0	
	comp=Z,8.9nm,1.2s						
AS31	**Alice Springs**	**29.48**	**163**	P	**P**	**10 46 42.0**	**-0.1**
ASAR	**Alice Springs**	**29.48**	**163**	P	**P**	**10 46 42.0**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=356,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**29.48**	**163**	P	**P**	**10 46 41.4**	**-0.7**
MJAR	**Matsushiro Arr**	**33.97**	**19**	P	**P**	**10 47 19.8**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=184,slow=9.4,SNR=8.2						
JSD	**Sado**	**35.35**	**18**	P	**P**	**10 47 32.3**	**-1.0**
JMM	**Marumori**	**36.06**	**21**	P	**P**	**10 47 39.8**	**+0.5**
BBOO	**Buckleboo**	**38.73**	**165**	P	**P**	**10 48 02.6**	**+0.6**
BBOO				IAmb	IAmb	10 48 15.6	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**39.64**	**158**	P	**P**	**10 48 10.2**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=345,slow=7.8,SNR=7.1						
STKA	**Stephens Creek**	**39.64**	**158**	P	**P**	**10 48 10.3**	**+0.7**
MKAR	**Makanchi Array**	**55.80**	**326**	P	**P**	**10 50 15.8**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=132,slow=8.6,SNR=1.9						
MKAR	**Makanchi Array**	**55.80**	**326**	P	**P**	**10 50 16.4**	**+1.7**
BWN	**Browne**	**83.88**	**26**	P	**P**	**10 53 04.5**	**-2.3**
BWN				IAmb	IAmb	10 53 16.4	
	comp=Z,9.2nm,0.9s						
PMR	**Palmer**	**83.96**	**29**	P	**P**	**10 53 08.7**	**+1.5**
PMR				IAmb	IAmb	10 53 23.9	
	comp=Z,8.3nm,1.4s						
DHY	**Denali Highway**	**84.80**	**27**	P	**P**	**10 53 12.4**	**+0.8**
SCM	**Sheep Creek Mo**	**84.82**	**28**	P	**P**	**10 53 11.4**	**-0.3**

*IDC **21** 10:50:56.6±1.0, 35°.42S×73°.35W, h0km, mb4.3/6, mb1 4.2/8, mb1mx4.0/28, mbtmp4.2/8, ML4.0/2, MS3.7/4, Ms1 3.7/4, ms1mx3.3/27, Error ellipse: s-maj=37.6km s-min=21.9km az=105.0*

*NEIC **21** 10:50:57.6±2.9, 35°.46S±0°.03×73°.29W±0°.06, h12km±4km, mb4.7/17, Mwr4.4/23, ML4.4(GUC), Error ellipse: s-maj=6.6km s-min=4.1km az=81.0*

*NEIC **21** 10:50:57.8, 35°.44S×73°.35W, h20km, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr3.48; Mθθ0.55; Mφφ-4.03; Mrθ-0.07; Mrφ-1.34; Mθφ-4.20; Fault plane solution: M0 5.81000×1015 NP1:φs30.73000°, δ23.42000°, λ115.24000°. NP2:φs183.54000°, δ68.93000°, λ79.53000°. Principal axes: T 5.4092, Plg65.0000°, Azm76.0000°; N 0.7331, Plg10.0000°, Azm187.0000°; P -6.1423, Plg23.0000°, Azm282.0000°;*

*GUC **21** 10:50:59.5±0.7, 35°.56S×73°.21W, h16km±12km, ML4.4*

*VAO **21** 10:51:04.7±0.8, 35°.63S×72°.40W, h10km, mb4.5*

ISC 21 10:50:56.4±1.3, 35°.47S±0°.04×73°.24W±0°.05, h1km±7km, n94, σ1°48/94, mb4.6/11, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.17**	**67**	⇑*iP*	**Pg**	**10 51 19.3**	**+0.6**
GO05				*eS*	**Sg**	**10 51 34.7**	**+0.8**
GO05				IAML		10 51 42.7	
	comp=N,9μm,0.4s						
GO05	**Huala**	**1.17**	**67**		**Pg**	**10 51 19.4**	**+0.6**
GO05				Sn	**Sn**	**10 51 35.1**	**-1.3**
BI03	**Tigo**	**1.38**	**173**	*eP*	**Pn**	**10 51 21.6**	**-1.2**
BI03				*i* S	**Sb**	**10 51 37.5**	**-3.5**
BI03				IAML		10 51 48.6	
	comp=N,26μm,0.5s						
BI03	**Tigo**	**1.38**	**173**	Pn	**Pb**	**10 51 21.9**	**-1.0**
BI03				Sn	**Sn**	**10 51 39.7**	**-1.9**
LAJA	**Laja**	**1.85**	**167**	*eP*	**Pn**	**10 51 28.3**	**-1.0**
LAJA				*eS*	**Sn**	**10 51 51.2**	**-2.2**
BI02	**San Fabin de**	**1.99**	**127**	*i* P	**Pb**	**10 51 31.8**	**-1.7**
BI02				*eS*	**Sn**	**10 51 55.1**	**-1.7**
BI02				IAML		10 52 04.7	
	comp=N,2μm,0.7s						
BI02	**San Fabin de**	**1.99**	**127**		**Pb**	**10 51 31.7**	**-1.7**
BO02	**Sierra Bellavi**	**2.13**	**72**	*eP*	**Pb**	**10 51 33.9**	**-1.9**
BO02				*eS*	**Sb**	**10 52 01.4**	**-1.3**
BO02	**Sierra Bellavi**	**2.13**	**72**		**Pb**	**10 51 33.9**	**-1.9**
VA01	**Torpederas**	**2.78**	**29**		**Pn**	**10 51 40.8**	**-1.2**
MT02	**Curacav**	**2.81**	**39**	⇑*eP*	**Pn**	**10 51 41.6**	**-0.9**
MT02	**Curacav**	**2.81**	**39**		**Pn**	**10 51 42.6**	**+0.2**
MT05	**Renca**	**2.93**	**46**	*eP*	**Pn**	**10 51 44.6**	**+0.4**
MT05				IAML		10 52 45.1	
	comp=E,1μm,0.4s						
MT05	**Renca**	**2.93**	**46**		**Pn**	**10 51 44.6**	**+0.4**
BI04	**Isla Mocha**	**2.98**	**190**	IAML		10 52 51.5	
	comp=N,715nm,0.8s						
MT03	**Universidad Ad**	**3.00**	**50**	*eP*	**Pn**	**10 51 45.0**	**-0.2**
MT03				IAML		10 52 46.4	
	comp=E,1μm,0.8s						
CLCH	**Cerro Calan**	**3.05**	**48**	*eP*	**Pn**	**10 51 46.2**	**+0.5**
ROC1	**El Roble**	**3.10**	**37**		**Pn**	**10 51 48.0**	**+1.3**
ROCH	**El Roble**	**3.10**	**37**	*eP*	**Pn**	**10 51 46.9**	**+0.2**
PEL	**Peldehue**	**3.14**	**43**	⇑*eP*	**Pn**	**10 51 48.1**	**+1.0**
PEL				IAML		10 52 53.4	
	comp=N,713nm,0.7s						
PEL	**Peldehue**	**3.14**	**43**		**Pn**	**10 51 48.3**	**+1.2**
VA03	**San Esteban**	**3.50**	**40**	*eP*	**Pn**	**10 51 52.6**	**+0.5**
VA03				IAML		10 53 16.0	
	comp=E,702nm,0.7s						
VA03	**San Esteban**	**3.50**	**40**		**Pn**	**10 51 52.7**	**+0.6**
LC01	**Cunco**	**3.59**	**163**	*eP*	**Pn**	**10 51 54.0**	**+0.9**
LC01				IAML		10 52 55.7	
	comp=E,392nm,0.7s						
LC01	**Cunco**	**3.59**	**163**	Pn	**Pn**	**10 51 54.4**	**+1.3**
CO02	**Combarbal**	**4.65**	**24**	⇑*iP*	**Pn**	**10 52 06.9**	**-0.9**
CO02				*e*		10 52 38.8	
CO02	**Combarbal**	**4.65**	**24**	Pn	**Pn**	**10 52 07.0**	**-0.9**
H03S1	**Juan Fernandez**	**4.95**	**288**	T	T	10 57 06.5	
	baz=109,slow=73,SNR=1523						
H03S3	**Juan Fernandez**	**4.95**	**288**	T	T	10 57 08.9	
	baz=109,slow=73,SNR=882						
VA04	**Juan Fernndez**	**4.96**	**290**	Pn	**Pn**	**10 52 10.7**	**-1.3**
H03S2	**Juan Fernandez**	**4.96**	**288**	T	T	10 57 06.7	
	baz=109,slow=73,SNR=912						
CO03	**El Pedregal**	**5.09**	**26**	*eP*	**Pn**	**10 52 13.2**	**-0.7**
CO03	**El Pedregal**	**5.09**	**26**		**Pn**	**10 52 13.5**	**-0.4**
H03N1	**Juan Fernandez**	**5.11**	**292**	T	T	10 57 24.5	
	baz=108,slow=76,SNR=36						
H03N3	**Juan Fernandez**	**5.11**	**292**	T	T	10 57 23.3	
	baz=108,slow=76,SNR=64						
H03N2	**Juan Fernandez**	**5.12**	**292**	T	T	10 57 25.7	
	baz=108,slow=76,SNR=61						
ZON	**Zonda**	**5.46**	**45**		**Pn**	**10 52 20.8**	**+1.7**
PLCA	**Paso Flores**	**5.66**	**159**	Pn	**Pn**	**10 52 23.6**	**+1.9**
	comp=E,0.6nm,0.3s,baz=320,slow=12,SNR=19						
PLCA				Lg	Lg	10 53 56.7	
	comp=E,1.4nm,0.3s,baz=82,slow=23,SNR=6.0						
PLCA				LR	LR	10 54 01.8	
	comp=E,179nm,18.4s,baz=335,slow=32						
PLCA	**Paso Flores**	**5.66**	**159**	Pn	**Pn**	**10 52 20.8**	**-0.9**
PLCA	**Paso Flores**	**5.66**	**159**	*eP*	**Pn**	**10 52 23.6**	**+1.9**
GO04	**Tololo Observa**	**5.67**	**22**		**Pn**	**10 52 21.1**	**-0.9**
CO01	**Juntas del Tor**	**6.09**	**27**		**Pn**	**10 52 26.9**	**-0.8**
LCO	**Las Campanas**	**6.79**	**19**		**Pn**	**10 52 35.8**	**-1.6**
AC05	**El Transito**	**7.08**	**22**	**Pn**	**Pn**	**10 52 40.8**	**-0.5**
GO03	**Copiap**	**8.26**	**19**		**Pn**	**10 52 56.7**	**-0.8**
AC01	**Pan de Azucar**	**9.57**	**14**	Pn	**Pn**	**10 53 13.2**	**-2.1**
LVC	**Limon Verde**	**13.36**	**18**	Pn	**P**	**10 54 13.8**	**-3.6**
	comp=E,0.2nm,0.3s,baz=126,slow=14,SNR=2.2						
LVC				LR	LR	10 59 41.0	
	comp=E,482nm,19.8s,baz=210,slow=39						
PB01	**IPOC Station P**	**14.75**	**14**	P	**P**	**10 54 31.9**	**-0.7**
PB11	**IPOC Station P**	**15.97**	**12**	P	**P**	**10 54 44.8**	**-1.4**
PB11				IAmb	IAmb	10 54 58.1	
	comp=Z,60nm,1.1s						
GO01	**Chusmiza**	**16.14**	**14**	P	**P**	**10 54 50.2**	**+1.7**
MNMC	**Minye Minye**	**16.60**	**12**	P	**P**	**10 54 55.0**	**+1.7**
MNMC				IAmb	IAmb	10 55 05.5	
	comp=Z,42nm,0.9s						
PLTB	**Pedras Altas**	**16.77**	**83**	*eP*	**Pn**	**10 54 51.2**	**-1.3**
CPSB	**Cacapava Do Su**	**17.36**	**79**	*eP*	**Pn**	**10 54 58.0**	**-2.1**
PB16	**IPOC Station P**	**17.39**	**12**	P	**P**	**10 55 05.2**	**+2.8**
LPAZ	**La Paz**	**19.65**	**15**	P	**Pn**	**10 55 28.4**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=316,slow=4.4,SNR=13						
LPAZ	**La Paz**	**19.65**	**15**		**Pn**	**10 55 28.4**	**-0.2**
LPAZ	**La Paz**	**19.65**	**15**	*eP*	**Pn**	**10 55 32.7**	**+4.2**
ITAB	**Concordia**	**19.78**	**71**	*eP*	**Pn**	**10 55 28.3**	**-1.2**
CNLB	**Canela**	**19.86**	**78**	*eP*	**Pn**	**10 55 28.6**	**-1.8**
PTGB	**Pitanga**	**21.18**	**65**	*eP*	**P**	**10 55 44.7**	**+1.3**
TRCB	**Terra Rica**	**21.94**	**60**	*eP*	**P**	**10 55 53.1**	**+1.7**
SIV	**San Ignacio**	**22.25**	**32**	P	**P**	**10 55 54.7**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=234,slow=7.8,SNR=7.7						
SIV				LR	LR	11 06 07.5	
	comp=Z,586nm,18.4s,baz=228,slow=41						
FRTB	**Fartura**	**23.84**	**66**	*eP*	**P**	**10 56 13.0**	**+1.8**
PET01	**Itanhaem-SP**	**25.05**	**71**	*eP*	**P**	**10 56 24.6**	**+2.4**
SPB	**Sao Paulo**	**25.31**	**69**	*eP*	**P**	**10 56 27.1**	**+2.6**
ITRB	**Iturama**	**25.56**	**58**	*eP*	**P**	**10 56 29.5**	**+2.6**
ATAH	**Atahualpa**	**28.60**	**349**	LR	LR	11 05 40.0	
	comp=Z,113nm,19.5s,baz=189,slow=31						
PMSA	**Palmer Station**	**29.85**	**172**	P	**P**	**10 57 05.7**	**+0.8**
PMSA				IAmb	IAmb	10 57 24.1	
	comp=Z,14nm,1.4s						
BDFB	**Brasilia**	**29.98**	**55**	P	P	10 57 14.1	+7.5
	comp=Z,1.3nm,0.4s,baz=198,slow=11,SNR=6.8						
MACA	**Manacapuru-AM**	**34.19**	**23**	*eP*	P	10 57 49.6	+6.1
PTGA	**Pitinga**	**36.71**	**23**	P	**P**	**10 58 05.5**	**+0.3**
PTGA				IAmb	IAmb	10 58 14.9	
	comp=Z,11nm,1.0s						
BELA	**Belgrano 2**	**45.61**	**169**	P	**P**	**10 59 19.7**	**+2.0**
VNA3	**Neumayer Olymp**	**48.38**	**157**	P	**P**	**10 59 41.2**	**+1.8**
SNAA	**Sanae**	**50.60**	**157**	P	**P**	**10 59 57.3**	**+0.9**
SNAA	**Sanae**	**50.60**	**157**	P	**P**	**10 59 57.2**	**+0.8**
SNAA				IAmb	IAmb	11 00 06.6	
	comp=Z,18nm,1.2s						
TGUH	**Tegucigalpa,Un**	**51.02**	**342**	P	**P**	**10 59 58.3**	**-1.9**
PDPR	**Patillas Dam,**	**53.64**	**9**	P	**P**	**11 00 21.3**	**+1.8**
PDPR				IAmb	IAmb	11 00 39.5	
	comp=Z,15nm,1.1s						
DR12	**Loma Pena Alta**	**54.09**	**5**	P	**P**	**11 00 21.9**	**-0.9**
QSPA	**South Pole Qui**	**54.77**	**180**	P	**P**	**11 00 28.5**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=135,slow=1.5,SNR=5.1						
QSPA	**South Pole Qui**	**54.77**	**180**	P	**P**	**11 00 28.6**	**+1.2**
QSPA				IAmb	IAmb	11 00 40.3	
	comp=Z,4.8nm,0.9s						
735A	**Kenedy**	**68.05**	**337**	P	**P**	**11 01 55.6**	**-1.9**
Y58A	**Scranton**	**69.28**	**354**	P	**P**	**11 02 04.5**	**-0.4**
146A	**Union**	**69.36**	**346**	P	**P**	**11 02 05.3**	**-0.2**
RAR	**Rarotonga**	**75.29**	**254**	P	**P**	**11 02 41.2**	**-0.2**
	comp=Z,9.4nm,0.9s,baz=62,slow=8.0,SNR=3.3						
DBIC	**Dimbokro**	**76.58**	**72**	P	**P**	**11 02 49.9**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=318,slow=18,SNR=2.0						
DBIC	**Dimbokro**	**76.58**	**72**	P	**P**	**11 02 49.4**	**+0.6**
DBIC				IAmb	IAmb	11 02 51.7	
	comp=Z,12nm,1.1s						
BOSA	**Boshof**	**80.26**	**118**	P	**P**	**11 03 09.9**	**+0.7**
	comp=Z,4.1nm,0.9s,baz=254,slow=7.3,SNR=5.0						
BOSA	**Boshof**	**80.26**	**118**	P	**P**	**11 03 10.5**	**+1.2**
BOSA				IAmb	IAmb	11 03 23.2	
	comp=Z,8.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**85.64**	**71**	P	**P**	**11 03 38.2**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=244,slow=4.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**85.64**	**71**	P	**P**	**11 03 38.3**	**+1.2**
ZALV	**Zalesovo Beam**	**156.00**	**33**	PKP	**PKPdf**	**11 10 51.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=288,slow=2.8,SNR=1.3						
ZALV				PKPab	**pPKPab**	**11 11 19.6**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=292,slow=4.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**156.00**	**33**		**PKPdf**	**11 10 50.8**	**-1.0**
MKAR	**Makanchi Array**	**158.47**	**51**	PKP	**PKPdf**	**11 10 55.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=270,slow=2.9,SNR=2.0						
MKAR				PKPab	**PKPab**	**11 11 29.2**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=303,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**158.47**	**51**		**PKPdf**	**11 10 54.7**	**-0.6**
MKAR					**PKPab**	**11 11 29.4**	**-0.6**

*BGR **21** 10:51:35.4±0.0, 65°.37N×19°.54W, h10km, mb5.5, Ms4.9*

*REY **21** 10:51:45.6, 64°.61N×17°.39W, h9km*

*IEPN **21** 10:51:45.0, 64°.29N×18°.05W, h10km*

*MOS **21** 10:51:46.2±1.0, 64°.55N×17°.26W, h5km, mb5.4/76, MS5.0/65, Error ellipse: s-maj=7.4km s-min=4.7km az=100.7*

*NAO **21** 10:51:46.8±5.3, 64°.44N×17°.25W, ML5.3*

*IDC **21** 10:51:46.9±0.4, 64°.46N×17°.46W, h0km, mb4.5/34, mb1 4.6/37, mb1mx4.6/47, mbtmp4.5/37, ML3.1/2, MS5.1/47, Ms1 5.1/47, ms1mx5.1/49, Error ellipse: s-maj=12.4km s-min=8.8km az=20.0*

*BGS **21** 10:51:46.0±2.5, 64°.52N×17°.39W, h5km, MS5.0*

*NEIC **21** 10:51:47.8±1.6, 64°.52N±0°.06×17°.4W±0°.1, h5km±1km, mb5.1/403, Ms_20 5.2/775, Mwb5.4/36, Mww5.4, Error ellipse: s-maj=10.9km s-min=8.0km az=191.0*

*BJI **21** 10:51:47.2±0.0, 64°.89N×17°.12W, h5km, mB5.7/57, mb4.9/61, Ms5.5/56, Ms7 5.3/57*

*NEIC **21** 10:51:48.7, 64°.54N×17°.35W, h5km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr-1.23; Mθθ0.72; Mφφ0.51; Mrθ0.73; Mθφ-0.55; Mφr-0.01; Fault plane solution: M0 1.40000×1017 NP1:φs292.45000°, δ60.07000°, λ-106.88000°. NP2:φs143.76000°, δ33.98000°, λ-63.23000°. Principal axes: T 1.3049, Plg14.0000°, Azm35.0000°; N 0.1781, Plg15.0000°, Azm301.0000°; P -1.4830, Plg70.0000°, Azm166.0000°;*

*UNK **21** 10:51:48.6, 64°.54N×17°.37W, h10km*

*GCMT **21** 10:51:49.8±0.1, 64°.61N×17°.16W, h12km, MW5.5/157, Moment Tensor Solution. s116,c178; s157,c339; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr-2.23±.02; Mθθ1.40±.02; Mφφ0.83±.01; Mrθ0.36±.04; Mθφ-0.13±.01; Mφr-0.62±.05; Best double couple: M0 1.94000×1017 NP1:φs99.00000°, δ37.00000°, λ-104.00000°. NP2:φs296.00000°, δ54.00000°, λ-79.00000°. Principal axes: T 1.4980, Plg8.0000°, Azm19.0000°; N 0.8880, Plg8.0000°, Azm110.0000°; P -2.3820, Plg78.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DNK **21** 10:51:53.8±4.1, 64°.63N×17°.35W, h56km±56km, Ms5.0, Hypocentre not reviewed by the ISC*

*NEIC **21** 10:51:53, 64°.45N×17°.11W, h12km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr-1.86; Mθθ1.22; Mφφ0.63; Mrθ0.81; Mθφ-0.15; Mφr0.06; Fault plane solution: M0 1.83000×1017 NP1:φs105.00000°, δ32.00000°, λ-82.00000°. NP2:φs276.00000°, δ59.00000°, λ-94.00000°. Principal axes: T 1.4447, Plg13.0000°, Azm9.0000°; N 0.6170, Plg4.0000°, Azm278.0000°; P -2.0618, Plg76.0000°, Azm172.0000°;*

ISC 21 10:51:47.7±0.3, 64°.53N±0°.02×17°.37W±0°.02, h3km±1km, h3km: pP-P, n1312, σ1°82/950, mb5.2/342, MS5.2/494, 31C-46D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.06**	**110**	P	**Pg**	**10 51 48.6**	**-0.5**
	baz=146						
IGRF	**Grimsfjall**	**0.13**	**159**	P	**Pg**	**10 51 50.0**	**-0.2**
	baz=165						
IVON	**Vonarskard**	**0.22**	**312**	P	**Pg**	**10 51 49.3**	**-2.7**
	baz=291						
IVON				S	**Sg**	**10 51 53.0**	**-1.9**
	baz=291						
IHUS	**Husbondi**	**0.26**	**208**	P	**Pg**	**10 51 52.3**	**-0.4**
	baz=200						
IDYN	**Dyngjuhals**	**0.27**	**1**	P	Pg	10 51 49.4	-3.5
	baz=3.5						
IVOT	**Vottur**	**0.27**	**162**	P	**Pg**	**10 51 52.5**	**-0.4**
	baz=165						
IBJK	**Bruarjokull**	**0.28**	**102**	P	**Pg**	**10 51 51.7**	**-1.3**
	baz=117						
IURH	**Urdarhals**	**0.31**	**18**	P	Pg	10 51 50.2	-3.5
	baz=27						
IKVE	**Kverkfjoll**	**0.34**	**63**	P	**Pg**	**10 51 52.0**	**-2.2**
	baz=78						
IJOK	**Jokulheimar**	**0.43**	**241**	P	**Pg**	**10 51 54.0**	**-1.8**
	baz=231						
ISKR	**Skrokkalda**	**0.44**	**275**	P	**Pg**	**10 51 53.6**	**-2.5**
	baz=263						
IKRE	**Kreppuhraun**	**0.50**	**58**	P	**Pg**	**10 51 54.3**	**-3.0**
	baz=68						
IKSK	**Karasker**	**0.54**	**133**	P	**Pg**	**10 51 56.1**	**-1.8**
	baz=138						
IIEY	**Innrieyrar**	**0.54**	**217**	P	**Pg**	**10 51 56.7**	**-1.4**
	baz=212						
IKAL	**Kalfafell**	**0.60**	**193**	P	**Pg**	**10 51 57.7**	**-1.4**
	baz=191						
IMKO	**Mokollar**	**0.64**	**44**	P	Pg	10 51 56.2	-3.6
	baz=50						
IFAG	**Fagurholsmyri**	**0.72**	**154**	P	**Pg**	**10 51 60.0**	**-1.6**
	baz=156						
IVAT	**Vatnsfell**	**0.75**	**244**	P	**Pg**	**10 51 59.6**	**-2.5**
	baz=238						
IVSH	**V-Sauoahnukur**	**0.76**	**67**	P	**Pg**	**10 51 59.0**	**-3.3**
	baz=74						
ISVA	**Svartarkot**	**0.82**	**3**	P	Pg	10 51 58.5	-4.8
	baz=4.5						
IADA	**Aoalbol**	**0.92**	**56**	P	Pg	10 52 00.9	-4.4
	baz=62						
ISNB	**Snabyli**	**0.97**	**215**	P	**Pg**	**10 52 03.8**	**-2.4**
	baz=212						
IHVE	**Hveravellir**	**1.00**	**291**	P	Pg	10 52 03.1	-3.8
	baz=286						
ISLY	**Slysaalda**	**1.04**	**228**	P	**Pg**	**10 52 04.8**	**-2.8**
	baz=224						
IRJU	**Rjupnafell**	**1.08**	**213**	P	**Pb**	**10 52 05.9**	**-3.0**
	baz=210						
IMEL	**Melhnausar**	**1.09**	**16**	P	Pg	10 52 03.0	-5.5
	baz=18						
IFED	**Fedgar**	**1.13**	**245**	P	**Pb**	**10 52 06.0**	**-3.8**
	baz=240						
IREN	**Reynihlio**	**1.14**	**10**	P	Pb	10 52 03.8	-6.3
	baz=11						
IMJO	**Mjoaskard**	**1.17**	**240**	P	**Pb**	**10 52 06.9**	**-3.7**
	baz=237						
IHVO	**Lagu-Hvolar**	**1.20**	**214**	P	**Pn**	**10 52 07.8**	**-3.5**
	baz=211						
IKVO	**Krokottuvotn**	**1.21**	**10**	P	Pb	10 52 04.9	-6.4
	baz=11						
IGOD	**Go??abunga**	**1.22**	**225**	P	**Pn**	**10 52 08.6**	**-3.2**
	baz=222						
IGRS	**Grimsstaoir**	**1.24**	**25**	P	Pn	10 52 05.7	-6.2
	baz=27						
IGYG	**Gygjarholskot**	**1.26**	**260**	P	Pn	10 52 07.3	-4.9
	baz=256						
IHAU	**Haukadalur**	**1.26**	**245**	P	**Pn**	**10 52 08.3**	**-3.9**
	baz=241						
IALF	**Alftagrof**	**1.31**	**218**	P	**Pn**	**10 52 09.5**	**-3.4**
	baz=216						
ISKI	**Skildingahlsh**	**1.36**	**6**	P	Pn	10 52 07.3	-6.3
	baz=6.8						
IGRA	**Granastaoir**	**1.40**	**357**	P	Pn	10 52 08.1	-6.0
	baz=357						
IDIM	**Dimmadalss**	**1.45**	**7**	P	Pn	10 52 08.7	-6.2
	baz=7.9						
BORG	**Borgarnes**	**1.72**	**279**	Pg	**Pn**	**10 52 14.0**	**-4.5**
	142nm,0.3s,baz=92,slow=9.6,SNR=150						
BORG				Lg	Lg	10 52 38.5	
	90nm,0.3s,baz=322,slow=16,SNR=13						
BORG				LR	LR	10 53 04.1	
	comp=Z,38μm,20.9s,baz=117,slow=46						
BORG	**Borgarnes**	**1.72**	**279**	Pn	**Pn**	**10 52 14.8**	**-3.7**
BORG				Sn	**Sb**	**10 52 41.3**	**-0.5**
SCO	**Scoresbysund**	**6.24**	**346**	*i* P	**Pn**	**10 53 19.6**	**-0.9**
SCO	**Scoresbysund**	**6.24**	**346**	*i* P	**Pn**	**10 53 19.6**	**-0.9**
SCO	**Scoresbysund**	**6.24**	**346**	Pn	**Pn**	**10 53 19.3**	**-1.2**
SCO				Sn	**Sn**	**10 54 32.0**	**-0.2**
JMIC	**Jan Mayen**	**7.30**	**23**	Pn	**Pn**	**10 53 33.0**	**-2.1**
JMIC	**Jan Mayen**	**7.30**	**23**	Pn	**Pn**	**10 53 33.2**	**-1.9**
	baz=242,slow=6.4,SNR=3.3						
JMIC				LR	LR	10 55 52.3	
	comp=Z,23μm,18.3s,baz=245,slow=33						
JMIC	**Jan Mayen**	**7.30**	**23**	Pn	**Pn**	**10 53 33.0**	**-2.1**
LEWI	**Lewis, Hebride**	**8.14**	**137**	*eP*	**Pn**	**10 53 44.7**	**-2.0**
LRW	**Lerwick**	**8.71**	**113**	*eP*	**Pn**	**10 53 52.7**	**-1.8**
LRW				IAMs_20	IAMs_20	10 57 27.8	
	comp=Z,20μm,14.3s						
LRW	**Lerwick**	**8.71**	**113**	*eP*	**Pn**	**10 53 53.8**	**-0.7**
MLA1	**Latheron**	**9.15**	**126**	*eP*	**Pn**	**10 53 59.3**	**-1.2**
KAC	**Achnashellach**	**9.15**	**135**	*eP*	**Pn**	**10 53 58.5**	**-2.0**
KPL	**Plockton**	**9.18**	**136**	*eP*	**Pn**	**10 53 59.3**	**-1.5**
KPL				IAMs_20	IAMs_20	10 58 24.0	
	comp=Z,13μm,10.6s						
LAWE	**Loch Awe, Argy**	**10.17**	**139**	*eP*	**Pn**	**10 54 13.4**	**-1.0**
LAWE				IAMs_20	IAMs_20	10 58 33.0	
	comp=Z,13μm,15.3s						
INVG	**Invergeldie, C**	**10.43**	**135**	*eP*	**Pn**	**10 54 15.5**	**-2.4**
INVG				IAMs_20	IAMs_20	10 58 24.8	
	comp=Z,14μm,14.5s						
EAB	**Aberfoyle**	**10.54**	**136**	*eP*	**Pn**	**10 54 18.8**	**-0.7**
PGBU	**Glenifferbraes**	**10.82**	**138**	*eP*	**Pn**	**10 54 22.4**	**-0.9**
PGBU				IAMs_20	IAMs_20	10 58 60.0	
	comp=Z,12μm,12.4s						
SUMG	**Summit**	**11.09**	**326**	*i* P	**Pn**	**10 54 29.4**	**+2.1**
	comp=Z,41μm,11.0s						

HFS Hagfors 14.98 93 Pn **Pn 10 55 21.3 +1.1**
comp=Z,0.3nm,0.3s,baz=309,slow=9.1,SNR=5.8
HFS LR LR 11 00 45.6
comp=Z,6μm,21.7s,baz=282,slow=36
HFS Hagfors 14.98 93 P **Pn 10 55 19.0 -1.1**
baz=313,slow=11
STRD Stroud 15.03 141 *e*P **Pn 10 55 17.9 -2.9**
STRD IAMs_20 IAMs_20 11 01 59.2
comp=Z,12μm,13.6s
MUD Monsted U'grnd 15.27 110 *i* P **P 10 55 28.4 -0.5**
comp=Z,6μm,11.0s
MUD Monsted U'grnd 15.27 110 *i* P **P 10 55 28.4 -0.5**
MUD MLR MLR
comp=Z,6μm,11.0s
KIF Kilpisjarvi 15.51 56 P **Pn 10 55 26.3 -0.7**
HSPB Hornsund (broa 16.17 26 P **P 10 55 36.4 -2.4**
HSPB Hornsund (broa 16.17 26 *e*P **P 10 55 36.6 -2.2**
HSPB *e*S **S 10 58 47.7 -0.8**
HSPB Hornsund (broa 16.17 26⇑ *i*P **Pn 10 55 34.9 -0.6**
HSPB *e*S **Sn 10 58 37.6 +2.5**
HSPB Hornsund (broa 16.17 26 P **P 10 55 36.4 -2.4**
KBS Kingsbay 16.76 19 P **P 10 55 45.2 -0.1**
KBS Kingsbay 16.76 19⇑ *i*P **P 10 55 44.2 -1.1**
KBS *e*S **S 10 58 54.5 -5.9**
KBS Kingsbay 16.76 19*c i*P **P 10 55 44.4 -0.9**
KBS pmax pmax
comp=Z,173nm,1.7s
KBS Kingsbay 16.76 19 P **P 10 55 45.4 +0.1**
KBS Kingsbay 16.76 19 P **P 10 55 45.2 -0.1**
SPA0 Spitsbergen Ar 16.98 23 *e*P **P 10 55 45.9 -1.8**
SPA0 *e*S **S 10 58 57.9 -7.1**
SPITS Spitsbergen Ar 16.98 23 S **S 10 59 02.0 -3.0**
baz=146,slow=28,SNR=0.9
SPITS LR LR 11 00 38.7
comp=Z,7μm,19.3s,baz=210,slow=31
COP Copenhagen 17.13 107 *i* P **P 10 55 48.6 -0.9**
comp=Z,4μm,26.0s
COP Copenhagen 17.13 107 *i* P **P 10 55 48.6 -0.9**
COP MLR MLR
comp=Z,4μm,26.0s
NOR Nord 17.17 0 P **P 10 55 48.5 -1.4**
NOR Nord 17.17 0 *i* P **P 10 55 48.6 -1.3**
NOR Nord 17.17 0 *i* P **P 10 55 48.6 -1.3**
BSEG Bad Segeberg 17.53 114 *e*P **P 10 55 52.0 -1.9**
comp=Z,309nm,1.5s,baz=326,slow=11
KEV Kevo 17.66 53 P **P 10 55 53.7 -1.7**
KEV pmax pmax
comp=Z,134nm,1.5s
KEV Kevo 17.66 53 P **P 10 55 53.7 -1.7**
UCC Uccle 17.87 130 P **Pn 10 55 55.2 -1.8**
UCC Uccle 17.87 130 P **Pn 10 55 55.1 -1.9**
UCC pmax pmax
comp=Z,57nm,1.4s
UCC Uccle 17.87 130 Pn **Pn 10 55 55.1 -1.9**
HOPEN Hopen 17.93 31 P **P 10 55 59.2 +0.9**
HOPEN Hopen 17.93 31 *e*P **P 10 55 56.5 -1.8**
HOPEN *e*S **Sn 10 59 17.5 -0.1**
HOPEN Hopen 17.93 31 P **P 10 55 59.2 +0.9**
SNF Seneffe 18.09 131 P **P 10 55 59.2 -1.0**
RGN Rugen 18.29 109 *e*P **P 10 56 03.5 +1.1**
RGN Rugen 18.29 109 *e*P **P 10 56 03.7 +1.4**
comp=Z,408nm,1.3s,baz=326,slow=11
RGN Rugen 18.29 109 P **P 10 56 02.5 +0.2**
BEBN Eben Emael 18.31 128 P **Pn 10 56 00.8 -1.7**
BUG Bochum--Univer 18.34 124 *e*P **P 10 56 03.0 +0.1**
comp=Z,430nm,2.1s,baz=326,slow=11
BMRD Maredsous 18.43 130 P **P 10 56 02.4 -1.5**
comp=Z,80nm,2.1s
BSTI Sart Tilman 18.45 128 P **Pn 10 56 03.3 -0.9**
comp=Z,22nm,2.4s
BGES Gesves 18.46 129 P **P 10 56 02.1 -2.3**
comp=Z,101nm,2.1s
BCLA Clavier 18.51 129 P **Pn 10 56 03.8 -1.1**
comp=Z,77nm,2.1s
NRDL Niedersach Rie 18.55 117 *e*P **Pn 10 56 04.6 -0.6**
comp=Z,206nm,1.5s,baz=326,slow=11
DOU Dourbes 18.55 131 P **Pn 10 56 04.4 -0.9**
comp=Z,44nm,2.3s
BSD Bornholm Skovb 18.55 105 *i* P **P 10 56 03.8 -1.4**
comp=Z,4μm,23.0s
BSD Bornholm Skovb 18.55 105 *i* P **P 10 56 03.8 -1.4**
BSD MLR MLR
comp=Z,4μm,23.0s
MEM Membach 18.58 127 P **P 10 56 03.9 -1.8**
BHOU Houvegnez 18.80 128 P **P 10 56 06.8 -1.2**
AHRW Bad Neuenahr-A 19.01 126 *e*P **Pn 10 56 13.2 +2.2**
comp=Z,2μm,2.8s,baz=326,slow=11
ASSE Asse, Remlinge 19.05 117 *e*P **Pn 10 56 10.6 -0.8**
comp=Z,445nm,1.9s,baz=326,slow=11
CLZ Clausthal 19.16 118 *e*P **Pn 10 56 12.2 -0.6**
comp=Z,229nm,1.4s,baz=326,slow=11
GTTG Gottingen 19.24 120 *e*P **Pn 10 56 13.3 -0.5**
comp=Z,502nm,1.8s,baz=326,slow=11
WLF Walferdange 19.44 129 P **Pn 10 56 15.5 -0.6**
WLF pmax pmax
comp=Z,130nm,1.5s
WLF Walferdange 19.44 129 *e*P **Pn 10 56 16.7 +0.6**
comp=Z,331nm,1.9s,baz=326,slow=11
WLF Walferdange 19.44 129 **Pn 10 56 15.5 -0.6**
WLF IAmb IAmb 10 56 24.6
comp=Z,130nm,1.5s
CLF Chambon-Foret 19.66 138 P **Pn 10 56 16.9 -1.8**
FIA0 FINESS Array S 19.68 79 P **Pn 10 56 16.9 -2.0**
baz=274,slow=22
FIA0 FINESS Array S 19.68 79 P **Pn 10 56 16.9 -2.0**
baz=274,slow=22
FINES FINESS Array B 19.68 79 P **P 10 56 16.1 -1.5**
comp=Z,0.2nm,0.3s,baz=324,slow=9.4,SNR=18
FINES LR LR 11 03 28.8
comp=Z,5μm,20.8s,baz=305,slow=36
FINES FINESS Array B 19.68 79 P **Pn 10 56 17.5 -1.4**
FINES FINESS Array B 19.68 79 P **Pn 10 56 17.5 -1.4**
FIA1 FINESS Array S 19.68 79 P **Pn 10 56 16.9 -2.0**
FIA1 IAmb IAmb 10 56 23.0
comp=Z,197nm,1.4s
TNS Taunus Mts 19.76 124 *e*P **Pn 10 56 18.9 -1.2**
comp=Z,589nm,2.4s,baz=326,slow=11
UBBA Unterbreizbach 19.84 121 *e*P **Pn 10 56 19.8 -1.0**
comp=Z,564nm,2.1s,baz=326,slow=11
RUE Ruedersdorf 20.00 112 *e*P **Pn 10 56 20.9 -1.8**
RUE Ruedersdorf 20.00 112 *e*P **Pn 10 56 21.3 -1.4**
comp=Z,242nm,1.6s,baz=326,slow=11
TULEG Thule 20.00 328 P **P 10 56 19.9 -1.0**
TULEG IAmb IAmb 10 56 26.0
comp=Z,245nm,1.5s
SLIT Slitere, Latvi 20.09 91 *e*P **P 10 56 19.9 -2.1**
SLIT *e*S Sn 11 00 07.5 -2.3
APA0 Apatity Array 20.19 59 P **P 10 56 21.0 -2.1**
APA0 Apatity Array 20.19 59 P **P 10 56 21.0 -2.1**
NEUB Neuenburg 20.20 117 *e*P Pn 10 56 23.6 -1.6
comp=Z,466nm,1.5s,baz=326,slow=11
APA Apatity 20.36 59⇓ *i*P Pn 10 56 26.5 -0.4
APA *i* S **S 11 00 08.0 -5.2**
APA pmax pmax
comp=Z,28nm,1.0s
APA MLR MLR
comp=Z,7μm,19.0s
MOX Moxa 20.59 119 *e*P Pn 10 56 27.6 -2.1
comp=Z,586nm,1.9s,baz=326,slow=11
MOX *e*L L 11 05 00.3
comp=Z,7μm,20.2s
CLL Collm 20.59 116 *i* P **P 10 56 27.0 -0.6**
comp=Z,659nm,2.3s
CLL *e*Pmax 10 56 29.0
CLL *i* 10 56 33.5
CLL *e*S Sn 11 00 24.0 +1.8
CLL Lmax 11 05 00.0
CLL Collm 20.59 116 P **P 10 56 27.2 -0.4**
CLL pmax pmax
comp=Z,264nm,1.5s
CLL MLR MLR
comp=Z,6μm,18.0s
CLL Collm 20.59 116 *e*P **P 10 56 27.2 -0.4**
comp=Z,273nm,1.5s,baz=326,slow=11
CLL Collm 20.59 116 P **P 10 56 27.2 -0.4**
CLL IAMs_20 IAMs_20 11 05 31.3
comp=Z,7μm,18.0s
LVZ Lovozero 20.72 57*de*P **P 10 56 28.4 -0.5**
LVZ pmax pmax
comp=Z,146nm,1.7s
LVZ Lovozero 20.72 57 Pn 10 56 28.8 -2.5
LVZ IAmb IAmb 10 56 38.2
comp=Z,148nm,1.4s
LVZ IAMs_20 IAMs_20 11 03 08.8
comp=Z,7μm,19.0s

GKP Gorka Klasztor 20.82 106 *e*P Pn 10 56 30.6 -1.8
GKP *e*S **S 11 00 22.2 -0.4**
PLN Plauen 20.92 118 *e*P **P 10 56 30.9 -0.3**
comp=Z,467nm,1.7s,baz=326,slow=11
PBUR Paburge 20.93 95 *e*P **P 10 56 29.4 -1.8**
PBUR *e*S Sn 11 00 27.5 -2.6
ECH Echery 21.02 129 IAmb IAmb 10 56 40.4
comp=Z,98nm,1.2s
FBE Freiberg 21.04 116 *e*P **P 10 56 32.3 0.0**
comp=Z,1μm,2.1s,baz=326,slow=11
GUNZ Gunzen 21.09 118 *e*P **P 10 56 32.7 -0.2**
comp=Z,657nm,1.9s,baz=326,slow=11
TANN Tannenbergstha 21.09 118 *e*P **P 10 56 32.8 -0.3**
comp=Z,937nm,1.8s,baz=326,slow=11
KLNR Kaliningrad 21.14 100*de*P **P 10 56 33.0 -0.4**
KLNR pmax pmax
comp=Z,528nm,1.5s
WERN Wernitzgruen 21.16 118 *e*P **P 10 56 33.5 -0.2**
comp=Z,602nm,1.8s,baz=326,slow=11
GRA1 Grafenberg Arr 21.21 121 IAmb IAmb 10 56 41.6
comp=Z,152nm,1.3s
GRF Grafenberg Arr 21.21 121 *e*P **P 10 56 34.5 +0.2**
comp=Z,266nm,1.6s,baz=326,slow=11
GRF *e*L L 11 04 49.7
comp=Z,4μm,21.6s
NKC Novy Kostel 21.23 118 *e*P **P 10 56 34.4 -0.1**
NKC *e*pP **sP 10 56 39.5 +3.2**
NKC *e*S Sn 11 00 37.2 -0.4
NKC AMS AMS 11 05 40.0
comp=Z,7μm,17.6s
NKC Novy Kostel 21.23 118 *e*P **P 10 56 34.4 -0.1**
NKC *e* 10 56 39.5
NKC *e*S Sn 11 00 37.2 -0.4
NKC MLR MLR
comp=Z,7μm,17.6s
STU Stuttgart 21.25 125 P **P 10 56 35.0 +0.4**
STU pmax pmax
comp=Z,162nm,1.2s
STU MLR MLR
comp=Z,6μm,18.0s
STU Stuttgart 21.25 125 *e*P **P 10 56 35.5 +0.8**
comp=Z,170nm,1.2s,baz=326,slow=11
STU Stuttgart 21.25 125 P **P 10 56 35.0 +0.4**
STU IAmb IAmb 10 56 42.4
comp=Z,162nm,1.2s
BRG Berggiesshubel 21.30 115 *i* P **P 10 56 34.7 -0.6**
comp=Z,334nm,2.1s
BRG *e*PCP **PcP 11 00 33.4 -6.0**
comp=Z,71nm,2.3s
BRG S Sn 11 00 39.0 -0.2
comp=N,6μm,16.1s
comp=E,4μm,13.6s
comp=Z,8μm,16.5s
BRG Berggiesshubel 21.30 115 *i* P **P 10 56 34.7 -0.6**
BRG *e* 11 00 33.4
BRG S Sn 11 00 39.0 -0.2
BRG pmax pmax
comp=Z,334nm,2.1s
BRG pmax pmax
comp=Z,71nm,2.3s
BRG MLR MLR
comp=N,6μm,16.1s
BRG MLR MLR
comp=E,4μm,13.6s
BRG MLR MLR
comp=Z,8μm,16.5s
BRG Berggiesshubel 21.30 115 *e*P **P 10 56 34.8 -0.4**
comp=Z,435nm,1.7s,baz=326,slow=11
MANZ Manzenberg 21.31 119 *e*P **P 10 56 34.8 -0.5**
comp=Z,220nm,1.7s,baz=326,slow=11
BFO Black Forest 21.32 127 P **P 10 56 35.3 -0.2**
BFO pmax pmax
comp=Z,189nm,1.4s
BFO MLR MLR
comp=Z,4μm,18.0s
BFO Black Forest 21.32 127 *e*P **P 10 56 36.0 +0.5**
comp=Z,222nm,1.5s,baz=326,slow=11
BFO Black Forest 21.32 127 P **P 10 56 35.3 -0.2**
BFO IAmb IAmb 10 56 43.1
comp=Z,189nm,1.4s
ROTZ Rotzenmuhle 21.52 119 *e*P **P 10 56 37.4 -0.2**
comp=Z,313nm,1.9s,baz=326,slow=11
VSU Vasula 21.52 86 *e*P **P 10 56 36.3 -1.2**
VSU Vasula 21.52 86*d i*P **P 10 56 35.6 -1.9**
VSU pmax pmax
comp=Z,334nm,1.1s
PVCC Panska Ves 21.82 115 *e*P **P 10 56 42.0 +1.2**
PVCC *ex* x 10 56 53.8
PVCC *e*S Sn 11 00 46.6 -5.0
PVCC AMS AMS 11 06 10.0
comp=Z,7μm,16.5s
PVCC Panska Ves 21.82 115 *e*P **P 10 56 42.0 +1.2**
PVCC *e*S Sn 11 00 46.6 -5.0
PVCC MLR MLR
comp=Z,7μm,16.5s
FRB Frobisher Bay 21.85 291 P **P 10 56 40.6 -0.3**
comp=Z,11nm,0.8s,baz=74,slow=9.3,SNR=6.7
FRB S Sn 11 00 50.6 -1.4
comp=Z,4.5nm,0.8s,baz=44,slow=13,SNR=1.4
FRB LR LR 11 04 39.3
comp=Z,6μm,19.0s,baz=70,slow=35
PRA Prague 22.13 116 *e*S **S 11 00 49.2 +0.9**
PRA AMS AMS 11 06 40.0
comp=Z,3μm,16.5s
PABE Paberze 22.14 94 *e*P **P 10 56 44.0 -0.2**
PRU Pruhonice 22.24 116 *e*P **P 10 56 44.9 -0.4**
PRU *e*S Sn 11 00 56.3 -5.3
PRU AMS AMS 11 06 30.0
comp=Z,5μm,15.7s
PRU Pruhonice 22.24 116 *e*P **P 10 56 44.9 -0.4**
PRU MLR MLR
comp=Z,5μm,15.7s
KSP Ksiaz 22.26 112 *e*P **P 10 56 44.7 -0.8**
KSP *e*S **S 11 00 51.7 +0.9**
PBCC Pribram 22.27 117 *e*P **P 10 56 46.1 +0.5**
PBCC *e*S Sn 11 01 00.4 -2.0
WET Wettzell 22.28 119 *e*P **P 10 56 45.4 -0.4**
comp=Z,294nm,1.8s,baz=326,slow=11
PUL Pulkovo 22.33 80 *e*P **P 10 56 46.1 -0.1**
PUL Pulkovo 22.33 80⇑ *e*P **P 10 56 47.0 +0.8**
PUL pmax pmax
comp=Z,118nm,0.7s
CHVC Chvalec 22.36 113 *e*P **P 10 56 48.0 +1.4**
CHVC *ex* x 10 56 51.7
CHVC *e*S Sn 11 00 58.1 -6.6
CHVC AMS AMS 11 05 30.0
comp=Z,6μm,19.0s
GOPC GO Pecny, Ondr 22.39 115 *e*P **P 10 56 46.2 -0.8**
GOPC *e*pP **sP 10 56 51.8 +3.0**
GOPC *e*S Sn 11 00 57.9 -7.5
GOPC AMS AMS 11 06 30.0
comp=Z,6μm,17.0s
GOPC GO Pecny, Ondr 22.39 115 *e*P **P 10 56 46.2 -0.8**
GOPC *e* 10 56 51.8
GOPC MLR MLR
comp=Z,6μm,17.0s
UPC Upice 22.41 113 *e*P **P 10 56 47.6 +0.5**
UPC *e*pP **sP 10 56 51.9 +3.0**
UPC *e*S **S 11 00 54.6 +0.9**
UPC AMS AMS 11 05 50.0
comp=Z,6μm,19.4s
UPC Upice 22.41 113 *e*P **P 10 56 47.6 +0.5**
UPC *e* 10 56 51.9
UPC *e*S **S 11 00 54.6 +0.9**
UPC MLR MLR
comp=Z,6μm,19.4s
OSTC Ostas 22.45 112 *e*P **P 10 56 46.8 -0.8**
OSTC *ex* x 10 56 53.7
OSTC *e*S **S 11 00 57.5 +3.0**
OSTC AMS AMS 11 05 40.0
comp=Z,6μm,18.4s
UBR Ueberruh 22.50 125 *e*P **P 10 56 48.2 +0.1**
comp=Z,430nm,1.7s,baz=326,slow=11
KHC Kasperske Hory 22.56 118 *e*P **P 10 56 48.3 -0.5**
KHC *ex* x 10 56 52.6
KHC *ex* x 10 57 14.5
KHC *e*S Sn 11 01 04.3 -5.1
KHC AMS AMS 11 06 00.0
comp=Z,6μm,19.5s
KHC Kasperske Hory 22.56 118 *e*P **P 10 56 48.3 -0.5**
KHC *e* 10 56 52.6
KHC *e* 10 57 14.5
KHC MLR MLR
comp=Z,6μm,19.5s
KHC Kasperske Hory 22.56 118 P **P 10 56 48.6 -0.2**

DPC Dobruska-Polom 22.66 113 *e*P **P 10 56 48.9 -0.9**
DPC *e*pP **sP 10 56 53.0 +1.4**
DPC *e*S **S 11 01 00.0 +1.7**
DPC AMS AMS 11 05 50.0
comp=Z,5μm,19.1s
DPC Dobruska-Polom 22.66 113 *e*P **P 10 56 48.9 -0.9**
DPC *e* 10 56 53.0
DPC *e*S **S 11 01 00.0 +1.7**
DPC MLR MLR
comp=Z,5μm,19.1s
DAVA Damuels 22.75 126 *e*P **P 10 56 50.9 -0.1**
comp=Z,60nm,1.4s,SNR=18
SSB Saint Sauveur 22.81 137 IAMs_20 IAMs_20 11 05 58.3
comp=Z,7μm,19.0s
SUW Suwalki 22.81 98 *e*P **P 10 56 49.6 -1.7**
SUW *e*S **S 11 01 01.3 +0.4**
GEC2 GERESS Array S 22.84 119 *e*P **P 10 56 51.5 -0.3**
comp=Z,297nm,1.6s,baz=326,slow=11
GERES GERESS Array B 22.84 119 P **P 10 56 51.8 0.0**
comp=Z,7.5nm,0.9s,baz=330,slow=7.3,SNR=34
GERES LR LR 11 06 48.8
comp=Z,5μm,19.1s,baz=324,slow=40
GERES GERESS Array B 22.84 119 P **P 10 56 51.4 -0.4**
GERES GERESS Array B 22.84 119 P **P 10 56 51.4 -0.3**
RETA Reutte 22.89 125 *e*P **P 10 56 52.3 -0.1**
comp=Z,100nm,1.7s,SNR=23
IZAR Zarasai 22.97 92 *e*P **P 10 56 51.4 -1.6**
ISAL Salakas 23.03 92 *e*P **P 10 56 53.5 -0.1**
KRLC Kraliky 23.05 113 *e*P **P 10 56 56.1 +2.1**
KRLC *ex* x 10 56 59.9
KRLC *e*S **S 11 01 08.2 +2.8**
KRLC AMS AMS 11 06 10.0
comp=Z,5μm,19.4s
KRLC Kraliky 23.05 113 *e*P **P 10 56 56.1 +2.1**
KRLC *e* 10 56 59.9
KRLC *e*S **S 11 01 08.2 +2.8**
KRLC MLR MLR
comp=Z,5μm,19.4s
MOTA Moosalm 23.14 124 *e*P **P 10 56 54.6 -0.4**
comp=Z,116nm,1.7s,SNR=40
TREC Trest 23.16 115 *e*P **P 10 56 57.0 +1.9**
TREC *e*S Sn 11 01 13.7 -10
TREC AMS AMS 11 07 00.0
comp=Z,5μm,16.6s
TREC Trest 23.16 115 *e*P **P 10 56 57.0 +1.9**
TREC MLR MLR
comp=Z,5μm,16.6s
ZFI Zemlya Franca- 23.18 22 P **P 10 56 56.3 +1.4**
comp=Z,300nm,1.7s
ZFI *e*S **S 11 01 11.5 +4.6**
DAVOX Davos/Dischmat 23.19 127 P **P 10 56 56.5 +0.9**
comp=Z,9.9nm,0.9s,baz=325,slow=12,SNR=20
DAVOX LR LR 11 07 06.0
comp=Z,4μm,18.9s,baz=337,slow=40
PGAV Gavieira, Arco 23.20 163 *e*P **P 10 56 55.3 -0.3**
comp=Z,235nm,2.0s
PGAV *e*S **S 11 01 06.2 -1.8**
PGAV *e*LR LR 11 02 55.7
comp=Z,7μm,20.0s
IIGN Ignalina 23.22 93 *e*P **P 10 56 56.5 +1.0**
TUE Stuetta 23.27 128 IAmb IAmb 10 57 04.3
comp=Z,118nm,1.4s
FETA Feichten 23.28 125 *e*P **P 10 56 56.2 -0.2**
comp=Z,50nm,1.7s,SNR=17
SQTA Sankt Quirin 23.28 124 *e*P **P 10 56 56.2 -0.1**
comp=Z,89nm,1.6s,SNR=36
WATA Walderalm 23.31 124 *e*P **P 10 56 56.6 -0.1**
comp=Z,64nm,1.4s,SNR=32
BEL Belsk 23.35 105 *e*P **P 10 56 55.7 -1.2**
TMCR Tamitsa 23.36 65 *e*P **P 10 56 57.2 +0.4**
comp=Z,42nm,0.8s
TMCR Tamitsa 23.36 65 *e*P **P 10 56 57.2 +0.4**
TMCR *e*S **S 11 01 11.2 +1.2**
TMCR pmax pmax
comp=Z,51nm,0.9s
WTTA Wattenberg 23.40 124 *e*P **P 10 56 57.5 -0.1**
comp=Z,106nm,1.9s,SNR=34
FUORN Ofenpass-Fuorn 23.46 127 IAmb IAmb 10 57 15.8
comp=Z,72nm,1.4s
IDID Didziasalis 23.47 92 *e*P **P 10 56 58.9 +0.8**
PCAB Cabril 23.48 162 *e*P **P 10 56 57.7 -0.7**
comp=Z,168nm,1.7s
PBRG Braganca 23.57 160 *e*P **P 10 56 58.2 -1.0**
comp=Z,85nm,2.0s
VRAC Vranov 23.59 114 P **P 10 56 58.9 -0.4**
comp=Z,10nm,0.8s,baz=325,slow=10,SNR=31
VRAC LR LR 11 07 32.4
comp=Z,7μm,18.1s,baz=322,slow=40
VRAC Vranov 23.59 114⇑ P **P 10 56 58.9 -0.4**
VRAC Vranov 23.59 114⇓ *i*P **P 10 56 58.5 -0.8**
VRAC *e*S **S 11 01 17.3 +3.2**
MORC Moravsky Berou 23.59 112⇓ P **P 10 56 58.1 -1.3**
MORC Moravsky Berou 23.59 112⇓ *i*P **P 10 56 58.8 -0.6**
MORC *e*S **S 11 01 19.5 +5.3**
MORC Moravsky Berou 23.59 112⇓ P **P 10 56 58.1 -1.3**
MORC Moravsky Berou 23.59 112 P **P 10 56 58.5 -0.9**
KRUC Moravsky 23.71 115⇓ *i*P **P 10 56 59.6 -0.9**
KRUC *e*S **S 11 01 21.0 +5.1**
NACGM Naroch 23.76 93 *e*P **P 10 57 02.0 +1.1**
NACGM *e*S **S 11 01 24.0 +7.4**
NACGM *e*SS SnSn 11 02 12.0 +18
NACGM *e*LQ LQ 11 05 24.0
NACGM *e*LR LR 11 05 50.0
NACGM LRM MLR 11 06 40.0
comp=Z,2.6nm,16.0s
MOA Molln 23.87 119 *e*P **P 10 57 01.4 -0.7**
comp=Z,62nm,1.6s,SNR=27
ABTA Abfaltersbach 24.15 123 *e*pP **P 10 57 05.2 +0.3**
comp=Z,58nm,1.9s,SNR=19
MVO Moncorvo 24.16 161 *e*P **P 10 57 04.7 -0.2**
comp=Z,133nm,2.0s
MVO *e*S **S 11 01 31.4 +8.1**
MVO *e*LR LR 11 03 29.8
comp=Z,4μm,18.0s
OJC Ojcow 24.16 109 *e*P **P 10 57 03.4 -1.5**
OJC *e*S **S 11 01 23.3 +0.1**
JAVC Velka Javorina 24.37 113⇓ *i*P **P 10 57 06.6 -0.2**
JAVC *e*S S 11 01 35.3 +8.6
CONA Conrad Observa 24.42 117 *e*P **P 10 57 06.9 -0.4**
comp=Z,21nm,0.9s,SNR=23
CTI Castel Tesino 24.44 125 P **P 10 57 07.4 -0.1**
CTI pmax pmax
comp=Z,128nm,1.4s
CTI MLR MLR
comp=Z,3μm,18.0s
CTI Castel Tesino 24.44 125 P **P 10 57 07.4 -0.1**
PVIS Viseu 24.48 162 *e*P **P 10 57 07.4 -0.4**
comp=Z,117nm,2.1s
ZOU Zoufplan 24.48 123 IAmb IAmb 10 57 19.7
comp=Z,80nm,1.3s
CIMO Cimolais 24.50 124 IAmb IAmb 10 57 16.0
comp=Z,40nm,1.0s
MICGM Minsk 24.50 93 *e*P **P 10 57 06.0 -1.8**
MICGM PM 10 57 07.0
comp=Z,0.5nm,1.0s
MICGM PM 10 57 09.0
comp=N,0.6nm,1.0s
MICGM *e*PP **PnPn 10 57 47.0 +8.8**
MICGM *e*PPP PPP 10 58 06.0
MICGM *e*PcP **PcP 11 00 49.0 +3.1**
MICGM *e*S **S 11 01 23.0 -5.5**
MICGM *e*SS SnSn 11 02 34.0 +22
MICGM *e*SSS SSS 11 02 56.0
MICGM *e*ScP ScP 11 04 34.0 +9.0
MICGM *e*PcS PcS 11 04 50.0 +24
MICGM *e*LQ LQ 11 05 32.0
MICGM *e*LR LR 11 07 24.0
MICGM LRM MLR 11 08 55.0
comp=Z,3.4nm,12.0s
MNK Minsk 24.50 93 *e*P **P 10 57 06.0 -1.8**
MNK *e* 10 57 47.0
MNK *e* 11 00 49.0
MNK *e*S **S 11 01 23.0 -5.5**
MNK *e*SS SnSn 11 02 34.0 +22
MNK pmax pmax
comp=Z,530nm,1.0s
MNK pmax pmax
comp=N,600nm,1.0s
MNK MLR MLR
comp=Z,3μm,14.0s
SMOL Smolenice 24.55 114 *e*P **P 10 57 09.6 +1.2**
SMOL pmax pmax
comp=Z,84nm,1.7s
SMOL Smolenice 24.55 114 *e*P **P 10 57 09.6 +1.2**

SMOL eS S 11 01 39.0 +9.5
MODS Modra-Piesok 24.61 114 eP P 10 57 08.8 -0.1
MODS pmax pmax
comp=Z,178nm,1.6s
MODS Modra-Piesok 24.61 114 eP P 10 57 08.8 -0.1
MODS eS S 11 01 37.2 +6.8
MYKA Terra Mystica 24.66 122 eP P 10 57 09.3 -0.2
comp=Z,55nm,2.2s,SNR=25
ARSA Arzberg 24.85 118 eP P 10 57 10.6 -0.5
comp=Z,46nm,1.4s,SNR=7.7
LANS Liptovska Anna 24.86 111 eP P 10 57 11.5 +0.3
LANS pmax pmax
comp=Z,24nm,1.0s
LANS Liptovska Anna 24.86 111 eP P 10 57 11.5 +0.3
COI Coimbra 24.91 164 P P 10 57 11.8 +0.1
COI pmax pmax
comp=Z,89nm,1.3s
COI MLR MLR
comp=Z,6μm,20.0s
COI Coimbra 24.91 164 P P 10 57 11.8 +0.1
COI IAms_20 IAms_20 11 05 40.3
comp=Z,6μm,20.0s
NIE Niedzica 24.99 109 eP P 10 57 11.7 -0.6
NIE eS S 11 01 38.9 +2.3
CADS Cadrg 25.04 122 *i* P P 10 57 12.1 -0.7
CADS eS S 11 01 45.7 +8.2
TEOL Teolo 25.04 126 IAmb IAmb 10 57 20.6
comp=Z,44nm,1.0s
PCAS Casmilo, Conde 25.06 164 eP P 10 57 12.3 -0.7
comp=Z,194nm,1.7s
OBKA Obir 25.10 121 eP P 10 57 13.2 -0.2
comp=Z,26nm,1.1s,SNR=15
VYHS Vyhne 25.13 112 eP P 10 57 13.2 -0.4
VYHS pmax pmax
comp=Z,310nm,1.9s
VYHS Vyhne 25.13 112 eP P 10 57 13.2 -0.4
VYHS eS S 11 01 48.7 +10
SOKA Soboth 25.14 120 eP P 10 57 13.3 -0.4
comp=Z,66nm,1.5s,SNR=44
PCBR Castelo Branco 25.39 162 eP P 10 57 15.6 -0.4
comp=Z,106nm,1.6s
LJU Ljubljana 25.49 121 *i* P P 10 57 16.3 -0.5
LJU Ljubljana 25.49 121 ⇓*i* P P 10 57 15.6 -1.2
TRI Trieste 25.49 123 IAmb IAmb 10 57 24.0
comp=Z,95nm,1.5s
SRO2 Moca 25.54 114 eP P 10 57 18.7 +1.4
SRO2 pmax pmax
comp=Z,74nm,1.3s
SRO2 Moca 25.54 114 eP P 10 57 18.7 +1.4
PSBE So Bento 25.55 164 eP P 10 57 17.1 -0.4
comp=Z,130nm,2.0s
KLMR Klimovskoe 25.60 72 eP P 10 57 17.7 0.0
comp=Z,142nm,1.4s
KLMR *i* PcP PcP 11 00 49.9 +1.8
KLMR eS S 11 01 48.1 +2.1
KLMR Klimovskoe 25.60 72 eP P 10 57 17.6 0.0
KLMR *e* 11 00 50.0
KLMR eS S 11 01 48.2 +2.3
KLMR pmax pmax
comp=Z,142nm,1.4s
KLMR MLR MLR
comp=Z,3μm,17.0s
KLMR Klimovskoe 25.60 72 eP P 10 57 17.7 0.0
KLMR AMP 10 57 23.4
comp=Z,142nm,1.4s
KLMR *e*PcP PcP 11 00 50.0 +1.8
KLMR eS S 11 01 48.3 +2.3
KLMR eS S 11 01 48.3 +2.3
KLMR LQ LQ 11 04 04.6
KLMR LQ LQ 11 04 04.6
KLMR LR LR 11 04 56.4
KLMR AMP 11 07 06.5
comp=Z,3μm,16.7s
UCM Universidad Co 25.62 154 ⇓*i* P P 10 57 15.1 -3.0
UCM eS S 11 01 56.6 +10
CEY Cerknica 25.71 122 ⇓*i* P P 10 57 17.8 -1.1
PMRV Marv??o 25.81 162 eP P 10 57 19.6 -0.2
comp=Z,136nm,1.8s
PMRV eS S 11 02 05.8 +16
PMRV eLR LR 11 04 21.0
comp=Z,7μm,20.0s
KWP Kalwaria Pacla 25.82 106 eP P 10 57 19.4 -0.4
KWP Kalwaria Pacla 25.82 106 P P 10 57 19.7 -0.1
KWP pmax pmax
comp=Z,482nm,1.5s
KWP MLR MLR
comp=Z,3μm,21.0s
KWP Kalwaria Pacla 25.82 106 P P 10 57 19.7 -0.1
BEHE Becsehely 25.97 118 eP P 10 57 22.6 +1.4
LSH Leshukonskoye 25.99 60 eP P 10 57 19.9 -1.3
comp=Z,151nm,1.9s
LSH eS S 11 01 52.3 +0.3
PSZ Piszkesteto 26.02 112 ⇑P P 10 57 21.1 -0.6
PSZ Piszkesteto 26.02 112 ⇑P P 10 57 21.1 -0.6
CRES Cresnjev 26.02 120 ⇓*i* P P 10 57 18.4 -3.2
PMAFR Mafra 26.05 166 eP P 10 57 22.5 +0.5
comp=Z,234nm,1.8s
PMTG Montargil 26.06 164 eP P 10 57 21.7 -0.4
comp=Z,75nm,1.7s
ES18 SONSECA Array 26.07 156 IAms_20 IAms_20 11 07 39.8
comp=Z,6μm,19.0s
ES17 SONSECA Array 26.07 156 IAms_20 IAms_20 11 07 40.0
comp=Z,7μm,19.0s
ES16 SONSECA Array 26.08 156 IAms_20 IAms_20 11 07 39.2
comp=Z,6μm,18.0s
ES07 SONSECA Array 26.09 156 IAms_20 IAms_20 11 07 57.4
comp=Z,7μm,18.0s
SCHQ Schefferville 26.10 272 P P 10 57 22.6 +0.2
comp=Z,32nm,0.7s,baz=44,slow=6.7,SNR=22
SCHQ LR LR 11 06 41.2
comp=Z,2μm,18.2s,baz=69,slow=34
SCHQ Schefferville 26.10 272 P P 10 57 22.4 +0.1
SCHQ IAmb IAmb 10 57 26.8
comp=Z,34nm,0.8s
ESBB Sonseca Array 26.10 156 IAmb IAmb 10 57 37.4
comp=Z,49nm,1.5s
ESBB IAms_20 IAms_20 11 07 47.7
comp=Z,6μm,18.0s
ESDC Sonseca Array 26.10 156 P P 10 57 22.0 -0.5
comp=Z,6.2nm,0.9s,baz=350,slow=8.3,SNR=20
ESDC LR LR 11 07 40.6
comp=Z,6μm,18.1s,baz=345,slow=37
ESDC Sonseca Array 26.10 156 P P 10 57 21.4 -1.1
ES06 SONSECA Array 26.10 156 IAms_20 IAms_20 11 07 40.7
comp=Z,6μm,18.0s
ES02 SONSECA Array 26.10 156 IAms_20 IAms_20 11 07 58.7
comp=Z,6μm,18.0s
ES15 SONSECA Array 26.11 156 IAms_20 IAms_20 11 07 40.8
comp=Z,6μm,18.0s
ES01 SONSECA Array 26.11 156 IAms_20 IAms_20 11 07 45.9
comp=Z,7μm,18.0s
ES05 SONSECA Array 26.11 156 IAms_20 IAms_20 11 07 24.0
comp=Z,6μm,20.0s
ES03 SONSECA Array 26.11 156 IAms_20 IAms_20 11 07 42.0
comp=Z,6μm,19.0s
ES14 SONSECA Array 26.12 156 IAms_20 IAms_20 11 07 23.1
comp=Z,5μm,20.0s
ES04 SONSECA Array 26.12 156 IAms_20 IAms_20 11 07 40.3
comp=Z,6μm,18.0s
ES13 SONSECA Array 26.12 156 IAms_20 IAms_20 11 07 40.3
comp=Z,6μm,18.0s
ES10 SONSECA Array 26.13 156 IAms_20 IAms_20 11 07 41.4
comp=Z,6μm,18.0s
ES11 SONSECA Array 26.14 156 IAms_20 IAms_20 11 07 23.5
comp=Z,5μm,20.0s
H07N1 FLORES T-PHASE 26.14 205 eP P 10 57 26.8 +3.9
PAB San Pablo 26.16 157 P P 10 57 23.6 +0.5
PAB pmax pmax
comp=Z,50nm,1.3s
PAB MLR MLR
comp=Z,5μm,19.0s
PAB San Pablo 26.16 157 P P 10 57 23.6 +0.5
PAB IAmb IAmb 10 57 32.9
comp=Z,50nm,1.3s
PAB San Pablo 26.16 157 IAms_20 IAms_20 11 07 38.3
comp=Z,5μm,19.0s
KOLS Kolonicke sedl 26.18 108 eP P 10 57 22.5 -0.6
KOLS pmax pmax
comp=Z,242nm,1.7s
KOLS Kolonicke sedl 26.18 108 eP P 10 57 22.5 -0.6
KOLS eS S 11 01 52.2 -3.2
BOJS Bojanci 26.21 121 *i* P P 10 57 22.4 -1.0
BOJS eS S 11 01 56.0 +0.1
LVV L'vov 26.23 104 eP P 10 57 22.7 -0.8
LVV eS S 11 01 51.4 -4.7
LVV pmax pmax
comp=Z,860nm,1.8s
LVV smax smax
comp=E,600nm,4.2s
LVV smax smax
comp=N,920nm,5.0s
LVV MLR MLR
comp=E,1μm,13.0s
LVV MLR MLR
comp=N,2μm,14.0s
LVV MLR MLR
comp=Z,3μm,14.0s
PGRA Graciosa 26.29 199 eP P 10 57 27.5 +3.4
comp=Z,243nm,1.2s
LIS Lisbon 26.30 165 eP P 10 57 24.9 +0.6
LIS AMb AMB 10 57 30.6
comp=Z,74nm,1.4s
LIS eS S 11 01 59.5 +2.1
LIS Lisbon 26.30 165 eP P 10 57 24.8 +0.6
LIS pmax pmax
comp=Z,74nm,1.4s
UZH Uzhgorod 26.43 108 eP P 10 57 23.7 -1.6
UZH *e* 10 58 03.5
UZH *e* 11 00 53.1
UZH eS S 11 01 52.3 -6.9
UZH MLR MLR
comp=N,530nm,18.0s
UZH MLR MLR
comp=E,620nm,18.0s
UZH MLR MLR
comp=Z,300nm,18.0s
H07S1 FLORES T-PHASE 26.46 205 eP P 10 57 29.6 +3.8
RES Resolute Bay 26.61 325 P P 10 57 28.0 +1.2
comp=Z,11nm,1.1s,baz=78,slow=8.3,SNR=3.7
RES LR LR 11 07 47.7
comp=Z,5μm,20.0s,baz=66,slow=36
RES Resolute Bay 26.61 325 P P 10 57 28.0 +1.2
RES Resolute Bay 26.61 325 IAms_20 IAms_20 11 07 36.7
comp=Z,5μm,20.0s
CALA Caldeira 26.83 200 eP P 10 57 31.5 +2.4
comp=Z,283nm,1.3s
PNCL Nicolau / Gran 26.97 164 eP P 10 57 30.5 +0.2
comp=Z,59nm,1.9s
PSET Sete Cidades 27.20 195 eP P 10 57 35.8 +3.4
comp=Z,155nm,1.2s
CMLA Cha da Macela 27.23 194 eP P 10 57 36.7 +4.0
comp=Z,99nm,0.9s
PCVE Castro Verde 27.50 164 eP P 10 57 34.8 -0.2
comp=Z,62nm,2.0s
PTEO Sao Teotonio 27.50 165 eP P 10 57 34.8 -0.3
comp=Z,77nm,1.8s
BLY Banja Luka 27.58 119 ⇓*i* P P 10 57 34.3 -1.4
PRGR Permogore 27.63 67 eP P 10 57 34.9 -1.1
PRGR *e* 10 58 21.9
PRGR *e* 11 00 50.2
MORF Marmelete 27.75 165 eP P 10 57 37.9 +0.5
MORF AMb AMB 10 57 47.0
comp=Z,43nm,1.9s
MORF Marmelete 27.75 165 eP P 10 57 37.8 +0.5
MORF pmax pmax
comp=Z,43nm,1.9s
MORF Marmelete 27.75 165 eP P 10 57 36.0 -1.4
comp=Z,43nm,2.6s
NRCA Norcia 27.76 127 IAmb IAmb 10 57 49.0
comp=Z,59nm,1.4s
PVAQ Vaqueiros 27.76 163 IAms_20 IAms_20 11 06 56.8
comp=Z,6μm,20.0s
PVAQ Vaqueiros 27.76 163 eP P 10 57 37.0 -0.4
comp=Z,49nm,1.7s
PVAQ eS S 11 02 35.1 +15
PVAQ eLR LR 11 05 16.4
comp=Z,5μm,22.0s
AKASG Malin Array Be 27.77 97 P P 10 57 36.1 -1.2
comp=Z,7.6nm,0.8s,baz=323,slow=9.3,SNR=27
AKASG LR LR 11 08 22.1
comp=Z,3μm,21.5s,baz=315,slow=36
AKASG Malin Array Be 27.77 97 P P 10 57 37.6 +0.2
AKASG pmax pmax
comp=Z,12nm,1.5s
AKASG Malin Array Be 27.77 97 P P 10 57 37.6 +0.2
OBN Obninsk 27.84 84 P P 10 57 35.6 -2.3
comp=Z,3.9nm,0.4s,baz=163,slow=23,SNR=16
OBN LR LR 11 08 24.9
comp=Z,404nm,21.9s,baz=306,slow=36
OBN Obninsk 27.84 84 *d* *i* P P 10 57 36.7 -1.2
OBN *e*PPP PPP 10 58 30.8
OBN *e* 11 00 56.4
OBN eS S 11 02 20.7 -0.7
OBN *e*SS SnSn 11 03 34.8 +1.2
OBN pmax pmax
comp=Z,148nm,1.7s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 27.84 84 P P 10 57 36.2 -1.7
MOS Moscow 27.88 82 eP P 10 57 36.8 -1.5
MOS *e* 10 58 31.9
MOS *e* 10 58 38.7
MOS eS S 11 02 24.0 +1.9
MOS *e*SS SnSn 11 03 45.9 +11
MOS pmax pmax
comp=Z,88nm,1.7s
MOS MLR MLR
comp=Z,2μm,13.0s
PBDV Barranco-do-Ve 27.90 164 eP P 10 57 38.3 -0.3
comp=Z,46nm,1.7s
PFVI Vila Bisbo 27.90 165 IAms_20 IAms_20 11 06 32.4
comp=Z,5μm,21.0s
PFVI Vila Bisbo 27.90 165 eP P 10 57 39.5 +0.9
comp=Z,60nm,1.6s
PSMN Pico do Norte, 27.94 193 eP P 10 57 45.1 +6.1
comp=Z,81nm,1.3s
SIRR Siria 28.06 112 ⇑P P 10 57 39.6 -0.4
FRGS Fruska Gora 28.24 115 ⇓*i* P P 10 57 41.3 -0.4
AQU L'Aquila 28.28 127 IAms_20 IAms_20 11 10 38.9
comp=Z,5μm,19.0s
BUR08 Bucovina Ar. S 28.41 106 IAmb IAmb 10 57 50.9
comp=Z,33nm,1.3s
BURAR Bucovina Array 28.43 106 ⇓P P 10 57 43.6 +0.2
BURAR Bucovina Array 28.43 106 ⇓P P 10 57 43.6 +0.2
BURAR Bucovina Array 28.43 106 P P 10 57 43.2 -0.2
CJR Cluj-Napoca 28.48 109 ⇓P P 10 57 45.3 +1.4
CJR Cluj-Napoca 28.48 109 ⇓P P 10 57 45.3 +1.4
BZS Buzias 28.58 113 ⇑P P 10 57 44.8 +0.2
BZS Buzias 28.58 113 ⇑P P 10 57 44.8 +0.2
TEKS Tekeris 28.64 116 eP P 10 57 44.9 -0.3
CART Cartagena 28.68 152 ⇓*i* P P 10 57 43.3 -2.3
CART *i* S S 11 02 45.5 +11
INTR Introdacqua 28.76 126 IAmb IAmb 10 57 53.7
comp=Z,47nm,1.3s
EMAL Malaga-Limoner 28.86 158 *i* P P 10 57 46.9 -0.3
EMAL *i* S S 11 02 50.1 +12
SFS San Fernando 28.89 161 ⇓*i* P P 10 57 47.1 -0.3
SFS eS S 11 02 47.5 +9.4
BBLS Lazići 29.17 117 ⇓*i* P P 10 57 49.3 -0.7
DIVS Divibare 29.20 116 ⇓*i* P P 10 57 49.3 -1.0
MDVR Moldovita 29.30 113 ⇑P P 10 57 52.1 +0.9
BIZ Bicaz 29.34 106 ⇑P P 10 57 51.6 +0.2
HERR Herculane 29.50 112 ⇓P P 10 57 53.6 +0.8
CEU Ceuta 29.56 160 ⇓*i* P P 10 57 53.1 -0.3
CEU *i* S S 11 03 00.4 +12
DOPR Dopca 29.82 108 ⇑P P 10 57 57.9 +2.2
PAOL Paolisi 29.86 126 IAmb IAmb 10 58 06.0
comp=Z,53nm,1.4s
PAOL IAms_20 IAms_20 11 11 51.5
comp=Z,5μm,18.0s
OZUR 29.88 107 ⇑P P 10 57 56.1 -0.1
VOIR 30.11 109 ⇓P P 10 57 57.7 -0.6
VOIR 30.11 109 ⇓P P 10 57 57.7 -0.6
PDG Podgorica 30.34 119 ⇑P P 10 58 01.5 +1.3
PDG Podgorica 30.34 119 eP P 10 57 59.6 -0.6
PDG Podgorica 30.34 119 IAmb IAmb 10 58 05.9
comp=Z,34nm,1.1s
MLR Muntele Rosu 30.44 108 ⇑P P 10 58 01.4 +0.2
MLR Muntele Rosu 30.44 108 ⇑P P 10 58 01.4 +0.2
MLR Muntele Rosu 30.44 108 IAmb IAmb 10 58 11.0
comp=Z,45nm,1.3s
PLOR Plostina 30.44 106 ⇑P P 10 58 00.8 -0.4
PLOR Plostina 30.44 106 ⇑P P 10 58 00.8 -0.4
PVLZ Peæn de 30.44 159 *i* P P 10 57 59.6 -1.6
PVLZ *i* S S 11 03 06.8 +4.3
VRI Vrincioaia 30.46 106 ⇓P P 10 58 00.9 -0.4
VRI Vrincioaia 30.46 106 ⇓P P 10 58 00.9 -0.4
DRME Dracevica, Mon 30.52 119 eP P 10 58 01.5 -0.4
MELI Melilla 30.55 156 *i* P P 10 58 00.8 -1.3
MELI *i* S S 11 03 12.2 +8.0
LPSR Galich'ya Gora 30.59 86 eP P 10 58 01.4 -0.9
LPSR eS S 11 03 06.8 +2.2
LPSR pmax pmax
comp=Z,50nm,1.8s
LPSR smax smax
comp=E,830nm,10.2s
LPSR MLR MLR
comp=Z,2μm,18.0s
NEHR Nehoiu 30.63 107 ⇓P P 10 58 03.4 +0.5
BISRR Bisoca 30.70 107 ⇓P P 10 58 05.6 +2.0
MATE Matera 30.95 124 ⇑P P 10 58 07.6 +1.9
BATG Bathurst New B 31.27 260 IAMs_20 IAMs_20 11 08 39.1
comp=Z,5μm,19.0s
TIR Tirane 31.50 119 ⇑P P 10 58 13.2 +2.7
TIR Tirane 31.50 119 P P 10 58 11.3 +0.8
TIR pmax pmax
comp=Z,60nm,1.1s
TIR MLR MLR
comp=Z,4μm,21.0s
TIR Tirane 31.50 119 P P 10 58 11.3 +0.8
CFR Carcaliu 31.60 106 ⇑P P 10 58 11.3 0.0
CFR Carcaliu 31.60 106 ⇑P P 10 58 11.3 0.0
VSR Storozhevoye 31.68 87 eP P 10 58 10.4 -1.6
VSR eS S 11 03 16.3 -5.5
VSR pmax pmax
comp=Z,50nm,1.5s
VSR smax smax
comp=N,850nm,10.2s
VSR MLR MLR
comp=Z,3μm,19.0s
VTS Vitosha 31.72 114 *i* P P 10 58 12.4 -0.2
PMOZ Porto Moniz, M 31.73 180 *e*S S 11 03 24.0 +1.0
PMOZ *e*LR LR 11 06 20.2
comp=Z,3μm,20.0s
HARR Harsova 31.91 106 ⇓P P 10 58 14.4 +0.4
HARR Harsova 31.91 106 ⇓P P 10 58 14.4 +0.4
VORD Divnogorie 31.92 88 eP P 10 58 12.1 -2.0
VORD pmax pmax
comp=Z,30nm,1.0s
PGB Panagyurishte 32.15 113 *i* P P 10 58 16.2 0.0
CORL Corleone 32.25 131 IAms_20 IAms_20 11 11 36.0
comp=Z,4μm,18.0s
SZH Strazhica 32.26 110 *i* P P 10 58 17.9 +0.8
KKB Krupnik 32.30 115 *i* P P 10 58 17.7 +0.2
PQI Presque Isle 32.58 261 IAms_20 IAms_20 11 09 29.8
comp=Z,4μm,20.0s
D62A Allapoint, All 32.70 263 IAms_20 IAms_20 11 09 25.9
comp=Z,4μm,21.0s
MMB Musomiste 32.78 114 *i* P P 10 58 21.7 -0.1
VRH Novokhopyorsk 32.80 85 eP P 10 58 21.1 -0.7
VRH eS S 11 03 36.3 -2.8
VRH pmax pmax
comp=Z,50nm,1.4s
VRH smax smax
comp=N,1μm,9.6s
VRH MLR MLR
comp=Z,3μm,13.0s
NEF NEVSHA 32.81 109 *i* P P 10 58 26.1 +4.1
PRD Provadia 32.91 109 *i* P P 10 58 22.2 -0.6
E63A Oxbow 32.95 262 IAms_20 IAms_20 11 09 31.9
comp=Z,3μm,20.0s
KEST Kesra 33.02 138 P P 10 58 23.5 -0.5
comp=Z,18nm,1.3s,baz=298,slow=5.7,SNR=18
KEST LR LR 11 11 52.6
comp=Z,4μm,18.3s,baz=301,slow=36
KEST Kesra 33.02 138 IAms_20 IAms_20 11 12 15.4
comp=Z,4μm,19.0s
RZN Rozhen 33.09 113 *i* P P 10 58 23.9 -0.8
E62A Clayton Lake 33.26 263 IAms_20 IAms_20 11 09 52.8
comp=Z,3μm,20.0s
GGN Saint George 33.31 259 IAms_20 IAms_20 11 09 49.9
comp=Z,3μm,19.0s
F64A Sherman 33.36 261 IAms_20 IAms_20 11 09 53.4
comp=Z,4μm,19.0s
KDZ Kurdzhali 33.40 112 *i* P P 10 58 25.7 -1.5
G65A Princeton 33.55 259 IAms_20 IAms_20 11 09 57.5
comp=Z,4μm,21.0s
LIT Litokhoron 33.58 117 IAmb IAmb 10 58 31.4
comp=Z,33nm,1.3s
G64A Maxfield 34.02 261 P P 10 58 33.9 +1.5
baz=37
F62A Pittston Farm, 34.02 263 P P 10 58 33.6 +1.1
baz=38
F62A Pittston Farm, 34.02 263 IAms_20 IAms_20 11 10 04.9
comp=Z,4μm,21.0s
PKME Peaks-Kenny Pk 34.23 261 IAmb IAmb 10 58 36.9
comp=Z,26nm,1.2s
PKME IAms_20 IAms_20 11 10 19.6
comp=Z,4μm,20.0s
E60A Ste Agathe de 34.29 264 P P 10 58 35.6 +0.8
baz=38
ALN Alexandroupoli 34.29 112 P P 10 58 34.5 -0.4
ALN pmax pmax
comp=Z,111nm,1.4s
ALN MLR MLR
comp=Z,3μm,18.0s
ALN Alexandroupoli 34.29 112 P P 10 58 34.5 -0.4
ALN IAms_20 IAms_20 11 15 06.8
comp=Z,3μm,18.0s
D58A Chemin du LacG 34.34 267 P P 10 58 35.4 +0.1
baz=39
F61A St Evariste 34.40 264 P P 10 58 36.3 +0.5
baz=38
G62A West of Eustis 34.80 262 IAms_20 IAms_20 11 10 38.6
comp=Z,3μm,20.0s
D57A Chemin Vers le 34.84 267 P P 10 58 40.3 +0.7
baz=39,SNR=5.6
WVL Waterville 34.95 261 IAms_20 IAms_20 11 10 41.6
comp=Z,4μm,20.0s
D56A ZEC Mazanza, M 35.19 268 P P 10 58 43.7 +1.1
baz=39,SNR=6.4
A36M Sachs Harbour 35.35 329 IAms_20 IAms_20 11 14 38.6
comp=Z,4μm,19.0s
E57A Chemin Saint G 35.42 267 P P 10 58 45.2 +0.6
baz=38
D55A Sainte-Anne-du 35.52 269 P P 10 58 46.3 +0.9
baz=39
VLDQ Val d'Or 35.53 272 P P 10 58 46.3 +0.8
VLDQ IAmb IAmb 10 58 49.0
comp=Z,29nm,1.3s
H62A Milan 35.58 262 IAms_20 IAms_20 11 11 03.2
comp=Z,4μm,21.0s
E56A St. Veronique 35.70 268 P P 10 58 47.8 +0.8
baz=39
I63A Otisfield 35.76 261 IAms_20 IAms_20 11 11 16.9
comp=Z,4μm,20.0s
ANN Anapa 35.84 96 eP P 10 58 47.0 -1.2
ANN pmax pmax
comp=Z,63nm,1.3s
ANN MLR MLR
comp=Z,4μm,15.0s
ITM Ithomi 35.92 120 IAmb IAmb 10 59 08.5
comp=Z,30nm,1.2s
ITM IAms_20 IAms_20 11 16 14.9
comp=Z,3μm,19.0s
ARU Arti 36.09 66 *c* *i* P P 10 58 49.8 -0.4
ARU 11 00 07.6
ARU 11 01 09.7
ARU S S 11 04 33.0 +3.2
ARU pmax pmax
comp=Z,80nm,1.8s
ARU MLR MLR
comp=Z,5μm,19.0s
ARU Arti 36.09 66 P P 10 58 49.8 -0.4
ARU IAmb IAmb 10 58 54.8
comp=Z,38nm,1.5s
LBNH Lisbon 36.18 263 IAms_20 IAms_20 11 11 33.1
comp=Z,3μm,21.0s
I62A Tamworth 36.22 262 IAms_20 IAms_20 11 11 31.2
comp=Z,4μm,20.0s
FRNY Flat Rock 36.42 265 IAmb IAmb 10 59 03.7
comp=Z,38nm,1.4s
FRNY IAms_20 IAms_20 11 11 51.3
comp=Z,3μm,20.0s
VT1 Waterbury 36.46 264 IAms_20 IAms_20 11 11 51.7
comp=Z,3μm,20.0s
NRIK Noril'sk 36.54 35 P P 10 58 54.4 +0.5
comp=Z,8.7nm,0.9s,baz=312,slow=6.8,SNR=20
NRIK LR LR 11 15 46.4
comp=Z,3μm,18.4s,baz=346,slow=39
SVE Sverdlovsk 36.62 64 eP P 10 58 54.0 -0.8
SVE eS S 11 04 41.0 +3.0
SVE pmax pmax
comp=Z,52nm,2.0s
SVE MLR MLR

comp=Z,5µm,18.0s
FFD Franklin Falls 36.69 262 IAMs_20 IAMs_20 11 11 45.4
comp=Z,4µm,19.0s
MDUB Mudurnu 36.75 107 IAMs_20 IAMs_20 11 16 12.6
comp=Z,4µm,20.0s
HNH Hanover 36.77 263 IAMs_20 IAMs_20 11 12 00.5
comp=Z,3µm,20.0s
G57A Newington 36.81 266 P **P** **10 58 57.4 +0.9**
baz=37
ILGA Ilgaz 37.31 104 IAmb IAmb 10 59 09.3
comp=Z,62nm,1.3s
WES Weston 37.43 260 IAMs_20 IAMs_20 11 12 24.0
comp=Z,3µm,19.0s
HRV Adam Dziewonsk 37.43 261 IAMs_20 IAMs_20 11 12 33.1
comp=Z,3µm,19.0s
G55A Calabogie 37.44 268 P **P** **10 59 02.8 +1.0**
baz=38
ALGO Algonquin Park 37.46 270 P **P** **10 59 02.3 +0.3**
baz=38
K62A Royalston 37.59 261 IAMs_20 IAMs_20 11 12 22.3
comp=Z,3µm,20.0s
ACCN Adirondack Com 37.62 264 IAMs_20 IAMs_20 11 12 28.1
comp=Z,3µm,20.0s
PLVO Plevna 37.76 268 IAMs_20 IAMs_20 11 12 43.8
comp=Z,4µm,21.0s
SOC Sochi 37.80 96*d* *i*P **P** **10 59 04.2 -0.7**
SOC *e**PP **pP** **10 59 06.0 -0.2**
SOC *e**SP **sP** **10 59 07.6 +0.8**
SOC *e* 11 00 29.3
SOC *e*PPP PPP 11 00 48.4
SOC *e*S **S** **11 04 57.2 +1.1**
SOC *e*SS **SnSn** **11 07 28.4 -7.1**
SOC pmax pmax
comp=Z,30nm,0.8s
SOC MLR MLR
comp=Z,2µm,15.0s
J59A Piesco 37.91 264 IAMs_20 IAMs_20 11 12 35.8
comp=Z,3µm,21.0s
QUA2 Belchertown 37.95 261 IAMs_20 IAMs_20 11 12 58.9
comp=Z,3µm,19.0s
GOF Gofitskoye 38.06 91⇑ *e*P **P** **10 59 07.4 +0.3**
GOF pmax pmax
comp=Z,195nm,1.8s
TRY Troy 38.15 263 IAMs_20 IAMs_20 11 12 43.1
comp=Z,4µm,20.0s
J58A Remsen 38.33 265 IAMs_20 IAMs_20 11 12 49.9
comp=Z,3µm,21.0s
BRTR Keskin Array B 38.39 105 P **P** **10 59 10.0 -0.1**
comp=Z,7.5nm,0.9s,baz=317,slow=7.0,SNR=21
BRTR Keskin Array B 38.39 105 P **P** **10 59 10.0 -0.1**
BRTR Keskin Array B 38.39 105 P **P** **10 59 09.8 -0.3**
DELO Deloro Mine 38.41 268 IAMs_20 IAMs_20 11 13 04.0
comp=Z,4µm,21.0s
IDI Anoyia 38.71 118 ⇓P **P** **10 59 13.0 +0.3**
IDI Anoyia 38.71 118 IAmb IAmb 10 59 17.2
comp=Z,35nm,1.0s
KIV Kislovodsk 38.78 92 *i* P **P** **10 59 13.1 -0.2**
SNR=10
KIV Kislovodsk 38.78 92 *e*P **P** **10 59 13.1 -0.2**
KIV *e* 11 00 40.6
KIV *e*S **S** **11 05 11.2 0.0**
KIV pmax pmax
comp=Z,79nm,1.1s
KIV pmax pmax
comp=Z,484nm,4.1s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 38.78 92 P **P** **10 59 12.4 -0.9**
KIV IAmb IAmb 10 59 20.8
comp=Z,49nm,1.2s
SADO Sadowa 38.87 270 IAMs_20 IAMs_20 11 13 19.1
comp=Z,3µm,20.0s
KSCT Kent School, K 38.89 262 IAMs_20 IAMs_20 11 13 01.7
comp=Z,3µm,20.0s
K58A Earlville 38.97 265 IAMs_20 IAMs_20 11 13 08.9
comp=Z,3µm,21.0s
YLE Yale 38.99 261 IAMs_20 IAMs_20 11 13 47.5
comp=Z,3µm,19.0s
KBZ Khabaz 39.05 92 P **P** **10 59 16.6 +1.1**
comp=Z,18nm,0.8s,baz=315,slow=9.1,SNR=13
KBZ LR LR 11 15 33.1
comp=Z,3µm,21.6s,baz=333,slow=36
L59A Walton 39.18 264 IAMs_20 IAMs_20 11 13 14.3
comp=Z,3µm,22.0s
WSPT Westport, CT 39.28 261 IAMs_20 IAMs_20 11 13 56.0
comp=Z,3µm,18.0s
YKA Yellowknife Ar 39.35 313 P **P** **10 59 19.3 +1.6**
comp=Z,8.9nm,0.9s,baz=37,slow=8.7,SNR=7.8
YKA LR LR 11 15 26.7
comp=Z,3µm,18.7s,baz=0.0,slow=36
KARP Karpathos 39.35 116 IAMs_20 IAMs_20 11 17 05.7
comp=Z,3µm,21.0s
J55A Hilton 39.50 267 IAMs_20 IAMs_20 11 13 26.8
comp=Z,3µm,22.0s
BINY Binghamton 39.58 265 IAMs_20 IAMs_20 11 13 37.9
comp=Z,3µm,20.0s
TRNY Table Rock, Ra 39.68 262 IAMs_20 IAMs_20 11 13 26.7
comp=Z,2µm,20.0s
AKAS Kas 39.72 112 IAmb IAmb 10 59 27.4
comp=Z,61nm,1.3s
E46A Sault Ste Mari 39.84 276 P **P** **10 59 21.3 -0.7**
E46A IAmb IAmb 10 59 25.4
comp=Z,41nm,1.0s
E46A IAMs_20 IAMs_20 11 14 20.5
comp=Z,3µm,20.0s
J54A Appleton 39.85 268 IAMs_20 IAMs_20 11 13 48.1
comp=Z,3µm,21.0s
MEDO Medina 39.86 268 IAMs_20 IAMs_20 11 13 48.3
comp=Z,3µm,21.0s
ODNJ Ogdensburg 39.90 262 IAMs_20 IAMs_20 11 13 44.4
comp=Z,3µm,20.0s
INK Inuvik 39.99 329 LR LR 11 17 18.6
comp=Z,3µm,18.1s,baz=358,slow=38
INK Inuvik 39.99 329 P **P** **10 59 21.9 -1.0**
INK pmax pmax
comp=Z,47nm,1.5s
INK MLR MLR
comp=Z,4µm,22.0s
INK Inuvik 39.99 329 P **P** **10 59 21.9 -1.0**
INK IAMs_20 IAMs_20 11 16 46.1
comp=Z,4µm,22.0s
KSPA Keystone Colle 40.01 264 IAMs_20 IAMs_20 11 13 51.3
comp=Z,3µm,21.0s
BRNJ Basking Ridge 40.21 262 IAMs_20 IAMs_20 11 13 52.7
comp=Z,2µm,19.0s
ZEI Tsey 40.25 92 *e*P **P** **10 59 25.6 0.0**
ZEI pmax pmax
comp=Z,49nm,1.7s
L56A Greenwood 40.30 266 IAmb IAmb 10 59 30.0
comp=Z,59nm,1.4s
L56A IAMs_20 IAMs_20 11 14 02.1
comp=Z,3µm,22.0s
WVNY West Valley, N 40.54 267 IAMs_20 IAMs_20 11 14 30.2
comp=Z,2µm,21.0s
LUPA Lehigh Univers 40.62 263 IAMs_20 IAMs_20 11 14 07.7
comp=Z,4µm,20.0s
FFC Flin Flon 40.71 298 P **P** **10 59 29.0 -0.1**
FFC MLR MLR
comp=Z,6µm,18.0s
FFC Flin Flon 40.71 298 P **P** **10 59 29.0 -0.1**
FFC IAmb IAmb 10 59 32.7
comp=Z,68nm,1.4s
GROC Groznyy 40.73 90 *e*P **P** **10 59 28.4 -1.0**
GROC *e* 11 01 03.9
GROC *e*S **S** **11 05 42.0 +1.8**
GROC pmax pmax
comp=Z,86nm,1.1s
M57A Sunshine Farm, 40.77 265 IAMs_20 IAMs_20 11 14 24.5
comp=Z,2µm,20.0s
E43A Lone Tree Farm 40.99 278 IAMs_20 IAMs_20 11 14 58.8
comp=Z,4µm,21.0s
N58A Sunbury 41.00 264 IAMs_20 IAMs_20 11 14 21.6
comp=Z,4µm,22.0s
KOPT Kop Dagi 41.05 98 P **P** **10 59 34.5 +2.1**
KOPT IAmb IAmb 10 59 50.1
comp=Z,56nm,1.3s
M56A Emporium 41.11 266 IAMs_20 IAMs_20 11 14 38.3
comp=Z,3µm,21.0s
D41A Chassel 41.12 280 IAMs_20 IAMs_20 11 15 04.3
comp=Z,3µm,21.0s
AKH Akhalkalaki 41.19 94 P **P** **10 59 32.3 -1.1**
AKH pmax pmax
comp=Z,143nm,1.5s
AKH MLR MLR
comp=Z,2µm,22.0s
AKH Akhalkalaki 41.19 94 P **P** **10 59 32.3 -1.1**
GLMI Grayling 41.19 275 IAMs_20 IAMs_20 11 15 38.4
comp=Z,4µm,18.0s
PSUB Penn St. - Bra 41.21 262 IAMs_20 IAMs_20 11 14 33.3
comp=Z,2µm,19.0s
ERPA Erie 41.37 268 IAMs_20 IAMs_20 11 14 44.2
comp=Z,3µm,21.0s
M55A Ridgway 41.37 267 IAMs_20 IAMs_20 11 14 34.3
comp=Z,3µm,22.0s
P60A Greenville 41.39 262 IAMs_20 IAMs_20 11 14 39.9
comp=Z,3µm,19.0s
G45A Suttons Bay 41.47 276 IAMs_20 IAMs_20 11 15 47.6
comp=Z,3µm,18.0s
N56A West Decatur 41.62 266 P **P** **10 59 37.8 +1.0**
baz=35
MAK Makhachkala 41.66 89 *e*P P 10 59 31.0 -6.0
MAK *e*S **S** **11 05 45.2 -8.8**
MAK *e*SS **SS** **11 08 55.6 -3.0**
MAK pmax pmax
comp=Z,477nm,1.3s
MAK MLR MLR
comp=Z,2µm,16.0s
EYMN Ely 41.67 283 P **P** **10 59 37.8 +0.7**
baz=39
EYMN Ely 41.67 283 P **P** **10 59 37.0 0.0**
EYMN Ely 41.67 283 IAMs_20 IAMs_20 11 15 38.7
comp=Z,3µm,20.0s
SSPA Standing Stone 41.68 265 P **P** **10 59 37.3 +0.1**
baz=34
ULM Lac du Bonnet 41.70 289 P **P** **10 59 37.1 -0.1**
comp=Z,3.8nm,0.7s,baz=60,slow=6.4,SNR=5.5
ULM LR LR 11 15 45.9
comp=Z,2µm,19.4s,baz=42,slow=34
M54A Oil Creek Stat 41.73 267 P **P** **10 59 39.1 +1.5**
baz=35
M54A Oil Creek Stat 41.73 267 IAMs_20 IAMs_20 11 15 08.7
comp=Z,2µm,21.0s
ALLY Alegheny Colle 41.82 268 IAMs_20 IAMs_20 11 14 59.1
comp=Z,3µm,21.0s
O57A Amberson 41.92 264 P **P** **10 59 41.1 +1.9**
baz=34
F42A Maple Grove Fa 41.96 279 IAMs_20 IAMs_20 11 15 39.6
comp=Z,4µm,21.0s
AB31 Akbulak array 41.98 73 *i* P **P** **10 59 37.8 -1.8**
ABKAR Akbulak array 41.98 73 P **P** **10 59 38.8 -0.7**
N55A Marion Center 42.03 266 P **P** **10 59 41.7 +1.6**
baz=34
COWI Conover 42.12 280 IAMs_20 IAMs_20 11 15 43.7
comp=Z,3µm,20.0s
TIXI Tiksi 42.15 15 P **P** **10 59 40.1 -0.6**
TIXI IAMs_20 IAMs_20 11 14 46.2
comp=Z,3µm,22.0s
M53A WI Miller and 42.22 268 P **P** **10 59 43.0 +1.4**
baz=35
M53A WI Miller and 42.22 268 IAMs_20 IAMs_20 11 15 10.7
comp=Z,3µm,21.0s
B35A Bob, Littlefor 42.28 286 IAMs_20 IAMs_20 11 16 24.8
comp=Z,3µm,18.0s
EPYK Eagle Plains 42.29 329 P **P** **10 59 41.4 -0.6**
baz=34
EPYK Eagle Plains 42.29 329 IAmb IAmb 10 59 44.9
comp=Z,52nm,1.4s
N54A Moraine State 42.31 267 P **P** **10 59 42.7 +0.3**
baz=35
N54A Moraine State 42.31 267 IAmb IAmb 10 59 46.3
comp=Z,40nm,1.2s
N54A IAMs_20 IAMs_20 11 15 26.3
comp=Z,3µm,21.0s
CSS Mathiatis 42.33 109 P **P** **10 59 43.2 +0.6**
CSS IAmb IAmb 10 59 50.3
comp=Z,53nm,1.3s
M52A Chesterland 42.43 269 IAMs_20 IAMs_20 11 15 27.3
comp=Z,4µm,20.0s
I45A Fountain 42.52 276 IAMs_20 IAMs_20 11 16 29.4
comp=Z,3µm,18.0s
P57A Homestead Farm 42.68 264 IAMs_20 IAMs_20 11 15 24.1
comp=Z,4µm,21.0s
E38A The Farm, Brul 42.74 282 IAMs_20 IAMs_20 11 16 00.2
comp=Z,2µm,19.0s
N53A Lisbon 42.81 268 IAmb IAmb 10 59 50.2
comp=Z,44nm,1.3s
N53A IAMs_20 IAMs_20 11 15 29.3
comp=Z,3µm,22.0s
H43A Windswept, Lux 42.83 277 IAMs_20 IAMs_20 11 16 03.7
comp=Z,4µm,21.0s
TOLK Toolik Lake Re 42.90 337 P **P** **10 59 48.1 +1.2**
baz=28,SNR=6.9
TOLK Toolik Lake Re 42.90 337 P **P** **10 59 47.3 +0.4**
TOLK IAMs_20 IAMs_20 11 19 13.9
comp=Z,3µm,20.0s
M51A Elyria 42.96 270 P **P** **10 59 47.8 +0.2**
baz=35
AKT Akhty 42.97 90 *e*P **P** **10 59 50.8 +3.0**
AKT *e* 11 01 31.7
AKT *e* 11 01 46.1
AKT pmax pmax
comp=Z,42nm,1.3s
BMAR Burnt Mountain 43.05 333 P **P** **10 59 47.8 -0.3**
BMAR **PcP** **11 01 38.1 +0.2**
O54A Avella 43.12 267 P **P** **10 59 50.9 +2.0**
baz=34
O54A Avella 43.12 267 IAMs_20 IAMs_20 11 16 01.7
comp=Z,3µm,20.0s
BRVK Borovoye 43.15 62*c* *i*P **P** **10 59 49.0 0.0**
BRVK pmax pmax
comp=Z,78nm,1.9s
BRVK Borovoye 43.15 62 P **P** **10 59 48.5 -0.6**
N52A McGinn's Farm, 43.17 269 P **P** **10 59 50.6 +1.2**
baz=35
AGMN Agassiz Nation 43.21 287 P **P** **10 59 49.6 0.0**
baz=38
AGMN Agassiz Nation 43.21 287 IAMs_20 IAMs_20 11 17 14.5
comp=Z,3µm,19.0s
G40A Rib Lake 43.23 280 IAMs_20 IAMs_20 11 16 18.2
comp=Z,3µm,21.0s
M50A Fremont 43.27 270 IAmb IAmb 10 59 54.0
comp=Z,60nm,1.1s
M50A IAMs_20 IAMs_20 11 16 04.5
comp=Z,3µm,19.0s
MCWV Mont Chateau 43.33 266 P **P** **10 59 53.9 +3.3**
baz=34
N51A Ashland 43.38 269 P **P** **10 59 52.9 +1.8**
baz=35
N51A Ashland 43.38 269 IAmb IAmb 11 00 01.5
comp=Z,78nm,1.5s
N51A IAMs_20 IAMs_20 11 15 57.4
comp=Z,4µm,20.0s
O53A New Philadelph 43.43 268 P **P** **10 59 52.7 +1.3**
baz=34
O53A New Philadelph 43.43 268 P **P** **10 59 51.2 -0.2**
O53A IAmb IAmb 10 59 55.5
comp=Z,60nm,1.4s
O53A IAMs_20 IAMs_20 11 16 09.7
comp=Z,3µm,20.0s
L48A N Adams 43.43 272 P **P** **10 59 51.8 +0.4**
L48A IAmb IAmb 10 59 55.0
comp=Z,25nm,0.9s
CBN Corbin Frederi 43.47 263 IAMs_20 IAMs_20 11 15 53.1
comp=Z,2µm,19.0s
Q56A Snyder Ridge, 43.56 265 IAMs_20 IAMs_20 11 15 53.2
comp=Z,3µm,22.0s
O52A Adamsville 43.81 268 P **P** **10 59 54.9 +0.4**
baz=34
O52A Adamsville 43.81 268 IAmb IAmb 11 00 00.1
comp=Z,38nm,1.2s
O52A IAMs_20 IAMs_20 11 16 30.8
comp=Z,3µm,19.0s
R58B Mineral 43.89 263 IAMs_20 IAMs_20 11 16 06.2
comp=Z,3µm,20.0s
FYU Fort Yukon 43.92 333 P **P** **10 59 55.7 +0.6**
O51A Pataskala 44.12 269 P **P** **10 59 56.5 -0.4**
baz=34,SNR=7.1
P53A Whipple 44.14 267 P **P** **10 59 58.3 +1.2**
baz=34
P53A Whipple 44.14 267 P **P** **10 59 57.6 +0.5**
P53A IAmb IAmb 10 59 59.7
comp=Z,51nm,1.4s
P53A IAMs_20 IAMs_20 11 16 33.5
comp=Z,3µm,21.0s
N49A Columbus Grove 44.16 271 IAmb IAmb 11 00 01.1
comp=Z,44nm,0.9s
N49A IAMs_20 IAMs_20 11 16 33.0
comp=Z,2µm,20.0s
L46A Eue Claire 44.18 274 IAMs_20 IAMs_20 11 17 19.5
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 44.21 269 P **P** **10 59 57.8 +0.1**
baz=34
ACSO Alum Creek Sta 44.21 269 P **P** **10 59 57.2 -0.5**
ACSO IAmb IAmb 11 00 01.4
comp=Z,32nm,1.1s
ACSO IAMs_20 IAMs_20 11 16 32.3
comp=Z,3µm,20.0s
S58A Poland Farm, P 44.26 263 IAMs_20 IAMs_20 11 16 17.9
comp=Z,3µm,19.0s
COLD Coldfoot 44.27 336 P **P** **10 59 58.7 +0.8**
baz=27,SNR=8.0
COLD Coldfoot 44.27 336 P **P** **10 59 58.3 +0.5**
COLD IAmb IAmb 11 00 01.8
comp=Z,28nm,1.1s
COLD IAMs_20 IAMs_20 11 20 30.1
comp=Z,3µm,20.0s
Q54A Coxs Mills 44.31 266 IAMs_20 IAMs_20 11 16 26.2
comp=Z,3µm,22.0s
P52A Corning 44.34 268 P **P** **10 59 59.8 +1.0**
baz=34
P52A Corning 44.34 268 IAmb IAmb 11 00 02.4
comp=Z,38nm,1.2s
P52A IAMs_20 IAMs_20 11 16 26.7
comp=Z,3µm,21.0s
TAM Tamanrasset 44.36 149 P **P** **10 59 59.6 +0.4**
TAM pmax pmax
comp=Z,34nm,1.4s
TAM MLR MLR
comp=Z,3µm,20.0s
TAM Tamanrasset 44.36 149 P **P** **10 59 59.6 +0.4**
TAM IAmb IAmb 11 00 06.6
comp=Z,34nm,1.4s
TAM IAMs_20 IAMs_20 11 18 24.1
comp=Z,3µm,20.0s
SPMN Marine on St. 44.37 282 P **P** **10 59 59.9 +0.9**
baz=37
K43A Burlington 44.50 276 IAMs_20 IAMs_20 11 17 31.7
comp=Z,3µm,18.0s
R55A Marlinton 44.59 265 IAMs_20 IAMs_20 11 16 24.5
comp=Z,3µm,22.0s
D32A Dogwood Acres, 44.61 287 P **P** **11 00 01.3 +0.4**
D32A IAmb IAmb 11 00 10.8
comp=Z,12nm,0.6s
D32A IAMs_20 IAMs_20 11 17 55.4
comp=Z,3µm,19.0s
EGAK Eagle 44.63 330 P **P** **11 00 00.5 -0.3**
EGAK IAmb IAmb 11 00 03.8
comp=Z,63nm,1.5s
EGAK IAMs_20 IAMs_20 11 19 47.8
comp=Z,3µm,19.0s
Q53A Leroy 44.72 267 P **P** **11 00 03.7 +1.9**
baz=34
L44A Lake County Fo 44.74 275 IAMs_20 IAMs_20 11 17 47.3
comp=Z,3µm,18.0s
O49A Covington 44.83 271 IAmb IAmb 11 00 06.2
comp=Z,38nm,1.0s
O49A IAMs_20 IAMs_20 11 16 52.7
comp=Z,3µm,21.0s
P51A Williamsport 44.86 269 P **P** **11 00 02.2 -0.7**
baz=34
P51A Williamsport 44.86 269 P **P** **11 00 03.1 +0.2**
P51A IAmb IAmb 11 00 06.3
comp=Z,27nm,1.0s
P51A IAMs_20 IAMs_20 11 16 52.6
comp=Z,3µm,20.0s
Q52A Bidwell 44.95 268 P **P** **11 00 04.9 +1.3**
baz=34
HQIL Hanson Quary C 45.03 275 IAMs_20 IAMs_20 11 17 53.8
comp=Z,2µm,20.0s
MDND Maddock 45.10 290 P **P** **11 00 05.3 +0.5**
baz=37
R53A Hurricane 45.34 267 IAMs_20 IAMs_20 11 17 10.3
comp=Z,4µm,21.0s
F33A 5 Mile Ranch, 45.34 285 IAmb IAmb 11 00 10.4
comp=Z,25nm,1.1s
F33A IAMs_20 IAMs_20 11 17 49.9
comp=Z,2µm,20.0s
Q51A Peebles 45.36 269 P **P** **11 00 07.8 +0.9**
Q51A IAmb IAmb 11 00 10.5
comp=Z,30nm,1.1s
Q51A IAMs_20 IAMs_20 11 16 57.9
comp=Z,2µm,21.0s
K27K Chicken 45.48 329 P **P** **11 00 08.3 +0.8**
baz=30
S54A Dingess, Beckl 45.51 266 P **P** **11 00 09.6 +1.5**
baz=33
P49A Miami Univ. Ec 45.53 270 P **P** **11 00 09.2 +0.9**
baz=34
P49A Miami Univ. Ec 45.53 270 IAmb IAmb 11 00 11.4
comp=Z,19nm,0.9s
P49A IAMs_20 IAMs_20 11 17 14.4
comp=Z,3µm,20.0s
I37A Lemond, Waseca 45.60 281 P **P** **11 00 10.0 +1.3**
I37A IAmb IAmb 11 00 19.4
comp=Z,53nm,1.4s
I37A IAMs_20 IAMs_20 11 17 42.8
comp=Z,3µm,20.0s
POKR Poker Plat Res 45.64 333 P **P** **11 00 10.1 +1.3**
baz=28,SNR=5.7
L42A Oliver, Polo 45.64 277 IAMs_20 IAMs_20 11 17 49.0
comp=Z,3µm,20.0s
IL31 45.84 333 IAmb IAmb 11 00 15.1
comp=Z,45nm,1.3s
ILAR Eielson Array 45.84 333 P **P** **11 00 10.0 -0.4**
comp=Z,16nm,1.1s,baz=26,slow=6.3,SNR=28
ILAR PcP **PcP** **11 01 46.6 -0.9**
comp=Z,8.9nm,1.0s,baz=356,slow=2.9,SNR=19
ILAR LR LR 11 21 46.1
comp=Z,2µm,19.7s,baz=34,slow=39
ILAR Eielson Array 45.84 333 P **P** **11 00 10.2 -0.1**
T55A Pulaski 45.85 265 P **P** **11 00 12.1 +1.3**
baz=32
SFIN Lafayette 45.87 273 P **P** **11 00 11.4 +0.5**
baz=34
SFIN Lafayette 45.87 273 IAmb IAmb 11 00 15.6
comp=Z,43nm,1.4s
SFIN IAMs_20 IAMs_20 11 18 13.1
comp=Z,2µm,19.0s
P48A Milroy 45.90 271 IAmb IAmb 11 00 13.6
comp=Z,41nm,1.2s
P48A IAMs_20 IAMs_20 11 17 37.1
comp=Z,2µm,19.0s
MDM Murphy Dome 45.93 333 IAMs_20 IAMs_20 11 22 21.1
comp=Z,2µm,18.0s
COLA College 45.94 333*c* *i*P **P** **11 00 11.6 +0.5**
COLA pmax pmax
comp=Z,57nm,1.2s
COLA College 45.94 333 P **P** **11 00 11.3 +0.2**
TCOL CIGO, UAF Yank 45.94 333 P **P** **11 00 12.0 +0.9**
baz=27,SNR=6.9
SCRK Sand Creek 45.94 330 P **P** **11 00 11.5 +0.2**
baz=29,SNR=20
CCB Clear Creek Bu 46.13 333 IAmb IAmb 11 00 17.2
comp=Z,39nm,1.4s
HDA Harding Lake 46.17 332 P **P** **11 00 12.8 -0.2**
baz=28,SNR=24
HDA Harding Lake 46.17 332 IAMs_20 IAMs_20 11 21 44.4
comp=Z,2µm,20.0s
DOT Dot Lake 46.24 330 P **P** **11 00 13.8 +0.2**
DOT IAmb IAmb 11 00 17.8
comp=Z,47nm,1.5s
DOT IAMs_20 IAMs_20 11 22 44.5
comp=Z,2µm,20.0s
V58A Windy Hill, Pi 46.25 262 IAMs_20 IAMs_20 11 18 18.6
comp=Z,3µm,18.0s
BCAR Beaver Creek A 46.26 329 P **P** **11 00 13.3 -0.5**
L40A Anamosa 46.26 278 P **P** **11 00 12.9 -1.0**
L40A IAmb IAmb 11 00 19.2
comp=Z,46nm,1.4s
RIDG Independent Ri 46.33 331 IAMs_20 IAMs_20 11 21 37.7
comp=Z,2µm,18.0s
WRH Wood River Hil 46.34 333 IAmb IAmb 11 00 19.8
comp=Z,22nm,1.4s
R50A Paris 46.41 269 IAmb IAmb 11 00 20.4
comp=Z,33nm,1.5s
R50A IAMs_20 IAMs_20 11 17 40.5
comp=Z,3µm,20.0s
NEA2 Nenana 46.42 334 P **P** **11 00 15.0 0.0**
baz=26,SNR=28
K38A Parkersburg 46.44 280 IAmb IAmb 11 00 31.0
comp=Z,18nm,1.0s
DGMT Dagmar 46.45 294 P **P** **11 00 16.2 +0.7**
baz=36
DGMT Dagmar 46.45 294 P **P** **11 00 15.4 -0.1**
DGMT Dagmar 46.45 294 IAMs_20 IAMs_20 11 18 37.0
comp=Z,3µm,21.0s
U55A TA2, Sparta 46.48 265 P **P** **11 00 16.6 +0.7**
baz=32
BRZS Berezniki 46.50 63 *e*P **P** **11 00 14.1 -1.7**
comp=Z,89nm,1.7s,baz=63
BRZS *i* PP **PP** **11 02 03.3 -1.3**
baz=63

BRZS				LR	LR	11 18 29.5	
	comp=Z,670nm,14.8s,baz=63						
BRZS	**Berezniki**	**46.50**	**63**	*e*P	**P**	**11 00 14.0**	**-1.7**
BRZS				*i*		11 02 03.2	
BRZS				pmax	pmax		
	comp=Z,89nm,1.7s						
BRZS				MLR	MLR		
	comp=Z,670nm,15.0s						
P46A	**Rosedale**	**46.54**	**273**	IAms_20	IAms_20	11 18 34.0	
	comp=Z,2μm,18.0s						
E28A	**Huff**	**46.57**	**289**	IAmb	IAmb	11 00 19.8	
	comp=Z,24nm,1.1s						
S51A	**Beattyville**	**46.63**	**268**	IAms_20	IAms_20	11 18 10.4	
	comp=Z,3μm,21.0s						
O44A	**Mansfield**	**46.64**	**274**	P	**P**	**11 00 17.2**	**+0.2**
O44A				IAms_20	IAms_20	11 18 54.6	
	comp=Z,2μm,18.0s						
WHY	**Whitehorse**	**46.66**	**323**	IAmb	IAmb	11 00 22.7	
	comp=Z,39nm,1.5s						
WHY				IAms_20	IAms_20	11 19 48.5	
	comp=Z,3μm,21.0s						
HDIL	**Hopedale**	**46.67**	**275**	P	**P**	**11 00 16.9**	**-0.3**
HDIL				IAms_20	IAms_20	11 18 56.2	
	comp=Z,2μm,19.0s						
T53A	**Wise**	**46.72**	**267**	P	**P**	**11 00 19.1**	**+1.3**
	baz=32						
R49A	**Shelbyville**	**46.77**	**270**	IAmb	IAmb	11 00 29.0	
	comp=Z,24nm,1.4s						
R49A				IAms_20	IAms_20	11 18 02.0	
	comp=Z,3μm,21.0s						
MENT	**Mentasta**	**46.80**	**330**	P	**P**	**11 00 18.4**	**+0.4**
MENT				IAmb	IAmb	11 00 24.0	
	comp=Z,41nm,1.5s						
MENT				IAms_20	IAms_20	11 21 05.0	
	comp=Z,2μm,19.0s						
PAX	**Paxson**	**47.15**	**331**	IAmb	IAmb	11 00 22.1	
	comp=Z,16nm,1.3s						
PAX				IAms_20	IAms_20	11 21 09.2	
	comp=Z,2μm,18.0s						
MCK	**McKinley**	**47.17**	**333**	IAms_20	IAms_20	11 20 54.9	
	comp=Z,2μm,21.0s						
W57A	**Gilead**	**47.17**	**263**	IAms_20	IAms_20	11 18 48.0	
	comp=Z,2μm,18.0s						
ECSD	**EROS Data Cent**	**47.18**	**284**	P	**P**	**11 00 21.9**	**+0.7**
	baz=35						
N41A	**Harden Midland**	**47.21**	**277**	IAms_20	IAms_20	11 18 37.7	
	comp=Z,3μm,21.0s						
DLBC	**Dease Lake**	**47.22**	**319**	LR	LR	11 20 33.9	
	comp=Z,2μm,19.1s,baz=32,slow=37						
DLBC	**Dease Lake**	**47.22**	**319**	IAms_20	IAms_20	11 20 22.4	
	comp=Z,2μm,19.0s						
WCI	**Wyandotte Cave**	**47.30**	**271**	P	**P**	**11 00 21.1**	**-1.0**
WCI				pmax	pmax		
	comp=Z,35nm,1.0s						
WCI	**Wyandotte Cave**	**47.30**	**271**	P	**P**	**11 00 21.7**	**-0.4**
	baz=33						
WCI	**Wyandotte Cave**	**47.30**	**271**	P	**P**	**11 00 21.1**	**-1.0**
WCI				IAms_20	IAms_20	11 18 30.2	
	comp=Z,3μm,19.0s						
Y60A	**Bolivia**	**47.39**	**260**	IAms_20	IAms_20	11 18 19.9	
	comp=Z,2μm,20.0s						
W56A	**Indian Trail**	**47.44**	**263**	P	**P**	**11 00 24.8**	**+1.6**
	baz=32						
DHY	**Denali Highway**	**47.45**	**332**	IAmb	IAmb	11 00 27.9	
	comp=Z,27nm,1.5s						
DHY				IAms_20	IAms_20	11 21 33.2	
	comp=Z,3μm,19.0s						
RND	**Reindeer**	**47.45**	**333**	IAmb	IAmb	11 00 31.2	
	comp=Z,22nm,1.4s						
RND				IAms_20	IAms_20	11 22 14.2	
	comp=Z,2μm,20.0s						
V54A	**Nebo**	**47.48**	**265**	P	**P**	**11 00 24.6**	**+1.0**
	baz=32						
TZTN	**Tazewell**	**47.53**	**267**	IAms_20	IAms_20	11 18 39.3	
	comp=Z,2μm,20.0s						
SUSD	**Miller**	**47.58**	**286**	IAms_20	IAms_20	11 19 36.1	
	comp=Z,2μm,20.0s						
ZAA0	**Zalesovo Array**	**47.68**	**51**	IAmb	IAmb	11 00 26.3	
	comp=Z,32nm,1.4s						
ZALV	**Zalesovo Beam**	**47.68**	**51**	P	**P**	**11 00 25.1**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=329,slow=8.0,SNR=19						
ZALV				PcP	**PcP**	**11 01 54.8**	**+0.6**
	comp=Z,4.0nm,1.0s,baz=318,slow=4.0,SNR=3.9						
ZALV				LR	LR	11 23 24.4	
	comp=Z,1μm,18.2s,baz=324,slow=40						
T50A	**Nancy**	**47.69**	**269**	IAms_20	IAms_20	11 18 22.4	
	comp=Z,2μm,21.0s						
TRF	**Thorofare Moun**	**47.69**	**334**	IAmb	IAmb	11 00 30.2	
	comp=Z,24nm,1.2s						
TRF				IAms_20	IAms_20	11 21 55.5	
	comp=Z,2μm,19.0s						
KTH	**Kantishna Hill**	**47.72**	**334**	IAms_20	IAms_20	11 21 57.3	
	comp=Z,2μm,20.0s						
KMSC	**Kings Mountain**	**47.76**	**264**	P	**P**	**11 00 26.4**	**+0.6**
	baz=32						
KMSC	**Kings Mountain**	**47.76**	**264**	IAms_20	IAms_20	11 18 18.5	
	comp=Z,3μm,20.0s						
SKAG	**Skagway**	**47.80**	**322**	IAmb	IAmb	11 00 31.4	
	comp=Z,32nm,1.3s						
SKAG				IAms_20	IAms_20	11 21 10.8	
	comp=Z,3μm,19.0s						
BIRD	**Birdtown, Kers**	**47.81**	**263**	IAms_20	IAms_20	11 19 16.8	
	comp=Z,2μm,18.0s						
Q44A	**Meyer Farm, Va**	**47.92**	**274**	IAms_20	IAms_20	11 19 27.3	
	comp=Z,2μm,20.0s						
BARN	**Barnard Glacie**	**47.99**	**327**	IAms_20	IAms_20	11 21 01.5	
	comp=Z,2μm,20.0s						
CTGM	**Chitina Glacie**	**47.99**	**327**	IAmb	IAmb	11 00 32.9	
	comp=Z,26nm,1.4s						
CTGM				IAms_20	IAms_20	11 21 34.7	
	comp=Z,3μm,18.0s						
MCARA	**McCarthy VSAT**	**48.02**	**328**	IAmb	IAmb	11 00 31.3	
	comp=Z,35nm,1.4s						
M24K	**Tolsona, Glenn**	**48.07**	**330**	P	**P**	**11 00 27.3**	**-0.6**
	baz=27						
M24K	**Tolsona, Glenn**	**48.07**	**330**	IAmb	IAmb	11 00 40.4	
	comp=Z,31nm,1.2s						
M24K				IAms_20	IAms_20	11 21 57.5	
	comp=Z,2μm,18.0s						
GLB	**Gilahina Butte**	**48.14**	**329**	IAmb	IAmb	11 00 29.7	
	comp=Z,19nm,1.4s						
GLB				IAms_20	IAms_20	11 21 34.6	
	comp=Z,2μm,20.0s						
KURK	**Kurchatov**	**48.14**	**58**	*de*P	**P**	**11 00 26.9**	**-1.6**
KURK				pmax	pmax		
	comp=Z,70nm,2.1s						
KURK	**Kurchatov**	**48.14**	**58**	P	**P**	**11 00 27.6**	**-0.9**
KURK				IAmb	IAmb	11 00 31.5	
	comp=Z,24nm,0.9s						
KURK	**Kurchatov**	**48.14**	**58**	IAms_20	IAms_20	11 20 45.7	
	comp=Z,3μm,20.0s						
V52A	**Sevierville**	**48.14**	**267**	IAms_20	IAms_20	11 18 48.5	
	comp=Z,3μm,22.0s						
N38A	**Joes South For**	**48.16**	**279**	IAmb	IAmb	11 00 34.5	
	comp=Z,14nm,0.9s						
BALM	**Baldy**	**48.17**	**328**	IAms_20	IAms_20	11 21 16.3	
	comp=Z,2μm,20.0s						
W54A	**Cherokee Point**	**48.17**	**265**	P	**P**	**11 00 28.9**	**-0.1**
	baz=32						
VRDI	**Verde Repeater**	**48.25**	**328**	IAms_20	IAms_20	11 21 37.5	
	comp=Z,3μm,19.0s						
Y57A	**Sumter**	**48.31**	**262**	IAms_20	IAms_20	11 21 37.2	
	comp=Z,2μm,18.0s						
TKL	**Tuckaleechee C**	**48.37**	**267**	IAms_20	IAms_20	11 18 55.6	
	comp=Z,3μm,21.0s						
BESE	**Bessie Mountai**	**48.43**	**322**	IAms_20	IAms_20	11 21 09.5	
	comp=Z,3μm,19.0s						
BCPM	**Bancas Point**	**48.47**	**325**	IAms_20	IAms_20	11 21 36.4	
	comp=Z,2μm,20.0s						
PCA	**Pinnacle**	**48.50**	**326**	IAms_20	IAms_20	11 22 21.1	
	comp=Z,3μm,21.0s						
V51A	**Loudon**	**48.50**	**267**	IAms_20	IAms_20	11 19 19.0	
	comp=Z,3μm,20.0s						
U49A	**Red Boiling Sp**	**48.52**	**269**	IAmb	IAmb	11 00 35.0	
	comp=Z,21nm,1.1s						
U49A				IAms_20	IAms_20	11 18 57.4	
	comp=Z,2μm,20.0s						
TGL	**Tana Glacier**	**48.53**	**328**	IAmb	IAmb	11 00 36.4	
	comp=Z,15nm,1.0s						
TGL				IAms_20	IAms_20	11 21 37.8	
	comp=Z,3μm,19.0s						
L34A	**Svendsen Farm,**	**48.53**	**282**	IAms_20	IAms_20	11 19 42.3	
	comp=Z,2μm,18.0s						
ISLE	**Juniper Island**	**48.55**	**327**	IAmb	IAmb	11 00 36.0	
	comp=Z,34nm,1.5s						
ISLE				IAms_20	IAms_20	11 21 28.4	
	comp=Z,3μm,20.0s						
SCM	**Sheep Creek Mo**	**48.55**	**331**	IAmb	IAmb	11 00 36.4	
	comp=Z,32nm,1.2s						
SCM				IAms_20	IAms_20	11 21 56.5	
	comp=Z,2μm,19.0s						
KLU	**Klutina**	**48.56**	**330**	IAmb	IAmb	11 00 38.0	
	comp=Z,26nm,1.4s						
KLU				IAms_20	IAms_20	11 22 13.7	
	comp=Z,2μm,20.0s						
JIS	**Juneau Island**	**48.57**	**321**	IAms_20	IAms_20	11 21 23.1	
	comp=Z,3μm,18.0s						
BG3	**Lake Jocassee**	**48.57**	**265**	IAms_20	IAms_20	11 18 58.4	
	comp=Z,3μm,20.0s						
YAH	**Yahtse**	**48.62**	**327**	IAms_20	IAms_20	11 21 56.4	
	comp=Z,3μm,18.0s						
T47A	**Sharon Grove**	**48.69**	**271**	IAms_20	IAms_20	11 19 13.0	
	comp=Z,3μm,20.0s						
P40A	**Paris**	**48.70**	**277**	IAms_20	IAms_20	11 19 33.0	
	comp=Z,2μm,20.0s						
LAO	**LASA Array**	**48.70**	**294**	P	**P**	**11 00 33.4**	**+0.4**
	baz=35,SNR=15						
SML	**Sawmill**	**48.79**	**332**	IAms_20	IAms_20	11 22 19.6	
	comp=Z,2μm,20.0s						
WAX	**Waxell Ridge**	**48.80**	**328**	IAmb	IAmb	11 00 40.0	
	comp=Z,40nm,1.4s						
MESA	**MESA**	**48.83**	**327**	IAms_20	IAms_20	11 22 12.2	
	comp=Z,3μm,18.0s						
CPCT	**Cooper Cave**	**48.87**	**267**	IAms_20	IAms_20	11 19 29.8	
	comp=Z,2μm,19.0s						
HODGE	**Hodges**	**48.93**	**264**	IAms_20	IAms_20	11 19 05.5	
	comp=Z,2μm,21.0s						
GHO	**Glory Hole Cre**	**48.94**	**332**	IAmb	IAmb	11 00 38.5	
	comp=Z,40nm,1.3s						
EGMT	**Eagleton**	**48.99**	**297**	P	**P**	**11 00 36.3**	**+1.1**
	baz=35,SNR=32						
S44A	**Carbondale**	**49.03**	**273**	IAms_20	IAms_20	11 20 10.8	
	comp=Z,2μm,18.0s						
CLTN	**Cedars of Leba**	**49.11**	**269**	IAmb	IAmb	11 00 39.1	
	comp=Z,24nm,1.2s						
CLTN				IAms_20	IAms_20	11 19 15.1	
	comp=Z,2μm,21.0s						
N35A	**Tabor**	**49.13**	**281**	IAms_20	IAms_20	11 19 45.3	
	comp=Z,3μm,21.0s						
PMR	**Palmer**	**49.15**	**332**	IAmb	IAmb	11 00 40.0	
	comp=Z,36nm,1.3s						
PMR				IAms_20	IAms_20	11 22 24.1	
	comp=Z,2μm,21.0s						
KNK	**Knik Glacier**	**49.17**	**331**	IAms_20	IAms_20	11 22 24.7	
	comp=Z,2μm,18.0s						
TTA	**Tatalina**	**49.21**	**336**	IAmb	IAmb	11 00 40.8	
	comp=Z,36nm,1.3s						
TTA				IAms_20	IAms_20	11 21 46.7	
	comp=Z,2μm,20.0s						
SKT	**Skwentna**	**49.27**	**333**	IAmb	IAmb	11 00 39.9	
	comp=Z,36nm,1.2s						
SKT				IAms_20	IAms_20	11 23 55.3	
	comp=Z,2μm,20.0s						
FID	**Port Fidalgo**	**49.35**	**330**	IAms_20	IAms_20	11 24 33.7	
	comp=Z,2μm,18.0s						
EYAK	**Cordova Ski Ar**	**49.37**	**329**	IAmb	IAmb	11 00 46.5	
	comp=Z,38nm,1.3s						
EYAK				IAms_20	IAms_20	11 24 35.0	
	comp=Z,2μm,20.0s						
W50A	**Signal Mountai**	**49.42**	**268**	IAms_20	IAms_20	11 19 47.5	
	comp=Z,3μm,20.0s						
CCM	**Cathedral Cave**	**49.59**	**275**	P	**P**	**11 00 40.1**	**+0.3**
CCM				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CCM	**Cathedral Cave**	**49.59**	**275**	P	**P**	**11 00 40.0**	**+0.3**
	baz=33						
CCM	**Cathedral Cave**	**49.59**	**275**	P	**P**	**11 00 40.1**	**+0.3**
CCM	**Cathedral Cave**	**49.59**	**275**	IAms_20	IAms_20	11 20 46.4	
	comp=Z,2μm,18.0s						
SUA	**Susitna One**	**49.59**	**333**	IAms_20	IAms_20	11 23 30.7	
	comp=Z,2μm,19.0s						
WRAK	**Wrangell Islan**	**49.60**	**319**	IAms_20	IAms_20	11 23 36.3	
	comp=Z,2μm,18.0s						
V48A	**Smith Brothers**	**49.62**	**270**	IAmb	IAmb	11 00 42.7	
	comp=Z,30nm,1.3s						
V48A				IAms_20	IAms_20	11 19 41.6	
	comp=Z,2μm,20.0s						
HIN	**Hinchinbrook I**	**49.67**	**330**	IAms_20	IAms_20	11 22 38.0	
	comp=Z,2μm,18.0s						
SWET	**Sewanee**	**49.68**	**268**	IAms_20	IAms_20	11 19 54.2	
	comp=Z,3μm,21.0s						
SACV	**Santiago Islan**	**49.69**	**188**	IAms_20	IAms_20	11 16 09.7	
	comp=Z,3μm,22.0s						
WALA	**Waterton Lakes**	**49.70**	**301**	IAmb	IAmb	11 00 48.2	
	comp=Z,34nm,1.4s						
WVT	**Waverly**	**49.73**	**271**	P	**P**	**11 00 41.8**	**+0.9**
WVT				pmax	pmax		
	comp=Z,26nm,1.4s						
WVT	**Waverly**	**49.73**	**271**	P	**P**	**11 00 41.8**	**+0.9**
	baz=32						
WVT	**Waverly**	**49.73**	**271**	P	**P**	**11 00 41.8**	**+0.9**
WVT				IAmb	IAmb	11 00 43.0	
	comp=Z,26nm,1.4s						
WVT				IAms_20	IAms_20	11 19 55.4	
	comp=Z,3μm,20.0s						
BGNE	**Belgrade**	**49.74**	**283**	IAms_20	IAms_20	11 20 16.3	
	comp=Z,2μm,20.0s						
X51A	**Calhoun**	**49.77**	**267**	IAms_20	IAms_20	11 20 00.0	
	comp=Z,2μm,20.0s						
R40A	**Madies Statio**	**49.83**	**276**	IAms_20	IAms_20	11 20 54.9	
	comp=Z,2μm,18.0s						
SIT	**Sitka**	**49.88**	**321**	IAms_20	IAms_20	11 22 02.7	
	comp=Z,2μm,19.0s						
RSSD	**Black Hills**	**49.93**	**290**	P	**P**	**11 00 41.6**	**-1.0**
RSSD				pmax	pmax		
	comp=Z,11nm,1.2s						
RSSD	**Black Hills**	**49.93**	**290**	P	**P**	**11 00 43.2**	**+0.6**
	baz=34						
RSSD	**Black Hills**	**49.93**	**290**	P	**P**	**11 00 41.6**	**-1.0**
RSSD	**Black Hills**	**49.93**	**290**	IAms_20	IAms_20	11 20 23.2	
	comp=Z,2μm,21.0s						
PARMO	**Parma**	**50.11**	**273**	IAms_20	IAms_20	11 20 52.4	
	comp=Z,2μm,18.0s						
FPAL	**Fort Paine**	**50.12**	**268**	IAmb	IAmb	11 00 47.2	
	comp=Z,51nm,1.5s						
FPAL				IAms_20	IAms_20	11 20 08.7	
	comp=Z,2μm,20.0s						
GOGA	**Godfrey**	**50.15**	**265**	P	**P**	**11 00 45.6**	**+1.5**
	baz=31						
GOGA	**Godfrey**	**50.15**	**265**	IAms_20	IAms_20	11 19 43.8	
	comp=Z,2μm,21.0s						
PBMO	**Poplar Bluff**	**50.30**	**273**	IAmb	IAmb	11 00 50.1	
	comp=Z,26nm,1.5s						
PBMO				IAms_20	IAms_20	11 20 59.6	
	comp=Z,2μm,18.0s						
257A	**Skidaway Islan**	**50.34**	**262**	IAms_20	IAms_20	11 20 04.8	
	comp=Z,2μm,20.0s						
GEYT	**Alibeck**	**50.39**	**84**	P	**P**	**11 00 45.7**	**-0.2**
	comp=Z,8.2nm,1.1s,baz=328,slow=10,SNR=12						
GEYT				LR	LR	11 24 29.7	
	comp=Z,2μm,18.8s,baz=350,slow=39						
GEYT	**Alibeck**	**50.39**	**84**	P	**P**	**11 00 45.6**	**-0.3**
GYA0	**ALIBECK ARRAY**	**50.39**	**84**	P	**P**	**11 00 45.4**	**-0.5**
GYA0B	**ALIBECK ARRAY**	**50.39**	**84**	IAmb	IAmb	11 00 51.4	
	comp=Z,51nm,1.5s						
GYA0B				IAms_20	IAms_20	11 24 18.9	
	comp=Z,2μm,18.0s						
HALT	**Halls**	**50.57**	**272**	IAms_20	IAms_20	11 20 51.5	
	comp=Z,2μm,18.0s						
SEW	**Seward**	**50.57**	**331**	IAms_20	IAms_20	11 23 08.6	
	comp=Z,2μm,21.0s						
PEBM	**Pemiscott Bayo**	**50.62**	**273**	IAms_20	IAms_20	11 21 10.0	
	comp=Z,2μm,18.0s						
MGMO	**Mountain Grove**	**50.78**	**275**	IAms_20	IAms_20	11 22 18.1	
	comp=Z,2μm,19.0s						
S39A	**Bolivar**	**50.78**	**277**	IAms_20	IAms_20	11 20 26.2	
	comp=Z,2μm,21.0s						
PLAL	**Pickwick Lake**	**50.80**	**270**	IAms_20	IAms_20	11 20 27.9	
	comp=Z,2μm,20.0s						
X48A	**Hartselle**	**50.81**	**269**	IAmb	IAmb	11 00 52.9	
	comp=Z,21nm,1.1s						
X48A				IAms_20	IAms_20	11 20 19.1	
	comp=Z,3μm,21.0s						
GNAR	**Gosnell**	**50.81**	**273**	IAms_20	IAms_20	11 21 16.1	
	comp=Z,2μm,18.0s						
KSU1	**Kansas State U**	**51.01**	**280**	P	**P**	**11 00 51.2**	**+0.7**
	baz=33						
KSU1	**Kansas State U**	**51.01**	**280**	IAmb	IAmb	11 00 53.0	
	comp=Z,24nm,1.1s						
Y49A	**Blount Mountai**	**51.04**	**268**	IAms_20	IAms_20	11 20 36.3	
	comp=Z,2μm,20.0s						
BTLS	**Baital**	**51.08**	**66**	*e*P	**P**	**11 00 49.0**	**-2.0**
	comp=Z,33nm,1.7s,baz=66						
BTLS				*e*S	**S**	**11 08 07.1**	**-1.9**
	baz=66						
BTLS				LR	LR	11 21 21.3	
	comp=Z,732nm,17.6s,baz=66						
BTLS	**Baital**	**51.08**	**66**	*e*P	**P**	**11 00 48.9**	**-2.0**
BTLS				*e*S	**S**	**11 08 07.0**	**-1.9**
BTLS				pmax	pmax		
	comp=Z,33nm,1.7s						
BTLS				MLR	MLR		
	comp=Z,732nm,18.0s						
W45A	**Hickory Valley**	**51.14**	**271**	IAms_20	IAms_20	11 20 48.7	
	comp=Z,2μm,20.0s						
BRLK	**Bradley Lake**	**51.17**	**332**	IAmb	IAmb	11 00 54.9	
	comp=Z,47nm,1.4s						
RLMT	**Red Lodge**	**51.20**	**295**	P	**P**	**11 00 52.7**	**+0.6**
	baz=34,SNR=18						
LCAR	**Lake Charles**	**51.22**	**274**	IAms_20	IAms_20	11 21 28.7	
	comp=Z,2μm,19.0s						
LPAR	**Lepanto**	**51.24**	**273**	IAms_20	IAms_20	11 21 21.4	
	comp=Z,2μm,18.0s						
KK31	**Karatay Array**	**51.27**	**70**	P	**P**	**11 00 51.8**	**-0.7**
KK31	**Karatay Array**	**51.27**	**70**	IAmb	IAmb	11 00 59.9	
	comp=Z,36nm,1.2s						
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**11 00 52.3**	**-0.2**
KKAR	**Karatay Array**	**51.27**	**70**	P	**P**	**11 00 52.3**	**-0.2**
152A	**Waverly Hall**	**51.33**	**266**	IAmb	IAmb	11 00 55.8	
	comp=Z,46nm,1.5s						
YAK	**Yakutsk**	**51.39**	**19**	LR	LR	11 24 37.5	
	comp=Z,511nm,18.9s,baz=2.0,slow=38						
YAK	**Yakutsk**	**51.39**	**19**	*e*P	**P**	**11 00 52.7**	**-0.3**
YAK				*e**PP	**sP**	**11 00 56.6**	**+1.7**
YAK				*e*		11 02 07.1	
YAK				*e*		11 02 54.0	
YAK				*e*S	**S**	**11 08 11.8**	**-0.9**
YAK				*e**SS	sS	11 08 25.2	+10
YAK				*e*SS	**SS**	**11 11 49.3**	**+1.9**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,88nm,2.6s						
YAK				pmax	pmax		
	comp=N,52nm,2.7s						
YAK				pmax	pmax		
	comp=E,83nm,3.0s						
YAK				smax	smax		
	comp=N,268nm,3.8s						
YAK				smax	smax		
	comp=E,101nm,3.6s						
YAK				MLR	MLR		
	comp=Z,1μm,20.0s						
YAK				MLR	MLR		
	comp=N,916nm,18.0s						
YAK				MLR	MLR		
	comp=E,327nm,18.0s						
HBAR	**Harrisburg**	**51.44**	**273**	IAms_20	IAms_20	11 21 44.5	
	comp=Z,2μm,18.0s						
MET	**Memphis--Engin**	**51.49**	**272**	IAms_20	IAms_20	11 20 60.0	
	comp=Z,2μm,19.0s						
NEW	**Newport**	**51.55**	**303**	LR	LR	11 22 50.3	
	comp=Z,2μm,19.1s,baz=26,slow=36						
NEW	**Newport**	**51.55**	**303**	P	**P**	**11 00 57.1**	**+2.6**
	baz=33						
MSO	**Missoula**	**51.57**	**299**	P	**P**	**11 00 54.8**	**0.0**
	baz=33						
MSO	**Missoula**	**51.57**	**299**	IAmb	IAmb	11 00 57.5	
	comp=Z,28nm,1.4s						
U40A	**Yellville**	**51.71**	**275**	P	**P**	**11 00 55.6**	**-0.2**
	baz=32,SNR=7.2						
U40A	**Yellville**	**51.71**	**275**	IAmb	IAmb	11 01 00.4	
	comp=Z,29nm,1.3s						
U40A				IAms_20	IAms_20	11 21 54.6	
	comp=Z,2μm,18.0s						
BOZ	**Bozeman (W)**	**51.72**	**297**	P	**P**	**11 00 56.3**	**+0.3**
	baz=33,SNR=63						
OXF	**Oxford**	**51.78**	**271**	IAms_20	IAms_20	11 21 06.7	
	comp=Z,3μm,20.0s						
DZA	**Taraz**	**51.78**	**69**	*e*P	**P**	**11 00 55.3**	**-1.0**
	comp=Z,25nm,1.7s,baz=70						
DZA				LR	LR	11 22 15.5	
	comp=Z,764nm,16.4s,baz=70						
DZA	**Taraz**	**51.78**	**69**	*e*P	**P**	**11 00 55.3**	**-1.0**
DZA				pmax	pmax		
	comp=Z,25nm,1.7s						
DZA				MLR	MLR		
	comp=Z,764nm,16.0s						
FCAR	**Ozark Folk Cen**	**51.79**	**274**	IAms_20	IAms_20	11 21 55.7	
	comp=Z,2μm,18.0s						
456A	**Hilliard**	**51.84**	**262**	IAms_20	IAms_20	11 21 00.6	
	comp=Z,2μm,20.0s						
IUG	**Iuzhnay**	**51.88**	**71**	*e*P	**P**	**11 00 55.9**	**-1.2**
	comp=Z,91nm,2.4s,baz=71						
IUG				*e*S	**S**	**11 08 19.1**	**-1.1**
	baz=71						
IUG				LR	LR	11 22 23.5	
	comp=Z,404nm,14.5s,baz=71						
IUG	**Iuzhnay**	**51.88**	**71**	*e*P	**P**	**11 00 55.9**	**-1.2**
IUG				*e*S	**S**	**11 08 19.1**	**-1.1**
IUG				pmax	pmax		
	comp=Z,91nm,2.4s						
IUG				MLR	MLR		
	comp=Z,405nm,14.0s						
BBB	**Bella Bella**	**51.96**	**313**	LR	LR	11 23 16.9	
	comp=Z,1μm,18.8s,baz=36,slow=36						
BBB	**Bella Bella**	**51.96**	**313**	IAms_20	IAms_20	11 23 24.0	
	comp=Z,2μm,18.0s						
LRAL	**Lakeview Retre**	**52.00**	**268**	P	**P**	**11 00 58.9**	**+0.9**
	baz=31						
LRAL	**Lakeview Retre**	**52.00**	**268**	IAms_20	IAms_20	11 21 06.6	
	comp=Z,2μm,21.0s						
LKWY	**Lake**	**52.10**	**295**	IAmb	IAmb	11 01 14.1	
	comp=Z,47nm,1.5s						
DGZ	**Jazzator, Alta**	**52.12**	**53**	*de*P	**P**	**11 00 58.8**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,76nm,2.1s						
K22A	**Casper**	**52.16**	**291**	P	**P**	**11 00 58.9**	**-0.4**
	baz=33,SNR=11						
K22A	**Casper**	**52.16**	**291**	IAmb	IAmb	11 01 01.8	
	comp=Z,48nm,1.4s						
K22A				IAms_20	IAms_20	11 22 04.2	
	comp=Z,3μm,21.0s						
HHAR	**Hobbs**	**52.24**	**276**	IAms_20	IAms_20	11 22 19.6	
	comp=Z,2μm,19.0s						
TAS	**Tashkent**	**52.26**	**72**	IAms_20	IAms_20	11 23 28.0

SGDS	**Sogindy**	**52.63**	**66**	*e*P	**P**	**11 01 00.6**	**-2.1**
SGDS				pmax	pmax		
	comp=Z,45nm,1.7s						
USP	**Ospenovka**	**52.74**	**67**	P	**P**	**11 01 05.2**	**+1.7**
	SNR=11						
MK31	**Makanchi Array**	**52.75**	**58**	P	**P**	**11 01 01.7**	**-1.8**
MKAR	**Makanchi Array**	**52.75**	**58**	P	**P**	**11 01 04.4**	**+0.9**
	comp=Z,9.9nm,1.1s,baz=320,slow=5.3,SNR=24						
MKAR				LR	LR	11 23 44.0	
	comp=Z,1μm,21.2s,baz=314,slow=36						
MKAR	**Makanchi Array**	**52.75**	**58**	P	**P**	**11 01 02.7**	**-0.8**
TDK	**Taldyqorghan**	**52.80**	**62**	*e*P	**P**	**11 01 02.8**	**-1.1**
	comp=Z,165nm,1.6s,baz=63						
TDK				*e*S	**S**	**11 08 32.1**	**-0.6**
	baz=63						
TDK				LR	LR	11 22 35.2	
	comp=Z,1μm,15.7s,baz=63						
TDK	**Taldyqorghan**	**52.80**	**62**	*e*P	**P**	**11 01 02.8**	**-1.1**
TDK				*e*S	**S**	**11 08 32.0**	**-0.6**
TDK				pmax	pmax		
	comp=Z,165nm,1.6s						
TDK				MLR	MLR		
	comp=Z,1μm,16.0s						
UALR	**University of**	**52.83**	**274**	IAMs_20	IAMs_20	11 22 36.3	
	comp=Z,2μm,19.0s						
B06A	**Marblemount**	**52.89**	**306**	IAMs_20	IAMs_20	11 23 50.8	
	comp=Z,2μm,18.0s						
KUU	**Kurty**	**52.94**	**65**	*e*P	**P**	**11 01 04.0**	**-0.9**
	comp=Z,54nm,2.1s,baz=65						
KUU				LR	LR	11 22 41.8	
	comp=Z,3μm,16.7s,baz=65						
KUU	**Kurty**	**52.94**	**65**	*e*P	**P**	**11 01 03.9**	**-0.9**
KUU				pmax	pmax		
	comp=Z,54nm,2.1s						
KUU				MLR	MLR		
	comp=Z,3μm,17.0s						
EKS2	**Erkin-Say**	**52.96**	**68**	P	**P**	**11 01 05.9**	**+0.7**
	SNR=20						
TOC1	**Torodi Ar. Sit**	**52.97**	**156**	IAMs_20	IAMs_20	11 23 35.3	
	comp=Z,2μm,18.0s						
TOB5	**Torodi Ar. Sit**	**52.98**	**157**	IAMs_20	IAMs_20	11 23 36.6	
	comp=Z,1μm,18.0s						
LOHW	**Long Hollow**	**52.98**	**295**	IAmb	IAmb	11 01 09.1	
	comp=Z,34nm,1.4s						
TOA0	**Torodi Ar. Sit**	**52.99**	**157**	P	**P**	**11 01 03.5**	**-2.0**
	SNR=7.8						
TOA0	**Torodi Ar. Sit**	**52.99**	**157**	IAmb	IAmb	11 01 10.9	
	comp=Z,48nm,1.4s						
TOA0				IAMs_20	IAMs_20	11 23 36.9	
	comp=Z,1μm,18.0s						
TORD	**Torodi Ar. Bea**	**52.99**	**157**	P	**P**	**11 01 03.5**	**-1.9**
	comp=Z,4.1nm,0.9s,baz=347,slow=5.9,SNR=7.3						
TORD				LR	LR	11 23 47.3	
	comp=Z,1μm,18.9s,baz=340,slow=36						
TORD	**Torodi Ar. Bea**	**52.99**	**157**	P	**P**	**11 01 03.8**	**-1.7**
TOA2	**Torodi Ar. Sit**	**52.99**	**157**	IAMs_20	IAMs_20	11 23 36.9	
	comp=Z,1μm,18.0s						
TOC3	**Torodi Ar. Sit**	**53.01**	**156**	IAMs_20	IAMs_20	11 23 37.3	
	comp=Z,1μm,18.0s						
TOC5	**Torodi Ar. Sit**	**53.01**	**157**	IAMs_20	IAMs_20	11 23 36.3	
	comp=Z,2μm,18.0s						
TOC4	**Torodi Ar. Sit**	**53.02**	**157**	IAMs_20	IAMs_20	11 23 37.6	
	comp=Z,1μm,18.0s						
CHMS	**Chumysh**	**53.06**	**67**	P	**P**	**11 01 08.0**	**+2.1**
	SNR=5.4						
W39A	**Magazine**	**53.09**	**275**	P	**P**	**11 01 05.6**	**-0.4**
	baz=32						
W39A	**Magazine**	**53.09**	**275**	IAmb	IAmb	11 01 08.8	
	comp=Z,30nm,1.4s						
W39A				IAMs_20	IAMs_20	11 23 20.2	
	comp=Z,2μm,18.0s						
FXWY	**Fox Creek**	**53.13**	**295**	IAmb	IAmb	11 01 10.4	
	comp=Z,27nm,1.4s						
ZSN	**Zaisan**	**53.13**	**56**	*e*P	**P**	**11 01 04.4**	**-1.9**
	comp=Z,87nm,2.2s,baz=56						
ZSN				LR	LR	11 23 28.6	
	comp=Z,754nm,16.1s,baz=56						
ZSN	**Zaisan**	**53.13**	**56**	*e*P	**P**	**11 01 04.3**	**-2.0**
ZSN				pmax	pmax		
	comp=Z,87nm,2.2s						
ZSN				MLR	MLR		
	comp=Z,754nm,16.0s						
SNOW	**Snow King Moun**	**53.17**	**295**	IAmb	IAmb	11 01 10.7	
	comp=Z,18nm,0.9s						
CHKK	**Chushkaly**	**53.22**	**64**	*i* P	**P**	**11 01 06.5**	**-0.5**
	baz=64						
CHKK	**Chushkaly**	**53.22**	**64**	*i* P	**P**	**11 01 06.5**	**-0.5**
656A	**Willston**	**53.24**	**261**	IAMs_20	IAMs_20	11 21 58.6	
	comp=Z,2μm,20.0s						
RWWY	**Rawlins**	**53.25**	**291**	IAmb	IAmb	11 01 09.4	
	comp=Z,42nm,1.4s						
AAK	**Ala-Archa**	**53.27**	**67**	P	**P**	**11 01 09.8**	**+2.4**
	SNR=15						
AAK	**Ala-Archa**	**53.27**	**67**	*i* P	**P**	**11 01 06.0**	**-1.4**
	SNR=15						
AAK	**Ala-Archa**	**53.27**	**67**	*de*P	**P**	**11 01 07.2**	**-0.3**
AAK				pmax	pmax		
	comp=Z,197nm,1.7s						
X40A	**Basin Creek Fa**	**53.28**	**274**	P	**P**	**11 01 07.1**	**-0.4**
	baz=31						
X40A	**Basin Creek Fa**	**53.28**	**274**	IAMs_20	IAMs_20	11 22 42.4	
	comp=Z,2μm,20.0s						
BW06	**Boulder Array**	**53.28**	**293**	P	**P**	**11 01 06.5**	**-1.2**
	baz=32,SNR=35						
BW06	**Boulder Array**	**53.28**	**293**	IAmb	IAmb	11 01 10.2	
	comp=Z,24nm,0.9s						
PD31	**Pinedale Array**	**53.28**	**293**	IAmb	IAmb	11 01 10.2	
	comp=Z,21nm,0.9s						
PDAR	**Pinedale Array**	**53.28**	**293**	P	**P**	**11 01 06.0**	**-1.7**
	comp=Z,12nm,0.7s,baz=54,slow=7.5,SNR=40						
PDAR				LR	LR	11 23 35.3	
	comp=Z,3μm,18.1s,baz=26,slow=36						
PDAR	**Pinedale Array**	**53.28**	**293**	P	**P**	**11 01 05.2**	**-2.5**
REDW	**Red Top Meadow**	**53.29**	**295**	IAmb	IAmb	11 01 11.4	
	comp=Z,25nm,1.1s						
CCAR	**Cane Creek**	**53.31**	**273**	IAMs_20	IAMs_20	11 22 43.1	
	comp=Z,2μm,18.0s						
553A	**Crawfordville**	**53.34**	**264**	IAMs_20	IAMs_20	11 25 13.2	
	comp=Z,2μm,18.0s						
KDAK	**Kodiak Island**	**53.35**	**332**	LR	LR	11 25 20.8	
	comp=Z,2μm,20.9s,baz=33,slow=38						
KDAK	**Kodiak Island**	**53.35**	**332**	P	**P**	**11 01 09.1**	**+1.5**
KDAK				MLR	MLR		
	comp=Z,2μm,22.0s						
KDAK	**Kodiak Island**	**53.35**	**332**	P	**P**	**11 01 09.1**	**+1.5**
KDAK	**Kodiak Island**	**53.35**	**332**	IAMs_20	IAMs_20	11 25 01.2	
	comp=Z,2μm,22.0s						
AML	**Almayashu**	**53.37**	**68**	P	**P**	**11 01 11.2**	**+2.7**
	SNR=12						
N23A	**Red Feather La**	**53.40**	**289**	P	**P**	**11 01 09.2**	**+0.6**
	baz=32,SNR=17						
N23A	**Red Feather La**	**53.40**	**289**	IAMs_20	IAMs_20	11 23 15.0	
	comp=Z,2μm,20.0s						
TKM2	**Tokmak 2**	**53.46**	**66**	P	**P**	**11 01 11.3**	**+2.3**
	SNR=19						
451A	**Vernon**	**53.54**	**265**	IAMs_20	IAMs_20	11 22 41.4	
	comp=Z,2μm,18.0s						
MIAR	**Mount Ida**	**53.55**	**275**	P	**P**	**11 01 09.5**	**0.0**
	baz=31						
MIAR	**Mount Ida**	**53.55**	**275**	IAMs_20	IAMs_20	11 23 02.5	
	comp=Z,2μm,18.0s						
UCH	**Uchtor**	**53.62**	**67**	P	**P**	**11 01 11.4**	**+1.0**
	SNR=11						
KSCO	**Kaye Shedlock'**	**53.62**	**285**	P	**P**	**11 01 10.2**	**+0.1**
	baz=32						
LTY	**Liberty**	**53.67**	**305**	IAMs_20	IAMs_20	11 24 09.7	
	comp=Z,2μm,21.0s						
AAA	**Alma-Ata**	**53.74**	**65**	*e*P	**P**	**11 01 10.6**	**-0.3**
	baz=65						
AAA				*i* LR	LR	11 23 00.8	
	comp=Z,2μm,16.1s,baz=65						
AAA	**Alma-Ata**	**53.74**	**65**	*e*P	**P**	**11 01 10.5**	**-0.3**
AAA				MLR	MLR		
	comp=Z,2μm,16.0s						
MDOK	**Medeo**	**53.83**	**65**	*e*P	**P**	**11 01 10.9**	**-0.7**
	baz=65						
MDOK				LR	LR	11 23 02.2	
	comp=Z,2μm,17.0s,baz=65						
MDOK	**Medeo**	**53.83**	**65**	*e*P	**P**	**11 01 10.9**	**-0.7**
MDOK				MLR	MLR		
	comp=Z,2μm,17.0s						
TNSS	**Tian-Shan**	**53.90**	**65**	*e*P	**P**	**11 01 11.4**	**-1.0**
	baz=65						
TNSS	**Tian-Shan**	**53.90**	**65**	*e*P	**P**	**11 01 11.4**	**-1.0**
HAWA	**Hanford**	**54.00**	**303**	IAMs_20	IAMs_20	11 24 15.4	
	comp=Z,2μm,20.0s						
OHAK	**Old Harbor**	**54.01**	**332**	IAmb	IAmb	11 01 16.2	
	comp=Z,40nm,1.4s						
143A	**Socs Landing,**	**54.19**	**272**	IAMs_20	IAMs_20	11 22 43.4	
	comp=Z,2μm,20.0s						
ISCO	**Idaho Springs**	**54.19**	**288**	P	**P**	**11 01 14.8**	**+0.3**
	baz=32						
ISCO	**Idaho Springs**	**54.19**	**288**	IAMs_20	IAMs_20	11 23 19.9	
	comp=Z,3μm,20.0s						
D05A	**Enumclaw**	**54.20**	**306**	IAMs_20	IAMs_20	11 24 35.5	
	comp=Z,2μm,20.0s						
KPKS	**Kokpek**	**54.21**	**63**	*e*P	**P**	**11 01 13.3**	**-1.0**
	comp=Z,73nm,1.7s,baz=63						
KPKS				LR	LR	11 22 35.6	
	comp=Z,907nm,17.4s,baz=63						
KPKS	**Kokpek**	**54.21**	**63**	*e*P	**P**	**11 01 13.3**	**-1.0**
KPKS				pmax	pmax		
	comp=Z,73nm,1.7s						
KPKS				MLR	MLR		
	comp=Z,907nm,17.0s						
VBMS	**Vicksburg**	**54.22**	**271**	IAMs_20	IAMs_20	11 23 11.3	
	comp=Z,2μm,18.0s						
X37A	**Clayton**	**54.29**	**276**	IAMs_20	IAMs_20	11 22 58.9	
	comp=Z,1μm,20.0s						
U32A	**Winter Ranch,**	**54.32**	**281**	IAmb	IAmb	11 01 18.6	
	comp=Z,29nm,1.3s						
060A	**Indiantown**	**54.35**	**258**	IAMs_20	IAMs_20	11 22 51.1	
	comp=Z,1μm,20.0s						
SATY	**Saty**	**54.45**	**64**	*e*P	**P**	**11 01 14.5**	**-1.6**
	comp=Z,48nm,2.2s,baz=64						
SATY				LR	LR	11 23 19.6	
	comp=Z,547nm,14.5s,baz=64						
SATY	**Saty**	**54.45**	**64**	*e*P	**P**	**11 01 14.5**	**-1.6**
SATY				pmax	pmax		
	comp=Z,47nm,2.2s						
SATY				MLR	MLR		
	comp=Z,547nm,15.0s						
CHGR	**Chuyangaron**	**54.45**	**74**	P	**P**	**11 01 14.7**	**-1.5**
346A	**Big Creek Wild**	**54.48**	**269**	IAmb	IAmb	11 01 23.1	
	comp=Z,24nm,0.8s						
346A				IAMs_20	IAMs_20	11 22 32.2	
	comp=Z,2μm,21.0s						
BMO	**Blue Mountains**	**54.50**	**301**	IAmb	IAmb	11 01 18.8	
	comp=Z,20nm,1.2s						
HLID	**Hailey**	**54.50**	**298**	P	**P**	**11 01 16.7**	**+0.2**
	baz=32,SNR=17						
LON	**Longmire**	**54.51**	**305**	IAMs_20	IAMs_20	11 23 51.8	
	comp=Z,2μm,20.0s						
UZB	**Uzynbulak**	**54.61**	**63**	*e*P	**P**	**11 01 16.0**	**-1.4**
	comp=Z,40nm,1.7s,baz=63						
UZB				*e*S	**S**	**11 08 56.2**	**-1.2**
	baz=63						
UZB				LR	LR	11 23 24.6	
	comp=Z,222nm,11.9s,baz=63						
UZB	**Uzynbulak**	**54.61**	**63**	*e*P	**P**	**11 01 15.9**	**-1.4**
UZB				*e*S	**S**	**11 08 56.2**	**-1.2**
UZB				pmax	pmax		
	comp=Z,40nm,1.7s						
UZB				MLR	MLR		
	comp=Z,222nm,12.0s						
PDGK	**Podgornoye**	**54.63**	**63**	P	**P**	**11 01 15.0**	**-2.4**
NLWA	**Neilton Lookou**	**54.68**	**307**	IAmb	IAmb	11 01 30.6	
	comp=Z,26nm,1.4s						
NLWA				IAMs_20	IAMs_20	11 24 42.2	
	comp=Z,2μm,18.0s						
Q24A	**Divide**	**54.71**	**287**	P	**P**	**11 01 18.8**	**+0.6**
	baz=32						
Q24A	**Divide**	**54.71**	**287**	IAMs_20	IAMs_20	11 24 13.6	
	comp=Z,2μm,19.0s						
MOY	**Mondy**	**54.73**	**42**	*e*P	**P**	**11 01 18.6**	**+0.6**
MOY				pmax	pmax		
	comp=Z,154nm,2.2s						
KDJ	**Kajisay**	**54.76**	**65**	IAmb	IAmb	11 01 20.7	
	comp=Z,37nm,1.4s						
SHLS	**Shalkode**	**54.77**	**63**	*e*P	**P**	**11 01 18.4**	**0.0**
	comp=Z,99nm,2.4s,baz=63						
SHLS				LR	LR	11 23 37.1	
	comp=Z,380nm,16.9s,baz=63						
SHLS	**Shalkode**	**54.77**	**63**	*e*P	**P**	**11 01 18.4**	**0.0**
SHLS				pmax	pmax		
	comp=Z,99nm,2.4s						
SHLS				MLR	MLR		
	comp=Z,380nm,17.0s						
SII	**Sitkinak Islan**	**54.81**	**332**	IAMs_20	IAMs_20	11 26 07.8	
	comp=Z,2μm,19.0s						
344A	**Westbrook Farm**	**54.97**	**270**	IAMs_20	IAMs_20	11 22 59.2	
	comp=Z,2μm,20.0s						
O20A	**White River Ci**	**54.98**	**291**	P	**P**	**11 01 20.7**	**+0.6**
	baz=32,SNR=18						
O20A	**White River Ci**	**54.98**	**291**	IAMs_20	IAMs_20	11 23 35.7	
	comp=Z,2μm,20.0s						
HRA	**Herat**	**55.16**	**82**	IAmb	IAmb	11 01 28.0	
	comp=Z,23nm,1.1s						
X34A	**Smith Ranch, M**	**55.33**	**278**	IAmb	IAmb	11 01 33.5	
	comp=Z,38nm,1.2s						
F04A	**Amboy**	**55.43**	**305**	IAMs_20	IAMs_20	11 24 33.1	
	comp=Z,2μm,22.0s						
TLY	**Talaya**	**55.47**	**40**	P	**P**	**11 01 23.8**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=357,slow=6.2,SNR=7.0						
TLY	**Talaya**	**55.47**	**40**	*e*P	**P**	**11 01 24.3**	**+1.1**
TLY				*e*		11 02 23.6	
TLY				*e*		11 03 27.9	
TLY				*e*S	**S**	**11 09 11.8**	**+3.3**
TLY				pmax	pmax		
	comp=Z,54nm,1.8s						
TLY				MLR	MLR		
	comp=Z,6μm,15.0s						
TLY	**Talaya**	**55.47**	**40**	P	**P**	**11 01 23.3**	**0.0**
TLY				IAmb	IAmb	11 01 24.6	
	comp=Z,22nm,1.4s						
GRTK	**Grand Turk**	**55.47**	**246**	IAMs_20	IAMs_20	11 20 54.3	
	comp=Z,2μm,20.0s						
WMOK	**Wichita Mounta**	**55.62**	**279**	P	**P**	**11 01 25.0**	**+0.5**
	baz=31,SNR=11						
WMOK	**Wichita Mounta**	**55.62**	**279**	IAmb	IAmb	11 01 28.5	
	comp=Z,21nm,1.3s						
342A	**Flagon Creek P**	**55.73**	**272**	IAMs_20	IAMs_20	11 23 52.1	
	comp=Z,2μm,19.0s						
SDCO	**Great Sand Dun**	**55.89**	**287**	P	**P**	**11 01 27.5**	**+0.8**
	baz=31,SNR=6.9						
MA2	**Magadan**	**55.89**	**7**	LR	LR	11 26 08.9	
	comp=Z,506nm,18.9s,baz=352,slow=37						
CTU	**Camp Tracy**	**55.91**	**294**	P	**P**	**11 01 26.3**	**-0.5**
T25A	**Trinidad**	**55.95**	**286**	P	**P**	**11 01 27.4**	**+0.3**
	baz=31,SNR=8.9						
T25A	**Trinidad**	**55.95**	**286**	IAmb	IAmb	11 01 32.5	
	comp=Z,19nm,1.3s						
Z35A	**Perchaven, San**	**56.17**	**277**	IAMs_20	IAMs_20	11 24 07.7	
	comp=Z,2μm,21.0s						
NATX	**Nacogdoches**	**56.40**	**274**	IAMs_20	IAMs_20	11 25 17.0	
	comp=Z,1μm,18.0s						
H04A	**Detroit Lake**	**56.43**	**304**	IAMs_20	IAMs_20	11 25 54.5	
	comp=Z,2μm,20.0s						
S22A	**4UR Ranch, Cre**	**56.43**	**288**	P	**P**	**11 01 30.0**	**-0.7**
	baz=31,SNR=8.5						
S22A	**4UR Ranch, Cre**	**56.43**	**288**	IAMs_20	IAMs_20	11 24 45.3	
	comp=Z,1μm,18.0s						
KSH	**Kashi**	**56.50**	**68⇓**	*i* P	**P**	**11 01 33.3**	**+2.4**
KSH				S	**S**	**11 09 23.8**	**+1.1**
KSH				pmax	pmax		
	comp=Z,240nm,1.6s						
KSH				pmax	pmax		
	comp=Z,800nm,6.4s						
KSH				LR	LR		
	comp=Z,1μm,14.4s						
KSH				LR	LR		
	comp=Z,1μm,15.9s						
KSH				LR	LR		
	comp=Z,2μm,19.7s						
ZAK	**Zakamensk**	**56.53**	**41**	*e*P	**P**	**11 01 29.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,19nm,1.5s						
PV22	**Blue Mesa, Par**	**56.56**	**290**	IAmb	IAmb	11 01 34.9	
	comp=Z,21nm,1.4s						
PV22				IAMs_20	IAMs_20	11 25 39.6	
	comp=Z,2μm,21.0s						
PV07	**Paradox Valley**	**56.59**	**290**	IAmb	IAmb	11 01 34.9	
	comp=Z,31nm,1.5s						
PV07				IAMs_20	IAMs_20	11 25 49.2	
	comp=Z,2μm,22.0s						
PV15	**Paradox Valley**	**56.60**	**290**	IAmb	IAmb	11 01 35.0	
	comp=Z,31nm,1.5s						
441A	**DeRidder**	**56.64**	**272**	IAMs_20	IAMs_20	11 24 41.3	
	comp=Z,2μm,18.0s						
237A	**Washetta, Mont**	**56.69**	**275**	IAMs_20	IAMs_20	11 25 10.6	
	comp=Z,2μm,19.0s						
PV23	**Carpenter Ridg**	**56.72**	**290**	IAmb	IAmb	11 01 35.7	
	comp=Z,32nm,1.0s						
PV04	**Paradox Valley**	**56.73**	**290**	IAmb	IAmb	11 01 37.5	
	comp=Z,48nm,1.5s						
DUG	**Dugway, Tooele**	**56.75**	**294**	P	**P**	**11 01 33.4**	**+0.7**
	baz=31,SNR=21						
DUG	**Dugway, Tooele**	**56.75**	**294**	IAmb	IAmb	11 01 37.5	
	comp=Z,39nm,1.4s						
DUG				IAMs_20	IAMs_20	11 25 08.5	
	comp=Z,2μm,21.0s						
PV14	**Lion Creek, Pa**	**56.80**	**290**	IAmb	IAmb	11 01 36.2	
	comp=Z,20nm,0.9s						
PV14				IAMs_20	IAMs_20	11 25 55.8	
	comp=Z,2μm,18.0s						
PV11	**David Mesa, Pa**	**56.80**	**290**	IAMs_20	IAMs_20	11 25 53.9	
	comp=Z,2μm,20.0s						
PV10	**Paradox Valley**	**56.80**	**290**	IAmb	IAmb	11 01 36.9	
	comp=Z,28nm,1.0s						
PV20	**West Nyswonger**	**56.80**	**290**	IAmb	IAmb	11 01 35.5	
	comp=Z,35nm,1.5s						
PV16	**Nyswonger Mesa**	**56.80**	**290**	IAMs_20	IAMs_20	11 25 45.0	
	comp=Z,2μm,20.0s						
PV01	**Paradox Valley**	**56.81**	**290**	IAmb	IAmb	11 01 36.7	
	comp=Z,39nm,1.2s						
PV03	**Paradox Valley**	**56.83**	**290**	IAmb	IAmb	11 01 36.5	
	comp=Z,27nm,1.1s						
PV03				IAMs_20	IAMs_20	11 25 56.6	
	comp=Z,2μm,21.0s						
PV19	**Morning Glory**	**56.83**	**290**	IAmb	IAmb	11 01 35.8	
	comp=Z,31nm,1.4s						
PV19				IAMs_20	IAMs_20	11 26 06.8	
	comp=Z,2μm,18.0s						
PV17	**East Wray Mesa**	**56.85**	**290**	IAmb	IAmb	11 01 36.7	
	comp=Z,33nm,1.2s						
PV18	**Skein Mesa, Pa**	**56.86**	**290**	IAMs_20	IAMs_20	11 25 45.4	
	comp=Z,2μm,22.0s						
PV13	**Radium Mtn., P**	**56.90**	**290**	IAMs_20	IAMs_20	11 25 58.5	
	comp=Z,2μm,22.0s						
ELK	**Elko**	**57.23**	**296**	LR	LR	11 25 57.1	
	comp=Z,5μm,19.0s,baz=36,slow=36						
ELK	**Elko**	**57.23**	**296**	IAmb	IAmb	11 01 40.3	
	comp=Z,29nm,1.4s						
WMQ	**Urumqi**	**57.27**	**56**	*e*P	**P**	**11 01 37.9**	**+1.7**
WMQ				sP	sP	11 01 44.9	+6.8
WMQ				S	**S**	**11 09 32.9**	**+0.3**
WMQ				SS	**SS**	**11 13 23.0**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,20nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,400nm,5.1s						
WMQ				LR	LR		
	comp=Z,990nm,20.3s						
WMQ				LR	LR		
	comp=Z,1μm,19.3s						
WMQ				LR	LR		
	comp=Z,830nm,21.9s						
WMQ	**Urumqi**	**57.27**	**56**	IAMs_20	IAMs_20	11 26 44.3	
	comp=Z,2μm,20.0s						
J05D	**Fort Rock, OR**	**57.29**	**303**	P	**P**	**11 01 37.8**	**+1.3**
	baz=30						
WHTX	**Lake Whitney,**	**57.41**	**277**	IAmb	IAmb	11 01 46.9	
	comp=Z,23nm,1.5s						
WHTX				IAMs_20	IAMs_20	11 24 34.5	
	comp=Z,2μm,21.0s						
CNBA	**Chernabura Isl**	**57.49**	**335**	IAMs_20	IAMs_20	11 27 08.2	
	comp=Z,2μm,20.0s						
MVCO	**Mesa Verde**	**57.58**	**289**	P	**P**	**11 01 39.5**	**+0.8**
	baz=31						
MVCO	**Mesa Verde**	**57.58**	**289**	IAmb	IAmb	11 01 52.0	
	comp=Z,21nm,1.4s						
K05A	**Summer Lake**	**57.65**	**302**	P	**P**	**11 01 39.0**	**-0.1**
ABTX	**Abilene, Hawle**	**57.80**	**279**	P	**P**	**11 01 40.6**	**+0.6**
	baz=30						
ABTX	**Abilene, Hawle**	**57.80**	**279**	IAmb	IAmb	11 01 43.9	
	comp=Z,30nm,1.3s						
KBL	**Kabul**	**57.91**	**77**	P	**P**	**11 01 40.9**	**-0.1**
	SNR=7.1						
KBL				P	**P**	**11 01 40.9**	**-0.1**
	SNR=7.1						
KBL	**Kabul**	**57.91**	**77**	IAMs_20	IAMs_20	11 27 03.9	
	comp=Z,2μm,20.0s						
MSU	**Marysvale**	**57.95**	**293**	P	**P**	**11 01 41.1**	**-0.2**
MSU	**Marysvale**	**57.95**	**293**	P	**P**	**11 01 41.1**	**-0.2**
MSTX	**Muleshoe**	**57.97**	**282**	P	**P**	**11 01 41.5**	**+0.1**
	baz=30						
MSTX	**Muleshoe**	**57.97**	**282**	IAMs_20	IAMs_20	11 25 25.3	
	comp=Z,1μm,19.0s						
FDF	**Fort de France**	**57.99**	**232**	IAMs_20	IAMs_20	11 23 00.3	
	comp=Z,1μm,19.0s						
DBIC	**Dimbokro**	**58.44**	**165**	P	**P**	**11 01 43.3**	**-1.3**
	comp=Z,8.8nm,0.9s,baz=357,slow=9.7,SNR=7.7						
DBIC				LR	LR	11 27 31.0	
	comp=Z,2μm,18.8s,baz=340,slow=37						
DBIC	**Dimbokro**	**58.44**	**165**	P	**P**	**11 01 44.2**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,20nm,1.1s						
DBIC	**Dimbokro**	**58.44**	**165**	P	**P**	**11 01 44.2**	**-0.4**
DBIC				IAmb	IAmb	11 01 50.5	
	comp=Z,20nm,1.1s						
TIC	**Toumodi**	**58.45**	**166**	*e*P	**P**	**11 01 42.2**	**-2.5**
HKT	**Hockley**	**58.47**	**274**	P	**P**	**11 01 44.6**	**0.0**
HKT				pmax	pmax		
	comp=Z,13nm,1.3s						
HKT				MLR	MLR		
	comp=Z,1μm,18.0s						
HKT	**Hockley**	**58.47**	**274**	P	**P**	**11 01 44.5**	**0.0**
HKT	**Hockley**	**58.47**	**274**	IAMs_20	IAMs_20	11 26 53.5	
	comp=Z,1μm,18.0s						
GTBY	**Guantanamo Bay**	**58.49**	**249**	IAMs_20	IAMs_20	11 22 18.1	
	comp=Z,2μm,21.0s						
435B	**Jarrell**	**58.50**	**276**	IAMs_20	IAMs_20	11 25 18.6	
	comp=Z,2μm,21.0s						
HUMO	**Hull Mountain**	**58.51**	**303**	IAMs_20	IAMs_20	11 27 49.6	
	comp=Z,1μm,18.0s						
ANMO	**Albuquerque**	**58.68**	**286⇑**	*e*P	**P**	**11 01 46.5**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ANMO	**Albuquerque**	**58.68**	**286**	P	**P**	**11 01 46.0**	**-0.4**
	baz=30						
ANMO	**Albuquerque**	**58.68**	**286**	P	**P**	**11 01 46.0**	**-0.4**
K02D	**Willamette Mer**	**58.69**	**304**	P	**P**	**11 01 47.6**	**+1.4**
	baz=29						
**KI

SHME	Shamm	59.72	93	P	P	11 01 52.4	-1.1	
U15A	North Rim	59.79	292	IAmb	IAmb	11 01 56.9		
	comp=Z,26nm,1.1s							
U15A				IAMs_20	IAMs_20	11 27 51.0		
	comp=Z,2μm,18.0s							
KVN	Kaiserville	59.80	298	IAmb	IAmb	11 01 57.4		
	comp=Z,30nm,1.3s							
ULN	Ulaanbaatar	59.87	40	*d* iP	P	11 01 53.3	-1.1	
ULN				pmax	pmax			
	comp=Z,57nm,2.4s							
ULN	Ulaanbaatar	59.87	40	P	P	11 01 54.4	0.0	
ULN				IAmb	IAmb	11 01 56.1		
	comp=Z,26nm,1.4s							
PRN	Pahroc Range	60.04	294	IAmb	IAmb	11 02 03.9		
	comp=Z,19nm,1.3s							
VCNR	Virginia City	60.17	299	IAmb	IAmb	11 02 00.3		
	comp=Z,17nm,1.2s							
WUAZ	Wupatki	60.21	290	P	P	11 01 57.3	+0.4	
	baz=30,SNR=14							
735A	Kenedy	60.27	275	IAMs_20	IAMs_20	11 27 53.3		
	comp=Z,1μm,18.0s							
MSFE	Esma-Masafi	60.33	93	*i* P	P	11 01 57.5	-0.2	
	SNR=9.3							
PNTR	Pine Nut	60.33	299	IAmb	IAmb	11 02 01.6		
	comp=Z,28nm,1.4s							
NVAR	Mina Array Bea	60.41	298	P	P	11 01 57.3	-1.1	
	comp=Z,2.0nm,0.9s,baz=39,slow=5.8,SNR=13							
NVAR				LR	LR	11 28 08.3		
	comp=Z,6μm,18.7s,baz=24,slow=36							
NVAR	Mina Array Bea	60.41	298	P	P	11 01 57.7	-0.7	
NIL	Nilore	60.44	74	P	P	11 01 57.4	-0.9	
NIL				pmax	pmax			
	comp=Z,49nm,1.1s							
NIL				MLR	MLR			
	comp=Z,1μm,18.0s							
NIL	Nilore	60.44	74	P	P	11 01 57.4	-0.9	
NIL	Nilore	60.44	74	IAMs_20	IAMs_20	11 29 21.8		
	comp=Z,1μm,18.0s							
NAZ	Nazwa, Dubai	60.44	94	P	P	11 01 58.5	+0.1	
UOSS	Minazif	60.71	93	P	P	11 01 58.7	-1.6	
UOSS	Minazif	60.71	93	P	P	11 01 59.0	-1.3	
WAKR	Walker	60.78	298	IAmb	IAmb	11 02 04.6		
	comp=Z,24nm,1.3s							
HATD	Hatta, Dubai	60.79	93	*i* P	P	11 01 59.7	-1.1	
	SNR=8.9							
HATD	Hatta, Dubai	60.79	93	P	P	11 01 59.5	-1.3	
	SNR=8.8							
HATD				P	P	11 01 59.5	-1.3	
	SNR=8.8							
SHPR	Sheep Range	60.87	294	IAMs_20	IAMs_20	11 28 13.4		
	comp=Z,2μm,19.0s							
KMRM	Mail Ridge	60.87	303	IAMs_20	IAMs_20	11 29 39.5		
	comp=Z,2μm,20.0s							
ASHO	Ashiyiah	60.88	94	P	P	11 02 00.1	-1.3	
	SNR=7.5							
TPNV	Topopah Spring	60.91	295	P	P	11 02 01.4	-0.3	
	baz=29,SNR=10							
TPNV	Topopah Spring	60.91	295	IAmb	IAmb	11 02 04.3		
	comp=Z,31nm,1.4s							
MTDJ	Mount Denham	61.00	250	IAMs_20	IAMs_20	11 24 38.6		
	comp=Z,2μm,20.0s							
MNTX	Cornudas Mount	61.03	283	P	P	11 02 02.6	+0.2	
	baz=30							
MNTX	Cornudas Mount	61.03	283	IAMs_20	IAMs_20	11 27 54.3		
	comp=Z,2μm,18.0s							
X16A	Lo Mia Camp, P	61.19	290	IAmb	IAmb	11 02 07.5		
	comp=Z,21nm,1.1s							
X16A				IAMs_20	IAMs_20	11 28 09.1		
	comp=Z,1μm,18.0s							
ALNE	Al Ain	61.30	94	*i* P	P	11 02 03.3	-1.0	
	SNR=7.3							
121A	Cookes Peak, D	61.32	286	P	P	11 02 05.2	+0.7	
	baz=29							
121A	Cookes Peak, D	61.32	286	IAmb	IAmb	11 02 07.9		
	comp=Z,10nm,0.9s							
121A				IAMs_20	IAMs_20	11 27 57.7		
	comp=Z,1μm,19.0s							
OMMB	Old Mammoth Mi	61.40	298	IAmb	IAmb	11 02 10.0		
	comp=Z,20nm,1.4s							
MDPB	Devils Postpil	61.41	298	IAmb	IAmb	11 02 09.2		
	comp=Z,15nm,1.2s							
833A	Chaparral WMA,	61.41	276	P	P	11 02 05.5	+0.5	
	baz=29							
833A	Chaparral WMA,	61.41	276	P	P	11 02 04.8	-0.2	
833A				IAMs_20	IAMs_20	11 27 20.6		
	comp=Z,2μm,21.0s							
FURC	Furnace Creek,	61.57	295	P	P	11 02 06.5	+0.6	
	baz=29,SNR=10							
W13A	Hualapai Mount	61.58	292	IAMs_20	IAMs_20	11 27 42.4		
	comp=Z,2μm,22.0s							
HIA	Hailar	61.73	30	IAMs_20	IAMs_20	11 29 30.3		
	comp=Z,2μm,19.0s							
GDXM	Geysers	61.78	301	IAmb	IAmb	11 02 12.7		
	comp=Z,24nm,1.4s							
SHOC	Shoshone, Teco	61.83	295	P	P	11 02 08.8	+1.1	
	baz=29							
TUQ	Turquoise Moun	62.10	294	P	P	11 02 10.3	+0.6	
	baz=29							
NEE2	Needles Airpor	62.16	293	P	P	11 02 10.4	+0.4	
	baz=29							
MPMC	Manual Prospec	62.17	296	P	P	11 02 10.5	+0.3	
	baz=29,SNR=11							
Y14A	Wickenburg	62.24	291	IAMs_20	IAMs_20	11 28 28.9		
	comp=Z,1μm,18.0s							
TX31	Lajitas Ar. Si	62.36	280	IAmb	IAmb	11 02 14.0		
	comp=Z,24nm,1.1s							
TXAR	Lajitas Array	62.36	280	P	P	11 02 10.0	-1.5	
	comp=Z,3.6nm,1.0s,baz=60,slow=3.4,SNR=16							
TXAR	Lajitas Array	62.36	280	P	P	11 02 10.5	-1.0	
TXAR	Lajitas Array	62.36	280	P	P	11 02 10.5	-1.0	
GMRC	Granite Mounta	62.56	293	P	P	11 02 13.1	+0.3	
	baz=29,SNR=19							
GSC	Goldstone, Bar	62.56	295	P	P	11 02 13.0	+0.3	
	baz=29,SNR=5.1							
GSC	Goldstone, Bar	62.56	295	IAmb	IAmb	11 02 16.8		
	comp=Z,21nm,1.4s							
GSC				IAMs_20	IAMs_20	11 28 53.3		
	comp=Z,2μm,19.0s							
PEA0B	Petropavlovsk-	62.64	3	P	P	11 02 13.8	+0.9	
PEA0B				pmax	pmax			
	comp=Z,73nm,1.5s							
PEA0B	Petropavlovsk-	62.64	3	P	P	11 02 13.8	+0.9	
PETK	Petropavlovsk-	62.64	3	P	P	11 02 13.8	+0.9	
	comp=Z,8.1nm,1.1s,baz=27,slow=13,SNR=4.5							
PETK	Petropavlovsk-	62.64	3	P	P	11 02 13.2	+0.3	
PET	Petropavlovsk	62.74	3	*e*P	P	11 02 14.3	+0.8	
PET				*e*S	S	11 10 44.6	+2.1	
PET				*e*SS	SS	11 14 51.9	+5.9	
PET				MLR	MLR			
	comp=Z,700nm,20.0s							
PET				MLR	MLR			
	comp=Z,700nm,20.0s							
LRMC	Laurel Mtn Rad	62.75	295	P	P	11 02 13.5	-0.5	
	baz=28							
TUC	Tucson	62.75	288	P	P	11 02 13.9	-0.1	
TUC				pmax	pmax			
	comp=Z,22nm,1.5s							
TUC	Tucson	62.75	288	P	P	11 02 14.0	0.0	
	baz=29							
TUC	Tucson	62.75	288	P	P	11 02 13.9	-0.1	
TUC				IAmb	IAmb	11 02 17.5		
	comp=Z,22nm,1.4s							
TUC	Tucson	62.75	288	IAMs_20	IAMs_20	11 28 50.6		
	comp=Z,1μm,20.0s							
HEC	Hector,Ludlow	62.79	294	P	P	11 02 15.2	+1.0	
	baz=29							
BIDO	Bidbid	62.79	92	P	P	11 02 13.2	-1.1	
	SNR=9.6							
ISA	Isabella, Lake	62.90	296	P	P	11 02 15.9	+1.0	
	baz=28,SNR=11							
ISA	Isabella, Lake	62.90	296	IAmb	IAmb	11 02 18.9		
	comp=Z,21nm,1.2s							
IRM	Iron Mountain	62.91	293	P	P	11 02 15.6	+0.6	
	baz=29,SNR=11							
SMDO	Samad	63.17	93	P	P	11 02 16.8	-0.1	
	SNR=9.3							
SMDO				P	P	11 02 16.8	-0.1	
	SNR=9.3							
BELC	Belle Mtn. Jos	63.38	293	P	P	11 02 18.8	+0.5	
	baz=28,SNR=17							
EDW2	Edwards Air Fo	63.40	295	P	P	11 02 18.4	+0.1	
	baz=28							
BC3	Big Chuckawall	63.47	293	P	P	11 02 19.6	+0.8	
	baz=28,SNR=14							
113A	Mohawk Valley,	63.57	291	IAmb	IAmb	11 02 22.1		
	comp=Z,28nm,1.5s							
113A				IAMs_20	IAMs_20	11 29 19.1		
	comp=Z,1μm,18.0s							
TEIG	Tepich	63.72	262	IAMs_20	IAMs_20	11 28 46.3		
	comp=Z,1μm,20.0s							
GLA	Glamis	63.75	292	P	P	11 02 21.2	+0.6	
	baz=28							
GLA	Glamis	63.75	292	IAMs_20	IAMs_20	11 28 58.8		
	comp=Z,1μm,21.0s							
BFSC	Mount Baldy Ra	63.83	295	P	P	11 02 21.5	+0.2	
	baz=28							
214A	Organ Pipe Nat	63.89	290	IAmb	IAmb	11 02 24.3		
	comp=Z,19nm,1.4s							
214A				IAMs_20	IAMs_20	11 30 02.7		
	comp=Z,2μm,19.0s							
PFO	Pinyon Flats O	63.91	293	P	P	11 02 20.8	-0.9	
PFO				pmax	pmax			
	comp=Z,17nm,1.5s							
PFO				MLR	MLR			
	comp=Z,2μm,18.0s							
PFO	Pinyon Flats O	63.91	293	P	P	11 02 21.2	-0.5	
	baz=28							
PFO	Pinyon Flats O	63.91	293	P	P	11 02 20.8	-0.9	
PFO				IAmb	IAmb	11 02 25.0		
	comp=Z,17nm,1.5s							
TPFO	Pinon Flats	63.91	293	P	P	11 02 22.3	+0.5	
	baz=28							
SWSC	Sam W. Stewart	64.23	293	P	P	11 02 24.8	+1.1	
	baz=28							
MONP2	Monument Peak	64.53	293	P	P	11 02 26.0	+0.1	
	baz=28,SNR=7.7							
IKP	In-Ko-Pah, Jac	64.61	293	P	P	11 02 26.6	+0.3	
	baz=28							
RMX	La Rumorosa	64.64	293	IAMs_20	IAMs_20	11 29 44.1		
	comp=Z,2μm,21.0s							
URIC	Uribia, Colomb	64.72	242	*e*P	P	11 02 23.8	-3.2	
109C	Camp Elliot, M	64.80	294	IAmb	IAmb	11 02 31.3		
	comp=Z,12nm,1.1s							
BAR	Barrett	64.81	293	IAmb	IAmb	11 02 33.2		
	comp=Z,22nm,1.5s							
GTA	Gaotai	65.35	49	P	P	11 02 30.9	-0.2	
GTA				pP	sP	11 02 36.1	+3.1	
GTA				sP	pP	11 02 39.3	+6.8	
GTA				S	S	11 11 17.6	+2.0	
GTA				sS	sS	11 11 27.1	+9.2	
GTA				pmax	pmax			
	comp=Z,19nm,1.6s							
GTA				pmax	pmax			
	comp=Z,570nm,4.9s							
GTA				LR	LR			
	comp=Z,1μm,18.2s							
GTA				LR	LR			
	comp=Z,1μm,17.8s							
GTA				LR	LR			
	comp=Z,2μm,18.9s							
CCX	Cicese	65.52	293	IAMs_20	IAMs_20	11 30 18.7		
	comp=Z,1μm,22.0s							
HSIG		65.70	286	IAMs_20	IAMs_20	11 33 26.7		
	comp=Z,1μm,18.0s							
SPX	San Pedro Mart	65.77	291	IAmb	IAmb	11 02 37.2		
	comp=Z,25nm,1.4s							
SMRC	Santa Marta, M	66.08	244	*e*P	P	11 02 30.2	-5.6	
SDV	Santo Domingo	66.80	239	P	P	11 02 39.1	-1.6	
	comp=Z,6.7nm,0.7s,baz=23,slow=7.7,SNR=2.6							
SDV	Santo Domingo	66.80	239	*e*P	P	11 02 36.5	-4.1	
SDV	Santo Domingo	66.80	239	P	P	11 02 40.9	+0.3	
SDV	Santo Domingo	66.80	239	*e*P	P	11 02 42.0	+1.3	
ARGC	Ariguani, Magd	67.28	243	*e*P	P	11 02 43.1	-0.4	
BTO	Baotou	67.38	41	*e*P	P	11 02 40.8	-3.2	
HHC	Hu-ho-hao-te	67.59	40	*e*P	P	11 02 45.0	-0.3	
HHC				PP	PP	11 05 13.0	-0.6	
HHC				S	S	11 11 40.0	-2.6	
HHC				sS	sS	11 11 46.8	+1.9	
HHC				ScS	SKiKP	11 12 39.5	-4.1	
HHC				SS	SS	11 15 54.3	-7.8	
HHC				pmax	pmax			
	comp=Z,31nm,1.2s							
HHC				pmax	pmax			
	comp=Z,420nm,5.2s							
HHC				LR	LR			
	comp=Z,1μm,15.3s							
HHC				LR	LR			
	comp=Z,740nm,14.5s							
HHC				LR	LR			
	comp=Z,1μm,16.2s							
SJCC	San Jacinto, C	67.61	244	*e*P	P	11 02 41.3	-4.3	
ZAIG	Zacatecas	67.64	276	P	P	11 02 47.2	+1.1	
ZAIG				IAmb	IAmb	11 02 50.0		
	comp=Z,16nm,1.2s							
ZAIG				IAMs_20	IAMs_20	11 31 33.6		
	comp=Z,1μm,21.0s							
YSS	Yuzh-Sakhalins	67.77	15	*e*P	P	11 02 46.6	+0.4	
YSS				*e*S	S	11 11 43.1	-1.3	
YSS				*e*PS	PnS	11 12 10.5	+5.4	
YSS				pmax	pmax			
	comp=Z,20nm,1.2s							
YSS				pmax	pmax			
	comp=Z,600nm,4.4s							
YSS				smax	smax			
	comp=E,600nm,6.9s							
YSS				smax	smax			
	comp=E,300nm,9.3s							
YSS				MLR	MLR			
	comp=E,400nm,14.0s							
YSS				MLR	MLR			
	comp=Z,500nm,14.0s							
MDJ	Mudanjiang	68.15	25	P	P	11 02 48.9	+0.2	
MDJ				pP	pP	11 02 50.5	+0.4	
MDJ				PP	PP	11 05 19.4	+1.2	
MDJ				S	S	11 11 49.4	+0.4	
MDJ				SS	SS	11 16 12.8	+2.5	
MDJ				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MDJ				pmax	pmax			
	comp=Z,470nm,5.3s							
MDJ				LR	LR			
	comp=Z,1μm,16.2s							
MDJ				LR	LR			
	comp=Z,750nm,18.1s							
MDJ				LR	LR			
	comp=Z,2μm,18.6s							
MDJ	Mudanjiang	68.15	25	IAMs_20	IAMs_20	11 35 06.2		
	comp=Z,1μm,19.0s							
SMLC	San Martn de	68.18	243	*e*P	P	11 02 44.5	-4.7	
MOTC	Monteria, Cord	68.81	244	*e*P	P	11 02 50.6	-2.5	
CCIG	Comitan	68.88	263	IAMs_20	IAMs_20	11 31 15.8		
	comp=Z,2μm,22.0s							
USRK	Ussuriysk Ar.	68.97	23	P	P	11 02 52.6	-1.2	
	comp=Z,1.1nm,0.8s,baz=3.4,slow=7.4,SNR=5.4							
USRK				LR	LR	11 32 54.3		
	comp=Z,620nm,21.8s,baz=331,slow=36							
USRK	Ussuriysk Ar.	68.97	23	P	P	11 02 53.5	-0.3	
USRK	Ussuriysk Ar.	68.97	23	P	P	11 02 53.5	-0.3	
LCBC	Los crdobas,	69.02	245	*e*P	P	11 02 53.8	-0.6	
MATN	Matagalpa	69.23	256	P	P	11 02 56.7	+0.8	
MATN				IAmb	IAmb	11 03 05.4		
	comp=Z,17nm,1.3s							
APG	El Apazote	69.30	261	LR	LR	11 33 01.2		
	comp=Z,732nm,18.7s,baz=14,slow=36							
MCPB	Macapa, AP	69.51	217	*e*P	P	11 03 01.0	+3.5	
BJI	Beijing	69.57	36	P	P	11 02 57.3	-0.3	
BJI				S	S	11 12 08.1	+2.2	
BJI				pmax	pmax			
	comp=Z,19nm,2.0s							
BJI				pmax	pmax			
	comp=Z,530nm,4.7s							
BJI				LR	LR			
	comp=Z,2μm,16.9s							
BJI				LR	LR			
	comp=Z,1μm,17.1s							
BJI				LR	LR			
	comp=Z,2μm,19.2s							
BJT	Baijiatuau	69.59	36	IAmb	IAmb	11 03 01.5		
	comp=Z,26nm,1.3s							
BRRC	Barranca, Sant	69.59	242	*e*P	P	11 02 54.7	-3.2	
ZARC	Zaragoza, Cauc	69.68	243	*e*P	P	11 02 53.0	-5.6	
LZH	Lanzhou	69.68	48	*e*P	P	11 02 59.5	+0.9	
LZH				pP	sP	11 03 02.8	+2.3	
LZH				sP	pP	11 03 05.0	+5.0	
LZH				*e*S	S	11 12 12.0	+4.2	
LZH				sS	sS	11 12 17.4	+7.3	
LZH				SS	SS	11 16 28.0	-6.8	
LZH				pmax	pmax			
	comp=Z,26nm,1.2s							
LZH				pmax	pmax			
	comp=Z,94nm,4.9s							
LZH				LR	LR			
	comp=Z,1μm,16.0s							
LZH				LR	LR			
	comp=Z,2μm,14.6s							
LZH				LR	LR			
	comp=Z,2μm,19.0s							
UREC	San Jos de Ur	69.70	244	*e*P	P	11 02 56.0	-2.7	
PTBC	PUERTO BERRIO,	70.40	242	*e*P	P	11 03 00.2	-2.8	
RUSC	La Rusia	70.47	241	*e*P	P	11 02 59.6	-4.4	
TLIG	Tlapa	70.51	270	P	P	11 03 04.3	+0.5	
TLIG				IAmb	IAmb	11 03 09.4		
	comp=Z,28nm,1.4s							
DBBC	Dabeiba	70.64	244	*e*P	P	11 03 02.4	-2.1	
TIY	Taiyuan	70.75	40	*e*P	P	11 03 08.1	+3.1	
TIY				pmax	pmax			
	comp=Z,23nm,0.5s							
TIY				LR	LR			
	comp=Z,220nm,4.3s							
TIY				LR	LR			
	comp=Z,760nm,12.2s							
TIY				LR	LR			
	comp=Z,2μm,15.7s							
YUK	Yuzh-Kuril'sk	70.98	13	*e*P	P	11 03 00.7	-5.4	
YUK				*e*S	S	11 12 20.6	-1.7	
YUK				*e*		11 12 50.8		
YUK				*e*SS	SS	11 16 54.1	+0.3	
YUK				MLR	MLR			
	comp=Z,572nm,19.0s							
LSA	Lhasa	71.04	61	P	P	11 03 07.8	+0.5	
SPBC	San Pablo de B	71.06	242	*e*P	P	11 03 04.3	-2.7	
HDC	Heredia	71.11	253	IAMs_20	IAMs_20	11 31 05.3		
	comp=Z,1μm,21.0s							
MALB	Monte Alegre	71.53	219	*e*P	P	11 03 11.7	+2.0	
CBOC	Ciudad Bolivar	71.61	244	*e*P	P	11 03 07.1	-3.4	
PTGC	Puerto Gaitan,	71.67	239	*e*P	P	11 03 07.8	-2.9	
CHIC	Chingaza	71.87	241	*e*P	P	11 03 07.4	-4.9	
ROSC	El Rosal	71.90	241	P	P	11 03 12.7	+0.2	
	comp=Z,18nm,0.7s,baz=47,slow=3.6,SNR=9.2							
ROSC				LR	LR	11 31 13.8		
	comp=Z,1μm,21.7s,baz=354,slow=33							
ROSC	El Rosal	71.90	241	*e*P	P	11 03 10.0	-2.5	
ROSC	El Rosal	71.90	241	P	P	11 03 12.7	+0.2	
ROSC				IAMs_20	IAMs_20	11 30 51.7		
	comp=Z,1μm,21.0s							
GUY2C	Guyana, Caldas	71.95	243	*e*P	P	11 03 11.4	-1.5	
DL2	Dalian	71.98	33	‖ *i* P	P	11 03 14.5	+2.3	
DL2				PP	PP	11 05 53.8	+2.4	
DL2				S	S	11 12 38.8	+4.8	
DL2				SS	SS	11 17 12.4	+3.0	
DL2				pmax	pmax			
	comp=Z,24nm,1.0s							
DL2				pmax	pmax			
	comp=Z,520nm,6.5s							
DL2				LR	LR			
	comp=Z,2μm,17.3s							
DL2				LR	LR			
	comp=Z,620nm,17.3s							
DL2				LR	LR			
	comp=Z,2μm,18.9s							
PTGA	Pitinga	72.13	225	P	P	11 03 12.6	-0.8	
PTGA				IAmb	IAmb	11 03 17.0		
	comp=Z,18nm,1.2s							
PTGA				IAMs_20	IAMs_20	11 28 17.1		
	comp=Z,1μm,22.0s							
ERM	Erimo	72.70	15	IAMs_20	IAMs_20	11 37 44.5		
	comp=Z,907nm,21.0s							
ORTC	Ortega, Tolima	73.11	242	*e*P	P	11 03 16.3	-3.0	
PRAC	Prado	73.15	242	*e*P	P	11 03 15.7	-3.9	
XAN	Xi'an	73.15	44	P	P	11 03 19.5	+0.1	
XAN				pP	sP	11 03 24.6	+3.3	
XAN				pmax	pmax			
	comp=Z,27nm,1.9s							
XAN				pmax	pmax			
	comp=Z,1μm,4.9s							
XAN				LR	LR			
	comp=Z,2μm,22.0s							
XAN				LR	LR			
	comp=Z,2μm,18.6s							
XAN				LR	LR			
	comp=Z,3μm,23.8s							
XAN	Xi'an	73.15	44	IAmb	IAmb	11 03 31.5		
	comp=Z,22nm,1.3s							
TIA	Tai'an	73.43	37	P	P	11 03 22.5	+1.6	
TIA				pmax	pmax			
	comp=Z,15nm,1.4s							
TIA				pmax	pmax			
	comp=Z,340nm,4.0s							
TIA				LR	LR			
	comp=Z,1μm,15.7s							
TIA				LR	LR			
	comp=Z,2μm,19.9s							
YOTC	Yotoco, Valle	73.47	243	*e*P	P	11 03 19.4	-2.0	
MBAR	Mbarara	73.78	129	P	P	11 03 23.5	+0.2	
MBAR				pmax	pmax			
	comp=Z,13nm,1.2s							
MBAR				MLR	MLR			
	comp=Z,900nm,22.0s							
MBAR	Mbarara	73.78	129	P	P	11 03 23.5	+0.2	
ITTB	Itaituba	74.34	220	*e*P	P	11 03 27.3	+0.9	
MARP	Paez Belalcaza	74.36	242	*e*P	P	11 03 24.4	-2.5	
CD2	Chengdu	74.41	50	*e*P	P	11 03 26.0	-0.8	
INCN	Inchon	74.45	29	IAMs_20	IAMs_20	11 37 18.3		
	comp=Z,1μm,22.0s							
PRPB	Parauapebas	74.54	214	*e*P	P	11 03 27.9	+0.3	
MACA	Manacapuru-AM	74.64	225	*e*P	P	11 03 29.0	+0.8	
KSRS	Korea Array	74.75	28	P	P	11 03 27.3	-1.3	
	comp=Z,0.6nm,0.8s,baz=358,slow=3.8,SNR=2.1							
KSRS				LR	LR	11 39 47.6		
	comp=Z,839nm,18.3s,baz=342,slow=38							
KSAR	Wonju Array Be	74.75	28	P	P	11 03 28.4	-0.2	
KSAR	Wonju Array Be	74.75	28	P	P	11 03 28.4	-0.2	
GARC	Garzon, Huila	74.79	242	*e*P	P	11 03 25.8	-3.6	
POPC	Popayan, Colom	74.92	243	*e*P	P	11 03 26.0	-4.1	
PCON	Cinco Dias	75.00	242	*e*P	P	11 03 27.7	-3.2	
SHL	Shillong	75.04	62	P	P	11 03 31.2	+0.5	
	SNR=5.6							
SHL	Shillong	75.04	62	P	P	11 03 30.4	-0.2	
SHL				pmax	pmax			
	comp=Z,28nm,1.2s							
SHL				MLR	MLR			
	comp=Z,2μm,19.0s							
SHL	Shillong	75.04	62	P	P	11 03 30.4	-0.2	
SHL				IAmb	IAmb	11 03 38.2		
	comp=Z,28nm,1.2s							
FLOC	Florencia	75.40	241	*e*P	P	11 03 27.6	-5.0	
KMBO	Kilima Mbogo	76.54	123	LR	LR	11 40 48.0		
	comp=Z,902nm,19.5s,baz=280,slow=38							
KMBO	Kilima Mbogo	76.54	123	P	P	11 03 40.1	+0.8	
KMBO	Kilima Mbogo	76.54	123	IAMs_20	IAMs_20	11 40 45.2		
	comp=Z,1μm,20.0s							
SMTB	Santa Maria do	76.63	211	*e*P	P	11 03 42.1	+2.7	
HYB	Hyderabad	76.96	77	*i* P	P	11 03 42.0	+0.5	
MAT	Matsushiro	77.44	20	P	P	11 03 43.6	-0.4	
MAT				S	S	11 13 36.6	+1.4	
MJAR	Matsushiro Arr	77.44	20	P	P	11 03 42.7	-1.3	
	comp=Z,2.5nm,1.1s,baz=353,slow=4.9,SNR=4.3							
MJAR	Matsushiro Arr	77.44	20	P	P	11 03 43.8	-0.2	
MJAR				pmax	pmax			
	comp=Z,4.0nm,1.3s							
MJAR	Matsushiro Arr	77.44	20	P	P	11 03 43.8	-0.2	
OTAV	Otavalo	77.71	244	*e*P	P	11 03 44.2	-2.0	
OTAV	Otavalo	77.71	244	P	P	11 03 45.2	-1.0	
OTAV				pmax	pmax			
	comp=Z,11nm,1.4s							
OT

KMI PP **PP** **11 06 51.5 -3.1**
KMI S **S** **11 13 53.0 -3.8**
KMI sS sS 11 14 00.8 +1.6
KMI pmax pmax
comp=Z,16nm,1.5s
KMI pmax pmax
comp=Z,280nm,4.8s
KMI LR LR
comp=Z,830nm,16.9s
KMI LR LR
comp=Z,550nm,14.0s
KMI LR LR
comp=Z,1μm,19.5s
KMI Kunming 79.40 53 IAMs_20 IAMs_20 11 44 34.9
comp=Z,970nm,19.0s
GYA Guiyang 79.48 49 ⇓P **P** **11 03 55.3 -0.2**
GYA S **S** **11 13 58.8 +1.3**
GYA SKS **SKSac** **11 14 08.4 -4.4**
GYA pmax pmax
comp=Z,22nm,1.6s
GYA pmax pmax
comp=Z,470nm,6.1s
GYA LR LR
comp=Z,870nm,11.2s
GYA LR LR
comp=Z,520nm,9.1s
GYA LR LR
comp=Z,850nm,14.5s
JNU Nakatsue 79.53 27 IAMs_20 IAMs_20 11 44 15.4
comp=Z,963nm,21.0s
SAML Samuel 80.88 226 P **P** **11 04 01.6 -1.3**
SAML pmax pmax
comp=Z,13nm,1.4s
SAML Samuel 80.88 226 P **P** **11 04 01.6 -1.3**
SAML Samuel 80.88 226 IAMs_20 IAMs_20 11 33 50.1
comp=Z,981nm,22.0s
JSU Suzuyama 81.01 27 IAMs_20 IAMs_20 11 45 01.7
comp=Z,1μm,21.0s
BDFB Brasilia 83.29 210 P **P** **11 04 18.5 +2.9**
comp=Z,2.3nm,0.7s,baz=229,slow=4.0,SNR=3.3
BDFB LR LR 11 35 06.8
comp=Z,1μm,21.7s,baz=344,slow=31
BDFB Brasilia 83.29 210 IAMs_20 IAMs_20 11 34 45.1
comp=Z,1μm,21.0s
SLVN Son La 83.29 53 P **P** **11 04 14.9 -0.8**
VILB Vilhena 83.78 222 *e*P **P** **11 04 18.5 +0.5**
CHTO Chiang Mai 83.83 59 P **P** **11 04 16.8 -1.6**
CHTO pmax pmax
comp=Z,30nm,1.5s
CHTO MLR MLR
comp=Z,900nm,20.0s
CHTO Chiang Mai 83.83 59 P **P** **11 04 16.8 -1.6**
CHTO IAmb IAmb 11 04 19.5
comp=Z,30nm,1.5s
CHTO Chiang Mai 83.83 59 IAMs_20 IAMs_20 11 44 10.0
comp=Z,862nm,20.0s
CM31 Chiang Mai Arr 84.16 59 P **P** **11 04 20.9 +0.8**
SNR=5.9
CM31 P **P** **11 04 20.9 +0.8**
SNR=5.9
CMAR Chiang Mai Arr 84.16 59 P **P** **11 04 20.1 0.0**
comp=Z,4.2nm,0.9s,baz=316,slow=5.8,SNR=16
CMAR PP **PP** **11 07 36.2 +2.5**
comp=Z,0.7nm,0.5s,baz=340,slow=8.5,SNR=5.2
CMAR LR LR 11 44 40.8
comp=Z,670nm,19.7s,baz=356,slow=38
CMAR Chiang Mai Arr 84.16 59 P **P** **11 04 19.2 -1.0**
ARAG Araguaiana, MT 84.21 213 *e*P **P** **11 04 22.5 +2.4**
IPMB Ipameri, GO 85.60 209 *e*P **P** **11 04 29.9 +2.7**
SIV San Ignacio 86.91 222 P **P** **11 04 32.1 -1.5**
comp=Z,1.3nm,0.8s,baz=36,slow=8.7,SNR=2.1
PALK Pallekele 86.95 80 IAMs_20 IAMs_20 11 45 20.4
comp=Z,1μm,20.0s
QIZ Qiongzhong 87.43 49 P **P** **11 04 36.1 -0.2**
QIZ S **S** **11 15 20.8 +3.0**
QIZ SS **SS** **11 21 04.5 +3.0**
QIZ pmax pmax
comp=Z,31nm,1.4s
QIZ pmax pmax
comp=Z,520nm,3.8s
QIZ LR LR
comp=Z,1μm,18.8s
QIZ LR LR
comp=Z,860nm,18.4s
QIZ LR LR
comp=Z,1μm,17.6s
LPAZ La Paz 89.35 228 P **P** **11 04 45.8 -0.1**
comp=Z,1.2nm,0.9s,baz=4.8,slow=3.1,SNR=2.5
LPAZ LR LR 11 42 12.2
comp=Z,337nm,19.6s,baz=6.5,slow=34
LPAZ La Paz 89.35 228 IAmb IAmb 11 04 54.1
comp=Z,2.3nm,1.1s
UBPT Khong Chiam 89.44 54 IAMs_20 IAMs_20 11 47 49.1
comp=Z,774nm,18.0s
VAO Valinhos 90.22 207 *e*P **P** **11 04 51.9 +2.6**
SPB Sao Paulo 90.89 207 IAMs_20 IAMs_20 11 38 24.4
comp=Z,1μm,22.0s
DLV T Lat 93.58 53 IAMs_20 IAMs_20 11 52 12.5
comp=Z,931nm,20.0s
KULM Kulim 96.88 62 IAMs_20 IAMs_20 11 56 01.5
comp=Z,706nm,20.0s
IPM Ipoh 97.77 62 IAMs_20 IAMs_20 11 54 12.0
comp=Z,986nm,22.0s
RPSI Rantau Prapat 98.58 65 IAMs_20 IAMs_20 11 55 13.9
comp=Z,635nm,20.0s
BOSA Boshof 98.62 143 LR LR 11 52 36.7
comp=Z,2μm,18.3s,baz=343,slow=37
MYKOM Kota Tinggi 101.31 61 IAMs_20 IAMs_20 11 55 11.8
comp=Z,800nm,20.0s
BKNI Bangkinang 101.58 64 IAMs_20 IAMs_20 11 56 39.1
comp=Z,686nm,21.0s
KKM Kota Kinabalu 101.67 47 IAMs_20 IAMs_20 11 54 08.7
comp=Z,754nm,22.0s
KSM Kuching 103.96 55 IAMs_20 IAMs_20 11 56 34.9
comp=Z,696nm,21.0s
BI02 San Fabin de 109.34 224 IAMs_20 IAMs_20 11 51 55.0
comp=Z,672nm,18.0s
CISI Cisompet, Garu 111.40 60 IAMs_20 IAMs_20 12 04 09.3
comp=Z,778nm,21.0s
FAKI Fak Fak 114.72 34 IAMs_20 IAMs_20 12 01 43.2
comp=Z,428nm,20.0s
PPT2 Papeete2 123.22 302 *e*SS SS 11 29 15.7 +4.3
comp=Z,967nm,42.2s
PPT2 Papeete2 123.22 302 *e*LR LR 11 48 59.0
comp=Z,925nm,22.0s
TBI Tubuai 128.44 299 *e*SS SS 11 30 19.6 +2.9
comp=Z,336nm,39.2s
TBI Tubuai 128.44 299 *e*LR LR 11 51 22.9
comp=Z,874nm,23.2s
WRA Warramunga Arr 131.60 37 PKP **PKiKP** **11 11 02.5 0.0**
comp=Z,3.5nm,1.2s,baz=350,slow=2.5,SNR=5.1
WRA Warramunga Arr 131.60 37 PKIKP **PKiKP** **11 11 01.5 -1.0**
WRA Warramunga Arr 131.60 37 **PKiKP** **11 11 01.5 -1.0**
ASAR Alice Springs 135.04 39 PKP **PKiKP** **11 11 09.8 +0.4**
comp=Z,2.7nm,1.0s,baz=328,slow=2.1,SNR=7.1
ASAR Alice Springs 135.04 39 PKIKP **PKiKP** **11 11 09.1 -0.3**
ASAR Alice Springs 135.04 39 PKPdf **PKiKP** **11 11 09.1 -0.3**
DZM Mont Dzumac 137.49 355 *e*LR LR 11 55 31.7
comp=Z,1μm,25.8s
MAW Mawson 143.59 140 PKP **PKPdf** **11 11 21.1 -0.8**
comp=Z,0.7nm,0.4s,baz=324,slow=4.8,SNR=2.2
MAW Mawson 143.59 140 PKIKP **PKPdf** **11 11 20.2 -1.8**
MAW Mawson 143.59 140 **PKPdf** **11 11 20.2 -1.8**
STKA Stephens Creek 144.81 32 PKP **PKPdf** **11 11 23.5 -1.8**
comp=Z,6.2nm,0.8s,baz=351,slow=4.0,SNR=8.3
STKA Stephens Creek 144.81 32 PKPdf **PKPdf** **11 11 23.9 -1.4**
QSPA South Pole Qui 154.44 180 **PKPdf** **11 11 39.1 -0.4**

IDC ***21*** *11:01:45.2±1.5,23°.73S×179°.78W,h510km±14km, mb3.7/17,mb1 3.8/18,mb1mx3.6/40,mbtmp4.5/18,Error ellipse: s-maj=16.6km s-min=13.7km az=129.0*
NEIC ***21*** *11:01:46.0±1.6,23°.78S±0°.10×179°.83W±0°.10, h520km±6km,mb4.4/78,Error ellipse: s-maj=15.3km s-min=12.0km az=143.0*
ISC 21 11:01:45.5±0.4,**23°.81S**±0°.06×**179°.81W**±0°.07,**h518**km, **n150**,σ1°**23**/163,**mb4.5**/63,**1D**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.68**	**163**	P	**P**	**11 03 19.1**	**-0.4**
GLKZ				S	**S**	**11 04 37.8**	**+1.4**
MSVF	**Nonsavu**	**6.37**	**341**	P	**P**	**11 03 27.9**	**+1.6**
NIUE	**Niue**	**10.33**	**65**	P	**P**	**11 04 05.8**	**-0.8**
AFI	**Afiamalu**	**12.44**	**39**	P	**P**	**11 04 24.8**	**-4.0**
	2.1nm,0.3s,baz=260,slow=1.4,SNR=5.5						
AFI				S	S	11 06 32.2	-11
	1.1nm,0.3s,baz=51,slow=20,SNR=1.6						
AFI	**Afiamalu**	**12.44**	**39**	P	**P**	**11 04 24.9**	**-3.9**
KUZ	**Kuaotunu**	**13.45**	**196**	P	**P**	11 04 44.6	+5.5
MXZ	**Matakaoa Point**	**13.80**	**186**	P	**P**	**11 04 46.3**	**+3.7**
MXZ				S	**S**	**11 07 08.0**	**-0.7**
MXZ	**Matakaoa Point**	**13.80**	**186**	P	**P**	**11 04 45.3**	**+2.6**
URZ	**Urewera**	**14.64**	**190**	P	**P**	**11 04 51.6**	**+0.2**
	2.7nm,0.3s,baz=50,slow=2.1,SNR=12						
URZ				S	**S**	**11 07 21.2**	**-3.7**
	1.8nm,0.3s,baz=50,slow=22,SNR=14						
PKVZ	**Pokaka**	**15.97**	**194**	P	**P**	**11 05 06.0**	**+0.7**
BHHZ	**Black Hill Sta**	**16.02**	**192**	P	**P**	**11 05 05.0**	**-0.8**
KAHZ	**Kahuranaki**	**16.18**	**189**	P	**P**	**11 05 07.8**	**+0.3**
KAHZ				S	**S**	**11 07 51.0**	**-2.3**
PRWZ	**Pori Road**	**17.07**	**191**	P	**P**	11 05 08.4	-7.7
PRWZ				S	**S**	**11 08 04.2**	**-4.1**
BFZ	**Birch Farm**	**17.14**	**190**	P	**P**	**11 05 15.8**	**-1.0**
OGWZ	**Otaki Gorge**	**17.47**	**193**	P	**P**	**11 05 19.2**	**-0.7**
OGWZ				S	**S**	**11 08 12.9**	**-2.0**
HOWZ	**Holdsworth Sta**	**17.48**	**192**	S	**S**	**11 08 11.1**	**-4.0**
DUWZ	**D'Urville Isla**	**17.74**	**196**	P	**P**	**11 05 23.7**	**+1.3**
DUWZ				S	**S**	**11 08 16.1**	**-3.2**
TRWZ	**Traveller**	**17.94**	**191**	P	**P**	**11 05 23.1**	**-1.1**
TRWZ				S	**S**	**11 08 18.4**	**-4.0**
MSWZ	**Moikau Station**	**18.03**	**192**	P	**P**	**11 05 25.5**	**+0.4**
NNZ	**Nelson**	**18.27**	**197**	P	**P**	**11 05 27.4**	**+0.3**
THZ	**Tophouse**	**18.91**	**197**	P	**P**	**11 05 33.6**	**+0.5**
RPZ	**Rata Peaks**	**21.23**	**199**	P	**P**	**11 05 54.6**	**+0.5**
	3.3nm,0.3s,baz=145,slow=22,SNR=1.0						
RPZ	**Rata Peaks**	**21.23**	**199**	P	**P**	**11 05 54.3**	**+0.2**
RPZ				IAmb	IAmb	11 06 08.6	
	comp=Z,19nm,1.0s						
ARMA	**Armidale**	**26.22**	**249**	P	**P**	**11 06 40.8**	**+2.0**
ARMA				IAmb	IAmb	11 06 41.5	
	comp=Z,12nm,0.7s						
EIDS	**Eidsvold**	**26.50**	**261**	P	**P**	**11 06 42.4**	**+1.1**
CTA	**Charters Tower**	**31.65**	**270**	P	**P**	**11 07 27.2**	**+1.1**
	comp=Z,24nm,0.3s,baz=94,slow=11,SNR=92						
CTAO	**Charters Tower**	**31.65**	**270**	P	**P**	**11 07 27.3**	**+1.1**
TOO	**Toolangi**	**32.65**	**237**	P	**P**	**11 07 35.5**	**+1.1**
TOO				IAmb	IAmb	11 07 36.2	
	comp=Z,11nm,0.7s						
TAU	**Tasmania Unive**	**33.12**	**227**	P	**P**	**11 07 39.2**	**+0.9**
TAU				IAmb	IAmb	11 07 40.1	
	comp=Z,19nm,0.9s						
PMG	**Port Moresby**	**34.63**	**289**	P	**P**	**11 07 50.9**	**-0.5**
STKA	**Stephens Creek**	**34.92**	**248**	P	**P**	**11 07 54.4**	**+0.8**
	comp=Z,9.6nm,0.8s,baz=93,slow=9.7,SNR=20						
STKA	**Stephens Creek**	**34.92**	**248**	P	**P**	**11 07 54.5**	**+0.9**
COEN	**Coen**	**36.28**	**279**	P	**P**	**11 08 05.9**	**+0.8**
COEN				IAmb	IAmb	11 08 07.0	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**39.64**	**247**	P	**P**	**11 08 32.1**	**-0.2**
BBOO				IAmb	IAmb	11 08 32.5	
	comp=Z,15nm,0.8s						
AS31	**Alice Springs**	**42.22**	**260**	P	**P**	**11 08 53.3**	**+0.2**
AS31				IAmb	IAmb	11 08 54.1	
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**11 08 53.2**	**+0.1**
	comp=Z,21nm,0.8s,baz=95,slow=7.6,SNR=193						
ASAR				ScP	**ScP**	**11 13 38.5**	**+2.0**
	comp=Z,2.1nm,0.8s,baz=107,slow=4.2,SNR=9.1						
ASAR				S	**S**	**11 14 34.2**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=102,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**11 08 53.1**	**+0.1**
ASAR					**ScP**	**11 13 38.2**	**+1.7**
WR0	**Warramunga Arr**	**42.40**	**266**	P	**P**	**11 08 54.1**	**-0.3**
WR0				IAmb	IAmb	11 08 54.9	
	comp=Z,25nm,1.1s						
WB2	**Warramunga Arr**	**42.58**	**266**	P	**P**	**11 08 55.7**	**-0.2**
WB0	**Warramunga Arr**	**42.58**	**266**	P	**P**	**11 08 55.5**	**-0.4**
WRAB	**Tennant Creek**	**42.58**	**266**	P	**P**	**11 08 55.5**	**-0.4**
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**11 08 55.6**	**-0.4**
	comp=Z,27nm,0.7s,baz=96,slow=8.3,SNR=383						
WRA				ScP	**ScP**	**11 13 40.1**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=101,slow=3.6,SNR=6.2						
WRA				S	**S**	**11 14 37.3**	**-3.9**
	comp=Z,1.5nm,1.0s,baz=101,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**11 08 55.5**	**-0.5**
JAY	**Jayapura**	**43.65**	**293**	P	**P**	**11 09 04.0**	**-0.3**
	comp=Z,13nm,1.0s						
GENI	**Genyem**	**44.06**	**292**	P	**P**	**11 09 07.9**	**+0.5**
	comp=Z,52nm,0.9s						
FORT	**Forrest**	**46.51**	**249**	P	**P**	**11 09 25.6**	**-0.4**
MTN	**Manton Dam**	**47.63**	**274**	P	**P**	**11 09 34.1**	**-0.5**
MTN				IAmb	IAmb	11 09 34.9	
	comp=Z,11nm,0.9s						
SRPI	**Serui, Papua**	**47.78**	**290**	P	**P**	**11 09 36.7**	**+0.9**
KNRA	**Kununurra**	**48.87**	**270**	P	**P**	**11 09 44.0**	**+0.2**
KHLU	**Kahalu`u**	**49.04**	**30**	P	**P**	**11 09 45.0**	**-0.1**
FAKI	**Fak Fak**	**50.73**	**287**	P	**P**	**11 09 57.2**	**-0.5**
FAKI				IAmb	IAmb	11 09 58.2	
	comp=Z,22nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.01**	**265**	P	**P**	**11 10 00.2**	**+0.6**
FITZ				IAmb	IAmb	11 10 01.1	
	comp=Z,22nm,0.9s						
VNDA	**Vanda**	**54.48**	**185**	P	**P**	**11 10 24.6**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=4.8,slow=7.3,SNR=5.4						
VNDA	**Vanda**	**54.48**	**185**	P	**P**	**11 10 24.7**	**+1.2**
SOEI	**Soe**	**55.02**	**275**	P	**P**	**11 10 28.8**	**+0.4**
	comp=Z,76nm,1.0s						
SOEI	**Soe**	**55.02**	**275**	P	**P**	**11 10 29.6**	**+1.2**
NLAI	**Namlea**	**55.14**	**283**	P	**P**	**11 10 29.3**	**+0.2**
	comp=Z,21nm,0.6s						
PSA00	**Pilbara Seismi**	**55.35**	**260**	P	**P**	**11 10 30.3**	**-0.3**
PSA00				IAmb	IAmb	11 10 31.5	
	comp=Z,40nm,1.4s						
NWAO	**Narrogin (SRO)**	**55.43**	**245**	P	**P**	**11 10 31.0**	**+0.1**
NWAO				IAmb	IAmb	11 10 49.6	
	comp=Z,53nm,1.4s						
SANI	**Sanana**	**56.66**	**284**	P	**P**	**11 10 38.9**	**-0.8**
	comp=Z,26nm,0.9s						
TNTI	**Ternate**	**56.77**	**288**	P	**P**	**11 10 40.1**	**-0.3**
	comp=Z,51nm,1.5s						
MORW	**Morawa**	**57.07**	**250**	P	**P**	**11 10 42.0**	**-0.3**
MORW				IAmb	IAmb	11 10 42.9	
	comp=Z,21nm,0.8s						
MMRI	**Maumere**	**57.29**	**275**	P	**P**	**11 10 44.9**	**+0.9**
MMRI				IAmb	IAmb	11 10 58.4	
	comp=Z,30nm,0.9s						
EDFI	**Ende, Flores**	**57.75**	**275**	P	**P**	**11 10 46.8**	**-0.4**
	comp=Z,24nm,0.9s						
WSI	**Waingapu**	**58.67**	**273**	P	**P**	**11 10 53.6**	**+0.2**
	comp=Z,14μmcomp=Z,323nm,0.7s						
LUWI	**Luwuk**	**59.98**	**283**	P	**P**	**11 11 02.4**	**+0.3**
	comp=Z,4μmcomp=Z,113nm,1.1s						
LUWI	**Luwuk**	**59.98**	**283**	P	**P**	**11 11 02.3**	**+0.1**
GIRL	**Giralia**	**60.11**	**257**	P	**P**	**11 11 03.3**	**+0.4**
CASY	**Casey**	**60.27**	**206**	P	**P**	**11 11 02.8**	**-0.3**
BKSI	**Bulukumba**	**60.53**	**278**	P	**P**	**11 11 05.3**	**-0.5**
	comp=Z,32nm,0.8s						
MPSI	**Mapaga**	**63.16**	**283**	P	**P**	**11 11 22.4**	**-0.5**
	comp=Z,3μmcomp=Z,35nm,0.8s						
JAGI	**Jajag, Banyuwa**	**64.75**	**272**	P	**P**	**11 11 32.1**	**-0.9**
BBKI	**Banjar Baru**	**66.09**	**277**	P	P	11 11 47.9	+6.4
QSPA	**South Pole Qui**	**66.27**	**180**	P	**P**	**11 11 42.9**	**+1.1**
QSPA				IAmb	IAmb	11 11 46.9	
	comp=Z,16nm,1.1s						
KKM	**Kota Kinabalu**	**69.05**	**287**	P	**P**	**11 11 59.8**	**+0.1**
KKM				IAmb	IAmb	11 12 17.2	
	comp=Z,15nm,0.9s						
MJAR	**Matsushiro Arr**	**71.93**	**325**	P	**P**	**11 12 15.6**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=165,slow=6.0,SNR=11						
MJAR	**Matsushiro Arr**	**71.93**	**325**	P	**P**	**11 12 15.7**	**-0.5**
MAJO	**Matsushiro**	**71.93**	**325**	P	**P**	**11 12 16.2**	**+0.1**
MAJO				IAmb	IAmb	11 12 17.0	
	comp=Z,9.6nm,1.1s						
MAT	**Matsushiro**	**71.93**	**325**	P	**P**	**11 12 15.7**	**-0.5**
KSM	**Kuching**	**72.27**	**280**	P	**P**	**11 12 18.9**	**+0.3**
JWT	**Wachi**	**72.49**	**323**	P	**P**	**11 12 19.6**	**+0.2**
JWT				IAmb	IAmb	11 12 20.8	
	comp=Z,12nm,1.0s						
JSU	**Suzuyama**	**72.74**	**317**	P	**P**	**11 12 21.1**	**+0.2**
JSU				IAmb	IAmb	11 12 22.3	
	comp=Z,35nm,1.4s						
JKA	**Kamikawa-asahi**	**75.87**	**333**	P	**P**	**11 12 39.0**	**+0.7**
ASAJ	**Asahikawa**	**75.87**	**333**	P	**P**	**11 12 38.9**	**+0.6**
	comp=Z,7.2nm,0.9s,baz=138,slow=18,SNR=2.3						
BELA	**Belgrano 2**	**76.50**	**173**	P	**P**	**11 12 41.5**	**+0.1**
MAW	**Mawson**	**77.89**	**200**	P	**P**	**11 12 49.8**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=150,slow=8.9,SNR=6.4						
MAW	**Mawson**	**77.89**	**200**	P	**P**	**11 12 50.1**	**+1.0**
KSRS	**Korea Array**	**78.30**	**320**	P	**P**	**11 12 52.2**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=137,slow=5.6,SNR=9.0						
PEA0B	**Petropavlovsk-**	**79.06**	**346**	P	**P**	**11 12 55.6**	**+0.1**
PEA0B				IAmb	IAmb	11 13 01.4	
	comp=Z,33nm,1.3s						
PETK	**Petropavlovsk-**	**79.06**	**346**	P	**P**	**11 12 55.5**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=116,slow=6.0,SNR=3.1						
PETK	**Petropavlovsk-**	**79.06**	**346**	P	**P**	**11 12 55.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**80.79**	**327**	P	**P**	**11 13 04.9**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=108,slow=3.0,SNR=7.7						
IPM	**Ipoh**	**81.93**	**278**	P	**P**	**11 13 11.3**	**-0.1**
IPM				IAmb	IAmb	11 13 12.1	
	comp=Z,8.3nm,0.7s						
KULM	**Kulim**	**82.60**	**279**	P	**P**	**11 13 15.3**	**+0.6**
KULM				IAmb	IAmb	11 13 15.5	
	comp=Z,7.4nm,0.8s						
ISA	**Isabella, Lake**	**82.83**	**46**	P	**P**	**11 13 16.0**	**+0.6**
CMB	**Columbia Colle**	**83.02**	**43**	P	**P**	**11 13 16.8**	**+0.5**
RPSI	**Rantau Prapat**	**83.10**	**276**	P	**P**	**11 13 15.6**	**-1.6**
SYO	**Syowa Base**	**83.14**	**193**⇓*e*P		**P**	**11 13 14.4**	**-1.9**
AFDM	**Forest Hills D**	**83.21**	**42**	P	**P**	**11 13 17.8**	**+0.5**
ORV	**Oroville**	**83.26**	**41**	P	**P**	**11 13 17.6**	**+0.2**
MDPB	**Devils Postpil**	**83.60**	**44**	P	**P**	**11 13 20.4**	**+0.9**
OMMB	**Old Mammoth Mi**	**83.64**	**44**	P	**P**	**11 13 20.2**	**+0.4**
WAKR	**Walker**	**83.89**	**43**	P	**P**	**11 13 21.1**	**+0.3**
WAKR				IAmb	IAmb	11 13 23.2	
	comp=Z,11nm,1.5s						
YBH	**Yreka Blue Hor**	**83.91**	**39**	P	**P**	**11 13 20.6**	**0.0**
	comp=Z,1.6nm,0.8s,baz=15,slow=2.6,SNR=4.6						
YBH	**Yreka Blue Hor**	**83.91**	**39**	P	**P**	**11 13 22.0**	**+1.3**
PNTR	**Pine Nut**	**84.14**	**43**	P	**P**	**11 13 22.8**	**+0.7**
PNTR				IAmb	IAmb	11 13 24.2	
	comp=Z,6.7nm,0.9s						
VCNR	**Virginia City**	**84.24**	**43**	P	**P**	**11 13 22.7**	**+0.2**
HSIG		**84.52**	**55**	P	**P**	**11 13 24.2**	**+0.3**
HSIG				IAmb	IAmb	11 13 25.4	
	comp=Z,5.3nm,0.8s						
NVAR	**Mina Array Bea**	**84.57**	**44**	P	**P**	**11 13 24.4**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=225,slow=8.3,SNR=7.5						
NV11	**Mina Array Sit**	**84.66**	**44**	P	**P**	**11 13 25.1**	**+0.5**
SNAA	**Sanae**	**84.75**	**179**	P	**P**	**11 13 23.6**	**-0.8**
VNA3	**Neumayer Olymp**	**84.95**	**177**	P	**P**	**11 13 24.7**	**-0.6**
TPH	**Tonopah**	**85.05**	**45**	P	**P**	**11 13 26.3**	**-0.3**
TUC	**Tucson**	**86.33**	**52**	P	**P**	**11 13 34.1**	**+1.5**
TUC				IAmb	IAmb	11 13 35.1	
	comp=Z,4.0nm,0.8s						
I07A	**Izee**	**87.21**	**39**	P	**P**	**11 13 37.3**	**+0.8**
I07A				IAmb	IAmb	11 13 37.8	
	comp=Z,4.8nm,1.0s						
J08A	**Circle Bar Ran**	**87.37**	**40**	P	**P**	**11 13 37.1**	**-0.2**
J08A				IAmb	IAmb	11 13 38.9	
	comp=Z,5.8nm,1.2s						
U15A	**North Rim**	**87.41**	**48**	P	**P**	**11 13 38.9**	**+0.9**
G08A	**Pilot Rock**	**88.25**	**38**	P	**P**	**11 13 42.2**	**+0.8**
G08A				IAmb	IAmb	11 13 43.0	
	comp=Z,6.7nm,1.2s						
MSU	**Marysvale**	**88.60**	**47**	P	**P**	**11 13 44.8**	**+1.4**
XAN	**Xi'an**	**88.83**	**308**	P	**P**	**11 13 45.5**	**+1.2**
XAN				pP	PcP	11 13 50.5	+5.1
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
MFID	**Camas Ranch**	**88.98**	**41**	P	**P**	**11 13 45.3**	**+0.5**
MFID				IAmb	IAmb	11 13 46.3	
	comp=Z,3.4nm,0.9s						
TMUT	**Trail Mountain**	**89.65**	**46**	P	**P**	**11 13 49.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**11 13 49.6**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=135,slow=3.2,SNR=19						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**11 13 49.9**	**+1.4**
CHTO	**Chiang Mai**	**89.81**	**291**	P	**P**	**11 13 49.5**	**+0.3**
CHTO				IAmb	IAmb	11 13 51.5	
	comp=Z,6.5nm,0.9s						
HLID	**Hailey**	**89.91**	**41**	P	**P**	**11 13 50.3**	**+1.1**
HLID				IAmb	IAmb	11 13 50.8	
	comp=Z,3.4nm,1.1s						
SRU	**San Rafael Swe**	**90.01**	**47**	P	**P**	**11 13 49.4**	**-0.4**
MNTX	**Cornudas Mount**	**90.02**	**55**	P	**P**	**11 13 49.6**	**-0.2**
TX31	**Lajitas Ar. Si**	**90.23**	**58**	P	**P**	**11 13 51.4**	**+0.4**
TX31				IAmb	IAmb	11 13 52.3	
	comp=Z,7.9nm,0.9s						
TX32	**Lajitas Array**	**90.23**	**58**	P	**P**	**11 13 51.4**	**+0.4**
TXAR	**Lajitas Array**	**90.23**	**58**	P	**P**	**11 13 51.9**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=214,slow=6.4,SNR=23						
TXAR	**Lajitas Array**	**90.23**	**58**	P	**P**	**11 13 51.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**90.48**	**315**	*e*P	**P**	**11 13 52.4**	**+0.5**
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,6.4s						
ANMO	**Albuquerque**	**90.76**	**52**	P	**P**	**11 13 53.7**	**+0.3**
PDAR	**Pinedale Array**	**92.50**	**44**	P	**P**	**11 14 01.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=228,slow=3.6,SNR=6.2						
PDAR	**Pinedale Array**	**92.50**	**44**	P	**P**	**11 14 01.4**	**+0.1**
MKAR	**Makanchi Array**	**112.23**	**313**	PKiKP	**PKiKP**	**11 19 20.8**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=222,slow=1.6,SNR=4.1						
MKAR	**Makanchi Array**	**112.23**	**313**		**PKiKP**	**11 19 21.1**	**-0.9**
FINES	**FINESS Array B**	**138.42**	**342**	PKP	**PKPdf**	**11 20 11.7**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=87,slow=3.1,SNR=4.6						
FINES				SKPbc	**SKPbc**	**11 22 56.5**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=70,slow=2.2,SNR=8.3						
AKASG	**Malin Array Be**	**145.00**	**327**	PKP	**PKPdf**	**11 20 22.8**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=42,slow=4.0,SNR=8.2						
AKASG				SKPbc	**SKPbc**	**11 23 13.8**	**0.0**
	comp=Z,2.4nm,0.6s,baz=45,slow=2.9,SNR=7.8						
AKASG	**Malin Array Be**	**145.00**	**327**		**PKPdf**	**11 20 22.3**	**-1.0**
BRTR	**Keskin Array B**	**147.67**	**307**	PKPbc	**PKPbc**	**11 20 31.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=152,slow=6.1,SNR=4.8						
BRTR	**Keskin Array B**	**147.67**	**307**		**PKPbc**	**11 20 30.6**	**-1.3**
BURAR	**Bucovina Array**	**149.00**	**326**		**PKPbc**	**11 20 34.8**	**-0.1**
NIE	**Niedzica**	**149.97**	**333**	*e*PKP	**PKPbc**	**11 20 37.5**	**+0.5**
KSP	**Ksiaz**	**150.27**	**339**	*e*PKP	**PKPbc**	**11 20 37.9**	**+0.2**
CLL	**Collm**	**150.82**	**343**	*i* P

comp=N,3μm,0.6s
PET smax smax
comp=E,3μm,0.7s
PET Petropavlovsk 1.23 282 Pn Pn 11 15 53.5 -0.7
AVH Avacha 1.25 293 *eP* **Pn Pn 11 15 54.3 -0.2**
AVH Avacha 1.25 293 PN **Pn Pn 11 15 54.3 -0.2**
KRER Koryakskii 1.26 295 *eP* **Pn Pn 11 15 54.4 -0.4**
KRER *eS* **Sn 11 16 11.0 -0.1**
KRER Koryakskii 1.26 295 PN **Pn Pn 11 15 54.4 -0.4**
KRER S **Sn 11 16 11.0 -0.1**
KOK Koryaka 1.32 293 *eP* **Pn Pn 11 15 55.0 -0.5**
KOK Koryaka 1.32 293 PN **Pn Pn 11 15 55.0 -0.5**
KRX Arik 1.34 296 *eP* **Pn Pn 11 15 55.1 -0.7**
KRX *eS* **Sn 11 16 11.6 -1.3**
KRX Arik 1.34 296 PN **Pn Pn 11 15 55.1 -0.7**
KRX S **Sn 11 16 11.6 -1.3**
RUS Russkaya 1.35 256 *eP* **Pn Pn 11 15 55.5 -0.3**
RUS *eS* **Sn 11 16 12.5 -0.5**
RUS Russkaya 1.35 256 PN **Pn Pn 11 15 55.5 -0.3**
RUS S **Sn 11 16 12.5 -0.5**
KII Karymskiy 1.44 331 *eP* **Pn Pn 11 15 56.9 -0.3**
KII Karymskiy 1.44 331 PN **Pn Pn 11 15 56.9 -0.3**
KRMR Karymshinskiy 1.53 273 *eP* **Pn Pn 11 15 58.2 -0.1**
KRMR *eS* **Sn 11 16 17.5 0.0**
KRMR Karymshinskiy 1.53 273 PN **Pn Pn 11 15 58.2 -0.1**
KRMR S **Sn 11 16 17.5 0.0**
MTVR Mutnovka 1.54 260 *eP* **Pn Pn 11 15 58.4 -0.1**
MTVR *eS* **Sn 11 16 18.3 +0.5**
MTVR Mutnovka 1.54 260 PN **Pn Pn 11 15 58.4 -0.1**
MTVR S **Sn 11 16 18.3 +0.5**
GRL Gorelyy 1.59 262 *eP* **Pn Pn 11 15 59.5 +0.3**
GRL *eS* **Sn 11 16 19.6 +0.5**
GRL Gorelyy 1.59 262 PN **Pn Pn 11 15 59.5 +0.3**
GRL S **Sn 11 16 19.6 +0.5**
ASAK Asacha 1.73 258 *eP* **Pn Pn 11 16 01.8 +0.7**
ASAK Asacha 1.73 258 PN **Pn Pn 11 16 01.8 +0.7**
PEA0B Petropavlovsk- 1.82 281 PN **Pn Pn 11 16 02.6 +0.4**
PEA0B Petropavlovsk- 1.82 281 **Pn Pn 11 16 02.6 +0.4**
PETK Petropavlovsk- 1.82 281 Pg **Pn Pn 11 16 02.5 +0.3**
comp=E,30nm,0.3s,baz=90,slow=19,SNR=30
PETK Lg Lg 11 16 28.4
comp=E,103nm,0.3s,baz=74,slow=32,SNR=24
PETK Petropavlovsk- 1.82 281 Pn **Pn 11 16 03.1 +0.8**
KDTR Khodutka, Kamc 1.86 239 *eP* **Pn Pn 11 16 03.2 +0.4**
KDTR *eS* **Sn 11 16 26.1 +0.6**
KDTR Khodutka, Kamc 1.86 239 PN **Pn Pn 11 16 03.2 +0.4**
KDTR S **Sn 11 16 26.1 +0.6**
APC Apacha 2.12 275 *eP* **Pn Pn 11 16 07.9 +1.5**
APC *eS* **Sn 11 16 34.7 +2.7**
APC Apacha 2.12 275 PN **Pn Pn 11 16 07.9 +1.5**
APC S **Sn 11 16 34.7 +2.7**
KZV Kizimen 2.34 355 *eP* **Pn Pn 11 16 10.6 +1.0**
KZV *eS* **Sn 11 16 38.8 +1.2**
KZV Kizimen 2.34 355 PN **Pn Pn 11 16 10.6 +1.0**
KZV S **Sn 11 16 38.8 +1.2**
TUMD Tumrok D 2.42 357 *eP* **Pn Pn 11 16 10.8 +0.2**
TUMD *eS* **Sn 11 16 38.8 -0.8**
MIPR Malaya Ipel'ka 2.43 259 *eP* **Pn Pn 11 16 13.2 +2.5**
MIPR Malaya Ipel'ka 2.43 259 PN **Pn Pn 11 16 13.2 +2.5**
TUMR Tumrok 2.52 353 *eP* **Pn Pn 11 16 12.8 +0.8**
TUMR *eS* **Sn 11 16 42.1 +0.1**
TUMR Tumrok 2.52 353 PN **Pn Pn 11 16 10.8 -1.2**
TUMR S **Sn 11 16 38.8 -3.2**
PAU Pauzhetka 2.71 242 *eP* **Pn Pn 11 16 16.3 +1.8**
PAU *eS* **Sn 11 16 48.6 +2.0**
PAU Pauzhetka 2.71 242 PN **Pn Pn 11 16 16.3 +1.8**
PAU S **Sn 11 16 48.6 +2.0**
KMNR Kamenistaya 2.98 355 *eP* **Pn Pn 11 16 20.2 +1.8**
KMNR *eS* **Sn 11 16 55.5 +2.0**
KMNR Kamenistaya 2.98 355 PN **Pn Pn 11 16 20.2 +1.8**
KMNR S **Sn 11 16 55.5 +2.0**
BZGR Bezymyannyi-Gr 3.16 0 *eP* **Pn Pn 11 16 22.6 +1.8**
BZGR *eS* **Sn 11 17 01.0 +3.2**
BZGR Bezymyannyi-Gr 3.16 0 PN **Pn Pn 11 16 22.6 +1.8**
BZGR S **Sn 11 17 01.0 +3.2**
KIRR Kirishev 3.18 357 *eP* **Pn Pn 11 16 23.2 +2.1**
KIRR Kirishev 3.18 357 PN **Pn Pn 11 16 23.2 +2.1**
BZWR Bezymyannyi-We 3.19 358 *eP* **Pn Pn 11 16 23.0 +1.8**
BZWR Bezymyannyi-We 3.19 358 PN **Pn Pn 11 16 23.0 +1.8**
KPT Kopyto 3.19 356 *eP* **Pn Pn 11 16 22.8 +1.5**
KPT Kopyto 3.19 356 PN **Pn Pn 11 16 22.8 +1.5**
ZLN Zelenaya 3.24 2 *eP* **Pn Pn 11 16 23.8 +2.0**
ZLN Zelenaya 3.24 2 PN **Pn Pn 11 16 23.8 +2.0**
LGNR Loginova 3.30 0 *eP* **Pn Pn 11 16 24.9 +2.0**
LGNR Loginova 3.30 0 PN **Pn Pn 11 16 24.9 +2.0**
KOZ Kozyrevsk 3.31 352 *eP* **Pn Pn 11 16 24.0 +1.3**
KOZ Kozyrevsk 3.31 352 PN **Pn Pn 11 16 24.0 +1.3**
CIRR Tsirk 3.34 1 *eP* **Pn Pn 11 16 24.9 +1.7**
CIRR Tsirk 3.34 1 PN **Pn Pn 11 16 24.9 +1.7**
ESO Esso 3.34 341 *eP* **Pn Pn 11 16 24.2 +1.0**
ESO Esso 3.34 341 PN **Pn Pn 11 16 24.2 +1.0**
KRSR Krestovskiy 3.44 359 *eP* **Pn Pn 11 16 26.1 +1.5**
KRSR Krestovskiy 3.44 359 PN **Pn Pn 11 16 26.1 +1.5**
SKR Severo-Kuril's 3.52 235 *eP* **Pn Pn 11 16 26.2 +0.6**
SKR *eS* **Sn 11 17 07.3 +0.8**
SKR Severo-Kuril's 3.52 235 PN **Pn Pn 11 16 26.2 +0.6**
SKR S **Sn 11 17 07.3 +0.8**
KLY Klyuchi 3.53 360 *eP* **Pn Pn 11 16 27.6 +1.8**
KLY *eS* **Sn 11 17 09.5 +2.7**
KLY Klyuchi 3.53 360 PN **Pn Pn 11 16 27.6 +1.8**
KLY S **Sn 11 17 09.5 +2.7**
SRDR Sredinnyy 3.58 352 *eP* **Pn Pn 11 16 27.9 +1.4**
SRDR Sredinnyy 3.58 352 PN **Pn Pn 11 16 27.9 +1.4**
KBTR Krutoberegovo 3.65 19 *eP* **Pn Pn 11 16 27.8 +0.4**
KBTR Krutoberegovo 3.65 19 PN **Pn Pn 11 16 27.8 +0.4**
KBG Krutoberegovo 3.67 18 *eS* **Sn 11 17 12.4 +2.1**
ALID Alaid 3.70 241 *eP* **Pn Pn 11 16 29.9 +1.6**
ALID Alaid 3.70 241 PN **Pn Pn 11 16 29.9 +1.6**
BDR Baidarnaya 3.80 5 *eP* **Pn Pn 11 16 31.9 +2.3**
BDR *eS* **Sn 11 17 16.8 +3.2**
BDR Baidarnaya 3.80 5 PN **Pn Pn 11 16 31.9 +2.3**
BDR S **Sn 11 17 16.8 +3.2**
SMKR Semkarok 3.83 7 *eP* **Pn Pn 11 16 31.9 +1.9**
SMKR Semkarok 3.83 7 PN **Pn Pn 11 16 31.9 +1.9**
SRKR Sorokina 3.89 4 *eP* **Pn Pn 11 16 32.7 +2.0**
SRKR Sorokina 3.89 4 PN **Pn Pn 11 16 32.7 +2.0**
BKI Bering 3.96 50 *eP* **Pn Pn 11 16 30.6 -1.1**
BKI *eS* **Sn 11 17 12.8 -4.6**
BKI Bering 3.96 50 PN **Pn Pn 11 16 30.6 -1.1**
ASAJ Asahikawa 14.76 241 **Pn Pn 11 18 59.8 +0.3**
comp=E,0.4nm,0.3s,baz=54,slow=31,SNR=1.8
USRK Ussuriysk Ar. 20.73 257 P **P 11 20 11.1 0.0**
comp=E,0.7nm,0.5s,baz=134,slow=39,SNR=1.3
MJA0 Matsu Arr-Jizo 22.61 233 *eP* **P 11 20 34.6 +3.3**
MJA0 pmax pmax
comp=Z,2.0nm,0.6s
MAJO Matsushiro 22.63 233 P **P 11 20 31.9 +0.4**
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MAJO Matsushiro 22.63 233 P **P 11 20 31.9 +0.4**
MAJO IAmb IAmb 11 20 41.0
comp=Z,5.8nm,0.8s
MJAR Matsushiro Arr 22.63 233 P **P 11 20 33.1 +1.6**
comp=Z,2.3nm,0.6s,baz=22,slow=12,SNR=12
MJAR Matsushiro Arr 22.63 233 P **P 11 20 32.4 +0.9**
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 22.63 233 P **P 11 20 32.4 +0.9**
JGF Kuroka 23.79 233 P **P 11 20 39.8 -3.4**
JGF IAmb IAmb 11 20 56.3
comp=Z,10nm,1.2s
IMAR Indian Mountai 26.00 42 P **P 11 21 03.5 +0.3**
OHAK Old Harbor 26.38 62 P **P 11 21 05.2 -1.4**
OHAK IAmb IAmb 11 21 05.3
comp=Z,6.1nm,1.0s
SML Sawmill 28.29 51 P **P 11 21 24.3 +0.6**
SML IAmb IAmb 11 21 41.7
comp=Z,9.0nm,1.3s
HDA Harding Lake 28.77 46 P **P 11 21 27.4 -0.5**
ILAR Eielson Array 28.79 45 P **P 11 21 27.6 -0.5**
comp=Z,0.4nm,0.8s,baz=254,slow=9.1,SNR=4.3
BCAR Beaver Creek A 31.17 48 P **P 11 21 49.2 0.0**
EGAK Eagle 31.24 45 P **P 11 21 48.6 -1.1**
EGAK IAmb IAmb 11 22 02.6
comp=Z,4.0nm,1.2s
CTGM Chitina Glacie 31.74 52 P **P 11 21 55.2 +0.9**
H11N2 WAKE ISLAND Hy 33.35 169 T T 11 57 33.2
baz=353,slow=76,SNR=103
H11N3 WAKE ISLAND Hy 33.36 169 T T 11 57 46.2
baz=353,slow=76,SNR=80
H11N1 WAKE ISLAND Hy 33.37 169 T T 11 57 34.6
baz=353,slow=76,SNR=85
EUNU Eureka 42.17 14 P **P 11 23 22.7 +0.2**
EUNU IAmb IAmb 11 23 24.5
comp=Z,2.8nm,0.8s
KURK Kurchatov 48.18 302 P **P 11 24 09.0 -1.5**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 48.18 302 P **P 11 24 09.0 -1.5**
KURK IAmb IAmb 11 24 16.7
comp=Z,1.6nm,0.6s
MK31 Makanchi Array 48.59 296 P **P 11 24 12.6 -1.2**
MK31 pmax pmax
comp=Z,3.0nm,1.5s
MK31 Makanchi Array 48.59 296 P **P 11 24 12.6 -1.2**
MK31 IAmb IAmb 11 24 18.7
comp=Z,2.8nm,1.4s
MKAR Makanchi Array 48.59 296 P **P 11 24 11.9 -1.9**
comp=Z,0.3nm,0.5s,baz=37,slow=5.2,SNR=2.9
MKAR Makanchi Array 48.59 296 P **P 11 24 12.5 -1.3**
MKAR Makanchi Array 48.59 296 P **P 11 24 12.5 -1.3**
WAKR Walker 54.83 71 P **P 11 25 01.8 +1.1**
KVN Kaiserville 55.22 70 P **P 11 25 04.7 +1.2**
KVN pmax pmax
comp=Z,2.0nm,1.4s
KVN Kaiserville 55.22 70 P **P 11 25 04.7 +1.2**
KVN IAmb IAmb 11 25 17.1
comp=Z,2.4nm,1.4s
NVAR Mina Array Bea 55.53 70 P **P 11 25 06.4 +0.7**
comp=Z,0.5nm,0.5s,baz=297,slow=7.6,SNR=6.8
NVAR Mina Array Bea 55.53 70 P **P 11 25 06.2 +0.4**
NV11 Mina Array Sit 55.61 70 P **P 11 25 06.5 +0.2**
PDAR Pinedale Array 57.38 61 P **P 11 25 19.0 +0.1**
comp=Z,0.5nm,0.7s,baz=337,slow=2.1,SNR=5.3
PDAR Pinedale Array 57.38 61 P **P 11 25 19.6 +0.7**
AKTO Aktyubinsk 58.28 313 LR LR 11 53 00.4
comp=Z,92nm,18.0s,baz=359,slow=39
CMAR Chiang Mai Arr 58.45 259 P **P 11 25 26.5 +0.1**
comp=Z,0.3nm,0.3s,baz=24,slow=9.1,SNR=1.7
CMAR Chiang Mai Arr 58.45 259 P **P 11 25 26.9 +0.5**
FINES FINESS Array B 60.53 337 P **P 11 25 39.3 -0.9**
comp=Z,1.8nm,0.7s,baz=36,slow=8.9,SNR=9.1
FINES FINESS Array B 60.53 337 P **P 11 25 39.6 -0.5**
PV02 Paradox Valley 61.04 64 P **P 11 25 43.9 -0.4**
PV02 IAmb IAmb 11 25 45.0
comp=Z,3.0nm,0.9s
OBN Obninsk 62.96 328 *eP* **P 11 25 56.0 -0.5**
OBN *e* 11 26 35.2
OBN *e* 11 28 13.2
OBN pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 69.05 329 P **P 11 26 34.2 -1.6**
comp=Z,1.1nm,0.4s,baz=29,slow=6.6,SNR=5.6
AKASG Malin Array Be 69.05 329 *eP* **P 11 26 34.5 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 69.05 329 P **P 11 26 34.2 -1.6**
TX31 Lajitas Ar. Si 70.44 67 P **P 11 26 45.0 +0.1**
TX32 Lajitas Array 70.44 67 P **P 11 26 45.2 +0.3**
TXAR Lajitas Array 70.44 67 P **P 11 26 44.9 0.0**
comp=Z,0.7nm,0.6s,baz=292,slow=4.6,SNR=12
BATG Bathurst New B 72.65 31 P **P 11 26 58.3 +0.6**
BURAR Bucovina Array 73.01 330 P **P 11 26 59.5 -0.5**
LEM Lembang 74.40 235 LR LR 12 03 36.7
comp=Z,389nm,19.4s,baz=338,slow=39
GERES GERESS Array B 74.92 338 P **P 11 27 10.5 -0.7**
comp=Z,0.1nm,0.3s,baz=12,slow=5.4,SNR=2.5
SWET Sewanee 75.02 51 P **P 11 27 11.3 -0.6**
AS31 Alice Springs 79.62 205 P **P 11 27 38.4 +0.9**
ASAR Alice Springs 79.62 205 P **P 11 27 37.9 +0.4**
comp=Z,0.4nm,0.5s,baz=15,slow=5.5,SNR=14
ASAR Alice Springs 79.62 205 P **P 11 27 38.0 +0.5**

*IDC **21** 11:15:54.4±3.3,29°.71N×114°.30W,h0km,mb3.4/1,*
mb1 3.4/4,mb1mx3.3/37,mbtmp2.9/4,ML2.7/2,Error
ellipse: s-maj=48.2km s-min=11.3km az=33.0
*MEX **21** 11:16:03.5±0.8,30°.61N×114°.38W,h10km,MD4.0*
ISC 21 11:15:56.7±1.1,30°.4N±0°.1×114°.26W±0°.08,h3km,n8,
σ1877/11,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.20**	**301**	*eP*	**Pg**	**11 16 20.1**	**+0.3**
SPX				*eS*	**Sg**	**11 16 33.9**	**-1.5**
SPIG	**San Pedro Mart**	**1.21**	**301**	*i P*	**Pg**	**11 16 19.5**	**-0.4**
SPIG				*eS*	**Sg**	**11 16 33.5**	**-2.1**
HSIG		**3.20**	**115**	*i P*	**Pb**	**11 16 54.1**	**-0.1**
HSIG				*eS*	**Sb**	**11 17 33.1**	**-0.6**
PFO	**Pinyon Flats O**	**3.69**	**330**	Pg	**Pg**	**11 17 08.2**	**+0.8**
	2.1nm,0.3s,baz=184,slow=17,SNR=16						
PFO				Sn	**Sg**	**11 17 53.2**	**-2.1**
	5.4nm,0.3s,baz=257,slow=21,SNR=10						
NVAR	**Mina Array Bea**	**8.66**	**338**	Pn	Pn	11 18 09.9	+6.8
	0.0nm,0.3s,baz=158,slow=15,SNR=2.7						
TXAR	**Lajitas Array**	**9.26**	**94**	Pn	**Pn**	**11 18 11.5**	**+0.2**
	0.0nm,0.3s,baz=256,slow=14,SNR=1.8						
TXAR				Sn	**Sn**	**11 19 54.0**	**-2.1**
	0.1nm,0.3s,baz=262,slow=19,SNR=1.4						
TXAR				Lg	Lg	11 20 53.3	
	0.1nm,0.3s,baz=286,slow=27,SNR=3.7						
PDAR	**Pinedale Array**	**12.89**	**16**	Pn	Pn	11 19 10.6	+10
	baz=200,slow=12,SNR=2.2						
ILAR	**Eielson Array**	**39.92**	**339**	P	**P**	**11 23 34.6**	**+2.9**
	0.4nm,0.7s,baz=146,slow=6.5,SNR=5.9						

*ATH **21** 11:24:21.1,39°.57N×26°.03E,h32km±2km,ML2.4/5,Error*
ellipse: s-maj=3.3km s-min=1.0km az=148.0
*DDA **21** 11:24:21.7,39°.65N×26°.11E,h16km±1km,ML2.9*
*ISK **21** 11:24:21.2,39°.61N×26°.07E,h10km,ML2.8/32*
*THE **21** 11:24:21.7,39°.63N×26°.06E,h10km±1km,ML2.4/8,Error*
ellipse: s-maj=1.5km s-min=0.6km az=308.0
ISC 21 11:24:21.6±0.8,39°.61N±0°.02×26°.06E±0°.02,h15km±7km,
n66,σ0961/92,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.23**	**359**	PG	**Pg**	**11 24 26.8**	**+0.1**
BOZC				SG	**Sg**	**11 24 30.4**	**+0.3**
BOZC	**Bozcaada**	**0.23**	**359**	*i P*	**Pg**	**11 24 26.7**	**+0.1**
BOZC				*i S*	**Sg**	**11 24 29.9**	**-0.2**
EZN	**Ezine**	**0.30**	**44**	P	**Pg**	**11 24 27.6**	**-0.2**
EZN				S	**Sg**	**11 24 31.8**	**-0.2**
1μm,0.2s							
EZN	**Ezine**	**0.30**	**44**	PG	**Pg**	**11 24 27.6**	**-0.2**
EZN				SG	**Sg**	**11 24 32.3**	**+0.3**
PRK	**Paraskevi**	**0.40**	**156**	P	**Pb**	**11 24 30.5**	**+0.1**
PRK				S	**Sb**	**11 24 36.1**	**-0.2**
632nm,0.2s							
PRK	**Paraskevi**	**0.40**	**156**	P	**Pb**	**11 24 30.5**	**+0.1**
PRK				S	**Sg**	**11 24 35.9**	**+0.8**
PRK				AML	AML	11 24 37.1	
comp=N,1404μm,0.2s							
PRK				AML	AML	11 24 39.7	
comp=E,1128μm,0.3s							
SIGR	**SIGRI**	**0.43**	**202**	P	**Pg**	**11 24 30.2**	**0.0**
SIGR				S	**Sg**	**11 24 36.1**	**+0.1**
comp=E,1μm,0.2s							
SIGR	**SIGRI**	**0.43**	**202**	P	**Pg**	**11 24 30.1**	**0.0**
SIGR				S	**Sg**	**11 24 36.1**	**+0.1**
SIGR				AML	AML	11 24 36.8	
comp=E,2183μm,0.3s							
SIGR				AML	AML	11 24 37.3	
comp=N,2621μm,0.3s							
SIGR	**SIGRI**	**0.43**	**202**	PG	**Pg**	**11 24 30.2**	**0.0**
SIGR				SG	**Sg**	**11 24 36.7**	**+0.7**
AYVA	**Ayvalik**	**0.58**	**122**	*i P*	**Pg**	**11 24 32.6**	**-0.3**
AYVA				*i S*	**Sb**	**11 24 41.7**	**+0.3**
AYVA				IAML		11 24 44.0	
comp=N,832nm,0.5s							
GOKA	**anakkale-Gk**	**0.59**	**349**	*i P*	**Pg**	**11 24 33.0**	**-0.2**
GOKA				*i S*	**Sg**	**11 24 40.8**	**-0.2**
GADA	**Gvkgeada**	**0.59**	**348**	P	**Pg**	**11 24 33.0**	**-0.2**
GADA				S	**Sg**	**11 24 41.1**	**0.0**
comp=N,122nm,0.3s							
GADA	**Gvkgeada**	**0.59**	**348**	PG	**Pg**	**11 24 33.0**	**-0.2**
GOKC	**Gokceada-Canak**	**0.60**	**350**	PG	**Pg**	**11 24 33.1**	**-0.2**
LIA	**Limnos Island**	**0.73**	**293**	P	**Pb**	**11 24 36.1**	**0.0**
LIA				S	**Sb**	**11 24 46.9**	**+1.0**
comp=N,168nm,0.3s							
LIA	**Limnos Island**	**0.73**	**293**	P	**Pb**	**11 24 36.0**	**0.0**
LIA				S	**Sb**	**11 24 46.7**	**+0.8**
LIA				AML	AML	11 24 47.4	
comp=E,277μm,0.4s							
LIA				AML	AML	11 24 48.3	
comp=N,390μm,0.2s							
GELI	**Tayfur-Gelibol**	**0.85**	**22**	PG	**Pb**	**11 24 37.8**	**-0.2**
DKL	**Dikili**	**0.85**	**129**	PG	**Pb**	**11 24 38.0**	**-0.1**
LPK	**Lapseki**	**0.93**	**35**	PG	**Pb**	**11 24 39.3**	**-0.2**
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pb**	**11 24 39.5**	**-0.3**
SMTH				S	**Sg**	**11 24 52.1**	**-0.3**
comp=N,212nm,0.3s							
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pb**	**11 24 39.5**	**-0.3**
SMTH				S	**Sg**	**11 24 52.7**	**+0.4**
SMTH				AML	AML	11 24 54.4	
comp=E,460μm,0.4s							
SMTH				AML	AML	11 24 55.4	
comp=N,384μm,0.3s							
ZEDA	**zmir-Bergama**	**1.02**	**129**	*i P*	**Pb**	**11 24 40.7**	**-0.2**
ZEDA				*i S*	**Sb**	**11 24 53.1**	**-1.1**
ZEDA				IAML		11 24 56.0	
comp=N,279nm,0.4s							
ERIK	**Erikli-Kesan**	**1.11**	**18**	PN	**Pn**	**11 24 42.5**	**-0.2**
ENEZ	**Enez**	**1.12**	**4**	PN	**Pn**	**11 24 42.8**	**0.0**
PSRA	**Psara**	**1.14**	**200**	P	**Pn**	**11 24 41.8**	**-1.1**
BALY	**Balya**	**1.21**	**83**	*i P*	**Pn**	**11 24 43.5**	**-0.5**
BALY				*i S*	**Sb**	**11 24 59.0**	**-0.7**
CHOS	**Chios island**	**1.22**	**180**	P	**Pn**	**11 24 43.2**	**-1.1**
CHOS				S	**Sg**	**11 25 01.6**	**+0.5**
comp=N,225nm,0.3s							
CHOS	**Chios island**	**1.22**	**180**	P	**Pn**	**11 24 43.0**	**-1.2**
CHOS				AML	AML	11 25 05.7	
comp=E,635μm,0.2s							
CHOS				AML	AML	11 25 08.8	
comp=N,255μm,0.4s							
CHOS	**Chios island**	**1.22**	**180**	PN	**Pn**	**11 24 44.5**	**+0.2**
KRBG	**Karabiga-Canak**	**1.23**	**50**	PN	**Pb**	**11 24 44.2**	**-0.4**
ALN	**Alexandroupoli**	**1.28**	**360**	P	**Pn**	**11 24 44.5**	**-0.5**
ALN				S	**Sn**	**11 25 02.0**	**0.0**
comp=N,80nm,0.5s							
ALN	**Alexandroupoli**	**1.28**	**360**	P	**Pn**	**11 24 44.9**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**360**	PN	**Pb**	**11 24 45.3**	**-0.2**
KESN	**Edirne-Kesan**	**1.30**	**21**	*i P*	**Pb**	**11 24 45.7**	**-0.3**
KESN				*i S*	**Sb**	**11 25 02.0**	**-0.7**
KESN				IAML		11 25 04.0	
comp=E,178nm,0.3s							
KESN				IAML		11 25 06.0	
comp=N,157nm,0.2s							
KNL	**Balıkesir**	**1.31**	**59**	*i P*	**Pn**	**11 24 44.6**	**-0.7**
KNL				*i S*	**Sb**	**11 25 01.8**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.31**	**100**	*i P*	**Pb**	**11 24 45.8**	**-0.1**
STEP				*i S*	**Sn**	**11 25 02.2**	**-0.3**
URLA	**Izmir**	**1.32**	**161**	PN	**Pn**	**11 24 44.8**	**-0.7**
URLA	**Izmir**	**1.32**	**161**	*i P*	**Pn**	**11 24 44.5**	**-1.0**
URLA				*i S*	**Sb**	**11 25 03.1**	**+0.2**
GONE	**Gonen-Balikesi**	**1.33**	**70**	PN	**Pb**	**11 24 46.1**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	PN	**Pb**	**11 24 46.9**	**-0.2**
BALB	**Balikesir**	**1.41**	**88**	PN	**Pn**	**11 24 46.9**	**+0.2**
THAS	**Thassos island**	**1.43**	**314**	P	**Pb**	**11 24 47.4**	**-0.5**
MAR6	**Marsite Statio**	**1.43**	**40**	PN	**Pb**	**11 24 47.8**	**-0.2**
BLCB	**Balcova**	**1.45**	**148**	P	**Pb**	**11 24 47.8**	**-0.4**
BLCB				S	**Sb**	**11 25 06.4**	**0.0**
BLCB	**Balcova**	**1.45**	**148**	PN	**Pb**	**11 24 47.8**	**-0.4**
MAR2	**Marsite Statio**	**1.46**	**41**	PN	**Pb**	**11 24 48.2**	**-0.3**
MAR3	**Marsite Statio**	**1.47**	**40**	PN	**Pb**	**11 24 48.3**	**-0.4**
MAR4	**Marsite Statio**	**1.51**	**39**	PN	**Pb**	**11 24 48.8**	**-0.6**
MRMT	**Marmara Adasi**	**1.54**	**50**	PN	**Pb**	**11 24 49.2**	**-0.7**
EDC	**Edincik**	**1.57**	**62**	PN	**Pb**	**11 24 49.7**	**-0.6**
UKOP	**Uzunkopru-Edir**	**1.58**	**16**	PN	**Pb**	**11 24 49.9**	**-0.6**
RDO	**Rodhopi**	**1.58**	**346**	P	**Pb**	**11 24 49.8**	**-0.8**
RDO	**Rodhopi**	**1.58**	**346**	PN	**Pb**	**11 24 50.1**	**-0.5**
MAR9	**Marsite Statio**	**1.61**	**51**	PN	**Pb**	**11 24 50.3**	**-0.8**
DGB	**zmir**	**1.69**	**157**	*i P*	**Pn**	**11 24 50.7**	**+0.2**
DGB				*i S*	**Sn**	**11 25 12.6**	**+0.8**
OUR	**Ouranopolis**	**1.75**	**295**	PN	**Pb**	**11 24 52.4**	**-1.0**
KDZ	**Kurdzhali**	**2.09**	**347**	PN	**Pn**	**11 24 57.2**	**+1.0**
ORLT	**Orhaneli**	**2.23**	**78**	PN	**Pn**	**11 24 59.1**	**+1.1**
EDRB	**Edirne**	**2.29**	**13**	PN	**Pn**	**11 25 00.2**	**+1.3**
KULA	**Kula-Manisa**	**2.30**	**118**	PN	**Pn**	**11 25 00.1**	**+1.0**
SLVT	**Silivri**	**2.30**	**45**	PN	**Pn**	**11 25 00.2**	**+1.2**
SIMA	**Simav-Kutahya**	**2.33**	**102**	PN	**Pn**	**11 25 00.5**	**+1.0**
ARMT	**Armutlu**	**2.35**	**65**	PN	**Pn**	**11 25 00.9**	**+1.2**
CTKS	**Kestanelik-??a**	**2.48**	**48**	PN	**Pn**	**11 25 02.6**	**+1.2**
CTYL	**Yalikoy Yolu**	**2.52**	**42**	PN	**Pn**	**11 25 03.3**	**+1.3**
TRML	**Termal-Yalova**	**2.59**	**66**	PN	**Pn**	**11 25 04.2**	**+1.2**

*ATH **21** 11:29:04.6,38°.13N×20°.64E,h22km±1km,ML2.8/5,Error*
ellipse: s-maj=1.6km s-min=0.8km az=248.0
*THE **21** 11:29:06.4,38°.14N×20°.68E,h7km±2km,ML2.6/13,Error*
ellipse: s-maj=2.2km s-min=0.9km az=239.0
ISC 21 11:29:06.0±0.8,38°.14N±0°.02×20°.66E±0°.03,h14km±6km,
n43,σ0976/65,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.07**	**304**	P	**Pg**	**11 29 08.6**	**-0.2**
VLS				S	**Sg**	**11 29 11.1**	**+0.3**
23μm,0.1s							
VLS	**Valsamata**	**0.07**	**304**	P	**Pg**	**11 29 08.6**	**-0.2**
VLS				S	**Sg**	**11 29 11.1**	**+0.3**
VLS				AML	AML	11 29 11.3	
comp=E,60760μm,0.1s							
VLS				AML	AML	11 29 11.3	
comp=N,27946μm,0.1s							
ARG2	**Argostoli**	**0.14**	**286**	P	**Pg**	**11 29 09.2**	**-0.5**
ARG2				S	**Sg**	**11 29 12.2**	**+0.1**
comp=N,43μm,0.2s							
ARGA	**Argostoli. Kep**	**0.15**	**285**	P	**Pg**	**11 29 09.2**	**-0.5**
ARGA				S	**Sg**	**11 29 12.1**	**-0.1**
KEF5	**Kardakata, Kep**	**0.21**	**312**	P	**Pg**	**11 29 10.1**	**-0.5**
KEF5				S	**Sg**	**11 29 13.5**	**-0.3**
KEF4	**Livadi, Kephal**	**0.22**	**302**	P	**Pg**	**11 29 10.3**	**-0.6**
KEF4				S	**Sg**	**11 29 14.5**	**+0.3**
DMLN	**Damoulianata-K**	**0.25**	**294**	P	**Pg**	**11 29 10.6**	**-0.7**
DMLN				S	**Sb**	**11 29 17.7**	**+1.2**
comp=N,5μm,0.2s							
VLMS	**Volimes, Zakyn**	**0.26**	**180**	P	**Pg**	**11 29 10.9**	**-0.7**
VLMS				S	**Sg**	**11 29 14.5**	**-0.9**
VLMS				AML	AML	11 29 15.8	
comp=E,10971μm,0.1s							
VLMS				AML	AML	11 29 15.9	
comp=N,9841μm,0.3s							
FSK	**Fiskardo**	**0.33**	**346**	P	**Pg**	**11 29 12.1**	**-0.7**
FSK				S	**Sg**	**11 29 17.7**	**+0.3**
comp=N,2μm,0.2s							

TSLK	Tsoukalades, L	0.69	360	P		Pg	11 29 18.5	-0.9
EFP	Efpalio	1.02	73	P		Pg	11 29 24.3	-1.4
KLV	Kalavryta, Ach	1.18	94	P		Pb	11 29 27.3	-0.9
KLV				S		Sn	11 29 45.9	+1.9
	comp=E,125nm,0.5s							
KLV	Kalavryta, Ach	1.18	94	P		Pb	11 29 27.2	-0.9
EVR	Evrytania	1.19	49	P		Pb	11 29 28.1	-0.3
GUR	Goura	1.34	98	P		Pn	11 29 30.0	-0.4
GUR				S		Sg	11 29 50.6	+1.3
	comp=E,370nm,0.4s							
GUR	Goura	1.34	98	P		Pn	11 29 29.8	-0.6
ITM	Ithomi	1.39	133	P		Pn	11 29 30.5	-0.4
IGT	Igoumenitsa	1.42	350	P		Pn	11 29 31.0	-0.3
IGT				S		Sb	11 29 50.9	+0.8
	comp=E,108nm,0.3s							
IGT	Igoumenitsa	1.42	350	P		Pn	11 29 30.8	-0.6
DSF	Desfina	1.49	79	P		Pn	11 29 32.1	-0.4
DSF	Desfina	1.49	79	P		Pn	11 29 32.0	-0.4
AXAR	Agios Charalam	1.69	68	P		Pb	11 29 37.6	+0.8
KEK	Kerkira	1.71	337	P		Pn	11 29 35.0	-0.4
KEK	Kerkira	1.71	337	P		Pn	11 29 35.0	-0.4
THL	Klokotos Trika	1.77	36	P		Pb	11 29 37.9	-0.3
THL				S		Sg	11 30 01.8	-1.2
	comp=E,58nm,0.5s							
THL	Klokotos Trika	1.77	36	P		Pn	11 29 37.3	+1.1
XOR	Xorichti	2.33	57	P		Pn	11 29 45.2	+1.3
DION	Dionisos Attik	2.58	90	P		Pn	11 29 48.3	+0.9

*IDC **21** 11:35:11.6±1.5, 17°.89S×178°.56W, h559km±17km, mb3.5/19, mb1 3.7/21, mb1mx3.6/33, mbtmp4.4/21, Error ellipse: s-maj=14.7km s-min=10.2km az=135.0*
*NEIC **21** 11:35:13.5±1.8, 17°.84S±0°.09×178°.6W±0°.1, h580km±6km, mb4.4/108, Error ellipse: s-maj=16.0km s-min=11.9km az=125.0*

ISC 21 11:35:13.2±0.3, **17°.81S**±0°.06×**178°.54W**±0°.06, **h579**km, **n218**, σ1°**26**/219, **mb4.3**/82, **2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.25	271	P		P	11 36 34.1	+1.9
AFI	Afiamalu	7.58	60	P		P	11 37 06.2	-1.7
	3.9nm,0.3s,baz=360,slow=2.5,SNR=9.6							
AFI				S		S	11 38 38.2	-3.6
	2.5nm,0.3s,baz=47,slow=23,SNR=2.5							
AFI	Afiamalu	7.58	60	P		P	11 37 06.5	-1.4
NIUE	Niue	8.28	100			P	11 37 14.5	-0.1
RAO	Raoul Island	11.41	177	P		P	11 37 48.3	+2.6
SANVU	Saraoutou	13.86	278	P		P	11 38 11.3	+0.3
DZM	Mont Dzumac	14.74	251	P		P	11 38 19.3	-0.4
	1.7nm,0.3s,baz=131,slow=17,SNR=14							
DZM	Mont Dzumac	14.74	251	P		P	11 38 19.7	0.0
KNTN	Kanton	16.37	25	P		P	11 38 33.4	-1.7
MXZ	Matakaoa Point	19.88	187	P		P	11 39 04.7	-2.0
URZ	Urewera	20.73	190	P		P	11 39 10.9	-3.4
	7.0nm,0.5s,baz=82,slow=0.9,SNR=9.4							
BFZ	Birch Farm	23.24	190	P		P	11 39 36.3	-0.4
OXZ	Oxford	26.66	195	P		P	11 40 05.5	-1.4
EIDS	Eidsvold	29.18	250	P		P	11 40 28.9	-0.2
EIDS				IAmb	IAmb		11 40 29.3	
	comp=Z,15nm,0.8s							
MLZ	Mavora Lakes	29.65	199	P		P	11 40 32.8	-0.1
ARMA	Armidale	29.88	240	P		P	11 40 35.8	+0.6
ARMA				IAmb	IAmb		11 40 36.5	
	comp=Z,17nm,0.8s							
CTAO	Charters Tower	33.34	260	P		P	11 41 04.2	-0.4
CTAO				IAmb	IAmb		11 41 05.0	
	comp=Z,18nm,0.8s							
PMG	Port Moresby	34.31	280	P		P	11 41 14.0	+1.2
COEN	Coen	36.98	270	P		P	11 41 35.1	+0.3
TOO	Toolangi	37.13	231	P		P	11 41 36.2	+0.3
TOO				IAmb	IAmb		11 41 37.1	
	comp=Z,26nm,0.8s							
TAU	Tasmania Unive	38.23	222	P		P	11 41 44.6	0.0
TAU				IAmb	IAmb		11 42 02.9	
	comp=Z,38nm,1.2s							
STKA	Stephens Creek	38.57	241	P		P	11 41 47.7	+0.2
	comp=Z,20nm,0.5s,baz=90,slow=10,SNR=79							
STKA	Stephens Creek	38.57	241	P		P	11 41 48.2	+0.7
STKA				IAmb	IAmb		11 41 48.8	
	comp=Z,6.4nm,1.0s							
JAY	Jayapura	42.75	286	P		P	11 42 21.3	+0.3
	comp=Z,24nm,0.9s							
KHU	Kahuku	43.16	33	P		P	11 42 25.3	+1.0
GENI	Genyem	43.22	286	P		P	11 42 25.4	+0.8
	comp=Z,77nm,0.8s							
BBOO	Buckleboo	43.34	241	P		P	11 42 25.1	-0.2
MLOA	Mauna Loa Obse	43.43	32	P		P	11 42 27.1	+0.5
HMH	Humu'ula Sheep	43.53	32	P		P	11 42 28.3	+1.1
POHA	Pohakuloa	43.63	32	P		P	11 42 28.6	+0.6
HPAH	Hawaii Prepara	43.78	32	P		P	11 42 29.6	+0.7
HLK	Haleakala	44.12	31	P		P	11 42 32.2	+0.5
WR0	Warramunga Arr	44.33	259	P		P	11 42 32.1	-1.1
WR0				IAmb	IAmb		11 42 34.5	
	comp=Z,11nm,1.1s							
WB0	Warramunga Arr	44.49	260	P		P	11 42 33.4	-1.0
WB0				IAmb	IAmb		11 42 34.1	
	comp=Z,18nm,0.6s							
WB2	Warramunga Arr	44.51	259	P		P	11 42 33.6	-0.9
WRAB	Tennant Creek	44.51	259	P		P	11 42 33.0	-1.6
WRAB				IAmb	IAmb		11 42 34.3	
	comp=Z,18nm,0.5s							
WRA	Warramunga Arr	44.52	259	P		P	11 42 33.5	-1.2
	comp=Z,14nm,0.5s,baz=94,slow=7.0,SNR=230							
WRA				PcP		PcP	11 44 04.9	-0.3
	comp=Z,2.3nm,0.5s,baz=96,slow=3.3,SNR=6.8							
WRA				S		S	11 48 24.8	-4.1
	comp=Z,0.4nm,0.7s,baz=94,slow=12,SNR=2.6							
WRA	Warramunga Arr	44.52	259	P		P	11 42 33.0	-1.6
AS31	Alice Springs	44.69	254	P		P	11 42 35.9	-0.1
ASAR	Alice Springs	44.70	254	P		P	11 42 35.5	-0.5
	comp=Z,107nm,0.6s,baz=88,slow=7.9,SNR=3211							
ASAR				PcP		PcP	11 44 05.3	-0.4
	comp=Z,3.7nm,0.4s,baz=103,slow=4.0,SNR=5.9							
ASAR				ScP		ScP	11 47 05.3	+1.9
	comp=Z,0.4nm,0.6s,baz=92,slow=4.4,SNR=2.9							
ASAR				S		S	11 48 28.6	-2.7
	comp=Z,1.0nm,1.0s,baz=93,slow=15,SNR=5.1							
ASAR	Alice Springs	44.70	254	P		P	11 42 35.3	-0.6
GUMO	Guam	47.71	308	P		P	11 42 58.4	-0.3
	comp=Z,42nm,0.6s,baz=205,slow=17,SNR=5.5							
GUMO	Guam	47.71	308	P		P	11 42 59.2	+0.5
MTN	Manton Dam	48.67	268	P		P	11 43 05.2	-0.7
MTN				IAmb	IAmb		11 43 05.6	
	comp=Z,21nm,0.7s							
FORT	Forrest	49.94	245	P		P	11 43 14.0	-1.0
KNRA	Kununurra	50.37	264	P		P	11 43 17.8	-0.5
FAKI	Fak Fak	50.43	281	P		P	11 43 19.2	+0.4
	comp=Z,12nm,1.5s							
FAKI	Fak Fak	50.43	281	P		P	11 43 18.6	-0.2
FAKI				IAmb	IAmb		11 43 19.8	
	comp=Z,18nm,1.2s							
FITZ	Fitzroy Crossi	52.92	260	P		P	11 43 36.4	-0.2
FITZ				IAmb	IAmb		11 43 37.4	
	comp=Z,7.5nm,1.0s							
AAI	Ambon	53.98	279	P		P	11 43 44.6	+0.4
	comp=Z,2μmcomp=Z,59nm,0.5s							
SOEI	Soe	55.94	270	P		P	11 43 58.5	+0.5
	comp=Z,79nm,0.8s							
SOEI	Soe	55.94	270	P		P	11 43 59.3	+1.3
PSA00	Pilbara Seismi	57.81	255	P		P	11 44 09.8	-0.7
PSA00				IAmb	IAmb		11 44 10.5	
	comp=Z,22nm,0.7s							
MMRI	Maumere	58.17	271	P		P	11 44 12.7	-0.4
MMRI				IAmb	IAmb		11 44 14.2	
	comp=Z,26nm,0.6s							
EDFI	Ende, Flores	58.66	270	P		P	11 44 15.8	-0.7
	comp=Z,16nm,1.0s							
NWAO	Narrogin (SRO)	59.15	242	P		P	11 44 18.7	-0.6
NWAO				IAmb	IAmb		11 44 33.2	
	comp=Z,54nm,1.4s							
NWAO	Narrogin (SRO)	59.15	242	P		P	11 44 18.8	-0.5
NWAO				IAmb	IAmb		11 44 33.2	
	comp=Z,48nm,1.4s							
GTOI	Gorontalo	60.32	281	P		P	11 44 29.3	+1.9
	comp=Z,12nm,0.9s							
MORW	Morawa	60.40	246	P		P	11 44 26.8	-0.9
MORW				IAmb	IAmb		11 44 34.8	
	comp=Z,53nm,1.5s							
VNDA	Vanda	60.54	185	P		P	11 44 28.1	+0.4
	comp=Z,1.0nm,0.8s,baz=352,slow=6.4,SNR=9.1							
VNDA	Vanda	60.54	185	P		P	11 44 28.3	+0.5
GIRL	Giralia	62.80	253	P		P	11 44 44.1	+0.7
MPSI	Mapaga	63.13	280	P		P	11 44 45.3	-0.4
JAGI	Jajag, Banyuwa	65.91	269	P		P	11 45 01.8	-1.5
MYLDM	Lahad Datu	66.16	284	P		P	11 45 06.4	+1.6
MYLDM				IAmb	IAmb		11 45 10.7	
	comp=Z,23nm,1.3s							
CASY	Casey	66.18	205	P		P	11 45 03.8	0.0
CASY				IAmb	IAmb		11 45 04.7	
	comp=Z,12nm,1.2s							
JGF	Kuroka	67.58	322	P		P	11 45 12.9	-0.2
JGF				IAmb	IAmb		11 45 15.1	
	comp=Z,9.7nm,1.1s							
MJAR	Matsushiro Arr	67.75	323	P		P	11 45 13.6	-0.4
	comp=Z,3.2nm,0.5s,baz=155,slow=6.2,SNR=10							
MJAR	Matsushiro Arr	67.75	323	P		P	11 45 13.7	-0.4
MAJO	Matsushiro	67.75	323	P		P	11 45 14.1	0.0
MAT	Matsushiro	67.75	323	P		P	11 45 13.5	-0.5
KKM	Kota Kinabalu	68.59	284	P		P	11 45 20.1	+0.4
KKM				IAmb	IAmb		11 45 35.8	
	comp=Z,26nm,1.1s							
JHS	Saijyo	69.73	319	P		P	11 45 27.0	+0.9
JHS				IAmb	IAmb		11 45 40.9	
	comp=Z,44nm,1.5s							
NIKH	Nikolski High	70.98	6	P		P	11 45 32.4	-0.5
NIKH				IAmb	IAmb		11 45 32.8	
	comp=Z,14nm,1.1s							
SSLB	Suanglung	72.07	303	P		P	11 45 39.3	-0.7
SSLB				IAmb	IAmb		11 45 50.2	
	comp=Z,33nm,1.5s							
TPUB	Ta-pu	72.09	302	P		P	11 45 39.2	-0.9
CISI	Cisompet, Garu	72.20	268	P		P	11 45 39.8	-1.2
QSPA	South Pole Qui	72.25	180	P		P	11 45 40.9	+0.5
QSPA				IAmb	IAmb		11 45 41.5	
	comp=Z,6.2nm,0.8s							
KSM	Kuching	72.54	277	P		P	11 45 43.5	+0.6
KSM				IAmb	IAmb		11 45 44.1	
	comp=Z,23nm,0.8s							
PETK	Petropavlovsk-	73.55	345	P		P	11 45 48.0	+0.3
	comp=Z,4.7nm,1.1s,baz=118,slow=8.3,SNR=1.9							
PETK	Petropavlovsk-	73.55	345	P		P	11 45 47.3	-0.4
SBJI	Serang	74.21	269	P		P	11 46 00.0	+7.7
KSRS	Korea Array	74.54	318	P		P	11 45 55.0	+1.3
	comp=Z,0.8nm,0.5s,baz=128,slow=6.1,SNR=6.6							
CHIR	Chirikof Islan	75.86	13	P		P	11 46 00.5	0.0
CHIR				IAmb	IAmb		11 46 07.7	
	comp=Z,51nm,1.3s							
PMBI	Palembang	76.43	271	P		P	11 46 11.4	+6.7
USRK	Ussuriysk Ar.	76.46	326	P		P	11 46 05.8	+1.7
	comp=Z,0.9nm,0.5s,baz=136,slow=3.0,SNR=5.0							
USRK	Ussuriysk Ar.	76.46	326	P		P	11 46 05.5	+1.4
PMPB	Monarch Peak	76.56	45	P		P	11 46 06.5	+1.6
PMPB				IAmb	IAmb		11 46 24.4	
	comp=Z,8.3nm,1.2s							
SII	Sitkinak Islan	76.86	14	P		P	11 46 06.2	+0.2
SII				IAmb	IAmb		11 46 06.8	
	comp=Z,11nm,0.7s							
KMRM	Mail Ridge	77.02	40	P		P	11 46 09.4	+2.0
KMRM				IAmb	IAmb		11 46 11.9	
	comp=Z,16nm,1.2s							
MWC	Mount Wilson	77.36	48	P		P	11 46 10.6	+1.0
OHAK	Old Harbor	77.66	14	P		P	11 46 10.6	+0.3
OHAK				IAmb	IAmb		11 46 30.0	
	comp=Z,16nm,1.4s							
KRMB	Red Mountain	77.68	39	P		P	11 46 13.0	+2.0
KRMB				IAmb	IAmb		11 46 26.8	
	comp=Z,36nm,1.5s							
ESJX	Sierra Juarez	77.75	51	P		P	11 46 13.4	+1.8
NJ2	Nanjing	77.77	310	*e*P		P	11 46 11.6	+0.1
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
CMB	Columbia Colle	77.85	43	P		P	11 46 13.0	+1.1
AFDM	Forest Hills D	77.99	42	P		P	11 46 12.7	+0.1
KDAK	Kodiak Island	78.33	14	P		P	11 46 14.1	+0.2
	comp=Z,2.6nm,0.7s,baz=211,slow=3.7,SNR=4.4							
KDAK	Kodiak Island	78.33	14	P		P	11 46 14.4	+0.5
MDPB	Devils Postpil	78.49	44	P		P	11 46 16.3	+0.6
YBH	Yreka Blue Hor	78.53	39	P		P	11 46 16.4	+0.9
	comp=Z,1.7nm,0.6s,baz=222,slow=1.1,SNR=10							
YBH	Yreka Blue Hor	78.53	39	P		P	11 46 17.0	+1.5
WAKR	Walker	78.73	43	P		P	11 46 18.3	+1.4
MYKOM	Kota Tinggi	78.76	276	P		P	11 46 17.5	+0.3
MYKOM				IAmb	IAmb		11 46 24.5	
	comp=Z,17nm,1.4s							
HUMO	Hull Mountain	78.90	38	P		P	11 46 19.1	+1.7
PNTR	Pine Nut	78.95	43	P		P	11 46 19.4	+1.4
PNTR				IAmb	IAmb		11 46 20.0	
	comp=Z,6.5nm,0.8s							
YERR	Yerington	79.13	43	P		P	11 46 20.2	+1.3
PAHR	Pah Rah Range	79.43	42	P		P	11 46 20.4	0.0
NVAR	Mina Array Bea	79.44	44	P		P	11 46 21.5	+0.9
	comp=Z,1.8nm,0.7s,baz=225,slow=8.6,SNR=19							
NVAR	Mina Array Bea	79.44	44	P		P	11 46 21.7	+1.1
NV11	Mina Array Sit	79.54	44	P		P	11 46 21.7	+0.7
KVN	Kaiserville	79.91	43	P		P	11 46 24.0	+1.0
MOD	Modoc Plateau	80.09	40	P		P	11 46 24.9	+1.0
K05A	Summer Lake	80.20	39	P		P	11 46 25.8	+1.4
K05A				IAmb	IAmb		11 46 29.2	
	comp=Z,14nm,1.5s							
CNPM	China Poot	80.21	14	P		P	11 46 23.9	0.0
CNPM				IAmb	IAmb		11 46 24.8	
	comp=Z,16nm,1.2s							
H04A	Detroit Lake	80.59	37	P		P	11 46 27.0	+0.8
H04A				IAmb	IAmb		11 46 37.8	
	comp=Z,10nm,1.4s							
RSO	Redoubt South	80.73	13	P		P	11 46 26.8	0.0
PINE	Pine Mountain	80.79	38	P		P	11 46 28.9	+1.5
PINE				IAmb	IAmb		11 46 29.2	
	comp=Z,5.4nm,0.8s							
E03A	Lebam	80.94	35	P		P	11 46 29.1	+1.2
E03A				IAmb	IAmb		11 46 29.6	
	comp=Z,24nm,1.1s							
PRN	Pahroc Range	81.10	46	P		P	11 46 30.7	+1.6
I07A	Izee	81.81	39	P		P	11 46 33.8	+1.2
I07A				IAmb	IAmb		11 46 34.5	
	comp=Z,4.6nm,0.9s							
IPM	Ipoh	82.28	277	P		P	11 46 35.5	0.0
IPM				IAmb	IAmb		11 46 36.2	
	comp=Z,10nm,0.6s							
BELA	Belgrano 2	82.28	173	P		P	11 46 34.0	-0.3
PSUT	Pine Spring	82.48	46	P		P	11 46 36.6	+0.4
PMR	Palmer	82.53	14	P		P	11 46 35.3	-0.3
PMR				IAmb	IAmb		11 46 36.1	
	comp=Z,13nm,1.5s							
U15A	North Rim	82.55	48	P		P	11 46 38.3	+1.6
U15A				IAmb	IAmb		11 46 39.0	
	comp=Z,3.9nm,0.8s							
ELK	Elko	82.67	43	P		P	11 46 37.8	+0.7
	comp=Z,1.0nm,0.7s,baz=286,slow=6.7,SNR=6.7							
ELK	Elko	82.67	43	P		P	11 46 36.1	-1.1
GHO	Glory Hole Cre	82.74	14	P		P	11 46 36.6	-0.1
GHO				IAmb	IAmb		11 46 51.4	
	comp=Z,10.0nm,1.2s							
G08A	Pilot Rock	82.81	38	P		P	11 46 38.7	+1.1
KULM	Kulim	82.89	278	P		P	11 46 39.1	+0.6
KULM				IAmb	IAmb		11 46 39.4	
	comp=Z,6.2nm,0.8s							
LTY	Liberty	82.96	36	P		P	11 46 38.9	+0.7
HAWA	Hanford	83.10	37	P		P	11 46 39.9	+1.1
SCM	Sheep Creek Mo	83.16	14	P		P	11 46 38.9	0.0
SCM				IAmb	IAmb		11 46 39.8	
	comp=Z,6.2nm,0.8s							
M24K	Tolsona, Glenn	83.67	15	P		P	11 46 42.4	+1.0
M24K				IAmb	IAmb		11 46 42.6	
	comp=Z,4.4nm,0.6s							
GLB	Gilahina Butte	83.70	16	P		P	11 46 41.7	+0.1
GLB				IAmb	IAmb		11 46 49.2	
	comp=Z,6.9nm,1.3s							
RPSI	Rantau Prapat	83.71	275	P		P	11 46 42.3	-0.3
RPSI				IAmb	IAmb		11 46 43.0	
	comp=Z,9.6nm,0.7s							
BALM	Baldy	83.76	17	P		P	11 46 42.1	+0.2
BALM				IAmb	IAmb		11 46 43.2	
	comp=Z,8.5nm,1.5s							
MAW	Mawson	83.91	200	P		P	11 46 42.6	+0.1
	comp=Z,2.9nm,0.4s,baz=139,slow=6.6,SNR=6.9							
MAW	Mawson	83.91	200	P		P	11 46 42.7	+0.1
CTGM	Chitina Glacie	83.98	17	P		P	11 46 42.6	-0.5
CTGM				IAmb	IAmb		11 46 59.8	
	comp=Z,4.6nm,1.0s							
F10A	Beach Ranch, E	84.20	38	P		P	11 46 45.3	+0.9
F10A				IAmb	IAmb		11 46 46.0	
	comp=Z,3.7nm,0.9s							
RND	Reindeer	84.20	13	P		P	11 46 43.8	-0.1
RND				IAmb	IAmb		11 46 44.5	
	comp=Z,3.1nm,0.7s							
DHY	Denali Highway	84.23	14	P		P	11 46 43.9	-0.4
B08A	Colville Reser	84.33	35	P		P	11 46 45.0	0.0
HLID	Hailey	84.64	41	P		P	11 46 48.4	+1.6
SRU	San Rafael Swe	85.04	46	P		P	11 46 49.8	+1.0
NEW	Newport	85.50	36	P		P	11 46 50.8	+0.2
	comp=Z,1.0nm,0.6s,baz=212,slow=9.5,SNR=2.9							
NEW	Newport	85.50	36	P		P	11 46 51.4	+0.8
ILAR	Eielson Array	85.82	13	P		P	11 46 50.8	-0.9
	comp=Z,0.5nm,0.4s,baz=222,slow=5.0,SNR=12							
ILAR	Eielson Array	85.82	13	P		P	11 46 51.2	-0.5
TXAR	Lajitas Array	86.05	58	P		P	11 46 55.5	+1.8
	comp=Z,1.8nm,0.8s,baz=221,slow=6.1,SNR=20							
XAN	Xi'an	86.09	307	P		P	11 46 54.8	+1.0
XAN				pP	PcP		11 46 59.5	+4.0
XAN				pmax	pmax			
	comp=Z,17nm,1.2s							
HHC	Hu-ho-hao-te	87.11	314	*e*P		P	11 46 56.0	-2.5
HHC				pmax	pmax			
	comp=Z,23nm,0.8s							
HHC				pmax	pmax			
	comp=Z,220nm,8.1s							
PDAR	Pinedale Array	87.37	43	P		P	11 47 00.2	+0.5
	comp=Z,1.0nm,0.6s,baz=217,slow=3.7,SNR=15							
PDAR	Pinedale Array	87.37	43	P		P	11 47 00.6	+0.8
CMAR	Chiang Mai Arr	88.73	290	P		P	11 47 07.4	+1.0
	comp=Z,2.6nm,0.9s,baz=113,slow=2.8,SNR=17							
CMAR	Chiang Mai Arr	88.73	290	P		P	11 47 07.8	+1.4
SNAA	Sanae	90.70	179	P		P	11 47 13.8	-0.8
LZH	Lanzhou	90.73	308	*e*P		P	11 47 16.6	+1.1
LZH				pP	pP		11 49 25.9	+4.4
LZH				sP	sP		11 50 18.3	-1.0
LZH				pmax	pmax			
	comp=Z,15nm,1.2s							
VNA3	Neumayer Olymp	90.85	176	P		P	11 47 14.9	-0.4
VNA2	Neumayer--Watz	91.29	177	P		P	11 47 16.8	-0.4
VNA1	Neumayer--Stat	91.52	177	P		P	11 47 16.7	-1.5
SONM	Songino Array	93.39	319	P		P	11 47 27.7	+0.3
	comp=Z,0.5nm,0.4s,baz=125,slow=7.2,SNR=3.0							
GTA	Gaotai	94.87	310	*e*P		P	11 47 30.4	-3.9
GTA				pP	pP		11 49 37.5	-3.2
GTA				sP	sP		11 50 39.4	+1.0
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MKAR	Makanchi Array	108.97	314	PKiKP		PKiKP	11 52 36.2	-1.4
	comp=Z,0.7nm,0.5s,baz=197,slow=0.9,SNR=11							
BVAR	Borovoye Array	116.68	321	PKP		PKPdf	11 52 51.3	-0.8
	comp=Z,1.5nm,0.4s,baz=196,slow=5.3,SNR=8.1							
ARU	Arti	122.69	326	PKP		PKPdf	11 53 02.8	-0.7
	comp=Z,1.2nm,0.5s,baz=49,slow=2.5,SNR=4.7							
ARU	Arti	122.69	326			PKPdf	11 53 03.4	-0.1
AKTO	Aktyubinsk	124.71	320	PKP		PKPdf	11 53 07.1	-0.4
	comp=Z,0.6nm,0.4s,baz=200,slow=2.9,SNR=4.4							
FINES	FINESS Array B	133.05	344	PKhKP		PKPpre	11 53 18.0	
	comp=Z,5.3nm,1.0s,baz=144,slow=29,SNR=3.0							
FINES	FINESS Array B	133.05	344			PKPdf	11 53 18.8	-4.3
AKASG	Malin Array Be	140.41	332	PKhKP		PKPpre	11 53 29.9	
	comp=Z,0.8nm,0.4s,baz=44,slow=4.0,SNR=4.8							
AKASG				PKP		PKPdf	11 53 38.8	+1.8
	comp=Z,0.9nm,0.3s,baz=41,slow=3.2,SNR=4.9							
AKASG	Malin Array Be	140.41	332	PKPpre		PKPpre	11 53 30.1	
SORM	Soroca	142.64	330	⇓P		PKPdf	11 53 36.2	-4.8
BUR08	Bucovina Ar. S	144.45	332			PKPdf	11 53 45.2	+0.9
BURAR	Bucovina Array	144.46	332			PKPdf	11 53 44.7	+0.3
OJC	Ojcow	144.47	340	*e*PKP		PKPdf	11 53 44.2	+0.1
BRTR	Keskin Array B	144.62	315	PKP		PKPdf	11 53 44.9	-0.1
	comp=Z,3.0nm,0.5s,baz=110,slow=2.6,SNR=18							
BRTR	Keskin Array B	144.62	315			PKPdf	11 53 44.8	-0.2
KOLS	Kolonicke sedl	144.66	336	*e*PKP		PKPdf	11 53 44.5	-0.1
KSP	Ksiaz	144.97	344	*e*PKP		PKPdf	11 53 46.3	+1.3
NIE	Niedzica	144.98	338	*e*PKP		PKPdf	11 53 46.5	+1.3
OSTC	Ostas	145.25	343	*e*PKP		PKPdf	11 53 47.3	+1.8
CHVC	Chvalec	145.27	344	*e*PKP		PKPdf	11 53 47.2	+1.6
CLL	Collm	145.34	347	⇓*i*PKPbc		PKPdf	11 53 46.8	+1.2
	comp=Z,7.0nm,1.0s							
CLL	Collm	145.34	347			PKPdf	11 53 46.0	+0.5
UPC	Upice	145.35	344	*e*PKP		PKPdf	11 53 47.4	+1.7
DPC	Dobruska-Polom	145.41	343	*e*PKP		PKPdf	11 53 47.5	+1.7
KRLC	Kraliky	145.53	342	*e*PKP		PKPdf	11 53 47.8	+1.7
BRG	Berggiesshubel	145.53	346	*i* PKP		PKPdf	11 53 47.1	+1.2
	comp=Z,6.8nm,1.2s							
MBAR	Mbarara	145.87	241			PKPdf	11 53 49.5	+1.6
PRU	Pruhonice

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.46**	**233**	Pg	**Pn**	**11 59 36.6**	**+1.0**
	9.7nm,0.2s						
SHLS				Lg	Lg	12 00 05.0	
	16nm,0.4s						
MNBS	**Baschi**	**2.75**	**259**	*eP*	**Pb**	**11 59 44.6**	**+0.2**
	4.5nm,0.1s						
MNBS				*eS*	**Sb**	**12 00 18.4**	**0.0**
	8.9nm,0.4s						
MNBS	**Baschi**	**2.75**	**259**	Pg	**Pb**	**11 59 44.6**	**+0.2**
	4.5nm,0.1s						
MNBS				Lg	Lg	12 00 18.4	
	8.9nm,0.4s						
KPKS	**Kokpek**	**2.77**	**245**	*eP*	**Pb**	**11 59 44.2**	**-0.5**
	2.2nm,0.2s						
KPKS				*eS*	**Sb**	**12 00 18.2**	**-0.8**
	11nm,0.3s						
ARXS	**Arharly**	**3.13**	**263**	*eP*	**Pb**	**11 59 50.9**	**+0.1**
	4.2nm,0.4s						
ARXS				*eS*	**Sb**	**12 00 29.4**	**+0.2**
	4.6nm,0.3s						
SATY	**Saty**	**3.15**	**241**	*eP*	**Pb**	**11 59 51.6**	**+0.4**
	1.2nm,0.2s						
SATY				*eS*	**Sb**	**12 00 30.8**	**+0.9**
	5.2nm,0.3s						
SATY	**Saty**	**3.15**	**241**	Pg	**Pb**	**11 59 52.7**	**+1.5**
	2.0nm,0.2s						
SATY				Lg	Lg	12 00 32.6	
	5.3nm,0.3s						

*IDC **21** 12:03:07.6±1.3,24°.41N×121°.80E,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.3/64,mbtmp3.5/5,ML3.6/1,Error ellipse: s-maj=68.5km s-min=22.4km az=66.0*
*JMA **21** 12:03:22.2±0.2,24°.84N×122°.94E,h149km±3km,M3.4*
ISC 21 12:03:21.7±0.9,**25°.0N**±0°.1×**122°.95E**±0°.07,**h146**km±9km,
n17,σ0§**74**/28,**mb3.2**/4,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**174**	P	**Pn**	**12 03 43.3**	**+0.5**
YOJ				*eS*	**Sn**	**12 03 59.0**	**+0.2**
JYNG	**Yonagunijimaku**	**0.54**	**181**	P	**Pn**	**12 03 43.3**	**+0.5**
JYNG				*eS*	**Sn**	**12 03 58.5**	**-0.3**
IRIF	**Iriomote-Funau**	**0.97**	**133**	P	**Pn**	**12 03 46.0**	**+0.2**
IRIF				S	**Sn**	**12 04 03.2**	**-0.9**
HATJ	**Hateruma jima**	**1.22**	**140**	*eS*	**Sn**	**12 04 07.8**	**-0.3**
JKRS	**Kuro-shima**	**1.22**	**128**	P	**Pn**	**12 03 48.9**	**+0.8**
JKRS				S	**Sn**	**12 04 08.1**	**-0.1**
JIJ	**Ishigaki jima**	**1.25**	**120**	P	**Pn**	**12 03 48.7**	**+0.3**
JIJ				S	**Sn**	**12 04 07.2**	**-1.6**
JISG	**Ishigakijimahi**	**1.30**	**108**	P	**Pn**	**12 03 49.2**	**+0.3**
JISG				S	**Sn**	**12 04 08.7**	**-0.9**
JTJ	**Tarama**	**1.63**	**102**	P	**Pn**	**12 03 53.2**	**+0.9**
JTJ				*eS*	**Sn**	**12 04 15.4**	**-0.3**
JIRB	**Irabujima**	**2.02**	**94**	P	**Pn**	**12 03 57.4**	**+0.6**
JIRB				*eS*	**Sn**	**12 04 22.9**	**-0.9**
JIKM	**Ikemajima**	**2.08**	**91**	P	**Pn**	**12 03 58.6**	**+1.1**
JIKM				*eS*	**Sn**	**12 04 24.1**	**-1.0**
JMJ2	**Miyako jima3**	**2.17**	**96**	P	**Pn**	**12 03 59.8**	**+1.2**
JMJ2				*eS*	**Sn**	**12 04 26.7**	**-0.2**
JKE	**Kume jima 2**	**3.70**	**68**	P	**Pn**	**12 04 17.7**	**-0.2**
JKE				*eS*	**Sn**	**12 05 01.7**	**+0.1**
KSRS	**Korea Array**	**13.12**	**18**	Pn	**P**	**12 06 27.9**	**+0.7**
	0.3nm,0.3s,baz=199,slow=12,SNR=8.5						
MKAR	**Makanchi Array**	**38.90**	**315**	P	**P**	**12 10 32.3**	**-0.7**
	0.2nm,0.4s,baz=113,slow=11,SNR=2.2						
KURBB	**Kurchatov Arra**	**42.55**	**319**	P	**P**	**12 11 02.1**	**-0.7**
	0.2nm,0.4s,baz=119,slow=7.4,SNR=1.5						
WRA	**Warramunga Arr**	**46.02**	**165**	P	**P**	**12 11 30.4**	**-0.4**
	0.6nm,0.4s,baz=347,slow=8.9,SNR=18						
ASAR	**Alice Springs**	**49.52**	**167**	P	**P**	**12 11 58.2**	**+0.5**
	0.2nm,0.4s,baz=347,slow=6.6,SNR=6.8						

*ATH **21** 12:06:38.4,38°.35N×21°.83E,h16km±1km,ML3.2/28,Error ellipse: s-maj=1.1km s-min=0.6km az=353.0*
*IDC **21** 12:06:38.3±1.1,38°.45N×21°.81E,h0km,mb3.6/9, mb1 3.6/11,mb1mx3.5/44,mbtmp3.6/11,ML3.1/2,MS3.1/3, Ms1 3.1/3,ms1mx2.6/44,Error ellipse: s-maj=22.2km s-min=19.3km az=23.0*
*THE **21** 12:06:39.2,38°.37N×21°.85E,h0km±1km,ML3.2/26,Error ellipse: s-maj=1.6km s-min=0.6km az=331.0*
ISC 21 12:06:39.2±0.8,**38°.38N**±0°.02×**21°.84E**±0°.01,**h11**km±4km,
n122,σ1§**32**/161,**mb3.7**/8,**6C-4D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**46**	P	**Pg**	**12 06 41.3**	**-0.3**
EFP				S	**Sg**	**12 06 43.2**	**-0.1**
	37μm,0.3s						
EFP	**Efpalio**	**0.07**	**46**	P	**Pg**	**12 06 41.3**	**-0.3**
EFP				S	**Sg**	**12 06 43.2**	**-0.1**
EFP				AML	AML	12 06 43.3	
	comp=E,64025μm,0.2s						
EFP				AML	AML	12 06 43.7	
	comp=N,76450μm,0.3s						
ANX	**Ano Chora**	**0.22**	**16**	P	**Pb**	**12 06 44.1**	**-1.2**
ANX				S	**Sg**	**12 06 48.2**	**+1.0**
	comp=N,32μm,0.4s						
ANX	**Ano Chora**	**0.22**	**16**	P	**Pb**	**12 06 44.1**	**-1.2**
ANX				S	**Sg**	**12 06 48.0**	**+0.9**
ANX				AML	AML	12 06 48.5	
	comp=N,69011μm,0.3s						
ANX				AML	AML	12 06 50.0	
	comp=E,57700μm,0.4s						
ALIK	**Aliki, Aigiali**	**0.24**	**119**	P	**Pg**	**12 06 44.2**	**0.0**
ALIK				S	**Sg**	**12 06 46.9**	**-0.7**
AXS	**Araxos**	**0.41**	**244**	P	**Pg**	**12 06 46.6**	**-0.7**
AXS				S	**Sg**	**12 06 54.7**	**+2.0**
	comp=E,3μm,0.3s						
AXS	**Araxos**	**0.41**	**244**	P	**Pg**	**12 06 46.5**	**-0.7**
AXS				S	**Sg**	**12 06 52.2**	**-0.5**
AXS				AML	AML	12 06 55.4	
	comp=N,6004μm,0.3s						
AXS				AML	AML	12 06 55.8	
	comp=E,5107μm,0.3s						
KLV	**Kalavryta, Ach**	**0.41**	**144**	P	**Pg**	**12 06 46.8**	**-0.6**
KLV	**Kalavryta, Ach**	**0.41**	**144**	P	**Pg**	**12 06 46.7**	**-0.6**
KLV				S	**Sg**	**12 06 52.9**	**0.0**
KLV				AML	AML	12 06 55.9	
	comp=N,2550μm,0.3s						
KLV				AML	AML	12 06 56.5	
	comp=E,3003μm,0.4s						
RLS	**Riolos of Patr**	**0.44**	**223**	P	**Pg**	**12 06 47.5**	**-0.3**
RLS				S	**Sg**	**12 06 54.3**	**+0.8**
	comp=E,4μm,0.3s						
RLS	**Riolos of Patr**	**0.44**	**223**	P	**Pg**	**12 06 47.4**	**-0.3**
RLS				S	**Sg**	**12 06 53.4**	**-0.1**
RLS				AML	AML	12 06 56.2	
	comp=E,9336μm,0.4s						
RLS				AML	AML	12 06 56.7	
	comp=N,6281μm,0.3s						
DLFA	**Delphi**	**0.52**	**79**	P	**Pg**	**12 06 48.8**	**-0.6**
DLFA				S	**Sb**	**12 06 56.9**	**-1.1**
DLFA				AML	AML	12 07 00.2	
	comp=N,3955μm,0.6s						
DLFA				AML	AML	12 07 02.0	
	comp=E,2647μm,0.3s						
EVR	**Evrytania**	**0.54**	**357**	P	**Pg**	**12 06 49.4**	**-0.3**
EVR				S	**Sb**	**12 06 58.2**	**-0.3**
	comp=E,4μm,0.4s						
EVR	**Evrytania**	**0.54**	**357**	P	**Pg**	**12 06 49.4**	**-0.3**
EVR				S	**Sb**	**12 06 58.0**	**-0.6**
EVR				AML	AML	12 07 02.8	
	comp=N,8607μm,0.5s						
EVR				AML	AML	12 07 03.0	
	comp=E,6211μm,0.5s						
DSF	**Desfina**	**0.54**	**86**	P	**Pg**	**12 06 49.0**	**-0.7**
DSF				S	**Sb**	**12 06 58.3**	**-0.2**
	comp=E,2μm,0.4s						
DSF	**Desfina**	**0.54**	**86**	P	**Pg**	**12 06 49.0**	**-0.7**
DSF				S	**Sb**	**12 06 57.3**	**-1.1**
DSF				AML	AML	12 07 01.2	
	comp=N,4962μm,0.5s						
DSF				AML	AML	12 07 06.1	
	comp=E,4405μm,0.3s						
GUR	**Goura**	**0.59**	**138**	P	**Pg**	**12 06 49.7**	**-1.0**
GUR				S	**Sg**	**12 06 59.2**	**+0.7**
	comp=E,4μm,0.4s						
GUR	**Goura**	**0.59**	**138**	P	**Pg**	**12 06 49.7**	**-1.0**
GUR				S	**Sg**	**12 06 57.4**	**-1.1**
GUR				AML	AML	12 07 03.6	
	comp=E,6854μm,0.6s						
GUR				AML	AML	12 07 06.5	
	comp=N,6737μm,0.4s						
AST1	**Astakos**	**0.61**	**286**	P	**Pg**	**12 06 50.5**	**-0.6**
AST1				S	**Sb**	**12 07 01.8**	**+1.3**
	comp=N,5μm,0.4s						
AXAR	**Agios Charalam**	**0.75**	**59**	P	**Pg**	**12 06 53.1**	**-0.6**
AXAR				S	**Sb**	**12 07 03.6**	**-0.8**
	comp=N,3μm,0.5s						
AXAR	**Agios Charalam**	**0.75**	**59**	P	**Pg**	**12 06 53.1**	**-0.6**
AXAR				S	**Sb**	**12 07 03.7**	**-0.8**
AXAR				AML	AML	12 07 12.8	
	comp=E,6000μm,0.6s						
AXAR				AML	AML	12 07 13.4	
	comp=N,5874μm,0.3s						
TRIP	**Tripoli**	**0.91**	**158**	P	**Pg**	**12 06 55.6**	**-1.2**
TRIP	**Tripoli**	**0.91**	**158**	P	**Pg**	**12 06 55.4**	**-1.4**
TRIP				S	**Sg**	**12 07 08.0**	**-0.7**
TRIP				AML	AML	12 07 14.2	
	comp=N,1618μm,0.6s						
TRIP				AML	AML	12 07 20.0	
	comp=E,2152μm,0.6s						
LKR	**Lokris**	**0.95**	**73**	P	**Pg**	**12 06 56.7**	**-0.7**
LKR				S	**Sn**	**12 07 12.0**	**+0.1**
	comp=E,1μm,0.3s						
LKR	**Lokris**	**0.95**	**73**	P	**Pg**	**12 06 56.8**	**-0.7**
LKR				AML	AML	12 07 14.4	
	comp=E,2182μm,0.3s						
LKR				AML	AML	12 07 16.8	
	comp=N,2277μm,0.3s						
LTK	**Loutraki**	**0.95**	**111**	P	**Pg**	**12 06 57.2**	**-0.4**
LTK				S	**Sn**	**12 07 12.1**	**0.0**
	comp=N,1μm,0.5s						
LTK	**Loutraki**	**0.95**	**111**	P	**Pg**	**12 06 57.0**	**-0.6**
LTK				S	**Sg**	**12 07 09.4**	**-0.6**
LTK				AML	AML	12 07 17.6	
	comp=N,2150μm,0.5s						
LTK				AML	AML	12 07 18.0	
	comp=E,1866μm,0.5s						
NYDR	**Nydri-Lefkada**	**0.96**	**291**	P	**Pg**	**12 06 56.7**	**-0.9**
NYDR				S	**Sn**	**12 07 12.1**	**0.0**
	comp=E,995nm,0.6s						
EVGI	**Lefkada island**	**0.96**	**285**	P	**Pg**	**12 06 56.7**	**-1.0**
EVGI	**Lefkada island**	**0.96**	**285**	P	**Pg**	**12 06 56.5**	**-1.2**
VSK1	**VASILIKIADES**	**1.00**	**272**	P	**Pg**	**12 06 56.3**	**-2.2**
VLS	**Valsamata**	**1.01**	**259**	P	**Pg**	**12 06 57.1**	**-1.4**
VLS				S	**Sn**	**12 07 13.8**	**+0.4**
	comp=E,1μm,0.3s						
VLS	**Valsamata**	**1.01**	**259**	P	**Pg**	**12 06 57.2**	**-1.3**
VLS				AML	AML	12 07 17.0	
	comp=E,2293μm,0.2s						
VLS				AML	AML	12 07 17.0	
	comp=N,3518μm,0.4s						
FSK	**Fiskardo**	**1.01**	**275**	P	**Pg**	**12 06 57.2**	**-1.3**
FSK				S	**Sn**	**12 07 13.6**	**+0.2**
	comp=N,1μm,0.4s						
FSK	**Fiskardo**	**1.01**	**275**	P	**Pg**	**12 06 57.3**	**-1.3**
FSK				AML	AML	12 07 17.4	
	comp=N,2173μm,0.5s						
FSK				AML	AML	12 07 20.7	
	comp=E,2147μm,0.4s						
LKD2	**Lefkada island**	**1.01**	**294**	P	**Pg**	**12 06 57.9**	**-0.8**
LKD2				S	**Sn**	**12 07 14.7**	**+1.1**
	comp=E,2μm,0.6s						
LKD2	**Lefkada island**	**1.01**	**294**	P	**Pg**	**12 06 57.8**	**-1.0**
LKD2				S	**Sn**	**12 07 13.1**	**-0.5**
LKD2				AML	AML	12 07 22.0	
	comp=N,3694μm,0.7s						
LKD2				AML	AML	12 07 22.7	
	comp=E,3271μm,0.5s						
TSLK	**Tsoukalades, L**	**1.03**	**296**	P	**Pg**	**12 06 58.5**	**-0.5**
TSLK	**Tsoukalades, L**	**1.03**	**296**	P	**Pg**	**12 06 58.2**	**-0.9**
TSLK				AML	AML	12 07 23.3	
	comp=N,3304μm,0.9s						
TSLK				AML	AML	12 07 23.5	
	comp=E,3160μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.04**	**287**	P	**Pg**	**12 06 57.9**	**-1.3**
VLMS	**Volimes, Zakyn**	**1.06**	**242**	P	**Pb**	**12 06 58.0**	**-1.5**
VLMS				AML	AML	12 07 16.5	
	comp=E,6250μm,0.3s						
VLMS				AML	AML	12 07 17.1	
	comp=N,11001μm,0.4s						
KRI1	**kERI**	**1.08**	**229**	P	**Pb**	**12 06 59.0**	**-0.9**
KRI1				S	**Sn**	**12 07 16.8**	**+1.6**
	comp=N,3μm,0.6s						
KEF5	**Kardakata, Kep**	**1.08**	**265**	P	**Pb**	**12 06 58.5**	**-1.5**
ARGA	**Argostoli. Kep**	**1.09**	**260**	P	**Pb**	**12 06 58.7**	**-1.3**
VLX	**Vlachokerasia**	**1.09**	**157**	P	**Pb**	**12 06 58.7**	**-1.4**
VLX	**Vlachokerasia**	**1.09**	**157**	P	**Pb**	**12 06 58.8**	**-1.4**
VLX				AML	AML	12 07 22.3	
	comp=N,2285μm,0.6s						
VLX				AML	AML	12 07 23.4	
	comp=E,2414μm,0.7s						
KEF4	**Livadi, Kephal**	**1.12**	**264**	P	**Pb**	**12 06 59.1**	**-1.5**
VIL2	**Platees**	**1.13**	**98**	P	**Pn**	**12 07 01.3**	**+0.3**
VIL2				S	**Sn**	**12 07 17.7**	**+1.1**
VIL2				AML	AML	12 07 24.6	
	comp=N,1857μm,0.5s						
VIL2				AML	AML	12 07 30.9	
	comp=E,3330μm,0.6s						
DMLN	**Damoulianata-K**	**1.16**	**264**	P	**Pb**	**12 06 59.5**	**-1.8**
VILL	**Villia**	**1.18**	**100**	P	**Pb**	**12 07 01.4**	**-0.1**
THL	**Klokotos Trika**	**1.19**	**6**	P	**Pg**	**12 07 01.9**	**-0.2**
THL				S	**Sn**	**12 07 18.2**	**+0.2**
	comp=E,572nm,0.6s						
THL	**Klokotos Trika**	**1.19**	**6**	P	**Pg**	**12 07 01.8**	**-0.2**
THL				S	**Sn**	**12 07 18.5**	**+0.6**
THL				AML	AML	12 07 22.9	
	comp=N,996μm,0.7s						
THL				AML	AML	12 07 24.5	
	comp=E,901μm,0.8s						
ITM	**Ithomi**	**1.20**	**177**	P	**Pn**	**12 07 00.9**	**-1.0**
ITM				S	**Sn**	**12 07 19.6**	**+1.5**
	comp=E,652nm,0.6s						
ITM	**Ithomi**	**1.20**	**177**	P	**Pn**	**12 07 00.7**	**-1.2**
ITM				AML	AML	12 07 25.7	
	comp=N,1303μm,0.6s						
ITM				AML	AML	12 07 28.1	
	comp=E,1260μm,0.6s						
VOL3	**Nea Ionia, Vol**	**1.31**	**40**	P	**Pn**	**12 07 01.8**	**-1.5**
VOL2	**Volos**	**1.31**	**41**	P	**Pg**	**12 07 04.9**	**+0.5**
NEO	**Neokhori**	**1.42**	**49**	P	**Pg**	**12 07 05.6**	**-0.9**
NEO				S	**Sg**	**12 07 25.3**	**+0.3**
	comp=E,488nm,0.4s						
NEO	**Neokhori**	**1.42**	**49**	P	**Pg**	**12 07 05.7**	**-0.9**
KRND	**KRANIDI**	**1.44**	**133**	P	**Pn**	**12 07 05.3**	**+0.2**
KRND	**KRANIDI**	**1.44**	**133**	P	**Pn**	**12 07 05.1**	**0.0**
XOR	**Xorichti**	**1.44**	**46**	P	**Pg**	**12 07 05.9**	**-1.0**
XOR	**Xorichti**	**1.44**	**46**	P	**Pb**	**12 07 05.7**	**-0.4**
XOR				AML	AML	12 07 37.0	
	comp=N,1202μm,0.8s						
XOR				AML	AML	12 07 38.6	
	comp=E,638μm,0.9s						
PYL	**PYLOS**	**1.48**	**183**	P	**Pn**	**12 07 05.8**	**0.0**
PYL				S	**Sg**	**12 07 29.1**	**+2.2**
	comp=E,630nm,0.7s						
ATH	**Athens Observa**	**1.53**	**105**	P	**Pb**	**12 07 07.1**	**-0.5**
ATH				S	**Sg**	**12 07 28.2**	**-0.3**
	comp=E,842nm,0.4s						
ATH	**Athens Observa**	**1.53**	**105**	P	**Pn**	**12 07 06.8**	**+0.3**
ATHU	**Athens Univers**	**1.58**	**104**	P	**Pn**	**12 07 07.5**	**+0.3**
ATHU				S	**Sb**	**12 07 28.5**	**0.0**
	comp=E,372nm,0.4s						
ATHU	**Athens Univers**	**1.58**	**104**	P	**Pn**	**12 07 07.5**	**+0.3**
KPRO	**Kipourio**	**1.62**	**347**	P	**Pg**	**12 07 10.3**	**+0.1**
PTL	**Penteli**	**1.63**	**101**	P	**Pn**	**12 07 08.3**	**+0.5**
PTL	**Penteli**	**1.63**	**101**	P	**Pn**	**12 07 08.3**	**+0.5**
PTL				AML	AML	12 07 32.3	
	comp=E,1209μm,0.4s						
PTL				AML	AML	12 07 32.5	
	comp=N,942μm,0.5s						
VLY	**Voula,Athens**	**1.63**	**108**	P	**Pn**	**12 07 08.3**	**+0.5**
VLY				S	**Sb**	**12 07 30.3**	**+0.6**
	comp=N,450nm,0.4s						
VLY	**Voula,Athens**	**1.63**	**108**	P	**Pn**	**12 07 08.0**	**+0.3**
IGT	**Igoumenitsa**	**1.65**	**315**	P	**Pb**	**12 07 09.9**	**+0.3**
IGT	**Igoumenitsa**	**1.65**	**315**	P	**Pb**	**12 07 09.3**	**-0.3**
IGT				AML	AML	12 07 42.8	
	comp=E,552μm,0.6s						
IGT				AML	AML	12 07 42.8	
	comp=N,440μm,0.6s						
DION	**Dionisos Attik**	**1.67**	**100**	P	**Pn**	**12 07 08.9**	**+0.5**
DION				S	**Sb**	**12 07 30.9**	**-0.2**
	comp=N,1μm,0.4s						
DION	**Dionisos Attik**	**1.67**	**100**	P	**Pn**	**12 07 09.0**	**+0.6**
DION				AML	AML	12 07 32.7	
	comp=N,2571μm,0.5s						
DION				AML	AML	12 07 33.4	
	comp=E,1954μm,0.4s						
KYMI	**Kymi, Euboea I**	**1.79**	**81**	P	**Pn**	**12 07 10.2**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.79**	**81**	P	**Pn**	**12 07 10.3**	**+0.2**
LIT	**Litokhoron**	**1.79**	**16**	P	**Pb**	**12 07 11.1**	**-0.9**
LIT	**Litokhoron**	**1.79**	**16**	P	**Pb**	**12 07 11.1**	**-0.9**
LIT				AML	AML	12 07 43.5	
	comp=N,722μm,0.6s						
LIT				AML	AML	12 07 43.8	
	comp=E,562μm,0.7s						
VLI	**Veliai**	**1.87**	**152**	P	**Pn**	**12 07 11.5**	**+0.4**
VLI	**Veliai**	**1.87**	**152**	P	**Pn**	**12 07 11.5**	**+0.4**
KZN	**Kozani**	**1.93**	**358**	P	**Pb**	**12 07 14.2**	**-0.2**
KZN				S	**Sb**	**12 07 37.8**	**-0.6**
	comp=E,475nm,0.5s						
KTI	**Kastanea**	**2.02**	**6**	P	**Pb**	**12 07 14.8**	**-1.2**
KARY	**Karystos**	**2.07**	**99**	P	**Pn**	**12 07 15.1**	**+1.2**
KARY				S	**Sb**	**12 07 41.1**	**-1.5**
	comp=E,145nm,0.5s						
KARY	**Karystos**	**2.07**	**99**	P	**Pn**	**12 07 14.8**	**+1.0**
KARY				AML	AML	12 07 42.0	
	comp=E,272μm,0.5s						
KARY				AML	AML	12 07 44.9	
	comp=N,254μm,0.6s						
KEK	**Kerkira**	**2.08**	**311**	P	**Pb**	**12 07 15.9**	**-0.9**
PAIG	**Paliouri**	**2.11**	**42**	P	**Pn**	**12 07 14.5**	**+0.2**
NEST	**Nestorio**	**2.12**	**343**	P	**Pb**	**12 07 17.5**	**-0.2**
KTHA	**Kythira Island**	**2.33**	**155**	P	**Pn**	**12 07 19.2**	**+1.7**
KTHA	**Kythira Island**	**2.33**	**155**	P	**Pn**	**12 07 18.9**	**+1.4**
SERI	**Serifos**	**2.42**	**119**	P	**Pn**	**12 07 19.3**	**+0.6**
SERI	**Serifos**	**2.42**	**119**	P	**Pn**	**12 07 19.1**	**+0.4**
FNA	**Florina**	**2.43**	**352**	P	**Pb**	**12 07 21.2**	**-1.7**
OHR	**Ohrid**	**2.85**	**344**	*i* Pn	**Pg**	**12 07 33.6**	**-0.1**
IOSP	**Ios island**	**3.20**	**120**	P	**Pn**	**12 07 30.1**	**+0.7**
APE	**Apeiranthos**	**3.20**	**113**	P	**Pn**	**12 07 30.4**	**+0.9**
APE	**Apeiranthos**	**3.20**	**113**	⇑P	**Pn**	**12 07 30.2**	**+0.7**
APE	**Apeiranthos**	**3.20**	**113**	⇑S	**Sn**	**12 08 06.0**	**-1.7**
CHOS	**Chios island**	**3.31**	**89**	P	**Pn**	**12 07 32.1**	**+1.1**
TIR	**Tirane**	**3.33**	**333**	⇓P	**Pb**	**12 07 39.3**	**+1.0**
IDI	**Anoyia**	**3.94**	**141**	Pn	**Pn**	**12 07 40.3**	**+0.7**
	comp=N,1.4nm,0.3s,baz=35,slow=18,SNR=3.3						
IDI				Sn	**Sn**	**12 08 29.5**	**+3.7**
	comp=N,2.3nm,0.3s,baz=88,slow=17,SNR=2.1						
IDI				LR	LR	12 09 30.9	
	comp=N,94nm,20.0s,baz=346,slow=43						
IDI	**Anoyia**	**3.94**	**141**	⇓P	**Pn**	**12 07 42.3**	**+2.7**
PDG	**Podgorica**	**4.50**	**335**	⇑P	**Pb**	**12 07 58.3**	**+0.1**
BLKB	**Belogradchik**	**5.28**	**7**	⇑S	**Sb**	**12 09 18.1**	**+3.3**
SRE	**Strehaia**	**6.36**	**9**	⇓S	**Sn**	**12 09 28.3**	**+2.8**
MDVR	**Moldovita**	**6.40**	**359**	⇑S	**Sn**	**12 09 19.7**	**-6.7**
HERR	**Herculane**	**6.51**	**4**	⇑S	**Sn**	**12 09 22.0**	**-7.2**
BZS	**Buzias**	**7.24**	**359**	⇓S	**Sn**	**12 09 43.8**	**-3.1**
MLR	**Muntele Rosu**	**7.74**	**22**	Pn	Pn	12 08 37.9	+6.1
	comp=N,0.3nm,0.3s,baz=136,slow=18,SNR=3.8						
BRTR	**Keskin Array B**	**9.28**	**78**	Pn	**Pn**	**12 08 55.8**	**+2.8**
	comp=N,0.2nm,0.3s,baz=254,slow=14,SNR=4.0						
OBN	**Obninsk**	**19.48**	**26**	LR	LR	12 18 58.2	
	comp=N,28nm,20.9s,baz=23,slow=38						
ESDC	**Sonseca Array**	**20.07**	**282**	P	Pn	12 11 13.8	-0.6
	comp=N,1.2nm,0.6s,baz=75,slow=11,SNR=17						
HFS	**Hagfors**	**22.38**	**349**	P	**P**	**12 11 35.7**	**-1.5**
	comp=N,2.3nm,0.8s,baz=185,slow=14,SNR=2.3						
FINES	**FINESS Array B**	**23.24**	**5**	P	**P**	**12 11 45.5**	**-0.7**
	comp=N,1.1nm,0.7s,baz=172,slow=17,SNR=4.1						
NOA	**NORSAR Array B**	**23.64**	**347**	P	**P**	**12 11 50.2**	**0.0**
	comp=N,0.2nm,0.4s,baz=140,slow=7.4,SNR=2.1						
EKA	**Eskdalemuir Ar**	**23.88**	**323**	P	**P**	**12 11 53.0**	**+0.5**
	comp=N,1.8nm,0.8s,baz=121,slow=9.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**30.85**	**221**	P	**P**	**12 12 56.1**	**+0.7**
	comp=N,0.9nm,0.8s,baz=32,slow=8.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**41.27**	**54**	P	**P**	**12 14 25.2**	**+1.0**
	comp=N,0.4nm,0.5s,baz=281,slow=9.2,SNR=4.9						
MKAR	**Makanchi Array**	**44.31**	**59**	P	**P**	**12 14 50.2**	**+1.3**
	comp=N,0.5nm,0.4s,baz=278,slow=6.9,SNR=12						
ZALV	**Zalesovo Beam**	**44.78**	**48**	P	**P**	**12 14 53.3**	**+0.7**
	comp=N,0.4nm,0.3s,baz=35,slow=28,SNR=1.7						
NRIK	**Noril'sk**	**46.15**	**27**	LR	LR	12 37 20.5	
	comp=N,78nm,18.2s,baz=200,slow=40						

*IDC **21** 12:17:35.2±1.0,49°.46S×164°.25E,h0km,mb4.3/8, mb1 4.5/10,mb1mx4.3/29,mbtmp4.4/10,ML4.8/2,MS4.1/4, Ms1 4.1/4,ms1mx3.5/34,Error ellipse: s-maj=26.8km s-min=24.4km az=85.0*
*NEIC **21** 12:17:37.5±2.8,49°.60S±0°.09×164°.1E±0°.2,h17km±4km, mb4.5/17,Error ellipse: s-maj=16.8km s-min=10.9km az=120.0*
ISC 21 12:17:37.6±0.6,**49°.57S**±0°.07×**164°.24E**±0°.07,**h15**km,**n98**,
σ1§**70**/97,**mb4.3**/15,**Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**3.71**	**44**	P	**Pn**	**12 18 35.0**	**+0.7**
APZ				S	**Sn**	**12 19 17.2**	**-0.6**
WHZ	**Wether Hill Ro**	**4.45**	**36**	P	**Pn**	**12 18 45.1**	**+0.7**
WHZ	**Wether Hill Ro**	**4.45**	**36**		**Pn**	**12 18 45.3**	**+0.8**
SYZ	**Scrubby Hill**	**4.47**	**49**	P	**Pn**	**12 18 46.0**	**+1.2**
SYZ				S	**Sn**	**12 19 34.4**	**-2.0**
MLZ	**Mavora Lakes**	**4.96**	**34**	P	**Pn**	**12 18 53.2**	**+1.7**
**ML

TOO IAmb IAmb 12 21 59.1
comp=Z,16nm,0.9s
LHI Lord Howe Isla 18.44 346 P **Pn 12 21 54.8 +2.2**
LHI IAmb IAmb 12 22 09.4
comp=Z,49nm,0.8s
STKA Stephens Creek 24.48 308 P **P 12 22 56.5 +0.5**
comp=Z,5.9nm,1.0s,baz=139,slow=8.9,SNR=9.1
STKA Stephens Creek 24.48 308 P **P 12 22 57.7 +1.7**
EIDS Eidsvold 26.24 332 P **P 12 23 12.7 +0.8**
CTA Charters Tower 32.73 328 P **P 12 24 08.5 -1.1**
comp=Z,12nm,0.9s,baz=158,slow=12,SNR=7.4
CTAO Charters Tower 32.73 328 P **P 12 24 09.8 +0.2**
AS31 Alice Springs 35.09 306 P **P 12 24 29.1 -1.1**
ASAR Alice Springs 35.09 306 P **P 12 24 28.9 -1.3**
comp=Z,4.8nm,1.1s,baz=139,slow=7.5,SNR=22
ASAR LR LR 12 37 20.6
comp=Z,259nm,18.5s,baz=165,slow=34
ASAR Alice Springs 35.09 306 P **P 12 24 28.5 -1.7**
WR0 Warramunga Arr 37.85 311 P **P 12 24 51.3 -2.5**
WR0 IAmb IAmb 12 25 04.9
comp=Z,7.7nm,1.2s
WB2 Warramunga Arr 37.96 310 P **P 12 24 52.7 -1.9**
WB2 IAmb IAmb 12 24 54.2
comp=Z,19nm,1.4s
WRA Warramunga Arr 37.97 310 P **P 12 24 52.7 -2.0**
comp=Z,3.0nm,0.8s,baz=150,slow=9.8,SNR=16
WRA PcP **PcP 12 27 09.2 -1.1**
comp=Z,2.5nm,0.9s,baz=148,slow=2.8,SNR=8.9
WRA Warramunga Arr 37.97 310 P **P 12 24 52.4 -2.3**
WB0 Warramunga Arr 38.09 311 P **P 12 24 53.9 -1.8**
WB0 IAmb IAmb 12 25 05.3
comp=Z,8.6nm,1.3s
H01W1 Cape Leeuwin H 39.14 273 T T 13 06 27.1
baz=128,slow=76,SNR=439
H01W2 Cape Leeuwin H 39.15 273 T T 13 06 28.9
baz=128,slow=76,SNR=544
H01W3 Cape Leeuwin H 39.16 273 T T 13 06 28.4
baz=128,slow=76,SNR=422
COEN Coen 39.48 327 P **P 12 25 07.6 +0.2**
COEN IAmb IAmb 12 25 08.3
comp=Z,17nm,1.1s
QSPA South Pole Qui 40.56 180 P **P 12 25 16.4 +0.4**
comp=Z,2.2nm,1.0s,baz=350,slow=3.1,SNR=4.2
QSPA South Pole Qui 40.56 180 P **P 12 25 16.7 +0.6**
FITZ Fitzroy Crossi 44.08 301 P **P 12 25 46.8 +1.7**
FITZ IAmb IAmb 12 25 51.0
comp=Z,5.9nm,1.2s
KNRA Kununurra 44.39 307 P **P 12 25 46.5 -1.1**
KNRA IAmb IAmb 12 25 53.9
comp=Z,13nm,1.2s
SNAA Sanae 58.72 185 P **P 12 27 37.5 +3.4**
SNAA IAmb IAmb 12 27 44.5
comp=Z,4.2nm,1.0s
H08S2 Diego Garcia H 85.37 264 T T 14 04 05.3
baz=140,slow=76,SNR=1683
H08S1 Diego Carcia H 85.39 264 T T 14 04 04.6
baz=140,slow=76,SNR=2061
H08S3 Diego Garcia H 85.39 264 T T 14 04 07.8
baz=140,slow=76,SNR=3355
MJAR Matsushiro Arr 88.78 339 P **P 12 30 30.9 +0.6**
comp=Z,2.2nm,1.1s,baz=176,slow=7.6,SNR=4.8
MJAR Matsushiro Arr 88.78 339 P **P 12 30 31.0 +0.7**
CMAR Chiang Mai Arr 88.89 300 P **P 12 30 32.2 +1.1**
comp=Z,0.5nm,0.3s,baz=166,slow=3.1,SNR=9.1
CMAR Chiang Mai Arr 88.89 300 P **P 12 30 30.3 -0.9**
KSRS Korea Array 92.41 332 P **P 12 30 47.9 +0.8**
comp=Z,1.3nm,0.9s,baz=149,slow=7.2,SNR=5.0
KSRS LR LR 13 08 32.1
comp=Z,24nm,19.1s,baz=179,slow=33
TORD Torodi Ar. Bea 140.95 208 PKP **PKPdf 12 37 06.3 -0.9**
comp=Z,0.4nm,0.7s,baz=198,slow=1.1,SNR=1.5
TORD Torodi Ar. Bea 140.95 208 PKPdf **PKPdf 12 37 06.5 -0.7**
BRTR Keskin Array B 144.09 273 PKP **PKPab 12 37 09.9 +0.1**
comp=Z,1.1nm,0.9s,baz=126,slow=5.4,SNR=3.9
BRTR Keskin Array B 144.09 273 PKPdf PKPbc 12 37 11.2 +1.0
SPITS Spitsbergen Ar 148.91 348 PKPbc **PKPbc 12 37 22.7 -0.4**
comp=Z,3.5nm,0.6s,baz=147,slow=14,SNR=3.6
AKASG Malin Array Be 151.47 290 PKPbc **PKPbc 12 37 29.1 -0.8**
comp=Z,0.9nm,0.4s,baz=260,slow=34,SNR=1.6
AKASG Malin Array Be 151.47 290 **PKPbc 12 37 28.5 -1.4**
FINES FINESS Array B 153.99 313 PKPbc **PKiKP 12 37 38.5 +3.3**
comp=Z,1.4nm,0.7s,baz=88,slow=3.3,SNR=3.7
FINES FINESS Array B 153.99 313 PKPbc **PKiKP 12 37 36.7 +1.5**
GERES GERESS Array B 160.79 279 PKPab **PKPab 12 38 19.9 +1.2**
comp=Z,0.2nm,0.4s,baz=99,slow=3.1,SNR=2.8
GERES GERESS Array B 160.79 279 **PKPab 12 38 22.2 +3.5**

*IDC **21** 12:27:46.0±1.0, 5.°00S×152.°17E, h82km±6km, mb3.6/10, mb1 3.8/11, mb1mx3.5/44, mbtmp4.0/11, MS3.2/2, Ms1 3.2/2, ms1mx2.7/42, Error ellipse: s-maj=22.6km s-min=12.2km az=117.0*
*NEIC **21** 12:27:47.3±1.6, 5.°00S±0.°08×152.°2E±0.°1, h86km±6km, mb4.5/39, Error ellipse: s-maj=20.8km s-min=11.0km az=99.0*
ISC 21 12:27:43.5±0.7,**5.°16S**±0.°06×**152.°4E**±0.°1,**h55**km,**n70**, σ1°**37**/73,**mb4.5**/30,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.93**	**336**	P	**Pn**	**12 28 02.8**	**+2.2**
KRVT	228nm,0.3s,baz=166,slow=1.5,SNR=212			S	**Sn**	**12 28 15.1**	**+2.0**
	422nm,0.3s,baz=27,slow=23,SNR=11						
RABL	**Rabaul**	**1.00**	**346**	Pn	**Pn**	**12 28 03.8**	**+2.4**
RABL				Sn	**Sn**	**12 28 18.3**	**+3.7**
PMG	**Port Moresby**	**6.70**	**231**	P	**Pn**	**12 29 22.0**	**+2.6**
	1.3nm,0.3s,baz=294,slow=18,SNR=3.2						
PMG				S	**Sn**	**12 30 35.2**	**+0.7**
	10nm,0.3s,baz=126,slow=18,SNR=11						
PMG	**Port Moresby**	**6.70**	**231**	Pn	**Pn**	**12 29 22.3**	**+2.9**
DZM	**Mont Dzumac**	**21.61**	**142**	P	**P**	**12 32 33.0**	**+3.8**
	4.7nm,0.7s,baz=317,slow=4.3,SNR=6.9						
MTN	**Manton Dam**	**22.35**	**249**	P	**P**	**12 32 37.8**	**+0.7**
WB0	**Warramunga Arr**	**22.77**	**229**	P	**P**	**12 32 40.7**	**-0.9**
WR0	**Warramunga Arr**	**22.78**	**228**	P	**P**	**12 32 41.0**	**-0.7**
WB2	**Warramunga Arr**	**22.91**	**229**	P	**P**	**12 32 42.2**	**-0.7**
WRA	**Warramunga Arr**	**22.92**	**229**	P	**P**	**12 32 41.9**	**-1.2**
	0.9nm,0.4s,baz=52,slow=9.9,SNR=19						
WRA				PcP	**PcP**	**12 36 31.1**	**-1.0**
	0.1nm,0.4s,baz=50,slow=2.2,SNR=1.3						
WRA	**Warramunga Arr**	**22.92**	**229**	P	**P**	**12 32 41.2**	**-1.9**
WRA				PcP	**PcP**	**12 36 32.8**	**+0.7**
KNRA	**Kununurra**	**25.47**	**244**	P	**P**	**12 33 07.1**	**+0.4**
AS31	**Alice Springs**	**25.62**	**222**	P	**P**	**12 33 09.5**	**+1.4**
ASAR	**Alice Springs**	**25.62**	**222**	P	**P**	**12 33 07.7**	**-0.4**
	0.3nm,0.5s,baz=56,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**25.62**	**222**	P	**P**	**12 33 10.4**	**+2.3**
FITZ	**Fitzroy Crossi**	**29.15**	**242**	P	**P**	**12 33 37.8**	**-1.9**
	2.6nm,0.7s,baz=348,slow=5.2,SNR=12						
FITZ	**Fitzroy Crossi**	**29.15**	**242**	P	**P**	**12 33 37.7**	**-1.9**
JCJ	**Chichijima**	**33.56**	**343**	LR	LR	12 48 45.9	
	comp=Z,28nm,18.1s,baz=148,slow=38						
JHJ	**Hachijo jima 2**	**39.91**	**343**	LR	LR	12 52 09.0	
	comp=Z,32nm,18.9s,baz=205,slow=37						
CMAR	**Chiang Mai Arr**	**57.68**	**296**	P	**P**	**12 37 27.4**	**-1.5**
	0.6nm,0.3s,baz=115,slow=5.4,SNR=8.9						
CMAR	**Chiang Mai Arr**	**57.68**	**296**	P	**P**	**12 37 27.6**	**-1.4**
SONM	**Songino Array**	**66.43**	**328**	P	**P**	**12 38 26.0**	**-1.2**
	0.5nm,0.4s,baz=141,slow=6.2,SNR=2.1						
SII	**Sitkinak Islan**	**75.27**	**27**	P	**P**	**12 39 19.9**	**-0.6**
SII				IAmb	IAmb	12 39 23.4	
	comp=Z,9.9nm,1.0s						
OHAK	**Old Harbor**	**76.05**	**27**	P	**P**	**12 39 24.8**	**-0.1**
OHAK				IAmb	IAmb	12 39 37.9	
	comp=Z,8.2nm,1.3s						
SVW2	**Sparrevohn**	**77.31**	**23**	P	**P**	**12 39 32.6**	**+0.6**
RSO	**Redoubt South**	**78.08**	**24**	P	**P**	**12 39 36.9**	**+0.4**
CNPM	**China Poot**	**78.21**	**26**	P	**P**	**12 39 37.0**	**0.0**
BRLK	**Bradley Lake**	**78.48**	**26**	P	**P**	**12 39 38.7**	**+0.1**
BRLK				IAmb	IAmb	12 39 54.6	
	comp=Z,13nm,1.3s						
SEW	**Seward**	**79.28**	**26**	P	**P**	**12 39 42.7**	**-0.1**
SEW				IAmb	IAmb	12 39 44.0	
	comp=Z,7.9nm,1.0s						
PMR	**Palmer**	**80.17**	**24**	P	**P**	**12 39 47.1**	**-0.6**
PMR				IAmb	IAmb	12 39 47.4	
	comp=Z,3.6nm,0.7s						
MKAR	**Makanchi Array**	**80.34**	**319**	P	**P**	**12 39 46.6**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=110,slow=5.5,SNR=5.4						
MKAR	**Makanchi Array**	**80.34**	**319**	P	**P**	**12 39 47.0**	**-2.0**
GHO	**Glory Hole Cre**	**80.35**	**24**	P	**P**	**12 39 48.6**	**-0.1**
GHO				IAmb	IAmb	12 39 50.3	
	comp=Z,5.4nm,0.6s						
KTH	**Kantishna Hill**	**80.49**	**22**	P	**P**	**12 39 48.3**	**-1.2**
KTH				IAmb	IAmb	12 39 54.6	
	comp=Z,4.5nm,0.8s						
SML	**Sawmill**	**80.61**	**24**	P	**P**	**12 39 50.1**	**-0.1**
GLI	**Glacier Island**	**80.68**	**26**	P	**P**	**12 39 50.3**	**-0.1**
IMAR	**Indian Mountai**	**80.85**	**20**	P	**P**	**12 39 50.9**	**-0.3**
FID	**Port Fidalgo**	**80.88**	**26**	P	**P**	**12 39 51.0**	**-0.5**
FID				IAmb	IAmb	12 40 08.0	
	comp=Z,12nm,1.0s						
EYAK	**Cordova Ski Ar**	**81.11**	**26**	P	**P**	**12 39 52.4**	**-0.3**
EYAK				IAmb	IAmb	12 39 53.8	
	comp=Z,12nm,1.1s						
RND	**Reindeer**	**81.21**	**23**	P	**P**	**12 39 52.5**	**-0.8**
RND				IAmb	IAmb	12 39 52.7	
	comp=Z,5.9nm,0.7s						
ZALV	**Zalesovo Beam**	**81.24**	**326**	P	**P**	**12 39 51.0**	**-2.5**
	comp=Z,0.6nm,0.4s,baz=106,slow=4.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**81.24**	**326**	P	**P**	**12 39 51.5**	**-2.0**
MCK	**McKinley**	**81.34**	**23**	P	**P**	**12 39 53.1**	**-0.8**
MCK				IAmb	IAmb	12 39 53.4	
	comp=Z,7.2nm,0.7s						
KLU	**Klutina**	**81.47**	**25**	P	**P**	**12 39 54.9**	**+0.1**
KLU				IAmb	IAmb	12 40 00.3	
	comp=Z,6.4nm,1.0s						
RAGM	**Ragged Mountai**	**81.51**	**27**	P	**P**	**12 39 55.3**	**+0.3**
M24K	**Tolsona, Glenn**	**81.65**	**25**	P	**P**	**12 39 56.1**	**+0.5**
HMT	**Hamilton**	**81.67**	**27**	P	**P**	**12 39 56.0**	**+0.3**
SUCK	**Suckling Hills**	**81.77**	**27**	P	**P**	**12 39 56.4**	**+0.1**
GLB	**Gilahina Butte**	**82.35**	**26**	P	**P**	**12 39 58.9**	**-0.5**
GLB				IAmb	IAmb	12 39 59.9	
	comp=Z,7.2nm,1.0s						
VRDI	**Verde Repeater**	**82.42**	**26**	P	**P**	**12 39 59.8**	**0.0**
VRDI				IAmb	IAmb	12 40 00.4	
	comp=Z,4.1nm,0.8s						
HDA	**Harding Lake**	**82.44**	**22**	P	**P**	**12 39 59.3**	**-0.4**
ILAR	**Eielson Array**	**82.64**	**22**	P	**P**	**12 39 59.0**	**-1.7**
	comp=Z,3.5nm,0.6s,baz=247,slow=5.6,SNR=15						
ILAR	**Eielson Array**	**82.64**	**22**	P	**P**	**12 39 59.2**	**-1.5**
COLD	**Coldfoot**	**82.72**	**19**	P	**P**	**12 40 01.3**	**+0.2**
COLD				IAmb	IAmb	12 40 13.9	
	comp=Z,7.5nm,1.5s						
BALM	**Baldy**	**82.82**	**26**	P	**P**	**12 40 02.1**	**+0.2**
BALM				IAmb	IAmb	12 40 02.4	
	comp=Z,4.2nm,0.6s						
BARN	**Barnard Glacie**	**83.14**	**27**	P	**P**	**12 40 04.0**	**+0.4**
BARN				IAmb	IAmb	12 40 04.4	
	comp=Z,8.6nm,0.7s						
DOT	**Dot Lake**	**83.21**	**24**	P	**P**	**12 40 03.6**	**-0.1**
DOT				IAmb	IAmb	12 40 04.4	
	comp=Z,7.1nm,1.0s						
CTGM	**Chitina Glacie**	**83.25**	**27**	P	**P**	**12 40 04.4**	**+0.3**
PCA	**Pinnacle**	**83.40**	**28**	P	**P**	**12 40 05.4**	**+0.6**
TOLK	**Toolik Lake Re**	**83.68**	**18**	P	**P**	**12 40 06.0**	**0.0**
BCAR	**Beaver Creek A**	**83.90**	**25**	P	**P**	**12 40 07.9**	**+0.6**
FYU	**Fort Yukon**	**84.09**	**21**	P	**P**	**12 40 09.1**	**+0.9**
FYU				IAmb	IAmb	12 40 23.9	
	comp=Z,4.7nm,1.0s						
BMAR	**Burnt Mountain**	**84.72**	**20**	P	**P**	**12 40 11.8**	**+0.5**
EGAK	**Eagle**	**84.84**	**23**	P	**P**	**12 40 12.1**	**+0.1**
EGAK				IAmb	IAmb	12 40 13.0	
	comp=Z,4.3nm,0.9s						
HYT	**Haines Junctio**	**84.93**	**28**	P	**P**	**12 40 13.4**	**+0.7**
NVAR	**Mina Array Bea**	**92.61**	**52**	P	**P**	**12 40 49.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=286,slow=6.4,SNR=1.9						
GERES	**GERESS Array B**	**124.16**	**328**	PKP	**PKPdf**	**12 46 34.9**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=29,slow=3.0,SNR=5.3						
GERES	**GERESS Array B**	**124.16**	**328**	**PKPdf**	**12 46 35.4**	**-0.9**	
TORD	**Torodi Ar. Bea**	**150.05**	**287**	PKPbc	**PKPbc**	**12 47 26.9**	**-2.2**
	comp=Z,1.0nm,0.6s,baz=67,slow=2.1,SNR=7.3						
TORD	**Torodi Ar. Bea**	**150.05**	**287**	**PKPbc**	**12 47 27.1**	**-2.0**	

*NEIC **21** 12:35:57.0±1.5, 35.°94S±0.°07×178.°7E±0.°2, h10km±1km, Error ellipse: s-maj=25.5km s-min=12.7km az=93.0*
*WEL **21** 12:35:58.2, 36.°S±11.°×17.°8E±.°, h5km, M3.5/7, ML3.6/7, MLv3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=12.4*
*IDC **21** 12:36:00.7±3.3, 35.°97S×177.°85E, h0km, mb4.2/3, mb1 4.4/5, mb1mx3.9/39, mbtmp4.2/5, ML3.3/2, MS3.9/3, Ms1 3.9/3, ms1mx3.2/33, Error ellipse: s-maj=67.5km s-min=25.8km az=74.0*
ISC 21 12:36:00.0±2.8,**35.°99S**±0.°07×**178.°16E**±0.°07,**h13**km±16km, **n39**,σ1°**40**/48,**mb4.2**/7,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.58**	**176**	P	**Pn**	**12 36 26.7**	**-1.1**
MXZ				S	**Sn**	**12 36 48.1**	**+0.1**
MXZ	**Matakaoa Point**	**1.58**	**176**		**Pn**	**12 36 25.6**	**-2.1**
HAZ	**Te Kaha**	**1.79**	**190**	P	**Pn**	**12 36 29.6**	**-1.1**
HAZ				S	**Sb**	**12 36 54.5**	**-0.6**
WMGZ	**Waiomatatini S**	**1.84**	**174**	P	**Pn**	**12 36 31.2**	**-0.1**
WMGZ				S	**Sg**	**12 37 02.0**	**+2.7**
RUGZ	**Raukumara Rang**	**2.01**	**191**	P	**Pn**	**12 36 34.4**	**+0.5**
RUGZ				S	**Sb**	**12 37 00.9**	**-0.7**
KUZ	**Kuaotunu**	**2.11**	**248**	P	**Pn**	**12 36 35.1**	**+0.1**
KUZ				S	**Sb**	**12 37 03.7**	**-0.5**
GRZ	**Great Barrier**	**2.20**	**262**	P	**Pn**	**12 36 35.9**	**-0.4**
OPRZ	**Ohinepanea**	**2.26**	**214**	P	**Pb**	**12 36 40.0**	**-0.7**
TGRZ	**Tauranga**	**2.31**	**221**	P	**Pb**	**12 36 39.7**	**-1.9**
URZ	**Urewera**	**2.42**	**200**	Pn	**Pn**	**12 36 40.2**	**+0.9**
	8.2nm,0.3s,baz=275,slow=3.5,SNR=50						
URZ				Sn	**Sn**	**12 37 10.4**	**+1.6**
	25nm,0.3s,baz=99,slow=24,SNR=16						
URZ				LR	LR	12 37 52.6	
	comp=Z,508nm,19.6s,baz=222,slow=47						
URZ	**Urewera**	**2.42**	**200**	P	**Pn**	**12 36 40.1**	**+0.9**
URZ				S	**Sn**	**12 37 09.6**	**+0.8**
URZ	**Urewera**	**2.42**	**200**		**Pb**	**12 36 40.8**	**-2.6**
TKGZ	**Te Karaka**	**2.46**	**186**	P	**Pb**	**12 36 42.4**	**-1.7**
TKGZ				S	**Sb**	**12 37 13.1**	**-1.3**
CNGZ	**Carnagh Statio**	**2.49**	**179**	P	**Pb**	**12 36 42.4**	**-2.3**
KARZ	**Kaharoa**	**2.54**	**216**	P	**Pb**	**12 36 43.0**	**-2.6**
RTZ	**Ruatahuna**	**2.79**	**199**	P	**Pn**	**12 36 45.9**	**+1.4**
SNGZ	**Shannon Statio**	**2.87**	**193**	P	**Pb**	**12 36 49.2**	**-1.9**
SNGZ				S	**Sb**	**12 37 27.1**	**+1.0**
PRGZ	**Paritu Road**	**2.94**	**184**	P	**Pn**	**12 36 48.5**	**+2.0**
PRGZ				S	**Sb**	**12 37 27.5**	**-0.7**
BFZ	**Birch Farm**	**4.92**	**197**	Pn	**Pn**	**12 37 13.8**	**0.0**
TUWZ	**Tuamarina**	**6.36**	**210**	Pn	**Pn**	**12 37 33.6**	**+0.2**
THZ	**Tophouse**	**7.07**	**214**	Pn	**Pn**	**12 37 44.8**	**+1.4**
MQZ	**McQueen's Vall**	**8.79**	**207**	Pn	**Pn**	**12 38 06.4**	**-0.4**
RPZ	**Rata Peaks**	**9.45**	**213**	Pn	**Pn**	**12 38 17.2**	**+1.3**
	0.3nm,0.3s,baz=269,slow=8.5,SNR=2.7						
RPZ				Sn	**Sn**	**12 39 59.5**	**-2.5**
	0.5nm,0.3s,baz=239,slow=7.9,SNR=2.1						
RPZ	**Rata Peaks**	**9.45**	**213**	Pn	**Pn**	**12 38 16.1**	**+0.2**
AS31	**Alice Springs**	**39.99**	**275**	P	**P**	**12 43 35.8**	**+1.1**
ASAR	**Alice Springs**	**39.99**	**275**	P	**P**	**12 43 35.4**	**+0.7**
	4.4nm,0.8s,baz=118,slow=7.8,SNR=57						
ASAR	**Alice Springs**	**39.99**	**275**	P	**P**	**12 43 35.1**	**+0.4**
WR0	**Warramunga Arr**	**41.34**	**281**	P	**P**	**12 43 47.5**	**+1.7**
WR0				IAmb	IAmb	12 44 00.3	
	comp=Z,5.4nm,1.2s						
WB2	**Warramunga Arr**	**41.50**	**281**	P	**P**	**12 43 46.9**	**-0.2**
WB2				IAmb	IAmb	12 43 56.7	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**41.51**	**281**	P	**P**	**12 43 47.4**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=120,slow=7.7,SNR=19						
WRA	**Warramunga Arr**	**41.51**	**281**	P	**P**	**12 43 46.8**	**-0.3**
WB0	**Warramunga Arr**	**41.56**	**281**	P	**P**	**12 43 47.4**	**-0.2**
WB0				IAmb	IAmb	12 43 48.1	
	comp=Z,3.8nm,0.9s						
VNDA	**Vanda**	**42.24**	**185**	LR	LR	12 59 13.7	
	comp=Z,149nm,19.7s,baz=254,slow=33						
KNRA	**Kununurra**	**48.28**	**282**	P	**P**	**12 44 41.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**49.46**	**277**	P	**P**	**12 44 50.5**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=181,slow=7.4,SNR=5.1						
QSPA	**South Pole Qui**	**54.13**	**180**	P	**P**	**12 45 25.5**	**+0.8**
QSPA				IAmb	IAmb	12 45 41.1	
	comp=Z,6.3nm,1.3s						
USHA	**Ushuaia**	**73.10**	**146**	LR	LR	13 13 43.3	
	comp=Z,320nm,20.6s,baz=214,slow=31						
TORD	**Torodi Ar. Bea**	**157.04**	**189**	PKPab	**PKPab**	**12 56 28.7**	**+2.6**
	comp=Z,0.7nm,0.8s,baz=171,slow=6.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**157.04**	**189**	**PKPab**	**12 56 23.9**	**-2.2**

*BJI **21** 12:38:56.4±0.0, 18.°04N×145.°81E, h125km, mB5.0/11, mb4.7/15*
*NEIC **21** 12:38:57.1±1.3, 17.°91N±0.°07×146.°0E±0.°1, h128km±6km, mb4.8/177, Error ellipse: s-maj=14.6km s-min=10.5km az=99.0*
*UNK **21** 12:38:57.1, 17.°91N×145.°95E, h128km*
*IDC **21** 12:38:57.6±1.5, 17.°92N×145.°93E, h139km±13km, mb4.2/29, mb1 4.3/31, mb1mx4.0/56, mbtmp4.6/31, MS4.1/1, Ms1 4.1/1, ms1mx2.7/44, Error ellipse: s-maj=14.2km s-min=7.0km az=94.0*
ISC 21 12:38:57.4±0.3,**17.°95N**±0.°04×**145.°93E**±0.°07,**h135**km, **n330**,σ0°**89**/329,**mb4.8**/110,**1D,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.45**	**193**	P	**Pn**	**12 40 03.1**	**-0.1**
	24nm,0.3s,baz=309,slow=9.4,SNR=36						
GUMO				S	**Sn**	**12 40 53.3**	**-1.2**
	79nm,0.3s,baz=223,slow=23,SNR=7.8						
GUMO	**Guam**	**4.45**	**193**		**Pn**	**12 40 03.2**	**-0.1**
GUMO				Sn	**Sn**	**12 40 52.9**	**-1.6**
JCJ	**Chichijima**	**9.74**	**340**	S	**Sn**	**12 42 57.5**	**-4.3**
	8.7nm,0.3s,baz=24,slow=22,SNR=5.8						
PATS	**Pohnpei**	**16.36**	**131**	P	**Pn**	**12 42 38.8**	**-0.6**
PATS				IAmb	IAmb	12 42 44.9	
	comp=Z,95nm,1.0s						
INU	**Inuyama**	**19.06**	**337**	P	**P**	**12 43 09.0**	**-0.2**
JGF	**Kuroka**	**19.16**	**338**		**P**	**12 43 11.1**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**19.73**	**85**	T	T	13 04 22.5	
	baz=274,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**19.74**	**85**	T	T	13 04 18.6	
	baz=274,slow=75,SNR=27						
MJAR	**Matsushiro Arr**	**19.74**	**341**	P	**P**	**12 43 16.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=171,slow=10,SNR=16						
MJAR				S	**S**	**12 46 50.1**	**-1.7**
	baz=174,slow=15,SNR=4.9						
MJAR	**Matsushiro Arr**	**19.74**	**341**	P	**P**	**12 43 16.5**	**-0.1**
MAJO	**Matsushiro**	**19.74**	**341**	P	**P**	**12 43 16.5**	**-0.1**
MAT	**Matsushiro**	**19.74**	**341**	P	**P**	**12 43 14.8**	**-1.8**
MAT				S	**S**	**12 46 49.0**	**-2.8**
H11S2	**WAKE ISLAND Hy**	**19.74**	**85**	T	T	13 04 19.9	
	baz=274,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**19.92**	**82**	T	T	13 04 24.3	
	baz=267,slow=74,SNR=31						
H11N2	**WAKE ISLAND Hy**	**19.92**	**82**	T	T	13 04 24.8	
	baz=267,slow=74,SNR=30						
H11N3	**WAKE ISLAND Hy**	**19.93**	**82**	T	T	13 04 25.5	
	baz=267,slow=74,SNR=30						
JMM	**Marumori**	**20.35**	**348**	P	**P**	**12 43 24.3**	**+1.2**
JAY	**Jayapura**	**20.97**	**195**	P	**P**	**12 43 29.9**	**-0.1**
	comp=Z,24nm,0.8s,baz=348,slow=3.6,SNR=9.9						
JSD	**Sado**	**21.11**	**343**	P	**P**	**12 43 30.8**	**-0.5**
RABL	**Rabaul**	**22.84**	**164**	P	**P**	**12 43 48.9**	**-0.3**
RABL				IAmb	IAmb	12 43 55.5	
	comp=Z,37nm,0.9s						
JTM	**Tenmabayashi**	**23.14**	**351**	P	**P**	**12 43 51.6**	**-0.1**
SIJI	**Sorong**	**23.62**	**219**	P	**P**	**12 43 57.2**	**+0.9**
	comp=Z,50nm,0.6s,baz=27,slow=9.9,SNR=36						
YHNB	**Yeheng**	**23.82**	**291**	P	**P**	**12 43 59.5**	**+1.4**
YHNB				IAmb	IAmb	12 44 17.8	
	comp=Z,67nm,1.1s						
FAKI	**Fak Fak**	**24.73**	**214**	P	**P**	**12 44 06.8**	**+0.4**
FAKI				IAmb	IAmb	12 44 10.6	
	comp=Z,30nm,0.7s						
JEW	**Eniwo**	**25.11**	**352**	P	**P**	**12 44 10.0**	**+0.5**
JEW				IAmb	IAmb	12 44 25.6	
	comp=Z,53nm,1.1s						
JKA	**Kamikawa-asahi**	**26.24**	**355**	P	**P**	**12 44 20.9**	**+1.2**
JKA				IAmb	IAmb	12 44 39.9	
	comp=Z,33nm,1.4s						
ASAJ	**Asahikawa**	**26.24**	**355**	P	**P**	**12 44 20.4**	**+0.7**
	comp=Z,7.2nm,0.6s,baz=245,slow=8.7,SNR=5.0						
PMG	**Port Moresby**	**27.20**	**177**	P	**P**	**12 44 28.2**	**-0.5**
	comp=Z,9.0nm,0.8s,baz=225,slow=11,SNR=1.6						
PMG	**Port Moresby**	**27.20**	**177**	P	**P**	**12 44 28.2**	**-0.5**
PMG				IAmb	IAmb	12 44 42.3	
	comp=Z,15nm,0.8s						
NJ2	**Nanjing**	**28.18**	**305**	*eP*	**P**	**12 44 38.3**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**29.05**	**356**	P	**P**	**12 44 44.5**	**-0.1**
YSS				IAmb	IAmb	12 45 01.6	
	comp=Z,35nm,1.5s						
LUWI	**Luwuk**	**29.59**	**233**	P	**P**	**12 44 51.2**	**+1.3**
LUWI				IAmb	IAmb	12 45 02.4	
	comp=Z,35nm,0.9s						
COEN	**Coen**	**31.82**	**185**	P	**P**	**12 45 08.6**	**-0.9**
COEN				IAmb	IAmb	12 45 12.1	
	comp=Z,22nm,1.4s						
MTN	**Manton Dam**	**33.90**	**207**	P	**P**	**12 45 26.8**	**-0.7**
MTN				IAmb	IAmb	12 45 35.8	
	comp=Z,14nm,1.2s						
SOEI	**Soe**	**34.86**	**220**	P	**P**	**12 45 35.0**	**-1.0**
SOEI

comp=Z,4.8nm,0.6s,baz=186,slow=8.2,SNR=13
GTA Gaotai 45.18 308 *e*P P 12 47 07.0 +6.0
GTA pP pwP 12 47 36.3 +1.2
GTA sP sP 12 47 52.3 +7.1
GTA pmax pmax
comp=Z,2.0nm,1.0s
PMBI Palembang 45.55 247 P **P 12 47 03.7 -0.4**
ATKA Atka Island 46.29 33 P **P 12 47 09.4 +0.1**
ATKA IAmb IAmb 12 47 10.0
comp=Z,33nm,1.0s
PSA00 Pilbara Seismi 46.85 214 P **P 12 47 15.1 +1.1**
PSA00 IAmb IAmb 12 47 18.0
comp=Z,32nm,1.5s
ARMA Armidale 48.40 173 P **P 12 47 25.6 -0.3**
NIKH Nikolski High 49.50 34 P **P 12 47 33.7 -0.2**
STKA Stephens Creek 49.71 185 P **P 12 47 34.6 -1.1**
comp=Z,2.7nm,0.6s,baz=14,slow=8.0,SNR=13
STKA Stephens Creek 49.71 185 P **P 12 47 34.8 -1.0**
GSI Gunungsitoli 50.26 256 P **P 12 47 42.0 +1.7**
GSI IAmb IAmb 12 47 46.8
comp=Z,38nm,1.4s
SPIA Saint Paul Isl 50.88 29 P **P 12 47 45.5 +1.2**
UNV Unalaska Valle 51.15 34 P **P 12 47 45.8 -0.5**
UNV IAmb IAmb 12 47 47.9
comp=Z,13nm,0.7s
BBOO Buckleboo 51.34 191 P **P 12 47 47.7 -0.3**
BBOO IAmb IAmb 12 47 52.0
comp=Z,8.1nm,0.6s
AKUT Akutan 51.66 34 P **P 12 47 50.0 -0.1**
KIP Kipapa 52.66 76 P **P 12 47 58.4 +0.3**
GAMB Gambell 54.07 22 P **P 12 48 08.2 +0.6**
KHLU Kahalu`u 54.88 78 P **P 12 48 14.2 -0.1**
MORW Morawa 54.94 212 P **P 12 48 14.8 +0.4**
MORW IAmb IAmb 12 48 15.6
comp=Z,26nm,1.1s
SDPT Sand Point 54.96 34 P **P 12 48 14.2 -0.1**
WMQ Urumqi 54.97 311 *e*P **P 12 48 17.1 +2.5**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,59nm,4.3s
ANM Nome 56.80 23 P **P 12 48 28.3 +1.1**
NWAO Narrogin (SRO) 57.55 209 P **P 12 48 33.6 +0.8**
CHIR Chirikof Islan 57.73 35 P **P 12 48 34.5 +0.7**
SII Sitkinak Islan 58.70 34 P **P 12 48 41.4 +0.8**
ZALV Zalesovo Beam 58.74 323 P **P 12 48 40.9 0.0**
comp=Z,2.1nm,0.6s,baz=96,slow=6.7,SNR=6.8
ZALV Zalesovo Beam 58.74 323 P **P 12 48 42.0 +1.0**
MKAR Makanchi Array 59.14 314 P **P 12 48 44.0 +0.1**
comp=Z,0.7nm,0.5s,baz=90,slow=8.3,SNR=9.1
MKAR Makanchi Array 59.14 314 P **P 12 48 46.0 +2.1**
OHAK Old Harbor 59.35 33 P **P 12 48 45.5 +0.5**
SVW2 Sparrevohn 59.38 29 P **P 12 48 46.3 +1.1**
SVW2 IAmb IAmb 12 48 47.0
comp=Z,12nm,0.7s
TTA Tatalina 59.82 27 P **P 12 48 48.9 +0.6**
TTA IAmb IAmb 12 48 49.6
comp=Z,9.7nm,0.7s
KDAK Kodiak Island 59.86 33 P **P 12 48 48.8 +0.3**
comp=Z,20nm,0.6s,baz=246,slow=4.8,SNR=31
KDAK Kodiak Island 59.86 33 P **P 12 48 49.0 +0.4**
RSO Redoubt South 60.50 30 P **P 12 48 53.1 0.0**
HOM Homer 60.82 31 P **P 12 48 55.1 +0.1**
baz=255
CNPM China Poot 60.99 31 P **P 12 48 56.1 -0.1**
BRLK Bradley Lake 61.22 31 P **P 12 48 57.2 -0.6**
PPLA Purkeypile 61.46 27 P **P 12 49 00.2 +0.7**
PPLA IAmb IAmb 12 49 02.0
comp=Z,14nm,0.8s
SKT Skwentna 61.49 28 P **P 12 48 59.4 -0.2**
SUA Susitna One 61.71 29 P **P 12 49 02.7 +1.5**
IMAR Indian Mountai 61.81 24 P **P 12 49 02.3 +0.6**
O22K Cooper Landing 61.95 30 P **P 12 49 02.6 0.0**
baz=256
KURK Kurchatov 61.98 318 P **P 12 49 02.0 -1.0**
SEW Seward 62.00 31 P **P 12 49 03.1 +0.2**
KURBB Kurchatov Arra 62.02 318 P **P 12 49 02.5 -0.8**
comp=Z,3.0nm,0.5s,baz=91,slow=7.5,SNR=5.6
CUT Chulitna 62.18 28 P **P 12 49 03.8 -0.3**
baz=255
KTH Kantishna Hill 62.20 27 P **P 12 49 04.9 +0.5**
BPAW Bear Paw Mtn. 62.33 26 P **P 12 49 05.8 +0.6**
NRIK Noril'sk 62.39 340 P **P 12 49 05.2 -0.2**
comp=Z,3.9nm,0.6s,baz=94,slow=9.7,SNR=4.8
TRF Thorofare Moun 62.45 27 P **P 12 49 05.9 -0.2**
PMR Palmer 62.50 29 P **P 12 49 06.0 -0.2**
PMR IAmb IAmb 12 49 06.6
comp=Z,26nm,1.1s
GHO Glory Hole Cre 62.63 29 P **P 12 49 07.3 +0.1**
KNK Knik Glacier 62.77 30 P **P 12 49 08.6 +0.5**
SML Sawmill 62.92 29 P **P 12 49 09.3 +0.2**
BWN Browne 62.99 26 P **P 12 49 09.6 +0.1**
RND Reindeer 63.06 27 P **P 12 49 09.7 -0.3**
RND IAmb IAmb 12 49 11.0
comp=Z,14nm,0.7s
MCK McKinley 63.10 27 P **P 12 49 11.5 +1.3**
MCK IAmb IAmb 12 49 12.0
comp=Z,6.4nm,0.8s
URZ Urewera 63.11 153 P **P 12 49 10.5 0.0**
comp=Z,2.8nm,0.4s,baz=325,slow=12,SNR=1.5
URZ Urewera 63.11 153 P **P 12 49 11.1 +0.5**
URZ IAmb IAmb 12 49 26.6
comp=Z,12nm,0.8s
NEA2 Nenana 63.27 26 P **P 12 49 11.2 -0.1**
baz=255,SNR=8.6
GLI Glacier Island 63.30 30 P **P 12 49 11.9 +0.3**
SCM Sheep Creek Mo 63.39 29 P **P 12 49 12.8 +0.6**
HIN Hinchinbrook I 63.50 31 P **P 12 49 13.7 +0.7**
COLD Coldfoot 63.56 23 P **P 12 49 13.5 +0.4**
baz=253
COLD Coldfoot 63.56 23 P **P 12 49 14.0 +0.9**
COLD IAmb IAmb 12 49 14.8
comp=Z,7.6nm,0.7s
FID Port Fidalgo 63.58 30 P **P 12 49 13.7 +0.2**
DHY Denali Highway 63.63 28 P **P 12 49 14.0 +0.1**
DHY IAmb IAmb 12 49 16.3
comp=Z,6.2nm,0.7s
WRH Wood River Hil 63.65 26 P **P 12 49 13.4 -0.4**
WRH IAmb IAmb 12 49 14.0
comp=Z,9.3nm,0.7s
CCB Clear Creek Bu 63.81 26 P **P 12 49 14.1 -0.7**
TCOL CIGO, UAF Yank 63.84 26 P **P 12 49 14.8 -0.2**
baz=256
COLA College 63.84 26 P **P 12 49 15.6 +0.5**
COLA IAmb IAmb 12 49 17.6
comp=Z,6.9nm,0.8s
EYAK Cordova Ski Ar 63.89 31 P **P 12 49 16.2 +0.7**
M24K Tolsona, Glenn 63.98 29 P **P 12 49 16.9 +0.9**
baz=259
M24K Tolsona, Glenn 63.98 29 P **P 12 49 16.7 +0.6**
M24K IAmb IAmb 12 49 24.5
comp=Z,14nm,0.8s
HDA Harding Lake 64.11 26 P **P 12 49 15.8 -1.0**
baz=257,SNR=11
NNZ Nelson 64.13 157 P **P 12 49 16.6 -0.6**
TOLK Toolik Lake Re 64.21 22 P **P 12 49 18.4 +0.9**
baz=253
IL31 64.22 26 P **P 12 49 16.5 -1.0**
IL31 IAmb IAmb 12 49 17.3
comp=Z,10.0nm,0.9s
ILAR Eielson Array 64.22 26 P **P 12 49 16.3 -1.3**
comp=Z,6.5nm,0.6s,baz=252,slow=5.7,SNR=82
ILAR Eielson Array 64.22 26 P **P 12 49 17.7 +0.1**
RAGM Ragged Mountai 64.39 31 P **P 12 49 19.6 +0.8**
RAGM IAmb IAmb 12 49 20.4
comp=Z,22nm,1.2s
KAIM Kayak Island 64.45 32 P **P 12 49 20.5 +1.4**
PAX Paxson 64.46 28 P **P 12 49 19.7 +0.4**
HMT Hamilton 64.59 31 P **P 12 49 20.8 +0.7**
HMT IAmb IAmb 12 49 21.5
comp=Z,27nm,1.2s
SUCK Suckling Hills 64.79 31 P **P 12 49 22.2 +0.9**
RIDG Independent Ri 64.88 27 P **P 12 49 22.0 0.0**
RIDG IAmb IAmb 12 49 22.8
comp=Z,17nm,0.8s
GLB Gilahina Butte 64.97 30 P **P 12 49 23.2 +0.7**
GLB IAmb IAmb 12 49 24.5
comp=Z,16nm,0.8s
SCRK Sand Creek 65.30 27 P **P 12 49 24.6 -0.1**
baz=260,SNR=14
TGL Tana Glacier 65.35 31 P **P 12 49 25.6 +0.6**
TGL IAmb IAmb 12 49 26.4
comp=Z,8.9nm,0.6s
RPZ Rata Peaks 65.54 160 P **P 12 49 24.8 -1.5**
comp=Z,9.7nm,0.8s,baz=72,slow=22,SNR=1.5
RPZ Rata Peaks 65.54 160 P **P 12 49 24.7 -1.6**
ISLE Juniper Island 65.57 31 P **P 12 49 27.1 +0.5**
ISLE IAmb IAmb 12 49 27.3
comp=Z,14nm,0.6s
BALM Baldy 65.62 30 P **P 12 49 27.4 +0.5**
BALM IAmb IAmb 12 49 27.9
comp=Z,15nm,0.7s
MESA MESA 65.71 31 P **P 12 49 28.7 +1.2**
BMAR Burnt Mountain 65.72 23 P **P 12 49 28.5 +1.2**
YAH Yahtse 65.83 31 P **P 12 49 29.4 +1.0**
YAH IAmb IAmb 12 49 30.1
comp=Z,15nm,0.8s
BARN Barnard Glacie 65.95 31 P **P 12 49 29.8 +0.8**
BARN IAmb IAmb 12 49 30.4
comp=Z,10nm,0.7s
CTGM Chitina Glacie 66.10 31 P **P 12 49 30.7 +0.8**
BCAR Beaver Creek A 66.14 28 P **P 12 49 30.4 +0.4**
K27K Chicken 66.14 27 P **P 12 49 30.7 +0.7**
baz=262,SNR=6.5
EGAK Eagle 66.64 26 P **P 12 49 33.2 +0.1**
KKAR Karatay Array 67.42 310 P **P 12 49 37.5 -0.9**
HYT Haines Junctio 67.95 31 P **P 12 49 42.8 +1.2**
EPYK Eagle Plains 68.64 25 P **P 12 49 45.9 +0.3**
baz=266
EPYK Eagle Plains 68.64 25 P **P 12 49 46.0 +0.4**
EPYK IAmb IAmb 12 49 46.3
comp=Z,7.7nm,0.7s
JIS Juneau Island 69.51 34 P **P 12 49 52.0 +0.9**
JIS IAmb IAmb 12 49 52.8
comp=Z,11nm,0.9s
INK Inuvik 69.97 23 P **P 12 49 53.5 -0.2**
comp=Z,8.6nm,0.7s,baz=270,slow=33,SNR=24
INK Inuvik 69.97 23 P **P 12 49 53.7 -0.1**
INK IAmb IAmb 12 49 54.3
comp=Z,9.7nm,0.8s
DLBC Dease Lake 71.79 33 P **P 12 50 06.1 +1.0**
DLBC IAmb IAmb 12 50 07.1
comp=Z,13nm,0.9s
C36M Paulatuk 73.36 22 P **P 12 50 13.9 -0.1**
C36M IAmb IAmb 12 50 14.4
comp=Z,30nm,1.1s
ABKAR Akbulak array 74.04 317 P **P 12 50 16.6 -1.8**
PGC Sidney 77.15 43 P **P 12 50 37.2 +1.1**
PGC IAmb IAmb 12 50 37.8
comp=Z,12nm,0.9s
A04D Lummi Island 77.61 43 P **P 12 50 39.5 +0.9**
baz=283
D03D Eldon 77.63 44 P **P 12 50 40.1 +1.3**
baz=283
G03D McMinnville, O 78.04 46 P **P 12 50 41.6 +0.5**
baz=283
J01E Myrtle Point 78.05 48 P **P 12 50 42.6 +1.3**
baz=283
B05A Bryant 78.11 43 P **P 12 50 42.5 +1.1**
baz=284
E04D Cinebar 78.20 45 P **P 12 50 43.4 +1.4**
baz=284
I03D Drain, OR 78.34 48 P **P 12 50 44.0 +1.2**
baz=284
K02D Willamette Mer 78.35 49 P **P 12 50 44.0 +1.0**
baz=284
D05A Enumclaw 78.44 44 P **P 12 50 44.6 +1.3**
D05A IAmb IAmb 12 50 45.4
comp=Z,19nm,0.8s
F04A Amboy 78.45 45 P **P 12 50 44.9 +1.5**
F04A IAmb IAmb 12 50 45.5
comp=Z,27nm,1.2s
L02E Cave Junction 78.52 49 P **P 12 50 44.5 +0.7**
baz=284
YKA Yellowknife Ar 78.55 28 P **P 12 50 43.2 -0.4**
comp=Z,5.8nm,0.6s,baz=290,slow=5.3,SNR=17
LON Longmire 78.66 44 P **P 12 50 45.0 +0.3**
I04A Tendick Farm, 78.97 48 P **P 12 50 46.7 +0.4**
baz=284
F05D White Salmon 79.11 45 P **P 12 50 47.8 +0.8**
baz=284
M02C Callahan 79.25 50 P **P 12 50 49.2 +1.3**
baz=284
YBH Yreka Blue Hor 79.27 50 P **P 12 50 49.2 +1.1**
J04D Umpqua Nationa 79.32 48 P **P 12 50 49.5 +1.0**
baz=284
G05D Wamic, OR 79.37 46 P **P 12 50 49.0 +0.5**
baz=285
L04D Klamath Falls 79.44 49 P **P 12 50 49.7 +0.7**
baz=285
N02D Trinity Center 79.46 50 P **P 12 50 49.5 +0.4**
baz=284
O02D Mt. Diablo Mer 79.60 51 P **P 12 50 50.9 +1.0**
baz=285
WDC Whiskeytown Da 79.68 51 P **P 12 50 51.0 +0.8**
HOPS Hopland Field 79.69 52 P **P 12 50 51.1 +0.8**
HOPS IAmb IAmb 12 50 52.5
comp=Z,26nm,1.4s
K04D Chiloquin, OR 79.73 49 P **P 12 50 51.3 +0.6**
baz=285
B08A Colville Reser 79.88 42 P **P 12 50 51.7 +0.6**
B08A IAmb IAmb 12 50 52.0
comp=Z,13nm,0.5s
M04C Macdoel 79.89 49 P **P 12 50 52.3 +0.8**
baz=285
J05D Fort Rock, OR 79.93 48 P **P 12 50 52.7 +1.0**
baz=285
E07A Sunnyside 80.02 44 P **P 12 50 53.1 +1.2**
E07A IAmb IAmb 12 50 53.6
comp=Z,18nm,1.3s
HAWA Hanford 80.27 44 P **P 12 50 54.2 +0.9**
O03E Paynes Creek 80.30 51 P **P 12 50 53.7 0.0**
baz=285
K05A Summer Lake 80.32 48 P **P 12 50 55.0 +1.1**
K05A IAmb IAmb 12 50 55.7
comp=Z,20nm,0.9s
D08A Wollman Farm, 80.50 44 P **P 12 50 55.1 +0.7**
D08A IAmb IAmb 12 50 55.9
comp=Z,14nm,1.2s
E08A Dider Farm, El 80.56 44 P **P 12 50 55.7 +0.9**
I07A Izee 80.92 47 P **P 12 50 57.7 +0.8**
AFDM Forest Hills D 81.28 52 P **P 12 50 59.4 +0.6**
NEW Newport 81.32 42 P **P 12 50 59.0 +0.1**
baz=287
NEW Newport 81.32 42 P **P 12 50 59.4 +0.5**
J08A Circle Bar Ran 81.85 47 P **P 12 51 03.0 +1.1**
CMB Columbia Colle 81.97 53 P **P 12 51 03.4 +0.9**
BMO Blue Mountains 82.21 45 P **P 12 51 04.1 +0.4**
PAHR Pah Rah Range 82.25 51 P **P 12 51 04.6 +0.6**
PNTR Pine Nut 82.27 52 P **P 12 51 05.1 +0.9**
PNTR IAmb IAmb 12 51 05.9
comp=Z,15nm,0.9s
WAKR Walker 82.56 52 P **P 12 51 06.7 +1.0**
YERR Yerington 82.56 52 P **P 12 51 06.7 +0.9**
YERR IAmb IAmb 12 51 07.2
comp=Z,21nm,1.3s
PAGB Antelope Grade 82.73 55 P **P 12 51 07.4 +0.9**
PAGB IAmb IAmb 12 51 08.2
comp=Z,14nm,1.0s
SMMC Simmler 83.05 55 P **P 12 51 09.1 +1.0**
baz=287
WALA Waterton Lakes 83.09 41 P **P 12 51 09.5 +1.3**
OMMB Old Mammoth Mi 83.14 53 P **P 12 51 09.8 +0.9**
RYN Ryan 83.20 52 P **P 12 51 09.7 +0.7**
RYN IAmb IAmb 12 51 10.6
comp=Z,14nm,1.2s
MLAC Mammoth, Mammo 83.27 53 P **P 12 51 10.4 +1.0**
baz=287
PKM Mcpherson Peak 83.32 56 P **P 12 51 10.6 +0.9**
baz=287,SNR=7.3
LHV Little Huntoon 83.33 52 P **P 12 51 10.6 +1.2**
LHV IAmb IAmb 12 51 11.6
comp=Z,18nm,1.4s
KVN Kaiserville 83.39 51 P **P 12 51 10.6 +0.6**
KVN IAmb IAmb 12 51 11.2
comp=Z,31nm,1.4s
NVAR Mina Array Bea 83.43 52 P **P 12 51 10.7 +0.4**
comp=Z,5.7nm,0.4s,baz=269,slow=6.1,SNR=111
NVAR Mina Array Bea 83.43 52 P **P 12 51 11.0 +0.8**
NV11 Mina Array Sit 83.54 52 P **P 12 51 11.2 +0.5**
NV11 IAmb IAmb 12 51 12.1
comp=Z,16nm,1.4s
VES Vestal, Richgr 83.61 55 P **P 12 51 10.7 -0.2**
baz=287
MFID Camas Ranch 83.67 47 P **P 12 51 11.5 +0.3**
MFID IAmb IAmb 12 51 12.6
comp=Z,9.6nm,0.9s
ARVC Arvin 84.02 55 P **P 12 51 13.3 +0.2**
baz=288
ISA Isabella, Lake 84.14 55 P **P 12 51 13.4 -0.3**
baz=288
GRAC Grapevine Rang 84.57 53 P **P 12 51 16.4 +0.5**
baz=288,SNR=5.6
HLID Hailey 84.59 46 P **P 12 51 16.4 +0.4**
baz=290,SNR=7.9
DECC Green Verdugo 84.67 56 P **P 12 51 16.7 +0.3**
baz=288
EDW2 Edwards Air Fo 84.75 55 P **P 12 51 16.8 0.0**
baz=288,SNR=5.2
MPMC Manual Prospec 84.77 54 P **P 12 51 17.1 0.0**
baz=288,SNR=12
LRMC Laurel Mtn Rad 84.81 55 P **P 12 51 17.4 +0.2**
baz=288,SNR=12
CIS Catalina Islan 84.87 57 P **P 12 51 17.6 +0.2**
baz=288
FURC Furnace Creek, 85.12 53 P **P 12 51 19.0 +0.4**
baz=289,SNR=8.2
DLMT Dillon 85.20 44 P **P 12 51 19.5 +0.5**
HRY Holter Researc 85.22 42 P **P 12 51 19.6 +0.7**
MCMT McKenzie Canyo 85.22 44 P **P 12 51 20.0 +0.8**
TPNV Topopah Spring 85.44 53 P **P 12 51 20.6 +0.3**
baz=289,SNR=8.6
R11A Troy Canyon, C 85.48 51 P **P 12 51 20.9 +0.4**
baz=289,SNR=12
GSC Goldstone, Bar 85.54 54 P **P 12 51 21.0 +0.2**
baz=289
BOZ Bozeman (W) 85.75 43 P **P 12 51 21.9 +0.2**
baz=291,SNR=11
SHOC Shoshone, Teco 85.76 54 P **P 12 51 21.9 +0.1**
baz=289
MURC Murrieta 85.78 56 P **P 12 51 22.3 +0.4**
baz=289
EGMT Eagleton 86.04 41 P **P 12 51 23.0 0.0**
baz=292
EGMT Eagleton 86.04 41 P **P 12 51 23.3 +0.3**
109C Camp Elliot, M 86.08 57 P **P 12 51 23.8 +0.5**
baz=289
109C Camp Elliot, M 86.08 57 P **P 12 51 24.1 +0.7**
109C IAmb IAmb 12 51 24.3
comp=Z,11nm,0.6s
TUQ Turquoise Moun 86.18 54 P **P 12 51 24.4 +0.4**
baz=289,SNR=7.4
YHL Hebgen Lake 86.32 44 P **P 12 51 25.7 +1.0**
YHB Horse Butte 86.34 44 P **P 12 51 25.8 +1.0**
PFO Pinyon Flats O 86.36 56 P **P 12 51 24.9 +0.1**
baz=289
PFO Pinyon Flats O 86.36 56 P **P 12 51 25.2 +0.4**
TPFO Pinon Flats 86.36 56 P **P 12 51 24.9 0.0**
baz=289
BGU Big Grassy Mou 86.46 48 P **P 12 51 26.0 +0.7**
YHH Holmes Hill 86.56 44 P **P 12 51 27.4 +1.5**
BELC Belle Mtn. Jos 86.59 55 P **P 12 51 26.0 -0.1**
baz=289
GMRC Granite Mounta 86.60 55 P **P 12 51 26.2 +0.2**
baz=289
MONP2 Monument Peak 86.62 57 P **P 12 51 26.6 +0.3**
baz=289
PSUT Pine Spring 86.70 51 P **P 12 51 27.0 +0.5**
FXWY Fox Creek 86.87 45 P **P 12 51 28.2 +0.9**
DUG Dugway, Tooele 86.87 49 P **P 12 51 27.6 +0.3**
baz=291,SNR=15
DUG Dugway, Tooele 86.87 49 P **P 12 51 28.0 +0.7**
DUG IAmb IAmb 12 51 28.5
comp=Z,11nm,0.7s
H17A Grant Village 86.89 44 P **P 12 51 30.2 +2.8**
baz=292,SNR=5.3
FLWY Flagg Ranch 86.92 45 P **P 12 51 29.2 +1.6**
FLWY IAmb IAmb 12 51 29.5
comp=Z,14nm,0.8s
IKP In-Ko-Pah, Jac 86.95 57 P **P 12 51 28.1 +0.4**
baz=289
TPAW Teton Pass 86.97 45 P **P 12 51 27.9 +0.1**
TPAW IAmb IAmb 12 51 30.3
comp=Z,5.5nm,0.7s
YMP Mirror Lake Pl 87.03 44 P **P 12 51 30.0 +1.8**
REDW Red Top Meadow 87.09 45 P **P 12 51 28.7 +0.4**
BC3 Big Chuckawall 87.13 56 P **P 12 51 28.8 +0.2**
baz=290,SNR=5.5
AHID Auburn Hatcher 87.14 46 P **P 12 51 29.2 +0.6**
AHID IAmb IAmb 12 51 29.8
comp=Z,7.7nm,0.7s
LOHW Long Hollow 87.16 45 P **P 12 51 29.5 +0.7**
IRM Iron Mountain 87.21 55 P **P 12 51 29.0 +0.1**
baz=290
CCUT Cedar City 87.40 51 P **P 12 51 30.9 +0.9**
RLMT Red Lodge 87.47 43 P **P 12 51 31.1 +1.0**
baz=293
FINES FINESS Array B 87.66 335 P **P 12 51 28.0 -2.4**
comp=Z,1.0nm,0.3s,baz=62,slow=4.9,SNR=15
FINES FINESS Array B 87.66 335 P **P 12 51 27.8 -2.6**
LCMT Little Creek M 87.68 52 P **P 12 51 32.3 +1.1**
GLA Glamis 87.83 56 P **P 12 51 32.6 +0.8**
baz=290
KNB Kanab 88.00 52 P **P 12 51 33.9 +1.1**
BW06 Boulder Array 88.19 46 P **P 12 51 33.4 -0.2**
baz=293
PDAR Pinedale Array 88.19 46 P **P 12 51 33.5 -0.2**
comp=Z,1.3nm,0.7s,baz=232,slow=1.6,SNR=9.8
PDAR Pinedale Array 88.19 46 P **P 12 51 33.6 0.0**
LAO LASA Array 88.78 41 P **P 12 51 36.4 +0.3**
baz=295
Y14A Wickenburg 88.95 55 P **P 12 51 37.9 +0.7**
Y14A IAmb IAmb 12 51 38.5
comp=Z,9.4nm,0.7s
RDMU Red Mountain 89.03 48 P **P 12 51 37.9 +0.3**
WUAZ Wupatki 89.63 53 P **P 12 51 41.4 +0.9**
baz=292
WUAZ Wupatki 89.63 53 P **P 12 51 41.4 +0.9**
WUAZ IAmb IAmb 12 51 42.2
comp=Z,7.6nm,0.8s
214A Organ Pipe Nat 89.81 56 P **P 12 51 41.3 +0.1**
baz=291
O20A White River Ci 90.14 48 P **P 12 51 42.9 +0.2**
baz=294
PV16 Nyswonger Mesa 90.38 49 P **P 12 51 44.1 +0.1**
PV01 Paradox Valley 90.70 49 P **P 12 51 45.6 +0.1**
PV01 IAmb IAmb 12 51 46.3
comp=Z,8.8nm,0.7s
MVCO Mesa Verde 91.12 50 P **P 12 51 47.4 -0.1**
baz=294
MVCO Mesa Verde 91.12 50 P **P 12 51 47.4 -0.1**
MVCO IAmb IAmb 12 51 48.8
comp=Z,7.3nm,1.3s
TUC Tucson 91.28 56 P **P 12 51 48.4 +0.3**
baz=292
RSSD Black Hills 91.28 43 P **P 12 51 47.7 -0.3**
baz=297
RSSD Black Hills 91.28 43 P **P 12 51 47.8 -0.3**
RSSD IAmb IAmb 12 51 48.6
comp=Z,12nm,1.5s
N23A Red Feather La 91.42 46 P **P 12 51 49.9 +1.1**
baz=295
N23A Red Feather La 91.42 46 P **P 12 51 49.4 +0.6**
N23A IAmb IAmb 12 51 50.7
comp=Z,13nm,1.0s
ISCO Idaho Springs 92.11 47 P **P 12 51 52.9 +0.8**
baz=295
ISCO Idaho Springs 92.11 47 P **P 12 51 52.4 +0.3**
S22A 4UR Ranch, Cre 92.12 49 P **P 12 51 52.9 +0.8**
baz=295
S22A 4UR Ranch, Cre 92.12 49 P **P 12 51 53.2 +1.0**
S22A IAmb IAmb 12 51 54.0
comp=Z,7.2nm,0.9s
HSIG 92.38 59 P **P 12 51 54.5 +1.4**
HSIG IAmb IAmb 12 51 54.8
comp=Z,4.0nm,0.8s
Q24A Divide 92.80 48 P **P 12 51 55.7 +0.4**
baz=296
SDCO Great Sand Dun 93.07 49 P **P 12 51 56.6 +0.1**
baz=295
SDCO Great Sand Dun 93.07 49 P **P 12 51 56.6 +0.1**
SDCO IAmb IAmb 12 51 57.6
comp=Z,4.6nm,0.9s
LENM Lemitar 93.49 53 P **P 12 51 59.9 +1.5**
ANMO Albuquerque 93.55 52 P **P 12 51 59.3 +0.6**
baz=295
ANMO Albuquerque 93.55 52 P **P 12 51 59.7 +1.0**
T25A Trinidad 94.12 49 P **P 12 52 02.6 +1.4**
baz=296
MNTX Cornudas Mount 95.73 54 P **P 12 52 08.2 -0.3**
baz=295
TXAR Lajitas Array 98.08 56 P **P 12 52 18.8 -0.4**
comp=Z,0.3nm,0.7s,baz=272,slow=3.0,SNR=4.0
TXAR Lajitas Array 98.08 56 P **P 12 52 19.1 -0.1**
LPAZ La Paz 147.43 92 PKPbc **PKPbc 12 58 26.0 -1.0**
comp=Z,2.3nm,0.6s,baz=358,slow=0.9,SNR=7.2

LPAZ	**La Paz**	**147.43 92**		**PKPdf**	**12 58 25.7 +1.3**

*TEH **21** 12:53:35.4,32°.74N×47°.61E,h8km,ML3.2*
*ISN **21** 12:53:35.6±1.2,32°.74N×47°.61E,h15km±6km,ML3.1*
ISC 21 12:53:36.9±0.9,32°.73N±0°.05×47°.55E±0°.03,h10km,n22,
σ1°.04/27,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**258**	*e*Pg	**Pg**	**12 53 40.8**	**-0.9**
DHL1				*e*Sg	**Sg**	**12 53 45.6**	**+0.7**
IKFM	**Kafar-mosalman**	**0.83**	**17**	*e*Pg	**Pg**	**12 53 51.1**	**-1.8**
IKMR	**Kamar-syah**	**1.05**	**41**	*e*Pg	**Pg**	**12 53 55.0**	**-2.1**
IDOB	**Doab**	**1.18**	**26**	*e*Pg	**Pb**	**12 53 58.8**	**-0.7**
IBDR	**Badra**	**1.41**	**286**	*e*Pg	**Pn**	**12 54 02.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**12 54 22.5**	**+1.1**
IBDR				AML	AML	12 54 28.5	
	comp=E,240nm,0.3s						
IBDR				AML	AML	12 54 29.4	
	comp=N,183nm,0.5s						
BMDN	**Meydan**	**1.42**	**48**	*e*		12 54 27.1	
BMDN				*e*Pg	**Pb**	**12 54 03.4**	**-0.2**
IKOM	**Komasi**	**1.44**	**359**	*e*		12 54 05.3	
IKOM				*e*Pg	**Pn**	**12 54 03.7**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.60**	**345**	*e*		12 54 33.8	
KCHF				*e*Pg	**Pn**	**12 54 05.8**	**+0.4**
KER	**Kermanshah**	**1.69**	**348**	*e*Pg	**Pb**	**12 54 08.6**	**+0.5**
HSAM	**Samen**	**1.72**	**30**	*e*		12 54 36.5	
HSAM				*e*Pg	**Pb**	**12 54 08.5**	**-0.2**
IGHG	**Ghaleghazi**	**1.79**	**333**	*e*		12 54 47.5	
IGHG				*e*Pn	**Pb**	**12 54 09.9**	**-0.1**
IVIS	**Veis**	**1.88**	**342**	*e*Pn	**Pb**	**12 54 11.4**	**0.0**
IVIS				*e*		12 54 41.4	
NSR	**Nassriya**	**2.09**	**215**	*e*Pn	**Pn**	**12 54 12.0**	**0.0**
NSR				*e*Sn	**Sn**	**12 54 38.0**	**-0.1**
NSR				AML	AML	12 54 46.1	
	comp=E,467nm,0.4s						
HAGD	**Aghdareh**	**2.47**	**32**	*e*Pn	**Pn**	**12 54 19.6**	**+2.2**
HAGD				*e*		12 55 05.1	
HSRG	**Sareghieh**	**2.58**	**13**	*e*Pn	**Pn**	**12 54 20.8**	**+1.9**
HSRG				*e*		12 55 05.6	
JHBN	**Jahan bin**	**2.68**	**100**	*e*Pn	**Pn**	**12 54 21.4**	**+1.0**
JHBN				*e*		12 55 08.5	
BHD	**Baghdad**	**2.72**	**282**	*e*Pn	**Pn**	**12 54 21.0**	**+0.4**
BHD				*e*Sn	**Sn**	**12 54 54.0**	**+0.5**
IPIR	**Pirpir**	**2.82**	**90**	*e*Pn	**Pn**	**12 54 23.0**	**+0.7**
IPIR				*e*		12 55 13.9	
ROKH	**ROKH**	**2.97**	**96**	*e*Pn	**Pn**	**12 54 25.4**	**+1.1**
IRAZ	**Razeghan**	**3.32**	**36**	*e*Pn	**Pn**	**12 54 30.5**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.41**	**29**	*e*Pn	**Pn**	**12 54 31.1**	**+0.7**
MSL	**Mosul**	**5.18**	**316**	*e*Pn	**Pn**	**12 54 55.0**	**+0.6**
MSL				*e*Sn	**Sn**	**12 55 54.0**	**-0.2**

*NEIC **21** 12:58:22.8±1.8,36°.76N±0°.09×3°.19E±0°.07,h10km±2km, ML3.6(ALG),Error ellipse: s-maj=15.5km s-min=9.6km az=173.0*
*MDD **21** 12:58:25.2±0.5,36°.82N×3°.17E,h19km±6km,mb3.9/30, Error ellipse: s-maj=10.7km s-min=4.9km az=164.0, PRXIMO*
*CRAAG **21** 12:58:25.1,36°.83N×3°.20E,Ml2.7*
*LDG **21** 12:58:26.7±0.2,36°.80N×3°.25E,h25km,Ml3.0/26,Error ellipse: s-maj=4.6km s-min=2.4km az=143.0*
ISC 21 12:58:23.5±0.8,37°.05N±0°.05×3°.17E±0°.04,h12km,n146,
σ2°.40/267,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.27**	**204**	P	**Pg**	**12 58 28.8**	**-0.3**
ABA	**Alger-Bouzarea**	**0.27**	**204**	P	**Pg**	**12 58 28.8**	**-0.3**
ABMS	**Boumerdes**	**0.39**	**140**	P	**Pg**	**12 58 31.0**	**-0.2**
ABMS	**Boumerdes**	**0.39**	**140**	P	**Pg**	**12 58 31.0**	**-0.2**
EIBI	**Ibiza**	**2.45**	**324**	P	**Pn**	**12 59 06.1**	**+2.8**
	20nm,0.1s,SNR=20						
EIBI				S	**Sn**	**12 59 33.6**	**+0.4**
	13nm,0.2s,SNR=4.9						
EIBI	**Ibiza**	**2.45**	**324**		**Pn**	**12 59 06.1**	**+2.8**
EIBI					**Sn**	**12 59 33.6**	**+0.4**
ETOS	**Mallorca**	**2.73**	**354**	P	**Pn**	**12 59 09.6**	**+2.4**
	5.3nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**12 59 39.2**	**-0.9**
	SNR=7.9						
EBEN2	**Beniarda presa**	**3.12**	**302**	P	**Pn**	**12 59 14.1**	**+1.5**
	3.2nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**12 59 47.9**	**-1.9**
	1.9nm,0.1s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.12**	**302**		**Pn**	**12 59 14.4**	**+1.9**
EBEN2					**Sn**	**12 59 47.9**	**-1.9**
AFON	**Font Roja**	**3.35**	**300**	P	**Pn**	**12 59 16.7**	**+0.8**
	1.2nm,0.1s,SNR=7.9						
AFON				S	**Sn**	**12 59 55.2**	**-0.5**
	0.9nm,0.1s,SNR=7.9						
AFON	**Font Roja**	**3.35**	**300**		**Pn**	**12 59 17.7**	**+1.8**
AFON					**Sn**	**12 59 55.4**	**-0.3**
CART	**Cartagena**	**3.37**	**280**	P	**Pn**	**12 59 15.5**	**-0.5**
CART				S	**Sn**	**12 59 53.8**	**-2.1**
CART	**Cartagena**	**3.37**	**280**	*e*P	**Pn**	**12 59 15.5**	**-0.5**
CART				*e*S	**Sn**	**12 59 53.8**	**-2.1**
CART	**Cartagena**	**3.37**	**280**	Pn	**Pn**	**12 59 15.0**	**-1.0**
EMUR	**La Murta**	**3.60**	**284**	P	**Pn**	**12 59 20.1**	**+0.9**
	1.4nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**13 00 00.6**	**-1.1**
	2.1nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.60**	**284**		**Pn**	**12 59 19.8**	**+0.6**
EMUR					**Sn**	**13 00 00.6**	**-1.1**
ETOB	**Tobarra**	**4.06**	**295**	P	**Pn**	**12 59 27.5**	**+1.9**
	2.7nm,0.1s,SNR=38						
ETOB				S	**Sn**	**13 00 11.2**	**-1.9**
	2.1nm,0.3s						
ETOB	**Tobarra**	**4.06**	**295**		**Pn**	**12 59 27.8**	**+2.2**
ETOB					**Sn**	**13 00 12.1**	**-1.0**
ECHE	**Chera**	**4.13**	**309**	P	**Pn**	**12 59 29.5**	**+3.0**
	4.8nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**13 00 13.5**	**-1.2**
	0.3nm,0.1s,SNR=7.9						
ECHE	**Chera**	**4.13**	**309**		**Pn**	**12 59 29.7**	**+3.2**
ECHE					**Sn**	**13 00 13.9**	**-0.8**
ENIJ	**Nijar**	**4.31**	**271**	P	**Pn**	**12 59 28.4**	**-0.5**
	0.9nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**13 00 15.4**	**-3.7**
	SNR=7.9						
EMOS	**Mosqueruela**	**4.37**	**320**	P	**Pn**	**12 59 32.5**	**+2.7**
	2.9nm,0.1s,SNR=17						
EMOS				S	**Sn**	**13 00 20.9**	**+0.1**
	0.3nm,0.2s						
EMOS	**Mosqueruela**	**4.37**	**320**		**Pn**	**12 59 32.5**	**+2.7**
EMOS					**Sn**	**13 00 20.6**	**-0.3**
EPOB	**Poblet**	**4.60**	**340**	P	**Pn**	**12 59 35.4**	**+2.5**
	0.9nm,0.1s,SNR=8.4						
EPOB				S	**Sn**	**13 00 24.9**	**-1.3**
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.60**	**340**		**Pn**	**12 59 35.9**	**+3.0**
EPOB					**Sn**	**13 00 25.4**	**-0.9**
SESP	**Santiago Espad**	**4.67**	**285**	P	**Pn**	**12 59 36.4**	**+2.4**
	0.8nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**13 00 26.7**	**-1.5**
	0.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.67**	**285**	P	**Pn**	**12 59 36.4**	**+2.4**
SESP				S	**Sn**	**13 00 29.8**	**+1.7**
SESP	**Santiago Espad**	**4.67**	**285**		**Pn**	**12 59 36.3**	**+2.4**
SESP					**Sn**	**13 00 25.6**	**-2.6**
CFON	**Fontmartina**	**4.74**	**353**	P	**Pn**	**12 59 37.4**	**+2.5**
	1.8nm,0.1s,SNR=10						
CFON				S	**Sn**	**13 00 27.0**	**-2.9**
	2.2nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**4.74**	**353**		**Pn**	**12 59 37.4**	**+2.5**
CFON					**Sn**	**13 00 27.0**	**-2.9**
EBER	**Berja**	**4.86**	**270**	P	**Pn**	**12 59 36.6**	**0.0**
	0.6nm,0.1s,SNR=11						
EBER				S	**Sn**	**13 00 28.3**	**-4.6**
	0.5nm,0.3s						
EBER	**Berja**	**4.86**	**270**		**Pn**	**12 59 37.1**	**+0.5**
EBER					**Sn**	**13 00 28.3**	**-4.6**
EMIR	**Miracle**	**5.02**	**346**	P	**Pn**	**12 59 42.6**	**+3.9**
	16nm,0.3s,SNR=7.9						
EMIR				S	**Sn**	**13 00 37.1**	**+0.3**
	6.0nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.02**	**346**		**Pn**	**12 59 42.7**	**+3.9**
EMIR					**Sn**	**13 00 37.1**	**+0.3**
EQES	**Quesada**	**5.03**	**281**	P	**Pn**	**12 59 40.6**	**+1.7**
	1.9nm,0.2s,SNR=20						
EQES				S	**Sn**	**13 00 37.5**	**+0.6**
	1.1nm,0.2s						
EQES	**Quesada**	**5.03**	**281**		**Pn**	**12 59 40.5**	**+1.7**
EQES					**Sn**	**13 00 37.9**	**+0.9**
KEST	**Kesra**	**5.15**	**103**	Pn	**Pn**	**12 59 39.7**	**-0.8**
EJON	**La Jonquera**	**5.40**	**358**	P	**Pn**	**12 59 47.2**	**+3.3**
	2.1nm,0.2s,SNR=16						
EJON				S	**Sn**	**13 00 44.4**	**-1.5**
	1.0nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.40**	**358**		**Pn**	**12 59 47.2**	**+3.3**
EJON					**Sn**	**13 00 44.6**	**-1.3**
JBK	**JBK**	**5.40**	**242**	P	**Pn**	**12 59 44.3**	**+0.2**
JBK				S	**Sn**	**13 00 46.8**	**+0.5**
SJAF	**Saint Jean de**	**5.43**	**358**	P	**Pn**	**12 59 47.6**	**+3.2**
	1.0nm,0.1s,SNR=7.9						
SJAF				S	**Sn**	**13 00 44.3**	**-2.5**
	0.6nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**5.43**	**358**		**Pn**	**12 59 47.7**	**+3.3**
SJAF					**Sn**	**13 00 46.0**	**-0.9**
ELGU	**Los Guajares,**	**5.45**	**270**	P	**Pn**	**12 59 44.3**	**-0.3**
	0.8nm,0.1s,SNR=7.9						
ELGU	**Los Guajares,**	**5.45**	**270**		**Pn**	**12 59 44.4**	**-0.2**
VSL	**Villasalto**	**5.46**	**62**	Pn	**Pn**	**12 59 45.1**	**+0.4**
CLLI	**Llivia**	**5.50**	**351**	P	**Pn**	**12 59 49.8**	**+4.4**
	0.4nm,0.1s,SNR=7.9						
CLLI				S	**Sn**	**13 00 48.5**	**-0.2**
	0.8nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**5.50**	**351**		**Pn**	**12 59 49.8**	**+4.4**
CLLI					**Sn**	**13 00 48.0**	**-0.7**
CSOR	**Sort**	**5.55**	**344**	P	**Pn**	**12 59 50.0**	**+4.0**
	1.9nm,0.2s,SNR=12						
CSOR				S	**Sn**	**13 00 49.8**	**+0.1**
	1.1nm,0.3s,SNR=7.9						
CSOR	**Sort**	**5.55**	**344**		**Pn**	**12 59 50.1**	**+4.0**
CSOR					**Sn**	**13 00 49.8**	**+0.1**
TDRA	**Tendrara**	**5.85**	**228**	P	**Pn**	**12 59 53.7**	**+3.5**
TDRA				S	**Sn**	**13 01 02.4**	**+5.1**
ESBB	**Sonseca Array**	**6.19**	**297**	Pn	**Pn**	**12 59 56.9**	**+2.1**
ESDC	**Sonseca Array**	**6.19**	**297**	P	**Pn**	**12 59 56.5**	**+1.7**
	0.3nm,0.1s,baz=111,slow=13,SNR=5.6						
ESDC	**Sonseca Array**	**6.19**	**297**	Pn	**Pn**	**12 59 56.0**	**+1.2**
EADA	**Adamuz**	**6.25**	**283**	P	**Pn**	**12 59 56.1**	**+0.5**
	0.1nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**6.33**	**354**	*e*Pn	**Pn**	**12 59 59.1**	**+2.5**
MTLF				*e*Sn	**Sn**	**13 01 09.0**	**+0.2**
	1.2nm,0.3s						
MTLF	**Montolieu**	**6.33**	**354**	P	**Pn**	**12 59 59.1**	**+2.5**
MTLF				S	**Sn**	**13 01 09.0**	**+0.2**
	0.6nm,0.3s						
EPF	**Esparros**	**6.36**	**341**	*e*Pn	**Pn**	**13 00 00.5**	**+3.4**
EPF				*e*Sn	**Sn**	**13 01 10.0**	**+0.4**
	1.2nm,0.2s						
EPF	**Esparros**	**6.36**	**341**	P	**Pn**	**13 00 00.5**	**+3.4**
EPF				S	**Sn**	**13 01 10.0**	**+0.4**
	0.6nm,0.2s						
PAB	**San Pablo**	**6.42**	**295**	P	**Pn**	**12 59 59.2**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**6.42**	**295**	Pn	**Pn**	**12 59 58.7**	**+0.8**
ETSF	**Etsaut**	**6.51**	**335**	*e*Pn	**Pn**	**13 00 02.2**	**+3.0**
ETSF				*e*Sn	**Sn**	**13 01 13.5**	**+0.1**
	0.5nm,0.2s						
ETSF	**Etsaut**	**6.51**	**335**	P	**Pn**	**13 00 02.2**	**+3.0**
ETSF				S	**Sn**	**13 01 13.5**	**+0.1**
	0.2nm,0.2s						
ATE	**Arette**	**6.72**	**335**	P	**Pn**	**13 00 05.1**	**+3.0**
	0.5nm,0.1s,SNR=7.9						
ATE				S	**Sn**	**13 01 16.2**	**-2.3**
	1.2nm,0.2s,SNR=7.9						
ATE	**Arette**	**6.72**	**335**		**Pn**	**13 00 05.1**	**+3.0**
ATE					**Sn**	**13 01 17.1**	**-1.4**
EORO	**Oroz-Betelu**	**6.78**	**331**	P	**Pn**	**13 00 05.9**	**+3.1**
	0.3nm,0.1s,SNR=7.9						
EORO				S	**Sn**	**13 01 19.4**	**-0.6**
	1.0nm,0.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**6.78**	**331**		**Pn**	**13 00 05.9**	**+3.1**
EORO					**Sn**	**13 01 19.4**	**-0.6**
LMR	**La Mourre**	**6.78**	**21**	*e*Pn	**Pn**	**13 00 04.6**	**+1.8**
LMR				*e*Sn	**Sn**	**13 01 18.6**	**-1.2**
	1.7nm,0.2s						
LMR	**La Mourre**	**6.78**	**21**	P	**Pn**	**13 00 04.6**	**+1.8**
LMR				S	**Sn**	**13 01 18.6**	**-1.2**
	0.9nm,0.2s						
ECAB	**El Cabril**	**6.90**	**281**	P	**Pn**	**13 00 04.2**	**-0.4**
	0.8nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**13 01 18.7**	**-4.3**
	0.3nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**6.90**	**281**		**Pn**	**13 00 03.9**	**-0.6**
ECAB					**Sn**	**13 01 18.7**	**-4.3**
SJPF	**Ste Jean**	**6.93**	**332**	*e*Pn	**Pn**	**13 00 07.5**	**+2.6**
SJPF				*e*Sn	**Sn**	**13 01 23.5**	**-0.2**
	0.6nm,0.2s						
SJPF	**Ste Jean**	**6.93**	**332**	P	**Pn**	**13 00 07.5**	**+2.6**
SJPF				S	**Sn**	**13 01 23.5**	**-0.2**
	0.3nm,0.2s						
FRF	**La Foret Royal**	**7.03**	**21**	*e*Pn	**Pn**	**13 00 08.2**	**+2.0**
FRF				*e*Sn	**Sn**	**13 01 24.7**	**-1.3**
	1.7nm,0.2s						
FRF	**La Foret Royal**	**7.03**	**21**	P	**Pn**	**13 00 08.2**	**+2.0**
FRF				S	**Sn**	**13 01 24.7**	**-1.3**
	0.9nm,0.2s						
LASF	**Ste Croix**	**7.04**	**4**	*e*Pn	**Pn**	**13 00 09.4**	**+3.0**
LASF				*e*Sn	**Sn**	**13 01 25.8**	**-0.6**
	1.2nm,0.2s						
LASF	**Ste Croix**	**7.04**	**4**	P	**Pn**	**13 00 09.4**	**+3.0**
LASF				S	**Sn**	**13 01 25.8**	**-0.6**
	0.6nm,0.2s						
PGF	**Pioggiola**	**7.09**	**37**	*e*Pn	**Pn**	**13 00 08.1**	**+0.9**
PGF				*e*Sn	**Sn**	**13 01 25.1**	**-2.6**
	1.2nm,0.2s						
PGF	**Pioggiola**	**7.09**	**37**	P	**Pn**	**13 00 08.1**	**+0.9**
PGF				S	**Sn**	**13 01 25.1**	**-2.6**
	0.6nm,0.2s						
EALK	**Alkurruntz**	**7.13**	**331**	P	**Pn**	**13 00 11.3**	**+3.6**
	0.4nm,0.1s,SNR=6.2						
EALK				S	**Sn**	**13 01 26.6**	**-2.0**
	3.3nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**7.13**	**331**		**Pn**	**13 00 11.2**	**+3.5**
EALK					**Sn**	**13 01 26.6**	**-2.0**
SMRF	**Simiane la Rot**	**7.16**	**14**	*e*Pn	**Pn**	**13 00 10.1**	**+2.1**
SMRF				*e*Sn	**Sn**	**13 01 28.3**	**-1.0**
	0.4nm,0.2s						
SMRF	**Simiane la Rot**	**7.16**	**14**	P	**Pn**	**13 00 10.1**	**+2.1**
SMRF				S	**Sn**	**13 01 28.3**	**-1.0**
	0.4nm,0.2s						
SBF	**Sospel**	**7.54**	**24**	*e*Pn	**Pn**	**13 00 15.0**	**+1.7**
SBF				*e*Sn	**Sn**	**13 01 36.9**	**-1.9**
	4.3nm,0.2s						
SBF	**Sospel**	**7.54**	**24**	P	**Pn**	**13 00 15.0**	**+1.7**
SBF				S	**Sn**	**13 01 36.9**	**-1.9**
	2.2nm,0.2s						
MDT	**Midelt**	**7.66**	**239**	P	**Pn**	**13 00 16.8**	**+1.8**
MDT				S	**Sn**	**13 01 39.8**	**-1.9**
MD31	**MD31**	**7.73**	**240**	P	**Pn**	**13 00 17.5**	**+1.5**
MD31				S	**Sn**	**13 01 41.8**	**-1.8**
ELAN	**Lanestosa**	**7.98**	**323**	P	Pn	13 00 26.6	+7.3
	0.1nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**8.10**	**348**	*e*Pn	**Pn**	**13 00 23.9**	**+3.0**
LFF				*e*Sn	**Sn**	**13 01 51.4**	**-0.9**
	0.9nm,0.2s						
LFF	**La Frestale**	**8.10**	**348**	P	**Pn**	**13 00 23.9**	**+3.0**
LFF				S	**Sn**	**13 01 51.4**	**-0.9**
	0.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**8.12**	**14**	*e*Pn	**Pn**	**13 00 23.5**	**+2.2**
ORIF				*e*Sn	**Sn**	**13 01 51.5**	**-1.6**
	0.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**8.12**	**14**	P	**Pn**	**13 00 23.5**	**+2.2**
ORIF				S	**Sn**	**13 01 51.5**	**-1.6**
	0.3nm,0.2s						
MBDF	**Montbardon**	**8.14**	**18**	*e*Pn	**Pn**	**13 00 25.1**	**+3.5**
MBDF				*e*Sn	**Sn**	**13 01 51.7**	**-1.9**
	0.2nm,0.2s						
MBDF	**Montbardon**	**8.14**	**18**	P	**Pn**	**13 00 25.1**	**+3.5**
MBDF				S	**Sn**	**13 01 51.7**	**-1.9**
	0.1nm,0.2s						
SSB	**Saint Sauveur**	**8.29**	**7**	Pn	**Pn**	**13 00 27.8**	**+4.3**
RJF	**Les Rejaudoux**	**8.34**	**352**	*e*Pn	**Pn**	**13 00 26.6**	**+2.3**
RJF				*e*Sn	**Sn**	**13 01 57.3**	**-1.1**
	0.8nm,0.2s						
RJF	**Les Rejaudoux**	**8.34**	**352**	P	**Pn**	**13 00 26.6**	**+2.3**
RJF				S	**Sn**	**13 01 57.3**	**-1.1**
	0.4nm,0.2s						
PVAQ	**Vaqueiros**	**8.70**	**276**	Pn	**Pn**	**13 00 29.5**	**+0.3**
LPG	**La Plagne**	**8.86**	**17**	*e*Pn	**Pn**	**13 00 34.4**	**+2.8**
LPG				*e*Sn	**Sn**	**13 02 09.4**	**-2.1**
	0.4nm,0.3s						
LPG	**La Plagne**	**8.86**	**17**	P	**Pn**	**13 00 34.4**	**+2.8**
LPG				S	**Sn**	**13 02 09.4**	**-2.1**
	0.2nm,0.3s						
LPL	**La Plagne**	**8.87**	**16**	*e*Pn	**Pn**	**13 00 34.1**	**+2.4**
LPL				*e*Sn	**Sn**	**13 02 09.4**	**-2.3**
	0.3nm,0.2s						
LPL	**La Plagne**	**8.87**	**16**	P	**Pn**	**13 00 34.1**	**+2.4**
LPL				S	**Sn**	**13 02 09.4**	**-2.3**
	0.2nm,0.2s						
EARI	**Arriondas**	**8.95**	**317**	P	**Pn**	**13 00 37.1**	**+4.5**
	0.1nm,0.1s,SNR=4.7						
EARI	**Arriondas**	**8.95**	**317**		**Pn**	**13 00 37.0**	**+4.3**
ECAL	**Calabor**	**9.09**	**306**	P	**Pn**	**13 00 36.8**	**+2.3**
	2.9nm,0.3s,SNR=7.9						
TCF	**Toulx Ste Croi**	**9.26**	**356**	*e*Pn	**Pn**	**13 00 39.8**	**+2.9**
TCF				*e*Sn	**Sn**	**13 02 19.2**	**-1.8**
	0.2nm,0.2s						
TCF	**Toulx Ste Croi**	**9.26**	**356**	P	**Pn**	**13 00 39.8**	**+2.9**
TCF				S	**Sn**	**13 02 19.2**	**-1.8**
	0.1nm,0.2s						
BGF	**Bois d'Agland**	**9.51**	**359**	*e*Pn	**Pn**	**13 00 42.6**	**+2.4**
BGF				*e*Sn	**Sn**	**13 02 25.0**	**-1.9**
	0.7nm,0.3s						
BGF	**Bois d'Agland**	**9.51**	**359**	P	**Pn**	**13 00 42.6**	**+2.4**
BGF				S	**Sn**	**13 02 25.0**	**-1.9**
	0.3nm,0.3s						
SMF	**Signal de Mont**	**9.60**	**3**	*e*Pn	**Pn**	**13 00 44.2**	**+2.7**
SMF				*e*Sn	**Sn**	**13 02 27.3**	**-2.0**
	0.4nm,0.2s						
SMF	**Signal de Mont**	**9.60**	**3**	P	**Pn**	**13 00 44.2**	**+2.7**
SMF				S	**Sn**	**13 02 27.3**	**-2.0**
	0.2nm,0.2s						
PAOL	**Paolisi**	**9.71**	**62**	Pn	**Pn**	**13 00 44.4**	**+1.2**
AVF	**Avril sur Loir**	**9.74**	**1**	*e*Pn	**Pn**	**13 00 45.8**	**+2.5**
AVF				*e*Sn	**Sn**	**13 02 30.4**	**-2.2**
	0.5nm,0.3s						
AVF	**Avril sur Loir**	**9.74**	**1**	P	**Pn**	**13 00 45.8**	**+2.5**
AVF				S	**Sn**	**13 02 30.4**	**-2.2**
	0.2nm,0.3s						
CABF	**La Chapelle**	**9.80**	**12**	*e*Pn	**Pn**	**13 00 47.6**	**+3.3**
CABF				*e*Sn	Sn	13 03 40.4	+66
CABF	**La Chapelle**	**9.80**	**12**	P	**Pn**	**13 00 47.6**	**+3.3**
CABF				S		13 03 40.4	
MFF	**Saint Martin d**	**9.86**	**347**	*e*Pn	**Pn**	**13 00 47.6**	**+2.5**
MFF				*e*Sn	**Sn**	**13 02 33.6**	**-2.1**
	0.2nm,0.2s						
MFF	**Saint Martin d**	**9.86**	**347**	P	**Pn**	**13 00 47.6**	**+2.5**
MFF				S	**Sn**	**13 02 33.6**	**-2.1**
	0.1nm,0.2s						
SSF	**Saint Saulge**	**10.01**	**1**	*e*Pn	**Pn**	**13 00 49.4**	**+2.3**
SSF				*e*Sn	**Sn**	**13 02 37.0**	**-2.3**
SSF	**Saint Saulge**	**10.01**	**1**	P	**Pn**	**13 00 49.4**	**+2.3**
SSF				S	**Sn**	**13 02 37.0**	**-2.3**
HYF	**Humbligny**	**10.22**	**358**	*e*Pn	**Pn**	**13 00 52.0**	**+2.0**
HYF				*e*Sn	**Sn**	**13 02 42.0**	**-2.5**
HYF	**Humbligny**	**10.22**	**358**	P	**Pn**	**13 00 52.0**	**+2.0**
HYF				S	**Sn**	**13 02 42.0**	**-2.5**
LOR	**Lormes**	**10.23**	**3**	*e*Pn	**Pn**	**13 00 52.8**	**+2.7**
LOR				*e*Sn	**Sn**	**13 02 41.7**	**-2.9**
LOR	**Lormes**	**10.23**	**3**	P	**Pn**	**13 00 52.8**	**+2.7**
LOR				S	**Sn**	**13 02 41.7**	**-2.9**
HINF	**Hinteralfeld**	**11.10**	**13**	*e*Pn	**Pn**	**13 01 03.8**	**+1.8**
HINF				*e*Sn	**Sn**	**13 03 02.5**	**-3.5**
HINF	**Hinteralfeld**	**11.10**	**13**	P	**Pn**	**13 01 03.8**	**+1.8**
HINF				S	**Sn**	**13 03 02.5**	**-3.5**
HAU	**Haudompre**	**11.20**	**11**	*e*Pn	**Pn**	**13 01 05.7**	**+2.3**
HAU				*e*Sn	**Sn**	**13 03 04.7**	**-3.7**
HAU	**Haudompre**	**11.20**	**11**	P	**Pn**	**13 01 05.7**	**+2.3**
HAU				S	**Sn**	**13 03 04.7**	**-3.7**
SFTF	**Sexfontaines**	**11.23**	**6**	*e*Pn	**Pn**	**13 01 05.8**	**+1.9**
SFTF				*e*Sn	**Sn**	**13 03 06.0**	**-3.3**
SFTF	**Sexfontaines**	**11.23**	**6**	P	**Pn**	**13 01 05.8**	**+1.9**
SFTF				S	**Sn**	**13 03 06.0**	**-3.3**
MEZF	**Maizieres J'vi**	**11.53**	**6**	*e*Pn	**Pn**	**13 01 10.1**	**+2.2**
MEZF				*e*Sn	**Sn**	**13 03 13.2**	**-3.3**
MEZF	**Maizieres J'vi**	**11.53**	**6**	P	**Pn**	**13 01 10.1**	**+2.2**
MEZF				S	**Sn**	**13 03 13.2**	**-3.3**
GRR	**Gorron**	**11.71**	**347**	*e*Pn	**Pn**	**13 01 12.9**	**+2.5**
GRR				*e*Sn	**Sn**	**13 03 17.8**	**-3.2**
	0.4nm,0.1s						
**GR

MK31	Makanchi Array	68.42 327	P	P	13 10 11.4	-0.3
MK31			IAmb	IAmb	13 10 15.4	
	comp=Z,2.5nm,1.4s					
MKAR	Makanchi Array	68.42 327	P	P	13 10 11.5	-0.2
	comp=Z,0.7nm,0.4s,baz=120,slow=7.8,SNR=13					
MKAR	Makanchi Array	68.42 327	P	P	13 10 11.2	-0.4
KURBB	Kurchatov Arra	72.73 329	P	P	13 10 37.4	-0.3
	comp=Z,1.9nm,0.2s,baz=126,slow=5.1,SNR=5.0					

*CNRM **21** 13:34:33.1±0.6, 33°.44N×4°.46W, h26km±4km, Error ellipse: s-maj=3.8km s-min=3.1km az=114.0*
*MDD **21** 13:34:35.1±4.5, 33°.73N×4°.64W, h0km, mb3.5/5, Error ellipse: s-maj=41.9km s-min=29.9km az=176.0, PRXIMO SIN SOLUCIN*

ISC 21 13:34:31.5±1.1, 33°.49N±0°.03×4°.49W±0°.03, h17km±9km, n25, σ1°83/50, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRM	LCR	0.36	303	P	Pn	13 34 41.7	-0.4
LCRM				S	Sn	13 34 51.2	+2.2
CZD	Col de Zad	0.65	225	P	Pg	13 34 43.7	-0.6
CZD				S	Sn	13 34 56.2	0.0
MD31	MD31	0.66	200	P	Pg	13 34 44.3	-0.2
MD31				S	Sg	13 34 53.3	0.0
MDT	Midelt	0.68	188	P	Pg	13 34 44.9	0.0
MDT				S	Sg	13 34 54.5	+0.6
SICH	Sidi Chahed	0.92	312	P	Pn	13 34 50.3	+0.6
SICH				S	Sn	13 35 04.1	+1.6
AKLM	AKL	1.14	27	P	Pn	13 34 53.5	+0.6
AKLM				S	Sb	13 35 08.9	+1.4
CHEFC	Chefchaouen	1.76	337	P	Pb	13 35 04.3	+0.9
CHEFC				S	Sb	13 35 26.4	+1.1
RSA	Sarsar	1.77	322	P	Pb	13 35 03.2	-0.4
RSA				S	Sn	13 35 23.8	+0.1
PALE	Palemas	1.78	15	P	Pb	13 35 04.6	+0.9
PALE				S	Sn	13 35 25.5	+1.6
ZHG	ZHG	1.80	269	P	Pb	13 35 04.3	+0.3
ZHG				S	Sg	13 35 27.8	-1.6
JBK	JBK	1.81	62	P	Pn	13 35 00.9	-1.2
JBK				S	Sn	13 35 22.8	-2.0
ARF	Arif	2.06	173	P	Pn	13 35 06.8	+1.2
ARF				S	Sn	13 35 32.9	+2.0
TDRA	Tendrara	2.11	102	P	Pn	13 35 04.8	-1.4
TDRA				S	Sn	13 35 29.8	-2.5
GOG	Mont Gurugu	2.13	35	P	Pn	13 35 07.2	+0.8
GOG				S	Sn	13 35 34.4	+1.9
TAF	Taforalt	2.17	52	P	Pn	13 35 08.6	+1.6
TAF				S	Sn	13 35 36.7	+3.1
AVE	Averroes	2.45	266	P	Pn	13 35 12.3	+1.6
AVE				S	Sb	13 35 43.5	-1.5
TZRR	Tazzarine	2.85	199	P	Pn	13 35 16.9	+0.6
TZRR				S	Sn	13 35 48.4	-1.9
SRHM	Skhour des Reh	3.04	251	P	Pn	13 35 21.5	+2.6
SRHM				S	Sb	13 36 00.1	-1.9
ELGU	Los Guajares, 0.3nm,0.1s,SNR=7.9	3.44	12	P	Pn	13 35 25.7	+1.2
ELGU				S	Sn	13 36 03.5	-1.5
	0.9nm,0.2s,SNR=7.9						
ZGR	Zagora	3.50	196	P	Pn	13 35 24.1	-1.1
ZGR				S	Sn	13 36 06.1	-0.1
OUK	Oukaimeden	3.65	232	P	Pn	13 35 28.4	+0.8
OUK				S	Sn	13 36 12.7	+2.3
EMIN	Mina Concepcio 0.9nm,0.1s,SNR=9.1	4.62	338	P	Pn	13 35 41.8	+1.2
EMIN				S	Sn	13 36 30.7	-3.2
	0.2nm,0.1s,SNR=7.9						
ECAB	El Cabril 0.2nm,0.1s,SNR=7.0	4.64	351	P	Pn	13 35 42.2	+1.3
ECAB				S	Sn	13 36 33.1	-1.2
	0.4nm,0.2s,SNR=7.9						
EADA	Adamuz 0.2nm,0.1s,SNR=7.9	4.67	359	P	Pn	13 35 42.8	+1.5
EADA				S	Sn	13 36 29.6	-5.5
	0.4nm,0.1s,SNR=7.9						
EGRO	El Granado 1.3nm,0.1s,SNR=7.9	4.71	330	P	Pn	13 35 41.9	+0.1
EGRO				S	Sn	13 36 31.5	-4.6
	2.3nm,0.2s,SNR=4.0						

*IDC **21** 13:55:49.6±1.4, 29°.06N×130°.77E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/38, mbtmp3.4/5, ML2.9/2, MS2.7/3, Ms1 2.8/3, ms1mx2.5/40, Error ellipse: s-maj=92.8km s-min=23.4km az=89.0*
*JMA **21** 13:55:52.8±0.1, 29°.20N×130°.54E, h62km±3km, M3.1*

ISC 21 13:55:52.3±1.0, 29°.17N±0°.06×130°.56E±0°.09, h21km±5km, n19, σ0°80/25, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.90	318	P	Pb	13 56 09.4	+0.2
JNN				eS	Sn	13 56 21.8	-0.3
JZK	Kikaishima	1.00	212	P	Pn	13 56 11.5	+0.5
JYAK	Yakushimahirau	1.07	357	P	Pn	13 56 11.4	-0.6
JYAK				eS	Sb	13 56 25.5	0.0
JAM	Amami Oshima	1.13	228	P	Pn	13 56 12.7	-0.1
JAM				eS	Sb	13 56 27.5	+0.2
JTAJ	Takarajima	1.19	270	P	Pn	13 56 13.4	-0.3
JTAJ				eS	Sb	13 56 28.7	-0.4
JMTN	Minamitane	1.26	13	P	Pn	13 56 14.2	-0.4
JMTN				eS	Sn	13 56 29.4	-1.5
JKC	Kuchinoerabu	1.33	346	P	Pn	13 56 15.2	-0.4
JTN	Tanegashima 3	1.52	14	P	Pn	13 56 17.9	-0.4
JTN				eS	Sn	13 56 36.8	-0.7
JAMN	Amaminishikomi	1.53	233	P	Pn	13 56 18.3	0.0
JTK	Tokunoshima	1.98	226	P	Pn	13 56 24.6	+0.1
JTK				eS	Sn	13 56 48.6	-0.1
JSU	Suzuyama	2.33	358	P	Pn	13 56 28.7	-0.7
JNAR	Kushima--Naru	2.43	14	P	Pn	13 56 31.4	+0.7
JNU	Nakatsue 1.1nm,0.3s,baz=187,slow=15,SNR=17	3.95	4	Pn	Pn	13 56 52.2	+0.6
JNU				Sn	Sn	13 57 36.6	-0.8
	2.0nm,0.3s,baz=61,slow=23,SNR=6.3						
KSRS	Korea Array 0.1nm,0.3s,baz=160,slow=14,SNR=3.0	8.55	346	Pn	Pn	13 57 57.4	+2.6
KSRS				LR	LR	14 01 21.3	
	comp=Z,48nm,19.3s,baz=200,slow=38						
JCJ	Chichijima comp=Z,34nm,19.4s,baz=350,slow=35	10.46	99	LR	LR	14 01 47.1	
CMAR	Chiang Mai Arr comp=Z,18nm,19.7s,baz=220,slow=40	30.74	257	LR	LR	14 16 14.6	
WRA	Warramunga Arr 0.5nm,0.7s,baz=354,slow=8.5,SNR=5.3	48.96	175	P	P	14 04 36.6	-0.6
ASAR	Alice Springs 0.2nm,0.7s,baz=11,slow=12,SNR=9.4	52.63	176	P	P	14 05 04.7	-0.1
NVAR	Mina Array Bea 0.2nm,0.6s,baz=312,slow=5.9,SNR=2.8	86.99	47	P	P	14 08 37.0	+0.6

*NEIC **21** 14:05:37.1±1.9, 19°.30N±0°.05×69°.83W±0°.05, h10km±8km, mb4.1/4, Error ellipse: s-maj=7.9km s-min=6.1km az=202.0*
*OSPL **21** 14:05:40.7±2.0, 19°.35N×69°.75W, h11km±45km, ML3.6*

ISC 21 14:05:38.4±0.7, 19°.29N±0°.06×69°.82W±0°.04, h24km, n47, σ1°30/48, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.65	140		Pb	14 05 49.6	-1.6
SDD	Santo Domingo	0.83	186		Pb	14 05 53.1	-1.1
SC01	Santiago de lo	0.87	279		Pn	14 05 55.0	-0.2
BANI	BANI	1.03	210		Pn	14 05 56.8	-0.7
SDDR	Presa de Saban	1.42	258	Pn	Pn	14 06 03.6	+0.7
SDDR	Presa de Saban	1.42	258	iP	Pb	14 06 04.4	+0.1
SDDR				eS	Sb	14 06 24.4	+2.4
SDDR				IAML		14 06 30.2	
	comp=Z,1μm,0.4s						
PCDR	Punta Cana, DR	1.56	119	Pn	Pn	14 06 05.0	+0.3
PCDR	Punta Cana, DR	1.56	119	iP	Pb	14 06 05.7	-1.0
PCDR				IAML		14 06 33.2	
	comp=Z,1μm,0.4s						
PAPH	Port-au-Prince	2.47	252	Pn	Pb	14 06 20.2	-1.9
PAPH	Port-au-Prince	2.47	252	iP	Pb	14 06 21.0	-1.2
PAPH				IAML		14 07 02.7	
	comp=Z,156nm,0.4s						
GRTK	Grand Turk	2.53	331	Pn	Pn	14 06 18.2	+0.2
AGPR	Aguadilla, PR	2.69	107		Pn	14 06 21.0	+0.8
AGPR	Aguadilla, PR	2.69	107	iP	Pn	14 06 21.6	+1.4
AGPR				IAML		14 07 05.9	
	comp=Z,554nm,0.2s						
LGNH	Logne	2.75	254	Pn	Pb	14 06 24.3	-2.6
LGNH	Logne	2.75	254	iP	Pb	14 06 25.0	-1.9
LGNH				IAML		14 07 03.1	
	comp=Z,94nm,0.6s						
MPR	Mayaguez	2.76	112		Pn	14 06 22.3	+1.1
MPR	Mayaguez	2.76	112	iP	Pn	14 06 23.4	+2.3
MPR				IAML		14 07 09.1	
	comp=Z,186nm,0.3s						
CRPR	Cabo Rojo, PR	2.87	116	Pn	Pn	14 06 24.8	+2.1
MLPR	Magueyes Islan	2.94	116	Pn	Pn	14 06 24.8	+1.2
AOPR	Arecibo Observ	3.05	107		Pn	14 06 26.3	+1.1
EMPR	Esperanza - Ma	3.22	104		Pn	14 06 29.6	+2.1
GCPR	Guaynabo City	3.67	105		Pn	14 06 34.0	+0.2
IGPR	InterUniversit	3.76	110		Pn	14 06 34.2	-0.7
PDPR	Patillas Dam,	3.82	109		Pn	14 06 36.8	+1.1
CBYP	Canovanas	3.89	104		Pn	14 06 36.5	-0.2
HUMP	Col San Antoni	3.93	106		Pn	14 06 37.1	-0.2
MTP	Monte Pirata	4.21	106	Pn	Pn	14 06 41.5	+0.3
CUPR	Culebra, Puert	4.41	102	Pn	Pn	14 06 43.4	-0.5
STVI	Saint Thomas	4.70	101	Pn	Pn	14 06 47.2	-0.7
GTBY	Guantanamo Bay	5.03	278		Pn	14 06 51.5	-0.9
MTDJ	Mount Denham	7.39	263	Pn	Pn	14 07 26.2	+1.3
URIC	Uribia, Colomb	7.83	196	eP	Pn	14 07 30.6	-0.3
SMLC	San Martn de	11.21	202	eP	Pn	14 08 17.5	+0.2
PAMC	Pamplona, Colo	12.21	194	eP	Pn	14 08 32.2	+0.9
BARC	Barichara	13.04	195	eP	Pn	14 08 42.8	+0.2
PTBC	PUERTO BERRIO,	13.45	200	eP	Pn	14 08 50.7	+2.7
RUSC	La Rusia	13.69	194	eP	Pn	14 08 53.2	+1.6
BBSR	BB Station	13.81	18	Pn	Pn	14 08 50.8	-2.0
BCIP	Isla Barro Col	13.98	225	Pn	Pn	14 08 53.7	-1.4
CBOC	Ciudad Bolivar	14.64	205	eP	Pn	14 09 02.8	-1.6
GUY2C	Guyana, Caldas	14.99	202	eP	Pn	14 09 10.4	+1.1
CHIC	Chingaza	15.06	195	eP	Pn	14 09 09.4	-0.8
W57A	Gilead	18.19	332		P	14 09 50.1	+0.6
W57A				IAmb	IAmb	14 10 17.7	
	comp=Z,24nm,1.4s						
V58A	Windy Hill, Pi	18.37	335		Pn	14 09 52.4	+0.8
V58A				IAmb	IAmb	14 10 01.7	
	comp=Z,19nm,1.2s						
WMOK	Wichita Mounta	29.90	307	P	P	14 11 44.7	+0.2
WMOK				IAmb	IAmb	14 11 45.5	
	comp=Z,1.1nm,0.8s						
HRY	Holter Researc	43.85	318	P	P	14 13 43.7	+0.9
H04A	Detroit Lake	50.09	313	P	P	14 14 32.4	+0.8

*ISN **21** 14:10:46.7±0.3, 33°.75N×45°.78E, h17km±1km, ML3.3*
*TEH **21** 14:10:47.4, 33°.75N×45°.81E, h17km, ML3.5*

ISC 21 14:10:46.9±1.0, 33°.76N±0°.04×45°.73E±0°.05, h10km, n28, σ0°78/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.67	165	ePg	Pg	14 10 59.3	-0.5
IBDR				eSg	Sg	14 11 08.5	0.0
IBDR				AML	AML	14 11 12.1	
	comp=E,541nm,0.4s						
IBDR				AML	AML	14 11 12.3	
	comp=N,530nm,0.5s						
IGHG	Ghaleghazi	0.91	50	e		14 11 07.2	
IGHG				ePg	Pg	14 11 04.0	-0.4
IDHR	Dehrash	1.09	30	e		14 11 28.1	
IDHR				ePg	Pg	14 11 07.2	-0.8
IVIS	Veis	1.21	50	e		14 11 31.3	
IVIS				ePg	Pb	14 11 08.3	-1.7
KCHF	Cheshme Sefid,	1.21	64	e		14 11 31.5	
KCHF				ePg	Pb	14 11 09.5	-0.6
BHD	Baghdad	1.22	247	ePg	Pn	14 11 10.0	-0.1
BHD				eSg	Sn	14 11 27.0	+0.3
BHD				AML	AML	14 11 29.6	
	comp=E,2μm,0.5s						
KER	Kermanshah	1.33	61	ePg	Pb	14 11 12.1	+0.1
IKOM	Komasi	1.54	74	ePg	Pb	14 11 15.5	-0.2
IKOM				e		14 11 42.0	
ILIN	Lien	1.55	41	ePg	Pb	14 11 15.6	-0.3
ILIN				e		14 11 39.6	
DHL1	Dehloran	1.69	129	ePg	Pb	14 11 18.1	0.0
IKFM	Kafar-mosalman	1.79	97	ePg	Pn	14 11 18.7	+0.9
IKFM				e		14 11 46.8	
IBZA	Bozab	1.91	67	ePg	Pn	14 11 20.5	+0.7
IBZA				e		14 11 24.0	
IDOB	Doab	2.04	88	ePn	Pn	14 11 22.4	+0.8
IKMR	Kamar-syah	2.23	95	ePn	Pn	14 11 24.4	+0.5
HSAM	Samen	2.43	78	ePn	Pn	14 11 27.2	+0.2
HSRG	Sareghieh	2.58	54	ePn	Pn	14 11 30.3	+1.3
HSRG				e		14 12 05.3	
BMDN	Meydan	2.58	91	ePn	Pn	14 11 29.2	+0.2
BMDN				e		14 12 16.1	
NSR	Nassriya	2.76	173	ePn	Pn	14 11 32.0	+0.8
NSR				eSn	Sn	14 12 05.0	+0.4
NSR				AML	AML	14 12 12.7	
	comp=E,416nm,0.4s						
MAHB	Mahabad	3.00	360	ePn	Pn	14 11 36.3	+1.5
MAHB				e		14 12 16.6	
HAGD	Aghdareh	3.02	68	ePn	Pn	14 11 35.5	+0.4
QABG	Abgarm-Qazvin	3.73	57	ePn	Pn	14 11 44.5	-0.3
QSDN	Sirdan	3.94	45	ePn	Pn	14 11 48.6	+0.9
IPIR	Pirpir	4.46	102	ePn	Pn	14 11 54.7	-0.2
QALM	Alamut, Qazvin	4.84	55	ePn	Pn	14 12 01.6	+1.5
IKLH	Kolahrood	4.91	93	ePn	Pn	14 12 02.3	+1.3
KRSH	Karshahi	5.34	86	ePn	Pn	14 12 06.8	-0.1
IZEF	Zefreh	5.59	97	ePn	Pn	14 12 10.8	+0.3
IRAM	Ramesheh	5.93	107	ePn	Pn	14 12 15.8	+0.7

*MDD **21** 14:11:25.5±2.9, 33°.46N×4°.74W, h0km, mb3.6/8, Error ellipse: s-maj=26.0km s-min=18.4km az=152.0, PRXIMO SIN SOLUCIN*
*INMG **21** 14:11:27.3±1.0, 33°.47N×4°.68W, h17km±18km, ML2.2, Error ellipse: s-maj=9.5km s-min=8.1km az=141.0*
*CNRM **21** 14:11:27.5±0.5, 33°.49N×4°.63W, h6km±3km, Error ellipse: s-maj=3.3km s-min=2.5km az=110.0*

ISC 21 14:11:27.4±1.0, 33°.48N±0°.02×4°.58W±0°.03, h33km±7km, n44, σ1°70/82, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFR	Ifrane	0.46	275	eP	Pb	14 11 37.0	-0.5
IFR				eS	Sn	14 11 43.7	-1.2
CZD	Col de Zad	0.58	221	P	Pb	14 11 39.4	-0.2
CZD				S	Sn	14 11 49.3	+1.0
MD31	MD31	0.62	194	P	Pb	14 11 39.4	-0.7
MD31				S	Sb	14 11 48.0	-0.7
MDT	Midelt	0.66	182	P	Pb	14 11 40.2	-0.5
MDT				S	Sb	14 11 49.0	-0.7
SICH	Sidi Chahed	0.88	316	P	Pn	14 11 44.8	+1.4
SICH				S	Sn	14 11 57.9	+2.8
AKLM	AKL	1.19	30	P	Pb	14 11 50.1	+0.5
AKLM				S	Sb	14 12 06.5	+1.8
PVLZ	Peæn de	1.71	8	P	Pb	14 11 59.4	+1.2
PVLZ				S	Sn	14 12 17.2	+1.6
PVLZ	Peæn de	1.71	8	eP	Pb	14 11 59.4	+1.2
PVLZ				eS	Sn	14 12 17.2	+1.6
ZHG	ZHG	1.72	270	P	Pb	14 11 59.2	+0.7
ZHG				S	Sb	14 12 22.4	+2.7
RSA	Sarsar	1.74	324	P	Pb	14 11 57.9	-0.9
RSA				S	Sb	14 12 20.3	0.0
CHEFC	Chefchaouen	1.74	339	P	Pb	14 11 57.6	-1.2
CHEFC				S	Sb	14 12 22.4	+2.0
PALE	Palemas	1.82	17	P	Pb	14 11 58.7	-1.4
PALE				S	Sb	14 12 24.2	+1.7
JBK	JBK	1.88	62	P	Pn	14 11 57.6	+0.1
JBK				S	Sb	14 12 23.7	-0.8
ARF	Arif	2.06	171	P	Pb	14 12 03.6	-0.6
ARF				S	Sb	14 12 30.7	+1.3
GOG	Mont Gurugu	2.18	37	P	Pb	14 12 04.9	-1.4
GOG				S	Sb	14 12 35.4	+2.5
TDRA	Tendrara	2.18	101	P	Pn	14 12 04.1	+2.5
TDRA				S	Sb	14 12 32.0	-1.1
TAF	Taforalt	2.24	53	P	Pb	14 12 06.2	-1.1
TAF				S	Sb	14 12 34.6	0.0
AVE	Averroes	2.37	267	P	Pn	14 12 05.2	+1.1
AVE				S	Sn	14 12 34.4	+2.3
TZRR	Tazzarine	2.81	198	P	Pb	14 12 14.0	-2.9
TZRR				S	Sb	14 12 49.5	-1.5
SRHM	Skhour des Reh	2.96	251	P	Pb	14 12 17.4	-2.1
SRHM				S	Sb	14 12 57.3	+2.0
ELGU	Los Guajares, 0.3nm,0.1s,SNR=7.9	3.47	13	P	Pn	14 12 19.3	+0.1
ELGU				S	Sn	14 12 58.0	-1.3
	1.9nm,0.2s,SNR=7.9						
ESPR	Espera 2.4nm,0.4s,SNR=7.9	3.54	343	S	Sn	14 13 00.2	-0.6
OUK	Oukaimeden	3.58	232	P	Pn	14 12 22.9	+1.9
OUK				S	Sn	14 13 06.5	+4.1
EGOR	Sierra Gorda, 0.4nm,0.2s,SNR=7.9	3.65	6	P	Pn	14 12 21.4	-0.3
EGOR				S	Sn	14 13 05.7	+2.1
	0.9nm,0.3s,SNR=7.9						
EBER	Berja 1.0nm,0.3s,SNR=7.9	3.69	22	S	Sn	14 13 07.9	+3.2
EQES	Quesada 0.1nm,0.1s,SNR=7.9	4.49	15	P	Pn	14 12 35.1	+1.8
EQES				S	Sn	14 13 26.2	+1.8
	0.8nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio 1.0nm,0.1s,SNR=16	4.61	339	P	Pn	14 12 34.1	-0.7
EMIN				S	Sn	14 13 23.4	-3.7
	0.2nm,0.1s,SNR=7.9						
ECAB	El Cabril 0.4nm,0.1s,SNR=8.9	4.64	352	P	Pn	14 12 36.4	+1.1
ECAB				S	Sn	14 13 26.8	-1.2
	1.0nm,0.2s,SNR=9.0						
PBDV	Barranco-do-Ve	4.65	325	eP	Pn	14 12 35.3	-0.1
PBDV				eS	Sn	14 13 26.8	-1.4
PBDV				A	A	14 13 35.9	
	2.2nm,0.2s						
PVAQ	Vaqueiros	4.68	328	P	Pn	14 12 37.0	+1.2
PVAQ				S	Sn	14 13 32.3	+3.4
PVAQ	Vaqueiros	4.68	328	eP	Pn	14 12 35.4	-0.3
PVAQ				eS	Sn	14 13 27.1	-1.8
PVAQ				A	A	14 13 27.5	
	2.7nm,0.3s						
EADA	Adamuz 0.3nm,0.1s,SNR=7.9	4.68	0	P	Pn	14 12 37.2	+1.4
EADA				S	Sn	14 13 29.1	0.0
	0.5nm,0.1s,SNR=7.9						
EGRO	El Granado 1.9nm,0.1s,SNR=20	4.69	331	P	Pn	14 12 35.5	-0.4
EGRO				S	Sn	14 13 25.7	-3.4
	1.1nm,0.2s,SNR=7.9						
PCVE	Castro Verde	5.01	327	eP	Pn	14 12 40.6	+0.3
PCVE				eS	Sn	14 13 35.4	-1.7
PCVE				A	A	14 13 37.9	
	0.9nm,0.2s						
PFVI	Vila Bisbo 1.3nm,0.1s,SNR=7.9	5.04	318	P	Pn	14 12 41.0	+0.4
PFVI				S	Sn	14 13 36.0	-1.6
	1.7nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	5.04	318	eP	Pn	14 12 41.2	+0.6
PFVI				eS	Sn	14 13 36.2	-1.5
PFVI				A	A	14 13 41.9	
	3.6nm,0.4s						
MORF	Marmelete	5.06	320	eP	Pn	14 12 41.2	+0.1
MORF				eS	Sn	14 13 36.8	-1.7
MORF				A	A	14 13 40.5	
	2.7nm,0.4s						
PBEJ	Beja	5.27	330	eS	Sn	14 13 41.4	-2.0
PTEO	Sao Teotonio	5.28	321	eS	Sn	14 13 42.2	-1.5
PTEO				A	A	14 13 44.5	
	5.0nm,0.8s						
PNCL	Nicolau / Gran	5.63	326	eP	Pn	14 12 49.0	+0.2
PNCL				eS	Sn	14 13 50.3	-2.0
PAB	San Pablo 0.3nm,0.3s,SNR=7.9	6.06	2	S	Sn	14 13 59.4	-3.7
PMTG	Montargil	6.31	333	eP	Pn	14 12 58.1	0.0
PMTG				eS	Sn	14 14 07.0	-2.0
PMRV	Marv??o	6.36	340	ePn	Pn	14 12 59.1	+0.3
PMRV				eS	Sn	14 14 08.5	-1.8
PSBE	So Bento	6.92	332	eP	Pn	14 13 07.1	+0.6

*ATH **21** 14:26:27.1, 41°.06N×19°.98E, h21km±2km, ML2.4/1, Error ellipse: s-maj=3.7km s-min=1.2km az=58.0*
*TIR **21** 14:26:27.0, 41°.11N×20°.13E, h13km±1km, Md2.5*
*BEO **21** 14:26:27.9±0.3, 41°.08N×20°.13E, h4km±3km, ML2.1/4*
*SKO **21** 14:26:27.9, 41°.10N×20°.06E, h10km*

ISC 21 14:26:27.9±3.0, 41°.12N±0°.02×20°.04E±0°.03, h17km±23km, n38, σ1°07/58, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.26	331	ePg	Pb	14 26 33.4	-0.9
TIR				eSg	Sb	14 26 39.1	+0.6
TIR	Tirane	0.26	331	P	Pb	14 26 33.8	-0.5
TIR				S	Sb	14 26 39.1	+0.6
TIR				AML	AML	14 26 41.1	
	comp=E,1656μm,0.2s						
TIR				AML	AML	14 26 41.6	
	comp=N,1820μm,0.3s						
TIR	Tirane baz=321	0.26	331	P	Pb	14 26 33.8	-0.5
TIR				S	Sb	14 26 38.9	+0.4
	baz=321						
OHR	Ohrid	0.58	90	iPg	Pb	14 26 38.1	-1.6
OHR				iSg	Sb	14 26 47.0	-0.7
OHR				eLg	Lg	14 26 47.3	
	comp=E,133nm,0.6s						
OHR				eLg	Lg	14 26 47.8	
	comp=N,109nm,0.6s						
PHP	Peshkopia baz=22	0.64	28	P	Pb	14 26 39.5	-1.3
PHP				S	Sb	14 26 49.2	-0.4
	baz=22						
VLO	Vlora baz=218	0.77	212	P	Pb	14 26 42.9	0.0
VLO				S	Sn	14 26 54.9	-0.3
	baz=218						
PUK	Puka baz=350	0.93	353	P	Pb	14 26 46.0	+0.3
PUK				S	Sn	14 26 59.8	+0.4
	baz=350						
NEST	Nestorio	1.04	132	P	Pb	14 26 46.8	-0.8
SRN	Sarande baz=185	1.24	181	P	Pb	14 26 51.3	+0.5
SRN				S	Sn	14 27 08.7	+1.9
	baz=185						
PENT	Pentalofos	1.25	137	P	Pb	14 26 50.9	-0.2
SKO	Skopje	1.36	51	ePn	Pn	14 26 52.2	+0.1
SKO				eSg	Sn	14 27 10.0	+0.2
SKO	Skopje	1.36	51	iPg	Pb	14 26 52.2	+0.1
KEK	Kerkira	1.42	187	P	Pn	14 26 52.8	-0.2
PDG	Podgorica	1.44	336	ePn	Pb	14 26 54.0	-0.2
PDG				eSg	Sb	14 27 15.8	+3.6
KPRO	Kipourio	1.54	139	P	Pb	14 26 55.7	-0.4
KZN	Kozani	1.55	121	P	Pb	14 26 55.8	-0.4
IGT	Igoumenitsa	1.60	172	ePg	Pn	14 26 55.8	+0.3
IGT				eSg	Sb	14 27 17.7	+0.7
IGT	Igoumenitsa	1.60	172	P	Pn	14 26 55.7	+0.3
IGT	Igoumenitsa baz=174	1.60	172	P	Pn	14 26 55.8	+0.3
DBRK	Dubrovnik	2.10	318	ePn	Pn	14 27 01.8	-0.5
DBRK				Sn	Sn	14 27 28.7	+0.7
SJES	Sjenica	2.14	359	ePn	Pb	14 27 06.2

*THR **21** 14:33:39.0±2.6, 33°.75N×46°.38E, h14km±203km, ML3.0*
ISC 21 14:33:33.9±0.9, 33°.73N±0°.04×45°.73E±0°.04, h13km, n29, σ1§19/34, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.64**	**165**	*e*Pg	**Pg**	**14 33 45.0**	**-1.4**
IBDR				*e*Sg	**Sg**	**14 33 53.2**	**-1.7**
IBDR				AML	AML	14 33 59.5	
	comp=N,506nm,0.4s						
IBDR				AML	AML	14 34 17.4	
	comp=E,416nm,0.7s						
IGHG	**Ghaleghazi**	**0.91**	**49**	*e*Pg	**Pg**	**14 33 49.9**	**-1.7**
IGHG				*e*		14 34 10.7	
IDHR	**Dehrash**	**1.11**	**29**	*e*Pg	**Pb**	**14 33 54.2**	**-0.8**
IDHR				*e*		14 34 14.8	
KCHF	**Cheshme Sefid,**	**1.21**	**63**	*e*Pg	**Pn**	**14 33 56.3**	**-0.5**
IVIS	**Veis**	**1.22**	**49**	*e*Pg	**Pn**	**14 33 55.9**	**-0.9**
IVIS				*e*		14 34 18.4	
BHD	**Baghdad**	**1.22**	**248**	*e*Pg	**Pb**	**14 33 57.0**	**+0.1**
BHD				*e*Sg	**Sg**	**14 34 14.0**	**+0.7**
BHD				AML	AML	14 34 16.4	
	comp=E,2μm,0.4s						
KER	**Kermanshah**	**1.33**	**60**	*e*Pg	**Pn**	**14 33 58.7**	**+0.4**
IKOM	**Komasi**	**1.54**	**73**	*e*Pg	**Pn**	**14 34 02.1**	**+0.9**
IKOM				*e*		14 34 28.7	
ILIN	**Lien**	**1.56**	**40**	*e*Pg	**Pn**	**14 34 02.0**	**+0.4**
ILIN				*e*		14 34 26.4	
DHL1	**Dehloran**	**1.67**	**129**	*e*Pg	**Pb**	**14 34 04.8**	**+0.3**
IKFM	**Kafar-mosalman**	**1.77**	**96**	*e*		14 34 33.4	
IKFM				*e*Pn	**Pn**	**14 34 04.4**	**+0.1**
IBZA	**Bozab**	**1.91**	**67**	*e*		14 34 09.8	
IBZA				*e*Pg	**Pn**	**14 34 07.7**	**+1.3**
IDOB	**Doab**	**2.04**	**88**	*e*Pn	**Pn**	**14 34 08.8**	**+0.7**
IKMR	**Kamar-syah**	**2.22**	**95**	*e*Pn	**Pn**	**14 34 10.5**	**+0.1**
IKMR				*e*		14 34 49.2	
HSAM	**Samen**	**2.43**	**78**	*e*Pn	**Pn**	**14 34 14.1**	**+0.5**
BMDN	**Meydan**	**2.58**	**90**	*e*Pn	**Pn**	**14 34 16.2**	**+0.7**
BMDN				*e*		14 35 02.8	
HSRG	**Sareghieh**	**2.59**	**54**	*e*Pn	**Pn**	**14 34 17.1**	**+1.4**
HSRG				*e*		14 35 00.5	
NSR	**Nassriya**	**2.74**	**173**	*e*Pn	**Pn**	**14 34 18.0**	**+0.5**
NSR				*e*Sn	**Sn**	**14 34 50.0**	**-0.4**
NSR				AML	AML	14 34 50.5	
	comp=E,631nm,0.4s						
HAGD	**Aghdareh**	**3.02**	**68**	*e*Pn	**Pn**	**14 34 22.4**	**+0.7**
MAHB	**Mahabad**	**3.03**	**360**	*e*Pn	**Pn**	**14 34 22.7**	**+1.0**
SHGR	**Shooshtar-Gavs**	**3.05**	**121**	*e*Pn	**Pn**	**14 34 21.4**	**-0.4**
SHGR				*e*Sg	**Sn**	**14 35 01.1**	**+3.0**
SHGR				IAML		14 35 30.7	
	comp=N,50nm,0.5s						
KHMZ	**Khomeyn**	**3.52**	**89**	*e*Pn	**Pn**	**14 34 29.5**	**+1.0**
ASAO	**Ashtian**	**3.65**	**76**	*e*Pn	**Pn**	**14 34 31.8**	**+1.5**
ASAO				*e*Sg	**Sn**	**14 35 16.1**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.73**	**57**	*e*Pn	**Pn**	**14 34 31.6**	**+0.1**
QSDN	**Sirdan**	**3.95**	**45**	*e*Pn	**Pn**	**14 34 34.8**	**+0.4**
GHVR	**GHOM**	**4.67**	**79**	*e*Pn	**Pn**	**14 34 43.0**	**-1.3**
IKLH	**Kolahrood**	**4.90**	**93**	*e*Pn	**Pn**	**14 34 49.3**	**+1.8**
CHTH	**Charan**	**4.94**	**62**	*e*Pn	**Pn**	**14 34 47.3**	**-0.7**
KRSH	**Karshahi**	**5.33**	**86**	*e*Pn	**Pn**	**14 34 54.3**	**+0.9**

IDC 21 14:39:40.5±1.8, 41°.93N×124°.04E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.2/49, mbtmp3.3/4, ML2.1/2, Error ellipse: s-maj=24.6km s-min=20.3km az=55.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**5.38**	**145**	Pn	Pn	14 41 01.1	-0.8
	0.1nm,0.3s,baz=322,slow=14,SNR=2.1						
KSRS				Pg	Pb	14 41 19.1	+3.8
	0.4nm,0.3s,baz=328,slow=17,SNR=8.2						
KSRS				Lg	Lg	14 42 31.1	
	2.8nm,0.3s,baz=330,slow=30,SNR=16						
USRK	**Ussuriysk Ar.**	**6.25**	**66**	Pn	Pn	14 41 14.2	+0.2
	baz=256,slow=14,SNR=7.6						
USRK				Pg	Pg	14 41 35.5	-4.7
	baz=250,slow=12,SNR=12						
USRK				Sn	Sn	14 42 26.2	+0.1
	baz=260,slow=16,SNR=2.2						
USRK				Lg	Lg	14 42 58.2	
	baz=248,slow=26,SNR=8.9						
ILAR	**Eielson Array**	**52.66**	**33**	P	P	14 48 56.2	+0.2
	0.3nm,0.8s,baz=297,slow=8.0,SNR=2.9						
FINES	**FINESS Array B**	**57.71**	**326**	P	P	14 49 32.1	-0.4
	0.9nm,0.7s,baz=52,slow=9.0,SNR=1.2						

*INET **21** 14:42:25.8, 12°.64N×88°.40W, h20km, ML3.3*
*UCR **21** 14:42:28.9±1.1, 12°.68N×88°.37W, h32km±3km, ML3.6*
*SNET **21** 14:42:28.9±1.0, 12°.70N×88°.38W, h31km±4km, ML3.6*
ISC 21 14:42:28.2±2.4, 12°.7N±0°.1×88°.36W±0°.04, h22km±9km, n42, σ0§46/64, 4C-16D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarın**	**0.58**	**11**	*i*P	**Pn**	**14 42 40.8**	**-0.4**
JUCU				*e*S	**Sn**	**14 42 49.6**	**-0.4**
JUCU				IAML		14 42 52.2	
	comp=Z,3μm,0.4s						
JUCU	**Jucuarın**	**0.58**	**11**	*i*P	**Pn**	**14 42 40.8**	**-0.4**
JUCU				*e*S	**Sn**	**14 42 49.6**	**-0.4**
JUCU				IAML		14 42 52.2	
	comp=Z,3μm,0.4s						
LCY	**Lacayo**	**0.74**	**5**	*e*P	**Pn**	**14 42 43.4**	**0.0**
LCY				*e*S	**Sn**	**14 42 54.1**	**0.0**
LCY	**Lacayo**	**0.74**	**5**	*e*P	**Pn**	**14 42 43.4**	**0.0**
LCY				*e*S	**Sn**	**14 42 54.1**	**0.0**
VSM	**San Miguel**	**0.74**	**6**	*e*P	**Pn**	**14 42 43.6**	**0.0**
VSM	**San Miguel**	**0.74**	**6**	*e*P	**Pn**	**14 42 43.6**	**0.0**
RANC	**El Ranchito**	**0.75**	**5**	*e*P	**Pn**	**14 42 43.6**	**0.0**
RANC				*e*S	**Sn**	**14 42 54.8**	**+0.3**
RANC	**El Ranchito**	**0.75**	**5**	*e*P	**Pn**	**14 42 43.6**	**0.0**
RANC				*e*S	**Sn**	**14 42 54.8**	**+0.3**
BLLM	**Bellamira**	**0.76**	**9**	*i*P	**Pn**	**14 42 43.6**	**-0.1**
BLLM				*e*S	**Sn**	**14 42 54.4**	**-0.2**
BLLM	**Bellamira**	**0.76**	**9**	*i*P	**Pn**	**14 42 43.6**	**-0.1**
BLLM				*e*S	**Sn**	**14 42 54.4**	**-0.2**
LCND	**La Caada**	**0.77**	**36**	*i*P	**Pn**	**14 42 43.2**	**-0.6**
LCND				IAML		14 42 43.7	
	comp=Z,3μm,0.3s						
LCND				*e*S	**Sn**	**14 42 54.0**	**-0.8**
LCND	**La Caada**	**0.77**	**36**	*i*P	**Pn**	**14 42 43.2**	**-0.6**
LCND				IAML		14 42 43.7	
	comp=Z,3μm,0.3s						
LCND				*e*S	**Sn**	**14 42 54.0**	**-0.8**
CNCH	**Conchagua**	**0.78**	**41**	*i*P	**Pb**	**14 42 43.3**	**0.0**
CNCH				*e*S	**Sn**	**14 42 56.7**	**+1.5**
CNCH	**Conchagua**	**0.78**	**41**	*i*P	**Pb**	**14 42 43.3**	**0.0**
CNCH				*e*S	**Sn**	**14 42 56.7**	**+1.5**
TECA	**Tecapa**	**0.82**	**350**	*e*P	**Pn**	**14 42 44.4**	**-0.2**
TECA				*e*S	**Sn**	**14 42 57.0**	**+0.8**
TECA	**Tecapa**	**0.82**	**350**	*e*P	**Pn**	**14 42 44.4**	**-0.2**
TECA				*e*S	**Sn**	**14 42 57.0**	**+0.8**
COEB	**Comit de Eme**	**0.83**	**348**	*e*P	**Pn**	**14 42 44.4**	**-0.3**
COEB				*e*S	**Sn**	**14 42 57.1**	**+0.8**
COEB	**Comit de Eme**	**0.83**	**348**	*e*P	**Pn**	**14 42 44.4**	**-0.3**
COEB				*e*S	**Sn**	**14 42 57.1**	**+0.8**
FAGO	**Alcalda de S**	**1.03**	**14**	*e*P	**Pb**	**14 42 47.4**	**-0.1**
FAGO	**Alcalda de S**	**1.03**	**14**	*e*P	**Pb**	**14 42 47.4**	**-0.1**
LFRS	**El Faro**	**1.16**	**324**	*e*P	**Pn**	**14 42 48.7**	**-0.5**
LFRS	**El Faro**	**1.16**	**324**	*e*P	**Pn**	**14 42 48.7**	**-0.5**
PAVA	**Las Pavas**	**1.17**	**331**	*e*P	**Pn**	**14 42 49.3**	**0.0**
PAVA				IAML		14 43 11.0	
	comp=Z,917nm,0.3s						
PAVA	**Las Pavas**	**1.17**	**331**	*e*P	**Pn**	**14 42 49.3**	**0.0**
PAVA				IAML		14 43 11.0	
	comp=Z,917nm,0.3s						
LBRS	**Las Brisas**	**1.24**	**328**	*e*P	**Pn**	**14 42 50.1**	**-0.3**
LBRS	**Las Brisas**	**1.24**	**328**	*e*P	**Pn**	**14 42 50.1**	**-0.3**
LFU	**La Fuente**	**1.29**	**325**	*e*P	**Pn**	**14 42 51.0**	**0.0**
LFU	**La Fuente**	**1.29**	**325**	*e*P	**Pn**	**14 42 51.0**	**0.0**
UEES	**Universidad Ev**	**1.34**	**320**	*e*P	**Pn**	**14 42 51.2**	**-0.5**
UEES				*e*S	**Sn**	**14 43 08.2**	**-0.6**
UEES				IAML		14 43 12.9	
	comp=Z,673nm,0.3s						
UEES	**Universidad Ev**	**1.34**	**320**	*e*P	**Pn**	**14 42 51.2**	**-0.5**
UEES				*e*S	**Sn**	**14 43 08.2**	**-0.6**
UEES				IAML		14 43 12.9	
	comp=Z,673nm,0.3s						
BOQS	**Boqueron**	**1.38**	**319**	*e*P	**Pn**	**14 42 52.6**	**+0.3**
BOQS				*e*S	**Sb**	**14 43 10.7**	**+0.1**
BOQS	**Boqueron**	**1.38**	**319**	*e*P	**Pn**	**14 42 52.6**	**+0.3**
BOQS				*e*S	**Sb**	**14 43 10.7**	**+0.1**
TACO	**Tacachico**	**1.60**	**323**	*e*P	**Pn**	**14 42 55.3**	**0.0**
TACO				*e*S	**Sn**	**14 43 15.4**	**+0.1**
TACO	**Tacachico**	**1.60**	**323**	*e*P	**Pn**	**14 42 55.3**	**0.0**
TACO				*e*S	**Sn**	**14 43 15.4**	**+0.1**
CEVE	**Cerro Verde**	**1.68**	**313**	*e*P	**Pn**	**14 42 56.6**	**+0.1**
CEVE				IAML		14 43 22.8	
	comp=Z,765nm,0.5s						
CEVE	**Cerro Verde**	**1.68**	**313**	*e*P	**Pn**	**14 42 56.6**	**+0.1**
CEVE				IAML		14 43 22.8	
	comp=Z,765nm,0.5s						
SBLS	**San Blas**	**1.68**	**313**	*e*P	**Pn**	**14 42 56.7**	**+0.1**
SBLS	**San Blas**	**1.68**	**313**	*e*P	**Pn**	**14 42 56.7**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.73**	**38**	*e*P	**Pn**	**14 42 57.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.73**	**38**	*e*P	**Pn**	**14 42 57.1**	**+0.1**
MTO3	**Montecristo**	**1.96**	**330**	*e*P	**Pn**	**14 43 00.4**	**0.0**
MTO3	**Montecristo**	**1.96**	**330**	*e*P	**Pn**	**14 43 00.4**	**0.0**

*IDC **21** 14:43:50.6±1.0, 9°.88N×80°.64W, h0km, mb3.7/8, mb1 4.1/9, mb1mx3.9/28, mbtmp3.7/9, ML3.8/1, MS3.0/5, Ms1 3.0/5, ms1mx2.8/32, Error ellipse: s-maj=36.7km s-min=23.5km az=61.0*
*UCR **21** 14:43:55.1±1.7, 9°.96N×80°.72W, h36km±999km, MD4.0, mb4.5(NEIC)*
*NEIC **21** 14:43:56.5±2.5, 9°.83N±0°.09×80°.76W±0°.07, h46km±6km, mb4.5/21, Error ellipse: s-maj=13.7km s-min=8.5km az=215.0*
*UPA **21** 14:43:57.2±1.1, 9°.74N×80°.73W, h38km±8km, MW4.7*
ISC 21 14:43:55.9±0.6, 9°.86N±0°.04×80°.76W±0°.02, h35km±4km, n116, σ1§45/145, mb4.3/15, 1C-12D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIL	**Cristobal, Col**	**1.01**	**126**	*e*P	**Pn**	**14 44 13.7**	**+0.1**
SPIL				*e*S	**Sn**	**14 44 26.4**	**-0.1**
SABA3	**Sabanitas, Col**	**1.07**	**118**	*e*P	**Pn**	**14 44 14.5**	**0.0**
SABA3				*e*S	**Sn**	**14 44 26.9**	**-1.1**
MLIR	**Monte Lirio**	**1.08**	**124**	*i*P	**Pn**	**14 44 14.8**	**+0.2**
MLIR				*e*S	**Sn**	**14 44 27.3**	**-1.0**
BCIP	**Isla Barro Col**	**1.14**	**127**	*i*P	**Pn**	**14 44 15.5**	**+0.1**
BCIP				*e*S	**Sn**	**14 44 28.5**	**-1.2**
BCIP	**Isla Barro Col**	**1.14**	**127**	*i*P	**Pn**	**14 44 15.5**	**+0.1**
BCIP				*e*S	**Sn**	**14 44 28.9**	**-0.9**
BCIP	**Isla Barro Col**	**1.14**	**127**	*e*P	**Pn**	**14 44 15.5**	**+0.1**
BCIP				*e*S	**Sn**	**14 44 29.1**	**-0.6**
BCIP	**Isla Barro Col**	**1.14**	**127**		**Pn**	**14 44 15.5**	**+0.1**
ZANG	**Zanguenga, Cho**	**1.25**	**136**	*i*P	**Pn**	**14 44 17.1**	**+0.1**
ZANG				*e*S	**Sn**	**14 44 29.8**	**-2.8**
ZANG	**Zanguenga, Cho**	**1.25**	**136**	*e*P	**Pn**	**14 44 17.0**	**+0.1**
MAD3	**Madden Dam**	**1.29**	**120**	*e*P	**Pn**	**14 44 17.8**	**+0.3**
MAD3				*e*S	**Sn**	**14 44 33.0**	**-0.7**
CHOR3	**La Chorrera**	**1.37**	**134**	*i*P	**Pn**	**14 44 18.7**	**+0.2**
CHOR3				*e*S	**Sn**	**14 44 34.8**	**-0.6**
VTON	**El Valle, Cocl**	**1.39**	**153**	*i*P	**Pn**	**14 44 18.8**	**-0.2**
VTON				*e*S	**Sn**	**14 44 34.8**	**-1.4**
ARRA3	**Arraijan, Pana**	**1.40**	**129**	*i*P	**Pn**	**14 44 19.1**	**+0.1**
ARRA3				*e*S	**Sn**	**14 44 34.6**	**-1.7**
PNME	**Penonome**	**1.43**	**163**	*i*P	**Pn**	**14 44 18.9**	**-0.5**
PNME				*e*S	**Sn**	**14 44 36.3**	**-0.6**
UPA	**Univ. de Panam**	**1.49**	**126**	*i*P	**Pn**	**14 44 19.9**	**-0.3**
UPA				*e*S	**Sn**	**14 44 36.0**	**-2.5**
TABO3	**Taboga, Panama**	**1.59**	**132**	*i*P	**Pn**	**14 44 22.0**	**+0.4**
TABO3				*e*S	**Sn**	**14 44 39.2**	**-1.7**
SFRA3	**San Francisco,**	**1.61**	**188**	*i*P	**Pn**	**14 44 21.7**	**-0.2**
SFRA3				*e*S	**Sn**	**14 44 40.3**	**-1.2**
CHGR2	**Aguacate**	**1.65**	**236**	*e*P	**Pn**	**14 44 23.3**	**+0.8**
CHGR2				*e*S	**Sn**	**14 44 39.4**	**-3.0**
MESA3	**La Mesa, Verag**	**1.75**	**194**	*e*P	**Pn**	**14 44 23.8**	**-0.1**
MESA3				*e*S	**Sn**	**14 44 43.7**	**-1.2**
CHPO	**Chepo, Panama**	**1.76**	**113**	*e*P	**Pn**	**14 44 24.8**	**+0.9**
CHPO				*e*S	**Sn**	**14 44 44.6**	**-0.5**
STIA3	**Santiago, Vera**	**1.76**	**187**	*e*P	**Pn**	**14 44 23.9**	**0.0**
STIA3				*e*S	**Sn**	**14 44 44.5**	**-0.7**
RGM0	**Gandoca**	**1.84**	**262**	*e*P	**Pn**	**14 44 25.7**	**+0.6**
RGM0				*e*S	**Sn**	**14 44 45.0**	**-2.3**
RGM0	**Gandoca**	**1.84**	**262**	*e*P	**Pn**	**14 44 25.5**	**+0.4**
RGM0				*e*S	**Sn**	**14 44 47.8**	**+0.6**
NANC3	**Nancito, Chiri**	**1.88**	**211**	*e*P	**Pn**	**14 44 25.3**	**-0.3**
NANC3				*e*S	**Sn**	**14 44 45.0**	**-3.1**
RSUS3	**Rio de Jesus,**	**1.91**	**192**	*i*P	**Pn**	**14 44 26.2**	**+0.2**
RSUS3				*e*S	**Sn**	**14 44 44.7**	**-4.0**
CHIT3	**Chitre**	**1.92**	**170**	*e*P	**Pn**	**14 44 25.7**	**-0.4**
CHIT3				*e*S	**Sn**	**14 44 48.8**	**-0.2**
PSOM3	**Paja de Sombre**	**1.94**	**233**	*e*S	**Sn**	**14 44 46.5**	**-3.1**
PONU3	**Ponuga, Veragu**	**1.97**	**186**	*e*S	**Sn**	**14 44 49.1**	**-1.4**
PVID3	**Puerto Vidal,**	**1.99**	**205**	*e*S	**Sn**	**14 44 48.9**	**-1.8**
PTAR3	**Potrerillos Ar**	**2.07**	**236**	*e*S	**Sn**	**14 44 53.3**	**+0.3**
AZU	**Azuero**	**2.11**	**167**	*i*P	**Pn**	**14 44 28.4**	**-0.3**
AZU				*e*S	**Sn**	**14 44 53.1**	**-0.6**
CHIR3	**Chiriqui UPA,**	**2.13**	**227**	*e*P	**Pn**	**14 44 31.1**	**+2.0**
CHIR3				*e*S	**Sn**	**14 44 53.0**	**-1.2**
GMAL	**Guarumal, Vera**	**2.13**	**193**	*e*P	**Pn**	**14 44 28.3**	**-0.8**
GMAL				*e*S	**Sn**	**14 44 51.9**	**-2.5**
BRU2	**Volcan**	**2.18**	**241**	*e*P	**Pn**	**14 44 29.5**	**-0.4**
BRU2				*e*S	**Sn**	**14 44 52.2**	**-3.6**
BRU2	**Volcan**	**2.18**	**241**	*e*P	**Pn**	**14 44 29.6**	**-0.3**
CDITO	**Canoas**	**2.45**	**239**	*e*P	**Pn**	**14 44 34.7**	**+1.3**
TOSI3	**Tonosi**	**2.46**	**173**	*e*P	**Pn**	**14 44 35.4**	**+1.9**
TOSI3				*e*S	**Sn**	**14 45 03.0**	**+0.7**
CACAO	**El Cacao, Vera**	**2.50**	**182**	*e*P	**Pn**	**14 44 35.4**	**+1.2**
CACAO				*e*S	**Sn**	**14 45 04.8**	**+1.4**
DRK0	**Durika**	**2.53**	**257**	*e*P	**Pn**	**14 44 34.5**	**-0.1**
PEZE	**Perez Zeledon,**	**2.92**	**261**	*e*P	**Pn**	**14 44 40.0**	**0.0**
RIOS	**Rincon, Osa**	**2.96**	**247**	*e*P	**Pn**	**14 44 40.5**	**0.0**
CDM	**Cerro de Muert**	**2.98**	**264**	*e*P	**Pn**	**14 44 41.1**	**-0.1**
UPD2	**Meteti**	**3.00**	**115**	*e*P	**Pn**	**14 44 42.7**	**+1.6**
UPD2				*e*S	**Sn**	**14 45 13.0**	**-0.6**
RIMA	**Rio Macho**	**3.06**	**269**	*e*P	**Pn**	**14 44 42.2**	**+0.1**
LCR2	**La Lucha 2**	**3.20**	**268**	*e*P	**Pn**	**14 44 44.4**	**+0.4**
HDC	**Heredia**	**3.31**	**273**	Pn	**Pn**	**14 44 49.4**	**+4.0**
PRVC	**Isla de Provid**	**3.55**	**350**	*e*P	**Pn**	**14 44 47.7**	**-0.8**
PRVC				*e*S	**Sn**	**14 45 27.3**	**-2.0**
PRVC				*i*		14 45 30.9	
	comp=Z,460nm,0.2s						
COVE	**Coope Vega, Sa**	**3.69**	**284**	*e*P	**Pn**	**14 44 49.8**	**-0.7**
JACO	**JACO, Garabito**	**3.85**	**267**	*e*P	**Pn**	**14 44 54.4**	**+1.6**
PTAC	**Punta Ardita,**	**3.97**	**133**	*e*P	**Pn**	**14 44 51.9**	**-2.5**
JTS	**Las Juntas de**	**4.16**	**276**	Pn	**Pn**	**14 44 57.6**	**+0.7**
	comp=Z,5.9nm,0.3s,baz=108,slow=13,SNR=5.0						
JTS				Sn	**Sn**	**14 45 42.9**	**-1.5**
	comp=Z,5.4nm,0.3s,baz=180,slow=22,SNR=2.2						
JTS				LR	LR	14 46 14.7	
	comp=Z,37nm,21.8s,baz=178,slow=34						
ESPN	**Las Esperanzas**	**4.18**	**304**	Pn	**Pn**	**14 44 56.6**	**-0.7**
LCBC	**Los crdobas,**	**4.44**	**103**	*e*P	**Pn**	**14 45 03.1**	**+2.3**
LCBC				*e*S	**Sn**	**14 45 51.2**	**-0.2**
ACON	**Acoyapa**	**4.82**	**296**		**Pn**	**14 45 06.1**	**+0.1**
MOTC	**Monteria, Cord**	**5.14**	**102**	*e*P	**Pn**	**14 45 12.0**	**+1.6**
MONA	**Monteria**	**5.14**	**102**	*e*P	**Pn**	**14 45 11.6**	**+1.0**
MONA				*e*S	**Sn**	**14 46 04.0**	**-4.8**
DBBC	**Dabeiba**	**5.31**	**122**	*e*P	**Pn**	**14 45 13.6**	**+0.8**
SJCC	**San Jacinto, C**	**5.50**	**89**	*e*P	**Pn**	**14 45 17.2**	**+1.8**
SJCC	**San Jacinto, C**	**5.50**	**89**	*e*P	**Pn**	**14 45 16.8**	**+1.4**
SJCC				*e*S	**Sn**	**14 46 12.0**	**-5.4**
MATN	**Matagalpa**	**5.92**	**302**		**Pn**	**14 45 21.4**	**+0.2**
CBOC	**Ciudad Bolivar**	**6.15**	**130**	*e*P	**Pn**	**14 45 24.6**	**0.0**
ZARC	**Zaragoza, Cauc**	**6.29**	**111**	*e*P	**Pn**	**14 45 26.1**	**-0.1**
SMRC	**Santa Marta, M**	**6.55**	**78**	*e*P	**Pn**	**14 45 29.6**	**-0.2**
SMLC	**San Martn de**	**6.68**	**98**	*e*P	**Pn**	**14 45 31.7**	**+0.1**
GUY2C	**Guyana, Caldas**	**7.05**	**130**	*e*P	**Pn**	**14 45 38.6**	**+1.4**
PTBC	**PUERTO BERRIO,**	**7.05**	**117**	*e*P	**Pn**	**14 45 37.3**	**+0.5**
YOTC	**Yotoco, Valle**	**7.30**	**143**	*e*P	**Pn**	**14 45 43.7**	**+3.5**
TGUH	**Tegucigalpa,Un**	**7.62**	**304**	Pn	**Pn**	**14 45 45.5**	**+0.9**
ORTC	**Ortega, Tolima**	**8.05**	**137**	*e*P	**Pn**	**14 45 51.4**	**+0.8**
ROSC	**El Rosal**	**8.10**	**128**	LR	LR	14 49 20.8	
	comp=Z,122nm,20.1s,baz=99,slow=41						
PCON	**Cinco Dias**	**8.64**	**150**	*e*P	**Pn**	**14 46 03.6**	**+4.4**
MTDJ	**Mount Denham**	**8.88**	**20**	Pn	**Pn**	**14 46 01.9**	**0.0**
LCCY	**Blossom Villag**	**9.77**	**4**	Pn	**Pn**	**14 46 14.2**	**+0.1**
CBCY	**The Bluff, Cay**	**9.87**	**5**	Pn	**Pn**	**14 46 15.4**	**0.0**
TEIG	**Tepich**	**12.61**	**326**	Pn	**Pn**	**14 46 53.6**	**+0.8**
SDDR	**Presa de Saban**	**12.89**	**44**	Pn	**Pn**	**14 46 56.0**	**-0.8**
BANI	**BANI**	**13.17**	**49**	Pn	**Pn**	**14 47 00.3**	**-0.4**
DR12	**Loma Pena Alta**	**14.14**	**50**	Pn	**Pn**	**14 47 13.0**	**-0.9**
AGPR	**Aguadilla, PR**	**15.75**	**56**	Pn	**Pn**	**14 47 34.9**	**-0.3**
ICMP	**Isla Caja de M**	**15.95**	**58**	Pn	**Pn**	**14 47 37.6**	**-0.2**
ICMP				IAmb	IAmb	14 47 40.3	
	comp=Z,47nm,0.9s						
ATAH	**Atahualpa**	**17.05**	**172**	LR	LR	14 53 39.5	
	comp=Z,62nm,20.4s,baz=360,slow=34						
TKL	**Tuckaleechee C**	**25.83**	**354**	LR	LR	14 59 44.5	
	comp=Z,58nm,18.7s,baz=163,slow=37						
LNXT	**Lenox**	**27.30**	**344**	P	**P**	**14 49 36.4**	**-0.9**
GNAR	**Gosnell**	**27.32**	**343**	P	**P**	**14 49 36.2**	**-1.2**
U40A	**Yellville**	**28.57**	**339**	P	**P**	**14 49 49.8**	**+1.1**
U40A				IAmb	IAmb	14 49 50.8	
	comp=Z,6.1nm,0.7s						
ABTX	**Abilene, Hawle**	**28.59**	**325**	P	**P**	**14 49 48.4**	**-0.6**
T42A	**Van Buren**	**28.62**	**343**	P	**P**	**14 49 49.0**	**-0.1**
T42A				IAmb	IAmb	14 49 50.7	
	comp=Z,8.6nm,0.8s						
TXAR	**Lajitas Array**	**28.90**	**315**	P	**P**	**14 49 52.6**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=140,slow=6.6,SNR=3.6						
CCM	**Cathedral Cave**	**29.62**	**343**	P	**P**	**14 49 58.8**	**+0.8**
JFWS	**Jewell Farm**	**33.96**	**347**	P	**P**	**14 50 36.6**	**+0.6**
JFWS				IAmb	IAmb	14 50 37.0	
	comp=Z,7.1nm,0.6s						
SDCO	**Great Sand Dun**	**35.60**	**325**	P	**P**	**14 50 52.3**	**+1.7**
PV12	**Saucer Basin,**	**37.89**	**323**	P	**P**	**14 51 11.3**	**+1.2**
PV12				IAmb	IAmb	14 51 12.9	
	comp=Z,4.7nm,0.9s						
PV18	**Skein Mesa, Pa**	**37.91**	**323**	P	**P**	**14 51 11.1**	**+0.9**
PD31	**Pinedale Array**	**41.33**	**328**	P	**P**	**14 51 39.2**	**+0.5**
PDAR	**Pinedale Array**	**41.33**	**328**	P	**P**	**14 51 38.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=115,slow=10.0,SNR=5.9						
PDAR				LR	LR	15 11 26.1	
	comp=Z,42nm,18.5s,baz=198,slow=40						
ULM	**Lac du Bonnet**	**42.17**	**346**	P	**P**	**14 51 44.6**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=142,slow=9.8,SNR=4.9						
ULM	**Lac du Bonnet**	**42.17**	**346**	IAmb	IAmb	14 51 45.2	
	comp=Z,5.0nm,0.7s						
NVAR	**Mina Array Bea**	**44.03**	**316**	P	**P**	**14 52 01.9**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=129,slow=7.1,SNR=2.6						
EGMT	**Eagleton**	**45.20**	**333**	P	**P**	**14 52 10.2**	**+0.5**
EGMT				IAmb	IAmb	14 52 12.0	
	comp=Z,5.1nm,0.8s						
LC01	**Cunco**	**49.20**	**171**	P	**P**	**14 52 40.4**	**-0.4**
LC01				IAmb	IAmb	14 52 49.6	
	comp=Z,7.2nm,1.1s						
PLCA	**Paso Flores**	**51.21**	**170**	P	**P**	**14 52 56.5**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=359,slow=5.7,SNR=5.5						
PLCA	**Paso Flores**	**51.21**	**170**	IAmb	IAmb	14 53 03.2	
	comp=Z,6.8nm,1.2s						
YKA	**Yellowknife Ar**	**57.95**	**342**	P	**P**	**14 53 44.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=132

HAZ Te Kaha 1.78 192 P **Pn 15 03 01.0 +0.2**
WMGZ Waiomatatini S 1.80 176 P **Pb 15 03 02.4 -0.7**
WMGZ S **Sg 15 03 31.3 +3.3**
RUGZ Raukumara Rang 2.00 193 P **Pb 15 03 05.8 -0.7**
PUZ Puketiti 2.05 180 P **Pb 15 03 06.7 -0.7**
PUZ S **Sg 15 03 36.7 +0.8**
WHRZ Whale Island 2.11 209 P **Pg 15 03 09.4 -0.9**
KUZ Kuaotunu 2.18 250 P **Pn 15 03 05.8 -0.4**
OPRZ Ohinepanea 2.28 216 P **Pb 15 03 10.7 -0.6**
MARZ Manawahe 2.34 212 P **Pg 15 03 15.0 +0.1**
MWZ Matawai 2.39 194 P **Pn 15 03 09.3 +0.1**
URZ Urewera 2.42 202 Pn **Pn 15 03 09.7 +0.1**
57nm,0.3s,baz=27,slow=4.4,SNR=205
URZ Sn **Sn 15 03 40.9 +1.6**
148nm,0.3s,baz=106,slow=6.9,SNR=6.4
URZ LR LR 15 04 22.3
comp=Z,31µm,18.0s,baz=5.5,slow=46
URZ Urewera 2.42 202 P **Pn 15 03 10.7 +1.2**
URZ S **Sb 15 03 41.8 -1.7**
URZ Urewera 2.42 202 P **Pn 15 03 09.5 -0.1**
TKGZ Te Karaka 2.44 188 P **Pb 15 03 13.0 -0.9**
TKGZ S **Sg 15 03 47.1 -1.3**
CNGZ Carnagh Statio 2.46 181 P **Pb 15 03 13.2 -1.1**
CNGZ S **Sg 15 03 49.7 +0.5**
OMRZ Omania 2.58 215 P **Pb 15 03 16.1 -0.2**
TARZ Mount Tarawera 2.62 212 P **Pb 15 03 18.1 +1.0**
HLRZ Highlands Stat 2.70 214 P **Pg 15 03 20.3 -1.5**
RRRZ Republican Roa 2.71 211 P **Pb 15 03 17.4 -1.1**
RIGZ Rimuhau 2.71 188 P **Pb 15 03 16.2 -2.4**
UTU Utuhina 2.72 217 P **Pb 15 03 18.7 0.0**
RTZ Ruatahuna 2.79 201 P **Pn 15 03 15.6 +0.9**
HSRZ Hossack Road 2.80 215 P **Pb 15 03 21.4 +1.3**
HRRZ Handcock Road 2.85 213 P **Pb 15 03 22.3 +1.3**
SNGZ Shannon Statio 2.86 195 P **Pb 15 03 19.1 -2.0**
SNGZ S **Sb 15 03 57.6 +1.5**
PRRZ Plateau Road 2.89 210 P **Pb 15 03 19.2 -2.5**
GRRZ Galatos Road 2.90 216 P **Pg 15 03 24.6 -0.9**
PRGZ Paritu Road 2.92 186 P **Pn 15 03 18.5 +2.1**
PRGZ S **Sb 15 03 56.9 -1.0**
ALRZ Allen Road 2.97 210 P **Pb 15 03 20.3 -2.7**
WPRZ Whakapapatarin 3.01 213 P **Pb 15 03 24.1 +0.5**
MHGZ Mahia Peninsul 3.14 185 P **Pn 15 03 21.4 +1.9**
MRHZ Matea Rd 3.17 207 P **Pn 15 03 22.6 +2.6**
WHTZ Whakaora 3.22 214 P **Pg 15 03 29.8 -1.9**
NMHZ Naumai 3.29 200 P **Pn 15 03 24.4 +2.8**
HATZ Hinemaiaia 3.35 210 P **Pb 15 03 27.8 -1.7**
WATZ Wairara 3.36 216 P **Pb 15 03 29.1 -0.5**
ARHZ Aropaoanui 3.39 197 P **Pn 15 03 24.9 +2.0**
RATZ Rangitukua 3.47 214 P **Pb 15 03 30.3 -1.1**
RITZ Rihia Road 3.52 212 P **Pb 15 03 29.2 -3.2**
KATZ Kakaramea 3.59 214 P **Pb 15 03 32.4 -1.2**
MCHZ McNeill Hill 3.64 199 P **Pn 15 03 29.2 +2.8**
KWHZ Kaweka Forest 3.70 203 P **Pn 15 03 30.7 +3.4**
TMVZ Te Maari 3.70 213 P **Pn 15 03 31.0 +3.6**
KRVZ Karewarewa 3.71 213 P **Pb 15 03 32.7 -3.0**
ETVZ East Tongariro 3.71 212 P **Pb 15 03 32.0 -3.8**
ETVZ P Pn 15 03 32.5 +5.0
WTVZ West Tongariro 3.75 214 P **Pb 15 03 32.6 -3.8**
CKHZ Cape Kidnapper 3.75 194 P **Pn 15 03 29.2 +1.2**
OTVZ Oturere 3.76 213 P **Pn 15 03 31.6 +3.4**
TWVZ Taurewa 3.79 216 P **Pb 15 03 34.2 -2.8**
NGZ Ngauruhoe 3.81 213 P **Pb 15 03 33.8 -3.3**
TUVZ Tukino 3.85 212 P **Pb 15 03 33.9 -4.2**
BHHZ Black Hill Sta 3.88 206 P **Pn 15 03 32.6 +2.8**
FWVZ Far West T-bar 3.88 213 P **Pb 15 03 34.6 -4.0**
DRZ Dome Shelter 3.90 213 P **Pb 15 03 35.0 -4.0**
KRHZ Kereru 3.92 202 P **Pn 15 03 31.2 +1.0**
WNVZ Wahianoa 3.92 212 P **Pn 15 03 33.8 +3.4**
MOVZ Moawhango 3.93 210 P **Pn 15 03 32.4 +2.0**
KAHZ Kahuranaki 3.93 196 P **Pn 15 03 31.8 +1.4**
PKVZ Pokaka 4.00 214 P **Pn 15 03 35.3 +3.9**
PXZ Pawanui 4.16 195 P **Pn 15 03 33.3 -0.2**
PNHZ Pukenui 4.22 202 P **Pn 15 03 35.1 +0.8**
WPHZ Waipukurau 4.29 199 P **Pn 15 03 36.5 +1.2**
PRHZ Porangahau 4.43 196 P **Pn 15 03 38.5 +1.3**
WAZ Wanganui 4.54 214 P **Pn 15 03 42.8 +4.0**
DVHZ Dannevirke 4.58 200 P **Pn 15 03 40.5 +1.2**
LREZ Lake Rotokare 4.60 220 P Pb 15 03 45.4 -5.4
NEZ North Egmont 4.63 224 P **Pb 15 03 48.5 -2.9**
ANWZ Angora Road 4.65 197 P **Pn 15 03 40.9 +0.6**
KHEZ Kahui Hut 4.70 225 P **Pb 15 03 49.7 -2.8**
POWZ Post Office Ro 4.79 203 P **Pn 15 03 44.6 +2.4**
PRWZ Pori Road 4.88 201 P **Pn 15 03 44.6 +1.2**
BFZ Birch Farm 4.92 198 P **Pn 15 03 43.7 -0.2**
BFZ Birch Farm 4.92 198 **Pn 15 03 43.5 -0.5**
TIWZ Tintock 5.11 201 P **Pn 15 03 46.4 -0.2**
CPWZ Castlepoint 5.15 198 P **Pn 15 03 47.8 +0.8**
HOWZ Holdsworth Sta 5.33 203 P **Pn 15 03 49.1 -0.5**
OGWZ Otaki Gorge 5.37 206 P **Pn 15 03 50.4 +0.3**
OGWZ S **Sn 15 04 53.7 +1.7**
TMWZ Te Maipa 5.41 199 P **Pn 15 03 49.7 -1.0**
TMWZ S **Sn 15 04 53.6 +0.5**
KIW Kapiti Island 5.51 208 P **Pn 15 03 53.2 +1.1**
CAW Cannon Point 5.67 205 P **Pn 15 03 54.1 -0.1**
TRWZ Traveller 5.74 200 P **Pn 15 03 54.5 -0.7**
MSWZ Moikau Station 5.88 203 P **Pn 15 03 56.9 -0.3**
MSWZ Moikau Station 5.88 203 **Pn 15 03 56.7 -0.5**
SNZO South Karori 5.97 207 Pn **Pn 15 03 58.0 -0.4**
BHW Baring Head 6.00 205 **Pn 15 03 57.7 -1.1**
PLWZ Palliser 6.02 202 **Pn 15 03 57.5 -1.7**
TUWZ Tuamarina 6.37 211 **Pn 15 04 02.5 -1.4**
CMWZ Cape Campbell 6.54 208 P **Pn 15 04 07.6 +1.5**
CMWZ Cape Campbell 6.54 208 Pn **Pn 15 04 06.6 +0.4**
BSWZ Blackbirch Sta 6.64 210 Pn **Pn 15 04 06.9 -0.7**
THZ Tophouse 7.10 214 Pn **Pn 15 04 13.3 -0.6**
OXZ Oxford 8.73 211 **Pn 15 04 33.9 -2.4**
WVZ Waitaha Valley 9.13 217 P Pn 15 04 48.9 +7.1
RPZ Rata Peaks 9.47 214 Pn **Pn 15 04 45.9 -0.5**
4.4nm,0.3s,baz=90,slow=4.3,SNR=14
RPZ Sn **Sn 15 06 30.2 -2.7**
4.1nm,0.3s,baz=336,slow=21,SNR=8.7
RPZ LR LR 15 08 58.1
comp=Z,10µm,18.2s,baz=30,slow=41
RPZ Rata Peaks 9.47 214 Pn **Pn 15 04 44.3 -2.2**
MLZ Mavora Lakes 12.09 216 Pn **Pn 15 05 21.3 -1.0**
DZM Mont Dzumac 17.29 320 *e*Pn **Pn 15 06 24.7 -7.0**
202nm,1.4s
DZM *e*LQ LQ 15 09 40.0
11µm,26.9s
DZM *e*LR LR 15 10 23.7
comp=Z,15µm,25.0s
DZM Mont Dzumac 17.29 320 P **Pn 15 06 31.0 -0.7**
0.5nm,0.3s,baz=130,slow=14,SNR=3.5
DZM LR LR 15 11 59.4
comp=Z,10µm,18.1s,baz=144,slow=33
DZM Mont Dzumac 17.29 320 Pn **Pn 15 06 25.0 -6.6**
MSVF Nonsavu 18.21 359 *de*P **P 15 06 44.6 +1.4**
MSVF pmax pmax
comp=Z,483nm,2.7s
MSVF Nonsavu 18.21 359 **P 15 06 43.5 +0.2**
MSVF IAmb IAmb 15 06 48.2
comp=Z,171nm,1.2s
SANVU Saraoutou 22.74 331 P **P 15 07 32.2 -0.1**
SANVU IAmb IAmb 15 07 38.8
comp=Z,181nm,1.1s
ARMA Armidale 22.93 276 P **P 15 07 36.7 +2.3**
baz=23,SNR=11
ARMA Armidale 22.93 276 P **P 15 07 36.3 +1.9**
ARMA IAmb IAmb 15 07 46.0
comp=Z,148nm,1.4s
CNB Canberra Magne 23.46 263 P **P 15 07 42.4 +2.7**
baz=24,SNR=7.6
AFI Afiamalu 23.76 25 P **P 15 07 43.1 +0.4**
comp=Z,66nm,1.0s,baz=255,slow=11,SNR=5.0
AFI Afiamalu 23.76 25 P **P 15 07 41.7 -1.0**
AFI pmax pmax
comp=Z,84nm,1.2s
AFI Afiamalu 23.76 25 P **P 15 07 41.7 -1.0**
AFI IAmb IAmb 15 07 46.2
comp=Z,84nm,1.1s
RAR Rarotonga 24.20 58 P **P 15 07 48.5 +1.8**
comp=Z,12nm,0.9s,baz=280,slow=11,SNR=3.6
RAR LR LR 15 14 54.9
comp=Z,2µm,20.8s,baz=232,slow=31
RAR Rarotonga 24.20 58 P **P 15 07 48.5 +1.8**
RAR pmax pmax
comp=Z,63nm,1.3s
RAR Rarotonga 24.20 58 IAmb IAmb 15 08 00.6
comp=Z,63nm,1.2s
MOO Moorlands 24.82 246 P **P 15 07 55.1 +2.8**
baz=25,SNR=3.9
TOO Toolangi 26.22 257 P **P 15 08 07.2 +2.2**
baz=26,SNR=5.8
TOO Toolangi 26.22 257 P **P 15 08 03.5 -1.6**
TOO pmax pmax
comp=Z,169nm,1.5s
TOO Toolangi 26.22 257 P **P 15 08 03.5 -1.6**
RMQ Roma 26.87 282 P **P 15 08 13.3 +2.3**
baz=27,SNR=11
CMSA Cobar Meteorol 27.36 270 P **P 15 08 17.5 +2.1**
baz=27,SNR=14
ARPS Mount Arapiles 29.22 258 P **P 15 08 33.7 +1.8**
baz=29,SNR=4.9
QLP Quilpie 30.43 278 P **P 15 08 44.1 +1.5**
baz=30,SNR=12
STKA Stephens Creek 30.58 267 P **P 15 08 44.8 +0.8**
comp=Z,8.0nm,0.9s,baz=110,slow=10,SNR=11
STKA LR LR 15 19 34.6
comp=Z,1µm,21.4s,baz=100,slow=34
STKA Stephens Creek 30.58 267 P **P 15 08 45.7 +1.7**
baz=31,SNR=7.0
STKA Stephens Creek 30.58 267 P **P 15 08 43.8 -0.1**
STKA pmax pmax
comp=Z,11nm,1.5s
STKA Stephens Creek 30.58 267 P **P 15 08 43.8 -0.1**
TBI Tubuai 30.61 75 *e*S **S 15 13 39.8 -6.5**
comp=Z,253nm,27.8s
TBI *e*LR LR 15 16 28.6
comp=Z,4µm,26.5s,baz=234
TBI Tubuai 30.61 75 *e*T T 15 40 11.1
comp=Z,88nm,0.3s
CTA Charters Tower 32.22 291 P **P 15 08 58.8 +0.3**
comp=Z,13nm,1.0s,baz=110,slow=10.0,SNR=6.0
CTAO Charters Tower 32.22 291 P **P 15 08 58.8 +0.3**
CTAO pmax pmax
comp=Z,44nm,1.0s
CTAO Charters Tower 32.22 291 P **P 15 08 58.8 +0.3**
CTAO IAmb IAmb 15 09 08.3
comp=Z,44nm,0.9s
HTT Hallett 32.29 263 P **P 15 09 00.5 +1.5**
baz=32,SNR=6.7
PAE Paea 33.80 66 *e*P **P 15 09 08.2 -4.1**
comp=Z,13nm,1.4s
PAE Paea 33.80 66 *e*T T 15 44 12.6
comp=Z,9.9nm,0.3s
PPT2 Papeete2 33.85 66 *e*P **P 15 09 09.1 -3.7**
comp=Z,47nm,1.3s
PPT2 *e*S **S 15 14 28.9 -8.2**
comp=Z,180nm,24.8s
PPT2 *e*LR LR 15 17 48.0
comp=Z,5µm,26.2s,baz=227
PPT2 Papeete2 33.85 66 *e*T T 15 44 17.4
comp=Z,31nm,0.3s
PPT Papeete 33.87 66 LR LR 15 19 26.1
comp=Z,2µm,21.7s,baz=210,slow=30
TVO Taravao 33.97 66 *e*P **P 15 09 09.9 -4.0**
comp=Z,8.5nm,1.1s
TVO Taravao 33.97 66 *e*T T 15 44 26.2
comp=Z,7.4nm,0.3s
TIAR Tiarei 34.04 66 *e*P **P 15 09 10.4 -4.0**
comp=Z,11nm,0.9s
TIAR Tiarei 34.04 66 *e*T T 15 44 22.4
comp=Z,5.3nm,0.2s
BBOO Buckleboo 34.77 263 P **P 15 09 21.5 +0.9**
BBOO IAmb IAmb 15 09 30.6
comp=Z,28nm,1.1s
MEH Mehetia 34.80 68 *e*T T 15 45 29.4
comp=Z,80nm,0.2s
MTSU Mount Surprise 34.85 292 P **P 15 09 21.9 +0.5**
baz=35,SNR=5.0
PMOR Pomariorio Ree 36.75 64 *e*T T 15 47 53.4
comp=Z,7.5nm,0.3s
VAH Vaihoa 36.79 65 *e*T T 15 47 56.4
comp=Z,32nm,0.2s
QIS Mount Isa 37.09 284 P **P 15 09 39.9 -0.7**
baz=37,SNR=3.0
COEN Coen 38.34 296 P **P 15 09 51.3 +0.1**
baz=38,SNR=7.0
COEN Coen 38.34 296 P **P 15 09 51.4 +0.3**
COEN IAmb IAmb 15 09 58.5
comp=Z,70nm,1.0s
PMG Port Moresby 38.74 305 LR LR 15 24 19.5
comp=Z,2µm,18.7s,baz=112,slow=34
PMG Port Moresby 38.74 305 *de*P **P 15 09 54.1 -0.4**
PMG pmax pmax
comp=Z,33nm,1.1s
KRVT Keravat (AS076 39.75 316 P **P 15 10 03.0 0.0**
comp=Z,41nm,0.6s,baz=305,slow=9.2,SNR=5.7
RABL Rabaul 39.77 317 P **P 15 10 02.4 -0.7**
AS31 Alice Springs 40.08 275 P **P 15 10 05.7 -0.1**
ASAR Alice Springs 40.08 275 P **P 15 10 06.0 +0.3**
comp=Z,45nm,0.9s,baz=116,slow=7.4,SNR=306
ASAR LR LR 15 26 42.7
comp=Z,2µm,18.7s,baz=122,slow=36
ASAR Alice Springs 40.08 275 P **P 15 10 05.3 -0.4**
ASAR Alice Springs 40.08 275 P **P 15 10 05.3 -0.4**
WR0 Warramunga Arr 41.43 281 P **P 15 10 16.2 -0.6**
WB2 Warramunga Arr 41.59 281 P **P 15 10 17.4 -0.7**
WRAB Tennant Creek 41.59 281 *d*/*P* **P 15 10 17.9 -0.3**
WRAB pmax pmax
comp=Z,86nm,2.0s
WRAB Tennant Creek 41.59 281 P **P 15 10 17.3 -0.9**
WRA Warramunga Arr 41.59 281 P **P 15 10 17.9 -0.3**
comp=Z,21nm,0.9s,baz=120,slow=7.8,SNR=118
WRA LR LR 15 26 42.3
comp=Z,2µm,18.4s,baz=105,slow=35
WRA Warramunga Arr 41.59 281 P **P 15 10 17.9 -0.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 41.59 281 IAmb IAmb 15 10 24.8
comp=Z,1.5nm,0.8s
WB0 Warramunga Arr 41.65 281 P **P 15 10 17.4 -1.3**
WB0 IAmb IAmb 15 10 26.4
comp=Z,73nm,1.4s
FORT Forrest 41.87 262 P **P 15 10 20.7 +0.4**
baz=42,SNR=10
FORT Forrest 41.87 262 P **P 15 10 18.6 -1.7**
VNDA Vanda 42.22 185 P **P 15 10 24.6 +2.0**
comp=Z,0.9nm,0.7s,baz=359,slow=8.4,SNR=5.7
VNDA LR LR 15 24 39.4
comp=Z,1µm,21.7s,baz=25,slow=32
VNDA Vanda 42.22 185 P **P 15 10 23.9 +1.3**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 42.22 185 P **P 15 10 23.9 +1.3**
JAY Jayapura 48.12 305 P **P 15 11 10.1 -0.2**
comp=Z,11nm,1.1s,baz=178,slow=5.1,SNR=8.2
JAY LR LR 15 30 04.9
comp=Z,1µm,20.2s,baz=112,slow=34
JAY Jayapura 48.12 305 P **P 15 11 08.7 -1.6**
comp=Z,704nmcomp=Z,29nm,1.3s
MTN Manton Dam 48.14 286 P **P 15 11 09.6 -0.8**
baz=48,SNR=4.6
MTN Manton Dam 48.14 286 P **P 15 11 09.2 -1.2**
KNRA Kununurra 48.36 281 P **P 15 11 11.5 -0.6**
baz=48,SNR=12
KNRA Kununurra 48.36 281 P **P 15 11 11.0 -1.1**
GENI Genyem 48.42 305 P **P 15 11 10.1 -2.4**
comp=Z,58nm,1.1s
CASY Casey 48.72 210 P **P 15 11 12.9 -1.3**
FITZ Fitzroy Crossi 49.54 277 LR LR 15 31 27.2
comp=Z,2µm,19.2s,baz=90,slow=35
FITZ Fitzroy Crossi 49.54 277 P **P 15 11 21.1 0.0**
baz=50,SNR=21
FITZ Fitzroy Crossi 49.54 277 P **P 15 11 20.8 -0.3**
KLBR Kellerberrin 49.77 257 P **P 15 11 22.3 -0.5**
baz=50,SNR=5.3
PSA00 Pilbara Seismi 52.47 269 P **P 15 11 42.2 -0.9**
FAKI Fak Fak 53.70 297 P **P 15 11 51.0 -1.3**
comp=Z,1µmcomp=Z,89nm,1.2s
FAKI pP **pwP 15 11 57.0 -1.4**
comp=Z,1µmcomp=Z,89nm,1.2s
FAKI Fak Fak 53.70 297 P **P 15 11 51.0 -1.3**
QSPA South Pole Qui 54.11 180 P **P 15 11 56.1 +1.3**
comp=Z,5.5nm,0.7s,baz=35,slow=3.8,SNR=49
QSPA South Pole Qui 54.11 180 P **P 15 11 55.0 +0.2**
H11S2 WAKE ISLAND Hy 55.30 347 T T 16 11 29.5
baz=168,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 55.31 347 T T 16 11 23.5
baz=168,slow=76,SNR=25
H11S1 WAKE ISLAND Hy 55.32 347 T T 16 11 24.1
baz=168,slow=76,SNR=20
SOEI Soe 55.37 284 P **P 15 12 04.6 0.0**
comp=Z,2µmcomp=Z,198nm,1.2s
SOEI Soe 55.37 284 P **P 15 12 04.5 -0.1**
BATI Baumata 55.57 283 LR LR 15 37 51.2
comp=Z,2µm,18.2s,baz=152,slow=38
BATI Baumata 55.57 283 P **P 15 12 03.7 -2.2**
comp=Z,675nmcomp=Z,70nm,1.2s
MSAI Masohi 55.85 294 P **P 15 12 07.3 -0.6**
comp=Z,361nmcomp=Z,41nm,1.0s
H11N1 WAKE ISLAND Hy 56.46 347 T T 16 12 55.7
baz=170,slow=76,SNR=21
H11N3 WAKE ISLAND Hy 56.46 347 T T 16 12 49.4
baz=170,slow=76,SNR=12
H11N2 WAKE ISLAND Hy 56.48 347 T T 16 12 52.7
baz=170,slow=76,SNR=14
NLAI Namlea 57.28 292 P **P 15 12 17.8 -0.3**
comp=Z,3µmcomp=Z,162nm,1.8s
MMRI Maumere 57.63 284 P **P 15 12 20.6 0.0**
comp=Z,3µmcomp=Z,292nm,1.2s
MMRI Maumere 57.63 284 P **P 15 12 19.7 -0.9**
EDFI Ende, Flores 58.00 283 P **P 15 12 21.2 -2.1**
comp=Z,503nmcomp=Z,42nm,1.2s
BASI Baing, Sumba 58.01 281 P **P 15 12 23.3 +0.1**
comp=Z,2µmcomp=Z,225nm,1.2s
WSI Waingapu 58.55 282 P **P 15 12 27.5 +0.5**
comp=Z,4µmcomp=Z,445nm,1.2s
GUMO Guam 58.57 321 LR LR 15 34 31.5
comp=Z,437nm,21.8s,baz=146,slow=33
SANI Sanana 58.90 293 P **P 15 12 28.4 -1.0**
comp=Z,4µmcomp=Z,377nm,1.1s
SANI pP **pwP 15 12 34.4 -0.2**
comp=Z,4µmcomp=Z,377nm,1.1s
TNTI Ternate 59.77 296 P P 15 12 30.5 -4.9
comp=Z,2µmcomp=Z,77nm,2.1s
KDI Kendari 60.23 288 P **P 15 12 37.0 -1.6**
comp=Z,795nmcomp=Z,60nm,1.4s
HMH Humu'ula Sheep 60.65 29 P **P 15 12 44.3 +2.7**
PLAI Plampang 61.05 281 P **P 15 12 41.6 -2.6**
comp=Z,1µmcomp=Z,84nm,1.5s
BKSI Bulukumba 61.31 285 P **P 15 12 45.0 -1.0**
comp=Z,980nmcomp=Z,48nm,1.5s
BNSI Bone 61.89 286 P **P 15 12 49.2 -0.7**
comp=Z,918nmcomp=Z,67nm,1.5s
LUWI Luwuk 61.98 291 P **P 15 12 45.8 -4.7**
comp=Z,2µmcomp=Z,184nm,1.2s
LUWI Luwuk 61.98 291 P **P 15 12 50.1 -0.3**
KMSI Cibinong 62.13 293 P **P 15 12 50.5 -1.0**
comp=Z,91nm,0.9s
SPSI Sidrap Palu 62.43 286 P **P 15 12 50.9 -2.6**
comp=Z,658nmcomp=Z,38nm,1.1s
GTOI Gorontalo 62.90 293 P **P 15 12 56.4 -0.2**
comp=Z,538nmcomp=Z,31nm,1.4s
JAGI Jajag, Banyuwa 64.16 279 P **P 15 13 04.3 -0.7**
BELA Belgrano 2 64.64 173 P **P 15 13 06.6 -0.6**
MPSI Mapaga 65.05 290 P **P 15 13 10.2 -0.6**
comp=Z,972nmcomp=Z,44nm,1.8s
MAW Mawson 65.95 202 P **P 15 13 15.4 -0.4**
comp=Z,17nm,1.1s,baz=135,slow=9.1,SNR=6.9
MAW LR LR 15 42 00.5
comp=Z,1µm,18.7s,baz=116,slow=36
MAW Mawson 65.95 202 P **P 15 13 15.3 -0.4**
baz=66,SNR=5.7
MAW Mawson 65.95 202 P **P 15 13 14.8 -1.0**
MAW pmax pmax
comp=Z,9.0nm,1.3s
MAW Mawson 65.95 202 P **P 15 13 14.8 -1.0**
PWJI Pagerwojo 66.31 277 P **P 15 13 17.8 -1.1**
comp=Z,47nm,1.5s
BBKI Banjar Baru 66.60 283 P **P 15 13 21.3 +0.5**
comp=Z,69nm,1.6s
MTKI Muara Teweh, K 68.10 286 P **P 15 13 30.2 -0.1**
comp=Z,13nm,0.8s
LEM Lembang 70.37 276 LR LR 15 44 26.0
comp=Z,1µm,21.0s,baz=140,slow=36
SYO Syowa Base 70.93 195 ‖ *iP* **P 15 13 43.4 -3.5**
SYO Syowa Base 70.93 195 ‖ *ipP* **P 15 13 45.0 -1.9**
SYO Syowa Base 70.93 195 ‖ *iSP* sP 15 13 49.6 -0.8
SNAA Sanae 72.61 180 P **P 15 13 56.2 -0.9**
SNAA Sanae 72.61 180 *d*/*P* **P 15 13 55.9 -1.2**
SNAA pmax pmax
comp=Z,22nm,1.4s
SNAA Sanae 72.61 180 P **P 15 13 56.0 -1.1**
VNA3 Neumayer Olymp 72.89 177 P **P 15 13 58.0 -0.7**
NVL N'lazarevskaya 73.07 185 *eP* **P 15 14 03.1 +3.4**
NVL *e*S SKiKP 15 23 55.0 +23
NVL pmax pmax
comp=Z,10.0nm,0.7s
VNA2 Neumayer--Watz 73.28 178 P **P 15 14 00.2 -0.9**
baz=166,slow=6.3
VNA1 Neumayer--Stat 73.53 178 P **P 15 14 01.1 -1.3**
KLSI 73.94 276 P **P 15 14 03.3 -2.5**
comp=Z,8.7nm,1.1s
MDSI Maura Dua 74.51 276 P **P 15 14 05.6 -3.5**
comp=Z,20nm,1.1s
H03S2 Juan Fernandez 79.93 124 T T 16 42 27.8
baz=232,slow=74
H03S1 Juan Fernandez 79.94 124 T T 16 42 29.1
baz=232,slow=74
H03S3 Juan Fernandez 79.95 124 T T 16 42 28.0
baz=232,slow=74
H03N3 Juan Fernandez 80.16 124 T T 16 42 41.7
baz=236,slow=74
H03N2 Juan Fernandez 80.16 124 T T 16 42 44.1
baz=236,slow=74
H03N1 Juan Fernandez 80.18 124 T T 16 42 43.7
baz=236
PLCA Paso Flores 80.92 134 LR LR 15 43 44.8
comp=Z,485nm,21.1s,baz=254,slow=31
PLCA Paso Flores 80.92 134 P **P 15 14 46.7 +2.1**
PLCA pmax pmax
comp=Z,74nm,1.5s
PLCA Paso Flores 80.92 134 P **P 15 14 46.7 +2.1**
MJAR Matsushiro Arr 81.22 328 P **P 15 14 46.8 +1.0**
comp=Z,3.2nm,1.0s,baz=162,slow=6.4,SNR=6.9
MJAR LR LR 15 47 37.3
comp=Z,194nm,21.6s,baz=160,slow=33
MJAR Matsushiro Arr 81.22 328 P **P 15 14 46.8 +1.0**
MJAR pmax pmax
comp=Z,4.0nm,1.2s
MAJO Matsushiro 81.22 328 ‖ *eP* **P 15 14 49.6 +3.7**
MAJO pmax pmax
comp=Z,9.0nm,1.2s
MAT Matsushiro 81.22 328 P **P 15 14 46.9 +1.0**
MAT *e*S **S 15 24 58.2 +2.2**
GSI Gunungsitoli 83.23 277 P **P 15 14 55.9 -1.1**
comp=Z,44nm,1.2s
GSI Gunungsitoli 83.23 277 P **P 15 14 55.5 -1.4**
QIZ Qiongzhong 84.70 298 P **P 15 15 03.8 -0.5**
QIZ S **S 15 25 31.0 -1.1**
QIZ pmax pmax
comp=Z,21nm,2.5s
QIZ LR LR
comp=Z,280nm,23.1s
QIZ LR LR
comp=Z,330nm,31.9s
QIZ LR LR
comp=Z,360nm,28.4s
MLSI Meulaboh, Aceh 85.92 278 P **P 15 15 08.2 -2.4**
comp=Z,49nm,1.1s
KSRS Korea Array 86.72 322 P **P 15 15 14.1 +0.3**
comp=Z,1.8nm,0.8s,baz=141,slow=5.4,SNR=5.1
KSRS LR LR 15 53 19.5
comp=Z,98nm,18.3s,baz=145,slow=35
KSAR Wonju Array Be 86.73 322 P **P 15 15 14.5 +0.6**
KSAR Wonju Array Be 86.73 322 P **P 15 15 14.5 +0.6**
NJ2 Nanjing 87.64 313 *eP* **P 15 15 19.6 +1.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
YSS Yuzh-Sakhalins 88.53 337 *eP* **P 15 15 25.1 +2.8**
YSS pmax pmax
comp=Z,20nm,1.6s
YSS pmax pmax
comp=Z,200nm,2.6s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS MLR MLR
comp=N,300nm,18.0s
USRK Ussuriysk Ar. 90.21 329 P **P 15 15 31.3 +1.0**
comp=N,0.3nm,0.5s,baz=191,slow=1.5,SNR=2.2
USRK LR LR 15 55 27.5
comp=N,117nm,18.5s,baz=142,slow=35
USRK Ussuriysk Ar. 90.21 329 P **P 15 15 30.3 0.0**
USRK Ussuriysk Ar. 90.21 329 P **P 15 15 30.3 0.0**
PETK Petropavlovsk- 90.54 348 P **P 15 15 31.2 -0.4**
comp=N,3.9nm,0.9s,baz=139,slow=9.4,SNR=6.8
PETK LR LR 15 50 39.4
comp=N,348nm,20.1s,baz=167,slow=32
PETK Petropavlovsk- 90.54 348 P **P 15 15 34.3 +2.7**
PETK Petropavlovsk- 90.54 348 P **P 15 15 34.3 +2.7**
PKM Mcpherson Peak 91.13 47 P **P 15 15 36.8 +1.7**
baz=226
PAGB Antelope Grade 91.46 46 P **P 15 15 37.8 +1.4**
PAGB IAmb IAmb 15 15 41.7

comp=Z,26nm,1.2s
ESJX Sierra Juarez 91.51 51 P **P 15 15 37.2 +0.3**
ESJX IAmb IAmb 15 15 42.8
comp=Z,14nm,1.1s
OSI Osito Audit: C 91.58 47 P **P 15 15 38.9 +1.9**
OSI IAmb IAmb 15 15 42.9
comp=Z,18nm,0.9s
MONP2 Monument Peak 91.81 50 P **P 15 15 40.3 +2.0**
baz=227,SNR=6.5
RMX La Rumorosa 91.83 50 P **P 15 15 39.4 +1.1**
IKP In-Ko-Pah, Jac 91.84 50 P **P 15 15 38.0 -0.3**
baz=228,SNR=6.4
ARVC Arvin 91.87 47 P **P 15 15 39.4 +1.1**
baz=226
BFSC Mount Baldy Ra 91.97 48 P **P 15 15 40.5 +1.6**
baz=227,SNR=5.4
EDW2 Edwards Air Fo 92.20 48 P **P 15 15 39.5 -0.4**
baz=227,SNR=6.4
GDXM Geysers 92.21 42 P **P 15 15 40.6 +0.7**
GDXM IAmb IAmb 15 15 45.5
comp=Z,16nm,1.1s
TPFO Pinon Flats 92.27 49 P **P 15 15 39.8 -0.6**
baz=227,SNR=5.7
PFO Pinyon Flats O 92.27 49 P **P 15 15 39.7 -0.7**
baz=227,SNR=5.8
CMAR Chiang Mai Arr 92.38 291 P **P 15 15 40.4 -0.7**
comp=Z,0.9nm,0.8s,baz=163,slow=3.7,SNR=5.8
CMAR PP **PP 15 19 22.6 +0.4**
comp=Z,0.8nm,0.3s,baz=146,slow=6.6,SNR=6.0
CMAR LR LR 15 59 47.7
comp=Z,196nm,19.2s,baz=195,slow=37
CMAR Chiang Mai Arr 92.38 291 *i* P **P 15 15 40.2 -0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 92.38 291 P **P 15 15 39.3 -1.7**
KCPM Cahto Peak 92.42 41 P **P 15 15 44.2 +3.3**
ISA Isabella, Lake 92.45 47 P **P 15 15 42.0 +1.0**
ISA pmax pmax
comp=Z,21nm,1.2s
ISA Isabella, Lake 92.45 47 P **P 15 15 42.3 +1.2**
baz=226,SNR=8.0
ISA Isabella, Lake 92.45 47 P **P 15 15 42.0 +1.0**
ISA IAmb IAmb 15 15 46.2
comp=Z,21nm,1.2s
LRMC Laurel Mtn Rad 92.80 47 P **P 15 15 44.0 +1.3**
baz=227,SNR=7.1
HSIG 92.80 56 P **P 15 15 43.5 +0.7**
HSIG IAmb IAmb 15 15 48.8
comp=Z,15nm,1.4s
BELC Belle Mtn. Jos 92.82 49 P **P 15 15 42.5 -0.4**
baz=228,SNR=6.3
GLA Glamis 92.91 51 P **P 15 15 43.7 +0.5**
GLA pmax pmax
comp=Z,37nm,1.2s
GLA Glamis 92.91 51 P **P 15 15 45.7 +2.5**
baz=228,SNR=5.3
GLA Glamis 92.91 51 P **P 15 15 43.7 +0.5**
BC3 Big Chuckawall 92.92 50 P **P 15 15 45.9 +2.5**
baz=228,SNR=5.6
CMB Columbia Colle 93.00 44 P **P 15 15 42.4 -1.1**
CMB pmax pmax
comp=Z,16nm,1.1s
CMB Columbia Colle 93.00 44 P **P 15 15 42.4 -1.1**
CMB IAmb IAmb 15 15 48.4
comp=Z,16nm,1.1s
O02D Mt. Diablo Mer 93.20 41 P **P 15 15 43.5 -0.9**
baz=224,SNR=10
GSC Goldstone, Bar 93.20 48 P **P 15 15 43.2 -1.3**
GSC pmax pmax
comp=Z,11nm,1.1s
GSC Goldstone, Bar 93.20 48 P **P 15 15 43.7 -0.8**
baz=227,SNR=5.0
GSC Goldstone, Bar 93.20 48 P **P 15 15 43.2 -1.3**
GSC IAmb IAmb 15 15 50.2
comp=Z,11nm,1.1s
MPMC Manual Prospec 93.31 47 P **P 15 15 45.1 -0.1**
baz=227,SNR=7.4
AFDM Forest Hills D 93.31 43 P **P 15 15 44.8 -0.1**
AFDM IAmb IAmb 15 15 49.6
comp=Z,13nm,1.0s
113A Mohawk Valley, 93.39 51 P **P 15 15 45.2 -0.2**
113A IAmb IAmb 15 15 51.7
comp=Z,20nm,1.4s
IRM Iron Mountain 93.45 50 P **P 15 15 45.5 -0.1**
baz=228,SNR=7.1
ORV Oroville 93.45 42 P **P 15 15 43.8 -1.7**
ORV pmax pmax
comp=Z,9.0nm,1.1s
ORV Oroville 93.45 42 P **P 15 15 43.8 -1.7**
MDPB Devils Postpil 93.46 45 P **P 15 15 44.3 -1.6**
214A Organ Pipe Nat 93.47 53 P **P 15 15 45.2 -0.6**
214A IAmb IAmb 15 15 51.5
comp=Z,22nm,1.4s
OMMB Old Mammoth Mi 93.49 45 P **P 15 15 44.8 -1.3**
WDC Whiskeytown Da 93.62 41 P **P 15 15 46.3 +0.1**
WDC pmax pmax
comp=Z,31nm,1.4s
WDC Whiskeytown Da 93.62 41 P **P 15 15 46.3 +0.1**
KMI Kunming 93.64 298‖ *e*P **P 15 15 48.0 +1.0**
KMI pP sP 15 15 51.1 +0.3
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI LR LR
comp=Z,420nm,15.8s
O03E Paynes Creek 93.81 42 P **P 15 15 46.9 -0.3**
baz=225,SNR=8.4
N02D Trinity Center 93.81 41 P **P 15 15 48.6 +1.4**
baz=224,SNR=7.0
LVC Limon Verde 93.83 121 LR LR 15 50 36.7
comp=Z,310nm,18.7s,baz=220,slow=31
WAKR Walker 93.86 44 P **P 15 15 46.6 -1.0**
WAKR IAmb IAmb 15 15 52.9
comp=Z,22nm,1.2s
GRAC Grapevine Rang 94.02 46 P **P 15 15 48.4 +0.2**
baz=227,SNR=6.4
M02C Callahan 94.04 40 P **P 15 15 49.5 +1.3**
baz=224,SNR=6.9
PNTR Pine Nut 94.17 44 P **P 15 15 46.9 -2.2**
LHV Little Huntoon 94.21 45 P **P 15 15 48.2 -0.8**
LHV IAmb IAmb 15 15 54.4
comp=Z,16nm,1.0s
YERR Yerington 94.30 44 P **P 15 15 48.1 -1.5**
YERR IAmb IAmb 15 15 54.4
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 94.36 40 P **P 15 15 49.4 -0.3**
YBH pmax pmax
comp=Z,19nm,1.4s
YBH Yreka Blue Hor 94.36 40 P **P 15 15 49.4 -0.3**
YBH IAmb IAmb 15 15 56.0
comp=Z,19nm,1.4s
NVAR Mina Array Bea 94.45 45 P **P 15 15 48.8 -1.6**
comp=Z,2.5nm,1.0s,baz=213,slow=7.0,SNR=14
NVAR LR LR 15 52 21.3
comp=Z,726nm,19.0s,baz=216,slow=32
NVAR Mina Array Bea 94.45 45 P **P 15 15 48.2 -2.2**
RYN Ryan 94.46 45 P **P 15 15 48.4 -1.9**
RYN IAmb IAmb 15 15 54.7
comp=Z,13nm,1.3s
Y14A Wickenburg 94.64 51 P **P 15 15 49.8 -1.4**
Y14A IAmb IAmb 15 15 57.1
comp=Z,12nm,1.1s
TPNV Topopah Spring 94.64 47 P **P 15 15 49.8 -1.4**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV Topopah Spring 94.64 47 P **P 15 15 50.7 -0.6**
baz=228,SNR=6.2
TPNV Topopah Spring 94.64 47 P **P 15 15 49.8 -1.4**
BJI Beijing 94.81 317 P **P 15 15 55.0 +3.4**
BJI pmax pmax
comp=Z,4.0nm,1.5s
BJI pmax pmax
comp=Z,77nm,6.0s
BJI LR LR
comp=Z,240nm,20.9s
BJI LR LR
comp=Z,250nm,23.9s
BJI LR LR
comp=Z,500nm,27.5s
L04D Klamath Falls 94.92 40 P **P 15 15 53.2 +0.9**
baz=224
KVN Kaiserville 94.99 44 P **P 15 15 52.8 0.0**
KVN pmax pmax
comp=Z,12nm,1.2s
KVN Kaiserville 94.99 44 P **P 15 15 52.8 0.0**
KVN IAmb IAmb 15 15 57.6
comp=Z,12nm,1.2s

SHPR Sheep Range 95.00 48 P **P 15 15 53.6 +0.7**
XAN Xi'an 95.09 309 P **P 15 15 57.0 +3.8**
XAN pP pwP 15 16 02.6 +4.2
XAN pmax pmax
comp=Z,7.0nm,2.1s
J04D Umpqua Nationa 95.74 39 P **P 15 15 56.9 +0.7**
baz=225
X16A Lo Mia Camp, P 95.94 51 P **P 15 15 57.0 -0.3**
X16A IAmb IAmb 15 16 03.7
comp=Z,10nm,1.3s
I04A Tendick Farm, 95.98 39 P **P 15 16 00.0 +3.0**
baz=224
K05A Summer Lake 96.01 40 P **P 15 15 57.8 +0.4**
J05D Fort Rock, OR 96.23 40 P **P 15 16 00.0 +1.7**
baz=225
CD2 Chengdu 96.49 304 *e*P **P 15 16 00.5 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WUAZ Wupatki 96.68 51 P **P 15 16 04.2 +3.6**
baz=230
U15A North Rim 96.69 49 P **P 15 16 00.1 -0.7**
U15A IAmb IAmb 15 16 06.8
comp=Z,9.9nm,1.2s
PKCU Pink Cliffs 97.33 49 P Pdif 15 16 03.9 +0.2
J08A Circle Bar Ran 97.73 41 P Pdif 15 16 05.3 +0.2
J08A IAmb IAmb 15 16 09.9
comp=Z,12nm,1.4s
E04D Cinebar 97.87 37 P Pdif 15 16 09.4 +3.9
baz=225
MA2 Magadan 97.93 346‖ *e*P Pdif 15 16 05.9 +0.5
MA2 pmax pmax
comp=Z,48nm,1.7s
HHC Hu-ho-hao-te 97.94 315 *e*P Pdif 15 16 06.8 +0.7
HHC pmax pmax
comp=Z,15nm,0.8s
HHC LR LR
comp=Z,250nm,16.2s
HHC LR LR
comp=Z,360nm,16.2s
TXAR Lajitas Array 97.99 60 P Pdif 15 16 07.8 +1.2
comp=Z,0.4nm,0.8s,baz=224,slow=3.5,SNR=3.8
TXAR LR LR 15 51 04.2
comp=Z,433nm,21.5s,baz=0.0,slow=30
MFID Camas Ranch 99.19 42 **Pdif 15 16 11.5 -0.1**
MFID IAmb IAmb 15 16 15.9
comp=Z,5.8nm,1.1s
B05A Bryant 99.31 36 Pdiff **Pdif 15 16 16.5 +4.6**
baz=225
A04D Lummi Island 99.35 35 Pdiff **Pdif 15 16 17.4 +5.4**
baz=225
LZH Lanzhou 99.61 308 *e*P **Pdif 15 16 16.8 +3.1**
LZH pP pwP 15 16 21.4 +2.5
LZH sP sP 15 16 23.5 +5.9
LZH pmax pmax
comp=Z,14nm,1.0s
APG El Apazote 99.67 79 LR LR 15 50 39.7
comp=Z,366nm,21.9s,baz=246,slow=29
HLID Hailey 100.07 43 Pdiff **Pdif 15 16 19.2 +3.6**
baz=229
PDAR Pinedale Array 102.32 46 P **Pdif 15 16 26.0 +0.3**
comp=Z,0.9nm,1.0s,baz=193,slow=3.7,SNR=2.5
ILAR Eielson Array 104.11 15 PP **PP 15 20 51.3 +0.1**
comp=Z,0.4nm,0.9s,baz=210,slow=5.2,SNR=5.2
GTA Gaotai 104.15 308 ⇑P **PKiKP 15 20 54.6 +3.8**
GTA pP PP 15 21 01.5 +9.3
GTA sP 15 21 05.5
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,130nm,7.6s
GTA LR LR
comp=N,160nm,18.2s
GTA LR LR
comp=E,170nm,19.3s
GTA LR LR
comp=Z,160nm,20.0s
SONM Songino Array 105.22 318 PP **PP 15 20 58.2 -1.9**
comp=Z,0.7nm,0.9s,baz=134,slow=6.2,SNR=2.3
WMQ Urumqi 114.19 307 *e*PKP **PKiKP 15 21 09.8 +0.4**
WMQ LR LR
comp=Z,150nm,25.1s
WMQ LR LR
comp=Z,95nm,23.3s
DGZ Jazzator, Alta 116.93 313⇑ *i*PKIKP **PKPdf 15 21 14.6 0.0**
MKAR Makanchi Array 118.90 309 PKP **PKPdf 15 21 17.1 -1.2**
comp=Z,1.7nm,1.0s,baz=101,slow=1.2,SNR=7.3
MKAR PP **PP 15 22 39.6 +1.7**
comp=Z,1.4nm,1.0s,baz=115,slow=6.8,SNR=3.1
MKAR Makanchi Array 118.90 309 PKIKP **PKiKP 15 21 18.6 +0.3**
MKAR Makanchi Array 118.90 309 **PKiKP 15 21 18.6 +0.3**
KSH Kashi 120.30 299 PKP **PKiKP 15 21 24.0 +2.6**
KSH LR LR
comp=Z,100nm,9.2s
KURK Kurchatov 122.56 312‖ *i*PKIKP **PKPdf 15 21 23.4 -1.7**
KURK Kurchatov 122.56 312 **PKPdf 15 21 25.3 +0.1**
L58A Harry Jones Me 123.78 60 P **PKiKP 15 21 29.8 +1.8**
baz=250
M59A Waymart 123.89 60 P **PKiKP 15 21 31.1 +2.7**
baz=250
N60A Cedar Hill Far 123.89 61 P **PKiKP 15 21 30.7 +2.4**
baz=249
GAR Garm 124.16 296 **PKiKP 15 21 29.8 +0.7**
M60A Port Jervis 124.39 61 P **PKiKP 15 21 31.8 +2.5**
baz=250
PAL Palisades 124.79 61 P **PKiKP 15 21 31.9 +1.8**
baz=250
L60A Shokan 124.90 60 P **PKiKP 15 21 33.0 +2.7**
baz=250
M61A Granite Spring 124.99 61 P **PKiKP 15 21 32.5 +2.0**
baz=250
J59A Piesco 125.18 58 **PKiKP 15 21 32.5 +1.7**
KKAR Karatay Array 125.42 301 PKIKP **PKiKP 15 21 31.7 +0.4**
KKAR Karatay Array 125.42 301 **PKiKP 15 21 31.7 +0.4**
L61A Hillsdale 1, H 125.43 60 P **PKiKP 15 21 33.3 +2.0**
baz=251
D55A Sainte-Anne-du 125.61 54 P **PKiKP 15 21 31.7 +0.1**
baz=253
K61A Williamstown 125.79 60 P **PKiKP 15 21 32.5 +0.5**
baz=251
L61B Northampton 126.13 60 P **PKiKP 15 21 33.0 +0.3**
baz=252
I60A Shoreham 126.14 58 P **PKiKP 15 21 34.6 +2.0**
baz=252
J61A Chester 126.50 59 P **PKiKP 15 21 35.6 +2.2**
baz=252
D57A Chemin Vers le 126.65 54 P **PKiKP 15 21 35.0 +1.4**
baz=254
J62A Henniker 126.97 59 P **PKiKP 15 21 36.9 +2.5**
baz=252
K63A Dunstable 127.01 60 P **PKPdf 15 21 33.4 -0.5**
baz=252
D58A Chemin du LacG 127.34 54 P **PKiKP 15 21 36.0 +1.1**
baz=255
G61A St-Isidore-de- 127.76 57 P **PKiKP 15 21 36.7 +0.9**
baz=254
H62A Milan 127.82 58 P **PKiKP 15 21 38.5 +2.5**
baz=254
I63A Otisfield 128.07 59 P **PKiKP 15 21 39.3 +2.8**
baz=254
BRVK Borovoye 128.16 313⇑ *i*PKIKP **PKiKP 15 21 37.6 +1.2**
BRVK Borovoye 128.16 313 **PKiKP 15 21 36.9 +0.5**
E61A Lac Etchemin 128.76 56 P **PKiKP 15 21 37.7 -0.1**
baz=256
E62A Clayton Lake 129.45 56 P **PKiKP 15 21 42.1 +2.9**
baz=256
ARU Arti 135.23 317 *i* PKIKP **PKiKP 15 21 51.3 +0.8**
ARU 15 24 25.2
ARU SS SS 15 42 17.1 -3.4
PRGR Permogore 140.95 326 *e*PKIKP **PKPdf 15 21 57.5 -1.9**
MAK Makhachkala 141.82 296 *e*P **Pdif 15 19 18.4 -2.6**
MAK *i* 15 22 01.5
MAK *e* 15 25 02.5
MAK *e*SS SS 15 43 37.3 -1.9
MAK pmax pmax
comp=Z,412nm,1.4s
KLMR Klimovskoe 143.98 327 *e*PKIKP PKPab 15 22 02.3 +0.1
KLMR Klimovskoe 143.98 327 *e*PKPdf PKPab 15 22 02.3 +0.1
KLMR *e* 15 25 02.4
KLMR LQ LQ 16 17 07.3
KLMR LQ LQ 16 17 07.3
KLMR LR LR 16 19 25.5
KIV Kislovodsk 145.40 297 *i* PKIKP **PKiKP 15 22 12.2 +0.3**
KIV pmax pmax
comp=Z,14nm,1.0s
VRH Novokhopyorsk 145.62 310 *e*PKIKP **PKPab 15 22 09.1 +0.6**
VRH pmax pmax
comp=Z,30nm,1.4s
MOS Moscow 146.86 319 *e*PKP2 **PKPbc 15 22 11.5 -0.3**
LPSR Galich'ya Gora 147.03 313 *e*PKIKP **PKPdf 15 22 08.4 -1.9**
LPSR pmax pmax
comp=Z,30nm,1.5s
VORD Divnogorie 147.17 310 *e*PKP2 **PKPbc 15 22 13.1 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.2s
VSR Storozhevoye 147.19 311 *e*PKP2 **PKPbc 15 22 12.0 -0.9**
VSR pmax pmax
comp=Z,20nm,1.4s
SOC Sochi 147.53 296 *e*PKHKP PKPpre 15 22 07.0
SOC *i* 15 22 15.6
SOC *e*SS SS 15 44 39.9 -4.8
SOC pmax pmax
comp=Z,12nm,0.7s
SOC pmax pmax
comp=Z,13nm,1.0s
OBN Obninsk 147.64 318 *e*PKIKP **PKPdf 15 22 11.3 +0.1**
OBN pmax pmax
comp=Z,18nm,1.1s
FIA1 FINESS Array S 149.09 334 **PKPbc 15 22 18.1 +0.6**
FINES FINESS Array B 149.09 334 PKP **PKPdf 15 22 13.9 +0.5**
comp=Z,11nm,1.1s,baz=45,slow=2.2,SNR=5.3
FINES PKPbc **sPKPdf 15 22 17.2 +0.2**
comp=Z,15nm,0.8s,baz=64,slow=3.2,SNR=14
FINES FINESS Array B 149.09 334 PKIKP **PKPdf 15 22 14.9 +1.5**
FINES FINESS Array B 149.09 334 PKPdf **PKPdf 15 22 14.9 +1.5**
LIC Lamto 150.20 173 *e*PKIKP **PKPdf 15 22 19.2 +2.5**
comp=Z,268nm,2.0s
KIC Kosan Boka 150.36 174 *e*PKIKP **PKPdf 15 22 19.5 +2.5**
comp=Z,391nm,2.1s
TIC Toumodi 150.61 173 *e*PKIKP **PKPdf 15 22 19.6 +2.2**
DBIC Dimbokro 150.65 174 PKPbc **PKPbc 15 22 20.6 -2.2**
comp=Z,9.4nm,1.0s,baz=211,slow=4.7,SNR=4.1
DBIC Dimbokro 150.65 174 PKIKP **PKPbc 15 22 22.3 -0.5**
DBIC Dimbokro 150.65 174 **PKPbc 15 22 22.3 -0.5**
VSU Vasula 150.76 329 *d i*PKIKP **PKiKP 15 22 23.0 +0.7**
BR131 Keskin Array S 151.94 288 PKIKP **PKiKP 15 22 25.9 +0.3**
BR131 Keskin Array S 151.94 288 **PKiKP 15 22 25.9 +0.3**
BRTR Keskin Array B 151.94 288 PKP **PKPdf 15 22 20.2 +1.4**
comp=Z,0.4nm,0.5s,baz=151,slow=3.3,SNR=3.1
BRTR PKPbc **PKPbc 15 22 25.4 +0.1**
comp=Z,6.4nm,1.2s,baz=104,slow=4.0,SNR=8.4
BRTR Keskin Array B 151.94 288 PKIKP **PKPdf 15 22 19.2 +0.4**
BRTR Keskin Array B 151.94 288 PKPdf **PKPdf 15 22 19.2 +0.4**
AKASG Malin Array Be 153.37 313 PKPbc **PKPbc 15 22 26.7 -1.1**
comp=Z,3.1nm,0.8s,baz=58,slow=2.4,SNR=2.8
NB2 NORSAR Subarra153.63 346 PKPdf **PKiKP 15 22 29.3 +1.0**
comp=Z,8.2nm,1.2s,baz=24,slow=2.0
NB2 NORSAR Subarra153.63 346 PKPdf **PKiKP 15 22 29.3 +1.0**
baz=24,slow=2.0
NOA NORSAR Array B153.63 346 PKPbc **PKPbc 15 22 27.4 -0.8**
comp=Z,3.7nm,1.0s,baz=23,slow=1.9,SNR=4.7
TORD Torodi Ar. Bea 157.02 189 PKP **PKPdf 15 22 26.2 -0.2**
comp=Z,4.7nm,1.1s,baz=169,slow=1.5,SNR=5.8
TORD PKPab **PKPab 15 22 54.5 -1.9**
comp=Z,5.0nm,0.9s,baz=163,slow=2.8,SNR=6.1
TORD Torodi Ar. Bea 157.02 189 PKPdf **PKPdf 15 22 25.6 -0.8**
VYHS Vyhne 160.39 316 *e*PKP2 **PKPab 15 23 10.7 +0.4**
CLL Collm 161.42 330 *e*PKPdf **PKPdf 15 22 31.0 +0.7**
CLL *e*PKPab **PKPab 15 23 16.0 +1.4**
CLL *e* 15 48 24.0
CLL *e*SSS SSS 15 53 18.0
CLL *e*SSSS 15 57 54.0
CLL Collm 161.42 330 *e*PKIKP **PKPdf 15 22 31.0 +0.7**
CLL *e* 15 23 16.0
KHC Kasperske Hory 162.75 324 *e*PKP **PKPab 15 23 20.4 -0.3**
KHC *ep*PKP **sPKPab 15 23 26.3 +1.7**
KHC Kasperske Hory 162.75 324 *e*PKP2 **PKPab 15 23 20.4 -0.3**
PMOZ Porto Moniz, M 166.84 100 A A 16 48 46.4
comp=Z,290nm,18.0s
PGAV Gavieira, Arco 172.18 39 A A 16 50 21.3
comp=Z,468nm,18.0s
PVIS Viseu 173.26 44 *e*PKPab **PKPab 15 24 06.9 -0.5**
MVO Moncorvo 173.40 37 *e*PKPab **PKPab 15 24 07.7 -0.3**
MVO Moncorvo 173.40 37 A A 16 47 48.4
comp=Z,346nm,18.0s
PMTG Montargil 174.01 57 *e*PKPab **PKPab 15 24 08.6 -2.2**
PMRV Marv??o 174.37 51 *e*PKPab **PKPab 15 24 10.3 -2.0**
PMRV Marv??o 174.37 51 A A 16 47 16.1
comp=Z,371nm,16.0s
PVAQ Vaqueiros 175.00 72 A A 16 44 01.2
comp=Z,445nm,20.0s
ESDC Sonseca Array 175.95 25 PKP **PKPdf 15 22 42.4 +2.1**
comp=Z,1.1nm,1.1s,baz=343,slow=2.4,SNR=6.0
ESDC PKPab **PKPab 15 24 17.2 -2.0**
comp=Z,0.8nm,0.7s,baz=310,slow=4.4,SNR=3.2
ESDC Sonseca Array 175.95 25 **PKPdf 15 22 41.4 +1.1**

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*IDC **21** 15:05:25.7±0.8, 35°.87S×178°.53E, h0km, mb4.4/12, mb1 4.6/15, mb1mx4.4/30, mbtmp4.4/15, ML3.5/2, Error ellipse: s-maj=24.4km s-min=17.8km az=58.0*
*BJI **21** 15:05:27.5±0.0, 35°.59S×178°.89E, h18km, mB5.6/4, mb5.4/10, Ms5.2/7, Ms7 4.9/6*
*NEIC **21** 15:05:27.5±2.1, 35°.95S±0°.08×178°.4E±0°.1, h10km±1km, mb5.1/36, Error ellipse: s-maj=20.6km s-min=12.0km az=108.0*
*WEL **21** 15:05:30.1±0.8, 36°S±5°×17°9E±°, h5km, M4.9/25, ML5.1/25, MLv4.9/25, Error ellipse: s-maj=0.0km s-min=0.0km az=97.9*
*GCMT **21** 15:05:30.5±0.4, 35°.66S±0°.02×178°.40E±0°.03, h14km±1km, MW5.1/80, Moment Tensor Solution. s29,c35; s80,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.68±.29; $M_{\theta\theta}$3.77±.22; $M_{\phi\phi}$-1.09±.20; $M_{r\theta}$2.72±.52; $M_{\theta\phi}$3.42±.15; $M_{\phi r}$1.58±.46; Best double couple: $M_0$5.18400×10^{16} NP1:ϕ_s76.00000°, δ27.00000°, λ-71.00000°. NP2: ϕ_s235.00000°, δ64.00000°, λ-100.00000°. Principal axes: T 6.5990, Plg19.0000°, Azm332.0000°; N -2.8320, Plg9.0000°, Azm239.0000°; P -3.7680, Plg69.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 15:05:27.7±1.6, 35°.96S±0°.04×178°.37E±0°.06, h10km±9km, n179, σ1s79/176, mb5.0/35, 2C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.60**	**182**	P	**Pg**	**15 05 59.4**	**+0.9**
MXZ				S	**Sn**	**15 06 17.0**	**0.0**
HAZ	**Te Kaha**	**1.86**	**195**	P	**Pb**	**15 06 01.0**	**-0.7**
HAZ				S	**Sb**	**15 06 24.8**	**-0.3**
WMGZ	**Waiomatatini S**	**1.86**	**179**	P	**Pg**	**15 06 03.0**	**-0.4**
WMGZ				S	**Sg**	**15 06 30.5**	**+3.0**
RUGZ	**Raukumara Rang**	**2.08**	**195**	P	**Pb**	**15 06 04.3**	**-1.4**
RUGZ				S	**Sg**	**15 06 33.5**	**-1.1**
PUZ	**Puketiti**	**2.11**	**182**	P	**Pn**	**15 06 04.6**	**+1.4**
PUZ				S	**Sg**	**15 06 35.5**	**-0.2**
OPRZ	**Ohinepanea**	**2.38**	**217**	P	**Pg**	**15 06 12.8**	**-0.5**
OPRZ				S	**Sg**	**15 06 47.6**	**+3.3**
URZ	**Urewera**	**2.51**	**203**	Pn	**Pn**	**15 06 09.5**	**+0.9**
URZ	24nm,0.3s,baz=78,slow=19,SNR=1.2			Sn	**Sn**	**15 06 39.6**	**+0.4**
	66nm,0.3s,baz=294,slow=20,SNR=3.0						
URZ	**Urewera**	**2.51**	**203**	P	**Pn**	**15 06 09.3**	**+0.6**
URZ				S	**Sn**	**15 06 39.2**	**-0.1**
TKGZ	**Te Karaka**	**2.51**	**189**	P	**Pb**	**15 06 12.1**	**-0.9**
TKGZ				S	**Sb**	**15 06 45.2**	**+1.3**
CNGZ	**Carnagh Statio**	**2.53**	**183**	P	**Pb**	**15 06 11.7**	**-1.5**
CNGZ				S	**Sg**	**15 06 47.6**	**-1.3**
TARZ	**Mount Tarawera**	**2.72**	**213**	P	**Pb**	**15 06 17.9**	**+1.3**
WIAZ	**Waiheke Island**	**2.74**	**251**	P	**Pn**	**15 06 13.3**	**+1.5**
RIGZ	**Rimuhau**	**2.79**	**190**	P	**Pn**	**15 06 14.8**	**+2.4**
HSRZ	**Hossack Road**	**2.90**	**215**	P	**Pg**	**15 06 21.5**	**-1.8**
SNGZ	**Shannon Statio**	**2.94**	**196**	P	**Pb**	**15 06 18.2**	**-2.1**
SNGZ				S	**Sb**	**15 06 56.3**	**+0.1**
HRRZ	**Handcock Road**	**2.95**	**214**	P	Pg	15 06 29.9	+5.7
HRRZ				S	Sn	15 06 33.9	-16
HRRZ	**Handcock Road**	**2.95**	**214**	P	**Pb**	**15 06 19.8**	**-0.6**
PRRZ	**Plateau Road**	**2.99**	**211**	P	**Pg**	**15 06 28.6**	**+3.6**
PRRZ				S	Sn	15 06 32.1	-19
PRRZ	**Plateau Road**	**2.99**	**211**	P	**Pb**	**15 06 20.8**	**-0.3**
GRRZ	**Galatos Road**	**2.99**	**216**	P	Pg	15 06 30.7	+5.6
GRRZ	**Galatos Road**	**2.99**	**216**	P	**Pb**	**15 06 21.5**	**+0.3**
ALRZ	**Allen Road**	**3.06**	**211**	P	**Pg**	**15 06 27.3**	**+0.9**
ALRZ				S	Sn	15 06 29.6	-23
WPRZ	**Whakapapatarin**	**3.11**	**214**	P	**Pg**	**15 06 27.5**	**+0.2**
WPRZ				S	Sn	15 06 29.5	-25

KUTZ Kaahu Road 3.24 218 P **Pg 15 06 31.5 +1.6**
KUTZ Kaahu Road 3.24 218 P **Pb 15 06 24.3 -1.1**
NMHZ Naumai 3.37 201 P **Pb 15 06 24.4 -3.2**
NMHZ S **Sb 15 07 06.0 -2.8**
HATZ Hinemaiaia 3.44 211 P **Pb 15 06 26.3 -2.6**
WATZ Wairara 3.46 217 P **Pb 15 06 27.7 -1.4**
ARHZ Aropaoanui 3.48 198 P **Pn 15 06 24.6 +2.7**
RATZ Rangitukua 3.57 215 P **Pb 15 06 29.1 -1.9**
RITZ Rihia Road 3.62 213 P **Pb 15 06 28.7 -3.1**
MCHZ McNeill Hill 3.73 200 P **Pn 15 06 27.2 +1.9**
MCHZ S **Sb 15 07 15.5 -3.4**
KWHZ Kaweka Forest 3.79 203 P **Pn 15 06 29.1 +2.8**
TMVZ Te Maari 3.80 213 P **Pb 15 06 31.1 -3.8**
KRVZ Karewarewa 3.81 214 P **Pb 15 06 31.4 -3.7**
CKHZ Cape Kidnapper 3.83 195 P **Pn 15 06 28.2 +1.4**
CKHZ S **Sn 15 07 16.1 +4.1**
WTVZ West Tongariro 3.85 214 P **Pn 15 06 31.3 +4.2**
OTVZ Oturere 3.86 213 P **Pb 15 06 31.6 -4.3**
TWVZ Taurewa 3.89 216 P **Pb 15 06 32.6 -3.8**
NGZ Ngauruhoe 3.89 214 P **Pn 15 06 31.5 +3.7**
BHHZ Black Hill Sta 3.97 207 P **Pn 15 06 31.8 +3.0**
FWVZ Far West T-bar 3.98 213 P **Pn 15 06 33.4 +4.3**
KRHZ Kereru 4.01 203 P **Pn 15 06 30.4 +1.2**
KRHZ S **Sn 15 07 18.3 +2.0**
KAHZ Kahuranaki 4.01 197 P **Pn 15 06 30.8 +1.6**
KAHZ S **Sn 15 07 19.8 +3.4**
WNVZ Wahianoa 4.02 212 P **Pn 15 06 32.9 +3.3**
MOVZ Moawhango 4.02 210 P **Pn 15 06 32.3 +2.8**
PKVZ Pokaka 4.10 215 P **Pn 15 06 34.3 +3.7**
PXZ Pawanui 4.24 196 P **Pn 15 06 32.8 +0.5**
PXZ S **Sn 15 07 24.3 +2.4**
PNHZ Pukenui 4.31 203 P **Pn 15 06 34.8 +1.4**
PNHZ S **Sn 15 07 26.2 +2.5**
PRHZ Porangahau 4.51 197 P **Pn 15 06 36.9 +0.7**
KHEZ Kahui Hut 4.80 225 P **Pb 15 06 47.4 -4.6**
BFZ Birch Farm 5.00 199 P **Pn 15 06 43.2 +0.3**
BFZ S **Sn 15 07 41.3 +0.4**
BFZ Birch Farm 5.00 199 Pn **Pn 15 06 42.9 0.0**
MSWZ Moikau Station 5.97 203 Pn **Pn 15 06 55.7 -0.5**
SNZO South Karori 6.07 207 Pn **Pn 15 06 56.0 -1.5**
BHW Baring Head 6.09 206 Pn **Pn 15 06 56.7 -1.1**
PLWZ Palliser 6.11 203 Pn **Pn 15 06 56.6 -1.5**
TUWZ Tuamarina 6.47 211 Pn **Pn 15 07 01.9 -1.1**
THZ Tophouse 7.20 215 Pn **Pn 15 07 12.7 -0.3**
RPZ Rata Peaks 9.57 214 Pn **Pn 15 07 44.7 -0.9**
baz=357,slow=13,SNR=1.2
RPZ Sn **Sn 15 09 28.6 -4.6**
3.4nm,0.3s,baz=333,slow=13,SNR=6.2
DZM Mont Dzumac 17.30 320 *e*Pn **Pn 15 09 28.3 -1.3**
134nm,1.4s
DZM Mont Dzumac 17.30 320 P **P 15 09 30.5 -0.6**
0.1nm,0.3s,baz=66,slow=15,SNR=2.4
DZM Mont Dzumac 17.30 320 IAmb IAmb 15 09 36.1
comp=Z,78nm,1.3s
MSVF Nonsavu 18.15 359 P **Pn 15 09 39.5 -0.6**
ARMA Armidale 23.02 276 P **P 15 10 30.5 -2.6**
baz=21,SNR=5.7
ARMA Armidale 23.02 276 P **P 15 10 36.8 +3.7**
ARMA IAmb IAmb 15 10 43.2
comp=Z,51nm,1.2s
CNB Canberra Magne 23.55 263 P **P 15 10 40.5 +2.1**
baz=22,SNR=6.2
EIDS Eidsvold 25.66 287 P **P 15 10 59.1 +1.3**
EIDS IAmb IAmb 15 11 05.9
comp=Z,41nm,1.3s
TOO Toolangi 26.32 257 P **P 15 11 07.1 +3.3**
baz=25,SNR=6.6
TOO Toolangi 26.32 257 P **P 15 11 02.9 -0.8**
TOO IAmb IAmb 15 11 13.3
comp=Z,88nm,1.5s
RMQ Roma 26.94 282 P **P 15 11 09.1 -0.3**
baz=25,SNR=6.0
CMSA Cobar Meteorol 27.45 270 P **P 15 11 15.0 +1.0**
baz=26,SNR=5.7
ARPS Mount Arapiles 29.32 257 P **P 15 11 33.0 +2.5**
baz=28,SNR=12
TBI Tubuai 30.51 75 *e*T T 15 43 22.1
comp=Z,36nm,0.2s
QLP Quilpie 30.51 278 P **P 15 11 42.4 +1.3**
baz=29,SNR=5.2
STKA Stephens Creek 30.67 267 P **P 15 11 43.6 +1.1**
comp=Z,8.2nm,1.1s,baz=119,slow=9.4,SNR=5.5
STKA Stephens Creek 30.67 267 P **P 15 11 44.9 +2.4**
baz=29,SNR=7.3
STKA Stephens Creek 30.67 267 P **P 15 11 42.0 -0.5**
CTA Charters Tower 32.28 291 P **P 15 11 57.7 +0.9**
comp=Z,15nm,1.1s,baz=116,slow=6.3,SNR=3.8
CTAO Charters Tower 32.28 291 P **P 15 11 58.3 +1.5**
CTAO IAmb IAmb 15 12 06.1
comp=Z,30nm,0.9s
HTT Hallett 32.38 263 P **P 15 12 00.1 +2.4**
baz=31,SNR=3.6
PAE Paea 33.70 66 *e*T T 15 47 18.4
comp=Z,7.9nm,0.2s
PPT2 Papeete2 33.75 66 *e*T T 15 47 22.6
comp=Z,23nm,0.3s
TVO Taravao 33.87 66 *e*T T 15 47 30.7
comp=Z,5.5nm,0.3s
TIAR Tiarei 33.94 66 *e*T T 15 47 26.2
comp=Z,4.4nm,0.3s
MEH Mehetia 34.70 68 *e*T T 15 48 33.7
comp=Z,87nm,0.3s
PMOR Pomariorio Ree 36.64 64 *e*T T 15 50 58.2
comp=Z,6.8nm,0.3s
VAH Vaihoa 36.69 65 *e*T T 15 51 01.3
comp=Z,22nm,0.2s
QIS Mount Isa 37.17 284 P **P 15 12 40.0 +0.9**
baz=35,SNR=7.5
COEN Coen 38.39 296 P **P 15 12 49.8 +0.4**
baz=36,SNR=6.9
COEN Coen 38.39 296 P **P 15 12 49.5 +0.1**
COEN IAmb IAmb 15 12 56.6
comp=Z,33nm,0.9s
RABL Rabaul 39.78 317 P **P 15 13 01.8 +0.7**
AS31 Alice Springs 40.16 275 P **P 15 13 04.8 +0.5**
ASAR Alice Springs 40.16 275 P **P 15 13 04.8 +0.6**
comp=Z,25nm,0.9s,baz=114,slow=7.8,SNR=14
WR0 Warramunga Arr 41.50 281 P **P 15 13 15.1 -0.2**
WR0 IAmb IAmb 15 13 23.7
comp=Z,26nm,1.1s
WB2 Warramunga Arr 41.66 280 P **P 15 13 16.5 -0.1**
WB2 IAmb IAmb 15 13 24.7
comp=Z,59nm,1.4s
WRAB Tennant Creek 41.67 280 P **P 15 13 16.4 -0.3**
WRA Warramunga Arr 41.67 280 P **P 15 13 16.4 -0.3**
comp=Z,9.9nm,0.9s,baz=120,slow=7.7,SNR=13
WRA Warramunga Arr 41.67 280 P **P 15 13 16.2 -0.5**
WB0 Warramunga Arr 41.72 281 P **P 15 13 16.6 -0.4**
WB0 IAmb IAmb 15 13 25.9
comp=Z,25nm,1.0s
FORT Forrest 41.96 262 P **P 15 13 18.7 -0.2**
FORT IAmb IAmb 15 13 25.6
comp=Z,86nm,0.9s
VNDA Vanda 42.29 185 P **P 15 13 21.6 +0.6**
comp=Z,0.7nm,0.9s,baz=27,slow=7.3,SNR=1.3
JAY Jayapura 48.16 305 P **P 15 14 08.4 0.0**
comp=Z,426nmcomp=Z,19nm,1.5s
MTN Manton Dam 48.21 286 P **P 15 14 09.0 +0.2**
baz=46,SNR=4.4
KNRA Kununurra 48.44 281 P **P 15 14 10.9 +0.4**
baz=47,SNR=5.1
KNRA Kununurra 48.44 281 P **P 15 14 10.2 -0.3**
CASY Casey 48.82 210 P **P 15 14 11.8 -1.0**
FITZ Fitzroy Crossi 49.62 276 P **P 15 14 20.1 +0.5**
baz=48,SNR=9.8
FITZ Fitzroy Crossi 49.62 276 P **P 15 14 20.1 +0.5**
NWAO Narrogin (SRO) 49.79 255 P **P 15 14 20.4 -0.3**
NWAO IAmb IAmb 15 14 20.6
comp=Z,61nm,1.4s
SRPI Serui, Papua 51.66 301 P **P 15 14 35.6 +0.6**
comp=Z,67nm,0.5s
PSA00 Pilbara Seismi 52.55 269 P **P 15 14 40.3 -1.3**
PSA00 Pilbara Seismi 52.55 269 P **P 15 14 40.5 -1.1**
PSA00 IAmb IAmb 15 14 47.5
comp=Z,55nm,1.1s
FAKI Fak Fak 53.76 297 P **P 15 14 49.3 -1.2**
QSPA South Pole Qui 54.17 180 P **P 15 14 54.3 +1.2**
comp=Z,9.9nm,0.9s,baz=266,slow=0.4,SNR=8.7
QSPA South Pole Qui 54.17 180 P **P 15 14 54.0 +1.0**
QSPA IAmb IAmb 15 15 00.1
comp=Z,18nm,1.1s
H11S2 WAKE ISLAND Hy 55.27 346 T T 16 14 20.7
baz=168,slow=76,SNR=11
H11S3 WAKE ISLAND Hy 55.27 346 T T 16 14 21.5
baz=168,slow=76,SNR=14
H11S1 WAKE ISLAND Hy 55.28 346 T T 16 14 22.3
baz=168,slow=76,SNR=11
SOEI Soe 55.44 284 P **P 15 15 03.5 +0.6**
H11N1 WAKE ISLAND Hy 56.42 347 T T 16 15 47.7
baz=170,slow=76,SNR=20
H11N3 WAKE ISLAND Hy 56.42 347 T T 16 15 49.2
baz=170,slow=76,SNR=10
H11N2 WAKE ISLAND Hy 56.44 347 T T 16 15 49.1
baz=170,slow=76,SNR=9.9
NLAI Namlea 57.34 292 P **P 15 15 15.5 -0.8**
comp=Z,92nm,1.6s
MMRI Maumere 57.70 284 P **P 15 15 18.5 -0.4**
comp=Z,146nm,1.2s
MMRI Maumere 57.70 284 P **P 15 15 18.6 -0.3**
EDFI Ende, Flores 58.07 283 P **P 15 15 20.1 -1.5**
comp=Z,24nm,1.2s
SANI Sanana 58.96 292 P **P 15 15 27.0 -0.6**
comp=Z,2μmcomp=Z,186nm,1.2s
HMH Humu'ula Sheep 60.55 28 P **P 15 15 39.4 +0.7**
KAPI Kappang 61.86 285 P **P 15 15 47.5 0.0**
BELA Belgrano 2 64.69 173 P **P 15 16 05.1 -0.3**
MAW Mawson 66.04 202 P **P 15 16 15.4 +1.3**
comp=Z,6.5nm,0.9s,baz=107,slow=10.0,SNR=4.4
MAW Mawson 66.04 202 IAmb IAmb 15 16 23.0
comp=Z,5.6nm,1.5s
SYO Syowa Base 71.01 195 ⇓ *i*P **P 15 16 42.2 -3.0**
SYO Syowa Base 71.01 195 ⇑ *i*pP **P 15 16 45.8 +0.6**
SYO Syowa Base 71.01 195 ⇑ *es*P sP 15 16 51.0 +2.6
SNAA Sanae 72.67 180 P **P 15 16 53.4 -1.9**
SNAA Sanae 72.67 180 P **P 15 16 54.7 -0.6**
comp=Z,9.6nm,1.1s,baz=184,slow=6.2,SNR=5.2
SNAA Sanae 72.67 180 P **P 15 16 54.5 -0.8**
SNAA IAmb IAmb 15 17 01.0
comp=Z,16nm,1.1s
VNA3 Neumayer Olymp 72.95 177 P **P 15 16 56.1 -0.8**
VNA2 Neumayer--Watz 73.34 178 P **P 15 16 58.9 -0.3**
baz=167,slow=6.5
VNA1 Neumayer--Stat 73.59 178 P **P 15 17 00.9 +0.3**
H03S2 Juan Fernandez 79.89 124 T T 16 45 27.8
baz=232,slow=74
H03S1 Juan Fernandez 79.90 124 T T 16 45 27.7
baz=232,slow=74
H03S3 Juan Fernandez 79.91 124 T T 16 45 26.2
baz=232,slow=74
H03N3 Juan Fernandez 80.12 124 T T 16 45 39.0
baz=236,slow=72
H03N2 Juan Fernandez 80.12 124 T T 16 45 39.4
baz=236,slow=72
H03N1 Juan Fernandez 80.14 124 T T 16 45 40.0
baz=236,slow=72
PLCA Paso Flores 80.89 134 P **P 15 17 42.7 +0.4**
comp=Z,1.7nm,0.6s,baz=194,slow=4.2,SNR=2.3
PLCA Paso Flores 80.89 134 IAmb IAmb 15 18 03.4
comp=Z,19nm,1.4s
MAT Matsushiro 81.21 328 P **P 15 17 44.8 +1.1**
KSRS Korea Array 86.72 322 P **P 15 18 10.9 -0.8**
comp=Z,0.6nm,0.7s,baz=128,slow=5.7,SNR=3.2
NJ2 Nanjing 87.66 313 *e*P **P 15 18 17.3 +0.9**
NJ2 pmax pmax
comp=Z,13nm,0.5s
CMAR Chiang Mai Arr 92.44 291 P **P 15 18 39.4 +0.3**
comp=Z,0.4nm,0.3s,baz=135,slow=3.0,SNR=1.6
CMAR PP **PP 15 22 19.9 -0.6**
comp=Z,0.3nm,0.3s,baz=140,slow=6.9,SNR=6.3
CMAR Chiang Mai Arr 92.44 291 P **P 15 18 39.0 -0.2**
CMB Columbia Colle 92.89 44 P **P 15 18 39.7 -1.1**
CMB IAmb IAmb 15 18 46.0
comp=Z,7.2nm,1.1s
KMI Kunming 93.69 298 ⇓ *e*P **P 15 18 45.8 +0.8**
KMI pP pwP 15 18 49.4 -1.3
KMI sP sP 15 18 51.8 +3.5
KMI pmax pmax
comp=Z,6.0nm,0.5s
LHV Little Huntoon 94.11 45 P **P 15 18 46.4 +0.1**
NVAR Mina Array Bea 94.35 45 P **P 15 18 46.8 -1.0**
comp=Z,2.7nm,1.0s,baz=223,slow=8.9,SNR=7.8
NVAR Mina Array Bea 94.35 45 P **P 15 18 46.6 -1.1**
PAHR Pah Rah Range 94.62 43 P **P 15 18 48.5 -0.4**
PAHR IAmb IAmb 15 18 53.9
comp=Z,7.4nm,1.3s
MOD Modoc Plateau 95.64 41 P **P 15 18 54.0 +0.6**
MOD IAmb IAmb 15 18 58.5
comp=Z,12nm,1.2s
HHC Hu-ho-hao-te 97.96 315 *e*P **P 15 19 02.8 -1.2**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC LR LR
comp=Z,280nm,17.9s
HHC LR LR
comp=Z,340nm,17.9s
HHC LR LR
comp=Z,390nm,17.0s
LZH Lanzhou 99.64 308 *e*P **Pdif 15 19 13.1 +1.4**
LZH pP pwP 15 19 16.5 -0.9
LZH pmax pmax
comp=Z,15nm,1.3s
SONM Songino Array 105.24 318 PP **PP 15 24 00.3 +2.3**
comp=Z,0.5nm,0.6s,baz=131,slow=6.3,SNR=2.5
WMQ Urumqi 114.22 307 *e*PKP PKPdf 15 24 06.9 -0.4
WMQ LR LR
comp=Z,120nm,22.1s
WMQ LR LR
comp=Z,98nm,27.3s
MKAR Makanchi Array 118.93 309 PKP **PKiKP 15 24 16.7 +0.5**
comp=Z,1.3nm,1.0s,baz=114,slow=1.7,SNR=3.5
MKAR PP **PP 15 25 35.5 -0.4**
comp=Z,0.6nm,0.9s,baz=92,slow=4.6,SNR=2.1
KSH Kashi 120.35 299 PKP **PKiKP 15 24 21.3 +1.9**
KSH SS SS 15 42 17.1 +2.4
KSH LR LR
comp=Z,140nm,7.0s
KSH LR LR
comp=Z,100nm,7.5s
FINES FINESS Array B 149.07 334 PKPbc **PKPbc 15 25 13.5 -1.8**
comp=Z,11nm,1.1s,baz=96,slow=1.4,SNR=3.4
FINES FINESS Array B 149.07 334 **PKiKP 15 25 16.2 -0.4**
LIC Lamto 150.25 173 *e*PKP2 **PKPbc 15 25 18.1 -1.6**
comp=Z,44nm,1.1s
KIC Kosan Boka 150.41 174 *e*PKP2 **PKPdf 15 25 17.2 +2.3**
comp=Z,77nm,1.3s
TIC Toumodi 150.66 173 *e*PKP2 **PKPbc 15 25 18.8 -1.9**
DBIC Dimbokro 150.70 173 PKPbc **PKPbc 15 25 19.0 -1.7**
comp=Z,7.5nm,1.0s,baz=118,slow=3.6,SNR=4.4
BRTR Keskin Array B 152.01 288 PKPbc **PKPbc 15 25 22.9 -0.3**
comp=Z,0.8nm,0.7s,baz=132,slow=2.1,SNR=2.0
AKASG Malin Array Be 153.39 313 PKPbc **PKPbc 15 25 25.6 -0.1**
comp=Z,0.5nm,0.4s,baz=60,slow=2.1,SNR=2.1
AKASG Malin Array Be 153.39 313 **PKPbc 15 25 24.5 -1.2**
TORD Torodi Ar. Bea 157.09 188 PKP **PKPdf 15 25 22.4 -1.8**
comp=Z,1.4nm,0.8s,baz=241,slow=3.0,SNR=2.5
TORD PKPab **PKPab 15 25 53.0 -1.6**
comp=Z,7.7nm,0.9s,baz=170,slow=3.3,SNR=3.0
CLL Collm 161.41 330 *e*PKPdf **PKPdf 15 25 31.0 +2.8**
CLL *e*PKPab **PKPab 15 26 13.0 +0.6**

IDC ***21*** *15:12:28.6±1.0, 31°.68S×68°.42W, h0km, mb3.8/3, mb1 4.1/7, mb1mx3.9/27, mbtmp3.9/7, ML3.9/4, MS4.5/1, Ms1 4.5/1, ms1mx3.2/22, Error ellipse: s-maj=44.2km s-min=26.5km az=92.0*
NEIC ***21*** *15:12:40.6±4.1, 31°.25S±0°.05×68°.2W±0°.1, h81km±7km, Error ellipse: s-maj=18.6km s-min=7.4km az=91.0*
GUC ***21*** *15:12:43.9±0.7, 31°.20S×68°.68W, h134km±17km, ML4.1*
ISC 21 15:12:42.6±1.0, 31°.21S±0°.04×68°.45W±0°.08, h106km±10km, n65, σ1° 89/76, mb3.6/4, 10C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.39**	**210**	Pn	**Pn**	**15 12 59.2**	**+0.8**
CO01	**Juntas del Tor**	**1.87**	**310**	⇑ *i*P	**Pn**	**15 13 16.4**	**+2.4**
CO01				*e*S	**Sn**	**15 13 40.5**	**+2.6**
CO01				IAML		15 13 41.5	
comp=N,2μm,0.4s							
CO01	**Juntas del Tor**	**1.87**	**310**		**Pn**	**15 13 16.4**	**+2.4**
CO03	**El Pedregal**	**1.96**	**280**	⇑ *i*P	**Pn**	**15 13 16.6**	**+1.7**
CO03				*e*S	**Sn**	**15 13 41.1**	**+1.5**
CO03				IAML		15 13 44.7	
comp=E,2μm,0.5s							
CO03	**El Pedregal**	**1.96**	**280**		**Pn**	**15 13 16.6**	**+1.7**
CO02	**Combarbal**	**2.18**	**269**	⇑ *i*P	**Pn**	**15 13 19.1**	**+1.2**
CO02				*e*S	**Sn**	**15 13 45.5**	**+0.7**
CO02				IAML		15 13 48.6	
comp=N,3μm,0.2s							
CO02	**Combarbal**	**2.18**	**269**	Pn	**Pn**	**15 13 19.1**	**+1.2**
GO04	**Tololo Observa**	**2.27**	**296**	⇑ *i*P	**Pn**	**15 13 20.2**	**+1.2**
GO04				*e*S	**Sn**	**15 13 48.4**	**+1.4**
GO04				IAML		15 13 55.0	
comp=N,2μm,0.3s							
GO04	**Tololo Observa**	**2.27**	**296**	Pn	**Pn**	**15 13 20.3**	**+1.2**
VA03	**San Esteban**	**2.36**	**228**	⇑ *i*P	**Pn**	**15 13 21.9**	**+1.7**
VA03				*e*S	**Sn**	**15 13 50.8**	**+1.8**
VA03				IAML		15 13 58.0	
comp=E,584nm,0.3s							
VA03	**San Esteban**	**2.36**	**228**	Pn	**Pn**	**15 13 21.9**	**+1.7**
VCA	**Vinchina**	**2.47**	**5**	⇑ *i*P	**Pn**	**15 13 23.6**	**+1.9**
VCA				*e*S	**Sn**	**15 13 54.0**	**+2.3**
PEL	**Peldehue**	**2.70**	**224**	⇑ *i*P	**Pn**	**15 13 25.6**	**+1.0**
PEL				*e*S	**Sn**	**15 13 58.1**	**+1.2**
PEL				IAML		15 14 00.7	
comp=N,262nm,0.3s							
PEL	**Peldehue**	**2.70**	**224**	Pn	**Pn**	**15 13 26.0**	**+1.4**
ROCH	**El Roble**	**2.79**	**230**	⇑ *e*P	**Pn**	**15 13 26.5**	**+0.5**
ROCH				*e*S	**Sn**	**15 13 59.9**	**+0.6**
ROCH				IAML		15 14 02.9	
comp=N,291nm,0.5s							
ROC1	**El Roble**	**2.80**	**230**		**Pn**	**15 13 26.3**	**+0.2**
CLCH	**Cerro Calan**	**2.81**	**218**	*e*P	**Pn**	**15 13 27.7**	**+1.7**
CLCH				*e*S	**Sn**	**15 14 01.0**	**+1.6**
CLCH				IAML		15 14 05.0	
comp=E,788nm,0.6s							
AC05	**El Transito**	**2.84**	**326**	⇑ *e*P	**Pn**	**15 13 28.5**	**+2.0**
AC05				*e*S	**Sn**	**15 14 02.4**	**+2.1**
AC05				IAML		15 14 04.4	
comp=E,539nm,0.2s							
AC05	**El Transito**	**2.84**	**326**	Pn	**Pn**	**15 13 28.5**	**+2.0**
MT03	**Universidad Ad**	**2.87**	**217**	*e*P	**Pn**	**15 13 28.2**	**+1.4**
MT03				*e*S	**Sn**	**15 14 02.6**	**+1.7**
MT03				IAML		15 14 06.5	
comp=E,444nm,0.3s							
MT05	**Renca**	**2.91**	**221**	⇑ *e*P	**Pn**	**15 13 28.3**	**+0.9**
MT05				*e*S	**Sn**	**15 14 03.6**	**+1.7**
MT05				IAML		15 14 06.0	
comp=E,994nm,0.3s							
MT05	**Renca**	**2.91**	**221**		**Pn**	**15 13 28.7**	**+1.3**
LCO	**Las Campanas**	**2.93**	**318**	Pn	**Pn**	**15 13 28.9**	**+1.0**
MT02	**Curacav**	**3.06**	**227**	*e*P	**Pn**	**15 13 29.4**	**+0.1**
MT02				*e*S	**Sn**	**15 14 04.3**	**-0.9**
MT02	**Curacav**	**3.06**	**227**		**Pn**	**15 13 29.4**	**+0.1**
VA01	**Torpederas**	**3.26**	**235**	Pn	**Pn**	**15 13 32.0**	**+0.1**
AC04	**Llanos de Chal**	**3.76**	**322**	*e*P	**Pn**	**15 13 39.1**	**+0.4**
AC04	**Llanos de Chal**	**3.76**	**322**	Pn	**Pn**	**15 13 39.0**	**+0.4**
GO03	**Copiap**	**3.92**	**336**		**Pn**	**15 13 42.0**	**+1.1**
BO02	**Sierra Bellavi**	**4.08**	**208**	Pn	**Pn**	**15 13 43.7**	**+0.8**
GO05	**Huala**	**4.79**	**217**		**Pn**	**15 13 50.3**	**-2.1**
AC01	**Pan de Azucar**	**5.38**	**339**	Pn	**Pn**	**15 14 00.7**	**+0.2**
BI02	**San Fabin de**	**5.93**	**203**	Pn	**Pn**	**15 14 06.8**	**-1.1**
GO02	**Mina Guanaco**	**6.11**	**350**	Pn	**Pn**	**15 14 10.8**	**+0.1**
PB14	**IPOC Station P**	**6.78**	**345**	Pn	**Pn**	**15 14 18.6**	**-1.2**
BI03	**Tigo**	**6.78**	**213**	Pn	**Pn**	**15 14 16.2**	**-3.2**
PB10	**IPOC Station P**	**7.89**	**346**	Pn	**Pn**	**15 14 32.3**	**-2.3**
PB15	**IPOC Station P**	**8.02**	**353**		**Pn**	**15 14 35.8**	**-0.8**
LC01	**Cunco**	**8.17**	**199**	Pn	**Pn**	**15 14 34.8**	**-3.5**
PB06	**IPOC Station P**	**8.53**	**353**	Pn	**Pn**	**15 14 42.0**	**-1.4**
LVC	**Limon Verde**	**8.57**	**357**	Pn	**Pn**	**15 14 42.9**	**-1.3**
comp=E,4.0nm,0.3s,baz=192,slow=8.3,SNR=15							
LVC				Sn	**Sn**	**15 16 15.6**	**-3.8**
comp=E,0.5nm,0.3s,baz=234,slow=21,SNR=1.1							
PB04	**IPOC Station P**	**8.97**	**350**	Pn	**Pn**	**15 14 46.2**	**-3.2**
PB09	**IPOC Station P**	**9.40**	**356**		**Pn**	**15 14 53.9**	**-1.3**
PB07	**IPOC Station P**	**9.53**	**352**	Pn	**Pn**	**15 14 53.6**	**-3.4**
PLCA	**Paso Flores**	**9.66**	**190**	Pn	Pn	15 14 42.9	-16
comp=E,0.3nm,0.3s,baz=258,slow=5.0,SNR=9.9							
PB01	**IPOC Station P**	**10.16**	**355**	Pn	**Pn**	**15 15 02.4**	**-3.2**
PB08	**IPOC Station P**	**11.04**	**357**	Pn	**Pn**	**15 15 14.6**	**-3.1**
PB11	**IPOC Station P**	**11.45**	**354**	Pn	Pn	15 15 18.2	-4.8
GO01	**Chusmiza**	**11.51**	**356**	Pn	**Pn**	**15 15 21.3**	**-2.8**
PSGCX	**Pisagua**	**11.66**	**352**	Pn	Pn	15 15 20.8	-4.9
MNMC	**Minye Minye**	**12.07**	**355**	Pn	**Pn**	**15 15 27.2**	**-4.1**
PB12	**IPOC Station P**	**12.65**	**352**	Pn	**Pn**	**15 15 34.8**	**-4.1**
PB16	**IPOC Station P**	**12.85**	**355**	Pn	**Pn**	**15 15 39.1**	**-2.9**
LPAZ	**La Paz**	**14.86**	**1**	Pn	**Pn**	**15 16 06.2**	**-1.6**
comp=E,0.2nm,0.3s,baz=182,slow=8.3,SNR=14							
LPAZ	**La Paz**	**14.86**	**1**		**P**	**15 16 10.1**	**-0.9**
SIV	**San Ignacio**	**16.58**	**26**	Pn	**Pn**	**15 16 27.1**	**-1.7**
comp=E,0.2nm,0.3s,baz=217,slow=9.9,SNR=7.2							
SAML	**Samuel**	**22.68**	**14**	P	**P**	**15 17 37.7**	**+2.3**
SAML				IAmb	IAmb	15 17 40.2	
comp=Z,4.0nm,1.2s							
USHA	**Ushuaia**	**23.61**	**180**	LR	LR	15 25 24.5	
comp=Z,1μm,21.5s,baz=40,slow=34							
TXAR	**Lajitas Array**	**68.90**	**327**	P	**P**	**15 23 38.1**	**+1.9**
comp=Z,0.3nm,0.6s,baz=153,slow=9.4,SNR=4.2							
TXAR	**Lajitas Array**	**68.90**	**327**	P	**P**	**15 23 37.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**80.39**	**68**	P	**P**	**15 24 43.3**	**+0.6**
comp=Z,1.5nm,0.6s,baz=280,slow=6.2,SNR=4.4							
PDAR	**Pinedale Array**	**82.73**	**331**	P	**P**	**15 24 55.7**	**+1.0**
comp=Z,0.3nm,0.3s,baz=134,slow=6.4,SNR=2.2							
WRA	**Warramunga Arr**	**124.63**	**206**	PKP	**PKiKP**	**15 31 30.2**	**-0.4**
comp=Z,0.3nm,0.6s,baz=164,slow=1.8,SNR=5.9							
ZALV	**Zalesovo Beam**	**150.25**	**32**	PKPbc	**PKiKP**	**15 32 21.7**	**+0.1**
comp=Z,2.5nm,0.5s,baz=308,slow=2.7,SNR=12							
MKAR	**Makanchi Array**	**152.65**	**47**	PKPbc	**PKiKP**	**15 32 27.2**	**+0.4**
comp=Z,1.1nm,0.8s,baz=304,slow=2.0,SNR=7.0							
MKAR				PKPab	**PKPab**	**15 32 38.7**	**+1.1**
comp=Z,1.0nm,0.7s,baz=293,slow=3.4,SNR=5.9							

WEL 21 15:14:16.7, 39°S±1°×176°.2E±0°.9, h5km, M2.7/9, ML3.0/9, MLv2.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=154.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPRZ	**Whakapapatarin**	**0.10**	**334**	P	Pg	15 14 19.4	+0.7
WPRZ				S	Sg	15 14 21.1	+0.9
ALRZ	**Allen Road**	**0.11**	**65**	P	Pg	15 14 19.7	+0.8
ALRZ				S	Sg	15 14 21.7	+1.2
PRRZ	**Plateau Road**	**0.18**	**52**	P	Pg	15 14 21.1	+0.9
PRRZ				S	Sg	15 14 24.0	+1.5
HRRZ	**Handcock Road**	**0.22**	**14**	P	Pg	15 14 22.3	+1.2
HRRZ				S	Sg	15 14 26.1	+2.1
GRRZ	**Galatos Road**	**0.27**	**342**	P	Pb	15 14 23.1	-1.0
GRRZ				S	Sb	15 14 27.5	-1.5
HSRZ	**Hossack Road**	**0.30**	**4**	P	Pb	15 14 23.8	-0.7
HATZ	**Hinemaiaia**	**0.30**	**199**	P	Pg	15 14 22.8	+0.2
KUTZ	**Kaahu Road**	**0.33**	**291**	P	Pg	15 14 23.9	+0.8
RRRZ	**Republican Roa**	**0.36**	**41**	P	Pb	15 14 24.9	-0.6
HLRZ	**Highlands Stat**	**0.37**	**17**	P	Pb	15 14 26.1	+0.3
UTU	**Utuhina**	**0.43**	**358**	P	Pb	15 14 26.6	-0.2
TARZ	**Mount Tarawera**	**0.44**	**32**	P	Pb	15 14 27.4	+0.5
TMVZ	**Te Maari**	**0.65**	**218**	P	Pb	15 14 30.6	+0.1
NMHZ	**Naumai**	**0.67**	**137**	P	Pb	15 14 31.3	+0.3
WTVZ	**West Tongariro**	**0.70**	**224**	P	Pb	15 14 32.3	+0.7
OPRZ	**Ohinepanea**	**0.81**	**19**	P	Pb	15 14 33.4	+0.2
WNVZ	**Wahianoa**	**0.86**	**214**	P	Pn	15 14 35.2	-0.5
MOVZ	**Moawhango**	**0.88**	**204**	P	Pg	15 14 33.0	-0.5
TGRZ	**Tauranga**	**0.88**	**2**	P	Pb	15 14 34.5	+0.1
SNGZ	**Shannon Statio**	**0.90**	**102**	P	Pn	15 14 35.6	-0.4
KRHZ	**Kereru**	**1.04**	**173**	P	Pb	15 14 37.1	-0.1
TOZ	**Tahuroa Road**	**1.04**	**327**	P	Pg	15 14 36.3	-0.3
KAHZ	**Kahuranaki**	**1.29**	**157**	P	Pb	15 14 43.9	+2.4
PNHZ	**Pukenui**	**1.30**	**181**	P	Pb	15 14 42.0	+0.3
PRGZ	**Paritu Road**	**1.34**	**104**	P	Pg	15 14 45.0	+2.6
PXZ	**Pawanui**	**1.51**	**161**	P	P

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res
WHHZ				S	Sn	15 14 56.8	+1.1
SNGZ	**Shannon Statio**	**0.45**	**311**	P	Pn	15 14 48.6	+0.3
SNGZ				S	Sn	15 14 56.6	+0.4
ARHZ	**Aropaoanui**	**0.64**	**253**	P	Pn	15 14 51.0	+0.6
ARHZ				S	Sn	15 15 00.8	+0.9
TKGZ	**Te Karaka**	**0.64**	**5**	P	Pn	15 14 50.7	+0.3
TKGZ				S	Sn	15 15 00.8	+0.9
CNGZ	**Carnagh Statio**	**0.68**	**30**	P	Pn	15 14 51.8	+0.9
CNGZ	**Carnagh Statio**	**0.68**	**30**	P	Pn	15 14 51.8	+0.9
NMHZ	**Naumai**	**0.76**	**268**	P	Pn	15 14 52.3	+0.4
NMHZ				S	Sn	15 15 02.8	+0.1
RTZ	**Ruatahuna**	**0.78**	**306**	P	Pn	15 14 52.5	+0.3
RTZ				S	Sn	15 15 02.9	-0.2
CKHZ	**Cape Kidnapper**	**0.79**	**223**	P	Pn	15 14 52.7	+0.4
MCHZ	**McNeill Hill**	**0.92**	**246**	P	Pn	15 14 54.7	+0.8
MRHZ	**Matea Rd**	**1.09**	**283**	P	Pn	15 14 56.9	+0.6
RUGZ	**Raukumara Rang**	**1.11**	**356**	P	Pn	15 14 56.6	-0.1
WMGZ	**Waiomatatini S**	**1.35**	**22**	P	Pn	15 15 00.0	+0.2
WMGZ				S	Sn	15 15 17.7	+1.0
BHHZ	**Black Hill Sta**	**1.39**	**252**	P	Pn	15 15 00.7	+0.3
WPHZ	**Waipukurau**	**1.43**	**226**	P	Pn	15 15 00.7	-0.1
PNHZ	**Pukenui**	**1.48**	**235**	P	Pn	15 15 01.3	-0.3
ANWZ	**Angora Road**	**1.71**	**216**	P	Pn	15 15 04.6	0.0
DVHZ	**Dannevirke**	**1.74**	**225**	P	Pn	15 15 04.7	-0.4
BFZ	**Birch Farm**	**1.99**	**216**	P	Pn	15 15 07.4	-1.0
PRWZ	**Pori Road**	**2.03**	**223**	P	Pn	15 15 08.6	-0.4
POWZ	**Post Office Ro**	**2.03**	**229**	P	Pn	15 15 08.4	-0.6
TIWZ	**Tintock**	**2.23**	**220**	P	Pn	15 15 10.8	-1.0
TMWZ	**Te Maipa**	**2.49**	**215**	P	Pn	15 15 13.5	-1.9
OGWZ	**Otaki Gorge**	**2.65**	**228**	P	Pn	15 15 16.2	-1.3
TRWZ	**Traveller**	**2.82**	**214**	P	Pn	15 15 17.3	-2.5
CAW	**Cannon Point**	**2.91**	**225**	P	Pn	15 15 19.1	-1.8
MSWZ	**Moikau Station**	**3.03**	**219**	P	Pn	15 15 20.3	-2.5
PLWZ	**Palliser**	**3.15**	**217**	P	Pn	15 15 21.5	-2.9
TCW	**Tory Channel**	**3.43**	**230**	P	Pn	15 15 26.0	-2.1
TUWZ	**Tuamarina**	**3.76**	**230**	P	Pn	15 15 30.0	-2.6
GVZ	**Greta Valley S**	**5.29**	**221**	P	Pn	15 15 49.3	-4.3

*IDC **21** 15:25:10.4±1.8, 6°.47S×151°.95E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/33, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=71.7km s-min=20.2km az=114.0*
*NEIC **21** 15:25:13.2±2.0, 6°.3S±0°.1×151°.8E±0°.1, h12km±5km, mb4.0/11, Error ellipse: s-maj=19.3km s-min=15.2km az=96.0*
ISC 21 15:25:12.7±0.7, **6°.31S**±0°.07×**151°.7E**±0°.2, **h10**km, **n16**, σ0°.**93**/16, **mb4.0**/6, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res
KRVT	**Keravat (AS076**	**2.01**	**8**	Pn	**Pb**	**15 25 48.0**	**-1.4**
	35nm,0.3s,baz=192,slow=9.3,SNR=20						
KRVT				Sn	**Sb**	**15 26 14.9**	**+0.5**
	41nm,0.3s,baz=316,slow=22,SNR=12						
RABL	**Rabaul**	**2.14**	**12**	Pn	**Pn**	**15 25 49.4**	**+0.8**
EIDS	**Eidsvold**	**18.97**	**182**	P	**P**	**15 29 34.1**	**-0.2**
EIDS				IAmb	IAmb	15 29 51.3	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**21.52**	**230**	P	**P**	**15 30 01.6**	**-0.5**
WB0				IAmb	IAmb	15 30 07.7	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**21.52**	**229**	P	**P**	**15 30 02.7**	**+0.6**
WR0				IAmb	IAmb	15 30 04.8	
	comp=Z,8.2nm,1.4s						
WB2	**Warramunga Arr**	**21.65**	**230**	P	**P**	**15 30 03.8**	**+0.2**
WRA	**Warramunga Arr**	**21.66**	**230**	P	**P**	**15 30 03.4**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=57,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.33**	**223**	P	**P**	**15 30 30.4**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=55,slow=8.7,SNR=8.9						
KNRA	**Kununurra**	**24.37**	**246**	P	P	15 30 37.8	+6.5
LHI	**Lord Howe Isla**	**26.01**	**166**	P	**P**	**15 30 46.8**	**+0.8**
STKA	**Stephens Creek**	**27.15**	**199**	P	**P**	**15 30 57.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**28.02**	**243**	P	**P**	**15 31 03.8**	**-0.4**
FITZ				IAmb	IAmb	15 31 12.4	
	comp=Z,2.2nm,0.7s						
BFZ	**Birch Farm**	**40.66**	**151**	P	**P**	**15 32 52.0**	**-1.2**
CNPM	**China Poot**	**79.52**	**26**	P	**P**	**15 37 21.6**	**+2.0**
ILAR	**Eielson Array**	**83.95**	**22**	P	**P**	**15 37 42.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=244,slow=4.9,SNR=9.1						
TORD	**Torodi Ar. Bea**	**149.72**	**285**	PKPbc	**PKPbc**	**15 45 03.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=91,slow=3.9,SNR=1.5						

*MOS **21** 15:45:19.9±0.9, 26°.67S×114°.06W, h9km, mb5.1/36, Error ellipse: s-maj=12.6km s-min=7.4km az=85.2*
*NEIC **21** 15:45:20.6±1.3, 26°.89S±0°.05×114°.1W±0°.1, h10km±1km, mb5.2/304, Error ellipse: s-maj=16.7km s-min=7.7km az=285.0*
*UNK **21** 15:45:20.4, 26°.92S×114°.12W, h10km*
*IDC **21** 15:45:20.2±0.5, 26°.74S×114°.24W, h0km, mb4.6/25, mb1 4.7/25, mb1mx4.6/41, mbtmp4.6/25, MS4.4/19, Ms1 4.4/19, ms1mx4.4/21, Error ellipse: s-maj=16.5km s-min=13.7km az=131.0*
*GCMT **21** 15:45:24.6±0.1, 26°.98S±0°.01×114°.03W±0°.01, h17km, MW5.2/136, Moment Tensor Solution. s83, c125; s136, c220; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-2.85±.16; Mθθ-0.62±.14; Mφφ3.47±.14; Mrθ-1.67±.36; Mrφ-6.58±.10; Mθφ0.22±.32; Best double couple: M07.19600×1016 NP1:φs7.00000°, δ70.00000°, λ-12.00000°. NP2:φs101.00000°, δ79.00000°, λ-160.00000°. Principal axes: T 8.4370, Plg6.0000°, Azm233.0000°; N -2.4840, Plg67.0000°, Azm129.0000°; P -5.9550, Plg22.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **21** 15:45:26.0±0.0, 26°.90S×114°.30W, h33km, mB5.5/1, Ms5.2/4, Ms7 4.9/4*
ISC 21 15:45:20.9±0.3, **26°.82S**±0°.08×**114°.28W**±0°.06, **h10**km, **n633**, σ1°.**08**/603, **mb5.1**/175, **MS4.5**/24, **6C-4D, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res
RPN	**Rapa Nui**	**4.43**	**95**	Pn	**Pn**	**15 46 24.6**	**-3.5**
	4.0nm,0.3s,baz=300,slow=7.8,SNR=5.8						
TAOE	**Nuku Hiva Isla**	**30.31**	**301**	*e*LR	LR	15 59 25.2	
	comp=Z,1μm,24.8s						
H03N2	**Juan Fernandez**	**31.17**	**111**	T	T	16 24 16.4	
	baz=277,slow=74,SNR=9778						
H03N3	**Juan Fernandez**	**31.18**	**111**	T	T	16 24 14.8	
	baz=277,slow=74,SNR=9097						
H03N1	**Juan Fernandez**	**31.19**	**111**	T	T	16 24 14.6	
	baz=277,slow=74						
TBI	**Tubuai**	**31.98**	**268**	*e*S	**S**	**15 56 54.0**	**-5.1**
	291nm,34.2s						
TBI				*e*LQ	LQ	15 58 40.3	
	2μm,34.2s						
TBI				*e*LR	LR	16 00 00.0	
	comp=Z,1μm,29.8s						
TBI	**Tubuai**	**31.98**	**268**	*e*T	T	16 25 10.8	
	48nm,0.3s						
PPT2	**Papeete2**	**33.85**	**278**	*e*S	**S**	**15 57 25.0**	**-3.3**
	137nm,25.8s						
PPT2				*e*LQ	LQ	15 59 30.7	
	1μm,28.8s						
PPT2				*e*LR	LR	16 00 55.0	
	comp=Z,2μm,26.8s,baz=113						
PPT	**Papeete**	**33.86**	**278**	LR	LR	16 01 51.2	
	comp=Z,657nm,19.6s,baz=128,slow=29						
BI02	**San Fabin de**	**37.60**	**116**	P	**P**	**15 52 34.5**	**-1.5**
PLCA	**Paso Flores**	**38.52**	**122**	P	**P**	**15 52 44.1**	**+0.5**
PLCA				LR	LR	16 04 28.5	
	comp=Z,413nm,21.0s,baz=300,slow=30						
PLCA	**Paso Flores**	**38.52**	**122**	P	**P**	**15 52 41.9**	**-1.7**
PLCA	**Paso Flores**	**38.52**	**122**	*e*P	**P**	**15 52 44.9**	**+1.3**
AC05	**El Transito**	**38.81**	**103**	P	**P**	**15 52 44.1**	**-2.1**
ATAH	**Atahualpa**	**39.30**	**67**	P	**P**	**15 52 50.9**	**0.0**
	10nm,0.8s,baz=242,slow=7.0,SNR=8.9						
ZON	**Zonda**	**39.88**	**108**	P	**P**	**15 52 53.3**	**-1.8**
ZON				pmax	pmax		
	comp=Z,21nm,1.2s						
ZON	**Zonda**	**39.88**	**108**	P	**P**	**15 52 53.3**	**-1.8**
PB07	**IPOC Station P**	**40.64**	**93**	P	**P**	**15 52 59.3**	**-2.3**
PB09	**IPOC Station P**	**41.19**	**93**	P	**P**	**15 53 02.9**	**-3.3**
PB12	**IPOC Station P**	**41.20**	**88**	P	**P**	**15 53 03.3**	**-2.9**
LVC	**Limon Verde**	**41.27**	**94**	P	**P**	**15 53 07.4**	**+0.4**
	comp=Z,8.0nm,1.0s,baz=263,slow=7.7,SNR=3.6						
LVC	**Limon Verde**	**41.27**	**94**	IAmb	IAmb	15 53 12.0	
	comp=Z,20nm,1.2s						
PB11	**IPOC Station P**	**41.42**	**90**	P	**P**	**15 53 06.4**	**-1.7**
MNMC	**Minye Minye**	**41.68**	**89**	P	**P**	**15 53 08.8**	**-1.5**
PB08	**IPOC Station P**	**41.76**	**91**	P	**P**	**15 53 09.2**	**-1.9**
RAR	**Rarotonga**	**41.76**	**268**	LR	LR	16 05 50.7	
	comp=Z,337nm,20.4s,baz=126,slow=29						
PB16	**IPOC Station P**	**42.02**	**88**	P	**P**	**15 53 10.6**	**-2.9**
OTAV	**Otavalo**	**43.73**	**58**	*e*P	**P**	**15 53 24.9**	**-2.2**
OTAV	**Otavalo**	**43.73**	**58**	*e*P	**P**	**15 53 28.4**	**+1.2**
CZSB	**Cruzeiro do Su**	**43.74**	**72**	*e*P	**P**	**15 53 27.1**	**+0.3**
LPAZ	**La Paz**	**43.98**	**86**	P	**P**	**15 53 29.8**	**+0.4**
	comp=Z,5.6nm,0.9s,baz=269,slow=4.8,SNR=21						
LPAZ				LR	LR	16 07 36.0	
	comp=Z,621nm,20.7s,baz=248,slow=30						
LPAZ	**La Paz**	**43.98**	**86**	P	**P**	**15 53 28.7**	**-0.7**
LPAZ	**La Paz**	**43.98**	**86**	*e*P	**P**	**15 53 29.1**	**-0.2**
GCUF	**Volcan Galeras**	**45.21**	**58**	*e*P	**P**	**15 53 40.0**	**+0.9**
BBAC	**Balboa, Cauca**	**45.80**	**57**	*e*P	P	15 53 37.4	-6.0
PTLC	**Puerto Leguiza**	**46.50**	**61**	*e*P	**P**	**15 53 47.0**	**-1.8**
POPC	**Popayan, Colom**	**46.57**	**57**	*e*P	**P**	**15 53 48.4**	**-1.1**
JTS	**Las Juntas de**	**46.60**	**42**	P	**P**	**15 53 50.0**	**+0.5**
	comp=Z,5.7nm,0.8s,baz=212,slow=3.3,SNR=4.1						
JTS	**Las Juntas de**	**46.60**	**42**	*c i*P	**P**	**15 53 50.4**	**+0.9**
JTS				pmax	pmax		
	comp=Z,40nm,1.5s						
JTS	**Las Juntas de**	**46.60**	**42**	IAmb	IAmb	15 53 53.9	
	comp=Z,51nm,1.4s						
PCON	**Cinco Dias**	**46.64**	**58**	*e*P	**P**	**15 53 51.2**	**+0.7**
TLIG	**Tlapa**	**46.68**	**21**	P	**P**	**15 53 49.5**	**-0.6**
TLIG				IAmb	IAmb	15 53 59.7	
	comp=Z,44nm,1.4s						
FLOC	**Florencia**	**46.72**	**59**	*e*P	**P**	**15 53 52.0**	**+1.5**
GARC	**Garzon, Huila**	**47.23**	**59**	*e*P	**P**	**15 53 56.6**	**+1.8**
APG	**El Apazote**	**47.58**	**32**	P	**P**	**15 53 56.9**	**-0.5**
	comp=Z,7.0nm,1.2s,baz=212,slow=19,SNR=3.2						
MTO3	**Montecristo**	**47.59**	**34**	P	**P**	**15 53 57.6**	**+0.2**
MTO3				IAmb	IAmb	15 54 01.4	
	comp=Z,34nm,1.4s						
ETMB	**Extrema**	**48.35**	**79**	*e*P	**P**	**15 54 03.6**	**+0.4**
MACC	**Macarena, Meta**	**48.47**	**60**	*e*P	**P**	**15 54 05.8**	**+1.7**
ORTC	**Ortega, Tolima**	**48.54**	**57**	*e*P	**P**	**15 54 00.6**	**-4.0**
PRAC	**Prado**	**48.68**	**57**	*e*P	**P**	**15 54 06.2**	**+0.5**
TOLC	**Tolima**	**48.93**	**56**	*e*P	**P**	**15 54 06.9**	**-1.1**
CBOC	**Ciudad Bolivar**	**49.28**	**54**	*e*P	P	15 54 05.3	-5.1
GUY2C	**Guyana, Caldas**	**49.32**	**56**	*e*P	**P**	**15 54 12.5**	**+1.4**
ROSC	**El Rosal**	**49.84**	**57**	P	**P**	**15 54 17.1**	**+2.1**
	comp=Z,5.3nm,0.4s,baz=186,slow=5.4,SNR=11						
ROSC				LR	LR	16 10 39.5	
	comp=Z,777nm,19.9s,baz=239,slow=30						
ROSC	**El Rosal**	**49.84**	**57**	P	**P**	**15 54 16.8**	**+1.8**
ROSC				IAmb	IAmb	15 54 22.1	
	comp=Z,52nm,1.4s						
DBBC	**Dabeiba**	**49.92**	**53**	*e*P	**P**	**15 54 15.6**	**+0.4**
CHIC	**Chingaza**	**50.15**	**58**	*e*P	**P**	**15 54 17.9**	**+0.6**
SIV	**San Ignacio**	**50.39**	**89**	P	**P**	**15 54 18.6**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=254,slow=8.8,SNR=27						
PTBC	**PUERTO BERRIO,**	**50.87**	**55**	*e*P	**P**	**15 54 21.7**	**-0.7**
SAML	**Samuel**	**51.41**	**80**	P	**P**	**15 54 24.7**	**-1.7**
SAML				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SAML	**Samuel**	**51.41**	**80**	P	**P**	**15 54 24.7**	**-1.7**
SAML	**Samuel**	**51.41**	**80**	*e*P	**P**	**15 54 27.8**	**+1.4**
RUSC	**La Rusia**	**51.46**	**57**	*e*P	**P**	**15 54 25.9**	**-1.4**
MOTC	**Monteria, Cord**	**51.53**	**52**	*e*P	**P**	**15 54 27.3**	**0.0**
BRRC	**Barranca, Sant**	**51.79**	**55**	*e*P	**P**	**15 54 30.5**	**+1.3**
PTLB	**Pontes e Lacer**	**52.32**	**89**	*e*P	**P**	**15 54 34.1**	**+0.9**
VILB	**Vilhena**	**52.34**	**86**	*e*P	**P**	**15 54 33.0**	**-0.4**
SMLC	**San Martn de**	**52.68**	**53**	*e*P	**P**	**15 54 35.9**	**+0.1**
ARGC	**Ariguani, Magd**	**53.28**	**52**	*e*P	**P**	**15 54 42.2**	**+2.0**
AFI	**Afiamalu**	**55.00**	**271**	LR	LR	16 11 32.4	
	comp=Z,243nm,19.4s,baz=122,slow=29						
SDV	**Santo Domingo**	**55.24**	**56**	P	**P**	**15 54 54.5**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=238,slow=7.7,SNR=8.9						
SDV	**Santo Domingo**	**55.24**	**56**	P	**P**	**15 54 54.4**	**-0.4**
SDV				IAmb	IAmb	15 55 08.5	
	comp=Z,17nm,1.1s						
SDV	**Santo Domingo**	**55.24**	**56**	*e*P	**P**	**15 54 55.9**	**+1.0**
HSIG		**55.62**	**4**	P	**P**	**15 54 57.8**	**+0.8**
URIC	**Uribia, Colomb**	**56.15**	**53**	*e*P	**P**	**15 55 00.4**	**-0.6**
KVTX	**Kingsville**	**56.31**	**18**	P	**P**	**15 55 03.0**	**+1.1**
MACA	**Manacapuru-AM**	**56.35**	**75**	*e*P	**P**	**15 55 03.0**	**+0.4**
833A	**Chaparral WMA,**	**56.66**	**16**	P	**P**	**15 55 05.7**	**+1.3**
	baz=196						
833A	**Chaparral WMA,**	**56.66**	**16**	P	**P**	**15 55 04.8**	**+0.3**
833A				IAmb	IAmb	15 55 06.0	
	comp=Z,22nm,0.8s						
TX31	**Lajitas Ar. Si**	**56.76**	**11**	P	**P**	**15 55 04.8**	**-0.4**
TX31				IAmb	IAmb	15 55 19.2	
	comp=Z,19nm,1.1s						
TX32	**Lajitas Array**	**56.76**	**11**	P	**P**	**15 55 04.8**	**-0.4**
TXAR	**Lajitas Array**	**56.76**	**11**	P	**P**	**15 55 05.5**	**+0.2**
	comp=Z,3.3nm,1.0s,baz=186,slow=10,SNR=19						
TXAR				LR	LR	16 12 53.5	
	comp=Z,78nm,18.2s,baz=0.0,slow=29						
TXAR	**Lajitas Array**	**56.76**	**11**	P	**P**	**15 55 05.3**	**+0.1**
CLDB	**Colider**	**57.12**	**86**	*e*P	**P**	**15 55 07.7**	**-0.4**
PCMB	**Pacaembu**	**57.21**	**99**	*e*P	**P**	**15 55 11.1**	**+2.4**
SPX	**San Pedro Mart**	**57.55**	**359**	P	**P**	**15 55 10.6**	**-0.4**
SPX				IAmb	IAmb	15 55 12.7	
	comp=Z,23nm,1.3s						
URZ	**Urewera**	**57.77**	**240**	LR	LR	16 14 45.6	
	comp=Z,1μm,19.8s,baz=159,slow=30						
FRTB	**Fartura**	**58.16**	**102**	*e*P	**P**	**15 55 16.7**	**+1.4**
PTGA	**Pitinga**	**58.20**	**73**	P	**P**	**15 55 16.2**	**+0.5**
	comp=Z,6.0nm,1.0s,baz=269,slow=6.4,SNR=7.8						
PTGA	**Pitinga**	**58.20**	**73**	P	**P**	**15 55 13.1**	**-2.6**
214A	**Organ Pipe Nat**	**58.47**	**1**	P	**P**	**15 55 18.5**	**+1.4**
	baz=181						
214A	**Organ Pipe Nat**	**58.47**	**1**	P	**P**	**15 55 18.3**	**+1.1**
214A				IAmb	IAmb	15 55 19.7	
	comp=Z,23nm,1.2s						
ITRB	**Iturama**	**58.63**	**98**	*e*P	**P**	**15 55 19.2**	**+0.5**
JCT	**Junction City**	**58.64**	**15**	P	**P**	**15 55 18.7**	**+0.3**
JCT				pmax	pmax		
	comp=Z,35nm,0.9s						
JCT	**Junction City**	**58.64**	**15**	P	**P**	**15 55 19.1**	**+0.7**
	baz=195,SNR=15						
JCT	**Junction City**	**58.64**	**15**	P	**P**	**15 55 18.7**	**+0.3**
ARAG	**Araguaiana, MT**	**58.77**	**93**	*e*P	**P**	**15 55 19.5**	**-0.1**
MNTX	**Cornudas Mount**	**58.81**	**9**	P	**P**	**15 55 19.6**	**+0.1**
	baz=189,SNR=11						
MNTX	**Cornudas Mount**	**58.81**	**9**	P	**P**	**15 55 19.3**	**-0.2**
TUC	**Tucson**	**58.90**	**3**	P	**P**	**15 55 20.8**	**+0.6**
TUC				pmax	pmax		
	comp=Z,12nm,1.1s						
TUC	**Tucson**	**58.90**	**3**	P	**P**	**15 55 21.4**	**+1.2**
	baz=184						
TUC	**Tucson**	**58.90**	**3**	P	**P**	**15 55 20.8**	**+0.6**
TKX	**Tecate**	**59.10**	**358**	P	**P**	**15 55 22.6**	**+1.1**
TKX				IAmb	IAmb	15 55 23.8	
	comp=Z,18nm,0.9s						
RMX	**La Rumorosa**	**59.12**	**358**	P	**P**	**15 55 22.7**	**+0.9**
RMX				IAmb	IAmb	15 55 24.0	
	comp=Z,22nm,1.0s						
HKT	**Hockley**	**59.15**	**19**	P	**P**	**15 55 21.6**	**-0.2**
HKT				pmax	pmax		
	comp=Z,42nm,1.5s						
HKT	**Hockley**	**59.15**	**19**	P	**P**	**15 55 21.6**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**59.17**	**358**	P	**P**	**15 55 23.7**	**+1.6**
	baz=178,SNR=6.4						
NPGB	**Novo Progresso**	**59.17**	**82**	*e*P	**P**	**15 55 23.4**	**+1.0**
BAR	**Barrett**	**59.22**	**358**	P	**P**	**15 55 23.3**	**+0.9**
BAR				IAmb	IAmb	15 55 24.6	
	comp=Z,28nm,1.2s						
113A	**Mohawk Valley,**	**59.26**	**1**	P	**P**	**15 55 22.6**	**0.0**
113A				IAmb	IAmb	15 55 25.0	
	comp=Z,20nm,1.0s						
121A	**Cookes Peak, D**	**59.35**	**6**	P	**P**	**15 55 24.8**	**+1.4**
	baz=186,SNR=8.3						
121A	**Cookes Peak, D**	**59.35**	**6**	P	**P**	**15 55 24.1**	**+0.6**
121A				IAmb	IAmb	15 55 25.7	
	comp=Z,23nm,0.9s						
MONP2	**Monument Peak**	**59.42**	**358**	P	**P**	**15 55 25.4**	**+1.4**
	baz=178						
GDL2	**Guadalupe Moun**	**59.45**	**10**	P	**P**	**15 55 24.1**	**0.0**
435B	**Jarrell**	**59.46**	**17**	P	**P**	**15 55 25.3**	**+1.3**
	baz=197						
435B	**Jarrell**	**59.46**	**17**	P	**P**	**15 55 24.4**	**+0.4**
ITTB	**Itaituba**	**60.07**	**79**	*e*P	**P**	**15 55 29.5**	**+0.8**
BC3	**Big Chuckawall**	**60.16**	**359**	P	**P**	**15 55 29.7**	**+0.8**
	baz=179,SNR=8.6						
Y14A	**Wickenburg**	**60.44**	**1**	P	**P**	**15 55 31.6**	**+0.9**
BELC	**Belle Mtn. Jos**	**60.51**	**358**	P	**P**	**15 55 32.8**	**+1.5**
	baz=178,SNR=14						
PCRV	**Puerto La Cruz**	**60.60**	**59**	P	**P**	**15 55 32.9**	**+0.6**
	comp=Z,7.5nm,0.9s,baz=214,slow=7.3,SNR=5.3						
PLCV	**Puerto La Cruz**	**60.63**	**59**	P	**P**	**15 55 32.9**	**+0.5**
WHTX	**Lake Whitney,**	**60.65**	**16**	P	**P**	**15 55 32.2**	**+0.1**
	baz=197,SNR=6.0						
WHTX	**Lake Whitney,**	**60.65**	**16**	P	**P**	**15 55 31.9**	**-0.2**
WHTX				IAmb	IAmb	15 55 40.4	
	comp=Z,28nm,1.1s						
IRM	**Iron Mountain**	**60.65**	**359**	P	**P**	**15 55 33.4**	**+1.2**
	baz=179,SNR=9.5						
ABTX	**Abilene, Hawle**	**60.74**	**14**	P	**P**	**15 55 32.9**	**+0.1**
	baz=195,SNR=14						
ABTX	**Abilene, Hawle**	**60.74**	**14**	P	**P**	**15 55 32.5**	**-0.3**
BYL	**Byron's Ledge**	**60.76**	**315**	P	**P**	**15 55 34.4**	**+1.1**
SDHHI	**Sand Hill**	**60.76**	**315**	P	**P**	**15 55 34.5**	**+1.2**
PASC	**Pasadena Art C**	**60.77**	**356**	P	**P**	**15 55 33.8**	**+0.9**
PASC				IAmb	IAmb	15 55 35.2	
	comp=Z,36nm,1.5s						
UWE	**Uwekahuna**	**60.78**	**315**	P	**P**	**15 55 33.7**	**+0.2**
BFSC	**Mount Baldy Ra**	**60.81**	**357**	P	**P**	**15 55 34.5**	**+1.2**
	baz=176,SNR=5.7						
MWC	**Mount Wilson**	**60.82**	**356**	P	**P**	**15 55 34.5**	**+1.0**
MWC				pmax	pmax		
	comp=Z,12nm,1.0s						
MWC	**Mount Wilson**	**60.82**	**356**	P	**P**	**15 55 34.5**	**+1.0**
MWC				IAmb	IAmb	15 55 37.5	
	comp=Z,12nm,0.9s						
AIN	**Ainahou**	**60.85**	**315**	P	**P**	**15 55 35.4**	**+1.4**
MLH	**Mauna Loa**	**60.90**	**315**	P	**P**	**15 55 34.8**	**+0.5**
Y22D	**IRIS PASSCAL I**	**60.96**	**7**	P	**P**	**15 55 36.6**	**+2.2**
	baz=187						
Y22D	**IRIS PASSCAL I**	**60.96**	**7**	P	**P**	**15 55 35.0**	**+0.6**
X16A	**Lo Mia Camp, P**	**60.97**	**3**	P	**P**	**15 55 35.3**	**+0.8**
X16A				IAmb	IAmb	15 55 36.9	
	comp=Z,16nm,1.1s						
LENM	**Lemitar**	**61.05**	**7**	P	**P**	**15 55 34.5**	**-0.5**
BNM	**Barren Site**	**61.07**	**7**	P	**P**	**15 55 34.6**	**-0.6**
237A	**Washetta, Mont**	**61.09**	**18**	P	**P**	**15 55 34.8**	**-0.3**
IPMB	**Ipameri, GO**	**61.14**	**97**	*e*P	**P**	**15 55 37.9**	**+1.9**
NATX	**Nacogdoches**	**61.19**	**19**	P	**P**	**15 55 37.0**	**+1.2**
	baz=200						
NATX	**Nacogdoches**	**61.19**	**19**	P	**P**	**15 55 35.7**	**-0.1**
OSI	**Osito Audit: C**	**61.25**	**356**	P	**P**	**15 55 36.4**	**+0.1**
OSI				IAmb	IAmb	15 55 38.1	
	comp=Z,15nm,0.8s						
RPZ	**Rata Peaks**	**61.28**	**233**	LR	LR	16 18 23.3	
	comp=Z,551nm,18.1s,baz=108,slow=32						
GMRC	**Granite Mounta**	**61.29**	**359**	P	**P**	**15 55 38.0**	**+1.4**
	baz=178,SNR=14						
HUH	**Hualalai**	**61.32**	**315**	P	**P**	**15 55 37.6**	**+0.3**
HEC	**Hector,Ludlow**	**61.35**	**358**	P	**P**	**15 55 38.1**	**+1.2**
	baz=178,SNR=6.2						
MSTX	**Muleshoe**	**61.44**	**11**	P	**P**	**15 55 37.4**	**-0.2**
	baz=192						
MSTX	**Muleshoe**	**61.44**	**11**	P	**P**	**15 55 37.1**	**-0.5**
MSTX				IAmb	IAmb	15 55 38.3	
	comp=Z,21nm,0.8s						
EDW2	**Edwards Air Fo**	**61.47**	**357**	P	**P**	**15 55 38.8**	**+1.0**
	baz=176,SNR=8.2						
342A	**Flagon Creek P**	**61.55**	**21**	P	**P**	**15 55 38.6**	**+0.3**
W13A	**Hualapai Mount**	**61.59**	**0**	P	**P**	**15 55 39.8**	**+1.1**
W13A				IAmb	IAmb	15 55 41.4	
	comp=Z,17nm,1.3s						
PKM	**Mcpherson Peak**	**61.60**	**355**	P	**P**	**15 55 39.6**	**+0.9**
	baz=174,SNR=5.8						
BELA	**Belgrano 2**	**61.80**	**166**	P	**P**	**15 55 39.4**	**0.0**
GSC	**Goldstone, Bar**	**61.83**	**358**	P	**P**	**15 55 40.9**	**+0.7**
GSC				pmax	pmax		
	comp=Z,17nm,1.0s						
GSC	**Goldstone, Bar**	**61.83**	**358**	P	**P**	**15 55 41.6**	**+1.3**
	baz=177,SNR=9.4						
GSC	**Go

MVCO Mesa Verde 63.92 5 P P 15 55 54.5 +0.2
MVCO IAmb IAmb 15 55 56.1
comp=Z,25nm,1.1s
PKCU Pink Cliffs 63.95 2 P P 15 55 56.2 +1.6
CCUT Cedar City 64.04 1 P P 15 55 56.4 +1.4
CCAR Cane Creek 64.07 21 P P 15 55 55.5 +0.5
SZCU Shurtz Canyon 64.09 1 P P 15 55 56.1 +0.8
OK025 Westminster Rd 64.10 15 P P 15 55 54.8 -0.4
OK025 IAmb IAmb 15 56 00.3
comp=Z,10nm,0.9s
BCOK Bluff Creek, N 64.11 15 P P 15 55 54.0 -1.2
MIAR Mount Ida 64.11 19 P P 15 55 54.8 -0.5
MIAR pmax pmax
comp=Z,12nm,1.2s
MIAR Mount Ida 64.11 19 P P 15 55 54.7 -0.5
baz=200
MIAR Mount Ida 64.11 19 P P 15 55 54.8 -0.5
OMMB Old Mammoth Mi 64.25 356 P P 15 55 55.5 -1.0
MDPB Devils Postpil 64.27 356 P P 15 55 56.3 -0.3
OK029 Liberty Lake 64.28 15 P P 15 55 56.1 -0.3
250A Grady 64.28 26 P P 15 55 55.9 -0.6
T25A Trinidad 64.30 9 P P 15 55 57.4 +0.7
baz=190
T25A Trinidad 64.30 9 P P 15 55 56.5 -0.2
352A Blakely 64.39 28 P P 15 55 57.0 -0.1
TOSP Speyside 64.47 61 P P 15 55 57.2 -0.9
U32A Winter Ranch, 64.49 14 P P 15 55 57.8 0.0
S22A 4UR Ranch, Cre 64.61 7 P P 15 55 59.7 +0.9
baz=187,SNR=9.3
S22A 4UR Ranch, Cre 64.61 7 P P 15 55 59.3 +0.5
S22A IAmb IAmb 15 56 00.7
comp=Z,13nm,1.2s
TPH Tonopah 64.61 357 P P 15 55 59.0 +0.2
TPH pmax pmax
comp=Z,92nm,1.4s
TPH Tonopah 64.61 357 P P 15 55 59.0 +0.2
W39A Magazine 64.66 19 P P 15 55 58.6 -0.2
baz=200
W39A Magazine 64.66 19 P P 15 55 58.5 -0.4
W39A IAmb IAmb 15 56 10.1
comp=Z,23nm,1.4s
Z47A Carrollton 64.68 24 P P 15 55 58.1 -1.0
UALR University of 64.69 20 P P 15 55 58.2 -0.8
PV05 Paradox Valley 64.74 5 P P 15 56 00.1 +0.5
SDCO Great Sand Dun 64.75 8 P P 15 56 00.4 +0.6
baz=188,SNR=13
SDCO Great Sand Dun 64.75 8 P P 15 55 59.7 -0.1
SDCO IAmb IAmb 15 56 01.4
comp=Z,12nm,1.1s
Y45A Yeager Farm, C 64.76 23 P P 15 55 59.4 -0.1
CMB Columbia Colle 64.77 355 P P 15 55 59.8 +0.2
CMB pmax pmax
comp=Z,11nm,1.1s
CMB Columbia Colle 64.77 355 P P 15 55 59.8 +0.2
CMB IAmb IAmb 15 56 01.9
comp=Z,11nm,1.1s
TUL1 Leonard 64.79 17 P P 15 56 00.6 +0.9
baz=198
TUL1 Leonard 64.79 17 P P 15 55 59.5 -0.3
TUL1 IAmb IAmb 15 56 07.7
comp=Z,23nm,1.1s
GCPR Guaynabo City 64.80 52 P P 15 55 59.1 -1.0
GCPR IAmb IAmb 15 56 09.2
comp=Z,16nm,1.1s
CROK Carrier 64.83 14 P P 15 56 00.0 0.0
PV01 Paradox Valley 64.84 5 P P 15 56 00.1 -0.2
PV01 IAmb IAmb 15 56 01.1
comp=Z,14nm,1.1s
R11A Troy Canyon, C 64.84 359 P P 15 56 01.8 +1.6
baz=179,SNR=22
R11A Troy Canyon, C 64.84 359 P P 15 56 00.8 +0.6
R11A IAmb IAmb 15 56 03.2
comp=Z,22nm,1.4s
PV13 Radium Mtn., P 64.84 5 P P 15 56 00.1 -0.2
LHV Little Huntoon 64.85 356 P P 15 56 01.3 +1.3
LHV IAmb IAmb 15 56 03.2
comp=Z,21nm,1.1s
HUMP Col San Antoni 64.86 52 P P 15 55 59.6 -0.8
PV02 Paradox Valley 64.90 5 P P 15 56 00.2 -0.5
PV18 Skein Mesa, Pa 64.92 5 P P 15 56 00.5 -0.3
PV18 IAmb IAmb 15 56 01.6
comp=Z,14nm,1.2s
PV03 Paradox Valley 64.94 5 P P 15 56 00.6 -0.2
PV03 IAmb IAmb 15 56 08.1
comp=Z,16nm,1.4s
LRAL Lakeview Retre 64.94 25 P P 15 56 00.7 0.0
baz=207
LRAL Lakeview Retre 64.94 25 P P 15 56 00.6 -0.1
LRAL IAmb IAmb 15 56 04.4
comp=Z,32nm,1.4s
PV17 East Wray Mesa 64.95 5 P P 15 56 00.9 -0.1
PV11 David Mesa, Pa 64.98 5 P P 15 56 00.9 -0.2
PV11 IAmb IAmb 15 56 09.4
comp=Z,25nm,1.4s
PV19 Morning Glory 64.98 5 P P 15 56 01.1 0.0
PV19 IAmb IAmb 15 56 03.5
comp=Z,12nm,1.0s
PV16 Nyswonger Mesa 64.99 5 P P 15 56 01.2 0.0
PV16 IAmb IAmb 15 56 09.5
comp=Z,24nm,1.5s
PV12 Saucer Basin, 65.00 5 P P 15 56 01.2 -0.1
PV12 IAmb IAmb 15 56 03.0
comp=Z,17nm,1.1s
MVU Marysvale 65.01 2 P P 15 56 02.1 +0.7
NV11 Mina Array Sit 65.01 357 P P 15 56 01.8 +0.5
NV11 IAmb IAmb 15 56 03.9
comp=Z,18nm,0.9s
PV20 West Nyswonger 65.01 5 P P 15 56 01.0 -0.3
PV20 IAmb IAmb 15 56 07.9
comp=Z,15nm,1.2s
PSUT Pine Spring 65.02 0 P P 15 56 01.9 +0.5
NVAR Mina Array Bea 65.02 357 P P 15 56 02.7 +1.3
comp=Z,11nm,0.9s,baz=183,slow=9.5,SNR=47
NVAR LR LR 16 18 31.6
comp=Z,301nm,18.5s,baz=175,slow=31
NVAR Mina Array Bea 65.02 357 P P 15 56 02.0 +0.6
MSU Marysvale 65.02 2 P P 15 56 01.7 +0.3
MSU Marysvale 65.02 2 P P 15 56 01.7 +0.3
MTP Monte Pirata 65.03 52 P P 15 56 01.4 -0.2
PV14 Lion Creek, Pa 65.04 5 P P 15 56 01.4 -0.2
PV10 Paradox Valley 65.04 5 P P 15 56 00.8 -0.8
PV10 IAmb IAmb 15 56 02.7
comp=Z,26nm,1.2s
PV15 Paradox Valley 65.05 5 P P 15 56 01.5 -0.2
PV15 IAmb IAmb 15 56 03.2
comp=Z,19nm,1.0s
PV04 Paradox Valley 65.07 5 P P 15 56 01.8 +0.1
PV04 IAmb IAmb 15 56 03.4
comp=Z,27nm,1.2s
W41B Gary Mavity, V 65.09 20 P P 15 56 01.9 +0.3
baz=201,SNR=6.5
W41B Gary Mavity, V 65.09 20 P P 15 56 01.5 -0.1
PV23 Carpenter Ridg 65.12 5 P P 15 56 02.1 0.0
PV23 IAmb IAmb 15 56 03.8
comp=Z,22nm,1.0s
PV07 Paradox Valley 65.13 5 P P 15 56 02.2 0.0
WAKR Walker 65.16 356 P P 15 56 02.8 +0.5
WAKR IAmb IAmb 15 56 17.0
comp=Z,17nm,1.5s
WHAR Wooly Hollow 65.18 20 P P 15 56 02.3 +0.1
MCPB Macapa, AP 65.22 77 *e*P **P 15 56 03.7 +0.7**
PV22 Blue Mesa, Par 65.22 5 P P 15 56 03.6 +0.9
PV22 IAmb IAmb 15 56 05.3
comp=Z,14nm,0.9s
RYN Ryan 65.23 356 P P 15 56 03.5 +0.8
RYN IAmb IAmb 15 56 05.3
comp=Z,20nm,1.5s
PV21 Cone Mtn., Par 65.23 5 P P 15 56 03.4 +0.6
PV21 IAmb IAmb 15 56 04.5
comp=Z,19nm,1.0s
MC01 Montes Claros 65.40 97 *e*P **P 15 56 06.5 +2.2**
Q16A Castle Valley 65.46 3 P P 15 56 05.1 +0.9
T35A Sooner Cattle 65.57 16 P P 15 56 04.8 +0.1
KAN12 Harper NE Stat 65.59 14 P P 15 56 05.2 +0.3
KVN Kaiserville 65.63 357 P P 15 56 05.8 +0.5
KVN pmax pmax
comp=Z,17nm,1.2s
KVN Kaiserville 65.63 357 P P 15 56 05.8 +0.5
KVN IAmb IAmb 15 56 07.8
comp=Z,17nm,1.2s
HHAR Hobbs 65.63 18 P P 15 56 04.8 -0.4
HHAR IAmb IAmb 15 56 13.2
comp=Z,19nm,1.3s
SRU San Rafael Swe 65.68 3 P P 15 56 05.6 -0.1
SRU pmax pmax
comp=Z,23nm,1.0s
SRU San Rafael Swe 65.68 3 P P 15 56 05.6 -0.1
JANB Januaria 65.70 95 *e*P **P 15 56 07.0 +0.8**
AFDM Forest Hills D 65.73 354 P P 15 56 06.0 +0.3
AFDM IAmb IAmb 15 56 08.0
comp=Z,22nm,1.4s
PNTR Pine Nut 65.76 355 P P 15 56 06.7 +0.5
PNTR IAmb IAmb 15 56 08.8
comp=Z,16nm,1.0s
RUBR Rubicon Trail 65.76 355 P P 15 56 07.3 +1.1
GDXM Geysers 65.77 353 P P 15 56 07.5 +1.4
FCAR Ozark Folk Cen 65.79 20 P P 15 56 05.9 -0.3
FCAR IAmb IAmb 15 56 09.7
comp=Z,12nm,1.1s
TMUT Trail Mountain 65.84 3 P P 15 56 07.1 +0.3
Y49A Blount Mountai 65.89 25 P P 15 56 06.4 -0.5
Q24A Divide 66.00 8 P P 15 56 07.8 -0.1
baz=189
Q24A Divide 66.00 8 P P 15 56 07.2 -0.7
U40A Yellville 66.01 19 P P 15 56 07.5 -0.1
baz=201,SNR=6.7
U40A Yellville 66.01 19 P P 15 56 07.1 -0.5
U40A IAmb IAmb 15 56 16.3
comp=Z,22nm,1.1s
P17A Butcher Ranch, 66.03 3 P P 15 56 08.2 +0.2
W45A Hickory Valley 66.06 22 P P 15 56 07.6 -0.3
X48A Hartselle 66.18 24 P P 15 56 08.0 -0.8
SDBA SAO DESIDERIO 66.22 92 *e*P **P 15 56 12.1 +2.5**
LCAR Lake Charles 66.25 20 P P 15 56 08.9 -0.3
LCAR IAmb IAmb 15 56 21.2
comp=Z,9.8nm,0.8s
PLAL Pickwick Lake 66.28 23 P P 15 56 08.3 -1.1
PLAL IAmb IAmb 15 56 11.3
comp=Z,14nm,1.0s
PAHR Pah Rah Range 66.36 356 P P 15 56 10.7 +0.8
ORV Oroville 66.38 354 P P 15 56 11.0 +1.1
ORV pmax pmax
comp=Z,10.0nm,1.4s
ORV Oroville 66.38 354 P P 15 56 11.0 +1.1
KSCO Kaye Shedlock' 66.39 10 P P 15 56 10.6 +0.5
NLU North Lily Min 66.47 2 P P 15 56 11.6 +0.9
R32A Long Quarter, 66.52 13 P P 15 56 10.4 -0.5
R32A IAmb IAmb 15 56 11.9
comp=Z,21nm,1.2s
DUG Dugway, Tooele 66.69 1 P P 15 56 12.0 0.0
DUG pmax pmax
comp=Z,20nm,1.1s
DUG Dugway, Tooele 66.69 1 P P 15 56 13.0 +1.0
baz=181,SNR=22
DUG Dugway, Tooele 66.69 1 P P 15 56 12.0 0.0
DUG IAmb IAmb 15 56 14.3
comp=Z,20nm,1.1s
CBKS Cedar Bluff 66.70 12 P P 15 56 12.0 0.0
CBKS pmax pmax
comp=Z,28nm,1.4s
CBKS Cedar Bluff 66.70 12 P P 15 56 12.4 +0.4
baz=194
CBKS Cedar Bluff 66.70 12 P P 15 56 12.0 0.0
CBKS IAmb IAmb 15 56 20.4
comp=Z,28nm,1.4s
ISCO Idaho Springs 66.77 7 P P 15 56 12.9 +0.1
ISCO pmax pmax
comp=Z,7.0nm,1.1s
ISCO Idaho Springs 66.77 7 P P 15 56 12.9 +0.1
baz=188,SNR=5.5
ISCO Idaho Springs 66.77 7 P P 15 56 12.9 +0.1
LNXT Lenox 66.81 22 P P 15 56 12.7 -0.1
O20A White River Ci 66.85 5 P P 15 56 14.2 +1.1
baz=186,SNR=6.0
O20A White River Ci 66.85 5 P P 15 56 12.2 -1.0
O20A IAmb IAmb 15 56 14.9
comp=Z,19nm,1.3s
MGMO Mountain Grove 66.92 19 P P 15 56 13.0 -0.5
SJMB Sao Joao De Ma 67.09 100 *e*P **P 15 56 17.8 +2.8**
O02D Mt. Diablo Mer 67.12 353 P P 15 56 15.8 +1.1
baz=172,SNR=7.4
S39A Bolivar 67.12 18 P P 15 56 14.1 -0.6
S39A IAmb IAmb 15 56 18.1
comp=Z,30nm,1.5s
JLU Jordanelle 67.13 2 P P 15 56 14.2 -0.8
PBMO Poplar Bluff 67.13 21 P P 15 56 14.1 -0.7
PBMO IAmb IAmb 15 56 22.7
comp=Z,15nm,1.0s
O03E Paynes Creek 67.14 354 P P 15 56 15.6 +0.8
baz=173
T42A Van Buren 67.16 20 P P 15 56 14.0 -0.9
T42A IAmb IAmb 15 56 15.3
comp=Z,9.0nm,0.7s
RDMU Red Mountain 67.19 4 P P 15 56 14.8 -0.6
CTU Camp Tracy 67.21 2 P P 15 56 15.1 -0.3
ELK Elko 67.23 359 P P 15 56 15.6 0.0
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 67.23 359 P P 15 56 15.6 0.0
KMRM Mail Ridge 67.28 352 P P 15 56 16.5 +0.8
SWET Sewanee 67.28 25 P P 15 56 14.8 -1.0
SWET IAmb IAmb 15 56 16.0
comp=Z,16nm,1.0s
HICK Hickman 67.30 22 P P 15 56 16.3 +0.4
BSFB Barra de Sao F 67.34 100 *e*P **P 15 56 19.0 +2.4**
WVT Waverly 67.40 23 P P 15 56 15.6 -0.9
WVT pmax pmax
comp=Z,12nm,1.1s
WVT Waverly 67.40 23 P P 15 56 15.5 -0.9
baz=205
WVT Waverly 67.40 23 P P 15 56 15.6 -0.9
WVT IAmb IAmb 15 56 22.2
comp=Z,12nm,1.1s
BGU Big Grassy Mou 67.41 1 P P 15 56 16.0 -0.7
V48A Smith Brothers 67.41 24 P P 15 56 15.7 -0.8
V48A IAmb IAmb 15 56 19.9
comp=Z,18nm,1.1s
WDC Whiskeytown Da 67.50 353 P P 15 56 16.9 -0.1
WDC pmax pmax
comp=Z,17nm,1.0s
WDC Whiskeytown Da 67.50 353 P P 15 56 16.9 -0.1
WDC IAmb IAmb 15 56 18.7
comp=Z,17nm,1.0s
KSU1 Kansas State U 67.63 15 P P 15 56 18.2 +0.3
baz=197
KSU1 Kansas State U 67.63 15 P P 15 56 17.2 -0.7
TCUT Toone Canyon 67.65 2 P P 15 56 17.6 -0.6
Y55A Saluda 67.81 29 P P 15 56 19.4 +0.3
baz=211
N23A Red Feather La 67.82 7 P P 15 56 19.7 +0.3
baz=188,SNR=6.3
N23A Red Feather La 67.82 7 P P 15 56 18.8 -0.5
N23A IAmb IAmb 15 56 21.0
comp=Z,9.8nm,0.9s
N02D Trinity Center 67.90 353 P P 15 56 21.0 +1.4
baz=172,SNR=9.2
KHMM Horse Mountain 67.92 352 P P 15 56 20.9 +1.1
R40A Maddies Statio 67.98 19 P P 15 56 19.5 -0.6
R40A IAmb IAmb 15 56 31.6
comp=Z,19nm,1.1s
CPCT Cooper Cave 68.02 26 P P 15 56 19.6 -0.8
CCM Cathedral Cave 68.06 19 P P 15 56 20.3 -0.3
CCM pmax pmax
comp=Z,13nm,0.9s
CCM Cathedral Cave 68.06 19 P P 15 56 20.5 -0.1
baz=202
CCM Cathedral Cave 68.06 19 P P 15 56 20.3 -0.3
CCM IAmb IAmb 15 56 21.2
comp=Z,13nm,0.8s
HWUT Hardware Ranch 68.13 2 P P 15 56 20.6 -0.6
BG3 Lake Jocassee 68.26 27 P P 15 56 21.7 -0.3
BG3 IAmb IAmb 15 56 35.0
comp=Z,16nm,1.2s
PHWY Pilot Hill 68.27 7 P P 15 56 22.0 -0.3
M02C Callahan 68.33 353 P P 15 56 23.9 +1.6
baz=172,SNR=5.9
S44A Carbondale 68.34 21 P P 15 56 21.8 -0.6
JSC Jenkinsville 68.36 29 P P 15 56 22.4 -0.1
JSC pmax pmax
comp=Z,24nm,1.4s
JSC Jenkinsville 68.36 29 P P 15 56 22.4 -0.1
JSC IAmb IAmb 15 56 30.1
comp=Z,24nm,1.4s
OGNE Ogallala 68.38 10 P P 15 56 21.4 -1.2
OGNE IAmb IAmb 15 56 24.1
comp=Z,22nm,1.1s
T47A Sharon Grove 68.43 23 P P 15 56 22.1 -0.9
T47A IAmb IAmb 15 56 23.4
comp=Z,21nm,0.9s
RWWY Rawlins 68.48 6 P P 15 56 22.1 -1.4
U49A Red Boiling Sp 68.48 24 P P 15 56 22.2 -1.1
U49A IAmb IAmb 15 56 23.6
comp=Z,9.9nm,0.9s
MOD Modoc Plateau 68.61 355 P P 15 56 24.6 +0.5
MOD IAmb IAmb 15 56 26.4
comp=Z,17nm,0.9s
M04C Macdoel 68.62 354 P P 15 56 25.5 +1.3
baz=173,SNR=10
P38A Dawn 68.88 17 P P 15 56 25.2 -0.4
P38A IAmb IAmb 15 56 26.4
comp=Z,16nm,0.8s
V53A Saluda 68.90 27 P P 15 56 25.5 -0.5
V53A IAmb IAmb 15 56 38.1
comp=Z,15nm,1.1s
N33A J Bar K, Exete 69.01 14 P P 15 56 25.9 -0.7
L04D Klamath Falls 69.09 354 P P 15 56 27.6 +0.5
baz=172,SNR=5.5
L02E Cave Junction 69.17 353 P P 15 56 27.9 +0.5
baz=171
T50A Nancy 69.28 25 P P 15 56 26.8 -1.5
AHID Auburn Hatcher 69.30 3 P P 15 56 27.5 -1.0
AHID IAmb IAmb 15 56 29.2
comp=Z,10.0nm,0.9s
V54A Nebo 69.34 28 P P 15 56 28.4 -0.3
baz=210
TZTN Tazewell 69.36 26 P P 15 56 28.6 -0.1
baz=209
BW06 Boulder Array 69.38 4 P P 15 56 28.7 -0.3
baz=184,SNR=12
BW06 Boulder Array 69.38 4 P P 15 56 28.2 -0.8
BW06 IAmb IAmb 15 56 29.7
comp=Z,23nm,1.4s
PD31 Pinedale Array 69.38 4 P P 15 56 27.7 -1.3
PD31 IAmb IAmb 15 56 31.5
comp=Z,14nm,1.2s
PDAR Pinedale Array 69.38 4 P P 15 56 28.8 -0.3
comp=Z,6.0nm,0.9s,baz=176,slow=4.5,SNR=27
PDAR LR LR 16 21 22.1
comp=Z,107nm,20.3s,baz=198,slow=31
PDAR Pinedale Array 69.38 4 P P 15 56 27.8 -1.3
VNA3 Neumayer Olymp 69.41 160 P P 15 56 29.0 +0.3
X58A Rowland 69.44 30 P P 15 56 28.0 -1.3
X58A IAmb IAmb 15 56 38.6
comp=Z,13nm,0.9s
K05A Summer Lake 69.47 355 P P 15 56 30.8 +1.2
K22A Casper 69.50 6 P P 15 56 30.2 +0.5
baz=187,SNR=11
K22A Casper 69.50 6 P P 15 56 29.6 -0.1
Q44A Meyer Farm, Va 69.52 21 P P 15 56 29.7 0.0
HUMO Hull Mountain 69.55 353 P P 15 56 30.5 +0.7
HUMO IAmb IAmb 15 56 32.0
comp=Z,17nm,1.0s
K02D Willamette Mer 69.71 353 P P 15 56 32.1 +1.2
baz=171
V55A Taylorsville 69.72 28 P P 15 56 31.2 +0.2
baz=211
MFID Camas Ranch 69.91 359 P P 15 56 32.2 +0.1
MFID IAmb IAmb 15 56 34.6
comp=Z,14nm,1.1s
REDW Red Top Meadow 69.91 3 P P 15 56 31.4 -0.8
REDW IAmb IAmb 15 56 40.1
comp=Z,23nm,1.4s
J08A Circle Bar Ran 69.94 357 P P 15 56 33.2 +0.9
J08A IAmb IAmb 15 56 35.0
comp=Z,22nm,1.0s
V56A Mocksville 69.99 29 P P 15 56 32.7 +0.1
baz=212
SNOW Snow King Moun 70.01 3 P P 15 56 32.5 -0.5
SNOW IAmb IAmb 15 56 36.9
comp=Z,15nm,1.2s
TPAW Teton Pass 70.03 3 P P 15 56 32.0 -1.1
TPAW IAmb IAmb 15 56 33.3
comp=Z,15nm,0.9s
HLID Hailey 70.04 360 P P 15 56 34.1 +1.1
baz=180,SNR=44
HLID Hailey 70.04 360 P P 15 56 33.4 +0.4
HLID IAmb IAmb 15 56 35.2
comp=Z,24nm,1.0s
J05D Fort Rock, OR 70.05 355 P P 15 56 34.3 +1.2
baz=173,SNR=13
VNA1 Neumayer--Stat 70.07 160 P P 15 56 32.8 +0.1
J04D Umpqua Nationa 70.09 354 P P 15 56 34.5 +1.2
baz=172
LOHW Long Hollow 70.17 3 P P 15 56 33.1 -0.8
FXWY Fox Creek 70.18 3 P P 15 56 33.4 -0.6
FXWY IAmb IAmb 15 56 35.2
comp=Z,15nm,1.1s
VNA2 Neumayer--Watz 70.22 160 P P 15 56 34.0 +0.4
baz=230,slow=4.6
R49A Shelbyville 70.28 24 P P 15 56 33.3 -1.1
R49A IAmb IAmb 15 56 33.9
comp=Z,18nm,1.1s
S51A Beattyville 70.30 25 P P 15 56 32.5 -2.0
S51A IAmb IAmb 15 56 41.6
comp=Z,18nm,1.4s
V57A Coltrane Farms 70.36 29 P P 15 56 35.2 +0.3
baz=212
L34A Svendsen Farm, 70.42 14 P P 15 56 34.9 -0.3
L34A IAmb IAmb 15 56 38.9
comp=Z,21nm,1.1s
IMW Indian Meadow 70.44 3 P P 15 56 34.9 -0.7
PINE Pine Mountain 70.53 355 P P 15 56 36.1 +0.1
PINE IAmb IAmb 15 56 38.5
comp=Z,24nm,0.9s
R50A Paris 70.58 25 P P 15 56 35.4 -0.9
R50A IAmb IAmb 15 56 36.2
comp=Z,26nm,1.2s
FLWY Flagg Ranch 70.63 3 P P 15 56 36.2 -0.5
FLWY IAmb IAmb 15 56 38.1
comp=Z,21nm,0.9s
I04A Tendick Farm, 70.66 354 P P 15 56 37.5 +0.8
baz=172
I03D Drain, OR 70.67 353 P P 15 56 37.4 +0.8
baz=171
I07A Izee 70.72 356 P P 15 56 37.8 +0.7
I07A IAmb IAmb 15 56 39.6
comp=Z,19nm,0.9s
HDIL Hopedale 70.95 20 P P 15 56 38.3 -0.1
baz=203
HDIL Hopedale 70.95 20 P P 15 56 38.1 -0.3
HDIL IAmb IAmb 15 56 39.1
comp=Z,22nm,0.8s
I05D Terrebonne, OR 71.11 355 P P 15 56 40.8 +1.4
baz=173,SNR=6.0
SNAA Sanae 71.19 162 P P 15 56 39.7 0.0
SNAA Sanae 71.19 162 *ce*P **P 15 56 39.6 -0.1**
SNAA pmax pmax
comp=Z,17nm,1.5s
SNAA Sanae 71.19 162 P P 15 56 38.7 -1.0
DZM Mont Dzumac 71.22 254 *e*S **S 16 05 52.9 -5.5**
comp=Z,173nm,28.0s
DZM Mont Dzumac 71.22 254 *e*LR LR 16 18 05.5
comp=Z,864nm,29.9s
DZM Mont Dzumac 71.22 254 LR LR 16 20 05.7
comp=Z,342nm,20.4s,baz=124,slow=29
RSSD Black Hills 71.22 8 P P 15 56 39.6 -0.6
RSSD pmax pmax
comp=Z,13nm,1.1s
RSSD Black Hills 71.22 8 P P 15 56 40.4 +0.2
baz=190
RSSD Black Hills 71.22 8 P P 15 56 39.6 -0.6
RSSD IAmb IAmb 15 56 41.2
comp=Z,13nm,1.1s
YHB Horse Butte 71.28 2 P P 15 56 39.8 -0.8
MCMT McKenzie Canyo 71.31 1 P P 15 56 41.1 +0.2
YHH Holmes Hill 71.33 3 P P 15 56 40.6 -0.4
QLMT Earthquake Lak 71.35 2 P P 15 56 41.4 +0.4
BMO Blue Mountains 71.38 358 P P 15 56 41.5 +0.5
BMO pmax pmax
comp=Z,22nm,1.5s
BMO Blue Mountains 71.38 358 P P 15 56 41.5 +0.5
BMO IAmb IAmb 15 56 43.1
comp=Z,22nm,1.4s
YHL Hebgen Lake 71.38 2 P P 15 56 41.5 +0.2
V60A Jim Taylor Roa 71.39 31 P P 15 56 40.7 -0.5
H04A Detroit Lake 71.53 354 P P 15 56 42.1 +0.2
H04A IAmb IAmb 15 56 43.3
comp=Z,18nm,1.1s
YNE Yellowstone No 71.59 3 P P 15 56 42.3 -0.2
RLMT Red Lodge 71.74 4 P P 15 56 43.6 +0.2
baz=185,SNR=10
RLMT Red Lodge 71.74 4 P P 15 56 42.3 -1.1
L40A Anamosa 71.78 18 P P 15 56 42.5 -0.9
DLMT Dillon 71.85 1 P P 15 56 43.5 -0.5

DLMT IAmb IAmb 15 56 45.6
comp=Z,16nm,1.1s
RCRC Randolf College 71.88 29 P **P 15 56 43.8 -0.4**
G08A Pilot Rock 71.89 357 P **P 15 56 45.0 +0.8**
G08A IAmb IAmb 15 56 46.6
comp=Z,24nm,1.0s
Q52A Bidwell 71.96 26 P **P 15 56 44.7 +0.1**
baz=210
G05D Wamic, OR 72.00 355 P **P 15 56 45.9 +1.2**
baz=173
ECSD EROS Data Cent 72.06 13 P **P 15 56 45.0 -0.1**
baz=196
ECSD EROS Data Cent 72.06 13 P **P 15 56 44.5 -0.6**
BOZ Bozeman (W) 72.11 2 P **P 15 56 45.3 -0.2**
BOZ pmax pmax
comp=Z,5.0nm,1.2s
BOZ Bozeman (W) 72.11 2 P **P 15 56 46.8 +1.2**
baz=182,SNR=7.1
BOZ Bozeman (W) 72.11 2 P **P 15 56 45.3 -0.2**
Q53A Leroy 72.16 26 P **P 15 56 46.2 +0.4**
baz=210
LRM Limekiln Ridge 72.32 1 P **P 15 56 46.5 -0.4**
GCMT Greycliff 72.39 3 P **P 15 56 46.7 -0.5**
F10A Beach Ranch, E 72.50 358 P **P 15 56 47.4 -0.4**
F10A IAmb IAmb 15 56 49.3
comp=Z,16nm,1.2s
F04A Amboy 72.78 354 P **P 15 56 49.4 +0.1**
F04A IAmb IAmb 15 56 51.0
comp=Z,29nm,1.2s
JFWS Jewell Farm 72.84 18 P **P 15 56 50.0 +0.3**
JFWS pmax pmax
comp=Z,34nm,1.5s
JFWS Jewell Farm 72.84 18 P **P 15 56 50.0 +0.3**
JFWS IAmb IAmb 15 57 11.8
comp=Z,34nm,1.5s
HAWA Hanford 73.02 356 P **P 15 56 51.0 +0.3**
E08A Dider Farm, El 73.09 357 P **P 15 56 52.1 +1.0**
E08A IAmb IAmb 15 56 53.4
comp=Z,35nm,1.3s
O52A Adamsville 73.13 25 P **P 15 56 51.5 0.0**
baz=210
O52A Adamsville 73.13 25 P **P 15 56 51.2 -0.3**
O52A IAmb IAmb 15 56 52.4
comp=Z,25nm,0.9s
E07A Sunnyside 73.21 356 P **P 15 56 52.3 +0.4**
P54A Burton 73.22 27 P **P 15 56 52.4 +0.3**
baz=211
HRY Holter Researc 73.22 2 P **P 15 56 52.2 +0.1**
MSO Missoula 73.31 0 P **P 15 56 53.3 +0.8**
baz=180,SNR=5.6
MSO Missoula 73.31 0 P **P 15 56 52.6 +0.1**
P55A Reedsville 73.40 27 P **P 15 56 53.7 +0.6**
baz=212
E04D Cinebar 73.42 354 P **P 15 56 54.1 +1.1**
baz=172
O53A New Philadelph 73.48 26 P **P 15 56 53.7 +0.2**
baz=210
O53A New Philadelph 73.48 26 P **P 15 56 53.2 -0.3**
O53A IAmb IAmb 15 56 54.7
comp=Z,23nm,0.9s
E03A Lebam 73.50 353 P **P 15 56 54.0 +0.5**
E03A IAmb IAmb 15 56 56.1
comp=Z,30nm,1.0s
MCWV Mont Chateau 73.52 27 P **P 15 56 54.1 +0.3**
baz=212
MCWV Mont Chateau 73.52 27 P **P 15 56 53.9 +0.1**
MCWV IAmb IAmb 15 56 58.4
comp=Z,28nm,1.4s
LAO LASA Array 73.53 6 P **P 15 56 54.1 +0.3**
baz=187,SNR=6.4
LAO LASA Array 73.53 6 P **P 15 56 53.8 +0.1**
LAO IAmb IAmb 15 56 55.0
comp=Z,13nm,0.9s
LON Longmire 73.54 355 P **P 15 56 54.3 +0.4**
LON pmax pmax
comp=Z,9.0nm,1.0s
LON Longmire 73.54 355 P **P 15 56 54.3 +0.4**
N51A Ashland 73.62 25 P **P 15 56 54.1 -0.3**
N51A IAmb IAmb 15 56 55.0
comp=Z,21nm,0.8s
D08A Wollman Farm, 73.65 357 P **P 15 56 54.9 +0.5**
P56A Dayton Farm, R 73.81 28 P **P 15 56 56.2 +0.7**
baz=212
LTY Liberty 73.96 355 P **P 15 56 56.5 +0.2**
D05A Enumclaw 73.99 355 P **P 15 56 57.0 +0.6**
D05A IAmb IAmb 15 56 58.5
comp=Z,26nm,1.1s
D04E Lakebay 74.05 354 P **P 15 56 58.2 +1.5**
baz=172
N53A Lisbon 74.11 26 P **P 15 56 57.7 +0.4**
baz=210
N53A Lisbon 74.11 26 P **P 15 56 57.3 +0.1**
F33A 5 Mile Ranch, 74.14 13 P **P 15 56 56.9 -0.4**
JTMT Jette 74.22 0 P **P 15 56 57.7 -0.2**
JTMT IAmb IAmb 15 56 59.5
comp=Z,19nm,0.9s
C09A Chrisman Ranch 74.36 357 P **P 15 56 58.9 +0.4**
NLWA Neilton Lookou 74.37 353 P **P 15 56 59.6 +0.9**
NLWA IAmb IAmb 15 57 00.9
comp=Z,20nm,1.0s
D03D Eldon 74.44 354 P **P 15 57 00.3 +1.4**
baz=172,SNR=6.2
N54A Moraine State 74.57 26 P **P 15 57 00.9 +0.9**
baz=211
N54A Moraine State 74.57 26 P **P 15 57 00.3 +0.4**
N54A IAmb IAmb 15 57 01.4
comp=Z,34nm,1.2s
EGMT Eagleton 74.61 3 P **P 15 57 01.3 +1.2**
baz=184
F36A Milaca 74.76 15 P **P 15 57 00.9 0.0**
F36A IAmb IAmb 15 57 02.2
comp=Z,18nm,0.8s
NEW Newport 74.78 358 P **P 15 57 01.4 +0.4**
NEW pmax pmax
comp=Z,27nm,1.2s
NEW Newport 74.78 358 P **P 15 57 02.0 +0.9**
baz=177,SNR=14
NEW Newport 74.78 358 P **P 15 57 01.4 +0.4**
NEW IAmb IAmb 15 57 03.0
comp=Z,27nm,1.1s
J47A Sunmer 74.80 22 P **P 15 57 00.8 -0.3**
J47A IAmb IAmb 15 57 02.2
comp=Z,23nm,0.9s
B08A Colville Reser 74.97 357 P **P 15 57 02.0 -0.1**
B05A Bryant 75.07 355 P **P 15 57 03.5 +0.9**
baz=173,SNR=6.8
DGMT Dagmar 75.49 7 P **P 15 57 05.4 +0.3**
DGMT IAmb IAmb 15 57 06.7
comp=Z,31nm,1.1s
WALA Waterton Lakes 75.54 0 P **P 15 57 06.0 +0.5**
A04D Lummi Island 75.57 354 P **P 15 57 07.1 +1.6**
baz=172,SNR=9.7
PGC Sidney 75.58 354 P **P 15 57 06.2 +0.7**
PGC IAmb IAmb 15 57 07.6
comp=Z,19nm,0.8s
AGMN Agassiz Nation 76.58 13 P **P 15 57 11.3 0.0**
D41A Chassel 77.12 18 P **P 15 57 12.8 -1.6**
EYMN Ely 77.19 15 P **P 15 57 14.9 +0.1**
baz=201
EYMN Ely 77.19 15 P **P 15 57 14.4 -0.3**
EYMN IAmb IAmb 15 57 15.6
comp=Z,16nm,0.9s
H53A Bobcaygeon 78.19 25 P **P 15 57 20.8 +0.5**
baz=212
ULM Lac du Bonnet 78.45 12 P **P 15 57 21.6 -0.1**
comp=Z,7.2nm,0.8s,baz=218,slow=6.0,SNR=7.8
ULM LR LR 16 27 19.3
comp=Z,185nm,18.1s,baz=208,slow=32
ULM Lac du Bonnet 78.45 12 P **P 15 57 21.2 -0.5**
G58A Ormstown 80.46 28 P **P 15 57 33.9 +1.1**
baz=216
TRQ Mont Tremblant 81.13 27 P **P 15 57 36.0 -0.4**
D56A ZEC Mazanza, M 81.73 26 P **P 15 57 39.3 -0.2**
baz=215
E58A La Victoria 81.77 27 P **P 15 57 40.1 +0.4**
baz=216
F60A Warwick 82.00 28 P **P 15 57 40.7 -0.2**
baz=217
D57A Chemin Vers le 82.05 27 P **P 15 57 41.1 0.0**
baz=216
SYO Syowa Base 82.56 171‖ *e*P **P 15 57 42.2 -1.4**
F64A Sherman 83.50 30 P **P 15 57 49.3 +0.6**
baz=220
E62A Clayton Lake 83.56 29 P **P 15 57 49.9 +0.8**
baz=219
E62A Clayton Lake 83.56 29 P **P 15 57 49.1 0.0**
E62A IAmb IAmb 15 57 52.3
comp=Z,30nm,1.4s
CHGQ Chibougamau 84.22 25 P **P 15 57 52.1 -0.2**
baz=215
MAW Mawson 85.84 179 P **P 15 58 01.8 +1.4**
comp=Z,1.8nm,0.6s,baz=214,slow=11,SNR=3.7
MAW LR LR 16 34 30.3
comp=Z,416nm,18.5s,baz=6.5,slow=34
DLBC Dease Lake 85.95 352 P **P 15 58 01.3 +0.4**
STKA Stephens Creek 87.11 236 P **P 15 58 08.4 +1.1**
comp=Z,2.6nm,0.7s,baz=182,slow=2.6,SNR=5.3
STKA LR LR 16 30 48.2
comp=Z,320nm,19.7s,baz=172,slow=31
H11S2 WAKE ISLAND Hy 88.84 291 T T 17 36 37.4
baz=119,slow=76,SNR=80
H11S1 WAKE ISLAND Hy 88.86 291 T T 17 36 38.2
baz=119,slow=76,SNR=150
H11S3 WAKE ISLAND Hy 88.86 291 T T 17 36 38.8
baz=119,slow=76,SNR=112
YKA Yellowknife Ar 89.00 360 P **P 15 58 15.3 -0.1**
comp=Z,2.6nm,0.9s,baz=163,slow=4.5,SNR=4.9
YKA LR LR 16 33 22.1
comp=Z,113nm,19.0s,baz=0.0,slow=32
CTA Charters Tower 89.13 248 P **P 15 58 18.6 +1.4**
comp=Z,14nm,1.2s,baz=90,slow=2.0,SNR=3.0
CTA LR LR 16 32 57.9
comp=Z,231nm,20.1s,baz=63,slow=32
H11N3 WAKE ISLAND Hy 89.26 292 T T 17 37 13.3
baz=115,slow=78,SNR=32
H11N1 WAKE ISLAND Hy 89.27 292 T T 17 37 07.0
baz=115,slow=78,SNR=102
H11N2 WAKE ISLAND Hy 89.28 292 T T 17 37 13.8
baz=115,slow=78,SNR=44
CTGM Chitina Glacie 90.20 347 P **P 15 58 21.2 -0.1**
TGL Tana Glacier 90.32 346 P **P 15 58 21.8 +0.1**
BARN Barnard Glacie 90.35 347 P **P 15 58 22.2 +0.1**
BARN IAmb IAmb 15 58 23.3
comp=Z,18nm,1.2s
CRQM Cirque 90.38 346 P **P 15 58 22.1 -0.1**
CRQM IAmb IAmb 15 58 39.2
comp=Z,20nm,1.2s
K27K Chicken 93.15 348 P **P 15 58 34.6 0.0**
baz=155
SKT Skwentna 93.42 343 P **P 15 58 35.6 -0.4**
SKT IAmb IAmb 15 58 37.3
comp=Z,9.5nm,1.0s
SCRK Sand Creek 93.46 347 P **P 15 58 36.1 -0.2**
baz=154
CUT Chulitna 93.47 344 P **P 15 58 36.7 +0.5**
baz=148
MCK McKinley 94.29 345 P **P 15 58 39.5 -0.5**
MCK pmax pmax
comp=Z,15nm,1.4s
MCK McKinley 94.29 345 P **P 15 58 39.5 -0.5**
MCK IAmb IAmb 15 58 47.1
comp=Z,15nm,1.4s
TRF Thorofare Moun 94.36 345 P **P 15 58 40.1 -0.4**
TRF IAmb IAmb 15 58 41.3
comp=Z,7.7nm,1.0s
KTH Kantishna Hill 94.60 344 P **P 15 58 40.6 -0.8**
WRH Wood River Hil 94.75 346 P **P 15 58 41.1 -0.9**
WRH IAmb IAmb 15 58 52.3
comp=Z,7.0nm,1.0s
ILAR Eielson Array 94.75 347 P **P 15 58 41.5 -0.5**
comp=Z,1.4nm,0.8s,baz=178,slow=5.0,SNR=13
ILAR Eielson Array 94.75 347 P **P 15 58 41.1 -0.9**
CCB Clear Creek Bu 94.84 346 P **P 15 58 41.7 -0.7**
COLA College 95.05 346 *ce*P **P 15 58 43.5 +0.2**
COLA pmax pmax
comp=Z,6.0nm,0.9s
NEA2 Nenana 95.06 346 P **P 15 58 43.7 +0.2**
baz=149
BPAW Bear Paw Mtn. 95.08 345 P **P 15 58 42.9 -0.7**
BPAW IAmb IAmb 15 58 44.0
comp=Z,9.0nm,0.9s
MDM Murphy Dome 95.20 346 P **P 15 58 43.8 -0.3**
MDM IAmb IAmb 15 58 45.0
comp=Z,9.0nm,1.0s
ASAR Alice Springs 97.20 239 P Pdif 15 58 55.0 +0.5
comp=Z,0.4nm,0.8s,baz=133,slow=3.3,SNR=4.7
ASAR Alice Springs 97.20 239 P Pdif 15 58 55.0 +0.5
WRA Warramunga Arr 98.88 242 P **P 15 59 02.3 +0.4**
comp=Z,0.6nm,0.9s,baz=136,slow=4.2,SNR=5.2
H01W1 Cape Leeuwin H 103.40 219 T T 17 55 48.2
baz=140,slow=75
H01W2 Cape Leeuwin H 103.41 219 T T 17 55 59.5
baz=140,slow=75
H01W3 Cape Leeuwin H 103.42 219 T T 17 56 01.9
baz=140,slow=75
ESDC Sonseca Array 121.66 58 PKP **PKiKP 16 04 15.5 +0.2**
comp=Z,0.6nm,0.8s,baz=297,slow=2.3,SNR=6.9
ESDC Sonseca Array 121.66 58 **PKPdf 16 04 14.8 -0.3**
MDJ Mudanjiang 126.53 307 PKP **PKiKP 16 04 30.8 +6.1**
KSRS Korea Array 127.11 298 PKP **PKiKP 16 04 26.4 +0.3**
comp=Z,0.5nm,0.8s,baz=100,slow=1.9,SNR=1.8
NJ2 Nanjing 133.81 290 *e*PKP **PKPdf 16 04 38.1 -0.3**
GERES GERESS Array B 134.45 47 PKP **PKiKP 16 04 41.1 +0.4**
comp=Z,0.3nm,0.7s,baz=300,slow=4.4,SNR=3.6
MODS Modra-Piesok 136.87 47 *e*PKIKP **PKPdf 16 04 44.1 +0.4**
MODS Modra-Piesok 136.87 47 *e*PKP **PKPdf 16 04 44.1 +0.4**
VYHS Vyhne 137.85 46 *e*PKIKP **PKPdf 16 04 45.9 +0.4**
VYHS Vyhne 137.85 46 *e*PKP **PKPdf 16 04 45.9 +0.4**
HHC Hu-ho-hao-te 139.87 302 *e*PKP **PKPdf 16 04 50.3 +0.7**
ULN Ulaanbaatar 141.59 314‖ *e*PKIKP **PKPdf 16 04 51.1 -1.4**
KLMR Klimovskoe 141.62 20 *e*PKIKP **PKPdf 16 04 48.8 -3.1**
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR Klimovskoe 141.62 20 *e*PKPdf **PKPdf 16 04 48.9 -3.0**
KLMR AMP 16 04 51.8
comp=Z,18nm,1.5s
SONM Songino Array 142.02 314 PKhKP PKPpre 16 04 47.9
comp=Z,2.0nm,0.9s,baz=267,slow=0.7,SNR=4.0
SONM Songino Array 142.02 314 PKIKP **PKPdf 16 04 52.7 -0.5**
SONM Songino Array 142.02 314 **PKPdf 16 04 52.7 -0.5**
XAN Xi'an 142.28 292 PKP **PKiKP 16 05 02.3 +5.3**
XAN pPKP sPKPdf 16 05 12.3 +15
PRGR Permogore 142.66 16 *e*PKIKP **PKPdf 16 04 49.1 -4.6**
AKASG Malin Array Be 143.44 39 PKhKP PKPpre 16 04 51.1
comp=Z,0.4nm,0.4s,baz=294,slow=3.6,SNR=5.8
IDI Anoyia 144.22 66 PKPbc 16 04 56.0 +0.3
ALN Alexandroupoli 144.50 56 PKIKP **PKPab 16 04 56.0 0.0**
ALN Alexandroupoli 144.50 56 PKPdf **PKPab 16 04 56.0 0.0**
OBN Obninsk 144.66 29 *e*PKIKP PKPbc 16 04 56.6 +0.4
OBN *e* 16 08 14.5
OBN pmax pmax
comp=Z,11nm,1.0s
MOS Moscow 144.69 27 *e*PKIKP **PKPab 16 04 55.6 -0.6**
LZH Lanzhou 146.37 295 *e*PKPbc **PKPdf 16 04 54.9 -6.3**
LZH pPKP PKPab 16 05 04.1 +0.8
LZH sPKP 16 05 07.4
CD2 Chengdu 146.54 286 PKPbc **PKPdf 16 05 00.0 -1.5**
LPSR Galich'ya Gora 147.38 31 *e*PKP2 **PKPbc 16 05 04.4 -0.2**
LPSR pmax pmax
comp=Z,40nm,1.0s
CMAR Chiang Mai Arr 148.30 262 PKPbc **PKiKP 16 05 09.6 -0.2**
comp=Z,8.7nm,1.2s,baz=115,slow=0.9,SNR=22
CMAR Chiang Mai Arr 148.30 262 PKPbc **PKPbc 16 05 08.9 +0.8**
VSR Storozhevoye 148.40 32 *e*PKP2 **PKPbc 16 05 07.0 -0.4**
VSR pmax pmax
comp=Z,40nm,1.0s
CHTO Chiang Mai 148.42 262 PKP2 **PKiKP 16 05 09.9 -0.1**
CHTO Chiang Mai 148.42 262 **PKiKP 16 05 09.9 -0.1**
VORD Divnogorie 148.62 33 *e*PKP2 **PKPbc 16 05 07.0 -0.9**
VORD pmax pmax
comp=Z,30nm,1.3s
GTA Gaotai 148.99 303 *e*PKPbc **PKPbc 16 05 10.0 +0.5**
GTA PKPab **sPKPab 16 05 19.3 +2.3**
GTA LR LR
comp=Z,80nm,21.4s
GTA LR LR
comp=Z,140nm,21.5s
GTA LR LR
comp=Z,170nm,22.5s
ZAA0 Zalesovo Array 149.45 338 PKPbc **PKPbc 16 05 09.0 -0.9**
ZALV Zalesovo Beam 149.45 338 PKPbc **PKPbc 16 05 09.7 -0.2**
comp=Z,5.6nm,0.6s,baz=23,slow=2.9,SNR=26
ZALV Zalesovo Beam 149.45 338 PKPbc **PKPbc 16 05 08.9 -1.0**
VRH Novokhopyorsk 149.60 30 *e*PKP2 **PKPbc 16 05 10.4 0.0**
VRH pmax pmax
comp=Z,70nm,1.0s
SVE Sverdlovsk 149.80 6 *e*PKP2 **PKPbc 16 05 11.0 +0.3**
SVE pmax pmax
comp=Z,28nm,1.5s
ARU Arti 149.97 8 *i* PKP2 **PKPbc 16 05 11.0 -0.1**
ARU 16 08 45.1
ARU Arti 149.97 8 **PKPbc 16 05 11.0 -0.1**
ILGA Ilgaz 150.09 53 **PKPbc 16 05 11.8 -0.4**
BR131 Keskin Array S 150.42 56 PKIKP **PKPbc 16 05 11.8 -1.2**
BR131 Keskin Array S 150.42 56 **PKPbc 16 05 11.8 -1.2**
BRTR Keskin Array B 150.42 56 PKPbc **PKPbc 16 05 12.9 -0.1**
comp=Z,9.7nm,1.0s,baz=209,slow=1.6,SNR=30
BRTR Keskin Array B 150.42 56 PKIKP **PKPdf 16 05 07.2 -0.5**
BRTR 16 05 11.9
BRTR Keskin Array B 150.42 56 PKPdf **PKPdf 16 05 07.2 -0.5**
BRTR PKPbc **PKPbc 16 05 11.9 -1.2**
DGZ Jazzator, Alta 151.69 330‖ *e*PKIKP **PKPdf 16 05 08.8 -0.5**
BRVK Borovoye 153.57 354‖ *e*PKIKP **PKPdf 16 05 15.1 +3.3**
BRVK Borovoye 153.57 354 PKPbc **PKPbc 16 05 19.7 +0.2**
KURK Kurchatov 154.18 341‖ *e*PKIKP **PKPdf 16 05 12.2 -0.5**
KIV Kislovodsk 154.74 41 *e*PKIKP **PKPdf 16 05 14.5 +0.6**
KIV pmax pmax
comp=Z,29nm,1.1s
WMQ Urumqi 155.44 319 *e*PKP **PKPdf 16 05 13.8 -1.0**
WMQ LR LR
comp=Z,140nm,17.1s
WMQ LR LR
comp=Z,71nm,23.1s
MKAR Makanchi Array 156.15 331 PKP **PKPdf 16 05 17.7 +2.1**
comp=Z,1.1nm,1.0s,baz=345,slow=2.9,SNR=6.5
MKAR Makanchi Array 156.15 331 PKIKP **PKPdf 16 05 14.9 -0.7**
MKAR Makanchi Array 156.15 331 **PKPdf 16 05 14.9 -0.7**
MAKZ Makanchi 156.27 331 PKIKP **PKPdf 16 05 15.5 -0.2**
MAKZ Makanchi 156.27 331 **PKPdf 16 05 15.5 -0.2**
ABKAR Akbulak array 157.16 10 **PKPdf 16 05 16.2 -0.5**
AAK Ala-Archa 162.67 338‖ *e*PKIKP **PKPdf 16 05 24.2 +0.8**
GEYT Alibeck 167.21 28 PKP **PKPdf 16 05 29.4 +2.1**
comp=Z,1.0nm,0.5s,baz=225,slow=0.4,SNR=2.5

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*NEIC **21** 16:05:53.9±1.1, 15.5°S±0.1°×178.5W±0.1°, h396km±7km, mb4.2/55, Error ellipse: s-maj=20.2km s-min=15.3km az=138.0*
*IDC **21** 16:05:54.6±1.5, 15.50S×178.48W, h406km±18km, mb3.5/11, mb1 3.7/13, mb1mx3.5/33, mbtmp4.3/13, Error ellipse: s-maj=24.8km s-min=10.0km az=152.0*
ISC 21 16:05:54.3±0.4, 15.43S±0.10°×178.52W±0.06, h400km, n82, σ0.97/84, mb4.1/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.01**	**235**		**Pn**	**16 07 10.5**	**+3.9**
AFI	**Afiamalu**	**6.70**	**78**	P	**Pn**	**16 07 34.2**	**-0.5**
	9.6nm,0.3s,baz=164,slow=1.6,SNR=22						
AFI				S	**S**	**16 08 57.8**	**+1.1**
	1.0nm,0.3s,baz=308,slow=21,SNR=5.2						
AFI	**Afiamalu**	**6.70**	**78**	Pn	**Pn**	**16 07 34.1**	**-0.7**
NIUE	**Niue**	**8.98**	**115**	P	**P**	**16 08 01.3**	**+0.7**
DZM	**Mont Dzumac**	**15.69**	**243**	P	**P**	**16 09 15.8**	**+1.4**
	0.4nm,0.3s,baz=236,slow=11,SNR=1.6						
DZM	**Mont Dzumac**	**15.69**	**243**	P	**P**	**16 09 12.2**	**-2.2**
DZM				IAmb	IAmb	16 09 26.7	
	comp=Z,29nm,1.4s						
URZ	**Urewera**	**23.07**	**189**	P	**P**	**16 10 24.4**	**-2.1**
	comp=Z,3.0nm,0.4s,baz=115,slow=16,SNR=1.6						
CTA	**Charters Tower**	**33.82**	**257**	P	**P**	**16 12 01.6**	**+0.3**
	comp=Z,7.6nm,0.6s,baz=81,slow=9.1,SNR=14						
CTAO	**Charters Tower**	**33.82**	**257**	P	**P**	**16 12 01.5**	**+0.3**
CTAO				IAmb	IAmb	16 12 02.5	
	comp=Z,10nm,0.7s						
COEN	**Coen**	**37.05**	**267**	P	**P**	**16 12 29.4**	**+1.0**
TOO	**Toolangi**	**38.69**	**228**	P	**P**	**16 12 41.5**	**-0.1**
TOO				IAmb	IAmb	16 12 44.1	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**39.77**	**239**	P	**P**	**16 12 51.1**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=93,slow=12,SNR=14						
STKA	**Stephens Creek**	**39.77**	**239**	P	**P**	**16 12 50.4**	**-0.2**
HMH	**Humu'ula Sheep**	**41.54**	**34**	P	**P**	**16 13 05.6**	**+0.4**
HLK	**Haleakala**	**42.09**	**32**	P	**P**	**16 13 09.8**	**+0.2**
JAY	**Jayapura**	**42.17**	**284**	P	**P**	**16 13 10.6**	**+0.5**
	comp=Z,10nm,0.6s,baz=122,slow=9.5,SNR=10						
BBOO	**Buckleboo**	**44.55**	**239**	P	**P**	**16 13 28.2**	**-0.4**
BBOO				IAmb	IAmb	16 13 39.9	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**44.83**	**257**	P	**P**	**16 13 30.0**	**-1.0**
WB0	**Warramunga Arr**	**44.98**	**257**	P	**P**	**16 13 31.2**	**-0.9**
WB0				IAmb	IAmb	16 13 32.3	
	comp=Z,13nm,1.1s						
WB2	**Warramunga Arr**	**45.01**	**257**	P	**P**	**16 13 31.6**	**-0.9**
WRAB	**Tennant Creek**	**45.01**	**257**	P	**P**	**16 13 31.8**	**-0.6**
WRA	**Warramunga Arr**	**45.02**	**257**	P	**P**	**16 13 31.8**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=93,slow=7.6,SNR=116						
WRA				PcP	**PcP**	**16 15 05.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=93,slow=3.6,SNR=3.5						
WRA	**Warramunga Arr**	**45.02**	**257**	P	**P**	**16 13 31.3**	**-1.2**
AS31	**Alice Springs**	**45.40**	**252**	P	**P**	**16 13 35.4**	**0.0**
ASAR	**Alice Springs**	**45.41**	**252**	P	**P**	**16 13 35.3**	**-0.1**
	comp=Z,50nm,0.5s,baz=84,slow=8.6,SNR=2718						
ASAR				PcP	**PcP**	**16 15 07.0**	**0.0**
	comp=Z,0.7nm,0.4s,baz=101,slow=3.9,SNR=3.1						
ASAR				S	**S**	**16 19 46.3**	**0.0**
	comp=Z,1.7nm,1.2s,baz=80,slow=16,SNR=4.1						
ASAR	**Alice Springs**	**45.41**	**252**	P	**P**	**16 13 34.9**	**-0.5**
MTN	**Manton Dam**	**48.80**	**266**	P	**P**	**16 14 01.3**	**-0.1**
MTN				IAmb	IAmb	16 14 01.9	
	comp=Z,20nm,1.2s						
KNRA	**Kununurra**	**50.67**	**262**	P	**P**	**16 14 14.8**	**-0.4**
KNRA				IAmb	IAmb	16 14 24.7	
	comp=Z,12nm,1.4s						
FORT	**Forrest**	**51.00**	**243**	P	**P**	**16 14 16.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.36**	**259**	P	**P**	**16 14 35.0**	**+0.2**
SOEI	**Soe**	**55.99**	**269**	P	**P**	**16 14 55.2**	**+1.6**
MMRI	**Maumere**	**58.19**	**269**	P	**P**	**16 15 08.6**	**-0.1**
PSA00	**Pilbara Seismi**	**58.45**	**254**	P	**P**	**16 15 10.0**	**-0.4**
PSA00	**Pilbara Seismi**	**58.45**	**254**	P	**P**	**16 15 09.7**	**-0.7**
PSA00				IAmb	IAmb	16 15 21.3	
	comp=Z,32nm,1.3s						
NWAO	**Narrogin (SRO)**	**60.30**	**241**	P	**P**	**16 15 22.4**	**-0.3**
MORW	**Morawa**	**61.40**	**245**	P	**P**	**16 15 30.6**	**+0.5**
MJAR	**Matsushiro Arr**	**65.87**	**323**	P	**P**	**16 15 58.2**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=171,slow=6.1,SNR=7.8						
MJAR	**Matsushiro Arr**	**65.87**	**323**	P	**P**	**16 15 58.1**	**-0.6**
MAJO	**Matsushiro**	**65.87**	**323**	P	**P**	**16 15 58.0**	**-0.7**
JAGI	**Jajag, Banyuwa**	**66.02**	**267**	P	**P**	**16 15 58.6**	**-1.5**
KKM	**Kota Kinabalu**	**68.06**	**283**	P	**P**	**16 16 12.9**	**0.0**
CASY	**Casey**	**68.33**	**204**	P	**P**	**16 16 12.9**	**-0.6**
CASY				IAmb	IAmb	16 16 37.5	
	comp=Z,9.1nm,1.2s						
KSAR	**Wonju Array Be**	**72.81**	**318**	P	**P**	**16 16 42.3**	**+1.6**
QSPA	**South Pole Qui**	**74.61**	**180**	P	**P**	**16 16 51.1**	**+0.3**
QSPA				IAmb	IAmb	16 16 52.1	
	comp=Z,3.0nm,0.9s						
PMPB	**Monarch Peak**	**74.87**	**45**	P	**P**	**16 16 52.8**	**+0.1**
HOPS	**Hopland Field**	**74.90**	**42**	P	**P**	**16 16 52.9**	**+0.3**
PAGB	**Antelope Grade**	**74.99**	**46**	P	**P**	**16 16 53.9**	**+0.6**
PAGB				IAmb	IAmb	16 16 54.6	
	comp=Z,4.0nm,0.5s						
KMRM	**Mail Ridge**	**75.20**	**40**	P	**P**	**16 16 55.3**	**+0.8**
KRMB	**Red Mountain**	**75.83**	**39**	P	**P**	**16 16 58.8**	**+0.8**
KDAK	**Kodiak Island**	**76.03**	**14**	P	**P**	**16 16 58.4**	**-0.1**
KDAK				IAmb	IAmb	16 17 20.8	
	comp=Z,12nm,1.4s						
CMB	**Columbia Colle**	**76.12**	**44**	P	**P**	**16 16 59.9**	**+0.2**
WDC	**Whiskeytown Da**	**76.13**	**41**	P	**P**	**16 17 00.2**	**+0.6**
NJ2	**Nanjing**	**76.29**	**309**	*e*P	**P**	**16 17 01.6**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YBH	**Yreka Blue Hor**	**76.69**	**40**	P	**P**	**16 17 03.2**	**+0.5**
YBH				IAmb	IAmb	16 17 04.7	
	comp=Z,5.3nm,1.1s						
WAKR	**Walker**	**77.01**	**44**	P	**P**	**16 17 05.1**	**+0.4**
HUMO	**Hull Mountain**	**77.04**	**39**	P	**P**	**16 17 05.3**	**+0.7**
HUMO				IAmb	IAmb	16 17 30.3	
	comp=Z,7.9nm,1.5s						
PNTR	**Pine Nut**	**77.21**	**43**	P	**P**	**16 17 06.4**	**+0.6**
PNTR				IAmb	IAmb	16 17 07.0	
	comp=Z,4.8nm,0.8s						
PAHR	**Pah Rah Range**	**77.68**	**43**	P	**P**	**16 17 08.4**	**+0.1**
NVAR	**Mina Array Bea**	**77.73**	**44**	P	**P**	**16 17 08.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=222,slow=8.6,SNR=12						
NVAR	**Mina Array Bea**	**77.73**	**44**	P	**P**	**16 17 08.6**	**-0.1**
NV11	**Mina Array Sit**	**77.83**	**44**	P	**P**	**16 17 09.2**	**0.0**
NV11				IAmb	IAmb	16 17 10.2	
	comp=Z,4.2nm,1.4s						
KVN	**Kaiserville**	**78.18**	**44**	P	**P**	**16 17 10.8**	**-0.3**
K05A	**Summer Lake**	**78.36**	**39**	P	**P**	**16 17 12.3**	**+0.3**
K05A				IAmb	IAmb	16 17 13.3	
	comp=Z,3.5nm,1.0s						
TPNV	**Topopah Spring**	**78.39**	**46**	P	**P**	**16 17 12.2**	**-0.1**

TPNV						IAmb	IAmb	16 17 13.4			
	comp=Z,3.0nm,0.8s										
SVW2	**Sparrevohn**		**78.44**	**11**	P		**P**		**16 17 13.2**	**+1.4**	
SVW2					IAmb		IAmb	16 17 29.4			
	comp=Z,9.0nm,1.3s										
PINE	**Pine Mountain**		**78.92**	**39**	P		**P**		**16 17 15.3**	**+0.3**	
PINE					IAmb		IAmb	16 17 17.9			
	comp=Z,5.0nm,1.1s										
U15A	**North Rim**		**80.96**	**48**	P		**P**		**16 17 26.2**	**+0.2**	
U15A					IAmb		IAmb	16 17 27.7			
	comp=Z,2.6nm,0.8s										
HLID	**Hailey**		**82.84**	**41**	P		**P**		**16 17 35.6**	**+0.2**	
HLID					IAmb		IAmb	16 17 36.8			
	comp=Z,2.4nm,0.8s										
TMUT	**Trail Mountain**		**83.00**	**46**	P		**P**		**16 17 36.6**	**+0.1**	
ILAR	**Eielson Array**		**83.51**	**13**	P		**P**		**16 17 37.4**	**-0.6**	
	comp=Z,0.5nm,0.5s,baz=229,slow=5.8,SNR=7.1										
TXAR	**Lajitas Array**		**84.77**	**58**	P		**P**		**16 17 46.0**	**+0.6**	
	comp=Z,1.5nm,0.8s,baz=216,slow=6.3,SNR=15										
YHB	**Horse Butte**		**85.45**	**41**	P		**P**		**16 17 48.6**	**+0.2**	
HHC	**Hu-ho-hao-te**		**85.47**	**314**	*e*P		**P**		**16 17 47.3**	**-1.2**	
HHC					pmax		pmax				
	comp=Z,14nm,0.7s										
HHC					pmax		pmax				
	comp=Z,120nm,6.2s										
HHC					LR		LR				
	comp=Z,200nm,15.3s										
PDAR	**Pinedale Array**		**85.64**	**44**	P		**P**		**16 17 49.2**	**-0.2**	
	comp=Z,1.1nm,0.6s,baz=239,slow=2.2,SNR=7.4										
CMAR	**Chiang Mai Arr**		**87.95**	**290**	P		**P**		**16 18 01.4**	**+0.7**	
	comp=Z,0.3nm,0.3s,baz=91,slow=3.8,SNR=1.7										
LZH	**Lanzhou**		**89.30**	**308**	*e*P		**P**		**16 18 03.6**	**-3.2**	
LZH					pP		pP	16 19 38.3	0.0		
LZH					sP		sP	16 20 22.8	+3.5		
LZH					pmax		pmax				
	comp=Z,18nm,1.2s										
BR131	**Keskin Array S**		**142.93**	**317**	PKPpre		PKPpre	16 24 38.7			
BRTR	**Keskin Array B**		**142.93**	**317**	PKP		**PKPdf**		**16 24 39.5**	**-2.1**	
	comp=Z,1.7nm,0.9s,baz=96,slow=1.2,SNR=7.7										
BRTR	**Keskin Array B**		**142.93**	**317**	PKPpre		PKPpre	16 24 38.8			
VYHS	**Vyhne**		**144.07**	**340**	*e*PKP		**PKPab**		**16 24 42.1**	**0.0**	
GERES	**GERESS Array B**		**145.20**	**346**	PKPbc		**PKPdf**		**16 24 44.9**	**-0.3**	
	comp=Z,0.2nm,0.4s,baz=242,slow=2.1,SNR=2.3										
FUORN	**Ofenpass-Fuorn**		**148.05**	**349**			**PKPdf**		**16 24 48.2**	**-2.0**	

IDC 21 16:10:03.2±7.2, 17°.75S×176°.36W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/24, mbtmp3.8/3, Error ellipse: s-maj=314.0km s-min=37.2km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.58**	**259**	P	P	16 18 32.7	-0.6
	0.4nm,0.5s,baz=95,slow=7.1,SNR=9.2						
ASAR	**Alice Springs**	**46.71**	**254**	P	P	16 18 34.6	+0.3
	2.3nm,0.5s,baz=90,slow=8.3,SNR=44						
ILAR	**Eielson Array**	**85.31**	**12**	P	P	16 22 41.6	0.0
	0.2nm,0.5s,baz=226,slow=4.8,SNR=5.7						

*IDC **21** 16:13:10.8±2.9, 25°.27S×179°.74E, h471km±32km, mb3.3/11, mb1 3.6/13, mb1mx3.5/22, mbtmp4.2/13, Error ellipse: s-maj=19.2km s-min=16.2km az=105.0*
*NEIC **21** 16:13:11.8±1.4, 25°.43S±0°.06×179°.8E±0°.1, h493km±6km, mb4.3/39, Error ellipse: s-maj=16.3km s-min=6.0km az=111.0*

ISC 21 16:13:11.8±0.4, 25°.38S±0°.06×179°.85E±0°.08, h493km, n83, σ1§32/84, mb4.1/26, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.79**	**347**	P	**P**	16 15 07.3	**+1.3**
NIUE	**Niue**	**11.35**	**58**	P	**P**	16 15 45.8	**+2.2**
MXZ	**Matakaoa Point**	**12.22**	**186**	P	**P**	16 15 54.0	**+1.5**
URZ	**Urewera**	**13.05**	**190**	P	**P**	16 16 01.0	**-0.3**
	2.3nm,0.3s,baz=274,slow=4.1,SNR=12						
URZ				S	**S**	16 18 17.6	**-3.6**
	0.4nm,0.3s,baz=78,slow=13,SNR=2.3						
URZ	**Urewera**	**13.05**	**190**	P	**P**	16 16 00.7	**-0.6**
AFI	**Afiamalu**	**13.86**	**36**	P	**P**	16 16 08.1	**-2.2**
	1.1nm,0.3s,baz=163,slow=22,SNR=1.3						
AFI				S	**S**	16 18 31.2	**-6.3**
	1.5nm,0.3s,baz=343,slow=19,SNR=1.7						
BFZ	**Birch Farm**	**15.56**	**190**	P	**P**	16 16 26.2	**-1.4**
MSWZ	**Moikau Station**	**16.45**	**192**	P	**P**	16 16 36.1	**-1.0**
BHW	**Baring Head**	**16.52**	**193**	P	**P**	16 16 36.8	**-1.0**
QRZ	**Quartz Range**	**16.57**	**200**	P	**P**	16 16 37.8	**-0.5**
PLWZ	**Palliser**	**16.59**	**192**	P	**P**	16 16 37.3	**-1.4**
NNZ	**Nelson**	**16.69**	**197**	P	**P**	16 16 38.9	**-0.7**
TUWZ	**Tuamarina**	**16.75**	**196**	P	**P**	16 16 38.0	**-2.1**
BSWZ	**Blackbirch Sta**	**17.03**	**195**	P	**P**	16 16 42.8	**-0.3**
THZ	**Tophouse**	**17.33**	**198**	P	**P**	16 16 45.2	**-0.9**
KHZ	**Kahutara**	**17.78**	**195**	P	**P**	16 16 49.4	**-0.8**
LTZ	**Lake Taylor**	**18.45**	**198**	P	**P**	16 16 55.0	**-1.4**
OXZ	**Oxford**	**19.02**	**198**	P	**P**	16 16 60.0	**-1.6**
MLZ	**Mavora Lakes**	**22.08**	**202**	P	**P**	16 17 29.2	**-0.2**
CTAO	**Charters Tower**	**31.38**	**273**	P	**P**	16 18 52.1	**+0.5**
COEN	**Coen**	**36.24**	**281**	P	**P**	16 19 32.0	**-0.7**
COEN				IAmb	IAmb	16 19 56.2	
	comp=Z,14nm,1.4s						
BBOO	**Buckleboo**	**38.76**	**249**	P	**P**	16 19 52.5	**-0.7**
BBOO				IAmb	IAmb	16 20 19.3	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**41.68**	**262**	P	**P**	16 20 16.4	**-0.4**
ASAR	**Alice Springs**	**41.69**	**262**	P	**P**	16 20 16.7	**-0.1**
	comp=Z,3.1nm,0.8s,baz=93,slow=7.1,SNR=16						
ASAR				PcP	**PcP**	16 22 01.5	**-0.7**
	comp=Z,0.5nm,0.6s,baz=110,slow=3.8,SNR=5.8						
ASAR	**Alice Springs**	**41.69**	**262**	P	**P**	16 20 16.2	**-0.6**
WR0	**Warramunga Arr**	**42.01**	**268**	P	**P**	16 20 18.4	**-1.0**
WB2	**Warramunga Arr**	**42.19**	**268**	P	**P**	16 20 20.1	**-0.6**
WRAB	**Tennant Creek**	**42.19**	**268**	P	**P**	16 20 20.1	**-0.7**
WRAB				IAmb	IAmb	16 20 24.8	
	comp=Z,4.9nm,0.8s						
WB0	**Warramunga Arr**	**42.20**	**268**	P	**P**	16 20 20.1	**-0.8**
WB0				IAmb	IAmb	16 20 21.1	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**42.20**	**268**	P	**P**	16 20 20.3	**-0.5**
	comp=Z,3.1nm,0.5s,baz=103,slow=8.0,SNR=22						
WRA	**Warramunga Arr**	**42.20**	**268**	P	**P**	16 20 20.1	**-0.7**
PTCN	**Pitcairn Islan**	**45.06**	**101**	P	**P**	16 20 42.4	**-0.7**
FORT	**Forrest**	**45.69**	**251**	P	**P**	16 20 46.6	**-1.3**
MTN	**Manton Dam**	**47.45**	**276**	P	**P**	16 21 00.3	**-1.1**
MTN				IAmb	IAmb	16 21 23.8	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**48.57**	**271**	P	**P**	16 21 09.6	**-0.1**
KNRA				IAmb	IAmb	16 21 10.2	
	comp=Z,8.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.60**	**267**	P	**P**	16 21 24.8	**0.0**
VNDA	**Vanda**	**52.90**	**185**	P	**P**	16 21 42.1	**+1.7**
	comp=Z,0.9nm,0.8s,baz=17,slow=7.9,SNR=9.0						
VNDA	**Vanda**	**52.90**	**185**	P	**P**	16 21 42.3	**+1.8**
MORW	**Morawa**	**56.26**	**251**	P	**P**	16 22 03.7	**-1.2**
MORW				IAmb	IAmb	16 22 04.7	
	comp=Z,28nm,1.1s						
CASY	**Casey**	**58.73**	**206**	P	**P**	16 22 21.0	**-0.2**
CASY				IAmb	IAmb	16 22 31.5	
	comp=Z,16nm,1.5s						
QSPA	**South Pole Qui**	**64.71**	**180**	P	**P**	16 23 01.8	**+1.4**
QSPA				IAmb	IAmb	16 23 02.6	
	comp=Z,3.7nm,0.7s						
KSM	**Kuching**	**72.23**	**280**	P	**P**	16 23 46.8	**-0.1**
KSM				IAmb	IAmb	16 24 03.5	
	comp=Z,8.2nm,1.0s						
MJAR	**Matsushiro Arr**	**73.04**	**326**	P	**P**	16 23 51.0	**0.0**
	comp=Z,2.6nm,0.8s,baz=164,slow=5.2,SNR=8.9						
MJAR	**Matsushiro Arr**	**73.04**	**326**	P	**P**	16 23 50.5	**-0.5**
MAJO	**Matsushiro**	**73.04**	**326**	P	**P**	16 23 51.0	**-0.1**
MAJO				IAmb	IAmb	16 23 51.8	
	comp=Z,5.3nm,1.0s						
JWT	**Wachi**	**73.55**	**323**	P	**P**	16 23 54.4	**+0.4**
JWT				IAmb	IAmb	16 23 55.1	
	comp=Z,6.9nm,0.7s						
JSU	**Suzuyama**	**73.67**	**317**	P	**P**	16 23 54.6	**-0.2**
YOJ	**Yonaguni jima**	**74.02**	**307**	P	**P**	16 23 57.0	**+0.2**
JNU	**Nakatsue**	**74.55**	**319**	P	**P**	16 23 59.7	**0.0**
JNU				IAmb	IAmb	16 24 23.0	
	comp=Z,20nm,1.3s						
BELA	**Belgrano 2**	**74.99**	**173**	P	**P**	16 24 02.0	**+0.5**
MAW	**Mawson**	**76.33**	**201**	P	**P**	16 24 10.4	**+1.4**
	comp=Z,1.5nm,0.5s,baz=126,slow=8.7,SNR=2.7						
MAW	**Mawson**	**76.33**	**201**	IAmb	IAmb	16 24 13.7	
	comp=Z,1.4nm,1.4s						
ADK	**Adak**	**76.98**	**2**	P	**P**	16 24 12.7	**0.0**
NIKH	**Nikolski High**	**78.63**	**7**	P	**P**	16 24 21.9	**+0.3**
KSRS	**Korea Array**	**79.29**	**320**	P	**P**	16 24 26.1	**+0.6**
	comp=Z,1.6nm,0.7s,baz=132,slow=6.2,SNR=9.3						
KSAR	**Wonju Array Be**	**79.31**	**320**	P	**P**	16 24 26.8	**+1.2**
YSS	**Yuzh-Sakhalins**	**79.41**	**335**	P	**P**	16 24 27.3	**+1.4**
YSS				IAmb	IAmb	16 24 49.9	
	comp=Z,24nm,1.3s						
PETK	**Petropavlovsk-**	**80.50**	**347**	P	**P**	16 24 32.1	**+0.6**
	comp=Z,1.8nm,0.6s,baz=124,slow=8.4,SNR=9.8						
SNAA	**Sanae**	**83.20**	**179**	P	**P**	16 24 45.3	**0.0**
VNA3	**Neumayer Olymp**	**83.41**	**177**	P	**P**	16 24 46.5	**+0.2**
NVAR	**Mina Array Bea**	**85.90**	**44**	P	**P**	16 25 00.8	**+1.6**
	comp=Z,1.1nm,0.8s,baz=227,slow=9.3,SNR=7.2						
PINE	**Pine Mountain**	**87.62**	**39**	P	**P**	16 25 09.1	**+1.9**
PINE				IAmb	IAmb	16 25 10.8	
	comp=Z,5.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**89.91**	**290**	P	**P**	16 25 19.7	**+1.5**
	comp=Z,1.1nm,0.9s,baz=148,slow=3.1,SNR=9.3						
CMAR	**Chiang Mai Arr**	**89.91**	**290**	P	**P**	16 25 18.7	**+0.5**
TXAR	**Lajitas Array**	**91.32**	**58**	P	**P**	16 25 26.5	**+1.9**
	comp=Z,0.5nm,0.9s,baz=214,slow=4.2,SNR=4.9						
TXAR	**Lajitas Array**	**91.32**	**58**	P	**P**	16 25 23.8	**-0.8**
ILAR	**Eielson Array**	**93.49**	**14**	P	**P**	16 25 33.0	**-0.6**
	comp=Z,0.2nm,0.6s,baz=232,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	**113.05**	**312**	PKiKP	**PKiKP**	**16 30 52.8**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=65,slow=2.8,SNR=1.9						
FINES	**FINESS Array B**	**139.79**	**341**	PKhKP	PKPpre	16 31 35.1	
	comp=Z,1.2nm,0.9s,baz=119,slow=2.4,SNR=4.0						
FINES				SKP		16 34 31.5	
	comp=Z,1.7nm,1.0s,baz=22,slow=2.1,SNR=5.6						
MARD	**Mardin**	**143.34**	**299**		PKPbc	16 31 48.8	+0.7
NB2	**NORSAR Subarra**	**143.51**	**351**	PKP	PKPab	16 31 47.5	-0.1
	comp=Z,2.1nm,0.6s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143.51**	**351**	PKhKP	PKPpre	16 31 47.2	
	comp=Z,3.8nm,0.8s,baz=22,slow=3.9,SNR=12						
AKASG	**Malin Array Be**	**146.13**	**326**	PKPbc	**PKPbc**	**16 31 55.6**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=42,slow=4.2,SNR=13						
AKASG	**Malin Array Be**	**146.13**	**326**	PKPbc	**PKPdf**	**16 31 55.3**	**+1.3**
BR131	**Keskin Array S**	**148.34**	**305**	PKPbc	**PKPbc**	**16 32 02.3**	**-0.1**
BR131					**PKPab**	**16 32 07.4**	**-0.1**
BRTR	**Keskin Array B**	**148.34**	**305**	PKPbc	**PKPbc**	**16 32 02.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=125,slow=3.3,SNR=5.0						
BRTR				PKPab	**PKPab**	**16 32 07.3**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=109,slow=3.1,SNR=8.7						
BRTR	**Keskin Array B**	**148.34**	**305**		**PKPbc**	**16 32 02.2**	**-0.1**
BUR08	**Bucovina Ar. S**	**150.09**	**325**		**PKiKP**	**16 32 07.6**	**+0.7**
BURAR	**Bucovina Array**	**150.10**	**324**		**PKPbc**	**16 32 06.7**	**+0.4**
CLL	**Collm**	**152.22**	**342**	*i* PKPbc	**PKPbc**	**16 32 10.7**	**-0.1**
	comp=Z,4.0nm,0.7s						
ESDC	**Sonseca Array**	**165.39**	**12**	PKPab	**PKPab**	**16 33 21.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=349,slow=5.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**167.71**	**188**	PKPab	**PKPab**	**16 33 31.5**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=168,slow=3.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**167.71**	**188**	PKPdf	**PKPdf**	**16 32 18.9**	**-2.8**
TORD					**PKPab**	**16 33 28.7**	**-2.6**

*IDC **21** 17:03:14.7±7.8, 3°.95S×101°.81E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/41, mbtmp3.6/4, Error ellipse: s-maj=380.5km s-min=25.3km az=52.0*
*DJA **21** 17:03:19.1±0.6, 4°.S±3°×10°.2E±°, h16km±6km, M3.6/6, MLv3.6/6*

ISC 21 17:03:22.0±1.4, 4°.2S±0°.1×102°.2E±0°.1, h58km, n11, σ1§65/12, mb3.7/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.72**	**37**	P	**Pn**	17 03 35.1	**-1.4**
MASI	**Maura Aman, Be**	**1.09**	**4**	P	**Pn**	17 03 41.1	**-0.1**
LHSI	**Lahat**	**1.42**	**73**	P	**Pn**	17 03 45.4	**-0.1**
LHSI				S	**Sn**	17 04 04.6	**+1.4**
MDSI	**Maura Dua**	**2.03**	**97**	P	**Pn**	17 03 53.1	**-0.7**
LWLI	**Liwa**	**2.04**	**112**	P	**Pn**	17 03 53.2	**-1.0**
LWLI				S	**Sn**	17 04 17.8	**-0.8**
KRJI	**Kerinci**	**2.24**	**342**	P	**Pn**	17 03 57.3	**+0.5**
WRA	**Warramunga Arr**	**35.02**	**119**	P	**P**	17 10 12.6	**+3.3**
	0.3nm,0.7s,baz=290,slow=8.4,SNR=1.9						
ASAR	**Alice Springs**	**36.20**	**125**	P	P	17 10 24.3	+4.7
	0.3nm,0.3s,baz=300,slow=7.6,SNR=4.3						
MKAR	**Makanchi Array**	**53.76**	**343**	P	**P**	17 12 37.3	**-1.2**
	0.5nm,0.7s,baz=152,slow=8.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**59.76**	**348**	P	**P**	17 13 18.5	**-2.4**
	0.8nm,0.4s,baz=161,slow=5.4,SNR=5.3						
TXAR	**Lajitas Array**	**145.04**	**42**	PKPbc	**PKPab**	**17 22 52.6**	**-0.6**
	0.4nm,0.4s,baz=268,slow=0.7,SNR=14						

IDC 21 17:20:13.0±3.8, 6°.65S×151°.87E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/35, mbtmp3.2/2, Error ellipse: s-maj=154.0km s-min=53.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**231**	P	P	17 25 04.3	+0.1
	0.7nm,0.8s,baz=56,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**24.18**	**224**	P	P	17 25 31.1	-0.3
	0.5nm,0.8s,baz=56,slow=8.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**149.94**	**285**	PKPbc	PKPbc	17 40 06.3	-0.2
	0.2nm,0.5s,baz=66,slow=3.7,SNR=1.4						

*BGR **21** 17:32:02.8±0.0, 29°.64N×139°.56E, h390km±1km, mb5.6*
*NIED **21** 17:32:03.9, 28°.01N×139°.87E, h491km, MW5.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.84; $M_{\theta\theta}$0.58; $M_{\phi\phi}$0.26; $M_{r\theta}$0.35; $M_{\theta\phi}$-0.53; $M_{\phi r}$-0.76; Fault plane solution: $M_0$1.24000×10^{17} NP1: ϕ_s326.00000°, δ67.00000°, λ-73.00000°. NP2: ϕ_s107.00000°, δ29.00000°, λ-125.00000°.*
*MOS **21** 17:32:03.9±0.8, 27°.93N×139°.54E, h494km, mb5.5/58, MS4.1/7 Error ellipse: s-maj=6.9km s-min=3.6km az=111.1*
*JMA **21** 17:32:03.9±0.3, 28°.01N×139°.87E, h491km±5km, M5.5*
JMA Felt I J1.
*BJI **21** 17:32:03.9±0.0, 27°.96N×139°.60E, h501km, mB5.4/52, mb5.8/82*
*UNK **21** 17:32:04.9, 27°.93N×139°.65E, h491km*
*NEIC **21** 17:32:05.0±1.5, 27°.94N±0°.09×139°.6E±0°.1, h491km±6km, mb5.2/292, Mww5.5, Error ellipse: s-maj=13.6km s-min=12.3km az=104.0*
*IDC **21** 17:32:05.2±0.6, 27°.96N×139°.57E, h493km±5km, mb4.6/56, mb1 4.7/63, mb1mx4.6/71, mbtmp5.5/63, Error ellipse: s-maj=7.1km s-min=4.8km az=99.0*
*NEIC **21** 17:32:05, 27°.93N×139°.65E, h470km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.53; $M_{\theta\theta}$0.56; $M_{\phi\phi}$-0.03; $M_{r\theta}$0.74; $M_{\theta\phi}$-0.56; $M_{\phi r}$-1.63; Fault plane solution: $M_0$1.95000×10^{17} NP1:ϕ_s88.00000°, δ19.00000°, λ-153.00000°. NP2:ϕ_s333.00000°, δ82.00000°, λ-73.00000°. Principal axes: T 1.9598, Plg35.0000°, Azm49.0000°; N -0.0177, Plg17.0000°, Azm151.0000°; P -1.9420, Plg50.0000°, Azm262.0000°;*
*GCMT **21** 17:32:06.0±0.2, 28°.01N±0°.02×139°.46E±0°.02, h486km±1km, MW5.5/122, Moment Tensor Solution. s122,c212; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.03±.02; $M_{\theta\theta}$0.63±.04; $M_{\phi\phi}$0.39±.04; $M_{r\theta}$0.41±.04; $M_{\theta\phi}$-0.65±.04; $M_{\phi r}$-1.51±.04; Best double couple: $M_0$1.91300×10^{17} NP1:ϕ_s108.00000°, δ23.00000°, λ-136.00000°. NP2:ϕ_s337.00000°, δ74.00000°, λ-73.00000°. Principal axes: T 1.8380, Plg27.0000°, Azm53.0000°; N 0.1460, Plg17.0000°, Azm152.0000°; P -1.9880, Plg58.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*KEA **21** 17:32:07.2±0.0, 27°.60N×139°.90E, h539km, mB5.5/3*

ISC 21 17:32:04.8±0.3, 28°.00N±0°.03×139°.55E±0°.03, h493km±2km, h494km:pP-P, n1093, σ1§37/1249, mb5.3/377, 62C-119D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.50**	**110**	P	**P**	17 33 09.4	**-2.7**
CBIJ				*e*S	**S**	17 34 01.7	**-5.0**
JCJ	**Chichijima**	**2.50**	**110**	P	**P**	17 33 09.9	**-2.2**
	1μm,0.3s,baz=291,slow=11,SNR=412						
JCJ				S	**S**	17 34 02.0	**-4.7**
	3μm,0.3s,baz=293,slow=23,SNR=16						
JCJ	**Chichijima**	**2.50**	**110**		**P**	17 33 10.4	**-1.8**
JHH2	**Haha-jima-NKT2**	**2.70**	**120**	P	**P**	17 33 11.2	**-2.2**
JHH2				S	**S**	17 34 04.2	**-4.8**
JHCJ	**Hachijojimakas**	**5.06**	**2**	P	**P**	17 33 31.2	**-0.7**
JHCJ				*e*S	**S**	17 34 39.9	**-3.2**
JHJ2	**Mitsune**	**5.10**	**2**	P	**P**	17 33 32.1	**-0.1**
JHJ2	**Mitsune**	**5.10**	**2**		**P**	17 33 32.5	**+0.3**
JHJ	**Hachijo jima 2**	**5.11**	**2**	P	**P**	17 33 32.5	**+0.1**
	119nm,0.3s,baz=281,slow=13,SNR=54						
JHJ				S	**S**	17 34 41.0	**-2.8**
	86nm,0.3s,baz=108,slow=20,SNR=9.1						
TTO1	**TONANKAI O.B.S**	**6.09**	**338**	P	**P**	17 33 44.8	**+3.5**
JTNC	**Tanabenakahech**	**6.72**	**331**	P	**P**	17 33 50.0	**+2.2**
JTNC				*e*S	**S**	17 35 14.7	**+2.4**
BSO1	**Boso 1**	**6.75**	**10**	P	**P**	17 33 47.6	**+0.1**
BSO1				S	**S**	17 35 10.2	**-1.5**
JSG	**Sagara**	**6.76**	**350**	P	**P**	17 33 49.9	**+1.7**
JIE	**Ise**	**6.82**	**340**	P	**P**	17 33 51.1	**+2.2**
JIE				S	**S**	17 35 15.4	**+1.2**
JOD2	**Odawara 2**	**7.25**	**357**	P	**P**	17 33 53.2	**-0.1**
JOD2				*e*S	**S**	17 35 19.7	**-2.5**
JTO	**Tosashimizu**	**7.58**	**311**	P	**P**	17 33 59.1	**+2.5**
JTO				*e*S	**S**	17 35 30.5	**+2.2**
INU	**Inuyama**	**7.64**	**344**		**P**	17 33 58.8	**+1.6**
JMZ	**Minamidaito 2**	**7.75**	**256**	⇑P	**P**	17 33 59.4	**+0.9**
JGF	**Kuroka**	**7.81**	**347**		**P**	17 34 00.6	**+1.6**
JMTN	**Minamitane**	**7.93**	**290**	P	**P**	17 34 03.0	**+2.7**
JTN	**Tanegashima 3**	**7.94**	**292**	P	**P**	17 34 03.1	**+2.7**
JRY	**Ryogami san**	**8.01**	**356**	⇑P	**P**	17 34 00.5	**-0.6**
JWT	**Wachi**	**8.08**	**335**		**P**	17 34 04.0	**+2.3**
JTSN	**Tsuno**	**8.15**	**303**	P	**P**	17 34 05.6	**+3.0**
JYAK	**Yakushimahirau**	**8.22**	**288**	P	**P**	17 34 05.7	**+2.4**
JYT	**Yasato**	**8.22**	**4**		**P**	17 34 02.8	**-0.4**
JUS	**Usuki**	**8.41**	**309**	P	**P**	17 34 08.4	**+3.1**
MJAR	**Matsushiro Arr**	**8.60**	**353**	P	**P**	17 34 07.2	**+0.1**
	1.6nm,0.3s,baz=198,slow=7.1,SNR=119						
MJAR	**Matsushiro Arr**	**8.60**	**353**	P	**P**	17 34 05.9	**-1.3**
MAJO	**Matsushiro**	**8.60**	**353**	*c iP*	**P**	17 34 06.7	**-0.5**
MAJO	**Matsushiro**	**8.60**	**353**		**P**	17 34 07.2	**+0.1**
MAT	**Matsushiro**	**8.60**	**353**	P	**P**	17 34 06.3	**-0.9**
MAT				S	**S**	17 35 46.1	**-1.6**
JSU	**Suzuyama**	**8.65**	**296**		**P**	17 34 10.7	**+2.9**
JAM	**Amami Oshima**	**8.79**	**275**	P	**P**	17 34 12.0	**+2.7**
JHS	**Saijyo**	**8.88**	**323**	⇓P	**P**	17 34 12.2	**+2.0**
JHS				*e*S	**S**	17 35 56.9	**+3.7**
JHS	**Saijyo**	**8.88**	**323**		**P**	17 34 13.1	**+2.9**
JNU	**Nakatsue**	**9.05**	**306**	P	**P**	17 34 14.8	**+2.7**
	7.8nm,0.3s,baz=101,slow=4.5,SNR=99						
JNU				S	**S**	17 35 57.8	**+1.1**
	3.0nm,0.3s,baz=96,slow=19,SNR=5.7						
JAMN	**Amaminishikomi**	**9.17**	**274**	P	**P**	17 34 16.0	**+2.7**
JAMN				*e*S	**S**	17 36 02.0	**+3.1**
JSJ	**Shimokoshiki**	**9.30**	**296**	P	**P**	17 34 16.5	**+1.9**
JSJ				*e*S	**S**	17 36 03.6	**+2.3**
JFA	**Akaike**	**9.44**	**309**	P	**P**	17 34 18.1	**+2.0**
JOI	**OKI**	**9.84**	**329**	P	**P**	17 34 22.7	**+2.4**
JMM	**Marumori**	**9.90**	**6**		**P**	17 34 21.8	**+1.0**
JSD	**Sado**	**10.07**	**354**	P	**P**	17 34 22.3	**-0.4**
JOW	**Kunigami**	**10.09**	**266**	P	**P**	17 34 25.1	**+2.0**
JOW				*e*S	**S**	17 36 19.4	**+2.5**
JTU	**Tsushima**	**10.85**	**309**	P	**P**	17 34 32.8	**+1.7**
JTU	**Tsushima**	**10.85**	**309**		**P**	17 34 33.4	**+2.3**
JMK	**Ichinoseki**	**11.01**	**7**	P	**P**	17 34 33.3	**+0.6**
JRG	**Rokugo**	**11.40**	**4**	P	**P**	17 34 38.1	**+1.2**
JKE	**Kume jima 2**	**11.49**	**265**	P	**P**	17 34 39.2	**+1.2**
JKE

TEY				pmax	pmax	
	comp=E,500nm,7.4s					
TEY				pmax	pmax	
	comp=N,200nm,9.6s					
TEY				pmax	pmax	
	comp=Z,300nm,4.6s					
SSLB	**Suanglung**	**17.25 260**		P	**P**	**17 35 39.1 +0.5**
USRK	**Ussuriysk Ar.**	**17.27 341**		P	**P**	**17 35 39.2 +0.7**
	baz=154,slow=9.1,SNR=292					
USRK				S	**S**	**17 38 35.6 +2.2**
	baz=160,slow=18,SNR=4.7					
USRK				ScP	**ScP**	**17 42 39.9 0.0**
	baz=220,slow=2.1,SNR=14					
USRK	**Ussuriysk Ar.**	**17.27 341**		P	**P**	**17 35 39.4 +1.0**
SUJ	**Sinuiju**	**17.34 318**		P	**P**	**17 35 39.1 0.0**
SUJ				S	**S**	**17 38 32.2 -2.3**
NJ2	**Nanjing**	**18.37 288**	⇓	*i*P	**P**	**17 35 48.6 -0.3**
NJ2				S	**S**	**17 38 51.8 +0.1**
NJ2				PcP	**PcP**	**17 39 54.8 +0.9**
NJ2				ScP	**ScP**	**17 42 43.1 +0.6**
NJ2				pmax	pmax	
	comp=Z,260nm,0.9s					
NJ2				pmax	pmax	
	comp=Z,1μm,3.9s					
MDJ	**Mudanjiang**	**18.40 337**		P	**P**	**17 35 50.6 +1.6**
MDJ				sP	sP	17 37 52.6 -1.9
MDJ				S	**S**	**17 38 53.8 +2.0**
MDJ				ScP	**ScP**	**17 42 43.1 +0.8**
MDJ				ScS	**ScS**	**17 46 23.9 +0.3**
MDJ				pmax	pmax	
	comp=Z,130nm,1.5s					
MDJ				pmax	pmax	
	comp=Z,860nm,3.5s					
MDJ	**Mudanjiang**	**18.40 337**		IAmb	IAmb	17 35 52.1
	comp=Z,85nm,0.8s					
KUR	**Kuril'sk**	**18.43**	**19***c*	*i*P	**P**	**17 35 50.1 +0.9**
KUR				*i* S	**S**	**17 38 53.7 +1.4**
KUR				pmax	pmax	
	comp=Z,196μm,0.6s					
KUR				pmax	pmax	
	comp=N,44μm,0.5s					
KUR				pmax	pmax	
	comp=E,75μm,0.4s					
KUR				pmax	pmax	
	comp=Z,437nm,1.0s					
DL2	**Dalian**	**18.46 311**	⇓	*i*P	**P**	**17 35 49.3 -0.3**
DL2				S	**S**	**17 38 52.0 -1.0**
DL2				PcP	**PcP**	**17 39 54.6 +0.7**
DL2				ScP	**ScP**	**17 42 43.1 +0.6**
DL2				ScS	**ScS**	**17 46 22.6 -1.4**
DL2				pmax	pmax	
	comp=Z,310nm,0.8s					
DL2				pmax	pmax	
	comp=Z,1μm,4.6s					
SNY	**Shenyang**	**18.98 321**	⇓	P	**P**	**17 35 54.9 +0.6**
SNY				sP	**sP**	**17 37 59.1 -1.8**
SNY				S	**S**	**17 38 58.3 -3.0**
SNY				pmax	pmax	
	comp=Z,520nm,1.0s					
QZH	**Quanzhou**	**19.01 266**	⇓	*i*P	**P**	**17 35 55.3 +0.5**
QZH				sP	**sP**	**17 37 58.1 -3.1**
QZH				S	**S**	**17 38 57.3 -4.9**
QZH				pmax	pmax	
	comp=Z,250nm,0.4s					
YSS	**Yuzh-Sakhalins**	**19.09**	**7**⇑	*e*P	**P**	**17 35 56.3 +1.1**
YSS				*e*S	**S**	**17 39 00.8 -2.1**
YSS				pmax	pmax	
	comp=N,40nm,0.6s					
YSS				pmax	pmax	
	comp=Z,110nm,0.6s					
YSS				smax	smax	
	comp=N,500nm,4.2s					
YSS				smax	smax	
	comp=N,30nm,1.4s					
YSS				MLR	MLR	
	comp=Z,800nm,17.0s					
YSS				MLR	MLR	
	comp=N,400nm,19.0s					
YSS	**Yuzh-Sakhalins**	**19.09**	**7**	P	**P**	**17 35 55.9 +0.7**
YSS				IAmb	IAmb	17 35 58.1
	comp=Z,85nm,0.7s					
TIA	**Tai'an**	**20.66 299**		P	**P**	**17 36 10.3 +0.6**
TIA				S	**S**	**17 39 30.8 +2.2**
TIA				ScP	**ScP**	**17 42 48.9 +1.1**
TIA				ScS	**ScS**	**17 46 31.8 +0.2**
TIA				pmax	pmax	
	comp=Z,160nm,0.7s					
TIA				pmax	pmax	
	comp=Z,320nm,3.5s					
UGL	**Uglegorsk**	**21.14**	**5**	*e*P	**P**	**17 36 14.6 +0.8**
UGL				S	**S**	**17 39 36.7 +0.9**
UGL				pmax	pmax	
	comp=Z,87nm,0.7s					
UGL				smax	smax	
	comp=E,72nm,1.1s					
UGL				smax	smax	
	comp=N,1μm,4.5s					
WHN	**Wuhan**	**22.12 283**	⇓	*i*P	**P**	**17 36 24.3 +1.3**
WHN				sP	**sP**	**17 38 37.0 +1.5**
WHN				S	**S**	**17 39 53.0 +1.2**
WHN				pmax	pmax	
	comp=N,640nm,0.7s					
TGY	**Tagaytay City**	**22.16 235**		P	**P**	**17 36 23.6 0.0**
	comp=N,296nm,0.7s,baz=315,slow=4.3,SNR=8.0					
BJT	**Baijiatuan**	**22.72 308**		IAmb	IAmb	17 36 36.1
	comp=Z,64nm,0.6s					
BJI	**Beijing**	**22.73 308**		P	**P**	**17 36 28.3 0.0**
BJI				pmax	pmax	
	comp=Z,80nm,1.2s					
GRNR	**Gornyy**	**22.87 355**	⇑	*i*P	**P**	**17 36 30.5 +1.1**
GRNR				MLR	MLR	
	comp=E,310nm,13.0s					
GRNR				MLR	MLR	
	comp=N,210nm,16.0s					
GRNR				MLR	MLR	
	comp=Z,220nm,16.0s					
TYV	**Tymovskoe**	**22.96**	**5**	*e*P	**P**	**17 36 31.5 +1.3**
TYV				pmax	pmax	
	comp=Z,29nm,1.4s					
TYV				pmax	pmax	
	comp=Z,300nm,3.5s					
DAV	**Davao City (W)**	**24.67 215**		P	**P**	**17 36 46.1 +0.2**
	comp=Z,140nm,0.3s,baz=60,slow=7.6,SNR=6.6					
TIY	**Taiyuan**	**24.68 300**		*e*P	**P**	**17 36 47.0 +1.1**
TIY				sP	**sP**	**17 39 05.3 +2.2**
TIY				PcP	**PcP**	**17 40 07.8 +1.2**
TIY				S	**S**	**17 40 37.8 +5.6**
TIY				pmax	pmax	
	comp=Z,62nm,0.6s					
SKR	**Severo-Kuril's**	**25.91**	**25**	*e*P	**P**	**17 36 54.2 -2.2**
SKR				*e*S	**S**	**17 40 51.5 +0.6**
SKR				pmax	pmax	
	comp=Z,107nm,1.2s					
SKR				pmax	pmax	
	comp=Z,200nm,4.7s					
SKR				MLR	MLR	
	comp=Z,200nm,17.0s					
HHC	**Hu-ho-hao-te**	**26.28 306**		*e*P	**P**	**17 37 00.5 +0.4**
HHC				sP	sP	17 39 19.0 0.0
HHC				S	**S**	**17 40 55.1 -2.3**
HHC				ScS	**ScS**	**17 46 48.9 -5.3**
HHC				pmax	pmax	
	comp=Z,98nm,0.6s					
HHC				pmax	pmax	
	comp=Z,690nm,5.2s					
XAN	**Xi'an**	**26.87 291**		P	**P**	**17 37 05.9 +0.6**
XAN				sP	sP	17 39 23.3 -1.1
XAN				PcP	**PcP**	**17 40 12.6 +0.8**
XAN				S	**S**	**17 41 03.6 -3.1**
XAN				ScP	**ScP**	**17 43 05.8 +0.8**
XAN				PcS	**PcS**	**17 43 48.3 -5.6**
XAN				ScS	**ScS**	**17 46 56.4 -0.5**
XAN				pmax	pmax	
	comp=Z,280nm,0.6s					
XAN				pmax	pmax	
	comp=Z,1μm,3.1s					
ZEA	**Zeya**	**27.27 344**		*e*P	**P**	**17 37 09.6 +1.2**
ZEA				*e*		17 39 30.0
ZEA				*e*S	**S**	**17 41 11.7 -0.4**
ZEA				pmax	pmax	
	comp=N,130nm,0.7s					
ZEA				pmax	pmax	
	comp=Z,230nm,0.7s					
ZEA				smax	smax	
	comp=Z,170nm,1.8s					
ZEA				smax	smax	
	comp=N,190nm,1.4s					
ZEA				smax	smax	
	comp=E,210nm,1.4s					
ZEA				smax	smax	
	comp=E,800nm,3.0s					
ZEA				smax	smax	
	comp=N,600nm,2.0s					
ZEA				MLR	MLR	
	comp=Z,600nm,13.0s					
ZEA				MLR	MLR	
	comp=E,300nm,10.0s					
ZEA				MLR	MLR	
	comp=N,600nm,17.0s					
BTO	**Baotou**	**27.31 305**		*e*P	**P**	**17 37 09.6 +0.5**
PEA0B	**Petropavlovsk-**	**28.46**	**23**	P	**P**	**17 37 19.9 +1.0**
PEA0B				pmax	pmax	
	comp=Z,100nm,1.5s					
PEA0B	**Petropavlovsk-**	**28.46**	**23**	P	**P**	**17 37 19.9 +1.0**
PEA0B				IAmb	IAmb	17 37 21.3
	comp=Z,100nm,1.4s					
PETK	**Petropavlovsk-**	**28.46**	**23**	P	**P**	**17 37 19.8 +0.9**
	comp=Z,13nm,0.5s,baz=142,slow=0.2,SNR=184					
PETK				ScP	**ScP**	**17 43 08.4 -1.0**
	comp=Z,9.8nm,0.8s,baz=149,slow=3.5,SNR=6.3					
PETK	**Petropavlovsk-**	**28.46**	**23**	P	**P**	**17 37 20.0 +1.1**
PETK	**Petropavlovsk-**	**28.46**	**23**	P	**P**	**17 37 20.0 +1.1**
QIZ	**Qiongzhong**	**28.61 258**		P	**P**	**17 37 21.3 +0.6**
QIZ				sP	**sP**	**17 39 40.5 +0.5**
QIZ				S	**S**	**17 41 35.0 +1.0**
QIZ				pmax	pmax	
	comp=Z,81nm,1.4s					
QIZ				pmax	pmax	
	comp=Z,560nm,3.1s					
QIZ	**Qiongzhong**	**28.61 258**		P	**P**	**17 37 21.2 +0.6**
QIZ				IAmb	IAmb	17 37 23.5
	comp=Z,173nm,1.4s					
PET	**Petropavlovsk**	**28.73**	**24**	*e*P	**P**	**17 37 22.3 +1.1**
PET				*e*S	**S**	**17 41 36.6 +1.7**
PET				*e*		17 47 02.9
PET				pmax	pmax	
	comp=Z,700nm,2.3s					
PET				pmax	pmax	
	comp=Z,200nm,10.4s					
PET				pmax	pmax	
	comp=Z,281nm,1.3s					
PET				MLR	MLR	
	comp=Z,400nm,18.0s					
PET				MLR	MLR	
	comp=Z,200nm,18.0s					
PET	**Petropavlovsk**	**28.73**	**24**	P	**P**	**17 37 21.9 +0.7**
GYA	**Guiyang**	**29.24 275**	⇓	P	**P**	**17 37 26.9 +0.7**
GYA				sP	sP	17 39 45.8 -0.2
GYA				PcP	**PcP**	**17 40 18.1 +0.1**
GYA				S	**S**	**17 41 42.8 -1.1**
GYA				ScP	**ScP**	**17 43 13.6 +1.0**
GYA				pmax	pmax	
	comp=Z,280nm,1.2s					
GYA				pmax	pmax	
	comp=Z,810nm,3.5s					
TNTI	**Ternate**	**29.48 205**		P	**P**	**17 37 26.4 -1.9**
	comp=Z,2μmcomp=Z,120nm,1.3s					
SIJI	**Sorong**	**29.79 197**		P	**P**	**17 37 30.6 -0.3**
	comp=Z,42nm,0.9s,baz=5.2,slow=13,SNR=15					
SIJI				S	**S**	**17 41 48.5 -3.8**
	comp=Z,12nm,0.8s,baz=128,slow=23,SNR=8.5					
MYLDM	**Lahad Datu**	**30.25 225**		P	**P**	**17 37 37.2 +2.3**
JAY	**Jayapura**	**30.36 178**		P	**P**	**17 37 36.1 +0.2**
	comp=Z,10nm,0.9s,baz=322,slow=12,SNR=4.0					
JAY	**Jayapura**	**30.36 178**		P	**P**	**17 37 36.0 +0.1**
	comp=Z,13nm,1.1s					
CIT	**Chita**	**30.88 328**		*e*P	**P**	**17 37 41.0 +1.1**
CIT				*e*		17 39 11.0
CIT				*e*		17 40 18.8
CIT				*e*		17 42 00.9
CIT				*e*		17 44 45.0
CIT				*e*		17 47 14.8
CIT				pmax	pmax	
	comp=Z,235nm,2.0s					
KMSI	**Cibinong**	**31.08 211**		P	**P**	**17 37 42.2 +0.1**
	comp=Z,2μmcomp=Z,124nm,0.7s					
KKM	**Kota Kinabalu**	**31.10 230**		P	**P**	**17 37 43.5 +1.1**
KKM				IAmb	IAmb	17 37 44.6
	comp=Z,96nm,1.1s					
LZH	**Lanzhou**	**31.19 294**	⇓	*i*P	**P**	**17 37 43.9 +0.9**
LZH				pP	pwP	17 39 13.8 +1.2
LZH				PcP	**PcP**	**17 40 24.4 +1.3**
LZH				S	**S**	**17 42 15.3 +1.4**
LZH				ScP	**ScP**	**17 43 20.5 +1.5**
LZH				sS	sS	17 44 52.4 +2.5
LZH				ScS	**ScS**	**17 47 17.8 0.0**
LZH				pmax	pmax	
	comp=Z,290nm,1.0s					
LZH				pmax	pmax	
	comp=Z,750nm,4.3s					
CD2	**Chengdu**	**31.22 284**		P	**P**	**17 37 43.8 +0.6**
CD2				pP	pP	17 39 08.6 +1.4
CD2				sP	sP	17 40 05.5 +2.0
CD2				S	**S**	**17 42 15.8 +1.5**
CD2				sS	sS	17 44 59.0 +8.7
CD2				pmax	pmax	
	comp=Z,450nm,5.1s					
GTOI	**Gorontalo**	**31.49 213**		P	**P**	**17 37 45.2 -0.4**
	comp=Z,1μmcomp=Z,97nm,1.2s					
FAKI	**Fak Fak**	**31.53 194**		P	**P**	**17 37 45.3 -0.7**
FAKI				IAmb	IAmb	17 37 46.5
	comp=Z,57nm,1.1s					
ULN	**Ulaanbaatar**	**32.07 317**		P	**P**	**17 37 51.6 +1.2**
ULN	**Ulaanbaatar**	**32.07 317**	*d*	*i*P	**P**	**17 37 51.0 +0.6**
ULN				pmax	pmax	
	comp=Z,234nm,1.3s					
ULN	**Ulaanbaatar**	**32.07 317**		P	**P**	**17 37 51.8 +1.4**
SONM	**Songino Array**	**32.45 317**		P	**P**	**17 37 54.7 +1.1**
	comp=Z,53nm,0.5s,baz=128,slow=8.8,SNR=288					
SONM				PcP	**PcP**	**17 40 27.0 +0.7**
	comp=Z,14nm,0.7s,baz=151,slow=3.4,SNR=6.2					
SONM				ScP	**ScP**	**17 43 23.7 +0.7**
	comp=Z,23nm,0.6s,baz=135,slow=3.1,SNR=24					
SONM	**Songino Array**	**32.45 317**		P	**P**	**17 37 54.7 +1.1**
SONM					**PcP**	**17 40 27.3 +1.0**
MA2	**Magadan**	**32.50**	**11**	P	**P**	**17 37 54.5 +0.8**
	comp=Z,56nm,0.5s,baz=217,slow=5.0,SNR=60					
MA2				ScP	**ScP**	**17 43 22.6 -0.2**
	comp=Z,14nm,0.5s,baz=150,slow=14,SNR=11					
MA2	**Magadan**	**32.50**	**11**	*d*	*i*P	**17 37 54.6 +1.0**
MA2				pmax	pmax	
	comp=Z,53nm,0.7s					
MA2	**Magadan**	**32.50**	**11**	P	**P**	**17 37 54.6 +1.0**
MA2				IAmb	IAmb	17 37 56.0
	comp=Z,66nm,0.7s					
SANI	**Sanana**	**32.60 206**		P	**P**	**17 37 53.4 -1.7**
	comp=Z,2μmcomp=Z,208nm,1.2s					
MSAI	**Masohi**	**32.80 200**		P	**P**	**17 37 57.5 +0.7**
	comp=Z,805nmcomp=Z,71nm,1.4s					
KMI	**Kunming**	**32.98 274**	⇓	*i*P	**P**	**17 37 59.6 +1.1**
KMI				pP	pwP	17 39 25.6 -2.7
KMI				PP	**pP**	**17 39 28.5 +5.5**
KMI				sP	sP	17 40 23.4 +3.7
KMI				S	**S**	**17 42 39.6 -1.9**
KMI				SS	SS	17 45 30.6 -19
KMI				pmax	pmax	
	comp=Z,190nm,1.0s					
KMI				pmax	pmax	
	comp=Z,670nm,3.5s					
SLVN	**Son La**	**32.98 266**		P	**P**	**17 37 59.8 +1.4**
SLVN				IAmb	IAmb	17 38 00.7
	comp=Z,172nm,1.1s					
LUWI	**Luwuk**	**33.07 212**		P	**P**	**17 37 58.5 -0.6**
	comp=Z,2μmcomp=Z,150nm,1.3s					
LUWI	**Luwuk**	**33.07 212**		P	**P**	**17 37 57.5 -1.5**
DLV	**T Lat**	**33.15 247**		P	**P**	**17 38 01.3 +1.3**
DLV				IAmb	IAmb	17 38 02.1
	comp=Z,153nm,1.5s					
NLAI	**Namlea**	**33.29 203**		P	**P**	**17 37 59.2 -1.7**
	comp=Z,68nm,1.3s					
MPSI	**Mapaga**	**33.34 218**		P	**P**	**17 38 01.0 -0.3**
	comp=Z,660nmcomp=Z,27nm,0.8s					
UBPT	**Khong Chiam**	**33.99 255**		P	**P**	**17 38 08.2 +1.3**
YAK	**Yakutsk**	**34.66 352**		P	**P**	**17 38 11.8 0.0**
	comp=Z,40nm,0.7s,baz=175,slow=1.4,SNR=52					
YAK				S	**S**	**17 43 02.9 -2.6**
	comp=Z,8.5nm,0.8s,baz=228,slow=23,SNR=11					
YAK				ScP	**ScP**	**17 43 29.1 -1.2**
	comp=Z,5.5nm,0.5s,baz=131,slow=9.3,SNR=2.4					
YAK	**Yakutsk**	**34.66 352**	*c*	*i*P	**P**	**17 38 11.6 -0.2**
YAK				*e*		17 39 52.6
YAK				*e*		17 40 32.2
YAK				*e*S	**S**	**17 43 02.3 -3.3**
YAK				*e**SS	**sS**	**17 45 44.6 +1.3**
YAK				*e*SS	**SS**	**17 45 58.9 -5.0**
YAK				*e*		17 47 29.8
YAK				pmax	pmax	
	comp=Z,72nm,0.9s					
YAK				pmax	pmax	
	comp=N,15nm,1.0s					
YAK				pmax	pmax	
	comp=E,5.0nm,0.9s					
YAK				pmax	pmax	
	comp=Z,35nm,0.9s					
YAK				pmax	pmax	
	comp=E,7.0nm,0.8s					
YAK				pmax	pmax	
	comp=N,16nm,0.9s					
YAK				smax	smax	
	comp=E,338nm,1.8s					
YAK				smax	smax	
	comp=N,326nm,1.9s					
YAK	**Yakutsk**	**34.66 352**		P	**P**	**17 38 11.9 0.0**
YAK				IAmb	IAmb	17 38 13.1
	comp=Z,69nm,0.8s					
GTA	**Gaotai**	**34.71 300**	⇓	P	**P**	**17 38 13.0 +0.2**
GTA				pP	pwP	17 39 43.6 -0.4
GTA				PcP	**sP**	**17 40 34.3 +0.1**
GTA				sP	PcP	17 40 40.6 +7.6
GTA				S	**S**	**17 43 03.3 -4.0**
GTA				ScP	**ScP**	**17 43 31.9 +0.7**
GTA				PcS	**PcS**	**17 44 19.5 -1.0**
GTA				sS	sS	17 45 45.9 +0.8
GTA				SS	**SS**	**17 46 10.1 +4.1**
GTA				ScS	**ScS**	**17 47 34.3 -1.8**
GTA				pmax	pmax	
	comp=Z,210nm,0.9s					
GTA				pmax	pmax	
	comp=Z,550nm,4.8s					
BOD	**Bodaibo**	**34.77 336**		*e*P	**P**	**17 38 13.4 +0.5**
BOD				pmax	pmax	
	comp=Z,97nm,1.2s					
ZAK	**Zakamensk**	**35.40 319**		*e*P	**P**	**17 38 18.7 +0.3**
ZAK				*e*		17 39 49.7
ZAK				pmax	pmax	
	comp=Z,87nm,1.1s					
ZAK				pmax	pmax	
	comp=Z,60nm,1.1s					
SMY	**Shemya**	**35.55**	**36**	P	**P**	**17 38 21.0 +1.6**
SMY				pmax	pmax	
	comp=Z,1μm,1.9s					
SMY	**Shemya**	**35.55**	**36**	P	**P**	**17 38 21.0 +1.6**
IRK	**Irkutsk**	**35.70 323**		*e*P	**P**	**17 38 19.7 -1.0**
IRK				*e*		17 39 51.7
IRK				*e*S	**S**	**17 43 16.0 -5.5**
IRK				pmax	pmax	
	comp=Z,164nm,1.1s					
KDI	**Kendari**	**35.72 210**		P	**P**	**17 38 21.3 0.0**
	comp=Z,17μmcomp=Z,97nm,1.3s					
TLY	**Talaya**	**35.77 321**		PcP	**PcP**	**17 40 36.4 +0.6**
	baz=169,slow=5.2					
TLY	**Talaya**	**35.77 321**		P	**P**	**17 38 22.7 +1.3**
TLY	**Talaya**	**35.77 321**	*i*	P	**P**	**17 38 23.0 +1.6**
TLY				*e*S	**S**	**17 43 21.2 -1.5**
TLY				pmax	pmax	
	comp=Z,140nm,0.7s					
TLY				MLR	MLR	
	comp=Z,674nm,19.0s					
TLY	**Talaya**	**35.77 321**		P	**P**	**17 38 22.6 +1.2**
TLY				IAmb	IAmb	17 38 23.7
	comp=Z,64nm,0.6s					
SEY	**Seymchan**	**35.94**	**10**	P	**P**	**17 38 23.6 +1.2**
	comp=Z,25nm,0.5s,baz=195,slow=8.6,SNR=109					
SEY				ScP	**ScP**	**17 43 34.8 -0.3**
	comp=Z,4.0nm,0.6s,baz=141,slow=4.6,SNR=4.5					
SEY	**Seymchan**	**35.94**	**10**⇑	*i*P	**P**	**17 38 23.5 +1.0**
SBUM	**Sibu**	**36.42 231**		P	**P**	**17 38 27.6 +0.4**
SBUM	**Sibu**	**36.42 231**		P	**P**	**17 38 28.0 +0.8**
SPSI	**Sidrap Palu**	**37.06 214**		P	**P**	**17 38 31.7 -0.7**
	comp=Z,888nmcomp=Z,94nm,0.8s					
MOY	**Mondy**	**37.25 320**		*e*P	**P**	**17 38 34.5 +0.8**
MOY				pmax	pmax	
	comp=Z,76nm,2.4s					
MTKI	**Muara Teweh, K**	**37.26 224**		P	**P**	**17 38 34.2 +0.1**
	comp=Z,2μmcomp=Z,232nm,1.0s					
BNSI	**Bone**	**37.27 213**		P	**P**	**17 38 34.7 +0.5**
	comp=Z,1μmcomp=Z,74nm,1.4s					
AMKA	**Amchitka**	**37.81**	**41**	P	**P**	**17 38 39.2 +1.1**
PMG	**Port Moresby**	**37.91 168**		P	**P**	**17 38 39.1 -0.3**
	comp=Z,17nm,0.4s,baz=13,slow=5.7,SNR=25					
PMG				PcP	**PcP**	**17 40 43.3 +0.4**
	comp=Z,34nm,0.9s,baz=32,slow=5.1,SNR=4.7					
PMG	**Port Moresby**	**37.91 168**	*d*	*i*P	**P**	**17 38 39.0 -0.3**
PMG				pmax	pmax	
	comp=Z,32nm,0.8s					
PMG	**Port Moresby**	**37.91 168**		P	**P**	**17 38 39.0 -0.3**
BKSI	**Bulukumba**	**38.06 212**		P	**P**	**17 38 40.3 -0.4**
	comp=Z,39nm,1.1s					
CHTO	**Chiang Mai**	**38.23 265**		P	**P**	**17 38 42.6 +0.5**
CHTO	**Chiang Mai**	**38.23 265**		P	**P**	**17 38 42.9 +0.9**
CHTO				pmax	pmax	
	comp=Z,143nm,0.9s					
CHTO	**Chiang Mai**	**38.23 265**		P	**P**	**17 38 42.9 +0.9**
CM31	**Chiang Mai Arr**	**38.36 265**		P	**P**	**17 38 43.9 +0.8**
	SNR=40					
CM31	**Chiang Mai Arr**	**38.36 265**		P	**P**	**17 38 44.3 +1.2**
CM31				IAmb	IAmb	17 38 44.6
	comp=Z,64nm,0.8s					
CMAR	**Chiang Mai Arr**	**38.36 265**		P	**P**	**17 38 44.0 +0.9**
	comp=Z,40nm,0.8s,baz=73,slow=5.1,SNR=371					
CMAR				PcP	**PcP**	**17 40 45.9 +1.5**
	comp=Z,21nm,1.0s,baz=64,slow=1.0,SNR=12					
CMAR				ScP	**ScP**	**17 43 46.7 +1.6**
	comp=Z,6.0nm,1.1s,baz=30,slow=2.4,SNR=5.6					
CMAR				PKiKP	**PKiKP**	**17 47 57.3 -0.1**
	comp=Z,0.8nm,0.5s,baz=303,slow=1.1,SNR=9.7					
CMAR	**Chiang Mai Arr**	**38.36 265**		P	**P**	**17 38 44.2 +1.1**
CMAR				PcP	**PcP**	**17 40 46.2 +1.8**
KBKI	**Kotabaru**	**38.41 220**		P	**P**	**17 38 43.9 +0.4**
	comp=Z,474nmcomp=Z,38nm,1.3s					
KSM	**Kuching**	**38.44 232**		P	**P**	**17 38 43.6 -0.2**
KSM				IAmb	IAmb	17 38 46.1
	comp=Z,58nm,1.0s					
KSM	**Kuching**	**38.44 232**		P	**P**	**17 38 45.0 +1.2**
STKI	**Sintang**	**38.67 229**		P	**P**	**17 38 46.0 +0.3**
	comp=Z,11μmcomp=Z,57nm,0.8s					
BBKI	**Banjar Baru**	**39.30 221**		P	**P**	**17 38 51.0 +0.2**
	comp=Z,37nm,1.1s					
MMRI	**Maumere**	**40.09 207**		P	**P**	**17 38 57.5 +0.5**
	comp=Z,2μmcomp=Z,197nm,1.0s					
ADK	**Adak**	**40.33 41**		P	**P**	**17 38 59.0 +0.5**
ADK				pmax	pmax	
	comp=Z,119nm,0.9s					
ADK	**Adak**	**40.33 41**		P	**P**	**17 38 59.0 +0.5**
ADK				IAmb	IAmb	17 40 30.4
	comp=Z,119nm,0.8s					
SOEI	**Soe**	**40.34 204**		P	**P**	**17 38 59.4 +0.2**
	comp=Z,2μmcomp=Z,164nm,1.1s					
SOEI	**Soe**	**40.34 204**		P	**P**	**17 38 58.3 -0.9**
SOEI				IAmb	IAmb	17 39 13.5
	comp=Z,136nm,0.9s					
EDFI	**Ende, Flores**	**40.41 208**		P	**P**	**17 38 59.7 -0.1**
	comp=Z,855nmcomp=Z,92nm,0.9s					
PBKI	**Pangkalan Bun**	**40.64 226**		P	**P**	**17 39 00.1 -1.4**
	comp=Z,225nm,1.1s					
GSTR	**Great Sitkin T**	**40.77 41**		P	**P**	**17 39 02.7 +0.6**
BATI	**Baumata**	**40.98 204**		P	**P**	**17 39 03.3 -0.9**
	comp=Z,1μmcomp=Z,111nm,0.8s					
MTN	**Manton Dam**	**41.41 192**		P	**P**	**17 39 06.8 -0.8**
COEN	**Coen**	**41.85 175**		P	**P**	**17 39 10.9 -0.2**
COEN				IAmb	IAmb	17 39 12.5
	comp=Z,161nm,1.6s					
ATKA	**Atka Island**	**41.89**	**42**	P	**P**	**17 39 11.5 +0.6**
ATKA				IAmb	IAmb	17 40 42.3
	comp=Z,156nm,1.1s					
LSA	**Lhasa**	**42.19 284**		P	**P**	**17 39 15.9 +1.7**
LSA				pmax	pmax	
	comp=Z,270nm,0.8s					
LSA	**Lhasa**	**42.19 284**	*i*	P	**P**	**17 39 16.0 +1.7**
	SNR=40					
LSA	**Lhasa**	**42.19 284**		P	**P**	**17 39 16.4 +2.1**
LSA				pmax	pmax	
	comp=Z,49nm,0.6s					
LSA	**Lhasa**	**42.19 284**		P	**P**	**17 39 16.4 +2.1**
LSA				IAmb	IAmb	17 39 16.7

comp=Z,49nm,0.6s
PLAI Plampang 42.24 213 P **P 17 39 13.0 -1.2**
comp=Z,2μcomp=Z,208nm,0.9s
SHL Shillong 42.42 278 *e*P **P 17 39 15.6 -0.1**
SHL *i* x x 17 40 46.3
SHL Shillong 42.42 278 P **P 17 39 16.2 +0.4**
SNR=46
TWSI Taliwang, Sumb 42.60 214 P **P 17 39 16.3 -0.7**
comp=Z,95nm,0.9s
MYKOM Kota Tinggi 42.93 239 P **P 17 39 21.2 +1.5**
MYKOM Kota Tinggi 42.93 239 P **P 17 39 21.0 +1.3**
KULM Kulim 43.28 246 P **P 17 39 23.7 +1.2**
KULM Kulim 43.28 246 P **P 17 39 24.0 +1.6**
TPI Tanjungpandan 43.32 230 P **P 17 39 22.0 -0.7**
comp=Z,1μcomp=Z,66nm,1.5s
IPM Ipoh 43.46 245 P **P 17 39 24.4 +0.5**
IPM Ipoh 43.46 245 P **P 17 39 25.0 +1.2**
JAGI Jajag, Banyuwa 43.79 218 P **P 17 39 25.9 -0.5**
comp=Z,146nm,1.2s
DSRI Dabo 43.89 236 P **P 17 39 28.2 +1.0**
comp=Z,874nmcomp=Z,57nm,1.4s
PPBI Pangkal Pinang 43.94 232 P **P 17 39 27.8 +0.2**
comp=Z,5μcomp=Z,113nm,1.4s
TIXI Tiksi 44.10 355*c i*P **P 17 39 28.0 +0.1**
TIXI pmax pmax
comp=Z,145nm,0.8s
TIXI Tiksi 44.10 355 P **P 17 39 28.1 +0.2**
WMQ Urumqi 44.15 305 P **P 17 39 30.6 +1.7**
WMQ pP pP 17 41 01.0 +1.8
WMQ ScP **ScP 17 44 10.5 +2.6**
WMQ PcS **PcS 17 44 58.8 +1.4**
WMQ S **S 17 45 25.6 +0.2**
WMQ sS sS 17 48 14.3 +4.3
WMQ ScS **ScS 17 48 31.3 -1.0**
WMQ pmax pmax
comp=Z,150nm,1.3s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ Urumqi 44.15 305 P **P 17 39 29.7 +0.7**
WMQ pmax pmax
comp=Z,235nm,0.9s
WMQ Urumqi 44.15 305 P **P 17 39 29.7 +0.7**
NGJI Ngawi 44.42 222 P **P 17 39 31.4 +0.2**
comp=Z,122nm,1.2s
KNRA Kununurra 44.66 195 P **P 17 39 32.7 -0.3**
KNRA IAmb IAmb 17 39 33.6
comp=Z,72nm,0.7s
PWJI Pagerwojo 44.74 221 P **P 17 39 32.5 -1.2**
comp=Z,105nm,0.9s
DGZ Jazzator, Alta 44.95 313*d i*P **P 17 39 36.2 +1.1**
DGZ pmax pmax
comp=Z,138nm,0.6s
NIKH Nikolski High 45.24 42 P **P 17 39 36.9 -0.2**
PMBI Palembang 45.44 233 P **P 17 39 40.3 +1.1**
comp=Z,320nm,1.1s
SPIA Saint Paul Isl 45.58 36 P **P 17 39 40.4 +0.8**
SPIA IAmb IAmb 17 39 41.6
comp=Z,199nm,1.4s
TAPN Taplejung 45.63 282 *e*P **P 17 39 42.2 +1.4**
comp=Z,208nm,0.6s
TAPN Taplejung 45.63 282 *e*P **P 17 39 42.2 +1.4**
comp=Z,208nm,0.6s
JCJI Jatiwangi 45.69 226 P **P 17 39 41.2 +0.1**
comp=Z,4μcomp=Z,266nm,1.7s
DGPR DIGLIPUR 45.79 261 *e*P **P 17 39 42.6 +0.8**
KPJI Karang Pucung 45.92 225 P **P 17 39 42.4 -0.4**
comp=Z,3μcomp=Z,260nm,1.3s
TSI Tuntungan 46.01 246 P **P 17 39 44.2 +0.7**
comp=Z,3μcomp=Z,146nm,1.0s
BKNI Bangkinang 46.01 240 P **P 17 39 44.8 +1.3**
comp=Z,2μcomp=Z,199nm,1.4s
ODAN Odare 46.02 281 *e*P **P 17 39 45.1 +1.3**
comp=Z,383nm,0.5s
ODAN Odare 46.02 281 *e*P **P 17 39 45.1 +1.3**
comp=Z,383nm,0.5s
PSI Prapat 46.13 244 P **P 17 39 45.1 +0.5**
comp=Z,150nm,0.8s,baz=0.2,slow=4.2,SNR=129
PSI PcP **PcP 17 41 11.5 +0.7**
comp=Z,89nm,0.9s,baz=6.2,slow=0.1,SNR=12
PSI ScP **ScP 17 44 17.1 +0.5**
comp=Z,17nm,1.1s,baz=202,slow=0.0,SNR=5.0
PSI S **S 17 45 55.4 +1.2**
comp=Z,1.4nm,0.4s,baz=360,slow=18,SNR=7.1
RPSI Rantau Prapat 46.20 244 P **P 17 39 45.3 +0.3**
LHMI Lhok Sumawe 46.34 249 P **P 17 39 47.1 +1.1**
comp=Z,290nm,1.0s
LHMI Lhok Sumawe 46.34 249 P **P 17 39 47.5 +1.5**
LEM Lembang 46.37 227 P **P 17 39 46.2 -0.2**
comp=Z,270nm,1.0s,baz=48,slow=5.8,SNR=45
ZSN Zaisan 46.38 310⇓*i*P **P 17 39 47.3 +1.3**
comp=Z,39nm,0.6s,baz=310
ZSN *i* S **S 17 45 58.3 +1.7**
comp=Z,148nm,6.1s,baz=310
SDSI Sungai Dareh 46.53 238 P **P 17 39 47.8 +0.3**
comp=Z,2μcomp=Z,119nm,1.4s
CBJI Citeko 46.56 228 P **P 17 39 48.4 +0.7**
comp=Z,185nm,1.1s
RAMN Ramite 46.68 282 *e*P **P 17 39 49.8 +1.0**
comp=Z,445nm,0.8s
RAMN Ramite 46.68 282 *e*P **P 17 39 49.8 +1.0**
comp=Z,445nm,0.8s
KLSI 46.72 231 P **P 17 39 49.0 +0.1**
comp=Z,2μcomp=Z,160nm,1.2s
CISI Cisompet, Garu 46.80 226 P **P 17 39 48.1 -1.4**
comp=Z,2μcomp=Z,128nm,1.2s
CISI Cisompet, Garu 46.80 226 P **P 17 39 48.0 -1.6**
CISI IAmb IAmb 17 39 48.8
comp=Z,188nm,1.3s
UNV Unalaska Valle 46.80 41 P **P 17 39 48.9 0.0**
UNV IAmb IAmb 17 41 25.1
comp=Z,58nm,0.6s
MNSI Mandailing Nat 46.84 242 P **P 17 39 49.9 +0.1**
comp=Z,3μcomp=Z,242nm,1.1s
BLSI Bandar Lampung 46.85 230 P **P 17 39 49.5 -0.4**
comp=Z,294nm,0.9s
JIRN Jiri 46.87 283 *e*P **P 17 39 52.2 +1.8**
comp=Z,869nm,0.5s
JIRN Jiri 46.87 283 *e*P **P 17 39 52.2 +1.8**
comp=Z,869nm,0.5s
LHSI Lahat 46.95 233 P **P 17 39 51.3 +0.6**
comp=Z,4μcomp=Z,434nm,1.1s
MDSI Maura Dua 46.96 232 P **P 17 39 50.4 -0.3**
comp=Z,6μcomp=Z,591nm,1.1s
TPTI 47.27 246 P **P 17 39 51.6 -1.5**
comp=Z,716nmcomp=Z,59nm,1.3s
KRJI Kerinci 47.27 237 P **P 17 39 53.1 -0.1**
comp=Z,7μcomp=Z,650nm,1.1s
AKUT Akutan 47.28 41 P **P 17 39 53.1 +0.6**
AKUT IAmb IAmb 17 41 24.1
comp=Z,100nm,0.6s
ZAA0 Zalesovo Array 47.28 319 P **P 17 39 53.1 +0.5**
ZAA0 IAmb IAmb 17 39 53.8
comp=Z,95nm,0.8s
ZALV Zalesovo Beam 47.28 319 P **P 17 39 53.0 +0.5**
comp=Z,87nm,0.5s,baz=100,slow=7.2,SNR=368
ZALV PcP **PcP 17 41 14.0 0.0**
comp=Z,56nm,0.6s,baz=120,slow=3.6,SNR=18
ZALV ScP **ScP 17 44 20.2 -0.5**
comp=Z,16nm,0.7s,baz=106,slow=3.9,SNR=5.9
ZALV P4KPbc 18 17 26.6
comp=Z,1.0nm,0.5s,baz=101,slow=4.7,SNR=5.8
ZALV Zalesovo Beam 47.28 319 P **P 17 39 53.2 +0.6**
ZALV **PcP 17 41 14.2 +0.2**
MLSI Meulaboh, Aceh 47.32 248 P **P 17 39 52.5 -1.0**
comp=Z,3μcomp=Z,251nm,0.8s
MASI Maura Aman, Be 47.41 235 P **P 17 39 54.9 +0.8**
comp=Z,8μcomp=Z,892nm,1.2s
LWLI Liwa 47.42 232 P **P 17 39 53.5 -0.8**
comp=Z,4μcomp=Z,222nm,1.0s
KSI Kapahiang 47.50 234 P **P 17 39 54.6 -0.3**
comp=Z,7μcomp=Z,202nm,1.0s
PKI Pulchoki 47.56 283 *e*P **P 17 39 56.5 +0.9**
comp=Z,130nm,0.4s
PKI Pulchoki 47.56 283 *e*P **P 17 39 56.5 +0.9**
comp=Z,130nm,0.4s
PKIN Phulchoki 47.57 283 *e*P **P 17 39 56.5 +0.9**
comp=Z,175nm,0.4s
PKIN Phulchoki 47.57 283 *e*P **P 17 39 56.5 +0.9**
comp=Z,175nm,0.4s
KKN Kakani 47.62 283 *e*P **P 17 39 57.0 +1.1**
comp=Z,216nm,0.4s
KKN Kakani 47.62 283 *e*P **P 17 39 57.0 +1.1**
comp=Z,216nm,0.4s
MNAI Manna 47.73 233 P **P 17 39 56.4 -0.2**
WB0 Warramunga Arr 47.75 187 P **P 17 39 55.9 -0.6**
FITZ Fitzroy Crossi 47.76 198 P **P 17 39 56.7 +0.1**
comp=Z,38nm,0.6s,baz=360,slow=8.4,SNR=188
FITZ PcP **PcP 17 41 17.3 +1.0**
comp=Z,22nm,0.8s,baz=360,slow=6.0,SNR=7.7
FITZ Fitzroy Crossi 47.76 198 P **P 17 39 56.8 +0.1**
FITZ IAmb IAmb 17 39 57.8
comp=Z,240nm,1.6s
DMN Daman 47.81 283 *e*P **P 17 39 58.6 +1.2**
comp=Z,285nm,0.4s
DMN Daman 47.81 283 *e*P **P 17 39 58.6 +1.2**
comp=Z,285nm,0.4s
WRAB Tennant Creek 47.91 187*d i*P **P 17 39 56.7 -1.1**
WRAB pmax pmax
comp=Z,257nm,1.7s
WRAB Tennant Creek 47.91 187 P **P 17 39 57.1 -0.7**
WR0 Warramunga Arr 47.92 186 P **P 17 39 57.1 -0.7**
WR0 IAmb IAmb 17 39 58.2
comp=Z,155nm,0.9s
WB2 Warramunga Arr 47.92 187 P **P 17 39 57.1 -0.8**
WB2 IAmb IAmb 17 39 58.1
comp=Z,176nm,1.1s
WRA Warramunga Arr 47.92 187 P **P 17 39 57.0 -0.8**
comp=Z,58nm,0.3s,baz=1.0,slow=7.7,SNR=2768
WRA PcP **PcP 17 41 17.7 +0.9**
comp=Z,36nm,0.7s,baz=0.5,slow=3.8,SNR=11
WRA ScP **ScP 17 44 23.6 -0.2**
comp=Z,19nm,0.8s,baz=4.0,slow=4.4,SNR=6.6
WRA S **S 17 46 14.2 -4.3**
comp=Z,15nm,1.0s,baz=5.8,slow=13,SNR=5.4
WRA P4KPbc 18 17 30.9
comp=Z,1.0nm,0.6s,baz=4.5,slow=5.1,SNR=33
WRA Warramunga Arr 47.92 187 P **P 17 39 56.7 -1.1**
MK31 Makanchi Array 48.10 309 P **P 17 40 00.0 +1.1**
MK31 pmax pmax
comp=Z,133nm,1.1s
MK31 Makanchi Array 48.10 309 P **P 17 40 00.0 +1.1**
MK31 IAmb IAmb 17 40 00.9
comp=Z,132nm,1.1s
MKAR Makanchi Array 48.10 309 P **P 17 39 59.8 +0.8**
comp=Z,66nm,0.5s,baz=88,slow=10.0,SNR=862
MKAR PcP **PcP 17 41 17.8 +0.6**
comp=Z,31nm,0.7s,baz=87,slow=5.3,SNR=8.8
MKAR ScP **ScP 17 44 24.3 0.0**
comp=Z,11nm,0.6s,baz=76,slow=4.2,SNR=9.8
MKAR P4KPbc 18 17 31.1
comp=Z,1.0nm,0.4s,baz=76,slow=5.7,SNR=22
GSI Gunungsitoli 48.11 244 P **P 17 39 59.4 0.0**
comp=Z,8μcomp=Z,616nm,1.2s
GSI Gunungsitoli 48.11 244 P **P 17 40 00.0 +0.6**
GKN Gorkha 48.12 284 *e*P **P 17 40 00.8 +1.2**
comp=Z,906nm,1.1s
GKN Gorkha 48.12 284 *e*P **P 17 40 00.8 +1.2**
comp=Z,906nm,1.1s
BOK Bokaro 48.15 278 *e*P **P 17 40 00.8 +1.2**
BOK IAmb IAmb 17 40 02.8
comp=Z,109nm,0.8s
CTA Charters Tower 48.24 172 P **P 17 40 00.5 +0.3**
comp=Z,66nm,0.8s,baz=359,slow=8.6,SNR=72
CTA PcP **PcP 17 41 19.0 +1.0**
comp=Z,9.8nm,0.6s,baz=340,slow=7.3,SNR=2.5
CTAO Charters Tower 48.24 172 P **P 17 40 00.3 +0.1**
CTAO pmax pmax
comp=Z,84nm,0.9s
CTAO Charters Tower 48.24 172 P **P 17 40 00.3 +0.1**
CTAO IAmb IAmb 17 40 01.2
comp=Z,84nm,0.8s
MAKZ Makanchi 48.31 309 P **P 17 40 01.4 +0.9**
MAKZ pmax pmax
comp=Z,354nm,1.5s
MAKZ Makanchi 48.31 309 P **P 17 40 01.4 +0.9**
SISI Saibi 48.56 240 P **P 17 40 03.0 +0.2**
comp=Z,101nm,0.8s
DANN Dangsing 48.80 284 *e*P **P 17 40 06.3 +1.6**
comp=Z,471nm,0.5s
DANN Dangsing 48.80 284 *e*P **P 17 40 06.3 +1.6**
comp=Z,471nm,0.5s
KOLN Koldanda 49.07 284 *e*P **P 17 40 08.0 +1.3**
comp=Z,513nm,0.9s
KOLN Koldanda 49.07 284 *e*P **P 17 40 08.0 +1.3**
comp=Z,513nm,0.9s
BWNR Bhubaneshwar 49.32 273 *ex* x 17 39 59.0
BWNR IAmb IAmb 17 40 00.7
comp=Z,67nm,0.5s
PYUN Piuthan 49.52 284 *e*P **P 17 40 11.2 +1.2**
comp=Z,805nm,0.4s
PYUN Piuthan 49.52 284 *e*P **P 17 40 11.2 +1.2**
comp=Z,805nm,0.4s
PDGK Podgornoye 50.11 304 P **P 17 40 13.9 -0.1**
SHLS Shalkode 50.14 304⇓*i*P **P 17 40 12.7 -1.6**
comp=Z,64nm,0.4s,baz=304
SHLS ⇓*i*pP **pP 17 41 43.1 -4.5**
baz=304
SHLS *i* S **S 17 46 43.3 -5.5**
baz=304
SHLS Shalkode 50.14 304*d i*P **P 17 40 12.6 -1.6**
SHLS *i* *PP **pP 17 41 43.1 -4.5**
SHLS *i* S **S 17 46 43.2 -5.5**
SHLS pmax pmax
comp=Z,64nm,0.4s
ANM Nome 50.22 27 P **P 17 40 14.6 +0.3**
ANM pmax pmax
comp=Z,60nm,0.9s
ANM Nome 50.22 27 P **P 17 40 14.6 +0.3**
ANM IAmb IAmb 17 41 47.3
comp=Z,60nm,0.9s
UZB Uzynbulak 50.46 304⇓*i*P **P 17 40 17.3 +0.7**
comp=Z,52nm,0.4s,baz=304
UZB ⇓*i*pP **pP 17 41 47.9 -2.3**
baz=304
UZB *i* S **S 17 46 53.3 +0.1**
comp=Z,33nm,2.5s,baz=304
UZB Uzynbulak 50.46 304*d i*P **P 17 40 17.3 +0.7**
UZB *i* S **S 17 46 53.2 +0.1**
UZB pmax pmax
comp=Z,52nm,0.4s
UZB smax smax
comp=E,33nm,2.5s
SDPT Sand Point 50.50 40 P **P 17 40 16.1 -0.3**
KURK Kurchatov 50.69 314*d i*P **P 17 40 18.2 +0.3**
KURK pmax pmax
comp=Z,263nm,0.6s
KURK Kurchatov 50.69 314 P **P 17 40 18.8 +0.9**
KPKS Kokpek 50.69 305⇓*i*P **P 17 40 19.1 +0.8**
comp=Z,80nm,0.5s,baz=305
KPKS ⇓*i*pP **pP 17 41 49.5 -2.4**
baz=305
KPKS Kokpek 50.69 305*d i*P **P 17 40 19.0 +0.8**
KPKS pmax pmax
comp=Z,80nm,0.5s
KURBB Kurchatov Arra 50.74 314 S **S 17 46 54.4 -1.9**
comp=Z,3.6nm,0.6s,baz=89,slow=11,SNR=8.4
TDK Taldyqorghan 50.81 307 *i* P **P 17 40 20.4 +1.4**
baz=307
TDK *i* pP **pP 17 41 50.8 -2.0**
baz=307
TDK *e*S **S 17 46 58.2 +0.5**
baz=307
TDK Taldyqorghan 50.81 307 *i* P **P 17 40 20.4 +1.4**
TDK *e*S **S 17 46 58.1 +0.5**
SATY Saty 50.92 304⇓*i*P **P 17 40 20.9 +0.9**
comp=Z,61nm,0.9s,baz=304
SATY ⇓*i*pP **pP 17 41 51.5 -2.2**
baz=304
SATY *e*S **S 17 47 00.3 +0.9**
baz=304
SATY Saty 50.92 304*d i*P **P 17 40 20.8 +0.8**
SATY *e*S **S 17 47 00.2 +0.9**
SATY pmax pmax
comp=Z,61nm,0.9s
CNBA Chernabura Isl 50.95 41 IAmb IAmb 17 41 51.0
comp=Z,203nm,1.1s
NRIK Noril'sk 50.96 339 P **P 17 40 20.4 +0.8**
comp=Z,134nm,0.6s,baz=110,slow=8.8,SNR=174
NRIK PcP **PcP 17 41 28.3 +0.9**
comp=Z,30nm,0.6s,baz=83,slow=2.8,SNR=3.8
NRIK S **S 17 46 57.9 -0.9**
comp=Z,5.2nm,0.7s,baz=205,slow=23,SNR=20
ASAR Alice Springs 51.65 187 P **P 17 40 24.7 -0.6**
comp=Z,21nm,0.3s,baz=5.3,slow=5.2,SNR=1028
ASAR PcP **PcP 17 41 31.9 +1.2**
comp=Z,35nm,0.8s,baz=11,slow=3.7,SNR=23
ASAR ScP **ScP 17 44 39.5 -0.3**
comp=Z,5.7nm,0.6s,baz=6.7,slow=4.7,SNR=5.0
ASAR S **S 17 47 05.9 -3.4**
comp=Z,7.7nm,0.9s,baz=14,slow=16,SNR=15
ASAR P4KPbc 18 17 47.6
comp=Z,3.4nm,0.6s,baz=4.9,slow=4.7,SNR=87
CHKK Chushkaly 51.89 305⇓*i*P **P 17 40 28.0 +1.0**
baz=305
CHKK ⇓*i*pP **pP 17 41 58.1 -3.0**
baz=305
CHKK Chushkaly 51.89 305*d i*P **P 17 40 27.9 +1.0**
KDJ Kajisay 51.89 303 IAmb IAmb 17 40 29.1
comp=Z,102nm,0.6s
MDOK Medeo 51.90 304 *i* P **P 17 40 28.4 +1.3**
baz=304
MDOK *i* pP **pP 17 41 59.2 -2.2**
baz=304
MDOK *i* S **S 17 47 14.1 +1.5**
baz=304
MDOK Medeo 51.90 304 *i* P **P 17 40 28.4 +1.3**
MDOK *i* S **S 17 47 14.0 +1.5**
KNDC Almaty 51.96 305 P **P 17 40 29.0 +1.6**
TNSS Tian-Shan 51.99 304⇓*i*P **P 17 40 29.5 +1.5**
baz=304
TNSS ⇓*i*pP **pP 17 42 00.3 -2.1**
baz=304
TNSS Tian-Shan 51.99 304*d i*P **P 17 40 29.5 +1.5**
AAA Alma-Ata 51.99 305⇓*i*P **P 17 40 29.6 +1.9**
comp=Z,209nm,0.6s,baz=304
AAA *e*S **S 17 47 16.0 +2.4**
baz=304
AAA Alma-Ata 51.99 305*d i*P **P 17 40 29.6 +1.9**
AAA *e*S **S 17 47 16.0 +2.4**
AAA pmax pmax
comp=Z,209nm,0.6s
RDOG Red Dog Mine 52.33 24 IAmb IAmb 17 42 02.5
comp=Z,118nm,1.4s
MTBS Maitube 52.36 304 *i* P **P 17 40 31.9 +1.6**
baz=304
MTBS ⇓*i*pP **pP 17 42 02.5 -2.4**
baz=304
MTBS Maitube 52.36 304*d i*P **P 17 40 31.9 +1.6**
KUU Kurty 52.36 305⇓*i*P **P 17 40 31.0 +0.7**
comp=Z,338nm,0.5s,baz=305
KUU ⇓*i*pP **pP 17 42 01.7 -3.1**
baz=305
KUU *i* S **S 17 47 19.4 +1.0**
comp=Z,112nm,2.2s,baz=305
KUU Kurty 52.36 305*d i*P **P 17 40 30.9 +0.7**
KUU *i* S **S 17 47 19.4 +1.0**
KUU pmax pmax
comp=Z,338nm,0.5s
KUU smax smax
comp=E,112nm,2.2s
ULHL Ulahol 52.58 303 P **P 17 40 33.6 +1.6**
SNR=71
PSA00 Pilbara Seismi 52.83 203 P **P 17 40 33.3 -0.5**
PSA00 Pilbara Seismi 52.83 203 IAmb IAmb 17 40 34.7
comp=Z,122nm,0.8s
TKM2 Tokmak 2 52.98 304 P **P 17 40 36.4 +1.4**
SNR=204
TKM2 Tokmak 2 52.98 304 P **P 17 40 35.6 +0.6**
KSH Kashi 53.11 300 P **P 17 40 40.3 +4.5**
KSH S **S 17 47 35.5 +6.8**
KSH ScS **ScS 17 49 34.8 +1.3**
KSH pmax pmax
comp=Z,500nm,0.6s
KSH pmax pmax
comp=Z,250nm,9.8s
DDI Dehra Dun 53.17 288 *e*P **P 17 40 37.0 +0.7**
CHIR Chirikof Islan 53.29 40 IAmb IAmb 17 42 08.7
comp=Z,255nm,1.2s
KZA Kyzart 53.33 303 P **P 17 40 39.7 +2.0**
SNR=103
KBK Karagaybulak 53.49 304 P **P 17 40 39.7 +1.1**
SNR=163
CHMS Chumysh 53.59 304 P **P 17 40 40.0 +0.9**
SNR=67
SGDS Sogindy 53.63 305⇓*i*P **P 17 40 40.2 +0.8**
comp=Z,101nm,1.3s,baz=305
SGDS ⇓*i*pP **pP 17 42 10.8 -3.8**
baz=305
SGDS *i* S **S 17 47 36.4 +0.9**
baz=305
SGDS Sogindy 53.63 305*d i*P **P 17 40 40.2 +0.8**
SGDS *i* S **S 17 47 36.3 +0.9**
SGDS pmax pmax
comp=Z,101nm,1.3s
FRU1 Bishkek 53.70 304 IAmb IAmb 17 40 42.3
comp=Z,169nm,0.8s
SMLA Simla 53.72 290 *e*P **P 17 40 40.5 +0.3**
SMLA *ex* x 17 41 38.9
SMLA *i* pP **pP 17 42 10.7 -4.7**
USP Ospenovka 53.75 305 P **P 17 40 40.9 +0.7**
SNR=118
AAK Ala-Archa 53.82 304 P **P 17 40 42.0 +1.1**
SNR=25
AAK Ala-Archa 53.82 304 *i* P **P 17 40 41.8 +0.9**
SNR=181
AAK Ala-Archa 53.82 304*d i*P **P 17 40 41.7 +0.8**
AAK pmax pmax
comp=Z,689nm,1.7s
UCH Uchtor 53.85 304 P **P 17 40 43.3 +1.8**
SNR=241
BTLS Baital 53.90 307⇓*i*P **P 17 40 41.9 +0.7**
comp=Z,100nm,0.5s,baz=307
BTLS ⇓*i*pP **pP 17 42 12.5 -4.0**
baz=307
BTLS *i* S **S 17 47 38.6 -0.2**
comp=Z,25nm,1.6s,baz=307
BTLS Baital 53.90 307*d i*P **P 17 40 41.8 +0.7**
BTLS *i* S **S 17 47 38.5 -0.2**
BTLS pmax pmax
comp=Z,100nm,0.5s
BTLS smax smax
comp=E,25nm,1.6s
SII Sitkinak Islan 54.13 39 P **P 17 40 43.1 +0.5**
DHRM DHARAMSHALA 54.18 291 *e*P **P 17 40 43.0 -0.6**
DHRM IAmb IAmb 17 40 48.5
comp=Z,67nm,0.6s
EIDS Eidsvold 54.21 167 P **P 17 40 43.8 +0.3**
EIDS IAmb IAmb 17 40 44.5
comp=Z,76nm,0.8s
BHK Bhakra 54.28 290 *e*P **P 17 40 44.0 -0.1**
EKS2 Erkin-Say 54.34 304 P **P 17 40 45.6 +1.1**
SNR=122
AML Almayashu 54.47 303 P **P 17 40 47.5 +1.7**
SNR=205
BRZS Berezniki 54.49 313⇓*i*P **P 17 40 45.6 +0.3**
comp=Z,174nm,0.9s,baz=313
BRZS ⇓*i*pP **pP 17 42 16.3 -4.6**
baz=313
BRZS *i* S **S 17 47 46.1 -0.2**
baz=313
BRZS Berezniki 54.49 313*d i*P **P 17 40 45.6 +0.3**
BRZS *i* S **S 17 47 46.1 -0.2**
BRZS pmax pmax
comp=Z,174nm,0.9s
THN Thein Dam 54.62 291 *e*P **P 17 40 48.0 +1.5**
NGP Nagpur 54.98 277 *e*P **P 17 40 50.2 +1.1**
NGP IAmb IAmb 17 40 52.1
comp=Z,68nm,1.0s
KDAK Kodiak Island 55.05 37 P **P 17 40 49.3 +0.2**
comp=Z,26nm,0.3s,baz=275,slow=2.0,SNR=128
KDAK ScP **ScP 17 44 54.1 -0.1**
comp=Z,14nm,0.8s,baz=193,slow=6.5,SNR=3.7
KDAK Kodiak Island 55.05 37 P **P 17 40 49.2 +0.2**
RSO Redoubt South 55.11 34 P **P 17 40 49.1 -0.6**
IMAR Indian Mountai 55.30 27 P **P 17 40 51.8 +1.1**
PPLA Purkeypile 55.59 31 IAmb IAmb 17 42 25.7
comp=Z,185nm,1.7s
BHPL Bhopal 55.70 280 *e*P **P 17 40 54.2 -0.1**
BHPL IAmb IAmb 17 40 56.1
comp=Z,99nm,0.5s
BVAR Borovoye Array 55.80 317 ScP **ScP 17 44 56.9 -0.7**
comp=Z,6.2nm,0.5s,baz=132,slow=11,SNR=3.5
BVAR S **S 17 48 02.6 -0.7**
comp=Z,6.2nm,0.8s,baz=120,slow=17,SNR=7.8
BVAR P4KPbc 18 18 04.7
comp=Z,0.4nm,0.6s,baz=70,slow=6.7,SNR=5.3
CNPM China Poot 55.82 35 IAmb IAmb 17 40 57.5
comp=Z,49nm,0.6s
BRVK Borovoye 55.86 317*d i*P **P 17 40 55.4 +0.6**
BRVK pmax pmax
comp=Z,560nm,1.3s
BRVK Borovoye 55.86 317 P **P 17 40 56.1 +1.3**
BRLK Bradley Lake 56.01 35 IAmb IAmb 17 42 27.7
comp=Z,46nm,0.6s
DZA Taraz 56.10 305⇓*i*P **P 17 40 57.6 +0.9**
comp=Z,49nm,0.8s,baz=305
DZA *i* S **S 17 48 08.9 +1.2**
baz=305
DZA Taraz 56.10 305*d i*P **P 17 40 57.6 +0.9**
DZA *i* S **S 17 48 08.8 +1.2**

DZA pmax pmax
comp=Z,49nm,0.8s
DZM Mont Dzumac 56.15 150 P **P 17 40 58.6 +1.4**
BPAW Bear Paw Mtn. 56.23 30 IAmb IAmb 17 42 29.7
comp=Z,108nm,1.4s
NIL Nilore 56.36 293 P **P 17 41 00.4 +1.7**
NIL pmax pmax
comp=Z,300nm,0.5s
NIL Nilore 56.36 293 P **P 17 41 00.4 +1.7**
CUT Chulitna 56.43 32 P **P 17 40 58.8 +0.3**
baz=267
TRF Thorofare Moun 56.49 30 P **P 17 41 00.0 +0.8**
KIP Kipapa 56.57 82⇓ *i*P **P 17 41 01.7 +1.5**
KIP pmax pmax
comp=Z,36nm,1.3s
O22K Cooper Landing 56.61 34 P **P 17 41 00.2 +0.4**
baz=268
KK31 Karatay Array 56.66 305 P **P 17 41 01.5 +0.9**
KKAR Karatay Array 56.66 305 P **P 17 41 01.8 +1.3**
KKAR Karatay Array 56.66 305 P **P 17 41 01.8 +1.3**
KKAR Karatay Array 56.66 305 IAmb IAmb 17 41 02.6
comp=Z,299nm,0.7s
SEW Seward 56.74 34 IAmb IAmb 17 42 32.0
comp=Z,130nm,1.3s
HYB Hyderabad 56.76 273 *i* P **P 17 41 02.0 +0.4**
HYB *e*PcP **PcP 17 41 50.5 -0.2**
HYB Hyderabad 56.76 273 *e*P **P 17 41 01.9 +0.4**
HYB IAmb IAmb 17 41 03.1
comp=Z,82nm,0.7s
COLD Coldfoot 56.87 26 P **P 17 41 03.0 +1.4**
baz=263,SNR=17
BWN Browne 56.91 30 IAmb IAmb 17 42 35.6
comp=Z,95nm,0.8s
PMR Palmer 56.94 33 IAmb IAmb 17 42 33.3
comp=Z,85nm,1.2s
BTK Batken 56.94 301 IAmb IAmb 17 41 04.6
comp=Z,223nm,1.3s
MDRS Chennai 56.99 268 *e*P **P 17 41 04.8 +1.7**
MDRS IAmb IAmb 17 41 06.3
comp=Z,143nm,0.9s
GHO Glory Hole Cre 57.04 33 IAmb IAmb 17 41 05.4
comp=Z,94nm,1.4s
NEA2 Nenana 57.10 29 P **P 17 41 04.1 +0.9**
baz=266,SNR=53
MCK McKinley 57.11 30 IAmb IAmb 17 42 35.1
comp=Z,97nm,0.9s
RND Reindeer 57.13 31 IAmb IAmb 17 42 34.9
comp=Z,53nm,0.7s
IUG Iuzhnay 57.16 304⇓ *i*P **P 17 41 05.2 +1.0**
comp=Z,173nm,0.7s,baz=304
IUG ⇓*i*pP **pP 17 42 35.9 -5.1**
baz=304
IUG *e*S **S 17 48 22.8 +1.3**
comp=Z,107nm,2.5s,baz=304
IUG Iuzhnay 57.16 304 *d i*P **P 17 41 05.1 +1.0**
IUG *e*S **S 17 48 22.8 +1.3**
IUG pmax pmax
comp=Z,173nm,0.7s
IUG smax smax
comp=N,107nm,2.5s
KNK Knik Glacier 57.25 33 IAmb IAmb 17 42 35.8
comp=Z,66nm,0.6s
TOLK Toolik Lake Re 57.27 24 P **P 17 41 05.5 +1.2**
baz=263,SNR=8.0
TOLK S **S 17 48 24.1 +2.2**
baz=263
TOLK Toolik Lake Re 57.27 24 IAmb IAmb 17 41 07.0
comp=Z,167nm,2.0s
SML Sawmill 57.32 32 IAmb IAmb 17 42 36.4
comp=Z,78nm,1.0s
TCOL CIGO, UAF Yank 57.64 29 P **P 17 41 08.0 +1.2**
baz=267,SNR=16
COLA College 57.64 29 *c i*P **P 17 41 06.8 0.0**
COLA pmax pmax
comp=Z,18nm,0.5s
COLA College 57.64 29 P **P 17 41 07.4 +0.6**
COLA IAmb IAmb 17 41 09.1
comp=Z,45nm,0.5s
SCM Sheep Creek Mo 57.80 32 IAmb IAmb 17 42 40.1
comp=Z,123nm,1.1s
POKR Poker Plat Res 57.83 29 P **P 17 41 08.8 +0.7**
baz=267,SNR=15
POKR S **S 17 48 30.1 +1.0**
baz=267
GLI Glacier Island 57.91 34 IAmb IAmb 17 42 39.9
comp=Z,62nm,0.6s
HDA Harding Lake 58.01 29 P **P 17 41 09.1 -0.3**
baz=268,SNR=83
HDA Harding Lake 58.01 29 IAmb IAmb 17 41 10.2
comp=Z,58nm,0.5s
ILAR Eielson Array 58.05 29 P **P 17 41 09.3 -0.3**
comp=Z,17nm,0.5s,baz=247,slow=5.6,SNR=297
ILAR S **S 17 48 31.5 -0.4**
comp=Z,1.3nm,1.1s,baz=251,slow=10,SNR=2.8
ILAR PKPPKP **P'P'df 18 10 40.5 -4.5**
comp=Z,1.5nm,1.2s,baz=65,slow=3.3,SNR=4.1
ILAR P4KPbc 18 18 16.0
comp=Z,0.1nm,0.3s,baz=209,slow=7.2,SNR=4.1
HIN Hinchinbrook I 58.21 34 IAmb IAmb 17 42 42.3
comp=Z,56nm,0.6s
FID Port Fidalgo 58.22 34 IAmb IAmb 17 42 42.5
comp=Z,82nm,1.2s
Q23K Middleton Isla 58.32 35 S **S 17 48 37.7 +2.3**
baz=272
M24K Tolsona, Glenn 58.34 32 P **P 17 41 12.7 +0.9**
baz=270,SNR=12
EYAK Cordova Ski Ar 58.58 34 IAmb IAmb 17 42 45.2
comp=Z,114nm,1.6s
PAX Paxson 58.66 31 IAmb IAmb 17 41 15.9
comp=Z,177nm,1.6s
FYU Fort Yukon 58.78 27 IAmb IAmb 17 41 18.3
comp=Z,211nm,1.7s
RIDG Independent Ri 58.93 30 IAmb IAmb 17 41 18.0
comp=Z,50nm,0.6s
KHLU Kahalu`u 59.08 83 P **P 17 41 18.2 +0.8**
KHLU IAmb IAmb 17 42 49.1
comp=Z,154nm,1.1s
RAGM Ragged Mountai 59.12 34 IAmb IAmb 17 42 49.3
comp=Z,71nm,1.2s
DOT Dot Lake 59.28 30 IAmb IAmb 17 42 49.6
comp=Z,77nm,1.0s
SCRK Sand Creek 59.31 30 P **P 17 41 18.6 +0.3**
baz=271,SNR=176
SCRK S **S 17 48 48.2 +0.1**
baz=271
POHA Pohakuloa 59.33 83 P **P 17 41 19.5 +0.2**
MENT Mentasta 59.46 31 IAmb IAmb 17 41 21.5
comp=Z,56nm,0.5s
GLB Gilahina Butte 59.49 33 IAmb IAmb 17 42 51.6
comp=Z,66nm,1.1s
KBL Kabul 59.53 295 P **P 17 41 21.1 +0.7**
SNR=99
KBL Kabul 59.53 295 P **P 17 41 21.4 +1.0**
KBL pmax pmax
comp=Z,145nm,0.7s
KBL Kabul 59.53 295 P **P 17 41 21.4 +1.0**
MLH Mauna Loa 59.56 83 IAmb IAmb 17 42 52.8
comp=Z,161nm,1.2s
STKA Stephens Creek 59.58 178 P **P 17 41 20.1 -0.2**
comp=Z,42nm,0.7s,baz=353,slow=7.1,SNR=97
STKA S **S 17 48 49.4 -2.5**
comp=Z,3.3nm,0.8s,baz=110,slow=22,SNR=6.5
VRDI Verde Repeater 59.67 33 IAmb IAmb 17 42 52.8
comp=Z,101nm,1.5s
CRQM Cirque 59.85 34 IAmb IAmb 17 42 54.2
comp=Z,74nm,0.9s
TGL Tana Glacier 60.01 34 IAmb IAmb 17 42 54.9
comp=Z,54nm,1.0s
WAX Waxell Ridge 60.02 34 IAmb IAmb 17 42 55.0
comp=Z,71nm,0.9s
K27K Chicken 60.15 30 P **P 17 41 24.7 +0.9**
baz=273
K27K S **S 17 49 00.0 +1.6**
baz=273
BCAR Beaver Creek A 60.34 31 P **P 17 41 26.0 +0.9**
POO Poona 60.48 276⇓ *i*P **P 17 41 26.0 -0.8**
POO *e*P **P 17 41 27.4 +0.7**
BBOO Buckleboo 60.56 183 P **P 17 41 26.5 -0.3**
BBOO IAmb IAmb 17 41 27.7
comp=Z,161nm,1.1s
MORW Morawa 61.05 204 IAmb IAmb 17 41 30.4
comp=Z,91nm,0.9s
SVE Sverdlovsk 61.08 322 *c i*P **P 17 41 30.9 +0.9**
SVE *e*S **S 17 49 10.3 +0.1**
SVE pmax pmax
comp=Z,146nm,0.8s
BCPM Bancas Point 61.67 34 IAmb IAmb 17 43 06.3
comp=Z,81nm,1.1s
GOA Goa 61.68 273 *e*P **P 17 41 34.7 +0.1**
GOA IAmb IAmb 17 41 37.4
comp=Z,78nm,0.7s
EPYK Eagle Plains 62.20 27 P **P 17 41 38.4 +1.1**
baz=276
EPYK S **S 17 49 25.8 +1.9**
baz=276
EPYK Eagle Plains 62.20 27 IAmb IAmb 17 43 09.7
comp=Z,84nm,0.8s
ARU Arti 62.28 322 P **P 17 41 38.3 +0.4**
comp=Z,74nm,0.4s,baz=90,slow=3.7,SNR=367
ARU S **S 17 49 23.4 -1.5**
comp=Z,1.2nm,0.6s,baz=139,slow=19,SNR=7.1
ARU Arti 62.28 322 *d i*P **P 17 41 38.2 +0.4**
ARU 17 42 11.0
ARU *PP **pP 17 43 17.2 +0.3**
ARU S **S 17 49 24.0 -1.0**
ARU 17 50 36.3
ARU pmax pmax
comp=Z,188nm,0.6s
ARU Arti 62.28 322 P **P 17 41 38.5 +0.6**
AB31 Akbulak array 62.79 314 *i* P **P 17 41 41.8 +0.5**
ABKAR Akbulak array 62.79 314 P **P 17 41 42.0 +0.7**
ABKAR Akbulak array 62.79 314 P **P 17 41 42.1 +0.8**
INK Inuvik 63.18 25 P **P 17 41 43.8 +0.3**
comp=Z,6.1nm,0.3s,baz=270,slow=33,SNR=75
INK S **S 17 49 36.0 +0.4**
comp=Z,5.2nm,1.0s,baz=201,slow=24,SNR=3.4
AKTO Aktyubinsk 63.75 315 P **P 17 41 48.0 +0.5**
comp=Z,110nm,0.6s,baz=90,slow=8.0,SNR=370
AKTO S **S 17 49 42.6 -0.6**
comp=Z,3.4nm,0.8s,baz=200,slow=19,SNR=7.8
NWAO Narrogin (SRO) 64.19 201 P **P 17 41 50.5 +0.1**
NWAO pmax pmax
comp=Z,235nm,0.9s
NWAO Narrogin (SRO) 64.19 201 P **P 17 41 50.5 +0.1**
NWAO Narrogin (SRO) 64.19 201 P **P 17 41 50.5 +0.1**
JIS Juneau Island 64.62 36 IAmb IAmb 17 43 25.6
comp=Z,52nm,0.8s
TOO Toolangi 65.46 175 IAmb IAmb 17 42 00.1
comp=Z,75nm,0.8s
C36M Paulatuk 66.31 23 P **P 17 42 03.5 +0.2**
baz=286
C36M Paulatuk 66.31 23 IAmb IAmb 17 42 04.5
comp=Z,37nm,0.5s
KIRV Kirov 66.63 325 P **P 17 42 06.2 +0.8**
comp=Z,336nm,0.6s,baz=76,slow=2.1,SNR=166
KIRV S **S 17 50 16.6 -0.7**
comp=Z,6.2nm,0.5s,baz=184,slow=23,SNR=16
DLBC Dease Lake 66.81 35 IAmb IAmb 17 43 39.7
comp=Z,66nm,1.4s
GEYT Alibeck 67.05 302 P **P 17 42 09.7 +1.2**
comp=Z,44nm,0.7s,baz=48,slow=2.4,SNR=92
GEYT Alibeck 67.05 302 P **P 17 42 09.7 +1.2**
GYA0 ALIBECK ARRAY 67.05 302 P **P 17 42 09.1 +0.6**
GYA0B ALIBECK ARRAY 67.05 302 IAmb IAmb 17 42 10.7
comp=Z,168nm,1.4s
PRGR Permogore 67.58 329⇓ *i*P **P 17 42 11.9 +0.7**
PRGR *e*S **S 17 50 26.2 -2.1**
SPA0 Spitsbergen Ar 69.08 349 *e*P **P 17 42 21.0 +0.9**
SPITS Spitsbergen Ar 69.08 349 P **P 17 42 21.0 +0.9**
comp=Z,23nm,0.6s,baz=121,slow=11,SNR=40
KBS Kingsbay 69.28 351 *d i*P **P 17 42 22.5 +1.2**
KBS pmax pmax
comp=Z,39nm,0.6s
KBS Kingsbay 69.28 351 P **P 17 42 22.7 +1.4**
KBS IAmb IAmb 17 42 23.6
comp=Z,53nm,0.8s
KBS Kingsbay 69.28 351 *e*P **P 17 42 22.5 +1.2**
LVZ Lovozero 69.75 337 *d i*P **P 17 42 24.3 0.0**
LVZ pmax pmax
comp=Z,74nm,1.1s
LVZ Lovozero 69.75 337 P **P 17 42 24.7 +0.4**
LVZ IAmb IAmb 17 42 25.8
comp=Z,57nm,1.0s
NOR Nord 69.95 356 *i* P **P 17 42 25.8 +0.5**
comp=Z,15nm,0.9s
NOR Nord 69.95 356 *i* P **P 17 42 25.8 +0.5**
NOR pmax pmax
comp=Z,15nm,0.9s
HSPB Hornsund (broa 69.95 348 *e*P **P 17 42 26.3 +1.0**
HSPB Hornsund (broa 69.95 348 *e*P **P 17 42 26.1 +0.8**
TMCR Tamitsa 69.98 333 *e*P **P 17 42 26.0 +0.3**
TMCR pmax pmax
comp=Z,169nm,0.6s
APA Apatity 70.31 337⇑ *i*P **P 17 42 27.4 -0.3**
APA pmax pmax
comp=Z,94nm,0.8s
KLMR Klimovskoe 70.62 329 *e*P **P 17 42 27.8 -1.8**
KLMR pmax pmax
comp=Z,72nm,0.5s
KLMR Klimovskoe 70.62 329 *e*P **P 17 42 27.9 -1.7**
KLMR AMP 17 42 30.3
comp=Z,72nm,0.5s
TAU Tasmania Unive 70.92 174 P **P 17 42 32.3 +0.8**
TAU pmax pmax
comp=Z,45nm,0.8s
TAU Tasmania Unive 70.92 174 P **P 17 42 32.3 +0.8**
TAU IAmb IAmb 17 42 32.9
comp=Z,45nm,0.8s
KEV Kevo 71.35 340 P **P 17 42 34.5 +0.8**
KEV pmax pmax
comp=Z,86nm,0.7s
KEV Kevo 71.35 340 P **P 17 42 34.5 +0.8**
KEV IAmb IAmb 17 42 35.6
comp=Z,86nm,0.7s
JLN Jalan Bani Buh 71.61 286 P **P 17 42 36.8 +0.6**
SNR=9.1
RES Resolute Bay 71.72 13 P **P 17 42 36.7 +0.8**
comp=Z,36nm,0.8s,baz=313,slow=5.8,SNR=16
RES Resolute Bay 71.72 13 IAmb IAmb 17 42 37.9
comp=Z,39nm,0.8s
HAMF Hammerfest 71.84 342 *e*P **P 17 42 35.4 -1.2**
WSAR Wadi Sarin 71.85 287 P **P 17 42 38.5 +0.9**
SNR=9.5
BIDO Bidbid 72.16 288 P **P 17 42 40.4 +1.0**
SNR=5.2
SMDO Samad 72.41 287 P **P 17 42 41.5 +0.6**
SNR=13
YKA Yellowknife Ar 72.45 28 P **P 17 42 40.5 +0.3**
comp=Z,11nm,0.5s,baz=302,slow=6.0,SNR=86
JMDO Jabal Madar 72.64 286 P **P 17 42 42.6 +0.5**
SNR=14
BANOM Banah 72.75 291 P **P 17 42 43.9 +1.1**
SNR=13
HOQ Hoqain 72.83 288 P **P 17 42 43.9 +0.7**
SNR=37
SHME Shamm 72.83 291 *i* P **P 17 42 44.2 +0.9**
SNR=13
MAK Makhachkala 72.91 310 *e*P **P 17 42 41.9 -1.4**
MAK *e*PP **pP 17 44 25.9 -0.6**
MAK *e*SP **sP 17 45 17.9 +0.2**
MAK *e* 17 45 34.6
MAK *e*S **SKiKP 17 51 25.8 +2.4**
MAK *e*SS **SS 17 56 25.2 +2.9**
MAK pmax pmax
comp=Z,309nm,1.3s
MSFE Esma-Masafi 73.08 290 *i* P **P 17 42 45.6 +0.9**
SNR=10
UOSS Minazif 73.21 290 *i* P **P 17 42 45.5 +0.1**
SNR=14
UOSS Minazif 73.21 290 P **P 17 42 45.7 +0.3**
BSY Bisya 73.25 287 P **P 17 42 46.7 +1.0**
SNR=19
MHTO MHTO 73.31 285 P **P 17 42 46.7 +0.7**
SNR=25
VRH Novokhopyorsk 73.31 319 *e*P **P 17 42 45.5 +0.1**
VRH *e*S **SKiKP 17 51 27.8 +4.0**
VRH pmax pmax
comp=Z,210nm,0.5s
VRH smax smax
comp=N,800nm,4.5s
HATD Hatta, Dubai 73.32 290 *i* P **P 17 42 46.7 +0.7**
SNR=50
HATD Hatta, Dubai 73.32 290 P **P 17 42 47.4 +1.4**
SNR=19
AKT Akhty 73.32 308 *e*P **P 17 42 46.5 +0.6**
AKT *e* 17 43 00.5
AKT *e*PP **pP 17 44 29.9 +0.7**
AKT *e*SP **sP 17 45 26.6 +6.3**
AKT *e*S **S 17 51 32.8 -1.8**
AKT pmax pmax
comp=Z,210nm,0.5s
UMQ Umm Al-Quwin 73.43 290 P **P 17 42 48.3 +1.7**
ASHO Ashiyiah 73.44 289 P **P 17 42 47.8 +1.0**
SNR=30
ARQ Araqi 73.59 288 P **P 17 42 48.7 +1.1**
SNR=135
MOS Moscow 73.64 325 *e*P **P 17 42 46.4 -0.8**
MOS *e* 17 45 40.9
MOS *e*S **S 17 51 34.4 -2.8**
MOS *e* 17 52 06.7
MOS pmax pmax
comp=Z,276nm,1.1s
MOS pmax pmax
comp=Z,400nm,1.2s
MOS smax smax
comp=N,700nm,3.0s
NAZ Nazwa, Dubai 73.65 290 *i* P **P 17 42 48.4 +0.5**
SNR=18
NAZ Nazwa, Dubai 73.65 290 P **P 17 42 48.9 +1.0**
SNR=18
TRO Tromso 73.76 342 *e*P **P 17 42 47.9 +0.2**
FAQ Al Faqa, Dubai 73.80 290 *i* P **P 17 42 49.0 +0.2**
SNR=9.5
FAQ Al Faqa, Dubai 73.80 290 P **P 17 42 49.6 +0.8**
ALNE Al Ain 73.94 289 *i* P **P 17 42 50.1 +0.5**
SNR=39
GROC Groznyy 73.97 311 *e*P **P 17 42 49.4 0.0**
GROC *e* 17 43 02.0
GROC *e*PP **pwP 17 44 36.8 -2.1**
GROC *e* 17 45 43.7
GROC *e*S **S 17 51 39.8 -1.6**
GROC pmax pmax
comp=Z,197nm,1.4s
NLWA Neilton Lookou 74.11 45 IAmb IAmb 17 44 22.6
comp=Z,32nm,0.7s
DQM DQM 74.11 284 P **P 17 42 51.3 +0.7**
SNR=8.7
A04D Lummi Island 74.27 43 P **P 17 42 52.1 +1.2**
baz=294,SNR=6.2
LPSR Galich'ya Gora 74.30 321 *e*P **P 17 42 51.4 +0.4**
LPSR *e*S **S 17 51 41.4 -3.2**
LPSR pmax pmax
comp=Z,180nm,1.2s
LPSR smax smax
comp=N,200nm,2.1s
AJN Ajban 74.38 290 *i* P **P 17 42 52.3 +0.3**
SNR=10
AJN Ajban 74.38 290 P **P 17 42 52.7 +0.7**
SNR=12
OBN Obninsk 74.45 324 P **P 17 42 52.3 +0.5**
comp=N,34nm,0.7s,baz=94,slow=2.2,SNR=53
OBN Obninsk 74.45 324 *d i*P **P 17 42 51.9 +0.1**
OBN *e* 17 43 02.1
OBN *e* 17 45 47.2
OBN *i* S **S 17 51 43.7 -2.5**
OBN pmax pmax
comp=Z,184nm,0.8s
OBN Obninsk 74.45 324 P **P 17 42 52.4 +0.6**
D03D Eldon 74.53 44 P **P 17 42 54.3 +1.8**
baz=294,SNR=24
VORR Voronezh 74.54 321 *e*P **P 17 42 51.0 -1.4**
VORR pmax pmax
comp=Z,400nm,1.2s
DAG Danmarks Havn 74.61 355 *i* P **P 17 42 52.0 -0.4**
comp=Z,16nm,1.0s
DAG Danmarks Havn 74.61 355 *i* P **P 17 42 52.0 -0.4**
DAG pmax pmax
comp=Z,16nm,1.0s
VSR Storozhevoye 74.77 320 *e*P **P 17 42 54.1 +0.4**
VSR *e*S **S 17 51 46.2 -3.6**
VSR pmax pmax
comp=Z,400nm,1.3s
VSR smax smax
comp=N,330nm,1.3s
VORD Divnogorie 74.80 320 *e*P **P 17 42 53.9 0.0**
VORD *e*S **S 17 51 47.4 -2.8**
VORD pmax pmax
comp=Z,210nm,1.2s
VORD smax smax
comp=E,3.0nm,1.4s
B05A Bryant 74.83 43 P **P 17 42 55.5 +1.3**
baz=295,SNR=7.7
D04E Lakebay 74.88 44 P **P 17 42 56.6 +2.2**
baz=295
GOF Gofitskoye 75.03 313⇑ *e*P **P 17 42 56.1 +0.8**
GOF pmax pmax
comp=Z,163nm,0.9s
BKZ Black Stump Fm 75.19 151 IAmb IAmb 17 42 57.7
comp=Z,47nm,1.1s
PUL Pulkovo 75.20 330 *de*P **P 17 42 56.5 +0.5**
PUL pmax pmax
comp=Z,126nm,0.6s
E04D Cinebar 75.27 45 P **P 17 42 57.9 +1.3**
baz=295
ZEI Tsey 75.41 311 *e*P **P 17 42 57.0 -0.8**
ZEI pmax pmax
comp=Z,54nm,0.6s
I02D Swisshome 75.48 48 P **P 17 42 59.0 +1.2**
baz=295
N2IH Innhavet 75.66 341 *e*P **P 17 42 58.5 +0.2**
KBZ Khabaz 75.68 312 P **P 17 43 00.1 +1.2**
comp=Z,132nm,0.8s,baz=84,slow=3.6,SNR=181
KEBM Edson Butte 75.68 49 IAmb IAmb 17 44 31.9
comp=Z,96nm,1.1s
KVAR Kislovodsk Arr 75.72 312 P **P 17 43 01.1 +1.7**
comp=Z,36nm,0.8s,baz=83,slow=17,SNR=12
KIV Kislovodsk 75.72 312 *i* P **P 17 43 00.1 +0.7**
SNR=18
KIV Kislovodsk 75.72 312 *e*P **P 17 43 00.0 +0.7**
KIV *e*S **S 17 52 00.5 -0.1**
KIV pmax pmax
comp=Z,376nm,1.1s
KIV pmax pmax
comp=Z,147nm,3.0s
KIV MLR MLR
comp=Z,187nm,18.0s
KIV Kislovodsk 75.72 312 P **P 17 43 00.4 +1.0**
KIV IAmb IAmb 17 43 02.5
comp=Z,106nm,0.9s
J01E Myrtle Point 75.83 49 P **P 17 43 01.2 +1.4**
baz=295
STEI Steigen 75.88 341 *e*P **P 17 43 00.1 +0.5**
I03D Drain, OR 75.98 48 P **P 17 43 02.0 +1.4**
baz=295,SNR=7.0
H04D Lebanon 76.03 47 P **P 17 43 01.9 +1.0**
baz=295
FIA1 FINESS Array S 76.10 333 P **P 17 43 01.5 +0.6**
FINES FINESS Array B 76.10 333 P **P 17 43 01.6 +0.6**
comp=Z,228nm,0.4s,baz=72,slow=5.1,SNR=3307
FINES S **S 17 52 02.0 -1.8**
comp=Z,4.5nm,0.8s,baz=58,slow=14,SNR=7.6
N2TV Tŷrnvik 76.15 341 *e*P **P 17 43 01.7 +0.6**
K02D Willamette Mer 76.20 49 P **P 17 43 03.1 +1.1**
baz=295,SNR=5.3
FAUS Fauske 76.23 341 *e*P **P 17 43 02.1 +0.6**
F05D White Salmon 76.25 45 P **P 17 43 03.4 +1.3**
baz=296
AKH Akhalkalaki 76.26 310 ⇓P **P 17 43 04.3 +1.8**
H04A Detroit Lake 76.31 47 IAmb IAmb 17 44 34.8
comp=Z,55nm,1.1s
BFZ Birch Farm 76.35 152 IAmb IAmb 17 43 03.0
comp=Z,72nm,0.8s
NBB08 Skaug oppvekst 76.41 341 *e*P **P 17 43 03.2 +0.7**
L02E Cave Junction 76.47 49 P **P 17 43 04.6 +1.2**
baz=295,SNR=5.7
I04A Tendick Farm, 76.55 47 P **P 17 43 04.7 +0.8**
baz=296,SNR=9.5
G05D Wamic, OR 76.62 46 P **P 17 43 05.7 +1.5**
baz=296
N2VA Vr_y 76.78 342 *e*P **P 17 43 04.7 +0.2**
NBB05 Inndyr 76.82 341 *e*P **P 17 43 05.3 +0.5**
KHMM Horse Mountain 76.94 51 IAmb IAmb 17 44 39.1
comp=Z,82nm,1.4s
E07A Sunnyside 76.95 44 IAmb IAmb 17 43 08.6
comp=Z,81nm,1.6s
NBB30 Finnes 76.95 341 *e*P **P 17 43 05.9 +0.4**
RPZ Rata Peaks 76.99 157 P **P 17 43 05.1 -0.9**
RPZ IAmb IAmb 17 43 08.3
comp=Z,54nm,0.7s
J04D Umpqua Nationa 76.99 48 P **P 17 43 07.7 +1.2**
baz=296,SNR=16
I05D Terrebonne, OR 77.01 47 P **P 17 43 07.2 +0.8**
baz=296,SNR=6.6
N2RO R_st 77.04 342 *e*P **P 17 43 06.1 +0.1**
YBH Yreka Blue Hor 77.26 50 P **P 17 43 08.8 +0.9**
comp=Z,4.4nm,0.4s,baz=7.2,slow=3.5,SNR=32
MOR8 Moi Rana 77.29 340 *e*P **P 17 43 06.6 -0.8**
M02C Callahan 77.31 50 P **P 17 43 09.5 +1.4**
baz=296,SNR=12

L04D	Klamath Falls	77.31	49	P	P	17 43 09.0	+0.8
	baz=296,SNR=17						
C09A	Chrisman Ranch	77.34	42	IAmb	IAmb	17 44 39.7	
	comp=Z,27nm,0.6s						
KONS	Konsvik	77.46	341	eP	P	17 43 08.8	+0.6
VSU	Vasula	77.47	330	eP	P	17 43 08.7	+0.2
VSU	Vasula	77.47	330	d iP	P	17 43 08.7	+0.2
VSU				pmax	pmax		
	comp=Z,549nm,1.1s						
NBB40	Tonnes	77.48	341	eP	P	17 43 09.2	+0.8
PINE	Pine Mountain	77.51	47	IAmb	IAmb	17 44 42.1	
	comp=Z,78nm,0.8s						
BCA	Borcka	77.51	310	⇑P	P	17 43 11.3	+2.1
J05D	Fort Rock, OR	77.55	48	P	P	17 43 10.7	+1.3
	baz=297,SNR=21						
KCPM	Cahto Peak	77.56	52	IAmb	IAmb	17 43 12.0	
	comp=Z,109nm,1.4s						
N02D	Trinity Center	77.59	50	P	P	17 43 10.9	+1.2
	baz=296,SNR=16						
NEW	Newport	77.80	42	P	P	17 43 11.3	+0.7
	comp=Z,6.5nm,0.5s,baz=303,slow=5.4,SNR=25						
NEW	Newport	77.80	42	P	P	17 43 11.4	+0.7
	baz=298						
M04C	Macdoel	77.82	49	P	P	17 43 12.0	+1.1
	baz=296,SNR=17						
SOC	Sochi	77.82	313	eP	P	17 43 09.7	-1.0
SOC				e*PP	pP	17 44 54.9	-0.8
SOC				e*SP	sP	17 45 45.8	-0.7
SOC				e		17 46 13.1	
SOC				ePPP	PPP	17 48 03.9	
SOC				eS	S	17 52 20.9	-1.8
SOC				pmax	pmax		
	comp=Z,94nm,0.6s						
O02D	Mt. Diablo Mer	77.89	51	P	P	17 43 12.6	+1.3
	baz=296,SNR=14						
GEVA	Gevas	77.90	307	IAmb	IAmb	17 43 12.9	
	comp=Z,41nm,0.7s						
O03E	Paynes Creek	78.51	51	P	P	17 43 14.9	+0.3
	baz=297,SNR=17						
ANN	Anapa	78.71	315	eP	P	17 43 15.6	+0.1
ANN				eS	S	17 52 29.6	-2.4
ANN				pmax	pmax		
	comp=Z,304nm,0.9s						
JMIC	Jan Mayen	78.74	350	eP	P	17 43 17.1	+1.9
ABTO	Aybut	78.84	284	P	P	17 43 17.1	+0.3
	SNR=5.7						
KOPT	Kop Dagi	78.92	309	IAmb	IAmb	17 43 20.5	
	comp=Z,126nm,1.3s						
MICGM	Minsk	79.11	326	eP	P	17 43 18.0	+0.6
MICGM				PM		17 43 19.0	
	comp=Z,0.5nm,1.0s						
MNK	Minsk	79.11	326	eP	P	17 43 18.0	+0.6
MNK				pmax	pmax		
	comp=Z,530nm,1.0s						
NSS	Namsos	79.17	340	eP	P	17 43 17.7	+0.1
IZAR	Zarasai	79.20	328	eP	P	17 43 18.4	+0.5
IDID	Didziasalis	79.21	328	eP	P	17 43 18.4	+0.5
ISAL	Salakas	79.36	328	eP	P	17 43 19.3	+0.6
NACGM	Naroch	79.42	327	eP	P	17 43 19.0	-0.1
NACGM				PM		17 43 20.0	
	comp=Z,0.6nm,1.0s						
IIGN	Ignalina	79.44	328	eP	P	17 43 19.8	+0.6
SUMG	Summit	79.69	359	i P	P	17 43 21.0	+0.3
	comp=Z,92nm,0.7s						
SUMG	Summit	79.69	359	i P	P	17 43 21.0	+0.3
SUMG				pmax	pmax		
	comp=Z,92nm,0.7s						
SLIT	Slitere, Latvi	79.88	331	eP	P	17 43 20.6	-0.8
MARD	Mardin	79.96	307	IAmb	IAmb	17 43 24.3	
	comp=Z,85nm,0.8s						
MSO	Missoula	80.39	42	P	P	17 43 24.7	+0.3
	baz=301						
PABE	Paberze	80.40	329	eP	P	17 43 24.3	+0.1
AKASG	Malin Array Be	80.50	323	P	P	17 43 24.8	0.0
	comp=Z,57nm,0.5s,baz=52,slow=5.4,SNR=252						
AKASG				S	S	17 52 48.0	-2.2
	comp=Z,4.0nm,0.8s,baz=52,slow=9.9,SNR=13						
AKASG				PKKPbc	PKKPbc	18 02 00.1	-2.1
	comp=Z,0.7nm,0.4s,baz=255,slow=2.6,SNR=7.3						
AKASG	Malin Array Be	80.50	323	P	P	17 43 25.1	+0.3
AKASG				pmax	pmax		
	comp=Z,47nm,0.9s						
AKASG	Malin Array Be	80.50	323	P	P	17 43 25.1	+0.3
SOCY	Socotra	80.52	279	P	P	17 43 24.8	-0.9
SOCY				IAmb	IAmb	17 43 25.5	
	comp=Z,166nm,1.1s						
SIM	Simferopol'	80.70	316	d iP	P	17 43 25.5	-0.5
SIM				pmax	pmax		
	comp=Z,102nm,0.5s						
SCO	Scoresbysund	80.91	354	i P	P	17 43 27.4	+0.8
	comp=Z,41nm,0.9s						
SCO	Scoresbysund	80.91	354	i P	P	17 43 27.4	+0.8
SCO				pmax	pmax		
	comp=Z,41nm,0.9s						
PBUR	Paburge	81.01	330	eP	P	17 43 27.2	-0.1
KVN	Kaiserville	81.62	50	IAmb	IAmb	17 43 33.1	
	comp=Z,64nm,1.4s						
DIKM	Dikmen	81.63	313	⇑P	P	17 43 31.9	+1.0
SUW	Suwalki	81.65	328	eP	P	17 43 30.5	-0.2
HFS	Hagfors	81.66	336	P	P	17 43 30.4	-0.3
	comp=Z,87nm,0.6s,baz=100,slow=3.3,SNR=228						
LHV	Little Huntoon	81.73	51	IAmb	IAmb	17 43 34.2	
	comp=Z,72nm,1.4s						
HLID	Hailey	81.77	45	P	P	17 43 32.9	+1.1
	baz=301						
NVAR	Mina Array Bea	81.78	51	P	P	17 43 33.0	+1.0
	comp=Z,6.5nm,0.5s,baz=291,slow=6.1,SNR=101						
NVAR				PP	PP	17 46 48.8	+1.4
	comp=Z,3.2nm,0.8s,baz=288,slow=6.4,SNR=2.9						
NVAR				PKKPbc	PKKPbc	18 01 57.3	-1.9
	comp=Z,0.3nm,0.5s,baz=127,slow=2.1,SNR=4.7						
NVAR	Mina Array Bea	81.78	51	P	P	17 43 32.8	+0.8
DOMB	Dombas	81.88	339	eP	P	17 43 31.9	+0.1
NB2	NORSAR Subarra	81.89	337	P	P	17 43 31.3	-0.6
	comp=Z,85nm,0.6s,baz=47,slow=5.1						
NB2	NORSAR Subarra	81.89	337	P	P	17 43 31.3	-0.6
	baz=47,slow=5.1						
NOA	NORSAR Array B	81.89	337	P	P	17 43 31.5	-0.4
	comp=Z,82nm,0.6s,baz=46,slow=4.9,SNR=228						
NOA				PP	PP	17 46 43.8	-3.5
	comp=Z,9.9nm,1.0s,baz=47,slow=8.5,SNR=4.1						
NOA				S	S	17 53 00.7	-3.5
	comp=Z,1.6nm,0.8s,baz=35,slow=6.7,SNR=3.6						
MOL	Molde	81.96	340	eP	P	17 43 32.5	+0.4
NC602	NORSAR Array S	82.00	337	IAmb	IAmb	17 43 32.2	
	comp=Z,48nm,0.7s						
NAO01	NORSAR Array S	82.15	337	eP	P	17 43 32.6	-0.5
EGMT	Eagleton	82.16	39	P	P	17 43 34.2	+0.6
	baz=303						
FFC	Flin Flon	82.19	31	P	P	17 43 33.4	-0.1
FFC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FFC	Flin Flon	82.19	31	P	P	17 43 33.4	-0.1
BZK	Bozkurt	82.28	314	⇓P	P	17 43 35.6	+1.4
SORM	Soroca	82.39	321	⇓P	P	17 43 35.7	+1.2
SORM	Soroca	82.39	321	⇓P	P	17 43 35.7	+1.2
BOZ	Bozeman (W)	82.40	42	P	P	17 43 35.6	+0.7
	baz=302,SNR=13						
AKN	Aaknes	82.43	340	eP	P	17 43 35.0	+0.4
PKM	Mcpherson Peak	82.43	55	P	P	17 43 36.0	+0.7
	baz=299,SNR=10						
VES	Vestal, Richgr	82.49	53	P	P	17 43 35.9	+0.6
	baz=299,SNR=10						
GAZ	Gaziantep	82.53	308	IAmb	IAmb	17 43 37.8	
	comp=Z,130nm,0.9s						
KLNR	Kaliningrad	82.66	329	d iP	P	17 43 35.0	-0.8
KLNR				pmax	pmax		
	comp=Z,70nm,0.6s						
ELK	Elko	82.68	48	P	P	17 43 37.6	+1.0
	comp=Z,5.4nm,0.4s,baz=320,slow=5.1,SNR=38						
ELK				PP	PP	17 46 56.7	+2.1
	comp=Z,6.4nm,1.0s,baz=262,slow=4.0,SNR=5.8						
MILM	Milestii Mici	82.80	320	⇑P	P	17 43 36.5	-0.2
OSL	Oslo	82.86	337	eP	P	17 43 36.5	-0.1
ISA	Isabella, Lake	83.01	53	P	P	17 43 38.1	0.0
	baz=299,SNR=6.5						
ARVC	Arvin	83.02	54	P	P	17 43 37.9	-0.2
	baz=299						
GRAC	Grapevine Rang	83.13	52	P	P	17 43 39.3	+0.6
	baz=300,SNR=12						
SKAR	Skarslia	83.13	338	eP	P	17 43 38.5	+0.3
IAS	Iasi	83.36	320	⇓P	P	17 43 40.1	+0.6
IAS	Iasi	83.36	320	⇓P	P	17 43 40.1	+0.6
HYA	Hoyanger	83.45	339	eP	P	17 43 39.9	+0.3
KONO	Kongsberg	83.46	337	eP	P	17 43 39.5	-0.2
MPMC	Manual Prospec	83.51	53	P	P	17 43 41.1	+0.3
	baz=300,SNR=15						
VASR	Vaslui	83.54	320	⇑P	P	17 43 41.1	+0.7
LRMC	Laurel Mtn Rad	83.66	53	P	P	17 43 41.9	+0.5
	baz=300,SNR=11						
BR131	Keskin Array S	83.67	312	P	P	17 43 41.6	+0.2
	SNR=21						
BRTR	Keskin Array B	83.67	312	P	P	17 43 41.3	-0.1
	comp=Z,21nm,0.6s,baz=104,slow=3.6,SNR=150						
BRTR	Keskin Array B	83.67	312	P	P	17 43 41.5	+0.1
BRTR	Keskin Array B	83.67	312	P	P	17 43 41.5	+0.1
R11A	Troy Canyon, C	83.67	50	P	P	17 43 42.1	+0.6
	baz=301,SNR=25						
H17A	Grant Village	83.68	43	P	P	17 43 44.5	+2.9
	baz=303,SNR=10						
EDW2	Edwards Air Fo	83.74	54	P	P	17 43 42.4	+0.7
	baz=300,SNR=18						
LVV	L'vov	83.74	324	eP	P	17 43 40.8	-0.6
LVV				eS	S	17 53 19.8	-3.0
LVV				pmax	pmax		
	comp=Z,110nm,1.5s						
LVV				smax	smax		
	comp=N,140nm,4.0s						
LVV				smax	smax		
	comp=E,280nm,4.0s						
FURC	Furnace Creek,	83.75	52	P	P	17 43 42.3	+0.7
	baz=300,SNR=14						
TLCR		83.76	318	⇑P	P	17 43 41.8	+0.3
TLCR		83.76	318	⇑P	P	17 43 41.8	+0.3
BIR	Birlad	83.84	320	⇑P	P	17 43 43.0	+1.1
BIR	Birlad	83.84	320	⇑P	P	17 43 43.0	+1.1
VARL	Varlezi	83.92	319	⇑P	P	17 43 43.5	+1.2
TPNV	Topopah Spring	83.93	51	P	P	17 43 43.3	+0.5
	baz=300,SNR=21						
TPNV	Topopah Spring	83.93	51	IAmb	IAmb	17 45 14.6	
	comp=Z,31nm,0.8s						
PRAR	RASCA	84.00	321	⇑P	P	17 43 42.8	0.0
MWC	Mount Wilson	84.02	54	IAmb	IAmb	17 45 15.0	
	comp=Z,52nm,1.4s						
RLMT	Red Lodge	84.05	42	P	P	17 43 44.6	+1.3
	baz=304,SNR=20						
RLMT	Red Lodge	84.05	42	IAmb	IAmb	17 45 16.0	
	comp=Z,48nm,1.3s						
GIRR	Girov	84.09	321	⇑P	P	17 43 43.5	+0.4
BEL	Belsk	84.14	327	eP	P	17 43 43.5	+0.3
BEL				eS	S	17 53 24.5	-2.0
CFR	Carcaliu	84.16	319	⇓P	P	17 43 44.5	+1.0
CFR	Carcaliu	84.16	319	⇓P	P	17 43 44.5	+1.0
TOPG	Topolog	84.19	318	⇑P	P	17 43 43.5	-0.2
ASK	Askoy	84.29	339	eP	P	17 43 44.3	+0.5
BFSC	Mount Baldy Ra	84.30	54	P	P	17 43 44.5	-0.1
	baz=300						
BIZ	Bicaz	84.32	321	⇓P	P	17 43 45.2	+0.9
BER	Bergen	84.32	339	eP	P	17 43 44.1	+0.1
GSC	Goldstone, Bar	84.37	53	P	P	17 43 45.5	+0.6
	baz=300,SNR=8.8						
PETR	Petresti	84.38	319	⇓P	P	17 43 45.4	+0.9
BUR08	Bucovina Ar. S	84.41	322	IAmb	IAmb	17 43 46.1	
	comp=Z,24nm,0.7s						
BURAR	Bucovina Array	84.42	322	⇑P	P	17 43 45.0	+0.1
BURAR	Bucovina Array	84.42	322	⇑P	P	17 43 45.0	+0.1
BURAR	Bucovina Array	84.42	322	P	P	17 43 45.3	+0.4
ODBI	Odobesti	84.46	319	⇓P	P	17 43 46.6	+1.6
KWP	Kalwaria Pacla	84.54	324	eP	P	17 43 45.6	+0.3
KWP				eS	S	17 53 28.8	-1.8
KWP	Kalwaria Pacla	84.54	324	IAmb	IAmb	17 43 46.8	
	comp=Z,80nm,0.8s						
DUG	Dugway, Tooele	84.55	47	P	P	17 43 46.7	+1.0
	baz=302						
HARR	Harsova	84.56	318	⇓P	P	17 43 45.7	+0.2
HARR	Harsova	84.56	318	⇓P	P	17 43 45.7	+0.2
TLBR	Topalu	84.57	318	⇑P	P	17 43 46.0	+0.5
VRI	Vrincioaia	84.58	320	⇑P	P	17 43 45.8	+0.2
VRI	Vrincioaia	84.58	320	⇑P	P	17 43 45.8	+0.2
BSD	Bornholm Skovb	84.64	332	i P	P	17 43 44.7	-0.9
	comp=Z,64nm,0.9s						
BSD	Bornholm Skovb	84.64	332	i P	P	17 43 44.7	-0.9
BSD				pmax	pmax		
	comp=Z,65nm,0.9s						
PLOR	Plostina	84.64	320	⇓P	P	17 43 46.9	+1.0
PLOR	Plostina	84.64	320	⇓P	P	17 43 46.9	+1.0
BLS5	Blasjo	84.69	338	eP	P	17 43 45.9	0.0
GRER		84.72	319	⇑P	P	17 43 51.5	+5.3
BISRR	Bisoca	84.78	319	⇑P	P	17 43 47.9	+1.2
JOSR	Joseni	84.78	321	⇑P	P	17 43 50.3	+3.7
HOMB	Homborsund	84.86	336	eP	P	17 43 45.9	-0.8
GKP	Gorka Klasztor	84.87	329	eP	P	17 43 46.4	-0.4
GKP				eS	S	17 53 30.2	-3.4
LAO	LASA Array	84.90	39	P	P	17 43 48.0	+0.7
	baz=306						
TUQ	Turquoise Moun	84.92	53	P	P	17 43 48.4	+0.8
	baz=301,SNR=14						
HEC	Hector,Ludlow	84.94	53	P	P	17 43 48.3	+0.6
	baz=301,SNR=10						
MURC	Murrieta	84.95	55	P	P	17 43 47.7	0.0
	baz=300						
AMRR	Amara	84.95	318	⇑P	P	17 43 48.3	+0.9
AMRR	Amara	84.95	318	⇑P	P	17 43 48.3	+0.9
PGOR	Pogoanele	84.99	319	⇓P	P	17 43 48.8	+1.3
OZUR		84.99	320	⇓P	P	17 43 48.4	+0.8
SFJD	Kangerlussuaq	84.99	4	P	P	17 43 46.7	-0.5
	comp=Z,24nm,0.7s,baz=206,slow=4.2,SNR=9.5						
SFJD	Kangerlussuaq	84.99	4	i P	P	17 43 46.3	-0.8
SFJD	Kangerlussuaq	84.99	4	P	P	17 43 46.2	-0.8
SFJD				IAmb	IAmb	17 43 48.0	
	comp=Z,34nm,0.8s						
ISR	Istrita	85.12	319	⇓P	P	17 43 49.6	+1.3
ISR	Istrita	85.12	319	⇓P	P	17 43 49.6	+1.3
KOLS	Kolonicke sedl	85.19	324	eP	P	17 43 47.5	-1.0
KOLS				pmax	pmax		
	comp=Z,17nm,1.2s						
KOLS	Kolonicke sedl	85.19	324	eP	P	17 43 47.5	-1.0
BW06	Boulder Array	85.19	44	P	P	17 43 49.5	+0.5
	baz=304						
PDAR	Pinedale Array	85.19	44	P	P	17 43 49.4	+0.4
	comp=Z,1.9nm,0.5s,baz=259,slow=2.4,SNR=9.8						
PDAR				PP	PP	17 47 13.8	-0.9
	comp=Z,0.8nm,0.3s,baz=311,slow=3.2,SNR=4.9						
PDAR				PKPPKP	P'P'df	18 09 54.7	-4.4
	comp=Z,0.3nm,0.5s,baz=184,slow=2.7,SNR=4.0						
PDAR	Pinedale Array	85.19	44	P	P	17 43 46.4	-2.5
ARCR	ARCALIA	85.20	322	⇑P	P	17 43 49.6	+1.0
ASF	Jabal al Asfar	85.23	304	P	P	17 43 49.2	0.0
	comp=Z,18nm,0.9s,baz=0.3,slow=3.3,SNR=31						
ASF				PP	PP	17 47 14.3	-0.9
	comp=Z,11nm,1.1s,baz=104,slow=2.3,SNR=6.0						
MLR	Muntele Rosu	85.25	320	P	P	17 43 49.0	-0.1
	comp=Z,10nm,0.5s,baz=344,slow=9.5,SNR=33						
MLR	Muntele Rosu	85.25	320	⇑P	P	17 43 49.0	-0.1
SNART	Snartemo	85.26	337	eP	P	17 43 48.5	-0.1
LEHL	Lehliu	85.33	319	⇑P	P	17 43 49.9	+0.7
UZH	Uzhgorod	85.37	324	c iP	P	17 43 48.5	-0.9
109C	Camp Elliot, M	85.37	55	P	P	17 43 50.2	+0.5
	baz=300						
ORH	Orhaniye	85.38	314	P	P	17 43 59.2	+10
GMRC	Granite Mounta	85.44	53	P	P	17 43 51.1	+0.9
	baz=301,SNR=10						
SECR		85.44	319	⇑P	P	17 43 49.8	0.0
PFO	Pinyon Flats O	85.47	54	P	P	17 43 50.7	+0.4
	comp=Z,6.2nm,0.4s,baz=312,slow=5.3,SNR=20						
PFO	Pinyon Flats O	85.47	54	P	P	17 43 50.7	+0.4
	baz=301,SNR=11						
SULR		85.54	319	⇑P	P	17 43 50.8	+0.5
BELC	Belle Mtn. Jos	85.60	54	P	P	17 43 51.2	+0.2
	baz=301,SNR=12						
CRVS	Cervenica-Dubn	85.63	324	eP	P	17 43 50.8	+0.1
CRVS				pmax	pmax		
	comp=Z,100nm,1.4s						
CRVS	Cervenica-Dubn	85.63	324	eP	P	17 43 50.8	+0.1
OJC	Ojcow	85.64	326	eP	P	17 43 50.5	-0.2
OJC				eS	S	17 53 38.2	-3.0
OJC	Ojcow	85.64	326	IAmb	IAmb	17 43 51.8	
	comp=Z,75nm,1.3s						
PRD	Provadia	85.72	317	i P	P	17 43 51.1	0.0
VOIR		85.79	320	⇑P	P	17 43 51.5	-0.1
VOIR		85.79	320	⇑P	P	17 43 51.5	-0.1
CJR	Cluj-Napoca	85.84	322	⇓P	P	17 43 53.0	+1.2
CJR	Cluj-Napoca	85.84	322	⇓P	P	17 43 53.0	+1.2
MONP2	Monument Peak	85.86	55	P	P	17 43 52.8	+0.4
	baz=301,SNR=5.9						
MMAI	Mount Meron Ar	85.89	305	P	P	17 43 52.7	+0.4
	comp=Z,45nm,0.8s,baz=57,slow=6.1,SNR=64						
NIE	Niedzica	85.90	325	eP	P	17 43 52.3	+0.3
NIE				eS	S	17 53 41.8	-2.0
MTUR	Matau	85.91	320	⇑P	P	17 43 52.2	0.0
MTUR	Matau	85.91	320	⇑P	P	17 43 52.2	0.0
MUD	Monsted U'grnd	85.97	335	i P	P	17 43 51.4	-0.6
	comp=Z,25nm,1.0s						
MUD	Monsted U'grnd	85.97	335	i P	P	17 43 51.4	-0.6
MUD				pmax	pmax		
	comp=Z,25nm,1.0s						
SGRR	Singureni	85.97	319	⇑P	P	17 43 51.9	-0.4
RAZG	Razgrad	86.04	318	⇑P	P	17 43 52.9	+0.2
ARR	Arges	86.07	320	⇓P	P	17 43 54.1	+1.2
IRM	Iron Mountain	86.13	53	P	P	17 43 53.9	+0.5
	baz=301,SNR=6.5						
BC3	Big Chuckawall	86.17	54	P	P	17 43 54.1	+0.4
	baz=301,SNR=6.9						
IKP	In-Ko-Pah, Jac	86.22	55	P	P	17 43 54.3	+0.5
	baz=301						
CSS	Mathiatis	86.36	308	IAmb	IAmb	17 43 54.4	
	comp=Z,44nm,0.8s						
KECS	Kecovo	86.40	324	eP	P	17 43 54.0	-0.3
KECS				pmax	pmax		
	comp=Z,11nm,0.9s						
KECS	Kecovo	86.40	324	eP	P	17 43 54.0	-0.3
LRW	Lerwick	86.46	341	eP	P	17 43 54.4	+0.1
LRW				IAmb	IAmb	17 43 56.0	
	comp=Z,185nm,1.5s						
WAL1	Walls	86.49	342	eP	P	17 43 54.9	+0.4
LANS	Liptovska Anna	86.49	325	eP	P	17 43 55.5	+0.7
LANS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LANS	Liptovska Anna	86.49	325	eP	P	17 43 55.5	+0.7
LOT	Lotru	86.51	321	⇑P	P	17 43 55.1	0.0
SZH	Strazhica	86.55	318	i P	P	17 43 54.9	-0.3
JMB	Yambol	86.63	317	i P	P	17 43 55.3	-0.2
ZIMR		86.66	318	⇓P	P	17 43 55.8	+0.2
ZIMR		86.66	318	⇓P	P	17 43 55.8	+0.2
OKC	Ostrava-Krasne	86.70	326	eP	P	17 43 55.4	-0.3
OKC	Ostrava-Krasne	86.70	326	eP	P	17 43 55.4	-0.3
KSP	Ksiaz	86.92	328	eP	P	17 43 56.7	-0.1
KSP				eS	S	17 53 50.0	-3.3
GLA	Glamis	86.93	54	P	P	17 43 57.8	+0.6
	baz=302						
RUE	Ruedersdorf	86.94	330	eP	P	17 43 56.6	-0.2
RUE	Ruedersdorf	86.94	330	eP	P	17 43 56.8	0.0
	comp=Z,36nm,0.6s,baz=43,slow=4.6						
MORC	Moravsky Berou	87.04	327	⇓P	P	17 43 57.2	-0.2
MORC	Moravsky Berou	87.04	327	⇓iP	P	17 43 57.1	-0.3
MORC	Moravsky Berou	87.04	327	⇓P	P	17 43 57.2	-0.2
PSZ	Piszkesteto	87.06	324	⇑P	P	17 43 58.1	+0.5
PSZ	Piszkesteto	87.06	324	⇑P	P	17 43 58.1	+0.5
OSTC	Ostas	87.15	328	eP	P	17 43 57.9	0.0
OSTC				ex	x	17 45 27.6	
SIRR	Siria	87.17	322	⇓P	P	17 43 57.9	-0.1
KRLC	Kraliky	87.21	327	eP	P	17 43 58.0	-0.2
KRLC				ex	x	17 45 28.3	
KRLC	Kraliky	87.21	327	eP	P	17 43 58.0	-0.2
CHVC	Chvalec	87.21	328	eP	P	17 43 57.9	-0.2
VYHS	Vyhne	87.24	325	eP	P	17 43 58.4	+0.1
VYHS				pmax	pmax		
	comp=Z,55nm,1.0s						
VYHS	Vyhne	87.24	325	eP	P	17 43 58.4	+0.1
DPC	Dobruska-Polom	87.24	328	eP	P	17 43 57.7	-0.6
DPC				ex	x	17 45 28.8	
DPC	Dobruska-Polom	87.24	328	eP	P	17 43 57.7	-0.6
UPC	Upice	87.28	328	eP	P	17 43 58.2	-0.2
UPC	Upice	87.28	328	eP	P	17 43 58.2	-0.2
SRE	Strehaia	87.30	320	⇓P	P	17 43 59.8	+1.1
SRE	Strehaia	87.30	320	⇓P	P	17 43 59.8	+1.1
BSEG	Bad Segeberg	87.37	333	eP	P	17 43 58.4	-0.3
	comp=Z,28nm,0.7s,baz=43,slow=4.6						
JAVC	Velka Javorina	87.58	326	⇓iP	P	17 44 00.9	+0.9
HERR	Herculane	87.61	321	⇑P	P	17 43 60.0	-0.1
HERR				⇓P	PcP	17 44 01.2	-0.3
RSSD	Black Hills	87.67	40	P	P	17 44 00.7	0.0
	baz=308						
KDZ	Kurdzhali	87.81	317	i P	P	17 44 00.8	-0.3
VRAC	Vranov	87.81	327	P	P	17 44 01.1	+0.2
	comp=Z,25nm,0.8s,baz=65,slow=4.3,SNR=41						
VRAC	Vranov	87.81	327	⇓P	P	17 44 01.9	+0.9
VRAC	Vranov	87.81	327	⇓iP	P	17 44 00.9	-0.1
VRAC	Vranov	87.81	327	⇓P	P	17 44 01.9	+0.9
ALN	Alexandroupoli	87.87	316	IAmb	IAmb	17 44 01.7	
	comp=Z,31nm,1.1s						
SMOL	Smolenice	87.93	326	eP	P	17 44 02.1	+0.6
SMOL				pmax	pmax		
	comp=Z,33nm,1.1s						
SMOL	Smolenice	87.93	326	eP	P	17 44 02.1	+0.6
SRO2	Moca	87.94	325	eP	P	17 44 00.7	-0.8
SRO2				pmax	pmax		
	comp=Z,33nm,0.6s						
SRO2	Moca	87.94	325	eP	P	17 44 00.7	-0.8
EIL	Elat	87.94	303	P	P	17 44 00.8	-1.2
	comp=Z,15nm,0.9s,baz=69,slow=1.9,SNR=11						
ULM	Lac du Bonnet	87.94	32	P	P	17 44 01.1	-0.4
	comp=Z,5.1nm,0.4s,baz=319,slow=4.9,SNR=8.1						
PVCC	Panska Ves	87.94	328	eP	P	17 44 01.1	-0.4
PVCC				ex	x	17 45 31.6	
PVCC	Panska Ves	87.94	328	eP	P	17 44 01.1	-0.4
SRO	Srobarova	87.94	325

PBCC	Pribram	88.79	328	eP	P	17 44 04.8	-0.7
PBCC				ex	x	17 45 34.9	
MMB	Musomiste	88.86	318	i P	P	17 44 05.7	-0.4
CLZ	Clausthal	88.87	331	eP	P	17 44 05.8	-0.1
	comp=Z,25nm,0.8s,baz=43,slow=4.6						
FRGS	Fruska Gora	88.88	322	‖ iP	P	17 44 05.5	-0.5
214A	Organ Pipe Nat	88.95	54	P	P	17 44 07.5	+0.8
	baz=303						
TANN	Tannenbergstha	88.98	329	eP	P	17 44 06.1	-0.3
	comp=Z,45nm,1.4s,baz=43,slow=4.6						
PLN	Plauen	89.07	329	eP	P	17 44 06.6	-0.2
	comp=Z,19nm,1.0s,baz=43,slow=4.6						
KKB	Krupnik	89.08	318	i P	P	17 44 06.8	-0.2
GUNZ	Gunzen	89.08	329	eP	P	17 44 06.8	-0.1
	comp=Z,25nm,0.7s,baz=43,slow=4.6						
CONA	Conrad Observa	89.10	326	i PcP	P	17 44 07.5	+0.4
	comp=Z,41nm,1.0s,SNR=34						
WERN	Wernitzgruen	89.11	329	eP	P	17 44 07.2	+0.1
	comp=Z,29nm,0.6s,baz=43,slow=4.6						
NKC	Novy Kostel	89.12	329	eP	P	17 44 06.1	-1.0
NKC				ex	x	17 45 37.0	
NKC	Novy Kostel	89.12	329	eP	P	17 44 06.1	-1.0
MCD	Coleburn Disti	89.20	341	eP	P	17 44 06.7	-0.5
MOX	Moxa	89.20	330	eP	P	17 44 07.1	-0.3
	comp=Z,36nm,1.5s,baz=43,slow=4.6						
GTTG	Gottingen	89.26	331	eP	P	17 44 07.4	-0.2
	comp=Z,18nm,0.8s,baz=43,slow=4.6						
ISCO	Idaho Springs	89.33	44	P	P	17 44 09.8	+1.1
	baz=307						
KHC	Kasperske Hory	89.37	328	eP	P	17 44 07.7	-0.6
KHC				ex	x	17 45 38.0	
KHC	Kasperske Hory	89.37	328	d iP	P	17 44 07.4	-0.9
KHC				pmax	pmax		
	comp=Z,112nm,1.3s						
KHC	Kasperske Hory	89.37	328	IAmb	IAmb	17 44 09.2	
	comp=Z,32nm,1.4s						
TEKS	Tekeris	89.42	322	‖ iP	P	17 44 08.4	-0.2
MANZ	Manzenberg	89.45	329	eP	P	17 44 08.5	-0.1
	comp=Z,26nm,1.2s,baz=43,slow=4.6						
DIVS	Divibare	89.45	321	‖ iP	P	17 44 07.9	-0.9
DIVS	Divibare	89.45	321	IAmb	IAmb	17 44 09.5	
	comp=Z,20nm,0.9s						
GEC2	GERESS Array S	89.52	328	eP	P	17 44 08.7	-0.4
	comp=Z,56nm,1.4s,baz=43,slow=4.6						
GERES	GERESS Array B	89.52	328	P	P	17 44 08.6	-0.4
	comp=Z,12nm,0.6s,baz=40,slow=5.5,SNR=81						
GERES				PP	PP	17 47 47.8	-0.6
	comp=Z,2.4nm,0.7s,baz=49,slow=9.0,SNR=4.2						
GERES				PKKPbc	PKKPbc	18 01 39.5	-2.0
	comp=Z,0.6nm,0.6s,baz=197,slow=4.2,SNR=6.4						
ROTZ	Rotzenmuhle	89.56	329	eP	P	17 44 09.2	+0.1
	comp=Z,74nm,1.5s,baz=43,slow=4.6						
IBBN	Ibbenburen	89.61	333	eP	P	17 44 09.0	-0.3
	comp=Z,85nm,0.9s,baz=43,slow=4.6						
WET	Wettzell	89.69	328	eP	P	17 44 09.6	-0.1
	comp=Z,48nm,1.7s,baz=43,slow=4.6						
VAY	Valandovo	89.72	318	i P	P	17 44 09.5	-0.5
ARSA	Arzberg	89.73	326	i PcP	P	17 44 09.9	0.0
	comp=Z,47nm,1.3s,SNR=21						
S22A	4UR Ranch, Cre	89.78	47	P	P	17 44 11.7	+1.0
	baz=306						
KAC	Achnashellach	89.84	342	eP	P	17 44 10.1	-0.2
BBLS	Lazići	89.93	321	‖ iP	P	17 44 10.7	-0.3
MOA	Molln	89.94	327	i PcP	P	17 44 10.9	0.0
	comp=Z,27nm,0.9s,SNR=17						
SKO	Skopje	89.98	319	i P	P	17 44 11.5	+0.3
GRF	Grafenberg Arr	90.06	329	eP	P	17 44 11.5	+0.1
	comp=Z,80nm,1.3s,baz=43,slow=4.6						
KPL	Plockton	90.08	342	eP	P	17 44 11.1	-0.2
KPL				IAmb	IAmb	17 44 12.1	
	comp=Z,58nm,0.9s						
TUC	Tucson	90.20	53	P	P	17 44 12.6	+0.1
	baz=304						
PERS	Pernice	90.35	325	i P	P	17 44 12.2	-0.6
	comp=Z,79nm,1.0s						
SOKA	Soboth	90.36	325	i PcP	P	17 44 12.6	-0.4
	comp=Z,34nm,0.8s,SNR=30						
INVG	Invergeldie, C	90.41	341	eP	P	17 44 12.1	-0.7
INVG				IAmb	IAmb	17 44 13.2	
	comp=Z,22nm,0.8s						
ESY	Stoneypath	90.41	340	eP	P	17 44 12.2	-0.7
BUG	Bochum--Univer	90.47	332	eP	P	17 44 12.4	-0.8
	comp=Z,37nm,1.0s,baz=43,slow=4.6						
BLY	Banja Luka	90.56	323	‖ iP	P	17 44 13.4	-0.4
SDCO	Great Sand Dun	90.63	46	P	P	17 44 15.5	+0.8
	baz=307						
EBL	Broad Law	90.67	340	eP	P	17 44 13.8	-0.2
EAB	Aberfoyle	90.70	341	eP	P	17 44 13.3	-0.9
OBKA	Obir	90.72	326	i P	P	17 44 13.9	-0.7
	comp=Z,17nm,0.8s,SNR=10						
RJOB	Jochberg	90.72	327	eP	P	17 44 13.6	-1.0
	comp=Z,63nm,0.9s,baz=43,slow=4.6						
CRES	Cresnjev	90.73	325	‖ iP	P	17 44 13.9	-0.7
MGRS	Mrkonjic Grad	90.83	323	‖ iP	P	17 44 30.3	+15
TNS	Taunus Mts	90.89	331	eP	P	17 44 15.0	-0.3
	comp=Z,16nm,0.7s,baz=43,slow=4.6						
OHR	Ohrid	90.89	319	i P	P	17 44 14.3	-1.2
PDG	Podgorica	90.94	320	⇑ P	P	17 44 13.7	-1.9
PDG	Podgorica	90.94	320	eP	P	17 44 14.4	-1.2
LJU	Ljubljana	91.06	325	i P	P	17 44 15.3	-0.7
	comp=Z,86nm,0.9s						
LJU	Ljubljana	91.06	325	‖ iP	P	17 44 14.9	-1.2
PGBU	Glenifferbraes	91.06	341	eP	P	17 44 15.6	-0.3
PGBU				IAmb	IAmb	17 44 16.6	
	comp=Z,70nm,1.0s						
EKA	Eskdalemuir Ar	91.07	340	P	P	17 44 15.7	-0.3
	comp=Z,8.8nm,0.7s,baz=55,slow=3.0,SNR=41						
EKA				PP	PP	17 47 57.1	-3.0
	comp=Z,8.9nm,1.0s,baz=44,slow=8.1,SNR=4.4						
MYKA	Terra Mystica	91.09	326	i P	P	17 44 15.3	-1.0
	comp=Z,21nm,0.7s,SNR=10						
ESK	Eskdalemuir	91.10	340	eP	P	17 44 15.3	-0.8
ESK				IAmb	IAmb	17 44 16.1	
	comp=Z,24nm,0.9s						
ESK	Eskdalemuir	91.10	340	P	P	17 44 16.1	+0.1
ESK				pmax	pmax		
	comp=Z,23nm,0.9s						
ESK	Eskdalemuir	91.10	340	P	P	17 44 16.1	+0.1
ESK				IAmb	IAmb	17 44 16.8	
	comp=Z,23nm,0.9s						
DRME	Dracevica, Mon	91.14	320	eP	P	17 44 15.4	-1.1
FUR	Furstenfeldbru	91.14	328	eP	P	17 44 16.6	+0.2
	comp=Z,151nm,1.2s,baz=43,slow=4.6						
AHRW	Bad Neuenahr-A	91.23	332	eP	P	17 44 16.4	-0.4
	comp=Z,29nm,1.2s,baz=43,slow=4.6						
PRED	Cave del Predi	91.26	326	IAmb	IAmb	17 44 16.7	
	comp=Z,16nm,0.9s						
GBRS	Gornja Briga	91.27	325	i P	P	17 44 16.6	-0.5
	comp=Z,90nm,0.9s						
CEY	Cerknica	91.32	325	‖ iP	P	17 44 16.1	-1.2
ABTA	Abfaltersbach	91.56	327	i P	P	17 44 17.5	-1.0
	comp=Z,55nm,1.1s,SNR=16						
WATA	Walderalm	91.59	328	i P	P	17 44 18.1	-0.6
	comp=Z,18nm,1.1s,SNR=8.4						
EYMN	Ely	91.61	32	P	P	17 44 18.6	0.0
	baz=316						
WTTA	Wattenberg	91.61	327	i PcP	P	17 44 18.3	-0.5
	comp=Z,32nm,1.3s,SNR=9.7						
MEM	Membach	91.62	332	P	P	17 44 17.6	-0.9
STU	Stuttgart	91.64	330	eP	P	17 44 18.6	-0.1
	comp=Z,73nm,1.2s,baz=43,slow=4.6						
ANMO	Albuquerque	91.67	49	⇑ iP	P	17 44 20.1	+0.7
ANMO				pmax	pmax		
	comp=Z,14nm,1.3s						
ANMO	Albuquerque	91.67	49	P	P	17 44 20.4	+1.1
	baz=306						
T25A	Trinidad	91.69	46	P	P	17 44 20.2	+0.7
	baz=307						
KESW	Keswick, Cumbr	91.69	339	eP	P	17 44 18.4	-0.4
KESW				IAmb	IAmb	17 44 19.5	
	comp=Z,42nm,1.1s						
MOTA	Moosalm	91.81	328	i P	P	17 44 19.0	-0.7
	comp=Z,22nm,1.1s,SNR=11						
BSTI	Sart Tilman	91.82	333	PcP	P	17 44 18.8	-0.6
SQTA	Sankt Quirin	91.85	328	i PcP	P	17 44 19.3	-0.6
	comp=Z,23nm,1.0s,SNR=8.5						
RETA	Reutte	91.86	328	i PcP	P	17 44 19.6	-0.3
	comp=Z,29nm,1.3s,SNR=12						
CIMO	Cimolais	91.91	326	IAmb	IAmb	17 44 19.3	
	comp=Z,33nm,1.2s						
IDI	Anoyia	91.91	312	P	P	17 44 18.8	-1.5
	comp=Z,7.5nm,0.4s,baz=45,slow=8.1,SNR=21						
IDI	Anoyia	91.91	312	⇑ P	P	17 44 18.9	-1.4
IDI	Anoyia	91.91	312	IAmb	IAmb	17 47 14.0	
	comp=Z,40nm,1.2s						
ECSD	EROS Data Cent	92.02	37	P	P	17 44 20.5	-0.1
	baz=313						
UBR	Ueberruh	92.03	329	eP	P	17 44 19.9	-0.7
	comp=Z,27nm,1.0s,baz=43,slow=4.6						
BCLA	Clavier	92.05	333	PcP	P	17 44 19.9	-0.6
CLGH	Cloghs, Cushen	92.16	341	eP	P	17 44 20.4	-0.5
CLGH				IAmb	IAmb	17 44 21.9	
	comp=Z,20nm,0.8s						
BGES	Gesves	92.17	333	PcP	P	17 44 20.5	-0.6
FETA	Feichten	92.22	328	i PcP	P	17 44 21.1	-0.5
	comp=Z,27nm,1.0s,SNR=12						
LBWR	Ladybower, Pea	92.24	338	eP	P	17 44 20.6	-0.8
LBWR				IAmb	IAmb	17 44 22.4	
	comp=Z,56nm,1.1s						
WLF	Walferdange	92.28	332	PcP	P	17 44 21.4	-0.2
WLF	Walferdange	92.28	332	eP	P	17 44 21.7	+0.1
	comp=Z,79nm,1.5s,baz=43,slow=4.6						
BFO	Black Forest	92.36	330	P	P	17 44 21.8	-0.3
BFO				pmax	pmax		
	comp=Z,59nm,1.2s						
BFO	Black Forest	92.36	330	eP	P	17 44 21.6	-0.5
	comp=Z,54nm,1.2s,baz=43,slow=4.6						
BFO	Black Forest	92.36	330	P	P	17 44 21.8	-0.3
BMRD	Maredsous	92.36	333	PcP	P	17 44 21.3	-0.6
SNF	Seneffe	92.39	333	PcP	P	17 44 21.5	-0.6
IOMK	Kirk Michael	92.42	340	eP	P	17 44 21.6	-0.5
DAVA	Damuels	92.42	328	i PcP	P	17 44 22.1	-0.4
	comp=Z,55nm,1.0s,SNR=20						
CTI	Castel Tesino	92.48	327	IAmb	IAmb	17 44 22.3	
	comp=Z,25nm,1.2s						
WIM	Isle of Man	92.55	340	eP	P	17 44 22.0	-0.8
DOU	Dourbes	92.59	333	P	P	17 44 22.0	-1.0
DOU				PcP	PcP	17 44 22.3	-1.1
CWF	Charnwood Fore	92.65	337	eP	P	17 44 22.2	-1.0
CWF				IAmb	IAmb	17 44 23.4	
	comp=Z,31nm,0.9s						
ITM	Ithomi	92.67	315	IAmb	IAmb	17 44 22.8	
	comp=Z,22nm,0.8s						
DAVOX	Davos/Dischmat	92.79	328	P	P	17 44 23.9	-0.4
	comp=Z,22nm,0.8s,baz=40,slow=2.5,SNR=28						
ECH	Echery	92.96	330	IAmb	IAmb	17 44 25.2	
	comp=Z,24nm,1.0s						
WME	Myndd Eilian	93.08	339	eP	P	17 44 24.7	-0.5
ELSH	Elham, Standar	93.09	335	eP	P	17 44 25.0	-0.2
WLF1	Llynfaes	93.20	339	eP	P	17 44 24.7	-1.0
WLF1				IAmb	IAmb	17 44 26.0	
	comp=Z,97nm,1.6s						
TUE	Stuetta	93.27	328	IAmb	IAmb	17 44 27.1	
	comp=Z,47nm,1.2s						
SALO	Salr	93.33	327	IAmb	IAmb	17 44 26.7	
	comp=Z,43nm,1.0s						
MCH1	Michaelchurch	93.84	338	eP	P	17 44 27.5	-1.2
NRCA	Norcia	94.02	324	IAmb	IAmb	17 44 30.7	
	comp=Z,22nm,0.8s						
SENIN	Lac Senin/Sane	94.29	329	IAmb	IAmb	17 44 31.4	
	comp=Z,53nm,1.9s						
MNTX	Cornudas Mount	94.31	51	P	P	17 44 32.0	+0.7
	baz=307						
LPIG	La Paz	95.08	59	PKKPbc	PKKPbc	18 01 23.1	-3.3
	comp=Z,46nm,0.3s,baz=300,slow=6.1,SNR=4.5						
SSB	Saint Sauveur	96.36	330	IAmb	IAmb	17 44 40.6	
	comp=Z,33nm,1.7s						
TX32	Lajitas Array	96.91	52	IAmb	IAmb	17 46 40.8	
	comp=Z,10.0nm,0.8s						
TXAR	Lajitas Array	96.91	52	P	P	17 44 43.9	+0.7
	comp=Z,1.3nm,0.5s,baz=281,slow=1.7,SNR=30						
TXAR				PKKPbc	PKKPbc	18 01 22.2	+0.2
	comp=Z,0.7nm,0.6s,baz=146,slow=5.8,SNR=7.8						
TXAR	Lajitas Array	96.91	52	P	P	17 44 43.7	+0.5
VAE	Valguarnera	97.01	319	P	Pdif	17 44 44.8	+1.4
	comp=Z,5.4nm,0.7s,baz=22,slow=19,SNR=1.8						
KEST	Kesra	101.12	321	P	Pdif	17 45 02.3	+0.5
	comp=Z,4.8nm,1.0s,baz=2,9.slow=1.6,SNR=5.5						
KMBO	Kilima Mbogo	101.39	275	P	Pdif	17 45 04.5	+0.9
	comp=Z,2.6nm,0.8s,baz=54,slow=6.1,SNR=4.8						
ESDC	Sonseca Array	104.58	332	Pdiff	Pdif	17 45 16.5	-0.6
	comp=Z,0.2nm,0.3s,baz=27,slow=3.8,SNR=3.0						
ESDC				PKiKP	PKiKP	17 49 30.2	+0.3
	comp=Z,2.9nm,0.9s,baz=28,slow=1.1,SNR=8.3						
ESDC				PKKPbc	PKKPbc	18 00 59.7	-1.1
	comp=Z,0.1nm,0.5s,baz=261,slow=3.1,SNR=4.6						
VNDA	Vanda	106.13	175	PKiKP	PKiKP	17 49 31.6	+0.2
	comp=Z,0.8nm,0.7s,baz=304,slow=4.4,SNR=6.3						
VNDA				SKP		17 52 18.4	
	comp=Z,0.4nm,0.4s,baz=314,slow=3.1,SNR=1.7						
MDT	Midelt	110.60	328	PKiKP	PKiKP	17 49 42.1	+0.7
	comp=Z,1.6nm,0.7s,baz=55,slow=2.1,SNR=5.4						
MDT				PP	PP	17 50 25.6	-0.3
	comp=Z,4.5nm,0.9s,baz=24,slow=7.2,SNR=7.8						
MAW	Mawson	110.69	203	PKiKP	PKiKP	17 49 40.6	+0.4
	comp=Z,2.7nm,0.7s,baz=36,slow=3.3,SNR=6.6						
MAW				PP	PP	17 50 23.8	-3.1
	comp=Z,1.2nm,0.3s,baz=68,slow=9.3,SNR=3.7						
QSPA	South Pole Qui	117.77	180	PKPdf	PKPdf	17 49 53.4	-0.4
SYO	Syowa Base	119.39	204	‖ eX	PKPdf	17 49 55.4	-1.4
SYO	Syowa Base	119.39	204	‖ ePKiKP	PKPdf	17 49 56.7	-0.1
TOA0	Torodi Ar. Sit	122.22	309	PKPdf	PKPdf	17 50 04.0	+0.1
TORD	Torodi Ar. Bea	122.22	309	PKP	PKPdf	17 50 03.9	-0.1
	comp=Z,18nm,0.6s,baz=19,slow=1.9,SNR=50						
TORD				SKP		17 52 51.5	
	comp=Z,4.6nm,1.0s,baz=352,slow=2.2,SNR=5.1						
TORD				PKKPbc	PKKPbc	18 00 02.4	+1.0
	comp=Z,1.6nm,0.7s,baz=230,slow=3.7,SNR=4.3						
TORD	Torodi Ar. Bea	122.22	309	PKPdf	PKiKP	17 50 04.2	0.0
BOSA	Boshof	122.85	253	PKP	PKiKP	17 50 05.4	+0.3
	comp=Z,11nm,0.5s,baz=78,slow=1.7,SNR=30						
NVL	N'lazarevskaya	128.31	200	ePKiKP	PKPdf	17 50 14.1	+0.2
NVL				pmax	pmax		
	comp=Z,19nm,0.9s						
DBIC	Dimbokro	131.33	310	PKhKP	PKPpre	17 50 13.1	
	comp=Z,2.8nm,0.7s,baz=141,slow=2.2,SNR=6.2						
DBIC				PKP	PKPdf	17 50 21.8	+0.4
	comp=Z,14nm,0.6s,baz=45,slow=2.4,SNR=14						
DBIC				SKPbc	SKPbc	17 53 00.4	+0.2
	comp=Z,30nm,0.5s,baz=24,slow=4.4,SNR=30						
TIC	Toumodi	131.46	310	ePKiKP	PKPdf	17 50 21.6	0.0
KIC	Kosan Boka	131.47	309	ePKiKP	PKPdf	17 50 21.7	0.0
	comp=Z,34nm,0.6s						
SNAA	Sanae	131.65	195	PKPdf	PKPdf	17 50 20.0	-0.4
SNAA	Sanae	131.65	195	Pdiff	SKPbc	17 52 58.8	-0.8
SNAA	Sanae	131.65	195	PKiKP	PKPdf	17 50 20.5	+0.2
SNAA	Sanae	131.65	195	PKPdf	PKPdf	17 50 20.5	+0.2
LIC	Lamto	131.77	309	ePKiKP	PKPdf	17 50 22.1	-0.1
	comp=Z,39nm,0.5s						
SDV	Santo Domingo	133.13	43	PKP	PKPdf	17 50 25.3	+0.3
	comp=Z,17nm,0.7s,baz=275,slow=3.4						
SDV				SKPbc	SKPbc	17 53 06.1	-0.4
	comp=Z,61nm,0.9s,baz=325,slow=2.7,SNR=30						
SDV	Santo Domingo	133.13	43	PKPdf	PKPdf	17 50 25.5	+0.5
SDV	Santo Domingo	133.13	43	eP	PKPdf	17 50 25.1	+0.1
VNA2	Neumayer--Watz	133.21	194	PKPdf	PKPdf	17 50 23.4	+0.2
VNA2	Neumayer--Watz	133.21	194	Pdiff	SKPbc	17 53 04.5	-0.3
	baz=121,slow=3.2						
VNA3	Neumayer Olymp	133.44	193	PKPdf	PKPdf	17 50 23.4	-0.2
VNA3	Neumayer Olymp	133.44	193	Pdiff	SKPbc	17 53 04.7	-0.8
VNA1	Neumayer--Stat	133.61	194	PKPdf	PKPdf	17 50 23.6	-0.2
OTAV	Otavalo	134.01	59	eP	PKPdf	17 50 27.6	+0.6
ATAH	Atahualpa	138.56	67	SKPbc	SKPbc	17 53 23.8	+0.5
	comp=Z,28nm,1.1s,baz=293,slow=3.0,SNR=12						
MDP	Montagnes des	145.05	22	PKPbc	PKPab	17 50 47.4	-0.2
	baz=332,slow=4.0						
MDP				SKPbc	SKPbc	17 53 38.7	-0.3
	comp=Z,7.5nm,0.5s,baz=302,slow=2.8,SNR=7.3						
PTGA	Pitinga	147.06	38	PKP	PKPdf	17 50 50.5	+0.7
	comp=Z,32nm,0.7s,baz=322,slow=2.4,SNR=34						
PTGA				PKPbc	PKPbc	17 50 52.8	+0.1
	comp=Z,32nm,0.7s,baz=308,slow=4.0,SNR=36						
PTGA				SKPbc	SKPbc	17 53 43.1	-0.4
	comp=Z,9.2nm,0.6s,baz=355,slow=3.8,SNR=4.8						
PTGA				PP	PP	17 54 21.2	-0.1
	comp=Z,6.5nm,0.9s,baz=344,slow=3.5,SNR=4.7						
MACA	Manacapuru-AM	148.65	42	eP	PKPdf	17 50 53.9	+1.6
ETMB	Extrema	149.76	58	eP	PKPdf	17 50 53.8	-0.3
MCPB	Macapa, AP	150.35	24	eP	PKPdf	17 50 55.7	+0.7
MALB	Monte Alegre	150.84	29	eP	PKPdf	17 50 56.7	+0.9
SAML	Samuel	151.39	53	PKiKP	PKiKP	17 51 03.3	-0.1
SAML	Samuel	151.39	53	PKPbc	PKiKP	17 51 03.3	-0.1
SAML	Samuel	151.39	53	eP	PKPdf	17 50 57.5	+1.0
LPAZ	La Paz	151.91	71	PKP	PKPdf	17 50 59.0	+1.0
	comp=Z,1.8nm,0.7s,baz=16,slow=2.1,SNR=9.3						
LPAZ				PKPbc	PKiKP	17 51 05.5	+0.3
	comp=Z,17nm,0.7s,baz=260,slow=2.2,SNR=57						
LPAZ	La Paz	151.91	71	PKPbc	PKiKP	17 51 06.1	+0.9
LPAZ	La Paz	151.91	71	eP	PKPdf	17 50 58.1	+0.1
PATCX	Punta Patache	152.07	82		PKiKP	17 51 05.8	+1.1
PLCA	Paso Flores	152.24	125	PKPbc	PKiKP	17 51 04.9	+0.4
	comp=Z,19nm,0.6s,baz=230,slow=1.9,SNR=50						
PLCA	Paso Flores	152.24	125		PKiKP	17 51 05.5	+0.9
PLCA	Paso Flores	152.24	125	eP	PKPdf	17 50 57.6	+0.5
ITTB	Itaituba	152.36	35	eP	PKPdf	17 50 58.8	+0.8
TMAB	Tom-Au,PA,Br	153.49	17	eP	PKPdf	17 51 00.5	+0.9
LVC	Limon Verde	153.75	85	PKPbc	PKiKP	17 51 08.9	+0.4
	comp=Z,9.7nm,1.0s,baz=295,slow=4.4,SNR=4.3						
LVC	Limon Verde	153.75	85	eP	PKPdf	17 51 01.5	+1.3
ROSB	Rosrio	154.79	9	eP	PKPdf	17 51 02.0	+0.5
NPGB	Novo Progresso	154.83	37	eP	PKPdf	17 51 01.7	+0.2
NBMO	Morrinhos-CE	155.45	359	eP	PKPdf	17 51 02.4	+0.1
VILB	Vilhena	156.25	55	eP	PKPdf	17 51 04.2	+0.9
PRPB	Parauapebas	156.54	24	eP	PKPdf	17 51 04.1	+0.3
SIV	San Ignacio	157.49	62	PKP	PKPdf	17 51 05.4	+0.6
	comp=Z,3.6nm,0.7s,baz=289,slow=0.5,SNR=13						
SIV				PKPab	PKPab	17 51 38.3	-1.4
	comp=Z,1.6nm,0.5s,baz=313,slow=2.0,SNR=6.0						
SIV				SKP		17 53 51.1	
	comp=Z,4.4nm,1.0s,baz=318,slow=0.5,SNR=4.5						
RCBR	Riachuelo	157.53	348	PKPab	PKPab	17 51 39.5	-0.2
	baz=20,slow=9.0						
CLDB	Colider	157.69	43	eP	PKPdf	17 51 04.8	-0.3
PTLB	Pontes e Lacer	158.65	58	eP	PKPdf	17 51 07.3	+1.2
SMTB	Santa Maria do	159.81	21	eP	PKPdf	17 51 08.8	+1.2
PEXB	Peixe	162.56	26	eP	PKPdf	17 51 09.7	-0.8
ARAG	Araguaiana, MT	163.86	43	eP	PKPdf	17 51 12.8	+1.2
SDBA	SAO DESIDERIO	163.94	16	eP	PKPdf	17 51 11.7	-0.1
GDU01	Guandu, BA	165.77	357	eP	PKPdf	17 51 13.7	+0.4
BDFB	Brasilia	165.84	31	PKP	PKPdf	17 51 14.0	+0.6
	comp=Z,8.3nm,0.9s,baz=155,slow=5.2,SNR=3.3						
JANB	Januaria	166.63	16	eP	PKPdf	17 51 14.9	+0.9
IPMB	Ipameri, GO	167.74	37	eP	PKPdf	17 51 15.0	+0.2
ITRB	Iturama	167.74	50	eP	PKPdf	17 51 15.4	+0.8
PLTB	Pedras Altas	167.98	111	eP	PKPdf	17 51 16.2	+1.7
PCMB	Pacaembu	168.30	59	eP	PKPdf	17 51 16.3	+1.3
MC01	Montes Claros	168.31	17	eP	PKPdf	17 51 16.0	+0.8
PTGB	Pitanga	169.08	75	eP	PKPdf	17 51 15.8	+0.4
ITAB	Concordia	169.61	89	eP	PKPdf	17 51 16.8	+1.2
NAN01	Guarapari, ES	169.89	358	eP	PKPdf	17 51 17.6	+1.6
BB19B	Bebedouro	169.92	49	eP	PKPdf	17 51 16.9	+0.9
FRTB	Fartura	170.56	63	eP	PKPdf	17 51 17.6	+1.3
SJMB	Sao Joao De Ma	170.72	4	eP	PKPdf	17 51 17.0	+0.5
CNLB	Canela	170.76	101	eP	PKPdf	17 51 19.0	+2.8
BSFB	Barra de Sao F	170.87	2	eP	PKPdf	17 51 17.3	+0.8
RIB01	Linhares ES	171.36	360	eP	PKPdf	17 51 17.8	+1.0
TIJ01	Guaruva-PR	171.89	73	eP	PKPdf	17 51 17.4	+0.4
VAO	Valinhos	172.29	51	eP	PKPdf	17 51 18.7	+1.5
SPB	Sao Paulo	172.33	57	eP	PKPdf	17 51 17.2	+0.1
PET01	Itanhaem-SP	172.84	61	eP	PKPdf	17 51 18.5	+1.2
MAN01	Angra dos Reis	173.98	33	eP	PKPdf	17 51 19.4	+1.6

JMA 21 17:32:31.1±0.1, 41°.95N×141°.32E, h21km±2km, M0.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	Kayabe	0.22	254	P	Pb	17 32 36.6	-0.4
JKB				eS	Sb	17 32 40.1	-1.1
JNB	Noboribetsu	0.56	338	eS	Sb	17 32 49.3	-0.6
JOT	Ohata	0.60	200	eS	Sb	17 32 50.5	-0.6

MJAR Matsushiro Arr 8.67 351 P **P** **17 35 37.5 -0.1**
JHS Saijyo 9.06 323 P **P** **17 35 43.3 +1.6**
JFFD Fukushimafurud 9.13 4 S **S** **17 37 25.4 -2.3**
JNU Nakatsue 9.27 306 P **P** **17 35 42.5 -1.6**
6.7nm,0.3s,baz=125,slow=5.8,SNR=12
JNU Nakatsue 9.27 306 P **P** **17 35 44.9 +0.9**
JAMN Amaminishikomi 9.40 274 P **P** **17 35 46.4 +0.9**
JAMN S **S** **17 37 33.8 +0.7**
JSJ Shimokoshiki 9.53 295 P **P** **17 35 47.4 +0.7**
JOI OKI 10.00 328 P **P** **17 35 52.6 +0.9**
JTU Tsushima 11.06 309 P **P** **17 36 03.7 +0.7**
JKE Kume jima 2 11.72 265 P **P** **17 36 10.4 +0.2**
KSRS Korea Array 13.77 316 P **P** **17 36 30.5 -1.3**
baz=132,slow=9.7,SNR=5.3
KSRS S **S** **17 39 06.7 +8.7**
baz=144,slow=15,SNR=7.0
KSRS PcP **PcP** **17 41 16.6 +0.1**
0.2nm,0.3s,baz=175,slow=0.6,SNR=4.6
KSRS ScP **ScP** **17 44 03.8 +0.5**
0.2nm,0.3s,baz=152,slow=1.1,SNR=12
JYM2 Yakumo 2 14.14 2 S **S** **17 39 06.2 +1.3**
INCN Inchon 14.60 314 P **P** **17 36 41.9 +1.4**
HHU Hamhung 15.68 323 pP **P** **17 36 54.1 +2.3**
PYAG Pyongyang 16.10 317 pP **P** **17 36 55.1 -1.1**
PYS Pyongsong 16.17 318 pP **P** **17 36 52.4 -4.6**
ASAJ Asahikawa 16.28 7 P **P** **17 36 59.0 +0.9**
3.8nm,0.3s,baz=200,slow=6.9,SNR=2.9
ASAJ ScP **ScP** **17 44 07.0 -0.8**
0.6nm,0.3s,baz=253,slow=6.7,SNR=10
USRK Ussuriysk Ar. 17.39 341 P **P** **17 37 09.9 +0.6**
baz=157,slow=9.4,SNR=26
USRK ScP **ScP** **17 44 09.2 -0.7**
baz=225,slow=2.4,SNR=10.0
USRK Ussuriysk Ar. 17.39 341 P **P** **17 37 09.8 +0.5**
SUJ Sinuiju 17.52 318 pP **P** **17 37 09.9 -0.8**
MDJ Mudanjiang 18.53 336 P **P** **17 37 21.2 +1.2**
PETK Petropavlovsk- 28.41 23 P **P** **17 38 50.9 +2.7**
8.7nm,0.4s,baz=209,slow=3.1,SNR=15
PETK ScP **ScP** **17 44 38.4 -0.8**
6.2nm,0.8s,baz=191,slow=6.0,SNR=5.0
SIJI Sorong 29.81 197 P **P** **17 39 00.8 -0.1**
12nm,0.5s,baz=8.3,slow=11,SNR=4.2
MA2 Magadan 32.50 10 P **P** **17 39 23.8 +0.4**
22nm,0.5s,baz=264,slow=3.9,SNR=8.7
MA2 ScP **ScP** **17 44 52.3 -0.3**
12nm,0.7s,baz=128,slow=6.6,SNR=7.1
MA2 Magadan 32.50 10 P **P** **17 39 25.2 +1.8**
MA2 IAmb IAmb 17 39 25.5
comp=Z,30nm,0.7s
SONM Songino Array 32.65 317 P **P** **17 39 24.9 -0.1**
comp=Z,28nm,0.9s,baz=126,slow=7.5,SNR=7.6
SONM PcP **PcP** **17 41 56.9 +0.3**
comp=Z,6.0nm,0.7s,baz=151,slow=3.7,SNR=5.8
SONM ScP **ScP** **17 44 53.4 -0.2**
comp=Z,6.7nm,0.7s,baz=148,slow=3.4,SNR=7.5
SONM Songino Array 32.65 317 P **P** **17 39 25.1 +0.1**
SONM PcP **PcP** **17 41 57.5 +0.9**
YAK Yakutsk 34.74 352 P **P** **17 39 42.5 +0.3**
comp=Z,29nm,0.6s,baz=146,slow=2.1,SNR=7.6
YAK S **S** **17 44 32.4 -4.1**
comp=Z,2.1nm,0.4s,baz=160,slow=18,SNR=1.7
SEY Seymchan 35.94 10 P **P** **17 39 54.4 +2.1**
comp=Z,9.8nm,0.5s,baz=184,slow=9.2,SNR=6.0
SEY ScP **ScP** **17 45 04.4 -0.5**
comp=Z,3.1nm,0.6s,baz=167,slow=7.3,SNR=4.9
CMAR Chiang Mai Arr 38.59 265 P **P** **17 40 14.1 -0.6**
comp=Z,23nm,1.0s,baz=57,slow=8.3,SNR=11
CMAR PcP **PcP** **17 42 15.9 +1.0**
comp=Z,8.9nm,0.9s,baz=96,slow=0.9,SNR=6.4
CMAR PKiKP **PKiKP** **17 49 27.1 -0.3**
comp=Z,0.2nm,0.6s,baz=281,slow=1.1,SNR=4.6
CMAR Chiang Mai Arr 38.59 265 P **P** **17 40 14.6 -0.1**
PSI Prapat 46.33 245 P **P** **17 41 15.8 -0.1**
comp=Z,36nm,0.8s,baz=360,slow=4.1,SNR=6.2
PSI PcP **PcP** **17 42 41.7 +0.4**
comp=Z,32nm,0.9s,baz=0.9,slow=1.5,SNR=6.0
PSI ScP **ScP** **17 45 46.4 -0.9**
comp=Z,6.3nm,0.7s,baz=0.4,slow=3.6,SNR=3.9
RPSI Rantau Prapat 46.39 245 P **P** **17 41 15.8 -0.4**
LEM Lembang 46.51 227 P **P** **17 41 16.3 -0.9**
comp=Z,86nm,0.9s,baz=89,slow=9.5,SNR=5.1
ZALV Zalesovo Beam 47.46 319 P **P** **17 41 23.4 -0.4**
comp=Z,56nm,0.7s,baz=96,slow=6.8,SNR=12
ZALV PcP **PcP** **17 42 44.2 -0.3**
comp=Z,22nm,0.5s,baz=130,slow=4.1,SNR=7.6
ZALV ScP **ScP** **17 45 50.1 -1.2**
comp=Z,5.5nm,0.6s,baz=105,slow=3.7,SNR=3.9
ZALV P4KPbc 18 18 56.8
comp=Z,0.4nm,0.4s,baz=72,slow=4.8,SNR=3.6
ZALV Zalesovo Beam 47.46 319 P **P** **17 41 23.5 -0.2**
FITZ Fitzroy Crossi 47.79 198 P **P** **17 41 26.1 -0.4**
comp=Z,12nm,0.6s,baz=360,slow=14,SNR=3.7
FITZ Fitzroy Crossi 47.79 198 P **P** **17 41 26.2 -0.4**
WRA Warramunga Arr 47.91 187 P **P** **17 41 27.0 -0.5**
comp=Z,17nm,0.4s,baz=0.9,slow=7.7,SNR=8.3
WRA PcP **PcP** **17 42 47.2 +0.6**
comp=Z,14nm,0.7s,baz=0.5,slow=3.9,SNR=3.5
WRA PP PP 17 43 17.0 -8.9
comp=Z,25nm,0.9s,baz=10,slow=8.3,SNR=5.7
WRA ScP **ScP** **17 45 53.5 -0.2**
comp=Z,11nm,0.8s,baz=2.1,slow=4.5,SNR=6.8
WRA S **S** **17 47 41.9 -6.2**
comp=Z,7.4nm,0.9s,baz=7.2,slow=14,SNR=7.5
WRA P4KPbc 18 18 59.5
comp=Z,1.3nm,1.2s,baz=5.0,slow=5.0,SNR=6.5
WRA Warramunga Arr 47.91 187 P **P** **17 41 27.1 -0.5**
WRA **PcP** **17 42 47.6 +1.0**
CTA Charters Tower 48.16 172 P **P** **17 41 30.4 +1.0**
comp=Z,14nm,0.7s,baz=344,slow=8.6,SNR=4.2
MKAR Makanchi Array 48.31 309 P **P** **17 41 30.3 0.0**
comp=Z,55nm,0.8s,baz=93,slow=10,SNR=10
MKAR PcP **PcP** **17 42 47.6 -0.2**
comp=Z,16nm,0.8s,baz=86,slow=3.8,SNR=4.3
MKAR ScP **ScP** **17 45 54.4 -0.7**
comp=Z,6.2nm,0.6s,baz=86,slow=4.7,SNR=4.9
MKAR P4KPbc 18 19 01.4
comp=Z,0.3nm,0.4s,baz=81,slow=5.7,SNR=6.8
NRIK Noril'sk 51.09 339 P **P** **17 41 49.5 -0.8**
comp=Z,88nm,0.6s,baz=116,slow=8.6,SNR=11
NRIK ScP **ScP** **17 46 06.1 -0.5**
comp=Z,8.5nm,0.8s,baz=122,slow=5.1,SNR=3.7
ASAR Alice Springs 51.64 187 P **P** **17 41 55.0 0.0**
comp=Z,8.5nm,0.5s,baz=3.2,slow=3.9,SNR=6.8
ASAR PcP **PcP** **17 43 01.1 +0.7**
comp=Z,11nm,0.8s,baz=12,slow=3.4,SNR=6.5
ASAR ScP **ScP** **17 46 09.5 -0.1**
comp=Z,3.9nm,0.8s,baz=12,slow=5.3,SNR=4.1
ASAR Alice Springs 51.64 187 P **P** **17 41 54.8 -0.1**
KDAK Kodiak Island 54.95 37 P **P** **17 42 19.6 +1.6**
comp=Z,43nm,0.6s,baz=272,slow=4.3,SNR=14
BVAR Borovoye Array 55.99 317 ScP **ScP** **17 46 27.4 -1.0**
comp=Z,7.5nm,0.6s,baz=128,slow=9.6,SNR=5.4
HYB Hyderabad 56.99 273 *i* P **P** **17 42 32.5 -0.5**
HYB *e*PcP **PcP** **17 43 20.0 -1.4**
ILAR Eielson Array 57.98 29 P **P** **17 42 39.5 +0.6**
comp=Z,16nm,0.5s,baz=248,slow=5.7,SNR=19
ILAR S **S** **17 49 59.6 -1.2**
comp=Z,0.3nm,0.7s,baz=263,slow=7.9,SNR=4.5
HMT Hamilton 59.23 34 P **P** **17 42 49.7 +2.2**
HMT IAmb IAmb 17 42 49.9
comp=Z,30nm,0.6s
STKA Stephens Creek 59.52 178 P **P** **17 42 50.1 +0.3**
comp=Z,26nm,1.0s,baz=327,slow=8.7,SNR=4.7
MCARA McCarthy VSAT 59.78 33 P **P** **17 42 53.0 +1.9**
MCARA IAmb IAmb 17 42 54.2
comp=Z,67nm,0.9s
BALM Baldy 60.13 33 P **P** **17 42 55.1 +1.5**
BALM IAmb IAmb 17 42 56.2
comp=Z,39nm,1.0s
ISLE Juniper Island 60.16 34 P **P** **17 42 55.8 +1.9**
ISLE IAmb IAmb 17 42 56.5
comp=Z,44nm,1.1s
ARU Arti 62.46 322 P **P** **17 43 08.7 -0.1**
comp=Z,32nm,0.4s,baz=96,slow=2.5,SNR=12
INK Inuvik 63.12 25 P **P** **17 43 14.1 +1.2**
comp=Z,5.7nm,0.4s,baz=270,slow=32,SNR=5.7
INK Inuvik 63.12 25 P **P** **17 43 14.4 +1.5**
INK IAmb IAmb 17 43 15.2
comp=Z,12nm,0.9s
WHY Whitehorse 63.80 33 P **P** **17 43 20.0 +2.4**
WHY IAmb IAmb 17 43 21.0
comp=Z,45nm,1.1s
SKAG Skagway 63.80 35 P **P** **17 43 18.9 +1.5**
SKAG IAmb IAmb 17 43 20.4
comp=Z,23nm,0.7s
AKTO Aktyubinsk 63.95 315 P **P** **17 43 18.4 -0.1**
comp=Z,64nm,0.7s,baz=88,slow=7.0,SNR=9.9
BESE Bessie Mountai 64.22 35 P **P** **17 43 22.5 +2.3**
BESE IAmb IAmb 17 43 23.1
comp=Z,27nm,0.8s
KIRV Kirov 66.80 325 P **P** **17 43 36.5 +0.3**
comp=Z,199nm,0.7s,baz=73,slow=2.9,SNR=20
GEYT Alibeck 67.27 302 P **P** **17 43 39.9 +0.2**
comp=Z,20nm,0.7s,baz=57,slow=5.5,SNR=6.2
GEYT Alibeck 67.27 302 P **P** **17 43 40.0 +0.3**
SPITS Spitsbergen Ar 69.16 349 P **P** **17 43 51.2 +0.8**
comp=Z,17nm,0.6s,baz=126,slow=9.4,SNR=10.0
HSPB Hornsund (broa 70.04 349 *e*pP **P** **17 43 56.6 +0.9**
RES Resolute Bay 71.72 13 P **P** **17 44 06.8 +1.2**
comp=Z,12nm,0.7s,baz=321,slow=4.0,SNR=5.0
RES Resolute Bay 71.72 13 P **P** **17 44 06.7 +1.2**
YKA Yellowknife Ar 72.38 28 P **P** **17 44 11.0 +1.4**
comp=Z,8.3nm,0.6s,baz=301,slow=5.9,SNR=13
UOSS Minazif 73.45 290 **P** **17 44 16.2 -0.3**
OBN Obninsk 74.62 325 P **P** **17 44 22.8 +0.2**
comp=Z,19nm,0.7s,baz=87,slow=2.6,SNR=12
KBZ Khabaz 75.88 312 P **P** **17 44 30.4 +0.5**
comp=Z,59nm,0.8s,baz=64,slow=4.4,SNR=11
FINES FINESS Array B 76.24 333 P **P** **17 44 31.6 +0.1**
comp=Z,106nm,0.4s,baz=65,slow=5.1,SNR=33
AKH Akhalkalaki 76.47 310 ⇑P **P** **17 44 34.6 +1.2**
YBH Yreka Blue Hor 77.11 50 P **P** **17 44 39.3 +2.5**
comp=Z,15nm,0.7s,baz=357,slow=5.0,SNR=20
BCA Borcka 77.72 310 ⇑P **P** **17 44 40.6 +0.5**
KOPT Kop Dagi 79.13 309 **P** **17 44 48.2 +0.2**
KOPT IAmb IAmb 17 44 50.1
comp=Z,46nm,1.1s
J08A Circle Bar Ran 79.16 47 IAmb IAmb 17 44 51.2
comp=Z,80nm,1.2s
NACGM Naroch 79.59 327 *e*P **P** **17 44 49.0 -0.7**
NACGM PM 17 44 50.0
comp=Z,0.3nm,1.0s
JTMT Jette 79.60 41 IAmb IAmb 17 44 53.3
comp=Z,40nm,1.2s
MARD Mardin 80.17 307 IAmb IAmb 17 44 54.6
comp=Z,37nm,0.8s
PAHR Pah Rah Range 80.28 50 IAmb IAmb 17 44 56.7
comp=Z,27nm,0.9s
CMB Columbia Colle 80.37 52 IAmb IAmb 17 44 57.1
comp=Z,25nm,1.0s
PNTR Pine Nut 80.42 51 IAmb IAmb 17 44 57.9
comp=Z,33nm,0.8s
AKASG Malin Array Be 80.68 323 P **P** **17 44 55.0 -0.5**
comp=Z,24nm,0.5s,baz=49,slow=5.8,SNR=19
AKASG Malin Array Be 80.68 323 **P** **17 44 55.0 -0.5**
SOCY Socotra 80.75 279 P **P** **17 44 55.2 -1.4**
LHV Little Huntoon 81.58 51 P **P** **17 45 03.1 +2.7**
NVAR Mina Array Bea 81.63 51 P **P** **17 45 03.0 +2.0**
comp=Z,12nm,0.6s,baz=289,slow=6.0,SNR=17
NVAR Mina Array Bea 81.63 51 P **P** **17 45 01.9 +0.9**
HFS Hagfors 81.80 336 P **P** **17 45 00.4 -0.7**
comp=Z,34nm,0.4s,baz=101,slow=4.7,SNR=18
SUW Suwalki 81.82 328 *e*pP **P** **17 45 00.6 -0.7**
NOA NORSAR Array B 82.03 337 P **P** **17 45 01.9 -0.4**
comp=Z,47nm,0.6s,baz=46,slow=5.0,SNR=20
NOA PP **PP** **17 48 13.7 -4.4**
comp=Z,5.1nm,0.8s,baz=47,slow=8.4,SNR=5.2
BZK Bozkurt 82.48 314 ⇓P **P** **17 45 05.8 +0.8**
ELK Elko 82.54 48 P **P** **17 45 07.8 +2.2**
comp=Z,11nm,0.6s,baz=324,slow=5.6,SNR=18
SORM Soroca 82.57 321 ⇑P **P** **17 45 04.9 -0.4**
R11A Troy Canyon, C 83.52 50 IAmb IAmb 17 45 13.6
comp=Z,25nm,1.1s
TPAW Teton Pass 83.82 44 IAmb IAmb 17 45 14.5
comp=Z,19nm,0.9s
BRTR Keskin Array B 83.87 312 P **P** **17 45 11.7 -0.5**
comp=Z,12nm,0.7s,baz=101,slow=3.7,SNR=12
BRTR Keskin Array B 83.87 312 P **P** **17 45 11.9 -0.3**
TLCR 83.95 318 ⇑P **P** **17 45 11.9 -0.3**
BIR Birlad 84.03 320 ⇓P **P** **17 45 13.3 +0.7**
BEL Belsk 84.30 327 *e*pP **P** **17 45 13.8 -0.1**
CFR Carcaliu 84.35 319 ⇑P **P** **17 45 16.1 +1.9**
TOPG Topolog 84.38 318 ⇑P **P** **17 45 14.5 +0.1**
DUG Dugway, Tooele 84.41 47 IAmb IAmb 17 45 17.4
comp=Z,13nm,0.8s
TESR Tescani 84.44 320 ⇑P P 17 45 28.4 +14
HWUT Hardware Ranch 84.45 46 IAmb IAmb 17 45 18.3
comp=Z,37nm,1.1s
BIZ Bicaz 84.50 321 ⇑P **P** **17 45 15.9 +0.9**
PETR Petresti 84.56 319 ⇑P **P** **17 45 16.1 +0.9**
BURAR Burcovina Array 84.59 322 ⇑P **P** **17 45 15.5 0.0**
ODBI Odobesti 84.64 320 ⇓P **P** **17 45 17.1 +1.4**
KWP Kalwaria Pacla 84.71 324 *e*pP **P** **17 45 15.8 -0.2**
HARR Harsova 84.74 318 ⇑P **P** **17 45 18.1 +1.9**
TLBR Topalu 84.76 318 ⇑P **P** **17 45 16.2 -0.1**
VRI Vrincioaia 84.77 320 ⇓P **P** **17 45 17.3 +0.9**
GRER 84.91 319 ⇑P **P** **17 45 19.3 +2.3**
SFJD Kangerlussuaq 85.02 4 P **P** **17 45 17.6 +0.5**
comp=Z,10nm,0.5s,baz=341,slow=0.9,SNR=6.2
SFJD Kangerlussuaq 85.02 4 P **P** **17 45 17.8 +0.7**
GKP Gorka Klasztor 85.03 329 *e*pP **P** **17 45 15.4 -1.9**
PDAR Pinedale Array 85.07 44 P **P** **17 45 19.7 +1.6**
comp=Z,2.9nm,0.5s,baz=276,slow=2.8,SNR=10
AMRR Amara 85.14 319 ⇓P **P** **17 45 18.4 +0.3**
OZUR 85.17 320 ⇓P **P** **17 45 19.0 +0.7**
PFO Pinyon Flats O 85.31 54 P **P** **17 45 21.0 +1.6**
comp=Z,29nm,0.9s,baz=306,slow=5.0,SNR=24
MLR Muntele Rosu 85.43 320 P **P** **17 45 19.1 -0.7**
comp=Z,6.5nm,0.6s,baz=148,slow=8.4,SNR=3.3
MLR Muntele Rosu 85.43 320 ⇑P **P** **17 45 19.2 -0.5**
ASF Jabal al Asfar 85.45 304 P **P** **17 45 19.5 -0.5**
comp=Z,11nm,0.8s,baz=16,slow=1.9,SNR=7.4
DOPR Dopca 85.47 320 ⇑P **P** **17 45 19.1 -0.7**
SECR 85.63 319 ⇑P **P** **17 45 20.5 -0.1**
OJC Ojcow 85.81 326 *e*pP **P** **17 45 20.7 -0.6**
VOIR 85.97 320 ⇓P **P** **17 45 22.0 -0.2**
CJR Cluj-Napoca 86.02 322 ⇓P **P** **17 45 23.1 +0.7**
NIE Niedzica 86.07 325 *e*pP **P** **17 45 22.5 -0.1**
MTUR Matau 86.09 320 ⇑P **P** **17 45 24.1 +1.3**
MMAI Mount Meron Ar 86.11 305 P **P** **17 45 22.9 -0.3**
comp=Z,22nm,0.8s,baz=51,slow=6.6,SNR=15
RAZG Razgrad 86.23 318 ⇑P **P** **17 45 23.0 -0.4**
ARR Arges 86.25 320 ⇑P **P** **17 45 23.2 -0.4**
LOT Lotru 86.69 321 ⇑P **P** **17 45 25.2 -0.5**
KSP Ksiaz 87.08 328 *e*pP **P** **17 45 27.0 -0.3**
MORC Moravsky Berou 87.20 327 ⇓P **P** **17 45 28.9 +1.0**
MORC Moravsky Berou 87.20 327 *e*pP **P** **17 45 27.3 -0.6**
PSZ Piszkesteto 87.24 324 ⇑P **P** **17 45 28.1 -0.1**
SIRR Siria 87.35 322 ⇑P **P** **17 45 28.5 -0.1**
SRE Strehaia 87.49 320 ⇓P **P** **17 45 29.1 -0.2**
BSEG Bad Segeberg 87.52 333 *e*pP **P** **17 45 28.6 -0.6**
baz=43,slow=4.7
JAVC Velka Javorina 87.75 326 *e*pP **P** **17 45 31.1 +0.6**
BZS Buzias 87.78 322 ⇑P **P** **17 45 29.9 -0.8**
HERR Herculane 87.80 321 ⇓P **P** **17 45 29.9 -0.9**
VRAC Vranov 87.98 327 P **P** **17 45 31.1 -0.4**
comp=Z,13nm,0.7s,baz=73,slow=3.9,SNR=10
VRAC Vranov 87.98 327 ⇑P **P** **17 45 30.9 -0.6**
VRAC Vranov 87.98 327 *e*pP **P** **17 45 31.1 -0.4**
BRG Berggiesshubel 88.15 329 *e*pP **P** **17 45 31.7 -0.6**
baz=43,slow=4.7
BRG Berggiesshubel 88.15 329 *i* pP **P** **17 45 31.6 -0.7**
comp=Z,12nm,0.6s
EIL Elat 88.16 303 P **P** **17 45 31.6 -1.2**
comp=Z,4.1nm,0.6s,baz=359,slow=9.4,SNR=4.7
KRUC Moravsky 88.24 327 *e*pP **P** **17 45 32.2 -0.5**
MDVR Moldovita 88.25 321 ⇑P **P** **17 45 32.4 -0.6**
CLL Collm 88.27 330 *i* P **P** **17 45 31.9 -0.9**
comp=Z,16nm,0.7s
CLL Collm 88.27 330 IAmb IAmb 17 45 32.4
comp=Z,13nm,0.7s
CLL Collm 88.27 330 *e*pP **P** **17 45 32.0 -0.8**
baz=43,slow=4.7
FBE Freiberg 88.38 329 *e*pP **P** **17 45 33.1 -0.2**
baz=43,slow=4.7
NEUB Neuenburg 88.88 330 *e*pP **P** **17 45 35.2 -0.4**
baz=43,slow=4.7
CLZ Clausthal 89.03 331 *e*pP **P** **17 45 36.0 -0.4**
baz=43,slow=4.7
TANN Tannenbergstha 89.14 329 *e*pP **P** **17 45 36.3 -0.6**
baz=43,slow=4.7
PLN Plauen 89.23 330 *e*pP **P** **17 45 36.8 -0.6**
baz=43,slow=4.7
GUNZ Gunzen 89.24 329 *e*pP **P** **17 45 37.0 -0.4**
baz=43,slow=4.7
CONA Conrad Observa 89.27 326 *i* PcP **P** **17 45 37.7 +0.1**
comp=Z,22nm,1.0s,SNR=8.4
WERN Wernitzgruen 89.27 329 *e*pP **P** **17 45 37.1 -0.4**
baz=43,slow=4.7
MOX Moxa 89.36 330 *e*pP **P** **17 45 37.2 -0.7**
baz=43,slow=4.7
GTTG Gottingen 89.42 331 *e*pP **P** **17 45 37.7 -0.4**
baz=43,slow=4.7
MANZ Manzenberg 89.61 329 *e*pP **P** **17 45 38.7 -0.4**
baz=43,slow=4.7
GEC2 GERESS Array S 89.68 328 *e*pP **P** **17 45 38.8 -0.8**
baz=43,slow=4.7
GERES GERESS Array B 89.68 328 P **P** **17 45 38.8 -0.8**
comp=Z,12nm,0.9s,baz=45,slow=5.3,SNR=12
GERES GERESS Array B 89.68 328 **P** **17 45 38.6 -1.0**
ROTZ Rotzenmuhle 89.72 329 *e*pP **P** **17 45 39.4 -0.2**
baz=43,slow=4.7
IBBN Ibbenburen 89.76 333 *e*pP **P** **17 45 39.2 -0.5**
baz=43,slow=4.7
WET Wettzell 89.85 328 *e*pP **P** **17 45 39.6 -0.7**
baz=43,slow=4.7
ARSA Arzberg 89.90 326 *i* PcP **P** **17 45 40.3 -0.3**
comp=Z,22nm,1.2s,SNR=8.4
MOA Molln 90.10 327 *i* PcP **P** **17 45 41.5 +0.1**
comp=Z,12nm,0.9s,SNR=5.5
GRF Grafenberg Arr 90.22 329 *e*pP **P** **17 45 41.8 -0.2**
baz=43,slow=4.7
PERS Pernice 90.52 325 *e*pP **P** **17 45 42.5 -0.9**
SOKA Soboth 90.53 326 *i* PcP **P** **17 45 43.0 -0.6**
comp=Z,18nm,0.7s,SNR=11
BUG Bochum--Univer 90.61 333 *e*pP **P** **17 45 42.7 -0.9**
baz=43,slow=4.7
TNS Taunus Mts 91.04 331 *e*pP **P** **17 45 45.2 -0.6**
baz=43,slow=4.7
EKA Eskdalemuir Ar 91.20 340 P **P** **17 45 45.6 -0.7**
comp=Z,5.3nm,0.8s,baz=57,slow=3.1,SNR=11
EKA PP **PP** **17 49 24.9 -6.0**
comp=Z,3.2nm,0.9s,baz=33,slow=6.3,SNR=4.1
LJU Ljubljana 91.22 325 *i* pP **P** **17 45 45.6 -1.0**
MYKA Terra Mystica 91.26 326 *i* P **P** **17 45 45.6 -1.3**
comp=Z,13nm,0.8s,SNR=5.9
FUR Furstenfeldbru 91.30 328 *e*pP **P** **17 45 46.9 -0.1**
baz=43,slow=4.7
GBRS Gornja Briga 91.44 325 *i* pP **P** **17 45 46.8 -0.9**
ABTA Abfaltersbach 91.73 327 *i* P **P** **17 45 47.7 -1.3**
comp=Z,26nm,1.0s,SNR=7.9
WTTA Wattenberg 91.78 328 *i* PcP **P** **17 45 48.8 -0.6**
comp=Z,19nm,1.3s,SNR=5.2
STU Stuttgart 91.80 330 *e*pP **P** **17 45 48.6 -0.6**
baz=43,slow=4.7
IDI Anoyia 92.11 312 P **P** **17 45 47.2 -3.9**
comp=Z,3.3nm,0.4s,baz=42,slow=16,SNR=1.6
UBR Ueberruh 92.19 329 *e*pP **P** **17 45 50.3 -0.8**
baz=43,slow=4.7
FETA Feichten 92.38 328 *i* PcP **P** **17 45 51.4 -0.8**
comp=Z,14nm,1.0s,SNR=6.1
WLF Walferdange 92.43 332 *e*pP **P** **17 45 51.9 -0.2**
baz=43,slow=4.7
BFO Black Forest 92.51 330 **P** **17 45 51.7 -0.9**
BFO Black Forest 92.51 330 *e*pP **P** **17 45 51.8 -0.7**
baz=43,slow=4.7
DAVA Damuels 92.58 328 *i* PcP **P** **17 45 52.4 -0.7**
comp=Z,25nm,1.1s,SNR=6.9
DAVOX Davos/Dischmat 92.95 328 P **P** **17 45 54.2 -0.7**
comp=Z,12nm,0.8s,baz=29,slow=4.0,SNR=8.7
TXAR Lajitas Array 96.75 52 P **P** **17 46 14.3 +2.0**
comp=Z,1.9nm,0.6s,baz=306,slow=2.3,SNR=11
TXAR PP **PP** **17 50 09.2 -5.4**
comp=Z,0.4nm,0.7s,baz=295,slow=6.7,SNR=1.2
TXAR SKP 17 53 32.8
comp=Z,0.2nm,0.8s,baz=270,slow=2.5,SNR=3.5
TXAR Lajitas Array 96.75 52 **P** **17 46 14.7 +2.4**
ESDC Sonseca Array 104.73 332 PP **PKiKP** **17 51 00.9 +1.0**
comp=Z,1.3nm,1.0s,baz=24,slow=8.3,SNR=2.3
LBTB Lobatse 121.69 257 PKPdf **PKiKP** **17 51 33.3 +0.6**
TOA0 Torodi Ar. Sit 122.43 310 **PKPdf** **17 51 33.8 -0.3**
TORD Torodi Ar. Bea 122.43 310 PKP **PKPdf** **17 51 33.5 -0.6**
comp=Z,7.7nm,0.6s,baz=18,slow=3.3,SNR=11
TORD PP PP 17 53 03.5 -14
comp=Z,2.9nm,1.0s,baz=24,slow=6.7,SNR=2.0
TORD Torodi Ar. Bea 122.43 310 **PKPdf** **17 51 33.9 -0.2**
BOSA Boshof 123.06 253 PKP **PKPdf** **17 51 34.9 -0.2**
comp=Z,6.5nm,0.6s,baz=112,slow=1.9,SNR=7.9
BOSA Boshof 123.06 253 **PKiKP** **17 51 35.8 +0.5**
DBIC Dimbokro 131.54 310 PKP **PKPdf** **17 51 51.7 +0.2**
comp=Z,8.6nm,0.8s,baz=36,slow=4.1,SNR=4.9
DBIC SKPbc **SKPbc** **17 54 30.4 -0.4**
comp=Z,14nm,0.8s,baz=29,slow=3.8,SNR=5.4
TIC Toumodi 131.67 310 *e*PKIKP **PKiKP** **17 51 52.4 -0.5**
SNAA Sanae 131.67 195 PKPdf **PKPdf** **17 51 50.0 -0.2**
SNAA Sanae 131.67 195 PKPdf **PKPdf** **17 51 50.2 +0.1**
KIC Kosan Boka 131.68 309 *e*PKIKP **PKiKP** **17 51 52.5 -0.4**
comp=Z,19nm,0.7s
LIC Lamto 131.98 310 *e*PKIKP **PKiKP** **17 51 53.0 -0.5**
comp=Z,25nm,0.6s
SDV Santo Domingo 133.00 43 PKP **PKPdf** **17 51 55.0 +0.4**
comp=Z,6.6nm,0.7s,baz=265,slow=3.9,SNR=4.9
SDV SKPbc **SKPbc** **17 54 36.2 +0.2**
comp=Z,37nm,0.9s,baz=5.7,slow=1.8,SNR=9.6
VNA2 Neumayer--Watz 133.23 194 PKPdf **PKPdf** **17 51 53.5 +0.5**
baz=110,slow=1.0
VNA3 Neumayer Olymp 133.45 193 PKPdf **PKPdf** **17 51 53.4 0.0**
VNA1 Neumayer--Stat 133.62 194 PKPdf **PKPdf** **17 51 54.2 +0.5**
ATAH Atahualpa 138.36 67 SKPbc **SKPbc** **17 54 53.3 +0.7**
comp=Z,14nm,1.0s,baz=356,slow=1.9,SNR=4.7
MDP Montagnes des 145.01 22 PKPbc **PKPab** **17 52 17.4 +0.1**
comp=Z,23nm,0.8s,baz=349,slow=2.7,SNR=7.9
MDP SKPbc **SKPbc** **17 55 08.9 +0.1**
comp=Z,7.0nm,0.8s,baz=358,slow=3.9,SNR=5.3
MDP Montagnes des 145.01 22 **PKPab** **17 52 17.4 +0.1**
PTGA Pitinga 146.96 38 PKPbc **PKPbc** **17 52 23.0 +0.8**
comp=Z,11nm,0.6s,baz=20,slow=4.4,SNR=5.6
PTGA SKPbc **SKPbc** **17 55 13.1 0.0**
comp=Z,7.2nm,0.7s,baz=313,slow=2.9,SNR=4.7
LPAZ La Paz 151.70 72 PKPbc **PKiKP** **17 52 35.3 +0.7**
comp=Z,4.7nm,0.6s,baz=332,slow=2.5,SNR=3.6
PLCA Paso Flores 152.02 125 PKPbc **PKiKP** **17 52 35.1 +1.2**
comp=Z,5.6nm,0.5s,baz=247,slow=2.9,SNR=7.5
PLCA Paso Flores 152.02 125 **PKiKP** **17 52 35.2 +1.3**
LVC Limon Verde 153.52 85 PKPab **PKPab** **17 52 55.4 +2.7**
comp=Z,1.2nm,0.3s,baz=272,slow=8.5,SNR=8.0
SIV San Ignacio 157.30 63 PKPab **PKPab** **17 53 09.2 +0.5**
comp=Z,6.3nm,0.8s,baz=297,slow=4.0,SNR=8.9
RCBR Riachuelo 157.62 349 PKPab **PKPab** **17 53 09.7 -0.2**
comp=Z,11nm,0.8s,baz=347,slow=4.6,SNR=4.1
BDFB Brasilia 165.76 32 PKP **PKPdf** **17 52 44.3 +1.1**
comp=Z,4.8nm,1.0s,baz=42,slow=3.5,SNR=3.2

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*IDC **21** 17:38:13.3±1.3,39°.31N×18°.86E,h0km,mb3.4/2,*
mb1 3.5/10,mb1mx3.4/64,mbtmp3.4/10,ML3.4/7,MS3.6/2,
Ms1 3.6/2,ms1mx2.6/46,Error ellipse: s-maj=19.9km
s-min=17.8km az=136.0
*ROM **21** 17:38:13.9±0.3,39°.162N±0°.008×18°.822E±0°.008,*
h5km±1km,ML3.5/18,Error ellipse: s-maj=1.0km
s-min=0.4km az=330.0,hypocenter
*THE **21** 17:38:14.1,39°.24N×18°.74E,h0km±2km,ML3.2/10,Error*
ellipse: s-maj=3.3km s-min=0.9km az=297.0
*BEO **21** 17:38:23.5±1.0,39°.96N×19°.21E,h0km,ML3.0/2*
ISC 21 17:38:14.8±1.0,39°.22N±0°.02×18°.82E±0°.02,h16km±8km,
n140,σ1°75/180,4D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
SCTE	**Santa Cesarea**	**0.90**	**343**	P	**Pg**	**17 38 31.8**	**-0.4**
SCTE				S	**Sb**	**17 38 46.0**	**+2.2**
SCTE				AML	AML		
	comp=E,7595μm,0.4s						
SCTE				AML	AML		
	comp=N,9975μm,0.8s						
KEK	**Kerkira**	**0.91**	**56**	P	**Pg**	**17 38 30.4**	**-2.0**
KEK				S	**Sb**	**17 38 45.6**	**+1.6**
	comp=N,1μm,0.5s						
KEK	**Kerkira**	**0.91**	**56**	P	**Pg**	**17 38 31.4**	**-0.9**
KEK				S	**Sb**	**17 38 45.8**	**+1.8**
SRN	**Sarande**	**1.13**	**54**	P	**Pg**	**17 38 34.9**	**-1.7**
SRN				S	**Sn**	**17 38 54.1**	**+3.0**
	comp=N,772nm,0.6s						
SRN	**Sarande**	**1.13**	**54**	P	**Pg**	**17 38 35.2**	**-1.4**
SRN				S	**Sb**	**17 38 52.0**	**+1.6**
IGT	**Igoumenitsa**	**1.22**	**74**	P	**Pb**	**17 38 37.6**	**+0.2**
IGT			

TSLK			S		Sg	17 39 04.3 +1.7
	comp=N,690nm,0.8s					
LKD2	**Lefkada island**	**1.50 106**	P		**Pg**	17 38 42.2 -1.3
LKD2			S		**Sg**	17 39 04.3 +1.3
	comp=N,738nm,0.8s					
NYDR	**Nydri-Lefkada**	**1.55 108**	P		**Pb**	17 38 42.3 -0.8
NYDR			S		**Sg**	17 39 05.6 +0.9
	comp=N,502nm,0.8s					
EVGI	**Lefkada island**	**1.55 112**	P		**Pg**	17 38 43.1 -1.5
FSK	**Fiskardo**	**1.56 118**	P		**Pg**	17 38 43.0 -1.7
FSK			S		**Sg**	17 39 05.6 +0.7
	comp=N,710nm,0.8s					
DMLN	**Damoulianata-K**	**1.56 128**	P		**Pg**	17 38 43.4 -1.3
DMLN			S		**Sg**	17 39 05.8 +0.8
	comp=N,1μm,0.5s					
MESG	**Mesagne**	**1.56 332**	P		**Pn**	17 38 41.9 0.0
MESG			S		**Sg**	17 39 05.9 +0.8
MESG			AML		AML	
	comp=E,2945μm,0.6s					
MESG			AML		AML	
	comp=N,3260μm,0.6s					
VSK1	**VASILIKIADES**	**1.58 120**	P		**Pg**	17 38 44.4 -0.8
VSK1			S		**Sg**	17 39 06.0 +0.2
	comp=N,915nm,0.6s					
SERS	**Sersale**	**1.67 265**	P		**Pb**	17 38 44.5 -0.6
SERS			S		**Sb**	17 39 06.6 +0.6
SERS			AML		AML	
	comp=N,336μm,0.8s					
SERS			AML		AML	
	comp=E,336μm,0.6s					
VLS	**Valsamata**	**1.73 126**	P		**Pb**	17 38 45.5 -0.6
VLS	**Valsamata**	**1.73 126**	P		**Pb**	17 38 45.6 -0.6
TAR1	**Taranto**	**1.76 318**	*e*Pn		**Pn**	17 38 44.4 -0.3
TAR1			Sn		**Sg**	17 39 14.6 +3.0
CGL1	**Ceglie Messapi**	**1.77 325**	‖*i*Pn		**Pn**	17 38 44.6 -0.2
CELI	**Celico**	**1.80 277**	P		**Pn**	17 38 46.2 +0.9
GRI	**Girifalco**	**1.91 259**	P		**Pb**	17 38 48.4 -0.8
GRI			S		**Sb**	17 39 12.5 -0.4
PLAC	**Placanica**	**2.01 248**	P		**Pn**	17 38 49.3 +1.2
PLAC			S		**Sn**	17 39 14.6 +1.6
PLAC			AML		AML	
	comp=E,272μm,0.4s					
PLAC			AML		AML	
	comp=N,342μm,1.2s					
SALB	**San Lorenzo Be**	**2.02 290**	P		**Pn**	17 38 49.7 +1.4
SALB			AML		AML	
	comp=E,567μm,1.2s					
SALB			AML		AML	
	comp=N,335μm,1.3s					
CAR1	**CAROLEI**	**2.02 272**	P		**Pb**	17 38 50.4 -0.9
CAR1			S		**Sn**	17 39 15.0 +1.7
CAR1			AML		AML	
	comp=E,552μm,0.7s					
CAR1			AML		AML	
	comp=N,498μm,0.5s					
PENT	**Pentalofos**	**2.04 61**	P		**Pn**	17 38 50.3 +1.7
NEST	**Nestorio**	**2.09 54**	P		**Pn**	17 38 51.1 +1.8
KPRO	**Kipourio**	**2.10 69**	P		**Pn**	17 38 51.0 +1.6
T0702	**Acquaformosa (**	**2.18 284**	P		**Pb**	17 38 52.7 -1.1
T0702			S		**Sn**	17 39 19.2 +2.1
CET2	**Cetraro**	**2.24 279**	P		**Pn**	17 38 53.1 +1.8
CET2			AML		AML	
	comp=E,600μm,0.7s					
CET2			AML		AML	
	comp=N,756μm,0.6s					
AXS	**Araxos**	**2.24 116**	P		**Pb**	17 38 53.5 -1.4
TIR	**Tirane**	**2.28 20**	*e*Pn		**Pn**	17 38 51.4 -0.3
MIGL	**Miglionico**	**2.30 308**	P		**Pn**	17 38 54.0 +2.0
MIGL			AML		AML	
	comp=E,2380μm,0.9s					
MIGL			AML		AML	
	comp=N,3255μm,0.9s					
EVR	**Evrytania**	**2.35 96**	P		**Pb**	17 38 55.3 -1.4
JOPP	**Joppolo**	**2.37 256**	P		**Pn**	17 38 54.6 +1.6
JOPP			S		**Sn**	17 39 23.3 +1.5
JOPP			AML		AML	
	comp=N,461μm,0.7s					
JOPP			AML		AML	
	comp=E,380μm,0.6s					
RLS	**Riolos of Patr**	**2.37 118**	P		**Pb**	17 38 55.2 -1.9
BAI	**Bari**	**2.40 322**	*e*Pn		**Pg**	17 39 00.2 -0.7
BAI			Sn		**Sg**	17 39 33.2 +1.1
OHR	**Ohrid**	**2.43 38**	‖*i*Pn		**Pg**	17 39 00.4 -0.9
SOI	**Samo**	**2.45 243**	P		**Pn**	17 38 55.3 +1.3
SOI			S		**Sn**	17 39 24.6 +0.9
SOI			AML		AML	
	comp=N,238μm,0.7s					
SOI			AML		AML	
	comp=E,343μm,0.7s					
ANX	**Ano Chora**	**2.50 103**	P		**Pb**	17 38 57.7 -1.6
THL	**Klokotos Trika**	**2.50 81**	P		**Pn**	17 38 55.2 +0.4
THL	**Klokotos Trika**	**2.50 81**	P		**Pn**	17 38 56.3 +1.5
KZN	**Kozani**	**2.52 63**	P		**Pn**	17 38 56.3 +1.1
MPAZ	**Palizzi**	**2.54 241**	P		**Pn**	17 38 56.3 +0.9
MPAZ			AML		AML	
	comp=E,364μm,0.6s					
MPAZ			AML		AML	
	comp=N,316μm,0.6s					
GMB	**Gambarie**	**2.56 247**	P		**Pn**	17 38 57.0 +1.2
GMB			S		**Sn**	17 39 27.5 +0.8
GMB			AML		AML	
	comp=E,1870μm,1.0s					
GMB			AML		AML	
	comp=N,1800μm,0.4s					
MGR	**Morigerati**	**2.68 291**	P		**Pn**	17 38 58.6 +1.3
MGR			AML		AML	
	comp=N,228μm,0.6s					
MGR			AML		AML	
	comp=E,256μm,0.5s					
MRVN	**Minervino Murg**	**2.73 313**	P		**Pn**	17 38 59.6 +1.7
MRVN			AML		AML	
	comp=N,424μm,0.7s					
MRVN			AML		AML	
	comp=E,654μm,0.7s					
PHP	**Peshkopia**	**2.76 26**	P		**Pn**	17 38 58.6 +0.2
BULG	**Bulgheria - Ca**	**2.79 289**	P		**Pn**	17 39 00.3 +1.4
BULG			AML		AML	
	comp=E,183μm,0.8s					
BULG			AML		AML	
	comp=N,370μm,0.6s					
KLV	**Kalavryta, Ach**	**2.86 113**	P		**Pn**	17 39 02.1 +2.3
LIT	**Litokhoron**	**2.97 71**	P		**Pn**	17 39 02.1 +0.8
DRME	**Dracevica, Mon**	**2.98 5**	*e*Pn		**Pn**	17 39 00.8 -0.6
DSF	**Desfina**	**3.01 104**	P		**Pb**	17 39 05.6 -2.4
MCSR	**Castroreale**	**3.02 249**	P		**Pn**	17 39 03.9 +1.8
MCSR			S		**Sn**	17 39 39.0 +1.0
MCSR			AML		AML	
	comp=N,531μm,0.4s					
MCSR			AML		AML	
	comp=E,454μm,0.9s					
GUR	**Goura**	**3.04 114**	P		**Pb**	17 39 05.5 -3.1
AIO	**Antillo**	**3.07 247**	P		**Pn**	17 39 04.5 +1.8
AIO			S		**Sn**	17 39 39.9 +0.7
AIO			AML		AML	
	comp=E,209μm,0.6s					
AIO			AML		AML	
	comp=N,206μm,0.4s					
ITM	**Ithomi**	**3.18 129**	P		**Pn**	17 39 05.7 +1.5
TRIP	**Tripoli**	**3.19 121**	P		**Pb**	17 39 07.8 -3.4
PDG	**Podgorica**	**3.23 6**	*e*Pn		**Pn**	17 39 04.3 -0.5
PDG			*e*Sg		**Sn**	17 39 41.3 -1.6
PDG	**Podgorica**	**3.23 6**	*e*Pn		**Pn**	17 39 02.8 -2.0
HCY	**Herceg Novi**	**3.24 356**	*e*Pn		**Pn**	17 39 03.6 -1.4
PYL	**PYLOS**	**3.27 134**	P		**Pn**	17 39 06.7 +1.3
MSAG	**Monte S. Angel**	**3.34 319**	P		**Pn**	17 39 06.6 +0.2
MSAG			AML		AML	
	comp=E,596μm,0.7s					
MSAG			AML		AML	
	comp=N,693μm,0.4s					
XOR	**Xorichti**	**3.40 86**	P		**Pn**	17 39 08.6 +1.4
SKO	**Skopje**	**3.40 35**	*e*Pn		**Pn**	17 39 07.6 +0.4
SKO	**Skopje**	**3.40 35**	‖*i*Pn		**Pn**	17 39 07.7 +0.4
NEO	**Neokhori**	**3.42 87**	P		**Pn**	17 39 09.8 +2.3
SGRT	**San Giovanni R**	**3.46 318**	P		**Pn**	17 39 08.3 +0.3
HAGA	**Augusta**	**3.47 237**	P		**Pn**	17 39 07.1 -1.0
HAGA			S		**Sn**	17 39 48.3 -0.5
VAY	**Valandovo**	**3.56 53**	*e*Pn		**Pn**	17 39 09.6 +0.3
VAY	**Valandovo**	**3.56 53**	‖*i*Pn		**Pn**	17 39 10.0 +0.6
HORT	**Hortiatis**	**3.57 66**	P		**Pn**	17 39 10.4 +0.8
SSY	**Sortino**	**3.60 236**	P		**Pn**	17 39 08.9 -1.1
SSY			S		**Sn**	17 39 52.0 -0.1
HLNI	**Lentini**	**3.62 240**	P		**Pn**	17 39 09.2 -1.0
HLNI			S		**Sn**	17 39 52.5 -0.1
VILL	**Villia**	**3.67 105**	P		**Pn**	17 39 13.2 +2.3
KNT	**Kendrikon**	**3.68 57**	P		**Pn**	17 39 11.3 +0.3
HAVL	**Avola**	**3.68 233**	P		**Pn**	17 39 10.1 -0.9
BRY	**Bratogost**	**3.69 357**	*e*Pn		**Pn**	17 39 09.2 -2.1
MEU	**Monte Lauro**	**3.72 237**	P		**Pn**	17 39 11.5 -0.2
MEU			S		**Sn**	17 39 56.5 +1.3
PLG	**Polygyros**	**3.75 71**	P		**Pn**	17 39 12.7 +0.7
MELA	**Melanico ??? S**	**3.76 313**	P		**Pn**	17 39 13.8 +1.8
PAIG	**Paliouri**	**3.82 78**	P		**Pn**	17 39 13.7 +0.7
TREM	**Isole Tremiti**	**3.84 320**	P		**Pn**	17 39 14.0 +0.7
VAE	**Valguarnera**	**3.87 245**	Pn		**Pn**	17 39 16.1 +2.3
	comp=N,0.7nm,0.3s,baz=357,slow=19,SNR=1.9					
HMDC	**Modica**	**3.90 236**	P		**Pn**	17 39 13.3 -0.8
HMDC			S		**Sn**	17 39 58.9 -0.7
UPM	**Unac-Piva**	**3.98 1**	*e*Pn		**Pn**	17 39 15.7 +0.3
RAFF	**Raffo Rosso**	**4.03 242**	P		**Pn**	17 39 16.0 +0.1
RAFF			S		**Sn**	17 40 03.3 +0.5
VLI	**Veliai**	**4.10 126**	P		**Pn**	17 39 20.4 +3.6
VLI			S		**Sn**	17 40 08.5 +4.1
TRIV	**Trivento**	**4.13 309**	P		**Pn**	17 39 20.3 +3.0
SJES	**Sjenica**	**4.13 12**	*e*Pn		**Pn**	17 39 17.9 +0.5
DION	**Dionisos Attik**	**4.16 104**	P		**Pn**	17 39 19.3 +1.6
BARS	**Barje**	**4.25 31**	*e*Pn		**Pn**	17 39 19.2 +0.3
BOSS	**Bosilegrad**	**4.29 39**	*e*Pn		**Pn**	17 39 19.3 -0.2
SELS	**Selova**	**4.36 23**	*e*Pn		**Pn**	17 39 19.8 -0.6
RUDO	**Rudo**	**4.42 5**	*e*Pn		**Pn**	17 39 18.0 -3.2
KTHA	**Kythira Island**	**4.47 130**	P		**Pn**	17 39 25.4 +3.4
BBLS	**Lazići**	**4.67 5**	*e*Pn		**Pn**	17 39 24.8 +0.1
BBLS	**Lazići**	**4.67 5**	*e*Pn		**Pn**	17 39 24.6 -0.1
CRJA	**Costa Raja**	**4.77 255**	P		Pn	17 39 32.1 +6.0
GRUS	**Gruza**	**4.88 16**	*e*Pn		**Pn**	17 39 27.3 -0.2
SERI	**Serifos**	**4.91 113**	P		**Pn**	17 39 30.8 +2.8
DIVS	**Divibare**	**4.96 10**	*e*Pn		**Pn**	17 39 28.3 -0.4
DIVS	**Divibare**	**4.96 10**	*e*Pn		**Pn**	17 39 28.4 -0.3
ZAPS	**Zavoj**	**4.97 34**	*e*Pn		**Pn**	17 39 29.3 +0.5
TRUS	**Trudelj**	**5.14 13**	*e*Pn		**Pn**	17 39 30.8 -0.3
ZAGS	**Zajecar**	**5.26 28**	*e*Pn		**Pn**	17 39 31.8 -0.9
BLY	**Banja Luka**	**5.66 348**	*e*Pn		**Pn**	17 39 35.7 -2.5
CSP1	**Cessapalombo**	**5.74 314**	P		**Pn**	17 39 38.0 -1.4
FRGS	**Fruska Gora**	**5.98 7**	*e*Pn		**Pn**	17 39 41.4 -1.3
FRGS	**Fruska Gora**	**5.98 7**	*e*Pn		**Pn**	17 39 40.3 -2.4
IDI	**Anoyia**	**6.23 127**	Pn		**Pn**	17 39 47.0 +0.9
	comp=N,0.4nm,0.3s,baz=309,slow=6.4,SNR=6.0					
IDI			Sn		**Sn**	17 40 54.2 -2.8
	comp=N,0.5nm,0.3s,baz=86,slow=22,SNR=1.2					
IDI	**Anoyia**	**6.23 127**	P		**Pn**	17 39 47.3 +1.2
CRES	**Cresnjev**	**7.06 341**	*e*Pn		**Pn**	17 39 56.4 -1.0
CEY	**Cerknica**	**7.28 335**	*e*Pn		**Pn**	17 40 00.3 -0.2
LJU	**Ljubljana**	**7.52 337**	*e*Pn		**Pn**	17 40 01.9 -1.9
OBKA	**Obir**	**7.94 338**	*e*Pn		**Pn**	17 40 09.9 +0.4
	comp=N,0.9nm,0.2s					
OBKA			*e*Sn		**Sn**	17 41 34.6 -4.3
	comp=N,21nm,0.8s					
SOKA	**Soboth**	**7.96 341**	*e*Pn		**Pn**	17 40 09.5 -0.4
	comp=N,1.7nm,0.3s,SNR=8.0					
SOKA			*e*Sn		**Sn**	17 41 33.5 -6.1
	comp=N,4.0nm,0.6s					
MLR	**Muntele Rosu**	**8.19 38**	Pn		**Pn**	17 40 14.6 +1.5
	comp=N,0.1nm,0.3s,baz=238,slow=19,SNR=1.9					
MYKA	**Terra Mystica**	**8.32 335**	*e*Sn		Sn	17 41 41.3 -7.3
	comp=N,2.4nm,0.4s					
ARSA	**Arzberg**	**8.38 344**	*e*Pn		**Pn**	17 40 15.2 -0.4
	comp=N,0.9nm,0.3s					
ARSA			*e*Sn		Sn	17 41 42.9 -7.0
	comp=N,1.0nm,0.4s					
ABTA	**Abfaltersbach**	**8.83 331**	*e*Pn		**Pn**	17 40 21.5 -0.3
	comp=N,2.4nm,0.5s,SNR=5.2					
ABTA			*e*Sn		**Sn**	17 41 56.0 -5.0
	comp=N,9.4nm,0.6s					
CONA	**Conrad Observa**	**8.97 347**	*e*Pn		**Pn**	17 40 23.2 -0.5
	comp=N,0.3nm,0.2s					
MOA	**Molln**	**9.24 341**	*e*Pn		**Pn**	17 40 28.1 +0.8
	comp=N,2.5nm,0.3s,SNR=16					
MOA			*e*Sn		**Sn**	17 42 06.1 -4.8
	comp=N,2.8nm,0.4s					
WTTA	**Wattenberg**	**9.60 329**	*e*Pn		**Pn**	17 40 32.6 +0.2
	comp=N,0.7nm,0.3s					
WTTA			*e*Sn		**Sn**	17 42 16.7 -3.2
	comp=N,6.4nm,0.5s					
WATA	**Walderalm**	**9.68 329**	*e*Pn		**Pn**	17 40 33.9 +0.5
	comp=N,0.5nm,0.2s					
WATA			*e*Sn		**Sn**	17 42 18.2 -3.7
	comp=N,4.2nm,0.6s					
MOTA	**Moosalm**	**9.88 328**	*e*Pn		**Pn**	17 40 39.9 +3.7
	comp=N,0.6nm,0.3s					
MOTA			Sn		**Sn**	17 42 23.1 -3.7
	comp=N,1.4nm,0.5s					
DAVOX	**Davos/Dischmat**	**10.00 322**	Pn		**Pn**	17 40 39.1 +1.2
	comp=N,0.5nm,0.3s,baz=139,slow=10.0,SNR=3.0					
DAVOX			Sn		**Sn**	17 42 25.2 -4.6
	comp=N,0.3nm,0.3s,baz=315,slow=22,SNR=1.5					
RETA	**Reutte**	**10.13 327**	*e*Sn		**Sn**	17 42 32.0 -0.9
	comp=N,0.6nm,0.3s					
GERES	**GERESS Array B**	**10.30 341**	Pn		**Pn**	17 40 41.9 -0.1
	comp=N,0.3nm,0.3s,baz=156,slow=14,SNR=7.6					
GERES			Sn		Sn	17 42 30.3 -6.9
	comp=N,0.4nm,0.3s,baz=154,slow=25,SNR=7.6					
KHC	**Kasperske Hory**	**10.60 341**	*e*PN		**Pn**	17 40 45.5 -0.5
KHC			*e*SN		Sn	17 42 36.3 -8.0
BRTR	**Keskin Array B**	**11.47 83**	Pn		**Pn**	17 40 60.0 +2.0
	comp=N,0.1nm,0.3s,baz=277,slow=11,SNR=3.3					
AKASG	**Malin Array Be**	**13.63 29**	Pn		**Pn**	17 41 24.5 -2.8
	comp=N,0.2nm,0.3s,baz=217,slow=12,SNR=1.9					
ESDC	**Sonseca Array**	**17.60 279**	P		**Pn**	17 42 20.2 +0.9
	comp=N,0.0nm,0.3s,baz=84,slow=13,SNR=4.5					
EKA	**Eskdalemuir Ar**	**21.81 325**	P		**P**	17 43 06.8 +0.7
	comp=N,1.2nm,0.7s,baz=128,slow=9.6,SNR=3.6					
TORD	**Torodi Ar. Bea**	**30.06 215**	P		**P**	17 44 24.7 +1.5
	comp=N,0.2nm,0.3s,baz=30,slow=9.8,SNR=2.2					
ARU	**Arti**	**31.19 43**	LR		LR	17 57 37.9
	comp=N,96nm,19.1s,baz=273,slow=37					
RES	**Resolute Bay**	**58.40 343**	LR		LR	18 15 39.3
	comp=N,52nm,18.9s,baz=295,slow=38					

IDC 21 17:49:34.9±2.2, 7°41S×128°28E, h0km, mb3.3/1, mb1 4.0/5, mb1mx3.5/37, mbtmp3.8/5, ML3.8/4, Error ellipse: s-maj=53.1km s-min=29.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.34**	**238**	Pn		Pn	17 50 57.0	+1.0
	2.3nm,0.3s,baz=79,slow=2.0,SNR=5.1							
BATI				Sn		Sn	17 51 48.1	-10
	9.2nm,0.3s,baz=62,slow=19,SNR=11							
FITZ	**Fitzroy Crossi**	**10.93**	**193**	Pn		Pn	17 52 10.9	-1.7
	0.4nm,0.3s,baz=359,slow=8.3,SNR=28							
FITZ				Sn		Sn	17 53 59.8	-16
	2.4nm,0.3s,baz=0.0,slow=18,SNR=10							
WRA	**Warramunga Arr**	**13.77**	**155**	Pn		Pn	17 52 52.3	+0.7
	0.6nm,0.3s,baz=333,slow=13,SNR=58							
WRA				Sn		Sn	17 55 16.7	-8.8
	1.0nm,0.3s,baz=332,slow=22,SNR=11							
ASAR	**Alice Springs**	**17.04**	**162**	P		Pn	17 53 35.5	+0.7
	0.4nm,0.3s,baz=342,slow=12,SNR=27							
ASAR				S		Sn	17 56 32.0	-13
	0.4nm,0.3s,baz=320,slow=16,SNR=5.6							
MKAR	**Makanchi Array**	**67.65**	**328**	P		P	18 00 33.7	-0.1
	0.2nm,0.7s,baz=128,slow=6.9,SNR=1.9							

*IDC **21** 18:05:57.3±1.7, 6°58S×152°32E, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.6/51, mbtmp3.9/6, ML1.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/32, Error ellipse: s-maj=60.2km s-min=20.9km az=122.0*

ISC 21 18:05:59.6±1.5, 6°3S±0°1×152°0E±0°2, h10km, n8, σ1°59/9, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.98**	**1**	Pn		**Pg**	**18 06 37.1**	**-0.5**
	68nm,0.3s,baz=188,slow=0.6,SNR=40							
KRVT				Sn		**Sg**	**18 07 03.9**	**+0.6**
	61nm,0.3s,baz=88,slow=14,SNR=7.1							
PMG	**Port Moresby**	**5.68**	**237**	Pn		**Pn**	**18 07 26.8**	**+2.6**
	0.6nm,0.3s,baz=153,slow=18,SNR=2.7							
PMG				Sn		**Sn**	**18 08 27.0**	**-2.6**
	1.8nm,0.3s,baz=333,slow=23,SNR=7.0							
HNR	**Honiara**	**8.49**	**112**	LR		LR	18 10 44.3	
	comp=Z,68nm,19.0s,baz=222,slow=36							
WRA	**Warramunga Arr**	**21.85**	**230**	P		**P**	**18 10 52.0**	**-0.6**
	1.0nm,0.7s,baz=55,slow=10,SNR=9.7							
ASAR	**Alice Springs**	**24.50**	**223**	P		**P**	**18 11 19.2**	**-0.1**
	1.7nm,0.8s,baz=56,slow=9.3,SNR=23							
FITZ	**Fitzroy Crossi**	**28.24**	**243**	P		**P**	**18 11 53.1**	**0.0**
	1.7nm,0.7s,baz=353,slow=2.9,SNR=2.2							
ILAR	**Eielson Array**	**83.85**	**22**	P		**P**	**18 18 28.5**	**-0.6**
	0.9nm,0.6s,baz=240,slow=5.7,SNR=12							
TORD	**Torodi Ar. Bea**	**149.95**	**285**	PKPbc		**PKiKP**	**18 25 52.3**	**-0.1**
	0.6nm,0.6s,baz=72,slow=3.4,SNR=3.2							

*IDC **21** 18:10:04.0±2.2, 8°10S×74°35W, h149km±23km, mb3.4/4, mb1 3.5/8, mb1mx3.3/48, mbtmp3.9/8, Error ellipse: s-maj=35.9km s-min=19.2km az=27.0*

ISC 21 18:10:03.9±0.7, 8°2S±0°2×74°43W±0°09, h151km, n11, σ0°78/12, mb3.5/4, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.06**	**284**	P		**Pn**	**18 11 05.7**	**+0.2**
	23nm,0.3s,baz=127,slow=5.1,SNR=353							
ATAH				S		**Sn**	**18 11 52.4**	**-0.8**
	37nm,0.3s,baz=322,slow=1.8,SNR=20							
LPAZ	**La Paz**	**10.14**	**143**	P		**Pn**	**18 12 26.5**	**+0.1**
	0.2nm,0.3s,baz=333,slow=7.1,SNR=7.1							
SIV	**San Ignacio**	**15.19**	**122**	P		**P**	**18 13 32.3**	**0.0**
	0.4nm,0.3s,baz=311,slow=11,SNR=16							
PTGA	**Pitinga**	**16.20**	**64**	P		**P**	**18 13 44.1**	**+0.7**
	0.5nm,0.3s,baz=227,slow=19,SNR=2.7							
TXAR	**Lajitas Array**	**46.73**	**324**	P		**P**	**18 18 18.4**	**+0.3**
	0.2nm,0.6s,baz=150,slow=8.8,SNR=6.1							
DBIC	**Dimbokro**	**70.92**	**80**	P		**P**	**18 21 04.7**	**-0.6**
	1.1nm,0.4s,baz=255,slow=6.9,SNR=4.1							
TORD	**Torodi Ar. Bea**	**78.50**	**75**	P		**P**	**18 21 47.5**	**-1.6**
	0.8nm,0.6s,baz=267,slow=4.5,SNR=4.7							
ESDC	**Sonseca Array**	**80.47**	**48**	P		**P**	**18 21 60.0**	**+0.8**
	0.7nm,1.0s,baz=235,slow=4.5,SNR=4.7							
ASAR	**Alice Springs**	**137.95**	**221**	PKhKP		PKPpre	18 29 06.9	
	0.3nm,0.7s,baz=145,slow=2.3,SNR=1.5							
ASAR				PKP		**PKPdf**	**18 29 11.4**	**-0.1**
	0.4nm,0.9s,baz=138,slow=1.8,SNR=4.8							
WRA	**Warramunga Arr**	**140.22**	**225**	PKhKP		PKPpre	18 29 07.5	
	0.5nm,1.1s,baz=123,slow=2.5,SNR=2.0							
WRA				PKP		**PKPdf**	**18 29 16.1**	**+0.4**
	0.5nm,0.4s,baz=132,slow=1.9,SNR=11							
FITZ	**Fitzroy Crossi**	**147.22**	**217**	PKPbc		**PKPbc**	**18 29 31.3**	**+0.9**
	3.0nm,1.1s,baz=170,slow=1.1,SNR=3.6							

IDC 21 18:18:54.9±7.5, 18°33S×176°26W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/41, mbtmp3.3/2, Error ellipse: s-maj=301.0km s-min=120.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.56**	**260**	P		P	18 27 25.4	+0.5
	0.5nm,0.8s,baz=95,slow=7.5,SNR=11							
ASAR	**Alice Springs**	**46.64**	**254**	P		P	18 27 24.8	-0.8
	0.2nm,0.4s,baz=93,slow=7.3,SNR=8.2							
AKASG	**Malin Array Be**	**141.86**	**334**	PKP		PKPdf	18 38 28.0	-0.6
	0.4nm,0.4s,baz=36,slow=3.7,SNR=4.3							

*TRN **21** 18:23:13.0, 11°03N×62°24W, h94km, MD4.2*
*IDC **21** 18:23:14.2±2.9, 11°17N×62°38W, h124km±27km, mb3.4/8, mb1 3.6/9, mb1mx3.4/37, mbtmp3.8/9, MS3.5/1, Ms1 3.5/1, ms1mx2.7/17, Error ellipse: s-maj=26.5km s-min=17.9km az=60.0*

ISC 21 18:23:11.4±0.7, 11°03N±0°04×62°31W±0°05, h103km±7km, n60, σ1°38/87, mb3.7/8, 4C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.97**	**113**	‖*i*P		**Pn**	**18 23 32.9**	**+1.2**
TRN				*e*S		**Sn**	**18 23 46.2**	**-0.8**
GRGR	**Grenville**	**1.27**	**30**	*e*P		**Pn**	**18 23 36.0**	**+0.9**
GRGR				*e*S		**Sn**	**18 23 53.0**	**-0.1**
GRHS	**Sauteurs**	**1.36**	**29**	*e*P		**Pn**	**18 23 37.0**	**+0.9**
GRHS				*e*S		**Sn**	**18 23 54.0**	**-0.9**
GRSS	**Sisters**	**1.44**	**28**	*e*P		**Pn**	**18 23 38.1**	**+1.1**
GRSS				*e*S		**Sn**	**18 23 56.4**	**-0.1**
TPR	**Prospect**	**1.52**	**84**	‖*i*P		**Pn**	**18 23 39.4**	**+1.5**
BOT	**Bacolet**	**1.57**	**85**	‖*i*P		**Pn**	**18 23 39.9**	**+1.3**
GCMP	**Grenada, Carri**	**1.69**	**31**	*e*P		**Pn**	**18 23 40.8**	**+0.7**
GCMP				*e*S		**Sn**	**18 24 01.2**	**-0.8**
TOSP	**Speyside**	**1.76**	**81**	‖*i*P		**Pn**	**18 23 40.9**	**-0.1**
TOSP				*e*S		**Sn**	**18 24 02.0**	**-1.7**
PCRV	**Puerto La Cruz**	**2.44**	**250**	P		**Pn**	**18 23 52.9**	**+3.1**
	23nm,0.3s,baz=66,slow=3.5,SNR=86							
PCRV				S		**Sn**	**18 24 21.1**	**+1.9**
	13nm,0.3s,baz=275,slow=23,SNR=11							
SVB	**Belmont**	**2.46**	**25**	*e*P		**Pn**	**18 23 52.2**	**+2.1**
SVB				*e*S		**Sn**	**18 24 19.3**	**-0.4**
SVCV	**St. Vincent, C**	**2.50**	**27**	*e*P		**Pn**	**18 23 51.1**	**+0.4**
SVC

TXAR PcP **PcP** **18 32 47.6 -0.6**
0.2nm,0.5s,baz=122,slow=5.8,SNR=4.0
PDAR Pinedale Array 51.73 316 P **P** **18 32 07.3 -1.2**
0.4nm,0.5s,baz=106,slow=8.9,SNR=4.5
PDAR LR LR 18 54 46.4
comp=Z,40nm,18.6s,baz=222,slow=37
PLCA Paso Flores 52.06 188 P **P** **18 32 12.1 +1.4**
3.2nm,0.9s,baz=359,slow=8.0,SNR=6.1
NVAR Mina Array Bea 56.71 309 P **P** **18 32 43.8 -0.9**
0.2nm,0.5s,baz=105,slow=7.2,SNR=2.6
TORD Torodi Ar. Bea 62.48 81 P **P** **18 33 25.0 +0.6**
0.9nm,0.5s,baz=292,slow=6.8,SNR=6.2
ILAR Eielson Array 77.79 334 P **P** **18 34 55.4 -1.6**
0.1nm,0.6s,baz=93,slow=3.6,SNR=1.7
FINES FINESS Array B 79.63 29 P **P** **18 35 07.5 +0.3**
0.8nm,0.5s,baz=278,slow=3.9,SNR=12
CMAR Chiang Mai Arr 145.35 32 PKPbc **PKPab** **18 42 38.4 0.0**
0.7nm,0.8s,baz=320,slow=4.9,SNR=5.5

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*NORS **21** 18:30:41.7±0.0,41.°08N×45.°58E,h2km,MPVA3.9*
*DDA **21** 18:30:42.2,41.°30N×45.°40E,h4km±3km,ML2.5*
*TIF **21** 18:30:42.5,41.°26N×45.°43E,h7km±3km*
*DRS **21** 18:30:45.5±0.0,41.°41N×45.°92E,h8km*
ISC 21 18:30:41.6±1.1,41.°10N±0.°03×45.°48E±0.°02,h12km±10km, n36,σ0°93/71,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.59**	**54**	*i* P	**Pb**	**18 30 54.5**	**+0.5**
DDFL				*i* S	**Sg**	**18 31 01.2**	**+0.3**
DDFL	**Dedoflistskaro**	**0.59**	**54**	P	**Pn**	**18 30 55.2**	**-0.8**
KZRT	**Kazreti**	**0.86**	**290**	*i* P	**Pb**	**18 30 57.0**	**-1.6**
KZRT				*i* S	**Sb**	**18 31 08.9**	**-1.2**
KZRT	**Kazreti**	**0.86**	**290**	P	**Pg**	**18 30 58.7**	**+0.4**
KZRT				S	**Sg**	**18 31 10.0**	**+0.4**
LGD	**Lagodekhi**	**0.93**	**38**	P	**Pb**	**18 30 58.9**	**-0.8**
LGD				S	**Sb**	**18 31 11.2**	**-0.8**
DMNI	**Dmanisi**	**1.00**	**284**	P	**Pn**	**18 31 01.4**	**-0.1**
DMNI				S	**Sg**	**18 31 14.3**	**+0.4**
TRLG	**Trialeti**	**1.13**	**293**	P	**Pb**	**18 31 02.7**	**-0.4**
TRLG				S	**Sb**	**18 31 17.4**	**-0.4**
EAK	**Akyaka**	**1.48**	**254**	*i* P	**Pn**	**18 31 07.8**	**-0.4**
EAK				*i* S	**Sg**	**18 31 30.7**	**+1.5**
EAK				IAML		18 31 32.0	
	comp=E,66nm,0.5s						
EAK				IAML		18 31 37.0	
	comp=N,113nm,0.4s						
AKH	**Akhalkalaki**	**1.53**	**282**	P	**Pg**	**18 31 10.7**	**-0.3**
AKH				S	**Sg**	**18 31 30.4**	**-0.5**
KMKR	**Kumukh**	**1.59**	**49**	*e*Pg	**Pb**	**18 31 10.5**	**-0.6**
	comp=N,28nm,0.3s						
KMKR				*e*Sg	**Sn**	**18 31 30.0**	**-0.4**
	comp=N,179nm,0.3s						
BKRG	**Bakuriani**	**1.61**	**295**	P	**Pb**	**18 31 11.6**	**+0.2**
BKRG				S	**Sg**	**18 31 32.9**	**-0.6**
IGDI	**IGDIR**	**1.63**	**221**	*i* P	**Pg**	**18 31 14.6**	**+1.7**
IGDI				*i* S	**Sg**	**18 31 32.4**	**-1.7**
IGDI				IAML		18 31 40.0	
	comp=E,44nm,0.3s						
IGDI				IAML		18 31 40.0	
	comp=N,43nm,0.3s						
BTLR	**Botlikh**	**1.66**	**19**	*e*Pg	**Pb**	**18 31 11.7**	**-0.4**
BTLR				*e*Pg	**Pg**	**18 31 13.1**	**-0.3**
	comp=N,13nm,0.6s						
BTLR				*e*Sg	**Sn**	**18 31 32.3**	**+0.5**
BTLR				*e*Sg	**Sg**	**18 31 35.2**	**+0.3**
	comp=N,81nm,0.7s						
PNSH	**Pansheti**	**1.66**	**337**	P	**Pn**	**18 31 11.4**	**+0.6**
PNSH				S	**Sn**	**18 31 32.3**	**+0.2**
GNBR	**Gunib**	**1.70**	**40**	*e*Pg	**Pb**	**18 31 12.6**	**-0.2**
	comp=N,27nm,0.8s						
GNBR				*e*Sg	**Sb**	**18 31 34.4**	**+0.2**
	comp=N,174nm,0.4s						
AKT	**Akhty**	**1.74**	**77**	*e*Pg	**Pg**	**18 31 14.4**	**-0.5**
	comp=N,16nm,0.2s						
AKT				*e*Sg	**Sg**	**18 31 37.1**	**-0.4**
	comp=N,174nm,0.4s						
DIGO	**Kars**	**1.74**	**247**	*i* P	**Pg**	**18 31 16.7**	**+1.7**
DIGO				IAML		18 31 45.0	
	comp=E,67nm,0.6s						
DIGO				IAML		18 31 47.0	
	comp=N,39nm,0.4s						
ARKR	**Arakani**	**1.88**	**37**	*e*Pg	**Pg**	**18 31 17.0**	**-0.6**
ARKR				*e*Sg	**Sg**	**18 31 42.0**	**0.0**
	comp=N,73nm,0.2s						
KMGR	**Komgaron**	**2.01**	**347**	*e*Pg	**Pb**	**18 31 18.6**	**+0.6**
KMGR				*e*Sg	**Sg**	**18 31 46.0**	**-0.1**
VLKR	**Vladikavkaz**	**2.03**	**343**	*e*Pg	**Pb**	**18 31 19.1**	**+0.6**
VLKR				*e*Sg	**Sg**	**18 31 46.5**	**-0.4**
KSMR	**Kasumkent**	**2.06**	**75**	*e*Pg	**Pg**	**18 31 21.0**	**0.0**
KSMR				*e*Sg	**Sg**	**18 31 49.0**	**+1.4**
	comp=N,131nm,0.2s						
ZEI	**Tsey**	**2.06**	**326**	*e*Pg	**Pb**	**18 31 19.2**	**+0.2**
ZEI				*e*Sg	**Sb**	**18 31 46.0**	**+1.4**
GROC	**Groznyy**	**2.11**	**6**	*e*Pg	**Pb**	**18 31 19.4**	**-0.4**
GROC				*e*Sg	**Sg**	**18 31 48.8**	**-0.7**
ONI	**Oni**	**2.12**	**315**	P	**Pb**	**18 31 19.8**	**-0.2**
ONI				S	**Sb**	**18 31 47.2**	**+0.8**
TKB	**Tkibuli**	**2.24**	**305**	P	**Pb**	**18 31 21.2**	**-0.8**
TKB				S	**Sb**	**18 31 49.9**	**+0.2**
KORR	**Kora**	**2.24**	**333**	*e*Pn	**Pb**	**18 31 21.9**	**-0.2**
KORR				*e*Sn	**Sb**	**18 31 51.8**	**+1.9**
ARNR	**Ardon**	**2.26**	**337**	*e*Pn	**Pb**	**18 31 22.9**	**+0.6**
ARNR				*e*Sn	**Sg**	**18 31 53.2**	**-0.9**
DIGR	**Digorskoe uzhe**	**2.29**	**322**	*e*Pn	**Pb**	**18 31 23.4**	**+0.5**
DIGR				*e*Sn	**Sb**	**18 31 52.9**	**+1.7**
BTKR	**Batakoyurt**	**2.37**	**343**	*e*Pn	**Pb**	**18 31 25.3**	**+1.0**
BTKR				*e*Sn	**Sb**	**18 31 55.1**	**+1.5**
LSNR	**Lesken**	**2.50**	**331**	*e*Pn	**Pb**	**18 31 26.4**	**0.0**
LSNR				*e*Sn	**Sb**	**18 31 59.0**	**+1.8**
EATA	**Eleskirt**	**2.59**	**242**	*i* P	**Pg**	**18 31 30.5**	**-0.8**
ARTV	**Artvin**	**2.68**	**273**	*i* P	**Pg**	**18 31 31.4**	**-1.6**
ARTV				*i* S	**Sb**	**18 32 03.2**	**+0.5**
DAGI	**Agillar**	**2.70**	**271**	*i* P	**Pg**	**18 31 31.9**	**-1.4**
DAGI				*i* S	**Sg**	**18 32 08.3**	**+0.1**
DDEM	**Demirkent**	**2.83**	**267**	*i* P	**Pb**	**18 31 31.8**	**-0.3**
DDEM				*i* S	**Sb**	**18 32 08.3**	**+1.5**
DDEM				IAML		18 32 17.0	
	comp=E,21nm,0.4s						
DBAD	**Bademkaya**	**2.86**	**270**	*i* P	**Pb**	**18 31 33.6**	**+0.9**
DBAD				*i* S	**Sg**	**18 32 11.3**	**-2.3**
DBAD				IAML		18 32 15.0	
	comp=N,21nm,0.6s						
DBOC	**Borcka**	**2.89**	**276**	*i* P	**Pb**	**18 31 34.1**	**+1.0**
DBOC				*i* S	**Sb**	**18 32 07.2**	**-1.1**
DBOC				IAML		18 32 16.0	
	comp=E,15nm,0.7s						

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*IDC **21** 19:03:13.6±3.6,2.°33S×139.°15E,h0km,mb3.5/3,*
mb1 4.0/5,mb1mx3.6/29,mbtmp3.9/5,ML4.1/2,Error
ellipse: s-maj=66.6km s-min=14.2km az=169.0
ISC 21 19:03:19.8±1.7,2.°7S±0.°2×139.°4E±0.°2,h35km,n12, σ1°78/8,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.37**	**82**	Pg	**Pn**	**19 03 41.7**	**-0.8**
	22nm,0.3s,baz=253,slow=17,SNR=151						
JAY				Lg	Lg	19 04 03.9	
	26nm,0.3s,baz=120,slow=20,SNR=6.4						
BATI	**Baumata**	**17.27**	**244**	P	**Pn**	**19 07 18.0**	**-0.5**
	0.6nm,0.3s,baz=79,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**17.82**	**196**	P	**P**	**19 07 27.3**	**+1.6**
	0.6nm,0.3s,baz=18,slow=12,SNR=26						
WRA				S	**Sn**	**19 10 41.9**	**-1.0**
	0.0nm,0.3s,baz=16,slow=22,SNR=2.6						
FITZ	**Fitzroy Crossi**	**20.37**	**220**	P	**P**	**19 07 54.3**	**+0.7**
	1.4nm,0.8s,baz=0.8,slow=9.0,SNR=1.7						
FITZ				S	**S**	**19 11 37.8**	**-2.3**
	3.3nm,0.9s,baz=180,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**21.50**	**194**	P	**P**	**19 08 08.1**	**+2.3**
	1.8nm,0.7s,baz=19,slow=9.9,SNR=31						
H11S3	**WAKE ISLAND Hy 34.18**	**51**		T	T	19 45 39.4	
	baz=236,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy 34.19**	**51**		T	T	19 45 33.8	
	baz=236,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy 34.19**	**51**		T	T	19 45 37.7	
	baz=236,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy 35.04**	**49**		T	T	19 46 51.5	
	baz=233,slow=75,SNR=7.0						
H11N2	**WAKE ISLAND Hy 35.06**	**49**		T	T	19 46 46.1	
	baz=233,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy 35.06**	**49**		T	T	19 46 53.3	
	baz=233,slow=75,SNR=5.0						
VNDA	**Vanda**	**75.73**	**175**	P	**P**	**19 15 01.6**	**+0.2**
	0.4nm,0.6s,baz=340,slow=7.6,SNR=2.1						

RSNC 21 19:18:17.7±1.1,6.°82N×73.°14W,h148km±4km,ML3.2, Mw3.7,5C-4D,Fault plane solution: NP1:φs95.00000°, δ71.00000°,λ-180.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**189**	⇑*i*P	Pn	19 18 37.7	-0.5
BARC				*e*S	Sn	19 18 52.6	-1.0
BARC				*i*		19 18 53.8	
	comp=Z,348nm,0.2s						
BRRC	**Barranca, Sant**	**0.63**	**297**	⇑*i*P	Pn	19 18 39.5	0.0
BRRC				*e*S	Sn	19 18 56.6	+0.4
BRRC				*i*		19 19 01.4	
	comp=Z,243nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**41**	⇑*i*P	Pn	19 18 40.5	+0.1
PAMC				*e*S	Sn	19 18 57.3	-0.4
PAMC				*i*		19 18 59.8	
	comp=Z,229nm,0.3s						
RUSC	**La Rusia**	**0.93**	**176**	⇓*i*P	Pn	19 18 41.7	-0.6
RUSC				*e*S	Sn	19 19 00.6	-0.3
RUSC				*i*		19 19 01.4	
	comp=Z,190nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*e*P	Pn	19 18 44.1	-1.3
PTBC				*e*S	Sn	19 19 05.2	-1.4
PTBC				*i*		19 19 12.6	
	comp=Z,226nm,0.4s						
TAMC	**Tame, Arauca**	**1.40**	**106**	⇓*i*P	Pn	19 18 46.2	+0.1
TAMC				*e*S	Sn	19 19 07.7	0.0
TAMC				*i*		19 19 12.5	
	comp=Z,71nm,0.3s						
OCAC	**Ocana**	**1.42**	**353**	⇓*i*P	Pn	19 18 45.8	-0.6
OCAC				*e*S	Sn	19 19 07.6	-0.9
OCAC				*i*		19 19 16.0	
	comp=Z,187nm,0.3s						
SPBC	**San Pablo de B**	**1.48**	**218**	*e*P	Pn	19 18 46.6	-0.4
SPBC				*e*S	Sn	19 19 08.6	-0.9
SPBC				*i*		19 19 12.8	
	comp=Z,244nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P	Pn	19 18 49.9	-0.8
ZARC				*e*S	Sn	19 19 15.3	-0.7
ZARC				*i*		19 19 20.9	
	comp=Z,213nm,0.4s						
SMLC	**San Martn de**	**2.17**	**335**	*e*P	Pn	19 18 53.8	-0.9
SMLC				*e*S	Sn	19 19 22.5	-0.7
SMLC				*i*		19 19 24.7	
	comp=Z,232nm,0.3s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	Pn	19 18 55.9	-0.2
CHIC				*e*S	Sn	19 19 25.3	-0.4
CHIC				*i*		19 19 28.5	
	comp=Z,156nm,0.4s						
ROSC	**El Rosal**	**2.29**	**211**	*e*P	Pn	19 18 57.3	+0.7
ROSC				*e*S	Sn	19 19 28.1	+1.6
ROSC				*i*		19 19 32.4	
	comp=Z,293nm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**291**	*e*P	Pn	19 18 57.5	-1.8
UREC				*e*S	Sn	19 19 28.1	-3.2
UREC				*i*		19 19 42.6	
	comp=Z,109nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.72**	**234**	*e*P	Pn	19 19 01.7	-0.3
GUY2C				*e*S	Sn	19 19 36.7	+0.7
VILC	**Villavicencio,**	**2.75**	**192**	⇑*i*P	Pn	19 19 01.5	-0.5
VILC				*e*S	Sn	19 19 35.3	-0.8
VILC				*i*		19 19 38.4	
	comp=Z,167nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓*i*P	Pn	19 19 00.9	-1.5
PTGC				*e*S	Sn	19 19 34.3	-2.7
PTGC				*i*		19 19 36.0	
	comp=Z,98nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*e*P	Pn	19 19 05.3	+0.1
CBOC				*e*S	Sn	19 19 42.1	+0.2
CBOC				*i*		19 19 44.8	
	comp=Z,22nm,0.6s						
DBBC	**Dabeiba**	**3.05**	**274**	*e*P	Pn	19 19 05.6	-0.1
DBBC				*e*S	Sn	19 19 41.8	-1.0
TOLC	**Tolima**	**3.10**	**224**	*e*P	Pn	19 19 07.0	+0.4
TOLC				*e*S	Sn	19 19 44.9	+0.5
TOLC				*i*		19 19 51.4	
	comp=Z,153nm,0.3s						
MOTC	**Monteria, Cord**	**3.17**	**308**	*e*P	Pn	19 19 04.7	-2.4
MOTC				*e*S	Sn	19 19 43.3	-2.0
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P	Pn	19 19 08.0	+0.3
ARGC				*e*S	Sn	19 19 46.7	+0.3
ARGC				*i*		19 19 56.7	
	comp=Z,36nm,0.6s						
SDV	**Santo Domingo**	**3.22**	**50**	⇑*i*P	Pn	19 19 07.1	-0.9
SDV				*e*S	Sn	19 19 44.7	-2.3
SDV				*i*		19 19 47.9	
	comp=Z,31nm,0.3s						
ANIL	**Santa Ana**	**3.23**	**224**	*e*P	Pn	19 19 09.4	+1.2
ANIL				*e*S	Sn	19 19 48.1	+0.9
ANIL				*i*		19 19 57.7	
	comp=Z,26nm,0.3s						
PRAC	**Prado**	**3.54**	**209**	*e*P	Pn	19 19 11.1	-0.9
PRAC				*e*S	Sn	19 19 53.0	-1.1
PRAC				*i*		19 19 57.9	
	comp=Z,102nm,0.6s						
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P	Pn	19 19 11.5	-0.9
ORTC				*e*S	Sn	19 19 55.1	+0.3
ORTC				*i*		19 20 01.4	
	comp=Z,49nm,0.5s						
SJCC	**San Jacinto, C**	**3.66**	**327**	*e*P	Pn	19 19 11.2	-2.4
SJCC				*e*S	Sn	19 19 52.8	-4.1
SJCC				*i*		19 20 07.5	
	comp=Z,28nm,0.4s						
GUVC	**San Jose del G**	**4.28**	**173**	*e*S	Sn	19 20 07.4	-4.0
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P	Pn	19 19 21.5	-2.3
SMRC				*e*S	Sn	19 20 09.6	-5.6
SMRC				*i*		19 20 13.2	
	comp=Z,25nm,0.4s						
MACC	**Macarena, Meta**	**4.70**	**189**	*e*P	Pn	19 19 25.0	-2.2
MACC				*e*S	Sn	19 20 15.5	-5.8
MACC				*i*		19 20 36.8	
	comp=Z,21nm,0.7s						
GARC	**Garzon, Huila**	**5.17**	**207**	*e*P	Pn	19 19 31.8	-1.8
GARC				*e*S	Sn	19 20 26.4	-6.4

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*LDG **21** 19:46:23.8±0.0,44.°85N×6.°75E,h2km,Md2.6/2,Ml2.4/28,*
Error ellipse: s-maj=0.9km s-min=0.6km az=66.0
*ROM **21** 19:46:23.4±0.1,44.°841N±0.°004×6.°747E±0.°009,*
h11km,ML2.2/18,Error ellipse: s-maj=0.6km s-min=0.4km
az=269.0,hypocenter
*STR **21** 19:46:23.3±0.2,45.°N±1.°×.°±.°,h0km,MLv2.2/10,*
smi:scs/0.6/LOCSAT earthModelID
smi:scs/0.6/alpes_taup-2.11 preliminary
*GEN **21** 19:46:23.4,44.°85N×6.°71E,h7km±1km,Ml2.2*
ISC 21 19:46:22.7±0.8,44.°86N±0.°01×6.°70E±0.°01,h12km±5km, n106,σ1°29/198,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.09**	**44**	P	**Pg**	**19 46 25.9**	**+0.2**
RRL				S	**Sg**	**19 46 27.7**	**-0.3**
RRL	**Rocca Remolon**	**0.09**	**44**	P	**Pg**	**19 46 25.9**	**+0.2**
RRL				S	**Sg**	**19 46 27.7**	**-0.3**
RRL				AML	AML		
	comp=N,3505μm,0.4s						
RRL				AML	AML		
	comp=E,7340μm,0.2s						
MBDF	**Montbardon**	**0.14**	**159**	*e*Pg	**Pg**	**19 46 25.9**	**-0.3**
MBDF				*e*Sg	**Sg**	**19 46 28.2**	**-0.6**
	comp=E,269nm,0.1s						
OGMO	**Fort Saint-Gob**	**0.35**	**358**	Pg	**Pg**	**19 46 30.6**	**+0.8**
OGMO				Sg	**Sg**	**19 46 35.7**	**+1.0**
SURF	**Saint Ours**	**0.38**	**168**	Pg	**Pg**	**19 46 30.7**	**+0.2**
SURF				Sg	**Sg**	**19 46 36.4**	**+0.8**
BHB	**Bricherasio**	**0.40**	**92**	P	**Pg**	**19 46 31.1**	**+0.5**
BHB				S	**Sg**	**19 46 36.5**	**+0.5**
BHB	**Bricherasio**	**0.40**	**92**	P	**Pg**	**19 46 31.1**	**+0.5**
BHB				S	**Sg**	**19 46 36.7**	**+0.7**
BHB				AML	AML		
	comp=E,527μm,0.1s						
BHB				AML	AML		
	comp=N,293μm,0.2s						
OGAG	**Argentiere**	**0.42**	**196**	Pg	**Pg**	**19 46 26.5**	**-4.5**
OGAG				Sg	**Sg**	**19 46 28.8**	**-7.9**
PZZ	**Stroppo**	**0.46**	**140**	P	**Pg**	**19 46 31.6**	**-0.1**
PZZ				S	**Sg**	**19 46 37.9**	**+0.1**
PZZ	**Stroppo**	**0.46**	**140**	P	**Pg**	**19 46 31.8**	**0.0**
PZZ				S	**Sg**	**19 46 38.1**	**+0.3**
PZZ				AML	AML		
	comp=E,1385μm,0.1s						
PZZ				AML	AML		
	comp=N,1675μm,0.9s						
RSP	**Reno Superiore**	**0.49**	**54**	P	**Pg**	**19 46 33.0**	**+0.6**
RSP				S	**Sg**	**19 46 39.6**	**+0.5**
RSP	**Reno Superiore**	**0.49**	**54**	P	**Pg**	**19 46 33.1**	**+0.6**
RSP				S	**Sg**	**19 46 39.7**	**+0.7**
RSP				AML	AML		
	comp=E,314μm,0.1s						
RSP				AML	AML		
	comp=N,262μm,0.2s						
DOI	**San Damiano**	**0.52**	**132**	P	**Pg**	**19 46 33.1**	**+0.1**
DOI				S	**Sg**	**19 46 40.0**	**+0.1**
DOI				AML	AML		
	comp=E,882μm,1.0s						
DOI				AML	AML		
	comp=N,754μm,0.2s						
GDM	**Grand'Maison**	**0.54**	**310**	Pg	**Pb**	**19 46 34.4**	**+0.1**
GDM				Sg	**Sg**	**19 46 41.3**	**+0.7**
ORIF	**Oris-en-Rattie**	**0.59**	**276**	*e*Pg	**Pb**	**19 46 34.8**	**-0.2**
ORIF				*e*Sg	**Sg**	**19 46 42.3**	**+0.2**
	comp=N,57nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.59**	**276**	P	**Pb**	**19 46 36.0**	**+1.0**
ORIF				S	**Sb**	**19 46 43.6**	**+0.3**
LPG	**La Plagne**	**0.64**	**3**	*e*Pg	**Pg**	**19 46 36.2**	**+0.9**
LPG				*e*Sg	**Sg**	**19 46 45.0**	**+1.1**
	comp=N,34nm,0.2s						
LPL	**La Plagne**	**0.66**	**2**	*e*Pg	**Pg**	**19 46 36.2**	**+0.6**
LPL				*e*Sg	**Sg**	**19 46 45.3**	**+0.9**
	comp=N,35nm,0.2s						
LSD	**Lago del Serru**	**0.68**	**27**	P	**Pg**	**19 46 36.3**	**+0.4**
LSD				S	**Sg**	**19 46 45.2**	**+0.3**
LSD	**Lago del Serru**	**0.68**	**27**	P	**Pg**	**19 46 36.4**	**+0.4**
LSD				S	**Sg**	**19 46 45.5**	**+0.6**
LSD				AML	AML		
	comp=N,162μm,0.3s						
LSD				AML	AML		
	comp=E,240μm,0.8s						
LSD				AML	AML		
	comp=N,162μm,0.3s						
ISO	**Isola**	**0.72**	**160**	Pg	**Pg**	**19 46 36.7**	**0.0**
ISO				Sg	**Sg**	**19 46 45.5**	**-0.5**
STV	**Sant Anna di V**	**0.76**	**144**	P	**Pg**	**19 46 37.3**	**0.0**
STV				S	**Sg**	**19 46 47.3**	**0.0**
STV	**Sant Anna di V**	**0.76**	**144**	P	**Pg**	**19 46 37.4**	**0.0**
STV				S	**Sg**	**19 46 47.3**	**0.0**
STV				AML	AML		
	comp=N,111μm,1.2s						
STV				AML	AML		
	comp=N,111μm,1.2s						
STV				AML	AML		
	comp=E,188μm,0.4s						
GRN	**Grenoble**	**0.78**	**300**	Pg	**Pb**	**19 46 39.1**	**+0.8**
GRN				Sg	**Sb**	**19 46 49.9**	**+1.0**
OGDI	**Digne**	**0.80**	**201**	Pg	**Pn**	**19 46 40.1**	**+0.2**
ENR	**Entracque**	**0.81**	**141**	P	**Pg**	**19 46 38.4**	**-0.1**
ENR				S	**Sg**	**19 46 49.0**	**-0.1**
ENR	**Entracque**	**0.81**	**141**	P	**Pg**	**19 46 38.4**	**-0.1**
ENR				S	**Sg**	**19 46 48.6**	**-0.5**
ENR				AML	AML		
	comp=N,290μm,0.5s						
ENR				AML	AML		
	comp=E,191μm,1.2s						
RSL	**Roselend**	**0.83**	**356**	Pg	**Pg**	**19 46 39.8**	**+0.9**
MONC	**Moncucco Torin**	**0.90**	**75**	P	**Pg**	**19 46 40.4**	**+0.4**
MONC				AML	AML		
	comp=N,220μm,1.3s						
MONC				AML	AML		
	comp=E,228μm,0.5s						
MRGE	**Morge**	**0.95**	**15**	P	**Pg**	**19 46 41.5**	**+0.5**
MRGE				S	**Sg**	**19 46 53.8**	**+0.3**
MRGE				AML	AML		
	comp=E,46μm,0.6s						
MRGE				AML	AML		
	comp=N,42μm,0.6s						
CIRO	**Champorcher**	**0.96**	**39**	P	**Pg**	**19 46 41.8**	**+0.4**
CIRO				S	**Sg**	**19 46 53.9**	**-0.1**
CIRO	**Champorcher**	**0.96**	**39**	P	**Pg**	**19 46 41.8**	**+0.4**
CIRO				S	**Sg**	**19 46 53.8**	**-0.2**
CIRO				AML	AML		
	comp=E,62μm,0.3s						
CIRO				AML	AML		
	comp=N,88μm,0.7s						
TRAV	**Traversella**	**0.99**	**48**	P	**Pb**	**19 46 41.8**	**0.0**
TRAV				S	**Sg**	**19 46 54.4**	**-0.3**
TRAV	**Traversella**	**0.99**	**48**	P	**Pb**	**19 46 41.9**	**0.0**
TRAV				S	**Sg**	**19 46 54.5**	**-0.3**
TRAV				AML	AML		
	comp=N,85μm,0.2s						
TRAV				AML	AML		
	comp=E,128μm,0.3s						
TURF	**col de Turini**	**1.01**	**151**	Pg	**Pg**	**19 46 42.5**	**+0.3**
TURF				Sg	**Sb**	**19 46 55.8**	**+0.4**
GBOS	**Grotte di Boss**	**1.02**	**127**	P	**Pb**	**19 46 41.8**	**-0.5**
GBOS				S	**Sg**	**19 46 55.0**	**-0.7**
GBOS	**Grotte di Boss**	**1.02**	**127**	P	**Pb**	**19 46 41.8**	**-0.5**
GBOS				S	**Sg**	**19 46 54.9**	**-0.7**
GBOS				AML	AML		
	comp=N,110μm,0.2s						
GBOS				AML	AML		
	comp=E,119μm,0.3s						
BLAF	**les Blancs**	**1.02**	**208**	Pg	**Pn**	**19 46 43.6**	**+0.7**
BLAF				Sg	**Sn**	**19 46 57.8**	**+0.7**
SAOF	**Saorge**	**1.06**	**145**	Pg	**Pb**	**19 46 43.1**	**+0.1**
SAOF				Sg	**Sg**	**19 46 57.6**	**+0.6**
SAOF	**Saorge**	**1.06**	**145**	P	**Pb**	**19 46 43.1**	**+0.1**
SAOF	**Saorge**	**1.06**	**145**	AML	AML		
	comp=N,76μm,0.8s						
SAOF				AML	AML		
	comp=E,73μm,1.2s						
MLYF	**Mely**	**1.10**	**218**	Pg	**Pn**	**19 46 46.6**	**+2.6**
MLYF				Sn	**Sn**	**19 47 01.9**	**+2.8**
CALF	**Calern**	**1.11**	**172**	Pg	**Pn**	**19 46 44.6**	**+0.4**
CALF				Sg	**Sn**	**19 46 59.7**	**+0.1**
SBF	**Sospel**	**1.12**	**152**	*e*Pg	**Pg**	**19 46 44.6**	**+0.3**
SBF				*e*Sn	**Sg**	**19 46 59.1**	**+0.2**
	comp=E,23nm,0.2s						
ESCA	**l'Escarene**	**1.13**	**155**	Pg	**Pn**	**19 46 44.7**	**+0.3**
ESCA			

comp=N,15nm,0.3s
MMK Mattmark 1.49 36 P **Pb 19 46 51.0 +0.5**
MMK S **Sn 19 47 10.2 +1.2**
LMR La Mourre 1.53 185 *e*Pn **Pn 19 46 50.4 +0.6**
LMR La Mourre 1.53 185 *e*Pg **Pg 19 46 52.2 +0.2**
LMR *e*Sn **Sb 19 47 09.8 -0.4**
comp=N,14nm,0.2s
CABF La Chapelle 1.81 346 *e*Pn **Pn 19 46 55.0 +1.2**
CABF La Chapelle 1.81 346 *e*Pg **Pg 19 46 58.2 +0.8**
CABF *e*Sn **Sn 19 47 16.7 +0.1**
CABF *e*Sg **Sg 19 47 21.7 +0.8**
comp=N,2.6nm,0.2s
LASF Ste Croix 2.18 250 *e*Pn **Pn 19 46 59.8 +1.0**
LASF Ste Croix 2.18 250 *e*Pg **Pg 19 47 05.1 +0.6**
LASF *e*Sn **Sn 19 47 26.2 +0.4**
comp=N,3.9nm,0.2s
SMF Signal de Mont 2.69 313 *e*Pn **Pn 19 47 06.8 +1.0**
SMF Signal de Mont 2.69 313 *e*Pg **Pg 19 47 14.2 0.0**
SMF *e*Sn **Sn 19 47 38.4 +0.2**
SMF *e*Sg **Sg 19 47 49.3 +0.3**
comp=N,3.0nm,0.2s
PGF Pioggiola 2.84 143 *e*Pn **Pn 19 47 08.2 +0.2**
PGF Pioggiola 2.84 143 *e*P **Pn 19 47 11.1 +3.1**
PGF *e*Sn **Sn 19 47 40.7 -1.5**
comp=N,3.0nm,0.2s
HINF Hinteralfeld 2.96 2 *e*Pn **Pn 19 47 10.2 +0.6**
HINF Hinteralfeld 2.96 2 *e*Pg **Pg 19 47 19.0 -0.5**
HINF *e*Sn **Sn 19 47 44.1 -1.0**
HINF *e*Sg **Sg 19 47 57.4 -0.5**
comp=N,0.9nm,0.2s
AVF Avril sur Loir 3.04 311 *e*Pn **Pn 19 47 12.2 +1.6**
AVF Avril sur Loir 3.04 311 *e*Pg **Pg 19 47 20.8 -0.1**
AVF *e*Sn **Sn 19 47 46.7 -0.1**
AVF *e*Sg **Sg 19 48 00.4 +0.1**
comp=N,1.1nm,0.2s
LOR Lormes 3.12 322 *e*P **Pn 19 47 14.6 +2.9**
LOR *e*Sn **Sn 19 47 48.6 -0.3**
LOR *e*Sg **Sg 19 48 02.8 -0.1**
comp=N,1.4nm,0.2s
SSF Saint Saulge 3.14 316 *e*Pn **Pn 19 47 12.9 +1.0**
SSF Saint Saulge 3.14 316 *e*Pg **Pg 19 47 22.6 -0.2**
SSF *e*Sn **Sn 19 47 49.1 -0.2**
SSF *e*Sg **Sg 19 48 03.2 -0.2**
comp=N,0.5nm,0.2s
HAU Haudompre 3.16 356 *e*Pn **Pn 19 47 13.1 +0.8**
HAU Haudompre 3.16 356 *e*Pg **Pg 19 47 22.8 -0.5**
HAU *e*Sn **Sn 19 47 49.0 -0.9**
HAU *e*Sg **Sg 19 48 03.5 -0.7**
comp=N,1.4nm,0.2s
BGF Bois d'Agland 3.19 304 *e*Pn **Pn 19 47 14.0 +1.3**
BGF Bois d'Agland 3.19 304 *e*Pg **Pg 19 47 23.8 -0.1**
BGF *e*Sn **Sn 19 47 50.5 -0.2**
BGF *e*Sg **Sg 19 48 05.4 +0.1**
comp=N,3.8nm,0.3s
TCF Toulx Ste Croi 3.47 296 *e*Pn **Pn 19 47 17.7 +1.2**
TCF Toulx Ste Croi 3.47 296 *e*Pg **Pg 19 47 28.9 -0.2**
TCF *e*Sn **Sn 19 47 57.2 -0.2**
TCF *e*Sg **Sg 19 48 13.9 -0.1**
comp=N,1.0nm,0.2s
SFTF Sexfontaines 3.54 342 *e*Pn **Pn 19 47 18.3 +0.8**
SFTF Sexfontaines 3.54 342 *e*Pg **Pg 19 47 29.9 -0.7**
SFTF *e*Sn **Sn 19 47 58.1 -1.2**
SFTF *e*Sg **Sg 19 48 15.7 -0.7**
comp=N,1.2nm,0.2s
FETA Feichten 3.55 51 *e*Pn **Pb 19 47 24.5 -0.9**
comp=N,0.5nm,0.3s
MTLF Montolieu 3.57 246 *e*Pn **Pn 19 47 18.9 +1.0**
MTLF Montolieu 3.57 246 *e*Pg **Pg 19 47 30.4 -0.7**
MTLF *e*Sn **Sn 19 47 59.3 -0.6**
comp=N,1.0nm,0.2s
CDF Champ du Feu 3.58 6 *e*Pn **Pn 19 47 18.5 +0.4**
CDF Champ du Feu 3.58 6 *e*Pg **Pg 19 47 30.4 -0.9**
CDF *e*Sn **Sn 19 47 59.1 -1.2**
comp=N,0.7nm,0.2s
RJF Les Rejaudoux 3.70 279 *e*Pn **Pn 19 47 20.8 +1.1**
RJF Les Rejaudoux 3.70 279 *e*Pg **Pg 19 47 33.1 -0.5**
RJF *e*Sn **Sn 19 48 02.6 -0.6**
RJF *e*Sg **Sg 19 48 21.1 -0.5**
comp=N,1.2nm,0.3s
HYF Humbligny 3.72 312 *e*Pn **Pn 19 47 20.3 +0.4**
HYF Humbligny 3.72 312 *e*Pg **Pg 19 47 33.5 -0.4**
HYF *e*Sn **Sn 19 48 02.7 -0.9**
HYF *e*Sg **Sg 19 48 21.6 -0.5**
PAGF Fort de Pagny 3.76 350 *e*Pn **Pn 19 47 21.1 +0.6**
PAGF *e*Sn **Sn 19 48 03.3 -1.4**
comp=N,1.0nm,0.2s
MOTA Moosalm 3.94 49 *i*Pn **Pn 19 47 27.4 +4.2**
comp=N,0.4nm,0.1s
WTTA Wattenberg 4.19 53 *e*Pn **Pn 19 47 30.6 +4.0**
comp=N,0.4nm,0.2s
LFF La Frestale 4.24 273 *e*Pn **Pn 19 47 28.0 +1.0**
LFF La Frestale 4.24 273 *e*Pg **Pg 19 47 43.2 -0.7**
LFF *e*Sn **Sn 19 48 15.2 -1.2**
LFF *e*Sg **Sg 19 48 37.9 -0.9**
comp=N,0.8nm,0.2s
MFF Saint Martin d 5.10 292 *e*Pn **Pn 19 47 39.7 +0.8**
MFF Saint Martin d 5.10 292 *e*Pg **Pg 19 47 59.0 -1.4**
MFF *e*Sn **Sn 19 48 36.1 -1.6**
MFF *e*Sg **Sg 19 49 04.9 -1.6**
comp=N,0.2nm,0.2s
GIVF Givet 5.40 347 *e*Pn **Pn 19 47 43.4 +0.4**
GIVF Givet 5.40 347 *e*Pg **Pg 19 48 04.3 -1.8**
GIVF *e*Sn **Sn 19 48 42.9 -2.2**
GIVF *e*Sg **Sg 19 49 13.3 -2.7**
comp=N,1.6nm,0.2s
BAIF Baives 5.47 343 *e*Pn **Pn 19 47 44.6 +0.6**
BAIF Baives 5.47 343 *e*Pg **Pg 19 48 05.3 -2.2**
BAIF *e*Sn **Sn 19 48 44.4 -2.4**
BAIF *e*Sg **Sg 19 49 15.7 -2.6**
comp=N,0.5nm,0.2s
ETSF Etsaut 5.60 252 *e*Pn **Pn 19 47 46.7 +0.8**
ETSF *e*Sn **Sn 19 48 48.1 -2.1**
comp=N,0.3nm,0.2s
SJPF Ste Jean 5.98 256 *e*Pn **Pn 19 47 50.8 -0.2**
SJPF Ste Jean 5.98 256 *e*Pg **Pg 19 48 14.9 -2.3**
SJPF *e*Sn **Sn 19 48 55.7 -3.7**
comp=N,0.2nm,0.2s
LDF La Druitiere 6.00 311 *e*Pn **Pn 19 47 51.9 +0.7**

PRE ***21*** *19:52:16.7±1.1,26°.43S×27°.59E, h2km, ML3.3*
BUL ***21*** *19:52:18.5±1.0,26°.56S×27°.77E, h10km, MD4.3*
IDC ***21*** *19:52:18.7±0.8,26°.43S×27°.56E, h0km, mb3.9/9, mb1 4.2/14, mb1mx4.0/31, mbtmp4.1/14, ML4.3/3, Error ellipse: s-maj=21.8km s-min=14.9km az=87.0*
NEIC ***21*** *19:52:19.1±1.9,26°.38S±0°.04×27°.54E±0°.07, h5km±1km, mb4.5/8, Error ellipse: s-maj=12.9km s-min=3.4km az=123.0*
EAF ***21*** *19:52:20.1±1.5,26°.57S×27°.73E, h10km, MD4.3*
ISC 21 19:52:17.8±1.0, 26°.41S±0°.03×27°.56E±0°.03, h4km±6km, n59, σ2.8 37/97, mb4.2/11, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.07**	**39**	*e*P	**Pg**	**19 52 18.3**	**-1.2**
KLOF				*e*S	**Sg**	**19 52 19.3**	**-1.4**
KLOF				AML	AML	19 52 23.9	
comp=Z,23μm,0.3s							
PRYS	**Parys**	**0.55**	**199**	*e*P	**Pg**	**19 52 27.1**	**-1.2**
PRYS				*e*S	**Sg**	**19 52 33.9**	**-1.6**
PRYS				AML	AML	19 52 40.0	
comp=Z,1μm,0.3s							
ERPM	**east rand prop**	**0.62**	**84**	*e*P	**Pg**	**19 52 28.9**	**-0.8**
ERPM				*e*S	**Sg**	**19 52 36.4**	**-1.4**
ERPM				AML	AML	19 52 44.7	
comp=Z,644nm,0.6s							
KSR	**Koster**	**0.81**	**313**	*e*P	**Pg**	**19 52 32.9**	**-0.5**
KSR				*e*S	**Sg**	**19 52 45.2**	**+1.2**
KSR				AML	AML	19 52 54.6	
comp=Z,1μm,0.1s							
SWZ	**Schweizer**	**2.13**	**248**	*e*P	**Pn**	**19 52 54.3**	**-0.1**
SWZ				*e*S	**Sn**	**19 53 21.3**	**-0.2**
SWZ				AML	AML	19 53 26.2	
comp=Z,647nm,0.5s							
LBTB	**Lobatse**	**2.25**	**308**	Pn	**Pb**	**19 52 58.5**	**-0.6**
comp=Z,143nm,0.3s,baz=128,slow=16,SNR=1102							
LBTB				Pg	**Pg**	**19 53 00.1**	**-0.9**
comp=Z,141nm,0.3s,baz=122,slow=16,SNR=398							
LBTB				Lg	Lg	19 53 29.3	
comp=Z,204nm,0.3s,baz=30,slow=20,SNR=41							
LBTB	**Lobatse**	**2.25**	**308**	*i*P	**Pb**	**19 52 58.9**	**-0.2**
LBTB				*i*S	**Sb**	**19 53 29.8**	**+2.5**
LBTB	**Lobatse**	**2.25**	**308**	*e*P	**Pn**	**19 52 56.5**	**+0.6**
LBTB				*e*S	**Sn**	**19 53 25.3**	**+1.1**
LBTB				AML	AML	19 53 30.2	
comp=Z,864nm,0.3s							
LBTB	**Lobatse**	**2.25**	**308**		**Pb**	**19 52 58.8**	**-0.2**
LBTB				Sg	**Sb**	**19 53 29.1**	**+1.8**
LBTB	**Lobatse**	**2.25**	**308**	*i*P	**Pb**	**19 52 58.9**	**-0.2**
LBTB				*i*S	**Sb**	**19 53 29.8**	**+2.5**
BOSA	**Boshof**	**3.00**	**222**	Pn	**Pn**	**19 53 07.2**	**+0.9**
comp=Z,18nm,0.3s,baz=42,slow=12,SNR=514							
BOSA				Pg	**Pb**	**19 53 13.7**	**+1.8**
comp=Z,23nm,0.3s,baz=46,slow=15,SNR=44							
BOSA				Sn	**Sn**	**19 53 41.4**	**-1.4**
comp=Z,9.1nm,0.3s,baz=11,slow=16,SNR=3.6							
BOSA				Lg	Lg	19 53 49.8	
comp=Z,23nm,0.3s,baz=308,slow=19,SNR=3.2							
BOSA	**Boshof**	**3.00**	**222**	*i*P	**Pn**	**19 53 07.4**	**+1.0**
BOSA				*i*S	**Sn**	**19 53 41.6**	**-1.2**
BOSA	**Boshof**	**3.00**	**222**	*e*P	**Pn**	**19 53 06.7**	**+0.4**
BOSA				*e*S	**Sn**	**19 53 42.0**	**-0.8**
BOSA				AML	AML	19 54 11.0	
comp=Z,58nm,0.5s							
BOSA	**Boshof**	**3.00**	**222**	Pn	**Pn**	**19 53 07.3**	**+1.0**
BOSA					**Sb**	**19 53 50.3**	**+1.3**
BOSA	**Boshof**	**3.00**	**222**	*i*P	**Pn**	**19 53 07.4**	**+1.0**
BOSA				*i*S	**Sn**	**19 53 41.6**	**-1.2**
POGA	**Pongola**	**3.82**	**105**	*e*P	**Pn**	**19 53 17.0**	**-0.5**
POGA				*e*S	**Sn**	**19 54 01.2**	**-1.7**
POGA				AML	AML	19 54 19.7	
comp=Z,188nm,0.4s							
MOPA	**Mopani**	**4.52**	**51**	*e*P	**Pn**	**19 53 26.9**	**-0.2**
MOPA				*e*S	**Sn**	**19 54 16.9**	**-3.2**
MOPA				AML	AML	19 54 48.0	
comp=Z,73nm,0.4s							
HVD	**Gariep Dam**	**4.56**	**203**	*e*P	**Pn**	**19 53 27.7**	**0.0**
HVD				*e*S	**Sn**	**19 54 18.8**	**-2.5**
HVD				AML	AML	19 54 45.7	
comp=Z,52nm,0.4s							
MSNA	**Messina**	**4.63**	**30**	*e*P	**Pn**	**19 53 28.0**	**-0.6**
MSNA				*e*S	**Sn**	**19 54 18.6**	**-4.2**
MSNA				AML	AML	19 54 44.2	
comp=Z,89nm,0.5s							
UPI	**Upington**	**5.93**	**249**	*e*P	**Pn**	**19 53 46.7**	**+0.1**
UPI				*e*S	**Sn**	**19 54 51.7**	**-3.4**
UPI				AML	AML	19 55 36.5	
comp=Z,30nm,0.4s							
KEIM	**Keimoes**	**6.28**	**247**	*e*P	**Pn**	**19 53 50.7**	**-0.7**
KEIM				*e*S	**Sn**	**19 55 00.6**	**-3.0**
KEIM				AML	AML	19 55 38.3	
comp=Z,70nm,0.4s							
BLWY	**Bulawayo**	**6.31**	**9**	*i*P	**Pn**	**19 53 53.3**	**+1.4**
BLWY				*i*S	**Sn**	**19 55 04.2**	**-0.4**
BLWY	**Bulawayo**	**6.31**	**9**	*i*P	**Pn**	**19 53 53.3**	**+1.4**
BLWY				*i*S	**Sn**	**19 55 04.2**	**-0.4**
SOE	**Somerset East**	**6.52**	**195**	*e*P	**Pn**	**19 53 54.5**	**-0.1**
SOE				*e*S	**Sn**	**19 55 06.0**	**-3.5**
SOE				AML	AML	19 55 46.1	
comp=Z,29nm,0.7s							
GRAN	**Grantham**	**7.52**	**217**	*e*P	**Pn**	**19 54 08.7**	**+0.3**
GRAN				*e*S	**Sn**	**19 55 29.8**	**-4.4**
GRAN				AML	AML	19 55 37.2	
comp=Z,14nm,0.7s							
SUR	**Sutherland**	**8.37**	**223**	Pn	**Pn**	**19 54 20.5**	**+0.4**
comp=Z,4.2nm,0.3s,baz=55,slow=9.3,SNR=87							
SUR				Sn	**Sn**	**19 55 50.9**	**-4.3**
comp=Z,3.3nm,0.3s,baz=140,slow=19,SNR=5.9							
SUR				Lg	Lg	19 56 38.1	
comp=Z,7.3nm,0.3s,baz=143,slow=20,SNR=6.6							
SUR	**Sutherland**	**8.37**	**223**	*i*P	**Pn**	**19 54 20.7**	**+0.6**
SUR				*i*S	**Sn**	**19 55 50.4**	**-4.8**
SUR	**Sutherland**	**8.37**	**223**	Pn	**Pn**	**19 54 21.4**	**+1.3**
SUR	**Sutherland**	**8.37**	**223**	*i*P	**Pn**	**19 54 20.7**	**+0.6**
SUR				*i*S	**Sn**	**19 55 50.4**	**-4.8**
CVNA	**Calvinia**	**8.50**	**232**	*e*P	**Pn**	**19 54 21.3**	**-0.5**
CVNA				*e*S	**Sn**	**19 55 53.2**	**-5.0**
CVNA				AML	AML	19 56 10.3	
comp=Z,19nm,0.7s							
KOMG	**Komaggas**	**9.51**	**247**	*e*P	**Pn**	**19 54 36.0**	**+0.4**
KOMG				*e*S	**Sn**	**19 56 18.0**	**-5.1**
KOMG				AML	AML	19 57 24.0	
comp=Z,25nm,0.5s							
ELIM	**Elim**	**10.58**	**218**	*e*P	**Pn**	**19 54 50.6**	**+0.4**
ELIM				*e*S	**Sn**	**19 56 42.6**	**-6.6**
ELIM				AML	AML	19 57 29.8	
comp=Z,11nm,0.5s							
LSZ	**Lusaka**	**11.09**	**3**	Pn	**Pn**	**19 54 57.1**	**-0.3**
comp=Z,3.0nm,0.3s,baz=184,slow=13,SNR=16							
LSZ				Sn	**Sn**	**19 56 54.6**	**-7.4**
comp=Z,0.5nm,0.3s,baz=185,slow=19,SNR=4.4							
LSZ				Lg	Lg	19 58 02.9	
comp=Z,1.1nm,0.3s,baz=172,slow=18,SNR=4.7							
LSZ	**Lusaka**	**11.09**	**3**	*i*P	**Pn**	**19 54 58.1**	**+0.7**
LSZ				*i*S	**Sn**	**19 56 57.8**	**-4.3**
LSZ	**Lusaka**	**11.09**	**3**	*i*P	**Pn**	**19 54 58.1**	**+0.7**
LSZ				*i*S	**Sn**	**19 56 57.8**	**-4.3**
TSUM	**Tsumeb**	**11.66**	**306**	Pn	**Pn**	**19 55 05.9**	**+0.7**
comp=Z,2.9nm,0.3s,baz=123,slow=11,SNR=28							
TSUM				Sn	**Sn**	**19 57 07.9**	**-8.1**
comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=1.8							
TSUM				Lg	Lg	19 58 20.6	
comp=Z,1.4nm,0.3s,baz=246,slow=20,SNR=5.1							
TSUM	**Tsumeb**	**11.66**	**306**	*i*P	**Pn**	**19 55 06.1**	**+0.9**
TSUM				*i*S	**Sn**	**19 57 13.1**	**-2.9**
TSUM	**Tsumeb**	**11.66**	**306**	Pn	**Pn**	**19 55 04.8**	**-0.5**
TSUM	**Tsumeb**	**11.66**	**306**	*i*P	**Pn**	**19 55 07.8**	**+2.6**
TSUM				*i*S	**Sn**	**19 57 13.1**	**-2.9**
DBIC	**Dimbokro**	**45.49**	**312**	P	**P**	**20 00 39.5**	**+0.9**
comp=Z,1.4nm,0.7s,baz=133,slow=8.7,SNR=1.6							
DBIC	**Dimbokro**	**45.49**	**312**	P	**P**	**20 00 39.4**	**+0.9**
DBIC				IAmb	IAmb	20 00 49.9	
comp=Z,15nm,1.5s							
TOA0	**Torodi Ar. Sit**	**46.67**	**324**	P	**P**	**20 00 48.8**	**+0.9**
TOA0				IAmb	IAmb	20 00 49.7	
comp=Z,2.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**46.67**	**324**	P	**P**	**20 00 48.7**	**+0.9**
comp=Z,1.7nm,0.6s,baz=140,slow=6.7,SNR=15							
TORD	**Torodi Ar. Bea**	**46.67**	**324**	P	**P**	**20 00 48.5**	**+0.7**
SNAA	**Sanae**	**48.37**	**192**	P	**P**	**20 01 02.4**	**+2.0**
SNAA				IAmb	IAmb	20 01 03.5	
comp=Z,3.0nm,0.8s							
BELA	**Belgrano 2**	**58.61**	**193**	P	**P**	**20 02 15.8**	**+0.3**
RCBR	**Riachuelo**	**63.69**	**277**	P	**P**	**20 02 49.3**	**-1.6**
QSPA	**South Pole Qui**	**63.78**	**180**	P	**P**	**20 02 51.9**	**+1.1**
comp=Z,0.9nm,0.5s,baz=48,slow=3.0,SNR=12							
QSPA	**South Pole Qui**	**63.78**	**180**	P	**P**	**20 02 51.6**	**+0.7**
ESDC	**Sonseca Array**	**72.02**	**335**	P	**P**	**20 03 44.6**	**+1.8**
comp=Z,1.0nm,0.6s,baz=154,slow=6.0,SNR=19							
ESDC	**Sonseca Array**	**72.02**	**335**	P	**P**	**20 03 44.6**	**+1.8**
VNDA	**Vanda**	**72.81**	**171**	P	**P**	**20 03 48.7**	**+1.6**
comp=Z,0.4nm,0.7s,baz=269,slow=7.9,SNR=2.5							
BURAR	**Bucovina Array**	**73.71**	**358**	P	**P**	**20 03 54.0**	**+1.3**
GERES	**GERESS Array B**	**75.93**	**351**	P	**P**	**20 04 08.0**	**+2.4**
comp=Z,0.7nm,0.8s,baz=146,slow=2.6,SNR=4.8							
AKASG	**Malin Array Be**	**76.78**	**1**	P	**P**	**20 04 11.6**	**+1.4**
comp=Z,0.2nm,0.2s,baz=179,slow=6.5,SNR=1.8							
FINES	**FINESS Array B**	**87.55**	**359**	P	**P**	**20 05 08.1**	**+1.7**
comp=Z,1.4nm,0.6s,baz=167,slow=5.8,SNR=11							
MKAR	**Makanchi Array**	**88.03**	**34**	P	**P**	**20 05 10.6**	**+1.5**
comp=Z,0.5nm,0.6s,baz=233,slow=3.1,SNR=5.0							
ILAR	**Eielson Array**	**141.47**	**356**	PKP	**PKPdf**	**20 11 49.8**	**+0.4**
comp=Z,0.2nm,0.6s,baz=334,slow=3.2,SNR=2.2							
NVAR	**Mina Array Bea**	**148.96**	**301**	PKPbc	**PKPab**	**20 12 09.9**	**-1.7**
comp=Z,0.5nm,0.5s,baz=69,slow=4.9,SNR=6.3							

IDC 21 20:09:32.0±1.7, 2°.64N×124°.89E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/38, mbtmp3.6/4, Error ellipse: s-maj=122.5km s-min=22.5km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.62**	**178**	P	P	20 14 13.3	+0.3
0.8nm,0.3s,baz=360,slow=9.9,SNR=21							
WRA	**Warramunga Arr**	**24.28**	**158**	P	P	20 14 51.6	+0.4
1.1nm,0.9s,baz=336,slow=10,SNR=18							
ASAR	**Alice Springs**	**27.58**	**162**	P	P	20 15 20.5	-0.5
0.1nm,0.4s,baz=335,slow=8.7,SNR=6.1							
MKAR	**Makanchi Array**	**57.43**	**327**	P	P	20 19 22.4	-0.1
0.5nm,0.3s,baz=126,slow=7.7,SNR=13							

IDC 21 20:17:53.0±11.0, 19°.71S×178°.37W, h652km±148km, mb2.5/4, mb1 3.0/4, mb1mx2.6/28, mbtmp3.5/4, Error ellipse: s-maj=133.4km s-min=48.7km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.37**	**261**	P	P	20 25 08.7	+0.1
0.2nm,0.6s,baz=96,slow=7.5,SNR=5.1							
NVAR	**Mina Array Bea**	**80.70**	**44**	P	P	20 29 00.8	0.0
0.3nm,0.6s,baz=218,slow=8.6,SNR=2.6							
TXAR	**Lajitas Array**	**86.93**	**58**	P	P	20 29 31.3	0.0
0.1nm,0.4s,baz=218,slow=5.4,SNR=2.7							
ILAR	**Eielson Array**	**87.63**	**13**	P	P	20 29 34.1	+0.5
0.3nm,0.9s,baz=219,slow=5.4,SNR=4.4							
AKASG	**Malin Array Be**	**142.16**	**331**	PKP	PKPdf	20 36 11.6	-1.1
0.2nm,0.3s,baz=38,slow=3.9,SNR=2.2							

ISK ***21*** *20:30:17.9, 38°.87N×26°.44E, h6km, ML2.5/23*
DDA ***21*** *20:30:18.2, 38°.81N×26°.54E, h13km±1km, ML2.4*
ATH ***21*** *20:30:18.4, 38°.84N×26°.51E, h27km±6km, ML2.3/2, Error ellipse: s-maj=8.8km s-min=1.9km az=261.0*
THE ***21*** *20:30:19.5, 38°.83N×26°.46E, h12km±1km, ML2.2/10, Error ellipse: s-maj=1.9km s-min=0.8km az=243.0*
ISC 21 20:30:18.4±1.0, 38°.85N±0°.02×26°.52E±0°.02, h14km±8km, n59, σ0.9 89/90, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKL	**Dikili**	**0.37**	**54**	PG	**Pg**	**20 30 26.5**	**+0.6**
DKL				SG	**Sb**	**20 30 32.7**	**+0.3**
PRK	**Paraskevi**	**0.44**	**334**	P	**Pb**	**20 30 28.6**	**+0.7**
PRK				S	**Sb**	**20 30 35.0**	**+0.6**
642nm,0.4s							
ZEDA	**zmir-Bergama**	**0.45**	**75**	*i*P	**Pg**	**20 30 27.5**	**+0.1**
ZEDA				*i*S	**Sg**	**20 30 32.6**	**-0.8**
ZEDA				IAML		20 30 35.0	
comp=E,318nm,0.4s							
AYVA	**Ayvalik**	**0.47**	**16**	*i*P	**Pg**	**20 30 27.6**	**-0.2**
URLA	**Izmir**	**0.49**	**173**	PG	**Pg**	**20 30 28.3**	**+0.1**
URLA				SG	**Sb**	**20 30 36.5**	**+0.5**
URLA	**Izmir**	**0.49**	**173**	*i*P	**Pg**	**20 30 28.1**	**-0.1**
URLA				*i*S	**Sg**	**20 30 33.2**	**-1.6**
CESE	**eme**	**0.55**	**198**	PG	**Pg**	**20 30 29.0**	**-0.2**
CESE				SG	**Sb**	**20 30 37.3**	**-0.2**
CHOS	**Chios island**	**0.59**	**218**	P	**Pb**	**20 30 30.4**	**-0.2**
CHOS				S	**Sg**	**20 30 38.0**	**+0.2**
comp=E,525nm,0.2s							
CHOS	**Chios island**	**0.59**	**218**	P	**Pb**	**20 30 30.2**	**-0.3**
CHOS				S	**Sg**	**20 30 37.8**	**0.0**
CHOS				AML	AML	20 30 42.8	
comp=N,769μm,0.2s							
CHOS				AML	AML	20 30 43.2	
comp=E,1329μm,0.2s							
BLCB	**Balcova**	**0.62**	**139**	P	**Pb**	**20 30 31.1**	**+0.1**
BLCB				S	**Sb**	**20 30 40.3**	**+0.8**
BLCB	**Balcova**	**0.62**	**139**	PG	**Pb**	**20 30 31.5**	**+0.5**
SIGR	**SIGRI**	**0.63**	**305**	P	**Pb**	**20 30 31.2**	**0.0**
SIGR				S	**Sb**	**20 30 39.8**	**-0.1**
comp=E,168nm,0.3s							
SIGR	**SIGRI**	**0.63**	**305**	P	**Pb**	**20 30 31.2**	**0.0**
SIGR				S	**Sb**	**20 30 39.8**	**-0.1**
SIGR				AML	AML	20 30 40.2	
comp=E,360μm,0.4s							
SIGR				AML	AML	20 30 42.6	
comp=N,309μm,0.2s							
PSRA	**Psara**	**0.81**	**248**	P	**Pb**	**20 30 34.8**	**+0.5**
PSRA				S	**Sb**	**20 30 45.4**	**+0.4**
DGB	**zmir**	**0.85**	**160**	*i*P	**Pg**	**20 30 34.5**	**-0.3**
DGB				*i*S	**Sg**	**20 30 45.1**	**-0.8**
EZN	**Ezine**	**0.98**	**351**	P	**Pn**	**20 30 38.5**	**+0.7**
EZN				S	**Sn**	**20 30 51.8**	**+0.3**
comp=N,185nm,0.3s							
EZN	**Ezine**	**0.98**	**351**	PG	**Pb**	**20 30 36.5**	**-0.7**
EZN				SG	**Sg**	**20 30 50.6**	**+0.3**
BOZC	**Bozcaada**	**1.05**	**340**	PG	**Pb**	**20 30 37.8**	**-0.6**
BOZC				SG	**Sb**	**20 30 52.4**	**+0.3**
BOZC	**Bozcaada**	**1.05**	**340**	*i*P	**Pg**	**20 30 38.9**	**+0.2**
BOZC				*i*S	**Sb**	**20 30 51.3**	**-0.8**
BOZC				IAML		20 30 54.0	
comp=E,127nm,0.5s							
BOZC				IAML		20 30 55.0	
comp=N,142nm,0.3s							
STEP	**BALIKESIR_Sava**	**1.07**	**60**	*i*P	**Pn**	**20 30 39.4**	**+0.4**
STEP				*i*S	**Sn**	**20 30 54.0**	**+0.3**
STEP				IAML		20 30 56.0	
comp=E,207nm,0.3s							
STEP				IAML		20 30 59.0	
comp=N,81nm,0.3s							
SMG	**Samos**	**1.17**	**168**	P	**Pg**	**20 30 41.2**	**+0.3**
SMG				S	**Sn**	**20 30 56.6**	**+0.5**
comp=N,205nm,0.4s							
BALY	**Balya**	**1.23**	**44**	*i*P	**Pn**	**20 30 41.5**	**+0.3**
BALY				*i*S	**Sb**	**20 30 57.1**	**-0.1**
BALY				IAML		20 31 01.0	
comp=E,52nm,0.5s							
BALY				IAML		20 31 02.0	
comp=N,86nm,0.5s							
GCAM	**G?zelcaml?**	**1.28**	**154**	PN	**Pg**	**20 30 43.3**	**+0.3**
GCAM				SN	**Sg**	**20 31 01.7**	**+2.0**
GCAM	**G?zelcaml?**	**1.28**	**154**	*i*P	**Pn**	**20 30 41.0**	**-0.9**
GCAM				*i*S	**Sb**	**20 30 57.3**	**-1.2**
BALB	**Balikesir**	**1.32**	**53**	PN	**Pg**	**20 30 43.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.41**	**130**	PN	**Pg**	**20 30 45.3**	**-0.1**
GOKA	**anakkale-Gk**	**1.42**	**341**	*i*P	**Pb**	**20 30 44.8**	**+0.2**
GOKA				*i*S	**Sn**	**20 31 01.8**	**-0.5**
GOKA				IAML		20 31 06.0	
comp=E,155nm,0.3s							
GOKA				IAML		20 31 07.0	
comp=N,93nm,0.3s							
GADA	**Gvkgeada**	**1.42**	**340**	P	**Pb**	**20 30 44.8**	**+0.1**
GADA				S	**Sn**	**20 31 02.3**	**0.0**
comp=N,62nm,0.6s							
GADA	**Gvkgeada**	**1.42**	**340**	PN	**Pn**	**20 30 44.3**	**+0.5**
LIA	**Limnos Island**	**1.47

CMWZ	Cape Campbell	0.69	22	P	Pb	20 35 27.5	+0.4
THZ	Tophouse	0.95	311	P	Pb	20 35 31.5	0.0
THZ				S	Sb	20 35 43.2	-0.5
TCW	Tory Channel	1.21	15	P	Pb	20 35 36.2	+0.2
TCW				S	Sb	20 35 52.1	+0.8
PLWZ	Palliser	1.32	52	P	Pb	20 35 37.9	+0.1
MSWZ	Moikau Station	1.42	47	P	Pb	20 35 39.0	-0.5
OKCZ	Okains Bay	1.46	204	P	Pb	20 35 40.4	+0.1
CAW	Cannon Point	1.56	35	P	Pb	20 35 41.2	-0.8
DUWZ	D'Urville Isla	1.58	1	P	Pb	20 35 41.4	-0.9
OXZ	Oxford	1.64	234	P	Pn	20 35 41.9	+0.7
TRWZ	Traveller	1.68	55	P	Pn	20 35 42.5	+0.8
KIW	Kapiti Island	1.71	28	P	Pb	20 35 43.7	-0.8
OGWZ	Otaki Gorge	1.85	32	P	Pn	20 35 45.0	+1.0
HOWZ	Holdsworth Sta	1.95	40	P	Pn	20 35 45.9	+0.7
MHCZ	Mount Hutt	2.04	235	P	Pn	20 35 47.3	+0.6
MRZ	Mangatainoka R	2.15	37	P	Pn	20 35 49.4	+1.3
WACZ	Wakanui South	2.15	223	P	Pn	20 35 49.2	+1.1
WVZ	Waitaha Valley	2.41	252	P	Pn	20 35 53.1	+1.4
RPZ	Rata Peaks	2.45	236	P	Pn	20 35 53.1	+0.7
BFZ	Birch Farm	2.47	47	P	Pn	20 35 52.8	+0.2
ARCZ	Arundel	2.51	231	P	Pn	20 35 53.7	+0.5
WAZ	Wanganui	2.76	18	P	Pb	20 36 00.5	-1.9
GCSZ	Gaunt Creek Bo	2.77	249	P	Pn	20 35 58.2	+1.6
MOVZ	Moawhango	3.30	26	P	Pn	20 36 07.4	+3.3
WNVZ	Wahianoa	3.32	24	P	Pn	20 36 06.6	+2.1
BHHZ	Black Hill Sta	3.34	31	P	Pb	20 36 09.6	-2.6
LBZ	Lake Benmore	3.35	232	P	Pn	20 36 05.9	+1.2
CTZ	Chatham Island	7.10	104	P	Pn	20 36 57.3	+1.2

IDC 21 20:43:05.4±5.6, 18°67S×179°26W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/35, mbtmp3.5/2, Error ellipse: s-maj=342.1km s-min=81.0km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.70	260	P	P	20 51 12.4	-0.2
0.2nm,0.6s,baz=95,slow=7.2,SNR=1.9							
ASAR	Alice Springs	43.81	255	P	P	20 51 13.3	-0.1
1.0nm,0.6s,baz=89,slow=8.5,SNR=21							
BRTR	Keskin Array B	144.73	315	PKP	PKPdf	21 02 44.2	-0.5
0.3nm,0.7s,baz=41,slow=2.2,SNR=2.2							

*MAN **21** 20:48:37.4, 6°43N×123°82E, h6km, MS2.8*
*IDC **21** 20:48:37.2±1.2, 6°36N×123°83E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/38, mbtmp3.6/6, Error ellipse: s-maj=28.3km s-min=20.5km az=83.0*
ISC 21 20:48:36.9±2.4, 6°44N±0°07×123°83E±0°07, h1km±15km, n12, σ1s09/17, mb3.5/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	Bagumbayan, Su	0.71	84	eP	Pg	20 48 51.3	+0.8
SKMP				eS	Sg	20 48 58.1	-1.6
KCP	Kidapawan	1.37	66	↑iP	Pn	20 49 02.6	-0.6
PAGZ	Pagadian	1.46	342	eP	Pn	20 49 04.1	-0.3
PAGZ				eS	Sn	20 49 21.8	-2.5
DAV	Davao City (W)	1.84	70	Pn	Pn	20 49 10.7	+1.0
58nm,0.3s,baz=253,slow=3.4,SNR=3.9							
DAV				Sn	Sb	20 49 35.5	+0.5
36nm,0.3s,baz=272,slow=22,SNR=6.7							
BUKP	Musuan	1.88	41	eP	Pn	20 49 10.1	-0.1
BUKP				eS	Sn	20 49 34.8	+0.2
DDMP	Don Marcelino,	1.90	100	eP	Pn	20 49 09.8	-0.7
DDMP				eS	Sb	20 49 36.0	-0.6
FITZ	Fitzroy Crossi	24.45	176	P	P	20 53 57.8	+0.3
1.8nm,0.9s,baz=0,slow=10,SNR=1.7							
WRA	Warramunga Arr	28.19	159	P	P	20 54 30.2	-1.1
0.6nm,0.8s,baz=336,slow=9.6,SNR=4.6							
ASAR	Alice Springs	31.50	162	P	P	20 55 00.1	-0.5
0.4nm,0.7s,baz=337,slow=7.5,SNR=7.8							
STKA	Stephens Creek	41.71	157	P	P	20 56 27.5	0.0
1.2nm,0.7s,baz=311,slow=11,SNR=3.5							
SONM	Songino Array	43.85	343	P	P	20 56 46.0	+1.1
0.6nm,0.8s,baz=156,slow=7.9,SNR=2.4							
MKAR	Makanchi Array	53.70	326	P	P	20 58 01.2	+0.7
0.4nm,0.8s,baz=134,slow=8.3,SNR=2.3							

*IDC **21** 21:09:11.1±1.9, 51°85N×176°18W, h0km, mb3.5/4, mb1 4.0/6, mb1mx3.5/49, mbtmp3.7/6, ML4.0/2, Error ellipse: s-maj=73.3km s-min=28.7km az=144.0*
*AEIC **21** 21:09:20.1±0.7, 51°72N±0°08×175°95W±0°04, h59km±5km, ML3.5/31, mb3.6/14(NEIC), Error ellipse: s-maj=12.0km s-min=3.8km az=172.0*
*NEIC **21** 21:09:20.4±0.8, 51°7N±0°1×175°95W±0°04, h62km±8km, Error ellipse: s-maj=15.1km s-min=2.6km az=172.0*
ISC 21 21:09:20.1±1.0, 51°7N±0°1×175°96W±0°05, h64km±8km, n56, σ0s86/55, mb3.7/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	0.31	349		Pn	21 09 31.0	+0.3
GSTD	Great Sitkin T	0.34	340		Pn	21 09 31.3	+0.3
GSTD					Sn	21 09 39.7	+0.7
GSTR	Great Sitkin T	0.36	350	Pn	Pn	21 09 31.7	+0.6
GSTR				Sn	Sn	21 09 39.2	0.0
ADAG	Mount Adagdak	0.47	302		Pn	21 09 32.6	+0.6
ADK	Adak	0.47	288		Pn	21 09 32.2	+0.1
ADK				Sn	Sn	21 09 41.0	+0.1
KIKV	Kanaga Island	0.77	281		Pn	21 09 35.8	+0.4
KICM	Kanaga Island	0.79	284		Pn	21 09 36.2	+0.6
KIMD	Kanaga Island	0.80	272		Pn	21 09 36.1	+0.4
KIMD					Sn	21 09 47.4	+0.3
ATKA	Atka Island	1.19	66	Pn	Pn	21 09 41.2	+0.5
ATKA				Sn	Sn	21 09 56.4	+0.4
KOWE	Korovin West	1.23	59		Pn	21 09 41.9	+0.6
TAFP	Tanaga Falls P	1.27	278		Pn	21 09 42.3	+0.5
TAFP					Sn	21 09 58.9	+0.9
KOFP	Korovin Flat P	1.27	64		Pn	21 09 42.4	+0.5
TASE	Tanaga Southea	1.30	275		Pn	21 09 42.9	+0.8
TANO	Tanaga North	1.35	278		Pn	21 09 43.8	+0.9
GALAA	Gareloi Lava P	1.75	272		Pn	21 09 49.0	+0.8
CERAA	Semis' Rag'd T	2.71	275		Pn	21 10 01.8	+0.6
CEAP	Semis' Anvil P	2.78	277		Pn	21 10 02.9	+0.7
CESW	Semis' Southwe	2.79	275		Pn	21 10 02.7	+0.4
AMKA	Amchitka	2.98	265		Pn	21 10 05.0	+0.1
AMKA				Sn	Sn	21 10 39.8	+0.3
LSPA	Little Sitkin	3.40	276		Pn	21 10 11.6	+1.0
LSNW	Little Sitkin	3.43	276		Pn	21 10 11.9	+0.8
NIKH	Nikolski High	4.53	71		Pn	21 10 27.1	+1.2
NIKH				Sn	Sn	21 11 17.9	+0.7
MREP	Makushin Rep't	5.96	66		Pn	21 10 47.2	+1.4
UNV	Unalaska Valle	6.11	66		Pn	21 10 48.3	+0.6
SPIA	Saint Paul Isl	6.38	29		Pn	21 10 52.0	+0.7
KDAK	Kodiak Island	14.74	57	Pn	Pn	21 12 42.3	-2.4
1.5nm,0.3s,baz=258,slow=9.3,SNR=22							
CNPM	China Poot	15.91	51	Pn	Pn	21 12 58.5	-1.2
SKT	Skwentna	16.73	43		P	21 13 11.6	+0.4
SKT				IAmb	IAmb	21 13 13.6	
comp=Z,2.3nm,0.5s							
SUA	Susitna One	16.84	45	Pn	Pn	21 13 11.0	-0.4
PPLA	Purkeypile	16.90	39		P	21 13 14.5	+1.2
PPLA				IAmb	IAmb	21 13 21.4	
comp=Z,3.6nm,1.0s							
SEW	Seward	16.95	50	Pn	Pn	21 13 10.6	-2.0
SEW				IAmb	IAmb	21 13 23.9	
comp=Z,5.0nm,0.9s							
KTH	Kantishna Hill	17.72	38		P	21 13 23.0	+0.7
KTH				IAmb	IAmb	21 13 26.3	
comp=Z,4.4nm,0.8s							
TRF	Thorofare Moun	17.92	39	P	P	21 13 24.7	+0.1
BPAW	Bear Paw Mtn.	17.98	37	P	P	21 13 25.0	0.0
BPAW				IAmb	IAmb	21 13 30.6	
comp=Z,2.4nm,0.6s							
MCK	McKinley	18.59	39	P	P	21 13 32.6	+0.9
MCK				IAmb	IAmb	21 13 33.2	
comp=Z,3.0nm,0.6s							
KLU	Klutina	19.02	47	P	P	21 13 36.5	0.0
MDM	Murphy Dome	19.45	36	P	P	21 13 41.0	-0.1
CCB	Clear Creek Bu	19.45	38	P	P	21 13 41.4	+0.2
CCB				IAmb	IAmb	21 13 43.4	
comp=Z,2.5nm,0.6s							
HDA	Harding Lake	19.67	39	P	P	21 13 44.0	+0.5
IL31		19.86	38	P	P	21 13 46.5	+1.0
IL31				IAmb	IAmb	21 13 47.4	
comp=Z,1.6nm,0.6s							
ILAR	Eielson Array	19.86	38	P	P	21 13 42.9	-2.7
comp=Z,0.2nm,0.3s,baz=239,slow=10,SNR=20							
ILAR	Eielson Array	19.86	38	P	P	21 13 46.3	+0.7
H11N2	WAKE ISLAND Hy	34.66	209	T	T	21 52 41.3	
baz=18,slow=76,SNR=85							
H11N3	WAKE ISLAND Hy	34.67	209	T	T	21 52 39.8	
baz=18,slow=76,SNR=98							
H11N1	WAKE ISLAND Hy	34.68	209	T	T	21 52 42.4	
baz=18,slow=76,SNR=110							
H11S1	WAKE ISLAND Hy	35.87	209	T	T	21 54 05.6	
baz=18,slow=76,SNR=41							
H11S2	WAKE ISLAND Hy	35.89	209	T	T	21 54 13.3	
baz=18,slow=76,SNR=35							
H11S3	WAKE ISLAND Hy	35.89	209	T	T	21 54 11.8	
baz=18,slow=76,SNR=28							
NVAR	Mina Array Bea	41.75	85	P	P	21 17 03.0	0.0
comp=Z,0.2nm,0.5s,baz=300,slow=7.2,SNR=2.2							
PDAR	Pinedale Array	44.51	74	P	P	21 17 25.3	+0.1
comp=Z,1.3nm,0.5s,baz=304,slow=3.4,SNR=13							
TXAR	Lajitas Array	56.85	83	P	P	21 18 57.9	-0.1
comp=Z,0.4nm,0.5s,baz=313,slow=5.8,SNR=6.2							
TXAR	Lajitas Array	56.85	83	P	P	21 18 58.0	-0.1
ASAR	Alice Springs	86.97	225	P	P	21 21 58.0	-0.1
comp=Z,0.3nm,0.6s,baz=28,slow=4.1,SNR=4.4							
H03N2	Juan Fernandez	119.55	107	T	T	23 39 28.3	
baz=317,slow=77,SNR=21							
H03N1	Juan Fernandez	119.56	107	T	T	23 39 29.2	
baz=317,slow=77,SNR=28							
H03N3	Juan Fernandez	119.56	107	T	T	23 39 24.2	
baz=317,slow=77,SNR=30							

*IDC **21** 21:26:33.8±0.7, 8°38N×74°02W, h73km±6km, mb3.4/7, mb1 3.8/10, mb1mx3.5/26, mbtmp3.9/10, MS2.6/1, Ms1 2.6/1, ms1mx2.2/21, Error ellipse: s-maj=19.2km s-min=15.6km az=33.0*
*RSNC **21** 21:26:36.5±1.2, 8°38N×74°12W, h60km±6km, ML3.9, Mw3.9, Fault plane solution: NP1:φs38.00000°, δ28.00000°, λ-162.00000°.*
ISC 21 21:26:34.2±0.6, 8°41N±0°03×74°11W±0°03, h73km±5km, n47, σ2s59/83, mb3.5/7, 7C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLC	San Martn de	0.39	6	↓iPg	Pn	21 26 46.8	+0.4
SMLC				eS	Sn	21 26 55.4	+0.1
SMLC				eSg	Sn	21 26 55.4	+0.1
SMLC				i		21 26 55.9	
comp=Z,10μm,0.2s							
OCAC	Ocana	0.80	102	↓iP	Pn	21 26 52.0	+1.4
OCAC				eS	Sn	21 27 04.6	+1.9
OCAC				i		21 27 07.5	
comp=Z,6μm,0.5s							
ZARC	Zaragoza, Cauc	1.17	219	↑eP	Pn	21 26 55.4	+0.3
ZARC				eS	Sn	21 27 11.1	+0.4
ZARC				i		21 27 13.7	
comp=Z,3μm,0.4s							
BRRC	Barranca, Sant	1.35	163	↑iP	Pn	21 26 58.0	+0.7
BRRC				eS	Sn	21 27 15.7	+1.0
BRRC				i		21 27 17.2	
comp=Z,1μm,0.3s							
ARGC	Ariguani, Magd	1.45	355	↑eP	Pn	21 27 00.9	+2.2
ARGC				eS	Sn	21 27 19.7	+2.7
ARGC				i		21 27 25.1	
comp=Z,1μm,0.3s							
UREC	San Jos de Ur	1.55	245	eP	Pn	21 26 59.5	-0.5
UREC				eS	Sn	21 27 16.6	-2.9
UREC				i		21 27 23.5	
comp=Z,2μm,0.6s							
MOTC	Monteria, Cord	1.58	284	↓eP	Pn	21 27 00.9	+0.6
MOTC				eS	Sn	21 27 21.9	+1.8
PAMC	Pamplona, Colo	1.75	127	↑eP	Pn	21 27 04.9	+1.8
PAMC				eS	Sn	21 27 26.4	+1.4
SJCC	San Jacinto, C	1.82	325	↑iP	Pn	21 27 04.6	+1.0
SJCC				eS	Sn	21 27 26.7	+0.9
SJCC				i		21 27 32.0	
comp=Z,1μm,0.6s							
PTBC	PUERTO BERRIO,	1.89	191	iP	Pn	21 27 05.5	+1.0
PTBC				eS	Sn	21 27 27.7	+0.3
PTBC				i		21 27 29.9	
comp=Z,2μm,0.3s							
BARC	Barichara	2.02	153	↓eP	Pn	21 27 07.6	+1.1
BARC				eS	Sn	21 27 25.6	-5.5
BARC				i		21 27 27.2	
comp=Z,608nm,0.4s							
LCBC	Los crdobas,	2.28	281	eP	Pn	21 27 10.1	+0.5
LCBC				eS	Sn	21 27 48.5	+12
DBBC	Dabeiba	2.50	237	eP	Pn	21 27 11.6	-1.1
RUSC	La Rusia	2.70	158	eP	Pn	21 27 17.2	+1.3
RUSC				eS	Sn	21 27 49.0	+1.3
SPBC	San Pablo de B	2.74	179	eP	Pn	21 27 16.4	+0.4
SPBC				eS	Sn	21 27 49.5	+1.4
SPBC				i		21 27 56.1	
comp=Z,539nm,0.3s							
SMRC	Santa Marta, M	2.74	358	eP	Pn	21 27 18.2	+2.2
SMRC				eS	Sn	21 27 51.2	+3.2
SMRC				i		21 27 57.0	
comp=Z,211nm,0.4s							
CBOC	Ciudad Bolivar	3.15	217	eP	Pn	21 27 22.3	+0.5
CBOC				eS	Sn	21 28 01.3	+2.9
CBOC				i		21 28 10.2	
comp=Z,167nm,0.4s							
CTAU	Tausa, Cundina	3.18	179	eP	Pn	21 27 24.6	+2.1
CTAB	Cerro Tablazo,	3.38	182	eP	Pn	21 27 27.0	+2.0
GUY2C	Guyana, Caldas	3.40	202	eP	Pn	21 27 25.9	+0.5
GUY2C				eS	Sn	21 28 11.6	+6.8
GUY2C				i		21 28 18.4	
comp=Z,358nm,0.4s							
SDV	Santo Domingo	3.47	82	P	Pn	21 27 28.2	+2.1
comp=Z,19nm,0.3s,baz=286,slow=10,SNR=50							
SDV				S	Sn	21 28 08.6	+2.5
comp=Z,201nm,0.3s,baz=337,slow=14,SNR=26							
ROSC	El Rosal	3.55	183	P	Pn	21 27 28.1	+0.7
comp=Z,82nm,0.3s,baz=309,slow=6.4,SNR=70							
ROSC				S	Sn	21 28 14.2	+5.8
comp=Z,55nm,0.3s,baz=222,slow=23,SNR=4.6							
ROSC	El Rosal	3.55	183	↑eP	Pn	21 27 28.9	+1.6
ROSC				eS	Sn	21 28 07.7	-0.7
ROSC				i		21 28 23.8	
comp=Z,194nm,0.4s							
CHIC	Chingaza	3.77	174	↑eP	Pn	21 27 32.2	+1.8
CHIC				eS	Sn	21 28 16.9	+3.1
PTAC	Punta Ardita,	3.87	251	eP	Pn	21 27 31.0	-0.4
PTAC				eS	Sn	21 28 11.9	-3.8
PTAC				i		21 28 24.7	
comp=Z,196nm,0.2s							
URIC	Uribia, Colomb	3.88	32	eP	Pn	21 27 31.9	+0.4
URIC				eS	Sn	21 28 16.3	+0.4
URIC				i		21 28 27.1	
comp=N,257nm,0.3s							
TOLC	Tolima	3.98	198	eP	Pn	21 27 33.7	+0.5
TOLC				eS	Sn	21 28 27.6	+8.7
VILC	Villavicencio,	4.29	174	eP	Pn	21 27 38.8	+1.6
VILC				eS	Sn	21 28 28.7	+2.7
ORTC	Ortega, Tolima	4.61	194	eP	Pn	21 27 41.9	+0.4
ORTC				eS	Sn	21 28 37.6	+3.8
ORTC				i		21 28 58.8	
comp=Z,143nm,0.4s							
PRAC	Prado	4.73	189	eP	Pn	21 27 42.5	-0.6
PRAC				eS	Sn	21 28 43.2	+6.5
YOTC	Yotoco, Valle	4.92	207	eP	Pn	21 27 46.1	+0.2
YOTC				eS	Sn	21 28 58.2	+17
GARC	Garzon, Huila	6.33	193	eP	Pn	21 28 04.2	-1.1
GARC				i		21 29 26.9	
comp=Z,55nm,0.0s							
POPC	Popayan, Colom	6.36	204	eP	Pn	21 28 05.1	-0.5
POPC				eS	Sn	21 29 11.2	-5.9
PCON	Cinco Dias	6.45	201	eP	Pn	21 28 07.7	+0.5
FLOC	Florencia	6.95	193	eP	Pn	21 28 12.2	-1.3
FLOC				eS	Sn	21 29 36.3	+5.1
FLOC				i		21 29 43.0	
comp=Z,16nm,0.1s							
PCRV	Puerto La Cruz	9.51	79	P	Pn	21 28 49.5	+0.9
comp=Z,2.6nm,0.3s,baz=266,slow=4.3,SNR=12							
PCRV				S	Sn	21 30 32.1	-1.8
comp=Z,0.6nm,0.3s,baz=326,slow=16,SNR=1.8							
JTS	Las Juntas de	10.86	281	LR	LR	21 34 14.8	
comp=Z,34nm,21.8s,baz=188,slow=42							
PTGA	Pitinga	16.77	122	P	Pn	21 30 23.4	-1.2
comp=Z,0.3nm,0.3s,baz=311,slow=9.8,SNR=4.2							
PTGA				S	Sn	21 33 22.2	-8.1
comp=Z,0.3nm,0.3s,baz=336,slow=14,SNR=5.6							
MDP	Montagnes des	21.57	97	P	P	21 31 16.3	-1.7
comp=Z,6.9nm,0.9s,baz=274,slow=7.1,SNR=4.1							
TXAR	Lajitas Array	34.69	311	P	P	21 33 17.8	+0.5
comp=Z,0.2nm,0.5s,baz=131,slow=7.3,SNR=3.7							
TXAR				pP	pP	21 33 34.9	+0.2
comp=Z,0.1nm,0.6s,baz=130,slow=9.7,SNR=1.9							
PLCA	Paso Flores	49.01	176	P	P	21 35 14.0	+0.3
comp=Z,3.3nm,0.9s,baz=318,slow=4.3,SNR=3.3							
NVAR	Mina Array Bea	49.68	314	P	P	21 35 20.1	+0.9
comp=Z,0.2nm,0.5s,baz=106,slow=9.5,SNR=2.3							
YKA	Yellowknife Ar	61.45	340	P	P	21 36 43.0	+0.1
comp=Z,1.1nm,0.6s,baz=127,slow=7.3,SNR=11							
YKA				pP	pP	21 37 02.5	+0.8
comp=Z,0.5nm,0.6s,baz=121,slow=6.5,SNR=1.5							
TORD	Torodi Ar. Bea	74.39	79	P	P	21 38 03.3	-1.6
comp=Z,0.3nm,0.5s,baz=292,slow=6.7,SNR=2.0							
ILAR	Eielson Array	75.12	335	P	P	21 38 08.2	0.0
comp=Z,0.1nm,0.5s,baz=132,slow=3.8,SNR=4.6							
ASAR	Alice Springs	149.19	237	PKPbc	PKPbc	21 46 14.0	-1.4
comp=Z,0.7nm,0.5s,baz=121,slow=3.6,SNR=12							
ASAR				PKPab	PKiKP	21 46 18.5	+1.9
comp=Z,0.7nm,0.5s,baz=117,slow=3.9,SNR=3.5							
ASAR				pPKPbc	pPKPdf	21 46 34.0	+2.0
comp=Z,0.5nm,0.6s,baz=112,slow=3.3,SNR=2.8							
WRA	Warramunga Arr	150.19	244	PKPbc	PKPbc	21 46 17.0	-0.8
comp=Z,0.9nm,0.5s,baz=106,slow=2.8,SNR=36							
WRA				PKPab	PKPab	21 46 23.4	-0.7
comp=Z,0.8nm,0.5s,baz=104,slow=3.7,SNR=12							
WRA				pPKPbc	pPKPbc	21 46 37.6	-1.1
comp=Z,0.7nm,0.5s,baz=104,slow=3.0,SNR=3.7							

OMAN 21 21:42:02.7±0.9, 23°12N×63°30E, h35km±10km, mb4.8/3, ml3.8/7, Error ellipse: s-maj=6.2km s-min=4.7km az=91.0, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	Jalan Bani Buh	3.72	256	P	Pn	21 42 56.7	-1.1
SNR=9.8							
JLN				S	Sn	21 43 41.5	+1.1
WBK	Wadi Bani Khal	4.03	264	P	Pn	21 43 01.7	-0.2
SNR=115							
WBK				S	Sn	21 43 48.1	+0.2
WSAR	Wadi Sarin	4.30	272	P	Pn	21 43 05.1	-0.6
SNR=9.7							
BIDO	Bidbid	4.78	276	P	Pn	21 43 12.4	+0.2
SNR=18							
BIDO				S	Sn	21 44 04.7	-1.6
SMDO	Samad	4.84	270	P	Pn	21 43 13.3	+0.1
SNR=19							
SMDO				S	Sn	21 44 08.1	0.0
JMDO	Jabal Madar	4.86	262	P	Pn	21 43 14.1	+0.7
SNR=59							
JMDO				S	Sn	21 44 10.7	+2.2
MHTO	MHTO	5.39	248	P	Pn	21 43 20.6	0.0
HOQ	Hoqain	5.53	276	P	Pn	21 43 22.1	-0.4
SNR=11							
BSY	Bisya	5.64	267	P	Pn	21 43 24.7	+0.6
SNR=13							
SOHO	SOHO	6.29	281	P	Pn	21 43 32.0	-1.0

*BJI **21** 22:13:53.8±0.0, 0°20N×122°00E, h195km, mB4.6/5, mb4.3/14*
*NEIC **21** 22:13:54.8±0.6, 0°19N±0°07×122°04E±0°08, h210km±6km, mb4.6/32, Error ellipse: s-maj=11.4km s-min=10.5km az=71.0*
*DJA **21** 22:13:55.5±0.2, 0°N±2°×12°2E±°, h191km±2km, M4.4/34, mb4.6/34, mB4.9/11, MLv4.6/12, Mw(mB)4.2/11*
*IDC **21** 22:13:55.8±1.3, 0°20N×122°02E, h212km±11km, mb3.8/20, mb1 3.9/24, mb1mx3.8/45, mbtmp4.4/24, Error ellipse: s-maj=13.7km s-min=6.5km az=72.0*
*KLM **21** 22:13:56.0, 0°09N×122°11E, h214km, mb4.8*
ISC 21 22:13:55.2±0.6, 0°21N±0°04×122°05E±0°05, h209km±5km, n138, σ1s05/155, mb4.3/34, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.05	66	P	Pn	22 14 24.6	-1.6
LUWI	Luwuk	1.44	150	P	Pn	22 14 28.8	-0.3
LUWI	Luwuk	1.44	150		Pn	22 14 28.8	-0.3
LUWI				Sn	S	22 14 54.0	-1.3
KMSI	Cibinong	1.97	79	P	Pn	22 14 34.5	+0.5
MPSI	Mapaga	2.15	273	P	Pn	22 14 33.5	-2.4
KDI	Kendari	4.18	172	P	Pn	22 15 00.0	+0.5
SANI	Sanana	4.53	120	P	Pn	22 15 02.6	-1.3
SPSI	Sidrap Palu	4.73	209	P	Pn	22 15 06.1	-0.3
SMKI	Samarinda	4.88	262	P	Pn	22 15 07.5	-0.8
BNSI	Bone	4.97	203	P	Pn	22 15 10.8	+1.3
1.6nm4μm500nm,0.8s							
TNTI	Ternate	5.35	84	P	Pn	22 15 14.2	-0.1
0.5nm1μm130nm,0.8s							
TNTI	Ternate	5.35	84		Pn	22 15 13.8	-0.5
TNTI					S	22 16 15.1	-1.4
KAPI	Kappang	5.67	204	P	Pn	22 15 18.4	+0.1
9.3nm,0.3s,baz=49,slow=6.7,SNR=20							
KAPI	Kappang	5.67	204		Pn	22 15 18.1	-0.3
BKSI	Bulukumba	5.82	199	P	Pn	22 15 21.0	+0.7
0.4nm1μm136nm,0.9s							
MYLDM	Lahad Datu	6.08	324		Pn	22 15 24.6	+0.9
KKM	Kota Kinabalu	8.22	315	Pn	Pn	22 15 51.6	+0.2
MMRI	Maumere	8.79	179	Pn	Pn	22 15 57.8	-0.9
EDFI	Ende, Flores	8.90	182	P	Pn	22 16 01.5	+1.2
17nm,0.8s							
SIJI	Sorong	9.28	97	P	Pn	22 16 06.6	+1.5
1.8nm,0.3s,baz=343,slow=9.3,SNR=4.1							
PLAI	Plampang	9.93	205	P	P	22 16 24.9	+3.8
SBUM	Sibu	10.07	283	Pn	Pn	22 16 15.3	0.0
SOEI	Soe	10.14	167	P	P	22 16 29.4	+5.6
TWSI	Taliwang, Sumb	10.27

WRA			pP		**pP**	**22 19 25.6**	**+2.2**
	comp=Z,3.1nm,1.0s,baz=326,slow=8.6,SNR=1.7						
WRA			PcP		**PcP**	**22 22 26.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=332,slow=2.1,SNR=2.7						
WRA	**Warramunga Arr**	**23.37 150**	P		**P**	**22 18 44.6**	**-0.6**
WRA			PcP		**PcP**	**22 22 25.2**	**-0.7**
WB2	**Warramunga Arr**	**23.37 150**	P		**P**	**22 18 44.7**	**-0.7**
WB2			IAmb		IAmb	22 18 47.2	
	comp=Z,14nm,0.6s						
SSLB	**Suanglung**	**23.46 357**	P		**P**	**22 18 45.8**	**-0.3**
WR0	**Warramunga Arr**	**23.48 149**	P		**P**	**22 18 45.8**	**-0.5**
GSI	**Gunungsitoli**	**24.49 273**	P		**P**	**22 18 55.0**	**-0.6**
MLSI	**Meulaboh, Aceh**	**25.93 279**	P		**P**	**22 19 08.3**	**-0.3**
	comp=Z,78nm,0.5s						
AS31	**Alice Springs**	**26.38 155**	P		**P**	**22 19 11.9**	**-0.6**
ASAR	**Alice Springs**	**26.38 155**	P		**P**	**22 19 13.4**	**+1.0**
	comp=Z,4.7nm,0.6s,baz=344,slow=13,SNR=88						
ASAR			pP		**pP**	**22 19 54.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=343,slow=15,SNR=1.8						
ASAR			PcP		**PcP**	**22 22 33.0**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=350,slow=2.1,SNR=20						
ASAR			S		**S**	**22 23 32.3**	**+2.1**
	comp=Z,1.3nm,1.0s,baz=326,slow=11,SNR=4.1						
ASAR			ScP		**ScP**	**22 25 52.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=340,slow=3.0,SNR=8.2						
ASAR	**Alice Springs**	**26.38 155**	P		**P**	**22 19 11.9**	**-0.5**
ASAR					**PcP**	**22 22 32.0**	**-0.6**
ASAR					**ScP**	**22 25 52.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**29.05 310**	P		**P**	**22 19 37.9**	**+1.6**
	comp=Z,3.0nm,0.7s,baz=136,slow=6.9,SNR=19						
CMAR			PcP		**PcP**	**22 22 40.8**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=147,slow=3.4,SNR=4.6						
CMAR			ScP		**ScP**	**22 26 02.6**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=162,slow=1.9,SNR=5.8						
CMAR	**Chiang Mai Arr**	**29.05 310**	P		**P**	**22 19 35.9**	**-0.3**
CHTO	**Chiang Mai**	**29.26 310**	P		**P**	**22 19 37.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**33.27 187**	P		**P**	**22 20 12.6**	**-0.4**
	comp=Z,7.2nm,0.9s,baz=5.7,slow=10,SNR=6.4						
NWAO	**Narrogin (SRO)**	**33.27 187**	P		**P**	**22 20 12.2**	**-0.7**
NWAO			IAmb		IAmb	22 20 13.6	
	comp=Z,18nm,1.0s						
XAN	**Xi'an**	**35.84 341**	P		**P**	**22 20 37.4**	**+2.4**
XAN			pmax		pmax		
	comp=Z,6.0nm,1.1s						
STKA	**Stephens Creek**	**36.88 152**	P		**P**	**22 20 45.2**	**+1.3**
	comp=Z,12nm,0.7s,baz=329,slow=8.5,SNR=23						
STKA			PcP		**PcP**	**22 23 01.5**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=297,slow=4.5,SNR=2.9						
KSRS	**Korea Array**	**37.46 8**	P		**P**	**22 20 49.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=181,slow=8.5,SNR=5.5						
MAT	**Matsushiro**	**39.14 21**	P		**P**	**22 21 01.7**	**-1.0**
MJAR	**Matsushiro Arr**	**39.14 21**	P		**P**	**22 21 01.7**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=190,slow=8.8,SNR=13						
MJAR	**Matsushiro Arr**	**39.14 21**	P		**P**	**22 21 02.4**	**-0.3**
LSA	**Lhasa**	**41.55 318**	P		**P**	**22 21 24.8**	**+1.7**
LSA	**Lhasa**	**41.55 318**	P		**P**	**22 21 22.3**	**-0.8**
LSA			IAmb		IAmb	22 21 25.9	
	comp=Z,15nm,0.5s						
ODAN	**Odare**	**42.57 311**	*e*P		**P**	**22 21 32.2**	**+1.1**
	comp=Z,24nm,0.4s						
ODAN	**Odare**	**42.57 311**	*e*P		**P**	**22 21 32.2**	**+1.1**
	comp=Z,24nm,0.4s						
TAPN	**Taplejung**	**42.60 312**	*e*P		**P**	**22 21 32.4**	**+1.0**
	comp=Z,28nm,0.4s						
TAPN	**Taplejung**	**42.60 312**	*e*P		**P**	**22 21 32.4**	**+1.0**
	comp=Z,28nm,0.4s						
RAMN	**Ramite**	**43.22 311**	*e*P		**P**	**22 21 37.6**	**+1.3**
	comp=Z,49nm,0.6s						
RAMN	**Ramite**	**43.22 311**	*e*P		**P**	**22 21 37.6**	**+1.3**
	comp=Z,49nm,0.6s						
JIRN	**Jiri**	**43.90 311**	*e*P		**P**	**22 21 43.0**	**+1.1**
	comp=Z,76nm,0.4s						
JIRN	**Jiri**	**43.90 311**	*e*P		**P**	**22 21 43.0**	**+1.1**
	comp=Z,76nm,0.4s						
GTA	**Gaotai**	**44.00 335**	*e*P		**P**	**22 21 44.1**	**+1.9**
GTA			pmax		pmax		
	comp=Z,4.0nm,0.8s						
PKI	**Pulchoki**	**44.44 311**	*e*P		**P**	**22 21 46.6**	**+0.5**
	comp=Z,21nm,0.4s						
PKI	**Pulchoki**	**44.44 311**	*e*P		**P**	**22 21 46.6**	**+0.5**
	comp=Z,21nm,0.4s						
PKIN	**Phulchoki**	**44.45 311**	*e*P		**P**	**22 21 46.7**	**+0.5**
	comp=Z,17nm,0.3s						
PKIN	**Phulchoki**	**44.45 311**	*e*P		**P**	**22 21 46.7**	**+0.5**
	comp=Z,17nm,0.3s						
KKN	**Kakani**	**44.65 311**	*e*P		**P**	**22 21 48.4**	**+0.7**
	comp=Z,15nm,0.3s						
KKN	**Kakani**	**44.65 311**	*e*P		**P**	**22 21 48.4**	**+0.7**
	comp=Z,15nm,0.3s						
USRK	**Ussuriysk Ar.**	**44.69 10**	P		**P**	**22 21 47.4**	**0.0**
	comp=Z,1.8nm,0.5s,baz=196,slow=7.5,SNR=8.5						
DMN	**Daman**	**44.69 311**	*e*P		**P**	**22 21 48.9**	**+0.9**
	comp=Z,18nm,0.4s						
DMN	**Daman**	**44.69 311**	*e*P		**P**	**22 21 48.9**	**+0.9**
	comp=Z,18nm,0.4s						
GKN	**Gorkha**	**45.25 311**	*e*P		**P**	**22 21 53.1**	**+0.8**
	comp=Z,28nm,0.3s						
GKN	**Gorkha**	**45.25 311**	*e*P		**P**	**22 21 53.1**	**+0.8**
	comp=Z,28nm,0.3s						
KOLN	**Koldanda**	**45.92 310**	*e*P		**P**	**22 21 58.6**	**+1.0**
	comp=Z,38nm,0.3s						
KOLN	**Koldanda**	**45.92 310**	*e*P		**P**	**22 21 58.6**	**+1.0**
	comp=Z,38nm,0.3s						
DANN	**Dangsing**	**46.09 311**	*e*P		**P**	**22 21 59.8**	**+0.8**
DANN	**Dangsing**	**46.09 311**	*e*P		**P**	**22 21 59.8**	**+0.8**
PYUN	**Piuthan**	**46.55 310**	*e*P		**P**	**22 22 03.6**	**+1.1**
	comp=Z,108nm,0.5s						
PYUN	**Piuthan**	**46.55 310**	*e*P		**P**	**22 22 03.6**	**+1.1**
	comp=Z,108nm,0.5s						
SONM	**Songino Array**	**49.35 346**	P		**P**	**22 22 24.6**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=166,slow=9.8,SNR=14						
SONM	**Songino Array**	**49.35 346**	P		**P**	**22 22 23.6**	**0.0**
NIL	**Nilore**	**56.53 311**	P		**P**	**22 23 15.5**	**-0.6**
NIL			IAmb		IAmb	22 23 25.3	
	comp=Z,6.9nm,0.5s						
MK31	**Makanchi Array**	**57.94 329**	P		**P**	**22 23 25.6**	**-0.1**
MKAR	**Makanchi Array**	**57.94 329**	P		**P**	**22 23 26.3**	**+0.6**
	comp=Z,3.5nm,0.3s,baz=124,slow=8.4,SNR=108						
MKAR			PcP		**PcP**	**22 24 15.3**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=122,slow=5.9,SNR=4.8						
MKAR			ScP		**ScP**	**22 27 54.6**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=158,slow=4.2,SNR=1.9						
MKAR	**Makanchi Array**	**57.94 329**	P		**P**	**22 23 25.6**	**-0.1**
MAKZ	**Makanchi**	**58.11 329**	P		**P**	**22 23 26.8**	**-0.1**
MAKZ			IAmb		IAmb	22 23 28.2	
	comp=Z,3.3nm,0.6s						
KBL	**Kabul**	**60.08 310**	P		**P**	**22 23 40.4**	**-0.5**
KBL			IAmb		IAmb	22 23 41.6	
	comp=Z,14nm,0.9s						
PETK	**Petropavlovsk-**	**60.48 24**	P		**P**	**22 23 43.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=194,slow=5.5,SNR=1.9						
GAR	**Garm**	**61.00 316**	P		**P**	**22 23 46.4**	**-0.5**
GAR			IAmb		IAmb	22 23 50.1	
	comp=Z,9.1nm,0.7s						
CHGR	**Chuyangaron**	**61.66 315**	P		**P**	**22 23 50.9**	**-0.4**
CHGR			IAmb		IAmb	22 23 53.7	
	comp=Z,10nm,0.9s						
ZALV	**Zalesovo Beam**	**61.73 336**	P		**P**	**22 23 51.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=128,slow=6.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**61.73 336**	P		**P**	**22 23 50.9**	**-0.4**
KURK	**Kurchatov**	**62.33 330**	P		**P**	**22 23 55.4**	**+0.1**
KURK			IAmb		IAmb	22 23 58.8	
	comp=Z,6.7nm,0.6s						
KKAR	**Karatay Array**	**62.74 320**	P		**P**	**22 23 58.1**	**-0.2**
GEYT	**Alibeck**	**69.53 311**	P		**P**	**22 24 41.6**	**0.0**
	comp=Z,0.8nm,0.5s,baz=120,slow=5.8,SNR=5.4						
GEYT	**Alibeck**	**69.53 311**	P		**P**	**22 24 41.1**	**-0.5**
ABKAR	**Akbulak array**	**71.99 322**	P		**P**	**22 24 56.0**	**-0.1**
ABKAR	**Akbulak array**	**71.99 322**	P		**P**	**22 24 55.8**	**-0.3**
AKTO	**Aktyubinsk**	**73.57 323**	P		**P**	**22 25 05.6**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=101,slow=5.5,SNR=9.9						
VNDA	**Vanda**	**80.58 172**	P		**P**	**22 25 44.0**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=321,slow=7.7,SNR=12						
BRTR	**Keskin Array B**	**88.64 310**	P		**P**	**22 26 23.8**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=97,slow=5.0,SNR=5.1						
BRTR	**Keskin Array B**	**88.64 310**	P		**P**	**22 26 24.3**	**-0.9**
QSPA	**South Pole Qui**	**90.14 180**	P		**P**	**22 26 31.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=281,slow=3.7,SNR=7.2						
QSPA	**South Pole Qui**	**90.14 180**	P		**P**	**22 26 31.1**	**-0.3**
ILAR	**Eielson Array**	**90.27 25**	P		**P**	**22 26 31.2**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=238,slow=5.3,SNR=5.6						
AKASG	**Malin Array Be**	**91.64 321**	P		**P**	**22 26 37.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=76,slow=4.6,SNR=7.7						
TORD	**Torodi Ar. Bea**	**119.43 285**	PKP		**PKPdf**	**22 32 19.9**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=48,slow=2.2,SNR=15						
TORD	**Torodi Ar. Bea**	**119.43 285**			**PKPdf**	**22 32 19.6**	**-1.3**
ULM	**Lac du Bonnet**	**120.24 27**	PKP		**PKPdf**	**22 32 21.3**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=277,slow=6.6,SNR=3.1						
ULM	**Lac du Bonnet**	**120.24 27**			**PKPdf**	**22 32 21.1**	**-0.3**
DBIC	**Dimbokro**	**126.59 278**	PKP		**PKPdf**	**22 32 34.2**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=128,slow=3.3,SNR=4.5						
DBIC	**Dimbokro**	**126.59 278**			**PKPdf**	**22 32 33.4**	**-1.3**
TXAR	**Lajitas Array**	**127.44 52**	PKP		**PKPdf**	**22 32 35.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=80,slow=1.0,SNR=3.0						
TXAR	**Lajitas Array**	**127.44 52**			**PKPdf**	**22 32 34.9**	**-1.1**
LPAZ	**La Paz**	**161.13 148**	PKPab		**PKPab**	**22 34 16.3**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=307,slow=1.3,SNR=4.7						

IDC 21 22:25:23.7±3.7, 2°82N×91°52E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/60, mbtmp3.5/3, Error ellipse: s-maj=111.0km s-min=39.8km az=74.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.16**	**25**	P	P	22 29 26.7	-0.2
	baz=217,slow=13,SNR=4.6						
H08S2	**Diego Garcia H**	**21.64**	**241**	T	T	22 51 17.7	
	baz=63,slow=75,SNR=5.7						
H08S3	**Diego Garcia H**	**21.64**	**241**	T	T	22 51 21.5	
	baz=63,slow=75,SNR=6.4						
H08S1	**Diego Carcia H**	**21.66**	**241**	T	T	22 51 21.6	
	baz=63,slow=75,SNR=9.0						
SONM	**Songino Array**	**46.65**	**14**	P	P	22 33 53.4	-0.7
	0.4nm,0.5s,baz=194,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**47.72**	**120**	P	P	22 34 02.6	-0.2
	0.4nm,0.7s,baz=299,slow=8.6,SNR=2.4						
TXAR	**Lajitas Array**	**144.87**	**23**	PKP	PKPdf	22 45 03.6	-0.2
	0.4nm,0.8s,baz=305,slow=3.2,SNR=2.6						

*DJA **21** 22:37:56.1±0.7, 1°S±3°×10°0E±°, h91km±10km, M4.0/7, mb4.6/1, MLv3.7/7*
*IDC **21** 22:38:08.7±20.0, 0°69S×100°19E, h198km±168km, mb3.3/5, mb1 3.4/6, mb1mx3.0/52, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=246.3km s-min=14.5km az=57.0*

ISC 21 22:37:57.2±0.8, 0°81S±0°07×99°76E±0°06, h100km, n15, σ1°41/15, mb4.1/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.84**	**233**	P	**Pn**	**22 38 15.2**	**-0.8**
SISI				S	**Sn**	**22 38 28.9**	**-1.3**
MNSI	**Mandailing Nat**	**1.61**	**354**	P	**Pn**	**22 38 23.7**	**-1.2**
SDSI	**Sungai Dareh**	**1.67**	**94**	P	**Pn**	**22 38 24.1**	**-1.5**
SDSI				S	**Sn**	**22 38 48.9**	**+1.7**
BKNI	**Bangkinang**	**1.71**	**49**	P	**Pn**	**22 38 25.0**	**-1.1**
BKNI				S	**Sn**	**22 38 46.0**	**-2.0**
KRJI	**Kerinci**	**2.12**	**127**	P	**Pn**	**22 38 31.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**19.16**	**358**	P	**Pn**	**22 42 17.2**	**+2.3**
	0.2nm,0.3s,baz=168,slow=7.3,SNR=4.6						
H08S2	**Diego Garcia H**	**28.01**	**255**	T	T	23 11 57.6	
	baz=77,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**28.02**	**255**	T	T	23 11 55.1	
	baz=77,slow=75,SNR=20						
H08S1	**Diego Carcia H**	**28.03**	**255**	T	T	23 11 48.5	
	baz=77,slow=75,SNR=20						
WRA	**Warramunga Arr**	**38.81**	**122**	P	**P**	**22 45 11.6**	**-1.0**
	0.5nm,0.5s,baz=303,slow=9.0,SNR=8.8						
ASAR	**Alice Springs**	**40.15**	**127**	P	**P**	**22 45 23.4**	**-0.3**
	0.3nm,0.3s,baz=303,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**49.83**	**344**	P	**P**	**22 46 41.3**	**+1.2**
	1.4nm,0.7s,baz=156,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**50.12**	**132**	P	**P**	**22 46 43.1**	**+0.6**
	1.9nm,0.7s,baz=319,slow=10,SNR=3.7						
ZALV	**Zalesovo Beam**	**55.96**	**349**	P	**P**	**22 47 25.9**	**+0.8**
	0.7nm,0.3s,baz=160,slow=6.6,SNR=6.3						
TXAR	**Lajitas Array**	**143.90**	**36**	PKP	**PKPdf**	**22 57 21.1**	**-0.7**
	0.3nm,0.5s,baz=338,slow=0.9,SNR=4.6						

IDC 21 22:41:34.6±1.5, 4°51S×150°43E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.4/29, mbtmp3.3/3, Error ellipse: s-maj=52.4km s-min=20.6km az=154.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.61**	**83**	Pn	Pg	22 42 05.5	0.0
	20nm,0.3s,baz=180,slow=1.7,SNR=12						
KRVT				Sn	Sg	22 42 26.5	+0.1
	31nm,0.3s,baz=358,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**21.93**	**224**	P	P	22 46 31.4	+1.5
	0.3nm,0.6s,baz=56,slow=9.8,SNR=2.2						
ASAR	**Alice Springs**	**24.83**	**218**	P	P	22 46 58.1	-0.8
	0.4nm,0.8s,baz=58,slow=8.9,SNR=3.0						
ILAR	**Eielson Array**	**82.79**	**23**	P	P	22 53 59.6	-0.8
	0.4nm,0.7s,baz=248,slow=4.6,SNR=4.9						

*IDC **21** 23:22:36.8±1.2, 17°91S×167°22E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/27, mbtmp4.1/7, ML3.8/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/27, Error ellipse: s-maj=38.2km s-min=22.9km az=128.0*

ISC 21 23:22:39.9±0.9, 17°99S±0°09×167°2E±0°2, h20km, n13, σ1°47/13, mb4.1/6, MS3.5/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.13**	**190**	*e*Pn	**Pn**	**23 23 42.4**	**+0.5**
	15nm,0.2s						
DZM				*e*Sn	**Sn**	**23 24 27.0**	**-2.7**
	24nm,0.3s						
DZM				*e*LR	LR	23 24 35.3	
DZM	**Mont Dzumac**	**4.13**	**190**	Pn	**Pn**	**23 23 42.5**	**+0.5**
	5.4nm,0.3s,baz=315,slow=12,SNR=25						
DZM				Sn	**Sn**	**23 24 31.1**	**+1.4**
	4.7nm,0.3s,baz=292,slow=20,SNR=3.5						
DZM				LR	LR	23 25 02.9	
	comp=Z,383nm,18.4s,baz=54,slow=35						
STKA	**Stephens Creek**	**26.96**	**234**	P	**P**	**23 28 21.5**	**+1.3**
	5.6nm,0.8s,baz=68,slow=10,SNR=9.4						
STKA				LR	LR	23 38 40.1	
	comp=Z,112nm,18.5s,baz=201,slow=36						
WRA	**Warramunga Arr**	**31.14**	**261**	P	**P**	**23 28 56.4**	**-1.1**
	0.5nm,0.9s,baz=81,slow=7.5,SNR=3.0						
WRA				LR	LR	23 40 18.6	
	comp=Z,74nm,21.7s,baz=255,slow=34						
ASAR	**Alice Springs**	**31.61**	**254**	P	**P**	**23 29 00.9**	**-0.7**
	2.1nm,0.9s,baz=83,slow=8.5,SNR=12						
ASAR				LR	LR	23 40 50.7	
	comp=Z,113nm,20.3s,baz=130,slow=35						
PPT2	**Papeete2**	**41.06**	**96**	*e*LR	LR	23 41 47.5	
	comp=Z,155nm,27.0s						
PPT	**Papeete**	**41.07**	**96**	LR	LR	23 43 20.4	
	comp=Z,69nm,21.7s,baz=190,slow=30						
CMAR	**Chiang Mai Arr**	**76.25**	**295**	P	**P**	**23 34 28.7**	**+1.2**
	0.9nm,0.4s,baz=126,slow=5.5,SNR=13						
NVAR	**Mina Array Bea**	**89.42**	**49**	P	**P**	**23 35 36.9**	**+1.2**
	0.9nm,0.8s,baz=234,slow=8.6,SNR=5.8						
ILAR	**Eielson Array**	**89.62**	**18**	P	**P**	**23 35 33.8**	**-1.9**
	0.7nm,0.8s,baz=237,slow=4.5,SNR=8.5						
MOA	**Molln**	**142.92**	**329**	*e*PKPdf	**PKPdf**	**23 42 11.0**	**-1.1**
	5.1nm,1.3s						
MOTA	**Moosalm**	**144.77**	**331**	*e*PKPdf	**PKPab**	**23 42 14.6**	**+0.1**
	6.9nm,1.7s						
FETA	**Feichten**	**145.18**	**331**	*e*PKPdf	**PKPbc**	**23 42 16.5**	**+0.7**
	4.0nm,0.9s						

*MAN **21** 23:53:16.6, 6°32N×126°51E, h44km, MS3.5*
*IDC **21** 23:53:18.0±5.3, 6°51N×126°62E, h84km±42km, mb3.3/3, mb1 3.5/3, mb1mx3.1/39, mbtmp3.6/3, Error ellipse: s-maj=116.2km s-min=21.2km az=62.0*

ISC 21 23:53:17.1±1.4, 6°31N±0°08×126°5E±0°1, h69km±12km, n9, σ1°38/14, mb3.5/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**340**	*e*P	**Pn**	**23 53 30.7**	**-0.9**
MATI				*e*S	**Sn**	**23 53 41.9**	**-0.5**
DDMP	**Don Marcelino,**	**0.80**	**255**	*e*P	**Pn**	**23 53 33.4**	**+0.3**
DDMP				*e*S	**Sn**	**23 53 44.8**	**-0.1**
DAV	**Davao City (W)**	**1.18**	**310**	P	**Pn**	**23 53 38.9**	**+1.1**
	192nm,0.3s,baz=69,slow=6.9,SNR=7.0						
DAV				S	**Sn**	**23 53 55.6**	**+2.3**
	124nm,0.3s,baz=257,slow=22,SNR=9.9						
DAV				LR	LR	23 54 22.2	
	comp=Z,68nm,19.2s,baz=169,slow=55						
KCP	**Kidapawan**	**1.55**	**297**	*e*P	**Pn**	**23 53 43.6**	**+0.8**
SKMP	**Bagumbayan, Su**	**1.94**	**276**	*e*P	**Pn**	**23 53 48.0**	**0.0**
SKMP				*e*S	**Sn**	**23 54 08.8**	**-2.6**
BUKP	**Musuan**	**2.10**	**318**	*e*P	**Pn**	**23 53 50.5**	**+0.3**
BUKP				*e*S	**Sn**	**23 54 15.9**	**+0.4**
WRA	**Warramunga Arr**	**27.21**	**164**	P	**P**	**23 58 55.4**	**+0.7**
	0.4nm,0.7s,baz=344,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**30.66**	**167**	P	**P**	**23 59 26.4**	**+1.0**
	0.4nm,0.4s,baz=343,slow=7.2,SNR=8.9						
MKAR	**Makanchi Array**	**55.32**	**324**	P	**P**	**00 02 42.5**	**-1.4**
	0.5nm,0.4s,baz=116,slow=7.3,SNR=9.8						

*IDC **22** 00:20:19.5±20.0, 32°71S×179°63E, h198km±214km, mb3.0/2, mb1 3.2/3, mb1mx3.1/20, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=262.6km s-min=51.5km az=3.0*
*WEL **22** 00:20:24.2±0.6, 34°S±7°×18°0E±1°4, h270km±11km, M4.3/16, mB4.4/4, ML4.6/7, MLv4.5/16, Mw(mB)3.5/4, Error ellipse: s-maj=0.0km s-min=0.0km az=113.5*

ISC 22 00:20:23.5±1.2, 33°45S±0°08×179°6E±0°1, h250km, n30, σ3°20/51, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.24**	**194**	S	**S**	**00 22 25.5**	**+2.5**
WMGZ	**Waiomatatini S**	**4.47**	**192**	P	**Pn**	**00 21 37.4**	**+4.7**
WMGZ				S	**S**	**00 22 30.3**	**+2.3**
HAZ	**Te Kaha**	**4.55**	**199**	P	**Pn**	**00 21 37.0**	**+3.3**
HAZ				S	**S**	**00 22 33.8**	**+4.1**
GLKZ	**Green Lake**	**4.67**	**27**	S	**S**	**00 22 25.3**	**-7.2**
PUZ	**Puketiti**	**4.74**	**193**	P	**Pn**	**00 21 36.1**	**0.0**
PUZ				S	**S**	**00 22 34.4**	**+0.4**
RUGZ	**Raukumara Rang**	**4.78**	**199**	P	**Pn**	**00 21 40.7**	**+4.1**
RUGZ				S	**S**	**00 22 34.6**	**-0.2**
CNGZ	**Carnagh Statio**	**5.15**	**193**	P	**Pn**	**00 21 42.6**	**+1.6**
URZ	**Urewera**	**5.22**	**202**	P	**Pn**	**00 21 45.4**	**+3.6**
	1.8nm,0.3s,baz=253,slow=4.3,SNR=9.1						
URZ				S	**S**	**00 22 46.1**	**+1.7**
	8.1nm,0.3s,baz=78,slow=23,SNR=16						
URZ	**Urewera**	**5.22**	**202**	P	**Pn**	**00 21 46.1**	**+4.3**
URZ				S	**S**	**00 22 45.7**	**+1.3**
OUZ	**Omahuta**	**5.30**	**249**	P	**Pn**	**00 21 47.3**	**+4.5**
SNGZ	**Shannon Statio**	**5.63**	**199**	P	**Pn**	**00 21 50.4**	**+3.4**
SNGZ				S	**S**	**00 22 55.2**	**+1.4**
KNZ	**Kokohu**	**5.78**	**195**	P	**Pn**	**00 21 52.0**	**+3.2**
KNZ				S	**S**	**00 22 56.1**	**-0.8**
KWHZ	**Kaweka Forest**	**6.50**	**203**	P	**Pn**	**00 22 01.0**	**+3.2**
KWHZ				S	**S**	**00 23 12.6**	**-0.8**
FWVZ	**Far West T-bar**	**6.66**	**208**	P	**Pn**	**00 22 03.1**	**+3.1**
BHHZ	**Black Hill Sta**	**6.68**	**204**	P	**Pn**	**00 22 02.0**	**+2.0**
BHHZ				S	**S**	**00 23 15.1**	**-2.4**
WNVZ	**Wahianoa**	**6.71**	**208**	P	**Pn**	**00 22 03.5**	**+2.9**
WNVZ				S	**S**	**00 23 19.1**	**+0.8**
MOVZ	**Moawhango**	**6.72**	**207**	P	**Pn**	**00 22 02.2**	**+1.6**
MOVZ				S	**S**	**00 23 18.3**	**-0.1**
PNHZ	**Pukenui**	**7.01**	**202**	P	**Pn**	**00 22 06.0**	**+1.8**
PNHZ				S	**S**	**00 23 23.0**	**-2.2**
DVHZ	**Dannevirke**	**7.38**	**201**	P	**Pn**	**00 22 10.4**	**+1.6**
DVHZ				S	**S**	**00 23 31.2**	**-2.3**
BFZ	**Birch Farm**	**7.71**	**200**	P	**Pn**	**00 22 14.4**	**+1.4**
BFZ				S	**S**	**00 23 35.6**	**-5.5**
HOWZ	**Holdsworth Sta**	**8.12**	**203**	P	**Pn**	**00 22 19.1**	**+0.8**
HOWZ				S	**S**	**00 23 44.9**	**-5.9**
OGWZ	**Otaki Gorge**	**8.17**	**205**	P	**Pn**	**00 22 19.4**	**+0.6**
CAW	**Cannon Point**	**8.46**	**204**	P	**Pn**	**00 22 22.1**	**-0.4**
CAW				S	**S**	**00 23 54.5**	**-4.1**
TUWZ	**Tuamarina**	**9.16**	**208**	P	**Pn**	**00 22 30.2**	**-1.0**
TUWZ				S	**S**	**00 24 08.2**	**-6.5**
NNZ	**Nelson**	**9.21**	**211**	P	**Pn**	**00 22 32.6**	**+0.6**
NNZ				S	**S**	**00 24 11.4**	**-4.5**
THZ	**Tophouse**	**9.86**	**211**

15μm151nm,0.5s
TNTI Ternate 8.35 351 Pn **Pn 00 51 20.1 -0.2**
FITZ Fitzroy Crossi 10.91 195 P **Pn 00 51 54.0 -0.3**
8.6nm,0.3s,baz=360,slow=9.4,SNR=158
FITZ S **Sn 00 53 51.9 -3.1**
3.0nm,0.3s,baz=180,slow=17,SNR=4.0
WB0 Warramunga Arr 13.37 156 Pn **Pn 00 52 26.6 +0.5**
WRAB Tennant Creek 13.51 156 Pn **Pn 00 52 29.2 +1.4**
WRA Warramunga Arr 13.51 157 P **Pn 00 52 27.4 -0.6**
2.6nm,0.3s,baz=339,slow=13,SNR=54
WRA S **Sn 00 54 52.0 -5.6**
6.7nm,0.3s,baz=323,slow=24,SNR=13
WRA Warramunga Arr 13.51 157 Pn **Pn 00 52 28.3 +0.4**
WB2 Warramunga Arr 13.51 156 Pn **Pn 00 52 28.2 +0.3**
WR0 Warramunga Arr 13.61 156 Pn **Pn 00 52 28.8 -0.4**
COEN Coen 15.61 115 **Pn 00 52 53.5 -0.7**
MBWA Marble Bar 16.07 212 P **Pn 00 52 59.3 -0.5**
PSA00 Pilbara Seismi 16.35 210 P **P 00 53 05.2 +1.8**
PSA00 IAmb IAmb 00 53 22.7
comp=Z,16nm,1.1s
AS31 Alice Springs 16.81 163 **Pn 00 53 10.6 +1.8**
AS31 IAmb IAmb 00 53 25.7
comp=Z,4.3nm,0.4s
ASAR Alice Springs 16.81 163 P **Pn 00 53 10.5 +1.6**
comp=Z,1.6nm,0.3s,baz=331,slow=9.9,SNR=70
ASAR S S 00 56 05.7 -10
comp=Z,0.9nm,0.3s,baz=331,slow=18,SNR=6.1
ASAR Alice Springs 16.81 163 **P 00 53 09.9 +1.4**
SMRI Semarang 18.09 270 P **P 00 53 22.2 -0.3**
KKM Kota Kinabalu 18.34 317 P **P 00 53 24.6 -0.7**
KKM IAmb IAmb 00 53 39.0
comp=Z,9.9nm,0.9s
SBUM Sibu 19.17 301 P **P 00 53 34.8 +0.4**
KSM Kuching 20.38 295 P **P 00 53 48.1 +0.8**
GIRL Giralia 20.46 221 P **P 00 53 48.2 +0.1**
MORW Morawa 24.51 207 P **P 00 54 29.2 +1.5**
BBOO Buckleboo 26.07 166 P **P 00 54 42.4 +0.6**
BBOO IAmb IAmb 00 54 59.3
comp=Z,12nm,1.1s
STKA Stephens Creek 27.05 155 P **P 00 54 53.0 +2.4**
comp=Z,2.4nm,0.8s,baz=328,slow=14,SNR=3.9
STKA Stephens Creek 27.05 155 P **P 00 54 51.4 +0.8**
NWAO Narrogin (SRO) 27.41 201 P **P 00 54 55.1 +1.4**
comp=Z,9.8nm,0.8s,baz=352,slow=7.1,SNR=4.0
NWAO Narrogin (SRO) 27.41 201 P **P 00 54 54.5 +0.8**
NWAO Narrogin (SRO) 27.41 201 P **P 00 54 54.4 +0.7**
NWAO IAmb IAmb 00 54 54.6
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 39.08 312 P **P 00 56 34.7 -0.1**
comp=Z,1.1nm,0.5s,baz=144,slow=7.3,SNR=7.0
DZM Mont Dzumac 39.14 116 P **P 00 56 32.9 -2.6**
DZM IAmb IAmb 00 56 45.1
comp=Z,13nm,1.1s
WMQ Urumqi 63.13 328 *eP* **P 00 59 34.8 +0.9**
MKAR Makanchi Array 67.95 328 P **P 01 00 04.5 -0.3**
comp=Z,1.7nm,0.5s,baz=125,slow=7.9,SNR=20
MKAR Makanchi Array 67.95 328 P **P 01 00 04.3 -0.5**
MAKZ Makanchi 68.13 327 P **P 01 00 05.5 -0.4**
KDJ Kajisay 68.15 321 P **P 01 00 05.4 -0.9**
KDJ IAmb IAmb 01 00 13.8
comp=Z,5.3nm,0.9s
ZALV Zalesovo Beam 71.48 334 P **P 01 00 25.0 -1.2**
comp=Z,1.3nm,0.6s,baz=136,slow=5.9,SNR=6.8
ZALV Zalesovo Beam 71.48 334 P **P 01 00 25.1 -1.1**
VNDA Vanda 72.09 173 P **P 01 00 28.6 -0.9**
comp=Z,0.3nm,0.4s,baz=315,slow=7.1,SNR=3.7
KURK Kurchatov 72.29 329 P **P 01 00 30.1 -0.9**
KURK IAmb IAmb 01 00 32.2
comp=Z,4.8nm,1.1s
KKAR Karatay Array 72.87 319 P **P 01 00 33.6 -1.1**
MAW Mawson 73.98 201 P **P 01 00 42.2 +1.4**
comp=Z,1.0nm,0.7s,baz=100,slow=6.1,SNR=4.5
SOCY Socotra 76.77 284 P **P 01 00 56.7 -1.1**
ABKAR Abkulak array 82.10 322 P **P 01 01 25.1 -0.7**
ABKAR Abkulak array 82.10 322 P **P 01 01 25.3 -0.6**
ABKAR IAmb IAmb 01 01 25.9
comp=Z,1.1nm,0.6s
IL31 94.39 25 P P 01 02 18.7 -5.8
IL31 IAmb IAmb 01 02 20.1
comp=Z,1.2nm,0.9s
ILAR Eielson Array 94.39 25 P P 01 02 19.5 -5.0
SNAA Sanae 94.84 194 P **P 01 02 28.1 +1.4**
SNAA IAmb IAmb 01 02 31.6
comp=Z,2.3nm,1.1s
LPAZ La Paz 151.08 145 PKPbc **PKiKP 01 09 00.5 +0.8**
comp=Z,0.7nm,0.4s,baz=225,slow=2.9,SNR=3.3

WEL 22 02:15:05.9,40°S±1°×17°7E±°,h41km±1km,M3.0/10, ML3.4/9,MLv3.0/10,Error ellipse: s-maj=0.0km s-min=0.0km az=48.4,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.06**	**197**	P	Pn	02 15 12.7	+0.1
KAHZ				S	Sn	02 15 18.0	+0.7
CKHZ	**Cape Kidnapper**	**0.15**	**62**	P	Pn	02 15 13.1	+0.1
CKHZ				S	Sn	02 15 18.5	+0.7
PXZ	**Pawanui**	**0.30**	**186**	P	Pn	02 15 14.6	+0.4
PXZ				S	Sn	02 15 21.4	+1.4
MCHZ	**McNeill Hill**	**0.33**	**331**	P	Pn	02 15 14.8	+0.2
MCHZ				S	Sn	02 15 21.4	+0.9
KRHZ	**Kereru**	**0.42**	**282**	P	Pn	02 15 15.6	-0.1
KRHZ				S	Sn	02 15 23.0	+0.5
ARHZ	**Aropaoanui**	**0.47**	**9**	P	Pn	02 15 16.9	+0.5
KWHZ	**Kaweka Forest**	**0.48**	**310**	P	Pn	02 15 16.4	0.0
WPHZ	**Waipukurau**	**0.48**	**227**	P	Pn	02 15 17.2	+0.7
PNHZ	**Pukenui**	**0.57**	**251**	P	Pn	02 15 17.8	+0.2
PRHZ	**Porangahau**	**0.57**	**201**	P	Pn	02 15 18.1	+0.5
NMHZ	**Naumai**	**0.64**	**353**	P	Pn	02 15 19.1	+0.5
BHHZ	**Black Hill Sta**	**0.69**	**290**	P	Pn	02 15 19.3	0.0
RAHZ	**Arahi**	**0.83**	**10**	P	Pn	02 15 21.5	+0.4
MTHZ	**Maungataniwha**	**0.88**	**357**	P	Pn	02 15 22.2	+0.3
MOVZ	**Moawhango**	**0.94**	**290**	P	Pn	02 15 23.4	+0.6
MRHZ	**Matea Rd**	**0.97**	**337**	P	Pn	02 15 23.9	+0.7
HATZ	**Hinemaiaia**	**1.05**	**323**	P	Pn	02 15 25.1	+0.9
TUVZ	**Tukino**	**1.07**	**295**	P	Pn	02 15 29.2	+4.6
WNVZ	**Wahianoa**	**1.09**	**291**	P	Pn	02 15 26.1	+1.3
PRWZ	**Pori Road**	**1.09**	**221**	P	Pn	02 15 25.5	+0.8
POWZ	**Post Office Ro**	**1.09**	**232**	P	Pn	02 15 25.3	+0.6
TMVZ	**Te Maari**	**1.11**	**303**	P	Pn	02 15 26.7	+1.6
FWVZ	**Far West T-bar**	**1.15**	**294**	P	Pn	02 15 26.8	+1.2
NGZ	**Ngauruhoe**	**1.15**	**299**	P	Pn	02 15 28.5	+2.9
KRVZ	**Karewarewa**	**1.17**	**303**	P	Pn	02 15 27.2	+1.4
ALRZ	**Allen Road**	**1.25**	**339**	P	Pn	02 15 27.6	+0.8
PKVZ	**Pokaka**	**1.28**	**290**	P	Pn	02 15 29.5	+2.2
MRZ	**Mangatainoka R**	**1.37**	**227**	P	Pn	02 15 28.5	0.0
URZ	**Urewera**	**1.48**	**6**	P	Pn	02 15 29.9	-0.1
HOWZ	**Holdsworth Sta**	**1.57**	**222**	P	Pn	02 15 30.9	-0.4
RUGZ	**Raukumara Rang**	**1.87**	**19**	P	Pn	02 15 35.2	-0.2
CAW	**Cannon Point**	**1.96**	**225**	P	Pn	02 15 36.1	-0.6
TUWZ	**Tuamarina**	**2.82**	**232**	P	Pn	02 15 47.0	-1.4
GVZ	**Greta Valley S**	**4.35**	**221**	P	Pn	02 16 10.1	+0.7
LTZ	**Lake Taylor**	**4.63**	**227**	P	Pn	02 16 11.7	-1.6
CTZ	**Chatham Island**	**6.28**	**132**	P	Pn	02 16 36.0	+0.1

*NEIC **22** 02:16:11.0±1.7, 19°.56N±0°.04×65°.53W±0°.06, h39km±46km, Error ellipse: s-maj=9.8km s-min=1.4km az=120.0*
*RSPR **22** 02:16:10.7, 19°.66N×65°.59W, h44km±19km, MD3.4/6*
ISC 22 02:16:08.4±2.1,19°.52N±0°.09×65°.61W±0°.05,h9km±11km, n38,σ0°94/47,8C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.24**	**166**	Pn	**Pg**	**02 16 32.3**	**0.0**
CBYP	**Canovanas**	**1.26**	**191⇑**	*eP*	**Pb**	**02 16 32.2**	**-0.2**
CBYP	**Canovanas**	**1.26**	**191**	*eS*	**Sb**	**02 16 49.7**	**+1.0**
CBYP	**Canovanas**	**1.26**	**191**	Pn	**Pb**	**02 16 32.3**	**-0.2**
CBYP					**Sb**	**02 16 49.5**	**+0.8**
GCPR	**Guaynabo City**	**1.28**	**201**	*eS*	**Sb**	**02 16 50.6**	**+1.3**
GCPR	**Guaynabo City**	**1.28**	**201**	Pn	**Pb**	**02 16 31.6**	**-1.1**
GCPR				Sn	**Sb**	**02 16 49.9**	**+0.6**
STVI	**Saint Thomas**	**1.31**	**152⇑**	*eP*	**Pg**	**02 16 33.0**	**-0.6**
STVI	**Saint Thomas**	**1.31**	**152**	*eS*	**Sg**	**02 16 51.0**	**+0.3**
STVI	**Saint Thomas**	**1.31**	**152**		**Pg**	**02 16 33.6**	**-0.1**
EMPR	**Esperanza - Ma**	**1.35**	**220⇑**	*eP*	**Pg**	**02 16 33.8**	**-0.6**
EMPR	**Esperanza - Ma**	**1.35**	**220**	*eS*	**Sb**	**02 16 52.1**	**+0.8**
EMPR	**Esperanza - Ma**	**1.35**	**220**		**Pg**	**02 16 34.8**	**+0.4**
EMPR					**Sg**	**02 16 53.5**	**+1.5**
HUMP	**Col San Antoni**	**1.39**	**190⇑**	*eP*	**Pg**	**02 16 34.6**	**-0.4**
HUMP	**Col San Antoni**	**1.39**	**190**	*eS*	**Sb**	**02 16 52.3**	**+0.1**
HUMP	**Col San Antoni**	**1.39**	**190**		**Pg**	**02 16 35.0**	**-0.1**
HUMP					**Sn**	**02 16 52.2**	**-0.2**
MTP	**Monte Pirata**	**1.41**	**178⇑**	*eP*	**Pb**	**02 16 34.8**	**-0.1**
MTP	**Monte Pirata**	**1.41**	**178**	*eS*	**Sb**	**02 16 54.0**	**+0.9**
MTP	**Monte Pirata**	**1.41**	**178**	Pn	**Pg**	**02 16 35.1**	**-0.4**
MTP				Sn	**Sb**	**02 16 53.7**	**+0.7**
PDPR	**Patillas Dam,**	**1.54**	**195**	*eS*	**Sb**	**02 16 57.7**	**+0.9**
PDPR	**Patillas Dam,**	**1.54**	**195**	Pn	**Pb**	**02 16 35.9**	**-1.2**
PDPR				Sn	**Sn**	**02 16 55.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.59**	**223**	Pn	**Pb**	**02 16 37.3**	**-0.7**
IGPR	**InterUniversit**	**1.61**	**197**	*eS*	**Sb**	**02 16 58.5**	**-0.3**
IGPR	**InterUniversit**	**1.61**	**197**	Sn	**Sn**	**02 16 56.8**	**-1.1**
CELP	**Cerrillos**	**1.70**	**213⇑**	*eP*	**Pb**	**02 16 39.3**	**-0.6**
CELP	**Cerrillos**	**1.70**	**213**	*eS*	**Sn**	**02 17 00.3**	**+0.1**
CELP	**Cerrillos**	**1.70**	**213**		**Pb**	**02 16 39.3**	**-0.6**
CELP					**Sn**	**02 17 00.3**	**+0.1**
OBIP	**Obispado Ponce**	**1.75**	**213**	Pn	**Pb**	**02 16 39.2**	**-1.3**
AGPR	**Aguadilla, PR**	**1.76**	**234**	Pn	**Pb**	**02 16 40.2**	**-0.7**
CDVI	**St. Croix**	**1.93**	**155**	Pn	**Pb**	**02 16 42.6**	**-1.1**
LSP	**Las Mesas**	**1.93**	**227**	*eS*	**Sn**	**02 17 05.4**	**-0.5**
LSP	**Las Mesas**	**1.93**	**227**		**Sn**	**02 17 05.4**	**-0.5**
MLPR	**Magueyes Islan**	**2.06**	**222⇑**	*eP*	**Pb**	**02 16 43.5**	**-2.3**
MLPR	**Magueyes Islan**	**2.06**	**222**	*eS*	**Sn**	**02 17 09.3**	**+0.5**
MLPR	**Magueyes Islan**	**2.06**	**222**	Pn	**Pn**	**02 16 42.5**	**-0.6**
MLPR				Sn	**Sn**	**02 17 08.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.07**	**224⇑**	*eP*	**Pb**	**02 16 44.1**	**-2.0**
CRPR	**Cabo Rojo, PR**	**2.07**	**224**	*eS*	**Sn**	**02 17 09.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.07**	**224**	Pn	**Pb**	**02 16 44.4**	**-1.8**
CRPR				Sn	**Sb**	**02 17 10.7**	**-1.2**
SDDR	**Presa de Saban**	**5.39**	**265**	Pn	**Pn**	**02 17 30.9**	**+1.8**

*IDC **22** 02:21:03.9±1.7, 0°.14S×123°.02E, h107km±15km, mb3.5/7, mb1 3.7/10, mb1mx3.5/30, mbtmp3.9/10, MS2.9/1, Ms1 3.1/1, ms1mx2.4/21, Error ellipse: s-maj=19.9km s-min=13.2km az=78.0*
*DJA **22** 02:21:04.5±0.4, 0°S±3°×12°3E±°, h96km±9km, M4.5/12, mB5.1/2, mb4.8/4, MLv4.4/12, Mw(mB)4.4/2*
*NEIC **22** 02:21:04.7±1.9, 0°.20S±0°.08×123°.01E±0°.08, h111km±7km, mb4.0/11, Error ellipse: s-maj=12.8km s-min=10.7km az=120.0*
ISC 22 02:21:03.6±0.5,0°15S±0°05×123°03E±0°05,h100km,n45, σ1°88/57,mb3.9/12,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.78**	**359**	P	**Pn**	**02 21 24.7**	**+2.9**
GTOI				S	**Sn**	**02 21 39.6**	**+4.3**
LUWI	**Luwuk**	**0.93**	**196**	P	**Pn**	**02 21 24.4**	**+1.1**
LUWI	**Luwuk**	**0.93**	**196**		**Pn**	**02 21 24.7**	**+1.4**
LUWI				Sn	**Sn**	**02 21 39.5**	**+1.5**
KMSI	**Cibinong**	**1.19**	**53**	P	**Pn**	**02 21 27.6**	**+1.4**
MPSI	**Mapaga**	**3.17**	**279**	P	**Pn**	**02 21 52.2**	**+0.6**
SANI	**Sanana**	**3.51**	**123**	P	**Pn**	**02 21 55.2**	**-1.0**
KDI	**Kendari**	**3.81**	**186**	P	**Sn**	**02 22 52.8**	**+8.7**
TNTI	**Ternate**	**4.43**	**78**	P	**Pn**	**02 22 10.7**	**+2.0**
TNTI				S	**Sn**	**02 23 01.8**	**+2.6**
TNTI	**Ternate**	**4.43**	**78**		**Pn**	**02 22 11.1**	**+2.5**
LBMI	**Labuha**	**4.50**	**96**	P	**Pn**	**02 22 12.5**	**+2.9**
SPSI	**Sidrap Palu**	**5.00**	**221**	P	**Pn**	**02 22 17.1**	**+0.7**
SPSI				S	**Sn**	**02 23 11.7**	**-1.3**
NLAI	**Namlea**	**5.10**	**127**	P	**Pn**	**02 22 18.8**	**+1.1**
0.9nm4μm180nm,0.5s							
NLAI				S	**Sn**	**02 23 15.2**	**-0.2**
0.9nm4μm180nm,0.5s							
BNSI	**Bone**	**5.14**	**215**	P	**Pn**	**02 22 17.5**	**-0.8**
0.2nm42nm,0.5s							
KAPI	**Kappang**	**5.84**	**214**	P	**Pn**	**02 22 29.2**	**+1.4**
4.5nm,0.3s,baz=121,slow=4.3,SNR=11							
KAPI				S	**Sn**	**02 23 33.6**	**+0.2**
6.1nm,0.3s,baz=241,slow=24,SNR=7.0							
MYLDM	**Lahad Datu**	**6.96**	**320**	Pn	**Pn**	**02 22 47.0**	**+3.9**
SIJI	**Sorong**	**8.27**	**95**	P	**Pn**	**02 23 02.3**	**+1.5**
2.9nm,0.3s,baz=276,slow=19,SNR=3.1							
MMRI	**Maumere**	**8.47**	**185**	Pn	**Pn**	**02 23 05.5**	**+1.9**
FAKI	**Fak Fak**	**9.62**	**107**	P	**Pn**	**02 23 17.9**	**-1.3**
FAKI	**Fak Fak**	**9.62**	**107**	Pn	**Pn**	**02 23 19.6**	**+0.4**
MTN	**Manton Dam**	**14.96**	**148**	P	**P**	**02 24 32.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.02**	**172**	P	**Pn**	**02 25 08.0**	**+0.2**
0.2nm,0.3s,baz=1.3,slow=6.6,SNR=6.0							
FITZ	**Fitzroy Crossi**	**18.02**	**172**	P	**Pn**	**02 25 08.1**	**+0.4**
WB0	**Warramunga Arr**	**22.46**	**151**	P	**P**	**02 25 54.5**	**-0.1**
WB0				IAmb	IAmb	02 26 09.2	
comp=Z,5.8nm,1.2s							
WRAB	**Tennant Creek**	**22.58**	**151**	P	**P**	**02 25 55.7**	**-0.2**
WRAB				IAmb	IAmb	02 26 01.4	
comp=Z,24nm,1.4s							
WRA	**Warramunga Arr**	**22.58**	**151**	P	**P**	**02 25 55.8**	**-0.2**
comp=Z,1.1nm,0.5s,baz=329,slow=11,SNR=33							
WRA				PcP	**PcP**	**02 29 45.7**	**-0.2**
comp=Z,0.3nm,0.8s,baz=323,slow=2.3,SNR=4.2							
WRA				ScP	**ScP**	**02 33 12.9**	**-1.8**
comp=Z,0.5nm,0.5s,baz=327,slow=2.4,SNR=9.7							
WRA	**Warramunga Arr**	**22.58**	**151**	P	**P**	**02 25 55.3**	**-0.6**
WRA				PcP	**PcP**	**02 29 44.9**	**-1.0**
WB2	**Warramunga Arr**	**22.59**	**151**	P	**P**	**02 25 56.2**	**+0.2**
WR0	**Warramunga Arr**	**22.69**	**151**	P	**P**	**02 25 57.0**	**0.0**
WR0				IAmb	IAmb	02 25 57.5	
comp=Z,3.1nm,0.6s							
ASAR	**Alice Springs**	**25.66**	**156**	P	**P**	**02 26 22.4**	**-1.9**
comp=Z,0.4nm,0.3s,baz=345,slow=14,SNR=2.9							
ASAR				PcP	**PcP**	**02 29 51.9**	**-0.7**
comp=Z,0.5nm,0.5s,baz=341,slow=1.5,SNR=6.1							
ASAR				ScP	**ScP**	**02 33 21.7**	**-1.4**
comp=Z,0.6nm,0.8s,baz=341,slow=2.3,SNR=4.2							
ASAR	**Alice Springs**	**25.66**	**156**	P	**P**	**02 26 24.4**	**+0.1**
ASAR				PcP	**PcP**	**02 29 52.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.03**	**309**	P	**P**	**02 27 02.5**	**-0.9**
comp=Z,2.8nm,0.7s,baz=130,slow=6.7,SNR=9.4							
CMAR				LR	LR	02 40 15.1	
comp=Z,21nm,18.6s,baz=110,slow=38							
CMAR	**Chiang Mai Arr**	**30.03**	**309**	P	**P**	**02 27 04.7**	**+1.3**
USRK	**Ussuriysk Ar.**	**44.87**	**9**	P	**P**	**02 29 06.4**	**-1.6**
comp=Z,1.1nm,0.5s,baz=196,slow=5.1,SNR=4.5							
USRK	**Ussuriysk Ar.**	**44.87**	**9**	P	**P**	**02 29 08.8**	**+0.9**
SONM	**Songino Array**	**49.93**	**345**	P	**P**	**02 29 47.5**	**+0.1**
comp=Z,2.4nm,0.8s,baz=163,slow=8.7,SNR=8.7							
SONM	**Songino Array**	**49.93**	**345**	P	**P**	**02 29 47.9**	**+0.6**
MK31	**Makanchi Array**	**58.75**	**328**	P	**P**	**02 30 50.8**	**-0.4**
MK31				IAmb	IAmb	02 30 51.4	
comp=Z,1.4nm,0.8s							
MKAR	**Makanchi Array**	**58.75**	**328**	P	**P**	**02 30 50.6**	**-0.6**
comp=Z,1.3nm,0.6s,baz=119,slow=8.7,SNR=14							
KBL	**Kabul**	**61.06**	**310**	P	**P**	**02 31 06.9**	**-0.6**
KURK	**Kurchatov**	**63.12**	**330**	P	**P**	**02 31 19.9**	**-0.7**
CASY	**Casey**	**66.59**	**185**	P	**P**	**02 31 43.0**	**+0.2**
CASY				IAmb	IAmb	02 31 49.1	
comp=Z,2.2nm,1.2s							
ILAR	**Eielson Array**	**90.17**	**25**	P	**P**	**02 33 50.7**	**-1.8**
comp=Z,0.2nm,0.6s,baz=253,slow=5.8,SNR=5.0							
ILAR	**Eielson Array**	**90.17**	**25**	P	**P**	**02 33 51.3**	**-1.2**
TXAR	**Lajitas Array**	**126.88**	**53**	PKP	**PKPdf**	**02 39 56.8**	**+0.2**
comp=Z,0.2nm,0.6s,baz=286,slow=1.2,SNR=4.2							
TXAR	**Lajitas Array**	**126.88**	**53**		**PKPdf**	**02 39 54.9**	**-1.7**

*BUL **22** 02:21:53.4±2.5, 25°.87S×22°.74E, h10km, MD3.5*
*EAF **22** 02:21:53.1±1.1, 25°.79S×22°.70E, h10km, MD3.6*
*PRE **22** 02:21:58.3±1.0, 26°.36S×27°.52E, h2km, ML2.4*
ISC 22 02:21:57.8±1.2,26°33S±0°03×27°53E±0°03,h1km±11km, n15,σ1°19/29,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.13**	**223**	*eP*	**Pg**	**02 22 00.8**	**+0.4**
WDLM				*eS*	**Sg**	**02 22 02.5**	**+0.3**
WDLM				AML	AML	02 22 03.3	
comp=Z,4μm,0.1s							
PRYS	**Parys**	**0.61**	**194**	*eP*	**Pg**	**02 22 09.2**	**-0.5**
PRYS				*eS*	**Sg**	**02 22 17.0**	**-0.7**
PRYS				AML	AML	02 22 22.4	
comp=Z,108nm,0.4s							
ERPM	**east rand prop**	**0.64**	**92**	*eP*	**Pg**	**02 22 11.0**	**+0.8**
ERPM				*eS*	**Sg**	**02 22 20.2**	**+1.7**
ERPM				AML	AML	02 22 23.0	
comp=Z,75nm,0.2s							
KSR	**Koster**	**0.74**	**310**	*eP*	**Pg**	**02 22 12.0**	**0.0**
KSR				*eS*	**Sg**	**02 22 23.0**	**+1.5**
KSR				AML	AML	02 22 25.3	
comp=Z,214nm,0.4s							
SWZ	**Schweizer**	**2.14**	**246**	*eP*	**Pn**	**02 22 35.0**	**+0.1**
SWZ				*eS*	**Sn**	**02 23 02.1**	**0.0**
SWZ				AML	AML	02 23 05.4	
comp=Z,45nm,0.6s							
LBTB	**Lobatse**	**2.17**	**306**	*i* P	**Pb**	**02 22 37.6**	**-0.5**
LBTB				*i* S	**Sg**	**02 23 08.3**	**+0.6**
LBTB	**Lobatse**	**2.17**	**306**	*eP*	**Pn**	**02 22 37.0**	**+1.6**
LBTB				*eS*	**Sn**	**02 23 04.7**	**+1.7**
LBTB				AML	AML	02 23 09.7	
comp=Z,63nm,0.3s							
LBTB	**Lobatse**	**2.17**	**306**	*i* P	**Pb**	**02 22 37.6**	**-0.5**
LBTB				*i* S	**Sg**	**02 23 08.3**	**+0.6**
BOSA	**Boshof**	**3.04**	**221**	*i* P	**Pn**	**02 22 48.2**	**+0.9**
BOSA				*i* S	**Sb**	**02 23 30.3**	**-0.3**
BOSA	**Boshof**	**3.04**	**221**	*eP*	**Pn**	**02 22 47.5**	**+0.3**
BOSA				*eS*	**Sn**	**02 23 23.6**	**-0.8**
BOSA				AML	AML	02 23 35.1	
comp=Z,9.8nm,0.4s							
BOSA	**Boshof**	**3.04**	**221**	*i* P	**Pn**	**02 22 48.2**	**+0.9**
BOSA				*i* S	**Sb**	**02 23 30.3**	**-0.3**
POGA	**Pongola**	**3.87**	**106**	*eP*	**Pn**	**02 22 59.9**	**+1.3**
POGA				AML	AML	02 24 03.0	
comp=Z,15nm,0.7s							
MOPA	**Mopani**	**4.49**	**52**	*eP*	**Pn**	**02 23 08.6**	**+1.4**
MOPA				*eS*	**Sn**	**02 23 59.2**	**-0.8**
MOPA				AML	AML	02 24 32.2	
comp=Z,4.4nm,0.5s							
BLWY	**Bulawayo**	**6.24**	**9**	*i* P	**Pb**	**02 23 45.8**	**-1.7**
BLWY				*i* S	**Sg**	**02 25 16.1**	**-2.2**
BLWY	**Bulawayo**	**6.24**	**9**	*eP*	**Pb**	**02 23 45.8**	**-1.7**
BLWY				*eS*	**Sg**	**02 25 16.1**	**-2.2**

*INMG **22** 02:46:53.5±2.1, 33°.47N×2°.59W, h0km±12km, ML2.2, Error ellipse: s-maj=14.7km s-min=6.1km az=127.0*
*MDD **22** 02:46:53.0±1.9, 33°.42N×2°.74W, h0km, mb3.6/14, Error ellipse: s-maj=18.1km s-min=14.1km az=155.0, PRXIMO*
*CNRM **22** 02:46:56.3±1.3, 33°.57N×2°.74W, h4km±13km, Error ellipse: s-maj=12.7km s-min=5.5km az=96.0*
ISC 22 02:46:53.5±1.2,33°49N±0°03×2°78W±0°03,h16km±9km, n47,σ1°83/85,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDRA	**Tendrara**	**0.77**	**126**	P	**Pn**	**02 47 10.0**	**0.0**
TDRA				S	**Sn**	**02 47 21.4**	**0.0**
JBK	**JBK**	**0.86**	**12**	P	**Pg**	**02 47 09.3**	**-0.9**
JBK				S	**Sg**	**02 47 19.4**	**-2.2**
MDT	**Midelt**	**1.68**	**247**	P	**Pg**	**02 47 26.4**	**+0.6**
MDT				S	**Sg**	**02 47 49.7**	**+2.1**
GOG	**Mont Gurugu**	**1.73**	**354**	P	**Pg**	**02 47 26.3**	**-0.6**
GOG				S	**Sg**	**02 47 50.2**	**+0.8**
MD31	**MD31**	**1.77**	**250**	P	**Pb**	**02 47 26.4**	**+0.6**
MD31				S	**Sb**	**02 47 48.4**	**+0.5**
MELI	**Melilla**	**1.80**	**356**	P	**Pn**	**02 47 24.3**	**+0.4**
20nm,0.2s,SNR=7.9							
MELI				S	**Sb**	**02 47 48.8**	**+0.3**
17nm,0.1s,SNR=7.9							
EMEL	**Melilla**	**1.81**	**355**	P	**Pn**	**02 47 24.5**	**+0.4**
33nm,0.1s,SNR=5.9							
EMEL				S	**Sb**	**02 47 48.5**	**-0.2**
58nm,0.2s,SNR=6.2							
CZD	**Col de Zad**	**1.95**	**257**	P	**Pb**	**02 47 29.5**	**+0.6**
CZD				S	**Sg**	**02 47 57.5**	**+1.1**
IFR	**Ifrane**	**1.96**	**271**	*eP*	**Pn**	**02 47 27.7**	**+1.4**
IFR				*eS*	**Sg**	**02 47 56.6**	**-0.2**
PALE	**Palemas**	**1.97**	**331**	P	**Pg**	**02 47 31.3**	**0.0**
PALE				S	**Sg**	**02 47 56.6**	**-0.3**
PVLZ	**Peæn de**	**2.10**	**323**	P	**Pb**	**02 47 30.5**	**-0.7**
PVLZ				S	**Sg**	**02 48 01.3**	**+0.4**
PVLZ	**Peæn de**	**2.10**	**323**	*eP*	**Pb**	**02 47 30.5**	**-0.7**
PVLZ				*eS*	**Sg**	**02 48 01.3**	**+0.4**
RSA	**Sarsar**	**2.88**	**300**	P	**Pb**	**02 47 45.0**	**+0.4**
RSA				S	**Sb**	**02 48 19.9**	**+0.3**
EBER	**Berja**	**3.40**	**358**	P	**Pn**	**02 47 46.3**	**+0.2**
0.7nm,0.1s,SNR=4.5							
EBER				S	**Sn**	**02 48 26.4**	**+0.2**
1.4nm,0.5s,SNR=7.9							
ELGU	**Los Guajares,**	**3.44**	**349**	P	**Pn**	**02 47 46.3**	**-0.3**
0.4nm,0.1s,SNR=7.9							
ELGU				S	**Sn**	**02 48 25.2**	**-1.8**
2.8nm,0.6s,SNR=7.9							
ENIJ	**Nijar**	**3.50**	**8**	P	**Pn**	**02 47 47.2**	**-0.2**
1.8nm,0.2s,SNR=7

PNCL	**Nicolau / Gran**	**6.56 316**	*e*Pn	**Pn**	**02 48 29.5**	**+0.1**
PNCL			*e*Sn	**Sn**	**02 49 39.6**	**-4.3**
PNCL			A	A	02 49 51.4	
	0.9nm,0.5s					
PMTG	**Montargil**	**7.09 323**	*e*Pn	**Pn**	**02 48 39.3**	**+2.6**
PSBE	**So Bento**	**7.72 323**	*e*Pn	**Pn**	**02 48 47.6**	**+2.3**

NEIC ***22*** *03:25:15.6±1.3, 37°.44N±0°.06×72°.17E±0°.09, h193km±11km, mb4.0/1, Error ellipse: s-maj=10.7km s-min=8.8km az=97.0*
NNC ***22*** *03:25:18.1±6.2, 37°.70N×71°.79E, h184km±76km, mb2.7, mpv3.3, Error ellipse: s-maj=56.1km s-min=34.2km az=13.0*
IDC ***22*** *03:25:35.0±16.0, 38°.22N×72°.46E, h370km±219km, mb3.3/1, mb1 3.0/4, mb1mx2.6/44, mbtmp3.9/4, Error ellipse: s-maj=309.4km s-min=107.2km az=152.0*
ISC 22 03:25:14.5±0.7, 37°.40N±0°.05×72°.25E±0°.07, h200km, n24, σ2§13/34, 3C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**2.89**	**338**	Pn	**Pn**	**03 26 04.0**	**+1.2**
BTK				Sn	**Sn**	**03 26 39.1**	**-1.7**
NIL	**Nilore**	**3.83**	**167**	Pn	**Pn**	**03 26 16.0**	**+1.8**
NIL				Sn	**Sn**	**03 27 01.0**	**0.0**
KBL	**Kabul**	**3.86**	**223**	Pn	**Pn**	**03 26 15.6**	**+0.9**
KBL				Sn	**Sn**	**03 26 59.8**	**-2.2**
AAK	**Ala-Archa**	**5.51**	**17**	⇓P	**Pn**	**03 26 36.9**	**+1.3**
	3.3nm,0.5s						
AAK				⇓S	**Sn**	**03 27 38.4**	**-1.2**
	16nm,0.8s						
KK31	**Karatay Array**	**5.86**	**347**	⇓P	**Pn**	**03 26 39.9**	**+0.1**
	2.6nm,0.6s,baz=172,slow=13,SNR=23						
KK31				⇓S	**Sn**	**03 27 43.6**	**-3.7**
	15nm,0.5s,baz=176,slow=24,SNR=26						
KK31	**Karatay Array**	**5.86**	**347**	Pn	**Pn**	**03 26 39.9**	**+0.1**
KK31				Sn	**Sn**	**03 27 43.6**	**-3.7**
KKAR	**Karatay Array**	**5.86**	**347**	Pn	**Pn**	**03 26 39.7**	**-0.1**
KKAR	**Karatay Array**	**5.86**	**347**	Pn	**Pn**	**03 26 39.9**	**+0.1**
TKM2	**Tokmak 2**	**6.08**	**24**	⇑P	**Pn**	**03 26 43.7**	**+0.7**
	0.9nm,0.5s						
TKM2				⇓S	**Sn**	**03 27 52.2**	**-0.8**
	3.9nm,1.0s						
DHRM	**DHARAMSHALA**	**6.12**	**146**	*e*P	**Pn**	**03 26 44.1**	**+0.6**
DHRM				*e*S	**Sn**	**03 27 50.5**	**-3.4**
DHRM				IAML		03 27 52.6	
	comp=N,90nm,0.3s						
DHRM				IAML		03 27 52.7	
	comp=E,78nm,0.8s						
SMLA	**Simla**	**7.46**	**146**	*e*P	**Pn**	**03 27 01.0**	**+0.3**
SMLA				*e*S	**Sn**	**03 28 19.5**	**-5.6**
SMLA				IAML		03 28 22.2	
	comp=N,71nm,0.9s						
SMLA				IAML		03 28 23.6	
	comp=E,51nm,0.6s						
MKAR	**Makanchi Array**	**11.98**	**35**	P	**P**	**03 28 06.5**	**+2.8**
	comp=E,0.1nm,0.3s,baz=218,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**11.98**	**35**	P	**P**	**03 28 05.8**	**+2.0**
KURBB	**Kurchatov Arra**	**13.97**	**17**	P	**P**	**03 28 27.8**	**+2.1**
	comp=E,0.0nm,0.3s,baz=198,slow=12,SNR=2.3						
KURK	**Kurchatov**	**14.07**	**17**	P	**P**	**03 28 28.9**	**+2.0**
AB31	**Akbulak array**	**14.83**	**327**	⇓P	**Pn**	**03 28 33.4**	**-1.1**
	comp=E,2.6nm,0.7s,baz=139,slow=12,SNR=20						
AB31				⇑S	S	03 31 09.5	-10
	comp=E,1.0nm,0.5s,baz=136,slow=24,SNR=5.7						
ABKAR	**Akbulak array**	**14.83**	**327**	P	**P**	**03 28 37.0**	**+1.7**
ABKAR	**Akbulak array**	**14.83**	**327**	P	**P**	**03 28 35.9**	**+0.5**
AKTO	**Aktyubinsk**	**16.55**	**326**	⇓P	**Pn**	**03 28 55.5**	**+0.4**
	comp=E,2.4nm,0.5s						
AKTO				⇑S	**S**	**03 31 52.7**	**-4.3**
	comp=E,1.4nm,0.8s						
ZAA0	**Zalesovo Array**	**18.69**	**24**	P	**P**	**03 29 19.0**	**+1.5**
ZAA0				IAmb	IAmb	03 29 19.9	
	comp=Z,3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**18.69**	**24**	P	**P**	**03 29 19.2**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=223,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**18.69**	**24**	P	**P**	**03 29 19.0**	**+1.5**
FINES	**FINESS Array B**	**37.31**	**325**	P	**P**	**03 32 07.9**	**+0.8**
	comp=Z,3.2nm,1.0s,baz=119,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**37.31**	**325**	P	**P**	**03 32 08.4**	**+1.4**

NEIC ***22*** *03:36:00.7±2.5, 28°.25S±0°.05×67°.34W±0°.10, h108km±6km, mb4.4/16, Md3.9(SJA), Error ellipse: s-maj=12.7km s-min=7.6km az=86.0*
IDC ***22*** *03:36:00.3±2.6, 28°.34S×67°.25W, h104km±22km, mb3.8/8, mb1 3.7/12, mb1mx3.5/31, mbtmp4.0/12, Error ellipse: s-maj=22.8km s-min=17.4km az=81.0*
SJA ***22*** *03:36:01.3±0.6, 28°.27S×67°.49W, h144km±2km, ML4.0, MW3.9*
VAO ***22*** *03:36:10.5±2.1, 27°.68S×67°.15W, h163km±10km, mb4.0*
ISC 22 03:36:02.3±0.7, 28°.22S±0°.03×67°.55W±0°.03, h128km±6km, n119, σ1§44/151, mb4.1/13, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.78**	**228**	*e*P	**Pn**	**03 36 24.4**	**+1.2**
VCA				*e*S	**Sn**	**03 36 41.7**	**+2.6**
VCA				IAML		03 36 43.1	
	comp=Z,4μm,0.6s						
ACLC	**CERRO LA CRUZ**	**1.31**	**157**	*e*P	**Pn**	**03 36 28.8**	**+0.5**
ACLC				*e*S	**Sn**	**03 36 48.9**	**+0.7**
AGUA	**GUANDACOL**	**1.51**	**213**	*e*P	**Pn**	**03 36 31.3**	**+0.8**
AGUA				*e*S	**Sn**	**03 36 53.1**	**+1.1**
AGUA				IAML		03 36 56.3	
	comp=Z,2μm,0.2s						
CYA	**Choya**	**1.55**	**99**	*e*P	**Pn**	**03 36 31.4**	**+0.5**
CYA				*e*S	**Sn**	**03 36 52.7**	**0.0**
CYA				IAML		03 36 53.3	
	comp=Z,582nm,1.3s						
APLL	**PUNTA DE LOS L**	**2.34**	**158**	*e*P	**Pn**	**03 36 40.4**	**-0.1**
APLL				*e*S	**Sn**	**03 37 08.4**	**-1.4**
ACDV	**Cuesta del Vie**	**2.38**	**215**	*e*S	**Sn**	**03 37 12.5**	**+1.6**
ACDV				IAML		03 37 13.4	
	comp=Z,456nm,0.6s						
AHML	**Horco Molle**	**2.43**	**54**	*e*P	**Pn**	**03 36 42.1**	**+0.5**
AHML				*e*S	**Sn**	**03 37 12.1**	**+0.3**
AVFE	**Valle Fertil**	**2.43**	**178**	*e*P	**Pn**	**03 36 42.0**	**+0.4**
GO03	**Copiap**	**2.46**	**284**	Pn	**Pn**	**03 36 42.9**	**+0.9**
GO03				Sn	**Sn**	**03 37 12.4**	**0.0**
GO03	**Copiap**	**2.46**	**284**	*e*P	**Pn**	**03 36 43.2**	**+1.3**
GO03				*e*S	**Sn**	**03 37 12.9**	**+0.4**
AC05	**El Transito**	**2.48**	**255**		**Pn**	**03 36 43.7**	**+1.4**
AC05				Sn	**Sn**	**03 37 14.5**	**+1.5**
FSA	**Cafayete**	**2.52**	**34**	*e*P	**Pn**	**03 36 45.0**	**+2.1**
AROD	**Rodeo**	**2.57**	**221**	*e*S	**Sn**	**03 37 16.5**	**+1.2**
ACCO	**Cerro Coronel**	**2.71**	**209**	*e*P	**Pn**	**03 36 46.1**	**+0.7**
ACCO				*e*S	**Sn**	**03 37 16.3**	**-2.2**
ACCO				IAML		03 37 19.4	
	comp=Z,824nm,0.7s						
CO01	**Juntas del Tor**	**2.83**	**231**	Pn	**Pn**	**03 36 48.2**	**+1.3**
CO01				Sn	**Sn**	**03 37 23.5**	**+2.2**
LCO	**Las Campanas**	**2.88**	**253**	Pn	**Pn**	**03 36 48.1**	**+0.5**
LCO				Sn	**Sn**	**03 37 22.7**	**+0.2**
ACHE	**Chepes**	**3.03**	**166**	*e*P	**Pn**	**03 36 49.9**	**+0.5**
ACHE				*e*S	**Sn**	**03 37 25.2**	**-0.5**
AC04	**Llanos de Chal**	**3.11**	**269**	Pn	**Pn**	**03 36 50.2**	**-0.2**
AC04				Sn	**Sn**	**03 37 25.6**	**-1.8**
RTLL	**Cerro Villicun**	**3.20**	**194**	*e*P	**Pn**	**03 36 51.6**	**0.0**
RTLL				*e*S	**Sn**	**03 37 28.4**	**-1.2**
RTLL				IAML		03 37 30.2	
	comp=Z,435nm,0.5s						
AC01	**Pan de Azucar**	**3.42**	**307**	Pn	**Pn**	**03 36 54.6**	**+0.3**
AC01				Sn	**Sn**	**03 37 32.2**	**-2.3**
GO04	**Tololo Observa**	**3.44**	**235**	Pn	**Pn**	**03 36 54.8**	**-0.1**
GO04				Sn	**Sn**	**03 37 34.8**	**-0.7**
ZON	**Zonda**	**3.46**	**196**	Pn	**Pn**	**03 36 54.5**	**-0.3**
ZON				Sn	**Sn**	**03 37 34.1**	**-1.5**
ZON	**Zonda**	**3.46**	**196**	*e*P	**Pn**	**03 36 54.9**	**+0.1**
ZON				*e*S	**Sn**	**03 37 34.7**	**-0.8**
ZON				IAML		03 37 36.1	
	comp=Z,228nm,0.9s						
GO02	**Mina Guanaco**	**3.55**	**329**	Pn	**Pn**	**03 36 57.6**	**+1.2**
GO02				Sn	**Sn**	**03 37 38.4**	**+0.1**
CO03	**El Pedregal**	**3.78**	**226**	Pn	**Pn**	**03 36 59.5**	**+0.3**
CO03				Sn	**Sn**	**03 37 43.6**	**+0.3**
SLA	**San Lorenzo**	**3.94**	**28**	*e*P	**Pn**	**03 37 03.2**	**+1.9**
TCA	**Tanti**	**4.03**	**141**	*e*P	**Pn**	**03 37 01.8**	**-0.6**
TCA				*e*S	**Sn**	**03 37 46.4**	**-2.7**
TCA				IAML		03 37 46.5	
	comp=Z,90nm,0.9s						
CO02	**Combarbal**	**4.23**	**224**	Pn	**Pn**	**03 37 04.7**	**-0.4**
CO02				Sn	**Sn**	**03 37 52.6**	**-1.2**
PB14	**IPOC Station P**	**4.40**	**324**	Pn	**Pn**	**03 37 08.4**	**+0.7**
PB14				Sn	**Sn**	**03 37 56.2**	**-2.3**
ASAL	**Salagasta**	**4.50**	**194**	*e*P	**Pn**	**03 37 08.2**	**-0.4**
ASAL				*e*S	**Sn**	**03 37 58.6**	**-1.7**
ASAL				IAML		03 38 00.4	
	comp=Z,167nm,0.8s						
AZAP	**Zapla**	**4.56**	**30**	*e*P	**Pn**	**03 37 10.6**	**+0.9**
AZAP				IAML		03 38 16.8	
	comp=Z,84nm,0.7s						
PIL	**Pilar**	**4.68**	**138**	*e*P	Pn	03 37 02.9	-8.2
PIL				IAML		03 38 15.9	
	comp=Z,166nm,0.9s						
ARCO	**CERRO ARCO**	**4.76**	**194**	*e*P	**Pn**	**03 37 11.8**	**-0.4**
ARCO				*e*S	**Sn**	**03 38 04.4**	**-2.3**
ARCO				IAML		03 38 08.2	
	comp=Z,124nm,0.5s						
AAGR	**Agrelo**	**4.97**	**193**	*e*P	**Pn**	**03 37 14.5**	**-0.6**
AAGR				*e*S	**Sn**	**03 38 06.1**	**-5.6**
AAGR				IAML		03 38 42.3	
	comp=Z,108nm,0.7s						
ASTB	**Santa Barbara**	**5.08**	**34**	*e*P	**Pn**	**03 37 17.8**	**+1.1**
VA03	**San Esteban**	**5.22**	**209**	Pn	**Pn**	**03 37 18.2**	**-0.1**
VA03				Sn	**Sn**	**03 38 15.9**	**-1.7**
PB15	**IPOC Station P**	**5.29**	**340**	Pn	**Pn**	**03 37 20.0**	**+0.6**
PB15	**IPOC Station P**	**5.29**	**340**	*e*P	**Pn**	**03 37 20.7**	**+1.2**
PB15				*e*S	**Sn**	**03 38 18.1**	**-1.4**
PB15				IAML		03 38 24.8	
	comp=Z,285nm,0.2s						
PB10	**IPOC Station P**	**5.42**	**329**	Pn	**Pn**	**03 37 20.8**	**-0.1**
PB10	**IPOC Station P**	**5.42**	**329**	*e*P	**Pn**	**03 37 21.7**	**+0.7**
PB10				*e*S	Sn	03 38 11.1	-11
PB10				IAML		03 38 28.6	
	comp=Z,45nm,2.3s						
PEL	**Peldehue**	**5.60**	**208**	Pn	**Pn**	**03 37 21.7**	**-1.8**
PEL	**Peldehue**	**5.60**	**208**	*e*P	**Pn**	**03 37 23.2**	**-0.3**
PEL				*e*S	**Sn**	**03 38 23.9**	**-2.8**
ROC1	**El Roble**	**5.60**	**211**	Pn	**Pn**	**03 37 21.6**	**-2.1**
ROC1	**El Roble**	**5.60**	**211**	*e*P	**Pn**	**03 37 22.4**	**-1.3**
LVC	**Limon Verde**	**5.72**	**347**	P	**Pn**	**03 37 26.5**	**+1.0**
	comp=Z,3.5nm,0.3s,baz=160,slow=7.9,SNR=28						
LVC				S	**Sn**	**03 38 27.9**	**-2.3**
	comp=Z,5.8nm,0.3s,baz=213,slow=7.5,SNR=8.5						
LVC	**Limon Verde**	**5.72**	**347**	Pn	**Pn**	**03 37 26.0**	**+0.5**
LVC	**Limon Verde**	**5.72**	**347**	*e*P	**Pn**	**03 37 26.6**	**+1.2**
LVC				*e*S	**Sn**	**03 38 31.9**	**+1.7**
LVC	**Limon Verde**	**5.72**	**347**	*e*P	**Pn**	**03 37 27.6**	**+2.1**
PB06	**IPOC Station P**	**5.79**	**341**	Pn	**Pn**	**03 37 26.3**	**+0.2**
PB06	**IPOC Station P**	**5.79**	**341**	*e*P	**Pn**	**03 37 26.7**	**+0.5**
PB06				*e*S	**Sn**	**03 38 29.6**	**-1.9**
PB06				IAML		03 38 31.9	
	comp=Z,43nm,0.4s						
MT05	**Renca**	**5.84**	**207**	Pn	**Pn**	**03 37 25.8**	**-0.8**
PB05	**IPOC Station P**	**5.86**	**335**	*e*S	**Sn**	**03 38 29.7**	**-3.4**
PB05				IAML		03 38 38.2	
	comp=Z,49nm,0.8s						
MT02	**Curacav**	**5.90**	**211**	Pn	**Pn**	**03 37 25.1**	**-2.2**
VA01	**Torpederas**	**5.95**	**215**	Pn	**Pn**	**03 37 26.0**	**-2.1**
PB04	**IPOC Station P**	**6.32**	**338**	Pn	**Pn**	**03 37 31.4**	**-1.9**
PB04	**IPOC Station P**	**6.32**	**338**	*e*S	**Sn**	**03 38 41.1**	**-3.2**
RFA	**San Rafael**	**6.58**	**187**	IAML		03 39 25.4	
	comp=Z,25nm,0.5s						
PB09	**IPOC Station P**	**6.58**	**346**	Pn	**Pn**	**03 37 37.1**	**+0.3**
PB07	**IPOC Station P**	**6.81**	**341**	Pn	**Pn**	**03 37 38.6**	**-1.3**
BO02	**Sierra Bellavi**	**7.11**	**202**	Pn	**Pn**	**03 37 41.7**	**-2.1**
PB01	**IPOC Station P**	**7.36**	**346**	Pn	**Pn**	**03 37 46.6**	**-0.6**
GO05	**Huala**	**7.73**	**208**	Pn	**Pn**	**03 37 49.5**	**-2.6**
PATCX	**Punta Patache**	**7.74**	**342**	Pn	**Pn**	**03 37 49.3**	**-3.1**
PB08	**IPOC Station P**	**8.18**	**349**	Pn	**Pn**	**03 37 57.4**	**-1.1**
PB11	**IPOC Station P**	**8.64**	**347**	Pn	**Pn**	**03 38 03.0**	**-1.6**
GO01	**Chusmiza**	**8.65**	**350**	Pn	**Pn**	**03 38 03.5**	**-1.5**
PSGCX	**Pisagua**	**8.90**	**344**	Pn	**Pn**	**03 38 05.4**	**-2.7**
MNMC	**Minye Minye**	**9.24**	**348**	Pn	**Pn**	**03 38 11.4**	**-1.4**
PB16	**IPOC Station P**	**10.00**	**349**	Pn	**Pn**	**03 38 22.1**	**-1.3**
LPAZ	**La Paz**	**11.89**	**357**	P	**Pn**	**03 38 48.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=179,slow=6.8,SNR=8.6						
LPAZ	**La Paz**	**11.89**	**357**	Pn	**Pn**	**03 38 47.9**	**-0.5**
PLCA	**Paso Flores**	**12.72**	**190**	P	**Pn**	**03 38 56.4**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=339,slow=14,SNR=2.7						
PLCA	**Paso Flores**	**12.72**	**190**	Pn	**Pn**	**03 38 57.0**	**-1.7**
SIV	**San Ignacio**	**13.56**	**28**	P	**Pn**	**03 39 08.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=237,slow=17,SNR=2.8						
ITAB	**Concordia**	**13.69**	**89**	*e*P	**Pn**	**03 39 13.2**	**+2.0**
PTGB	**Pitanga**	**14.30**	**79**	*e*P	**P**	**03 39 21.7**	**-0.7**
TRCB	**Terra Rica**	**14.50**	**71**	*e*P	**Pn**	**03 39 23.2**	**+1.6**
FRTB	**Fartura**	**16.91**	**77**	*e*P	**P**	**03 39 51.2**	**0.0**
ITRB	**Iturama**	**17.84**	**65**	*e*P	**P**	**03 40 00.9**	**-0.5**
ETMB	**Extrema**	**18.35**	**4**	*e*P	**P**	**03 40 07.0**	**0.0**
BB19B	**Bebedouro**	**18.69**	**72**	*e*P	**P**	**03 40 09.9**	**-0.8**
ARAG	**Araguaiana, MT**	**19.16**	**52**	*e*P	**P**	**03 40 14.6**	**-1.2**
SAML	**Samuel**	**19.61**	**13**	P	**P**	**03 40 21.2**	**+0.5**
CLDB	**Colider**	**20.48**	**35**	*e*P	**P**	**03 40 28.1**	**-2.0**
CZSB	**Cruzeiro do Su**	**20.96**	**346**	*e*P	**P**	**03 40 36.8**	**+1.6**
BDFB	**Brasilia**	**21.98**	**59**	P	**P**	**03 40 43.4**	**-2.8**
	comp=Z,3.1nm,0.7s,baz=230,slow=12,SNR=6.3						
BDFB	**Brasilia**	**21.98**	**59**	P	**P**	**03 40 44.0**	**-2.3**
ATAH	**Atahualpa**	**23.35**	**332**	P	**P**	**03 41 02.2**	**+2.4**
	comp=Z,4.0nm,0.7s,baz=133,slow=18,SNR=2.1						
JANB	**Januaria**	**25.20**	**64**	*e*P	**P**	**03 41 16.1**	**-0.1**
SMTB	**Santa Maria do**	**26.92**	**48**	*e*P	**P**	**03 41 31.6**	**0.0**
PTGA	**Pitinga**	**28.28**	**16**	P	**P**	**03 41 43.6**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=196,slow=14,SNR=6.8						
PTGA	**Pitinga**	**28.28**	**16**	P	**P**	**03 41 43.7**	**0.0**
OBIP	**Obispado Ponce**	**46.00**	**1**	P	**P**	**03 44 11.2**	**-1.7**
BELA	**Belgrano 2**	**51.95**	**172**	P	**P**	**03 44 57.6**	**+0.1**
BELA				PcP	**PcP**	**03 46 09.0**	**+0.8**
SNAA	**Sanae**	**55.56**	**160**	P	**P**	**03 45 23.2**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=264,slow=9.7,SNR=5.9						
SNAA	**Sanae**	**55.56**	**160**	P	**P**	**03 45 23.3**	**-0.7**
SNAA				IAmb	IAmb	03 45 38.2	
	comp=Z,5.1nm,1.5s						
QSPA	**South Pole Qui**	**62.00**	**180**	P	**P**	**03 46 09.2**	**+0.6**
QSPA				IAmb	IAmb	03 46 10.1	
	comp=Z,9.2nm,1.5s						
X58A	**Rowland**	**63.43**	**349**	P	**P**	**03 46 19.3**	**+1.1**
DBIC	**Dimbokro**	**69.64**	**70**	P	**P**	**03 46 57.6**	**-0.6**
	comp=Z,3.9nm,0.5s,baz=218,slow=7.5,SNR=17						
DBIC	**Dimbokro**	**69.64**	**70**	P	**P**	**03 46 57.8**	**-0.4**
DBIC				IAmb	IAmb	03 46 58.4	
	comp=Z,6.7nm,0.8s						
PLVO	**Plevna**	**73.42**	**353**	P	**P**	**03 47 22.3**	**+2.1**
D62A	**Allapoint, All**	**74.96**	**359**	P	**P**	**03 47 30.1**	**+1.1**
D62A				IAmb	IAmb	03 47 36.4	
	comp=Z,8.5nm,1.2s						
TSUM	**Tsumeb**	**77.02**	**105**	P	**P**	**03 47 42.4**	**+0.8**
TSUM				IAmb	IAmb	03 47 43.4	
	comp=Z,5.4nm,1.0s						
TOA0	**Torodi Ar. Sit**	**78.56**	**68**	P	**P**	**03 47 50.1**	**+0.1**
TOA0				IAmb	IAmb	03 47 50.8	
	comp=Z,11nm,1.1s						
TORD	**Torodi Ar. Bea**	**78.56**	**68**	P	**P**	**03 47 49.8**	**-0.2**
	comp=Z,6.5nm,0.6s,baz=269,slow=5.9,SNR=38						
TORD	**Torodi Ar. Bea**	**78.56**	**68**	P	**P**	**03 47 50.1**	**+0.1**
BOSA	**Boshof**	**79.27**	**117**	P	**P**	**03 47 54.0**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=231,slow=2.6,SNR=6.7						
BOSA	**Boshof**	**79.27**	**117**	P	**P**	**03 47 53.7**	**-0.2**
BOSA				IAmb	IAmb	03 48 13.7	
	comp=Z,2.9nm,0.8s						
PDAR	**Pinedale Array**	**80.53**	**330**	P	**P**	**03 48 02.9**	**+2.5**
	comp=Z,0.1nm,0.5s,baz=125,slow=5.6,SNR=2.6						
PDAR	**Pinedale Array**	**80.53**	**330**	P	**P**	**03 48 02.2**	**+1.9**
LBTB	**Lobatse**	**81.15**	**114**	P	**P**	**03 48 03.8**	**-0.2**
LBTB				IAmb	IAmb	03 48 06.4	
	comp=Z,3.0nm,0.9s						
ASAR	**Alice Springs**	**124.42**	**204**	PKP	**PKPdf**	**03 54 46.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=90,slow=8.7,SNR=6.9						
ASAR	**Alice Springs**	**124.42**	**204**		**PKPdf**	**03 54 46.3**	**-0.6**
WRA	**Warramunga Arr**	**127.65**	**206**	PKP	**PKPdf**	**03 54 52.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=168,slow=1.5,SNR=6.9						
WRA	**Warramunga Arr**	**127.65**	**206**	PKPdf	**PKPdf**	**03 54 52.9**	**-0.2**
ZALV	**Zalesovo Beam**	**147.30**	**31**	PKPbc	**PKPbc**	**03 55 31.2**	**+0.9**
	comp=Z,2.3nm,0.4s,baz=316,slow=3.7,SNR=8.6						
ZALV	**Zalesovo Beam**	**147.30**	**31**	PKPbc	**PKPbc**	**03 55 31.1**	**+0.7**
MKAR	**Makanchi Array**	**150.00**	**44**	PKPbc	**PKPbc**	**03 55 37.7**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=309,slow=2.4,SNR=12						
MKAR	**Makanchi Array**	**150.00**	**44**	PKPbc	**PKPbc**	**03 55 37.9**	**+0.4**

ASRS ***22*** *04:53:21.7±0.3, 50°.N±2°.×9°.2E±°., h10km, MLh3.2/10, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

NNC ***22*** *04:53:22.7±3.8, 50°.20N×91°.64E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=36.7km s-min=23.0km az=40.0*
ISC 22 04:53:25.2±1.4, 50°.06N±0°.04×91°.81E±0°.03, h4km±11km, n23, σ2§08/41, 6C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL	**Teeli**	**1.40**	**314**	Pg	**Pb**	**04 53 54.8**	**+2.8**
TEL				Sg	**Sn**	**04 54 14.7**	**+4.1**
ERNS	**Erzin**	**2.16**	**83**	Pg	**Pb**	**04 54 06.5**	**+1.5**
ERNS				Sg	**Sn**	**04 54 33.5**	**+4.1**
CUR	**Chagan-Uzun**	**2.23**	**272**	Pg	**Pn**	**04 54 03.5**	**+0.4**
CUR				Sg	**Sb**	**04 54 35.8**	**+1.8**
ULGR	**Ulagan, Altay**	**2.53**	**284**	Pg	**Pg**	**04 54 13.3**	**-0.3**
ULGR				Sg	**Sg**	**04 54 46.0**	**-0.3**
ARDR	**Aradan**	**2.72**	**21**	Pn	Pn	04 54 02.4	-7.3
ARDR				Pg	**Pb**	**04 54 14.8**	**+0.3**
ARDR				Sg	**Sg**	**04 54 54.3**	**+1.8**
DJO	**Djoy, Khakassi**	**2.75**	**353**	Sg	**Sb**	**04 54 46.0**	**-3.0**
DJOS	**Djoyskaya Sosn**	**2.75**	**355**	Pg	**Pg**	**04 54 17.6**	**-0.2**
DJOS				Sg	**Sg**	**04 54 55.6**	**+2.3**
CHBI	**Chibit, Altay**	**2.78**	**277**	Pg	**Pb**	**04 54 15.8**	**+0.4**
CHBI				Sg	**Sg**	**04 54 52.7**	**-1.6**
CERR	**Cheremushki**	**2.81**	**355**	Pn	Pn	04 54 05.3	-5.5
CERR				Pg	**Pg**	**04 54 18.3**	**-0.6**
CERR				Sg	**Sg**	**04 54 55.5**	**+0.2**
DGZ	**Jazzator, Alta**	**2.85**	**264**	Pn	Pn	04 54 06.7	-4.9
DGZ				Pg	**Pb**	**04 54 16.5**	**-0.3**
DGZ				Sg	**Sb**	**04 54 53.3**	**+1.3**
TBTR	**Tabat**	**2.95**	**347**	Pn	**Pn**	**04 54 08.8**	**-4.1**
TBTR				Pg	**Pg**	**04 54 21.4**	**-0.2**
TBTR				Sg	**Sg**	**04 55 01.1**	**+1.3**
ARTR	**Artybash**	**3.35**	**303**	Pg	**Pg**	**04 54 31.6**	**+2.3**
ARTR				Sg	**Sg**	**04 55 11.5**	**-1.2**
TDJR	**Todzha**	**3.57**	**47**	Pg	**Pb**	**04 54 30.7**	**+1.7**
TDJR				Sg	**Sg**	**04 55 17.2**	**-2.6**
TASR	**Tashtagol**	**3.65**	**319**	Pg	**Pb**	**04 54 30.7**	**+0.4**
TASR				Sg	**Sg**	**04 55 21.7**	**-0.7**
KNGR	**Kungurtug, Tuv**	**3.70**	**79**	Pg	**Pb**	**04 54 30.5**	**-0.7**
KNGR				Sg	**Sg**	**04 55 24.8**	**+0.8**
GALT	**Gorno-Altaysk,**	**4.16**	**299**	Pg	**Pg**	**04 54 44.8**	**0.0**
GALT				Sg	**Sg**	**04 55 38.6**	**0.0**
SHRR	**Shira**	**4.55**	**348**	Pg	**Pg**	**04 54 50.5**	**-1.8**
SHRR				Sg	**Sg**	**04 55 53.9**	**+2.6**
UKR	**Ust'-Kan**	**4.57**	**284**	Pg	**Pb**	**04 54 49.0**	**+3.0**
UKR				Sg	**Sg**	**04 55 51.5**	**-0.5**
ORY	**Orie**	**5.34**	**21**	Sg	**Sg**	**04 56 17.8**	**+1.2**
MK31	**Makanchi Array**	**7.12**	**246**	⇑Pn	**Pn**	**04 55 09.0**	**-1.2**
	0.5nm,0.5s,baz=62,slow=13,SNR=6.7						
MK31				⇓Lg	Lg	04 57 07.7	
	2.8nm,0.7s,baz=56,slow=30,SNR=4.5						
MAKZ	**Makanchi**	**7.30**	**247**	⇑Pn	Pn	04 55 08.1	-4.5
	1.4nm,0.8s						
MAKZ				⇓Lg	Lg	04 57 10.9	
	2.0nm,0.7s						
KURK	**Kurchatov**	**8.45**	**279**	⇑Pn	Pn	04 55 24.0	-4.4
	1.4nm,0.6s						
KURK			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.98**	**272**	Pn	**Pn**	**05 16 27.8**	**-1.0**
	300nm,0.3s,baz=117,slow=6.0,SNR=52						
GUMO				Sn	**Sn**	**05 16 41.6**	**+0.1**
	558nm,0.3s,baz=53,slow=20,SNR=32						
JCJ	**Chichijima**	**13.90**	**346**	Pn	**Pn**	**05 19 23.4**	**-2.6**
PATS	**Pohnpei**	**13.94**	**117**	Pn	**Pn**	**05 19 23.8**	**-2.7**
JMZ	**Minamidaito 2**	**18.39**	**314**		**P**	**05 20 21.6**	**-1.3**
H11N1	**WAKE ISLAND Hy**	**21.04**	**70**	T	T	05 42 51.6	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**21.05**	**70**	T	T	05 42 49.4	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**21.05**	**70**	T	T	05 42 48.6	
	baz=255						
MJAR	**Matsushiro Arr**	**23.90**	**345**	LR	LR	05 29 25.5	
	comp=Z,40nm,20.9s,baz=10.0,slow=34						
KSRS	**Korea Array**	**28.68**	**329**	P	**P**	**05 22 03.6**	**-0.8**
	0.5nm,0.4s,baz=146,slow=8.8,SNR=2.9						
WB0	**Warramunga Arr**	**34.99**	**199**	P	**P**	**05 22 59.7**	**-0.3**
WB0				IAmb	IAmb	05 23 22.7	
	comp=Z,8.5nm,1.2s						
WB2	**Warramunga Arr**	**35.17**	**199**	P	**P**	**05 23 01.7**	**+0.2**
WB2				IAmb	IAmb	05 23 08.0	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**35.17**	**199**	P	**P**	**05 23 01.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=22,slow=9.5,SNR=15						
WRA	**Warramunga Arr**	**35.17**	**199**	P	**P**	**05 23 01.5**	**0.0**
FITZ	**Fitzroy Crossi**	**37.26**	**213**	P	**P**	**05 23 20.2**	**+0.9**
FITZ				IAmb	IAmb	05 23 33.5	
	comp=Z,4.4nm,1.1s						
ASAR	**Alice Springs**	**38.80**	**198**	P	**P**	**05 23 32.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=20,slow=10,SNR=10						
ASAR	**Alice Springs**	**38.80**	**198**	P	**P**	**05 23 32.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**45.28**	**283**	P	**P**	**05 24 25.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=70,slow=8.0,SNR=4.4						
MK31	**Makanchi Array**	**62.19**	**316**	P	**P**	**05 26 29.3**	**+0.6**
MKAR	**Makanchi Array**	**62.19**	**316**	P	**P**	**05 26 30.0**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=99,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**62.19**	**316**	P	**P**	**05 26 29.7**	**+1.0**
IL31		**68.18**	**25**	P	**P**	**05 27 08.2**	**+1.1**
IL31				IAmb	IAmb	05 27 09.4	
	comp=Z,3.3nm,1.1s						
ILAR	**Eielson Array**	**68.18**	**25**	P	**P**	**05 27 08.0**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=250,slow=5.8,SNR=16						
ILAR	**Eielson Array**	**68.18**	**25**	P	**P**	**05 27 07.3**	**+0.2**
BMAR	**Burnt Mountain**	**69.75**	**23**	P	**P**	**05 27 19.9**	**+3.0**
KKAR	**Karatay Array**	**70.21**	**311**	P	**P**	**05 27 20.3**	**+0.1**
PPT	**Papeete**	**70.80**	**114**	LR	LR	05 53 23.8	
	comp=Z,29nm,20.5s,baz=234,slow=32						
ABKAR	**Akbulak array**	**77.22**	**318**	P	**P**	**05 28 02.2**	**+1.1**
NVAR	**Mina Array Bea**	**86.17**	**52**	P	**P**	**05 28 51.2**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=247,slow=6.9,SNR=3.8						
FINES	**FINESS Array B**	**91.60**	**335**	P	**P**	**05 29 13.2**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=28,slow=8.6,SNR=3.3						
FINES	**FINESS Array B**	**91.60**	**335**	P	**P**	**05 29 14.4**	**+0.7**
DBIC	**Dimbokro**	**144.67**	**303**	PKP	**PKPdf**	**05 35 45.2**	**+0.6**
	comp=Z,5.7nm,0.9s,baz=48,slow=4.4,SNR=4.6						

*IDC **22** 06:21:28.9±29.0, 28.°99S×61.°52E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/52, mbtmp3.8/3, MS3.1/1, Ms1 3.0/1, ms1mx2.6/30, Error ellipse: s-maj=976.4km s-min=46.4km az=54.0*

*NEIC **22** 06:21:29.9±1.3, 29.°16S±0.°08×61.°4E±0.°6, h10km±1km, mb4.2/4, Error ellipse: s-maj=82.8km s-min=12.1km az=266.0*

ISC 22 06:21:29.9±1.3, **29.°2S**±0.°2×**61.°4E**±0.°4, **h11**km, **n16**, σ**0**§**57**/15, **mb4.0**/5, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**31.53**	**262**	LR	LR	06 39 49.2	
	comp=Z,33nm,18.1s,baz=98,slow=35						
QSPA	**South Pole Qui**	**61.00**	**180**	P	**P**	**06 31 43.3**	**+0.1**
ASAR	**Alice Springs**	**64.29**	**104**	P	**P**	**06 32 05.8**	**0.0**
	0.7nm,0.7s,baz=245,slow=6.3,SNR=8.7						
ASAR	**Alice Springs**	**64.29**	**104**	P	**P**	**06 32 05.5**	**-0.2**
WRA	**Warramunga Arr**	**66.11**	**100**	P	**P**	**06 32 17.6**	**+0.1**
	1.1nm,1.0s,baz=247,slow=5.8,SNR=6.0						
KK31	**Karatay Array**	**72.39**	**7**	P	**P**	**06 32 56.4**	**+0.6**
KKAR	**Karatay Array**	**72.39**	**7**	P	**P**	**06 32 56.4**	**+0.6**
KKAR				IAmb	IAmb	06 32 57.1	
	comp=Z,1.7nm,0.9s						
KK01	**Karatay Array**	**72.39**	**7**	P	**P**	**06 32 56.4**	**+0.5**
KK04	**Karatay Array**	**72.40**	**7**	P	**P**	**06 32 56.5**	**+0.6**
KK09	**Karatay Array**	**72.41**	**7**	P	**P**	**06 32 57.0**	**+1.1**
MKAR	**Makanchi Array**	**77.93**	**15**	P	**P**	**06 33 27.4**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=184,slow=4.3,SNR=4.7						
MKAR	**Makanchi Array**	**77.93**	**15**	P	**P**	**06 33 27.2**	**-0.5**
AB07	**Akbulak array**	**78.05**	**359**	P	**P**	**06 33 28.1**	**-0.1**
AB03	**Akbulak array**	**78.06**	**359**	P	**P**	**06 33 28.0**	**-0.3**
ABKAR	**Akbulak array**	**78.06**	**359**	P	**P**	**06 33 28.0**	**-0.3**
ABKAR				IAmb	IAmb	06 33 28.9	
	comp=Z,2.6nm,1.0s						
AB09	**Akbulak array**	**78.07**	**359**	P	**P**	**06 33 27.4**	**-0.9**

*TEH **22** 06:26:05.7, 30.°74N×57.°22E, h10km, ML4.0*

*THR **22** 06:26:05.9±0.6, 30.°78N×57.°19E, h14km±5km, ML3.7*

*IDC **22** 06:26:06.9±1.4, 30.°84N×57.°32E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/51, mbtmp3.9/6, ML3.9/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/31, Error ellipse: s-maj=33.3km s-min=23.5km az=137.0*

*NEIC **22** 06:26:07.5±1.6, 30.°69N±0.°05×57.°10E±0.°09, h20km±2km, mb3.8/7, mb_Lg4.0(TEH), Error ellipse: s-maj=11.8km s-min=5.7km az=116.0*

ISC 22 06:26:06.9±0.7, **30.°74N**±0.°04×**57.°22E**±0.°04, **h10**km, **n67**, σ**1**§**11**/69, **mb3.9**/8, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHGB	**Koh Gabri**	**0.73**	**241**	*e*Pg	**Pg**	**06 26 19.4**	**-1.7**
KHGB				*e*Sg	**Sg**	**06 26 29.3**	**-1.4**
KHGB	**Koh Gabri**	**0.73**	**241**	Pg	**Pg**	**06 26 19.4**	**-1.7**
TVBK	**TV Kerman**	**0.85**	**208**	*e*Pg	**Pg**	**06 26 22.5**	**-0.8**
TVBK				*e*		06 26 44.0	
TVBK	**TV Kerman**	**0.85**	**208**		**Pg**	**06 26 22.4**	**-0.8**
KRBR	**Kerman**	**0.85**	**208**	*e*Pg	**Pg**	**06 26 22.4**	**-0.8**
KRBR				*e*Sg	**Sg**	**06 26 34.9**	**+0.4**
KRBR	**Kerman**	**0.85**	**208**	*e*Pg	**Pg**	**06 26 22.5**	**-0.8**
CHMN	**Cheshme madani**	**0.92**	**162**	*e*Pg	**Pg**	**06 26 22.6**	**-2.0**
NGRK	**Negar Kerman**	**1.17**	**201**	*e*Pg	**Pg**	**06 26 28.2**	**-1.1**
NGRK				*e*		06 26 30.7	
NGRK	**Negar Kerman**	**1.17**	**201**		**Pg**	**06 26 28.3**	**-1.1**
IBAF	**Bafgh**	**1.65**	**301**	*e*Pn	**Pn**	**06 26 36.1**	**0.0**
IBAF				*e*		06 27 02.7	
KBAM	**BAM**	**1.92**	**146**	*e*Pn	**Pn**	**06 26 40.3**	**+0.5**
KBAM				*e*		06 27 11.0	
BSRN	**Basiran**	**2.04**	**53**	*e*Pn	**Pn**	**06 26 41.5**	**+0.1**
BSRN				IAML		06 27 14.2	
	comp=E,512nm,0.7s						
BSRN	**Basiran**	**2.04**	**53**	*e*Pn	**Pn**	**06 26 41.5**	**+0.1**
IKOO	**Kooshah**	**2.27**	**42**	*e*Pn	**Pn**	**06 26 44.6**	**-0.1**
IKOO				*e*		06 27 23.1	
IKOO	**Kooshah**	**2.27**	**42**	Pn	**Pn**	**06 26 44.7**	**0.0**
IMEH	**Mehriz**	**2.33**	**287**	*e*Pn	**Pn**	**06 26 46.2**	**+0.7**
IMEH				*e*		06 27 22.6	
TPRV	**Parvadeh(Tabas**	**2.33**	**349**	*e*Pn	**Pn**	**06 26 45.2**	**-0.1**
TPRV	**Parvadeh(Tabas**	**2.33**	**349**	Pn	**Pn**	**06 26 45.3**	**-0.1**
ITEG	**Tejag**	**2.52**	**31**	*e*Pn	**Pn**	**06 26 47.9**	**-0.2**
ITEG				*e*		06 27 31.1	
YZKH	**Yazd**	**2.78**	**307**	*e*Pn	**Pn**	**06 26 51.9**	**+0.3**
YZKH	**Yazd**	**2.78**	**307**	*e*Pn	**Pn**	**06 26 51.9**	**+0.3**
ICHK	**Chekchek**	**2.83**	**303**	*e*Pn	**Pn**	**06 26 53.9**	**+1.5**
ICHK				*e*		06 27 45.4	
TKDS	**Koohdasht(Taba**	**2.87**	**358**	*e*Pn	**Pn**	**06 26 53.0**	**+0.2**
TKDS				*e*		06 27 50.6	
TKDS	**Koohdasht(Taba**	**2.87**	**358**	Pn	**Pn**	**06 26 52.7**	**-0.1**
TABS	**Tabas**	**2.91**	**358**	*e*Pn	**Pn**	**06 26 53.4**	**+0.1**
TABS				*e*Sg	**Sb**	**06 27 35.2**	**+0.7**
TABS	**Tabas**	**2.91**	**358**	*e*Pn	**Pn**	**06 26 53.4**	**+0.1**
IDAH	**Dahanechah**	**3.01**	**48**	*e*Pn	**Pn**	**06 26 55.6**	**+0.6**
IDAH				*e*		06 27 54.0	
AFRZ	**Afriz**	**3.08**	**29**	*e*Pn	**Pn**	**06 26 55.8**	**0.0**
IMON	**Monand**	**3.21**	**40**	*e*Pn	**Pn**	**06 26 58.3**	**+0.6**
IMON				*e*		06 27 59.1	
ISAD	**Sadrabad**	**3.24**	**292**	*e*Pn	**Pn**	**06 26 58.0**	**-0.1**
ISAD				*e*		06 27 53.6	
TNSJ	**Nastanj**	**3.26**	**351**	*e*Pn	**Pn**	**06 26 58.5**	**+0.3**
ZHSF	**Zahedan**	**3.28**	**109**	*e*Pn	**Pn**	**06 26 59.6**	**+1.1**
ZHSF	**Zahedan**	**3.28**	**109**	*e*Pn	**Pn**	**06 26 59.6**	**+1.1**
BNDS	**Bandar-Abbas**	**3.45**	**196**	*e*Pn	**Pn**	**06 27 02.0**	**+1.1**
BNDS	**Bandar-Abbas**	**3.45**	**196**	*e*Pn	**Pn**	**06 27 02.0**	**+1.1**
ANAR	**Anarak**	**3.84**	**310**	*e*Pn	**Pn**	**06 27 08.4**	**+2.2**
SHRT	**Shahrakht**	**3.90**	**41**	*e*Pn	**Pn**	**06 27 07.9**	**+0.9**
SHRT	**Shahrakht**	**3.90**	**41**	*e*Pn	**Pn**	**06 27 07.9**	**+0.9**
IRAM	**Ramesheh**	**4.28**	**286**	*e*Pn	**Pn**	**06 27 12.9**	**+0.6**
GHIR	**Ghir-Karzin**	**4.42**	**238**	*e*Pn	**Pn**	**06 27 14.7**	**+0.5**
GHIR	**Ghir-Karzin**	**4.42**	**238**	*e*Pn	**Pn**	**06 27 14.7**	**+0.5**
IZEF	**Zefreh**	**4.68**	**299**	*e*Pn	**Pn**	**06 27 18.7**	**+0.8**
KLNJ	**Kolanjah**	**4.84**	**275**	*e*Pn	**Pn**	**06 27 21.1**	**+0.9**
HRA	**Herat**	**5.59**	**48**		**Pn**	**06 27 31.5**	**+1.2**
SBZV	**Sabzevar**	**5.65**	**3**	*e*Pn	**Pn**	**06 27 31.9**	**+0.8**
UOSS	**Minazif**	**5.84**	**189**	Pn	**Pn**	**06 27 31.0**	**-2.6**
ISFR	**Sfrayin**	**6.33**	**6**	*e*Pn	**Pn**	**06 27 42.2**	**+1.6**
GEYT	**Alibeck**	**7.21**	**6**	Pn	**Pn**	**06 27 55.8**	**+3.4**
	comp=E,0.7nm,0.3s,baz=194,slow=16,SNR=3.4						
GEYT	**Alibeck**	**7.21**	**6**		**Pn**	**06 27 53.6**	**+1.1**
WSAR	**Wadi Sarin**	**7.57**	**170**	Pn	**Pn**	**06 27 58.5**	**+1.1**
	comp=E,2.6nm,0.3s,baz=16,slow=9.0,SNR=22						
WSAR				LR	LR	06 31 39.9	
	comp=E,21nm,19.7s,baz=255,slow=44						
KKAR	**Karatay Array**	**16.26**	**37**	Pn	**Pn**	**06 29 55.2**	**-0.2**
KVAR	**Kislovodsk Arr**	**17.50**	**323**	LR	LR	06 39 15.2	
	comp=E,33nm,20.2s,baz=270,slow=45						
AKTO	**Aktyubinsk**	**19.69**	**2**	P	**P**	**06 30 35.3**	**-0.8**
	comp=E,0.2nm,0.3s,baz=204,slow=14,SNR=3.0						
BR131	**Keskin Array S**	**21.20**	**301**	P	**P**	**06 30 54.2**	**+1.4**
BRTR	**Keskin Array B**	**21.20**	**301**	P	**P**	**06 30 54.0**	**+1.2**
	comp=E,1.2nm,0.9s,baz=111,slow=12,SNR=5.4						
BRTR	**Keskin Array B**	**21.20**	**301**	P	**P**	**06 30 51.5**	**-1.3**
BRVK	**Borovoye**	**24.26**	**19**	P	**P**	**06 31 24.3**	**+0.3**
BRVK				IAmb	IAmb	06 31 26.9	
	comp=Z,2.4nm,0.7s						
MAKZ	**Makanchi**	**24.95**	**43**	P	**P**	**06 31 30.8**	**+0.4**
MAKZ				IAmb	IAmb	06 31 34.0	
	comp=Z,2.9nm,0.8s						
MK31	**Makanchi Array**	**25.13**	**43**	P	**P**	**06 31 31.4**	**-0.6**
MK31				IAmb	IAmb	06 31 33.4	
	comp=Z,2.4nm,1.3s						
MKAR	**Makanchi Array**	**25.13**	**43**	P	**P**	**06 31 32.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=228,slow=8.1,SNR=8.3						
MKAR	**Makanchi Array**	**25.13**	**43**	P	**P**	**06 31 30.9**	**-1.1**
KURK	**Kurchatov**	**25.55**	**33**	P	**P**	**06 31 34.8**	**-0.9**
KURK				IAmb	IAmb	06 31 37.3	
	comp=Z,2.0nm,0.8s						
ZAA0	**Zalesovo Array**	**30.55**	**33**	P	**P**	**06 32 20.4**	**+0.1**
ZALV	**Zalesovo Beam**	**30.55**	**33**	P	**P**	**06 32 20.8**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=239,slow=9.4,SNR=16						
ZALV	**Zalesovo Beam**	**30.55**	**33**	P	**P**	**06 32 20.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**53.86**	**264**	P	**P**	**06 35 33.3**	**+2.8**
	comp=Z,0.8nm,0.6s,baz=54,slow=7.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**53.86**	**264**	P	**P**	**06 35 28.7**	**-1.8**

*JMA **22** 06:32:43.6±0.1, 23.°70N×122.°45E, h41km, M2.7*

*TAP **22** 06:32:43.6, 23.°70N×122.°52E, h29km±1km, ML3.0, D*

ISC 22 06:32:41.0±1.1, **23.°66N**±0.°02×**122.°54E**±0.°02, **h16**km±9km, **n79**, σ**0**§**82**/142, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.87**	**25**	P	**Pn**	**06 32 59.9**	**+1.3**
JYNG				*e*S	**Sn**	**06 33 11.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.90**	**28**	P	**Pn**	**06 32 59.8**	**+0.7**
	baz=29						
YOJ				S	**Sn**	**06 33 12.2**	**+0.4**
	baz=29						
YOJ	**Yonaguni jima**	**0.90**	**28**	P	**Pn**	**06 33 00.0**	**+0.9**
YOJ				*e*S	**Sn**	**06 33 12.2**	**+0.4**
NACB	**Ninganchiao**	**1.00**	**301**	P	**Pb**	**06 33 00.2**	**+0.2**
	baz=288						
NACB				*e*S	**Sb**	**06 33 12.2**	**-0.9**
	baz=288						
EGFH	**Guangfu**	**1.02**	**271**	*i* P	**Pb**	**06 33 01.0**	**+0.7**
	baz=269						
EGFH				*e*S	**Sb**	**06 33 13.0**	**-0.5**
	baz=269						
ESL	**Shilin**	**1.03**	**279**	*i* P	**Pb**	**06 33 00.2**	**-0.2**
	baz=277						
ESL				*e*S	**Sb**	**06 33 13.7**	**0.0**
	baz=277						
HGSD	**Ruisui**	**1.04**	**261**	P	**Pb**	**06 33 01.0**	**+0.4**
	baz=259						
HGSD				*e*S	**Sb**	**06 33 13.9**	**-0.1**
	baz=259						
ENA	**Nanau**	**1.06**	**316**	*i* P	**Pg**	**06 33 01.9**	**+0.5**
	baz=316						
ENA				*i* S	**Sn**	**06 33 16.0**	**+0.4**
	baz=316						
ETLH	**Xiulin Townshi**	**1.11**	**299**	P	**Pb**	**06 33 01.8**	**-0.2**
	baz=298						
ETLH				S	**Sb**	**06 33 15.7**	**-0.5**
	baz=298						
EHY	**Hungye**	**1.13**	**262**	*i* P	**Pn**	**06 33 02.7**	**+0.5**
	baz=260						
EHY				S	**Sb**	**06 33 16.6**	**-0.1**
	baz=260						
TWC	**Suao**	**1.14**	**326**	*i* P	**Pg**	**06 33 02.6**	**-0.3**
	baz=326						
TWC				S	**Sb**	**06 33 16.5**	**-0.3**
	baz=326						
YULB	**Yu-li**	**1.17**	**257**	P	**Pn**	**06 33 03.1**	**+0.3**
	baz=255						
YULB				S	**Sb**	**06 33 18.0**	**+0.1**
	baz=255						
TWF1	**Yuli**	**1.18**	**255**	*i* P	**Pn**	**06 33 03.4**	**+0.4**
	baz=253						
TWF1				S	**Sb**	**06 33 17.6**	**-0.6**
	baz=253						
HATJ	**Hateruma jima**	**1.22**	**71**	*e*S	**Sg**	**06 33 21.3**	**+0.7**
FULB	**Fuli**	**1.23**	**248**	*i* P	**Pn**	**06 33 03.9**	**+0.2**
	baz=235						
FULB				S	**Sb**	**06 33 18.9**	**-0.8**
	baz=235						
WHF	**Hehuan Shan**	**1.26**	**293**	*i* P	**Pn**	**06 33 04.6**	**+0.2**
	baz=280						
WHF				*i* S	**Sb**	**06 33 20.1**	**-0.8**
	baz=280						
IRIF	**Iriomote-Funau**	**1.28**	**58**	P	**Pg**	**06 33 06.6**	**+1.0**
IRIF				*e*S	**Sg**	**06 33 23.2**	**+0.9**
VWDT	**VWDT**	**1.29**	**274**	P	**Pn**	**06 33 05.1**	**+0.8**
	baz=273						
VWDT				*e*S	**Sb**	**06 33 19.9**	**-1.2**
	baz=273						
NNSB	**Datong**	**1.30**	**306**	P	**Pb**	**06 33 05.4**	**+0.1**
	baz=305						
NNSB				S	**Sb**	**06 33 21.3**	**-0.5**
	baz=305						
NNSH	**Datong**	**1.30**	**306**	*i* P	**Pb**	**06 33 05.4**	**+0.1**
	baz=305						
NNSH				*i* S	**Sb**	**06 33 21.0**	**-0.9**
	baz=305						
CHGB	**Renai**	**1.31**	**288**	P	**Pn**	**06 33 05.3**	**+0.3**
	baz=287						
CHGB				*e*S	**Sb**	**06 33 20.4**	**-1.7**
	baz=287						
NNS	**Nan Shan**	**1.32**	**306**	*i* P	**Pb**	**06 33 05.6**	**+0.1**
	baz=305						
NNS				*i* S	**Sb**	**06 33 21.6**	**-0.6**
	baz=305						
ENTT	**Nioudou**	**1.32**	**318**	*i* P	**Pg**	**06 33 06.5**	**+0.1**
	baz=317						
ENTT				*e*S	**Sn**	**06 33 22.1**	**0.0**
	baz=317						
TWE	**Neicheng**	**1.32**	**323**	P	**Pg**	**06 33 06.2**	**-0.3**
	baz=323						
NDT	**Datong Townshi**	**1.32**	**315**	*i* P	**Pg**	**06 33 06.8**	**+0.2**
	baz=314						
NDT				S	**Sn**	**06 33 22.7**	**+0.4**
	baz=314						
EDH	**Donghe**	**1.33**	**239**	P	**Pn**	**06 33 04.8**	**-0.2**
	baz=238						
EDH				S	**Sn**	**06 33 20.5**	**-1.8**
	baz=238						
NTC	**Toucheng**	**1.35**	**331**	*e*P	**Pg**	**06 33 06.9**	**-0.2**
	baz=331						
NTC				S	**Sg**	**06 33 23.4**	**-1.3**
	baz=331						
LDUT	**Ludao**	**1.39**	**225**	P	**Pn**	**06 33 05.9**	**+0.1**
	baz=224						
LDUT				S	**Sn**	**06 33 21.8**	**-2.1**
	baz=224						
TDCB	**Techi**	**1.39**	**295**	P	**Pb**	**06 33 06.8**	**0.0**
	baz=294						
TDCB				S	**Sn**	**06 33 24.4**	**+0.2**
	baz=294						
TWB1	**Santiao Chiao**	**1.43**	**340**	*e*P	**Pb**	**06 33 07.2**	**-0.1**
	baz=339						
TIPB	**Shuangxi**	**1.46**	**334**	P	**Pg**	**06 33 08.8**	**-0.3**
	baz=333						
TIPB				S	**Sb**	**06 33 25.2**	**-1.0**
	baz=333						
NWLT	**Wulai**	**1.46**	**320**	*i* P	**Pg**	**06 33 08.4**	**-0.7**
	baz=319						
NWLT				S	**Sb**	**06 33 26.0**	**-0.2**
	baz=319						
SSLB	**Suanglung**	**1.46**	**275**	*i* P	**Pn**	**06 33 06.5**	**-0.2**
	baz=274						
SSLB				*e*S	**Sn**	**06 33 24.9**	**-0.7**
	baz=274						
JKRS	**Kuro-shima**	**1.46**	**67**	*e*S	**Sg**	**06 33 27.3**	**-0.9**
YHNB	**Yeheng**	**1.46**	**314**	P	**Pb**	**06 33 07.9**	**0.0**
	baz=313						
YHNB				S	**Sn**	**06 33 25.7**	**0.0**
	baz=313						
ELDTW	**Lidau**	**1.48**	**252**	*i* P	**Pn**	**06 33 07.3**	**+0.3**
	baz=250						
ELDTW				S	**Sn**	**06 33 25.2**	**-0.9**
	baz=250						
NSK	**Sanguang**	**1.48**	**313**	*i* P	**Pb**	**06 33 08.4**	**+0.2**
	baz=313						
NSK				*i* S	**Sn**	**06 33 26.1**	**0.0**
	baz=313						
WHYT	**Xinyi Township**	**1.55**	**272**	*e*P	**Pb**	**06 33 09.6**	**+0.3**
	baz=270						
WHYT				*e*S	**Sn**	**06 33 28.1**	**+0.3**
	baz=270						
TYC	**Yuchr**	**1.56**	**279**	*i* P	**Pn**	**06 33 09.2**	**+1.1**
	baz=278						
TYC				*e*S	**Sn**	**06 33 27.3**	**-0.7**
	baz=278						
NWF	**Wu-fen Shan**	**1.56**	**334**	*e*P	**Pg**	**06 33 10.0**	**-1.1**
	baz=333						
NWF				*e*S	**Sb**	**06 33 28.9**	**-0.3**
	baz=333						
WFSB	**Wu-fen Shan**	**1.56**	**334**	*e*P	**Pb**	**06 33 09.8**	**+0.2**
	baz=333						
WFSB				*e*S	**Sb**	**06 33 28.2**	**-1.0**
	baz=333						
TWA	**Mucha**	**1.58**	**327**	*e*P	**Pg**	**06 33 10.8**	**-0.5**
	baz=326						
TWA				*e*S	**Sb**	**06 33 29.9**	**+0.3**
	baz=326						
WHP	**Taichung City**	**1.58**	**293**	*i* P	**Pb**	**06 33 10.6**	**+0.6**
	baz=292						
WHP				*e*S	**Sn**	**06 33 29.1**	**+0.4**
	baz=292						
TWGBT	**Beinan**	**1.58**	**238**	P	**Pn**	**06 33 09.1**	**+0.7**
	baz=228						
TWGBT				*e*S	**Sn**	**06 33 28.1**	**-0.6**
	baz=228						
TWG	**Pinlang**	**1.59**	**238**	*i* P	**Pn**	**06 33 08.8**	**+0.3**
	baz=228						
TWG				S	**Sn**	**06 33 28.0**	**-0.8**
	baz=228						
ALS	**Alishan**	**1.60**	**265**	*i* P	**Pb**	**06 33 10.5**	**+0.2**
	baz=264						
ALS				*e*S	**Sn**	**06 33 29.0**	**-0.4**
	baz=264						
TATO	**Taipei**	**1.62**	**324**	*e*S	**Sb**	**06 33 31.1**	**+0.3**
	baz=323						
JIJ	**Ishigaki jima**	**1.62**	**64**	P	**Pg**	**06 33 11.3**	**-0.9**
WJS	**Zhushan**	**1.67**	**276**	*e*S	**Sb**	**06 33 32.6**	**+0.4**
	baz=275						
LIOB	**Emei**	**1.70**	**305**	*i* P	**Pb**	**06 33 12.0**	**0.0**
	baz=294						
LIOB				*e*S	**Sb**	**06 33 32.7**	**-0.5**
	baz=294						
NSTT	**Nanjuang**	**1.71**	**305**	*i* P	**Pb**	**06 33 12.9**	**+0.9**
	baz=304						
NSTT				*i* S	**Sb**	**06 33 33.0**	**-0.3**
	baz=304						
CHN5	**Tsauling**	**1.71**	**268**	*i* P	**Pb**	**06 33 12.6**	**+0.5**
	baz=267						
CHN5				*e*S	**Sn**	**06 33 32.4**	**+0.5**
	baz=267						
STYT	**Tauyuan**	**1.71**	**253**	*e*P	**Pn**	**06 33 11.7**	**+1.4**
	baz=244						
STYT				*e*S	**Sn**	**06 33 32.2**	**+0.4**
	baz=244						
WNT	**Mingjian**	**1.71**	**278**	*e*P	**Pb**	**06 33 13.3**	**+1.2**
	baz=276						
WNT				*e*S	**Sb**	**06 33 33.9**	**+0.4**
	baz=276						
YM01	**YM01**	**1.72**	**329**	P	**Pb**	**06 33 12.0**	**-0.3**
	baz=345						
YM01				*e*S	**Sb**	**06 33 32.6**	**-1.2**
	baz=345						
YM10	**YM10**	**1.73**	**329**	P	**Pb**	**06 33 12.5**	**-0.1**
	baz=344						
YM10				*e*S	**Sb**	**06 33 33.7**	**-0.5**
	baz=344						
YM11	**YM11**	**1.74**	**330**	*e*P	**Pb**	**06 33 12.7**	**+0.1**
	baz=344						
YM11				*e*S	**Sb**	**06 33 33.0**	**-1.2**
	baz=344						
YM08	**YM08**	**1.75**	**330**	*e*S	**Sn**	**06 33 32.

MATB Ma-tsu 3.42 317 *e*S Sn 06 34 12.7 -1.2
baz=315

IDC ***22*** *07:13:37.7±0.5,31°.43N×141°.83E,h0km,mb4.5/25, mb1 4.6/31,mb1mx4.5/52,mbtmp4.5/31,ML3.5/5,MS3.5/16, Ms1 3.5/16,ms1mx3.3/42,Error ellipse: s-maj=14.5km s-min=12.9km az=75.0*
BJI ***22*** *07:13:38.3±0.0,31°.48N×141°.73E,h10km,mB4.8/35, mb4.6/43,Ms4.4/29,Ms7 4.1/28*
MOS ***22*** *07:13:38.9±1.1,31°.45N×141°.82E,h22km,mb5.0/29, MS4.2/4,Error ellipse: s-maj=10.7km s-min=5.2km az=111.0*
NIED ***22*** *07:13:38.4,31°.51N×142°.03E,h24km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.17; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-4.13; $M_{r\theta}$0.83; $M_{\theta\phi}$0.06; $M_{\phi r}$1.86; Fault plane solution: $M_0$4.62000×10^{15} NP1:ϕ_s9.00000°, δ58.00000°,λ101.00000°. NP2:ϕ_s169.00000°,δ34.00000°, λ73.00000°.*
JMA ***22*** *07:13:38.4±0.2,31°.51N×142°.03E,h24km,M4.5*
NEIC ***22*** *07:13:39.1±1.7,31°.46N±0°.06×141°.83E±0°.09,h10km±1km, mb4.7/90,Error ellipse: s-maj=13.2km s-min=9.1km az=66.0*
ISC 22 07:13:41.4±0.4,31°.45N±0°.04×141°.84E±0°.06,h29km,n250, σ1§49/249,mb4.7/85,MS3.7/19,5C-3D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.03**	**300**	P	**Pn**	**07 14 14.0**	**+0.3**
JHJ2	**Mitsune**	**2.38**	**315**	P	**Pn**	**07 14 18.4**	**-0.1**
JHJ2				*e*S	**Sb**	**07 14 48.0**	**-4.5**
JHJ2	**Mitsune**	**2.38**	**315**	Pn	**Pn**	**07 14 17.8**	**-0.7**
JHJ	**Hachijo jima 2**	**2.41**	**314**	Pn	**Pn**	**07 14 17.8**	**-1.0**
	49nm,0.3s,baz=72,slow=21,SNR=16						
JHJ				Sn	**Sn**	**07 14 46.6**	**-0.7**
	113nm,0.3s,baz=62,slow=21,SNR=7.2						
JMKN	**Mikurajimanish**	**3.09**	**323**	*e*S	**Sn**	**07 15 04.7**	**+0.6**
BSO1	**Boso 1**	**3.28**	**348**	P	**Pn**	**07 14 30.0**	**-0.3**
BSO1				*e*S	**Sn**	**07 15 08.0**	**0.0**
BSO3	**Boso 3**	**3.52**	**342**	P	**Pn**	**07 14 33.3**	**-0.6**
CBIJ	**Chichi jima**	**4.35**	**176**	P	**Pn**	**07 14 45.7**	**+0.2**
JCJ	**Chichijima**	**4.35**	**176**	Pn	**Pn**	**07 14 45.6**	**+0.1**
	75nm,0.3s,baz=300,slow=20,SNR=29						
JCJ				Sn	**Sn**	**07 15 33.5**	**-1.7**
	33nm,0.3s,baz=307,slow=20,SNR=2.1						
JCJ				LR	LR	07 16 29.9	
	comp=Z,631nm,18.6s,baz=100,slow=40						
JCJ	**Chichijima**	**4.35**	**176**	Pn	**Pn**	**07 14 44.8**	**-0.7**
JOD2	**Odawara 2**	**4.45**	**330**	P	**Pn**	**07 14 46.9**	**0.0**
JOD2				*e*S	**Sn**	**07 15 38.2**	**+0.6**
JYT	**Yasato**	**4.96**	**344**	Pn	**Pn**	**07 14 52.9**	**-1.0**
JRY	**Ryogami san**	**5.17**	**333**	P	**Pn**	**07 14 58.5**	**+1.7**
JRY				S	**Sn**	**07 15 57.2**	**+1.7**
JIE	**Ise**	**5.22**	**306**	P	**Pn**	**07 14 58.9**	**+1.5**
JGF	**Kuroka**	**5.58**	**319**		**Pn**	**07 15 03.9**	**+1.4**
INU	**Inuyama**	**5.60**	**315**		**Pn**	**07 15 04.1**	**+1.4**
MJAR	**Matsushiro Arr**	**5.91**	**330**	Pn	**Pn**	**07 15 08.1**	**+1.2**
	1.1nm,0.3s,baz=148,slow=11,SNR=75						
MJAR				LR	LR	07 17 21.5	
	comp=Z,347nm,18.8s,baz=150,slow=38						
MJAR	**Matsushiro Arr**	**5.91**	**330**	Pn	**Pn**	**07 15 07.3**	**+0.4**
MAJO	**Matsushiro**	**5.91**	**330**	*i* P	**Pn**	**07 15 08.0**	**+1.1**
MAJO	**Matsushiro**	**5.91**	**330**	Pn	**Pn**	**07 15 07.7**	**+0.7**
MAT	**Matsushiro**	**5.91**	**330**	P	**Pn**	**07 15 08.3**	**+1.4**
MAT				*e*S	**Sn**	**07 16 12.4**	**-1.3**
JMM	**Marumori**	**6.46**	**353**		**Pn**	**07 15 13.3**	**-1.2**
JWT	**Wachi**	**6.60**	**307**	Pn	Pn	07 15 20.1	+3.7
JMN	**Monobe**	**7.09**	**291**	Pn	**Pn**	**07 15 23.3**	**+0.1**
JSD	**Sado**	**7.20**	**337**	Pn	**Pn**	**07 15 24.4**	**-0.3**
JMK	**Ichinoseki**	**7.50**	**356**	P	**Pn**	**07 15 28.0**	**-0.8**
JMK				*e*S	**Sn**	**07 16 45.8**	**-7.1**
JTM	**Tenmabayashi**	**9.34**	**356**	Pn	**Pn**	**07 15 52.5**	**-1.5**
JNU	**Nakatsue**	**9.43**	**283**	Pn	**Pn**	**07 15 55.8**	**+0.6**
	0.3nm,0.3s,baz=66,slow=20,SNR=1.9						
JNU				LR	LR	07 19 33.2	
	comp=Z,472nm,18.4s,baz=74,slow=38						
JNU	**Nakatsue**	**9.43**	**283**	Pn	**Pn**	**07 15 56.8**	**+1.6**
ERM	**Erimo**	**10.60**	**5**	*i* P	**Pn**	**07 16 10.5**	**-0.7**
ERM	**Erimo**	**10.60**	**5**	Pn	**Pn**	**07 16 07.2**	**-4.1**
ASAJ	**Asahikawa**	**12.66**	**3**	Pn	**Pn**	**07 16 38.1**	**-1.4**
	1.5nm,0.3s,baz=269,slow=9.5,SNR=3.6						
KSRS	**Korea Array**	**12.95**	**301**	Pn	P	07 16 47.9	-5.7
	0.3nm,0.3s,baz=113,slow=13,SNR=9.8						
KSRS				LR	LR	07 21 06.1	
	comp=Z,122nm,21.3s,baz=118,slow=35						
USRK	**Ussuriysk Ar.**	**14.90**	**331**	Pn	**Pn**	**07 17 09.7**	**-0.2**
	baz=143,slow=13,SNR=7.8						
USRK	**Ussuriysk Ar.**	**14.90**	**331**	P	**Pn**	**07 17 10.0**	**0.0**
USRK	**Ussuriysk Ar.**	**14.90**	**331**	Pn	**Pn**	**07 17 10.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**15.50**	**2⇑**	*e*P	**Pn**	**07 17 15.9**	**-1.9**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				MLR	MLR		
	comp=N,100nm,13.0s						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
YSS				MLR	MLR		
	comp=E,200nm,16.0s						
YSS	**Yuzh-Sakhalins**	**15.50**	**2**	Pn	**Pn**	**07 17 13.4**	**-4.4**
YSS				IAmb	IAmb	07 17 17.1	
	comp=Z,20nm,0.6s						
MDJ	**Mudanjiang**	**16.28**	**327**	Pn	**Pn**	**07 17 27.3**	**-0.5**
UGL	**Uglegorsk**	**17.61**	**1**	*e*P	**P**	**07 17 49.1**	**+3.8**
UGL				pmax	pmax		
	comp=Z,32nm,0.5s						
UGL				pmax	pmax		
	comp=Z,41nm,1.1s						
UGL				MLR	MLR		
	comp=Z,1μm,16.0s						
UGL				MLR	MLR		
	comp=E,1μm,17.0s						
GUMO	**Guam**	**17.99**	**170**	P	**P**	**07 17 52.0**	**+2.3**
	comp=E,5.5nm,0.3s,baz=357,slow=19,SNR=4.2						
GUMO	**Guam**	**17.99**	**170**	P	**Pn**	**07 17 44.1**	**-5.3**
GUMO				pmax	pmax		
	comp=Z,352nm,1.5s						
GUMO	**Guam**	**17.99**	**170**	Pn	**Pn**	**07 17 44.1**	**-5.3**
NACB	**Ninganchiao**	**19.30**	**253**	P	**Pn**	**07 18 05.0**	**-0.2**
NACB				IAmb	IAmb	07 18 05.5	
	comp=Z,35nm,0.8s						
TYV	**Tymovskoe**	**19.41**	**2**	*e*P	**Pn**	**07 18 08.6**	**+2.3**
TYV				pmax	pmax		
	comp=Z,14nm,0.8s						
NJ2	**Nanjing**	**19.55**	**278**	*e*P	**Pn**	**07 18 06.8**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GRNR	**Gornyy**	**19.72**	**350**	*e*P	**P**	**07 18 07.6**	**-0.8**
YULB	**Yu-li**	**19.90**	**251**	P	**Pn**	**07 18 11.2**	**-1.2**
YULB				IAmb	IAmb	07 18 23.5	
	comp=Z,40nm,1.0s						
SSLB	**Suanglung**	**20.00**	**253**	P	**Pn**	**07 18 12.2**	**-1.3**
SSLB				IAmb	IAmb	07 18 24.8	
	comp=Z,57nm,1.1s						
BJI	**Beijing**	**22.46**	**300**	P	**P**	**07 18 37.3**	**-0.8**
BJI				pmax	pmax		
	comp=Z,11nm,1.0s						
BJI				LR	LR		
	comp=Z,200nm,13.0s						
BJI				LR	LR		
	comp=Z,240nm,16.1s						
BJI				LR	LR		
	comp=Z,220nm,15.7s						
BJT	**Baijiatuau**	**22.46**	**299**	P	**P**	**07 18 37.9**	**-0.2**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BJT	**Baijiatuau**	**22.46**	**299**	P	**P**	**07 18 37.9**	**-0.2**
HIA	**Hailar**	**24.35**	**323**	P	**P**	**07 18 57.0**	**+0.3**
HIA				pmax	pmax		
	comp=Z,15nm,0.6s						
HIA	**Hailar**	**24.35**	**323**	P	**P**	**07 18 57.0**	**+0.3**
HIA				IAmb	IAmb	07 18 58.9	
	comp=Z,15nm,0.6s						
PETK	**Petropavlovsk-**	**24.52**	**23**	LR	LR	07 31 38.0	
	comp=Z,46nm,18.6s,baz=247,slow=44						
ZEA	**Zeya**	**24.63**	**339**	*e*P	**P**	**07 19 00.5**	**+1.3**
ZEA				pmax	pmax		
	comp=E,24nm,0.4s						
ZEA				pmax	pmax		
	comp=N,41nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,44nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**25.37**	**111**	T	T	07 45 58.3	
	baz=302,slow=73,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**25.38**	**111**	T	T	07 45 59.8	
	baz=302,slow=73,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**25.39**	**111**	T	T	07 45 57.4	
	baz=302,slow=73,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**25.89**	**114**	T	T	07 46 41.1	
	baz=304,slow=73,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**25.89**	**114**	T	T	07 46 45.3	
	baz=304,slow=73,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**25.90**	**114**	T	T	07 46 49.8	
	baz=304,slow=73,SNR=5.6						
HHC	**Hu-ho-hao-te**	**26.08**	**300**	*e*P	**P**	**07 19 13.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,6.6s						
HHC				LR	LR		
	comp=Z,150nm,11.4s						
HHC				LR	LR		
	comp=Z,490nm,12.0s						
HHC				LR	LR		
	comp=Z,570nm,14.2s						
XAN	**Xi'an**	**27.74**	**284**	P	**P**	**07 19 26.5**	**-1.0**
XAN				pP	pwP	07 19 37.8	-4.3
XAN				pmax	pmax		
	comp=Z,19nm,0.9s						
XAN	**Xi'an**	**27.74**	**284**	P	**P**	**07 19 26.0**	**-1.5**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN	**Xi'an**	**27.74**	**284**	P	**P**	**07 19 26.0**	**-1.5**
XAN				IAmb	IAmb	07 19 27.1	
	comp=Z,11nm,0.7s						
MA2	**Magadan**	**28.77**	**9**	LR	LR	07 32 16.9	
	comp=Z,51nm,19.3s,baz=162,slow=39						
ULN	**Ulaanbaatar**	**31.07**	**312**	*ce*P	**P**	**07 19 58.8**	**+1.8**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s						
ULN	**Ulaanbaatar**	**31.07**	**312**	P	**P**	**07 19 58.8**	**+1.8**
ULN				IAmb	IAmb	07 19 59.5	
	comp=Z,9.5nm,0.9s						
SONM	**Songino Array**	**31.48**	**312**	P	**P**	**07 20 01.8**	**+1.2**
	comp=Z,8.4nm,0.8s,baz=118,slow=8.8,SNR=35						
SONM				LR	LR	07 31 53.2	
	comp=Z,90nm,18.7s,baz=107,slow=35						
SONM	**Songino Array**	**31.48**	**312**	P	**P**	**07 20 01.2**	**+0.6**
YAK	**Yakutsk**	**31.60**	**349**	*i* P	**P**	**07 20 02.5**	**+1.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LZH	**Lanzhou**	**31.78**	**289**	*e*P	**P**	**07 19 59.6**	**-3.8**
LZH				pP	pP	07 20 03.5	-6.6
LZH				sP	sP	07 20 06.3	-6.7
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
SEY	**Seymchan**	**32.22**	**9**	P	**P**	**07 20 08.2**	**+1.5**
	comp=Z,4.3nm,0.6s,baz=202,slow=6.6,SNR=13						
SEY	**Seymchan**	**32.22**	**9**	*i* P	**P**	**07 20 07.2**	**+0.5**
BOD	**Bodaibo**	**32.54**	**332**	*e*P	**P**	**07 20 09.8**	**+0.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s						
ZAK	**Zakamensk**	**34.24**	**315**	*e*P	**P**	**07 20 25.5**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TLY	**Talaya**	**34.46**	**317**	P	**P**	**07 20 27.1**	**+0.6**
	comp=Z,7.3nm,0.7s,baz=214,slow=4.6,SNR=3.7						
TLY				LR	LR	07 33 56.9	
	comp=Z,53nm,18.8s,baz=122,slow=35						
TLY	**Talaya**	**34.46**	**317**	*e*P	**P**	**07 20 28.8**	**+2.3**
TLY				*e*PPP	PPP	07 22 07.8	
TLY				pmax	pmax		
	comp=Z,24nm,0.9s						
TLY				MLR	MLR		
	comp=Z,590nm,15.0s						
TLY	**Talaya**	**34.46**	**317**	P	**P**	**07 20 28.4**	**+1.9**
TLY				IAmb	IAmb	07 20 29.4	
	comp=Z,7.9nm,0.7s						
GTA	**Gaotai**	**34.90**	**295**	P	**P**	**07 20 30.1**	**-0.4**
GTA				pP	pP	07 20 35.8	-1.4
GTA				sP	sP	07 20 38.5	-1.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,4.9s						
GTA				LR	LR		
	comp=Z,180nm,15.6s						
GTA				LR	LR		
	comp=Z,270nm,15.3s						
GTA				LR	LR		
	comp=Z,270nm,16.4s						
CHTO	**Chiang Mai**	**40.58**	**262**	P	**P**	**07 21 16.9**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	**Chiang Mai**	**40.58**	**262**	P	**P**	**07 21 16.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**40.74**	**262**	P	**P**	**07 21 19.3**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=49,slow=7.8,SNR=13						
CMAR				LR	LR	07 39 30.6	
	comp=Z,83nm,18.3s,baz=152,slow=38						
CMAR	**Chiang Mai Arr**	**40.74**	**262**	P	**P**	**07 21 18.8**	**-1.1**
TIXI	**Tiksi**	**40.87**	**354**	*i* P	**P**	**07 21 20.8**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,12nm,0.8s						
NIKH	**Nikolski High**	**41.37**	**44**	P	**P**	**07 21 25.1**	**+0.4**
WMQ	**Urumqi**	**43.90**	**302**	*e*P	**P**	**07 21 47.0**	**+1.6**
WMQ				pP	pP	07 21 50.3	-1.9
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,87nm,4.5s						
WMQ				LR	LR		
	comp=Z,180nm,21.7s						
DGZ	**Jazzator, Alta**	**44.12**	**311**	*i* P	**P**	**07 21 48.4**	**+1.2**
DGZ				pmax	pmax		
	comp=Z,22nm,0.9s						
COEN	**Coen**	**45.16**	**178**	P	**P**	**07 21 56.0**	**+0.4**
COEN				IAmb	IAmb	07 21 58.5	
	comp=Z,14nm,0.8s						
MTN	**Manton Dam**	**45.22**	**195**	P	**P**	**07 21 55.5**	**-0.5**
MTN				IAmb	IAmb	07 21 56.3	
	comp=Z,7.8nm,0.8s						
ZAA0	**Zalesovo Array**	**46.07**	**316**	P	**P**	**07 22 02.8**	**+0.4**
ZAA0				IAmb	IAmb	07 22 03.9	
	comp=Z,6.1nm,0.8s						
ZALV	**Zalesovo Beam**	**46.07**	**316**	P	**P**	**07 22 02.6**	**+0.2**
	comp=Z,5.0nm,0.5s,baz=103,slow=8.1,SNR=17						
ZALV				LR	LR	07 41 10.3	
	comp=Z,40nm,18.3s,baz=94,slow=36						
ZALV	**Zalesovo Beam**	**46.07**	**316**	P	**P**	**07 22 02.3**	**-0.1**
MK31	**Makanchi Array**	**47.56**	**307**	*i* P	**P**	**07 22 14.6**	**+0.4**
MK31	**Makanchi Array**	**47.56**	**307**	P	**P**	**07 22 14.4**	**+0.2**
MK31				IAmb	IAmb	07 22 17.6	
	comp=Z,5.4nm,0.9s						
MKAR	**Makanchi Array**	**47.56**	**307**	P	**P**	**07 22 14.8**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=88,slow=9.6,SNR=41						
MKAR				LR	LR	07 44 04.3	
	comp=Z,56nm,18.5s,baz=78,slow=38						
MKAR	**Makanchi Array**	**47.56**	**307**	P	**P**	**07 22 15.2**	**+1.0**
MKAR	**Makanchi Array**	**47.56**	**307**	P	**P**	**07 22 15.2**	**+1.0**
MAKZ	**Makanchi**	**47.77**	**307**	P	**P**	**07 22 16.3**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**47.77**	**307**	P	**P**	**07 22 16.3**	**+0.4**
MAKZ				IAmb	IAmb	07 22 19.0	
	comp=Z,5.3nm,0.9s						
RAMN	**Ramite**	**48.01**	**279**	*e*P	**P**	**07 22 17.7**	**-0.5**
JIRN	**Jiri**	**48.12**	**280**	*e*P	**P**	**07 22 19.3**	**0.0**
	comp=Z,49nm,0.6s						
GUN	**Gumba**	**48.30**	**281**	*e*P	**P**	**07 22 20.5**	**-0.2**
	comp=Z,46nm,0.9s						
KNRA	**Kununurra**	**48.51**	**197**	P	**P**	**07 22 22.0**	**+0.3**
NRIK	**Noril'sk**	**48.51**	**337**	P	**P**	**07 22 20.6**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=114,slow=7.0,SNR=5.8						
NRIK				LR	LR	07 44 02.9	
	comp=Z,65nm,18.4s,baz=75,slow=38						
PKI	**Pulchoki**	**48.81**	**281**	*e*P	**P**	**07 22 23.9**	**-0.6**
	comp=Z,17nm,0.8s						
KKN	**Kakani**	**48.84**	**281**	*e*P	**P**	**07 22 24.8**	**+0.1**
	comp=Z,25nm,0.7s						
DMN	**Daman**	**49.05**	**281**	*e*P	**P**	**07 22 26.1**	**-0.2**
	comp=Z,16nm,0.8s						
GKN	**Gorkha**	**49.32**	**281**	*e*P	**P**	**07 22 28.3**	**+0.1**
	comp=Z,21nm,0.7s						
KURK	**Kurchatov**	**49.79**	**312**	*ce*P	**P**	**07 22 31.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,26nm,1.0s						
KURK	**Kurchatov**	**49.79**	**312**	P	**P**	**07 22 31.7**	**+0.5**
KURBB	**Kurchatov Arra**	**49.85**	**312**	P	**P**	**07 22 31.9**	**+0.2**
	comp=Z,10nm,0.8s,baz=87,slow=7.3,SNR=89						
DANN	**Dangsing**	**49.94**	**282**	*e*P	**P**	**07 22 33.6**	**+0.5**
	comp=Z,23nm,0.6s						
KOLN	**Koldanda**	**50.26**	**282**	*e*P	**P**	**07 22 34.9**	**-0.5**
PYUN	**Piuthan**	**50.66**	**282**	*e*P	**P**	**07 22 39.2**	**+0.7**
	comp=Z,34nm,0.4s						
OHAK	**Old Harbor**	**50.73**	**40**	P	**P**	**07 22 36.7**	**-1.5**
OHAK				IAmb	IAmb	07 22 41.4	
	comp=Z,16nm,1.1s						
KDAK	**Kodiak Island**	**51.12**	**39**	P	**P**	**07 22 40.5**	**-0.7**
	comp=Z,14nm,0.8s,baz=313,slow=7.1,SNR=9.4						
KDAK	**Kodiak Island**	**51.12**	**39**	P	**P**	**07 22 41.9**	**+0.7**
KDAK				pmax	pmax		
	comp=Z,17nm,0.9s						
KDAK	**Kodiak Island**	**51.12**	**39**	P	**P**	**07 22 41.9**	**+0.7**
IMAR	**Indian Mountai**	**51.34**	**28**	P	**P**	**07 22 43.9**	**+1.2**
WB0	**Warramunga Arr**	**51.42**	**189**	P	**P**	**07 22 43.4**	**-0.5**
WB0				IAmb	IAmb	07 22 44.7	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**51.59**	**189**	*ce*P	**P**	**07 22 45.8**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**51.59**	**189**	P	**P**	**07 22 45.2**	**+0.1**
WRAB				IAmb	IAmb	07 22 46.0	
	comp=Z,14nm,0.9s						
WR0	**Warramunga Arr**	**51.59**	**189**	P	**P**	**07 22 45.4**	**+0.3**
WR0				IAmb	IAmb	07 22 46.0	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**51.60**	**189**	P	**P**	**07 22 45.5**	**+0.4**
WRA	**Warramunga Arr**	**51.60**	**189**	P	**P**	**07 22 45.1**	**-0.1**
	comp=Z,11nm,0.8s,baz=5.8,slow=7.7,SNR=99						
WRA	**Warramunga Arr**	**51.60**	**189**	P	**P**	**07 22 44.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**51.66**	**200**	P	**P**	**07 22 46.2**	**+0.6**
KSH	**Kashi**	**53.17**	**298**	P	P	07 23 02.1	+5.1
KSH				S	S	07 30 34.5	+8.5
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,74nm,4.2s						
KSH				LR	LR		
	comp=Z,210nm,10.7s						
KSH				LR	LR		
	comp=Z,140nm,10.9s						
KSH				LR	LR		
	comp=Z,130nm,5.5s						
TOLK	**Toolik Lake Re**	**53.32**	**25**	P	**P**	**07 22 57.5**	**0.0**
TOLK				IAmb	IAmb	07 23 05.0	
	comp=Z,12nm,1.0s						
MDM	**Murphy Dome**	**53.52**	**30**	P	**P**	**07 22 59.0**	**0.0**
MDM				IAmb	IAmb	07 23 04.9	
	comp=Z,10nm,1.0s						
AAK	**Ala-Archa**	**53.60**	**302**	*de*P	**P**	**07 23 01.2**	**+1.1**
AAK				pmax	pmax		
	comp=Z,20nm,1.3s						
COLA	**College**	**53.67**	**30**	*i* P	**P**	**07 23 01.2**	**+1.2**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
IL31		**54.08**	**30**	P	**P**	**07 23 03.0**	**0.0**
IL31				IAmb	IAmb	07 23 10.4	
	comp=Z,5.2nm,1.0s						
ILAR	**Eielson Array**	**54.08**	**30**	P	**P**	**07 23 03.9**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=265,slow=6.3,SNR=30						
BRVK	**Borovoye**	**54.75**	**315**	*ce*P	**P**	**07 23 09.2**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRVK	**Borovoye**	**54.75**	**315**	P	**P**	**07 23 07.5**	**-0.5**
BRVK				IAmb	IAmb	07 23 11.4	
	comp=Z,6.8nm,1.0s						
BMAR	**Burnt Mountain**	**55.10**	**27**	P	**P**	**07 23 11.7**	**+1.2**
AS31	**Alice Springs**	**55.32**	**189**	P	**P**	**07 23 13.0**	**+0.5**
ASAR	**Alice Springs**	**55.33**	**189**	P	**P**	**07 23 12.5**	**0.0**
	comp=Z,6.0nm,0.7s,baz=16,slow=12,SNR=69						
ASAR				LR	LR	07 46 44.5	
	comp=Z,82nm,19.1s,baz=6.5,slow=36						
ASAR	**Alice Springs**	**55.33**	**189**	P	**P**	**07 23 12.9**	**+0.4**
ASAR	**Alice Springs**	**55.33**	**189**	P	**P**	**07 23 12.9**	**+0.4**
KK31	**Karatay Array**	**56.36**	**304**	*i* P	**P**	**07 23 20.6**	**+0.7**
KK31	**Karatay Array**	**56.36**	**304**	P	**P**	**07 23 20.0**	**+0.2**
KKAR	**Karatay Array**	**56.36**	**304**	P	**P**	**07 23 20.5**	**+0.6**
KKAR	**Karatay Array**	**56.36**	**304**	P	**P**	**07 23 20.3**	**+0.4**
KKAR	**Karatay Array**	**56.36**	**304**	P	**P**	**07 23 20.5**	**+0.6**
BCAR	**Beaver Creek A**	**56.37**	**32**	P	**P**	**07 23 20.9**	**+1.3**
GAR	**Garm**	**57.55**	**299**	P	**P**	**07 23 29.7**	**+1.2**
GAR				IAmb	IAmb	07 23 30.3	
	comp=Z,10nm,0.8s						
EPYK	**Eagle Plains**	**58.24**	**28**	P	**P**	**07 23 34.3**	**+1.5**
CHGR	**Chuyangaron**	**58.52**	**299**	P	**P**	**07 23 36.4**	**+1.1**
INK	**Inuvik**	**59.23**	**26**	P	**P**	**07 23 40.7**	**+1.2**
	comp=Z,4.9nm,0.9s,baz=62,slow=2.0,SNR=4.1						
INK	**Inuvik**	**59.23**	**26**	P	**P**	**07 23 40.3**	**+0.9**
INK				IAmb	IAmb	07 23 47.5	
	comp=Z,10nm,1.2s						
SVE	**Sverdlovsk**	**59.63**	**321**	*e*P	**P**	**07 23 43.9**	**+1.4**
SVE				pmax	pmax		
	comp=Z,18nm,1.0s						
ARU	**Arti**	**60.84**	**321**	*d i*P	**P**	**07 23 51.4**	**+0.6**
ARU						07 26 00.9	
ARU				S	**S**	**07 32 10.8**	**+4.6**
ARU				SS	**SS**	**07 36 01.9**	**-3.0**
ARU				pmax	pmax		
	comp=Z,16nm,0.8s						
ARU	**Arti**	**60.84**	**321**	P	**P**	**07 23 51.6**	**+0.8**
AB31	**Akbulak array**	**61.89**	**313**	*i* P	**P**	**07 23 58.7**	**+0.7**
ABKAR	**Akbulak array**	**61.89**	**313**	P	**P**	**07 23 58.8**	**+0.8**
AKTO	**Aktyubinsk**	**62.74**	**314**	P	**P**	**07 24 03.7**	**0.0**
STKA	**Stephens Creek**	**62.98**	**180**	P	**P**	**07 24 07.2**	**+1.9**
	comp=Z,4.8nm,1.0s,baz=338,slow=7.1,SNR=4.1						
STKA	**Stephens Creek**	**62.98**	**180**	P	**P**	**07 24 06.8**	**+1.5**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
STKA	**St

NVAR	**Mina Array Bea**	**78.09**	**52**	P	**P**	**07 25 39.3**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=291,slow=6.0,SNR=17						
NVAR	**Mina Array Bea**	**78.09**	**52**	P	**P**	**07 25 38.9**	**+1.0**
AKASG	**Malin Array Be**	**78.95**	**323**	P	**P**	**07 25 42.7**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=47,slow=6.2,SNR=9.4						
AKASG	**Malin Array Be**	**78.95**	**323**	P	**P**	**07 25 42.5**	**+0.4**
AKBB	**Malin Array Si**	**78.95**	**323**	P	**P**	**07 25 42.2**	**+0.1**
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKBB	**Malin Array Si**	**78.95**	**323**	P	**P**	**07 25 42.2**	**+0.1**
AKBB				IAmb	IAmb	07 25 44.2	
	comp=Z,5.0nm,0.8s						
NC204	**NORSAR Array S**	**79.44**	**338**	P	**P**	**07 25 45.8**	**+1.1**
NB2	**NORSAR Subarra**	**79.47**	**338**	P	**P**	**07 25 45.1**	**+0.2**
	comp=Z,14nm,1.4s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**79.47**	**338**	P	**P**	**07 25 45.5**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=41,slow=5.5,SNR=7.8						
NOA				LR	LR	08 04 22.5	
	comp=Z,32nm,19.7s,baz=50,slow=38						
IMW	**Indian Meadow**	**79.88**	**45**	P	**P**	**07 25 50.0**	**+2.2**
R11A	**Troy Canyon, C**	**79.95**	**51**	P	**P**	**07 25 47.6**	**-0.5**
TPAW	**Teton Pass**	**80.10**	**45**	P	**P**	**07 25 49.7**	**+0.8**
LOHW	**Long Hollow**	**80.24**	**45**	P	**P**	**07 25 51.0**	**+1.4**
TPNV	**Topopah Spring**	**80.25**	**53**	P	**P**	**07 25 50.3**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TPNV	**Topopah Spring**	**80.25**	**53**	P	**P**	**07 25 50.3**	**+0.6**
DUG	**Dugway, Tooele**	**80.77**	**48**	P	**P**	**07 25 51.5**	**-0.9**
DUG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DUG	**Dugway, Tooele**	**80.77**	**48**	P	**P**	**07 25 51.5**	**-0.9**
HWUT	**Hardware Ranch**	**80.77**	**47**	P	**P**	**07 25 54.2**	**+1.8**
PRN	**Pahroc Range**	**80.81**	**52**	P	**P**	**07 25 54.2**	**+1.5**
PSUT	**Pine Spring**	**81.00**	**50**	P	**P**	**07 25 54.2**	**+0.5**
SHPR	**Sheep Range**	**81.22**	**53**	P	**P**	**07 25 56.0**	**+1.0**
PDAR	**Pinedale Array**	**81.35**	**45**	P	**P**	**07 25 56.5**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=271,slow=2.4,SNR=10						
PDAR	**Pinedale Array**	**81.35**	**45**	P	**P**	**07 25 55.7**	**+0.1**
JLU	**Jordanelle**	**81.41**	**48**		**P**	**07 25 57.2**	**+1.3**
PPT	**Papeete**	**81.84**	**116**	LR	LR	08 00 43.5	
	comp=Z,33nm,19.0s,baz=233,slow=34						
PFO	**Pinyon Flats O**	**81.87**	**56**	P	**P**	**07 25 58.7**	**+0.3**
PFO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PFO	**Pinyon Flats O**	**81.87**	**56**	P	**P**	**07 25 58.7**	**+0.3**
PFO				IAmb	IAmb	07 26 03.9	
	comp=Z,5.3nm,1.1s						
SRU	**San Rafael Swe**	**82.84**	**48**	P	**P**	**07 26 04.3**	**+0.9**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SRU	**San Rafael Swe**	**82.84**	**48**	P	**P**	**07 26 04.3**	**+0.9**
BR131	**Keskin Array S**	**82.84**	**312**	P	**P**	**07 26 02.3**	**-1.0**
BR131				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BR131	**Keskin Array S**	**82.84**	**312**	P	**P**	**07 26 02.2**	**-1.0**
BRTR	**Keskin Array B**	**82.84**	**312**	P	**P**	**07 26 05.0**	**+1.7**
	comp=Z,4.9nm,1.1s,baz=103,slow=3.9,SNR=10						
BRTR	**Keskin Array B**	**82.84**	**312**	P	**P**	**07 26 03.1**	**-0.2**
BRTR	**Keskin Array B**	**82.84**	**312**	P	**P**	**07 26 03.1**	**-0.2**
KWP	**Kalwaria Pacla**	**82.88**	**325**	P	**P**	**07 26 04.6**	**+1.4**
KWP				pmax	pmax		
	comp=Z,31nm,1.3s						
KWP	**Kalwaria Pacla**	**82.88**	**325**	P	**P**	**07 26 04.6**	**+1.4**
BURAR	**Bucovina Array**	**82.92**	**322**	P	**P**	**07 26 03.0**	**-0.5**
O20A	**White River Ci**	**83.68**	**46**	P	**P**	**07 26 08.4**	**+0.7**
O20A				IAmb	IAmb	07 26 09.7	
	comp=Z,7.3nm,1.1s						
Y14A	**Wickenburg**	**84.11**	**54**	P	**P**	**07 26 11.1**	**+1.3**
PV21	**Cone Mtn., Par**	**84.14**	**48**	P	**P**	**07 26 09.1**	**-1.1**
PV21				IAmb	IAmb	07 26 12.7	
	comp=Z,6.5nm,0.9s						
PV23	**Carpenter Ridg**	**84.18**	**48**	P	**P**	**07 26 11.6**	**+1.2**
PV14	**Lion Creek, Pa**	**84.22**	**48**	P	**P**	**07 26 11.8**	**+1.3**
PV20	**West Nyswonger**	**84.28**	**48**	P	**P**	**07 26 12.1**	**+1.3**
PV20				IAmb	IAmb	07 26 13.3	
	comp=Z,7.9nm,0.9s						
PV22	**Blue Mesa, Par**	**84.28**	**48**	P	**P**	**07 26 14.3**	**+3.5**
PV22				IAmb	IAmb	07 26 18.2	
	comp=Z,4.5nm,1.0s						
PV17	**East Wray Mesa**	**84.32**	**48**	P	**P**	**07 26 10.0**	**-1.0**
PV03	**Paradox Valley**	**84.40**	**48**	P	**P**	**07 26 11.8**	**+0.3**
PV03				IAmb	IAmb	07 26 14.0	
	comp=Z,6.5nm,0.9s						
PV13	**Radium Mtn., P**	**84.48**	**48**	P	**P**	**07 26 13.0**	**+1.1**
PV13				IAmb	IAmb	07 26 14.2	
	comp=Z,6.1nm,0.8s						
PV02	**Paradox Valley**	**84.50**	**48**	P	**P**	**07 26 10.5**	**-1.5**
PV02				IAmb	IAmb	07 26 14.4	
	comp=Z,6.8nm,1.0s						
PV01	**Paradox Valley**	**84.65**	**48**	P	**P**	**07 26 13.9**	**+1.1**
PV01				IAmb	IAmb	07 26 15.1	
	comp=Z,5.3nm,0.8s						
X16A	**Lo Mia Camp, P**	**84.91**	**53**	P	**P**	**07 26 15.3**	**+1.2**
X16A				IAmb	IAmb	07 26 16.8	
	comp=Z,4.8nm,1.3s						
ASF	**Jabal al Asfar**	**84.94**	**305**	P	**P**	**07 26 16.2**	**+2.1**
	comp=Z,5.1nm,0.9s,baz=38,slow=3.3,SNR=7.4						
VYHS	**Vyhne**	**85.53**	**326**	*e*P	**P**	**07 26 18.1**	**+1.5**
VYHS	**Vyhne**	**85.53**	**326**	*e*P	**P**	**07 26 18.1**	**+1.5**
CLL	**Collm**	**86.11**	**331**	*e*P	**P**	**07 26 19.0**	**-0.5**
CLL	**Collm**	**86.11**	**331**	*e*P	**P**	**07 26 19.0**	**-0.5**
Q24A	**Divide**	**86.29**	**46**	P	**P**	**07 26 20.3**	**-0.7**
Q24A				IAmb	IAmb	07 26 21.8	
	comp=Z,4.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**93.23**	**53**	P	**P**	**07 26 53.8**	**+0.2**
TX32	**Lajitas Array**	**93.23**	**53**	P	**P**	**07 26 54.9**	**+1.3**
TX32				IAmb	IAmb	07 26 56.2	
	comp=Z,4.4nm,0.8s						
TXAR	**Lajitas Array**	**93.23**	**53**	P	**P**	**07 26 55.0**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=297,slow=3.2,SNR=52						
TXAR	**Lajitas Array**	**93.23**	**53**	P	**P**	**07 26 54.4**	**+0.8**
TXAR	**Lajitas Array**	**93.23**	**53**	P	**P**	**07 26 54.4**	**+0.8**
LPAZ	**La Paz**	**148.85**	**68**	PKPbc	**PKiKP**	**07 33 28.8**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=333,slow=2.7,SNR=8.4						
LPAZ	**La Paz**	**148.85**	**68**	PKP2	**PKPab**	**07 33 28.9**	**-2.5**
LPAZ	**La Paz**	**148.85**	**68**	PKPbc	**PKPab**	**07 33 28.9**	**-2.5**

ISK ***22*** *07:25:34.9, 35°.25N×35°.65E, h9km, ML4.0/24*
IDC ***22*** *07:25:35.7±1.1, 35°.34N×35°.59E, h0km, mb3.8/4, mb1 4.0/9, mb1mx3.7/51, mbtmp3.9/9, ML4.0/5, MS2.7/5, Ms1 2.7/5, ms1mx2.4/42, Error ellipse: s-maj=30.4km s-min=9.4km az=79.0*
DDA ***22*** *07:25:36.9, 35°.39N×35°.64E, h32km±1km, MW4.0*
NEIC ***22*** *07:25:37.0±2.3, 35°.37N±0°.04×35°.60E±0°.05, h10km±1km, mb4.1/9, Error ellipse: s-maj=8.1km s-min=5.3km az=131.0*
GRAL ***22*** *07:25:37.2±0.5, 35°.43N×35°.67E, h18km±3km, MD4.1*
NIC ***22*** *07:25:38.7±0.0, 35°.62N×35°.34E, h12km±2km, Ml3.6/6*
GII ***22*** *07:25:38.8±0.0, 35°.31N×35°.52E, h17km, MD3.8/1, Mm3.4/4*
HLW ***22*** *07:25:51.9, 34°.50N×34°.34E, h10km±28km, Md4.0*
ISC 22 07:25:36.0±1.2, 35°.31N±0°.02×35°.63E±0°.02, h6km±9km, n149, σ1900/188, mb3.9/5, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.82**	**28**	PG	**Pg**	**07 25 51.9**	**+0.1**
YAYL	**Yayladag**	**0.82**	**28**	*i* P	**Pg**	**07 25 51.9**	**+0.1**
YAYL				*i* S	**Sg**	**07 26 02.4**	**-0.1**
YAYL				IAML		07 26 03.0	
	comp=E,6μm,0.6s						
YAYL				IAML		07 26 05.0	
	comp=N,7μm,0.4s						
HWQ	**Hawqa**	**1.06**	**166**	*e*P	**Pb**	**07 25 57.3**	**+0.4**
HWQ				*e*S	**Sb**	**07 26 12.3**	**+1.2**
TAHT	**Tahtakopru-Hat**	**1.15**	**23**	PN	**Pg**	**07 25 58.1**	**-0.1**
EREN	**Erenkoy**	**1.21**	**281**	PN	**Pg**	**07 25 59.3**	**0.0**
EREN	**Erenkoy**	**1.21**	**281**	*i* P	**Pg**	**07 25 59.4**	**+0.1**
EREN				*i* S	**Sg**	**07 26 16.3**	**+1.3**
EREN				IAML		07 26 32.0	
	comp=E,763nm,0.6s						
EREN				IAML		07 26 37.0	
	comp=N,674nm,0.5s						
KRTS	**Karatas**	**1.28**	**351**	PN	**Pn**	**07 26 00.9**	**+0.5**
KRTS				SN	**Sn**	**07 26 18.9**	**+1.1**
KRTD	**Karatas-Adana**	**1.29**	**352**	PN	**Pg**	**07 26 00.9**	**+0.1**
PARAL	**Paralimni**	**1.34**	**257**	P	**Pn**	**07 26 01.0**	**-0.3**
PARAL				S	**Sb**	**07 26 18.7**	**-0.3**
PARAL				AML	AML	07 26 19.9	
	comp=N,3.1nm,0.8s						
PARAL				AML	AML	07 26 19.9	
	comp=N,3.1nm,0.8s						
PARAL				AML	AML	07 26 20.0	
	comp=N,2.5nm,0.3s						
PARAL				AML	AML	07 26 20.0	
	comp=N,2.5nm,0.3s						
BHL	**Bhannes**	**1.40**	**179**	*e*P	**Pn**	**07 26 02.3**	**0.0**
BHL				*e*S	**Sb**	**07 26 21.2**	**+0.3**
BEYL	**Beirut**	**1.44**	**185**	*e*P	**Pn**	**07 26 03.3**	**+0.6**
YURE	**YUREGIR**	**1.51**	**0**	PN	**Pb**	**07 26 04.3**	**-0.2**
YURE				SN	**Sg**	**07 26 24.7**	**+0.1**
YURE	**YUREGIR**	**1.51**	**0**	*i* P	**Pb**	**07 26 04.3**	**-0.2**
DQRL	**Deir Qamar**	**1.60**	**182**	*e*P	**Pn**	**07 26 05.3**	**+0.3**
DQRL				*e*S	**Sn**	**07 26 26.4**	**+0.3**
MVOU	**Mavrovouni**	**1.66**	**260**	P	**Pn**	**07 26 05.6**	**-0.2**
MVOU				S	**Sn**	**07 26 26.4**	**-1.0**
MVOU				AML	AML	07 26 31.4	
	comp=N,1.3nm,0.4s						
MVOU				AML	AML	07 26 31.4	
	comp=N,1.3nm,0.4s						
MVOU				AML	AML	07 26 42.6	
	comp=N,1.4nm,0.4s						
MVOU				AML	AML	07 26 42.6	
	comp=N,1.4nm,0.4s						
CEYT	**Ceyhan**	**1.70**	**3**	PN	**Pn**	**07 26 06.6**	**+0.4**
CEYT				SN	**Sb**	**07 26 29.2**	**-0.1**
SILI	**Silifke-Mersin**	**1.74**	**308**	PN	**Pn**	**07 26 06.9**	**+0.1**
SILI				SN	**Sn**	**07 26 29.5**	**+0.2**
SLFK	**Silifke-Mersin**	**1.74**	**309**	PN	**Pn**	**07 26 06.7**	**-0.1**
QRWL	**Qaraoun**	**1.76**	**179**	*e*P	**Pn**	**07 26 07.4**	**+0.2**
DED	**Mersin**	**1.78**	**338**	*i* P	**Pn**	**07 26 06.8**	**-0.6**
DED				IAML		07 26 31.0	
	comp=N,543nm,0.5s						
DED				IAML		07 26 33.0	
	comp=E,1μm,0.3s						
MERS	**Mersin**	**1.79**	**330**	PN	**Pn**	**07 26 07.8**	**+0.2**
MERS				SN	**Sn**	**07 26 31.7**	**+0.9**
KARG	**Kargicak-Mersi**	**1.80**	**300**	PN	**Pn**	**07 26 07.6**	**0.0**
KARG				SN	**Sn**	**07 26 31.3**	**+0.5**
TISA	**Tisan-Mersin**	**1.80**	**299**	PN	**Pn**	**07 26 07.2**	**-0.4**
TISA				SN	**Sn**	**07 26 31.6**	**+0.8**
RCY	**Rachaya**	**1.82**	**175**	*e*P	**Pn**	**07 26 08.4**	**+0.4**
RCY				*e*S	**Sn**	**07 26 31.4**	**-0.1**
IKL	**Isikli**	**1.83**	**301**	PN	**Pn**	**07 26 07.9**	**-0.2**
IKL				SN	**Sn**	**07 26 31.6**	**0.0**
ATHAL	**Athalassa**	**1.84**	**265**	S	**Sn**	**07 26 29.3**	**-2.4**
YESI	**Yesilovacik-Me**	**1.84**	**299**	PN	**Pn**	**07 26 08.0**	**-0.2**
YESI				SN	**Sn**	**07 26 32.0**	**+0.2**
KUZU	**Kuzuini**	**1.87**	**38**	*i* P	**Pn**	**07 26 08.0**	**-0.6**
KUZU				*i* S	**Sn**	**07 26 32.1**	**-0.6**
KUZU				IAML		07 26 39.0	
	comp=E,3μm,0.3s						
KUZU				IAML		07 26 45.0	
	comp=N,2μm,0.2s						
AKKU	**Akkuyu-Mersin**	**1.89**	**297**	PN	**Pn**	**07 26 08.7**	**-0.2**
GULN	**MERSIN_Gulnar**	**1.91**	**298**	*i* P	**Pn**	**07 26 08.9**	**-0.2**
GULN				*i* S	**Sn**	**07 26 32.0**	**-1.4**
GULN				IAML		07 26 33.0	
	comp=E,328nm,0.5s						
GULN				IAML		07 26 34.0	
	comp=N,215nm,0.3s						
CSS	**Mathiatis**	**1.92**	**260**	P	**Pn**	**07 26 09.2**	**0.0**
CSS	**Mathiatis**	**1.92**	**260**	Pn	**Pn**	**07 26 08.7**	**-0.5**
CSS	**Mathiatis**	**1.92**	**260**	P	**Pn**	**07 26 09.1**	**-0.2**
CSS				S	**Sn**	**07 26 32.9**	**-0.8**
CSS	**Mathiatis**	**1.92**	**260**		**Pn**	**07 26 08.6**	**-0.7**
CSS				Sn	**Sn**	**07 26 31.7**	**-2.0**
KEBE	**Keben-Mersin**	**1.93**	**307**	PN	**Pn**	**07 26 09.7**	**+0.3**
SHBL	**Chebaa**	**1.96**	**177**	*e*P	**Pn**	**07 26 10.6**	**+0.6**
SHBL				*e*S	**Sn**	**07 26 34.8**	**-0.2**
OREN	**Orenkoy-Mersin**	**1.98**	**297**	PN	**Pn**	**07 26 09.7**	**-0.4**
YORU	**Yoruktepe-Mers**	**2.00**	**296**	PN	**Pn**	**07 26 10.2**	**-0.1**
KARA	**Karaisali**	**2.00**	**347**	PN	**Pn**	**07 26 10.1**	**-0.3**
ASGA	**Asgata**	**2.02**	**256**	P	**Pn**	**07 26 11.0**	**+0.3**
ASGA				S	**Sn**	**07 26 36.7**	**+0.4**
ASGA				AML	AML	07 26 38.2	
	comp=N,1.3nm,0.7s						
ASGA				AML	AML	07 26 38.2	
	comp=N,1.3nm,0.7s						
ASGA				AML	AML	07 26 45.9	
	comp=N,1.4nm,0.6s						
ASGA				AML	AML	07 26 45.9	
	comp=N,1.4nm,0.6s						
NATI	**Neve Ativ**	**2.05**	**177**	P	**Pn**	**07 26 12.0**	**+1.0**
NATI	**Neve Ativ**	**2.05**	**177**	Pn	**Pn**	**07 26 11.4**	**+0.4**
NATI				Sn	**Sn**	**07 26 38.1**	**+1.3**
KAMA	**Osmaniye**	**2.05**	**24**	*i* P	**Pn**	**07 26 10.5**	**-0.6**
KAMA				IAML		07 26 46.0	
	comp=E,431nm,0.2s						
KAMA				IAML		07 26 47.0	
	comp=N,446nm,0.6s						
GULE	**Gulek**	**2.08**	**341**	*i* P	**Pn**	**07 26 11.9**	**+0.2**
GULE				*i* S	**Sn**	**07 26 36.1**	**-2.0**
GULE				IAML		07 26 43.0	
	comp=E,843nm,0.5s						
GULE				IAML		07 26 46.0	
	comp=N,800nm,0.5s						
GEM	**Giv'at Ha'Em**	**2.10**	**179**	P	**Pn**	**07 26 12.2**	**+0.5**
GEM	**Giv'at Ha'Em**	**2.10**	**179**	Pn	**Pn**	**07 26 12.2**	**+0.5**
TEVE	**Tevekalti-Mers**	**2.10**	**303**	PN	**Pn**	**07 26 11.9**	**+0.1**
AKO	**Adana**	**2.15**	**356**	*i* P	**Pn**	**07 26 12.5**	**0.0**
AKO				IAML		07 26 46.0	
	comp=N,350nm,0.3s						
AKO				IAML		07 26 47.0	
	comp=E,273nm,0.5s						
KOZT	**Kozan**	**2.17**	**4**	PN	**Pn**	**07 26 13.5**	**+0.7**
TEKE	**Tekeli-Mersin**	**2.21**	**293**	PN	**Pn**	**07 26 13.2**	**0.0**
BERE	**Bereket-Mersin**	**2.21**	**299**	PN	**Pn**	**07 26 13.9**	**+0.5**
GAZ	**Gaziantep**	**2.25**	**34**	PN	**Pn**	**07 26 13.9**	**-0.1**
GAZ	**Gaziantep**	**2.25**	**34**	P	**Pn**	**07 26 13.8**	**-0.1**
GAZ				S	**Sn**	**07 26 42.8**	**+0.6**
GAZ				AML	AML	07 26 51.8	
	comp=E,2.4nm,0.3s						
GAZ				AML	AML	07 26 51.8	
	comp=E,2.4nm,0.3s						
GAZ				AML	AML	07 26 56.4	
	comp=E,1.5nm,0.4s						
GAZ				AML	AML	07 26 56.4	
	comp=E,1.5nm,0.4s						
GAZ	**Gaziantep**	**2.25**	**34**		**Pn**	**07 26 13.8**	**-0.1**
GAZ				Sn	**Sn**	**07 26 41.4**	**-0.7**
HNTI	**Hanita**	**2.25**	**190**	P	**Pn**	**07 26 15.9**	**+2.0**
HNTI	**Hanita**	**2.25**	**190**	Pn	**Pn**	**07 26 14.4**	**+0.5**
MMAOB	**Mount Meron ar**	**2.30**	**185**	Pn	**Pn**	**07 26 15.4**	**+0.8**
MMAI	**Mount Meron Ar**	**2.30**	**185**	Pn	**Pn**	**07 26 14.9**	**+0.4**
	comp=E,92nm,0.3s,baz=0.8,slow=14,SNR=109						
MMAI				Pg	**Pb**	**07 26 18.5**	**+0.5**
	comp=E,142nm,0.3s,baz=359,slow=17,SNR=50						
MMAI				Sn	**Sn**	**07 26 41.9**	**-1.3**
	comp=E,114nm,0.3s,baz=239,slow=32,SNR=10						
MMAI				Lg	Lg	07 26 50.5	
	comp=E,209nm,0.3s,baz=354,slow=26,SNR=6.6						
MMAI				LR	LR	07 27 29.4	
	comp=E,202nm,22.0s,baz=40,slow=49						
SZAC	**Souni**	**2.32**	**257**	P	**Pn**	**07 26 15.4**	**+0.5**
SZAC				S	**Sn**	**07 26 42.2**	**-1.6**
SZAC				AML	AML	07 26 48.2	
	comp=E,1.4nm,0.3s						
SZAC				AML	AML	07 26 48.2	
	comp=E,1.4nm,0.3s						
SZAC				AML	AML	07 26 48.2	
	comp=E,1.7nm,0.5s						
SZAC				AML	AML	07 26 48.2	
	comp=E,1.7nm,0.5s						
ANDN	**Andirin**	**2.34**	**14**	*i* P	**Pn**	**07 26 14.8**	**-0.3**
ANDN				*i* S	**Sn**	**07 26 45.6**	**+1.4**
ANDN				IAML		07 26 57.0	
	comp=N,781nm,0.4s						
ANDN				IAML		07 26 57.0	
	comp=E,507nm,0.3s						
CMRD	**Camardi-Nigde**	**2.40**	**348**	PN	**Pn**	**07 26 16.4**	**+0.4**
KMRS	**Kahramanmaras**	**2.42**	**25**	PN	**Pn**	**07 26 15.8**	**-0.4**
KERG	**Konya-Eregli**	**2.42**	**330**	*i* P	**Pn**	**07 26 17.3**	**+1.0**
KERG				*i* S	**Sn**	**07 26 46.5**	**0.0**
KERG				IAML		07 26 50.0	
	comp=E,762nm,0.6s						
ALFC	**Alefka**	**2.49**	**267**	P	**Pn**	**07 26 16.0**	**-1.1**
ALFC				AML	AML	07 26 49.9	
	comp=E,1.0nm,0.5s						
ALFC				AML	AML	07 26 50.2	
	comp=E,1.4nm,0.3s						
NATA	**Nata**	**2.57**	**259**	P	**Pn**	**07 26 18.3**	**+0.1**
NATA				S	**Sn**	**07 26 50.0**	**+0.3**
GZT	**Gaziantep**	**2.57**	**37**	*i* P	**Pn**	**07 26 17.8**	**-0.5**
GZT				IAML		07 27 12.0	
	comp=E,569nm,0.6s						
GZT				IAML		07 27 17.0	
	comp=N,480nm,0.5s						
SHMJ	**Saham**	**2.58**	**177**	P	**Pn**	**07 26 19.9**	**+1.5**
SHMJ	**Saham**	**2.58**	**177**	Pn	**Pn**	**07 26 19.6**	**+1.2**
BLGI	**Bet Lehem HaGe**	**2.60**	**188**	P	**Pn**	**07 26 19.9**	**+1.3**
BLGI	**Bet Lehem HaGe**	**2.60**	**188**	Pn	**Pn**	**07 26 19.0**	**+0.4**
BLGI				Sn	**Sn**	**07 26 49.6**	**-0.9**
KRMN	**Karaman**	**2.67**	**315**	PN	**Pn**	**07 26 20.6**	**+0.9**
SAIM	**ADANA**	**2.69**	**8**	*i* P	**Pn**	**07 26 19.8**	**-0.1**
SAIM				IAML		07 27 03.0	
	comp=E,418nm,0.4s						
SAIM				IAML		07 27 05.0	
	comp=N,285nm,0.3s						
OFRI	**`Ofer**	**2.74**	**191**	P	**Pn**	**07 26 21.4**	**+0.8**
OFRI	**`Ofer**	**2.74**	**191**	Pn	**Pn**	**07 26 21.1**	**+0.5**
OFRI				Sn	**Sn**	**07 26 54.6**	**+0.6**
YAHY	**KAYSERI_Yahyal**	**2.79**	**356**	*i* P	**Pn**	**07 26 22.6**	**+1.3**
YAHY				*i* S	**Sn**	**07 26 56.1**	**+0.8**
YAHY				IAML		07 27 01.0	
	comp=E,118nm,0.7s						
YAHY				IAML		07 27 05.0	
	comp=N,105nm,0.7s						
GAZI	**Gazipasa**	**2.85**	**290**	*i* P	**Pn**	**07 26 21.9**	**-0.1**
GAZI				*i* S	**Sn**	**07 26 54.4**	**-2.3**
GAZI				IAML		07 27 06.0	
	comp=N,108nm,0.3s						
GAZI				IAML		07 27 08.0	
	comp=E,144nm,0.5s						
MMLI	**Mount Malkishu**	**2.87**	**184**	P	**Pn**	**07 26 23.4**	**+1.0**
MMLI	**Mount Malkishu**	**2.87**	**184**	Pn	**Pn**	**07 26 23.4**	**+1.0**
MMLI				Sn	**Sn**	**07 26 57.6**	**+0.3**
SURC	**SANLIURFA_SURC**	**2.88**	**56**	*i* P	**Pn**	**07 26 22.0**	**-0.5**
SURC				IAML		07 27 09.0	
	comp=N,395nm,0.3s						
SURC				IAML		07 27 13.0	
	comp=E,473nm,0.4s						
YESY	**Yesilyurt**	**2.90**	**329**	PN	**Pn**	**07 26 23.8**	**+1.0**
HMDT	**Nahal Hemdat**	**3.05**	**182**	P	**Pn**	**07 26 26.1**	**+1.3**
HMDT	**Nahal Hemdat**	**3.05**	**182**	Pn	**Pn**	**07 26 25.6**	**+0.8**
SLTI	**Sal'it**	**3.10**	**189**	P	**Pn**	**07 26 26.6**	**+1.0**
SLTI	**Sal'it**	**3.10**	**189**	Pn	**Pn**	**07 26 26.5**	**+1.0**
SARI	**SarD1z-Kayseri**	**3.15**	**11**	PN	**Pn**	**07 26 27.5**	**+1.1**
GULA	**Gulagac**	**3.23**	**340**	PN	**Pn**	**07 26 28.6**	**+1.2**
ASF	**Jabal al Asfar**	**3.30**	**161**	Pn	**Pn**	**07 26 29.7**	**+1.3**
	comp=E,15nm,0.3s,baz=312,slow=7.4,SNR=53						
ASF				Pg	**Pg**	**07 26 37.7**	**-1.7**
	comp=E,30nm,0.3s,baz=101,slow=10,SNR=28						
ASF				Lg	Lg	07 27 19.2	
	comp=E,39nm,0.3s,baz=140,slow=22,SNR=6.9						
ASF	**Jabal al Asfar**	**3.30**	**161**	P	**Pn**	**07 26 29.9**	**+1.5**
URFA	**Urfa**	**3.34**	**50**	PN	**Pn**	**07 26 29.5**	**+0.6**
UJAP	**Al Uja**	**3.35**	**182**	P	**Pn**	**07 26 29.9**	**+0.9**
UJAP	**Al Uja**	**3.35**	**182**	Pn	**Pn**	**07 26 29.7**	**+0.7**
BNN	**Bunyan**	**3.54**	**3**	PN	**Pn**	**07 26 32.9**	**+1.2**
DARE	**Darende-Malaty**	**3.58**	**24**	PN	**Pn**	**07 26 32.8**	**+0.6**
KEPZ	**Antalya-Kepez**	**3.62**	**297**	*i* P	**Pn**	**07 26 34.3**	**+1.5**
KEPZ				*i* S	**Sn**	**07 27 19.6**	**+3.7**
KEPZ				IAML		07 27 29.0	
	comp=E,78nm,0.4s						
KEPZ				IAML		07 27 36.0	
	comp=N,66nm,1.0s						
DSI	**Dead Sea**	**3.74**	**183**	Pn	**Pn**	**07 26 34.9**	**+0.6**
WALJ	**Wala**	**3.74**	**178**	P	**Pb**	**07 26 42.5**	**0.0**
MALT	**Malatya**	**3.74**	**36**	PN	**Pn**	**07 26 34.5**	**0.0**
YTIR	**Yattir**	**3.96**	**186**	Pn	**Pn**	**07 26 38.7**	**+1.3**
GHAJ	**Ghor Haditha**	**4.00**	**181**	P	**Pn**	**07 26 40.1**	**+2.3**
GHAJ	**Ghor Haditha**	**4.00**	**181**	Pn	**Pn**	**07 26 39.0**	**+1.2**
HEKM	**Malatya_Hekimh**	**4.02**	**27**	*i* P	**Pn**	**07 26 39.1**	**+0.8**
HEKM				IAML		07 27 59.0	
	comp=E,183nm,0.8s						
HEKM				IAML		07 28 02.0	
	comp=N,138nm,0.5s						
KIRS	**Kırehir-Merke**	**4.05**	**341**	*i* P	**Pn**	**07 26 39.0**	**+0.3**
LISJ	**El Lisan**	**4.06**	**182**	P	**Pn**	**07 26 41.1**	**+2.4**
ELZG	**Elazig**	**4.16**	**39**	*i* P	**Pn**	**07 26 40.6**	**+0.3**
ELZG				IAML		07 27 51.0	
	comp=E,169nm,0.8s						
ELZG		

MDM	**Murphy Dome**	**80.01**	**2**	P	**P**	**07 37 46.5**	**+0.5**
ILAR	**Eielson Array**	**80.23**	**1**	P	**P**	**07 37 48.4**	**+1.2**
	comp=Z,0.3nm,0.9s,baz=335,slow=6.1,SNR=4.2						
ILAR	**Eielson Array**	**80.23**	**1**	P	**P**	**07 37 47.2**	**+0.1**

*IDC **22** 07:49:08.5±0.5, 12°.77N×70°.41W, h0km, mb4.2/15, mb1 4.4/18, mb1mx4.2/31, mbtmp4.3/18, ML4.0/3, MS3.8/19, Ms1 3.8/19, ms1mx3.6/32, Error ellipse: s-maj=21.8km s-min=11.6km az=60.0*
*NEIC **22** 07:49:09.9±2.9, 13°.02N±0°.04×70°.28W±0°.06, h10km±1km, mb4.6/53, Mwr4.0(CAR), Error ellipse: s-maj=10.1km s-min=6.4km az=68.0*
*VAO **22** 07:49:10.4±0.9, 12°.94N×70°.27W, h13km±6km, mb4.8*
*OSPL **22** 07:49:11.7±1.9, 12°.83N×70°.18W, h0km±154km, ML4.3*
*CAR **22** 07:49:12.4±3.7, 12°.87N±0°.04×70°.27W±0°.06, h5km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=152.0*
*RSNC **22** 07:49:13.7±0.5, 12°.91N×70°.56W, h100km±9km, ML4.2, Mw4.6*

ISC 22 07:49:09.7±0.4,**12°.92N**±0°.04×**70°.32W**±0°.04,**h11**km,**n239,** σ2§**14**/260,**mb4.5**/35,**MS3.9**/13,**1C-4D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**2.03**	**234**‖	*eP*	**Pn**	**07 49 43.3**	**-0.5**
URIC				*eS*	**Sn**	**07 50 07.2**	**-2.0**
URIC				*i*		07 50 11.6	
	comp=Z,1μm,0.5s						
SDV	**Santo Domingo**	**4.02**	**184**	Pn	**Pn**	**07 50 13.7**	**+2.3**
	comp=Z,24nm,0.3s,baz=24,slow=7.4,SNR=119						
SDV				Sn	**Sn**	**07 51 00.7**	**+2.2**
	comp=Z,38nm,0.3s,baz=89,slow=19,SNR=6.0						
SDV				LR	LR	07 52 11.2	
	comp=Z,2μm,18.6s,baz=9.0,slow=47						
SDV	**Santo Domingo**	**4.02**	**184**	*eP*	**Pn**	**07 50 13.6**	**+2.3**
SDV				*eS*	**Sn**	**07 50 58.8**	**+0.3**
SDV				*i*		07 51 06.1	
	comp=Z,140nm,0.5s						
SDV	**Santo Domingo**	**4.02**	**184**	Pn	**Pn**	**07 50 12.8**	**+1.5**
SDV				Sn	**Sn**	**07 51 01.0**	**+2.4**
SDV	**Santo Domingo**	**4.02**	**184**	*eP*	**Pn**	**07 50 13.4**	**+2.1**
SDV				*eS*	**Sn**	**07 51 00.6**	**+2.0**
SMRC	**Santa Marta, M**	**4.20**	**246**	*eP*	**Pn**	**07 50 12.1**	**-1.6**
SMRC				*eS*	**Sn**	**07 50 58.7**	**-4.0**
SMRC				*i*		07 51 15.7	
	comp=Z,292nm,0.6s						
ARGC	**Ariguani, Magd**	**4.90**	**232**	*eP*	**Pn**	**07 50 23.2**	**-0.2**
ARGC				*eS*	**Sn**	**07 51 15.2**	**-4.9**
ARGC				*i*		07 51 35.2	
	comp=Z,117nm,0.4s						
BANI	**BANI**	**5.45**	**360**			**07 50 29.4**	**-1.5**
OCAC	**Ocana**	**5.50**	**213**‖	*eP*	**Pn**	**07 50 31.6**	**-0.2**
OCAC				*eS*	**Sn**	**07 51 31.8**	**-3.3**
OCAC				*i*		07 51 38.7	
	comp=Z,577nm,0.4s						
SMLC	**San Martn de**	**5.50**	**222**	*eP*	**Pn**	**07 50 30.1**	**-1.6**
SMLC				*i*		07 51 35.7	
	comp=Z,102nm,0.4s						
SDD	**Santo Domingo**	**5.53**	**4**	Pn	Pn	07 50 28.4	-3.5
SDD				Sn	**Sn**	**07 51 32.1**	**-3.4**
SJCC	**San Jacinto, C**	**5.63**	**238**	*eP*	**Pn**	**07 50 35.4**	**+2.0**
SJCC				*eS*	**Sn**	**07 51 32.6**	**-5.6**
SJCC				*i*		07 51 48.9	
	comp=Z,103nm,0.6s						
PCDR	**Punta Cana, DR**	**5.87**	**18**	Pn	**Pn**	**07 50 35.5**	**-1.1**
PCDR				Sn	**Sn**	**07 51 41.0**	**-2.9**
PCDR	**Punta Cana, DR**	**5.87**	**18**	*i* P	**Pn**	**07 50 37.4**	**+0.8**
PCDR				*eS*	**Sn**	**07 51 41.4**	**-2.6**
PCDR				IAML		07 51 53.9	
	comp=Z,136nm,0.5s						
PAPH	**Port-au-Prince**	**5.89**	**341**		**Pn**	**07 50 38.7**	**+1.7**
PAPH				Sn	**Sn**	**07 51 44.5**	**0.0**
PAPH	**Port-au-Prince**	**5.89**	**341**	*i* P	**Pn**	**07 50 39.5**	**+2.6**
PAPH				*eS*	**Sn**	**07 51 45.0**	**+0.4**
DR12	**Loma Pena Alta**	**5.91**	**9**	Pn	**Pn**	**07 50 38.6**	**+1.4**
CRPR	**Cabo Rojo, PR**	**5.93**	**31**		**Pn**	**07 50 36.6**	**-0.9**
CRPR				Sn	**Sn**	**07 51 43.0**	**-2.5**
MLPR	**Magueyes Islan**	**5.94**	**32**	Pn	**Pn**	**07 50 36.7**	**-0.8**
MLPR				Sn	**Sn**	**07 51 44.2**	**-1.4**
LGNH	**Logne**	**5.98**	**339**		**Pn**	**07 50 40.1**	**+1.9**
LGNH	**Logne**	**5.98**	**339**	*i* P	**Pn**	**07 50 40.8**	**+2.6**
LGNH				*eS*	**Sn**	**07 51 46.3**	**-0.5**
PAMC	**Pamplona, Colo**	**6.01**	**203**	*eP*	**Pn**	**07 50 40.0**	**+0.9**
PAMC				*eS*	**Sn**	**07 51 45.4**	**-2.9**
PAMC				*i*		07 51 50.7	
	comp=Z,143nm,0.8s						
SDDR	**Presa de Saban**	**6.10**	**351**	*eP*	**Pn**	**07 50 43.1**	**+3.2**
SDDR	**Presa de Saban**	**6.10**	**351**	*eS*	**Sn**	**07 51 46.6**	**-3.2**
SDDR	**Presa de Saban**	**6.10**	**351**	Pn	**Pn**	**07 50 38.4**	**-1.5**
SDDR				Sn	**Sn**	**07 51 48.4**	**-1.4**
SDDR	**Presa de Saban**	**6.10**	**351**	*i* P	**Pn**	**07 50 43.7**	**+3.7**
SDDR				IAML		07 52 01.4	
	comp=Z,30nm,0.8s						
ICMP	**Isla Caja de M**	**6.15**	**36**		**Pn**	**07 50 39.6**	**-0.9**
ICMP				Sn	**Sn**	**07 51 48.7**	**-2.1**
PCRV	**Puerto La Cruz**	**6.20**	**115**	Pn	**Pn**	**07 50 43.9**	**+2.6**
	comp=Z,3.7nm,0.3s,baz=267,slow=1.4,SNR=17						
PCRV				Sn	**Sn**	**07 51 53.5**	**+1.3**
	comp=Z,2.4nm,0.3s,baz=295,slow=17,SNR=2.7						
OBIP	**Obispado Ponce**	**6.23**	**35**		**Pn**	**07 50 39.8**	**-1.8**
OBIP				Sn	**Sn**	**07 51 50.7**	**-2.2**
PLCV	**Puerto La Cruz**	**6.25**	**115**		**Pn**	**07 50 43.9**	**+2.0**
PLCV					**Sn**	**07 51 53.5**	**+0.1**
AGPR	**Aguadilla, PR**	**6.33**	**29**	Pn	**Pn**	**07 50 43.1**	**+0.2**
AGPR				Sn	**Sn**	**07 51 52.9**	**-2.3**
AGPR	**Aguadilla, PR**	**6.33**	**29**	*i* P	**Pn**	**07 50 43.3**	**+0.4**
AGPR				*eS*	**Sn**	**07 51 53.1**	**-2.1**
AGPR				IAML		07 51 58.4	
	comp=Z,83nm,1.0s						
AOPR	**Arecibo Observ**	**6.40**	**32**	*eP*	**Pn**	**07 50 43.4**	**-0.6**
AOPR	**Arecibo Observ**	**6.40**	**32**	*eS*	**Sn**	**07 51 49.8**	**-7.3**
AOPR	**Arecibo Observ**	**6.40**	**32**	Pn	**Pn**	**07 50 42.1**	**-1.8**
AOPR				Sn	**Sn**	**07 51 54.9**	**-2.2**
IGPR	**InterUniversit**	**6.46**	**38**		**Pn**	**07 50 43.0**	**-1.7**
IGPR				Sn	**Sn**	**07 51 55.3**	**-3.2**
SC01	**Santiago de lo**	**6.49**	**357**		**Pn**	**07 50 46.7**	**+1.5**
SC01				Sn	**Sn**	**07 51 58.9**	**-0.3**
PDPR	**Patillas Dam,**	**6.55**	**39**		**Pn**	**07 50 44.4**	**-1.6**
PDPR				Sn	**Sn**	**07 51 58.3**	**-2.4**
TAMC	**Tame, Arauca**	**6.60**	**193**	*eP*	**Pn**	**07 50 47.6**	**+0.9**
TAMC				*eS*	**Sn**	**07 52 01.1**	**-1.0**
TAMC				*i*		07 52 05.6	
	comp=Z,72nm,0.8s						
MOTC	**Monteria, Cord**	**6.67**	**232**	*eP*	**Pn**	**07 50 47.7**	**+0.1**
BRRC	**Barranca, Sant**	**6.67**	**210**‖	*eP*	**Pn**	**07 50 46.7**	**-0.9**
BRRC				*eS*	**Sn**	**07 52 00.5**	**-3.2**
BRRC				*i*		07 52 28.5	
	comp=Z,65nm,0.6s						
GCPR	**Guaynabo City**	**6.74**	**37**		**Pn**	**07 50 47.5**	**-1.1**
GCPR				Sn	**Sn**	**07 52 02.9**	**-2.5**
HUMP	**Col San Antoni**	**6.75**	**39**		**Pn**	**07 50 46.7**	**-2.0**
HUMP				Sn	**Sn**	**07 52 03.6**	**-2.0**
CBYP	**Canovanas**	**6.84**	**38**		**Pn**	**07 50 47.9**	**-2.2**
BARC	**Barichara**	**6.89**	**204**	*eP*	**Pn**	**07 50 51.2**	**+0.3**
BARC				*eS*	**Sn**	**07 52 06.1**	**-3.3**
BARC				*i*		07 52 24.9	
	comp=Z,78nm,0.8s						
MTP	**Monte Pirata**	**6.90**	**41**	Pn	**Pn**	**07 50 49.6**	**-1.2**
ZARC	**Zaragoza, Cauc**	**7.00**	**220**	*eP*	**Pn**	**07 50 51.0**	**-1.2**
ZARC				*eS*	**Sn**	**07 52 07.1**	**-4.7**
ZARC				*i*		07 52 12.4	
	comp=Z,89nm,0.7s						
LCBC	**Los crdobas,**	**7.18**	**236**	*eP*	**Pn**	**07 50 53.5**	**-1.2**
LCBC				*eS*	Sn	07 52 09.8	-6.4
LCBC				*i*		07 52 26.1	
	comp=Z,41nm,0.7s						
CDVI	**St. Croix**	**7.20**	**47**		**Pn**	**07 50 53.0**	**-1.9**
CUPR	**Culebra, Puert**	**7.23**	**42**	Pn	**Pn**	**07 50 53.4**	**-1.9**
STVI	**Saint Thomas**	**7.48**	**43**	Pn	**Pn**	**07 50 59.1**	**+0.3**
RUSC	**La Rusia**	**7.49**	**202**	*eP*	**Pn**	**07 50 59.6**	**+0.2**
PTBC	**PUERTO BERRIO,**	**7.53**	**213**	*eP*	**Pn**	**07 50 58.5**	**-1.0**
PTBC				*eS*	**Sn**	**07 52 21.2**	**-3.8**
PTBC				*i*		07 52 40.1	
	comp=Z,69nm,0.7s						
CAPC	**Capurgana**	**8.11**	**239**	*eP*	Pn	07 51 02.9	-4.6
SPBC	**San Pablo de B**	**8.11**	**207**	*eP*	**Pn**	**07 51 07.2**	**-0.3**
DBBC	**Dabeiba**	**8.24**	**225**	*eP*	**Pn**	**07 51 07.8**	**-1.6**
DBBC				*i*		07 53 09.5	
	comp=Z,203nm,0.7s						
SABA	**Saba**	**8.28**	**55**	*eP*	**Pn**	**07 51 10.8**	**+1.1**
SABA	**Saba**	**8.28**	**55**	*eS*	**Sn**	**07 52 38.8**	**-4.6**
SABA	**Saba**	**8.28**	**55**	Pn	**Pn**	**07 51 09.6**	**-0.1**
SEUS	**St. Eustatius**	**8.42**	**56**	*eP*	**Pn**	**07 51 12.7**	**+1.0**
SEUS	**St. Eustatius**	**8.42**	**56**	*eS*	**Sn**	**07 52 44.3**	**-2.5**
GRGR	**Grenville**	**8.50**	**94**	*eP*	**Pn**	**07 51 12.0**	**-0.8**
GRGR	**Grenville**	**8.50**	**94**	*eS*	**Sn**	**07 52 41.7**	**-7.1**
SKI	**Saint Kitts**	**8.54**	**58**	*eP*	**Pn**	**07 51 14.9**	**+1.6**
SKI	**Saint Kitts**	**8.54**	**58**	*eS*	**Sn**	**07 52 43.0**	**-6.7**
SMRT	**St. Maarten**	**8.65**	**53**	*eP*	Pn	07 51 23.0	+8.1
SMRT	**St. Maarten**	**8.65**	**53**	*eS*	Sn	07 52 42.5	-10
SMRT	**St. Maarten**	**8.65**	**53**	Pn	Pn	07 51 10.6	-4.2
GCMP	**Grenada, Carri**	**8.69**	**92**	*eP*	Pn	07 51 10.7	-4.7
GCMP	**Grenada, Carri**	**8.69**	**92**	*eS*	Sn	07 52 45.0	-8.4
MLYT	**Lee's Yard**	**8.72**	**63**	*eP*	**Pn**	**07 51 19.6**	**+3.7**
MLYT	**Lee's Yard**	**8.72**	**63**	*eS*	**Sn**	**07 52 48.4**	**-5.9**
MTDJ	**Mount Denham**	**8.73**	**308**	Pn	**Pn**	**07 51 16.4**	**+0.3**
SVB	**Belmont**	**8.84**	**87**	*eP*	**Pn**	**07 51 15.7**	**-1.8**
SVB	**Belmont**	**8.84**	**87**	*eS*	**Sn**	**07 52 52.5**	**-4.7**
SVB	**Belmont**	**8.84**	**87**	Pn	**Pn**	**07 51 15.9**	**-1.6**
PTGC	**Puerto Gaitan,**	**8.84**	**192**‖	*eP*	**Pn**	**07 51 17.4**	**-0.2**
CHIC	**Chingaza**	**8.90**	**203**	*eP*	**Pn**	**07 51 18.6**	**0.0**
ROSC	**El Rosal**	**8.94**	**207**	Pn	**Pn**	**07 51 21.4**	**+2.2**
	comp=Z,6.8nm,0.3s,baz=80,slow=12,SNR=26						
ROSC				Sn	**Sn**	**07 53 00.1**	**-0.2**
	comp=Z,3.4nm,0.3s,baz=37,slow=20,SNR=2.7						
ROSC				LR	LR	07 55 21.7	
	comp=Z,725nm,19.3s,baz=2.5,slow=42						
ROSC	**El Rosal**	**8.94**	**207**	*eP*	**Pn**	**07 51 21.3**	**+2.1**
ROSC	**El Rosal**	**8.94**	**207**		**Pn**	**07 51 19.8**	**+0.5**
SVCV	**St. Vincent, C**	**8.95**	**87**	*eP*	**Pn**	**07 51 17.2**	**-1.7**
SVCV	**St. Vincent, C**	**8.95**	**87**	*eS*	Sn	07 52 51.4	-8.4
CBOC	**Ciudad Bolivar**	**8.98**	**219**	*eP*	**Pn**	**07 51 20.2**	**+0.7**
TRN	**Trinidad (W)**	**9.02**	**104**	*eP*	**Pn**	**07 51 18.7**	**-1.2**
GUY2C	**Guyana, Caldas**	**9.12**	**214**	*eP*	**Pn**	**07 51 23.2**	**+1.5**
BIM	**Bigot**	**9.13**	**79**	*eP*	**Pn**	**07 51 24.9**	**+3.4**
BIM	**Bigot**	**9.13**	**79**	*eS*	**Sn**	**07 52 58.5**	**-5.8**
BPA	**Boggy Peak**	**9.15**	**62**	*eP*	**Pn**	**07 51 19.0**	**-2.7**
BPA	**Boggy Peak**	**9.15**	**62**	*eS*	**Sn**	**07 52 58.7**	**-6.2**
SLBI	**Saint Lucia, B**	**9.16**	**82**	*eS*	**Sn**	**07 52 57.0**	**-8.0**
MCLT	**Moule a Chique**	**9.16**	**84**	*eP*	**Pn**	**07 51 26.3**	**+4.4**
MCLT	**Moule a Chique**	**9.16**	**84**	*eS*	**Sn**	**07 53 01.2**	**-4.0**
SLAC	**Saint Lucia, A**	**9.22**	**83**	*eS*	**Sn**	**07 53 02.5**	**-4.1**
ANBD	**Bethesda, Anti**	**9.23**	**63**	*eP*	**Pn**	**07 51 24.2**	**+1.3**
ANBD	**Bethesda, Anti**	**9.23**	**63**	*eS*	**Sn**	**07 53 01.7**	**-5.1**
MPOM	**Morne Pois Mar**	**9.32**	**80**	*eP*	**Pn**	**07 51 22.7**	**-1.4**
MPOM	**Morne Pois Mar**	**9.32**	**80**	*eS*	**Sn**	**07 53 02.4**	**-6.6**
VILC	**Villavicencio,**	**9.36**	**201**	*eP*	**Pn**	**07 51 24.3**	**-0.4**
ANWB	**Willy Bob**	**9.49**	**59**	*eP*	**Pn**	**07 51 27.6**	**+1.1**
ANWB	**Willy Bob**	**9.49**	**59**	*eS*	**Sn**	**07 53 09.5**	**-3.7**
TOLC	**Tolima**	**9.64**	**211**	*eP*	**Pn**	**07 51 29.8**	**+1.1**
SOLC	**Bahia Solano**	**9.64**	**227**	*eP*	**Pn**	**07 51 28.3**	**-0.2**
TOSP	**Speyside**	**9.70**	**98**	*eP*	**Pn**	**07 51 33.3**	**+4.0**
BCIP	**Isla Barro Col**	**10.06**	**249**	*eP*	Pn	07 51 31.6	-2.6
BCIP	**Isla Barro Col**	**10.06**	**249**		**Pn**	**07 51 36.6**	**+2.5**
ORTC	**Ortega, Tolima**	**10.19**	**209**‖	*eP*	**Pn**	**07 51 36.2**	**+0.2**
PRAC	**Prado**	**10.20**	**207**	*eP*	**Pn**	**07 51 35.4**	**-0.7**
GUVC	**San Jose del G**	**10.55**	**193**	*eP*	**Pn**	**07 51 40.2**	**-0.8**
YOTC	**Yotoco, Valle**	**10.69**	**214**	*eP*	**Pn**	**07 51 42.5**	**-0.4**
MACC	**Macarena, Meta**	**11.26**	**198**	*eP*	Pn	07 51 48.0	-2.7
GARC	**Garzon, Huila**	**11.82**	**206**	*eP*	**Pn**	**07 51 56.7**	**-1.9**
POPC	**Popayan, Colom**	**12.08**	**212**	*eP*	**Pn**	**07 52 01.2**	**-0.8**
PCON	**Cinco Dias**	**12.12**	**210**	*eP*	**Pn**	**07 52 04.6**	**+1.7**
FLOC	**Florencia**	**12.44**	**206**	*eP*	**Pn**	**07 52 05.2**	**-1.6**
BBAC	**Balboa, Cauca**	**12.81**	**213**	*eP*	**Pn**	**07 52 11.3**	**-0.8**
JTS	**Las Juntas de**	**14.57**	**261**	LR	LR	07 58 01.9	
	comp=Z,85nm,21.6s,baz=134,slow=37						
OTAV	**Otavalo**	**14.95**	**213**		**Pn**	**07 52 42.0**	**+0.4**
OTAV				IAmb	IAmb	07 52 51.9	
	comp=Z,34nm,0.8s						
OTAV	**Otavalo**	**14.95**	**213**	*eP*	**Pn**	**07 52 42.7**	**+1.1**
PTGA	**Pitinga**	**17.01**	**142**	Pn	**Pn**	**07 53 08.0**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=324,slow=15,SNR=16						
PTGA				LR	LR	07 59 56.4	
	comp=Z,370nm,19.6s,baz=332,slow=38						
PTGA	**Pitinga**	**17.01**	**142**		**Pn**	**07 53 07.5**	**-0.2**
MACA	**Manacapuru-AM**	**18.62**	**148**	*eP*	**P**	**07 53 27.7**	**+0.4**
MDP	**Montagnes des**	**19.10**	**112**	P	**P**	**07 53 33.8**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=289,slow=16,SNR=7.6						
MDP				LR	LR	08 01 51.7	
	comp=Z,147nm,21.0s,baz=286,slow=40						
APG	**El Apazote**	**19.66**	**278**	LR	LR	08 01 43.3	
	comp=Z,183nm,18.5s,baz=298,slow=38						
ATAH	**Atahualpa**	**21.47**	**202**	P	**P**	**07 53 58.4**	**-0.5**
	comp=Z,21nm,0.9s,baz=30,slow=13,SNR=4.7						
ATAH				LR	LR	08 04 14.7	
	comp=Z,412nm,19.0s,baz=26,slow=42						
MALB	**Monte Alegre**	**21.66**	**132**	*eP*	**P**	**07 54 00.3**	**-0.1**
MCPB	**Macapa, AP**	**22.41**	**125**	*eP*	**P**	**07 54 08.5**	**0.0**
MCPB				*eS*	**S**	**07 58 15.6**	**+0.8**
ITTB	**Itaituba**	**22.47**	**139**	*eP*	**P**	**07 54 10.2**	**+1.1**
SAML	**Samuel**	**22.85**	**162**	P	**P**	**07 54 11.6**	**-1.6**
Y52A	**Lilburn**	**24.32**	**331**	P	**P**	**07 54 28.8**	**+1.3**
Y52A				IAmb	IAmb	07 54 31.0	
	comp=Z,7.7nm,0.8s						
NPGB	**Novo Progresso**	**24.79**	**142**	*eP*	**P**	**07 54 32.2**	**+0.4**
LRAL	**Lakeview Retre**	**25.17**	**325**	P	**P**	**07 54 35.0**	**-0.1**
LRAL				IAmb	IAmb	07 54 41.4	
	comp=Z,13nm,1.1s						
TKL	**Tuckaleechee C**	**25.69**	**334**	P	**P**	**07 54 42.2**	**+2.3**
	comp=Z,3.0nm,0.9s,baz=139,slow=16,SNR=2.8						
TKL				LR	LR	08 04 42.6	
	comp=Z,188nm,20.6s,baz=156,slow=36						
TKL	**Tuckaleechee C**	**25.69**	**334**	IAmb	IAmb	07 54 44.7	
	comp=Z,6.9nm,1.2s						
Z47A	**Carrollton**	**25.89**	**324**	P	**P**	**07 54 42.5**	**+0.8**
Z47A				IAmb	IAmb	07 54 47.0	
	comp=Z,14nm,0.9s						
W50A	**Signal Mountai**	**26.00**	**331**	P	**P**	**07 54 43.5**	**+0.8**
W50A				IAmb	IAmb	07 54 46.5	
	comp=Z,8.4nm,1.0s						
344A	**Westbrook Farm**	**26.33**	**318**	P	**P**	**07 54 47.5**	**+1.8**
VILB	**Vilhena**	**27.59**	**158**	*eP*	**P**	**07 54 57.7**	**+0.6**
LPAZ	**La Paz**	**29.10**	**176**	P	**P**	**07 55 10.6**	**-0.6**
	comp=Z,7.9nm,0.5s,baz=78,slow=4.3,SNR=48						
LPAZ				LR	LR	08 08 05.5	
	comp=Z,487nm,18.6s,baz=9.5,slow=39						
LPAZ	**La Paz**	**29.10**	**176**	P	**P**	**07 55 10.7**	**-0.6**
LPAZ				IAmb	IAmb	07 55 14.8	
	comp=Z,8.4nm,0.6s						
LPAZ	**La Paz**	**29.10**	**176**	*eP*	**P**	**07 55 10.8**	**-0.5**
SIV	**San Ignacio**	**30.14**	**162**	P	**P**	**07 55 19.5**	**-0.3**
	comp=Z,4.9nm,0.5s,baz=351,slow=8.2,SNR=59						
SIV				LR	LR	08 08 27.3	
	comp=Z,274nm,19.2s,baz=306,slow=39						
FCAR	**Ozark Folk Cen**	**30.15**	**323**	P	**P**	**07 55 21.4**	**+1.6**
PTLB	**Pontes e Lacer**	**30.28**	**158**	*eS*	**S**	**08 00 22.7**	**+1.8**
W39A	**Magazine**	**30.69**	**320**	P	**P**	**07 55 27.1**	**+2.6**
W39A				IAmb	IAmb	07 55 30.6	
	comp=Z,10nm,1.1s						
PB16	**IPOC Station P**	**31.06**	**179**	P	P	07 55 25.5	-3.0
PB16				IAmb	IAmb	07 55 38.5	
	comp=Z,5.9nm,0.9s						
SMTB	**Santa Maria do**	**31.27**	**133**	*eP*	**P**	**07 55 30.7**	**+0.8**
PB11	**IPOC Station P**	**32.48**	**179**	P	**P**	**07 55 37.9**	**-2.6**
P40A	**Paris**	**32.72**	**328**	P	**P**	**07 55 43.6**	**+1.2**
P40A				IAmb	IAmb	07 55 44.7	
	comp=Z,7.5nm,1.0s						
PB08	**IPOC Station P**	**32.87**	**178**	P	**P**	**07 55 42.6**	**-1.7**
PB08				IAmb	IAmb	07 55 53.9	
	comp=Z,8.2nm,0.9s						
ABTX	**Abilene, Hawle**	**33.22**	**311**	P	**P**	**07 55 48.0**	**+1.1**
ABTX				IAmb	IAmb	07 55 56.3	
	comp=Z,5.9nm,0.9s						
TA01	**Diego Aracena**	**33.27**	**180**	P	**P**	**07 55 45.4**	**-1.9**
TA01				IAmb	IAmb	07 55 51.8	
	comp=Z,16nm,1.0s						
OK029	**Liberty Lake**	**33.41**	**318**	P	**P**	**07 55 49.3**	**+0.8**
OK029				IAmb	IAmb	07 55 57.5	
	comp=Z,14nm,1.0s						
BCOK	**Bluff Creek, N**	**33.43**	**317**	P	**P**	**07 55 49.4**	**+0.7**
PB01	**IPOC Station P**	**33.76**	**179**	P	**P**	**07 55 49.2**	**-2.4**
ARAG	**Aragualana, MT**	**33.82**	**147**	*eP*	**P**	**07 55 52.3**	**+0.1**
PB07	**IPOC Station P**	**34.43**	**179**	P	**P**	**07 55 55.8**	**-1.8**
PB07				IAmb	IAmb	07 56 06.7	
	comp=Z,14nm,1.0s						
JFWS	**Jewell Farm**	**34.50**	**334**	P	**P**	**07 55 59.2**	**+1.3**
JFWS				IAmb	IAmb	07 56 00.3	
	comp=Z,8.4nm,0.8s						
PB09	**IPOC Station P**	**34.51**	**178**	P	**P**	**07 55 56.4**	**-1.8**
TXAR	**Lajitas Array**	**34.97**	**303**	P	**P**	**07 56 03.3**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=128,slow=8.1,SNR=4.5						
TXAR				PcP	**PcP**	**07 58 36.5**	**+1.8**
	comp=Z,0.2nm,0.8s,baz=81,slow=2.8,SNR=2.2						
LVC	**Limon Verde**	**35.33**	**178**	P	**P**	**07 56 03.8**	**-1.7**
	comp=Z,15nm,0.5s,baz=6.4,slow=5.2,SNR=28						
LVC	**Limon Verde**	**35.33**	**178**	P	**P**	**07 56 03.7**	**-1.9**
LVC	**Limon Verde**	**35.33**	**178**	*eP*	**P**	**07 56 03.7**	**-1.9**
SDBA	**SAO DESIDERIO**	**35.62**	**134**	*eP*	**P**	**07 56 07.8**	**0.0**
AMTX	**Amarillo**	**35.81**	**313**	P	**P**	**07 56 10.5**	**+1.1**
AMTX				IAmb	IAmb	07 56 18.5	
	comp=Z,6.6nm,0.9s						
BDFB	**Brasilia**	**35.95**	**141**	P	**P**	**07 56 11.8**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=329,slow=14,SNR=4.9						
BDFB				LR	LR	08 11 22.0	
	comp=Z,185nm,18.8s,slow=37						
AQDB	**Aquidauana**	**36.16**	**156**	*eP*	**P**	**07 56 12.1**	**-0.2**
MNTX	**Cornudas Mount**	**37.21**	**306**	P	**P**	**07 56 21.6**	**+0.4**
PB14	**IPOC Station P**	**37.31**	**180**	P	**P**	**07 56 21.5**	**-0.9**
IPMB	**Ipameri, GO**	**37.66**	**144**	*eP*	**P**	**07 56 25.6**	**+0.4**
JANB	**Januaria**	**37.89**	**136**	*eP*	**P**	**07 56 27.1**	**-0.1**
ITRB	**Iturama**	**37.91**	**148**	*eP*	**P**	**07 56 27.2**	**0.0**
K31A	**O'Neill**	**38.49**	**326**	P	**P**	**07 56 32.9**	**+1.0**
RCBR	**Riachuelo**	**38.94**	**117**	*eP*	**P**	**07 56 36.1**	**+0.1**
PCMB	**Pacaembu**	**39.08**	**151**	*eP*	**P**	**07 56 37.2**	**+0.1**
MC01	**Montes Claros**	**39.32**	**138**	*eP*	**P**	**07 56 39.7**	**+0.5**
TRCB	**Terra Rica**	**39.49**	**154**	*eP*	**P**	**07 56 40.6**	**0.0**
BB19B	**Bebedouro**	**39.99**	**147**	*eP*	**P**	**07 56 44.7**	**+0.1**
GDU01	**Guandu, BA**	**40.36**	**130**	*eP*	**P**	**07 56 48.0**	**+0.3**
AGMN	**Agassiz Nation**	**41.17**	**334**	P	**P**	**07 56 54.9**	**+0.8**
AGMN				IAmb	IAmb	07 56 56.9	
	comp=Z,7.8nm,0.9s						
FRTB	**Fartura**	**41.37**	**150**	*eP*	**P**	**07 56 56.1**	**0.0**
RCLB	**Rio Claro- Sao**	**41.62**	**147**	*eP*	**P**	**07 56 58.7**	**+0.5**
BSCB	**Bom Sucesso**	**42.02**	**143**	*eP*	**P**	**07 57 01.5**	**0.0**
VAO	**Valinhos**	**42.40**	**147**	*eP*	**P**	**07 57 04.8**	**+0.2**
ULM	**Lac du Bonnet**	**42.69**	**336**	P	**P**	**07 57 06.6**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=123,slow=8.2,SNR=3.0						
ULM	**Lac du Bonnet**	**42.69**	**336**	P	**P**	**07 57 05.2**	**-1.3**
PET01	**Itanhaem-SP**	**43.29**	**149**	*eS*	**S**	**08 03 39.6**	**+0.5**
ZON	**Zonda**	**44.23**	**178**	P	**P**	**07 57 17.3**	**-1.9**
ZON				IAmb	IAmb	07 57 30.5	
	comp=Z,24nm,1.3s						
P17A	**Butcher Ranch,**	**44.34**	**314**	P	**P**	**07 57 21.8**	**+1.6**
**KNB

SWZ AML AML 08 12 15.9
comp=Z,372nm,0.5s
LBTB Lobatse 2.30 308 *i* P **Pb 08 11 48.7 -0.8**
LBTB *i* S **Sb 08 12 19.2 +0.9**
LBTB Lobatse 2.30 308 *e*P **Pn 08 11 47.0 +0.9**
LBTB *e*S **Sn 08 12 15.9 +1.0**
LBTB AML AML 08 12 19.9
comp=Z,492nm,0.3s
LBTB Lobatse 2.30 308 *i* P **Pb 08 11 48.7 -0.8**
LBTB *i* S **Sb 08 12 19.2 +0.9**
BOSA Boshof 3.01 223 *i* P **Pn 08 11 57.2 +1.4**
BOSA *i* S **Sn 08 12 32.4 0.0**
BOSA Boshof 3.01 223 *e*P **Pn 08 11 56.8 +0.9**
BOSA *e*S **Sn 08 12 33.0 +0.6**
BOSA AML AML 08 12 44.8
comp=Z,100nm,0.5s
BOSA Boshof 3.01 223 *i* P **Pn 08 11 57.2 +1.4**
BOSA *i* S **Sn 08 12 32.4 0.0**
POGA Pongola 3.77 105 *e*P **Pn 08 12 06.6 +0.4**
POGA *e*S **Sn 08 12 49.6 -1.4**
POGA AML AML 08 13 09.5
comp=Z,102nm,0.4s
MOPA Mopani 4.50 51 *e*P **Pn 08 12 17.2 +0.9**
MOPA *e*S **Sn 08 13 07.8 -1.2**
MOPA AML AML 08 13 39.5
comp=Z,35nm,0.5s
HVD Gariep Dam 4.55 204 *e*P **Pn 08 12 18.3 +1.2**
HVD *e*S **Sn 08 13 10.0 -0.4**
HVD AML AML 08 13 42.1
comp=Z,44nm,0.5s
UPI Upington 5.97 250 *e*P **Pn 08 12 37.1 +0.7**
UPI *e*S **Sn 08 13 43.7 -1.5**
UPI AML AML 08 14 21.2
comp=Z,17nm,0.5s
BLWY Bulawayo 6.33 9 *i* P **Pn 08 12 43.4 +1.8**
BLWY *i* S **Sn 08 13 52.1 -2.4**
BLWY Bulawayo 6.33 9 *i* P **Pn 08 12 43.4 +1.8**
BLWY *i* S **Sn 08 13 52.1 -2.4**
SOE Somerset East 6.50 195 *e*P **Pn 08 12 44.4 +0.6**
SOE *e*S **Sn 08 13 56.4 -2.0**
SOE AML AML 08 13 58.8
comp=Z,9.3nm,0.3s
GRAN Grantham 7.53 218 *e*P **Pn 08 12 59.1 +1.2**
GRAN *e*S **Sn 08 14 20.9 -2.8**
GRAN AML AML 08 14 26.1
comp=Z,8.6nm,0.5s
SUR Sutherland 8.38 223 *i* P **Pn 08 13 10.4 +0.8**
SUR *i* S **Sn 08 14 40.6 -4.1**
SUR Sutherland 8.38 223 *i* P **Pn 08 13 10.4 +0.8**
SUR *i* S **Sn 08 14 40.6 -4.1**

*OTT **22** 08:37:33.2±0.4, 44°.64N×56°.35W, h18km, ML3.8/4, 278km south from Grand Bank, NI Laurentian Slope Seismic Zone.*
*ANF **22** 08:37:39.8±0.8, 44°.76N×57°.24W, h14km±15km, Error ellipse: s-maj=17.5km s-min=15.6km az=153.0*
ISC 22 08:37:32.3±2.5, 44°.8N±0°.2×56°.6W±0°.1, h10km, n20, σ2º19/32, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBN	**Guysborough**	**3.54**	**282**	PN	**Pn**	**08 38 30.4**	**+3.1**
GBN				SN	**Sn**	**08 39 11.2**	**+2.1**
SJNN	**Saint John's**	**3.92**	**43**	PN	**Pn**	**08 38 31.5**	**-1.0**
SJNN				SN	**Sn**	**08 39 15.1**	**-3.5**
SJNN				PN	**Sn**	**08 39 15.1**	**-3.5**
DRLN	**Deer Lake**	**4.53**	**352**	PN	**Pn**	**08 38 42.8**	**+1.9**
DRLN				SN	**Sn**	**08 39 34.6**	**+1.1**
DRLN				Trac		08 39 36.6	
comp=Z,15nm,0.3s							
LMN	**Caledonia Moun**	**5.89**	**283**	PN	**Pn**	**08 39 01.9**	**+2.3**
LMN				SN	**Sn**	**08 40 07.8**	**+0.6**
LMN				Trac		08 40 12.8	
comp=Z,89nm,1.4s							
SVNB	**Stilesville Qu**	**5.99**	**286**	PN	**Pn**	**08 39 03.4**	**+2.5**
SVNB				SN	**Sn**	**08 40 09.9**	**+0.4**
ELNB	**Elgin, New Bru**	**6.13**	**283**	SN	**Sn**	**08 40 13.1**	**+0.1**
HKNB	**Havelock Quarr**	**6.30**	**284**	PN	**Pn**	**08 39 07.6**	**+2.3**
WCNB	**Wards Creek**	**6.36**	**281**	PN	**Pn**	**08 39 08.1**	**+2.0**
WCNB				SN	**Sn**	**08 40 18.9**	**+0.3**
SRNB	**Snider Mountai**	**6.46**	**283**	PN	**Pn**	**08 39 09.4**	**+1.9**
SRNB				SN	**Sn**	**08 40 20.7**	**-0.5**
BATG	**Bathurst New B**	**7.05**	**294**	PN	**Pn**	**08 39 17.4**	**+1.9**
BATG				SN	**Sn**	**08 40 33.6**	**-2.0**
BATG				Trac		08 40 37.5	
comp=Z,3.7nm,0.2s							
GGN	**Saint George**	**7.28**	**276**	PN	**Pn**	**08 39 19.8**	**+1.1**
GGN				SN	**Sn**	**08 40 39.4**	**-1.9**
GGN				Trac		08 40 42.3	
comp=Z,44nm,0.9s							
H66A	**Whiting**	**7.63**	**274**	P	**Pn**	**08 39 23.8**	**+0.4**
baz=87							
H66A				S	**Sn**	**08 40 46.4**	**-3.5**
baz=87							
G65A	**Princeton**	**7.79**	**277**	P	**Pn**	**08 39 26.2**	**+0.5**
baz=90,SNR=9.6							
E64A	**Bridgewater**	**8.05**	**286**	P	**Pn**	**08 39 30.0**	**+0.8**
baz=99,SNR=17							
E64A				S	**Sn**	**08 40 56.7**	**-3.5**
baz=99							
H65A	**Eastbrook**	**8.30**	**274**	S	**Sn**	**08 41 02.0**	**-4.3**
baz=86							
D63A	**Stockholm**	**8.34**	**290**	P	**Pn**	**08 39 34.1**	**+0.9**
baz=103							
E63A	**Oxbow**	**8.46**	**285**	P	**Pn**	**08 39 36.0**	**+1.2**
baz=98,SNR=15							
G64A	**Maxfield**	**8.63**	**277**	P	**Pn**	**08 39 37.4**	**+0.2**
baz=89,SNR=6.4							
PKME	**Peaks-Kenny Pk**	**9.01**	**278**	SN	**Sn**	**08 41 20.6**	**-3.3**
E62A	**Clayton Lake**	**9.23**	**286**	P	**Pn**	**08 39 45.5**	**0.0**
baz=98,SNR=12							

*JMA **22** 09:07:51.0±0.2, 37°.38N×144°.65E, h34km, M3.8*
*IDC **22** 09:07:57.2±5.5, 35°.61N×143°.84E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=126.1km s-min=42.2km az=43.0*
ISC 22 09:07:48.8±1.4, 37°.37N±0°.07×144°.96E±0°.08, h35km, n28, σ1º72/33, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.92**	**290**	P	**Pn**	**09 08 33.7**	**+0.9**
JIKH				S	**Sn**	**09 09 05.2**	**-1.4**
JIO	**Ouri**	**3.05**	**292**	P	**Pn**	**09 08 35.2**	**+0.6**
JIO				*e*S	**Sn**	**09 09 08.3**	**-1.6**
JKMT	**Kesennumamotoy**	**3.10**	**299**	P	**Pn**	**09 08 36.4**	**+1.1**
JKMT				S	**Sn**	**09 09 10.2**	**-0.9**
OFUJ	**Ofunato**	**3.10**	**304**	P	**Pn**	**09 08 36.4**	**+1.1**
OFUJ				S	**Sn**	**09 09 10.5**	**-0.6**
JMK	**Ichinoseki**	**3.34**	**299**	P	**Pn**	**09 08 40.0**	**+1.4**
JMK				*e*S	**Sn**	**09 09 16.5**	**-0.5**
JOU	**Okura**	**3.54**	**288**	P	**Pn**	**09 08 42.7**	**+1.4**
JOM	**Ohasama**	**3.56**	**307**	P	**Pn**	**09 08 43.6**	**+2.0**
JOM				S	**Sn**	**09 09 22.5**	**0.0**
JFT	**Otama**	**3.68**	**274**	P	**Pn**	**09 08 44.9**	**+1.6**
JYK	**Kaneyama**	**3.94**	**294**	P	**Pn**	**09 08 48.8**	**+2.0**
JRG	**Rokugo**	**3.96**	**302**	P	**Pn**	**09 08 49.7**	**+2.7**
JRG				*e*S	**Sn**	**09 09 32.7**	**+0.6**
BSO1	**Boso 1**	**4.22**	**231**	P	**Pn**	**09 08 48.5**	**-1.6**
JTM	**Tenmabayashi**	**4.56**	**320**	*e*S	**Sn**	**09 09 45.5**	**-1.6**
JRY	**Ryogami san**	**5.05**	**256**	P	**Pn**	**09 09 02.0**	**-0.1**
JRY				S	**Sn**	**09 09 54.9**	**-4.4**
JOD2	**Odawara 2**	**5.19**	**248**	P	**Pn**	**09 09 03.8**	**-0.1**
JCH	**Churui**	**5.38**	**347**	P	**Pn**	**09 09 07.8**	**+1.3**
JCH				*e*S	**Sn**	**09 10 05.7**	**-1.5**
JKB	**Kayabe**	**5.43**	**327**	*e*S	**Sn**	**09 10 06.4**	**-2.1**
MJAR	**Matsushiro Arr**	**5.47**	**263**	Pn	**Pn**	**09 09 08.9**	**+1.1**
0.2nm,0.3s,baz=98,slow=24,SNR=8.8							
NEM2	**Nemuro 2**	**6.02**	**5**	P	**Pn**	**09 09 14.6**	**-0.7**
NEM2				*e*S	**Sn**	**09 10 19.8**	**-3.1**
JOSM	**Okushiri--Mats**	**6.33**	**320**	P	**Pn**	**09 09 22.0**	**+2.5**
JTKR	**Abashiri--Toko**	**6.64**	**353**	P	**Pn**	**09 09 24.8**	**+1.0**
JTKR				*e*S	**Sn**	**09 10 35.9**	**-2.3**
H11N2	**WAKE ISLAND Hy**	**25.98**	**127**	T	T	09 40 07.4	
baz=317,slow=74,SNR=40							
H11N1	**WAKE ISLAND Hy**	**25.98**	**127**	T	T	09 40 06.7	
baz=317,slow=74,SNR=20							
H11N3	**WAKE ISLAND Hy**	**25.99**	**127**	T	T	09 40 09.6	
baz=317,slow=74,SNR=31							
H11S1	**WAKE ISLAND Hy**	**26.76**	**129**	T	T	09 41 06.4	
baz=319,slow=76,SNR=9.5							
H11S3	**WAKE ISLAND Hy**	**26.76**	**129**	T	T	09 41 07.2	
baz=319,slow=76,SNR=9.1							
H11S2	**WAKE ISLAND Hy**	**26.77**	**129**	T	T	09 41 06.3	
baz=319,slow=76,SNR=12							
WRA	**Warramunga Arr**	**57.88**	**192**	P	**P**	**09 17 37.5**	**+0.3**
0.4nm,0.6s,baz=10,slow=7.5,SNR=7.0							
ASAR	**Alice Springs**	**61.60**	**192**	P	**P**	**09 18 03.3**	**+0.5**
0.1nm,0.4s,baz=5.3,slow=7.4,SNR=5.1							

RSNC 22 09:13:56.3±1.1, 3°.58N×74°.37W, h4km±8km, ML1.6, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIL	**Santa Ana**	**1.37**	**311**	*e*P	Pn	09 14 20.0	-2.6
ANIL				*e*S	Sg	09 14 38.9	-1.6
ANIL				*i*		09 14 40.8	
comp=Z,2.8nm,0.4s							
MACC	**Macarena, Meta**	**1.52**	**160**	*e*P	Pn	09 14 23.1	-1.1
MACC				*e*S	Sn	09 14 42.3	-2.2
MACC				*i*		09 14 45.1	
comp=Z,11nm,0.2s							
MACC	**Macarena, Meta**	**1.52**	**160**	*e*P	Pn	09 14 23.0	-1.3
MACC				*e*S	Sn	09 14 42.4	-2.1
MACC				*i*		09 14 45.0	
comp=Z,11nm,0.2s							
GARC	**Garzon, Huila**	**1.78**	**219**	*e*P	Pn	09 14 26.2	-1.9
GARC				*e*S	Sn	09 14 50.8	-0.6
GARC				*i*		09 14 54.0	
comp=Z,20nm,0.2s							
GUY2C	**Guyana, Caldas**	**1.91**	**329**	⇓*e*P	Pn	09 14 29.4	-0.7
GUY2C				*e*S	Sn	09 14 53.8	-1.0
GUY2C				*i*		09 14 55.4	
comp=Z,3.5nm,0.3s							
FLOC	**Florencia**	**2.36**	**213**	*e*P	Pn	09 14 35.9	0.0
FLOC				*e*S	Sn	09 15 06.2	+0.8
FLOC				*i*		09 15 08.5	
comp=Z,1.9nm,0.3s							
PCON	**Cinco Dias**	**2.38**	**239**	*e*P	Pn	09 14 38.2	+1.6
PCON				*e*S	Sb	09 15 09.2	-0.7
PCON				*i*		09 15 10.3	
comp=Z,13nm,0.4s							
POPC	**Popayan, Colom**	**2.52**	**246**	*e*P	Pn	09 14 39.5	+1.2
POPC				*e*S	Sb	09 15 12.6	-1.2

NNC 22 09:39:34.9±3.2, 53°.96N×90°.77E, h0km, mb4.1, mpv3.8, 9C-5D, Error ellipse: s-maj=23.9km s-min=18.8km az=52.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.52**	**272**	⇑Pg	Pb	09 40 37.0	-1.0
6.8nm,0.8s							
ZAA0				⇑Lg	Lg	09 41 26.0	
25nm,0.8s							
KURK	**Kurchatov**	**8.12**	**251**	⇑Pn	Pn	09 41 35.1	+1.2
6.8nm,0.9s							
KURK				⇑Sn	Sn	09 43 09.4	+3.1
19nm,0.9s							
KURK				⇓Lg	Lg	09 43 52.6	
80nm,1.0s							
KURBB	**Kurchatov Arra**	**8.21**	**251**	⇑Pn	Pn	09 41 36.4	+1.2
6.9nm,0.6s							
KURBB				⇓Sn	Sn	09 43 11.4	+2.8
46nm,0.8s							
KURBB				⇓Lg	Lg	09 43 58.7	
162nm,1.1s							
MK31	**Makanchi Array**	**8.98**	**220**	⇑Pn	Pn	09 41 45.8	0.0
2.3nm,0.7s,baz=33,slow=12,SNR=11							
MK31				⇑Sn	Sn	09 43 28.3	+0.6
8.3nm,0.8s,baz=45,slow=20,SNR=5.0							
MK31				⇑Lg	Lg	09 44 20.3	
38nm,1.0s,baz=36,slow=27,SNR=4.7							
MAKZ	**Makanchi**	**9.09**	**222**	⇓Pn	Pn	09 41 48.0	+0.7
3.1nm,0.9s							
MAKZ				⇓Sn	Sn	09 43 28.7	-1.6
6.8nm,0.8s							
MAKZ				⇑Lg	Lg	09 44 24.7	
40nm,1.0s							

IDC 22 09:41:34.1±3.2, 33°.02S×178°.49W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=73.1km s-min=36.9km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.34**	**213**	Pn	Pn	09 43 08.6	-0.2
1.1nm,0.3s,baz=242,slow=5.3,SNR=8.2							
URZ				Sn	Sn	09 44 21.7	-0.3
2.1nm,0.3s,baz=128,slow=8.7,SNR=6.7							
ASAR	**Alice Springs**	**42.62**	**270**	P	P	09 49 32.4	0.0
0.4nm,0.7s,baz=111,slow=7.2,SNR=7.2							
WRA	**Warramunga Arr**	**43.85**	**275**	P	P	09 49 42.2	-0.1
0.6nm,0.5s,baz=115,slow=7.6,SNR=13							
FINES	**FINESS Array B**	**147.43**	**338**	PKPbc	PKPbc	10 01 18.4	-0.8
2.2nm,0.8s,baz=62,slow=4.5,SNR=4.1							

*REY **22** 09:51:50.7, 64°.62N×17°.41W, h6km*
*IDC **22** 09:51:51.3±0.7, 64°.48N×17°.61W, h0km, mb3.9/11, mb1 4.2/12, mb1mx3.9/47, mbtmp4.0/12, ML4.1/1, MS3.1/7, Ms1 3.1/7, ms1mx2.7/42, Error ellipse: s-maj=23.6km s-min=13.1km az=23.0*
*NEIC **22** 09:51:53.7±2.8, 64°.48N±0°.06×17°.7W±0°.1, h10km±1km, mb4.6/37, Error ellipse: s-maj=13.9km s-min=3.8km az=48.0*
ISC 22 09:51:52.6±0.4, 64°.57N±0°.03×17°.51W±0°.03, h10km, n92, σ2º02/74, mb4.4/25, MS3.0/6, 1D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.13**	**118**	P	**Pg**	**09 51 53.6**	**-2.2**
baz=146							
IDJK				S	**Sg**	**09 51 55.7**	**-2.4**
baz=146							
IVON	**Vonarskard**	**0.15**	**315**	P	**Pg**	**09 51 53.9**	**-2.2**
baz=291							
IVON				S	**Sg**	**09 51 56.1**	**-2.4**
baz=291							
IGRF	**Grimsfjall**	**0.19**	**147**	P	**Pg**	**09 51 55.0**	**-1.8**
baz=163							
IDYN	**Dyngjuhals**	**0.23**	**15**	P	Pg	09 51 54.3	-3.2
baz=6.6							
IDYN				S	**Sg**	**09 51 57.5**	**-3.3**
baz=6.6							
IHUS	**Husbondi**	**0.28**	**194**	P	**Pg**	**09 51 57.2**	**-1.1**
baz=198							
IURH	**Urdarhals**	**0.30**	**31**	P	Pg	09 51 55.4	-3.3
baz=29							
IVOT	**Vottur**	**0.33**	**155**	P	**Pg**	**09 51 57.5**	**-1.7**
baz=164							
IBJK	**Bruarjokull**	**0.34**	**106**	P	**Pg**	**09 51 56.7**	**-2.7**
baz=117							
IKVE	**Kverkfjoll**	**0.37**	**72**	P	**Pg**	**09 51 56.9**	**-3.2**
baz=79							
ISKR	**Skrokkalda**	**0.38**	**269**	P	**Pg**	**09 51 58.4**	**-1.8**
baz=263							
IJOK	**Jokulheimar**	**0.40**	**231**	P	**Pg**	**09 51 59.0**	**-1.5**
baz=230							
IKRE	**Kreppuhraun**	**0.53**	**65**	P	Pg	09 51 59.1	-3.8
baz=69							
IIEY	**Innrieyrar**	**0.54**	**210**	P	**Pg**	**09 52 01.6**	**-1.6**
baz=211							
IIEY				S	**Sb**	**09 52 10.6**	**-1.6**
baz=211							
IKSK	**Karasker**	**0.60**	**132**	P	**Pg**	**09 52 01.2**	**-3.2**
baz=138							
IKAL	**Kalfafell**	**0.63**	**187**	P	**Pg**	**09 52 02.8**	**-1.9**
baz=190							
IMKO	**Mokollar**	**0.65**	**50**	P	Pg	09 52 01.2	-4.0
baz=51							
IMKO				S	**Sg**	**09 52 09.7**	**-4.0**
baz=51							
IVAT	**Vatnsfell**	**0.72**	**239**	P	**Pg**	**09 52 04.5**	**-2.1**
baz=237							
ISVA	**Svartarkot**	**0.78**	**8**	P	Pg	09 52 03.5	-4.2
baz=5.3							
IFAG	**Fagurholsmyri**	**0.79**	**151**	P	**Pg**	**09 52 05.0**	**-2.8**
baz=156							
IVSH	**V-Sauoahnukur**	**0.80**	**72**	P	Pg	09 52 03.9	-4.2
baz=74							
IHVE	**Hveravellir**	**0.94**	**290**	P	**Pg**	**09 52 07.2**	**-3.4**
baz=286							
IADA	**Aoalbol**	**0.94**	**60**	P	Pg	09 52 05.9	-4.9
baz=62							
ISNB	**Snabyli**	**0.97**	**211**	P	**Pg**	**09 52 08.6**	**-2.6**
baz=212							
ISNB				S	**Sn**	**09 52 23.0**	**-3.1**
baz=212							
ISLY	**Slysaalda**	**1.03**	**224**	P	**Pg**	**09 52 09.6**	**-2.7**
baz=224							
IMEL	**Melhnausar**	**1.07**	**19**	P	Pb	09 52 08.1	-5.1
baz=18							
IREN	**Reynihlio**	**1.11**	**13**	P	Pb	09 52 08.8	-5.1
baz=12							
IKVO	**Krokottuvotn**	**1.18**	**13**	P	Pn	09 52 09.9	-5.4
baz=11							
IGYG	**Gygjarholskot**	**1.21**	**258**	P	**Pb**	**09 52 12.2**	**-3.4**
baz=256							
IGRS	**Grimsstaoir**	**1.23**	**28**	P	Pn	09 52 10.7	-5.1
baz=27							
ISKI	**Skildingahlsh**	**1.32**	**9**	P	Pn	09 52 12.4	-4.8
baz=7.2							
BORG	**Borgarnes**	**1.66**	**278**	Pn	**Pn**	**09 52 19.5**	**-2.1**
36nm,0.3s,baz=102,slow=10,SNR=56							
BORG				Sn	**Sn**	**09 52 42.3**	**-0.6**
16nm,0.3s,baz=56,slow=16,SNR=6.8							
BORG	**Borgarnes**	**1.66**	**278**	Pn	**Pn**	**09 52 19.3**	**-2.4**
SCO	**Scoresbysund**	**6.18**	**346**	*i* P	**Pn**	**09 53 24.0**	**+0.2**
SCO				*e*S	**Sn**	**09 54 31.4**	**-3.0**
SCO	**Scoresbysund**	**6.18**	**346**	Pn	**Pn**	**09 53 25.0**	**+1.2**
EKA	**Eskdalemuir Ar**	**11.69**	**136**	Pn	**Pn**	**09 54 38.6**	**-0.6**
baz=330,slow=14,SNR=14							
FINES	**FINESS Array B**	**19.73**	**79**	LR	LR	10 04 04.3	
comp=Z,30nm,19.2s,baz=52,slow=37							
CLL	**Collm**	**20.66**	**115**	⇓*i* P	**P**	**09 56 32.0**	**-0.2**
comp=Z,16nm,1.4s							
ECH	**Echery**	**21.09**	**129**	P	**P**	**09 56 38.2**	**+1.3**
BFO	**Black Forest**	**21.39**	**127**	P	**P**	**09 56 41.3**	**+1.2**
CHVC	**Chvalec**	**22.43**	**113**	*e*P	**P**	**09 56 53.1**	**+1.8**
KHC	**Kasperske Hory**	**22.63**	**118**	*e*P	**P**	**09 56 51.3**	**-2.1**
DPC	**Dobruska-Polom**	**22.72**	**113**	*e*P	**P**	**09 56 55.3**	**+0.9**
GERES	**GERESS Array B**	**22.91**	**118**	P	**P**	**09 56 56.5**	**+0.1**
comp=Z,1.5nm,1.0s,baz=331,slow=11,SNR=5.5							
GERES				LR	LR	10 05 39.3	
comp=Z,44nm,21.5s,baz=288,slow=36							
GERES	**GERESS Array B**	**22.91**	**118**	P	**P**	**09 56 56.8**	**+0.4**
DAVOX	**Davos/Dischmat**	**23.26**	**127**	LR	LR	10 05 09.4	
comp=Z,52nm,18.7s,baz=266,slow=34							
VRAC	**Vranov**	**23.66**	**114**	LR	LR	10 07 46.7	
comp=Z,26nm,18.4s,baz=330,slow=40							
PRED	**Cave del Predi**	**24.86**	**122**	P	**P**	**09 57 15.7**	**+0.6**
ESDC	**Sonseca Array**	**26.16**	**156**	P	**P**	**09 57 27.4**	**+0.5**
comp=Z,2.2nm,0.9s,baz=349,slow=9.0,SNR=9.7							
ESDC				LR	LR	10 07 14.1	
comp=Z,32nm,18.9s,baz=180,slow=35							
ESDC	**Sonseca Array**	**26.16**	**156**	P	**P**	**09 57 28.5**	**+1.6**
BRTR	**Keskin Array B**	**38.46**	**105**	P	**P**	**09 59 15.3**	**+0.9**
comp=Z,1.7nm,0.9s,baz=353,slow=8.7,SNR=5.7							
KBZ	**Khabaz**	**39.11**	**92**	P	**P**	**09 59 20.2**	**+0.5**
comp=Z,1.7nm,0.7s,baz=290,slow=7.6,SNR=3.7							
INK	**Inuvik**	**39.93**	**329**	LR	LR	10 14 56.7	
comp=Z,25nm,20.1s,baz=156,slow=35							
ABKAR	**Akbulak array**	**42.02**	**73**	P	**P**	**09 59 44.2**	**+0.5**
TOLK	**Toolik Lake Re**	**42.84**	**336**	P	**P**	**09 59 52.7**	**+2.5**
TOLK				IAmb	IAmb	09 59 54.0	
comp=Z,15nm,1.1s							
BMAR	**Burnt Mountain**	**42.98**	**333**	P	**P**	**09 59 52.4**	**+1.0**
ILAR	**Eielson Array**	**45.77**	**332**	P	**P**	**10 00 15.6**	**+1.9**
comp=Z,2.9nm,1.1s,baz=24,slow=6.2,SNR=13							
ILAR				PcP	**PcP**	**10 01 51.8**	**+0.8**
comp=Z,1.5nm,1.0s,baz=346,slow=3.4,SNR=6.2							
ILAR	**Eielson Array**	**45.77**	**332**	P	**P**	**10 00 15.2**	**+1.5**
MDM	**Murphy Dome**	**45.87**	**333**	P	**P**	**10 00 17.8**	**+3.3**
IMAR	**Indian Mountai**	**45.95**	**337**	P	**P**	**10 00 17.0**	**+2.0**
BCAR	**Beaver Creek A**	**46.19**	**329**	P	**P**	**10 00 19.8**	**+2.8**
BPAW	**Bear Paw Mtn.**	**47.17**	**334**	P	**P**	**10 00 27.1**	**+2.4**
BPAW				IAmb	IAmb	10 00 28.3	
comp=Z,6.5nm,1.2s							
LAO	**LASA Array**	**48.63**	**294**	P	**P**	**10 00 38.7**	**+2.4**
T47A	**Sharon Grove**	**48.63**	**271**	P	**P**	**10 00 38.2**	**+1.9**
EGMT	**Eagleton**	**48.92**	**297**	P	**P**	**10 00 41.6**	**+3.2**
RLMT	**Red Lodge**	**51.13**	**295**	P	**P**	**10 00 58.8**	**+3.4**
RLMT				IAmb	IAmb	10 01 00.3	
comp=Z,10nm,1.5s							
KKAR	**Karatay Array**	**51.31**	**70**	P	**P**	**10 00 57.5**	**+0.9**
YNE	**Yellowstone No**	**51.51**	**295**	P	**P**	**10 01 00.8**	**+2.4**
BOZ	**Bozeman (W)**	**51.65**	**297**	IAmb	IAmb	10 01 03.1	
comp=Z,9.6nm,1.2s							
K22A	**Casper**	**52.10**	**291**	P	**P**	**10 01 04.1**	**+1.5**
K22A				IAmb	IAmb	10 01 04.8	
comp=Z,6.0nm,1.1s							
MKAR	**Makanchi Array**	**52.78**	**58**	P	**P**	**10 01 07.8**	**+0.3**
comp=Z,1.1nm,1.1s,baz=327,slow=8.7,SNR=4.0							
MKAR	**Makanchi Array**	**52.78**	**58**	P	**P**	**10 01 09.1**	**+1.6**
PHWY	**Pilot Hill**	**52.80**	**289**	P	**P**	**10 01 09.1**	**+1.1**
PHWY				IAmb	IAmb	10 01 11.1	
comp=Z,6.1nm,1.2s							
TORD	**Torodi Ar. Bea**	**53.05**	**156**	P	**P**	**10 01 08.9**	**-0.8**
comp=Z,3.2nm,1.1s,baz=340,slow=8.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**53.05**	**156**	P	**P**	**10 01 09.4**	**-0.3**
BW06	**Boulder Array**	**53.21**	**293**	IAmb	IAmb	10 01 14.5	
comp=Z,12nm,1.5s							
PD31	**Pinedale Array**	**53.21**	**293**	IAmb	IAmb	10 01 14.5	
comp=Z,9.2nm,1.4s							
PDAR	**Pinedale Array**	**53.21**	**293**	P	**P**	**10 01 11.7**	**+0.7**
comp=Z,4.4nm,1.1s,baz=48,slow=5.6,SNR=14							
N23A	**Red Feather La**	**53.34**	**289**	IAmb	IAmb	10 01 15.9	
comp=Z,8.9nm,1.1s							
BTK	**Batken**	**53.99**	**72**	IAmb	IAmb	10 01 20.8	
comp=Z,6.5nm,1.1s							
GAR	**Garm**	**54.68**	**73**	P	**P**	**10 01 23.2**	**+1.6**
HWUT	**Hardware Ranch**	**54.99**	**294**	IAmb	IAmb	10 01 27.3	
comp=Z,8.5nm,1.1s							
P17A	**Butcher Ranch,**	**56.48**	**292**	P	**P**	**10 01 35.2**	**+0.7**
PV02	**Paradox Valley**	**56.75**	**290**	IAmb	IAmb	10 01 39.6	
comp=Z,5.8nm,0.9s							
PV03	**Paradox Valley**	**56.76**	**290**	IAmb	IAmb	10 01 40.1	
comp=Z,5.3nm,1.1s							
PV18	**Skein Mesa, Pa**	**56.79**	**290**	IAmb	IAmb	10 01 40.3	
comp=Z,8.3nm,1.2s							
SONM	**Songino Array**	**59.72**	**40**	P	**P**	**10 01 57.8**	**+0.7**
comp=Z,0.4nm,0.5s,baz=320,slow=6.4,SNR=2.7							
TXAR	**Lajitas Array**	**62.30**

MSW	**Makushin Switc**	**2.74**	**10**		**Pn**	**10 00 58.4**	**+0.5**
MSW					**Sn**	**10 01 31.0**	**+1.3**
AKMO	**Akutan Morgan**	**3.02**	**18**		**Sn**	**10 01 36.6**	**-0.1**
AKRB	**Akutan Reef Bi**	**3.05**	**17**		**Pn**	**10 01 01.2**	**-1.0**
AKUT	**Akutan**	**3.11**	**20**	Pn	**Pn**	**10 01 02.8**	**-0.2**
WESP	**Westdahl Peak**	**3.70**	**27**		**Sn**	**10 01 53.8**	**+0.3**
SSBA	**Shishaldin**	**4.12**	**29**		**Sn**	**10 02 07.1**	**+3.3**
KOFP	**Korovin Flat P**	**4.20**	**287**		**Pn**	**10 01 16.7**	**-1.2**
ATKA	**Atka Island**	**4.24**	**286**		**Pn**	**10 01 17.2**	**-1.3**
FALS	**False Pass**	**4.42**	**33**		**Pn**	**10 01 20.7**	**-0.1**
DT1	**Dutton Round H**	**5.02**	**37**		**Pn**	**10 01 29.3**	**+0.1**
GSMY	**Great Sitkin M**	**5.36**	**282**		**Pn**	**10 01 33.0**	**-0.8**
GSTR	**Great Sitkin T**	**5.36**	**283**	Pn	**Pn**	**10 01 32.6**	**-1.3**
GSTD	**Great Sitkin T**	**5.41**	**282**		**Pn**	**10 01 33.8**	**-0.8**
ADAG	**Mount Adagdak**	**5.69**	**281**		**Pn**	**10 01 38.3**	**0.0**
ADK	**Adak**	**5.73**	**280**		**Pn**	**10 01 37.9**	**-1.0**
SDPT	**Sand Point**	**5.92**	**43**		**Pn**	**10 01 41.7**	**+0.1**
CNBA	**Chernabura Isl**	**6.01**	**50**		**Pn**	**10 01 42.5**	**-0.2**
OHAK	**Old Harbor**	**10.28**	**49**	Pn	**Pn**	**10 02 40.9**	**-0.3**
KDAK	**Kodiak Island**	**10.89**	**47**	Pn	**Pn**	**10 02 47.8**	**-1.8**
	0.4nm,0.3s,baz=193,slow=4.5,SNR=13						
KDAK					Sn	**Sn**	**10 04 42.8**	**-7.3**
	baz=286,slow=18,SNR=3.0						
CNPM	**China Poot**	**12.43**	**42**	Pn	**Pn**	**10 03 10.3**	**-0.4**
MA2	**Magadan**	**24.72**	**306**	LR	LR	10 15 30.4	
	comp=Z,16nm,19.1s,baz=342,slow=39						
NVAR	**Mina Array Bea**	**36.52**	**91**	P	**P**	**10 07 20.5**	**+1.9**
	0.4nm,0.6s,baz=280,slow=6.4,SNR=4.8						
PDAR	**Pinedale Array**	**39.52**	**79**	P	**P**	**10 07 43.4**	**-0.5**
	0.3nm,0.5s,baz=334,slow=1.8,SNR=5.8						
TXAR	**Lajitas Array**	**51.64**	**89**	P	**P**	**10 09 20.7**	**+1.1**
	0.4nm,0.8s,baz=287,slow=4.6,SNR=6.6						
ASAR	**Alice Springs**	**90.54**	**231**	P	**P**	**10 13 14.3**	**-0.3**
	0.7nm,0.7s,baz=29,slow=5.4,SNR=10						

*DJA **22** 10:01:06.9±0.3, 1°S±2°×10°0E±°, h10km, M3.8/7, MLv3.8/7*
*IDC **22** 10:01:06.9±7.8, 0°29S×101°27E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/31, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=432.1km s-min=27.3km az=53.0*

ISC 22 10:01:05.2±0.9, 1°13S±0°05×100°10E±0°04, h10km, n10, σ1°60/13, mb3.1/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.03**	**259**	P	**Pg**	**10 01 24.2**	**-0.8**
SISI				S	**Sn**	**10 01 39.6**	**-0.5**
SDSI	**Sungai Dareh**	**1.34**	**82**	P	**Pg**	**10 01 29.9**	**-1.1**
KRJI	**Kerinci**	**1.67**	**125**	P	**Pg**	**10 01 36.7**	**-0.5**
KRJI				S	**Sg**	**10 01 59.4**	**+0.5**
BKNI	**Bangkinang**	**1.72**	**33**	P	**Pg**	**10 01 37.3**	**-0.9**
BKNI				S	**Sg**	**10 02 01.0**	**+0.4**
MNSI	**Mandailing Nat**	**1.98**	**345**	P	**Pb**	**10 01 40.4**	**-0.9**
MNSI				S	**Sg**	**10 02 07.3**	**-1.5**
PSI	**Prapat**	**4.07**	**343**	Pn	**Pn**	**10 02 11.8**	**+4.1**
	1.5nm,0.3s,baz=180,slow=7.5,SNR=3.4						
WRA	**Warramunga Arr**	**38.36**	**121**	P	**P**	**10 08 25.4**	**-1.4**
	0.1nm,0.3s,baz=308,slow=8.6,SNR=2.8						
ASAR	**Alice Springs**	**39.69**	**127**	P	**P**	**10 08 37.7**	**-0.2**
	0.3nm,0.6s,baz=302,slow=8.2,SNR=5.9						
MKAR	**Makanchi Array**	**50.22**	**344**	P	**P**	**10 10 01.0**	**-0.3**
	0.5nm,0.4s,baz=161,slow=6.8,SNR=7.9						
KRVT	**Keravat (AS076**	**51.96**	**95**	LR	LR	10 34 25.4	
	comp=Z,29nm,18.5s,baz=94,slow=39						

*NEIC **22** 10:59:11.6±1.1, 15°63N±0°07×92°42W±0°09, h168km±5km, Error ellipse: s-maj=13.0km s-min=9.0km az=70.0*
*MEX **22** 10:59:12.2±0.7, 15°59N×92°52W, h170km±7km, MD4.3*
*IDC **22** 10:59:13.8±2.9, 15°64N×92°12W, h182km±33km, mb3.6/3, mb1 3.7/5, mb1mx3.4/28, mbtmp4.0/5, Error ellipse: s-maj=112.9km s-min=16.2km az=52.0*

ISC 22 10:59:11.1±0.7, 15°61N±0°07×92°41W±0°06, h163km±6km, n31, σ1°73/38, mb4.0/4, 4C, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.71**	**169⇑**	*eP*	**Pn**	**10 59 35.7**	**+0.6**
THIG				*eS*	**Sn**	**10 59 54.7**	**+1.2**
CCIG	**Comitan**	**0.72**	**21⇑**	*iP*	**Pn**	**10 59 36.6**	**+1.3**
CCIG				*eS*	**Sn**	**10 59 54.6**	**+0.5**
CCIG	**Comitan**	**0.72**	**21**		**Pn**	**10 59 36.2**	**+0.9**
PCIG		**0.79**	**277⇑**	*eP*	**Pn**	**10 59 35.2**	**-0.3**
PCIG				*eS*	**Sn**	**10 59 53.0**	**-1.2**
HUEH	**Huehuetenango**	**0.92**	**108**	Pn	**Pn**	**10 59 37.8**	**+1.0**
RTAL	**Retalhuleu**	**1.28**	**147**	Pn	**Pn**	**10 59 40.4**	**+0.9**
TGBT	**Tuxtla Gutierr**	**1.33**	**331**	*eP*	**Pn**	**10 59 40.5**	**+0.5**
TGBT				*eS*	**Sn**	**11 00 01.8**	**-0.5**
TGIG		**1.35**	**330⇑**	*iP*	**Pn**	**10 59 40.5**	**+0.3**
TGIG				*eS*	**Sn**	**11 00 01.8**	**-1.0**
APG	**El Apazote**	**1.97**	**107**	P	**Pn**	**10 59 48.0**	**+1.0**
	70nm,0.3s,baz=273,slow=9.4,SNR=162						
APG				S	**Sn**	**11 00 15.2**	**+0.7**
	155nm,0.3s,baz=1.4,slow=22,SNR=62						
APG				LR	LR	11 00 23.9	
	comp=Z,42nm,20.4s,baz=71,slow=41						
PETF	**Flores**	**2.77**	**62**	Pn	**Pn**	**10 59 56.7**	**+0.6**
ESQI	**Esquipulas**	**3.14**	**109**	Pn	**Pn**	**11 00 02.1**	**+1.3**
MTO3	**Montecristo**	**3.18**	**112**	Pn	**Pn**	**11 00 02.6**	**+1.2**
TGUH	**Tegucigalpa,Un**	**5.20**	**107**		**Pn**	**11 00 29.2**	**+1.8**
TEIG	**Tepich**	**6.05**	**40**		**Pn**	**11 00 38.3**	**-0.2**
TLIG	**Tlapa**	**6.22**	**289**		**Pn**	**11 00 41.4**	**+0.5**
MATN	**Matagalpa**	**6.83**	**112**		**Pn**	**11 00 50.7**	**+1.8**
BOAB	**BOACO BROADBAN**	**7.26**	**115**	Pn	**Pn**	**11 00 55.9**	**+1.3**
ACON	**Acoyapa**	**7.90**	**116**	Pn	**Pn**	**11 01 05.3**	**+2.1**
JTS	**Las Juntas de**	**8.98**	**125**	P	**Pn**	**11 01 18.6**	**+1.1**
	2.7nm,0.3s,baz=19,slow=17,SNR=9.8						
JTS				S	**Sn**	**11 02 50.1**	**-7.5**
	0.5nm,0.3s,baz=20,slow=17,SNR=2.2						
TXAR	**Lajitas Array**	**17.16**	**325**	P	**Pn**	**11 03 02.9**	**+1.7**
	0.1nm,0.3s,baz=151,slow=11,SNR=9.4						
MNTX	**Cornudas Mount**	**19.91**	**326**	P	**Pn**	**11 03 32.2**	**-1.5**
PDAR	**Pinedale Array**	**30.80**	**335**	PcP	**PcP**	**11 08 04.5**	**-0.5**
	0.2nm,0.5s,baz=126,slow=4.6,SNR=3.1						
NV11	**Mina Array Sit**	**32.10**	**320**	P	**P**	**11 05 24.7**	**+1.7**
NV11				IAmb	IAmb	11 05 26.4	
	comp=Z,3.6nm,1.1s						
NVAR	**Mina Array Bea**	**32.19**	**320**	P	**P**	**11 05 26.7**	**+2.8**
	comp=Z,1.5nm,0.7s,baz=134,slow=9.0,SNR=23						
NVAR				PcP	**PcP**	**11 08 09.4**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=132,slow=3.5,SNR=5.6						
NVAR	**Mina Array Bea**	**32.19**	**320**	P	**P**	**11 05 23.7**	**-0.1**
LPAZ	**La Paz**	**39.73**	**142**	P	**P**	**11 06 28.7**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=310,slow=20,SNR=5.8						
LPAZ	**La Paz**	**39.73**	**142**	IAmb	IAmb	11 07 48.8	
	comp=Z,8.1nm,1.8s						
PLCA	**Paso Flores**	**59.61**	**161**	P	**P**	**11 08 58.0**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=320,slow=7.9,SNR=3.9						
WRA	**Warramunga Arr**	**135.38**	**257**	PKP	**PKPdf**	**11 18 12.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=84,slow=2.3,SNR=7.9						
ASAR	**Alice Springs**	**135.81**	**252**	PKhKP	PKPpre	11 18 04.0	
	comp=Z,0.2nm,0.5s,baz=110,slow=4.0,SNR=5.3						
ASAR				PKP	**PKPdf**	**11 18 12.5**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=97,slow=2.1,SNR=2.6						
CMAR	**Chiang Mai Arr**	**144.35**	**341**	PKP	**PKPab**	**11 18 26.9**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=340,slow=3.8,SNR=4.4						

*ASRS **22** 11:33:54.1±0.7, 47°N±4°×9°0E±°, h5km, MLh3.1/5, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 22 11:33:47.0±1.7, 45°79N±0°09×90°49E±0°05, h10km, n13, σ2°91/23, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**4.42**	**333**	Pg	**Pn**	**11 34 57.5**	**+3.3**
DGZ				Sg	**Sn**	**11 35 45.5**	**-0.3**
CUR	**Chagan-Uzun**	**4.54**	**342**	Pg	**Pb**	**11 35 07.5**	**+0.6**
CUR				Sg	**Sb**	**11 35 59.3**	**-2.4**
CHBI	**Chibit, Altay**	**4.95**	**337**	Pg	**Pb**	**11 35 14.2**	**+0.4**
CHBI				Sg	**Sb**	**11 36 12.2**	**-1.0**
ULGR	**Ulagan, Altay**	**5.12**	**342**	Pg	**Pb**	**11 35 18.5**	**+1.8**
ULGR				Sg	**Sb**	**11 36 17.9**	**-0.4**
TUNR	**Tungur**	**5.19**	**329**	Pn	**Pn**	**11 35 03.6**	**-1.1**
TUNR				Pg	**Pg**	**11 35 22.6**	**-3.6**
TUNR				Sg	**Sb**	**11 36 23.9**	**+3.8**
TEL	**Teeli**	**5.24**	**358**	Pg	**Pb**	**11 35 19.5**	**+0.9**
TEL				Sg	**Sb**	**11 36 23.1**	**+1.6**
ERNS	**Erzin**	**5.46**	**33**	Pn	**Pn**	**11 35 09.1**	**+0.7**
ERNS				Pg	**Pb**	**11 35 23.6**	**+1.2**
ERNS				Sg	**Sb**	**11 36 31.4**	**+3.4**
MK31	**Makanchi Array**	**5.77**	**283**	Pg	**Pn**	**11 35 12.9**	**+0.3**
	0.4nm,0.6s,baz=94,slow=15,SNR=9.3						
MK31				⇑Lg	Lg	11 36 42.0	
	1.2nm,0.6s,baz=99,slow=30						
MAKZ	**Makanchi**	**5.98**	**283**	⇓Pg	**Pn**	**11 35 16.6**	**+1.0**
	1.1nm,0.8s						
MAKZ				⇓Lg	Lg	11 36 48.3	
	0.5nm,0.5s						
ARTR	**Artybash**	**6.37**	**342**	Sg	**Sb**	**11 36 59.4**	**+5.2**
UKR	**Ust'-Kan**	**6.40**	**326**	Pg	**Pb**	**11 35 39.8**	**+1.3**
UKR				Sg	**Sb**	**11 36 58.4**	**+3.4**
KNGR	**Kungurtug, Tuv**	**6.73**	**42**	Sg	**Sg**	**11 37 17.4**	**-5.3**
ARDR	**Aradan**	**7.06**	**15**	Pn	Pn	11 35 37.7	+7.3
ARDR				Sg	**Sb**	**11 37 19.7**	**+5.7**

WEL 22 11:35:14.0, 39°S±3°×17°5E±°, h228km±5km, M2.8/21, MLv2.8/21, Error ellipse: s-maj=0.0km s-min=0.0km az=97.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.40**	**303**	P	Pn	11 35 43.8	-0.3
WTVZ	**West Tongariro**	**0.45**	**149**	P	Pn	11 35 44.5	+0.2
VRZ	**Vera Road**	**0.57**	**226**	P	Pn	11 35 44.3	-0.3
WNVZ	**Wahianoa**	**0.64**	**158**	P	Pn	11 35 45.4	+0.3
WNVZ				S	S	11 36 07.7	-1.7
MOVZ	**Moawhango**	**0.76**	**152**	P	Pn	11 35 45.4	-0.1
MOVZ				S	S	11 36 07.8	-2.4
MHEZ	**Mangahewa**	**0.83**	**245**	P	Pn	11 35 46.0	+0.3
MRHZ	**Matea Rd**	**0.89**	**97**	P	Pn	11 35 45.8	-0.3
MRHZ				S	S	11 36 08.9	-2.2
BHHZ	**Black Hill Sta**	**0.97**	**142**	P	Pn	11 35 46.6	+0.1
BHHZ				S	S	11 36 09.9	-2.2
TOZ	**Tahuroa Road**	**1.01**	**10**	P	Pn	11 35 47.6	+0.7
BKZ	**Black Stump Fm**	**1.03**	**115**	P	Pn	11 35 47.0	+0.1
BKZ				S	S	11 36 11.0	-1.7
WAZ	**Wanganui**	**1.05**	**193**	P	Pn	11 35 47.2	+0.2
NEZ	**North Egmont**	**1.07**	**240**	P	Pn	11 35 47.1	-0.1
PKE	**Pukeiti**	**1.12**	**245**	P	Pn	11 35 47.2	-0.2
MTHZ	**Maungataniwha**	**1.22**	**96**	P	Pn	11 35 48.3	+0.2
MTHZ				S	S	11 36 13.2	-1.6
KRHZ	**Kereru**	**1.24**	**138**	P	Pn	11 35 48.7	+0.5
KRHZ				S	S	11 36 13.9	-1.1
RTZ	**Ruatahuna**	**1.33**	**85**	P	Pn	11 35 48.8	-0.2
PNHZ	**Pukenui**	**1.38**	**149**	P	Pn	11 35 49.6	+0.4
PNHZ				S	S	11 36 16.0	-0.9
RAHZ	**Arahi**	**1.42**	**98**	P	Pn	11 35 50.1	+0.6
RAHZ				S	S	11 36 17.0	-0.3
TSZ	**Takapari Road**	**1.42**	**159**	P	Pn	11 35 49.7	0.0
TSZ				S	S	11 36 16.2	-1.3
OHWZ	**Ohakea**	**1.47**	**179**	P	Pn	11 35 50.6	+0.7
OHWZ				S	S	11 36 17.4	-0.7
URZ	**Urewera**	**1.50**	**72**	P	Pn	11 35 49.4	-0.8
URZ				S	S	11 36 16.9	-1.6
POWZ	**Post Office Ro**	**1.70**	**168**	P	Pn	11 35 51.9	0.0
DVHZ	**Dannevirke**	**1.71**	**157**	P	Pn	11 35 52.0	0.0
DVHZ				S	S	11 36 19.8	-1.9
MWZ	**Matawai**	**1.80**	**78**	P	Pn	11 35 52.4	-0.4
KNZ	**Kokohu**	**1.88**	**100**	P	Pn	11 35 53.9	+0.4
PRWZ	**Pori Road**	**1.90**	**164**	P	Pn	11 35 53.8	+0.2
PRWZ				S	S	11 36 23.4	-1.3
MRZ	**Mangatainoka R**	**1.94**	**173**	P	Pn	11 35 53.7	-0.3
MRZ				S	S	11 36 23.4	-2.0
TKGZ	**Te Karaka**	**2.03**	**83**	P	Pn	11 35 52.3	-2.6
RUGZ	**Raukumara Rang**	**2.03**	**69**	P	Pn	11 35 53.7	-1.4
BFZ	**Birch Farm**	**2.08**	**160**	P	Pn	11 35 55.4	0.0
OGWZ	**Otaki Gorge**	**2.08**	**182**	P	Pn	11 35 55.2	-0.2
OGWZ				S	S	11 36 25.8	-2.1
TIWZ	**Tintock**	**2.09**	**168**	P	Pn	11 35 55.5	-0.1
KIW	**Kapiti Island**	**2.15**	**188**	P	Pn	11 35 55.3	-0.7
HOWZ	**Holdsworth Sta**	**2.17**	**175**	P	Pn	11 35 55.6	-0.7
HAZ	**Te Kaha**	**2.19**	**64**	P	Pn	11 35 55.2	-1.3
CNGZ	**Carnagh Statio**	**2.30**	**85**	P	Pn	11 35 58.2	+0.6
DUWZ	**D'Urville Isla**	**2.32**	**207**	P	Pn	11 35 56.7	-1.1
CAW	**Cannon Point**	**2.38**	**184**	P	Pn	11 35 57.7	-0.7
WEL	**Wellington**	**2.58**	**189**	P	Pn	11 35 59.5	-1.0
TCW	**Tory Channel**	**2.59**	**197**	P	Pn	11 35 59.8	-0.8
MSWZ	**Moikau Station**	**2.68**	**181**	P	Pn	11 36 00.5	-1.1
PLWZ	**Palliser**	**2.83**	**181**	P	Pn	11 36 02.1	-1.2
NNZ	**Nelson**	**2.88**	**210**	P	Pn	11 36 02.0	-1.8
TUWZ	**Tuamarina**	**2.88**	**201**	P	Pn	11 36 02.8	-1.0
QRZ	**Quartz Range**	**2.98**	**225**	P	Pn	11 36 02.3	-2.6
BSWZ	**Blackbirch Sta**	**3.17**	**200**	P	Pn	11 36 06.0	-1.0
THZ	**Tophouse**	**3.53**	**210**	P	Pn	11 36 08.9	-2.4
KHZ	**Kahutara**	**3.91**	**199**	P	Pn	11 36 14.0	-1.6
DSZ	**Denniston Nort**	**4.02**	**220**	P	Pn	11 36 14.1	-3.0
GVZ	**Greta Valley S**	**4.56**	**201**	P	Pn	11 36 21.3	-2.3
LTZ	**Lake Taylor**	**4.65**	**209**	P	Pn	11 36 22.1	-2.6
AMCZ	**Amberley**	**4.87**	**203**	P	Pn	11 36 24.9	-2.5
INZ	**Inchbonnie**	**4.94**	**215**	P	Pn	11 36 26.0	-2.4
OKCZ	**Okains Bay**	**5.26**	**198**	P	Pn	11 36 29.7	-2.6
MHCZ	**Mount Hutt**	**5.56**	**209**	P	Pn	11 36 32.5	-3.6
RPZ	**Rata Peaks**	**5.91**	**211**	P	Pn	11 36 37.2	-3.3
ARCZ	**Arundel**	**6.06**	**209**	P	Pn	11 36 39.0	-3.3
ODZ	**Otahua Downs**	**7.20**	**207**	P	Pn	11 36 54.3	-2.5

DJA 22 11:43:07.7±1.1, 2°S±4°×12°1E±°, h189km±17km, M3.5/5, MLv3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**2.06**	**339**	P	Pn	11 43 43.7	-2.4
LUWI	**Luwuk**	**2.21**	**76**	P	Pn	11 43 48.1	+0.4
LUWI				S	Sn	11 44 19.4	+0.6
SPSI	**Sidrap Palu**	**2.50**	**200**	P	Pn	11 43 50.6	-0.4
BNSI	**Bone**	**2.83**	**191**	P	Pn	11 43 55.2	+0.4
GTOI	**Gorontalo**	**3.25**	**47**	P	Pn	11 43 59.4	-0.5
GTOI				S	Sn	11 44 48.9	+8.2
SOEI	**Soe**	**8.87**	**156**	P	Pn	11 45 17.5	+4.9

*IDC **22** 12:03:23.1±1.2, 14°34N×144°19E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/52, mbtmp3.6/4, Error ellipse: s-maj=37.1km s-min=19.1km az=54.0*

ISC 22 12:03:25.7±1.4, 14°5N±0°2×144°4E±0°3, h27km, n12, σ0°67/7, mb3.5/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.96**	**153**	Pn	**Pn**	**12 03 43.4**	**0.0**
	37nm,0.3s,baz=308,slow=4.3,SNR=23						
GUMO				Sn	**Sn**	**12 03 56.3**	**+0.2**
	62nm,0.3s,baz=37,slow=20,SNR=23						
H11S3	**WAKE ISLAND Hy 21.72**	**76**		T	T	12 31 17.7	
	baz=262,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy 21.73**	**76**		T	T	12 31 17.9	
	baz=262,slow=75,SNR=46						
H11S2	**WAKE ISLAND Hy 21.74**	**76**		T	T	12 31 18.9	
	baz=262,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy 22.10**	**73**		T	T	12 31 50.4	
	baz=259,slow=75,SNR=7.8						
H11N2	**WAKE ISLAND Hy 22.10**	**73**		T	T	12 31 52.0	
	baz=259,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy 22.11**	**73**		T	T	12 31 52.4	
	baz=259,slow=75,SNR=7.6						
KSRS	**Korea Array**	**27.21**	**330**	P	**P**	**12 09 08.0**	**+0.7**
	0.6nm,0.6s,baz=141,slow=7.9,SNR=3.9						
WRA	**Warramunga Arr**	**35.59**	**196**	P	**P**	**12 10 20.8**	**-0.4**
	2.2nm,0.7s,baz=15,slow=9.5,SNR=24						
ASAR	**Alice Springs**	**39.25**	**195**	P	**P**	**12 10 53.0**	**+0.7**
	0.4nm,0.9s,baz=10,slow=11,SNR=5.5						
CMAR	**Chiang Mai Arr**	**43.72**	**282**	P	**P**	**12 11 28.6**	**-0.4**
	0.3nm,0.3s,baz=80,slow=6.5,SNR=3.6						
LPAZ	**La Paz**	**148.57**	**98**	PKPbc	**PKPab**	**12 23 14.8**	**-0.6**
	0.8nm,0.7s,baz=225,slow=5.7,SNR=3.5						

WEL 22 12:06:46.2, 40°5S±0°8×175°9E±0°9, h24km±1km, M3.8/24, ML4.2/24, MLv3.8/24, Error ellipse: s-maj=0.0km s-min=0.0km az=89.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRWZ	**Pori Road**	**0.04**	**129**	P	Pb	12 06 50.8	+0.4
PRWZ				S	Sb	12 06 54.0	+0.7
POWZ	**Post Office Ro**	**0.18**	**318**	P	Pb	12 06 52.0	+0.4
POWZ				S	Sb	12 06 56.4	+1.2
TIWZ	**Tintock**	**0.25**	**187**	P	Pb	12 06 53.2	+0.7
TIWZ				S	Sb	12 06 58.2	+1.4
BFZ	**Birch Farm**	**0.29**	**122**	P	Pb	12 06 53.4	+0.4
BFZ				S	Sb	12 06 58.8	+1.2
DVHZ	**Dannevirke**	**0.29**	**39**	P	Pb	12 06 52.9	-0.2
DVHZ				S	Sb	12 06 57.7	0.0
MRZ	**Mangatainoka R**	**0.30**	**243**	P	Pb	12 06 53.7	+0.6
MRZ				S	Sb	12 06 58.8	+1.0
ANWZ	**Angora Road**	**0.42**	**81**	P	Pb	12 06 55.7	+0.6
ANWZ				S	Sn	12 07 03.7	-0.1
CPWZ	**Castlepoint**	**0.43**	**151**	P	Pn	12 06 56.8	-0.2
CPWZ				S	Sn	12 07 05.9	+1.8
TSZ	**Takapari Road**	**0.47**	**3**	P	Pb	12 06 55.8	-0.1
TSZ				S	Sb	12 07 03.0	+0.5
HOWZ	**Holdsworth Sta**	**0.48**	**220**	P	Pb	12 06 56.7	+0.6
TMWZ	**Te Maipa**	**0.58**	**183**	P	Pn	12 06 58.8	-0.2
TMWZ				S	Sn	12 07 08.8	+1.0
OGWZ	**Otaki Gorge**	**0.64**	**243**	P	Pn	12 06 59.5	-0.4
PNHZ	**Pukenui**	**0.65**	**19**	P	Pb	12 06 59.2	+0.2
KIW	**Kapiti Island**	**0.84**	**246**	P	Pn	12 07 03.0	+0.4
PXZ	**Pawanui**	**0.87**	**55**	P	Pb	12 07 02.3	-0.3
CAW	**Cannon Point**	**0.87**	**228**	P	Pb	12 07 02.8	+0.1
TRWZ	**Traveller**	**0.89**	**192**	P	Pb	12 07 02.8	-0.1
KRHZ	**Kereru**	**0.95**	**21**	P	Pn	12 07 04.1	+0.1
MSWZ	**Moikau Station**	**1.02**	**210**	P	Pn	12 07 04.3	-0.8
BHHZ	**Black Hill Sta**	**1.04**	**6**	P	Pb	12 07 05.7	+0.1
WAZ	**Wanganui**	**1.06**	**317**	P	Pb	12 07 07.2	+1.4
MOVZ	**Moawhango**	**1.13**	**353**	P	Pb	12 07 07.2	+0.1
PLWZ	**Palliser**	**1.16**	**206**	P	Pn	12 07 06.0	-1.0
WEL	**Wellington**	**1.16**	**229**	P	Pn	12 07 06.7	-0.2
KWHZ	**Kaweka Forest**	**1.17**	**19**	P	Pn	12 07 07.2	+0.1
BHW	**Baring Head**	**1.19**	**222**	P	Pn	12 07 06.7	-0.6
WNVZ	**Wahianoa**	**1.23**	**348**	P	Pb	12 07 09.0	+0.2
MCHZ	**McNeill Hill**	**1.23**	**29**	P	Pn	12 07 08.1	+0.1
TUVZ	**Tukino**	**1.28**	**350**	P	Pb	12 07 10.5	+0.8
DRZ	**Dome Shelter**	**1.28**	**347**	P	Pb	12 07 10.6	+0.7
FWVZ	**Far West T-bar**	**1.30**	**347**	P	Pb	12 07 10.3	+0.2
NGZ	**Ngauruhoe**	**1.37**	**349**	P	Pb	12 07 11.4	+0.1
OTVZ	**Oturere**	**1.38**	**351**	P	Pb	12 07 11.3	-0.1
TMVZ	**Te Maari**	**1.42**	**353**	P	Pb	12 07 12.3	+0.2
TCW	**Tory Channel**	**1.43**	**241**	P	Pn	12 07 10.3	-0.3
BKZ	**Black Stump Fm**	**1.43**	**18**	P	Pn	12 07 10.5	-0.2
WTVZ	**West Tongariro**	**1.44**	**349**	P	Pb	12 07 12.3	-0.1
KRVZ	**Karewarewa**	**1.45**	**351**	P	Pb	12 07 12.5	0.0
TWVZ	**Taurewa**	**1.50**	**345**	P	Pb	12 07 13.2	-0.3
DUWZ	**D'Urville Isla**	**1.55**	**259**	P	Pn	12 07 12.4	+0.1
RITZ	**Rihia Road**	**1.55**	**358**	P	Pb	12 07 15.3	+1.0
KATZ	**Kakaramea**	**1.56**	**353**	P	Pb	12 07 15.0	+0.5
LREZ	**Lake Rotokare**	**1.58**	**312**	P	Pb	12 07 15.3	+0.5
HATZ	**Hinemaiaia**	**1.64**	**4**	P	Pb	12 07 17.3	+1.6
VRZ	**Vera Road**	**1.67**	**327**	P	Pb	12 07 15.2	-1.0
TUWZ	**Tuamarina**	**1.75**	**238**	P	Pn	12 07 14.2	-0.9
CMWZ	**Cape Campbell**	**1.78**	**226**	P	Pn	12 07 15.2	-0.2
PREZ	**Palmer Road**	**1.80**	**310**	P	Pb	12 07 18.3	-0.3
MTHZ	**Maungataniwha**	**1.82**	**23**	P	Pn	12 07 16.3	+0.3
WATZ	**Wairara**	**1.82**	**355**	P	Pn	12 07 16.9	+0.8
RAHZ	**Arahi**	**1.84**	**29**	P	Pn

comp=Z,1.1nm,0.7s,baz=18,slow=13,SNR=16
ASAR Alice Springs 39.12 195 P P 12 18 32.0 +0.1
CMAR Chiang Mai Arr 43.59 282 P P 12 19 09.3 +0.5
comp=Z,0.7nm,0.3s,baz=84,slow=6.7,SNR=8.9
CMAR LR LR 12 38 14.4
comp=Z,13nm,18.6s,baz=120,slow=38
SONM Songino Array 45.78 325 P P 12 19 26.1 +0.1
comp=Z,1.2nm,0.8s,baz=146,slow=9.0,SNR=5.2
SONM LR LR 12 38 18.4
comp=Z,43nm,19.1s,baz=140,slow=36
STKA Stephens Creek 46.04 183 P P 12 19 27.7 -0.3
comp=Z,3.3nm,0.7s,baz=342,slow=5.7,SNR=7.8
STKA Stephens Creek 46.04 183 IAmb IAmb 12 19 32.8
comp=Z,1.2nm,1.1s
FORT Forrest 47.51 199 P P 12 19 39.5 0.0
YAK Yakutsk 48.74 351 P P 12 19 49.2 +0.6
comp=Z,3.2nm,0.5s,baz=282,slow=0.8,SNR=4.5
TOO Toolangi 51.66 179 P P 12 20 12.6 +1.5
TOO IAmb IAmb 12 20 13.3
comp=Z,3.7nm,0.8s
MKAR Makanchi Array 60.54 316 P P 12 21 14.9 +0.3
comp=Z,0.9nm,0.8s,baz=98,slow=8.7,SNR=7.7
KURBB Kurchatov Arra 63.67 320 P P 12 21 34.3 -1.1
comp=Z,1.7nm,0.8s,baz=182,slow=32,SNR=15
PPT Papeete 72.55 114 LR LR 12 50 02.4
comp=Z,39nm,18.5s,baz=339,slow=32
NVAR Mina Array Bea 86.89 51 P P 12 23 50.3 +0.7
comp=Z,0.3nm,0.7s,baz=265,slow=7.2,SNR=4.3
LPAZ La Paz 148.70 98 PKPbc **PKiKP 12 30 55.2 +0.7**
comp=Z,3.3nm,0.8s,baz=320,slow=3.0,SNR=13
LPAZ La Paz 148.70 98 PKPbc 12 30 52.5 -0.6

IDC 22 12:13:42.9±2.1, 6°.42S×151°.95E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/38, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=77.3km s-min=20.6km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.10**	**2**	Pn	Pn	12 14 20.1	+0.6
	21nm,0.3s,baz=89,slow=2.3,SNR=17						
KRVT				Sn	Sn	12 14 46.5	+0.1
	21nm,0.3s,baz=45,slow=22,SNR=11						
WRA	**Warramunga Arr**	**21.75**	**230**	P	P	12 18 35.8	-0.5
	0.9nm,0.8s,baz=56,slow=10.0,SNR=2.8						
ASAR	**Alice Springs**	**24.39**	**223**	P	P	12 19 03.8	+0.6
	0.3nm,0.6s,baz=56,slow=9.3,SNR=6.7						
ILAR	**Eielson Array**	**83.97**	**22**	P	P	12 26 14.4	-0.3
	0.3nm,0.7s,baz=248,slow=5.4,SNR=5.8						

IDC 22 12:27:33.8±9.0, 3°.23N×63°.73E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.3/51, mbtmp3.8/2, Error ellipse: s-maj=787.6km s-min=48.5km az=40.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**72.97**	**112**	P	P	12 39 06.0	+0.1
	0.7nm,0.7s,baz=288,slow=5.3,SNR=8.9						
ASAR	**Alice Springs**	**73.25**	**116**	P	P	12 39 07.5	0.0
	0.6nm,0.7s,baz=290,slow=5.9,SNR=9.9						
TXAR	**Lajitas Array**	**145.44**	**340**	PKPbc	PKPbc	12 47 13.8	-0.9
	0.4nm,0.8s,baz=78,slow=4.2,SNR=3.3						

TAP ***22*** *12:33:02.3, 23°.94N×122°.96E, h86km±1km, ML3.2, D*
JMA ***22*** *12:33:03.4±0.1, 24°.10N×122°.95E, h41km±4km, M2.0*
ISC 22 12:32:59.9±1.1, 23°.97N±0°.03×122°.93E±0°.02, h19km±3km, n77, σ1s17/142, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**2**	P	**Pn**	**12 33 12.3**	**+0.5**
JYNG				*eS*	**Sn**	**12 33 18.3**	**-1.3**
YOJ	**Yonaguni jima**	**0.50**	**9**	P	**Pn**	**12 33 12.4**	**+0.4**
YOJ				*eS*	**Sn**	**12 33 18.7**	**-1.3**
HATJ	**Hateruma jima**	**0.81**	**84**	P	**Pn**	**12 33 17.9**	**+1.7**
HATJ				*eS*	**Sn**	**12 33 29.2**	**+1.5**
IRIF	**Iriomote-Funau**	**0.82**	**63**	P	**Pn**	**12 33 17.4**	**+1.0**
IRIF				S	**Sn**	**12 33 28.0**	**0.0**
JKRS	**Kuro-shima**	**1.02**	**75**	P	**Pg**	**12 33 21.3**	**+1.5**
ENAH	**Nanao**	**1.13**	**295**	*eP*	**Pg**	**12 33 23.4**	**+1.6**
	baz=290						
ENAH				*eS*	**Sg**	**12 33 39.5**	**+2.9**
	baz=290						
TWC	**Suao**	**1.17**	**303**	*i* P	**Pg**	**12 33 24.1**	**+1.5**
	baz=297						
TWC				*i* S	**Sg**	**12 33 39.3**	**+1.3**
	baz=297						
ENA	**Nanau**	**1.18**	**293**	*i* P	**Pg**	**12 33 24.5**	**+1.8**
	baz=289						
ENA				S	**Sg**	**12 33 40.5**	**+2.4**
	baz=289						
JIJ	**Ishigaki jima**	**1.18**	**70**	P	**Pg**	**12 33 23.2**	**+0.5**
JIJ				*eS*	**Sg**	**12 33 37.3**	**-0.9**
NACB	**Ninganchiao**	**1.23**	**280**	P	**Pg**	**12 33 23.9**	**+0.1**
	baz=274						
NACB				*eS*	**Sg**	**12 33 40.9**	**+0.9**
	baz=274						
NTC	**Toucheng**	**1.33**	**312**	*eP*	**Pg**	**12 33 26.5**	**+0.8**
	baz=311						
ETLH	**Xiulin Townshi**	**1.34**	**280**	P	**Pg**	**12 33 25.9**	**0.0**
	baz=281						
ETLH				S	**Sg**	**12 33 43.8**	**+0.3**
	baz=281						
ESL	**Shilin**	**1.38**	**264**	S	**Sb**	**12 33 43.2**	**+0.9**
	baz=260						
JISG	**Ishigakijimahi**	**1.40**	**64**	P	**Pg**	**12 33 26.3**	**-0.7**
EGFH	**Guangfu**	**1.41**	**258**	*i* P	**Pg**	**12 33 25.9**	**-1.1**
	baz=254						
EGFH				S	**Sb**	**12 33 43.6**	**+0.5**
	baz=254						
ENTT	**Nioudou**	**1.41**	**299**	*i* P	**Pg**	**12 33 27.2**	**+0.1**
	baz=298						
ENTT				*eS*	**Sg**	**12 33 46.6**	**+1.0**
	baz=298						
TIPB	**Shuangxi**	**1.42**	**315**	*i* P	**Pg**	**12 33 26.6**	**-0.6**
	baz=314						
TIPB				S	**Sg**	**12 33 45.4**	**-0.3**
	baz=314						
NDT	**Datong Townshi**	**1.44**	**296**	*i* P	**Pg**	**12 33 28.1**	**+0.4**
	baz=291						
NDT				*eS*	**Sg**	**12 33 47.1**	**+0.6**
	baz=291						
HGSD	**Ruisui**	**1.46**	**251**	P	**Pb**	**12 33 26.4**	**0.0**
	baz=257						
HGSD				S	**Sb**	**12 33 44.3**	**-0.3**
	baz=257						
NNSB	**Datong**	**1.48**	**288**	P	**Pg**	**12 33 28.4**	**-0.2**
	baz=289						
NNSB				S	**Sg**	**12 33 47.5**	**-0.4**
	baz=289						
NNSH	**Datong**	**1.48**	**288**	*i* P	**Pg**	**12 33 28.1**	**-0.4**
	baz=289						
NNSH				*eS*	**Sg**	**12 33 47.7**	**-0.2**
	baz=289						
NNS	**Nan Shan**	**1.49**	**289**	*eP*	**Pg**	**12 33 28.9**	**+0.1**
	baz=282						
NWF	**Wu-fen Shan**	**1.51**	**317**	*i* P	**Pg**	**12 33 28.7**	**-0.5**
	baz=307						
NWF				S	**Sg**	**12 33 48.3**	**-0.6**
	baz=307						
WFSB	**Wu-fen Shan**	**1.51**	**317**	P	**Pg**	**12 33 28.6**	**-0.5**
	baz=307						
WFSB				S	**Sg**	**12 33 47.5**	**-1.4**
	baz=307						
NWLT	**Wulai**	**1.53**	**302**	*i* P	**Pg**	**12 33 29.3**	**-0.1**
	baz=309						
NWLT				S	**Sg**	**12 33 48.8**	**-0.5**
	baz=309						
WHF	**Hehuan Shan**	**1.53**	**277**	*i* P	**Pg**	**12 33 28.4**	**-1.1**
	baz=277						
WHF				*i* S	**Sg**	**12 33 48.3**	**-1.2**
	baz=277						
EHY	**Hungye**	**1.54**	**253**	P	**Pg**	**12 33 28.3**	**-1.4**
	baz=254						
EHY				S	**Sb**	**12 33 47.1**	**+0.1**
	baz=254						
YHNB	**Yeheng**	**1.58**	**297**	P	**Pg**	**12 33 29.7**	**-0.7**
	baz=297						
YHNB				*eS*	**Sg**	**12 33 50.0**	**-0.9**
	baz=297						
TWA	**Mucha**	**1.58**	**310**	*eP*	**Pg**	**12 33 29.3**	**-1.2**
	baz=309						
TWA				*eS*	**Sg**	**12 33 50.1**	**-1.0**
	baz=309						
NSK	**Sanguang**	**1.59**	**296**	*i* P	**Pg**	**12 33 29.8**	**-0.9**
	baz=297						
NSK				S	**Sb**	**12 33 49.4**	**+0.8**
	baz=297						
YULB	**Yu-li**	**1.60**	**249**	P	**Pb**	**12 33 28.6**	**-0.2**
	baz=250						
YULB				S	**Sb**	**12 33 48.2**	**-0.6**
	baz=250						
CHGB	**Renai**	**1.61**	**274**	P	**Pg**	**12 33 29.5**	**-1.4**
	baz=281						
CHGB				S	**Sb**	**12 33 49.8**	**+0.7**
	baz=281						
TWF1	**Yuli**	**1.62**	**248**	*i* P	**Pb**	**12 33 29.3**	**+0.1**
	baz=245						
TWF1				S	**Sb**	**12 33 49.5**	**+0.4**
	baz=245						
TDCB	**Techi**	**1.64**	**280**	P	**Pg**	**12 33 30.4**	**-1.2**
	baz=276						
TDCB				*eS*	**Sb**	**12 33 50.9**	**+0.9**
	baz=276						
VWDT	**VWDT**	**1.65**	**263**	P	**Pb**	**12 33 29.8**	**+0.1**
	baz=258						
VWDT				S	**Sb**	**12 33 49.8**	**-0.3**
	baz=258						
TATO	**Taipei**	**1.65**	**308**	*eP*	**Pg**	**12 33 31.5**	**-0.2**
	baz=314						
TATO				*eS*	**Sg**	**12 33 51.9**	**-1.3**
	baz=314						
FULB	**Fuli**	**1.68**	**243**	P	**Pb**	**12 33 30.1**	**-0.2**
	baz=239						
FULB				S	**Sn**	**12 33 49.5**	**+0.1**
	baz=239						
YM01	**YM01**	**1.70**	**314**	*eP*	**Pg**	**12 33 31.1**	**-1.6**
	baz=313						
YM01				S	**Sb**	**12 33 51.9**	**+0.2**
	baz=313						
YM11	**YM11**	**1.71**	**314**	P	**Pg**	**12 33 32.0**	**-0.9**
	baz=306						
YM11				*eS*	**Sb**	**12 33 52.1**	**+0.1**
	baz=306						
YM10	**YM10**	**1.71**	**314**	P	**Pg**	**12 33 31.9**	**-1.1**
	baz=313						
YM10				S	**Sg**	**12 33 53.0**	**-2.3**
	baz=313						
YM08	**YM08**	**1.72**	**315**	*eP*	**Pg**	**12 33 31.6**	**-1.4**
	baz=307						
YM08				*eS*	**Sb**	**12 33 52.0**	**-0.1**
	baz=307						
YM03	**YM03**	**1.75**	**314**	*eS*	**Sb**	**12 33 52.6**	**-0.3**
	baz=313						
TWY	**Chenhua**	**1.77**	**317**	*eS*	**Sg**	**12 33 55.0**	**-2.2**
	baz=309						
EDH	**Donghe**	**1.79**	**237**	P	**Pb**	**12 33 31.0**	**-1.1**
	baz=235						
EDH				*eS*	**Sn**	**12 33 51.4**	**-0.6**
	baz=235						
SSLB	**Suanglung**	**1.81**	**265**	P	**Pb**	**12 33 32.5**	**0.0**
	baz=265						
SSLB				S	**Sb**	**12 33 55.0**	**+0.1**
	baz=265						
WHP	**Taichung City**	**1.84**	**280**	*i* P	**Pg**	**12 33 33.8**	**-1.5**
	baz=280						
WHP				S	**Sb**	**12 33 56.2**	**+0.6**
	baz=280						
LDUT	**Ludao**	**1.86**	**226**	*eS*	**Sn**	**12 33 53.3**	**-0.4**
	baz=230						
LIOB	**Emei**	**1.87**	**291**	*i* P	**Pb**	**12 33 33.7**	**+0.3**
	baz=303						
LIOB				*i* S	**Sg**	**12 33 58.2**	**-2.0**
	baz=303						
NSTT	**Nanjuang**	**1.88**	**291**	P	**Pb**	**12 33 33.9**	**+0.4**
	baz=303						
NSTT				S	**Sg**	**12 33 58.4**	**-2.0**
	baz=303						
TYC	**Yuchr**	**1.90**	**268**	P	**Pb**	**12 33 33.9**	**0.0**
	baz=269						
TYC				S	**Sb**	**12 33 57.3**	**+0.1**
	baz=269						
ALS	**Alishan**	**2.00**	**257**	P	**Pb**	**12 33 35.5**	**-0.3**
	baz=262						
ALS				*i* S	**Sb**	**12 33 59.5**	**-0.9**
	baz=262						
WJS	**Zhushan**	**2.02**	**266**	*eP*	**Pb**	**12 33 36.1**	**+0.1**
	baz=267						
WJS				S	**Sb**	**12 34 01.9**	**+1.1**
	baz=267						
TWGBT	**Beinan**	**2.05**	**236**	P	**Pb**	**12 33 34.8**	**-1.7**
	baz=234						
TWGBT				S	**Sn**	**12 33 59.1**	**+0.7**
	baz=234						
TWG	**Pinlang**	**2.05**	**237**	P	**Pb**	**12 33 35.2**	**-1.4**
	baz=234						
TWG				S	**Sn**	**12 33 59.3**	**+0.8**
	baz=234						
WNT	**Mingjian**	**2.06**	**268**	P	**Pb**	**12 33 36.6**	**0.0**
	baz=268						
WNT				S	**Sb**	**12 34 02.3**	**+0.5**
	baz=268						
CHN5	**Tsauling**	**2.09**	**260**	*i* P	**Pb**	**12 33 37.7**	**+0.3**
	baz=258						
CHN5				S	**Sb**	**12 34 02.2**	**-0.7**
	baz=258						
STYT	**Tauyuan**	**2.15**	**248**	*i* P	**Pb**	**12 33 37.6**	**-0.6**
	baz=247						
STYT				S	**Sb**	**12 34 03.0**	**-1.5**
	baz=247						
WDLH	**Douliu**	**2.21**	**263**	*eP*	**Pb**	**12 33 39.0**	**-0.2**
	baz=264						
WDLH				S	**Sb**	**12 34 06.1**	**0.0**
	baz=264						
TPUB	**Ta-pu**	**2.21**	**253**	P	**Pb**	**12 33 39.1**	**-0.2**
	baz=253						
TPUB				S	**Sb**	**12 34 05.5**	**-0.8**
	baz=253						
WTP	**Ta-pu**	**2.24**	**252**	*i* P	**Pb**	**12 33 40.0**	**+0.2**
	baz=259						
WTP				S	**Sb**	**12 34 06.4**	**-0.8**
	baz=259						
ECL	**Taimali**	**2.27**	**233**	*eS*	**Sn**	**12 34 05.3**	**+1.4**
	baz=241						
SLGT	**Liugui**	**2.31**	**246**	P	**Pb**	**12 33 40.3**	**-0.7**
	baz=243						
SLGT				*eS*	**Sb**	**12 34 07.9**	**-1.2**
	baz=243						
SGST	**Jiashian**	**2.33**	**248**	P	**Pb**	**12 33 40.4**	**-0.8**
	baz=249						
SGST				S	**Sb**	**12 34 07.9**	**-1.7**
	baz=249						
CHN1	**Nanshi**	**2.34**	**251**	P	**Pb**	**12 33 41.1**	**-0.3**
	baz=261						
CHN1				S	**Sb**	**12 34 09.1**	**-0.8**
	baz=261						
CHY	**Chiayi**	**2.34**	**259**	*eP*	**Pb**	**12 33 40.8**	**-0.7**
	baz=259						
CHY				S	**Sb**	**12 34 09.1**	**-0.9**
	baz=259						
TWK	**Hsinying**	**2.34**	**253**	*i* P	**Pb**	**12 33 40.5**	**-1.1**
	baz=262						
TWK				S	**Sb**	**12 34 09.1**	**-1.1**
	baz=262						
SNST	**Tainan City**	**2.35**	**252**	*eP*	**Pb**	**12 33 40.6**	**-1.1**
	baz=261						
SNST				S	**Sb**	**12 34 09.6**	**-0.7**
	baz=261						
SSD	**Sandimen**	**2.44**	**240**	P	**Pb**	**12 33 40.4**	**-2.7**
	baz=241						
SSD				S	**Sn**	**12 34 08.5**	**+0.5**
	baz=241						
EAST	**Anshuo**	**2.48**	**231**	*i* P	**Pn**	**12 33 40.8**	**+1.4**
	baz=225						
EAST				*eS*	**Sn**	**12 34 10.2**	**+1.1**
	baz=225						
MASBT	**Mashibuluo**	**2.50**	**238**	P	**Pb**	**12 33 41.7**	**-2.6**
	baz=238						
MASBT				*eS*	**Sn**	**12 34 11.7**	**+2.1**
	baz=238						
SCZT	**Fangliau**	**2.65**	**234**	*eP*	**Pb**	**12 33 43.9**	**-2.9**
	baz=234						
SCZT				*eS*	**Sn**	**12 34 14.2**	**+0.9**
	baz=234						
PHUB	**P'eng-hu**	**3.11**	**262**	*eS*	**Sn**	**12 34 24.0**	**-0.5**
	baz=272						
PNG	**Penghu**	**3.12**	**263**	*eP*	**Pn**	**12 33 49.9**	**+1.9**
	baz=273						
PNG				S	**Sn**	**12 34 25.4**	**+0.7**
	baz=273						
VCHM	**Qimei**	**3.30**	**257**	*eS*	**Sn**	**12 34 29.6**	**+0.5**
	baz=257						
VWUC	**VWUC**	**3.33**	**289**	*eP*	**Pb**	**12 33 53.8**	**-4.5**
	baz=279						
VWUC				*eS*	**Sn**	**12 34 30.5**	**+0.5**
	baz=279						
MATB	**Ma-tsu**	**3.47**	**309**	*eS*	**Sn**	**12 34 35.3**	**+1.9**
	baz=301						
PTMZ	**Houxiangcun**	**3.63**	**288**	*eP*	**Pn**	**12 33 58.0**	**+2.9**
	baz=279						
PTMZ				*eS*	**Sn**	**12 34 37.2**	**-0.2**
	baz=279						

LJU 22 12:59:58.3, 45°.99N×15°.56E, h6km, ML0.1, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLS	**Golise**	**0.05**	**64**	*i* Pg	Pg	12 59 59.7	-0.1
GOLS				*i* Sg	Sg	13 00 00.9	+0.1
CESS	**Cesta pri Krsk**	**0.07**	**258**	*i* Sg	Sg	13 00 01.2	+0.1
	comp=Z,7.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.13**	**158**	*i* Sg	Sg	13 00 03.1	+0.3
	comp=Z,1.0nm,0.1s						
LEGS	**Legarje**	**0.17**	**257**	*i* Pg	Pg	13 00 01.9	+0.2

BUC 22 13:02:23.7±0.2, 45°.93N×22°.71E, h3km±2km, ml1.4/9, 16C-22D, Error ellipse: s-maj=1.5km s-min=1.1km az=169.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEV	**Deva**	**0.14**	**107**	⇑P	Pg	13 02 25.9	-0.5
DEV				⇑S	Sg	13 02 28.1	-0.3
DEV	**Deva**	**0.14**	**107**	⇑P	Pg	13 02 25.9	-0.5
DEV				⇑S	Sg	13 02 28.1	-0.3
SIRR	**Siria**	**0.81**	**295**	⇓P	Pg	13 02 38.4	-0.7
SIRR				⇓S	Sg	13 02 50.6	+1.0
SIRR	**Siria**	**0.81**	**295**	⇓P	Pg	13 02 38.4	-0.7
SIRR	**Siria**	**0.81**	**295**	⇓S	Sg	13 02 50.6	+1.0
BZS	**Buzias**	**0.82**	**248**	⇓P	Pg	13 02 39.4	-0.1
BZS				⇓S	Sg	13 02 50.1	0.0
BZS	**Buzias**	**0.82**	**248**	⇓P	Pg	13 02 39.4	-0.1
BZS	**Buzias**	**0.82**	**248**	⇓S	Sg	13 02 50.1	0.0
LOT	**Lotru**	**0.89**	**122**	⇓P	Pg	13 02 41.0	+0.3
LOT				⇓S	Sb	13 02 53.5	-0.5
LOT	**Lotru**	**0.89**	**122**	⇓P	Pg	13 02 41.0	+0.3
LOT	**Lotru**	**0.89**	**122**	⇓S	Sb	13 02 53.5	-0.5
CJR	**Cluj-Napoca**	**1.00**	**38**	⇓P	Pg	13 02 43.0	+0.1
CJR				⇓S	Sb	13 02 57.5	+0.2
CJR	**Cluj-Napoca**	**1.00**	**38**	⇓P	Pg	13 02 43.0	+0.1
CJR	**Cluj-Napoca**	**1.00**	**38**	⇓S	Sb	13 02 57.5	+0.2
HERR	**Herculane**	**1.06**	**191**	⇑P	Pb	13 02 44.5	-0.2
HERR				⇑S	Sb	13 02 59.1	+0.1
HERR	**Herculane**	**1.06**	**191**	⇑P	Pb	13 02 44.5	-0.2
HERR	**Herculane**	**1.06**	**191**	⇑S	Sb	13 02 59.1	+0.1
MDVR	**Moldovita**	**1.34**	**212**	⇓P	Pn	13 02 49.1	-0.3
MDVR				⇑S	Sn	13 03 08.5	+0.8
MDVR	**Moldovita**	**1.34**	**212**	⇓P	Pn	13 02 49.1	-0.3
MDVR	**Moldovita**	**1.34**	**212**	⇑S	Sn	13 03 08.5	+0.8
ARR	**Arges**	**1.46**	**112**	⇑P	Pn	13 02 50.4	-0.7
ARR				⇑S	Sn	13 03 11.6	+0.9
ARR	**Arges**	**1.46**	**112**	⇑P	Pn	13 02 50.4	-0.7
ARR	**Arges**	**1.46**	**112**	⇑S	Sn	13 03 11.6	+0.9
VOIR		**1.71**	**106**	⇑P	Pn	13 02 54.1	-0.4
VOIR				⇓S	Sb	13 03 18.2	+0.4
VOIR		**1.71**	**106**	⇑P	Pn	13 02 54.1	-0.4
VOIR		**1.71**	**106**	⇓S	Sb	13 03 18.2	+0.4
HUMR	**Humele**	**2.13**	**130**	⇓P	Pn	13 03 00.4	+0.3
HUMR	**Humele**	**2.13**	**130**	⇓P	Pn	13 03 00.4	+0.3

IDC 22 13:09:15.1±1.2, 43°.89N×88°.38E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.2/50, mbtmp3.3/5, ML2.6/2, MS2.4/1, Ms1 2.4/1, ms1mx2.0/40, 1C-1D, Error ellipse: s-maj=100.8km s-min=18.0km az=48.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.18**	**306**	Pn	Pn	13 10 33.5	-0.4
	0.7nm,0.5s,baz=128,slow=14,SNR=15						
MK31				Lg	Lg	13 11 54.3	
	5.8nm,0.7s,baz=131,slow=27,SNR=4.8						
MKAR	**Makanchi Array**	**5.18**	**306**	Pn	Pn	13 10 33.6	-0.3
	0.4nm,0.3s,baz=127,slow=15,SNR=18						
MKAR				Lg	Lg	13 11 54.1	
	0.4nm,0.3s,baz=132,slow=27,SNR=7.6						
MAKZ	**Makanchi**	**5.37**	**305**	⇑Pn	Pn	13 10 34.9	-1.7
	2.0nm,0.6s						
MAKZ				⇓Lg	Lg	13 11 55.0	
	2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**9.49**	**319**	Pn	Pn	13 11 33.0	+0.1
	0.0nm,0.3s,baz=134,slow=13,SNR=9.4						
KURBB				Lg	Lg	13 14 11.6	
	0.0nm,0.3s,baz=115,slow=29,SNR=4.1						
ZALV	**Zalesovo Beam**	**10.33**	**348**	LR	LR	13 15 55.7	
	comp=Z,21nm,21.1s,baz=55,slow=39						
CMAR	**Chiang Mai Arr**	**26.87**	**157**	P	P	13 14 58.4	+0.9
	0.5nm,0.7s,baz=324,slow=8.5,SNR=4.8						
WRA	**Warramunga Arr**	**76.20**	**136**	P	P	13 21 05.4	+0.2
	0.3nm,0.6s,baz=331,slow=4.6,SNR=7.9						
ASAR	**Alice Springs**	**79.12**	**138**	P	P	13 21 20.7	-0.7
	0.2nm,0.7s,baz=339,slow=7.0,SNR=3.5						

KRSC ***22*** *13:13:13.3±1.7, 53°.01N×156°.43E, h310km±16km, ML3.8*
IDC ***22*** *13:14:14.8±0.7, 53°.33N×156°.10E, h292km±7km, mb2.7/4, mb1 3.1/5, mb1mx2.7/52, mbtmp3.6/5, Error ellipse: s-maj=32.5km s-min=18.9km az=150.0*
ISC 22 13:13:16.3±0.9, 52°.95N±0°.08×156°.8E±0°.1, h305km±6km, n47, σ0s99/62, mb3.1/4, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**0.20**	**97**	*eP*	**Pn**	**13 13 53.4**	**-1.5**
PETK	**Petropavlovsk-**	**0.55**	**73**	P	**Pn**	**13 13 55.0**	**-0.6**
	1.6nm,0.3s,baz=91,slow=22,SNR=142						
PETK				S	**S**	**13 14 25.6**	**-1.2**
	0.3nm,0.3s,baz=76,slow=12,SNR=2.9						
MIPR	**Malaya Ipel'ka**	**0.68**	**184**	*eP*	**Pn**	**13 13 55.5**	**-0.6**
KRMR	**Karymshinskiy**	**0.79**	**98**	*eP*	**Pn**	**13 13 56.5**	**+0.2**
KRMR				*eS*	**S**	**13 14 28.8**	**+0.6**
GRL	**Gorelyy**	**0.85**	**117**	*eP*	**Pn**	**13 13 56.7**	**-0.1**
GRL				*eS*	**S**	**13 14 29.8**	**+0.9**
ASAK	**Asacha**	**0.86**	**131**	*eP*	**Pn**	**13 13 56.9**	**+0.1**
ASAK				*eS*	**S**	**13 14 30.0**	**+1.0**
MTVR	**Mutnovka**	**0.94**	**119**	*eP*	**Pn**	**13 13 57.3**	**+0.1**
MTVR				*eS*	**S**	**13 14 31.0**	**+1.3**
PET	**Petropavlovsk**	**1.10**	**85**	*i* P	**Pn**	**13 13 57.6**	**0.0**
PET				*i* S	**S**	**13 14 31.2**	**+0.7**
KOK	**Koryaka**	**1.14**	**72**	*eP*	**Pn**	**13 13 58.3**	**+0.3**
RUS	**Russkaya**	**1.14**	**116**	*eP*	**Pn**	**13 13 57.4**	**-0.5**
RUS				*eS*	**S**	**13 14 30.5**	**-0.5**
DALK	**Dalny**	**1.16**	**85**	*eP*	**Pn**	**13 13 57.7**	**-0.2**
DALK				*eS*	**S**	**13 14 31.4**	**+0.3**
KRX	**Arik**	**1.17**	**69**	*eP*	**Pn**	**13 13 58.2**	**0.0**
KRX				*eS*	**S**	**13 14 32.1**	**+0.6**
AVH	**Avacha**	**1.19**	**74**	*eP*	**Pn**	**13 13 58.4**	**+0.2**
KRER	**Koryakskii**	**1.21**	**72**	*eP*	**Pn**	**13 13 58.6**	**+0.2**
SMAR	**Somma**	**1.23**	**74**	*eP*	**Pn**	**13 13 58.3**	**-0.3**
UGLR	**Uglovaya**	**1.23**	**77**	*eP*	**Pn**	**13 13 58.8**	**+0.4**
UGLR				*eS*	**S**	**13 14 33.3**	**+1.3**
KDTR	**Khodutka, Kamc**	**1.37**	**146**	*eP*	**Pn**	**13 13 58.1**	**-1.1**
KDTR				*eS*	**S**	**13 14 31.8**	**-1.5**
NLC	**Nalytchevo

LGNR	Loginova	3.86	34	*e*P		Pn	13 14 22.0	+0.6
CIRR	Tsirk	3.91	34	*e*P		Pn	13 14 22.2	+0.4
KRSR	Krestovskiy	3.93	32	*e*P		Pn	13 14 21.5	-0.5
KLY	Klyuchi	4.04	32	*e*P		Pn	13 14 23.2	+0.2
BDR	Baidarnaya	4.42	33	*e*P		Pn	13 14 27.2	-0.2
SRKR	Sorokina	4.48	32	*e*P		Pn	13 14 28.1	+0.1
SMKR	Semkarok	4.52	35	*e*P		Pn	13 14 28.7	+0.2
KBG	Krutoberegovo	4.75	43	*e*P		Pn	13 14 30.5	-0.5
KBG				*e*S		S	13 15 26.9	-4.2
KBTR	Krutoberegovo	4.77	44	*e*P		Pn	13 14 30.1	-1.1
BKI	Bering	5.83	64	*e*P		Pn	13 14 44.5	+0.9
BKI				*e*S		S	13 15 51.6	-2.4
ASAJ	Asahikawa	12.91	232	P		Pn	13 16 09.2	-0.4
0.7nm,0.3s,baz=73,slow=9.3,SNR=12								
ILAR	Eielson Array	30.31	45	P		P	13 18 59.6	0.0
0.3nm,0.5s,baz=275,slow=8.2,SNR=9.0								
MKAR	Makanchi Array	46.43	294	P		P	13 21 07.8	-5.1
0.2nm,0.5s,baz=64,slow=9.4,SNR=2.9								
TXAR	Lajitas Array	72.49	65	P		P	13 24 11.5	+1.3
0.2nm,0.5s,baz=299,slow=5.1,SNR=5.5								
ASAR	Alice Springs	78.86	201	P		P	13 24 46.3	+0.5
0.3nm,1.0s,baz=16,slow=5.3,SNR=3.6								

*IDC **22** 13:15:39.2±0.7, 9°.91N×40°.62W, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.1/39, mbtmp4.1/14, ML4.3/1, MS3.5/19, Ms1 3.5/19, ms1mx3.3/43, Error ellipse: s-maj=26.3km s-min=15.2km az=156.0*
*NEIC **22** 13:15:40.0±2.5, 10°.0N±0°.1×40°.66W±0°.10, h10km±1km, mb4.5/41, Error ellipse: s-maj=22.8km s-min=15.3km az=157.0*
ISC 22 13:15:40.1±0.6, 10°.0N±0°.1×40°.70W±0°.09, h10km, n82, σ1§19/62, mb4.4/28, MS3.5/17, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	12.80	249	Pn	Pn	13 18 42.5	+0.2
1.5nm,0.3s,baz=60,slow=14,SNR=8.4							
MDP				LR	LR	13 22 43.8	
comp=Z,274nm,21.4s,baz=121,slow=33							
RCBR	Riachuelo	16.42	163	LR	LR	13 24 11.9	
comp=Z,73nm,19.7s,baz=346,slow=31							
SACV	Santiago Islan	17.40	72	Pn	Pn	13 19 40.6	-2.5
H05S1	Guadeloupe/Mar	20.17	285	T	T	13 41 00.2	
SNR=35							
H05N1	Guadeloupe/Mar	20.79	290	T	T	13 41 46.3	
SNR=10.0							
PTGA	Pitinga	21.94	242	P	P	13 20 34.2	+0.2
5.4nm,0.8s,baz=64,slow=12,SNR=10.0							
PTGA				LR	LR	13 28 16.1	
comp=Z,213nm,20.5s,baz=72,slow=34							
PTGA	Pitinga	21.94	242	P	P	13 20 33.2	-0.8
PTGA				IAmb	IAmb	13 20 43.4	
comp=Z,46nm,1.4s							
BDFB	Brasilia	26.47	196	LR	LR	13 31 12.6	
comp=Z,122nm,19.9s,slow=35							
SAML	Samuel	29.24	231	P	P	13 21 44.0	+1.6
SAML				IAmb	IAmb	13 21 44.8	
comp=Z,5.7nm,0.9s							
SDV	Santo Domingo	29.55	270	LR	LR	13 33 43.7	
comp=Z,46nm,19.5s,baz=96,slow=37							
H10N3	ASCENSION HYDR	31.53	123	T	T	13 55 21.4	
baz=304,slow=75,SNR=40							
H10N2	ASCENSION HYDR	31.53	123	T	T	13 55 20.8	
baz=304,slow=75,SNR=33							
H10N1	ASCENSION HYDR	31.55	123	T	T	13 55 22.2	
baz=304,slow=75,SNR=36							
H10S3	ASCENSION HYDR	32.02	125	T	T	13 55 58.7	
baz=303,slow=74,SNR=29							
H10S2	ASCENSION HYDR	32.04	125	T	T	13 56 00.4	
baz=277,slow=74,SNR=13							
ROSC	El Rosal	33.72	264	LR	LR	13 36 25.8	
comp=Z,268nm,18.5s,baz=102,slow=37							
DBIC	Dimbokro	35.60	92	P	P	13 22 37.8	-0.5
comp=Z,3.0nm,0.6s,baz=263,slow=9.5,SNR=5.3							
DBIC				LR	LR	13 33 47.0	
comp=Z,52nm,18.6s,baz=234,slow=31							
LPAZ	La Paz	37.66	226	P	P	13 22 58.4	+1.9
comp=Z,3.5nm,0.7s,baz=31,slow=6.4,SNR=16							
LPAZ				LR	LR	13 39 03.0	
comp=Z,58nm,18.2s,baz=36,slow=37							
LPAZ	La Paz	37.66	226	P	P	13 22 58.1	+1.6
PSGCX	Pisagua	41.29	225	P	P	13 23 24.7	-1.4
PSGCX				IAmb	IAmb	13 23 47.6	
comp=Z,22nm,1.5s							
TOA0	Torodi Ar. Sit	41.61	81	P	P	13 23 28.6	-0.2
TOA0				IAmb	IAmb	13 23 29.8	
comp=Z,8.7nm,0.9s							
TORD	Torodi Ar. Bea	41.61	81	P	P	13 23 28.9	+0.2
comp=Z,7.0nm,0.8s,baz=278,slow=8.3,SNR=27							
TORD				LR	LR	13 39 24.6	
comp=Z,98nm,19.1s,baz=265,slow=34							
TORD	Torodi Ar. Bea	41.61	81	P	P	13 23 28.4	-0.4
PB09	IPOC Station P	42.22	221	P	P	13 23 32.3	-1.5
TRNY	Table Rock, Ra	42.86	322	P	P	13 23 37.3	-1.2
ESDC	Sonseca Array	44.04	42	P	P	13 23 49.1	+0.9
comp=Z,0.6nm,0.7s,baz=254,slow=9.3,SNR=4.2							
ESDC				LR	LR	13 38 36.6	
comp=Z,80nm,20.3s,baz=260,slow=31							
GO02	Mina Guanaco	44.87	218	P	P	13 23 55.9	+0.6
O54A	Avella	46.25	317	P	P	13 24 02.3	-3.4
KEST	Kesra	52.06	52	LR	LR	13 45 13.8	
comp=Z,54nm,21.1s,baz=254,slow=34							
DAVOX	Davos/Dischmat	56.28	40	LR	LR	13 45 51.9	
comp=Z,67nm,21.1s,baz=258,slow=32							
SFJD	Kangerlussuaq	57.33	355	LR	LR	13 44 05.0	
comp=Z,241nm,21.4s,baz=78,slow=30							
PLCA	Paso Flores	57.50	207	LR	LR	13 50 27.0	
comp=Z,32nm,18.4s,baz=165,slow=36							
ABTX	Abilene, Hawle	58.59	302	P	P	13 25 36.9	-0.6
AMTX	Amarillo	60.60	304	P	P	13 25 51.4	0.0
TX31	Lajitas Ar. Si	61.65	298	P	P	13 25 58.4	-0.3
TX32	Lajitas Array	61.65	298	P	P	13 25 58.1	-0.5
TXAR	Lajitas Array	61.65	298	P	P	13 25 59.2	+0.5
comp=Z,0.9nm,0.6s,baz=115,slow=7.0,SNR=16							
TXAR	Lajitas Array	61.65	298	P	P	13 25 58.2	-0.4
MNTX	Cornudas Mount	63.32	300	P	P	13 26 09.3	-0.4
MNTX				IAmb	IAmb	13 26 13.5	
comp=Z,5.3nm,1.4s							
NOA	NORSAR Array B	63.50	25	P	P	13 26 10.2	-0.2
comp=Z,1.3nm,0.9s,baz=246,slow=5.1,SNR=3.4							
SDCO	Great Sand Dun	64.06	307	P	P	13 26 15.7	+0.9
SDCO				IAmb	IAmb	13 26 16.8	
comp=Z,3.2nm,0.9s							
IDI	Anoyia	64.39	56	LR	LR	13 53 54.0	
comp=Z,20nm,20.4s,baz=258,slow=36							
ISCO	Idaho Springs	64.44	309	P	P	13 26 18.3	+1.1
ISCO				IAmb	IAmb	13 26 26.5	
comp=Z,2.5nm,0.9s							
S22A	4UR Ranch, Cre	65.11	307	P	P	13 26 22.8	+1.2
S22A				IAmb	IAmb	13 26 23.8	
comp=Z,5.8nm,1.2s							
PD31	Pinedale Array	67.78	312	P	P	13 26 38.2	-0.4
PD31				IAmb	IAmb	13 26 59.3	
comp=Z,3.8nm,1.5s							
PDAR	Pinedale Array	67.78	312	P	P	13 26 41.7	+3.1
comp=Z,0.1nm,0.3s,baz=88,slow=11,SNR=3.6							
PDAR	Pinedale Array	67.78	312	P	P	13 26 38.0	-0.6
GCMT	Greycliff	68.26	315	P	P	13 26 40.4	-1.0
WUAZ	Wupatki	68.56	304	P	P	13 26 44.9	+1.3
X16A	Lo Mia Camp, P	68.56	303	P	P	13 26 45.0	+1.4
X16A				IAmb	IAmb	13 26 46.2	
comp=Z,3.1nm,1.0s							
IMW	Indian Meadow	68.92	313	P	P	13 26 45.6	-0.2
HWUT	Hardware Ranch	69.14	311	P	P	13 26 47.1	0.0
HWUT				IAmb	IAmb	13 26 48.4	
comp=Z,3.1nm,1.0s							
MSU	Marysvale	69.38	307	P	P	13 26 49.4	+0.7
MVU	Marysvale	69.40	307	P	P	13 26 49.9	+1.1
TCRU	Three Creeks R	69.59	307	P	P	13 26 48.3	-1.7
BOZ	Bozeman (W)	69.60	315	P	P	13 26 49.4	-0.4
BOZ				IAmb	IAmb	13 26 52.3	
comp=Z,4.6nm,1.2s							
AKASG	Malin Array Be	69.63	40	P	P	13 26 50.6	+1.0
comp=Z,2.1nm,0.7s,baz=255,slow=6.2,SNR=6.5							
HRY	Holter Researc	69.87	316	P	P	13 26 50.4	-1.0
BGU	Big Grassy Mou	70.19	310	P	P	13 26 54.0	+0.5
DLMT	Dillon	70.25	315	P	P	13 26 55.0	+1.2
DLMT				IAmb	IAmb	13 26 56.7	
comp=Z,7.8nm,1.2s							
HLID	Hailey	71.39	313	P	P	13 27 01.5	+0.7
HLID				IAmb	IAmb	13 27 02.9	
comp=Z,3.2nm,1.1s							
JTMT	Jette	71.64	317	P	P	13 27 01.4	-0.8
JTMT				IAmb	IAmb	13 27 03.8	
comp=Z,4.1nm,1.1s							
BRTR	Keskin Array B	71.65	51	P	P	13 27 03.2	+0.8
comp=Z,1.2nm,0.8s,baz=241,slow=5.1,SNR=6.3							
BRTR				LR	LR	14 00 34.5	
comp=Z,8.4nm,18.9s,baz=284,slow=38							
BRTR	Keskin Array B	71.65	51	P	P	13 27 01.2	-1.2
ELK	Elko	71.85	310	P	P	13 27 04.2	+0.4
TPNV	Topopah Spring	72.55	306	P	P	13 27 08.9	+1.1
EIL	Elat	72.70	62	LR	LR	13 58 52.9	
comp=Z,39nm,20.3s,baz=280,slow=36							
MMAI	Mount Meron Ar	73.01	59	LR	LR	14 00 10.5	
comp=Z,23nm,20.4s,baz=180,slow=37							
TPH	Tonopah	73.33	307	P	P	13 27 12.7	+0.2
KVN	Kaiserville	74.02	308	P	P	13 27 16.4	-0.1
BOSA	Boshof	74.28	123	LR	LR	13 53 18.3	
comp=Z,60nm,20.0s,baz=250,slow=30							
LHV	Little Huntoon	74.34	307	P	P	13 27 18.7	+0.5
LHV				IAmb	IAmb	13 27 20.8	
comp=Z,5.1nm,1.1s							
OMMB	Old Mammoth Mi	74.74	306	P	P	13 27 22.0	+1.1
MDPB	Devils Postpil	74.80	306	P	P	13 27 23.1	+1.8
MOD	Modoc Plateau	75.69	311	P	P	13 27 27.2	+1.1
MOD				IAmb	IAmb	13 27 28.5	
comp=Z,4.3nm,0.9s							
KBZ	Khabaz	78.56	47	P	P	13 27 44.2	+2.3
comp=Z,1.8nm,0.8s,baz=308,slow=1.1,SNR=4.8							
SNAA	Sanae	85.26	169	P	P	13 28 15.7	-0.9
comp=Z,1.2nm,1.0s,baz=312,slow=4.9,SNR=4.6							
SNAA	Sanae	85.26	169	IAmb	IAmb	13 28 18.9	
comp=Z,2.6nm,1.1s							
BCAR	Beaver Creek A	86.15	333	P	P	13 28 22.3	+0.9
ILAR	Eielson Array	87.83	336	P	P	13 28 30.2	+0.8
comp=Z,0.7nm,0.9s,baz=59,slow=3.5,SNR=5.8							
ILAR	Eielson Array	87.83	336	P	P	13 28 29.7	+0.2
ABKAR	Akbulak array	89.37	40	P	P	13 28 38.6	+1.6

*IDC **22** 13:26:26.6±1.8, 0°.83N×97°.44E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/56, mbtmp3.5/5, ML2.4/1, Error ellipse: s-maj=39.0km s-min=21.4km az=80.0*
*DJA **22** 13:26:48.3±0.4, 2°.N±3°×9°.9E±°, h139km±4km, M3.8/12, mb4.7/2, MLv3.3/12*
ISC 22 13:26:48.9±0.9, 1°.94N±0°.07×99°.17E±0°.09, h150km, n20, σ1§07/18, mb3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	Sibolga	0.48	216	P	Pn	13 27 10.4	+0.3
SBSI				S	Sn	13 27 27.0	+0.7
PSI	Prapat	0.89	344	Pn	Pn	13 27 06.1	-6.8
0.9nm,0.3s,baz=180,slow=18,SNR=4.1							
PSI				Pg	Pn	13 27 11.3	-1.6
11nm,0.3s,baz=360,slow=6.9,SNR=24							
MNSI	Mandailing Nat	1.21	160	P	Pn	13 27 15.1	-0.4
MNSI				S	Sn	13 27 35.3	-0.6
GSI	Gunungsitoli	1.71	248	P	Pn	13 27 20.7	-0.1
PBSI	Pulau Batu	2.17	204	P	Pn	13 27 26.1	+0.1
TPTI		2.38	303	P	Pn	13 27 28.0	-0.6
BKNI	Bangkinang	2.46	131	P	Pn	13 27 30.2	+0.7
SISI	Saibi	3.24	181	P	Pn	13 27 37.7	-1.7
RGRI	Rengat	3.89	126	P	Pn	13 27 38.8	-9.0
LHMI	Lhok Sumawe	3.95	326	P	Pn	13 27 47.8	-0.7
KRJI	Kerinci	4.61	150	P	Pn	13 27 56.6	-0.7
LHSI	Lahat	7.19	143	P	Pn	13 28 29.9	-1.6
0.2nm22nm,0.9s							
MNAI	Manna	7.31	149	P	Pn	13 28 32.1	-1.1
CMAR	Chiang Mai Arr	16.42	359	P	P	13 30 32.4	+1.5
baz=195,slow=11,SNR=9.0							
H08S2	Diego Garcia H	28.27	250	T	T	13 59 52.8	
baz=71							
H08S3	Diego Garcia H	28.27	250	T	T	13 59 56.2	
baz=71							
H08S1	Diego Garcia H	28.28	250	T	T	13 59 57.4	
baz=71							
WRA	Warramunga Arr	40.78	124	P	P	13 34 15.3	-0.4
0.5nm,0.4s,baz=304,slow=8.9,SNR=16							
ASAR	Alice Springs	42.30	129	P	P	13 34 29.6	+1.5
0.2nm,0.5s,baz=302,slow=7.9,SNR=9.2							
MKAR	Makanchi Array	47.04	344	P	P	13 35 04.7	-0.5
0.3nm,0.3s,baz=161,slow=8.9,SNR=3.8							

*REY **22** 13:36:03.0, 64°.67N×17°.46W, h7km*
*IDC **22** 13:36:03.5±0.6, 64°.62N×17°.64W, h0km, mb3.9/15, mb1 4.1/18, mb1mx3.9/41, mbtmp3.9/18, ML2.7/2, MS3.4/24, Ms1 3.4/24, ms1mx3.2/47, Error ellipse: s-maj=22.0km s-min=12.0km az=19.0*
*NEIC **22** 13:36:04.5±2.1, 64°.59N±0°.09×17°.8W±0°.1, h8km±4km, mb4.4/63, Error ellipse: s-maj=13.7km s-min=8.4km az=190.0*
ISC 22 13:36:04.7±0.4, 64°.66N±0°.02×17°.46W±0°.02, h10km, n157, σ1§73/147, mb4.3/45, MS3.4/22, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.13	275	P	Pg	13 36 05.7	-2.0
baz=271							
IVON				S	Sg	13 36 08.7	-1.2
baz=271							
IDYN	Dyngjuhals	0.14	18	P	Pg	13 36 05.9	-2.0
baz=18							
IDYN				S	Sg	13 36 08.4	-1.7
baz=18							
IDJK	Dyngjujokull	0.19	148	P	Pg	13 36 07.0	-1.7
baz=150							
IURH	Urdarhals	0.21	40	P	Pg	13 36 07.2	-1.9
baz=42							
IURH				S	Sg	13 36 11.1	-1.0
baz=42							
IGRF	Grimsfjall	0.27	162	P	Pg	13 36 08.4	-1.8
baz=162							
IKVE	Kverkfjoll	0.34	87	P	Pg	13 36 09.7	-1.8
baz=88							
IBJK	Bruarjokull	0.36	122	P	Pg	13 36 09.8	-2.1
baz=123							
IBJK				S	Sg	13 36 15.7	-1.0
baz=123							
IHUS	Husbondi	0.38	193	P	Pg	13 36 10.5	-1.7
baz=193							
ISKR	Skrokkalda	0.41	256	P	Pg	13 36 10.6	-2.2
baz=255							
IVOT	Vottur	0.41	163	P	Pg	13 36 10.9	-1.8
baz=163							
IJOK	Jokulheimar	0.48	224	P	Pg	13 36 12.1	-1.9
baz=223							
IKRE	Kreppuhraun	0.48	75	P	Pg	13 36 11.6	-2.4
baz=76							
IKRE				S	Sg	13 36 18.4	-1.9
baz=76							
IMKO	Mokollar	0.58	56	P	Pg	13 36 13.4	-2.5
baz=57							
IMKO				S	Sg	13 36 22.0	-1.5
baz=57							
IIEY	Innrieyrar	0.64	207	P	Pg	13 36 14.6	-2.3
baz=207							
IIEY				S	Sg	13 36 24.3	-1.0
baz=207							
IKSK	Karasker	0.66	139	P	Pg	13 36 14.4	-3.0
baz=140							
ISVA	Svartarkot	0.68	7	P	Pg	13 36 15.2	-2.6
baz=7.4							
IKAL	Kalfafell	0.72	188	P	Pg	13 36 16.1	-2.5
baz=188							
IVSH	V-Sauoahnukur	0.76	78	P	Pg	13 36 16.2	-3.1
baz=79							
IVSH				S	Sg	13 36 26.7	-2.5
baz=79							
IVAT	Vatnsfell	0.79	234	P	Pg	13 36 17.5	-2.4
baz=233							
IFAG	Fagurholsmyri	0.87	156	P	Pg	13 36 18.3	-3.0
baz=156							
IADA	Aoalbol	0.88	65	P	Pg	13 36 18.2	-3.5
baz=66							
IADA				S	Sg	13 36 30.4	-2.7
baz=66							
IMEL	Melhnausar	0.97	20	P	Pg	13 36 19.8	-3.6
baz=20							
IREN	Reynihlio	1.02	13	P	Pg	13 36 20.6	-3.6
baz=13							
ISNB	Snabyli	1.06	209	P	Pg	13 36 21.8	-3.2
baz=209							
IKVO	Krokottuvotn	1.08	13	P	Pg	13 36 21.7	-3.8
baz=13							
ISLY	Slysaalda	1.11	221	P	Pb	13 36 22.6	-3.3
baz=221							
ISKI	Skildingahlsh	1.23	8	P	Pn	13 36 24.0	-3.8
baz=8.4							
IGHA	Grjothals	1.23	15	P	Pn	13 36 23.9	-4.0
baz=16							
BORG	Borgarnes	1.66	275	Pn	Pn	13 36 30.8	-3.0
88nm,0.3s,baz=97,slow=7.6,SNR=80							
BORG				Sn	Sn	13 36 52.3	-2.8
31nm,0.3s,baz=289,slow=14,SNR=3.8							
BORG				LR	LR	13 36 56.3	
comp=Z,446nm,19.0s,baz=120,slow=33							
BORG	Borgarnes	1.66	275		Pn	13 36 30.6	-3.2
SCO	Scoresbysund	6.09	346	*i* P	Pn	13 37 34.9	+0.3
SCO				*i* S	Sn	13 38 48.5	+4.3
SCO	Scoresbysund	6.09	346	Pn	Pn	13 37 34.6	0.0
JMIC	Jan Mayen	7.19	24	LR	LR	13 39 59.1	
comp=Z,214nm,19.2s,baz=14,slow=32							
EKA	Eskdalemuir Ar	11.74	136	Pn	Pn	13 38 52.2	+0.2
baz=322,slow=13,SNR=12							
ESK	Eskdalemuir	11.74	136	Pn	Pn	13 38 52.1	+0.1
NOA	NORSAR Array B	13.52	92	Pn	Pn	13 39 14.8	-1.4
0.0nm,0.3s,baz=321,slow=9.8,SNR=2.1							
NOA				LR	LR	13 44 24.6	
comp=Z,91nm,20.0s,baz=305,slow=37							
HFS	Hagfors	15.03	93	LR	LR	13 45 40.2	
comp=Z,92nm,18.2s,baz=294,slow=38							
SPITS	Spitsbergen Ar	16.87	23	LR	LR	13 44 43.8	
comp=Z,102nm,19.1s,baz=255,slow=31							
FINES	FINESS Array B	19.69	79	P	Pn	13 40 36.1	+1.1
0.1nm,0.3s,baz=288,slow=12,SNR=3.7							
FINES				LR	LR	13 47 54.6	
comp=Z,67nm,19.5s,baz=269,slow=36							
CLL	Collm	20.69	116	*i* P	Pn	13 40 44.8	-2.0
comp=Z,75nm,2.2s							
CLL	Collm	20.69	116	P	Pn	13 40 45.4	-1.5
ECH	Echery	21.14	129	P	P	13 40 50.2	+0.7
ECH				IAmb	IAmb	13 40 59.3	
comp=Z,23nm,1.5s							
BRG	Berggiesshubel	21.40	115	*e*P	P	13 40 53.3	+1.1
comp=Z,23nm,1.3s							
BRG				S	Sn	13 44 59.0	+2.0
comp=N,179nm,12.3s							
comp=E,169nm,12.2s							
comp=Z,166nm,15.0s							
BFO	Black Forest	21.43	127	P	P	13 40 52.3	-0.3
BFO				IAmb	IAmb	13 40 59.3	
comp=Z,19nm,1.3s							
FRB	Frobisher Bay	21.76	291	LR	LR	13 48 36.0	
comp=Z,129nm,18.8s,baz=38,slow=35							
PRU	Pruhonice	22.33	116	AMS	AMS	13 51 20.0	
comp=Z,100nm,13.5s							
KSP	Ksiaz	22.35	112	*e*P	P	13 41 02.7	+0.3
KSP				*ep*P	sP	13 41 05.7	-1.5
KSP				*e*S	Sn	13 45 17.4	-2.4
KHC	Kasperske Hory	22.66	118	*e*P	P	13 41 07.4	+1.7
KHC				AMS	AMS	13 50 10.0	
comp=Z,200nm,12.4s							
KHC	Kasperske Hory	22.66	118	P	P	13 41 05.9	+0.2
DPC	Dobruska-Polom	22.75	113	*e*P	P	13 41 08.6	+2.0
SENIN	Lac Senin/Sane	22.81	132	P	P	13 41 07.3	-0.2
SENIN				IAmb	IAmb	13 41 23.9	
comp=Z,18nm,1.4s							
GEC2	GERESS Array S	22.94	119	P	P	13 41 09.2	+0.5
GERES	GERESS Array B	22.94	119	P	P	13 41 10.2	+1.5
comp=Z,1.6nm,0.8s,baz=324,slow=8.9,SNR=9.2							
GERES				LR	LR	13 51 15.9	
comp=Z,102nm,18.5s,baz=304,slow=40							
GERES	GERESS Array B	22.94	119	P	P	13 41 08.2	-0.5
KRLC	Kraliky	23.14	113	*e*P	P	13 41 12.6	+1.8
KRLC				AMS	AMS	13 55 30.0	
comp=Z,200nm,10.7s							
DAVOX	Davos/Dischmat	23.30	127	P	P	13 41 14.6	+2.0
comp=Z,2.9nm,0.7s,baz=352,slow=17,SNR=3.7							
VRAC	Vranov	23.68	114	P	P	13 41 17.0	+1.0
comp=Z,1.6nm,0.4s,baz=332,slow=13,SNR=6.6							
VRAC				LR	LR	13 51 57.4	
comp=Z,110nm,18.4s,baz=276,slow=40							
VRAC	Vranov	23.68	114	*e*P	P	13 41 18.7	+2.6
MORC	Moravsky Berou	23.68	112	*e*P	P	13 41 18.8	+2.7
MORC	Moravsky Berou	23.68	112	P	P	13 41 17.6	+1.5
MORC				IAmb	IAmb	13 41 34.2	
comp=Z,12nm,1.4s							
KRUC	Moravsky	23.80	115	*e*P	P	13 41 19.6	+2.4
OJC	Ojcow	24.25	109	*e*P	P	13 41 22.9	+1.5
OJC	Ojcow	24.25	109	P	P	13 41 22.4	+1.0
OJC				IAmb	IAmb	13 41 35.9	
comp=Z,9.3nm,1.2s							
JAVC	Velka Javorina	24.46	113	*e*P	P	13 41 26.3	+2.8
MICGM	Minsk	24.55	93	*e*P	P	13 41 27.0	+2.9
CIMO	Cimolais	24.61	124	P	P	13 41 25.3	+0.5
SMOL	Smolenice	24.64	114	*e*P	P	13 41 26.4	+1.3
NIE	Niedzica	25.07	109	*e*P	P	13 41 29.4	+0.4
VYHS	Vyhne	25.22	112	*e*P	P	13 41 31.3	+1.1
KLMR	Klimovskoe	25.59	72	*e*P	P	13 41 33.5	0.0
KLMR				AMP		13 41 39.1	
comp=Z,22nm,1.5s							
KWP	Kalwaria Pacla	25.89	106	*e*P	P	13 41 37.6	+1.2
SCHQ	Schefferville	26.05	271	P	P	13 41 38.3	+0.5
comp=Z,3.5nm,0.6s,baz=86,slow=5.0,SNR=3.5							
SCHQ				LR	LR	13 50 07.0	
comp=Z,82nm,21.0s,baz=32,slow=32							
SCHQ	Schefferville	26.05	271	IAmb	IAmb	13 41 43.7	
comp=Z,31nm,1.5s							
ESDC	Sonseca Array	26.24	156	P	P	13 41 40.6	+1.0
comp=Z,1.3nm,0.9s,baz=356,slow=8.0,SNR=6.7							
ESDC				LR	LR	13 51 20.6	
comp=Z,53nm,19.3s,baz=320,slow=35							
RES	Resolute Bay	26.48	324	LR	LR	13 51 08.6	
comp=Z,98nm,19.2s,baz=50,slow=34							
AKASG	Malin Array Be	27.83	98	P	P	13 41 53.6	0.0
comp=Z,0.3nm,0.2s,baz=321,slow=9.7,SNR=3.9							
AKASG	Malin Array Be	27.83	98	IAmb	IAmb	13 42 01.8	
comp=Z,1.4nm,0.9s							
DIVS	Divibare	29.30	116	P	P	13 42 08.3

MKAR	Makanchi Array	52.71	58	P	P	13 45 19.3 +0.4
LOHW	Long Hollow	52.89	295	P	P	13 45 21.2 +0.7
LOHW				IAmb	IAmb	13 45 37.7
	comp=Z,7.3nm,1.5s					
FXWY	Fox Creek	53.03	295	P	P	13 45 22.2 +0.5
TPAW	Teton Pass	53.13	295	P	P	13 45 22.7 +0.3
TPAW				IAmb	IAmb	13 45 31.6
	comp=Z,5.7nm,1.4s					
TORD	Torodi Ar. Bea	53.13	156	P	P	13 45 22.0 -0.3
	comp=Z,2.0nm,1.1s,baz=344,slow=7.3,SNR=5.5					
TORD	Torodi Ar. Bea	53.13	156	P	P	13 45 21.8 -0.5
BW06	Boulder Array	53.19	293	P	P	13 45 20.3 -2.5
BW06				IAmb	IAmb	13 45 25.0
	comp=Z,4.3nm,1.1s					
PDAR	Pinedale Array	53.19	293	P	P	13 45 22.6 -0.3
	comp=Z,1.9nm,0.9s,baz=53,slow=7.6,SNR=9.4					
PDAR				LR	LR	14 08 00.4
	comp=Z,60nm,18.1s,baz=32,slow=36					
PDAR	Pinedale Array	53.19	293		P	13 45 20.4 -2.4
553A	Crawfordville	53.32	264	P	P	13 45 23.6 +0.1
N23A	Red Feather La	53.32	289	P	P	13 45 24.5 +0.7
N23A				IAmb	IAmb	13 45 25.6
	comp=Z,12nm,1.4s					
BTK	Batken	53.95	72	P	P	13 45 28.6 +0.4
CHGR	Chuyangaron	54.45	74	P	P	13 45 33.5 +1.6
GAR	Garm	54.64	73	P	P	13 45 34.6 +1.3
HWUT	Hardware Ranch	54.97	294		P	13 45 35.2 -0.5
HWUT				IAmb	IAmb	13 45 43.3
	comp=Z,5.3nm,1.1s					
SRU	San Rafael Swe	56.68	292	P	P	13 45 48.1 0.0
PV14	Lion Creek, Pa	56.71	290	P	P	13 45 48.8 +0.4
PV14				IAmb	IAmb	13 45 55.0
	comp=Z,3.6nm,0.8s					
PV11	David Mesa, Pa	56.72	290	P	P	13 45 48.7 +0.4
PV11				IAmb	IAmb	13 46 04.6
	comp=Z,3.3nm,0.9s					
PV16	Nyswonger Mesa	56.72	290	P	P	13 45 48.6 +0.2
PV16				IAmb	IAmb	13 45 54.9
	comp=Z,2.9nm,0.8s					
PV01	Paradox Valley	56.73	289	P	P	13 45 48.2 -0.3
PV02	Paradox Valley	56.74	290	P	P	13 45 48.8 +0.2
PV02				IAmb	IAmb	13 45 51.7
	comp=Z,6.4nm,1.1s					
PV03	Paradox Valley	56.74	290	P	P	13 45 48.7 +0.2
PV03				IAmb	IAmb	13 45 53.1
	comp=Z,6.7nm,1.4s					
PV18	Skein Mesa, Pa	56.77	290	P	P	13 45 48.3 -0.4
PV18				IAmb	IAmb	13 45 51.8
	comp=Z,7.8nm,1.1s					
PV13	Radium Mtn., P	56.81	290	P	P	13 45 48.7 -0.3
PV05	Paradox Valley	56.99	290	P	P	13 45 50.0 -0.3
ELK	Elko	57.13	296	P	P	13 45 51.0 -0.4
WMQ	Urumqi	57.22	56	eP	P	13 45 55.3 +3.6
MTPU	Mount Pierson	58.27	292	P	P	13 45 59.3 -0.1
R11A	Troy Canyon, C	59.34	295	P	P	13 46 07.5 +0.8
R11A				IAmb	IAmb	13 46 14.9
	comp=Z,4.8nm,1.5s					
KNB	Kanab	59.41	292	P	P	13 46 06.2 -0.9
PAHR	Pah Rah Range	59.61	299	P	P	13 46 06.9 -1.6
PAHR				IAmb	IAmb	13 46 13.6
	comp=Z,5.8nm,1.5s					
SONM	Songino Array	59.63	40	P	P	13 46 08.7 +0.1
KVN	Kaiserville	59.70	298	P	P	13 46 06.6 -2.6
KVN				IAmb	IAmb	13 46 16.6
	comp=Z,3.7nm,1.3s					
U15A	North Rim	59.70	291	P	P	13 46 07.0 -2.3
U15A				IAmb	IAmb	13 46 16.7
	comp=Z,3.2nm,1.1s					
YERR	Yerington	60.19	298	P	P	13 46 11.2 -1.3
NVAR	Mina Array Bea	60.32	297	LR	LR	14 12 42.6
	comp=Z,86nm,18.5s,baz=37,slow=36					
NVAR	Mina Array Bea	60.32	297	P	P	13 46 12.5 -1.0
ORV	Oroville	60.54	301	P	P	13 46 14.9 +0.2
ORV				IAmb	IAmb	13 46 36.4
	comp=Z,2.2nm,0.8s					
WAKR	Walker	60.68	298	P	P	13 46 14.3 -1.6
SHPR	Sheep Range	60.77	294	P	P	13 46 15.8 -0.7
SHPR				IAmb	IAmb	13 46 43.3
	comp=Z,5.7nm,1.5s					
TPNV	Topopah Spring	60.82	295	P	P	13 46 15.2 -1.6
TPNV				IAmb	IAmb	13 46 22.4
	comp=Z,2.5nm,1.1s					
TXAR	Lajitas Array	62.30	280	P	P	13 46 26.9 +0.1
	comp=Z,0.3nm,0.8s,baz=48,slow=3.7,SNR=4.1					
TXAR				LR	LR	14 12 28.4
	comp=Z,63nm,19.6s,baz=0.0,slow=35					
PAGB	Antelope Grade	63.43	297	P	P	13 46 34.1 0.0
GTA	Gaotai	65.29	49	P	P	13 46 49.9 +3.5
GTA				pP	sP	13 46 54.6 +3.1
GTA				sP	pP	13 46 57.3 +7.2
GTA				pmax	pmax	
	comp=Z,4.0nm,1.5s					
HHC	Hu-ho-hao-te	67.50	40	eP	P	13 47 02.0 +1.4
HHC				pmax	pmax	
	comp=Z,11nm,0.9s					
HHC				pmax	pmax	
	comp=Z,170nm,6.6s					
LZH	Lanzhou	69.62	48	eP	P	13 47 15.4 +1.5
LZH				pP	sP	13 47 19.4 +0.4
LZH				sP	pP	13 47 22.4 +4.8
LZH				pmax	pmax	
	comp=Z,9.0nm,1.1s					
NJ2	Nanjing	77.73	37	eP	P	13 48 02.9 +1.5
NJ2				pmax	pmax	
	comp=Z,13nm,0.5s					
CMAR	Chiang Mai Arr	84.12	59	P	P	13 48 36.5 +0.8
	comp=Z,0.7nm,0.5s,baz=318,slow=6.0,SNR=8.5					
ASAR	Alice Springs	134.96	38	PKP	PKiKP	13 55 24.3 -0.6
	comp=Z,0.5nm,0.9s,baz=320,slow=2.4,SNR=4.5					

NEIC ***22*** *13:56:47.7±1.4, 14°.2N±0°.1×90°.64W±0°.05, h105km±11km, Error ellipse: s-maj=17.9km s-min=3.9km az=200.0*
SNET ***22*** *13:56:48.1±0.9, 14°.00N×90°.68W, h67km±7km, ML4.3*
UCR ***22*** *13:56:48.3±1.0, 14°.00N×90°.68W, h66km±8km, ML4.1, mb3.6(NEIC)*

ISC 22 13:56:48.9±1.3, 14°.03N±0°.09×90°.66W±0°.06, h78km±14km, n46, σ0°82/57, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	El Retiro	0.99	97	eP	Pn	13 57 07.5	-0.4
RTR	El Retiro	0.99	97	eP	Pn	13 57 07.5	-0.4
SBLS	San Blas	1.02	100	eP	Pn	13 57 07.8	-0.5
SBLS	San Blas	1.02	100	eP	Pn	13 57 07.8	-0.5
CEVE	Cerro Verde	1.02	101	eP	Pn	13 57 07.7	-0.6
CEVE				eS	Sn	13 57 23.4	+0.5
CEVE				IAML		13 57 25.2	
	comp=Z,12μm,0.2s						
CEVE	Cerro Verde	1.02	101	eP	Pn	13 57 07.7	-0.6
CEVE				eS	Sn	13 57 23.4	+0.5
CEVE				IAML		13 57 25.2	
	comp=Z,12μm,0.2s						
SNJE	San Jose	1.03	99	eP	Pn	13 57 08.0	-0.5
SNJE	San Jose	1.03	99	eP	Pn	13 57 08.0	-0.5
RTAL	Retalhuleu	1.12	296	Pn	Pn	13 57 09.7	+0.3
RTAL				Sn	Sn	13 57 25.8	+1.1
CEDA	San Andres	1.24	100	eS	Sn	13 57 27.0	-0.4
CEDA	San Andres	1.24	100	eS	Sn	13 57 27.0	-0.4
TACO	Tacachico	1.26	92	eP	Pn	13 57 10.3	-0.9
TACO				eS	Sn	13 57 27.4	-0.5
TACO	Tacachico	1.26	92	eP	Pn	13 57 10.3	-0.9
TACO				eS	Sn	13 57 27.4	-0.5
MTO3	Montecristo	1.31	73	eP	Pn	13 57 12.0	+0.1
MTO3				eS	Sn	13 57 30.2	+1.0
MTO3	Montecristo	1.31	73	eP	Pn	13 57 12.0	+0.1
MTO3				eS	Sn	13 57 30.2	+1.0
MTO3	Montecristo	1.31	73	Pn	Pn	13 57 12.0	+0.1
BOQS	Boqueron	1.37	102	eP	Pn	13 57 11.9	-0.8
BOQS	Boqueron	1.37	102	eP	Pn	13 57 11.9	-0.8
ESQI	Esquipulas	1.38	67	Pn	Pn	13 57 12.8	0.0
ITCA	Escuela Especi	1.38	105	eS	Sn	13 57 30.6	-0.1
ITCA	Escuela Especi	1.38	105	eS	Sn	13 57 30.6	-0.1
SNET	Serv Nac Est T	1.42	104	Pn	Pn	13 57 12.8	-0.4
LFU	La Fuente	1.52	100	eP	Pn	13 57 13.9	-0.6
LFU	La Fuente	1.52	100	eP	Pn	13 57 13.9	-0.6
HUEH	Huehuetenango	1.52	328	Pn	Pn	13 57 13.1	-1.6
LFRS	El Faro	1.60	104	eP	Pn	13 57 14.6	-1.0
LFRS	El Faro	1.60	104	eP	Pn	13 57 14.6	-1.0
PAVA	Las Pavas	1.70	100	eP	Pn	13 57 15.7	-1.2
PAVA	Las Pavas	1.70	100	eP	Pn	13 57 15.7	-1.2
COEG	Centro de Oper	1.77	103	eP	Pn	13 57 17.2	-0.6
COEG				eS	Sn	13 57 39.9	+0.2
COEG				IAML		13 57 46.8	
	comp=Z,2μm,0.3s						
COEG	Centro de Oper	1.77	103	eP	Pn	13 57 17.2	-0.6
COEG				eS	Sn	13 57 39.9	+0.2
COEG				IAML		13 57 46.8	
	comp=Z,2μm,0.3s						
RANC	El Ranchito	2.37	104	eP	Pn	13 57 25.7	-0.3
RANC	El Ranchito	2.37	104	eP	Pn	13 57 25.7	-0.3
BLLM	Bellamira	2.42	104	eP	Pn	13 57 26.8	+0.3
BLLM	Bellamira	2.42	104	eP	Pn	13 57 26.8	+0.3
CCIG	Comitan	2.66	328	Pn	Pn	13 57 27.6	-2.2
LCND	La Caada	2.78	105	eP	Pn	13 57 30.9	-0.4
LCND				eS	Sn	13 58 04.0	+0.1
LCND				IAML		13 58 13.5	
	comp=Z,584nm,0.4s						
LCND	La Caada	2.78	105	eP	Pn	13 57 30.9	-0.4
LCND				eS	Sn	13 58 04.0	+0.1
LCND				IAML		13 58 13.5	
	comp=Z,584nm,0.4s						
CNCH	Conchagua	2.84	105	eS	Sn	13 58 07.3	+1.7
CNCH				IAML		13 58 14.0	
	comp=Z,2μm,0.4s						
CNCH	Conchagua	2.84	105	eS	Sn	13 58 07.3	+1.7
CNCH				IAML		13 58 14.0	
	comp=Z,2μm,0.4s						
TGUH	Tegucigalpa,Un	3.28	89	Pn	Pn	13 57 36.9	-1.3
CRIN	San Cristobal	3.75	110	Pn	Pn	13 57 44.4	-0.1
MATN	Matagalpa	4.73	103	Pn	Pn	13 57 58.1	+0.2
BOAB	BOACO BROADBAN	5.11	107	Pn	Pn	13 58 01.2	-1.7
JTS	Las Juntas de	6.70	123	Pn	Pn	13 58 23.9	-0.9
HKT	Hockley	16.55	344	P	Pn	14 00 36.9	+0.8
HKT				IAmb	IAmb	14 00 59.3	
	comp=Z,3.6nm,0.8s						

NEIC ***22*** *14:34:06.6±2.0, 13°.88S±0°.08×167°.2E±0°.1, h195km±6km, mb4.4/25, Error ellipse: s-maj=21.4km s-min=8.7km az=64.0*
IDC ***22*** *14:34:13.5±4.4, 14°.10S×167°.01E, h247km±36km, mb3.7/10, mb1 3.7/11, mb1mx3.4/46, mbtmp4.2/11, Error ellipse: s-maj=33.6km s-min=19.9km az=39.0*

ISC 22 14:34:06.7±1.0, 13°.81S±0°.09×167°.3E±0°.2, h200km, n39, σ1°19/40, mb4.2/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.63	183		Pn	14 34 40.2	-1.3
DZM	Mont Dzumac	8.26	185	P	Pn	14 36 07.2	+3.8
	0.4nm,0.3s,baz=165,slow=20,SNR=4.5						
DZM				S	Sn	14 37 35.2	-1.3
	0.1nm,0.3s,baz=107,slow=19,SNR=2.6						
EIDS	Eidsvold	19.09	231	P	P	14 38 15.4	+1.0
EIDS				IAmb	IAmb	14 38 34.1	
	comp=Z,39nm,1.4s						
CTA	Charters Tower	21.06	250	P	P	14 38 35.5	+0.1
	comp=Z,2.8nm,0.6s,baz=83,slow=16,SNR=5.3						
CTAO	Charters Tower	21.06	250	P	P	14 38 35.5	+0.1
CTAO				IAmb	IAmb	14 38 47.6	
	comp=Z,28nm,1.4s						
ARMA	Armidale	21.95	219	P	P	14 38 45.1	+0.6
ARMA				IAmb	IAmb	14 39 10.3	
	comp=Z,22nm,1.5s						
BKZ	Black Stump Fm	26.54	164	P	P	14 39 26.1	+0.1
STKA	Stephens Creek	29.61	228	P	P	14 39 54.0	+0.7
	comp=Z,8.6nm,0.6s,baz=55,slow=9.0,SNR=34						
STKA	Stephens Creek	29.61	228	P	P	14 39 53.5	+0.2
WR0	Warramunga Arr	31.89	254	P	P	14 40 12.5	-1.0
WB0	Warramunga Arr	32.01	255	P	P	14 40 13.4	-1.2
WB0				IAmb	IAmb	14 40 14.3	
	comp=Z,2.5nm,0.6s						
WB2	Warramunga Arr	32.06	254	P	P	14 40 13.8	-1.3
WB2				IAmb	IAmb	14 40 21.8	
	comp=Z,6.0nm,1.4s						
WRAB	Tennant Creek	32.06	254	P	P	14 40 13.6	-1.4
WRAB				IAmb	IAmb	14 40 33.9	
	comp=Z,9.2nm,1.4s						
WRA	Warramunga Arr	32.08	254	P	P	14 40 14.1	-1.1
	comp=Z,1.4nm,0.7s,baz=85,slow=9.3,SNR=22						
AS31	Alice Springs	33.02	248	P	P	14 40 22.3	-1.1
ASAR	Alice Springs	33.03	248	P	P	14 40 22.2	-1.2
	comp=Z,3.0nm,0.5s,baz=74,slow=9.5,SNR=119						
BBOO	Buckleboo	34.16	231	P	P	14 40 32.9	-0.1
BBOO				IAmb	IAmb	14 40 33.7	
	comp=Z,9.3nm,0.7s						
MTN	Manton Dam	35.17	267	P	P	14 40 42.6	+0.8
MTN				IAmb	IAmb	14 40 47.2	
	comp=Z,11nm,1.1s						
KNRA	Kununurra	37.27	262	P	P	14 40 59.6	0.0
KNRA				IAmb	IAmb	14 41 00.3	
	comp=Z,14nm,1.2s						
FORT	Forrest	39.79	238	P	P	14 41 19.8	-0.6
FITZ	Fitzroy Crossi	40.21	258	P	P	14 41 23.9	-0.1
	comp=Z,1.3nm,0.9s,baz=180,slow=7.1,SNR=3.6						
FITZ	Fitzroy Crossi	40.21	258	P	P	14 41 23.9	-0.1
JCJ	Chichijima	47.40	329	P	P	14 42 19.3	-1.8
NWAO	Narrogin (SRO)	49.24	238	P	P	14 42 34.2	-1.0
	comp=Z,7.5nm,0.5s,baz=90,slow=10,SNR=8.6						
NWAO	Narrogin (SRO)	49.24	238	P	P	14 42 33.4	-1.7
NWAO	Narrogin (SRO)	49.24	238	P	P	14 42 33.6	-1.6
NWAO				IAmb	IAmb	14 43 01.9	
	comp=Z,54nm,1.5s						
MORW	Morawa	49.69	244	P	P	14 42 38.4	-0.2
MORW				IAmb	IAmb	14 42 49.6	
	comp=Z,32nm,1.4s						
JMZ	Minamidaito 2	52.77	318	P	P	14 43 02.1	+0.8
VNDA	Vanda	63.78	181	P	P	14 44 15.4	-1.5
CASY	Casey	64.38	202	P	P	14 44 20.3	-0.7
CASY				IAmb	IAmb	14 44 37.3	
	comp=Z,2.6nm,0.9s						
CMAR	Chiang Mai Arr	74.59	294	P	P	14 45 25.8	+1.5
	comp=Z,1.3nm,0.7s,baz=126,slow=4.7,SNR=11						
CMAR	Chiang Mai Arr	74.59	294	P	P	14 45 25.6	+1.3
QSPA	South Pole Qui	76.22	180	P	P	14 45 32.6	-0.2
	comp=Z,2.0nm,0.9s,baz=15,slow=2.1,SNR=11						
QSPA	South Pole Qui	76.22	180	P	P	14 45 32.4	-0.5
QSPA				IAmb	IAmb	14 45 34.6	
	comp=Z,5.1nm,1.4s						
MAW	Mawson	82.74	202	P	P	14 46 08.6	+0.8
	comp=Z,1.0nm,0.7s,baz=90,slow=2.0,SNR=3.6						
MAW	Mawson	82.74	202	P	P	14 46 08.5	+0.7
MKAR	Makanchi Array	96.55	316	P	P	14 47 15.3	+1.7
	comp=Z,0.6nm,0.6s,baz=90,slow=6.6,SNR=7.6						
MKAR	Makanchi Array	96.55	316	P	P	14 47 14.6	+1.0
KEST	Kesra	150.51	322	PKPbc	PKPbc	14 53 35.8	+0.6
	comp=Z,3.2nm,0.5s,baz=330,slow=3.1,SNR=4.3						

BJI ***22*** *14:41:21.6±0.0, 40°.34S×176°.33E, h37km, mB5.6/15, mb5.3/23, Ms5.3/17, Ms7 5.0/16*
MOS ***22*** *14:41:21.1±0.9, 40°.55S×175°.75E, h26km, mb5.6/17, MS5.0/11, Error ellipse: s-maj=15.3km s-min=10.6km az=121.9*
NEIC ***22*** *14:41:22.1±1.8, 40°.51S±0°.04×175°.94E±0°.08, h30km±3km, mb5.4/62, Mwr5.2/29, Error ellipse: s-maj=9.2km s-min=5.7km az=113.0*
NEIC ***22*** *14:41:22.6, 40°.55S×175°.97E, h23km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr-3.75; Mθθ0.16; Mφφ3.58; Mrθ 1.28; Mθφ2.41; Mφr7.64; Fault plane solution: M0 8.90000×10^16 NP1:φ=48.52000°, δ17.15000°, λ-53.83000°. NP2:φ=191.09000°, δ76.23000°, λ-100.32000°. Principal axes: T 9.2128, Plg30.0000°, Azm290.0000°; N -0.6527, Plg10.0000°, Azm194.0000°; P -8.5601, Plg58.0000°, Azm87.0000°;*
WEL ***22*** *14:41:22.9, 41°.5S±1°.17E×6E±°, h25km±3km, M5.5/30, ML5.8/30, MLv5.5/30 Error ellipse: s-maj=0.0km s-min=0.0km az=99.0*
IDC ***22*** *14:41:23.5±0.4, 40°.40S×175°.72E, h29km±2km, mb5.0/21, mb1 5.1/23, mb1mx4.9/32, mbtmp5.2/23, ML4.3/2, MS4.8/18, Ms1 4.8/18, ms1mx4.7/20, Error ellipse: s-maj=11.1km s-min=9.7km az=59.0*
GCMT ***22*** *14:41:28.0±0.1, 40°.57S±0°.01×176°.02E±0°.01, h25km, MW5.4/114, Moment Tensor Solution. s105,c175; s114,c169; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr0.46±.02; Mθθ-0.08±.01; Mφφ-0.37±.01; Mrθ0.10±.03; Mθφ-0.26±.01; Mφr1.42±.02; Best double couple: M0 1.50800×10^17 NP1:φ=232.00000°, δ12.00000°, λ136.00000°. NP2:φ=6.00000°, δ81.00000°, λ81.00000°. Principal axes: T 1.5240, Plg53.0000°, Azm265.0000°; N -0.0340, Plg9.0000°, Azm7.0000°; P -1.4910, Plg36.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 14:41:21.9±0.3, 40°.54S±0°.02×175°.93E±0°.02, h26km±1km, h26km:pP-P, n547, σ1°30/595, mb5.4/71, MS4.9/32, 7C-5D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRWZ	Pori Road	0.04	109	P	Pb	14 41 27.6	+1.4
PRWZ				S	Sb	14 41 31.2	+1.9
POWZ	Post Office Ro	0.19	321	P	Pn	14 41 28.8	-0.3
TIWZ	Tintock	0.23	188	P	Pn	14 41 30.0	+0.2
TIWZ				S	Sb	14 41 35.0	+2.7
BFZ	Birch Farm	0.28	120	P	Pn	14 41 30.2	-0.1
BFZ				S	Sn	14 41 35.5	-0.2
BFZ	Birch Farm	0.28	120		Pn	14 41 30.1	-0.2
MRZ	Mangatainoka R	0.29	246	P	Pn	14 41 30.4	-0.1
DVHZ	Dannevirke	0.30	37	P	Pn	14 41 29.8	-0.9
CPWZ	Castlepoint	0.42	150	P	Pn	14 41 33.7	+1.4
CPWZ				S	Sn	14 41 43.3	+4.1
ANWZ	Angora Road	0.43	79	P	Pn	14 41 32.6	+0.2
ANWZ				S	Sn	14 41 40.3	+0.9
HOWZ	Holdsworth Sta	0.47	221	P	Pn	14 41 33.5	+0.5
TMWZ	Te Maipa	0.56	183	P	Pn	14 41 35.4	+1.1
OHWZ	Ohakea	0.58	306	P	Pn	14 41 35.6	+1.2
OHWZ				S	Sn	14 41 44.8	+1.8
OGWZ	Otaki Gorge	0.64	244	P	Pn	14 41 36.2	+1.0
OGWZ				S	Sn	14 41 45.5	+1.0
PNHZ	Pukenui	0.66	18	P	Pn	14 41 36.0	+0.4
PNHZ				S	Sn	14 41 46.0	+0.8
KIW	Kapiti Island	0.84	247	P	Pn	14 41 39.7	+1.7
CAW	Cannon Point	0.86	229	P	Pn	14 41 39.6	+1.3
TRWZ	Traveller	0.87	192	P	Pn	14 41 39.4	+0.9
PXZ	Pawanui	0.88	55	P	Pn	14 41 39.1	+0.6
KRHZ	Kereru	0.96	21	P	Pn	14 41 40.7	+0.9
MSWZ	Moikau Station	1.01	210	P	Pb	14 41 41.1	+0.3
MSWZ	Moikau Station	1.01	210		Pb	14 41 40.9	+0.1
BHHZ	Black Hill Sta	1.06	6	P	Pb	14 41 42.6	+1.0
WAZ	Wanganui	1.07	317	P	Pb	14 41 44.0	+2.3
MOVZ	Moawhango	1.14	353	P	Pb	14 41 43.9	+0.9
PLWZ	Palliser	1.14	206	P	Pb	14 41 42.7	-0.3
PLWZ	Palliser	1.14	206		Pb	14 41 42.7	-0.3
WEL	Wellington	1.15	230	P	Pb	14 41 43.4	+0.4
BHW	Baring Head	1.18	222	P	Pb	14 41 43.5	0.0
BHW	Baring Head	1.18	222		Pb	14 41 43.4	-0.1
KWHZ	Kaweka Forest	1.18	19	P	Pb	14 41 43.9	+0.3
SNZO	South Karori	1.20	230		Pb	14 41 43.9	-0.1
MTVZ	Mangateitei	1.21	343	P	Pb	14 41 45.4	+1.3
WNVZ	Wahianoa	1.24	348	P	Pb	14 41 45.7	+1.0
MCHZ	McNeill Hill	1.25	29	P	Pb	14 41 44.7	0.0
TUVZ	Tukino	1.29	351	P	Pb	14 41 46.9	+1.3
DRZ	Dome Shelter	1.30	347	P	Pb	14 41 46.9	+1.2
FWVZ	Far West T-bar	1.32	347	P	Pb	14 41 47.0	+1.0
NGZ	Ngauruhoe	1.39	349	P	Pb	14 41 48.1	+0.8
OTVZ	Oturere	1.39	352	P	Pb	14 41 48.0	+0.7
ETVZ	East Tongariro	1.42	353	P	Pb	14 41 48.7	+1.0
TCW	Tory Channel	1.42	241	P	Pb	14 41 47.1	-0.5
TMVZ	Te Maari	1.44	353	P	Pb	14 41 48.4	+0.4
BKZ	Black Stump Fm	1.44	18	P	Pb	14 41 47.3	-0.8
BKZ	Black Stump Fm	1.44	18		Pb	14 41 47.2	-0.8
WTVZ	West Tongariro	1.45	350	P	Pb	14 41 48.8	+0.5
KRVZ	Karewarewa	1.46	351	P	Pb	14 41 49.0	+0.5
TWVZ	Taurewa	1.52	345	P	Pb	14 41 49.7	+0.3
DUWZ	D'Urville Isla	1.55	260	P	Pb	14 41 49.1	-0.8
RITZ	Rihia Road	1.56	358	P	Pb	14 41 50.4	+0.2
KATZ	Kakaramea	1.58	353	P	Pb	14 41 50.5	+0.1
LREZ	Lake Rotokare	1.59	312	P	Pb	14 41 51.3	+0.7
HATZ	Hinemaiaia	1.66	4	P	Pb	14 41 50.9	-0.8
RATZ	Rangitukua	1.68	356	P	Pb	14 41 51.7	-0.4
VRZ	Vera Road	1.68	327	P	Pb	14 41 51.8	-0.2
TUWZ	Tuamarina	1.74	239	P	Pn	14 41 51.0	+0.6
TUWZ	Tuamarina	1.74	239		Pn	14 41 50.8	+0.4
MRHZ	Matea Rd	1.75	13	P	Pn	14 41 51.7	+1.1
CMWZ	Cape Campbell	1.77	226	P	Pn	14 41 51.7	+0.9
CMWZ	Cape Campbell	1.77	226		Pn	14 41 51.6	+0.8
WHHZ	Waihua	1.78	35	P	Pn	14 41 52.0	+1.1
PREZ	Palmer Road	1.81	311	P	Pb	14 41 55.0	+0.6
MTHZ	Maungataniwha	1.83	23	P	Pn	14 41 53.0	+1.3
WATZ	Wairara	1.84	355	P	Pb	14 41 53.5	-1.3
RAHZ	Arahi	1.85	29	P	Pn	14 41 52.4	+0.4
WHTZ	Whakaora	1.88	1	P	Pb	14 41 56.0	+0.5
DREZ	Durham Road	1.90	315	P	Pb	14 41 55.7	-0.1
NEZ	North Egmont	1.90	311	P	Pb	14 41 55.9	0.0
MHEZ	Mangahewa	1.92	319	P	Pb	14 41 56.5	+0.4
KHEZ	Kahui Hut	1.93	310	P	Pb	14 41 56.3	-0.1
NMEZ	Namu Road	1.94	305	P	Pb	14 41 56.5	0.0
BSWZ	Blackbirch Sta	1.94	232	P	Pn	14 41 53.7	+0.4
BSWZ	Blackbirch Sta	1.94	232		Pn	14 41 53.6	+0.4
ALRZ	Allen Road	2.00	9	P	Pn	14 41 54.8	+0.7
PKE	Pukeiti	2.01	311	P	Pb	14 41 57.5	-0.2
WPRZ	Whakapapatarin	2.03	5	P	Pn	14 41 55.5	+1.1
KNZ	Kokohu	2.03	42	P	Pn	14 41 53.9	-0.4
NBEZ	Newall Road No	2.03	308	P	Pb	14 41 57.8	-0.3
NNZ	Nelson	2.05	250	P	Pn	14 41 55.7	+1.1
NNZ	Nelson	2.05	250		Pn	14 41 55.5	+0.9
KUTZ	Kaahu Road	2.05	358	P	Pn	14 41 56.2	+1.5
MHGZ	Mahia Peninsul	2.06	48	P	Pn	14 41 54.7	-0.1
SNGZ	Shannon

INZ Inchbonnie 4.00 236 P **Pn** **14 42 20.9 -0.6**
AKCZ Akaroa Harbour 4.01 213 P **Pn** **14 42 20.5 -1.1**
OXZ Oxford 4.02 225 P **Pn** **14 42 19.9 -1.8**
OXZ Oxford 4.02 225 Pn **Pn** **14 42 19.2 -2.5**
ABAZ Army Bay 4.03 347 P **Pn** **14 42 24.8 +2.9**
GRZ Great Barrier 4.30 355 P **Pn** **14 42 27.0 +1.4**
MHCZ Mount Hutt 4.41 226 P **Pn** **14 42 25.4 -1.8**
WACZ Wakanui South 4.55 220 P **Pn** **14 42 27.4 -1.7**
WVZ Waitaha Valley 4.63 235 P **Pn** **14 42 29.1 -1.0**
WCZ Waipu Caves 4.76 344 P **Pn** **14 42 33.9 +1.9**
RPZ Rata Peaks 4.81 227 Pn **Pn** **14 42 30.9 -1.7**
9.2nm,0.3s,baz=220,slow=0.7,SNR=70
RPZ Pg **Pb** **14 42 47.3 +1.8**
87nm,0.3s,baz=329,slow=1.9,SNR=64
RPZ Sn **Sn** **14 43 24.2 -3.3**
84nm,0.3s,baz=162,slow=22,SNR=16
RPZ Lg Lg 14 43 49.9
22nm,0.3s,baz=58,slow=19,SNR=3.6
RPZ Rata Peaks 4.81 227 P **Pn** **14 42 31.0 -1.7**
RPZ Rata Peaks 4.81 227 Pn **Pn** **14 42 31.4 -1.2**
ARCZ Arundel 4.90 224 P **Pn** **14 42 32.2 -1.6**
GCSZ Gaunt Creek Bo 5.01 235 P **Pn** **14 42 34.5 -0.9**
FOZ Fox Glacier 5.44 235 P **Pn** **14 42 40.3 -1.0**
FOZ Fox Glacier 5.44 235 Pn **Pn** **14 42 42.0 +0.7**
OUZ Omahuta 5.62 340 P **Pn** **14 42 46.1 +2.3**
OUZ Omahuta 5.62 340 Pn **Pn** **14 42 45.5 +1.7**
LBZ Lake Benmore 5.72 226 P **Pn** **14 42 43.8 -1.4**
ODZ Otahua Downs 5.94 219 P **Pn** **14 42 46.2 -1.9**
ODZ Otahua Downs 5.94 219 **Pn** **14 42 46.5 -1.7**
JCZ Jackson Bay 6.36 234 P **Pn** **14 42 52.6 -1.4**
CTZ Chatham Island 6.39 122 P **Pn** **14 42 54.4 0.0**
HHSZ Highcliff Hill 6.61 214 P **Pn** **14 42 57.4 +0.2**
WKZ Wanaka 6.65 228 P **Pn** **14 42 56.2 -1.7**
WKZ Wanaka 6.65 228 Pn **Pn** **14 42 57.2 -0.7**
MSZ Milford Sound 7.20 232 P **Pn** **14 43 04.1 -1.3**
MLZ Mavora Lakes 7.48 227 P **Pn** **14 43 07.9 -1.4**
MLZ Mavora Lakes 7.48 227 Pn **Pn** **14 43 08.4 -0.9**
SYZ Scrubby Hill 7.76 217 P **Pn** **14 43 12.7 -0.3**
WHZ Wether Hill Ro 7.91 225 P **Pn** **14 43 13.7 -1.5**
WHZ Wether Hill Ro 7.91 225 Pn **Pn** **14 43 13.6 -1.5**
DCZ Deep Cove 8.09 230 Pn **Pn** **14 43 15.8 -1.8**
DZM Mont Dzumac 20.09 334 *e*P Pn 14 45 55.4 -0.2
215nm,1.4s
DZM *e*S **S** **14 49 37.8 -0.4**
3µm,21.7s
DZM *e*LR LR 14 50 41.8
comp=Z,6µm,23.8s
DZM Mont Dzumac 20.09 334 P **P** **14 45 54.0 +0.4**
0.7nm,0.3s,baz=145,slow=12,SNR=11
DZM LR LR 14 53 36.4
comp=Z,4µm,18.3s,baz=156,slow=37
DZM Mont Dzumac 20.09 334 P **P** **14 45 53.5 -0.2**
MGCD Mangrove Creek 21.12 282 P **P** **14 46 04.9 +0.3**
baz=21,SNR=5.7
CNB Canberra Magne 21.56 275 P **P** **14 46 09.9 +0.6**
baz=22,SNR=27
MOO Moorlands 21.57 255 P **P** **14 46 06.0 -3.3**
baz=22,SNR=6.2
ARMA Armidale 22.15 289 P **P** **14 46 16.3 +0.5**
baz=22,SNR=5.0
YNG Young 22.68 277 P **P** **14 46 22.7 +1.3**
baz=23,SNR=5.5
MSVF Nonsavu 22.80 5 *i*P **P** **14 46 21.9 -0.9**
MSVF pmax pmax
comp=Z,15nm,1.0s
MSVF Nonsavu 22.80 5 P **P** **14 46 21.0 -1.8**
TOO Toolangi 23.76 267 P **P** **14 46 33.8 +1.6**
baz=24,SNR=105
TOO Toolangi 23.76 267 P **P** **14 46 32.6 +0.4**
TOO pmax pmax
comp=Z,268nm,1.1s
TOO Toolangi 23.76 267 P **P** **14 46 32.6 +0.4**
EIDS Eidsvold 25.64 299 P **P** **14 46 49.9 +0.4**
baz=26,SNR=10
EIDS Eidsvold 25.64 299 P **P** **14 46 49.0 -0.4**
CMSA Cobar Meteorol 25.95 281 P **P** **14 46 52.8 +0.6**
baz=26,SNR=19
RMQ Roma 26.51 294 P **P** **14 46 57.8 +0.5**
baz=27,SNR=7.6
ARPS Mount Arapiles 26.79 267 P **P** **14 47 00.2 +0.5**
baz=27,SNR=4.9
RAR Rarotonga 28.24 54 P **P** **14 47 15.3 +2.5**
comp=Z,14nm,0.9s,baz=133,slow=7.8,SNR=3.6
RAR LR LR 14 57 37.4
comp=Z,2µm,19.0s,baz=218,slow=34
RAR Rarotonga 28.24 54 P **P** **14 47 15.3 +2.5**
RAR pmax pmax
comp=Z,93nm,1.5s
RAR Rarotonga 28.24 54 IAmb IAmb 14 47 30.9
comp=Z,93nm,1.4s
STKA Stephens Creek 28.88 276 P **P** **14 47 19.8 +1.4**
comp=Z,36nm,0.9s,baz=108,slow=10,SNR=50
STKA LR LR 14 58 34.3
comp=Z,3µm,18.1s,baz=119,slow=36
STKA Stephens Creek 28.88 276 P **P** **14 47 20.2 +1.8**
baz=29,SNR=16
STKA Stephens Creek 28.88 276 P **P** **14 47 19.9 +1.5**
STKA pmax pmax
comp=Z,12nm,1.0s
STKA Stephens Creek 28.88 276 P **P** **14 47 19.9 +1.5**
QLP Quilpie 29.68 288 P **P** **14 47 26.0 +0.5**
baz=30,SNR=12
HTT Hallett 30.23 272 P **P** **14 47 31.7 +1.2**
baz=30,SNR=6.5
CTA Charters Tower 32.50 300 P **P** **14 47 50.4 -0.1**
comp=Z,35nm,1.2s,baz=124,slow=12,SNR=8.7
CTAO Charters Tower 32.50 300 P **P** **14 47 51.8 +1.3**
CTAO pmax pmax
comp=Z,112nm,1.5s
CTAO Charters Tower 32.50 300 P **P** **14 47 51.8 +1.3**
CTAO IAmb IAmb 14 47 53.4
comp=Z,112nm,1.5s
BBOO Buckleboo 32.67 271 P **P** **14 47 52.4 +0.4**
baz=33,SNR=35
BBOO Buckleboo 32.67 271 P **P** **14 47 52.0 0.0**
TBI Tubuai 33.74 70 *e*S **S** **14 53 24.1 +1.0**
comp=Z,375nm,31.0s
TBI *e*LR LR 14 57 00.7
comp=Z,4µm,26.8s,baz=232
HNR Honiara 34.08 331 P **P** **14 48 03.8 -0.4**
HNR pmax pmax
comp=Z,335nm,1.1s
HNR Honiara 34.08 331 P **P** **14 48 03.8 -0.4**
MTSU Mount Surprise 35.17 300 P **P** **14 48 15.1 +1.4**
baz=35,SNR=9.8
QIS Mount Isa 36.74 292 P **P** **14 48 28.1 +0.9**
baz=37,SNR=37
PAE Paea 37.43 63 *e*P **P** **14 48 36.0 +3.0**
comp=Z,19nm,1.4s
PPT2 Papeete2 37.48 63 *e*P **P** **14 48 36.9 +3.4**
comp=Z,74nm,1.3s
PPT2 *e*S **S** **14 54 22.3 +1.4**
comp=Z,416nm,27.0s
PPT2 *e*LR LR 14 58 44.1
comp=Z,3µm,24.2s,baz=223
PPT Papeete 37.50 63 P **P** **14 48 37.2 +3.6**
comp=Z,75nm,1.1s,baz=184,slow=7.7,SNR=4.2
PPT LR LR 15 00 10.4
comp=Z,1µm,21.0s,baz=220,slow=30
VNDA Vanda 37.55 185 P **P** **14 48 36.5 +3.1**
comp=Z,1.5nm,0.9s,baz=8.4,slow=9.6,SNR=7.8
VNDA pP **sP** **14 48 44.3 -0.1**
comp=Z,3.4nm,0.9s,baz=9.5,slow=7.8,SNR=12
VNDA Vanda 37.55 185 P **P** **14 48 34.1 +0.7**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 37.55 185 P **P** **14 48 34.1 +0.7**
TIAR Tiarei 37.66 63 *e*P **P** **14 48 38.4 +3.4**
comp=Z,17nm,0.9s
MEH Mehetia 38.31 65 *e*P **P** **14 48 43.9 +3.4**
comp=Z,59nm,1.4s
AS31 Alice Springs 38.97 283 P **P** **14 48 45.8 -0.1**
ASAR Alice Springs 38.97 283 P **P** **14 48 46.1 +0.2**
comp=Z,89nm,0.8s,baz=135,slow=9.7,SNR=862
ASAR pP **pP** **14 48 54.7 +0.9**
comp=Z,62nm,0.9s,baz=126,slow=7.5,SNR=18
ASAR PcP **PcP** **14 50 55.4 -0.8**
comp=Z,9.2nm,0.8s,baz=127,slow=4.1,SNR=4.9
ASAR S **S** **14 54 40.0 -3.2**
comp=Z,3.1nm,0.8s,baz=130,slow=15,SNR=6.9
ASAR LR LR 15 05 28.2
comp=Z,4µm,18.2s,baz=126,slow=37
ASAR Alice Springs 38.97 283 P **P** **14 48 45.7 -0.3**
COEN Coen 38.98 303 P **P** **14 48 46.8 +0.8**
baz=39,SNR=20
COEN Coen 38.98 303 P **P** **14 48 46.3 +0.2**
COEN IAmb IAmb 14 48 48.0
comp=Z,111nm,1.2s
FORT Forrest 39.67 269 P **P** **14 48 52.1 +0.3**
baz=40,SNR=12
FORT Forrest 39.67 269 P **P** **14 48 51.5 -0.2**
FORT IAmb IAmb 14 48 54.9
comp=Z,51nm,0.8s
PMG Port Moresby 40.16 313 P **P** **14 48 55.4 -0.5**
comp=Z,108nm,0.9s,baz=126,slow=4.9,SNR=20
PMG Port Moresby 40.16 313 *c i*P **P** **14 48 56.6 +0.7**
PMG pmax pmax
comp=Z,230nm,1.4s
PMG Port Moresby 40.16 313 P **P** **14 48 57.4 +1.5**
WR0 Warramunga Arr 40.75 288 P **P** **14 49 00.4 -0.4**
WR0 IAmb IAmb 14 49 01.5
comp=Z,61nm,0.8s
WB2 Warramunga Arr 40.90 288 P **P** **14 49 01.9 -0.1**
WRAB Tennant Creek 40.91 288 *c i*P **P** **14 49 01.8 -0.3**
WRAB pmax pmax
comp=Z,104nm,0.7s
WRAB Tennant Creek 40.91 288 P **P** **14 49 01.9 -0.2**
WRA Warramunga Arr 40.91 288 P **P** **14 49 02.4 +0.3**
comp=Z,72nm,0.6s,baz=127,slow=7.9,SNR=610
WRA pP **pP** **14 49 09.9 -0.1**
comp=Z,54nm,0.8s,baz=128,slow=8.1,SNR=14
WRA LR LR 15 06 12.7
comp=Z,3µm,18.9s,baz=130,slow=37
WRA Warramunga Arr 40.91 288 P **P** **14 49 00.9 -1.2**
WRA **PcP** **14 51 01.2 -1.2**
WB0 Warramunga Arr 40.98 288 P **P** **14 49 02.6 -0.1**
WB0 IAmb IAmb 14 49 03.3
comp=Z,90nm,0.8s
KRVT Keravat (AS076 42.01 323 P **P** **14 49 10.5 -0.6**
comp=Z,37nm,0.5s,baz=256,slow=12,SNR=5.1
RABL Rabaul 42.05 323 P **P** **14 49 10.4 -1.0**
WRKA Warakurna 42.41 276 P **P** **14 49 13.6 -0.7**
baz=42,SNR=37
CASY Casey 43.90 212 P **P** **14 49 26.2 +0.3**
KMBL Kambalda 44.10 264 P **P** **14 49 28.0 +0.1**
baz=44,SNR=6.4
NWAO Narrogin (SRO) 46.90 260 P **P** **14 49 49.0 -1.1**
comp=Z,29nm,1.0s,baz=95,slow=6.9,SNR=5.7
NWAO Narrogin (SRO) 46.90 260 P **P** **14 49 48.6 -1.5**
NWAO pmax pmax
comp=Z,54nm,1.2s
NWAO Narrogin (SRO) 46.90 260 P **P** **14 49 48.6 -1.5**
NWAO IAmb IAmb 14 49 50.9
comp=Z,54nm,1.1s
NWAO Narrogin (SRO) 46.90 260 IAmb IAmb 14 49 50.9
comp=Z,43nm,1.1s
KDU Kakadu 47.06 294 P **P** **14 49 51.5 0.0**
baz=47,SNR=7.9
KLBR Kellerberrin 47.12 262 P **P** **14 49 51.9 +0.1**
baz=47,SNR=12
KNRA Kununurra 47.70 287 P **P** **14 49 56.6 +0.2**
baz=48,SNR=10
KNRA Kununurra 47.70 287 P **P** **14 49 56.0 -0.5**
KNRA IAmb IAmb 14 50 07.0
comp=Z,40nm,0.8s
MTN Manton Dam 47.90 292 P **P** **14 49 57.9 -0.1**
baz=48,SNR=13
MTN Manton Dam 47.90 292 P **P** **14 49 57.7 -0.3**
MTN IAmb IAmb 14 49 59.8
comp=Z,46nm,1.0s
MUN Mundaring 48.10 260 P **P** **14 49 59.8 +0.3**
baz=48,SNR=6.0
BLDU Ballidu 48.37 262 P **P** **14 50 00.8 -0.7**
baz=48,SNR=6.8
FITZ Fitzroy Crossi 48.47 282 P **P** **14 50 02.5 +0.2**
comp=Z,44nm,0.8s,baz=180,slow=4.9,SNR=114
FITZ pP **pP** **14 50 11.0 +0.7**
comp=Z,80nm,1.0s,baz=180,slow=6.9,SNR=21
FITZ Fitzroy Crossi 48.47 282 P **P** **14 50 02.6 +0.2**
baz=48,SNR=35
FITZ Fitzroy Crossi 48.47 282 P **P** **14 50 02.2 -0.2**
FITZ Fitzroy Crossi 48.47 282 IAmb IAmb 14 50 11.7
comp=Z,77nm,0.9s
MEEK Meekatharra 48.92 268 P **P** **14 50 04.9 -1.0**
baz=49,SNR=22
JAY Jayapura 49.45 311 P **P** **14 50 09.7 -0.3**
comp=Z,54nm,1.0s,baz=173,slow=1.8,SNR=18
JAY Jayapura 49.45 311 P **P** **14 50 09.5 -0.4**
comp=Z,525nmcomp=Z,41nm,1.2s
QSPA South Pole Qui 49.58 180 P **P** **14 50 13.7 +3.1**
comp=Z,16nm,1.0s,baz=14,slow=1.9,SNR=21
QSPA South Pole Qui 49.58 180 P **P** **14 50 12.8 +2.3**
QSPA IAmb IAmb 14 50 23.1
comp=Z,50nm,1.1s
MORW Morawa 49.63 264 P **P** **14 50 11.1 -0.1**
baz=50,SNR=7.6
MORW Morawa 49.63 264 P **P** **14 50 10.6 -0.6**
MORW IAmb IAmb 14 50 12.9
comp=Z,50nm,1.1s
GENI Genyem 49.69 310 P **P** **14 50 10.9 -0.9**
comp=Z,56nm,1.3s
PATS Pohnpei 49.86 337 P **P** **14 50 14.6 +1.7**
baz=50,SNR=3.1
PSA00 Pilbara Seismi 50.77 274 P **P** **14 50 18.4 -1.5**
PSA00 IAmb IAmb 14 50 20.1
comp=Z,31nm,0.8s
PSA00 Pilbara Seismi 50.77 274 P **P** **14 50 18.7 -1.2**
PSA00 IAmb IAmb 14 50 20.2
comp=Z,14nm,0.8s
FAKI Fak Fak 54.32 302 P **P** **14 50 45.4 -0.9**
comp=Z,56nm,0.9s
FAKI Fak Fak 54.32 302 P **P** **14 50 44.7 -1.5**
FAKI IAmb IAmb 14 50 45.5
comp=Z,74nm,1.3s
GIRL Giralia 54.43 269 P **P** **14 50 46.9 -0.1**
baz=54,SNR=3.7
GIRL Giralia 54.43 269 P **P** **14 50 47.5 +0.5**
SOEI Soe 54.90 289 P **P** **14 50 50.8 +0.2**
BATI Baumata 55.03 288 P **P** **14 50 52.2 +0.8**
comp=Z,19nm,0.6s,baz=142,slow=11,SNR=4.3
SIJI Sorong 56.51 303 P **P** **14 51 01.6 -0.5**
comp=Z,65nm,1.0s,baz=82,slow=3.7,SNR=15
SIJI pP **pP** **14 51 10.2 +0.1**
comp=Z,45nm,0.9s,baz=104,slow=7.9,SNR=5.9
MMRI Maumere 57.12 288 P **P** **14 51 04.7 -1.7**
comp=Z,1µmcomp=Z,82nm,1.2s
MMRI Maumere 57.12 288 P **P** **14 51 05.7 -0.7**
EDFI Ende, Flores 57.45 288 P **P** **14 51 08.5 -0.3**
comp=Z,325nmcomp=Z,17nm,1.3s
NLAI Namlea 57.50 297 P **P** **14 51 08.0 -1.0**
comp=Z,46nm,1.0s
SANI Sanana 59.12 297 P **P** **14 51 19.4 -1.0**
comp=Z,693nmcomp=Z,57nm,1.3s
BELA Belgrano 2 60.39 173 P **P** **14 51 29.4 +1.1**
TWSI Taliwang, Sumb 60.97 284 P **P** **14 51 33.0 -0.1**
comp=Z,28nm,1.2s
MAW Mawson 61.07 204 P **P** **14 51 35.0 +2.0**
comp=Z,7.1nm,1.0s,baz=110,slow=9.1,SNR=13
MAW pP **sP** **14 51 43.4 -0.8**
comp=Z,20nm,1.0s,baz=118,slow=6.0,SNR=15
MAW LR LR 15 17 37.7
comp=Z,2µm,18.7s,baz=114,slow=36
MAW Mawson 61.07 204 P **P** **14 51 33.5 +0.5**
baz=61,SNR=9.1
MAW Mawson 61.07 204 P **P** **14 51 33.9 +0.9**
MAW *PP **sP** **14 51 43.4 -0.8**
MAW Mawson 61.07 204 P **P** **14 51 33.9 +0.9**
KAPI Kappang 61.39 289 P **P** **14 51 36.8 +0.9**
comp=Z,6.1nm,0.3s,baz=157,slow=9.8,SNR=3.9
KAPI Kappang 61.39 289 P **P** **14 51 36.8 +0.9**
KAPI pmax pmax
comp=Z,42nm,1.2s
KAPI Kappang 61.39 289 IAmb IAmb 14 51 59.8
comp=Z,42nm,1.1s
BNSI Bone 61.56 290 P **P** **14 51 34.2 -2.8**
comp=Z,35nm,1.5s
LUWI Luwuk 62.06 295 P **P** **14 51 39.0 -1.4**
SPSI Sidrap Palu 62.10 290 P **P** **14 51 38.9 -1.8**
KMSI Cibinong 62.40 297 P **P** **14 51 43.4 +0.7**
comp=Z,52nm,0.8s
MPSI Mapaga 65.04 294 P **P** **14 51 58.7 -1.4**
comp=Z,32nm,1.2s
SYO Syowa Base 66.09 196 ⇓ *i*P **P** **14 52 05.4 -0.6**
SYO Syowa Base 66.09 196 ⇑ *i*pP pP 14 52 13.7 -0.5
SYO Syowa Base 66.09 196 ⇑ *e*sP sP 14 52 18.1 +0.8
SYO Syowa Base 66.09 196 ⇑ *i*PcP **PcP** **14 52 33.1 -3.2**
SNAA Sanae 68.09 180 P **P** **14 52 20.5 +1.6**
SNAA Sanae 68.09 180 *i* P **P** **14 52 20.0 +1.1**
SNAA pmax pmax
comp=Z,16nm,1.4s
SNAA Sanae 68.09 180 P **P** **14 52 20.1 +1.3**
SNAA IAmb IAmb 14 52 30.1
comp=Z,35nm,1.0s
NVL N'lazarevskaya 68.41 186 *e*P **P** **14 52 21.5 +0.8**
NVL *e*S **S** **15 01 22.9 +2.8**
NVL pmax pmax
comp=Z,35nm,0.9s
VNA3 Neumayer Olymp 68.45 178 P **P** **14 52 22.6 +1.6**
CISI Cisompet, Garu 68.52 279 P **P** **14 52 22.0 -0.4**
VNA2 Neumayer--Watz 68.81 179 P **P** **14 52 25.1 +1.8**
baz=176,slow=6.0
VNA1 Neumayer--Stat 69.08 179 P **P** **14 52 26.8 +1.9**
MYLDM Lahad Datu 69.48 296 P **P** **14 52 27.6 -0.6**
MYLDM IAmb IAmb 14 52 49.5
comp=Z,66nm,1.3s
DBJI Dramaga 69.97 279 P **P** **14 52 30.1 -1.2**
comp=Z,59nm,0.8s
KKM Kota Kinabalu 71.67 295 P **P** **14 52 39.7 -2.0**
KKM IAmb IAmb 14 52 42.6
comp=Z,66nm,1.5s
SBUM Sibu 71.95 290 P **P** **14 52 41.3 -2.0**
AIS Amsterdam Isla 72.10 235 P **P** **14 52 42.9 -1.0**
KSM Kuching 72.67 287 P **P** **14 52 46.5 -1.1**
KSM Kuching 72.67 287 P **P** **14 52 48.0 +0.4**
KLSI 72.70 279 P **P** **14 52 46.7 -1.1**
comp=Z,13nm,2.4s
KRJI Kerinci 76.85 279 P **P** **14 53 10.8 -1.2**
MYKOM Kota Tinggi 77.62 283 P **P** **14 53 15.1 -1.1**
MYKOM IAmb IAmb 14 53 17.9
comp=Z,61nm,1.5s
JMZ Minamidaito 2 78.01 320 P **P** **14 53 16.9 -1.1**
BKNI Bangkinang 78.75 280 P **P** **14 53 21.1 -1.3**
PLCA Paso Flores 79.06 135 P **P** **14 53 26.6 +2.8**
comp=Z,4.0nm,1.0s,baz=213,slow=6.7,SNR=5.8
PLCA pP **sP** **14 53 35.2 0.0**
comp=Z,14nm,0.9s,baz=219,slow=6.7,SNR=12
PLCA LR LR 15 22 10.7
comp=Z,920nm,18.1s,baz=178,slow=31
PLCA Paso Flores 79.06 135 P **P** **14 53 23.0 -0.9**
PLCA pmax pmax
comp=Z,27nm,1.1s
PLCA Paso Flores 79.06 135 P **P** **14 53 23.0 -0.9**
LC01 Cunco 79.61 133 P **P** **14 53 28.7 +1.8**
IPM Ipoh 81.51 283 P **P** **14 53 36.5 -0.8**
IPM IAmb IAmb 14 53 38.3
comp=Z,32nm,1.0s
IPM Ipoh 81.51 283 P **P** **14 53 37.0 -0.3**
SSLB Suanglung 81.90 311 P **P** **14 53 37.4 -1.7**
RPSI Rantau Prapat 81.90 281 P **P** **14 53 38.2 -1.1**
RPSI IAmb IAmb 14 53 39.8
comp=Z,47nm,1.2s
PSI Prapat 81.97 281 P **P** **14 53 38.2 -1.7**
PSI pmax pmax
comp=Z,47nm,1.2s
GSI Gunungsitoli 82.00 279 P **P** **14 53 40.4 +0.5**
KULM Kulim 82.33 284 P **P** **14 53 41.1 -0.4**
KULM IAmb IAmb 14 53 42.6
comp=Z,62nm,1.2s
KULM Kulim 82.33 284 P **P** **14 53 42.0 +0.4**
JYT Yasato 83.16 332 P **P** **14 53 44.8 -0.5**
INU Inuyama 83.58 329 P **P** **14 53 47.0 -0.5**
INU IAmb IAmb 14 53 48.9
comp=Z,34nm,1.1s
MJAR Matsushiro Arr 84.17 330 P **P** **14 53 50.2 -0.3**
comp=Z,10nm,0.8s,baz=162,slow=5.7,SNR=21
MJAR pP **pP** **14 53 58.7 -0.2**
comp=Z,6.6nm,0.8s,baz=162,slow=7.6,SNR=8.4
MJAR LR LR 15 30 18.3
comp=Z,111nm,19.8s,baz=165,slow=35
MJAR Matsushiro Arr 84.17 330 P **P** **14 53 49.4 -1.1**
MJAR *PP **pP** **14 53 58.7 -0.2**
MJAR pmax pmax
comp=Z,7.0nm,0.9s
MJAR Matsushiro Arr 84.17 330 P **P** **14 53 49.4 -1.1**
MAJO Matsushiro 84.17 330 *i* P **P** **14 53 50.2 -0.3**
MAJO pmax pmax
comp=Z,23nm,1.1s
MAJO Matsushiro 84.17 330 P **P** **14 53 49.0 -1.5**
MAT Matsushiro 84.17 330 P **P** **14 53 50.4 -0.1**
MAT *e*S **S** **15 04 12.4 -1.3**
JNU Nakatsue 84.28 323 LR LR 15 28 45.3
comp=Z,157nm,20.0s,baz=140,slow=34
QIZ Qiongzhong 85.27 300 P **P** **14 53 56.6 +0.1**
QIZ S **S** **15 04 27.6 +2.2**
QIZ SS **SS** **15 10 03.3 +2.7**
QIZ LR LR
comp=Z,290nm,22.1s
QIZ LR LR
comp=Z,340nm,19.1s
QIZ LR LR
comp=Z,230nm,27.5s
ERM Erimo 87.38 336 *i* P **P** **14 54 07.9 +1.7**
ERM pmax pmax
comp=Z,37nm,1.1s
KSRS Korea Array 89.22 324 P **P** **14 54 16.3 +1.2**
comp=Z,19nm,0.9s,baz=144,slow=5.5,SNR=64
KSRS pP **sP** **14 54 25.0 -1.5**
comp=Z,12nm,0.8s,baz=144,slow=5.3,SNR=13
KSRS LR LR 15 31 57.7
comp=Z,287nm,20.1s,baz=150,slow=34
KSAR Wonju Array Be 89.22 324 P **P** **14 54 15.7 +0.6**
KSAR Wonju Array Be 89.22 324 P **P** **14 54 15.7 +0.6**
NJ2 Nanjing 89.44 315 *e*P **P** **14 54 17.1 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ASAJ Asahikawa 89.46 337 LR LR 15 30 57.8
comp=Z,400nm,20.9s,baz=176,slow=33
INCN Inchon 89.83 323 P **P** **14 54 18.0 0.0**
INCN pmax pmax
comp=Z,44nm,1.2s
INCN Inchon 89.83 323 P **P** **14 54 18.0 0.0**
INCN IAmb IAmb 14 54 20.0
comp=Z,44nm,1.2s
WHN Wuhan 90.83 311 ⇓ P **P** **14 54 23.1 +0.3**
SLVN Son La 90.85 298 P **P** **14 54 22.6 -0.6**
YSS Yuzh-Sakhalins 91.99 338 *e*P **P** 14 54 21.4 -6.3
YSS *e**PP **PcP** **14 54 29.7 +1.2**
YSS *e* 15 04 55.4
YSS *e*PS PS 15 05 34.3 -67
YSS *e*PPS PPS 15 06 37.5
YSS *e*SS SS 15 11 42.0 +4.3
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,300nm,15.0s
CM31 Chiang Mai Arr 92.34 292 P **P** **14 54 29.5 -0.6**
CM31 IAmb IAmb 14 54 32.1
comp=Z,26nm,1.2s
CMAR Chiang Mai Arr 92.34 292 P **P** **14 54 31.2 +1.1**
comp=Z,8.0nm,1.0s,baz=151,slow=3.5,SNR=44
CMAR pP **pP** **14 54 39.2 +0.7**
comp=Z,4.0nm,0.8s,baz=155,slow=3.0,SNR=6.3
CMAR PP PP 14 58 00.3 -11
comp=Z,1.0nm,0.8s,baz=151,slow=5.8,SNR=3.4
CMAR LR LR 15 41 03.2
comp=Z,427nm,18.6s,baz=194,slow=39
CHTO Chiang Mai 92.58 293 P **P** **14 54 30.0 -1.2**
CHTO pmax pmax
comp=Z,22nm,1.4s
CHTO Chiang Mai 92.58 293 P **P** **14 54 30.0 -1.2**
CHTO IAmb IAmb 14 54 33.1
comp=Z,22nm,1.4s
USRK Ussuriysk Ar. 93.16 330 P **P** **14 54 33.9 +0.6**
comp=Z,6.0nm,0.9s,baz=174,slow=3.7,SNR=8.0
USRK pP **pP** **14 54 42.5 +0.8**
comp=Z,6.8nm,0.9s,baz=157,slow=4.9,SNR=4.2
USRK LR LR 15 35 15.2
comp=Z,177nm,19.0s,baz=148,slow=35
USRK Ussuriysk Ar. 93.16 330 P **P** **14 54 34.1 +0.9**
USRK Ussuriysk Ar. 93.16 330 P **P** **14 54 34.1 +0.9**
KMI Kunming 94.22 300 ⇑ *i*P **P** **14 54 41.3 +2.4**
KMI PP **PP** **14 58 30.1 +3.9**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,160nm,4.7s
KMI LR LR
comp=Z,380nm,19.5s
KMI LR LR
comp=Z,430nm,15.1s
KMI LR LR
comp=Z,470nm,18.0s
PET Petropavlovsk 94.38 350 *e*P **P** **14 54 33.9 -4.7**
PET *e* 15 05 18.2
PET *e*S **S** **15 05 48.8 +0.4**
PET MLR MLR

comp=Z,200nm,19.0s
PETK Petropavlovsk- 94.60 349 LR LR 15 34 26.2
comp=Z,194nm,19.1s,baz=159,slow=34
XAN Xi'an 96.52 310 P **P** **14 54 50.6 +1.6**
XAN pP pP 14 54 57.6 +0.1
XAN pmax pmax
comp=Z,10.0nm,1.4s
XAN LR LR
comp=Z,460nm,21.7s
XAN LR LR
comp=Z,470nm,19.5s
XAN LR LR
comp=Z,540nm,20.4s
CD2 Chengdu 97.49 304 P **P** **14 54 53.3 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
LPAZ La Paz 98.03 119 LR LR 15 30 05.2
comp=Z,364nm,21.3s,baz=216,slow=30
NVAR Mina Array Bea 98.93 46 P Pdif 14 55 05.2 +5.3
comp=Z,0.6nm,0.9s,baz=205,slow=6.6,SNR=4.4
NVAR LR LR 15 35 01.9
comp=Z,330nm,18.5s,baz=230,slow=32
HHC Hu-ho-hao-te 99.89 316 *e*P **Pdif** **14 55 04.3 +0.3**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,75nm,6.6s
LZH Lanzhou 100.94 308 *e*P **Pdif** **14 55 12.0 +3.1**
LZH pP sP 14 55 19.9 -0.6
LZH sP sPdif 14 55 24.4 +4.0
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,400nm,14.4s
LZH LR LR
comp=Z,280nm,14.6s
LZH LR LR
comp=Z,390nm,15.2s
TXAR Lajitas Array 101.81 62 PKKPbc PKKPbc 15 11 19.8 +2.0
comp=Z,0.4nm,0.6s,baz=75,slow=4.0,SNR=5.8
TXAR PKKP **PKKPdf** **15 11 29.3 +4.5**
comp=Z,0.5nm,0.7s,baz=90,slow=3.9,SNR=5.9
GTA Gaotai 105.53 309 P **PKiKP** **14 59 49.3 +6.8**
GTA pP PP 15 00 02.3 +10
GTA sP 15 00 06.8
GTA pmax pmax
comp=Z,5.0nm,1.7s
GTA pmax pmax
comp=Z,64nm,6.2s
GTA LR LR
comp=N,170nm,20.0s
GTA LR LR
comp=E,200nm,20.7s
GTA LR LR
comp=Z,180nm,20.4s
PDAR Pinedale Array 106.75 48 PP **PP** **14 59 57.6 -3.4**
comp=Z,0.2nm,0.6s,baz=151,slow=7.7,SNR=2.3
PDAR PKKP **PKKPab** **15 11 13.4 -2.8**
comp=Z,0.5nm,0.8s,baz=114,slow=4.4,SNR=2.9
ILAR Eielson Array 108.95 16 PKiKP **PKiKP** **14 59 47.8 -0.1**
comp=Z,4.4nm,1.1s,baz=251,slow=2.4,SNR=14
ILAR PKKPab **PKKPab** **15 11 08.4 +3.5**
comp=Z,0.6nm,1.0s,baz=4.2,slow=1.8,SNR=4.6
ILAR Eielson Array 108.95 16 **PKiKP** **14 59 47.5 -0.4**
INK Inuvik 114.90 18 PKP **PKiKP** **14 59 60.0 +0.9**
comp=Z,6.4nm,1.0s,baz=169,slow=5.2,SNR=3.2
INK Inuvik 114.90 18 *i* PKIKP **PKiKP** **14 59 59.6 +0.6**
INK Inuvik 114.90 18 **PKiKP** **14 59 59.5 +0.6**
WMQ Urumqi 115.45 307 *e*PKP **PKPdf** **15 00 00.3 -0.7**
WMQ AMB AMB
comp=Z,54nm,4.5s
WMQ LR LR
comp=Z,110nm,22.1s
WMQ LR LR
comp=Z,180nm,23.7s
TIXI Tiksi 116.73 345 *i* PKIKP **PKPdf** **15 00 01.6 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
DGZ Jazzator, Alta 118.65 312 *i* PKIKP **PKPdf** **15 00 06.1 -1.0**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
ZSN Zaisan 119.02 309 *e*PKP **PKPdf** **15 00 06.3 -1.4**
baz=309
ZSN Zaisan 119.02 309 *e*PKIKP **PKPdf** **15 00 06.2 -1.4**
MK31 Makanchi Array 120.24 307 PKIKP **PKPdf** **15 00 08.2 -1.9**
MK31 Makanchi Array 120.24 307 **PKPdf** **15 00 08.2 -1.9**
MKAR Makanchi Array 120.24 307 PKP **PKPdf** **15 00 09.3 -0.7**
comp=Z,3.3nm,0.6s,baz=181,slow=0.6,SNR=34
MKAR pPKP **pPKPdf** **15 00 18.3 -0.4**
comp=Z,3.7nm,0.8s,baz=164,slow=2.3,SNR=10
MKAR Makanchi Array 120.24 307 PKPdf **PKPdf** **15 00 08.4 -1.6**
SHLS Shalkode 120.27 303 *e*PKP **PKPdf** **15 00 08.7 -1.6**
baz=303
SHLS Shalkode 120.27 303 *e*PKIKP **PKPdf** **15 00 08.7 -1.6**
MAKZ Makanchi 120.44 307 PKIKP **PKPdf** **15 00 08.8 -1.6**
MAKZ Makanchi 120.44 307 PKPdf **PKPdf** **15 00 08.8 -1.6**
UZB Uzynbulak 120.55 302 *e*PKP **PKPdf** **15 00 09.3 -1.7**
baz=302
UZB Uzynbulak 120.55 302 *e*PKIKP **PKPdf** **15 00 09.2 -1.7**
KSH Kashi 120.81 297 PKP **PKiKP** **15 00 13.0 +1.4**
KSH PP PP 15 01 48.8 +8.0
KSH SKKS 15 08 33.6
KSH AMB AMB
comp=Z,110nm,5.0s
KSH LR LR
comp=Z,150nm,10.2s
KSH LR LR
comp=Z,140nm,10.9s
KSH LR LR
comp=Z,70nm,7.4s
SATY Saty 120.90 302 *e*PKP **PKPdf** **15 00 10.4 -1.2**
baz=302
SATY Saty 120.90 302 *e*PKIKP **PKPdf** **15 00 10.4 -1.2**
KPKS Kokpek 120.92 303 *e*PKP **PKPdf** **15 00 10.6 -1.0**
baz=303
KPKS Kokpek 120.92 303 *e*PKIKP **PKPdf** **15 00 10.6 -1.0**
P51A Williamsport 121.52 63 **PKPdf** **15 00 11.8 -0.9**
MDOK Medeo 121.83 302 *e*PKP **PKPdf** **15 00 11.6 -1.8**
baz=302
MDOK Medeo 121.83 302 *e*PKIKP **PKPdf** **15 00 11.6 -1.8**
ZAA0 Zalesovo Array 122.07 316 **PKPdf** **15 00 11.8 -1.5**
ZALV Zalesovo Beam 122.07 316 PKP **PKPdf** **15 00 11.8 -1.5**
comp=Z,1.9nm,0.7s,baz=144,slow=2.1,SNR=10
ZALV pPKP **pPKPdf** **15 00 21.0 -0.9**
comp=Z,1.8nm,0.8s,baz=129,slow=2.0,SNR=4.7
ZALV Zalesovo Beam 122.07 316 PKIKP **PKPdf** **15 00 11.3 -2.0**
ZALV Zalesovo Beam 122.07 316 PKPdf **PKPdf** **15 00 11.2 -2.0**
CHKK Chushkaly 122.19 302 *e*PKP **PKPdf** **15 00 12.1 -1.8**
baz=302
CHKK Chushkaly 122.19 302 *e*PKIKP **PKPdf** **15 00 12.0 -1.8**
BOOM Boomskoye usch 122.24 301 PKIKP **PKPdf** **15 00 13.6 -0.7**
BOOM Boomskoye usch 122.24 301 **PKPdf** **15 00 13.6 -0.7**
KUU Kurty 122.62 302 *e*PKP **PKPdf** **15 00 13.2 -1.5**
baz=302
KUU Kurty 122.62 302 *e*PKIKP **PKPdf** **15 00 13.2 -1.5**
Q54A Coxs Mills 122.80 64 **PKPdf** **15 00 13.4 -1.8**
AAK Ala-Archa 123.26 300 *i* PKIKP **PKPdf** **15 00 15.8 -0.4**
SGDS Sogindy 123.54 301 *e*PKP **PKPdf** **15 00 15.4 -1.2**
baz=301
SGDS Sogindy 123.54 301 *e*PKIKP **PKPdf** **15 00 15.3 -1.2**
KURK Kurchatov 124.16 310 *i* PKIKP **PKPdf** **15 00 16.3 -1.1**
KURK Kurchatov 124.16 310 PKPdf **PKPdf** **15 00 16.3 -1.1**
GAR Garm 124.44 294 PKPdf **PKPdf** **15 00 16.8 -1.7**
BTK Batken 124.58 296 PKIKP **PKPdf** **15 00 18.3 -0.4**
BTK Batken 124.58 296 **PKPdf** **15 00 18.3 -0.4**
BTLS Baital 124.60 303 *e*PKP **PKPdf** **15 00 16.9 -1.6**
baz=303
BTLS Baital 124.60 303 *e*PKIKP **PKPdf** **15 00 16.8 -1.6**
CHGR Chuyangaron 125.10 294 PKPdf **PKPdf** **15 00 18.9 -0.8**
IUG luzhnay 126.02 298 **PKPdf** **15 00 20.4 -1.1**
baz=298
IUG luzhnay 126.02 298 *e*PKIKP **PKPdf** **15 00 20.3 -1.1**
KK31 Karatay Array 126.10 299 PKIKP **PKPdf** **15 00 20.9 -0.5**
KK31 Karatay Array 126.10 299 PKPdf **PKPdf** **15 00 20.9 -0.5**
KKAR Karatay Array 126.10 299 PKIKP **PKPdf** **15 00 20.3 -1.1**
KKAR Karatay Array 126.10 299 **PKPdf** **15 00 20.3 -1.1**
KKAR Karatay Array 126.10 299 **PKPdf** **15 00 20.9 -0.5**
NRIK Noril'sk 126.70 334 PKP **PKPdf** **15 00 21.3 -0.4**
comp=Z,3.7nm,0.8s,baz=58,slow=2.2,SNR=6.4
BRVK Borovoye 129.81 311 *i* PKIKP **PKPdf** **15 00 27.9 -0.2**
BRVK Borovoye 129.81 311 PKPdf **PKPdf** **15 00 27.9 -0.2**
GEYT Alibeck 132.65 288 PKP **PKPdf** **15 00 34.0 -0.1**
comp=Z,1.7nm,0.8s,baz=204,slow=3.2,SNR=2.9
GEYT SKPbc **SKPbc** **15 03 58.7 -0.7**
comp=Z,1.4nm,0.5s,baz=86,slow=5.9,SNR=4.6
GEYT SKP 15 04 13.0
comp=Z,4.1nm,1.0s,baz=44,slow=4.4,SNR=4.6
ABKAR Akbulak array 135.06 304 **PKPdf** **15 00 36.9 -1.2**
ARU Arti 137.14 314 *i* PKIKP **PKPdf** **15 00 41.1 -0.7**
ARU 15 03 24.1
ARU MLR MLR
comp=Z,368nm,21.0s
ARU Arti 137.14 314 **PKPdf** **15 00 40.4 -1.4**
MAK Makhachkala 141.94 291 *e*P **Pdif** **14 58 10.5 -0.3**
MAK *i* 15 00 50.8
MAK pmax pmax
comp=Z,95nm,1.1s
PRGR Permogore 143.54 322 *e*PKIKP PKPab 15 00 49.4 -0.2
SUMG Summit 143.79 17 *i* P **PKPdf** **15 00 53.0 -0.9**
SUMG Summit 143.79 17 *i* P **PKPdf** **15 00 53.0 -0.9**
SUMG *i* 15 01 01.8
SUMG Summit 143.79 17 *i* PKIKP **PKPdf** **15 00 53.0 -0.9**
SUMG *i* 15 01 01.8
GEVA Gevas 143.86 282 PKPdf PKPbc 15 00 52.9 +0.4
AKH Akhalkalaki 144.43 287 PKIKP **PKPab** **15 00 53.7 -0.2**
AKH Akhalkalaki 144.43 287 **PKPab** **15 00 53.7 -0.2**
ZEI Tsey 144.47 290 *i* PKIKP **PKPab** **15 00 53.3 -0.8**
ZEI *e* 15 01 02.3
ZEI pmax pmax
comp=Z,39nm,1.3s
KBZ Khabaz 145.38 291 PKPbc **PKPbc** **15 00 56.5 -0.3**
comp=Z,48nm,0.9s,baz=116,slow=2.6,SNR=80
KBZ pPKPbc sPKPab 15 01 07.2 -1.3
comp=Z,29nm,0.8s,baz=99,slow=4.7,SNR=11
GOF Gofitskoye 145.52 293 ⇑ *i* PKIKP **PKPdf** **15 00 57.1 -0.1**
GOF pmax pmax
comp=Z,233nm,1.0s
KIV Kislovodsk 145.58 291 *i* PKIKP **PKPdf** **15 00 56.9 -0.5**
KIV pmax pmax
comp=Z,71nm,1.1s
KIV MLR MLR
comp=Z,683nm,25.0s
KIV Kislovodsk 145.58 291 **PKPdf** **15 00 56.8 -0.7**
LIC Lamto 145.82 178 *e*P **PKPdf** **15 00 58.8 +0.1**
comp=Z,257nm,1.3s
KIC Kosan Boka 145.96 179 *e*P **PKPab** **15 01 00.1 0.0**
comp=Z,110nm,1.0s
TMCR Tamitsa 146.07 328 *e*PKIKP **PKPdf** **15 00 56.5 -1.0**
TMCR pmax pmax
comp=Z,60nm,1.2s
TIC Toumodi 146.24 178 *e*P **PKPab** **15 01 00.9 -0.2**
DBIC Dimbokro 146.26 179 PKPbc **PKPab** **15 01 01.2 +0.1**
comp=Z,8.8nm,0.9s,baz=164,slow=3.6,SNR=8.5
DBIC pPKPbc sPKPbc 15 01 11.4 -0.7
comp=Z,16nm,0.8s,baz=150,slow=5.3,SNR=8.3
DBIC Dimbokro 146.26 179 PKIKP **PKPdf** **15 00 58.0 -1.4**
DBIC 15 01 00.9
DBIC Dimbokro 146.26 179 PKPdf **PKPdf** **15 00 58.0 -1.4**
DBIC PKPbc **PKPab** **15 01 00.9 -0.3**
KEV Kevo 146.53 341 PKP2 **PKPdf** **15 00 58.8 +0.7**
KEV Kevo 146.53 341 **PKPdf** **15 00 58.8 +0.7**
KLMR Klimovskoe 146.60 322 *e*PKIKP **PKPdf** **15 00 58.3 -0.2**
KLMR *e* 15 04 25.9
KLMR pmax pmax
comp=Z,111nm,1.2s
KLMR Klimovskoe 146.60 322 *e*PKPdf **PKPdf** **15 00 58.3 -0.2**
KLMR AMP 15 01 09.3
comp=Z,111nm,1.2s
KLMR *e*PP **PP** **15 04 25.9 +1.8**
VRH Novokhopyorsk 146.89 304 *e*PKP2 **PKPdf** **15 00 59.9 +0.7**
VRH pmax pmax
comp=Z,70nm,0.7s
SHBL Chebaa 147.59 270 *e*P **PKPbc** **15 01 04.8 +0.9**
SOC Sochi 147.63 290 *e*PKIKP **PKPdf** **15 01 00.8 0.0**
SOC *i* 15 01 04.7
SOC *e* 15 04 30.4
SOC *e*PPP PPP 15 07 44.4
SOC *e*SS SS 15 23 30.0 -3.6
SOC *e*SSS SSS 15 29 04.6
SOC pmax pmax
comp=Z,41nm,1.0s
SOC MLR MLR
comp=Z,215nm,20.0s
BHL Bhannes 147.88 271 *e*P **PKPbc** **15 01 05.4 +0.8**
GAZ Gaziantep 147.88 278 **PKPbc** **15 01 04.5 0.0**
VORD Divnogorie 148.42 304 *e*PKP2 **PKPbc** **15 01 04.1 -1.3**
VORD pmax pmax
comp=Z,30nm,1.5s
VSR Storozhevoye 148.49 304 *e*PKP2 **PKPbc** **15 01 04.1 -1.4**
VSR pmax pmax
comp=Z,20nm,0.7s
LPSR Galich'ya Gora 148.54 307 *e*PKP2 **PKPbc** **15 01 05.0 -0.6**
LPSR pmax pmax
comp=Z,50nm,1.1s
MOS Moscow 148.85 313 *e*PKP2 **PKPbc** **15 01 05.0 -1.3**
MOS pmax pmax
comp=Z,71nm,1.0s
ANN Anapa 149.43 292 *i* PKP2 **PKPbc** **15 01 07.2 -0.9**
ANN pmax pmax
comp=Z,43nm,0.9s
OBN Obninsk 149.56 312 *de*PKHKP PKPpre 15 01 03.7
OBN *e* 15 04 40.4
OBN pmax pmax
comp=Z,31nm,1.0s
OBN MLR MLR
comp=Z,287nm,22.0s
CSS Mathiatis 150.06 271 **PKPbc** **15 01 09.4 -0.6**
BR131 Keskin Array S 151.30 281 PKIKP **PKPbc** **15 01 12.6 -0.4**
BR131 Keskin Array S 151.30 281 **PKPbc** **15 01 12.6 -0.4**
BRTR Keskin Array B 151.30 281 PKP **PKPdf** **15 01 07.2 +0.2**
comp=Z,2.2nm,1.1s,baz=160,slow=3.9,SNR=6.5
BRTR PKPbc **PKPbc** **15 01 12.6 -0.4**
comp=Z,18nm,1.0s,baz=144,slow=4.4,SNR=50
BRTR PKPab **pPKPbc** **15 01 21.1 -0.5**
comp=Z,27nm,1.0s,baz=122,slow=3.5,SNR=22
BRTR Keskin Array B 151.30 281 **PKPdf** **15 01 06.0 -1.0**
BRTR PKPbc **PKPbc** **15 01 12.4 -0.5**
ILGA Ilgaz 151.53 284 PKPdf **PKPdf** **15 01 06.3 -1.1**
ILGA PKPbc **PKPbc** **15 01 13.4 -0.1**
FIA1 FINESS Array S 152.19 329 **PKPbc** **15 01 13.0 -1.0**
FINES FINESS Array B 152.19 329 PKP **PKPdf** **15 01 08.2 +0.8**
comp=Z,4.7nm,1.0s,baz=64,slow=3.2,SNR=2.9
FINES PKPbc **PKPbc** **15 01 13.6 -0.4**
comp=Z,10nm,0.7s,baz=90,slow=5.7,SNR=19
FINES PKPab **pPKPbc** **15 01 22.3 -0.4**
comp=Z,34nm,1.0s,baz=119,slow=6.7,SNR=16
FINES FINESS Array B 152.19 329 PKIKP **PKPbc** **15 01 13.3 -0.8**
FINES 15 01 22.0
FINES FINESS Array B 152.19 329 **PKPbc** **15 01 13.2 -0.8**
FINES **pPKPbc** **15 01 22.0 -0.7**
TORD Torodi Ar. Bea 152.24 192 PKP **PKPdf** **15 01 09.8 +0.9**
comp=Z,1.4nm,1.0s,baz=264,slow=1.7,SNR=4.8
TORD PKPbc **PKPbc** **15 01 15.7 +0.1**
comp=Z,5.7nm,1.1s,baz=162,slow=0.5,SNR=12
TORD PKPab **PKPab** **15 01 25.4 0.0**
comp=Z,14nm,0.9s,baz=132,slow=3.4,SNR=14
TORD pPKPab **sPKPab** **15 01 35.2 -1.6**
comp=Z,19nm,0.8s,baz=174,slow=3.1,SNR=14
TORD Torodi Ar. Bea 152.24 192 PKPdf **PKPdf** **15 01 07.0 -2.0**
VSU Vasula 153.49 323 *e*P **PKPab** **15 01 27.4 -2.2**
MICGM Minsk 154.56 314 *e*P **PKPab** **15 01 30.0 -4.2**
MNK Minsk 154.56 314 *e*PKP2 **PKPab** **15 01 30.0 -4.2**
AKASG Malin Array Be 154.79 305 PKP **PKPdf** **15 01 12.3 +0.9**
comp=Z,0.3nm,0.3s,baz=46,slow=0.7,SNR=4.6
AKASG PKPbc **pPKPdf** **15 01 19.6 -0.5**
comp=Z,4.4nm,0.7s,baz=70,slow=2.0,SNR=10
AKASG PKPab **PKPab** **15 01 34.6 -0.7**
comp=Z,7.1nm,0.8s,baz=65,slow=3.4,SNR=12
AKASG Malin Array Be 154.79 305 PKIKP **PKPdf** **15 01 12.4 +0.9**
AKASG 15 01 19.2
AKASG 15 01 34.7
AKBB Malin Array Si 154.79 305 PKIKP **PKPbc** **15 01 19.3 -0.8**
AKBB Malin Array Si 154.79 305 **PKPbc** **15 01 19.3 -0.8**
IDID Didziasalis 154.88 316 *e*P **PKPab** **15 01 35.0 -0.5**
IZAR Zarasai 154.96 318 *e*P **PKPab** **15 01 35.8 -0.1**
ISAL Salakas 155.10 317 *e*P **PKPab** **15 01 36.7 +0.3**
IIGN Ignalina 155.14 317 *e*P **PKPab** **15 01 36.2 -0.4**
PABE Paberze 156.23 318 *e*P **PKPab** **15 01 41.1 -0.2**
PBUR Paburge 156.98 321 *e*P **PKPab** **15 01 43.6 -0.9**
SUW Suwalki 157.30 316 *e*PKPab **PKPab** **15 01 45.5 -0.5**
NOA NORSAR Array B 157.43 340 PKPab **PKPab** **15 01 45.6 -0.7**
comp=Z,0.9nm,0.7s,baz=64,slow=1.9,SNR=3.0
NOA pPKPab **pPKPab** **15 01 53.9 -0.9**
comp=Z,2.0nm,0.9s,baz=28,slow=3.2,SNR=3.5
BURAR Bucovina Array 157.89 298 **PKPdf** **15 01 14.7 -1.1**
BURAR **PKPab** **15 01 48.5 -0.5**
BUR08 Bucovina Ar. S 157.90 298 PKPab **PKPab** **15 01 48.1 -0.9**
LVV L'vov 158.24 305 *e*PKP2 **PKPab** **15 01 49.2 -1.0**
KOLS Kolonicke sedl 159.57 303 *e*PKP2 **PKPab** **15 01 55.6 -0.4**
UZH Uzhgorod 159.63 302 *e*PKP2 **PKPab** **15 01 55.7 -0.6**
CRVS Cervenica-Dubn 160.10 303 *e*PKP2 **PKPab** **15 01 59.3 +1.0**
NIE Niedzica 160.68 305 *e*PKPdf **PKPdf** **15 01 19.0 +0.2**
NIE *e*PKPab **PKPab** **15 02 01.5 +0.6**
OJC Ojcow 160.72 308 *e*PKPdf **PKPdf** **15 01 18.6 -0.2**
OJC *e*PKPab **PKPab** **15 02 01.0 +0.1**
OJC *ep*PKPab **pPKPab** **15 02 09.1 -0.4**
OJC Ojcow 160.72 308 PKP2 **PKPab** **15 02 00.6 -0.4**
OJC Ojcow 160.72 308 PKPab **PKPab** **15 02 00.6 -0.4**
LANS Liptovska Anna 161.28 305 *e*PKP2 **PKPab** **15 02 04.5 +1.0**
DIVS Divibare 161.87 289 PKPdf **PKPdf** **15 01 19.0 -1.4**
DIVS PKPab **PKPab** **15 02 05.6 -0.7**
VYHS Vyhne 161.88 304 *e*PKP2 **PKPab** **15 02 06.3 +0.2**
MORC Moravsky Berou 162.23 309 PKP2 **PKPab** **15 02 06.9 -0.8**
MORC Moravsky Berou 162.23 309 **PKPab** **15 02 06.9 -0.8**
KRLC Kraliky 162.56 310 AMS AMS 16 19 50.0
comp=Z,300nm,19.7s
DPC Dobruska-Polom 162.70 311 *e*PKPAB **PKPab** **15 02 10.2 +0.5**
DPC *ep*PKP **pPKPab** **15 02 18.4 +0.2**
DPC AMS AMS 16 23 50.0
comp=Z,400nm,21.3s
DPC Dobruska-Polom 162.70 311 *e*PKP2 **PKPab** **15 02 10.2 +0.5**
DPC MLR MLR
comp=Z,400nm,21.3s
BRG Berggiesshubel 163.76 316 *e*PKP **PKPdf** **15 01 22.2 +0.3**
comp=Z,4.6nm,1.2s
BRG *e* 15 01 31.1
comp=Z,7.9nm,1.2s
BRG *i* 15 02 14.0
comp=Z,8.8nm,0.9s
comp=N,359nm,19.2s
comp=E,184nm,16.4s
comp=Z,530nm,18.4s
BRG Berggiesshubel 163.76 316 *e*PKIKP **PKPdf** **15 01 22.2 +0.3**
BRG *e* 15 01 31.1
BRG *i* 15 02 14.0
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG MLR MLR
comp=N,359nm,19.2s
BRG MLR MLR
comp=E,184nm,16.4s
BRG MLR MLR
comp=Z,530nm,18.4s
GOPC GO Pecny, Ondr 163.78 312 AMS AMS 16 20 20.0
comp=Z,300nm,23.3s
PRU Pruhonice 163.89 312 *e*PKPAB **PKPab** **15 02 15.2 +0.4**
PRU AMS AMS 16 24 20.0
comp=Z,300nm,19.9s
PRU Pruhonice 163.89 312 *e*PKP2 **PKPab** **15 02 15.2 +0.4**
PRU MLR MLR
comp=Z,300nm,19.9s
PRA Prague 163.91 312 AMS AMS 16 23 30.0
comp=Z,200nm,23.4s
CONA Conrad Observa 163.95 304 *e*PKPab **PKPab** **15 02 15.5 +0.2**
comp=Z,5.6nm,1.0s
CLL Collm 164.01 318 ⇓ *i* PKPab **PKPab** **15 02 14.8 -0.5**
comp=Z,12nm,1.3s
CLL *ep*PKPab **pPKPab** **15 02 22.0 -1.8**
comp=Z,27nm,1.7s
CLL *e*PP **PP** **15 06 01.0 -0.3**
CLL *e*PPS PPS 15 19 36.0
CLL *e*PSPS 15 28 06.0
CLL *e*SSS SSS 15 33 18.0
CLL LmH 16 17 00.0
comp=N,200nm,21.2s
CLL LmH 16 17 00.0
comp=E,200nm,21.8s
CLL LmV 16 22 00.0
comp=Z,400nm,20.6s
CLL Collm 164.01 318 ⇓ *i* PKP2 **PKPab** **15 02 14.8 -0.5**
CLL pmax pmax
comp=Z,12nm,1.3s
CLL MLR MLR
comp=Z,400nm,20.6s
ARSA Arzberg 164.38 302 *e*PKPab **PKPab** **15 02 15.9 -1.4**
comp=Z,7.8nm,1.1s
KHC Kasperske Hory 164.84 310 *e*PKPAB **PKPab** **15 02 18.6 -0.6**
KHC *ep*PKP **pPKPab** **15 02 27.6 -0.1**
KHC AMS AMS 16 25 40.0
comp=Z,300nm,21.8s
KHC Kasperske Hory 164.84 310 *e*PKP2 **PKPab** **15 02 18.6 -0.6**
KHC MLR MLR
comp=Z,300nm,21.8s
KHC Kasperske Hory 164.84 310 PKPab **PKPab** **15 02 18.4 -0.8**
SOKA Soboth 164.88 300 *i* PKPab **PKPab** **15 02 19.2 -0.3**
comp=Z,8.8nm,1.3s
GEC2 GERESS Array S 164.90 309 **PKPab** **15 02 18.9 -0.7**
GERES GERESS Array B 164.90 309 PKP **PKPdf** **15 01 24.4 +1.4**
comp=Z,0.3nm,0.4s,baz=158,slow=1.1,SNR=3.2
GERES PKPab **PKPab** **15 02 19.7 +0.2**
comp=Z,4.1nm,0.8s,baz=40,slow=5.2,SNR=16
GERES pPKPab **pPKPab** **15 02 28.3 +0.3**
comp=Z,3.0nm,0.8s,baz=69,slow=4.4,SNR=6.2
GERES GERESS Array B 164.90 309 PKP2 **PKPab** **15 02 18.4 -1.1**
GERES GERESS Array B 164.90 309 **PKPab** **15 02 18.4 -1.1**
MOA Molln 164.98 305 *e*PKPab **PKPab** **15 02 20.1 +0.3**
comp=Z,9.2nm,0.7s,SNR=5.8
ABTA Abfaltersbach 166.49 303 *e*PKPab **PKPab** **15 02 25.6 -1.0**
comp=Z,10nm,1.2s
WATA Walderalm 166.85 306 *e*PKPab **PKPab** **15 02 28.1 -0.1**
comp=Z,26nm,1.5s
SQTA Sankt Quirin 167.12 306 *e*PKPab **PKPab** **15 02 29.1 -0.3**
comp=Z,16nm,1.0s,SNR=5.2
MOTA Moosalm 167.13 307 *e*PKPab **PKPab** **15 02 29.1 -0.4**
comp=Z,18nm,1.1s,SNR=5.2
RETA Reutte 167.28 308 *e*PKPab **PKPab** **15 02 30.2 +0.2**
comp=Z,8.6nm,1.4s
FETA Feichten 167.51 306 *e*PKPab **PKPab** **15 02 31.0 -0.1**
comp=Z,13nm,1.3s
DAVA Damuels 167.90 308 *e*PKPab **PKPab** **15 02 32.2 -0.7**
comp=Z,19nm,1.0s
FUORN Ofenpass-Fuorn 167.97 305 **PKPab** **15 02 33.1 -0.2**
KEST Kesra 168.40 250 PKPab **PKPab** **15 02 36.5 +1.2**
comp=Z,9.6nm,1.0s,baz=107,slow=1.1,SNR=7.6
KEST Kesra 168.40 250 **PKPab** **15 02 35.5 +0.2**
TUE Stuetta 168.60 306 PKPdf **PKPdf** **15 01 25.7 -0.4**
TUE PKPab **PKPab** **15 02 36.4 +0.3**
SENIN Lac Senin/Sane 169.90 309 PKPab **PKPab** **15 02 40.0 -1.8**
BNI Bardonecchia 170.90 303 PKIKP **PKPdf** **15 01 26.8 -0.6**
BNI Bardonecchia 170.90 303 **PKPdf** **15 01 26.8 -0.6**
ESDC Sonseca Array 179.13 186 PKP **PKPdf** **15 01 29.1 -0.8**
comp=Z,0.7nm,0.8s,baz=42,slow=2.4,SNR=5.0
ESDC PKPab pPKPab 15 03 24.8 -6.2
comp=Z,3.9nm,1.0s,baz=112,slow=3.8,SNR=13
ESDC pPKPab pPKPab 15 03 33.5 +2.5
comp=Z,4.2nm,0.9s,baz=126,slow=3.6,SNR=10
ESDC Sonseca Array 179.13 186 **PKPdf** **15 01 28.1 -1.8**

WEL 22 14:41:38.0, 40.5S±0.7×175.9E±0.9, h11km±1km, M5.2/13, ML5.3/5, MLv5.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=73.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRWZ	**Pori Road**	**0.06**	**157**	P	Pg	14 41 40.7	+0.4
PRWZ				S	Sg	14 41 45.9	+3.9
DVHZ	**Dannevirke**	**0.26**	**41**	P	Pg	14 41 44.0	+0.6
DVHZ				S	Sb	14 41 49.4	0.0
TIWZ	**Tintock**	**0.28**	**188**	S	Sb	14 41 49.8	0.0
BFZ	**Birch Farm**	**0.30**	**128**	P	Pb	14 41 44.9	-0.5
BFZ				S	Sb	14 41 50.1	-0.2
MRZ	**Mangatainoka R**	**0.32**	**239**	P	Pb	14 41 45.7	-0.1
MRZ				S	Sb	14 41 51.1	+0.2
TSZ	**Takapari Road**	**0.44**	**2**	P	Pg	14 41 46.1	-0.6
TSZ				S	Sb	14 41 54.6	+0.2
CPWZ	**Castlepoint**	**0.46**	**154**	S	Sb	14 41 58.2	+3.3
HOWZ	**Holdsworth Sta**	**0.51**	**219**	S	Sb	14 41 56.3	-0.2
TMWZ	**Te Maipa**	**0.61**	**183**	S	Sb	14 42 00.5	+1.2
PNHZ	**Pukenui**	**0.62**	**19**	S	Sb	14 42 00.8	+1.3
OGWZ	**Otaki Gorge**	**0.67**	**241**	P	Pb	14 41 52.2	+0.5
OGWZ				S	Sb	14 42 00.9	0.0
KIW	**Kapiti Island**	**0.86**	**245**	S	Sb	14 42 07.3	+0.7
CAW	**Cannon Point**	**0.90**	**227**	S	Sb	14 42 07.8	+0.1
KRHZ	**Kereru**	**0.92**	**21**	P	Pn	14 41 57.6	+0.8
KRHZ				S	Sb	14 42 09.0	+0.9
BHHZ	**Black Hill Sta**	**1.01**	**5**	S	Sn	14 42 12.1	-0.4
PLWZ	**Palliser**	**1.19**	**206**	S	Sb	14 42 14.8	-1.3
BHW	**Baring Head**	**1.22**	**221**	S	Sb	14 42 16.6	-0.2
TUVZ	**Tukino**	**1.25**	**350**	S	Sn	14 42 19.2	+0.8

*IDC **22** 14:44:08.5±0.8, 0°.63S×98°.52E, h0km, mb4.5/13, mb1 4.5/15, mb1mx4.1/45, mbtmp4.4/15, ML4.2/2, MS3.6/3, Ms1 3.7/3, ms1mx3.1/32, Error ellipse: s-maj=29.0km s-min=15.2km az=63.0*

*BJI **22** 14:44:11.7±0.0, 0°.74S×98°.68E, h37km, mB4.9/24, mb4.7/38, Ms4.4/6, Ms7 4.1/4*

*NEIC **22** 14:44:12.7±1.7, 0°.73S±0°.07×98°.46E±0°.08, h37km±7km, mb4.7/43, Error ellipse: s-maj=12.3km s-min=8.9km az=54.0*

ISC 22 14:44:12.4±0.5, 0°.71S±0°.06×98°.50E±0°.07, h32km, n94, σ1°.92/90, mb4.8/36, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**2.21**	**335**	Pn	**Pn**	**14 44 47.2**	**+0.4**
BKNI	**Bangkinang**	**2.74**	**68**	Pn	**Pn**	**14 44 54.8**	**+0.7**
RPSI	**Rantau Prapat**	**3.41**	**7**	Pn	**Pn**	**14 45 03.5**	**+0.1**
RPSI	**Rantau Prapat**	**3.41**	**7**		**Pn**	**14 45 03.9**	**+0.5**
PSI	**Prapat**	**3.51**	**7**	Pn	**Pn**	**14 45 03.9**	**-1.0**
	10.0nm,0.3s,baz=353,slow=0.2,SNR=19						
PSI				LR	LR	14 46 38.3	
	comp=Z,959nm,20.2s,baz=266,slow=45						
MNAI	**Manna**	**5.74**	**129**	Pn	**Pn**	**14 45 37.3**	**+1.8**
IPM	**Ipoh**	**5.74**	**26**	Pn	**Pn**	**14 45 36.6**	**+1.1**
MYKOM	**Kota Tinggi**	**5.90**	**65**	Pn	**Pn**	**14 45 38.1**	**+0.5**
LHMI	**Lhok Sumawe**	**6.10**	**345**	Pn	**Pn**	**14 45 39.2**	**-1.2**
KULM	**Kulim**	**6.34**	**20**	Pn	**Pn**	**14 45 43.7**	**+0.1**
CISI	**Cisompet, Garu**	**11.51**	**126**	Pn	**Pn**	**14 46 52.6**	**-2.0**
COCO	**West Island**	**11.52**	**188**	Pn	**Pn**	**14 46 53.3**	**-1.4**
KSM	**Kuching**	**12.01**	**80**	Pn	**Pn**	**14 47 00.1**	**-1.3**
SBUM	**Sibu**	**14.07**	**77**	Pn	**Pn**	**14 47 31.3**	**+1.7**
KKM	**Kota Kinabalu**	**18.92**	**69**		**Pn**	**14 48 30.9**	**-0.7**
CM31	**Chiang Mai Arr**	**19.05**	**1**	P	**Pn**	**14 48 32.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**19.05**	**1**	P	**Pn**	**14 48 32.1**	**-0.9**
	0.5nm,0.3s,baz=190,slow=11,SNR=39						
CMAR				LR	LR	14 56 29.5	
	comp=Z,192nm,18.5s,baz=224,slow=39						
CMAR	**Chiang Mai Arr**	**19.05**	**1**		**Pn**	**14 48 31.9**	**-1.2**
CHTO	**Chiang Mai**	**19.41**	**1**	P	**Pn**	**14 48 36.0**	**-1.3**
PALK	**Pallekele**	**19.45**	**294**	LR	LR	14 55 19.2	
	comp=Z,172nm,19.4s,baz=219,slow=34						
MYLDM	**Lahad Datu**	**20.82**	**73**	P	Pn	14 48 51.7	-2.3
MYLDM				IAmb	IAmb	14 49 16.6	
	comp=Z,22nm,0.9s						
SLVN	**Son La**	**22.54**	**13**	P	**P**	**14 49 08.7**	**-1.2**
KMI	**Kunming**	**26.01**	**9**	↓*i*P	**P**	**14 49 44.8**	**+1.9**
KMI				pP	sP	14 49 54.8	-1.1
KMI				pmax	pmax		
	comp=Z,25nm,0.6s						
KMI				pmax	pmax		
	comp=Z,140nm,4.0s						
KMI				LR	LR		
	comp=Z,250nm,5.0s						
KMI				LR	LR		
	comp=Z,290nm,4.7s						
KMI				LR	LR		
	comp=Z,210nm,5.5s						
GIRL	**Giralia**	**26.64**	**146**	P	**P**	**14 49 46.2**	**-2.1**
H08S2	**Diego Garcia H**	**26.82**	**254**	T	T	15 17 35.7	
	baz=75,slow=75,SNR=1257						
H08S3	**Diego Garcia H**	**26.83**	**254**	T	T	15 17 36.3	
	baz=75,slow=75,SNR=1626						
H08S1	**Diego Carcia H**	**26.84**	**254**	T	T	15 17 37.0	
	baz=75,slow=75,SNR=1805						
GYA	**Guiyang**	**28.14**	**16**	*e*P	**P**	**14 50 02.3**	**+0.4**
GYA				pmax	pmax		
	comp=Z,14nm,1.3s						
LSA	**Lhasa**	**31.05**	**348**	P	**P**	**14 50 27.8**	**-0.2**
CD2	**Chengdu**	**31.84**	**9**	P	**P**	**14 50 34.8**	**+0.3**
ENH	**Enshi**	**32.54**	**18**	P	**P**	**14 50 39.9**	**-0.8**
SSLB	**Suanglung**	**32.69**	**40**	P	**P**	**14 50 42.3**	**+0.2**
SSLB				IAmb	IAmb	14 50 46.8	
	comp=Z,20nm,1.3s						
KNRA	**Kununurra**	**33.36**	**118**	P	**P**	**14 50 47.5**	**-0.4**
XAN	**Xi'an**	**35.93**	**15**	P	**P**	**14 51 09.5**	**-0.5**
XAN				pmax	pmax		
	comp=Z,24nm,0.9s						
XAN	**Xi'an**	**35.93**	**15**	P	**P**	**14 51 08.8**	**-1.2**
LZH	**Lanzhou**	**36.95**	**7**	*e*P	**P**	**14 51 19.8**	**+1.0**
LZH				pP	sP	14 51 29.8	-2.2
LZH				sP	pP	14 51 35.4	+7.2
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
NJ2	**Nanjing**	**37.85**	**29**	*e*P	**P**	**14 51 27.8**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WB0	**Warramunga Arr**	**39.91**	**121**	P	**P**	**14 51 42.9**	**-0.9**
WB0				IAmb	IAmb	14 51 44.1	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**39.94**	**121**	P	**P**	**14 51 43.9**	**-0.1**
	comp=Z,6.8nm,0.6s,baz=301,slow=9.1,SNR=5.0						
WRA	**Warramunga Arr**	**39.94**	**121**	P	**P**	**14 51 43.4**	**-0.7**
WRAB	**Tennant Creek**	**39.94**	**121**	P	**P**	**14 51 43.5**	**-0.6**
WRAB				IAmb	IAmb	14 51 44.6	
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**39.95**	**121**	P	**P**	**14 51 43.4**	**-0.7**
WB2				IAmb	IAmb	14 51 44.6	
	comp=Z,14nm,0.6s						
GTA	**Gaotai**	**39.95**	**2**	P	**P**	**14 51 44.9**	**+1.0**
GTA				pP	sP	14 51 54.6	-2.6
GTA				sP	pP	14 51 58.9	+5.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,44nm,5.3s						
GTA				LR	LR		
	comp=Z,160nm,18.5s						
GTA				LR	LR		
	comp=Z,190nm,19.3s						
WR0	**Warramunga Arr**	**40.12**	**121**	P	**P**	**14 51 45.1**	**-0.4**
WR0				IAmb	IAmb	14 51 58.7	
	comp=Z,16nm,1.2s						
ASAR	**Alice Springs**	**41.22**	**126**	P	**P**	**14 51 55.9**	**+1.2**
	comp=Z,2.1nm,0.5s,baz=301,slow=7.8,SNR=8.4						
ASAR	**Alice Springs**	**41.22**	**126**	P	**P**	**14 51 54.8**	**+0.2**
AS31	**Alice Springs**	**41.22**	**126**	P	**P**	**14 51 55.4**	**+0.8**
NIL	**Nilore**	**41.62**	**328**	P	**P**	**14 51 57.7**	**0.0**
NIL				IAmb	IAmb	14 51 59.0	
	comp=Z,9.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**43.04**	**15**	*e*P	**P**	**14 52 10.0**	**+0.7**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,73nm,6.6s						
JSU	**Suzuyama**	**44.09**	**41**	P	**P**	**14 52 16.6**	**-1.2**
JSU				IAmb	IAmb	14 52 37.9	
	comp=Z,19nm,1.0s						
WMQ	**Urumqi**	**45.38**	**349**	*e*P	**P**	**14 52 29.3**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,49nm,4.1s						
JNU	**Nakatsue**	**45.42**	**39**	P	**P**	**14 52 27.6**	**-0.8**
KSAR	**Wonju Array Be**	**46.69**	**32**	P	**P**	**14 52 36.8**	**-1.4**
KSRS	**Korea Array**	**46.71**	**32**	P	**P**	**14 52 37.3**	**-1.1**
	comp=Z,6.2nm,0.8s,baz=221,slow=8.8,SNR=30						
KS19	**Wonju Array Si**	**46.72**	**32**	P	**P**	**14 52 36.9**	**-1.6**
KDJ	**Kajisay**	**46.79**	**338**	P	**P**	**14 52 39.8**	**+0.6**
KDJ				IAmb	IAmb	14 52 42.1	
	comp=Z,11nm,0.9s						
BOOM	**Boomskoye usch**	**47.57**	**337**	P	**P**	**14 52 46.2**	**+0.9**
BOOM				IAmb	IAmb	14 52 47.5	
	comp=Z,3.7nm,0.7s						
JMN	**Monobe**	**47.73**	**41**	P	**P**	**14 52 46.5**	**+0.1**
JHS	**Saijyo**	**48.05**	**39**	P	**P**	**14 52 46.9**	**-2.0**
SONM	**Songino Array**	**48.84**	**7**	P	**P**	**14 52 56.0**	**+1.1**
	comp=Z,11nm,0.6s,baz=187,slow=9.0,SNR=39						
SONM				PcP	**PcP**	**14 54 19.3**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=184,slow=5.6,SNR=3.3						
SONM	**Songino Array**	**48.84**	**7**	P	**P**	**14 52 55.5**	**+0.6**
ULN	**Ulaanbaatar**	**48.95**	**8**	P	**P**	**14 52 56.2**	**+0.4**
ULN				IAmb	IAmb	14 52 59.1	
	comp=Z,8.5nm,0.7s						
MK31	**Makanchi Array**	**49.40**	**345**	P	**P**	**14 52 59.8**	**+0.7**
MKAR	**Makanchi Array**	**49.40**	**345**	P	**P**	**14 53 00.2**	**+1.1**
	comp=Z,16nm,0.5s,baz=151,slow=8.2,SNR=195						
MKAR	**Makanchi Array**	**49.40**	**345**	P	**P**	**14 52 59.7**	**+0.6**
MAKZ	**Makanchi**	**49.49**	**345**	P	**P**	**14 53 00.1**	**+0.3**
MAKZ				IAmb	IAmb	14 53 01.6	
	comp=Z,8.5nm,0.7s						
JWT	**Wachi**	**49.68**	**40**	P	**P**	**14 53 00.8**	**-0.6**
KK31	**Karatay Array**	**50.34**	**333**	P	**P**	**14 53 06.0**	**-0.3**
KKAR	**Karatay Array**	**50.34**	**333**	P	**P**	**14 53 06.5**	**+0.2**
KKAR	**Karatay Array**	**50.34**	**333**	P	**P**	**14 53 06.3**	**0.0**
KKAR				IAmb	IAmb	14 53 33.9	
	comp=Z,16nm,1.0s						
STKA	**Stephens Creek**	**51.12**	**132**	P	**P**	**14 53 14.3**	**+1.9**
	comp=Z,3.0nm,0.6s,baz=305,slow=4.3,SNR=7.6						
STKA	**Stephens Creek**	**51.12**	**132**	P	**P**	**14 53 13.9**	**+1.6**
USA0B	**Ussuriysk Arra**	**53.76**	**29**	P	**P**	**14 53 30.4**	**-1.2**
USA0B				IAmb	IAmb	14 53 32.3	
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Ar.**	**53.76**	**29**	P	**P**	**14 53 31.5**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=209,slow=6.0,SNR=9.6						
USRK	**Ussuriysk Ar.**	**53.76**	**29**	P	**P**	**14 53 30.8**	**-0.8**
KURK	**Kurchatov**	**53.97**	**344**	P	**P**	**14 53 33.2**	**+0.2**
KURK				IAmb	IAmb	14 53 35.3	
	comp=Z,7.7nm,0.9s						
ZAA0	**Zalesovo Array**	**55.64**	**350**	P	**P**	**14 53 44.5**	**-0.7**
ZAA0				IAmb	IAmb	14 53 46.7	
	comp=Z,8.7nm,0.8s						
ZALV	**Zalesovo Beam**	**55.64**	**350**	P	**P**	**14 53 45.8**	**+0.6**
	comp=Z,9.3nm,0.7s,baz=181,slow=6.4,SNR=35						
ZALV	**Zalesovo Beam**	**55.64**	**350**	P	**P**	**14 53 45.0**	**-0.1**
BRVK	**Borovoye**	**58.53**	**340**	P	**P**	**14 54 05.2**	**-0.4**
BRVK				IAmb	IAmb	14 54 06.0	
	comp=Z,3.3nm,0.6s						
ABKAR	**Akbulak array**	**59.80**	**332**	P	**P**	**14 54 14.1**	**-0.3**
YSS	**Yuzh-Sakhalíns**	**61.21**	**33**	P	**P**	**14 54 24.0**	**-0.1**
KBZ	**Khabaz**	**66.36**	**319**	P	**P**	**14 54 59.4**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=167,slow=5.4,SNR=6.2						
NRIK	**Noril'sk**	**70.31**	**356**	P	**P**	**14 55 22.8**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=166,slow=14,SNR=3.6						
BRTR	**Keskin Array B**	**71.35**	**313**	P	**P**	**14 55 29.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=138,slow=8.0,SNR=3.3						
BRTR	**Keskin Array B**	**71.35**	**313**	P	**P**	**14 55 28.6**	**-0.9**
PET	**Petropavlovsk**	**73.09**	**33**	P	**P**	**14 55 38.9**	**-0.6**
TIXI	**Tiksi**	**74.84**	**10**	P	**P**	**14 55 48.5**	**-0.7**
KOLS	**Kolonicke sedl**	**81.50**	**320**	*e*P	**P**	**14 56 28.0**	**+1.3**
FINES	**FINESS Array B**	**82.28**	**332**	P	**P**	**14 56 31.1**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=95,slow=6.3,SNR=8.1						
QSPA	**South Pole Qui**	**89.24**	**180**	P	**P**	**14 57 07.8**	**+2.8**
	comp=Z,0.8nm,0.7s,baz=308,slow=6.9,SNR=4.9						
QSPA	**South Pole Qui**	**89.24**	**180**	P	**P**	**14 57 06.2**	**+1.2**
QSPA				IAmb	IAmb	14 57 09.0	
	comp=Z,3.3nm,1.2s						
TXAR	**Lajitas Array**	**144.55**	**35**	PKP	**PKPdf**	**15 03 46.6**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=294,slow=1.3,SNR=15						
TXAR	**Lajitas Array**	**144.55**	**35**		**PKPdf**	**15 03 45.5**	**-1.0**

TAP 22 15:32:41.2, 24°.22N×121°.68E, h52km±1km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.09**	**242**	P	Pn	15 32 48.8	-0.4
	baz=242						
NACB				S	Sn	15 32 55.3	+0.3
	baz=242						
ETLH	**Xiulin Townshi**	**0.18**	**267**	*e*P	Pn	15 32 49.5	-0.2
	baz=266						
ETLH				*e*S	Sn	15 32 55.5	-0.4
	baz=266						
ENA	**Nanau**	**0.22**	**14**	*e*P	Pn	15 32 50.3	+0.4
	baz=15						
ENA				S	Sn	15 32 57.5	+1.4
	baz=15						
NNSB	**Datong**	**0.35**	**308**	P	Pn	15 32 51.3	+0.3
	baz=307						
NNSB				S	Sn	15 32 58.7	+0.6
	baz=307						
NNSH	**Datong**	**0.35**	**308**	*e*P	Pn	15 32 51.3	+0.2
	baz=307						
NNSH				*e*S	Sn	15 32 58.5	+0.4
	baz=307						
NNS	**Nan Shan**	**0.36**	**308**	*e*P	Pn	15 32 51.6	+0.4
	baz=308						
NNS				S	Sn	15 32 59.1	+0.7
	baz=308						
WHF	**Hehuan Shan**	**0.39**	**259**	*e*P	Pn	15 32 51.0	-0.8
	baz=259						
WHF				*e*S	Sn	15 32 59.5	+0.1
	baz=259						
FUSS	**Fushou**	**0.40**	**274**	P	Pn	15 32 52.4	+0.6
	baz=274						
FUSS				*e*S	Sn	15 33 00.1	+0.8
	baz=274						
NDT	**Datong Townshi**	**0.41**	**338**	P	Pn	15 32 52.2	+0.6
	baz=337						
NDT				S	Sn	15 33 00.2	+1.1
	baz=337						
TWC	**Suao**	**0.42**	**21**	*e*P	Pn	15 32 51.6	0.0
	baz=22						
TWC				S	Sn	15 33 01.0	+1.8
	baz=22						
ENTT	**Nioudou**	**0.43**	**346**	*e*P	Pn	15 32 52.1	+0.3
	baz=346						
ENTT				S	Sn	15 33 00.2	+0.6
	baz=346						
ESL	**Shilin**	**0.46**	**210**	*e*P	Pn	15 32 52.9	+0.8
	baz=208						
ESL				*e*S	Sn	15 33 01.2	+1.2
	baz=208						
TWT	**Tachien**	**0.47**	**275**	P	Pn	15 32 53.2	+0.8
	baz=273						
TWT				S	Sn	15 33 01.6	+1.2
	baz=273						
TDCB	**Techi**	**0.48**	**274**	*e*P	Pn	15 32 53.2	+0.7
	baz=274						
TDCB				*e*S	Sn	15 33 01.2	+0.6
	baz=274						
CHGB	**Renai**	**0.49**	**252**	*e*P	Pn	15 32 53.0	+0.3
	baz=251						
CHGB				*e*S	Sn	15 33 01.8	+0.9
	baz=251						
TWE	**Neicheng**	**0.50**	**358**	*e*S	Sn	15 33 01.9	+1.1
	baz=359						
YHNB	**Yeheng**	**0.53**	**328**	*e*P	Pn	15 32 53.1	0.0
	baz=328						
YHNB				S	Sn	15 33 01.6	+0.1
	baz=328						
NSK	**Sanguang**	**0.55**	**327**	*e*S	Sn	15 33 02.0	+0.2
	baz=327						
NWLT	**Wulai**	**0.58**	**344**	*e*S	Sn	15 33 02.7	+0.2
	baz=343						
EGFH	**Guangfu**	**0.59**	**203**	*e*P	Pn	15 32 53.6	0.0
	baz=203						
EGFH				*e*S	Sn	15 33 02.2	-0.5
	baz=203						
WHP	**Taichung City**	**0.68**	**275**	*e*P	Pn	15 32 56.5	+1.8
	baz=275						
WHP				*e*S	Sn	15 33 06.4	+1.7
	baz=275						
VWDT	**VWDT**	**0.68**	**227**	*e*P	Pn	15 32 55.1	+0.4
	baz=227						
VWDT				*e*S	Sn	15 33 04.9	+0.4
	baz=227						
LIOB	**Emei**	**0.74**	**305**	*e*P	Pn	15 32 56.1	+0.5
	baz=305						
TIPB	**Shuangxi**	**0.76**	**10**	*e*S	Sn	15 33 07.3	+0.8
	baz=9.0						

JMA 22 15:33:09.2±0.1, 24°.06N×122°.91E, h38km±3km, M2.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.39**	**5**	P	Pn	15 33 18.2	0.0
JYNG				S	Sn	15 33 24.7	-0.2
YOJ	**Yonaguni jima**	**0.41**	**13**	P	Pn	15 33 18.5	0.0
YOJ				S	Sn	15 33 25.1	-0.2
IRIF	**Iriomote-Funau**	**0.80**	**70**	P	Pn	15 33 23.7	-0.2
IRIF				S	Sn	15 33 34.2	-0.4
HATJ	**Hateruma jima**	**0.82**	**90**	P	Pn	15 33 24.4	+0.2
HATJ				S	Sn	15 33 35.3	+0.2
JKRS	**Kuro-shima**	**1.02**	**80**	P	Pn	15 33 27.5	+0.6
JKRS				S	Sn	15 33 40.7	+0.7
JIJ	**Ishigaki jima**	**1.17**	**75**	P	Pn	15 33 29.5	+0.5
JIJ				S	Sn	15 33 43.5	-0.1
JISG	**Ishigakijimahi**	**1.38**	**67**	P	Pn	15 33 32.8	+0.9
JISG				*e*S	Sn	15 33 49.9	+1.0
JTJ	**Tarama**	**1.73**	**70**	*e*S	Sn	15 33 59.8	+2.2

*IDC **22** 15:38:09.0±27.0, 22°.02S×173°.63W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/27, mbtmp4.1/4, Error ellipse: s-maj=496.4km s-min=146.0km az=77.0*

*NEIC **22** 15:38:12.0±1.2, 22°.2S±0°.1×173°.3W±0°.2, h34km±6km, mb4.5/17, Error ellipse: s-maj=24.8km s-min=14.3km az=123.0*

ISC 22 15:38:12.9±1.3, 22°.3S±0°.2×173°.4W±0°.2, h35km, n21, σ0°.99/20, mb4.5/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**32.27**	**248**	P	**P**	**15 44 38.7**	**+0.1**
ARMA				IAmb	IAmb	15 44 56.1	
	comp=Z,13nm,1.3s						
EIDS	**Eidsvold**	**32.59**	**257**	P	**P**	**15 44 40.0**	**-1.2**
EIDS				IAmb	IAmb	15 44 43.8	
	comp=Z,18nm,1.2s						
CTA	**Charters Tower**	**37.62**	**266**	P	**P**	**15 45 25.0**	**+0.4**
	comp=Z,6.7nm,1.0s,baz=119,slow=13,SNR=8.0						
CTAO	**Charters Tower**	**37.62**	**266**	P	**P**	**15 45 24.8**	**+0.1**
TOO	**Toolangi**	**38.43**	**237**	P	**P**	**15 45 33.3**	**+1.9**
TOO				IAmb	IAmb	15 46 00.6	
	comp=Z,9.5nm,1.4s						
STKA	**Stephens Creek**	**40.96**	**247**	P	**P**	**15 45 51.9**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=102,slow=9.3,SNR=2.9						
BBOO	**Buckleboo**	**45.66**	**245**	P	**P**	**15 46 29.8**	**-0.6**
AS31	**Alice Springs**	**48.31**	**258**	P	**P**	**15 46 50.9**	**-0.3**
ASAR	**Alice Springs**	**48.31**	**258**	P	**P**	**15 46 51.0**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=97,slow=7.6,SNR=53						
WR0	**Warramunga Arr**	**48.43**	**263**	P	**P**	**15 46 51.9**	**-0.3**
WB0	**Warramunga Arr**	**48.61**	**263**	P	**P**	**15 46 53.2**	**-0.4**
WB0				IAmb	IAmb	15 47 01.9	
	comp=Z,8.1nm,1.4s						
WB2	**Warramunga Arr**	**48.61**	**263**	P	**P**	**15 46 53.2**	**-0.3**
WB2				IAmb	IAmb	15 47 02.1	
	comp=Z,8.6nm,1.5s						
WRAB	**Tennant Creek**	**48.62**	**263**	P	**P**	**15 46 53.3**	**-0.2**
WRAB				IAmb	IAmb	15 47 05.0	
	comp=Z,8.1nm,1.5s						
WRA	**Warramunga Arr**	**48.62**	**263**	P	**P**	**15 46 53.4**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=96,slow=8.4,SNR=80						
WRA	**Warramunga Arr**	**48.62**	**263**	IAmb	IAmb	15 46 54.3	
	comp=Z,0.3nm,1.4s						
FORT	**Forrest**	**52.56**	**248**	P	**P**	**15 47 23.4**	**+0.2**
KNRA	**Kununurra**	**54.83**	**266**	P	**P**	**15 47 41.8**	**+1.8**
VNDA	**Vanda**	**56.56**	**186**	P	**P**	**15 47 49.8**	**-1.7**
VNDA				IAmb	IAmb	15 48 06.6	
	comp=Z,4.1nm,1.4s						
JHJ2	**Mitsune**	**70.91**	**320**	P	**P**	**15 49 25.2**	**-1.4**
PMSA	**Palmer Station**	**77.92**	**156**	P	**P**	**15 50 07.7**	**+0.8**
CLL	**Collm**	**150.61**	**352**	*e*(PKPab)	**PKPab**	**15 58 09.0**	**+1.2**

*BJI **22** 16:01:38.8±0.0, 56°.22S×28°.18W, h106km, mB5.5/39*

*MOS **22** 16:01:41.7±0.8, 56°.03S×27°.88W, h111km, mb5.6/16, MS5.0/5, Error ellipse: s-maj=16.1km s-min=9.4km az=113.0*

*UNK **22** 16:01:42.5, 56°.01S×27°.82W, h112km*

*NEIC **22** 16:01:42.2±1.2, 56°.02S±0°.08×27°.8W±0°.1, h109km±3km, mb5.6/120, Mwb5.7/16, Mww5.7, Mwc5.8(GCMT), Error ellipse: s-maj=11.5km s-min=10.6km az=209.0*

*NEIC **22** 16:01:42.6, 56°.01S×27°.82W, h106km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.28; $M_{\theta\theta}$-3.03; $M_{\phi\phi}$-0.25; $M_{r\theta}$-2.98; $M_{\theta\phi}$0.86; $M_{\phi r}$-1.65; Fault plane solution: $M_0$4.73000×10^{17} NP1:ϕ_s257.96000°, δ68.52000°, λ69.62000°. NP2:ϕ_s123.38000°, δ29.27000°, λ131.51000°. Principal axes: T 5.1064, Plg61.0000°, Azm137.0000°; N -0.8847, Plg19.0000°, Azm266.0000°; P -4.2217, Plg21.0000°, Azm3.0000°;*

*NEIC **22** 16:01:45, 55°.92S×27°.88W, h120km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.17; $M_{\theta\theta}$-2.61; $M_{\phi\phi}$-0.56; $M_{r\theta}$-3.22; $M_{\theta\phi}$1.23; $M_{\phi r}$-1.37; Fault plane solution: $M_0$4.73000×10^{17} NP1:ϕ_s133.00000°, δ29.00000°, λ134.00000°. NP2:ϕ_s265.00000°, δ69.00000°, λ69.00000°. Principal axes: T 5.1470, Plg60.0000°, Azm144.0000°; N -1.0053, Plg20.0000°, Azm272.0000°; P -4.1416, Plg22.0000°, Azm11.0000°;*

*IDC **22** 16:01:46.0±0.9, 56°.03S×27°.75W, h139km±6km, mb5.1/16, mb1 5.2/17, mb1mx5.2/18, mbtmp5.6/17, MS4.7/16, Ms1 4.7/16, ms1mx4.7/19 Error ellipse: s-maj=12.8km s-min=8.5km az=64.0*

*GCMT **22** 16:01:46.2±0.1, 56°.02S±0°.01×27°.40W±0°.01, h119km, MW5.8/159, Moment Tensor Solution. s159, c314; s158, c337; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}3.52±.05; $M_{\theta\theta}$-2.97±.06; $M_{\phi\phi}$-0.55±.06; $M_{r\theta}$-3.37±.04; $M_{\theta\phi}$1.88±.05; $M_{\phi r}$-2.32±.04; Best double couple: $M_0$5.40100×10^{17} NP1:ϕ_s140.00000°, δ36.00000°, λ141.00000°. NP2:ϕ_s264.00000°, δ68.00000°, λ60.00000°. Principal axes: T 6.1870, Plg56.0000°, Azm134.0000°; N -1.5790, Plg27.0000°, Azm275.0000°; P -4.6150, Plg18.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **22** 16:01:46, 56°.06S×27°.48W, h120km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.56; $M_{\theta\theta}$-2.94; $M_{\phi\phi}$-0.63; $M_{r\theta}$-3.52; $M_{\theta\phi}$1.93; $M_{\phi r}$-2.31; Fault plane solution: $M_0$5.68000×10^{17} NP1:ϕ_s141.00000°, δ36.00000°, λ141.00000°. NP2:ϕ_s264.00000°, δ69.00000°, λ61.00000°. Principal axes: T 6.3178, Plg56.0000°, Azm136.0000°; N -1.6194, Plg27.0000°, Azm276.0000°; P -4.6985, Plg19.0000°, Azm15.0000°;*

ISC 22 16:01:42.8±0.4, 56°.04S±0°.04×27°.83W±0°.04, h117km±3km, h117km:pP-P, n945, σ1°.07/1011, mb5.5/82, 17C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.27**	**286**	P	**Pn**	**16 02 59.2**	**+0.1**
HOPE	**Hope Point**	**5.27**	**286**		**Pn**	**16 02 59.2**	**+0.1**
VNA1	**Neumayer--Stat**	**16.94**	**157**	P	**P**	**16 05 33.3**	**+1.0**
VNA3	**Neumayer Olymp**	**17.12**	**160**	P	**Pn**	**16 05 34.9**	**+0.4**
VNA2	**Neumayer--Watz**	**17.34**	**157**	P	**

comp=Z,26nm,0.7s,baz=96,slow=4.0,SNR=4.4
GO09 Cerro Castillo 26.44 261 P **P 16 07 08.0 -0.3**
GO09 IAmb IAmb 16 07 36.7
comp=Z,278nm,1.4s
PLTB Pedras Altas 30.22 313 *eP* **P 16 07 43.4 +1.3**
CNLB Canela 31.32 319 *eP* **P 16 07 52.5 +0.7**
PLCA Paso Flores 31.64 281 P **P 16 07 54.5 -0.2**
comp=Z,9.2nm,1.0s,baz=140,slow=7.7,SNR=10
PLCA PcP **PcP 16 10 44.2 +0.5**
comp=Z,10nm,0.9s,baz=44,slow=2.0,SNR=5.6
PLCA ScP **ScP 16 14 13.5 -2.4**
comp=Z,12nm,0.8s,baz=119,slow=2.9,SNR=11
PLCA ScS **ScS 16 18 11.8 -2.4**
comp=Z,2.3nm,0.7s,baz=180,slow=7.8,SNR=3.3
PLCA LR LR 16 20 55.1
comp=Z,836nm,19.4s,baz=133,slow=36
PLCA Paso Flores 31.64 281 P **P 16 07 53.9 -0.7**
PLCA 16 10 44.3
PLCA 16 18 11.8
PLCA pmax pmax
comp=Z,14nm,1.1s
PLCA Paso Flores 31.64 281 P **P 16 07 53.9 -0.7**
PLCA Paso Flores 31.64 281 **ScP 16 14 13.3 -2.6**
PLCA Paso Flores 31.64 281 *eP* **P 16 07 56.3 +1.7**
SYO Syowa Base 31.82 141 ||*iP* **P 16 07 55.2 -0.5**
SYO Syowa Base 31.82 141 ||*e*ScP **ScP 16 14 13.0 -2.9**
ITAB Concordia 33.67 319 *eP* **P 16 08 12.9 +0.6**
QSPA South Pole Qui 34.21 180 P **P 16 08 19.1 +2.2**
comp=Z,182nm,0.5s,baz=59,slow=1.2,SNR=1310
QSPA PcP **PcP 16 10 51.3 +0.7**
comp=Z,50nm,0.7s,baz=209,slow=4.2,SNR=4.0
QSPA ScP **ScP 16 14 22.2 -2.3**
comp=Z,17nm,0.6s,baz=197,slow=1.1,SNR=6.6
QSPA South Pole Qui 34.21 180 P **P 16 08 19.0 +2.2**
PET01 Itanhaem-SP 34.77 328 *eP* **P 16 08 22.7 +0.9**
BI02 San Fabin de 34.94 285 P **P 16 08 22.9 -0.4**
PARB Paraibuna 35.19 331 *eP* **P 16 08 25.7 +0.2**
MAN01 Angra dos Reis 35.21 334 *eP* **P 16 08 25.1 -0.5**
SPB Sao Paulo 35.47 328 P **P 16 08 28.4 +0.6**
SPB Sao Paulo 35.47 328 *eP* **P 16 08 28.7 +0.9**
TCA Tanti 35.61 298 *iP* **P 16 08 29.2 +0.2**
VAS01 Vassouras-RJ 35.65 335 *eP* **P 16 08 29.9 +0.6**
VAO Valinhos 35.89 329 *eP* **P 16 08 32.5 +1.1**
PTGB Pitanga 35.95 321 *eP* **P 16 08 32.3 +0.4**
BO02 Sierra Bellavi 36.08 288 P **P 16 08 33.5 +0.5**
GO05 Huala 36.53 286 P **P 16 08 36.2 -0.6**
RCLB Rio Claro- Sao 36.60 328 *eP* **P 16 08 38.9 +1.3**
ASAL Salagasta 36.75 292 *eP* **P 16 08 38.4 -0.4**
RTCV Cerro Valdivia 37.18 293 *iP* **P 16 08 42.0 -0.3**
PEL Peldehue 37.29 290 P **P 16 08 43.6 +0.3**
PEL pmax pmax
comp=Z,63nm,0.9s
PEL Peldehue 37.29 290 P **P 16 08 43.6 +0.3**
PEL IAmb IAmb 16 08 45.3
comp=Z,63nm,0.9s
AUSP Uspallata 37.33 292 *eP* **P 16 08 44.2 +0.3**
APLL PUNTA DE LOS L 37.33 297 *iP* **P 16 08 43.6 0.0**
MT02 Curacav 37.44 289 P **P 16 08 44.4 -0.2**
MT02 IAmb IAmb 16 08 45.8
comp=Z,82nm,1.1s
ZON Zonda 37.50 293 P **P 16 08 44.4 -0.7**
ZON pmax pmax
comp=Z,39nm,0.7s
ZON Zonda 37.50 293 P **P 16 08 44.4 -0.7**
ZON IAmb IAmb 16 08 49.2
comp=Z,39nm,0.7s
ZON Zonda 37.50 293 *iP* **P 16 08 44.7 -0.3**
VA03 San Esteban 37.52 290 P **P 16 08 45.6 +0.4**
VA03 IAmb IAmb 16 09 11.2
comp=Z,160nm,1.4s
RTLL Cerro Villicun 37.57 294 *iP* **P 16 08 45.9 +0.3**
AVFE Valle Fertil 37.59 296 *iP* **P 16 08 46.5 +0.7**
ROC1 El Roble 37.60 289 P **P 16 08 45.7 -0.4**
RTLS Leoncito 37.62 293 *iP* **P 16 08 47.0 +0.6**
RIB01 Linhares ES 37.87 340 *eP* **P 16 08 49.5 +1.4**
TRCB Terra Rica 37.91 321 *eP* **P 16 08 49.5 +0.9**
BB19B Bebedouro 38.18 328 *eP* **P 16 08 51.5 +0.7**
ACLC CERRO LA CRUZ 38.34 297 *iP* **P 16 08 52.3 0.0**
BSFB Barra de Sao F 38.42 340 *eP* **P 16 08 54.1 +1.3**
ACCO Cerro Coronel 38.46 294 *iP* **P 16 08 54.0 +0.6**
PCMB Pacaembu 38.54 324 *eP* **P 16 08 54.6 +0.9**
SJMB Sao Joao De Ma 38.61 339 *eP* **P 16 08 55.4 +1.0**
ACDV Cuesta del Vie 38.83 294 *iP* **P 16 08 57.5 +1.1**
CO02 Combarbal 38.98 291 P **P 16 08 58.0 +0.5**
CO02 IAmb IAmb 16 09 23.3
comp=Z,99nm,1.1s
CO03 El Pedregal 39.10 292 P **P 16 08 58.9 +0.4**
CO01 Juntas del Tor 39.48 293 P **P 16 09 02.5 +0.7**
CO01 IAmb IAmb 16 09 04.5
comp=Z,43nm,0.7s
VCA Vinchina 39.52 297 *iP* **P 16 09 03.8 +1.7**
VCA *iP* **P 16 09 03.9 +1.8**
GO04 Tololo Observa 39.69 292 P **P 16 09 03.7 +0.1**
GO04 IAmb IAmb 16 09 29.2
comp=Z,184nm,1.5s
AHML Horco Molle 39.74 302 *iP* **P 16 09 03.2 -0.5**
AHML *iP* **P 16 09 03.3 -0.5**
ITRB Iturama 40.02 326 *eP* **P 16 09 05.1 -1.0**
MAW Mawson 40.37 144 P **P 16 09 10.0 +1.5**
comp=Z,148nm,0.7s,baz=230,slow=7.6,SNR=447
MAW PcP **PcP 16 11 10.7 +1.5**
comp=Z,46nm,0.8s,baz=262,slow=4.7,SNR=4.9
MAW ScP **ScP 16 14 47.1 -0.2**
comp=Z,49nm,0.8s,baz=253,slow=5.5,SNR=23
MAW LR LR 16 23 27.7
comp=Z,1μm,21.1s,baz=257,slow=32
MAW Mawson 40.37 144 P **P 16 09 09.8 +1.3**
AC05 El Transito 40.49 294 P **P 16 09 10.8 +0.7**
AC05 IAmb IAmb 16 09 12.5
comp=Z,164nm,1.1s
LCO Las Campanas 40.57 294 P **P 16 09 10.7 -0.2**
LCO pmax pmax
comp=Z,68nm,1.0s
LCO Las Campanas 40.57 294 P **P 16 09 10.7 -0.2**
LCO IAmb IAmb 16 09 12.7
comp=Z,68nm,1.0s
SUR Sutherland 40.98 76 ScP **ScP 16 14 49.6 -1.0**
comp=Z,9.2nm,0.8s,baz=214,slow=3.6,SNR=3.7
SUR Sutherland 40.98 76 P **P 16 09 14.5 +0.3**
IPMB Ipameri, GO 41.00 330 *eP* **P 16 09 15.2 +0.9**
MC01 Montes Claros 41.13 336 *eP* **P 16 09 15.3 0.0**
AC04 Llanos de Chal 41.41 294 P **P 16 09 18.0 +0.5**
GO03 Copiap 41.48 295 P **P 16 09 18.4 +0.3**
GO03 IAmb IAmb 16 09 19.8
comp=Z,127nm,0.8s
AZAP Zapla 41.79 304 *iP* **P 16 09 21.2 +0.4**
JANB Januaria 42.81 336 *eP* **P 16 09 29.2 +0.2**
AC01 Pan de Azucar 42.85 296 P **P 16 09 29.4 +0.2**
AC01 IAmb IAmb 16 09 31.4
comp=Z,138nm,1.2s
GO02 Mina Guanaco 43.17 298 P **P 16 09 32.2 +0.1**
BDFB Brasilia 43.17 331 P **P 16 09 33.5 +1.5**
comp=Z,35nm,0.8s,baz=165,slow=5.1,SNR=34
BDFB LR LR 16 27 18.1
comp=Z,2μm,18.1s,baz=154,slow=36
BDFB Brasilia 43.17 331 P **P 16 09 31.8 -0.2**
GDU01 Guandu, BA 43.19 343 *eP* **P 16 09 31.9 0.0**
PB14 IPOC Station P 44.02 298 P **P 16 09 38.9 -0.1**
PB14 IAmb IAmb 16 09 40.3
comp=Z,83nm,0.8s
ARAG Araguaiana, MT 44.23 326 *eP* **P 16 09 41.6 +1.4**
PB15 IPOC Station P 44.75 300 P **P 16 09 45.2 +0.6**
PB15 IAmb IAmb 16 09 50.6
comp=Z,123nm,1.1s
LVC Limon Verde 44.98 301 ScP **ScP 16 15 05.0 -2.1**
comp=Z,17nm,0.7s,baz=6.6,slow=1.3,SNR=9.5
LVC Limon Verde 44.98 301 P **P 16 09 47.7 +1.1**
LVC pmax pmax
comp=Z,165nm,0.7s
LVC Limon Verde 44.98 301 P **P 16 09 47.7 +1.1**
LVC Limon Verde 44.98 301 *eP* **P 16 09 47.8 +1.1**
PB10 IPOC Station P 45.02 298 P **P 16 09 46.9 +0.4**
PB10 IAmb IAmb 16 09 48.2
comp=Z,104nm,0.9s
PB06 IPOC Station P 45.22 300 P **P 16 09 48.7 +0.4**
PB06 IAmb IAmb 16 09 50.2
comp=Z,80nm,0.8s
SDBA SAO DESIDERIO 45.51 336 *eP* **P 16 09 51.1 +0.7**
PB04 IPOC Station P 45.82 300 P **P 16 09 53.6 +0.6**
PB09 IPOC Station P 45.84 301 P **P 16 09 54.6 +1.4**
PB07 IPOC Station P 46.21 300 P **P 16 09 56.9 +0.9**
BOSA Boshof 46.31 76 P **P 16 09 56.8 0.0**
comp=Z,16nm,0.8s,baz=218,slow=6.7,SNR=29
BOSA PcP **PcP 16 11 31.2 +1.1**
comp=Z,20nm,0.8s,baz=228,slow=5.3,SNR=4.1
BOSA ScP **ScP 16 15 10.9 -1.3**
comp=Z,4.3nm,0.7s,baz=228,slow=5.5,SNR=4.7
BOSA LR LR 16 26 27.4
comp=Z,2μm,18.8s,baz=202,slow=32
BOSA Boshof 46.31 76 P **P 16 09 56.7 -0.1**
VNDA Vanda 46.57 183 P **P 16 10 00.3 +2.2**
comp=Z,134nm,0.6s,baz=186,slow=6.8,SNR=439
VNDA ScP **ScP 16 15 11.4 -1.0**
comp=Z,9.0nm,0.8s,baz=215,slow=5.1,SNR=3.5
VNDA LR LR 16 28 24.6
comp=Z,532nm,18.9s,baz=182,slow=34
VNDA Vanda 46.57 183 P **P 16 10 00.2 +2.2**
PB01 IPOC Station P 46.60 301 P **P 16 10 00.2 +1.3**
PEXB Peixe 46.63 332 *eP* **P 16 10 00.6 +1.4**
PTLB Pontes e Lacer 47.04 317 *eP* **P 16 10 03.0 +0.7**
PATCX Punta Patache 47.11 301 P **P 16 10 03.6 +0.7**
PB08 IPOC Station P 47.21 302 P **P 16 10 05.0 +0.9**
PB08 IAmb IAmb 16 10 06.9
comp=Z,150nm,0.9s
SIV San Ignacio 47.31 314 ScP **ScP 16 15 14.6 -1.8**
comp=Z,44nm,0.9s,baz=152,slow=4.6,SNR=19
SIV ScS **ScS 16 19 43.1 -3.4**
comp=Z,2.2nm,0.9s,baz=312,slow=18,SNR=7.5
TA01 Diego Aracena 47.34 301 P **P 16 10 05.4 +0.8**
TA01 IAmb IAmb 16 10 06.6
comp=Z,83nm,0.9s
GO01 Chusmiza 47.63 303 P **P 16 10 08.8 +1.3**
PB11 IPOC Station P 47.77 302 P **P 16 10 08.9 +0.7**
H10S2 ASCENSION HYDR 48.09 18 T T 17 02 13.5
baz=30,slow=74,SNR=29
H10S3 ASCENSION HYDR 48.10 18 T T 17 02 14.9
baz=190,slow=74,SNR=32
PSGCX Pisagua 48.14 302 P **P 16 10 11.3 +0.3**
PSGCX IAmb IAmb 16 10 13.1
comp=Z,101nm,0.7s
CRZF Crozet Islands 48.15 114 P **P 16 10 11.9 +1.3**
CRZF IAmb IAmb 16 10 13.2
comp=Z,136nm,0.9s
MNMC Minye Minye 48.29 302 P **P 16 10 13.6 +1.3**
PB16 IPOC Station P 48.93 303 P **P 16 10 18.7 +1.1**
PB12 IPOC Station P 49.08 302 P **P 16 10 18.6 +0.5**
PB12 IAmb IAmb 16 10 26.3
comp=Z,58nm,0.8s
H10N1 ASCENSION HYDR 49.21 18 T T 17 03 46.7
baz=193,slow=76,SNR=9.9
H10N3 ASCENSION HYDR 49.21 18 T T 17 03 40.2
baz=193,slow=76,SNR=16
H10N2 ASCENSION HYDR 49.23 18 T T 17 03 40.6
baz=193,slow=76,SNR=14
LBTB Lobatse 49.35 74 ScP **ScP 16 15 24.1 -1.0**
comp=Z,4.9nm,0.8s,baz=182,slow=8.0,SNR=3.3
LBTB Lobatse 49.35 74 P **P 16 10 20.3 +0.1**
LBTB pmax pmax
comp=Z,61nm,1.0s
LBTB Lobatse 49.35 74 P **P 16 10 20.3 +0.1**
LBTB IAmb IAmb 16 10 21.1
comp=Z,61nm,1.0s
SMTB Santa Maria do 49.56 334 *eP* **P 16 10 22.6 +0.8**
VILB Vilhena 49.73 317 *eP* **P 16 10 23.6 +0.6**
TSUM Tsumeb 49.99 61 P **P 16 10 24.9 -0.2**
CLDB Colider 50.06 323 *eP* **P 16 10 24.6 -0.9**
LPAZ La Paz 50.08 306 P **P 16 10 27.8 +1.5**
comp=Z,147nm,0.7s,baz=143,slow=5.2,SNR=317
LPAZ PcP **PcP 16 11 46.1 +1.7**
comp=Z,39nm,0.6s,baz=210,slow=6.6,SNR=2.4
LPAZ ScP **ScP 16 15 25.8 -3.2**
comp=Z,13nm,0.8s,baz=129,slow=2.6,SNR=6.5
LPAZ LR LR 16 35 22.2
comp=Z,258nm,18.7s,baz=148,slow=40
LPAZ La Paz 50.08 306 P **P 16 10 27.6 +1.3**
LPAZ La Paz 50.08 306 *eP* **P 16 10 27.9 +1.5**
RCBR Riachuelo 50.48 350 P **P 16 10 29.3 +0.6**
RCBR pmax pmax
comp=Z,39nm,1.2s
RCBR Riachuelo 50.48 350 P **P 16 10 29.3 +0.6**
PRPB Paraua pebas 52.71 332 *eP* **P 16 10 46.5 +1.3**
NPGB Novo Progresso 53.50 325 *eP* **P 16 10 51.3 +0.3**
CASY Casey 54.04 161 P **P 16 10 56.1 +1.8**
SAML Samuel 54.54 315 P **P 16 10 58.7 +0.1**
SAML pmax pmax
comp=Z,96nm,0.8s
SAML Samuel 54.54 315 P **P 16 10 58.7 +0.1**
SAML Samuel 54.54 315 *eP* **P 16 10 59.3 +0.8**
ROSB Rosrio 54.58 340 *eP* **P 16 10 59.9 +1.1**
PAF Port-aux-Franc 54.91 128 P **P 16 11 02.9 +2.0**
PAF pmax pmax
comp=Z,689nm,1.5s
PAF Port-aux-Franc 54.91 128 P **P 16 11 02.9 +2.0**
ETMB Extrema 54.99 312 *eP* **P 16 11 02.3 +0.5**
TMAB Tom-Au,PA,Br 55.94 335 *eP* **P 16 11 10.2 +1.6**
ITTB Itaituba 56.14 326 *eP* **P 16 11 10.7 +0.7**
NNA Nana 57.93 299 P **P 16 11 23.5 +0.8**
NNA pmax pmax
comp=Z,79nm,0.9s
NNA Nana 57.93 299 P **P 16 11 23.5 +0.8**
NNA IAmb IAmb 16 11 25.2
comp=Z,79nm,0.9s
MALB Monte Alegre 58.07 328 *eP* **P 16 11 24.8 +1.2**
MCPB Macapa, AP 58.87 331 *eP* **P 16 11 30.4 +1.2**
CZSB Cruzeiro do Su 59.69 306 *eP* **P 16 11 34.9 +0.1**
FOMA Nahampoana Res 61.25 93 P **P 16 11 46.5 +1.1**
FOMA IAmb IAmb 16 11 47.4
comp=Z,72nm,1.0s
LIC Lamto 64.83 25 *eP* **P 16 12 08.4 -0.6**
comp=Z,113nm,0.8s
KIC Kosan Boka 65.03 25 *eP* **P 16 12 09.7 -0.7**
comp=Z,365nm,1.5s
TIC Toumodi 65.24 25 *eP* **P 16 12 11.3 -0.4**
DBIC Dimbokro 65.31 25 P **P 16 12 12.7 +0.6**
comp=Z,31nm,0.7s,baz=170,slow=7.4,SNR=47
DBIC LR LR 16 35 15.4
comp=Z,729nm,18.4s,baz=166,slow=31
DBIC Dimbokro 65.31 25 P **P 16 12 12.3 +0.3**
DBIC IAmb IAmb 16 12 14.2
comp=Z,46nm,0.8s
ABPO Ambohimpanom 66.11 89 P **P 16 12 19.1 +1.6**
ABPO pmax pmax
comp=Z,58nm,1.1s
ABPO Ambohimpanom 66.11 89 P **P 16 12 19.1 +1.6**
ABPO IAmb IAmb 16 12 20.5
comp=Z,58nm,1.1s
PTLC Puerto Leguiza 67.63 308 *eP* **P 16 12 24.3 -2.7**
PUAC Puerto Asis, P 68.76 306 *eP* **P 16 12 36.0 +1.9**
MACC Macarena, Meta 68.98 310 *eP* **P 16 12 35.7 +0.4**
RER Riviere de l'E 69.17 97 P **P 16 12 38.4 +1.8**
FLOC Florencia 69.27 308 *eP* **P 16 12 35.7 -1.5**
OTAV Otavalo 69.35 304 *eP* **P 16 12 40.1 +1.9**
OTAV Otavalo 69.35 304 P **P 16 12 39.7 +1.5**
OTAV pmax pmax
comp=Z,45nm,0.8s
OTAV Otavalo 69.35 304 P **P 16 12 39.7 +1.5**
OTAV Otavalo 69.35 304 *eP* **P 16 12 40.4 +2.2**
CMBC Cumbal 69.68 305 *eP* **P 16 12 43.6 +3.4**
GARC Garzon, Huila 69.74 308 *eP* **P 16 12 40.9 +0.6**
PTGC Puerto Gaitan, 70.10 312 *eP* **P 16 12 46.3 +4.0**
BETC Betania 70.15 308 *eP* **P 16 12 44.2 +1.6**
PCON Cinco Dias 70.26 307 *eP* **P 16 12 45.9 +2.0**
BBAC Balboa, Cauca 70.37 306 *eP* **P 16 12 45.3 +1.1**
MARP Paez Belalcaza 70.53 308 *eP* **P 16 12 45.7 +0.6**
POPC Popayan, Colom 70.58 307 *eP* **P 16 12 46.6 +1.1**
PRAC Prado 70.83 309 *eP* **P 16 12 47.3 +0.5**
CHIC Chingaza 71.16 311 *eP* **P 16 12 49.3 +0.1**
ORTC Ortega, Tolima 71.17 309 *eP* **P 16 12 49.1 +0.4**
ROSC El Rosal 71.60 310 P **P 16 12 53.0 +1.3**
comp=Z,44nm,0.9s,baz=155,slow=3.3,SNR=13
ROSC LR LR 16 47 05.1
comp=Z,817nm,19.1s,baz=136,slow=38
ROSC El Rosal 71.60 310 *eP* **P 16 12 53.1 +1.3**
ROSC El Rosal 71.60 310 P **P 16 12 52.6 +0.8**
GR1C Gorgona, Isla 71.66 306 *eP* **P 16 12 53.0 +1.3**
CTAB Cerro Tablazo, 71.70 311 *eP* **P 16 12 53.8 +1.4**
YOTC Yotoco, Valle 71.71 308 *eP* **P 16 12 51.7 -0.4**
TOLC Tolima 71.80 309 *eP* **P 16 12 52.7 -0.2**
RUSC La Rusia 72.02 312 *eP* **P 16 12 53.8 -0.6**
MALC Bahia Malaga 72.18 307 *eP* **P 16 12 56.9 +2.1**
SPBC San Pablo de B 72.22 311 *eP* **P 16 12 53.9 -1.2**
GUY2C Guyana, Caldas 72.39 310 *eP* **P 16 12 55.9 -0.7**
MBAR Mbarara 72.47 63 *c iP* **P 16 12 59.5 +2.8**
MBAR pmax pmax
comp=Z,71nm,1.6s
MBAR Mbarara 72.47 63 P **P 16 12 59.0 +2.3**
PLMC San Jos del P 72.51 309 *eP* **P 16 12 57.1 +0.3**
BARC Barichara 72.70 312 *eP* **P 16 12 56.7 -1.4**
PAMC Pamplona, Colo 73.17 313 *eP* **P 16 13 01.2 0.0**
PTBC PUERTO BERRIO, 73.18 311 *eP* **P 16 12 58.7 -2.0**
TOA0 Torodi Ar. Sit 73.22 30 P **P 16 13 01.5 +0.7**
TORD Torodi Ar. Bea 73.22 30 P **P 16 13 01.7 +0.9**
comp=Z,114nm,0.7s,baz=201,slow=6.3,SNR=292
TORD LR LR 16 40 24.9
comp=Z,897nm,19.5s,baz=205,slow=32
TORD Torodi Ar. Bea 73.22 30 P **P 16 13 01.5 +0.6**
CBOC Ciudad Bolivar 73.25 309 *eP* **P 16 13 00.5 -0.7**
GRGR Grenville 73.55 325 P **P 16 13 03.4 +0.7**
SDV Santo Domingo 73.75 316 P **P 16 13 04.8 +0.7**
SDV IAmb IAmb 16 13 06.3
comp=Z,116nm,0.8s
ZARC Zaragoza, Cauc 74.21 311 *eP* **P 16 13 04.9 -1.8**
OCAC Ocana 74.24 313 *eP* **P 16 13 04.5 -2.5**
DBBC Dabeiba 74.36 310 *eP* **P 16 13 07.8 +0.2**
PAYG Puerto Ayora 74.38 293 P **P 16 13 09.1 +1.4**
SVB Belmont 74.50 326 P **P 16 13 08.6 +0.3**
SVB IAmb IAmb 16 13 17.5
comp=Z,52nm,0.7s
UREC San Jos de Ur 74.73 311 *eP* **P 16 13 09.1 -0.5**
MCLT Moule a Chique 74.81 327 P **P 16 13 10.2 +0.1**
MCLT IAmb IAmb 16 13 30.6
comp=Z,184nm,1.5s
SMLC San Martn de 75.06 312 *eP* **P 16 13 10.4 -1.1**
KMBO Kilima Mbogo 75.37 70 P **P** 16 13 19.2 +5.5
comp=Z,4.6nm,0.9s,baz=195,slow=7.2,SNR=14
KMBO LR LR 16 44 11.8
comp=Z,672nm,18.9s,baz=102,slow=34
KMBO Kilima Mbogo 75.37 70 P **P 16 13 16.3 +2.6**
KMBO pmax pmax
comp=Z,7.0nm,1.3s
KMBO Kilima Mbogo 75.37 70 P **P 16 13 16.3 +2.6**
MOTC Monteria, Cord 75.71 311 *eP* **P 16 13 15.8 +0.5**
FDF Fort de France 75.84 327 P **P 16 13 17.7 +1.7**
FDF pmax pmax
comp=Z,51nm,0.8s
FDF Fort de France 75.84 327 P **P 16 13 17.7 +1.7**
FDF IAmb IAmb 16 13 19.7
comp=Z,51nm,0.8s
ARGC Ariguani, Magd 76.08 313 *eP* **P 16 13 18.5 +1.1**
SJCC San Jacinto, C 76.51 312 *eP* **P 16 13 20.4 +0.5**
SMRC Santa Marta, M 77.25 313 *eP* **P 16 13 24.1 +0.2**
H05N1 Guadeloupe/Mar 77.31 327 P **P 16 13 25.6 +1.4**
SNR=6.0
WHZ Wether Hill Ro 77.58 191 P **P 16 13 25.3 -0.2**
WHZ IAmb IAmb 16 13 27.5
comp=Z,73nm,0.9s
BCIP Isla Barro Col 77.87 307 *eP* **P 16 13 27.7 +0.3**
BCIP Isla Barro Col 77.87 307 P **P 16 13 27.1 -0.3**
BCIP pmax pmax
comp=Z,31nm,0.8s
BCIP Isla Barro Col 77.87 307 P **P 16 13 27.1 -0.3**
MLZ Mavora Lakes 78.08 191 P **P 16 13 28.6 +0.4**
MLZ IAmb IAmb 16 13 30.2
comp=Z,93nm,1.2s
DCZ Deep Cove 78.08 191 P **P 16 13 28.7 +0.4**
DCZ IAmb IAmb 16 13 34.0
comp=Z,130nm,1.4s
ODZ Otahua Downs 78.09 193 P **P 16 13 29.1 +0.8**
WKZ Wanaka 78.51 192 P **P 16 13 31.7 +1.0**
WKZ IAmb IAmb 16 13 37.5
comp=Z,53nm,0.9s
LBZ Lake Benmore 78.80 193 P **P 16 13 33.2 +1.0**
ANWB Willy Bob 78.80 327 P **P 16 13 33.2 +0.9**
ANWB IAmb IAmb 16 14 00.0
comp=Z,58nm,0.8s
ARCZ Arundel 79.10 194 P **P 16 13 35.0 +1.1**
MQZ McQueen's Vall 79.13 195 P **P 16 13 34.8 +0.8**
MQZ McQueen's Vall 79.13 195 P **P 16 13 34.5 +0.5**
MQZ IAmb IAmb 16 13 35.8
comp=Z,76nm,1.0s
SABA Saba 79.21 326 P **P 16 13 35.7 +1.0**
SABA IAmb IAmb 16 13 37.5
comp=Z,119nm,0.8s
JCZ Jackson Bay 79.28 192 P **P 16 13 36.6 +1.7**
RPZ Rata Peaks 79.34 194 P **P 16 13 36.0 +0.8**
RPZ Rata Peaks 79.34 194 P **P 16 13 36.0 +0.8**
RPZ IAmb IAmb 16 13 37.3
comp=Z,104nm,1.0s
FOZ Fox Glacier 79.69 193 P **P 16 13 37.7 +0.7**
FOZ Fox Glacier 79.69 193 P **P 16 13 37.7 +0.7**
FOZ IAmb IAmb 16 13 39.3
comp=Z,78nm,1.0s
GVZ Greta Valley S 79.80 195 P **P 16 13 38.8 +1.2**
CDVI St. Croix 79.82 324 P **P 16 13 38.1 +0.2**
CDVI IAmb IAmb 16 13 39.8
comp=Z,48nm,0.6s
GCSZ Gaunt Creek Bo 79.83 193 P **P 16 13 39.4 +1.6**
WVZ Waitaha Valley 80.02 194 P **P 16 13 40.0 +1.2**
LTZ Lake Taylor 80.09 195 P **P 16 13 40.3 +1.0**
LTZ Lake Taylor 80.09 195 P **P 16 13 39.8 +0.5**
LTZ IAmb IAmb 16 13 41.3
comp=Z,146nm,1.0s
KHZ Kahutara 80.26 196 P **P 16 13 40.7 +0.6**
INZ Inchbonnie 80.26 194 P **P 16 13 40.6 +0.4**
MTP Monte Pirata 80.40 324 P **P 16 13 41.4 +0.3**
STVI Saint Thomas 80.44 324 P **P 16 13 41.4 +0.1**
STVI IAmb IAmb 16 13 43.0
comp=Z,64nm,0.8s
CUPR Culebra, Puert 80.51 324 P **P 16 13 42.4 +0.8**
CUPR IAmb IAmb 16 13 43.5
comp=Z,65nm,0.8s
CUPR **pP 16 14 08.5 -2.2**
HUMP Col San Antoni 80.55 324 P **P 16 13 41.9 +0.1**
CBYP Canovanas 80.67 324 P **P 16 13 42.7 +0.2**
MLPR Magueyes Islan 80.79 322 P **P 16 13 43.0 -0.1**
MLPR pP **pP 16 14 09.2 -3.0**
CRPR Cabo Rojo, PR 80.84 322 P **P 16 13 43.1 -0.2**
CRPR **pP 16 14 09.2 -3.4**
BSWZ Blackbirch Sta 80.89 196 P **P 16 13 44.9 +1.3**
THZ Tophouse 81.00 196 P **P 16 13 45.0 +0.9**
THZ Tophouse 81.00 196 P **P 16 13 44.3 +0.2**
THZ IAmb IAmb 16 13 49.3
comp=Z,95nm,1.0s
TMWZ Te Maipa 81.15 198 P **P 16 13 46.3 +1.4**
TUWZ Tuamarina 81.16 196 P **P 16 13 45.9 +0.9**
TUWZ Tuamarina 81.16 196 P **P 16 13 44.9 0.0**
DSZ Denniston Nort 81.17 195 P **P 16 13 44.3 -0.8**
JTS Las Juntas de 81.20 303 *eP* **P 16 13 46.5 +1.1**
JTS Las Juntas de 81.20 303 *c iP* **P 16 13 46.6 +1.1**
JTS pmax pmax
comp=Z,55nm,1.1s
JTS Las Juntas de 81.20 303 P **P 16 13 46.3 +0.8**
JTS IAmb IAmb 16 13 48.4
comp=Z,140nm,1.4s
TCW Tory Channel 81.32 197 P **P 16 13 47.0 +1.2**
TAU Tasmania Unive 81.34 176 P **P 16 13 46.1 +0.3**
TAU pP **pP 16 14 14.8 -0.2**
HOWZ Holdsworth Sta 81.42 198 P **P 16 13 47.6 +1.2**
NNZ Nelson 81.46 196 P **P 16 13 47.0 +0.5**
BFZ Birch Farm 81.50 198 P **P 16 13 48.2 +1.4**
MRZ Mangatainoka R 81.64 198 P **P 16 13 48.3 +0.7**
DUWZ D'Urville Isla 81.78 197 P **P 16 13 48.8 +0.5**
DVHZ Dannevirke 81.89 198 P **P 16 13 50.2 +1.4**
QRZ Quartz Range 81.97 195 P **P 16 13 47.9 -1.3**
BANI BANI 82.35 320 P **P 16 13 51.7 +0.2**
KRHZ Kereru 82.49 199 P **P 16 13 53.1 +1.1**
WAZ Wanganui 82.62 198 P **P 16 13 54.8 +2.1**
BHHZ Black Hill Sta 82.69 198 P **P 16 13 54.6 +1.5**
ACON Acoyapa 82.77 304 P **P 16 13 53.4 -0.2**
BKZ Black Stump Fm 82.93 199 P **P 16 13 55.5 +1.2**
BKZ Black Stump Fm 82.93 199 P **P 16 13 55.2 +0.8**
BKZ IAmb IAmb 16 13 56.0
comp=Z,120nm,1.2s
WNVZ Wahianoa 82.94 198 P **P 16 13 55.5 +1.1**
LREZ Lake Rotokare 83.01 197 P **P 16 13 53.6 -1.0**
OTVZ Oturere 83.08 198 P **P 16 13 56.4 +1.1**
SDDR Presa de Saban 83.23 319 P **P 16 13 55.8 -0.1**
KHEZ Kahui Hut 83.23 197 P **P 16 13 56.4 +0.4**
NEZ North Egmont 83.24 197 P **P 16 13 57.1 +1.1**
VRZ Vera Road 83.28 198 P **P 16 13 56.1 +0.1**
NBEZ Newall Road No 83.28 197 P **P 16 13 56.3 +0.3**
LGNH Logne 83.29 318 P **P 16 13 57.6 +1.4**
LGNH IAmb IAmb 16 13 59.0
comp=Z,101nm,0.8s
PKE Pukeiti 83.34 197 P **P 16 13 57.4 +1.0**
BOAB BOACO BROADBAND 83.42 304 P **P 16 13 57.5 +0.6**
URZ Urewera 83.70 200 LR LR 16 46 32.6
comp=Z,200nm,20.9s,baz=180,slow=32
URZ Urewera 83.70 200 P **P 16 13 59.9 +1.7**
URZ Urewera 83.70 200 P **P 16 13 58.7 +0.6**

URZ IAmb IAmb 16 13 59.4
comp=Z,79nm,1.1s
H01W2 Cape Leeuwin H 83.80 149 P **P** **16 14 00.5 +2.0**
baz=193,slow=7.3,SNR=12
H01W1 Cape Leeuwin H 83.81 149 P **P** **16 14 00.7 +2.2**
baz=193,slow=7.3,SNR=9.5
H01W3 Cape Leeuwin H 83.81 149 P **P** **16 14 00.5 +2.0**
baz=193,slow=7.3,SNR=17
HIZ Hauiti 83.86 198 P **P** **16 13 58.6 -0.4**
MATN Matagalpa 83.96 304 P **P** **16 13 60.0 +0.2**
MATN IAmb IAmb 16 14 02.4
comp=Z,92nm,0.9s
TGRZ Tauranga 84.37 199 P **P** **16 14 03.7 +2.1**
TOZ Tahuroa Road 84.50 198 P **P** **16 14 02.5 +0.2**
NWAO Narrogin (SRO) 86.51 151 P **P** **16 14 12.6 +0.3**
NWAO pmax pmax
comp=Z,95nm,1.0s
NWAO Narrogin (SRO) 86.51 151 P **P** **16 14 12.6 +0.3**
NWAO Narrogin (SRO) 86.51 151 P **P** **16 14 12.6 +0.3**
NWAO IAmb IAmb 16 14 13.4
comp=Z,95nm,1.0s
TOO Toolangi 86.58 175 P **P** **16 14 12.8 +0.2**
TOO pmax pmax
comp=Z,26nm,0.8s
TOO Toolangi 86.58 175 P **P** **16 14 12.8 +0.2**
TBI Tubuai 86.81 232 *e*LQ LQ 16 38 15.4
comp=Z,986nm,35.8s
TBI *e*LR LR 16 41 53.9
comp=Z,1μm,33.8s,baz=162
MTO3 Montecristo 86.86 301 P **P** **16 14 14.2 -0.2**
OUZ Omahuta 87.28 197 P **P** **16 14 16.1 +0.1**
OUZ IAmb IAmb 16 14 17.4
comp=Z,106nm,1.2s
PMOZ Porto Moniz, M 88.97 9 A A 16 51 35.3
comp=Z,337nm,18.0s
MORW Morawa 89.81 149 P **P** **16 14 28.5 +0.4**
MORW IAmb IAmb 16 14 29.9
comp=Z,67nm,0.9s
BBOO Buckleboo 90.44 166 P **P** **16 14 31.2 +0.3**
BBOO IAmb IAmb 16 14 32.1
comp=Z,66nm,1.1s
FORT Forrest 91.11 159 P **P** **16 14 34.6 +0.5**
TEIG Tepich 91.40 305 *e*P **P** **16 14 36.6 +1.4**
TEIG Tepich 91.40 305 P **P** **16 14 35.8 +0.5**
PPT2 Papeete2 91.89 234 *e*LR LR 16 44 16.9
comp=Z,2μm,32.0s
PPT Papeete 91.91 234 LR LR 16 47 26.0
comp=Z,303nm,19.7s,baz=178,slow=30
STKA Stephens Creek 91.97 171 P **P** **16 14 38.6 +0.6**
comp=Z,29nm,0.7s,baz=156,slow=5.4,SNR=72
STKA LR LR 16 54 42.4
comp=Z,380nm,18.6s,baz=182,slow=34
STKA Stephens Creek 91.97 171 P **P** **16 14 38.3 +0.3**
RAR Rarotonga 93.00 224 P **P** **16 14 43.2 +0.4**
comp=Z,10.0nm,1.0s,baz=301,slow=9.6,SNR=3.3
RAR Rarotonga 93.00 224 IAmb IAmb 16 14 51.2
comp=Z,18nm,1.0s
ARMA Armidale 93.89 180 P **P** **16 14 47.2 +0.2**
ARMA IAmb IAmb 16 14 49.2
comp=Z,12nm,0.8s
TLIG Tlapa 94.11 295 P **P** **16 14 47.8 -0.2**
TLIG IAmb IAmb 16 14 51.2
comp=Z,26nm,0.8s
PVAQ Vaqueiros 94.64 16 A A 16 19 55.1
comp=Z,564nm,20.0s
TAOE Nuku Hiva Isla 94.82 247 *e*LR LR 16 45 35.8
comp=Z,667nm,32.4s
PMRV Marv??o 96.67 16 A A 16 19 40.9
comp=Z,517nm,18.0s
KEST Kesra 96.74 30 P **P** **16 15 00.4 +0.9**
comp=Z,3.4nm,0.7s,baz=65,slow=4.8,SNR=3.4
KEST LR LR 16 55 14.1
comp=Z,911nm,19.6s,baz=174,slow=33
KEST Kesra 96.74 30 IAmb IAmb 16 15 04.9
comp=Z,4.8nm,0.8s
ESDC Sonseca Array 97.48 18 P Pdif 16 15 04.8 +2.0
comp=Z,2.2nm,0.7s,baz=190,slow=4.8,SNR=12
ESDC Sonseca Array 97.48 18 P Pdif 16 15 03.2 +0.4
ESDC pP 16 15 31.6 -0.9
PSA00 Pilbara Seismi 97.98 150 P **P** **16 15 05.3 -0.3**
PSA00 IAmb IAmb 16 15 06.8
comp=Z,29nm,0.9s
MVO Moncorvo 98.43 16 A A 16 22 19.1
comp=Z,410nm,18.0s
PGAV Gavieira, Arco 99.03 15 A A 16 55 45.0
comp=Z,438nm,18.0s
ASAR Alice Springs 99.11 163 P **Pdif** **16 15 10.6 -0.1**
comp=Z,39nm,0.9s,baz=188,slow=3.9,SNR=344
ASAR PP **PP** **16 19 07.4 -5.9**
comp=Z,18nm,0.8s,baz=193,slow=5.8,SNR=8.3
ASAR PKKP **PKKPdf** **16 31 34.6 -0.4**
comp=Z,1.6nm,0.7s,baz=22,slow=2.3,SNR=22
ASAR LR LR 16 58 44.0
comp=Z,471nm,18.7s,baz=188,slow=34
AS31 Alice Springs 99.11 163 **Pdif** **16 15 10.4 -0.3**
AS31 IAmb IAmb 16 15 11.7
comp=Z,9.8nm,0.7s
DZM Mont Dzumac 101.26 193 *e*LR LR 16 48 38.2
comp=Z,1μm,29.0s
WRA Warramunga Arr 102.83 163 P **Pdif** **16 15 26.9 -0.4**
comp=Z,6.1nm,0.6s,baz=197,slow=4.3,SNR=88
WRA PP **PP** **16 19 35.7 -5.7**
comp=Z,7.3nm,1.0s,baz=192,slow=6.2,SNR=6.9
WRA PKKP **PKKPbc** **16 31 24.3 +2.2**
comp=Z,1.1nm,0.4s,baz=358,slow=2.8,SNR=80
WB2 Warramunga Arr 102.83 163 Pdif **Pdif** **16 15 26.8 -0.4**
WR0 Warramunga Arr 102.84 163 Pdif **Pdif** **16 15 26.9 -0.4**
WB0 Warramunga Arr 103.01 163 Pdif **Pdif** **16 15 27.6 -0.4**
CTA Charters Tower 104.01 174 Pdiff **Pdif** **16 15 32.5 +0.1**
comp=Z,3.4nm,0.7s,baz=141,slow=13,SNR=3.8
TXAR Lajitas Array 106.47 298 Pdiff **Pdif** **16 15 43.6 +0.5**
comp=Z,0.8nm,0.9s,baz=134,slow=7.2,SNR=7.7
TXAR PKIKP **PKiKP** **16 19 52.5 -0.8**
comp=Z,0.7nm,0.6s,baz=162,slow=4.5,SNR=7.6
TXAR PKKPbc **PKKPbc** **16 31 14.8 +3.0**
comp=Z,1.0nm,0.7s,baz=252,slow=1.5,SNR=7.8
TXAR PKKPab **PKKPab** **16 31 29.4 +2.3**
comp=Z,2.1nm,0.8s,baz=286,slow=2.8,SNR=11
TXAR Lajitas Array 106.47 298 PKKPbc PKKPbc 16 31 13.7 +1.9
TXAR PKKPab **PKKPab** **16 31 29.9 +2.8**
BRTR Keskin Array B 108.67 46 PKiKP **PKiKP** **16 19 57.0 -0.3**
comp=Z,0.6nm,0.7s,baz=191,slow=5.0,SNR=3.7
BRTR PKKPbc **PKKPbc** **16 31 05.5 +0.1**
comp=Z,0.8nm,0.8s,baz=60,slow=3.0,SNR=3.9
BRTR PKKP **PKKPdf** **16 31 19.6 -0.9**
comp=Z,0.9nm,0.8s,baz=337,slow=2.8,SNR=4.0
MSTX Muleshoe 109.83 301 P **PKiKP** **16 19 59.6 +0.1**
baz=145
GERES GERESS Array B 110.11 28 PKiKP **PKiKP** **16 19 59.0 -0.5**
comp=Z,1.1nm,0.7s,baz=183,slow=2.7,SNR=7.0
GERES PKKPbc **PKKPbc** **16 31 01.4 +0.4**
comp=Z,0.7nm,0.6s,baz=0.0,slow=3.2,SNR=4.5
GERES PKKPab **PKKPab** **16 31 11.0 +1.7**
comp=Z,0.8nm,0.8s,baz=19,slow=5.7,SNR=4.1
KHC Kasperske Hory 110.34 28 *e*PKP PKiKP 16 20 15.0 +15
KHC *e*PKKP **PKKPab** **16 31 12.0 +3.8**
KHC *e*SS SS 16 35 59.5 +3.7
KHC AMS AMS 17 02 10.0
comp=Z,500nm,18.6s
KHC Kasperske Hory 110.34 28 *e*PKIKP PKiKP 16 20 15.0 +15
KHC *e* 16 31 12.0
KHC *e* 16 35 59.5
KHC MLR MLR
comp=Z,500nm,18.6s
URV Uravakonda 110.69 94 *e*PKiKP **PKiKP** **16 20 01.6 0.0**
TREC Trest 111.00 29 AMS AMS 17 03 00.0
comp=Z,600nm,19.1s
NKC Novy Kostel 111.07 26 AMS AMS 17 03 10.0
comp=Z,400nm,20.8s
SKHT Srikalahasti 111.08 97 *e*PKiKP **PKiKP** **16 20 02.2 -0.1**
121A Cookes Peak, D 111.12 297 P **PKiKP** **16 20 02.7 +0.6**
baz=144
GOPC GO Pecny, Ondr 111.37 28 AMS AMS 17 03 40.0
comp=Z,500nm,19.4s
PRU Pruhonice 111.38 28 AMS AMS 17 03 30.0
comp=Z,600nm,21.2s
PRA Prague 111.42 28 AMS AMS 17 03 10.0
comp=Z,300nm,22.3s
PVCC Panska Ves 111.88 28 AMS AMS 17 03 20.0
comp=Z,400nm,20.6s
RPSI Rantau Prapat 111.97 120 PKKPbc 16 30 56.1 +2.5
RPSI **PKKPab** **16 31 05.3 -0.9**
KRLC Kraliky 112.06 29 AMS AMS 17 04 00.0
comp=Z,500nm,23.2s
PSI Prapat 112.06 120 PKKPbc PKKPbc 16 30 56.1 +2.6
comp=Z,4.2nm,0.6s,baz=0.6,slow=6.3,SNR=5.1
PSI PKKPab **PKKPab** **16 31 05.3 -0.7**
comp=Z,9.3nm,0.7s,baz=360,slow=7.7,SNR=7.0
CLL Collm 112.19 26 *e*SP SP 16 30 11.0 +0.2
CLL *e*SP 16 31 06.0
CLL *e*SS **SS** **16 36 24.0 +3.7**
CLL *e*SSS SSS 16 40 36.0
CLL *e*SSSS 16 43 36.0
CLL *e* 16 47 12.0
ANMO Albuquerque 112.40 299 P **PKiKP** **16 20 05.1 +0.6**
baz=144
TUC Tucson 112.46 295 P **PKiKP** **16 20 05.2 +0.7**
baz=143
KLRI Killari 112.84 91 *e*PKiKP **PKiKP** **16 20 05.8 +0.2**
ADKI Addanki 112.94 96 *e*PKiKP **PKiKP** **16 20 05.9 +0.2**
NJS Nagarjunasagar 113.14 95 *e*PKiKP **PKiKP** **16 20 06.8 +0.7**
T25A Trinidad 113.17 302 P **PKiKP** **16 20 06.5 +0.6**
baz=144
HYB Hyderabad 113.41 93 *i* PKP **PKiKP** **16 20 07.0 +0.3**
HYBB Hyderabad (bro 113.41 93 *e*PKiKP **PKiKP** **16 20 06.3 -0.4**
CUPL Choutuppal 113.52 94 *e*PKiKP **PKiKP** **16 20 06.9 0.0**
MYLAV Mylavaram 114.04 96 *e*PKPdf **PKiKP** **16 20 08.5 +0.7**
W18A Petrified Fore 114.16 297 P **PKiKP** **16 20 08.3 +0.5**
baz=143
SDCO Great Sand Dun 114.17 302 P **PKiKP** **16 20 08.3 +0.4**
baz=143
S22A 4UR Ranch, Cre 114.81 301 P **PKiKP** **16 20 09.6 +0.5**
baz=143
PVM Polavaram 115.00 96 *e*PKPdf **PKiKP** **16 20 10.4 +0.7**
SCHQ Schefferville 115.01 336 PKP **PKPdf** **16 20 08.3 -0.3**
comp=Z,3.5nm,0.7s,baz=144,slow=2.4,SNR=5.0
SCHQ SKP 16 23 29.7
comp=Z,4.0nm,0.6s,baz=319,slow=0.7,SNR=4.3
SCHQ PKKPbc **PKKPbc** **16 30 44.2 -0.4**
comp=Z,7.9nm,1.0s,baz=324,slow=3.2,SNR=5.2
ECSD EROS Data Cent 115.02 312 P **PKPdf** **16 20 08.7 -0.3**
baz=145
GLA Glamis 115.12 292 P **PKiKP** **16 20 10.1 +0.5**
baz=142
MVCO Mesa Verde 115.20 299 P **PKiKP** **16 20 10.2 +0.4**
baz=142
MVCO Mesa Verde 115.20 299 **PKiKP** **16 20 10.1 +0.2**
WUAZ Wupatki 115.29 296 P **PKiKP** **16 20 10.4 +0.4**
baz=142
WUAZ Wupatki 115.29 296 **PKPdf** **16 20 09.7 -0.3**
IKP In-Ko-Pah, Jac 115.48 291 P **PKiKP** **16 20 10.8 +0.4**
baz=142
F36A Milaca 115.51 315 **PKPdf** **16 20 09.7 -0.2**
SHA1 Shidzhatmaz 115.74 49 *i* PKIKP **PKiKP** **16 20 12.0 +1.3**
MONP2 Monument Peak 115.83 291 P **PKiKP** **16 20 11.5 +0.3**
baz=142
KBZ Khabaz 115.84 49 PKP **PKiKP** **16 20 11.0 +0.5**
comp=Z,2.7nm,0.8s,baz=129,slow=3.0,SNR=5.6
KBZ SKP 16 23 31.9
comp=Z,2.7nm,0.8s,baz=162,slow=9.4,SNR=3.7
KBZ Khabaz 115.84 49 PKIKP **PKiKP** **16 20 11.0 +0.5**
ISCO Idaho Springs 115.86 303 PKIKP **PKPdf** **16 20 11.1 0.0**
ISCO Idaho Springs 115.86 303 P **PKiKP** **16 20 11.8 +0.7**
baz=142
ISCO Idaho Springs 115.86 303 **PKPdf** **16 20 11.1 0.0**
BC3 Big Chuckawall 115.92 292 P **PKiKP** **16 20 11.6 +0.4**
baz=142,SNR=5.8
KIV Kislovodsk 115.93 49 *i* PKIKP **PKiKP** **16 20 11.0 +0.2**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,554nm,22.0s
PV01 Paradox Valley 115.96 300 PKPdf **PKiKP** **16 20 11.6 +0.3**
PV15 Paradox Valley 116.08 300 **PKiKP** **16 20 12.6 +1.0**
PV13 Radium Mtn., P 116.10 300 **PKPdf** **16 20 11.5 -0.1**
IRM Iron Mountain 116.15 293 P **PKiKP** **16 20 12.2 +0.7**
baz=141,SNR=7.7
AKT Akhty 116.17 54 *i* PKIKP **PKiKP** **16 20 11.4 0.0**
AKT *e* 16 21 18.1
AKT pmax pmax
comp=Z,12nm,0.8s
PV05 Paradox Valley 116.17 300 **PKPdf** **16 20 11.4 -0.2**
PV03 Paradox Valley 116.19 300 **PKPdf** **16 20 11.6 -0.1**
PV18 Skein Mesa, Pa 116.21 300 **PKPdf** **16 20 11.5 -0.2**
PV12 Saucer Basin, 116.22 300 **PKiKP** **16 20 12.0 +0.2**
PV11 David Mesa, Pa 116.24 300 **PKiKP** **16 20 12.1 +0.4**
W13A Hualapai Mount 116.24 294 PKPdf **PKiKP** **16 20 12.2 +0.3**
PV17 East Wray Mesa 116.26 300 **PKPdf** **16 20 11.7 -0.1**
PV16 Nyswonger Mesa 116.27 300 **PKiKP** **16 20 12.1 +0.2**
PV14 Lion Creek, Pa 116.37 300 **PKiKP** **16 20 12.2 +0.1**
PV10 Paradox Valley 116.38 300 **PKPdf** **16 20 12.1 -0.1**
PV22 Blue Mesa, Par 116.38 300 **PKiKP** **16 20 13.2 +1.1**
AKASG Malin Array Be 116.40 37 PKP **PKPdf** **16 20 10.4 -1.0**
comp=Z,4.6nm,0.8s,baz=240,slow=1.5,SNR=17
AKASG SKP 16 23 33.0
comp=Z,1.4nm,0.7s,baz=247,slow=1.6,SNR=6.4
AKASG PKKPab **PKKPab** **16 30 43.9 +2.0**
comp=Z,0.4nm,0.3s,baz=49,slow=6.5,SNR=5.3
AKBB Malin Array Si 116.40 37 PKIKP **PKPdf** **16 20 11.0 -0.4**
AKBB Malin Array Si 116.40 37 PKPdf **PKPdf** **16 20 11.0 -0.4**
U15A North Rim 116.47 296 PKPdf **PKiKP** **16 20 12.4 0.0**
BELC Belle Mtn. Jos 116.47 292 P **PKiKP** **16 20 13.1 +0.8**
baz=141,SNR=10
SUSD Miller 116.58 311 **PKPdf** **16 20 11.7 -0.3**
N23A Red Feather La 116.88 304 P **PKiKP** **16 20 13.0 0.0**
baz=142
N23A Red Feather La 116.88 304 PKPdf **PKPdf** **16 20 12.8 -0.2**
GMRC Granite Mounta 116.91 293 P **PKiKP** **16 20 13.8 +0.7**
baz=141,SNR=16
KNB Kanab 117.19 296 PKIKP **PKiKP** **16 20 13.9 +0.3**
KNB Kanab 117.19 296 **PKiKP** **16 20 13.9 +0.3**
MAK Makhachkala 117.24 53 *e*P **Pdif** **16 16 31.4 +1.0**
MAK *i* 16 20 14.2
MAK *e* 16 20 44.2
MAK *e* 16 21 26.8
MAK *e*PPP PPP 16 23 57.8
MAK *e* 16 26 57.1
MAK *e*SS SS 16 37 26.6 -0.1
MAK *e*SSS SSS 16 41 45.2
MAK pmax pmax
comp=Z,137nm,1.2s
MAK MLR MLR
comp=Z,344nm,19.0s
PKCU Pink Cliffs 117.27 297 PKPdf **PKiKP** **16 20 14.1 +0.2**
HEC Hector,Ludlow 117.29 292 P **PKiKP** **16 20 14.5 +0.7**
baz=141
CHLP Challavanipeta 117.36 97 *e*PKiKP **PKiKP** **16 20 14.6 +0.4**
O20A White River Ci 117.37 302 P **PKPdf** **16 20 13.9 -0.1**
baz=142,SNR=6.5
O20A White River Ci 117.37 302 PKPdf **PKPdf** **16 20 13.8 -0.1**
LCMT Little Creek M 117.40 296 **PKiKP** **16 20 14.2 +0.2**
BFSC Mount Baldy Ra 117.53 291 P **PKiKP** **16 20 15.0 +0.7**
baz=141
TUQ Turquoise Moun 117.55 293 P **PKiKP** **16 20 14.8 +0.5**
baz=141,SNR=10.0
B35A Bob, Littlefor 117.64 317 PKPdf **PKPdf** **16 20 13.3 -0.6**
MTPU Mount Pierson 117.67 297 PKPdf **PKiKP** **16 20 15.2 +0.4**
SRU San Rafael Swe 117.68 299 PKIKP **PKPdf** **16 20 14.0 -0.5**
SRU San Rafael Swe 117.68 299 **PKPdf** **16 20 14.0 -0.5**
SBUM Sibu 117.71 134 PKPdf **PKPdf** **16 20 14.9 -0.3**
SZCU Shurtz Canyon 117.77 297 **PKiKP** **16 20 15.3 +0.5**
Q16A Castle Valley 117.84 299 **PKiKP** **16 20 15.2 +0.3**
GSC Goldstone, Bar 117.90 292 PKIKP **PKiKP** **16 20 15.5 +0.5**
GSC Goldstone, Bar 117.90 292 P **PKiKP** **16 20 15.6 +0.7**
baz=141,SNR=5.5
GSC Goldstone, Bar 117.90 292 PKPdf **PKiKP** **16 20 15.5 +0.5**
SHPR Sheep Range 117.98 294 PKPdf **PKiKP** **16 20 15.9 +0.7**
MSU Marysvale 118.03 298 PKIKP **PKiKP** **16 20 16.0 +0.8**
MSU Marysvale 118.03 298 PKPdf **PKiKP** **16 20 16.0 +0.8**
MVU Marysvale 118.04 298 PKPdf **PKiKP** **16 20 16.0 +0.7**
TMUT Trail Mountain 118.16 299 **PKiKP** **16 20 15.7 +0.1**
EDW2 Edwards Air Fo 118.20 291 P **PKiKP** **16 20 16.2 +0.7**
baz=141,SNR=30
TCRU Three Creeks R 118.24 298 **PKiKP** **16 20 16.2 +0.5**
LUWI Luwuk 118.29 146 **PKiKP** **16 20 16.6 +0.3**
RDMU Red Mountain 118.34 301 **PKPdf** **16 20 15.6 -0.2**
GEYT Alibeck 118.38 64 PKP **PKPdf** **16 20 14.4 -1.2**
comp=Z,1.1nm,0.4s,baz=116,slow=6.6,SNR=2.7
AGMN Agassiz Nation 118.42 315 P **PKPdf** **16 20 14.6 -0.8**
baz=144
AGMN Agassiz Nation 118.42 315 **PKPdf** **16 20 14.4 -0.9**
LRMC Laurel Mtn Rad 118.49 292 P **PKiKP** **16 20 16.7 +0.6**
baz=140,SNR=12
K22A Casper 118.53 305 P **PKPdf** **16 20 15.4 -0.6**
baz=141
K22A Casper 118.53 305 **PKPdf** **16 20 15.3 -0.7**
RSSD Black Hills 118.54 307 PKIKP **PKPdf** **16 20 15.5 -0.5**
RSSD Black Hills 118.54 307 P **PKPdf** **16 20 15.5 -0.5**
baz=142
RSSD Black Hills 118.54 307 PKPdf **PKPdf** **16 20 15.5 -0.5**
PRN Pahroc Range 118.62 295 PKPdf **PKiKP** **16 20 17.1 +0.8**
ARVC Arvin 118.82 291 P **PKiKP** **16 20 17.4 +0.8**
baz=140
FURC Furnace Creek, 118.83 293 P **PKiKP** **16 20 17.4 +0.9**
baz=140
MPMC Manual Prospec 118.84 292 P **PKiKP** **16 20 17.6 +0.8**
baz=140,SNR=14
PSUT Pine Spring 118.88 297 PKPdf **PKiKP** **16 20 17.4 +0.5**
TPNV Topopah Spring 118.88 294 P **PKiKP** **16 20 17.9 +1.0**
baz=140
FAKI Fak Fak 119.02 157 **PKiKP** **16 20 17.9 +0.1**
E28A Huff 119.02 311 PKPdf **PKPdf** **16 20 16.3 -0.3**
ISA Isabella, Lake 119.05 291 PKIKP **PKiKP** **16 20 18.0 +0.9**
ISA Isabella, Lake 119.05 291 P **PKiKP** **16 20 18.2 +1.1**
baz=140,SNR=13
ISA Isabella, Lake 119.05 291 PKPdf **PKiKP** **16 20 18.0 +0.9**
NLU North Lily Min 119.09 299 **PKiKP** **16 20 17.7 +0.4**
PKM Mcpherson Peak 119.16 290 P **PKiKP** **16 20 18.9 +1.3**
baz=140
JLU Jordanelle 119.28 300 **PKiKP** **16 20 17.9 +0.3**
GRAC Grapevine Rang 119.49 293 P **PKiKP** **16 20 18.7 +0.8**
baz=140,SNR=5.4
CTU Camp Tracy 119.50 300 PKPdf **PKiKP** **16 20 18.3 +0.3**
SMMC Simmler 119.58 290 P **PKiKP** **16 20 19.5 +1.4**
baz=140,SNR=7.4
R11A Troy Canyon, C 119.61 295 P **PKiKP** **16 20 18.9 +0.6**
baz=140,SNR=13
R11A Troy Canyon, C 119.61 295 PKPdf **PKiKP** **16 20 18.8 +0.6**
DUG Dugway, Tooele 119.64 299 PKIKP **PKiKP** **16 20 18.6 +0.4**
DUG Dugway, Tooele 119.64 299 P **PKiKP** **16 20 18.8 +0.6**
baz=140
DUG Dugway, Tooele 119.64 299 PKPdf **PKiKP** **16 20 18.6 +0.4**
KRVT Keravat (AS076 119.86 180 PKP **PKPdf** **16 20 18.9 -0.4**
comp=Z,23nm,0.6s,baz=71,slow=2.5,SNR=4.0
RABL Rabaul 119.98 180 PKPdf **PKPdf** **16 20 18.5 -1.0**
ULM Lac du Bonnet 119.99 317 PKP **PKPdf** **16 20 17.5 -0.8**
comp=Z,18nm,0.6s,baz=85,slow=0.7,SNR=21
ULM SKP 16 23 39.9
comp=Z,7.4nm,0.7s,baz=1.7,slow=1.8,SNR=5.3
ULM PKKPbc **PKKPbc** **16 30 26.9 +0.3**
comp=Z,3.4nm,0.5s,baz=298,slow=5.6,SNR=6.0
ULM Lac du Bonnet 119.99 317 PKPdf **PKPdf** **16 20 17.3 -1.0**
PAGB Antelope Grade 120.03 290 PKPdf **PKiKP** **16 20 19.8 +0.8**
BW06 Boulder Array 120.03 303 P **PKPdf** **16 20 18.1 -0.8**
baz=140,SNR=8.2
BW06 Boulder Array 120.03 303 **PKPdf** **16 20 18.2 -0.8**
PD31 Pinedale Array 120.03 303 PKPdf **PKPdf** **16 20 18.0 -1.0**
PDAR Pinedale Array 120.03 303 PKP **PKPdf** **16 20 18.1 -0.9**
comp=Z,2.9nm,0.5s,baz=142,slow=5.2,SNR=25
PDAR SKP 16 23 40.8
comp=Z,3.4nm,0.8s,baz=132,slow=4.2,SNR=7.7
PDAR PKKPab **PKKPab** **16 30 28.1 +0.8**
comp=Z,2.2nm,0.7s,baz=102,slow=0.7,SNR=11
PDAR Pinedale Array 120.03 303 PKPdf **PKPdf** **16 20 17.9 -1.0**
PDAR PKKPbc **PKKPab** **16 30 27.8 +0.5**
HWUT Hardware Ranch 120.11 300 PKPdf **PKPdf** **16 20 19.0 0.0**
VORD Divnogorie 120.21 42 *e*PKIKP **PKPdf** **16 20 17.8 -0.9**
VORD pmax pmax
comp=Z,9.0nm,0.6s
TPH Tonopah 120.24 294 PKIKP **PKiKP** **16 20 19.7 +0.1**
TPH Tonopah 120.24 294 **PKiKP** **16 20 19.7 +0.1**
BGU Big Grassy Mou 120.30 299 **PKiKP** **16 20 19.8 +0.3**
SPUT South Promonto 120.31 300 **PKiKP** **16 20 19.6 0.0**
VSR Storozhevoye 120.37 42 *e*PKIKP **PKPdf** **16 20 17.9 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
PMPB Monarch Peak 120.69 290 PKPdf **PKiKP** **16 20 21.4 +1.0**
NB2 NORSAR Subarra 120.72 21 PKPdf **PKPdf** **16 20 19.1 -0.3**
comp=Z,38nm,2.0s,baz=202,slow=1.9
NB2 NORSAR Subarra 120.72 21 PKPdf **PKPdf** **16 20 19.1 -0.3**
baz=202,slow=1.9
NOA NORSAR Array B 120.72 21 PKP **PKPdf** **16 20 19.4 0.0**
comp=Z,2.9nm,0.7s,baz=206,slow=1.9,SNR=18
NOA PKKPbc **PKKPbc** **16 30 24.1 -0.1**
comp=Z,3.0nm,0.8s,baz=26,slow=3.1,SNR=10.0
NB201 NORSAR Array S 120.75 21 **PKPdf** **16 20 19.2 -0.2**
AHID Auburn Hatcher 120.76 302 **PKPdf** **16 20 20.3 0.0**
SIJI Sorong 120.78 155 PKP **PKiKP** **16 20 21.2 0.0**
comp=Z,50nm,0.7s,baz=22,slow=4.0,SNR=20
SIJI SKP 16 23 44.6
comp=Z,9.4nm,0.7s,baz=111,slow=16,SNR=4.6
OMMB Old Mammoth Mi 120.81 292 PKPdf **PKiKP** **16 20 21.0 +0.2**
HVU Hansel Valley 120.82 300 PKIKP **PKiKP** **16 20 20.7 +0.2**
HVU Hansel Valley 120.82 300 PKPdf **PKiKP** **16 20 20.7 +0.2**
NC204 NORSAR Array S 120.85 21 PKPdf **PKPdf** **16 20 19.7 +0.1**
MDPB Devils Postpil 120.86 292 **PKPdf** **16 20 21.6 +0.7**
NV11 Mina Array Sit 120.99 294 PKPdf **PKiKP** **16 20 21.6 +0.7**
LHV Little Huntoon 121.03 293 **PKiKP** **16 20 21.9 +1.2**
NVAR Mina Array Bea 121.06 294 PKP **PKiKP** **16 20 22.2 +1.0**
comp=Z,7.0nm,0.6s,baz=137,slow=3.2,SNR=66
NVAR SKP 16 23 44.1
comp=Z,6.0nm,0.9s,baz=154,slow=3.0,SNR=7.5
NVAR PKKPab **PKKPab** **16 30 24.9 +1.5**
comp=Z,1.9nm,0.8s,baz=300,slow=4.0,SNR=9.6
NVAR Mina Array Bea 121.06 294 PKPdf **PKiKP** **16 20 21.8 +0.6**
NVAR PKKPab **PKKPab** **16 30 25.2 +1.8**
REDW Red Top Meadow 121.10 302 **PKPdf** **16 20 20.9 -0.1**
LOHW Long Hollow 121.17 303 **PKiKP** **16 20 21.3 0.0**
TPAW Teton Pass 121.24 302 PKPdf **PKPdf** **16 20 20.5 -0.8**
ELK Elko 121.25 297 PKIKP **PKiKP** **16 20 22.0 +0.5**
ELK Elko 121.25 297 PKPdf **PKiKP** **16 20 22.0 +0.5**
RYN Ryan 121.32 294 **PKiKP** **16 20 22.3 +0.7**
VRH Novokhopyorsk 121.33 44 *e*PKIKP **PKPdf** **16 20 20.5 -0.3**
VRH pmax pmax
comp=Z,30nm,0.7s
LPSR Galich'ya Gora 121.39 41 *e*PKIKP **PKPdf** **16 20 20.7 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
FXWY Fox Creek 121.39 302 **PKiKP** **16 20 21.8 +0.1**
KVN Kaiserville 121.42 294 PKIKP **PKiKP** **16 20 22.1 +0.2**
KVN Kaiserville 121.42 294 **PKiKP** **16 20 22.1 +0.2**
SAO San Andreas Ge 121.44 290 PKIKP **PKiKP** **16 20 22.3 +0.6**
SAO San Andreas Ge 121.44 290 PKPdf **PKiKP** **16 20 22.2 +0.6**
LAO LASA Array 121.51 308 P **PKiKP** **16 20 21.5 -0.1**
baz=140,SNR=13
LAO LASA Array 121.51 308 PKPdf **PKPdf** **16 20 21.3 -0.1**
IMW Indian Meadow 121.55 303 PKPdf **PKiKP** **16 20 22.0 0.0**
IMW pPKPdf **pPKPdf** **16 20 52.1 -1.0**
FLWY Flagg Ranch 121.57 303 **PKiKP** **16 20 22.1 +0.1**
RLMT Red Lodge 121.69 305 P **PKiKP** **16 20 22.3 +0.1**
baz=139
RLMT Red Lodge 121.69 305 PKPdf **PKPdf** **16 20 22.1 +0.1**
WAKR Walker 121.70 293 **PKiKP** **16 20 23.6 +1.2**
H17A Grant Village 121.75 303 P **PKiKP** **16 20 23.8 +1.4**
baz=139
H17A Grant Village 121.75 303 **PKiKP** **16 20 23.8 +1.4**
CMB Columbia Colle 121.84 292 PKIKP **PKiKP** **16 20 23.1 +0.6**
CMB Columbia Colle 121.84 292 PKPdf **PKiKP** **16 20 23.1 +0.6**
YNE Yellowstone No 121.95 304 **PKiKP** **16 20 23.0 +0.2**
YERR Yerington 121.96 293 **PKPdf** **16 20 22.8 +0.1**
DGMT Dagmar 121.99 310 P **PKiKP** **16 20 22.5 +0.1**
baz=140
DGMT Dagmar 121.99 310 PKPdf **PKPdf** **16 20 22.3 +0.1**
YMR Madison River 122.14 303 **PKiKP** **16 20 23.2 +0.1**
YHH Holmes Hill 122.18 303 PKPdf **PKiKP** **16 20 23.6 +0.3**
VSU Vasula 122.21 30 *i* PKIKP **PKiKP** **16 20 22.4 0.0**
VSU pmax pmax
comp=Z,34nm,0.7s
PNTR Pine Nut 122.22 293 **PKiKP** **16 20 24.4 +0.9**
YHB Horse Butte 122.31 303 **PKiKP** **16 20 23.8 +0.3**
YHL Hebgen Lake 122.38 303 **PKiKP** **16 20 24.2 +0.5**
GCMT Greycliff 122.38 305 **PKPdf** **16 20 23.4 +0.1**
QLMT Earthquake Lak 122.48 303 **PKiKP** **16 20 24.2 +0.5**
OBN Obninsk 122.55 38 *c i* PKIKP **PKPdf** **16 20 22.6 -0.4**
OBN *e* 16 20 53.4
OBN *e* 16 22 00.8
OBN pmax pmax
comp=Z,11nm,0.9s
PAHR Pah Rah Range 122.57 294 PKPdf **PKiKP** **16 20 24.6 +0.6**
MYLDM Lahad Datu 122.64 139 PKPdf **PKiKP** **16 20 25.0 +0.2**
AFDM Forest Hills D 122.83 292 PKPdf **PKiKP** **16 20 24.8 +0.4**
HLID Hailey 122.96 300 P **PKiKP** **16 20 25.3 +0.6**
baz=138,SNR=9.1
HLID Hailey 122.96 300 PKPdf **PKiKP** **16 20 25.1 +0.4**
BCYI Bear Canyon 123.03 301 **PKiKP** **16 20 25.0 +0.1**
NIL Nilore 123.12 78 PKIKP **PKPdf** **16 20 24.8 -0.1**
NIL Nilore 123.12 78 PKPdf **PKPdf** **16 20 24.8 -0.1**
BOZ Bozeman (W) 123.15 304 PKIKP **PKiKP** **16 20 25.3 +0.4**
BOZ Bozeman (W) 123.15 304 P **PKiKP** **16 20 25.4 +0.4**
baz=138,SNR=9.0
BOZ Bozeman (W) 123.15 304 **PKiKP** **16 20 25.3 +0.4**
MCMT McKenzie Canyo 123.15 302 PKPdf **PKiKP** **16 20 25.5 +0.3**
MCCM Marconi Confer 123.23 290 **PKiKP** **16 20 25.9 +0.8**

DLMT	Dillon	123.43	303		PKiKP	16 20 26.1	+0.6
MFID	Camas Ranch	123.54	299	PKPdf	PKiKP	16 20 25.7	-0.1
ORV	Oroville	123.56	292	PKIKP	PKiKP	16 20 26.0	+0.2
ORV	Oroville	123.56	292	PKPdf	PKiKP	16 20 26.0	+0.2
GDXM	Geysers	123.68	291		PKiKP	16 20 27.0	+0.8
LRM	Limekiln Ridge	123.70	303	PKPdf	PKiKP	16 20 26.4	+0.2
LRM				pPKPdf	pPKPdf	16 20 56.9	-0.2
HOPS	Hopland Field	123.96	291		PKiKP	16 20 27.5	+0.9
HRY	Holter Researc	124.07	304		PKiKP	16 20 26.9	+0.2
EGMT	Eagleton	124.09	307	P	PKiKP	16 20 26.9	+0.2
	baz=138,SNR=12						
EGMT	Eagleton	124.09	307	PKPdf	PKPdf	16 20 26.5	+0.1
O03E	Paynes Creek	124.26	293	P	PKiKP	16 20 27.4	+0.1
	baz=137,SNR=75						
PYUN	Piuthan	124.33	90	*e*P	PKPdf	16 20 26.7	-1.0
	comp=Z,64nm,0.7s						
KOLN	Koldanda	124.42	91	*e*P	PKPdf	16 20 27.1	-0.7
	comp=Z,96nm,0.9s						
FINES	FINESS Array B	124.54	28	PKP	PKPdf	16 20 26.5	-0.2
	comp=Z,24nm,0.6s,baz=170,slow=1.5,SNR=70						
FINES				SKP		16 23 48.7	
	comp=Z,11nm,1.0s,baz=134,slow=5.5,SNR=5.2						
FINES				PKKPbc	PKKPbc	16 30 08.7	-0.6
	comp=Z,3.3nm,0.9s,baz=50,slow=3.0,SNR=4.3						
FINES	FINESS Array B	124.54	28		PKPdf	16 20 26.4	-0.3
FIA1	FINESS Array S	124.54	28	PKPdf	PKPdf	16 20 26.2	-0.5
CHGR	Chuyangaron	124.64	71	PKPdf	PKiKP	16 20 28.2	+0.1
MOD	Modoc Plateau	124.67	295	PKPdf	PKiKP	16 20 28.6	+0.5
O02D	Mt. Diablo Mer	124.68	292	P	PKiKP	16 20 28.7	+0.6
	baz=137,SNR=13						
KCPM	Cahto Peak	124.74	291		PKiKP	16 20 29.1	+0.8
J08A	Circle Bar Ran	124.81	297		PKiKP	16 20 28.8	+0.5
WDC	Whiskeytown Da	124.85	292	PKIKP	PKPdf	16 20 28.1	+0.2
WDC	Whiskeytown Da	124.85	292	PKPdf	PKPdf	16 20 28.1	+0.2
DANN	Dangsing	124.96	90	*e*P	PKPdf	16 20 28.8	-0.2
	comp=Z,117nm,0.7s						
MSO	Missoula	125.14	303	P	PKiKP	16 20 29.0	+0.1
	baz=137,SNR=36						
MSO	Missoula	125.14	303	PKPdf	PKiKP	16 20 28.8	0.0
DMN	Daman	125.14	92	*e*P	PKPdf	16 20 29.1	-0.2
	comp=Z,74nm,1.0s						
GKN	Gorkha	125.19	91	*e*P	PKPdf	16 20 28.5	-0.7
	comp=Z,81nm,0.9s						
KMRM	Mail Ridge	125.20	291	PKPdf	PKiKP	16 20 30.1	+1.0
N02D	Trinity Center	125.22	293	P	PKiKP	16 20 29.7	+0.6
	baz=137,SNR=46						
PKIN	Phulchoki	125.28	92	*e*P	PKPdf	16 20 28.6	-1.0
	comp=Z,48nm,0.9s						
PKI	Pulchoki	125.28	92	*e*P	PKPdf	16 20 28.6	-1.1
	comp=Z,69nm,1.0s						
BMO	Blue Mountains	125.32	299	PKIKP	PKPdf	16 20 29.0	+0.2
BMO	Blue Mountains	125.32	299	PKPdf	PKPdf	16 20 29.0	+0.2
M04C	Macdoel	125.36	294	P	PKiKP	16 20 30.0	+0.5
	baz=137,SNR=19						
KKN	Kakani	125.38	92	*e*P	PKPdf	16 20 29.0	-0.7
	comp=Z,33nm,0.8s						
CM31	Chiang Mai Arr	125.41	111		PKPdf	16 20 29.8	0.0
CMAR	Chiang Mai Arr	125.41	111	PKP	PKPdf	16 20 29.8	+0.1
	comp=Z,19nm,0.8s,baz=232,slow=3.9,SNR=141						
CMAR				SKP		16 23 51.2	
	comp=Z,2.3nm,0.9s,baz=217,slow=4.0,SNR=4.8						
CMAR	Chiang Mai Arr	125.41	111	*c i* PKIKP	PKiKP	16 20 30.2	+0.1
CMAR				pmax	pmax		
	comp=Z,19nm,0.7s						
CMAR	Chiang Mai Arr	125.41	111	PKPdf	PKPdf	16 20 29.5	-0.2
RAMN	Ramite	125.47	94	*e*P	PKPdf	16 20 29.6	-0.3
	comp=Z,82nm,0.9s						
GAR	Garm	125.50	71	PKPdf	PKiKP	16 20 29.7	-0.1
K05A	Summer Lake	125.56	295	PKPdf	PKiKP	16 20 30.4	+0.5
M02C	Callahan	125.60	293	P	PKiKP	16 20 30.5	+0.7
	baz=137,SNR=29						
KHMM	Horse Mountain	125.68	292	PKPdf	PKiKP	16 20 30.6	+0.5
CHTO	Chiang Mai	125.70	111	PKIKP	PKPdf	16 20 29.7	-0.6
CHTO	Chiang Mai	125.70	111	PKPdf	PKPdf	16 20 29.7	-0.6
YBH	Yreka Blue Hor	125.78	293	PKIKP	PKPdf	16 20 29.6	-0.2
YBH	Yreka Blue Hor	125.78	293	PKPdf	PKPdf	16 20 29.6	-0.2
JIRN	Jiri	125.79	93	*e*P	PKPdf	16 20 30.1	-0.6
	comp=Z,118nm,0.6s						
FFC	Flin Flon	125.82	317	PKIKP	PKiKP	16 20 29.6	-0.2
FFC	Flin Flon	125.82	317	PKPdf	PKiKP	16 20 29.6	-0.2
ODAN	Odare	125.84	94	*e*P	PKPdf	16 20 30.4	-0.2
	comp=Z,46nm,0.6s						
I07A	Izee	125.85	297	PKPdf	PKiKP	16 20 30.6	+0.3
L04D	Klamath Falls	125.92	294	P	PKiKP	16 20 30.6	0.0
	baz=136,SNR=13						
JTMT	Jette	125.97	304	PKPdf	PKPdf	16 20 29.8	-0.2
UBPT	Khong Chiam	126.03	120		PKPdf	16 20 30.9	0.0
F10A	Beach Ranch, E	126.09	300		PKPdf	16 20 29.6	-0.7
J05D	Fort Rock, OR	126.14	295	P	PKiKP	16 20 31.7	+0.7
	baz=136,SNR=30						
KRMB	Red Mountain	126.24	292	PKPdf	PKiKP	16 20 31.8	+0.6
PINE	Pine Mountain	126.36	296	PKPdf	PKiKP	16 20 32.0	+0.5
TAPN	Taplejung	126.40	94	*e*P	PKPdf	16 20 30.3	-1.5
G08A	Pilot Rock	126.44	299	PKPdf	PKiKP	16 20 31.7	+0.2
HUMO	Hull Mountain	126.53	294	PKPdf	PKiKP	16 20 31.9	+0.2
BTK	Batken	126.54	71	PKIKP	PKPdf	16 20 31.5	+0.2
BTK	Batken	126.54	71	PKPdf	PKPdf	16 20 31.5	+0.2
L02E	Cave Junction	126.54	293	P	PKiKP	16 20 32.3	+0.6
	baz=136,SNR=14						
J04D	Umpqua Nationa	126.55	295	P	PKiKP	16 20 32.3	+0.4
	baz=136,SNR=20						
WALA	Waterton Lakes	126.74	305	PKPdf	PKPdf	16 20 31.1	-0.4
DAV	Davao City (W)	126.82	146	PKP	PKiKP	16 20 32.9	-0.1
	comp=Z,105nm,0.5s,baz=250,slow=12,SNR=4.2						
KBO	Bosley Butte	126.90	293	PKPdf	PKiKP	16 20 32.8	+0.3
I05D	Terrebonne, OR	126.95	296	P	PKiKP	16 20 33.1	+0.6
	baz=136,SNR=13						
K02D	Willamette Mer	126.96	293	P	PKiKP	16 20 33.1	+0.6
	baz=136,SNR=13						
I04A	Tendick Farm,	127.10	295	P	PKPdf	16 20 32.4	+0.2
	baz=136,SNR=14						
E08A	Dider Farm, El	127.35	300	PKPdf	PKiKP	16 20 33.0	-0.1
E08A				pPKPdf	pPKPdf	16 21 02.9	-0.8
J01E	Myrtle Point	127.43	294	P	PKiKP	16 20 33.7	+0.4
	baz=135						
KEBM	Edson Butte	127.43	293	PKPdf	PKPdf	16 20 32.9	-0.1
HAWA	Hanford	127.51	299	PKPdf	PKiKP	16 20 33.4	0.0
I03D	Drain, OR	127.51	294	P	PKiKP	16 20 33.7	+0.2
	baz=135,SNR=6.0						
G05D	Wamic, OR	127.58	297	P	PKiKP	16 20 34.0	+0.4
	baz=135						
AKTO	Aktyubinsk	127.61	54	PKIKP	PKPdf	16 20 32.2	-0.7
IUG	Iuzhnay	127.62	68	*i* PKP	PKPdf	16 20 33.5	+0.2
	baz=68						
IUG				*e*PP	PP	16 22 36.3	-0.4
	baz=68						
IUG	Iuzhnay	127.62	68	*i* PKIKP	PKPdf	16 20 33.5	+0.2
IUG				*e*		16 22 36.3	
H04A	Detroit Lake	127.62	296	PKPdf	PKPdf	16 20 33.2	0.0
AB31	Akbulak array	127.66	56	*i* PKIKP	PKPdf	16 20 27.5	-5.5
ABKAR	Akbulak array	127.66	56	PKPdf	PKPdf	16 20 32.7	-0.3
NEW	Newport	127.67	302	PKIKP	PKPdf	16 20 32.9	-0.3
NEW	Newport	127.67	302	P	PKiKP	16 20 34.5	+0.7
	baz=135						
NEW	Newport	127.67	302	PKPdf	PKPdf	16 20 32.9	-0.3
D08A	Wollman Farm,	127.68	300	PKPdf	PKPdf	16 20 33.4	+0.2
E07A	Sunnyside	127.79	299	PKPdf	PKiKP	16 20 34.4	+0.4
H04D	Lebanon	127.79	296	P	PKiKP	16 20 34.3	+0.3
	baz=135,SNR=7.2						
C09A	Chrisman Ranch	127.89	301	PKPdf	PKPdf	16 20 33.5	0.0
KLMR	Klimovskoe	128.02	35	*e*PKIKP	PKPdf	16 20 32.5	-0.8
KLMR				*e*		16 21 01.3	
KLMR				*e*		16 22 37.5	
KLMR				pmax	pmax		
	comp=Z,48nm,1.4s						
KLMR	Klimovskoe	128.02	35	*e*PKPdf	PKPdf	16 20 32.5	-0.8
KLMR				AMP		16 20 34.7	
	comp=Z,48nm,1.4s						
KLMR				*e*pPKPdf	pPKPdf	16 21 01.4	-3.1
KLMR				*e*PP	PP	16 22 37.5	-1.3
I02D	Swisshome	128.06	295	P	PKiKP	16 20 34.9	+0.4
	baz=135						
F05D	White Salmon	128.10	298	P	PKiKP	16 20 35.1	+0.4
	baz=135						
G03D	McMinnville, O	128.54	296	P	PKiKP	16 20 36.0	+0.5
	baz=134						
SUMG	Summit	128.54	356	*i* P	PKiKP	16 20 35.1	-0.1
	comp=Z,30nm,0.7s						
SUMG	Summit	128.54	356	*i* PKIKP	PKiKP	16 20 35.1	-0.1
SUMG				pmax	pmax		
	comp=Z,30nm,0.7s						
SUMG	Summit	128.54	356	PKPdf	PKiKP	16 20 35.0	-0.1
KK31	Karatay Array	128.55	68	*i* PKIKP	PKPdf	16 20 28.4	+0.8
KK31				pPKPdf	pPKPdf	16 21 04.0	-2.2
KKAR	Karatay Array	128.55	68		PKPdf	16 20 34.2	-0.8
KKAR				pPKPdf	pPKPdf	16 21 03.9	-2.4
KKAR	Karatay Array	128.55	68	PKPdf	PKPdf	16 20 34.0	-0.9
LTY	Liberty	128.68	299		PKPdf	16 20 35.0	-0.2
B08A	Colville Reser	128.79	301	PKPdf	PKPdf	16 20 35.0	-0.3
DZA	Taraz	128.83	69⇑	*i* PKP	PKPdf	16 20 35.4	-0.2
	baz=69						
DZA				*e*PP	PP	16 22 43.9	-0.6
	baz=69						
DZA	Taraz	128.83	69⇑	*i* PKIKP	PKPdf	16 20 35.3	-0.2
DZA				*e*		16 22 43.9	
LON	Longmire	128.88	298	PKIKP	PKPdf	16 20 35.6	+0.1
LON	Longmire	128.88	298		PKPdf	16 20 35.6	+0.1
KSH	Kashi	128.91	75	PKP	PKiKP	16 20 36.4	-0.2
KSH				sPKP		16 21 14.0	
KSH				SS	SS	16 39 53.5	-1.4
KSH				AMB	AMB		
	comp=Z,200nm,8.4s						
KSH				LR	LR		
	comp=Z,90nm,5.3s						
KSH				LR	LR		
	comp=Z,110nm,5.9s						
KSH				LR	LR		
	comp=Z,140nm,8.8s						
F04D	Rainier, OR	129.02	297	P	PKiKP	16 20 37.1	+0.7
	baz=134						
C06D	Leavenworth	129.25	300	P	PKPdf	16 20 36.5	+0.3
	baz=134						
D05A	Enumclaw	129.27	299		PKPdf	16 20 36.5	+0.3
AML	Almayashu	129.54	71	P	PKPdf	16 20 37.6	+0.2
	SNR=8.8						
PNT	Pentiction	129.59	302	PKHKP	PKPpre	16 20 24.4	
B06A	Marblemount	129.94	300		PKPdf	16 20 37.7	+0.3
EKS2	Erkin-Say	129.95	70	P	PKiKP	16 20 38.9	+0.3
	SNR=5.7						
UCH	Uchtor	130.04	71	P	PKiKP	16 20 39.2	-0.1
	SNR=14						
TMCR	Tamitsa	130.05	31	*e*PKIKP	PKPdf	16 20 36.9	-0.2
TMCR				pmax	pmax		
	comp=Z,73nm,1.0s						
D03D	Eldon	130.06	298	P	PKiKP	16 20 39.1	+0.6
	baz=133						
B05A	Bryant	130.07	299	P	PKiKP	16 20 38.3	-0.2
	baz=133						
LSA	Lhasa	130.13	95	PKIKP	PKPdf	16 20 38.6	-0.4
LSA	Lhasa	130.13	95		PKPdf	16 20 38.6	-0.4
AAK	Ala-Archa	130.31	71	P	PKiKP	16 20 39.1	-0.3
	SNR=24						
KZA	Kyzart	130.33	72	P	PKiKP	16 20 39.6	-0.1
	SNR=15						
SLVN	Son La	130.37	114	PKPdf	PKPdf	16 20 38.2	-1.0
KBK	Karagaybulak	130.57	71	P	PKiKP	16 20 39.5	-0.4
	SNR=9.8						
PRGR	Permogore	130.61	37	*e*PKIKP	PKPdf	16 20 37.7	-0.5
PRGR				*e*		16 21 06.9	
A04D	Lummi Island	130.67	300	P	PKiKP	16 20 39.4	-0.2
	baz=133						
CHMS	Chumysh	130.70	71	P	PKiKP	16 20 39.8	-0.2
	SNR=6.7						
USP	Ospenovka	130.75	70	P	PKPdf	16 20 38.4	-0.8
	SNR=22						
SGDS	Sogindy	130.95	70⇑	*i* PKP	PKPdf	16 20 39.5	-0.1
	comp=Z,50nm,2.2s,baz=70						
SGDS				*e*pPKP	pPKPdf	16 21 06.9	-3.9
	baz=70						
SGDS				*e*PP	PP	16 22 57.6	-0.7
	baz=70						
SGDS	Sogindy	130.95	70	*c i* PKIKP	PKPdf	16 20 39.5	-0.1
SGDS				*e*		16 21 06.9	
SGDS				*e*		16 22 57.6	
SGDS				pmax	pmax		
	comp=Z,50nm,2.2s						
ULHL	Ulahol	130.97	73	P	PKPdf	16 20 39.4	-0.5
	SNR=19						
BOOM	Boomskoye usch	130.98	72	PKIKP	PKPdf	16 20 39.3	-0.6
BOOM	Boomskoye usch	130.98	72		PKPdf	16 20 39.3	-0.6
TKM2	Tokmak 2	131.10	71	P	PKPdf	16 20 40.0	-0.1
	SNR=16						
APA	Apatity	131.35	27⇓	*i* PKIKP	PKPdf	16 20 39.0	-0.5
APA				*i* *PP	pPKPdf	16 21 11.0	+0.4
APA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
APA				MLR	MLR		
	comp=Z,700nm,24.0s						
QIZ	Qiongzhong	131.36	122	PKP	PKiKP	16 20 41.6	-0.4
QIZ				PP	PP	16 22 59.6	-1.0
QIZ				SS	SS	16 40 26.8	+2.8
QIZ				AMB	AMB		
	comp=Z,250nm,8.0s						
QIZ				LR	LR		
	comp=Z,230nm,19.2s						
QIZ				LR	LR		
	comp=Z,220nm,16.5s						
QIZ				LR	LR		
	comp=Z,240nm,16.7s						
KDJ	Kajisay	131.40	73	PKIKP	PKPdf	16 20 40.1	-0.6
KDJ	Kajisay	131.40	73	PKPdf	PKPdf	16 20 40.1	-0.6
MTBS	Maitube	131.68	72	*e*PKP	PKPdf	16 20 40.5	-0.6
	baz=72						
MTBS	Maitube	131.68	72	*e*PKIKP	PKPdf	16 20 40.4	-0.6
BTLS	Baital	131.73	68	*i* PKP	PKPdf	16 20 40.9	0.0
	comp=Z,46nm,2.3s,baz=68						
BTLS				*e*pPKP	pPKPdf	16 21 08.3	-3.8
	baz=68						
BTLS				*e*PP	PP	16 23 02.8	-0.4
	baz=68						
BTLS	Baital	131.73	68	*i* PKIKP	PKPdf	16 20 40.8	-0.1
BTLS				*e*		16 21 08.3	
BTLS				*e*		16 23 02.8	
BTLS				pmax	pmax		
	comp=Z,46nm,2.3s						
TNSS	Tian-Shan	131.90	72	*i* PKP	PKPdf	16 20 42.2	+0.4
	comp=Z,869nm,2.0s,baz=72						
TNSS	Tian-Shan	131.90	72	*i* PKIKP	PKPdf	16 20 42.2	+0.4
TNSS				pmax	pmax		
	comp=Z,869nm,2.0s						
LVZ	Lovozero	131.91	27	*c i* PKIKP	PKPdf	16 20 40.4	-0.2
LVZ				pmax	pmax		
	comp=Z,37nm,0.7s						
LVZ	Lovozero	131.91	27	PKPdf	PKiKP	16 20 41.2	-0.5
ARU	Arti	131.96	48	*i* PKIKP	PKiKP	16 20 41.6	-0.4
ARU						16 23 06.1	
ARU				PPP	PPP	16 26 02.6	
ARU	Arti	131.96	48	PKPdf	PKPdf	16 20 40.6	-0.3
AAA	Alma-Ata	132.00	72	*e*PKP	PKPdf	16 20 41.8	+0.2
	baz=72						
AAA				*i* pPKP	pPKPdf	16 21 09.3	-3.6
	baz=72						
AAA				*e*PP	PP	16 23 04.7	-0.3
	baz=72						
AAA	Alma-Ata	132.00	72	*e*PKIKP	PKPdf	16 20 41.8	+0.2
AAA				*i*		16 21 09.2	
AAA				*e*		16 23 04.7	
MDOK	Medeo	132.04	72	*i* PKP	PKPdf	16 20 41.6	-0.2
	comp=Z,369nm,3.4s,baz=72						
MDOK				*i* PP	PP	16 23 04.7	-0.7
	baz=72						
MDOK	Medeo	132.04	72	*i* PKIKP	PKPdf	16 20 41.5	-0.2
MDOK				*i*		16 23 04.7	
MDOK				pmax	pmax		
	comp=Z,369nm,3.4s						
KUU	Kurty	132.16	71	*i* PKP	PKPdf	16 20 41.6	-0.2
	comp=Z,107nm,2.2s,baz=71						
KUU				*i* PP	PP	16 23 05.2	-0.8
	baz=71						
KUU	Kurty	132.16	71	*i* PKIKP	PKPdf	16 20 41.6	-0.2
KUU				*i*		16 23 05.2	
KUU				pmax	pmax		
	comp=Z,107nm,2.2s						
PRZ	Przheval'sk	132.30	74	PKIKP	PKPdf	16 20 42.7	+0.4
PRZ	Przheval'sk	132.30	74	PKPdf	PKPdf	16 20 42.7	+0.4
CHKK	Chushkaly	132.47	71	*e*PKP	PKPdf	16 20 42.0	-0.5
	comp=Z,620nm,2.1s,baz=72						
CHKK	Chushkaly	132.47	71	*e*PKIKP	PKPdf	16 20 41.9	-0.5
CHKK				pmax	pmax		
	comp=Z,620nm,2.1s						
SATY	Saty	132.69	73⇑	*i* PKP	PKPdf	16 20 42.8	-0.3
	comp=Z,35nm,2.5s,baz=73						
SATY				*i* PP	PP	16 23 09.0	-0.6
	baz=73						
SATY	Saty	132.69	73	*c i* PKIKP	PKPdf	16 20 42.7	-0.3
SATY				*i*		16 23 08.9	
SATY				pmax	pmax		
	comp=Z,35nm,2.5s						
KMI	Kunming	132.87	110	Pdif	Pdif	16 17 39.9	-0.9
KMI				PP	PP	16 23 09.8	-0.9
KMI				AMB	AMB		
	comp=Z,250nm,4.1s						
UZB	Uzynbulak	133.08	74⇑	*i* PKP	PKPdf	16 20 43.6	-0.1
	comp=Z,34nm,2.2s,baz=74						
UZB				*i* PP	PP	16 23 10.9	-1.3
	baz=74						
UZB	Uzynbulak	133.08	74	*c i* PKIKP	PKPdf	16 20 43.6	-0.1
UZB				*i*		16 23 10.8	
UZB				pmax	pmax		
	comp=Z,34nm,2.2s						
SVE	Sverdlovsk	133.09	49	*e*PKIKP	PKiKP	16 20 43.9	-0.4
SVE				pmax	pmax		
	comp=Z,82nm,1.6s						
KPKS	Kokpek	133.12	73⇑	*i* PKP	PKPdf	16 20 43.3	-0.5
	comp=Z,51nm,2.3s,baz=73						
KPKS				*i* PP	PP	16 23 11.3	-0.9
	baz=73						
KPKS	Kokpek	133.12	73	*c i* PKIKP	PKPdf	16 20 43.2	-0.5
KPKS				*i*		16 23 11.3	
KPKS				pmax	pmax		
	comp=Z,51nm,2.3s						
SHLS	Shalkode	133.33	74	*i* PKP	PKPdf	16 20 44.8	+0.6
	comp=Z,53nm,2.4s,baz=74						
SHLS				*e*PP	PP	16 23 14.7	+1.0
	baz=74						
SHLS	Shalkode	133.33	74	*i* PKIKP	PKPdf	16 20 44.7	+0.6
SHLS				*e*		16 23 14.6	
SHLS				pmax	pmax		
	comp=Z,53nm,2.4s						
TDK	Taldyqorghan	134.00	71	*e*PKP	PKPdf	16 20 44.0	-1.3
	baz=71						
TDK				*i* PP	PP	16 23 16.1	-1.7
	baz=71						
TDK	Taldyqorghan	134.00	71	*e*PKIKP	PKPdf	16 20 43.9	-1.3
TDK				*i*		16 23 16.0	
BRZS	Berezniki	134.28	62	*i* PKP	PKPdf	16 20 45.2	-0.4
	comp=Z,81nm,3.1s,baz=62						
BRZS	Berezniki	134.28	62	*i* PKIKP	PKPdf	16 20 45.1	-0.4
BRZS				pmax	pmax		
	comp=Z,81nm,3.1s						
BRVK	Borovoye	135.05	58	*c i* PKIKP	PKPdf	16 20 46.9	0.0
BRVK				pmax	pmax		
	comp=Z,41nm,2.5s						
BRVK	Borovoye	135.05	58	PKPdf	PKPdf	16 20 46.8	0.0
YKA	Yellowknife Ar	135.92	318	PKP	PKPdf	16 20 48.4	+0.2
	comp=Z,37nm,0.7s,baz=120,slow=2.6,SNR=30						
YKA				SKPbc	SKPbc	16 24 05.7	-3.2
	comp=Z,24nm,0.9s,baz=118,slow=2.1,SNR=12						
GYA	Guiyang	136.00	113	*e*PKP	PKPdf	16 20 49.8	+0.1
GYA				PP	PP	16 23 28.3	-2.1
GYA				SS	SS	16 41 21.3	+0.8
GYA				AMB	AMB		
	comp=Z,240nm,9.1s						
GYA				LR	LR		
	comp=Z,250nm,4.2s						
GYA				LR	LR		
	comp=Z,350nm,4.1s						
GYA				LR	LR		
	comp=Z,260nm,4.1s						
MAKZ	Makanchi	137.07	72	PKIKP	PKPdf	16 20 51.4	+0.5
MAKZ	Makanchi	137.07	72	PKPdf	PKPdf	16 20 51.4	+0.5
MK31	Makanchi Array	137.22	72	PKIKP	PKiKP	16 20 52.6	-0.5
MK31	Makanchi Array	137.22	72		PKPpre	16 20 39.1	
MK31				PKPdf	PKiKP	16 20 52.6	-0.5
MKAR	Makanchi Array	137.22	72	PKhKP	PKPpre	16 20 40.1	
	comp=Z,3.1nm,0.8s,baz=248,slow=0.2,SNR=18						
MKAR				PKP	PKPdf	16 20 50.8	-0.4
	comp=Z,3.8nm,0.6s,baz=159,slow=1.6,SNR=14						
MKAR				SKPbc	SKPbc	16 24 11.2	-2.1
	comp=Z,30nm,1.1s,baz=254,slow=3.1,SNR=16						
MKAR	Makanchi Array	137.22	72	PKIKP	PKiKP	16 20 52.8	-0.3
MKAR	Makanchi Array	137.22	72	PKPpre	PKPpre	16 20 37.7	
MKAR				PKPdf	PKiKP	16 20 52.8	-0.3
GUMO	Guam	137.27	170	PKP	PKPdf	16 20 51.9	-0.2
	comp=Z,61nm,0.6s,baz=167,slow=14,SNR=6.8						
KURBB	Kurchatov Arra	137.62	65	PKHKP	PKPpre	16 20 43.0	
KURK	Kurchatov	137.72	65	*i* PKIKP	PKPdf	16 20 51.5	-0.4
KURK	Kurchatov	137.72	65		PKPpre	16 20 42.6	
CD2	Chengdu	138.01	106	PKP	PKPdf	16 20 53.1	-0.1
WMQ	Urumqi	138.25	79	*e*PKP	PKiKP	16 20 55.0	-0.3
WMQ				AMB	AMB		
	comp=Z,130nm,5.3s						
WMQ				LR	LR		
	comp=Z,120nm,21.1s						
WMQ				LR	LR		
	comp=Z,170nm,21.9s						
WMQ				LR	LR		
	comp=Z,160nm,25.5s						
DIB	Dawson Inlet,	138.29	299	PKPdf	PKPdf	16 20 53.6	+0.8
H02S1	DAWSON INLET T	138.29	299	PKP	PKiKP	16 20 53.9	-1.0
	SNR=13						
ZSN	Zaisan	139.01	73	*e*PKP	PKPdf	16 20 54.4	-0.1
	comp=Z,40nm,2.4s,baz=73						
ZSN	Zaisan	139.01	73	*e*PKIKP	PKPdf	16 20 54.3	-0.1
ZSN				pmax	pmax		
	comp=Z,40nm,2.4s						
DLBC	Dease Lake	140.02	307	SKPbc	SKPbc	16 24 19.2	-1.7
	comp=Z,28nm,0.8s,baz=327,slow=1.6,SNR=20						
DLBC	Dease Lake	140.02	307	SKPbc	SKPbc	16 24 19.6	-1.3
QZH	Quanzhou	140.50	128	PKP	PKPdf	16 20 57.8	0.0
QZH				PP	PP	16 24 03.9	+6.1
DGZ	Jazzator, Alta	141.72	71	*i* PKIKP	PKPdf	16 20 57.3	-2.1
LZH	Lanzhou	141.96	101	*e

MCARA McCarthy VSAT 147.19 306 PKPab 16 21 11.9 -0.9
KAIM Kayak Island 147.30 304 PKPbc 16 21 12.1 +1.0
VRDI Verde Repeater 147.33 306 PKPbc PKPbc 16 21 11.8 +0.3
HMT Hamilton 147.38 304 PKPbc 16 21 12.1 +0.7
EGAK Eagle 147.47 313 PKPdf PKPbc 16 21 11.0 -0.4
GLB Gilahina Butte 147.56 306 PKPdf 16 21 07.8 -1.3
GLB PKPbc PKPbc 16 21 12.3 +0.4
RAGM Ragged Mountai 147.59 304 PKPbc 16 21 12.7 +0.7
TIY Taiyuan 147.83 108 PKPbc PKPbc 16 21 12.9 -0.5
TIY PP PP 16 24 39.5 -2.5
TIY AMB AMB
comp=Z,250nm,4.8s
MENT Mentasta 148.00 309 PKPbc PKPbc 16 21 13.6 +0.6
EYAK Cordova Ski Ar 148.15 304 PKiKP 16 21 14.3 -0.7
DOT Dot Lake 148.36 310 PKiKP 16 21 14.7 -0.7
SCRK Sand Creek 148.42 311 P PKiKP 16 21 15.1 -0.5
baz=106,SNR=150
HIN Hinchinbrook I 148.44 304 PKPbc 16 21 14.8 +0.6
KLU Klutina 148.54 306 PKPbc PKiKP 16 21 15.3 -0.6
FID Port Fidalgo 148.55 304 PKiKP 16 21 15.2 -0.7
BTO Baotou 148.58 101 ePKPbc PKPdf 16 21 10.4 -1.1
RIDG Independent Ri 148.72 310 PKPbc PKiKP 16 21 15.9 -0.3
PAX Paxson 148.78 309 PKP2 PKPbc 16 21 15.4 +0.3
PAX Paxson 148.78 309 PKPbc 16 21 15.4 +0.3
M24K Tolsona, Glenn 148.84 307 P PKiKP 16 21 16.7 +0.2
baz=107
M24K Tolsona, Glenn 148.84 307 PKPbc PKiKP 16 21 16.3 -0.1
GLI Glacier Island 148.88 304 PKPbc 16 21 15.8 +0.5
TIA Tai'an 149.14 115 P PKPbc 16 21 17.0 +0.3
TIA pmax pmax
comp=Z,140nm,1.0s
NRIK Noril'sk 149.22 39 PKP PKPdf 16 21 10.4 -1.0
comp=Z,3.0nm,0.8s,baz=14,slow=7.6,SNR=3.1
NRIK PKPbc PKiKP 16 21 16.4 -0.5
comp=Z,20nm,0.8s,baz=263,slow=1.4,SNR=30
SCM Sheep Creek Mo 149.28 306 PKP2 PKiKP 16 21 17.2 -0.2
SCM Sheep Creek Mo 149.28 306 PKPbc PKiKP 16 21 17.2 -0.2
FYU Fort Yukon 149.53 316 PKPbc PKiKP 16 21 17.5 -0.2
HHC Hu-ho-hao-te 149.60 103 eP PKPbc 16 21 18.3 +0.5
DHY Denali Highway 149.65 308 PKPbc PKiKP 16 21 18.2 0.0
KNK Knik Glacier 149.67 305 PKPbc PKiKP 16 21 17.8 -0.4
SEW Seward 149.74 302 PKiKP 16 21 17.8 -0.4
HDA Harding Lake 149.78 311 P PKPbc 16 21 17.6 +0.2
baz=103,SNR=8.8
HDA Harding Lake 149.78 311 PKPbc PKPbc 16 21 17.4 +0.1
ILAR Eielson Array 149.84 312 PKP PKPdf 16 21 11.2 -1.4
comp=Z,6.5nm,0.7s,baz=294,slow=0.7,SNR=70
ILAR PKPbc PKPbc 16 21 17.9 +0.4
comp=Z,198nm,0.7s,baz=137,slow=2.3,SNR=445
O22K Cooper Landing 149.98 303 P PKiKP 16 21 18.6 -0.2
baz=108
GHO Glory Hole Cre 149.99 306 PKPbc PKiKP 16 21 18.5 -0.3
PMR Palmer 150.03 305 PKiKP PKPbc 16 21 18.4 +0.4
PMR Palmer 150.03 305 PKPbc PKPbc 16 21 18.4 +0.4
MOY Mondy 150.07 77 ePKiKP PKPdf 16 21 13.8 +0.3
MOY pmax pmax
comp=Z,291nm,2.3s
POKR Poker Plat Res 150.14 312 P PKPbc 16 21 18.4 +0.2
baz=101,SNR=22
JCJ Chichijima 150.19 162 PKPbc PKPbc 16 21 18.9 -0.6
comp=Z,299nm,0.4s,baz=79,slow=1.7,SNR=38
JCJ Chichijima 150.19 162 PKPbc 16 21 18.6 -0.9
CCB Clear Creek Bu 150.20 311 PKPbc PKPbc 16 21 18.4 0.0
TCOL CIGO, UAF Yank 150.27 312 P PKPbc 16 21 18.7 +0.2
baz=102,SNR=36
WRH Wood River Hil 150.28 311 PKPbc PKPbc 16 21 18.8 +0.2
BRLK Bradley Lake 150.32 301 PKiKP 16 21 19.3 -0.2
RND Reindeer 150.38 309 PKiKP PKiKP 16 21 19.6 0.0
RND Reindeer 150.38 309 PKPbc PKiKP 16 21 19.6 0.0
CNPM China Poot 150.41 300 PKiKP 16 21 19.7 0.0
MCK McKinley 150.48 309 PKiKP PKiKP 16 21 19.8 0.0
MCK McKinley 150.48 309 PKPbc PKiKP 16 21 19.8 0.0
KDAK Kodiak Island 150.49 297 PKPbc PKiKP 16 21 20.1 +0.2
comp=Z,291nm,0.6s,baz=180,slow=3.6,SNR=31
KDAK Kodiak Island 150.49 297 PKiKP PKiKP 16 21 19.8 -0.1
KDAK Kodiak Island 150.49 297 PKiKP 16 21 19.8 -0.1
OHAK Old Harbor 150.65 295 PKiKP 16 21 20.2 0.0
HOM Homer 150.65 301 P PKiKP 16 21 20.5 +0.4
baz=108
ZAK Zakamensk 150.70 80 ePKiKP PKiKP 16 21 20.6 -0.1
ZAK e 16 21 49.8
ZAK pmax pmax
comp=Z,100nm,1.7s
ZAK pmax pmax
comp=Z,50nm,1.2s
NEA2 Nenana 150.72 311 P PKPbc 16 21 19.7 +0.1
baz=101,SNR=8.3
CAPN Captain Cook N 150.74 303 P PKiKP 16 21 20.1 -0.2
baz=106
SUA Susitna One 150.74 304 PKiKP 16 21 20.4 -0.1
CUT Chulitna 150.77 306 P PKiKP 16 21 20.6 +0.3
baz=104
BWN Browne 150.81 310 PKPbc PKiKP 16 21 20.3 -0.1
SII Sitkinak Islan 150.86 294 PKiKP 16 21 20.8 +0.1
TRF Thorofare Moun 151.01 309 PKPbc PKiKP 16 21 21.0 -0.1
SONM Songino Array 151.09 87 PKP PKPdf 16 21 14.7 -0.6
comp=Z,3.7nm,0.8s,baz=211,slow=2.1,SNR=25
SONM PKPbc PKiKP 16 21 21.6 -0.1
comp=Z,100nm,0.6s,baz=221,slow=3.4,SNR=218
SONM Songino Array 151.09 87 PKiKP PKPbc 16 21 21.3 +0.1
SONM Songino Array 151.09 87 PKPbc PKPbc 16 21 21.2 +0.1
JSU Suzuyama 151.14 139 PKPbc 16 21 21.6 -0.1
KTH Kantishna Hill 151.31 309 PKPbc PKiKP 16 21 21.5 0.0
CHIR Chirikof Islan 151.32 292 PKiKP 16 21 21.9 +0.2
RSO Redoubt South 151.42 302 PKPbc 16 21 21.6 0.0
TOLK Toolik Lake Re 151.44 319 P PKiKP 16 21 22.2 +0.6
baz=93
TOLK Toolik Lake Re 151.44 319 PKPbc PKiKP 16 21 21.9 +0.2
ULN Ulaanbaatar 151.47 87 PKiKP PKPbc 16 21 21.9 -0.2
ULN Ulaanbaatar 151.47 87 PKPbc PKPbc 16 21 21.9 -0.2
BJT Baijiatuau 151.50 109 PKiKP PKPbc 16 21 22.3 +0.2
BJT Baijiatuau 151.50 109 PKPbc PKPbc 16 21 22.3 +0.2
BJI Beijing 151.52 109 PKPbc PKiKP 16 21 22.6 0.0
TLY Talaya 151.53 78 ePKiKP PKiKP 16 21 23.0 +0.7
TLY pmax pmax
comp=Z,121nm,1.3s
TLY Talaya 151.53 78 PKiKP 16 21 22.4 +0.1
COLD Coldfoot 151.56 316 P PKiKP 16 21 22.8 +0.9
baz=95
COLD Coldfoot 151.56 316 PKPbc PKiKP 16 21 22.4 +0.6
PPLA Purkeypile 151.74 307 PKPbc PKiKP 16 21 22.5 -0.1
IRK Irkutsk 152.14 77 ePKiKP PKPbc 16 21 21.4 -1.8
IRK pmax pmax
comp=Z,134nm,2.1s
JNU Nakatsue 152.74 138 PKPbc PKPbc 16 21 24.9 -0.3
comp=Z,45nm,0.7s,baz=331,slow=1.3,SNR=23
JNU Nakatsue 152.74 138 PKPbc 16 21 24.5 -0.8
SVW2 Sparrevohn 152.92 302 PKPbc 16 21 24.5 -0.2
CNBA Chernabura Isl 153.03 288 PKiKP 16 21 25.2 0.0
TTA Tatalina 153.47 306 PKiKP PKiKP 16 21 26.6 +0.6
TTA Tatalina 153.47 306 PKPbc PKiKP 16 21 26.6 +0.6
DL2 Dalian 153.49 117 PKPbc PKPdf 16 21 18.6 -0.3
DL2 PKPab PKPab 16 21 39.6 +0.1
DL2 PP PP 16 25 13.1 -1.1
DL2 eSS SS 16 44 41.4 +1.7
DL2 AMB AMB
comp=Z,190nm,9.6s
SDPT Sand Point 153.71 288 PKiKP 16 21 26.7 +0.1
A21K Barrow 153.74 325 P PKiKP 16 21 26.8 +0.6
baz=81
TJN Taejon 154.14 129c iPKIKP PKiKP 16 21 28.8 +0.7
JMN Monobe 154.36 143 PKiKP 16 21 28.8 0.0
JHS Saijyo 155.24 140 PKPab PKPab 16 21 47.4 +0.3
JHS PKPbc PKPbc 16 21 30.4
KSAR Wonju Array Be 155.26 129 16 21 47.4
KSAR PKIKP PKIKP 16 21 29.9
KSAR Wonju Array Be 155.26 129 PKPab PKPab 16 21 47.4 +0.4
KSAR PKPbc PKPbc 16 21 29.9
KSRS Korea Array 155.29 129 PKP PKPdf 16 21 20.9 -0.5
comp=Z,3.2nm,0.7s,baz=216,slow=1.2,SNR=20
KSRS PKPbc PKPbc 16 21 30.1
comp=Z,4.4nm,0.9s,baz=217,slow=1.8,SNR=8.2
KSRS PKPab PKPab 16 21 47.5 +0.3
comp=Z,18nm,0.8s,baz=217,slow=3.8,SNR=21
KS19 Wonju Array Si 155.30 128 PKPab 16 21 47.2 -0.1
KS19 PKPbc PKPbc 16 21 29.9
RDOG Red Dog Mine 156.40 318 PKPdif PKPdf 16 21 32.3 +10
RDOG PKPab pPKPdf 16 21 52.4 -0.8
INU Inuyama 156.86 147 PKPdf PKPdf 16 21 23.4 -0.1
INU PKPab PKPab 16 21 53.9 -0.1
JGF Kuroka 157.20 147 PKPdf PKPdf 16 21 24.1 0.0
JGF PKPab PKPab 16 21 55.7 +0.3
MJAR Matsushiro Arr 158.32 148 PKP PKPdf 16 21 25.1 -0.3
comp=Z,5.2nm,0.8s,baz=192,slow=2.1,SNR=17
MJAR PKPab PKPab 16 22 00.4 +0.1
comp=Z,21nm,0.8s,baz=190,slow=1.3,SNR=4.4
MJAR PP PP 16 25 37.2 -3.4
comp=Z,8.9nm,1.1s,baz=193,slow=5.4,SNR=6.3
MJAR Matsushiro Arr 158.32 148 PKP2 PKPab 16 22 00.3 0.0
MJAR 17 21 24.7
MJAR Matsushiro Arr 158.32 148 PKPdf PKPdf 16 21 24.7 -0.7
MJAR PKPab PKPab 16 22 00.3 0.0
MAJO Matsushiro 158.32 148 PKP2 PKPab 16 22 00.5 +0.2
MAJO 17 21 24.5
MAJO Matsushiro 158.32 148 PKPdf PKPdf 16 21 24.5 -0.9
MAJO PKPab PKPab 16 22 00.5 +0.2
MAT Matsushiro 158.32 148 PKP PKPdf 16 21 24.7 -0.7
MJB9 Matsu-Tunnel 158.33 148 PKPdf PKPdf 16 21 24.9 -0.5
MJB9 PKPab 16 22 00.6 +0.3
JYT Yasato 158.58 153 PKPdf PKPdf 16 21 26.0 +0.3
JYT PKPab 16 22 01.5 +0.2
BOD Bodaibo 159.28 69 ePKIKP PKPdf 16 21 24.0 -1.8
BOD pmax pmax
comp=Z,34nm,1.5s
HIA Hailar 159.34 95 PKP2 PKPab 16 22 04.6 +0.1
HIA Hailar 159.34 95 PKPab 16 22 04.6 +0.1
JSD Sado 159.72 147 PKPab PKPab 16 22 07.0 +0.7
JMM Marumori 160.28 152 PKPdf PKPdf 16 21 27.3 -0.2
JMM PKPab 16 22 09.3 +0.5
ADK Adak 161.30 270 PKP2 PKPab 16 22 11.7 -1.2
ADK Adak 161.30 270 PKPab PKPab 16 22 11.7 -1.2
MDJ Mudanjiang 161.70 119 PKP PKPdf 16 21 28.8 -0.1
MDJ AMB AMB
comp=Z,220nm,7.6s
MDJ Mudanjiang 161.70 119 PKPdf 16 21 28.0 -0.9
MDJ PKPab 16 22 14.5 -0.3
USA0B Ussuriysk Arra 162.53 124 PKP2 PKPab 16 22 17.7 -0.8
USA0B Ussuriysk Arra 162.53 124 PKPab PKPab 16 22 17.7 -0.8
USRK Ussuriysk Ar. 162.53 124 PKP PKPdf 16 21 28.6 -1.2
comp=Z,6.1nm,1.1s,baz=301,slow=1.1,SNR=8.7
USRK PKPab PKPab 16 22 18.1 -0.4
comp=Z,9.1nm,0.6s,baz=240,slow=4.9,SNR=20
USRK Ussuriysk Ar. 162.53 124 PKPdf 16 21 28.5 -1.2
USRK PKPab PKPab 16 22 17.5 -1.0
JTM Tenmabayashi 163.09 150 PKPab PKPab 16 22 21.9 +0.9
JEW Eniwo 165.09 148 PKPdf 16 21 32.7 +0.6
JEW PKPab PKPab 16 22 30.5 +0.8
ZEA Zeya 165.50 89 ePKIKP PKPdf 16 21 31.1 -1.0
ZEA e 16 22 00.5
ZEA e 16 26 18.0
ZEA pmax pmax
comp=Z,42nm,1.6s
ZEA pmax pmax
comp=Z,300nm,8.0s
ASAJ Asahikawa 166.59 149 PKP PKPdf 16 21 34.2 +0.9
comp=Z,16nm,0.8s,baz=31,slow=2.3,SNR=18
ASAJ PKPab PKPab 16 22 36.1 -0.2
comp=Z,14nm,0.7s,baz=240,slow=14,SNR=7.4
JKA Kamikawa-asahi 166.59 149 PKPdf 16 21 34.1 +0.8
JKA PKPab PKPab 16 22 36.7 +0.4
YAK Yakutsk 167.00 53 PKP PKPdf 16 21 30.8 -2.2
comp=Z,3.8nm,0.6s,baz=198,slow=6.0,SNR=7.9
YAK PKPab PKPab 16 22 38.5 +0.7
comp=Z,5.3nm,0.7s,baz=269,slow=12,SNR=4.4
YAK Yakutsk 167.00 53 ePKIKP PKPdf 16 21 30.3 -2.7
YAK e 16 26 23.4
YAK pmax pmax
comp=Z,20nm,1.7s
YAK pmax pmax
comp=N,6.0nm,1.8s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,144nm,3.7s
YAK pmax pmax
comp=N,79nm,3.7s
YAK pmax pmax
comp=E,33nm,2.6s
YAK Yakutsk 167.00 53 PKPdf 16 21 31.6 -1.3
KUR Kuril'sk 168.85 164 ePKIKP PKPdf 16 21 35.3 +0.5
KUR e 16 26 36.6
YSS Yuzh-Sakhalins 169.19 143 iPKIKP PKPdf 16 21 34.5 -0.4
YSS e*PP pPKPdf 16 22 04.5 -1.7
YSS e 16 22 48.2
YSS e 16 26 36.8
YSS eSS SS 16 47 27.5 +4.8
YSS pmax pmax
comp=Z,30nm,1.7s
YSS pmax pmax
comp=Z,600nm,5.9s
YSS MLR MLR
comp=Z,300nm,22.0s
YSS Yuzh-Sakhalins 169.19 143 PKPdf 16 21 33.7 -1.3
YSS PKPab PKPab 16 22 47.8 +0.1
GRNR Gornyy 169.23 113 ePKIKP PKPdf 16 21 30.2 -4.7
GRNR MLR MLR
comp=E,190nm,19.0s
NKL Nikolayevsk 172.72 109 ePKP2 PKPab 16 23 03.2 -0.1
NKL e 16 26 55.4
NKL ePPP PPP 16 31 03.0
SEY Seymchan 173.08 359 PKP PKPdf 16 21 34.5 -1.9
comp=E,11nm,0.9s,baz=166,slow=3.4,SNR=22
SEY PKPab PKPab 16 23 05.6 +1.0
comp=E,2.6nm,0.7s,baz=207,slow=2.3,SNR=3.4
SKR Severo-Kuril's 174.14 205 iPKIKP PKPdf 16 21 54.4 +17
SKR ePPP PPP 16 31 16.6
SKR eSS SS 16 48 10.9 0.0
SKR pmax pmax
comp=Z,40nm,1.5s
PET Petropavlovsk 175.17 234 iPKIKP PKPdf 16 21 36.5 -0.9
PET e 16 27 02.8
PEA0B Petropavlovsk- 175.65 230 PKIKP PKPdf 16 21 36.1 -1.5
PEA0B Petropavlovsk- 175.65 230 PKPdf 16 21 36.1 -1.5
PETK Petropavlovsk- 175.65 230 PKP PKPdf 16 21 36.1 -1.5
comp=Z,9.9nm,0.7s,baz=67,slow=3.9,SNR=10
PETK PKPab PKPab 16 23 16.6 +0.3
comp=Z,9.0nm,0.8s,baz=106,slow=6.4,SNR=7.0

*GUC **22** 16:05:32.7±0.7,20°.89S×67°.60W,h231km±6km,ML4.0*
*SCB **22** 16:05:34.4±1.4,20°.91S×67°.44W,h195km,ML3.5/4,Error ellipse: s-maj=9.2km s-min=8.0km az=0.0*

ISC 22 16:05:31.2±1.9,20°.92S±0°.05×67°.49W±0°.08, h219km±18km,n30,σ1°19/51,14C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.74 296**		⇑iP	**Pn**	**16 06 10.0**	**+0.9**
PB08				iS	**Sn**	**16 06 39.2**	**+0.5**
PB08	**IPOC Station P**	**1.74 296**		P	**Pn**	**16 06 10.0**	**+0.9**
PB09	**IPOC Station P**	**1.85 242**		eP	**Pn**	**16 06 11.6**	**+1.7**
PB09				eS	**Sn**	**16 06 41.4**	**+1.2**
PB09				IAML		16 06 44.0	
comp=N,214nm,0.3s							
PB09	**IPOC Station P**	**1.85 242**		P	**Pn**	**16 06 11.3**	**+1.4**
PB09				S	**Sn**	**16 06 38.0**	**-2.1**
PB09				IAML		16 06 43.6	
comp=N,91nm,0.3s							
PB01	**IPOC Station P**	**1.87 266**		⇑iP	**Pn**	**16 06 10.5**	**+0.5**
PB01				eS	**Sn**	**16 06 39.6**	**-0.6**
PB01				IAML		16 06 41.6	
comp=N,484nm,0.4s							
PB01	**IPOC Station P**	**1.87 266**		P	**Pn**	**16 06 11.0**	**+1.0**
PB01				S	**Sn**	**16 06 38.8**	**-1.4**
PB01				IAML		16 06 42.7	
comp=N,189nm,0.2s							
GO01	**Chusmiza**	**2.03 308**		⇑eP	**Pn**	**16 06 12.4**	**+0.5**
GO01				eS	**Sn**	**16 06 43.9**	**+0.1**
GO01				IAML		16 06 53.7	
comp=E,236nm,0.1s							
YJA	**Yavi**	**2.22 125**		P	**Pn**	**16 06 12.8**	**-1.0**
PB02	**IPOC Station P**	**2.28 260**		⇑iP	**Pn**	**16 06 15.0**	**+0.9**
PB02				eS	**Sn**	**16 06 46.7**	**-1.0**
PB02				iS	S	16 06 47.1	-0.2
PB02				IAML		16 06 47.5	
comp=N,937nm,0.3s							
PB02	**IPOC Station P**	**2.28 260**		P	**Pn**	**16 06 15.6**	**+1.5**
PB02				S	**Sn**	**16 06 46.4**	**-1.2**
PB02				IAML		16 06 48.6	
comp=N,588nm,0.3s							
PB11	**IPOC Station P**	**2.34 299**		⇑iP	**Pn**	**16 06 15.2**	**+0.4**
PB11				iS	**Sn**	**16 06 47.9**	**-0.9**
PB11				IAML		16 06 51.0	
comp=N,407nm,0.4s							
PB11	**IPOC Station P**	**2.34 299**		P	**Pn**	**16 06 15.7**	**+1.0**
PB07	**IPOC Station P**	**2.38 250**		⇑iP	**Pn**	**16 06 16.2**	**+1.0**
PB07				eS	**Sn**	**16 06 49.0**	**-0.5**
PB07				IAML		16 06 50.2	
comp=E,813nm,0.3s							
PB03	**IPOC Station P**	**2.39 242**		⇑iP	**Pn**	**16 06 16.4**	**+1.1**
PB03				eS	**Sn**	**16 06 49.6**	**-0.2**
PB03				IAML		16 06 50.4	
comp=N,766nm,0.4s							
PATCX	**Punta Patache**	**2.50 272**		⇑iP	**Pn**	**16 06 16.7**	**+0.4**
PATCX				eS	**Sn**	**16 06 50.1**	**-1.5**
PATCX				IAML		16 06 54.6	
comp=N,362nm,0.4s							
TA01	**Diego Aracena**	**2.55 277**		⇑iP	**Pn**	**16 06 17.1**	**+0.4**
TA01				iS	**Sn**	**16 06 50.8**	**-1.6**
TA01				IAML		16 06 52.1	
comp=E,400nm,0.4s							
PB06	**IPOC Station P**	**2.63 227**		⇑iP	**Pn**	**16 06 18.8**	**+1.0**
PB06				eS	**Sn**	**16 06 54.8**	**+0.4**
PB06				IAML		16 06 55.7	
comp=E,245nm,0.3s							
PB06	**IPOC Station P**	**2.63 227**		P	**Pn**	**16 06 18.4**	**+0.6**
MNMC	**Minye Minye**	**2.67 312**		⇑iP	**Pn**	**16 06 19.2**	**+0.8**
MNMC				eS	**Sn**	**16 06 55.0**	**-0.3**
MNMC				IAML		16 06 57.9	
comp=N,264nm,0.3s							
MNMC	**Minye Minye**	**2.67 312**		P	**Pn**	**16 06 19.4**	**+1.0**
MNMC				S	**Sn**	**16 06 53.3**	**-2.0**
PSGC	**Pisagua**	**2.80 298**		iP	**Pn**	**16 06 19.7**	**-0.1**
PSGC				iS	**Sn**	**16 06 56.1**	**-1.6**
PSGC				IAML		16 06 58.2	
comp=E,123nm,0.5s							
PSGC	**Pisagua**	**2.80 298**		P	**Pn**	**16 06 20.4**	**+0.7**
PSGC				S	**Sn**	**16 06 55.2**	**-2.5**
PSGC				IAML		16 06 59.4	
comp=E,56nm,0.1s							
PB15	**IPOC Station P**	**2.93 219**		⇓iP	**Pn**	**16 06 20.2**	**-1.0**
PB15				eS	**Sn**	**16 07 01.6**	**+1.1**
PB16	**IPOC Station P**	**3.20 323**		⇑iP	**Pn**	**16 06 26.1**	**+1.3**
PB16				⇑eS	**Sn**	**16 07 07.5**	**+0.7**
PB12	**IPOC Station P**	**3.52 310**		⇑eP	**Pn**	**16 06 27.5**	**-0.5**
PB12				eS	**Sn**	**16 07 10.4**	**-2.4**
BBOJ	**La Paz, Jacaqu**	**3.98 350**		P	**Pn**	**16 06 35.2**	**+1.2**
BBOE	**La Paz, Chanca**	**4.11 353**		P	**Pn**	**16 06 37.1**	**+1.4**
SLA	**San Lorenzo**	**4.20 155**		P	**Pn**	**16 06 36.8**	**+0.5**
BBOD	**La Paz, Gloria**	**4.39 346**		P	**Pn**	**16 06 40.6**	**+1.6**
BBOB	**La Paz, Bander**	**4.79 353**		P	**Pn**	**16 06 44.5**	**+0.5**

RSNC 22 16:12:14.9±1.0,6°.78N×73°.13W,h142km±7km,ML1.9,1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19 196**		eP	Pn	16 12 34.0	-0.6
BARC				eS	Sn	16 12 48.2	-1.2
BARC				i		16 12 50.0	
comp=Z,15nm,0.4s							
BRRC	**Barranca, Sant**	**0.67 300**		eP	Pn	16 12 35.9	-0.4
BRRC				eS	Sn	16 12 52.6	+0.1
BRRC				i		16 12 58.0	
comp=Z,15nm,0.2s							
PAMC	**Pamplona, Colo**	**0.70 37**		eP	Pn	16 12 36.9	-0.2
PAMC				eS	Sn	16 12 53.9	-0.2
PAMC				i		16 12 56.0	
comp=Z,8.4nm,0.4s							
RUSC	**La Rusia**	**0.88 177**		eP	Pn	16 12 38.4	-0.1
RUSC				eS	Sn	16 12 56.2	-0.1
RUSC				i		16 12 59.0	
comp=Z,11nm,0.7s							
PTBC	**PUERTO BERRIO,**	**1.34 260**		eP	Pn	16 12 40.9	-1.3
PTBC				eS	Sn	16 13 02.4	-0.6
PTBC				i		16 13 05.4	
comp=Z,27nm,0.6s							
SPBC	**San Pablo de B**	**1.46 220**		eP	Pn	16 12 43.3	-0.2
SPBC				eS	Sn	16 13 05.6	+0.2
SPBC				i		16 13 13.2	
comp=Z,8.4nm,0.3s							
SDV	**Santo Domingo**	**3.24 50**		⇓eP	Pn	16 13 05.6	+0.3
SDV	**Santo Domingo**	**3.24 50**		eP	Pn	16 13 05.4	+0.2

*IDC **22** 16:15:53.1±0.6,20°.47S×174°.21W,h0km,mb4.5/22, mb1 4.6/24,mb1mx4.5/48,mbtmp4.5/24,ML4.2/2,MS4.0/8, Ms1 4.0/8,ms1mx3.7/40,Error ellipse: s-maj=20.2km s-min=14.3km az=128.0*
*BJI **22** 16:15:53.7±0.0, 19°.95S×173°.80W,h9km,mB5.6/16, mb5.0/20,Ms5.0/9,Ms7 4.7/7*
*NEIC **22** 16:15:54.3±1.9,20°.4S±0°.1×174°.15W±0°.08,h10km±1km, mb4.8/53,Error ellipse: s-maj=22.9km s-min=10.7km az=159.0*

ISC 22 16:15:56.9±0.5,20°.37S±0°.08×174°.08W±0°.09,h27km, n145,σ1°31/129,mb4.7/42,MS4.0/7,2C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.12 73**			Pn	16 16 51.7	-6.3
AFI	**Afiamalu**	**6.79 19**		Pn	**Pn**	**16 17 32.1**	**-2.8**
17nm,0.3s,baz=280,slow=0.8,SNR=24							
AFI				Sn	Sn	16 18 42.1	-9.2
6.5nm,0.3s,baz=15,slow=20,SNR=1.8							
AFI				LR	LR	16 20 00.5	
comp=Z,574nm,20.9s,baz=195,slow=36							
AFI	**Afiamalu**	**6.79 19**			**Pn**	**16 17 31.4**	**-3.4**
MSVF	**Nonsavu**	**7.89 288**			Pn	16 17 57.0	+6.9
RAR	**Rarotonga**	**13.41 96**		Pn	Pn	16 18 58.5	-6.9
1.0nm,0.3s,baz=281,slow=10,SNR=10							
RAR				Sn	Sn	16 21 14.4	-19
1.1nm,0.3s,baz=90,slow=20,SNR=2.7							
RAR				LR	LR	16 25 00.8	
comp=Z,312nm,18.0s,baz=272,slow=40							
RAR	**Rarotonga**	**13.41 96**			Pn	16 18 58.3	-7.1
DZM	**Mont Dzumac**	**18.24 261**		eP	**P**	**16 20 10.0**	**+1.6**
77nm,1.5s							
DZM				eLR	LR	16 24 24.9	
comp=Z,505nm,22.6s							
DZM	**Mont Dzumac**	**18.24 261**		P	**Pn**	**16 20 08.2**	**-0.2**
0.5nm,0.3s,baz=75,slow=19,SNR=4.6							
DZM				LR	LR	16 26 22.8	
comp=Z,617nm,18.2s,baz=78,slow=35							
DZM	**Mont Dzumac**	**18.24 261**		P	**P**	**16 20 09.6**	**+1.2**
URZ	**Urewera**	**19.40 201**		P	**P**	**16 20 20.8**	**0.0**
1.0nm,0.3s,baz=18,slow=6.4,SNR=4.5							
URZ	**Urewera**	**19.40 201**		P	**Pn**	**16 20 21.8**	**-0.3**
BKZ	**Black Stump Fm**	**20.42 201**		P	**P**	**16 20 32.1**	**+0.1**
BFZ	**Birch Farm**	**21.87 200**		P	**P**	**16 20 48.5**	**+0.9**
PLWZ	**Palliser**	**22.99 201**		P	**P**	**16 20 58.1**	**-1.4**
TBI	**Tubuai**	**23.03 102**		eLR	LR	16 26 27.0	
comp=Z,628nm,27.8s,baz=258							
TBI	**Tubuai**	**23.03 102**		eT	T	16 44 45.6	
6.6nm,0.3s							
PAE	**Paea**	**23.31 88**		eT	T	16 45 02.4	
1.1nm,0.2s							
PPT2	**Papeete2**	**23.33 87**		eS	**S**	**16 25 10.9**	**-3.5**
853nm,28.5s							
PPT2				eLR	LR	16 26 35.1	
comp=Z,807nm,27.2s,baz=260							
TUWZ	**Tuamarina**	**23.33 203**		P	**P**	**16 20 59.5**	**-3.4**
PPT	**Papeete**	**23.33 87**		LR	LR	16 27 40.5	
comp=Z,156nm,20.0s,baz=266,slow=30							
KHZ	**Kahutara**	**24.34 203**		P	**P**	**16 21 13.8**	**+1.4**
MEH	**Mehetia**	**24.69 89**		eT	T	16 46 46.0	
14nm,0.3s							
LTZ	**Lake Taylor**	**25.13 204**		P	**P**	**16 21 19.7**	**+0.1**
OXZ	**Oxford**	**25.68 204**		P	**P**	**16 21 23.6**	**-1.0**
OXZ				IAmb	IAmb	16 21 32.7	
comp=Z,24nm,0.7s							
RPZ	**Rata Peaks**	**26.39 205**		P	**P**	**16 21 28.8**	**-2.2**
comp=Z,9.2nm,0.8s,baz=14,slow=17,SNR=2.0							
RPZ	**Rata Peaks**	**26.39 205**		IAmb	IAmb	16 21 40.6	
comp=Z,25nm,0.9s							
FOZ	**Fox Glacier**	**26.74 207**		P	**P**	**16 21 35.1**	**+0.9**
KRVT	**Keravat (AS076**	**36.64 291**		LR	LR	16 37 24.3	
comp=Z,214nm,18.7s,baz=104,slow=35							
CTA	**Charters Tower**	**37.16 263**		P	**P**	**16 23 04.9**	**-0.9**
comp=Z,8.3nm,0.7s,baz=94,slow=6.5							
CTAO	**Charters Tower**	**37.16 263**		P	**P**	**16 23 04.5**	**-1.3**
CTAO				IAmb	IAmb	16 23 07.1	
comp=Z,10nm,0.7s							
STKA	**Stephens Creek**	**41.16 245**		P	**P**	**16 23 37.5**	**-1.7**
comp=Z,4.5nm,0.8s,baz=83,slow=9.5,SNR=7.5							
STKA	**Stephens Creek**	**41.16 245**		P	**P**	**16 23 38.1**	**-1.1**
COEN	**Coen**	**41.25 272**		P	**P**	**16 23 39.0**	**-1.0**
COEN				IAmb	IAmb	16 23 41.0	
comp=Z,15nm,0.9s							
BBOO	**Buckleboo**	**45.90 244**		P	**P**	**16 24 15.5**	**-1.8**

JAY	Jayapura	47.52	286	P	P	16 24 29.9	-0.4
	comp=Z,33nm,0.8s,baz=139,slow=3.1,SNR=23						
WR0	Warramunga Arr	48.07	261	P	P	16 24 33.2	-1.3
WR0				IAmb	IAmb	16 24 43.2	
	comp=Z,15nm,1.5s						
AS31	Alice Springs	48.12	256	P	P	16 24 33.1	-1.7
ASAR	Alice Springs	48.12	256	P	P	16 24 33.2	-1.7
	comp=Z,4.5nm,0.9s,baz=99,slow=7.8,SNR=40						
ASAR				PcP	PcP	16 26 02.5	+0.3
	comp=Z,1.2nm,0.7s,baz=109,slow=4.2,SNR=4.6						
ASAR	Alice Springs	48.12	256	P	P	16 24 33.5	-1.4
WB0	Warramunga Arr	48.24	261	P	P	16 24 33.6	-2.1
WB0				IAmb	IAmb	16 24 43.7	
	comp=Z,13nm,1.4s						
WB2	Warramunga Arr	48.25	261	P	P	16 24 33.7	-2.1
WB2				IAmb	IAmb	16 24 38.0	
	comp=Z,6.7nm,0.9s						
WRAB	Tennant Creek	48.25	261	P	P	16 24 33.4	-2.5
WRAB				IAmb	IAmb	16 24 38.0	
	comp=Z,9.3nm,1.1s						
WRA	Warramunga Arr	48.26	261	P	P	16 24 33.3	-2.6
	comp=Z,2.6nm,0.7s,baz=96,slow=7.5,SNR=22						
WRA	Warramunga Arr	48.26	261	P	P	16 24 34.1	-1.8
MTN	Manton Dam	52.84	269	P	P	16 25 08.5	-2.1
MTN				IAmb	IAmb	16 25 36.4	
	comp=Z,17nm,1.3s						
KNRA	Kununurra	54.34	265	P	P	16 25 20.4	-1.1
KNRA				IAmb	IAmb	16 25 30.7	
	comp=Z,9.8nm,0.8s						
FITZ	Fitzroy Crossi	56.69	261	P	P	16 25 37.5	-0.9
	comp=Z,3.4nm,0.9s,baz=13,slow=3.9,SNR=7.1						
FITZ	Fitzroy Crossi	56.69	261	P	P	16 25 37.5	-0.9
SIJI	Sorong	56.78	283	P	P	16 25 37.7	-1.4
	comp=Z,12nm,0.7s,baz=131,slow=20,SNR=4.4						
VNDA	Vanda	58.40	186	P	P	16 25 50.3	+0.7
	comp=Z,1.8nm,0.9s,baz=4.7,slow=5.9,SNR=6.9						
PSA00	Pilbara Seismi	61.27	256	P	P	16 26 08.0	-2.2
QSPA	South Pole Qui	69.70	180	P	P	16 27 04.5	+0.3
QSPA				IAmb	IAmb	16 27 11.2	
	comp=Z,9.4nm,1.0s						
JGF	Kuroka	72.21	320	P	P	16 27 20.1	+0.5
JGF				IAmb	IAmb	16 27 35.4	
	comp=Z,20nm,1.5s						
MJAR	Matsushiro Arr	72.34	321	P	P	16 27 21.0	+0.6
	comp=Z,4.7nm,0.7s,baz=154,slow=5.8,SNR=12						
MJAR	Matsushiro Arr	72.34	321	P	P	16 27 21.4	+1.0
MAJO	Matsushiro	72.34	321	P	P	16 27 21.4	+1.0
MAT	Matsushiro	72.34	321	P	P	16 27 20.2	-0.2
JMN	Monobe	73.16	317	P	P	16 27 27.1	+1.8
JHS	Saijyo	74.45	317	P	P	16 27 34.4	+1.6
JNU	Nakatsue	74.75	315	P	P	16 27 34.4	-0.2
	comp=Z,7.0nm,0.8s,baz=0.0,slow=9.1,SNR=4.0						
JNU	Nakatsue	74.75	315	P	P	16 27 35.3	+0.6
JKA	Kamikawa-asahi	75.42	329	P	P	16 27 40.4	+2.2
JKA	Kamikawa-asahi	75.42	329	IAmb	IAmb	16 27 41.8	
	comp=Z,10.0nm,0.9s						
ASAJ	Asahikawa	75.43	329	P	P	16 27 40.4	+2.1
	comp=Z,6.7nm,0.8s,baz=204,slow=4.5,SNR=6.5						
PETK	Petropavlovsk-	77.15	343	P	P	16 27 48.6	+0.7
	comp=Z,5.8nm,0.7s,baz=111,slow=8.4,SNR=7.6						
YSS	Yuzh-Sakhalins	77.48	331	P	P	16 27 51.8	+2.0
NVAR	Mina Array Bea	78.44	42	P	P	16 27 57.0	+1.3
	comp=Z,2.0nm,0.7s,baz=224,slow=8.1,SNR=13						
NVAR	Mina Array Bea	78.44	42	P	P	16 27 56.1	+0.5
NV11	Mina Array Sit	78.54	42	P	P	16 27 56.5	+0.4
TPH	Tonopah	78.91	42	P	P	16 27 58.5	+0.3
KVN	Kaiserville	78.95	41	P	P	16 27 58.5	+0.1
KSRS	Korea Array	79.27	317	P	P	16 28 01.6	+1.7
	comp=Z,3.8nm,1.0s,baz=139,slow=6.0,SNR=9.8						
KSAR	Wonju Array Be	79.29	317	P	P	16 28 01.6	+1.6
PRN	Pahroc Range	79.91	44	P	P	16 28 02.9	-0.7
PINE	Pine Mountain	80.27	36	P	P	16 28 05.4	-0.1
USRK	Ussuriysk Ar.	80.97	324	P	P	16 28 10.6	+1.7
	comp=Z,3.5nm,1.0s,baz=155,slow=7.9,SNR=3.4						
MDJ	Mudanjiang	82.57	323	P	P	16 28 19.3	+1.9
MDJ				IAmb	IAmb	16 28 20.3	
	comp=Z,9.5nm,0.8s						
NJ2	Nanjing	82.66	308	*e*P	P	16 28 17.3	-0.8
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MAW	Mawson	82.91	199	P	P	16 28 19.5	+0.6
	comp=Z,2.0nm,0.8s,baz=124,slow=5.3,SNR=7.0						
MAW				LR	LR	17 02 41.2	
	comp=Z,78nm,21.0s,baz=220,slow=34						
MAW	Mawson	82.91	199	IAmb	IAmb	16 28 26.3	
	comp=Z,1.7nm,1.4s						
TMUT	Trail Mountain	83.47	44	P	P	16 28 23.6	+1.0
SUA	Susitna One	83.67	11	P	P	16 28 22.2	-0.7
F10A	Beach Ranch, E	83.69	36	P	P	16 28 23.7	+0.4
F10A				IAmb	IAmb	16 28 24.9	
	comp=Z,6.6nm,0.9s						
HLID	Hailey	83.86	39	P	P	16 28 25.5	+1.1
HLID				IAmb	IAmb	16 28 38.1	
	comp=Z,5.5nm,1.2s						
TXAR	Lajitas Array	83.91	56	P	P	16 28 25.4	+0.6
	comp=Z,0.5nm,0.8s,baz=255,slow=5.5,SNR=3.2						
TRF	Thorofare Moun	85.60	10	P	P	16 28 32.1	-0.5
RND	Reindeer	85.81	11	P	P	16 28 34.3	+0.7
MCK	McKinley	86.09	11	P	P	16 28 35.5	+0.8
PDAR	Pinedale Array	86.38	42	P	P	16 28 37.5	+0.5
	comp=Z,0.7nm,0.7s,baz=209,slow=2.7,SNR=4.3						
WRH	Wood River Hil	86.92	11	P	P	16 28 39.2	+0.4
HDA	Harding Lake	87.08	11	P	P	16 28 39.9	+0.2
SEY	Seymchan	87.13	345	P	P	16 28 40.4	+0.5
	comp=Z,10nm,1.1s,baz=147,slow=8.8,SNR=9.1						
CCB	Clear Creek Bu	87.14	11	P	P	16 28 40.0	+0.1
MDM	Murphy Dome	87.34	11	P	P	16 28 40.7	-0.3
ILAR	Eielson Array	87.42	11	P	P	16 28 42.0	+0.8
	comp=Z,1.4nm,0.8s,baz=220,slow=5.0,SNR=7.5						
ILAR	Eielson Array	87.42	11	P	P	16 28 41.5	+0.2
SYO	Syowa Base	87.63	192⇑	*e*P	P	16 28 40.9	-1.5
SYO	Syowa Base	87.63	192⇑	*ep*P	P	16 28 45.2	+2.8
XAN	Xi'an	91.00	306	P	P	16 29 10.9	+12
XAN				pP	pwP	16 29 16.0	+6.0
XAN				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC	Hu-ho-hao-te	91.92	313	*e*P	P	16 29 02.6	-0.5
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
CMAR	Chiang Mai Arr	93.55	288	P	P	16 29 12.3	+1.3
	comp=Z,4.1nm,1.0s,baz=128,slow=2.9,SNR=22						
CMAR				LR	LR	17 09 51.2	
	comp=Z,82nm,19.8s,baz=246,slow=35						
CMAR	Chiang Mai Arr	93.55	288	P	P	16 29 11.8	+0.8
CHTO	Chiang Mai	93.67	289	P	P	16 29 12.5	+0.9
CHTO				IAmb	IAmb	16 29 14.1	
	comp=Z,4.3nm,0.8s						
CD2	Chengdu	93.84	301	P	P	16 29 11.6	-0.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ULM	Lac du Bonnet	98.17	39	LR	LR	17 10 39.8	
	comp=Z,274nm,18.5s,baz=134,slow=33						
GTA	Gaotai	99.75	308	*e*P	Pdif	16 29 43.5	+4.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KSH	Kashi	117.83	305	PKP	PKiKP	16 34 44.5	+3.3
KSH				SS	SS	16 52 15.1	+7.8
KSH				AMB	AMB		
	comp=Z,130nm,5.1s						
KSH				LR	LR		
	comp=Z,97nm,5.1s						
KSH				LR	LR		
	comp=Z,100nm,5.2s						
KSH				LR	LR		
	comp=Z,150nm,7.9s						
SUW	Suwalki	143.91	343	*e*PKP	PKPdf	16 35 29.9	+0.4
AKASG	Malin Array Be	144.59	334	PKP	PKPab	16 35 29.4	0.0
	comp=Z,2.0nm,0.7s,baz=38,slow=4.6,SNR=12						
AKASG	Malin Array Be	144.59	334	PKPdf	PKPab	16 35 29.1	-0.2
AKBB	Malin Array Si	144.59	334	PKPdf	PKPab	16 35 29.1	-0.2
MARD	Mardin	145.35	307		PKPab	16 35 33.2	+0.4
KSP	Ksiaz	148.50	347	*e*PKP	PKiKP	16 35 42.3	-0.3
BUR08	Bucovina Ar. S	148.62	335		PKPbc	16 35 41.7	+0.1
CLL	Collm	148.62	351	*e*PP	PP	16 39 14.0	+3.7
CLL	Collm	148.62	351		PKPbc	16 35 41.6	+0.3
CLL	Collm	148.62	351	*e*PKPdf	PKPdf	16 35 39.0	+1.4
CLL	Collm	148.62	351	*i* PKPbc	PKiKP	16 35 42.1	-0.7
	comp=Z,9.0nm,0.7s						
CLL	Collm	148.62	351	*i* PKPab	PKPab	16 35 45.1	+0.3
	comp=Z,10.0nm,1.1s						
CLL	Collm	148.62	351	*e*	PKPab	16 35 53.0	+8.2
BURAR	Bucovina Array	148.64	335		PKiKP	16 35 42.6	-0.5
NIE	Niedzica	148.82	342	*e*PKP	PKiKP	16 35 43.2	-0.1
BRG	Berggiesshubel	148.90	350	*e*PKP	PKiKP	16 35 42.8	-0.6
	comp=Z,7.6nm,0.8s						
MORC	Moravsky Berou	149.23	345	*e*PKP	PKiKP	16 35 43.9	-0.3
LANS	Liptovska Anna	149.30	342	*e*PKP	PKiKP	16 35 45.2	+0.9
BRTR	Keskin Array B	149.41	315	PKPbc	PKPbc	16 35 44.4	+0.5
	comp=Z,1.6nm,0.7s,baz=132,slow=3.0,SNR=5.3						
BRTR	Keskin Array B	149.41	315		PKPbc	16 35 43.8	-0.1
VRAC	Vranov	149.89	346	*e*PKP	PKiKP	16 35 45.4	-0.1
JAVC	Velka Javorina	150.05	344	*e*PKP	PKiKP	16 35 46.0	+0.1
VYHS	Vyhne	150.07	343	*e*PKP	PKiKP	16 35 46.2	+0.3
KRUC	Moravsky	150.16	346	*e*PKP	PKPbc	16 35 45.2	0.0
MODS	Modra-Piesok	150.59	344	*e*PKP	PKiKP	16 35 46.9	-0.1
KHC	Kasperske Hory	150.65	350		PKPbc	16 35 46.7	+0.3
GEC2	GERESS Array S	150.91	349		PKPbc	16 35 47.3	+0.2
GERES	GERESS Array B	150.91	349	PKPbc	PKiKP	16 35 47.6	-0.2
	comp=Z,1.9nm,0.6s,baz=12,slow=2.7,SNR=13						
GERES	GERESS Array B	150.91	349		PKPbc	16 35 47.2	+0.2
CONA	Conrad Observa	151.35	346	*i* PKiKP	PKiKP	16 35 49.3	+0.6
	comp=Z,4.6nm,0.8s						
ARSA	Arzberg	152.07	346	*e*PKiKP	PKiKP	16 35 50.9	+0.8
	comp=Z,2.3nm,0.8s						
RETA	Reutte	152.66	353	*e*PKiKP	PKiKP	16 35 51.4	0.0
	comp=Z,1.7nm,0.5s						
WATA	Walderalm	152.71	352	*e*PKiKP	PKiKP	16 35 51.6	+0.1
	comp=Z,4.2nm,0.7s						
SOKA	Soboth	152.72	346	*i* PKPbc	PKPbc	16 35 50.6	-0.7
	comp=Z,5.4nm,1.0s						
MOTA	Moosalm	152.76	352	*e*PKiKP	PKiKP	16 35 52.4	+0.7
	comp=Z,6.2nm,1.1s						
SQTA	Sankt Quirin	152.87	352	*e*PKiKP	PKiKP	16 35 52.0	+0.2
	comp=Z,3.5nm,0.8s						
FETA	Feichten	153.12	353	*e*PKiKP	PKiKP	16 35 52.9	+0.4
	comp=Z,3.0nm,0.8s						
ABTA	Abfaltersbach	153.14	350	*e*PKPbc	PKPbc	16 35 52.2	-0.1
	comp=Z,4.6nm,0.7s						

MEX 22 16:22:36.2±0.3, 25°.03N×109°.54W, h15km, MD4.2, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	Topolobambo	0.73	38	*e*P	Pg	16 22 48.0	-2.5
TSIG				*e*S	Sg	16 22 57.2	-3.0
LPIG	La Paz	1.15	217	*e*P	Pn	16 22 54.3	-3.5
LPIG				*e*S	Sb	16 23 07.8	-4.8

MEX 22 16:23:32.0±0.5, 30°.15N×114°.57W, h10km, MD4.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	San Pedro Mart	1.18	319	*e*S	Sg	16 24 06.0	-4.0
SPX	San Pedro Mart	1.18	319	*e*P	Pb	16 23 50.6	-4.0
SPX				*e*S	Sg	16 24 05.0	-5.0
SPX	San Pedro Mart	1.18	319	*e*P	Pb	16 23 50.6	-4.1
SPIG	San Pedro Mart	1.18	319	*e*S	Sg	16 24 07.1	-3.2
SPIG	San Pedro Mart	1.18	319	*e*P	Pb	16 23 51.4	-3.4
SPIG				*e*S	Sg	16 24 06.5	-3.7
SPIG	San Pedro Mart	1.18	319	*e*P	Pb	16 23 51.6	-3.2

DRS ***22*** *16:24:44.1±0.0, 44°.67N×40°.63E, h16km*
NORS ***22*** *16:25:27.6±0.0, 43°.23N×43°.66E, h12km, MPVA4.3, FELT I=II MSK at Nalchik*
TIF ***22*** *16:25:28.0, 43°.31N×43°.74E, h7km±1km*
MOS ***22*** *16:25:29.6±0.0, 43°.27N×43°.65E, h4km, MPVA4.3*

ISC 22 16:25:28.2±0.9, 43°.32N±0°.02×43°.69E±0°.01, h12km±6km, n92, σ1°.12/160, 5C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNR	Lesken	0.10	113	*i* Pg	Pg	16 25 30.5	-0.6
LSNR	Lesken	0.10	113	*i* PG	Pg	16 25 30.5	-0.6
STDR	Stavd-Durt	0.28	79	*i* Pg	Pg	16 25 34.6	+0.7
STDR				*e*Sg	Sb	16 25 40.0	+0.2
STDR	Stavd-Durt	0.28	79	⇓*i* PG	Pb	16 25 34.7	-0.4
KORR	Kora	0.36	130	*e*Pg	Pb	16 25 36.2	-0.5
KORR				*e*Sg	Sb	16 25 42.2	0.0
KORR	Kora	0.36	130	*e*PG	Pb	16 25 36.1	-0.5
KORR				pmax	pmax		
	comp=Z,135nm,0.2s						
DIGR	Digorskoe uzhe	0.43	191	*i* Pg	Pg	16 25 36.6	-0.1
DIGR				*e*Sg	Sg	16 25 42.5	0.0
DIGR	Digorskoe uzhe	0.43	191	*i* PG	Pg	16 25 36.6	-0.1
ARNR	Ardon	0.45	108	*e*Pg	Pb	16 25 38.5	+0.3
ARNR				*e*Sg	Sb	16 25 45.3	+0.4
ARNR	Ardon	0.45	108	*e*PG	Pb	16 25 38.5	+0.3
ARNR				*e*S	Sb	16 25 46.5	+1.6
ZEI	Tsey	0.55	164	*i* Pg	Pg	16 25 38.9	-0.1
ZEI				*e*Sg	Sg	16 25 46.2	-0.2
ZEI	Tsey	0.55	164	*i* PG	Pg	16 25 38.9	-0.1
ZEI				pmax	pmax		
	comp=Z,690nm,0.3s						
PRTR	Priterechnaya	0.61	44	*e*Pg	Pn	16 25 42.9	+0.2
PRTR				*e*Sg	Sn	16 25 52.9	+0.4
PRTR	Priterechnaya	0.61	44	*e*PG	Pn	16 25 42.9	+0.2
PRTR				*e*S	Sn	16 25 54.5	+2.0
BTKR	Batakoyurt	0.62	85	*e*Pg	Pn	16 25 42.4	-0.6
BTKR	Batakoyurt	0.62	85	*e*PG	Pn	16 25 42.4	-0.6
BTKR				*e*S	Sn	16 25 54.4	+1.5
LACR	Lac	0.66	138	*i* Pg	Pg	16 25 41.1	0.0
LACR				*e*Sg	Sg	16 25 50.1	+0.3
LACR	Lac	0.66	138	*i* PG	Pg	16 25 41.1	0.0
LACR				*e*S	Sg	16 25 50.1	+0.3
ONI	Oni	0.75	194	*i* Pg	Pb	16 25 43.1	-0.1
ONI				*e*Sg	Sb	16 25 52.9	-0.6
ONI	Oni	0.75	194	*e*PG	Pb	16 25 43.1	-0.1
ONI				*e*S	Sb	16 25 53.9	+0.5
ONI	Oni	0.75	194	P	Pb	16 25 43.1	-0.1
ONI				S	Sb	16 25 54.0	+0.5
VLKR	Vladikavkaz	0.77	110	*i* Pg	Pn	16 25 45.1	+0.1
VLKR				*e*Sg	Sn	16 25 57.3	+0.8
VLKR	Vladikavkaz	0.77	110	*i* PG	Pn	16 25 45.1	+0.1
VLKR				*e*S	Sn	16 25 57.3	+0.8
TRKR	Terskaya	0.86	61	*e*Pg	Pn	16 25 46.8	+0.7
TRKR				*e*Sg	Sn	16 25 59.7	+1.1
TRKR	Terskaya	0.86	61	*e*PG	Pn	16 25 46.8	+0.7
TRKR				*e*S	Sn	16 26 00.9	+2.3
SHA1	Shidzhatmaz	0.86	299	*e*Pg	Pb	16 25 45.2	-0.1
SHA1				*e*Sg	Sb	16 25 57.2	+0.3
SHA1	Shidzhatmaz	0.86	299	*e*PG	Pn	16 25 46.3	-0.1
SHA1				*e*S	Sn	16 25 59.0	-0.1
KMGR	Komgaron	0.90	107	*e*Pg	Pn	16 25 47.9	+1.2
KMGR	Komgaron	0.90	107	*e*PG	Pn	16 25 47.9	+1.2
KMGR				*e*S	Sn	16 26 04.1	+4.4
BEYR	Belyy Ugol+	0.94	318	*e*Pg	Pn	16 25 47.0	-0.3
BEYR				*e*Sg	Sn	16 26 01.0	+0.2
BEYR	Belyy Ugol+	0.94	318	*e*PG	Pn	16 25 47.0	-0.3
BEYR				*e*S	Sn	16 26 01.0	+0.2
PNSH	Pansheti	0.96	135	*e*PG	Pg	16 25 46.4	-0.4
PNSH				*e*S	Sg	16 25 58.6	-0.7
PNSH	Pansheti	0.96	135	P	Pg	16 25 46.4	-0.4
PNSH				S	Sg	16 25 58.7	-0.7
KIV0	Kislovodsk Arr	0.96	312	*i* Pg	Pn	16 25 47.6	-0.1
KIV0				*i* Sg	Sn	16 26 02.2	+0.7
KIV	Kislovodsk	0.97	311	*e*Pg	Pn	16 25 47.8	0.0
KIV				*e*Sg	Sn	16 26 01.2	-0.4
KIV	Kislovodsk	0.97	311	*i* PG	Pn	16 25 47.6	-0.2
KIV				*i* S	Sn	16 26 02.2	+0.6
TKB	Tkibuli	1.09	208	*e*Pg	Pn	16 25 49.6	+0.2
TKB				*e*Sg	Sn	16 26 05.4	+0.8
TKB	Tkibuli	1.09	208	*e*PG	Pn	16 25 49.6	+0.2
TKB				*e*S	Sn	16 26 05.4	+0.8
TKB	Tkibuli	1.09	208	P	Pn	16 25 49.6	+0.2
TKB				S	Sn	16 26 05.4	+0.8
CHVG	Ch'k'valeri	1.32	244	P	Pg	16 25 54.3	+0.6
CHVG				S	Sg	16 26 13.6	+2.8
GROC	Groznyy	1.54	94	*i* Pg	Pg	16 25 58.2	+0.4
GROC				*e*Sg	Sg	16 26 20.0	+2.2
GROC	Groznyy	1.54	94	⇑*i* PG	Pg	16 25 58.3	+0.5
GROC				*e*S	Sg	16 26 20.3	+2.5
BKRG	Bakuriani	1.56	185	*e*Pg	Pg	16 25 58.0	-0.2
BKRG				*e*Sg	Sg	16 26 20.5	+1.9
BKRG	Bakuriani	1.56	185	*e*PG	Pg	16 25 58.0	-0.2
BKRG				*e*S	Sg	16 26 20.4	+1.9
BKRG	Bakuriani	1.56	185	P	Pg	16 25 58.0	-0.2
BKRG				S	Sg	16 26 20.5	+1.9
ARXR	Arkhyz	1.78	279	*e*Pg	Pg	16 26 02.3	0.0
ARXR				*e*Sg	Sg	16 26 25.6	+0.2
ARXR	Arkhyz	1.78	279	*e*PN	Pg	16 26 02.3	0.0
ARXR				*e*S	Sg	16 26 25.6	+0.2
GOF	Gofitskoye	1.80	345	*e*Pg	Pg	16 26 03.2	+0.5
GOF				*e*Sg	Sg	16 26 28.2	+2.1
GOF	Gofitskoye	1.80	345⇑	*e*PN	Pg	16 26 03.1	+0.3
GOF				*e*S	Sg	16 26 28.7	+2.6
GOF				pmax	pmax		
	comp=Z,70nm,0.6s						
GOF				smax	smax		
	comp=E,405nm,0.6s						
GOF				smax	smax		
	comp=N,396nm,0.8s						
TRLG	Trialeti	1.80	170	*e*Pg	Pg	16 26 02.1	-0.8
TRLG				*e*Sg	Sg	16 26 27.2	+1.0
TRLG	Trialeti	1.80	170	*e*PN	Pg	16 26 02.0	-0.8
TRLG				*e*S	Sg	16 26 27.2	+1.0
TRLG	Trialeti	1.80	170	P	Pg	16 26 02.1	-0.8
TRLG				S	Sg	16 26 27.2	+1.0
BTNK	Botanikuri	1.83	153	*e*Pg	Pb	16 26 01.8	+0.1
BTNK				*e*Sg	Sg	16 26 27.0	+0.1
BTNK	Botanikuri	1.83	153	*e*PN	Pb	16 26 01.7	+0.1
BTNK				*e*S	Sg	16 26 27.0	+0.1
BTNK	Botanikuri	1.83	153	P	Pb	16 26 01.8	+0.1
BTNK				S	Sg	16 26 27.0	+0.1
AKH	Akhalkalaki	1.91	185	*e*Pg	Pg	16 26 04.2	-0.7
AKH	Akhalkalaki	1.91	185	*e*PN	Pg	16 26 04.2	-0.7
AKH				*e*S	Sg	16 26 30.2	+0.5
AKH	Akhalkalaki	1.91	185	P	Pg	16 26 04.3	-0.7
AKH				S	Sg	16 26 30.2	+0.5
BTLR	Botlikh	1.97	109	*e*Pg	Pb	16 26 04.7	+0.7
BTLR				*e*Sg	Sg	16 26 30.6	-0.8
BTLR	Botlikh	1.97	109	*e*PN	Pb	16 26 04.7	+0.7
KZRT	Kazreti	2.00	165	*e*Pg	Pb	16 26 04.6	0.0
KZRT				*e*Sg	Sb	16 26 30.9	+1.4
KZRT	Kazreti	2.00	165	*e*PN	Pb	16 26 04.6	0.0
KZRT	Kazreti	2.00	165	P	Pb	16 26 04.6	0.0
KZRT				S	Sb	16 26 30.9	+1.4
DMNI	Dmanisi	2.02	169	*e*PN	Pb	16 26 04.9	-0.1
DMNI	Dmanisi	2.02	169	P	Pb	16 26 04.9	-0.1
DMNI				S	Sg	16 26 31.8	-1.5
DLMR	Dylym	2.16	96	*e*Pg	Pb	16 26 07.0	-0.3
DLMR	Dylym	2.16	96	PN	Pb	16 26 07.0	-0.3
DLMR				*e*S	Sg	16 26 38.0	+0.3
DLMR				pmax	pmax		
	comp=Z,64nm,0.3s						
BATM	Batumi	2.26	221	*e*Pg	Pb	16 26 08.0	-1.1
BATM				*e*Sg	Sb	16 26 36.9	-0.1
BATM	Batumi	2.26	221	*e*PN	Pb	16 26 07.8	-1.2
BATM				*e*S	Sg	16 26 42.2	+1.3
BATM	Batumi	2.26	221	P	Pb	16 26 07.9	-1.1
BATM				S	Sg	16 26 42.3	+1.3
DBC	Dubki	2.31	96	*e*Pn	Pb	16 26 09.0	-0.9
DBC				*e*Sn	Sg	16 26 41.4	-1.2
DBC	Dubki	2.31	96	*e*PN	Pb	16 26 09.2	-0.7
DBC				*e*S	Sg	16 26 41.3	-1.2
UNCR	Uncukul	2.35	104	*e*Pn	Pb	16 26 11.5	+0.9
UNCR	Uncukul	2.35	104	*e*PN	Pb	16 26 11.5	+0.9
UNCR				*e*S	Sg	16 26 44.0	+0.2
KRNR	Karanay	2.41	101	*e*Pn	Pb	16 26 12.0	+0.5
KRNR	Karanay	2.41	101	PN	Pb	16 26 12.0	+0.5
KRNR				*e*S	Sg	16 26 45.0	-0.5
KRNR				pmax	pmax		
	comp=Z,24nm,0.3s						
RPOR	Krasnaya Polya	2.52	280	*i* PN	Pb	16 26 14.3	+0.8
RPOR				*e*S	Sb	16 26 43.3	-1.2
DDFL	Dedoflistskaro	2.59	135	*e*PN	Pg	16 26 16.9	-1.0
DDFL				*e*S	Sb	16 26 48.2	+1.6
DDFL	Dedoflistskaro	2.59	135	P	Pg	16 26 16.9	-1.0
DDFL				S	Sb	16 26 48.2	+1.6
MAK	Makhachkala	2.81	96	*e*Pn	Pb	16 26 16.2	-2.1
MAK				*e*Sn	Sb	16 26 50.2	-2.6
MAK	Makhachkala	2.81	96	*e*PN	Pn	16 26 13.8	+0.8
MAK				*e*		16 26 21.0	
MAK				*e*		16 26 47.9	
MAK				*e*		16 27 04.8	
MAK				pmax	pmax		
	comp=Z,70nm,0.3s						
MAK				smax	smax		
	comp=E,245nm,0.4s						
MAK				smax	smax		
	comp=E,298nm,0.4s						
MAK				MLR	MLR		
	comp=Z,235nm,2.0s						
SOC	Sochi	2.91

BGR ***22*** *16:56:35.2±0.0,52.°58N×158.°63E,h33km,mb4.8*
KRSC ***22*** *16:56:40.5±1.1,51.°62N×158.°03E,h140km±10km,ML4.8, FELT [III] at Severo-Kurilsk.*
MOS ***22*** *16:56:42.0±0.9,51.°86N×157.°36E,h145km,mb4.2/19, Error ellipse: s-maj=7.9km s-min=3.6km az=78.2*
IDC ***22*** *16:56:43.3±0.7,51.°97N×157.°54E,h141km±6km,mb3.8/21, mb1 3.9/24,mb1mx3.8/50,mbtmp4.2/24, Error ellipse: s-maj=14.0km s-min=10.4km az=131.0*
NEIC ***22*** *16:56:43.2±1.6,51.°89N±0.°09×157.°6E±0.°1,h145km±6km, mb4.5/74, Error ellipse: s-maj=13.6km s-min=10.9km az=143.0*

ISC 22 16:56:42.5±0.4,51.°78N±0.°04×157.°73E±0.°04,h146km±3km, h146km:pP-P,n358,σ1°931/408,mb4.4/97,6C-3D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.22**	**82**	*e*P	**Pn**	**16 57 01.5**	**-0.9**
KDTR				*e*S	**Sn**	**16 57 14.9**	**-2.5**
KDTR	**Khodutka, Kamc**	**0.22**	**82**	PN	**Pn**	**16 57 01.5**	**-0.9**
KDTR				S	**Sn**	**16 57 14.9**	**-2.5**
ASAK	**Asacha**	**0.61**	**10**	*e*P	**Pn**	**16 57 04.4**	**+0.2**
ASAK				*e*S	**Sn**	**16 57 20.4**	**-0.3**
ASAK	**Asacha**	**0.61**	**10**	PN	**Pn**	**16 57 04.4**	**+0.2**
ASAK				S	**Sn**	**16 57 20.4**	**-0.3**
PAU	**Pauzhetka**	**0.65**	**242**	*e*P	**Pn**	**16 57 04.4**	**+0.1**
PAU				*e*S	**Sn**	**16 57 20.3**	**-0.5**
PAU	**Pauzhetka**	**0.65**	**242**	PN	**Pn**	**16 57 04.4**	**+0.1**
PAU				S	**Sn**	**16 57 20.3**	**-0.5**
MTVR	**Mutnovka**	**0.76**	**21**	*e*P	**Pn**	**16 57 05.1**	**-0.1**
MTVR				*e*S	**Sn**	**16 57 21.4**	**-1.1**
MTVR	**Mutnovka**	**0.76**	**21**	PN	**Pn**	**16 57 05.1**	**-0.1**
MTVR				S	**Sn**	**16 57 21.4**	**-1.1**
MIPR	**Malaya Ipel'ka**	**0.78**	**310**	*i* P	**Pn**	**16 57 05.3**	**+0.1**
MIPR				*e*S	**Sn**	**16 57 22.0**	**-0.5**
MIPR	**Malaya Ipel'ka**	**0.78**	**310**	PN	**Pn**	**16 57 05.3**	**+0.1**
MIPR				S	**Sn**	**16 57 22.0**	**-0.5**
GRL	**Gorelyy**	**0.80**	**15**	*e*P	**Pn**	**16 57 05.8**	**+0.3**
GRL				*e*S	**Sn**	**16 57 22.5**	**-0.6**
GRL	**Gorelyy**	**0.80**	**15**	PN	**Pn**	**16 57 05.8**	**+0.3**
GRL				S	**Sn**	**16 57 22.5**	**-0.6**
RUS	**Russkaya**	**0.81**	**36**	*i* P	**Pn**	**16 57 04.9**	**-0.5**
RUS				*e*S	**Sn**	**16 57 21.3**	**-1.6**
RUS	**Russkaya**	**0.81**	**36**	PN	**Pn**	**16 57 04.9**	**-0.5**
RUS				S	**Sn**	**16 57 21.3**	**-1.6**
KRMR	**Karymshinskiy**	**1.08**	**13**	*i* P	**Pn**	**16 57 08.7**	**+1.1**
KRMR				*i* S	**Sn**	**16 57 27.5**	**+0.7**
KRMR	**Karymshinskiy**	**1.08**	**13**	PN	**Pn**	**16 57 08.7**	**+1.1**
KRMR				S	**Sn**	**16 57 27.5**	**+0.7**
APC	**Apacha**	**1.20**	**343**	*e*P	**Pn**	**16 57 09.1**	**+0.4**
APC				*e*S	**Sn**	**16 57 28.9**	**+0.1**
APC	**Apacha**	**1.20**	**343**	PN	**Pn**	**16 57 09.1**	**+0.4**
APC				S	**Sn**	**16 57 28.9**	**+0.1**
PEA0B	**Petropavlovsk-**	**1.33**	**359**	PN	**Pn**	**16 57 10.3**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.33**	**359**		**Pn**	**16 57 10.3**	**+0.3**
PETK	**Petropavlovsk-**	**1.33**	**359**	P	**Pn**	**16 57 10.4**	**+0.4**
	39nm,0.3s,baz=153,slow=11,SNR=21						
PETK				S	**Sn**	**16 57 30.7**	**-0.5**
	20nm,0.3s,baz=135,slow=14,SNR=16						
PETK	**Petropavlovsk-**	**1.33**	**359**		**Pn**	**16 57 10.3**	**+0.2**
PET	**Petropavlovsk**	**1.37**	**24**	*e*P	**Pn**	**16 57 10.3**	**-0.1**
PET				*i* S	**Sn**	**16 57 30.4**	**-1.3**
PET	**Petropavlovsk**	**1.37**	**24**	*e*PN	**Pn**	**16 57 11.0**	**+0.6**
PET				*e*S	**Sn**	**16 57 31.7**	**0.0**
PET				pmax	pmax		
	comp=Z,752nm,0.4s						
PET				smax	smax		
	comp=N,7μm,0.8s						
PET				smax	smax		
	comp=E,4μm,0.7s						
PET	**Petropavlovsk**	**1.37**	**24**		**Pn**	**16 57 10.2**	**-0.1**
DALK	**Dalny**	**1.40**	**26**	*e*P	**Pn**	**16 57 10.8**	**+0.1**
DALK				*e*S	**Sn**	**16 57 31.1**	**-1.2**
DALK	**Dalny**	**1.40**	**26**	PN	**Pn**	**16 57 10.8**	**+0.1**
DALK				S	**Sn**	**16 57 31.1**	**-1.2**
SKR	**Severo-Kuril's**	**1.49**	**223**	*e*P	**Pn**	**16 57 11.9**	**+0.2**
SKR				*e*S	**Sn**	**16 57 33.2**	**-0.7**
SKR	**Severo-Kuril's**	**1.49**	**223**	*i*PN	**Pn**	**16 57 11.6**	**-0.1**
SKR				*e*S	**Sn**	**16 57 33.3**	**-0.7**
SKR				pmax	pmax		
	comp=Z,600nm,0.4s						
SKR				pmax	pmax		
	comp=Z,523nm,0.4s						
SKR				smax	smax		
	comp=E,4μm,0.3s						
SKR				smax	smax		
	comp=N,6μm,0.4s						
UGLR	**Uglovaya**	**1.58**	**25**	*i* P	**Pn**	**16 57 13.5**	**+0.7**
UGLR				*e*S	**Sn**	**16 57 36.0**	**0.0**
UGLR	**Uglovaya**	**1.58**	**25**	PN	**Pn**	**16 57 13.5**	**+0.7**
UGLR				S	**Sn**	**16 57 36.0**	**0.0**
AVH	**Avacha**	**1.61**	**22**	*e*P	**Pn**	**16 57 14.0**	**+0.9**
AVH				*e*S	**Sn**	**16 57 37.3**	**+0.8**
AVH	**Avacha**	**1.61**	**22**	PN	**Pn**	**16 57 14.0**	**+0.9**
AVH				S	**Sn**	**16 57 37.3**	**+0.8**
KOK	**Koryaka**	**1.61**	**20**	*e*P	**Pn**	**16 57 14.2**	**+1.1**
KOK				*e*S	**Sn**	**16 57 37.7**	**+1.1**
KOK	**Koryaka**	**1.61**	**20**	PN	**Pn**	**16 57 14.2**	**+1.1**
KOK				S	**Sn**	**16 57 37.7**	**+1.1**
SMAR	**Somma**	**1.62**	**23**	*e*P	**Pn**	**16 57 13.7**	**+0.4**
SMAR				*e*S	**Sn**	**16 57 36.5**	**-0.5**
SMAR	**Somma**	**1.62**	**23**	PN	**Pn**	**16 57 13.7**	**+0.4**
SMAR				S	**Sn**	**16 57 36.5**	**-0.5**
ALID	**Alaid**	**1.64**	**237**	*e*P	**Pn**	**16 57 13.7**	**+0.2**
ALID				*e*S	**Sn**	**16 57 36.8**	**-0.4**
ALID	**Alaid**	**1.64**	**237**	PN	**Pn**	**16 57 13.7**	**+0.2**
ALID				S	**Sn**	**16 57 36.8**	**-0.4**
KRER	**Koryakskii**	**1.65**	**22**	*e*P	**Pn**	**16 57 14.4**	**+0.8**
KRER				*e*S	**Sn**	**16 57 37.9**	**+0.4**
KRER	**Koryakskii**	**1.65**	**22**	PN	**Pn**	**16 57 14.4**	**+0.8**
KRER				S	**Sn**	**16 57 37.9**	**+0.4**
KRX	**Arik**	**1.68**	**19**	*e*P	**Pn**	**16 57 14.6**	**+0.7**
KRX				*e*S	**Sn**	**16 57 37.4**	**-0.5**
KRX	**Arik**	**1.68**	**19**	PN	**Pn**	**16 57 14.6**	**+0.7**
KRX				S	**Sn**	**16 57 37.4**	**-0.5**
NLC	**Nalytchevo**	**1.71**	**35**	*e*P	**Pn**	**16 57 13.2**	**-0.8**
NLC				*e*S	**Sn**	**16 57 35.3**	**-2.9**
NLC	**Nalytchevo**	**1.71**	**35**	PN	**Pn**	**16 57 13.2**	**-0.8**
NLC				S	**Sn**	**16 57 35.3**	**-2.9**
SPN	**Mys Shipunski**	**1.93**	**46**	*i* P	**Pn**	**16 57 16.2**	**-0.3**
SPN				*e*S	**Sn**	**16 57 40.2**	**-2.5**
SPN	**Mys Shipunski**	**1.93**	**46**	PN	**Pn**	**16 57 16.2**	**-0.3**
SPN				S	**Sn**	**16 57 40.2**	**-2.5**
KII	**Karymskiy**	**2.49**	**24**	*e*P	**Pn**	**16 57 21.9**	**-1.4**
KII	**Karymskiy**	**2.49**	**24**	PN	**Pn**	**16 57 21.9**	**-1.4**
KZV	**Kizimen**	**3.67**	**24**	*e*P	**Pn**	**16 57 39.0**	**+0.5**
KZV	**Kizimen**	**3.67**	**24**	PN	**Pn**	**16 57 39.0**	**+0.5**
TUMD	**Tumrok D**	**3.78**	**24**	*e*P	**Pn**	**16 57 40.4**	**+0.6**
TUMD				*e*S	**Sn**	**16 58 22.4**	**-1.8**
TUMR	**Tumrok**	**3.79**	**21**	*e*P	**Pn**	**16 57 41.5**	**+1.5**
TUMR	**Tumrok**	**3.79**	**21**	PN	**Pn**	**16 57 40.4**	**+0.4**
TUMR				S	**Sn**	**16 58 22.4**	**-2.3**
KMNR	**Kamenistaya**	**4.25**	**19**	*e*P	**Pn**	**16 57 47.2**	**+1.2**
KMNR	**Kamenistaya**	**4.25**	**19**	PN	**Pn**	**16 57 47.2**	**+1.2**
KPT	**Kopyto**	**4.45**	**18**	*e*P	**Pn**	**16 57 50.2**	**+1.7**
KPT	**Kopyto**	**4.45**	**18**	PN	**Pn**	**16 57 50.2**	**+1.7**
KIRR	**Kirishev**	**4.46**	**19**	*e*P	**Pn**	**16 57 50.6**	**+1.9**
KIRR	**Kirishev**	**4.46**	**19**	PN	**Pn**	**16 57 50.6**	**+1.9**
KOZ	**Kozyrevsk**	**4.47**	**16**	*e*P	**Pn**	**16 57 51.0**	**+2.2**
KOZ	**Kozyrevsk**	**4.47**	**16**	PN	**Pn**	**16 57 51.0**	**+2.2**
BZWR	**Bezymyannyi-We**	**4.50**	**20**	*e*P	**Pn**	**16 57 50.9**	**+1.6**
BZWR	**Bezymyannyi-We**	**4.50**	**20**	PN	**Pn**	**16 57 50.9**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**4.52**	**22**	*e*P	**Pn**	**16 57 50.7**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**4.52**	**22**	PN	**Pn**	**16 57 50.7**	**+1.1**
ZLN	**Zelenaya**	**4.62**	**22**	*e*P	**Pn**	**16 57 52.5**	**+1.7**
ZLN	**Zelenaya**	**4.62**	**22**	PN	**Pn**	**16 57 52.5**	**+1.7**
LGNR	**Loginova**	**4.65**	**21**	*e*P	**Pn**	**16 57 53.0**	**+1.6**
LGNR	**Loginova**	**4.65**	**21**	PN	**Pn**	**16 57 53.0**	**+1.6**
SRDR	**Sredinnyy**	**4.70**	**14**	*e*P	**Pn**	**16 57 53.3**	**+1.5**
SRDR	**Sredinnyy**	**4.70**	**14**	PN	**Pn**	**16 57 53.3**	**+1.5**
CIRR	**Tsirk**	**4.70**	**21**	*e*P	**Pn**	**16 57 53.3**	**+1.4**
CIRR	**Tsirk**	**4.70**	**21**	PN	**Pn**	**16 57 53.3**	**+1.4**
KRSR	**Krestovskiy**	**4.75**	**19**	*e*P	**Pn**	**16 57 52.7**	**+0.1**
KRSR	**Krestovskiy**	**4.75**	**19**	PN	**Pn**	**16 57 52.7**	**+0.1**
KLY	**Klyuchi**	**4.86**	**20**	*e*P	**Pn**	**16 57 55.3**	**+1.4**
KLY	**Klyuchi**	**4.86**	**20**	PN	**Pn**	**16 57 55.3**	**+1.4**
BDR	**Baidarnaya**	**5.21**	**22**	*e*P	**Pn**	**16 57 59.9**	**+1.2**
BDR				*e*S	**Sn**	**16 58 57.1**	**-1.0**
BDR	**Baidarnaya**	**5.21**	**22**	PN	**Pn**	**16 57 59.9**	**+1.2**
BDR				S	**Sn**	**16 58 57.1**	**-1.0**
SRKR	**Sorokina**	**5.28**	**21**	*e*P	**Pn**	**16 58 00.6**	**+1.0**
SRKR	**Sorokina**	**5.28**	**21**	PN	**Pn**	**16 58 00.6**	**+1.0**
SMKR	**Semkarok**	**5.29**	**23**	*e*P	**Pn**	**16 58 00.4**	**+0.7**
SMKR	**Semkarok**	**5.29**	**23**	PN	**Pn**	**16 58 00.4**	**+0.7**
KBTR	**Krutoberegovo**	**5.36**	**32**	*e*P	**Pn**	**16 58 02.1**	**+1.6**
KBTR	**Krutoberegovo**	**5.36**	**32**	PN	**Pn**	**16 58 02.1**	**+1.6**
BKI	**Bering**	**6.00**	**52**	*e*P	**Pn**	**16 58 08.4**	**-0.6**
BKI				*e*S	**Sn**	**16 59 09.6**	**-7.0**
BKI	**Bering**	**6.00**	**52**	PN	**Pn**	**16 58 08.4**	**-0.6**
MA2	**Magadan**	**8.74**	**336**	Pn	**Pn**	**16 58 45.1**	**-0.6**
TYV	**Tymovskoe**	**9.49**	**270**	*e*PN	**Pn**	**16 58 57.3**	**+1.7**
TYV				pmax	pmax		
	comp=Z,100nm,3.7s						
TYV				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**10.89**	**250**	*e*PN	**Pn**	**16 59 15.1**	**+0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**10.89**	**250**	Pn	**Pn**	**16 59 14.9**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**11.10**	**230**	PN	**Pn**	**16 59 16.5**	**-0.5**
YUK				*e*S	**Sn**	**17 01 14.1**	**-5.5**
YUK				pmax	pmax		
	comp=N,8.0nm,0.3s						
YUK				pmax	pmax		
	comp=Z,119nm,0.3s						
GRPR	**Tuman**	**11.18**	**230**	*e*PN	**Pn**	**16 59 17.4**	**-0.6**
GLVR	**Golovnino**	**11.49**	**230**	*e*PN	**Pn**	**16 59 20.7**	**-1.4**
SEY	**Seymchan**	**11.54**	**348**	P	**Pn**	**16 59 24.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=156,slow=11,SNR=8.8						
SEY	**Seymchan**	**11.54**	**348**	*i* PN	**Pn**	**16 59 20.6**	**-2.1**
NMR	**Nemuro--Hokkai**	**11.67**	**229**	*e*PN	**Pn**	**16 59 20.1**	**-4.4**
JKA	**Kamikawa-asahi**	**12.70**	**239**		**Pn**	**16 59 39.3**	**+1.5**
ASAJ	**Asahikawa**	**12.70**	**239**	P	**Pn**	**16 59 39.5**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=74,slow=13,SNR=21						
ASAJ	**Asahikawa**	**12.70**	**239**	PN	**Pn**	**16 59 39.3**	**+1.5**
AMKA	**Amchitka**	**13.42**	**83**	Pn	**Pn**	**16 59 46.5**	**-0.4**
JEM	**Erimo**	**13.93**	**231**	P	Pn	16 59 45.1	-8.4
ERM	**Erimo**	**13.93**	**231**	P	**Pn**	**16 59 49.8**	**-3.7**
ERM	**Erimo**	**13.93**	**231**	Pn	**Pn**	**16 59 49.8**	**-3.7**
YAK	**Yakutsk**	**18.28**	**315**	P	**P**	**17 00 43.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=100,slow=0.6,SNR=90						
YAK	**Yakutsk**	**18.28**	**315**	*c i*P	**P**	**17 00 43.4**	**-1.3**
YAK				*e*S	**S**	**17 04 03.4**	**-2.4**
YAK				pmax	pmax		
	comp=Z,66nm,0.8s						
YAK				pmax	pmax		
	comp=N,16nm,1.1s						
YAK				pmax	pmax		
	comp=E,31nm,1.2s						
YAK				smax	smax		
	comp=N,75nm,3.1s						
YAK				smax	smax		
	comp=E,100nm,2.7s						
YAK	**Yakutsk**	**18.28**	**315**	P	**Pn**	**17 00 43.9**	**-2.5**
USA0B	**Ussuriysk Arra**	**18.75**	**256**	P	**Pn**	**17 00 50.6**	**-1.6**
USA0B				pmax	pmax		
	comp=Z,9.0nm,1.4s						
USA0B	**Ussuriysk Arra**	**18.75**	**256**	P	**Pn**	**17 00 50.6**	**-1.6**
USRK	**Ussuriysk Ar.**	**18.75**	**256**	P	**Pn**	**17 00 50.8**	**-1.4**
	baz=93,slow=10,SNR=3.0						
USRK	**Ussuriysk Ar.**	**18.75**	**256**	P	**P**	**17 00 50.2**	**+0.2**
SPIA	**Saint Paul Isl**	**19.25**	**61**	P	**Pn**	**17 00 56.9**	**-1.0**
JSD	**Sado**	**19.38**	**232**	P	**Pn**	**17 00 58.4**	**-1.2**
JSD				IAmb	IAmb	17 01 10.9	
	comp=Z,37nm,1.3s						
VLA	**Vladivostok**	**19.42**	**254**	*i* P	**P**	**17 00 56.6**	**-0.7**
VLA				pmax	pmax		
	comp=Z,13nm,1.1s						
MAJO	**Matsushiro**	**20.59**	**230**	*i* P	**P**	**17 01 10.6**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,20nm,2.1s						
MAJO	**Matsushiro**	**20.59**	**230**	P	**P**	**17 01 11.2**	**+1.2**
MAT	**Matsushiro**	**20.59**	**230**	P	**P**	**17 01 10.8**	**+0.8**
MAT				*e*S	**S**	**17 04 48.0**	**-4.1**
MJAR	**Matsushiro Arr**	**20.59**	**230**	P	**P**	**17 01 11.8**	**+1.8**
	comp=Z,4.8nm,0.9s,baz=25,slow=12,SNR=11						
MJAR	**Matsushiro Arr**	**20.59**	**230**	P	**P**	**17 01 11.7**	**+1.8**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**20.59**	**230**	P	**P**	**17 01 11.7**	**+1.8**
JGF	**Kuroka**	**21.76**	**230**	P	**P**	**17 01 24.0**	**+1.5**
JWT	**Wachi**	**22.96**	**233**	P	**P**	**17 01 36.1**	**+2.0**
JWT				IAmb	IAmb	17 01 38.2	
	comp=Z,37nm,1.4s						
TIXI	**Tiksi**	**23.71**	**338**	P	**P**	**17 01 40.3**	**-0.2**
HIA	**Hailar**	**24.10**	**279**	P	**P**	**17 01 44.3**	**-0.1**
HIA				pmax	pmax		
	comp=Z,15nm,0.8s						
HIA	**Hailar**	**24.10**	**279**	P	**P**	**17 01 44.3**	**-0.1**
HIA				IAmb	IAmb	17 01 46.0	
	comp=Z,15nm,0.8s						
KSRS	**Korea Array**	**25.38**	**247**	P	**P**	**17 01 57.5**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=46,slow=9.2,SNR=10						
CNBA	**Chernabura Isl**	**25.40**	**66**	P	**P**	**17 01 59.6**	**+3.6**
CNBA				IAmb	IAmb	17 02 07.7	
	comp=Z,34nm,1.4s						
BOD	**Bodaibo**	**25.55**	**301**	*e*P	**P**	**17 01 56.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
IMAR	**Indian Mountai**	**27.95**	**41**	P	**P**	**17 02 19.3**	**+0.6**
RSO	**Redoubt South**	**28.30**	**53**	P	**P**	**17 02 25.1**	**+3.0**
COLD	**Coldfoot**	**29.49**	**39**	P	**P**	**17 02 33.0**	**+0.6**
TOLK	**Toolik Lake Re**	**29.88**	**36**	P	**P**	**17 02 36.5**	**+0.7**
TOLK				IAmb	IAmb	17 03 04.9	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	**30.77**	**44**	P	**P**	**17 02 44.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=265,slow=8.2,SNR=5.1						
ILAR				pP	**pP**	**17 03 13.8**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=269,slow=6.4,SNR=2.2						
BMAR	**Burnt Mountain**	**31.67**	**38**	P	**P**	**17 02 52.3**	**+0.7**
ULN	**Ulaanbaatar**	**32.39**	**283**	*ce*P	**P**	**17 02 57.0**	**-1.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
H11N2	**WAKE ISLAND Hy**	**32.78**	**164**	T	T	17 37 22.6	
	baz=350,slow=76,SNR=61						
H11N3	**WAKE ISLAND Hy**	**32.80**	**164**	T	T	17 37 23.9	
	baz=350,slow=76,SNR=64						
H11N1	**WAKE ISLAND Hy**	**32.80**	**164**	T	T	17 37 28.4	
	baz=350,slow=76,SNR=61						
SONM	**Songino Array**	**32.80**	**284**	P	**P**	**17 03 01.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=65,slow=6.8,SNR=3.9						
TLY	**Talaya**	**32.85**	**292**	*i* P	**P**	**17 03 00.3**	**-1.7**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BCAR	**Beaver Creek A**	**33.17**	**46**	P	**P**	**17 03 06.0**	**+1.3**
HHC	**Hu-ho-hao-te**	**33.18**	**269**	*e*P	**P**	**17 03 08.0**	**+2.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,50nm,6.6s						
EGAK	**Eagle**	**33.21**	**43**	P	**P**	**17 03 06.0**	**+1.1**
ZAK	**Zakamensk**	**33.57**	**290**	*e*P	**P**	**17 03 07.2**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**33.95**	**165**	T	T	17 38 50.1	
	baz=349,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**33.96**	**165**	T	T	17 38 40.5	
	baz=349,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**33.96**	**165**	T	T	17 38 45.0	
	baz=349,slow=76,SNR=49						
C36M	**Paulatuk**	**38.95**	**34**	P	**P**	**17 03 54.2**	**+0.6**
LZH	**Lanzhou**	**40.88**	**269**	*e*P	**P**	**17 04 12.3**	**+2.1**
LZH				pP	PP	17 05 32.1	-15
LZH				sP	PcP	17 06 23.8	+16
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	**Gaotai**	**41.31**	**276**	P	**P**	**17 04 14.1**	**+0.5**
GTA				pP	pP	17 04 48.0	+2.1
ENH	**Enshi**	**41.33**	**258**	P	**P**	**17 04 13.7**	**0.0**
ENH				IAmb	IAmb	17 04 15.9	
	comp=Z,9.7nm,0.8s						
ZALV	**Zalesovo Beam**	**42.27**	**303**	P	**P**	**17 04 19.5**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=61,slow=6.6,SNR=4.3						
ZALV				PcP	**PcP**	**17 06 12.6**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=96,slow=3.1,SNR=5.2						
DGZ	**Jazzator, Alta**	**42.95**	**296**	*i* P	**P**	**17 04 26.3**	**-0.5**
DGZ				*i* *PP	**pP**	**17 05 00.9**	**+1.6**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EUNU	**Eureka**	**43.57**	**13**	P	**P**	**17 04 32.5**	**+1.2**
ZSN	**Zaisan**	**45.59**	**295**	*e*P	**P**	**17 04 46.7**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=295						
ZSN	**Zaisan**	**45.59**	**295**	*e*P	**P**	**17 04 46.7**	**-1.0**
ZSN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GYA	**Guiyang**	**45.79**	**257**	*e*P	**P**	**17 04 51.6**	**+2.0**
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ	**Urumqi**	**46.03**	**289**	*e*P	**P**	**17 04 50.0**	**-1.2**
HLK	**Haleakala**	**47.17**	**113**	P	**P**	**17 05 00.7**	**+0.1**
KURK	**Kurchatov**	**47.20**	**302**	*ce*P	**P**	**17 04 58.9**	**-1.2**
KURK				pmax	pmax		
	comp=Z,12nm,0.7s						
KURK	**Kurchatov**	**47.20**	**302**	P	**P**	**17 04 58.7**	**-1.4**
KURK				IAmb	IAmb	17 04 59.8	
	comp=Z,15nm,0.8s						
MK31	**Makanchi Array**	**47.42**	**295**	P	**P**	**17 05 00.8**	**-1.1**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MK31	**Makanchi Array**	**47.42**	**295**	P	**P**	**17 05 00.8**	**-1.1**
MK31				IAmb	IAmb	17 05 01.7	
	comp=Z,6.2nm,0.6s						
MKAR	**Makanchi Array**	**47.42**	**295**	P	**P**	**17 05 01.5**	**-0.4**
	comp=Z,5.5nm,0.5s,baz=57,slow=7.1,SNR=73						
MKAR	**Makanchi Array**	**47.42**	**295**	P	**P**	**17 05 00.8**	**-1.1**
MAKZ	**Makanchi**	**47.58**	**296**	P	**P**	**17 05 01.7**	**-1.5**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MAKZ	**Makanchi**	**47.58**	**296**	P	**P**	**17 05 01.7**	**-1.5**
MAKZ				IAmb	IAmb	17 05 02.9	
	comp=Z,5.6nm,0.6s						
SPA0	**Spitsbergen Ar**	**48.19**	**350**	P	**P**	**17 05 07.6**	**+0.2**
BRVK	**Borovoye**	**50.10**	**308**	*ce*P	**P**	**17 05 20.9**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BRVK	**Borovoye**	**50.10**	**308**	P	**P**	**17 05 21.1**	**-1.1**
BRVK				IAmb	IAmb	17 05 22.0	
	comp=Z,7.1nm,0.5s						
TDK	**Taldyqorghan**	**50.66**	**296**	*e*P	**P**	**17 05 25.7**	**-0.9**
	comp=Z,5.2nm,0.7s,baz=295						
TDK	**Taldyqorghan**	**50.66**	**296**	*e*P	**P**	**17 05 25.6**	**-0.9**
TDK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SHLS	**Shalkode**	**51.21**	**293**	*e*P	**P**	**17 05 27.9**	**-2.9**
	comp=Z,2.3nm,0.6s,baz=293						
SHLS	**Shalkode**	**51.21**	**293**	*e*P	**P**	**17 05 27.9**	**-2.9**
SHLS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SLVN	**Son La**	**51.30**	**255**	P	**P**	**17 05 33.6**	**+2.0**
SLVN				IAmb	IAmb	17 05 34.6	
	comp=Z,5.3nm,0.7s						
KPKS	**Kokpek**	**51.46**	**294**	*e*P	**P**	**17 05 31.7**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=294						
KPKS	**Kokpek**	**51.46**	**294**	*e*P	**P**	**17 05 31.7**	**-0.9**
KPKS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
UZB	**Uzynbulak**	**51.47**	**293**	*e*P	**P**	**17 05 31.6**	**-1.1**
	baz=293						
UZB	**Uzynbulak**	**51.47**	**293**	*e*P	**P**	**17 05 31.6**	**-1.1**
SATY	**Saty**	**51.87**	**294**	*e*P	**P**	**17 05 35.0**	**-0.7**
	baz=294						
SATY	**Saty**	**51.87**	**294**	*e*P	**P**	**17 05 35.0**	**-0.7**
MDOK	**Medeo**	**52.58**	**295**	*e*P	**P**	**17 05 40.1**	**-0.9**
	baz=294						
MDOK	**Medeo**	**52.58**	**295**	*e*P	**P**	**17 05 40.0**	**-0.9**
AAA	**Alma-Ata**	**52.62**	**295**	*e*P	**P**	**17 05 40.6**	**-0.7**
	baz=294						
AAA	**Alma-Ata**	**52.62**	**295**	*e*P	**P**	**17 05 40.5**	**-0.7**
KDJ	**Kajisay**	**53.16**	**294**	P	**P**	**17 05 44.8**	**-0.5**
KDJ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KDJ	**Kajisay**	**53.16**	**294**	P	**P**	**17 05 44.8**	**-0.

comp=Z,12nm,0.5s
NC303 NORSAR Array S 64.18 343 P **P** **17 07 00.6 -0.3**
NC303 IAmb IAmb 17 07 24.4
comp=Z,16nm,1.2s
NC405 NORSAR Array S 64.22 342 P **P** **17 07 00.7 -0.5**
NC204 NORSAR Array S 64.25 343 P **P** **17 07 00.9 -0.5**
NB201 NORSAR Array S 64.36 343 P **P** **17 07 01.6 -0.5**
NB2 NORSAR Subarra 64.38 343 P **P** **17 07 02.0 -0.3**
comp=Z,9nm,0.4s,baz=24,slow=6.9
NOA NORSAR Array B 64.38 343 P **P** **17 07 02.1 -0.1**
comp=Z,5.5nm,0.7s,baz=22,slow=6.7,SNR=22
NBO00 NORSAR Array S 64.47 343 P **P** **17 07 02.6 -0.2**
NC602 NORSAR Array S 64.61 342 P **P** **17 07 03.5 -0.1**
NAO01 NORSAR Array S 64.62 343 P **P** **17 07 03.7 -0.1**
GEYT Alibeck 66.57 302 P **P** **17 07 16.9 +0.2**
comp=Z,1.7nm,0.6s,baz=76,slow=6.3,SNR=4.2
GEYT Alibeck 66.57 302 P **P** **17 07 16.2 -0.5**
SCHQ Schefferville 67.48 26 P **P** **17 07 22.6 +0.4**
comp=Z,2.1nm,0.5s,baz=350,slow=12,SNR=3.1
SCHQ Schefferville 67.48 26 IAmb IAmb 17 07 25.4
comp=Z,1.9nm,1.2s
H43A Windswept, Lux 68.74 44 P **P** **17 07 31.2 +1.0**
AKASG Malin Array Be 68.97 328 P **P** **17 07 30.2 -1.2**
comp=Z,1.7nm,0.5s,baz=32,slow=6.0,SNR=5.4
AKASG Malin Array Be 68.97 328 P **P** **17 07 31.1 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 68.97 328 P **P** **17 07 31.1 -0.4**
ESK Eskdalemuir 72.10 349 P **P** **17 07 50.5 +0.2**
ESK pmax pmax
comp=Z,28nm,1.5s
ESK Eskdalemuir 72.10 349 P **P** **17 07 50.5 +0.2**
ESK IAmb IAmb 17 07 57.8
comp=Z,28nm,1.4s
OJC Ojcow 72.28 333 P **P** **17 07 51.7 +0.1**
OJC pmax pmax
comp=Z,6.0nm,0.6s
OJC Ojcow 72.28 333 P **P** **17 07 51.7 +0.1**
OJC IAmb IAmb 17 07 52.5
comp=Z,6.0nm,0.6s
TXAR Lajitas Array 72.50 65 P **P** **17 07 55.0 +1.7**
comp=Z,0.6nm,0.6s,baz=308,slow=4.3,SNR=6.1
TXAR pP **pP** **17 08 28.0 -0.9**
comp=Z,0.6nm,0.5s,baz=305,slow=4.7,SNR=4.3
TXAR Lajitas Array 72.50 65 P **P** **17 07 55.0 +1.7**
TXAR *PP **pP** **17 08 28.0 -0.9**
TXAR Lajitas Array 72.50 65 P **P** **17 07 54.8 +1.5**
TXAR **pP** **17 08 27.6 -1.2**
KOLS Kolonicke sedl 72.72 331 *e*P **P** **17 07 53.4 -0.7**
KOLS Kolonicke sedl 72.72 331 *e*P **P** **17 07 53.4 -0.7**
ASSE Asse, Remlinge 72.81 339 *e*P **P** **17 07 54.5 0.0**
comp=Z,8.0nm,0.5s,baz=20,slow=5.8
ORIO Orleans, Innes 72.85 36 P **P** **17 07 54.6 -0.3**
BUR08 Bucovina Ar. S 72.94 329 P **P** **17 07 55.1 -0.5**
BURAR Bucovina Array 72.96 329 P **P** **17 07 55.2 -0.5**
CLL Collm 73.04 338 *i* P **P** **17 07 55.8 -0.2**
comp=Z,11nm,0.8s
CLL *e*pP **pP** **17 08 34.0 +2.2**
CLL Collm 73.04 338 *i* P **P** **17 07 55.8 -0.2**
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 73.04 338 *e*P **P** **17 07 56.1 +0.1**
comp=Z,11nm,0.8s,baz=20,slow=5.8
CLL Collm 73.04 338 P **P** **17 07 55.7 -0.3**
CLL IAmb IAmb 17 07 56.7
comp=Z,9.4nm,0.7s
DPC Dobruska-Polom 73.11 335 *e*P **P** **17 07 57.0 +0.6**
DPC Dobruska-Polom 73.11 335 *e*P **P** **17 07 57.0 +0.6**
CLZ Clausthal 73.14 340 *e*P **P** **17 07 57.7 +1.0**
comp=Z,14nm,1.0s,baz=20,slow=5.8
BRG Berggiesshubel 73.22 337 *e*P **P** **17 07 57.2 +0.2**
comp=Z,3.7nm,0.8s,baz=20,slow=5.8
KRLC Kraliky 73.24 335 *e*P **P** **17 07 57.8 +0.6**
KRLC Kraliky 73.24 335 *e*P **P** **17 07 57.8 +0.6**
MORC Moravsky Berou 73.31 334 *e*P **P** **17 07 57.9 +0.3**
MORC Moravsky Berou 73.31 334 P **P** **17 07 58.0 +0.3**
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 73.31 334 P **P** **17 07 58.0 +0.3**
MORC IAmb IAmb 17 07 58.9
comp=Z,6.0nm,0.8s
FBE Freiberg 73.32 337 *e*P **P** **17 07 58.2 +0.6**
comp=Z,5.7nm,1.1s,baz=20,slow=5.8
LANS Liptovska Anna 73.34 333 *e*P **P** **17 07 59.2 +1.3**
LANS Liptovska Anna 73.34 333 *e*P **P** **17 07 59.2 +1.3**
PRU Pruhonice 73.89 336 *e*P **P** **17 08 01.5 +0.5**
PRU Pruhonice 73.89 336 *e*P **P** **17 08 01.5 +0.5**
GOPC GO Pecny, Ondr 73.90 336 *e*P **P** **17 08 01.9 +0.8**
GOPC GO Pecny, Ondr 73.90 336 *e*P **P** **17 08 01.9 +0.8**
MOX Moxa 73.98 338 *e*P **P** **17 08 02.1 +0.6**
comp=Z,5.8nm,0.7s,baz=20,slow=5.8
VRAC Vranov 73.99 335 *e*P **P** **17 08 02.1 +0.5**
TANN Tannenbergstha 74.00 338 *e*P **P** **17 08 02.2 +0.5**
comp=Z,7.8nm,0.9s,baz=20,slow=5.8
PLN Plauen 74.01 338 *e*P **P** **17 08 02.3 +0.7**
comp=Z,7.9nm,0.9s,baz=20,slow=5.8
GUNZ Gunzen 74.08 338 *e*P **P** **17 08 02.8 +0.7**
comp=Z,5.4nm,0.8s,baz=20,slow=5.8
JAVC Velka Javorina 74.11 334 *e*P **P** **17 08 03.4 +1.1**
VYHS Vyhne 74.11 333 *e*P **P** **17 08 03.1 +0.7**
VYHS Vyhne 74.11 333 *e*P **P** **17 08 03.0 +0.7**
MOQ Mont Orford 74.14 34 P **P** **17 08 02.5 -0.1**
WERN Wernitzgruen 74.14 338 *e*P **P** **17 08 03.2 +0.8**
comp=Z,6.4nm,0.8s,baz=20,slow=5.8
BUG Bochum--Univer 74.17 341 *e*P **P** **17 08 03.2 +0.7**
comp=Z,21nm,1.1s,baz=20,slow=5.8
KRUC Moravsky 74.27 335 *e*P **P** **17 08 03.6 +0.4**
WRA Warramunga Arr 74.29 203 P **P** **17 08 05.1 +1.5**
comp=Z,2.1nm,0.8s,baz=16,slow=6.0,SNR=17
WRA Warramunga Arr 74.29 203 P **P** **17 08 04.6 +1.0**
WRA Warramunga Arr 74.29 203 P **P** **17 08 04.6 +1.0**
PBCC Pribram 74.31 336 *e*P **P** **17 08 04.1 +0.7**
PSZ Piszkesteto 74.33 332 P **P** **17 08 04.5 +0.8**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 74.33 332 P **P** **17 08 04.5 +0.8**
MANZ Manzenberg 74.48 338 *e*P **P** **17 08 05.1 +0.6**
comp=Z,7.0nm,1.3s,baz=20,slow=5.8
ROTZ Rotzenmuhle 74.67 338 *e*P **P** **17 08 06.3 +0.9**
comp=Z,6.0nm,1.0s,baz=20,slow=5.8
KHC Kasperske Hory 74.92 337 *e*P **P** **17 08 07.6 +0.6**
KHC Kasperske Hory 74.92 337 *ce*P **P** **17 08 07.2 +0.1**
KHC pmax pmax
comp=Z,31nm,1.3s
KHC Kasperske Hory 74.92 337 P **P** **17 08 07.1 +0.1**
GRA1 Grafenberg Arr 74.97 338 P **P** **17 08 07.8 +0.7**
GRA1 IAmb IAmb 17 08 08.8
comp=Z,12nm,0.8s
GRF Grafenberg Arr 74.97 338 P **P** **17 08 07.9 +0.7**
GRF pmax pmax
comp=Z,13nm,0.8s
GRF Grafenberg Arr 74.97 338 *e*P **P** **17 08 08.3 +1.1**
comp=Z,16nm,0.9s,baz=20,slow=5.8
FITZ Fitzroy Crossi 75.01 212 P **P** **17 08 09.0 +1.4**
comp=Z,1.6nm,0.7s,baz=0.0,slow=2.0,SNR=6.2
FITZ Fitzroy Crossi 75.01 212 IAmb IAmb 17 08 35.3
comp=Z,12nm,1.4s
WET Wettzell 75.08 337 *e*P **P** **17 08 09.0 +1.0**
comp=Z,9.6nm,0.8s,baz=20,slow=5.8
GEC2 GERESS Array S 75.16 336 *e*P **P** **17 08 08.9 +0.5**
comp=Z,5.3nm,0.6s,baz=20,slow=5.8
GEC2 GERESS Array S 75.16 336 P **P** **17 08 08.4 0.0**
GEC2 IAmb IAmb 17 08 09.4
comp=Z,5.3nm,0.6s
GERES GERESS Array B 75.16 336 P **P** **17 08 09.0 +0.5**
comp=Z,4.9nm,0.7s,baz=29,slow=5.3,SNR=27
GERES GERESS Array B 75.16 336 P **P** **17 08 08.2 -0.2**
CONA Conrad Observa 75.45 335 *i* P **P** **17 08 10.9 +0.8**
comp=Z,8.7nm,1.3s
MOA Molln 75.94 336 *i* P **P** **17 08 13.5 +0.7**
comp=Z,3.5nm,0.6s
WLF Walferdange 76.08 341 *e*P **P** **17 08 13.1 -0.5**
comp=Z,63nm,1.9s,baz=20,slow=5.8
ARSA Arzberg 76.16 335 *e*P **P** **17 08 14.7 +0.6**
comp=Z,3.2nm,0.6s
BRTR Keskin Array B 76.69 319 P **P** **17 08 17.8 +0.5**
comp=Z,0.7nm,0.7s,baz=20,slow=3.9,SNR=4.6
SOKA Soboth 76.82 335 *i* P **P** **17 08 18.5 +0.6**
comp=Z,4.3nm,0.7s
KBA Koelnbreinsper 76.89 336 *e*P **P** **17 08 19.4 +1.0**
comp=Z,26nm,0.7s,SNR=5.8
BFO Black Forest 76.89 340 P **P** **17 08 18.3 +0.1**
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO Black Forest 76.89 340 *e*P **P** **17 08 18.8 +0.6**
comp=Z,7.1nm,0.9s,baz=20,slow=5.8
BFO Black Forest 76.89 340 P **P** **17 08 18.3 +0.1**
BFO IAmb IAmb 17 08 19.3
comp=Z,5.8nm,0.8s
WATA Walderalm 77.09 337 *e*P **P** **17 08 20.1 +0.7**
comp=Z,7.9nm,0.5s
UBR Ueberruh 77.11 338 *e*P **P** **17 08 20.1 +0.6**
comp=Z,15nm,1.3s,baz=20,slow=5.8
RETA Reutte 77.14 338 *e*P **P** **17 08 20.3 +0.7**
comp=Z,7.0nm,0.9s
MOTA Moosalm 77.19 337 *e*P **P** **17 08 20.6 +0.6**
comp=Z,19nm,1.2s,SNR=5.4
ECH Echery 77.25 340 P **P** **17 08 20.1 -0.1**
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 77.25 340 P **P** **17 08 20.1 -0.1**
ECH IAmb IAmb 17 08 21.4
comp=Z,6.5nm,0.9s
SQTA Sankt Quirin 77.28 337 *e*P **P** **17 08 21.2 +0.7**
comp=Z,12nm,0.8s
ABTA Abfaltersbach 77.41 336 *i* P **P** **17 08 21.5 +0.4**
comp=Z,11nm,0.8s
PRED Cave del Predi 77.42 335 P **P** **17 08 20.9 -0.4**
PRED IAmb IAmb 17 08 22.0
comp=Z,8.6nm,0.8s
DAVA Damuels 77.53 338 *e*P **P** **17 08 22.6 +0.7**
comp=Z,11nm,0.8s
FETA Feichten 77.58 338 *i* P **P** **17 08 23.0 +0.8**
comp=Z,7.2nm,0.7s
DIVS Divibare 77.75 330 P **P** **17 08 22.8 -0.4**
AS31 Alice Springs 77.98 202 P **P** **17 08 26.1 +1.8**
ASAR Alice Springs 77.98 202 P **P** **17 08 26.7 +2.4**
comp=Z,1.8nm,0.6s,baz=14,slow=5.0,SNR=73
ASAR Alice Springs 77.98 202 P **P** **17 08 26.2 +1.9**
ASAR Alice Springs 77.98 202 P **P** **17 08 26.2 +1.9**
FUORN Ofenpass-Fuorn 78.07 338 P **P** **17 08 25.7 +0.7**
FUORN IAmb IAmb 17 08 26.9
comp=Z,8.0nm,0.7s
CTI Castel Tesino 78.27 337 P **P** **17 08 25.5 -0.5**
CTI pmax pmax
comp=Z,7.0nm,0.8s
CTI Castel Tesino 78.27 337 P **P** **17 08 25.5 -0.5**
CTI IAmb IAmb 17 08 26.6
comp=Z,6.8nm,0.8s
TUE Stuetta 78.42 338 P **P** **17 08 27.3 +0.4**
TEOL Teolo 78.91 336 P **P** **17 08 29.9 +0.6**
BNI Bardonecchia 80.36 340 P **P** **17 08 38.4 +1.0**
BNI pmax pmax
comp=Z,7.0nm,1.1s
BNI Bardonecchia 80.36 340 P **P** **17 08 38.4 +1.0**
SSB Saint Sauveur 80.59 341 P **P** **17 08 39.3 +0.9**
SSB pmax pmax
comp=Z,10.0nm,1.2s
SSB Saint Sauveur 80.59 341 P **P** **17 08 39.3 +0.9**
SSB IAmb IAmb 17 08 40.3
comp=Z,10nm,1.2s
MURB Monte Urbino 80.65 335 P **P** **17 08 39.5 +0.7**
NRCA Norcia 80.90 334 P **P** **17 08 40.6 +0.5**
INTR Introdacqua 81.44 334 P **P** **17 08 42.6 -0.5**
INTR IAmb IAmb 17 08 44.3
comp=Z,12nm,1.0s
SCTE Santa Cesarea 81.88 330 P **P** **17 08 44.9 -0.4**
TIP Timpagrande 83.23 330 P **P** **17 08 52.3 -0.1**
TIP IAmb IAmb 17 08 54.1
comp=Z,11nm,1.1s
STKA Stephens Creek 84.50 194 P **P** **17 09 01.2 +2.7**
comp=Z,2.0nm,0.9s,baz=71,slow=9.5,SNR=3.0
STKA Stephens Creek 84.50 194 P **P** **17 09 01.1 +2.7**
STKA pmax pmax
comp=Z,1.0nm,1.1s
STKA Stephens Creek 84.50 194 P **P** **17 09 01.1 +2.7**
ESDC Sonseca Array 87.53 346 P **P** **17 09 13.8 +0.1**
comp=Z,1.9nm,1.0s,baz=2.6,slow=4.4,SNR=6.0
H03N2 Juan Fernandez 135.67 88 T T 19 46 36.3
baz=315,slow=77,SNR=54
H03N1 Juan Fernandez 135.68 88 T T 19 46 33.8
baz=315,slow=77,SNR=59
H03N3 Juan Fernandez 135.68 88 T T 19 46 42.9
baz=315,slow=77,SNR=58

TEH ***22*** *17:00:15.3, 32.°68N×47.°67E, h10km, ML2.8*
ISN ***22*** *17:00:17.1±0.4, 32.°70N×47.°65E, h28km±3km, ML2.7*
ISC 22 17:00:16.3±1.9, 32.°69N±0.°08×47.°64E±0.°05, h11km±16km, n10, σ1§09/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**12**	*e*Pg	**Pb**	**17 00 31.9**	**-1.2**
IKFM				*e*		17 00 52.4	
IKMR	**Kamar-syah**	**1.04**	**37**	*e*Pg	**Pg**	**17 00 36.2**	**0.0**
IKMR				*e*		17 00 54.7	
IDOB	**Doab**	**1.19**	**22**	*e*Pg	**Pb**	**17 00 38.1**	**-0.8**
IDOB				*e*Sg	**Sg**	**17 00 55.9**	**+1.3**
IDOB				*e*		17 01 00.4	
BMDN	**Meydan**	**1.40**	**45**	*e*Pg	**Pb**	**17 00 41.8**	**-0.7**
BMDN				*e*		17 01 12.4	
IBDR	**Badra**	**1.50**	**287**	*e*Pg	**Pb**	**17 00 44.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**17 01 04.0**	**-0.5**
IBDR				AML	AML	17 01 08.0	
	comp=E,91nm,0.6s						
IBDR				AML	AML	17 01 11.4	
	comp=N,65nm,0.6s						
HSAM	**Samen**	**1.72**	**28**	*e*Pg	**Pb**	**17 00 47.5**	**-0.5**
HSAM				*e*Sg	**Sg**	**17 01 13.1**	**+1.4**
HSAM				*e*		17 01 21.2	
IGHG	**Ghaleghazi**	**1.87**	**332**	*e*Pg	**Pg**	**17 00 51.4**	**-0.7**
IGHG				*e*		17 01 34.2	
NSR	**Nassriya**	**2.10**	**218**	*e*Pn	**Pn**	**17 00 52.0**	**+0.7**
NSR				*e*Sn	**Sn**	**17 01 17.0**	**-0.5**
NSR				AML	AML	17 01 21.8	
	comp=E,217nm,0.3s						
HAGD	**Aghdareh**	**2.47**	**30**	*e*Pg	**Pb**	**17 00 58.8**	**-2.0**
HAGD				*e*		17 01 38.6	
BHD	**Baghdad**	**2.80**	**283**	*e*Pn	**Pn**	**17 01 02.0**	**+1.1**
BHD				*e*Sn	**Sn**	**17 01 35.0**	**+0.3**

TAP 22 17:44:52.8, 24.°24N×121.°69E, h10km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.11**	**232**	*i* P	Pb	17 44 56.3	-0.7
NACB	baz=231			*i* S	Sg	17 44 58.6	+1.1
ETLH	**Xiulin Townshi**	**0.19**	**260**	P	Pb	17 44 57.8	-0.7
ETLH	baz=259			S	Sg	17 45 01.2	+1.5
ENA	**Nanau**	**0.19**	**15**	P	Pg	17 44 57.6	+0.7
ENA	baz=16			*e*S	Sg	17 45 00.9	+1.2
ENAH	**Nanao**	**0.24**	**28**	*e*P	Pb	17 44 58.5	-0.8
NNSB	baz=28 **Datong**	**0.34**	**304**	*e*P	Pb	17 45 00.5	-0.5
NNSB	baz=303			*e*S	Sb	17 45 06.0	-0.4
NNSH	**Datong**	**0.34**	**304**	*e*P	Pb	17 45 00.6	-0.4
NNSH	baz=303			*e*S	Sb	17 45 06.0	-0.5
NNS	**Nan Shan**	**0.35**	**305**	*e*P	Pb	17 45 00.9	-0.3
NNS	baz=305			*e*S	Sb	17 45 06.6	-0.3
NDT	**Datong Townshi**	**0.39**	**336**	*e*P	Pb	17 45 02.0	+0.1
NDT	baz=336			*e*S	Sb	17 45 08.1	+0.1
WHF	**Hehuan Shan**	**0.40**	**256**	*e*P	Pb	17 45 01.7	-0.5
WHF	baz=255			*e*S	Sb	17 45 07.7	-0.8
FUSS	**Fushou**	**0.41**	**271**	*e*P	Pb	17 45 02.0	-0.3
FUSS	baz=270			*e*S	Sb	17 45 08.2	-0.4
ENTT	**Nioudou**	**0.41**	**344**	*e*P	Pb	17 45 02.2	-0.1
ENTT	baz=345			*e*S	Sb	17 45 08.4	-0.1
TWT	**Tachien**	**0.47**	**272**	*e*S	Sb	17 45 11.0	+0.7
	baz=271						
TDCB	**Techi**	**0.48**	**272**	*e*P	Pb	17 45 03.8	+0.3
TDCB	baz=271			*e*S	Sb	17 45 10.5	-0.3
CHGB	**Renai**	**0.50**	**249**	*e*P	Pg	17 45 02.9	+0.2
CHGB	baz=249			*e*S	Sb	17 45 10.8	-0.5
YHNB	**Yeheng**	**0.51**	**326**	*e*P	Pb	17 45 03.8	-0.2
YHNB	baz=326			*e*S	Sb	17 45 11.3	-0.2
NSK	**Sanguang**	**0.53**	**325**	*e*S	Sb	17 45 12.1	+0.2
NWLT	**Wulai**	**0.56**	**342**	*e*P	Pb	17 45 04.6	-0.2
VWDT	**VWDT**	**0.70**	**226**	*e*S	Sb	17 45 17.7	+1.0
	baz=225						

TAP 22 17:45:04.1, 24.°26N×121.°69E, h6km±1km, ML1.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.12**	**224**	P	Pg	17 45 07.4	+0.8
NACB	baz=224			S	Sg	17 45 09.9	+1.5
ENA	**Nanau**	**0.17**	**17**	P	Pg	17 45 08.7	+1.1
ENA	baz=19			*e*S	Sg	17 45 11.4	+1.3
ETLH	**Xiulin Townshi**	**0.19**	**254**	S	Sg	17 45 12.5	+1.8
ENAH	baz=254 **Nanao**	**0.22**	**31**	*e*S	Sg	17 45 13.0	+1.6
NNSB	baz=31 **Datong**	**0.32**	**301**	*e*S	Sb	17 45 17.2	-0.7
NNSH	baz=301 **Datong**	**0.32**	**301**	*e*S	Sb	17 45 17.2	-0.7
NNS	baz=301 **Nan Shan**	**0.34**	**302**	*e*S	Sb	17 45 17.7	-0.5
NDT	baz=302 **Datong Townshi**	**0.38**	**335**	*e*S	Sb	17 45 19.3	0.0
ENTT	baz=335 **Nioudou**	**0.39**	**344**	*e*S	Sb	17 45 19.5	-0.3
WHF	baz=344 **Hehuan Shan**	**0.40**	**254**	*e*P	Pg	17 45 12.8	+0.8
WHF	baz=252			*e*S	Sb	17 45 19.1	-1.2
FUSS	baz=252 **Fushou**	**0.40**	**268**	*e*S	Sb	17 45 19.4	-0.9
TDCB	baz=268 **Techi**	**0.48**	**269**	*e*S	Sb	17 45 21.9	-0.6
YHNB	baz=269 **Yeheng**	**0.50**	**325**	*e*S	Sb	17 45 22.9	+0.1
NSK	baz=325 **Sanguang**	**0.51**	**324**	*e*S	Sb	17 45 22.9	-0.3
WHP	baz=324 **Taichung City**	**0.68**	**272**	*e*S	Pg	17 45 17.1	0.0
WHP	baz=273 **Taichung City**	**0.68**	**272**	*e*P	Pg	17 45 17.1	0.0
WHP	baz=271			*e*S	Sb	17 45 28.2	+0.3
VWDT	baz=271 **VWDT**	**0.71**	**225**	*e*P	Pb	17 45 19.0	+0.2
	baz=224						

IDC ***22*** *18:18:11.2±4.7, 37.°03N×70.°94E, h83km±32km, mb3.4/3, mb1 3.6/9, mb1mx3.2/46, mbtmp3.9/9, MS3.1/2, Ms1 3.1/2, ms1mx2.4/39, Error ellipse: s-maj=54.1km s-min=18.3km az=150.0*
NNC ***22*** *18:18:17.5±3.7, 37.°31N×70.°53E, h149km±42km, mb3.1, mpv4.2, Error ellipse: s-maj=32.9km s-min=16.8km az=155.0*
ISC 22 18:18:14.0±1.3, 37.°2N±0.°1×70.°77E±0.°08, h88km, n31, σ1§94/36, mb3.4/4, 9C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.39**	**24**	P	**Pn**	**18 19 33.0**	**+0.8**
	SNR=46						
UCH	**Uchtor**	**5.77**	**29**	P	**Pn**	**18 19 37.5**	**+0.1**
	SNR=24						
KK31	**Karatay Array**	**5.87**	**358**	⇑P	**Pn**	**18 19 41.0**	**+2.6**
	11nm,0.5s,baz=177,slow=13,SNR=131						
KK31				⇑S	**Sn**	**18 20 47.1**	**+2.8**
	2.8nm,0.3s,baz=183,slow=22,SNR=5.5						
EKS2	**Erkin-Say**	**5.90**	**22**	P	**Pn**	**18 19 40.4**	**+1.5**
	SNR=74						
AAK	**Ala-Archa**	**6.12**	**27**	P	**Pn**	**18 19 42.6**	**+0.7**
	19nm,0.3s,baz=190,slow=6.2,SNR=185						
AAK				S	**Sn**	**18 20 51.0**	**+0.5**
	1.2nm,0.3s,baz=330,slow=19,SNR=9.4						
AAK	**Ala-Archa**	**6.12**	**27**	P	**Pn**	**18 19 42.6**	**+0.7**
	SNR=76						
KBK	**Karagaybulak**	**6.30**	**29**	P	**Pn**	**18 19 45.0**	**+0.6**
	SNR=13						
CHMS	**Chumysh**	**6.52**	**27**	P	**Pn**	**18 19 47.8**	**+0.5**
	SNR=39						
ULHL	**Ulahol**	**6.55**	**38**	P	**Pn**	**18 19 47.1**	**-0.7**
	SNR=8.1						
USP	**Ospenovka**	**6.67**	**24**	P	**Pn**	**18 19 49.5**	**+0.2**
	SNR=45						
TKM2	**Tokmak 2**	**6.79**	**32**	P	**Pn**	**18 19 50.9**	**-0.1**
	SNR=48						
GEYT	**Alibeck**	**10.07**	**278**	P	**Pn**	**18 20 35.1**	**-0.5**
	1.6nm,0.3s,baz=100,slow=9.9,SNR=16						
GEYT				S	**Sn**	**18 22 27.0**	**+0.3**
	1.2nm,0.3s,baz=89,slow=14,SNR=2.5						
GYA0B	**ALIBECK ARRAY**	**10.07**	**278**	⇑P	**Pn**	**18 20 34.1**	**-1.5**
GYA0B				⇑S	**Sn**	**18 22 26.8**	**+0.1**
MAKZ	**Makanchi**	**12.68**	**37**	⇑P	**Pn**	**18 21 14.5**	**+3.7**
	1.3nm,0.8s						
MK31	**Makanchi Array**	**12.82**	**38**	⇑P	**Pn**	**18 21 15.2**	**+2.4**
	0.8nm,0.6s,baz=221,slow=13,SNR=9.8						
MKAR	**Makanchi Array**	**12.82**	**38**	P	**Pn**	**18 21 09.5**	**-3.3**
	0.2nm,0.3s,baz=224,slow=14,SNR=11						
AB31	**Akbulak array**	**14.36**	**330**	⇑P	**Pn**	**18 21 33.0**	**+0.1**
	0.3nm,0.3s,baz=137,slow=14,SNR=25						
AB31				⇓S	**Sn**	**18 24 06.8**	**-3.9**
	0.6nm,0.3s,baz=153,slow=24,SNR=6.2						
KURBB	**Kurchatov Arra**	**14.50**	**20**	P	**Pn**	**18 21 31.4**	**-3.3**
	0.1nm,0.3s,baz=209,slow=10,SNR=5.1						
KURBB	**Kurchatov Arra**	**14.50**	**20**	⇑P	**Pn**	**18 21 35.7**	**+1.1**
	2.2nm,0.6s						
KURK	**Kurchatov**	**14.61**	**20**	⇓P	**Pn**	**18 21 36.8**	**+0.8**
	4.3nm,1.2s						
BVAR	**Borovoye Array**	**15.80**	**359**	P	**Pn**	**18 21 50.6**	**-0.6**
	0.4nm,0.3s,baz=165,slow=18,SNR=8.3						
AKTO	**Aktyubinsk**	**16.06**	**329**	P	**Pn**	**18 21 55.9**	**+1.5**
	0.8nm,0.3s,baz=137,slow=9.6,SNR=8.2						
AKTO				S	**Sn**	**18 24 47.6**	**-4.2**
	0.1nm,0.3s,baz=91,slow=8.5,SNR=1.6						
AKTO	**Aktyubinsk**	**16.06**	**329**	⇓P	**P**	**18 21 57.2**	**+1.0**
	2.2nm,0.6s						
AKTO				⇑S	**Sn**	**18 24 52.0**	**+0.1**
	2.3nm,0.8s						
ZAA0	**Zalesovo Array**	**19.34**	**26**	P	**P**	**18 22 29.7**	**-2.4**
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**19.34**	**26**	P	**P**	**18 22 30.2**	**-1.9**
	1.2nm,0.3s,baz=215,slow=10.0,SNR=15						
KIRV	**Kirov**	**25.51**	**334**	LR	LR	18 33 52.5	
	comp=Z,25nm,18.8s,baz=289,slow=36						
ASF	**Jabal al Asfar**	**28.21**	**270**	LR	LR	18 36 00.5	
	comp=Z,65nm,20.5s,baz=44,slow=38						
BRTR	**Keskin Array B**	**29.04**	**286**	P	**P**	**18 24 08.7**	**+2.8**
	0.5nm,0.6s,baz=94,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**36.78**	**326**	P	**P**	**18 25 13.7**	**+0.9**
	3.6nm,0.9s,baz=116,slow=19,SNR=2.0						
NOA	**NORSAR Array B**	**43.69**	**323**	P	**P**	**18 26 08.5**	**-1.4**
	0.2nm,0.5s,baz=110,slow=7.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**65.55**	**268**	P	**P**	**18 28 47.4**	**-1.1**
	0.4nm,0.6s,baz=31,slow=6.6,SNR=2.0						

NEIC ***22*** *18:32:16.7±1.8, 15.°1S±0.°1×167.°3E±0.°2, h117km±6km, mb4.4/11, Error ellipse: s-maj=28.5km s-min=16.3km az=114.0*
IDC ***22*** *18:32:17.9±4.4, 15.°10S×167.°31E, h125km±37km, mb3.9/10, mb1 4.1/11, mb1mx3.7/42, mbtmp4.3/11, Error ellipse: s-maj=29.3km s-min=21.8km az=50.0*
ISC 22 18:32:17.8±0.9, 15.°10S±0.°09×167.°4E±0.°2, h129km, n28, σ1§24/29, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.41**	**212**		**Pn**	**18 32 33.7**	**-2.6**
DZM	**Mont Dzumac**	**7.00**	**188**	P	**Pn**	**18 33 57.4**	**-0.5**
	5.8nm,0.3s,baz=8.8,slow=13,SNR=25						
DZM				S	**Sn**	**18 35 16.5**	**+0.3**
	8.3nm,0.3s,baz=114,slow=23,SNR=12						
DZM	**Mont Dzumac**	**7.00**	**188**		**Pn**	**18 33 57.5**	**-0.4**
CTA	**Charters Tower**	**20.78**	**253**	P	**P**	**18 36 51.4**	**+2.6**
	4.0nm,0.7s,baz=86,slow=12,SNR=7.5						
STKA	**Stephens Creek**	**28.88**	**230**	P	**P**	**18 38 05.5**	**+1.1**
	9.3nm,0.5s,baz=45,slow=8.2,SNR=41						
STKA	**Stephens Creek**	**28.88**	**230**	P	**P**	**18 38 05.2**	**+0.8**
WR0	**Warramunga Arr**	**31.70**	**256**	P	**P**	**18 38 28.2**	**-1.3**
WR0				IAmb	IAmb	18 38 48.8	
	comp=Z,9.6nm,1.4s						
WB0	**Warramunga Arr**	**31.83**	**257**	P	**P**	**18 38 29.0**	**-1.6**
WB0				IAmb	IAmb	18 38 29.9	
	comp=Z,4.0nm,0.7s						
WB2	**Warramunga Arr**	**31.88**	**256**	P	**P**	**18 38 29.7**	**-1.4**
WRA	**Warramunga Arr**	**31.89**	**256**	P	**P**	**18 38 29.2**	**-2.0**
	comp=Z,2.3nm,0.7s,baz=84,slow=8.6,SNR=34						
WRA	**Warramunga Arr**	**31.89**	**256**	P	**P**	**18 38 28.9**	**-2.3**
AS31	**Alice Springs**	**32.69**	**250**	P	**P**	**18 38 36.8**	**-1.4**
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**18 38 37.1**	**-1.0**
	comp=Z,6.9nm,0.6s,baz=79,slow=9.2,SNR=156						
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**18 38 36.5**	**-1.7**
BBOO	**Buckleboo**	**33.48**	**233**	P	**P**	**18 38 44.9**	**0.0**
FORT	**Forrest**	**39.25**	**240**	P	**P**	**18 39 32.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**40.10**	**260**	P	**P**	**18 39 41.0**	**-0.1**
FITZ				IAmb	IAmb	18 39 41.4	
	comp=Z,6.9nm,0.9s						
BATI	**Baumata**	**42.93**	**271**	P	**P**	**18 40 04.2**	**-0.1**
	comp=Z,8.4nm,0.5s,baz=72,slow=6.4,SNR=2.7						
VNDA	**Vanda**	**62.50**	**181**	P	**P**	**18 42 27.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=148,slow=1.6,SNR=2.4						
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**18 43 44.8**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=306,slow=0.8,SNR=22						
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**18 43 44.5**	**-0.1**
QSPA				IAmb	IAmb	18 44 09.2	
	comp=Z,13nm,1.3s						
CMAR	**Chiang Mai Arr**	**75.24**	**294**	P	**P**	**18 43 47.1**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=120,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**82.88**	**324**	P	**P**	**18 44 28.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=147,slow=7.7,SNR=4.7						
SONM	**Songino Array**	**82.88**	**324**	P	**P**	**18 44 28.8**	**+0.6**
BELA	**Belgrano 2**	**86.35**	**175**	P	**P**	**18 44 44.2**	**-0.8**
ILAR	**Eielson Array**	**86.82**	**18**	P	**P**	**18 44 48.4**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=258,slow=5.1,SNR=2.2						
MKAR	**Makanchi Array**	**97.58**	**316**	P	**P**	**18 45 37.8**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=79,slow=6.9,SNR=7.2						
FINES	**FINESS Array B**	**126.12**	**338**	PKP	**PKPdf**	**18 51 04.6**	**+0.1**
	comp=Z,6.4nm,1.0s,baz=132,slow=28,SNR=2.0						

*MOS **22** 18:35:45.7±1.2, 44°.43S×81°.87W, h12km, mb5.3/7, Error ellipse: s-maj=17.3km s-min=9.1km az=95.5*
*BJI **22** 18:35:45.3±0.0, 43°.75S×81°.69W, h20km, mB5.1/7, Ms5.0/4, Ms7 4.8/4*
*IDC **22** 18:35:45.4±0.5, 44°.57S×81°.92W, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.4/23, mbtmp4.3/16, ML3.8/1, MS4.3/17, Ms1 4.3/17, ms1mx4.3/19, Error ellipse: s-maj=20.7km s-min=15.2km az=97.0*
*NEIC **22** 18:35:46.7±2.3, 44°.48S±0°.08×81°.9W±0°.1, h10km±1km, mb5.1/157, Error ellipse: s-maj=17.2km s-min=13.4km az=276.0*
*UNK **22** 18:35:46.7, 44°.46S×81°.85W, h10km*
*GCMT **22** 18:35:47.7±0.2, 44°.52S±0°.02×82°.27W±0°.01, h12km, MW5.1/123, Moment Tensor Solution. s64,c93; s123,c182; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=4.70±.09; $M_{\theta\theta}$=-0.13±.09; $M_{\phi\phi}$=4.83±.09; $M_{r\theta}$=2.31±.31; $M_{\theta\phi}$=-0.84±.08; $M_{\phi r}$=-0.92±.25; Best double couple: M_0=5.42100×10^16^ NP1:ϕ_s=190.00000°, δ=41.00000°, λ=-58.00000°. NP2:ϕ_s=330.00000°, δ=56.00000°, λ=-115.00000°. Principal axes: T 5.1510, Plg8.0000°, Azm77.0000°; N 0.5390, Plg21.0000°, Azm344.0000°; P -5.6910, Plg68.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 18:35:46.7±0.3, 44°.48S±0°.06×82°.06W±0°.07, h10km, n350, σ1§52/330, mb5.1/103, MS4.4/23, 1C-4D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL01	**San Ignacio de**	**7.33**	**77**	Pn	**Pn**	**18 37 31.1**	**-2.6**
PLCA	**Paso Flores**	**9.27**	**70**	Pn	**Pn**	**18 37 59.5**	**-1.0**
	0.2nm,0.3s,baz=227,slow=17,SNR=5.9						
PLCA				LR	LR	18 41 06.4	
	comp=Z,5μm,19.3s,baz=270,slow=35						
PLCA	**Paso Flores**	**9.27**	**70**	P	**Pn**	**18 37 59.3**	**-1.2**
PLCA	**Paso Flores**	**9.27**	**70**	Pn	**Pn**	**18 37 59.3**	**-1.2**
GO09	**Cerro Castillo**	**9.42**	**140**		**Pn**	**18 38 03.0**	**+0.7**
H03S1	**Juan Fernandez**	**10.90**	**14**	T	T	18 49 45.2	
	baz=190,slow=73,SNR=918						
H03S2	**Juan Fernandez**	**10.90**	**14**	T	T	18 49 41.8	
	baz=190,slow=73,SNR=906						
H03S3	**Juan Fernandez**	**10.92**	**14**	T	T	18 49 42.2	
	baz=190,slow=73,SNR=898						
H03N3	**Juan Fernandez**	**11.28**	**14**	T	T	18 50 12.9	
	baz=42,slow=77,SNR=55						
H03N2	**Juan Fernandez**	**11.29**	**13**	T	T	18 50 07.1	
	baz=42,slow=77,SNR=68						
H03N1	**Juan Fernandez**	**11.29**	**14**	T	T	18 50 14.5	
	baz=42,slow=77,SNR=50						
BI02	**San Fabin de**	**11.32**	**50**		**Pn**	**18 38 25.4**	**-3.0**
USHA	**Ushuaia**	**13.58**	**145**	Pn	**Pn**	**18 39 01.0**	**+1.8**
	1.9nm,0.3s,baz=287,slow=5.2,SNR=2.5						
EFI	**East Falkland**	**17.52**	**123**	*i* P	**P**	**18 39 52.0**	**0.0**
EFI				pmax	pmax		
	comp=Z,64nm,1.2s						
GO02	**Mina Guanaco**	**21.77**	**32**	P	**P**	**18 40 37.6**	**-1.2**
PB14	**IPOC Station P**	**21.97**	**29**	P	**P**	**18 40 39.9**	**-1.1**
PB14				IAmb	IAmb	18 40 54.5	
	comp=Z,112nm,1.5s						
PMSA	**Palmer Station**	**22.68**	**160**	LR	LR	18 47 02.4	
	comp=Z,358nm,20.0s,baz=337,slow=30						
PMSA	**Palmer Station**	**22.68**	**160**	*e*P	P	18 41 00.5	+13
PB10	**IPOC Station P**	**22.94**	**28**	P	**P**	**18 40 51.8**	**+0.8**
PB10				IAmb	IAmb	18 41 02.1	
	comp=Z,174nm,1.7s						
PB15	**IPOC Station P**	**23.60**	**30**	P	**P**	**18 40 58.0**	**+0.1**
PB15				IAmb	IAmb	18 41 14.7	
	comp=Z,117nm,1.7s						
PB06	**IPOC Station P**	**24.02**	**29**	P	**P**	**18 41 02.2**	**+0.3**
LVC	**Limon Verde**	**24.35**	**31**	P	**P**	**18 41 06.7**	**+1.6**
	comp=Z,7.1nm,0.6s,baz=186,slow=6.1,SNR=7.9						
LVC				LR	LR	18 48 22.0	
	comp=Z,658nm,20.7s,baz=210,slow=31						
LVC	**Limon Verde**	**24.35**	**31**	P	**P**	**18 41 04.4**	**-0.8**
LVC				pmax	pmax		
	comp=Z,49nm,1.4s						
LVC	**Limon Verde**	**24.35**	**31**	P	**P**	**18 41 04.4**	**-0.8**
PB07	**IPOC Station P**	**24.82**	**28**	P	**P**	**18 41 08.8**	**-0.5**
PB07				IAmb	IAmb	18 41 19.1	
	comp=Z,49nm,1.3s						
PB09	**IPOC Station P**	**24.98**	**29**	P	**P**	**18 41 10.7**	**+0.1**
PB09				IAmb	IAmb	18 41 21.6	
	comp=Z,61nm,1.3s						
PATCX	**Punta Patache**	**25.58**	**27**	P	**P**	**18 41 16.2**	**+0.2**
PATCX				IAmb	IAmb	18 41 19.5	
	comp=Z,59nm,1.4s						
PB01	**IPOC Station P**	**25.59**	**28**	P	**P**	**18 41 16.7**	**+0.6**
PB01				IAmb	IAmb	18 41 31.0	
	comp=Z,52nm,1.5s						
TA01	**Diego Aracena**	**25.81**	**26**	P	**P**	**18 41 17.8**	**-0.1**
PSGCX	**Pisagua**	**26.74**	**26**	P	**P**	**18 41 26.1**	**-0.4**
GO01	**Chusmiza**	**26.97**	**28**	P	**P**	**18 41 29.4**	**+0.4**
RPN	**Rapa Nui**	**27.91**	**299**	LR	LR	18 49 42.2	
	comp=Z,1μm,21.1s,baz=116,slow=30						
PB16	**IPOC Station P**	**28.11**	**26**	P	**P**	**18 41 38.5**	**-0.9**
PB16				IAmb	IAmb	18 41 55.7	
	comp=Z,74nm,1.8s						
CNLB	**Canela**	**28.97**	**69**	*e*P	**P**	**18 41 50.2**	**+3.8**
ITAB	**Concordia**	**29.51**	**64**	*e*P	**P**	**18 41 55.4**	**+4.3**
LPAZ	**La Paz**	**30.47**	**27**	P	**P**	**18 42 01.6**	**+1.3**
	comp=Z,2.6nm,1.0s,baz=194,slow=8.6,SNR=8.0						
LPAZ	**La Paz**	**30.47**	**27**	P	**P**	**18 42 00.1**	**-0.3**
LPAZ				pmax	pmax		
	comp=Z,17nm,1.2s						
LPAZ	**La Paz**	**30.47**	**27**	P	**P**	**18 42 00.1**	**-0.3**
PTGB	**Pitanga**	**31.33**	**61**	*e*P	P	18 42 12.3	+5.0
TRCB	**Terra Rica**	**32.40**	**58**	*e*P	**P**	**18 42 20.0**	**+3.3**
TIJ01	**Guaruva-PR**	**32.86**	**65**	*e*P	P	18 42 25.8	+5.0
PCMB	**Pacaembu**	**34.12**	**58**	*e*P	**P**	**18 42 35.0**	**+3.4**
PET01	**Itanhaem-SP**	**34.70**	**66**	*e*P	P	18 42 41.9	+5.3
PTLB	**Pontes e Lacer**	**34.85**	**41**	*e*P	**P**	**18 42 38.8**	**+0.8**
ITRB	**Iturama**	**36.11**	**57**	*e*P	**P**	**18 42 51.8**	**+2.9**
ETMB	**Extrema**	**37.16**	**26**	*e*P	**P**	**18 42 58.9**	**+1.1**
CZSB	**Cruzeiro do Su**	**37.51**	**15**	*e*P	**P**	**18 43 01.4**	**+0.7**
BELA	**Belgrano 2**	**38.29**	**165**	P	**P**	**18 43 06.4**	**-0.3**
SAML	**Samuel**	**39.00**	**31**	P	**P**	**18 43 12.1**	**-1.2**
SAML				pmax	pmax		
	comp=Z,34nm,1.6s						
SAML	**Samuel**	**39.00**	**31**	P	**P**	**18 43 12.1**	**-1.2**
SAML	**Samuel**	**39.00**	**31**	*e*P	**P**	**18 43 13.5**	**+0.2**
BDFB	**Brasilia**	**40.66**	**56**	P	**P**	**18 43 26.7**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=170,slow=15,SNR=2.3						
BDFB				LR	LR	19 00 43.3	
	comp=Z,1μm,18.4s,baz=233,slow=37						
BDFB	**Brasilia**	**40.66**	**56**	P	**P**	**18 43 25.9**	**-1.4**
BDFB				pmax	pmax		
	comp=Z,18nm,1.2s						
BDFB	**Brasilia**	**40.66**	**56**	P	**P**	**18 43 25.9**	**-1.4**
MC01	**Montes Claros**	**42.34**	**61**	*e*P	P	18 43 45.8	+4.9
VNA3	**Neumayer Olymp**	**43.05**	**153**	P	**P**	**18 43 46.1**	**0.0**
JANB	**Januaria**	**43.35**	**59**	*e*P	**P**	**18 43 52.9**	**+3.6**
VNA1	**Neumayer--Stat**	**43.54**	**152**	P	**P**	**18 43 50.7**	**+0.7**
VNA2	**Neumayer--Watz**	**43.80**	**153**	P	**P**	**18 43 52.3**	**+0.1**
	baz=272,slow=6.8						
NPGB	**Novo Progresso**	**43.96**	**40**	*e*P	**P**	**18 43 54.6**	**+0.6**
OTAV	**Otavalo**	**44.64**	**5**	P	**P**	**18 44 01.7**	**+1.7**
OTAV				pmax	pmax		
	comp=Z,22nm,1.3s						
OTAV	**Otavalo**	**44.64**	**5**		**P**	**18 44 01.6**	**+1.7**
OTAV	**Otavalo**	**44.64**	**5**	*e*P	**P**	**18 44 00.0**	**+0.1**
SDBA	**SAO DESIDERIO**	**45.05**	**56**	*e*P	**P**	**18 44 05.9**	**+3.0**
SNAA	**Sanae**	**45.19**	**154**	P	**P**	**18 44 03.2**	**-0.1**
SNAA	**Sanae**	**45.19**	**154**	P	**P**	**18 44 03.1**	**-0.2**
	comp=Z,8.7nm,1.1s,baz=248,slow=6.4,SNR=20						
SNAA	**Sanae**	**45.19**	**154**	*d i* P	**P**	**18 44 02.4**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,34nm,1.5s						
SNAA	**Sanae**	**45.19**	**154**	P	**P**	**18 44 02.8**	**-0.5**
MACA	**Manacapuru-AM**	**45.26**	**31**	*e*P	**P**	**18 44 07.6**	**+3.2**
QSPA	**South Pole Qui**	**45.76**	**180**	P	**P**	**18 44 08.3**	**+0.3**
	comp=Z,3.0nm,1.0s,baz=101,slow=1.9,SNR=6.2						
QSPA	**South Pole Qui**	**45.76**	**180**	P	**P**	**18 44 08.1**	**+0.1**
QSPA				IAmb	IAmb	18 44 15.9	
	comp=Z,25nm,1.2s						
ITTB	**Itaituba**	**46.17**	**38**	*e*P	**P**	**18 44 14.1**	**+2.5**
SMTB	**Santa Maria do**	**46.37**	**51**	*e*P	**P**	**18 44 14.7**	**+1.6**
PRPB	**Parauapebas**	**47.42**	**46**	*e*P	**P**	**18 44 22.9**	**+1.5**
PTGA	**Pitinga**	**47.77**	**31**	P	**P**	**18 44 23.2**	**-0.9**
NBCP	**Cabaceiras do**	**48.44**	**63**	*e*P	**P**	**18 44 33.4**	**+4.1**
MALB	**Monte Alegre**	**49.05**	**38**	*e*P	**P**	**18 44 34.8**	**+0.9**
TOLC	**Tolima**	**49.22**	**9**	*e*P	**P**	**18 44 37.0**	**+1.5**
CHIC	**Chingaza**	**49.46**	**11**	*e*P	**P**	**18 44 36.7**	**-0.8**
ROSC	**El Rosal**	**49.59**	**10**	P	**P**	**18 44 40.2**	**+1.8**
	comp=Z,7.7nm,0.3s,baz=138,slow=11,SNR=5.1						
ROSC				LR	LR	19 03 00.1	
	comp=Z,699nm,21.6s,baz=232,slow=33						
ROSC	**El Rosal**	**49.59**	**10**	P	**P**	**18 44 40.3**	**+1.8**
ROSC				IAmb	IAmb	18 44 43.9	
	comp=Z,46nm,1.4s						
GUY2C	**Guyana, Caldas**	**49.84**	**9**	*e*P	**P**	**18 44 41.7**	**+1.2**
NVL	**N'lazarevskaya**	**50.00**	**154**	*e*P	P	18 44 47.1	+6.5
NVL				*e*S	S	18 52 01.8	+11
NVL				pmax	pmax		
	comp=Z,21nm,1.0s						
CBOC	**Ciudad Bolivar**	**50.41**	**8**	*e*P	**P**	**18 44 43.2**	**-1.3**
RUSC	**La Rusia**	**50.79**	**12**	*e*P	**P**	**18 44 45.1**	**-2.6**
PTBC	**PUERTO BERRIO,**	**51.25**	**10**	*e*P	**P**	**18 44 46.6**	**-4.0**
MCPB	**Macapa, AP**	**51.37**	**40**	*e*P	**P**	**18 44 52.9**	**+1.3**
BARC	**Barichara**	**51.47**	**11**	*e*P	**P**	**18 44 51.1**	**-1.3**
TMAB	**Tom-Au,PA,Br**	**51.55**	**45**	*e*P	**P**	**18 44 55.4**	**+2.5**
ZARC	**Zaragoza, Cauc**	**52.14**	**9**	*e*P	**P**	**18 44 55.3**	**-2.0**
VNDA	**Vanda**	**52.19**	**194**	P	**P**	**18 44 58.0**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=89,slow=2.9,SNR=5.2						
VNDA				LR	LR	19 04 30.5	
	comp=Z,232nm,18.2s,baz=129,slow=33						
VNDA	**Vanda**	**52.19**	**194**	P	**P**	**18 44 58.3**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,15nm,1.3s						
VNDA	**Vanda**	**52.19**	**194**	P	**P**	**18 44 58.3**	**+1.4**
MOTC	**Monteria, Cord**	**53.33**	**8**	*e*P	**P**	**18 45 03.5**	**-2.4**
SDV	**Santo Domingo**	**54.12**	**14**	P	**P**	**18 45 11.6**	**-0.4**
SDV	**Santo Domingo**	**54.12**	**14**	*e*P	**P**	**18 45 12.3**	**+0.3**
JTS	**Las Juntas de**	**54.58**	**357**	*i* P	**P**	**18 45 16.9**	**+1.8**
JTS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BOAB	**BOACO BROADBAND**	**56.75**	**356**	P	**P**	**18 45 29.9**	**-0.8**
TBI	**Tubuai**	**58.13**	**268**	*e*S	**S**	**18 53 42.7**	**+0.9**
	comp=Z,464nm,27.8s						
TBI				*e*LR	LR	19 02 40.6	
	comp=Z,932nm,28.2s,baz=131						
SYO	**Syowa Base**	**58.93**	**159**‖	*e*P	**P**	**18 45 43.4**	**-2.0**
SYO	**Syowa Base**	**58.93**	**159**‖	*e*pP	**P**	**18 45 45.0**	**-0.5**
SYO	**Syowa Base**	**58.93**	**159**‖	*e*PcP	**PcP**	**18 46 31.0**	**-3.5**
MTO3	**Montecristo**	**58.97**	**352**	P	**P**	**18 45 47.0**	**+0.4**
MTO3				IAmb	IAmb	18 45 55.9	
	comp=Z,48nm,1.9s						
CCIG	**Comitan**	**61.16**	**349**	P	**P**	**18 46 00.7**	**-0.9**
TAOE	**Nuku Hiva Isla**	**61.27**	**287**	*e*LR	LR	19 04 09.0	
	comp=Z,563nm,26.5s						
PPT2	**Papeete2**	**61.91**	**273**	*e*S	**S**	**18 54 32.5**	**+1.7**
	comp=Z,294nm,28.0s						
PPT2				*e*LR	LR	19 04 19.3	
	comp=Z,627nm,25.8s,baz=126						
PPT	**Papeete**	**61.93**	**273**	P	**P**	**18 46 08.2**	**+1.6**
	comp=Z,10nm,0.4s,baz=95,slow=6.0,SNR=3.7						
PPT				LR	LR	19 05 43.9	
	comp=Z,242nm,20.1s,baz=176,slow=29						
MAW	**Mawson**	**65.13**	**166**	P	**P**	**18 46 27.0**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=218,slow=6.8,SNR=7.7						
MAW				LR	LR	19 14 21.1	
	comp=Z,157nm,19.4s,baz=230,slow=36						
MAW	**Mawson**	**65.13**	**166**	P	**P**	**18 46 26.7**	**-0.4**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAW	**Mawson**	**65.13**	**166**	P	**P**	**18 46 26.7**	**-0.4**
CASY	**Casey**	**69.15**	**185**	P	**P**	**18 46 52.5**	**-0.1**
CASY				IAmb	IAmb	18 47 00.8	
	comp=Z,23nm,1.2s						
ZAIG	**Zacatecas**	**69.51**	**340**	P	**P**	**18 46 56.6**	**+1.0**
833A	**Chaparral WMA,**	**74.17**	**344**	P	**P**	**18 47 25.0**	**+1.8**
833A				IAmb	IAmb	18 47 27.1	
	comp=Z,36nm,1.6s						
TX31	**Lajitas Ar. Si**	**76.07**	**341**	P	**P**	**18 47 35.4**	**+1.2**
TX32	**Lajitas Array**	**76.07**	**341**	P	**P**	**18 47 35.4**	**+1.2**
TX32				IAmb	IAmb	18 47 49.4	
	comp=Z,26nm,1.6s						
TXAR	**Lajitas Array**	**76.07**	**341**	P	**P**	**18 47 35.9**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=160,slow=7.7,SNR=14						
TXAR				LR	LR	19 15 30.8	
	comp=Z,160nm,19.1s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**76.07**	**341**	P	**P**	**18 47 34.9**	**+0.7**
TXAR	**Lajitas Array**	**76.07**	**341**	P	**P**	**18 47 34.9**	**+0.7**
435B	**Jarrell**	**76.23**	**346**	P	**P**	**18 47 35.9**	**+0.8**
435B				IAmb	IAmb	18 47 49.7	
	comp=Z,38nm,1.4s						
JCT	**Junction City**	**76.34**	**344**	P	**P**	**18 47 34.5**	**-1.2**
JCT				pmax	pmax		
	comp=Z,13nm,1.2s						
JCT	**Junction City**	**76.34**	**344**	P	**P**	**18 47 34.5**	**-1.2**
WHTX	**Lake Whitney,**	**77.39**	**347**	P	**P**	**18 47 40.5**	**-1.0**
WHTX				IAmb	IAmb	18 47 49.6	
	comp=Z,19nm,1.2s						
HSIG		**77.77**	**334**	P	**P**	**18 47 45.4**	**+1.6**
Y49A	**Blount Mountai**	**78.07**	**356**	P	**P**	**18 47 43.3**	**-2.0**
ABTX	**Abilene, Hawle**	**78.40**	**345**	P	**P**	**18 47 47.2**	**0.0**
ABTX				IAmb	IAmb	18 47 56.1	
	comp=Z,44nm,1.8s						
Z35A	**Perchaven, San**	**78.67**	**347**	P	**P**	**18 47 48.4**	**-0.2**
X48A	**Hartselle**	**78.69**	**356**	P	**P**	**18 47 47.3**	**-1.4**
X48A				IAmb	IAmb	18 48 02.5	
	comp=Z,54nm,1.9s						
SWET	**Sewanee**	**79.40**	**357**	P	**P**	**18 47 52.9**	**+0.2**
V48A	**Smith Brothers**	**79.97**	**356**		**P**	**18 47 55.9**	**+0.3**
V48A				IAmb	IAmb	18 48 03.7	
	comp=Z,34nm,1.7s						
121A	**Cookes Peak, D**	**80.16**	**338**	P	**P**	**18 47 57.2**	**+0.2**
CLTN	**Cedars of Leba**	**80.29**	**356**	P	**P**	**18 47 56.6**	**-0.8**
CLTN				IAmb	IAmb	18 48 10.9	
	comp=Z,27nm,1.5s						
WMOK	**Wichita Mounta**	**80.30**	**346**	P	**P**	**18 47 57.8**	**+0.3**
WMOK				pmax	pmax		
	comp=Z,31nm,1.5s						
WMOK	**Wichita Mounta**	**80.30**	**346**	P	**P**	**18 47 58.2**	**+0.7**
	baz=168						
WMOK	**Wichita Mounta**	**80.30**	**346**	P	**P**	**18 47 57.8**	**+0.3**
WMOK				IAmb	IAmb	18 48 06.1	
	comp=Z,31nm,1.5s						
MSTX	**Muleshoe**	**80.33**	**343**	P	**P**	**18 47 58.1**	**+0.3**
MSTX				IAmb	IAmb	18 48 07.8	
	comp=Z,32nm,1.6s						
WVT	**Waverly**	**80.41**	**355**	P	**P**	**18 47 57.5**	**-0.5**
WVT				pmax	pmax		
	comp=Z,26nm,1.5s						
WVT	**Waverly**	**80.41**	**355**	P	**P**	**18 47 59.4**	**+1.4**
	baz=176						
WVT	**Waverly**	**80.41**	**355**	P	**P**	**18 47 57.5**	**-0.5**
WVT				IAmb	IAmb	18 48 05.3	
	comp=Z,26nm,1.5s						
AMTX	**Amarillo**	**80.98**	**344**	P	**P**	**18 48 01.4**	**+0.2**
AMTX				IAmb	IAmb	18 48 04.7	
	comp=Z,19nm,1.1s						
TUL1	**Leonard**	**80.98**	**349**	P	P	18 48 06.5	+5.4
	baz=170						
TUL1	**Leonard**	**80.98**	**349**	P	**P**	**18 48 00.9**	**-0.2**
U40A	**Yellville**	**81.06**	**351**	P	**P**	**18 48 01.4**	**-0.1**
U40A				IAmb	IAmb	18 48 09.0	
	comp=Z,29nm,1.6s						
214A	**Organ Pipe Nat**	**81.08**	**334**	P	**P**	**18 48 02.5**	**+0.7**
214A				IAmb	IAmb	18 48 12.2	
	comp=Z,39nm,1.9s						
QUOK	**Quay**	**81.37**	**348**	P	**P**	**18 48 02.6**	**-0.5**
BNM	**Barren Site**	**81.39**	**340**	P	**P**	**18 48 03.3**	**-0.3**
T42A	**Van Buren**	**81.55**	**353**	P	**P**	**18 48 02.4**	**-1.7**
BOSA	**Boshof**	**81.64**	**122**	P	**P**	**18 48 04.9**	**-0.4**
	comp=Z,7.5nm,1.2s,baz=198,slow=9.0,SNR=3.3						
BOSA				LR	LR	19 19 34.2	
	comp=Z,137nm,18.3s,baz=232,slow=32						
BOSA	**Boshof**	**81.64**	**122**	P	**P**	**18 48 04.9**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,61nm,1.8s						
MGMO	**Mountain Grove**	**81.78**	**352**	P	**P**	**18 48 04.6**	**-0.8**
MGMO				IAmb	IAmb	18 48 13.6	
	comp=Z,21nm,1.2s						
T35A	**Sooner Cattle**	**82.07**	**348**	P	**P**	**18 48 08.0**	**+1.1**
ANMO	**Albuquerque**	**82.11**	**340**	*i* P	**P**	**18 48 08.9**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ANMO	**Albuquerque**	**82.11**	**340**	P	**P**	**18 48 09.2**	**+1.9**
	baz=163						
ANMO	**Albuquerque**	**82.11**	**340**	P	**P**	**18 48 08.1**	**+0.8**
ANMO				IAmb	IAmb	18 48 17.2	
	comp=Z,20nm,1.2s						
113A	**Mohawk Valley,**	**82.13**	**333**	P	**P**	**18 48 06.9**	**-0.3**
113A				IAmb	IAmb	18 48 31.4	
	comp=Z,28nm,1.9s						
CCM	**Cathedral Cave**	**82.58**	**353**	P	**P**	**18 48 09.4**	**0.0**
CCM				pmax	pmax		
	comp=Z,34nm,1.3s						
CCM	**Cathedral Cave**	**82.58**	**353**	P	**P**	**18 48 10.0**	**+0.5**
	baz=173						
CCM	**Cathedral Cave**	**82.58**	**353**	P	**P**	**18 48 09.4**	**0.0**
GLA	**Glamis**	**82.73**	**333**	P	**P**	**18 48 11.2**	**+0.7**
GLA				pmax	pmax		
	comp=Z,21nm,1.3s						
GLA	**Glamis**	**82.73**	**333**	P	**P**	**18 48 11.2**	**+0.7**
GLA				IAmb	IAmb	18 48 20.8	
	comp=Z,21nm,1.3s						
X16A	**Lo Mia Camp, P**	**82.95**	**336**	P	**P**	**18 48 13.2**	**+1.4**
Y14A	**Wickenburg**	**82.97**	**334**	P	**P**	**18 48 10.8**	**-0.9**
Y14A				IAmb	IAmb	18 48 22.1	
	comp=Z,37nm,2.0s						
W18A	**Petrified Fore**	**83.12**	**337**	P	**P**	**18 48 13.4**	**+0.8**
W18A				IAmb	IAmb	18 48 22.5	
	comp=Z,16nm,1.1s						
**

PV19			IAmb	IAmb	18 48 35.7	
	comp=Z,19nm,1.6s					
PV20	**West Nyswonger**	**85.95 339**	P	**P**	**18 48 27.8**	**+0.9**
PV20			IAmb	IAmb	18 48 51.7	
	comp=Z,18nm,1.5s					
PV04	**Paradox Valley**	**85.99 339**	P	**P**	**18 48 27.8**	**+0.8**
PV04			IAmb	IAmb	18 48 36.7	
	comp=Z,15nm,1.3s					
PV10	**Paradox Valley**	**86.01 339**	P	**P**	**18 48 28.6**	**+1.4**
PV10			IAmb	IAmb	18 48 35.7	
	comp=Z,13nm,1.0s					
SHPR	**Sheep Range**	**86.01 334**	P	**P**	**18 48 28.7**	**+1.5**
PV22	**Blue Mesa, Par**	**86.09 339**	P	**P**	**18 48 26.6**	**-1.0**
PV21	**Cone Mtn., Par**	**86.16 339**	P	**P**	**18 48 28.8**	**+0.9**
PV21			IAmb	IAmb	18 48 43.0	
	comp=Z,15nm,1.3s					
ISA	**Isabella, Lake**	**86.34 331**	P	**P**	**18 48 29.2**	**+0.5**
ISA			pmax	pmax		
	comp=Z,16nm,1.6s					
ISA	**Isabella, Lake**	**86.34 331**	P	**P**	**18 48 29.2**	**+0.5**
ISA			IAmb	IAmb	18 48 38.1	
	comp=Z,16nm,1.6s					
SZCU	**Shurtz Canyon**	**86.39 336**	P	**P**	**18 48 30.1**	**+1.1**
CCUT	**Cedar City**	**86.43 336**	P	**P**	**18 48 31.6**	**+2.3**
MTPU	**Mount Pierson**	**86.54 337**	P	**P**	**18 48 30.0**	**+0.1**
ISCO	**Idaho Springs**	**86.54 342**	P	**P**	**18 48 31.9**	**+2.0**
ISCO			pmax	pmax		
	comp=Z,18nm,1.7s					
ISCO	**Idaho Springs**	**86.54 342**	P	**P**	**18 48 31.9**	**+2.0**
ISCO			IAmb	IAmb	18 48 39.9	
	comp=Z,18nm,1.6s					
SCIA	**State Center**	**86.58 352**	P	**P**	**18 48 30.4**	**+0.8**
TPNV	**Topopah Spring**	**86.77 333**	P	**P**	**18 48 31.2**	**+0.3**
TPNV			pmax	pmax		
	comp=Z,11nm,1.2s					
TPNV	**Topopah Spring**	**86.77 333**	P	**P**	**18 48 33.7**	**+2.8**
	baz=156					
TPNV	**Topopah Spring**	**86.77 333**	P	**P**	**18 48 31.2**	**+0.3**
PRN	**Pahroc Range**	**86.81 334**	P	**P**	**18 48 32.2**	**+1.2**
MVU	**Marysvale**	**86.98 337**	P	**P**	**18 48 33.4**	**+1.4**
Q16A	**Castle Valley**	**87.08 338**	P	**P**	**18 48 32.6**	**+0.3**
SRU	**San Rafael Swe**	**87.08 338**	P	**P**	**18 48 30.8**	**-1.6**
SRU			pmax	pmax		
	comp=Z,16nm,1.4s					
SRU	**San Rafael Swe**	**87.08 338**	P	**P**	**18 48 30.8**	**-1.6**
TCRU	**Three Creeks R**	**87.14 337**	P	**P**	**18 48 33.8**	**+1.0**
JFWS	**Jewell Farm**	**87.32 354**	P	**P**	**18 48 32.3**	**-0.9**
JFWS			pmax	pmax		
	comp=Z,51nm,1.3s					
JFWS	**Jewell Farm**	**87.32 354**	P	**P**	**18 48 32.3**	**-0.9**
TMUT	**Trail Mountain**	**87.44 338**	P	**P**	**18 48 34.8**	**+0.6**
O20A	**White River Ci**	**87.47 340**	P	**P**	**18 48 35.7**	**+1.5**
O20A			IAmb	IAmb	18 48 38.1	
	comp=Z,21nm,1.4s					
P17A	**Butcher Ranch,**	**87.48 338**	P	**P**	**18 48 34.0**	**-0.2**
PSUT	**Pine Spring**	**87.48 336**	P	**P**	**18 48 35.2**	**+0.8**
N23A	**Red Feather La**	**87.66 342**	P	**P**	**18 48 36.0**	**+0.7**
N23A			IAmb	IAmb	18 48 44.9	
	comp=Z,19nm,1.2s					
R11A	**Troy Canyon, C**	**87.84 334**	P	**P**	**18 48 38.6**	**+2.5**
	baz=157					
R11A	**Troy Canyon, C**	**87.84 334**	P	**P**	**18 48 36.6**	**+0.6**
PHWY	**Pilot Hill**	**87.95 343**	P	**P**	**18 48 36.2**	**-0.4**
TPH	**Tonopah**	**88.11 333**	P	**P**	**18 48 37.5**	**+0.2**
TPH			pmax	pmax		
	comp=Z,103nm,1.5s					
TPH	**Tonopah**	**88.11 333**	P	**P**	**18 48 37.5**	**+0.2**
RDMU	**Red Mountain**	**88.21 339**	P	**P**	**18 48 38.7**	**+0.9**
OMMB	**Old Mammoth Mi**	**88.28 331**	P	**P**	**18 48 39.6**	**+1.3**
LHV	**Little Huntoon**	**88.69 332**	P	**P**	**18 48 41.5**	**+1.7**
DUG	**Dugway, Tooele**	**88.72 337**	P	**P**	**18 48 41.9**	**+1.8**
DUG			pmax	pmax		
	comp=Z,30nm,1.3s					
DUG	**Dugway, Tooele**	**88.72 337**	P	**P**	**18 48 42.6**	**+2.5**
	baz=158					
DUG	**Dugway, Tooele**	**88.72 337**	P	**P**	**18 48 41.9**	**+1.8**
NV11	**Mina Array Sit**	**88.74 332**	P	**P**	**18 48 39.5**	**-0.7**
NV11			IAmb	IAmb	18 48 50.4	
	comp=Z,22nm,1.9s					
ECSD	**EROS Data Cent**	**88.79 350**	P	**P**	**18 48 38.4**	**-1.7**
ECSD			IAmb	IAmb	18 48 47.8	
	comp=Z,14nm,1.4s					
NVAR	**Mina Array Bea**	**88.79 332**	P	**P**	**18 48 41.8**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=165,slow=6.4,SNR=7.3					
NVAR			LR	LR	19 20 54.7	
	comp=Z,51nm,19.5s,baz=98,slow=30					
NVAR	**Mina Array Bea**	**88.79 332**	P	**P**	**18 48 41.7**	**+1.1**
DZM	**Mont Dzumac**	**89.00 240**	*e*LR	LR	19 16 59.4	
	comp=Z,733nm,24.0s					
RYN	**Ryan**	**89.04 332**	P	**P**	**18 48 41.9**	**+0.2**
RYN			IAmb	IAmb	18 48 46.1	
	comp=Z,13nm,1.4s					
CMB	**Columbia Colle**	**89.14 331**	P	**P**	**18 48 41.3**	**-0.7**
CMB			pmax	pmax		
	comp=Z,8.0nm,1.4s					
CMB	**Columbia Colle**	**89.14 331**	P	**P**	**18 48 41.3**	**-0.7**
WAKR	**Walker**	**89.24 332**	P	**P**	**18 48 43.0**	**+0.3**
WAKR			IAmb	IAmb	18 48 53.2	
	comp=Z,38nm,2.0s					
KVN	**Kaiserville**	**89.28 333**	P	**P**	**18 48 42.1**	**-0.8**
KVN			pmax	pmax		
	comp=Z,15nm,1.7s					
KVN	**Kaiserville**	**89.28 333**	P	**P**	**18 48 42.1**	**-0.8**
BGU	**Big Grassy Mou**	**89.46 337**	P	**P**	**18 48 42.0**	**-1.6**
K22A	**Casper**	**89.47 342**	P	**P**	**18 48 42.7**	**-0.9**
YERR	**Yerington**	**89.60 332**	P	**P**	**18 48 43.9**	**-0.5**
YERR			IAmb	IAmb	18 48 48.8	
	comp=Z,28nm,1.7s					
G40A	**Rib Lake**	**89.66 354**		**P**	**18 48 40.4**	**-3.8**
SPUT	**South Promonto**	**89.66 338**	P	**P**	**18 48 45.7**	**+1.2**
HWUT	**Hardware Ranch**	**89.70 338**	P	**P**	**18 48 45.8**	**+1.0**
PNTR	**Pine Nut**	**89.82 332**	P	**P**	**18 48 46.1**	**+0.7**
PNTR			IAmb	IAmb	18 48 55.5	
	comp=Z,14nm,1.0s					
ELK	**Elko**	**89.93 335**	P	**P**	**18 48 47.2**	**+1.3**
ELK			pmax	pmax		
	comp=Z,21nm,1.9s					
ELK	**Elko**	**89.93 335**	P	**P**	**18 48 47.1**	**+1.3**
ELK			IAmb	IAmb	18 48 49.9	
	comp=Z,21nm,1.9s					
AFDM	**Forest Hills D**	**90.16 331**	P	**P**	**18 48 46.6**	**-0.1**
AFDM			IAmb	IAmb	18 48 57.2	
	comp=Z,23nm,1.6s					
HVU	**Hansel Valley**	**90.19 338**	P	**P**	**18 48 45.8**	**-1.1**
HVU			pmax	pmax		
	comp=Z,33nm,1.6s					
HVU	**Hansel Valley**	**90.19 338**	P	**P**	**18 48 45.8**	**-1.1**
BW06	**Boulder Array**	**90.28 340**	P	**P**	**18 48 49.9**	**+2.4**
	baz=161					
BW06	**Boulder Array**	**90.28 340**	P	**P**	**18 48 47.9**	**+0.4**
PD31	**Pinedale Array**	**90.28 340**	P	**P**	**18 48 47.9**	**+0.4**
PDAR	**Pinedale Array**	**90.28 340**	P	**P**	**18 48 48.3**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=63,slow=32,SNR=5.1					
PDAR			LR	LR	19 22 59.3	
	comp=Z,88nm,22.0s,baz=140,slow=31					
PDAR	**Pinedale Array**	**90.28 340**	P	**P**	**18 48 47.6**	**+0.1**
PAHR	**Pah Rah Range**	**90.30 332**	P	**P**	**18 48 46.7**	**-0.8**
RSSD	**Black Hills**	**90.37 344**	P	**P**	**18 48 46.7**	**-1.1**
RSSD			pmax	pmax		
	comp=Z,10.0nm,1.5s					
RSSD	**Black Hills**	**90.37 344**	P	**P**	**18 48 46.7**	**-1.1**
AHID	**Auburn Hatcher**	**90.66 339**	P	**P**	**18 48 48.2**	**-1.1**
AHID			IAmb	IAmb	18 49 12.6	
	comp=Z,9.2nm,0.6s					
ORV	**Oroville**	**90.89 331**	P	**P**	**18 48 51.7**	**+1.6**
ORV			pmax	pmax		
	comp=Z,28nm,1.5s					
ORV	**Oroville**	**90.89 331**	P	**P**	**18 48 51.7**	**+1.6**
REDW	**Red Top Meadow**	**91.16 339**	P	**P**	**18 48 53.8**	**+2.2**
REDW			IAmb	IAmb	18 49 00.8	
	comp=Z,20nm,1.4s					
TPAW	**Teton Pass**	**91.30 339**	P	**P**	**18 48 50.0**	**-2.2**
TPAW			IAmb	IAmb	18 49 00.4	
	comp=Z,10nm,1.1s					
LOHW	**Long Hollow**	**91.33 340**	P	**P**	**18 48 51.5**	**-0.8**
FXWY	**Fox Creek**	**91.46 339**	P	**P**	**18 48 54.1**	**+1.1**
O03E	**Paynes Creek**	**91.65 331**	P	**P**	**18 48 55.2**	**+1.5**
	baz=153					
IMW	**Indian Meadow**	**91.68 340**	P	**P**	**18 48 54.8**	**+0.8**
IMW			IAmb	IAmb	18 49 03.3	
	comp=Z,13nm,1.4s					
KCPM	**Cahto Peak**	**91.75 329**	P	**P**	**18 48 54.7**	**+0.5**
KCPM			IAmb	IAmb	18 49 04.0	
	comp=Z,21nm,1.4s					
FLWY	**Flagg Ranch**	**91.80 340**	P	**P**	**18 48 54.1**	**-0.4**
FLWY			IAmb	IAmb	18 49 03.4	
	comp=Z,12nm,1.1s					
WDC	**Whiskeytown Da**	**92.17 330**	P	**P**	**18 48 55.5**	**-0.5**
WDC			pmax	pmax		
	comp=Z,16nm,1.3s					
WDC	**Whiskeytown Da**	**92.17 330**	P	**P**	**18 48 55.5**	**-0.5**
WDC			IAmb	IAmb	18 49 05.1	
	comp=Z,16nm,1.2s					
YHH	**Holmes Hill**	**92.50 340**	P	**P**	**18 48 59.3**	**+1.5**
J08A	**Circle Bar Ran**	**93.30 334**	P	**P**	**18 49 02.8**	**+1.5**
STKA	**Stephens Creek**	**94.22 216**	LR	LR	19 23 02.9	
	comp=Z,267nm,19.9s,baz=194,slow=30					
TORD	**Torodi Ar. Bea**	**94.70 76**	P	**P**	**18 49 09.4**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=88,slow=36,SNR=1.6					
TORD			LR	LR	19 25 59.2	
	comp=Z,146nm,21.8s,baz=190,slow=32					
SCHQ	**Schefferville**	**99.78 9**	LR	LR	19 33 05.2	
	comp=Z,54nm,18.2s,baz=230,slow=34					
H11S2	**WAKE ISLAND Hyl**	**17.79 269**	T	T	21 03 14.2	
	baz=132,slow=76,SNR=12					
H11S1	**WAKE ISLAND Hyl**	**17.80 269**	T	T	21 03 08.6	
	baz=132,slow=76,SNR=6.2					
H11S3	**WAKE ISLAND Hyl**	**17.80 269**	T	T	21 03 14.9	
	baz=132,slow=76,SNR=6.7					
H11N3	**WAKE ISLAND Hyl**	**18.44 270**	T	T	21 03 55.7	
H11N1	**WAKE ISLAND Hyl**	**18.45 270**	T	T	21 03 59.5	
	SNR=4.2					
H11N2	**WAKE ISLAND Hyl**	**18.46 270**	T	T	21 03 55.2	
ILAR	**Eielson Array**	**120.03 333**	PKP	**PKPdf**	**18 54 35.3**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=254,slow=29,SNR=1.9					
ILAR	**Eielson Array**	**120.03 333**	PKIKP	**PKPdf**	**18 54 36.1**	**-0.2**
ILAR	**Eielson Array**	**120.03 333**		**PKPdf**	**18 54 36.0**	**-0.2**
GERES	**GERESS Array B**	**124.87 53**	PKP	**PKiKP**	**18 54 47.8**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=288,slow=1.3,SNR=4.6					
CLL	**Collm**	**125.68 50**	*e*PKPdf	**PKiKP**	**18 54 50.0**	**+2.1**
CLL			*e*		18 55 03.0	
CLL			*e*PP	**PP**	**18 56 39.0**	**-1.3**
CLL			LmV		19 49 00.0	
	comp=Z,100nm,19.9s					
CLL	**Collm**	**125.68 50**	*e*PKIKP	**PKiKP**	**18 54 50.0**	**+2.1**
PET	**Petropavlovsk**	**140.18 305**	*i* PKIKP	**PKiKP**	**18 55 18.9**	**+1.8**
PET			pmax	pmax		
	comp=Z,86nm,1.2s					
OBN	**Obninsk**	**140.22 52**	*e*PKIKP	**PKiKP**	**18 55 17.1**	**-0.1**
OBN			*e*		18 58 15.4	
OBN			*e*		19 01 15.8	
OBN			pmax	pmax		
	comp=Z,5.0nm,0.8s					
OBN			MLR	MLR		
	comp=Z,113nm,19.0s					
PETK	**Petropavlovsk-**	**140.76 305**	PKP	**PKPdf**	**18 55 16.3**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=76,slow=18,SNR=0.9					
KIV	**Kislovodsk**	**141.04 71**	*i* PKIKP	**PKPdf**	**18 55 17.2**	**+0.5**
KIV			pmax	pmax		
	comp=Z,15nm,1.0s					
KIV			MLR	MLR		
	comp=Z,183nm,24.0s					
KLMR	**Klimovskoe**	**142.41 43**	PKIKP	**PKPdf**	**18 55 16.3**	**-2.1**
KLMR			pmax	pmax		
	comp=Z,10.0nm,1.4s					
KLMR	**Klimovskoe**	**142.41 43**	PKPdf	**PKPdf**	**18 55 16.3**	**-2.1**
KLMR			AMP		18 55 20.0	
	comp=Z,10.0nm,1.4s					
GROC	**Groznyy**	**142.89 73**	*e*PKIKP	**PKiKP**	**18 55 22.6**	**-0.5**
GROC			pmax	pmax		
	comp=Z,16nm,0.6s					
SEY	**Seymchan**	**144.23 320**	*i* PKIKP	**PKPdf**	**18 55 22.0**	**+0.4**
PRGR	**Permogore**	**145.34 42**	*e*PKIKP	**PKPbc**	**18 55 23.2**	**-0.2**
ASAJ	**Asahikawa**	**148.34 285**	PKPbc	**PKPbc**	**18 55 32.8**	**+0.1**
	comp=Z,22nm,1.3s,baz=215,slow=20,SNR=3.8					
MJAR	**Matsushiro Arr**	**148.63 269**	PKPbc	**PKPbc**	**18 55 33.3**	**-0.4**
	comp=Z,3.4nm,1.0s,baz=90,slow=1.3,SNR=7.6					
MJAR	**Matsushiro Arr**	**148.63 269**	PKP2	**PKPbc**	**18 55 33.2**	**-0.5**
MAJO	**Matsushiro**	**148.63 269**	PKP2	**PKPbc**	**18 55 33.3**	**-0.4**
MAJO	**Matsushiro**	**148.63 269**		**PKPbc**	**18 55 33.3**	**-0.4**
MAT	**Matsushiro**	**148.63 269**	PKP	**PKPbc**	**18 55 33.0**	**-0.7**
YSS	**Yuzh-Sakhalins**	**148.94 291**	*e*PKIKP	**PKPdf**	**18 55 31.6**	**+1.6**
YSS			MLR	MLR		
	comp=Z,300nm,20.0s					
GEYT	**Alibeck**	**149.56 88**	PKPbc	**PKPbc**	**18 55 34.8**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=162,slow=40,SNR=1.9					
GEYT	**Alibeck**	**149.56 88**	PKPbc	**PKPbc**	**18 55 34.4**	**-1.6**
UBPT	**Khong Chiam**	**150.20 195**		**PKPdf**	**18 55 31.2**	**-1.8**
HRA	**Herat**	**150.85 98**		**PKPbc**	**18 55 38.9**	**-0.6**
AKTO	**Aktyubinsk**	**152.61 63**	PKPbc	**PKPbc**	**18 55 41.4**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=123,slow=4.7,SNR=4.8					
ARU	**Arti**	**152.62 50**	*i* PKIKP	**PKiKP**	**18 55 42.7**	**0.0**
ARU					18 59 23.5	
ARU			SS	SS	19 18 53.2	-3.9
ABKAR	**Akbulak array**	**153.78 66**		**PKPdf**	**18 55 36.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**154.04 182**	PKP	**PKPdf**	**18 55 39.1**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=170,slow=8.7,SNR=4.1					
CMAR			PKPbc	**PKPbc**	**18 55 45.1**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=237,slow=1.7,SNR=6.1					
CMAR	**Chiang Mai Arr**	**154.04 182**	PKIKP	**PKPdf**	**18 55 37.4**	**-1.3**
CMAR					18 55 44.5	
CMAR	**Chiang Mai Arr**	**154.04 182**	PKPdf	**PKPdf**	**18 55 37.4**	**-1.3**
CMAR				**PKPbc**	**18 55 44.5**	**-2.2**
YAK	**Yakutsk**	**154.53 325**	PKPbc	**PKiKP**	**18 55 46.8**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=196,slow=0.7,SNR=2.2					
YAK	**Yakutsk**	**154.53 325**		**PKiKP**	**18 55 47.0**	**+0.6**
NJ2	**Nanjing**	**159.49 240**	*e*PKP	**PKPdf**	**18 55 44.5**	**-0.8**
BVAR	**Borovoye Array**	**160.03 55**	PKP	**PKPdf**	**18 55 45.7**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=307,slow=37,SNR=2.0					
KSH	**Kashi**	**162.95 99**	PKP	**PKPdf**	**18 55 42.5**	**-6.4**
KSH			PP	**PP**	**19 00 21.3**	**-2.5**
KSH			SKKS		19 07 03.8	
KSH			SS	SS	19 20 37.5	-11
KSH			AMB	AMB		
	comp=Z,84nm,6.1s					
KSH			LR	LR		
	comp=Z,95nm,4.6s					
KSH			LR	LR		
	comp=Z,69nm,4.7s					
KSH			LR	LR		
	comp=Z,120nm,5.2s					
KURBB	**Kurchatov Arra**	**165.54 58**	PKP	**PKPdf**	**18 55 48.8**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=265,slow=1.0,SNR=4.7					
KURBB			PKPab	**PKPab**	**18 56 48.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=87,slow=20,SNR=1.2					
KURK	**Kurchatov**	**165.57 58**	PKIKP	**PKPdf**	**18 55 48.7**	**-2.0**
KURK					18 56 48.2	
KURK	**Kurchatov**	**165.57 58**		**PKPdf**	**18 55 48.7**	**-2.0**
KURK			PKPab	**PKPab**	**18 56 48.2**	**-1.3**
CD2	**Chengdu**	**165.70 201**	PKP	**PKPdf**	**18 55 50.3**	**-1.2**
ZALV	**Zalesovo Beam**	**167.24 37**	PKP	**PKPdf**	**18 55 49.4**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=124,slow=40,SNR=1.2					
ZALV	**Zalesovo Beam**	**167.24 37**	PKIKP	**PKPdf**	**18 55 49.6**	**-2.3**
ZALV	**Zalesovo Beam**	**167.24 37**		**PKPdf**	**18 55 49.6**	**-2.3**
MKAR	**Makanchi Array**	**168.80 73**	PKPab	**PKPab**	**18 57 01.4**	**-2.6**
	comp=Z,0.6nm,0.8s,baz=294,slow=1.2,SNR=3.6					
LZH	**Lanzhou**	**170.48 210**	*e*PKP	**PKPdf**	**18 56 01.8**	**+7.0**
LZH			pPKP	sPKPdf	18 56 12.4	+14
LZH			sPKP		18 56 17.3	
LZH			PKP	**sPKPab**	**18 57 18.6**	**+3.5**
WMQ	**Urumqi**	**172.60 92**	*e*PKP	**PKPdf**	**18 55 56.1**	**+0.6**
WMQ			AMB	AMB		
	comp=Z,51nm,4.5s					
WMQ			LR	LR		
	comp=Z,110nm,23.9s					
WMQ			LR	LR		
	comp=Z,120nm,21.9s					
WMQ			LR	LR		
	comp=Z,90nm,26.9s					
SONM	**Songino Array**	**173.24 303**	PKPab	**PKPab**	**18 57 22.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=108,slow=4.8,SNR=3.6					
SONM	**Songino Array**	**173.24 303**		**PKPab**	**18 57 21.8**	**-1.9**
GTA	**Gaotai**	**174.74 196**	PKP	**PKPdf**	**18 55 56.3**	**-0.2**
GTA			pPKP	sPKPdf	18 56 03.4	+3.5
GTA			PKPab	**PKPab**	**18 57 30.4**	**0.0**
GTA			LR	LR		
	comp=Z,86nm,17.1s					
GTA			LR	LR		
	comp=Z,87nm,18.2s					
GTA			LR	LR		
	comp=Z,150nm,19.6s					

*IDC **22** 18:42:28.5±1.2, 8°.15S×116°.78E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.6/42, mbtmp3.8/9, ML3.6/3, Error ellipse: s-maj=24.3km s-min=14.3km az=60.0*
*DJA **22** 18:42:33.9±0.3, 8°.5±4°.×11°.7E±°.°, h10km, M4.0/7, MLv4.0/7*
*NEIC **22** 18:42:35.5±1.4, 8°.0S±0°.1×116°.96E±0°.07, h50km±13km, mb4.1/6, Error ellipse: s-maj=14.8km s-min=10.5km az=182.0*

ISC 22 18:42:29.9±0.7, 8°.17S±0°.06×116°.67E±0°.06, h10km, n28, σ1♀64/33, mb3.7/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.60**	**160**	P	**Pg**	**18 42 42.5**	**+0.8**
TWSI				S	**Sg**	**18 42 47.9**	**-1.8**
PLAI	**Plampang**	**1.27**	**121**	P	**Pn**	**18 42 52.7**	**-1.1**
PLAI				S	**Sb**	**18 43 05.7**	**-4.8**
JAGI	**Jajag, Banyuwa**	**2.51**	**263**	P	**Pg**	**18 43 17.9**	**-0.2**
JAGI	**Jajag, Banyuwa**	**2.51**	**263**		**Pg**	**18 43 17.9**	**-0.2**
WSI	**Waingapu**	**3.88**	**113**	P	**Pb**	**18 43 41.1**	**+2.6**
KAPI	**Kappang**	**4.38**	**45**	Pn	**Pn**	**18 43 33.8**	**-2.7**
	2.3nm,0.3s,baz=137,slow=16,SNR=2.4						
KAPI				Sn	**Sn**	**18 44 26.0**	**-1.6**
	6.3nm,0.3s,baz=283,slow=16,SNR=6.4						
KAPI				Lg	Lg	18 44 46.2	
	10.0nm,0.3s,baz=91,slow=21,SNR=7.3						
KAPI	**Kappang**	**4.38**	**45**		**Pn**	**18 43 34.2**	**-2.3**
BKSI	**Bulukumba**	**4.44**	**51**	P	**Pn**	**18 43 39.8**	**+2.4**
EDFI	**Ende, Flores**	**5.00**	**97**	P	**Pn**	**18 43 45.9**	**+0.8**
MMRI	**Maumere**	**5.52**	**95**		**Pn**	**18 43 52.7**	**+0.4**
BATI	**Baumata**	**7.19**	**107**	Pn	**Pn**	**18 44 13.7**	**-1.5**
	3.7nm,0.3s,baz=100,slow=24,SNR=4.5						
BATI				Sn	**Sn**	**18 45 37.6**	**+0.5**
	0.9nm,0.3s,baz=8.8,slow=22,SNR=1.4						
SOEI	**Soe**	**7.67**	**102**	Pn	**Pn**	**18 44 23.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**13.17**	**139**	Pn	**Pn**	**18 45 35.1**	**-2.1**
	0.2nm,0.3s,baz=360,slow=18,SNR=1.5						
FITZ				Sn	Sn	18 47 52.6	-11
	0.1nm,0.3s,baz=0.5,slow=8.4,SNR=1.7						
FITZ	**Fitzroy Crossi**	**13.17**	**139**		**Pn**	**18 45 38.8**	**+1.6**
WB0	**Warramunga Arr**	**20.68**	**126**	P	**P**	**18 47 10.9**	**+0.6**
WB0				IAmb	IAmb	18 47 11.4	
	comp=Z,6.7nm,0.7s						
WRA	**Warramunga Arr**	**20.73**	**126**	P	**P**	**18 47 11.2**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=302,slow=12,SNR=88						
WRA				S	S	18 50 52.3	-10
	comp=Z,0.4nm,0.8s,baz=292,slow=25,SNR=1.8						
WRA	**Warramunga Arr**	**20.73**	**126**	P	**P**	**18 47 10.8**	**0.0**
WB2	**Warramunga Arr**	**20.74**	**126**	P	**P**	**18 47 11.0**	**+0.1**
WB2				IAmb	IAmb	18 47 37.2	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**20.90**	**126**	P	**P**	**18 47 13.1**	**+0.5**
WR0				IAmb	IAmb	18 47 14.2	
	comp=Z,8.2nm,0.8s						
ASAR	**Alice Springs**	**22.59**	**135**	P	**P**	**18 47 29.7**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=312,slow=9.4,SNR=26						
ASAR				S	**S**	**18 51 38.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=312,slow=24,SNR=2.0						
ASAR	**Alice Springs**	**22.59**	**135**	P	**P**	**18 47 31.1**	**+0.3**
CM31	**Chiang Mai Arr**	**31.72**	**327**	P	**P**	**18 48 55.8**	**+1.6**
STKA	**Stephens Creek**	**33.07**	**139**	P	**P**	**18 49 06.9**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=200,slow=5.4,SNR=6.3						
STKA	**Stephens Creek**	**33.07**	**139**	P	**P**	**18 49 06.7**	**+0.8**
SONM	**Songino Array**	**56.49**	**352**	P	**P**	**18 52 11.0**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=169,slow=8.5,SNR=1.4						
MKAR	**Makanchi Array**	**62.69**	**334**	P	**P**	**18 52 54.4**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=127,slow=8.1,SNR=1.5						
MKAR	**Makanchi Array**	**62.69**	**334**	P	**P**	**18 52 54.6**	**-0.3**
ZALV	**Zalesovo Beam**	**67.47**	**340**	P	**P**	**18 53 27.9**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=123,slow=5.3,SNR=2.6						

*REY **22** 18:45:46.9, 64°.67N×17°.48W, h7km*
*IDC **22** 18:45:47.2±0.7, 64°.61N×17°.62W, h0km, mb3.7/14, mb1 3.9/16, mb1mx3.7/50, mbtmp3.8/16, ML3.4/2, Error ellipse: s-maj=20.4km s-min=9.9km az=9.0*
*NEIC **22** 18:45:48.1±1.8, 64°.62N±0°.10×17°.8W±0°.2, h10km±1km, mb4.3/11, Error ellipse: s-maj=17.1km s-min=12.0km az=194.0*

ISC 22 18:45:48.2±0.5, 64°.68N±0°.02×17°.49W±0°.03, h10km, n77, σ1♀95/79, mb3.9/19, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**268**	P	**Pg**	**18 45 49.5**	**-1.5**
	baz=271						
IDYN	**Dyngjuhals**	**0.13**	**25**	P	**Pg**	**18 45 49.9**	**-1.3**
	baz=22						
IDJK	**Dyngjujokull**	**0.21**	**147**	P	**Pg**	**18 45 51.0**	**-1.6**
	baz=148						
IURH	**Urdarhals**	**0.21**	**46**	P	**Pg**	**18 45 51.2**	**-1.3**
	baz=43						
IGRF	**Grimsfjall**	**0.29**	**160**	P	**Pg**	**18 45 52.4**	**-1.6**
	baz=161						
IKVE	**Kverkfjoll**	**0.35**	**89**	P	**Pg**	**18 45 53.5**	**-1.7**
	baz=88						
IBJK	**Bruarjokull**	**0.38**	**123**	P	**Pg**	**18 45 53.8**

BRG	Berggiesshubel	21.41	115	*e*P	P	18 50 36.6 +0.8
	comp=Z,3.8nm,0.8s					
KHC	Kasperske Hory	22.68	118	P	P	18 50 49.5 +0.1
GEC2	GERESS Array S	22.96	119	P	P	18 50 53.6 +1.2
GEC2				IAmb	IAmb	18 51 03.8
	comp=Z,9.6nm,1.4s					
GERES	GERESS Array B	22.96	119	P	P	18 50 52.1 -0.3
	comp=Z,1.2nm,1.0s,baz=335,slow=5.9,SNR=6.5					
GERES	GERESS Array B	22.96	119	P	P	18 50 52.6 +0.1
VRAC	Vranov	23.70	114	P	P	18 51 02.3 +2.5
	comp=Z,1.0nm,0.4s,baz=325,slow=8.0,SNR=4.8					
MORC	Moravsky Berou	23.70	112	P	P	18 51 00.0 +0.2
ESDC	Sonseca Array	26.26	156	P	P	18 51 24.6 +1.2
	comp=Z,0.9nm,0.9s,baz=342,slow=9.6,SNR=4.9					
NRCA	Norcia	27.89	127	P	P	18 51 38.9 +1.0
NRCA				IAmb	IAmb	18 51 39.9
	comp=Z,7.7nm,0.9s					
BRTR	Keskin Array B	38.48	105	P	P	18 53 10.2 +0.1
	comp=Z,0.2nm,0.4s,baz=314,slow=27,SNR=2.4					
AKTO	Aktyubinsk	40.28	73	P	P	18 53 25.9 +1.0
	comp=Z,2.0nm,0.9s,baz=305,slow=8.7,SNR=5.2					
ABKAR	Akbulak array	41.98	73	P	P	18 53 39.8 +0.9
BVAR	Borovoye Array	43.19	62	P	P	18 53 50.1 +1.4
	comp=Z,2.6nm,1.0s,baz=285,slow=12,SNR=10					
ILAR	Eielson Array	45.68	332	P	P	18 54 09.8 +1.3
	comp=Z,1.3nm,1.0s,baz=32,slow=6.6,SNR=9.0					
ILAR	Eielson Array	45.68	332	P	P	18 54 07.9 -0.5
IMAR	Indian Mountai	45.85	337	P	P	18 54 10.2 +0.4
BCAR	Beaver Creek A	46.10	329	P	P	18 54 13.9 +2.1
ZAA0	Zalesovo Array	47.62	51	P	P	18 54 25.6 +1.9
ZAA0				IAmb	IAmb	18 54 27.3
	comp=Z,1.6nm,0.9s					
ZALV	Zalesovo Beam	47.62	51	P	P	18 54 24.9 +1.2
	comp=Z,0.7nm,0.6s,baz=311,slow=8.8,SNR=2.2					
ZALV	Zalesovo Beam	47.62	51	P	P	18 54 25.6 +1.9
KURK	Kurchatov	48.10	58	P	P	18 54 29.0 +1.5
KURK				IAmb	IAmb	18 54 29.7
	comp=Z,3.7nm,0.9s					
KURBB	Kurchatov Arra	48.15	58	P	P	18 54 28.9 +1.0
	comp=Z,2.0nm,0.9s,baz=325,slow=7.0,SNR=14					
MKAR	Makanchi Array	52.72	58	P	P	18 55 03.4 +0.9
	comp=Z,0.9nm,0.9s,baz=318,slow=5.2,SNR=5.2					
MKAR	Makanchi Array	52.72	58	P	P	18 55 03.7 +1.2
TORD	Torodi Ar. Bea	53.15	156	P	P	18 55 05.6 -0.3
	comp=Z,0.9nm,0.7s,baz=352,slow=9.0,SNR=4.6					
TORD	Torodi Ar. Bea	53.15	156	P	P	18 55 07.2 +1.3
PDAR	Pinedale Array	53.17	293	P	P	18 55 04.8 -1.4
	comp=Z,1.2nm,0.9s,baz=42,slow=6.8,SNR=6.4					
PDAR	Pinedale Array	53.17	293	P	P	18 55 06.7 +0.5
BTK	Batken	53.95	72	P	P	18 55 12.3 +0.5
GAR	Garm	54.64	73	P	P	18 55 19.1 +2.3
SONM	Songino Array	59.63	40	P	P	18 55 53.1 +1.1
	comp=Z,0.6nm,0.8s,baz=328,slow=7.1,SNR=4.7					
SONM	Songino Array	59.63	40	PKIKP	P	18 55 53.1 +1.1
SONM	Songino Array	59.63	40	PKPdf	P	18 55 52.4 +0.4
TXAR	Lajitas Array	62.28	280	P	P	18 56 10.9 +0.7
	comp=Z,0.6nm,0.9s,baz=80,slow=2.9,SNR=4.1					
TXAR	Lajitas Array	62.28	280	P	P	18 56 09.2 -1.0

TUL ***22*** *19:28:34.7±2.0, 34°.63N±0°.04×97°.55W±0°.05, h5km±2km, ML3.6, Error ellipse: s-maj=7.5km s-min=5.8km az=286.0*
NEIC ***22*** *19:28:34.5±2.3, 34°.62N±0°.03×97°.59W±0°.05, h18km±7km, Error ellipse: s-maj=6.2km s-min=4.1km az=117.0*
ANF ***22*** *19:28:34.5±0.8, 34°.60N×97°.58W, h8km±6km, ML4.1/17, Error ellipse: s-maj=3.5km s-min=2.5km az=129.0*
UNK ***22*** *19:28:34.7, 34°.63N×97°.55W, h5km*
ISC 22 19:28:34.4±1.2, 34°.62N±0°.03×97°.57W±0°.03, h8km±9km, n92, σ0s.66/109, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	Smith Ranch, M	0.21	265	Pg	Pg	19 28 39.5	+0.8
FNO	Franklin	0.65	12		Pg	19 28 47.5	+0.5
FNO				Sg	Sb	19 28 56.8	-0.5
W35A	Tecumseh	0.78	47		Pg	19 28 49.1	-0.4
W35A				Sg	Sg	19 28 59.0	-0.7
OKCSW	OKLAHOMA CITY	0.79	8		Pg	19 28 49.4	-0.2
OKCSW				Sg	Sg	19 29 00.6	+0.6
OKCFA	Oklahoma City	0.80	7		Pg	19 28 49.6	-0.2
OKCFA				Sg	Sg	19 29 00.7	+0.4
OK025	Westminster Rd	0.98	11		Pg	19 28 52.8	-0.4
OK025				Sg	Sg	19 29 06.3	+0.4
WMOK	Wichita Mounta	1.00	277	P	Pg	19 28 52.9	-0.6
	baz=96,SNR=72						
WMOK				S	Sb	19 29 07.7	+0.3
	baz=96						
WMOK	Wichita Mounta	1.00	277		Pg	19 28 53.0	-0.6
BCOK	Bluff Creek, N	1.04	358		Pg	19 28 53.8	-0.5
OK029	Liberty Lake	1.18	5		Pb	19 28 56.5	-0.5
Z35A	Perchaven, San	1.31	168		Pn	19 28 57.6	-1.4
QUOK	Quay	1.70	24		Pn	19 29 04.7	+0.3
X37A	Clayton	1.82	90		Pn	19 29 06.5	+0.5
CROK	Carrier	1.91	350		Pn	19 29 07.9	+0.7
TUL1	Leonard	1.94	48	P	Pn	19 29 08.1	+0.4
	baz=229,SNR=52						
TUL1				S	Sb	19 29 35.0	+0.5
	baz=229						
TUL1	Leonard	1.94	48		Pn	19 29 08.1	+0.4
U32A	Winter Ranch,	2.11	327		Pn	19 29 11.0	+1.0
KAN13	South Haven SW	2.39	2		Pn	19 29 14.5	+0.6
T35A	Sooner Cattle	2.45	20		Pn	19 29 15.3	+0.6
KAN10	Anthony SW Sta	2.54	351		Pn	19 29 16.6	+0.7
Z38A	Mt. Pleasant	2.54	121		Pn	19 29 16.3	+0.4
WHTX	Lake Whitney,	2.62	178	P	Pn	19 29 17.3	+0.2
WHTX				S	Sn	19 29 49.9	+0.8
	baz=358						
WHTX	Lake Whitney,	2.62	178		Pn	19 29 17.0	0.0
ABTX	Abilene, Hawle	2.63	222	P	Pn	19 29 18.1	+0.8
	baz=40,SNR=30						
ABTX	Abilene, Hawle	2.63	222		Pn	19 29 18.1	+0.8
237A	Washetta, Mont	3.00	150		Pn	19 29 22.0	-0.2
W39A	Magazine	3.17	78	P	Pn	19 29 25.0	+0.5
	baz=261,SNR=9.3						
W39A				S	Sn	19 30 03.6	+1.2
	baz=261						
W39A	Magazine	3.17	78		Pn	19 29 24.6	+0.1
U38A	Gravette	3.17	54		Pn	19 29 24.7	+0.1
MIAR	Mount Ida	3.30	90	P	Pn	19 29 27.5	+1.2
	baz=273,SNR=26						
MIAR				S	Sn	19 30 07.6	+1.9
	baz=273						
MIAR	Mount Ida	3.30	90		Pn	19 29 27.0	+0.7
AMTX	Amarillo	3.39	276	P	Pn	19 29 28.7	+1.0
	baz=93						
AMTX	Amarillo	3.39	276		Pn	19 29 28.8	+1.0
HHAR	Hobbs	3.40	60		Pn	19 29 27.6	-0.1
NATX	Nacogdoches	3.75	139	S	Sn	19 30 17.0	0.0
	baz=321						
WLAR	White Oak Lake	3.81	103		Pn	19 29 33.7	+0.3
435B	Jarrell	3.83	180	P	Pn	19 29 34.0	+0.4
	baz=0.5						
435B				S	Sn	19 30 19.9	+1.1
	baz=0.5						
435B	Jarrell	3.83	180		Pn	19 29 34.6	+1.1
R32A	Long Quarter,	3.91	347		Pn	19 29 35.5	+0.8
X40A	Basin Creek Fa	3.91	91	P	Pn	19 29 35.2	+0.4
	baz=273,SNR=5.3						
X40A				S	Sn	19 30 22.0	+1.1
	baz=273						
X40A	Basin Creek Fa	3.91	91		Pn	19 29 35.2	+0.4
Z41A	Richland Creek	4.19	108	P	Pn	19 29 38.9	+0.3
	baz=290						
Z41A				S	Sn	19 30 27.1	-0.7
	baz=290						
U40A	Yellville	4.22	64	P	Pn	19 29 38.8	-0.3
	baz=247,SNR=32						
U40A	Yellville	4.22	64	Pn	Pn	19 29 38.7	-0.3
MSTX	Muleshoe	4.35	263	P	Pn	19 29 41.5	+0.5
	baz=80,SNR=11						
MSTX	Muleshoe	4.35	263		Pn	19 29 41.9	+0.9
WHAR	Wooly Hollow	4.39	80		Pn	19 29 41.6	+0.3
W41B	Gary Mavity, V	4.41	81	P	Pn	19 29 42.0	+0.4
	baz=264,SNR=9.2						
W41B				S	Sn	19 30 33.4	+0.2
	baz=264						
W41B	Gary Mavity, V	4.41	81		Pn	19 29 42.0	+0.4
CBKS	Cedar Bluff	4.53	338	P	Pn	19 29 42.9	-0.4
	baz=157						
CBKS				S	Sn	19 30 36.4	+0.1
	baz=157						
CBKS	Cedar Bluff	4.53	338	Pn	Pn	19 29 43.6	+0.3
JCT	Junction City	4.54	205	P	Pn	19 29 43.2	-0.2
	baz=24						
JCT				S	Sn	19 30 36.1	-0.3
	baz=24						
JCT	Junction City	4.54	205		Pn	19 29 44.4	+1.0
KSU1	Kansas State U	4.54	10	P	Pn	19 29 43.4	0.0
	baz=190						
KSU1				S	Sn	19 30 37.5	+1.1
	baz=190						
KSU1	Kansas State U	4.54	10	Pn	Pn	19 29 43.7	+0.3
S39A	Bolivar	4.61	47		Pn	19 29 44.2	-0.1
FCAR	Ozark Folk Cen	4.63	73		Pn	19 29 44.5	-0.2
MGMO	Mountain Grove	4.99	58	Pn	Pn	19 29 49.5	-0.2
LCAR	Lake Charles	5.44	73	Pn	Pn	19 29 55.0	-0.8
CPRX	Cap Rock	5.47	255	Pn	Pn	19 29 57.3	+1.0
R40A	Maddies Statio	5.63	48		Pn	19 29 58.0	-0.4
T42A	Van Buren	5.79	64		Pn	19 29 59.9	-0.6
P38A	Dawn	5.95	32		Pn	19 30 02.8	+0.1
CCM	Cathedral Cave	6.15	54	P	Pn	19 30 05.1	-0.4
	baz=238						
CCM	Cathedral Cave	6.15	54	Pn	Pn	19 30 05.7	+0.2
P40A	Paris	6.60	40		Pn	19 30 11.6	0.0
OXF	Oxford	6.74	89	P	Pn	19 30 13.3	-0.2
	baz=273						
BGNE	Belgrade	6.79	356	P	Pn	19 30 14.3	-0.1
	baz=176						
N38A	Joes South For	7.06	28	Pn	Pn	19 30 17.3	-0.7
SDCO	Great Sand Dun	7.13	298	P	Pn	19 30 19.6	+0.4
	baz=114						
SDCO	Great Sand Dun	7.13	298		Pn	19 30 19.9	+0.6
MNTX	Cornudas Mount	7.17	248	P	Pn	19 30 19.7	+0.2
	baz=64						
MNTX	Cornudas Mount	7.17	248	Pn	Pn	19 30 20.1	+0.6
TXAR	Lajitas Array	7.38	226	Pn	Pn	19 30 22.3	-0.3
TX31	Lajitas Ar. Si	7.39	226		Pn	19 30 22.3	-0.3
TX32	Lajitas Array	7.39	226	Pn	Pn	19 30 22.3	-0.3
Q24A	Divide	7.46	308	Pn	Pn	19 30 23.4	-0.4
PLAL	Pickwick Lake	7.82	85	Pn	Pn	19 30 27.5	-1.0
SCIA	State Center	8.04	24	P	Pn	19 30 31.9	+0.5
	baz=206						
N41A	Harden Midland	8.08	39	Pn	Pn	19 30 32.2	+0.2
ISCO	Idaho Springs	8.24	311	P	Pn	19 30 34.0	-0.5
	baz=126						
ISCO	Idaho Springs	8.24	311	Pn	Pn	19 30 34.5	0.0
HDIL	Hopedale	8.85	46	P	Pn	19 30 41.4	-1.1
	baz=230						
L40A	Anamosa	8.95	32		Pn	19 30 42.7	-1.2
N23A	Red Feather La	9.12	316	P	Pn	19 30 46.1	-0.4
	baz=131						
N23A	Red Feather La	9.12	316	Pn	Pn	19 30 46.4	-0.1
ECSD	EROS Data Cent	9.13	4	P	Pn	19 30 45.4	-1.0
	baz=185						
ECSD	EROS Data Cent	9.13	4	Pn	Pn	19 30 45.4	-1.0
L42A	Oliver, Polo	9.64	38		Pn	19 30 52.1	-1.2
P46A	Rosedale	9.66	56	Pn	Pn	19 30 54.4	+0.7
JFWS	Jewell Farm	10.06	32	P	Pn	19 30 58.3	-0.8
	baz=217						
JFWS	Jewell Farm	10.06	32	Pn	Pn	19 30 58.1	-1.0

IDC ***22*** *19:39:19.3±1.1, 31°.45N×103°.64E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/39, mbtmp3.5/9, ML3.8/2, Error ellipse: s-maj=35.3km s-min=19.4km az=56.0*
BJI ***22*** *19:39:22.8±0.0, 31°.33N×103°.40E, h16km, ML3.6/10*
ISC 22 19:39:20.1±0.7, 31°.37N±0°.04×103°.72E±0°.06, h13km, n15, σ2s.83/19, mb3.6/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.46	176	Pg	Pb	19 39 29.4	-0.8
CD2				Sg	Sb	19 39 37.3	+0.3
CD2				smax	smax		
	comp=N,4μm,0.8s						
CD2				smax	smax		
	comp=E,3μm,0.7s						
LZH	Lanzhou	4.70	1	*e*Pg	Pg	19 40 51.3	+1.1
LZH				Sg	Sg	19 41 49.3	-1.9
LZH				smax	smax		
	comp=N,52nm,0.9s						
LZH				smax	smax		
	comp=E,86nm,1.1s						
XAN	Xi'an	5.12	57	Pg	Pg	19 40 57.8	-0.5
XAN				Sn	Sn	19 41 43.4	+7.7
XAN				Sg	Sg	19 42 03.6	-1.1
XAN				smax	smax		
	comp=N,69nm,0.9s						
XAN				smax	smax		
	comp=E,65nm,0.6s						
GYA	Guiyang	5.53	152	*e*Pn	Pb	19 40 52.9	-3.8
GYA				Sn	Sb	19 41 59.5	-3.5
GYA				smax	smax		
	comp=N,39nm,0.9s						
GYA				smax	smax		
	comp=E,29nm,1.0s						
GYA				LR	LR		
	comp=N,210nm,3.8s						
GYA				LR	LR		
	comp=E,250nm,4.0s						
GYA				LR	LR		
	comp=Z,150nm,5.3s						
GTA	Gaotai	8.63	339	*e*P	Pg	19 42 01.6	-3.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR	Chiang Mai Arr	13.57	200	Pn	Pn	19 42 35.9	+3.5
	comp=Z,0.3nm,0.3s,baz=345,slow=40,SNR=1.5						
SONM	Songino Array	16.57	6	Pn	Pn	19 43 12.9	+0.7
	comp=Z,0.2nm,0.3s,baz=344,slow=42,SNR=1.6						
WMQ	Urumqi	17.73	319	*e*P	Pn	19 43 25.9	-0.9
WMQ				smax	smax		
	comp=N,9.0nm,0.7s						
WMQ				smax	smax		
	comp=E,10.0nm,0.5s						
KSRS	Korea Array	20.84	66	P	Pn	19 44 03.2	-0.8
	comp=E,1.2nm,0.7s,baz=260,slow=9.9,SNR=6.1						
MKAR	Makanchi Array	22.56	319	P	P	19 44 21.1	+1.1
	comp=E,1.0nm,0.9s,baz=118,slow=13,SNR=4.9						
ZALV	Zalesovo Beam	26.34	334	P	P	19 44 54.9	-0.7
	comp=E,0.7nm,0.4s,baz=134,slow=8.6,SNR=4.3						
KURBB	Kurchatov Arra	26.83	323	P	P	19 45 00.2	+0.1
	comp=E,2.0nm,0.9s,baz=129,slow=9.4,SNR=11						
AKASG	Malin Array Be	56.96	313	P	P	19 49 05.0	-0.1
	comp=E,0.3nm,0.3s,baz=87,slow=40,SNR=1.9						
WRA	Warramunga Arr	58.88	146	P	P	19 49 19.5	+0.6
	comp=E,0.3nm,0.7s,baz=337,slow=7.6,SNR=2.4						
ASAR	Alice Springs	61.89	148	P	P	19 49 42.0	+2.6
	comp=E,0.3nm,0.8s,baz=344,slow=7.3,SNR=1.9						

IDC 22 19:45:21.6±3.0, 30°.32S×177°.47W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/20, mbtmp3.7/3, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/33, Error ellipse: s-maj=73.0km s-min=46.0km az=123.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	9.10	208	Pn	Pn	19 47 32.6	-1.6
	0.3nm,0.3s,baz=344,slow=20,SNR=1.2						
URZ				Sn	Sn	19 49 11.4	-5.9
	0.4nm,0.3s,baz=23,slow=20,SNR=1.8						
ASAR	Alice Springs	43.57	267	P	P	19 53 27.9	+0.4
	0.3nm,0.3s,baz=104,slow=7.5,SNR=16						
WRA	Warramunga Arr	44.55	272	P	P	19 53 35.1	-0.4
	0.7nm,0.6s,baz=110,slow=8.0,SNR=19						
VNDA	Vanda	48.22	186	LR	LR	20 11 18.7	
	comp=Z,40nm,21.1s,baz=354,slow=32						
FINES	FINESS Array B	145.23	340	PKPbc	PKPbc	20 04 59.4	-0.8
	7.4nm,1.0s,baz=64,slow=3.2,SNR=7.8						

IDC ***22*** *19:57:09.7±1.6, 17°.61S×178°.68W, h571km±20km, mb3.4/9, mb1 3.6/10, mb1mx3.2/32, mbtmp4.3/10, Error ellipse: s-maj=38.5km s-min=11.8km az=153.0*
NEIC ***22*** *19:57:10.5±1.3, 17°.5S±0°.3×178°.8W±0°.2, h575km±13km, mb4.2/26, Error ellipse: s-maj=45.6km s-min=17.7km az=151.0*
ISC 22 19:57:08.6±0.7, 17°.6S±0°.2×178°.8W±0°.1, h550km, n44, σ0s.97/45, mb4.2/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.66	62	P	P	19 59 04.9	+1.8
	3.3nm,0.3s,baz=66,slow=23,SNR=3.6						
AFI				S	S	20 00 38.1	+1.2
	1.3nm,0.3s,baz=234,slow=23,SNR=1.4						
EIDS	Eidsvold	29.06	249	P	P	20 02 26.2	+1.2
EIDS				IAmb	IAmb	20 02 43.4	
	comp=Z,11nm,1.1s						
ARMA	Armidale	29.81	239	P	P	20 02 32.6	+1.1
CTAO	Charters Tower	33.18	260	P	P	20 03 01.9	+1.6
COEN	Coen	36.78	270	P	P	20 03 31.9	+1.6
TOO	Toolangi	37.10	230	P	P	20 03 33.0	+0.3
TOO				IAmb	IAmb	20 03 33.2	
	comp=Z,5.8nm,0.8s						
STKA	Stephens Creek	38.48	241	P	P	20 03 43.9	-0.1
	comp=Z,4.0nm,0.7s,baz=91,slow=7.8,SNR=9.4						
STKA	Stephens Creek	38.48	241	P	P	20 03 44.7	+0.7
JAY	Jayapura	42.52	286	P	P	20 04 15.8	-0.7
	comp=Z,5.7nm,0.6s,baz=140,slow=5.6,SNR=5.4						
BBOO	Buckleboo	43.26	241	P	P	20 04 21.8	-0.1
WR0	Warramunga Arr	44.18	259	P	P	20 04 28.6	-0.6
WR0				IAmb	IAmb	20 04 39.0	
	comp=Z,10nm,1.5s						
WB0	Warramunga Arr	44.33	260	P	P	20 04 30.2	-0.2
WB0				IAmb	IAmb	20 04 33.7	
	comp=Z,16nm,1.5s						
WB2	Warramunga Arr	44.36	259	P	P	20 04 30.7	+0.1
WB2				IAmb	IAmb	20 04 32.2	
	comp=Z,18nm,1.4s						
WRAB	Tennant Creek	44.36	259	P	P	20 04 30.4	-0.2
WRAB				IAmb	IAmb	20 04 31.4	
	comp=Z,3.4nm,0.7s						
WRA	Warramunga Arr	44.37	259	P	P	20 04 31.0	+0.3
	comp=Z,2.5nm,0.7s,baz=96,slow=7.6,SNR=100						
WRA	Warramunga Arr	44.37	259	P	P	20 04 30.8	+0.1
AS31	Alice Springs	44.56	254	P	P	20 04 32.5	+0.3
AS31				IAmb	IAmb	20 04 33.6	
	comp=Z,3.3nm,0.8s						
ASAR	Alice Springs	44.56	254	P	P	20 04 32.6	+0.4
	comp=Z,14nm,0.8s,baz=87,slow=8.7,SNR=175						
ASAR	Alice Springs	44.56	254	P	P	20 04 32.2	0.0
MTN	Manton Dam	48.48	268	P	P	20 05 02.7	+0.8
MTN				IAmb	IAmb	20 05 12.0	
	comp=Z,13nm,1.2s						
KNRA	Kununurra	50.20	264	P	P	20 05 15.0	+0.5
KNRA				IAmb	IAmb	20 05 15.4	
	comp=Z,9.6nm,0.8s						
FITZ	Fitzroy Crossi	52.76	260	P	P	20 05 33.7	+0.8
YBH	Yreka Blue Hor	78.51	39	P	P	20 08 13.0	-0.3
	comp=Z,1.2nm,0.6s,baz=215,slow=6.9,SNR=3.2						
YBH	Yreka Blue Hor	78.51	39	P	P	20 08 13.7	+0.5
NVAR	Mina Array Bea	79.44	44	P	P	20 08 17.4	-1.1
	comp=Z,1.0nm,0.7s,baz=225,slow=9.0,SNR=7.5						
NVAR	Mina Array Bea	79.44	44		P	20 08 18.1	-0.3
TUC	Tucson	81.78	52	P	P	20 08 29.0	-1.5
U15A	North Rim	82.57	48	P	P	20 08 34.7	0.0
GHO	Glory Hole Cre	82.61	14	P	P	20 08 33.3	-0.7
GHO				IAmb	IAmb	20 08 58.9	
	comp=Z,14nm,1.3s						
SCM	Sheep Creek Mo	83.03	14	P	P	20 08 36.1	-0.1
TRF	Thorofare Moun	83.80	12	P	P	20 08 39.3	-0.7
TRF				IAmb	IAmb	20 08 40.5	
	comp=Z,6.0nm,0.8s						
CCB	Clear Creek Bu	85.38	13	P	P	20 08 46.7	-0.8
IMAR	Indian Mountai	85.46	10	P	P	20 08 47.1	-0.8
ILAR	Eielson Array	85.68	13	P	P	20 08 48.0	-1.0
	comp=Z,0.5nm,0.4s,baz=219,slow=4.7,SNR=9.6						
TX31	Lajitas Ar. Si	86.12	58	P	P	20 08 51.7	-0.3
TX31				IAmb	IAmb	20 08 52.1	
	comp=Z,7.8nm,0.9s						
TX32	Lajitas Array	86.12	58	P	P	20 08 51.7	-0.3
TX32				IAmb	IAmb	20 08 52.1	
	comp=Z,2.6nm,0.9s						
TXAR	Lajitas Array	86.12	58	P	P	20 08 51.5	-0.5
	comp=Z,1.3nm,0.7s,baz=212,slow=5.6,SNR=14						
TXAR	Lajitas Array	86.12	58		P	20 08 51.6	-0.4
PDAR	Pinedale Array	87.37	44	P	P	20 08 55.8	-2.0
	comp=Z,1.1nm,0.6s,baz=318,slow=2.0,SNR=6.1						
PDAR	Pinedale Array	87.37	44	P	P	20 08 56.2	-1.5
CLL	Collm	145.12	347	*i* PKPbc	PKPdf	20 15 43.2	-0.3
	comp=Z,6.0nm,0.8s						
GERES	GERESS Array B	147.25	345	PKPbc	PKPbc	20 15 49.0	-1.5
	comp=Z,1.0nm,0.7s,baz=354,slow=2.7,SNR=6.8						
GERES	GERESS Array B	147.25	345		PKPbc	20 15 48.8	-1.7
TORD	Torodi Ar. Bea	175.53	186	PKPab	PKPab	20 17 55.6	-2.0
	comp=Z,0.6nm,0.9s,baz=208,slow=6.8,SNR=2.0						

IDC 22 20:05:30.6±4.5, 8°.06S×156°.50E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/40, mbtmp3.6/4, Error ellipse: s-maj=125.4km s-min=43.8km az=104.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.50	239	P	P	20 10 51.7	-0.2
	0.7nm,0.8s,baz=67,slow=10.0,SNR=6.9						
ASAR	Alice Springs	26.64	232	P	P	20 11 11.2	-0.1
	0.4nm,0.7s,baz=72,slow=9.8,SNR=2.9						
STKA	Stephens Creek	27.46	208	P	P	20 11 18.9	+0.4
	0.5nm,0.3s,baz=28,slow=17,SNR=1.7						
MKAR	Makanchi Array	85.18	318	P	P	20 18 08.9	-0.1
	0.5nm,0.8s,baz=93,slow=6.3,SNR=2.4						

WEL ***22*** *20:17:41.5±0.7, 33°S±13°×17°9W±2°9, h33km, M4.9/10, mB5.0/3, ML5.0/8, MLv5.0/10, Mw(mB)4.3/3, Error ellipse: s-maj=0.0km s-min=0.0km az=113.1*
IDC ***22*** *20:17:47.4±5.2, 32°.71S×179°.51E, h290km±57km, mb3.3/3, mb1 3.5/5, mb1mx3.2/33, mbtmp4.1/5, Error ellipse: s-maj=59.1km s-min=46.7km az=164.0*
ISC 22 20:17:44.1±2.0, 32°.84S±0°.10×179°.8W±0°.3, h300km, n22, σ1s.98/37, mb3.4/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.97	198	P	Pn	20 18 59.0	-2.1
MXZ				S	S	20 20 04.0	+1.0
URZ	Urewera	5.98	204	P	Pn	20 19 14.5	+1.5
	2.5nm,0.3s,baz=267,slow=4.2,SNR=51						
URZ			

n23,σ1°65/32,mb3.1/4,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.39**	**84**	P	**Pn**	**20 21 13.3**	**+0.6**
JIZZ				S	**S**	**20 21 36.0**	**+0.8**
JJN	**Nakama**	**0.39**	**187**	P	**Pn**	**20 21 13.3**	**+0.5**
JJN				S	**S**	**20 21 36.1**	**+0.8**
JSD	**Sado**	**0.55**	**3**	P	**Pn**	**20 21 13.0**	**-0.2**
JSD				*e*S	**S**	**20 21 35.3**	**-1.0**
JHK	**Hiroka**	**0.68**	**111**	P	**Pn**	**20 21 13.6**	**-0.2**
JHK				*e*S	**S**	**20 21 36.4**	**-0.6**
JNS	**Sasagawa**	**0.93**	**69**	P	**Pn**	**20 21 14.7**	**-0.4**
MAT	**Matsushiro**	**0.95**	**181**	P	**Pn**	**20 21 15.3**	**0.0**
MAT				*e*S	**S**	**20 21 39.8**	**+0.2**
MJAR	**Matsushiro Arr**	**0.95**	**181**	P	**Pn**	**20 21 14.9**	**-0.5**
	0.2nm,0.3s,baz=3.2,slow=5.0,SNR=11						
MJAR				S	**S**	**20 21 40.1**	**+0.5**
	0.1nm,0.3s,baz=105,slow=22,SNR=3.0						
JAW	**Awa shima**	**1.26**	**40**	P	**Pn**	**20 21 17.0**	**-0.3**
JAG	**Ashikaga**	**1.45**	**137**	P	**Pn**	**20 21 18.6**	**-0.3**
JRY	**Ryogami san**	**1.57**	**159**	P	**Pn**	**20 21 20.4**	**+0.5**
JRY				S	**S**	**20 21 48.3**	**+0.6**
JFT	**Otama**	**1.68**	**88**	P	**Pn**	**20 21 20.8**	**0.0**
JYN	**Shimob**	**2.01**	**172**	P	**Pn**	**20 21 23.7**	**-0.3**
JYN				S	**S**	**20 21 54.9**	**-0.1**
JYK	**Kaneyama**	**2.21**	**49**	P	**Pn**	**20 21 25.5**	**-0.3**
JYK				*e*S	**S**	**20 21 57.2**	**-1.2**
JYTA	**Yamagatataniai**	**2.24**	**213**	P	**Pn**	**20 21 26.9**	**+0.6**
JOD2	**Odawara 2**	**2.33**	**162**	P	**Pn**	**20 21 26.8**	**-0.5**
JMK	**Ichinoseki**	**2.77**	**57**	P	**Pn**	**20 21 31.7**	**-0.2**
JHJ	**Hachijo jima 2**	**4.54**	**163**	P	**Pn**	**20 21 53.4**	**+0.2**
	2.8nm,0.3s,baz=82,slow=17,SNR=2.3						
JHJ				S	**S**	**20 22 44.6**	**-2.9**
	8.8nm,0.3s,baz=189,slow=19,SNR=2.4						
ASAJ	**Asahikawa**	**7.40**	**25**	LR	LR	20 26 09.4	
	comp=Z,50nm,19.8s,baz=321,slow=36						
SONM	**Songino Array**	**25.42**	**304**	P	**P**	**20 25 49.6**	**-2.2**
	0.3nm,0.5s,baz=106,slow=8.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**39.72**	**312**	P	**P**	**20 27 54.1**	**-1.0**
	0.5nm,0.3s,baz=106,slow=7.9,SNR=2.8						
MKAR	**Makanchi Array**	**41.71**	**301**	P	**P**	**20 28 10.5**	**-1.0**
	0.2nm,0.6s,baz=81,slow=7.5,SNR=1.8						
WRA	**Warramunga Arr**	**57.24**	**184**	P	**P**	**20 30 07.8**	**-1.0**
	0.1nm,0.3s,baz=0.3,slow=7.5,SNR=14						
LPAZ	**La Paz**	**148.59**	**55**	PKPbc	**PKPab**	**20 40 17.8**	**+7.3**
	0.6nm,0.5s,baz=252,slow=9.4,SNR=2.3						

*NORS **22** 20:39:02.8±0.0, 41°.14N×45°.60E, h12km, MPVA3.7*
*DRS **22** 20:39:02.0±0.0, 41°.19N×45°.25E, h15km*
*MOS **22** 20:39:04.5±0.8, 41°.14N×45°.45E, h12km, mb3.6/1, Error ellipse: s-maj=7.3km s-min=5.0km az=103.6*
*DDA **22** 20:39:04.1, 41°.21N×45°.40E, h6km±4km, ML2.5*
*ISK **22** 20:39:05.5, 41°.22N×45°.27E, h4km, ML2.7/5*
*TIF **22** 20:39:09.8, 41°.25N×45°.38E, h6km±2km*

ISC 22 20:39:04.6±1.0, 41°.22N±0°.02×45°.44E±0°.01, h8km±9km, n74,σ0°86/137, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.56**	**66**	*e*PG	**Pg**	**20 39 16.1**	**+0.7**
DDFL				*e*S	**Sg**	**20 39 23.1**	**+0.3**
DDFL	**Dedoflistskaro**	**0.56**	**66**	P	**Pg**	**20 39 16.2**	**+0.7**
DDFL				S	**Sg**	**20 39 23.2**	**+0.3**
BTNK	**Botanikuri**	**0.67**	**314**	*e*PG	**Pg**	**20 39 17.0**	**-0.5**
BTNK				*e*S	**Sb**	**20 39 26.7**	**-1.1**
BTNK	**Botanikuri**	**0.67**	**314**	P	**Pg**	**20 39 17.0**	**-0.5**
BTNK				S	**Sb**	**20 39 26.8**	**-1.1**
KZRT	**Kazreti**	**0.80**	**282**	*i* P	**Pg**	**20 39 19.7**	**-0.3**
KZRT				*i* S	**Sg**	**20 39 30.9**	**+0.5**
KZRT	**Kazreti**	**0.80**	**282**	*e*PG	**Pg**	**20 39 19.6**	**-0.3**
KZRT				*e*S	**Sg**	**20 39 30.5**	**+0.1**
KZRT	**Kazreti**	**0.80**	**282**	P	**Pg**	**20 39 19.7**	**-0.3**
KZRT				S	**Sg**	**20 39 30.5**	**+0.1**
DMNI	**Dmanisi**	**0.95**	**277**	*e*PG	**Pg**	**20 39 22.2**	**-0.6**
DMNI				*e*S	**Sb**	**20 39 35.6**	**-0.3**
DMNI	**Dmanisi**	**0.95**	**277**	P	**Pg**	**20 39 22.2**	**-0.6**
DMNI				S	**Sb**	**20 39 35.6**	**-0.3**
TRLG	**Trialeti**	**1.05**	**288**	*e*PG	**Pg**	**20 39 23.5**	**-1.3**
TRLG				*e*S	**Sg**	**20 39 38.0**	**-0.5**
TRLG	**Trialeti**	**1.05**	**288**	P	**Pg**	**20 39 23.6**	**-1.3**
TRLG				S	**Sg**	**20 39 38.0**	**-0.5**
AKH	**Akhalkalaki**	**1.48**	**278**	PN	**Pn**	**20 39 31.5**	**-0.2**
AKH				SN	**Sn**	**20 39 50.8**	**-0.3**
AKH	**Akhalkalaki**	**1.48**	**278**	*e*PG	**Pn**	**20 39 31.4**	**-0.2**
AKH				*e*S	**Sb**	**20 39 51.2**	**-0.1**
AKH	**Akhalkalaki**	**1.48**	**278**	P	**Pn**	**20 39 31.4**	**-0.2**
AKH				S	**Sb**	**20 39 51.2**	**-0.1**
EAK	**Akyaka**	**1.48**	**250**	*i* P	**Pn**	**20 39 31.7**	**0.0**
EAK				*i* S	**Sg**	**20 39 52.9**	**+0.5**
EAK				IAML		20 39 54.0	
	comp=E,98nm,1.0s						
EAK				IAML		20 39 56.0	
	comp=N,84nm,0.3s						
TASB	**TASBURUN-IGDIR**	**1.54**	**217**	PN	**Pb**	**20 39 33.3**	**0.0**
TASB				SN	**Sb**	**20 39 53.6**	**+0.7**
BKRG	**Bakuriani**	**1.54**	**291**	*e*PG	**Pn**	**20 39 32.2**	**-0.2**
BKRG				*e*S	**Sg**	**20 39 53.7**	**-0.3**
BKRG	**Bakuriani**	**1.54**	**291**	P	**Pn**	**20 39 32.2**	**-0.2**
BKRG				S	**Sg**	**20 39 53.7**	**-0.3**
PNSH	**Pansheti**	**1.54**	**337**	*e*PN	**Pn**	**20 39 32.2**	**-0.3**
PNSH	**Pansheti**	**1.54**	**337**	P	**Pn**	**20 39 32.3**	**-0.3**
PNSH				S	**Sg**	**20 39 53.6**	**-0.6**
KMKR	**Kumukh**	**1.54**	**53**	*e*Pg	**Pn**	**20 39 31.5**	**-1.0**
	comp=N,39nm,0.3s						
KMKR				*e*Sg	**Sb**	**20 39 53.5**	**+0.2**
	comp=N,179nm,0.3s						
KMKR	**Kumukh**	**1.54**	**53**	*e*PG	**Pn**	**20 39 31.5**	**-1.0**
KMKR				*e*S	**Sb**	**20 39 53.5**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,39nm,0.3s						
BTLR	**Botlikh**	**1.56**	**22**	*e*Pg	**Pn**	**20 39 32.3**	**-0.3**
	comp=Z,21nm,0.5s						
BTLR				*e*Sg	**Sb**	**20 39 53.1**	**-0.4**
	comp=Z,68nm,0.7s						
BTLR	**Botlikh**	**1.56**	**22**	*e*PN	**Pn**	**20 39 32.7**	**+0.1**
XNZR	**Khunzakh**	**1.63**	**35**	*e*Pg	**Pn**	**20 39 34.2**	**+0.5**
XNZR				*e*Sg	**Sg**	**20 39 56.5**	**-0.4**
XNZR	**Khunzakh**	**1.63**	**35**	*e*PN	**Pn**	**20 39 34.1**	**+0.5**
XNZR				*e*S	**Sg**	**20 39 56.5**	**-0.4**
IGDI	**IGDIR**	**1.70**	**218**	*i* P	**Pn**	**20 39 34.7**	**+0.1**
IGDI				IAML		20 39 59.0	
	comp=N,47nm,0.3s						
IGDI				*i* S	**Sg**	**20 39 59.4**	**+0.1**
IGDI				IAML		20 40 00.0	
	comp=E,79nm,0.3s						
AKT	**Akhty**	**1.75**	**81**	*i* Pg	**Pn**	**20 39 34.8**	**-0.5**
	comp=E,21nm,0.2s						
AKT				*e*Sg	**Sn**	**20 39 57.2**	**-0.5**
	comp=E,104nm,0.5s						
AKT	**Akhty**	**1.75**	**81**	*i* PN	**Pn**	**20 39 34.7**	**-0.5**
AKT				pmax	pmax		
	comp=Z,21nm,0.2s						
DIGO	**Kars**	**1.76**	**243**	*i* P	**Pb**	**20 39 37.9**	**+0.7**
DIGO				*i* S	**Sg**	**20 40 01.2**	**0.0**
DIGO				IAML		20 40 07.0	
	comp=E,65nm,0.4s						
DIGO				IAML		20 40 12.0	
	comp=N,57nm,0.6s						
LACR	**Lac**	**1.82**	**333**	*e*Pg	**Pn**	**20 39 36.5**	**+0.3**
LACR				*e*Sg	**Sg**	**20 40 02.6**	**-0.3**
LACR	**Lac**	**1.82**	**333**	*e*PN	**Pn**	**20 39 36.7**	**+0.5**
LACR				pmax	pmax		
	comp=Z,23nm,0.4s						
KARS	**Kars**	**1.88**	**252**	PN	**Pn**	**20 39 37.5**	**+0.4**
KARS				SN	**Sn**	**20 40 00.8**	**-0.3**
KMGR	**Komgaron**	**1.89**	**347**	*e*Pg	**Pb**	**20 39 39.1**	**-0.1**
KMGR				*e*Sg	**Sg**	**20 40 07.4**	**+2.2**
KMGR	**Komgaron**	**1.89**	**347**	*e*PN	**Pb**	**20 39 39.1**	**-0.1**
URKR	**Urkarakh**	**1.90**	**59**	*e*Pg	**Pb**	**20 39 39.3**	**-0.2**
	comp=Z,20nm,0.8s						
URKR				*e*Sg	**Sg**	**20 40 04.9**	**-0.7**
	comp=Z,47nm,0.5s						
URKR	**Urkarakh**	**1.90**	**59**	*e*PN	**Pn**	**20 39 37.7**	**+0.4**
VLKR	**Vladikavkaz**	**1.91**	**343**	*e*Pg	**Pb**	**20 39 40.0**	**+0.3**
VLKR				*e*Sg	**Sg**	**20 40 07.5**	**+1.5**
VLKR	**Vladikavkaz**	**1.91**	**343**	*e*PN	**Pb**	**20 39 40.0**	**+0.3**
VLKR				*e*S	**Sg**	**20 40 07.5**	**+1.5**
ZEI	**Tsey**	**1.94**	**324**	*e*Pg	**Pb**	**20 39 39.4**	**-0.9**
ZEI				*e*Sg	**Sg**	**20 40 09.4**	**+2.4**
ZEI	**Tsey**	**1.94**	**324**	*e*PN	**Pb**	**20 39 39.4**	**-0.9**
ZEI				*e*S	**Sg**	**20 40 09.4**	**+2.4**
KRNR	**Karanay**	**1.94**	**34**	*e*Pg	**Pn**	**20 39 39.0**	**+1.0**
	comp=Z,20nm,0.0s						
KRNR				*e*Sg	**Sg**	**20 40 06.5**	**-0.6**
	comp=Z,28nm,0.4s						
KRNR	**Karanay**	**1.94**	**34**	PN	**Pn**	**20 39 39.0**	**+1.0**
GROC	**Groznyy**	**2.00**	**8**	*e*Pg	**Pb**	**20 39 41.1**	**-0.1**
GROC				*e*Sg	**Sg**	**20 40 09.1**	**+0.2**
GROC	**Groznyy**	**2.00**	**8**	*e*PN	**Pb**	**20 39 41.1**	**-0.1**
GROC				*e*S	**Sg**	**20 40 09.1**	**+0.2**
ONI	**Oni**	**2.02**	**313**	*e*PN	**Pb**	**20 39 40.3**	**-1.2**
ONI				*e*S	**Sb**	**20 40 06.9**	**+0.1**
ONI	**Oni**	**2.02**	**313**	P	**Pb**	**20 39 40.3**	**-1.2**
ONI				S	**Sb**	**20 40 06.9**	**+0.1**
BUJR	**Buynaksk**	**2.03**	**37**	*e*Pg	**Pb**	**20 39 41.1**	**-0.7**
	comp=Z,12nm,0.4s						
BUJR				*e*Sg	**Sb**	**20 40 08.2**	**+1.0**
	comp=Z,76nm,0.5s						
BUJR	**Buynaksk**	**2.03**	**37**	*e*PN	**Pb**	**20 39 41.0**	**-0.7**
BUJR				*e*S	**Sb**	**20 40 08.1**	**+1.0**
BUJR				pmax	pmax		
	comp=Z,12nm,0.4s						
KSMR	**Kasumkent**	**2.06**	**78**	*e*Pg	**Pb**	**20 39 41.5**	**-0.7**
KSMR				*e*Sg	**Sg**	**20 40 10.5**	**-0.3**
	comp=Z,96nm,0.2s						
DBC	**Dubki**	**2.08**	**29**	*e*Pg	**Pb**	**20 39 41.8**	**-0.7**
	comp=Z,13nm,0.4s						
DBC				*e*Sg	**Sb**	**20 40 09.4**	**+0.9**
	comp=Z,73nm,0.6s						
DBC	**Dubki**	**2.08**	**29**	*e*PN	**Pb**	**20 39 41.4**	**-1.1**
DBC				*e*S	**Sb**	**20 40 09.5**	**+1.0**
KORR	**Kora**	**2.12**	**332**	*e*PN	**Pb**	**20 39 42.8**	**-0.5**
KORR				*e*S	**Sg**	**20 40 13.9**	**+1.0**
ARNR	**Ardon**	**2.14**	**337**	*e*Pn	**Pb**	**20 39 43.8**	**+0.3**
ARNR				*e*Sn	**Sg**	**20 40 14.4**	**+1.1**
ARNR	**Ardon**	**2.14**	**337**	*e*PN	**Pb**	**20 39 43.8**	**+0.3**
ARNR				*e*S	**Sg**	**20 40 14.4**	**+1.1**
TKB	**Tkibuli**	**2.15**	**303**	*e*PN	**Pb**	**20 39 42.1**	**-1.6**
TKB				*e*S	**Sb**	**20 40 10.7**	**+0.2**
TKB	**Tkibuli**	**2.15**	**303**	P	**Pb**	**20 39 42.1**	**-1.6**
TKB				S	**Sb**	**20 40 10.7**	**+0.2**
DIGR	**Digorskoe uzhe**	**2.17**	**321**	*e*PN	**Pb**	**20 39 43.3**	**-1.0**
DIGR				*e*S	**Sn**	**20 40 08.7**	**+0.3**
BTKR	**Batakoyurt**	**2.25**	**343**	*e*PN	**Pn**	**20 39 42.8**	**+0.7**
DRN	**Derbent**	**2.32**	**69**	*e*Pg	**Pb**	**20 39 45.7**	**-0.8**
DRN				*e*Sg	**Sb**	**20 40 15.8**	**+0.6**
DRN	**Derbent**	**2.32**	**69**	*e*PN	**Pb**	**20 39 45.7**	**-0.8**
DRN				*e*S	**Sb**	**20 40 15.8**	**+0.6**
STDR	**Stavd-Durt**	**2.38**	**335**	*e*PN	**Pb**	**20 39 48.4**	**+0.8**
STDR				*e*S	**Sg**	**20 40 20.5**	**-0.5**
LSNR	**Lesken**	**2.38**	**330**	*e*Pn	**Pb**	**20 39 47.3**	**-0.4**
LSNR				*e*S	**Sg**	**20 40 20.9**	**-0.1**
LSNR	**Lesken**	**2.38**	**330**	*e*PN	**Pb**	**20 39 47.3**	**-0.4**
LSNR				*e*S	**Sg**	**20 40 20.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.43**	**255**	PN	**Pn**	**20 39 45.2**	**+0.5**
DBAD	**Bademkaya**	**2.83**	**267**	*i* P	**Pb**	**20 39 56.7**	**+1.3**
DBAD				*i* S	**Sg**	**20 40 33.8**	**-1.8**
BATM	**Batumi**	**2.84**	**279**	PN	**Pn**	**20 39 51.3**	**+1.1**
BATM				SN	**Sn**	**20 40 24.5**	**-0.1**
BATM	**Batumi**	**2.84**	**279**	*e*PN	**Pb**	**20 39 54.6**	**-0.9**
BATM				*e*S	**Sb**	**20 40 32.5**	**+2.1**
BATM	**Batumi**	**2.84**	**279**	P	**Pb**	**20 39 54.7**	**-0.9**
BATM				S	**Sb**	**20 40 32.5**	**+2.1**
DBOC	**Borcka**	**2.84**	**274**	*i* P	**Pb**	**20 39 56.1**	**+0.6**
DBOC				*i* S	**Sb**	**20 40 32.9**	**+2.4**
DBOC				IAML		20 40 38.0	
	comp=E,17nm,0.8s						
BCA	**Borcka**	**2.88**	**276**	PN	**Pn**	**20 39 51.8**	**+1.0**
CHVG	**Ch'k'valeri**	**2.91**	**302**	P	**Pb**	**20 39 56.7**	**0.0**
CHVG				S	**Sb**	**20 40 35.0**	**+2.5**
SHA1	**Shidzhatmaz**	**3.25**	**322**	*e*PN	**Pb**	**20 40 02.0**	**-0.6**
SHA1				*e*S	**Sn**	**20 40 34.1**	**-0.9**
GOF	**Gofitskoye**	**4.22**	**336**	⇑*e*PN	**Pb**	**20 40 17.7**	**-1.3**

*IDC **22** 20:49:06.9±0.6, 34°.38N×73°.91E, h0km, mb4.3/23, mb1 4.4/28, mb1mx4.3/49, mbtmp4.3/28, ML4.2/5, MS3.2/13, Ms1 3.2/13, ms1mx3.0/42, Error ellipse: s-maj=15.5km s-min=11.6km az=23.0*
*NEIC **22** 20:49:10.8±1.5, 34°.29N±0°.06×73°.92E±0°.09, h27km±5km, mb4.7/57, Error ellipse: s-maj=11.3km s-min=7.7km az=115.0*
*MOS **22** 20:49:10.5±1.1, 34°.42N×74°.01E, h34km, mb4.6/12, Error ellipse: s-maj=7.0km s-min=3.9km az=93.3*
*NDI **22** 20:49:10.6±2.5, 34°.30N×73°.52E, h10km, MD3.9, ML4.3*
*NNC **22** 20:49:19.3±5.6, 35°.00N×73°.63E, h51km±44km, mb4.4, mpv4.7, Error ellipse: s-maj=49.0km s-min=23.0km az=27.0*

ISC 22 20:49:10.7±0.3, 34°.41N±0°.04×73°.97E±0°.04, h26km, n259, σ1°89/271, mb4.6/65, MS3.2/11, 29C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.96**	**218**	P	**Pn**	**20 49 27.4**	**-1.3**
NIL	**Nilore**	**0.96**	**218**	Pn	**Pn**	**20 49 27.4**	**-1.3**
THN	**Thein Dam**	**2.46**	**143**	*e*P	**Pb**	**20 49 55.0**	**+0.8**
THN				*ex*	Sn	20 50 30.5	+12
DHRM	**DHARAMSHALA**	**2.91**	**137**	*e*P	**Pb**	**20 49 59.1**	**-2.9**
DHRM				*e*S	**Sb**	**20 50 36.6**	**-0.7**
DHRM				IAML		20 50 42.7	
	comp=E,2μm,1.2s						
DHRM				IAML		20 50 43.1	
	comp=N,2μm,0.0s						
BHK	**Bhakra**	**3.63**	**145**	*e*P	**Pn**	**20 50 08.8**	**+3.5**
BHK				*ex*	x	20 51 03.8	
KBL	**Kabul**	**4.07**	**273**	P	**Pn**	**20 50 13.1**	**+1.5**
KBL	**Kabul**	**4.07**	**273**	Pn	**Pn**	**20 50 13.1**	**+1.5**
SMLA	**Simla**	**4.24**	**140**	*e*P	**Pn**	**20 50 16.9**	**+3.3**
SMLA				*e*S	**Sn**	**20 51 06.5**	**+4.3**
SMLA				IAML		20 51 28.8	
	comp=E,861nm,1.2s						
SMLA				IAML		20 51 29.7	
	comp=N,740nm,0.6s						
KSH	**Kashi**	**5.34**	**17**	Pn	**Pn**	**20 50 29.4**	**+0.5**
KSH				Sn	**Sn**	**20 51 23.8**	**-5.8**
KSH				smax	smax		
	comp=N,160nm,0.4s						
KSH				smax	smax		
	comp=E,86nm,0.2s						
DDI	**Dehra Dun**	**5.35**	**139**	*e*P	**Pn**	**20 50 32.5**	**+3.6**
DDI				*e*S	**Sn**	**20 51 32.2**	**+2.5**
DDI				IAML		20 51 41.3	
	comp=N,315nm,0.4s						
DDI				IAML		20 51 44.6	
	comp=E,474nm,1.0s						
GAR	**Garm**	**5.44**	**328**		**Pn**	**20 50 32.6**	**+2.3**
CHGR	**Chuyangaron**	**5.74**	**319**	Pn	**Pn**	**20 50 35.3**	**+1.0**
BTK	**Batken**	**6.17**	**337**	P	**Pn**	**20 50 43.4**	**+3.1**
BTK	**Batken**	**6.17**	**337**	Pn	**Pn**	**20 50 43.4**	**+3.1**
SONA	**Sohna**	**6.70**	**156**	*e*P	**Pn**	**20 50 50.1**	**+2.7**
SONA				*ex*	x	20 52 05.0	
AML	**Almayashu**	**7.71**	**358**	P	**Pn**	**20 51 04.5**	**+2.9**
	SNR=7.1						
KZA	**Kyzart**	**7.72**	**7**	P	**Pn**	**20 51 05.0**	**+3.2**
	SNR=8.8						
UCH	**Uchtor**	**7.81**	**3**	P	**Pn**	**20 51 05.9**	**+2.8**
	SNR=30						
AJM	**Ajmer**	**7.93**	**176**	*e*P	**Pn**	**20 51 05.0**	**+0.6**
AJM				*i* x	**Sn**	**20 52 31.0**	**-2.3**
ULHL	**Ulahol**	**8.02**	**12**	P	**Pn**	**20 51 10.5**	**+4.7**
	SNR=11						
KDJ	**Kajisay**	**8.11**	**17**	P	**Pn**	**20 51 10.0**	**+3.0**
KDJ	**Kajisay**	**8.11**	**17**	Pn	**Pn**	**20 51 09.9**	**+3.0**
BOOM	**Boomskoye usch**	**8.21**	**10**	P	**Pn**	**20 51 11.5**	**+3.2**
BOOM	**Boomskoye usch**	**8.21**	**10**	Pn	**Pn**	**20 51 11.5**	**+3.2**
AAK	**Ala-Archa**	**8.22**	**3**	Pn	**Pn**	**20 51 12.7**	**+4.2**
	comp=E,1.6nm,0.3s,baz=197,slow=4.6,SNR=21						
AAK				Sn	**Sn**	**20 52 33.9**	**-6.7**
	comp=E,0.7nm,0.3s,baz=177,slow=17,SNR=2.0						
AAK				Lg	Lg	20 53 22.9	
	comp=E,0.2nm,0.3s,baz=3.7,slow=18,SNR=1.2						
AAK				LR	LR	20 54 37.3	
	comp=E,151nm,20.7s,baz=196,slow=40						
AAK	**Ala-Archa**	**8.22**	**3**	P	Pn	20 51 15.1	+6.6
	SNR=9.4						
EKS2	**Erkin-Say**	**8.24**	**359**	P	**Pn**	**20 51 12.2**	**+3.6**
	SNR=11						
KBK	**Karagaybulak**	**8.27**	**5**	P	Pn	20 51 14.0	+4.9
	SNR=8.7						
IUG	**Iuzhnay**	**8.32**	**339**	*e*P	**Pn**	**20 51 10.5**	**+0.8**
	baz=339						
IUG				*e*S	**Sn**	**20 52 43.2**	**+0.3**
IUG	**Iuzhnay**	**8.32**	**339**	*e*P	**Pn**	**20 51 10.5**	**+0.8**
IUG				*e*S	**Sn**	**20 52 43.2**	**+0.3**
TKM2	**Tokmak 2**	**8.59**	**8**	P	**Pn**	**20 51 16.7**	**+3.2**
	SNR=33						
CHMS	**Chumysh**	**8.60**	**4**	P	**Pn**	**20 51 16.6**	**+3.1**
	SNR=13						
DZA	**Taraz**	**8.71**	**347**	*e*P	**Pn**	**20 51 16.2**	**+1.1**
	baz=347						
DZA				*e*S	**Sn**	**20 52 53.2**	**+0.6**
	baz=347						
DZA				LR	LR	20 54 08.9	
	comp=E,38nm,7.6s,baz=347						
DZA	**Taraz**	**8.71**	**347**	*e*P	**Pn**	**20 51 16.2**	**+1.1**
DZA				*e*S	**Sn**	**20 52 53.1**	**+0.6**
DZA				MLR	MLR		
	comp=Z,38nm,8.0s						
PRZ	**Przheval'sk**	**8.78**	**22**	P	**Pn**	**20 51 17.7**	**+1.6**
PRZ	**Przheval'sk**	**8.78**	**22**	Pn	**Pn**	**20 51 17.7**	**+1.6**
USP	**Ospenovka**	**8.85**	**3**	P	**Pn**	**20 51 21.0**	**+4.0**
	SNR=11						
MDOK	**Medeo**	**9.06**	**14**	*e*P	**Pn**	**20 51 20.8**	**+0.8**
	baz=14						
MDOK				LR	LR	20 54 30.9	
	comp=Z,144nm,9.5s,baz=14						
MDOK	**Medeo**	**9.06**	**14**	*e*P	**Pn**	**20 51 20.8**	**+0.8**
MDOK				MLR	MLR		
	comp=Z,144nm,10.0s						
KK31	**Karatay Array**	**9.09**	**344**	⇑P	**Pn**	**20 51 21.3**	**+1.0**
	comp=Z,18nm,0.5s,baz=165,slow=14,SNR=231						
KK31				⇑S	**Sn**	**20 52 56.5**	**-5.2**
	comp=Z,66nm,0.7s,baz=167,slow=25,SNR=5.2						
KK31	**Karatay Array**	**9.09**	**344**	P	**Pn**	**20 51 21.2**	**+1.0**
KK31	**Karatay Array**	**9.09**	**344**	Pn	**Pn**	**20 51 21.2**	**+1.0**
KKAR	**Karatay Array**	**9.09**	**344**	P	**Pn**	**20 51 21.4**	**+1.2**
KKAR	**Karatay Array**	**9.09**	**344**	Pn	**Pn**	**20 51 21.5**	**+1.2**
KKAR	**Karatay Array**	**9.09**	**344**		**Pn**	**20 51 21.4**	**+1.2**
SATY	**Saty**	**9.30**	**21**	*e*P	**Pn**	**20 51 24.7**	**+1.5**
	baz=20						
SATY				LR	LR	20 54 54.8	
	comp=Z,48nm,9.7s,baz=20						
SATY	**Saty**	**9.30**	**21**	*e*P	**Pn**	**20 51 24.7**	**+1.5**
SATY				MLR	MLR		
	comp=Z,48nm,10.0s						
KUU	**Kurty**	**9.64**	**10**	*e*P	**Pn**	**20 51 29.2**	**+1.3**
	comp=Z,3.7nm,0.9s,baz=10						
KUU				LR	LR	20 54 44.0	
	comp=Z,69nm,8.1s,baz=10						
KUU	**Kurty**	**9.64**	**10**	*e*P	**Pn**	**20 51 29.1**	**+1.3**
KUU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KUU				MLR	MLR		
	comp=Z,69nm,8.0s						
HRA	**Herat**	**9.69**	**273**	Pn	**Pn**	**20 51 28.2**	**-0.4**
CHKK	**Chushkaly**	**9.71**	**13**	*e*P	**Pn**	**20 51 29.9**	**+1.1**
	baz=13						
CHKK	**Chushkaly**	**9.71**	**13**	*e*P	**Pn**	**20 51 29.9**	**+1.1**
KPKS	**Kokpek**	**9.76**	**21**	*e*P	**Pn**	**20 51 30.3**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=21						
KPKS				LR	LR	20 55 05.6	
	comp=Z,120nm,11.8s,baz=21						
KPKS	**Kokpek**	**9.76**	**21**	*e*P	**Pn**	**20 51 30.3**	**+0.9**
KPKS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KPKS				MLR	MLR		
	comp=Z,120nm,12.0s						
PDGK	**Podgornoye**	**9.89**	**24**	⇑P	**Pn**	**20 51 33.0**	**+1.8**
	comp=Z,6.2nm,0.6s						
PDGK				⇓S	**Sn**	**20 53 21.2**	**-0.2**
	comp=Z,14nm,0.8s						
PYUN	**Piuthan**	**9.96**	**127**	*e*P	**Pn**	**20 51 30.8**	**-1.5**
	comp=Z,115nm,0.4s						
DANN	**Dangsing**	**10.32**	**123**	*e*P	**Pn**	**20 51 36.2**	**-1.2**
	comp=Z,57nm,0.4s						
KOLN	**Koldanda**	**10.58**	**126**	*e*P	**Pn**	**20 51 39.6**	**-1.3**
	comp=Z,50nm,0.6s						
BTLS	**Baital**	**10.62**	**0**	*e*P	**Pn**	**20 51 42.9**	**+1.8**
	baz=0.0						
BTLS	**Baital**	**10.62**	**0**	*e*P	**Pn**	**20 51 42.9**	**+1.8**
TDK	**Taldyqorghan**	**11.11**	**17**	*e*P	**Pn**	**20 51 48.8**	**+0.9**
	baz=16						
TDK				LR	LR	20 55 52.3	
	comp=Z,96nm,9.5s,

comp=Z,6.8nm,0.3s,baz=160,slow=17,SNR=86
BVAR Borovoye Array 18.78 353 P **Pn 20 53 29.0 +0.5**
BRVK Borovoye 18.82 353 ⇑P **P 20 53 28.9 +0.6**
comp=Z,38nm,0.7s
BRVK Borovoye 18.82 353 *ce*P **Pn 20 53 29.5 +0.5**
BRVK pmax pmax
comp=Z,51nm,0.8s
BRVK Borovoye 18.82 353 P **Pn 20 53 29.2 +0.2**
BRVK IAmb IAmb 20 53 32.2
comp=Z,45nm,0.7s
AKTO Aktyubinsk 19.81 329 P **P 20 53 40.0 +0.8**
comp=Z,2.6nm,0.3s,baz=132,slow=12,SNR=58
AKTO S **S 20 57 12.8 -8.0**
comp=Z,0.2nm,0.3s,baz=222,slow=10.0,SNR=3.7
AKTO LR LR 21 01 52.1
comp=Z,65nm,18.3s,baz=154,slow=39
AKTO Aktyubinsk 19.81 329 ⇑P **P 20 53 40.2 +1.1**
comp=Z,36nm,0.7s
AKTO ⇑S **S 20 57 14.3 -6.5**
comp=Z,10.0nm,1.2s
AKTO Aktyubinsk 19.81 329 P **P 20 53 40.0 +0.8**
ZAA0 Zalesovo Array 20.98 18 ⇑P **P 20 53 51.5 -0.2**
comp=Z,1.3nm,0.5s
ZAA0 Zalesovo Array 20.98 18 P **P 20 53 51.6 -0.2**
ZAA0 IAmb IAmb 20 53 54.4
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 20.98 18 P **P 20 53 51.7 0.0**
comp=Z,15nm,0.5s,baz=214,slow=9.7,SNR=48
ZALV S **S 20 57 39.9 -4.1**
comp=Z,0.5nm,0.3s,baz=27,slow=41,SNR=2.5
ZALV LR LR 21 02 51.2
comp=Z,47nm,21.1s,baz=203,slow=39
ZALV Zalesovo Beam 20.98 18 P **P 20 53 51.3 -0.5**
ZALV Zalesovo Beam 20.98 18 P **P 20 53 51.3 -0.5**
GTA Gaotai 21.23 69 ⇑P **P 20 53 55.5 +0.7**
GTA pP pP 20 54 01.0 -1.5
GTA sP sP 20 54 04.4 -1.7
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,68nm,4.7s
AKT Akhty 21.81 297 *e*P **P 20 54 01.5 +0.5**
AKT *e* 20 54 23.5
AKT pmax pmax
comp=Z,22nm,1.1s
MAK Makhachkala 22.28 300 *e*P **P 20 54 03.8 -2.1**
MAK *e*S **S 20 58 06.0 -3.5**
MAK pmax pmax
comp=Z,138nm,1.1s
SVE Sverdlovsk 24.19 342 *e*P **P 20 54 26.5 +1.6**
SVE pmax pmax
comp=Z,13nm,0.9s
ARU Arti 24.42 339 P **P 20 54 27.2 +0.2**
comp=Z,2.0nm,0.4s,baz=134,slow=8.9,SNR=9.5
ARU LR LR 21 05 04.7
comp=Z,75nm,20.8s,baz=165,slow=39
ARU Arti 24.42 339 *c i*P **P 20 54 27.7 +0.8**
ARU 20 54 58.6
ARU S **S 20 58 46.1 +1.1**
ARU pmax pmax
comp=Z,12nm,0.9s
ARU Arti 24.42 339 P **P 20 54 27.3 +0.4**
ZEI Tsey 24.84 299 *e*P **P 20 54 33.4 +2.2**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
AKH Akhalkalaki 24.95 295 P **P 20 54 33.4 +1.2**
AKH pmax pmax
comp=Z,11nm,0.9s
AKH Akhalkalaki 24.95 295 P **P 20 54 33.4 +1.2**
AKH IAmb IAmb 20 54 39.0
comp=Z,11nm,0.9s
KBZ Khabaz 25.73 300 P **P 20 54 39.2 +0.3**
comp=Z,1.5nm,0.6s,baz=116,slow=5.5,SNR=5.5
KBZ LR LR 21 07 49.8
comp=Z,37nm,18.0s,baz=112,slow=44
SHA1 Shidzhatmaz 25.90 300 *i*P **P 20 54 42.7 +1.9**
KIV Kislovodsk 25.92 301 *i*P **P 20 54 42.9 +2.1**
KIV pmax pmax
comp=Z,8.0nm,1.2s
ZAK Zakamensk 26.66 44 *e*P **P 20 54 47.4 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
CHTO Chiang Mai 27.10 119 P **P 20 54 51.3 -0.3**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 27.10 119 P **P 20 54 51.3 -0.3**
CMAR Chiang Mai Arr 27.33 119 P **P 20 54 54.1 +0.5**
comp=Z,6.7nm,1.1s,baz=300,slow=8.6,SNR=22
CMAR LR LR 21 09 01.0
comp=Z,53nm,18.3s,baz=250,slow=44
CMAR Chiang Mai Arr 27.33 119 P **P 20 54 54.6 +1.0**
TLY Talaya 27.45 42 LR LR 21 06 30.3
comp=Z,27nm,18.6s,baz=216,slow=38
SONM Songino Array 27.64 51 P **P 20 54 57.5 +1.2**
comp=Z,3.3nm,0.8s,baz=255,slow=10,SNR=13
SONM Songino Array 27.64 51 P **P 20 54 57.6 +1.2**
PALK Pallekele 27.71 166 LR LR 21 06 21.8
comp=Z,58nm,18.1s,baz=91,slow=37
ULN Ulaanbaatar 28.07 51 *ce*P **P 20 55 02.1 +1.9**
ULN pmax pmax
comp=Z,9.0nm,2.5s
KIRV Kirov 29.18 333 P **P 20 55 10.8 +1.1**
comp=Z,12nm,0.6s,baz=148,slow=7.4,SNR=7.1
BR131 Keskin Array S 32.42 291 P **P 20 55 38.4 -0.3**
BR131 pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 32.42 291 P **P 20 55 38.4 -0.3**
BRTR Keskin Array B 32.42 291 P **P 20 55 39.5 +0.8**
comp=Z,1.0nm,0.7s,baz=112,slow=8.6,SNR=7.0
BRTR Keskin Array B 32.42 291 P **P 20 55 38.2 -0.5**
BRTR Keskin Array B 32.42 291 P **P 20 55 38.2 -0.5**
PRGR Permogore 32.67 335 *e*P **P 20 55 40.0 -0.4**
OBN Obninsk 33.09 320 ⇑*e*P **P 20 55 46.0 +1.8**
OBN *e* 20 56 52.8
OBN *e*SS SS 21 03 08.5 -16
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,42nm,15.0s
KLMR Klimovskoe 34.48 331 *e*P **P 20 55 54.9 -1.3**
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR Klimovskoe 34.48 331 *e*P **P 20 55 55.0 -1.3**
KLMR AMP 20 56 04.2
comp=Z,12nm,1.5s
ELL Elmali 35.68 287 P **P 20 56 08.0 +1.0**
ELL pmax pmax
comp=Z,41nm,0.7s
ELL Elmali 35.68 287 P **P 20 56 08.0 +1.0**
NRIK Noril'sk 35.79 8 P **P 20 56 08.2 +0.8**
comp=Z,4.0nm,0.7s,baz=204,slow=6.0,SNR=6.9
NRIK LR LR 21 12 35.6
comp=Z,41nm,18.0s,baz=202,slow=39
AKASG Malin Array Be 36.14 311 P **P 20 56 10.4 -0.2**
comp=Z,2.7nm,0.5s,baz=81,slow=6.7,SNR=13
AKASG Malin Array Be 36.14 311 P **P 20 56 10.7 +0.1**
AKBB Malin Array Si 36.14 311 P **P 20 56 10.7 +0.1**
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 36.14 311 P **P 20 56 10.7 +0.1**
AKBB IAmb IAmb 20 56 13.8
comp=Z,5.1nm,0.7s
MLR Muntele Rosu 37.92 302 ⇑P **P 20 56 27.8 +1.8**
MLR Muntele Rosu 37.92 302 P **P 20 56 27.6 +1.6**
MLR pmax pmax
comp=Z,20nm,0.8s
MLR Muntele Rosu 37.92 302 P **P 20 56 27.6 +1.6**
KARP Karpathos 38.09 285 P **P 20 56 28.3 +0.9**
BURAR Bucovina Array 38.46 305 P **P 20 56 30.1 -0.4**
BUR08 Bucovina Ar. S 38.47 305 P **P 20 56 30.9 +0.3**
COPA Copaceanca 38.48 300 ⇑P P 20 56 44.8 +14
VOIR 38.56 302 ⇑P **P 20 56 32.5 +1.2**
VOIR 38.56 302 ⇑P **P 20 56 32.5 +1.2**
HUMR Humele 38.63 300 ⇓P P 20 56 45.7 +14
LOT Lotru 39.46 302 ⇑P P 20 56 48.9 +10
FINES FINESS Array B 40.56 327 P **P 20 56 47.2 -0.4**
comp=Z,1.2nm,0.5s,baz=130,slow=13,SNR=8.4
FINES LR LR 21 14 35.0
comp=Z,67nm,19.7s,baz=46,slow=38
FINES FINESS Array B 40.56 327 P **P 20 56 47.5 -0.1**
SIRR Siria 40.90 303 ⇓P **P 20 56 52.2 +1.5**
MDVR Moldovita 40.95 301 ⇑P **P 20 56 52.1 +1.0**
BZS Buzias 40.96 302 ⇑P **P 20 56 52.1 +0.9**
BZS Buzias 40.96 302 ⇑P **P 20 56 52.1 +0.9**
DIVS Divibare 42.23 300 P **P 20 57 02.1 +0.4**

KSRS Korea Array 43.30 70 P **P 20 57 10.1 -0.2**
comp=Z,1.7nm,0.8s,baz=271,slow=7.8,SNR=8.9
KSRS PcP **PcP 20 58 58.8 -0.1**
comp=Z,1.3nm,0.8s,baz=256,slow=3.7,SNR=4.7
MORC Moravsky Berou 43.55 308 ⇑P **P 20 57 13.2 +0.9**
MORC Moravsky Berou 43.55 308 *e*P **P 20 57 12.9 +0.6**
MORC Moravsky Berou 43.55 308 ⇑P **P 20 57 13.2 +0.9**
MORC Moravsky Berou 43.55 308 P **P 20 57 13.2 +0.9**
VRAC Vranov 44.19 308 ⇑P **P 20 57 17.8 +0.5**
VRAC Vranov 44.19 308 *e*P **P 20 57 18.4 +1.0**
VRAC Vranov 44.19 308 ⇑P **P 20 57 17.8 +0.5**
DPC Dobruska-Polom 44.32 309 *e*P **P 20 57 19.2 +0.7**
CONA Conrad Observa 44.76 306 *i*P **P 20 57 23.1 +1.1**
comp=Z,5.2nm,0.8s
SOKA Soboth 45.44 304 P **P 20 57 27.9 +0.5**
comp=Z,5.0nm,0.6s
PRU Pruhonice 45.48 309 *e*P **P 20 57 30.2 +2.6**
PRU Pruhonice 45.48 309 *e*P **P 20 57 30.2 +2.6**
GERES GERESS Array B 46.12 307 P **P 20 57 32.5 -0.3**
comp=Z,0.8nm,0.6s,baz=93,slow=5.7,SNR=7.0
KHC Kasperske Hory 46.17 308 *e*P **P 20 57 36.0 +2.9**
KHC Kasperske Hory 46.17 308 *e*P **P 20 57 36.0 +2.9**
TIXI Tiksi 46.83 21 *i*P **P 20 57 38.9 +1.0**
TIXI pmax pmax
comp=Z,30nm,0.9s
TIXI Tiksi 46.83 21 P **P 20 57 38.2 +0.3**
NC405 NORSAR Array S 47.26 324 P **P 20 57 40.8 -0.6**
CIMO Cimolais 47.26 304 P **P 20 57 42.0 +0.3**
CIMO IAmb IAmb 20 57 44.7
comp=Z,5.1nm,0.7s
NC602 NORSAR Array S 47.31 324 P **P 20 57 42.9 +1.1**
NC303 NORSAR Array S 47.44 324 P **P 20 57 43.7 +0.9**
NB201 NORSAR Array S 47.46 324 P **P 20 57 42.9 -0.1**
NB2 NORSAR Subarra 47.49 324 P **P 20 57 42.7 -0.6**
comp=Z,3.0nm,0.6s,baz=94,slow=7.9
NOA NORSAR Array B 47.49 324 P **P 20 57 43.0 -0.3**
comp=Z,3.5nm,0.7s,baz=96,slow=7.6,SNR=16
NOA LR LR 21 18 15.9
comp=Z,19nm,20.2s,baz=325,slow=37
NBO00 NORSAR Array S 47.71 324 P **P 20 57 44.5 -0.5**
NC204 NORSAR Array S 47.73 324 P **P 20 57 45.1 0.0**
SQTA Sankt Quirin 47.97 305 *e*P **P 20 57 47.5 +0.2**
comp=Z,4.7nm,0.7s
KKM Kota Kinabalu 48.12 116 P **P 20 57 50.4 +1.6**
KKM IAmb IAmb 20 57 50.9
comp=Z,8.5nm,0.7s
CORL Corleone 48.35 293 P **P 20 57 50.3 0.0**
CORL IAmb IAmb 20 57 53.6
comp=Z,7.2nm,1.0s
FUORN Ofenpass-Fuorn 48.70 305 P **P 20 57 54.9 +1.8**
DAVA Damuels 48.85 306 *e*P **P 20 57 53.5 -0.6**
comp=Z,12nm,0.6s
KMBO Kilima Mbogo 49.34 232 P **P 20 58 00.9 +2.6**
comp=Z,1.1nm,0.4s,baz=61,slow=11,SNR=4.7
KMBO Kilima Mbogo 49.34 232 *e*P **P 20 58 02.3 +4.0**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
SPA0 Spitsbergen Ar 50.07 347 P **P 20 58 04.2 +1.3**
SENIN Lac Senin/Sane 50.76 305 P **P 20 58 08.8 +0.1**
SENIN IAmb IAmb 20 58 12.7
comp=Z,6.8nm,0.8s
MJAR Matsushiro Arr 51.48 68 P **P 20 58 14.4 +0.4**
comp=Z,1.6nm,0.6s,baz=289,slow=10,SNR=5.1
MJAR Matsushiro Arr 51.48 68 IAmb IAmb 20 58 18.9
comp=Z,1.2nm,0.7s
KEST Kesra 52.02 291 P **P 20 58 19.1 +0.9**
comp=Z,2.1nm,0.5s,baz=306,slow=2.0,SNR=8.0
KEST Kesra 52.02 291 P **P 20 58 18.3 +0.1**
MBAR Mbarara 53.38 239 *ce*P **P 20 58 31.1 +2.6**
MBAR pmax pmax
comp=Z,4.0nm,1.3s
ESDC Sonseca Array 60.59 300 P **P 20 59 17.3 -1.9**
comp=Z,1.0nm,0.8s,baz=54,slow=7.1,SNR=6.8
SUMG Summit 63.81 342 P **P 20 59 41.8 +1.2**
SUMG pmax pmax
comp=Z,3.0nm,0.6s
SUMG Summit 63.81 342 P **P 20 59 41.8 +1.2**
SUMG IAmb IAmb 20 59 44.7
comp=Z,3.5nm,0.6s
TOA0 Torodi Ar. Sit 68.14 271 P **P 21 00 08.2 -0.7**
TOA0 IAmb IAmb 21 00 09.3
comp=Z,7.3nm,0.8s
TORD Torodi Ar. Bea 68.14 271 P **P 21 00 08.5 -0.4**
comp=Z,5.4nm,0.6s,baz=46,slow=5.5,SNR=33
TORD Torodi Ar. Bea 68.14 271 P **P 21 00 08.5 -0.4**
KOWA Kowa 72.14 276 P **P 21 00 33.4 -0.1**
TOLK Toolik Lake Re 72.31 15 P **P 21 00 34.2 +0.6**
TOLK IAmb IAmb 21 00 37.1
comp=Z,6.8nm,0.6s
IMAR Indian Mountai 73.40 18 P **P 21 00 40.9 +0.8**
BMAR Burnt Mountain 74.38 14 P **P 21 00 47.4 +1.5**
LBTB Lobatse 74.83 225 P **P 21 00 49.9 +0.9**
LBTB pmax pmax
comp=Z,7.0nm,0.9s
LBTB Lobatse 74.83 225 P **P 21 00 49.9 +0.9**
LBTB IAmb IAmb 21 00 50.6
comp=Z,7.3nm,0.8s
TSUM Tsumeb 75.60 234 P **P 21 00 54.9 +1.2**
TSUM IAmb IAmb 21 00 55.7
comp=Z,6.0nm,0.8s
BPAW Bear Paw Mtn. 75.61 19 P **P 21 00 53.7 +0.7**
BPAW IAmb IAmb 21 00 56.5
comp=Z,9.2nm,1.3s
MDM Murphy Dome 75.62 17 P **P 21 00 53.6 +0.5**
MDM IAmb IAmb 21 00 57.3
comp=Z,14nm,1.4s
C36M Paulatuk 75.70 7 P **P 21 00 53.8 +0.5**
CCB Clear Creek Bu 75.98 17 P **P 21 00 55.6 +0.6**
KTH Kantishna Hill 76.07 19 P **P 21 00 55.7 0.0**
KTH IAmb IAmb 21 01 16.6
comp=Z,10nm,1.3s
ILAR Eielson Array 76.10 17 P **P 21 00 55.0 -0.7**
comp=Z,1.5nm,0.7s,baz=303,slow=4.8,SNR=14
ILAR Eielson Array 76.10 17 P **P 21 00 55.2 -0.6**
PPLA Purkeypile 76.25 20 P **P 21 00 56.9 +0.1**
PPLA IAmb IAmb 21 01 11.7
comp=Z,7.0nm,1.1s
TRF Thorofare Moun 76.32 19 P **P 21 00 57.8 +0.5**
TRF IAmb IAmb 21 01 16.0
comp=Z,7.6nm,1.2s
DBIC Dimbokro 77.05 269 P **P 21 01 01.3 -0.6**
comp=Z,4.2nm,0.7s,baz=44,slow=6.1,SNR=6.2
DBIC Dimbokro 77.05 269 P **P 21 01 00.4 -1.6**
DBIC pmax pmax
comp=Z,19nm,1.5s
DBIC Dimbokro 77.05 269 P **P 21 01 00.3 -1.6**
DBIC IAmb IAmb 21 01 27.1
comp=Z,19nm,1.4s
KIC Kosan Boka 77.13 269 *e*P **P 21 01 02.2 -0.2**
comp=Z,10nm,0.9s
SKT Skwentna 77.16 20 P **P 21 01 02.4 +0.6**
SKT IAmb IAmb 21 01 05.4
comp=Z,8.0nm,1.0s
TIC Toumodi 77.20 269 *e*P **P 21 01 02.4 -0.4**
DHY Denali Highway 77.39 18 P **P 21 01 03.5 +0.2**
LIC Lamto 77.44 269 *e*P **P 21 01 03.9 -0.2**
comp=Z,12nm,0.8s
RIDG Independent Ri 77.45 17 P **P 21 01 03.3 -0.2**
RIDG IAmb IAmb 21 01 07.0
comp=Z,12nm,1.3s
BOSA Boshof 77.78 223 P **P 21 01 06.7 +0.9**
comp=Z,4.0nm,0.8s,baz=28,slow=7.2,SNR=4.9
BOSA Boshof 77.78 223 P **P 21 01 06.2 +0.4**
BOSA pmax pmax
comp=Z,15nm,1.5s
BOSA Boshof 77.78 223 P **P 21 01 06.2 +0.4**
BOSA IAmb IAmb 21 01 23.3
comp=Z,15nm,1.4s
SCM Sheep Creek Mo 78.44 19 P **P 21 01 09.3 +0.3**
SCM pmax pmax
comp=Z,20nm,1.4s
SCM Sheep Creek Mo 78.44 19 P **P 21 01 09.2 +0.3**
SCM IAmb IAmb 21 01 26.2
comp=Z,20nm,1.4s
WB0 Warramunga Arr 78.74 123 P **P 21 01 11.5 +0.3**
WB0 IAmb IAmb 21 01 16.6
comp=Z,6.7nm,1.1s
WRA Warramunga Arr 78.83 124 P **P 21 01 12.7 +1.1**
comp=Z,2.1nm,0.6s,baz=322,slow=5.3,SNR=31
WRA Warramunga Arr 78.83 124 P **P 21 01 12.1 +0.4**
WRAB Tennant Creek 78.83 124 *ce*P **P 21 01 14.2 +2.6**
WRAB pmax pmax
comp=Z,15nm,2.5s
WRAB Tennant Creek 78.83 124 P **P 21 01 12.7 +1.0**
WRAB IAmb IAmb 21 01 16.6

comp=Z,5.3nm,1.1s
WB2 Warramunga Arr 78.83 124 P **P 21 01 12.7 +1.0**
WB2 IAmb IAmb 21 01 13.3
comp=Z,8.3nm,1.1s
ASAR Alice Springs 81.07 127 P **P 21 01 24.6 +0.8**
comp=Z,2.3nm,0.7s,baz=309,slow=5.2,SNR=32
ASAR Alice Springs 81.07 127 P **P 21 01 24.0 +0.3**
ASAR Alice Springs 81.07 127 P **P 21 01 24.0 +0.3**
YKA Yellowknife Ar 83.19 4 P **P 21 01 34.8 +0.6**
comp=Z,1.4nm,0.5s,baz=350,slow=5.2,SNR=2.5
YKA LR LR 21 42 17.5
comp=Z,19nm,19.2s,baz=0.0,slow=38

NEIC ***22*** *20:49:35.9±1.5, 0.°4N±0.°1×124.°01E±0.°09, h134km±7km, mb4.3/13, Error ellipse: s-maj=17.7km s-min=11.8km az=155.0*
IDC ***22*** *20:49:35.5±2.4, 0.°51N×124.°18E, h129km±23km, mb3.7/6, mb1 3.9/10, mb1mx3.4/44, mbtmp4.2/10, MS3.6/1, Ms1 3.6/1, ms1mx2.6/24, Error ellipse: s-maj=22.4km s-min=15.1km az=63.0*
DJA ***22*** *20:49:37.6±0.4, 0.°N±4.°×12.°4E±.°, h109km±6km, M4.3/12, mB4.6/2, mb4.4/4, MLv4.3/12, Mw(mB)3.9/2*
ISC 22 20:49:36.0±0.8, **0.°37N**±0.°07×**124.°10E**±0.°06, **h133**km±7km, **n39**, σ1§**05/42**, **mb4.2**/11, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.24**	**330**	P	**Pn**	**20 49 55.6**	**+1.3**
KMSI				S	**Sn**	**20 50 07.5**	**-0.7**
LUWI	**Luwuk**	**1.93**	**223**	P	**Pn**	**20 50 08.5**	**-0.8**
LUWI				S	**Sn**	**20 50 32.4**	**-2.4**
LUWI	**Luwuk**	**1.93**	**223**		**Pn**	**20 50 09.2**	**-0.1**
SANI	**Sanana**	**3.06**	**142**	P	**Pn**	**20 50 21.9**	**-1.6**
TNTI	**Ternate**	**3.29**	**83**	P	**Pn**	**20 50 27.3**	**+0.8**
TNTI	**Ternate**	**3.29**	**83**		**Pn**	**20 50 27.3**	**+0.8**
MPSI	**Mapaga**	**4.20**	**270**	P	**Pn**	**20 50 39.6**	**+1.1**
SPSI	**Sidrap Palu**	**6.10**	**225**	P	**Pn**	**20 51 03.7**	**-0.2**
	0.2nm785nm44nm,0.4s						
BNSI	**Bone**	**6.19**	**220**	P	**Pn**	**20 51 05.2**	**0.0**
	0.1nm34nm,0.7s						
KAPI	**Kappang**	**6.89**	**219**	P	**Pn**	**20 51 16.3**	**+1.8**
	3.0nm,0.3s,baz=287,slow=4.6,SNR=4.5						
KAPI	**Kappang**	**6.89**	**219**		**Pn**	**20 51 15.1**	**+0.6**
BKSI	**Bulukumba**	**6.91**	**215**	P	**Pn**	**20 51 14.0**	**-0.8**
SIJI	**Sorong**	**7.27**	**100**	P	**Pn**	**20 51 19.8**	**+0.1**
	3.8nm,0.3s,baz=139,slow=21,SNR=12						
SIJI				S	**Sn**	**20 52 38.6**	**-2.3**
	1.8nm,0.3s,baz=148,slow=24,SNR=1.7						
MYLDM	**Lahad Datu**	**7.36**	**311**		Pn	20 51 25.9	+5.0
BATI	**Baumata**	**10.51**	**182**	P	**Pn**	**20 52 05.1**	**+1.9**
	1.1nm,0.3s,baz=102,slow=1.3,SNR=4.6						
KNRA	**Kununurra**	**16.59**	**164**	P	**Pn**	**20 53 21.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**18.41**	**175**	P	**P**	**20 53 41.0**	**0.0**
	0.9nm,0.3s,baz=0.3,slow=7.5,SNR=24						
FITZ				LR	LR	21 02 29.1	
	comp=Z,164nm,19.7s,baz=90,slow=42						
FITZ	**Fitzroy Crossi**	**18.41**	**175**	P	**P**	**20 53 41.5**	**+0.5**
WB0	**Warramunga Arr**	**22.41**	**154**	P	**P**	**20 54 23.1**	**-0.6**
WB0				IAmb	IAmb	20 54 25.2	
	comp=Z,9.1nm,0.5s						
WRAB	**Tennant Creek**	**22.54**	**154**	P	**P**	**20 54 23.5**	**-1.5**
WRA	**Warramunga Arr**	**22.54**	**154**	P	**P**	**20 54 24.6**	**-0.4**
	comp=Z,7.9nm,0.5s,baz=337,slow=9.7,SNR=126						
WRA	**Warramunga Arr**	**22.54**	**154**	P	**P**	**20 54 24.1**	**-0.9**
WB2	**Warramunga Arr**	**22.55**	**154**	P	**P**	**20 54 24.8**	**-0.3**
WB2				IAmb	IAmb	20 54 26.6	
	comp=Z,9.8nm,0.9s						
WR0	**Warramunga Arr**	**22.64**	**154**	P	**P**	**20 54 25.6**	**-0.5**
WR0				IAmb	IAmb	20 55 20.4	
	comp=Z,31nm,1.9s						
AS31	**Alice Springs**	**25.72**	**159**	P	**P**	**20 54 55.2**	**+1.1**
ASAR	**Alice Springs**	**25.72**	**159**	P	**P**	**20 54 55.2**	**+1.1**
	comp=Z,4.2nm,0.6s,baz=351,slow=15,SNR=57						
ASAR				PcP	**PcP**	**20 58 21.7**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=339,slow=2.4,SNR=5.8						
ASAR	**Alice Springs**	**25.72**	**159**	P	**P**	**20 54 54.2**	**+0.1**
STKA	**Stephens Creek**	**36.09**	**154**	P	**P**	**20 56 26.3**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=332,slow=7.8,SNR=9.8						
STKA	**Stephens Creek**	**36.09**	**154**	P	**P**	**20 56 26.2**	**+1.2**
STKA				IAmb	IAmb	20 57 10.2	
	comp=Z,8.1nm,1.9s						
MKAR	**Makanchi Array**	**58.89**	**328**	P	**P**	**20 59 20.7**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=123,slow=8.5,SNR=21						
MKAR	**Makanchi Array**	**58.89**	**328**	P	**P**	**20 59 20.5**	**-0.4**
MAKZ	**Makanchi**	**59.06**	**328**	P	**P**	**20 59 21.8**	**-0.3**
MAKZ				IAmb	IAmb	21 01 01.4	
	comp=Z,5.2nm,1.3s						
ZALV	**Zalesovo Beam**	**62.44**	**335**	P	**P**	**20 59 43.3**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=344,slow=42,SNR=1.7						
KURK	**Kurchatov**	**63.21**	**329**	P	**P**	**20 59 49.4**	**-0.6**
KURK				IAmb	IAmb	20 59 51.7	
	comp=Z,5.9nm,1.1s						
BVAR	**Borovoye Array**	**68.74**	**329**	P	**P**	**21 00 24.5**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=162,slow=11,SNR=4.2						
TIXI	**Tiksi**	**71.23**	**2**	P	**P**	**21 00 40.1**	**-0.1**
RAGM	**Ragged Mountai**	**90.29**	**30**	P	**P**	**21 02 21.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**121.37**	**286**	PKP	**PKPdf**	**21 08 14.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=102,slow=1.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**121.37**	**286**	PKPdf	**PKPdf**	**21 08 14.1**	**-0.4**

BJI ***22*** *21:05:00.0±0.0, 8.°40S×115.°80E, h197km, mB4.8/22, mb4.5/38*
NEIC ***22*** *21:05:01.1±1.7, 8.°34S±0.°06×115.°72E±0.°05, h186km±5km, mb4.7/86, Error ellipse: s-maj=9.3km s-min=6.7km az=142.0*
DJA ***22*** *21:05:01.5±0.1, 9.°S±2.°×11.°6E±.°, h186km±2km, M4.5/44, mb4.9/44, mB5.0/24, MLv5.0/24, Mw(mB)4.4/24, Mwp5.4/1*
KLM ***22*** *21:05:02.0, 8.°45S×115.°65E, h198km, mb5.0*
IDC ***22*** *21:05:02.5±0.5, 8.°21S×115.°82E, h198km±4km, mb4.2/19, mb1 4.3/23, mb1mx4.2/30, mbtmp4.7/23, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=11.5km s-min=7.5km az=66.0*
ISC 22 21:05:02.3±0.3, **8.°40S**±0.°04×**115.°79E**±0.°04, **h200**km, **n262**, σ1§**42/291**, **mb4.6/60**, **1C-2D**, **Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.13**	**107**	P	**Pn**	**21 05 31.8**	**-1.2**
TWSI				S	**Sn**	**21 05 54.2**	**-2.6**
JAGI	**Jajag, Banyuwa**	**1.62**	**267**	P	**Pn**	**21 05 35.6**	**-1.5**
JAGI				S	**Sn**	**21 05 59.9**	**-4.2**
JAGI	**Jajag, Banyuwa**	**1.62**	**267**	Pn	**Pn**	**21 05 35.6**	**-1.5**
JAGI				Sn	**Sn**	**21 05 59.8**	**-4.2**
ABJI	**Asem Bagus**	**1.65**	**291**	P	**Pn**	**21 05 37.4**	**0.0**
PLAI	**Plampang**	**2.01**	**102**	P	**Pn**	**21 05 40.1**	**-0.9**
PLAI				S	**Sn**	**21 06 08.9**	**-2.1**
KMMI	**Kalianget**	**2.25**	**307**	P	**Pn**	**21 05 44.8**	**+1.3**
KMMI				S	**Sn**	**21 06 16.1**	**+0.6**
BLJI	**Banyuglugur**	**2.27**	**287**	P	**Pn**	**21 05 43.4**	**-0.2**
GRJI	**Gresik**	**3.59**	**294**	P	**Pn**	**21 05 59.5**	**+0.4**
PWJI	**Pagerwojo**	**3.96**	**275**	P	**Pn**	**21 06 03.8**	**+0.2**
BWJI	**Bawean**	**4.01**	**309**	P	**Pn**	**21 06 04.9**	**+0.7**
WSI	**Waingapu**	**4.63**	**106**	P	**Pn**	**21 06 10.4**	**-1.7**
WOJI	**Wonogiri, Jawa**	**4.85**	**276**	P	**Pn**	**21 06 15.5**	**+0.7**
BBKI	**Banjar Baru**	**5.00**	**349**	P	**Pn**	**21 06 18.1**	**+1.4**
	0.8nm3μm144nm,0.8s						
BASI	**Baing, Sumba**	**5.06**	**111**	P	**Pn**	**21 06 16.0**	**-1.6**
	10.0nm17μm1μm,0.6s						
KBKI	**Kotabaru**	**5.08**	**4**	P	**Pn**	**21 06 18.7**	**+0.9**
	0.4nm992nm137nm,0.7s						
KAPI	**Kappang**	**5.18**	**50**	P	**Pn**	**21 06 19.2**	**+0.2**
	20nm,0.3s,baz=222,slow=7.9,SNR=76						
KAPI				S	**Sn**	**21 07 20.1**	**+0.5**
	3.6nm,0.3s,baz=139,slow=20,SNR=1.2						
KAPI	**Kappang**	**5.18**	**50**	Pn	**Pn**	**21 06 19.2**	**+0.2**
KAPI				Sn	**Sn**	**21 07 18.9**	**-0.7**
BKSI	**Bulukumba**	**5.28**	**55**	P	**Pn**	**21 06 21.3**	**+0.9**
	1.0nm3μm301nm,0.8s						
SMRI	**Semarang**	**5.46**	**284**	P	**Pn**	**21 06 23.5**	**+0.7**
	0.9nm154nm,1.0s						
SMRI	**Semarang**	**5.46**	**284**	Pn	**Pn**	**21 06 23.2**	**+0.5**
YOGI	**Yogyakarta**	**5.47**	**276**	P	**Pn**	**21 06 22.7**	**-0.1**
	1.4nm193nm,1.6s						
EDFI	**Ende, Flores**	**5.85**	**94**	P	**Pn**	**21 06 24.9**	**-2.9**
	2.3nm4μm154nm,0.6s						
BNSI	**Bone**	**5.85**	**47**	P	**Pn**	**21 06 29.9**	**+2.2**
	0.6nm2μm162nm,0.9s						
MMRI	**Maumere**	**6.38**	**93**	Pn	**Pn**	**21 06 31.6**	**-3.1**
KPJI	**Karang Pucung**	**6.87**	**278**	P	**Pn**	**21 06 40.3**	**-0.7**
	1.0nm238nm,0.7s						

CMJI Cimerak 7.29 274 P **Pn 21 06 43.6 -2.8**
0.7nm94nm,0.7s
CISI Cisompet, Garu 7.94 276 P **Pn 21 06 53.0 -1.9**
2.1nm9µm181nm,0.8s
CISI Cisompet, Garu 7.94 276 Pn **Pn 21 06 52.9 -2.0**
BATI Baumata 7.98 104 P **Pn 21 06 53.4 -2.0**
83nm,0.3s,baz=290,slow=5.9,SNR=40
BATI S **Sn 21 08 19.2 -6.2**
65nm,0.3s,baz=236,slow=7.8,SNR=9.8
BATI LR LR 21 10 40.4
comp=Z,398nm,18.7s,baz=306,slow=42
BATI Baumata 7.98 104 P **Pn 21 06 52.9 -2.5**
LEM Lembang 8.25 280 P **Pn 21 06 58.5 -0.5**
9.6nm,0.3s,baz=40,slow=7.2,SNR=32
SOEI Soe 8.48 100 P **Pn 21 06 59.8 -2.2**
2µm174nm,0.7s
SOEI Soe 8.48 100 Pn **Pn 21 06 59.6 -2.5**
CNJI Cibinong 8.64 277 P **Pn 21 07 02.2 -1.8**
7µm168nm,1.0s
DBJI Dramaga 9.15 281 P **Pn 21 07 09.5 -1.1**
4µm186nm,0.8s
MPSI Mapaga 9.60 25 P **Pn 21 07 18.6 +2.1**
43nm,0.9s
SBJI Serang 9.84 283 P **Pn 21 07 19.0 -0.6**
152nm,0.7s
TPI Tanjungpandan 9.85 304 P **Pn 21 07 21.1 +1.5**
6µm44nm,1.0s
CGJI Cibinong 10.16 279 P **Pn 21 07 21.0 -2.8**
4µm173nm,1.1s
XMIS Christmas Isla 10.21 258 Pn **Pn 21 07 21.9 -2.5**
KSM Kuching 11.23 331 **Pn 21 07 36.9 -0.6**
KSM Kuching 11.23 331 P **Pn 21 07 39.0 +1.5**
SBUM Sibu 11.35 342 Pn **Pn 21 07 39.4 +0.4**
SBUM Sibu 11.35 342 P **Pn 21 07 41.0 +2.0**
GTOI Gorontalo 11.51 39 P **Pn 21 07 43.0 +2.0**
460nm42nm,0.7s
KLSI 11.59 288 P **Pn 21 07 41.8 -0.2**
17nm,0.8s
MDSI Maura Dua 12.17 288 P **Pn 21 07 49.0 -0.5**
34nm,0.9s
LHSI Lahat 13.01 290 P **P 21 08 05.1 +1.8**
MNAI Manna 13.37 287 Pn **Pn 21 08 03.0 -1.6**
FITZ Fitzroy Crossi 13.59 136 P **Pn 21 08 07.6 +0.4**
4.5nm,0.3s,baz=1.6,slow=6.6,SNR=80
FITZ S **S 21 10 33.6 -5.2**
8.8nm,0.3s,baz=180,slow=17,SNR=11
FITZ Fitzroy Crossi 13.59 136 P **Pn 21 08 06.7 -0.6**
baz=14,SNR=30
FITZ S **S 21 10 33.5 -5.3**
baz=14
PSA00 Pilbara Seismi 13.67 164 Pn **Pn 21 08 07.9 -0.3**
MYLDM Lahad Datu 13.76 11 **P 21 08 12.0 +0.5**
KSI Kapahiang 13.94 289 P **Pn 21 08 11.0 -0.7**
2µm218nm,0.8s
GIRL Giralia 14.24 186 P **P 21 08 17.6 +0.8**
baz=14,SNR=38
GIRL Giralia 14.24 186 P **Pn 21 08 17.1 +1.8**
KKM Kota Kinabalu 14.36 2 **Pn 21 08 16.6 -0.3**
MASI Maura Aman, Be 14.45 290 P **P 21 08 18.9 -0.4**
420nm,1.1s
KNRA Kununurra 14.60 121 P **Pn 21 08 19.3 -0.5**
baz=15,SNR=157
KNRA Kununurra 14.60 121 Pn **Pn 21 08 19.7 0.0**
MTN Manton Dam 15.71 108 P **P 21 08 32.7 -0.5**
baz=16,SNR=49
MTN Manton Dam 15.71 108 **P 21 08 33.3 0.0**
SDSI Sungai Dareh 16.11 297 P **P 21 08 37.6 0.0**
993nm68nm,1.6s
KDU Kakadu 16.95 106 P **P 21 08 47.1 +0.4**
baz=17,SNR=25
BKNI Bangkinang 17.06 300 P **Pn 21 08 49.6 +0.1**
1µm97nm,1.1s
BKNI Bangkinang 17.06 300 P **Pn 21 08 49.3 -0.2**
SIJI Sorong 17.14 65 P **P 21 08 48.6 -0.3**
1.3nm,0.3s,baz=122,slow=22,SNR=6.4
FAKI Fak Fak 17.26 73 P **P 21 08 48.9 -1.3**
FAKI IAmb IAmb 21 08 55.8
comp=Z,29nm,0.5s
MEEK Meekatharra 18.34 172 P **P 21 09 02.0 +0.2**
baz=18,SNR=35
IPM Ipoh 19.50 310 P **P 21 09 14.7 +0.1**
IPM IAmb IAmb 21 09 16.1
comp=Z,15nm,0.7s
IPM Ipoh 19.50 310 P **P 21 09 15.0 +0.4**
RPSI Rantau Prapat 20.11 303 P **P 21 09 20.6 -0.4**
RPSI IAmb IAmb 21 09 24.9
comp=Z,48nm,0.9s
PSI Prapat 20.16 303 P **P 21 09 20.7 -1.1**
comp=Z,30nm,0.8s,baz=180,slow=8.6,SNR=17
KULM Kulim 20.32 312 P **P 21 09 22.3 -1.0**
KULM IAmb IAmb 21 09 23.6
comp=Z,11nm,0.7s
WRKA Warakurna 20.40 146 P **P 21 09 24.3 +0.2**
baz=20,SNR=134
GSI Gunungsitoli 20.56 297 P **P 21 09 23.8 -2.0**
GSI IAmb IAmb 21 09 33.3
comp=Z,18nm,0.6s
MORW Morawa 20.56 179 P **P 21 09 27.6 +1.9**
baz=21,SNR=14
MORW Morawa 20.56 179 P **P 21 09 26.9 +1.2**
MORW IAmb IAmb 21 09 29.7
comp=Z,39nm,0.8s
WRA Warramunga Arr 21.31 125 P **P 21 09 33.6 -0.2**
comp=Z,25nm,0.5s,baz=299,slow=12,SNR=390
WRA S **S 21 13 14.8 -3.1**
comp=Z,15nm,1.0s,baz=296,slow=19,SNR=15
WRA ScP **ScP 21 16 47.4 -0.7**
comp=Z,7.8nm,0.7s,baz=302,slow=2.1,SNR=6.7
WRA Warramunga Arr 21.31 125 P **P 21 09 33.5 -0.2**
WRAB Tennant Creek 21.31 125 P **P 21 09 33.9 +0.2**
WB2 Warramunga Arr 21.32 125 P **P 21 09 34.1 +0.3**
DLV T Lat 21.48 340 P **P 21 09 36.1 +0.4**
WR0 Warramunga Arr 21.48 124 P **P 21 09 35.6 +0.1**
WR0 IAmb IAmb 21 09 37.9
comp=Z,23nm,0.7s
TPTI 21.88 301 P **P 21 09 38.3 -1.2**
comp=Z,486nmcomp=Z,38nm,1.5s
BLDU Ballidu 22.12 178 P **P 21 09 42.9 +1.3**
baz=22,SNR=62
ASAR Alice Springs 23.05 133 P **P 21 09 51.3 +1.0**
comp=Z,50nm,0.5s,baz=308,slow=8.9,SNR=590
ASAR PcP **PcP 21 13 33.6 +0.2**
comp=Z,4.1nm,0.6s,baz=338,slow=2.4,SNR=5.1
ASAR S **S 21 13 47.7 +1.5**
comp=Z,1.9nm,0.8s,baz=213,slow=45,SNR=1.9
ASAR ScP **ScP 21 16 53.2 +0.7**
comp=Z,9.2nm,0.9s,baz=336,slow=2.6,SNR=11
ASAR Alice Springs 23.05 133 P **P 21 09 51.5 +1.1**
AS31 Alice Springs 23.05 133 P **P 21 09 51.4 +1.1**
MLSI Meulaboh, Aceh 23.07 302 P **P 21 09 50.4 -0.1**
comp=Z,168nm,0.8s
KLBR Kellerberrin 23.15 176 P **P 21 09 51.9 +0.9**
baz=23,SNR=11
LHMI Lhok Sumawe 23.16 305 P **P 21 09 50.9 -0.4**
comp=Z,191nm,0.8s
LHMI Lhok Sumawe 23.16 305 P **P 21 09 50.8 -0.5**
MUN Mundaring 23.46 179 P **P 21 09 54.6 +0.7**
baz=24,SNR=4.8
KMBL Kambalda 23.55 167 P **P 21 09 55.8 +1.2**
baz=24,SNR=20
NWAO Narrogin (SRO) 24.44 177 P **P 21 10 04.0 +1.2**
comp=Z,34nm,0.7s,baz=6.2,slow=8.4,SNR=23
NWAO Narrogin (SRO) 24.44 177 P **P 21 10 04.0 +1.2**
baz=24,SNR=19
NWAO Narrogin (SRO) 24.44 177 P **P 21 10 03.9 +1.2**
NWAO IAmb IAmb 21 10 04.8
comp=Z,29nm,0.8s
NWAO Narrogin (SRO) 24.44 177 P **P 21 10 03.5 +0.7**
NWAO IAmb IAmb 21 10 04.8
comp=Z,37nm,0.8s
FORT Forrest 25.04 154 P **P 21 10 08.9 +0.6**
baz=25,SNR=26
FORT Forrest 25.04 154 P **P 21 10 09.5 +1.2**
QIS Mount Isa 25.99 120 P **P 21 10 16.4 -0.6**
baz=26,SNR=10
RKGY Rocky Gully 26.11 178 P **P 21 10 20.1 +2.4**
baz=26,SNR=9.3
COEN Coen 27.42 104 P **P 21 10 30.4 +0.7**
baz=27,SNR=40
COEN Coen 27.42 104 P **P 21 10 30.2 +0.5**
COEN IAmb IAmb 21 10 31.2
comp=Z,24nm,0.7s
QIZ Qiongzhong 27.88 348 P **P 21 10 34.0 +0.2**
QIZ IAmb IAmb 21 10 35.8
comp=Z,14nm,1.2s
MTSU Mount Surprise 29.36 112 P **P 21 10 48.7 +1.7**
baz=29,SNR=56
PBA Port Blair 30.37 311 P P 21 10 54.9 -0.9
PBA IAmb IAmb 21 10 57.9
comp=Z,19nm,0.7s
BBOO Buckleboo 30.70 145 P **P 21 10 59.5 +0.9**
baz=31,SNR=44
BBOO Buckleboo 30.70 145 P **P 21 10 59.1 +0.6**
BBOO IAmb IAmb 21 11 00.2
comp=Z,30nm,0.9s
CM31 Chiang Mai Arr 31.44 328 P **P 21 11 04.8 -0.4**
CMAR Chiang Mai Arr 31.44 328 P **P 21 11 03.4 -1.8**
comp=Z,3.3nm,0.8s,baz=156,slow=7.1,SNR=20
CMAR pP **pP 21 11 46.9 +0.7**
comp=Z,0.6nm,0.3s,baz=335,slow=44,SNR=2.0
CMAR ScP **ScP 21 17 17.6 -0.3**
comp=Z,1.9nm,0.6s,baz=178,slow=3.0,SNR=15
CMAR Chiang Mai Arr 31.44 328 P **P 21 11 04.7 -0.4**
CTAO Charters Tower 31.67 115 P **P 21 11 08.5 +1.3**
CHTO Chiang Mai 31.74 329 P **P 21 11 07.3 -0.4**
SLVN Son La 31.77 339 P **P 21 11 07.7 -0.3**
QLP Quilpie 32.48 127 P **P 21 11 13.8 -0.3**
baz=32,SNR=11
HTT Hallett 32.81 143 P **P 21 11 18.6 +1.6**
baz=33,SNR=29
YHNB Yeheng 33.32 9 P **P 21 11 21.2 -0.2**
YHNB IAmb IAmb 21 11 32.5
comp=Z,26nm,1.1s
STKA Stephens Creek 33.48 138 P **P 21 11 24.2 +1.5**
comp=Z,22nm,0.6s,baz=311,slow=9.2,SNR=47
STKA PcP **PcP 21 13 59.3 +0.2**
comp=Z,6.1nm,0.5s,baz=346,slow=1.8,SNR=4.2
STKA Stephens Creek 33.48 138 P **P 21 11 24.3 +1.5**
baz=34,SNR=56
STKA Stephens Creek 33.48 138 P **P 21 11 24.0 +1.2**
KMI Kunming 35.66 339 ||*i*P **P 21 11 43.6 +1.8**
KMI pmax pmax
comp=Z,16nm,0.7s
KMI pmax pmax
comp=Z,150nm,4.4s
KMI LR LR
comp=Z,160nm,5.3s
KMI LR LR
comp=Z,210nm,4.2s
KMI LR LR
comp=Z,140nm,4.9s
KMI Kunming 35.66 339 P **P 21 11 42.9 +1.1**
KMI IAmb IAmb 21 11 44.0
comp=Z,12nm,0.8s
GYA Guiyang 35.77 346 *e*P **P 21 11 43.1 +0.6**
GYA pmax pmax
comp=Z,13nm,0.8s
RMQ Roma 36.07 124 P **P 21 11 45.0 -0.1**
baz=36,SNR=7.8
CMSA Cobar Meteorol 36.11 134 P **P 21 11 45.5 +0.2**
baz=36,SNR=15
GUMO Guam 36.21 53 P **P 21 11 44.9 -1.4**
ARPS Mount Arapiles 36.85 144 P **P 21 11 52.3 +0.9**
baz=37,SNR=30
EIDS Eidsvold 37.59 121 P **P 21 11 60.0 +2.1**
baz=38,SNR=3.7
EIDS Eidsvold 37.59 121 P **P 21 11 59.4 +1.5**
ENH Enshi 38.92 351 P **P 21 12 08.2 -0.7**
ENH IAmb IAmb 21 12 10.3
comp=Z,14nm,0.8s
YNG Young 39.52 135 P **P 21 12 15.9 +2.1**
baz=40,SNR=28
TOO Toolangi 39.56 142 P **P 21 12 16.1 +2.0**
baz=40,SNR=23
TOO Toolangi 39.56 142 P **P 21 12 16.6 +2.4**
ARMA Armidale 40.01 128 P **P 21 12 19.6 +1.5**
baz=40,SNR=17
ARMA Armidale 40.01 128 P **P 21 12 20.9 +2.8**
ARMA IAmb IAmb 21 12 21.9
comp=Z,13nm,0.9s
NJ2 Nanjing 40.33 4 *e*P **P 21 12 21.5 +1.1**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
CNB Canberra Magne 40.74 136 P **P 21 12 26.0 +2.1**
baz=41,SNR=5.5
CD2 Chengdu 40.75 344 P **P 21 12 24.0 0.0**
XAN Xi'an 42.71 352 P **P 21 12 39.3 -0.4**
XAN pmax pmax
comp=Z,16nm,0.5s
XAN Xi'an 42.71 352 P **P 21 12 38.8 -1.0**
XAN IAmb IAmb 21 12 40.1
comp=Z,10nm,0.8s
ODAN Odare 44.58 323 *e*P **P 21 12 53.9 -1.1**
comp=Z,49nm,0.8s
LSA Lhasa 44.69 329 P **P 21 12 56.2 +0.1**
TAPN Taplejung 44.75 324 *e*P **P 21 12 55.7 -0.8**
comp=Z,57nm,0.9s
RAMN Ramite 45.12 322 *e*P **P 21 12 58.5 -0.8**
comp=Z,22nm,0.9s
LZH Lanzhou 45.66 346 *e*P **P 21 13 04.3 +1.0**
LZH pP pP 21 13 44.4 -2.2
LZH pmax pmax
comp=Z,13nm,1.3s
JIRN Jiri 45.89 322 *e*P **P 21 13 04.4 -1.1**
PKI Pulchoki 46.30 322 *e*P **P 21 13 07.0 -1.6**
comp=Z,24nm,0.8s
PKIN Phulchoki 46.31 322 *e*P **P 21 13 07.0 -1.7**
comp=Z,22nm,0.8s
DMN Daman 46.51 321 *e*P **P 21 13 08.8 -1.4**
comp=Z,61nm,0.9s
KKN Kakani 46.53 322 *e*P **P 21 13 08.9 -1.4**
comp=Z,24nm,0.8s
KSAR Wonju Array Be 46.99 13 P **P 21 13 13.8 +0.4**
KSRS Korea Array 47.01 13 P **P 21 13 12.8 -0.7**
comp=Z,2.9nm,0.8s,baz=191,slow=8.1,SNR=12
KSRS pP **pP 21 13 55.0 -2.1**
comp=Z,0.4nm,0.4s,baz=270,slow=25,SNR=1.6
GKN Gorkha 47.08 321 *e*P **P 21 13 13.0 -1.5**
comp=Z,53nm,0.9s
KOLN Koldanda 47.57 320 *e*P **P 21 13 16.7 -1.6**
comp=Z,40nm,0.9s
DANN Dangsing 47.87 321 *e*P **P 21 13 19.3 -1.5**
comp=Z,60nm,0.8s
PYUN Piuthan 48.18 320 *e*P **P 21 13 21.5 -1.5**
comp=Z,43nm,0.8s
JGF Kuroka 48.26 24 P **P 21 13 24.2 +0.9**
HHC Hu-ho-hao-te 49.16 356 *e*P **P 21 13 31.8 +1.7**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,86nm,6.6s
MJAR Matsushiro Arr 49.42 24 P **P 21 13 29.8 -2.2**
comp=Z,3.1nm,0.8s,baz=195,slow=7.8,SNR=7.6
MJAR pP **pP 21 14 15.1 -0.9**
comp=Z,0.7nm,0.5s,baz=159,slow=38,SNR=1.4
GTA Gaotai 49.83 344 P **P 21 13 36.0 +0.8**
GTA pP pP 21 14 22.0 +2.8
GTA sP sP 21 14 46.1 +4.7
GTA pmax pmax
comp=Z,4.0nm,0.9s
DZM Mont Dzumac 50.50 112 P **P 21 13 42.5 +1.9**
DZM IAmb IAmb 21 13 45.0
comp=Z,18nm,1.0s
SANVU Saraoutou 50.69 103 P **P 21 13 42.4 +0.5**
JSD Sado 50.74 23 P **P 21 13 41.2 -0.7**
JTM Tenmabayashi 54.21 24 P **P 21 14 05.2 -2.1**
JTM IAmb IAmb 21 14 23.5
comp=Z,22nm,1.0s
USA0B Ussuriysk Arra 54.37 14 P **P 21 14 08.3 -0.1**
USRK Ussuriysk Ar. 54.37 14 P **P 21 14 07.7 -0.8**
comp=Z,1.5nm,0.5s,baz=189,slow=6.5,SNR=4.6
USRK pP **pP 21 14 51.0 -2.1**
comp=Z,0.8nm,0.5s,baz=178,slow=30,SNR=1.5
USRK Ussuriysk Ar. 54.37 14 P **P 21 14 07.9 -0.5**
ULN Ulaanbaatar 56.55 353 P **P 21 14 23.3 -0.8**
ULN IAmb IAmb 21 14 25.0
comp=Z,5.3nm,0.6s
SONM Songino Array 56.60 352 P **P 21 14 23.9 -0.6**
comp=Z,7.6nm,0.7s,baz=171,slow=9.2,SNR=36
SONM pP **pP 21 15 08.3 -1.2**
comp=Z,0.5nm,0.4s,baz=16,slow=40,SNR=1.0
SONM ScP **ScP 21 18 57.6 -1.2**
comp=Z,0.4nm,0.6s,baz=112,slow=31,SNR=3.6
SONM Songino Array 56.60 352 P **P 21 14 23.7 -0.7**
WMQ Urumqi 57.88 336 *e*P **P 21 14 33.8 +0.4**
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ pmax pmax
comp=Z,46nm,4.3s
WMQ Urumqi 57.88 336 P **P 21 14 33.2 -0.2**
WMQ IAmb IAmb 21 14 34.2
comp=Z,11nm,0.5s
CASY Casey 57.91 183 P **P 21 14 33.6 +0.5**
CASY IAmb IAmb 21 14 34.8
comp=Z,11nm,0.7s
MLZ Mavora Lakes 58.05 139 P **P 21 14 35.3 +0.8**
MLZ IAmb IAmb 21 14 43.9
comp=Z,34nm,1.2s
NIL Nilore 58.12 318 P **P 21 14 33.6 -1.6**
NIL IAmb IAmb 21 14 34.1
comp=Z,5.9nm,0.9s
WKZ Wanaka 58.44 138 P **P 21 14 38.2 +1.0**
RPZ Rata Peaks 59.42 136 P **P 21 14 45.2 +1.2**
ODZ Otahua Downs 59.59 138 P **P 21 14 46.0 +0.9**
ODZ IAmb IAmb 21 14 54.9
comp=Z,5.5nm,0.9s
THZ Tophouse 60.12 134 P **P 21 14 49.5 +0.6**
KSH Kashi 60.27 325 P **P 21 14 49.0 -1.0**
KSH ScP **ScP 21 19 18.6 +3.4**
KSH S **S 21 22 51.0 +2.7**
KSH sS sS 21 24 08.9 +0.6
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,80nm,4.6s
KSH LR LR
comp=Z,81nm,4.1s
KSH LR LR
comp=Z,86nm,4.5s
KSH LR LR
comp=Z,140nm,5.2s
NNZ Nelson 60.31 133 P **P 21 14 50.8 +0.7**
MQZ McQueen's Vall 60.52 136 P **P 21 14 52.4 +0.9**
MQZ IAmb IAmb 21 15 07.6
comp=Z,16nm,1.1s
HIZ Hauiti 60.73 130 P **P 21 14 55.0 +2.0**
HIZ IAmb IAmb 21 15 01.8
comp=Z,7.2nm,0.8s
KHZ Kahutara 60.76 134 P **P 21 14 54.5 +1.4**
KHZ IAmb IAmb 21 15 01.5
comp=Z,9.0nm,1.0s
TUWZ Tuamarina 60.78 133 P **P 21 14 53.6 +0.4**
SNZO South Karori 61.30 133 P **P 21 14 56.7 0.0**
KDJ Kajisay 61.44 328 P **P 21 14 57.2 -0.6**
KBL Kabul 61.46 317 P **P 21 14 56.3 -1.8**
KBL IAmb IAmb 21 14 57.3
comp=Z,5.7nm,0.7s
MSWZ Moikau Station 61.72 133 P **P 21 15 00.5 +0.9**
PLWZ Palliser 61.76 133 P **P 21 15 00.4 +0.4**
BKZ Black Stump Fm 62.12 130 P **P 21 15 03.0 +0.6**
KRHZ Kereru 62.13 130 P **P 21 15 04.0 +1.6**
BFZ Birch Farm 62.27 132 P **P 21 15 04.3 +1.0**
MTHZ Maungataniwha 62.32 130 P **P 21 15 04.8 +1.1**
BOOM Boomskoye usch 62.34 328 P **P 21 15 02.9 -1.0**
BOOM IAmb IAmb 21 15 03.8
comp=Z,4.2nm,0.8s
URZ Urewera 62.40 129 P **P 21 15 04.5 +0.3**
URZ Urewera 62.40 129 IAmb IAmb 21 15 11.2
comp=Z,29nm,1.1s
URZ Urewera 62.40 129 P **P 21 15 04.7 +0.6**
MK31 Makanchi Array 62.52 335 P **P 21 15 03.3 -1.5**
MKAR Makanchi Array 62.52 335 P **P 21 15 03.3 -1.4**
comp=Z,3.6nm,0.5s,baz=151,slow=7.1,SNR=59
MKAR pP **pP 21 15 50.7 +0.1**
comp=Z,4.4nm,0.7s,baz=141,slow=7.8,SNR=7.6
MKAR Makanchi Array 62.52 335 P P 21 15 03.1 -1.6
PXZ Pawanui 62.59 131 P P 21 15 13.9 +8.6
MAKZ Makanchi 62.66 335 P **P 21 15 04.8 -0.9**
RUGZ Raukumara Rang 62.78 128 P **P 21 15 07.2 +0.4**
HAZ Te Kaha 62.83 128 P **P 21 15 07.8 +0.8**
MXZ Matakaoa Point 63.20 128 P **P 21 15 09.5 +0.1**
MXZ Matakaoa Point 63.20 128 P **P 21 15 10.7 +1.3**
GAR Garm 63.28 322 P **P 21 15 08.5 -1.5**
GAR IAmb IAmb 21 15 10.1
comp=Z,18nm,1.0s
WMGZ Waiomatatini S 63.33 128 P **P 21 15 11.4 +1.1**
BTK Batken 63.63 323 P **P 21 15 11.7 -0.6**
BTK IAmb IAmb 21 15 12.2
comp=Z,6.8nm,0.8s
CHGR Chuyangaron 63.79 321 P **P 21 15 11.3 -2.0**
CHGR IAmb IAmb 21 15 11.8
comp=Z,7.7nm,0.8s
KKAR Karatay Array 65.72 325 P **P 21 15 24.2 -1.5**
KKAR Karatay Array 65.72 325 P **P 21 15 24.6 -1.1**
KKAR IAmb IAmb 21 15 25.7
comp=Z,1.4nm,0.6s
UOSS Minazif 66.81 302 P **P 21 15 31.9 -1.0**
ABPO Ambohimpanom 67.10 253 P **P 21 15 35.5 +0.5**
KURK Kurchatov 67.10 335 P **P 21 15 32.8 -1.3**
ZAA0 Zalesovo Array 67.39 341 P **P 21 15 34.3 -1.6**
ZAA0 IAmb IAmb 21 15 35.5
comp=Z,5.9nm,0.7s
ZALV Zalesovo Beam 67.39 341 P **P 21 15 34.1 -1.8**
comp=Z,6.3nm,0.5s,baz=148,slow=5.3,SNR=31
ZALV pP **pP 21 16 20.2 -2.2**
comp=Z,1.5nm,0.6s,baz=153,slow=3.2,SNR=2.3
ZALV Zalesovo Beam 67.39 341 P **P 21 15 34.4 -1.6**
MAW Mawson 68.73 199 P **P 21 15 46.1 +2.0**
comp=Z,23nm,0.8s,baz=63,slow=6.5,SNR=66
MAW Mawson 68.73 199 P **P 21 15 46.2 +2.1**
baz=69,SNR=27
MAW Mawson 68.73 199 P **P 21 15 45.5 +1.4**
GEYT Alibeck 70.76 315 P **P 21 15 56.8 -0.3**
comp=Z,1.6nm,0.4s,baz=132,slow=4.4,SNR=6.7
GEYT Alibeck 70.76 315 P **P 21 15 56.6 -0.5**
GYA0B ALIBECK ARRAY 70.76 315 P **P 21 15 56.0 -1.1**
GYA0B IAmb IAmb 21 15 59.0
comp=Z,7.8nm,1.1s
PETK Petropavlovsk- 70.85 25 P **P 21 15 57.0 -0.3**
comp=Z,4.6nm,0.9s,baz=191,slow=4.5,SNR=4.6
PETK pP **pP 21 16 44.3 +0.2**
comp=Z,6.0nm,0.9s,baz=190,slow=7.5,SNR=3.5
BRVK Borovoye 72.37 333 P **P 21 16 05.8 -0.5**
VNDA Vanda 73.08 171 P **P 21 16 11.7 +1.6**
comp=Z,2.5nm,0.4s,baz=315,slow=6.9,SNR=36
VNDA Vanda 73.08 171 P **P 21 16 11.4 +1.3**
ABKAR Abkulak array 75.27 326 P **P 21 16 21.9 -1.3**
ABKAR IAmb IAmb 21 16 23.2
comp=Z,4.8nm,0.6s
ABKAR Abkulak array 75.27 326 P **P 21 16 21.9 -1.3**
SYO Syowa Base 77.26 201⇑*e*P **P 21 16 34.2 +0.1**
SYO Syowa Base 77.26 201||*e*PcP **PcP 21 16 44.6 +0.7**
KMBO Kilima Mbogo 78.49 271 P **P 21 16 43.4 +1.1**
comp=Z,2.9nm,0.8s,baz=65,slow=9.4,SNR=7.4
ARU Arti 79.81 332 P **P 21 16 47.6 -0.6**
QSPA South Pole Qui 81.59 180 P **P 21 16 58.4 +0.7**
QSPA IAmb IAmb 21 17 01.5
comp=Z,14nm,0.8s
LSZ Lusaka 85.53 255 P **P 21 17 18.9 +0.2**
LSZ IAmb IAmb 21 17 20.3
comp=Z,16nm,1.0s
BOSA Boshof 86.50 242 P **P 21 17 24.5 +1.2**
comp=Z,17nm,0.8s,baz=94,slow=3.8,SNR=29
BOSA pP **pP 21 18 12.1 -0.3**
comp=Z,2.7nm,0.8s,baz=293,slow=3.4,SNR=1.9
BOSA Boshof 86.50 242 P **P 21 17 24.2 +0.9**
BOSA IAmb IAmb 21 17 25.2
comp=Z,23nm,0.9s
LBTB Lobatse 86.67 245 P **P 21 17 25.0 +0.8**
LBTB IAmb IAmb 21 17 26.6
comp=Z,15nm,0.8s
BRTR Keskin Array B 89.32 310 P **P 21 17 36.1 -0.2**
comp=Z,0.8nm,0.7s,baz=160,slow=5.0,SNR=6.2
BRTR pP **pP 21 18 24.1 -1.3**
comp=Z,0.2nm,0.5s,baz=46,slow=44,SNR=1.7
SNAA Sanae 90.70 196 P **P 21 17 43.9 +1.8**
SNAA Sanae 90.70 196 P **P 21 17 43.7 +1.6**
BELA Belgrano 2 92.29 186 P **P 21 17 50.3 +1.0**
VNA2 Neumayer--Watz 92.35 196 P **P 21 17 51.6 +2.0**
baz=113,slow=4.8
VNA1 Neumayer--Stat 92.74 196 P **P 21 17 53.2 +1.8**
VNA3 Neumayer Olymp 92.77 195 P **P 21 17 53.2 +1.6**
TORD Torodi Ar. Bea 115.23 281 PKP **PKiKP 21 23 20.2 -0.7**
comp=Z,1.7nm,0.5s,baz=61,slow=1.8,SNR=22
ESDC Sonseca Array 118.11 311 PKP **PKPdf 21 23 25.5 -0.4**
comp=Z,0.5nm,0.6s,baz=11,slow=2.9,SNR=7.5
DBIC Dimbokro 121.18 273 PKP **PKPdf 21 23 31.7 -0.7**
comp=Z,9.8nm,1.2s,baz=100,slow=2.6,SNR=4.9
DBIC Dimbokro 121.18 273 **PKPdf 21 23 32.1 -0.3**
PLCA Paso Flores 130.76 174 PKP **PKiKP 21 23 51.7 +0.6**
comp=Z,1.9nm,0.8s,baz=17,slow=4.4,SNR=3.7
TXAR Lajitas Array 137.55 55 PKhKP PKPpre 21 23 52.5
comp=Z,0.2nm,0.6s,baz=208,slow=5.1,SNR=4.5
TXAR SKP 21 27 16.2
comp=Z,0.5nm,0.7s,baz=271,slow=1.7,SNR=6.0
LVC Limon Verde 148.84 172 PKPbc **PKiKP 21 24 29.2 +0.3**
comp=Z,8.5nm,0.6s,baz=278,slow=1.3,SNR=7.1

LVC	Limon Verde	148.84	172		PKiKP	21 24 29.0	+0.1
BDFB	Brasilia	151.22	214	PKP	PKPdf	21 24 27.3	+0.2
	comp=Z,2.7nm,0.6s,baz=203,slow=9.2,SNR=3.3						
BDFB				PKPbc	PKPbc	21 24 33.4	+0.3
	comp=Z,5.0nm,0.5s,baz=150,slow=2.5,SNR=13						
BDFB	Brasilia	151.22	214		PKPbc	21 24 33.9	+0.7
LPAZ	La Paz	155.16	171	PKP	PKPdf	21 24 34.4	+1.0
	comp=Z,1.7nm,1.1s,baz=105,slow=7.0,SNR=4.4						
LPAZ				PKPab	PKPab	21 25 00.5	+1.7
	comp=Z,8.1nm,0.7s,baz=155,slow=3.5,SNR=23						
LPAZ	La Paz	155.16	171		PKPab	21 25 00.3	+1.5
SIV	San Ignacio	155.57	187	PKP	PKPdf	21 24 33.7	+0.5
	comp=Z,1.1nm,0.6s,baz=44,slow=3.2,SNR=6.9						
SIV				PKPab	PKPab	21 25 01.5	+1.7
	comp=Z,6.0nm,0.6s,baz=176,slow=5.4,SNR=24						

DRS ***22*** *21:04:59.9±0.0, 41°.08N×45°.17E, h16km*
AZER ***22*** *21:05:01.4, 41°.22N×45°.63E, h4km, ML3.2*
NORS ***22*** *21:05:02.1±0.0, 41°.10N×45°.53E, h5km, MPVA4.1*
MOS ***22*** *21:05:03.0±0.8, 41°.13N×45°.48E, h10km, mb3.8/4, Error ellipse: s-maj=5.8km s-min=4.4km az=100.3*
NSSP ***22*** *21:05:03.6, 41°.25N×45°.42E, h10km, Ms3.1*
TIF ***22*** *21:05:03.5, 41°.26N×45°.40E, h11km±1km*
DDA ***22*** *21:05:03.6, 41°.20N×45°.38E, h6km±2km, ML2.9*
ISK ***22*** *21:05:04.3, 41°.36N×45°.53E, h22km, ML3.1/6*

ISC 22 21:05:04.0±0.9, 41°.22N±0°.01×45°.47E±0°.01, h12km±6km, n132, σ1§19/231, 10C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZX	Qazax, Azerbai	0.18	206	P	Pg	21 05 08.7	+0.7
	SNR=102						
QZX				S	Sg	21 05 12.3	+1.5
DGRG	David-gareji	0.24	342	*i* P	Pg	21 05 09.2	0.0
DGRG				IAML		21 05 14.0	
	comp=N,2μm,0.3s						
DGRG				IAML		21 05 15.0	
	comp=E,1μm,0.6s						
DDFL	Dedoflistskaro	0.54	65	*i* P	Pb	21 05 15.2	-0.1
DDFL	Dedoflistskaro	0.54	65	*e*PG	Pb	21 05 15.3	-0.1
DDFL	Dedoflistskaro	0.54	65	P	Pb	21 05 15.4	0.0
GDB	GEDABAY	0.54	157	P	Pg	21 05 14.1	-0.5
	SNR=235						
GDB				S	Sg	21 05 22.1	+0.3
BTNK	Botanikuri	0.69	313	*e*PG	Pg	21 05 16.1	-1.2
BTNK	Botanikuri	0.69	313	P	Pg	21 05 16.2	-1.2
KZRT	Kazreti	0.83	282	*i* P	Pg	21 05 18.9	-1.1
KZRT				*i* S	Sg	21 05 29.5	-1.3
KZRT	Kazreti	0.83	282	*e*PG	Pg	21 05 18.8	-1.1
KZRT				*e*S	Sg	21 05 30.2	-0.6
KZRT	Kazreti	0.83	282	P	Pg	21 05 18.8	-1.1
KZRT				S	Sg	21 05 30.2	-0.6
GANJ	Ganja	0.86	131	PG	Pg	21 05 19.1	-1.5
GANJ	Ganja	0.86	131	P	Pg	21 05 19.1	-1.5
	SNR=128						
GANJ				S	Sg	21 05 30.8	-1.0
STE	Stepanavan	0.86	256	⇑*i* P	Pg	21 05 20.3	-0.4
STE				⇑*i* S	Sb	21 05 32.0	-0.5
ZKTA	Zakatala	0.96	64	P	Pg	21 05 20.9	-1.6
	SNR=312						
ZKTA				S	Sg	21 05 34.5	-0.6
DMNI	Dmanisi	0.97	277	*e*PG	Pg	21 05 21.2	-1.5
DMNI	Dmanisi	0.97	277	P	Pg	21 05 21.3	-1.5
DMNI				S	Sg	21 05 34.5	-0.9
TRLG	Trialeti	1.08	288	*e*PG	Pg	21 05 22.9	-1.9
TRLG				*e*S	Sg	21 05 37.5	-1.4
TRLG	Trialeti	1.08	288	P	Pg	21 05 22.9	-1.9
TRLG				S	Sg	21 05 37.5	-1.4
MNGR	Mingechevir, A	1.30	110	PG	Pn	21 05 27.6	-0.3
MNGR	Mingechevir, A	1.30	110	P	Pn	21 05 27.5	-0.4
	SNR=25						
MNGR				S	Sg	21 05 47.0	+1.2
SEKA	Sheki	1.30	90	PG	Pn	21 05 26.3	-1.7
SEKA	Sheki	1.30	90	P	Pn	21 05 26.4	-1.7
	SNR=143						
SEKA				S	Sg	21 05 45.6	-0.3
GMRZ	Gyumri	1.31	252	*e*P	Pn	21 05 25.0	-3.2
GMRZ				*e*S	Sb	21 05 40.0	-5.4
NRKZ	NAREK	1.37	207	⇑*i* P	Pg	21 05 29.7	-0.6
NRKZ				⇑*i* S	Sg	21 05 49.0	+1.0
ARUZ	Aruch	1.41	229	⇑*i* P	Pb	21 05 30.1	-0.1
ARUZ				⇑*i* S	Sg	21 05 50.0	+0.7
AKH	Akhalkalaki	1.50	278	PN	Pn	21 05 30.9	-0.1
AKH				SN	Sn	21 05 50.5	-0.1
AKH	Akhalkalaki	1.50	278	*e*PG	Pn	21 05 30.8	-0.1
AKH				*e*S	Sb	21 05 50.7	-0.3
AKH	Akhalkalaki	1.50	278	P	Pn	21 05 30.8	-0.1
AKH				S	Sb	21 05 50.8	-0.3
METS	Metsamor	1.50	225	*i* P	Pb	21 05 31.3	-0.6
METS				*i* S	Sg	21 05 51.9	-0.5
EAK	Akyaka	1.51	250	*i* P	Pb	21 05 31.5	-0.5
EAK				IAML		21 05 52.0	
	comp=E,197nm,0.5s						
EAK				*i* S	Sg	21 05 52.2	-0.4
EAK				IAML		21 05 57.0	
	comp=N,302nm,0.4s						
KMKR	Kumukh	1.52	53	*e*Pg	Pn	21 05 30.5	-0.7
	comp=N,66nm,0.3s						
KMKR				*e*Sg	Sb	21 05 51.5	-0.1
	comp=N,913nm,0.0s						
KMKR	Kumukh	1.52	53	*e*PG	Pn	21 05 30.5	-0.7
KMKR				*e*S	Sb	21 05 51.5	-0.1
KMKR				pmax	pmax		
	comp=Z,66nm,0.3s						
BTLR	Botlikh	1.55	21	*e*Pg	Pn	21 05 31.3	-0.1
	comp=Z,71nm,0.6s						
BTLR				*e*Sg	Sb	21 05 52.2	0.0
	comp=Z,173nm,0.4s						
BTLR	Botlikh	1.55	21	*e*PN	Pn	21 05 31.5	+0.1
TASB	TASBURUN-IGDIR	1.55	218	PN	Pg	21 05 33.1	-0.7
TASB				SN	Sg	21 05 54.4	+0.5
PNSH	Pansheti	1.55	336	*e*PN	Pn	21 05 31.4	-0.2
PNSH	Pansheti	1.55	336	P	Pn	21 05 31.5	-0.2
PNSH				S	Sb	21 05 52.5	+0.1
BKRG	Bakuriani	1.56	291	*e*PG	Pn	21 05 31.4	-0.3
BKRG				*e*S	Sb	21 05 53.1	+0.4
BKRG	Bakuriani	1.56	291	P	Pn	21 05 31.4	-0.3
BKRG				S	Sb	21 05 53.1	+0.4
HYR	Heyderabad	1.57	198	Pn	Pg	21 05 33.8	-0.3
	SNR=5.1						
HYR				Sn	Sg	21 05 56.5	+2.0
BRDA	Brd	1.61	126	Pn	Pn	21 05 32.5	+0.3
	SNR=6.9						
BRDA				Sn	Sg	21 05 56.5	+0.8
XNZR	Khunzakh	1.61	34	*e*Pg	Pb	21 05 33.3	-0.5
XNZR				*e*Sg	Sg	21 05 55.3	-0.5
XNZR	Khunzakh	1.61	34	*e*PN	Pb	21 05 33.2	-0.5
XNZR				*e*S	Sg	21 05 55.3	-0.5
AGDM	Agdam	1.67	131	Pn	Pn	21 05 33.2	+0.2
	SNR=19						
AGDM				Sn	Sg	21 05 56.6	-1.0
VNNZ	Vanand	1.68	229	⇑*i* P	Pb	21 05 35.0	+0.2
VNNZ				⇑*i* S	Sg	21 05 58.5	+0.5
IGDI	IGDIR	1.72	219	*i* P	Pb	21 05 34.9	-0.6
IGDI				*i* S	Sg	21 05 58.6	-0.7
IGDI				IAML		21 05 59.0	
	comp=E,211nm,0.3s						
IGDI				IAML		21 06 00.0	
	comp=N,192nm,0.5s						
AKT	Akhty	1.72	81	*e*Pg	Pn	21 05 33.5	-0.3
	comp=N,76nm,0.5s						
AKT				*e*Sg	Sn	21 05 56.0	+0.3
	comp=N,380nm,0.8s						
AKT	Akhty	1.72	81	⇓*i* PN	Pn	21 05 33.5	-0.3
AKT				*e*S	Sn	21 05 55.9	+0.2
DIGO	Kars	1.78	244	*i* P	Pb	21 05 36.1	-0.7
DIGO				*i* S	Sb	21 05 59.7	+0.5
DIGO				IAML		21 06 06.0	
	comp=N,145nm,0.4s						
DIGO				IAML		21 06 10.0	
	comp=E,191nm,0.5s						
ARKR	Arakani	1.79	39	*e*Pg	Pb	21 05 36.5	-0.2
ARKR				*e*Sg	Sg	21 06 01.0	-0.5
	comp=E,202nm,0.3s						
ARKR	Arakani	1.79	39	*e*PN	Pb	21 05 36.5	-0.2
ARKR				*e*S	Sg	21 06 01.0	-0.5
QBL	Gabala	1.81	98	Pn	Pn	21 05 34.9	0.0
	SNR=28						
QBL				Sn	Sb	21 05 59.7	+0.1
SBZ	Shahbuz	1.82	178	Pn	Pb	21 05 37.5	+0.2
	SNR=40						
SBZ				Sn	Sg	21 06 02.5	-0.1
LACR	Lac	1.83	332	*e*Pg	Pn	21 05 35.7	+0.3
LACR				*e*Sg	Sg	21 06 02.0	-0.9
LACR	Lac	1.83	332	*e*PN	Pn	21 05 35.7	+0.3
URKR	Urkarakh	1.87	59	*e*Pg	Pb	21 05 37.1	-1.2
	comp=E,68nm,0.5s						
URKR				*e*Sg	Sb	21 06 02.1	+0.4
	comp=E,152nm,0.5s						
URKR	Urkarakh	1.87	59	*e*PN	Pb	21 05 37.0	-1.2
URKR				pmax	pmax		
	comp=Z,68nm,0.5s						
KMGR	Komgaron	1.89	346	*e*Pg	Pb	21 05 38.2	-0.3
KMGR				*e*Sg	Sg	21 06 07.0	+2.2
KMGR	Komgaron	1.89	346	*e*PN	Pb	21 05 38.2	-0.3
KARS	Kars	1.91	253	PN	Pb	21 05 37.6	-1.2
KARS				SN	Sb	21 06 01.7	-0.9
VLKR	Vladikavkaz	1.92	342	*e*PN	Pb	21 05 39.0	+0.1
VLKR				*e*S	Sg	21 06 06.5	+0.8
ZRD	Zardab	1.92	118	Pn	Pb	21 05 37.5	-1.4
	SNR=56						
ZRD				Sn	Sg	21 06 05.8	0.0
KRNR	Karanay	1.93	33	*e*Pg	Pb	21 05 38.0	-1.1
	comp=Z,21nm,0.2s						
KRNR				*e*Sg	Sb	21 06 03.0	-0.2
	comp=Z,87nm,0.4s						
KRNR	Karanay	1.93	33	*e*PN	Pb	21 05 38.0	-1.1
KRNR				pmax	pmax		
	comp=Z,21nm,0.2s						
ZEI	Tsey	1.96	324	*e*Pg	Pb	21 05 38.7	-1.0
ZEI				*e*Sg	Sb	21 06 05.0	+0.9
ZEI	Tsey	1.96	324	*e*PN	Pb	21 05 38.7	-1.0
GROC	Groznyy	2.00	7	*i* Pg	Pb	21 05 40.7	+0.5
GROC				*e*Sg	Sg	21 06 08.6	+0.4
GROC	Groznyy	2.00	7	⇑*i* PN	Pb	21 05 40.7	+0.5
GROC				*e*S	Sg	21 06 08.6	+0.4
XNQ	Khinaliq	2.01	90	Pn	Pn	21 05 38.0	+0.1
	SNR=25						
XNQ				Sn	Sb	21 06 05.3	-0.4
BUJR	Buynaksk	2.02	37	*e*Pn	Pb	21 05 40.3	-0.2
	comp=Z,46nm,0.6s						
BUJR				*e*Sn	Sg	21 06 07.6	-1.2
	comp=Z,272nm,0.7s						
BUJR	Buynaksk	2.02	37	*e*PN	Pb	21 05 40.3	-0.2
BUJR				*e*S	Sg	21 06 07.5	-1.2
BUJR				pmax	pmax		
	comp=Z,46nm,0.6s						
ONI	Oni	2.04	313	*e*PN	Pb	21 05 39.3	-1.7
ONI				*e*S	Sb	21 06 07.4	+1.1
ONI	Oni	2.04	313	P	Pb	21 05 39.3	-1.7
ONI				S	Sb	21 06 07.5	+1.1
DLMR	Dylym	2.04	25	*e*Pn	Pb	21 05 40.5	-0.5
	comp=Z,46nm,0.3s						
DLMR				*e*Sn	Sg	21 06 08.0	-1.6
	comp=Z,162nm,0.7s						
DLMR	Dylym	2.04	25	*e*PN	Pb	21 05 40.5	-0.5
DLMR				*e*S	Sg	21 06 08.0	-1.6
DLMR				pmax	pmax		
	comp=Z,46nm,0.3s						
NAX	Nakhchivan	2.04	180	PN	Pg	21 05 42.9	-0.3
NAX	Nakhchivan	2.04	180	Pn	Pg	21 05 42.2	-1.0
	SNR=3.0						
NAX				Sn	Sg	21 06 10.6	+1.0
SGKR	Sergokala	2.05	52	*e*Pn	Pb	21 05 41.0	-0.1
SGKR				*e*Sn	Sb	21 06 07.0	+0.4
	comp=Z,198nm,0.2s						
SGKR	Sergokala	2.05	52	*e*PN	Pb	21 05 41.0	-0.1
SGKR				*e*S	Sb	21 06 07.0	+0.4
DBC	Dubki	2.06	29	*e*Pn	Pb	21 05 40.3	-1.1
	comp=Z,30nm,0.4s						
DBC				*e*Sn	Sb	21 06 08.0	+1.0
	comp=Z,254nm,0.5s						
DBC	Dubki	2.06	29	*e*PN	Pb	21 05 40.3	-1.1
DBC				*e*S	Sg	21 06 08.4	-1.9
EPOS	Posof	2.09	279	*i* P	Pb	21 05 40.5	-1.4
IML	Ismayilli	2.09	101	Pn	Pn	21 05 39.3	+0.4
	SNR=24						
IML				Sn	Sb	21 06 08.4	+0.5
QSAR	Qusar	2.12	81	Pn	Pb	21 05 41.1	-1.3
	SNR=7.8						
QSAR				Sn	Sb	21 06 09.8	+1.1
KORR	Kora	2.14	331	*e*PN	Pn	21 05 39.5	0.0
ARNR	Ardon	2.15	336	*e*Pn	Pb	21 05 43.0	+0.2
ARNR				*e*Sn	Sg	21 06 12.7	-0.4
ARNR	Ardon	2.15	336	*e*PN	Pb	21 05 43.0	+0.2
ARNR				*e*S	Sg	21 06 12.7	-0.4
DYDN	Diyadin	2.16	220	*i* P	Pg	21 05 44.1	-1.3
TKB	Tkibuli	2.17	302	*e*PN	Pb	21 05 41.0	+1.1
TKB				*e*S	Sb	21 06 09.8	-0.3
TKB	Tkibuli	2.17	302	P	Pn	21 05 41.1	+1.1
TKB				S	Sb	21 06 09.9	-0.3
BLQ	Beylaqan	2.18	133	Pn	Pn	21 05 41.1	+1.0
	SNR=8.6						
BLQ				Sn	Sb	21 06 10.0	-0.4
DIGR	Digorskoe uzhe	2.19	321	*e*Pn	Pb	21 05 42.9	-0.8
DIGR				*e*Sn	Sb	21 06 11.9	+1.0
DIGR	Digorskoe uzhe	2.19	321	*e*PN	Pb	21 05 42.9	-0.8
DIGR				*e*S	Sb	21 06 11.9	+1.0
KDMR	Kurdemir	2.22	111	Pn	Pn	21 05 41.1	+0.5
	SNR=8.6						
KDMR				Sn	Sb	21 06 11.9	+0.3
QRD	Qoradiz	2.25	141	Pn	Pb	21 05 43.0	-1.6
	SNR=8.5						
QRD				Sn	Sb	21 06 12.8	+0.4
DRN	Derbent	2.29	68	*e*Pn	Pb	21 05 43.6	-1.6
	comp=Z,169nm,0.5s						
DRN				*e*Sn	Sb	21 06 13.4	0.0
	comp=Z,148nm,0.6s						
DRN	Derbent	2.29	68	*e*PN	Pb	21 05 43.5	-1.7
DRN				*e*S	Sb	21 06 13.3	-0.1
MAK	Makhachkala	2.31	40	*e*PN	Pn	21 05 41.4	-0.3
MAK				*e*		21 05 46.7	
MAK				*e*		21 06 17.2	
MAK				*e*		21 06 24.7	
MAK				pmax	pmax		
	comp=Z,41nm,0.4s						
MAK				MLR	MLR		
	comp=Z,204nm,2.0s						
ORD	Ordubad	2.32	170	Pn	Pb	21 05 45.5	-0.3
	SNR=8.0						
ORD				Sn	Sg	21 06 16.7	-1.9
STDR	Stavd-Durt	2.39	334	*e*PN	Pb	21 05 45.8	-1.1
STDR				*e*S	Sb	21 06 17.3	+0.9
CLDR	Caldiran	2.39	210	PN	Pb	21 05 45.3	-1.8
LSNR	Lesken	2.39	330	*e*Pn	Pb	21 05 45.7	-1.3
LSNR				*e*Sn	Sg	21 06 19.0	-1.9
LSNR	Lesken	2.39	330	*e*PN	Pb	21 05 45.7	-1.3
LSNR				*e*S	Sg	21 06 18.7	-2.2
PQL	Pirkuli	2.40	99	Pn	Pn	21 05 44.2	+1.0
	SNR=7.4						
PQL				Sn	Sb	21 06 17.0	+0.2
SENK	Senkaya-Erzuru	2.46	256	PN	Pn	21 05 45.3	+1.2
SENK				SN	Sn	21 06 15.2	+1.1
AGRB	Hanur-Agry	2.51	230	PN	Pb	21 05 46.7	-2.3
SIZA	Siyzn	2.59	92	Pn	Pb	21 05 49.9	-0.5
	SNR=6.9						
SIZA				Sn	Sb	21 06 20.8	-1.4
SAAT	Saatly	2.62	120	Pn	Pn	21 05 46.5	+0.4
SAAT				Sn	Sb	21 06 21.8	-1.3
ATGJ	Altiaghaj	2.65	97	Pn	Pn	21 05 48.6	+2.0
	SNR=3.8						
ATGJ				Sn	Sb	21 06 22.7	-1.1
DAGI	Agillar	2.69	268	*i* P	Pb	21 05 49.7	-2.4
DAGI				*i* S	Sg	21 06 28.6	-1.8
DAGI				IAML		21 06 32.0	
	comp=E,30nm,0.6s						
DAGI				IAML		21 06 34.0	
	comp=N,21nm,0.5s						
GBS	Qobustan	2.72	103	Pn	Pn	21 05 48.6	+1.1
GBS				Sn	Sb	21 06 24.8	-1.0
DDEM	Demirkent	2.83	265	*i* P	Pg	21 05 56.2	-2.1
DDEM				IAML		21 06 35.0	
	comp=N,62nm,0.5s						
DDEM				IAML		21 06 37.0	
	comp=E,57nm,0.4s						
BATM	Batumi	2.87	279	PN	Pn	21 05 50.5	+1.0
BATM	Batumi	2.87	279	*i* P	Pb	21 05 53.9	-1.2
BATM				*i* S	Sb	21 06 31.6	+1.4
BATM	Batumi	2.87	279	*e*PN	Pb	21 05 54.0	-1.1
BATM				*e*S	Sb	21 06 31.1	+1.0
BCA	Borcka	2.91	276	PN	Pn	21 05 51.0	+0.9
BCA				SN	Sn	21 06 25.4	+0.4
GLBA	Cilabad	2.98	131	Pn	Pn	21 05 52.6	+1.5
	SNR=4.3						
GLBA				Sn	Sb	21 06 33.0	-0.4
MLAZ	Malazgirt-MUS	3.05	228	PN	Pn	21 05 54.8	+2.6
YRD	Yardimli	3.13	136	Pn	Pn	21 05 54.4	+1.1
	SNR=7.3						
YRD				Sn	Sn	21 06 33.2	+2.5
SHA1	Shidzhatmaz	3.27	321	*e*PN	Pb	21 06 00.9	-1.1
SHA1				*e*S	Sb	21 06 42.3	+0.5
LRK	Lerik	3.39	138	Pn	Pn	21 05 58.2	+1.4
	SNR=4.2						
LRK				Sn	Sb	21 06 42.9	-2.3
BEYR	Belyy Ugol+	3.41	326	*e*PN	Pn	21 06 00.2	+3.2
BEYR				*e*S	Sn	21 06 41.0	+3.6
LKRN	Lenkeran, Azer	3.57	134	Pn	Pb	21 06 03.5	-3.5
LKRN				Sn	Sn	21 06 44.1	+3.0
ASTR	Astara	3.68	135	Pn	Pn	21 06 01.9	+1.2
ASTR				Sn	Sn	21 06 44.7	+0.7
ARXR	Arkhyz	3.89	308	*i* PN	Pn	21 06 05.2	+1.5
GOF	Gofitskoye	4.23	336	⇑*e*PN	Pb	21 06 18.4	+0.1
OBN	Obninsk	15.10	340	*e*P	Pn	21 08 39.2	+2.3
OBN				*e*S	Sn	21 11 26.0	+2.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,23nm,14.0s						
BRVK	Borovoye	20.50	46	*i* P	P	21 09 42.5	+0.9
BRVK				pmax	pmax		
	comp=Z,6.0nm,3.9s						
AAK	Ala-Archa	21.60	77	*i* P	P	21 09 53.6	-0.2
AAK				pmax	pmax		
	comp=Z,23nm,4.5s						
KURK	Kurchatov	24.73	56	*i* P	P	21 10 26.4	+1.4
KURK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
DGZ	Jazzator, Alta	30.29	59	*i* P	P	21 11 12.6	-2.4
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.2s						

UCR ***22*** *21:12:55.6±1.0, 13°.04N×90°.17W, h21km±4km, ML3.5*
SNET ***22*** *21:12:55.4±0.9, 13°.03N×90°.17W, h21km±3km, ML3.5*

ISC 22 21:12:56.0±3.6, 13°.1N±0°.1×90°.2W±0°.2, h29km, n31, σ0§38/38, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	Cerro Verde	0.95	36	*e*P	Pn	21 13 13.3	-0.4
CEVE				*e*S	Sb	21 13 27.2	+0.8
CEVE				IAML		21 13 34.0	
	comp=Z,2μm,0.4s						
CEVE	Cerro Verde	0.95	36	*e*P	Pn	21 13 13.3	-0.4
CEVE				*e*S	Sb	21 13 27.2	+0.8
CEVE				IAML		21 13 34.0	
	comp=Z,2μm,0.4s						
SBLS	San Blas	0.96	36	*e*P	Pn	21 13 13.6	-0.2
SBLS	San Blas	0.96	36	*e*P	Pn	21 13 13.6	-0.2
SNJE	San Jose	0.99	35	*e*P	Pn	21 13 14.1	-0.1
SNJE	San Jose	0.99	35	*e*P	Pn	21 13 14.1	-0.1
RTR	El Retiro	0.99	33	*e*P	Pn	21 13 14.1	-0.1
RTR	El Retiro	0.99	33	*e*P	Pn	21 13 14.1	-0.1
CEDA	San Andres	1.08	46	*e*S	Sb	21 13 30.1	+0.3
CEDA	San Andres	1.08	46	*e*S	Sb	21 13 30.1	+0.3
BOQS	Boqueron	1.12	53	*e*P	Pn	21 13 16.0	0.0
BOQS	Boqueron	1.12	53	*e*P	Pn	21 13 16.0	0.0
TACO	Tacachico	1.23	42	*e*P	Pn	21 13 17.2	-0.1
TACO				*e*S	Sb	21 13 33.7	-0.4
TACO	Tacachico	1.23	42	*e*P	Pn	21 13 17.2	-0.1
TACO				*e*S	Sb	21 13 33.7	-0.4
LFRS	El Faro	1.24	63	*e*P	Pn	21 13 16.9	-0.6
LFRS	El Faro	1.24	63	*e*P	Pn	21 13 16.9	-0.6
LFU	La Fuente	1.26	57	*e*P	Pn	21 13 18.3	+0.5
LFU	La Fuente	1.26	57	*e*P	Pn	21 13 18.3	+0.5
LBRS	Las Brisas	1.31	59	*e*P	Pn	21 13 18.9	+0.4
LBRS	Las Brisas	1.31	59	*e*P	Pn	21 13 18.9	+0.4
PAVA	Las Pavas	1.39	62	*e*P	Pn	21 13 19.7	+0.1
PAVA	Las Pavas	1.39	62	*e*P	Pn	21 13 19.7	+0.1
COEG	Centro de Oper	1.40	66	*e*P	Pn	21 13 19.2	-0.5
COEG	Centro de Oper	1.40	66	*e*P	Pn	21 13 19.2	-0.5
MTO3	Montecristo	1.56	31	*e*P	Pn	21 13 22.5	+0.4
MTO3				*e*S	Sb	21 13 43.6	-0.4
MTO3	Montecristo	1.56	31	*e*P	Pn	21 13 22.5	+0.4
MTO3				*e*S	Sb	21 13 43.6	-0.4
ESQI	Esquipulas	1.71	29	*e*P	Pn	21 13 23.9	-0.1
ESQI				*e*S	Sb	21 13 47.6	-0.4
ESQI				IAML		21 13 50.4	
	comp=Z,316nm,0.6s						
BLLM	Bellamira	1.95	78	*e*P	Pn	21 13 27.2	-0.1
BLLM	Bellamira	1.95	78	*e*P	Pn	21 13 27.2	-0.1
CNCH	Conchagua	2.31	84	*e*P	Pn	21 13 32.5	+0.2
CNCH				IAML		21 14 11.6	
	comp=Z,363nm,0.4s						
CNCH	Conchagua	2.31	84	*e*P	Pn	21 13 32.5	+0.2
CNCH				IAML		21 14 11.6	
	comp=Z,363nm,0.4s						

IDC ***22*** *21:22:09.0±0.6, 55°.42S×27°.91W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.3/23, mbtmp4.4/11, ML4.8/1, MS3.6/6, Ms1 3.5/6, ms1mx3.3/17, Error ellipse: s-maj=21.9km s-min=17.4km az=63.0*
NEIC ***22*** *21:22:13.7±0.9, 55°.4S±0°.1×27°.9W±0°.2, h30km±5km, mb4.7/26, Error ellipse: s-maj=18.5km s-min=13.0km az=204.0*

ISC 22 21:22:13.0±0.5, 55°.41S±0°.09×27°.89W±0°.09, h26km, n61, σ0§61/53, mb4.7/20, MS3.7/5, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.10	279		Pn	21 23 26.7	-0.9
VNA1	Neumayer--Stat	17.54	158	P	P	21 26 16.6	+0.5
VNA3	Neumayer Olymp	17.73	161	P	P	21 26 18.2	-0.1
VNA2	Neumayer--Watz	17.93	158	P	P	21 26 21.0	+0.4
	baz=315,slow=12

SIV	**San Ignacio**	**46.85**	**314**	P	**P**	**21 30 40.3**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=160,slow=7.5,SNR=6.0						
VNDA	**Vanda**	**47.19**	**183**	P	**P**	**21 30 42.4**	**-0.3**
	comp=Z,5.6nm,0.7s,baz=189,slow=5.6,SNR=34						
VNDA	**Vanda**	**47.19**	**183**	P	**P**	**21 30 43.1**	**+0.4**
VNDA				IAmb	IAmb	21 30 46.3	
	comp=Z,6.0nm,0.7s						
GO01	**Chusmiza**	**47.27**	**302**	P	**P**	**21 30 44.7**	**+0.1**
GO01				IAmb	IAmb	21 30 46.2	
	comp=Z,8.6nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.51**	**18**	T	T	22 22 44.8	
	baz=190,slow=74,SNR=6.1						
H10S3	**ASCENSION HYDR**	**47.51**	**18**	T	T	22 22 45.1	
	baz=30,slow=74,SNR=14						
MNMC	**Minye Minye**	**47.93**	**302**	P	**P**	**21 30 49.9**	**+0.5**
PB16	**IPOC Station P**	**48.57**	**303**	P	**P**	**21 30 54.2**	**-0.4**
H10N1	**ASCENSION HYDR**	**48.62**	**18**	T	T	22 24 09.0	
	baz=189,slow=75,SNR=5.9						
H10N3	**ASCENSION HYDR**	**48.63**	**18**	T	T	22 24 09.0	
	baz=189,slow=75,SNR=20						
H10N2	**ASCENSION HYDR**	**48.64**	**18**	T	T	22 24 13.8	
	baz=189,slow=75,SNR=12						
LPAZ	**La Paz**	**49.69**	**306**	P	**P**	**21 31 03.5**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=142,slow=6.0,SNR=17						
LPAZ	**La Paz**	**49.69**	**306**	P	**P**	**21 31 03.9**	**+0.6**
LPAZ				IAmb	IAmb	21 31 22.5	
	comp=Z,4.7nm,0.8s						
SAML	**Samuel**	**54.07**	**315**	P	**P**	**21 31 35.0**	**-0.3**
SAML				IAmb	IAmb	21 31 35.8	
	comp=Z,4.4nm,0.8s						
LIC	**Lamto**	**64.28**	**25**	*e*P	**P**	**21 32 46.0**	**+0.1**
	comp=Z,31nm,0.9s						
KIC	**Kosan Boka**	**64.48**	**26**	*e*P	**P**	**21 32 46.9**	**-0.3**
	comp=Z,21nm,1.0s						
TIC	**Toumodi**	**64.69**	**25**	*e*P	**P**	**21 32 48.4**	**-0.1**
DBIC	**Dimbokro**	**64.75**	**25**	P	**P**	**21 32 49.1**	**+0.2**
	comp=Z,7.7nm,0.8s,baz=160,slow=9.6,SNR=6.7						
DBIC	**Dimbokro**	**64.75**	**25**	P	**P**	**21 32 49.0**	**+0.1**
TOA0	**Torodi Ar. Sit**	**72.70**	**30**	P	**P**	**21 33 38.9**	**+0.5**
TOA0				IAmb	IAmb	21 33 40.0	
	comp=Z,8.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.70**	**30**	P	**P**	**21 33 39.0**	**+0.6**
	comp=Z,7.8nm,0.8s,baz=201,slow=6.2,SNR=35						
TORD				LR	LR	21 59 17.7	
	comp=Z,39nm,20.5s,baz=150,slow=31						
TORD	**Torodi Ar. Bea**	**72.70**	**30**	P	**P**	**21 33 38.7**	**+0.3**
SDV	**Santo Domingo**	**73.28**	**316**	P	**P**	**21 33 41.9**	**-0.2**
SDV				IAmb	IAmb	21 33 43.0	
	comp=Z,6.7nm,0.9s						
KEST	**Kesra**	**96.21**	**30**	LR	LR	22 13 58.1	
	comp=Z,35nm,19.6s,baz=278,slow=32						
ESDC	**Sonseca Array**	**96.89**	**18**	P	**P**	**21 35 43.0**	**+1.7**
	comp=Z,0.5nm,1.0s,baz=205,slow=7.0,SNR=1.8						
FINES	**FINESS Array B**	**124.00**	**28**	PKP	**PKPdf**	**21 41 05.5**	**-1.8**
	comp=Z,7.4nm,1.1s,baz=225,slow=2.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**142.44**	**63**	PKhKP	PKPpre	21 41 38.1	
	comp=Z,0.4nm,0.5s,baz=268,slow=3.1,SNR=3.6						
NRIK	**Noril'sk**	**148.75**	**38**	PKPbc	**PKPbc**	**21 41 56.3**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=26,slow=3.7,SNR=3.6						
ILAR	**Eielson Array**	**149.40**	**313**	PKPbc	**PKiKP**	**21 41 58.0**	**-1.1**
	comp=Z,6.3nm,0.9s,baz=126,slow=1.7,SNR=44						
ILAR	**Eielson Array**	**149.40**	**313**		**PKPbc**	**21 41 57.8**	**-0.2**
SONM	**Songino Array**	**151.08**	**86**	PKPbc	**PKPbc**	**21 42 02.3**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=217,slow=3.3,SNR=17						
SONM	**Songino Array**	**151.08**	**86**		**PKiKP**	**21 42 02.5**	**-0.8**

IDC 22 21:41:50.7±1.7, 3°.06S×127°.59E, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.4/36, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=46.6km s-min=28.0km az=76.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.27**	**59**	Pn	Pn	21 42 57.0	-0.1
	1.9nm,0.3s,baz=271,slow=23,SNR=5.7						
SIJI				Sn	Sn	21 43 43.5	-4.3
	0.4nm,0.3s,baz=136,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**18.02**	**159**	P	P	21 46 03.1	-0.3
	0.2nm,0.3s,baz=341,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.37**	**164**	P	P	21 46 39.9	-0.1
	1.1nm,0.7s,baz=345,slow=10,SNR=10						
MKAR	**Makanchi Array**	**63.64**	**327**	P	P	21 52 23.7	0.0
	0.2nm,0.7s,baz=112,slow=8.9,SNR=2.0						

WEL 22 22:05:30.9, 43°.5E±2°×17°.2E±°, h5km±11km, M2.4/6, ML2.3/7, MLv2.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=33.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.04**	**166**	P	Pg	22 05 33.2	+1.0
LTZ	**Lake Taylor**	**0.54**	**20**	P	Pb	22 05 43.3	+0.5
MQZ	**McQueen's Vall**	**0.62**	**133**	P	Pb	22 05 44.5	+0.2
WACZ	**Wakanui South**	**0.67**	**192**	P	Pn	22 05 46.5	-0.6
INZ	**Inchbonnie**	**0.70**	**323**	P	Pb	22 05 46.3	+0.6
GVZ	**Greta Valley S**	**0.81**	**67**	P	Pn	22 05 49.0	+0.1
RPZ	**Rata Peaks**	**0.83**	**238**	P	Pn	22 05 48.7	-0.5
AKCZ	**Akaroa Harbour**	**0.87**	**133**	P	Pn	22 05 49.9	0.0
OKCZ	**Okains Bay**	**0.87**	**121**	P	Pn	22 05 49.4	-0.4

*SKO **22** 22:07:05.0, 40°.83N×22°.44E, h15km*
*ATH **22** 22:07:07.3, 40°.93N×22°.51E, h21km±6km, ML1.5/3, Error ellipse: s-maj=6.9km s-min=1.6km az=75.0*
ISC 22 22:07:06.0±1.5, 40°.94N±0°.04×22°.46E±0°.09, h11km, n12, σ0s49/13, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.39**	**13**	*e*Lg	Lg	22 07 20.6	
	comp=E,14nm,0.5s						
VAY	**Valandovo**	**0.39**	**13**	*i*Pg	**Pb**	**22 07 14.7**	**-0.3**
VAY	**Valandovo**	**0.39**	**13**	*i*Sg	**Sg**	**22 07 19.9**	**+0.9**
VAY	**Valandovo**	**0.39**	**13**	*e*Lg	Lg	22 07 21.1	
	comp=N,10nm,0.2s						
KNT	**Kendrikon**	**0.40**	**56**	P	**Pb**	**22 07 15.2**	**0.0**
KNT				S	**Sb**	**22 07 21.1**	**-0.2**
KNT				AML	AML	22 07 21.8	
	comp=N,339μm,0.1s						
KNT				AML	AML	22 07 22.0	
	comp=E,258μm,0.2s						
THE	**Thessaloniki**	**0.49**	**129**	P	**Pb**	**22 07 16.6**	**-0.1**
THE				S	**Sb**	**22 07 23.0**	**-0.9**
THE				AML	AML	22 07 23.3	
	comp=N,68μm,0.2s						
THE				AML	AML	22 07 23.9	
	comp=E,54μm,0.2s						
SOH	**Sokhos**	**0.69**	**100**	P	**Pb**	**22 07 20.3**	**+0.2**
SOH				S	**Sb**	**22 07 29.8**	**+0.1**
SOH				AML	AML	22 07 30.3	
	comp=N,116μm,0.4s						
SOH				AML	AML	22 07 31.6	
	comp=E,121μm,0.4s						
LIT	**Litokhoron**	**0.84**	**178**	P	**Pn**	**22 07 23.7**	**-0.1**
SRS	**Serrai**	**0.88**	**78**	P	**Pg**	**22 07 22.3**	**-0.6**
PLG	**Polygyros**	**0.94**	**127**	P	**Pn**	**22 07 25.4**	**+0.1**
NVR	**Nevrokopi**	**1.14**	**68**	P	**Pn**	**22 07 28.0**	**+0.1**
PAIG	**Paliouri**	**1.38**	**137**	P	**Pg**	**22 07 32.8**	**+0.4**

*TIR **22** 22:07:32.3, 41°.95N×19°.35E, h25km±5km, Md2.8*
*RHSSO **22** 22:07:34.3±0.8, 41°.91N×19°.51E, h6km±3km, ML2.6/7*
*PDG **22** 22:07:34.2±0.1, 41°.91N×19°.42E, h15km, MD2.9/4, ML2.7/14, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
ISC 22 22:07:32.7±1.1, 41°.82N±0°.03×19°.46E±0°.03, h8km±8km, n44, σ0s97/80, 15C-6b, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.21**	**311**	⇑*i*Pg	**Pg**	**22 07 37.8**	**+0.8**
ULC				*i*Sg	**Sg**	**22 07 40.5**	**+0.5**
PUK	**Puka**	**0.39**	**56**	P	**Pb**	**22 07 41.5**	**-0.5**
	baz=76						
PUK				S	**Sb**	**22 07 47.8**	**-0.3**
	baz=76						
DRME	**Dracevica, Mon**	**0.41**	**331**	⇑*i*Pg	**Pg**	**22 07 41.0**	**+0.1**
DRME				*i*Sg	**Sg**	**22 07 46.0**	**-0.3**
DRME	**Dracevica, Mon**	**0.41**	**331**	⇑*i*Pg	**Pg**	**22 07 40.9**	**+0.1**
DRME				*e*Sg	**Sg**	**22 07 46.7**	**+0.4**
TIR	**Tirane**	**0.57**	**147**	⇓P	**Pn**	**22 07 47.2**	**+0.2**
TIR	**Tirane**	**0.57**	**147**	P	**Pn**	**22 07 46.4**	**-0.6**
	baz=147						
TIR				S	**Sn**	**22 07 57.3**	**+0.8**
	baz=147						
PDG	**Podgorica**	**0.62**	**346**	⇑P	**Pg**	**22 07 44.5**	**-0.3**
PDG	**Podgorica**	**0.62**	**346**	*e*Pg	**Pg**	**22 07 44.2**	**-0.6**
PDG				*e*Sg	**Sg**	**22 07 52.9**	**0.0**
TTG	**Podgorica**	**0.62**	**346**	⇑*i*Pg	**Pg**	**22 07 44.2**	**-0.6**
TTG				*i*Sg	**Sg**	**22 07 52.8**	**-0.1**
BUM	**Brajici-Budva**	**0.64**	**319**	⇑*i*Pg	**Pg**	**22 07 44.8**	**-0.2**
BUM				*i*Sg	**Sg**	**22 07 53.5**	**+0.2**
PHP	**Peshkopia**	**0.75**	**100**	P	**Pn**	**22 07 49.1**	**-0.5**
	baz=107						
PHP				S	**Sn**	**22 08 01.7**	**+0.6**
	baz=107						
CEME	**Cevo**	**0.83**	**331**	⇓*i*Pg	**Pg**	**22 07 47.9**	**-0.7**
CEME				*i*Sg	**Sg**	**22 07 59.6**	**+0.2**
PVY	**Plav**	**0.85**	**26**	⇓*i*Pg	**Pg**	**22 07 49.0**	**-0.2**
PVY				*i*Sg	**Sb**	**22 08 01.4**	**-0.1**
HCY	**Herceg Novi**	**0.95**	**311**	⇑*i*Pg	**Pg**	**22 07 50.4**	**-0.5**
HCY				*i*Sg	**Sb**	**22 08 04.1**	**0.0**
HCY	**Herceg Novi**	**0.95**	**311**	*e*Pg	**Pg**	**22 07 50.5**	**-0.5**
HCY				*e*Sg	**Sb**	**22 08 04.2**	**+0.1**
NKME	**Niksic**	**1.01**	**339**	⇑*i*Pg	**Pg**	**22 07 51.2**	**-1.0**
NKME				*i*Sg	**Sg**	**22 08 05.6**	**+0.2**
KOME	**Kolasin**	**1.03**	**2**	⇑*i*Pg	**Pg**	**22 07 51.7**	**-0.7**
KOME				*i*Sg	**Sb**	**22 08 06.7**	**+0.3**
NKY	**Niksic**	**1.05**	**341**	⇓*i*Pg	**Pg**	**22 07 51.9**	**-0.9**
NKY				*i*Sg	**Sb**	**22 08 06.9**	**-0.1**
IVA	**Berane**	**1.10**	**17**	⇓*i*Pg	**Pg**	**22 07 53.2**	**-0.6**
IVA				*i*Sg	**Sn**	**22 08 09.2**	**-0.6**
BRY	**Bratogost**	**1.27**	**328**	⇑*i*Pg	**Pn**	**22 07 56.3**	**-0.6**
BRY				*i*Sg	**Sn**	**22 08 15.0**	**+0.8**
BRY	**Bratogost**	**1.27**	**328**	*e*Pg	**Pn**	**22 07 56.0**	**-0.9**
BRY				*e*Sg	**Sn**	**22 08 14.0**	**-0.2**
DBRK	**Dubrovnik**	**1.29**	**311**	*e*Pg	**Pn**	**22 07 56.5**	**-0.4**
DBRK				Sg	**Sb**	**22 08 13.5**	**-0.3**
UPM	**Unac-Piva**	**1.44**	**344**	⇑*i*Pg	**Pn**	**22 07 58.8**	**-0.4**
UPM				*i*Sg	**Sg**	**22 08 19.9**	**+0.9**
UPM	**Unac-Piva**	**1.44**	**344**	*e*Pg	**Pn**	**22 07 58.7**	**-0.4**
UPM				*e*Sg	**Sn**	**22 08 17.8**	**-0.5**
PLE	**Pljevlja**	**1.51**	**358**	⇑*i*Pg	**Pn**	**22 08 00.0**	**-0.1**
PLE				*i*Sg	**Sg**	**22 08 21.3**	**+0.2**
STON	**Ston**	**1.67**	**309**	*e*Pn	**Pb**	**22 08 02.8**	**-0.9**
STON				Sn	**Sg**	**22 08 25.6**	**-0.8**
RUDO	**Rudo**	**1.79**	**358**	*e*Pn	**Pb**	**22 08 04.8**	**-1.0**
RUDO				*e*Sn	**Sn**	**22 08 26.3**	**-0.6**
BBLS	**Lazići**	**2.04**	**359**	*e*Pn	**Pn**	**22 08 08.0**	**+0.6**
BBLS				*e*Sn	**Sn**	**22 08 32.9**	**-0.2**
LSTV	**Lastovo**	**2.12**	**297**	*e*Pn	**Pb**	**22 08 09.8**	**-1.6**
LSTV				Sn	**Sb**	**22 08 37.0**	**-0.9**
DIVS	**Divibare**	**2.31**	**10**	*e*Pn	**Pn**	**22 08 11.9**	**+0.9**
DIVS				*e*Sn	**Sn**	**22 08 38.7**	**-0.9**
MAKA	**Makarska**	**2.32**	**310**	*e*Pn	**Pb**	**22 08 12.9**	**-1.9**
MAKA				Sn	**Sn**	**22 08 41.2**	**+1.4**
IGT	**Igoumenitsa**	**2.38**	**164**	P	**Pb**	**22 08 15.9**	**+0.1**
	baz=162						
IGT				S	**Sg**	**22 08 48.6**	**-0.7**
	baz=162						
RICI	**Ricice**	**2.39**	**315**	*e*Pn	**Pn**	**22 08 13.9**	**+1.8**
RICI				Sn	**Sn**	**22 08 43.1**	**+1.5**
TEKS	**Tekeris**	**2.72**	**1**	*e*Pn	**Pn**	**22 08 17.9**	**+1.2**
TEKS				*e*Sn	**Sn**	**22 08 49.8**	**0.0**
KLIV	**Kijevo**	**3.13**	**315**	*e*Pn	**Pn**	**22 08 24.4**	**+2.1**
KLIV				Sn	**Sn**	**22 09 01.5**	**+1.7**
FRGS	**Fruska Gora**	**3.34**	**4**	*e*Pn	**Pn**	**22 08 25.7**	**+0.5**
FRGS				*e*Sn	**Sn**	**22 09 04.5**	**-0.6**
BLY	**Banja Luka**	**3.36**	**331**	*e*Pn	**Pn**	**22 08 26.6**	**+1.1**
BLY				*e*Sn	**Sn**	**22 09 05.5**	**0.0**
MDVR	**Moldovita**	**3.38**	**28**	⇑P	**Pn**	**22 08 27.9**	**+2.1**
MORI	**Morici**	**3.43**	**308**	*e*Pn	**Pn**	**22 08 27.1**	**+0.7**
MORI				Sn	**Sn**	**22 09 08.7**	**+1.5**
HERR	**Herculane**	**3.74**	**34**	⇓P	**Pn**	**22 08 33.2**	**+2.5**
DUGI	**Dugi Otok**	**3.89**	**305**	Sn	**Sn**	**22 09 18.6**	**+0.1**
BZS	**Buzias**	**4.10**	**22**	⇑P	**Pn**	**22 08 37.4**	**+1.8**
MOSL	**Moslavina**	**4.26**	**334**	*e*Pn	**Pn**	**22 08 40.8**	**+2.9**
SIRR	**Siria**	**4.72**	**19**	⇑P	**Pn**	**22 08 46.3**	**+2.2**

*MOS **22** 22:13:14.9±1.6, 43°.31N×62°.32E, h10km, mb4.8/4, Error ellipse: s-maj=5.6km s-min=4.1km az=6.2*
*NNC **22** 22:13:15.7±1.3, 43°.27N×62°.47E, h8km±7km, mb4.4, mpv4.1, Error ellipse: s-maj=4.8km s-min=4.0km az=136.0*
*SOME **22** 22:13:15.9, 43°.23N×62°.07E, h20km*
*IDC **22** 22:13:16.7±0.5, 43°.36N×62°.22E, h0km, mb4.0/19, mb1 4.3/26, mb1mx4.1/60, mbtmp4.1/26, ML4.3/7, MS2.7/6, Ms1 2.7/6, ms1mx2.5/42, Error ellipse: s-maj=10.5km s-min=7.8km az=171.0*
*NEIC **22** 22:13:17.4±2.1, 43°.27N±0°.07×62°.24E±0°.09, h12km±4km, mb4.6/36, Error ellipse: s-maj=9.8km s-min=9.2km az=204.0*
ISC 22 22:13:17.3±0.3, 43°.33N±0°.04×62°.27E±0°.03, h10km, n265, σ1s89/288, mb4.5/41, 30C-27D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHM	**Chimkent**	**5.49**	**98**	*e*P	**Pn**	**22 14 39.6**	**+0.5**
	107nm,0.3s						
CHM				*e*S	**Sn**	**22 15 42.9**	**+0.7**
	593nm,0.5s						
BRLS	**Borolday**	**5.54**	**91**	*e*P	**Pn**	**22 14 38.6**	**-1.2**
	9.7nm,0.3s						
BRLS				*e*S	**Sn**	**22 15 41.1**	**-2.5**
	306nm,0.3s						
TAS	**Tashkent**	**5.58**	**109**	PN	**Pn**	**22 14 38.9**	**-1.5**
TAS	**Tashkent**	**5.58**	**109**		**Pn**	**22 14 38.9**	**-1.5**
IUG	**Iuzhnay**	**5.84**	**99**	*e*P	**Pn**	**22 14 43.5**	**-0.5**
	50nm,0.3s						
IUG				*e*S	**Sn**	**22 15 50.2**	**-0.8**
	296nm,0.5s						
IUG	**Iuzhnay**	**5.84**	**99**	*e*P	**Pn**	**22 14 43.3**	**-0.7**
	4.2nm,0.3s,baz=99						
IUG				LR	LR	22 16 50.8	
	32nm,8.9s,baz=99						
IUG	**Iuzhnay**	**5.84**	**99**	*e*PN	**Pn**	**22 14 43.3**	**-0.7**
IUG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
IUG				MLR	MLR		
	comp=Z,32nm,9.0s						
KK31	**Karatay Array**	**6.03**	**89**	⇑Pn	**Pn**	**22 14 44.6**	**-1.9**
	comp=Z,5.3nm,0.3s,baz=269,slow=18,SNR=150						
KK31				⇓Sn	**Sn**	**22 15 53.2**	**-2.4**
	comp=Z,48nm,0.4s,baz=298,slow=24,SNR=7.4						
KK31				⇓Lg	Lg	22 16 20.9	
	comp=Z,94nm,0.6s,baz=276,slow=27,SNR=4.3						
KK31	**Karatay Array**	**6.03**	**89**	PN	**Pn**	**22 14 46.5**	**0.0**
KK31	**Karatay Array**	**6.03**	**89**		**Pn**	**22 14 46.5**	**0.0**
KKAR	**Karatay Array**	**6.03**	**89**	PN	**Pn**	**22 14 46.5**	**0.0**
KKAR	**Karatay Array**	**6.03**	**89**		**Pn**	**22 14 46.5**	**0.0**
KKAR	**Karatay Array**	**6.03**	**89**		**Pn**	**22 14 46.4**	**0.0**
ASHT	**Ashkhabad**	**6.14**	**210**	PN	**Pn**	**22 14 48.1**	**+0.1**
ASHT	**Ashkhabad**	**6.14**	**210**	Pn	**Pn**	**22 14 48.1**	**+0.1**
AB31	**Akbulak array**	**6.14**	**346**	⇑Pn	**Pn**	**22 14 47.9**	**-0.1**
	comp=Z,3.0nm,0.2s,baz=158,slow=14,SNR=220						
AB31				⇓Sn	**Sn**	**22 16 01.1**	**+2.9**
	comp=Z,14nm,0.4s,baz=220,slow=38,SNR=4.8						
AB31				⇑Lg	Lg	22 16 33.2	
	comp=Z,102nm,0.6s,baz=160,slow=26,SNR=9.0						
ABKAR	**Akbulak array**	**6.14**	**346**	Pn	**Pn**	**22 14 47.9**	**-0.1**
ABKAR	**Akbulak array**	**6.14**	**346**	Pn	**Pn**	**22 14 48.0**	**0.0**
GEYT	**Alibeck**	**6.25**	**212**	Pn	**Pn**	**22 14 48.4**	**-1.2**
	comp=Z,35nm,0.3s,baz=11,slow=7.2,SNR=173						
GEYT				Sn	**Sn**	**22 15 56.4**	**-4.7**
	comp=Z,52nm,0.3s,baz=12,slow=23,SNR=7.1						
GEYT				LR	LR	22 17 28.6	
	comp=Z,43nm,19.6s,baz=60,slow=40						
GYA0B	**ALIBECK ARRAY**	**6.25**	**212**	⇓Pn	**Pn**	**22 14 48.4**	**-1.2**
GYA0B				⇑Sn	**Sn**	**22 16 00.7**	**-0.3**
GYA0B				⇓Lg	Lg	22 16 35.5	
GYA0B	**ALIBECK ARRAY**	**6.25**	**212**	Pn	**Pn**	**22 14 48.4**	**-1.2**
DZA	**Taraz**	**6.65**	**91**	*e*P	**Pn**	**22 14 55.3**	**+0.3**
	baz=91						
DZA				LR	LR	22 17 15.2	
	comp=Z,26nm,8.0s,baz=91						
DZA	**Taraz**	**6.65**	**91**	*e*PN	**Pn**	**22 14 55.3**	**+0.3**
DZA				MLR	MLR		
	comp=Z,26nm,8.0s						
CHGR	**Chuyangaron**	**7.00**	**130**		**Pn**	**22 15 00.0**	**+0.2**
BTK	**Batken**	**7.19**	**114**	PN	**Pn**	**22 15 02.6**	**+0.1**
BTK	**Batken**	**7.19**	**114**	Pn	**Pn**	**22 15 02.5**	**+0.1**
GAR	**Garm**	**7.46**	**123**		**Pn**	**22 15 07.1**	**+0.9**
AKTO	**Aktyubinsk**	**7.68**	**339**	Pn	**Pn**	**22 15 08.8**	**-0.3**
	comp=Z,3.7nm,0.3s,baz=158,slow=11,SNR=44						
AKTO				Sn	**Sn**	**22 16 34.2**	**-1.9**
	comp=Z,5.7nm,0.3s,baz=154,slow=20,SNR=2.6						
AKTO				Lg	Lg	22 17 20.7	
	comp=Z,4.3nm,0.3s,baz=71,slow=20,SNR=4.6						
AKTO				LR	LR	22 18 29.1	
	comp=Z,54nm,18.1s,baz=131,slow=41						
AKTO	**Aktyubinsk**	**7.68**	**339**	⇓Pn	**Pn**	**22 15 10.6**	**+1.5**
	comp=Z,8.6nm,0.4s						
AKTO				⇓Sn	**Sn**	**22 16 38.9**	**+2.8**
	comp=Z,32nm,0.6s						
AKTO				⇑Lg	Lg	22 17 20.2	
	comp=Z,84nm,0.7s						
MRKS	**Merke**	**8.05**	**90**	*e*P	**Pn**	**22 15 14.3**	**0.0**
MRKS				*e*S	**Sn**	**22 16 45.4**	**0.0**
	comp=Z,36nm,0.6s						
EKS2	**Erkin-Say**	**8.46**	**91**	P	**Pn**	**22 15 20.5**	**+0.5**
	SNR=6.1						
AML	**Almayashu**	**8.50**	**94**	P	**Pn**	**22 15 22.2**	**+1.5**
	SNR=8.0						
BTLS	**Baital**	**8.64**	**75**	*e*P	**Pn**	**22 15 22.4**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=75						
BTLS				LR	LR	22 18 24.8	
	comp=Z,34nm,8.2s,baz=75						
BTLS	**Baital**	**8.64**	**75**	*e*P	**Pn**	**22 15 22.4**	**+0.2**
BTLS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BTLS				MLR	MLR		
	comp=Z,34nm,8.0s						
USP	**Ospenovka**	**8.92**	**86**	P	**Pn**	**22 15 26.0**	**-0.2**
	SNR=9.1						
HRA	**Herat**	**8.93**	**180**	Pn	**Pn**	**22 15 24.3**	**-2.2**
AAK	**Ala-Archa**	**8.99**	**90**	Pn	**Pn**	**22 15 27.7**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=277,slow=7.0,SNR=19						
AAK				Lg	Lg	22 18 02.6	
	comp=Z,5.3nm,0.3s,baz=82,slow=18,SNR=3.8						
AAK	**Ala-Archa**	**8.99**	**90**	P	**Pn**	**22 15 27.8**	**+0.5**
	SNR=10						
SGDS	**Sogindy**	**9.01**	**85**	*e*P	**Pn**	**22 15 26.7**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=85						
SGDS	**Sogindy**	**9.01**	**85**	*e*P	**Pn**	**22 15 26.7**	**-0.7**
SGDS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FRU1	**Bishkek**	**9.07**	**89**	P	**Pn**	**22 15 27.9**	**-0.3**
FRU1	**Bishkek**	**9.07**	**89**	Pn	**Pn**	**22 15 27.9**	**-0.3**
UCH	**Uchtor**	**9.07**	**93**	P	**Pn**	**22 15 30.2**	**+1.5**
	SNR=9.5						
KRBS	**Karabastau**	**9.75**	**83**	*e*P	**Pn**	**22 15 37.8**	**+0.2**
	comp=Z,5.1nm,0.4s						
KRBS				*e*S	**Sn**	**22 17 26.3**	**-0.8**
	comp=Z,15nm,0.6s						
BRZS	**Berezniki**	**9.77**	**43**	*e*P	**Pn**	**22 15 37.3**	**-0.5**
	baz=44						
BRZS				LR	LR	22 18 54.0	
	comp=Z,67nm,8.4s,baz=44						
BRZS	**Berezniki**	**9.77**	**43**	*e*P	**Pn**	**22 15 37.2**	**-0.5**
BRZS				MLR	MLR		
	comp=Z,67nm,8.0s						
BOOM	**Boomskoye usch**	**10.07**	**90**	P	**Pn**	**22 15 41.5**	**-0.5**
BOOM	**Boomskoye usch**	**10.07**	**90**	Pn	**Pn**	**22 15 41.5**	**-0.5**
KUU	**Kurty**	**10.22**	**82**	*e*P	**Pn**	**22 15 43.7**	**-0.3**
	baz=82						
KUU	**Kurty**	**10.22**	**82**	*e*P	**Pn**	**22 15 43.6**	**-0.4**
KBL	**Kabul**	**10.24**	**147**	P	**Pn**	**22 15 43.6**	**-0.8**
KBL	**Kabul**	**10.24**	**147**	Pn	**Pn**	**22 15 43.6**	**-0.8**
AAA	**Alma-Ata**	**10.69**	**86**	*e*P	**Pn**	**22 15 49.5**	**-0.9**
	baz=86						
AAA				LR	LR	22 19 16.1	
	comp=Z,44nm,8.7s,baz=86						
AAA	**Alma-Ata**	**10.69**	**86**	*e*P	**Pn**	**22 15 49.5**	**-0.9**
AAA				MLR	MLR		
	comp=Z,44nm,9.0s						
CHKK	**Chushkaly**	**10.69**	**82**	*e*P	**Pn**	**22 15 50.0**	**-0.4**
	baz=82						
CHKK	**Chushkaly**	**10.69**	**82**	*e*P	**Pn**	**22 15 50.0**	**-0.4**
KNDC	**Almaty**	**10.72**	**86**	⇑Lg	Lg	22 18 51.0	
	comp=Z,276nm,1.0s						
MDOK	**Medeo**	**10.79**	**86**	*e*P	**Pn**	**22 15 52.0**	**+0.1**
	baz=86						
MDOK				LR	LR	22 18 55.8	
	comp=Z,67nm,6.8s,baz=86						
MDOK	**Medeo**	**10.79**	**86**	*e*P	**Pn**	**22 15

NAX Nakhchivan 13.28 257 P Pn 22 16 27.0 +1.1
ARU Arti 13.32 351 Lg Lg 22 20 10.2
comp=Z,0.0nm,0.3s,baz=112,slow=19,SNR=3.6
ARU LR LR 22 20 36.1
comp=Z,11nm,20.7s,baz=196,slow=33
ARU Arti 13.32 351 *c i* P **Pn 22 16 25.1 -1.2**
ARU S **Sn 22 18 55.5 +1.1**
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 13.32 351 Pn Pn 22 16 23.9 -2.4
KURK Kurchatov 13.36 51 ⇓Pn **Pn 22 16 24.9 -1.9**
comp=Z,8.7nm,0.7s
KURK ⇓Sn **Sn 22 18 52.6 -2.7**
comp=Z,44nm,1.1s
KURK ⇓Lg Lg 22 20 17.7
comp=Z,73nm,0.9s
KURK Kurchatov 13.36 51 *i* P **Pn 22 16 24.5 -2.3**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 13.36 51 Pn **Pn 22 16 24.4 -2.4**
ZEI Tsey 13.45 274 *eP* **P 22 16 36.4 -1.3**
ZEI pmax pmax
comp=Z,4.0nm,0.7s
SVE Sverdlovsk 13.55 356 *eP* **Pn 22 16 28.6 -0.8**
SVE *eS* **Sn 22 18 53.3 -6.6**
GOF Gofitskoye 13.90 284⇑*eP* **Pn 22 16 32.8 -1.4**
GOF *eS* **Sn 22 19 03.7 -4.9**
GOF pmax pmax
comp=Z,22nm,0.7s
GOF smax smax
comp=E,23nm,0.6s
GOF smax smax
comp=N,30nm,0.6s
AKH Akhalkalaki 14.02 269 P **Pn 22 16 35.2 -0.8**
AKH Akhalkalaki 14.02 269 Pn **Pn 22 16 35.2 -0.8**
KBZ Khabaz 14.06 278 Pn **Pn 22 16 33.5 -2.9**
comp=N,1.1nm,0.3s,baz=114,slow=6.7,SNR=20
KIV Kislovodsk 14.20 279 *eP* **Pn 22 16 35.8 -2.6**
KIV *eS* **Sn 22 19 13.9 -2.0**
KIV pmax pmax
comp=Z,31nm,0.9s
KIV MLR MLR
comp=Z,42nm,12.0s
KIV Kislovodsk 14.20 279 Pn **Pn 22 16 35.6 -2.8**
SHA1 Shidzhatmaz 14.23 278 *i* P **Pn 22 16 35.8 -3.2**
MAKZ Makanchi 14.35 69 ⇓Pn **Pn 22 16 37.8 -2.6**
comp=Z,8.5nm,0.6s
MAKZ ⇓Sn **Sn 22 19 14.0 -5.6**
comp=Z,8.5nm,0.7s
MAKZ ⇓Lg Lg 22 20 48.0
comp=Z,34nm,1.2s
MAKZ Makanchi 14.35 69 P **Pn 22 16 38.0 -2.4**
MAKZ Makanchi 14.35 69 Pn **Pn 22 16 38.0 -2.4**
MK31 Makanchi Array 14.56 69 Pn **Pn 22 16 40.6 -2.7**
comp=Z,10nm,0.6s,baz=251,slow=14,SNR=156
MK31 Sn **Sn 22 19 20.6 -4.2**
comp=Z,6.1nm,0.6s,baz=263,slow=23,SNR=6.6
MK31 ⇓Lg Lg 22 20 50.5
comp=Z,16nm,1.0s
MK31 Makanchi Array 14.56 69 P **Pn 22 16 40.7 -2.7**
MK31 Makanchi Array 14.56 69 **Pn 22 16 40.7 -2.6**
MKAR Makanchi Array 14.56 69 Pn **Pn 22 16 40.7 -2.6**
comp=Z,2.3nm,0.3s,baz=252,slow=15,SNR=47
MKAR LR LR 22 23 09.2
comp=Z,18nm,19.2s,baz=267,slow=41
MKAR Makanchi Array 14.56 69 Pn **Pn 22 16 40.5 -2.9**
VRH Novokhopyorsk 15.98 307 *eP* **Pn 22 16 59.8 -2.1**
VRH pmax pmax
comp=Z,50nm,0.6s
KOPT Kop Dagi 16.59 266 Pn **Pn 22 17 09.1 -1.0**
KIRV Kirov 17.23 337 P **Pn 22 17 15.1 -2.7**
comp=Z,0.9nm,0.3s,baz=136,slow=10,SNR=2.6
MARD Mardin 17.43 257 Pn **Pn 22 17 19.5 -1.1**
VSR Storozhevoye 17.50 305 *eP* **Pn 22 17 17.7 -3.5**
VSR pmax pmax
comp=Z,10.0nm,0.5s
LPSR Galich'ya Gora 18.10 309 *eP* **Pn 22 17 26.7 -1.9**
LPSR pmax pmax
comp=Z,20nm,0.7s
ZAA0 Zalesovo Array 18.22 46 ⇑P **Pn 22 17 27.0 -3.1**
comp=Z,0.7nm,0.6s
ZAA0 ⇓S **Sn 22 20 51.3 -1.9**
comp=Z,1.5nm,0.7s
ZAA0 Zalesovo Array 18.22 46 P **Pn 22 17 29.4 -0.6**
ZALV Zalesovo Beam 18.22 46 P **Pn 22 17 29.2 -0.9**
comp=Z,0.8nm,0.3s,baz=252,slow=12,SNR=16
ZALV LR LR 22 24 58.9
comp=Z,53nm,19.6s,baz=195,slow=38
ZALV Zalesovo Beam 18.22 46 *eP* **P 22 17 31.4 +1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 18.22 46 P **Pn 22 17 29.7 -0.3**
DGZ Jazzator, Alta 18.40 61 *i* P **P 22 17 33.8 +1.3**
DGZ pmax pmax
comp=Z,10.0nm,1.4s
WMQ Urumqi 18.41 80 *eP* **P 22 17 34.3 +1.7**
WMQ LR LR
comp=N,100nm,5.9s
WMQ LR LR
comp=Z,51nm,5.7s
MOS Moscow 20.11 317 *eP* **P 22 17 50.2 -0.8**
MOS *e* 22 18 10.9
OBN Obninsk 20.38 314 *c i* P **P 22 17 54.0 +0.2**
OBN *e* 22 18 09.8
OBN *eS* Sn 22 21 45.6 +0.3
OBN pmax pmax
comp=Z,17nm,0.5s
OBN MLR MLR
comp=Z,26nm,13.0s
OBN Obninsk 20.38 314 P **P 22 17 53.4 -0.4**
PRGR Permogore 20.83 337 *eP* **P 22 17 58.5 -0.2**
PRGR *eS* **S 22 21 48.3 -2.5**
BR131 Keskin Array S 21.69 270 P **P 22 18 07.6 -0.7**
BR131 pmax pmax
comp=Z,2.0nm,0.7s
BR131 Keskin Array S 21.69 270 P **P 22 18 07.6 -0.7**
BRTR Keskin Array B 21.69 270 P **P 22 18 09.0 +0.7**
comp=Z,3.3nm,0.9s,baz=82,slow=8.5,SNR=13
BRTR Keskin Array B 21.69 270 *eP* **P 22 18 12.0 +3.7**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 21.69 270 P **P 22 18 08.0 -0.2**
KLMR Klimovskoe 22.23 330 *eP* **P 22 18 12.8 -1.0**
KLMR pmax pmax
comp=Z,16nm,0.5s
KLMR Klimovskoe 22.23 330 *eP* **P 22 18 12.9 -0.9**
KLMR AMP 22 18 19.1
comp=Z,16nm,0.5s
PYUN Piuthan 22.58 126 *eP* **P 22 18 17.9 -0.2**
comp=Z,49nm,0.6s
ASF Jabal al Asfar 22.86 249 P **P 22 18 22.8 +2.0**
comp=Z,1.5nm,0.7s,baz=66,slow=6.8,SNR=3.6
DANN Dangsing 22.86 124 *eP* **P 22 18 21.0 -0.1**
comp=Z,17nm,0.5s
KOLN Koldanda 23.19 125 *eP* **P 22 18 23.2 -1.2**
comp=Z,49nm,1.0s
MDUB Mudurnu 23.23 274 **P 22 18 23.7 -1.0**
MMAI Mount Meron Ar 23.41 253 P **P 22 18 28.6 +2.3**
comp=Z,0.8nm,0.5s,baz=73,slow=14,SNR=2.9
AKASG Malin Array Be 23.55 300 P **P 22 18 28.6 +1.0**
comp=Z,10nm,0.7s,baz=82,slow=8.1,SNR=40
AKASG Malin Array Be 23.55 300 P **P 22 18 27.6 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 23.55 300 P **P 22 18 27.6 0.0**
AKBB Malin Array Si 23.55 300 P **P 22 18 27.4 -0.2**
AKBB pmax pmax
comp=Z,12nm,0.9s
AKBB Malin Array Si 23.55 300 P **P 22 18 27.4 -0.2**
AKBB IAmb IAmb 22 18 29.4
comp=Z,12nm,0.8s
GKN Gorkha 23.65 123 *eP* **P 22 18 28.6 -0.3**
comp=Z,86nm,0.9s
MILM Milestii Mici 23.77 290 ⇑P **P 22 18 30.5 +0.8**
TLCR 23.94 286 ⇑P **P 22 18 38.2 +6.9**
TLCR 23.94 286 ⇑P **P 22 18 38.2 +6.9**
SORM Soroca 24.03 293 ⇑P **P 22 18 32.5 +0.3**
SORM Soroca 24.03 293 ⇑P **P 22 18 32.5 +0.3**
KKN Kakani 24.20 122 *eP* **P 22 18 33.7 -0.5**
comp=Z,16nm,0.6s
DMN Daman 24.22 123 *eP* **P 22 18 34.7 +0.3**
comp=Z,16nm,0.6s
PKIN Phulchoki 24.42 123 *eP* **P 22 18 35.7 -0.6**
comp=Z,41nm,0.5s
PKI Pulchoki 24.43 122 *eP* **P 22 18 36.5 0.0**
comp=Z,38nm,0.6s
TLBR Topalu 24.57 285 ⇓P **P 22 18 38.1 +0.9**
JIRN Jiri 24.85 121 *eP* **P 22 18 40.9 +0.6**
comp=Z,54nm,0.4s
ODBI Odobesti 25.09 288 ⇓P **P 22 18 45.0 +3.1**
VRI Vrincioaia 25.31 288 ⇑P **P 22 18 46.3 +2.4**
VRI Vrincioaia 25.31 288 ⇑P **P 22 18 46.3 +2.4**
BISRR Bisoca 25.36 287 ⇑P **P 22 18 51.6 +7.2**
PLOR Plostina 25.36 288 ⇓P **P 22 18 46.7 +2.3**
PLOR Plostina 25.36 288 ⇓P **P 22 18 46.7 +2.3**
ELL Elmali 25.52 266 P **P 22 18 43.7 -2.3**
ELL pmax pmax
comp=Z,28nm,1.0s
ELL Elmali 25.52 266 P **P 22 18 43.7 -2.3**
ISR Istrita 25.54 286 ⇓P **P 22 18 48.8 +2.8**
ISR Istrita 25.54 286 ⇓P **P 22 18 48.8 +2.8**
RAMN Ramite 25.61 122 *eP* **P 22 18 47.4 +0.3**
BIZ Bicaz 25.62 291 ⇓P **P 22 18 48.1 +1.4**
EIL Elat 25.71 247 P **P 22 18 49.4 +1.7**
comp=Z,4.0nm,0.7s,baz=46,slow=9.0,SNR=4.7
MLR Muntele Rosu 25.90 287 P **P 22 18 51.6 +2.2**
comp=Z,12nm,0.8s,baz=267,slow=11,SNR=10
MLR Muntele Rosu 25.90 287 ⇓P **P 22 18 52.8 +3.4**
MLR Muntele Rosu 25.90 287 P **P 22 18 50.5 +1.1**
MLR pmax pmax
comp=Z,15nm,0.9s
MLR Muntele Rosu 25.90 287 P **P 22 18 50.5 +1.1**
MLR IAmb IAmb 22 18 54.5
comp=Z,15nm,0.9s
TAPN Taplejung 26.03 119 *eP* **P 22 18 52.1 +1.2**
BURAR Bucovina Array 26.16 292 ⇑P **P 22 18 53.7 +1.9**
BURAR Bucovina Array 26.16 292 ⇑P **P 22 18 53.7 +1.9**
BURAR Bucovina Array 26.16 292 P **P 22 18 52.5 +0.8**
ODAN Odare 26.17 121 *eP* **P 22 18 52.6 +0.5**
BUR08 Bucovina Ar. S 26.17 292 P **P 22 18 52.1 +0.2**
DOPR Dopca 26.22 289 ⇑P **P 22 18 54.2 +2.1**
VOIR 26.53 288 ⇑P **P 22 18 56.5 +1.5**
VOIR 26.53 288 ⇑P **P 22 18 56.5 +1.5**
VSU Vasula 26.64 317 *i* P **P 22 18 55.4 -0.4**
VSU pmax pmax
comp=Z,48nm,1.2s
ARCR ARCALIA 26.80 291 ⇑P **P 22 18 58.3 +1.0**
KWP Kalwaria Pacla 27.71 297 P **P 22 19 06.1 +0.5**
KWP pmax pmax
comp=Z,11nm,0.8s
KWP Kalwaria Pacla 27.71 297 P **P 22 19 06.1 +0.5**
KWP IAmb IAmb 22 19 09.0
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 28.03 296 *eP* **P 22 19 09.1 +0.7**
KOLS Kolonicke sedl 28.03 296 *eP* **P 22 19 09.1 +0.7**
FIA1 FINESS Array S 28.04 323 P **P 22 19 10.1 +1.8**
FIA1 IAmb IAmb 22 19 21.5
comp=Z,14nm,1.1s
FINES FINESS Array B 28.04 323 P **P 22 19 10.0 +1.7**
comp=Z,2.7nm,0.6s,baz=123,slow=10,SNR=17
FINES FINESS Array B 28.04 323 P **P 22 19 09.4 +1.1**
FINES FINESS Array B 28.04 323 P **P 22 19 09.4 +1.1**
GTA Gaotai 28.29 85 P **P 22 19 12.5 +1.6**
GTA pP sP 22 19 17.8 +2.5
GTA sP pP 22 19 21.3 +7.3
GTA pmax pmax
comp=Z,2.0nm,1.2s
TLY Talaya 28.84 59 LR LR 22 30 58.2
comp=Z,62nm,18.0s,baz=278,slow=37
BZS Buzias 28.88 289 ⇓P **P 22 19 17.9 +1.9**
BZS Buzias 28.88 289 ⇓P **P 22 19 17.9 +1.9**
OJC Ojcow 29.57 298 P **P 22 19 23.2 +1.2**
OJC pmax pmax
comp=Z,6.0nm,1.0s
OJC Ojcow 29.57 298 P **P 22 19 23.2 +1.2**
OJC IAmb IAmb 22 19 27.1
comp=Z,5.6nm,1.0s
IDI Anoyia 29.82 267 P **P 22 19 24.4 0.0**
IDI IAmb IAmb 22 19 43.0
comp=Z,11nm,1.0s
VYHS Vyhne 30.34 295 *eP* **P 22 19 31.5 +2.6**
VYHS Vyhne 30.34 295 *eP* **P 22 19 31.5 +2.6**
SONM Songino Array 30.89 66 P **P 22 19 34.6 +0.8**
comp=Z,0.9nm,0.8s,baz=287,slow=7.9,SNR=5.1
SONM Songino Array 30.89 66 *eP* **P 22 19 37.4 +3.5**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 30.89 66 P **P 22 19 34.7 +0.8**
MORC Moravsky Berou 31.05 298 ⇑P **P 22 19 37.3 +2.1**
MORC Moravsky Berou 31.05 298 ⇑P **P 22 19 37.3 +2.1**
ULN Ulaanbaatar 31.32 66 *i* P **P 22 19 38.9 +1.2**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 31.32 66 P **P 22 19 38.1 +0.4**
ULN IAmb IAmb 22 19 43.2
comp=Z,3.6nm,0.7s
DPC Dobruska-Polom 31.78 299 *eP* **P 22 19 44.3 +2.7**
GEC2 GERESS Array S 33.66 297 P **P 22 19 58.7 +0.6**
GERES GERESS Array B 33.66 297 P **P 22 19 58.9 +0.8**
comp=Z,0.6nm,0.7s,baz=63,slow=12,SNR=5.1
GERES GERESS Array B 33.66 297 P **P 22 19 59.1 +1.0**
KHC Kasperske Hory 33.70 297 *eP* **P 22 20 00.4 +2.0**
KHC epP **sP 22 20 04.0 +1.3**
KHC Kasperske Hory 33.70 297 *eP* **P 22 20 00.4 +2.0**
KHC *e* 22 20 04.0
NC303 NORSAR Array S 34.81 319 P **P 22 20 09.0 +1.2**
NB201 NORSAR Array S 34.82 319 P **P 22 20 09.3 +1.3**
NB2 NORSAR Subarra 34.86 319 P **P 22 20 09.1 +0.8**
comp=Z,3.3nm,0.8s,baz=97,slow=9.3
NOA NORSAR Array B 34.86 319 P **P 22 20 09.2 +0.9**
comp=Z,2.5nm,0.7s,baz=98,slow=8.6,SNR=8.8
HHC Hu-ho-hao-te 36.24 77 *eP* **P 22 20 21.1 +0.6**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,52nm,6.6s
XAN Xi'an 37.16 88 P **P 22 20 29.6 +1.2**
XAN pP sP 22 20 37.1 +4.4
XAN pmax pmax
comp=Z,9.0nm,0.7s
KMI Kunming 37.64 106 *eP* **P 22 20 37.0 +4.3**
KMI pP sP 22 20 41.6 +4.6
KMI sP pP 22 20 45.3 +10
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI pmax pmax
comp=Z,150nm,4.1s
KMI LR LR
comp=N,150nm,8.9s
KMI LR LR
comp=E,160nm,8.8s
KMI LR LR
comp=Z,200nm,9.6s
CMAR Chiang Mai Arr 39.59 117 P **P 22 20 49.0 +0.2**
comp=Z,1.1nm,0.6s,baz=310,slow=8.5,SNR=10
CMAR Chiang Mai Arr 39.59 117 *eP* **P 22 20 52.1 +3.3**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 39.59 117 P **P 22 20 48.9 +0.1**
KEST Kesra 40.93 278 P **P 22 21 00.8 +0.9**
comp=Z,3.3nm,0.8s,baz=23,slow=3.2,SNR=6.5
KEST Kesra 40.93 278 P **P 22 21 01.0 +1.0**
KEST IAmb IAmb 22 21 02.4
comp=Z,7.2nm,1.1s
TIXI Tiksi 42.24 26 *i* P **P 22 21 12.0 +2.0**
TIXI pmax pmax
comp=Z,12nm,0.9s
TIXI Tiksi 42.24 26 P **P 22 21 11.7 +1.7**
YAK Yakutsk 42.68 40 P **P 22 21 14.9 +1.1**
ESK Eskdalemuir 42.76 310 P **P 22 21 15.4 +0.9**
ESK pmax pmax
comp=Z,11nm,1.2s
ESK Eskdalemuir 42.76 310 P **P 22 21 15.4 +0.9**
ESK IAmb IAmb 22 21 19.7
comp=Z,11nm,1.1s
WHN Wuhan 42.89 89 P P 22 21 27.0 +11
ESDC Sonseca Array 48.56 290 P **P 22 22 00.7 0.0**
comp=Z,1.6nm,0.7s,baz=57,slow=8.3,SNR=13
ESDC Sonseca Array 48.56 290 P **P 22 22 01.1 +0.4**
USRK Ussuriysk Ar. 48.93 63 P **P 22 22 03.6 +0.2**
comp=Z,1.7nm,0.7s,baz=276,slow=5.1,SNR=2.4
KSAR Wonju Array Be 49.18 73 P **P 22 22 06.0 +0.7**
KSAR Wonju Array Be 49.18 73 P **P 22 22 06.0 +0.7**
KSRS Korea Array 49.20 73 P **P 22 22 06.0 +0.6**
comp=Z,2.4nm,0.7s,baz=292,slow=6.1,SNR=8.3
KSRS Korea Array 49.20 73 *eP* **P 22 22 06.4 +0.9**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
SFJD Kangerlussuaq 58.85 335 P **P 22 23 15.8 +0.2**
SFJD pmax pmax
comp=Z,14nm,0.9s
SFJD Kangerlussuaq 58.85 335 P **P 22 23 15.8 +0.2**
TOA0 Torodi Ar. Sit 59.75 259 P **P 22 23 21.9 -0.6**
TOA0 IAmb IAmb 22 23 22.7
comp=Z,1.8nm,0.8s
TORD Torodi Ar. Bea 59.75 259 P **P 22 23 21.6 -0.9**
comp=Z,1.5nm,0.7s,baz=43,slow=7.1,SNR=7.6
TORD Torodi Ar. Bea 59.75 259 P **P 22 23 21.8 -0.7**
SBUM Sibu 60.12 118 P **P 22 23 24.2 -0.8**
TOLK Toolik Lake Re 65.85 12 P **P 22 24 04.6 +2.1**
TOLK IAmb IAmb 22 24 06.1
comp=Z,5.8nm,1.1s
IMAR Indian Mountai 67.52 15 P **P 22 24 14.3 +1.2**
DBIC Dimbokro 68.86 259 P **P 22 24 22.0 -0.2**
comp=Z,1.9nm,0.8s,baz=3.9,slow=6.0,SNR=3.6
DBIC Dimbokro 68.86 259 P **P 22 24 22.0 -0.2**
DBIC Dimbokro 68.86 259 P **P 22 24 21.7 -0.5**
DBIC IAmb IAmb 22 24 33.5
comp=Z,5.7nm,1.1s
ILAR Eielson Array 69.84 13 P **P 22 24 28.0 +0.5**
comp=Z,0.6nm,0.6s,baz=340,slow=4.9,SNR=5.6
ILAR Eielson Array 69.84 13 *eP* **P 22 24 28.9 +1.3**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 69.84 13 P **P 22 24 28.4 +0.9**
PPLA Purkeypile 70.59 16 P **P 22 24 33.6 +1.2**
PPLA IAmb IAmb 22 24 47.3
comp=Z,5.7nm,1.2s
DOT Dot Lake 71.33 12 P **P 22 24 38.2 +1.4**
SKT Skwentna 71.56 16 P **P 22 24 38.7 +0.6**
SKT IAmb IAmb 22 24 39.8
comp=Z,4.9nm,0.7s
BCAR Beaver Creek A 72.22 11 P **P 22 24 44.3 +2.2**
GHO Glory Hole Cre 72.26 15 P **P 22 24 43.8 +1.4**
GHO IAmb IAmb 22 24 47.7
comp=Z,4.5nm,0.8s
SCM Sheep Creek Mo 72.49 14 P **P 22 24 45.1 +1.3**
SCM pmax pmax
comp=Z,5.0nm,0.6s
SCM Sheep Creek Mo 72.49 14 P **P 22 24 45.0 +1.3**
SCM IAmb IAmb 22 24 45.8
comp=Z,5.0nm,0.6s
YKA Yellowknife Ar 74.50 358 P **P 22 24 56.3 +0.9**
comp=Z,1.4nm,0.7s,baz=5.6,slow=6.5,SNR=1.7
PLCA Paso Flores 145.22 258 PKPbc **PKPbc 22 32 55.1 +0.6**
comp=Z,5.0nm,1.0s,baz=116,slow=3.9,SNR=5.0

DJA ***22*** *22:17:48.2±0.3, 9°S±2°×10°6E±°, h10km, M4.6/13, mb5.1/3, MLv4.3/13*
NEIC ***22*** *22:17:49.1±1.8, 9°03S±0°03×106°13E±0°04, h10km±1km, mb4.5/26, Error ellipse: s-maj=6.9km s-min=4.7km az=70.0*
IDC ***22*** *22:18:01.5±3.9, 8°58S×106°67E, h95km±30km, mb3.6/14, mb1 3.7/15, mb1mx3.5/54, mbtmp4.0/15, MS3.3/1, Ms1 3.3/1, ms1mx2.6/30, Error ellipse: s-maj=40.1km s-min=13.2km az=55.0*
ISC 22 22:17:53.1±0.5, 8°99S±0°04×106°15E±0°05, h35km, n79, σ1°66/76, mb4.3/26, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.56**	**198**	Pn	**Pn**	**22 18 15.9**	**-2.5**
XMIS				Sn	**Sn**	**22 18 33.1**	**-4.4**
CNJI	**Cibinong**	**1.93**	**30**	P	**Pn**	**22 18 21.3**	**-2.1**
SKJI	**Sukabumi**	**2.01**	**12**	P	**Pn**	**22 18 23.5**	**-1.0**
CISI	**Cisompet, Garu**	**2.18**	**49**	P	**Pn**	**22 18 24.8**	**-2.1**
CISI	**Cisompet, Garu**	**2.18**	**49**		**Pn**	**22 18 24.9**	**-2.0**
CISI				Sn	**Sn**	**22 18 49.0**	**-3.6**
CGJI	**Cibinong**	**2.40**	**349**	P	**Pn**	**22 18 28.1**	**-1.8**
CGJI				S	**Sn**	**22 18 56.3**	**-1.7**
DBJI	**Dramaga**	**2.49**	**14**	P	**Pn**	**22 18 30.4**	**-0.7**
CMJI	**Cimerak**	**2.57**	**63**	P	**Pn**	**22 18 29.9**	**-2.3**
LEM	**Lembang**	**2.59**	**34**	P	**Pn**	**22 18 32.4**	**-0.3**
	243nm,0.3s,baz=301,slow=17,SNR=154						
LEM				S	**Sn**	**22 19 00.1**	**-3.0**
	44nm,0.3s,baz=169,slow=21,SNR=2.3						
LEM				LR	LR	22 19 34.4	
	comp=Z,311nm,18.4s,baz=296,slow=47						
SBJI	**Serang**	**2.85**	**360**	P	**Pn**	**22 18 34.5**	**-1.5**
KPJI	**Karang Pucung**	**3.21**	**59**	P	**Pn**	**22 18 40.2**	**-0.8**
JCJI	**Jatiwangi**	**3.25**	**40**	P	**Pn**	**22 18 39.6**	**-2.0**
LWLI	**Liwa**	**4.45**	**332**	P	**Pn**	**22 18 56.8**	**-1.5**
KLSI		**4.49**	**342**	P	**Pn**	**22 18 57.1**	**-1.6**
SMRI	**Semarang**	**4.67**	**66**	P	**Pn**	**22 19 01.3**	**+0.2**
SMRI	**Semarang**	**4.67**	**66**	Pn	**Pn**	**22 19 00.8**	**-0.3**
MDSI	**Maura Dua**	**4.88**	**336**	P	**Pn**	**22 19 01.9**	**-2.1**
MNAI	**Manna**	**5.58**	**325**	P	**Pn**	**22 19 11.9**	**-1.8**
	1.8nm362nm,1.4s						
MNAI	**Manna**	**5.58**	**325**	Pn	**Pn**	**22 19 12.2**	**-1.4**
JAGI	**Jajag, Banyuwa**	**7.93**	**87**	P	**Pn**	**22 19 45.8**	**-0.2**
JAGI	**Jajag, Banyuwa**	**7.93**	**87**	Pn	**Pn**	**22 19 45.7**	**-0.2**
GSI	**Gunungsitoli**	**12.32**	**320**	Pn	**Pn**	**22 20 55.5**	**-4.3**
KAPI	**Kappang**	**14.07**	**75**	LR	LR	22 27 32.0	
	comp=Z,122nm,20.9s,baz=244,slow=42						
GIRL	**Giralia**	**15.64**	**151**	Pn	**Pn**	**22 21 31.2**	**+0.2**
MMRI	**Maumere**	**15.91**	**90**	P	**Pn**	**22 21 36.0**	**+1.6**
MMRI				IAmb	IAmb	22 21 47.1	
	comp=Z,48nm,1.0s						
BATI	**Baumata**	**17.32**	**95**	P	**Pn**	**22 21 51.2**	**-1.1**
	comp=Z,2.2nm,0.3s,baz=94,slow=7.9,SNR=1.8						
SOEI	**Soe**	**17.90**	**94**	P	**Pn**	**22 21 59.3**	**-0.2**
SOEI				IAmb	IAmb	22 22 18.3	
	comp=Z,65nm,1.5s						
MYLDM	**Lahad Datu**	**18.70**	**42**	P	**P**	**22 22 07.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**20.99**	**118**	P	**P**	**22 22 34.5**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=178,slow=2.7,SNR=2.4						
FITZ	**Fitzroy Crossi**	**20.99**	**118**	P	**P**	**22 22 34.4**	**+0.9**
KNRA	**Kununurra**	**23.06**	**109**	P	**P**	**22 22 55.5**	**-0.2**
KNRA				IAmb	IAmb	22 23 05.7	
	comp=Z,30nm,1.2s						
H01W3	**Cape Leeuwin H**	**26.80**	**165**	T	T	22 51 30.5	
	baz=344,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**26.81**	**165**	T	T	22 51 28.4	
	baz=344,slow=75,SNR=9.0						
H01W2	**Cape Leeuwin H**	**26.81**	**165**	T	T	22 51 28.9	
	baz=344,slow=75,SNR=14						
CMAR	**Chiang Mai Arr**	**28.18**	**345**	P	**P**	**22 23 41.1**	**-1.4**
	comp=Z,2.2nm,0.3s,baz=178,slow=9.1,SNR=15						
CHTO	**Chiang Mai**	**28.52**	**346**	P	**P**	**22 23 44.9**	**-0.6**
WB0	**Warramunga Arr**	**29.34**	**115**	P	**P**	**22 23 53.3**	**+0.4**
WB0				IAmb	IAmb	22 24 04.2	
	comp=Z,7.4nm,1.2s						
WRA	**Warramunga Arr**	**29.34**	**115**	P	**P**	**22 23 52.3**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=286,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**29.34**	**115**	P	**P**	**22 23 53.2**	**+0.3**
WB2	**Warramunga Arr**	**29.35**	**115**	P	**P**	**22 23 53.6**	**+0.6**
ASAR	**Alice Springs**	**30.29**	**122**	P	**P**	**22 24 02.0**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=297,slow=8.8,SNR=4.2						
H08S2	**Diego Garcia H**	**33.32**	**270**	T	T	23 00 58.0	
	baz=90,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**33.33**	**270**	T	T	23 00 58.9	
	baz=90,slow=75,SNR=23						
H08S1	**Diego Garcia H**	**33.34**	**270**	T	T	23 00 59.4	
	baz=90,slow=75,SNR=23						
KMI	**Kunming**	**34.06**	**354**⇑	*eP*	**P**	**22 24 38.3**	**+3.8**
KMI				pP	pP	22 24 43.3	-0.1
KMI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,110nm,4.0s						
KMI				LR	LR		
	comp=N,170nm,5.1s						
KMI				LR	LR		
	comp=E,130nm,4.1s						
KMI				LR	LR		
	comp=Z,120nm,4.4s						
TPUB	**Ta-pu**	**35.08**	**24**	P	**P**	**22 24 42.4**	**-0.7**
STKA	**Stephens Creek**	**39.98**	**130**	P	**P**	**22 25 25.7**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=352,slow=15,SNR=1.7						
LSA	**Lhasa**	**41.08**	**340**	P	**P**	**22 25 34.2**	**+0.1**
LSA				IAmb	IAmb	22 25 46.0	
	comp=Z,11nm,0.7s						
XAN	**Xi'an**	**42.87**	**3**	P	**P**	**22 25 47.4**	**-0.7**
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN				smax	smax		
	comp=N,48nm,1.2s						
XAN				smax	smax		
	comp=E,46nm,1.3s						
XAN	**Xi'an**	**42.87**	**3**	P	**P**	**22 25 47.5**	**-0.7**
XAN				IAmb	IAmb	22 25 48.3	
	comp=Z,11nm,0.6s						

GTA	**Gaotai**	**48.51**	**353**	P	**P**	**22 26 33.8**	**+1.1**
GTA				pP	sP	22 26 43.8	-1.3
GTA				sP	pwP	22 26 47.8	-0.4
GTA				pmax	pmax		
comp=Z,5.0nm,1.3s							
GTA				smax	smax		
comp=N,9.0nm,0.9s							
GTA				smax	smax		
comp=E,5.0nm,1.1s							
KSAR	**Wonju Array Be**	**50.47**	**22**	P	**P**	**22 26 47.9**	**+0.3**
KSRS	**Korea Array**	**50.50**	**22**	P	**P**	**22 26 43.4**	**-4.3**
comp=E,0.4nm,0.3s,baz=114,slow=44,SNR=1.5							
NIL	**Nilore**	**52.67**	**325**	P	**P**	**22 27 04.8**	**+0.6**
NIL				IAmb	IAmb	22 27 14.5	
comp=Z,5.2nm,0.9s							
SONM	**Songino Array**	**56.57**	**0**	P	**P**	**22 27 31.4**	**-0.9**
comp=Z,2.6nm,0.8s,baz=182,slow=7.5,SNR=7.5							
SONM	**Songino Array**	**56.57**	**0**	P	**P**	**22 27 32.0**	**-0.2**
ULN	**Ulaanbaatar**	**56.60**	**1**	P	**P**	**22 27 32.9**	**+0.4**
ULN				IAmb	IAmb	22 27 35.0	
comp=Z,3.8nm,0.8s							
KDJ	**Kajisay**	**57.37**	**335**	P	**P**	**22 27 37.7**	**-0.5**
KDJ				IAmb	IAmb	22 27 49.0	
comp=Z,4.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**57.88**	**22**	P	**P**	**22 27 40.0**	**-1.5**
comp=Z,1.4nm,0.5s,baz=209,slow=5.9,SNR=4.2							
MK31	**Makanchi Array**	**59.47**	**341**	P	**P**	**22 27 52.5**	**0.0**
MK31				IAmb	IAmb	22 28 02.6	
comp=Z,2.1nm,0.8s							
MKAR	**Makanchi Array**	**59.47**	**341**	P	**P**	**22 27 52.6**	**+0.1**
comp=Z,1.7nm,0.6s,baz=151,slow=8.2,SNR=12							
MKAR	**Makanchi Array**	**59.47**	**341**	P	**P**	**22 27 52.0**	**-0.5**
MAKZ	**Makanchi**	**59.58**	**341**	P	**P**	**22 27 53.2**	**-0.1**
KURK	**Kurchatov**	**64.08**	**341**	P	**P**	**22 28 23.2**	**-0.1**
GEYT	**Alibeck**	**64.69**	**319**	P	**P**	**22 28 30.1**	**+2.4**
comp=Z,0.5nm,0.3s,baz=294,slow=37,SNR=1.9							
GEYT	**Alibeck**	**64.69**	**319**	P	**P**	**22 28 27.7**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**64.69**	**319**	P	**P**	**22 28 27.2**	**-0.6**
ZAA0	**Zalesovo Array**	**65.24**	**346**	P	**P**	**22 28 31.1**	**+0.2**
ZAA0				IAmb	IAmb	22 28 41.2	
comp=Z,3.8nm,0.8s							
ZALV	**Zalesovo Beam**	**65.24**	**346**	P	**P**	**22 28 30.6**	**-0.3**
comp=Z,1.1nm,0.5s,baz=162,slow=6.8,SNR=6.4							
ZALV	**Zalesovo Beam**	**65.24**	**346**	P	**P**	**22 28 30.2**	**-0.8**
BVAR	**Borovoye Array**	**68.86**	**338**	P	**P**	**22 28 54.0**	**0.0**
comp=Z,0.8nm,0.4s,baz=218,slow=47,SNR=3.2							
ABKAR	**Akbulak array**	**70.69**	**330**	P	**P**	**22 29 05.4**	**+0.1**
ABKAR	**Akbulak array**	**70.69**	**330**	P	**P**	**22 29 05.3**	**+0.1**
AKTO	**Aktyubinsk**	**72.40**	**330**	P	**P**	**22 29 18.1**	**+2.6**
comp=Z,1.8nm,0.7s,baz=73,slow=2.6,SNR=2.6							
ARU	**Arti**	**76.05**	**335**	P	**P**	**22 29 38.7**	**+2.1**
ARU				IAmb	IAmb	22 29 52.2	
comp=Z,3.8nm,0.9s							
BRTR	**Keskin Array B**	**82.52**	**312**	P	**P**	**22 30 16.5**	**+3.9**
comp=Z,0.4nm,0.7s,baz=140,slow=7.0,SNR=4.2							
SNAA	**Sanae**	**87.39**	**197**	P	**P**	**22 30 37.9**	**+1.5**
SNAA				IAmb	IAmb	22 30 43.5	
comp=Z,3.5nm,1.2s							
TXAR	**Lajitas Array**	**145.49**	**50**	PKP	**PKPab**	**22 37 29.7**	**+1.0**
comp=Z,0.6nm,0.6s,baz=270,slow=1.0,SNR=6.7							
TKL	**Tuckaleechee C**	**151.95**	**17**	PKPbc	**PKiKP**	**22 37 46.0**	**+0.7**
comp=Z,2.9nm,0.9s,baz=118,slow=15,SNR=2.4							

*IDC **22** 22:20:30.5±0.7, 15°.09S×173°.50W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/47, mbtmp4.1/11, ML4.5/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/24, Error ellipse: s-maj=41.9km s-min=15.6km az=143.0*

*NEIC **22** 22:20:33.6±1.0, 15°.14S±0°.08×173°.2W±0°.1, h10km±1km, mb4.6/41, Error ellipse: s-maj=19.2km s-min=11.1km az=299.0*

ISC 22 22:20:35.4±0.5, 15°.13S±0°.07×173°.24W±0°.09, h29km, n78, σ1§45/66, mb4.5/27, MS3.6/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.86**	**50**	Pn	**Pn**	**22 21 05.1**	**-0.3**
184nm,0.3s,baz=234,slow=1.1,SNR=186							
AFI				Sn	**Sn**	**22 21 25.1**	**-2.9**
2μm,0.3s,baz=223,slow=23,SNR=28							
AFI				LR	LR	22 21 47.7	
comp=Z,518nm,21.7s,baz=230,slow=38							
AFI	**Afiamalu**	**1.86**	**50**	Pn	**Pn**	**22 21 05.4**	**0.0**
AFI				Sn	**Sn**	**22 21 25.1**	**-2.9**
NIUE	**Niue**	**5.04**	**142**		**Pn**	**22 21 48.9**	**-0.2**
KNTN	**Kanton**	**12.37**	**7**	Pn	**Pn**	**22 23 30.3**	**+0.7**
RAR	**Rarotonga**	**14.15**	**117**	Pn	**Pn**	**22 23 53.0**	**-0.9**
DZM	**Mont Dzumac**	**20.45**	**247**	LR	LR	22 31 33.4	
comp=Z,196nm,19.6s,baz=38,slow=33							
URZ	**Urewera**	**24.57**	**199**	LR	LR	22 34 02.5	
comp=Z,193nm,18.1s,baz=9.5,slow=33							
BKZ	**Black Stump Fm**	**25.59**	**199**	P	**P**	**22 26 01.2**	**-0.9**
NNZ	**Nelson**	**28.47**	**201**	P	**P**	**22 26 28.8**	**+0.9**
KHZ	**Kahutara**	**29.48**	**200**	P	**P**	**22 26 38.9**	**+2.1**
ARMA	**Armidale**	**35.62**	**239**	P	**P**	**22 27 29.3**	**-1.6**
H11S2	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	23 08 44.2	
baz=146,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	23 08 44.8	
baz=146,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	23 08 45.8	
baz=146,slow=76,SNR=12							
H11N1	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	23 09 54.6	
SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**39.77**	**330**	T	T	23 10 58.1	
SNR=10							
STKA	**Stephens Creek**	**44.31**	**240**	P	**P**	**22 28 40.4**	**-2.5**
2.1nm,0.6s,baz=68,slow=9.4,SNR=3.8							
WB0	**Warramunga Arr**	**50.02**	**257**	P	**P**	**22 29 25.9**	**-1.7**
WB2	**Warramunga Arr**	**50.05**	**257**	P	**P**	**22 29 25.9**	**-2.0**
WRA	**Warramunga Arr**	**50.06**	**257**	P	**P**	**22 29 25.4**	**-2.5**
0.7nm,0.5s,baz=95,slow=6.2,SNR=16							
AS31	**Alice Springs**	**50.34**	**252**	P	**P**	**22 29 28.2**	**-1.9**
ASAR	**Alice Springs**	**50.34**	**252**	P	**P**	**22 29 27.2**	**-2.9**
1.0nm,0.4s,baz=87,slow=7.7,SNR=13							
ASAR				LR	LR	22 49 21.0	
comp=Z,77nm,19.4s,baz=132,slow=34							
ASAR	**Alice Springs**	**50.34**	**252**	P	**P**	**22 29 27.7**	**-2.4**
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**22 31 03.8**	**+0.4**
1.4nm,0.9s,baz=12,slow=7.7,SNR=6.4							
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**22 31 04.7**	**+1.3**
H06S1	**SOCORRO T**	**69.95**	**63**	T	T	23 46 39.6	
SNR=9.2							
KMRM	**Mail Ridge**	**71.75**	**38**	P	**P**	**22 31 56.6**	**+1.5**
PETK	**Petropavlovsk-**	**72.42**	**342**	LR	LR	23 01 23.0	
comp=Z,18nm,18.9s,baz=16,slow=34							
KRMB	**Red Mountain**	**72.46**	**37**	P	**P**	**22 32 01.5**	**+2.1**
KRMB				IAmb	IAmb	22 33 00.7	
comp=Z,12nm,1.4s							
YBH	**Yreka Blue Hor**	**73.29**	**37**	P	**P**	**22 32 05.3**	**+1.0**
comp=Z,4.1nm,0.8s,baz=263,slow=1.1,SNR=16							
YBH	**Yreka Blue Hor**	**73.29**	**37**	P	**P**	**22 32 06.2**	**+2.0**
YBH				IAmb	IAmb	22 32 07.3	
comp=Z,4.2nm,0.8s							
WAKR	**Walker**	**73.34**	**41**	P	**P**	**22 32 06.2**	**+1.4**
WAKR				IAmb	IAmb	22 32 53.8	
comp=Z,8.8nm,1.7s							
NVAR	**Mina Array Bea**	**74.02**	**42**	P	**P**	**22 32 09.7**	**+0.8**
comp=Z,1.5nm,0.6s,baz=228,slow=10,SNR=16							
NVAR	**Mina Array Bea**	**74.02**	**42**	P	**P**	**22 32 10.1**	**+1.3**
NV11	**Mina Array Sit**	**74.12**	**42**	P	**P**	**22 32 10.8**	**+1.5**
QSPA	**South Pole Qui**	**74.91**	**180**	P	**P**	**22 32 14.4**	**+0.9**
QSPA				IAmb	IAmb	22 32 15.2	
comp=Z,6.9nm,0.9s							
K05A	**Summer Lake**	**74.97**	**37**	P	**P**	**22 32 15.3**	**+1.2**
K05A				IAmb	IAmb	22 32 16.8	
comp=Z,7.3nm,0.9s							
PINE	**Pine Mountain**	**75.59**	**36**	P	**P**	**22 32 19.0**	**+1.3**
KSRS	**Korea Array**	**76.08**	**315**	LR	LR	23 04 15.6	
comp=Z,6.1nm,18.1s,baz=120,slow=35							
X16A	**Lo Mia Camp, P**	**76.62**	**48**	P	**P**	**22 32 25.6**	**+1.8**
X16A				IAmb	IAmb	22 32 26.9	
comp=Z,4.4nm,1.0s							
J08A	**Circle Bar Ran**	**76.76**	**38**	P	**P**	**22 32 25.3**	**+1.0**
J08A				IAmb	IAmb	22 32 27.0	
comp=Z,4.5nm,0.9s							
U15A	**North Rim**	**77.00**	**46**	P	**P**	**22 32 27.9**	**+1.8**
U15A				IAmb	IAmb	22 33 19.7	
comp=Z,8.6nm,1.6s							
ELK	**Elko**	**77.28**	**41**	P	**P**	**22 32 27.4**	**0.0**
comp=Z,1.0nm,0.7s,baz=342,slow=7.7,SNR=6.1							
G08A	**Pilot Rock**	**77.62**	**36**	P	**P**	**22 32 30.8**	**+1.7**
G08A				IAmb	IAmb	22 32 31.6	
comp=Z,9.3nm,1.4s							
MSU	**Marysvale**	**78.12**	**45**	P	**P**	**22 32 34.0**	**+1.8**
121A	**Cookes Peak, D**	**78.46**	**52**	P	**P**	**22 32 35.0**	**+0.9**
121A				IAmb	IAmb	22 32 37.2	
comp=Z,6.2nm,0.8s							
HLID	**Hailey**	**79.32**	**39**	P	**P**	**22 32 40.2**	**+1.7**
HLID				IAmb	IAmb	22 32 41.3	
comp=Z,4.5nm,0.8s							
MNTX	**Cornudas Mount**	**79.94**	**53**	P	**P**	**22 32 43.3**	**+1.2**
BNM	**Barren Site**	**80.04**	**51**	P	**P**	**22 32 43.7**	**+1.0**
TX31	**Lajitas Ar. Si**	**80.33**	**56**	P	**P**	**22 32 44.9**	**+0.6**
TX31				IAmb	IAmb	22 32 46.8	
comp=Z,14nm,1.2s							
TXAR	**Lajitas Array**	**80.33**	**56**	P	**P**	**22 32 44.5**	**+0.1**
comp=Z,1.6nm,1.0s,baz=227,slow=6.6,SNR=13							
TXAR	**Lajitas Array**	**80.33**	**56**	P	**P**	**22 32 45.6**	**+1.3**
ANMO	**Albuquerque**	**80.51**	**50**	P	**P**	**22 32 46.6**	**+1.3**
MCMT	**McKenzie Canyo**	**80.95**	**39**	P	**P**	**22 32 48.5**	**+1.1**
REDW	**Red Top Meadow**	**81.43**	**41**	P	**P**	**22 32 51.0**	**+1.0**
REDW				IAmb	IAmb	22 35 49.8	
comp=Z,8.9nm,1.2s							
FXWY	**Fox Creek**	**81.46**	**41**	P	**P**	**22 32 51.8**	**+1.6**
FXWY				IAmb	IAmb	22 32 53.5	
comp=Z,5.8nm,1.2s							
S22A	**4UR Ranch, Cre**	**81.47**	**47**	P	**P**	**22 32 51.6**	**+1.1**
S22A				IAmb	IAmb	22 32 53.6	
comp=Z,4.9nm,1.1s							
IMW	**Indian Meadow**	**81.64**	**40**	P	**P**	**22 32 52.0**	**+0.8**
QLMT	**Earthquake Lak**	**81.81**	**39**	P	**P**	**22 32 53.7**	**+1.7**
CCB	**Clear Creek Bu**	**81.87**	**11**	P	**P**	**22 32 52.6**	**+1.1**
CCB				IAmb	IAmb	22 33 46.6	
comp=Z,14nm,1.8s							
YHB	**Horse Butte**	**81.92**	**39**	P	**P**	**22 32 54.0**	**+1.4**
PD31	**Pinedale Array**	**81.96**	**42**	P	**P**	**22 32 53.6**	**+0.8**
PDAR	**Pinedale Array**	**81.96**	**42**	P	**P**	**22 32 53.2**	**+0.4**
comp=Z,1.1nm,0.7s,baz=209,slow=2.7,SNR=9.1							
PDAR				LR	LR	23 02 05.5	
comp=Z,23nm,19.4s,baz=276,slow=30							
PDAR	**Pinedale Array**	**81.96**	**42**	P	**P**	**22 32 53.7**	**+0.8**
YHL	**Hebgen Lake**	**81.97**	**39**	P	**P**	**22 32 54.6**	**+1.7**
ILAR	**Eielson Array**	**82.15**	**11**	P	**P**	**22 32 53.2**	**+0.2**
comp=Z,0.5nm,0.9s,baz=348,slow=1.0,SNR=5.2							
ILAR				LR	LR	23 02 04.4	
comp=Z,23nm,20.4s,baz=200,slow=30							
YNE	**Yellowstone No**	**82.78**	**40**	P	**P**	**22 32 58.5**	**+1.4**
ABTX	**Abilene, Hawle**	**84.78**	**54**	P	**P**	**22 33 08.4**	**+1.1**
MAW	**Mawson**	**88.10**	**199**	P	**P**	**22 33 22.9**	**0.0**
HHC	**Hu-ho-hao-te**	**88.96**	**313**	*e*P	P	22 33 32.6	+5.0
HHC				pmax	pmax		
comp=Z,7.0nm,0.8s							
HHC				pmax	pmax		
comp=Z,58nm,5.7s							
YKA	**Yellowknife Ar**	**89.79**	**23**	LR	LR	23 07 26.0	
comp=Z,23nm,19.9s,baz=0.0,slow=31							
LZH	**Lanzhou**	**93.19**	**306**	*e*P	**P**	**22 33 48.0**	**+0.6**
LZH				pP	sP	22 34 00.6	+1.4
LZH				sP	pwP	22 34 07.3	+8.3
ULM	**Lac du Bonnet**	**93.62**	**39**	LR	LR	23 07 54.9	
comp=Z,37nm,19.9s,baz=296,slow=30							
GTA	**Gaotai**	**97.13**	**309**	*e*P	Pdif	22 34 10.4	+5.0
GTA				pP	sP	22 34 20.6	+3.5
GTA				sP	pwP	22 34 25.0	+8.1
GTA				pmax	pmax		
comp=Z,2.0nm,1.3s							
GERES	**GERESS Array B**	**145.90**	**352**	PKPbc	**PKPdf**	**22 40 11.6**	**0.0**
comp=Z,0.5nm,0.6s,baz=349,slow=4.1,SNR=4.2							
GERES	**GERESS Array B**	**145.90**	**352**		**PKPbc**	**22 40 12.4**	**+0.2**
BRTR	**Keskin Array B**	**146.04**	**321**	PKPbc	**PKPdf**	**22 40 12.2**	**0.0**
comp=Z,2.0nm,0.9s,baz=94,slow=2.3,SNR=11							
BRTR	**Keskin Array B**	**146.04**	**321**		**PKPbc**	**22 40 13.1**	**+0.1**

*IDC **22** 22:24:36.8±6.2, 38°.99N×110°.87E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/57, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=135.0km s-min=28.3km az=86.0*

ISC 22 22:24:37.8±3.1, 39°.0N±0°.2×111°.0E±0°.3, h10km, n5, σ1§56/6, mb3.3/3, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**6.41**	**245**	*e*P	**Pn**	**22 26 14.6**	**+2.2**
LZH				pP	**Pb**	**22 26 28.1**	**-1.4**
LZH				sP	Pg	22 26 33.9	-6.7
LZH				pmax	pmax		
comp=Z,12nm,1.0s							
SONM	**Songino Array**	**9.42**	**341**	Pn	**Pn**	**22 26 53.6**	**0.0**
comp=Z,0.1nm,0.3s,baz=163,slow=14,SNR=6.8							
SONM				Lg	Lg	22 29 30.4	
comp=Z,0.3nm,0.3s,baz=154,slow=33,SNR=2.5							
MKAR	**Makanchi Array**	**22.34**	**300**	P	**P**	**22 29 35.4**	**-0.3**
comp=Z,0.3nm,0.6s,baz=113,slow=9.9,SNR=1.2							
CMAR	**Chiang Mai Arr**	**23.03**	**211**	P	**P**	**22 29 42.5**	**-0.6**
comp=Z,2.4nm,0.8s,baz=12,slow=9.5,SNR=13							
ZALV	**Zalesovo Beam**	**23.23**	**319**	P	**P**	**22 29 44.7**	**-0.1**
comp=Z,0.5nm,0.5s,baz=138,slow=11,SNR=1.3							

*IDC **22** 22:26:04.8±1.3, 10°.20S×161°.57E, h92km±7km, mb3.6/5, mb1 3.8/5, mb1mx3.4/45, mbtmp3.9/5, Error ellipse: s-maj=25.4km s-min=15.1km az=35.0*

*NEIC **22** 22:26:06.7±2.4, 10°.1S±0°.1×161°.6E±0°.1, h94km±8km, mb4.4/14, Error ellipse: s-maj=20.4km s-min=10.3km az=220.0*

ISC 22 22:26:05.3±0.8, 10°.16S±0°.08×161°.62E±0°.09, h85km, n27, σ1§52/34, mb4.2/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.80**	**293**	P	**Pn**	**22 26 35.1**	**+0.4**
48nm,0.3s,baz=180,slow=8.2,SNR=8.5							
HNR				S	**Sn**	**22 26 56.5**	**-0.5**
116nm,0.3s,baz=158,slow=6.5,SNR=4.9							
HNR				LR	LR	22 27 03.9	
comp=Z,242nm,18.2s,baz=142,slow=33							
HNR	**Honiara**	**1.80**	**293**	Pn	**Pn**	**22 26 34.9**	**+0.2**
HNR				Sn	**Sn**	**22 26 58.0**	**+1.0**
SANVU	**Saraoutou**	**7.57**	**135**	Pn	**Pn**	**22 27 53.4**	**+0.3**
DZM	**Mont Dzumac**	**12.72**	**159**	P	**Pn**	**22 29 06.1**	**+3.0**
2.6nm,0.3s,baz=309,slow=13,SNR=14							
DZM				S	**Sn**	**22 31 19.7**	**-3.3**
0.3nm,0.3s,baz=210,slow=19,SNR=2.3							
DZM	**Mont Dzumac**	**12.72**	**159**		**Pn**	**22 29 05.5**	**+2.4**
PATS	**Pohnpei**	**17.20**	**349**	P	**P**	**22 30 01.9**	**+1.4**
CTA	**Charters Tower**	**17.80**	**235**	P	**Pn**	**22 30 09.4**	**+1.8**
0.4nm,0.3s,baz=48,slow=12,SNR=1.6							
CTAO	**Charters Tower**	**17.80**	**235**		**Pn**	**22 30 08.9**	**+1.3**
CTAO				IAmb	IAmb	22 30 14.1	
comp=Z,22nm,1.4s							
EIDS	**Eidsvold**	**18.14**	**212**		**Pn**	**22 30 12.8**	**+1.2**
ARMA	**Armidale**	**22.20**	**203**	P	**P**	**22 30 56.6**	**+1.7**
ARMA				IAmb	IAmb	22 30 58.4	
comp=Z,25nm,1.4s							
WR0	**Warramunga Arr**	**27.86**	**246**	P	**P**	**22 31 46.6**	**-0.7**
WRA	**Warramunga Arr**	**28.04**	**247**	P	**P**	**22 31 46.4**	**-2.4**
comp=Z,1.6nm,0.8s,baz=76,slow=9.5,SNR=7.6							
WRA				pP	**pwP**	**22 32 09.5**	**-1.5**
comp=Z,1.0nm,0.6s,baz=76,slow=9.1,SNR=4.2							
ASAR	**Alice Springs**	**29.65**	**240**	P	**P**	**22 32 00.9**	**-2.2**
comp=Z,0.5nm,0.7s,baz=223,slow=39,SNR=3.5							
ASAR				pP	**pP**	**22 32 22.8**	**+1.2**
comp=Z,3.0nm,1.2s,baz=65,slow=10,SNR=2.4							
BKZ	**Black Stump Fm**	**31.80**	**159**	P	**P**	**22 32 22.7**	**+0.8**
BBOO	**Buckleboo**	**32.60**	**222**	P	**P**	**22 32 29.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**35.72**	**253**	P	**P**	**22 32 52.6**	**-3.4**
comp=Z,2.3nm,0.8s,baz=181,slow=11,SNR=2.6							
FITZ				pP	**pwP**	**22 33 16.9**	**-0.8**
comp=Z,2.2nm,0.6s,baz=345,slow=1.1,SNR=3.1							
FITZ	**Fitzroy Crossi**	**35.72**	**253**	P	**P**	**22 32 54.5**	**-1.5**
FITZ				IAmb	IAmb	22 33 06.8	
comp=Z,17nm,1.5s							
NWAO	**Narrogin (SRO)**	**46.64**	**234**	P	**P**	**22 34 25.8**	**+0.4**
NWAO				IAmb	IAmb	22 34 43.3	
comp=Z,11nm,1.1s							
TAOE	**Nuku Hiva Isla**	**57.39**	**94**	*e*LR	LR	22 35 32.2	
comp=Z,2μm,36.1s							
CASY	**Casey**	**65.77**	**200**	P	**P**	**22 36 40.0**	**-1.0**
CASY				IAmb	IAmb	22 36 50.6	
comp=Z,8.4nm,1.4s							
VNDA	**Vanda**	**67.35**	**180**	P	**P**	**22 36 51.0**	**+0.1**
ULN	**Ulaanbaatar**	**75.23**	**325**	P	**P**	**22 37 39.5**	**+0.5**
ULN				IAmb	IAmb	22 37 40.7	
comp=Z,3.5nm,1.1s							
SONM	**Songino Array**	**75.59**	**325**	P	**P**	**22 37 41.3**	**+0.4**
comp=Z,0.9nm,0.6s,baz=125,slow=6.0,SNR=3.7							
SONM				pP	**pP**	**22 38 02.4**	**-0.4**
comp=Z,1.4nm,0.7s,baz=130,slow=3.6,SNR=5.0							
SONM	**Songino Array**	**75.59**	**325**	P	**P**	**22 37 41.4**	**+0.4**
QSPA	**South Pole Qui**	**79.84**	**180**	P	**P**	**22 38 04.3**	**-0.1**
QSPA				IAmb	IAmb	22 38 05.1	
comp=Z,4.0nm,0.8s							
MKAR	**Makanchi Array**	**90.11**	**318**	P	**P**	**22 38 55.1**	**-0.9**
comp=Z,0.6nm,0.8s,baz=90,slow=6.1,SNR=4.4							
MKAR				pP	**pP**	**22 39 17.6**	**-0.6**
comp=Z,0.6nm,0.8s,baz=106,slow=4.4,SNR=3.8							
MKAR	**Makanchi Array**	**90.11**	**318**	P	**P**	**22 38 55.4**	**-0.6**

*IDC **22** 22:30:26.8±1.6, 6°.35S×151°.59E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/40, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=68.1km s-min=17.6km az=115.0*

ISC 22 22:30:31.3±1.5, 6°.3S±0°.2×151°.6E±0°.4, h30km, n8, σ0§76/9, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.06**	**12**	Pn	**Pn**	**22 31 03.1**	**-0.8**
20nm,0.3s,baz=106,slow=1.9,SNR=9.8							
KRVT				Sn	**Sn**	**22 31 28.7**	**0.0**
45nm,0.3s,baz=46,slow=20,SNR=18							
WRA	**Warramunga Arr**	**21.53**	**229**	P	**P**	**22 35 17.3**	**-0.9**
2.5nm,0.9s,baz=54,slow=10,SNR=10							
ASAR	**Alice Springs**	**24.21**	**223**	P	**P**	**22 35 45.0**	**-0.5**
1.9nm,0.5s,baz=57,slow=8.4,SNR=17							
STKA	**Stephens Creek**	**27.07**	**199**	P	**P**	**22 36 11.4**	**+0.1**
1.1nm,0.5s,baz=328,slow=23,SNR=2.0							
FITZ	**Fitzroy Crossi**	**27.88**	**243**	P	**P**	**22 36 18.9**	**+0.2**
0.8nm,0.5s,baz=0.1,slow=22,SNR=1.5							
ZALV	**Zalesovo Beam**	**81.76**	**327**	P	**P**	**22 42 48.3**	**+1.2**
0.3nm,0.2s,baz=72,slow=4.7,SNR=2.0							
ILAR	**Eielson Array**	**84.03**	**22**	P	**P**	**22 42 59.0**	**+0.4**
0.2nm,0.5s,baz=227,slow=6.0,SNR=4.9							
TORD	**Torodi Ar. Bea**	**149.59**	**285**	PKPbc	**PKPbc**	**22 50 18.6**	**-0.4**
0.5nm,0.9s,baz=192,slow=26,SNR=3.1							

TAP 22 23:10:01.3, 24°.90N×122°.23E, h14km, ML2.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.24**	**296**	P	Pg	23 10 06.9	+0.3
baz=295							
TWB1				*e*S	Sg	23 10 10.5	+0.4
baz=295							
EGS		**0.28**	**258**	*e*P	Pb	23 10 08.4	+0.4
baz=251							
EGS				*e*S	Sb	23 10 12.1	-0.3
baz=251							
NTC	**Toucheng**	**0.36**	**263**	*e*P	Pb	23 10 09.3	-0.2
baz=269							
NTC				*e*S	Sb	23 10 15.2	+0.2
baz=269							
TIPB	**Shuangxi**	**0.37**	**281**	P	Pb	23 10 09.4	-0.2
baz=280							
TIPB				*e*S	Sb	23 10 15.1	-0.2
baz=280							
NWF	**Wu-fen Shan**	**0.44**	**293**	P	Pb	23 10 11.0	+0.2
baz=291							
NWF				*e*S	Sb	23 10 17.5	+0.2
baz=291							
WFSB	**Wu-fen Shan**	**0.44**	**293**	P	Pb	23 10 11.0	+0.2
baz=291							
WFSB				*e*S	Sb	23 10 17.4	+0.2
baz=291							
TWC	**Suao**	**0.45**	**230**	P	Pg	23 10 10.2	-0.1
baz=223							
TWC				*e*S	Sg	23 10 16.3	0.0
baz=223							
TWE	**Neicheng**	**0.54**	**251**	*e*P	Pb	23 10 12.3	-0.2
baz=242							
ENAH	**Nanao**	**0.59**	**220**	P	Pg	23 10 12.7	-0.1
baz=214							
ENAH				*e*S	Sg	23 10 20.5	-0.2
baz=214							
TWA	**Mucha**	**0.59**	**278**	*e*P	Pn	23 10 14.3	-0.9
baz=277							
TWA				*e*S	Sb	23 10 22.4	+0.8
baz=277							
YM01	**YM01**	**0.65**	**292**	P	Pb	23 10 15.0	+0.6
baz=291							
YM01				*e*S	Sb	23 10 24.2	+1.0
baz=291							
YM08	**YM08**	**0.65**	**296**	P	Pb	23 10 14.5	+0.2
baz=295							
YM08				*e*S	Sb	23 10 23.8	+0.7
baz=

TDCB	**Techi**	**1.17 237**	P	Pg	23 10 23.7	-0.1
	baz=227					
TDCB			*e*S	Sn	23 10 39.1	0.0
	baz=227					
CHGB	**Renai**	**1.27 229**	*e*P	Pg	23 10 25.7	-0.1
	baz=229					
CHGB			*e*S	Sg	23 10 42.6	+0.1
	baz=229					
WHP	**Taichung City**	**1.32 242**	*e*P	Pg	23 10 26.5	-0.2
	baz=234					
VWDT	**VWDT**	**1.51 221**	*e*P	Pb	23 10 29.5	+0.4
	baz=228					
VWDT			*e*S	Sg	23 10 49.8	-0.3
	baz=228					
TYC	**Yuchr**	**1.60 232**	*e*P	Pg	23 10 32.2	+0.2
	baz=231					
SSLB	**Suanglung**	**1.61 227**	*e*P	Pg	23 10 31.7	-0.5
	baz=227					
ALS	**Alishan**	**1.90 223**	*e*P	Pb	23 10 36.8	+0.9
	baz=206					
CHN5	**Tsauling**	**1.92 228**	*e*P	Pb	23 10 35.0	-1.1
	baz=229					

MAN ***22*** *23:12:13.6, 13°.95N×120°.45E, h96km, mb4.3, ML3.1, MS2.8*

IDC 22 23:12:01.4±1.2, 14°.08N×121°.06E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/42, mbtmp3.6/5, Error ellipse: s-maj=164.9km s-min=19.7km az=67.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**35.80**	**343**	P	P	23 19 03.5	+1.0
	1.0nm,0.5s,baz=159,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**36.24**	**159**	P	P	23 19 06.1	-0.4
	0.3nm,0.5s,baz=342,slow=9.2,SNR=10						
ASAR	**Alice Springs**	**39.56**	**161**	P	P	23 19 34.7	+0.2
	0.4nm,0.3s,baz=336,slow=8.1,SNR=8.6						
MKAR	**Makanchi Array**	**45.94**	**323**	P	P	23 20 25.3	-0.7
	0.2nm,0.5s,baz=125,slow=9.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**48.88**	**332**	P	P	23 20 48.0	-0.9
	0.3nm,0.2s,baz=115,slow=10.0,SNR=1.6						

IDC ***22*** *23:26:57.3±0.7, 3°.03S×147°.39E, h0km, mb4.1/14, mb1 4.3/17, mb1mx4.2/32, mbtmp4.2/17, ML2.4/2, MS4.0/30, Ms1 4.0/30, ms1mx3.9/34, Error ellipse: s-maj=23.1km s-min=15.3km az=99.0*

DJA ***22*** *23:26:59.4±1.3, 3°.S±11°.×14°.7E±1°.2, h10km, M4.7/12, mb4.5/12, mB4.5/1, MLv4.9/2, Mw(mB)3.6/1*

NEIC ***22*** *23:27:02.6±1.8, 3°.09S±0°.06×147°.29E±0°.06, h33km±5km, mb4.6/28, Error ellipse: s-maj=11.1km s-min=5.0km az=139.0*

GCMT ***22*** *23:27:02.6±0.3, 2°.95S±0°.01×147°.33E±0°.02, h16km±1km, MW4.8/99, Moment Tensor Solution. s17,c18; s99,c134; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~0.29±.10; Mθθ0.52±.09; Mϕϕ~0.23±.09; Mrθ~0.40±.27; Mϕθ2.21±.07; Mϕr~0.16±.24; Best double couple: M0 2.27700×10^16 NP1:ϕs185.00000°, δ81.00000°, λ177.00000°. NP2: ϕs275.00000°, δ87.00000°, λ9.00000°. Principal axes: T 2.4480, Plg9.0000°, Azm140.0000°; N -0.3410, Plg80.0000°, Azm293.0000°; P -2.1070, Plg4.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 23:27:02.6±0.4, 3°.08S±0°.06×147°.29E±0°.07, h32km, n93, σ1§04/70, mb4.4/28, MS4.0/31, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.88**	**105**	Pn	**Pn**	**23 28 12.5**	**-1.4**
	baz=35,slow=17,SNR=1.1						
RABL	**Rabaul**	**4.99**	**103**	Pn	**Pn**	**23 28 15.8**	**+0.4**
PMG	**Port Moresby**	**6.28**	**181**	Pn	**Pn**	**23 28 33.8**	**+0.7**
	1.8nm,0.3s,baz=148,slow=22,SNR=1.9						
PMG				LR	LR	23 30 50.9	
	comp=Z,554nm,19.4s,baz=356,slow=37						
PMG	**Port Moresby**	**6.28**	**181**	Pn	**Pn**	**23 28 33.2**	**0.0**
JAY	**Jayapura**	**6.60**	**275**	Pn	**Pn**	**23 28 38.9**	**+1.3**
	0.5nm,0.3s,baz=96,slow=4.3,SNR=3.9						
JAY				LR	LR	23 30 48.5	
	comp=Z,713nm,20.6s,baz=161,slow=34						
GENI	**Genyem**	**7.13**	**274**	P	**Pn**	**23 28 42.4**	**-2.4**
	0.5nm80nm,1.2s						
COEN	**Coen**	**11.54**	**200**	Pn	**Pn**	**23 29 46.2**	**+0.9**
HNR	**Honiara**	**14.07**	**117**	LR	LR	23 35 43.6	
	comp=Z,847nm,18.6s,baz=350,slow=38						
HNR	**Honiara**	**14.07**	**117**		**P**	**23 30 27.3**	**+0.1**
GUMO	**Guam**	**16.74**	**352**	LR	LR	23 35 54.5	
	comp=Z,293nm,20.0s,baz=174,slow=32						
CTA	**Charters Tower**	**16.93**	**183**	Pn	**P**	**23 31 00.2**	**+1.1**
	0.1nm,0.3s,baz=296,slow=23,SNR=3.9						
CTAO	**Charters Tower**	**16.93**	**183**	P	**P**	**23 31 00.1**	**+1.1**
CTAO				IAmb	IAmb	23 31 01.5	
	comp=Z,45nm,1.4s						
MTN	**Manton Dam**	**18.69**	**238**		**P**	**23 31 17.6**	**-0.9**
WB0	**Warramunga Arr**	**20.82**	**216**		**P**	**23 31 41.0**	**-0.6**
WB0				IAmb	IAmb	23 31 48.3	
	comp=Z,26nm,0.9s						
WR0	**Warramunga Arr**	**20.88**	**216**	P	**P**	**23 31 42.2**	**-0.1**
WR0				IAmb	IAmb	23 31 44.0	
	comp=Z,46nm,0.8s						
WRAB	**Tennant Creek**	**20.98**	**216**	P	**P**	**23 31 43.1**	**-0.2**
WRAB				IAmb	IAmb	23 31 45.0	
	comp=Z,46nm,0.8s						
WB2	**Warramunga Arr**	**20.98**	**216**	P	**P**	**23 31 43.5**	**+0.1**
WB2				IAmb	IAmb	23 31 45.2	
	comp=Z,42nm,0.8s						
WRA	**Warramunga Arr**	**20.99**	**216**	P	**P**	**23 31 44.0**	**+0.5**
	comp=Z,32nm,0.8s,baz=44,slow=11,SNR=98						
WRA				LR	LR	23 39 56.5	
	comp=Z,432nm,19.9s,baz=35,slow=37						
KNRA	**Kununurra**	**22.12**	**234**	P	**P**	**23 31 55.3**	**-0.3**
KNRA				IAmb	IAmb	23 31 56.1	
	comp=Z,23nm,0.9s						
DAV	**Davao City (W)**	**23.90**	**295**	LR	LR	23 41 24.9	
	comp=Z,530nm,18.0s,baz=107,slow=36						
AS31	**Alice Springs**	**24.21**	**211**		**P**	**23 32 16.9**	**+0.2**
ASAR	**Alice Springs**	**24.21**	**211**	P	**P**	**23 32 17.1**	**+0.5**
	comp=Z,13nm,0.8s,baz=36,slow=7.9,SNR=78						
ASAR				LR	LR	23 42 28.7	
	comp=Z,546nm,18.1s,baz=36,slow=38						
ASAR	**Alice Springs**	**24.21**	**211**		**P**	**23 32 16.7**	**0.0**
GTOI	**Gorontalo**	**24.55**	**278**	P	**P**	**23 32 21.5**	**+1.7**
	comp=Z,14nm,1.3s						
LUWI	**Luwuk**	**24.58**	**274**	P	**P**	**23 32 23.4**	**+3.3**
LUWI	**Luwuk**	**24.58**	**274**	P	**P**	**23 32 20.7**	**+0.6**
MMRI	**Maumere**	**25.51**	**256**	P	**P**	**23 32 26.8**	**-1.8**
MMRI				IAmb	IAmb	23 32 35.4	
	comp=Z,24nm,1.0s						
FITZ	**Fitzroy Crossi**	**25.93**	**233**	P	**P**	**23 32 32.0**	**-0.3**
	comp=Z,5.2nm,0.8s,baz=1.0,slow=6.6,SNR=15						
FITZ				LR	LR	23 43 12.5	
	comp=Z,635nm,20.7s,baz=88,slow=37						
FITZ	**Fitzroy Crossi**	**25.93**	**233**	P	**P**	**23 32 31.9**	**-0.4**
FITZ				IAmb	IAmb	23 32 41.7	
	comp=Z,17nm,1.3s						
TARA	**Tarawa**	**26.00**	**81**	P	**P**	**23 32 33.7**	**+0.7**
DZM	**Mont Dzumac**	**26.50**	**137**	*e*LR	LR	23 39 30.6	
	comp=Z,2μm,25.2s						
DZM	**Mont Dzumac**	**26.50**	**137**	LR	LR	23 41 32.2	
	comp=Z,957nm,21.2s,baz=308,slow=33						
ARMA	**Armidale**	**27.50**	**172**	P	**P**	**23 32 46.1**	**-0.3**
ARMA				IAmb	IAmb	23 32 51.5	
	comp=Z,26nm,1.4s						
KAPI	**Kappang**	**27.53**	**265**	LR	LR	23 44 07.1	
	comp=Z,126nm,21.7s,baz=90,slow=37						
H11S3	**WAKE ISLAND Hy**	**28.72**	**41**	T	T	00 02 48.5	
	baz=223,slow=76,SNR=604						
H11S2	**WAKE ISLAND Hy**	**28.73**	**41**	T	T	00 02 48.1	
	baz=223,slow=76,SNR=730						
H11S1	**WAKE ISLAND Hy**	**28.74**	**41**	T	T	00 02 48.0	
	baz=223,slow=76,SNR=451						
STKA	**Stephens Creek**	**29.14**	**190**	LR	LR	23 45 23.6	
	comp=Z,369nm,19.6s,baz=9.7,slow=38						
H11N1	**WAKE ISLAND Hy**	**29.74**	**40**	T	T	00 04 06.0	
	baz=222,slow=76,SNR=84						
H11N3	**WAKE ISLAND Hy**	**29.75**	**40**	T	T	00 04 06.5	
	baz=222,slow=76,SNR=112						
H11N2	**WAKE ISLAND Hy**	**29.75**	**40**	T	T	00 04 07.4	
	baz=222,slow=76,SNR=136						
MYLDM	**Lahad Datu**	**29.91**	**286**	P	**P**	**23 33 08.5**	**+0.6**
MYLDM				IAmb	IAmb	23 33 10.9	
	comp=Z,9.5nm,1.1s						
LEM	**Lembang**	**39.68**	**263**	LR	LR	23 54 52.8	
	comp=Z,100nm,18.3s,baz=99,slow=42						
MJAR	**Matsushiro Arr**	**40.32**	**349**	LR	LR	23 50 07.8	
	comp=Z,163nm,18.0s,baz=155,slow=34						
QIZ	**Qiongzhong**	**42.89**	**302**	P	**P**	**23 34 57.1**	**-1.4**
QIZ				S	**S**	**23 41 23.1**	**+1.7**
QIZ				LR	LR		
	comp=N,170nm,23.2s						
QIZ				LR	LR		
	comp=E,200nm,21.6s						
QIZ				LR	LR		
	comp=Z,280nm,27.0s						
KSRS	**Korea Array**	**44.16**	**338**	P	**P**	**23 35 07.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=158,slow=9.9,SNR=5.0						
KSRS				LR	LR	23 52 15.7	
	comp=Z,187nm,18.1s,baz=170,slow=34						
ERM	**Erimo**	**45.04**	**356**	P	**P**	**23 35 17.2**	**+1.8**
JEM	**Erimo**	**45.04**	**356**	P	P	23 35 31.8	+16
CMWZ	**Cape Campbell**	**45.44**	**152**	P	**P**	**23 35 18.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**49.03**	**345**	P	**P**	**23 35 45.7**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=161,slow=10,SNR=2.9						
USRK				LR	LR	23 55 13.2	
	comp=Z,73nm,18.0s,baz=146,slow=35						
USRK	**Ussuriysk Ar.**	**49.03**	**345**	P	**P**	**23 35 45.5**	**-1.0**
XAN	**Xi'an**	**51.66**	**319**	P	**P**	**23 36 06.8**	**+0.1**
XAN				pP	pP	23 36 17.3	+1.4
XAN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
XAN				LR	LR		
	comp=N,260nm,16.3s						
XAN				LR	LR		
	comp=E,220nm,19.5s						
XAN				LR	LR		
	comp=Z,350nm,19.5s						
CMAR	**Chiang Mai Arr**	**52.18**	**296**	P	**P**	**23 36 11.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=111,slow=6.0,SNR=5.7						
CMAR				LR	LR	23 55 37.7	
	comp=Z,54nm,21.8s,baz=176,slow=33						
CMAR	**Chiang Mai Arr**	**52.18**	**296**	P	**P**	**23 36 10.5**	**-0.3**
CHTO	**Chiang Mai**	**52.30**	**297**	P	**P**	**23 36 10.8**	**-0.8**
HHC	**Hu-ho-hao-te**	**54.54**	**327**	*e*P	**P**	**23 36 30.6**	**+2.8**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,7.6s						
LZH	**Lanzhou**	**56.23**	**318**	*e*P	**P**	**23 36 42.3**	**+2.1**
LZH				pP	sP	23 37 01.5	+8.7
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
PEA0B	**Petropavlovsk-**	**56.67**	**7**	P	**P**	**23 36 42.0**	**-0.7**
PEA0B				IAmb	IAmb	23 36 44.3	
	comp=Z,9.0nm,0.8s						
PETK	**Petropavlovsk-**	**56.67**	**7**	P	**P**	**23 36 42.2**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=169,slow=10,SNR=3.9						
PETK				LR	LR	23 56 59.1	
	comp=Z,89nm,21.9s,baz=193,slow=32						
PETK	**Petropavlovsk-**	**56.67**	**7**	P	**P**	**23 36 42.1**	**-0.7**
GTA	**Gaotai**	**60.72**	**319**	P	**P**	**23 37 12.1**	**+0.7**
GTA				pP	pP	23 37 18.1	-2.7
GTA				sP	sP	23 37 21.6	-2.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,77nm,6.0s						
GTA				LR	LR		
	comp=N,59nm,18.5s						
GTA				LR	LR		
	comp=E,90nm,17.8s						
GTA				LR	LR		
	comp=Z,120nm,19.3s						
SONM	**Songino Array**	**62.02**	**330**	P	**P**	**23 37 20.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=126,slow=3.8,SNR=3.9						
SONM				LR	LR	00 02 49.7	
	comp=Z,151nm,20.7s,baz=127,slow=35						
SONM	**Songino Array**	**62.02**	**330**	P	**P**	**23 37 21.1**	**+1.0**
ADK	**Adak**	**62.70**	**24**	P	**P**	**23 37 24.4**	**+0.1**
LSA	**Lhasa**	**62.76**	**306**	P	**P**	**23 37 25.1**	**-0.7**
LSA				IAmb	IAmb	23 37 28.4	
	comp=Z,5.1nm,1.3s						
PPT	**Papeete**	**63.48**	**108**	LR	LR	00 00 51.8	
	comp=Z,50nm,19.8s,baz=197,slow=32						
PPT2	**Papeete2**	**63.48**	**108**	*e*LR	LR	23 56 33.8	
	comp=Z,99nm,24.2s						
TBI	**Tubuai**	**64.27**	**114**	*e*LR	LR	23 57 03.3	
	comp=Z,254nm,34.0s						
WMQ	**Urumqi**	**70.79**	**319**	*e*P	**P**	**23 38 18.3**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,71nm,4.7s						
VNDA	**Vanda**	**74.79**	**177**	P	**P**	**23 38 38.6**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=312,slow=5.9,SNR=10						
VNDA				LR	LR	00 07 59.0	
	comp=Z,63nm,21.5s,baz=356,slow=33						
VNDA	**Vanda**	**74.79**	**177**	P	**P**	**23 38 39.0**	**-0.2**
MKAR	**Makanchi Array**	**75.45**	**320**	P	**P**	**23 38 43.5**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=110,slow=43,SNR=3.7						
MKAR				LR	LR	00 12 19.1	
	comp=Z,87nm,18.4s,baz=96,slow=36						
MKAR	**Makanchi Array**	**75.45**	**320**	P	**P**	**23 38 43.7**	**+0.1**
ZALV	**Zalesovo Beam**	**76.72**	**327**	P	**P**	**23 38 49.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=128,slow=9.3,SNR=1.7						
ZALV				LR	LR	00 13 03.3	
	comp=Z,119nm,18.9s,baz=106,slow=36						
ZALV	**Zalesovo Beam**	**76.72**	**327**	P	**P**	**23 38 50.7**	**0.0**
NIL	**Nilore**	**78.48**	**305**	P	**P**	**23 39 00.6**	**-0.4**
NIL				IAmb	IAmb	23 39 02.1	
	comp=Z,5.2nm,0.7s						
CNPM	**China Poot**	**78.64**	**27**	P	**P**	**23 39 02.1**	**+0.9**
NRIK	**Noril'sk**	**82.61**	**342**	LR	LR	00 16 20.6	
	comp=Z,58nm,19.2s,baz=100,slow=36						
IL31		**82.70**	**23**	P	**P**	**23 39 23.6**	**+0.8**
IL31				IAmb	IAmb	23 39 43.5	
	comp=Z,4.5nm,1.4s						
ILAR	**Eielson Array**	**82.70**	**23**	P	**P**	**23 39 21.8**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=249,slow=5.1,SNR=9.9						
ILAR				LR	LR	00 10 31.4	
	comp=Z,42nm,21.8s,baz=274,slow=32						
ILAR	**Eielson Array**	**82.70**	**23**	P	**P**	**23 39 22.2**	**-0.7**
EGAK	**Eagle**	**85.00**	**24**	P	**P**	**23 39 35.4**	**+0.7**
EGAK				IAmb	IAmb	23 39 39.3	
	comp=Z,3.6nm,1.0s						
MAW	**Mawson**	**85.03**	**203**	P	**P**	**23 39 34.8**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=333,slow=7.0,SNR=3.6						
MAW				LR	LR	00 17 01.4	
	comp=Z,64nm,18.1s,baz=66,slow=35						
MAW	**Mawson**	**85.03**	**203**	P	**P**	**23 39 35.5**	**+0.8**
QSPA	**South Pole Qui**	**86.86**	**180**	P	**P**	**23 39 43.3**	**-0.7**
GEYT	**Alibeck**	**91.22**	**308**	LR	LR	00 22 53.2	
	comp=Z,82nm,20.4s,baz=55,slow=37						
ARU	**Arti**	**91.84**	**326**	LR	LR	00 20 40.9	
	comp=Z,158nm,21.8s,baz=118,slow=35						
AKTO	**Aktyubinsk**	**91.89**	**320**	LR	LR	00 20 57.6	
	comp=Z,127nm,21.5s,baz=82,slow=35						
NVAR	**Mina Array Bea**	**95.36**	**52**	P	**P**	**23 40 24.5**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=120,slow=45,SNR=2.9						
NVAR				LR	LR	00 15 29.3	
	comp=Z,118nm,21.1s,baz=270,slow=30						
NVAR	**Mina Array Bea**	**95.36**	**52**	P	**P**	**23 40 24.0**	**-0.4**
YKA	**Yellowknife Ar**	**96.47**	**28**	LR	LR	00 21 29.6	
	comp=Z,44nm,20.0s,baz=0.0,slow=34						
TORD	**Torodi Ar. Bea**	**144.55**	**288**	PKP	**PKPab**	**23 46 35.0**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=77,slow=3.1,SNR=5.7						
TORD	**Torodi Ar. Bea**	**144.55**	**288**		**PKPab**	**23 46 34.9**	**-0.6**

PRE ***22*** *23:57:57.4±1.6, 25°.68S×27°.37E, h2km, ML3.2*

BUL ***22*** *23:57:58.0±0.8, 25°.72S×27°.47E, h10km, MD4.2*

EAF ***22*** *23:57:59.4±1.8, 25°.72S×27°.42E, h10km, MD4.2*

ISC 22 23:57:57.1±0.9, 25°.71S±0°.04×27°.35E±0°.05, h2km, n18, σ1§53/30, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**1.02**	**128**	*e*P	**Pg**	**23 58 15.7**	**-1.0**
ERPM				*e*S	**Sg**	**23 58 28.8**	**-1.2**
ERPM				AML	AML	23 58 36.0	
	comp=Z,363nm,0.8s						
PRYS	**Parys**	**1.21**	**180**	*e*P	**Pb**	**23 58 22.0**	**+1.1**
PRYS				*e*S	**Sn**	**23 58 39.2**	**+0.9**
PRYS				AML	AML	23 58 41.5	
	comp=Z,1μm,0.4s						
LBTB	**Lobatse**	**1.73**	**293**	*i* P	**Pn**	**23 58 29.4**	**+1.2**
LBTB				*i* S	**Sn**	**23 58 52.9**	**+1.8**
LBTB	**Lobatse**	**1.73**	**293**	*i* P	**Pn**	**23 58 29.4**	**+1.2**
LBTB				*i* S	**Sn**	**23 58 52.9**	**+1.8**
SWZ	**Schweizer**	**2.33**	**230**	*e*P	**Pn**	**23 58 37.4**	**+0.7**
SWZ				*e*S	**Sn**	**23 59 07.6**	**+1.6**
SWZ				AML	AML	23 59 20.9	
	comp=Z,123nm,0.3s						
BOSA	**Boshof**	**3.44**	**212**	*i* P	**Pn**	**23 58 52.5**	**+0.6**
BOSA				*i* S	**Sn**	**23 59 32.9**	**-0.5**
BOSA	**Boshof**	**3.44**	**212**	*i* P	**Pn**	**23 58 52.5**	**+0.6**
BOSA				*i* S	**Sn**	**23 59 32.9**	**-0.5**
HAGI	**HAGI**	**3.48**	**98**	*e*P	**Pn**	**23 58 53.2**	**+0.7**
HAGI				*e*S	**Sn**	**23 59 33.6**	**-0.8**
HAGI				AML	AML	23 59 46.5	
	comp=Z,182nm,0.5s						
MMAL	**MMAL**	**3.49**	**96**	*e*P	**Pn**	**23 58 53.9**	**+1.4**
MAGG	**Maguga Dam**	**3.54**	**97**	*e*P	**Pn**	**23 58 54.2**	**+0.9**
MSNA	**Messina**	**4.14**	**37**	*e*P	**Pn**	**23 59 02.0**	**+0.6**
POGA	**Pongola**	**4.23**	**114**	*e*P	**Pn**	**23 59 02.3**	**-0.3**
MOPA	**Mopani**	**4.28**	**60**	*e*P	**Pn**	**23 59 03.5**	**+0.2**
BLWY	**Bulawayo**	**5.66**	**12**	*i* P	**Pn**	**23 59 21.5**	**-0.9**
BLWY				*i* S	**Sn**	**00 00 25.4**	**-2.7**
BLWY	**Bulawayo**	**5.66**	**12**	*i* P	**Pn**	**23 59 21.5**	**-0.9**
BLWY				*i* S	**Sn**	**00 00 25.4**	**-2.7**
KEIM	**Keimoes**	**6.42**	**241**	*e*P	**Pn**	**23 59 32.9**	**+0.1**
SUR	**Sutherland**	**8.77**	**219**	*i* P	**Pn**	**00 00 06.4**	**+1.3**
SUR				*i* S	**Sn**	**00 01 41.5**	**-3.2**
SUR	**Sutherland**	**8.77**	**219**	*i* P	**Pn**	**00 00 06.4**	**+1.3**
SUR				*i* S	**Sn**	**00 01 41.5**	**-3.2**

IDC ***23*** *00:07:49.5±1.8, 25°.04N×97°.54E, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.2/58, mbtmp3.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/40, Error ellipse: s-maj=57.8km s-min=22.0km az=79.0*

BJI ***23*** *00:07:50.0±0.0, 25°.10N×98°.11E, h11km, ML3.7/6*

ISC 23 00:07:51.6±5.5, 25°.2N±0°.6×97°.9E±0°.2, h10km, n6, σ0§33/6, mb3.4/3, 1C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.36**	**90**	⇑Pg	**Pb**	**00 09 08.3**	**-0.1**
KMI				Sg	**Sb**	**00 10 01.3**	**+0.2**
KMI				smax	smax		
	comp=N,110nm,0.9s						
KMI				smax	smax		
	comp=E,78nm,1.0s						
CMAR	**Chiang Mai Arr**	**6.75**	**172**	Pg	Pb	00 09 51.8	+2.7
	0.3nm,0.3s,baz=346,slow=18,SNR=6.5						
CMAR				Lg	Lg	00 11 21.4	
	1.4nm,0.3s,baz=341,slow=30,SNR=9.1						
WMQ	**Urumqi**	**20.40**	**338**	*e*P	**P**	**00 12 28.8**	**+0.1**
SONM	**Songino Array**	**23.59**	**14**	P	**P**	**00 13 02.2**	**-0.4**
	0.4nm,0.4s,baz=198,slow=9.1,SNR=2.3						
SONM				LR	LR	00 22 39.9	
	comp=Z,51nm,18.5s,baz=233,slow=37						
MKAR	**Makanchi Array**	**24.93**	**334**	P	**P**	**00 13 14.8**	**-0.1**
	0.7nm,0.8s,baz=136,slow=8.0,SNR=5.3						
ZALV	**Zalesovo Beam**	**30.36**	**345**	P	**P**	**00 14 03.8**	**+0.3**
	0.3nm,0.3s,baz=146,slow=10,SNR=2.0						

IDC ***23*** *00:08:49.3±1.7, 14°.72S×174°.43W, h0km, mb4.5/2, mb1 4.7/3, mb1mx3.9/49, mbtmp4.5/3, ML4.7/1, Error ellipse: s-maj=154.8km s-min=27.1km az=161.0*

NEIC ***23*** *00:08:55.8±1.2, 15°.15S±0°.05×174°.1W±0°.1, h67km±13km, mb4.3/8, Error ellipse: s-maj=17.6km s-min=6.4km az=100.0*

ISC 23 00:08:57.8±0.8, 15°.24S±0°.09×173°.78W±0°.09, h100km, n14, σ1§90/16, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.34**	**56**	Pn	**Pn**	**00 09 35.3**	**+0.4**
	127nm,0.3s,baz=188,slow=1.6,SNR=78						
AFI				Sn	**Sn**	**00 10 00.9**	**-2.6**
	171nm,0.3s,baz=144,slow=23,SNR=18						
NIUE	**Niue**	**5.30**	**137**	Pn	**Pn**	**00 10 16.2**	**+1.6**
NIUE				Sn	**Sn**	**00 11 10.6**	**-3.9**
OUZ	**Omahuta**	**22.90**	**207**	P	**P**	**00 13 51.3**	**-1.9**
OUZ				IAmb	IAmb	00 13 53.4	
	comp=Z,16nm,1.2s						
PPTF	**Pamatai, Papee**	**23.34**	**99**	P	**P**	**00 14 00.7**	**+3.1**
STKA	**Stephens Creek**	**43.80**	**240**	P	**P**	**00 16 52.1**	**-1.9**
BBOO	**Buckleboo**	**48.58**	**240**	P	**P**	**00 17 30.9**	**-0.5**
WB0	**Warramunga Arr**	**49.48**	**257**	P	**P**	**00 17 38.1**	**-0.4**
WB0				IAmb	IAmb	00 17 39.4	
	comp=Z,3.0nm,0.8s						
WB2	**Warramunga Arr**	**49.51**	**257**	P	**P**	**00 17 38.6**	**-0.1**
WB2				IAmb	IAmb	00 17 39.2	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**49.52**	**257**	P	**P**	**00 17 38.9**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=90,slow=7.2,SNR=33						
AS31	**Alice Springs**	**49.81**	**252**	P	**P**	**00 17 41.0**	**0.0**
AS31				IAmb	IAmb	00 17 42.0	
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**49.81**	**252**	P	**P**	**00 17 41.3**	**+0.3**
	comp=Z,9.9nm,0.6s,baz=86,slow=8.2,SNR=120						
ASAR	**Alice Springs**	**49.81**	**252**	P	**P**	**00 17 40.5**	**-0.5**
QSPA	**South Pole Qui**	**74.81**	**180**	P	**P**	**00 20 29.5**	**+2.4**
QSPA				IAmb	IAmb	00 20 49.2	
	comp=Z,1.4nm,1.1s						
BRTR	**Keskin Array B**	**145.80**	**321**	PKPbc	**PKPdf**	**00 28 25.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=47,slow=6.3,SNR=2.1						

IDC ***23*** *00:09:30.9±1.0, 30°.34N×98°.25E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/57, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=32.8km s-min=20.2km az=50.0*

**ISC 23 00:09:35.5±1.0, 30°.3N±0°.1×98°.0E±0°

az=126.0
*NNC **23** 00:19:07.7±5.2, 39°.83N×73°.62E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=41.1km s-min=18.8km az=168.0*
ISC 23 00:19:03.1±1.3, 38°.67N±0°.09×73°.65E±0°.06, h107km, n39, σ1§29/54, 16C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.97**	**340**	⇑*i*P	**Pn**	**00 19 36.0**	**+0.3**
	baz=38						
OHH				⇑*i*S	**Sn**	**00 20 02.0**	**+1.5**
	baz=38						
BTK	**Batken**	**2.60**	**303**	⇑*i*P	**Pn**	**00 19 44.6**	**+0.8**
	baz=5.0						
BTK				⇑*i*S	**Sn**	**00 20 17.8**	**+2.8**
	baz=5.0						
GAR	**Garm**	**2.62**	**278**	⇑*i*P	**Pn**	**00 19 44.4**	**+0.2**
	baz=82						
GAR				⇑*i*S	**Sn**	**00 20 16.8**	**+1.1**
	baz=82						
ARLS	**Aral**	**3.23**	**9**	⇑*i*P	**Pn**	**00 19 51.9**	**-0.4**
	baz=5.0						
ARLS				⇑*i*S	**Sn**	**00 20 30.3**	**+0.1**
	baz=5.0						
AML	**Almayashu**	**3.46**	**1**	⇓*i*P	**Pn**	**00 19 55.9**	**+0.4**
	baz=57						
AML				⇓*i*S	**Sn**	**00 20 36.6**	**+0.6**
	baz=57						
AML	**Almayashu**	**3.46**	**1**	P	**Pn**	**00 19 56.3**	**+0.8**
	SNR=23						
CHGR	**Chuyangaron**	**3.52**	**271**	⇑*i*P	**Pn**	**00 19 56.1**	**+0.1**
	baz=75						
CHGR				⇑*i*S	**Sn**	**00 20 37.0**	**+0.1**
	baz=75						
UCH	**Uchtor**	**3.62**	**10**	⇑*i*P	**Pn**	**00 19 57.5**	**-0.2**
	baz=7.0						
UCH				⇑*i*S	**Sn**	**00 20 39.9**	**+0.1**
	baz=7.0						
UCH	**Uchtor**	**3.62**	**10**	P	**Pn**	**00 19 58.5**	**+0.8**
	SNR=18						
KZA	**Kyzart**	**3.62**	**19**	⇑*i*P	**Pn**	**00 19 57.4**	**-0.3**
	baz=15						
KZA				⇑*i*S	**Sn**	**00 20 39.1**	**-0.7**
	baz=15						
KZA	**Kyzart**	**3.62**	**19**	P	**Pn**	**00 19 58.3**	**+0.6**
	SNR=5.4						
EKS2	**Erkin-Say**	**3.99**	**1**	⇓*i*P	**Pn**	**00 20 03.1**	**+0.7**
	baz=59						
EKS2				⇓*i*S	**Sn**	**00 20 49.0**	**+0.7**
	baz=59						
EKS2	**Erkin-Say**	**3.99**	**1**	P	**Pn**	**00 20 03.7**	**+1.3**
	SNR=24						
AAK	**Ala-Archa**	**4.02**	**9**	P	**Pn**	**00 20 03.9**	**+1.2**
	1.9nm,0.3s,baz=189,slow=7.2,SNR=15						
AAK				S	**Sn**	**00 20 50.1**	**+1.1**
	3.7nm,0.3s,baz=104,slow=21,SNR=21						
AAK	**Ala-Archa**	**4.02**	**9**	⇓*i*P	**Pn**	**00 20 03.2**	**+0.4**
	baz=6.0						
AAK				⇓*i*S	**Sn**	**00 20 49.4**	**+0.4**
	baz=6.0						
AAK	**Ala-Archa**	**4.02**	**9**	P	**Pn**	**00 20 04.0**	**+1.2**
	SNR=9.8						
ULHL	**Ulahol**	**4.08**	**28**	P	**Pn**	**00 20 04.1**	**+0.4**
	SNR=9.7						
MRKS	**Merke**	**4.09**	**356**	*e*P	**Pn**	**00 20 04.6**	**+0.9**
	20nm,0.2s						
MRKS				*e*S	**Sn**	**00 20 50.4**	**-0.2**
	81nm,0.4s						
CHMS	**Chumysh**	**4.41**	**11**	P	**Pn**	**00 20 09.1**	**+1.2**
	SNR=6.4						
IUG	**Iuzhnay**	**4.44**	**323**	*e*P	**Pn**	**00 20 09.2**	**+0.8**
	29nm,0.2s						
IUG				*e*S	**Sn**	**00 20 58.4**	**-0.7**
	52nm,0.5s						
IUG	**Iuzhnay**	**4.44**	**323**	Pg	**Pn**	**00 20 09.2**	**+0.8**
	29nm,0.2s						
IUG				Lg	Lg	00 20 58.4	
	52nm,0.5s						
TKM2	**Tokmak 2**	**4.50**	**19**	P	**Pn**	**00 20 10.1**	**+0.8**
	SNR=13						
DZA	**Taraz**	**4.57**	**338**	*e*P	**Pn**	**00 20 11.4**	**+1.2**
	38nm,0.1s						
DZA				*e*S	**Sn**	**00 21 01.9**	**-0.2**
	142nm,0.3s						
DZA	**Taraz**	**4.57**	**338**	Pg	**Pn**	**00 20 11.4**	**+1.2**
	58nm,0.3s						
DZA				Lg	Lg	00 21 02.2	
	142nm,0.3s						
KST	**Kastek**	**4.71**	**21**	*e*P	**Pn**	**00 20 13.2**	**+1.1**
	13nm,0.5s						
KST				*e*S	**Sn**	**00 21 05.3**	**-0.3**
	42nm,0.3s						
KST	**Kastek**	**4.71**	**21**	Pg	**Pn**	**00 20 13.0**	**+1.0**
	13nm,0.5s						
KST				Lg	Lg	00 21 04.9	
	42nm,0.3s						
SGDS	**Sogindy**	**4.84**	**9**	Pg	**Pn**	**00 20 15.4**	**+1.7**
	2.5nm,0.3s						
SGDS				Lg	Lg	00 21 09.0	
	4.9nm,0.4s						
DGS	**Degeres**	**4.84**	**19**	*e*P	**Pn**	**00 20 15.0**	**+1.2**
	5.8nm,0.6s						
DGS				*e*S	**Sn**	**00 21 08.2**	**-0.7**
	16nm,0.5s						
DGS	**Degeres**	**4.84**	**19**	Pg	**Pn**	**00 20 15.0**	**+1.2**
	5.8nm,0.6s						
DGS				Lg	Lg	00 21 08.7	
	16nm,0.5s						
KK31	**Karatay Array**	**5.03**	**333**	⇑Pn	**Pn**	**00 20 14.7**	**-1.6**
	4.7nm,0.3s,baz=130,slow=12,SNR=130						
KK31				⇑Lg	Lg	00 21 13.1	
	6.1nm,0.4s,baz=148,slow=21,SNR=6.2						
BRLS	**Borolday**	**5.23**	**328**	*e*P	**Pn**	**00 20 17.6**	**-1.4**
	11nm,0.1s						
BRLS				*e*S	**Sn**	**00 21 12.8**	**-5.3**
	6.9nm,0.1s						
BRLS	**Borolday**	**5.23**	**328**	Pg	**Pn**	**00 20 21.9**	**+2.9**
	5.9nm,0.3s						
BRLS				Lg	Lg	00 21 20.1	
	6.9nm,0.1s						
KUU	**Kurty**	**5.60**	**20**	Pg	Pn	00 20 29.3	+5.3
	1.0nm,0.5s						
KUU				Lg	Lg	00 21 32.7	
	3.6nm,0.8s						
WMQ	**Urumqi**	**11.76**	**60**	*e*P	**Pn**	**00 21 47.8**	**+0.4**
WMQ				smax	smax		
	comp=N,9.0nm,0.5s						
WMQ				smax	smax		
	comp=E,10.0nm,0.7s						
GEYT	**Alibeck**	**12.23**	**271**	P	**Pn**	**00 21 52.1**	**-1.5**
	comp=E,0.3nm,0.3s,baz=122,slow=10,SNR=1.7						
ZALV	**Zalesovo Beam**	**17.09**	**23**	P	**P**	**00 22 53.7**	**-1.5**
	comp=E,0.4nm,0.3s,baz=215,slow=10,SNR=5.1						
MMAI	**Mount Meron Ar**	**31.35**	**272**	LR	LR	00 40 04.3	
	comp=E,36nm,18.7s,baz=120,slow=40						
FINES	**FINESS Array B**	**36.92**	**324**	P	**P**	**00 26 02.5**	**+1.2**
	comp=E,6.4nm,1.1s,baz=127,slow=9.2,SNR=7.9						
TORD	**Torodi Ar. Bea**	**67.86**	**269**	P	**P**	**00 29 49.9**	**-0.4**
	comp=E,1.2nm,1.1s,baz=44,slow=6.1,SNR=4.2						

IDC 23 00:35:46.4±2.8, 9.71S×159°.68E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/25, mbtmp3.8/4, Error ellipse: s-maj=126.9km s-min=29.8km az=134.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.48**	**245**	P	P	00 41 26.0	+0.3
	1.1nm,0.8s,baz=73,slow=9.6,SNR=5.7						
ASAR	**Alice Springs**	**28.25**	**237**	P	P	00 41 41.0	-0.5
	0.3nm,0.5s,baz=60,slow=9.9,SNR=4.3						
ILAR	**Eielson Array**	**84.25**	**20**	P	P	00 48 19.4	-0.3
	0.7nm,0.5s,baz=244,slow=5.0,SNR=14						
MKAR	**Makanchi Array**	**88.50**	**318**	P	P	00 48 41.7	+0.7
	0.3nm,0.6s,baz=91,slow=6.8,SNR=2.6						

WEL 23 00:35:53.5, 41°S±1°×17°4E±°, h63km±2km, M2.8/18, ML3.0/18, MLv2.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=102.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.31**	**90**	P	Pn	00 36 04.6	+0.5
KIW				S	Sn	00 36 12.2	+0.5
TCW	**Tory Channel**	**0.39**	**206**	P	Pn	00 36 05.4	+0.7
TCW				S	Sn	00 36 14.0	+1.1
DUWZ	**D'Urville Isla**	**0.44**	**277**	P	Pn	00 36 04.8	-0.4
DUWZ				S	Sn	00 36 13.8	+0.1
CAW	**Cannon Point**	**0.49**	**120**	P	Pn	00 36 06.4	+0.7
CAW				S	Sn	00 36 15.1	+0.5
OGWZ	**Otaki Gorge**	**0.51**	**85**	P	Pn	00 36 06.5	+0.7
OGWZ				S	Sn	00 36 15.8	+1.0
BHW	**Baring Head**	**0.61**	**153**	P	Pn	00 36 07.6	+0.6
BHW				S	Sn	00 36 17.4	+0.6
TUWZ	**Tuamarina**	**0.71**	**216**	P	Pn	00 36 08.8	+0.7
TUWZ				S	Sn	00 36 19.7	+1.0
HOWZ	**Holdsworth Sta**	**0.77**	**93**	P	Pn	00 36 08.9	0.0
HOWZ				S	Sn	00 36 20.2	+0.1
MSWZ	**Moikau Station**	**0.79**	**135**	S	Sn	00 36 21.2	+0.6
MTW	**Mount Morrison**	**0.81**	**112**	P	Pn	00 36 09.7	+0.4
MTW				S	Sn	00 36 21.2	+0.2
MRZ	**Mangatainoka R**	**0.84**	**77**	P	Pn	00 36 09.6	-0.1
PAWZ	**Paruwai Farm**	**0.87**	**127**	P	Pn	00 36 10.5	+0.4
PAWZ				S	Sn	00 36 22.9	+0.5
PLWZ	**Palliser**	**0.91**	**141**	P	Pn	00 36 11.0	+0.4
PLWZ				S	Sn	00 36 24.0	+0.8
CMWZ	**Cape Campbell**	**0.91**	**194**	P	Pn	00 36 12.1	+1.5
CMWZ				S	Sn	00 36 26.0	+2.8
NNZ	**Nelson**	**0.92**	**247**	P	Pn	00 36 10.7	0.0
NNZ				S	Sn	00 36 23.8	+0.5
BSWZ	**Blackbirch Sta**	**0.97**	**209**	P	Pn	00 36 12.1	+0.8
BSWZ				S	Sn	00 36 25.4	+0.8
TRWZ	**Traveller**	**1.05**	**121**	P	Pn	00 36 12.6	+0.3
TMWZ	**Te Maipa**	**1.08**	**104**	P	Pn	00 36 13.4	+0.6
WAZ	**Wanganui**	**1.17**	**19**	P	Pn	00 36 14.3	+0.5
BFZ	**Birch Farm**	**1.34**	**83**	P	Pn	00 36 15.7	-0.5
TSZ	**Takapari Road**	**1.37**	**55**	P	Pn	00 36 15.9	-0.7
DVHZ	**Dannevirke**	**1.39**	**67**	P	Pn	00 36 15.8	-1.0
QRZ	**Quartz Range**	**1.50**	**271**	P	Pn	00 36 17.7	-0.5
THZ	**Tophouse**	**1.50**	**233**	P	Pn	00 36 18.7	+0.4
NMEZ	**Namu Road**	**1.52**	**342**	P	Pn	00 36 18.7	+0.1
PREZ	**Palmer Road**	**1.54**	**350**	P	Pn	00 36 19.9	+1.0
KHEZ	**Kahui Hut**	**1.61**	**346**	P	Pn	00 36 20.1	+0.2
NEZ	**North Egmont**	**1.62**	**349**	P	Pn	00 36 20.3	+0.3
MTVZ	**Mangateitei**	**1.65**	**27**	P	Pn	00 36 20.5	+0.1
NBEZ	**Newall Road No**	**1.66**	**343**	P	Pn	00 36 20.6	+0.1
PKVZ	**Pokaka**	**1.70**	**23**	P	Pn	00 36 20.9	-0.1
PKE	**Pukeiti**	**1.71**	**347**	P	Pn	00 36 21.3	+0.2
KHZ	**Kahutara**	**1.71**	**205**	P	Pn	00 36 21.5	+0.4
MOVZ	**Moawhango**	**1.74**	**34**	P	Pn	00 36 21.2	-0.4
VRZ	**Vera Road**	**1.75**	**7**	P	Pn	00 36 22.0	+0.4
WNVZ	**Wahianoa**	**1.75**	**29**	P	Pn	00 36 21.8	0.0
FWVZ	**Far West T-bar**	**1.79**	**27**	P	Pn	00 36 22.5	0.0
BHHZ	**Black Hill Sta**	**1.82**	**42**	P	Pn	00 36 22.3	-0.3
TUVZ	**Tukino**	**1.82**	**29**	P	Pn	00 36 22.9	+0.1
KRHZ	**Kereru**	**1.88**	**50**	P	Pn	00 36 22.4	-1.0
NGZ	**Ngauruhoe**	**1.88**	**27**	P	Pn	00 36 23.7	0.0
WTVZ	**West Tongariro**	**1.93**	**26**	P	Pn	00 36 24.0	-0.2
TMVZ	**Te Maari**	**1.97**	**28**	P	Pn	00 36 24.6	-0.2
DSZ	**Denniston Nort**	**2.21**	**246**	P	Pn	00 36 27.6	-0.4
HIZ	**Hauiti**	**2.36**	**7**	P	Pn	00 36 30.0	+0.1
GVZ	**Greta Valley S**	**2.37**	**207**	P	Pn	00 36 29.7	-0.4
LTZ	**Lake Taylor**	**2.54**	**220**	P	Pn	00 36 32.0	-0.4
OKCZ	**Okains Bay**	**3.05**	**200**	P	Pn	00 36 38.1	-1.3
MQZ	**McQueen's Vall**	**3.16**	**205**	P	Pn	00 36 38.7	-2.1
WIAZ	**Waiheke Island**	**4.09**	**7**	P	Pn	00 36 53.6	0.0
ODZ	**Otahua Downs**	**5.05**	**213**	P	Pn	00 37 04.9	-1.7

*IDC **23** 00:57:28.9±7.3, 31°.11S×179°.79W, h447km±82km, mb3.0/2, mb1 3.2/3, mb1mx2.9/27, mbtmp3.9/3, Error ellipse: s-maj=86.1km s-min=33.1km az=14.0*
ISC 23 00:57:25.1±1.2, 30°.75±0°.1×179°.9W±0°.3, h400km, n11, σ1§90/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.95**	**197**	P	**P**	**00 59 19.8**	**+0.1**
	1.4nm,0.3s,baz=269,slow=4.8,SNR=13						
URZ				S	**S**	**01 00 50.5**	**-2.4**
	1.8nm,0.3s,baz=315,slow=7.3,SNR=3.1						
ASAR	**Alice Springs**	**41.44**	**268**	P	**P**	**01 04 36.0**	**+1.1**
	0.7nm,0.7s,baz=109,slow=7.0,SNR=5.3						
WRA	**Warramunga Arr**	**42.46**	**274**	P	**P**	**01 04 44.1**	**+1.1**
	0.9nm,0.3s,baz=111,slow=7.5,SNR=28						
SNAA	**Sanae**	**77.91**	**179**	P	**P**	**01 08 41.5**	**+1.9**
VNA3	**Neumayer Olymp**	**78.13**	**177**	P	**P**	**01 08 43.0**	**+2.3**
VNA2	**Neumayer--Watz**	**78.54**	**177**	P	**P**	**01 08 45.4**	**+2.4**
	baz=168,slow=4.0						
FINES	**FINESS Array B**	**144.82**	**339**	PKPbc	**PKPab**	**01 16 13.7**	**-1.2**
	3.0nm,0.4s,baz=50,slow=4.6,SNR=30						
NB2	**NORSAR Subarra**	**148.75**	**350**	PKP	**PKiKP**	**01 16 24.6**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**148.75**	**350**	PKPbc	**PKiKP**	**01 16 25.0**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=49,slow=1.8,SNR=5.1						
AKASG	**Malin Array Be**	**150.50**	**321**	PKPbc	**PKiKP**	**01 16 29.2**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=47,slow=3.0,SNR=2.6						
BRTR	**Keskin Array B**	**151.27**	**298**	PKPbc	**PKiKP**	**01 16 31.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=138,slow=4.4,SNR=5.2						

*IDC **23** 01:37:15.5±1.0, 40°.10N×25°.08E, h0km, mb3.5/4, mb1 3.7/10, mb1mx3.5/46, mbtmp3.6/10, ML3.4/6, MS3.5/2, Ms1 3.5/2, ms1mx2.4/37, Error ellipse: s-maj=16.8km s-min=14.4km az=123.0*
*DDA **23** 01:37:16.0, 40°.23N×25°.02E, h12km±6km, MW3.8*
*ATH **23** 01:37:17.1, 40°.23N×25°.14E, h28km±1km, ML3.5/18, Error ellipse: s-maj=1.5km s-min=0.8km az=62.0*
*ISK **23** 01:37:17.4, 40°.27N×25°.16E, h18km, ML3.7/41*
*THE **23** 01:37:18.2, 40°.24N×25°.18E, h13km, ML3.5/13, Error ellipse: s-maj=1.0km s-min=0.5km az=171.0*
*SOF **23** 01:37:19.7, 40°.28N×25°.21E, h40km, MD3.7*
*BEO **23** 01:37:19.2±1.2, 40°.26N×25°.03E, h4km±6km, ML3.5/6*
ISC 23 01:37:17.2±1.0, 40°.23N±0°.02×25°.10E±0°.02, h9km±8km, n231, σ1§13/260, mb3.4/4, 26C-19D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.33**	**169**	P	**Pb**	**01 37 25.2**	**-0.1**
LIA				S	**Sb**	**01 37 30.2**	**-0.5**
	22μm,0.3s						
LIA	**Limnos Island**	**0.33**	**169**	P	**Pb**	**01 37 25.2**	**-0.1**
LIA				S	**Sb**	**01 37 30.2**	**-0.5**
LIA				AML	AML	01 37 30.5	
	comp=N,45704μm,0.4s						
LIA				AML	AML	01 37 30.7	
	comp=E,42737μm,0.3s						
SMTH	**Samothraki Isl**	**0.41**	**53**	P	**Pg**	**01 37 25.2**	**0.0**
SMTH				S	**Sg**	**01 37 30.0**	**-0.6**
	comp=E,3μm,0.2s						
SMTH	**Samothraki Isl**	**0.41**	**53**	P	**Pg**	**01 37 25.2**	**0.0**
SMTH				S	**Sg**	**01 37 31.4**	**+0.7**
SMTH				AML	AML	01 37 34.4	
	comp=E,5248μm,0.1s						
SMTH				AML	AML	01 37 35.1	
	comp=N,4558μm,0.2s						
THAS	**Thassos island**	**0.48**	**323**	P	**Pb**	**01 37 27.8**	**-0.1**
THAS				S	**Sb**	**01 37 36.0**	**+1.0**
	comp=N,9μm,0.3s						
THAS	**Thassos island**	**0.48**	**323**	P	**Pb**	**01 37 27.8**	**-0.1**
THAS				S	**Sb**	**01 37 34.3**	**-0.7**
THAS				AML	AML	01 37 38.8	
	comp=E,15697μm,0.2s						
THAS				AML	AML	01 37 38.8	
	comp=N,20455μm,0.4s						
GADA	**Gvkgeada**	**0.61**	**93**	P	**Pg**	**01 37 29.2**	**+0.2**
GADA				S	**Sg**	**01 37 37.3**	**+0.3**
	comp=N,2μm,0.4s						
GADA	**Gvkgeada**	**0.61**	**93**	PG	**Pg**	**01 37 29.2**	**+0.2**
GADA				SG	**Sg**	**01 37 37.7**	**+0.7**
GOKA	**anakkale-Gk**	**0.62**	**93**	*i* P	**Pg**	**01 37 29.3**	**+0.2**
GOKA				*i* S	**Sb**	**01 37 39.6**	**+0.7**
GOKA				IAML		01 37 41.0	
	comp=N,3μm,0.3s						
GOKA				IAML		01 37 41.0	
	comp=E,4μm,0.3s						
GOKC	**Gokceada-Canak**	**0.62**	**92**	PG	**Pg**	**01 37 29.3**	**0.0**
EFSA	**Agios Efstrati**	**0.69**	**187**	P	**Pb**	**01 37 31.8**	**+0.4**
EFSA				S	**Sb**	**01 37 41.8**	**+0.7**
EFSA				AML	AML	01 37 43.3	
	comp=N,14894μm,0.4s						
EFSA				AML	AML	01 37 45.3	
	comp=E,20410μm,0.4s						
BOZC	**Bozcaada**	**0.82**	**117**	PG	**Pg**	**01 37 33.3**	**+0.2**
BOZC	**Bozcaada**	**0.82**	**117**	*i* P	**Pg**	**01 37 33.3**	**+0.2**
BOZC				*i* S	**Sg**	**01 37 44.1**	**+0.3**
BOZC				IAML		01 37 46.0	
	comp=N,2μm,0.6s						
BOZC				IAML		01 37 48.0	
	comp=E,1μm,0.5s						
OUR	**Ouranopolis**	**0.86**	**278**	P	**Pn**	**01 37 35.2**	**-0.4**
OUR				S	**Sn**	**01 37 48.2**	**-0.1**
	comp=E,5μm,0.6s						
OUR	**Ouranopolis**	**0.86**	**278**	PG	**Pn**	**01 37 35.4**	**-0.2**
KAVA	**Kavala**	**0.89**	**330**	P	**Pn**	**01 37 35.9**	**-0.1**
KAVA				S	**Sb**	**01 37 48.1**	**+1.2**
	comp=E,5μm,0.5s						
KAVA	**Kavala**	**0.89**	**330**	P	**Pb**	**01 37 34.9**	**0.0**
KAVA				AML	AML	01 37 49.2	
	comp=N,9309μm,0.5s						
KAVA				AML	AML	01 37 49.5	
	comp=E,9522μm,0.5s						
KVLA	**Kavala**	**0.90**	**323**	P	**Pb**	**01 37 35.5**	**+0.5**
KVLA				S	**Sn**	**01 37 48.6**	**-0.5**
KVLA				AML	AML	01 37 49.8	
	comp=E,7407μm,0.3s						
KVLA				AML	AML	01 37 49.8	
	comp=N,14161μm,0.5s						
ENEZ	**Enez**	**0.95**	**57**	P	**Pg**	**01 37 35.0**	**-0.5**
ENEZ				S	**Sg**	**01 37 48.5**	**+0.7**
	comp=N,7μm,0.4s						
ENEZ	**Enez**	**0.95**	**57**	PG	**Pg**	**01 37 34.9**	**-0.5**
RDO	**Rodhopi**	**0.98**	**20**	P	**Pg**	**01 37 35.5**	**-0.5**
RDO				S	**Sg**	**01 37 49.5**	**+0.8**
	comp=N,1μm,0.9s						
RDO	**Rodhopi**	**0.98**	**20**	P	**Pg**	**01 37 35.4**	**-0.5**
RDO				AML	AML	01 37 50.3	
	comp=N,3090μm,0.7s						
RDO				AML	AML	01 37 51.4	
	comp=E,1330μm,0.3s						
RDO	**Rodhopi**	**0.98**	**20**	PG	**Pg**	**01 37 35.5**	**-0.5**
ALN	**Alexandroupoli**	**0.98**	**47**	P	**Pg**	**01 37 35.5**	**-0.6**
ALN				S	**Sg**	**01 37 49.3**	**+0.4**
	comp=E,2μm,0.4s						
ALN	**Alexandroupoli**	**0.98**	**47**	P	**Pg**	**01 37 35.6**	**-0.6**
ALN				AML	AML	01 37 51.6	
	comp=E,3152μm,0.4s						
ALN				AML	AML	01 37 51.8	
	comp=N,3246μm,0.4s						
ALN	**Alexandroupoli**	**0.98**	**47**	PG	**Pg**	**01 37 35.6**	**-0.6**
ALN				SG	**Sg**	**01 37 49.1**	**+0.2**
EZN	**Ezine**	**1.02**	**113**	P	**Pg**	**01 37 36.5**	**-0.3**
EZN				S	**Sg**	**01 37 49.6**	**-0.5**
	comp=N,4μm,0.6s						
EZN	**Ezine**	**1.02**	**113**	PG	**Pg**	**01 37 36.5**	**-0.3**
EZN				SG	**Sg**	**01 37 50.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.06**	**80**	PG	**Pg**	**01 37 36.7**	**-0.9**
PAIG	**Paliouri**	**1.13**	**255**	P	**Pn**	**01 37 39.1**	**-0.2**
PAIG				S	**Sn**	**01 37 56.2**	**+1.3**
	comp=N,835nm,0.6s						
PAIG	**Paliouri**	**1.13**	**255**	P	**Pn**	**01 37 39.1**	**-0.2**
PAIG				AML	AML	01 37 56.5	
	comp=E,1473μm,0.8s						
PAIG				AML	AML	01 37 58.2	
	comp=N,1875μm,0.6s						
ERIK	**Erikli-Kesan**	**1.17**	**67**	PN	**Pg**	**01 37 38.2**	**-1.4**
SIGR	**SIGRI**	**1.17**	**150**	P	**Pg**	**01 37 39.6**	**-0.1**
SIGR				S	**Sg**	**01 37 55.3**	**+0.5**
	comp=N,4μm,0.6s						
SIGR	**SIGRI**	**1.17**	**150**	P	**Pg**	**01 37 39.5**	**-0.1**
SIGR				S	**Sg**	**01 37 55.5**	**+0.7**
SIGR				AML	AML	01 37 56.8	
	comp=N,11085μm,0.7s						
SIGR				AML	AML	01 37 59.9	
	comp=E,5380μm,0.5s						
SIGR	**SIGRI**	**1.17**	**150**	PN	**Pg**	**01 37 39.4**	**-0.2**
LPK	**Lapseki**	**1.28**	**83**	PN	**Pg**	**01 37 40.2**	**-1.5**
PLG	**Polygyros**	**1.28**	**277**	P	**Pn**	**01 37 41.8**	**+0.5**
PRK	**Paraskevi**	**1.33**	**137**	P	**Pg**	**01 37 42.8**	**0.0**
PRK				AML	AML	01 38 03.6	
	comp=E,7144μm,0.5s						
PRK				AML	AML	01 38 15.5	
	comp=N,6310μm,0.7s						
KESN	**Edirne-Kesan**	**1.34**	**63**	*i* P	**Pg**	**01 37 40.7**	**-2.3**
KESN				*i* S	**Sg**	**01 38 01.1**	**+0.5**
KESN				IAML		01 38 02.0	
	comp=E,694nm,0.5s						
KESN				IAML		01 38 07.0	
	comp=N,822nm,0.6s						
SKY	**Skiros Island**	**1.41**	**198**	P	**Pn**	**01 37 42.8**	**-0.3**
ALNA	**Alonissos**	**1.44**	**222**	P	**Pn**	**01 37 43.2**	**-0.2**
KDZ	**Kurdzhali**	**1.44**	**9**	*i* P	**Pn**	**01 37 42.7**	**-0.9**
SRS	**Serrai**	**1.45**	**308**	P	**Pn**	**01 37 42.8**	**-0.9**
SRS	**Serrai**	**1.45**	**308**	*e*Pg	**Pn**	**01 37 42.8**	**-0.9**
SRS				*e*Sg	**Sg**	**01 38 02.0**	**-2.0**
SRS	**Serrai**	**1.45**	**308**	P	**Pn**	**01 37 42.8**	**-0.9**
SRS				AML	AML	01 38 01.9	
	comp=E,3219μm,0.4s						
SRS				AML	AML	01 38 09.9	
	comp=N,1494μm,0.5s						
SOH	**Sokhos**	**1.46**	**295**	P	**Pb**	**01 37 44.4**	**-0.2**
SOH	**Sokhos**	**1.46**	**295**	P	**Pb**	**01 37 44.4**	**-0.2**
SOH				AML	AML	01 38 09.1	
	comp=E,2162μm,0.4s						
SOH				AML	AML	01 38 21.9	
	comp=N,2022μm,0.4s						
NVR	**Nevrokopi**	**1.47**	**320**	P	**Pg**	**01 37 44.4**	**-0.9**
NVR				AML	AML	01 38 03.2	
	comp=N,1442μm,0.3s						
NVR				AML	AML	01 38 03.8	
	comp=E,1830μm,0.4s						
UKOP	**Uzunkopru-Edir**	**1.47**	**52**	PN	**Pn**	**01 37 43.4**	**-0.5**
RZN	**Rozhen**	**1.49**	**349**	*i* P	**Pn**	**01 37 44.7**	**+0.3**
AYVA	**Ayvalik**	**1.53**	**126**	*i* P	**Pn**	**01 37 44.9**	**+0.2**
AYVA				*i* S	**Sn**	**01 38 03.9**	**-0.8**
AYVA				IAML		01 38 09.0	
	comp=E,734nm,0.8s						
AY

BALY			IAML			01 38 27.0
	comp=E,352nm,0.6s					
LIT	Litokhoron	2.01 267	P	Pn	01 37 51.5	+0.2
LIT	Litokhoron	2.01 267	P	Pn	01 37 51.5	+0.2
MAR9	Marsite Statio	2.02 78	PN	Pn	01 37 50.0	-1.5
EDRB	Edirne	2.04 37	PN	Pn	01 37 50.7	-1.1
EDC	Edincik	2.12 86	PN	Pn	01 37 51.9	-0.9
STEP	BALIKESIR_Sava	2.19 112	*i* P	Pn	01 37 53.9	+0.1
STEP			*i* S	Sn	01 38 24.4	+3.4
STEP			IAML		01 38 33.0	
	comp=N,845nm,0.7s					
STEP			IAML		01 38 33.0	
	comp=E,521nm,0.7s					
URLA	Izmir	2.19 148	PN	Pn	01 37 54.1	+0.2
URLA	Izmir	2.19 148	*i* P	Pn	01 37 54.3	+0.4
URLA			IAML		01 38 36.0	
	comp=N,134nm,1.1s					
URLA			IAML		01 38 36.0	
	comp=E,94nm,0.5s					
CRLT	Corlu	2.20 65	PN	Pn	01 37 53.0	-0.9
VAY	Valandovo	2.21 300	*e*Pn	Pb	01 37 56.0	-1.4
VAY			*e*Sg	Sg	01 38 28.5	+0.2
VAY	Valandovo	2.21 300	*i* Pn	Pb	01 37 55.6	-1.8
BALB	Balikesir	2.21 104	PN	Pn	01 37 53.9	-0.2
KKB	Krupnik	2.24 318	*i* P	Pn	01 37 55.2	+0.7
KARY	Karystos	2.25 194	P	Pn	01 37 54.3	-0.3
LKR	Lokris	2.26 227	P	Pn	01 37 54.9	+0.1
LKR	Lokris	2.26 227	P	Pn	01 37 55.0	+0.1
DION	Dionisos Attik	2.33 203	P	Pn	01 37 55.4	-0.3
DION	Dionisos Attik	2.33 203	P	Pn	01 37 55.5	-0.3
DION			AML	AML	01 38 43.0	
	comp=E,1538μm,0.6s					
DION			AML	AML	01 38 47.0	
	comp=N,1772μm,0.6s					
BLCB	Balcova	2.38 140	PN	Pn	01 37 56.5	+0.1
PTL	Penteli	2.38 204	P	Pn	01 37 55.8	-0.6
AXAR	Agios Charalam	2.39 233	P	Pn	01 37 57.0	+0.4
VIL2	Platees	2.46 216	P	Pn	01 37 58.0	+0.4
THL	Klokotos Trika	2.47 255	P	Pn	01 37 58.2	+0.6
ATHU	Athens Univers	2.48 205	P	Pn	01 37 57.6	-0.2
VILL	Villia	2.48 215	P	Pn	01 37 58.0	+0.1
AKHS	Akhisar	2.49 122	*i* P	Pn	01 37 58.1	+0.2
AKHS			IAML		01 38 37.0	
	comp=E,139nm,0.6s					
ATH	Athens Observa	2.50 206	P	Pn	01 37 57.9	-0.1
JMB	Yambol	2.50 26	*i* P	Pn	01 37 57.4	-0.7
KZN	Kozani	2.55 273	P	Pn	01 37 59.9	+1.0
KZN	Kozani	2.55 273	P	Pn	01 38 00.2	+1.3
SLVT	Silivri	2.57 66	PN	Pn	01 37 57.8	-1.2
DGB	zmir	2.57 147	*i* P	Pn	01 37 59.6	+0.6
DGB			IAML		01 38 44.0	
	comp=E,65nm,0.5s					
DGB			IAML		01 38 45.0	
	comp=N,114nm,0.5s					
VLY	Voula,Athens	2.58 204	P	Pn	01 37 58.9	-0.3
DURS	Dursunbey	2.67 102	*i* P	Pn	01 38 00.5	0.0
DURS			IAML		01 38 42.0	
	comp=E,226nm,0.7s					
DURS			IAML		01 38 50.0	
	comp=N,180nm,0.5s					
DSF	Desfina	2.70 229	P	Pn	01 38 00.7	-0.1
DSF	Desfina	2.70 229	P	Pn	01 38 00.9	0.0
CTYL	Yalikoy Yolu	2.72 62	PN	Pn	01 37 59.9	-1.2
LTK	Loutraki	2.76 218	P	Pn	01 38 01.6	0.0
LTK	Loutraki	2.76 218	P	Pn	01 38 01.7	0.0
VTS	Vitosha	2.77 330	*i* P	Pn	01 38 03.1	+1.1
CTKS	Kestanelik-??a	2.78 68	PN	Pn	01 38 00.3	-1.6
SMG	Samos	2.85 151	P	Pn	01 38 03.1	+0.1
EVR	Evrytania	2.86 244	P	Pn	01 38 03.5	+0.3
KPRO	Kipourio	2.88 266	P	Pn	01 38 04.8	+1.4
KPRO	Kipourio	2.88 266	P	Pn	01 38 04.7	+1.3
ARMT	Armutlu	2.89 82	PN	Pn	01 38 02.9	-0.6
MDNY	Mudanya-Bursa	2.90 86	PN	Pn	01 38 03.1	-0.4
ANX	Ano Chora	2.96 238	P	Pn	01 38 05.2	+0.7
ANX	Ano Chora	2.96 238	P	Pn	01 38 05.1	+0.7
BOSS	Bosilegrad	3.01 320 ⇑	*i* Pn	Pn	01 38 06.7	+1.6
BOSS			*e*Sn	Sn	01 38 42.1	+0.9
SERI	Serifos	3.10 189	P	Pn	01 38 05.7	-0.6
SZH	Strazhica	3.10 11	*i* P	Pn	01 38 06.7	+0.3
ISK	Istanbul-Kandi	3.12 73	PN	Pn	01 38 05.5	-1.2
KAVV	Kandilli-Istan	3.12 73	PN	Pn	01 38 05.5	-1.2
GEMT	Gemlik	3.13 85	PN	Pn	01 38 06.3	-0.4
TRML	Termal-Yalova	3.13 82	PN	Pn	01 38 06.5	-0.3
IGD	Bursa	3.14 88	*i* P	Pn	01 38 05.8	-1.0
IGD			IAML		01 38 59.0	
	comp=E,45nm,0.9s					
IGD			IAML		01 39 04.0	
	comp=N,46nm,0.5s					
AYDB	Zeytinkoy-Aydi	3.14 135	PN	Pn	01 38 07.5	+0.4
KLYT	Kilyos	3.16 70	PN	Pn	01 38 06.0	-1.2
KLV	Kalavryta, Ach	3.17 227	P	Pn	01 38 07.2	-0.1
APE	Apeiranthos	3.17 174	P	Pn	01 38 06.9	-0.5
APE	Apeiranthos	3.17 174	PN	Pn	01 38 07.9	+0.6
SIMA	Simav-Kutahya	3.21 110	PN	Pn	01 38 07.8	-0.1
KULA	Kula-Manisa	3.24 121	PN	Pn	01 38 08.6	+0.2
SKO	Skopje	3.27 303	*e*Pn	Pn	01 38 10.7	+2.0
SKO	Skopje	3.27 303	*i* Pn	Pn	01 38 10.5	+1.8
USAK	Uak-Merkez	3.38 115	*i* P	Pn	01 38 11.1	+0.8
USAK			IAML		01 40 11.0	
	comp=E,47nm,4.6s					
ZIMR		3.44 3	⇑P	Pg	01 38 24.1	+1.0
TVSB	Tavsanli	3.44 102	PN	Pn	01 38 11.0	-0.2
AMGA	Amorgos Island	3.44 169	P	Pn	01 38 10.8	-0.3
TRIP	Tripoli	3.48 220	P	Pn	01 38 12.3	+0.6
IOSP	Ios island	3.50 178	P	Pn	01 38 11.4	-0.5
GEDZ	Gediz	3.53 108	PN	Pn	01 38 12.4	+0.1
HRT	Hereke	3.53 79	PN	Pn	01 38 12.1	-0.2
ADVT	Abdulvahap	3.55 85	PN	Pn	01 38 12.5	0.0
ZAPS	Zavoj	3.56 330 ⇑	*i* Pn	Pn	01 38 14.9	+2.2
SILT	Sile	3.57 74	PN	Pn	01 38 12.0	-0.8
BARS	Barje	3.58 317 ⇓	*i* Pn	Pn	01 38 14.8	+1.9
IGT	Igoumenitsa	3.73 261	*e*Pn	Pn	01 38 17.3	+2.2
VLI	Veliai	3.89 207	P	Pn	01 38 17.0	-0.2
ITM	Ithomi	3.93 220	P	Pn	01 38 19.3	+1.6
BAIL	Bailesti	4.01 342	⇑P	Pb	01 38 26.1	-2.0
TIR	Tirane	4.13 287	⇑P	Pn	01 38 25.0	+4.5
ZAGS	Zajecar	4.17 330 ⇑	*i* Pn	Pn	01 38 22.0	+0.9
SELS	Selova	4.22 316 ⇑	*i* Pn	Pn	01 38 22.6	+0.8
HUMR	Humele	4.30 359	⇓P	Pn	01 38 23.5	+0.7
ICOR	Ion Corvin	4.38 26	⇑P	Pn	01 38 24.0	+0.2
LEHL	Lehliu	4.43 16	⇑P	Pg	01 38 41.9	-0.2
CVDA	Cernavoda	4.65 27	⇑P	Pn	01 38 27.6	0.0
MFTR	Murfatlar	4.66 31	⇓P	Pn	01 38 27.8	+0.1
TLBR	Topalu	4.83 26	⇓P	Pn	01 38 30.3	+0.1
DRME	Dracevica, Mon	4.88 296	*e*Pn	Pn	01 38 34.4	+3.7
TIRR	Tirgusor	4.89 29	⇓P	Pn	01 38 30.9	0.0
SJES	Sjenica	4.89 310 ⇓	*i* Pn	Pn	01 38 32.8	+1.8
GRUS	Gruza	4.91 320 ⇑	*i* Pn	Pn	01 38 32.3	+1.2
PDG	Podgorica	4.92 298	*e*Pn	Pn	01 38 33.7	+2.3
PDG	Podgorica	4.92 298	⇑P	Pn	01 38 34.4	+3.0
PDG	Podgorica	4.92 298	*e*Pn	Pn	01 38 34.1	+2.7
IDI	Anoyia	4.93 182	Pn	Pn	01 38 31.1	-0.5
	comp=E,0.7nm,0.3s,baz=224,slow=3.4,SNR=1.5					
IDI			Sn	Sn	01 39 26.9	-1.9
	comp=E,0.4nm,0.3s,baz=87,slow=6.4,SNR=2.0					
HERR	Herculane	5.06 338	⇓P	Pn	01 38 33.5	+0.2
ARR	Arges	5.15 356	⇓P	Pn	01 38 35.3	+0.7
MDVR	Moldovita	5.20 332	⇑P	Pn	01 38 36.0	+0.8
VOIR		5.21 360	⇓P	Pn	01 38 35.9	+0.6
MLR	Muntele Rosu	5.30 6	Pn	Pn	01 38 38.4	+1.7
	comp=E,1.8nm,0.3s,baz=261,slow=4.8,SNR=28					
MLR			Lg	Lg	01 40 11.9	
	comp=E,2.2nm,0.3s,baz=239,slow=22,SNR=5.3					
MLR	Muntele Rosu	5.30 6	⇓P	Pn	01 38 38.3	+1.7
TRUS	Trudelj	5.30 320 ⇑	*i* Pn	Pn	01 38 37.3	+0.7
LOT	Lotru	5.31 350	⇑P	Pn	01 38 37.2	+0.4
DIVS	Divibare	5.42 317 ⇑	*i* Pn	Pn	01 38 39.3	+1.0
DIVS	Divibare	5.42 317	*e*Pn	Pn	01 38 38.1	-0.2
CFR	Carcaliu	5.43 23	⇓P	Pn	01 38 38.1	-0.2
HCY	Herceg Novi	5.45 296	*e*Pn	Pn	01 38 42.6	+4.0
RUDO	Rudo	5.46 310	*e*Pn	Pn	01 38 39.2	+0.5
UPM	Unac-Piva	5.51 305	*e*Pn	Pn	01 38 41.3	+1.7
BBLS	Lazići	5.59 312	*e*Pn	Pn	01 38 39.9	-0.7
BRY	Bratogost	5.60 301	*e*Pn	Pn	01 38 44.3	+3.5
TLCR		5.66 28	⇑P	Pn	01 38 41.9	+0.4
GIUM	Giurgiulesti	5.73 22	⇓P	Pn	01 38 45.0	+2.5
PLOR	Plostina	5.74 11	⇓P	Pn	01 38 44.4	+1.8
DOPR	Dopca	5.74 2	⇓P	Pn	01 38 43.8	+1.1
VRI	Vrincioaia	5.76 11	⇓P	Pn	01 38 44.5	+1.6
OZUR		5.89 5	⇑P	Pn	01 38 34.5	-10
MDB	Medias	5.94 355	⇑P	Pn	01 38 47.6	+2.3
BZS	Buzias	5.96 336	*e*Pn	Pn	01 38 46.2	+0.5
BZS	Buzias	5.96 336	⇓P	Pn	01 38 45.7	+0.1
TEKS	Tekeris	5.97 318	*e*Pn	Pn	01 38 46.5	+0.7
TEKS	Tekeris	5.97 318	*e*Pn	Pn	01 38 46.3	+0.5
VARL	Varlezi	6.02 19	⇓P	Pn	01 38 48.3	+1.9
FRGS	Fruska Gora	6.28 323	*e*Pn	Pb	01 38 58.8	-8.0
TIP	Timpagrande	6.52 263	⇑P	Pn	01 38 55.6	+2.2
SIRR	Siria	6.54 339	⇓P	Pn	01 38 54.3	+0.7
BRTR	Keskin Array B	6.58 92	Pn	Pn	01 38 54.1	-0.1
	comp=E,0.6nm,0.3s,baz=266,slow=12,SNR=30					
BRTR			Lg	Lg	01 40 47.0	
	baz=33,slow=10,SNR=1.1					
BIZ	Bicaz	6.75 6	⇑P	Pn	01 38 58.1	+1.6
ARCR	ARCALIA	6.88 356	⇑P	Pn	01 39 02.7	+4.4
PRAR	RASCA	7.18 6	⇑P	Pn	01 39 04.5	+2.1
PURM	Purcari	7.19 27	⇓P	Pn	01 39 04.4	+1.8
MILM	Milestii Mici	7.21 21	⇑P	Pn	01 39 03.0	+0.2
BURAR	Bucovina Array	7.39 1	⇑P	Pn	01 39 07.5	+2.2
BLY	Banja Luka	7.39 310	*e*Pn	Pn	01 39 05.9	+0.6
SORM	Soroca	8.24 15	⇑P	Pn	01 39 16.4	-0.5
VAE	Valguarnera	8.78 255	Pn	Pn	01 39 23.7	-0.7
	comp=E,0.4nm,0.3s,baz=169,slow=20,SNR=1.6					
CRES	Cresnjev	9.01 312	*e*Pn	Pn	01 39 29.1	+1.6
CEY	Cerknica	9.56 309	*e*Pn	Pn	01 39 37.9	+2.8
AKASG	Malin Array Be	10.87 14	Pn	Pn	01 39 52.2	-0.7
	comp=E,0.8nm,0.3s,baz=197,slow=12,SNR=2.9					
DAVOX	Davos/Dischmat	12.84 306	Pn	Pn	01 40 21.2	+1.2
	comp=E,0.3nm,0.3s,baz=146,slow=15,SNR=9.1					
FINES	FINESS Array B	21.25 1	P	P	01 42 05.0	+1.6
	comp=E,6.5nm,1.0s,baz=160,slow=13,SNR=2.6					
ESDC	Sonseca Array	22.25 278	P	P	01 42 14.7	+0.3
	comp=E,0.7nm,0.7s,baz=71,slow=9.9,SNR=6.4					
GEYT	Alibeck	25.65 84	LR	LR	01 56 04.5	
	comp=E,30nm,18.2s,baz=25,slow=44					
TORD	Torodi Ar. Bea	33.92 224	P	P	01 43 58.2	-2.5
	comp=E,0.3nm,0.4s,baz=37,slow=9.0,SNR=4.7					
MKAR	Makanchi Array	41.20 61	P	P	01 45 03.0	+0.9
	comp=E,0.3nm,0.5s,baz=269,slow=9.3,SNR=3.6					
PSI	Prapat	75.86 98	LR	LR	02 29 45.8	
	comp=E,74nm,18.2s,baz=91,slow=42					

IDC 23 01:39:24.9±7.0, 12°.44N×93°.70E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/51, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=153.5km s-min=44.1km az=99.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.83	40	Pn	Pn	01 41 20.2	+0.1
	0.3nm,0.3s,baz=233,slow=15,SNR=6.9						
H08S3	Diego Garcia H	29.02	228	T	T	02 15 31.7	
	baz=44,slow=74						
H08S2	Diego Garcia H	29.03	228	T	T	02 15 39.1	
	baz=44,slow=74						
H08S1	Diego Carcia H	29.04	228	T	T	02 15 35.7	
	baz=44						
WRA	Warramunga Arr	51.34	128	P	P	01 48 31.1	-0.4
	0.5nm,0.6s,baz=308,slow=8.1,SNR=11						
ASAR	Alice Springs	53.24	132	P	P	01 48 45.8	+0.2
	0.3nm,0.5s,baz=310,slow=6.7,SNR=5.2						

IDC 23 01:49:08.1±4.4, 4°.74S×148°.58E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/32, mbtmp3.3/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/15, Error ellipse: s-maj=154.1km s-min=51.3km az=110.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	12.20	113	LR	LR	01 56 54.1	
	comp=Z,141nm,18.9s,baz=21,slow=38						
GUMO	Guam	18.58	349	LR	LR	01 58 17.2	
	comp=Z,122nm,21.2s,baz=138,slow=30						
WRA	Warramunga Arr	20.51	221	P	P	01 53 48.8	+0.8
	1.4nm,0.8s,baz=44,slow=10,SNR=15						
ASAR	Alice Springs	23.55	216	P	P	01 54 18.9	-1.5
	0.4nm,0.7s,baz=51,slow=7.0,SNR=6.6						
ASAR				LR	LR	02 05 17.9	
	comp=Z,81nm,18.9s,baz=76,slow=41						
STKA	Stephens Creek	27.78	193	LR	LR	02 05 06.7	
	comp=Z,53nm,19.2s,baz=28,slow=34						
ASAJ	Asahikawa	48.93	354	LR	LR	02 16 52.3	
	comp=Z,24nm,20.6s,baz=166,slow=34						
TORD	Torodi Ar. Bea	146.28	287	PKPbc	PKPbc	02 08 51.8	0.0
	0.4nm,0.9s,baz=60,slow=2.9,SNR=2.3						

*SSNC **23** 02:17:12.2±1.1, 19°.76N×74°.36W, h15km±6km, MD3.1, ML2.5, MW3.0*
*OSPL **23** 02:17:12.5±0.4, 19°.73N×74°.84W, h85km±6km, ML2.5*
ISC 23 02:17:12.4±1.2, 19°.94N±0°.07×74°.53W±0°.03, h24km±13km, n10, σ1°.27/19, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.36	50	*e*P	Pb	02 17 20.1	-0.3
MASC				*e*S	Sb	02 17 26.0	+0.3
MASC				IAML		02 17 26.3	
	comp=E,695nm,0.2s						
MASC				IAML		02 17 27.1	
	comp=N,475nm,0.1s						
GTBY	Guantanamo Bay	0.55	269	*i* P	Pn	02 17 24.6	-0.2
GTBY				*e*S	Sn	02 17 34.8	+1.6
GTBY	Guantanamo Bay	0.55	269	*i* P	Pn	02 17 24.7	-0.1
GTBY				*e*S	Sn	02 17 34.0	+0.8
GTBY				IAML		02 17 40.8	
	comp=Z,341nm,0.6s						
GTMO	Guantanamo	0.59	284	*e*P	Pb	02 17 24.0	-0.1
GTMO				*e*S	Sb	02 17 32.6	+0.4
GTMO				IAML		02 17 34.5	
	comp=E,632nm,0.2s						
GTMO				IAML		02 17 34.5	
	comp=N,606nm,0.2s						
MOAC	Moa	0.82	330	*e*P	Pb	02 17 28.2	+0.2
MOAC				*e*S	Sn	02 17 42.0	+2.0
MOAC				IAML		02 17 49.8	
	comp=E,50nm,0.2s						
MOAC				IAML		02 17 49.8	
	comp=N,55nm,0.2s						
RCC	Rio Carpintero	1.10	273	*e*P	Pn	02 17 32.5	+0.1
RCC				*e*S	Sb	02 17 47.7	+1.0
RCC				IAML		02 17 52.4	
	comp=E,87nm,0.2s						
RCC				IAML		02 17 52.6	
	comp=N,81nm,0.3s						
LGNH	Logne	2.31	128	*i* P	Pn	02 17 49.2	+0.3
LGNH				*e*S	Sn	02 18 16.1	-0.5
LGNH				IAML		02 18 24.0	
	comp=Z,13nm,2.2s						
LMGC	Las Mercedes	2.33	273	*e*P	Pn	02 17 50.7	+1.4
LMGC				*e*S	Sb	02 18 20.9	-1.4
LMGC				IAML		02 18 23.0	
	comp=N,29nm,0.1s						
LMGC				IAML		02 18 23.1	
	comp=E,34nm,0.3s						
SDDR	Presa de Saban	3.20	107	*e*S	Sn	02 18 39.0	+0.2
CCCC	Cccc	3.28	293	*e*P	Pn	02 18 00.6	-1.8
CCCC				*e*S	Sn	02 18 37.9	-2.9
CCCC				IAML		02 18 41.7	
	comp=N,5.0nm,0.6s						
CCCC				IAML		02 18 42.4	
	comp=E,4.1nm,0.3s						

*IDC **23** 02:17:41.2±1.0, 31°.85N×93°.00E, h0km, mb3.6/6, mb1 3.8/10, mb1mx3.6/39, mbtmp3.7/10, ML3.8/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/31, Error ellipse: s-maj=42.8km s-min=19.9km az=59.0*
*BJI **23** 02:17:42.3±0.0, 31°.94N×93°.01E, h7km, mb3.7/1, ML3.6/4*
*DMN **23** 02:18:16.5±3.5, 30°.88N×90°.18E, h10km, Mb4.6/6, Error ellipse: s-maj=88.0km s-min=7.2km az=50.0*
ISC 23 02:17:43.0±0.8, 31°.98N±0°.07×93°.1E±0°.1, h10km, n22, σ1°.23/22, mb3.7/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	2.82	217	Pg	Pn	02 18 30.6	+2.0
LSA				Sg	Sb	02 19 09.6	+1.0
LSA				smax	smax		
	comp=N,600nm,1.2s						
LSA				smax	smax		
	comp=E,700nm,1.3s						
TAPN	Taplejung	6.58	227	*e*P	Pn	02 19 21.6	+1.6
	12nm,0.7s						
ODAN	Odare	7.13	226	*e*P	Pn	02 19 29.5	+1.9
	8.3nm,0.4s						
RAMN	Ramite	7.56	230	*e*P	Pn	02 19 34.3	+0.8
	6.4nm,0.4s						
PKI	Pulchoki	8.00	239	*e*P	Pn	02 19 38.6	-1.0
	13nm,0.5s						
PKIN	Phulchoki	8.00	239	*e*P	Pn	02 19 38.5	-1.1
	17nm,0.4s						
DANN	Dangsing	8.86	248	*e*P	Pn	02 19 50.1	-1.2
	8.9nm,0.4s						
KOLN	Koldanda	9.25	245	*e*P	Pn	02 19 55.0	-1.7
	2.7nm,0.3s						
PYUN	Piuthan	9.57	249	*e*P	Pn	02 20 00.1	-1.0
	17nm,0.5s						
WMQ	Urumqi	12.56	342	*e*P	Pn	02 20 42.3	+0.5
CMAR	Chiang Mai Arr	14.46	157	Pn	Pn	02 21 05.5	-2.3
	0.5nm,0.3s,baz=335,slow=12,SNR=4.2						
MKAR	Makanchi Array	16.96	334	P	Pn	02 21 40.0	-0.3
	0.1nm,0.3s,baz=138,slow=13,SNR=4.6						
AAK	Ala-Archa	18.19	311	P	P	02 21 56.7	+0.7
	0.1nm,0.3s,baz=120,slow=15,SNR=4.0						
SONM	Songino Array	18.79	29	P	Pn	02 22 04.0	+1.0
	0.3nm,0.3s,baz=216,slow=12,SNR=7.8						
ZALV	Zalesovo Beam	22.75	347	P	P	02 22 46.3	+1.2
	0.5nm,0.3s,baz=311,slow=36,SNR=1.5						
FINES	FINESS Array B	51.56	326	P	P	02 26 49.2	+0.3
	2.3nm,1.0s,baz=90,slow=7.6,SNR=4.7						
FINES				LR	LR	02 51 21.6	
	comp=Z,46nm,18.0s,baz=222,slow=39						
NB2	NORSAR Subarra	58.75	326	P	P	02 27 40.7	-0.1
	comp=Z,0.2nm,0.7s,baz=76,slow=6.9						
NOA	NORSAR Array B	58.75	326	P	P	02 27 40.0	-0.8
	comp=Z,0.2nm,0.4s,baz=79,slow=6.7,SNR=1.8						
WRA	Warramunga Arr	65.01	137	P	Pn	02 28 23.2	-0.2
	comp=Z,0.5nm,0.8s,baz=332,slow=6.3,SNR=3.1						
ASAR	Alice Springs	67.70	140	P	P	02 28 40.3	-0.4
	comp=Z,0.4nm,0.7s,baz=321,slow=6.4,SNR=3.2						
ESDC	Sonseca Array	75.25	308	LR	LR	03 09 37.1	
	comp=Z,15nm,18.7s,baz=30,slow=41						
TORD	Torodi Ar. Bea	84.33	282	P	P	02 30 15.5	-0.3
	comp=Z,0.6nm,0.7s,baz=40,slow=5.2,SNR=3.7						

*OSPL **23** 02:33:17.8±0.8, 19°.74N×74°.85W, h93km±12km, ML3.1*
*SSNC **23** 02:33:17.0±1.0, 19°.71N×74°.35W, h16km±5km, MD3.3, ML3.0, MW3.3*
ISC 23 02:33:18.3±1.3, 19°.94N±0°.07×74°.53W±0°.03, h23km±13km, n11, σ1°.11/20, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.36	49	*e*P	Pb	02 33 25.9	-0.3
MASC				*e*S	Sb	02 33 31.9	+0.3
MASC				IAML		02 33 32.1	
	comp=E,2μm,0.2s						
MASC				IAML		02 33 32.3	
	comp=N,1μm,0.2s						
GTBY	Guantanamo Bay	0.55	269	*i* P	Pn	02 33 30.5	-0.3
GTBY				*e*S	Sn	02 33 40.7	+1.4
GTBY				IAML		02 33 46.6	
	comp=Z,990nm,0.6s						
GTMO	Guantanamo	0.60	284	*e*P	Pb	02 33 29.9	-0.2
GTMO				*e*S	Sb	02 33 38.5	+0.4
GTMO				IAML		02 33 40.4	
	comp=E,3μm,0.5s						
GTMO				IAML		02 33 40.5	
	comp=N,2μm,0.3s						
MOAC	Moa	0.83	331	*e*P	Pn	02 33 34.1	-0.5
MOAC				*e*S	Sn	02 33 48.6	+2.4
RCC	Rio Carpintero	1.10	273	*e*P	Pn	02 33 38.3	-0.1
RCC				*e*S	Sn	02 33 53.5	+0.6
RCC				IAML		02 33 54.0	
	comp=N,138nm,0.3s						
RCC				IAML		02 33 55.7	
	comp=E,152nm,0.3s						
LGNH	Logne	2.30	128	*e*S	Sn	02 34 21.7	-0.8
LMGC	Las Mercedes	2.34	274	*e*P	Pn	02 33 56.6	+1.3
LMGC				*e*S	Sn	02 34 23.5	+0.2
LMGC				IAML		02 34 28.4	
	comp=E,66nm,0.3s						
LMGC				IAML		02 34 28.9	
	comp=N,69nm,0.2s						
PAPH	Port-au-Prince	2.53	123	*e*S	Sn	02 34 27.9	-0.2
PAPH				IAML		02 34 48.9	
	comp=Z,30nm,0.3s						
SDDR	Presa de Saban	3.20	107	*i* P	Pn	02 34 08.1	+0.8
SDDR				*e*S	Sn	02 34 44.4	-0.4
SDDR				IAML		02 35 11.5	
	comp=Z,39nm,0.5s						
CCCC	Cccc	3.29	293	*e*P	Pn	02 34 06.7	-1.7
CCCC				*e*S	Sn	02 34 44.9	-1.9
CCCC				IAML		02 34 47.5	
	comp=N,12nm,0.3s						
CCCC				IAML		02 34 48.3	
	comp=E,12nm,0.4s						
MGV	Manicaragua	5.54	294	*e*P	Pn	02 34 39.7	+0.3
MGV				*e*S	Sn	02 35 41.3	-1.0
MGV				IAML		02 35 47.4	
	comp=E,5.1nm,0.7s						
MGV				IAML		02 35 47.6	
	comp=N,6.1nm,0.8s						

*IDC **23** 03:23:53.3±1.0, 34°.72S×54°.92E, h0km, mb4.1/7, mb1 4.3/7, mb1mx3.9/40, mbtmp4.1/7, MS3.3/7, Ms1 3.3/7, ms1mx3.0/36, Error ellipse: s-maj=30.4km s-min=25.7km az=123.0*
*NEIC **23** 03:23:55.0±0.4, 34°.66S±0°.08×54°.9E±0°.2, h15km±4km, mb4.5/8, Error ellipse: s-maj=20.1km s-min=10.1km az=112.0*
**ISC 23 03:23:54.3±0.7, 34°.75±0°.1×54°.9E±0°.2, h10km, n28, σ0°.69/18, mb4.4/9, MS3.2/6, Southwest Indian

WB0	Warramunga Arr	70.61	101	P		P	03 35 10.1 -0.2
MKAR	Makanchi Array	84.76	19	P		P	03 36 28.9 +0.6
	comp=Z,0.5nm,0.9s,baz=190,slow=4.9,SNR=3.1						
MKAR	Makanchi Array	84.76	19	P		P	03 36 28.7 +0.3

NIED ***23*** *03:32:14.3, 33°.89N×132°.64E, h44km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr=2.97; Mθθ1.68; Mφφ1.30; Mrθ=0.09; Mθφ=2.61; Mφr4.09; Fault plane solution: M0=5.49000×1014 NP1: φs=164.00000°, δ72.00000°, λ=63.00000°. NP2: φs=285.00000°, δ33.00000°, λ=145.00000°.*
JMA ***23*** *03:32:14.2, 33°.89N×132°.64E, h44km, M3.9 Broadband fault plane solution: P waves. NP1: φs=259.00000°, δ45.00000°, λ=177.00000°. NP2: φs=167.00000°, δ88.00000°, λ=45.00000°. Principal axes: T Plg28.0000°, Azm222.0000°; N Plg45.0000°, Azm344.0000°; P Plg32.0000°, Azm113.0000°;*
JMA Felt III J1.
IDC ***23*** *03:32:15.5±2.1, 33°.89N×132°.57E, h56km±20km, mb3.3/6, mb1 3.5/8, mb1mx3.3/52, mbtmp3.5/8, ML2.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/32 Error ellipse: s-maj=18.8km s-min=13.7km az=107.0*
ISC 23 03:32:14.2±0.9, 33°.88N±0°.03×132°.64E±0°.04, h42km±7km, n18, σ0°76/29, mb3.6/6, 3C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHM	Kurahashi	0.27	341	⇓P		Pn	03 32 22.3 -0.1
JHM				S		Sn	03 32 28.2 +0.1
JNA	Nagahama	0.35	202	⇑P		Pn	03 32 23.3 +0.1
JNA				S		Sn	03 32 29.8 +0.3
JET	Tanbara	0.36	107	⇑P		Pn	03 32 23.3 0.0
JET				S		Sn	03 32 29.8 0.0
UWA2	Uwa jima 2	0.67	181	⇑P		Pn	03 32 27.4 +0.1
UWA2				eS		Sn	03 32 37.3 +0.6
JKU	Kubokawa	0.68	148	⇓P		Pn	03 32 27.4 0.0
JKU				eS		Sn	03 32 37.5 +0.7
JHT	Toyohira	0.80	347	⇓P		Pn	03 32 29.1 0.0
JHT				S		Sn	03 32 40.0 +0.2
JTO	Tosashimizu	1.03	172	⇓P		Pn	03 32 32.5 +0.3
JTO				eS		Sn	03 32 45.5 +0.1
JMN	Monobe	1.05	98	⇓P		Pn	03 32 32.2 -0.3
JMN				eS		Sn	03 32 45.6 -0.3
JNU	Nakatsue	1.65	243	P		Pn	03 32 41.5 +0.8
	48nm,0.3s,baz=39,slow=6.2,SNR=842						
JNU				S		Sn	03 33 01.6 +0.8
	47nm,0.3s,baz=164,slow=6.5,SNR=3.6						
JNU				LR		LR	03 33 16.0
	comp=Z,13nm,21.5s,baz=90,slow=38						
KSRS	Korea Array	5.23	314	P		Pn	03 33 29.3 -0.5
	0.5nm,0.3s,baz=288,slow=23,SNR=1.7						
KSRS				S		Sn	03 34 29.9 +1.0
	1.4nm,0.3s,baz=134,slow=24,SNR=4.9						
KSRS				LR		LR	03 35 46.5
	comp=Z,65nm,18.2s,baz=152,slow=40						
MAT	Matsushiro	5.28	58	P		Pn	03 33 32.1 +1.6
MAT				S		Sn	03 34 29.4 -0.7
MJAR	Matsushiro Arr	5.28	58	P		Pn	03 33 33.1 +2.6
	0.3nm,0.3s,baz=244,slow=14,SNR=19						
SONM	Songino Array	24.11	313	P		P	03 37 26.2 +0.3
	0.8nm,0.6s,baz=120,slow=8.5,SNR=2.9						
WRA	Warramunga Arr	53.55	178	P		P	03 41 29.9 -0.9
	0.5nm,0.7s,baz=353,slow=7.8,SNR=5.1						
ILAR	Eielson Array	55.92	31	P		P	03 41 47.5 0.0
	0.3nm,0.7s,baz=273,slow=7.0,SNR=4.7						
ASAR	Alice Springs	57.24	179	P		P	03 41 57.3 0.0
	0.4nm,0.7s,baz=8.4,slow=6.3,SNR=2.8						
FINES	FINESS Array B	68.11	330	P		P	03 43 08.9 -0.5
	1.1nm,0.6s,baz=43,slow=8.4,SNR=3.8						
AKASG	Malin Array Be	72.21	319	P		P	03 43 34.2 -0.4
	0.3nm,0.3s,baz=61,slow=6.3,SNR=1.2						

IDC ***23*** *03:41:02.4±2.5, 12°.22S×166°.92E, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/34, mbtmp3.5/4, MS3.3/9, Ms1 3.3/9, ms1mx3.1/27, Error ellipse: s-maj=157.3km s-min=28.8km az=146.0*
NEIC ***23*** *03:41:06.3±1.4, 12°.76S±0°.09×167°.2E±0°.1, h35km±1km, mb4.2/6, Error ellipse: s-maj=25.2km s-min=9.6km az=303.0*
ISC 23 03:41:07.6±1.0, 12°.81S±0°.10×167°.2E±0°.2, h50km, n25, σ1°06/16, mb3.6/7, MS3.3/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.62	180	Pn		Pn	03 41 45.6 -1.8
SANVU				Sn		Sn	03 42 18.5 +0.4
DZM	Mont Dzumac	9.24	184	eLR		LR	03 45 01.7
	comp=Z,409nm,25.1s						
DZM	Mont Dzumac	9.24	184	LR		LR	03 46 24.7
	comp=Z,349nm,19.2s,baz=50,slow=33						
DZM	Mont Dzumac	9.24	184	Pn		Pn	03 43 18.1 -0.3
PMG	Port Moresby	19.96	278	LR		LR	03 52 38.9
	comp=Z,31nm,19.3s,baz=102,slow=36						
AFI	Afiamalu	20.48	95	LR		LR	03 52 33.0
	comp=Z,47nm,18.5s,baz=196,slow=33						
COEN	Coen	23.41	264	P		P	03 46 10.7 -1.7
COEN				IAmb		IAmb	03 46 28.6
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	30.22	227	LR		LR	03 58 33.2
	comp=Z,55nm,18.7s,baz=183,slow=34						
TOO	Toolangi	31.37	214	P		P	03 47 24.6 +0.8
WB0	Warramunga Arr	32.21	253	P		P	03 47 31.4 +0.2
WB0				IAmb		IAmb	03 47 50.5
	comp=Z,4.2nm,1.1s						
WB2	Warramunga Arr	32.27	253	P		P	03 47 30.7 -1.1
WB2				IAmb		IAmb	03 47 33.6
	comp=Z,3.1nm,1.1s						
WRA	Warramunga Arr	32.28	253	P		P	03 47 32.0 +0.1
	comp=Z,0.4nm,0.6s,baz=84,slow=9.5,SNR=6.4						
WRA	Warramunga Arr	32.28	253	P		P	03 47 31.9 0.0
ASAR	Alice Springs	33.34	246	P		P	03 47 42.5 +1.4
	comp=Z,0.6nm,0.7s,baz=70,slow=9.6,SNR=5.4						
ASAR	Alice Springs	33.34	246	P		P	03 47 41.5 +0.3
GUMO	Guam	34.33	119	LR		LR	04 01 19.5
	comp=Z,53nm,20.7s,baz=96,slow=36						
BBOO	Buckleboo	34.73	230	P		P	03 47 54.2 +1.1
FITZ	Fitzroy Crossi	40.35	257	LR		LR	04 04 44.4
	comp=Z,68nm,21.9s,baz=266,slow=35						
PPT	Papeete	41.91	102	LR		LR	04 02 26.4
	comp=Z,35nm,21.9s,baz=205,slow=30						
NWAO	Narrogin (SRO)	49.70	238	LR		LR	04 11 15.7
	comp=Z,96nm,18.0s,baz=76,slow=36						
PETK	Petropavlovsk-	66.16	354	LR		LR	04 16 31.0
	comp=Z,20nm,20.0s,baz=111,slow=32						
ILAR	Eielson Array	84.73	18	P		P	03 53 35.5 -0.4
	comp=Z,0.4nm,0.9s,baz=237,slow=4.9,SNR=4.3						
ILAR	Eielson Array	84.73	18	P		P	03 53 34.9 -1.0
NVAR	Mina Array Bea	86.07	49	P		P	03 53 44.8 +1.3
	comp=Z,0.2nm,0.6s,baz=234,slow=5.4,SNR=2.2						
NVAR	Mina Array Bea	86.07	49	P		P	03 53 43.9 +0.4

TUL ***23*** *03:45:49.7±1.1, 36°.82N±0°.02×97°.99W±0°.02, h5km±6km, ML2.8, Error ellipse: s-maj=3.2km s-min=2.8km az=193.0*
UNK ***23*** *03:45:49.7, 36°.82N×97°.99W, h5km*
ANF ***23*** *03:45:50.4±0.9, 36°.81N×98°.02W, h3km±6km, ML3.9/8, Error ellipse: s-maj=3.4km s-min=2.7km az=176.0*
ISC 23 03:45:50.1±1.1, 36°.80N±0°.02×97°.97W±0°.02, h4km±11km, n54, σ0°80/67, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.30	182	Pg		Pg	03 45 56.2 +0.3
CROK				Sg		Sg	03 46 00.6 +0.8
KAN10	Anthony SW Sta	0.33	343	Pg		Pg	03 45 56.5 -0.1
KAN10				Sg		Sg	03 46 01.0 +0.1
KAN13	South Haven SW	0.45	62	Pg		Pg	03 45 58.8 +0.1
KAN13				Sg		Sg	03 46 05.2 +0.7
KAN12	Harper NE Stat	0.49	357	Pg		Pg	03 45 59.2 -0.4
U32A	Winter Ranch,	0.93	243			Pg	03 46 07.1 -0.8
U32A				Sg		Sg	03 46 19.8 -0.2
OK029	Liberty Lake	1.09	157			Pg	03 46 10.3 -0.6
OK029				Sg		Sg	03 46 24.9 -0.1
T35A	Sooner Cattle	1.18	84	Pg		Pg	03 46 12.1 -0.5
T35A				Sg		Sg	03 46 28.0 +0.2
BCOK	Bluff Creek, N	1.18	166			Pg	03 46 11.6 -1.1
BCOK				Sg		Sg	03 46 28.1 +0.1
QUOK	Quay	1.20	121	Pg		Pg	03 46 12.7 -0.4
QUOK				Sg		Sg	03 46 28.4 -0.1
OK025	Westminster Rd	1.32	157			Pn	03 46 14.7 -0.6
OKCFA	Oklahoma City	1.45	163	Pn		Pn	03 46 16.0 -1.0
OKCSW	OKLAHOMA CITY	1.46	163	Pn		Pn	03 46 16.2 -1.0
FNO	Franklin	1.61	163	Pn		Pn	03 46 18.3 -1.0
R32A	Long Quarter,	1.72	340	Pn		Pn	03 46 20.8 0.0
R32A				Sg		Sb	03 46 43.3 -0.9
W35A	Tecumseh	1.87	151	Pn		Pn	03 46 23.4 +0.6
TUL1	Leonard	1.97	116	P		Pn	03 46 25.1 +0.9
	baz=298						
TUL1				S		Sb	03 46 51.9 +0.5
	baz=298						
TUL1	Leonard	1.97	116	Pn		Pn	03 46 23.1 -1.2
WMOK	Wichita Mounta	2.16	198	P		Pn	03 46 27.1 +0.2
	baz=17						
WMOK				S		Sb	03 46 55.7 -1.3
	baz=17						
X34A	Smith Ranch, M	2.20	177			Pn	03 46 26.9 -0.5
CBKS	Cedar Bluff	2.45	326	S		Sn	03 47 02.0 +0.8
	baz=145						
CBKS	Cedar Bluff	2.45	326			Pn	03 46 29.4 -1.4
KSU1	Kansas State U	2.53	25	P		Pn	03 46 32.7 +0.8
	baz=206						
KSU1	Kansas State U	2.53	25	Pn		Pn	03 46 31.3 -0.7
U38A	Gravette	2.91	96			Pn	03 46 36.7 -0.4
X37A	Clayton	3.06	135			Pn	03 46 39.3 +0.1
HHAR	Hobbs	3.29	98			Pn	03 46 42.0 -0.3
Z35A	Perchaven, San	3.52	170			Pn	03 46 45.5 +0.1
AMTX	Amarillo	3.57	239	Pb		Pb	03 46 54.5 +0.7
	baz=56						
AMTX				Sb		Sb	03 47 40.4 +2.8
	baz=56						
AMTX	Amarillo	3.57	239			Pn	03 46 46.3 0.0
W39A	Magazine	3.75	114	Pb		Pb	03 46 57.8 +0.9
	baz=297						
W39A				Sb		Sg	03 47 49.1 -1.6
	baz=297						
S39A	Bolivar	3.81	75			Pn	03 46 49.4 -0.1
U40A	Yellville	4.14	95	P		Pn	03 46 54.1 0.0
	baz=278						
U40A	Yellville	4.14	95	Pn		Pn	03 46 54.1 0.0
MIAR	Mount Ida	4.23	121	Pn		Pn	03 46 55.5 +0.3
KSCO	Kaye Shedlock'	4.29	302	Pn		Pn	03 46 55.2 -1.0
ABTX	Abilene, Hawle	4.39	199	Pn		Pn	03 46 57.4 -0.1
N35A	Tabor	4.44	23	Pn		Pn	03 46 57.8 -0.3
P38A	Dawn	4.49	50	Pn		Pn	03 46 59.4 +0.6
MGMO	Mountain Grove	4.58	84			Pn	03 46 60.0 -0.1
R40A	Maddies Statio	4.77	70	Pn		Pn	03 47 02.7 0.0
X40A	Basin Creek Fa	4.78	117	Pn		Pn	03 47 02.4 -0.4
FCAR	Ozark Folk Cen	4.81	99	Pn		Pn	03 47 02.4 -0.8
WHTX	Lake Whitney,	4.82	175	P		Pn	03 47 03.4 0.0
	baz=355						
WHTX	Lake Whitney,	4.82	175	Pn		Pn	03 47 02.5 -0.9
MSTX	Muleshoe	4.83	236	Pn		Pn	03 47 03.1 -0.6
WHAR	Wooly Hollow	4.84	106	Pn		Pn	03 47 03.7 0.0
W41B	Gary Mavity, V	4.92	108	Pn		Pn	03 47 04.2 -0.5
T25A	Trinidad	5.17	276	Pn		Pn	03 47 07.2 -1.1
P40A	Paris	5.40	58	Pn		Pn	03 47 10.7 -0.6
N38A	Joes South For	5.43	41	Pn		Pn	03 47 10.4 -1.4
CCM	Cathedral Cave	5.50	75	Pn		Pn	03 47 12.1 -0.6
T42A	Van Buren	5.52	86	Pn		Pn	03 47 12.2 -0.8
SDCO	Great Sand Dun	6.08	281	Pn		Pn	03 47 19.7 -1.3
ISCO	Idaho Springs	6.71	299	Pn		Pn	03 47 28.4 -1.3

NEIC ***23*** *03:52:24.0±2.8, 5°.56S±0°.06×129°.8E±0°.1, h228km±12km, mb4.2/5, Error ellipse: s-maj=15.9km s-min=8.2km az=87.0*
IDC ***23*** *03:52:23.6±1.2, 5°.50S×129°.70E, h209km±14km, mb3.6/3, mb1 3.7/8, mb1mx3.2/45, mbtmp4.2/8, MS3.4/2, Ms1 3.4/2, ms1mx2.6/35, Error ellipse: s-maj=19.4km s-min=9.6km az=90.0*
ISC 23 03:52:23.0±0.7, 5°.53S±0°.05×129°.70E±0°.07, h200km, n26, σ1°92/36, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.91	147	Pn		Pn	03 53 13.5 +1.9
SAUI						Sn	03 53 52.0 +2.4
FAKI	Fak Fak	3.63	44			Pn	03 53 24.2 +3.9
FAKI				S		Sn	03 54 05.6 +0.3
SIJI	Sorong	4.89	19	P		Pn	03 53 37.9 +1.8
	20nm,0.3s,baz=217,slow=23,SNR=30						
SIJI				S		Sn	03 54 34.3 +0.6
	12nm,0.3s,baz=239,slow=23,SNR=8.2						
MTN	Manton Dam	7.40	169			Pn	03 54 10.6 +2.1
MTN				S		Sn	03 55 32.7 +0.3
BATI	Baumata	7.57	232	P		Pn	03 54 13.1 +2.3
	8.0nm,0.3s,baz=214,slow=3.0,SNR=4.6						
BATI				S		Sn	03 55 39.6 +3.2
	7.5nm,0.3s,baz=106,slow=4.8,SNR=2.0						
KNRA	Kununurra	10.12	185			Pn	03 54 46.0 +2.1
KNRA						Sn	03 56 33.4 -3.6
FITZ	Fitzroy Crossi	13.10	197	P		Pn	03 55 22.9 +1.0
	2.2nm,0.3s,baz=352,slow=11,SNR=58						
FITZ				S		S	03 57 47.2 -0.8
	1.5nm,0.3s,baz=180,slow=22,SNR=7.2						
FITZ	Fitzroy Crossi	13.10	197	P		Pn	03 55 20.7 -1.2
FITZ						S	03 57 47.8 -0.3
WB0	Warramunga Arr	14.87	163	Pn		Pn	03 55 41.2 -2.5
WB0						S	03 58 25.9 -3.0
WRAB	Tennant Creek	15.01	163			Pn	03 55 44.9 -0.6
WRA	Warramunga Arr	15.02	163	P		Pn	03 55 45.4 -0.2
	0.2nm,0.3s,baz=340,slow=13,SNR=11						
WRA				S		S	03 58 31.2 -1.2
	1.0nm,0.3s,baz=340,slow=22,SNR=7.6						
WRA	Warramunga Arr	15.02	163	P		Pn	03 55 44.5 -1.1
WB2	Warramunga Arr	15.02	163			Pn	03 55 45.1 -0.5
WB2				S		S	03 58 29.4 -3.1
WR0	Warramunga Arr	15.09	162			Pn	03 55 46.0 -0.5
COEN	Coen	15.69	123			P	03 55 53.6 0.0
COEN				IAmb		IAmb	03 55 58.3
	comp=Z,3.9nm,0.8s						
KKM	Kota Kinabalu	17.71	310	P		P	03 56 15.5 -0.4
MBWA	Marble Bar	18.30	211	P		Pn	03 56 25.8 +1.2
ASAR	Alice Springs	18.48	168	P		P	03 56 25.4 +1.3
	comp=Z,0.3nm,0.3s,baz=350,slow=10,SNR=18						
ASAR				S		S	03 59 45.6 +1.1
	comp=Z,0.2nm,0.3s,baz=346,slow=24,SNR=4.4						
PSA00	Pilbara Seismi	18.59	210	P		Pn	03 56 28.2 +0.2
PSA00				IAmb		IAmb	03 56 29.1
	comp=Z,7.7nm,0.5s						
LEM	Lembang	21.99	265	LR		LR	04 06 52.1
	comp=Z,185nm,19.1s,baz=166,slow=40						
CMAR	Chiang Mai Arr	38.58	309	P		P	03 59 26.9 0.0
	comp=Z,1.4nm,0.5s,baz=138,slow=7.6,SNR=6.4						
CMAR	Chiang Mai Arr	38.58	309	P		P	03 59 25.2 -1.7
CHTO	Chiang Mai	38.78	309	P		P	03 59 25.0 -3.5
CHTO				IAmb		IAmb	03 59 28.9
	comp=Z,4.1nm,0.6s						
KSRS	Korea Array	42.80	358	LR		LR	04 18 41.5
	comp=Z,20nm,18.1s,baz=183,slow=37						
MKAR	Makanchi Array	66.84	327	P		P	04 02 52.4 -1.0
	comp=Z,2.5nm,0.6s,baz=125,slow=7.9,SNR=25						
ZALV	Zalesovo Beam	70.14	334	P		P	04 03 12.0 -1.7
	comp=Z,0.7nm,0.4s,baz=135,slow=5.2,SNR=3.2						

BGR ***23*** *04:11:11.6±0.0, 21°.48S×177°.03W, h33km*
NEIC ***23*** *04:12:18.4±1.2, 20°.0S±0°.1×178°.0W±0°.1, h616km±9km, mb4.7/19, Error ellipse: s-maj=22.8km s-min=9.4km az=146.0*
IDC ***23*** *04:12:19.0±1.6, 20°.05S×178°.18W, h598km±18km, mb3.4/13, mb1 3.7/16, mb1mx3.6/29, mbtmp4.4/16, Error ellipse: s-maj=21.1km s-min=13.1km az=137.0*
ISC 23 04:12:18.3±0.4, 20°.11S±0°.08×178°.10W±0°.08, h600km, n96, σ1°33/113, mb4.4/24, 16C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.34	302	P		P	04 13 48.3 +2.0
AFI	Afiamalu	8.64	45	P		P	04 14 24.2 +0.3
	6.3nm,0.3s,baz=207,slow=0.9,SNR=8.0						
AFI				S		S	04 16 02.2 -4.7
	2.3nm,0.3s,baz=57,slow=20,SNR=2.2						
AFI	Afiamalu	8.64	45	P		P	04 14 23.4 -0.6
AFI						S	04 16 03.7 -3.1
DZM	Mont Dzumac	14.55	260	P		P	04 15 23.5 +1.0
	3.4nm,0.3s,baz=120,slow=20,SNR=28						
DZM	Mont Dzumac	14.55	260	P		P	04 15 22.6 +0.1
OUZ	Omahuta	16.74	204	P		P	04 15 43.8 +1.6
URZ	Urewera	18.55	192	P		P	04 15 58.5 -0.2
	3.2nm,0.3s,baz=299,slow=2.7,SNR=11						
URZ				S		S	04 18 50.7 -6.8
	0.2nm,0.3s,baz=329,slow=14,SNR=2.0						
URZ	Urewera	18.55	192	P		P	04 15 58.7 0.0
URZ				IAmb		IAmb	04 16 00.4
	comp=Z,19nm,0.8s						
URZ				S		S	04 18 55.1 -2.4
BKZ	Black Stump Fm	19.55	193	P		P	04 16 08.0 +0.1
BKZ				S		S	04 19 12.2 -1.3
NNZ	Nelson	22.25	197	P		P	04 16 32.2 +0.3
EIDS	Eidsvold	28.86	254	P		P	04 17 30.4 +0.2
ARMA	Armidale	29.15	243	P		P	04 17 33.1 +0.2
ARMA				IAmb		IAmb	04 17 35.3
	comp=Z,8.4nm,0.6s						
CAN	Canberra	32.65	235	P		P	04 18 02.7 +0.2
CTAO	Charters Tower	33.43	264	P		P	04 18 09.5 +0.2
TOO	Toolangi	36.05	233	P		P	04 18 31.1 +0.3
TOO				IAmb		IAmb	04 18 33.1
	comp=Z,14nm,0.8s						
COEN	Coen	37.46	273	P		P	04 18 43.2 +0.6
COEN				IAmb		IAmb	04 18 44.4
	comp=Z,20nm,0.9s						
STKA	Stephens Creek	37.87	244	P		P	04 18 47.2 +1.5
	comp=Z,13nm,0.8s,baz=87,slow=9.9,SNR=25						
STKA	Stephens Creek	37.87	244	P		P	04 18 46.5 +0.8
BBOO	Buckleboo	42.63	243	P		P	04 19 23.8 +0.3
JAY	Jayapura	43.83	288	P		P	04 19 30.0 -3.0
	comp=Z,416nmcomp=Z,30nm,1.2s						
WR0	Warramunga Arr	44.37	262	P		P	04 19 36.9 -0.1
WR0				IAmb		IAmb	04 19 38.6
	comp=Z,22nm,1.1s						
AS31	Alice Springs	44.51	256	P		P	04 19 38.0 -0.2
AS31				IAmb		IAmb	04 19 40.4
	comp=Z,8.6nm,0.6s						
ASAR	Alice Springs	44.51	256	P		P	04 19 38.8 +0.6
	comp=Z,30nm,0.7s,baz=88,slow=8.4,SNR=225						
ASAR				PcP		PcP	04 21 08.7 +0.5
	comp=Z,2.1nm,0.5s,baz=98,slow=3.8,SNR=5.7						
ASAR				ScP		ScP	04 24 04.9 +1.0
	comp=Z,0.8nm,0.6s,baz=99,slow=5.0,SNR=4.5						
ASAR				S		S	04 25 29.0 -2.3
	comp=Z,2.2nm,0.9s,baz=93,slow=15,SNR=12						
ASAR	Alice Springs	44.51	256	P		P	04 19 38.2 0.0
ASAR						PcP	04 21 07.9 -0.3
ASAR						S	04 25 28.6 -2.6
WB0	Warramunga Arr	44.53	262	P		P	04 19 38.0 -0.4
WB0				IAmb		IAmb	04 19 39.0
	comp=Z,29nm,0.8s						
WB2	Warramunga Arr	44.55	262	P		P	04 19 38.4 -0.1
WB2				IAmb		IAmb	04 19 39.8
	comp=Z,23nm,0.7s						
WRA	Warramunga Arr	44.56	262	P		P	04 19 38.3 -0.2
	comp=Z,10nm,0.2s,baz=98,slow=6.9,SNR=611						
WRA				PcP		PcP	04 21 08.6 +0.3
	comp=Z,1.2nm,0.6s,baz=105,slow=3.6,SNR=3.6						
WRA				S		S	04 25 28.6 -3.3
	comp=Z,1.4nm,1.0s,baz=94,slow=12,SNR=5.5						
WRA	Warramunga Arr	44.56	262	P		P	04 19 37.6 -0.9
WRA						PcP	04 21 07.8 -0.5
MTN	Manton Dam	49.06	270	P		P	04 20 11.6 -0.8
SOEI	Soe	56.39	272	P		P	04 21 06.6 +2.0
	comp=Z,82nm,0.8s						
SOEI	Soe	56.39	272	P		P	04 21 03.6 -1.0
SOEI				IAmb		IAmb	04 21 07.2
	comp=Z,61nm,0.8s						
EDFI	Ende, Flores	59.12	272	P		P	04 21 23.0 0.0
	comp=Z,16nm,1.3s						
GTOI	Gorontalo	61.20	282	P		P	04 21 35.5 -1.1
	comp=Z,10nm,0.6s						
GTOI				pP		P	04 21 38.5 +1.9
	comp=Z,10nm,0.6s						
MPSI	Mapaga	63.95	281	P		P	04 21 54.4 +0.2
MJAR	Matsushiro Arr	69.84	324	P		P	04 22 29.8 -0.1
	comp=Z,2.6nm,0.6s,baz=150,slow=5.9,SNR=5.8						
MJAR	Matsushiro Arr	69.84	324	P		P	04 22 28.6 -1.3
PETK	Petropavlovsk-	75.87	345	P		P	04 23 04.3 +0.3
	comp=Z,2.3nm,0.7s,baz=110,slow=8.1,SNR=3.9						
KSRS	Korea Array	76.53	319	P		P	04 23 07.2 -0.7
	comp=Z,0.9nm,0.5s,baz=144,slow=5.5,SNR=2.7						
USRK	Ussuriysk Ar.	78.59	326	P		P	04 23 19.6 +0.8
	comp=Z,2.6nm,0.8s,baz=117,slow=3.4,SNR=6.9						
USRK	Ussuriysk Ar.	78.59	326	P		P	04 23 17.6 -1.2
NVAR	Mina Array Bea	80.81	43	P		P	04 23 33.2 +2.3
	comp=Z,0.6nm,0.8s,baz=228,slow=7.7,SNR=4.1						
MAW	Mawson	81.89	200	P		P	04 23 37.0 +1.4
	comp=Z,0.8nm,0.6s,baz=150,slow=8.1,SNR=2.9						
TXAR	Lajitas Array	86.93	57	P		P	04 24 03.8 +2.7
	comp=Z,0.3nm,0.9s,baz=217,slow=6.0,SNR=3.5						
ILAR	Eielson Array	87.96	13	P		P	04 24 05.0 +0.1
	comp=Z,0.7nm,0.3s,baz=215,slow=5.3,SNR=18						
SNAA	Sanae	88.40	179	P		P	04 24 07.5 +0.4
VNA3	Neumayer Olymp	88.53	176	P		P	04 24 08.6 +0.9
PDAR	Pinedale Array	88.75	43	P		P	04 24 11.2 +1.9
	comp=Z,0.3nm,0.5s,baz=192,slow=3.4,SNR=4.8						
PDAR	Pinedale Array	88.75	43	P		P	04 24 07.1 -2.3
VNA2	Neumayer--Watz	88.97	177	P		P	04 24 10.7 +1.0
	baz=179,slow=3.9						
CMAR	Chiang Mai Arr	89.89	290	P		P	04 24 17.1 +2.2
	comp=Z,2.7nm,0.8s,baz=115,slow=2.7,SNR=11						
ZALV	Zalesovo Beam	110.13	321	PKiKP		PKiKP	04 29 41.4 -1.0
	comp=Z,0.9nm,0.5s,baz=102,slow=3.5,SNR=2.7						
MKAR	Makanchi Array	110.86	314	PKiKP		PKiKP	04 29 43.5 -0.6
	comp=Z,0.6nm,0.6s,baz=121,slow=0.5,S

HERR	Herculane	150.01 330	⇑P		PKPbc	04 31 01.6	-0.4
WLF	Walferdange	150.32 354	*e*PKPbc		PKiKP	04 31 03.8	+0.7
	baz=16,slow=2.5						
BFO	Black Forest	151.37 351	*e*PKPbc		PKiKP	04 31 05.6	+0.2
	baz=16,slow=2.5						
TORD	Torodi Ar. Bea	173.07 178	PKP		PKPdf	04 31 18.9	-1.4
	comp=Z,0.9nm,0.9s,baz=22,slow=0.8,SNR=4.1						
TORD			PKPab		PKPab	04 32 52.8	+1.0
	comp=Z,0.5nm,0.8s,baz=168,slow=4.3,SNR=2.9						

MEX ***23*** *04:23:32.9±0.4, 31°.11N×113°.93W, h20km, MD3.8*
ECX ***23*** *04:23:33.5±0.8, 30°.52N×114°.31W, h0km±5km, MD2.9, ML3.0*
ISC 23 04:23:28.5±2.5, 30°.4N±0°.1×114°.17W±0°.07, h14km±14km, n9, σ0§42/15, 3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.88	318	*e*P	Pb	04 23 45.7	+0.2
SFX				*e*S	Sg	04 23 56.5	-0.5
SPX	San Pedro Mart	1.29	300	*e*P	Pn	04 23 52.7	+0.2
SPX				*e*S	Sb	04 24 09.3	-0.2
SPX	San Pedro Mart	1.29	300	*e*P	Pn	04 23 53.0	+0.4
SPX				*e*S	Sb	04 24 08.9	-0.5
SPX				IAML		04 24 19.3	
	comp=N,182nm,0.5s						
SPX				⇓*e*		04 24 19.3	
SPIG	San Pedro Mart	1.30	301	*e*P	Pg	04 23 53.6	+0.1
SPIG				*e*S	Sb	04 24 09.2	-0.4
SPIG	San Pedro Mart	1.30	301	*e*P	Pg	04 23 53.6	+0.1
PIX	Pinacate	1.31	27	*e*P	Pn	04 23 52.0	-0.5
PIX				*e*S	Sb	04 24 09.8	+0.1
ECBX	El Chinero	1.32	325	*e*P	Pg	04 23 54.5	+0.6
ECBX				*e*S	Sb	04 24 10.2	+0.2
SQX	San Quintin	1.49	278	*e*P	Pg	04 23 57.5	+0.3
SQX				*e*S	Sg	04 24 16.0	-0.5
SQX				IAML		04 24 27.8	
	comp=E,367nm,0.3s						
SQX				⇓*e*		04 24 27.8	
SQX				IAML		04 24 28.4	
	comp=N,405nm,0.4s						
SQX				⇓*e*		04 24 28.4	
MBIG	Mexicali	2.20	337	*i* P	Pn	04 23 58.2	-6.4

IDC 23 04:26:26.5±1.2, 12°.70N×143°.18E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/43, mbtmp3.8/4, Error ellipse: s-maj=76.1km s-min=33.2km az=107.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.59	195	P	P	04 33 08.5	-0.2
	0.6nm,1.1s,baz=20,slow=9.8,SNR=2.0						
ILAR	Eielson Array	70.07	25	P	P	04 37 39.5	-0.7
	0.4nm,0.6s,baz=250,slow=6.0,SNR=7.4						
NVAR	Mina Array Bea	88.75	51	P	P	04 39 24.0	+1.2
	0.4nm,0.6s,baz=261,slow=6.4,SNR=5.4						
FINES	FINESS Array B	91.26	335	P	P	04 39 33.8	+0.1
	3.2nm,0.9s,baz=64,slow=4.4,SNR=5.5						
LPAZ	La Paz	149.49	101	PKPbc	PKPbc	04 46 18.8	-0.8
	0.4nm,0.4s,baz=220,slow=5.8,SNR=2.0						

BGS ***23*** *04:33:53.7±3.1, 64°.89N×17°.51W, h5km, MS4.9, MS5.0*
REY ***23*** *04:33:55.1, 64°.68N×17°.42W, h5km*
IDC ***23*** *04:33:56.7±0.4, 64°.51N×17°.64W, h0km, mb4.4/30, mb1 4.6/32, mb1mx4.4/45, mbtmp4.4/32, ML3.7/2, MS4.4/36, Ms1 4.4/36, ms1mx4.3/39, Error ellipse: s-maj=13.8km s-min=7.7km az=15.0*
MOS ***23*** *04:33:57.2±1.1, 64°.77N×17°.53W, h8km, mb5.2/85, MS4.7/31, Error ellipse: s-maj=7.9km s-min=5.4km az=107.1*
UNK ***23*** *04:33:59.3, 64°.89N×17°.51W, h9km*
IEPN ***23*** *04:33:59.0, 64°.85N×18°.22W, h10km*
NEIC ***23*** *04:33:59.3±0.6, 64°.89N±0°.07×17°.5W±0°.1, h9km±3km, mb5.1/344, Error ellipse: s-maj=10.8km s-min=7.9km az=182.0*
DNK ***23*** *04:34:03.3±6.1, 64°.83N×17°.18W, h14km±265km, Ms4.6, Hypocentre not reviewed by the ISC*
GCMT ***23*** *04:34:03.3±0.1, 64°.64N±0°.01×17°.28W±0°.01, h12km, MW5.1/138, Moment Tensor Solution. s89,c135; s138,c247; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=6.48±.08; Mθθ1.67±.09; Mφφ4.81±.07; Mrθ-2.30±.26; Mθφ-1.91±.07; Mφr-1.47±.22; Best double couple: Mo6.55600×10^16 NP1:φs138.00000°, δ46.00000°, λ-116.00000°. NP2:φs353.00000°, δ50.00000°, λ-66.00000°. Principal axes: T 5.7240, Plg2.0000°, Azm66.0000°; N 1.6640, Plg18.0000°, Azm156.0000°; P -7.3880, Plg72.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***23*** *04:34:06.8±0.0, 65°.24N×15°.16W, h10km, mb5.5, Ms4.2*
ISC 23 04:33:59.3±0.4, 64°.76N±0°.03×17°.63W±0°.02, h8km±2km, h7km: pP-P, n996, σ1§95/974, mb5.1/276, MS4.6/76, 38C-4D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.10	213	P	Pg	04 33 58.1	-3.5
	baz=266						
IVON				S	Sg	04 34 00.5	-2.9
	baz=266						
IDYN	Dyngjuhals	0.12	73	P	Pg	04 33 57.5	-4.4
	baz=12						
IDYN				S	Sg	04 34 00.2	-3.6
	baz=12						
IURH	Urdarhals	0.21	73	P	Pg	04 33 59.0	-4.6
	baz=40						
IURH				S	Sg	04 34 01.9	-4.6
	baz=40						
IDJK	Dyngjujokull	0.30	146	P	Pg	04 33 59.2	-6.1
	baz=156						
ISKR	Skrokkalda	0.38	239	P	Pg	04 34 03.5	-3.3
	baz=254						
IGRF	Grimsfjall	0.39	156	P	Pg	04 34 01.2	-5.6
	baz=167						
IKVE	Kverkfjoll	0.41	101	P	Pg	04 34 01.3	-6.1
	baz=91						
IHUS	Husbondi	0.47	182	P	Pg	04 34 02.5	-5.7
	baz=195						
IBJK	Bruarjokull	0.47	127	P	Pg	04 34 01.7	-6.8
	baz=126						
IJOK	Jokulheimar	0.52	211	P	Pg	04 34 04.1	-5.1
	baz=224						
IVOT	Vottur	0.53	158	P	Pg	04 34 02.9	-6.5
	baz=166						
IKRE	Kreppuhraun	0.53	87	P	Pg	04 34 03.3	-6.3
	baz=77						
IMKO	Mokollar	0.59	68	P	Pg	04 34 05.1	-5.6
	baz=57						
ISVA	Svartarkot	0.60	15	P	Pg	04 34 06.7	-4.1
	baz=6.0						
IIEY	Innrieyrar	0.70	198	P	Pg	04 34 06.8	-5.9
	baz=208						
IKSK	Karasker	0.78	140	P	Pg	04 34 06.4	-7.8
	baz=142						
IVAT	Vatnsfell	0.80	225	P	Pg	04 34 09.7	-5.0
	baz=233						
IKAL	Kalfafell	0.81	182	P	Pg	04 34 08.0	-6.9
	baz=189						
IVSH	V-Sauoahnukur	0.81	86	P	Pg	04 34 07.8	-7.1
	baz=79						
IHVE	Hveravellir	0.84	279	P	Pg	04 34 11.3	-4.0
	baz=282						
IMEL	Melhnausar	0.91	26	P	Pg	04 34 11.4	-5.4
	baz=20						
IADA	Aoalbol	0.91	72	P	Pg	04 34 09.8	-7.0
	baz=66						
IREN	Reynihlio	0.94	18	P	Pg	04 34 12.3	-5.0
	baz=12						
IFAG	Fagurholsmyri	0.98	154	P	Pg	04 34 10.9	-7.2
	baz=157						
IKVO	Krokottuvotn	1.01	18	P	Pg	04 34 13.2	-5.4
	baz=12						
IGRS	Grimsstaoir	1.09	35	P	Pg	04 34 14.1	-6.0
	baz=29						
ISNB	Snabyli	1.12	204	P	Pg	04 34 13.8	-6.8
	baz=210						
ISLY	Slysaalda	1.14	215	P	Pg	04 34 14.3	-6.8
	baz=222						
ISLY				S	Sg	04 34 30.3	-5.6
	baz=222						
ISKI	Skildingahlsh	1.15	12	P	Pg	04 34 15.7	-5.5
	baz=7.7						
IFED	Fedgar	1.16	232	P	Pg	04 34 15.5	-6.0
	baz=237						
IGHA	Grjothals	1.16	20	P	Pg	04 34 15.8	-5.7
	baz=15						
IGRA	Granstaoir	1.17	1	P	Pg	04 34 16.4	-5.2
	baz=357						
IRJU	Rjupnafell	1.23	202	P	Pb	04 34 16.2	-6.6
	baz=208						
BORG	Borgarnes	1.59	271	Pg	Pn	04 34 23.9	-3.7
	29nm,0.3s,baz=107,slow=8.1,SNR=68						
BORG				Lg	Lg	04 34 47.5	
	57nm,0.3s,baz=84,slow=11,SNR=5.5						
BORG	Borgarnes	1.59	271	P	Pn	04 34 24.1	-3.5
BORG						04 34 46.7	
BORG	Borgarnes	1.59	271	Pn	Pn	04 34 24.1	-3.5
BORG				Sn	Sn	04 34 46.7	-1.7
SCO	Scoresbysund	5.98	346	*i* P	Pn	04 35 27.2	-0.8
	comp=Z,18μm,11.0s						
SCO	Scoresbysund	5.98	346	*i* P	Pn	04 35 27.2	-0.8
SCO				MLR	MLR		
	comp=Z,19μm,11.0s						
SCO	Scoresbysund	5.98	346	Pn	Pn	04 35 25.3	-2.6
KAC	Achnashellach	9.39	135	*e*P	Pn	04 36 10.0	-4.8
KPL	Plockton	9.42	137	*e*P	Pn	04 36 09.9	-5.2
KPL				IAMs_20	IAMs_20	04 40 45.2	
	comp=Z,8μm,11.7s						
LAWE	Loch Awe, Argy	10.42	139	*e*P	Pn	04 36 22.2	-6.5
INVG	Invergeldie, C	10.67	135	*e*P	Pn	04 36 27.9	-4.4
INVG				IAMs_20	IAMs_20	04 41 20.9	
	comp=Z,11μm,10.9s						
EAB	Aberfoyle	10.78	137	*e*P	Pn	04 36 29.5	-4.2
SUE	Sulen	10.83	100	*e*P	Pn	04 36 31.5	-2.9
SUMG	Summit	10.84	325	*i* P	Pn	04 36 36.0	+1.2
SUMG	Summit	10.84	325	*i* P	Pn	04 36 36.0	+1.2
SUMG	Summit	10.84	325	Pn	Pn	04 36 32.5	-2.3
PGBU	Glenifferbraes	11.06	138	*e*P	Pn	04 36 33.4	-4.2
PGBU				IAMs_20	IAMs_20	04 41 52.2	
	comp=Z,8μm,12.7s						
CLGH	Cloghs, Cushen	11.27	144	*e*P	Pn	04 36 36.4	-4.1
CLGH				IAMs_20	IAMs_20	04 42 30.4	
	comp=Z,12μm,10.1s						
AKN	Aaknes	11.28	92	*e*P	Pn	04 36 36.2	-4.4
EDI	Edinburgh	11.35	135	*e*P	Pn	04 36 38.1	-3.4
EDI				IVMs_BB	IVMs_BB	04 41 47.7	
	comp=Z,5μm,14.5s						
EDI				IVMsBB		04 43 02.5	
	comp=Z,6μm,6.0s						
MOL	Molde	11.36	90	*e*P	Pn	04 36 37.6	-4.0
HYA	Hoyanger	11.38	97	*e*P	Pn	04 36 43.3	+1.4
EKA	Eskdalemuir Ar	11.86	136	Pn	Pn	04 36 43.8	-4.8
	baz=322,slow=13,SNR=24						
ESK	Eskdalemuir	11.86	136	*e*P	Pn	04 36 45.5	-3.0
ESK				IAMs_20	IAMs_20	04 42 17.3	
	comp=Z,9μm,11.3s						
ESK	Eskdalemuir	11.86	136	P	Pn	04 36 45.9	-2.7
ESK	Eskdalemuir	11.86	136	Pn	Pn	04 36 45.9	-2.7
KMY	Karmoy	12.06	107	*e*P	Pn	04 36 46.7	-4.5
DAG	Danmarks Havn	12.08	359	*i* P	Pn	04 36 57.4	+6.0
	comp=Z,3μm,10.0s						
DAG	Danmarks Havn	12.08	359	*i* P	Pn	04 36 57.4	+6.0
DAG				MLR	MLR		
	comp=Z,3μm,10.0s						
DOMB	Dombas	12.22	91	*e*P	Pn	04 36 50.5	-3.0
ODD1	Odda	12.22	102	*e*P	Pn	04 36 50.3	-3.2
BLS5	Blasjo	12.43	104	*e*P	Pn	04 36 51.5	-4.9
SKAR	Skarslia	12.52	97	*e*P	Pn	04 36 53.9	-3.8
NSS	Namsos	12.63	78	*e*P	Pn	04 37 02.2	+3.3
EDMD	Edmundbyers	12.65	135	*e*P	Pn	04 36 57.1	-2.2
EDMD				IAMs_20	IAMs_20	04 42 44.4	
	comp=Z,6μm,11.5s						
KONS	Konsvik	12.74	68	*e*P	Pn	04 36 58.6	-1.9
DSB	Dublin	12.89	148		Pn	04 37 03.4	+0.8
NC204	NORSAR Array S	13.29	92	Pn	Pn	04 37 03.3	-4.7
MOR8	Moi Rana	13.32	69	*e*P	Pn	04 37 10.1	+1.8
NBO00	NORSAR Array S	13.41	93		Pn	04 37 08.6	-1.0
STEI	Steigen	13.46	62	*e*P	Pn	04 37 07.5	-2.8
SFJD	Kangerlussuaq	13.58	294	*i* P	P	04 37 17.3	-3.7
	comp=Z,960nm,10.0s						
SFJD	Kangerlussuaq	13.58	294	*i* P	P	04 37 17.3	-3.7
SFJD				MLR	MLR		
	comp=Z,970nm,10.0s						
NB2	NORSAR Subarra	13.59	93	Pn	Pn	04 37 06.7	-5.5
	comp=Z,210nm,3.3s,baz=299,slow=14						
NB2	NORSAR Subarra	13.59	93	Pn	Pn	04 37 06.7	-5.5
	baz=299,slow=14						
NOA	NORSAR Array B	13.59	93	Pn	Pn	04 37 06.9	-5.3
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=5.9						
NOA				LR	LR	04 42 19.8	
	comp=Z,2μm,20.6s,baz=295,slow=37						
KONO	Kongsberg	13.62	99	*i* P	Pn	04 37 10.7	-1.8
KONO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ILULI	Ilulissat	13.70	304	*i* P	Pn	04 37 17.8	+4.3
ILULI	Ilulissat	13.70	304	*e*P	Pn	04 37 17.8	+4.3
CWF	Charnwood Fore	14.66	138	*e*P	Pn	04 37 22.6	-4.1
CWF				IAMs_20	IAMs_20	04 43 57.5	
	comp=Z,8μm,10.1s						
TRO	Tromso	14.80	55	*e*P	P	04 37 34.5	0.0
HFS	Hagfors	15.11	93	Pn	Pn	04 37 33.6	+0.9
	comp=Z,0.2nm,0.3s,baz=311,slow=9.3,SNR=1.8						
HFS				LR	LR	04 43 06.2	
	comp=Z,2μm,21.4s,baz=290,slow=36						
MUD	Monsted U'grnd	15.45	110	*i* P	P	04 37 39.7	-2.1
MUD	Monsted U'grnd	15.45	110	*i* P	P	04 37 39.7	-2.1
HSPB	Hornsund (broa	16.01	27	*e*P	Pn	04 37 45.9	+1.5
HSPB	Hornsund (broa	16.01	27	*e*P	P	04 37 46.4	-1.6
HSPB				*e*S	Sn	04 40 45.1	+3.4
KBS	Kingsbay	16.57	20	*e*P	Pn	04 37 49.1	-2.5
KBS				*e*S	Sn	04 40 51.7	-3.7
SPA0	Spitsbergen Ar	16.80	24	*e*P	Pn	04 37 49.8	-4.8
SPA0				*e*S	Sn	04 40 52.7	-8.3
SPITS	Spitsbergen Ar	16.80	24	LR	LR	04 42 30.1	
	comp=Z,791nm,19.6s,baz=220,slow=30						
NOR	Nord	16.94	0	*i* P	P	04 37 58.0	-0.2
	comp=Z,2μm,11.0s						
NOR	Nord	16.94	0	*i* P	P	04 37 58.0	-0.2
NOR				MLR	MLR		
	comp=Z,2μm,11.0s						
COP	Copenhagen	17.30	107	*i* P	Pn	04 38 01.4	+0.5
	comp=Z,2μm,10.0s						
COP	Copenhagen	17.30	107	*i* P	Pn	04 38 01.4	+0.5
COP				MLR	MLR		
	comp=Z,2μm,10.0s						
BSEG	Bad Segeberg	17.72	114	*e*P	Pn	04 38 03.8	-2.3
	comp=Z,588nm,2.3s,baz=328,slow=11						
HOPEN	Hopen	17.78	31	*e*P	Pn	04 38 07.0	+0.3
HOPEN				*e*S	Sn	04 41 26.9	+2.1
IBBN	Ibbenburen	18.02	122	*e*P	Pn	04 38 09.9	+0.1
	comp=Z,370nm,1.7s,baz=328,slow=11						
SNF	Seneffe	18.32	131	P	Pn	04 38 12.2	-1.3
RGN	Rugen	18.47	109	*e*P	P	04 38 14.3	-0.8
BEBN	Eben Emael	18.54	128	P	P	04 38 15.2	-0.8
BUG	Bochum--Univer	18.56	124	*e*P	P	04 38 15.9	-0.2
	comp=Z,382nm,1.9s,baz=328,slow=11						
BMRD	Maredsous	18.66	130	P	P	04 38 16.0	-1.4
	comp=Z,75nm,2.5s						
BSTI	Sart Tilman	18.68	128	P	P	04 38 16.7	-0.9
BGES	Gesves	18.70	130	P	P	04 38 15.8	-1.9
BSD	Bornholm Skovb	18.72	106	*i* P	Pn	04 38 18.4	+0.1
BSD	Bornholm Skovb	18.72	106	*i* P	Pn	04 38 18.4	+0.1
BCLA	Clavier	18.74	129	P	P	04 38 14.6	-3.6
	comp=Z,69nm,2.5s						
NRDL	Niedersach Rie	18.75	118	*e*P	P	04 38 17.2	-1.0
	comp=Z,1μm,2.8s,baz=328,slow=11						
DOU	Dourbes	18.78	131	P	P	04 38 15.7	-3.0
MEM	Membach	18.81	128	P	P	04 38 17.1	-1.9
BHOU	Houvegnez	19.03	128	P	P	04 38 19.4	-2.0
	comp=Z,120nm,3.0s						
AHRW	Bad Neuenahr-A	19.24	126	*e*P	Pn	04 38 26.3	+1.7
	comp=Z,228nm,1.4s,baz=328,slow=11						
ASSE	Asse, Remlinge	19.25	118	*e*P	P	04 38 23.6	-0.1
	comp=Z,413nm,2.0s,baz=328,slow=11						
CLZ	Clausthal	19.37	119	*e*P	P	04 38 23.5	-1.6
	comp=Z,270nm,1.5s,baz=328,slow=11						
GTTG	Gottingen	19.45	120	*e*P	Pn	04 38 27.7	+0.6
	comp=Z,290nm,1.5s,baz=328,slow=11						
WLF	Walferdange	19.67	129	P	P	04 38 26.2	-2.1
WLF	Walferdange	19.67	129	P	P	04 38 25.2	-3.2
WLF				pmax	pmax		
	comp=Z,48nm,1.6s						
WLF	Walferdange	19.67	129	*e*P	P	04 38 28.1	-0.2
	comp=Z,277nm,2.1s,baz=328,slow=11						
WLF	Walferdange	19.67	129	P	P	04 38 25.2	-3.2
FINES	FINESS Array B	19.74	79	P	P	04 38 27.5	-1.6
	comp=Z,0.1nm,0.3s,baz=280,slow=15,SNR=4.2						
FINES				LR	LR	04 45 39.0	
	comp=Z,1μm,21.7s,baz=285,slow=36						
FINES	FINESS Array B	19.74	79	P	P	04 38 27.1	-2.0
FIA1	FINESS Array S	19.74	79	P	P	04 38 24.7	-4.4
TULEG	Thule	19.74	327	P	P	04 38 25.2	-3.8
CLF	Chambon-Foret	19.90	138	P	P	04 38 30.6	-0.3
RUE	Ruedersdorf	20.19	113	*e*P	P	04 38 33.7	-0.3
SLIT	Slitere, Latvi	20.20	92	*e*P	P	04 38 32.3	-1.8
NEUB	Neuenburg	20.40	118	*e*P	P	04 38 35.9	-0.5
	comp=Z,295nm,1.5s,baz=328,slow=11						
CLL	Collm	20.79	116	*e*P	P	04 38 40.0	-0.6
	comp=Z,60nm,1.4s						
CLL				*e*Pmax		04 38 42.0	
CLL				*i* sP	sP	04 38 44.2	0.0
	comp=Z,96nm,1.3s						
CLL				*i*		04 38 52.7	
CLL				*e*PPP	PPP	04 39 01.0	
CLL				*e*		04 40 25.0	
CLL				*e*S	S	04 42 33.0	+0.5
CLL				*e*SSS	SSS	04 43 02.0	
CLL				LmV		04 47 00.0	
	comp=Z,2μm,18.0s						
CLL				Lmax		04 50 00.0	
CLL	Collm	20.79	116	*e*P	P	04 38 38.0	-2.6
CLL				*i*		04 38 44.2	
CLL				*e*S	S	04 42 33.0	+0.5
CLL				pmax	pmax		
	comp=Z,60nm,1.4s						
CLL				MLR	MLR		
	comp=Z,2μm,18.0s						
CLL	Collm	20.79	116	*e*P	P	04 38 39.8	-0.8
	comp=Z,174nm,1.7s,baz=328,slow=11						
CLL	Collm	20.79	116	P	P	04 38 37.9	-2.6
MOX	Moxa	20.80	119	*e*P	P	04 38 40.2	-0.5
	comp=Z,328nm,1.9s,baz=328,slow=11						
MOX				*e*L	L	04 47 02.9	
	comp=Z,928nm,20.8s						
GKP	Gorka Klasztor	20.99	107	*e*P	P	04 38 43.8	+1.1
GKP				*e*PcP	PcP	04 42 50.3	+0.9
PBUR	Paburge	21.06	96	*e*P	P	04 38 41.6	-1.9
PLN	Plauen	21.13	118	*e*P	P	04 38 43.4	-0.8
	comp=Z,1μm,2.8s,baz=328,slow=11						
FBE	Freiberg	21.24	116	*e*P	P	04 38 44.6	-0.8
	comp=Z,1μm,2.7s,baz=328,slow=11						
ECH	Echery	21.25	129	P	P	04 38 44.5	-1.1
ECH				pmax	pmax		
	comp=Z,79nm,1.3s						
ECH	Echery	21.25	129	P	P	04 38 44.5	-1.1
GUNZ	Gunzen	21.29	118	*e*P	P	04 38 44.1	-1.9
	comp=Z,2μm,2.9s,baz=328,slow=11						
TANN	Tannenbergstha	21.30	118	*e*P	P	04 38 44.1	-2.1
	comp=Z,3μm,2.9s,baz=328,slow=11						
WERN	Wernitzgruen	21.37	118	*e*P	P	04 38 46.0	-0.9
	comp=Z,242nm,1.4s,baz=328,slow=11						
GRA1	Grafenberg Arr	21.43	121		P	04 38 47.4	-0.1
GRF	Grafenberg Arr	21.43	121	P	P	04 38 47.4	-0.1
GRF				pmax	pmax		
	comp=Z,277nm,1.7s						
GRF	Grafenberg Arr	21.43	121	*e*P	P	04 38 47.8	+0.4
	comp=Z,2μm,3.1s,baz=328,slow=11						
GRF				*e*L	L	04 48 34.0	
	comp=Z,1μm,18.4s						
NKC	Novy Kostel	21.44	118	*e*P	P	04 38 49.4	+1.8
NKC				*e*S	Sn	04 42 49.7	-3.5
NKC				AMS	AMS	04 49 30.0	
	comp=Z,2μm,12.2s						
NKC	Novy Kostel	21.44	118	*e*P	P	04 38 49.4	+1.8
NKC				*e*S	Sn	04 42 49.7	-3.5
NKC				MLR	MLR		
	comp=Z,2μm,12.2s						
STU	Stuttgart	21.47	125	P	P	04 38 47.9	0.0
STU				pmax	pmax		
	comp=Z,226nm,1.5s						
STU	Stuttgart	21.47	125	*e*P	P	04 38 48.5	+0.6
	comp=Z,1μm,2.8s,baz=328,slow=11						
STU	Stuttgart	21.47	125	P	P	04 38 47.9	0.0
BRG	Berggiesshubel	21.50	115	*i* P	P	04 38 46.8	-1.4
	comp=Z,50nm,1.2s						
BRG				*i*		04 38 51.6	
	comp=Z,201nm,1.5s						
BRG				S	Sn	04 42 51.0	-3.6
	comp=N,3μm,14.1s						
	comp=E,2μm,12.0s						
	comp=Z,2μm,12.4s						
BRG	Berggiesshubel	21.50	115	*i* P	P	04 38 46.8	-1.4
BRG				*i*		04 38 51.6	
BRG				S	Sn	04 42 51.0	-3.6
BRG				pmax	pmax		
	comp=Z,50nm,1.2s						
BRG				pmax	pmax		
	comp=Z,201nm,1.5s						
BRG				MLR	MLR		
	comp=N,3μm,14.1s						
BRG				MLR	MLR		
	comp=E,2μm,12.0s						
BRG				MLR	MLR		
	comp=Z,2μm,12.4s						
BRG	Berggiesshubel	21.50	115	*e*P	P	04 38 46.0	-2.2
	comp=Z,2μm,2.9s,baz=328,slow=11						
MANZ	Manzenberg	21.52	119	*e*P	P	04 38 47.5	-1.0
	comp=Z,428nm,2.3s,baz=328,slow=11						
BFO	Black Forest	21.55	127	P	P	04 38 47.8	-1.0
BFO				pmax	pmax		
	comp=Z,195nm,1.6s						
BFO	Black Forest	21.55	127	*e*P	P	04 38 48.3	-0.5
	comp=Z,217nm,1.6s,baz=328,slow=11						
BFO	Black Forest	21.55	127	P	P	04 38 47.8	-1.0
BFO				IAmb	IAmb	04 38 55.3	
	comp=Z,196nm,1.6s						
VSU	Vasula	21.61	86	*e*P	P	04 38 47.1	-2.3
VSU	Vasula	21.61	86	*i* P	P	04 38 48.4	-0.9
VSU				pmax	pmax		
	comp=Z,150nm,0.9s						
FRB	Frobisher Bay	21.66	291	LR	LR	04 46 32.2	
	comp=Z,942nm,19.9s,baz=58,slow=35						
ROTZ	Rotzenmuhle	21.73	119	*e*P	P	04 38 50.0	-0.7
	comp=Z,500nm,2.5s,baz=328,slow=11						
PVCC	Panska Ves	22.02	115	*e*P	P	04 38 56.8	+3.0
PVCC				*e*x	x	04 39 03.1	
PVCC				*e*S	Sn	04 43 02.2	-4.8
PVCC				AMS	AMS	04 49 10.0	
	comp=Z,2μm,14.1s						
PVCC	Panska Ves	22.02	115	*e*P	P	04 38 56.8	+3.0
PVCC				*e*		04 39 03.1	
PVCC				MLR	MLR		
	comp=Z,2μm,14.1s						
SLVR	Solovky	22.08	65	*e*P	P	04 38 53.4	-0.8

GOPC MLR MLR
comp=Z,2µm,10.4s
UPC Upice 22.60 113 *e*P **P 04 39 00.7 +0.7**
UPC *e*pP **sP 04 39 04.6 +1.1**
UPC *e*S **S 04 43 06.3 -1.3**
UPC AMS AMS 04 52 20.0
comp=Z,2µm,11.2s
UPC Upice 22.60 113 *e*P **P 04 39 00.7 +0.7**
UPC *e* 04 39 04.6
UPC *e*S **S 04 43 06.3 -1.3**
UPC MLR MLR
comp=Z,2µm,11.2s
OSTC Ostas 22.64 113 *e*P **P 04 38 59.5 -1.0**
OSTC *e*x x 04 39 05.0
OSTC *e*S **S 04 43 09.5 +1.1**
OSTC AMS AMS 04 51 30.0
comp=Z,2µm,10.8s
UBR Ueberruh 22.72 125 *e*P **P 04 39 00.8 -0.5**
comp=Z,799nm,2.1s,baz=328,slow=11
KHC Kasperske Hory 22.77 118 *e*P **P 04 38 59.1 -2.7**
KHC *e*pP **pP 04 39 02.5 -1.9**
KHC *e*S **S 04 43 14.6 +3.9**
KHC AMS AMS 04 49 40.0
comp=Z,2µm,13.3s
KHC Kasperske Hory 22.77 118 *e*P **P 04 38 59.1 -2.7**
KHC *e* 04 39 02.5
KHC MLR MLR
comp=Z,2µm,13.3s
KHC Kasperske Hory 22.77 118 P **P 04 39 00.9 -0.9**
DPC Dobruska-Polom 22.85 113 *e*P **P 04 39 03.0 +0.3**
DPC *e*pP **sP 04 39 06.6 +0.5**
DPC *e*S **S 04 43 14.6 +2.5**
DPC AMS AMS 04 52 30.0
comp=Z,2µm,11.3s
DPC Dobruska-Polom 22.85 113 *e*P **P 04 39 03.0 +0.3**
DPC *e* 04 39 06.6
DPC *e*S **S 04 43 14.6 +2.5**
DPC MLR MLR
comp=Z,2µm,11.3s
SENIN Lac Senin/Sane 22.93 131 P **P 04 39 03.6 -0.1**
SENIN IAmb IAmb 04 39 10.1
comp=Z,70nm,1.4s
SUW Suwalki 22.95 98 *e*P **P 04 39 02.3 -1.3**
SUW *e*S **S 04 43 18.2 +4.5**
SUW Suwalki 22.95 98 P **P 04 39 03.3 -0.4**
SUW pmax pmax
comp=Z,84nm,1.1s
SUW Suwalki 22.95 98 P **P 04 39 03.3 -0.4**
SUW IAmb IAmb 04 39 08.9
comp=Z,84nm,1.1s
DAVA Damuels 22.98 126 *e*P **P 04 39 03.9 -0.2**
comp=Z,57nm,1.3s
GEC2 GERESS Array S 23.05 119 *e*P **P 04 39 04.5 -0.3**
comp=Z,1µm,2.8s,baz=328,slow=11
GEC2 GERESS Array S 23.05 119 P **P 04 39 04.4 -0.4**
GERES GERESS Array B 23.05 119 P **P 04 39 03.2 -1.6**
comp=Z,5.3nm,0.9s,baz=330,slow=7.7,SNR=22
GERES LR LR 04 48 30.2
comp=Z,2µm,19.7s,baz=328,slow=38
GERES GERESS Array B 23.05 119 P **P 04 39 03.8 -1.0**
SSB Saint Sauveur 23.05 137 P **P 04 39 05.0 +0.2**
SSB pmax pmax
comp=Z,42nm,1.2s
SSB Saint Sauveur 23.05 137 P **P 04 39 05.0 +0.2**
IZAR Zarasai 23.09 92 *e*P **P 04 39 04.5 -0.6**
RETA Reutte 23.11 125 *e*P **P 04 39 04.4 -1.1**
comp=Z,37nm,1.3s
ISAL Salakas 23.15 93 *e*P **P 04 39 05.2 -0.5**
KRLC Kraliky 23.25 113 *e*P **P 04 39 09.8 +3.0**
KRLC *e*x x 04 39 14.1
KRLC *e*S **S 04 43 19.9 +1.0**
KRLC AMS AMS 04 52 50.0
comp=Z,2µm,10.2s
KRLC Kraliky 23.25 113 *e*P **P 04 39 09.8 +3.0**
KRLC *e* 04 39 14.1
KRLC *e*S **S 04 43 19.9 +1.0**
KRLC MLR MLR
comp=Z,2µm,10.2s
IIGN Ignalina 23.34 93 *e*P **P 04 39 06.9 -0.7**
MOTA Moosalm 23.36 124 *e*P **P 04 39 07.6 -0.5**
comp=Z,112nm,1.4s,SNR=16
TMCR Tamitsa 23.36 66 *e*P **P 04 39 06.1 -1.6**
TMCR pmax pmax
comp=Z,54nm,0.9s
TREC Trest 23.36 116 *e*S **S 04 43 28.1 +7.3**
TREC AMS AMS 04 52 40.0
comp=Z,2µm,8.9s
DAVOX Davos/Dischmat 23.42 127 P **P 04 39 05.5 -3.2**
comp=Z,6.7nm,0.9s,baz=319,slow=11,SNR=12
DAVOX LR LR 04 49 30.6
comp=Z,833nm,18.1s,baz=325,slow=40
PGAV Gavieira, Arco 23.45 162 *e*P **P 04 39 07.6 -1.4**
comp=Z,89nm,1.5s
PGAV *e*S **S 04 43 24.0 +1.5**
PGAV *e*LR LR 04 45 57.5
comp=Z,2µm,16.0s
SQTA Sankt Quirin 23.50 124 *e*P **P 04 39 08.5 -1.0**
comp=Z,62nm,1.3s,SNR=14
FETA Feichten 23.50 125 pP pP 04 39 10.8 -1.4
comp=Z,46nm,1.4s
TUE Stuetta 23.50 128 P **P 04 39 09.4 -0.2**
BEL Belsk 23.52 105 *e*P **P 04 39 09.2 -0.3**
BEL *e*S **S 04 43 29.8 +6.6**
WATA Walderalm 23.53 124 P **P 04 39 09.3 -0.5**
comp=Z,69nm,1.3s
EUNU Eureka 23.56 336 P **P 04 39 08.5 -1.2**
IDID Didziasalis 23.58 92 *e*P **P 04 39 08.1 -1.9**
FUORN Ofenpass-Fuorn 23.69 127 P **P 04 39 11.7 +0.3**
PCAB Cabril 23.74 162 *e*P **P 04 39 09.9 -1.8**
comp=Z,104nm,1.6s
MORC Moravsky Berou 23.78 112 ⇑P **P 04 39 08.8 -3.3**
MORC Moravsky Berou 23.78 112 *e*P **P 04 39 11.4 -0.7**
MORC *e*S **S 04 43 30.5 +2.9**
MORC Moravsky Berou 23.78 112 ⇑P **P 04 39 08.8 -3.3**
MORC Moravsky Berou 23.78 112 P **P 04 39 11.4 -0.7**
VRAC Vranov 23.78 114 P **P 04 39 11.4 -0.7**
comp=Z,19nm,1.1s,baz=328,slow=12,SNR=16
VRAC LR LR 04 49 24.4
comp=Z,1µm,18.1s,baz=332,slow=39
VRAC Vranov 23.78 114 ⇑P **P 04 39 11.4 -0.7**
VRAC Vranov 23.78 114 *e*P **P 04 39 11.7 -0.3**
VRAC *e*S **S 04 43 30.8 +3.3**
PBRG Braganca 23.83 160 *e*P **P 04 39 11.1 -1.5**
comp=Z,58nm,1.6s
NACGM Naroch 23.88 93 *e*P **P 04 39 11.0 -1.9**
NACGM *e*PP PnPn 04 39 54.0 +13
NACGM *e*S **S 04 43 34.0 +5.2**
NACGM *e*SS **SnSn 04 44 04.0 -3.4**
NACGM eLQ LQ 04 47 16.0
NACGM eLR LR 04 49 08.0
BNI Bardonecchia 23.90 134 P **P 04 39 13.6 +0.2**
BNI pmax pmax
comp=Z,26nm,1.4s
BNI Bardonecchia 23.90 134 P **P 04 39 13.6 +0.2**
KRUC Moravsky 23.90 115 *e*P **P 04 39 12.5 -0.7**
KRUC *e*S **S 04 43 33.0 +3.6**
MOA Molln 24.08 119 *e*P **P 04 39 13.9 -1.0**
comp=Z,32nm,1.6s
PVRL Vila Real 24.21 162 *e*P **P 04 39 16.3 +0.2**
comp=Z,83nm,1.8s
OJC Ojcow 24.34 109 *e*P **P 04 39 16.5 -0.8**
OJC *e*S **S 04 43 38.3 +1.9**
OJC Ojcow 24.34 109 P **P 04 39 16.6 -0.7**
OJC pmax pmax
comp=Z,76nm,1.6s
OJC Ojcow 24.34 109 P **P 04 39 16.6 -0.7**
OJC IAmb IAmb 04 39 21.1
comp=Z,76nm,1.6s
ABTA Abfaltersbach 24.37 123 pP pP 04 39 19.3 -1.1
comp=Z,40nm,1.2s
KBA Koelnbreinsper 24.39 122 *e*pP pP 04 39 19.9 -0.8
comp=Z,80nm,2.0s
MVO Moncorvo 24.41 160 *e*P **P 04 39 17.2 -0.9**
comp=Z,91nm,1.9s
MVO *e*S **S 04 43 42.4 +4.6**
MVO *e*LR LR 04 46 53.8
comp=Z,1µm,16.0s
JAVC Velka Javorina 24.57 113 *e*P **P 04 39 19.8 +0.4**
JAVC *e*S **S 04 43 46.1 +6.0**
MICGM Minsk 24.62 93⇓*e*P **P 04 39 19.0 -0.7**
MICGM ⇓*e*P **P 04 39 19.0 -0.7**
MICGM *e*PP sP 04 40 04.0 +41
MICGM *e*S **S 04 43 46.0 +5.2**
MICGM *e*SS SnSn 04 45 18.0 +52
MICGM eLQ LQ 04 48 24.0
MICGM eLR LR 04 49 50.0
MNK Minsk 24.62 93⇓*e*P **P 04 39 19.0 -0.7**
MNK *e* 04 40 04.0
MNK *e*S **S 04 43 46.0 +5.2**
CONA Conrad Observa 24.62 117 *e*P **P 04 39 19.1 -0.8**
comp=Z,25nm,1.1s,SNR=18
CTI Castel Tesino 24.66 125 P **P 04 39 19.2 -1.1**
CTI pmax pmax
comp=Z,149nm,1.7s
CTI Castel Tesino 24.66 125 P **P 04 39 19.2 -1.1**
ZOU Zoufplan 24.70 123 P **P 04 39 21.1 +0.4**
CIMO Cimolais 24.72 124 P **P 04 39 20.9 +0.2**
PVIS Viseu 24.73 162 *e*P **P 04 39 21.5 +0.6**
comp=Z,52nm,1.5s
SMOL Smolenice 24.75 114 *e*P **P 04 39 20.8 -0.2**
SMOL pmax pmax
comp=Z,50nm,1.2s
SMOL Smolenice 24.75 114 *e*P **P 04 39 20.8 -0.2**
MODS Modra-Piesok 24.80 115 *e*P **P 04 39 20.0 -1.5**
MODS pmax pmax
comp=Z,318nm,2.0s
MODS Modra-Piesok 24.80 115 *e*P **P 04 39 20.0 -1.5**
STAL STALIGIAL 24.86 124 P **P 04 39 22.0 0.0**
MYKA Terra Mystica 24.88 122 *e*P **P 04 39 22.6 +0.4**
comp=Z,40nm,1.9s
PRED Cave del Predi 25.01 122 P **P 04 39 23.8 +0.4**
PRED IAmb IAmb 04 39 30.9
comp=Z,41nm,1.2s
LANS Liptovska Anna 25.05 111 *e*P **P 04 39 23.0 -0.7**
LANS pmax pmax
comp=Z,20nm,1.0s
LANS Liptovska Anna 25.05 111 *e*P **P 04 39 23.0 -0.7**
ARSA Arzberg 25.05 118 *e*P **P 04 39 23.0 -0.8**
comp=Z,18nm,1.1s
COI Coimbra 25.17 163 P **P 04 39 27.0 +2.3**
COI pmax pmax
comp=Z,138nm,1.7s
COI Coimbra 25.17 163 P **P 04 39 27.0 +2.3**
COI Coimbra 25.17 163 *e*P **P 04 39 24.2 -0.6**
comp=Z,100nm,1.6s
NIE Niedzica 25.17 109 *e*P **P 04 39 24.6 -0.1**
NIE *e*S **S 04 43 51.3 +1.5**
CADS Cadrg 25.25 122 *e*P **P 04 39 23.9 -1.7**
CADS *e*S **S 04 43 57.0 +5.8**
GORS Gorjuse 25.27 122 *e*P **P 04 39 29.1 +3.3**
GORS *e*S **S 04 43 59.1 +7.5**
PCAS Casmilo, Conde 25.31 163 *e*P **P 04 39 27.0 +0.9**
comp=Z,109nm,1.4s
OBKA Obir 25.31 121 *e*P **P 04 39 26.0 -0.2**
comp=Z,32nm,1.2s
VYHS Vyhne 25.32 112 *e*P **P 04 39 25.5 -0.6**
VYHS pmax pmax
comp=Z,141nm,1.6s
VYHS Vyhne 25.32 112 *e*P **P 04 39 25.5 -0.6**
SOKA Soboth 25.35 120 *e*P **P 04 39 25.2 -1.2**
comp=Z,40nm,2.2s
KLMR Klimovskoe 25.63 72 *e*P **P 04 39 28.9 +0.2**
comp=Z,55nm,1.3s
KLMR *e*PcP **PcP 04 42 59.2 +0.3**
KLMR *e*S **S 04 43 59.0 +2.3**
KLMR LQ LQ 04 46 31.2
KLMR LR LR 04 47 34.7
KLMR Klimovskoe 25.63 72 *e*P **P 04 39 28.9 +0.2**
KLMR *e* 04 42 59.3
KLMR *e*S **S 04 43 59.0 +2.3**
KLMR pmax pmax
comp=Z,55nm,1.3s
KLMR Klimovskoe 25.63 72 *e*P **P 04 39 28.9 +0.2**
KLMR AMP 04 39 35.8
comp=Z,55nm,1.3s
KLMR *e*PcP **PcP 04 42 59.3 +0.3**
KLMR *e*S **S 04 43 59.0 +2.3**
KLMR *e*S **S 04 43 59.0 +2.3**
KLMR LQ LQ 04 46 31.4
KLMR LQ LQ 04 46 31.4
KLMR LR LR 04 47 34.7
PCBR Castelo Branco 25.65 162 *e*P **P 04 39 28.7 -0.4**
comp=Z,65nm,1.3s
PSBE So Bento 25.81 164 *e*P **P 04 39 30.4 -0.2**
comp=Z,98nm,1.9s
UCM Universidad Co 25.88 154 *e*P **P 04 39 29.4 -1.8**
UCM *e*S **S 04 44 04.0 +3.0**
LSH Leshukonskoye 25.97 61 *e*P **P 04 39 30.8 -1.1**
comp=Z,36nm,1.0s
LSH *e*S **S 04 44 02.1 0.0**
SCHQ Schefferville 25.98 271 P **P 04 39 31.8 -0.3**
comp=Z,22nm,0.8s,baz=48,slow=6.9,SNR=12
SCHQ LR LR 04 48 27.6
comp=Z,709nm,18.8s,baz=25,slow=34
SCHQ Schefferville 25.98 271 P **P 04 39 32.5 +0.4**
SCHQ IAmb IAmb 04 39 38.1
comp=Z,43nm,1.1s
KWP Kalwaria Pacla 25.99 106 *e*P **P 04 39 32.4 +0.2**
CRVS Cervenica-Dubn 26.05 109 *e*P **P 04 39 32.4 -0.3**
CRVS pmax pmax
comp=Z,276nm,2.2s
CRVS Cervenica-Dubn 26.05 109 *e*P **P 04 39 32.4 -0.3**
PSZ Piszkesteto 26.20 112 ⇑P **P 04 39 34.4 +0.2**
PSZ Piszkesteto 26.20 112 ⇑P **P 04 39 34.4 +0.2**
PSZ Piszkesteto 26.20 112 P **P 04 39 34.3 +0.1**
PMAFR Mafra 26.30 165 *e*P **P 04 39 35.1 0.0**
comp=Z,114nm,1.3s
PMTG Montargil 26.31 163 *e*P **P 04 39 35.5 +0.3**
comp=Z,48nm,1.6s
KOLS Kolonicke sedl 26.35 108 *e*P **P 04 39 33.7 -1.8**
KOLS pmax pmax
comp=Z,74nm,1.4s
KOLS Kolonicke sedl 26.35 108 *e*P **P 04 39 33.7 -1.8**
ESBB Sonseca Array 26.36 156 P **P 04 39 35.8 +0.1**
ESDC Sonseca Array 26.36 156 P **P 04 39 31.9 -3.7**
comp=Z,5.2nm,0.8s,baz=349,slow=9.2,SNR=20
ESDC LR LR 04 49 38.0
comp=Z,937nm,19.1s,baz=340,slow=36
ESDC Sonseca Array 26.36 156 P **P 04 39 35.3 -0.4**
RES Resolute Bay 26.36 324 LR LR 04 49 49.5
comp=Z,644nm,18.2s,baz=90,slow=36
LVV L'vov 26.39 104 *e*P **P 04 39 35.6 -0.2**
LVV *e* 04 40 23.2
LVV *e*S **S 04 44 04.6 -4.4**
LVV *e* 04 45 21.9
LVV pmax pmax
comp=Z,160nm,1.3s
LVV MLR MLR
comp=N,2µm,12.0s
LVV MLR MLR
comp=Z,2µm,12.0s
PAB San Pablo 26.42 156 P **P 04 39 37.9 +1.7**
PAB pmax pmax
comp=Z,71nm,1.6s
PAB San Pablo 26.42 156 P **P 04 39 37.9 +1.7**
PAB IAmb IAmb 04 39 44.2
comp=Z,71nm,1.6s
LIS Lisbon 26.55 165 *e*P **P 04 39 36.4 -0.9**
LIS AMb AMB 04 39 45.5
comp=Z,97nm,1.8s
LIS *e*S **S 04 44 10.8 -0.9**
LIS Lisbon 26.55 165 *e*P **P 04 39 36.4 -0.9**
LIS *e*S **S 04 44 10.8 -0.9**
LIS pmax pmax
comp=Z,97nm,1.8s
UZH Uzhgorod 26.60 108 *e*P **P 04 39 36.7 -1.0**
UZH *i* 04 39 40.3
UZH *i* 04 40 29.5
UZH *i*S **S 04 44 07.7 -4.6**
UZH MLR MLR
comp=N,450nm,12.0s
UZH MLR MLR
comp=E,380nm,12.0s
UZH MLR MLR
comp=Z,200nm,12.0s
OSSC Osservatorio P 26.74 129 P **P 04 39 40.3 +1.3**
PNCL Nicolau / Gran 27.22 164 *e*P **P 04 39 43.5 +0.2**
PBEJ Beja 27.39 163 *e*P **P 04 39 44.6 -0.2**
comp=Z,34nm,1.7s
PRGR Permogore 27.64 67 *e*P **P 04 39 45.7 -1.2**
comp=Z,82nm,1.6s
PRGR *e*S **S 04 44 28.4 -0.1**
PRGR Permogore 27.64 67 *e*P **P 04 39 45.7 -1.2**
PCVE Castro Verde 27.75 164 *e*P **P 04 39 47.9 -0.2**
comp=Z,36nm,1.7s
PTEO Sao Teotonio 27.76 165 A A 04 39 40.8
comp=Z,45nm,1.5s
PTEO Sao Teotonio 27.76 165 *e*P **P 04 39 47.2 -1.0**
AKASG Malin Array Be 27.91 98 P **P 04 39 46.3 -3.1**
comp=Z,5.7nm,1.0s,baz=325,slow=9.7,SNR=10
AKASG LR LR 04 50 32.5
comp=Z,991nm,21.3s,baz=325,slow=36
AKASG Malin Array Be 27.91 98 P **P 04 39 46.9 -2.5**
AKASG pmax pmax
comp=Z,9.0nm,1.1s
AKASG Malin Array Be 27.91 98 P **P 04 39 46.9 -2.5**
AKBB Malin Array Si 27.91 98 P **P 04 39 49.0 -0.4**
AKBB pmax pmax
comp=Z,45nm,1.6s
AKBB Malin Array Si 27.91 98 P **P 04 39 49.0 -0.4**
AKBB IAmb IAmb 04 39 57.6
comp=Z,45nm,1.6s
OBN Obninsk 27.93 84 LR LR 04 50 22.4
comp=Z,163nm,21.2s,baz=334,slow=35
OBN Obninsk 27.93 84*c*eP **P 04 39 49.5 0.0**
OBN *e* 04 40 35.0
OBN *i*S **S 04 44 37.3 +4.2**
OBN *e*SS **SnSn 04 45 53.1 +6.8**
OBN pmax pmax
comp=Z,44nm,1.4s
OBN MLR MLR
comp=Z,966nm,14.0s
MOS Moscow 27.96 82 *e*P **P 04 39 52.6 +2.8**
MOS *e* 04 40 50.8
MOS *e*S **S 04 44 38.1 +4.5**
MOS *e*SS **SnSn 04 45 58.9 +12**
MOS *e* 04 50 43.0
MOS pmax pmax
comp=Z,55nm,0.7s
MOS MLR MLR
comp=N,2µm,13.0s
MOS MLR MLR
comp=Z,1µm,13.0s
MORF Marmelete 28.00 165 *e*P **P 04 39 49.4 -1.0**
MORF AMb AMB 04 40 02.3
comp=Z,31nm,0.9s
MORF *e*S **S 04 44 33.8 -1.0**
MORF Marmelete 28.00 165 *e*P **P 04 39 49.4 -1.0**
MORF *e*S **S 04 44 33.7 -1.0**
MORF pmax pmax
comp=Z,31nm,0.9s
MORF Marmelete 28.00 165 *e*P **P 04 39 48.8 -1.6**
comp=Z,32nm,1.5s
PVAQ Vaqueiros 28.02 163 *e*P **P 04 39 48.9 -1.6**
comp=Z,27nm,1.9s
PVAQ *e*S **S 04 44 37.5 +2.7**
PVAQ *e*LR LR 04 48 13.3
PBDV Barranco-do-Ve 28.15 163 *e*P **P 04 39 51.3 -0.4**
comp=Z,32nm,1.8s
SIRR Siria 28.25 112 ⇑P **P 04 39 53.0 +0.5**
BUR08 Bucovina Ar. S 28.57 106 P **P 04 39 55.5 0.0**
BURAR Bucovina Array 28.60 106 ⇑P **P 04 39 54.4 -1.4**
BURAR Bucovina Array 28.60 106 ⇑P **P 04 39 54.4 -1.4**
BURAR Bucovina Array 28.60 106 P **P 04 39 55.7 -0.1**
CJR Cluj-Napoca 28.66 109 ⇑P **P 04 39 57.1 +0.8**
CJR Cluj-Napoca 28.66 109 ⇑P **P 04 39 57.1 +0.8**
CART Cartagena 28.94 152 *e*P **P 04 40 00.6 +1.9**
CART *e*S **S 04 44 57.1 +7.8**
EMAL Malaga-Limoner 29.12 158 *e*P **P 04 39 59.5 -0.8**
EMAL *e*S S 04 45 03.9 +12
SFS San Fernando 29.14 161 *e*P **P 04 40 00.8 +0.3**
SFS *e*S S 04 45 04.0 +12
SORM Soroca 29.50 102 ⇑P **P 04 40 01.6 -1.9**
SORM Soroca 29.50 102 ⇑P **P 04 40 01.6 -1.9**
BIZ Bicaz 29.51 106 ⇑P **P 04 40 04.1 +0.4**
CEU Ceuta 29.82 160 *e*P **P 04 40 07.9 +1.4**
CEU *e*S S 04 45 13.7 +11
DOPR Dopca 30.00 108 ⇑P **P 04 40 07.9 -0.1**
ARR Arges 30.18 109 ⇑P **P 04 40 10.2 +0.5**
VOIR 30.29 109 ⇑P **P 04 40 10.6 -0.1**
VOIR 30.29 109 ⇑P **P 04 40 10.6 -0.1**
KIS Kishinev 30.59 103 *e*P **P 04 40 17.0 +3.8**
comp=Z,170nm,3.4s
KIS Kishinev 30.59 103 *e*PP PP 04 41 16.0 -6.0
KIS Kishinev 30.59 103 *e*P **P 04 40 17.0 +3.8**
KIS *e* 04 41 16.0
KIS *e*S **S 04 45 18.0 +3.0**
KIS pmax pmax
comp=Z,170nm,3.4s
KIS smax smax
comp=N,350nm,10.0s
PLOR Plostina 30.61 107 ⇑P **P 04 40 12.8 -0.7**
PLOR Plostina 30.61 107 ⇑P **P 04 40 12.8 -0.7**
MLR Muntele Rosu 30.61 108 ⇑P **P 04 40 13.6 0.0**
MLR Muntele Rosu 30.61 108 ⇑P **P 04 40 13.6 0.0**
VRI Vrincioaia 30.63 106 ⇑P **P 04 40 11.9 -1.7**
VRI Vrincioaia 30.63 106 ⇑P **P 04 40 11.9 -1.7**
LPSR Galich'ya Gora 30.68 86 *e*P **P 04 40 12.2 -1.7**
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR MLR MLR
comp=Z,1µm,13.0s
PVLZ Peæn de 30.70 158 *e*P P 04 40 08.8 -5.4
PVLZ *e*S **S 04 45 21.8 +4.9**
MELI Melilla 30.80 156 *e*P **P 04 40 14.3 -0.9**
MELI *e*S **S 04 45 23.0 +4.5**
CFR Carcaliu 31.76 106 ⇑P **P 04 40 21.8 -1.8**
CFR Carcaliu 31.76 106 ⇑P **P 04 40 21.8 -1.8**
VSR Storozhevoye 31.78 88 *e*P **P 04 40 22.6 -1.1**
VSR pmax pmax
comp=Z,40nm,1.3s
VSR MLR MLR
comp=Z,810nm,11.0s
VTS Vitosha 31.91 114 *e*P **P 04 40 29.3 +4.2**
PMOZ Porto Moniz, M 31.96 179 *e*LR LR 04 49 18.0
comp=Z,732nm,16.0s
VORD Divnogorie 32.02 88 *e*P **P 04 40 23.8 -2.0**
VORD pmax pmax
comp=Z,30nm,1.4s
AVE Averroes 32.11 164 *e*P **P 04 40 25.4 -1.2**
AVE *e*S **S 04 45 43.2 +4.3**
IFR Ifrane 32.19 160 *e*P **P 04 40 26.1 -1.5**
IFR *e*S **S 04 45 43.7 +3.0**
PGB Panagyurishte 32.34 113 *e*P **P 04 40 28.9 +0.2**
SZH Strazhica 32.44 110 *e*P **P 04 40 28.8 -0.7**
CORL Corleone 32.48 131 P **P 04 40 30.9 +0.9**
CHGQ Chibougamau 32.73 271 P **P 04 40 33.1 +1.0**
baz=41
CLTB Caltabellotta 32.74 131 P **P 04 40 32.9 +0.6**
E63A Oxbow 32.88 261 P **P 04 40 34.5 +1.2**
baz=37
VRH Novokhopyorsk 32.89 85 *e*P **P 04 40 33.5 +0.2**
VRH pmax pmax
comp=Z,40nm,1.5s
VRH MLR MLR
comp=Z,1µm,14.0s
MMB Musomiste 32.98 114 *e*P **P 04 40 34.7 +0.4**
KEST Kesra 33.26 138 P **P 04 40 34.2 -2.7**
comp=Z,4.8nm,1.1s,baz=152,slow=0.4,SNR=6.3
KEST LR LR 04 52 29.7
comp=Z,251nm,19.4s,baz=346,slow=34
KEST Kesra 33.26 138 P **P 04 40 37.2 +0.3**
RZN Rozhen 33.28 113 *e*P **P 04 40 36.6 -0.6**
G65A Princeton 33.49 259 P **P 04 40 39.8 +1.2**
baz=36
KDZ Kurdzhali 33.59 112 *e*P **P 04 40 39.2 -0.5**
F62A Pittston Farm, 33.95 262 P **P 04 40 44.3 +1.6**
baz=37
LATQ La Tuque 33.98 266 P **P 04 40 44.4 +1.5**
baz=39
E60A Ste Agathe de 34.20 264 P **P 04 40 46.7 +1.8**
baz=38
MATQ Matagami 34.24 273 P **P 04 40 46.6 +1.4**
baz=41
D58A Chemin du LacG 34.25 266 P **P 04 40 47.1 +1.8**
baz=38
F60A Warwick 34.73 264 P **P 04 40 50.6 +1.1**
baz=37
D57A Chemin Vers le 34.74 267 P **P 04 40 50.9 +1.4**
baz=38
D56A ZEC Mazanza, M 35.09 268 P **P 04 40 53.5 +1.0**
baz=38
G61A St-Isidore-de- 35.10 263 P **P 04 40 53.6 +0.9**
baz=37
F59A Saint Guilaume 35.18 265 P **P 04 40 54.8 +1.5**
baz=37
E57A Chemin Saint G 35.32 267 P **P 04 40 56.4 +1.8**
baz=38
D55A Sainte-Anne-du 35.41 268 P **P 04 40 57.0 +1.6**
baz=38
VLDQ Val d'Or 35.42 271 P **P 04 40 57.1 +1.8**
VLDQ IAmb IAmb 04 41 00.7

comp=Z,36nm,1.4s
G60A Masonville 35.59 263 P P 04 40 57.9 +1.1
baz=37
E56A St. Veronique 35.60 267 P P 04 40 58.5 +1.6
baz=38
ANN Anapa 35.98 97 *e*P **P 04 40 56.8 -3.3**
ANN *e**PP **pP 04 41 00.1 -2.6**
ANN *e* 04 42 13.4
ANN *e*S **S 04 46 36.5 -2.1**
ANN pmax pmax
comp=Z,34nm,0.8s
ANN MLR MLR
comp=Z,2μm,15.0s
FRNY Flat Rock 36.33 264 P P 04 41 04.6 +1.4
FRNY IAmb IAmb 04 41 12.2
comp=Z,92nm,2.0s
NRIK Noril'sk 36.41 35 P P 04 41 04.4 +0.8
NRIK LR LR 04 56 33.9
comp=Z,224nm,21.4s,baz=7.0,slow=37
H59A Cadyville 36.53 264 P P 04 41 06.5 +1.6
baz=36
SVE Sverdlovsk 36.62 64 *e*P **P 04 41 06.4 +0.9**
SVE *e*S **S 04 46 46.2 -2.0**
SVE pmax pmax
comp=Z,21nm,1.3s
SVE MLR MLR
comp=Z,1μm,19.0s
ORIO Orleans, Innes 36.66 267 P P 04 41 07.8 +1.8
baz=37
G57A Newington 36.72 266 P P 04 41 08.0 +1.6
baz=37,SNR=5.7
F55A Otter Lake 36.72 268 P P 04 41 08.6 +2.0
baz=38
H58A Gabriels 36.92 264 P P 04 41 09.9 +1.6
baz=36
LONY Lake Ozonia 36.93 265 P P 04 41 10.2 +1.8
baz=36
I60A Shoreham 37.01 263 P P 04 41 10.3 +1.4
baz=36
G55A Calabogie 37.34 268 P P 04 41 13.8 +2.0
baz=37
ALGO Algonquin Park 37.35 270 P P 04 41 13.4 +1.5
baz=38
HRV Adam Dziewonsk 37.36 260 P P 04 41 13.9 +1.9
baz=34
H57A Richville 37.40 266 P P 04 41 14.2 +1.9
baz=36
G54A Lake Saint Pet 37.81 269 P P 04 41 17.1 +1.3
baz=37
J59A Piesco 37.83 264 P P 04 41 17.3 +1.3
baz=36
SOC Sochi 37.93 96*c i*P **P 04 41 16.6 -0.2**
SOC *e* 04 42 39.8
SOC *e*S **S 04 47 10.1 +1.7**
SOC *e*SS **SnSn 04 49 45.6 -3.7**
SOC pmax pmax
comp=Z,22nm,0.7s
SOC MLR MLR
comp=Z,1μm,16.0s
I57A Carthage 37.94 265 P P 04 41 19.0 +2.1
baz=36
H55A Tweed 38.10 267 P P 04 41 20.1 +1.9
baz=36
GOF Gofitskoye 38.17 91⇑*e*P **P 04 41 19.6 +0.8**
GOF *e*S **S 04 47 15.6 +3.6**
GOF pmax pmax
comp=Z,184nm,1.3s
J58A Remsen 38.25 265 P P 04 41 21.6 +2.2
baz=36
BR131 Keskin Array S 38.56 105 P P 04 41 22.2 -0.1
BR131 pmax pmax
comp=Z,43nm,1.8s
BR131 Keskin Array S 38.56 105 P P 04 41 22.1 -0.1
BRTR Keskin Array B 38.56 105 P P 04 41 20.0 -2.3
comp=Z,4.6nm,1.0s,baz=318,slow=7.1,SNR=12
BRTR LR LR 04 57 46.2
comp=Z,138nm,20.2s,baz=296,slow=37
BRTR Keskin Array B 38.56 105 *i* P **P 04 41 21.8 -0.5**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 38.56 105 P P 04 41 20.2 -2.1
H53A Bobcaygeon 38.68 269 P P 04 41 24.8 +1.7
baz=37
K58A Earlville 38.89 264 P P 04 41 27.1 +2.3
baz=35
KIV Kislovodsk 38.90 92 *e*P **P 04 41 25.9 +0.8**
KIV *e* 04 42 52.4
KIV *e*S **S 04 47 24.0 +0.8**
KIV pmax pmax
comp=Z,49nm,1.1s
KIV pmax pmax
comp=Z,41nm,3.0s
KIV MLR MLR
comp=Z,2μm,16.0s
KVAR Kislovodsk Arr 38.90 92 P P 04 41 24.8 -0.3
comp=Z,4.4nm,0.6s,baz=320,slow=17,SNR=3.7
IDI Anoyia 38.91 118 P P 04 41 24.2 -1.0
IDI IAmb IAmb 04 41 27.6
comp=Z,44nm,1.2s
SHA1 Shidzhatmaz 39.06 93 *i* P **P 04 41 26.7 +0.1**
YKA Yellowknife Ar 39.11 313 P P 04 41 27.2 +0.8
comp=Z,12nm,1.1s,baz=38,slow=9.1,SNR=11
YKA PcP **PcP 04 43 35.5 -0.3**
comp=Z,3.5nm,1.0s,baz=58,slow=2.0,SNR=4.5
YKA LR LR 04 57 13.6
comp=Z,366nm,18.4s,baz=0.0,slow=36
KBZ Khabaz 39.17 92 P P 04 41 26.8 -0.4
comp=Z,10nm,0.8s,baz=317,slow=9.5,SNR=19
KBZ LR LR 04 57 54.1
comp=Z,1μm,20.8s,baz=328,slow=37
BINY Binghamton 39.49 264 P P 04 41 31.6 +1.7
baz=35
ELL Elmali 39.58 112 P P 04 41 30.3 -0.6
ELL pmax pmax
comp=Z,194nm,1.4s
ELL Elmali 39.58 112 P P 04 41 30.3 -0.6
K56A Middlesex 39.66 266 P P 04 41 33.1 +1.8
baz=35
E46A Sault Ste Mari 39.71 276 P P 04 41 32.7 +1.0
E46A IAmb IAmb 04 41 37.0
comp=Z,47nm,1.2s
INK Inuvik 39.73 328 P P 04 41 31.1 -0.5
INK pmax pmax
comp=Z,25nm,1.4s
INK Inuvik 39.73 328 P P 04 41 31.1 -0.5
AKAS Kas 39.91 112 P P 04 41 33.2 -0.4
K55A Perry 39.95 267 P P 04 41 35.0 +1.3
baz=35
L57A Andrews Acres 40.02 265 P P 04 41 36.0 +1.7
baz=35
N60A Cedar Hill Far 40.21 262 P P 04 41 37.6 +1.7
baz=34
L56A Greenwood 40.21 266 P P 04 41 37.8 +1.8
baz=35
AKTO Aktyubinsk 40.31 73 P P 04 41 35.4 -1.2
comp=Z,7.2nm,1.0s,baz=308,slow=8.9,SNR=13
K54A Basiliko Farm, 40.31 267 P P 04 41 38.5 +1.7
baz=35
ZEI Tsey 40.37 92 *e*P **P 04 41 35.9 -1.5**
ZEI pmax pmax
comp=Z,14nm,1.1s
N59A State Game Lan 40.45 263 P P 04 41 39.5 +1.5
baz=34
L55A Hinsdale 40.55 266 P P 04 41 40.1 +1.3
baz=35
O60A Telford 40.80 262 P P 04 41 43.1 +2.4
baz=33
GROC Groznyy 40.84 90 *e*P **P 04 41 42.0 +0.9**
GROC *e*S **S 04 47 55.5 +3.4**
GROC pmax pmax
comp=Z,91nm,1.4s
L54A Sinclairville 40.89 267 P P 04 41 43.7 +2.2
baz=35
N58A Sunbury 40.92 264 P P 04 41 44.3 +2.5
baz=34
M56A Emporium 41.02 266 P P 04 41 45.1 +2.5
baz=34
O59A Robesonia 41.13 263 P P 04 41 45.9 +2.4
baz=34
KOPT Kop Dagi 41.19 98 P P 04 41 43.9 -0.4
KOPT IAmb IAmb 04 41 51.6
comp=Z,78nm,1.6s
M55A Ridgway 41.28 266 P P 04 41 47.1 +2.4
baz=34
AKH Akhalkalaki 41.32 94 P P 04 41 44.7 -0.5
AKH pmax pmax
comp=Z,33nm,1.2s
AKH Akhalkalaki 41.32 94 P P 04 41 44.7 -0.5
AKH IAmb IAmb 04 41 51.3
comp=Z,33nm,1.2s
N57A Milroy 41.35 264 P P 04 41 47.1 +1.8
baz=34
EYMN Ely 41.51 283 P P 04 41 48.8 +2.3
baz=38
EYMN Ely 41.51 283 P P 04 41 46.5 0.0
ULM Lac du Bonnet 41.52 289 P P 04 41 45.7 -0.9
comp=Z,5.7nm,1.1s,baz=8.8,slow=9.1,SNR=4.1
ULM LR LR 04 58 38.8
comp=Z,727nm,18.1s,baz=53,slow=36
ULM Lac du Bonnet 41.52 289 P P 04 41 46.4 -0.2
ULM pmax pmax
comp=Z,49nm,1.7s
ULM Lac du Bonnet 41.52 289 P P 04 41 46.4 -0.2
ULM IAmb IAmb 04 41 50.0
comp=Z,49nm,1.6s
N56A West Decatur 41.53 265 P P 04 41 48.7 +1.9
baz=34
SSPA Standing Stone 41.59 265 P P 04 41 49.2 +1.9
baz=34
O58A Lewisberry 41.60 263 P P 04 41 49.2 +1.8
baz=34
M54A Oil Creek Stat 41.63 267 P P 04 41 48.9 +1.2
baz=34,SNR=5.8
MAK Makhachkala 41.77 89 *e*P **P 04 41 45.1 -3.6**
MAK *e* 04 43 21.8
MAK *e*S **S 04 47 59.8 -6.0**
MAK *e*SS **SS 04 51 05.6 -5.5**
MAK pmax pmax
comp=Z,106nm,1.2s
MAK MLR MLR
comp=Z,704nm,13.0s
P59A Jarrettsville 41.82 262 P P 04 41 51.6 +2.5
baz=33
O57A Amberson 41.83 264 P P 04 41 51.4 +2.1
baz=34
N55A Marion Center 41.94 266 P P 04 41 52.1 +1.9
baz=34
TIXI Tiksi 41.96 15*ce*P **P 04 41 52.3 +2.4**
TIXI pmax pmax
comp=Z,45nm,1.1s
TIXI Tiksi 41.96 15 P P 04 41 48.6 -1.3
COWI Conover 41.97 279 P P 04 41 50.6 +0.2
AB31 Akbulak array 42.02 73 *i* P **P 04 41 49.3 -1.3**
ABKAR Akbulak array 42.02 73 P P 04 41 49.7 -0.9
EPYK Eagle Plains 42.04 328 P P 04 41 52.7 +2.0
baz=34,SNR=5.8
EPYK Eagle Plains 42.04 328 P P 04 41 49.9 -0.8
B35A Bob, Littlefor 42.11 285 P P 04 41 51.5 +0.1
M53A WI Miller and 42.12 268 P P 04 41 53.3 +1.7
baz=34
O56A Blue Knob Stat 42.18 265 P P 04 41 54.1 +1.9
baz=34
O56A Blue Knob Stat 42.18 265 P P 04 41 52.3 +0.1
O56A IAmb IAmb 04 41 55.5
comp=Z,91nm,1.8s
N54A Moraine State 42.22 267 P P 04 41 54.6 +2.2
baz=34
N54A Moraine State 42.22 267 IAmb IAmb 04 41 58.2
comp=Z,68nm,1.4s
P58A Pank, Wackersv 42.29 263 P P 04 41 55.1 +2.2
baz=33
CSS Mathiatis 42.51 109 P P 04 41 54.6 -0.2
O55A Ligonier 42.55 266 P P 04 41 56.9 +1.8
baz=34
P57A Homestead Farm 42.60 264 P P 04 41 57.3 +1.8
baz=33
TOLK Toolik Lake Re 42.64 336 P P 04 41 57.8 +2.2
baz=28,SNR=15
TOLK Toolik Lake Re 42.64 336 P P 04 41 54.8 -0.8
TOLK IAmb IAmb 04 42 00.9
comp=Z,67nm,1.2s
N53A Lisbon 42.71 267 P P 04 41 58.2 +1.8
baz=34
N53A Lisbon 42.71 267 IAmb IAmb 04 42 00.3
comp=Z,48nm,1.4s
BMAR Burnt Mountain 42.79 333 P P 04 41 55.9 -0.9
BMAR **PcP 04 43 47.9 0.0**
M51A Elyria 42.85 269 P P 04 41 59.4 +1.9
baz=34
Q58A Fox Den Farm, 42.91 263 P P 04 41 60.0 +1.9
baz=33
P56A Dayton Farm, R 42.93 265 P P 04 42 00.3 +2.0
baz=33
O54A Avella 43.03 267 P P 04 42 00.9 +1.9
baz=34
AGMN Agassiz Nation 43.04 287 P P 04 42 01.2 +2.2
baz=38,SNR=6.0
AGMN Agassiz Nation 43.04 287 P P 04 41 58.9 -0.1
N52A McGinn's Farm, 43.07 268 P P 04 42 01.6 +2.3
baz=34
G40A Rib Lake 43.09 279 P P 04 41 59.5 0.0
BRVK Borovoye 43.14 62*ce*P **P 04 42 00.4 +0.7**
BRVK pmax pmax
comp=Z,34nm,2.5s
BRVK Borovoye 43.14 62 P P 04 41 58.6 -1.1
Q57A Strasburg 43.14 264 P P 04 42 02.0 +2.0
baz=33
M50A Fremont 43.16 270 P P 04 42 00.2 +0.2
M50A IAmb IAmb 04 42 04.0
comp=Z,34nm,0.9s
BVAR Borovoye Array 43.20 62 P P 04 41 59.0 -1.2
comp=Z,7.5nm,0.9s,baz=248,slow=1.6,SNR=25
MCWV Mont Chateau 43.24 266 P P 04 42 02.7 +2.1
baz=33
N51A Ashland 43.28 269 P P 04 42 03.0 +2.0
baz=34
N51A Ashland 43.28 269 P P 04 42 01.1 +0.1
N51A IAmb IAmb 04 42 05.5
comp=Z,67nm,1.4s
O53A New Philadelph 43.33 267 P P 04 42 03.6 +2.2
baz=34
O53A New Philadelph 43.33 267 P P 04 42 01.0 -0.4
O53A IAmb IAmb 04 42 06.2
comp=Z,58nm,1.4s
P55A Reedsville 43.35 265 P P 04 42 03.0 +1.3
baz=33
P54A Burton 43.55 266 P P 04 42 05.1 +1.8
baz=33
MARD Mardin 43.58 100 P P 04 42 03.4 -0.3
MARD IAmb IAmb 04 42 09.9
comp=Z,30nm,1.0s
R58A Rapidan 43.59 263 P P 04 42 04.9 +1.4
baz=32
FYU Fort Yukon 43.67 333 P P 04 42 03.2 -0.6
O52A Adamsville 43.71 268 P P 04 42 05.6 +1.2
baz=34,SNR=6.4
O52A Adamsville 43.71 268 IAmb IAmb 04 42 08.4
comp=Z,39nm,1.1s
R57A Stanardsville 43.81 263 P P 04 42 07.1 +1.8
baz=32
Q55A Buckhannon 43.89 265 P P 04 42 07.5 +1.5
baz=33
F36A Milaca 44.01 283 P P 04 42 06.8 -0.1
F36A IAmb IAmb 04 42 12.3
comp=Z,49nm,1.6s
COLD Coldfoot 44.01 336 P P 04 42 08.7 +2.1
baz=27
COLD Coldfoot 44.01 336 P P 04 42 05.8 -0.8
O51A Pataskala 44.01 269 P P 04 42 08.0 +1.1
baz=34,SNR=7.4
P53A Whipple 44.04 267 P P 04 42 08.2 +1.1
baz=33,SNR=8.0
P53A Whipple 44.04 267 P P 04 42 06.9 -0.2
N49A Columbus Grove 44.05 271 P P 04 42 07.3 +0.2
L46A Eue Claire 44.06 273 P P 04 42 07.3 +0.1
L46A IAmb IAmb 04 42 12.0
comp=Z,56nm,1.3s
R56A Bull Pasture M 44.09 264 P P 04 42 09.2 +1.5
baz=33
ACSO Alum Creek Sta 44.10 269 P P 04 42 09.3 +1.6
baz=34
ACSO Alum Creek Sta 44.10 269 IAmb IAmb 04 42 11.3
comp=Z,27nm,1.0s
SPMN Marine on St. 44.22 282 P P 04 42 10.3 +1.8
baz=36
SPMN Marine on St. 44.22 282 P P 04 42 08.1 -0.4
SPMN IAmb IAmb 04 42 12.4
comp=Z,31nm,1.4s
Q54A Coxs Mills 44.22 266 P P 04 42 10.6 +2.0
baz=33
Q54A Coxs Mills 44.22 266 P P 04 42 09.0 +0.4
Q54A IAmb IAmb 04 42 13.9
comp=Z,39nm,1.2s
P52A Corning 44.23 268 P P 04 42 10.3 +1.6
baz=33
P52A Corning 44.23 268 P P 04 42 09.1 +0.4
P52A IAmb IAmb 04 42 13.0
comp=Z,35nm,1.2s
K43A Burlington 44.36 276 IAmb IAmb 04 42 14.3
comp=Z,49nm,1.4s
EGAK Eagle 44.38 329 P P 04 42 08.9 -0.6
S57A Dark Hollow, R 44.44 263 P P 04 42 12.4 +2.0
baz=32
TAM Tamanrasset 44.62 149 P P 04 42 13.4 +1.3
TAM pmax pmax
comp=Z,40nm,1.7s
TAM Tamanrasset 44.62 149 P P 04 42 13.4 +1.3
TAM IAmb IAmb 04 42 20.1
comp=Z,40nm,1.7s
Q53A Leroy 44.62 267 P P 04 42 13.9 +2.1
baz=33
O49A Covington 44.72 270 P P 04 42 12.9 +0.4
O49A IAmb IAmb 04 42 16.2
comp=Z,37nm,1.1s
N47A Urbana 44.73 272 IAmb IAmb 04 42 17.7
comp=Z,42nm,1.4s
P51A Williamsport 44.76 268 P P 04 42 14.8 +1.9
baz=33
P51A Williamsport 44.76 268 IAmb IAmb 04 42 16.3
comp=Z,50nm,1.3s
Q52A Bidwell 44.85 267 P P 04 42 15.6 +2.0
baz=33
T58A Grand View Acr 44.95 262 P P 04 42 16.0 +1.6
baz=32
R54A Victor 44.96 266 P P 04 42 15.9 +1.4
baz=33
S55A Lewisburg 45.09 265 P P 04 42 18.0 +2.3
baz=32
RDOG Red Dog Mine 45.20 342 P P 04 42 15.1 -0.9
T57A Hurt 45.21 263 P P 04 42 18.4 +1.8
baz=32
T57A Hurt 45.21 263 IAmb IAmb 04 42 23.1
comp=Z,34nm,1.4s
K27K Chicken 45.23 329 P P 04 42 18.7 +2.4
baz=30
Q51A Peebles 45.26 268 P P 04 42 17.0 +0.1
M44A Midewin, Midew 45.32 274 P P 04 42 17.4 +0.1
P49A Miami Univ. Ec 45.43 270 P P 04 42 20.0 +1.8
baz=33
P49A Miami Univ. Ec 45.43 270 IAmb IAmb 04 42 21.4
comp=Z,34nm,1.2s
U58A Oxford 45.43 262 P P 04 42 19.5 +1.2
baz=32
I37A Lemond, Waseca 45.45 281 IAmb IAmb 04 42 22.4
comp=Z,37nm,1.4s
L42A Oliver, Polo 45.51 276 IAmb IAmb 04 42 24.4
comp=Z,24nm,1.1s
BLA Blacksburg 45.53 264 P P 04 42 21.2 +2.1
baz=32
IL31 45.58 332 P P 04 42 18.3 -0.7
IL31 IAmb IAmb 04 42 24.0
comp=Z,35nm,1.4s
ILAR Eielson Array 45.58 332 P P 04 42 18.4 -0.7
comp=Z,17nm,1.2s,baz=24,slow=5.8,SNR=24
ILAR PcP **PcP 04 43 56.6 -0.7**
comp=Z,6.3nm,1.1s,baz=353,slow=4.1,SNR=8.0
MDM Murphy Dome 45.67 333 P P 04 42 19.2 -0.7
COLA College 45.68 333 P P 04 42 19.2 -0.6
COLA pmax pmax
comp=Z,49nm,1.4s
COLA College 45.68 333 P P 04 42 19.2 -0.6
TCOL CIGO, UAF Yank 45.68 333 P P 04 42 21.8 +2.0
baz=27
SCRK Sand Creek 45.68 330 P P 04 42 21.4 +1.3
baz=29,SNR=5.9
SFIN Lafayette 45.74 273 P P 04 42 22.2 +1.5
baz=34,SNR=6.7
SFIN Lafayette 45.74 273 P P 04 42 20.8 +0.1
IMAR Indian Mountai 45.75 337 P P 04 42 19.6 -0.8
IMAR **PcP 04 43 58.0 +0.1**
T55A Pulaski 45.77 265 P P 04 42 22.6 +1.7
baz=32
P48A Milroy 45.79 271 P P 04 42 21.3 +0.2
CCB Clear Creek Bu 45.87 333 P P 04 42 20.8 -0.6
CCB IAmb IAmb 04 42 26.0
comp=Z,35nm,1.6s
HDA Harding Lake 45.91 332 P P 04 42 23.5 +1.7
baz=27,SNR=11
HDA Harding Lake 45.91 332 P P 04 42 21.1 -0.7
HDA IAmb IAmb 04 42 28.3
comp=Z,32nm,1.3s
DOT Dot Lake 45.99 330 P P 04 42 21.6 -0.8
DOT IAmb IAmb 04 42 27.4
comp=Z,28nm,1.4s
BCAR Beaver Creek A 46.00 328 P P 04 42 22.2 -0.3
RIDG Independent Ri 46.08 331 P P 04 42 22.3 -0.8
RIDG IAmb IAmb 04 42 28.2
comp=Z,39nm,1.4s
WRH Wood River Hil 46.08 333 IAmb IAmb 04 42 32.5
comp=Z,31nm,1.6s
L40A Anamosa 46.12 278 P P 04 42 23.7 0.0
L40A IAmb IAmb 04 42 30.0
comp=Z,31nm,1.2s
T54A Tazewell 46.15 265 P P 04 42 25.5 +1.4
baz=32
NEA2 Nenana 46.16 333 P P 04 42 25.4 +1.7
baz=26,SNR=10
V58A Windy Hill, Pi 46.18 262 P P 04 42 25.4 +1.3
baz=31
U56A King 46.25 264 P P 04 42 26.3 +1.6
baz=32
DGMT Dagmar 46.26 293 P P 04 42 26.4 +1.7
baz=36
R50A Paris 46.30 269 P P 04 42 25.1 0.0
R50A IAmb IAmb 04 42 28.6
comp=Z,36nm,1.4s
V57A Coltrane Farms 46.38 263 P P 04 42 27.1 +1.4
baz=31
E28A Huff 46.39 289 IAmb IAmb 04 42 30.3
comp=Z,37nm,1.4s
U55A TA2, Sparta 46.40 264 P P 04 42 27.2 +1.2
baz=32,SNR=7.1
P46A Rosedale 46.42 272 IAmb IAmb 04 42 31.4
comp=Z,13nm,0.9s
BRZS Berezniki 46.49 63 *e*P **P 04 42 25.2 -1.4**
comp=Z,9.2nm,1.0s,baz=63
BRZS Berezniki 46.49 63 *e*P **P 04 42 25.1 -1.4**
BRZS pmax pmax
comp=Z,9.0nm,1.0s
O44A Mansfield 46.52 274 P P 04 42 26.9 +0.1
S51A Beattyville 46.53 268 P P 04 42 27.2 +0.3
HDIL Hopedale 46.54 275 P P 04 42 28.3 +1.4
baz=34
HDIL Hopedale 46.54 275 P P 04 42 26.9 0.0
T53A Wise 46.63 266 P P 04 42 29.2 +1.4
baz=32
U54A Nelsons Funny 46.71 265 P P 04 42 30.0 +1.5
baz=32
V56A Mocksville 46.75 263 P P 04 42 30.6 +1.9
baz=31
MCK McKinley 46.91 333 P P 04 42 28.9 -0.8
MCK pmax pmax
comp=Z,54nm,1.5s
MCK McKinley 46.91 333 P P 04 42 28.9 -0.8
BPAW Bear Paw Mtn. 46.98 334 P P 04 42 29.4 -0.7
V55A Taylorsville 47.02 264 P P 04 42 33.0 +2.2
baz=31
V55A Taylorsville 47.02 264 IAmb IAmb 04 42 37.4
comp=Z,23nm,1.2s
ECSD EROS Data Cent 47.02 283 P P 04 42 32.8 +2.1
baz=35
ECSD EROS Data Cent 47.02 283 P P 04 42 31.3 +0.6
ECSD IAmb IAmb 04 42 36.4
comp=Z,19nm,1.3s
W57A Gilead 47.10 262 P P 04 42 33.4 +2.1
baz=31
W57A Gilead 47.10 262 IAmb IAmb 04 42 35.5
comp=Z,29nm,1.2s
WCI Wyandotte Cave 47.19 270 P P 04 42 33.2 +1.1
WCI pmax pmax
comp=Z,31nm,1.0s
WCI Wyandotte Cave 47.19 270 P P 04 42 33.1 +1.1
DHY Denali Highway 47.19 332 IAmb IAmb 04 42 36.7
comp=Z,35nm,1.7s
W56A Indian Trail 47.36 263 P P 04 42 34.7 +1.3
baz=31
P43A Skaggs, Pawnee 47.40 274 P P 04 42 34.0 +0.3
V54A Nebo 47.40 265 P P 04 42 34.9 +1.1
baz=31,SNR=6.9

TZTN	Tazewell	47.43 267	P	P	04 42 36.1 +2.1
	baz=32				
KTH	Kantishna Hill	47.46 334	IAmb	IAmb	04 42 44.6
	comp=Z,20nm,1.5s				
OLIL	Olney	47.54 272	P	P	04 42 35.1 +0.3
ZAA0	Zalesovo Array	47.62 51	P	P	04 42 34.3 -0.9
ZALV	Zalesovo Beam	47.62 51	P	P	04 42 34.3 -0.9
	comp=Z,2.9nm,0.6s,baz=336,slow=6.8,SNR=7.9				
ZALV			PcP	PcP	04 44 04.5 -0.2
	comp=Z,0.7nm,0.4s,baz=325,slow=2.3,SNR=2.5				
ZALV	Zalesovo Beam	47.62 51	P	P	04 42 34.5 -0.7
ZALV					04 44 04.2
ZALV	Zalesovo Beam	47.62 51	P	P	04 42 34.5 -0.7
ZALV				PcP	04 44 04.2 -0.5
KMSC	Kings Mountain	47.68 264	P	P	04 42 37.5 +1.6
	baz=31				
KMSC	Kings Mountain	47.68 264	P	P	04 42 35.8 -0.1
KMSC			IAmb	IAmb	04 42 42.2
	comp=Z,36nm,1.5s				
Q44A	Meyer Farm, Va	47.79 273	IAmb	IAmb	04 42 41.0
	comp=Z,23nm,1.1s				
V53A	Saluda	47.86 265	IAmb	IAmb	04 42 45.5
	comp=Z,21nm,1.6s				
W54A	Cherokee Point	48.09 264	P	P	04 42 40.4 +1.3
	baz=31,SNR=6.6				
X56A	White Oak	48.10 263	P	P	04 42 40.6 +1.4
	baz=31				
KURK	Kurchatov	48.11 58	*ce*P	P	04 42 38.5 -0.5
KURK			pmax	pmax	
	comp=Z,22nm,1.0s				
KURK	Kurchatov	48.11 58	P	P	04 42 38.0 -1.1
KURK			IAmb	IAmb	04 42 40.4
	comp=Z,19nm,0.9s				
PAULI	Pauline	48.15 264	P	P	04 42 39.8 +0.2
PAULI			IAmb	IAmb	04 42 44.1
	comp=Z,27nm,1.1s				
TKL	Tuckaleechee C	48.28 266	IAmb	IAmb	04 42 44.2
	comp=Z,30nm,1.5s				
PPLA	Purkeypile	48.30 334	P	P	04 42 39.5 -1.1
PPLA			IAmb	IAmb	04 42 47.6
	comp=Z,29nm,1.3s				
X55A	Gracelyn & Ava	48.38 263	P	P	04 42 43.4 +2.1
	baz=31				
JSC	Jenkinsville	48.38 263	P	P	04 42 41.4 +0.1
JSC			pmax	pmax	
	comp=Z,17nm,1.4s				
JSC	Jenkinsville	48.38 263	P	P	04 42 41.4 +0.1
V51A	Loudon	48.40 267	IAmb	IAmb	04 42 46.5
	comp=Z,24nm,1.2s				
U49A	Red Boiling Sp	48.41 269	P	P	04 42 41.7 +0.1
U49A			IAmb	IAmb	04 42 45.0
	comp=Z,20nm,1.1s				
LAO	LASA Array	48.51 293	P	P	04 42 43.9 +1.6
	baz=35,SNR=14				
LAO	LASA Array	48.51 293	P	P	04 42 41.8 -0.5
T47A	Sharon Grove	48.58 270	P	P	04 42 43.0 +0.1
X54A	Belton	48.63 264	P	P	04 42 44.8 +1.5
	baz=31				
CPCT	Cooper Cave	48.78 267	IAmb	IAmb	04 42 48.2
	comp=Z,26nm,1.4s				
EGMT	Eagleton	48.78 297	P	P	04 42 46.2 +1.7
	baz=34,SNR=23				
EGMT	Eagleton	48.78 297	P	P	04 42 44.2 -0.2
PMR	Palmer	48.89 332	P	P	04 42 44.1 -0.8
PMR			pmax	pmax	
	comp=Z,37nm,1.4s				
PMR	Palmer	48.89 332	P	P	04 42 44.1 -0.8
PMR			IAmb	IAmb	04 42 51.3
	comp=Z,37nm,1.4s				
S44A	Carbondale	48.91 273	IAmb	IAmb	04 42 52.1
	comp=Z,23nm,1.2s				
NHSC	New Hope	48.93 261	P	P	04 42 47.1 +1.5
	baz=30				
Y55A	Saluda	48.93 263	P	P	04 42 47.0 +1.4
	baz=30,SNR=6.0				
TTA	Tatalina	48.95 336	P	P	04 42 44.9 -0.6
TTA			pmax	pmax	
	comp=Z,40nm,1.6s				
TTA	Tatalina	48.95 336	P	P	04 42 44.9 -0.6
TTA			IAmb	IAmb	04 42 52.2
	comp=Z,40nm,1.6s				
CLTN	Cedars of Leba	49.01 269	IAmb	IAmb	04 42 49.7
	comp=Z,26nm,1.3s				
SKT	Skwentna	49.01 333	P	P	04 42 45.1 -0.8
SKT			IAmb	IAmb	04 42 51.3
	comp=Z,33nm,1.4s				
W50A	Signal Mountai	49.33 267	P	P	04 42 49.0 +0.3
W50A			IAmb	IAmb	04 42 52.3
	comp=Z,29nm,1.1s				
SUA	Susitna One	49.33 332	P	P	04 42 47.7 -0.8
CCM	Cathedral Cave	49.46 275	P	P	04 42 50.5 +0.9
CCM			pmax	pmax	
	comp=Z,31nm,1.7s				
CCM	Cathedral Cave	49.46 275	P	P	04 42 50.5 +0.9
CCM			IAmb	IAmb	04 42 53.6
	comp=Z,31nm,1.6s				
RC01	Rabbit Creek A	49.47 332	P	P	04 42 50.6 +1.3
	baz=25,SNR=8.4				
V48A	Smith Brothers	49.52 269	P	P	04 42 49.8 -0.2
V48A			IAmb	IAmb	04 42 53.5
	comp=Z,43nm,1.5s				
WVT	Waverly	49.62 270	P	P	04 42 51.9 +1.1
	baz=32				
X51A	Calhoun	49.67 267	IAmb	IAmb	04 42 56.6
	comp=Z,54nm,1.7s				
RSSD	Black Hills	49.75 290	P	P	04 42 52.2 +0.2
RSSD			pmax	pmax	
	comp=Z,28nm,1.6s				
RSSD	Black Hills	49.75 290	P	P	04 42 53.3 +1.3
	baz=34				
RSSD	Black Hills	49.75 290	P	P	04 42 52.2 +0.2
RSSD			IAmb	IAmb	04 42 57.8
	comp=Z,28nm,1.6s				
Y52A	Lilburn	49.93 265	IAmb	IAmb	04 42 58.4
	comp=Z,34nm,1.4s				
FPAL	Fort Paine	50.02 267	P	P	04 42 53.9 -0.1
FPAL			IAmb	IAmb	04 42 57.2
	comp=Z,31nm,1.4s				
GOGA	Godfrey	50.06 264	P	P	04 42 54.5 +0.3
GOGA			pmax	pmax	
	comp=Z,29nm,1.3s				
GOGA	Godfrey	50.06 264	P	P	04 42 55.1 +0.9
	baz=30,SNR=5.3				
GOGA	Godfrey	50.06 264	P	P	04 42 54.5 +0.3
GOGA			IAmb	IAmb	04 42 57.8
	comp=Z,29nm,1.3s				
T42A	Van Buren	50.25 274	IAmb	IAmb	04 43 00.2
	comp=Z,21nm,1.3s				
GEYT	Alibeck	50.47 84	P	P	04 42 56.5 -0.8
	comp=Z,5.5nm,0.8s,baz=313,slow=9.9,SNR=6.6				
GEYT			LR	LR	05 06 29.1
	comp=Z,528nm,18.7s,baz=330,slow=39				
GEYT	Alibeck	50.47 84	P	P	04 42 56.7 -0.6
S39A	Bolivar	50.65 276	P	P	04 42 58.9 +0.2
MGMO	Mountain Grove	50.65 275	IAmb	IAmb	04 43 05.6
	comp=Z,33nm,1.7s				
HRY	Holter Researc	50.66 297	P	P	04 42 58.4 -0.4
PLAL	Pickwick Lake	50.70 270	P	P	04 42 59.5 +0.5
PLAL			IAmb	IAmb	04 43 03.1
	comp=Z,25nm,1.4s				
X48A	Hartselle	50.71 268	IAmb	IAmb	04 43 01.7
	comp=Z,23nm,1.2s				
JTMT	Jette	50.72 300	P	P	04 42 58.8 -0.4
KSU1	Kansas State U	50.86 280	P	P	04 43 00.2 0.0
KSU1			IAmb	IAmb	04 43 04.7
	comp=Z,24nm,1.1s				
Z51A	Franklin	50.88 266	IAmb	IAmb	04 43 03.8
	comp=Z,26nm,1.4s				
Y49A	Blount Mountai	50.94 267	IAmb	IAmb	04 43 03.9
	comp=Z,38nm,1.6s				
RLMT	Red Lodge	51.00 294	P	P	04 43 02.4 +1.0
	baz=33,SNR=17				
RLMT	Red Lodge	51.00 294	P	P	04 43 00.9 -0.6
RLMT			IAmb	IAmb	04 43 07.7
	comp=Z,48nm,1.4s				
KOWA	Kowa	51.07 163	P	P	04 43 01.5 -0.4
KOWA			IAmb	IAmb	04 43 07.5
	comp=Z,28nm,1.2s				
BTLS	Baital	51.08 66	*e*P	P	04 43 00.8 -1.0
	comp=Z,29nm,2.5s,baz=66				
BTLS			*e*S	S	04 50 18.8 -0.4
	baz=66				
BTLS			LR	LR	05 03 12.2
	comp=Z,157nm,15.5s,baz=66				
BTLS	Baital	51.08 66	*e*P	P	04 43 00.8 -1.0
BTLS			pmax	pmax	
	comp=Z,29nm,2.5s				
BTLS			MLR	MLR	
	comp=Z,157nm,16.0s				
152A	Waverly Hall	51.24 265	P	P	04 43 04.0 +1.0
KK31	Karatay Array	51.30 70	*i* P	P	04 43 02.4 -1.0
KK31	Karatay Array	51.30 70	P	P	04 43 02.5 -1.0
KKAR	Karatay Array	51.30 70	P	P	04 43 02.3 -1.1
KKAR	Karatay Array	51.30 70	P	P	04 43 02.3 -1.1
KKAR	Karatay Array	51.30 70	IAmb	IAmb	04 43 09.7
	comp=Z,19nm,1.1s				
YNE	Yellowstone No	51.38 295	P	P	04 43 03.9 -0.5
BOZ	Bozeman (W)	51.52 297	P	P	04 43 05.2 0.0
BOZ			pmax	pmax	
	comp=Z,37nm,1.3s				
BOZ	Bozeman (W)	51.52 297	P	P	04 43 06.3 +1.1
	baz=33,SNR=26				
BOZ	Bozeman (W)	51.52 297	P	P	04 43 05.2 0.0
BOZ			IAmb	IAmb	04 43 10.1
	comp=Z,37nm,1.2s				
U40A	Yellville	51.58 275	P	P	04 43 06.8 +1.2
	baz=32,SNR=5.4				
LRM	Limekiln Ridge	51.64 297	P	P	04 43 06.2 -0.1
YMP	Mirror Lake Pl	51.67 295	P	P	04 43 06.6 0.0
DZA	Taraz	51.80 69	*e*P	P	04 43 06.2 -1.0
	baz=69				
DZA			*e*S	S	04 50 28.6 -0.6
	baz=69				
DZA	Taraz	51.80 69	*e*P	P	04 43 06.1 -1.1
LRAL	Lakeview Retre	51.90 267	P	P	04 43 09.2 +1.1
	baz=30				
LRAL	Lakeview Retre	51.90 267	IAmb	IAmb	04 43 12.1
	comp=Z,31nm,1.6s				
IUG	Iuzhnay	51.90 71	*e*P	P	04 43 06.7 -1.5
	comp=Z,79nm,2.5s,baz=71				
IUG	Iuzhnay	51.90 71	*e*P	P	04 43 06.6 -1.5
IUG			pmax	pmax	
	comp=Z,79nm,2.5s				
K22A	Casper	51.98 291	P	P	04 43 09.9 +1.1
	baz=33,SNR=9.1				
K22A	Casper	51.98 291	IAmb	IAmb	04 43 12.3
	comp=Z,24nm,1.1s				
DGZ	Jazzator, Alta	52.07 53	*i* P	P	04 43 10.4 +1.1
DGZ			pmax	pmax	
	comp=Z,43nm,2.6s				
H17A	Grant Village	52.12 295	P	P	04 43 11.0 +1.1
	baz=33,SNR=13				
H17A	Grant Village	52.12 295	IAmb	IAmb	04 43 17.7
	comp=Z,35nm,1.3s				
R32A	Long Quarter,	52.32 281	IAmb	IAmb	04 43 15.3
	comp=Z,25nm,1.2s				
W41B	Gary Mavity, V	52.32 274	IAmb	IAmb	04 43 14.2
	comp=Z,60nm,1.9s				
BOD	Bodaibo	52.36 30	*e*P	P	04 43 10.9 -0.2
BOD			pmax	pmax	
	comp=Z,14nm,1.6s				
SEY	Seymchan	52.40 6	P	P	04 43 12.4 +1.0
	comp=Z,2.0nm,0.6s,baz=352,slow=7.7,SNR=4.8				
SEY	Seymchan	52.40 6	*i* P	P	04 43 13.6 +2.2
MAKZ	Makanchi	52.60 58	P	P	04 43 12.0 -1.1
MAKZ	Makanchi	52.60 58	P	P	04 43 11.9 -1.2
SGDS	Sogindy	52.64 66	*e*P	P	04 43 12.7 -0.9
	comp=Z,4.5nm,1.2s,baz=66				
SGDS	Sogindy	52.64 66	*e*P	P	04 43 12.6 -0.9
SGDS			pmax	pmax	
	comp=Z,4.0nm,1.2s				
T35A	Sooner Cattle	52.66 278	IAmb	IAmb	04 43 17.2
	comp=Z,31nm,1.3s				
MK31	Makanchi Array	52.72 58	P	P	04 43 12.4 -1.6
MKAR	Makanchi Array	52.72 58	P	P	04 43 12.2 -1.9
	comp=Z,4.2nm,0.9s,baz=7.8,slow=9.8,SNR=17				
MKAR	Makanchi Array	52.72 58	*i* P	P	04 43 13.8 -0.2
MKAR			pmax	pmax	
	comp=Z,4.0nm,0.9s				
MKAR	Makanchi Array	52.72 58	P	P	04 43 12.6 -1.5
TDK	Taldyqorghan	52.79 62	*e*P	P	04 43 13.9 -0.7
	baz=62				
TDK			*e*S	S	04 50 42.6 -0.2
	baz=62				
TDK	Taldyqorghan	52.79 62	*e*P	P	04 43 13.9 -0.7
KUU	Kurty	52.94 65	*e*P	P	04 43 14.6 -1.1
	comp=Z,8.6nm,1.0s,baz=65				
KUU			LR	LR	05 04 56.1
	comp=Z,712nm,17.5s,baz=65				
KUU	Kurty	52.94 65	*e*P	P	04 43 14.5 -1.1
KUU			pmax	pmax	
	comp=Z,9.0nm,1.0s				
KUU			MLR	MLR	
	comp=Z,712nm,18.0s				
W39A	Magazine	52.96 275	P	P	04 43 17.4 +1.5
	baz=31				
SNOW	Snow King Moun	52.97 294	IAmb	IAmb	04 43 24.1
	comp=Z,23nm,1.1s				
TPAW	Teton Pass	53.03 295	IAmb	IAmb	04 43 23.5
	comp=Z,22nm,1.1s				
RWWY	Rawlins	53.06 290	IAmb	IAmb	04 43 19.2
	comp=Z,33nm,1.4s				
BW06	Boulder Array	53.09 293	P	P	04 43 17.9 +0.9
	baz=32,SNR=28				
PD31	Pinedale Array	53.09 293	IAmb	IAmb	04 43 20.8
	comp=Z,52nm,1.6s				
PDAR	Pinedale Array	53.09 293	P	P	04 43 15.3 -1.8
	comp=Z,7.5nm,0.8s,baz=61,slow=7.0,SNR=34				
PDAR			LR	LR	05 05 37.3
	comp=Z,514nm,18.0s,baz=37,slow=36				
PDAR	Pinedale Array	53.09 293	P	P	04 43 15.9 -1.2
ZSN	Zaisan	53.09 56	*e*P	P	04 43 15.8 -1.0
	comp=Z,5.1nm,1.1s,baz=56				
ZSN	Zaisan	53.09 56	*e*P	P	04 43 15.7 -1.0
ZSN			pmax	pmax	
	comp=Z,5.0nm,1.1s				
REDW	Red Top Meadow	53.10 294	IAmb	IAmb	04 43 23.1
	comp=Z,34nm,1.4s				
X40A	Basin Creek Fa	53.16 274	P	P	04 43 18.4 +1.1
	baz=31				
X40A	Basin Creek Fa	53.16 274	IAmb	IAmb	04 43 21.7
	comp=Z,42nm,1.9s				
N23A	Red Feather La	53.22 289	P	P	04 43 19.0 +0.9
	baz=32,SNR=17				
N23A	Red Feather La	53.22 289	IAmb	IAmb	04 43 23.9
	comp=Z,34nm,1.1s				
TORD	Torodi Ar. Bea	53.25 156	P	P	04 43 13.4 -4.7
	comp=Z,4.2nm,0.9s,baz=350,slow=7.3,SNR=12				
TORD			LR	LR	05 06 00.9
	comp=Z,271nm,18.0s,baz=285,slow=36				
TORD	Torodi Ar. Bea	53.25 156	P	P	04 43 16.5 -1.7
AAK	Ala-Archa	53.27 67	P	P	04 43 16.8 -1.5
	comp=Z,6.2nm,0.8s,baz=296,slow=2.4,SNR=13				
MIAR	Mount Ida	53.42 274	P	P	04 43 19.9 +0.6
MIAR			pmax	pmax	
	comp=Z,39nm,1.7s				
MIAR	Mount Ida	53.42 274	P	P	04 43 20.4 +1.1
	baz=31				
MIAR	Mount Ida	53.42 274	P	P	04 43 19.9 +0.6
MIAR			IAmb	IAmb	04 43 26.6
	comp=Z,38nm,1.7s				
KSCO	Kaye Shedlock'	53.45 285	IAmb	IAmb	04 43 23.4
	comp=Z,39nm,1.4s				
PLID	Pearl Lake	53.60 299	P	P	04 43 20.4 -0.4
PLID			IAmb	IAmb	04 43 24.0
	comp=Z,27nm,1.4s				
AHID	Auburn Hatcher	53.70 294	IAmb	IAmb	04 43 26.0
	comp=Z,22nm,1.4s				
AAA	Alma-Ata	53.74 65	*e*P	P	04 43 20.6 -1.0
	baz=65				
AAA			LR	LR	05 05 09.5
	comp=Z,394nm,14.0s,baz=65				
AAA	Alma-Ata	53.74 65	*e*P	P	04 43 20.6 -1.0
AAA			MLR	MLR	
	comp=Z,394nm,14.0s				
MDOK	Medeo	53.83 65	*e*P	P	04 43 21.4 -0.9
	baz=65				
MDOK			LR	LR	05 05 09.5
	comp=Z,439nm,17.8s,baz=65				
MDOK	Medeo	53.83 65	*e*P	P	04 43 21.4 -0.9
MDOK			MLR	MLR	
	comp=Z,439nm,18.0s				
BTK	Batken	53.98 72	P	P	04 43 22.4 -1.0
BTK			pmax	pmax	
	comp=Z,48nm,1.1s				
BTK	Batken	53.98 72	P	P	04 43 22.4 -1.0
ISCO	Idaho Springs	54.02 288	P	P	04 43 25.3 +1.3
	baz=32				
KPKS	Kokpek	54.20 63	*e*P	P	04 43 24.3 -0.7
	comp=Z,84nm,2.9s,baz=63				
KPKS	Kokpek	54.20 63	*e*P	P	04 43 24.3 -0.7
KPKS			pmax	pmax	
	comp=Z,84nm,2.9s				
BMO	Blue Mountains	54.29 300	P	P	04 43 25.4 -0.2
BMO			pmax	pmax	
	comp=Z,28nm,1.6s				
BMO	Blue Mountains	54.29 300	P	P	04 43 25.4 -0.2
BMO			IAmb	IAmb	04 43 30.2
	comp=Z,28nm,1.6s				
HLID	Hailey	54.30 297	P	P	04 43 26.9 +1.0
	baz=31,SNR=6.5				
SATY	Saty	54.44 64	*e*P	P	04 43 25.9 -0.9
	comp=Z,38nm,2.9s,baz=64				
SATY	Saty	54.44 64	*e*P	P	04 43 25.9 -0.9
SATY			pmax	pmax	
	comp=Z,38nm,2.9s				
Q24A	Divide	54.53 287	P	P	04 43 29.1 +1.3
	baz=32				
UZB	Uzynbulak	54.60 63	*e*P	P	04 43 27.1 -0.9
	comp=Z,50nm,3.2s,baz=63				
UZB	Uzynbulak	54.60 63	*e*P	P	04 43 27.1 -0.9
UZB			pmax	pmax	
	comp=Z,50nm,3.2s				
MOY	Mondy	54.63 42	*e*P	P	04 43 28.6 +0.6
MOY			pmax	pmax	
	comp=Z,101nm,2.6s				
KDJ	Kajisay	54.76 65	IAmb	IAmb	04 43 37.1
	comp=Z,21nm,1.4s				
SHLS	Shalkode	54.76 63	*e*P	P	04 43 29.3 +0.2
	comp=Z,50nm,2.6s,baz=63				
SHLS	Shalkode	54.76 63	*e*P	P	04 43 29.3 +0.2
SHLS			pmax	pmax	
	comp=Z,50nm,2.6s				
O20A	White River Ci	54.80 290	P	P	04 43 30.7 +1.2
	baz=31,SNR=11				
HWUT	Hardware Ranch	54.86 294	P	P	04 43 29.6 -0.4
HWUT			IAmb	IAmb	04 43 34.4
	comp=Z,30nm,1.1s				
X34A	Smith Ranch, M	55.19 278	P	P	04 43 32.8 +0.6
TCUT	Toone Canyon	55.22 293	P	P	04 43 32.3 -0.3
HRA	Herat	55.23 82	P	P	04 43 31.9 -0.8
HRA			IAmb	IAmb	04 43 40.2
	comp=Z,18nm,1.3s				
TLY	Talaya	55.36 40	*e*P	P	04 43 34.9 +1.7
TLY			*e*S	S	04 51 23.4 +6.1
TLY			pmax	pmax	
	comp=Z,28nm,1.3s				
TLY			MLR	MLR	
	comp=Z,896nm,16.0s				
SPUT	South Promonto	55.46 294	P	P	04 43 34.2 -0.1
WMOK	Wichita Mounta	55.48 279	P	P	04 43 34.7 +0.5
WMOK			pmax	pmax	
	comp=Z,29nm,1.3s				
WMOK	Wichita Mounta	55.48 279	P	P	04 43 35.6 +1.3
	baz=31,SNR=15				
WMOK	Wichita Mounta	55.48 279	P	P	04 43 34.7 +0.5
WMOK			IAmb	IAmb	04 43 39.5
	comp=Z,29nm,1.3s				
MA2	Magadan	55.67 7	P	P	04 43 36.2 +0.9
	comp=Z,3.8nm,0.4s,baz=139,slow=21,SNR=1.8				
MA2	Magadan	55.67 7	*i* P	P	04 43 37.5 +2.2
MA2			pmax	pmax	
	comp=Z,12nm,1.3s				
SDCO	Great Sand Dun	55.72 287	P	P	04 43 37.7 +1.4
	baz=31,SNR=7.0				
SDCO	Great Sand Dun	55.72 287	P	P	04 43 36.0 -0.2
SDCO			IAmb	IAmb	04 43 40.2
	comp=Z,25nm,1.8s				
T25A	Trinidad	55.78 285	P	P	04 43 38.4 +1.8
	baz=31				
BGU	Big Grassy Mou	56.02 295	P	P	04 43 37.8 -0.5
H04A	Detroit Lake	56.21 304	IAmb	IAmb	04 43 44.5
	comp=Z,35nm,1.9s				
S22A	4UR Ranch, Cre	56.26 288	P	P	04 43 41.7 +1.6
	31				
S22A	4UR Ranch, Cre	56.26 288	IAmb	IAmb	04 43 46.1
	comp=Z,46nm,2.0s				
PV07	Paradox Valley	56.41 290	IAmb	IAmb	04 43 44.6
	comp=Z,49nm,1.8s				
ZAK	Zakamensk	56.43 41	*e*P	P	04 43 41.7 +0.7
ZAK			pmax	pmax	
	comp=Z,11nm,1.2s				
PV21	Cone Mtn., Par	56.43 290	P	P	04 43 41.5 +0.1
KSH	Kashi	56.52 68	*i i* P	P	04 43 45.5 +3.7
KSH			S	S	04 51 35.4 +2.2
KSH			sS	sS	04 51 47.3 +10
KSH			pmax	pmax	
	comp=Z,72nm,1.3s				
KSH			pmax	pmax	
	comp=Z,450nm,5.8s				
KSH			LR	LR	
	comp=Z,420nm,12.2s				
KSH			LR	LR	
	comp=Z,500nm,11.2s				
PINE	Pine Mountain	56.53 302	P	P	04 43 41.5 -0.4
DUG	Dugway, Tooele	56.56 294	P	P	04 43 41.9 -0.2
DUG			pmax	pmax	
	comp=Z,17nm,1.2s				
DUG	Dugway, Tooele	56.56 294	P	P	04 43 43.4 +1.3
	baz=30,SNR=14				
DUG	Dugway, Tooele	56.56 294	P	P	04 43 41.9 -0.2
DUG			IAmb	IAmb	04 43 47.3
	comp=Z,17nm,1.2s				
PV12	Saucer Basin,	56.57 290	IAmb	IAmb	04 43 45.9
	comp=Z,37nm,1.5s				
PV14	Lion Creek, Pa	56.61 290	IAmb	IAmb	04 43 49.5
	comp=Z,19nm,1.0s				
PV16	Nyswonger Mesa	56.62 290	IAmb	IAmb	04 43 47.0
	comp=Z,16nm,1.1s				
PV02	Paradox Valley	56.64 289	IAmb	IAmb	04 43 46.5
	comp=Z,28nm,1.0s				
PV17	East Wray Mesa	56.67 290	P	P	04 43 43.0 +0.1
PV17			IAmb	IAmb	04 43 50.0
	comp=Z,23nm,1.1s				
PV13	Radium Mtn., P	56.72 289	P	P	04 43 42.8 -0.6
J05D	Fort Rock, OR	57.08 302	P	P	04 43 47.0 +1.3
	baz=30,SNR=12				
WMQ	Urumqi	57.23 56	*e*P	P	04 43 50.3 +3.6
WMQ			pP	sP	04 43 56.1 +5.7
WMQ			pmax	pmax	
	comp=Z,16nm,1.3s				
WMQ			pmax	pmax	
	comp=Z,130nm,4.5s				
WMQ			LR	LR	
	comp=Z,620nm,13.9s				
WMQ			LR	LR	
	comp=Z,560nm,15.5s				
WHTX	Lake Whitney,	57.27 276	P	P	04 43 48.3 +1.2
	baz=30				
WHTX	Lake Whitney,	57.27 276	IAmb	IAmb	04 43 52.6
	comp=Z,19nm,1.0s				
MVCO	Mesa Verde	57.40 289	P	P	04 43 49.2 +1.0
	baz=30,SNR=7.8				
MVCO	Mesa Verde	57.40 289	IAmb	IAmb	04 43 54.1
	comp=Z,37nm,1.7s				
K05A	Summer Lake	57.44 302	P	P	04 43 48.1 -0.3
ABTX	Abilene, Hawle	57.66 278	P	P	04 43 51.0 +1.2
	baz=30,SNR=5.7				
MVU	Marysvale	57.78 292	P	P	04 43 50.6 -0.2
MSTX	Muleshoe	57.82 282	P	P	04 43 52.6 +1.6
	baz=30				
MOD	Modoc Plateau	57.94 301	P	P	04 43 51.9 +0.1
MOD			IAmb	IAmb	04 43 57.3
	comp=Z,21nm,1.4s				
KBL	Kabul	57.96 76	P	P	04 43 51.4 -0.8
KBL			pmax	pmax	
	comp=Z,20nm,1.3s				
KBL	Kabul	57.96 76	P	P	04 43 51.4 -0.8
KBL			IAmb	IAmb	04 43 59.2
	comp=Z,20nm,1.2s				
HKT	Hockley	58.34 274	P	P	04 43 55.2 +0.7
HKT			pmax	pmax	
	comp=Z,20nm,1.5s				
HKT	Hockley	58.34 274	P	P	04 43 55.2 +0.7
HKT			IAmb	IAmb	04 43 59.9
	comp=Z,20nm,1.5s				
L04D	Klamath Falls	58.39 302	P	P	04 43 56.7 +1.7
	baz=29				
K02D	Willamette Mer	58.46 304	P	P	04 43 56.9 +1.5
	baz=29				
ANMO	Albuquerque	58.51 286	*ce*P	P	04 43 55.6 -0.4
ANMO			pmax	pmax	
	comp=Z,24nm,2.5s				
ANMO	Albuquerque	58.51 286	P	P	04 43 57.5 +1.5
	baz=30				
ANMO	Albuquerque	58.51 286	P	P	04 43 56.0 0.0
DBIC	Dimbokro	58.69 165	P	P	04 43 53.6 -3.5
	comp=Z,18nm,1.0s,baz=351,slow=7.9,SNR=9.2				
DBIC			LR	LR	05 09 44.7

comp=Z,487nm,18.4s,baz=346,slow=37
DBIC Dimbokro 58.69 165 P **P 04 43 56.8 -0.3**
DBIC pmax pmax
comp=Z,17nm,1.0s
DBIC Dimbokro 58.69 165 P **P 04 43 56.8 -0.3**
DBIC IAmb IAmb 04 43 59.6
comp=Z,17nm,0.9s
TIC Toumodi 58.70 165 *e*P **P 04 43 55.9 -1.3**
PKCU Pink Cliffs 58.73 292 P **P 04 43 57.4 -0.3**
SZCU Shurtz Canyon 58.91 293 P **P 04 43 58.7 -0.1**
L02E Cave Junction 58.91 303 P **P 04 43 59.9 +1.5**
baz=28
KIC Kosan Boka 59.01 165 *e*P **P 04 43 58.2 -1.1**
comp=Z,113nm,1.4s
CCUT Cedar City 59.06 293 P **P 04 43 59.4 -0.4**
LIC Lamto 59.11 165 *e*P **P 04 43 58.8 -1.3**
comp=Z,127nm,1.3s
R11A Troy Canyon, C 59.23 295 P **P 04 44 02.5 +1.6**
baz=29,SNR=15
R11A Troy Canyon, C 59.23 295 P **P 04 44 00.8 -0.2**
R11A IAmb IAmb 04 44 05.2
comp=Z,31nm,1.5s
LCMT Little Creek M 59.48 292 P **P 04 44 02.6 0.0**
PAHR Pah Rah Range 59.51 299 IAmb IAmb 04 44 08.7
comp=Z,29nm,1.4s
KVN Kaiserville 59.59 297 IAmb IAmb 04 44 07.2
comp=Z,17nm,1.2s
U15A North Rim 59.60 291 IAmb IAmb 04 44 06.7
comp=Z,18nm,1.1s
SONM Songino Array 59.61 40 P **P 04 44 02.3 -1.0**
comp=Z,3.0nm,0.9s,baz=334,slow=7.4,SNR=9.0
SONM LR LR 05 12 46.3
comp=Z,340nm,18.2s,baz=350,slow=39
SONM Songino Array 59.61 40 P **P 04 44 01.7 -1.6**
N02D Trinity Center 59.63 302 P **P 04 44 04.9 +1.4**
baz=28
W18A Petrified Fore 59.71 288 P **P 04 44 05.9 +1.6**
baz=30
ULN Ulaanbaatar 59.76 40 *ce*P **P 04 44 05.8 +1.4**
ULN pmax pmax
comp=Z,32nm,2.5s
ULN Ulaanbaatar 59.76 40 P **P 04 44 02.7 -1.7**
ULN IAmb IAmb 04 44 11.6
comp=Z,17nm,1.4s
PRN Pahroc Range 59.84 294 IAmb IAmb 04 44 10.0
comp=Z,28nm,1.5s
O03E Paynes Creek 59.89 301 P **P 04 44 06.7 +1.4**
baz=28
VCNR Virginia City 59.97 299 IAmb IAmb 04 44 11.8
comp=Z,19nm,1.4s
WUAZ Wupatki 60.02 290 P **P 04 44 08.1 +1.7**
baz=29,SNR=17
WUAZ Wupatki 60.02 290 P **P 04 44 06.5 +0.1**
YERR Yerington 60.08 298 IAmb IAmb 04 44 12.7
comp=Z,27nm,1.3s
RYN Ryan 60.12 297 P **P 04 44 06.9 -0.2**
NV11 Mina Array Sit 60.15 297 P **P 04 44 07.1 -0.1**
NV11 IAmb IAmb 04 44 13.9
comp=Z,36nm,2.0s
NVAR Mina Array Bea 60.21 297 P **P 04 44 07.7 0.0**
comp=Z,2.0nm,0.9s,baz=56,slow=6.8,SNR=7.4
NVAR LR LR 05 09 51.0
comp=Z,382nm,18.3s,baz=30,slow=36
NVAR Mina Array Bea 60.21 297 P **P 04 44 07.5 -0.2**
LHV Little Huntoon 60.44 297 P **P 04 44 08.8 -0.2**
NIL Nilore 60.48 73 P **P 04 44 08.3 -1.0**
NIL pmax pmax
comp=Z,64nm,1.3s
NIL Nilore 60.48 73 P **P 04 44 08.3 -1.0**
WAKR Walker 60.58 298 IAmb IAmb 04 44 20.0
comp=Z,25nm,1.5s
KMRM Mail Ridge 60.65 302 IAmb IAmb 04 44 19.6
comp=Z,29nm,1.4s
SHPR Sheep Range 60.67 294 P **P 04 44 10.8 0.0**
SHPR IAmb IAmb 04 44 15.3
comp=Z,28nm,1.4s
TPNV Topopah Spring 60.71 295 P **P 04 44 12.3 +1.2**
baz=29,SNR=6.1
TPNV Topopah Spring 60.71 295 IAmb IAmb 04 44 14.9
comp=Z,25nm,1.6s
AFDM Forest Hills D 60.76 300 IAmb IAmb 04 44 14.3
comp=Z,20nm,1.8s
MNTX Cornudas Mount 60.88 283 P **P 04 44 14.0 +2.0**
baz=29,SNR=8.5
MNTX Cornudas Mount 60.88 283 P **P 04 44 12.3 +0.3**
MNTX **PcP 04 44 54.6 -1.1**
X16A Lo Mia Camp, P 61.01 289 IAmb IAmb 04 44 17.4
comp=Z,18nm,1.1s
121A Cookes Peak, D 61.15 285 P **P 04 44 15.6 +1.4**
baz=29
121A Cookes Peak, D 61.15 285 P **P 04 44 14.2 +0.1**
121A IAmb IAmb 04 44 20.3
comp=Z,12nm,1.1s
OMMB Old Mammoth Mi 61.19 297 P **P 04 44 14.4 -0.1**
OMMB IAmb IAmb 04 44 20.9
comp=Z,19nm,1.3s
833A Chaparral WMA, 61.28 276 P **P 04 44 16.7 +1.9**
baz=29
833A Chaparral WMA, 61.28 276 P **P 04 44 15.5 +0.7**
833A IAmb IAmb 04 44 20.3
comp=Z,21nm,1.1s
FURC Furnace Creek, 61.37 295 P **P 04 44 17.2 +1.9**
baz=29
W13A Hualapai Mount 61.39 292 P **P 04 44 15.9 +0.1**
GDXM Geysers 61.56 301 P **P 04 44 16.6 -0.2**
SHOC Shoshone, Teco 61.64 294 P **P 04 44 19.5 +2.3**
baz=28
TUQ Turquoise Moun 61.91 294 P **P 04 44 21.1 +1.9**
baz=28
MPMC Manual Prospec 61.97 295 P **P 04 44 21.6 +2.0**
baz=28,SNR=5.1
Y14A Wickenburg 62.05 290 P **P 04 44 20.1 0.0**
TX31 Lajitas Ar. Si 62.21 280 IAmb IAmb 04 44 28.0
comp=Z,25nm,1.2s
TX32 Lajitas Array 62.21 280 P **P 04 44 21.6 +0.3**
TXAR Lajitas Array 62.21 280 P **P 04 44 20.1 -1.1**
comp=Z,3.9nm,1.1s,baz=54,slow=5.0,SNR=19
TXAR PcP **PcP 04 45 01.6 +0.4**
comp=Z,4.4nm,1.1s,baz=72,slow=4.1,SNR=6.0
TXAR LR LR 05 10 56.4
comp=Z,750nm,18.6s,baz=0.0,slow=36
TXAR Lajitas Array 62.21 280 P **P 04 44 21.1 -0.1**
TXAR **PcP 04 45 01.1 0.0**
GSC Goldstone, Bar 62.37 294 P **P 04 44 22.2 0.0**
GSC pmax pmax
comp=Z,13nm,1.5s
GSC Goldstone, Bar 62.37 294 P **P 04 44 23.9 +1.7**
baz=28
GSC Goldstone, Bar 62.37 294 P **P 04 44 22.2 0.0**
GMRC Granite Mounta 62.37 293 P **P 04 44 24.5 +2.2**
baz=28,SNR=8.8
PETK Petropavlovsk- 62.41 3 LR LR 05 11 03.0
comp=Z,95nm,19.9s,baz=27,slow=36
PET Petropavlovsk 62.52 3 *e*P **P 04 44 21.5 -1.3**
PET *e*S **S 04 52 50.4 +0.5**
PET pmax pmax
comp=Z,300nm,12.4s
PET MLR MLR
comp=Z,200nm,16.0s
LRMC Laurel Mtn Rad 62.55 295 P **P 04 44 26.1 +2.6**
baz=28
TUC Tucson 62.58 288 P **P 04 44 23.6 0.0**
TUC pmax pmax
comp=Z,27nm,1.5s
TUC Tucson 62.58 288 P **P 04 44 25.6 +2.0**
baz=29
TUC Tucson 62.58 288 P **P 04 44 23.6 0.0**
TUC IAmb IAmb 04 44 29.8
comp=Z,26nm,1.4s
ISA Isabella, Lake 62.70 296 P **P 04 44 24.3 -0.1**
ISA pmax pmax
comp=Z,13nm,1.2s
ISA Isabella, Lake 62.70 296 P **P 04 44 27.0 +2.6**
baz=28,SNR=7.4
ISA Isabella, Lake 62.70 296 P **P 04 44 24.3 -0.1**
ISA IAmb IAmb 04 44 28.7
comp=Z,13nm,1.1s
IRM Iron Mountain 62.72 292 P **P 04 44 27.6 +3.1**
baz=28,SNR=6.4
PMPB Monarch Peak 63.10 298 P **P 04 44 27.0 -0.1**
BELC Belle Mtn. Jos 63.19 293 P **P 04 44 30.3 +2.5**
baz=28,SNR=9.1
EDW2 Edwards Air Fo 63.20 295 P **P 04 44 30.6 +2.8**
baz=28
BC3 Big Chuckawall 63.28 292 P **P 04 44 31.0 +2.7**
baz=28

113A Mohawk Valley, 63.38 290 P **P 04 44 29.1 +0.2**
113A IAmb IAmb 04 44 32.8
comp=Z,17nm,1.4s
BFSC Mount Baldy Ra 63.64 294 P **P 04 44 33.0 +2.3**
baz=28
214A Organ Pipe Nat 63.71 289 P **P 04 44 33.6 +2.6**
baz=28
214A Organ Pipe Nat 63.71 289 P **P 04 44 31.0 -0.1**
214A IAmb IAmb 04 44 35.0
comp=Z,30nm,1.7s
SWSC Sam W. Stewart 64.04 292 P **P 04 44 35.8 +2.6**
baz=28
MONP2 Monument Peak 64.33 293 P **P 04 44 37.5 +2.1**
baz=28
IKP In-Ko-Pah, Jac 64.42 292 P **P 04 44 38.2 +2.4**
baz=28
DAMY Dhamar 65.12 110 P **P 04 44 40.5 -0.3**
GTA Gaotai 65.28 49 ⇑P **P 04 44 42.4 +1.0**
GTA pP **sP 04 44 47.5 +2.4**
GTA sP **pP 04 44 51.1 +7.0**
GTA S **S 04 53 24.3 -0.7**
GTA sS **sS 04 53 31.5 +2.0**
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA pmax pmax
comp=Z,180nm,4.9s
GTA LR LR
comp=Z,390nm,16.0s
GTA LR LR
comp=Z,410nm,16.7s
GTA LR LR
comp=Z,330nm,16.4s
SPX San Pedro Mart 65.59 291 IAmb IAmb 04 44 47.1
comp=Z,17nm,1.2s
SDV Santo Domingo 66.82 239 *e*P **P 04 44 54.4 +2.8**
SDV Santo Domingo 66.82 239 *e*P **P 04 44 54.1 +2.5**
HHC Hu-ho-hao-te 67.48 40 *e*P **P 04 44 58.3 +2.9**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,210nm,5.7s
HHC LR LR
comp=Z,210nm,13.3s
HHC LR LR
comp=Z,540nm,21.8s
HHC LR LR
comp=Z,130nm,12.3s
ZAIG Zacatecas 67.51 276 P **P 04 44 56.1 +0.1**
ZAIG IAmb IAmb 04 45 04.1
comp=Z,14nm,1.2s
YSS Yuzh-Sakhalins 67.58 14 *e*P **P 04 44 51.3 -4.4**
YSS *e* 04 44 57.9
YSS MLR MLR
comp=Z,200nm,15.0s
SJCC San Jacinto, C 67.61 244 *e*P **P 04 44 57.0 +0.6**
SJCC *e*P **sP 04 44 59.7 -0.5**
MDJ Mudanjiang 67.98 25 P **P 04 45 00.0 +1.6**
MDJ pmax pmax
comp=Z,310nm,6.3s
SMLC San Martn de 68.19 243 *e*P **P 04 45 01.9 +1.9**
MOTC Monteria, Cord 68.82 244 *e*P **P 04 44 59.3 -4.7**
PAMC Pamplona, Colo 69.01 241 *e*P **P 04 45 06.5 +0.8**
PYUN Piuthan 69.30 68 *e*P **P 04 45 07.0 -0.1**
comp=Z,101nm,1.2s
DANN Dangsing 69.38 67 *e*P **P 04 45 08.5 +0.8**
comp=Z,43nm,1.0s
BJI Beijing 69.45 36 P **P 04 45 11.0 +3.5**
BJI pmax pmax
comp=Z,220nm,4.5s
BJI LR LR
comp=Z,260nm,17.1s
BJI LR LR
comp=Z,470nm,20.1s
TAMC Tame, Arauca 69.51 239 *e*P **P 04 45 08.3 +0.1**
BRRC Barranca, Sant 69.61 241 *e*P **P 04 45 09.7 +0.9**
LZH Lanzhou 69.61 47 *e*P **P 04 45 10.6 +1.8**
LZH pP **sP 04 45 14.3 +1.7**
LZH sP **pP 04 45 16.1 +4.5**
LZH sS sS 04 54 32.0 +10
LZH SS **SS 04 58 43.0 -0.9**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,180nm,4.8s
LZH LR LR
comp=Z,360nm,17.3s
LZH LR LR
comp=Z,390nm,17.3s
LZH LR LR
comp=Z,250nm,15.2s
MCPB Macapa, AP 69.63 217 *e*P **P 04 45 11.4 +2.5**
ZARC Zaragoza, Cauc 69.69 243 *e*P **P 04 45 07.6 -1.7**
UREC San Jos de Ur 69.71 244 *e*P **P 04 45 11.6 +2.2**
KOLN Koldanda 69.83 68 *e*P **P 04 45 10.2 -0.2**
comp=Z,80nm,1.3s
GKN Gorkha 70.04 67 *e*P **P 04 45 12.0 +0.4**
RUSC La Rusia 70.49 240 *e*P **P 04 45 12.1 -2.8**
DMN Daman 70.57 67 *e*P **P 04 45 15.5 +0.5**
comp=Z,62nm,1.2s
GUN Gumba 70.61 66 *e*P **P 04 45 16.3 +1.0**
DBBC Dabeiba 70.64 244 *e*P **P 04 45 16.6 +1.3**
PKIN Phulchoki 70.72 66 *e*P **P 04 45 16.3 +0.4**
comp=Z,33nm,1.1s
PKI Pulchoki 70.73 66 *e*P **P 04 45 16.4 +0.4**
JIRN Jiri 70.95 66 *e*P **P 04 45 18.4 +1.0**
comp=Z,90nm,1.2s
SPBC San Pablo de B 71.08 241 *e*P **P 04 45 20.1 +2.1**
MALB Monte Alegre 71.65 219 *e*P **P 04 45 23.5 +2.3**
PTGC Puerto Gaitan, 71.70 239 *e*P **P 04 45 21.4 -0.2**
RAMN Ramite 71.75 66 *e*P **P 04 45 22.5 +0.4**
comp=Z,33nm,1.1s
TAPN Taplejung 71.82 65 *e*P **P 04 45 23.9 +1.3**
DL2 Dalian 71.84 32 P P 04 45 29.3 +7.1
DL2 S **SKiKP 04 54 51.9 -7.9**
DL2 pmax pmax
comp=Z,410nm,4.9s
DL2 LR LR
comp=N,310nm,21.0s
DL2 LR LR
comp=E,770nm,19.5s
DL2 LR LR
comp=Z,470nm,15.7s
CHIC Chingaza 71.89 241 *e*P **P 04 45 23.8 +0.5**
ROSC El Rosal 71.92 241 P **P 04 45 24.2 +0.8**
comp=Z,10nm,0.6s,baz=28,slow=4.6,SNR=7.8
ROSC LR LR 05 15 33.5
comp=Z,72nm,19.3s,baz=32,slow=35
ROSC El Rosal 71.92 241 P **P 04 45 24.2 +0.8**
GUY2C Guyana, Caldas 71.96 242 *e*P **P 04 45 22.5 -1.2**
ODAN Odare 72.14 65 *e*P **P 04 45 25.6 +1.2**
comp=Z,114nm,1.4s
PTGA Pitinga 72.21 225 P **P 04 45 24.9 +0.3**
PTGA IAmb IAmb 04 45 31.2
comp=Z,28nm,1.7s
PLMC San Jos del P 72.60 243 *e*P **P 04 45 25.9 -1.2**
ANIL Santa Ana 72.65 242 *e*P **P 04 45 30.6 +3.0**
XAN Xi'an 73.06 44 P **P 04 45 30.5 +0.9**
XAN pmax pmax
comp=Z,9.0nm,1.6s
XAN pmax pmax
comp=Z,380nm,6.1s
XAN LR LR
comp=Z,260nm,23.9s
XAN LR LR
comp=Z,600nm,20.4s
XAN LR LR
comp=Z,490nm,23.9s
PRAC Prado 73.17 241 *e*P **P 04 45 34.1 +3.8**
BETC Betania 74.33 241 *e*P **P 04 45 37.3 +0.1**
ITTB Itaituba 74.45 220 *e*P **P 04 45 39.3 +1.5**
KSRS Korea Array 74.59 28 LR LR 05 21 33.6
comp=Z,142nm,18.4s,baz=341,slow=38
MACA Manacapuru-AM 74.73 225 *e*P **P 04 45 41.7 +2.3**
GARC Garzon, Huila 74.80 241 *e*P P 04 45 32.8 -7.4
PCON Cinco Dias 75.01 242 *e*P **P 04 45 38.9 -3.0**
FLOC Florencia 75.42 241 *e*P P 04 45 32.9 -11
KMBO Kilima Mbogo 76.76 123 LR LR 05 23 22.7
comp=Z,218nm,18.7s,baz=278,slow=39
NPGB Novo Progresso 76.91 219 *e*P **P 04 45 53.9 +2.0**
MJAR Matsushiro Arr 77.26 20 P **P 04 45 54.0 +0.3**
comp=Z,1.1nm,0.5s,baz=308,slow=41,SNR=1.6
MJAR LR LR 05 20 07.2
comp=Z,66nm,18.3s,baz=305,slow=36
MJAR Matsushiro Arr 77.26 20 P **P 04 45 52.4 -1.3**
NJ2 Nanjing 77.70 37 *e*P **P 04 45 57.6 +1.4**

NJ2 pmax pmax
comp=Z,12nm,0.5s
OTAV Otavalo 77.72 243 P **P 04 45 57.6 +0.6**
OTAV pmax pmax
comp=Z,14nm,1.3s
OTAV Otavalo 77.72 243 P **P 04 45 57.6 +0.6**
OTAV Otavalo 77.72 243 *e*P **P 04 45 59.0 +2.1**
KMI Kunming 79.34 53 ⇑P **P 04 46 07.8 +2.2**
KMI pP **PcP 04 46 12.9 -0.9**
KMI pmax pmax
comp=Z,8.0nm,1.1s
KMI LR LR
comp=Z,210nm,34.7s
GYA Guiyang 79.41 49 *e*P **P 04 46 07.3 +1.4**
GYA pmax pmax
comp=Z,13nm,1.4s
CLDB Colider 80.69 218 *e*P **P 04 46 12.8 +0.2**
SAML Samuel 80.97 226 P **P 04 46 15.0 +0.9**
SAML pmax pmax
comp=Z,26nm,1.8s
SAML Samuel 80.97 226 P **P 04 46 15.0 +0.9**
SAML IAmb IAmb 04 46 16.4
comp=Z,26nm,1.8s
ETMB Extrema 82.73 228 *e*P **P 04 46 24.7 +1.3**
CZSB Cruzeiro do Su 82.96 235 *e*P **P 04 46 25.5 +0.9**
BDFB Brasilia 83.44 209 LR LR 05 17 25.8
comp=Z,249nm,20.5s,baz=312,slow=31
CHTO Chiang Mai 83.80 58 P **P 04 46 27.9 -1.2**
CHTO pmax pmax
comp=Z,11nm,1.2s
CHTO Chiang Mai 83.80 58 P **P 04 46 27.9 -1.2**
CHTO IAmb IAmb 04 46 34.0
comp=Z,11nm,1.1s
VILB Vilhena 83.88 222 *e*P **P 04 46 31.4 +2.2**
CMAR Chiang Mai Arr 84.13 59 P **P 04 46 31.6 +0.8**
comp=Z,1.7nm,0.5s,baz=320,slow=7.0,SNR=7.6
CMAR LR LR 05 26 31.1
comp=Z,120nm,20.2s,baz=348,slow=37
CMAR Chiang Mai Arr 84.13 59 P **P 04 46 29.5 -1.2**
QIZ Qiongzhong 87.36 49 P **P 04 46 48.4 +1.7**
QIZ S **S 04 57 29.8 +2.5**
QIZ LR LR
comp=Z,190nm,14.5s
LPAZ La Paz 89.42 228 LR LR 05 25 16.0
comp=Z,67nm,18.0s,baz=358,slow=34
PSI Prapat 98.49 65 LR LR 05 37 46.9
comp=Z,197nm,19.5s,baz=271,slow=39
BOSA Boshof 98.87 143 LR LR 05 34 42.0
comp=Z,510nm,18.5s,baz=350,slow=37
TAOE Nuku Hiva Isla 111.47 296 *e*LR LR 05 25 45.4
comp=Z,298nm,31.0s
PPT2 Papeete2 123.01 302 *e*SS SS 05 11 20.5 +1.6
comp=Z,279nm,27.2s
PPT2 Papeete2 123.01 302 *e*LR LR 05 31 02.5
comp=Z,151nm,24.2s
TBI Tubuai 128.23 299 *e*LR LR 05 33 37.8
comp=Z,164nm,36.8s
WRA Warramunga Arr 131.48 36 PKP **PKiKP 04 53 12.6 -0.4**
comp=Z,3.9nm,1.2s,baz=356,slow=2.9,SNR=6.3
WRA Warramunga Arr 131.48 36 PKIKP **PKPdf 04 53 11.8 -0.2**
WRA Warramunga Arr 131.48 36 PKPdf **PKPdf 04 53 11.8 -0.2**
ASAR Alice Springs 134.93 38 PKP **PKPdf 04 53 18.6 +0.2**
comp=Z,2.2nm,1.0s,baz=3,2,slow=1.8,SNR=9.4
ASAR Alice Springs 134.93 38 PKIKP **PKPdf 04 53 18.2 -0.2**
ASAR Alice Springs 134.93 38 PKPdf **PKPdf 04 53 18.2 -0.2**
SNAA Sanae 136.54 173 *c i*PKIKP **PKiKP 04 53 23.9 +2.2**
SNAA pmax pmax
comp=Z,5.0nm,1.3s
SYO Syowa Base 139.38 152⇑ *e*Pdiff **Pdif 04 50 39.7 +1.2**
SYO Syowa Base 139.38 152⇑ *e*PKPdf **PKPdf 04 53 24.6 -0.5**
MAW Mawson 143.83 140 PKP PKPab 04 53 29.6 -0.6
comp=Z,1.6nm,0.9s,baz=301,slow=6.1,SNR=4.2
MAW Mawson 143.83 140 **PKPdf 04 53 34.6 +1.5**
STKA Stephens Creek 144.67 31 PKP **PKPab 04 53 33.3 -1.2**
comp=Z,11nm,1.2s,baz=330,slow=2.2,SNR=5.7
STKA Stephens Creek 144.67 31 **PKPdf 04 53 35.6 -0.1**

DDA ***23*** *04:37:53.1, 40.°78N×27.°79E, h7km±3km, ML1.9*

ISK 23 04:37:52.6, 40.82N×27.79E, h18km, ML2.0/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAR9	**Marsite Statio**	**0.21**	**199**	PG	Pg	04 37 57.6	0.0
BOTS	**Marmara Eregli**	**0.23**	**40**	PG	Pb	04 37 58.6	+0.6
CRLT	**Corlu**	**0.32**	**352**	PG	Pb	04 37 59.6	-0.1
MAR3	**Marsite Statio**	**0.38**	**259**	PG	Pb	04 38 00.8	-0.1
MAR6	**Marsite Statio**	**0.41**	**255**	PG	Pb	04 38 01.5	+0.1
EDC	**Edincik**	**0.47**	**173**	PG	Pb	04 38 02.8	+0.4
SLVT	**Silivri**	**0.52**	**37**	PG	Pb	04 38 03.8	+0.6
SLVT				SG	Sb	04 38 10.9	+0.5
KRBG	**Karabiga-Canak**	**0.57**	**222**	PG	Pb	04 38 04.4	+0.5
KRBG				SG	Sb	04 38 12.7	+1.1
ELBA	**Catalca**	**0.59**	**55**	*i* P	Pb	04 38 04.6	+0.3
ELBA				*i* S	Sb	04 38 13.0	+0.8
CTKS	**Kestanelik-??a**	**0.69**	**52**	PG	Pg	04 38 06.3	+0.2
CTKS				SG	Sn	04 38 16.5	-1.1
CTYL	**Yalikoy Yolu**	**0.76**	**30**	PG	Pb	04 38 07.3	+0.1
GONE	**Gonen-Balikesi**	**0.77**	**186**	PG	Pg	04 38 07.9	+0.2
BGKT	**Bogazkoy**	**0.83**	**64**	PG	Pn	04 38 09.4	+0.1
ARMT	**Armutlu**	**0.85**	**107**	PG	Pn	04 38 10.3	+0.6
UKOP	**Uzunkopru-Edir**	**0.93**	**290**	PG	Pn	04 38 11.3	+0.5
ERIK	**Erikli-Kesan**	**0.98**	**262**	PG	Pn	04 38 11.3	-0.1
ISK	**Istanbul-Kandi**	**0.99**	**75**	PG	Pg	04 38 11.9	0.0
KAVV	**Kandilli-Istan**	**0.99**	**75**	PG	Pn	04 38 11.6	0.0
KLYT	**Kilyos**	**1.04**	**65**	PG	Pn	04 38 12.5	+0.2
TRML	**Termal-Yalova**	**1.07**	**101**	PG	Pn	04 38 12.9	+0.2
BALY	**Balya**	**1.08**	**187**	*i* P	Pg	04 38 13.9	+0.3
BALY				*i* S	Sg	04 38 29.5	+1.7
BALY				IAML		04 38 30.0	
	comp=E,22nm,0.3s						
BALY				IAML		04 38 30.0	
	comp=N,28nm,0.5s						
GELI	**Tayfur-Gelibol**	**1.09**	**248**	PN	Pg	04 38 13.3	-0.3
BALB	**Balikesir**	**1.18**	**177**	PN	Pb	04 38 14.3	-0.1
ENEZ	**Enez**	**1.25**	**267**	PN	Pb	04 38 15.4	-0.2
DURS	**Dursunbey**	**1.32**	**156**	*i* P	Pg	04 38 19.4	+1.3
DURS				*i* S	Sg	04 38 36.5	+1.1
DURS				IAML		04 38 37.0	
	comp=N,26nm,0.6s						
DURS				IAML		04 38 38.0	
	comp=E,30nm,0.2s						
ALN	**Alexandroupoli**	**1.33**	**274**	PN	Pb	04 38 16.8	-0.1
SILT	**Sile**	**1.44**	**76**	PN	Pn	04 38 18.2	+0.4

IDC ***23*** *05:18:15.2±0.9, 1.°36S×69.°46E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.7/38, mbtmp4.0/8, ML4.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/46, Error ellipse: s-maj=27.8km s-min=21.5km az=62.0*

NEIC ***23*** *05:18:17.6±1.2, 1.°26S±0.°05×69.°8E±0.°1, h10km±1km, mb4.1/7, Error ellipse: s-maj=25.1km s-min=9.4km az=274.0*

ISC 23 05:18:17.2±0.7, 1.28S±0.09×69.7E±0.1, h11km, n34, σ1§33/31, mb4.1/10, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.69**	**156**	Pn	**Pn**	**05 19 56.2**	**+0.7**
H08S3	**Diego Garcia H**	**6.90**	**156**	Pn	**Pn**	**05 19 58.5**	**+0.4**
	baz=334,slow=18,SNR=17						
H08S1	**Diego Garcia H**	**6.91**	**156**	Pn	**Pn**	**05 19 58.3**	**+0.1**
	baz=334,slow=18,SNR=26						
H08S2	**Diego Garcia H**	**6.92**	**156**	Pn	**Pn**	**05 19 58.8**	**+0.4**
	baz=334,slow=18,SNR=20						
PALK	**Pallekele**	**13.88**	**52**	Pn	**Pn**	**05 21 37.6**	**+3.5**
	1.6nm,0.3s,baz=335,slow=13,SNR=6.8						
PALK				Sn	**Sn**	**05 24 04.4**	**-4.0**
	0.9nm,0.3s,baz=244,slow=13,SNR=2.2						
PALK	**Pallekele**	**13.88**	**52**		**Pn**	**05 21 33.3**	**-0.8**
LSZ	**Lusaka**	**43.25**	**249**	P	**P**	**05 26 16.2**	**-3.0**
	1.7nm,0.5s,baz=66,slow=7.8,SNR=4.6						
MMAI	**Mount Meron Ar**	**47.00**	**320**	LR	LR	05 45 04.9	
	comp=Z,36nm,18.5s,baz=35,slow=34						
MKAR	**Makanchi Array**	**49.13**	**11**	P	**P**	**05 27 04.8**	**-0.2**
	0.5nm,0.5s,baz=189,slow=8.6,SNR=3.9						
KBZ	**Khabaz**	**50.82**	**335**	P	**P**	**05 27 18.9**	**+1.2**
	1.3nm,0.5s,baz=170,slow=7.7,SNR=3.0						
AB07	**Akbulak array**	**51.02**	**352**	P	**P**	**05 27 19.7**	**+0.6**
AB08	**Akbulak array**	**51.02**	**352**	P	**P**	**05 27 18.9**	**-0.2**
AB03	**Akbulak array**	**51.03**	**352**	P	**P**	**05 27 19.7**	**+0.5**
AB01	**Akbulak array**	**51.03**	**352**	P	**P**	**05 27 20.6**	**+1.3**
ABKAR	**Akbulak array**	**51.03**	**352**	P	**P**	**05 27 19.4**	**+0.1**
ABKAR				IAmb	IAmb	05 27 21.4	

comp=Z,2.2nm,0.9s
AB06 Akbulak array 51.03 352 P P 05 27 20.0 +0.7
H01W3 Cape Leeuwin H 53.17 134 T T 06 24 57.5
baz=299,slow=75,SNR=11
H01W2 Cape Leeuwin H 53.18 134 T T 06 24 59.1
baz=299,slow=75,SNR=7.7
H01W1 Cape Leeuwin H 53.19 134 T T 06 24 56.9
baz=299,slow=75,SNR=11
ZALV Zalesovo Beam 56.45 11 P P 05 27 58.6 -0.2
comp=Z,2.0nm,0.5s,baz=211,slow=6.4,SNR=5.3
SONM Songino Array 58.42 28 P P 05 28 14.1 +1.0
comp=Z,0.5nm,0.5s,baz=232,slow=3.5,SNR=1.7
SONM Songino Array 58.42 28 IAmb IAmb 05 28 15.8
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 65.78 111 P P 05 29 03.9 +1.0
comp=Z,0.6nm,0.6s,baz=291,slow=6.0,SNR=11
WRA Warramunga Arr 65.78 111 P P 05 29 03.1 +0.2
WRAB Tennant Creek 65.79 111 P P 05 29 02.1 -0.9
WB2 Warramunga Arr 65.79 111 P P 05 29 02.9 -0.1
WB2 IAmb IAmb 05 29 13.7
comp=Z,1.1nm,0.9s
WB0 Warramunga Arr 65.81 111 P P 05 29 02.2 -0.9
ASAR Alice Springs 65.95 115 P P 05 29 05.0 +1.0
comp=Z,0.7nm,0.5s,baz=283,slow=5.9,SNR=12
ASAR Alice Springs 65.95 115 P P 05 29 03.8 -0.2
WR0 Warramunga Arr 65.97 111 P P 05 29 04.0 -0.2
WR0 IAmb IAmb 05 29 05.5
comp=Z,0.7nm,0.6s
QSPA South Pole Qui 88.72 180 P P 05 31 10.6 0.0
PDAR Pinedale Array 138.69 359 PKP **PKPdf 05 37 43.8 -0.3**
comp=Z,0.3nm,0.5s,baz=83,slow=2.8,SNR=3.5
TXAR Lajitas Array 151.39 348 PKPbc **PKiKP 05 38 12.4 -0.1**
comp=Z,1.2nm,0.8s,baz=81,slow=1.6,SNR=18
TXAR Lajitas Array 151.39 348 PKPdf **PKPdf 05 38 06.9 +0.9**
TXAR **PKPbc 05 38 12.0 0.0**

BJI 23 05:20:47.5±0.0, 27°.71N×119°.94E, h5km, mb4.3/1, ML4.3/10, Ms4.0/2, Ms7 4.0/4, 1C, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**3.01**	**204**	Pn	Pn	05 21 33.6	-2.2
QZH				Sn	Sn	05 22 07.9	-4.4
QZH	comp=N,630nm,0.7s			smax	smax		
QZH	comp=E,700nm,0.7s			smax	smax		
NJ2	**Nanjing**	**4.43**	**348**	↑Pn	Pn	05 21 52.9	-2.4
NJ2				Pg	Pb	05 22 08.0	+2.2
NJ2				Sn	Sn	05 22 45.3	-2.0
NJ2				Sg	Sg	05 23 08.0	-1.8
NJ2	comp=N,440nm,0.7s			smax	smax		
NJ2	comp=E,400nm,1.0s			smax	smax		
WHN	**Wuhan**	**5.65**	**301**	Pn	Pn	05 22 11.5	-0.6
WHN				Sn	Sn	05 23 15.3	-2.0
WHN	comp=Z,2μm,4.1s			LR	LR		
TIA	**Tai'an**	**8.81**	**345**	Pg	Pg	05 23 43.0	+6.9
TIA				Sg	Sg	05 25 19.3	-11
TIA	comp=N,28nm,1.0s			smax	smax		
TIA	comp=E,52nm,0.9s			smax	smax		
XAN	**Xi'an**	**11.37**	**306**	P	Pn	05 23 31.0	+0.3
XAN				S	Sn	05 25 40.3	+2.1
XAN	comp=E,450nm,7.1s			LR	LR		
XAN	comp=E,390nm,7.5s			LR	LR		
GYA	**Guiyang**	**11.90**	**267**	*e*P	Pn	05 23 38.8	+0.8
GYA				S	Sn	05 25 52.6	+1.4
GYA	comp=E,8.0nm,1.1s			pmax	pmax		
GYA	comp=E,170nm,3.8s			LR	LR		
GYA	comp=E,240nm,5.6s			LR	LR		
GTA	**Gaotai**	**20.38**	**310**	*e*P	Pn	05 25 32.6	+5.3
GTA				pP	sP	05 25 37.5	+10
GTA				sP	pP	05 25 39.8	+13
WMQ	**Urumqi**	**30.47**	**310**	*e*P	P	05 27 01.1	-0.2

JMA 23 05:30:12.1±0.2, 35°.99N×141°.18E, h21km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.39**	**222**	P	Pb	05 30 20.1	0.0
JIHU	**Itakohorinouch**	**0.53**	**268**	P	Pb	05 30 23.1	+0.3
JIHU				S	Sb	05 30 31.0	+1.0
JHYU	**Hitachinakayam**	**0.59**	**306**	P	Pb	05 30 24.1	+0.2
JHYU				S	Sb	05 30 32.2	+0.3
JSMT	**Sammumatsuo**	**0.69**	**240**	P	Pb	05 30 25.9	+0.5
JHO	**Hitachi**	**0.79**	**322**	P	Pb	05 30 26.8	-0.4
JHO				S	Sb	05 30 37.8	+0.3
JYT	**Yasato**	**0.83**	**287**	P	Pb	05 30 27.4	-0.4
JYT				S	Sb	05 30 38.8	+0.2
BSO4	**Boso 4**	**1.21**	**215**	P	Pb	05 30 35.9	+1.7
MAT	**Matsushiro**	**2.46**	**284**	P	Pn	05 30 51.6	+0.5
MAT				*e*S	Sn	05 31 22.2	+1.6

ATH 23 05:53:02.5, 38°.33N×20°.44E, h11km±2km, ML1.8/2, Error ellipse: s-maj=3.1km s-min=0.8km az=271.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF5	**Kardakata, Kep**	**0.06**	**156**	P	Pg	05 53 04.8	0.0
KEF5				S	Sg	05 53 06.2	-0.4
KEF4	**Livadi, Kephal**	**0.08**	**187**	P	Pg	05 53 05.2	+0.2
KEF4				S	Sg	05 53 07.0	+0.3
FSK	**Fiskardo**	**0.16**	**38**	P	Pg	05 53 05.9	-0.2
FSK				S	Sg	05 53 08.9	+0.1
FSK	comp=E,1114μm,0.1s			AML	AML	05 53 09.2	
FSK	comp=N,512μm,0.1s			AML	AML	05 53 09.2	
VLS	**Valsamata**	**0.20**	**142**	P	Pg	05 53 06.8	0.0
VLS				S	Sg	05 53 10.1	+0.3
VLS	comp=E,966μm,0.1s			AML	AML	05 53 10.3	
VLS	comp=N,1154μm,0.2s			AML	AML	05 53 10.3	
EVGI	**Lefkada island**	**0.33**	**31**	P	Pg	05 53 09.3	0.0
EVGI				S	Sg	05 53 14.5	+0.7
LKD2	**Lefkada island**	**0.49**	**21**	P	Pg	05 53 11.8	-0.3
LKD2				S	Sg	05 53 19.3	+0.7
VLMS	**Volimes, Zakyn**	**0.49**	**159**	P	Pg	05 53 12.1	-0.1
VLMS				S	Sg	05 53 19.1	+0.5
TSLK	**Tsoukalades, L**	**0.52**	**19**	P	Pg	05 53 12.5	-0.2

IDC 23 05:53:47.2±1.8, 1°.43S×140°.18E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/33, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=41.3km s-min=17.1km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.20**	**154**	Pg	Pn	05 54 12.0	+0.7
JAY	4.7nm,0.3s,baz=90,slow=7.6,SNR=16			Lg	Lg	05 54 24.9	
WRA	**Warramunga Arr**	**19.27**	**197**	P	P	05 58 14.0	+0.4
ASAR	**Alice Springs**	**22.93**	**195**	P	P	05 58 52.6	-0.4
H11S3	**WAKE ISLAND Hy**	**32.74**	**52**	T	T	06 33 54.6	
H11S2	**WAKE ISLAND Hy**	**32.75**	**52**	T	T	06 33 58.2	
H11S1	**WAKE ISLAND Hy**	**32.76**	**52**	T	T	06 33 53.4	
ILAR	**Eielson Array**	**84.07**	**24**	P	P	06 06 19.0	-0.6
	0.2nm,0.6s,baz=244,slow=4.9,SNR=4.1						

BUC 23 05:57:04.1±0.3, 45°.73N×26°.57E, h91km±2km, ml3.2/19, 94C-18D, Error ellipse: s-maj=1.9km s-min=1.6km az=150.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.14**	**24**	↑P	Pn	05 57 17.2	0.0
PLOR				↑S	Sn	05 57 26.6	-0.2
PLOR	**Plostina**	**0.14**	**24**	↑P	Pn	05 57 17.2	0.0
PLOR	**Plostina**	**0.14**	**24**	↑S	Sn	05 57 26.6	-0.2
VRI	**Vrincioaia**	**0.18**	**38**	↑P	Pn	05 57 17.3	+0.1
VRI				↑S	Sn	05 57 26.5	-0.4
VRI	**Vrincioaia**	**0.18**	**38**	↑P	Pn	05 57 17.3	+0.1
VRI	**Vrincioaia**	**0.18**	**38**	↑S	Sn	05 57 26.5	-0.4
BISRR	**Bisoca**	**0.20**	**152**	↓P	Pn	05 57 17.9	+0.6
BISRR				↑S	Sn	05 57 27.9	+0.7
BISRR	**Bisoca**	**0.20**	**152**	↓P	Pn	05 57 17.9	+0.6
BISRR	**Bisoca**	**0.20**	**152**	↑S	Sn	05 57 27.9	+0.7
ODBI	**Odobesti**	**0.34**	**84**	↑P	Pn	05 57 18.7	+0.8
ODBI				↑S	Sn	05 57 29.4	+1.2
ODBI	**Odobesti**	**0.34**	**84**	↑P	Pn	05 57 18.7	+0.8
ODBI	**Odobesti**	**0.34**	**84**	↑S	Sn	05 57 29.4	+1.2
NEHR	**Nehoiu**	**0.36**	**213**	↓P	Pn	05 57 18.3	+0.3
NEHR				↑S	Sn	05 57 29.3	+0.9
NEHR	**Nehoiu**	**0.36**	**213**	↓P	Pn	05 57 18.3	+0.3
NEHR	**Nehoiu**	**0.36**	**213**	↑S	Sn	05 57 29.3	+0.9
GRER		**0.45**	**141**	↑S	Sn	05 57 30.5	+1.1
GRER		**0.45**	**141**	↑S	Sn	05 57 30.5	+1.1
PETR	**Petresti**	**0.46**	**90**	↑P	Pn	05 57 19.3	+0.7
PETR				↑S	Sn	05 57 30.4	+0.9
PETR	**Petresti**	**0.46**	**90**	↑P	Pn	05 57 19.3	+0.7
PETR	**Petresti**	**0.46**	**90**	↑S	Sn	05 57 30.4	+0.9
MLR	**Muntele Rosu**	**0.50**	**242**	↑P	Pn	05 57 19.7	+0.5
MLR				↑S	Sn	05 57 30.4	0.0
MLR	**Muntele Rosu**	**0.50**	**242**	↑P	Pn	05 57 19.7	+0.5
MLR	**Muntele Rosu**	**0.50**	**242**	↑S	Sn	05 57 30.4	0.0
ISR	**Istrita**	**0.61**	**182**	↓P	Pn	05 57 20.8	+0.8
ISR				↓S	Sn	05 57 32.6	+0.8
ISR	**Istrita**	**0.61**	**182**	↓P	Pn	05 57 20.8	+0.8
ISR	**Istrita**	**0.61**	**182**	↓S	Sn	05 57 32.6	+0.8
OZUR		**0.66**	**304**	↑P	Pn	05 57 20.4	0.0
OZUR		**0.66**	**304**	↑P	Pn	05 57 20.4	0.0
GHRR		**0.67**	**60**	↑S	Sn	05 57 33.4	+0.8
GHRR		**0.67**	**60**	↑S	Sn	05 57 33.4	+0.8
SECR		**0.78**	**207**	↑P	Pn	05 57 21.6	+0.1
SECR		**0.78**	**207**	↑P	Pn	05 57 21.6	+0.1
TUDR		**0.78**	**99**	↓P	Pn	05 57 21.5	0.0
TUDR				↑S	Sn	05 57 33.8	-0.7
TUDR		**0.78**	**99**	↓P	Pn	05 57 21.5	0.0
TUDR		**0.78**	**99**	↑S	Sn	05 57 33.8	-0.7
TESR	**Tescani**	**0.79**	**4**	↓P	Pn	05 57 21.2	-0.3
TESR				↑S	Sn	05 57 34.5	-0.1
TESR	**Tescani**	**0.79**	**4**	↓P	Pn	05 57 21.2	-0.3
TESR	**Tescani**	**0.79**	**4**	↑S	Sn	05 57 34.5	-0.1
DOPR	**Dopca**	**0.86**	**287**	↑P	Pn	05 57 22.8	+0.4
DOPR				↑S	Sn	05 57 35.8	-0.3
DOPR	**Dopca**	**0.86**	**287**	↑P	Pn	05 57 22.8	+0.4
DOPR	**Dopca**	**0.86**	**287**	↑S	Sn	05 57 35.8	-0.3
VARL	**Varlezi**	**0.91**	**79**	↑S	Sn	05 57 37.5	+0.6
VARL	**Varlezi**	**0.91**	**79**	↑S	Sn	05 57 37.5	+0.6
BIR	**Birlad**	**0.91**	**53**	↑P	Pn	05 57 22.8	-0.1
BIR				↑S	Sn	05 57 37.2	+0.2
BIR	**Birlad**	**0.91**	**53**	↑P	Pn	05 57 22.8	-0.1
BIR	**Birlad**	**0.91**	**53**	↑S	Sn	05 57 37.2	+0.2
SCHL	**Schela**	**0.91**	**104**	↑P	Pn	05 57 22.9	0.0
SCHL	**Schela**	**0.91**	**104**	↑P	Pn	05 57 22.9	0.0
SULR		**1.07**	**192**	↑P	Pn	05 57 24.7	0.0
SULR				↑S	Sn	05 57 41.1	+0.9
SULR		**1.07**	**192**	↑P	Pn	05 57 24.7	0.0
SULR		**1.07**	**192**	↑S	Sn	05 57 41.1	+0.9
VOIR		**1.11**	**255**	↑P	Pn	05 57 25.5	+0.3
VOIR				↑S	Sn	05 57 40.5	-0.6
VOIR		**1.11**	**255**	↑P	Pn	05 57 25.5	+0.3
VOIR		**1.11**	**255**	↑S	Sn	05 57 40.5	-0.6
CFR	**Carcaliu**	**1.23**	**116**	↑P	Pn	05 57 26.5	0.0
CFR				↑S	Sn	05 57 42.6	-0.8
CFR	**Carcaliu**	**1.23**	**116**	↑P	Pn	05 57 26.5	0.0
CFR	**Carcaliu**	**1.23**	**116**	↑S	Sn	05 57 42.6	-0.8
VASR	**Vaslui**	**1.25**	**42**	↑P	Pn	05 57 26.8	+0.1
VASR				↑S	Sn	05 57 44.2	+0.4
VASR	**Vaslui**	**1.25**	**42**	↑P	Pn	05 57 26.8	+0.1
VASR	**Vaslui**	**1.25**	**42**	↑S	Sn	05 57 44.2	+0.4
BIZ	**Bicaz**	**1.25**	**345**	↑P	Pn	05 57 27.9	+1.0
BIZ				↑S	Sn	05 57 44.9	+0.9
BIZ	**Bicaz**	**1.25**	**345**	↑P	Pn	05 57 27.9	+1.0
BIZ	**Bicaz**	**1.25**	**345**	↑S	Sn	05 57 44.9	+0.9
LEHL	**Lehliu**	**1.27**	**172**	↑P	Pn	05 57 27.7	+0.7
LEHL				↑S	Sn	05 57 44.9	+0.7
LEHL	**Lehliu**	**1.27**	**172**	↑P	Pn	05 57 27.7	+0.7
LEHL	**Lehliu**	**1.27**	**172**	↑S	Sn	05 57 44.9	+0.7
ARR	**Arges**	**1.41**	**256**	↑P	Pn	05 57 28.4	-0.4
ARR				↑S	Sn	05 57 47.5	0.0
ARR	**Arges**	**1.41**	**256**	↑P	Pn	05 57 28.4	-0.4
ARR	**Arges**	**1.41**	**256**	↑S	Sn	05 57 47.5	0.0
TOPG	**Topolog**	**1.53**	**123**	↓P	Pn	05 57 30.8	+0.6
TOPG				↑S	Sn	05 57 49.2	-0.9
TOPG	**Topolog**	**1.53**	**123**	↓P	Pn	05 57 30.8	+0.6
TOPG	**Topolog**	**1.53**	**123**	↑S	Sn	05 57 49.2	-0.9
SGRR	**Singureni**	**1.56**	**196**	↑S	Sn	05 57 51.0	+0.2
SGRR	**Singureni**	**1.56**	**196**	↑S	Sn	05 57 51.0	+0.2
TLBR	**Topalu**	**1.58**	**138**	↑P	Pn	05 57 30.8	0.0
TLBR	**Topalu**	**1.58**	**138**	↑P	Pn	05 57 30.8	0.0
HUMR	**Humele**	**1.65**	**224**	↑S	Sn	05 57 52.2	-0.5
HUMR	**Humele**	**1.65**	**224**	↑S	Sn	05 57 52.2	-0.5
TLCR		**1.67**	**108**	↓P	Pn	05 57 31.9	-0.1
TLCR				↑S	Sn	05 57 53.0	-0.2
TLCR		**1.67**	**108**	↓P	Pn	05 57 31.9	-0.1
TLCR		**1.67**	**108**	↑S	Sn	05 57 53.0	-0.2
TIRR	**Tirgusor**	**1.82**	**134**	↑P	Pn	05 57 34.2	+0.3
TIRR	**Tirgusor**	**1.82**	**134**	↑P	Pn	05 57 34.2	+0.3
ICOR	**Ion Corvin**	**1.83**	**151**	↑P	Pn	05 57 34.8	+0.7
ICOR	**Ion Corvin**	**1.83**	**151**	↑P	Pn	05 57 34.8	+0.7
MILM	**Milestii Mici**	**1.96**	**52**	↑P	Pn	05 57 35.8	+0.1
MILM				↑S	Sn	05 57 59.4	-0.4
MILM	**Milestii Mici**	**1.96**	**52**	↑P	Pn	05 57 35.8	+0.1
MILM	**Milestii Mici**	**1.96**	**52**	↑S	Sn	05 57 59.4	-0.4
BURAR	**Bucovina Array**	**2.11**	**334**	↓P	Pn	05 57 38.5	+0.7
BURAR	**Bucovina Array**	**2.11**	**334**	↓P	Pn	05 57 38.5	+0.7

IDC 23 06:14:58.5±3.9, 30°.42S×138°.32E, h0km, mb1 3.5/4, mb1mx3.4/31, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=112.5km s-min=17.7km az=39.0
AUST 23 06:15:01.8±0.7, 30°.49S×138°.45E, h10km, Error ellipse: s-maj=6.6km s-min=3.6km az=178.0
ISC 23 06:14:59.3±1.0, 30°.30S±0°.06×138°.42E±0°.06, h10km, n8, σ1§72/14, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.15**	**121**	Pn	**Pn**	**06 15 49.9**	**+0.9**
STKA	0.9nm,0.3s,baz=300,slow=14,SNR=18 baz=3.0,SNR=12			Sn	**Sn**	**06 16 24.5**	**-2.1**
STKA	3.0nm,0.3s,baz=307,slow=14,SNR=4.4 6.7nm,0.3s,baz=10,slow=13,SNR=6.6			Lg	Lg	06 16 38.6	
STKA	**Stephens Creek**	**3.15**	**121**	P	**Pn**	**06 15 49.8**	**+0.9**
STKA	baz=3.0,SNR=12 baz=3.0			S	**Sn**	**06 16 26.8**	**+0.1**
HTT	**Hallett**	**3.15**	**172**	P	**Pn**	**06 15 49.6**	**+0.5**
HTT	baz=3.0,SNR=12 baz=3.0			S	**Sn**	**06 16 25.3**	**-1.6**
BBOO	**Buckleboo**	**3.21**	**218**	P	**Pn**	**06 15 50.1**	**+0.3**
BBOO	baz=3.1,SNR=41 baz=3.1			S	**Sn**	**06 16 28.1**	**-0.1**
MULG	**Mulgathing**	**3.77**	**269**	P	**Pn**	**06 15 59.5**	**+2.0**
ASAR	**Alice Springs**	**7.73**	**328**	Pn	**Pn**	**06 16 54.1**	**+2.1**
ASAR	0.3nm,0.3s,baz=148,slow=12,SNR=12 0.1nm,0.3s,baz=159,slow=16,SNR=1.6			Sn	**Sn**	**06 18 17.3**	**-2.4**
WRA	**Warramunga Arr**	**10.95**	**339**	Pn	**Pn**	**06 17 37.9**	**+1.7**
WRA	0.3nm,0.3s,baz=161,slow=12,SNR=20 0.0nm,0.3s,baz=130,slow=9.6,SNR=2.3			Sn	**Sn**	**06 19 36.5**	**-2.3**
FITZ	**Fitzroy Crossi**	**16.81**	**313**	Pn	**Pn**	**06 18 53.9**	**-1.0**
	0.1nm,0.3s,baz=176,slow=3.2,SNR=2.5						

KEA 23 06:27:56.5±0.0, 35°.69N×129°.37E, h0km, ML3.8/7
JMA 23 06:27:56.2±0.3, 35°.83N×129°.54E, h7km, M3.8

NIED 23 06:27:56.3, 35°.83N×129°.55E, h7km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.20; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-2.44; $M_{r\theta}$1.05; $M_{\theta\phi}$0.49; $M_{\phi r}$-2.15; Fault plane solution: $M_0$3.37000×10^{14} NP1: ϕ_s158.00000°, δ68.00000°, λ80.00000°. NP2:ϕ_s4.00000°, δ24.00000°, λ114.00000°.
IDC 23 06:27:57.0±1.0, 35°.89N×129°.53E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/35, mbtmp3.5/7, ML2.9/2 Error ellipse: s-maj=35.5km s-min=10.3km az=58.0
ISC 23 06:27:55.8±0.7, 35°.86N±0°.04×129°.45E±0°.06, h10km, n19, σ1§73/26, mb3.7/3, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTU	**Tsushima**	**1.33**	**182**	P	**Pn**	**06 28 20.3**	**-0.2**
JTU				*e*S	**Sb**	**06 28 37.5**	**-0.6**
JTSM	**Tsushimamitsus**	**1.52**	**182**	P	**Pb**	**06 28 23.7**	**-0.4**
JTSM				*e*S	**Sn**	**06 28 42.7**	**-0.2**
JHGM	**Hagimishima**	**1.76**	**127**	P	**Pb**	**06 28 26.5**	**-1.6**
JHGM				*e*S	**Sb**	**06 28 47.9**	**-2.3**
KSRS	**Korea Array**	**2.01**	**323**	Pn	**Pb**	**06 28 32.1**	**-0.2**
KSRS	8.3nm,0.3s,baz=138,slow=17,SNR=44 13nm,0.3s,baz=137,slow=17,SNR=37			Pg	**Pg**	**06 28 34.6**	**+0.3**
KSRS	142nm,0.3s,baz=143,slow=31,SNR=22			Lg	Lg	06 29 01.9	
JII	**Iki**	**2.08**	**173**	P	**Pn**	**06 28 31.6**	**+0.9**
JII				*e*S	**Sb**	**06 28 57.5**	**-1.9**
JTY	**Toyota**	**2.08**	**140**	P	**Pn**	**06 28 30.6**	**-0.1**
JNU	**Nakatsue**	**2.98**	**156**	Pn	**Pn**	**06 28 44.0**	**+0.7**
JNU	1.6nm,0.3s,baz=21,slow=1.2,SNR=7.2 3.6nm,0.3s,baz=246,slow=8.1,SNR=11			Pg	**Pg**	**06 28 52.9**	**0.0**
JNU	4.2nm,0.3s,baz=204,slow=8.8,SNR=5.0 6.3nm,0.3s,baz=109,slow=22,SNR=6.0			Sn	**Sb**	**06 29 24.4**	**-1.1**
JNU				Lg	Lg	06 29 32.9	
WOSN	**Wonsan**	**3.67**	**335**	Sg	**Sg**	**06 29 54.5**	**+0.9**
HJU	**Haeju**	**3.69**	**307**	Pg	**Pg**	**06 29 06.4**	**-0.1**
HJU				Sg	**Sg**	**06 29 54.0**	**-0.3**
PYAG	**Pyongyang**	**4.33**	**318**	Sg	**Sg**	**06 30 13.0**	**-1.8**
HHU	**Hamhung**	**4.33**	**340**	Pg	**Pg**	**06 29 17.9**	**-0.9**
HHU				Sg	**Sg**	**06 30 14.1**	**-0.8**
PYS	**Pyongsong**	**4.42**	**321**	Sg	**Sg**	**06 30 16.9**	**-1.0**
KGE	**Kanggye**	**5.54**	**337**	Sg	**Sg**	**06 30 52.6**	**-1.1**
SUJ	**Sinuiju**	**5.76**	**319**	Sg	**Sg**	**06 30 55.3**	**-5.5**
SONM	**Songino Array**	**20.84**	**312**	P	Pn	06 32 41.8	+1.6
WRA	**Warramunga Arr**	**55.69**	**174**	P	**P**	**06 37 33.7**	**+1.3**
NVAR	**Mina Array Bea**	**83.14**	**47**	P	**P**	**06 40 25.4**	**+3.1**
PDAR	**Pinedale Array**	**85.03**	**39**	P	**P**	**06 40 34.0**	**+2.0**
TXAR	**Lajitas Array**	**98.13**	**45**	P	Pdif	06 41 35.4	+2.1

0.1nm,0.6s,baz=302,slow=5.2,SNR=2.2
4.7nm,0.3s,baz=255,slow=16,SNR=1.5
14nm,0.3s,baz=15,slow=12,SNR=1.4
0.4nm,0.8s,baz=332,slow=3.1,SNR=2.4
0.1nm,0.3s,baz=177,slow=11,SNR=5.9
0.0nm,0.3s,baz=130,slow=9.6,SNR=2.3
0.3nm,0.3s,baz=161,slow=12,SNR=20
0.3nm,0.3s,baz=148,slow=12,SNR=12
2.0nm,0.6s,baz=244,slow=4.9,SNR=4.1
1.8nm,0.8s,baz=135,slow=12,SNR=5.4
0.5nm,0.8s,baz=353,slow=7.6,SNR=3.2
0.6nm,0.7s,baz=290,slow=5.1,SNR=6.4
0.1nm,0.6s,baz=109,slow=22,SNR=6.0
1.6nm,0.3s,baz=21,slow=1.2,SNR=7.2
0.7nm,0.5s,baz=283,slow=5.9,SNR=12
0.6nm,0.6s,baz=291,slow=6.0,SNR=11
comp=Z,0.3nm,0.5s,baz=83,slow=2.8,SNR=3.5
comp=Z,1.2nm,0.8s,baz=81,slow=1.6,SNR=18
comp=Z,0.7nm,0.5s,baz=283,slow=5.9,SNR=12
comp=Z,0.5nm,0.5s,baz=232,slow=3.5,SNR=1.7
comp=Z,0.2nm,0.5s,baz=211,slow=6.4,SNR=5.3
comp=Z,0.0nm,0.5s,baz=232,slow=3.5,SNR=1.7
comp=Z,0.2nm,0.9s

ISC 23 06:56:50.6±1.2, 44°.49N±0°.03×17°.06E±0°.04, h4km±17km, n9, σ0§79/18, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.27**	**19**	↓*i*Pg	**Pg**	**06 56 55.4**	**-0.5**
BLY				*e*Sg	**Sg**	**06 56 59.4**	**0.0**
KIJV	**Kijevo**	**0.68**	**224**	*e*Pg	**Pg**	**06 57 03.2**	**-0.4**
KIJV				Sg	**Sg**	**06 57 13.0**	**+0.6**
RICI	**Ricice**	**1.00**	**177**	*e*Pg	**Pg**	**06 57 08.9**	**-0.8**
RICI				Sg	**Sg**	**06 57 23.5**	**+0.7**
MOSL	**Moslavina**	**1.14**	**349**	*e*Pg	**Pb**	**06 57 12.8**	**-0.1**
MOSL				Sg	**Sg**	**06 57 28.4**	**+1.1**
MORI	**Morici**	**1.16**	**238**	*e*Pg	**Pb**	**06 57 11.8**	**-1.3**
MORI				Sg	**Sb**	**06 57 27.7**	**-0.8**
DUGI	**Dugi Otok**	**1.52**	**251**	*e*Pn	**Pb**	**06 57 19.9**	**+0.5**
DUGI				Sg	**Sg**	**06 57 40.4**	**+0.9**
NVLJ	**Novalja**	**1.57**	**273**	*e*Pn	**Pb**	**06 57 20.4**	**+0.3**
NVLJ				Sn	**Sg**	**06 57 41.6**	**+0.7**
STON	**Ston**	**1.69**	**164**	*e*Pn	**Pb**	**06 57 22.4**	**+0.2**
STON				Sn	**Sb**	**06 57 44.4**	**+0.7**
LSTV	**Lastovo**	**1.73**	**184**	*e*Pn	**Pb**	**06 57 22.7**	**-0.2**
LSTV				Sn	**Sg**	**06 57 47.0**	**+0.9**

ATH 23 06:57:59.9, 34°.81N×24°.45E, h37km±5km, ML2.3/4, Error ellipse: s-maj=5.7km s-min=1.6km az=183.0
THE 23 06:58:00.7, 34°.77N×24°.44E, h38km±3km, ML2.7/3, Error ellipse: s-maj=6.1km s-min=1.4km az=168.0
ISC 23 06:58:01.4±1.4, 34°.84N±0°.07×24°.45E±0°.03, h33km±3km, n11, σ0§85/20, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVDS	**Gavdos**	**0.29**	**270**	P	**Pn**	**06 58 08.7**	**-0.5**
GVDS				S	**Sn**	**06 58 15.2**	**+1.2**
GVD	**Gavdos**	**0.30**	**270**	P	**Pb**	**06 58 08.4**	**-0.7**
GVD				S	**Sn**	**06 58 14.2**	**+0.1**
GVD	**Gavdos**	**0.30**	**270**	P	**Pb**	**06 58 08.2**	**-0.8**
GVD				S	**Sn**	**06 58 14.1**	**+0.1**
GVD	comp=E,2324μm,0.2s			AML	AML	06 58 15.1	
GVD	comp=N,3543μm,0.2s			AML	AML	06 58 18.1	
SIVA	**Sivas**	**0.35**	**59**	P	**Pb**	**06 58 09.5**	**-0.2**
SIVA				S	**Sb**	**06 58 16.8**	**+1.4**
SIVA	**Sivas**	**0.35**	**59**	P	**Pb**	**06 58 09.5**	**-0.2**
SIVA				S	**Sn**	**06 58 15.4**	**-0.3**

0.2nm,0.3s,baz=109,slow=14,SNR=2.1
SONM Songino Array 27.86 310 P **P 07 14 20.1 +0.3**
0.4nm,0.4s,baz=116,slow=9.8,SNR=1.5
MKAR Makanchi Array 43.93 305 P **P 07 16 35.1 0.0**
0.6nm,0.4s,baz=87,slow=9.1,SNR=6.0
WRA Warramunga Arr 53.51 185 P **P 07 17 47.7 -0.2**
0.3nm,0.4s,baz=0.1,slow=7.9,SNR=9.5
FINES FINESS Array B 70.61 332 P **P 07 19 40.4 -0.2**
2.7nm,0.9s,baz=126,slow=9.1,SNR=1.2

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*NORS **23** 07:13:53.5±0.0, 41°.11N×45°.54E, h6km, MPVA3.6*
*TIF **23** 07:13:55.1, 41°.24N×45°.40E, h14km±1km*
ISC 23 07:13:54.1±1.6, 41°.19N±0°.06×45°.47E±0°.03, h4km±15km, n16, σ0°68/30, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.55**	**62**	P	**Pb**	**07 14 06.9**	**+0.6**
BTNK	**Botanikuri**	**0.71**	**315**	P	**Pg**	**07 14 08.1**	**+0.4**
KZRT	**Kazreti**	**0.83**	**284**	P	**Pg**	**07 14 10.4**	**+0.4**
KZRT				S	**Sg**	**07 14 21.7**	**+0.8**
DMNI	**Dmanisi**	**0.98**	**279**	P	**Pg**	**07 14 13.1**	**+0.3**
DMNI				S	**Sb**	**07 14 26.5**	**-0.4**
TRLG	**Trialeti**	**1.09**	**289**	P	**Pg**	**07 14 14.6**	**-0.4**
TRLG				S	**Sg**	**07 14 29.2**	**+0.1**
AKH	**Akhalkalaki**	**1.51**	**279**	P	**Pb**	**07 14 22.4**	**-0.3**
AKH				S	**Sg**	**07 14 42.4**	**-0.1**
BTLR	**Botlikh**	**1.58**	**21**	*e*Pg	**Pb**	**07 14 23.6**	**-0.2**
BTLR				*e*Sg	**Sb**	**07 14 44.1**	**0.0**
PNSH	**Pansheti**	**1.58**	**336**	P	**Pn**	**07 14 23.1**	**+0.1**
PNSH				S	**Sb**	**07 14 44.2**	**-0.2**
AKT	**Akhty**	**1.73**	**79**	*e*Pg	**Pn**	**07 14 25.1**	**+0.2**
AKT				*e*Sg	**Sb**	**07 14 47.5**	**-0.9**
LACR	**Lac**	**1.86**	**332**	*e*Pg	**Pb**	**07 14 27.7**	**-0.9**
LACR				*e*Sg	**Sg**	**07 14 53.4**	**-0.4**
ZEI	**Tsey**	**1.98**	**324**	*e*Pg	**Pb**	**07 14 30.3**	**-0.5**
ZEI				*e*Sg	**Sb**	**07 14 56.9**	**+1.0**
ONI	**Oni**	**2.06**	**314**	*e*Pg	**Pb**	**07 14 31.7**	**-0.4**
ONI				*e*Sg	**Sg**	**07 14 59.5**	**-0.8**
ONI	**Oni**	**2.06**	**314**	P	**Pb**	**07 14 31.6**	**-0.4**
ONI				S	**Sb**	**07 14 59.1**	**+1.1**
DBC	**Dubki**	**2.09**	**28**	*e*Pg	**Pb**	**07 14 31.4**	**-1.2**
DBC				*e*Sg	**Sb**	**07 14 59.9**	**+0.9**
TKB	**Tkibuli**	**2.19**	**303**	P	**Pb**	**07 14 33.0**	**-1.2**
TKB				S	**Sb**	**07 15 01.6**	**0.0**
DIGR	**Digorskoe uzhe**	**2.22**	**321**	*e*Pn	**Pb**	**07 14 34.6**	**-0.2**
DIGR				*e*Sn	**Sb**	**07 15 03.8**	**+1.1**

NNC 23 07:15:00.5±0.9, 50°.84N×73°.57E, h0km, mb3.6, mpv3.3, 6C-2D, Error ellipse: s-maj=10.8km s-min=7.0km az=42.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**3.01**	**319**	⇑Pg	Pb	07 15 55.4	+0.4
	8.1nm,0.9s						
BRVK				⇑Lg	Lg	07 16 38.3	
	170nm,1.1s						
KURK	**Kurchatov**	**3.21**	**90**	⇓Pg	Pb	07 15 59.0	+0.6
	4.8nm,0.7s						
KURK				⇑Lg	Lg	07 16 41.4	
	63nm,0.9s						
BTLS	**Baital**	**5.82**	**177**	Pg	Pb	07 16 47.1	+4.4
	3.0nm,1.1s						
BTLS				Lg	Lg	07 18 08.1	
	3.1nm,1.1s						
KAPS	**Kapalarasan**	**6.78**	**143**	Pg	Pb	07 17 02.7	+3.5
	1.1nm,0.5s						
KAPS				Lg	Lg	07 18 35.1	
	12nm,0.8s						
ARXS	**Arharly**	**7.23**	**155**	Pg	Pb	07 17 11.9	+5.0
	2.8nm,0.5s						
ARXS				Lg	Lg	07 18 50.3	
	10nm,0.8s						
SGDS	**Sogindy**	**7.43**	**174**	Pg	Pg	07 17 17.2	-5.6
	2.9nm,0.5s						
SGDS				Lg	Lg	07 18 59.0	
	14nm,0.8s						
DGS	**Degeres**	**7.75**	**168**	Pg	Pb	07 17 21.9	+6.1
	1.5nm,0.3s						
DGS				Lg	Lg	07 19 07.4	
	14nm,0.7s						
KK31	**Karatay Array**	**8.02**	**196**	⇑Pn	Pn	07 16 58.0	-0.2
	0.2nm,0.3s,baz=8.7,slow=16,SNR=4.0						
KK31				⇑Lg	Lg	07 19 14.7	
	9.0nm,0.8s,baz=10,slow=28,SNR=4.3						
AB31	**Akbulak array**	**8.91**	**265**	⇑Pn	Pn	07 17 09.2	-1.2
	0.2nm,0.3s,baz=84,slow=11,SNR=3.8						
AB31				⇓Lg	Lg	07 19 43.8	
	2.3nm,0.8s,baz=75,slow=24,SNR=3.5						

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*NNC **23** 07:52:23.5±0.3, 43°.22N×78°.77E, h0km, mb3.3, mpv2.6, Error ellipse: s-maj=4.6km s-min=1.7km az=174.0*
*SOME **23** 07:52:23.3, 43°.25N×78°.75E, h5km*
ISC 23 07:52:23.2±1.2, 43°.25N±0°.03×78°.74E±0°.03, h2km±14km, n8, σ0°33/16, 4C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.22**	**349**	⇓*e*P	**Pg**	**07 52 27.5**	**0.0**
	9.1nm,0.1s						
KPKS				*e*S	**Sg**	**07 52 30.8**	**+0.3**
	75nm,0.2s						
UZB	**Uzynbulak**	**0.23**	**116**	⇓*e*P	**Pg**	**07 52 27.2**	**-0.4**
	4.6nm,0.1s						
UZB				*e*S	**Sg**	**07 52 30.1**	**-0.5**
	46nm,0.1s						
SATY	**Saty**	**0.31**	**233**	*e*P	**Pg**	**07 52 29.2**	**-0.1**
	2.1nm,0.1s						
SATY				*e*S	**Sg**	**07 52 33.5**	**+0.2**
	36nm,0.1s						
SATY	**Saty**	**0.31**	**233**	P	**Pg**	**07 52 29.2**	**-0.1**
	2.1nm,0.1s						
SATY				S	**Sg**	**07 52 33.5**	**+0.2**
	36nm,0.1s						
PDGK	**Podgornoye**	**0.55**	**81**	⇑P	**Pg**	**07 52 34.1**	**+0.2**
	1.7nm,0.9s						
PDGK				⇑S	**Sg**	**07 52 41.6**	**+0.7**
	1.1nm,0.5s						
MNBS	**Baschi**	**0.87**	**343**	⇑*e*P	**Pg**	**07 52 39.6**	**-0.3**
	1.7nm,0.1s						
MNBS				*e*S	**Sg**	**07 52 51.0**	**-0.1**
	2.1nm,0.2s						
MNBS	**Baschi**	**0.87**	**343**	P	**Pg**	**07 52 39.6**	**-0.3**
	1.7nm,0.1s						
MNBS				S	**Sg**	**07 52 51.0**	**-0.1**
	2.5nm,0.3s						
KNDC	**Almaty**	**1.30**	**269**	⇓P	**Pn**	**07 52 48.7**	**+0.1**
	22nm,0.4s						
KNDC				⇑S	**Sn**	**07 53 06.5**	**-0.1**
	29nm,0.5s						

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*TUL **23** 07:58:02.8±1.4, 35°.45N±0°.04×96°.53W±0°.04, h4km±7km, MLA.3, Error ellipse: s-maj=5.7km s-min=4.4km az=162.0*
*ANF **23** 07:58:03.0±0.5, 35°.48N×96°.55W, h2km±4km, ML4.0/11, Error ellipse: s-maj=3.8km s-min=2.1km az=157.0*
*UNK **23** 07:58:02.8, 35°.45N×96°.53W, h4km*
*NEIC **23** 07:58:04.1±2.2, 35°.45N±0°.04×96°.53W±0°.03, h2km±7km, Error ellipse: s-maj=6.3km s-min=3.5km az=164.0*
ISC 23 07:58:03.2±1.1, 35°.45N±0°.03×96°.52W±0°.03, h5km±9km, n97, σ0°77/106, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK011	**Prague**	**0.14**	**283**		**Pg**	**07 58 06.1**	**+0.1**
OK011				Sg	**Sg**	**07 58 08.4**	**+0.5**
W35A	**Tecumseh**	**0.42**	**224**		**Pg**	**07 58 11.0**	**-0.2**
W35A				Sg	**Sg**	**07 58 16.7**	**0.0**
OK025	**Westminster Rd**	**0.68**	**281**	Pg	**Pg**	**07 58 15.7**	**-0.6**
OK025				Sg	**Sg**	**07 58 25.4**	**+0.2**
QUOK	**Quay**	**0.73**	**348**		**Pg**	**07 58 17.1**	**-0.2**
FNO	**Franklin**	**0.75**	**255**		**Pg**	**07 58 17.6**	**+0.1**
TUL1	**Leonard**	**0.75**	**52**	P	**Pg**	**07 58 17.7**	**+0.1**
	baz=232						
TUL1				S	**Sg**	**07 58 27.6**	**+0.4**
	baz=232						
TUL1	**Leonard**	**0.75**	**52**		**Pg**	**07 58 17.6**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.75**	**267**		**Pg**	**07 58 17.3**	**-0.4**
OKCFA	**Oklahoma City**	**0.76**	**267**		**Pg**	**07 58 17.4**	**-0.4**

OK029	**Liberty Lake**	**0.84**	**294**		**Pg**	**07 58 18.5**	**-0.8**
BCOK	**Bluff Creek, N**	**0.91**	**283**		**Pg**	**07 58 19.8**	**-0.9**
X37A	**Clayton**	**1.28**	**132**		**Pg**	**07 58 27.2**	**-0.4**
X34A	**Smith Ranch, M**	**1.37**	**232**		**Pn**	**07 58 28.6**	**-0.4**
T35A	**Sooner Cattle**	**1.46**	**0**		**Pn**	**07 58 29.6**	**-0.7**
CROK	**Carrier**	**1.58**	**312**		**Pn**	**07 58 31.8**	**-0.2**
KAN13	**South Haven SW**	**1.74**	**334**		**Pn**	**07 58 34.5**	**+0.5**
WMOK	**Wichita Mounta**	**1.99**	**250**	P	**Pn**	**07 58 38.1**	**+0.5**
	baz=68						
WMOK				S	**Sb**	**07 59 04.5**	**-0.4**
	baz=68						
WMOK	**Wichita Mounta**	**1.99**	**250**	Pn	**Pn**	**07 58 38.0**	**+0.5**
U38A	**Gravette**	**1.99**	**60**	Pn	**Pn**	**07 58 38.1**	**+0.6**
KAN10	**Anthony SW Sta**	**2.10**	**323**	Pn	**Pn**	**07 58 39.0**	**-0.1**
KAN12	**Harper NE Stat**	**2.19**	**327**	Pn	**Pn**	**07 58 41.2**	**+0.9**
Z35A	**Perchaven, San**	**2.20**	**196**	Pn	**Pn**	**07 58 40.7**	**+0.3**
U32A	**Winter Ranch,**	**2.22**	**295**		**Pn**	**07 58 40.8**	**+0.1**
W39A	**Magazine**	**2.25**	**96**	P	**Pn**	**07 58 41.6**	**+0.6**
	baz=277						
W39A				S	**Sb**	**07 59 11.4**	**-1.0**
	baz=277						
W39A	**Magazine**	**2.25**	**96**		**Pn**	**07 58 41.7**	**+0.6**
HHAR	**Hobbs**	**2.25**	**68**		**Pn**	**07 58 41.7**	**+0.5**
Z38A	**Mt. Pleasant**	**2.53**	**149**	Pn	**Pn**	**07 58 44.9**	**0.0**
MIAR	**Mount Ida**	**2.58**	**110**	P	**Pn**	**07 58 47.0**	**+1.4**
	baz=291						
MIAR	**Mount Ida**	**2.58**	**110**	Pn	**Pn**	**07 58 46.7**	**+1.1**
U40A	**Yellville**	**3.11**	**72**	P	**Pn**	**07 58 53.5**	**+0.5**
	baz=254						
U40A	**Yellville**	**3.11**	**72**	Pn	**Pn**	**07 58 53.4**	**+0.5**
X40A	**Basin Creek Fa**	**3.17**	**107**	Pb	**Pb**	**07 59 00.8**	**+0.7**
	baz=289						
X40A	**Basin Creek Fa**	**3.17**	**107**	Pn	**Pn**	**07 58 53.0**	**-0.8**
WLAR	**White Oak Lake**	**3.32**	**121**	Pn	**Pn**	**07 58 56.7**	**+0.9**
S39A	**Bolivar**	**3.41**	**48**	Pn	**Pn**	**07 58 57.8**	**+0.8**
R32A	**Long Quarter,**	**3.44**	**330**	Pn	**Pn**	**07 58 58.8**	**+1.2**
WHAR	**Wooly Hollow**	**3.46**	**91**	Pn	**Pn**	**07 58 58.3**	**+0.5**
UALR	**University of**	**3.49**	**100**	Pn	**Pn**	**07 58 59.7**	**+1.6**
237A	**Washetta, Mont**	**3.49**	**170**	Pn	**Pn**	**07 58 58.0**	**-0.2**
W41B	**Gary Mavity, V**	**3.50**	**93**	P	**Pn**	**07 58 59.1**	**+0.7**
	baz=276						
W41B				S	**Sn**	**07 59 41.7**	**+1.5**
	baz=276						
W41B	**Gary Mavity, V**	**3.50**	**93**	Pn	**Pn**	**07 58 59.0**	**+0.7**
WHTX	**Lake Whitney,**	**3.54**	**193**	Pn	**Pn**	**07 58 59.1**	**+0.3**
FCAR	**Ozark Folk Cen**	**3.60**	**82**	Pn	**Pn**	**07 59 00.2**	**+0.5**
KSU1	**Kansas State U**	**3.64**	**359**	P	**Pn**	**07 59 00.1**	**-0.1**
	baz=179						
KSU1				S	**Sn**	**07 59 44.1**	**+0.5**
	baz=179						
KSU1	**Kansas State U**	**3.64**	**359**	Pn	**Pn**	**07 59 00.4**	**+0.2**
Z41A	**Richland Creek**	**3.77**	**124**	Pn	**Pn**	**07 59 02.8**	**+0.8**
MGMO	**Mountain Grove**	**3.83**	**62**	Pn	**Pn**	**07 59 03.8**	**+1.0**
ABTX	**Abilene, Hawle**	**3.83**	**223**	P	**Pn**	**07 59 02.5**	**-0.4**
	baz=42						
ABTX				Sb	**Sb**	**08 00 01.3**	**+3.2**
	baz=42						
ABTX	**Abilene, Hawle**	**3.83**	**223**	Pn	**Pn**	**07 59 02.6**	**-0.4**
CCAR	**Cane Creek**	**4.20**	**110**	Pn	**Pn**	**07 59 08.3**	**+0.5**
AMTX	**Amarillo**	**4.27**	**264**	P	**Pn**	**07 59 09.7**	**+0.8**
	baz=81						
AMTX	**Amarillo**	**4.27**	**264**	Pn	**Pn**	**07 59 09.0**	**+0.1**
LCAR	**Lake Charles**	**4.41**	**80**	Pn	**Pn**	**07 59 10.0**	**-0.7**
R40A	**Maddies Statio**	**4.43**	**49**	Pn	**Pn**	**07 59 11.6**	**+0.5**
T42A	**Van Buren**	**4.66**	**69**	Pn	**Pn**	**07 59 15.0**	**+0.8**
X43A	**Marvell**	**4.72**	**100**	Pn	**Pn**	**07 59 16.4**	**+1.3**
P38A	**Dawn**	**4.79**	**29**	Pn	**Pn**	**07 59 16.1**	**+0.1**
CCM	**Cathedral Cave**	**4.97**	**57**	Pn	**Pn**	**07 59 18.5**	**0.0**
HDBT	**Hernando Brdge**	**5.29**	**91**	Pn	**Pn**	**07 59 22.6**	**-0.3**
MSTX	**Muleshoe**	**5.36**	**256**	P	**Pn**	**07 59 23.8**	**-0.2**
	baz=72						
MSTX	**Muleshoe**	**5.36**	**256**	Pn	**Pn**	**07 59 23.8**	**-0.2**
P40A	**Paris**	**5.40**	**40**	Pn	**Pn**	**07 59 25.7**	**+1.3**
N35A	**Tabor**	**5.44**	**7**	Pn	**Pn**	**07 59 24.7**	**-0.3**
JCT	**Junction City**	**5.67**	**210**	P	**Pn**	**07 59 27.2**	**-1.1**
	baz=28						
JCT	**Junction City**	**5.67**	**210**		**Pn**	**07 59 27.4**	**-0.8**
OXF	**Oxford**	**5.91**	**97**	P	**Pn**	**07 59 31.9**	**+0.5**
	baz=281						
OXF	**Oxford**	**5.91**	**97**	Pn	**Pn**	**07 59 31.4**	**0.0**
W45A	**Hickory Valley**	**6.00**	**91**	Pn	**Pn**	**07 59 32.2**	**-0.4**
HICK	**Hickman**	**6.01**	**77**	Pn	**Pn**	**07 59 32.9**	**+0.2**
KSCO	**Kaye Shedlock'**	**6.03**	**308**	Pn	**Pn**	**07 59 34.6**	**+1.5**
T25A	**Trinidad**	**6.59**	**287**	Pn	**Pn**	**07 59 41.0**	**0.0**
N41A	**Harden Midland**	**6.89**	**39**	Pn	**Pn**	**07 59 44.4**	**-0.5**
PLAL	**Pickwick Lake**	**6.93**	**91**	Pn	**Pn**	**07 59 45.5**	**+0.1**
P43A	**Skaggs, Pawnee**	**6.95**	**51**	Pn	**Pn**	**07 59 46.8**	**+1.1**
WVT	**Waverly**	**7.09**	**82**	Pn	**Pn**	**07 59 46.7**	**-0.9**
SDCO	**Great Sand Dun**	**7.58**	**290**	Pn	**Pn**	**07 59 55.4**	**+0.9**
HDU	**Hopedale**	**7.64**	**46**	Pn	**Pn**	**07 59 55.4**	**+0.2**
L40A	**Anamosa**	**7.79**	**30**	Pn	**Pn**	**07 59 57.4**	**+0.2**
LRAL	**Lakeview Retre**	**8.24**	**104**	Pn	**Pn**	**08 00 03.9**	**+0.4**
ECSD	**EROS Data Cent**	**8.27**	**360**	Pn	**Pn**	**08 00 03.3**	**-0.5**
MNTX	**Cornudas Mount**	**8.29**	**246**	Pn	**Pn**	**08 00 04.0**	**-0.1**
ISCO	**Idaho Springs**	**8.42**	**304**	Pn	**Pn**	**08 00 06.6**	**+0.5**
L42A	**Oliver, Polo**	**8.45**	**37**	Pn	**Pn**	**08 00 06.6**	**+0.3**
Y49A	**Blount Mountai**	**8.48**	**98**	Pn	**Pn**	**08 00 06.6**	**-0.1**
TXAR	**Lajitas Array**	**8.59**	**227**	Pn	**Pn**	**08 00 08.7**	**+0.4**
TX31	**Lajitas Ar. Si**	**8.59**	**227**	Pn	**Pn**	**08 00 08.2**	**0.0**
TX32	**Lajitas Array**	**8.59**	**227**	Pn	**Pn**	**08 00 08.8**	**+0.6**
N23A	**Red Feather La**	**9.19**	**309**	Pn	**Pn**	**08 00 17.3**	**+0.6**
Z51A	**Franklin**	**9.62**	**100**	Pn	**Pn**	**08 00 21.5**	**-0.7**
K43A	**Burlington**	**9.64**	**39**	Pn	**Pn**	**08 00 22.6**	**+0.1**
V51A	**Loudon**	**9.91**	**84**	Pn	**Pn**	**08 00 26.2**	**-0.1**
SPMN	**Marine on St.**	**10.16**	**15**	Pn	**Pn**	**08 00 30.6**	**+0.9**
G40A	**Rib Lake**	**10.92**	**24**	Pn	**Pn**	**08 00 40.4**	**+0.3**
GOGA	**Godfrey**	**10.97**	**97**	Pn	**Pn**	**08 00 40.2**	**-0.6**
E38A	**The Farm, Brul**	**11.75**	**17**	Pn	**Pn**	**08 00 50.1**	**-1.4**
COWI	**Conover**	**12.01**	**25**	Pn	**Pn**	**08 00 54.3**	**-0.7**
B35A	**Bob, Littlefor**	**13.06**	**8**	Pn	**Pn**	**08 01 06.9**	**-2.4**

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*IDC **23** 08:14:45.8±1.1, 37°.34N×144°.83E, h0km, mb3.3/5, mb1 3.7/9, mb1mx3.6/48, mbtmp3.6/9, ML3.6/4, MS2.2/2, Ms1 2.2/2, ms1mx2.0/27, Error ellipse: s-maj=28.6km s-min=21.8km az=121.0*
*JMA **23** 08:14:52.2±0.2, 37°.58N×144°.45E, h52km, M4.4*
*NIED **23** 08:14:52.3, 37°.58N×144°.45E, h52km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=0.54; $M_{\theta\theta}$=-1.48; $M_{\phi\phi}$=2.02; $M_{r\theta}$=-2.10; $M_{\theta\phi}$=0.31; $M_{\phi r}$=-1.23; Fault plane solution: M_0=3.03000×10^14^ NP1:ϕ_s=48.00000°, δ=83.00000°, λ=-53.00000°. NP2:ϕ_s=147.00000°, δ=37.00000°, λ=-169.00000°.*
ISC 23 08:14:50.7±1.0, 37°.50N±0°.05×144°.63E±0°.08, h35km, n35, σ2°48/49, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.63**	**289**	P	**Pn**	**08 15 31.2**	**+0.5**
JIKH				S	**Sn**	**08 16 00.0**	**-1.3**
JIO	**Ouri**	**2.76**	**291**	P	**Pn**	**08 15 33.0**	**+0.5**
JIO				S	**Sn**	**08 16 03.4**	**-1.2**
JKMT	**Kesennumamotoy**	**2.81**	**299**	P	**Pn**	**08 15 33.6**	**+0.5**
JKMT				*e*S	**Sn**	**08 16 04.5**	**-1.3**
OFUJ	**Ofunato**	**2.81**	**305**	P	**Pn**	**08 15 33.6**	**+0.4**
OFUJ				*e*S	**Sn**	**08 16 04.5**	**-1.4**
JMK	**Ichinoseki**	**3.05**	**299**	P	**Pn**	**08 15 37.3**	**+0.9**
JMK				S	**Sn**	**08 16 11.3**	**-0.4**
JOM	**Ohasama**	**3.28**	**308**	P	**Pn**	**08 15 40.5**	**+1.0**
JOM				S	**Sn**	**08 16 16.7**	**-0.6**
JFT	**Otama**	**3.42**	**272**	P	**Pn**	**08 15 42.9**	**+1.4**
JFT				S	**Sn**	**08 16 21.0**	**+0.3**
JYK	**Kaneyama**	**3.65**	**294**	P	**Pn**	**08 15 46.2**	**+1.5**
JYK				*e*S	**Sn**	**08 16 26.5**	**0.0**
JOT	**Ohata**	**4.76**	**326**	P	**Pn**	**08 16 00.8**	**+0.8**
JOT				*e*S	**Sn**	**08 16 52.9**	**-1.0**
JRY	**Ryogami san**	**4.83**	**254**	P	**Pn**	**08 16 01.4**	**+0.4**
JRY				*e*S	**Sn**	**08 16 53.1**	**-2.7**
JOD2	**Odawara 2**	**5.00**	**245**	P	**Pn**	**08 16 03.5**	**+0.2**
JOD2				*e*S	**Sn**	**08 16 56.6**	**-3.2**
JKB	**Kayabe**	**5.18**	**329**	P	**Pn**	**08 16 06.8**	**+1.1**
JKB				*e*S	**Sn**	**08 17 01.5**	**-2.8**
JCH	**Churui**	**5.20**	**350**	P	**Pn**	**08 16 05.5**	**-0.4**
JCH				*e*S	**Sn**	**08 17 00.6**	**-4.0**
MJAR	**Matsushiro Arr**	**5.23**	**261**	Pn	**Pn**	**08 16 08.1**	**+1.7**
	1.2nm,0.3s,baz=89,slow=15,SNR=52						
MJAR				Sn	**Sn**	**08 17 00.8**	**-4.7**
	baz=98,slow=29,SNR=1.1						
MJAR				LR	LR	08 18 29.0	
	comp=Z,35nm,19.7s,baz=80,slow=42						
MAT	**Matsushiro**	**5.23**	**261**	P	**Pn**	**08 16 08.3**	**+1.9**
MAT				S	**Sn**	**08 17 05.1**	**-0.4**
JHJ2	**Mitsune**	**5.89**	**223**	P	**Pn**	**08 16 15.3**	**-0.2**
JHJ2				*e*S	**Sn**	**08 17 15.9**	**-5.8**
JHJ	**Hachijo jima 2**	**5.90**	**224**	Pn	**Pn**	**08 16 13.3**	**-2.3**
	18nm,0.3s,baz=150,slow=23,SNR=8.7						
JHJ				Sn	**Sn**	**08 17 15.8**	**-6.2**
	30nm,0.3s,baz=249,slow=24,SNR=8.4						
NEM2	**Nemuro 2**	**5.92**	**8**	P	**Pn**	**08 16 13.6**	**-2.2**
NEM2				*e*S	**Sn**	**08 17 15.1**	**-7.2**
JOSM	**Okushiri--Mats**	**6.06**	**321**	P	**Pn**	**08 16 19.2**	**+1.5**
JTKR	**Abashiri--Toko**	**6.49**	**355**	P	**Pn**	**08 16 23.5**	**-0.1**
JTKR				*e*S	**Sn**	**08 17 31.0**	**-5.3**
JHR	**Hokuryu**	**6.61**	**341**	P	**Pn**	**08 16 27.4**	**+2.0**
JHR				*e*S	**Sn**	**08 17 39.9**	**+0.4**
ASAJ	**Asahikawa**	**6.79**	**348**	Pn	**Pn**	**08 16 27.4**	**-0.4**
	1.2nm,0.3s,baz=204,slow=15,SNR=5.2						
ASAJ				Sn	**Sn**	**08 17 40.7**	**-3.0**
	1.0nm,0.3s,baz=52,slow=13,SNR=3.8						
ASAJ				LR	LR	08 19 43.1	
	comp=Z,12nm,18.5s,baz=166,slow=43						
KSRS	**Korea Array**	**13.28**	**275**	Pn	**Pn**	**08 17 60.0**	**+3.4**
	0.2nm,0.3s,baz=75,slow=14,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**26.27**	**126**	T	T	08 47 16.3	
	baz=317,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.27**	**126**	T	T	08 47 08.7	
	baz=317,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.28**	**126**	T	T	08 47 21.8	
	baz=317,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.04**	**128**	T	T	08 48 15.7	
	baz=319,slow=76						
H11S3	**WAKE ISLAND Hy**	**27.05**	**128**	T	T	08 48 17.0	
	baz=319,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.06**	**128**	T	T	08 48 20.5	
	baz=319,slow=76						
KRVT	**Keravat (AS076**	**42.16**	**169**	LR	LR	08 38 20.0	
	comp=Z,149nm,20.4s,baz=235,slow=34						
MKAR	**Makanchi Array**	**46.04**	**302**	P	**P**	**08 23 12.6**	**+1.7**
	0.4nm,0.7s,baz=99,slow=9.7,SNR=4.5						
ILAR	**Eielson Array**	**47.72**	**33**	P	**P**	**08 23 23.9**	**+0.2**
	0.3nm,0.8s,baz=263,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**57.95**	**191**	P	**P**	**08 24 38.9**	**-0.8**
	0.3nm,0.4s,baz=11,slow=7.1,SNR=6.2						
ASAR	**Alice Springs**	**61.67**	**191**	P	**P**	**08 25 04.3**	**-0.9**
	0.4nm,0.9s,baz=4.9,slow=13,SNR=2.1						
NVAR	**Mina Array Bea**	**72.64**	**55**	P	**P**	**08 26 16.5**	**+1.5**
	0.1nm,0.3s,baz=278,slow=6.9,SNR=2.4						

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*NEIC **23** 08:32:10.4±2.0, 52°.3N±0°.2×170°.3W±0°.2, h164km±5km, Error ellipse: s-maj=31.8km s-min=7.3km az=157.0*
AEIC 23 08:32:14.8±2.7, 52°.9N±0°.2×170°.5W±0°.1, h138km±7km, mb3.9/23(NEIC), Error ellipse: s-maj=29.6km s-min=7.2km az=159.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.02**	**83**		Pn	08 32 37.4	-1.2
NIKH	**Nikolski High**	**1.02**	**83**		Sn	08 32 55.2	-1.5
OKSP	**Okmok Steeple**	**1.41**	**73**		Pn	08 32 41.7	-0.8
OKTU	**Okmok Mt. Tuli**	**1.59**	**70**		Pn	08 32 43.7	-0.8
OKFG	**Magazine Ridge**	**1.67**	**70**		Pn	08 32 44.5	-0.8
OKFG					Sn	08 33 08.3	-0.4
KOFP	**Korovin Flat P**	**2.25**	**256**		Pn	08 32 51.5	-0.8
KOWE	**Korovin West**	**2.32**	**259**		Pn	08 32 52.3	-0.8
ATKA	**Atka Island**	**2.33**	**255**		Pn	08 32 51.9	-1.3
ATKA	**Atka Island**	**2.33**	**255**		Sn	08 33 20.2	-2.5
MAPS	**Pakushin South**	**2.35**	**65**		Pn	08 32 52.3	-1.1
MAPS					Sn	08 33 21.4	-1.9
MGOD	**Makushin Gods**	**2.39**	**65**		Pn	08 32 52.8	-1.1
MGOD					Sn	08 33 21.8	-2.2
MREP	**Makushin Rep't**	**2.46**	**66**		Pn	08 32 54.0	-0.9
MSW	**Makushin Switc**	**2.48**	**63**		Pn	08 32 53.8	-1.3
MNAT	**Makushin Natee**	**2.52**	**64**		Pn	08 32 54.2	-1.4
MNAT					Sn	08 33 25.2	-1.8
UNV	**Unalaska Valle**	**2.61**	**66**		Sn	08 33 26.8	-2.0
UNV	**Unalaska Valle

*MAN **23** 08:36:23.9, 10'.21N×126'.53E, h1km, MS3.4*
ISC 23 08:36:23.4±0.9, 10°.03N±0°.05×126°.61E±0°.07, h10km, n18, σ1§25/19, mb3.4/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.72	274	eP	Pn	08 36 54.1	+0.6
MSLP				eS	Sb	08 37 16.4	-0.6
OCLP	Ormoc	2.21	298	eP	Pn	08 37 00.9	+0.7
OCLP				eS	Sb	08 37 30.9	-0.2
LLP	Lapu-Lapu	2.62	277	eP	Pn	08 37 06.8	+1.1
LLP				eS	Sn	08 37 38.9	+1.3
TBP	Tagbilaran	2.72	263	eP	Pb	08 37 11.4	-0.9
CNP	Catarman	3.12	323	eP	Pn	08 37 12.1	-0.6
KCP	Kidapawan	3.35	207⇓	eP	Pb	08 37 20.8	-2.2
DDMP	Don Marcelino,	3.99	193	eP	Pb	08 37 34.7	+0.8
DDMP				eS	Sb	08 38 23.6	+1.3
PVCP	Virac	4.29	326	eP	Pn	08 37 29.2	+0.4
PVCP				eS	Sb	08 38 33.7	+3.0
TGY	Tagaytay City	6.87	307	LR	LR	08 40 58.8	
	comp=Z,147nm,18.4s,baz=123,slow=41						
FITZ	Fitzroy Crossi	27.96	182	P	P	08 42 14.6	+0.3
	1.7nm,0.9s,baz=350,slow=11,SNR=1.7						
WRA	Warramunga Arr	30.74	166	P	P	08 42 38.2	-0.8
	0.3nm,0.7s,baz=348,slow=9.4,SNR=2.3						
ASAR	Alice Springs	34.24	168	P	P	08 43 10.3	+0.6
	0.2nm,0.4s,baz=350,slow=6.7,SNR=8.4						
ASAR				PcP	PcP	08 45 46.9	+0.6
	0.3nm,0.8s,baz=345,slow=2.9,SNR=2.0						
H11N1	WAKE ISLAND Hy	40.02	71	T	T	09 27 24.1	
	baz=261,slow=74						
H11N2	WAKE ISLAND Hy	40.03	71	T	T	09 27 19.8	
	baz=261,slow=74						
H11N3	WAKE ISLAND Hy	40.04	71	T	T	09 27 21.3	
	baz=261,slow=74						
SONM	Songino Array	41.36	339	P	P	08 44 09.4	-0.4
	0.4nm,0.5s,baz=163,slow=9.1,SNR=5.3						
MKAR	Makanchi Array	52.42	323	P	P	08 45 34.7	-1.5
	0.8nm,0.6s,baz=119,slow=8.4,SNR=8.4						
AKTO	Aktyubinsk	68.72	320	LR	LR	09 20 08.2	
	comp=Z,8.0nm,19.4s,baz=67,slow=38						

*NEIC **23** 08:40:06.0±1.6, 51°.9N±0°.1×178°.44E±0°.05, h115km±5km, Error ellipse: s-maj=16.7km s-min=3.6km az=169.0*
AEIC 23 08:40:06±1.1, 51°.9N±0°.1×178°.47E±0°.10, h115km±4km, mb4.0/12(NEIC), Error ellipse: s-maj=17.0km s-min=8.7km az=181.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	0.10	16		Pn	08 40 21.8	-0.1
LSSE	Little Sitkin	0.10	39		Pn	08 40 21.8	0.0
LSNW	Little Sitkin	0.12	14		Pn	08 40 21.6	-0.2
LSPA	Little Sitkin	0.12	32		Pn	08 40 21.7	-0.1
LSPA					Sn	08 40 34.8	+1.0
CESW	Semis' Southwe	0.68	86		Pn	08 40 24.5	-0.1
CEAP	Semis' Anvil P	0.70	78		Pn	08 40 25.0	+0.2
AMKA	Amchitka	0.71	133		Pn	08 40 25.0	+0.1
AMKA					Sn	08 40 39.0	-0.1
CERAA	Semis' Rag'd T	0.75	86		Pn	08 40 25.3	0.0
CERAA					Sn	08 40 39.4	-0.4
TANO	Tanaga North	2.11	87		Pn	08 40 40.9	+0.3
TASE	Tanaga Southea	2.17	89		Pn	08 40 41.3	0.0
TAFP	Tanaga Falls P	2.20	88		Pn	08 40 41.5	-0.1
TAFP					Sn	08 41 08.5	-0.5
KIMD	Kanaga Island	2.67	90		Pn	08 40 47.5	-0.2
SMY	Shemya	2.82	290		Pn	08 40 49.4	-0.3
ADK	Adak	3.00	88		Pn	08 40 51.7	-0.4
GSTD	Great Sitkin T	3.34	84		Pn	08 40 56.1	-0.5
GSTR	Great Sitkin T	3.39	84	Pn	Pn	08 40 57.5	+0.3
GSMY	Great Sitkin M	3.39	85		Pn	08 40 57.0	-0.3
ATKA	Atka Island	4.54	83		Pn	08 41 12.4	-0.1
KOFP	Korovin Flat P	4.60	82		Pn	08 41 13.5	0.0
NIKH	Nikolski High	7.83	77	Pn	Pn	08 41 58.6	+1.6
UNV	Unalaska Valle	9.31	72	Pn	Pn	08 42 18.3	+1.3
AKUT	Akutan	9.77	70	Pn	Pn	08 42 27.5	+4.3
OHAK	Old Harbor	17.17	61	P	P	08 43 56.7	-1.5
OHAK				IAmb	IAmb	08 44 14.2	
	comp=Z,11nm,1.3s						
TTA	Tatalina	17.52	41	P	Pn	08 44 03.2	+0.5
KDAK	Kodiak Island	17.61	59	P	P	08 44 03.3	+0.2
CNPM	China Poot	18.58	54	P	P	08 44 14.1	+0.3
CNPM				IAmb	IAmb	08 44 28.6	
	comp=Z,12nm,1.2s						
BRLK	Bradley Lake	18.80	53	P	P	08 44 15.6	-0.7
BRLK				IAmb	IAmb	08 44 30.6	
	comp=Z,7.2nm,1.2s						
SEW	Seward	19.58	53	P	P	08 44 25.2	+0.6
IMAR	Indian Mountai	19.89	34	P	Pn	08 44 31.8	+1.2
SCM	Sheep Creek Mo	20.95	48	P	Pn	08 44 41.8	-1.3
DHY	Denali Highway	21.23	45	P	P	08 44 45.4	+2.8
MDM	Murphy Dome	21.49	40	P	P	08 44 47.4	+2.3
GLB	Gilahina Butte	22.53	50	P	P	08 44 58.1	+2.2
GLB				IAmb	IAmb	08 45 04.5	
	comp=Z,10nm,1.4s						
VRDI	Verde Repeater	22.67	51	P	P	08 44 57.9	+0.4
VRDI				IAmb	IAmb	08 45 06.5	
	comp=Z,9.7nm,1.3s						
BCAR	Beaver Creek A	23.71	46	P	P	08 45 08.5	+1.4
EGAK	Eagle	24.32	42	P	P	08 45 12.9	+0.4
EGAK				IAmb	IAmb	08 45 13.1	
	comp=Z,8.7nm,1.4s						

BJI 23 09:40:25.6±0.0, 27°.71N×119°.93E, h4km, ML3.7/6, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	30.46	310	eP	P	09 46 41.3	+1.8

IDC 23 09:59:08.2±2.3, 18°.69S×167°.44E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/25, mbtmp3.4/4, ML3.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=55.2km s-min=36.0km az=124.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.49	195	Pn	Pn	10 00 02.7	-1.2
	3.3nm,0.3s,baz=80,slow=11,SNR=33						
DZM				Sn	Sn	10 00 41.4	-4.7
	12nm,0.3s,baz=122,slow=22,SNR=12						
DZM				LR	LR	10 01 25.5	
	comp=Z,106nm,18.3s,baz=338,slow=39						
STKA	Stephens Creek	26.72	236	LR	LR	10 13 51.8	
	comp=Z,43nm,18.4s,baz=29,slow=33						
WRA	Warramunga Arr	31.23	262	P	P	10 05 29.4	-0.4
	0.1nm,0.4s,baz=89,slow=8.4,SNR=6.4						
ASAR	Alice Springs	31.61	255	P	P	10 05 33.6	+0.5
	0.9nm,0.7s,baz=83,slow=8.6,SNR=15						
ILAR	Eielson Array	90.22	18	P	P	10 12 10.4	+0.2
	0.2nm,0.7s,baz=238,slow=5.2,SNR=2.3						

*BJI **23** 10:22:14.4±0.0, 0°.38S×120°.26E, h60km, mB5.3/56, mb5.3/78, Ms4.6/69, Ms7 4.5/65*
*KLM **23** 10:22:16.0, 0°.02N×120°.28E, h35km, mb5.1*
*UNK **23** 10:22:19.3, 0°.15N×120°.01E, h55km*
*NEIC **23** 10:22:20.1±2.0, 0°.11N±0°.05×119°.98E±0°.06, h69km±4km, mb5.4/140, Mwb5.3/19, Error ellipse: s-maj=8.6km s-min=7.8km az=66.0*
*DJA **23** 10:22:20.9±0.2, 0°.N±2°×12°.0E±°, h57km±2km, M5.1/54, mB5.6/40, mb5.1/54, MLv5.7/17, Mw(mB)5.1/40, Mwp5.2/15*
*NEIC **23** 10:22:20, 0°.11N×120°.00E, h48km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.04; Mθθ-0.46; Mφφ0.49; Mrθ-0.62; Mφθ0.59; Mφr-0.30; Fault plane solution: Mo1.02000×10^17^ NP1:φs69.31000°, δ89.70000°, λ-42.05000°. NP2:φs159.58000°, δ47.95000°, λ-179.60000°. Principal axes: T 1.0654, Plg28.0000°, Azm123.0000°; N -0.0891, Plg48.0000°, Azm249.0000°; P -0.9762, Plg29.0000°, Azm16.0000°;*
*GCMT **23** 10:22:20.1±0.1, 0°.23N±0°.01×120°.04E±0°.01, h46km±1km, MW5.3/130, Moment Tensor Solution. s104,c181; s130,c246; Duration: 1§1 Moment tensor: Scale 10^17^ Nm; Mrr-0.07±.02; Mθθ-0.60±.01; Mφφ0.67±.02; Mrθ-0.75±.02; Mφφ0.61±.01; Mφr-0.25±.02; Best double couple: Mo1.18500×10^17^ NP1:φs159.00000°, δ48.00000°, λ-176.00000°. NP2:φs66.00000°, δ87.00000°, λ-42.00000°. Principal axes: T 1.1630, Plg25.0000°,*

Azm120.0000°; N 0.0440, Plg48.0000°, Azm242.0000°; P -1.2070, Plg31.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function
*MOS **23** 10:22:20.4±0.8, 0°.15N×120°.07E, h80km, mb5.6/59, MS4.3/7 Error ellipse: s-maj=8.0km s-min=4.2km az=112.0*
*IDC **23** 10:22:22.3±1.4, 0°.15N×120°.04E, h84km±12km, mb4.6/30, mb1 4.7/34, mb1mx4.7/39, mbtmp4.9/34, MS4.1/36, Ms1 4.1/36, ms1mx4.1/42, Error ellipse: s-maj=13.2km s-min=7.4km az=64.0*
ISC 23 10:22:19.7±0.4, 0°.11N±0°.03×120°.07E±0°.04, h61km±2km, h61km: pP-P, n543, σ1§48/575, mb5.3/155, 10C-23D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGKI	Sangatta, Kali	2.55	256	P	Pn	10 22 56.3	-2.3
SMKI	Samarinda	2.91	259	P	Pn	10 23 02.9	-0.8
LUWI	Luwuk	2.93	113	P	Pn	10 23 06.7	+2.8
LUWI	Luwuk	2.93	113	Pn	Pn	10 23 06.2	+2.3
GTOI	Gorontalo	2.99	80	P	Pn	10 23 05.6	+1.0
BKB	Balikpapan	3.45	247	P	Pn	10 23 08.8	-2.2
BKB	Balikpapan	3.45	247	Pn	Pn	10 23 09.7	-1.3
KMSI	Cibinong	3.94	83	P	Pn	10 23 20.6	+2.9
SPSI	Sidrap Palu	4.06	184	P	Pn	10 23 22.2	+2.9
BNSI	Bone	4.48	180	P	Pn	10 23 26.8	+1.7
KAPI	Kappang	5.10	184	P	Pn	10 23 37.0	+3.4
	34nm,0.3s,baz=355,slow=6.0,SNR=46						
KAPI				S	Sn	10 24 33.0	+1.8
	10nm,0.3s,baz=228,slow=12,SNR=5.2						
KAPI				LR	LR	10 25 46.2	
	comp=Z,10μm,20.9s,baz=356,slow=40						
KAPI	Kappang	5.10	184	Pn	Pn	10 23 33.8	+0.2
KBKI	Kotabaru	5.17	229	P	Pn	10 23 33.3	-1.2
	2.4nm6μm300nm,0.6s						
MYLDM	Lahad Datu	5.27	343	Pn	Pn	10 23 36.8	+0.8
MTKI	Muara Teweh, K	5.28	259	P	Pn	10 23 35.9	-0.1
BKSI	Bulukumba	5.40	179	P	Pn	10 23 39.0	+1.3
	2.7nm9μm5μm329nm,0.6s						
SPMM	Sapulut	5.82	322	P	Pn	10 23 44.0	+0.6
SANI	Sanana	6.29	110	P	Pn	10 23 50.1	+0.1
	1.9nm5μm4μm210nm,0.9s						
BBKI	Banjar Baru	6.32	236	P	Pn	10 23 50.7	+0.4
KKM	Kota Kinabalu	7.04	327		Pn	10 23 59.4	-0.9
NLAI	Namlea	7.77	115	P	Pn	10 24 14.4	+4.2
SKMP	Bagumbayan, Su	7.78	35	eP	Pn	10 24 06.2	-4.1
SKMP				eS	Sn	10 25 30.3	-6.6
SBUM	Sibu	8.18	287	Pn	Pn	10 24 15.3	-0.5
SBUM	Sibu	8.18	287	P	Pn	10 24 16.0	+0.2
DDMP	Don Marcelino,	8.20	43	eP	Pn	10 24 13.5	-2.5
DDMP				eS	Sn	10 25 47.1	-0.1
PAGZ	Pagadian	8.37	23	eP	Pn	10 24 15.8	-2.5
PAGZ				eS	Sn	10 25 47.6	-3.8
STKI	Sintang	8.59	270	P	Pn	10 24 27.7	+6.3
DAV	Davao City (W)	8.83	38	S	Sn	10 26 05.7	+2.9
	29nm,0.3s,baz=252,slow=18,SNR=1.3						
DAV				LR	LR	10 28 27.0	
	comp=Z,2μm,19.2s,baz=201,slow=41						
PBKI	Pangkalan Bun	8.85	252	P	Pn	10 24 36.6	+12
EDFI	Ende, Flores	8.95	170	P	Pn	10 24 28.9	+2.5
	3μm500nm16nm,0.9s						
AAI	Ambon	8.95	115	P	Pn	10 24 30.1	+3.7
	6μm5μm383nm,1.2s						
MMRI	Maumere	8.95	166	Pn	Pn	10 24 27.0	+0.7
PLAI	Plampang	9.17	194	P	Pn	10 24 38.9	+10
MATI	Mati	9.18	42	eP	Pn	10 24 37.0	+7.5
BUKP	Musuan	9.18	33	eP	Pn	10 24 33.1	+3.5
TWSI	Taliwang, Sumb	9.35	200	P	Pn	10 24 48.9	+17
MSAI	Masohi	9.50	111	P	Pn	10 24 39.4	+5.6
	708nm58nm,0.8s						
KSM	Kuching	9.85	278	Pn	Pn	10 24 36.8	-1.9
KSM	Kuching	9.85	278	P	Pn	10 24 39.0	+0.3
CNOP	Candoni, Negro	9.99	15	eP	Pn	10 24 38.8	-1.7
CNOP				eS	Sn	10 26 21.7	-9.3
SOEI	Soe	10.65	157	P	Pn	10 24 52.8	+3.0
	5μm4μm382nm,0.9s						
SOEI	Soe	10.65	157	Pn	Pn	10 24 49.6	-0.1
BATI	Baumata	10.86	161	P	Pn	10 24 57.3	+4.9
	6.6nm,0.3s,baz=215,slow=3.4,SNR=11						
BATI				LR	LR	10 29 49.1	
	comp=Z,5μm,21.8s,baz=6.0,slow=41						
BATI	Baumata	10.86	161	P	Pn	10 24 54.4	+2.0
	3μm2μm109nm,1.3s						
SIJI	Sorong	11.24	95	P	Pn	10 25 00.7	+3.0
	2.3nm,0.3s,baz=289,slow=11,SNR=17						
FAKI	Fak Fak	12.54	104	Pn	Pn	10 25 15.1	-0.3
TPI	Tanjungpandan	12.73	257	P	Pn	10 25 16.9	-1.2
	1μm99nm,1.0s						
PGP	Puerto Galera	13.33	4⇓	eP	Pn	10 25 28.8	+2.6
KPJI	Karang Pucung	13.35	236	P	P	10 25 39.0	+5.1
SAUI	Saumlaki	13.78	126	P	P	10 25 35.8	-3.0
	7μm11μm299nm,1.1s						
SAUI	Saumlaki	13.78	126		Pn	10 25 32.0	-0.3
TGY	Tagaytay City	13.93	3	P	Pn	10 25 35.5	+1.3
	33nm,0.3s,baz=201,slow=8.6,SNR=1.6						
LQP	Lukban	13.99	6	eP	Pn	10 25 36.8	+1.7
LEM	Lembang	14.21	241	P	Pn	10 25 38.5	+0.4
	2.7nm,0.3s,baz=354,slow=15,SNR=1.7						
CISI	Cisompet, Garu	14.40	238	P	P	10 25 58.0	+12
DSRI	Dabo	15.50	268	P	P	10 26 02.9	+5.0
KLSI		16.05	253	P	P	10 26 16.5	+13
MYKOM	Kota Tinggi	16.30	276	Pn	Pn	10 26 04.2	-0.6
MYKOM	Kota Tinggi	16.30	276	P	P	10 26 06.0	-0.8
MDSI	Maura Dua	16.52	254	P	P	10 26 09.9	+0.7
	2μm82nm,1.3s						
MTN	Manton Dam	16.91	140	P	P	10 26 13.8	+0.3
	baz=17,SNR=17						
MTN	Manton Dam	16.91	140		Pn	10 26 12.6	+0.2
MTN				IAmb	IAmb	10 26 17.9	
	comp=Z,681nm,1.8s						
CVP	Callao Caves	17.57	6⇑	eP	P	10 26 21.8	+1.1
MNAI	Manna	17.66	255		Pn	10 26 19.4	-2.4
KDU	Kakadu	17.69	136	P	P	10 26 22.9	+0.8
	baz=18,SNR=18						
KNRA	Kununurra	17.88	152	P	Pn	10 26 25.8	+1.5
	baz=18,SNR=21						
KNRA	Kununurra	17.88	152	P	P	10 26 22.6	-1.6
SDSI	Sungai Dareh	18.67	267	P	P	10 26 32.8	-0.2
	comp=Z,19μmcomp=Z,60nm,1.5s						
FITZ	Fitzroy Crossi	18.91	163	P	Pn	10 26 36.7	0.0
	comp=Z,0.7nm,0.3s,baz=0.1,slow=8.3,SNR=20						
FITZ	Fitzroy Crossi	18.91	163	P	Pn	10 26 37.1	+0.5
	baz=19,SNR=9.0						
FITZ	Fitzroy Crossi	18.91	163	P	P	10 26 35.4	-0.1
IPM	Ipoh	19.51	283	P	P	10 26 40.6	-1.6
IPM	Ipoh	19.51	283	P	Pn	10 26 44.0	0.0
KULM	Kulim	20.06	285		P	10 26 48.9	+0.7
KULM	Kulim	20.06	285	P	P	10 26 49.0	+0.8
GENI	Genyem	20.27	98	P	Pn	10 26 54.7	+1.8
	comp=Z,2μmcomp=Z,6μmcomp=Z,136nm,1.4s						
MNSI	Mandailing Nat	20.50	272	P	Pn	10 26 55.0	-0.6
JAY	Jayapura	20.79	97	P	P	10 26 57.3	+1.1
	comp=Z,9.8nm,0.9s,baz=21,slow=8.6,SNR=2.2						
JAY	Jayapura	20.79	97	P	Pn	10 27 09.8	+11
UBPT	Khong Chiam	20.86	317	P	P	10 26 56.8	0.0
SISI	Saibi	21.03	266	P	P	10 27 15.0	+16
RPSI	Rantau Prapat	21.29	277	P	P	10 27 01.2	-0.2
RPSI				IAmb	IAmb	10 27 31.0	
	comp=Z,177nm,1.6s						
RPSI	Rantau Prapat	21.29	277	P	P	10 27 01.6	+0.2
PSI	Prapat	21.30	277	P	P	10 27 01.6	-0.1
	comp=Z,11nm,0.8s,baz=179,slow=0.2,SNR=8.0						
PSI				LR	LR	10 36 08.9	
	comp=Z,772nm,20.4s,baz=90,slow=39						
QIZ	Qiongzhong	21.31	332	P	P	10 27 01.5	-0.1
QIZ				pP	pP	10 27 13.3	-1.2
QIZ				S	S	10 30 56.1	+1.0
QIZ				sS	sS	10 31 17.3	+0.2
QIZ				pmax	pmax		
	comp=Z,47nm,0.9s						
QIZ				LR	LR		
	comp=Z,840nm,30.9s						
QIZ				LR	LR		
	comp=Z,1μm,29.9s						
QIZ	Qiongzhong	21.31	332	P	P	10 27 01.1	-0.4
PSA00	Pilbara Seismi	21.55	181	P	P	10 27 04.2	+0.1
PSA00				IAmb	IAmb	10 27 06.0	
	comp=Z,219nm,1.8s						
PSA00	Pilbara Seismi	21.55	181	P	P	10 27 03.8	-0.4
PSA00				IAmb	IAmb	10 27 36.0	
	comp=Z,14nm,0.7s						
PBSI	Pulau Batu	21.79	270	P	P	10 27 24.1	+17
GSI	Gunungsitoli	22.52	273	P	P	10 27 14.6	-0.1
GSI				IAmb	IAmb	10 27 43.0	
	comp=Z,84nm,0.9s						
TWG	Pinlang	22.59	2	P	P	10 27 14.0	-1.3
TWG				IAmb	IAmb	10 27 26.7	
	comp=Z,218nm,1.0s						
TPUB	Ta-pu	23.06	1	P	P	10 27 20.6	+0.6
TPUB				IAmb	IAmb	10 27 27.5	
	comp=Z,97nm,1.0s						
YULB	Yu-li	23.17	3	P	P	10 27 19.8	-1.4
SSLB	Suanglung	23.55	2	P	P	10 27 23.0	-1.8
LHMI	Lhok Sumawe	23.64	283	P	P	10 27 41.2	+16
LHMI	Lhok Sumawe	23.64	283	P	P	10 27 25.2	-0.5
LHMI				IAmb	IAmb	10 27 55.0	
	comp=Z,210nm,1.3s						
NACB	Ninganchiao	23.97	3	P	P	10 27 27.4	-1.1
NACB				IAmb	IAmb	10 27 31.4	
	comp=Z,158nm,1.6s						
MLSI	Meulaboh, Aceh	24.00	280	P	P	10 27 31.3	+2.3
	comp=Z,130nm,1.2s						
WB0	Warramunga Arr	24.23	145	P	P	10 27 30.8	-0.2
WRAB	Tennant Creek	24.34	146	P	P	10 27 32.0	0.0
WRAB				pmax	pmax		
	comp=Z,105nm,1.3s						
WRAB	Tennant Creek	24.34	146	P	P	10 27 32.0	0.0
WRA	Warramunga Arr	24.34	146	P	P	10 27 31.9	-0.2
	comp=Z,8.7nm,0.3s,baz=326,slow=7.1,SNR=257						
WRA				ScP	ScP	10 34 41.9	-2.2
	comp=Z,1.1nm,1.0s,baz=334,slow=2.4,SNR=3.6						
WRA	Warramunga Arr	24.34	146	P	P	10 27 31.8	-0.2
WB2	Warramunga Arr	24.35	146	P	P	10 27 32.1	0.0
WB2				IAmb	IAmb	10 27 33.6	
	comp=Z,118nm,1.4s						
WC3	Warramunga Arr	24.38	146	P	P	10 27 32.0	-0.3
YHNB	Yeheng	24.45	3	P	P	10 27 33.2	+0.3
YHNB				IAmb	IAmb	10 27 34.9	
	comp=Z,174nm,1.5s						
WR0	Warramunga Arr	24.47	145	P	P	10 27 33.1	-0.1
QZH	Quanzhou	24.73	357⇓	iP	P	10 27 35.5	+0.1
QZH				S	S	10 31 58.8	+5.6
QZH				pmax	pmax		
	comp=Z,500nm,8.1s						
QZH				LR	LR		
	comp=Z,580nm,16.6s						
QZH				LR	LR		
	comp=Z,600nm,19.2s						
WRKA	Warakurna	26.24	163	P	P	10 27 49.7	+0.6
	baz=26,SNR=24						
MEEK	Meekatharra	26.63	183	P	P	10 27 52.3	-0.4
	baz=27,SNR=18						
COEN	Coen	26.81	122	P	P	10 27 56.8	+2.4
	baz=27,SNR=6.8						
COEN	Coen	26.81	122	P	P	10 27 54.5	+0.1
AS31	Alice Springs	27.19	151	P	P	10 27 58.2	+0.4
ASAR	Alice Springs	27.19	151	P	P	10 27 58.2	+0.4
	comp=Z,4.0nm,0.4s,baz=339,slow=11,SNR=102						
ASAR				PcP	PcP	10 31 16.1	-0.8
	comp=Z,1.1nm,0.5s,baz=344,slow=2.1,SNR=4.5						
ASAR				S	S	10 32 33.5	+1.1
	comp=Z,4.4nm,1.0s,baz=343,slow=21,SNR=6.7						
ASAR				ScP	ScP	10 34 48.7	-3.5
	comp=Z,1.0nm,0.8s,baz=335,slow=2.6,SNR=5.2						
ASAR				LR	LR	10 39 16.1	
	comp=Z,739nm,21.7s,baz=324,slow=37						
ASAR	Alice Springs	27.19	151	P	P	10 27 57.6	-0.2
CM31	Chiang Mai Arr	27.63	312	P	P	10 28 02.3	+0.6
CMAR	Chiang Mai Arr	27.63	312	P	P	10 28 02.5	+0.8
	comp=Z,13nm,0.7s,baz=136,slow=7.0,SNR=64						
CMAR				LR	LR	10 40 20.1	
	comp=Z,266nm,20.9s,baz=168,slow=39						
CMAR	Chiang Mai Arr	27.63	312	i P	P	10 28 02.7	+1.0
CMAR				pmax	pmax		
	comp=Z,15nm,0.8s						
CMAR	Chiang Mai Arr	27.63	312	P	P	10 28 01.6	-0.1
CHTO	Chiang Mai	27.85	313	P	P	10 28 03.4	-0.3
CHTO				pmax	pmax		
	comp=Z,60nm,1.3s						
CHTO	Chiang Mai	27.85	313	P	P	10 28 03.4	-0.3
QIS	Mount Isa	28.06	138	P	P	10 28 06.0	+0.5
	baz=28,SNR=11						
PMG	Port Moresby	28.58	110	P	P	10 28 10.8	+0.6
	comp=Z,19nm,1.1s,baz=102,slow=19,SNR=3.6						
PMG				LR	LR	10 41 59.0	
	comp=Z,372nm,19.1s,baz=248,slow=41						
PMG	Port Moresby	28.58	110	P	P	10 28 09.8	-0.4
GYA	Guiyang	29.21	335	⇑P	P	10 28 17.3	+1.5
GYA				sP	sP	10 28 42.8	+4.8
GYA				PcP	PcP	10 31 22.5	+0.5
GYA				S	S	10 33 02.5	-1.7
GYA				pmax	pmax		
	comp=Z,18nm,1.2s						
GYA				pmax	pmax		
	comp=Z,220nm,4.4s						
GYA				LR	LR		
	comp=Z,480nm,18.6s						
GYA				LR	LR		
	comp=Z,480nm,21.8s						
GYA				LR	LR		
	comp=Z,980nm,25.1s						
MORW	Morawa	29.27	187	P	P	10 28 16.4	+0.2
	baz=29,SNR=5.1						
MTSU	Mount Surprise	29.95	129	P	P	10 28 24.3	+1.9
	baz=30,SNR=4.7						
KMI	Kunming	29.99	327	⇓P	P	10 28 24.3	+1.4
KMI				pP	pP	10 28 39.1	+1.2
KMI				sP	sP	10 28 45.6	+0.5
KMI				S	S	10 33 18.8	+2.1
KMI				pmax	pmax		
	comp=Z,52nm,1.1s						
KMI				pmax	pmax		
	comp=Z,250nm,3.9s						
KMI				LR	LR		
	comp=Z,580nm,16.5s						
KMI				LR	LR		
	comp=Z,460nm,13.8s						
KMI				LR	LR		
	comp=Z,890nm,31.4s						
KMI	Kunming	29.99	327	P	P	10 28 25.5	+2.6
KMI				pmax	pmax		
	comp=Z,52nm,1.0s						
KMI	Kunming	29.99	327	P	P	10 28 25.5	+2.6
KMI				IA

CD2 PP **PP** **10 30 19.8 +0.4**
CD2 S **S** **10 34 22.1 -1.7**
CD2 sS sS 10 34 49.4 -0.6
CD2 pmax pmax
comp=Z,100nm,0.5s
CD2 LR LR
comp=Z,960nm,23.0s
CD2 LR LR
comp=Z,530nm,15.1s
CD2 LR LR
comp=Z,1μm,27.3s
JNU Nakatsue 34.38 16 LR LR 10 42 38.1
comp=Z,296nm,21.4s,baz=172,slow=35
JNU Nakatsue 34.38 16 P **P** **10 29 01.3 +0.3**
JNU IAmb IAmb 10 29 02.9
comp=Z,72nm,1.0s
SAIH SAIHA 34.49 312 *e*P **P** **10 29 02.5 +0.2**
SAIH IAmb IAmb 10 29 04.8
comp=Z,72nm,0.6s
QLP Quilpie 35.30 141 P **P** **10 29 10.6 +1.6**
baz=36,SNR=13
XAN Xi'an 35.34 344 P **P** **10 29 10.3 +1.0**
XAN pP pP 10 29 25.9 +1.3
XAN S **S** **10 34 38.8 -0.5**
XAN pmax pmax
comp=Z,48nm,1.2s
XAN pmax pmax
comp=Z,360nm,3.2s
XAN LR LR
comp=Z,580nm,18.6s
XAN LR LR
comp=Z,300nm,19.1s
XAN LR LR
comp=Z,990nm,19.6s
XAN Xi'an 35.34 344 P **P** **10 29 08.7 -0.6**
XAN pmax pmax
comp=Z,46nm,1.1s
XAN Xi'an 35.34 344 P **P** **10 29 08.7 -0.6**
XAN IAmb IAmb 10 29 11.2
comp=Z,46nm,1.1s
JMN Monobe 35.87 20 P **P** **10 29 14.1 +0.3**
BBOO Buckleboo 36.05 157 P **P** **10 29 15.9 +0.5**
baz=36,SNR=24
BBOO Buckleboo 36.05 157 P **P** **10 29 15.5 +0.1**
BBOO IAmb IAmb 10 29 17.0
comp=Z,108nm,1.6s
TJN Taejon 36.71 10⇑ *e*P **P** **10 29 21.3 +0.4**
JHS Saijyo 36.79 18 P **P** **10 29 22.5 +0.9**
SHL Shillong 37.16 315 *e*P **P** **10 29 25.2 0.0**
SHL IAmb IAmb 10 29 27.9
comp=Z,42nm,0.8s
SHL Shillong 37.16 315 P **P** **10 29 25.4 +0.2**
SHL pmax pmax
comp=Z,84nm,0.8s
SHL Shillong 37.16 315 P **P** **10 29 25.4 +0.2**
TEZP TEZPUR 37.20 317 *e*P **P** **10 29 24.8 -0.4**
TEZP IAmb IAmb 10 29 27.6
comp=Z,23nm,0.6s
INCN Inchon 37.68 9 P **P** **10 29 29.2 +0.1**
INCN pmax pmax
comp=Z,58nm,1.0s
INCN Inchon 37.68 9 P **P** **10 29 29.2 +0.1**
INCN IAmb IAmb 10 29 31.8
comp=Z,58nm,0.9s
STKA Stephens Creek 37.77 149 P **P** **10 29 31.1 +1.1**
comp=Z,14nm,0.5s,baz=327,slow=9.2,SNR=47
STKA LR LR 10 45 34.2
comp=Z,582nm,21.0s,baz=322,slow=37
STKA Stephens Creek 37.77 149 P **P** **10 29 31.1 +1.1**
baz=38,SNR=26
STKA Stephens Creek 37.77 149 P **P** **10 29 30.7 +0.7**
HTT Hallett 37.78 154 P **P** **10 29 31.3 +1.1**
baz=38,SNR=58
JWT Wachi 37.80 21 P **P** **10 29 30.7 +0.6**
JWT IAmb IAmb 10 29 32.3
comp=Z,45nm,1.0s
KSRS Korea Array 37.86 10 P **P** **10 29 32.0 +1.4**
comp=Z,24nm,0.8s,baz=198,slow=7.7,SNR=56
KSRS LR LR 10 45 12.6
comp=Z,325nm,21.9s,baz=197,slow=36
KS19 Wonju Array Si 37.90 10 P **P** **10 29 31.8 +0.9**
KS19 IAmb IAmb 10 29 34.9
comp=Z,26nm,0.9s
TIY Taiyuan 38.08 350 *e*P **P** **10 29 34.5 +2.0**
TIY PP **PnPn** **10 31 05.0 +2.3**
TIY S **S** **10 35 17.6 -3.4**
TIY SS **SnSn** **10 38 07.4 -1.9**
TIY pmax pmax
comp=Z,52nm,1.0s
TIY pmax pmax
comp=Z,220nm,7.3s
TIY LR LR
comp=Z,280nm,11.6s
TIY LR LR
comp=Z,130nm,6.0s
TIY LR LR
comp=Z,320nm,25.8s
RMQ Roma 38.25 136 P **P** **10 29 35.3 +1.2**
baz=38,SNR=5.2
JSG Sagara 38.33 24 P **P** **10 29 35.2 +0.6**
INU Inuyama 38.46 23 P **P** **10 29 35.3 -0.4**
INU IAmb IAmb 10 29 37.1
comp=Z,59nm,1.2s
DL2 Dalian 38.63 2 P **P** **10 29 36.9 -0.2**
DL2 pP **pP** **10 29 52.3 -0.3**
DL2 S **S** **10 35 27.6 -1.6**
DL2 sS **sS** **10 35 56.4 +0.8**
DL2 pmax pmax
comp=Z,96nm,1.0s
DL2 pmax pmax
comp=Z,220nm,4.3s
DL2 LR LR
comp=Z,290nm,22.7s
DL2 LR LR
comp=Z,270nm,15.2s
DL2 LR LR
comp=Z,440nm,23.0s
JGF Kuroka 38.81 23 P **P** **10 29 38.0 -0.7**
JGF IAmb IAmb 10 29 40.7
comp=Z,30nm,1.0s
LZH Lanzhou 38.84 339 *e*P **P** **10 29 41.3 +2.2**
LZH pP sP 10 29 59.3 -2.4
LZH sP pP 10 30 02.8 +8.2
LZH S **S** **10 35 32.8 0.0**
LZH sS sS 10 35 57.6 -1.7
LZH pmax pmax
comp=Z,84nm,1.0s
LZH pmax pmax
comp=Z,210nm,6.0s
LZH LR LR
comp=Z,620nm,16.3s
LZH LR LR
comp=Z,490nm,15.4s
LZH LR LR
comp=Z,750nm,16.2s
EIDS Eidsvold 39.24 133 P **P** **10 29 43.3 +1.0**
baz=39,SNR=4.1
CMSA Cobar Meteorol 39.74 145 P **P** **10 29 48.1 +1.6**
baz=40,SNR=77
BJT Baijiatuau 39.88 355 P **P** **10 29 48.2 +0.7**
BJT pmax pmax
comp=Z,71nm,0.7s
BJT Baijiatuau 39.88 355 P **P** **10 29 48.2 +0.7**
BJI Beijing 39.90 355 P **P** **10 29 48.8 +1.2**
BJI S **S** **10 35 52.3 +4.1**
BJI pmax pmax
comp=Z,97nm,0.6s
BJI pmax pmax
comp=Z,480nm,3.1s
BJI LR LR
comp=Z,220nm,17.1s
BJI LR LR
comp=Z,340nm,16.1s
MJAR Matsushiro Arr 39.96 23 P **P** **10 29 47.3 -1.0**
comp=Z,28nm,0.8s,baz=192,slow=8.8,SNR=64
MJAR ScP **ScP** **10 35 35.9 -0.7**
comp=Z,8.0nm,1.1s,baz=193,slow=4.0,SNR=12
MJAR LR LR 10 44 18.5
comp=Z,302nm,21.2s,baz=210,slow=33
MJAR Matsushiro Arr 39.96 23 P **P** **10 29 46.5 -1.8**
MAJO Matsushiro 39.97 23*d* iP **P** **10 29 47.4 -0.9**
MAJO pmax pmax
comp=Z,36nm,1.1s
MAJO Matsushiro 39.97 23 P **P** **10 29 46.9 -1.4**
MAJO IAmb IAmb 10 29 49.0
comp=Z,57nm,1.1s

MAT Matsushiro 39.97 23 P **P** **10 29 46.7 -1.6**
MAT S **S** **10 35 46.0 -3.4**
MJB9 Matsu-Tunnel 39.97 23 P **P** **10 29 47.5 -0.8**
LSA Lhasa 40.31 319 P **P** **10 29 53.3 +1.5**
LSA pmax pmax
comp=Z,190nm,0.9s
LSA LR LR
comp=Z,800nm,23.1s
LSA LR LR
comp=Z,1μm,27.0s
LSA LR LR
comp=Z,2μm,28.1s
LSA Lhasa 40.31 319 *i* P **P** **10 29 53.9 +2.0**
SNR=17
LSA Lhasa 40.31 319 P **P** **10 29 52.7 +0.9**
LSA pmax pmax
comp=Z,57nm,0.7s
LSA Lhasa 40.31 319 P **P** **10 29 52.7 +0.9**
LSA IAmb IAmb 10 29 55.5
comp=Z,57nm,0.7s
JYT Yasato 40.51 25 P **P** **10 29 50.3 -2.4**
JYT IAmb IAmb 10 29 53.4
comp=Z,37nm,0.9s
BOK Bokaro 40.67 308 *e*P **P** **10 29 55.1 +0.8**
ODAN Odare 41.17 313 *e*P **P** **10 30 00.2 +1.5**
comp=Z,461nm,1.2s
HHC Hu-ho-hao-te 41.28 350 *e*P **P** **10 30 01.1 +1.9**
HHC PP **PP** **10 31 36.0 +0.4**
HHC pmax pmax
comp=Z,52nm,1.0s
HHC pmax pmax
comp=Z,220nm,5.7s
HHC LR LR
comp=Z,250nm,18.9s
HHC LR LR
comp=Z,450nm,20.8s
HHC LR LR
comp=Z,300nm,17.1s
JSD Sado 41.29 22 P **P** **10 29 58.4 -0.8**
JSD IAmb IAmb 10 30 00.8
comp=Z,171nm,1.8s
BTO Baotou 41.33 348 *e*P **P** **10 29 59.9 +0.3**
SNY Shenyang 41.65 4 ⇓P **P** **10 30 02.1 +0.1**
SNY S **S** **10 36 15.3 +1.2**
SNY pmax pmax
comp=Z,88nm,0.9s
SNY LR LR
comp=Z,320nm,28.1s
SNY LR LR
comp=Z,340nm,24.6s
SNY LR LR
comp=Z,590nm,23.1s
RAMN Ramite 41.80 312 *e*P **P** **10 30 05.9 +2.1**
comp=Z,368nm,1.0s
ARPS Mount Arapiles 41.88 154 P **P** **10 30 05.1 +1.1**
baz=42,SNR=17
JMM Marumori 42.15 25 P **P** **10 30 04.3 -1.9**
JMM IAmb IAmb 10 30 07.8
comp=Z,74nm,0.9s
JIRN Jiri 42.50 313 *e*P **P** **10 30 11.1 +1.4**
comp=Z,413nm,0.7s
ARMA Armidale 42.68 138 P **P** **10 30 14.0 +3.2**
baz=43,SNR=6.4
ARMA Armidale 42.68 138 P **P** **10 30 13.1 +2.3**
ARMA IAmb IAmb 10 30 14.8
comp=Z,98nm,1.6s
GUN Gumba 42.87 313 *e*P **P** **10 30 14.1 +1.5**
comp=Z,471nm,0.8s
PKI Pulchoki 43.02 312 *e*P **P** **10 30 14.9 +1.0**
comp=Z,272nm,1.0s
PKIN Phulchoki 43.04 312 *e*P **P** **10 30 14.9 +1.0**
comp=Z,203nm,0.9s
KKN Kakani 43.24 312 *e*P **P** **10 30 16.7 +1.2**
comp=Z,245nm,1.0s
DMN Daman 43.27 312 *e*P **P** **10 30 17.0 +1.2**
comp=Z,285nm,0.9s
GTA Gaotai 43.28 337 ⇓P **P** **10 30 16.9 +1.4**
GTA pP pP 10 30 32.8 +1.6
GTA sP sP 10 30 39.6 +1.4
GTA S **S** **10 36 43.3 +4.7**
GTA sS sS 10 37 04.4 -0.9
GTA pmax pmax
comp=Z,61nm,1.0s
GTA pmax pmax
comp=Z,280nm,5.3s
GTA LR LR
comp=Z,270nm,21.1s
GTA LR LR
comp=Z,330nm,19.3s
GTA LR LR
comp=Z,480nm,22.2s
YNG Young 43.31 145 P **P** **10 30 17.6 +1.9**
baz=44,SNR=9.0
GKN Gorkha 43.83 312 *e*P **P** **10 30 21.4 +1.2**
comp=Z,408nm,0.9s
VLA Vladivostok 44.11 12*c i*P **P** **10 30 23.7 +1.8**
VLA pmax pmax
comp=Z,50nm,1.2s
TOO Toolangi 44.24 151 P **P** **10 30 25.3 +2.2**
baz=44,SNR=5.0
TOO Toolangi 44.24 151 P **P** **10 30 23.7 +0.6**
TOO pmax pmax
comp=Z,73nm,1.7s
TOO Toolangi 44.24 151 P **P** **10 30 23.7 +0.6**
TOO IAmb IAmb 10 30 26.4
comp=Z,73nm,1.7s
HYB Hyderabad 44.32 295 *i* P **P** **10 30 24.0 -0.1**
HYB *e*pP **pP** **10 30 39.5 -0.2**
HYB *es*P **sP** **10 30 49.0 +2.3**
HYB Hyderabad 44.32 295 *e*P **P** **10 30 21.8 -2.3**
CAN Canberra 44.39 146 P **P** **10 30 25.6 +1.2**
CAN pmax pmax
comp=Z,258nm,1.7s
CAN Canberra 44.39 146 P **P** **10 30 25.6 +1.2**
KOLN Koldanda 44.48 311 *e*P **P** **10 30 26.8 +1.4**
comp=Z,292nm,1.0s
CNB Canberra Magne 44.59 145 P **P** **10 30 27.8 +1.8**
baz=45,SNR=9.7
DANN Dangsing 44.67 312 *e*P **P** **10 30 28.2 +1.2**
comp=Z,380nm,0.7s
JTM Tenmabayashi 44.75 23 P **P** **10 30 27.2 +0.1**
JTM IAmb IAmb 10 30 28.8
comp=Z,74nm,0.9s
PYUN Piuthan 45.11 311 *e*P **P** **10 30 32.0 +1.5**
comp=Z,455nm,0.9s
MDJ Mudanjiang 45.12 10 P **P** **10 30 30.8 +0.9**
MDJ PcS **PcS** **10 36 05.3 +2.0**
MDJ S **S** **10 37 08.8 +4.0**
MDJ pmax pmax
comp=Z,110nm,1.1s
MDJ pmax pmax
comp=Z,190nm,3.0s
MDJ LR LR
comp=Z,610nm,22.8s
MDJ LR LR
comp=Z,330nm,19.9s
MDJ LR LR
comp=Z,840nm,20.9s
MDJ Mudanjiang 45.12 10 P **P** **10 30 29.8 -0.2**
USA0B Ussuriysk Arra 45.16 12 P **P** **10 30 30.3 0.0**
USA0B pmax pmax
comp=Z,41nm,1.2s
USA0B Ussuriysk Arra 45.16 12 P **P** **10 30 30.3 0.0**
USRK Ussuriysk Ar. 45.16 12 P **P** **10 30 30.3 0.0**
comp=Z,7.2nm,0.5s,baz=190,slow=8.2,SNR=28
USRK LR LR 10 48 26.0
comp=Z,247nm,21.4s,baz=180,slow=35
USRK Ussuriysk Ar. 45.16 12 P **P** **10 30 29.9 -0.4**
ERM Erimo 46.62 24*ce*P **P** **10 30 43.1 +1.3**
ERM pmax pmax
comp=Z,55nm,1.7s
ERM Erimo 46.62 24 P **P** **10 30 42.2 +0.3**
ERM IAmb IAmb 10 30 44.2
comp=Z,29nm,0.8s
TEY Ternei 47.07 16⇓ *i*P **P** **10 30 46.1 +0.8**
TEY pmax pmax
comp=N,40nm,1.1s
TEY pmax pmax
comp=Z,80nm,1.1s
TEY pmax pmax
comp=E,20nm,0.9s
BHPL Bhopal 47.37 302 *e*P **P** **10 30 48.2 +0.2**
BHPL IAmb IAmb 10 30 50.9
comp=Z,21nm,0.9s
BHPL *i* pP **pP** **10 31 04.7 +1.0**
ASAJ Asahikawa 48.19 22 LR LR 10 51 12.6

comp=Z,309nm,20.6s,baz=194,slow=36
ASAJ Asahikawa 48.19 22 P **P** **10 30 53.7 -0.3**
ASAJ pmax pmax
comp=Z,37nm,0.7s
JKA Kamikawa-asahi 48.19 22 P **P** **10 30 53.6 -0.4**
JKA IAmb IAmb 10 30 55.8
comp=Z,37nm,0.7s
ULN Ulaanbaatar 48.89 348*d i*P **P** **10 31 00.4 +0.9**
ULN pmax pmax
comp=Z,140nm,1.7s
ULN Ulaanbaatar 48.89 348 P **P** **10 30 59.9 +0.4**
POO Poona 48.92 295 *e*P P 10 30 49.0 -11
HIA Hailar 48.97 360 P **P** **10 30 59.3 -0.6**
HIA pmax pmax
comp=Z,42nm,1.4s
HIA Hailar 48.97 360 P **P** **10 30 59.3 -0.6**
HIA IAmb IAmb 10 31 03.2
comp=Z,42nm,1.4s
SONM Songino Array 49.00 348 P **P** **10 31 01.1 +0.8**
comp=Z,33nm,0.9s,baz=167,slow=8.5,SNR=82
SONM PcP **PcP** **10 32 23.0 -0.5**
comp=Z,9.2nm,1.0s,baz=162,slow=5.0,SNR=4.2
SONM LR LR 10 54 09.1
comp=Z,282nm,20.3s,baz=162,slow=39
SONM Songino Array 49.00 348 P **P** **10 31 00.6 +0.3**
SANVU Saraoutou 49.04 111 P **P** **10 31 00.9 -0.1**
SONA Sohna 49.74 308 *e*P **P** **10 31 05.7 -0.4**
DZM Mont Dzumac 50.26 119 *e*P **P** **10 31 11.3 +1.0**
comp=Z,110nm,1.4s
DZM Mont Dzumac 50.26 119 *e*LR LR 10 45 36.0
comp=Z,1μm,35.0s
DZM Mont Dzumac 50.26 119 P **P** **10 31 11.7 +1.4**
comp=Z,6.8nm,0.4s,baz=260,slow=11,SNR=16
DZM Mont Dzumac 50.26 119 P **P** **10 31 11.7 +1.4**
DZM IAmb IAmb 10 31 13.3
comp=Z,50nm,1.2s
YSS Yuzh-Sakhalins 50.70 20⇓ *e*P **P** **10 31 13.1 +0.1**
YSS *e**SP **sP** **10 31 35.0 -1.1**
YSS *e* 10 33 11.4
YSS *e*S **S** **10 38 19.8 -3.9**
YSS MLR MLR
comp=Z,300nm,19.0s
YSS Yuzh-Sakhalins 50.70 20 P **P** **10 31 12.6 -0.4**
YSS IAmb IAmb 10 31 14.5
comp=Z,76nm,1.3s
ZAK Zakamensk 52.09 346 *e*P **P** **10 31 24.2 +0.6**
ZAK pmax pmax
comp=Z,18nm,1.3s
WMQ Urumqi 52.22 331 P **P** **10 31 26.3 +1.7**
WMQ sP sP 10 31 44.6 -3.1
WMQ S **S** **10 38 45.3 +0.3**
WMQ pmax pmax
comp=Z,39nm,1.1s
WMQ pmax pmax
comp=Z,160nm,4.5s
WMQ LR LR
comp=Z,210nm,17.9s
WMQ LR LR
comp=Z,260nm,22.9s
WMQ LR LR
comp=Z,250nm,25.9s
WMQ Urumqi 52.22 331 P **P** **10 31 26.0 +1.4**
WMQ pmax pmax
comp=Z,63nm,0.9s
WMQ Urumqi 52.22 331 P **P** **10 31 26.0 +1.4**
TLY Talaya 53.22 347 *e*P **P** **10 31 33.2 +1.4**
TLY *e*S **S** **10 39 06.2 +7.9**
TLY *e*SS **SS** **10 42 32.2 -6.6**
TLY pmax pmax
comp=Z,103nm,0.9s
TLY MLR MLR
comp=Z,485nm,15.0s
TLY Talaya 53.22 347 P **P** **10 31 32.4 +0.6**
TLY IAmb IAmb 10 31 34.9
comp=Z,53nm,1.1s
ZEA Zeya 53.78 5 *e*P **P** **10 31 36.0 +0.3**
ZEA *e* 10 41 21.0
ZEA pmax pmax
comp=Z,64nm,1.4s
ZEA MLR MLR
comp=Z,200nm,12.0s
MOY Mondy 53.84 345 *e*P **P** **10 31 37.6 +1.2**
MOY pmax pmax
comp=Z,87nm,1.7s
NIL Nilore 55.12 312 P **P** **10 31 45.3 -0.7**
NIL pmax pmax
comp=Z,40nm,0.6s
NIL Nilore 55.12 312 P **P** **10 31 45.3 -0.7**
SHLS Shalkode 56.16 325⇓ *i*P **P** **10 31 53.1 -0.3**
comp=Z,39nm,0.8s,baz=325
SHLS Shalkode 56.16 325*d i*P **P** **10 31 53.0 -0.3**
SHLS pmax pmax
comp=Z,39nm,0.8s
KSH Kashi 56.17 320⇓ *i*P **P** **10 31 55.0 +1.5**
KSH pP pP 10 32 10.5 +0.8
KSH S **S** **10 39 38.3 -0.2**
KSH sS sS 10 40 06.8 +2.4
KSH pmax pmax
comp=Z,140nm,0.9s
KSH pmax pmax
comp=Z,280nm,4.4s
KSH LR LR
comp=Z,1μm,17.6s
KSH LR LR
comp=Z,710nm,16.1s
KSH LR LR
comp=Z,210nm,14.6s
ZSN Zaisan 56.22 332 *e*P **P** **10 31 54.4 +0.8**
comp=Z,20nm,0.8s,baz=332
ZSN Zaisan 56.22 332 *e*P **P** **10 31 54.3 +0.8**
ZSN pmax pmax
comp=Z,20nm,0.8s
PDGK Podgornoye 56.25 325 P **P** **10 31 55.5 +1.5**
TARG Taragay, Kyrgy 56.27 323 P **P** **10 31 53.6 -1.0**
TARG IAmb IAmb 10 32 04.5
comp=Z,23nm,0.8s
PRZ Przheval'sk 56.37 324 P **P** **10 31 56.4 +1.5**
PRZ pmax pmax
comp=Z,87nm,0.8s
PRZ Przheval'sk 56.37 324 P **P** **10 31 56.4 +1.5**
UZB Uzynbulak 56.41 325⇓ *i*P **P** **10 31 56.3 +1.1**
comp=Z,19nm,0.8s,baz=325
UZB *e*S **S** **10 39 43.4 +1.7**
baz=325
UZB Uzynbulak 56.41 325*d i*P **P** **10 31 56.2 +1.1**
UZB *e*S **S** **10 39 43.3 +1.7**
UZB pmax pmax
comp=Z,19nm,0.8s
SATY Saty 56.71 324 *i* P **P** **10 31 58.8 +1.4**
comp=Z,44nm,0.8s,baz=324
SATY Saty 56.71 324 *i* P **P** **10 31 58.7 +1.4**
SATY pmax pmax
comp=Z,44nm,0.8s
DGZ Jazzator, Alta 56.75 335*d i*P **P** **10 31 58.6 +1.1**
DGZ pmax pmax
comp=Z,58nm,0.9s
KPKS Kokpek 56.80 325 *i* P **P** **10 31 58.9 +1.1**
comp=Z,77nm,1.3s,baz=325
KPKS Kokpek 56.80 325 *i* P **P** **10 31 58.9 +1.1**
KPKS pmax pmax
comp=Z,77nm,1.3s
KDJ Kajisay 56.89 323 P **P** **10 31 59.8 +1.2**
KDJ pmax pmax
comp=Z,47nm,0.8s
KDJ Kajisay 56.89 323 P **P** **10 31 59.8 +1.2**
MK31 Makanchi Array 57.01 330 P **P** **10 32 00.0 +0.8**
MK31 pmax pmax
comp=Z,43nm,1.0s
MK31 Makanchi Array 57.01 330 P **P** **10 31 60.0 +0.8**
MK31 IAmb IAmb 10 32 01.9
comp=Z,43nm,0.9s
MKAR Makanchi Array 57.01 330 P **P** **10 32 00.1 +0.9**
comp=Z,24nm,0.5s,baz=129,slow=8.8,SNR=183
MKAR PcP **PcP** **10 32 52.9 -0.8**
comp=Z,9.3nm,0.8s,baz=135,slow=4.9,SNR=3.9
MKAR LR LR 10 59 23.8
comp=Z,50nm,19.4s,baz=118,slow=39
MKAR Makanchi Array 57.01 330 P **P** **10 31 59.8 +0.6**
MAKZ Makanchi 57.18 330 P **P** **10 32 00.9 +0.5**
MAKZ pmax pmax
comp=Z,44nm,1.1s
MAKZ Makanchi 57.18 330 P **P** **10 32 00.9 +0.5**
MAKZ IAmb IAmb 10 32 02.9
comp=Z,44nm,1.1s
ULHL Ulahol 57.52 322 P **P** **10 32 05.3 +2.2**

SNR=11
MDOK Medeo 57.57 324 *e*P **P 10 32 04.5 +1.0**
baz=324
MDOK *e*S **S 10 39 58.7 +1.8**
baz=324
MDOK Medeo 57.57 324 *e*P **P 10 32 04.4 +1.0**
MDOK *e*S **S 10 39 58.7 +1.8**
AAA Alma-Ata 57.68 324 *e*P **P 10 32 05.0 +1.0**
baz=324
AAA Alma-Ata 57.68 324 *e*P **P 10 32 05.0 +1.0**
BOD Bodaibo 57.74 356 *e*P **P 10 32 04.7 +0.7**
BOD pmax pmax
comp=Z,88nm,1.1s
BOOM Boomskoye usch 57.85 323 P **P 10 32 05.4 0.0**
BOOM pmax pmax
comp=Z,36nm,1.0s
BOOM Boomskoye usch 57.85 323 P **P 10 32 05.4 0.0**
BOOM IAmb IAmb 10 32 08.3
comp=Z,36nm,0.9s
TDK Taldyqorghan 57.90 326 *e*P **P 10 32 06.6 +1.0**
baz=326
TDK Taldyqorghan 57.90 326 *e*P **P 10 32 06.5 +1.0**
MTBS Maitube 57.92 323 *e*P **P 10 32 06.8 +1.1**
baz=323
MTBS Maitube 57.92 323 *e*P **P 10 32 06.8 +1.1**
KZA Kyzart 58.04 322 P **P 10 32 08.6 +1.6**
SNR=45
TKM2 Tokmak 2 58.30 323 P **P 10 32 09.8 +1.2**
SNR=60
TKM2 Tokmak 2 58.30 323 P **P 10 32 09.5 +0.9**
KUU Kurty 58.42 324 *i* P **P 10 32 10.2 +1.0**
comp=Z,114nm,0.8s,baz=324
KUU Kurty 58.42 324 *i* P **P 10 32 10.1 +1.0**
KUU pmax pmax
comp=Z,114nm,0.8s
KBK Karagaybulak 58.55 322 P **P 10 32 13.1 +2.8**
SNR=11
KBL Kabul 58.65 311 P **P 10 32 10.8 -0.4**
KBL pmax pmax
comp=Z,78nm,0.8s
KBL Kabul 58.65 311 P **P 10 32 10.8 -0.4**
AAK Ala-Archa 58.81 322 P **P 10 32 13.6 +1.5**
SNR=30
AAK Ala-Archa 58.81 322 *i* P **P 10 32 13.6 +1.5**
SNR=37
AAK Ala-Archa 58.81 322*d i*P **P 10 32 13.2 +1.1**
AAK pmax pmax
comp=Z,168nm,1.1s
CHMS Chumysh 58.86 322 P **P 10 32 14.1 +1.9**
SNR=6.8
SKR Severo-Kuril's 58.95 26 *e*P P 10 32 28.5 +16
SKR *e* 10 34 27.7
SKR *e*PPP PPP 10 35 54.6
SKR *e*S **S 10 40 17.0 +2.8**
SKR pmax pmax
comp=Z,42nm,3.1s
SKR MLR MLR
comp=Z,100nm,18.0s
AML Almayashu 59.04 321 P **P 10 32 15.2 +1.3**
SNR=33
USP Ospenovka 59.16 323 P **P 10 32 15.3 +1.0**
SNR=30
SGDS Sogindy 59.18 323 *i* P **P 10 32 15.2 +0.7**
comp=Z,28nm,1.1s,baz=323
SGDS Sogindy 59.18 323 *i* P **P 10 32 15.2 +0.7**
SGDS pmax pmax
comp=Z,28nm,1.1s
EKS2 Erkin-Say 59.27 322 P **P 10 32 17.9 +2.7**
SNR=14
GAR Garm 59.69 316 P **P 10 32 18.3 +0.1**
BTK Batken 59.85 318 P **P 10 32 19.7 +0.5**
BTK pmax pmax
comp=Z,58nm,1.3s
BTK Batken 59.85 318 P **P 10 32 19.7 +0.5**
BTK IAmb IAmb 10 32 21.9
comp=Z,58nm,1.3s
CHGR Chuyangaron 60.34 316 P **P 10 32 22.4 -0.1**
BTLS Baital 60.42 324 *i* P **P 10 32 23.2 +0.3**
comp=Z,14nm,1.3s,baz=324
BTLS Baital 60.42 324 *i* P **P 10 32 23.2 +0.3**
BTLS pmax pmax
comp=Z,14nm,1.3s
DZA Taraz 60.92 321 *e*P **P 10 32 26.5 +0.1**
baz=321
DZA Taraz 60.92 321 *e*P **P 10 32 26.5 +0.1**
ZAA0 Zalesovo Array 61.04 337 P **P 10 32 26.4 -0.5**
ZALV Zalesovo Beam 61.04 337 P **P 10 32 26.6 -0.3**
comp=Z,25nm,0.6s,baz=132,slow=5.7,SNR=82
ZALV LR LR 11 00 33.5
comp=Z,123nm,21.1s,baz=146,slow=38
ZALV Zalesovo Beam 61.04 337 P **P 10 32 26.0 -0.9**
PEA0B Petropavlovsk- 61.38 25 P **P 10 32 29.9 +0.7**
PEA0B pmax pmax
comp=Z,28nm,1.0s
PEA0B Petropavlovsk- 61.38 25 P **P 10 32 29.9 +0.7**
PEA0B IAmb IAmb 10 32 31.3
comp=Z,28nm,0.9s
PETK Petropavlovsk- 61.38 25 P **P 10 32 29.5 +0.2**
comp=Z,14nm,0.7s,baz=201,slow=4.4,SNR=27
PETK LR LR 10 58 20.3
comp=Z,86nm,20.7s,baz=228,slow=35
PETK Petropavlovsk- 61.38 25 P **P 10 32 28.9 -0.3**
IUG Iuzhnay 61.39 320 *i* P **P 10 32 30.6 +1.0**
comp=Z,28nm,0.9s,baz=320
IUG *e*S **S 10 40 47.6 +1.5**
baz=320
IUG Iuzhnay 61.39 320 *i* P **P 10 32 30.6 +1.0**
IUG *e*S **S 10 40 47.5 +1.5**
IUG pmax pmax
comp=Z,28nm,0.9s
KURK Kurchatov 61.45 331 P **P 10 32 30.2 +0.5**
KURK Kurchatov 61.45 331 P **P 10 32 30.1 +0.4**
KK31 Karatay Array 61.55 321 *i* P **P 10 32 30.7 +0.1**
KK31 Karatay Array 61.55 321 P **P 10 32 30.3 -0.3**
KK31 IAmb IAmb 10 32 33.5
comp=Z,25nm,1.1s
KKAR Karatay Array 61.55 321 P **P 10 32 30.1 -0.5**
KKAR pmax pmax
comp=Z,25nm,1.2s
KKAR Karatay Array 61.55 321 P **P 10 32 30.0 -0.5**
KKAR IAmb IAmb 10 32 33.5
comp=Z,25nm,1.1s
KKAR Karatay Array 61.55 321 P **P 10 32 30.1 -0.5**
PET Petropavlovsk 61.72 25 *e*P **P 10 32 32.2 +0.7**
PET *e*S **S 10 40 51.1 +1.5**
PET pmax pmax
comp=Z,63nm,0.7s
RPZ Rata Peaks 62.92 141 P **P 10 32 40.6 +0.8**
comp=Z,82nm,1.1s,baz=282,slow=2.4,SNR=16
RPZ Rata Peaks 62.92 141 P **P 10 32 41.4 +1.6**
HRA Herat 63.80 309 P **P 10 32 46.4 +0.4**
KHZ Kahutara 63.93 139 P **P 10 32 46.8 +0.4**
MA2 Magadan 63.94 17*de*P **P 10 32 47.6 +1.4**
MA2 pmax pmax
comp=Z,76nm,1.7s
MA2 Magadan 63.94 17 P **P 10 32 46.6 +0.5**
MA2 IAmb IAmb 10 32 48.9
comp=Z,44nm,0.9s
BRZS Berezniki 63.99 328 *i* P **P 10 32 47.5 +0.7**
comp=Z,35nm,0.9s,baz=328
BRZS Berezniki 63.99 328 *i* P **P 10 32 47.4 +0.7**
BRZS pmax pmax
comp=Z,35nm,0.9s
UOSS Minazif 66.38 297 P **P 10 33 02.0 -0.7**
HATD Hatta, Dubai 66.42 297 P **P 10 33 02.6 -0.3**
ASHO Ashiyiah 66.46 297 P **P 10 33 02.6 -0.6**
BRVK Borovoye 66.97 330*d i*P **P 10 33 06.2 +0.4**
BRVK pmax pmax
comp=Z,68nm,1.7s
BRVK Borovoye 66.97 330 P **P 10 33 05.9 +0.1**
BRVK IAmb IAmb 10 33 08.0
comp=Z,51nm,1.2s
SEY Seymchan 67.15 15‖ *e*P **P 10 33 08.3 +1.5**
GEYT Alibeck 68.10 311 P **P 10 33 13.2 -0.1**
comp=Z,19nm,0.9s,baz=143,slow=5.2,SNR=23
GEYT LR LR 11 07 48.4
comp=Z,88nm,18.8s,baz=180,slow=40
GEYT Alibeck 68.10 311 P **P 10 33 09.4 -4.0**
GYA0B ALIBECK ARRAY 68.10 311 P **P 10 33 10.2 -3.1**
GYA0B IAmb IAmb 10 33 16.0
comp=Z,26nm,0.9s
AFI Afiamalu 68.84 105 P **P 10 33 19.1 +0.6**
comp=Z,17nm,0.6s,baz=144,slow=3.0,SNR=4.0
AFI Afiamalu 68.84 105 P **P 10 33 17.1 -1.3**
AB31 Akbulak array 70.86 323 *i* P **P 10 33 30.0 -0.1**
ABKAR Akbulak array 70.86 323 P **P 10 33 29.5 -0.6**
ABKAR Akbulak array 70.86 323 P **P 10 33 29.3 -0.8**
ABKAR IAmb IAmb 10 33 32.2
comp=Z,34nm,0.9s
TIXI Tiksi 71.65 3*de*P **P 10 33 34.1 -0.3**
TIXI Tiksi 71.65 3 P **P 10 33 33.6 -0.7**
AKTO Aktyubinsk 72.47 324 LR LR 11 09 51.8
comp=Z,119nm,21.9s,baz=120,slow=39
AKTO Aktyubinsk 72.47 324 P **P 10 33 39.5 -0.3**
NRIK Noril'sk 72.48 348 P **P 10 33 39.5 +0.1**
comp=Z,36nm,0.8s,baz=135,slow=5.4,SNR=36
NRIK LR LR 11 08 12.4
comp=Z,171nm,19.1s,baz=185,slow=38
ATKA Atka Island 75.26 35 P **P 10 33 55.4 -0.6**
ATKA IAmb IAmb 10 33 57.1
comp=Z,43nm,0.6s
AKT Akhty 76.75 313 *e*P **P 10 34 05.3 +0.4**
AKT *e* 10 34 18.0
AKT pmax pmax
comp=Z,39nm,0.6s
MAK Makhachkala 77.22 314 *e*P **P 10 34 06.1 -1.2**
MAK *e**PP **pP 10 34 21.4 -3.0**
MAK *e**SP **sP 10 34 28.5 -2.7**
MAK *e* 10 36 58.8
MAK *e*PPP PPP 10 38 48.2
MAK *e*S **S 10 43 50.7 -1.6**
MAK *e**SS **ScS 10 44 19.6 -0.3**
MAK *e*SS **SS 10 48 53.3 +2.0**
MAK pmax pmax
comp=Z,101nm,1.1s
MAK MLR MLR
comp=Z,118nm,18.0s
MAW Mawson 78.12 199 P **P 10 34 12.2 +0.3**
comp=Z,5.9nm,0.7s,baz=87,slow=4.6,SNR=24
MAW LR LR 11 07 47.8
comp=Z,108nm,18.6s,baz=58,slow=35
MAW Mawson 78.12 199 P **P 10 34 12.4 +0.6**
baz=78,SNR=17
MAW Mawson 78.12 199 P **P 10 34 12.1 +0.3**
NIKH Nikolski High 78.60 36 P **P 10 34 13.9 -0.8**
NIKH IAmb IAmb 10 35 31.2
comp=Z,91nm,1.6s
GEVA Gevas 79.75 309 P **P 10 34 21.8 +0.2**
GEVA IAmb IAmb 10 34 23.9
comp=Z,42nm,0.8s
ZEI Tsey 79.79 313 *e*P **P 10 34 20.7 -1.1**
ZEI pmax pmax
comp=Z,26nm,0.9s
AKH Akhalkalaki 79.87 312 P **P 10 34 23.5 +1.3**
AKH pmax pmax
comp=Z,46nm,0.9s
AKH Akhalkalaki 79.87 312 P **P 10 34 23.5 +1.3**
AKH IAmb IAmb 10 34 25.4
comp=Z,46nm,0.9s
KIRV Kirov 79.91 330 LR LR 11 12 24.6
comp=Z,128nm,21.9s,baz=112,slow=38
UNV Unalaska Valle 80.18 35 P **P 10 34 22.4 -1.0**
KBZ Khabaz 80.66 314 P **P 10 34 26.3 +0.2**
comp=Z,16nm,0.8s,baz=114,slow=3.3,SNR=29
KBZ LR LR 11 17 29.2
comp=Z,80nm,18.1s,baz=94,slow=41
AKUT Akutan 80.67 35 P **P 10 34 25.2 -0.7**
AKUT IAmb IAmb 10 34 29.3
comp=Z,36nm,0.7s
GOF Gofitskoye 80.77 316⇑ *e*P **P 10 34 22.2 -4.5**
VNDA Vanda 80.77 172 P **P 10 34 26.3 +0.2**
comp=Z,3.1nm,0.5s,baz=315,slow=6.1,SNR=48
VNDA LR LR 11 09 07.2
comp=Z,395nm,21.6s,baz=328,slow=35
VNDA Vanda 80.77 172 P **P 10 34 26.3 +0.2**
KVAR Kislovodsk Arr 80.84 314 LR LR 11 16 38.0
comp=Z,128nm,20.1s,baz=222,slow=40
KIV Kislovodsk 80.85 314 P **P 10 34 29.6 +2.3**
KIV Kislovodsk 80.85 314 *e*P **P 10 34 28.8 +1.5**
KIV *e*S **S 10 44 33.0 +1.9**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,251nm,19.0s
MARD Mardin 81.41 308 P **P 10 34 30.3 -0.2**
PRGR Permogore 82.54 332 *e*P **P 10 34 34.5 -1.2**
VRH Novokhopyorsk 82.61 322 *e*P **P 10 34 35.4 -0.9**
VRH pmax pmax
comp=Z,40nm,1.8s
KMBO Kilima Mbogo 82.82 269 P **P 10 34 39.6 +1.2**
comp=Z,6.3nm,0.8s,baz=68,slow=7.3,SNR=13
KMBO LR LR 11 08 11.0
comp=Z,125nm,21.8s,baz=94,slow=33
KMBO Kilima Mbogo 82.82 269 P **P 10 34 39.0 +0.5**
ANM Nome 83.30 25 P **P 10 34 40.0 +0.5**
ANM pmax pmax
comp=Z,194nm,1.5s
ANM Nome 83.30 25 P **P 10 34 40.0 +0.5**
SDPT Sand Point 83.91 34 P **P 10 34 42.1 -0.7**
VORD Divnogorie 84.10 321 *e*P **P 10 34 43.5 -0.4**
VORD pmax pmax
comp=Z,40nm,1.2s
ASF Jabal al Asfar 84.16 302 LR LR 11 17 37.5
comp=Z,88nm,20.8s,baz=93,slow=39
VSR Storozhevoye 84.21 321 *e*P **P 10 34 44.2 -0.3**
VSR pmax pmax
comp=Z,20nm,0.9s
GAZ Gaziantep 84.23 307 P **P 10 34 43.6 -1.5**
GAZ IAmb IAmb 10 34 47.4
comp=Z,39nm,1.0s
LPSR Galich'ya Gora 84.52 323 *e*P **P 10 34 45.9 -0.1**
LPSR pmax pmax
comp=Z,50nm,1.5s
KLMR Klimovskoe 85.29 331 *e*P **P 10 34 48.5 -1.2**
KLMR pmax pmax
comp=Z,29nm,1.0s
KLMR Klimovskoe 85.29 331 *e*P **P 10 34 48.6 -1.2**
KLMR AMP 10 34 51.2
comp=Z,29nm,1.0s
MMAI Mount Meron Ar 85.46 303 LR LR 11 19 40.9
comp=Z,88nm,18.7s,baz=75,slow=40
MOS Moscow 85.64 326 *e*P **P 10 34 50.6 -1.0**
MOS *e* 10 35 08.9
OBN Obninsk 86.18 325‖ *e*P **P 10 34 54.9 +0.7**
OBN *i* 10 35 12.4
OBN *e* 10 38 16.3
OBN *e*S **SKSac 10 45 10.4 -4.6**
OBN pmax pmax
comp=Z,47nm,1.7s
OBN MLR MLR
comp=Z,282nm,24.0s
SYO Syowa Base 86.69 201⇑ *e*P **P 10 34 55.0 -1.4**
SYO Syowa Base 86.69 201‖ *e*PcP **P 10 34 57.0 +0.6**
SVW2 Sparrevohn 87.16 29 P **P 10 34 58.8 -0.2**
ILGA Ilgaz 87.17 311 P **P 10 34 59.4 -0.3**
ILGA IAmb IAmb 10 35 01.4
comp=Z,20nm,0.8s
BR131 Keskin Array S 87.18 310 P **P 10 34 59.0 -0.7**
BR131 pmax pmax
comp=Z,14nm,0.9s
BR131 Keskin Array S 87.18 310 P **P 10 34 59.0 -0.7**
BRTR Keskin Array B 87.18 310 P **P 10 34 59.0 -0.7**
comp=Z,16nm,0.8s,baz=125,slow=5.9,SNR=42
BRTR LR LR 11 20 45.9
comp=Z,26nm,19.7s,baz=78,slow=40
BRTR Keskin Array B 87.18 310 *i* P **P 10 34 59.2 -0.5**
BRTR pmax pmax
comp=Z,16nm,0.8s
BRTR Keskin Array B 87.18 310 P **P 10 34 58.9 -0.8**
CSS Mathiatis 87.26 305 P **P 10 34 58.3 -1.7**
OHAK Old Harbor 88.08 33 P **P 10 35 02.0 -1.4**
OHAK IAmb IAmb 10 35 04.9
comp=Z,14nm,0.8s
IMAR Indian Mountai 88.34 24 P **P 10 35 03.3 -1.1**
MBAR Mbarara 89.33 269⇑ *i*P **P 10 35 11.0 +0.5**
MBAR pmax pmax
comp=Z,5.0nm,0.9s
MBAR Mbarara 89.33 269 P **P 10 35 07.8 -2.7**
MBAR IAmb IAmb 10 35 28.4
comp=Z,17nm,1.1s
BRLK Bradley Lake 89.42 30 P **P 10 35 08.8 -0.9**
BRLK IAmb IAmb 10 35 11.5
comp=Z,17nm,0.9s
TRF Thorofare Moun 89.74 27 P **P 10 35 10.9 -0.4**
RC01 Rabbit Creek A 90.00 29 P **P 10 35 11.0 -1.3**
baz=270
QSPA South Pole Qui 90.04 180 P **P 10 35 12.2 -0.4**
comp=Z,2.1nm,0.5s,baz=245,slow=0.8,SNR=24
QSPA South Pole Qui 90.04 180 P **P 10 35 11.6 -1.0**
QSPA IAmb IAmb 10 35 36.5
comp=Z,53nm,1.9s
NEA2 Nenana 90.27 26 P **P 10 35 13.4 -0.2**
baz=271
MCK McKinley 90.34 26 P **P 10 35 12.6 -1.3**
MCK pmax pmax
comp=Z,13nm,1.2s
MCK McKinley 90.34 26 P **P 10 35 12.6 -1.3**
PPT2 Papeete2 90.37 107 *e*S **S 10 46 02.0 -3.5**
comp=Z,156nm,25.5s
PPT2 Papeete2 90.37 107 *e*LR LR 11 04 17.3
comp=Z,471nm,39.2s
RND Reindeer 90.39 27 P **P 10 35 12.5 -1.7**
RND pmax pmax
comp=Z,10.0nm,1.1s
RND Reindeer 90.39 27 P **P 10 35 12.5 -1.7**
AKASG Malin Array Be 90.45 321 P **P 10 35 13.5 -1.1**
comp=Z,1.7nm,0.5s,baz=77,slow=4.9,SNR=7.8
AKASG LR LR 11 20 17.6
comp=Z,112nm,21.8s,baz=100,slow=38
AKASG Malin Array Be 90.45 321 P **P 10 35 13.0 -1.7**
TBI Tubuai 90.47 113 *e*LR LR 11 04 18.9
comp=Z,148nm,33.5s
KNK Knik Glacier 90.61 29 P **P 10 35 14.8 -0.4**
KNK IAmb IAmb 10 35 17.8
comp=Z,17nm,0.9s
SML Sawmill 90.66 28 P **P 10 35 14.2 -1.3**
SML IAmb IAmb 10 35 17.8
comp=Z,14nm,0.8s
WRH Wood River Hil 90.70 26 P **P 10 35 14.4 -1.2**
WRH IAmb IAmb 10 35 34.3
comp=Z,22nm,1.5s
COLA College 90.79 25⇑ *e*P **P 10 35 16.1 +0.2**
COLA pmax pmax
comp=Z,3.0nm,1.0s
CCB Clear Creek Bu 90.82 25 P **P 10 35 14.8 -1.3**
HDA Harding Lake 91.20 26 P **P 10 35 16.1 -1.7**
baz=273
HDA Harding Lake 91.20 26 P **P 10 35 16.1 -1.7**
ILAR Eielson Array 91.20 25 P **P 10 35 15.9 -1.9**
comp=Z,0.5nm,0.5s,baz=250,slow=5.1,SNR=7.8
ILAR LR LR 11 19 16.3
comp=Z,31nm,18.5s,baz=308,slow=37
ILAR Eielson Array 91.20 25 P **P 10 35 16.0 -1.9**
ILAR Eielson Array 91.20 25 P **P 10 35 15.1 -2.8**
FINES FINESS Array B 91.82 331 P **P 10 35 18.7 -2.1**
comp=Z,3.6nm,0.8s,baz=224,slow=5.3,SNR=4.3
FINES LR LR 11 21 40.7
comp=Z,110nm,18.3s,baz=83,slow=39
FINES FINESS Array B 91.82 331 *i* P 10 35 26.1 +5.3
FINES pmax pmax
comp=Z,1.0nm,0.6s
BMAR Burnt Mountain 91.96 23 P **P 10 35 21.0 -0.4**
RIDG Independent Ri 92.16 26 P **P 10 35 21.6 -0.9**
RIDG IAmb IAmb 10 35 50.5
comp=Z,27nm,1.5s
KARP Karpathos 92.31 305 P **P 10 35 22.8 -0.9**
DOT Dot Lake 92.52 26 P **P 10 35 23.4 -0.6**
BUR4R Bucovina Array 93.20 318 P **P 10 35 25.7 -1.9**
BUR08 Bucovina Ar. S 93.21 318 P **P 10 35 27.5 -0.2**
BALM Baldy 93.59 29 P **P 10 35 29.0 -0.1**
BALM IAmb IAmb 10 35 55.3
comp=Z,14nm,1.0s
BCAR Beaver Creek A 93.60 27 P **P 10 35 28.5 -0.6**
BARN Barnard Glacie 93.92 29 P **P 10 35 31.1 +0.4**
BARN IAmb IAmb 10 35 34.3
comp=Z,11nm,0.8s
CTGM Chitina Glacie 94.09 29 P **P 10 35 31.5 +0.1**
CTGM IAmb IAmb 10 35 58.2
comp=Z,26nm,1.2s
BOSA Boshof 94.28 241 LR LR 11 17 13.3
comp=Z,55nm,19.4s,baz=66,slow=35
EPYK Eagle Plains 95.19 23 P **P 10 35 35.4 -0.8**
baz=282
INK Inuvik 95.92 21 P **P 10 35 38.4 -1.1**
comp=Z,2.3nm,0.8s,baz=285,slow=5.5,SNR=4.0
INK Inuvik 95.92 21 P **P 10 35 38.7 -0.8**
INK pmax pmax
comp=Z,15nm,1.5s
INK Inuvik 95.92 21 P **P 10 35 38.7 -0.8**
INK IAmb IAmb 10 38 10.4
comp=Z,15nm,1.4s
WHY Whitehorse 97.25 29 P **P 10 35 45.0 -0.9**
WHY IAmb IAmb 10 35 49.5
comp=Z,6.5nm,0.8s
NOA NORSAR Array B 98.95 332 P **P 10 35 51.5 -1.9**
comp=Z,2.1nm,0.9s,baz=73,slow=4.7,SNR=4.2
NOA LR LR 11 26 40.9
comp=Z,97nm,19.1s,baz=45,slow=39
PCP Piancastagn 105.13 316⇑ *e*P **Pdif 10 36 21.0 -0.2**
NVAR Mina Array Bea 114.25 47 PKiKP PKPdf 10 40 51.9 -1.2
comp=Z,0.6nm,0.7s,baz=250,slow=1.6,SNR=6.5
NVAR Mina Array Bea 114.25 47 PKiKP PKPdf 10 40 51.1 -1.9
ELK Elko 115.54 44 PKP **PKiKP 10 40 55.2 -0.3**
comp=Z,0.4nm,0.5s,baz=247,slow=5.2,SNR=5.7
EGMT Eagleton 115.57 35 P **PKiKP 10 40 54.8 -0.3**
baz=302
EGMT Eagleton 115.57 35 **PKiKP 10 40 54.8 -0.3**
BOZ Bozeman (W) 115.71 38 P **PKiKP 10 40 54.5 -1.0**
baz=300
YHL Hebgen Lake 116.35 38 **PKiKP 10 40 57.7 +0.6**
REDW Red Top Meadow 117.29 40 **PKiKP 10 40 59.1 +0.3**
TORD Torodi Ar. Bea 117.55 285 PKP **PKPdf 10 40 58.3 -1.4**
comp=Z,1.0nm,0.6s,baz=60,slow=2.0,SNR=6.3
TORD PKKPbc **PKKPbc 10 51 21.4 -0.6**
comp=Z,0.3nm,0.4s,baz=273,slow=3.3,SNR=4.7
TORD Torodi Ar. Bea 117.55 285 **PKPdf 10 40 57.9 -1.9**
LAO LASA Array 118.31 34 P **PKiKP 10 41 00.5 0.0**
baz=305
LAO LASA Array 118.31 34 PKPdf **PKPdf 10 40 59.0 -1.5**
PDAR Pinedale Array 118.41 40 PKP **PKPdf 10 40 59.9 -1.1**
comp=Z,0.6nm,0.5s,baz=76,slow=1.8,SNR=6.3
PDAR Pinedale Array 118.41 40 **PKPdf 10 40 59.7 -1.2**
K22A Casper 120.38 38 P **PKPdf 10 41 03.7 -1.0**
baz=303
O20A White River Ci 120.58 42 P **PKiKP 10 41 05.4 +0.1**
baz=300
O20A White River Ci 120.58 42 PKPdf **PKPdf 10 41 04.2 -1.0**
PV14 Lion Creek, Pa 120.90 44 **PKPdf 10 41 04.5 -1.4**
RSSD Black Hills 121.05 36 PKIKP **PKPdf 10 41 05.0 -1.0**
RSSD Black Hills 121.05 36 P **PKPdf 10 41 05.2 -0.8**
baz=306
RSSD Black Hills 121.05 36 PKPdf **PKPdf 10 41 05.0 -1.0**
PV02 Paradox Valley 121.17 44 **PKiKP 10 41 06.7 +0.1**
ULM Lac du Bonnet 121.22 26 PKP **PKPdf 10 41 04.3 -1.5**
comp=Z,3.9nm,0.7s,baz=312,slow=5.3,SNR=4.4
ULM Lac du Bonnet 121.22 26 PKIKP **PKPdf 10 41 04.6 -1.2**
ULM Lac du Bonnet 121.22 26 **PKPdf 10 41 04.6 -1.2**
F33A 5 Mile Ranch, 124.17 30 **PKPdf 10 41 10.9 -0.7**
ECSD EROS Data Cent 125.45 32 P **PKPdf 10 41 14.0 -0.2**
baz=313
ECSD EROS Data Cent 125.45 32 PKPdf **PKPdf 10 41 13.4 -0.8**
F36A Milaca 125.50 28 **PKPdf 10 41 13.1 -1.1**
BGNE Belgrade 126.14 35 P **PKPdf 10 41 15.4 -0.2**
baz=310
BGNE Belgrade 126.14 35 **PKPdf 10 41 14.3 -1.3**
TXAR Lajitas Array 129.05 51 PKP **PKPdf 10 41 20.8 -0.8**
comp=Z,0.4nm,0.6s,baz=204,slow=2.0,SNR=3.2
TXAR Lajitas Array 129.05 51 **PKPdf 10 41 19.4 -2.1**
S39A Bolivar 131.39 36 **PKPdf 10 41 24.6 -1.1**
JCT Junction City 131.42 48 PKIKP **PKPdf 10 41 25.6 -0.4**
JCT Junction City 131.42 48 P **PKPdf 10 41 25.5 -0.4**
baz=302
JCT Junction City 131.42 48 PKPdf **PKPdf 10 41 25.6 -0.4**
R40A Maddies Statio 131.58 34 **PKPdf 10 41 25.6 -0.4**
U38A Gravette 131.59 38 **PKPdf 10 41 24.0 -2.1**
HHAR Hobbs 131.96 37 **PKPdf 10 41 25.9 -0.9**
U40A Yellville 132.57 37 P **PKPdf 10 41 27.9 0.0**
baz=313
U40A Yellville 132.57 37 PKPdf **PKPdf 10 41 27.5 -0.5**
L48A N Adams 132.65 25 **PKPdf 10 41 26.6 -1.3**
W39A Magazine 132.77 38 P **PKPdf 10 41 28.3 0.0**
baz=311
T42A Van Buren 133.13 35 **PKPdf 10 41 28.0 -1.0**
FCAR Ozark Folk Cen 133.32 36 **PKPdf 10 41 28.6 -0.7**
MIAR Mount Ida 133.32 39 P **PKiKP 10 41 30.1 -0.5**
baz=311
WVT Waverly 135.59 33 P **PKPdf 10 41 33.9 +0.3**
baz=318
PLAL Pickwick Lake 136.30 34 PKPdf **PKPdf 10 41 34.7 -0.2**
T50A Nancy 136.45 29 **PKPdf 10 41 34.3 -0.9**
PAGS Pennsylvania G 137.03 19 **PKPdf 10 41 36.5 +0.3**
TKL Tuckaleechee C 138.05 30 PKP **PKPdf 10 41 37.9 -0.3**
comp=Z,6.1nm,0.8s,baz=142,slow=4.4,SNR=5.5
MT02 Curacav 145.38 163 **PKPbc 10 41 50.0 -1.2**
PEL Peldehue 145.62 164 PKP2 **PKPdf 10 41 51.8 0.0**

PEL	**Peldehue**	**145.62**	**164**	PKPdf	**PKPdf**	**10 41 51.8**	**0.0**
TEIG	**Tepich**	**145.67**	**52**	PKPbc	**PKPdf**	**10 41 52.0**	**-0.1**
	comp=Z,12nm,0.7s,baz=311,slow=5.8,SNR=10						
TEIG	**Tepich**	**145.67**	**52**		**PKPab**	**10 41 53.1**	**+0.2**
ROC1	**El Roble**	**145.68**	**163**		**PKPab**	**10 41 52.9**	**0.0**
VA03	**San Esteban**	**146.01**	**164**	PKPbc	**PKPbc**	**10 41 53.3**	**-0.1**
ZON	**Zonda**	**147.66**	**166**	PKP2	**PKPbc**	**10 41 57.6**	**-0.5**
ZON	**Zonda**	**147.66**	**166**		**PKPbc**	**10 41 57.5**	**-0.5**
CO03	**El Pedregal**	**147.78**	**162**		**PKPbc**	**10 41 57.8**	**-0.7**
CO01	**Juntas del Tor**	**148.76**	**163**		**PKPbc**	**10 42 01.0**	**-0.2**
LCO	**Las Campanas**	**149.47**	**161**	PKP2	**PKPbc**	**10 42 02.4**	**-0.7**
LCO	**Las Campanas**	**149.47**	**161**		**PKPbc**	**10 42 02.4**	**-0.7**
AC05	**El Transito**	**149.77**	**162**		**PKPbc**	**10 42 03.3**	**-0.4**
GO01	**Chusmiza**	**158.55**	**155**		**PKPab**	**10 42 47.7**	**+0.9**
PB16	**IPOC Station P**	**159.59**	**153**		**PKPab**	**10 42 51.1**	**-0.4**
LPAZ	**La Paz**	**162.00**	**154**	PKP	**PKPdf**	**10 42 15.4**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=162,slow=3.2,SNR=6.2						
LPAZ				PKPab	**PKPab**	**10 43 02.1**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=206,slow=1.0,SNR=8.2						
LPAZ	**La Paz**	**162.00**	**154**	PKP2	**PKPab**	**10 43 01.8**	**-0.3**
LPAZ						11 42 13.1	
LPAZ	**La Paz**	**162.00**	**154**		**PKPdf**	**10 42 13.1**	**-2.8**
LPAZ					**PKPab**	**10 43 01.8**	**-0.3**
SAML	**Samuel**	**170.64**	**160**	PKP2	**PKPab**	**10 43 39.0**	**-0.4**
SAML						11 42 20.2	
SAML	**Samuel**	**170.64**	**160**		**PKPdf**	**10 42 20.2**	**-1.8**
SAML					**PKPab**	**10 43 39.0**	**-0.4**

IDC 23 10:30:06.7±3.4, 31°38S×178°15W, h0km, mb4.2/2, mb1 4.3/3, mb1mx3.7/45, mbtmp4.1/3, ML3.1/1, Error ellipse: s-maj=72.8km s-min=37.9km az=109.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.89**	**208**	Pn	Pn	10 32 03.1	+0.4
	0.3nm,0.3s,baz=12,slow=20,SNR=1.2						
URZ				Sn	Sn	10 33 32.4	-0.3
	1.6nm,0.3s,baz=202,slow=9.4,SNR=7.7						
ASAR	**Alice Springs**	**42.94**	**268**	P	P	10 38 07.5	-0.1
	1.6nm,0.8s,baz=108,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**44.02**	**273**	P	P	10 38 16.1	-0.1
	2.5nm,0.3s,baz=111,slow=8.1,SNR=80						
FINES	**FINESS Array B**	**146.02**	**339**	PKPbc	PKPdf	10 49 46.9	-0.1
	3.0nm,0.9s,baz=57,slow=5.1,SNR=3.3						

*UNK **23** 10:34:00.9, 35°82N×97°42W, h5km*
*TUL **23** 10:34:00.9±1.4, 35°82N±0°02×97°42W±0°04, h5km±2km, ML3.0, Error ellipse: s-maj=4.6km s-min=2.3km az=109.0*
*NEIC **23** 10:34:01.1±1.4, 35°84N±0°02×97°45W±0°04, h8km±6km, Error ellipse: s-maj=5.3km s-min=1.6km az=108.0*
*ANF **23** 10:34:01.9±1.4, 35°79N×97°42W, h16km±11km, ML3.6/8, Error ellipse: s-maj=7.7km s-min=4.1km az=157.0*
ISC 23 10:34:01.2±0.9, 35°82N±0°03×97°44W±0°03, h6km±6km, n39, σ0°80/47, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.03**	**209**		**Pg**	**10 34 02.3**	**-0.1**
OK029				Sg	**Sg**	**10 34 03.3**	**0.0**
BCOK	**Bluff Creek, N**	**0.22**	**220**	Pg	**Pg**	**10 34 05.5**	**+0.1**
BCOK				Sg	**Sg**	**10 34 09.0**	**+0.7**
OK025	**Westminster Rd**	**0.25**	**161**	Pg	**Pg**	**10 34 06.1**	**0.0**
OK025				Sg	**Sg**	**10 34 10.0**	**+0.5**
OKCFA	**Oklahoma City**	**0.41**	**182**	Pg	**Pg**	**10 34 08.9**	**-0.1**
OKCFA				Sg	**Sg**	**10 34 14.9**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**0.42**	**180**	Pg	**Pg**	**10 34 09.0**	**-0.3**
FNO	**Franklin**	**0.56**	**177**		**Pg**	**10 34 12.3**	**+0.3**
QUOK	**Quay**	**0.69**	**59**	Pg	**Pg**	**10 34 14.2**	**-0.2**
QUOK				Sg	**Sg**	**10 34 23.4**	**+0.1**
W35A	**Tecumseh**	**0.81**	**145**	Pg	**Pg**	**10 34 15.7**	**-1.0**
X34A	**Smith Ranch, M**	**1.26**	**195**	Pg	**Pn**	**10 34 24.8**	**-0.6**
T35A	**Sooner Cattle**	**1.32**	**34**		**Pn**	**10 34 25.3**	**-0.9**
TUL1	**Leonard**	**1.34**	**86**	P	**Pn**	**10 34 24.9**	**-1.6**
	baz=266						
TUL1				S	**Sb**	**10 34 42.9**	**-1.2**
	baz=266						
TUL1	**Leonard**	**1.34**	**86**		**Pn**	**10 34 24.8**	**-1.6**
U32A	**Winter Ranch,**	**1.38**	**294**		**Pn**	**10 34 26.2**	**-0.8**
KAN10	**Anthony SW Sta**	**1.40**	**338**	Pn	**Pn**	**10 34 26.8**	**-0.5**
WMOK	**Wichita Mounta**	**1.54**	**226**	P	**Pn**	**10 34 29.1**	**-0.1**
	baz=45						
WMOK				S	**Sn**	**10 34 49.3**	**-0.2**
	baz=45						
WMOK	**Wichita Mounta**	**1.54**	**226**	Pn	**Pn**	**10 34 29.1**	**-0.1**
X37A	**Clayton**	**2.09**	**125**	Pn	**Pn**	**10 34 36.4**	**-0.4**
Z35A	**Perchaven, San**	**2.49**	**176**	Pn	**Pn**	**10 34 42.7**	**+0.4**
R32A	**Long Quarter,**	**2.79**	**339**	Pn	**Pn**	**10 34 47.0**	**+0.6**
HHAR	**Hobbs**	**2.87**	**80**	Pn	**Pn**	**10 34 48.8**	**+1.2**
W39A	**Magazine**	**3.05**	**101**	Pn	**Pn**	**10 34 50.7**	**+0.8**
KSU1	**Kansas State U**	**3.34**	**11**	Pb	**Pb**	**10 35 02.4**	**+1.6**
	baz=191						
MIAR	**Mount Ida**	**3.41**	**111**	P	**Pn**	**10 34 55.8**	**+1.0**
	baz=293						
MIAR				S	**Sn**	**10 35 36.1**	**+0.5**
	baz=293						
MIAR	**Mount Ida**	**3.41**	**111**	Pn	**Pn**	**10 34 55.0**	**+0.1**
CBKS	**Cedar Bluff**	**3.50**	**329**	Pb	**Pb**	**10 35 04.0**	**+0.4**
	baz=148						
CBKS	**Cedar Bluff**	**3.50**	**329**	Pn	**Pn**	**10 34 56.9**	**+0.7**
CBKS					LR	10 35 51.5	
AMTX	**Amarillo**	**3.59**	**256**	Pb	**Pb**	**10 35 04.1**	**-1.1**
	baz=74						
AMTX	**Amarillo**	**3.59**	**256**		**Pb**	**10 35 03.4**	**-1.8**
U40A	**Yellville**	**3.75**	**80**	Pn	**Pn**	**10 35 00.1**	**+0.5**
S39A	**Bolivar**	**3.79**	**59**	Pn	**Pn**	**10 35 01.5**	**+1.3**
WHTX	**Lake Whitney,**	**3.82**	**180**	Sb	**Sb**	**10 35 56.7**	**+1.2**
	baz=0.4						
WHTX	**Lake Whitney,**	**3.82**	**180**	Pn	**Pn**	**10 35 01.5**	**+0.9**
X40A	**Basin Creek Fa**	**4.00**	**108**	Pn	**Pn**	**10 35 03.6**	**+0.6**
WHAR	**Wooly Hollow**	**4.23**	**96**	Pn	**Pn**	**10 35 06.0**	**-0.2**
W41B	**Gary Mavity, V**	**4.28**	**97**	Pb	**Pb**	**10 35 16.4**	**-0.5**
	baz=280						
W41B	**Gary Mavity, V**	**4.28**	**97**	Pn	**Pn**	**10 35 06.8**	**0.0**
R40A	**Maddies Statio**	**4.81**	**58**	Pn	**Pn**	**10 35 14.1**	**-0.1**
LCAR	**Lake Charles**	**5.10**	**85**	Pn	**Pn**	**10 35 17.7**	**-0.4**
N35A	**Tabor**	**5.22**	**15**	Pn	**Pn**	**10 35 19.1**	**-0.7**

*IDC **23** 10:35:44.4±1.4, 13°55N×119°78E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/44, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=32.8km s-min=24.2km az=94.0*
*MAN **23** 10:35:51.4, 14°01N×120°16E, h56km, MS3.4*
ISC 23 10:35:51.7±1.0, 13°93N±0°05×120°14E±0°08, h77km±8km, n13, σ1°47/21, mb3.4/3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.22**	**153**	*eP*	**Pn**	**10 36 03.3**	**+0.1**
LUBP				*eS*	**Sn**	**10 36 11.7**	**+0.1**
TGY	**Tagaytay City**	**0.79**	**78**	Pn	**Pn**	**10 36 09.0**	**+0.8**
	155nm,0.3s,baz=282,slow=4.8,SNR=7.4						
TGY				Sn	**Sn**	**10 36 20.5**	**+0.1**
	442nm,0.3s,baz=146,slow=22,SNR=30						
TGY	**Tagaytay City**	**0.79**	**78**	⇑*eP*	**Sn**	**10 36 20.9**	**+0.5**
TGY				*i* S	**Sn**	**10 36 20.9**	**+0.5**
PGP	**Puerto Galera**	**0.90**	**119**	⇑*eP*	**Pn**	**10 36 09.4**	**0.0**
PGP				*eS*	**Sn**	**10 36 21.6**	**-0.9**
BOAC	**Boac**	**1.72**	**106**	*eP*	**Pn**	**10 36 21.1**	**+1.2**
BOAC				*eS*	**Sn**	**10 36 40.0**	**-1.2**
SJMP	**San Jose**	**1.75**	**147**	*eP*	**Pn**	**10 36 20.9**	**+0.7**
SJMP				*eS*	**Sn**	**10 36 41.7**	**0.0**
SMPP	**San Manuel, Pa**	**2.26**	**13**	*eP*	**Pn**	**10 36 26.1**	**-1.1**
SMPP				*eS*	**Sn**	**10 36 53.5**	**-0.7**
ENPP	**El Nido**	**2.80**	**195**	*eP*	**Pn**	**10 36 35.3**	**+0.9**
CUYO	**Cuyo Island**	**3.18**	**164**	*eP*	**Pn**	**10 36 41.0**	**+1.5**
CUYO				*eS*	**Sn**	**10 37 15.1**	**-1.4**
KAPI	**Kappang**	**18.83**	**181**	P	**P**	**10 40 01.5**	**-4.0**
	1.1nm,0.3s,baz=29,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**36.45**	**157**	P	**P**	**10 42 48.5**	**-0.9**
	0.2nm,0.5s,baz=332,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**39.72**	**160**	P	**P**	**10 43 17.4**	**+0.5**
	0.3nm,0.4s,baz=336,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**45.52**	**324**	P	**P**	**10 44 06.5**	**+2.8**
	0.4nm,0.7s,baz=111,slow=7.9,SNR=3.8						

*IDC **23** 11:01:08.3±3.8, 36°71N×71°26E, h75km±35km, mb3.5/6, mb1 3.7/12, mb1mx3.4/51, mbtmp3.9/12, ML3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx2.6/43, Error ellipse: s-maj=30.3km s-min=20.2km az=6.0*
*NEIC **23** 11:01:11.7±2.2, 36°96N±0°06×71°19E±0°09, h100km±6km, mb4.3/4, Error ellipse: s-maj=10.9km s-min=9.2km az=81.0*
*NNC **23** 11:01:13.3±3.2, 37°47N×70°75E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=25.5km s-min=17.8km az=171.0*
ISC 23 11:01:10.0±0.6, 36°89N±0°05×71°05E±0°06, h100km, n59, σ2°17/64, mb3.8/8, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.18**	**345**		**Pn**	**11 01 47.1**	**+2.1**
CHGR	**Chuyangaron**	**2.31**	**320**		**Pn**	**11 01 48.8**	**+2.1**
KBL	**Kabul**	**2.86**	**215**		**Pn**	11 01 59.1	+5.1
BTK	**Batken**	**3.17**	**357**		**Pn**	**11 02 00.9**	**+2.9**
NIL	**Nilore**	**3.71**	**150**		**Pn**	**11 02 08.3**	**+3.0**
AML	**Almayashu**	**5.62**	**21**	P	**Pn**	**11 02 32.7**	**+1.3**
	SNR=23						
THN	**Thein Dam**	**5.88**	**138**	*eP*	**Pn**	**11 02 37.0**	**+2.3**
THN				*eS*	**Sn**	**11 03 39.0**	**-1.7**
UCH	**Uchtor**	**5.96**	**26**	P	**Pn**	**11 02 37.3**	**+1.2**
	SNR=14						
KZA	**Kyzart**	**6.11**	**31**	P	**Pn**	**11 02 39.1**	**+1.0**
	SNR=9.6						
EKS2	**Erkin-Say**	**6.13**	**19**	P	**Pn**	**11 02 39.8**	**+1.7**
	SNR=18						
KK31	**Karatay Array**	**6.22**	**356**	⇑P	**Pn**	**11 02 40.4**	**+1.2**
	17nm,0.5s,baz=178,slow=12,SNR=134						
KK31				⇑S	**Sn**	**11 03 45.2**	**-3.6**
	14nm,0.4s,baz=182,slow=23,SNR=6.0						
KK31	**Karatay Array**	**6.22**	**356**		**Pn**	**11 02 40.6**	**+1.4**
KKAR	**Karatay Array**	**6.22**	**356**		**Pn**	**11 02 40.6**	**+1.4**
KKAR	**Karatay Array**	**6.22**	**356**		**Pn**	**11 02 40.2**	**+1.0**
AAK	**Ala-Archa**	**6.32**	**24**	P	**Pn**	**11 02 42.3**	**+1.6**
	5.3nm,0.3s,baz=194,slow=5.0,SNR=34						
AAK				S	**Sn**	**11 03 50.5**	**-1.1**
	2.6nm,0.3s,baz=338,slow=22,SNR=11						
AAK	**Ala-Archa**	**6.32**	**24**	P	**Pn**	**11 02 42.4**	**+1.6**
	SNR=19						
AAK	**Ala-Archa**	**6.32**	**24**	⇓P	**Pn**	**11 02 42.1**	**+1.3**
	8.6nm,0.5s						
AAK				⇓S	**Sn**	**11 03 50.6**	**-0.9**
	30nm,0.6s						
CHMS	**Chumysh**	**6.73**	**24**	P	**Pn**	**11 02 47.4**	**+1.2**
	SNR=12						
BOOM	**Boomskoye usch**	**6.74**	**33**		**Pn**	**11 02 48.0**	**+1.6**
USP	**Ospenovka**	**6.89**	**22**	P	**Pn**	**11 02 49.4**	**+0.9**
	SNR=7.7						
TKM2	**Tokmak 2**	**6.96**	**29**	P	**Pn**	**11 02 50.8**	**+1.3**
	SNR=22						
TKM2	**Tokmak 2**	**6.96**	**29**	⇓P	**Pn**	**11 02 50.4**	**+1.0**
	6.5nm,0.5s						
TKM2				⇑S	**Sn**	**11 04 09.5**	**+2.3**
	15nm,0.8s						
BHK	**Bhakra**	**7.04**	**139**	*ex*	**Sn**	**11 04 04.0**	**-5.1**
GEYT	**Alibeck**	**10.34**	**280**	P	**Pn**	**11 03 35.5**	**+0.2**
	0.5nm,0.3s,baz=110,slow=10,SNR=1.8						
GEYT				S	**Sn**	**11 05 26.1**	**-3.1**
	0.6nm,0.3s,baz=127,slow=9.3,SNR=1.7						
MAKZ	**Makanchi**	**12.81**	**36**	Pn	**Pn**	**11 04 07.7**	**-0.6**
MK31	**Makanchi Array**	**12.95**	**37**		**Pn**	**11 04 10.5**	**+0.4**
MKAR	**Makanchi Array**	**12.95**	**37**	P	**Pn**	**11 04 09.9**	**-0.3**
	0.2nm,0.3s,baz=226,slow=14,SNR=17						
PYUN	**Piuthan**	**13.35**	**128**	*eP*	**Pn**	**11 04 13.6**	**-2.1**
	19nm,0.2s						
DANN	**Dangsing**	**13.68**	**125**	*eP*	**Pn**	**11 04 17.4**	**-2.6**
	17nm,0.4s						
KOLN	**Koldanda**	**13.97**	**127**	*eP*	**Pn**	**11 04 21.4**	**-2.3**
	9.3nm,0.4s						
GKN	**Gorkha**	**14.49**	**124**	*eP*	**Pn**	**11 04 28.4**	**-1.9**
	24nm,0.4s						
AB31	**Akbulak array**	**14.76**	**330**	P	**Pn**	**11 04 33.2**	**-0.2**
	1.3nm,0.3s,baz=140,slow=13,SNR=72						
AB31				⇑S	**Sn**	**11 07 11.1**	**-5.0**
	1.2nm,0.5s,baz=151,slow=24,SNR=5.6						
ABKAR	**Akbulak array**	**14.76**	**330**		**Pn**	**11 04 33.4**	**-0.1**
DMN	**Daman**	**15.06**	**124**	*eP*	**Pn**	**11 04 36.8**	**-0.9**
	6.4nm,0.3s						
PKIN	**Phulchoki**	**15.27**	**123**	*eP*	**Pn**	**11 04 39.4**	**-1.0**
PKI	**Pulchoki**	**15.29**	**123**	*eP*	**Pn**	**11 04 39.7**	**-0.9**
	7.0nm,0.3s						
GUN	**Gumba**	**15.38**	**121**	*eP*	**Pn**	**11 04 41.2**	**-0.7**
	22nm,0.5s						
JIRN	**Jiri**	**15.76**	**121**	*eP*	**Pn**	**11 04 45.6**	**-1.0**
	31nm,0.4s						
BVAR	**Borovoye Array**	**16.14**	**359**	P	**Pn**	**11 04 51.0**	**+0.2**
	0.5nm,0.3s,baz=170,slow=18,SNR=5.2						
AKTO	**Aktyubinsk**	**16.46**	**329**	P	**P**	**11 04 57.0**	**+1.3**
	0.9nm,0.3s,baz=128,slow=16,SNR=6.5						
AKTO				S	**Sn**	**11 07 49.8**	**-7.3**
	0.1nm,0.3s,baz=47,slow=23,SNR=1.8						
AKTO	**Aktyubinsk**	**16.46**	**329**	⇓P	**P**	**11 04 57.3**	**+1.6**
	4.7nm,1.0s						
AKTO				⇓S	**Sn**	**11 07 53.9**	**-3.3**
	4.9nm,1.1s						
RAMN	**Ramite**	**16.49**	**123**	*eP*	**Pn**	**11 04 55.5**	**-0.1**
	16nm,0.6s						
ODAN	**Odare**	**17.09**	**121**	*eP*	**P**	**11 05 02.9**	**-0.2**
	14nm,0.6s						
ZALV	**Zalesovo Beam**	**19.54**	**25**	P	**Pn**	**11 05 30.3**	**-1.4**
	0.8nm,0.3s,baz=218,slow=11,SNR=13						
ZALV	**Zalesovo Beam**	**19.54**	**25**	P	**P**	**11 05 30.1**	**+0.7**
SONM	**Songino Array**	**28.08**	**56**	P	**P**	**11 06 51.9**	**-0.3**
	0.6nm,0.5s,baz=251,slow=8.7,SNR=2.7						
SONM	**Songino Array**	**28.08**	**56**	IAmb	IAmb	11 06 54.6	
	comp=Z,0.8nm,0.8s						
BURAR	**Bucovina Array**	**35.10**	**302**	P	P	11 07 58.8	+5.1
FINES	**FINESS Array B**	**37.18**	**326**	P	**P**	**11 08 14.6**	**+3.6**
	comp=Z,1.0nm,0.6s,baz=116,slow=9.4,SNR=0.9						
FINES	**FINESS Array B**	**37.18**	**326**	P	**P**	**11 08 14.9**	**+3.9**
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**11 09 10.5**	**+2.7**
	comp=Z,0.2nm,0.5s,baz=102,slow=7.3,SNR=0.9						
SEY	**Seymchan**	**54.07**	**34**	LR	LR	11 35 31.9	
	comp=Z,38nm,18.1s,baz=288,slow=38						
TORD	**Torodi Ar. Bea**	**65.77**	**268**	P	**P**	**11 11 46.8**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=40,slow=5.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.77**	**268**	P	**P**	**11 11 47.3**	**+2.7**
WRA	**Warramunga Arr**	**82.17**	**122**	P	**P**	**11 13 19.8**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=323,slow=4.9,SNR=24						
WRAB	**Tennant Creek**	**82.17**	**122**	P	**P**	**11 13 20.4**	**+0.4**
WRAB				IAmb	IAmb	11 13 25.8	
	comp=Z,8.9nm,1.4s						
WB2	**Warramunga Arr**	**82.17**	**122**	P	**P**	**11 13 20.0**	**0.0**
WB2				IAmb	IAmb	11 13 20.8	
	comp=Z,3.6nm,1.0s						
ASAR	**Alice Springs**	**84.45**	**125**	P	**P**	**11 13 31.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=311,slow=5.1,SNR=17						
ASAR	**Alice Springs**	**84.45**	**125**	P	**P**	**11 13 32.3**	**+0.7**

*IDC **23** 11:04:28.0±0.5, 31°38N×141°80E, h0km, mb4.6/30, mb1 4.7/34, mb1mx4.6/45, mbtmp4.6/34, ML3.2/4, MS3.6/11, Ms1 3.6/11, ms1mx3.2/46, Error ellipse: s-maj=14.0km s-min=12.2km az=64.0*
*BJI **23** 11:04:27.3±0.0, 31°48N×141°74E, h10km, mB4.8/38, mb4.6/45, Ms4.2/33, Ms7 4.0/32*
*NIED **23** 11:04:29.8, 31°53N×142°03E, h50km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}5.51; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$-4.64; $M_{r\theta}$0.52; $M_{\theta\phi}$1.79; $M_{\phi r}$3.14; Fault plane solution: $M_0$6.29000×10^{15} NP1: ϕ_s352.00000°, δ60.00000°, λ104.00000°. NP2: ϕ_s146.00000°, δ33.00000°, λ67.00000°.*
*JMA **23** 11:04:29.8±0.3, 31°53N×142°03E, h50km, M4.2*
*NEIC **23** 11:04:29.4±1.7, 31°37N±0°05×141°76E±0°08, h10km±1km, mb4.8/153, Error ellipse: s-maj=12.8km s-min=8.3km az=66.0*
*MOS **23** 11:04:31.0±1.0, 31°41N×141°70E, h32km, mb4.9/37, MS4.0/4, Error ellipse: s-maj=9.8km s-min=5.3km az=116.1*
ISC 23 11:04:33.6±0.4, 31°45N±0°04×141°73E±0°05, h40km, n314, σ1°50/321, mb4.7/115, MS4.0/18, 11C-6D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.95**	**302**	P	**Pn**	**11 05 04.4**	**+0.2**
JHCJ	**Hachijojimakas**	**2.30**	**315**	P	**Pn**	**11 05 08.4**	**-0.6**
JHCJ				*eS*	**Sn**	**11 05 36.7**	**+0.6**
JHJ2	**Mitsune**	**2.32**	**316**	P	**Pn**	**11 05 08.5**	**-0.7**
JHJ2	**Mitsune**	**2.32**	**316**	Pn	**Pn**	**11 05 08.9**	**-0.3**
JHJ	**Hachijo jima 2**	**2.34**	**316**	Pn	**Pn**	**11 05 08.7**	**-0.8**
	34nm,0.3s,baz=117,slow=22,SNR=22						
JHJ				Sn	**Sn**	**11 05 39.6**	**+2.5**
	118nm,0.3s,baz=72,slow=23,SNR=6.4						
JMKN	**Mikurajimanish**	**3.03**	**324**	P	**Pn**	**11 05 18.1**	**-0.9**
JMKN				*eS*	**Sn**	**11 05 53.7**	**-0.3**
BSO1	**Boso 1**	**3.25**	**349**	P	**Pn**	**11 05 19.7**	**-1.9**
BSO3	**Boso 3**	**3.49**	**343**	P	**Pn**	**11 05 23.8**	**-1.3**
BSO4	**Boso 4**	**3.71**	**342**	P	**Pn**	**11 05 27.4**	**-0.9**
CBIJ	**Chichi jima**	**4.36**	**175**	P	**Pn**	**11 05 36.0**	**-1.3**
CBIJ				*eS*	**Sn**	**11 06 25.4**	**-1.5**
JCJ	**Chichijima**	**4.36**	**175**	Pn	**Pn**	**11 05 34.9**	**-2.4**
	37nm,0.3s,baz=311,slow=21,SNR=17						
JCJ				Sn	**Sn**	**11 06 23.1**	**-3.9**
	19nm,0.3s,baz=285,slow=20,SNR=1.8						
JCJ	**Chichijima**	**4.36**	**175**	Pn	**Pn**	**11 05 35.6**	**-1.7**
JHU	**Hanno**	**4.84**	**336**	P	**Pn**	**11 05 42.7**	**-1.2**
JYT	**Yasato**	**4.93**	**345**	P	**Pn**	**11 05 43.5**	**-1.6**
JYT				*eS*	**Sn**	**11 06 38.1**	**-2.8**
JYT	**Yasato**	**4.93**	**345**	Pn	**Pn**	**11 05 42.5**	**-2.6**
JRY	**Ryogami san**	**5.13**	**333**	*eS*	**Sn**	**11 06 45.6**	**-0.2**
JHO	**Hitachi**	**5.23**	**350**	P	**Pn**	**11 05 46.7**	**-2.6**
JHO				*eS*	**Sn**	**11 06 44.7**	**-3.7**
JAG	**Ashikaga**	**5.31**	**340**	P	**Pn**	**11 05 48.8**	**-1.5**
JGF	**Kuroka**	**5.52**	**320**	Pn	**Pn**	**11 05 54.9**	**+1.7**
MJAR	**Matsushiro Arr**	**5.86**	**331**	Pn	**Pn**	**11 05 57.9**	**0.0**
	0.7nm,0.3s,baz=148,slow=11,SNR=77						
MJAR				Sn	**Sn**	**11 07 05.0**	**+1.2**
	baz=6.9,slow=11,SNR=1.3						
MJAR				LR	LR	11 08 11.7	
	comp=Z,260nm,20.9s,baz=155,slow=38						
MJAR	**Matsushiro Arr**	**5.86**	**331**	Pn	**Pn**	**11 05 57.2**	**-0.7**
MAJO	**Matsushiro**	**5.86**	**331**	*c iP*	**Pn**	**11 05 58.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,51nm,0.8s						
MAJO	**Matsushiro**	**5.86**	**331**	Pn	**Pn**	**11 05 58.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**5.86**	**331**	Pn	**Pn**	**11 05 58.5**	**+0.6**
JFK	**Kawauchi**	**5.94**	**353**	P	**Pn**	**11 05 56.6**	**-2.4**
JFK				*eS*	**Sn**	**11 07 00.3**	**-5.5**
JMM	**Marumori**	**6.44**	**353**	Pn	**Pn**	**11 06 03.4**	**-2.5**
JWT	**Wachi**	**6.53**	**307**	Pn	**Pn**	**11 06 04.2**	**-2.9**
JMN	**Monobe**	**7.01**	**291**	Pn	**Pn**	**11 06 12.1**	**-1.6**
JSD	**Sado**	**7.16**	**337**	Pn	**Pn**	**11 06 14.3**	**-1.4**
JMK	**Ichinoseki**	**7.49**	**357**	P	**Pn**	**11 06 17.9**	**-2.4**
JMK				*eS*	**Sn**	**11 07 38.3**	**-5.6**
JTM	**Tenmabayashi**	**9.33**	**357**	Pn	**Pn**	**11 06 43.5**	**-1.9**
JNU	**Nakatsue**	**9.34**	**283**	Pn	**Pn**	**11 06 48.5**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=51,slow=5.6,SNR=6.3						
JNU				LR	LR	11 10 31.9	
	comp=Z,556nm,18.3s,baz=102,slow=39						
JNU	**Nakatsue**	**9.34**	**283**	Pn	**Pn**	**11 06 43.5**	**-2.2**
ERM	**Erimo**	**10.60**	**6**	*ceP*	**Pn**	**11 06 59.9**	**-2.9**
ERM				pmax	pmax		
	comp=Z,19nm,0.8s						
ERM	**Erimo**	**10.60**	**6**	Pn	**Pn**	**11 07 01.2**	**-1.7**
JEW	**Eniwo**	**11.37**	**359**	Pn	**Pn**	**11 07 15.0**	**+1.7**
ASAJ	**Asahikawa**	**12.66**	**3**	Pn	**Pn**	**11 07 26.8**	**-4.2**
	comp=Z,1.4nm,0.3s,baz=178,slow=8.8,SNR=12						
ASAJ				Sn	Sn	11 09 39.7	-11
	comp=Z,0.3nm,0.3s,baz=67,slow=27,SNR=2.0						
ASAJ	**Asahikawa**	**12.66**	**3**	P	**Pn**	**11 07 28.0**	**-3.0**
JKA	**Kamikawa-asahi**	**12.66**	**3**	Pn	**Pn**	**11 07 28.0**	**-2.9**
KSRS	**Korea Array**	**12.87**	**301**	Pn	**Pn**	**11 07 34.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=109,slow=13,SNR=14						
KSRS				LR	LR	11 12 27.2	
	comp=Z,257nm,18.0s,baz=115,slow=37						
TJN	**Taejon**	**12.90**	**296**	⇑*eP*	**Pn**	**11 07 31.8**	**-2.5**
**VL

HHC pmax pmax
comp=Z,66nm,6.6s
HHC LR LR
comp=Z,250nm,14.2s
HHC LR LR
comp=Z,510nm,13.3s
HHC LR LR
comp=Z,570nm,13.2s
XAN Xi'an 27.66 284 P **P** **11 10 16.5 -1.2**
XAN S **S** **11 14 51.3 -5.7**
XAN pmax pmax
comp=Z,17nm,0.7s
XAN LR LR
comp=Z,280nm,15.2s
XAN LR LR
comp=Z,300nm,14.1s
XAN LR LR
comp=Z,260nm,13.7s
XAN Xi'an 27.66 284 P **P** **11 10 16.5 -1.2**
XAN pmax pmax
comp=Z,11nm,0.7s
XAN Xi'an 27.66 284 P **P** **11 10 16.5 -1.2**
XAN IAmb IAmb 11 10 17.6
comp=Z,11nm,0.7s
ULN Ulaanbaatar 31.00 312*c i*P **P** **11 10 48.7 +1.3**
ULN pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 31.00 312 P **P** **11 10 47.2 -0.2**
ULN IAmb IAmb 11 10 50.0
comp=Z,11nm,0.8s
SONM Songino Array 31.41 312 P **P** **11 10 52.3 +1.4**
comp=Z,12nm,0.8s,baz=116,slow=8.8,SNR=38
SONM LR LR 11 23 45.7
comp=Z,96nm,19.0s,baz=74,slow=37
SONM Songino Array 31.41 312 P **P** **11 10 50.7 -0.3**
SONM pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 31.41 312 P **P** **11 10 50.7 -0.3**
LZH Lanzhou 31.70 289 *e*P **P** **11 10 53.9 +0.3**
LZH pP pP 11 10 58.0 -5.4
LZH sP sP 11 11 00.6 -7.1
LZH pmax pmax
comp=Z,13nm,1.3s
SEY Seymchan 32.22 9 P **P** **11 10 58.6 +0.9**
comp=Z,6.5nm,0.7s,baz=195,slow=6.5,SNR=18
SEY Seymchan 32.22 9‖*e*P **P** **11 10 58.2 +0.5**
BOD Bodaibo 32.49 332 *e*P **P** **11 11 00.3 +0.2**
BOD pmax pmax
comp=Z,9.0nm,1.4s
AMKA Amchitka 33.99 43 P **P** **11 11 13.4 +0.2**
ZAK Zakamensk 34.17 315 *e*P **P** **11 11 15.5 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TLY Talaya 34.40 317 P **P** **11 11 17.7 +0.9**
comp=Z,15nm,0.8s,baz=131,slow=3.3,SNR=6.4
TLY Talaya 34.40 317*c i*P **P** **11 11 18.3 +1.5**
TLY pmax pmax
comp=Z,13nm,0.8s
TLY Talaya 34.40 317 P **P** **11 11 17.7 +0.9**
TLY IAmb IAmb 11 11 19.9
comp=Z,14nm,0.8s
GTA Gaotai 34.82 295 P **P** **11 11 20.8 +0.1**
GTA pP pP 11 11 26.4 -3.9
GTA sP sP 11 11 29.6 -4.9
GTA S **S** **11 16 50.1 +1.2**
GTA sS sS 11 16 59.5 -5.0
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,77nm,5.1s
GTA LR LR
comp=Z,190nm,14.9s
GTA LR LR
comp=Z,310nm,15.3s
GTA LR LR
comp=Z,270nm,14.9s
GTOI Gorontalo 35.41 214 P **P** **11 11 24.2 -1.6**
comp=Z,6.0nm,0.8s
SANI Sanana 36.53 207 P **P** **11 11 33.7 -1.7**
comp=Z,18nm,1.0s
CHTO Chiang Mai 40.49 262 P **P** **11 12 07.8 -0.9**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 40.49 262 P **P** **11 12 07.8 -0.9**
CMAR Chiang Mai Arr 40.65 262 P **P** **11 12 09.5 -0.6**
comp=Z,2.5nm,0.7s,baz=51,slow=7.0,SNR=17
CMAR LR LR 11 31 27.4
comp=Z,92nm,18.4s,baz=158,slow=40
CMAR Chiang Mai Arr 40.65 262 P **P** **11 12 09.2 -0.9**
CMAR Chiang Mai Arr 40.65 262 P **P** **11 12 09.2 -0.9**
WMQ Urumqi 43.82 302 *e*P **P** **11 12 38.0 +2.3**
WMQ pP pP 11 12 41.8 -3.8
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,41nm,5.1s
WMQ LR LR
comp=Z,95nm,18.7s
WMQ LR LR
comp=Z,150nm,16.9s
WMQ LR LR
comp=Z,78nm,15.7s
DGZ Jazzator, Alta 44.05 311*c i*P **P** **11 12 38.9 +1.3**
DGZ pmax pmax
comp=Z,28nm,0.9s
EDFI Ende, Flores 44.34 209 P **P** **11 12 39.2 -0.9**
comp=Z,5.7nm,1.2s
ZAA0 Zalesovo Array 46.01 316 P **P** **11 12 52.8 0.0**
ZAA0 IAmb IAmb 11 12 54.3
comp=Z,8.9nm,0.9s
ZALV Zalesovo Beam 46.01 316 P **P** **11 12 53.6 +0.8**
comp=Z,6.0nm,0.7s,baz=100,slow=8.0,SNR=20
ZALV PcP **PcP** **11 14 29.8 +1.0**
comp=Z,2.7nm,0.6s,baz=103,slow=3.3,SNR=3.7
ZALV LR LR 11 32 17.3
comp=Z,48nm,18.2s,baz=70,slow=36
ZALV Zalesovo Beam 46.01 316 *i*P **P** **11 12 53.5 +0.7**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 46.01 316 P **P** **11 12 52.9 +0.1**
ZALV **PcP** **11 14 29.5 +0.7**
MK31 Makanchi Array 47.48 307 P **P** **11 13 04.6 0.0**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 47.48 307 P **P** **11 13 04.5 0.0**
MK31 IAmb IAmb 11 13 08.1
comp=Z,6.7nm,0.8s
MKAR Makanchi Array 47.48 307 P **P** **11 13 05.5 +1.0**
comp=Z,7.6nm,0.8s,baz=89,slow=9.1,SNR=33
MKAR LR LR 11 32 18.6
comp=Z,74nm,19.9s,baz=92,slow=35
MKAR Makanchi Array 47.48 307 P **P** **11 13 04.7 +0.2**
MKAR Makanchi Array 47.48 307 P **P** **11 13 04.7 +0.2**
MAKZ Makanchi 47.70 307 P **P** **11 13 06.5 +0.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 47.70 307 P **P** **11 13 06.5 +0.3**
MAKZ IAmb IAmb 11 13 09.4
comp=Z,7.7nm,0.7s
RAMN Ramite 47.92 279 *e*P **P** **11 13 08.6 +0.2**
comp=Z,18nm,0.6s
JIRN Jiri 48.04 280 *e*P **P** **11 13 10.2 +0.7**
comp=Z,34nm,0.7s
GUN Gumba 48.22 281 *e*P **P** **11 13 11.5 +0.6**
comp=Z,43nm,0.9s
NRIK Noril'sk 48.47 337 P **P** **11 13 11.2 -0.6**
comp=Z,6.1nm,0.8s,baz=106,slow=10.0,SNR=6.7
PKI Pulchoki 48.72 281 *e*P **P** **11 13 15.5 +0.8**
comp=Z,18nm,1.0s
PKIN Phulchoki 48.73 281 *e*P **P** **11 13 15.5 +0.8**
comp=Z,8.2nm,0.5s
KKN Kakani 48.76 281 *e*P **P** **11 13 16.1 +1.2**
comp=Z,28nm,0.8s
DMN Daman 48.96 281 *e*P **P** **11 13 17.2 +0.7**
comp=Z,11nm,0.7s
GKN Gorkha 49.23 281 *e*P **P** **11 13 19.6 +1.2**
comp=Z,9.2nm,0.6s
PSI Prapat 49.35 243 LR LR 11 35 22.1
comp=Z,57nm,19.4s,baz=88,slow=38
KURK Kurchatov 49.72 312*c i*P **P** **11 13 21.8 +0.2**
KURK pmax pmax
comp=Z,36nm,1.0s
KURK Kurchatov 49.72 312 P **P** **11 13 21.4 -0.2**
PDGK Podgornoye 49.80 302 P **P** **11 13 22.5 0.0**
DANN Dangsing 49.85 282 *e*P **P** **11 13 24.2 +0.9**
comp=Z,16nm,0.5s

SVW2 Sparrevohn 49.88 34 P **P** **11 13 24.2 +1.5**
TTA Tatalina 49.93 32 P **P** **11 13 22.7 -0.4**
TTA pmax pmax
comp=Z,7.0nm,1.1s
TTA Tatalina 49.93 32 P **P** **11 13 22.7 -0.4**
KOLN Koldanda 50.17 282 *e*P **P** **11 13 27.2 +1.6**
comp=Z,14nm,0.9s
OHAK Old Harbor 50.78 40 P **P** **11 13 28.5 -1.0**
OHAK IAmb IAmb 11 13 32.9
comp=Z,11nm,1.0s
KDAK Kodiak Island 51.17 39 P **P** **11 13 32.4 0.0**
comp=Z,16nm,0.8s,baz=152,slow=22,SNR=13
KDAK Kodiak Island 51.17 39 P **P** **11 13 32.2 -0.2**
KDAK pmax pmax
comp=Z,20nm,0.9s
KDAK Kodiak Island 51.17 39 P **P** **11 13 32.2 -0.2**
RSO Redoubt South 51.20 35 P **P** **11 13 31.9 -1.0**
TARG Taragay, Kyrgy 51.28 300 P **P** **11 13 34.4 +0.3**
TARG IAmb IAmb 11 13 45.2
comp=Z,8.1nm,0.9s
GSI Gunungsitoli 51.34 243 P **P** **11 13 33.6 -0.7**
GSI IAmb IAmb 11 13 50.4
comp=Z,18nm,0.9s
IMAR Indian Mountai 51.37 28 P **P** **11 13 35.0 +1.1**
WB0 Warramunga Arr 51.41 189 P **P** **11 13 34.1 -0.5**
WRAB Tennant Creek 51.58 189*d i*P **P** **11 13 35.8 -0.1**
WRAB pmax pmax
comp=Z,24nm,1.3s
WRAB Tennant Creek 51.58 189 P **P** **11 13 35.5 -0.4**
WR0 Warramunga Arr 51.58 189 P **P** **11 13 35.5 -0.4**
WB2 Warramunga Arr 51.59 189 P **P** **11 13 35.8 -0.2**
WRA Warramunga Arr 51.59 189 P **P** **11 13 35.5 -0.5**
comp=Z,11nm,0.8s,baz=5.5,slow=7.6,SNR=103
WRA Warramunga Arr 51.59 189 P **P** **11 13 34.5 -1.5**
PPLA Purkeypile 51.66 32 P **P** **11 13 38.1 +1.9**
PPLA IAmb IAmb 11 13 51.2
comp=Z,17nm,1.0s
SKT Skwentna 51.89 33 P **P** **11 13 38.5 +0.6**
SKT IAmb IAmb 11 13 42.8
comp=Z,12nm,1.0s
BRLK Bradley Lake 52.10 36 P **P** **11 13 39.1 -0.4**
BRLK IAmb IAmb 11 13 44.4
comp=Z,10nm,1.0s
TKM2 Tokmak 2 52.68 302 P **P** **11 13 44.9 +0.7**
SEW Seward 52.83 36 P **P** **11 13 45.6 +0.8**
PMR Palmer 53.02 34 P **P** **11 13 45.4 -0.7**
PMR Palmer 53.02 34 P **P** **11 13 45.4 -0.7**
KSH Kashi 53.09 298 P **P** **11 13 51.4 +4.2**
KSH S **S** **11 21 21.8 +7.0**
KSH pmax pmax
comp=Z,140nm,5.0s
KSH LR LR
comp=Z,330nm,13.2s
KSH LR LR
comp=Z,320nm,17.3s
KSH LR LR
comp=Z,470nm,18.0s
MCK McKinley 53.18 31 P **P** **11 13 48.8 +1.5**
MCK pmax pmax
comp=Z,26nm,1.7s
MCK McKinley 53.18 31 P **P** **11 13 48.8 +1.5**
MCK IAmb IAmb 11 13 49.5
comp=Z,26nm,1.7s
RND Reindeer 53.20 32 P **P** **11 13 47.7 +0.1**
RND pmax pmax
comp=Z,13nm,1.0s
RND Reindeer 53.20 32 P **P** **11 13 47.7 +0.1**
RND IAmb IAmb 11 13 52.3
comp=Z,12nm,1.0s
KNK Knik Glacier 53.33 34 P **P** **11 13 48.4 -0.1**
TOLK Toolik Lake Re 53.35 25 P **P** **11 13 48.5 -0.1**
TOLK IAmb IAmb 11 13 55.4
comp=Z,12nm,0.9s
SML Sawmill 53.40 34 P **P** **11 13 49.3 +0.3**
SML IAmb IAmb 11 13 50.9
comp=Z,14nm,0.9s
AAK Ala-Archa 53.53 302*d i*P **P** **11 13 51.7 +1.3**
AAK pmax pmax
comp=Z,10.0nm,0.6s
MDM Murphy Dome 53.55 30 P **P** **11 13 49.6 -0.4**
MDM IAmb IAmb 11 13 55.3
comp=Z,15nm,0.9s
WRH Wood River Hil 53.59 30 P **P** **11 13 50.9 +0.6**
WRH IAmb IAmb 11 13 54.6
comp=Z,7.0nm,1.0s
COLA College 53.71 30‖*e*P **P** **11 13 52.2 +1.1**
COLA pmax pmax
comp=Z,3.0nm,0.9s
COLA College 53.71 30 P **P** **11 13 51.7 +0.6**
COLA IAmb IAmb 11 13 60.0
comp=Z,7.9nm,0.9s
CCB Clear Creek Bu 53.72 30 P **P** **11 13 52.8 +1.6**
DHY Denali Highway 53.86 32 P **P** **11 13 53.5 +1.0**
SCM Sheep Creek Mo 53.88 34 P **P** **11 13 53.2 +0.7**
SCM pmax pmax
comp=Z,29nm,1.0s
SCM Sheep Creek Mo 53.88 34 P **P** **11 13 53.2 +0.7**
HDA Harding Lake 54.08 31 P **P** **11 13 53.5 -0.4**
HDA IAmb IAmb 11 13 58.3
comp=Z,6.1nm,0.8s
IL31 54.12 30 P **P** **11 13 53.9 -0.2**
IL31 IAmb IAmb 11 13 58.2
comp=Z,12nm,0.9s
ILAR Eielson Array 54.12 30 P **P** **11 13 54.0 -0.1**
comp=Z,7.9nm,1.0s,baz=263,slow=6.1,SNR=46
ILAR Eielson Array 54.12 30 P **P** **11 13 53.7 -0.5**
ILAR Eielson Array 54.12 30 P **P** **11 13 53.7 -0.5**
KLU Klutina 54.55 34 P **P** **11 13 58.3 +0.8**
KLU IAmb IAmb 11 14 10.3
comp=Z,17nm,1.0s
BVAR Borovoye Array 54.62 315 P **P** **11 13 58.7 +0.7**
comp=Z,5.8nm,0.9s,baz=125,slow=13,SNR=17
BRVK Borovoye 54.68 315*c i*P **P** **11 13 59.2 +0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 54.68 315 P **P** **11 13 59.1 +0.7**
BRVK IAmb IAmb 11 14 00.3
comp=Z,7.1nm,0.8s
RIDG Independent Ri 55.00 31 P **P** **11 14 02.3 +1.6**
RIDG IAmb IAmb 11 14 06.6
comp=Z,7.3nm,1.0s
BMAR Burnt Mountain 55.13 27 P **P** **11 14 03.4 +1.9**
AS31 Alice Springs 55.32 189 P **P** **11 14 03.7 +0.4**
ASAR Alice Springs 55.32 189 P **P** **11 14 03.3 0.0**
comp=Z,6.2nm,0.6s,baz=16,slow=14,SNR=78
ASAR Alice Springs 55.32 189 P **P** **11 14 03.0 -0.3**
ASAR Alice Springs 55.32 189 P **P** **11 14 03.0 -0.3**
DOT Dot Lake 55.35 31 P **P** **11 14 03.2 +0.1**
DOT IAmb IAmb 11 14 09.9
comp=Z,5.4nm,0.9s
MENT Mentasta 55.53 32 P **P** **11 14 05.4 +0.9**
MENT IAmb IAmb 11 14 30.1
comp=Z,5.9nm,1.0s
GLB Gilahina Butte 55.57 34 P **P** **11 14 05.9 +1.2**
GLB IAmb IAmb 11 14 10.3
comp=Z,14nm,1.1s
VRDI Verde Repeater 55.75 34 P **P** **11 14 06.9 +0.7**
VRDI IAmb IAmb 11 14 11.2
comp=Z,14nm,1.2s
CRQM Cirque 55.94 35 P **P** **11 14 08.4 +0.8**
MCARA McCarthy VSAT 55.95 34 P **P** **11 14 08.5 +1.1**
TGL Tana Glacier 56.09 35 P **P** **11 14 09.9 +1.3**
TGL IAmb IAmb 11 14 14.0
comp=Z,17nm,1.0s
KK31 Karatay Array 56.29 304*i*P **P** **11 14 10.6 +0.4**
KK31 Karatay Array 56.29 304 P **P** **11 14 10.7 +0.6**
KKAR Karatay Array 56.29 304 P **P** **11 14 11.1 +1.0**
KKAR pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 56.29 304 P **P** **11 14 11.1 +1.0**
BALM Baldy 56.30 35 P **P** **11 14 10.3 +0.2**
BCAR Beaver Creek A 56.41 32 P **P** **11 14 11.6 +0.9**
EGAK Eagle 56.57 30 P **P** **11 14 12.3 +0.5**
EGAK IAmb IAmb 11 14 14.5
comp=Z,11nm,1.3s
GAR Garm 57.48 299 P **P** **11 14 19.8 +1.0**
EPYK Eagle Plains 58.27 28 P **P** **11 14 25.4 +1.6**
INK Inuvik 59.26 26 P **P** **11 14 31.5 +1.0**
comp=Z,6.3nm,0.8s,baz=280,slow=5.0,SNR=8.3
INK Inuvik 59.26 26 P **P** **11 14 31.2 +0.7**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 59.26 26 P **P** **11 14 31.2 +0.7**
INK IAmb IAmb 11 14 32.2
comp=Z,6.7nm,0.8s
SVE Sverdlovsk 59.57 321*e*P **P** **11 14 34.4 +1.5**
SVE pmax pmax
comp=Z,20nm,1.1s
WHY Whitehorse 59.97 34 P **P** **11 14 37.2 +1.5**
WHY IAmb IAmb 11 14 41.4
comp=Z,9.3nm,0.9s
AB31 Akbulak array 61.82 313*i*P **P** **11 14 49.1 +0.8**
ABKAR Akbulak array 61.82 313 P **P** **11 14 48.8 +0.5**
AKTO Aktyubinsk 62.68 314 P **P** **11 14 54.9 +0.8**
comp=Z,7.2nm,0.7s,baz=72,slow=5.4,SNR=15
AKTO Aktyubinsk 62.68 314 P **P** **11 14 53.6 -0.5**
DLBC Dease Lake 62.91 36 P **P** **11 14 54.9 -0.6**
DLBC IAmb IAmb 11 14 58.5
comp=Z,12nm,1.2s
STKA Stephens Creek 62.99 180 P **P** **11 14 55.4 -0.8**
comp=Z,1.9nm,0.8s,baz=323,slow=13,SNR=3.5
STKA Stephens Creek 62.99 180 IAmb IAmb 11 15 00.7
comp=Z,4.0nm,1.6s
KIRV Kirov 64.90 325 P **P** **11 15 09.6 +1.1**
comp=Z,21nm,0.5s,baz=195,slow=4.8,SNR=5.7
HRA Herat 65.11 296 P **P** **11 15 12.3 +1.6**
PRGR Permogore 65.62 329 *e*P **P** **11 15 13.3 +0.2**
GEYT Alibeck 66.86 301 P **P** **11 15 22.9 +1.4**
comp=Z,12nm,0.9s,baz=41,slow=3.2,SNR=13
GEYT Alibeck 66.86 301 P **P** **11 15 21.9 +0.3**
GYA0B ALIBECK ARRAY 66.86 301 P **P** **11 15 20.8 -0.8**
YKA Yellowknife Ar 68.52 29 P **P** **11 15 33.0 +1.5**
comp=Z,3.1nm,0.8s,baz=308,slow=6.5,SNR=4.7
KLMR Klimovskoe 68.64 329 *e*P **P** **11 15 31.5 -0.8**
KLMR pmax pmax
comp=Z,17nm,1.3s
KLMR Klimovskoe 68.64 329 *e*P **P** **11 15 31.5 -0.8**
KLMR AMP 11 15 33.8
comp=Z,17nm,1.3s
B08A Colville Reser 72.64 44 P **P** **11 15 58.3 +1.4**
AKT Akhty 72.67 308 *e*P **P** **11 15 58.5 +1.1**
AKT *e* 11 16 15.9
AKT pmax pmax
comp=Z,16nm,1.1s
OBN Obninsk 72.75 325‖*e*P **P** **11 15 58.3 +0.9**
OBN pmax pmax
comp=Z,11nm,1.1s
OBN MLR MLR
comp=Z,106nm,18.0s
PINE Pine Mountain 73.79 48 P **P** **11 16 04.1 +0.1**
PINE IAmb IAmb 11 16 06.6
comp=Z,8.1nm,1.0s
FINES FINESS Array B 73.88 333 P **P** **11 16 04.5 +0.5**
comp=Z,2.9nm,0.6s,baz=122,slow=6.9,SNR=7.3
FINES FINESS Array B 73.88 333*i*P **P** **11 16 04.0 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 73.88 333 P **P** **11 16 04.3 +0.4**
NEW Newport 73.98 43 P **P** **11 16 05.8 +0.9**
NEW pmax pmax
comp=Z,8.0nm,1.2s
NEW Newport 73.98 43 P **P** **11 16 05.8 +0.9**
NEW IAmb IAmb 11 16 10.9
comp=Z,7.8nm,1.2s
K05A Summer Lake 74.32 49 P **P** **11 16 08.7 +1.5**
K05A IAmb IAmb 11 16 23.0
comp=Z,25nm,1.6s
ZEI Tsey 74.59 311 *e*P **P** **11 16 07.9 -0.8**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 74.78 312 P **P** **11 16 10.7 +1.2**
comp=Z,5.7nm,0.8s,baz=84,slow=2.4,SNR=10
KIV Kislovodsk 74.81 312 *e*P **P** **11 16 09.0 -0.8**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,144nm,18.0s
JTMT Jette 75.89 42 IAmb IAmb 11 16 21.3
comp=Z,8.5nm,1.0s
MFID Camas Ranch 77.20 47 P **P** **11 16 24.4 +0.9**
MFID IAmb IAmb 11 16 25.8
comp=Z,5.1nm,0.9s
RYN Ryan 77.90 52 P **P** **11 16 27.6 0.0**
LRM Limekiln Ridge 77.98 43 P **P** **11 16 29.0 +1.1**
LHV Little Huntoon 78.11 52 IAmb IAmb 11 16 34.0
comp=Z,6.7nm,1.1s
DLMT Dillon 78.14 44 P **P** **11 16 29.5 +0.7**
DLMT IAmb IAmb 11 16 33.8
comp=Z,13nm,1.4s
NVAR Mina Array Bea 78.15 52 P **P** **11 16 29.8 +0.7**
comp=Z,2.5nm,0.8s,baz=284,slow=5.7,SNR=25
NVAR Mina Array Bea 78.15 52 P **P** **11 16 29.9 +0.8**
BCYI Bear Canyon 78.22 45 P **P** **11 16 30.6 +1.3**
AKASG Malin Array Be 78.89 323 P **P** **11 16 32.6 +0.1**
comp=Z,3.8nm,0.8s,baz=47,slow=5.6,SNR=11
AKASG LR LR 11 54 15.8
comp=Z,92nm,18.1s,baz=50,slow=38
AKASG Malin Array Be 78.89 323*ce*P **P** **11 16 33.4 +0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 78.89 323 P **P** **11 16 32.3 -0.3**
NB2 NORSAR Subarra 79.43 338 P **P** **11 16 36.0 +0.6**
comp=Z,2.1nm,0.7s,baz=41,slow=5.3
NOA NORSAR Array B 79.43 338 P **P** **11 16 35.8 +0.4**
comp=Z,4.0nm,0.8s,baz=41,slow=5.4,SNR=11
YHH Holmes Hill 79.49 44 P **P** **11 16 37.8 +1.4**
H17A Grant Village 79.87 44 IAmb IAmb 11 16 42.5
comp=Z,7.0nm,0.9s
R11A Troy Canyon, C 80.02 51 P **P** **11 16 40.2 +1.0**
BGU Big Grassy Mou 80.29 48 P **P** **11 16 41.2 +0.7**
AHID Auburn Hatcher 80.47 46 P **P** **11 16 43.2 +1.6**
AHID IAmb IAmb 11 16 46.6
comp=Z,8.3nm,1.2s
PSUT Pine Spring 81.06 50 P **P** **11 16 45.3 +0.5**
CTU Camp Tracy 81.23 48 P **P** **11 16 46.7 +1.0**
SHPR Sheep Range 81.29 53 P **P** **11 16 46.5 +0.4**
PD31 Pinedale Array 81.40 45 P **P** **11 16 46.0 -0.7**
PDAR Pinedale Array 81.40 45 P **P** **11 16 46.8 +0.2**
comp=Z,1.6nm,0.8s,baz=268,slow=3.0,SNR=11
PDAR Pinedale Array 81.40 45 P **P** **11 16 46.9 +0.3**
NLU North Lily Min 81.43 48 P **P** **11 16 47.2 +0.4**
CCUT Cedar City 81.93 51 P **P** **11 16 50.6 +1.2**
PFO Pinyon Flats O 81.94 56 P **P** **11 16 49.2 -0.3**
PFO pmax pmax
comp=Z,5.0nm,1.0s
PFO Pinyon Flats O 81.94 56 P **P** **11 16 49.2 -0.3**
PFO IAmb IAmb 11 16 54.4
comp=Z,5.0nm,0.9s
MVU Marysvale 82.15 50 P **P** **11 16 51.2 +0.6**
MSU Marysvale 82.17 50 P **P** **11 16 51.4 +0.7**
MSU Marysvale 82.17 50 P **P** **11 16 51.4 +0.7**
BAR Barrett 82.29 56 P **P** **11 16 51.2 +0.1**
BAR IAmb IAmb 11 16 55.5
comp=Z,8.1nm,1.2s
LCMT Little Creek M 82.30 51 P **P** **11 16 51.8 +0.4**
MTPU Mount Pierson 82.43 50 P **P** **11 16 53.7 +1.4**
RDMU Red Mountain 82.66 47 P **P** **11 16 53.4 +0.2**
BRTR Keskin Array B 82.77 312 P **P** **11 16 55.0 +1.3**
comp=Z,2.9nm,0.9s,baz=96,slow=3.7,SNR=9.8
BRTR Keskin Array B 82.77 312 P **P** **11 16 53.7 0.0**
BURAR Bucovina Array 82.86 322 P **P** **11 16 54.6 +0.6**
O20A White River Ci 83.74 46 IAmb IAmb 11 17 00.6
comp=Z,7.3nm,0.9s
OJC Ojcow 83.83 327 *e*P **P** **11 17 00.1 +1.4**
OJC Ojcow 83.83 327 P **P** **11 16 59.4 +0.7**
OJC pmax pmax
comp=Z,12nm,1.1s
OJC Ojcow 83.83 327 P **P** **11 16 59.4 +0.7**
OJC IAmb IAmb 11 17 01.0
comp=Z,12nm,1.1s
NIE Niedzica 84.14 326 *e*P **P** **11 17 02.4 +2.0**
Y14A Wickenburg 84.17 54 IAmb IAmb 11 17 02.6
comp=Z,3.9nm,0.9s
PV22 Blue Mesa, Par 84.34 48 P **P** **11 17 02.9 +1.1**
PV22 IAmb IAmb 11 17 08.1
comp=Z,5.9nm,0.9s
PV17 East Wray Mesa 84.38 48 P **P** **11 17 02.5 +0.4**
PV16 Nyswonger Mesa 84.39 48 IAmb IAmb 11 17 04.1
comp=Z,8.6nm,0.9s
WUAZ Wupatki 84.39 52 P **P** **11 17 01.1 -1.0**
WUAZ IAmb IAmb 11 17 07.7
comp=Z,11nm,1.2s
PV12 Saucer Basin, 84.45 48 P **P** **11 17 03.4 +1.0**
PV03 Paradox Valley 84.46 48 IAmb IAmb 11 17 04.3
comp=Z,7.9nm,0.9s
PV13 Radium Mtn., P 84.54 48 IAmb IAmb 11 17 07.7
comp=Z,8.9nm,0.9s
PV01 Paradox Valley 84.71 48 IAmb IAmb 11 17 05.5
comp=Z,5.2nm,0.8s

ASF	Jabal al Asfar	84.86	305	P		P	11 17 05.8 +1.3
	comp=Z,4.8nm,0.8s,baz=327,slow=3.8,SNR=7.4						
X16A	Lo Mia Camp, P	84.97	53	P		P	11 17 04.6 -0.5
X16A				IAmb		IAmb	11 17 11.3
	comp=Z,4.8nm,1.0s						
KSP	Ksiaz	84.99	329	*e*P		P	11 17 05.5 +0.9
MVCO	Mesa Verde	85.30	49	P		P	11 17 06.9 +0.1
MVCO				IAmb		IAmb	11 17 11.5
	comp=Z,5.8nm,1.1s						
DPC	Dobruska-Polom	85.33	328	*e*P		P	11 17 07.7 +1.3
DPC	Dobruska-Polom	85.33	328	*e*P		P	11 17 07.7 +1.3
214A	Organ Pipe Nat	85.42	55	P		P	11 17 07.5 +0.3
214A				IAmb		IAmb	11 17 09.1
	comp=Z,4.4nm,0.9s						
MMAI	Mount Meron Ar	85.43	306	P		P	11 17 08.9 +1.6
	comp=Z,2.5nm,0.6s,baz=46,slow=6.2,SNR=2.5						
VYHS	Vyhne	85.47	326	*e*P		P	11 17 08.7 +1.6
VYHS	Vyhne	85.47	326	*e*P		P	11 17 08.7 +1.6
S22A	4UR Ranch, Cre	86.05	48	P		P	11 17 11.5 +1.0
S22A				IAmb		IAmb	11 17 16.5
	comp=Z,4.8nm,1.1s						
CLL	Collm	86.07	331	*e*P		P	11 17 11.0 +1.0
CLL	Collm	86.07	331	*e*P		P	11 17 11.0 +1.0
TUC	Tucson	86.63	54	P		P	11 17 13.9 +0.7
TUC				pmax		pmax	
	comp=Z,6.0nm,1.5s						
TUC	Tucson	86.63	54	P		P	11 17 13.9 +0.7
F33A	5 Mile Ranch,	86.85	36	P		P	11 17 14.4 +0.5
F33A				IAmb		IAmb	11 17 15.3
	comp=Z,8.5nm,1.1s						
KHC	Kasperske Hory	87.44	329	⇓*e*P		P	11 17 15.8 -1.0
KHC				pmax		pmax	
	comp=Z,4.0nm,1.0s						
GERES	GERESS Array B	87.59	329	P		P	11 17 20.0 +2.4
	comp=Z,0.5nm,0.5s,baz=330,slow=4.6,SNR=4.5						
GERES	GERESS Array B	87.59	329	P		P	11 17 18.4 +0.8
GERES	GERESS Array B	87.59	329	P		P	11 17 18.4 +0.8
ANMO	Albuquerque	87.98	50	⇓*e*P		P	11 17 20.6 +0.8
ANMO				pmax		pmax	
	comp=Z,1.0nm,1.0s						
F36A	Milaca	88.22	35	P		P	11 17 21.0 +0.5
N41A	Harden Midland	93.29	37	P		P	11 17 42.4 -1.8
TX31	Lajitas Ar. Si	93.30	53	P		P	11 17 45.4 +0.8
TX32	Lajitas Array	93.30	53	P		P	11 17 45.7 +1.1
TXAR	Lajitas Array	93.30	53	P		P	11 17 45.9 +1.3
	comp=Z,4.8nm,0.8s,baz=297,slow=3.2,SNR=68						
TXAR	Lajitas Array	93.30	53	P		P	11 17 45.5 +0.9
TXAR	Lajitas Array	93.30	53	P		P	11 17 45.5 +0.9
TORD	Torodi Ar. Bea	121.38	313	PKP		PKPdf	11 23 22.7 -0.4
	comp=Z,1.0nm,1.0s,baz=14,slow=2.0,SNR=3.7						
LPAZ	La Paz	148.92	68	PKPbc		PKPbc	11 24 18.3 -0.1
	comp=Z,2.0nm,0.7s,baz=339,slow=5.1,SNR=8.2						
LPAZ	La Paz	148.92	68	PKIKP		PKPdf	11 24 15.4 +1.0
LPAZ	La Paz	148.92	68	PKPdf		PKPdf	11 24 15.4 +1.0

IDC 23 11:26:15.8±2.8, 21°.25N×146°.41E, $h0^{km}$, mb3.6/5, mb1 3.7/5, mb1mx3.5/48, mbtmp3.6/5, Error ellipse: s-maj=108.6km s-min=24.8km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	22.74	319	P		P	11 31 20.2 +0.6
	1.7nm,0.7s,baz=140,slow=9.2,SNR=10						
WRA	Warramunga Arr	42.60	197	P		P	11 34 14.1 +0.2
	0.2nm,0.6s,baz=20,slow=8.7,SNR=5.2						
ASAR	Alice Springs	46.27	196	P		P	11 34 42.9 -0.3
	0.2nm,0.7s,baz=15,slow=7.7,SNR=1.7						
MKAR	Makanchi Array	57.21	313	P		P	11 36 03.9 -0.9
	0.5nm,0.5s,baz=106,slow=8.1,SNR=3.5						
FINES	FINESS Array B	84.86	335	P		P	11 38 52.5 +0.3
	3.3nm,0.9s,baz=59,slow=4.5,SNR=8.6						

*IDC **23** 11:41:60.0±0.6, 2°.65S×139°.42E, $h0^{km}$, mb4.1/11, mb1 4.3/16, mb1mx4.2/31, mbtmp4.2/16, ML4.0/3, MS3.9/20, Ms1 3.9/20, ms1mx3.7/33, Error ellipse: s-maj=15.3km s-min=11.9km az=173.0*

*GCMT **23** 11:42:03.9±0.4, 2°.59S±0°.02×139°.62E±0°.03, $h28^{km}$±1^{km}, MW4.9/55, Moment Tensor Solution. s24,c27; s55,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.40±.19; $M_{\theta\theta}$-1.73±.11; $M_{\phi\phi}$-0.67±.12; $M_{r\theta}$-1.18±.14; $M_{\theta\phi}$0.74±.06; $M_{r\phi}$2.06±.23; Best double couple: $M_0$3.24400×10^{16} NP1:ϕ_s106.00000°, δ25.00000°, λ59.00000°. NP2: ϕ_s319.00000°, δ69.00000°, λ103.00000°. Principal axes: T 3.5390, Plg64.0000°, Azm251.0000°; N -0.5910, Plg12.0000°, Azm134.0000°; P -2.9490, Plg22.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **23** 11:42:03.8±0.3, 3°.3S±4°.×13°.9E±°.*, $h10^{km}$, M4.6/16, mB4.9/6, mb4.7/16, MLv4.8/5, Mw(mB)4.2/6*

*NEIC **23** 11:42:04.9±2.9, 2°.75S±0°.08×139°.40E±0°.06, $h35^{km}$±2^{km}, mb4.6/24, Error ellipse: s-maj=14.0km s-min=10.1km az=169.0*

*BJI **23** 11:42:07.8±0.0, 2°.62S×139°.24E, $h35^{km}$, mB5.0/16, mb4.6/28, Ms4.5/4, Ms7 4.2/5*

ISC 23 11:42:05.8±0.5, 2°.85S±0°.05×139°.45E±0°.06, $h35^{km}$, n80, σ1§71/68, mb4.5/23, MS3.8/17, 1C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.76	70	P		Pn	11 42 18.0 -2.0
WAMI	Wamena	1.27	216	P		Pn	11 42 31.4 +4.4
JAY	Jayapura	1.29	75	Pg		Pn	11 42 24.6 -2.8
	50nm,0.3s,baz=238,slow=9.6,SNR=76						
JAY				Lg		Lg	11 42 41.1
	144nm,0.3s,baz=105,slow=14,SNR=20						
JAY				LR		LR	11 43 12.7
	comp=Z,3μm,19.1s,baz=96,slow=56						
JAY	Jayapura	1.29	75	P		Pn	11 42 24.1 -3.3
SRPI	Serui, Papua	3.35	287	P		Pn	11 42 55.9 +0.2
FAKI	Fak Fak	7.20	269	P		Pn	11 43 47.8 -0.8
	0.1nm529nm38nm,1.2s						
FAKI	Fak Fak	7.20	269			Pn	11 43 47.3 -1.2
SIJI	Sorong	8.42	283	Pn		Pn	11 44 02.8 -2.5
	3.2nm,0.3s,baz=166,slow=23,SNR=13						
SIJI				LR		LR	11 47 55.0
	comp=Z,660nm,20.1s,baz=126,slow=43						
PMG	Port Moresby	10.05	131	Pn		Pn	11 44 28.7 +1.0
	0.3nm,0.3s,baz=291,slow=14,SNR=1.6						
PMG	Port Moresby	10.05	131	Pn		Pn	11 44 28.8 +1.1
COEN	Coen	11.63	162	Pn		Pn	11 44 51.3 +1.9
KRVT	Keravat (AS076	12.63	97	LR		LR	11 50 02.1
	comp=Z,222nm,18.9s,baz=268,slow=38						
MTN	Manton Dam	12.90	219	Pn		Pn	11 45 06.0 -0.7
MTN				Sn		Sn	11 47 27.4 -1.7
SANI	Sanana	13.48	273	P		Pn	11 45 13.2 -1.4
	28nm,1.1s						
KNRA	Kununurra	16.53	219			Pn	11 45 54.2 -0.9
KNRA				IAmb		IAmb	11 46 10.7
	comp=Z,66nm,1.0s						
SOEI	Soe	16.57	245	P		P	11 46 00.1 +2.2
	comp=Z,1μmcomp=Z,125nm,1.0s						
SOEI	Soe	16.57	245			Pn	11 45 53.9 -1.8
LUWI	Luwuk	16.77	276	Pn		Pn	11 45 56.4 -1.7
LUWI				IAmb		IAmb	11 46 06.8
	comp=Z,98nm,1.0s						
GTOI	Gorontalo	16.80	282	P		P	11 46 06.8 +6.5
GUMO	Guam	17.19	18	LR		LR	11 52 39.8
	comp=Z,331nm,18.3s,baz=243,slow=38						
BATI	Baumata	17.30	244	P		P	11 46 05.7 -0.2
	comp=Z,4.6nm,0.3s,baz=216,slow=12,SNR=4.1						
BATI	Baumata	17.30	244	P		P	11 46 21.3 +15
WB0	Warramunga Arr	17.53	196	P		Pn	11 46 06.6 -0.9
WR0	Warramunga Arr	17.67	195			Pn	11 46 07.2 -2.1
WR0				IAmb		IAmb	11 46 31.1
	comp=Z,26nm,0.8s						
WRAB	Tennant Creek	17.70	196	P		Pn	11 46 08.1 -1.5
WRAB				IAmb		IAmb	11 46 23.7
	comp=Z,42nm,1.1s						
WB2	Warramunga Arr	17.70	196			Pn	11 46 08.4 -1.3
WB2				IAmb		IAmb	11 46 31.5
	comp=Z,31nm,0.8s						
WRA	Warramunga Arr	17.71	196	P		Pn	11 46 08.9 -0.8
	comp=Z,0.6nm,0.3s,baz=17,slow=13,SNR=34						
WRA				S		Sn	11 49 25.4 -0.8
	comp=Z,0.4nm,0.3s,baz=13,slow=21,SNR=4.5						
WRA				LR		LR	11 53 28.4
	comp=Z,856nm,19.2s,baz=15,slow=38						
WRA	Warramunga Arr	17.71	196	P		Pn	11 46 07.6 -2.1
CTA	Charters Tower	18.38	159	P		Pn	11 46 19.5 +1.6
	comp=Z,0.1nm,0.3s,baz=33,slow=9.2,SNR=2.3						
CTAO	Charters Tower	18.38	159	P		Pn	11 46 19.9 +1.9
EDFI	Ende, Flores	18.61	251	P		Pn	11 46 22.8 +1.9
	comp=Z,5.1nm,0.8s						
SPSI	Sidrap Palu	19.68	266	P		Pn	11 46 34.7 +1.0
	comp=Z,554nmcomp=Z,15nm,1.6s						
FITZ	Fitzroy Crossi	20.32	221	P		P	11 46 38.9 -0.1
	comp=Z,10nm,1.0s,baz=13,slow=7.4,SNR=10						
FITZ				S		S	11 50 22.2 -2.9
	comp=Z,8.1nm,0.8s,baz=180,slow=9.1,SNR=3.2						
FITZ				LR		LR	11 55 19.6
	comp=Z,970nm,19.8s,baz=2.5,slow=39						
FITZ	Fitzroy Crossi	20.32	221	P		P	11 46 38.0 -1.0
FITZ				IAmb		IAmb	11 46 47.5
	comp=Z,19nm,0.8s						
AS31	Alice Springs	21.38	194	P		P	11 46 49.3 -1.1
ASAR	Alice Springs	21.38	194	P		P	11 46 50.8 +0.4
	comp=Z,3.4nm,0.7s,baz=24,slow=9.9,SNR=37						
ASAR				S		S	11 50 45.0 -1.1
	comp=Z,0.9nm,0.9s,baz=168,slow=26,SNR=2.1						
ASAR				LR		LR	11 56 07.6
	comp=Z,389nm,19.0s,baz=13,slow=39						
ASAR	Alice Springs	21.38	194	P		P	11 46 49.8 -0.6
MYLDM	Lahad Datu	22.40	291	P		P	11 46 59.4 -2.1
MYLDM				IAmb		IAmb	11 47 26.2
	comp=Z,23nm,1.1s						
BBKI	Banjar Baru	24.58	268	P		P	11 47 25.5 +2.7
	comp=Z,61nm,1.4s						
TGY	Tagaytay City	24.91	313	LR		LR	11 57 34.9
	comp=Z,150nm,19.2s,baz=74,slow=38						
EIDS	Eidsvold	25.03	154	P		P	11 47 29.5 +2.8
STKA	Stephens Creek	28.94	176	P		P	11 48 03.6 +1.7
	comp=Z,2.1nm,0.5s,baz=354,slow=12,SNR=3.9						
STKA				LR		LR	12 01 03.1
	comp=Z,684nm,19.4s,baz=357,slow=39						
BBOO	Buckleboo	29.97	186	P		P	11 48 12.0 +1.0
BBOO				IAmb		IAmb	11 48 15.3
	comp=Z,32nm,1.6s						
TOO	Toolangi	35.00	172	P		P	11 48 55.5 +0.6
TOO				IAmb		IAmb	11 49 00.3
	comp=Z,17nm,1.4s						
NWAO	Narrogin (SRO)	36.45	212	LR		LR	12 05 52.6
	comp=Z,444nm,19.9s,baz=76,slow=39						
MJAR	Matsushiro Arr	39.21	358	LR		LR	12 03 57.8
	comp=Z,152nm,19.8s,baz=170,slow=34						
NJ2	Nanjing	39.84	332	*e*P		P	11 49 38.0 +2.0
NJ2				pmax		pmax	
	comp=Z,8.0nm,0.5s						
WHN	Wuhan	40.95	326	P		P	11 49 46.3 +1.2
KSRS	Korea Array	41.51	346	LR		LR	12 07 24.8
	comp=Z,102nm,18.6s,baz=158,slow=37						
CMAR	Chiang Mai Arr	45.15	300	P		P	11 50 17.4 -2.0
	comp=Z,0.3nm,0.3s,baz=110,slow=5.0,SNR=5.8						
KMI	Kunming	45.18	310	⇑P		P	11 50 21.8 +2.0
KMI				pmax		pmax	
	comp=Z,17nm,0.5s						
XAN	Xi'an	46.62	325	P		P	11 50 34.5 +3.7
XAN				pP		pP	11 50 40.8 -0.5
XAN				pmax		pmax	
	comp=Z,7.0nm,1.2s						
HHC	Hu-ho-hao-te	50.40	333	*e*P		P	11 51 02.1 +2.3
HHC				pmax		pmax	
	comp=Z,15nm,0.7s						
HHC				pmax		pmax	
	comp=Z,87nm,6.6s						
LZH	Lanzhou	51.04	323	*e*P		P	11 51 10.0 +5.1
LZH				pP		sP	11 51 20.8 +1.1
LZH				sP		pP	11 51 25.8 +10
LZH				pmax		pmax	
	comp=Z,16nm,1.2s						
GTA	Gaotai	55.62	323	*e*P		P	11 51 43.6 +5.2
GTA				pP		sP	11 51 54.0 +0.6
GTA				sP		pP	11 51 57.6 +8.4
GTA				pmax		pmax	
	comp=Z,3.0nm,1.0s						
GTA				pmax		pmax	
	comp=Z,49nm,5.3s						
GTA				LR		LR	
	comp=Z,91nm,17.1s						
GTA				LR		LR	
	comp=Z,58nm,16.4s						
GTA				LR		LR	
	comp=Z,88nm,16.7s						
PETK	Petropavlovsk-	57.83	13	P		P	11 51 53.4 -0.2
	comp=Z,1.2nm,0.7s,baz=188,slow=4.4,SNR=2.1						
PETK				LR		LR	12 18 53.1
	comp=Z,54nm,18.4s,baz=208,slow=38						
SONM	Songino Array	58.16	334	LR		LR	12 17 20.4
	comp=Z,171nm,19.4s,baz=98,slow=37						
MA2	Magadan	62.88	6	LR		LR	12 19 56.6
	comp=Z,22nm,18.3s,baz=223,slow=36						
WMQ	Urumqi	65.58	321	*e*P		P	11 52 48.9 +2.7
SEY	Seymchan	66.33	6	LR		LR	12 20 26.1
	comp=Z,22nm,19.5s,baz=245,slow=35						
MK31	Makanchi Array	70.35	322	P		P	11 53 13.9 -2.2
MK31				IAmb		IAmb	11 53 22.5
	comp=Z,4.3nm,1.2s						
MKAR	Makanchi Array	70.35	322	P		P	11 53 14.9 -1.2
	comp=Z,1.4nm,0.7s,baz=109,slow=6.4,SNR=6.3						
MAKZ	Makanchi	70.55	322			P	11 53 15.8 -1.5
MAKZ				IAmb		IAmb	11 53 23.0
	comp=Z,10nm,1.4s						
ZALV	Zalesovo Beam	72.43	330	P		P	11 53 25.7 -2.7
	comp=Z,0.5nm,0.4s,baz=169,slow=32,SNR=2.2						
ZALV				LR		LR	12 27 37.7
	comp=Z,25nm,18.2s,baz=80,slow=38						
ZALV	Zalesovo Beam	72.43	330	P		P	11 53 25.5 -2.9
VNDA	Vanda	75.58	175	P		P	11 53 47.6 +1.2
	comp=Z,4.7nm,0.8s,baz=322,slow=6.1,SNR=38						
VNDA				LR		LR	12 25 60.0
	comp=Z,139nm,19.9s,baz=352,slow=35						
VNDA	Vanda	75.58	175	P		P	11 53 47.1 +0.7
VNDA				IAmb		IAmb	11 53 49.4
	comp=Z,5.8nm,0.8s						
NRIK	Noril'sk	80.06	344	P		P	11 54 10.2 -1.3
	comp=Z,1.1nm,0.3s,baz=105,slow=2.5,SNR=4.0						
MAW	Mawson	82.27	202	P		P	11 54 23.1 -0.2
	comp=Z,0.6nm,0.3s,baz=58,slow=3.1,SNR=3.8						
MAW				LR		LR	12 28 43.1
	comp=Z,158nm,18.8s,baz=60,slow=34						
MAW	Mawson	82.27	202	P		P	11 54 22.5 -0.8
RND	Reindeer	84.43	25	P		P	11 54 36.7 +2.2
DHY	Denali Highway	84.97	26	P		P	11 54 37.8 +0.4
CCB	Clear Creek Bu	85.24	24	P		P	11 54 36.6 -1.9
CCB				IAmb		IAmb	11 54 43.0
	comp=Z,6.9nm,1.1s						
ILAR	Eielson Array	85.65	24	P		P	11 54 39.0 -1.6
	comp=Z,2.5nm,0.9s,baz=262,slow=4.6,SNR=21						
ILAR				LR		LR	12 32 54.3
	comp=Z,29nm,18.4s,baz=229,slow=36						
ILAR	Eielson Array	85.65	24	P		P	11 54 38.0 -2.6
QSPA	South Pole Qui	87.10	180	P		P	11 54 48.0 +0.1
BMAR	Burnt Mountain	87.25	22	P		P	11 54 49.2 +0.7
BCAR	Beaver Creek A	87.44	27	P		P	11 54 49.1 -0.4
YKA	Yellowknife Ar	99.85	27	LR		LR	12 37 53.1
	comp=Z,52nm,20.4s,baz=0.0,slow=34						
LPAZ	La Paz	146.76	126	PKPbc		PKPab	12 01 46.0 -1.1
	comp=Z,0.6nm,0.7s,baz=236,slow=3.6,SNR=2.2						

JMA 23 11:51:54.6±0.2, 24°.88N×123°.93E, $h79^{km}$±3^{km}, M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	0.45	130	P		Pn	11 52 08.0 +0.2
JISG				S		Sn	11 52 17.9 +0.3
JIJ	Ishigaki jima	0.55	159	P		Pn	11 52 08.5 -0.2
JIJ				S		Sn	11 52 18.8 -0.3
IRIF	Iriomote-Funau	0.57	199	P		Pn	11 52 08.9 0.0
IRIF				S		Sn	11 52 19.9 +0.4
JKRS	Kuro-shima	0.64	174	P		Pn	11 52 09.9 +0.3
JKRS				S		Sn	11 52 21.2 +0.5
JTJ	Tarama	0.74	109	P		Pn	11 52 10.8 +0.2
JTJ				S		Sn	11 52 22.9 +0.4
HATJ	Hateruma jima	0.83	188	*e*S		Sn	11 52 24.3 +0.1

TAP 23 11:52:10.5, 24°.33N×122°.09E, $h14^{km}$±1^{km}, ML1.9, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	Nanao	0.28	295	*i* P		Pb	11 52 16.9 -0.4
	baz=294						
ENAH				S		Sb	11 52 22.2 +0.3
	baz=294						
ENA	Nanau	0.33	287	P		Pg	11 52 17.7 +0.3
	baz=287						
ENA				S		Sb	11 52 23.7 +0.3
	baz=287						
NACB	Ninganchiao	0.48	251	P		Pg	11 52 20.2 +0.2
	baz=251						
NACB				*e*S		Sb	11 52 28.3 +0.8
	baz=251						
EGS		0.53	344	*e*P		Pg	11 52 21.0 0.0
	baz=345						
EGS				S		Sb	11 52 29.0 -0.1
	baz=345						
TWE	Neicheng	0.55	315	P		Pb	11 52 21.9 +0.1
	baz=316						
TWE				S		Sb	11 52 29.7 +0.1
	baz=316						
HWA	Hwalien	0.56	232	*e*P		Pb	11 52 21.9 -0.2
	baz=230						
HWA				S		Sb	11 52 30.8 +0.7
	baz=230						
ENTT	Nioudou	0.57	303	*i* P		Pb	11 52 22.2 0.0
	baz=303						
ENTT				S		Sb	11 52 30.4 +0.2
	baz=303						
ETLH	Xiulin Townshi	0.57	258	*e*P		Pb	11 52 22.5 +0.2
	baz=257						
ETLH				*e*S		Sb	11 52 30.6 +0.4
	baz=257						
NTC	Toucheng	0.57	336	P		Pb	11 52 22.6 +0.3
	baz=335						
NTC				S		Sb	11 52 30.9 +0.6
	baz=335						
NDT	Datong Townshi	0.59	297	P		Pb	11 52 23.0 +0.4
	baz=297						
NDT				S		Sb	11 52 31.4 +0.6
	baz=297						
NNSB	Datong	0.65	279	P		Pb	11 52 23.8 +0.1
	baz=278						
NNSB				S		Sb	11 52 33.1 +0.4
	baz=278						
NNSH	Datong	0.65	279	*e*P		Pb	11 52 24.0 +0.3
	baz=278						
NNSH				*e*S		Sb	11 52 33.1 +0.4
	baz=278						
NNS	Nan Shan	0.66	280	S		Sb	11 52 33.3 +0.3
	baz=279						
TWB1	Santiao Chiao	0.68	352	P		Pb	11 52 24.2 +0.1
	baz=352						
TWB1				*e*S		Sb	11 52 34.4 +1.0
	baz=352						
TIPB	Shuangxi	0.68	339	P		Pb	11 52 24.5 +0.3
	baz=339						
TIPB				S		Sb	11 52 34.3 +0.8
	baz=339						
NWLT	Wulai	0.70	310	*e*S		Sb	11 52 35.0 +1.1
	baz=309						
YHNB	Yeheng	0.73	298	P		Pb	11 52 25.5 +0.4
	baz=297						
YHNB				S		Sb	11 52 35.9 +0.9
	baz=297						
NSK	Sanguang	0.75	297	P		Pn	11 52 26.1 -0.6
	baz=297						
NSK				S		Sb	11 52 36.4 +1.0
	baz=297						
WHF	Hehuan Shan	0.78	256	*e*P		Pg	11 52 25.6 -0.1
	baz=256						
WHF				S		Sb	11 52 37.3 +0.7
	baz=256						
FUSS	Fushou	0.78	264	*e*P		Pg	11 52 25.2 -0.5
	baz=263						
FUSS				*e*S		Sb	11 52 37.3 +0.9
	baz=263						
NWF	Wu-fen Shan	0.79	339	P		Pb	11 52 26.3 +0.2
	baz=339						
NWF				*e*S		Sn	11 52 37.9 -1.0
	baz=339						
WFSB	Wu-fen Shan	0.79	339	*e*P		Pb	11 52 26.1 +0.1
	baz=339						
YOJ	Yonaguni jima	0.85	81	*e*P		Pg	11 52 26.3 -0.7
	baz=80						

WEL 23 11:53:14.6, 45°.S±3°.×16°.7E±°., $h5^{km}$±3^{km}, M2.8/7, ML2.8/6, MLv2.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=85.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.31	94	P		Pb	11 53 22.4 -0.3
MLZ	Mavora Lakes	0.84	148	P		Pb	11 53 32.4 +0.6
DCZ	Deep Cove	0.85	196	P		Pb	11 53 31.9 +0.1
JCZ	Jackson Bay	1.09	59	P		Pg	11 53 35.6 -0.1
WKZ	Wanaka	1.10	100	P		Pb	11 53 36.4 +0.2
WHZ	Wether Hill Ro	1.28	166	P		Pb	11 53 40.4 +1.1
LBZ	Lake Benmore	1.95	83	P		Pb	11 53 50.0 -0.5
FOZ	Fox Glacier	2.02	57	P		Pg	11 53 52.5 -0.7
ODZ	Otahua Downs	2.28	101	P		Pn	11 53 54.1 +1.2
GCSZ	Gaunt Creek Bo	2.44	58	P		Pg	11 54 00.6 -0.8

*IDC **23** 13:11:05.4±4.1, 21°.00S×69°.90W, $h0^{km}$, mb3.9/1, mb1 3.6/2, mb1mx3.4/23, mbtmp3.6/2, ML2.9/1, Error ellipse: s-maj=144.8km s-min=44.2km az=97.0*

*GUC **23** 13:11:07.8±0.6, 20°.15S×70°.98W, $h35^{km}$±2^{km}, ML3.3*

ISC 23 13:11:03.3±2.3, 20°.14S±0°.04×71°.07W±0°.09, $h6^{km}$±12^{km}, n21, σ1§12/26, 2C-7D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	Huaiquique	0.89	98	*e*P		Pb	13 11 21.4 +0.3
TA02				*i* S		Sg	13 11 32.1 +0.1
TA01	Diego Aracena	0.93	117	⇓*i*P		Pb	13 11 22.5 +0.6
TA01				*i* S		Sg	13 11 33.9 +0.5
TA01				IAML			13 11 35.0
	comp=N,1μm,0.5s						
PSGC	Pisagua	1.04	59	⇓*i*P		Pb	13 11 24.2 +0.3
PSGC				*i* S		Sg	13 11 37.1 +0.3
PSGC				IAML			13 11 39.2
	comp=N,2μm,0.3s						
PATCX	Punta Patache	1.09	128	⇓*i*P		Pn	13 11 25.4 +0.2
PATCX				*i* S		Sb	13 11 38.8 -0.4
PB11	IPOC Station P	1.38	74	⇓*i*P		Pn	13 11 29.4 +0.1
PB11				*i* S		Sg	13 11 46.4 -1.4
PB11				IAML			13 11 48.2
	comp=N,2μm,0.6s						
PB02	IPOC Station P	1.60	137	⇓*i*P		Pb	13 11 33.1 -0.4
PB02				*i* S		Sn	13 11 52.5 -0.9
PB02				IAML			13 11 57.6
	comp=E,1μm,0.5s						
PB12	IPOC Station P	1.68	25	⇓*i*P		Pn	13 11 34.3 +1.0
PB12				IAML			13 12 00.1
	comp=N,383nm,0.4s						
MNMC	Minye Minye	1.72	54

H03N3	Juan Fernandez	14.99	206	T	T	13 30 13.7	
	baz=32,slow=72,SNR=10						
TORD	Torodi Ar. Bea	78.83	72	P	P	13 23 06.7	-1.1
	comp=E,1.0nm,0.8s,baz=253,slow=4.4,SNR=3.6						
MKAR	Makanchi Array	145.67	33	PKPbc	PKPab	13 30 45.4	+2.1
	comp=E,0.4nm,0.7s,baz=308,slow=4.5,SNR=3.8						

*TUL **23** 13:37:10.9±0.9, 34°.62N×97°.56W±0°.04, h5km±1km, ML3.0, Error ellipse: s-maj=6.9km s-min=4.5km az=306.0*
*ANF **23** 13:37:10.3±0.3, 34°.61N×97°.55W, h0km, ML3.5/7, Error ellipse: s-maj=5.0km s-min=3.0km az=160.0*
*UNK **23** 13:37:10.9, 34°.62N×97°.56W, h5km*
ISC 23 13:37:09.5±1.4, 34°.60N±0°.03×97°.57W±0°.04, h1km±13km, n54, σ0s84/62, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.67	12		Pb	13 37 23.7	-0.4
FNO				Sg	Sg	13 37 31.9	+0.8
W35A	Tecumseh	0.79	46		Pg	13 37 25.2	+0.5
W35A				Sg	Sb	13 37 36.1	-1.3
OKCSW	OKLAHOMA CITY	0.81	7	Pg	Pg	13 37 25.5	+0.5
OKCFA	Oklahoma City	0.82	7	Pg	Pg	13 37 25.7	+0.5
OKCFA				Sg	Sg	13 37 36.4	+0.5
OK025	Westminster Rd	1.00	11		Pg	13 37 28.9	+0.3
WMOK	Wichita Mounta	1.01	278	P	Pg	13 37 29.4	+0.5
	baz=96						
WMOK	Wichita Mounta	1.01	278		Pg	13 37 29.4	+0.5
BCOK	Bluff Creek, N	1.06	358		Pg	13 37 29.9	+0.1
OK029	Liberty Lake	1.20	4		Pb	13 37 32.4	-0.6
Z35A	Perchaven, San	1.29	168		Pn	13 37 34.0	-0.7
QUOK	Quay	1.72	24	Pn	Pn	13 37 40.8	+0.2
X37A	Clayton	1.81	90		Pn	13 37 42.3	+0.4
CROK	Carrier	1.93	350		Pb	13 37 44.4	-1.1
TUL1	Leonard	1.95	47	P	Pn	13 37 44.3	+0.4
	baz=229						
TUL1				S	Sg	13 38 11.4	-0.9
	baz=229						
TUL1	Leonard	1.95	47		Pn	13 37 44.3	+0.4
U32A	Winter Ranch,	2.13	327		Pb	13 37 47.5	-1.5
KAN13	South Haven SW	2.41	2	Pn	Pn	13 37 50.7	+0.6
T35A	Sooner Cattle	2.46	20		Pn	13 37 51.5	+0.5
Z38A	Mt. Pleasant	2.53	121	Pn	Pn	13 37 52.8	+1.1
KAN10	Anthony SW Sta	2.56	350	Pn	Pn	13 37 52.8	+0.6
WHTX	Lake Whitney,	2.60	178	P	Pn	13 37 54.3	+1.5
	baz=358						
WHTX				S	Sb	13 38 27.3	-2.2
	baz=358						
WHTX	Lake Whitney,	2.60	178		Pn	13 37 53.8	+1.0
ABTX	Abilene, Hawle	2.62	222	Pn	Pn	13 37 54.0	+0.9
W39A	Magazine	3.16	78		Pn	13 38 00.9	+0.5
U38A	Gravette	3.18	54		Pn	13 38 00.9	+0.3
MIAR	Mount Ida	3.29	90	P	Pn	13 38 03.8	+1.6
	baz=272						
MIAR				S	Sn	13 38 43.7	+1.7
	baz=272						
MIAR	Mount Ida	3.29	90	Pn	Pn	13 38 03.7	+1.4
AMTX	Amarillo	3.40	276		Pn	13 38 04.7	+0.8
HHAR	Hobbs	3.40	59		Pn	13 38 04.0	+0.2
WLAR	White Oak Lake	3.80	103	Pn	Pn	13 38 10.0	+0.7
435B	Jarrell	3.81	180	Pn	Pn	13 38 09.8	+0.5
Z41A	Richland Creek	4.18	107	Pn	Pn	13 38 15.2	+0.8
U40A	Yellville	4.23	64	P	Pn	13 38 15.2	+0.1
	baz=247						
U40A				S	Sn	13 39 06.5	+1.4
	baz=247						
U40A	Yellville	4.23	64	Pn	Pn	13 38 14.9	-0.2
MSTX	Muleshoe	4.36	263	P	Pn	13 38 18.7	+1.7
	baz=80						
MSTX	Muleshoe	4.36	263		Pn	13 38 17.5	+0.5
WHAR	Wooly Hollow	4.39	79	Pn	Pn	13 38 18.0	+0.7
W41B	Gary Mavity, V	4.41	81	P	Pn	13 38 18.2	+0.7
	baz=264						
W41B				S	Sn	13 39 09.1	-0.5
	baz=264						
W41B	Gary Mavity, V	4.41	81	Pn	Pn	13 38 18.3	+0.7
JCT	Junction City	4.52	205	Pn	Pn	13 38 19.9	+0.7
CBKS	Cedar Bluff	4.55	338	Pn	Pn	13 38 20.3	+0.6
KSU1	Kansas State U	4.56	9	Pn	Pn	13 38 19.7	+0.1
S39A	Bolivar	4.62	47		Pn	13 38 21.1	+0.7
FCAR	Ozark Folk Cen	4.63	72		Pn	13 38 20.5	-0.2
MGMO	Mountain Grove	5.00	58	Pn	Pn	13 38 25.1	-0.6
R40A	Maddies Statio	5.64	48		Pn	13 38 34.6	+0.1
T42A	Van Buren	5.79	63		Pn	13 38 36.8	+0.2
P38A	Dawn	5.96	32	Pn	Pn	13 38 39.6	+0.7
KSCO	Kaye Shedlock'	5.99	319	Pn	Pn	13 38 40.0	+0.6
CCM	Cathedral Cave	6.16	54	Pn	Pn	13 38 41.8	+0.2
P40A	Paris	6.61	40	Pn	Pn	13 38 48.1	+0.3
PARMO	Parma	6.69	70	Pn	Pn	13 38 48.3	-0.6
W45A	Hickory Valley	6.91	83	Pn	Pn	13 38 52.1	+0.1
MNTX	Cornudas Mount	7.17	248	Pn	Pn	13 38 56.4	+0.9

*REY **23** 13:44:23.3, 64°.68N×17°.48W, h6km*
*IDC **23** 13:44:24.1±0.7, 64°.65N×17°.64W, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/61, mbtmp3.7/12, ML3.3/2, MS2.9/8, Ms1 3.0/8, ms1mx2.7/41, Error ellipse: s-maj=22.7km s-min=10.6km az=13.0*
*NEIC **23** 13:44:25.9±1.7, 64°.68N±0°.09×17°.5W±0°.2, h8km±4km, mb4.4/20, Error ellipse: s-maj=14.0km s-min=10.2km az=198.0*
ISC 23 13:44:25.4±0.5, 64°.69N±0°.02×17°.48W±0°.03, h10km, n85, σ2s14/82, mb4.2/21, MS2.9/6, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	Dyngjuhals	0.12	24	P	Pg	13 44 26.2	-2.1
	baz=23						
IVON	Vonarskard	0.12	265	P	Pg	13 44 25.8	-2.6
	baz=267						
IVON				S	Sg	13 44 28.8	-1.6
	baz=267						
IURH	Urdarhals	0.20	46	P	Pg	13 44 27.5	-2.1
	baz=45						
IDJK	Dyngjujokull	0.21	150	P	Pg	13 44 27.2	-2.6
	baz=149						
IGRF	Grimsfjall	0.29	162	P	Pg	13 44 29.3	-2.1
	baz=161						
IKVE	Kverkfjoll	0.34	91	P	Pg	13 44 30.3	-2.0
	baz=90						
IBJK	Bruarjokull	0.38	124	P	Pg	13 44 30.8	-2.2
	baz=124						
IHUS	Husbondi	0.40	191	P	Pg	13 44 30.6	-2.6
	baz=191						
ISKR	Skrokkalda	0.41	253	P	Pg	13 44 31.5	-2.0
	baz=253						
IVOT	Vottur	0.43	163	P	Pg	13 44 31.7	-2.3
	baz=162						
IKRE	Kreppuhraun	0.48	78	P	Pg	13 44 32.0	-2.8
	baz=77						
IJOK	Jokulheimar	0.49	221	P	Pg	13 44 32.2	-2.8
	baz=222						
IASK	Askja	0.51	44	P	Pg	13 44 32.7	-2.7
	baz=43						
IMKO	Mokollar	0.57	58	P	Pg	13 44 33.7	-2.8
	baz=58						
IMKO				S	Sg	13 44 42.9	-1.1
	baz=58						
IIEY	Innrieyrar	0.66	206	P	Pg	13 44 35.0	-3.1
	baz=206						
IIEY				S	Sg	13 44 44.9	-1.7
	baz=206						
ISVA	Svartarkot	0.66	8	P	Pg	13 44 35.3	-2.9
	baz=8.1						
ISVA				S	Sg	13 44 45.5	-1.3
	baz=8.1						
IKSK	Karasker	0.68	140	P	Pg	13 44 34.9	-3.7
	baz=140						
IKAL	Kalfafell	0.74	187	P	Pg	13 44 36.3	-3.4
	baz=187						
IVSH	V-Sauoahnukur	0.76	80	P	Pg	13 44 36.6	-3.5
	baz=80						
IVAT	Vatnsfell	0.80	232	P	Pg	13 44 38.0	-2.8
	baz=232						
IADA	Aoalbol	0.88	67	P	Pg	13 44 38.7	-3.7
	baz=66						
IFAG	Fagurholsmyri	0.89	156	P	Pg	13 44 39.1	-3.4
	baz=156						
IHVE	Hveravellir	0.91	283	P	Pg	13 44 39.8	-3.2
	baz=283						
IMEL	Melhnausar	0.95	21	P	Pg	13 44 40.1	-3.7
	baz=21						
IREN	Reynihlio	1.00	14	P	Pg	13 44 40.8	-3.8
	baz=14						
IKVO	Krokottuvotn	1.06	13	P	Pg	13 44 42.0	-3.8
	baz=13						
ISNB	Snabyli	1.08	208	P	Pg	13 44 42.3	-3.8
	baz=208						
IGRS	Grimsstaoir	1.11	30	P	Pb	13 44 42.9	-3.9
	baz=30						
BORG	Borgarnes	1.65	274	Pg	Pn	13 44 51.7	-2.7
	34nm,0.3s,baz=97,slow=8.6,SNR=74						
BORG				Lg	Lg	13 45 14.2	
	22nm,0.3s,baz=222,slow=21,SNR=9.5						
BORG	Borgarnes	1.65	274		Pn	13 44 51.1	-3.3
SCO	Scoresbysund	6.07	346	*i* P	Pn	13 45 55.8	+0.8
SCO				*i* S	Sn	13 47 09.2	+4.8
SCO	Scoresbysund	6.07	346	Pn	Pn	13 45 55.0	0.0
JMIC	Jan Mayen	7.17	24	LR	LR	13 48 28.6	
	comp=Z,81nm,19.0s,baz=257,slow=34						
SUMG	Summit	10.93	325	Pn	Pn	13 46 59.5	-2.5
EKA	Eskdalemuir Ar	11.77	136	Pn	Pn	13 47 13.0	-0.1
	baz=331,slow=13,SNR=9.4						
ESK	Eskdalemuir	11.77	136	Pn	Pn	13 47 13.8	+0.8
NOA	NORSAR Array B	13.53	92	Pn	Pn	13 47 36.0	-1.1
	0.0nm,0.3s,baz=295,slow=14,SNR=2.4						
HFS	Hagfors	15.04	93	LR	LR	13 53 07.7	
	comp=Z,42nm,19.0s,baz=307,slow=35						
CLL	Collm	20.70	116	*e*P	Pn	13 49 07.0	-0.8
ECH	Echery	21.16	129	P	P	13 49 11.0	+0.6
STU	Stuttgart	21.38	125	P	P	13 49 15.1	+2.4
STU				IAmb	IAmb	13 49 17.0	
	comp=Z,52nm,1.4s						
BFO	Black Forest	21.45	127	P	P	13 49 14.8	+1.3
KHC	Kasperske Hory	22.68	118	*e*P	P	13 49 26.9	+0.2
KHC	Kasperske Hory	22.68	118	P	P	13 49 27.1	+0.4
DPC	Dobruska-Polom	22.76	113	*e*P	P	13 49 29.0	+1.5
GERES	GERESS Array B	22.96	119	P	P	13 49 31.1	+1.4
	comp=Z,0.3nm,0.3s,baz=334,slow=8.9,SNR=5.9						
GERES				LR	LR	13 58 22.2	
	comp=Z,47nm,18.1s,baz=359,slow=36						
GERES	GERESS Array B	22.96	119	P	P	13 49 30.3	+0.6
DAVOX	Davos/Dischmat	23.32	127	P	P	13 49 35.1	+1.6
	comp=Z,1.7nm,0.5s,baz=339,slow=14,SNR=3.2						
DAVOX				LR	LR	13 58 12.4	
	comp=Z,39nm,19.4s,baz=266,slow=36						
VRAC	Vranov	23.69	114	LR	LR	13 58 52.0	
	comp=Z,41nm,18.7s,baz=190,slow=37						
ESDC	Sonseca Array	26.27	156	P	P	13 50 00.4	-0.2
	comp=Z,1.0nm,0.9s,baz=347,slow=8.9,SNR=5.4						
ESDC				LR	LR	14 00 35.2	
	comp=Z,33nm,18.4s,baz=205,slow=37						
ESDC	Sonseca Array	26.27	156	P	P	13 50 01.7	+1.1
RES	Resolute Bay	26.46	324	LR	LR	14 00 02.0	
	comp=Z,28nm,20.1s,baz=140,slow=36						
OBN	Obninsk	27.87	84	LR	LR	14 01 41.6	
	comp=Z,11nm,19.9s,baz=312,slow=37						
ABKAR	Akbulak array	41.98	73	P	P	13 52 16.7	+0.6
BMAR	Burnt Mountain	42.88	333	P	P	13 52 23.4	+0.1
BVAR	Borovoye Array	43.18	62	P	P	13 52 25.7	-0.1
	comp=Z,1.5nm,0.8s,baz=241,slow=4.6,SNR=8.7						
ILAR	Eielson Array	45.67	332	P	P	13 52 46.4	+0.8
	comp=Z,1.9nm,1.1s,baz=20,slow=7.5,SNR=10						
ILAR	Eielson Array	45.67	332	P	P	13 52 47.4	+1.7
HRY	Holter Researc	50.75	298	P	P	13 53 26.7	+1.5
H17A	Grant Village	52.21	295	P	P	13 53 38.5	+2.2
H17A				IAmb	IAmb	13 53 40.0	
	comp=Z,6.9nm,1.4s						
MKAR	Makanchi Array	52.71	58	P	P	13 53 40.2	+0.5
	comp=Z,0.8nm,0.8s,baz=318,slow=7.0,SNR=6.3						
MKAR	Makanchi Array	52.71	58	P	P	13 53 40.6	+0.9
TORD	Torodi Ar. Bea	53.16	156	P	P	13 53 42.8	-0.4
	comp=Z,1.2nm,0.8s,baz=351,slow=8.2,SNR=5.3						
TORD	Torodi Ar. Bea	53.16	156	IAmb	IAmb	13 53 45.6	
	comp=Z,1.6nm,1.1s						
BW06	Boulder Array	53.18	293	P	P	13 53 43.8	+0.3
BW06				IAmb	IAmb	13 53 44.8	
	comp=Z,3.1nm,0.9s						
PD31	Pinedale Array	53.18	293	P	P	13 53 43.7	+0.2
PD31				IAmb	IAmb	13 53 44.8	
	comp=Z,2.7nm,0.9s						
PDAR	Pinedale Array	53.18	293	P	P	13 53 43.9	+0.4
	comp=Z,1.4nm,0.8s,baz=55,slow=6.0,SNR=11						
PDAR	Pinedale Array	53.18	293	P	P	13 53 43.4	-0.1
ISCO	Idaho Springs	54.10	288	P	P	13 53 51.4	+1.0
ISCO				IAmb	IAmb	13 54 15.0	
	comp=Z,3.6nm,1.3s						
GAR	Garm	54.64	73	P	P	13 53 55.8	+1.7
GAR				IAmb	IAmb	13 53 57.1	
	comp=Z,12nm,1.0s						
TARG	Taragay, Kyrgy	55.31	65	P	P	13 53 59.6	+0.3
TARG				IAmb	IAmb	13 54 01.8	
	comp=Z,3.7nm,1.1s						
SRU	San Rafael Swe	56.67	292	P	P	13 54 09.3	+0.5
PV13	Radium Mtn., P	56.80	290	P	P	13 54 10.7	+1.0
WMQ	Urumqi	57.22	56	*e*P	P	13 54 16.4	+4.0
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,56nm,3.7s						
MSU	Marysvale	57.84	293	P	P	13 54 18.6	+1.5
MVU	Marysvale	57.86	293	P	P	13 54 18.9	+1.7
PSUT	Pine Spring	58.49	294	P	P	13 54 22.5	+0.9
R11A	Troy Canyon, C	59.32	295	P	P	13 54 28.7	+1.4
R11A				IAmb	IAmb	13 54 29.8	
	comp=Z,2.3nm,1.1s						
LCMT	Little Creek M	59.56	293	P	P	13 54 29.9	+1.0
NIL	Nilore	60.44	74	P	P	13 54 36.3	+1.4
TXAR	Lajitas Array	62.29	280	P	P	13 54 47.9	+0.4
	comp=Z,0.4nm,0.8s,baz=90,slow=5.0,SNR=3.9						
GTA	Gaotai	65.28	49	*e*P	P	13 55 08.6	+1.5
GTA				pP	sP	13 55 12.6	+0.4
GTA				sP	pP	13 55 15.6	+4.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HHC	Hu-ho-hao-te	67.49	40	*e*P	P	13 55 22.6	+1.4
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,93nm,6.6s						
NJ2	Nanjing	77.72	37	*e*P	P	13 56 22.4	+0.4
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
CMAR	Chiang Mai Arr	84.12	59	P	P	13 56 56.6	+0.2
	comp=Z,0.3nm,0.3s,baz=314,slow=6.1,SNR=5.8						

*NEIC **23** 13:56:39.5±1.5, 56°.1S±0°.2×27°.5W±0°.3, h128km±11km, mb4.3/4, Error ellipse: s-maj=24.9km s-min=22.9km az=67.0*
*IDC **23** 13:56:40.5±13.0, 56°.10S×27°.48W, h134km±115km, mb3.5/3, mb1 3.6/4, mb1mx3.3/23, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=77.6km s-min=39.0km az=107.0*
ISC 23 13:56:38.1±1.0, 56°.1S±0°.2×27°.3W±0°.2, h112km, n10, σ0s66/9, mb4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.54	285	Pn	Pn	13 57 58.3	+0.1
SNAA	Sanae	18.77	156	P	P	14 00 48.5	+0.3
	0.5nm,0.3s,baz=300,slow=11,SNR=23						
SNAA	Sanae	18.77	156	P	P	14 00 47.8	-0.3
SNAA				IAmb	IAmb	14 00 49.1	
	comp=Z,12nm,1.5s						
QSPA	South Pole Qui	34.20	180	P	P	14 03 12.7	+0.1
	comp=Z,0.6nm,0.6s,baz=234,slow=1.8,SNR=6.2						
QSPA	South Pole Qui	34.20	180	IAmb	IAmb	14 04 17.9	
	comp=Z,14nm,1.9s						
VNDA	Vanda	46.57	183	P	P	14 04 54.1	+0.2
VNDA				IAmb	IAmb	14 06 29.9	
	comp=Z,14nm,2.0s						
TORD	Torodi Ar. Bea	73.09	30	P	P	14 07 56.5	+0.5
	comp=Z,0.4nm,0.4s,baz=197,slow=6.1,SNR=2.5						
ASAR	Alice Springs	99.01	163	P	Pdif	14 10 05.1	-1.1
	comp=Z,0.3nm,1.0s,baz=190,slow=3.4,SNR=1.4						
ILAR	Eielson Array	150.06	312	PKPbc	PKPbc	14 16 13.1	-0.9
	comp=Z,1.2nm,0.7s,baz=132,slow=3.9,SNR=12						
SONM	Songino Array	150.80	87	PKPbc	PKPbc	14 16 16.1	-0.3
	comp=Z,1.3nm,0.5s,baz=220,slow=3.3,SNR=4.5						

*IDC **23** 13:59:05.6±0.7, 59°.55S×25°.95W, h0km, mb4.4/9, mb1 4.5/11, mb1mx4.3/21, mbtmp4.4/11, ML4.7/2, MS3.5/9, Ms1 3.5/9, ms1mx3.4/18, Error ellipse: s-maj=26.6km s-min=18.0km az=63.0*
*NEIC **23** 13:59:18.9±1.3, 59°.7S±0°.1×26°.2W±0°.2, h106km±6km, mb4.8/42, Error ellipse: s-maj=18.5km s-min=14.1km az=209.0*
ISC 23 13:59:11.4±0.6, 59°.74S±0°.09×26°.06W±0°.09, h40km, n71, σ1s43/64, mb4.8/26, MS3.5/7, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.88	309	Pn	Pn	14 01 10.2	+6.8
VNA1	Neumayer--Stat	13.17	153	P	Pn	14 02 15.7	+0.1
VNA3	Neumayer Olymp	13.33	157	P	Pn	14 02 17.2	-0.4
VNA2	Neumayer--Watz	13.57	153	P	Pn	14 02 20.2	-0.8
	baz=315,slow=15						
SNAA	Sanae	15.16	151	P	Pn	14 02 42.0	-0.3
SNAA	Sanae	15.16	151	Pn	Pn	14 02 42.1	-0.3
	5.6nm,0.3s,baz=312,slow=13,SNR=145						
SNAA				Sn	Sn	14 05 21.2	-7.5
	0.8nm,0.3s,baz=304,slow=19,SNR=4.3						
SNAA				LR	LR	14 07 19.2	
	comp=Z,118nm,19.8s,baz=332,slow=32						
SNAA	Sanae	15.16	151	Pn	Pn	14 02 41.9	-0.3
SNAA				IAmb	IAmb	14 02 44.0	
	comp=Z,24nm,0.6s						
PMSA	Palmer Station	18.17	238	P	Pn	14 03 20.4	+0.2
	comp=Z,1.1nm,0.3s,baz=218,slow=7.9,SNR=5.8						
PMSA				LR	LR	14 08 55.8	
	comp=Z,458nm,19.3s,baz=74,slow=32						
PMSA	Palmer Station	18.17	238	P	P	14 03 17.7	-2.4
BELA	Belgrano 2	18.44	186		P	14 03 23.8	+0.8
EFI	East Falkland	19.59	280	P	Pn	14 03 37.1	-0.2
GO09	Cerro Castillo	27.03	268	P	P	14 04 47.9	-1.4
GO09				IAmb	IAmb	14 05 12.8	
	comp=Z,26nm,1.4s						
SYO	Syowa Base	28.41	136	‖*e*P	P	14 05 01.0	-0.5
QSPA	South Pole Qui	30.50	180	P	P	14 05 22.2	+1.9
	comp=Z,7.1nm,0.8s,baz=214,slow=1.8,SNR=52						
QSPA				PcP	PcP	14 08 18.6	+0.3
	comp=Z,2.0nm,0.7s,baz=207,slow=4.5,SNR=2.0						
QSPA	South Pole Qui	30.50	180	P	P	14 05 22.4	+2.0
QSPA				IAmb	IAmb	14 05 23.4	
	comp=Z,8.0nm,0.7s						
QSPA					PcP	14 08 18.7	+0.4
PLCA	Paso Flores	33.38	285	P	P	14 05 46.2	+0.5
	comp=Z,3.5nm,0.7s,baz=155,slow=11,SNR=8.1						
PLCA				LR	LR	14 17 54.9	
	comp=Z,56nm,19.3s,baz=161,slow=34						
PLCA	Paso Flores	33.38	285	P	P	14 05 46.1	+0.5
PLCA				IAmb	IAmb	14 06 09.1	
	comp=Z,15nm,1.3s						
LC01	Cunco	35.44	285	P	P	14 06 02.1	-1.4
MAW	Mawson	36.87	140	P	P	14 06 16.6	+1.3
	comp=Z,2.5nm,0.8s,baz=254,slow=11,SNR=5.4						
MAW	Mawson	36.87	140	IAmb	IAmb	14 06 19.2	
	comp=Z,0.8nm,0.9s						
BI02	San Fabin de	36.91	288	P	P	14 06 16.0	-0.1
BI02				IAmb	IAmb	14 06 26.4	
	comp=Z,18nm,1.4s						
BO02	Sierra Bellavi	38.19	291	P	P	14 06 27.9	+0.9
BO02				IAmb	IAmb	14 06 38.4	
	comp=Z,8.0nm,0.8s						
GO05	Huala	38.56	289	P	P	14 06 29.7	-0.3
GO05				IAmb	IAmb	14 06 31.2	
	comp=Z,24nm,1.1s						
PEL	Peldehue	39.50	292	P	P	14 06 38.0	+0.1
MT02	Curacav	39.62	292	P	P	14 06 38.8	0.0
MT02				IAmb	IAmb	14 06 52.5	
	comp=Z,34nm,1.4s						
VA03	San Esteban	39.75	293	P	P	14 06 40.1	+0.1
ROC1	El Roble	39.79	292	P	P	14 06 42.7	+2.1
CO02	Combarbal	41.26	293	P	P	14 06 53.2	+0.6
CO02				IAmb	IAmb	14 07 07.4	
	comp=Z,22nm,0.9s						
CO03	El Pedregal	41.42	294	P	P	14 06 54.8	+1.0
CO03				IAmb	IAmb	14 07 05.2	
	comp=Z,27nm,1.5s						
CO01	Juntas del Tor	41.87	295	P	P	14 06 58.2	+0.5
CO01				IAmb	IAmb	14 07 16.7	
	comp=Z,7.9nm,0.8s						
GO04	Tololo Observa	42.03	294	P	P	14 06 59.3	+0.3
VNDA	Vanda	42.91	183	P	P	14 07 08.0	+2.7
	comp=Z,4.3nm,0.7s,baz=190,slow=6.3,SNR=34						
VNDA				PcP	PcP	14 08 55.5	+0.3
	comp=Z,0.7nm,0.7s,baz=190,slow=2.9,SNR=3.7						
VNDA	Vanda	42.91	183	P	P	14 07 07.8	+2.5
AC05	El Transito	42.92	296	P	P	14 07 06.0	-0.1
AC05				IAmb	IAmb	14 07 11.0	
	comp=Z,17nm,0.6s						
AC04	Llanos de Chal	43.83	296	P	P	14 07 13.5	+0.2
GO02	Mina Guanaco	45.78	299	P	P	14 07 29.2	-0.1
GO02				IAmb	IAmb	14 07 29.9	
	comp=Z,23nm,1.2s						
BOSA	Boshof	46.44	71	LR	LR	14 23 28.7	
	comp=Z,52nm,19.2s,baz=199,slow=32						
BDFB	Brasilia	46.87	330	LR	LR	14 24 58.1	
	comp=Z,35nm,18.5s,baz=319,slow=33						
LVC	Limon Verde	47.72	302	P	P	14 07 44.4	-0.1
LVC				IAmb	IAmb	14 07 52.4	
	comp=Z,7.1nm,0.7s						
PB06	IPOC Station P	47.92	301	P	P	14 07 45.0	-0.7
PB06				IAmb	IAmb	14 08 13.8	
	comp=Z,13nm,0.9s						
PB04	IPOC Station P	48.50	301	P	P	14 07 49.8	-0.4
PB09	IPOC Station P	48.58	302	P	P	14 07 51.2	+0.3
PB09				IAmb	IAmb	14 08 13.2	
	comp=Z,32nm,1.4s						
PB07	IPOC Station P	48.92	301	P	P	14 07 53.1	-0.3
PB07				IAmb	IAmb	14 08 14.9	
	comp=Z,11nm,0.7s						
PB01	IPOC Station P	49.35	302	P	P	14 07 56.4	-0.3
PB08	IPOC Station P	50.01	303	P	P	14 08 01.6	-0.5
PB08				IAmb	IAmb	14 08 05.0	
	comp=Z,4.6nm,0.6s						
CASY	Casey	50.23	159	P	P	14 08 04.1	+1.4
GO01	Chusmiza	50.45	303	P	P	14 08 03.4	-2.0
GO01				IAmb	IAmb	14 08 08.4	
	comp=Z,6.7nm,0.6s						
PSGCX	Pisagua	50.90	302	P	P	14 08 07.4	-1.0
PSGCX				IAmb	IAmb	14 08 10.4	
	comp=Z,17nm,1.2s			

mb1mx3.3/36, mbtmp3.2/3, Error ellipse: s-maj=417.3km s-min=32.6km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.63**	**348**	P	P	14 14 08.2	-0.2
	0.2nm,0.5s,baz=156,slow=8.8,SNR=3.0						
WRA	**Warramunga Arr**	**47.40**	**124**	P	P	14 14 55.2	+0.3
	0.3nm,0.9s,baz=302,slow=9.8,SNR=2.4						
ASAR	**Alice Springs**	**48.95**	**129**	P	P	14 15 06.5	-0.4
	0.3nm,0.8s,baz=304,slow=8.0,SNR=4.0						

*YARS **23** 14:07:52.5±0.0, 55.°92N×133.°86E, h10km, ML3.0/6*
*SKHL **23** 14:07:55.7±0.5, 55.°66N×133.°76E, h10km, mb3.8/4*
ISC 23 14:07:55.3±1.1, 55.°99N±0.°04×133.°42E±0.°06, h10km, n15, σ2°08/24, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMKR	**Bomnak**	**2.91**	**246**	*e*Pg	**Pb**	**14 08 49.2**	**+1.9**
	10.0nm,0.5s						
BMKR	**Bomnak**	**2.91**	**246**	*e*Pn	**Pn**	**14 08 43.9**	**+2.2**
BMKR				*e*Pg	**Pb**	**14 08 49.2**	**+1.9**
BMKR				AMB	AMB	14 08 49.9	
	19nm,0.5s						
BMKR				*e*Sg	**Sg**	**14 09 28.2**	**-0.7**
BMKR				A	A	14 09 32.7	
	105nm,0.5s						
EKMR	**Ekimchan**	**2.94**	**186**	*e*Pg	**Pn**	**14 08 43.0**	**+0.9**
EKMR				AMB	AMB	14 08 46.0	
	10.0nm,0.5s						
EKMR				AMB	AMB	14 08 46.0	
	6.0nm,0.5s						
EKMR				AMB	AMB	14 08 46.0	
	35nm,0.5s						
EKMR				*e*Sg	**Sn**	**14 09 17.5**	**0.0**
EKMR				A	A	14 09 22.5	
	74nm,0.7s						
EKMR				A	A	14 09 22.5	
	100nm,0.7s						
CGD	**Chagda**	**3.15**	**332**	*e*Pg	**Pb**	**14 08 52.0**	**+0.6**
	49nm,0.2s						
CGD				*e*Sg	**Sg**	**14 09 37.8**	**+1.3**
	531nm,0.2s						
KROS	**Kirovskiy**	**4.01**	**250**	*e*Pg	**Pb**	**14 09 09.0**	**+2.9**
	7.0nm,0.3s						
KROS	**Kirovskiy**	**4.01**	**250**	*e*Pg	**Pg**	**14 09 09.8**	**-2.3**
KROS				AMB	AMB	14 09 11.0	
	5.0nm,0.4s						
KROS				*e*Sg	**Sg**	**14 10 03.0**	**-1.1**
KROS				A	A	14 10 04.0	
	11nm,0.4s						
ZEA	**Zeya**	**4.22**	**240**	*e*Pg	**Pb**	**14 09 11.2**	**+1.6**
ZEA				*e*Sg	**Sg**	**14 10 07.0**	**-3.8**
IENR	**Iengra**	**4.80**	**276**	*e*Sg	**Sg**	**14 10 30.4**	**+1.1**
	24nm,0.5s						
CLNS	**Chul'man**	**4.81**	**284**	*e*Pg	**Pg**	**14 09 24.4**	**-3.0**
	9.8nm,0.3s						
CLNS				*e*Sg	**Sg**	**14 10 30.7**	**+1.0**
	30nm,0.5s						
TNDR	**Tynda**	**5.01**	**264**	*e*Sg	**Sg**	**14 10 36.2**	**+0.1**
	52nm,0.6s						
ALDR	**Aldan**	**5.07**	**304**	*e*Pg	**Pg**	**14 09 29.1**	**-3.4**
	2.6nm,0.2s						
ALDR				*e*Sg	**Sg**	**14 10 39.3**	**+1.2**
	10nm,0.1s						
GRNR	**Gornyy**	**5.53**	**160**	*e*Sg	**Sb**	**14 10 38.1**	**-0.2**
GRNR				A	A	14 10 41.3	
	8.0nm,0.5s						
TBGR	**Tabaga**	**6.16**	**343**	*e*Pg	**Pb**	**14 09 45.5**	**+2.9**
	46nm,0.5s						
TBGR				*e*Sg	**Sg**	**14 11 09.9**	**-3.1**
	192nm,0.7s						
YKLR	**Yuktali**	**6.58**	**280**	*e*Pg	Pb	14 09 55.4	+5.7
	1.7nm,0.4s						
YKLR				*e*Sg	**Sg**	**14 11 26.1**	**-0.3**
	28nm,1.2s						
OLMR	**Olekminsk**	**8.13**	**308**	*e*Sg	**Sg**	**14 12 14.7**	**-1.3**
	18nm,0.8s						

*IDC **23** 14:15:24.5±12.0, 52.°18N×174.°56E, h108km±53km, mb3.0/2, mb1 3.1/3, mb1mx2.9/34, mbtmp3.3/3, Error ellipse: s-maj=279.0km s-min=33.0km az=167.0*
*NEIC **23** 14:15:24.2±1.0, 52.°6N±0.°2×174.°5E±0.°2, h84km±7km, mb3.9/10, Error ellipse: s-maj=33.2km s-min=15.9km az=201.0*
ISC 23 14:15:24.7±3.0, 52.°6N±0.°6×174.°4E±0.°1, h100km, n15, σ1°77/16, mb3.8/7, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.20**	**306**		**Pn**	**14 15 37.3**	**-1.5**
SMY				Sn	**Sn**	**14 15 46.0**	**-3.4**
PETK	**Petropavlovsk-**	**10.10**	**279**	P	**Pn**	**14 17 49.0**	**+2.5**
	0.1nm,0.3s,baz=97,slow=18,SNR=8.4						
PETK				S	**Sn**	**14 19 35.4**	**-2.4**
	0.2nm,0.3s,baz=82,slow=40,SNR=1.6						
OHAK	**Old Harbor**	**19.04**	**63**	P	**Pn**	**14 19 39.0**	**-1.4**
OHAK				IAmb	IAmb	14 19 52.1	
	comp=Z,10nm,1.1s						
GHO	**Glory Hole Cre**	**21.61**	**50**	P	**P**	**14 20 06.9**	**+0.5**
GHO				IAmb	IAmb	14 20 29.8	
	comp=Z,7.1nm,0.8s						
BWN	**Browne**	**21.86**	**44**	P	P	14 20 11.4	+2.6
SML	**Sawmill**	**21.90**	**51**	P	**P**	**14 20 10.9**	**+1.6**
SML				IAmb	IAmb	14 20 29.6	
	comp=Z,7.0nm,1.2s						
SCM	**Sheep Creek Mo**	**22.37**	**51**	P	**P**	**14 20 15.0**	**+0.6**
DHY	**Denali Highway**	**22.53**	**47**	P	**P**	**14 20 16.8**	**+0.8**
DHY				IAmb	IAmb	14 20 43.8	
	comp=Z,7.3nm,1.4s						
MDM	**Murphy Dome**	**22.58**	**42**	P	**P**	**14 20 18.0**	**+1.6**
CCB	**Clear Creek Bu**	**22.67**	**43**	P	**P**	**14 20 17.8**	**+0.5**
CCB				IAmb	IAmb	14 20 30.9	
	comp=Z,5.3nm,1.5s						
ILAR	**Eielson Array**	**23.09**	**43**	P	**P**	**14 20 22.5**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=262,slow=7.6,SNR=5.2						
DOT	**Dot Lake**	**24.10**	**46**	P	**P**	**14 20 30.5**	**0.0**
BCAR	**Beaver Creek A**	**25.06**	**48**	P	**P**	**14 20 40.6**	**+1.3**
EGAK	**Eagle**	**25.50**	**44**	P	**P**	**14 20 44.2**	**+0.9**
EGAK				IAmb	IAmb	14 21 00.8	
	comp=Z,5.3nm,1.4s						
MKAR	**Makanchi Array**	**55.90**	**304**	P	**P**	**14 24 53.3**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=52,slow=5.8,SNR=5.9						

*NEIC **23** 14:16:09.7±2.0, 7.°34S±0.°09×120.°5E±0.°1, h529km±4km, mb4.2/16, Error ellipse: s-maj=18.2km s-min=12.8km az=76.0*
*IDC **23** 14:16:10.0±0.6, 7.°23S×120.°84E, h526km±6km, mb3.1/7, mb1 3.4/11, mb1mx3.1/35, mbtmp4.2/11, Error ellipse: s-maj=40.2km s-min=8.1km az=55.0*
*DJA **23** 14:16:12.9±0.6, 8.°5±5.°×12.°0E±.°, h489km±6km, M4.1/13, MLv4.1/13*
ISC 23 14:16:09.4±0.6, 7.°38S±0.°07×120.°61E±0.°09, h523km±7km, n58, σ1°20/67, mb3.6/8, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.73**	**142**	P	**P**	**14 17 15.0**	**-0.6**
EDFI				S	**S**	**14 18 06.6**	**-2.7**
MMRI	**Maumere**	**2.04**	**128**	P	**P**	**14 17 16.7**	**-0.1**
BKSI	**Bulukumba**	**2.10**	**347**	P	**P**	**14 17 18.0**	**+0.9**
KAPI	**Kappang**	**2.50**	**340**	P	**P**	**14 17 21.2**	**+1.9**
	40nm,0.3s,baz=146,slow=3.0,SNR=93						
KAPI				S	**S**	**14 18 16.9**	**+1.0**
	baz=136,slow=22,SNR=8.3						
KAPI	**Kappang**	**2.50**	**340**		**P**	**14 17 20.9**	**+1.7**
BASI	**Baing, Sumba**	**2.82**	**181**	P	**P**	**14 17 22.0**	**+0.9**
BNSI	**Bone**	**3.00**	**350**	P	**P**	**14 17 24.4**	**+2.1**
PLAI	**Plampang**	**3.15**	**243**	P	**P**	**14 17 22.8**	**-0.4**
SPSI	**Sidrap Palu**	**3.49**	**346**	P	**P**	**14 17 27.3**	**+1.7**
TWSI	**Taliwang, Sumb**	**3.93**	**250**	P	**P**	**14 17 28.3**	**-0.5**
BATI	**Baumata**	**4.13**	**133**	P	**P**	**14 17 31.7**	**+1.3**
	54nm,0.3s,baz=327,slow=1.0,SNR=50						
BATI				S	**S**	**14 18 35.2**	**-1.2**
	58nm,0.3s,baz=318,slow=6.2,SNR=23						
BATI	**Baumata**	**4.13**	**133**	P	**P**	**14 17 31.6**	**+1.2**
SOEI	**Soe**	**4.32**	**123**	P	**P**	**14 17 33.7**	**+1.6**
SOEI	**Soe**	**4.32**	**123**		**P**	**14 17 32.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**6.48**	**260**	P	**P**	**14 17 50.1**	**-1.3**
LUWI	**Luwuk**	**6.66**	**19**	P	**P**	**14 17 49.0**	**-4.0**
TNTI	**Ternate**	**10.54**	**40**	P	**P**	**14 18 31.4**	**-1.2**
SAUI	**Saumlaki**	**10.62**	**94**	P	**P**	**14 18 33.4**	**-0.1**
KNRA	**Kununurra**	**11.48**	**137**	P	**P**	**14 18 43.6**	**+1.2**
MTN	**Manton Dam**	**11.70**	**118**	P	**P**	**14 18 45.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.73**	**156**	P	**P**	**14 18 46.5**	**+1.4**
	2.3nm,0.3s,baz=1.1,slow=7.2,SNR=106						
FITZ	**Fitzroy Crossi**	**11.73**	**156**	P	**P**	**14 18 46.3**	**+1.3**
FAKI	**Fak Fak**	**12.41**	**70**	P	P	14 18 48.7	-3.7
MYLDM	**Lahad Datu**	**12.65**	**350**		**P**	**14 18 56.5**	**+1.7**
SBUM	**Sibu**	**12.86**	**319**	P	**P**	**14 18 57.5**	**+0.5**
KSM	**Kuching**	**13.52**	**310**	P	**P**	**14 19 04.1**	**+0.2**
KKM	**Kota Kinabalu**	**14.04**	**342**	P	**P**	**14 19 08.7**	**-0.7**
PSA00	**Pilbara Seismi**	**14.13**	**183**	P	**P**	**14 19 10.3**	**+0.1**
WB0	**Warramunga Arr**	**18.18**	**134**	P	**P**	**14 19 51.1**	**+0.7**
WB0				IAmb	IAmb	14 19 52.6	
	comp=Z,7.2nm,0.6s						
WRA	**Warramunga Arr**	**18.26**	**135**	P	**P**	**14 19 52.4**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=312,slow=11,SNR=75						
WRA				S	**S**	**14 22 50.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=318,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**18.26**	**135**	P	**P**	**14 19 51.0**	**0.0**
WRAB	**Tennant Creek**	**18.26**	**134**	P	**P**	**14 19 52.2**	**+1.1**
WRAB				IAmb	IAmb	14 19 53.6	
	comp=Z,19nm,1.2s						
WB2	**Warramunga Arr**	**18.27**	**135**	P	**P**	**14 19 52.1**	**+1.0**
WB2				IAmb	IAmb	14 19 53.6	
	comp=Z,19nm,1.1s						
WR0	**Warramunga Arr**	**18.41**	**134**	P	**P**	**14 19 53.5**	**+1.1**
WR0				IAmb	IAmb	14 19 54.7	
	comp=Z,13nm,0.8s						
MYKOM	**Kota Tinggi**	**19.04**	**298**	P	**P**	**14 19 58.6**	**+0.4**
MYKOM				IAmb	IAmb	14 20 26.8	
	comp=Z,18nm,1.3s						
AS31	**Alice Springs**	**20.62**	**143**	P	**P**	**14 20 13.3**	**+0.7**
AS31				IAmb	IAmb	14 20 21.2	
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**20.62**	**143**	P	**P**	**14 20 13.7**	**+1.1**
	comp=Z,2.0nm,0.4s,baz=319,slow=8.3,SNR=111						
ASAR				S	**S**	**14 23 29.0**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=314,slow=14,SNR=5.6						
ASAR				PcP	**PcP**	**14 24 00.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=326,slow=1.5,SNR=9.8						
ASAR	**Alice Springs**	**20.62**	**143**	P	**P**	**14 20 13.6**	**+1.1**
ASAR					**PcP**	**14 23 59.7**	**-0.2**
MORW	**Morawa**	**22.00**	**191**	P	**P**	**14 20 24.6**	**-0.2**
MORW				IAmb	IAmb	14 20 49.5	
	comp=Z,10.0nm,1.1s						
GSI	**Gunungsitoli**	**24.54**	**290**	P	**P**	**14 20 45.9**	**-1.9**
BBOO	**Buckleboo**	**29.09**	**153**	P	**P**	**14 21 28.0**	**+0.5**
STKA	**Stephens Creek**	**31.25**	**144**	P	**P**	**14 21 47.5**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=332,slow=5.7,SNR=4.1						
STKA				PcP	**PcP**	**14 24 24.9**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=0.0,slow=0.0,SNR=5.1						
STKA	**Stephens Creek**	**31.25**	**144**	P	**P**	**14 21 46.9**	**+0.7**
STKA					**PcP**	**14 24 24.8**	**0.0**
CMAR	**Chiang Mai Arr**	**33.41**	**320**	P	**P**	**14 22 04.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=138,slow=5.8,SNR=2.7						
CMAR				PcP	**PcP**	**14 24 32.3**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=149,slow=2.1,SNR=1.3						
MK31	**Makanchi Array**	**63.77**	**332**	P	**P**	**14 25 49.9**	**0.0**
MKAR	**Makanchi Array**	**63.77**	**332**	P	**P**	**14 25 49.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=140,slow=7.4,SNR=16						
MKAR				PcP	**PcP**	**14 26 19.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=135,slow=3.7,SNR=2.1						
MAKZ	**Makanchi**	**63.93**	**331**	P	**P**	**14 25 50.0**	**-0.8**
MAKZ				IAmb	IAmb	14 26 17.1	
	comp=Z,1.4nm,1.2s						
PEA0B	**Petropavlovsk-**	**67.97**	**23**	P	**P**	**14 26 16.4**	**+0.5**
PETK	**Petropavlovsk-**	**67.97**	**23**	P	**P**	**14 26 16.4**	**+0.6**
ZALV	**Zalesovo Beam**	**68.12**	**338**	P	**P**	**14 26 15.9**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=150,slow=7.2,SNR=4.5						
MAW	**Mawson**	**71.29**	**200**	P	**P**	**14 26 36.5**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=63,slow=6.8,SNR=2.5						
MAW	**Mawson**	**71.29**	**200**	IAmb	IAmb	14 26 37.2	
	comp=Z,1.3nm,1.5s						
VNDA	**Vanda**	**73.34**	**171**	P	**P**	**14 26 48.1**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=325,slow=5.8,SNR=12						
VNDA	**Vanda**	**73.34**	**171**	P	**P**	**14 26 48.1**	**+1.0**
VNDA				IAmb	IAmb	14 26 59.8	
	comp=Z,3.9nm,1.4s						
ABKAR	**Akbulak array**	**77.17**	**324**	P	**P**	**14 27 07.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**119.73**	**281**	PKP	**PKPdf**	**14 34 00.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=81,slow=1.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**119.73**	**281**		**PKPdf**	**14 33 59.3**	**-1.6**
BOAB	**BOACO BROADBAND**	**138.65**	**77**		**PKPdf**	**14 35 00.2**	**-1.4**

IDC 23 14:46:10.1±71.0, 25.°17N×105.°37E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/53, mbtmp3.6/3, Error ellipse: s-maj=1170.0km s-min=88.8km az=148.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**22.64**	**2**	P	P	14 51 13.0	+0.2
	2.3nm,0.8s,baz=188,slow=11,SNR=8.3						
MKAR	**Makanchi Array**	**28.35**	**325**	P	P	14 52 06.3	+0.5
	0.4nm,0.7s,baz=131,slow=7.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**32.57**	**337**	P	P	14 52 42.1	-0.9
	0.5nm,0.5s,baz=147,slow=8.2,SNR=2.1						

*IDC **23** 14:53:03.0±9.8, 23.°27S×179.°82W, h511km±89km, mb3.2/6, mb1 3.4/7, mb1mx3.1/35, mbtmp4.1/7, Error ellipse: s-maj=81.6km s-min=23.4km az=42.0*
*NEIC **23** 14:53:03.4±1.4, 23.°55±0.°1×179.°9W±0.°2, h520km±8km, mb4.3/37, Error ellipse: s-maj=21.2km s-min=16.1km az=108.0*
ISC 23 14:53:04.8±0.6, 23.°53S±0.°08×179.°9W±0.°1, h532km, n49, σ1°05/49, mb4.2/21, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.90**	**189**	P	**P**	**14 56 13.6**	**+0.2**
	0.9nm,0.3s,baz=107,slow=1.3,SNR=5.8						
URZ				S	**S**	**14 58 45.8**	**-3.1**
	0.5nm,0.3s,baz=71,slow=2.0,SNR=1.8						
BFZ	**Birch Farm**	**17.41**	**190**	P	**P**	**14 56 36.8**	**-1.3**
QRZ	**Quartz Range**	**18.39**	**199**	P	**P**	**14 56 47.8**	**+0.9**
THZ	**Tophouse**	**19.15**	**197**	P	**P**	**14 56 54.1**	**+0.1**
KHZ	**Kahutara**	**19.61**	**195**	P	**P**	**14 56 57.3**	**-0.8**
LHI	**Lord Howe Isla**	**20.27**	**242**	P	**P**	**14 57 02.5**	**-1.7**
LTZ	**Lake Taylor**	**20.27**	**197**	P	**P**	**14 57 03.5**	**-0.7**
MQZ	**McQueen's Vall**	**21.04**	**195**	P	**P**	**14 57 10.6**	**-0.4**
RPZ	**Rata Peaks**	**21.47**	**198**	P	**P**	**14 57 17.5**	**+2.6**
	9.5nm,0.9s,baz=6.3,slow=9.2,SNR=1.6						
FOZ	**Fox Glacier**	**21.68**	**201**	P	**P**	**14 57 16.1**	**-0.7**
WKZ	**Wanaka**	**23.10**	**200**	P	**P**	**14 57 28.9**	**-0.6**
DCZ	**Deep Cove**	**24.29**	**203**	P	**P**	**14 57 40.3**	**+0.3**
EIDS	**Eidsvold**	**26.47**	**260**	P	**P**	**14 57 58.8**	**-0.8**
EIDS				IAmb	IAmb	14 58 14.2	
	comp=Z,21nm,1.4s						
CTAO	**Charters Tower**	**31.58**	**270**	P	**P**	**14 58 45.1**	**+1.1**
CTAO				IAmb	IAmb	14 58 53.4	
	comp=Z,22nm,1.5s						
TOO	**Toolangi**	**32.73**	**237**	P	**P**	**14 58 54.8**	**+1.1**
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**14 59 13.3**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=75,slow=8.6,SNR=7.2						
STKA	**Stephens Creek**	**34.95**	**248**	IAmb	IAmb	14 59 20.3	
	comp=Z,2.3nm,1.4s						
BBOO	**Buckleboo**	**39.68**	**246**	P	**P**	**14 59 50.7**	**-0.4**
BBOO				IAmb	IAmb	14 59 56.0	
	comp=Z,20nm,1.5s						
AS31	**Alice Springs**	**42.19**	**260**	P	**P**	**15 00 11.5**	**+0.2**
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**15 00 11.6**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=95,slow=7.3,SNR=82						
ASAR				PcP	**pwP**	**15 01 52.7**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=100,slow=5.1,SNR=2.5						
ASAR				S	**S**	**15 05 52.2**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=94,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**15 00 10.7**	**-0.6**
WR0	**Warramunga Arr**	**42.34**	**266**	P	**P**	**15 00 12.1**	**-0.4**
WR0				IAmb	IAmb	15 00 16.7	
	comp=Z,6.9nm,1.4s						
WB2	**Warramunga Arr**	**42.52**	**266**	P	**P**	**15 00 13.6**	**-0.2**
WB2				IAmb	IAmb	15 00 14.0	
	comp=Z,3.8nm,0.6s						
WB0	**Warramunga Arr**	**42.52**	**266**	P	**P**	**15 00 13.4**	**-0.5**
WB0				IAmb	IAmb	15 00 14.4	
	comp=Z,4.8nm,0.7s						
WRAB	**Tennant Creek**	**42.52**	**266**	P	**P**	**15 00 13.4**	**-0.4**
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**15 00 13.7**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=94,slow=8.4,SNR=80						
WRA	**Warramunga Arr**	**42.53**	**266**	IAmb	IAmb	15 00 14.2	
	comp=Z,0.3nm,0.7s						
FORT	**Forrest**	**46.53**	**249**	P	**P**	**15 00 44.9**	**+0.3**
MTN	**Manton Dam**	**47.53**	**274**	P	**P**	**15 00 51.7**	**-0.6**
MTN				IAmb	IAmb	15 01 00.1	
	comp=Z,18nm,1.2s						
KNRA	**Kununurra**	**48.79**	**269**	P	**P**	**15 01 01.7**	**0.0**
KNRA				IAmb	IAmb	15 01 02.6	
	comp=Z,26nm,1.2s						
JCUZ	**Jacuzzi**	**49.03**	**32**	P	**P**	**15 01 04.0**	**+0.6**
KIP	**Kipapa**	**49.50**	**27**	P	**P**	**15 01 06.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**50.96**	**265**	P	**P**	**15 01 18.2**	**+0.6**
FITZ				IAmb	IAmb	15 01 39.6	
	comp=Z,9.7nm,1.4s						
VNDA	**Vanda**	**54.76**	**185**	P	**P**	**15 01 45.5**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=3.2,slow=7.9,SNR=4.0						
VNDA	**Vanda**	**54.76**	**185**	P	**P**	**15 01 46.3**	**+2.6**
MORW	**Morawa**	**57.10**	**250**	P	**P**	**15 02 00.7**	**0.0**
MORW				IAmb	IAmb	15 02 07.7	
	comp=Z,17nm,1.2s						
CASY	**Casey**	**60.49**	**206**	P	**P**	**15 02 22.8**	**0.0**
QSPA	**South Pole Qui**	**66.55**	**180**	P	**P**	**15 03 02.8**	**+1.0**
JGF	**Kuroka**	**71.39**	**324**	P	**P**	**15 03 30.2**	**-1.0**
JGF				IAmb	IAmb	15 03 57.9	
	comp=Z,12nm,1.4s						
MAJO	**Matsushiro**	**71.65**	**325**	P	**P**	**15 03 31.3**	**-1.4**
MAJO				IAmb	IAmb	15 03 54.4	
	comp=Z,6.4nm,1.1s						
JNU	**Nakatsue**	**73.32**	**318**	P	**P**	**15 03 41.4**	**-1.0**
JNU				IAmb	IAmb	15 03 55.9	
	comp=Z,36nm,1.4s						
BELA	**Belgrano 2**	**76.79**	**173**	P	**P**	**15 04 00.8**	**-0.4**
PEA0B	**Petropavlovsk-**	**78.76**	**346**	P	**P**	**15 04 12.1**	**+0.1**
PEA0B				IAmb	IAmb	15 04 17.1	
	comp=Z,13nm,1.1s						
PRN	**Pahroc Range**	**85.95**	**46**	P	**P**	**15 04 48.0**	**-0.9**
PRN				IAmb	IAmb	15 04 49.0	
	comp=Z,4.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.49**	**290**	P	**P**	**15 05 06.4**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=94,slow=2.7,SNR=1.5						
HFS	**Hagfors**	**142.20**	**349**	PKhKP	PKPpre	15 11 31.5	
	comp=Z,1.4nm,0.3s,baz=98,slow=2.9,SNR=6.3						
AKASG	**Malin Array Be**	**144.71**	**328**	PKP	**PKPdf**	**15 11 39.7**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=34,slow=3.6,SNR=6.0						
MMAI	**Mount Meron Ar**	**147.64**	**295**	PKPbc	**PKPbc**	**15 11 50.3**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=96,slow=3.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**169.56**	**189**	PKPab	**PKPab**	**15 13 28.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=175,slow=5.2,SNR=2.1						

*JMA **23** 14:54:14.4±0.1, 38.°69N×142.°28E, h39km±2km, M3.8*
JMA Felt I J1.
*NIED **23** 14:54:14.5, 38.°69N×142.°28E, h39km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.36; $M_{\theta\theta}$0.66; $M_{\phi\phi}$-4.01; $M_{r\theta}$3.86; $M_{\theta\phi}$-2.63; $M_{\phi r}$0.44; Fault plane solution: $M_0$5.97000×10^{14} NP1:ϕ_s57.00000°, δ68.00000°, λ127.00000°. NP2:ϕ_s174.00000°, δ43.00000°, λ34.00000°.*
*IDC **23** 14:54:15.0±1.9, 38.°60N×142.°39E, h43km±19km, mb3.4/8, mb1 3.6/13, mb1mx3.4/60, mbtmp3.6/13, ML3.2/5, MS2.5/3, Ms1 2.5/3, ms1mx2.3/28 Error ellipse: s-maj=25.3km s-min=11.5km az=102.0*
*NEIC **23** 14:54:16.7±2.6, 38.°83N±0.°06×142.°16E±0.°07, h53km±14km, mb4.1/1, Error ellipse: s-maj=9.0km s-min=7.7km az=217.0*
ISC 23 14:54:14.7±1.6, 38.°65N±0.°05×142.°30E±0.°08, h41km±14km, n49, σ1°41/50, mb3.7/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.66**	**311**	P	**Pn**	**14 54 26.8**	**-0.8**
OFUJ				S	**Sn**	**14 54 35.2**	**-1.6**
JKMT	**Kesennumamotoy**	**0.67**	**284**	P	**Pn**	**14 54 27.1**	**-0.6**
JKMT				S	**Sn**	**14 54 35.8**	**-1.3**
JIKH	**Ishinomakikobu**	**0.74**	**243**	P	**Pn**	**14 54 28.3**	**-0.4**
JIKH				S	**Sn**	**14 54 38.0**	**-0.7**
JIO	**Ouri**	**0.77**	**256**	P	**Pn**	**14 54 28.6**	**-0.5**
JIO				S	**Sn**	**14 54 38.6**	**-1.0**
JMK	**Ichinoseki**	**0.90**	**290**	P	**Pn**	**14 54 30.4**	**-0.5**
JMK				S	**Sn**	**14 54 42.0**	**-0.7**
JOM	**Ohasama**	**1.14**	**317**	P	**Pn**	**14 54 33.9**	**-0.3**
JOM				S	**Sn**	**14 54 48.1**	**-0.5**
JOU	**Okura**	**1.32**	**258**	P	**Pn**	**14 54 36.8**	**+0.2**
JOU				S	**Sn**	**14 54 53.1**	**+0.1**
JTH	**Tanohata**	**1.33**	**345**	P	**Pn**	**14 54 36.2**	**-0.6**
JTH				*e*S	**Sn**	**14 54 52.7**	**-0.7**
JMM	**Marumori**	**1.42**	**237**	P	**Pn**	**14 54 37.8**	**-0.2**
JMM	**Marumori**	**1.42**	**237**	Pn	**Pn**	**14 54 37.6**	**-0.5**
JRG	**Rokugo**	**1.50**	**300**	P	**Pn**	**14 54 39.2**	**+0.1

comp=Z,0.3nm,0.7s,baz=270,slow=2.5,SNR=4.0

*IDC **23** 15:08:11.3±2.3, 62°.81S×147°.85E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.9/24, mbtmp4.0/4, ML4.0/1, MS3.0/1, Ms1 3.1/1, ms1mx2.8/24, Error ellipse: s-maj=160.4km s-min=23.2km az=84.0*
*NEIC **23** 15:08:13.5±0.8, 62°.8S±0°.1×147°.0E±0°.4, h10km±1km, mb4.2°/14, Error ellipse: s-maj=33.9km s-min=18.8km az=88.0*
ISC 23 15:08:12.9±0.8, 62°.8S±0°.1×147°.3E±0°.2, h10km, n30, σ0°88/26, mb4.2/7, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.47**	**168**	Pn	**Pn**	**15 11 49.3**	**-1.4**
	0.6nm,0.3s,baz=322,slow=12,SNR=26						
VNDA				LR	LR	15 18 22.2	
	comp=Z,56nm,18.4s,baz=332,slow=40						
VNDA	**Vanda**	**15.47**	**168**		**Pn**	**15 11 48.7**	**-2.0**
VNDA				IAmb	IAmb	15 11 51.6	
	comp=Z,3.4nm,0.6s						
CASY	**Casey**	**16.02**	**241**	Pn	Pn	15 11 50.7	-7.2
LTZ	**Lake Taylor**	**24.82**	**48**	P	**P**	**15 13 35.2**	**+0.2**
QSPA	**South Pole Qui**	**27.26**	**180**	P	**P**	**15 13 58.5**	**+1.5**
H01W1	**Cape Leeuwin H**	**34.73**	**308**	T	T	15 51 14.2	
	baz=154,slow=76,SNR=5.9						
H01W2	**Cape Leeuwin H**	**34.74**	**308**	T	T	15 51 13.9	
	baz=154,slow=76,SNR=7.8						
H01W3	**Cape Leeuwin H**	**34.75**	**308**	T	T	15 51 14.9	
	baz=154,slow=76,SNR=7.7						
NWAO	**Narrogin (SRO)**	**35.44**	**313**	P	**P**	**15 15 08.0**	**-1.0**
ASAR	**Alice Springs**	**40.18**	**341**	P	**P**	**15 15 49.6**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=166,slow=8.9,SNR=20						
AS31	**Alice Springs**	**40.18**	**341**	P	**P**	**15 15 49.3**	**+0.2**
WR0	**Warramunga Arr**	**43.73**	**342**	P	**P**	**15 16 18.1**	**0.0**
WR0				IAmb	IAmb	15 16 43.1	
	comp=Z,5.6nm,1.2s						
WB2	**Warramunga Arr**	**43.77**	**342**	P	**P**	**15 16 18.5**	**0.0**
WB2				IAmb	IAmb	15 16 24.9	
	comp=Z,6.3nm,1.2s						
WRA	**Warramunga Arr**	**43.77**	**342**	P	**P**	**15 16 18.7**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=170,slow=7.0,SNR=25						
WRA				PcP	**PcP**	**15 18 05.0**	**0.0**
	comp=Z,1.1nm,0.9s,baz=174,slow=3.5,SNR=5.5						
WRA	**Warramunga Arr**	**43.77**	**342**	P	**P**	**15 16 18.4**	**-0.1**
WRAB	**Tennant Creek**	**43.78**	**342**	P	**P**	**15 16 18.9**	**+0.4**
WRAB				IAmb	IAmb	15 16 34.5	
	comp=Z,8.2nm,1.4s						
WB0	**Warramunga Arr**	**43.94**	**342**	P	**P**	**15 16 19.8**	**-0.1**
WB0				IAmb	IAmb	15 16 27.6	
	comp=Z,5.6nm,1.1s						
SNAA	**Sanae**	**44.21**	**193**	P	**P**	**15 16 22.3**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=170,slow=16,SNR=2.5						
SNAA	**Sanae**	**44.21**	**193**	IAmb	IAmb	15 16 43.7	
	comp=Z,5.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**47.15**	**331**	P	**P**	**15 16 45.0**	**-0.2**
KNRA	**Kununurra**	**48.87**	**336**	P	**P**	**15 16 56.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**89.43**	**315**	P	**P**	**15 21 09.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**124.75**	**222**	PKP	**PKPdf**	**15 27 12.7**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=145,slow=3.5,SNR=1.5						
AKASG	**Malin Array Be**	**145.40**	**279**	PKPbc	**PKPbc**	**15 27 49.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=98,slow=2.4,SNR=1.9						
ESDC	**Sonseca Array**	**151.12**	**230**	PKPbc	**PKPbc**	**15 28 06.3**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=166,slow=0.8,SNR=8.3						
ESDC	**Sonseca Array**	**151.12**	**230**		**PKPbc**	**15 28 06.2**	**+0.8**
GERES	**GERESS Array B**	**151.18**	**263**	PKPbc	**PKPbc**	**15 28 04.6**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=166,slow=0.8,SNR=5.4						
GERES	**GERESS Array B**	**151.18**	**263**		**PKPbc**	**15 28 05.0**	**-0.3**
FINES	**FINESS Array B**	**153.32**	**294**	PKPbc	**PKPbc**	**15 28 10.3**	**+0.8**
	comp=Z,2.9nm,1.0s,baz=122,slow=2.5,SNR=4.7						
FINES	**FINESS Array B**	**153.32**	**294**		**PKPbc**	**15 28 09.9**	**+0.4**

*LJU **23** 15:15:06.1, 45°.41N×15°.94E, h1km, ML2.3*
*VIE **23** 15:15:06.7±0.5, 45°.46N×15°.98E, h3km, mb2.2/7, ml2.6/7, Error ellipse: s-maj=3.7km s-min=3.1km az=148.0 33 km E of Karlovac*
*RHSSO **23** 15:15:07.5±0.3, 45°.34N×15°.85E, h4km±2km, ML2.7/10*
*PRU **23** 15:15:07.4±0.0, 45°.55N×16°.06E, h0km*
ISC 23 15:15:07.1±1.0, 45°.43N±0°.02×15°.91E±0°.02, h7km±9km, n48, σ0°97/88, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZLJ	**Ozalj**	**0.36**	**301**	*i* Pg	**Pg**	**15 15 14.6**	**+0.5**
OZLJ				Sg	**Sg**	**15 15 19.8**	**+1.0**
ZAG	**Zagreb**	**0.40**	**8**	*e*Pg	**Pg**	**15 15 15.1**	**+0.3**
ZAG				Sg	**Sg**	**15 15 21.3**	**+1.2**
BOJS	**Bojanci**	**0.46**	**279**	⇑*i*Pg	**Pg**	**15 15 16.4**	**+0.3**
BOJS				*i* Sg	**Sb**	**15 15 23.4**	**-1.4**
GCIS	**Gornji Cirnik**	**0.47**	**336**	*i* Pg	**Pg**	**15 15 16.0**	**-0.3**
GCIS				*e*Sg	**Sg**	**15 15 23.3**	**+0.8**
	comp=Z,105nm,0.1s						
PTJ	**Puntijarka**	**0.47**	**5**	*i* Pg	**Pg**	**15 15 16.1**	**-0.2**
PTJ				Sg	**Sg**	**15 15 22.7**	**+0.2**
CRES	**Cresnjev**	**0.50**	**321**	⇑*i*Pg	**Pg**	**15 15 16.9**	**+0.1**
CRES				*i* Sg	**Sg**	**15 15 23.7**	**+0.3**
	comp=Z,63nm,0.1s						
CRES	**Cresnjev**	**0.50**	**321**	⇑*i*Pg	**Pg**	**15 15 16.9**	**+0.1**
CRES				*e*Sg	**Sb**	**15 15 25.0**	**-0.9**
GOLS	**Golise**	**0.61**	**341**	*e*Pg	**Pg**	**15 15 18.8**	**-0.1**
GOLS				*i* Sg	**Sg**	**15 15 27.5**	**+0.7**
MOSL	**Moslavina**	**0.62**	**73**	*e*Pg	**Pg**	**15 15 18.3**	**-0.8**
MOSL				Sg	**Sg**	**15 15 26.3**	**-1.0**
LEGS	**Legarje**	**0.66**	**322**	*i* Pg	**Pg**	**15 15 19.7**	**-0.1**
LEGS				*e*Sg	**Sb**	**15 15 29.6**	**-0.8**
PRIJ	**Prijedor**	**0.73**	**128**	*e*Pg	**Pg**	**15 15 20.7**	**-0.5**
PRIJ				*e*Sg	**Sg**	**15 15 30.5**	**-0.2**
GBRS	**Gornja Briga**	**0.78**	**278**	*i* Pg	**Pg**	**15 15 22.2**	**+0.2**
GBRS				*e*Sg	**Sb**	**15 15 33.2**	**-0.5**
	comp=Z,20nm,0.1s						
VISS	**Visnje**	**0.83**	**297**	*i* Pg	**Pg**	**15 15 23.3**	**+0.2**
VISS				*e*Sg	**Sb**	**15 15 35.9**	**+0.5**
	comp=Z,59nm,0.2s						
PDKS	**Podkum**	**0.89**	**315**	*e*Pg	**Pg**	**15 15 24.3**	**0.0**
UDBI	**Udbina**	**0.91**	**186**	*i* Pg	**Pg**	**15 15 23.6**	**-1.0**
UDBI				Sg	**Sg**	**15 15 35.8**	**-0.6**
VNDS	**Vrh nad Dolski**	**1.07**	**309**	*e*Pg	**Pb**	**15 15 27.8**	**-0.3**
VNDS				*i* Sg	**Sn**	**15 15 43.6**	**-0.3**
	comp=Z,27nm,0.2s						
KNDS	**Knezji Dol**	**1.08**	**276**	*i* Pg	**Pg**	**15 15 27.6**	**-0.2**
KNDS				*i* Sg	**Sb**	**15 15 42.7**	**+0.2**
	comp=Z,63nm,0.3s						
CEY	**Cerknica**	**1.08**	**287**	*e*Pg	**Pg**	**15 15 26.7**	**-1.2**
CEY				*e*Sg	**Sg**	**15 15 41.8**	**-0.1**
BLY	**Banja Luka**	**1.14**	**127**	*e*Pg	**Pg**	**15 15 27.6**	**-1.3**
BLY				*e*Sg	**Sg**	**15 15 42.6**	**-1.0**
NVLJ	**Novalja**	**1.14**	**220**	*e*Pg	**Pg**	**15 15 28.6**	**-0.3**
NVLJ				Sg	**Sn**	**15 15 44.7**	**-0.7**
GBAS	**Gorenja Brezov**	**1.14**	**297**	⇑*i*Pg	**Pg**	**15 15 28.6**	**-0.4**
GBAS				*e*Sg	**Sb**	**15 15 44.2**	**0.0**
	comp=Z,19nm,0.1s						
LJU	**Ljubljana**	**1.14**	**303**	*e*Pg	**Pg**	**15 15 28.9**	**-0.1**
LJU				*e*Sg	**Sn**	**15 15 44.6**	**-0.9**
BEHE	**Becsehely**	**1.20**	**30**	*e*Pg	**Pg**	**15 15 31.5**	**+1.3**
BEHE				*e*Sg	**Sn**	**15 15 49.0**	**+2.0**
SKDS	**Skadanscina**	**1.33**	**275**	*i* Pg	**Pn**	**15 15 31.8**	**-0.5**
JAVS	**Javornik**	**1.37**	**290**	*i* Pg	**Pn**	**15 15 32.5**	**-0.3**
SOKA	**Soboth**	**1.38**	**334**	*e*Pg	**Pn**	**15 15 32.5**	**-0.5**
	comp=Z,5.1nm,0.2s,SNR=5.1						
SOKA				Sg	**Sg**	**15 15 52.0**	**+0.4**
	comp=Z,14nm,0.3s						
OBKA	**Obir**	**1.43**	**319**	*e*Pg	**Pg**	**15 15 34.9**	**+0.3**
	comp=Z,15nm,0.2s,SNR=32						
OBKA				*e*Sg	**Sg**	**15 15 54.3**	**+1.2**
	comp=Z,154nm,0.6s						
KIJV	**Kijevo**	**1.47**	**166**	*i* Pg	**Pb**	**15 15 34.7**	**-0.1**
KIJV				Sg	**Sg**	**15 15 54.9**	**+0.4**
VOJS	**Vojsko**	**1.54**	**294**	*e*Pg	**Pn**	**15 15 34.8**	**-0.3**
DUGI	**Dugi Otok**	**1.56**	**203**	*e*Pg	**Pb**	**15 15 35.8**	**-0.6**
DUGI				Sg	**Sg**	**15 15 58.0**	**+0.7**
MORI	**Morici**	**1.57**	**185**	*e*Pn	**Pb**	**15 15 36.5**	**-0.1**
MORI				Sn	**Sg**	**15 15 58.2**	**+0.5**
ARSA	**Arzberg**	**1.84**	**352**	*e*Pn	**Pn**	**15 15 38.6**	**-0.5**
	comp=Z,0.4nm,0.1s						
ARSA				Sn	**Sn**	**15 16 02.9**	**+0.3**
	comp=Z,9.6nm,0.4s						
MYKA	**Terra Mystica**	**1.98**	**308**	*e*Pg	**Pg**	**15 15 44.6**	**-0.5**
	comp=Z,4.0nm,0.2s						
MYKA				*e*Sg	**Sg**	**15 16 12.1**	**+1.5**
	comp=Z,6.8nm,0.2s						
RICI	**Ricice**	**2.13**	**155**	*e*Pn	**Pn**	**15 15 43.8**	**+0.6**
RICI				Sn	**Sb**	**15 16 12.0**	**-0.7**
MAKA	**Makarska**	**2.29**	**159**	*e*Pn	**Pn**	**15 15 46.0**	**+0.7**
MAKA				Sn	**Sb**	**15 16 16.2**	**-1.1**
CONA	**Conrad Observa**	**2.50**	**359**	*e*Pn	**Pn**	**15 15 47.8**	**-0.4**
	comp=Z,3.0nm,0.2s,SNR=8.7						
MOA	**Molin**	**2.67**	**336**	Pn	**Pn**	**15 15 51.3**	**+0.7**
	comp=Z,1.6nm,0.2s						
MOA				*e*Sn	**Sn**	**15 16 23.5**	**+0.3**
	comp=Z,3.5nm,0.2s						
ABTA	**Abfaltersbach**	**2.70**	**300**	*e*Pg	**Pg**	**15 15 57.5**	**-1.4**
	comp=Z,2.0nm,0.2s						
ABTA				*e*Sg	**Sg**	**15 16 36.4**	**+2.5**
	comp=Z,6.5nm,0.4s						
TEKS	**Tekeris**	**2.72**	**108**	*e*Sn	**Sn**	**15 16 25.1**	**+0.7**
LSTV	**Lastovo**	**2.76**	**165**	*e*Pn	**Pn**	**15 15 52.4**	**+0.6**
LSTV				Sn	**Sn**	**15 16 26.5**	**+1.2**
FRGS	**Fruska Gora**	**2.77**	**94**	*e*Pn	**Pn**	**15 15 53.2**	**+1.2**
FRGS				*e*Sn	**Sn**	**15 16 27.2**	**+1.5**
STON	**Ston**	**2.87**	**153**	*e*Pn	**Pn**	**15 15 54.5**	**+1.2**
STON				Sn	**Sn**	**15 16 30.5**	**+2.4**
BBLS	**Lazići**	**2.95**	**121**	*e*Pn	**Pn**	**15 15 55.1**	**+0.6**
BBLS				*e*Sn	**Sn**	**15 16 30.6**	**+0.4**
MODS	**Modra-Piesok**	**3.09**	**17**	*e*PN	**Pn**	**15 15 54.5**	**-1.8**
DBRK	**Dubrovnik**	**3.20**	**149**	*e*Pn	**Pn**	**15 15 59.7**	**+1.8**
DBRK				Sn	**Sn**	**15 16 39.1**	**+2.7**
DIVS	**Divibare**	**3.20**	**113**	*e*Pn	**Pn**	**15 15 58.8**	**+0.8**
DIVS				*e*Sn	**Sn**	**15 16 36.8**	**+0.3**
VYHS	**Vyhne**	**3.66**	**32**	*e*PN	**Pn**	**15 16 02.3**	**-1.9**
KHC	**Kasperske Hory**	**4.02**	**338**	*e*PN	**Pn**	**15 16 09.1**	**-0.1**
KHC				*e*SN	**Sn**	**15 16 54.3**	**-2.3**

*IDC **23** 15:16:17.3±3.3, 9°.41N×125°.75E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/44, mbtmp3.3/3, Error ellipse: s-maj=273.1km s-min=29.8km az=65.0*
*MAN **23** 15:16:21.9, 9°.75N×126°.33E, h13km, MS3.5*
ISC 23 15:16:18.1±1.2, 9°.52N±0°.06×126°.4E±0°.1, h10km, n9, σ1°61/14, mb3.4/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.64**	**292**	*e*P	**Pn**	**15 16 47.3**	**+0.3**
MSLP				*e*S	**Sn**	**15 17 08.0**	**-0.2**
OCLP	**Ormoc**	**2.33**	**311**	*e*P	**Pn**	**15 16 58.0**	**+1.5**
OCLP				*e*S	**Sn**	**15 17 25.4**	**+0.1**
TBP	**Tagbilaran**	**2.51**	**274**	*e*P	**Pb**	**15 17 03.7**	**+0.3**
TBP				*e*S	Pn	15 17 06.5	+7.5
CNP	**Catarman**	**3.43**	**330**	*e*P	**Pn**	**15 17 12.2**	**+0.5**
CNP				*e*S	**Sn**	**15 17 51.4**	**-1.0**
DDMP	**Don Marcelino,**	**3.46**	**191**	*e*P	**Pb**	**15 17 19.9**	**+0.3**
DDMP				*e*S	**Sn**	**15 17 50.8**	**-2.5**
PVCP	**Virac**	**4.61**	**332**	*e*P	**Pn**	**15 17 29.5**	**+1.6**
PVCP				*e*S	**Sn**	**15 18 18.2**	**-3.4**
WRA	**Warramunga Arr**	**30.30**	**165**	P	**P**	**15 22 30.7**	**+0.8**
	0.3nm,0.6s,baz=343,slow=8.9,SNR=1.9						
ASAR	**Alice Springs**	**33.79**	**168**	P	**P**	**15 23 01.9**	**+1.4**
	0.2nm,0.4s,baz=348,slow=7.2,SNR=2.0						
MKAR	**Makanchi Array**	**52.70**	**323**	P	**P**	**15 25 31.4**	**-1.5**
	0.3nm,0.6s,baz=125,slow=8.5,SNR=4.1						

*BJI **23** 15:23:56.7±0.0, 5°.41S×152°.42E, h62km, mB5.3/64, mb5.2/78, Ms5.2/75, Ms7 5.1/72*
*MOS **23** 15:23:58.0±0.9, 5°.34S×151°.77E, h42km, mb5.6/65, MS5.0/16, Error ellipse: s-maj=6.8km s-min=5.1km az=108.4*
*NEIC **23** 15:24:00.5±1.3, 5°.40S±0°.05×151°.74E±0°.05, h57km±3km, mb5.3/241, Mwc5.5(GCMT), Error ellipse: s-maj=7.9km s-min=7.6km az=125.0*
*GCMT **23** 15:24:01.5±0.1, 5°.68S±0°.01×151°.86E±0°.01, h36km, MW5.5/136, Moment Tensor Solution. s130,c246; s136,c263; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}2.01±.03; $M_{\theta\theta}$-2.19±.02; $M_{\phi\phi}$0.18±.02; $M_{r\theta}$1.11±.03; $M_{\theta\phi}$-0.75±.02; $M_{\phi r}$-0.23±.03; Best double couple: $M_0$2.49600×10^{17} NP1:ϕ_s238.00000°, δ35.00000°, λ65.00000°. NP2:ϕ_s88.00000°, δ59.00000°, λ106.00000°. Principal axes: T 2.3630, Plg71.0000°, Azm36.0000°; N 0.2680, Plg14.0000°, Azm259.0000°; P -2.6300, Plg12.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **23** 15:24:01.7±1.0, 5°.40S×151°.72E, h63km±8km, mb4.8/38, mb1 4.9/42, mb1mx4.8/47, mbtmp5.0/42, MS4.9/29, Ms1 4.9/29, ms1mx4.9/34 Error ellipse: s-maj=9.4km s-min=7.6km az=113.0*
*UNK **23** 15:24:01.1, 5°.38S×151°.73E, h63km*
*DJA **23** 15:24:01.9±0.4, 5°S±2°×15°2E±°, h73km±4km, M5.3/57, mB5.7/37, mb5.3/57, MLv6.0/2, Mw(mB)5.2/37, Mwp5.5/12*
*NEIC **23** 15:24:02, 5°.69S×151°.95E, h36km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.05; $M_{\theta\theta}$-2.32; $M_{\phi\phi}$0.27; $M_{r\theta}$1.14; $M_{\theta\phi}$-0.81; $M_{\phi r}$0.01; Fault plane solution: $M_0$2.61000×10^{17} NP1:ϕ_s244.00000°, δ33.00000°, λ74.00000°. NP2:ϕ_s82.00000°, δ58.00000°, λ100.00000°. Principal axes: T 2.3458, Plg74.0000°, Azm20.0000°; N 0.4601, Plg9.0000°, Azm257.0000°; P -2.8058, Plg13.0000°, Azm165.0000°;*
ISC 23 15:24:00.5±0.3, 5°.48S±0°.03×151°.78E±0°.03, h55km±2km, h55km:pP-P, n1058, σ1°38/1121, mb5.3/224, MS5.0/73, 32C-12D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.19**	**12**	P	**Pn**	**15 24 20.1**	**-0.8**
	13μm,0.3s,baz=194,slow=1.1,SNR=6875						
KRVT				LR	LR	15 24 39.9	
	comp=Z,96μm,18.8s,baz=211,slow=34						
RABL	**Rabaul**	**1.33**	**17**		**Pn**	**15 24 22.0**	**-1.0**
PMG	**Port Moresby**	**6.02**	**229**	P	**Pn**	**15 25 29.9**	**+2.9**
	38nm,0.3s,baz=50,slow=9.3,SNR=169						
PMG				S	**Sn**	**15 26 35.7**	**+1.1**
	45nm,0.3s,baz=173,slow=19,SNR=14						
PMG	**Port Moresby**	**6.02**	**229**	Pn	**Pn**	**15 25 27.6**	**+0.5**
HNR	**Honiara**	**9.00**	**116**	P	**Pn**	**15 26 08.6**	**+0.7**
	6.7nm,0.3s,baz=274,slow=19,SNR=2.7						
HNR				S	**Sn**	**15 27 50.6**	**+2.7**
	4.3nm,0.3s,baz=179,slow=16,SNR=1.8						
HNR				LR	LR	15 29 55.2	
	comp=Z,5μm,18.3s,baz=286,slow=39						
HNR	**Honiara**	**9.00**	**116**	Pn	**Pn**	**15 26 07.7**	**-0.2**
JAY	**Jayapura**	**11.43**	**284**	P	**Pn**	**15 26 41.1**	**-0.1**
	0.2nm,0.3s,baz=122,slow=17,SNR=7.3						
JAY				LR	LR	15 30 40.4	
	comp=Z,9μm,18.8s,baz=82,slow=35						
JAY	**Jayapura**	**11.43**	**284**	P	**Pn**	**15 26 44.7**	**+3.5**
	2um67nm,1.8s						
GENI	**Genyem**	**11.93**	**283**	P	**Pn**	**15 26 51.6**	**+3.6**
	5um9um360nm,2.0s						
COEN	**Coen**	**11.95**	**225**	P	**Pn**	**15 26 48.6**	**+0.3**
	baz=12,SNR=8.9						
COEN	**Coen**	**11.95**	**225**	Pn	**Pn**	**15 26 48.5**	**+0.3**
PATS	**Pohnpei**	**13.86**	**28**	P	**Pn**	**15 27 17.0**	**+2.7**
	baz=14,SNR=4.1						
MTSU	**Mount Surprise**	**14.54**	**209**	P	**Pn**	**15 27 24.3**	**+1.0**
	baz=15,SNR=11						
CTA	**Charters Tower**	**15.49**	**200**	P	**Pn**	**15 27 36.4**	**+0.9**
	0.3nm,0.3s,baz=29,slow=13,SNR=7.6						
CTAO	**Charters Tower**	**15.49**	**200**	P	**Pn**	**15 27 36.0**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,64nm,1.1s						
CTAO	**Charters Tower**	**15.49**	**200**	Pn	**Pn**	**15 27 36.0**	**+0.5**
SRPI	**Serui, Papua**	**15.91**	**282**	P	**P**	**15 27 42.9**	**-0.9**
	comp=Z,2μmcomp=Z,182nm,1.4s						
SANVU	**Saraoutou**	**18.10**	**124**	P	**Pn**	**15 28 08.2**	**0.0**
SANVU				IAmb	IAmb	15 28 24.3	
	comp=Z,243nm,1.1s						
QIS	**Mount Isa**	**19.09**	**217**	P	**Pn**	**15 28 20.0**	**-0.1**
	baz=19,SNR=176						
FAKI	**Fak Fak**	**19.64**	**277**	P	**Pn**	**15 28 27.8**	**+1.1**
	comp=Z,4μmcomp=Z,2μmcomp=Z,72nm,1.6s						
EIDS	**Eidsvold**	**19.79**	**182**	P	**Pn**	**15 28 27.5**	**-0.8**
	baz=20,SNR=19						
EIDS	**Eidsvold**	**19.79**	**182**	P	**Pn**	**15 28 27.5**	**-0.8**
EIDS				IAmb	IAmb	15 28 32.1	
	comp=Z,171nm,0.9s						
GUMO	**Guam**	**20.15**	**340**	P	Pn	15 28 31.8	-0.8
	comp=Z,360nm,1.0s,baz=172,slow=7.7,SNR=11						
GUMO	**Guam**	**20.15**	**340**		**P**	**15 28 30.7**	**+0.4**
KDU	**Kakadu**	**20.35**	**248**	P	**P**	**15 28 32.6**	**0.0**
	baz=20,SNR=217						
SAUI	**Saumlaki**	**20.49**	**262**	P	Pn	15 28 37.0	+0.3
	comp=Z,6μmcomp=Z,350nm,1.0s						
SIJI	**Sorong**	**20.98**	**282**	P	**P**	**15 28 40.6**	**+1.2**
	comp=Z,45nm,0.7s,baz=76,slow=7.9,SNR=23						
RMQ	**Roma**	**21.09**	**188**	P	**P**	**15 28 42.0**	**+1.5**
	baz=21,SNR=85						
MTN	**Manton Dam**	**21.64**	**249**	P	**P**	**15 28 46.4**	**-0.1**
	baz=22,SNR=12						
MTN	**Manton Dam**	**21.64**	**249**	P	**P**	**15 28 46.6**	**+0.1**
MTN				IAmb	IAmb	15 28 50.1	
	comp=Z,128nm,0.9s						
DZM	**Mont Dzumac**	**21.76**	**141**	*e*P	**P**	**15 28 50.2**	**+2.4**
	comp=Z,134nm,1.2s						
DZM				*e*LQ	LQ	15 33 15.2	
	comp=Z,10μm,27.9s						
DZM				*e*LR	LR	15 34 11.8	
	comp=Z,12μm,22.9s						
DZM	**Mont Dzumac**	**21.76**	**141**	P	**P**	**15 28 48.4**	**+0.7**
	comp=Z,22nm,0.9s,baz=339,slow=9.6,SNR=13						
DZM	**Mont Dzumac**	**21.76**	**141**	P	**P**	**15 28 48.1**	**+0.4**
BNDI	**Bandanaira**	**21.81**	**272**	P	**P**	**15 28 50.9**	**+2.6**
	comp=Z,3μmcomp=Z,4μmcomp=Z,348nm,1.2s						
WB0	**Warramunga Arr**	**22.09**	**228**	P	**P**	**15 28 51.5**	**+0.2**
WB0				IAmb	IAmb	15 29 04.9	
	comp=Z,216nm,1.1s						
WR0	**Warramunga Arr**	**22.10**	**228**	P	**P**	**15 28 52.0**	**+0.7**
WR0				IAmb	IAmb	15 29 09.3	
	comp=Z,198nm,1.1s						
TARA	**Tarawa**	**22.18**	**73**	P	**P**	**15 28 52.8**	**+0.5**
QLP	**Quilpie**	**22.19**	**198**	P	**P**	**15 28 53.6**	**+1.3**
	baz=22,SNR=13						
WRAB	**Tennant Creek**	**22.22**	**228**	*d*P	**P**	**15 28 53.9**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,132nm,0.8s						
WRAB	**Tennant Creek**	**22.22**	**228**	P	**P**	**15 28 52.9**	**+0.2**
WRAB				IAmb	IAmb	15 29 16.8	
	comp=Z,147nm,0.9s						
WB2	**Warramunga Arr**	**22.23**	**228**	P	**P**	**15 28 52.9**	**+0.1**
WB2				IAmb	IAmb	15 29 10.4	
	comp=Z,122nm,0.8s						
WRA	**Warramunga Arr**	**22.24**	**228**	P	**P**	**15 28 53.1**	**+0.2**
	comp=Z,78nm,0.8s,baz=52,slow=10,SNR=205						
WRA				PcP	**PcP**	**15 32 48.1**	**+0.4**
	comp=Z,4.3nm,0.7s,baz=53,slow=1.8,SNR=2.9						
WRA				S	**S**	**15 32 52.8**	**-1.7**
	comp=Z,62nm,1.1s,baz=56,slow=20,SNR=17						
WRA				ScP	**ScP**	**15 36 20.6**	**0.0**
	comp=Z,20nm,1.1s,baz=52,slow=2.8,SNR=11						
WRA				LR	LR	15 38 18.3	
	comp=Z,3μm,19.3s,baz=50,slow=38						
WRA	**Warramunga Arr**	**22.24**	**228**	P	**P**	**15 28 52.5**	**-0.3**
MSAI	**Masohi**	**22.88**	**274**	P	**P**	**15 29 01.7**	**+2.0**
	comp=Z,241nmcomp=Z,18nm,0.9s						
NLAI	**Namlea**	**24.71**	**274**	P	**P**	**15 29 13.7**	**-3.1**
	comp=Z,1μmcomp=Z,31nm,0.7s						
KNRA	**Kununurra**	**24.76**	**244**	P	**P**	**15 29 17.6**	**+0.4**
	baz=25,SNR=115						
KNRA	**Kununurra**	**24.76**	**244**	P	**P**	**15 29 17.2**	**0.0**
ARMA	**Armidale**	**24.81**	**180**	P	**P**	**15 29 19.7**	**+2.0**
	baz=25,SNR=13						
ARMA	**Armidale**	**24.81**	**180**	P	**P**	**15 29 18.6**	**+0.9**
AS31	**Alice Springs**	**24.97**	**222**	P	**P**	**15 29 19.5**	**+0.4**
AS31				IAmb	IAmb	15 29 25.8	
	comp=Z,49nm,0.7s						
ASAR	**Alice Springs**	**24.97**	**222**	P	**P**	**15 29 19.2**	**+0.1**
	comp=Z,79nm,0.7s,baz=57,slow=7.4,SNR=106						
ASAR				PcP	**PcP**	**15 32 54.4**	**+1.0**
	comp=Z,8.7nm,0.9s,baz=44,slow=2.8,SNR=5.3						
ASAR				S	**S**	**15 33 39.2**	**0.0**
	comp=Z,6.3nm,0.9s,baz=57,slow=14,SNR=5.0						
ASAR				ScP	**ScP**	**15 36 27.8**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=198,slow=18,SNR=4.7						
ASAR				LR	LR	15 40 08.8	
	comp=Z,3μm,20.1s,baz=90,slow=39						
ASAR	**Alice Springs**	**24.97**	**222**	P	**P**	**15 29 19.6**	**+0.4**
ASAR						15 32 54.4	
ASAR				S	**S**	**15 33 39.2**	**0.0**
ASAR	**Alice Springs**	**24.97**	**222**

JAGI	**Jajag, Banyuwa**	**37.46 263**	P	**P**	**15 31 07.6 -1.5**
TAU	**Tasmania Unive**	**37.49 185**	P	**P**	**15 31 09.5 +0.6**
TAU			pmax	pmax	
comp=Z,34nm,1.0s					
TAU	**Tasmania Unive**	**37.49 185**	P	**P**	**15 31 09.5 +0.6**
TAU			IAmb	IAmb	15 31 22.5
comp=Z,34nm,1.0s					
MEEK	**Meekatharra**	**37.99 233**	P	**P**	**15 31 13.5 +0.1**
baz=38,SNR=141					
KMBL	**Kambalda**	**38.06 224**	P	**P**	**15 31 14.4 +0.5**
baz=38,SNR=4.9					
PWJI	**Pagerwojo**	**39.77 264**	P	**P**	**15 31 29.0 +0.6**
comp=Z,94nm,1.9s					
URZ	**Urewera**	**39.93 148**	P	**P**	**15 31 31.3 +1.9**
comp=Z,7.8nm,0.9s,baz=291,slow=8.6,SNR=2.1					
URZ			LR	LR	15 46 02.0
comp=Z,4μm,20.0s,baz=348,slow=33					
URZ	**Urewera**	**39.93 148**	P	**P**	**15 31 29.9 +0.5**
URZ			IAmb	IAmb	15 31 44.8
comp=Z,51nm,1.4s					
JHJ	**Hachijo jima 2**	**40.04 344**	LR	LR	15 45 23.7
comp=Z,1μm,20.6s,baz=186,slow=32					
GIRL	**Giralia**	**40.05 241**	P	**P**	**15 31 30.6 -0.1**
baz=40,SNR=7.2					
GIRL	**Giralia**	**40.05 241**	P	**P**	**15 31 30.5 -0.2**
SBUM	**Sibu**	**40.29 280**	P	**P**	**15 31 31.1 -1.6**
SBUM	**Sibu**	**40.29 280**	P	**P**	**15 31 34.0 +1.2**
BKZ	**Black Stump Fm**	**40.30 150**	P	**P**	**15 31 33.7 +1.2**
WOJI	**Wonogiri, Jawa**	**40.64 264**	P	**P**	**15 31 37.1 +1.5**
comp=Z,103nm,2.0s					
YOJ	**Yonaguni jima**	**40.87 318**	P	**P**	**15 31 37.4 +0.1**
YOJ			pmax	pmax	
comp=Z,150nm,1.2s					
YOJ	**Yonaguni jima**	**40.87 318**	P	**P**	**15 31 37.4 +0.1**
KLBR	**Kellerberrin**	**41.10 227**	P	**P**	**15 31 38.7 -0.5**
baz=41,SNR=27					
MORW	**Morawa**	**41.13 231**	P	**P**	**15 31 39.6 +0.1**
baz=41,SNR=43					
MORW	**Morawa**	**41.13 231**	P	**P**	**15 31 38.6 -0.9**
MORW			IAmb	IAmb	15 32 04.6
comp=Z,55nm,1.1s					
YULB	**Yu-li**	**41.34 315**	P	**P**	**15 31 39.9 -1.4**
YULB			IAmb	IAmb	15 31 44.0
comp=Z,36nm,0.8s					
LTZ	**Lake Taylor**	**41.35 157**	P	**P**	**15 31 41.6 +0.5**
LTZ			IAmb	IAmb	15 32 09.5
comp=Z,56nm,1.4s					
BLDU	**Ballidu**	**41.37 229**	P	**P**	**15 31 41.8 +0.4**
baz=41,SNR=10.0					
MSWZ	**Moikau Station**	**41.47 153**	P	**P**	**15 31 42.3 +0.2**
KHZ	**Kahutara**	**41.55 156**	P	**P**	**15 31 43.0 +0.3**
PLWZ	**Palliser**	**41.60 153**	P	**P**	**15 31 43.2 0.0**
RPZ	**Rata Peaks**	**41.70 159**	P	**P**	**15 31 45.8 +1.9**
comp=Z,27nm,1.0s,baz=14,slow=8.3,SNR=6.4					
RPZ			LR	LR	15 46 58.6
comp=Z,4μm,21.4s,baz=330,slow=33					
RPZ	**Rata Peaks**	**41.70 159**	P	**P**	**15 31 45.5 +1.6**
RPZ			IAmb	IAmb	15 32 06.7
comp=Z,58nm,1.3s					
OXZ	**Oxford**	**41.73 158**	P	**P**	**15 31 44.6 +0.5**
TPUB	**Ta-pu**	**41.75 314**	P	**P**	**15 31 43.1 -1.6**
TPUB			IAmb	IAmb	15 31 45.3
comp=Z,46nm,0.9s					
SSLB	**Suanglung**	**41.84 315**	P	**P**	**15 31 45.4 +0.1**
SSLB			IAmb	IAmb	15 31 59.5
comp=Z,36nm,0.7s					
KSM	**Kuching**	**41.99 278**	P	**P**	**15 31 45.9 -0.8**
KSM	**Kuching**	**41.99 278**	P	**P**	**15 31 47.0 +0.3**
YHNB	**Yeheng**	**42.12 317**	P	**P**	**15 31 48.0 +0.3**
YHNB			IAmb	IAmb	15 31 54.5
comp=Z,86nm,0.9s					
NWAO	**Narrogin (SRO)**	**42.19 225**	LR	LR	15 50 08.9
comp=Z,3μm,20.7s,baz=68,slow=37					
NWAO	**Narrogin (SRO)**	**42.19 225**	P	**P**	**15 31 48.2 +0.1**
NWAO			pmax	pmax	
comp=Z,31nm,1.1s					
NWAO	**Narrogin (SRO)**	**42.19 225**	P	**P**	**15 31 48.2 +0.1**
NWAO	**Narrogin (SRO)**	**42.19 225**	P	**P**	**15 31 48.3 +0.1**
NWAO			IAmb	IAmb	15 32 05.2
comp=Z,27nm,1.1s					
MLZ	**Mavora Lakes**	**42.21 163**	P	**P**	**15 31 48.0 -0.1**
MLZ			IAmb	IAmb	15 32 00.2
comp=Z,55nm,1.1s					
MQZ	**McQueen's Vall**	**42.28 157**	P	**P**	**15 31 49.8 +1.2**
MQZ			IAmb	IAmb	15 31 52.1
comp=Z,99nm,1.5s					
MUN	**Mundaring**	**42.43 227**	P	**P**	**15 31 50.3 +0.3**
baz=42,SNR=10					
JMN	**Monobe**	**42.52 338**	P	**P**	**15 31 49.5 -1.2**
JMN			IAmb	IAmb	15 32 08.0
comp=Z,43nm,0.8s					
INU	**Inuyama**	**42.92 342**	P	**P**	**15 31 52.2 -1.7**
JGF	**Kuroka**	**43.05 343**	P	**P**	**15 31 53.7 -1.3**
JNU	**Nakatsue**	**43.21 334**	LR	LR	15 48 35.7
comp=Z,1μm,21.4s,baz=178,slow=34					
JNU	**Nakatsue**	**43.21 334**	P	**P**	**15 31 55.7 -0.6**
JNU			IAmb	IAmb	15 32 01.6
comp=Z,43nm,0.8s					
JWT	**Wachi**	**43.37 340**	P	**P**	**15 31 56.9 -0.7**
MJAR	**Matsushiro Arr**	**43.69 344**	P	**P**	**15 31 57.9 -2.2**
comp=Z,6.2nm,0.9s,baz=166,slow=8.9,SNR=8.8					
MJAR			ScP	**ScP**	**15 37 32.3 -1.3**
comp=Z,1.1nm,0.7s,baz=166,slow=4.6,SNR=2.5					
MJAR			LR	LR	15 48 57.6
comp=Z,2μm,20.8s,baz=200,slow=34					
MJAR	**Matsushiro Arr**	**43.69 344**	P	**P**	**15 31 58.7 -1.4**
MAJO	**Matsushiro**	**43.69 344**	P	**P**	**15 31 58.6 -1.5**
MAJO			pmax	pmax	
comp=Z,26nm,1.2s					
MAJO	**Matsushiro**	**43.69 344**	P	**P**	**15 31 58.6 -1.5**
MAT	**Matsushiro**	**43.69 344**	P	**P**	**15 31 57.6 -2.5**
MAT			S	**S**	**15 38 22.4 -3.8**
CISI	**Cisompet, Garu**	**43.72 265**	P	**P**	**15 32 01.0 +0.2**
comp=Z,133nm,1.2s					
CISI	**Cisompet, Garu**	**43.72 265**	P	**P**	**15 31 58.1 -2.7**
LEM	**Lembang**	**43.92 266**	LR	LR	15 54 12.3
comp=Z,783nm,20.4s,baz=82,slow=41					
JHS	**Saijyo**	**43.93 338**	P	**P**	**15 32 01.2 -0.9**
JHS			IAmb	IAmb	15 32 12.2
comp=Z,59nm,0.7s					
QZH	**Quanzhou**	**44.23 315**	P	**P**	**15 32 03.6 -1.0**
QZH			S	**S**	**15 38 26.4 -8.0**
QZH			pmax	pmax	
comp=Z,64nm,0.9s					
QZH			pmax	pmax	
comp=Z,440nm,9.9s					
QZH			LR	LR	
comp=Z,1μm,18.1s					
QZH			LR	LR	
comp=Z,2μm,19.0s					
QZH			LR	LR	
comp=Z,2μm,20.4s					
JMM	**Marumori**	**44.32 348**	P	**P**	**15 32 03.7 -1.4**
JMM			IAmb	IAmb	15 32 21.0
comp=Z,48nm,1.3s					
JSD	**Sado**	**45.08 345**	P	**P**	**15 32 10.0 -1.2**
JSD			IAmb	IAmb	15 32 27.9
comp=Z,38nm,0.9s					
JTM	**Tenmabayashi**	**47.08 349**	P	**P**	**15 32 25.0 -1.8**
JTM			IAmb	IAmb	15 32 48.8
comp=Z,68nm,1.0s					
DSRI	**Dabo**	**47.38 274**	P	**P**	**15 32 29.6 -0.1**
comp=Z,1μmcomp=Z,12nm,1.0s					
MDSI	**Maura Dua**	**47.42 269**	P	**P**	**15 32 29.5 -0.5**
comp=Z,21nm,1.2s					
TJN	**Taejon**	**47.50 333**‖	*e*P	**P**	**15 32 29.9 -0.3**
QIZ	**Qiongzhong**	**47.95 302**	P	**P**	**15 32 34.8 +0.8**
QIZ			pP	**pP**	**15 32 46.1 -2.8**
QIZ			sP	**sP**	**15 32 55.5 +0.1**
QIZ			PP	**PP**	**15 34 27.8 +1.3**
QIZ			ScP	**ScP**	**15 37 49.4 -2.2**
QIZ			S	**S**	**15 39 26.1 -1.9**
QIZ			sS	**sS**	**15 39 53.8 +0.9**
QIZ			SS	**SS**	**15 43 00.3 +2.8**
QIZ			pmax	pmax	
comp=Z,42nm,1.1s					
QIZ			LR	LR	
comp=Z,740nm,21.2s					
QIZ			LR	LR	
comp=Z,1μm,22.6s					
QIZ			LR	LR	
comp=Z,2μm,22.4s					
KSRS	**Korea Array**	**48.15 334**	P	**P**	**15 32 34.4 -0.8**
comp=Z,4.8nm,0.9s,baz=152,slow=9.0,SNR=16					
KSRS			PcP	**PcP**	**15 34 02.7 +0.7**
comp=Z,2.8nm,0.7s,baz=157,slow=4.3,SNR=5.0					
KSRS			LR	LR	15 53 43.7
comp=Z,747nm,18.1s,baz=160,slow=37					
KSAR	**Wonju Array Be**	**48.16 334**	P	**P**	**15 32 33.5 -1.8**
KSAR	**Wonju Array Be**	**48.16 334**	P	**P**	**15 32 33.5 -1.8**
KS19	**Wonju Array Si**	**48.22 334**	P	**P**	**15 32 34.0 -1.7**
KS19			IAmb	IAmb	15 33 02.5
comp=Z,26nm,1.1s					
MYKOM	**Kota Tinggi**	**48.41 277**	P	**P**	**15 32 38.0 +0.3**
NJ2	**Nanjing**	**48.74 322**	*e*P	**P**	**15 32 41.1 +1.3**
NJ2			sP	**sP**	**15 33 03.8 +2.6**
NJ2			S	**S**	**15 39 38.8 +0.1**
NJ2			pmax	pmax	
comp=Z,11nm,1.1s					
NJ2			pmax	pmax	
comp=Z,460nm,3.5s					
NJ2			LR	LR	
comp=Z,2μm,19.4s					
NJ2			LR	LR	
comp=Z,2μm,18.0s					
NJ2			LR	LR	
comp=Z,3μm,18.5s					
INCN	**Inchon**	**48.74 333**	P	**P**	**15 32 39.9 +0.1**
INCN			pmax	pmax	
comp=Z,51nm,0.8s					
INCN	**Inchon**	**48.74 333**	P	**P**	**15 32 39.9 +0.1**
JEW	**Eniwo**	**49.00 350**	P	**P**	**15 32 40.6 -1.1**
RAR	**Rarotonga**	**49.44 113**	LR	LR	15 51 13.0
comp=Z,352nm,19.0s,baz=282,slow=33					
SDSI	**Sungai Dareh**	**50.46 273**	P	**P**	**15 32 52.8 -0.5**
comp=Z,20nm,0.8s					
KUR	**Kuril'sk**	**50.60 356**	*e*P	**P**	**15 32 57.6 +3.8**
KUR			*e*S	S	15 40 22.5 +18
KUR			SSS	SSS	15 45 08.1
KUR			pmax	pmax	
comp=Z,89nm,1.1s					
KUR			MLR	MLR	
comp=Z,843nm,15.0s					
KUR			MLR	MLR	
comp=N,538nm,16.0s					
KUR			MLR	MLR	
comp=E,674nm,14.0s					
WHN	**Wuhan**	**50.65 317**	⇑P	**P**	**15 32 55.9 +1.5**
WHN			pP	**pP**	**15 33 06.0 -3.3**
WHN			pmax	pmax	
comp=E,100nm,1.1s					
WHN			pmax	pmax	
comp=E,710nm,10.2s					
WHN			LR	LR	
comp=E,3μm,16.2s					
WHN			LR	LR	
comp=E,1μm,11.4s					
WHN			LR	LR	
comp=E,5μm,19.9s					
VLA	**Vladivostok**	**51.62 341**	*ce*P	**P**	**15 33 00.8 -0.6**
VLA			pmax	pmax	
comp=Z,12nm,1.0s					
IPM	**Ipoh**	**51.64 280**	P	**P**	**15 33 01.9 -0.3**
IPM			IAmb	IAmb	15 33 17.5
comp=Z,21nm,1.0s					
IPM	**Ipoh**	**51.64 280**	P	**P**	**15 33 03.0 +0.8**
KULM	**Kulim**	**52.16 281**	P	**P**	**15 33 04.2 -1.8**
KULM	**Kulim**	**52.16 281**	P	**P**	**15 33 05.0 -1.0**
MNSI	**Mandailing Nat**	**52.50 275**	P	**P**	**15 33 08.6 +0.1**
comp=Z,51nm,0.4s					
USRK	**Ussuriysk Ar.**	**52.56 342**	P	**P**	**15 33 08.6 +0.1**
comp=Z,11nm,0.8s,baz=164,slow=8.1,SNR=27					
USRK			ScP	**ScP**	**15 38 10.2 -0.7**
comp=Z,0.9nm,0.7s,baz=161,slow=6.1,SNR=1.9					
USRK			LR	LR	15 55 27.5
comp=Z,906nm,18.2s,baz=155,slow=36					
USRK	**Ussuriysk Ar.**	**52.56 342**	P	**P**	**15 33 07.3 -1.1**
USA0B	**Ussuriysk Arra**	**52.57 342**	P	**P**	**15 33 07.6 -0.9**
USA0B			pmax	pmax	
comp=Z,20nm,1.2s					
USA0B	**Ussuriysk Arra**	**52.57 342**	P	**P**	**15 33 07.6 -0.9**
TIA	**Tai'an**	**52.66 325**	P	**P**	**15 33 09.9 +0.5**
TIA			pmax	pmax	
comp=Z,18nm,0.8s					
TIA			pmax	pmax	
comp=Z,230nm,3.5s					
TIA			LR	LR	
comp=Z,460nm,21.6s					
TIA			LR	LR	
comp=Z,2μm,19.6s					
TIA			LR	LR	
comp=Z,2μm,21.1s					
YSS	**Yuzh-Sakhalins**	**52.81 352**	*e*P	**P**	**15 33 07.3 -2.9**
YSS			*e*		15 35 05.4
YSS			*e*S	S	15 40 25.4 -9.2
YSS			*e*PS	**S**	**15 40 36.6 +2.0**
YSS			*e*SSS	SSS	15 45 53.5
YSS			pmax	pmax	
comp=Z,200nm,3.6s					
MDJ	**Mudanjiang**	**53.70 340**	P	**P**	**15 33 15.8 -1.0**
MDJ			PcS	**PcS**	**15 38 20.1 -1.4**
MDJ			S	**S**	**15 40 47.9 +1.0**
MDJ			pmax	pmax	
comp=Z,10.0nm,1.6s					
MDJ			pmax	pmax	
comp=Z,300nm,4.8s					
MDJ			LR	LR	
comp=Z,780nm,23.1s					
MDJ			LR	LR	
comp=Z,560nm,21.1s					
MDJ			LR	LR	
comp=Z,2μm,23.1s					
ENH	**Enshi**	**53.88 314**	P	**P**	**15 33 17.2 -1.2**
GYA	**Guiyang**	**54.00 308**	⇑P	**P**	**15 33 21.0 +1.5**
GYA			PcP	**PcP**	**15 34 25.8 +1.6**
GYA			PP	**PP**	**15 35 22.1 +0.6**
GYA			S	**S**	**15 40 55.0 +3.2**
GYA			pmax	pmax	
comp=Z,26nm,0.8s					
GYA			pmax	pmax	
comp=Z,140nm,4.6s					
GYA			LR	LR	
comp=Z,610nm,18.4s					
GYA			LR	LR	
comp=Z,780nm,18.0s					
GYA			LR	LR	
comp=Z,2μm,19.7s					
GSI	**Gunungsitoli**	**54.55 275**	P	**P**	**15 33 23.6 0.0**
comp=Z,40nm,0.9s					
BJT	**Baijiatuau**	**55.89 327**	P	**P**	**15 33 32.5 -0.2**
BJT			pmax	pmax	
comp=Z,15nm,1.2s					
BJT	**Baijiatuau**	**55.89 327**	P	**P**	**15 33 32.5 -0.2**
BJI	**Beijing**	**55.90 327**	P	**P**	**15 33 33.0 +0.2**
BJI			sP	**sP**	**15 33 56.0 +1.6**
BJI			PcP	**PcP**	**15 34 31.8 +0.8**
BJI			S	**S**	**15 41 19.0 +2.5**
BJI			sS	**sS**	**15 41 46.6 +5.7**
BJI			pmax	pmax	
comp=Z,11nm,1.4s					
BJI			pmax	pmax	
comp=Z,240nm,6.9s					
BJI			LR	LR	
comp=Z,1μm,21.0s					
BJI			LR	LR	
comp=Z,710nm,17.8s					
BJI			LR	LR	
comp=Z,1μm,21.6s					
KIP	**Kipapa**	**56.00 60**‖	*e*P	**P**	**15 33 34.7 +0.8**
KIP			pmax	pmax	
comp=Z,234nm,1.9s					
XAN	**Xi'an**	**56.42 317**	P	**P**	**15 33 36.8 +0.1**
XAN			S	**S**	**15 41 22.0 -1.7**
XAN			SS	**SS**	**15 45 14.0 +2.2**
XAN			pmax	pmax	
comp=Z,45nm,1.3s					
XAN			pmax	pmax	
comp=Z,390nm,5.6s					
XAN			LR	LR	
comp=Z,1μm,22.6s					
XAN			LR	LR	
comp=Z,1μm,20.4s					
XAN			LR	LR	
comp=Z,2μm,19.8s					
XAN	**Xi'an**	**56.42 317**	P	**P**	**15 33 35.8 -0.9**
XAN			pmax	pmax	
comp=Z,73nm,1.4s					
XAN	**Xi'an**	**56.42 317**	P	**P**	**15 33 35.8 -0.9**
XAN			IAmb	IAmb	15 33 38.2
comp=Z,73nm,1.4s					
TIY	**Taiyuan**	**56.44 323**	*e*P	**P**	**15 33 40.8 +4.0**
TIY			S	**S**	**15 41 28.8 +4.8**
TIY			pmax	pmax	
comp=Z,210nm,11.3s					
TIY			LR	LR	
comp=Z,960nm,16.1s					
TIY			LR	LR	
comp=Z,740nm,18.3s					
TIY			LR	LR	
comp=Z,2μm,23.3s					
KMI	**Kunming**	**56.53 305**	⇑P	**P**	**15 33 39.6 +1.7**
KMI			pP	pP	15 33 49.9 -3.3
KMI			pmax	pmax	
comp=Z,33nm,1.2s					
KMI			pmax	pmax	
comp=Z,250nm,4.9s					
KMI			LR	LR	
comp=Z,500nm,21.7s					
KMI			LR	LR	
comp=Z,690nm,20.6s					
KMI			LR	LR	
comp=Z,1μm,21.6s					
CM31	**Chiang Mai Arr**	**57.25 296**	P	**P**	**15 33 42.2 -0.6**
CMAR	**Chiang Mai Arr**	**57.25 296**	P	**P**	**15 33 43.8 +1.0**
comp=Z,26nm,1.1s,baz=114,slow=5.2,SNR=105					
CMAR			PcP	**PcP**	**15 34 35.2 -1.6**
comp=Z,8.3nm,1.0s,baz=102,slow=4.8,SNR=2.3					
CMAR			LR	LR	15 58 38.6
comp=Z,663nm,18.9s,baz=148,slow=36					
CMAR			PKPPKP		16 03 31.6
comp=Z,0.2nm,0.3s,baz=291,slow=4.1,SNR=4.3					
CMAR			PKP2bc		16 03 44.0
comp=Z,3.9nm,0.9s,baz=290,slow=4.3,SNR=16					
CMAR			PKP2ab		16 03 57.2
comp=Z,0.7nm,0.8s,baz=282,slow=4.5,SNR=4.7					
CMAR	**Chiang Mai Arr**	**57.25 296**	P	**P**	**15 33 43.0 +0.2**
CHTO	**Chiang Mai**	**57.37 296**	P	**P**	**15 33 43.7 0.0**
CHTO			pmax	pmax	
comp=Z,75nm,1.3s					
CHTO	**Chiang Mai**	**57.37 296**	P	**P**	**15 33 43.6 0.0**
CD2	**Chengdu**	**58.41 311**	P	**P**	**15 33 50.0 -0.8**
CD2			pP	pP	15 34 07.3 +1.2
CD2			S	**S**	**15 41 51.5 +1.5**
CD2			sS	sS	15 42 20.6 +5.3
CD2			SS	**SS**	**15 45 48.3 +5.1**
CD2			pmax	pmax	
comp=Z,60nm,0.7s					
CD2			pmax	pmax	
comp=Z,470nm,3.5s					
CD2			LR	LR	
comp=Z,1μm,19.4s					
CD2			LR	LR	
comp=Z,2μm,21.6s					
CD2			LR	LR	
comp=Z,3μm,21.6s					
PPT	**Papeete**	**58.49 107**	P	**P**	**15 33 53.8 +2.2**
comp=Z,18nm,0.7s,baz=300,slow=2.8,SNR=4.5					
PPT			LR	LR	15 54 00.2
comp=Z,381nm,21.9s,baz=272,slow=31					
PPT2	**Papeete2**	**58.50 107**	*e*P	**P**	**15 33 53.9 +2.2**
comp=Z,70nm,1.4s					
PPT2			*e*S	**S**	**15 41 51.2 -0.4**
comp=Z,988nm,27.8s					
PPT2			*e*LQ	LQ	15 48 38.4
comp=Z,2μm,29.2s					
PPT2			*e*LR	LR	15 51 08.0
comp=Z,885nm,23.0s,baz=281					
PAE	**Paea**	**58.50 107**	*e*P	**P**	**15 33 53.6 +2.0**
comp=Z,8.2nm,1.1s					
PET	**Petropavlovsk**	**58.57**	5*c i*P	**P**	**15 33 52.0 +0.6**
PET			*e*S	**S**	**15 41 53.3 +2.2**
PET			*e*SS	**SS**	**15 45 46.8 +2.0**
PET			*e*SSS	SSS	15 48 02.4
PET			pmax	pmax	
comp=Z,200nm,21.4s					
PET			MLR	MLR	
comp=Z,500nm,19.0s					
PET			MLR	MLR	
comp=Z,600nm,20.0s					
PEA0B	**Petropavlovsk-**	**58.58 4**	P	**P**	**15 33 50.8 -0.7**
PEA0B			pmax	pmax	
comp=Z,35nm,1.3s					
PEA0B	**Petropavlovsk-**	**58.58 4**	P	**P**	**15 33 50.8 -0.7**
PEA0B			IAmb	IAmb	15 34 17.1
comp=Z,35nm,1.3s					
PETK	**Petropavlovsk-**	**58.58 4**	P	**P**	**15 33 51.5 0.0**
comp=Z,3.5nm,0.7s,baz=153,slow=6.4,SNR=26					
PETK			LR	LR	15 55 26.4
comp=Z,1μm,21.3s,baz=191,slow=32					
PETK	**Petropavlovsk-**	**58.58 4**	P	**P**	**15 33 51.1 -0.4**
TIAR	**Tiarei**	**58.71 107**	*e*P	**P**	**15 33 55.4 +2.3**
comp=Z,25nm,0.9s					
TVO	**Taravao**	**58.82 107**	*e*P	**P**	**15 33 56.0 +2.1**
comp=Z,34nm,1.3s					
HHC	**Hu-ho-hao-te**	**59.01 325**	*e*P	**P**	**15 33 55.8 +0.9**
HHC			pP	pP	15 34 09.6 -0.6
HHC			S	**S**	**15 42 00.9 +3.3**
HHC			pmax	pmax	
comp=Z,46nm,1.0s					
HHC			pmax	pmax	
comp=Z,170nm,5.7s					
HHC			LR	LR	
comp=Z,2μm,18.9s					
HHC			LR	LR	
comp=Z,1μm,19.0s					
HHC			LR	LR	
comp=Z,3μm,20.0s					
NKL	**Nikolayevsk**	**59.16 352**	*e*P	**P**	**15 33 52.4 -3.0**
NKL			*e*S	S	15 42 24.4 +26
NKL			pmax	pmax	
comp=N,12nm,0.9s					
NKL			pmax	pmax	
comp=Z,16nm,1.2s					
TBI	**Tubuai**	**59.21 114**	*e*S	**S**	**15 42 00.3 -0.3**
comp=Z,866nm,29.0s					
TBI			*e*LQ	LQ	15 48 58.0
comp=Z,3μm,34.2s					
TBI			*e*LR	LR	15 51 32.0
comp=Z,1μm,28.8s,baz=284					
MEH	**Mehetia**	**59.95 107**	*e*P	**P**	**15 34 03.3 +1.6**
comp=Z,34nm,1.3s					
PMOR	**Pomariorio Ree**	**59.96 104**	*e*P	**P**	**15 34 03.9 +2.2**
comp=Z,428nm,1.2s					
VAH	**Vaihoa**	**60.23 104**	*e*P	**P**	**15 34 05.3 +1.8**
comp=Z,99nm,1.1s					
LZH	**Lanzhou**	**61.01 317**	*e*P	**P**	**15 34 09.6 +0.8**
LZH			pP	pP	15 34 25.3 +1.2
LZH			sP	sP	15 34 34.3 +3.8
LZH			S	**S**	**15 42 30.3 +6.7**
LZH			pmax	pmax	
comp=Z,63nm,1.2s					
LZH			pmax	pmax	
comp=Z,310nm,7.1s					
LZH			LR	LR	
comp=Z,710nm,16.8s					
LZH			LR	LR	
comp=Z,990nm,14.6s					
LZH			LR	LR	
comp=Z,850nm,16.3s					
HIA	**Hailar**	**61.24 337**	P	**P**	**15 34 09.1 -0.8**
HIA			pmax	pmax	
comp=Z,16nm,0.8s					
HIA	**Hailar**	**61.24 337**	P	**P**	**15 34 09.1 -0.8**
HIA			IAmb	IAmb	15 34 14.0
comp=Z,16nm,0.8s					
ZEA	**Zeya**	**62.50 344**	*e*P	**P**	**15 34 17.4 -0.8**
ZEA			*e*		15 43 02.0
ZEA			pmax	pmax	
comp=Z,24nm,1.0s					
MA2	**Magadan**	**64.85 359**	P	**P**	**15 34 33.4 -0.1**
comp=Z,16nm,0.7s,baz=142,slow=4.0,SNR=7.6					
MA2	**Magadan**	**64.85 359**‖	*e*P	**P**	**15 34 34.4 +0.8**
MA2			pmax	pmax	
comp=Z,13nm,0.7s					
MA2	**Magadan**	**64.85 359**	P	**P**	**15 34 33.2 -0.3**
MA2			IAmb	IAmb	15 34 39.2
comp=Z,19nm,0.8s					
GTA	**Gaotai**	**65.47 318**	⇑P	**P**	**15 34 38.8 +0.7**
GTA			pP	pP	15 34 49.4 -4.3
GTA			PP	**PP**	**15 37 02.6 -0.3**
GTA			S	**S**	**15 43 23.9 +4.9**
GTA			SS	**SS**	**15 47 37.9 +4.3**
GTA			pmax	pmax	
comp=Z,19nm,1.1s					
GTA			pmax	pmax	
comp=Z,230nm,5.5s					
GTA			LR	LR	

comp=Z,500nm,18.5s
GTA LR LR
comp=Z,790nm,18.9s
GTA LR LR
comp=Z,1µm,20.7s
SHL Shillong 65.78 301 P **P 15 34 40.2 -0.3**
SHL pmax pmax
comp=Z,101nm,1.1s
SHL Shillong 65.78 301 P **P 15 34 40.2 -0.3**
ULN Ulaanbaatar 66.04 329*c iP* **P 15 34 42.5 +0.8**
ULN pmax pmax
comp=Z,39nm,1.0s
ULN Ulaanbaatar 66.04 329 P **P 15 34 40.9 -0.7**
ULN IAmb IAmb 15 34 43.8
comp=Z,33nm,0.9s
SONM Songino Array 66.36 328 P **P 15 34 43.9 +0.2**
comp=Z,17nm,0.7s,baz=136,slow=6.3,SNR=67
SONM PKP2bc 16 03 20.4
comp=Z,2.1nm,1.0s,baz=346,slow=3.1,SNR=7.7
SONM LR LR 16 04 08.5
comp=Z,1µm,19.9s,baz=128,slow=36
SONM Songino Array 66.36 328 P **P 15 34 42.9 -0.8**
CASY Casey 67.08 197 P **P 15 34 47.7 -0.1**
CASY IAmb IAmb 15 34 49.8
comp=Z,24nm,1.1s
TAOE Nuku Hiva Isla 67.55 97 *e*LR LR 15 55 18.2
comp=Z,522nm,22.4s
LSA Lhasa 67.78 305 P **P 15 34 54.5 +0.9**
LSA pmax pmax
comp=Z,150nm,0.9s
LSA Lhasa 67.78 305 P **P 15 34 51.9 -1.7**
LSA pmax pmax
comp=Z,39nm,1.0s
LSA Lhasa 67.78 305 P **P 15 34 51.9 -1.7**
LSA IAmb IAmb 15 34 55.8
comp=Z,39nm,1.0s
SEY Seymchan 68.22 0 P **P 15 34 55.5 +0.6**
comp=Z,2.7nm,0.8s,baz=119,slow=22,SNR=3.5
SEY Seymchan 68.22 0⇓*e*P **P 15 34 56.5 +1.5**
ZAK Zakamensk 69.54 329 *e*P **P 15 35 03.5 -0.1**
ZAK pmax pmax
comp=Z,55nm,1.0s
TAPN Taplejung 69.89 302 *e*P **P 15 35 07.5 +1.0**
comp=Z,114nm,1.1s
ODAN Odare 70.01 301 *e*P **P 15 35 08.1 +0.9**
comp=Z,97nm,0.8s
BOD Bodaibo 70.06 340 *e*P **P 15 35 05.5 -1.0**
BOD pmax pmax
comp=Z,16nm,1.3s
TLY Talaya 70.16 330 P **P 15 35 07.1 -0.1**
comp=Z,16nm,0.9s,baz=164,slow=2.8,SNR=13
TLY Talaya 70.16 330 *e*P **P 15 35 07.7 +0.4**
TLY *e*S **S 15 44 14.3 -0.1**
TLY pmax pmax
comp=Z,64nm,1.0s
TLY Talaya 70.16 330 P **P 15 35 06.8 -0.5**
FALS False Pass 70.67 26 P **P 15 35 09.8 -0.4**
FALS IAmb IAmb 15 35 10.8
comp=Z,85nm,1.3s
RAMN Ramite 70.71 301 *e*P **P 15 35 13.0 +1.5**
comp=Z,72nm,1.3s
JIRN Jiri 71.27 301 *e*P **P 15 35 16.3 +1.3**
comp=Z,61nm,0.8s
MOY Mondy 71.47 329 *e*P **P 15 35 15.8 +0.4**
MOY pmax pmax
comp=Z,69nm,2.2s
PKI Pulchoki 71.91 301 *e*P **P 15 35 19.8 +1.0**
comp=Z,43nm,0.9s
PKIN Phulchoki 71.92 301 *e*P **P 15 35 19.8 +1.0**
comp=Z,29nm,0.8s
KKN Kakani 72.08 301 *e*P **P 15 35 20.8 +1.2**
comp=Z,67nm,0.8s
DMN Daman 72.17 301 *e*P **P 15 35 21.7 +1.4**
comp=Z,88nm,0.8s
VNDA Vanda 72.20 178 P **P 15 35 19.7 +0.5**
comp=Z,4.1nm,0.8s,baz=331,slow=5.3,SNR=22
VNDA LR LR 16 05 24.3
comp=Z,683nm,19.2s,baz=349,slow=34
VNDA Vanda 72.20 178 P **P 15 35 19.9 +0.7**
VNDA pmax pmax
comp=Z,21nm,1.4s
VNDA Vanda 72.20 178 P **P 15 35 19.9 +0.7**
SDPT Sand Point 72.27 26 P **P 15 35 19.2 -0.6**
GKN Gorkha 72.68 301 *e*P **P 15 35 24.3 +1.1**
comp=Z,113nm,0.9s
KOLN Koldanda 73.50 301 *e*P **P 15 35 29.1 +1.0**
comp=Z,109nm,0.8s
DANN Dangsing 73.52 302 *e*P **P 15 35 29.0 +0.7**
comp=Z,113nm,0.8s
BILL Bilibino 74.06 6⇑*e*P **P 15 35 30.0 -0.2**
BILL pmax pmax
comp=Z,13nm,1.1s
PYUN Piuthan 74.11 301 *e*P **P 15 35 32.4 +0.7**
comp=Z,151nm,0.8s
WMQ Urumqi 75.55 318 *e*P **P 15 35 40.3 +0.8**
WMQ pP pP 15 35 55.4 +0.1
WMQ sP sP 15 36 04.9 +3.3
WMQ pmax pmax
comp=Z,30nm,0.9s
WMQ pmax pmax
comp=Z,160nm,4.9s
WMQ LR LR
comp=Z,340nm,19.7s
WMQ LR LR
comp=Z,320nm,20.3s
WMQ LR LR
comp=Z,370nm,26.1s
HYB Hyderabad 75.75 289 *i* P **P 15 35 40.0 -1.1**
HYB *e*PcP **PcP 15 35 51.0 -2.6**
HYB *e*pP **pP 15 35 56.0 -0.8**
SII Sitkinak Islan 75.83 28 P **P 15 35 40.8 0.0**
SII IAmb IAmb 15 35 42.1
comp=Z,47nm,0.9s
OHAK Old Harbor 76.61 27 P **P 15 35 44.8 -0.3**
OHAK IAmb IAmb 15 35 46.5
comp=Z,31nm,1.1s
KDAK Kodiak Island 77.24 27 P **P 15 35 48.4 -0.1**
KDAK pmax pmax
comp=Z,20nm,1.0s
KDAK Kodiak Island 77.24 27 P **P 15 35 48.4 -0.1**
SVW2 Sparrevohn 77.84 23 P **P 15 35 52.1 +0.2**
DGZ Jazzator, Alta 78.01 323*c iP* **P 15 35 53.3 0.0**
DGZ pmax pmax
comp=Z,36nm,1.0s
RSO Redoubt South 78.62 25 P **P 15 35 56.3 -0.2**
HOM Homer 78.66 26 P **P 15 35 56.3 -0.1**
baz=238
ZSN Zaisan 78.74 320⇑*iP* **P 15 35 57.6 +0.4**
comp=Z,24nm,1.2s,baz=320
ZSN LR LR 16 08 37.6
comp=Z,163nm,13.7s,baz=320
ZSN Zaisan 78.74 320*c iP* **P 15 35 57.6 +0.4**
ZSN pmax pmax
comp=Z,24nm,1.2s
ZSN MLR MLR
comp=Z,163nm,14.0s
CNPM China Poot 78.76 26 P **P 15 35 56.9 -0.1**
TTA Tatalina 78.77 22 P **P 15 35 57.0 -0.1**
TTA pmax pmax
comp=Z,11nm,1.0s
TTA Tatalina 78.77 22 P **P 15 35 57.0 -0.1**
BRLK Bradley Lake 79.04 26 P **P 15 35 57.7 -0.9**
SEW Seward 79.83 26 P **P 15 36 02.6 -0.2**
SEW IAmb IAmb 15 36 07.8
comp=Z,26nm,1.0s
RDOG Red Dog Mine 79.90 16 P **P 15 36 03.5 +0.4**
MK31 Makanchi Array 80.17 319 *i* P **P 15 36 05.0 0.0**
MK31 Makanchi Array 80.17 319 P **P 15 36 04.1 -0.9**
MK31 IAmb IAmb 15 36 06.5
comp=Z,26nm,1.0s
MKAR Makanchi Array 80.17 319 P **P 15 36 05.0 0.0**
comp=Z,21nm,0.9s,baz=101,slow=6.3,SNR=103
MKAR PKKPbc **PKKPbc 15 54 48.4 -2.1**
comp=Z,0.5nm,0.5s,baz=251,slow=4.4,SNR=4.5
MKAR PKPPKP **P'P'df 16 02 53.9 +1.7**
comp=Z,0.6nm,0.9s,baz=327,slow=2.4,SNR=2.8
MKAR LR LR 16 11 48.2
comp=Z,907nm,20.2s,baz=90,slow=36
MKAR Makanchi Array 80.17 319 *i* P **P 15 36 05.0 0.0**
MKAR pmax pmax
comp=Z,21nm,0.9s
MKAR Makanchi Array 80.17 319 P **P 15 36 04.0 -1.0**
PPLA Purkeypile 80.18 23 P **P 15 36 04.2 -0.7**
RC01 Rabbit Creek A 80.21 25 P **P 15 36 04.6 -0.3**
baz=240
MAKZ Makanchi 80.38 319 P **P 15 36 05.8 -0.3**
MAKZ Makanchi 80.38 319 P **P 15 36 05.4 -0.7**
MAKZ IAmb IAmb 15 36 07.5
comp=Z,42nm,1.0s
Q23K Middleton Isla 80.89 27 P **P 15 36 07.9 -0.6**
baz=243
KNK Knik Glacier 80.91 25 P **P 15 36 07.3 -1.4**
SHLS Shalkode 80.99 315⇑*iP* **P 15 36 08.6 -1.1**
comp=Z,26nm,1.0s,baz=315
SHLS Shalkode 80.99 315*c iP* **P 15 36 08.5 -1.1**
SHLS pmax pmax
comp=Z,26nm,1.0s
PDGK Podgornoye 81.02 315 P **P 15 36 09.6 -0.2**
KTH Kantishna Hill 81.02 22 P **P 15 36 08.6 -0.7**
ZAA0 Zalesovo Array 81.15 327 P **P 15 36 08.7 -1.3**
ZALV Zalesovo Beam 81.15 327 P **P 15 36 08.6 -1.4**
comp=Z,20nm,0.9s,baz=106,slow=5.3,SNR=46
ZALV PKKPbc **PKKPbc 15 54 47.9 -0.7**
comp=Z,0.4nm,0.4s,baz=172,slow=4.4,SNR=3.8
ZALV LR LR 16 11 44.5
comp=Z,1µm,20.4s,baz=113,slow=35
ZALV Zalesovo Beam 81.15 327 *i* P **P 15 36 09.1 -0.9**
ZALV pmax pmax
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 81.15 327 P **P 15 36 08.3 -1.7**
SML Sawmill 81.16 25 P **P 15 36 09.2 -0.8**
SML IAmb IAmb 15 36 11.3
comp=Z,27nm,0.9s
TRF Thorofare Moun 81.21 23 P **P 15 36 09.6 -0.7**
BPAW Bear Paw Mtn. 81.29 22 P **P 15 36 09.9 -0.7**
UZB Uzynbulak 81.29 315⇑*iP* **P 15 36 11.7 +0.4**
comp=Z,29nm,1.2s,baz=315
UZB *e*S **S 15 46 17.4 -0.6**
baz=315
UZB Uzynbulak 81.29 315*c iP* **P 15 36 11.6 +0.4**
UZB *e*S **S 15 46 17.3 -0.6**
UZB pmax pmax
comp=Z,29nm,1.2s
SCM Sheep Creek Mo 81.59 25 P **P 15 36 12.0 -0.3**
SCM pmax pmax
comp=Z,18nm,0.9s
SCM Sheep Creek Mo 81.59 25 P **P 15 36 12.0 -0.3**
KPKS Kokpek 81.62 315⇑*iP* **P 15 36 13.3 +0.4**
comp=Z,29nm,1.2s,baz=315
KPKS LR LR 16 10 21.2
comp=Z,295nm,18.1s,baz=315
KPKS Kokpek 81.62 315*c iP* **P 15 36 13.3 +0.4**
KPKS pmax pmax
comp=Z,29nm,1.2s
KPKS MLR MLR
comp=Z,295nm,18.0s
SATY Saty 81.70 315⇑*iP* **P 15 36 14.0 +0.5**
comp=Z,12nm,0.9s,baz=315
SATY Saty 81.70 315*c iP* **P 15 36 13.9 +0.5**
SATY pmax pmax
comp=Z,12nm,0.9s
RND Reindeer 81.74 23 P **P 15 36 12.2 -0.9**
RND pmax pmax
comp=Z,16nm,0.8s
RND Reindeer 81.74 23 P **P 15 36 12.2 -0.9**
TARG Taragay, Kyrgy 81.79 313 P **P 15 36 13.0 -1.2**
TARG IAmb IAmb 15 36 24.7
comp=Z,23nm,0.9s
MCK McKinley 81.88 23 P **P 15 36 13.3 -0.4**
MCK pmax pmax
comp=Z,26nm,1.0s
MCK McKinley 81.88 23 P **P 15 36 13.3 -0.4**
MCK IAmb IAmb 15 36 42.4
comp=Z,26nm,1.0s
KLU Klutina 82.02 25 P **P 15 36 14.6 0.0**
KLU IAmb IAmb 15 36 20.8
comp=Z,26nm,0.9s
M24K Tolsona, Glenn 82.20 25 P **P 15 36 16.0 +0.5**
baz=243
M24K Tolsona, Glenn 82.20 25 P **P 15 36 15.3 -0.2**
M24K IAmb IAmb 15 36 43.5
comp=Z,24nm,0.8s
TDK Taldyqorghan 82.22 317 *e*P **P 15 36 16.3 +0.3**
comp=Z,42nm,1.1s,baz=317
TDK LR LR 16 08 50.2
comp=Z,641nm,21.8s,baz=317
TDK Taldyqorghan 82.22 317 *e*P **P 15 36 16.3 +0.3**
TDK pmax pmax
comp=Z,41nm,1.1s
TDK MLR MLR
comp=Z,641nm,22.0s
NEA2 Nenana 82.26 22 P **P 15 36 14.9 -0.7**
baz=240
KDJ Kajisay 82.34 314 P **P 15 36 16.9 +0.1**
KDJ pmax pmax
comp=Z,79nm,1.0s
KDJ Kajisay 82.34 314 P **P 15 36 16.9 +0.1**
WRH Wood River Hil 82.57 22 P **P 15 36 16.4 -0.9**
KSH Kashi 82.60 311⇓*iP* **P 15 36 20.8 +2.6**
KSH PP **PP 15 39 31.3 +2.9**
KSH S **S 15 46 32.5 +1.0**
KSH sS sS 15 47 01.1 +2.7
KSH pmax pmax
comp=Z,86nm,1.2s
KSH pmax pmax
comp=Z,270nm,6.0s
KSH LR LR
comp=Z,330nm,14.9s
KSH LR LR
comp=Z,230nm,13.2s
KSH LR LR
comp=Z,260nm,17.0s
MDOK Medeo 82.69 315 *i* P **P 15 36 19.3 +0.7**
baz=314
MDOK *e*S **S 15 46 31.6 -0.8**
baz=314
MDOK LR LR 16 11 15.8
comp=Z,276nm,19.7s,baz=314
MDOK Medeo 82.69 315 *i* P **P 15 36 19.3 +0.7**
MDOK *e*S **S 15 46 31.5 -0.8**
MDOK MLR MLR
comp=Z,276nm,20.0s
TNSS Tian-Shan 82.73 314 *e*P **P 15 36 20.0 +0.9**
baz=314
TNSS Tian-Shan 82.73 314 *e*P **P 15 36 20.0 +0.9**
MDM Murphy Dome 82.75 22 P **P 15 36 16.6 -1.7**
CCB Clear Creek Bu 82.76 22 P **P 15 36 16.9 -1.4**
AAA Alma-Ata 82.80 315 *e*P **P 15 36 19.7 +0.6**
comp=Z,23nm,1.2s,baz=314
AAA LR LR 16 10 11.4
comp=Z,280nm,19.6s,baz=314
AAA Alma-Ata 82.80 315 *e*P **P 15 36 19.6 +0.6**
AAA pmax pmax
comp=Z,23nm,1.2s
AAA MLR MLR
comp=Z,280nm,20.0s
TCOL CIGO, UAF Yank 82.85 22 P **P 15 36 17.6 -1.1**
baz=241
COLA College 82.85 22⇑*e*P **P 15 36 18.6 -0.1**
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 82.85 22 P **P 15 36 18.2 -0.5**
COLA IAmb IAmb 15 36 29.6
comp=Z,19nm,0.7s
GLB Gilahina Butte 82.91 26 P **P 15 36 18.9 -0.3**
GLB IAmb IAmb 15 36 36.8
comp=Z,28nm,1.2s
CRQM Cirque 82.91 27 P **P 15 36 18.7 -0.7**
CRQM IAmb IAmb 15 36 37.1
comp=Z,46nm,1.3s
WAX Waxell Ridge 82.92 27 P **P 15 36 18.8 -0.5**
WAX IAmb IAmb 15 36 37.0
comp=Z,53nm,1.4s
HDA Harding Lake 82.97 23 P **P 15 36 18.6 -0.8**
baz=242
HDA Harding Lake 82.97 23 P **P 15 36 18.3 -1.1**
VRDI Verde Repeater 82.97 26 P **P 15 36 19.7 0.0**
TGL Tana Glacier 83.05 27 P **P 15 36 19.8 -0.2**
TGL IAmb IAmb 15 36 21.2
comp=Z,30nm,1.2s
MTBS Maitube 83.12 314 *e*P **P 15 36 21.2 +0.4**
baz=314
MTBS Maitube 83.12 314 *e*P **P 15 36 21.1 +0.4**
POKR Poker Plat Res 83.13 22 P **P 15 36 19.1 -1.1**
baz=241
IL31 83.17 22 P **P 15 36 19.3 -1.0**
ILAR Eielson Array 83.17 22 P **P 15 36 18.7 -1.7**
comp=Z,9.3nm,0.8s,baz=249,slow=5.2,SNR=72
ILAR PKiKP **PKiKP 15 41 38.7 +0.2**
comp=Z,0.5nm,0.8s,baz=262,slow=2.3,SNR=4.7
ILAR LR LR 16 10 57.5
comp=Z,1µm,19.8s,baz=264,slow=34
ILAR Eielson Array 83.17 22 P **P 15 36 18.5 -1.9**
MCARA McCarthy VSAT 83.23 26 P **P 15 36 20.1 -0.6**
MCARA IAmb IAmb 15 36 48.1
comp=Z,28nm,1.1s
COLD Coldfoot 83.23 19 P **P 15 36 20.8 +0.2**
baz=238
COLD Coldfoot 83.23 19 P **P 15 36 19.6 -1.0**
KUU Kurty 83.37 315⇑*iP* **P 15 36 22.3 +0.3**
comp=Z,98nm,1.1s,baz=315
KUU *e*S **S 15 46 37.8 -1.2**
baz=315
KUU LR LR 16 13 16.2
comp=Z,404nm,18.3s,baz=315
KUU Kurty 83.37 315*c iP* **P 15 36 22.2 +0.3**
KUU *e*S **S 15 46 37.7 -1.2**
KUU pmax pmax
comp=Z,98nm,1.1s
KUU MLR MLR
comp=Z,405nm,18.0s
BALM Baldy 83.38 27 P **P 15 36 21.4 -0.3**
BALM IAmb IAmb 15 36 38.8
comp=Z,44nm,1.4s
RIDG Independent Ri 83.48 24 P **P 15 36 22.1 +0.1**
NIL Nilore 83.52 305 P **P 15 36 22.6 -0.4**
NIL pmax pmax
comp=Z,79nm,0.9s
NIL Nilore 83.52 305 P **P 15 36 22.6 -0.4**
MENT Mentasta 83.59 25 P **P 15 36 22.1 -0.5**
TKM2 Tokmak 2 83.67 314 P **P 15 36 23.7 0.0**
SNR=34
TKM2 Tokmak 2 83.67 314 P **P 15 36 23.4 -0.3**
KURK Kurchatov 83.67 322*c iP* **P 15 36 22.5 -0.8**
KURK pmax pmax
comp=Z,57nm,1.1s
KURK Kurchatov 83.67 322 P **P 15 36 22.1 -1.1**
KURK IAmb IAmb 15 36 24.3
comp=Z,48nm,1.1s
BARN Barnard Glacie 83.70 27 P **P 15 36 24.1 +0.6**
KZA Kyzart 83.72 313 P **P 15 36 25.2 +0.9**
SNR=42
DOT Dot Lake 83.75 24 P **P 15 36 23.1 -0.4**
CTGM Chitina Glacie 83.81 27 P **P 15 36 23.8 -0.1**
CTGM IAmb IAmb 15 36 25.3
comp=Z,19nm,0.9s
SCRK Sand Creek 83.93 24 P **P 15 36 24.4 -0.1**
baz=244
KBK Karagaybulak 84.07 314 P **P 15 36 26.2 +0.5**
SNR=19
TOLK Toolik Lake Re 84.17 18 P **P 15 36 26.0 +0.4**
baz=239
TOLK Toolik Lake Re 84.17 18 P **P 15 36 25.5 -0.1**
CHMS Chumysh 84.29 314 P **P 15 36 27.0 +0.3**
SNR=30
UCH Uchtor 84.29 313 P **P 15 36 28.3 +1.1**
SNR=46
AAK Ala-Archa 84.39 314 P **P 15 36 28.2 +0.9**
comp=Z,27nm,0.9s,baz=120,slow=5.1,SNR=65
AAK Ala-Archa 84.39 314 P **P 15 36 27.9 +0.5**
SNR=33
SGDS Sogindy 84.47 314⇑*iP* **P 15 36 28.1 +0.4**
comp=Z,40nm,1.3s,baz=314
SGDS Sogindy 84.47 314*c iP* **P 15 36 28.0 +0.4**
SGDS pmax pmax
comp=Z,40nm,1.3s
QSPA South Pole Qui 84.49 180 PKKPbc PKKPbc 15 54 38.3 -3.4
comp=Z,1.7nm,1.0s,baz=183,slow=3.7,SNR=4.1
QSPA South Pole Qui 84.49 180 P **P 15 36 27.4 +0.1**
QSPA IAmb IAmb 15 36 46.5
comp=Z,28nm,1.1s
USP Ospenovka 84.53 314 P **P 15 36 27.9 0.0**
SNR=55
MAW Mawson 84.56 203 P **P 15 36 28.0 +0.5**
comp=Z,12nm,0.9s,baz=75,slow=6.4,SNR=24
MAW PKKPbc **PKKPbc 15 54 37.9 -2.8**
comp=Z,1.3nm,0.7s,baz=300,slow=8.3,SNR=5.0
MAW LR LR 16 11 14.8
comp=Z,1µm,21.4s,baz=79,slow=34
MAW Mawson 84.56 203 P **P 15 36 28.2 +0.7**
baz=84,SNR=12
MAW Mawson 84.56 203 P **P 15 36 28.0 +0.5**
MAW Mawson 84.56 203 P **P 15 36 27.5 +0.1**
FYU Fort Yukon 84.61 21 P **P 15 36 28.1 +0.5**
AML Almayashu 84.86 313 P **P 15 36 30.8 +0.8**
SNR=116
EKS2 Erkin-Say 84.92 314 P **P 15 36 30.3 +0.4**
SNR=64
BTLS Baital 85.23 316⇑*iP* **P 15 36 31.8 +0.4**
comp=Z,54nm,1.3s,baz=316
BTLS LR LR 16 13 05.0
comp=Z,68nm,14.7s,baz=316
BTLS Baital 85.23 316*c iP* **P 15 36 31.7 +0.4**
BTLS pmax pmax
comp=Z,54nm,1.3s
BTLS MLR MLR
comp=Z,68nm,15.0s
EGAK Eagle 85.38 23 P **P 15 36 31.5 -0.1**
EGAK IAmb IAmb 15 36 56.6
comp=Z,16nm,0.9s
BESE Bessie Mountai 86.07 30 P **P 15 36 35.5 +0.3**
BESE IAmb IAmb 15 36 37.0
comp=Z,37nm,1.2s
SKAG Skagway 86.10 29 P **P 15 36 35.0 -0.2**
SKAG IAmb IAmb 15 36 37.1
comp=Z,34nm,1.4s
NRIK Noril'sk 86.27 341 P **P 15 36 34.8 -1.1**
comp=Z,9.6nm,0.9s,baz=129,slow=4.3,SNR=6.7
NRIK LR LR 16 15 16.5
comp=Z,662nm,20.8s,baz=131,slow=36
BTK Batken 86.60 311 P **P 15 36 37.9 -0.4**
BTK pmax pmax
comp=Z,26nm,1.1s
BTK Batken 86.60 311 P **P 15 36 37.9 -0.4**
BTK IAmb IAmb 15 36 39.8
comp=Z,26nm,1.1s
WHY Whitehorse 86.67 28 P **P 15 36 38.5 +0.3**
WHY IAmb IAmb 15 36 39.9
comp=Z,15nm,1.0s
DZA Taraz 86.73 313 *e*P **P 15 36 39.2 +0.3**
comp=Z,46nm,1.0s,baz=313
DZA Taraz 86.73 313 *e*P **P 15 36 39.1 +0.3**
DZA pmax pmax
comp=Z,46nm,1.0s
WRAK Wrangell Islan 86.78 33 P **P 15 36 38.3 -0.3**
GAR Garm 86.81 309 P **P 15 36 38.7 -0.7**
GAR IAmb IAmb 15 36 40.6
comp=Z,36nm,1.1s
KBL Kabul 87.11 305 P **P 15 36 39.7 -1.4**
KBL pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 87.11 305 P **P 15 36 39.7 -1.4**
KK31 Karatay Array 87.36 314 *i* P **P 15 36 42.4 +0.6**
KK31 Karatay Array 87.36 314 P **P 15 36 41.6 -0.2**
KK31 IAmb IAmb 15 36 44.1
comp=Z,44nm,1.1s
KKAR Karatay Array 87.36 314 P **P 15 36 41.5 -0.3**
KKAR pmax pmax
comp=Z,44nm,1.1s
KKAR Karatay Array 87.36 314 P **P 15 36 41.5 -0.3**
IUG Iuzhnay 87.54 313 *e*P **P 15 36 43.4 +0.5**
comp=Z,35nm,1.2s,baz=312
IUG LR LR 16 15 39.0
comp=Z,324nm,21.4s,baz=312
IUG Iuzhnay 87.54 313 *e*P **P 15 36 43.4 +0.5**
IUG pmax pmax
comp=Z,35nm,1.2s
IUG MLR MLR
comp=Z,324nm,21.0s
CHGR Chuyangaron 87.64 309 P **P 15 36 42.6 -0.8**
EPYK Eagle Plains 87.68 22 P **P 15 36 42.9 0.0**
baz=251
EPYK Eagle Plains 87.68 22 P **P 15 36 42.8 0.0**
EPYK IAmb IAmb 15 37 07.9
comp=Z,29nm,1.1s
BBB Bella Bella 88.25 37 P **P 15 36 45.4 -0.4**
comp=Z,14nm,1.0s,baz=182,slow=4.2,SNR=3.5
BBB Bella Bella 88.25 37 IAmb IAmb 15 37 13.3
comp=Z,47nm,1.4s
DLBC Dease Lake 88.48 31 P **P 15 36 47.1 +0.2**
comp=Z,11nm,1.0s,baz=231,slow=3.9,SNR=6.6
DLBC Dease Lake 88.48 31 P **P 15 36 47.0 +0.1**
DLBC IAmb IAmb 15 36 49.0
comp=Z,46nm,1.4s
BVAR Borovoye Array 89.17 323 P **P 15 36 48.2 -2.0**
comp=Z,19nm,0.9s,baz=139,slow=12,SNR=58
BRVK Borovoye 89.24 323*c iP* **P 15 36 48.9 -1.5**
BRVK pmax pmax

comp=Z,30nm,1.1s
BRVK Borovoye 89.24 323 P P 15 36 48.9 -1.5
BRVK IAmb IAmb 15 36 52.0
comp=Z,24nm,1.0s
KCPM Cahto Peak 89.34 50 P P 15 36 51.2 -0.2
KCPM IAmb IAmb 15 36 53.4
comp=Z,19nm,1.0s
INK Inuvik 89.44 21 P P 15 36 49.8 -1.3
INK pmax pmax
comp=Z,13nm,1.1s
INK Inuvik 89.44 21 P P 15 36 49.8 -1.3
INK IAmb IAmb 15 37 15.5
comp=Z,13nm,1.1s
J01E Myrtle Point 89.55 47 P P 15 36 53.7 +1.5
baz=262,SNR=6.8
L02E Cave Junction 89.66 48 P P 15 36 54.3 +1.6
baz=262,SNR=6.6
K02D Willamette Mer 89.68 47 P P 15 36 54.3 +1.4
baz=262,SNR=12
I02D Swisshome 89.74 46 P P 15 36 53.4 +0.5
baz=262
GDXM Geysers 89.84 51 P P 15 36 52.5 -1.2
GDXM IAmb IAmb 15 36 57.8
comp=Z,10nm,0.9s
O02D Mt. Diablo Mer 90.01 50 P P 15 36 56.1 +1.6
baz=263,SNR=19
I03D Drain, OR 90.04 46 P P 15 36 55.8 +1.3
baz=263,SNR=9.5
M02C Callahan 90.11 49 P P 15 36 56.7 +1.7
baz=263,SNR=31
N02D Trinity Center 90.17 49 P P 15 36 56.6 +1.4
baz=263,SNR=12
NLWA Neilton Lookou 90.17 43 P P 15 36 54.3 -0.7
HUMO Hull Mountain 90.19 47 P P 15 36 56.0 +0.8
WDC Whiskeytown Da 90.25 49 P P 15 36 55.8 +0.3
WDC pmax pmax
comp=Z,37nm,1.4s
WDC Whiskeytown Da 90.25 49 P P 15 36 55.8 +0.3
WDC IAmb IAmb 15 36 59.3
comp=Z,37nm,1.4s
YBH Yreka Blue Hor 90.26 48 P P 15 36 56.5 +0.8
comp=Z,30nm,1.1s,baz=199,slow=1.7,SNR=26
YBH Yreka Blue Hor 90.26 48 P P 15 36 56.0 +0.3
E03A Lebam 90.27 43 P P 15 36 55.5 +0.1
G03D McMinnville, O 90.30 45 P P 15 36 56.3 +0.7
baz=263
H04D Lebanon 90.58 45 P P 15 36 58.0 +1.1
baz=263
PGC Sidney 90.62 41 P P 15 36 56.9 -0.1
L04D Klamath Falls 90.62 48 P P 15 36 58.4 +1.0
baz=263,SNR=17
D03D Eldon 90.72 42 P P 15 36 58.6 +1.2
baz=263
I04A Tendick Farm, 90.73 46 P P 15 36 58.6 +0.9
baz=263,SNR=14
O03E Paynes Creek 90.77 50 P P 15 36 58.8 +0.8
baz=264,SNR=15
J04D Umpqua Nationa 90.88 47 P P 15 36 59.8 +1.2
baz=263,SNR=9.3
D04E Lakebay 90.89 43 P P 15 36 59.2 +1.0
baz=263
M04C Macdoel 90.91 48 P P 15 36 59.9 +1.2
baz=264,SNR=19
ORV Oroville 90.92 51 P P 15 36 58.4 -0.2
ORV pmax pmax
comp=Z,21nm,1.1s
ORV Oroville 90.92 51 P P 15 36 58.4 -0.2
ORV IAmb IAmb 15 37 01.7
comp=Z,21nm,1.1s
E04D Cinebar 90.95 43 P P 15 36 59.7 +1.1
baz=263,SNR=5.4
F04A Amboy 90.98 44 P P 15 36 59.0 +0.2
H04A Detroit Lake 90.99 45 P P 15 36 58.7 -0.2
A04D Lummi Island 91.12 41 P P 15 37 00.5 +1.2
baz=263,SNR=18
AFDM Forest Hills D 91.27 51 P P 15 37 00.1 -0.2
D05A Enumclaw 91.42 43 P P 15 37 00.6 -0.2
B05A Bryant 91.47 42 P P 15 37 01.8 +0.8
baz=264
J05D Fort Rock, OR 91.52 47 P P 15 37 03.1 +1.5
baz=264,SNR=57
I05D Terrebonne, OR 91.56 46 P P 15 37 02.7 +1.2
baz=264,SNR=9.2
CMB Columbia Colle 91.63 52 P P 15 37 01.9 -0.1
CMB pmax pmax
comp=Z,29nm,1.4s
CMB Columbia Colle 91.63 52 P P 15 37 01.9 -0.1
CMB IAmb IAmb 15 37 04.6
comp=Z,29nm,1.4s
F05D White Salmon 91.64 44 P P 15 37 02.9 +1.1
baz=264
G05D Wamic, OR 91.67 45 P P 15 37 02.9 +0.9
baz=264,SNR=6.9
SMMC Simmler 91.68 55 P P 15 37 03.8 +1.5
baz=265
K05A Summer Lake 91.71 47 P P 15 37 02.8 +0.2
PINE Pine Mountain 91.79 46 P P 15 37 02.7 -0.1
PKM Mcpherson Peak 91.79 55 P P 15 37 04.8 +1.8
baz=265
B06A Marblemount 91.90 42 P P 15 37 03.2 +0.2
B06A IAmb IAmb 15 37 04.6
comp=Z,18nm,0.8s
MOD Modoc Plateau 92.07 48 P P 15 37 04.5 +0.4
C06D Leavenworth 92.23 42 P P 15 37 05.3 +0.7
baz=264
LTY Liberty 92.32 43 P P 15 37 04.5 -0.6
LTY IAmb IAmb 15 37 06.1
comp=Z,17nm,1.0s
VCNR Virginia City 92.32 51 P P 15 37 06.2 +0.8
PNTR Pine Nut 92.34 51 P P 15 37 06.2 +0.6
WAKR Walker 92.42 52 P P 15 37 06.2 +0.3
WAKR IAmb IAmb 15 37 08.1
comp=Z,17nm,1.0s
PAHR Pah Rah Range 92.56 51 P P 15 37 06.2 -0.2
YERR Yerington 92.61 51 P P 15 37 06.1 -0.6
ARVC Arvin 92.62 55 P P 15 37 08.0 +1.4
baz=265
HRA Herat 92.67 304 P P 15 37 06.1 -1.1
HRA IAmb IAmb 15 37 07.6
comp=Z,16nm,1.1s
OMMB Old Mammoth Mi 92.69 53 P P 15 37 07.3 +0.1
SYO Syowa Base 92.69 200⇑ *e*P **P 15 37 04.8 -1.4**
SYO Syowa Base 92.69 200⇓ *e*PcP **PcP 15 37 07.4 +0.5**
SYO Syowa Base 92.69 200⇓ *e*pP pP 15 37 22.0 +0.3
F07A Phinny Hill Vi 92.70 44 P P 15 37 06.9 +0.2
E07A Sunnyside 92.81 44 P P 15 37 07.2 0.0
CIS Catalina Islan 92.82 57 P P 15 37 08.8 +1.2
baz=265
ISA Isabella, Lake 92.95 55 P P 15 37 08.3 +0.1
ISA pmax pmax
comp=Z,26nm,1.4s
ISA Isabella, Lake 92.95 55 P P 15 37 09.4 +1.2
baz=266,SNR=8.9
ISA Isabella, Lake 92.95 55 P P 15 37 08.2 +0.1
ISA IAmb IAmb 15 37 10.8
comp=Z,26nm,1.4s
HAWA Hanford 93.02 44 P P 15 37 08.7 +0.5
LHV Little Huntoon 93.13 52 P P 15 37 09.7 +0.9
RYN Ryan 93.14 52 P P 15 37 09.8 +0.6
MWC Mount Wilson 93.18 56 P P 15 37 10.1 +0.7
MWC pmax pmax
comp=Z,84nm,1.4s
MWC Mount Wilson 93.18 56 P P 15 37 10.1 +0.7
PNT Penticton 93.20 41 P P 15 37 06.2 -2.8
PNT pmax pmax
comp=Z,46nm,1.1s
TIN Tinemaha, Big 93.25 53 P P 15 37 11.2 +1.6
baz=266,SNR=6.7
EDW2 Edwards Air Fo 93.28 55 P P 15 37 11.5 +1.8
baz=266,SNR=14
NVAR Mina Array Bea 93.30 52 P P 15 37 11.3 +1.4
comp=Z,19nm,0.8s,baz=254,slow=6.8,SNR=112
NVAR PP PP 15 40 58.7 +4.3
comp=Z,1.0nm,0.8s,baz=251,slow=9.3,SNR=5.3
NVAR LR LR 16 15 15.0
comp=Z,2μm,18.7s,baz=268,slow=33
NVAR Mina Array Bea 93.30 52 P P 15 37 10.4 +0.4
B08A Colville Reser 93.31 42 P P 15 37 09.6 +0.1
B08A IAmb IAmb 15 37 11.3
comp=Z,29nm,1.2s
G08A Pilot Rock 93.33 45 P P 15 37 10.3 +0.5
NV11 Mina Array Sit 93.42 52 P P 15 37 10.4 0.0
D08A Wollman Farm, 93.49 43 P P 15 37 10.5 +0.1
D08A IAmb IAmb 15 37 12.5
comp=Z,24nm,1.1s
KVN Kaiserville 93.50 51 P P 15 37 10.6 -0.2
KVN pmax pmax
comp=Z,30nm,1.1s
KVN Kaiserville 93.50 51 P P 15 37 10.6 -0.2
BFSC Mount Baldy Ra 93.51 56 P P 15 37 12.3 +1.4
baz=266,SNR=5.5
J08A Circle Bar Ran 93.53 47 P P 15 37 11.0 +0.2
LRMC Laurel Mtn Rad 93.58 55 P P 15 37 12.8 +1.6
baz=266,SNR=28
MPMC Manual Prospec 93.78 54 P P 15 37 13.7 +1.5
baz=266,SNR=23
MURC Murrieta 93.85 57 P P 15 37 13.8 +1.4
baz=266
109C Camp Elliot, M 93.87 57 P P 15 37 13.9 +1.5
baz=266
GRAC Grapevine Rang 93.94 53 P P 15 37 14.3 +1.6
baz=266,SNR=9.2
C09A Chrisman Ranch 93.98 43 P P 15 37 12.3 -0.3
C09A IAmb IAmb 15 37 14.4
comp=Z,22nm,1.1s
TPH Tonopah 94.12 52 P P 15 37 14.0 +0.2
TPH pmax pmax
comp=Z,121nm,1.1s
TPH Tonopah 94.12 52 P P 15 37 13.9 +0.2
BAR Barrett 94.22 58 P P 15 37 13.2 -0.9
BAR IAmb IAmb 15 37 18.4
comp=Z,25nm,1.4s
GSC Goldstone, Bar 94.28 55 P P 15 37 14.9 +0.5
GSC pmax pmax
comp=Z,26nm,1.3s
GSC Goldstone, Bar 94.28 55 P P 15 37 15.9 +1.6
baz=266,SNR=10
GSC Goldstone, Bar 94.28 55 P P 15 37 14.9 +0.5
GSC IAmb IAmb 15 37 17.3
comp=Z,26nm,1.2s
FURC Furnace Creek, 94.31 54 P P 15 37 16.1 +1.8
baz=266,SNR=18
MONP2 Monument Peak 94.45 58 P P 15 37 17.2 +1.8
baz=266,SNR=15
PFO Pinyon Flats O 94.46 57 P P 15 37 16.9 +1.6
comp=Z,3.2nm,0.7s,baz=242,slow=7.9,SNR=8.8
PFO Pinyon Flats O 94.46 57 P P 15 37 16.6 +1.3
baz=266
PFO Pinyon Flats O 94.46 57 P P 15 37 15.0 -0.3
PFO IAmb IAmb 15 37 38.5
comp=Z,9.5nm,1.1s
BMO Blue Mountains 94.47 46 P P 15 37 14.9 -0.2
BMO pmax pmax
comp=Z,39nm,1.2s
BMO Blue Mountains 94.47 46 P P 15 37 14.8 -0.2
F10A Beach Ranch, E 94.59 44 P P 15 37 15.1 -0.5
HEC Hector,Ludlow 94.64 56 P P 15 37 17.3 +1.2
baz=267
IKP In-Ko-Pah, Jac 94.69 58 P P 15 37 18.1 +1.8
baz=267,SNR=5.4
RMX La Rumorosa 94.72 58 P P 15 37 17.0 +0.5
SHOC Shoshone, Teco 94.75 55 P P 15 37 17.4 +1.0
baz=267
NEW Newport 94.78 42 P P 15 37 16.4 +0.1
comp=Z,18nm,1.0s,baz=238,slow=2.9,SNR=16
NEW Newport 94.78 42 P P 15 37 16.9 +0.6
baz=267
NEW Newport 94.78 42 P P 15 37 16.1 -0.2
TPNV Topopah Spring 94.83 53 P P 15 37 16.8 -0.2
TPNV pmax pmax
comp=Z,38nm,1.1s
TPNV Topopah Spring 94.83 53 P P 15 37 18.6 +1.6
baz=267,SNR=30
TPNV Topopah Spring 94.83 53 P P 15 37 16.8 -0.2
BELC Belle Mtn. Jos 94.87 56 P P 15 37 18.7 +1.5
baz=267,SNR=13
SWSC Sam W. Stewart 94.97 57 P P 15 37 19.5 +2.0
baz=267
TUQ Turquoise Moun 95.01 55 P P 15 37 19.3 +1.5
baz=267,SNR=20
GMRC Granite Mounta 95.19 56 P P 15 37 20.1 +1.5
baz=267,SNR=19
BC3 Big Chuckawall 95.30 57 P P 15 37 20.9 +1.8
baz=267,SNR=12
AB31 Akbulak array 95.31 319 P P 15 37 15.6 -3.0
ABKAR Akbulak array 95.31 319 P P 15 37 16.3 -2.4
PLID Pearl Lake 95.41 45 P P 15 37 18.5 -1.0
PLID IAmb IAmb 15 37 20.8
comp=Z,15nm,0.9s
R11A Troy Canyon, C 95.43 52 P P 15 37 21.1 +1.4
baz=267,SNR=29
R11A Troy Canyon, C 95.43 52 P P 15 37 19.6 0.0
R11A IAmb IAmb 15 37 22.4
comp=Z,25nm,1.2s
MFID Camas Ranch 95.46 47 P P 15 37 19.5 -0.1
MFID IAmb IAmb 15 37 22.9
comp=Z,18nm,1.2s
IRM Iron Mountain 95.58 56 P P 15 37 21.9 +1.6
baz=267,SNR=9.0
SHPR Sheep Range 95.68 54 P P 15 37 22.1 +1.2
SHPR IAmb IAmb 15 37 23.4
comp=Z,16nm,1.0s
GLA Glamis 95.80 57 P P 15 37 23.1 +1.8
baz=267
ELK Elko 95.80 50 P P 15 37 21.7 +0.4
comp=Z,4.9nm,0.9s,baz=276,slow=4.6,SNR=21
ELK Elko 95.80 50 P P 15 37 21.8 +0.4
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 95.80 50 P P 15 37 21.8 +0.4
ELK IAmb IAmb 15 37 23.7
comp=Z,7.7nm,0.9s
PRN Pahroc Range 95.81 53 P P 15 37 21.8 +0.4
NEE2 Needles Airpor 96.05 56 P P 15 37 23.9 +1.5
baz=268
GEYT Alibeck 96.22 307 P P 15 37 22.2 -0.9
comp=Z,2.9nm,0.8s,baz=119,slow=1.9,SNR=6.3
GEYT PP PP 15 41 20.7 +3.8
comp=Z,1.5nm,0.7s,baz=104,slow=4.8,SNR=3.9
GEYT Alibeck 96.22 307 P P 15 37 21.9 -1.2
ARU Arti 96.31 326 P P 15 37 20.9 -2.1
comp=Z,2.7nm,0.9s,baz=62,slow=3.3,SNR=12
ARU Arti 96.31 326 *c i*P **P 15 37 20.5 -2.5**
ARU 15 41 12.8
ARU S **SKSac 15 47 51.1 -3.7**
ARU PS **PS 15 50 03.0 -2.3**
ARU pmax pmax
comp=Z,16nm,1.1s
ARU MLR MLR
comp=Z,2μm,22.0s
ARU Arti 96.31 326 P P 15 37 21.5 -1.4
ARU IAmb IAmb 15 37 22.9
comp=Z,14nm,1.1s
YKA Yellowknife Ar 96.50 28 P P 15 37 21.8 -1.9
comp=Z,2.6nm,0.8s,baz=282,slow=4.4,SNR=3.5
YKA LR LR 16 15 05.5
comp=Z,776nm,21.7s,baz=0.0,slow=32
HLID Hailey 96.50 47 P P 15 37 25.6 +1.2
baz=269
HLID Hailey 96.50 47 P P 15 37 24.2 -0.2
HLID IAmb IAmb 15 37 27.2
comp=Z,8.1nm,0.8s
AKTO Aktyubinsk 96.58 320 P P 15 37 23.2 -1.2
comp=Z,4.2nm,0.9s,baz=73,slow=7.4,SNR=9.3
W13A Hualapai Mount 96.66 55 P P 15 37 25.7 +0.3
W13A IAmb IAmb 15 37 28.6
comp=Z,21nm,1.2s
113A Mohawk Valley, 96.67 58 P P 15 37 26.2 +1.0
113A IAmb IAmb 15 37 29.8
comp=Z,8.1nm,1.1s
PSUT Pine Spring 96.79 52 P P 15 37 26.1 +0.2
MSO Missoula 96.89 44 P P 15 37 27.7 +1.6
baz=270
WALA Waterton Lakes 96.93 41 P P 15 37 26.7 +0.6
CCUT Cedar City 97.16 53 P Pdif 15 37 28.2 +0.5
LCMT Little Creek M 97.24 53 P Pdif 15 37 28.3 +0.4
BCYI Bear Canyon 97.24 46 P Pdif 15 37 27.9 0.0
SZCU Shurtz Canyon 97.37 53 P Pdif 15 37 29.0 +0.3
BGU Big Grassy Mou 97.48 50 P Pdif 15 37 29.1 +0.1
DUG Dugway, Tooele 97.63 50 P P 15 37 27.8 -1.8
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 97.63 50 P Pdif 15 37 30.5 +0.8
baz=269
DUG Dugway, Tooele 97.63 50 P P 15 37 27.8 -1.8
MCMT McKenzie Canyo 97.64 46 P P 15 37 29.2 -0.4
HVU Hansel Valley 97.68 49 P P 15 37 27.8 -2.0
HVU pmax pmax
comp=Z,29nm,1.1s
HVU Hansel Valley 97.68 49 P P 15 37 27.8 -2.0
DLMT Dillon 97.82 45 P P 15 37 29.5 -0.8
DLMT IAmb IAmb 15 37 42.1
comp=Z,9.6nm,1.4s
SPUT South Promonto 97.92 49 P P 15 37 28.8 -2.1
U15A North Rim 97.99 54 P P 15 37 31.4 0.0
U15A IAmb IAmb 15 37 34.2
comp=Z,12nm,1.1s
BOZ Bozeman (W) 98.50 45 P P 15 37 32.9 -0.4
BOZ pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 98.50 45 P Pdif 15 37 34.2 +0.9
baz=271
BOZ Bozeman (W) 98.50 45 P P 15 37 32.9 -0.4
BOZ IAmb IAmb 15 37 34.8
comp=Z,8.2nm,0.9s
HWUT Hardware Ranch 98.58 49 P P 15 37 33.3 -0.6
HWUT IAmb IAmb 15 37 35.4
comp=Z,6.9nm,0.9s
QLMT Earthquake Lak 98.65 46 P P 15 37 33.5 -0.7
WUAZ Wupatki 98.72 55 P Pdif 15 37 36.5 +1.8
baz=270
YHB Horse Butte 98.82 46 P Pdif 15 37 35.5 +0.6
YHL Hebgen Lake 98.82 46 P Pdif 15 37 35.7 +0.6
TMUT Trail Mountain 98.87 51 P P 15 37 34.3 -1.1
Q16A Castle Valley 98.89 52 P P 15 37 34.8 -0.6
FXWY Fox Creek 98.96 47 P P 15 37 34.9 -0.7
FXWY IAmb IAmb 15 37 37.7
comp=Z,10nm,1.1s
TPAW Teton Pass 99.02 47 Pdif 15 37 34.9 -1.0
TPAW IAmb IAmb 15 37 37.0
comp=Z,10nm,0.9s
IMW Indian Meadow 99.02 47 Pdif 15 37 35.2 -0.8
IMW IAmb IAmb 15 37 38.1
comp=Z,14nm,1.2s
REDW Red Top Meadow 99.09 47 P Pdif 15 37 34.7 -1.5
REDW IAmb IAmb 15 37 39.0
comp=Z,10nm,1.1s
TUC Tucson 99.18 58 P Pdif 15 37 38.3 +1.7
baz=269
FLWY Flagg Ranch 99.19 46 P Pdif 15 37 35.9 -0.6
FLWY IAmb IAmb 15 37 38.9
comp=Z,14nm,1.1s
LOHW Long Hollow 99.27 47 P Pdif 15 37 35.7 -1.2
LOHW IAmb IAmb 15 37 38.8
comp=Z,6.5nm,1.0s
H17A Grant Village 99.27 46 P Pdif 15 37 38.8 +1.8
baz=272
NVL N'lazarevskaya 99.39 192 *e*P **Pdif 15 37 46.8 +10**
NVL pmax pmax
comp=Z,7.0nm,1.0s
SRU San Rafael Swe 99.40 51 P Pdif 15 37 37.2 -0.4
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael Swe 99.40 51 P Pdif 15 37 37.2 -0.4
EGMT Eagleton 99.71 42 P Pdif 15 37 39.4 +0.7
baz=273
BW06 Boulder Array 100.05 48 P Pdif 15 37 40.5 0.0
baz=272
PDAR Pinedale Array 100.05 48 P Pdif 15 37 40.6 +0.2
comp=Z,9.5nm,0.9s,baz=249,slow=2.9,SNR=27
PDAR PP **PP 15 41 47.0 +0.7**
comp=Z,0.5nm,0.4s,baz=270,slow=5.1,SNR=2.4
PDAR PKKPbc **PKKPbc 15 53 59.3 -1.1**
comp=Z,0.7nm,0.4s,baz=168,slow=1.8,SNR=4.8
PDAR Pinedale Array 100.05 48 Pdif **Pdif 15 37 40.2 -0.3**
RLMT Red Lodge 100.17 45 P Pdif 15 37 41.6 +0.6
baz=273
MVCO Mesa Verde 101.03 53 P Pdif 15 37 45.9 +0.9
baz=272
O20A White River Ci 101.14 50 P Pdif 15 37 45.8 +0.4
baz=272
SNAA Sanae 101.22 188 P Pdif 15 37 45.0 +0.2
SNAA Sanae 101.22 188 PKKPbc PKKPbc 15 53 54.4 -3.1
comp=Z,2.2nm,0.9s,baz=344,slow=2.4,SNR=9.3
SNAA Sanae 101.22 188⇓ *e*P **Pdif 15 37 45.1 +0.2**
SNAA pmax pmax
comp=Z,8.0nm,1.9s
LAO LASA Array 102.19 44 P Pdif 15 37 50.6 +0.9
baz=275
K22A Casper 102.29 48 P Pdif 15 37 51.0 +0.6
baz=274
S22A 4UR Ranch, Cre 102.34 53 P Pdif 15 37 52.2 +1.4
baz=273
ANMO Albuquerque 102.76 56⇓ *e*P **Pdif 15 37 52.1 -0.5**
ANMO pmax pmax
comp=Z,2.0nm,2.0s
N23A Red Feather La 102.84 49 P Pdif 15 37 54.0 +1.0
baz=274
ISCO Idaho Springs 103.17 51 P Pdif 15 37 55.6 +1.1
baz=274
SDCO Great Sand Dun 103.39 53 P Pdif 15 37 56.5 +1.0
baz=274
Q24A Divide 103.59 51 P Pdif 15 37 57.4 +1.0
baz=274
RSSD Black Hills 103.97 46 P Pdif 15 37 58.5 +0.6
baz=276
TXAR Lajitas Array 105.35 61 Pdiff **Pdif 15 38 07.8 +3.7**
comp=Z,0.6nm,0.7s,baz=275,slow=4.5,SNR=4.9
TXAR PP **PP 15 42 25.6 -0.6**
comp=Z,0.3nm,0.3s,baz=256,slow=5.0,SNR=5.7
TXAR PKKPab **PKKPab 15 54 02.3 +1.4**
comp=Z,1.8nm,0.9s,baz=104,slow=5.3,SNR=8.1
TXAR Lajitas Array 105.35 61 PP **PKiKP 15 42 24.5 +6.6**
TXAR PKKPab **PKKPab 15 54 00.6 -0.3**
APA Apatity 105.61 339⇑ *i*P **Pdif 15 38 11.8 +7.5**
APA pmax pmax
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 108.40 39 PKiKP **PKiKP 15 42 22.7 -0.2**
comp=Z,4.1nm,0.7s,baz=319,slow=1.2,SNR=3.2
WMOK Wichita Mounta 109.06 55 P PKiKP 15 42 25.2 +0.6
baz=277
ECSD EROS Data Cent 109.33 46 P PKiKP 15 42 25.0 +0.1
baz=281
FINES FINESS Array B 111.24 335 PKiKP **PKiKP 15 42 27.6 -0.3**
comp=Z,4.2nm,0.7s,baz=119,slow=2.4,SNR=4.6
U40A Yellville 113.59 53 P PKiKP 15 42 32.8 -0.4
baz=281
JFWS Jewell Farm 114.04 45 P PKPdf 15 42 33.7 -0.1
baz=286
W41B Gary Mavity, V 114.30 54 P PKiKP 15 42 34.7 +0.2
baz=281
AKASG Malin Array Be 114.44 324 PKP PKPdf 15 42 33.5 -0.7
comp=Z,4.0nm,0.7s,baz=59,slow=2.2,SNR=10
AKASG Malin Array Be 114.44 324 PKPdf 15 42 33.2 -1.1
CCM Cathedral Cave 114.50 51 P PKiKP 15 42 35.1 +0.2
baz=283
BRTR Keskin Array B 114.99 311 PKP **PKiKP 15 42 35.6 -0.3**
comp=Z,4.2nm,0.8s,baz=186,slow=2.0,SNR=9.2
BRTR Keskin Array B 114.99 311 PKiKP 15 42 34.7 -1.2
MMAI Mount Meron Ar 115.02 304 PKP **PKiKP 15 42 35.4 -0.6**
comp=Z,3.1nm,0.7s,baz=331,slow=9.6,SNR=4.7
EIL Elat 115.96 300 PKP **PKPdf 15 42 36.9 -0.9**
comp=Z,8.2nm,0.9s,baz=63,slow=4.5,SNR=6.0
NB2 NORSAR Subarra 117.19 340 PKPdf **PKPdf 15 42 38.7 -0.7**
comp=Z,2.8nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 117.19 340 PKP **PKPdf 15 42 38.5 -0.9**
comp=Z,1.8nm,0.7s,baz=47,slow=1.9,SNR=6.4
LVV L'vov 117.84 325 *e*PKIKP **PKPdf 15 42 36.7 -4.2**
BURAR Bucovina Array 118.10 322 PKPdf **PKPdf 15 42 40.7 -0.9**
L48A N Adams 118.43 45 PKPdf 15 42 40.6 -1.7
N49A Columbus Grove 118.95 46 PKPdf **PKPdf 15 42 41.9 -1.4**
LRAL Lakeview Retre 119.01 55 P PKPdf 15 42 43.2 -0.4
baz=283
P49A Miami Univ. Ec 119.02 48 P PKPdf 15 42 43.0 -0.5
baz=288
KOLS Kolonicke sedl 119.27 324 *e*PKIKP **PKPdf 15 42 43.6 -0.1**
KOLS Kolonicke sedl 119.27 324 *e*PKP **PKPdf 15 42 43.6 -0.1**
MATQ Matagami 119.48 34 P PKPdf 15 42 44.0 0.0
baz=300
CRVS Cervenica-Dubn 119.75 325 *e*PKIKP **PKiKP 15 42 45.0 +0.3**
CRVS Cervenica-Dubn 119.75 325 *e*PKP **PKiKP 15 42 45.0 +0.3**
PLCA Paso Flores 119.84 144 PKP **PKiKP 15 42 46.0 +0.8**
comp=Z,3.7nm,0.8s,baz=190,slow=3.4,SNR=4.7
TEIG Tepich 119.95 70 PKP **PKiKP 15 42 46.4 +0.6**
comp=Z,12nm,1.0s,baz=330,slow=7.9,SNR=2.6
ACSO Alum Creek Sta 120.05 46 P PKiKP 15 42 45.5 0.0
baz=290
HOPE Hope Point 120.06 174 PKIKP **PKPdf 15 42 44.5 -0.5**
HOPE Hope Point 120.06 174 PKPdf 15 42 44.5 -0.5
N51A Ashland 120.24 45 P PKPdf 15 42 45.2 -0.6
baz=291
P51A Williamsport 120.25 47 P PKPdf 15 42 45.1 -0.7
baz=290
VLDQ Val d'Or 120.40 36 PKPdf **PKPdf 15 42 44.5 -1.3**
Z51A Franklin 120.42 54 PKPdf 15 42 45.6 -0.8
M52A Chesterland 120.73 44 P PKPdf 15 42 46.2 -0.5
baz=292
LANS Liptovska Anna 120.76 326 *e*PKIKP **PKiKP 15 42 47.2 +0.5**

LANS	Liptovska Anna	120.76	326	ePKP	PKiKP	15 42 47.2	+0.5
N52A	McGinn's Farm,	120.77	45	P	PKPdf	15 42 46.4	-0.4
	baz=292						
TZTN	Tazewell	120.81	50	P	PKPdf	15 42 46.5	-0.5
	baz=288						
MBAR	Mbarara	120.82	266	⇑iPKIKP	PKiKP	15 42 48.4	+0.4
P52A	Corning	120.87	47	P	PKPdf	15 42 46.4	-0.6
	baz=291						
O52A	Adamsville	120.91	46	P	PKPdf	15 42 46.5	-0.6
	baz=291						
Q52A	Bidwell	121.00	47	P	PKPdf	15 42 46.9	-0.4
	baz=290						
ALGO	Algonquin Park	121.06	38	P	PKPdf	15 42 46.9	-0.3
	baz=298						
PSZ	Piszkesteto	121.15	324	PKIKP	PKPdf	15 42 45.8	-1.6
PSZ	Piszkesteto	121.15	324	PKPdf	PKPdf	15 42 45.8	-1.6
CHGQ	Chibougamau	121.21	33	P	PKPdf	15 42 47.2	-0.2
	baz=303						
M53A	Wt Miller and	121.24	44	P	PKPdf	15 42 47.4	-0.3
	baz=293						
G54A	Lake Saint Pet	121.29	39	P	PKPdf	15 42 47.5	-0.2
	baz=297						
O53A	New Philadelph	121.31	46	P	PKiKP	15 42 48.0	0.0
	baz=292						
H53A	Bobcaygeon	121.34	40	P	PKPdf	15 42 47.7	-0.1
	baz=296						
N53A	Lisbon	121.37	45	P	PKPdf	15 42 47.8	-0.2
	baz=292						
N53A	Lisbon	121.37	45		PKPdf	15 42 46.4	-1.5
T53A	Wise	121.45	50	P	PKPdf	15 42 47.9	-0.5
	baz=289						
P53A	Whipple	121.46	47	P	PKPdf	15 42 48.0	-0.2
	baz=291						
P53A	Whipple	121.46	47	PKPdf	PKPdf	15 42 47.1	-1.1
VYHS	Vyhne	121.46	325	ePKIKP	PKiKP	15 42 48.0	-0.1
VYHS	Vyhne	121.46	325	ePKP	PKiKP	15 42 48.0	-0.1
MORC	Moravsky Berou	121.49	327	ePKP	PKiKP	15 42 48.5	+0.4
MORC	Moravsky Berou	121.49	327	PKIKP	PKPdf	15 42 46.8	-1.2
MORC	Moravsky Berou	121.49	327		PKPdf	15 42 46.8	-1.2
Q53A	Leroy	121.58	47	P	PKPdf	15 42 48.0	-0.5
	baz=291						
KRLC	Kraliky	121.74	328	ePKPDF	PKiKP	15 42 48.7	+0.1
KRLC				epPKP	pPKPdf	15 43 03.2	-1.8
KRLC				AMS	AMS	16 36 00.0	
	comp=Z,1μm,21.8s						
KRLC	Kraliky	121.74	328	ePKIKP	PKiKP	15 42 48.7	+0.1
KRLC				e		15 43 03.2	
KRLC				MLR	MLR		
	comp=Z,1μm,21.8s						
OSTC	Ostas	121.76	328	ePKP	PKiKP	15 42 49.7	+1.1
OSTC				AMS	AMS	16 34 50.0	
	comp=Z,1μm,24.3s						
GOGA	Godfrey	121.78	54	P	PKPdf	15 42 48.4	-0.5
	baz=286						
DPC	Dobruska-Polom	121.83	328	ePKPDF	PKiKP	15 42 49.2	+0.4
DPC				AMS	AMS	16 34 50.0	
	comp=Z,1μm,21.8s						
DPC	Dobruska-Polom	121.83	328	ePKIKP	PKiKP	15 42 49.2	+0.4
DPC				MLR	MLR		
	comp=Z,1μm,21.8s						
CHVC	Chvalec	121.83	328	AMS	AMS	16 35 30.0	
	comp=Z,1μm,22.5s						
L54A	Sinclairville	121.86	43	P	PKPdf	15 42 48.6	-0.3
	baz=294						
J54A	Appleton	121.87	42	P	PKPdf	15 42 48.4	-0.4
	baz=296						
UPC	Upice	121.90	328	ePKPDF	PKPdf	15 42 47.4	-1.3
UPC				AMS	AMS	16 35 20.0	
	comp=Z,1μm,21.7s						
UPC	Upice	121.90	328	ePKIKP	PKPdf	15 42 47.4	-1.3
UPC				MLR	MLR		
	comp=Z,1μm,21.7s						
N54A	Moraine State	121.90	44	P	PKiKP	15 42 49.1	0.0
	baz=293						
N54A	Moraine State	121.90	44		PKPdf	15 42 48.1	-0.9
M54A	Oil Creek Stat	121.91	44	P	PKPdf	15 42 49.0	0.0
	baz=294						
M54A	Oil Creek Stat	121.91	44		PKPdf	15 42 48.1	-0.9
JAVC	Velka Javorina	121.92	326	ePKP	PKiKP	15 42 50.2	+1.2
O54A	Avella	121.93	45	P	PKPdf	15 42 48.9	-0.2
	baz=292						
O54A	Avella	121.93	45		PKPdf	15 42 48.1	-0.9
E55A	Montcerf-Lytto	122.04	37	P	PKPdf	15 42 49.0	0.0
	baz=300						
Q54A	Coxs Mills	122.04	47	P	PKPdf	15 42 49.1	-0.2
	baz=291						
Q54A	Coxs Mills	122.04	47		PKPdf	15 42 48.8	-0.5
P54A	Burton	122.07	46	P	PKPdf	15 42 49.4	0.0
	baz=292						
I55A	Frankford	122.08	40	P	PKPdf	15 42 48.9	-0.3
	baz=297						
S54A	Dingess, Beckl	122.10	48	P	PKPdf	15 42 49.2	-0.3
	baz=290						
D55A	Sainte-Anne-du	122.11	36	P	PKPdf	15 42 48.9	-0.3
	baz=300						
K54A	Basiliko Farm,	122.12	42	P	PKPdf	15 42 49.2	-0.2
	baz=295						
T54A	Tazewell	122.15	49	P	PKPdf	15 42 49.0	-0.7
	baz=290						
F55A	Otter Lake	122.16	38	P	PKPdf	15 42 49.1	-0.2
	baz=299						
R54A	Victor	122.21	48	P	PKPdf	15 42 49.3	-0.4
	baz=291						
G55A	Calabogie	122.21	39	P	PKPdf	15 42 48.9	-0.5
	baz=298						
H55A	Tweed	122.25	40	P	PKPdf	15 42 49.2	-0.3
	baz=298						
VRAC	Vranov	122.27	327	PKP	PKiKP	15 42 49.7	+0.1
	comp=Z,2.1nm,0.3s,baz=13,slow=1.6,SNR=6.8						
VRAC	Vranov	122.27	327	ePKP	PKiKP	15 42 49.8	+0.1
V54A	Nebo	122.28	51	P	PKPdf	15 42 49.7	-0.2
	baz=288						
W54A	Cherokee Point	122.31	52	P	PKPdf	15 42 49.8	-0.2
	baz=288						
MODS	Modra-Piesok	122.41	326	ePKIKP	PKPdf	15 42 49.1	-0.7
MODS	Modra-Piesok	122.41	326	ePKP	PKPdf	15 42 49.1	-0.7
J55A	Hilton	122.42	41	P	PKPdf	15 42 49.3	-0.6
	baz=296						
BSEG	Bad Segeberg	122.47	334	ePKPdf	PKiKP	15 42 50.6	+0.8
	baz=52,slow=1.9						
L55A	Hinsdale	122.47	43	P	PKPdf	15 42 49.4	-0.7
	baz=295						
K55A	Perry	122.48	42	P	PKPdf	15 42 49.7	-0.4
	baz=296						
HODGE	Hodges	122.51	53		PKPdf	15 42 49.0	-1.3
D56A	ZEC Mazanza, M	122.51	36	P	PKPdf	15 42 49.7	-0.3
	baz=301						
KRUC	Moravsky	122.51	327	ePKP	PKiKP	15 42 50.3	+0.2
M55A	Ridgway	122.55	44	P	PKPdf	15 42 49.9	-0.3
	baz=294						
M55A	Ridgway	122.55	44		PKPdf	15 42 49.6	-0.6
P55A	Reedsville	122.57	46	P	PKPdf	15 42 49.9	-0.5
	baz=292						
Q55A	Buckhannon	122.58	47	P	PKPdf	15 42 49.9	-0.5
	baz=292						
MMNY	Mt. Morris Dam	122.59	42		PKPdf	15 42 49.6	-0.6
E56A	St. Veronique	122.61	37	P	PKPdf	15 42 49.9	-0.3
	baz=301						
PVCC	Panska Ves	122.63	329	AMS	AMS	16 38 10.0	
	comp=Z,700nm,19.1s						
N55A	Marion Center	122.67	44	P	PKPdf	15 42 50.0	-0.5
	baz=294						
O55A	Ligonier	122.68	45	P	PKPdf	15 42 50.4	-0.1
	baz=293						
S55A	Lewisburg	122.72	48	P	PKPdf	15 42 50.6	-0.1
	baz=291						
T55A	Pulaski	122.73	49	P	PKiKP	15 42 50.9	-0.1
	baz=290						
U55A	TA2, Sparta	122.74	50	P	PKPdf	15 42 50.9	+0.1
	baz=290						
BRG	Berggiesshubel	122.74	330	SS	SS	16 01 08.0	+1.7
	comp=N,447nm,19.0s						
	comp=E,487nm,19.1s						
	comp=Z,849nm,17.9s						
BRG	Berggiesshubel	122.74	330	ePKPdf	PKiKP	15 42 50.9	+0.4
	baz=52,slow=1.9						
H56A	Elgin	122.81	39	P	PKiKP	15 42 50.8	0.0
	baz=298						
R55A	Marlinton	122.81	47	P	PKPdf	15 42 50.8	-0.1
	baz=291						
R55A	Marlinton	122.81	47		PKPdf	15 42 50.4	-0.6
V55A	Taylorsville	122.82	51	P	PKiKP	15 42 51.1	-0.1
	baz=289						
ORIO	Orleans, Innes	122.86	38	P	PKPdf	15 42 50.7	0.0
	baz=300						
TREC	Trest	122.87	327	ePKPDF	PKPdf	15 42 50.6	0.0
TREC				AMS	AMS	16 36 50.0	
	comp=Z,1μm,20.3s						
TREC	Trest	122.87	327	ePKIKP	PKPdf	15 42 50.6	0.0
TREC				MLR	MLR		
	comp=Z,1μm,20.3s						
GOPC	GO Pecny, Ondr	122.88	328	ePKPDF	PKiKP	15 42 50.8	0.0
GOPC				AMS	AMS	16 36 30.0	
	comp=Z,1μm,24.6s						
GOPC	GO Pecny, Ondr	122.88	328	ePKIKP	PKiKP	15 42 50.8	0.0
GOPC				MLR	MLR		
	comp=Z,1μm,24.6s						
IDI	Anoyia	122.91	309	PKP	PKPdf	15 42 51.2	0.0
	comp=Z,42nm,1.0s,baz=148,slow=5.2,SNR=11						
IDI	Anoyia	122.91	309		PKPdf	15 42 50.2	-1.0
Y55A	Saluda	122.92	53	P	PKiKP	15 42 51.2	-0.1
	baz=288						
X55A	Gracelyn & Ava	122.93	52	P	PKiKP	15 42 51.4	0.0
	baz=288						
DIVS	Divibare	122.94	320	PKPdf	PKPdf	15 42 50.9	-0.1
M56A	Emporium	122.94	43	P	PKPdf	15 42 51.0	0.0
	baz=295						
M56A	Emporium	122.94	43		PKPdf	15 42 50.2	-0.8
CLL	Collm	122.94	330	⇓iPKPdf	PKPdf	15 42 50.7	+0.1
	comp=Z,13nm,1.0s						
CLL				i		15 42 54.0	
CLL				e		15 42 58.0	
CLL				epPKPdf	pPKPdf	15 43 06.0	-1.3
CLL				ePP	PP	15 44 30.0	+0.6
CLL				ePPP	PPP	15 47 08.0	
CLL				ePS	PS	15 54 24.0	-2.4
CLL				ePPS	PPS	15 55 51.0	
CLL				ePPPrev		16 00 11.0	
CLL				e(SS)		16 01 48.0	
CLL				eSSS	SSS	16 05 36.0	
CLL				eSSSS		16 09 30.0	
CLL				Lm	MLR	16 38 00.0	
	comp=N,500nm,19.5s						
CLL				Lm	MLR	16 38 00.0	
	comp=E,600nm,20.5s						
CLL				Lm	MLR	16 38 00.0	
	comp=Z,700nm,20.2s						
CLL	Collm	122.94	330	⇓iPKIKP	PKPdf	15 42 50.7	+0.1
CLL				e		15 43 06.0	
CLL				pmax	pmax		
	comp=Z,13nm,1.0s						
CLL	Collm	122.94	330	ePKPdf	PKiKP	15 42 51.0	+0.1
	baz=52,slow=1.9						
CLL	Collm	122.94	330		PKPdf	15 42 50.2	-0.5
KMSC	Kings Mountain	122.96	51	P	PKPdf	15 42 51.0	-0.2
	baz=289						
PRU	Pruhonice	122.97	329	ePKPDF	PKPdf	15 42 50.8	+0.1
PRU				AMS	AMS	16 36 30.0	
	comp=Z,800nm,18.9s						
PRU	Pruhonice	122.97	329	ePKIKP	PKPdf	15 42 50.8	+0.1
PRU				MLR	MLR		
	comp=Z,800nm,18.9s						
BLA	Blacksburg	122.97	49	P	PKPdf	15 42 50.6	-0.6
	baz=291						
PRA	Prague	122.97	329	AMS	AMS	16 37 40.0	
	comp=Z,400nm,20.1s						
K56A	Middlesex	122.99	42	P	PKiKP	15 42 51.3	0.0
	baz=296						
FBE	Freiberg	123.01	330	ePKPdf	PKiKP	15 42 51.6	+0.6
	baz=52,slow=1.9						
D57A	Chemin Vers le	123.03	36	P	PKPdf	15 42 50.5	-0.4
	baz=302						
J56A	Wolcott	123.04	41	P	PKPdf	15 42 50.7	-0.4
	baz=297						
L56A	Greenwood	123.08	42	P	PKPdf	15 42 50.9	-0.4
	baz=296						
L56A	Greenwood	123.08	42		PKPdf	15 42 50.4	-0.9
N56A	West Decatur	123.10	44	P	PKPdf	15 42 51.0	-0.4
	baz=294						
O56A	Blue Knob Stat	123.17	45	P	PKPdf	15 42 51.2	-0.3
	baz=294						
O56A	Blue Knob Stat	123.17	45		PKPdf	15 42 51.1	-0.3
E57A	Chemin Saint G	123.20	36	P	PKiKP	15 42 51.6	0.0
	baz=302,SNR=5.9						
Q56A	Snyder Ridge,	123.21	46	P	PKPdf	15 42 51.0	-0.6
	baz=293						
P56A	Dayton Farm, R	123.28	46	P	PKPdf	15 42 51.4	-0.2
	baz=293						
R56A	Bull Pasture M	123.29	47	P	PKPdf	15 42 51.8	0.0
	baz=292						
T56A	Rocky Mt	123.33	49	P	PKPdf	15 42 51.5	-0.3
	baz=291						
G57A	Newington	123.36	38	P	PKPdf	15 42 51.5	-0.1
	baz=300						
V56A	Mocksville	123.39	50	P	PKPdf	15 42 51.6	-0.4
	baz=290						
X56A	White Oak	123.40	52	P	PKPdf	15 42 51.7	-0.3
	baz=288						
H57A	Richville	123.42	39	P	PKPdf	15 42 51.5	-0.2
	baz=299						
S56A	Natural Bridge	123.44	48	P	PKPdf	15 42 51.5	-0.5
	baz=292						
CONA	Conrad Observa	123.44	326	ePKiKP	PKiKP	15 42 52.0	-0.1
	comp=Z,5.8nm,0.9s,SNR=7.0						
SSPA	Standing Stone	123.49	44	P	PKPdf	15 42 51.9	-0.1
	baz=295						
SSPA	Standing Stone	123.49	44		PKPdf	15 42 52.1	0.0
I57A	Carthage	123.50	40	P	PKPdf	15 42 51.9	0.0
	baz=299						
K57A	Scipio Center	123.51	41	P	PKPdf	15 42 51.7	-0.3
	baz=297						
ASSE	Asse, Remlinge	123.52	332	ePKPdf	PKiKP	15 42 52.4	+0.5
	baz=52,slow=1.9						
ASSE				epPKPdf	pPKPdf	15 43 02.9	-5.3
	baz=51,slow=2.0						
J57A	Williamstown	123.54	40	P	PKPdf	15 42 51.3	-0.7
	baz=298						
NRDL	Niedersach Rie	123.54	333	ePKPdf	PKiKP	15 42 52.7	+0.8
	baz=52,slow=1.9						
NRDL				epPKPdf	pPKPdf	15 43 03.2	-5.1
	baz=51,slow=2.0						
W56A	Indian Trail	123.54	51	P	PKPdf	15 42 51.5	-0.8
	baz=289						
D58A	Chemin du LacG	123.57	35	P	PKPdf	15 42 52.0	0.0
	baz=303						
NEUB	Neuenburg	123.60	331	ePKPdf	PKiKP	15 42 52.4	+0.3
	baz=52,slow=1.9						
NEUB				epPKPdf	pPKPdf	15 43 02.9	-5.6
	baz=51,slow=2.0						
L57A	Andrews Acres	123.62	42	P	PKPdf	15 42 52.2	-0.1
	baz=296						
N57A	Milroy	123.68	44	P	PKPdf	15 42 52.3	-0.1
	baz=295						
M57A	Sunshine Farm,	123.72	43	P	PKPdf	15 42 52.5	0.0
	baz=296						
M57A	Sunshine Farm,	123.72	43		PKPdf	15 42 51.8	-0.7
E58A	La Victoria	123.73	36	P	PKPdf	15 42 52.4	+0.1
	baz=302						
TANN	Tannenbergstha	123.77	330	ePKPdf	PKiKP	15 42 52.9	+0.3
	baz=52,slow=1.9						
TANN				epPKPdf	pPKPdf	15 43 03.5	-5.4
	baz=51,slow=2.0						
Q57A	Strasburg	123.77	46	P	PKiKP	15 42 52.8	-0.1
	baz=293						
O57A	Amberson	123.84	44	P	PKPdf	15 42 52.8	+0.1
	baz=295						
LONY	Lake Ozonia	123.85	38	P	PKiKP	15 42 53.0	+0.1
	baz=300,SNR=6.2						
LONY	Lake Ozonia	123.85	38		PKPdf	15 42 51.9	-0.8
CLZ	Clausthal	123.85	332	ePKPdf	PKiKP	15 42 53.3	+0.6
	baz=52,slow=1.9						
CLZ				epPKPdf	pPKPdf	15 43 03.5	-5.6
	baz=51,slow=2.0						
S57A	Dark Hollow, R	123.86	48	P	PKPdf	15 42 52.8	-0.1
	baz=292						
GUNZ	Gunzen	123.86	330	ePKPdf	PKiKP	15 42 53.2	+0.4
	baz=52,slow=1.9						
GUNZ				epPKPdf	pPKPdf	15 43 03.7	-5.4
	baz=51,slow=2.0						
PLN	Plauen	123.88	330	ePKPdf	PKiKP	15 42 53.0	+0.3
	baz=52,slow=1.9						
P57A	Homestead Farm	123.88	45	P	PKPdf	15 42 52.9	+0.1
	baz=294						
NKC	Novy Kostel	123.89	330	ePKPDF	PKiKP	15 42 53.2	+0.4
NKC				AMS	AMS	16 36 10.0	
	comp=Z,1μm,21.8s						
NKC	Novy Kostel	123.89	330	ePKIKP	PKiKP	15 42 53.2	+0.4
NKC				MLR	MLR		
	comp=Z,1μm,21.8s						
WERN	Wernitzgruen	123.89	330	ePKPdf	PKiKP	15 42 53.4	+0.6
	baz=52,slow=1.9						
WERN				epPKPdf	pPKPdf	15 43 03.6	-5.5
	baz=51,slow=2.0						
G58A	Ormstown	123.91	38	P	PKPdf	15 42 52.8	+0.1
	baz=301						
V57A	Coltrane Farms	123.91	50	P	PKPdf	15 42 52.9	-0.1
	baz=290						
T57A	Hurt	123.92	49	P	PKPdf	15 42 52.8	-0.2
	baz=291						
R57A	Stanardsville	123.97	47	P	PKPdf	15 42 52.8	-0.3
	baz=293						
KHC	Kasperske Hory	123.98	328	ePKPDF	PKPdf	15 42 52.5	-0.3
KHC				ex	x	15 42 56.2	
KHC				epPKP	pPKPdf	15 43 08.7	-0.6
KHC				ePP	PP	15 44 32.0	-4.6
KHC				AMS	AMS	16 37 30.0	
	comp=Z,1μm,20.9s						
KHC	Kasperske Hory	123.98	328	ePKIKP	PKPdf	15 42 52.5	-0.3
KHC				e		15 43 08.7	
KHC				MLR	MLR		
	comp=Z,1μm,20.9s						
KHC	Kasperske Hory	123.98	328	PKPdf	PKPdf	15 42 52.3	-0.5
W57A	Gilead	124.00	51	P	PKPdf	15 42 52.9	-0.2
	baz=290						
ARSA	Arzberg	124.01	325	ePKiKP	PKPdf	15 42 52.1	-0.8
	comp=Z,3.0nm,0.7s						
J58A	Remsen	124.02	40	P	PKiKP	15 42 53.2	0.0
	baz=299						
J58A	Remsen	124.02	40	PKPdf	PKPdf	15 42 52.5	-0.5
MOX	Moxa	124.04	331	ePKPdf	PKiKP	15 42 53.2	+0.1
	baz=52,slow=1.9						
MOX				epPKPdf	pPKPdf	15 43 03.6	-5.8
	baz=51,slow=2.0						
I58A	Old Forge	124.06	40	P	PKiKP	15 42 53.4	+0.1
	baz=299						
U57A	Blanch	124.06	49	P	PKiKP	15 42 53.5	0.0
	baz=291						
K58A	Earlville	124.06	41	P	PKiKP	15 42 53.5	+0.1
	baz=298						
GEC2	GERESS Array S	124.09	328	ePKPdf	PKiKP	15 42 53.4	+0.1
	baz=52,slow=1.9						
GEC2				epPKPdf	pPKPdf	15 43 03.9	-5.7
	baz=51,slow=2.0						
GEC2	GERESS Array S	124.09	328		PKPdf	15 42 52.2	-0.8
GERES	GERESS Array B	124.10	328	PKP	PKPdf	15 42 53.0	0.0
	comp=Z,7.9nm,0.8s,baz=48,slow=2.0,SNR=52						
BINY	Binghamton	124.10	42	P	PKiKP	15 42 53.6	+0.2
	baz=297						
M58A	Price's Panora	124.16	43	P	PKiKP	15 42 53.5	-0.1
	baz=296						
PDG	Podgorica	124.19	319		PKPdf	15 42 52.9	-0.4
H58A	Gabriels	124.20	39	P	PKiKP	15 42 53.7	+0.1
	baz=300,SNR=7.7						
MANZ	Manzenberg	124.21	330	ePKPdf	PKiKP	15 42 53.7	+0.2
	baz=52,slow=1.9						
MANZ				epPKPdf	pPKPdf	15 43 04.2	-5.5
	baz=51,slow=2.0						
N58A	Sunbury	124.21	43	P	PKiKP	15 42 53.7	0.0
	baz=296,SNR=6.5						
N58A	Sunbury	124.21	43		PKPdf	15 42 53.0	-0.4
GTTG	Gottingen	124.24	332	ePKPdf	PKiKP	15 42 54.1	+0.7
	baz=52,slow=1.9						
GTTG				epPKPdf	pPKPdf	15 43 04.4	-5.3
	baz=51,slow=2.0						
L58A	Harry Jones Me	124.26	42	P	PKPdf	15 42 53.4	-0.1
	baz=297						
F59A	Saint Guilaume	124.30	36	P	PKiKP	15 42 53.8	+0.1
	baz=302						
ROTZ	Rotzenmuhle	124.30	329	ePKPdf	PKiKP	15 42 53.7	+0.1
	baz=52,slow=1.9						
ROTZ				epPKPdf	pPKPdf	15 43 04.0	-5.9
	baz=51,slow=2.0						
Q58A	Fox Den Farm,	124.33	46	P	PKPdf	15 42 53.5	-0.1
	baz=294						
WET	Wettzell	124.34	328	ePKPdf	PKiKP	15 42 54.0	+0.2
	baz=52,slow=1.9						
WET				epPKPdf	pPKPdf	15 43 04.4	-5.6
	baz=51,slow=2.0						
FRNY	Flat Rock	124.35	38		PKPdf	15 42 53.3	-0.3
R58A	Rapidan	124.35	47	P	PKiKP	15 42 53.9	-0.1
	baz=293						
MOA	Molln	124.37	327	ePKiKP	PKPdf	15 42 53.2	-0.4
	comp=Z,4.9nm,1.0s						
O58A	Lewisberry	124.38	44	P	PKiKP	15 42 54.1	+0.1
	baz=295,SNR=5.7						
P58A	Pank, Wackersv	124.38	45	P	PKPdf	15 42 53.3	-0.5
	baz=294						
H59A	Cadyville	124.38	38	P	PKiKP	15 42 54.2	+0.2
	baz=301						
NCB	Newcomb	124.39	39		PKPdf	15 42 53.0	-0.7
V58A	Windy Hill, Pi	124.45	50	P	PKPdf	15 42 53.4	-0.7
	baz=291						
J59A	Piesco	124.47	40	P	PKPdf	15 42 54.0	+0.1
	baz=299,SNR=5.5						
J59A	Piesco	124.47	40	PKPdf	PKPdf	15 42 52.9	-1.0
G59A	Clarenceville	124.47	37	P	PKPdf	15 42 53.4	-0.3
	baz=302						
T58A	Grand View Acr	124.47	48	P	PKPdf	15 42 53.7	-0.3
	baz=292						
NHSC	New Hope	124.50	53	P	PKPdf	15 42 53.8	-0.4
	baz=288						
R58B	Mineral	124.57	47	P	PKPdf	15 42 54.0	-0.2
	baz=293						
K59A	Cooperstown	124.58	41	P	PKPdf	15 42 54.0	-0.1
	baz=299						
S58A	Poland Farm, P	124.58	47	P	PKPdf	15 42 54.1	-0.1
	baz=293						
PERS	Pernice	124.58	325	iPKPdf	PKPdf	15 42 53.8	-0.3
SOKA	Soboth	124.61	325	ePKiKP	PKPdf	15 42 53.6	-0.5
	comp=Z,12nm,1.0s,SNR=8.4						
I59A	Olmsteadville	124.70	39	P	PKPdf	15 42 54.3	+0.1
	baz=300,SNR=6.3						
UBBA	Unterbreizbach	124.71	331	ePKPdf	PKiKP	15 42 54.6	+0.4
	baz=52,slow=1.9						
UBBA				epPKPdf	pPKPdf	15 43 05.2	-5.3
	baz=51,slow=2.0						
IBBN	Ibbenburen	124.71	334	ePKPdf	PKiKP	15 42 54.9	+0.6
	baz=52,slow=1.9						
IBBN				epPKPdf	pPKPdf	15 43 05.1	-5.6
	baz=51,slow=2.0						
F60A	Warwick	124.73	36	P	PKPdf	15 42 53.9	-0.4
	baz=303						
L59A	Walton	124.73	41	P	PKPdf	15 42 54.4	-0.1
	baz=298						
M59A	Waymart	124.77	42	P	PKiKP	15 42 54.8	0.0
	baz=297,SNR=6.4						
D60A	Saint Jean D'O	124.79	34	P	PKPdf	15 42 54.2	-0.1
	baz=305						
E60A	Ste Agathe de	124.80	35	P	PKPdf	15 42 54.3	0.0
	baz=304						
O59A	Robesonia	124.81	44	P	PKPdf	15 42 54.4	-0.2
	baz=296						
N59A	State Game Lan	124.82	43	P	PKiKP	15 42 54.9	0.0
	baz=297						
MVL	Millersville	124.83	44		PKPdf	15 42 54.0	-0.6
GRF	Grafenberg Arr	124.84	330	ePKPdf	PKiKP	15 42 54.7	0.0
	baz=52,slow=1.9						
GRF				epPKPdf	pPKPdf	15 43 05.2	-5.7
	baz=51,slow=2.0						
P59A	Jarrettsville	124.94	45	P	PKPd

ODNJ	Ogdensburg	125.53	42			PKPdf	15 42 55.7 -0.2
BUG	Bochum--Univer	125.54	333	*e*PKPdf		PKiKP	15 42 56.3 +0.3
	baz=52,slow=1.9						
K61A	Williamstown	125.65	40	P		PKiKP	15 42 56.5 -0.1
	baz=300						
I61A	Oroboro, Fairl	125.66	38	P		PKiKP	15 42 56.7 +0.2
	baz=302						
LBNH	Lisbon	125.67	38	P		PKPdf	15 42 56.0 -0.1
	baz=302						
L61A	Hillsdale 1, H	125.70	41	P		PKiKP	15 42 56.6 -0.1
	baz=300						
D62A	Allapoint, All	125.73	33	P		PKiKP	15 42 56.4 -0.1
	baz=307						
D62A	Allapoint, All	125.73	33	PKPdf		PKPdf	15 42 56.0 -0.2
E62A	Clayton Lake	125.74	34	P		PKPdf	15 42 56.4 +0.2
	baz=306						
BRNJ	Basking Ridge	125.75	43			PKPdf	15 42 56.2 -0.1
X60A	Albert Glenn T	125.75	51	P		PKiKP	15 42 56.8 -0.1
	baz=291						
J61A	Chester	125.75	39	P		PKiKP	15 42 57.0 +0.3
	baz=301						
ZOU	Zoufplan	125.84	326			PKPdf	15 42 56.1 -0.5
V60A	Jim Taylor Roa	125.86	49	P		PKiKP	15 42 57.3 +0.2
	baz=292						
N61A	South Mountain	125.89	42	P		PKiKP	15 42 57.3 +0.3
	baz=298						
F62A	Pittston Farm,	125.91	35	P		PKiKP	15 42 56.8 -0.1
	baz=305						
H62A	Milan	125.96	37	P		PKiKP	15 42 57.2 +0.2
	baz=303						
G62A	West of Eustis	125.97	36	P		PKiKP	15 42 56.9 -0.2
	baz=304						
ABTA	Abfaltersbach	125.98	326	*e*PKiKP		PKPdf	15 42 56.3 -0.5
	comp=Z,19nm,1.1s						
M61A	Granite Spring	125.98	42	P		PKiKP	15 42 57.2 0.0
	baz=299						
PAL	Palisades	126.04	42	P		PKiKP	15 42 57.3 0.0
	baz=298						
L61B	Northampton	126.13	40	P		PKiKP	15 42 57.5 0.0
	baz=300						
WATA	Walderalm	126.14	327	*e*PKiKP		PKPdf	15 42 56.3 -0.8
	comp=Z,32nm,1.6s,SNR=6.5						
STAL	STALIGIAL	126.16	326			PKPdf	15 42 55.9 -1.1
I62A	Tamworth	126.23	38	P		PKiKP	15 42 57.4 -0.2
	baz=303						
AHRW	Bad Neuenahr-A	126.26	333	*e*PKPdf		PKiKP	15 42 57.7 +0.3
	baz=52,slow=1.9						
D63A	Stockholm	126.27	33	P		PKiKP	15 42 57.5 -0.1
	baz=308						
J62A	Henniker	126.28	39	P		PKiKP	15 42 58.0 +0.2
	baz=302						
CIMO	Cimolais	126.28	326	PKPdf		PKPdf	15 42 56.3 -1.0
K62A	Royalston	126.31	39	P		PKPdf	15 42 57.6 +0.2
	baz=301						
EKA	Eskdalemuir Ar	126.38	343	PKP		PKPdf	15 42 57.0 -0.1
	comp=Z,2.4nm,0.5s,baz=20,slow=2.7,SNR=8.2						
EKA				SKP			15 46 24.6
	comp=Z,2.8nm,0.9s,baz=38,slow=4.2,SNR=4.7						
EKA	Eskdalemuir Ar	126.38	343	PKiKP		PKPdf	15 42 57.0 -0.1
MOTA	Moosalm	126.38	328	*e*PKiKP		PKPdf	15 42 57.6 0.0
	comp=Z,17nm,0.8s,SNR=8.3						
SQTA	Sankt Quirin	126.41	327	*i* PKiKP		PKPdf	15 42 57.7 +0.1
	comp=Z,16nm,0.9s,SNR=9.0						
E63A	Oxbow	126.47	34	P		PKPdf	15 42 57.5 -0.1
	baz=307						
RETA	Reutte	126.48	328	*e*PKiKP		PKPdf	15 42 56.7 -0.9
	comp=Z,8.6nm,1.0s						
PQI	Presque Isle	126.55	33			PKPdf	15 42 57.4 -0.3
G63A	Kingsbury	126.56	36	P		PKPdf	15 42 57.9 +0.1
	baz=305						
BTNL	Ternell	126.65	333	PKPdf		PKiKP	15 42 58.3 0.0
PKME	Peaks-Kenny Pk	126.67	35	P		PKPdf	15 42 57.7 -0.3
	baz=306						
MEM	Membach	126.69	333	PKPdf		PKiKP	15 42 58.4 0.0
UBR	Ueberruh	126.70	328	*e*PKPdf		PKPdf	15 42 58.3 +0.2
	baz=52,slow=1.9						
J63A	Strafford	126.71	38	P		PKiKP	15 42 58.7 +0.1
	baz=303						
K63A	Dunstable	126.74	39	P		PKPdf	15 42 58.3 +0.1
	baz=302						
FETA	Feichten	126.79	328	*e*PKiKP		PKiKP	15 42 58.7 -0.1
	comp=Z,16nm,0.9s,SNR=11						
E64A	Bridgewater	126.80	33	P		PKPdf	15 42 58.0 -0.2
	baz=308						
HRV	Adam Dziewonsk	126.81	39	P		PKPdf	15 42 58.2 -0.1
	baz=302						
F64A	Sherman	126.85	34	P		PKiKP	15 42 58.7 -0.1
	baz=307						
CTI	Castel Tesino	126.88	326	PKiKP		PKPdf	15 42 58.4 -0.1
CTI	Castel Tesino	126.88	326			PKPdf	15 42 58.4 -0.1
G64A	Maxfield	126.98	35	P		PKiKP	15 42 58.9 -0.1
	baz=306						
H64A	Troy	127.07	36	P		PKPdf	15 42 58.9 +0.1
	baz=305						
M63A	Gales Ferry	127.07	41	P		PKiKP	15 42 59.3 -0.1
	baz=300						
DAVA	Damuels	127.07	328	*e*PKiKP		PKPdf	15 42 58.0 -0.9
	comp=Z,7.2nm,0.8s						
L63A	North Scituate	127.11	40	P		PKiKP	15 42 59.5 0.0
	baz=301						
BCLA	Clavier	127.14	334	PKPdf		PKPdf	15 42 58.5 -0.2
BFO	Black Forest	127.18	330	*e*PKPdf		PKPdf	15 42 59.0 +0.1
	baz=52,slow=1.9						
BFO				*ep*PKPdf		pPKPdf	15 43 09.5 -5.9
	baz=51,slow=2.0						
I64A	Boothbay	127.23	37	P		PKiKP	15 42 59.5 0.0
	baz=304						
BGES	Gesves	127.26	334	PKPdf		PKPdf	15 42 58.7 -0.3
FUORN	Ofenpass-Fuorn	127.29	327	PKPdf		PKPdf	15 42 59.4 -0.1
WLF	Walferdange	127.30	333	PKPdf		PKiKP	15 43 00.2 +0.7
WLF	Walferdange	127.30	333	PKiKP		PKPdf	15 42 58.9 -0.2
WLF	Walferdange	127.30	333	*e*PKPdf		PKiKP	15 43 00.3 +0.7
	baz=52,slow=1.9						
WLF				*ep*PKPdf		pPKPdf	15 43 10.8 -4.9
	baz=51,slow=2.0						
WLF	Walferdange	127.30	333	PKPdf		PKPdf	15 42 58.9 -0.2
DAVOX	Davos/Dischmat	127.39	328	PKP		PKPdf	15 42 59.3 -0.2
	comp=Z,10nm,0.8s,baz=192,slow=0.8,SNR=17						
BMRD	Maredsous	127.46	334	PKPdf		PKiKP	15 43 00.0 +0.1
M64A	Tiverton	127.53	40	P		PKiKP	15 43 00.4 +0.1
	baz=301						
H65A	Eastbrook	127.60	35	P		PKPdf	15 42 59.9 +0.1
	baz=306						
DOU	Dourbes	127.69	334	PKPdf		PKiKP	15 43 00.8 +0.5
G65A	Princeton	127.69	34	P		PKPdf	15 43 00.0 +0.1
	baz=307						
ECH	Echery	127.83	331	PKiKP		PKPdf	15 42 59.8 -0.4
ECH	Echery	127.83	331	PKPdf		PKPdf	15 42 59.8 -0.4
INTR	Introdacqua	127.84	321	PKPdf		PKPdf	15 42 59.8 -0.7
TUE	Stuetta	127.87	328			PKPdf	15 42 59.8 -0.7
NRCA	Norcia	127.88	322			PKPdf	15 43 00.5 0.0
MURB	Monte Urbino	128.00	323			PKPdf	15 43 00.3 -0.3
H66A	Whiting	128.08	35	P		PKiKP	15 43 01.5 +0.2
	baz=307						
SENIN	Lac Senin/Sane	129.01	329	PKPdf		PKPdf	15 43 01.9 -0.9
OTAV	Otavalo	129.59	94	*e*P		PKiKP	15 43 06.7 +0.9
BNI	Bardonecchia	130.21	328	PKiKP		PKPdf	15 43 04.1 -0.8
BNI	Bardonecchia	130.21	328	PKPdf		PKPdf	15 43 04.1 -0.8
BBAC	Balboa, Cauca	130.97	92	*e*P		PKPdf	15 43 07.2 -0.2
SSB	Saint Sauveur	131.16	330	PKiKP		PKPdf	15 43 06.4 -0.2
SSB	Saint Sauveur	131.16	330	PKPdf		PKPdf	15 43 06.4 -0.2
PUAC	Puerto Asis, P	131.49	94	*e*P		PKiKP	15 43 09.4 +0.4
POPC	Popayan, Colom	131.59	91	*e*P		PKPdf	15 43 07.3 -1.3
PB01	IPOC Station P	131.69	124			PKPdf	15 43 07.4 -0.9
YOTC	Yotoco, Valle	132.03	90	*e*P		PKPdf	15 43 07.7 -1.5
DBBC	Dabeiba	132.29	86	*e*P		PKiKP	15 43 12.5 +1.7
CBOC	Ciudad Bolivar	132.45	87	*e*P		PKPdf	15 43 07.0 -3.1
MNMC	Minye Minye	132.48	122	PKPdf		PKPdf	15 43 08.5 -1.7
GO01	Chusmiza	132.58	123			PKPdf	15 43 09.0 -1.6
GUY2C	Guyana, Caldas	133.07	88	*e*P		PKiKP	15 43 12.3 -0.5
TOLC	Tolima	133.08	89	*e*P		PKPdf	15 43 11.6 +0.1
ORTC	Ortega, Tolima	133.12	90	*e*P		PKPdf	15 43 11.0 -0.2
PTLC	Puerto Leguiza	133.20	95	*e*P		PKPdf	15 43 11.1 -0.2
SJCC	San Jacinto, C	133.29	82	*e*P		PKPdf	15 43 11.1 -0.4
PRAC	Prado	133.46	90	*e*P		PKPdf	15 43 11.8 -0.1
ZARC	Zaragoza, Cauc	133.63	85	*e*P		PKPdf	15 43 10.2 -1.9
PTBC	PUERTO BERRIO	134.02	86	*e*P		PKPdf	15 43 10.9 -2.0
KEST	Kesra	134.20	316	PKP		PKiKP	15 43 13.7 -0.3
	comp=Z,22nm,1.0s,baz=274,slow=5.0,SNR=9.3						
KEST	Kesra	134.20	316	PKPdf		PKPdf	15 43 11.0 -1.7
MACC	Macarena, Meta	134.37	92	*e*P		PKPdf	15 43 13.8 +0.3
SPBC	San Pablo de B	134.37	87	*e*P		PKPdf	15 43 13.7 +0.1
CHIC	Chingaza	134.67	89	*e*P		PKPdf	15 43 12.6 -1.9
LPAZ	La Paz	134.98	119	PKhKP		PKPpre	15 43 03.3
	comp=Z,1.7nm,0.9s,baz=219,slow=1.5,SNR=6.1						
LPAZ				PKP		PKiKP	15 43 16.7 -0.1
	comp=Z,7.4nm,0.8s,baz=292,slow=1.3,SNR=20						
BARC	Barichara	135.28	86	*e*P		PKPdf	15 43 12.4 -3.0
RUSC	La Rusia	135.37	87	*e*P		PKPdf	15 43 12.0 -3.9
PAMC	Pamplona, Colo	135.77	85	*e*P		PKiKP	15 43 17.5 -0.8
URIC	Uribia, Colomb	136.32	79	*e*P		PKPdf	15 43 14.1 -3.0
SDV	Santo Domingo	137.80	83	*e*P		PKPdf	15 43 20.6 +0.5
SDV	Santo Domingo	137.80	83	PKPdf		PKPdf	15 43 18.7 -1.4
ESDC	Sonseca Array	139.53	331	PKhKP		PKPpre	15 43 14.0
	comp=Z,1.3nm,0.9s,baz=51,slow=1.7,SNR=6.8						
ESDC				PKP		PKPdf	15 43 22.5 +0.1
	comp=Z,1.0nm,0.7s,baz=74,slow=2.0,SNR=4.0						
ESDC				PP		PP	15 46 15.9 -0.7
	comp=Z,2.3nm,0.8s,baz=26,slow=5.8,SNR=10						
ESDC	Sonseca Array	139.53	331			PKPdf	15 43 21.9 -0.5
ESDC				PP		PP	15 46 15.5 -1.1
PGAV	Gavieira, Arco	139.55	337	A		A	16 49 28.9
	comp=Z,412nm,20.0s						
MVO	Moncorvo	139.72	335	*e*PKPdf		PKiKP	15 43 24.0 -1.1
MVO	Moncorvo	139.72	335	*e*LR		LR	16 35 06.8
	comp=Z,372nm,22.0s						
PVRL	Vila Real	139.92	336	*e*PKPdf		PKPdf	15 43 23.9 +0.9
PVIS	Viseu	140.46	335	*e*PKPdf		PKPdf	15 43 23.8 -0.2
PCBR	Castelo Branco	141.01	334	*e*PKPdf		PKiKP	15 43 26.4 -1.3
PDPR	Patillas Dam,	141.04	68	PKPdf		PKPdf	15 43 23.9 -1.7
PMTG	Montargil	141.97	334	*e*PKPdf		PKPdf	15 43 25.6 -1.1
CDVI	St. Croix	142.27	68	PKPpre		PKPpre	15 43 24.9
PBEJ	Beja	142.68	333	*e*PKPdf		PKPdf	15 43 29.1 +1.1
PNCL	Nicolau / Gran	142.90	334	*e*PKPdf		PKPdf	15 43 25.5 -2.9
PCVE	Castro Verde	143.08	333	*e*PKPdf		PKPdf	15 43 28.0 -0.8
PVAQ	Vaqueiros	143.12	332	*e*PKPdf		PKPdf	15 43 28.9 +0.1
PVAQ	Vaqueiros	143.12	332	*e*LR		LR	16 37 06.5
	comp=Z,608nm,20.0s						
TAM	Tamanrasset	143.17	301	PKHKP		PKPpre	15 43 14.2
TAM							15 43 26.4
TAM	Tamanrasset	143.17	301			PKPpre	15 43 14.2
TAM						PKPbc	15 43 26.4 -0.2
MORF	Marmelete	143.62	333	*e*PKPdf		PKPbc	15 43 28.0 +0.8
MORF				AMS		AMS	16 49 57.1
	comp=N,420nm,13.0s						
MORF	Marmelete	143.62	333	*e*PKIKP		PKPbc	15 43 28.0 +0.7
MORF	Marmelete	143.62	333	*e*PKPdf		PKPbc	15 43 28.5 +1.2
SKI	Saint Kitts	144.25	68	PKIKP		PKPab	15 43 27.8 -1.4
SKI	Saint Kitts	144.25	68			PKPab	15 43 27.8 -1.4
RTC	Rabat Centre	145.39	328			PKPab	15 43 33.4 +0.4
SPB	Sao Paulo	145.56	148			PKPab	15 43 33.9 0.0
SVB	Belmont	146.53	74	PKPbc		PKPdf	15 43 35.8 +0.4
TOSP	Speyside	147.53	78			PKPbc	15 43 38.8 -0.8
TOA0	Torodi Ar. Sit	149.54	287	PKPdf		PKPdf	15 43 39.6 -0.6
TOA0				PKPbc		PKPbc	15 43 44.2 -0.6
TORD	Torodi Ar. Bea	149.54	287	PKPbc		PKPbc	15 43 44.5 -0.4
	comp=N,131nm,1.0s,baz=45,slow=2.2,SNR=55						
TORD	Torodi Ar. Bea	149.54	287	PKPdf		PKPdf	15 43 39.6 -0.6
TORD				PKPbc		PKPbc	15 43 44.3 -0.5
PMPST	Porto Santo, M	150.39	340	*e*PKPbc		PKiKP	15 43 47.7 +0.5
PMPS	Porto Santo	150.41	339	*e*PKPbc		PKiKP	15 43 48.1 +0.9
PMAR	Madeira	150.91	340	*e*PKPbc		PKiKP	15 43 49.0 +0.5
PMOZ	Porto Moniz, M	150.91	341	*e*PKPbc		PKiKP	15 43 49.2 +0.8
PMOZ	Porto Moniz, M	150.91	341	A		A	17 11 46.4
	comp=N,430nm,20.0s						
BDFB	Brasilia	151.29	137	PKPbc		PKPbc	15 43 49.2 +0.1
	comp=N,31nm,0.9s,baz=182,slow=1.6,SNR=5.3						
BDFB				PKPab		PKPab	15 43 57.8 +0.7
	comp=N,33nm,0.9s,baz=204,slow=1.0,SNR=14						
BDFB	Brasilia	151.29	137	PKIKP		PKPbc	15 43 48.4 -0.7
BDFB							15 43 57.8
BDFB	Brasilia	151.29	137			PKPbc	15 43 48.4 -0.7
KOWA	Kowa	154.56	292			PKPbc	15 43 55.3 -0.9
KIC	Kosan Boka	156.63	273	*e*PKIKP		PKPdf	15 43 50.6 0.0
	comp=N,118nm,1.4s						
DBIC	Dimbokro	156.74	274	PKP		PKPdf	15 43 50.5 -0.2
	comp=N,8.3nm,1.0s,baz=41,slow=5.0,SNR=4.5						
DBIC				PKPab		PKPab	15 44 21.1 +0.7
	comp=N,24nm,0.9s,baz=66,slow=4.8,SNR=7.9						
TIC	Toumodi	156.90	274	*e*PKIKP		PKPdf	15 43 50.7 -0.3
LIC	Lamto	156.92	273	*e*PKIKP		PKPdf	15 43 50.8 -0.2
	comp=N,123nm,1.8s						

IDC ***23*** *15:41:28.2±1.1,5°.40N×93°.31E,h0km,mb3.8/6,mb1 3.9/9, mb1mx3.6/58,mbtmp3.8/9,ML3.6/2,Error ellipse: s-maj=45.0km s-min=18.2km az=45.0*
NEIC ***23*** *15:41:31.6±0.9,5°.4N±0°.1×93°.28E±0°.09,h27km±7km, mb4.6/12,Error ellipse: s-maj=17.5km s-min=10.9km az=208.0*

ISC 23 15:41:32.0±0.7,5°.41N±0°.09×93°.30E±0°.08,h29km,n40, σ0ˢ97/35,mb4.2/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	3.64	93		Pn	15 42 27.4	+1.0
GSI	Gunungsitoli	5.90	134	Pn	Pn	15 42 57.3	-0.2
PSI	Prapat	6.18	115	Pn	Pn	15 43 02.5	+1.1
	baz=180,slow=22,SNR=1.0						
PSI				Sn	Sn	15 44 11.3	0.0
	1.4nm,0.3s,baz=360,slow=5.4,SNR=2.4						
RPSI	Rantau Prapat	6.23	115		Pn	15 43 02.5	+0.6
RPSI					Sn	15 44 11.3	-0.9
RPSI	Rantau Prapat	6.23	115	Pn	Pn	15 42 58.4	-3.6
KULM	Kulim	7.32	91	Pn	Pn	15 43 17.7	+0.7
IPM	Ipoh	7.75	96	Pn	Pn	15 43 23.1	+0.1
PALK	Pallekele	12.65	279	Pn	Pn	15 44 30.8	+0.7
	0.5nm,0.3s,baz=246,slow=13,SNR=1.6						
PALK				Sn	Sn	15 46 34.3	-16
	0.9nm,0.3s,baz=122,slow=21,SNR=11						
PALK	Pallekele	12.65	279		Pn	15 44 29.8	-0.3
MNAI	Manna	13.68	135	Pn	Pn	15 44 44.0	-0.2
CM31	Chiang Mai Arr	14.09	23	Pn	Pn	15 44 48.8	-1.0
CMAR	Chiang Mai Arr	14.09	23	Pn	Pn	15 44 50.0	+0.2
	0.1nm,0.3s,baz=218,slow=14,SNR=7.2						
CMAR	Chiang Mai Arr	14.09	23	P	P	15 44 56.2	-1.0
H08S3	Diego Garcia H	24.47	238	T	T	16 12 10.0	
	baz=58,slow=75,SNR=974						
H08S2	Diego Garcia H	24.47	238	T	T	16 12 12.7	
	baz=58,slow=75,SNR=866						
H08S1	Diego Garcia H	24.49	238	T	T	16 12 11.3	
	baz=58,slow=75,SNR=446						
MYLDM	Lahad Datu	25.10	89	P	P	15 46 56.5	+2.0
MYLDM				IAmb	IAmb	15 46 58.6	
	comp=Z,18nm,1.3s						
LUWI	Luwuk	30.13	101	P	P	15 47 39.9	+0.3
MK31	Makanchi Array	42.31	349	P	P	15 49 23.1	-0.1
MKAR	Makanchi Array	42.31	349	P	P	15 49 23.3	+0.1
	comp=Z,0.5nm,0.5s,baz=167,slow=8.2,SNR=5.4						
MKAR	Makanchi Array	42.31	349	P	P	15 49 22.9	-0.3
KKAR	Karatay Array	42.61	335	P	P	15 49 25.5	-0.2
H01W3	Cape Leeuwin H	44.63	155	T	T	16 37 21.9	
	baz=330,slow=76,SNR=12						
H01W2	Cape Leeuwin H	44.64	155	T	T	16 37 27.6	
	baz=330,slow=76,SNR=15						
H01W1	Cape Leeuwin H	44.65	155	T	T	16 37 23.0	
	baz=330,slow=76,SNR=14						
GEYT	Alibeck	45.51	320	P	P	15 49 50.0	+1.0
	comp=Z,3.3nm,0.7s,baz=134,slow=8.6,SNR=5.8						
GEYT	Alibeck	45.51	320	P	P	15 49 49.5	+0.5
GYA0B	ALIBECK ARRAY	45.51	320	P	P	15 49 49.8	+0.7
GYA0B				IAmb	IAmb	15 49 51.0	
	comp=Z,4.4nm,0.8s						
WB0	Warramunga Arr	47.53	123	P	P	15 50 04.9	-0.3
WB0				IAmb	IAmb	15 50 13.8	
	comp=Z,9.2nm,1.3s						
WRA	Warramunga Arr	47.57	123	P	P	15 50 05.7	+0.3
	comp=Z,1.5nm,0.8s,baz=301,slow=9.2,SNR=11						
WRA	Warramunga Arr	47.57	123	IAmb	IAmb	15 50 12.4	
	comp=Z,0.1nm,0.8s						
WRAB	Tennant Creek	47.57	123	P	P	15 50 05.6	+0.1
WRAB				IAmb	IAmb	15 50 16.4	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	47.58	123	P	P	15 50 05.4	-0.1
WR0	Warramunga Arr	47.74	123	P	P	15 50 06.8	0.0
ZALV	Zalesovo Beam	48.88	353	P	P	15 50 15.8	+0.8
	comp=Z,0.5nm,0.4s,baz=175,slow=7.1,SNR=2.5						
AS31	Alice Springs	49.03	128	P	P	15 50 16.6	0.0
ASAR	Alice Springs	49.03	128	P	P	15 50 16.9	+0.3
	comp=Z,0.3nm,0.5s,baz=299,slow=8.0,SNR=12						
ABKAR	Akbulak array	52.01	333	P	P	15 50 36.8	-1.9
ERM	Erimo	57.27	43	P	P	15 51 17.5	+0.5
GERES	GERESS Array B	79.10	319	P	P	15 53 34.6	+0.6
	comp=Z,0.4nm,0.6s,baz=94,slow=3.1,SNR=4.0						

DRS ***23*** *15:49:57.2±0.0,41°.14N×45°.41E,h14km*

NORS ***23*** *15:49:58.4±0.0,41°.09N×45°.56E,h6km,MPVA3.8*
AZER ***23*** *15:49:58.2,41°.31N×45°.50E,h3km,ML3.0*
TIF ***23*** *15:49:59.2,41°.27N×45°.39E,h4km±2km*
DDA ***23*** *15:49:59.2,41°.21N×45°.35E,h4km±2km,ML2.8*

ISC 23 15:49:59.0±1.2,41°.21N±0°.03×45°.43E±0°.02,h14km±10km, n30,σ0ˢ79/56,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	Dedoflistskaro	0.57	65	*i* P	Pb	15 50 11.3	+0.5
DDFL	Dedoflistskaro	0.57	65	P	Pb	15 50 11.5	+0.6
KZRT	Kazreti	0.80	283	*i* P	Pg	15 50 14.2	-0.3
KZRT				*i* S	Sg	15 50 24.9	-0.1
KZRT	Kazreti	0.80	283	P	Pb	15 50 15.0	+0.3
KZRT				S	Sb	15 50 25.9	+0.5
DMNI	Dmanisi	0.94	278	P	Pb	15 50 17.6	+0.4
DMNI				S	Sn	15 50 31.2	-0.1
TRLG	Trialeti	1.05	289	P	Pg	15 50 19.1	-0.3
TRLG				S	Sb	15 50 33.6	+0.7
AKH	Akhalkalaki	1.47	278	P	Pg	15 50 28.1	+0.7
AKH				S	Sg	15 50 46.8	+0.3
EAK	Akyaka	1.48	250	*i* P	Pg	15 50 27.1	-0.3
PNSH	Pansheti	1.55	337	P	Pb	15 50 27.6	0.0
PNSH				S	Sg	15 50 48.6	-0.3
KMKR	Kumukh	1.55	53	*e*Pg	Pn	15 50 27.0	+0.5
	38nm,0.4s						
KMKR				*e*Sg	Sb	15 50 48.0	+0.6
	260nm,0.4s						
BTLR	Botlikh	1.57	22	*e*Pg	Pb	15 50 27.8	-0.1
	36nm,0.6s						
BTLR				*e*Sg	Sb	15 50 48.1	+0.5
	93nm,0.6s						
IGDI	IGDIR	1.69	218	*i* P	Sn	15 50 47.2	-2.5
IGDI				*i* S	Sg	15 50 54.1	+0.7
DIGO	Kars	1.75	244	*i* P	Pg	15 50 32.0	-0.6
DIGO				*i* S	Sg	15 50 55.5	+0.2
DIGO				IAML		15 51 02.0	
	comp=N,79nm,0.4s						
DIGO				IAML		15 51 06.0	
	comp=E,98nm,0.5s						
AKT	Akhty	1.75	80	*i* Pg	Pn	15 50 29.6	+0.4
	comp=E,36nm,0.8s						
AKT				*e*Sg	Sn	15 50 50.8	-0.6
	comp=E,183nm,0.7s						
LACR	Lac	1.82	333	*e*Pg	Pb	15 50 31.6	-0.7
LACR				*e*Sg	Sg	15 50 58.0	+0.3
VLKR	Vladikavkaz	1.92	343	*e*Pg	Pg	15 50 35.5	-0.4
VLKR				*e*Sg	Sg	15 51 02.7	+1.9
ZEI	Tsey	1.95	325	*e*Pg	Pb	15 50 34.0	-0.5
ZEI				*e*Sg	Sg	15 51 01.4	-0.2
KRNR	Karanay	1.96	34	*e*Pg	Pb	15 50 34.5	0.0
	comp=E,26nm,0.0s						
KRNR				*e*Sg	Sg	15 51 02.0	0.0
	comp=E,28nm,0.4s						
GROC	Groznyy	2.01	8	*e*Pg	Pg	15 50 37.2	-0.4
GROC				*e*Sg	Sg	15 51 04.7	+1.0
ONI	Oni	2.02	314	*e*Pg	Pb	15 50 36.0	+0.4
ONI				*e*Sg	Sg	15 51 03.9	-0.1
ONI	Oni	2.02	314	P	Pb	15 50 36.0	+0.4
ONI				S	Sg	15 51 03.4	-0.7
EPOS	Posof	2.05	279	*i* P	Pb	15 50 36.1	-0.1
DLMR	Dylym	2.06	25	*e*Pg	Pb	15 50 37.0	+0.7
	comp=E,69nm,0.0s						
DLMR				*e*Sg	Sg	15 51 04.0	-1.4
	comp=E,81nm,0.7s						
DBC	Dubki	2.09	29	*e*Pg	Pb	15 50 36.3	-0.4
DBC				*e*Sg	Sg	15 51 04.8	-1.4
ARNR	Ardon	2.15	337	*e*Pn	Pg	15 50 39.2	-1.0
ARNR				*e*Sn	Sg	15 51 08.1	+0.1
TKB	Tkibuli	2.15	303	P	Pb	15 50 37.5	-0.2
TKB				S	Sb	15 51 05.8	+1.5
DIGR	Digorskoe uzhe	2.18	321	*e*Pn	Pb	15 50 38.8	+0.4
DIGR				*e*Sn	Sg	15 51 08.9	-0.2
DRN	Derbent	2.33	68	*e*Pn	Pb	15 50 40.9	+0

*IDC **23** 16:25:39.6±2.4, 5.°67S×148.°65E, h147km±34km, mb3.6/4, mb1 3.7/7, mb1mx3.2/45, mbtmp4.0/7, Error ellipse: s-maj=66.6km s-min=9.6km az=133.0*
*NEIC **23** 16:25:40.4±1.5, 5.°7S±0.°1×148.°7E±0.°1, h156km±11km, mb4.2/9, Error ellipse: s-maj=25.3km s-min=10.8km az=134.0*

ISC 23 16:25:40.6±0.7, **5.°7S**±0.°1×**148.°7E**±0.°1, **h163**km, **n20**, σ0**90**/22, **mb4.0**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.59**	**67**	P	**Pn**	**16 26 34.6**	**-1.4**
	9.3nm,0.3s,baz=249,slow=2.3,SNR=22						
KRVT				S	**Sn**	**16 27 18.4**	**-0.6**
	baz=236,slow=14,SNR=1.7						
RABL	**Rabaul**	**3.76**	**66**	Pn	**Pn**	**16 26 38.4**	**+0.2**
PMG	**Port Moresby**	**3.97**	**203**	P	**Pn**	**16 26 40.7**	**-0.1**
	8.5nm,0.3s,baz=14,slow=7.2,SNR=22						
PMG				S	**Sn**	**16 27 26.7**	**-1.2**
	5.5nm,0.3s,baz=65,slow=2.4,SNR=3.6						
PMG	**Port Moresby**	**3.97**	**203**		**Pn**	**16 26 40.8**	**0.0**
COEN	**Coen**	**9.83**	**213**	Pn	**Pn**	**16 27 57.6**	**-0.7**
MTN	**Manton Dam**	**18.73**	**247**	P	**P**	**16 29 46.8**	**-0.2**
MTN				IAmb	IAmb	16 30 03.3	
	comp=Z,20nm,1.4s						
WR0	**Warramunga Arr**	**19.75**	**223**	P	**P**	**16 29 58.9**	**+0.8**
WRAB	**Tennant Creek**	**19.86**	**223**	P	**P**	**16 30 00.3**	**+1.0**
WRAB				IAmb	IAmb	16 30 11.3	
	comp=Z,8.5nm,1.4s						
WB2	**Warramunga Arr**	**19.87**	**223**	P	**P**	**16 29 59.8**	**+0.5**
WB2				IAmb	IAmb	16 30 25.5	
	comp=Z,9.4nm,1.4s						
WRA	**Warramunga Arr**	**19.88**	**223**	P	**P**	**16 29 59.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=46,slow=10,SNR=19						
KNRA	**Kununurra**	**21.93**	**242**	P	**P**	**16 30 20.8**	**-0.4**
KNRA				IAmb	IAmb	16 30 33.3	
	comp=Z,32nm,1.4s						
AS31	**Alice Springs**	**22.84**	**217**	P	**P**	**16 30 29.3**	**-0.6**
ASAR	**Alice Springs**	**22.84**	**217**	P	**P**	**16 30 30.8**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=47,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**25.66**	**239**	P	**P**	**16 30 55.5**	**0.0**
	comp=Z,3.7nm,0.4s,baz=1.2,slow=6.8,SNR=16						
MSVF	**Nonsavu**	**31.05**	**115**	P	**P**	**16 31 45.0**	**+1.4**
PEA0B	**Petropavlovsk-**	**59.10**	**6**	P	**P**	**16 35 25.1**	**+1.4**
PETK	**Petropavlovsk-**	**59.10**	**6**	P	**P**	**16 35 24.7**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=152,slow=5.8,SNR=15						
PETK	**Petropavlovsk-**	**59.10**	**6**	P	**P**	**16 35 25.1**	**+1.5**
MKAR	**Makanchi Array**	**78.37**	**320**	P	**P**	**16 37 22.6**	**-0.4**
ILAR	**Eielson Array**	**84.56**	**23**	P	**P**	**16 37 54.9**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=251,slow=4.5,SNR=8.1						

*IDC **23** 16:34:58.4±1.6, 5.°98S×128.°99E, h314km±20km, mb3.0/1, mb1 2.9/5, mb1mx2.6/44, mbtmp3.6/5, Error ellipse: s-maj=29.6km s-min=13.4km az=81.0*

ISC 23 16:34:56.5±0.9, **6.°04S**±0.°07×**129.°0E**±0.°1, **h264**km, **n6**, σ2**48**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.61**	**24**	P	**Pn**	**16 36 22.6**	**+2.4**
	3.5nm,0.3s,baz=198,slow=20,SNR=40						
SIJI				S	**S**	**16 37 26.2**	**-1.0**
	5.0nm,0.3s,baz=276,slow=24,SNR=15						
BATI	**Baumata**	**6.72**	**232**	P	**Pn**	**16 36 35.8**	**+1.9**
	38nm,0.3s,baz=24,slow=12,SNR=60						
BATI				S	**S**	**16 37 51.1**	**-1.1**
	1.1nm,0.3s,baz=312,slow=23,SNR=1.6						
FITZ	**Fitzroy Crossi**	**12.43**	**195**	P	**Pn**	**16 37 46.5**	**+1.4**
	0.3nm,0.3s,baz=15,slow=9.3,SNR=12						
FITZ				S	**S**	**16 40 03.9**	**+0.5**
	0.2nm,0.3s,baz=1.1,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**14.75**	**160**	P	**Pn**	**16 38 14.6**	**+1.2**
	0.2nm,0.3s,baz=346,slow=12,SNR=20						
WRA				S	**S**	**16 40 52.4**	**-3.4**
	0.1nm,0.3s,baz=343,slow=21,SNR=5.0						
ASAR	**Alice Springs**	**18.14**	**165**	P	**P**	**16 38 51.4**	**+1.5**
	0.2nm,0.3s,baz=344,slow=11,SNR=32						
ASAR				S	**S**	**16 42 01.2**	**-2.6**
	0.1nm,0.3s,baz=350,slow=25,SNR=4.8						
MKAR	**Makanchi Array**	**66.89**	**327**	P	**P**	**16 45 16.9**	**-3.6**
	0.3nm,0.5s,baz=121,slow=7.3,SNR=5.8						

IDC 23 16:53:45.1±2.8, **4.°39N**×**127.°77E**, **h0**km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.2**/38, **mbtmp3.2**/3, **Error ellipse: s-maj=212.8km s-min=30.7km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.03**	**165**	P	P	16 59 10.9	-0.3
	0.4nm,0.7s,baz=345,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**28.52**	**168**	P	P	16 59 42.8	+0.2
	0.3nm,0.9s,baz=346,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	17 03 37.1	0.0
	0.1nm,0.3s,baz=114,slow=7.6,SNR=1.9						

*IDC **23** 17:24:09.8±0.6, 53.°20N×35.°10W, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.0/42, mbtmp4.0/18, ML3.5/2, MS4.0/38, Ms1 4.0/38, ms1mx4.0/50, Error ellipse: s-maj=21.6km s-min=12.7km az=179.0*
*GCMT **23** 17:24:11.1±0.2, 53.°29N±0.°04×35.°04W±0.°03, h12km±1km, MW4.8/102, Moment Tensor Solution. s26,c30; s102,c143; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.99±.14; $M_{\theta\theta}$0.10±.09; $M_{\phi\phi}$1.89±.10; $M_{r\theta}$1.51±.38; $M_{\theta\phi}$-0.12±.06; $M_{r\phi}$0.38±.24; Best double couple: $M_0$2.37000×10^{16} NP1:ϕ_s334.00000°, δ46.00000°, λ-130.00000°. NP2:ϕ_s204.00000°, δ56.00000°, λ-57.00000°. Principal axes: T 1.9260, Plg6.0000°, Azm271.0000°; N 0.8840, Plg27.0000°, Azm4.0000°; P -2.8150, Plg62.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 17:24:12.1±2.1, 53.°0N±0.°1×35.°1W±0.°1, h10km±4km, mb4.7/86 Error ellipse: s-maj=17.6km s-min=11.7km az=161.0*

ISC 23 17:24:12.2±0.4, **53.°1N**±0.°1×**35.°09W**±0.°06, **h13**km, **n168**, σ1**914**/133, **mb4.6**/55, **MS4.1**/48, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**13.64**	**167**	T	T	17 41 23.8	
	SNR=8.4						
BORG	**Borgarnes**	**13.67**	**26**	LR	LR	17 30 54.0	
	comp=Z,368nm,21.1s,baz=233,slow=30						
SFJD	**Kangerlussuaq**	**15.91**	**337**	LR	LR	17 32 49.5	
	comp=Z,543nm,20.7s,baz=156,slow=33						
SCHQ	**Schefferville**	**18.69**	**288**	P	**P**	**17 28 28.5**	**-1.5**
	0.4nm,0.3s,baz=89,slow=8.2,SNR=3.5						
SCHQ				LR	LR	17 34 40.4	
	comp=Z,426nm,21.3s,baz=104,slow=34						
SCHQ	**Schefferville**	**18.69**	**288**	P	**P**	**17 28 28.8**	**-1.1**
SCHQ				IAmb	IAmb	17 28 31.0	
	comp=Z,56nm,1.4s						
ESK	**Eskdalemuir**	**18.71**	**70**	P	**Pn**	**17 28 31.5**	**+0.9**
EKA	**Eskdalemuir Ar**	**18.73**	**70**	P	**P**	**17 28 29.9**	**-0.5**
	baz=281,slow=9.3,SNR=12						
GBN	**Guysborough**	**18.80**	**257**	P	**P**	**17 28 28.2**	**-3.0**
GBN				IAmb	IAmb	17 29 02.0	
	comp=Z,80nm,1.4s						
SUMG	**Summit**	**19.65**	**357**	P	**P**	**17 28 40.0**	**-0.8**
FRB	**Frobisher Bay**	**20.27**	**315**	LR	LR	17 35 00.5	
	comp=Z,703nm,18.8s,baz=112,slow=32						
LMN	**Caledonia Moun**	**20.51**	**261**	P	Pn	17 28 49.6	-2.5
LMN				IAmb	IAmb	17 29 06.0	
	comp=Z,32nm,1.3s						
BATG	**Bathurst New B**	**20.56**	**266**	P	**P**	**17 28 49.8**	**-0.6**
JMIC	**Jan Mayen**	**21.54**	**24**	LR	LR	17 35 07.2	
	comp=Z,411nm,19.5s,baz=263,slow=31						
PQI	**Presque Isle**	**22.03**	**266**	P	**P**	**17 29 06.2**	**0.0**
GGN	**Saint George**	**22.11**	**262**	P	**P**	**17 29 08.2**	**+1.1**
GGN				IAmb	IAmb	17 29 15.4	
	comp=Z,33nm,1.1s						
E63A	**Oxbow**	**22.39**	**266**	P	**P**	**17 29 09.6**	**-0.6**
D62A	**Allapoint, All**	**22.45**	**268**	P	**P**	**17 29 11.8**	**+1.1**
D62A				IAmb	IAmb	17 29 16.6	
	comp=Z,36nm,1.2s						
G65A	**Princeton**	**22.50**	**263**	P	**P**	**17 29 10.7**	**-0.5**
F64A	**Sherman**	**22.63**	**265**	P	**P**	**17 29 11.7**	**-1.0**
F64A				IAmb	IAmb	17 29 42.7	
	comp=Z,48nm,1.4s						
EMMW	**East Machias**	**22.70**	**262**	P	**P**	**17 29 12.3**	**-1.1**
E62A	**Clayton Lake**	**22.96**	**268**	P	**P**	**17 29 16.1**	**0.0**
E62A				IAmb	IAmb	17 29 21.9	
	comp=Z,35nm,1.2s						
CLF	**Chambon-Foret**	**24.07**	**87**	P	**P**	**17 29 26.9**	**-0.1**
CLF				IAmb	IAmb	17 29 30.4	
	comp=Z,14nm,0.9s						
DOU	**Dourbes**	**24.62**	**81**	P	**P**	**17 29 33.3**	**+1.2**
BMRD	**Maredsous**	**24.65**	**80**	P	**P**	**17 29 33.7**	**+1.4**
BGES	**Gesves**	**24.81**	**80**	P	**P**	**17 29 35.1**	**+1.4**
BCLA	**Clavier**	**24.92**	**80**	P	**P**	**17 29 36.8**	**+2.0**
PAB	**San Pablo**	**24.94**	**110**	P	**P**	**17 29 35.5**	**+0.3**
ESBB	**Sonseca Array**	**25.07**	**110**	P	**P**	**17 29 35.6**	**-0.7**
ESDC	**Sonseca Array**	**25.07**	**110**	P	**P**	**17 29 36.6**	**+0.3**
	comp=Z,6.2nm,0.9s,baz=311,slow=8.9,SNR=27						
ESDC				LR	LR	17 37 39.0	
	comp=Z,685nm,18.1s,baz=300,slow=32						
ESDC	**Sonseca Array**	**25.07**	**110**	P	**P**	**17 29 36.7**	**+0.4**
NC204	**NORSAR Array S**	**25.69**	**53**	P	**P**	**17 29 43.5**	**+1.8**
NBO00	**NORSAR Array S**	**25.71**	**54**	P	**P**	**17 29 43.4**	**+1.6**
NB2	**NORSAR Subarra**	**25.92**	**54**	P	**P**	**17 29 42.6**	**-1.2**
	comp=Z,30nm,2.0s,baz=275,slow=9.3						
NOA	**NORSAR Array B**	**25.92**	**54**	P	**P**	**17 29 42.9**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=276,slow=10,SNR=3.9						
NOA				LR	LR	17 38 43.9	
	comp=Z,297nm,18.2s,baz=270,slow=34						
HFS	**Hagfors**	**27.22**	**55**	LR	LR	17 39 14.9	
	comp=Z,376nm,19.8s,baz=268,slow=33						
BFO	**Black Forest**	**27.58**	**82**	P	**P**	**17 29 59.4**	**+0.5**
CLL	**Collm**	**29.11**	**74**	*eP*	**P**	**17 30 13.0**	**+0.7**
	comp=Z,6.0nm,1.1s						
CLL				*e*		17 30 27.0	
CLL	**Collm**	**29.11**	**74**	P	**P**	**17 30 12.2**	**-0.2**
NKC	**Novy Kostel**	**29.21**	**76**	AMS	AMS	17 41 20.0	
	comp=Z,800nm,17.3s						
DAVOX	**Davos/Dischmat**	**29.23**	**84**	LR	LR	17 41 35.9	
	comp=Z,278nm,18.6s,baz=293,slow=36						
BRG	**Berggiesshubel**	**29.82**	**74**	*eP*	**P**	**17 30 19.1**	**+0.4**
	comp=Z,7.9nm,1.4s						
	comp=N,279nm,17.2s						
	comp=E,410nm,13.3s						
	comp=Z,649nm,14.5s						
PVCC	**Panska Ves**	**30.33**	**74**	AMS	AMS	17 41 40.0	
	comp=Z,600nm,19.6s						
KHC	**Kasperske Hory**	**30.34**	**78**	*eP*	**P**	**17 30 21.5**	**-1.9**
KHC				AMS	AMS	17 41 30.0	
	comp=Z,500nm,14.2s						
PRA	**Prague**	**30.44**	**75**	AMS	AMS	17 41 40.0	
	comp=Z,300nm,17.5s						
PRU	**Pruhonice**	**30.54**	**75**	AMS	AMS	17 41 40.0	
	comp=Z,600nm,18.6s						
GEC2	**GERESS Array S**	**30.54**	**78**	P	**P**	**17 30 25.9**	**+0.7**
GERES	**GERESS Array B**	**30.54**	**78**	P	**P**	**17 30 25.6**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=291,slow=8.3,SNR=5.2						
GERES				LR	LR	17 41 28.3	
	comp=Z,162nm,20.0s,baz=300,slow=34						
GERES	**GERESS Array B**	**30.54**	**78**	P	**P**	**17 30 25.2**	**-0.1**
GOPC	**GO Pecny, Ondr**	**30.71**	**75**	AMS	AMS	17 42 00.0	
	comp=Z,700nm,18.0s						
CHVC	**Chvalec**	**31.16**	**74**	AMS	AMS	17 43 20.0	
	comp=Z,500nm,14.0s						
UPC	**Upice**	**31.17**	**74**	AMS	AMS	17 43 20.0	
	comp=Z,600nm,14.7s						
ZOU	**Zoufplan**	**31.20**	**82**	P	**P**	**17 30 32.7**	**+1.6**
OSTC	**Ostas**	**31.27**	**74**	AMS	AMS	17 43 20.0	
	comp=Z,400nm,15.5s						
TREC	**Trest**	**31.39**	**76**	AMS	AMS	17 42 40.0	
	comp=Z,700nm,16.0s						
DPC	**Dobruska-Polom**	**31.42**	**74**	*eP*	**P**	**17 30 34.7**	**+1.8**
DPC				AMS	AMS	17 42 30.0	
	comp=Z,400nm,17.7s						
KRLC	**Kraliky**	**31.80**	**74**	*eP*	**P**	**17 30 38.3**	**+2.0**
KRLC				AMS	AMS	17 42 50.0	
	comp=Z,400nm,15.3s						
FINES	**FINESS Array B**	**32.96**	**51**	P	**P**	**17 30 45.5**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=283,slow=6.7,SNR=4.7						
FINES				LR	LR	17 42 36.3	
	comp=Z,396nm,20.3s,baz=274,slow=34						
LANS	**Liptovska Anna**	**33.78**	**74**	*eP*	**P**	**17 30 55.6**	**+2.1**
EYMN	**Ely**	**35.44**	**285**	P	**P**	**17 31 08.6**	**+0.7**
EYMN				IAmb	IAmb	17 31 09.7	
	comp=Z,19nm,1.2s						
KEST	**Kesra**	**35.49**	**101**	P	**P**	**17 31 07.4**	**-1.0**
	comp=Z,6.5nm,0.9s,baz=312,slow=4.9,SNR=3.7						
KEST				LR	LR	17 43 40.1	
	comp=Z,232nm,19.6s,baz=314,slow=33						
KEST	**Kesra**	**35.49**	**101**	IAmb	IAmb	17 31 12.9	
	comp=Z,17nm,1.2s						
ULM	**Lac du Bonnet**	**36.83**	**291**	LR	LR	17 45 02.8	
	comp=Z,399nm,18.6s,baz=86,slow=34						
BUR08	**Bucovina Ar. S**	**37.85**	**73**	P	**P**	**17 31 30.1**	**+1.6**
BUR08				IAmb	IAmb	17 31 41.5	
	comp=Z,16nm,1.6s						
BURAR	**Bucovina Array**	**37.87**	**73**	P	**P**	**17 31 30.0**	**+1.3**
AKASG	**Malin Array Be**	**38.59**	**67**	P	**P**	**17 31 33.0**	**-1.5**
	comp=Z,0.2nm,0.2s,baz=302,slow=8.4,SNR=4.8						
AKASG				LR	LR	17 47 37.4	
	comp=Z,226nm,18.3s,baz=300,slow=36						
KLMR	**Klimovskoe**	**39.32**	**48**	*eP*	**P**	**17 31 39.7**	**-0.8**
KLMR				AMP		17 31 46.6	
	comp=Z,16nm,1.2s						
ECSD	**EROS Data Cent**	**40.73**	**282**	P	**P**	**17 31 54.0**	**+1.5**
ECSD				IAmb	IAmb	17 32 00.1	
	comp=Z,16nm,1.3s						
YKA	**Yellowknife Ar**	**40.79**	**316**	LR	LR	17 47 20.1	
	comp=Z,219nm,18.4s,baz=0.0,slow=34						
CCM	**Cathedral Cave**	**40.99**	**272**	P	**P**	**17 31 55.4**	**+0.8**
CCM				IAmb	IAmb	17 31 56.7	
	comp=Z,39nm,1.7s						
P38A	**Dawn**	**41.37**	**275**	P	**P**	**17 31 58.7**	**+0.9**
P38A				IAmb	IAmb	17 32 00.4	
	comp=Z,13nm,1.0s						
H05N1	**Guadeloupe/Mar**	**41.95**	**219**	T	T	18 16 34.5	
	SNR=16						
LCAR	**Lake Charles**	**42.24**	**269**	P	**P**	**17 32 05.1**	**+0.2**
S39A	**Bolivar**	**42.48**	**273**	P	**P**	**17 32 07.0**	**+0.1**
U40A	**Yellville**	**43.07**	**271**	P	**P**	**17 32 12.6**	**+0.9**
U40A				IAmb	IAmb	17 32 13.9	
	comp=Z,31nm,1.8s						
KSU1	**Kansas State U**	**43.55**	**277**	P	**P**	**17 32 16.2**	**+0.7**
LAO	**LASA Array**	**44.55**	**292**	P	**P**	**17 32 24.4**	**+0.9**
K22A	**Casper**	**47.16**	**287**	P	**P**	**17 32 44.2**	**0.0**
K22A				IAmb	IAmb	17 32 46.0	
	comp=Z,8.9nm,1.0s						
WALA	**Waterton Lakes**	**47.36**	**299**	P	**P**	**17 32 45.5**	**-0.2**
BR131	**Keskin Array S**	**47.44**	**77**	P	**P**	**17 32 47.4**	**+0.9**
BR131				IAmb	IAmb	17 32 49.0	
	comp=Z,5.3nm,0.9s						
BRTR	**Keskin Array B**	**47.44**	**77**	P	**P**	**17 32 46.3**	**-0.2**
	comp=Z,6.3nm,0.8s,baz=298,slow=5.6,SNR=14						
BRTR				LR	LR	17 54 13.3	
	comp=Z,135nm,18.3s,baz=282,slow=38						
BRTR	**Keskin Array B**	**47.44**	**77**	P	**P**	**17 32 47.6**	**+1.2**
YNE	**Yellowstone No**	**47.68**	**292**	P	**P**	**17 32 48.0**	**-0.4**
YMP	**Mirror Lake PI**	**47.92**	**292**	P	**P**	**17 32 49.9**	**-0.4**
N23A	**Red Feather La**	**47.93**	**285**	P	**P**	**17 32 52.0**	**+1.6**
BOZ	**Bozeman (W)**	**48.21**	**294**	P	**P**	**17 32 53.3**	**+0.9**
BOZ				IAmb	IAmb	17 32 55.2	
	comp=Z,5.5nm,1.0s						
ISCO	**Idaho Springs**	**48.45**	**284**	P	**P**	**17 32 56.0**	**+1.5**
ISCO				IAmb	IAmb	17 32 57.4	
	comp=Z,4.9nm,1.1s						
BW06	**Boulder Array**	**48.82**	**289**	P	**P**	**17 32 57.1**	**-0.1**
BW06				IAmb	IAmb	17 32 59.0	
	comp=Z,5.6nm,1.1s						
PD31	**Pinedale Array**	**48.82**	**289**	P	**P**	**17 32 57.7**	**+0.4**
PD31				IAmb	IAmb	17 32 59.0	
	comp=Z,5.7nm,1.1s						
PDAR	**Pinedale Array**	**48.82**	**289**	P	**P**	**17 32 55.7**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=52,slow=8.0,SNR=7.0						
PDAR				LR	LR	17 52 20.1	
	comp=Z,306nm,18.2s,baz=52,slow=35						
PDAR	**Pinedale Array**	**48.82**	**289**	P	**P**	**17 32 57.1**	**-0.1**
TOA0	**Torodi Ar. Sit**	**49.37**	**130**	P	**P**	**17 33 00.8**	**-0.5**
TOA0				IAmb	IAmb	17 33 02.2	
	comp=Z,5.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**49.37**	**130**	P	**P**	**17 33 01.0**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=332,slow=8.0,SNR=15						
TORD				PcP	**PcP**	**17 34 23.9**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=312,slow=4.5,SNR=2.5						
TORD				LR	LR	17 52 03.5	
	comp=Z,171nm,18.2s,baz=295,slow=34						
TORD	**Torodi Ar. Bea**	**49.37**	**130**	P	**P**	**17 33 00.3**	**-1.1**
AMTX	**Amarillo**	**49.38**	**276**	P	**P**	**17 33 01.8**	**+0.4**
T25A	**Trinidad**	**49.49**	**280**	P	**P**	**17 33 04.3**	**+1.9**
NEW	**Newport**	**49.53**	**300**	LR	LR	17 52 35.9	
	comp=Z,286nm,19.6s,baz=54,slow=34						
ARU	**Arti**	**50.09**	**46**	P	**P**	**17 33 06.1**	**-0.3**
ARU				IAmb	IAmb	17 33 18.4	
	comp=Z,11nm,1.4s						
KBZ	**Khabaz**	**50.19**	**67**	LR	LR	17 55 32.8	
	comp=Z,172nm,18.1s,baz=310,slow=38						
RDMU	**Red Mountain**	**50.24**	**287**	P	**P**	**17 33 09.6**	**+1.5**
B08A	**Colville Reser**	**50.62**	**301**	P	**P**	**17 33 10.1**	**-0.5**
B08A				IAmb	IAmb	17 33 12.7	
	comp=Z,6.3nm,1.0s						
MSTX	**Muleshoe**	**50.66**	**276**	P	**P**	**17 33 11.7**	**+0.5**
HWUT	**Hardware Ranch**	**50.71**	**290**	P	**P**	**17 33 11.2**	**-0.3**
HWUT				IAmb	IAmb	17 33 18.3	
	comp=Z,7.9nm,0.9s						
BCAR	**Beaver Creek A**	**50.89**	**326**	P	**P**	**17 33 13.9**	**+1.4**
PLID	**Pearl Lake**	**50.93**	**296**	P	**P**	**17 33 13.6**	**+0.4**
NRIK	**Noril'sk**	**50.97**	**23**	LR	LR	17 52 58.3	
	comp=Z,81nm,21.9s,baz=17,slow=34						
HLID	**Hailey**	**51.04**	**293**	P	**P**	**17 33 14.7**	**+0.7**
PV07	**Paradox Valley**	**51.12**	**285**	P	**P**	**17 33 16.3**	**+1.6**
GAZ	**Gaziantep**	**51.23**	**77**	P	**P**	**17 33 16.5**	**+1.2**
GAZ				IAmb	IAmb	17 33 19.2	
	comp=Z,11nm,0.8s						
PV12	**Saucer Basin,**	**51.29**	**285**	P	**P**	**17 33 17.6**	**+1.6**
PV12				IAmb	IAmb	17 33 27.2	
	comp=Z,17nm,1.1s						
PV16	**Nyswonger Mesa**	**51.36**	**285**	P	**P**	**17 33 17.1**	**+0.6**
ILAR	**Eielson Array**	**51.37**	**329**	P	**P**	**17 33 15.5**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=45,slow=5.0,SNR=8.8						
ILAR	**Eielson Array**	**51.37**	**329**	P	**P**	**17 33 16.6**	**+0.6**
PV14	**Lion Creek, Pa**	**51.38**	**285**	P	**P**	**17 33 16.9**	**+0.3**
PV14				IAmb	IAmb	17 33 19.4	
	comp=Z,6.9nm,0.9s						
PV17	**East Wray Mesa**	**51.40**	**285**	P	**P**	**17 33 15.9**	**-1.0**
PV17				IAmb	IAmb	17 33 20.1	
	comp=Z,14nm,1.0s						
BGU	**Big Grassy Mou**	**51.99**	**290**	P	**P**	**17 33 20.1**	**-1.1**
DBIC	**Dimbokro**	**52.41**	**141**	LR	LR	17 52 59.2	
	comp=Z,167nm,21.6s,baz=318,slow=33						
BBB	**Bella Bella**	**52.51**	**309**	LR	LR	17 54 39.0	
	comp=Z,331nm,19.0s,baz=40,slow=35						
ELK	**Elko**	**53.36**	**291**	LR	LR	17 55 24.7	
	comp=Z,189nm,19.3s,baz=64,slow=35						
ELK	**Elko**	**53.36**	**291**	P	**P**	**17 33 31.8**	**+0.4**
ELK				IAmb	IAmb	17 33 48.5	
	comp=Z,12nm,1.7s						
J08A	**Circle Bar Ran**	**53.41**	**296**	P	**P**	**17 33 31.4**	**-0.2**
MTPU	**Mount Pierson**	**53.44**	**287**	P	**P**	**17 33 33.9**	**+1.8**
SML	**Sawmill**	**53.95**	**327**	P	**P**	**17 33 35.1**	**0.0**
PINE	**Pine Mountain**	**54.45**	**297**	P	**P**	**17 33 39.0**	**-0.3**
PINE				IAmb	IAmb	17 33 42.3	
	comp=Z,8.5nm,0.9s						
TXAR	**Lajitas Array**	**54.47**	**273**	P	**P**	**17 33 39.2**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=79,slow=6.5,SNR=9.5						
TXAR				PcP	**PcP**	**17 34 41.8**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=53,slow=3.5,SNR=2.2						
TXAR				LR	LR	17 56 22.5	
	comp=Z,170nm,18.7s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**54.47**	**273**	P	**P**	**17 33 40.8**	**+1.3**
SKT	**Skwentna**	**54.84**	**329**	P	**P**	**17 33 41.6**	**0.0**
SKT				IAmb	IAmb	17 33 56.2	
	comp=Z,9.1nm,1.2s						
X16A	**Lo Mia Camp, P**	**55.51**	**283**	P	**P**	**17 33 48.1**	**+1.1**
KVN	**Kaiserville**	**56.12**	**291**	P	**P**	**17 33 51.3**	**-0.1**
KVN				IAmb	IAmb	17 33 53.5	
	comp=Z,5.7nm,1.1s						
TPH	**Tonopah**	**56.30**	**290**	P	**P**	**17 33 52.3**	**-0.4**
PAHR	**Pah Rah Range**	**56.39**	**293**	P	**P**	**17 33 53.2**	**0.0**
PAHR				IAmb	IAmb	17 33 56.0	
	comp=Z,17nm,1.6s						
NV11	**Mina Array Sit**	**56.58**	**291**	P	**P**	**17 33 54.4**	**-0.2**
NVAR	**Mina Array Bea**	**56.67**	**291**	P	**P**	**17 33 54.5**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=60,slow=5.4,SNR=4.3						
NVAR				LR	LR	17 57 10.3	
	comp=Z,227nm,19.8s,baz=87,slow=35						
YBH	**Yreka Blue Hor**	**56.81**	**297**	LR	LR	17 57 20.8	
	comp=Z,275nm,19.9s,baz=32,slow=35						
PNTR	**Pine Nut**	**56.94**	**292**	P	**P**	**17 33 58.9**	**+1.7**
PNTR				IAmb	IAmb	17 34 04.9	
	comp=Z,9.1nm,1.0s						
ROSC	**El Rosal**	**57.81**	**228**	P	**P**	**17 34 04.7**	**+1.0**
	comp=Z,17nm,0.6s,baz=144,slow=5.6,SNR=7.5						
ROSC				LR	L

INET 23 17:37:10.5, 10°.79N×86°.99W, h15km, ML3.6, Off coast of Costa Rica

IDC 23 17:43:40.9±6.5, 31°.57S×179°.11W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/37, mbtmp3.3/2, Error ellipse: s-maj=258.5km s-min=63.9km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.11	269	P	P	17 51 34.5	-0.6
	0.3nm,0.8s,baz=111,slow=7.4,SNR=5.2						
WRA	Warramunga Arr	43.21	274	P	P	17 51 44.2	+0.3
	0.3nm,0.4s,baz=114,slow=7.9,SNR=9.1						
FINES	FINESS Array B	145.90	339	PKPbc	PKPdf	18 03 20.7	-0.3
	4.0nm,1.0s,baz=60,slow=3.4,SNR=1.8						

*IDC **23** 17:50:33.9±1.0, 44°.93N×106°.74W, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.4/41, mbtmp3.3/5, ML2.6/3, Error ellipse: s-maj=34.8km s-min=8.2km az=137.0*
*NEIC **23** 17:50:34.9±2.1, 45°.15N±0°.05×106°.85W±0°.07, h0km±2km, ML3.7/80, Error ellipse: s-maj=8.9km s-min=7.7km az=210.0*

ISC 23 17:50:34.3±0.9, 45°.18N±0°.05×106°.81W±0°.07, h0km, n68, σ1§01/66, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	LASA Array	1.56	15	Pn	Pb	17 51 04.5	+0.3
LAO				IAML		17 51 29.6	
	645nm,1.9s						
RLMT	Red Lodge	1.74	269	Pn	Pn	17 51 04.9	-1.1
RLMT				IAML		17 51 35.7	
	587nm,1.1s						
GCMT	Greycliff	2.10	288		Pn	17 51 10.5	-0.4
RSSD	Black Hills	2.25	117	Pn	Pb	17 51 14.1	-1.8
RSSD				IAML		17 51 47.8	
	504nm,0.6s						
YNE	Yellowstone No	2.27	267		Pn	17 51 12.4	-0.9
YMP	Mirror Lake Pl	2.41	261		Pn	17 51 14.3	-1.1
K22A	Casper	2.54	175		Pn	17 51 16.2	-0.7
K22A				IAML		17 51 50.8	
	comp=N,333nm,1.1s						
K22A				IAML		17 51 54.2	
	comp=E,235nm,1.4s						
LKWY	Lake	2.62	258		Pn	17 51 18.7	+0.5
LKWY				IAML		17 52 05.1	
	comp=E,313nm,1.5s						
LKWY				IAML		17 52 07.5	
	comp=E,270nm,1.5s						
YUF	Upper Falls	2.67	261		Pn	17 51 19.6	+0.8
YNR	Norris Junctio	2.79	262		Pn	17 51 21.7	+1.3
H17A	Grant Village	2.79	255		Pn	17 51 21.5	+1.0
YNM	Yellowstone No	2.80	262		Pn	17 51 21.7	+1.1
YHH	Holmes Hill	2.89	264	Pn	Pn	17 51 21.7	-0.3
FLWY	Flagg Ranch	2.98	250		Pn	17 51 24.0	+0.9
FLWY				IAML		17 52 22.2	
	comp=E,238nm,1.4s						
YPP	Pitchstone Pla	2.99	254		Pn	17 51 24.3	+1.1
YMR	Madison River	2.99	262		Pn	17 51 24.5	+1.2
YHL	Hebgen Lake	3.12	266		Pn	17 51 25.2	+0.2
BW06	Boulder Array	3.12	220		Pn	17 51 22.7	-2.3
PD31	Pinedale Array	3.12	220		Pn	17 51 24.7	-0.3
PDAR	Pinedale Array	3.12	220	Pn	Pn	17 51 25.8	+0.8
	comp=E,5.6nm,0.3s,baz=54,slow=18,SNR=55						
PDAR				Lg	Lg	17 52 05.6	
	comp=E,8.1nm,0.3s,baz=48,slow=26,SNR=16						
PDAR	Pinedale Array	3.12	220		Pn	17 51 25.1	+0.1
LOHW	Long Hollow	3.14	241		Pn	17 51 25.4	+0.2
YHB	Horse Butte	3.14	264		Pn	17 51 25.2	0.0
IMW	Indian Meadow	3.22	248	Pn	Pn	17 51 26.0	-0.4
IMW				IAML		17 52 16.3	
	comp=E,196nm,1.1s						
QLMT	Earthquake Lak	3.29	266		Pn	17 51 26.3	-1.1
SNOW	Snow King Moun	3.31	240		Pn	17 51 27.0	-0.6
SNOW				IAML		17 52 39.7	
	comp=E,145nm,1.4s						
SNOW				IAML		17 52 40.0	
	comp=E,140nm,1.2s						
FXWY	Fox Creek	3.39	244		Pn	17 51 27.8	-0.9
TPAW	Teton Pass	3.42	242		Pn	17 51 28.4	-0.7
TPAW				IAML		17 52 32.7	
	comp=E,145nm,1.3s						
BOZ	Bozeman (W)	3.42	279		Pn	17 51 27.9	-1.1
BOZ				IAML		17 52 23.8	
	comp=E,134nm,1.7s						
REDW	Red Top Meadow	3.42	239		Pn	17 51 30.0	+0.9
REDW				IAML		17 52 31.4	
	comp=E,203nm,1.6s						
REDW				IAML		17 52 44.3	
	comp=E,154nm,1.4s						
EGMT	Eagleton	3.50	326	Pn	Pn	17 51 30.9	+0.9
RWWY	Rawlins	3.50	185		Pn	17 51 31.9	+1.7
RWWY				IAML		17 52 39.1	
	comp=E,196nm,1.2s						
RWWY				IAML		17 52 47.9	
	comp=E,157nm,1.1s						
DGMT	Dagmar	3.75	28	Pn	Pn	17 51 34.1	+0.6
HRY	Holter Researc	3.82	295		Pn	17 51 34.4	-0.1
AHID	Auburn Hatcher	3.92	234		Pn	17 51 37.3	+1.3
AHID				IAML		17 52 39.0	
	comp=N,165nm,1.3s						
AHID				IAML		17 52 47.6	
	comp=E,137nm,1.3s						
LRM	Limekiln Ridge	4.02	281	Pn	Pn	17 51 36.5	-0.8
DLMT	Dillon	4.09	275		Pn	17 51 37.8	-0.4
DLMT				IAML		17 52 44.4	
	comp=E,130nm,1.3s						
MCMT	McKenzie Canyo	4.30	267	Pn	Pn	17 51 41.9	+0.7
N23A	Red Feather La	4.33	171		Pn	17 51 41.3	-0.4
E28A	Huff	4.50	70	Pn	Pn	17 51 43.9	+0.2
BCYI	Bear Canyon	4.78	262		Pn	17 51 45.2	-2.6
HWUT	Hardware Ranch	4.97	226		Pn	17 51 50.3	-0.1
HWUT				IAML		17 53 25.8	
	comp=E,77nm,1.4s						
RDMU	Red Mountain	5.03	205		Pn	17 51 52.0	+0.8
O20A	White River Ci	5.15	192		Pn	17 51 55.4	+2.5
MSO	Missoula	5.23	291		Pn	17 51 53.5	-0.4
MSO				IAML		17 53 50.4	
	comp=E,63nm,1.6s						
ISCO	Idaho Springs	5.45	170		Pn	17 51 57.9	+0.8
SPUT	South Promonto	5.65	229		Pn	17 52 00.3	+0.6
HLID	Hailey	5.68	256		Pn	17 52 00.2	0.0
JTMT	Jette	5.76	299		Pn	17 52 01.9	+0.7
WALA	Waterton Lakes	6.21	311		Pn	17 52 06.9	-0.4
PLID	Pearl Lake	6.50	272		Pn	17 52 10.9	-0.5
DUG	Dugway, Tooele	6.66	224		Pn	17 52 15.4	+1.9
SRU	San Rafael Swe	6.66	206		Pn	17 52 12.9	-0.7
TMUT	Trail Mountain	6.72	211		Pn	17 52 14.8	+0.3
PV07	Paradox Valley	6.87	192		Pn	17 52 15.7	-0.8
PV23	Carpenter Ridg	6.92	194		Pn	17 52 17.9	+0.7
PV16	Nyswonger Mesa	7.04	194		Pn	17 52 18.9	0.0
Q16A	Castle Valley	7.05	209		Pn	17 52 17.0	-1.9
PV03	Paradox Valley	7.08	193		Pn	17 52 18.6	-0.8
PV02	Paradox Valley	7.11	192	Pn	Pn	17 52 19.1	-0.8
PV01	Paradox Valley	7.16	191		Pn	17 52 20.1	-0.4
ELK	Elko	7.60	237	Pn	Pn	17 52 26.3	-0.3
	comp=E,0.1nm,0.3s,baz=320,slow=21,SNR=1.5						
ELK				Lg	Lg	17 54 29.3	
	comp=E,0.1nm,0.3s,baz=123,slow=8.9,SNR=3.4						
NEW	Newport	7.73	297	Lg	Lg	17 54 36.2	
	comp=E,0.7nm,0.3s,baz=20,slow=24,SNR=6.4						
I56US	NEWPORT INFRAS	7.73	297	*i*		18 41 55.0	
	baz=112,slow=306,SNR=11						
ULM	Lac du Bonnet	8.95	52	Pn	Pn	17 52 43.7	-1.0
	comp=E,1.1nm,0.3s,baz=235,slow=11,SNR=7.3						
ULM				Lg	Lg	17 55 13.4	
	comp=E,0.5nm,0.3s,baz=8.8,slow=6.6,SNR=3.7						
ULM	Lac du Bonnet	8.95	52		Pn	17 52 45.2	+0.5
NVAR	Mina Array Bea	10.90	236	Pn	Pn	17 53 13.0	+1.2
	comp=E,0.1nm,0.3s,baz=55,slow=11,SNR=2.1						
ILAR	Eielson Array	29.46	326	P	P	17 56 40.7	+1.1
	comp=E,0.4nm,0.9s,baz=116,slow=8.2,SNR=2.7						

*IDC **23** 18:47:53.1±1.0, 2°.54S×139°.34E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/35, mbtmp3.7/7, ML3.9/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/30, Error ellipse: s-maj=17.1km s-min=13.4km az=142.0*

*NEIC **23** 18:47:56.0±1.9, 2°.67S±0°.09×139°.37E±0°.06, h21km±3km, mb4.2/15, Error ellipse: s-maj=13.5km s-min=8.9km az=173.0*
*DJA **23** 18:47:58.4±0.7, 3°.S±8°.×14°.0E±°., h27km±8km, M4.4/6, mb4.3/2, MLv4.4/6*

ISC 23 18:47:57.7±0.6, 2°.71S±0°.07×139°.46E±0°.04, h27km, n45, σ2§06/48, mb3.8/7, MS3.6/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.72	81	P	Pn	18 48 13.0	+0.9
GENI				S	Sb	18 48 21.2	+0.1
GENI	Genyem	0.72	81	P	Pn	18 48 13.0	+0.9
GENI				S	Sb	18 48 21.2	+0.1
JAY	Jayapura	1.26	81	Pg	Pn	18 48 19.6	0.0
	17nm,0.3s,baz=226,slow=12,SNR=53						
JAY				Lg	Lg	18 48 36.5	
	68nm,0.3s,baz=99,slow=18,SNR=11						
JAY				LR	LR	18 49 07.7	
	comp=Z,436nm,18.2s,baz=127,slow=55						
JAY	Jayapura	1.26	81	P	Pn	18 48 19.7	+0.1
JAY				S	Sn	18 48 35.1	-0.6
JAY	Jayapura	1.26	81	P	Pn	18 48 19.7	+0.1
JAY				S	Sn	18 48 35.1	-0.6
WAMI	Wamena	1.39	213	P	Pb	18 48 26.0	+3.0
WAMI	Wamena	1.39	213	P	Pb	18 48 26.0	+3.0
SRPI	Serui, Papua	3.32	284	P	Pn	18 48 49.7	+1.7
SRPI				S	Sn	18 49 27.7	+1.1
SRPI	Serui, Papua	3.32	284	P	Pn	18 48 49.7	+1.7
SRPI				S	Sn	18 49 27.7	+1.1
FAKI	Fak Fak	7.21	268	P	Pn	18 49 40.9	-0.5
FAKI	Fak Fak	7.21	268	P	Pn	18 49 40.9	-0.5
FAKI	Fak Fak	7.21	268		Pn	18 49 38.9	-2.5
SAUI	Saumlaki	9.67	237	Pn	Pn	18 50 11.3	-3.8
PMG	Port Moresby	10.14	131	Pn	Pn	18 50 21.9	+0.2
COEN	Coen	11.77	162	Pn	Pn	18 50 43.0	-0.9
SOEI	Soe	16.64	244	P	P	18 51 53.2	+1.6
	38nm,0.9s						
SOEI	Soe	16.64	244	P	P	18 51 55.9	+4.3
SOEI	Soe	16.64	244	P	P	18 51 51.9	+0.3
KNRA	Kununurra	16.65	219	P	Pn	18 51 50.2	+0.9
KNRA				IAmb	IAmb	18 52 05.0	
	comp=Z,20nm,0.8s						
GUMO	Guam	17.06	18	LR	LR	18 58 25.0	
	comp=Z,58nm,18.6s,baz=220,slow=37						
BATI	Baumata	17.36	244	P	P	18 52 01.9	+2.4
	comp=Z,1.9nm,0.3s,baz=128,slow=1.1,SNR=9.1						
BATI	Baumata	17.36	244	P	P	18 52 03.7	+4.2
	comp=Z,21nm,0.7s						
BATI	Baumata	17.36	244	P	P	18 52 08.1	+8.6
WB0	Warramunga Arr	17.66	196	P	Pn	18 52 01.8	-0.2
WR0	Warramunga Arr	17.81	195	P	Pn	18 52 03.5	-0.3
WR0				IAmb	IAmb	18 52 43.5	
	comp=Z,8.7nm,0.8s						
WRAB	Tennant Creek	17.83	196	P	Pn	18 52 02.8	-1.3
WRAB				IAmb	IAmb	18 52 26.2	
	comp=Z,15nm,0.9s						
WB2	Warramunga Arr	17.84	196	P	Pn	18 52 04.2	0.0
WB2				IAmb	IAmb	18 52 26.4	
	comp=Z,15nm,0.9s						
WRA	Warramunga Arr	17.84	196	P	Pn	18 52 03.3	-0.9
	comp=Z,0.4nm,0.3s,baz=18,slow=13,SNR=19						
WRA				S	Sn	18 55 17.1	-5.5
	comp=Z,0.1nm,0.3s,baz=15,slow=24,SNR=3.8						
WRA	Warramunga Arr	17.84	196	P	Pn	18 52 03.9	-0.3
CTAO	Charters Tower	18.50	159		P	18 52 10.6	-1.4
CTAO				IAmb	IAmb	18 52 31.6	
	comp=Z,31nm,1.4s						
FITZ	Fitzroy Crossi	20.43	221	LR	LR	19 01 14.7	
	comp=Z,260nm,18.7s,baz=292,slow=39						
FITZ	Fitzroy Crossi	20.43	221	P	P	18 52 28.8	-4.4
FITZ				IAmb	IAmb	18 52 50.8	
	comp=Z,8.1nm,0.9s						
AS31	Alice Springs	21.52	194		P	18 52 46.1	+1.3
ASAR	Alice Springs	21.52	194	P	P	18 52 45.5	+0.7
	comp=Z,1.7nm,0.4s,baz=24,slow=10,SNR=45						
ASAR				S	Sn	18 56 47.5	-3.6
	comp=Z,0.6nm,0.9s,baz=16,slow=22,SNR=1.6						
ASAR	Alice Springs	21.52	194		P	18 52 43.4	-1.4
MYLDM	Lahad Datu	22.36	291	P	P	18 52 53.4	-0.6
MYLDM				IAmb	IAmb	18 53 21.5	
	comp=Z,12nm,1.1s						
EIDS	Eidsvold	25.16	155	P	P	18 53 25.8	+4.9
STKA	Stephens Creek	29.09	176	P	P	18 53 57.6	+1.5
	comp=Z,0.8nm,0.7s,baz=343,slow=10,SNR=3.2						
STKA				LR	LR	19 06 41.2	
	comp=Z,163nm,19.3s,baz=25,slow=39						
STKA	Stephens Creek	29.09	176	IAmb	IAmb	18 54 06.2	
	comp=Z,2.9nm,1.6s						
KSRS	Korea Array	41.37	346	P	P	18 55 39.1	-2.4
	comp=Z,0.4nm,0.7s,baz=178,slow=9.5,SNR=1.9						
KSRS				LR	LR	19 10 44.1	
	comp=Z,15nm,21.9s,baz=220,slow=33						
CASY	Casey	66.63	192	P	P	18 58 45.1	-0.4
MKAR	Makanchi Array	70.25	322	P	P	18 59 08.0	-0.6
	comp=Z,0.2nm,0.4s,baz=102,slow=8.7,SNR=4.5						
VNDA	Vanda	75.72	175	P	P	18 59 40.5	+0.2
	comp=Z,0.9nm,0.7s,baz=330,slow=7.9,SNR=8.5						
VNDA	Vanda	75.72	175	P	P	18 59 40.3	0.0
VNDA				IAmb	IAmb	19 00 28.1	
	comp=Z,4.0nm,1.5s						
ILAR	Eielson Array	85.52	24	P	P	19 00 31.2	-1.8
	comp=Z,0.5nm,0.9s,baz=253,slow=4.6,SNR=2.4						

WEL 23 18:51:12.0, 45°.S±24°.×16°.8E±1°.5, h5km±9km, M2.6/7, ML2.8/6, MLv2.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=26.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.24	251	P	Pg	18 51 18.3	+1.5
WKZ	Wanaka	0.60	113	P	Pg	18 51 24.1	+0.6
JCZ	Jackson Bay	0.65	37	P	Pg	18 51 22.9	-1.5
MLZ	Mavora Lakes	0.78	187	P	Pb	18 51 28.2	+0.1
DCZ	Deep Cove	1.17	221	P	Pg	18 51 34.3	-0.1
LBZ	Lake Benmore	1.40	82	P	Pn	18 51 38.3	0.0
FOZ	Fox Glacier	1.55	47	P	Pn	18 51 38.8	-1.4
ODZ	Otahua Downs	1.76	106	P	Pb	18 51 44.2	-0.6
GCSZ	Gaunt Creek Bo	1.97	50	P	Pn	18 51 46.5	+0.4

*NEIC **23** 19:16:56.0±1.0, 50°.1N±0°.1×178°.1E±0°.1, h33km±16km, Error ellipse: s-maj=19.0km s-min=10.7km az=189.0*

AEIC 23 19:16:56.5±1.9, 50°.14N±0°.05×178°.2E±0°.1, h30km±5km, ML3.3/24, mb3.9/8(NEIC), Error ellipse: s-maj=10.6km s-min=5.2km az=120.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.42	29		Pn	19 17 20.0	-0.2
AMKA					Sn	19 17 37.8	-0.1
LSSA	Little Sitkin	1.82	6		Pn	19 17 25.8	0.0
LSPA	Little Sitkin	1.83	7		Pn	19 17 26.3	+0.3
LSPA					Sb	19 17 50.1	-1.7
LSNW	Little Sitkin	1.84	6		Pn	19 17 26.5	+0.4
CESW	Semis' Southwe	1.96	25		Pn	19 17 28.7	+1.0
CERAA	Semis' Rag'd T	2.00	27		Pn	19 17 29.3	+1.0
CERAA					Sb	19 17 54.7	-1.8
CEAP	Semis' Anvil P	2.05	24		Pn	19 17 30.1	+1.1
CEAP					Sn	19 17 55.6	+2.1
GALAA	Gareloi Lava P	2.50	48		Pn	19 17 36.3	+1.1
GAEA	Gareloi East	2.53	48		Pn	19 17 36.4	+0.9
TASE	Tanaga Southea	2.91	53		Pn	19 17 42.0	+1.2
TAFP	Tanaga Falls P	2.98	52		Pn	19 17 42.6	+0.9
TAFP					Sn	19 18 18.4	+2.0
KIMD	Kanaga Island	3.30	59		Pn	19 17 47.0	+0.9
KIKV	Kanaga Island	3.39	57		Pn	19 17 48.3	+0.9
SMY	Shemya	3.65	317	Pn	Pn	19 17 50.1	-0.8
ADK	Adak	3.66	60		Pn	19 17 51.6	+0.5
ADAG	Mount Adagdak	3.75	59		Pn	19 17 53.6	+1.3
GSTD	Great Sitkin T	4.04	60		Pn	19 17 57.3	+1.0
GSMY	Great Sitkin M	4.08	60		Pn	19 17 57.9	+1.0
GSTR	Great Sitkin T	4.10	59		Pn	19 17 58.4	+1.3
ATKA	Atka Island	5.20	64		Pn	19 18 12.7	+0.5
NIKH	Nikolski High	8.54	66	Pn	Pn	19 18 59.3	+1.3
CHGN	Chignik	15.25	57	Pn	Pn	19 20 27.2	-2.2
OHAK	Old Harbor	18.20	56		Pn	19 21 05.3	-1.4
OHAK				IAmb	IAmb	19 21 07.7	
	comp=Z,16nm,1.5s						
SKT	Skwentna	20.41	43	P	P	19 21 30.4	-0.4
SKT				IAmb	IAmb	19 21 42.9	
	comp=Z,6.3nm,1.3s						
SUA	Susitna One	20.57	45	P	P	19 21 33.8	+1.0
SCM	Sheep Creek Mo	22.24	45	P	P	19 21 51.4	+0.8
SCM				IAmb	IAmb	19 21 58.6	
	comp=Z,7.2nm,1.2s						
GLB	Gilahina Butte	23.78	47	P	P	19 22 06.6	+0.3
RIDG	Independent Ri	23.88	41	P	P	19 22 07.3	0.0
RIDG				IAmb	IAmb	19 22 25.9	
	comp=Z,4.9nm,1.3s						
VRDI	Verde Repeater	23.91	48	P	P	19 22 06.0	-1.7

*BJI **23** 19:18:23.2±0.0, 53°.10N×35°.20W, h10km, mB5.6/50, mb5.1/63, Ms5.3/62, Ms7 5.1/61*
*BGR **23** 19:18:23.3±0.0, 53°.11N×35°.93W, h10km, mb5.6, Ms4.9*
*IDC **23** 19:18:24.3±0.3, 53°.16N×35°.14W, h0km, mb4.6/38, mb1 4.8/42, mb1mx4.8/46, mbtmp4.7/42, ML4.1/4, MS4.9/42, Ms1 4.9/42, ms1mx4.9/43, Error ellipse: s-maj=12.0km s-min=8.3km az=7.0*
*MOS **23** 19:18:24.4±0.8, 53°.14N×35°.15W, h12km, mb5.5/55, MS5.1/89, Error ellipse: s-maj=6.2km s-min=4.4km az=50.1*
*UNK **23** 19:18:25.9, 53°.14N×35°.11W, h10km*
*GCMT **23** 19:18:25.8±0.1, 53°.24N±0°.01×35°.01W±0°.01, h12km, MW5.4/142, Moment Tensor Solution. s110,c201; s142,c301; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.41±.02; $M_{\theta\theta}$-0.26±.02; $M_{\phi\phi}$1.67±.02; $M_{r\theta}$0.62±.05; $M_{\theta\phi}$-0.54±.02; $M_{\phi r}$-0.03±.04; Best double couple: $M_0$1.75600×10^{17} NP1:ϕ_s188.00000°, δ47.00000°, λ-55.00000°. NP2:ϕ_s323.00000°, δ53.00000°, λ-121.00000°. Principal axes: T 1.8200, Plg3.0000°, Azm75.0000°; N -0.1300, Plg25.0000°, Azm343.0000°; P -1.6920, Plg65.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 19:18:25.8±1.3, 53°.15N±0°.07×35°.1W±0°.1, h10km±1km, mb5.6/611, Ms_20 5.2/757, Mww5.4, Mwc5.4(GCMT) Error ellipse: s-maj=12.2km s-min=11.6km az=239.0*
*NEIC **23** 19:18:27, 53°.15N×35°.15W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.33; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$1.54; $M_{r\theta}$0.28; $M_{\theta\phi}$-0.46; $M_{\phi r}$0.13; Fault plane solution: $M_0$1.55000×10^{17} NP1:ϕ_s331.00000°, δ46.00000°, λ-111.00000°. NP2:ϕ_s181.00000°, δ48.00000°, λ-69.00000°. Principal axes: T 1.6529, Plg1.0000°, Azm256.0000°; N -0.2386, Plg15.0000°, Azm347.0000°; P -1.4143, Plg75.0000°, Azm162.0000°;*
*NEIC **23** 19:18:27, 53°.14N×34°.98W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.61; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$1.73; $M_{r\theta}$0.24; $M_{\theta\phi}$-0.54; $M_{\phi r}$0.21; Fault plane solution: $M_0$1.79000×10^{17} NP1:ϕ_s333.00000°, δ44.00000°, λ-107.00000°. NP2:ϕ_s176.00000°, δ48.00000°, λ-74.00000°. Principal axes: T 1.8795, Plg2.0000°, Azm255.0000°; N -0.2051, Plg12.0000°, Azm346.0000°; P -1.6745, Plg78.0000°, Azm154.0000°;*
*DNK **23** 19:18:33.1±2.9, 53°.16N×35°.00W, h72km±79km, mb5.1, Ms5.1, Hypocentre not reviewed by the ISC*

ISC 23 19:18:25.5±0.5, 53°.15N±0°.04×35°.09W±0°.03, h7km±3km, h7km:pP-P, n1710, σ1§30/1508, mb5.5/446, MS5.2/507, 72C-38D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	Narsarsuaq	9.78	329	P	Pn	19 20 44.6	-1.7
NRS	Narsarsuaq	9.78	329		Pn	19 20 44.6	-1.7
ANGG	Ammassalik, Gr	12.57	355		Pn	19 21 24.8	+0.3
BORG	Borgarnes	13.58	26	Pn	Pn	19 21 39.6	+1.4
	0.8nm,0.3s,baz=233,slow=6.5,SNR=8.7						
BORG				Sn	Sn	19 24 06.3	-2.8
	0.3nm,0.3s,baz=95,slow=5.1,SNR=2.2						
BORG				LR	LR	19 25 08.6	
	comp=Z,6μm,20.8s,baz=229,slow=30						
BORG	Borgarnes	13.58	26	Pn	Pn	19 21 40.0	+1.7
H07N1	FLORES T-PHASE	13.73	167	T	T	19 35 42.2	
H07S1	FLORES T-PHASE	14.03	167	T	T	19 36 09.6	
DRLN	Deer Lake	14.56	263	P	P	19 21 57.6	-0.8
PGRA	Graciosa	14.95	158	*eP*	Pn	19 21 58.9	+1.9
	253nm,1.4s						
ROSA	Rosais	15.19	159	Pn	Pn	19 22 02.5	+2.3
ROSA	Rosais	15.19	159	*eP*	Pn	19 21 59.6	-0.6
	128nm,1.7s						
PMAN	Manadas	15.30	159	*eP*	P	19 22 10.0	+3.4
	400nm,1.6s						
PCAN	Candelaria	15.38	160	*eP*	P	19 22 08.1	+0.6
	128nm,1.2s						
PPNO	Prainha do Nor	15.42	159	*eP*	P	19 22 07.6	-0.4
	263nm,1.2s						
PSCM	Serra do Cume	15.46	156	*eP*	P	19 22 07.6	-0.8
	198nm,1.9s						
ADH	Angra Heroismo	15.48	156	*eP*	Pn	19 22 06.0	+2.0
	40nm,1.0s						
SFJD	Kangerlussuaq	15.82	337	Pn	Pn	19 22 06.7	-1.6
	0.6nm,0.3s,baz=112,slow=16,SNR=1.5						
SFJD				LR	LR	19 27 03.0	
	comp=Z,3μm,20.2s,baz=154,slow=33						
SFJD	Kangerlussuaq	15.82	337	*i* P	P	19 22 11.8	-0.4
	19nm,1.1s						
SFJD	Kangerlussuaq	15.82	337	P	P	19 22 11.4	-0.8
SFJD				pmax	pmax		
	comp=Z,345nm,1.2s						
SFJD	Kangerlussuaq	15.82	337	P	P	19 22 11.4	-0.8
SFJD				IAmb	IAmb	19 22 18.9	
	comp=Z,345nm,1.1s						
PCALD	Caldeiras da R	16.74	153	*eP*	Pn	19 22 20.2	0.0
	comp=Z,56nm,0.5s						
CMLA	Cha da Macela	16.76	153	P	Pn	19 22 20.6	+0.1
CMLA				pmax	pmax		
	comp=Z,289nm,1.3s						
CMLA	Cha da Macela	16.76	153	Pn	Pn	19 22 20.6	+0.1
BART	Pico Bartolome	16.85	152	*eP*	Pn	19 22 22.7	+1.0
	comp=Z,169nm,1.5s						
DSB	Dublin	17.16	78	Pn	Pn	19 22 24.7	-0.7
PSMA	Santa Maria	17.59	153	*eP*	Pn	19 22 31.2	+0.3
	comp=Z,188nm,1.7s						
PSMN	Pico do Norte,	17.60	153	*eP*	Pn	19 22 30.9	-0.1
	comp=Z,125nm,1.6s						
ILULI	Ilulissat	17.76	341	*i* P	P	19 22 33.9	+0.3
ILULI	Ilulissat	17.76

HAL IAmb IAmb 19 23 09.4
comp=Z,352nm,1.9s
HAL IAMs_20 IAMs_20 19 30 25.9
comp=Z,8μm,19.0s
LMN Caledonia Moun 20.52 261 P **P 19 23 02.7 -1.4**
BATG Bathurst New B 20.57 266 P **P 19 23 03.5 -1.0**
BATG IAmb IAmb 19 23 09.6
comp=Z,467nm,1.7s
PGAV Gavieira, Arco 21.15 111⇑ *iP* **P 19 23 12.1 +1.2**
comp=Z,192nm,1.9s
PGAV *e*S Sn 19 27 10.5 -2.2
PGAV *e*LR LR 19 28 10.8
comp=Z,7μm,20.0s
PCAB Cabril 21.45 111 *e*P **P 19 23 16.5 +2.4**
comp=Z,163nm,1.6s
JMIC Jan Mayen 21.45 24 LR LR 19 29 22.0
comp=Z,5μm,20.3s,baz=229,slow=31
D63A Stockholm 21.91 267 P **P 19 23 16.9 -2.0**
baz=62,SNR=17
PVRL Vila Real 21.91 112 *e*P **P 19 23 19.4 +0.3**
comp=Z,145nm,1.9s
PQI Presque Isle 22.03 266 P **P 19 23 20.2 -0.1**
E64A Bridgewater 22.04 265 P **P 19 23 18.4 -2.0**
baz=60,SNR=14
PBRG Braganca 22.11 109⇑ *iP* **P 19 23 22.2 +0.9**
comp=Z,210nm,1.7s
GGN Saint George 22.13 262 P **P 19 23 19.9 -1.3**
GGN IAmb IAmb 19 23 26.5
comp=Z,391nm,1.6s
PVIS Viseu 22.19 113 *e*P **P 19 23 23.6 +1.5**
comp=Z,109nm,1.6s
COI Coimbra 22.26 115 P **P 19 23 21.3 -1.4**
COI pmax pmax
comp=Z,84nm,1.2s
COI MLR MLR
comp=Z,7μm,20.0s
COI Coimbra 22.26 115 P **P 19 23 21.3 -1.4**
COI IAMs_20 IAMs_20 19 29 25.9
comp=Z,7μm,20.0s
COI Coimbra 22.26 115 *e*P **P 19 23 23.5 +0.7**
comp=Z,134nm,1.7s
PCAS Casmilo, Conde 22.32 115⇑ *iP* **P 19 23 23.9 +0.5**
comp=Z,143nm,1.7s
MVO Moncorvo 22.37 111⇑ *iP* **P 19 23 25.0 +0.9**
comp=Z,116nm,1.6s
MVO *e*S **S 19 27 32.9 +2.8**
MVO *e*LR LR 19 28 50.6
comp=Z,6μm,18.0s
E63A Oxbow 22.40 266 P **P 19 23 23.3 -0.9**
baz=60,SNR=21
E63A Oxbow 22.40 266 P **P 19 23 23.2 -0.9**
D62A Allapoint, All 22.46 268 P **P 19 23 23.5 -1.3**
baz=62,SNR=14
D62A Allapoint, All 22.46 268 P **P 19 23 24.4 -0.4**
D62A IAmb IAmb 19 23 41.0
comp=Z,486nm,1.6s
G65A Princeton 22.51 262 P **P 19 23 24.0 -1.4**
baz=58,SNR=15
G65A Princeton 22.51 262 P **P 19 23 24.1 -1.3**
PSBE So Bento 22.54 117 *e*P **P 19 23 26.3 +0.5**
comp=Z,258nm,1.5s
F64A Sherman 22.64 265 P **P 19 23 26.3 -0.5**
baz=59,SNR=7.7
F64A Sherman 22.64 265 P **P 19 23 25.0 -1.8**
F64A IAmb IAmb 19 23 36.4
comp=Z,325nm,1.8s
F64A IAMs_20 IAMs_20 19 31 17.2
comp=Z,6μm,19.0s
PMAFR Mafra 22.69 118 *e*P **P 19 23 28.6 +1.2**
comp=Z,270nm,1.7s
EMMW East Machias 22.72 261 P **P 19 23 26.5 -1.1**
EMMW IAmb IAmb 19 23 33.7
comp=Z,453nm,1.7s
FOO Floro 22.89 52 *e*P **P 19 23 30.1 +0.8**
ASK Askoy 22.92 55 *e*P **P 19 23 30.6 +1.0**
LIS Lisbon 22.93 119 *e*P **P 19 23 29.9 0.0**
LIS AMb AMB 19 23 49.1
comp=Z,218nm,1.6s
LIS *e*S **S 19 27 41.1 +1.0**
LIS Lisbon 22.93 119 *e*P **P 19 23 29.9 0.0**
LIS *e*S **S 19 27 41.1 +1.0**
LIS pmax pmax
comp=Z,218nm,1.6s
LIS Lisbon 22.93 119 *e*P **P 19 23 30.7 +0.8**
comp=Z,217nm,1.3s
E62A Clayton Lake 22.96 267 P **P 19 23 29.7 -0.5**
baz=61,SNR=13
E62A Clayton Lake 22.96 267 P **P 19 23 29.3 -0.9**
E62A IAmb IAmb 19 23 41.7
comp=Z,220nm,1.3s
KMY Karmoy 22.97 59 *e*P **P 19 23 31.0 +0.9**
BER Bergen 22.99 56 *e*P **P 19 23 31.2 +0.9**
PCBR Castelo Branco 23.03 114⇑ *iP* **P 19 23 32.2 +1.3**
comp=Z,304nm,1.6s
D61A St Aubert, Com 23.08 269 P **P 19 23 30.7 -0.7**
baz=62
PMTG Montargil 23.17 117⇑ *iP* **P 19 23 32.7 +0.3**
comp=Z,133nm,1.8s
H65A Eastbrook 23.19 262 P **P 19 23 31.8 -0.8**
baz=57
G64A Maxfield 23.20 264 P **P 19 23 31.5 -1.0**
baz=58
PMRV Marv??o 23.37 115⇑ *iP* **P 19 23 35.2 +0.8**
comp=Z,138nm,1.8s
PMRV *e*S **S 19 27 52.0 +4.6**
PMRV A A 19 30 45.0
comp=Z,6μm,20.0s
HYA Hoyanger 23.42 54 *e*P **P 19 23 34.9 +0.2**
PKME Peaks-Kenny Pk 23.51 264 P **P 19 23 34.6 -1.1**
baz=58
PKME Peaks-Kenny Pk 23.51 264 P **P 19 23 35.2 -0.5**
PKME IAmb IAmb 19 23 42.2
comp=Z,229nm,1.6s
PKME IAMs_20 IAMs_20 19 31 54.4
comp=Z,6μm,19.0s
BLS5 Blasjo 23.58 58 *e*P **P 19 23 35.1 -1.2**
F62A Pittston Farm, 23.59 266 P **P 19 23 35.6 -0.9**
baz=59,SNR=9.6
F62A Pittston Farm, 23.59 266 P **P 19 23 36.4 -0.1**
E61A Lac Etchemin 23.64 268 P **P 19 23 36.1 -0.9**
baz=60
ODD1 Odda 23.64 57 *e*P **P 19 23 37.5 +0.5**
D60A Saint Jean D'O 23.66 269 P **P 19 23 36.7 -0.5**
baz=61
PNCL Nicolau / Gran 23.71 119⇑ *iP* **P 19 23 38.6 +0.9**
comp=Z,200nm,1.9s
G63A Kingsbury 23.79 264 P **P 19 23 37.8 -0.7**
baz=58
H64A Troy 23.81 263 P **P 19 23 37.6 -1.0**
baz=57
AKN Aaknes 23.84 51⇑ *iP* **P 19 23 39.1 +0.3**
PTEO Sao Teotonio 24.03 120 *e*P **P 19 23 40.8 0.0**
comp=Z,306nm,1.7s
PMOZ Porto Moniz, M 24.04 141 A A 19 30 46.5
comp=Z,1μm,20.0s
SNART Snartemo 24.05 61 *e*P **P 19 23 41.0 +0.2**
CLF Chambon-Foret 24.07 87 P **P 19 23 41.0 0.0**
WVL Waterville 24.11 263 P **P 19 23 40.5 -1.0**
WVL IAmb IAmb 19 23 49.9
comp=Z,214nm,1.7s
WVL IAMs_20 IAMs_20 19 32 31.2
comp=Z,6μm,18.0s
MOL Molde 24.12 50 *e*P **P 19 23 41.4 0.0**
PBEJ Beja 24.12 118 *e*P **P 19 23 42.4 +0.7**
comp=Z,130nm,1.8s
PMPST Porto Santo, M 24.15 139 *e*P **P 19 23 43.6 +1.6**
F61A St Evariste 24.17 267 P **P 19 23 41.0 -1.1**
baz=60,SNR=9.2
D59A Saint-Raymond 24.17 270 P **P 19 23 41.5 -0.5**
baz=62
UCC Uccle 24.21 80 P **P 19 23 42.2 -0.1**
comp=Z,133nm,2.5s
UCC Uccle 24.21 80 P **P 19 23 42.1 -0.2**
UCC pmax pmax
comp=Z,101nm,1.2s
UCC MLR MLR
comp=Z,5μm,20.0s
UCC Uccle 24.21 80 P **P 19 23 42.1 -0.2**
E60A Ste Agathe de 24.24 269 P **P 19 23 42.7 0.0**
baz=60,SNR=7.4
MORF Marmelete 24.25 120 *e*P **P 19 23 42.7 -0.2**
MORF AMb AMB 19 24 02.7
comp=Z,321nm,2.0s
MORF *e*S **S 19 28 02.5 +0.9**
MORF Marmelete 24.25 120 *e*P **P 19 23 42.7 -0.2**
MORF *e*S **S 19 28 02.5 +0.9**
MORF pmax pmax
comp=Z,321nm,2.0s
MORF Marmelete 24.25 120⇑ *iP* **P 19 23 43.7 +0.8**
comp=Z,319nm,1.7s
SNF Seneffe 24.27 80 P **P 19 23 43.0 +0.1**
comp=Z,126nm,2.5s
G62A West of Eustis 24.28 265 P **P 19 23 42.0 -1.1**
baz=58
G62A West of Eustis 24.28 265 P **P 19 23 43.4 +0.3**
G62A IAMs_20 IAMs_20 19 32 07.7
comp=Z,6μm,20.0s
H63A New Sharon 24.28 264 P **P 19 23 42.2 -0.9**
baz=57
PFVI Vila Bisbo 24.29 121 P **P 19 23 44.7 +1.5**
SNR=10
PFVI Vila Bisbo 24.29 121 P **P 19 23 42.5 -0.7**
PFVI IAmb IAmb 19 24 01.4
comp=Z,153nm,1.3s
PFVI Vila Bisbo 24.29 121 *e*P **P 19 23 43.3 +0.1**
comp=Z,282nm,1.7s
PCVE Castro Verde 24.32 119 *e*P **P 19 23 43.5 0.0**
comp=Z,288nm,1.6s
CHGQ Chibougamau 24.44 278 P **P 19 23 43.9 -0.6**
baz=67
I64A Boothbay 24.45 262 P **P 19 23 44.3 -0.3**
baz=56
SKAR Skarslia 24.45 55 *e*P **P 19 23 45.2 +0.6**
LATQ La Tuque 24.56 272 P **P 19 23 45.0 -0.6**
baz=62
LATQ La Tuque 24.56 272 P **P 19 23 45.0 -0.6**
DOU Dourbes 24.61 81⇑ P **P 19 23 46.2 +0.3**
comp=Z,72nm,2.7s
BMRD Maredsous 24.63 80⇑ P **P 19 23 46.5 +0.3**
PVAQ Vaqueiros 24.66 119 P **P 19 23 47.9 +1.3**
SNR=14
PVAQ Vaqueiros 24.66 119 P **P 19 23 46.0 -0.6**
PVAQ Vaqueiros 24.66 119 *e*P **P 19 23 45.8 -0.8**
comp=Z,148nm,1.7s
PVAQ *e*LR LR 19 29 55.5
comp=Z,2μm,20.0s
PBDV Barranco-do-Ve 24.67 119 *e*P **P 19 23 46.6 -0.1**
comp=Z,234nm,1.6s
F60A Warwick 24.75 268 P **P 19 23 46.7 -0.6**
baz=60,SNR=6.0
D58A Chemin du LacG 24.76 271 P **P 19 23 46.6 -0.8**
baz=62
BGES Gesves 24.79 80 P **P 19 23 47.7 0.0**
DOMB Dombas 24.81 51 *e*P **P 19 23 48.7 +0.9**
E59A St. Maurice 24.83 270 P **P 19 23 47.4 -0.6**
baz=61
G61A St-Isidore-de- 24.85 266 P **P 19 23 47.6 -0.6**
baz=58,SNR=5.9
BCLA Clavier 24.90 80 P **P 19 23 48.5 -0.2**
I63A Otisfield 24.95 263 P **P 19 23 47.8 -1.3**
baz=56
I63A Otisfield 24.95 263 P **P 19 23 49.8 +0.7**
I63A IAmb IAmb 19 24 11.5
comp=Z,176nm,1.9s
I63A IAMs_20 IAMs_20 19 32 56.3
comp=Z,5μm,18.0s
RCHB Rochefort 24.96 80⇑ P **P 19 23 49.5 +0.4**
PAB San Pablo 24.98 111 P **P 19 23 49.3 -0.2**
PAB pmax pmax
comp=Z,66nm,1.4s
PAB MLR MLR
comp=Z,6μm,20.0s
PAB San Pablo 24.98 111 P **P 19 23 49.2 -0.2**
PAB San Pablo 24.98 111 IAMs_20 IAMs_20 19 31 19.7
comp=Z,6μm,20.0s
BEBN Eben Emael 24.99 79 P **P 19 23 49.6 +0.2**
BSTI Sart Tilman 25.00 79⇑ P **P 19 23 49.9 +0.3**
comp=Z,28nm,2.7s
H62A Milan 25.00 265 P **P 19 23 48.0 -1.6**
baz=57
H62A Milan 25.00 265 P **P 19 23 50.1 +0.5**
H62A IAMs_20 IAMs_20 19 32 49.8
comp=Z,7μm,20.0s
ES16 SONSECA Array 25.08 110 IAMs_20 IAMs_20 19 31 33.5
comp=Z,7μm,18.0s
ES17 SONSECA Array 25.08 110 IAMs_20 IAMs_20 19 31 33.6
comp=Z,7μm,18.0s
ES18 SONSECA Array 25.09 110 IAMs_20 IAMs_20 19 31 33.8
comp=Z,6μm,18.0s
ES15 SONSECA Array 25.09 110 IAMs_20 IAMs_20 19 31 33.8
comp=Z,7μm,18.0s
UCM Universidad Co 25.09 108⇑ *iP* **P 19 23 49.9 -0.6**
UCM *e*S **S 19 28 18.9 +3.7**
ES07 SONSECA Array 25.10 110 IAMs_20 IAMs_20 19 31 35.1
comp=Z,6μm,18.0s
ESBB Sonseca Array 25.11 110 P **P 19 23 49.9 -0.7**
ESBB IAMs_20 IAMs_20 19 31 25.2
comp=Z,6μm,20.0s
ESDC Sonseca Array 25.11 110 P **P 19 23 50.9 +0.2**
comp=Z,24nm,1.0s,baz=312,slow=7.9,SNR=44
ESDC PcP **PcP 19 27 24.9 +0.2**
comp=Z,1.0nm,0.6s,baz=321,slow=2.7,SNR=6.4
ESDC LR LR 19 31 54.4
comp=Z,6μm,18.1s,baz=310,slow=32
ESDC Sonseca Array 25.11 110 P **P 19 23 49.1 -1.5**
ES14 SONSECA Array 25.11 110 IAMs_20 IAMs_20 19 31 34.2
comp=Z,6μm,18.0s
ES06 SONSECA Array 25.11 110 IAMs_20 IAMs_20 19 31 34.3
comp=Z,7μm,18.0s
ES08 SONSECA Array 25.11 110 IAMs_20 IAMs_20 19 31 25.4
comp=Z,6μm,19.0s
ES05 SONSECA Array 25.12 110 IAMs_20 IAMs_20 19 31 25.5
comp=Z,6μm,19.0s
ES01 SONSECA Array 25.12 110 IAMs_20 IAMs_20 19 31 25.5
comp=Z,6μm,19.0s
ES02 SONSECA Array 25.12 110 IAMs_20 IAMs_20 19 31 25.6
comp=Z,5μm,19.0s
ES13 SONSECA Array 25.12 110 IAMs_20 IAMs_20 19 31 25.6
comp=Z,6μm,19.0s
ES19 SONSECA Array 25.12 110 IAMs_20 IAMs_20 19 31 34.7
comp=Z,6μm,18.0s
ES03 SONSECA Array 25.13 110 IAMs_20 IAMs_20 19 31 34.8
comp=Z,6μm,18.0s
ES04 SONSECA Array 25.13 110 IAMs_20 IAMs_20 19 31 34.8
comp=Z,6μm,18.0s
ES09 SONSECA Array 25.14 110 IAMs_20 IAMs_20 19 31 36.1
comp=Z,6μm,18.0s
ES12 SONSECA Array 25.14 110 IAMs_20 IAMs_20 19 31 44.1
comp=Z,5μm,19.0s
ES11 SONSECA Array 25.15 110 IAMs_20 IAMs_20 19 31 35.3
comp=Z,6μm,18.0s
ES10 SONSECA Array 25.15 110 IAMs_20 IAMs_20 19 32 09.2
comp=Z,6μm,18.0s
KONO Kongsberg 25.16 57 *c iP* **P 19 23 51.1 +0.2**
KONO pmax pmax
comp=Z,110nm,2.5s
KONO Kongsberg 25.16 57 P **P 19 23 51.1 +0.2**
KONO IAmb IAmb 19 24 03.8
comp=Z,116nm,1.4s
KONO Kongsberg 25.16 57 *e*P **P 19 23 51.5 +0.6**
MEM Membach 25.25 79 P **P 19 23 51.8 0.0**
MOQ Mont Orford 25.27 267 P **P 19 23 51.7 -0.4**
F59A Saint Guilaume 25.31 269 P **P 19 23 51.4 -0.9**
baz=59
BTNL Ternell 25.33 79⇑ P **P 19 23 52.8 +0.2**
E58A La Victoria 25.34 270 P **P 19 23 52.3 -0.4**
baz=60,SNR=11
BHOU Houvegnez 25.34 80⇑ P **P 19 23 53.4 +0.7**
MUD Monsted U'grnd 25.39 65 *i* P **P 19 23 53.3 +0.3**
comp=Z,163nm,1.4s
comp=Z,5μm,18.0s
MUD Monsted U'grnd 25.39 65 *i* P **P 19 23 53.3 +0.3**
MUD pmax pmax
comp=Z,160nm,1.4s
MUD MLR MLR
comp=Z,5μm,18.0s
TBLU Trondheim 25.39 49 *e*P **P 19 23 54.7 +1.8**
D57A Chemin Vers le 25.40 272 P **P 19 23 52.8 -0.4**
baz=62
G60A Masonville 25.43 267 P **P 19 23 53.5 0.0**
baz=58,SNR=9.5
H61A Lyndonville 25.49 265 P **P 19 23 54.3 +0.3**
baz=57
I62A Tamworth 25.50 263 P **P 19 23 53.6 -0.5**
baz=56
I62A Tamworth 25.50 263 P **P 19 23 54.3 +0.2**
I62A IAmb IAmb 19 24 02.6
comp=Z,278nm,1.9s
I62A IAMs_20 IAMs_20 19 33 13.9
comp=Z,5μm,18.0s
NC204 NORSAR Array S 25.63 53 P **P 19 23 54.2 -1.0**
NC204 IAmb IAmb 19 24 07.6
comp=Z,100nm,1.1s
LBNH Lisbon 25.65 265 P **P 19 23 55.7 +0.2**
LBNH pmax pmax
comp=Z,220nm,2.0s
LBNH MLR MLR
comp=Z,7μm,18.0s
LBNH Lisbon 25.65 265 P **P 19 23 55.5 0.0**
baz=56
LBNH Lisbon 25.65 265 P **P 19 23 55.6 +0.2**
LBNH IAmb IAmb 19 24 34.4
comp=Z,220nm,1.9s
LBNH IAMs_20 IAMs_20 19 33 26.8
comp=Z,7μm,18.0s
NBO00 NORSAR Array S 25.65 54 P **P 19 23 55.5 +0.1**
NBO00 IAmb IAmb 19 24 08.4
comp=Z,174nm,1.1s
J63A Strafford 25.68 262 P **P 19 23 55.8 +0.1**
baz=55
IBBN Ibbenburen 25.68 74 *e*P **P 19 23 56.5 +0.9**
comp=Z,703nm,2.0s,baz=295,slow=8.9
BUG Bochum--Univer 25.69 77 *e*P **P 19 23 56.4 +0.6**
comp=Z,454nm,1.9s,baz=295,slow=8.9
WLF Walferdange 25.70 81⇑ P **P 19 23 57.6 +1.7**
comp=Z,83nm,1.9s
WLF Walferdange 25.70 81 P **P 19 23 56.9 +1.0**
WLF pmax pmax
comp=Z,216nm,1.6s
WLF MLR MLR
comp=Z,9μm,20.0s
WLF Walferdange 25.70 81 *e*P **P 19 23 57.4 +1.5**
comp=Z,220nm,1.6s,baz=295,slow=8.9
WLF Walferdange 25.70 81 P **P 19 23 56.9 +1.0**
WLF IAmb IAmb 19 24 09.9
comp=Z,216nm,1.6s
WLF IAMs_20 IAMs_20 19 32 56.8
comp=Z,9μm,20.0s
NAO01 NORSAR Array S 25.71 54 P **P 19 23 55.8 -0.2**
NAO01 IAmb IAmb 19 24 08.5
comp=Z,191nm,1.3s
NAO01 NORSAR Array S 25.71 54 *e*P **P 19 23 55.7 -0.2**
E57A Chemin Saint G 25.85 271 P **P 19 23 56.9 -0.4**
baz=60,SNR=7.8
NB2 NORSAR Subarra 25.86 54 P **P 19 23 57.4 +0.1**
comp=Z,198nm,2.5s,baz=274,slow=10
NB2 NORSAR Subarra 25.86 54 P **P 19 23 57.4 +0.1**
baz=274,slow=10
NOA NORSAR Array B 25.86 54 P **P 19 23 57.1 -0.2**
comp=Z,11nm,0.8s,baz=276,slow=10.0,SNR=22
NOA LR LR 19 32 58.6
comp=Z,4μm,19.0s,baz=275,slow=34
NB201 NORSAR Array S 25.90 54 P **P 19 23 57.5 -0.2**
NB201 IAmb IAmb 19 24 10.9
comp=Z,164nm,1.2s
NB201 NORSAR Array S 25.90 54 *e*P **P 19 23 58.2 +0.5**
AHRW Bad Neuenahr-A 25.91 79 *e*P **P 19 23 58.7 +1.0**
comp=Z,131nm,1.5s,baz=295,slow=8.9
D56A ZEC Mazanza, M 25.91 273 P **P 19 23 57.7 -0.1**
baz=62,SNR=6.6
FFD Franklin Falls 25.91 263 P **P 19 23 58.7 +0.8**
FFD IAmb IAmb 19 24 06.9
comp=Z,269nm,1.7s
F58A St-Lin Laurent 25.92 269 P **P 19 23 56.5 -1.4**
baz=60
NC303 NORSAR Array S 25.93 53 P **P 19 23 57.4 -0.4**
H60A Morristown 25.93 266 P **P 19 23 56.7 -1.4**
baz=57
G59A Clarenceville 25.95 267 P **P 19 23 58.5 +0.4**
baz=58,SNR=9.8
I61A Oroboro, Fairl 25.99 264 P **P 19 23 58.3 -0.2**
baz=56
NC602 NORSAR Array S 26.04 54 P **P 19 23 59.3 +0.4**
VT1 Waterbury 26.09 266 P **P 19 23 60.0 +0.4**
VT1 IAmb IAmb 19 24 24.8
comp=Z,226nm,2.0s
NC405 NORSAR Array S 26.10 54 P **P 19 23 59.5 +0.1**
J62A Henniker 26.15 263 P **P 19 23 59.5 -0.6**
baz=55
HNH Hanover 26.16 264 P **P 19 23 59.9 -0.2**
HNH IAmb IAmb 19 24 21.4
comp=Z,200nm,1.9s
HNH IAMs_20 IAMs_20 19 33 34.4
comp=Z,5μm,19.0s
SFS San Fernando 26.17 118 P **P 19 24 00.6 +0.4**
SFS pmax pmax
comp=Z,157nm,1.4s
SFS MLR MLR
comp=Z,2μm,18.0s
SFS San Fernando 26.17 118 *e*P **P 19 23 59.6 -0.6**
SFS San Fernando 26.17 118 P **P 19 24 00.6 +0.4**
SFS IAmb IAmb 19 24 20.4
comp=Z,157nm,1.4s
TRQ Mont Tremblant 26.19 271 P **P 19 24 00.4 -0.1**
BCX Boston College 26.29 260 P **P 19 24 01.2 -0.1**
BCX IAmb IAmb 19 24 05.9
comp=Z,188nm,1.9s
BCX IAMs_20 IAMs_20 19 34 54.9
comp=Z,6μm,18.0s
K63A Dunstable 26.29 261 P **P 19 24 00.9 -0.4**
baz=54
E56A St. Veronique 26.32 272 P **P 19 24 01.0 -0.5**
baz=61
FRNY Flat Rock 26.32 267 P **P 19 24 01.5 -0.1**
L64A Middleborough 26.34 259 P **P 19 24 01.1 -0.6**
baz=52
LSQQ Lebel-sur-Quev 26.34 278 P **P 19 24 01.0 -0.7**
baz=65
WES Weston 26.35 261 P **P 19 24 02.2 +0.4**
WES pmax pmax
comp=Z,224nm,1.9s
WES MLR MLR
comp=Z,4μm,20.0s
WES Weston 26.35 261 P **P 19 24 02.1 +0.4**
WES IAmb IAmb 19 24 30.4
comp=Z,224nm,1.9s
D55A Sainte-Anne-du 26.35 273 P **P 19 24 01.4 -0.4**
baz=62,SNR=12
HRV Adam Dziewonsk 26.42 261 P **P 19 24 03.5 +1.0**
HRV pmax pmax
comp=Z,160nm,1.6s
HRV MLR MLR
comp=Z,5μm,20.0s
HRV Adam Dziewonsk 26.42 261 P **P 19 24 03.5 +1.0**
HRV IAmb IAmb 19 24 18.6
comp=Z,160nm,1.6s
HRV Adam Dziewonsk 26.42 261 IAMs_20 IAMs_20 19 33 52.3
comp=Z,5μm,20.0s
G58A Ormstown 26.44 268 P **P 19 24 02.4 -0.1**
baz=58,SNR=10
MATQ Matagami 26.44 280 P **P 19 24 02.2 -0.3**
baz=66
M65A Busby, Falmout 26.45 258 IAMs_20 IAMs_20 19 33 55.2
comp=Z,7μm,20.0s
H59A Cadyville 26.48 267 P **P 19 24 01.9 -1.2**
baz=57
J61A Chester 26.52 264 P **P 19 24 02.4 -1.0**
baz=55
BSEG Bad Segeberg 26.64 70 *e*P **P 19 24 04.8 +0.4**
comp=Z,640nm,2.2s,baz=295,slow=8.9
I60A Shoreham 26.68 265 P **P 19 24 03.7 -1.1**
baz=56
TULEG Thule 26.70 343 P **P 19 24 04.2 -0.4**
K62A Royalston 26.73 262 P **P 19 24 04.1 -1.1**
baz=54
K62A Royalston 26.73 262 P **P 19 24 06.0 +0.7**
K62A IAmb IAmb 19 24 11.5
comp=Z,166nm,1.8s
BRYW Bryant College 26.76 260 P **P 19 24 04.7 -0.8**
BRYW IAmb IAmb 19 24 18.3
comp=Z,213nm,2.0s
BRYW IAMs_20 IAMs_20 19 34 37.4
comp=Z,5μm,18.0s
SSB Saint Sauveur 26.77 91 P **P 19 24 06.2 +0.5**
SSB pmax pmax
comp=Z,69nm,1.6s
SSB MLR MLR
comp=Z,4μm,20.0s
SSB Saint Sauveur 26.77 91 P **P 19 24 06.2 +0.5**
M64A Tiverton 26.79 259 P **P 19 24 05.1 -0.7**
baz=52
L63A North Scituate 26.84 260 P **P 19 24 05.7 -0.5**
baz=52
H58A Gabriels 26.90 267 P **P 19 24 06.4 -0.4**
baz=57
EMAL Malaga-Limoner 26.91 115⇑ *iP* **P 19 24 07.5 +0.6**
EMAL *e*S **S 19 28 39.0 -4.8**
ECH Echery 26.92 83 P **P 19 24 07.5 +0.5**
ECH pmax pmax
comp=Z,218nm,1.8s

ECH MLR MLR
comp=Z,9µm,18.0s
ECH Echery 26.92 83 P **P 19 24 07.5 +0.5**
ECH IAmb IAmb 19 24 17.6
comp=Z,218nm,1.8s
ECH IAMs_20 IAMs_20 19 34 04.7
comp=Z,9µm,18.0s
NRDL Niedersach Rie 26.98 73 *e*P **P 19 24 08.0 +0.7**
comp=Z,378nm,1.8s,baz=295,slow=8.9
G57A Newington 27.02 269 P **P 19 24 07.4 -0.5**
baz=58
QUA2 Belchertown 27.03 261 P **P 19 24 08.5 +0.6**
QUA2 IAmb IAmb 19 24 13.4
comp=Z,199nm,1.8s
QUA2 IAMs_20 IAMs_20 19 34 19.4
comp=Z,4µm,18.0s
VLDQ Val d'Or 27.04 277 P **P 19 24 09.1 +1.2**
VLDQ IAMs_20 IAMs_20 19 33 25.6
comp=Z,5µm,22.0s
LONY Lake Ozonia 27.04 268 P **P 19 24 07.8 -0.2**
baz=57
LONY Lake Ozonia 27.04 268 P **P 19 24 07.9 -0.2**
LONY IAMs_20 IAMs_20 19 33 41.6
comp=Z,5µm,20.0s
CEU Ceuta 27.04 118 *e*P **P 19 24 08.1 0.0**
I59A Olmsteadville 27.06 266 P **P 19 24 08.2 0.0**
baz=56
J60A Lant Hill Farm 27.10 264 P **P 19 24 08.5 -0.1**
baz=55
L61B Northampton 27.12 262 P **P 19 24 08.7 -0.1**
baz=54
ORIO Orleans, Innes 27.16 270 P **P 19 24 08.4 -0.6**
baz=59
ORIO Orleans, Innes 27.16 270 P **P 19 24 09.6 +0.6**
HFS Hagfors 27.16 56 P **P 19 24 08.3 -0.7**
comp=Z,6.1nm,0.7s,baz=224,slow=4.1,SNR=6.8
HFS LR LR 19 33 29.6
comp=Z,5µm,20.0s,baz=283,slow=33
ACCN Adirondack Com 27.17 265 P **P 19 24 10.3 +1.1**
ACCN IAMs_20 IAMs_20 19 34 30.2
comp=Z,6µm,18.0s
NCB Newcomb 27.17 266 P **P 19 24 09.5 +0.2**
LOF Lofoten 27.22 38 *e*P **P 19 24 09.3 -0.1**
GTTG Gottingen 27.23 75 *e*P **P 19 24 10.8 +1.1**
comp=Z,351nm,1.8s,baz=295,slow=8.9
K61A Williamstown 27.34 263 P **P 19 24 10.7 -0.1**
baz=54
COP Copenhagen 27.34 65 *i* P **P 19 24 10.3 -0.3**
comp=Z,4µm,17.0s
COP Copenhagen 27.34 65 *e*P **P 19 24 10.3 -0.3**
COP MLR MLR
comp=Z,4µm,17.0s
MOR8 Moi Rana 27.35 42 *e*P **P 19 24 12.4 +1.8**
CLZ Clausthal 27.36 74 *e*P **P 19 24 11.8 +0.9**
comp=Z,183nm,1.7s,baz=295,slow=8.9
M63A Gales Ferry 27.38 260 P **P 19 24 10.9 -0.2**
baz=52
ASSE Asse, Remlinge 27.43 73 *e*P **P 19 24 12.1 +0.7**
comp=Z,103nm,1.7s,baz=295,slow=8.9
F55A Otter Lake 27.46 271 P **P 19 24 11.8 -0.1**
baz=59
UBBA Unterbreizbach 27.52 76 *e*P **P 19 24 12.6 +0.4**
comp=Z,159nm,1.9s,baz=295,slow=8.9
TRY Troy 27.55 263 P **P 19 24 13.2 +0.6**
TRY IAmb IAmb 19 24 24.3
comp=Z,159nm,1.8s
TRY IAMs_20 IAMs_20 19 34 08.1
comp=Z,5µm,21.0s
BFO Black Forest 27.57 82 P **P 19 24 12.8 0.0**
BFO pmax pmax
comp=Z,118nm,1.7s
BFO MLR MLR
comp=Z,13µm,18.0s
BFO Black Forest 27.57 82 *e*P **P 19 24 13.5 +0.7**
comp=Z,118nm,1.7s,baz=295,slow=8.9
BFO Black Forest 27.57 82 P **P 19 24 12.8 0.0**
H57A Richville 27.61 268 P **P 19 24 13.2 +0.1**
baz=57
J59A Piesco 27.63 266 P **P 19 24 13.7 +0.3**
baz=56
J59A Piesco 27.63 266 P **P 19 24 13.7 +0.3**
J59A IAmb IAmb 19 24 21.6
comp=Z,168nm,1.7s
RTC Rabat Centre 27.74 122 P **P 19 24 13.3 -1.1**
I58A Old Forge 27.78 266 P **P 19 24 14.7 -0.1**
baz=56
FAUS Fauske 27.79 40 *e*P **P 19 24 15.1 +0.6**
L61A Hillsdale 1, H 27.80 262 P **P 19 24 14.8 0.0**
baz=53
STEI Steigen 27.83 39 *e*P **P 19 24 15.5 +0.7**
M62A Hamden 27.86 261 P **P 19 24 16.0 +0.6**
baz=52
SENIN Lac Senin/Sane 27.88 87 P **P 19 24 16.0 +0.2**
STU Stuttgart 27.89 81 P **P 19 24 15.6 0.0**
STU pmax pmax
comp=Z,34nm,0.9s
STU MLR MLR
comp=Z,6µm,20.0s
STU Stuttgart 27.89 81 *e*P **P 19 24 17.3 +1.7**
comp=Z,91nm,1.5s,baz=295,slow=8.9
STU Stuttgart 27.89 81 P **P 19 24 15.6 0.0**
STU IAMs_20 IAMs_20 19 34 04.3
comp=Z,6µm,20.0s
YLE Yale 27.96 260 P **P 19 24 14.9 -1.3**
YLE IAmb IAmb 19 24 50.3
comp=Z,166nm,1.6s
YLE IAMs_20 IAMs_20 19 35 53.1
comp=Z,6µm,18.0s
G55A Calabogie 27.99 271 P **P 19 24 16.9 +0.4**
baz=58
KSCT Kent School, K 28.03 262 P **P 19 24 16.2 -0.8**
KSCT IAmb IAmb 19 24 23.9
comp=Z,126nm,1.8s
I57A Carthage 28.06 267 P **P 19 24 17.8 +0.6**
baz=56
H56A Elgin 28.06 269 P **P 19 24 17.6 +0.4**
baz=57
RGN Rugen 28.15 67 *e*P **P 19 24 17.5 -0.4**
RGN Rugen 28.15 67 P **P 19 24 18.1 +0.3**
RGN IAmb IAmb 19 24 25.7
comp=Z,194nm,1.4s
RGN IAMs_20 IAMs_20 19 34 50.1
comp=Z,7µm,20.0s
J58A Remsen 28.15 266 P **P 19 24 18.3 +0.3**
baz=55
J58A Remsen 28.15 266 P **P 19 24 17.2 -0.9**
J58A IAMs_20 IAMs_20 19 34 45.2
comp=Z,5µm,19.0s
PVLZ Peæn de 28.16 117 *e*P **P 19 24 16.8 -1.3**
BNI Bardonecchia 28.18 90 P **P 19 24 18.4 0.0**
BNI pmax pmax
comp=Z,53nm,1.5s
BNI MLR MLR
comp=Z,6µm,20.0s
BNI Bardonecchia 28.18 90 P **P 19 24 18.4 0.0**
BNI IAMs_20 IAMs_20 19 33 57.0
comp=Z,6µm,20.0s
CART Cartagena 28.22 110 *e*P **P 19 24 20.0 +1.3**
CART *e*S **S 19 29 02.1 -2.4**
CART Cartagena 28.22 110 IAMs_20 IAMs_20 19 33 57.3
comp=Z,4µm,18.0s
K59A Cooperstown 28.23 265 P **P 19 24 18.5 -0.3**
baz=54
WSPT Westport, CT 28.28 260 P **P 19 24 17.8 -1.4**
PLVO Plevna 28.31 270 P **P 19 24 19.0 -0.4**
PLVO IAMs_20 IAMs_20 19 34 28.3
comp=Z,6µm,18.0s
L60A Shokan 28.32 263 P **P 19 24 20.2 +0.7**
baz=53
NEUB Neuenburg 28.41 75 *e*P **P 19 24 21.1 +0.9**
comp=Z,299nm,1.8s,baz=295,slow=8.9
ALGO Algonquin Park 28.43 273 P **P 19 24 20.9 +0.5**
baz=60
M61A Granite Spring 28.45 261 P **P 19 24 21.3 +0.6**
baz=52
MOX Moxa 28.53 76 *e*P **P 19 24 21.0 -0.3**
comp=Z,153nm,1.9s,baz=295,slow=8.9
MOX *e*L L 19 34 22.1
comp=Z,5µm,21.4s
J57A Williamstown 28.55 267 P **P 19 24 21.6 +0.1**
baz=56
J57A Williamstown 28.55 267 P **P 19 24 21.7 +0.1**
J57A IAmb IAmb 19 24 34.2
comp=Z,174nm,2.0s
J57A IAMs_20 IAMs_20 19 34 47.8
comp=Z,6µm,19.0s

H55A Tweed 28.64 270 P **P 19 24 22.8 +0.5**
baz=57
L59A Walton 28.69 264 P **P 19 24 23.1 +0.3**
baz=54
L59A Walton 28.69 264 P **P 19 24 22.7 -0.2**
L59A IAmb IAmb 19 24 36.0
comp=Z,156nm,1.6s
L59A IAMs_20 IAMs_20 19 34 42.3
comp=Z,5µm,20.0s
GRA1 Grafenberg Arr 28.69 78 P **P 19 24 22.8 0.0**
GRF Grafenberg Arr 28.69 78 P **P 19 24 22.8 0.0**
GRF pmax pmax
comp=Z,350nm,1.8s
GRF MLR MLR
comp=Z,4µm,18.0s
GRF Grafenberg Arr 28.69 78 *e*P **P 19 24 24.1 +1.2**
comp=Z,384nm,1.8s,baz=295,slow=8.9
GRF *e*L L 19 34 04.8
comp=Z,3µm,21.7s
K58A Earlville 28.71 265 P **P 19 24 23.5 +0.5**
baz=54
K58A Earlville 28.71 265 P **P 19 24 20.5 -2.6**
K58A IAmb IAmb 19 24 30.4
comp=Z,156nm,1.9s
PAL Palisades 28.73 261 P **P 19 24 24.0 +0.8**
baz=52
G54A Lake Saint Pet 28.74 272 P **P 19 24 23.9 +0.7**
baz=59
MELI Melilla 28.80 115 ⇑ *i*P **P 19 24 23.7 -0.1**
TRNY Table Rock, Ra 28.83 261 P **P 19 24 23.9 -0.2**
TRNY IAmb IAmb 19 24 26.9
comp=Z,163nm,2.0s
PECO Prince Edward 28.86 268 P **P 19 24 23.9 -0.4**
PECO IAmb IAmb 19 24 53.8
comp=Z,129nm,2.0s
PECO IAMs_20 IAMs_20 19 34 47.5
comp=Z,6µm,20.0s
BSD Bornholm Skovb 28.86 66 *i* P **P 19 24 24.2 0.0**
comp=Z,7µm,18.0s
BSD Bornholm Skovb 28.86 66 *i* P **P 19 24 24.2 0.0**
BSD MLR MLR
comp=Z,7µm,18.0s
CPNY Central Park 28.89 260 P **P 19 24 25.4 +0.8**
CPNY IAMs_20 IAMs_20 19 35 43.7
comp=Z,4µm,18.0s
PLN Plauen 28.91 76 *e*P **P 19 24 25.6 +0.9**
comp=Z,232nm,1.9s,baz=295,slow=8.9
DELO Deloro Mine 28.92 270 P **P 19 24 25.4 +0.6**
DELO IAMs_20 IAMs_20 19 34 57.4
comp=Z,6µm,18.0s
UBR Ueberruh 28.93 82 *e*P **P 19 24 26.7 +1.7**
comp=Z,224nm,2.1s,baz=295,slow=8.9
DAVA Damuels 28.98 83 *e*pP **P 19 24 26.6 +1.1**
comp=Z,9.6nm,1.1s
TUE Stuetta 29.05 85 P **P 19 24 27.6 +1.3**
TUE IAMs_20 IAMs_20 19 35 23.2
comp=Z,5µm,18.0s
GUNZ Gunzen 29.07 76 *e*P **P 19 24 26.9 +0.8**
comp=Z,153nm,1.6s,baz=295,slow=8.9
CLL Collm 29.08 74 ⇑ *i*P **P 19 24 26.7 +0.5**
comp=Z,33nm,1.0s
CLL *i* sP **pwP 19 24 32.4 +1.3**
comp=Z,180nm,1.8s
CLL *i* 19 24 36.3
CLL *e*PP **PnPn 19 25 15.0 -3.1**
CLL *e*PPP PPP 19 25 25.0
CLL *e*S **S 19 29 14.0 -3.8**
CLL *e* 19 31 22.0
CLL Lmax 19 36 00.0
CLL Collm 29.08 74 ⇑ *i*P **P 19 24 26.7 +0.5**
CLL *i* 19 24 32.4
CLL *e*S **S 19 29 14.0 -3.8**
CLL pmax pmax
comp=Z,33nm,1.0s
CLL Collm 29.08 74 *e*P **P 19 24 26.7 +0.5**
comp=Z,143nm,1.6s,baz=295,slow=8.9
CLL Collm 29.08 74 P **P 19 24 26.0 -0.2**
CLL IAmb IAmb 19 24 39.2
comp=Z,148nm,1.6s
CLL IAMs_20 IAMs_20 19 35 22.1
comp=Z,4µm,19.0s
RUE Ruedersdorf 29.09 71 *e*P **P 19 24 26.5 +0.3**
MANZ Manzenberg 29.09 77 *e*P **P 19 24 27.1 +0.7**
comp=Z,106nm,1.9s,baz=295,slow=8.9
ODNJ Ogdensburg 29.09 262 P **P 19 24 26.8 +0.4**
NOR Nord 29.12 5 *i* P **P 19 24 27.3 +1.1**
comp=Z,5µm,16.0s
NOR Nord 29.12 5 *i* P **P 19 24 27.3 +1.1**
NOR MLR MLR
comp=Z,5µm,16.0s
I55A Frankford 29.12 270 P **P 19 24 27.4 +0.8**
baz=57
TANN Tannenbergstha 29.12 76 *e*P **P 19 24 27.5 +0.9**
comp=Z,394nm,1.6s,baz=295,slow=8.9
WERN Wernitzgruen 29.12 76 *e*P **P 19 24 27.6 +1.0**
comp=Z,208nm,1.8s,baz=295,slow=8.9
J56A Wolcott 29.15 267 P **P 19 24 27.6 +0.8**
baz=55
J56A Wolcott 29.15 267 P **P 19 24 26.3 -0.6**
J56A IAMs_20 IAMs_20 19 34 56.1
comp=Z,5µm,20.0s
NKC Novy Kostel 29.19 76 *e*P **P 19 24 28.5 +1.3**
NKC *e*pP **pwP 19 24 34.1 +2.0**
NKC *e*S **S 19 29 21.3 +1.7**
NKC AMS AMS 19 35 30.0
comp=Z,8µm,17.2s
NKC Novy Kostel 29.19 76 *e*P **P 19 24 28.5 +1.3**
NKC *e* 19 24 34.1
NKC *e*S **S 19 29 21.3 +1.7**
NKC MLR MLR
comp=Z,8µm,17.2s
DAVOX Davos/Dischmat 29.22 84 P **P 19 24 28.0 +0.2**
comp=Z,7.0nm,0.8s,baz=318,slow=10,SNR=13
DAVOX LR LR 19 35 50.2
comp=Z,3µm,18.5s,baz=309,slow=36
ROTZ Rotzenmuhle 29.24 77 *e*P **P 19 24 28.6 +1.0**
comp=Z,242nm,2.1s,baz=295,slow=8.9
BINY Binghamton 29.25 265 P **P 19 24 28.2 +0.4**
baz=54
BINY Binghamton 29.25 265 P **P 19 24 27.9 +0.1**
K57A Scipio Center 29.25 266 P **P 19 24 28.0 +0.1**
baz=54
L58A Harry Jones Me 29.26 264 P **P 19 24 28.0 +0.2**
baz=54
M59A Waymart 29.31 263 P **P 19 24 28.5 +0.2**
baz=53
BRNJ Basking Ridge 29.32 261 P **P 19 24 28.7 +0.3**
BRNJ IAMs_20 IAMs_20 19 36 28.1
comp=Z,4µm,18.0s
TRO Tromso 29.35 35 *e*P **P 19 24 26.9 -1.5**
FUR Furstenfeldbru 29.40 81 *e*P **P 19 24 30.3 +1.2**
comp=Z,488nm,2.3s,baz=295,slow=8.9
RETA Reutte 29.41 82 *e*pP **P 19 24 30.2 +0.9**
comp=Z,50nm,2.5s,SNR=17
FBE Freiberg 29.44 75 *e*P **P 19 24 30.3 +0.9**
comp=Z,266nm,1.9s,baz=295,slow=8.9
H53A Bobcaygeon 29.47 271 P **P 19 24 30.3 +0.6**
baz=57
OUK Oukaimeden 29.48 127 P **P 19 24 34.0 +3.6**
SNR=5.0
OUK P **P 19 24 34.0 +3.6**
SNR=5.0
KSPA Keystone Colle 29.50 263 P **P 19 24 30.1 +0.1**
KSPA IAMs_20 IAMs_20 19 35 26.8
comp=Z,6µm,19.0s
N60A Cedar Hill Far 29.52 262 P **P 19 24 30.2 0.0**
baz=52
FUORN Ofenpass-Fuorn 29.53 84 P **P 19 24 31.6 +1.0**
FUORN IAmb IAmb 19 24 45.7
comp=Z,240nm,1.9s
FUORN IAMs_20 IAMs_20 19 34 59.1
comp=Z,4µm,21.0s
FETA Feichten 29.61 83 *e*pP **P 19 24 32.6 +1.4**
comp=Z,61nm,2.1s,SNR=18
MOTA Moosalm 29.68 82 *e*pP **P 19 24 32.7 +0.9**
comp=Z,23nm,1.2s,SNR=13
SADO Sadowa 29.70 272 P **P 19 24 32.0 +0.2**
comp=Z,18nm,1.0s,baz=68,slow=8.0,SNR=8.4
SADO LR LR 19 35 22.8
comp=Z,7µm,21.4s,baz=70,slow=34
SADO Sadowa 29.70 272 P **P 19 24 31.9 +0.1**
SADO IAmb IAmb 19 24 39.5
comp=Z,110nm,1.5s
SADO IAMs_20 IAMs_20 19 35 12.0
comp=Z,7µm,21.0s
BBSR BB Station 29.72 237 P **P 19 24 32.1 +0.2**

BBSR IAmb IAmb 19 25 26.1
comp=Z,105nm,1.7s
JBK JBK 29.72 116 P **P 19 24 33.1 +0.8**
SNR=13
JBK P **P 19 24 33.1 +0.8**
SNR=13
J55A Hilton 29.73 268 P **P 19 24 32.2 +0.2**
baz=55
J55A Hilton 29.73 268 P **P 19 24 31.9 -0.1**
J55A IAmb IAmb 19 24 38.9
comp=Z,151nm,2.0s
J55A IAMs_20 IAMs_20 19 35 14.5
comp=Z,7µm,21.0s
K56A Middlesex 29.76 267 P **P 19 24 32.3 0.0**
baz=55
BRG Berggiesshubel 29.80 74 *e*P **P 19 24 32.6 +0.1**
comp=Z,84nm,2.0s
BRG *i* 19 24 37.8
comp=Z,134nm,1.8s
BRG PP **PnPn 19 25 22.0 -5.9**
BRG S **S 19 29 24.0 -5.1**
comp=N,3µm,14.5s
comp=E,4µm,14.4s
comp=Z,7µm,14.4s
BRG Berggiesshubel 29.80 74 *e*P **P 19 24 32.6 +0.1**
BRG *i* 19 24 37.8
BRG S **S 19 29 24.0 -5.1**
BRG pmax pmax
comp=Z,84nm,2.0s
BRG pmax pmax
comp=Z,134nm,1.8s
BRG MLR MLR
comp=N,3µm,14.5s
BRG MLR MLR
comp=E,4µm,14.4s
BRG MLR MLR
comp=Z,7µm,14.4s
BRG Berggiesshubel 29.80 74 *e*P **P 19 24 33.0 +0.5**
comp=Z,134nm,1.8s,baz=295,slow=8.9
SQTA Sankt Quirin 29.80 83 *e*pP **P 19 24 33.8 +1.0**
comp=Z,18nm,0.9s,SNR=14
MDT Midelt 29.82 121 P **P 19 24 33.7 +0.7**
comp=Z,2.5nm,1.0s,baz=334,slow=9.2,SNR=9.7
MDT PcP **PcP 19 27 36.9 +0.7**
comp=Z,2.6nm,0.7s,baz=308,slow=2.9,SNR=6.2
MDT Midelt 29.82 121 P **P 19 24 35.2 +2.2**
SNR=7.1
LUPA Lehigh Univers 29.85 262 P **P 19 24 32.1 -1.0**
L57A Andrews Acres 29.88 265 P **P 19 24 33.8 +0.4**
baz=54
N59A State Game Lan 29.89 262 P **P 19 24 33.6 +0.1**
baz=52,SNR=7.6
N59A State Game Lan 29.89 262 P **P 19 24 33.9 +0.4**
N59A IAmb IAmb 19 24 46.0
comp=Z,169nm,1.7s
N59A IAMs_20 IAMs_20 19 35 58.2
comp=Z,6µm,18.0s
WET Wettzell 29.91 78 *e*P **P 19 24 34.4 +0.8**
comp=Z,196nm,2.4s,baz=295,slow=8.9
WATA Walderalm 29.97 82 *e*pP **P 19 24 35.4 +1.1**
comp=Z,37nm,1.4s
M58A Price's Panora 30.02 264 P **P 19 24 34.5 -0.2**
baz=53
O60A Telford 30.05 261 P **P 19 24 34.5 -0.3**
baz=51
P61A Hammonton 30.09 260 IAMs_20 IAMs_20 19 35 43.5
comp=Z,6µm,21.0s
MMNY Mt. Morris Dam 30.09 267 P **P 19 24 35.5 +0.2**
MMNY IAmb IAmb 19 24 43.1
comp=Z,160nm,1.8s
MMNY IAMs_20 IAMs_20 19 35 35.0
comp=Z,6µm,20.0s
MEDO Medina 30.17 268 P **P 19 24 35.7 -0.3**
MEDO IAmb IAmb 19 24 38.8
comp=Z,125nm,1.9s
MEDO IAMs_20 IAMs_20 19 35 36.2
comp=Z,6µm,20.0s
K55A Perry 30.19 267 P **P 19 24 36.0 -0.1**
baz=55
SALO Salr 30.20 86 P **P 19 24 36.9 +0.7**
SALO IAmb IAmb 19 24 49.1
comp=Z,172nm,1.8s
J54A Appleton 30.22 269 P **P 19 24 36.2 -0.1**
J54A IAmb IAmb 19 24 39.2
comp=Z,103nm,1.7s
J54A IAMs_20 IAMs_20 19 35 38.9
comp=Z,6µm,19.0s
L56A Greenwood 30.23 266 P **P 19 24 36.7 +0.2**
baz=54
L56A Greenwood 30.23 266 P **P 19 24 36.8 +0.3**
L56A IAmb IAmb 19 24 45.0
comp=Z,171nm,1.8s
L56A IAMs_20 IAMs_20 19 36 07.7
comp=Z,5µm,18.0s
OUZM OUZ 30.27 126 P **P 19 24 40.0 +3.0**
SNR=5.6
OUZM P **P 19 24 40.0 +3.0**
SNR=5.6
MSSA Maissana 30.28 89 P **P 19 24 37.1 +0.1**
MSSA IAmb IAmb 19 24 44.6
comp=Z,188nm,2.0s
PVCC Panska Ves 30.30 75 *e*P **P 19 24 38.5 +1.5**
PVCC AMS AMS 19 35 40.0
comp=Z,5µm,18.9s
PVCC Panska Ves 30.30 75 *e*P **P 19 24 38.5 +1.5**
PVCC MLR MLR
comp=Z,5µm,18.9s
PSUB Penn St. - Bra 30.32 261 P **P 19 24 36.6 -0.7**
PSUB IAMs_20 IAMs_20 19 35 29.6
comp=Z,4µm,22.0s
KHC Kasperske Hory 30.32 78 *e*P **P 19 24 37.9 +0.6**
KHC *e*x x 19 24 44.5
KHC *e*S **S 19 29 38.8 +1.3**
KHC AMS AMS 19 36 00.0
comp=Z,5µm,17.2s
KHC Kasperske Hory 30.32 78 *e*P **P 19 24 37.9 +0.6**
KHC *e* 19 24 44.5
KHC *e*S **S 19 29 38.8 +1.3**
KHC MLR MLR
comp=Z,5µm,17.2s
KHC Kasperske Hory 30.32 78 P **P 19 24 37.8 +0.6**
PBCC Pribram 30.32 76 *e*P **P 19 24 38.7 +1.4**
KBS Kingsbay 30.39 16 P **P 19 24 37.7 +0.2**
KBS pmax pmax
comp=Z,273nm,2.0s
KBS MLR MLR
comp=Z,1µm,19.0s
KBS Kingsbay 30.39 16 P **P 19 24 37.7 +0.2**
WUPA West Chester U 30.41 261 P **P 19 24 37.9 -0.1**
PRA Prague 30.42 76 *e*S **S 19 29 42.0 +3.2**
PRA AMS AMS 19 36 00.0
comp=Z,3µm,17.4s
M57A Sunshine Farm, 30.45 264 P **P 19 24 38.4 +0.1**
baz=53
M57A Sunshine Farm, 30.45 264 P **P 19 24 38.8 +0.4**
M57A IAmb IAmb 19 24 46.9
comp=Z,144nm,1.9s
M57A IAMs_20 IAMs_20 19 35 46.9
comp=Z,5µm,20.0s
ALE Alert 30.50 353 IAMs_20 IAMs_20 19 35 54.7
comp=Z,4µm,18.0s
P60A Greenville 30.50 261 P **P 19 24 38.3 -0.5**
baz=50
P60A Greenville 30.50 261 P **P 19 24 39.4 +0.6**
P60A IAMs_20 IAMs_20 19 37 19.4
comp=Z,5µm,18.0s
N58A Sunbury 30.50 263 P **P 19 24 39.5 +0.7**
baz=52
N58A Sunbury 30.50 263 P **P 19 24 39.4 +0.5**
N58A IAmb IAmb 19 24 45.2
comp=Z,231nm,1.9s
N58A IAMs_20 IAMs_20 19 36 16.4
comp=Z,6µm,18.0s
PRU Pruhonice 30.51 76 *e*P **P 19 24 40.0 +1.1**
PRU *e*S **S 19 29 39.4 -0.9**
PRU AMS AMS 19 36 10.0
comp=Z,6µm,17.3s
PRU Pruhonice 30.51 76 *e*P **P 19 24 40.0 +1.1**
PRU *e*S **S 19 29 39.4 -0.9**
PRU MLR MLR
comp=Z,6µm,17.3s
PRMA PARMA 30.52 87 P **P 19 24 37.8 -1.1**
PRMA IAmb IAmb 19 25 16.4
comp=Z,109nm,1.5s
GEC2 GERESS Array S 30.52 78 *e*P **P 19 24 40.1 +1.0**
comp=Z,115nm,1.7s,baz=295,slow=8.9

GEC2 GERESS Array S 30.52 78 P **P** **19 24 39.3 +0.2**
GEC2 IAmb IAmb 19 24 51.8
comp=Z,136nm,1.8s
GEC2 IAMs_20 IAMs_20 19 36 17.8
comp=Z,4μm,18.0s
GERES GERESS Array B 30.52 78 P **P** **19 24 39.5 +0.4**
comp=Z,7.5nm,0.9s,baz=302,slow=7.7,SNR=42
GERES LR LR 19 36 28.2
comp=Z,4μm,18.0s,baz=295,slow=36
GERES GERESS Array B 30.52 78 P **P** **19 24 38.9 -0.2**
GERES GERESS Array B 30.52 78 P **P** **19 24 38.9 -0.2**
EANR 'Ain N'Sour 30.57 110 P **P** **19 24 40.5 +0.9**
EBNR Beni Rached 30.57 109 P **P** **19 24 41.6 +2.0**
ECHA Ech Chlef 30.58 109 P **P** **19 24 42.3 +2.7**
K54A Basiliko Farm, 30.63 268 P **P** **19 24 40.0 0.0**
baz=54
CTI Castel Tesino 30.65 84 P **P** **19 24 40.4 +0.1**
CTI pmax pmax
comp=Z,42nm,1.3s
CTI MLR MLR
comp=Z,4μm,22.0s
CTI Castel Tesino 30.65 84 P **P** **19 24 40.4 +0.1**
GOPC GO Pecny, Ondr 30.69 76 *eP* **P** **19 24 41.7 +1.2**
GOPC *ex* x 19 24 46.9
GOPC AMS AMS 19 36 10.0
comp=Z,6μm,17.5s
GOPC GO Pecny, Ondr 30.69 76 *eP* **P** **19 24 41.7 +1.2**
GOPC *e* 19 24 46.9
GOPC MLR MLR
comp=Z,6μm,17.5s
WVNY West Valley, N 30.70 267 P **P** **19 24 41.3 +0.6**
WVNY IAmb IAmb 19 24 53.5
comp=Z,87nm,1.3s
WVNY IAMs_20 IAMs_20 19 35 54.1
comp=Z,6μm,21.0s
L55A Hinsdale 30.73 267 P **P** **19 24 40.5 -0.4**
baz=54
GKP Gorka Klasztor 30.76 68 *eP* **P** **19 24 42.2 +1.2**
GKP *eL* L 19 39 46.0
comp=Z,6μm,13.3s
MVL Millersville 30.81 262 P **P** **19 24 41.9 +0.3**
MVL IAmb IAmb 19 24 49.9
comp=Z,118nm,1.7s
MVL IAMs_20 IAMs_20 19 36 19.5
comp=Z,4μm,19.0s
ABTA Abfaltersbach 30.81 82 *ep*P **P** **19 24 42.8 +1.1**
comp=Z,18nm,1.4s,SNR=6.6
SPA0 Spitsbergen Ar 30.85 18 P **P** **19 24 44.8 +3.2**
SPA0 IAmb IAmb 19 25 02.9
comp=Z,178nm,1.5s
SPITS Spitsbergen Ar 30.85 18 LR LR 19 33 58.0
comp=Z,1μm,19.1s,baz=230,slow=30
PAGS Pennsylvania G 30.89 262 P **P** **19 24 42.5 +0.3**
PAGS IAmb IAmb 19 24 49.3
comp=Z,148nm,1.9s
PAGS IAMs_20 IAMs_20 19 36 30.5
comp=Z,4μm,18.0s
VLC Villacollemand 30.89 88 P **P** **19 24 42.5 +0.1**
VLC IAMs_20 IAMs_20 19 35 40.1
comp=Z,4μm,21.0s
CIMO Cimolais 30.99 83 P **P** **19 24 44.0 +0.8**
M56A Emporium 30.99 265 P **P** **19 24 43.7 +0.4**
baz=53
M56A Emporium 30.99 265 P **P** **19 24 43.6 +0.4**
M56A IAMs_20 IAMs_20 19 36 05.3
comp=Z,4μm,21.0s
HAMF Hammerfest 31.05 34 *eP* **P** **19 24 44.1 +0.7**
N57A Milroy 31.05 264 P **P** **19 24 44.1 +0.4**
baz=52,SNR=10
O58A Lewisberry 31.07 262 P **P** **19 24 43.8 -0.2**
baz=51
ETRT Tiaret 31.09 110 P **P** **19 24 45.3 +1.1**
P59A Jarrettsville 31.10 261 P **P** **19 24 44.1 -0.1**
baz=50,SNR=5.9
ARF Arif 31.11 122 P **P** **19 24 48.0 +3.6**
SNR=9.8
ARF P **P** **19 24 48.0 +3.6**
SNR=9.8
CHVC Chvalec 31.14 74 *eP* **P** **19 24 44.1 -0.3**
CHVC *ex* x 19 24 54.1
CHVC *eS* **S** **19 29 48.3 -1.9**
CHVC AMS AMS 19 37 40.0
comp=Z,5μm,14.1s
ZCCA Zocca 31.14 88 P **P** **19 24 45.1 +0.5**
ZCCA IAmb IAmb 19 25 01.4
comp=Z,119nm,1.5s
Q60A Greensboro 31.14 260 P **P** **19 24 44.9 +0.4**
baz=49
Q60A Greensboro 31.14 260 P **P** **19 24 44.4 -0.1**
Q60A IAMs_20 IAMs_20 19 36 45.4
comp=Z,6μm,20.0s
KBA Koelnbreinsper 31.15 81 *ep*P **P** **19 24 46.1 +1.4**
comp=Z,23nm,1.1s,SNR=13
UPC Upice 31.15 74 *eP* **P** **19 24 44.9 +0.4**
UPC *epP* **pwP** **19 24 51.0 +1.6**
UPC *eS* **S** **19 29 48.3 -2.0**
UPC AMS AMS 19 37 50.0
comp=Z,5μm,13.6s
UPC Upice 31.15 74 *eP* **P** **19 24 44.9 +0.4**
UPC *e* 19 24 51.0
UPC *eS* **S** **19 29 48.3 -2.0**
UPC MLR MLR
comp=Z,5μm,13.6s
KSP Ksiaz 31.17 73 *eP* **P** **19 24 45.2 +0.6**
KSP *eS* **S** **19 29 50.0 -0.6**
KSP *eL* L 19 38 05.0
comp=Z,6μm,15.0s
STAL STALIGIAL 31.18 83 P **P** **19 24 44.8 -0.1**
ZOU Zoufplan 31.18 82 P **P** **19 24 46.0 +0.9**
ZOU IAmb IAmb 19 24 58.1
comp=Z,189nm,1.8s
L54A Sinclairville 31.23 268 P **P** **19 24 45.5 +0.2**
baz=54
OSTC Ostas 31.24 74 *eP* **P** **19 24 47.1 +1.7**
OSTC *ex* x 19 24 52.2
OSTC *eS* **S** **19 29 53.1 +1.3**
OSTC AMS AMS 19 37 40.0
comp=Z,5μm,14.4s
R61A Willards 31.29 258 P **P** **19 24 46.3 +0.5**
baz=48
R61A Willards 31.29 258 IAMs_20 IAMs_20 19 37 20.2
comp=Z,3μm,19.0s
MOA Molln 31.32 79 *ep*P **P** **19 24 47.2 +1.1**
comp=Z,41nm,1.5s,SNR=23
SSPA Standing Stone 31.33 264 P **P** **19 24 46.2 0.0**
baz=52
SSPA Standing Stone 31.33 264 P **P** **19 24 46.6 +0.4**
SSPA Standing Stone 31.33 264 IAMs_20 IAMs_20 19 36 24.3
comp=Z,4μm,20.0s
M55A Ridgway 31.35 266 P **P** **19 24 46.7 +0.3**
baz=53,SNR=6.9
M55A Ridgway 31.35 266 P **P** **19 24 46.2 -0.2**
M55A IAmb IAmb 19 24 59.2
comp=Z,72nm,1.4s
M55A IAMs_20 IAMs_20 19 36 05.8
comp=Z,5μm,22.0s
I51A Listowel 31.36 271 P **P** **19 24 46.6 +0.2**
baz=56
TREC Trest 31.37 76 *eS* **S** **19 29 56.3 +2.5**
TREC AMS AMS 19 36 50.0
comp=Z,6μm,16.8s
DPC Dobruska-Polom 31.39 74 *eP* **P** **19 24 47.1 +0.4**
DPC *ex* x 19 24 53.4
DPC *eS* **S** **19 29 49.9 -4.3**
DPC AMS AMS 19 37 50.0
comp=Z,5μm,14.0s
DPC Dobruska-Polom 31.39 74 *eP* **P** **19 24 47.1 +0.4**
DPC *e* 19 24 53.4
DPC *eS* **S** **19 29 49.9 -4.3**
DPC MLR MLR
comp=Z,5μm,14.0s
N56A West Decatur 31.40 265 P **P** **19 24 46.6 -0.2**
baz=52
O57A Amberson 31.44 263 P **P** **19 24 46.9 -0.3**
baz=51
ZGR Zagora 31.47 125 P **P** **19 24 51.0 +3.4**
SNR=6.8
ZGR P **P** **19 24 51.0 +3.4**
SNR=6.8
SDMD Soldier's Deli 31.47 261 P **P** **19 24 47.4 0.0**
MYKA Terra Mystica 31.55 82 *epP* **P** **19 24 49.3 +1.1**
comp=Z,16nm,0.9s,SNR=15
PRED Cave del Predi 31.59 82 P **P** **19 24 48.9 +0.4**
EUNU Eureka 31.62 345 P **P** **19 24 48.3 -0.2**
P58A Pank, Wackersv 31.70 262 P **P** **19 24 48.8 -0.6**
baz=50
ERPA Erie 31.70 268 P **P** **19 24 49.2 -0.3**
baz=54
ERPA Erie 31.70 268 P **P** **19 24 50.1 +0.7**
ERPA IAMs_20 IAMs_20 19 36 34.0
comp=Z,6μm,19.0s
Q59A Harwood 31.71 260 P **P** **19 24 49.9 +0.4**
baz=49
OSSC Osservatorio P 31.76 89 P **P** **19 24 51.6 +1.7**
OSSC IAMs_20 IAMs_20 19 37 07.7
comp=Z,4μm,18.0s
KRLC Kraliky 31.78 74 *eP* **P** **19 24 51.2 +1.1**
KRLC *ex* x 19 24 57.1
KRLC *eS* **S** **19 29 57.9 -2.3**
KRLC AMS AMS 19 38 10.0
comp=Z,5μm,13.3s
KRLC Kraliky 31.78 74 *eP* **P** **19 24 51.2 +1.1**
KRLC *e* 19 24 57.1
KRLC *eS* **S** **19 29 57.9 -2.3**
KRLC MLR MLR
comp=Z,5μm,13.3s
RES Resolute Bay 31.78 334 P **P** **19 24 50.3 +0.5**
comp=Z,18nm,0.9s,baz=63,slow=4.3,SNR=4.8
RES Resolute Bay 31.78 334 P **P** **19 24 49.9 +0.1**
RES pmax pmax
comp=Z,114nm,1.6s
RES MLR MLR
comp=Z,1μm,18.0s
RES Resolute Bay 31.78 334 P **P** **19 24 49.9 +0.1**
RES IAmb IAmb 19 25 01.7
comp=Z,114nm,1.6s
CADS Cadrg 31.81 83 *i*P **P** **19 24 50.9 +0.5**
CADS *eS* **S** **19 30 03.7 +3.0**
M54A Oil Creek Stat 31.87 267 P **P** **19 24 51.0 +0.1**
baz=53
M54A Oil Creek Stat 31.87 267 P **P** **19 24 51.0 +0.1**
M54A IAmb IAmb 19 25 04.4
comp=Z,70nm,1.4s
M54A IAMs_20 IAMs_20 19 36 41.4
comp=Z,5μm,19.0s
N55A Marion Center 31.90 265 P **P** **19 24 50.8 -0.5**
baz=52
S61A Accomac 31.92 258 P **P** **19 24 50.2 -1.1**
baz=48
S61A Accomac 31.92 258 IAMs_20 IAMs_20 19 37 33.9
comp=Z,6μm,20.0s
CASP Castiglione de 31.95 90 P **P** **19 24 51.5 -0.1**
L53A Girard 31.96 268 P **P** **19 24 51.7 0.0**
baz=54
O56A Blue Knob Stat 31.96 264 P **P** **19 24 51.7 -0.1**
baz=51
O56A Blue Knob Stat 31.96 264 P **P** **19 24 51.9 +0.1**
O56A IAmb IAmb 19 25 05.6
comp=Z,109nm,1.7s
O56A IAMs_20 IAMs_20 19 36 53.0
comp=Z,4μm,20.0s
E46A Sault Ste Mari 31.97 278 P **P** **19 24 52.0 +0.3**
KRUC Moravsky 32.01 76 *eP* **P** **19 24 52.2 +0.1**
KRUC *eS* **S** **19 30 04.6 +0.9**
VRAC Vranov 32.01 76 ⇑P **P** **19 24 54.3 +2.2**
VRAC Vranov 32.01 76 *eP* **P** **19 24 52.3 +0.2**
VRAC *eS* **S** **19 30 06.2 +2.4**
VRAC Vranov 32.01 76 ⇑P **P** **19 24 54.3 +2.2**
ALLY Alegheny Colle 32.07 267 P **P** **19 24 52.0 -0.7**
ALLY IAMs_20 IAMs_20 19 36 45.8
comp=Z,6μm,20.0s
P57A Homestead Farm 32.13 262 P **P** **19 24 53.1 0.0**
baz=50
P57A Homestead Farm 32.13 262 P **P** **19 24 53.2 0.0**
P57A IAmb IAmb 19 25 06.1
comp=Z,82nm,1.6s
P57A IAMs_20 IAMs_20 19 36 59.4
comp=Z,4μm,19.0s
OBKA Obir 32.15 82 *eP* **P** **19 24 53.9 +0.5**
comp=Z,9.9nm,0.8s,SNR=12
CONA Conrad Observa 32.23 78 *ep*P **P** **19 24 54.8 +0.7**
comp=Z,28nm,1.8s,SNR=12
Q58A Fox Den Farm, 32.28 261 P **P** **19 24 53.4 -1.1**
baz=50
SOKA Soboth 32.35 81 *eP* **P** **19 24 55.2 0.0**
comp=Z,16nm,1.1s,SNR=19
MORC Moravsky Berou 32.35 74 ⇑P **P** **19 24 55.9 +0.8**
MORC Moravsky Berou 32.35 74 *eP* **P** **19 24 55.2 +0.1**
MORC *eS* **S** **19 30 11.5 +2.3**
MORC Moravsky Berou 32.35 74 ⇑P **P** **19 24 55.9 +0.8**
MORC Moravsky Berou 32.35 74 P **P** **19 24 55.2 +0.1**
MORC IAmb IAmb 19 25 08.6
comp=Z,154nm,1.6s
MORC IAMs_20 IAMs_20 19 37 30.1
comp=Z,5μm,19.0s
ARSA Arzberg 32.36 80 *ep*P **P** **19 24 56.0 +0.8**
comp=Z,36nm,1.3s,SNR=18
PBUR Paburge 32.37 62 *eP* **P** **19 24 53.9 -1.2**
LJU Ljubljana 32.37 82 ⇑*i*P **P** **19 24 56.0 +0.7**
N54A Moraine State 32.39 266 P **P** **19 24 55.4 -0.2**
baz=52
N54A Moraine State 32.39 266 P **P** **19 24 55.8 +0.2**
N54A IAmb IAmb 19 25 08.7
comp=Z,134nm,1.4s
N54A IAMs_20 IAMs_20 19 36 58.3
comp=Z,5μm,20.0s
PERS Pernice 32.42 81 *i*P **P** **19 24 55.9 +0.1**
O55A Ligonier 32.44 265 P **P** **19 24 56.1 +0.1**
baz=51
CEY Cerknica 32.47 83 ⇑*i*P **P** **19 24 57.2 +1.0**
M53A Wt Miller and 32.52 268 P **P** **19 24 56.2 -0.4**
baz=53
M53A Wt Miller and 32.52 268 P **P** **19 24 56.2 -0.4**
M53A IAmb IAmb 19 25 02.8
comp=Z,157nm,1.9s
M53A IAMs_20 IAMs_20 19 37 08.6
comp=Z,5μm,18.0s
FCC Fort Churchill 32.55 304 P **P** **19 24 56.1 -0.5**
FCC pmax pmax
comp=Z,154nm,1.4s
FCC MLR MLR
comp=Z,4μm,18.0s
FCC Fort Churchill 32.55 304 P **P** **19 24 56.1 -0.5**
FCC IAMs_20 IAMs_20 19 36 44.9
comp=Z,4μm,18.0s
CBN Corbin Frederi 32.57 260 IAMs_20 IAMs_20 19 37 08.2
comp=Z,4μm,21.0s
P56A Dayton Farm, R 32.61 263 P **P** **19 24 57.5 +0.1**
baz=50
LATE Laterza 32.61 90 P **P** **19 24 57.1 -0.4**
Q57A Strasburg 32.65 262 P **P** **19 24 57.4 -0.4**
baz=50
OKC Ostava-Krasne 32.67 74 AMS AMS 19 37 30.0
comp=Z,4μm,17.6s
MURB Monte Urbino 32.68 88 P **P** **19 24 57.6 -0.4**
MURB IAmb IAmb 19 25 30.6
comp=Z,188nm,2.0s
VISS Visnje 32.68 82 *i*P **P** **19 24 58.7 +0.7**
VISS *eS* **S** **19 30 16.8 +2.4**
S59A Mechanicsville 32.82 259 P **P** **19 24 58.9 -0.3**
baz=48
ZST Bratislava 32.83 77 *eP* **P** **19 25 00.6 +1.3**
ZST pmax pmax
comp=Z,594nm,2.1s
ZST Bratislava 32.83 77 *eP* **P** **19 25 00.6 +1.3**
MODS Modra-Piesok 32.85 77 *eP* **P** **19 24 59.2 -0.2**
MODS pmax pmax
comp=Z,86nm,1.6s
MODS Modra-Piesok 32.85 77 *eP* **P** **19 24 59.2 -0.2**
JAVC Velka Javorina 32.85 76 *eP* **P** **19 25 00.2 +0.7**
JAVC *eS* **S** **19 30 14.7 -2.2**
M52A Chesterland 32.87 268 P **P** **19 24 58.3 -1.3**
baz=53
M52A Chesterland 32.87 268 P **P** **19 24 59.5 -0.2**
M52A IAMs_20 IAMs_20 19 37 19.8
comp=Z,5μm,19.0s
SMOL Smolenice 32.87 76 *eP* **P** **19 25 01.5 +1.9**
SMOL pmax pmax
comp=Z,43nm,1.7s
SMOL Smolenice 32.87 76 *eP* **P** **19 25 01.5 +1.9**
R58A Rapidan 32.88 261 P **P** **19 25 00.0 +0.2**
baz=49
FINES FINESS Array B 32.90 51 P **P** **19 24 59.7 0.0**
comp=Z,26nm,0.8s,baz=289,slow=5.8,SNR=42
FINES LR LR 19 36 40.3
comp=Z,5μm,21.8s,baz=279,slow=33
FINES FINESS Array B 32.90 51 P **P** **19 24 59.4 -0.3**
FINES FINESS Array B 32.90 51 P **P** **19 24 59.4 -0.3**
FIA1 FINESS Array S 32.90 51 P **P** **19 24 59.6 -0.1**
FIA1 IAmb IAmb 19 25 11.2
comp=Z,133nm,1.4s
T60A Surry 32.90 258 P **P** **19 25 00.0 0.0**
baz=47
T60A Surry 32.90 258 IAMs_20 IAMs_20 19 38 13.0
comp=Z,7μm,19.0s
K50A Casco 32.91 271 P **P** **19 24 59.4 -0.5**
K50A IAmb IAmb 19 25 06.3
comp=Z,169nm,1.8s
GLMI Grayling 32.96 276 P **P** **19 25 00.2 -0.3**
baz=57
GLMI Grayling 32.96 276 P **P** **19 25 00.2 -0.3**
GLMI IAMs_20 IAMs_20 19 37 01.3
comp=Z,4μm,20.0s
N53A Lisbon 33.00 267 P **P** **19 25 01.1 +0.3**
baz=52,SNR=8.3
N53A Lisbon 33.00 267 P **P** **19 25 00.5 -0.3**
N53A IAmb IAmb 19 25 13.9
comp=Z,116nm,1.2s
N53A IAMs_20 IAMs_20 19 37 26.3
comp=Z,5μm,19.0s
R58B Mineral 33.03 260 P **P** **19 25 00.1 -1.1**
baz=48
R58B Mineral 33.03 260 P **P** **19 25 01.5 +0.4**
R58B IAMs_20 IAMs_20 19 37 43.3
comp=Z,4μm,21.0s
CRES Cresnjev 33.04 82 ⇑*i*P **P** **19 25 01.1 -0.1**
O54A Avella 33.10 265 P **P** **19 25 00.2 -1.5**
baz=52
O54A Avella 33.10 265 P **P** **19 25 01.3 -0.4**
O54A IAmb IAmb 19 25 09.2
comp=Z,197nm,1.8s
O54A IAMs_20 IAMs_20 19 37 10.2
comp=Z,6μm,22.0s
Q56A Snyder Ridge, 33.11 263 P **P** **19 25 01.7 -0.1**
baz=50
Q56A Snyder Ridge, 33.11 263 P **P** **19 25 00.8 -1.0**
Q56A IAmb IAmb 19 25 10.2
comp=Z,98nm,1.5s
Q56A IAMs_20 IAMs_20 19 39 04.4
comp=Z,3μm,19.0s
MCWV Mont Chateau 33.11 264 P **P** **19 25 01.5 -0.4**
baz=51
MCWV Mont Chateau 33.11 264 P **P** **19 25 02.2 +0.4**
P55A Reedsville 33.20 264 P **P** **19 25 01.9 -0.7**
baz=51
R57A Stanardsville 33.20 261 P **P** **19 25 01.9 -0.6**
baz=49
NRCA Norcia 33.28 88 P **P** **19 25 03.0 -0.4**
U61A Possum Corner 33.28 256 P **P** **19 25 03.4 0.0**
baz=46
U61A Possum Corner 33.28 256 IAMs_20 IAMs_20 19 37 20.1
comp=Z,6μm,21.0s
BEL Belsk 33.32 69 *eP* **P** **19 25 04.6 +1.1**
BEL *eL* L 19 39 23.1
comp=Z,9μm,17.4s
S58A Poland Farm, P 33.37 260 P **P** **19 25 03.1 -0.9**
baz=48
S58A Poland Farm, P 33.37 260 P **P** **19 25 04.0 0.0**
S58A IAmb IAmb 19 25 12.4
comp=Z,104nm,1.8s
S58A IAMs_20 IAMs_20 19 38 02.2
comp=Z,4μm,20.0s
G45A Suttons Bay 33.47 277 P **P** **19 25 05.3 +0.4**
G45A IAMs_20 IAMs_20 19 37 24.6
comp=Z,6μm,19.0s
M51A Elyria 33.49 269 P **P** **19 25 03.8 -1.3**
baz=53
BEHE Becsehely 33.49 80 ⇑*i*P **P** **19 25 07.9 +2.8**
T59A Double "B" Far 33.50 258 P **P** **19 25 05.8 +0.6**
baz=47
T59A Double "B" Far 33.50 258 P **P** **19 25 06.0 +0.8**
T59A IAmb IAmb 19 25 08.6
comp=Z,106nm,1.9s
N52A McGinn's Farm, 33.50 267 P **P** **19 25 04.3 -1.0**
baz=52
P54A Burton 33.53 265 P **P** **19 25 05.9 +0.4**
baz=51,SNR=6.6
V62A Hyde County Ai 33.53 255 IAMs_20 IAMs_20 19 38 01.8
comp=Z,5μm,20.0s
E43A Lone Tree Farm 33.56 280 P **P** **19 25 05.7 0.0**
E43A IAmb IAmb 19 25 12.6
comp=Z,147nm,1.6s
O53A New Philadelph 33.56 266 P **P** **19 25 06.7 +1.0**
baz=52,SNR=8.4
O53A New Philadelph 33.56 266 P **P** **19 25 05.9 +0.1**
O53A IAMs_20 IAMs_20 19 37 45.4
comp=Z,6μm,19.0s
U60A Pendleton 33.61 257 P **P** **19 25 05.8 -0.3**
baz=47
PABE Paberze 33.63 62 *eP* **P** **19 25 05.5 -0.6**
R56A Bull Pasture M 33.65 262 P **P** **19 25 06.3 -0.3**
baz=49
Q55A Buckhannon 33.67 264 P **P** **19 25 06.9 +0.2**
baz=50
VYHS Vyhne 33.70 76 *eP* **P** **19 25 07.2 +0.3**
VYHS pmax pmax
comp=Z,191nm,1.8s
VYHS Vyhne 33.70 76 *eP* **P** **19 25 07.2 +0.3**
AQU L'Aquila 33.73 89 P **P** **19 25 07.8 +0.6**
AQU pmax pmax
comp=Z,39nm,1.2s
AQU MLR MLR
comp=Z,4μm,20.0s
AQU L'Aquila 33.73 89 ⇑*i*P **P** **19 25 07.6 +0.4**
AQU L'Aquila 33.73 89 P **P** **19 25 07.8 +0.6**
AQU IAMs_20 IAMs_20 19 37 52.8
comp=Z,4μm,20.0s
V61A Roper 33.73 256 P **P** **19 25 07.6 +0.4**
baz=46
V61A Roper 33.73 256 IAMs_20 IAMs_20 19 37 31.1
comp=Z,4μm,22.0s
LANS Liptovska Anna 33.76 74 *eP* **P** **19 25 09.2 +1.8**
LANS pmax pmax
comp=Z,56nm,1.3s
LANS Liptovska Anna 33.76 74 *eP* **P** **19 25 09.2 +1.8**
SUW Suwalki 33.76 65 *eP* **P** **19 25 06.9 -0.5**
SUW *eL* L 19 40 11.0
comp=Z,4μm,15.4s
SUW Suwalki 33.76 65 P **P** **19 25 06.1 -1.2**
SUW pmax pmax
comp=Z,124nm,1.1s
SUW Suwalki 33.76 65 P **P** **19 25 06.1 -1.2**
SUW IAMs_20 IAMs_20 19 37 49.2
comp=Z,3μm,20.0s
SRO2 Moca 33.80 77 *eP* **P** **19 25 09.1 +1.4**
SRO2 pmax pmax
comp=Z,49nm,1.5s
SRO2 Moca 33.80 77 *eP* **P** **19 25 09.1 +1.4**
AAM Ann Arbor 33.80 271 P **P** **19 25 08.9 +1.1**
AAM pmax pmax
comp=Z,132nm,1.6s
AAM MLR MLR
comp=Z,8μm,19.0s
AAM Ann Arbor 33.80 271 P **P** **19 25 08.9 +1.1**
AAM IAmb IAmb 19 25 20.0
comp=Z,132nm,1.6s
S57A Dark Hollow, R 33.80 261 P **P** **19 25 07.1 -0.8**
baz=48
S57A Dark Hollow, R 33.80 261 P **P** **19 25 07.7 -0.2**
S57A IAMs_20 IAMs_20 19 38 20.8
comp=Z,6μm,20.0s
N51A Ashland 33.85 268 P **P** **19 25 08.2 -0.1**
baz=52
N51A Ashland 33.85 268 P **P** **19 25 08.1 -0.1**
N51A IAmb IAmb 19 25 21.1
comp=Z,108nm,1.3s
N51A IAMs_20 IAMs_20 19 37 59.0
comp=Z,5μm,18.0s
J47A Sunmer 33.96 273 P **P** **19 25 08.8 -0.4**
M50A Fremont 33.96 269 P **P** **19 25 08.8 -0.4**
M50A IAmb IAmb 19 25 21.6
comp=Z,126nm,1.3s
M50A IAMs_20 IAMs_20 19 37 44.9
comp=Z,5μm,20.0s
O52A Adamsville 34.02 267 P **P** **19 25 10.2 +0.5**
baz=52,SNR=8.6
O52A Adamsville 34.02 267 P **P** **19 25 09.3 -0.4**
O52A IAMs_20 IAMs_20 19 37 58.5
comp=Z,5μm,19.0s
VSU Vasula 34.05 56 *eP* **P** **19 25 09.1 -0.7**
VSU Vasula 34.05 56 ⇓*eP* **P** **19 25 09.7 0.0**
VSU pmax pmax
comp=Z,68nm,0.9s
U59A Littleton 34.06 258 P **P** **19 25 10.2 +0.1**
baz=47
U59A Littleton 34.06 258 P **P** **19 25 09.9 -0.2**

U59A IAmb IAmb 19 25 16.5
comp=Z,91nm,1.6s
U59A IAMs_20 IAMs_20 19 38 36.7
comp=Z,6µm,20.0s
T58A Grand View Acr 34.10 259 P P 19 25 10.5 +0.1
baz=48
NIE Niedzica 34.11 73 *e*P **P 19 25 11.7 +1.2**
NIE *e*L L 19 39 49.1
comp=Z,3µm,15.7s
Q54A Coxs Mills 34.13 264 P **P 19 25 11.1 +0.4**
baz=50
Q54A Coxs Mills 34.13 264 P **P 19 25 11.1 +0.4**
Q54A IAmb IAmb 19 25 23.9
comp=Z,118nm,1.5s
Q54A IAMs_20 IAMs_20 19 38 39.4
comp=Z,4µm,19.0s
D41A Chassel 34.14 282 P **P 19 25 10.9 +0.2**
P53A Whipple 34.15 265 P **P 19 25 11.8 +1.0**
baz=51,SNR=12
P53A Whipple 34.15 265 P **P 19 25 11.6 +0.8**
P53A IAMs_20 IAMs_20 19 38 21.8
comp=Z,6µm,18.0s
V60A Jim Taylor Roa 34.15 257 P **P 19 25 11.7 +0.8**
baz=46
V60A Jim Taylor Roa 34.15 257 P **P 19 25 11.2 +0.3**
V60A IAMs_20 IAMs_20 19 37 45.2
comp=Z,6µm,22.0s
R55A Marlinton 34.16 263 P **P 19 25 11.4 +0.4**
baz=49
R55A Marlinton 34.16 263 P **P 19 25 11.0 0.0**
R55A IAmb IAmb 19 25 18.8
comp=Z,145nm,1.8s
R55A IAMs_20 IAMs_20 19 38 03.1
comp=Z,4µm,21.0s
RCRC Randolf Colleg 34.21 261 P **P 19 25 10.6 -0.8**
S56A Natural Bridge 34.22 261 P **P 19 25 12.4 +0.9**
baz=48
INTR Introdacqua 34.23 89 P **P 19 25 11.3 -0.3**
INTR IAMs_20 IAMs_20 19 38 12.0
comp=Z,4µm,20.0s
I45A Fountain 34.36 276 P **P 19 25 12.0 -0.7**
I45A IAMs_20 IAMs_20 19 37 43.3
comp=Z,4µm,21.0s
W61A Ground Anchor 34.41 256 P **P 19 25 13.9 +0.8**
baz=45
O51A Pataskala 34.47 267 P **P 19 25 14.3 +0.7**
baz=52,SNR=10
L48A N Adams 34.48 271 P **P 19 25 13.5 -0.2**
L48A IAmb IAmb 19 25 21.2
comp=Z,199nm,1.9s
U58A Oxford 34.48 259 P **P 19 25 14.4 +0.6**
baz=47
T57A Hurt 34.49 260 P **P 19 25 14.3 +0.5**
baz=48
T57A Hurt 34.49 260 P **P 19 25 14.3 +0.5**
T57A IAmb IAmb 19 25 20.5
comp=Z,139nm,1.9s
T57A IAMs_20 IAMs_20 19 39 16.9
comp=Z,3µm,18.0s
P52A Corning 34.50 266 P **P 19 25 14.5 +0.6**
baz=51,SNR=7.3
P52A Corning 34.50 266 P **P 19 25 14.2 +0.3**
P52A IAmb IAmb 19 25 26.9
comp=Z,128nm,1.2s
P52A IAMs_20 IAMs_20 19 38 13.1
comp=Z,6µm,20.0s
F42A Maple Grove Fa 34.56 280 P **P 19 25 15.1 +0.7**
F42A IAmb IAmb 19 25 20.4
comp=Z,108nm,1.6s
PSZ Piszkesteto 34.60 76 ⇓*i*P **P 19 25 16.4 +1.6**
PSZ Piszkesteto 34.60 76 ⇓P **P 19 25 16.4 +1.6**
PSZ Piszkesteto 34.60 76 P **P 19 25 15.4 +0.7**
PSZ IAmb IAmb 19 25 28.7
comp=Z,138nm,1.4s
PSZ IAMs_20 IAMs_20 19 38 58.6
comp=Z,4µm,19.0s
Q53A Leroy 34.63 265 P **P 19 25 14.6 -0.4**
baz=50
ACSO Alum Creek Sta 34.64 268 P **P 19 25 15.6 +0.5**
baz=52,SNR=8.5
ACSO Alum Creek Sta 34.64 268 IAmb IAmb 19 25 28.1
comp=Z,130nm,1.2s
ACSO IAMs_20 IAMs_20 19 38 23.8
comp=Z,4µm,18.0s
BLY Banja Luka 34.65 82 ⇑*i*P **P 19 25 16.1 +1.0**
S55A Lewisburg 34.72 262 P **P 19 25 16.5 +0.6**
baz=49
APA Apatity 34.73 39 ⇓*i*P P 19 25 21.0 +5.5
APA pmax pmax
comp=Z,52nm,1.1s
V59A Middlesex 34.73 258 P **P 19 25 16.7 +0.8**
baz=46
IZAR Zarasai 34.74 61 *e*P **P 19 25 15.4 -0.4**
ISAL Salakas 34.74 61 *e*P **P 19 25 16.1 +0.3**
R54A Victor 34.74 263 P **P 19 25 16.4 +0.3**
baz=49
VWCC Virginia Weste 34.75 261 P **P 19 25 16.6 +0.5**
IIGN Ignalina 34.88 61 *e*P **P 19 25 17.7 +0.7**
CNNC Cliffs of the 34.89 257 P **P 19 25 17.2 0.0**
CNNC IAmb IAmb 19 25 48.7
comp=Z,40nm,0.6s
CNNC IAMs_20 IAMs_20 19 38 17.5
comp=Z,6µm,22.0s
W60A Pink Hill 34.91 256 P **P 19 25 17.7 +0.2**
baz=45
U57A Blanch 34.92 259 P **P 19 25 17.8 +0.3**
baz=47
T56A Rocky Mt 34.93 261 P **P 19 25 18.4 +0.8**
baz=48,SNR=5.9
N49A Columbus Grove 34.94 270 P **P 19 25 18.1 +0.4**
N49A IAmb IAmb 19 25 30.0
comp=Z,75nm,1.1s
N49A IAMs_20 IAMs_20 19 38 14.7
comp=Z,6µm,21.0s
COWI Conover 34.98 281 P **P 19 25 18.2 +0.3**
Q52A Bidwell 35.01 265 P **P 19 25 18.8 +0.5**
baz=50,SNR=9.0
CRVS Cervenica-Dubn 35.03 74 *e*P **P 19 25 20.1 +1.7**
CRVS pmax pmax
comp=Z,350nm,1.7s
CRVS Cervenica-Dubn 35.03 74 *e*P **P 19 25 20.1 +1.7**
BLA Blacksburg 35.04 261 P **P 19 25 19.3 +0.6**
BLA pmax pmax
comp=Z,62nm,1.3s
BLA MLR MLR
comp=Z,7µm,19.0s
BLA Blacksburg 35.04 261 P **P 19 25 18.6 -0.1**
baz=48
BLA Blacksburg 35.04 261 P **P 19 25 19.3 +0.6**
H43A Windswept, Lux 35.04 277 P **P 19 25 18.0 -0.5**
LVZ Lovozero 35.13 38 ⇑*e*P **P 19 25 19.3 +0.2**
LVZ pmax pmax
comp=Z,28nm,1.0s
LVZ Lovozero 35.13 38 P **P 19 25 19.0 -0.1**
LVZ IAmb IAmb 19 25 39.6
comp=Z,66nm,1.2s
P51A Williamsport 35.15 267 P **P 19 25 19.9 +0.4**
baz=51
P51A Williamsport 35.15 267 P **P 19 25 19.4 -0.1**
P51A IAMs_20 IAMs_20 19 38 33.4
comp=Z,4µm,19.0s
IDID Didziasalis 35.16 61 *e*P **P 19 25 19.9 +0.5**
S54A Dingess, Beckl 35.18 263 P **P 19 25 20.2 +0.4**
baz=49
S54A Dingess, Beckl 35.18 263 P **P 19 25 19.9 0.0**
S54A IAMs_20 IAMs_20 19 40 09.3
comp=Z,5µm,18.0s
PAOL Paolisi 35.21 90 P **P 19 25 20.9 +0.8**
PAOL IAmb IAmb 19 25 32.3
comp=Z,170nm,1.8s
R53A Hurricane 35.22 264 P **P 19 25 20.5 +0.4**
baz=50
R53A Hurricane 35.22 264 P **P 19 25 20.8 +0.7**
R53A IAMs_20 IAMs_20 19 39 23.3
comp=Z,5µm,18.0s
V58A Windy Hill, Pi 35.22 258 P **P 19 25 20.0 -0.2**
baz=46
V58A Windy Hill, Pi 35.22 258 P **P 19 25 21.9 +1.7**
V58A IAmb IAmb 19 25 28.1
comp=Z,195nm,2.0s
V58A IAMs_20 IAMs_20 19 39 13.4
comp=Z,4µm,20.0s
T55A Pulaski 35.32 262 P **P 19 25 20.6 -0.4**
baz=48
NACGM Naroch 35.35 62 *e*P **P 19 25 21.0 0.0**
NACGM *e*S **S 19 31 02.0 +6.7**
NACGM *e*LQ LQ 19 35 50.0
NACGM *e*LR LR 19 39 34.0
NACGM LRM MLR 19 42 14.0
comp=Z,3.1nm,14.0s
PUL Pulkovo 35.38 53 *e*P **P 19 25 20.7 -0.5**
KWP Kalwaria Pacla 35.40 72 *e*P **P 19 25 22.8 +1.3**
KWP Kalwaria Pacla 35.40 72 P **P 19 25 22.2 +0.7**
KWP pmax pmax
comp=Z,112nm,1.3s
KWP MLR MLR
comp=Z,3µm,20.0s
KWP Kalwaria Pacla 35.40 72 P **P 19 25 22.2 +0.7**
KWP IAmb IAmb 19 25 29.7
comp=Z,112nm,1.3s
X60A Albert Glenn T 35.40 256 P **P 19 25 22.2 +0.5**
baz=45
EYMN Ely 35.41 285 P **P 19 25 21.6 -0.1**
baz=60,SNR=26
EYMN Ely 35.41 285 IAMs_20 IAMs_20 19 38 40.0
comp=Z,4µm,20.0s
O49A Covington 35.48 269 IAmb IAmb 19 25 35.2
comp=Z,95nm,1.2s
O49A IAMs_20 IAMs_20 19 38 32.0
comp=Z,5µm,21.0s
KOLS Kolonicke sedl 35.48 73 *e*P **P 19 25 22.6 +0.3**
KOLS pmax pmax
comp=Z,46nm,1.4s
KOLS Kolonicke sedl 35.48 73 *e*P **P 19 25 22.6 +0.3**
SGRT San Giovanni R 35.49 88 IAMs_20 IAMs_20 19 39 13.3
comp=Z,3µm,19.0s
KEST Kesra 35.51 101 P **P 19 25 22.7 -0.1**
comp=Z,21nm,0.9s,baz=162,slow=2.5,SNR=18
KEST LR LR 19 38 05.9
comp=Z,2µm,20.0s,baz=266,slow=33
KEST Kesra 35.51 101 P **P 19 25 22.9 +0.1**
KEST IAmb IAmb 19 25 39.1
comp=Z,176nm,1.4s
V57A Coltrane Farms 35.55 259 P **P 19 25 23.0 0.0**
baz=47
L46A Eue Claire 35.56 273 P **P 19 25 23.7 +0.7**
U56A King 35.60 260 P **P 19 25 22.7 -0.7**
baz=47
U56A King 35.60 260 IAMs_20 IAMs_20 19 39 33.3
comp=Z,4µm,19.0s
Q51A Peebles 35.61 266 IAmb IAmb 19 25 36.5
comp=Z,106nm,1.1s
Q51A IAMs_20 IAMs_20 19 38 57.6
comp=Z,5µm,20.0s
UZH Uzhgorod 35.64 74 *e*P **P 19 25 23.4 -0.2**
UZH *e* 19 25 25.8
UZH *e* 19 25 29.5
UZH *e* 19 26 42.9
UZH MLR MLR
comp=N,470nm,17.0s
UZH MLR MLR
comp=E,1µm,17.0s
UZH MLR MLR
comp=Z,600nm,17.0s
S53A Williamson 35.75 264 P **P 19 25 24.7 0.0**
baz=49
X59A McDuffie Farm, 35.77 256 P **P 19 25 24.6 -0.2**
baz=45
T54A Tazewell 35.83 262 P **P 19 25 23.7 -1.7**
baz=48
U55A TA2, Sparta 35.89 261 P **P 19 25 24.6 -1.4**
baz=48
Y60A Bolivia 35.95 255 IAMs_20 IAMs_20 19 40 21.6
comp=Z,4µm,19.0s
FRGS Fruska Gora 35.99 80 ⇑*i*P **P 19 25 27.3 +0.6**
V56A Mocksville 36.03 260 P **P 19 25 26.1 -1.0**
baz=47
I42A Draeger Farm, 36.05 277 IAmb IAmb 19 25 30.4
comp=Z,120nm,1.7s
G40A Rib Lake 36.05 280 P **P 19 25 27.7 +0.5**
G40A IAmb IAmb 19 25 34.3
comp=Z,138nm,1.6s
LVV L'vov 36.06 71 *e*P **P 19 25 28.8 +1.6**
LVV *e* 19 26 57.4
LVV *e*S **S 19 31 08.5 +2.2**
LVV *e* 19 33 51.8
LVV pmax pmax
comp=Z,100nm,1.5s
LVV MLR MLR
comp=N,3µm,15.0s
LVV MLR MLR
comp=E,3µm,15.0s
LVV MLR MLR
comp=Z,3µm,15.0s
MICGM Minsk 36.09 62 ⇓*e*P **P 19 25 27.0 -0.4**
MICGM ⇓*e*P **P 19 25 27.0 -0.4**
MICGM PM 19 25 32.0
comp=Z,1.9nm,3.0s
MICGM *e*PP **PnPn 19 26 48.0 -0.2**
MICGM *e*PPP PPP 19 27 16.0
MICGM *e*S **S 19 31 09.0 +2.3**
MICGM *e*SS **SnSn 19 33 18.0 -13**
MICGM *e*LQ LQ 19 35 34.0
MICGM *e*LR LR 19 39 26.0
MICGM LRM MLR 19 40 44.0
comp=E,2.3nm,14.0s
MICGM LRM MLR 19 40 46.0
comp=Z,3.4nm,14.0s
MNK Minsk 36.09 62 ⇓*e*P **P 19 25 27.0 -0.4**
MNK *e* 19 26 48.0
MNK *e*PPP PPP 19 27 16.0
MNK *e*S **S 19 31 09.0 +2.3**
MNK pmax pmax
comp=Z,2µm,3.0s
MNK MLR MLR
comp=E,2µm,14.0s
MNK MLR MLR
comp=Z,3µm,14.0s
P49A Miami Univ. Ec 36.12 268 P **P 19 25 26.3 -1.5**
baz=51
P49A Miami Univ. Ec 36.12 268 IAMs_20 IAMs_20 19 38 52.9
comp=Z,4µm,20.0s
E38A The Farm, Brul 36.13 283 P **P 19 25 28.1 +0.2**
E38A IAMs_20 IAMs_20 19 39 14.1
comp=Z,5µm,18.0s
TEKS Tekeris 36.15 81 *e*P **P 19 25 28.3 +0.2**
W57A Gilead 36.18 258 P **P 19 25 27.4 -1.0**
baz=46
W57A Gilead 36.18 258 IAmb IAmb 19 25 31.9
comp=Z,83nm,1.4s
W57A IAMs_20 IAMs_20 19 40 32.8
comp=Z,4µm,18.0s
X58A Rowland 36.22 257 P **P 19 25 26.9 -1.7**
baz=45
U54A Nelsons Funny 36.34 262 P **P 19 25 28.1 -1.7**
baz=48
U54A Nelsons Funny 36.34 262 IAMs_20 IAMs_20 19 39 28.8
comp=Z,6µm,20.0s
Y59A Loris 36.34 256 IAMs_20 IAMs_20 19 39 10.1
comp=Z,3µm,21.0s
K43A Burlington 36.38 275 IAmb IAmb 19 25 42.3
comp=Z,118nm,1.1s
K43A IAMs_20 IAMs_20 19 39 05.7
comp=Z,4µm,20.0s
CORL Corleone 36.42 95 P **P 19 25 31.1 +0.6**
V55A Taylorsville 36.43 260 P **P 19 25 29.7 -0.8**
baz=47
V55A Taylorsville 36.43 260 IAMs_20 IAMs_20 19 39 59.3
comp=Z,4µm,21.0s
L44A Lake County Fo 36.43 274 P **P 19 25 29.5 -1.0**
baz=54
L44A Lake County Fo 36.43 274 IAMs_20 IAMs_20 19 39 07.2
comp=Z,3µm,20.0s
T53A Wise 36.45 263 P **P 19 25 29.6 -1.2**
baz=48
BBLS Lazići 36.46 82 ⇑*i*P **P 19 25 32.0 +1.2**
SIRR Siria 36.48 77 ⇑P **P 19 25 30.5 -0.3**
BRY Bratogost 36.50 84 *e*P **P 19 25 32.5 +1.3**
B35A Bob, Littlefor 36.50 287 IAmb IAmb 19 25 37.6
comp=Z,151nm,1.4s
B35A IAMs_20 IAMs_20 19 39 09.7
comp=Z,3µm,20.0s
W56A Indian Trail 36.54 259 P **P 19 25 30.4 -1.1**
baz=46
P48A Milroy 36.59 269 IAmb IAmb 19 25 44.3
comp=Z,77nm,1.2s
P48A IAMs_20 IAMs_20 19 39 16.4
comp=Z,4µm,20.0s
HQIL Hanson Quary C 36.62 274 IAMs_20 IAMs_20 19 38 53.2
comp=Z,3µm,22.0s
S51A Beattyville 36.66 265 IAmb IAmb 19 25 45.6
comp=Z,109nm,1.5s
S51A IAMs_20 IAMs_20 19 39 41.2
comp=Z,5µm,18.0s
R50A Paris 36.68 266 IAmb IAmb 19 25 45.7
comp=Z,110nm,1.2s
R50A IAMs_20 IAMs_20 19 39 30.8
comp=Z,5µm,20.0s
DIVS Divibare 36.68 81 ⇑*i*P **P 19 25 33.4 +0.7**
DIVS Divibare 36.68 81 P **P 19 25 32.3 -0.4**
DIVS IAMs_20 IAMs_20 19 40 05.8
comp=Z,3µm,20.0s
ULM Lac du Bonnet 36.80 291 P **P 19 25 33.0 -0.5**
comp=Z,15nm,0.8s,baz=67,slow=8.1,SNR=9.3
ULM LR LR 19 39 15.3
comp=Z,3µm,18.7s,baz=74,slow=34
ULM Lac du Bonnet 36.80 291 P **P 19 25 32.6 -0.9**
ULM pmax pmax
comp=Z,177nm,1.6s
ULM MLR MLR
comp=Z,3µm,20.0s
ULM Lac du Bonnet 36.80 291 P **P 19 25 32.6 -0.9**
ULM IAmb IAmb 19 25 39.5
comp=Z,177nm,1.6s
ULM IAMs_20 IAMs_20 19 38 55.5
comp=Z,3µm,20.0s
BZS Buzias 36.81 78 ⇑P **P 19 25 32.3 -1.3**
BZS Buzias 36.81 78 ⇑P **P 19 25 32.3 -1.3**
BIRD Birdtown, Kers 36.81 258 IAMs_20 IAMs_20 19 39 50.5
comp=Z,4µm,21.0s
Y58A Scranton 36.87 257 P **P 19 25 33.4 -0.8**
baz=45
V54A Nebo 36.91 261 P **P 19 25 32.8 -1.9**
baz=47
M44A Midewin, Midew 36.98 273 P **P 19 25 35.0 -0.2**
M44A IAMs_20 IAMs_20 19 39 32.7
comp=Z,3µm,18.0s
KMSC Kings Mountain 36.98 260 P **P 19 25 34.6 -0.7**
baz=46
KMSC Kings Mountain 36.98 260 IAMs_20 IAMs_20 19 40 21.0
comp=Z,3µm,18.0s
SFIN Lafayette 37.03 271 P **P 19 25 35.6 +0.1**
baz=52,SNR=9.3
SFIN Lafayette 37.03 271 IAmb IAmb 19 25 48.5
comp=Z,147nm,1.4s
I40A Norwalk 37.06 279 IAmb IAmb 19 25 39.4
comp=Z,168nm,1.8s
R49A Shelbyville 37.18 267 IAmb IAmb 19 25 44.2
comp=Z,222nm,1.8s
R49A IAMs_20 IAMs_20 19 39 55.1
comp=Z,5µm,19.0s
PDG Podgorica 37.20 84 ⇓P **P 19 25 33.1 -3.9**
PDG Podgorica 37.20 84 ⇑*i*P **P 19 25 37.4 +0.4**
PDG Podgorica 37.20 84 IAMs_20 IAMs_20 19 40 23.7
comp=Z,3µm,19.0s
Y57A Sumter 37.21 257 P **P 19 25 35.9 -1.3**
baz=45
X56A White Oak 37.26 259 P **P 19 25 36.7 -0.9**
baz=46
DRME Dracevica, Mon 37.30 85 ⇑*i*P **P 19 25 38.6 +0.7**
MDVR Moldovita 37.32 79 ⇑P **P 19 25 36.6 -1.5**
TZTN Tazewell 37.35 263 P **P 19 25 37.6 -0.8**
baz=48
TZTN Tazewell 37.35 263 IAmb IAmb 19 25 46.2
comp=Z,175nm,1.7s
TZTN IAMs_20 IAMs_20 19 39 53.7
comp=Z,4µm,22.0s
Z58A St. Stephen 37.36 256 P **P 19 25 37.0 -1.4**
baz=44
JFWS Jewell Farm 37.40 277 P **P 19 25 37.9 -0.8**
baz=54
JFWS Jewell Farm 37.40 277 IAMs_20 IAMs_20 19 39 45.8
comp=Z,6µm,20.0s
TMCR Tamitsa 37.42 44 *e*P **P 19 25 38.8 +0.2**
TMCR pmax pmax
comp=Z,77nm,1.1s
BLO Bloomington 37.43 269 IAmb IAmb 19 25 46.5
comp=Z,304nm,1.9s
PAULI Pauline 37.49 260 IAMs_20 IAMs_20 19 40 45.4
comp=Z,3µm,18.0s
V53A Saluda 37.50 262 IAmb IAmb 19 25 43.1
comp=Z,126nm,1.8s
W54A Cherokee Point 37.53 260 P **P 19 25 38.2 -1.7**
baz=46
JSC Jenkinsville 37.54 259 IAMs_20 IAMs_20 19 41 13.7
comp=Z,3µm,18.0s
P46A Rosedale 37.56 270 IAmb IAmb 19 25 47.4
comp=Z,284nm,1.9s
L42A Oliver, Polo 37.59 275 IAMs_20 IAMs_20 19 39 52.8
comp=Z,4µm,20.0s
SPMN Marine on St. 37.61 282 P **P 19 25 39.8 -0.7**
baz=56
SPMN Marine on St. 37.61 282 IAmb IAmb 19 25 47.6
comp=Z,225nm,1.8s
ARCR ARCALIA 37.62 75 ⇑P **P 19 25 40.2 -0.3**
X55A Gracelyn & Ava 37.63 259 P **P 19 25 39.6 -1.1**
baz=46
F36A Milaca 37.69 283 IAmb IAmb 19 25 48.1
comp=Z,121nm,1.6s
NHSC New Hope 37.73 256 P **P 19 25 41.1 -0.5**
baz=44
NHSC New Hope 37.73 256 IAMs_20 IAMs_20 19 40 01.9
comp=Z,3µm,21.0s
AGMN Agassiz Nation 37.76 288 P **P 19 25 41.9 +0.2**
baz=59,SNR=10
AGMN Agassiz Nation 37.76 288 IAmb IAmb 19 25 48.7
comp=Z,189nm,1.6s
AGMN IAMs_20 IAMs_20 19 39 36.0
comp=Z,4µm,21.0s
T50A Nancy 37.81 265 IAmb IAmb 19 25 49.9
comp=Z,210nm,1.9s
T50A IAMs_20 IAMs_20 19 40 08.7
comp=Z,4µm,20.0s
BUR08 Bucovina Ar. S 37.82 73 IAmb IAmb 19 25 50.9
comp=Z,97nm,1.3s
BURAR Bucovina Array 37.84 73 ⇑P **P 19 25 42.2 -0.4**
BURAR Bucovina Array 37.84 73 ⇑P **P 19 25 42.2 -0.4**
BURAR Bucovina Array 37.84 73 P **P 19 25 41.9 -0.6**
V52A Sevierville 37.85 263 P **P 19 25 43.4 +0.8**
V52A IAMs_20 IAMs_20 19 40 25.8
comp=Z,6µm,21.0s
WCI Wyandotte Cave 37.90 268 P **P 19 25 43.4 +0.5**
WCI pmax pmax
comp=Z,82nm,1.3s
WCI Wyandotte Cave 37.90 268 P **P 19 25 42.0 -0.9**
baz=50
WCI Wyandotte Cave 37.90 268 P **P 19 25 43.4 +0.5**
Z57A Bowman 37.91 257 P **P 19 25 42.8 -0.3**
baz=44
X54A Belton 38.01 260 P **P 19 25 43.5 -0.5**
baz=46
BG3 Lake Jocassee 38.03 261 IAMs_20 IAMs_20 19 40 57.8
comp=Z,3µm,18.0s
FFC Flin Flon 38.06 300 P **P 19 25 43.9 -0.2**
FFC MLR MLR
comp=Z,4µm,20.0s
FFC MLR MLR
comp=Z,117µm,1.6s
FFC Flin Flon 38.06 300 P **P 19 25 43.9 -0.2**
FFC IAmb IAmb 19 25 50.4
comp=Z,117nm,1.6s
FFC Flin Flon 38.06 300 IAMs_20 IAMs_20 19 39 27.8
comp=Z,5µm,20.0s
TKL Tuckaleechee C 38.08 263 IAMs_20 IAMs_20 19 40 44.1
comp=Z,6µm,20.0s
Y55A Saluda 38.13 259 P **P 19 25 43.8 -1.2**
baz=45
HODGE Hodges 38.16 260 IAMs_20 IAMs_20 19 41 06.2
comp=Z,4µm,19.0s
TIR Tirane 38.21 85 IAMs_20 IAMs_20 19 43 06.3
comp=Z,3µm,18.0s
HDIL Hopedale 38.24 273 P **P 19 25 45.0 -0.8**
baz=52
HDIL Hopedale 38.24 273 IAMs_20 IAMs_20 19 40 13.0
comp=Z,3µm,19.0s
Z56A Williston 38.27 258 P **P 19 25 45.4 -0.7**
baz=44
V51A Loudon 38.33 263 IAmb IAmb 19 25 54.4
comp=Z,164nm,1.9s
V51A IAMs_20 IAMs_20 19 40 23.1
comp=Z,4µm,22.0s
L40A Anamosa 38.49 277 IAmb IAmb 19 25 55.1
comp=Z,341nm,2.0s
L40A IAMs_20 IAMs_20 19 40 30.5
comp=Z,5µm,19.0s
157A Early Branch 38.52 257 P **P 19 25 47.6 -0.6**
baz=44
AKASG Malin Array Be 38.55 67 P **P 19 25 47.6 -0.6**
comp=Z,9.3nm,0.9s,baz=305,slow=8.0,SNR=27

AKASG PP **PP** **19 27 15.7 -0.5**
comp=Z,0.8nm,0.5s,baz=298,slow=11,SNR=5.3
AKASG PcP **PcP** **19 27 59.6 -1.2**
comp=Z,1.1nm,0.6s,baz=282,slow=3.6,SNR=2.5
AKASG LR LR 19 41 42.4
comp=Z,3μm,18.8s,baz=305,slow=36
AKASG Malin Array Be 38.55 67 *i* P **P** **19 25 48.0 -0.3**
AKASG pmax pmax
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 38.55 67 P **P** **19 25 47.7 -0.6**
AKBB Malin Array Si 38.55 67 P **P** **19 25 48.2 -0.1**
AKBB pmax pmax
comp=Z,209nm,1.7s
AKBB MLR MLR
comp=Z,3μm,20.0s
AKBB Malin Array Si 38.55 67 P **P** **19 25 48.1 -0.1**
AKBB IAmb IAmb 19 25 59.8
comp=Z,209nm,1.6s
AKBB IAMs_20 IAMs_20 19 41 12.9
comp=Z,3μm,20.0s
I37A Lemond, Waseca 38.65 281 IAmb IAmb 19 25 56.6
comp=Z,158nm,1.6s
CPCT Cooper Cave 38.67 263 IAmb IAmb 19 25 53.2
comp=Z,174nm,1.9s
CPCT IAMs_20 IAMs_20 19 40 42.6
comp=Z,4μm,20.0s
U49A Red Boiling Sp 38.71 265 P **P** **19 25 49.9 0.0**
U49A IAmb IAmb 19 25 57.3
comp=Z,292nm,1.9s
U49A IAMs_20 IAMs_20 19 40 46.6
comp=Z,4μm,20.0s
BIZ Bicaz 38.72 74 ⇓P **P** **19 25 49.5 -0.3**
SKO Skopje 38.78 83 *i* P **P** **19 25 52.2 +1.9**
DOPR Dopca 38.83 75 ⇑P **P** **19 25 49.6 -1.1**
OHR Ohrid 38.91 85 *i* P **P** **19 25 50.1 -1.5**
VOIR 38.92 76 ⇓P **P** **19 25 49.7 -1.9**
VOIR 38.92 76 ⇓P **P** **19 25 49.7 -1.9**
D32A Dogwood Acres, 39.03 287 IAMs_20 IAMs_20 19 40 35.7
comp=Z,3μm,20.0s
257A Skidaway Islan 39.04 256 IAMs_20 IAMs_20 19 41 53.6
comp=Z,2μm,19.0s
K38A Parkersburg 39.07 278 IAmb IAmb 19 25 59.0
comp=Z,117nm,1.1s
N41A Harden Midland 39.09 275 IAmb IAmb 19 26 00.3
N41A IAMs_20 IAMs_20 19 40 38.3
comp=Z,3μm,20.0s
Q44A Meyer Farm, Va 39.10 271 P **P** **19 25 52.9 -0.1**
Q44A IAmb IAmb 19 26 05.2
comp=Z,105nm,1.1s
T47A Sharon Grove 39.19 267 IAmb IAmb 19 26 01.3
comp=Z,192nm,2.0s
T47A IAMs_20 IAMs_20 19 42 22.3
comp=Z,4μm,18.0s
KLMR Klimovskoe 39.26 48 *e*P **P** **19 25 53.4 -0.7**
KLMR *e* 19 28 01.1
KLMR pmax pmax
comp=Z,440nm,1.4s
KLMR Klimovskoe 39.26 48 *e*P **P** **19 25 53.4 -0.7**
KLMR AMP 19 26 06.5
comp=Z,440nm,1.4s
KLMR *e*PcP **PcP** **19 28 01.1 -1.6**
KLMR LQ LQ 19 38 22.2
KLMR LQ LQ 19 38 22.2
KLMR LR LR 19 39 42.7
KLMR AMP 19 40 22.2
comp=Z,856nm,16.4s
F33A 5 Mile Ranch, 39.32 285 P **P** **19 25 54.5 -0.3**
F33A PcP **PcP** **19 28 02.1 -1.1**
F33A IAMs_20 IAMs_20 19 40 58.3
comp=Z,5μm,18.0s
CLTN Cedars of Leba 39.32 265 IAMs_20 IAMs_20 19 41 04.8
comp=Z,4μm,20.0s
MPEP Malo Peshtene 39.33 80 *i* P **P** **19 25 55.3 +0.3**
SORM Soroca 39.37 71 ⇑P **P** **19 25 55.0 -0.2**
SORM Soroca 39.37 71 ⇑P **P** **19 25 55.0 -0.2**
MLR Muntele Rosu 39.42 76 ⇑P **P** **19 25 53.7 -2.1**
MLR Muntele Rosu 39.42 76 ⇑P **P** **19 25 53.7 -2.1**
MLR Muntele Rosu 39.42 76 IAMs_20 IAMs_20 19 43 20.0
comp=Z,4μm,18.0s
GOGA Godfrey 39.45 260 P **P** **19 25 54.9 -1.1**
baz=45
FNA Florina 39.46 85 P **P** **19 25 56.8 +0.7**
FNA pmax pmax
comp=Z,220nm,1.8s
FNA MLR MLR
comp=Z,7μm,20.0s
FNA Florina 39.46 85 P **P** **19 25 56.8 +0.7**
FNA IAmb IAmb 19 26 05.0
comp=Z,220nm,1.8s
VTS Vitosha 39.47 81 *i* P **P** **19 25 56.6 +0.3**
X51A Calhoun 39.48 262 IAMs_20 IAMs_20 19 41 35.0
comp=Z,5μm,19.0s
Y52A Lilburn 39.49 261 P **P** **19 25 56.8 +0.4**
PLOR Plostina 39.63 75 ⇑P P 19 25 44.6 -13
VRI Vrincioaia 39.66 75 ⇓P **P** **19 25 58.0 +0.3**
VRI Vrincioaia 39.66 75 ⇓P **P** **19 25 58.0 +0.3**
COPA Copaceanca 39.76 78 ⇓P **P** **19 25 55.7 -2.8**
SCIA State Center 39.77 278 P **P** **19 25 57.1 -1.6**
baz=53
SCIA State Center 39.77 278 IAmb IAmb 19 26 01.8
comp=Z,130nm,1.4s
KKB Krupnik 39.82 82 *i* P **P** **19 26 00.9 +1.8**
VAY Valandovo 39.85 83 *i* P **P** **19 26 01.4 +2.1**
V48A Smith Brothers 39.85 265 IAmb IAmb 19 26 07.0
comp=Z,174nm,1.7s
V48A IAMs_20 IAMs_20 19 41 21.9
comp=Z,4μm,19.0s
SLM Saint Louis 40.01 272 P **P** **19 26 01.0 +0.4**
SLM pmax pmax
comp=Z,91nm,1.0s
SLM MLR MLR
comp=Z,8μm,18.0s
SLM Saint Louis 40.01 272 P **P** **19 26 01.0 +0.4**
SLM IAmb IAmb 19 26 12.8
comp=Z,91nm,1.0s
S44A Carbondale 40.02 270 IAmb IAmb 19 26 13.5
comp=Z,229nm,1.2s
T45A Paducah 40.10 268 IAMs_20 IAMs_20 19 41 25.4
comp=Z,5μm,21.0s
MDND Maddock 40.13 289 P **P** **19 25 59.6 -1.9**
baz=58
MDND Maddock 40.13 289 IAMs_20 IAMs_20 19 40 57.7
comp=Z,3μm,21.0s
WVT Waverly 40.20 267 P **P** **19 26 02.2 0.0**
WVT pmax pmax
comp=Z,65nm,1.3s
WVT MLR MLR
comp=Z,6μm,18.0s
WVT Waverly 40.20 267 P **P** **19 26 00.3 -1.9**
baz=48
WVT Waverly 40.20 267 P **P** **19 26 02.1 0.0**
KIS Kishinev 40.25 72 ⇑*i*P **P** **19 26 02.0 -0.5**
comp=Z,200nm,4.5s
KIS Kishinev 40.25 72 *e*PP PP 19 27 30.0 -4.8
KIS *e*S **S** **19 32 06.0 -3.7**
KIS *e*SS **SS** **19 35 08.0 +0.6**
KIS *e*LQ LQ 19 39 50.0
comp=Z,900nm,13.0s
KIS LRM MLR 19 42 52.0
comp=Z,600nm,19.0s
KIS Kishinev 40.25 72*c i*P **P** **19 26 02.0 -0.5**
KIS *e*S **S** **19 32 06.0 -3.7**
KIS *e*SS **SS** **19 35 08.0 +0.6**
KIS pmax pmax
comp=Z,200nm,4.5s
KIS MLR MLR
comp=N,500nm,18.0s
KIS MLR MLR
comp=Z,840nm,18.0s
KIS MLR MLR
comp=E,600nm,19.0s
MILM Milestii Mici 40.29 72 ⇓P **P** **19 26 01.1 -1.7**
OBN Obninsk 40.34 57 ⇓P **P** **19 26 03.9 +0.7**
OBN Obninsk 40.34 57*c i*P **P** **19 26 03.1 0.0**
OBN *i* 19 26 09.5
OBN *i* 19 27 36.9
OBN *e*S **S** **19 32 17.4 +6.6**
OBN pmax pmax
comp=Z,62nm,1.0s
OBN MLR MLR
comp=Z,3μm,17.0s
OBN Obninsk 40.34 57 P **P** **19 26 02.8 -0.3**
OBN IAMs_20 IAMs_20 19 41 54.9
comp=Z,3μm,18.0s

MMB Musomiste 40.38 82 *i* P **P** **19 26 05.2 +1.5**
N38A Joes South For 40.46 276 IAMs_20 IAMs_20 19 41 41.7
comp=Z,5μm,19.0s
P40A Paris 40.53 274 IAmb IAmb 19 26 12.0
comp=Z,180nm,1.6s
P40A IAMs_20 IAMs_20 19 41 33.7
comp=Z,3μm,20.0s
Z51A Franklin 40.53 261 P **P** **19 26 05.4 +0.3**
Z51A IAMs_20 IAMs_20 19 42 10.0
comp=Z,3μm,18.0s
456A Hilliard 40.54 255 IAMs_20 IAMs_20 19 42 58.1
comp=Z,4μm,19.0s
MOS Moscow 40.58 56 *e*P **P** **19 26 04.4 -0.7**
MOS *e* 19 27 37.5
MOS *e*S **S** **19 32 12.5 -1.9**
MOS pmax pmax
comp=Z,83nm,1.1s
MOS MLR MLR
comp=E,1μm,13.0s
MOS MLR MLR
comp=Z,2μm,13.0s
PLD Plovdiv 40.65 81 P **P** **19 26 04.8 -1.1**
SZH Strazhica 40.68 79 P **P** **19 26 05.7 -0.5**
A36M Sachs Harbour 40.70 332 P **P** **19 26 04.0 -1.9**
baz=68
ECSD EROS Data Cent 40.70 282 P **P** **19 26 07.0 +0.6**
baz=54,SNR=22
ECSD EROS Data Cent 40.70 282 IAmb IAmb 19 26 13.9
comp=Z,216nm,1.6s
152A Waverly Hall 40.72 260 IAMs_20 IAMs_20 19 43 14.9
comp=Z,4μm,19.0s
YKA Yellowknife Ar 40.72 316 P **P** **19 26 05.3 -0.9**
comp=Z,19nm,1.1s,baz=59,slow=10.0,SNR=7.3
YKA PcP **PcP** **19 28 05.8 -1.6**
comp=Z,6.0nm,0.8s,baz=56,slow=4.1,SNR=9.1
YKA LR LR 19 41 41.4
comp=Z,2μm,18.0s,baz=0.0,slow=34
HICK Hickman 40.77 268 IAMs_20 IAMs_20 19 41 46.0
comp=Z,5μm,21.0s
HENM Henderson Moun 40.80 269 IAMs_20 IAMs_20 19 41 45.8
comp=Z,5μm,21.0s
CFR Carcaliu 40.87 75 ⇑P **P** **19 26 04.5 -3.1**
CFR Carcaliu 40.87 75 ⇑P **P** **19 26 04.5 -3.1**
TIGA Tifton 40.93 258 P **P** **19 26 07.5 -0.8**
baz=43
TIGA Tifton 40.93 258 IAMs_20 IAMs_20 19 42 42.6
comp=Z,5μm,20.0s
GLAT Glass 40.98 268 IAMs_20 IAMs_20 19 42 03.7
comp=Z,4μm,20.0s
CCM Cathedral Cave 40.99 272 P **P** **19 26 09.1 +0.4**
CCM pmax pmax
comp=Z,212nm,1.6s
CCM MLR MLR
comp=Z,4μm,18.0s
CCM Cathedral Cave 40.99 272 P **P** **19 26 07.6 -1.1**
baz=50
CCM Cathedral Cave 40.99 272 P **P** **19 26 09.1 +0.4**
CCM IAmb IAmb 19 26 16.7
comp=Z,212nm,1.6s
CCM Cathedral Cave 40.99 272 IAMs_20 IAMs_20 19 41 58.8
comp=Z,4μm,18.0s
PARMO Parma 41.00 269 IAMs_20 IAMs_20 19 42 03.1
comp=Z,5μm,20.0s
HARR Harsova 41.03 76 ⇑P **P** **19 26 07.1 -1.9**
HARR Harsova 41.03 76 ⇑P **P** **19 26 07.1 -1.9**
PENMO Penman 41.07 269 IAMs_20 IAMs_20 19 41 54.9
comp=Z,5μm,22.0s
PLAL Pickwick Lake 41.12 266 IAMs_20 IAMs_20 19 42 46.4
comp=Z,5μm,20.0s
LNXT Lenox 41.22 268 IAMs_20 IAMs_20 19 42 10.9
comp=Z,4μm,20.0s
HALT Halls 41.25 268 IAMs_20 IAMs_20 19 42 11.9
comp=Z,4μm,20.0s
PBMO Poplar Bluff 41.33 270 IAmb IAmb 19 26 24.1
comp=Z,126nm,1.2s
P38A Dawn 41.36 275 P **P** **19 26 11.6 -0.2**
P38A IAmb IAmb 19 26 24.9
comp=Z,115nm,1.2s
P38A IAMs_20 IAMs_20 19 42 09.6
comp=Z,3μm,19.0s
C36M Paulatuk 41.40 328 P **P** **19 26 10.2 -1.5**
baz=66
PEBM Pemiscott Bayo 41.43 268 IAMs_20 IAMs_20 19 42 17.6
comp=Z,5μm,21.0s
E28A Huff 41.45 288 P **P** **19 26 13.2 +0.7**
E28A IAMs_20 IAMs_20 19 41 47.6
comp=Z,3μm,20.0s
R40A Maddies Statio 41.45 273 IAMs_20 IAMs_20 19 42 13.1
comp=Z,3μm,18.0s
T42A Van Buren 41.56 270 IAmb IAmb 19 26 20.5
comp=Z,280nm,2.0s
PRGR Permogore 41.60 45 *e*P **P** **19 26 13.3 -0.2**
GNAR Gosnell 41.62 268 IAMs_20 IAMs_20 19 42 22.7
comp=Z,5μm,21.0s
SUSD Miller 41.66 285 P **P** **19 26 13.9 -0.3**
baz=54
LRAL Lakeview Retre 41.82 263 P **P** **19 26 15.8 +0.2**
baz=45,SNR=7.7
LRAL Lakeview Retre 41.82 263 IAMs_20 IAMs_20 19 43 20.0
comp=Z,4μm,19.0s
656A Willston 41.84 255 IAMs_20 IAMs_20 19 42 35.6
comp=Z,3μm,21.0s
H05N1 Guadeloupe/Mar 42.02 219 T T 20 10 46.9
SNR=51
LPAR Lepanto 42.04 268 IAMs_20 IAMs_20 19 42 35.6
comp=Z,5μm,22.0s
ITM Ithomi 42.08 89 IAMs_20 IAMs_20 19 44 20.8
comp=Z,3μm,22.0s
250A Grady 42.13 261 IAmb IAmb 19 26 31.4
comp=Z,237nm,1.4s
MET Memphis--Engin 42.14 267 IAMs_20 IAMs_20 19 42 39.3
comp=Z,4μm,20.0s
ALN Alexandroupoli 42.18 81 IAMs_20 IAMs_20 19 44 20.4
comp=Z,4μm,19.0s
MGMO Mountain Grove 42.19 271 IAmb IAmb 19 26 25.8
comp=Z,144nm,1.5s
LCAR Lake Charles 42.24 269 P **P** **19 26 18.5 -0.5**
OXF Oxford 42.24 266 P **P** **19 26 18.6 -0.5**
baz=47
OXF Oxford 42.24 266 P **P** **19 26 18.4 -0.6**
OXF IAmb IAmb 19 26 30.7
comp=Z,179nm,1.1s
OXF PcP **PcP** **19 28 07.3 -5.6**
HBAR Harrisburg 42.28 268 IAMs_20 IAMs_20 19 42 43.2
comp=Z,5μm,21.0s
553A Crawfordville 42.34 257 IAMs_20 IAMs_20 19 43 46.8
comp=Z,4μm,20.0s
Z47A Carrollton 42.34 264 IAmb IAmb 19 26 32.6
comp=Z,212nm,1.4s
DGMT Dagmar 42.37 293 P **P** **19 26 20.0 0.0**
baz=56,SNR=6.3
DGMT Dagmar 42.37 293 P **P** **19 26 20.5 +0.5**
S39A Bolivar 42.48 273 IAmb IAmb 19 26 28.0
comp=Z,175nm,1.5s
S39A IAMs_20 IAMs_20 19 42 45.1
comp=Z,3μm,19.0s
PDPR Patillas Dam, 42.52 226 P **P** **19 26 22.0 +0.6**
Y45A Yeager Farm, C 42.77 266 IAmb IAmb 19 26 35.2
comp=Z,154nm,1.2s
LPSR Galich'ya Gora 42.80 60 *e*P **P** **19 26 23.5 +0.1**
LPSR pmax pmax
comp=Z,60nm,1.0s
BGNE Belgrade 43.01 281 P **P** **19 26 25.2 -0.1**
baz=52,SNR=5.3
BGNE Belgrade 43.01 281 P **P** **19 26 25.3 +0.1**
U40A Yellville 43.07 271 P **P** **19 26 25.9 +0.1**
baz=48,SNR=22
U40A Yellville 43.07 271 IAmb IAmb 19 26 32.9
comp=Z,292nm,1.8s
X43A Marvell 43.12 267 P **P** **19 26 25.8 -0.4**
baz=47
X43A Marvell 43.12 267 IAMs_20 IAMs_20 19 43 20.4
comp=Z,4μm,19.0s
TAM Tamanrasset 43.16 119 P **P** **19 26 27.9 +1.1**
TAM pmax pmax
comp=Z,110nm,1.6s
TAM MLR MLR
comp=Z,700nm,18.0s
TAM Tamanrasset 43.16 119 P **P** **19 26 27.9 +1.1**
BRAL Brewton 43.18 261 P **P** **19 26 25.6 -1.0**
baz=44
VORR Voronezh 43.44 61 *e*P **P** **19 26 27.0 -1.5**
VORR pmax pmax
comp=Z,300nm,2.2s
WHAR Wooly Hollow 43.45 269 P **P** **19 26 28.0 -0.8**
WHAR IAmb IAmb 19 26 41.0
comp=Z,128nm,1.2s

W41B Gary Mavity, V 43.50 269 P **P** **19 26 29.2 -0.1**
baz=47,SNR=13
W41B Gary Mavity, V 43.50 269 IAmb IAmb 19 26 41.0
comp=Z,84nm,1.2s
KSU1 Kansas State U 43.54 277 P **P** **19 26 29.4 -0.1**
baz=50,SNR=12
KSU1 Kansas State U 43.54 277 P **P** **19 26 29.1 -0.5**
VSR Storozhevoye 43.66 61 *e*P **P** **19 26 30.5 +0.1**
VSR pmax pmax
comp=Z,70nm,1.1s
HHAR Hobbs 43.77 272 IAmb IAmb 19 26 43.7
comp=Z,121nm,1.2s
UALR University of 43.83 269 IAmb IAmb 19 26 49.7
comp=Z,112nm,1.5s
VORD Divnogorie 43.87 61 *e*P **P** **19 26 31.6 -0.4**
VORD pmax pmax
comp=Z,70nm,1.0s
U38A Gravette 43.94 272 IAmb IAmb 19 26 39.4
comp=Z,168nm,1.6s
U38A IAMs_20 IAMs_20 19 43 31.9
comp=Z,4μm,21.0s
SDDR Presa de Saban 44.11 233 P **P** **19 26 35.1 +0.8**
SDDR IAmb IAmb 19 26 37.1
comp=Z,113nm,1.6s
BANI BANI 44.17 232 P **P** **19 26 36.0 +1.1**
APE Apeiranthos 44.32 86*ce*P **P** **19 26 36.8 +0.9**
APE pmax pmax
comp=Z,191nm,2.1s
APE MLR MLR
comp=Z,3μm,19.0s
X40A Basin Creek Fa 44.32 269 P **P** **19 26 35.5 -0.3**
baz=47,SNR=16
X40A Basin Creek Fa 44.32 269 P **P** **19 26 35.6 -0.3**
X40A IAmb IAmb 19 26 38.5
comp=Z,152nm,1.5s
BBGH Gun Hill 44.41 215 IAMs_20 IAMs_20 19 41 50.5
comp=Z,3μm,20.0s
W39A Magazine 44.41 270 P **P** **19 26 35.7 -0.9**
baz=47,SNR=17
W39A Magazine 44.41 270 IAmb IAmb 19 26 49.2
comp=Z,107nm,1.1s
346A Big Creek Wild 44.46 263 IAMs_20 IAMs_20 19 45 16.8
comp=Z,3μm,19.0s
VBMS Vicksburg 44.50 265 P **P** **19 26 36.8 -0.5**
baz=45
LAO LASA Array 44.51 292 P **P** **19 26 38.3 +1.0**
baz=54,SNR=25
MIAR Mount Ida 44.73 270 P **P** **19 26 38.9 -0.2**
baz=47,SNR=29
MIAR Mount Ida 44.73 270 IAmb IAmb 19 26 51.7
comp=Z,112nm,1.2s
SANT Santorini 44.74 87 IAMs_20 IAMs_20 19 45 36.2
comp=Z,3μm,20.0s
RSSD Black Hills 44.79 287 P **P** **19 26 39.0 -0.8**
RSSD pmax pmax
comp=Z,12nm,1.2s
RSSD MLR MLR
comp=Z,3μm,22.0s
RSSD Black Hills 44.79 287 P **P** **19 26 39.6 -0.2**
baz=53
RSSD Black Hills 44.79 287 P **P** **19 26 39.0 -0.8**
RSSD Black Hills 44.79 287 IAMs_20 IAMs_20 19 43 44.1
comp=Z,3μm,22.0s
T35A Sooner Cattle 44.90 274 IAmb IAmb 19 26 52.9
comp=Z,130nm,1.2s
T35A IAMs_20 IAMs_20 19 44 19.3
comp=Z,3μm,20.0s
INK Inuvik 44.91 329 P **P** **19 26 39.6 -0.5**
comp=Z,16nm,0.9s,baz=42,slow=9.1,SNR=15
INK PcP **PcP** **19 28 20.9 -0.4**
comp=Z,15nm,1.1s,baz=356,slow=2.0,SNR=4.1
INK Inuvik 44.91 329 P **P** **19 26 39.6 -0.5**
INK IAmb IAmb 19 26 46.4
comp=Z,175nm,1.6s
VRH Novokhopyorsk 45.01 60 *e*P **P** **19 26 41.5 +0.4**
VRH pmax pmax
comp=Z,70nm,1.1s
IDI Anoyia 45.12 88 IAMs_20 IAMs_20 19 46 02.4
comp=Z,2μm,20.0s
TUL1 Leonard 45.14 273 P **P** **19 26 41.6 -0.7**
baz=48
TUL1 Leonard 45.14 273 IAMs_20 IAMs_20 19 44 18.6
comp=Z,3μm,21.0s
Z41A Richland Creek 45.15 268 P **P** **19 26 42.3 -0.1**
baz=46
344A Westbrook Farm 45.17 264 P **P** **19 26 43.4 +0.7**
GTBY Guantanamo Bay 45.22 238 IAMs_20 IAMs_20 19 41 48.5
comp=Z,3μm,22.0s
CBKS Cedar Bluff 45.59 279 P **P** **19 26 45.4 -0.5**
baz=50
EGMT Eagleton 45.69 295 P **P** **19 26 47.4 +0.7**
baz=54,SNR=21
EGMT Eagleton 45.69 295 IAmb IAmb 19 26 54.2
comp=Z,105nm,1.1s
EGMT IAMs_20 IAMs_20 19 44 16.6
comp=Z,3μm,20.0s
KOWA Kowa 45.71 136 P **P** **19 26 46.5 -0.6**
X37A Clayton 45.78 271 IAmb IAmb 19 26 54.3
comp=Z,182nm,1.9s
545A Edgard 46.03 263 IAMs_20 IAMs_20 19 44 52.6
comp=Z,2μm,21.0s
OK029 Liberty Lake 46.21 274 IAMs_20 IAMs_20 19 45 11.1
comp=Z,2μm,18.0s
OK025 Westminster Rd 46.29 274 IAMs_20 IAMs_20 19 45 13.0
comp=Z,2μm,18.0s
KARP Karpathos 46.31 86 P **P** **19 26 51.1 -0.6**
KARP IAMs_20 IAMs_20 19 47 09.9
comp=Z,2μm,19.0s
ANN Anapa 46.42 70 *e*P **P** **19 26 52.4 +0.1**
ANN *e**PP **sP** **19 26 55.6 +1.2**
ANN *e* 19 28 39.4
ANN *e*S **S** **19 33 41.6 +1.5**
ANN pmax pmax
comp=Z,81nm,1.4s
ANN MLR MLR
comp=Z,5μm,18.0s
ANN MLR MLR
comp=N,2μm,15.0s
OKCFA Oklahoma City 46.47 274 IAMs_20 IAMs_20 19 45 19.8
comp=Z,2μm,18.0s
BOLV Bolvadin 46.48 80 IAMs_20 IAMs_20 19 46 30.1
comp=Z,4μm,21.0s
U32A Winter Ranch, 46.75 276 IAMs_20 IAMs_20 19 45 18.2
comp=Z,3μm,21.0s
ISP Isparta 46.81 82 IAMs_20 IAMs_20 19 46 58.3
comp=Z,2μm,21.0s
ANTO Ankara 46.83 78 IAMs_20 IAMs_20 19 48 47.7
comp=Z,3μm,19.0s
GCMT Greycliff 46.97 293 P **P** **19 26 57.5 +0.6**
K22A Casper 47.13 287 P **P** **19 26 58.0 -0.1**
baz=51,SNR=18
K22A Casper 47.13 287 P **P** **19 26 57.8 -0.4**
K22A IAMs_20 IAMs_20 19 45 19.9
comp=Z,3μm,21.0s
RLMT Red Lodge 47.15 292 P **P** **19 26 59.4 +1.0**
baz=52,SNR=36
RLMT Red Lodge 47.15 292 IAMs_20 IAMs_20 19 45 25.6
comp=Z,3μm,18.0s
KSCO Kaye Shedlock' 47.18 281 P **P** **19 26 58.1 -0.5**
baz=49
WALA Waterton Lakes 47.31 299 IAMs_20 IAMs_20 19 45 17.4
comp=Z,3μm,19.0s
NATX Nacogdoches 47.31 268 P **P** **19 26 59.5 0.0**
baz=45
AKAS Kas 47.32 84 IAMs_20 IAMs_20 19 48 07.4
comp=Z,2μm,18.0s
BRTR Keskin Array B 47.42 77 P **P** **19 27 01.1 +0.6**
comp=Z,21nm,0.7s,baz=303,slow=5.3,SNR=18
BRTR PcP **PcP** **19 28 30.9 +0.1**
comp=Z,2.1nm,1.0s,baz=298,slow=3.1,SNR=0.9
BRTR LR LR 19 48 28.4
comp=Z,2μm,18.3s,baz=284,slow=38
BRTR Keskin Array B 47.42 77 *i* P **P** **19 27 02.0 +1.6**
BRTR pmax pmax
comp=Z,21nm,0.7s
BRTR Keskin Array B 47.42 77 P **P** **19 27 01.8 +1.4**
WMOK Wichita Mounta 47.73 274 P **P** **19 27 02.6 -0.2**
baz=47,SNR=26
WMOK Wichita Mounta 47.73 274 IAMs_20 IAMs_20 19 45 59.1
comp=Z,2μm,20.0s
MTDJ Mount Denham 47.89 240 IAmb IAmb 19 27 12.6
comp=Z,92nm,1.3s
N23A Red Feather La 47.91 285 P **P** **19 27 05.5 +1.1**
baz=50,SNR=48
N23A Red Feather La 47.91 285 IAMs_20 IAMs_20 19 46 16.6
comp=Z,3μm,18.0s
BOZ Bozeman (W) 48.17 294 P **P** **19 27 06.7 +0.5**

baz=52,SNR=38
BOZ Bozeman (W) 48.17 294 IAmb IAmb 19 27 18.4
comp=Z,70nm,1.3s
BOZ IAMs_20 IAMs_20 19 46 09.5
comp=Z,3µm,18.0s
JTMT Jette 48.30 297 IAmb IAmb 19 27 12.9
comp=Z,121nm,1.7s
JTMT IAMs_20 IAMs_20 19 46 05.6
comp=Z,3µm,18.0s
H17A Grant Village 48.34 292 P **P** **19 27 08.4 +0.7**
baz=51
H17A Grant Village 48.34 292 IAmb IAmb 19 27 15.4
comp=Z,126nm,1.9s
ISCO Idaho Springs 48.42 284 P **P** **19 27 09.3 +0.9**
baz=49,SNR=20
ISCO Idaho Springs 48.42 284 IAmb IAmb 19 27 16.3
comp=Z,67nm,1.2s
ISCO IAMs_20 IAMs_20 19 46 43.2
comp=Z,3µm,18.0s
SOC Sochi 48.46 70*c i*P **P** **19 27 08.9 +0.6**
SOC *e* 19 29 00.7
SOC *e*PPP PPP 19 29 50.1
SOC *e*S **S** **19 34 12.1 +2.9**
SOC *e*SSS SSS 19 38 55.1
SOC pmax pmax
comp=Z,36nm,1.0s
SOC MLR MLR
comp=Z,2µm,21.0s
FLWY Flagg Ranch 48.60 291 IAmb IAmb 19 27 30.5
comp=Z,110nm,1.6s
FLWY IAMs_20 IAMs_20 19 46 14.8
comp=Z,3µm,18.0s
MSO Missoula 48.68 296 P **P** **19 27 10.0 0.0**
baz=52
Q24A Divide 48.69 283 P **P** **19 27 10.3 -0.2**
baz=49
BW06 Boulder Array 48.79 289 P **P** **19 27 10.6 -0.5**
baz=50,SNR=23
BW06 Boulder Array 48.79 289 IAMs_20 IAMs_20 19 46 21.8
comp=Z,3µm,19.0s
PDAR Pinedale Array 48.79 289 P **P** **19 27 10.8 -0.3**
comp=Z,7.5nm,0.7s,baz=60,slow=8.8,SNR=36
PDAR PcP **PcP** **19 28 34.8 -1.0**
comp=Z,0.6nm,0.4s,baz=82,slow=7.4,SNR=1.3
PDAR PP **PP** **19 29 04.0 0.0**
comp=Z,2.2nm,1.0s,baz=52,slow=7.3,SNR=1.8
PDAR LR LR 19 46 41.8
comp=Z,3µm,18.2s,baz=50,slow=35
PDAR Pinedale Array 48.79 289 P **P** **19 27 10.4 -0.7**
BMAR Burnt Mountain 48.79 331 P **P** **19 27 10.4 -0.1**
BMAR PcP **PcP** **19 28 32.6 -2.6**
WHTX Lake Whitney, 48.83 270 P **P** **19 27 11.1 -0.2**
baz=45,SNR=9.1
WHTX Lake Whitney, 48.83 270 IAmb IAmb 19 27 17.9
comp=Z,94nm,1.2s
LOHW Long Hollow 48.84 291 IAmb IAmb 19 27 17.9
comp=Z,126nm,1.8s
LOHW PP PP 19 29 06.0 +1.5
IMW Indian Meadow 48.85 291 P **P** **19 27 11.4 -0.2**
IMW IAMs_20 IAMs_20 19 46 13.6
comp=Z,2µm,21.0s
DLMT Dillon 48.85 294 IAmb IAmb 19 27 19.1
comp=Z,58nm,1.1s
DLMT IAMs_20 IAMs_20 19 46 20.5
comp=Z,3µm,21.0s
SNOW Snow King Moun 49.02 291 IAmb IAmb 19 27 32.1
comp=Z,83nm,1.6s
FXWY Fox Creek 49.06 291 IAMs_20 IAMs_20 19 46 30.1
comp=Z,3µm,19.0s
TPAW Teton Pass 49.12 291 IAmb IAmb 19 27 28.8
comp=Z,84nm,1.6s
TPAW IAMs_20 IAMs_20 19 46 31.4
comp=Z,3µm,19.0s
A21K Barrow 49.14 339 P **P** **19 27 13.4 +0.3**
baz=43
REDW Red Top Meadow 49.14 291 IAmb IAmb 19 27 21.0
comp=Z,112nm,1.5s
REDW PP 19 29 04.4 -2.7
HKT Hockley 49.31 267 P **P** **19 27 14.9 +0.1**
HKT pmax pmax
comp=Z,54nm,1.4s
HKT MLR MLR
comp=Z,4µm,19.0s
HKT Hockley 49.31 267 P **P** **19 27 14.9 +0.1**
HKT IAmb IAmb 19 27 21.9
comp=Z,54nm,1.4s
DLBC Dease Lake 49.33 316 P **P** **19 27 13.8 -1.1**
comp=Z,13nm,1.1s,baz=49,slow=10,SNR=7.6
DLBC Dease Lake 49.33 316 P **P** **19 27 15.8 +0.9**
DLBC IAmb IAmb 19 27 31.6
comp=Z,104nm,1.8s
DLBC IAMs_20 IAMs_20 19 46 41.6
comp=Z,2µm,18.0s
TOLK Toolik Lake Re 49.36 334 P **P** **19 27 15.1 +0.2**
baz=46,SNR=13
TOLK S **S** **19 34 23.6 +2.3**
baz=46
AMTX Amarillo 49.37 276 P **P** **19 27 15.8 +0.4**
baz=47
AMTX S **S** **19 34 30.0 +7.6**
baz=47
GOF Gofitskoye 49.39 66⇑ *e*P **P** **19 27 16.8 +1.4**
GOF pmax pmax
comp=Z,70nm,0.9s
TOC1 Torodi Ar. Sit 49.42 130 IAMs_20 IAMs_20 19 45 48.5
comp=Z,2µm,18.0s
TOA0 Torodi Ar. Sit 49.43 130 P **P** **19 27 15.7 -0.3**
SNR=9.1
TOA0 P **P** **19 27 15.7 -0.3**
SNR=9.1
TORD Torodi Ar. Bea 49.43 130 P **P** **19 27 15.4 -0.5**
comp=Z,10nm,0.7s,baz=332,slow=8.0,SNR=62
TORD PcP **PcP** **19 28 38.0 -0.2**
comp=Z,2.3nm,0.9s,baz=325,slow=5.0,SNR=1.2
TORD LR LR 19 46 09.5
comp=Z,1µm,19.3s,baz=325,slow=34
TORD Torodi Ar. Bea 49.43 130 P **P** **19 27 15.1 -0.9**
TOC5 Torodi Ar. Sit 49.44 130 IAMs_20 IAMs_20 19 45 48.2
comp=Z,2µm,19.0s
T25A Trinidad 49.47 280 P **P** **19 27 17.3 +0.9**
baz=48,SNR=22
T25A S **S** **19 34 31.1 +7.1**
baz=48
T25A Trinidad 49.47 280 P **P** **19 27 17.2 +0.9**
EGAK Eagle 49.47 327 IAmb IAmb 19 27 26.6
comp=Z,126nm,1.5s
NEW Newport 49.48 299 P **P** **19 27 15.3 -0.8**
comp=Z,9.1nm,0.8s,baz=58,slow=8.4,SNR=21
NEW Newport 49.48 299 P **P** **19 27 16.4 +0.3**
baz=52,SNR=15
NEW Newport 49.48 299 IAmb IAmb 19 27 23.0
comp=Z,104nm,1.5s
NEW Newport 49.48 299 IAMs_20 IAMs_20 19 46 25.9
comp=Z,3µm,20.0s
ABTX Abilene, Hawle 49.71 273 P **P** **19 27 17.6 -0.4**
baz=45
ABTX Abilene, Hawle 49.71 273 IAmb IAmb 19 27 24.9
comp=Z,103nm,1.4s
ABTX IAMs_20 IAMs_20 19 50 00.6
comp=Z,2µm,18.0s
SDCO Great Sand Dun 49.71 282 P **P** **19 27 19.0 +0.7**
baz=48,SNR=20
SDCO Great Sand Dun 49.71 282 IAmb IAmb 19 27 26.9
comp=Z,98nm,1.8s
O20A White River Ci 49.73 286 P **P** **19 27 19.6 +1.3**
baz=49,SNR=12
O20A White River Ci 49.73 286 P **P** **19 27 18.1 -0.2**
O20A IAmb IAmb 19 27 22.1
comp=Z,64nm,1.2s
O20A IAMs_20 IAMs_20 19 47 25.9
comp=Z,2µm,19.0s
435B Jarrell 49.77 269 P **P** **19 27 18.1 -0.4**
baz=44
WHY Whitehorse 49.89 321 IAmb IAmb 19 27 35.3
comp=Z,131nm,1.8s
WHY IAMs_20 IAMs_20 19 46 56.2
comp=Z,2µm,20.0s
KIV Kislovodsk 49.89 67 *i* P **P** **19 27 19.8 +0.5**
SNR=16
KIV Kislovodsk 49.89 67 P **P** **19 27 20.9 +1.6**
KIV P **P** **19 27 20.9 +1.6**
KIV Kislovodsk 49.89 67 *e*P **P** **19 27 20.6 +1.3**
KIV *e* 19 29 17.0
KIV *e*S **S** **19 34 31.8 +2.3**
KIV pmax pmax
comp=Z,50nm,1.0s
KIV pmax pmax
comp=Z,227nm,4.2s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 49.89 67 IAMs_20 IAMs_20 19 49 27.0
comp=Z,2µm,18.0s
SHA1 Shidzhatmaz 50.01 68*de*P **P** **19 27 23.0 +2.6**
ARU Arti 50.03 46*c i*P **P** **19 27 20.7 +0.7**
ARU 19 28 36.2
ARU 19 29 12.9
ARU PPP PPP 19 30 14.9
ARU S **S** **19 34 33.6 +2.8**
ARU 19 37 07.1
ARU pmax pmax
comp=Z,50nm,1.2s
ARU Arti 50.03 46 P **P** **19 27 19.6 -0.5**
KBZ Khabaz 50.15 67 P **P** **19 27 21.3 +0.1**
comp=Z,7.8nm,0.9s,baz=302,slow=12,SNR=15
KBZ LR LR 19 49 48.1
comp=Z,2µm,18.2s,baz=310,slow=38
C09A Chrisman Ranch 50.38 300 IAMs_20 IAMs_20 19 47 04.5
comp=Z,3µm,20.0s
CSS Mathiatis 50.41 82 P **P** **19 27 23.4 +0.1**
S22A 4UR Ranch, Cre 50.49 283 P **P** **19 27 24.3 +0.1**
baz=48,SNR=14
S22A 4UR Ranch, Cre 50.49 283 IAmb IAmb 19 27 32.3
comp=Z,91nm,1.9s
COLD Coldfoot 50.52 333 P **P** **19 27 23.3 -0.4**
baz=45,SNR=10.0
B08A Colville Reser 50.57 301 IAmb IAmb 19 27 31.0
comp=Z,85nm,1.1s
B08A IAMs_20 IAMs_20 19 47 10.8
comp=Z,3µm,19.0s
MSTX Muleshoe 50.65 276 P **P** **19 27 25.5 +0.3**
baz=46,SNR=32
SVE Sverdlovsk 50.67 45*de*P **P** **19 27 25.7 +0.8**
SVE *e* 19 29 21.7
SVE *e*S **S** **19 34 38.0 -1.8**
SVE pmax pmax
comp=Z,113nm,1.4s
HWUT Hardware Ranch 50.68 290 IAmb IAmb 19 27 28.0
comp=Z,70nm,0.9s
HWUT IAMs_20 IAMs_20 19 47 44.8
comp=Z,2µm,19.0s
URIC Uribia, Colomb 50.76 229 *e*P **P** **19 27 26.4 +0.4**
BCAR Beaver Creek A 50.81 326 P **P** **19 27 26.7 +0.8**
NRIK Noril'sk 50.88 23 P **P** **19 27 26.6 +0.3**
comp=Z,3.3nm,0.7s,baz=319,slow=5.9,SNR=16
NRIK LR LR 19 47 21.8
comp=Z,641nm,20.8s,baz=339,slow=34
PLID Pearl Lake 50.89 296 IAmb IAmb 19 27 34.0
comp=Z,120nm,1.4s
TCUT Toone Canyon 50.91 289 P **P** **19 27 26.8 -0.5**
SCRK Sand Creek 50.92 327 P **P** **19 27 27.7 +0.8**
baz=47,SNR=43
F10A Beach Ranch, E 50.98 297 IAmb IAmb 19 27 35.6
comp=Z,192nm,2.0s
F10A IAMs_20 IAMs_20 19 47 42.7
comp=Z,3µm,18.0s
HLID Hailey 51.00 293 P **P** **19 27 28.6 +0.7**
baz=50,SNR=28
DOT Dot Lake 51.17 327 IAmb IAmb 19 27 36.4
comp=Z,94nm,1.6s
D08A Wollman Farm, 51.19 299 IAMs_20 IAMs_20 19 47 38.0
comp=Z,3µm,20.0s
GAZ Gaziantep 51.21 78 P **P** **19 27 30.2 +0.9**
GAZ IAMs_20 IAMs_20 19 50 50.1
comp=Z,2µm,18.0s
POKR Poker Plat Res 51.21 330 P **P** **19 27 29.9 +1.0**
baz=46,SNR=19
PV01 Paradox Valley 51.25 284 IAmb IAmb 19 27 37.8
comp=Z,215nm,2.0s
PV12 Sauer Basin, 51.26 285 IAmb IAmb 19 27 41.7
comp=Z,130nm,1.3s
PV04 Paradox Valley 51.27 285 P **P** **19 27 30.4 +0.5**
IL31 51.29 329 IAmb IAmb 19 27 37.0
comp=Z,142nm,1.6s
ILAR Eielson Array 51.29 329 P **P** **19 27 29.6 +0.1**
comp=Z,4.6nm,0.8s,baz=40,slow=5.2,SNR=38
ILAR LR LR 19 48 33.0
comp=Z,490nm,19.2s,baz=59,slow=35
ILAR PKPPKP P'P'df 19 58 10.8 -8.0
comp=Z,0.5nm,0.7s,baz=245,slow=3.3,SNR=5.1
PV02 Paradox Valley 51.30 284 IAmb IAmb 19 27 38.0
comp=Z,155nm,1.5s
JCT Junction City 51.32 271 P **P** **19 27 29.7 -0.5**
baz=44,SNR=9.5
JCT S **S** **19 34 51.4 +1.9**
baz=44
JCT Junction City 51.32 271 IAmb IAmb 19 27 36.5
comp=Z,96nm,1.4s
ZEI Tsey 51.32 68 *e*P **P** **19 27 32.4 +2.1**
ZEI pmax pmax
comp=Z,28nm,1.6s
PV14 Lion Creek, Pa 51.35 285 IAmb IAmb 19 27 38.3
comp=Z,142nm,1.5s
RIDG Independent Ri 51.36 328 IAmb IAmb 19 27 38.1
comp=Z,184nm,1.7s
PV13 Radium Mtn., P 51.38 284 P **P** **19 27 31.0 +0.2**
PV17 East Wray Mesa 51.38 285 IAmb IAmb 19 27 38.5
comp=Z,111nm,1.1s
COLA College 51.51 330*d i*P **P** **19 27 30.7 -0.4**
COLA pmax pmax
comp=Z,15nm,1.4s
COLA MLR MLR
comp=Z,741nm,17.0s
COLA College 51.51 330 P **P** **19 27 32.0 +0.9**
COLA IAmb IAmb 19 27 42.5
comp=Z,110nm,1.5s
TCOL CIGO, UAF Yank 51.52 330 P **P** **19 27 30.8 -0.4**
baz=45
MENT Mentasta 51.55 326 IAmb IAmb 19 27 43.1
comp=Z,82nm,1.4s
HDA Harding Lake 51.56 329 P **P** **19 27 31.8 +0.3**
baz=46,SNR=17
HDA Harding Lake 51.56 329 IAmb IAmb 19 27 42.8
comp=Z,124nm,1.4s
MDM Murphy Dome 51.57 330 IAmb IAmb 19 27 43.7
comp=Z,110nm,1.4s
B06A Marblemount 51.58 302 IAMs_20 IAMs_20 19 47 44.3
comp=Z,2µm,21.0s
P17A Butcher Ranch, 51.61 287 P **P** **19 27 32.3 -0.1**
E08A Dider Farm, El 51.62 299 IAMs_20 IAMs_20 19 48 00.6
comp=Z,3µm,19.0s
MVCO Mesa Verde 51.83 283 P **P** **19 27 35.4 +1.2**
baz=47,SNR=18
MVCO Mesa Verde 51.83 283 IAMs_20 IAMs_20 19 48 30.5
comp=Z,3µm,21.0s
WRH Wood River Hil 51.87 330 P **P** **19 27 33.9 +0.1**
WRH IAmb IAmb 19 27 41.1
comp=Z,131nm,1.5s
MFID Camas Ranch 51.88 294 IAmb IAmb 19 27 41.9
comp=Z,103nm,1.6s
HAWA Hanford 51.94 299 P **P** **19 27 33.8 -0.8**
HAWA IAMs_20 IAMs_20 19 48 10.9
comp=Z,3µm,19.0s
LTY Liberty 51.97 300 IAmb IAmb 19 27 40.8
comp=Z,136nm,1.4s
LTY IAMs_20 IAMs_20 19 47 53.7
comp=Z,3µm,19.0s
AKH Akhalkalaki 52.00 69 ⇓P P 19 27 21.7 -14
AKH Akhalkalaki 52.00 69 P **P** **19 27 36.4 +1.1**
AKH pmax pmax
comp=Z,154nm,1.8s
AKH MLR MLR
comp=Z,3µm,22.0s
AKH Akhalkalaki 52.00 69 P **P** **19 27 36.4 +1.1**
AKH IAmb IAmb 19 27 48.8
comp=Z,154nm,1.8s
AKH IAMs_20 IAMs_20 19 49 29.8
comp=Z,3µm,22.0s
E07A Sunnyside 52.00 299 P **P** **19 27 34.8 -0.3**
E07A IAMs_20 IAMs_20 19 48 02.5
comp=Z,3µm,19.0s
B05A Bryant 52.05 302 P **P** **19 27 35.5 +0.1**
baz=50
A04D Lummi Island 52.07 303 P **P** **19 27 35.9 +0.5**
baz=50
CTGM Chitina Glacie 52.07 324 IAmb IAmb 19 27 47.4
comp=Z,182nm,1.9s
NEA2 Nenana 52.08 330 P **P** **19 27 35.8 +0.4**
baz=44,SNR=15
GROC Groznyy 52.10 66 *e*P **P** **19 27 37.0 +1.2**
GROC *e* 19 28 49.6
GROC *e*S **S** **19 35 00.1 +0.3**
GROC pmax pmax
comp=Z,89nm,1.7s
GROC MLR MLR
comp=Z,970nm,12.0s
BARN Barnard Glacie 52.13 324 IAmb IAmb 19 27 43.8
comp=Z,116nm,1.4s
BCPM Bancas Point 52.14 322 IAMs_20 IAMs_20 19 48 00.2
comp=Z,2µm,20.0s
ANMO Albuquerque 52.17 280*d i*P **P** **19 27 38.2 +1.5**
ANMO pmax pmax
comp=Z,92nm,2.5s
ANMO Albuquerque 52.17 280 P **P** **19 27 37.7 +1.0**
baz=46
ANMO S **S** **19 35 06.0 +4.5**
baz=46
ANMO Albuquerque 52.17 280 P **P** **19 27 37.5 +0.7**
ANMO IAmb IAmb 19 27 45.1
comp=Z,102nm,1.4s
TEIG Tepich 52.17 252 IAMs_20 IAMs_20 19 50 45.5
comp=Z,1µm,18.0s
PCA Pinnacle 52.27 322 IAMs_20 IAMs_20 19 48 05.3
comp=Z,2µm,20.0s
DUG Dugway, Tooele 52.32 289 P **P** **19 27 38.3 +0.6**
baz=48,SNR=23
DUG S **S** **19 35 08.0 +4.7**
baz=48
DUG Dugway, Tooele 52.32 289 IAmb IAmb 19 27 45.2
comp=Z,157nm,1.6s
DUG IAMs_20 IAMs_20 19 48 50.2
comp=Z,2µm,18.0s
MCARA McCarthy VSAT 52.38 325 P **P** **19 27 38.1 +0.4**
MCARA IAmb IAmb 19 27 49.9
comp=Z,79nm,1.2s
BALM Baldy 52.38 324 IAmb IAmb 19 27 45.6
comp=Z,151nm,1.7s
IMAR Indian Mountai 52.40 333 P **P** **19 27 37.8 +0.1**
TIC Toumodi 52.44 141 *e*P P 19 27 44.0 +5.4
BBB Bella Bella 52.45 309 P **P** **19 27 38.6 +0.4**
comp=Z,12nm,0.9s,baz=89,slow=5.6,SNR=2.7
BBB Bella Bella 52.45 309 IAmb IAmb 19 27 45.1
comp=Z,102nm,1.6s
BBB IAMs_20 IAMs_20 19 48 30.4
comp=Z,2µm,19.0s
F07A Phinny Hill Vi 52.47 299 IAMs_20 IAMs_20 19 48 17.3
comp=Z,2µm,20.0s
DBIC Dimbokro 52.48 141 P **P** **19 27 38.5 -0.3**
comp=Z,3.7nm,0.6s,baz=326,slow=7.8,SNR=7.4
DBIC LR LR 19 47 15.2
comp=Z,956nm,20.9s,baz=328,slow=33
CRAG Craig 52.53 315 IAMs_20 IAMs_20 19 48 59.3
comp=Z,2µm,18.0s
833A Chaparral WMA, 52.63 268 P **P** **19 27 39.7 -0.2**
baz=43
833A Chaparral WMA, 52.63 268 P **P** **19 27 39.9 0.0**
833A IAmb IAmb 19 27 42.3
comp=Z,144nm,1.6s
SDV Santo Domingo 52.64 226 *e*P **P** **19 27 40.6 +0.3**
SDV Santo Domingo 52.64 226 *e*pP pP 19 27 43.8 +2.1
DHY Denali Highway 52.64 328 P **P** **19 27 40.2 +0.4**
DHY IAmb IAmb 19 27 51.2
comp=Z,101nm,1.3s
ISLE Juniper Island 52.68 324 P **P** **19 27 39.9 -0.2**
D05A Enumclaw 52.70 301 IAMs_20 IAMs_20 19 48 28.0
comp=Z,3µm,20.0s
KIC Kosan Boka 52.81 141 *e*P **P** **19 27 41.9 +0.6**
comp=Z,10nm,0.8s
BNM Barren Site 52.83 279 P **P** **19 27 42.3 +0.7**
LIC Lamto 52.83 141 *e*P **P** **19 27 40.4 -1.1**
comp=Z,4.9nm,0.5s
GDL2 Guadalupe Moun 52.84 276 P **P** **19 27 41.9 +0.3**
RND Reindeer 52.87 329 P **P** **19 27 41.2 -0.2**
RND pmax pmax
comp=Z,88nm,1.2s
RND MLR MLR
comp=Z,900nm,18.0s
RND Reindeer 52.87 329 P **P** **19 27 41.2 -0.2**
RND IAmb IAmb 19 27 52.9
comp=Z,88nm,1.2s
LON Longmire 52.89 301 P **P** **19 27 42.1 +0.4**
LON pmax pmax
comp=Z,21nm,1.1s
LON MLR MLR
comp=Z,3µm,19.0s
LON Longmire 52.89 301 P **P** **19 27 42.1 +0.4**
M24K Tolsona, Glenn 52.95 327 P **P** **19 27 42.2 +0.3**
baz=45,SNR=14
BPAW Bear Paw Mtn. 53.01 330 IAmb IAmb 19 27 54.3
comp=Z,134nm,1.4s
D03D Eldon 53.04 302 P **P** **19 27 42.8 +0.1**
baz=49
Y22D IRIS PASSCAL I 53.05 279 P **P** **19 27 43.9 +0.7**
baz=46
RDOG Red Dog Mine 53.07 338 P **P** **19 27 42.9 +0.3**
RDOG IAmb IAmb 19 27 54.4
comp=Z,109nm,1.2s
D04E Lakebay 53.11 302 P **P** **19 27 43.3 +0.1**
baz=49
MVU Marysvale 53.11 287 P **P** **19 27 44.1 +0.4**
MARD Mardin 53.20 75 IAmb IAmb 19 27 52.7
comp=Z,95nm,1.3s
MAK Makhachkala 53.20 65 *e*P **P** **19 27 40.0 -3.9**
MAK *e* 19 29 40.5
MAK *e*S **S** **19 35 09.7 -5.1**
MAK *e*SS **SS** **19 38 48.4 -5.4**
MAK *e*SSS SSS 19 40 45.4
MAK pmax pmax
comp=Z,471nm,1.9s
MAK MLR MLR
comp=Z,2µm,17.0s
F05D White Salmon 53.28 300 P **P** **19 27 44.7 +0.2**
baz=48
KLU Klutina 53.30 326 IAmb IAmb 19 27 55.7
comp=Z,66nm,1.4s
ELK Elko 53.32 291 P **P** **19 27 45.8 +0.6**
ELK pmax pmax
comp=Z,63nm,1.4s
ELK MLR MLR
comp=Z,3µm,18.0s
ELK Elko 53.32 291 P **P** **19 27 45.8 +0.6**
ELK IAmb IAmb 19 27 53.1
comp=Z,63nm,1.4s
J08A Circle Bar Ran 53.37 295 IAmb IAmb 19 27 52.3
comp=Z,120nm,1.5s
ARGC Ariguani, Magd 53.41 231 *e*P **P** **19 27 47.7 +1.8**
E04D Cinebar 53.41 301 P **P** **19 27 44.4 -1.0**
baz=48
I07A Izee 53.44 297 IAMs_20 IAMs_20 19 49 02.6
comp=Z,3µm,20.0s
SCM Sheep Creek Mo 53.52 327 P **P** **19 27 46.2 0.0**
SCM pmax pmax
comp=Z,97nm,1.5s
SCM MLR MLR
comp=Z,800nm,18.0s
SCM Sheep Creek Mo 53.52 327 P **P** **19 27 46.2 0.0**
SCM IAmb IAmb 19 28 09.4
comp=Z,97nm,1.5s
HMT Hamilton 53.55 324 IAmb IAmb 19 27 58.7
comp=Z,116nm,1.3s
SUCK Suckling Hills 53.57 324 IAMs_20 IAMs_20 19 49 11.8
comp=Z,2µm,19.0s
G05D Wamic, OR 53.63 299 P **P** **19 27 46.9 -0.3**
baz=48
RAGM Ragged Mountai 53.66 324 P **P** **19 27 47.8 +0.6**
F04A Amboy 53.75 300 IAMs_20 IAMs_20 19 49 11.0
comp=Z,3µm,20.0s
SJCC San Jacinto, C 53.82 232 *e*P **P** **19 27 49.9 +1.1**
PKCU Pink Cliffs 53.89 286 P **P** **19 27 50.0 +0.5**
EYAK Cordova Ski Ar 53.92 325 IAmb IAmb 19 28 01.1
comp=Z,48nm,1.2s
EYAK IAMs_20 IAMs_20 19 49 49.1
comp=Z,2µm,18.0s
E03A Lebam 53.93 301 IAMs_20 IAMs_20 19 49 09.9
comp=Z,3µm,21.0s
F04D Rainier, OR 53.96 301 P **P** **19 27 48.9 -0.6**
baz=48
W18A Petrified Fore 53.99 282 P **P** **19 27 50.9 +0.8**
baz=46,SNR=11
W18A Petrified Fore 53.99 282 P **P** **19 27 50.2 +0.1**
W18A IAmb IAmb 19 28 06.8
comp=Z,121nm,1.9s
FID Port Fidalgo 54.02 326 P **P** **19 27 50.9 +1.1**
FID IAmb IAmb 19 27 57.5
comp=Z,124nm,1.6s
FID IAMs_20 IAMs_20 19 49 35.3
comp=Z,1µm,19.0s
CUT Chulitna 54.05 329 P **P** **19 27 50.3 +0.4**
baz=42
GHO Glory Hole Cre 54.09 328 IAmb IAmb 19 28 13.2
comp=Z,69nm,1.2s
GLI Glacier Island 54.14 326 P **P** **19 27 51.0 +0.4**

SZCU	Shurtz Canyon	54.24 287	P	P	19 27 52.4	+0.5
I05D	Terrebonne, OR	54.25 298	P	P	19 27 51.4	-0.3
	baz=48					
HIN	Hinchinbrook I	54.29 325	IAms_20	IAms_20	19 49 51.8	
	comp=Z,2μm,18.0s					
AKT	Akhty	54.32 67	eP	P	19 27 53.8	+1.5
AKT			e		19 28 54.6	
AKT			pmax	pmax		
	comp=Z,36nm,1.6s					
PINE	Pine Mountain	54.41 297	P	P	19 27 53.3	+0.3
PINE			IAmb	IAmb	19 28 00.7	
	comp=Z,100nm,1.2s					
PINE			IAms_20	IAms_20	19 49 42.4	
	comp=Z,3μm,19.0s					
H04A	Detroit Lake	54.47 299	IAmb	IAmb	19 27 59.2	
	comp=Z,63nm,1.5s					
H04A			IAms_20	IAms_20	19 49 22.0	
	comp=Z,2μm,20.0s					
TXAR	Lajitas Array	54.47 273	P	P	19 27 53.1	-0.4
	comp=Z,4.8nm,0.8s,baz=66,slow=4.3,SNR=32					
TXAR			PcP	PcP	19 28 57.3	+0.3
	comp=Z,7.5nm,1.0s,baz=63,slow=3.6,SNR=6.4					
TXAR			LR	LR	19 50 35.1	
	comp=Z,2μm,18.6s,baz=0.0,slow=36					
TXAR	Lajitas Array	54.47 273	P	P	19 27 52.9	-0.7
TX32	Lajitas Array	54.47 273	IAmb	IAmb	19 28 00.6	
	comp=Z,134nm,1.9s					
U15A	North Rim	54.58 285	IAms_20	IAms_20	19 50 22.3	
	comp=Z,3μm,18.0s					
121A	Cookes Peak, D	54.65 279	P	P	19 27 56.0	+1.1
	baz=45,SNR=16					
121A	Cookes Peak, D	54.65 279	IAmb	IAmb	19 28 03.6	
	comp=Z,139nm,1.6s					
WUAZ	Wupatki	54.68 284	P	P	19 27 56.1	+1.0
	baz=46,SNR=12					
LCMT	Little Creek M	54.73 286	P	P	19 27 55.0	-0.4
RC01	Rabbit Creek A	54.86 327	P	P	19 27 56.7	+0.9
	baz=42,SNR=16					
J05D	Fort Rock, OR	54.91 297	P	P	19 27 57.8	+1.2
	baz=47,SNR=18					
PAMC	Pamplona, Colo	54.93 228	eP	P	19 27 57.4	0.0
Q23K	Middleton Isla	54.94 324	P	P	19 27 56.5	+0.2
	baz=43					
TIXI	Tiksi	54.98 6	P	P	19 27 57.5	+1.0
TIXI			IAms_20	IAms_20	19 47 58.1	
	comp=Z,2μm,21.0s					
K05A	Summer Lake	55.10 296	IAms_20	IAms_20	19 50 17.8	
	comp=Z,3μm,19.0s					
COR	Corvallis	55.12 299	P	P	19 27 57.4	-0.5
COR			pmax	pmax		
	comp=Z,282nm,1.6s					
COR			MLR	MLR		
	comp=Z,2μm,20.0s					
COR	Corvallis	55.12 299	P	P	19 27 57.4	-0.5
COR	Corvallis	55.12 299	IAms_20	IAms_20	19 49 54.3	
	comp=Z,2μm,20.0s					
R11A	Troy Canyon, C	55.15 289	P	P	19 27 58.1	-0.4
	baz=46,SNR=19					
R11A	Troy Canyon, C	55.15 289	IAms_20	IAms_20	19 50 28.3	
	comp=Z,1μm,19.0s					
MCPB	Macapa, AP	55.17 201	eP	P	19 27 58.7	+0.1
I04A	Tendick Farm,	55.19 298	P	P	19 27 57.1	-1.4
	baz=47					
LCBC	Los crdobas,	55.29 232	eP	P	19 28 00.9	+1.4
MOD	Modoc Plateau	55.34 295	IAmb	IAmb	19 28 07.1	
	comp=Z,52nm,1.1s					
AB31	Akbulak array	55.36 52	i P	P	19 28 00.2	+0.6
ABKAR	Akbulak array	55.36 52	P	P	19 27 59.7	+0.1
TTA	Tatalina	55.37 332	IAmb	IAmb	19 28 11.2	
	comp=Z,125nm,1.8s					
J04D	Umpqua Nationa	55.40 298	P	P	19 28 00.5	+0.2
	baz=47					
X16A	Lo Mia Camp, P	55.48 283	IAmb	IAmb	19 28 08.6	
	comp=Z,112nm,1.8s					
PRN	Pahroc Range	55.49 288	IAmb	IAmb	19 28 08.7	
	comp=Z,72nm,1.4s					
PRN			IAms_20	IAms_20	19 50 53.5	
	comp=Z,2μm,20.0s					
CAPN	Captain Cook N	55.56 328	P	P	19 28 01.6	+0.7
	baz=41					
BRRC	Barranca, Sant	55.59 229	eP	P	19 28 01.2	-0.4
K04D	Chiloquin, OR	55.63 297	P	P	19 28 01.8	0.0
	baz=47					
PETF	Flores	55.71 251	IAms_20	IAms_20	19 50 56.9	
	comp=Z,2μm,20.0s					
I02D	Swisshome	55.73 299	P	P	19 28 01.1	-1.2
	baz=47					
I03D	Drain, OR	55.75 299	P	P	19 28 01.1	-1.3
	baz=47					
ZARC	Zaragoza, Cauc	55.77 230	eP	P	19 28 02.7	-0.2
UREC	San Jos de Ur	55.86 231	eP	P	19 28 03.5	-0.1
KVN	Kaiserville	56.09 291	P	P	19 28 05.1	-0.1
KVN			pmax	pmax		
	comp=Z,102nm,1.4s					
KVN			MLR	MLR		
	comp=Z,3μm,18.0s					
KVN	Kaiserville	56.09 291	P	P	19 28 05.1	-0.1
KVN			IAmb	IAmb	19 28 12.5	
	comp=Z,102nm,1.4s					
SHPR	Sheep Range	56.19 287	IAms_20	IAms_20	19 51 08.7	
	comp=Z,3μm,22.0s					
L04D	Klamath Falls	56.21 297	P	P	19 28 04.9	-1.1
	baz=46,SNR=11					
M04C	Macdoel	56.26 296	P	P	19 28 06.2	-0.2
	baz=46,SNR=10.0					
HUMO	Hull Mountain	56.29 298	IAms_20	IAms_20	19 51 03.3	
	comp=Z,2μm,18.0s					
PAHR	Pah Rah Range	56.35 293	IAmb	IAmb	19 28 14.8	
	comp=Z,116nm,1.4s					
ROSB	Rosrio	56.36 191	eP	P	19 28 07.4	+0.4
TMAB	Tom-Au,PA,Br	56.39 196	eP	P	19 28 08.5	+1.2
NBMO	Morrinhos-CE	56.41 186	eP	P	19 28 08.2	+0.8
J01E	Myrtle Point	56.43 299	P	P	19 28 07.1	-0.2
	baz=46					
PTBC	PUERTO BERRIO,	56.43 229	eP	P	19 28 07.5	-0.1
W13A	Hualapai Mount	56.43 285	IAms_20	IAms_20	19 51 22.4	
	comp=Z,2μm,20.0s					
TPNV	Topopah Spring	56.50 288	P	P	19 28 08.2	0.0
TPNV			pmax	pmax		
	comp=Z,147nm,1.9s					
TPNV			MLR	MLR		
	comp=Z,2μm,19.0s					
TPNV	Topopah Spring	56.50 288	P	P	19 28 08.1	0.0
	baz=45,SNR=21					
TPNV	Topopah Spring	56.50 288	P	P	19 28 08.2	0.0
TPNV			IAmb	IAmb	19 28 14.6	
	comp=Z,147nm,1.9s					
TPNV			IAms_20	IAms_20	19 51 34.0	
	comp=Z,2μm,19.0s					
NV11	Mina Array Sit	56.55 291	IAmb	IAmb	19 28 20.1	
	comp=Z,62nm,1.4s					
NV11			IAms_20	IAms_20	19 51 30.2	
	comp=Z,2μm,18.0s					
HOM	Homer	56.56 327	P	P	19 28 07.7	-0.3
	baz=40					
TGUH	Tegucigalpa,Un	56.56 247	IAms_20	IAms_20	19 50 26.6	
	comp=Z,1μm,20.0s					
TUC	Tucson	56.59 281	P	P	19 28 09.3	+0.6
TUC	Tucson	56.59 281	P	P	19 28 09.0	+0.3
	baz=44					
TUC	Tucson	56.59 281	P	P	19 28 09.3	+0.6
TUC			IAmb	IAmb	19 28 16.6	
	comp=Z,63nm,1.4s					
K02D	Willamette Mer	56.61 298	P	P	19 28 08.4	-0.3
	baz=46,SNR=8.7					
RYN	Ryan	56.62 291	IAms_20	IAms_20	19 51 33.0	
	comp=Z,2μm,18.0s					
NVAR	Mina Array Bea	56.63 291	P	P	19 28 09.2	0.0
	comp=Z,3.2nm,0.9s,baz=53,slow=5.9,SNR=20					
NVAR			LR	LR	19 51 42.2	
	comp=Z,2μm,18.3s,baz=60,slow=35					
NVAR	Mina Array Bea	56.63 291	P	P	19 28 08.3	-0.9
BCIP	Isla Barro Col	56.72 236	eP	P	19 28 10.1	+0.4
Y14A	Wickenburg	56.74 284	P	P	19 28 10.0	+0.2
Y14A			IAmb	IAmb	19 28 17.8	
	comp=Z,59nm,1.4s					
MATN	Matagalpa	56.75 245	IAmb	IAmb	19 28 12.6	
	comp=Z,119nm,1.6s					
YBH	Yreka Blue Hor	56.76 297	P	P	19 28 08.3	-1.6
YBH			pmax	pmax		
	comp=Z,22nm,1.3s					
YBH			MLR	MLR		
	comp=Z,3μm,19.0s					
YBH	Yreka Blue Hor	56.76 297	P	P	19 28 08.3	-1.6
YBH			IAms_20	IAms_20	19 51 30.8	
	comp=Z,3μm,19.0s					
YERR	Yerington	56.77 292	IAmb	IAmb	19 29 07.8	
	comp=Z,61nm,1.5s					
YERR			IAMs_20	IAMs_20	19 51 18.1	
	comp=Z,2μm,20.0s					
VCNR	Virginia City	56.78 293	P	P	19 28 10.7	+0.5
VCNR			IAMs_20	IAMs_20	19 51 18.6	
	comp=Z,2μm,19.0s					
KEBM	Edson Butte	56.84 299	IAMs_20	IAMs_20	19 51 47.8	
	comp=Z,2μm,19.0s					
PNTR	Pine Nut	56.90 292	IAMs_20	IAMs_20	19 51 22.5	
	comp=Z,3μm,20.0s					
L02E	Cave Junction	56.95 298	P	P	19 28 10.2	-0.9
	baz=46,SNR=7.0					
SPBC	San Pablo de B	57.04 228	eP	P	19 28 12.0	-0.1
M02C	Callahan	57.08 296	P	P	19 28 11.1	-1.0
	baz=46,SNR=6.9					
NEE2	Needles Airpor	57.09 285	P	P	19 28 12.3	+0.1
	baz=45					
GRAC	Grapevine Rang	57.10 289	P	P	19 28 12.5	+0.2
	baz=45					
MALB	Monte Alegre	57.11 203	eP	P	19 28 12.9	+0.4
FURC	Furnace Creek,	57.19 288	P	P	19 28 13.1	+0.3
	baz=45,SNR=12					
RUBR	Rubicon Trail	57.23 293	IAMs_20	IAMs_20	19 51 01.3	
	comp=Z,2μm,22.0s					
KBO	Bosley Butte	57.24 298	IAMs_20	IAMs_20	19 51 34.4	
	comp=Z,2μm,18.0s					
SHOC	Shoshone, Teco	57.25 287	P	P	19 28 13.2	-0.1
	baz=45					
O03E	Paynes Creek	57.27 295	P	P	19 28 13.0	-0.5
	baz=46,SNR=13					
N02D	Trinity Center	57.29 296	P	P	19 28 12.6	-1.0
	baz=46,SNR=7.7					
ESQI	Esquipulas	57.31 249	IAMs_20	IAMs_20	19 50 14.3	
	comp=Z,1μm,20.0s					
BRVK	Borovoye	57.31 44	P	P	19 28 14.8	+1.3
BRVK			P	P	19 28 14.8	+1.3
BRVK	Borovoye	57.31 44	c iP	P	19 28 14.6	+1.1
BRVK			pmax	pmax		
	comp=Z,55nm,1.4s					
BRVK	Borovoye	57.31 44	P	P	19 28 14.0	+0.6
TUQ	Turquoise Moun	57.38 287	P	P	19 28 14.6	+0.2
	baz=45,SNR=8.5					
MTO3	Montecristo	57.45 249	IAMs_20	IAMs_20	19 50 08.0	
	comp=Z,1μm,21.0s					
WDC	Whiskeytown Da	57.48 296	IAMs_20	IAMs_20	19 51 37.7	
	comp=Z,1μm,19.0s					
MLAC	Mammoth, Mammo	57.49 291	P	P	19 28 15.3	0.0
	baz=45					
CCIG	Comitan	57.52 253	IAmb	IAmb	19 28 22.7	
	comp=Z,130nm,1.5s					
KRMB	Red Mountain	57.55 297	P	P	19 28 15.1	-0.4
KRMB			IAmb	IAmb	19 28 22.3	
	comp=Z,48nm,1.1s					
TIN	Tinemaha, Big	57.55 290	P	P	19 28 15.5	0.0
	baz=45					
OMMB	Old Mammoth Mi	57.60 291	IAmb	IAmb	19 28 23.9	
	comp=Z,71nm,1.6s					
ORV	Oroville	57.62 294	P	P	19 28 15.6	-0.3
ORV			pmax	pmax		
	comp=Z,43nm,1.4s					
ORV			MLR	MLR		
	comp=Z,4μm,19.0s					
ORV	Oroville	57.62 294	P	P	19 28 15.6	-0.3
MDPB	Devils Postpil	57.63 291	P	P	19 28 16.1	-0.1
MDPB			IAMs_20	IAMs_20	19 51 58.8	
	comp=Z,2μm,20.0s					
GMRC	Granite Mounta	57.69 286	P	P	19 28 17.2	+0.7
	baz=45,SNR=12					
CBOC	Ciudad Bolivar	57.74 230	eP	P	19 28 18.1	+1.0
AFDM	Forest Hills D	57.76 293	IAMs_20	IAMs_20	19 51 05.2	
	comp=Z,2μm,22.0s					
CHIC	Chingaza	57.80 227	eP	P	19 28 15.8	-2.0
IRM	Iron Mountain	57.83 285	P	P	19 28 18.4	+1.0
	baz=44,SNR=9.5					
MPMC	Manual Prospec	57.84 288	P	P	19 28 18.5	+0.8
	baz=45,SNR=29					
ROSC	El Rosal	57.87 228	P	P	19 28 18.1	-0.1
	comp=Z,88nm,0.8s,baz=42,slow=3.5,SNR=45					
ROSC			LR	LR	19 50 53.6	
	comp=Z,711nm,21.8s,baz=38,slow=34					
ROSC	El Rosal	57.87 228	eP	P	19 28 19.7	+1.4
ROSC	El Rosal	57.87 228	P	P	19 28 18.5	+0.2
O02D	Mt. Diablo Mer	57.89 295	P	P	19 28 16.4	-1.4
	baz=45					
HUEH	Huehuetenango	57.92 252	IAMs_20	IAMs_20	19 52 38.5	
	comp=Z,2μm,21.0s					
SNET	Serv Nac Est T	57.95 248	IAMs_20	IAMs_20	19 52 10.4	
	comp=Z,2μm,19.0s					
GSC	Goldstone, Bar	57.98 287	P	P	19 28 19.4	+0.8
	baz=44,SNR=12					
GUY2C	Guyana, Caldas	58.01 229	eP	P	19 28 18.6	-0.8
113A	Mohawk Valley,	58.02 283	IAmb	IAmb	19 28 26.7	
	comp=Z,105nm,1.6s					
113A			IAMs_20	IAMs_20	19 52 30.4	
	comp=Z,2μm,18.0s					
214A	Organ Pipe Nat	58.04 282	P	P	19 28 19.9	+0.9
	baz=44,SNR=18					
214A	Organ Pipe Nat	58.04 282	IAmb	IAmb	19 28 26.7	
	comp=Z,90nm,1.4s					
HEC	Hector,Ludlow	58.04 287	P	P	19 28 19.6	+0.6
	baz=44					
CMB	Columbia Colle	58.08 292	P	P	19 28 18.9	-0.3
CMB			pmax	pmax		
	comp=Z,32nm,1.5s					
CMB			MLR	MLR		
	comp=Z,2μm,18.0s					
CMB	Columbia Colle	58.08 292	P	P	19 28 18.9	-0.3
CMB			IAMs_20	IAMs_20	19 52 29.7	
	comp=Z,2μm,18.0s					
BILL	Bilibino	58.09 351⇑	eP	P	19 28 19.0	+0.3
BILL			pmax	pmax		
	comp=Z,7.0nm,1.1s					
BILL			MLR	MLR		
	comp=Z,1μm,16.0s					
HDC	Heredia	58.21 241	IAMs_20	IAMs_20	19 49 15.4	
	comp=Z,2μm,22.0s					
KDAK	Kodiak Island	58.32 326	P	P	19 28 20.9	+0.4
KDAK			MLR	MLR		
	comp=Z,1μm,18.0s					
KDAK			MLR	MLR		
	comp=Z,57μm,1.3s					
KDAK	Kodiak Island	58.32 326	P	P	19 28 20.9	+0.4
KDAK			IAmb	IAmb	19 28 32.4	
	comp=Z,57nm,1.3s					
LRMC	Laurel Mtn Rad	58.36 288	P	P	19 28 21.9	+0.7
	baz=44,SNR=7.2					
BC3	Big Chuckawall	58.37 285	P	P	19 28 22.1	+0.8
	baz=44,SNR=45					
RRX	Edison Barstow	58.39 287	P	P	19 28 22.3	+0.9
	baz=44					
JTS	Las Juntas de	58.41 242	c iP	P	19 28 20.8	-0.9
JTS			pmax	pmax		
	comp=Z,16nm,1.5s					
JTS	Las Juntas de	58.41 242	P	P	19 28 20.0	-1.7
JTS			IAmb	IAmb	19 28 27.3	
	comp=Z,127nm,1.9s					
JTS	Las Juntas de	58.41 242	IAMs_20	IAMs_20	19 50 24.8	
	comp=Z,2μm,20.0s					
GLA	Glamis	58.44 284	P	P	19 28 22.7	+1.0
	baz=44,SNR=9.9					
BELC	Belle Mtn. Jos	58.44 286	P	P	19 28 23.1	+1.3
	baz=44,SNR=32					
TOLC	Tolima	58.55 229	eP	P	19 28 23.9	+0.9
ZAIG	Zacatecas	58.66 267	IAmb	IAmb	19 28 31.9	
	comp=Z,83nm,1.5s					
RTAL	Retalhuleu	58.67 251	IAMs_20	IAMs_20	19 53 50.3	
	comp=Z,2μm,20.0s					
ANIL	Santa Ana	58.67 229	eP	P	19 28 25.1	+1.3
KCPM	Cahto Peak	58.67 295	IAMs_20	IAMs_20	19 53 20.3	
	comp=Z,2μm,18.0s					
ISA	Isabella, Lake	58.68 289	P	P	19 28 23.6	+0.2
ISA			pmax	pmax		
	comp=Z,46nm,1.3s					
ISA			MLR	MLR		
	comp=Z,1μm,19.0s					
ISA	Isabella, Lake	58.68 289	P	P	19 28 24.4	+1.0
	baz=44,SNR=15					
ISA	Isabella, Lake	58.68 289	P	P	19 28 23.6	+0.2
ISA			IAmb	IAmb	19 28 27.4	
	comp=Z,46nm,1.2s					
ISA			IAMs_20	IAMs_20	19 52 53.7	
	comp=Z,1μm,19.0s					
PIX	Pinacate	58.71 282	IAmb	IAmb	19 28 30.0	
	comp=Z,57nm,1.4s					
VOG	Valley Oaks Go	58.73 290	P	P	19 28 23.8	+0.2
	baz=44					
RCBR	Riachuelo	58.76 181	eP	P	19 28 24.2	+0.2
BBRC	Big Bear Solar	58.79 287	P	P	19 28 25.3	+0.9
	baz=44					
GDXM	Geysers	58.86 294	P	P	19 28 25.1	+0.4
HOPS	Hopland Field	58.88 295	IAms_20	IAms_20	19 52 54.0	
	comp=Z,3μm,19.0s					
VES	Vestal, Richgr	58.90 289	P	P	19 28 25.3	+0.5
	baz=44					
EDW2	Edwards Air Fo	58.96 288	P	P	19 28 26.3	+0.9
	baz=44,SNR=24					
XPFO	Pion Flat	58.98 286	IAMs_20	IAMs_20	19 54 33.9	
	comp=Z,2μm,18.0s					
PFO	Pinyon Flats O	58.98 286	P	P	19 28 26.3	+0.7
PFO			pmax	pmax		
	comp=Z,59nm,1.2s					
PFO			MLR	MLR		
	comp=Z,1μm,21.0s					
PFO	Pinyon Flats O	58.98 286	P	P	19 28 26.9	+1.3
	baz=44,SNR=16					
PFO	Pinyon Flats O	58.98 286	P	P	19 28 26.3	+0.7
PFO			IAmb	IAmb	19 28 33.7	
	comp=Z,59nm,1.1s					
PFO	Pinyon Flats O	58.98 286	IAMs_20	IAMs_20	19 52 51.9	
	comp=Z,1μm,21.0s					
HSIG		59.06 278	P	P	19 28 26.0	0.0
SWSC	Sam W. Stewart	59.08 285	P	P	19 28 27.2	+1.1
	baz=44					
ORTC	Ortega, Tolima	59.11 229	eP	P	19 28 26.3	-0.3
PRAC	Prado	59.12 228	eP	P	19 28 26.8	+0.2
CPBX	Cerro Prieto	59.17 284	IAMs_20	IAMs_20	19 53 13.8	
	comp=Z,2μm,19.0s					
BFSC	Mount Baldy Ra	59.23 287	P	P	19 28 28.0	+0.7
	baz=44,SNR=12					
UNM	Universidad Na	59.26 261	IAMs_20	IAMs_20	19 56 17.7	
	comp=Z,1μm,18.0s					
ARVC	Arvin	59.26 289	P	P	19 28 28.5	+1.1
	baz=44					
MCCM	Marconi Confer	59.38 294	IAmb	IAmb	19 28 42.4	
	comp=Z,56nm,1.4s					
MURC	Murrieta	59.42 286	P	P	19 28 29.5	+1.0
	baz=44,SNR=6.5					
MWC	Mount Wilson	59.47 287	IAmb	IAmb	19 28 36.6	
	comp=Z,89nm,1.5s					
IKP	In-Ko-Pah, Jac	59.47 285	P	P	19 28 30.2	+1.3
	baz=44,SNR=12					
MONP2	Monument Peak	59.48 285	P	P	19 28 30.6	+1.5
	baz=44,SNR=13					
RMX	La Rumorosa	59.49 285	P	P	19 28 30.5	+1.4
RMX			IAmb	IAmb	19 28 37.3	
	comp=Z,73nm,1.3s					
YOTC	Yotoco, Valle	59.55 230	eP	P	19 28 28.9	-0.8
OSI	Osito Audit: C	59.57 288	P	P	19 28 30.9	+1.4
	baz=44					
OSI	Osito Audit: C	59.57 288	IAMs_20	IAMs_20	19 53 25.3	
	comp=Z,2μm,21.0s					
SAO	San Andreas Ge	59.57 292	IAmb	IAmb	19 28 46.0	
	comp=Z,44nm,1.4s					
SAO			IAMs_20	IAMs_20	19 53 20.3	
	comp=Z,2μm,18.0s					
PMPB	Monarch Peak	59.60 291	P	P	19 28 31.1	+1.3
DECC	Green Verdugo	59.61 288	P	P	19 28 30.5	+0.7
	baz=44					
PAGB	Antelope Grade	59.64 290	IAmb	IAmb	19 28 36.1	
	comp=Z,98nm,1.8s					
PAGB			IAMs_20	IAMs_20	19 53 49.1	
	comp=Z,1μm,18.0s					
BAR	Barrett	59.78 285	IAmb	IAmb	19 28 39.1	
	comp=Z,93nm,1.4s					
SMMC	Simmler	59.79 290	P	P	19 28 31.3	+0.2
	baz=44					
109C	Camp Elliot, M	59.88 286	P	P	19 28 32.0	+0.4
	baz=44					
109C	Camp Elliot, M	59.88 286	IAMs_20	IAMs_20	19 53 42.6	
	comp=Z,2μm,20.0s					
ITTB	Itaituba	59.89 204	eP	P	19 28 32.1	+0.3
SFX	San Felipe	59.90 282	IAMs_20	IAMs_20	19 52 49.3	
	comp=Z,1μm,22.0s					
FMP	Fort Macarthur	59.97 287	P	P	19 28 33.4	+1.1
	baz=44					
PKM	Mcpherson Peak	60.00 289	P	P	19 28 33.7	+1.1
	baz=44					
MACC	Macarena, Meta	60.06 226	eP	P	19 28 32.9	-0.1
MACA	Manacapuru-AM	60.09 210	eP	P	19 28 33.4	+0.2
SBC	Santa Barbara	60.26 289	P	P	19 28 35.2	+1.0
	baz=44					
TLIG	Tlapa	60.26 259	P	P	19 28 33.8	-0.8
SPX	San Pedro Mart	60.27 283	P	P	19 28 34.3	-0.5
SPX			IAmb	IAmb	19 28 41.6	
	comp=Z,54nm,1.3s					
CIS	Catalina Islan	60.27 287	P	P	19 28 35.2	+0.9
	baz=43					
BETC	Betania	60.29 228	eP	P	19 28 34.3	-0.4
NBLI	Livramento-PB	60.30 182	eP	P	19 28 35.6	+1.0
MARP	Paez Belalcaza	60.38 229	eP	P	19 28 36.2	+0.7
BRZS	Berezniki	60.59 45⇓	i P	P	19 28 36.8	+0.5
	comp=Z,143nm,2.5s,baz=45					
BRZS			LR	LR	19 53 55.1	
	comp=Z,269nm,13.6s,baz=45					
BRZS	Berezniki	60.59 45	d i P	P	19 28 36.8	+0.5
BRZS			pmax	pmax		
	comp=Z,143nm,2.5s					
BRZS			MLR	MLR		
	comp=Z,269nm,14.0s					
SCI2	San Clemente I	60.65 287	P	P	19 28 37.9	+1.0
	baz=43					
POPC	Popayan, Colom	60.97 229	eP	P	19 28 39.1	-0.4
PCON	Cinco Dias	61.03 229	eP	P	19 28 41.3	+0.9
FLOC	Florencia	61.36 228	eP	P	19 28 40.7	-1.2
BBAC	Balboa, Cauca	61.69 230	eP	P	19 28 43.8	-0.6
ZAA0	Zalesovo Array	62.20 35	P	P	19 28 47.0	-0.1
ZAA0			IAmb	IAmb	19 28 54.2	
	comp=Z,74nm,1.9s					
ZALV	Zalesovo Beam	62.20 35	P	P	19 28 47.5	+0.4
	comp=Z,5.3nm,0.7s,baz=318,slow=7.7,SNR=15					
ZALV			LR	LR	19 55 14.3	
	comp=Z,762nm,21.5s,baz=311,slow=36					
ZALV	Zalesovo Beam	62.20 35	P	P	19 28 46.7	-0.4
PTLC	Puerto Leguiza	62.24 226	eP	P	19 28 50.0	+2.2
NPGB	Novo Progresso	62.38 203	eP	P	19 28 48.8	+0.1
GCUF	Volcan Galeras	62.44 229	eP	P	19 28 49.0	-0.8
KURK	Kurchatov	62.47 41	P	P	19 28 49.9	+0.9
KURK			P	P	19 28 49.9	+0.9
KURK	Kurchatov	62.47 41	c eP	P	19 28 49.4	+0.5
KURK			pmax	pmax		
	comp=Z,42nm,1.6s					
KURK	Kurchatov	62.47 41	P	P	19 28 48.8	-0.1
KURK			IAmb	IAmb	19 29 00.9	
	comp=Z,74nm,1.4s					
GEYT	Alibeck	62.48 63	P	P	19 28 50.0	+0.6
	comp=Z,5.8nm,0.9s,baz=309,slow=9.4,SNR=13					
GEYT			LR	LR	19 58 24.6	
	comp=Z,781nm,18.4s,baz=335,slow=38					
GEYT	Alibeck	62.48 63	P	P	19 28 49.9	+0.6
GYA0B	ALIBECK ARRAY	62.48 63	P	P	19 28 50.1	+0.8
GYA0B			IAmb	IAmb	19 28 57.4	
	comp=Z,74nm,1.4s					
GYA0B			IAMs_20	IAMs_20	19 58 22.4	
	comp=Z,1μm,18.0s					
ASHT	Ashkhabad	62.62 63	IAMs_20	IAMs_20	19 58 36.0	
	comp=Z,1μm,18.0s					
SMTB	Santa Maria do	62.68 194	eP	P	19 28 51.1	+0.4
SDPT	Sand Point	62.87 328	P	P	19 28 51.5	0.0
OTAV	Otavalo	63.82 230	eP	P	19 28 59.2	+0.4
OTAV	Otavalo	63.82 230	P	P	19 28 59.4	+0.6
OTAV			pmax	pmax		
	comp=Z,244nm,2.0s					
OTAV			MLR	MLR		
	comp=Z,500nm,21.0s					
OTAV	Otavalo	63.82 230	P	P	19 28 59.4	+0.6
OTAV	Otavalo	63.82 230	eP	P	19 28 59.7	+0.8
SEY	Seymchan	64.11 356⇑	eP	P	19 29 02.1	+2.5
KK31	Karatay Array	64.86 51	i P	P	19 29 05.6	+0.7
KKAR	Karatay Array	64.86 51	P	P	19 29 05.3	+0.4
KKAR			pmax	pmax		
	comp=Z,116nm,1.

BTLS pmax pmax
comp=Z,416nm,19.0s
IUG Iuzhnay 65.36 52 *e*P **P 19 29 09.2 +0.9**
comp=Z,63nm,2.2s,baz=52
IUG *e*S **S 19 37 54.3 +1.7**
baz=52
IUG LR LR 19 56 14.8
comp=Z,167nm,14.7s,baz=52
IUG Iuzhnay 65.36 52 *e*P **P 19 29 09.2 +0.9**
IUG *e*S **S 19 37 54.2 +1.7**
IUG pmax pmax
comp=Z,63nm,2.2s
IUG MLR MLR
comp=Z,167nm,15.0s
DZA Taraz 65.40 51 *e*P **P 19 29 09.0 +0.5**
comp=Z,201nm,13.4s,baz=51
DZA *e*S **S 19 37 54.3 +1.4**
baz=51
DZA LR LR 19 58 17.4
baz=51
DZA Taraz 65.40 51 *e*P **P 19 29 08.9 +0.5**
DZA *e*S **S 19 37 54.2 +1.4**
DZA pmax pmax
comp=Z,201nm,13.4s
TAS Tashkent 65.64 53 IAMs_20 IAMs_20 19 56 41.6
comp=Z,2μm,22.0s
SDBA SAO DESIDERIO 65.83 191 *e*P **P 19 29 10.9 -0.4**
PEXB Peixe 65.97 194 *e*P **P 19 29 12.0 -0.2**
UNV Unalaska Valle 65.99 331 P **P 19 29 10.7 -1.2**
UNV IAmb IAmb 19 29 17.9
comp=Z,95nm,1.7s
CLDB Colider 66.18 202 *e*P **P 19 29 13.0 -0.6**
SAML Samuel 66.32 211 P **P 19 29 12.9 -1.6**
SAML pmax pmax
comp=Z,90nm,1.9s
SAML MLR MLR
comp=Z,900nm,21.0s
SAML Samuel 66.32 211 P **P 19 29 12.9 -1.6**
SAML IAmb IAmb 19 29 15.2
comp=Z,90nm,1.9s
SAML Samuel 66.32 211 *e*P **P 19 29 13.6 -0.9**
SGDS Sogindy 66.48 48⇓*i*P **P 19 29 15.8 +0.4**
comp=Z,66nm,2.6s,baz=48
SGDS *e*S **S 19 38 07.3 +1.3**
baz=48
SGDS LR LR 19 57 56.1
comp=Z,217nm,13.1s,baz=48
SGDS Sogindy 66.48 48*d i*P **P 19 29 15.8 +0.4**
SGDS *e*S **S 19 38 07.3 +1.3**
SGDS pmax pmax
comp=Z,66nm,2.6s
SGDS MLR MLR
comp=Z,217nm,13.0s
BOD Bodaibo 66.56 17 *e*P **P 19 29 14.7 -0.9**
BOD pmax pmax
comp=Z,56nm,1.8s
USP Ospenovka 66.57 49 P **P 19 29 17.1 +1.2**
SNR=7.0
DGZ Jazzator, Alta 66.62 37*de*P **P 19 29 17.5 +1.2**
DGZ pmax pmax
comp=Z,14nm,1.0s
DGZ MLR MLR
comp=Z,1μm,18.0s
GDU01 Guandu, BA 66.71 185 *e*P **P 19 29 17.2 +0.3**
GDU01 *ep*P **sP 19 29 20.3 +1.5**
EKS2 Erkin-Say 66.72 49 P **P 19 29 18.5 +1.5**
SNR=19
CHMS Chumysh 66.89 49 P **P 19 29 19.8 +1.8**
SNR=7.7
KUU Kurty 66.89 47 *e*P **P 19 29 18.9 +0.9**
comp=Z,190nm,2.3s,baz=47
KUU *e*S **S 19 38 12.8 +1.9**
baz=47
KUU LR LR 19 58 00.2
comp=Z,793nm,14.7s,baz=47
KUU Kurty 66.89 47 *e*P **P 19 29 18.9 +0.9**
KUU *e*S **S 19 38 12.8 +1.9**
KUU pmax pmax
comp=Z,190nm,2.3s
KUU MLR MLR
comp=Z,793nm,15.0s
TDK Taldygorghan 66.91 45 *e*P **P 19 29 19.2 +1.1**
comp=Z,176nm,2.3s,baz=45
TDK *e*S **S 19 38 13.1 +2.0**
baz=45
TDK Taldyqorghan 66.91 45 *e*P **P 19 29 19.1 +1.1**
TDK *e*S **S 19 38 13.0 +2.0**
TDK pmax pmax
comp=Z,176nm,2.3s
MAKZ Makanchi 66.93 42 P **P 19 29 18.8 +0.7**
MAKZ Makanchi 66.93 42 P **P 19 29 17.9 -0.2**
MAKZ IAMs_20 IAMs_20 19 56 55.1
comp=Z,2μm,22.0s
AAK Ala-Archa 67.06 49 P **P 19 29 20.8 +1.6**
SNR=10
AAK Ala-Archa 67.06 49 *i* P **P 19 29 20.3 +1.0**
SNR=18
AAK Ala-Archa 67.06 49 P **P 19 29 20.7 +1.4**
AAK P **P 19 29 20.7 +1.4**
AAK Ala-Archa 67.06 49*ce*P **P 19 29 21.1 +1.9**
AAK pmax pmax
comp=Z,149nm,1.9s
MK31 Makanchi Array 67.06 41 *i* P **P 19 29 19.3 +0.3**
MK31 Makanchi Array 67.06 41 IAmb IAmb 19 29 31.0
comp=Z,38nm,1.2s
MKAR Makanchi Array 67.06 41 P **P 19 29 19.4 +0.4**
comp=Z,6.9nm,0.8s,baz=328,slow=5.8,SNR=36
MKAR LR LR 19 58 10.2
comp=Z,1μm,19.7s,baz=312,slow=36
MKAR Makanchi Array 67.06 41 *i* P **P 19 29 19.6 +0.6**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 67.06 41 P **P 19 29 19.0 0.0**
AML Almayashu 67.09 50 P **P 19 29 21.8 +2.1**
SNR=9.9
KBK Karagaybulak 67.25 49 P **P 19 29 22.4 +2.0**
SNR=6.1
TKM2 Tokmak 2 67.33 48 P P 19 29 29.4 +8.4
SNR=8.1
TKM2 Tokmak 2 67.33 48 P **P 19 29 22.4 +1.4**
HRA Herat 67.34 63 IAmb IAmb 19 29 33.9
comp=Z,103nm,1.9s
HRA IAMs_20 IAMs_20 20 02 05.1
comp=Z,1μm,18.0s
BTK Batken 67.36 53 P **P 19 29 21.3 +0.3**
BTK pmax pmax
comp=Z,61nm,1.2s
BTK MLR MLR
comp=Z,3μm,22.0s
BTK Batken 67.36 53 P **P 19 29 21.3 +0.3**
BTK IAmb IAmb 19 29 30.6
comp=Z,61nm,1.2s
UCH Uchtor 67.39 49 P **P 19 29 23.6 +1.9**
SNR=16
ZSN Zaisan 67.53 40 *e*P **P 19 29 22.5 +0.5**
comp=Z,82nm,2.7s,baz=40
ZSN Zaisan 67.53 40 *e*P **P 19 29 22.4 +0.5**
ZSN pmax pmax
comp=Z,82nm,2.7s
MTBS Maitube 67.54 47 *e*P **P 19 29 23.4 +1.2**
baz=48
MTBS Maitube 67.54 47 *e*P **P 19 29 23.4 +1.2**
AAA Alma-Ata 67.69 47 *e*P **P 19 29 24.7 +1.6**
comp=Z,33nm,1.2s,baz=47
AAA *e*S **S 19 38 22.8 +2.1**
baz=47
AAA LR LR 19 58 05.1
comp=Z,715nm,14.2s,baz=47
AAA Alma-Ata 67.69 47 *e*P **P 19 29 24.7 +1.6**
AAA *e*S **S 19 38 22.7 +2.1**
AAA pmax pmax
comp=Z,33nm,1.2s
AAA MLR MLR
comp=Z,715nm,14.0s
MDOK Medeo 67.79 47 *i* P **P 19 29 25.3 +1.4**
baz=47
MDOK *e*S **S 19 38 24.4 +2.4**
baz=47
MDOK LR LR 19 58 06.3
comp=Z,877nm,15.0s,baz=47
MDOK Medeo 67.79 47 *i* P **P 19 29 25.2 +1.4**
MDOK *e*S **S 19 38 24.3 +2.4**
MDOK MLR MLR
comp=Z,877nm,15.0s
BOOM Boomskoye usch 67.83 48 P **P 19 29 23.6 -0.5**
BOOM pmax pmax
comp=Z,146nm,1.6s
BOOM MLR MLR
comp=Z,3μm,20.0s
BOOM Boomskoye usch 67.83 48 P **P 19 29 23.6 -0.5**
TNSS Tian-Shan 67.84 47 *e*P **P 19 29 26.0 +1.5**
baz=47
TNSS Tian-Shan 67.84 47 *e*P **P 19 29 25.9 +1.5**
KZA Kyzart 67.85 49 P **P 19 29 26.8 +2.3**
SNR=5.9
ETMB Extrema 68.10 213 *e*P **P 19 29 24.9 -0.9**
ULHL Ulahol 68.16 48 P P 19 29 33.6 +7.4
SNR=5.6
KPKS Kokpek 68.26 46⇓*i*P **P 19 29 28.0 +1.3**
comp=Z,196nm,2.5s,baz=46
KPKS LR LR 19 58 45.6
comp=Z,644nm,14.8s,baz=46
KPKS Kokpek 68.26 46*d i*P **P 19 29 28.0 +1.3**
KPKS pmax pmax
comp=Z,196nm,2.5s
KPKS MLR MLR
comp=Z,644nm,15.0s
JANB Januaria 68.39 190 *e*P **P 19 29 27.6 0.0**
SATY Saty 68.47 46⇓*i*P **P 19 29 29.2 +1.1**
comp=Z,70nm,2.4s,baz=46
SATY *e*S **S 19 38 32.2 +2.2**
baz=46
SATY LR LR 19 58 50.5
comp=Z,402nm,15.6s,baz=46
SATY Saty 68.47 46*d i*P **P 19 29 29.1 +1.1**
SATY *e*S **S 19 38 32.2 +2.2**
SATY pmax pmax
comp=Z,70nm,2.4s
SATY MLR MLR
comp=Z,402nm,16.0s
UZB Uzynbulak 68.66 46⇓*i*P **P 19 29 30.4 +1.0**
comp=Z,66nm,2.2s,baz=46
UZB *e*S **S 19 38 34.0 +1.7**
baz=46
UZB LR LR 19 58 59.0
comp=Z,538nm,16.4s,baz=46
UZB Uzynbulak 68.66 46*d i*P **P 19 29 30.3 +1.0**
UZB *e*S **S 19 38 34.0 +1.7**
UZB pmax pmax
comp=Z,65nm,2.2s
UZB MLR MLR
comp=Z,538nm,16.0s
PDGK Podgornoye 68.72 45 P **P 19 29 29.9 +0.3**
SHLS Shalkode 68.84 46⇓*i*P **P 19 29 33.3 +2.9**
comp=Z,132nm,2.5s,baz=45
SHLS *e*S **S 19 38 39.0 +4.5**
baz=45
SHLS LR LR 19 59 03.9
comp=Z,253nm,15.7s,baz=45
SHLS Shalkode 68.84 46*d i*P **P 19 29 33.3 +2.9**
SHLS *e*S **S 19 38 38.9 +4.5**
SHLS pmax pmax
comp=Z,132nm,2.5s
SHLS MLR MLR
comp=Z,253nm,16.0s
PRZ Przheval'sk 68.93 47 P **P 19 29 31.0 0.0**
PRZ pmax pmax
comp=Z,67nm,1.3s
PRZ MLR MLR
comp=Z,2μm,19.0s
PRZ Przheval'sk 68.93 47 P **P 19 29 31.0 0.0**
PRZ IAmb IAmb 19 29 39.8
comp=Z,67nm,1.2s
MOY Mondy 69.25 28 *e*P **P 19 29 33.8 +1.1**
MOY pmax pmax
comp=Z,113nm,2.4s
VILB Vilhena 69.27 206 *e*P **P 19 29 34.0 +1.0**
BDFB Brasilia 69.41 193 P **P 19 29 34.5 +0.5**
comp=Z,4.1nm,0.6s,baz=18,slow=7.1,SNR=6.5
BDFB LR LR 19 54 43.8
comp=Z,741nm,19.7s,baz=334,slow=31
BDFB Brasilia 69.41 193 P **P 19 29 32.5 -1.5**
BDFB pmax pmax
comp=Z,110nm,1.9s
BDFB Brasilia 69.41 193 P **P 19 29 32.5 -1.5**
BDFB IAmb IAmb 19 29 37.4
comp=Z,110nm,1.9s
IRK Irkutsk 69.61 25 *e*P **P 19 29 34.5 -0.3**
IRK pmax pmax
comp=Z,92nm,2.2s
TLY Talaya 69.95 26 *e*P **P 19 29 38.2 +1.2**
TLY *e*S **S 19 38 45.6 -1.4**
TLY pmax pmax
comp=Z,52nm,1.4s
TLY Talaya 69.95 26 P **P 19 29 37.5 +0.5**
MC01 Montes Claros 69.99 189 *e*P **P 19 29 37.6 +0.1**
ARAG Araguaiana, MT 70.07 197 *e*P **P 19 29 37.0 -1.0**
KSH Kashi 70.22 50 P **P 19 29 41.6 +2.7**
KSH S **S 19 38 48.1 -2.6**
KSH pmax pmax
comp=Z,610nm,7.5s
KSH LR LR
comp=Z,390nm,10.9s
KSH LR LR
comp=Z,730nm,15.6s
KSH LR LR
comp=Z,1μm,20.9s
SHME Shamm 70.31 73 P **P 19 29 38.8 -0.8**
PAYG Puerto Ayora 70.46 241 IAMs_20 IAMs_20 19 55 13.1
comp=Z,2μm,21.0s
BANOM Banah 70.49 73 P **P 19 29 40.1 -0.6**
KBL Kabul 70.78 58 P **P 19 29 43.8 +1.2**
SNR=24
KBL P **P 19 29 43.8 +1.2**
SNR=24
KBL Kabul 70.78 58 P **P 19 29 42.2 -0.4**
KBL pmax pmax
comp=Z,90nm,1.7s
KBL MLR MLR
comp=Z,2μm,22.0s
KBL Kabul 70.78 58 P **P 19 29 42.2 -0.4**
KBL IAmb IAmb 19 29 56.0
comp=Z,90nm,1.6s
KBL IAMs_20 IAMs_20 20 00 27.9
comp=Z,2μm,22.0s
NAZ Nazwa, Dubai 70.84 74 P **P 19 29 42.4 -0.4**
ZAK Zakamensk 71.03 27 *e*P **P 19 29 43.4 -0.3**
ZAK pmax pmax
comp=Z,16nm,1.6s
UOSS Minazif 71.19 73 P **P 19 29 43.9 -0.9**
UOSS Minazif 71.19 73 P **P 19 29 44.4 -0.5**
HATD Hatta, Dubai 71.24 74 *i* P **P 19 29 44.8 -0.4**
SNR=6.1
ASHO Ashiyiah 71.31 74 P **P 19 29 45.1 -0.6**
PTLB Pontes e Lacer 71.39 204 *e*P **P 19 29 46.3 +0.4**
ALNE Al Ain 71.61 74 *i* P **P 19 29 47.0 -0.4**
SNR=13
WMQ Urumqi 71.66 40 *e*P **P 19 29 49.3 +1.8**
WMQ pP pwP 19 29 54.5 +2.2
WMQ sP sP 19 29 58.0 +8.3
WMQ PcP **PcP 19 30 07.3 +0.6**
WMQ SS SS 19 43 40.1 -1.4
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ pmax pmax
comp=Z,260nm,3.7s
WMQ LR LR
comp=Z,740nm,15.3s
WMQ LR LR
comp=Z,740nm,15.9s
WMQ LR LR
comp=Z,600nm,24.1s
IPMB Ipameri, GO 71.74 193 *e*P **P 19 29 48.5 +0.4**
SJMB Sao Joao De Ma 71.75 186 *e*P **P 19 29 48.6 +0.5**
BSFB Barra de Sao F 71.85 186 *e*P **P 19 29 48.3 -0.4**
CIT Chita 71.95 20 *e*P **P 19 29 49.3 +0.1**
CIT *e* 19 29 54.6
SOHO SOHO 72.00 74 *i* P **P 19 29 48.8 -1.0**
SNR=6.7
RIB01 Linhares ES 72.31 185 *e*P **P 19 29 51.7 +0.3**
ZEA Zeya 72.47 11 *e*P **P 19 29 52.8 +0.7**
ZEA *e* 19 39 22.0
ZEA pmax pmax
comp=Z,64nm,1.8s
ZEA MLR MLR
comp=Z,500nm,16.0s
ARQ Araqi 72.61 74 P **P 19 29 53.6 +0.2**
ARQ P **P 19 29 53.6 +0.2**
FURI Furi 73.20 98 IAMs_20 IAMs_20 20 02 20.6
comp=Z,1μm,20.0s
PEA0B Petropavlovsk- 73.58 352 IAMs_20 IAMs_20 20 03 26.7
comp=Z,875nm,20.0s
PETK Petropavlovsk- 73.58 352 P **P 19 29 58.2 -0.5**
comp=Z,1.2nm,0.8s,baz=19,slow=9.3,SNR=2.6
PETK LR LR 20 03 56.7
comp=Z,766nm,18.9s,baz=46,slow=37
PET Petropavlovsk 73.58 351 *e*P **P 19 29 59.6 +1.0**
PET *e*S **S 19 39 28.6 0.0**
PET pmax pmax
comp=Z,100nm,11.1s
PET MLR MLR
comp=Z,500nm,20.0s
PET MLR MLR
comp=Z,600nm,18.0s
NIL Nilore 73.61 56 P **P 19 29 59.0 -0.3**
NIL pmax pmax
comp=Z,100nm,1.6s
NIL MLR MLR
comp=Z,1μm,18.0s
NIL Nilore 73.61 56 P **P 19 29 59.0 -0.3**
NIL IAmb IAmb 19 30 16.3
comp=Z,100nm,1.6s
NIL Nilore 73.61 56 IAMs_20 IAMs_20 20 04 53.9
comp=Z,1μm,18.0s
SMDO Samad 73.71 73 P **P 19 30 01.7 +1.6**
SNR=11
SMDO P **P 19 30 01.7 +1.6**
SNR=11
ITRB Iturama 73.75 195 *e*P **P 19 30 00.7 +0.7**
SONM Songino Array 74.19 26 P **P 19 30 02.8 +0.2**
comp=Z,9.7nm,1.1s,baz=327,slow=5.6,SNR=24
SONM LR LR 20 05 31.1
comp=Z,380nm,18.5s,baz=336,slow=38
SONM Songino Array 74.19 26 P **P 19 30 02.5 -0.1**
SONM pmax pmax
comp=Z,36nm,1.2s
SONM Songino Array 74.19 26 P **P 19 30 02.5 -0.1**
BSCB Bom Sucesso 74.31 189 *e*P **P 19 30 04.0 +0.6**
ULN Ulaanbaatar 74.34 25*d i*P **P 19 30 04.2 +0.7**
ULN pmax pmax
comp=Z,65nm,1.7s
ULN MLR MLR
comp=Z,697nm,24.0s
ULN Ulaanbaatar 74.34 25 P **P 19 30 04.0 +0.5**
LPAZ La Paz 74.79 213 P **P 19 30 06.9 +0.1**
comp=Z,13nm,1.1s,baz=17,slow=6.9,SNR=28
LPAZ LR LR 20 01 59.5
comp=Z,350nm,19.2s,baz=0.0,slow=35
LPAZ La Paz 74.79 213 P **P 19 30 05.8 -1.0**
LPAZ pmax pmax
comp=Z,130nm,2.0s
LPAZ La Paz 74.79 213 P **P 19 30 05.8 -1.0**
LPAZ IAmb IAmb 19 30 08.5
comp=Z,130nm,1.9s
LPAZ La Paz 74.79 213 *e*P **P 19 30 06.6 -0.3**
BB19B Bebedouro 74.82 193 *e*P **P 19 30 05.2 -1.0**
VAS01 Vassouras-RJ 75.46 188 *e*P **P 19 30 10.3 +0.4**
AQDB Aquidauana 75.46 200 *e*P **P 19 30 11.1 +1.2**
LODK Lodwar 75.61 104 P **P 19 30 12.1 +1.0**
SNR=12
PCMB Pacaembu 75.75 196 *e*P **P 19 30 12.7 +1.1**
SKR Severo-Kuril's 76.11 353 *e*P **P 19 30 13.2 -0.1**
SKR *e*S S 19 39 47.0 -10
SKR pmax pmax
comp=Z,37nm,1.3s
SKR pmax pmax
comp=Z,200nm,5.8s
SKR MLR MLR
comp=Z,200nm,18.0s
SKR MLR MLR
comp=Z,400nm,22.0s
MBAR Mbarara 76.22 110*d i*P **P 19 30 15.5 +0.8**
MBAR pmax pmax
comp=Z,6.0nm,1.0s
MBAR MLR MLR
comp=Z,412nm,15.0s
MBAR Mbarara 76.22 110 P **P 19 30 14.7 0.0**
MBAR IAmb IAmb 19 30 28.8
comp=Z,65nm,1.9s
MBAR Mbarara 76.22 110 IAMs_20 IAMs_20 20 03 15.6
comp=Z,938nm,19.0s
BHK Bhakra 76.98 55 *ex* P 19 30 24.3 +5.6
TRCB Terra Rica 77.15 197 *e*P **P 19 30 20.5 +1.0**
SPB Sao Paulo 77.17 192 *e*P **P 19 30 20.0 +0.6**
FRTB Fartura 77.20 194 *e*P **P 19 30 20.0 +0.3**
PB12 IPOC Station P 77.69 214 P **P 19 30 21.4 -1.2**
GO01 Chusmiza 78.29 213 P **P 19 30 25.6 -0.9**
GO01 IAmb IAmb 19 30 29.6
comp=Z,55nm,1.3s
PB11 IPOC Station P 78.53 213 IAmb IAmb 19 30 28.6
comp=Z,71nm,1.2s
PB08 IPOC Station P 78.72 212 IAmb IAmb 19 30 30.5
comp=Z,62nm,1.3s
PTGB Pitanga 78.93 196 *e*P **P 19 30 29.8 +0.4**
TA01 Diego Aracena 79.45 213 IAMs_20 IAMs_20 20 01 51.8
comp=Z,893nm,20.0s
PB01 IPOC Station P 79.67 212 P **P 19 30 33.0 -0.5**
PB01 IAmb IAmb 19 30 35.2
comp=Z,133nm,1.9s
GTA Gaotai 79.90 34 ⇓P **P 19 30 34.8 0.0**
GTA pP pwP 19 30 40.8 +1.2
GTA sP PcP 19 30 43.8 +1.4
GTA S **S 19 40 40.3 +1.8**
GTA sS SKSac 19 40 47.1 -5.2
GTA SS **SS 19 45 44.9 -1.6**
GTA pmax pmax
comp=Z,18nm,1.8s
GTA pmax pmax
comp=Z,190nm,5.1s
GTA LR LR
comp=Z,750nm,17.8s
GTA LR LR
comp=Z,650nm,18.2s
GTA LR LR
comp=Z,1μm,18.2s
YSS Yuzh-Sakhalins 80.26 1 *e*P P 19 30 25.4 -11
YSS *e* 19 40 42.6
YSS *e* 19 45 51.6
YSS pmax pmax
comp=Z,100nm,3.7s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS MLR MLR
comp=N,200nm,13.0s
YSS MLR MLR
comp=E,300nm,17.0s
PB09 IPOC Station P 80.30 212 IAmb IAmb 19 31 22.2
comp=Z,187nm,2.0s
KMBO Kilima Mbogo 80.38 105 P **P 19 30 38.2 +0.3**
comp=Z,0.8nm,0.3s,baz=358,slow=6.8,SNR=5.9
KMBO LR LR 20 07 00.4
comp=Z,517nm,18.1s,baz=278,slow=36
KMBO Kilima Mbogo 80.38 105 P **P 19 30 37.7 -0.1**
KMBO pmax pmax
comp=Z,39nm,1.8s
KMBO MLR MLR
comp=Z,700nm,18.0s
KMBO Kilima Mbogo 80.38 105 P **P 19 30 37.7 -0.1**
KMBO Kilima Mbogo 80.38 105 IAMs_20 IAMs_20 20 07 23.0
comp=Z,712nm,18.0s
PB07 IPOC Station P 80.44 213 IAmb IAmb 19 30 39.7
comp=Z,96nm,1.4s
LVC Limon Verde 80.95 211 P **P 19 30 40.2 -0.5**
LVC pmax pmax
comp=Z,116nm,1.5s
LVC Limon Verde 80.95 211 P **P 19 30 40.2 -0.5**
LVC IAmb IAmb 19 30 43.1
comp=Z,116nm,1.5s
LVC Limon Verde 80.95 211 *e*P **P 19 30 40.7 -0.1**
ITAB Concordia 81.41 195 *e*P **P 19 30 42.7 +0.1**
MDJ Mudanjiang 81.73 11 P **P 19 30 42.5 -1.8**
MDJ pP PcP 19 30 49.8 -0.3
MDJ sP pwP 19 30 54.8 +5.2
MDJ S **S 19 40 56.3 -0.8**
MDJ pmax pmax
comp=Z,16nm,2.3s
MDJ pmax pmax
comp=Z,160nm,4.1s
MDJ LR LR
comp=Z,490nm,16.4s
MDJ LR LR
comp=Z,540nm,17.9s
KIBK Kibwezi 81.82 105 P **P 19 30 46.1 +0.8**
SNR=8.4
BTO Baotou 81.87 26 *e*P **P 19 30 43.8 -1.5**
HHC Hu-ho-hao-te 82.04 25 *e*P **P 19 30 48.1 +1.9**
HHC S **S 19 41 06.4 +5.7**

HHC				SS	SS	19 46 21.8	+3.6		
HHC				pmax	pmax				
	comp=Z,16nm,0.9s								
HHC				pmax	pmax				
	comp=Z,250nm,5.7s								
HHC				LR	LR				
	comp=Z,820nm,20.8s								
HHC				LR	LR				
	comp=Z,500nm,17.9s								
HHC				LR	LR				
	comp=Z,1μm,21.8s								
USRK	**Ussuriysk Ar.**	**82.39**	**9**	P	**P**	**19 30 48.4**	**+0.6**		
	comp=Z,2.9nm,0.8s,baz=318,slow=2.9,SNR=6.7								
USRK				LR	LR	20 06 01.7			
	comp=Z,218nm,19.6s,baz=335,slow=35								
USRK	**Ussuriysk Ar.**	**82.39**	**9**	P	**P**	**19 30 47.5**	**-0.3**		
USRK	**Ussuriysk Ar.**	**82.39**	**9**	P	**P**	**19 30 47.5**	**-0.3**		
CNLB	**Canela**	**83.26**	**194**	*e*P	**P**	**19 30 53.0**	**+0.7**		
SNY	**Shenyang**	**83.62**	**16**	⇑P	**P**	**19 30 54.3**	**+0.1**		
SNY				S	**S**	**19 41 19.6**	**+3.1**		
SNY				pmax	pmax				
	comp=Z,35nm,2.6s								
SNY				LR	LR				
	comp=Z,270nm,21.4s								
SNY				LR	LR				
	comp=Z,260nm,18.9s								
SNY				LR	LR				
	comp=Z,290nm,20.6s								
BJI	**Beijing**	**83.91**	**22**	P	**P**	**19 30 56.0**	**+0.3**		
BJI				S	**S**	**19 41 22.6**	**+3.1**		
BJI				pmax	pmax				
	comp=Z,13nm,1.8s								
BJI				pmax	pmax				
	comp=Z,220nm,3.3s								
BJI				LR	LR				
	comp=Z,510nm,19.1s								
BJI				LR	LR				
	comp=Z,280nm,18.1s								
BJT	**Baijiatuau**	**83.93**	**22**	IAMs_20	IAMs_20	20 10 02.3			
	comp=Z,743nm,20.0s								
LZH	**Lanzhou**	**84.25**	**32**	*e*P	**P**	**19 30 58.4**	**+0.7**		
LZH				pP	pwP	19 31 04.0	+1.5		
LZH				sP	PcP	19 31 08.6	+7.1		
LZH				S	**S**	**19 41 22.3**	**-1.1**		
LZH				pmax	pmax				
	comp=Z,28nm,1.4s								
LZH				pmax	pmax				
	comp=Z,200nm,4.3s								
LZH				LR	LR				
	comp=Z,570nm,13.0s								
LZH				LR	LR				
	comp=Z,560nm,13.6s								
LZH				LR	LR				
	comp=Z,520nm,15.7s								
CPSB	**Cacapava Do Su**	**84.73**	**196**	*e*P	**P**	**19 31 00.2**	**+0.5**		
TSUM	**Tsumeb**	**85.17**	**131**	P	**P**	**19 31 02.6**	**+0.2**		
LSA	**Lhasa**	**85.20**	**45**	IAMs_20	IAMs_20	20 08 55.6			
	comp=Z,2μm,22.0s								
TIY	**Taiyuan**	**85.22**	**25**	*e*P	**P**	**19 31 05.1**	**+2.6**		
TIY				S	**S**	**19 41 38.3**	**+5.5**		
TIY				pmax	pmax				
	comp=Z,360nm,4.4s								
TIY				LR	LR				
	comp=Z,550nm,16.1s								
TIY				LR	LR				
	comp=Z,320nm,15.9s								
TIY				LR	LR				
	comp=Z,590nm,16.3s								
PLTB	**Pedras Altas**	**86.08**	**196**	*e*P	**P**	**19 31 06.7**	**+0.3**		
DL2	**Dalian**	**86.12**	**18**	P	**P**	**19 31 08.3**	**+1.5**		
DL2				S	**S**	**19 41 44.0**	**+2.6**		
DL2				pmax	pmax				
	comp=Z,57nm,1.5s								
DL2				pmax	pmax				
	comp=Z,210nm,3.7s								
DL2				LR	LR				
	comp=Z,790nm,15.5s								
DL2				LR	LR				
	comp=Z,310nm,18.1s								
DL2				LR	LR				
	comp=Z,790nm,17.2s								
POO	**Poona**	**86.18**	**64**	*e*P	**P**	**19 31 05.0**	**-2.5**		
LSZ	**Lusaka**	**87.00**	**120**	P	**P**	**19 31 11.8**	**+0.3**		
LSZ				pmax	pmax				
	comp=Z,40nm,1.6s								
LSZ				MLR	MLR				
	comp=Z,900nm,21.0s								
LSZ	**Lusaka**	**87.00**	**120**	P	**P**	**19 31 11.8**	**+0.3**		
LSZ				IAmb	IAmb	19 31 13.3			
	comp=Z,40nm,1.6s								
LSZ	**Lusaka**	**87.00**	**120**	IAMs_20	IAMs_20	20 10 44.2			
	comp=Z,941nm,21.0s								
XAN	**Xi'an**	**87.70**	**29**	P	**P**	**19 31 14.4**	**-0.3**		
XAN				pP	sP	19 31 18.0	+1.3		
XAN				PP	**PP**	**19 34 40.6**	**+1.4**		
XAN				SKS	**SKSac**	**19 41 42.4**	**-0.7**		
XAN				S	**SKKSac**	**19 41 49.4**	**-3.4**		
XAN				SS	**SS**	**19 47 42.9**	**+1.2**		
XAN				pmax	pmax				
	comp=Z,38nm,1.7s								
XAN				pmax	pmax				
	comp=Z,290nm,2.9s								
XAN				LR	LR				
	comp=Z,900nm,20.6s								
XAN				LR	LR				
	comp=Z,840nm,17.2s								
XAN				LR	LR				
	comp=Z,1μm,28.2s								
XAN	**Xi'an**	**87.70**	**29**	IAmb	IAmb	19 31 26.3			
	comp=Z,66nm,1.4s								
XAN	**Xi'an**	**87.70**	**29**	IAMs_20	IAMs_20	20 13 11.6			
	comp=Z,818nm,18.0s								
KSRS	**Korea Array**	**88.57**	**13**	P	**P**	**19 31 17.9**	**-0.8**		
	comp=Z,1.1nm,0.7s,baz=359,slow=6.0,SNR=5.0								
KSRS				LR	LR	20 11 26.8			
	comp=Z,225nm,20.6s,baz=324,slow=36								
CD2	**Chengdu**	**88.95**	**34**	P	**P**	**19 31 19.4**	**-1.3**		
CD2				SKS	**SKSac**	**19 41 51.5**	**+0.8**		
CD2				S	**S**	**19 42 10.3**	**+1.3**		
CD2				SS	**SS**	**19 48 06.8**	**+6.7**		
CD2				pmax	pmax				
	comp=Z,40nm,1.4s								
CD2				LR	LR				
	comp=Z,1μm,21.6s								
CD2				LR	LR				
	comp=Z,740nm,23.0s								
CD2				LR	LR				
	comp=Z,2μm,21.6s								
SHL	**Shillong**	**89.12**	**46**	IAMs_20	IAMs_20	20 11 43.5			
	comp=Z,1μm,22.0s								
MJAR	**Matsushiro Arr**	**90.49**	**5**	P	**P**	**19 31 25.7**	**-2.0**		
	comp=Z,0.9nm,0.8s,baz=1.4,slow=5.4,SNR=2.3								
MJAR				LR	LR	20 13 11.8			
	comp=Z,145nm,18.4s,baz=35,slow=36								
MJAR	**Matsushiro Arr**	**90.49**	**5**	P	**P**	**19 31 25.7**	**-2.0**		
MJAR				pmax	pmax				
	comp=Z,3.0nm,1.2s								
ENH	**Enshi**	**91.39**	**30**	P	**P**	**19 31 31.8**	**-0.3**		
ENH				IAMs_20	IAMs_20	20 14 17.0			
	comp=Z,913nm,20.0s								
MT05	**Renca**	**91.59**	**209**	IAMs_20	IAMs_20	20 02 16.4			
	comp=Z,996nm,19.0s								
NJ2	**Nanjing**	**92.17**	**22**	*e*P	**P**	**19 31 34.3**	**-1.3**		
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								
WHN	**Wuhan**	**92.51**	**26**	P	**P**	**19 31 36.3**	**-0.9**		
WHN				SKS	**SKSac**	**19 42 05.9**	**-5.1**		
WHN				S	**S**	**19 42 39.8**	**-1.6**		
WHN				SS	**SS**	**19 48 58.4**	**+7.3**		
WHN				LR	LR				
	comp=Z,960nm,13.0s								
WHN				LR	LR				
	comp=Z,680nm,11.0s								
WHN				LR	LR				
	comp=Z,2μm,20.8s								
TRQA	**Tornquist**	**93.78**	**201**	*e*P	**P**	**19 31 42.8**	**+0.3**		
KMI	**Kunming**	**93.88**	**38**	⇑P	**P**	**19 31 43.8**	**0.0**		
KMI				pP	pwP	19 31 48.8	+0.2		
KMI				sP	sP	19 31 51.1	+5.3		
KMI				PP	**PP**	**19 35 25.6**	**-3.0**		
KMI				SKS	**SKSac**	**19 42 20.3**	**+1.1**		
KMI				S	**S**	**19 42 48.6**	**-5.6**		
KMI				SS	**SS**	**19 49 13.8**	**+2.3**		
KMI				pmax	pmax				
	comp=Z,6.0nm,1.5s								
KMI				pmax	pmax				
	comp=Z,120nm,4.7s								
KMI				LR	LR				
	comp=Z,510nm,20.6s								
KMI				LR	LR				
	comp=Z,220nm,19.9s								
KMI				LR	LR				
	comp=Z,540nm,19.9s								
GYA	**Guiyang**	**94.03**	**34**	*e*P	P	19 31 52.0	+7.6		
GYA	**Guiyang**	**94.03**	**34**	S	**S**	**19 42 52.8**	**-2.5**		
GYA	**Guiyang**	**94.03**	**34**	SS	SS	19 49 27.6	+14		
GYA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
GYA				pmax	pmax				
	comp=Z,110nm,3.5s								
GYA				LR	LR				
	comp=N,370nm,18.0s								
GYA				LR	LR				
	comp=E,290nm,20.4s								
GYA				LR	LR				
	comp=Z,470nm,18.9s								
BOSA	**Boshof**	**96.79**	**130**	LR	LR	20 13 23.3			
	comp=Z,435nm,21.2s,baz=14,slow=34								
CHTO	**Chiang Mai**	**98.09**	**43**	IAMs_20	IAMs_20	20 18 00.3			
	comp=Z,958nm,22.0s								
PLCA	**Paso Flores**	**98.40**	**206**	LR	LR	20 14 51.4			
	comp=Z,363nm,21.1s,baz=344,slow=34								
CMAR	**Chiang Mai Arr**	**98.41**	**44**	P	**P**	**19 32 03.9**	**-0.3**		
	comp=Z,0.7nm,0.6s,baz=320,slow=6.6,SNR=6.3								
CMAR				PP	**PP**	**19 36 04.5**	**+1.0**		
	comp=Z,0.7nm,0.4s,baz=333,slow=7.1,SNR=1.6								
CMAR				LR	LR	20 18 31.8			
	comp=Z,681nm,21.9s,baz=315,slow=37								
CMAR	**Chiang Mai Arr**	**98.41**	**44**	*i* P	Pdif	19 32 04.3	0.0		
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
PALK	**Pallekele**	**99.18**	**65**	IAMs_20	IAMs_20	20 18 29.7			
	comp=Z,789nm,20.0s								
YHNB	**Yeheng**	**99.85**	**22**	IAMs_20	IAMs_20	20 20 14.0			
	comp=Z,708nm,18.0s								
HKPS	**Hong Kong Po S**	**100.28**	**29**	IAMs_20	IAMs_20	20 20 18.6			
	comp=Z,550nm,20.0s								
NACB	**Ninganchiao**	**100.38**	**22**	IAMs_20	IAMs_20	20 20 21.0			
	comp=Z,742nm,20.0s								
LL01	**San Ignacio de**	**100.44**	**207**	IAMs_20	IAMs_20	20 15 35.5			
	comp=Z,915nm,21.0s								
YULB	**Yu-li**	**101.06**	**22**	IAMs_20	IAMs_20	20 20 55.0			
	comp=Z,499nm,19.0s								
QIZ	**Qiongzhong**	**101.98**	**34**	P	**Pdif**	**19 32 18.3**	**-1.9**		
QIZ				S	**Sdif**	**19 44 00.4**	**-2.5**		
QIZ				SS	**SS**	**19 51 03.8**	**-1.4**		
QIZ				LR	LR				
	comp=Z,330nm,14.6s								
QIZ				LR	LR				
	comp=Z,420nm,17.3s								
QIZ				LR	LR				
	comp=Z,410nm,18.4s								
QIZ	**Qiongzhong**	**101.98**	**34**	IAMs_20	IAMs_20	20 20 23.0			
	comp=Z,512nm,20.0s								
TAOE	**Nuku Hiva Isla**	**106.06**	**277**	*e*LR	LR	20 07 35.8			
	comp=Z,1μm,24.4s								
KKM	**Kota Kinabalu**	**116.23**	**32**	IAMs_20	IAMs_20	20 30 49.3			
	comp=Z,585nm,22.0s								
DAV	**Davao City (W)**	**117.81**	**22**	IAMs_20	IAMs_20	20 31 36.6			
	comp=Z,576nm,20.0s								
KSM	**Kuching**	**118.37**	**40**	IAMs_20	IAMs_20	20 30 20.7			
	comp=Z,428nm,20.0s								
PPT2	**Papeete2**	**118.55**	**279**	*e*PS	PS	19 48 13.3	-4.0		
	comp=Z,226nm,27.0s								
PPT2				*e*SS	SS	19 54 51.9	+3.0		
	comp=Z,485nm,25.2s								
PPT2	**Papeete2**	**118.55**	**279**	*e*LR	LR	20 13 17.2			
	comp=Z,985nm,21.5s								
TBI	**Tubuai**	**122.89**	**274**	*e*SS	SS	19 55 46.5	+2.0		
	comp=Z,471nm,33.5s								
TBI	**Tubuai**	**122.89**	**274**	*e*LR	LR	20 15 25.5			
	comp=Z,1μm,22.0s								
VNA1	**Neumayer--Stat**	**124.99**	**169**	PKPdf	**PKPdf**	**19 37 24.5**	**0.0**		
VNA2	**Neumayer--Watz**	**125.35**	**169**	PKPdf	**PKPdf**	**19 37 25.1**	**-0.2**		
VNA3	**Neumayer Olymp**	**125.41**	**170**	PKPdf	**PKPdf**	**19 37 25.0**	**-0.4**		
SNAA	**Sanae**	**126.59**	**168**	PKPdf	**PKPdf**	**19 37 27.4**	**-0.3**		
SNAA	**Sanae**	**126.59**	**168**	PKIKP	**PKPdf**	**19 37 26.2**	**-1.5**		
SNAA	**Sanae**	**126.59**	**168**	PKPdf	**PKPdf**	**19 37 26.2**	**-1.5**		
NVL	**N'lazarevskaya**	**128.09**	**162**	*e*PKIKP	**PKPdf**	**19 37 30.0**	**-0.5**		
NVL				*e*SS	SS	19 57 05.7	+17		
NVL				pmax	pmax				
	comp=Z,11nm,0.7s								
NVL				MLR	MLR				
	comp=Z,402nm,20.0s								
BELA	**Belgrano 2**	**130.76**	**180**	PKPdf	**PKPdf**	**19 37 34.2**	**-1.2**		
SYO	**Syowa Base**	**133.42**	**151**⇓	*e*X	**Pdif**	**19 34 36.2**	**-2.3**		
SYO	**Syowa Base**	**133.42**	**151**⇓	*e*PPdiff	pPdif	19 34 42.0	+1.9		
MAW	**Mawson**	**140.29**	**144**	PKP	**PKPdf**	**19 37 51.0**	**-2.3**		
	comp=Z,2.0nm,0.6s,baz=280,slow=8.2,SNR=5.5								
MAW	**Mawson**	**140.29**	**144**	PKIKP	**PKPdf**	**19 37 51.2**	**-2.2**		
MAW	**Mawson**	**140.29**	**144**	PKPdf	**PKPdf**	**19 37 51.2**	**-2.2**		
COEN	**Coen**	**140.88**	**3**	IAMs_20	IAMs_20	20 44 59.9			
	comp=Z,464nm,21.0s								
QSPA	**South Pole Qui**	**143.04**	**180**	PKPdf	PKPab	19 37 53.2	-0.6		
DZM	**Mont Dzumac**	**144.88**	**324**	*e*PKPbc	**PKPdf**	**19 38 03.0**	**-0.1**		
	comp=Z,175nm,1.3s								
DZM	**Mont Dzumac**	**144.88**	**324**	*e*LR	LR	20 25 27.6			
	comp=Z,600nm,25.9s								
DZM	**Mont Dzumac**	**144.88**	**324**	PKP	PKPbc	19 38 02.6	+0.3		
	comp=Z,45nm,1.1s,baz=57,slow=8.1,SNR=9.2								
WB0	**Warramunga Arr**	**145.70**	**18**	PKPdf	**PKPdf**	**19 38 03.4**	**-1.1**		
WC1	**Warramunga Arr**	**145.84**	**18**	IAMs_20	IAMs_20	20 40 21.4			
	comp=Z,421nm,21.0s								
WRAB	**Tennant Creek**	**145.85**	**18**	PKIKP	**PKPdf**	**19 38 03.0**	**-1.8**		
WRAB	**Tennant Creek**	**145.85**	**18**		**PKPdf**	**19 38 03.0**	**-1.8**		
WR1	**Warramunga Arr**	**145.86**	**18**	IAMs_20	IAMs_20	20 52 42.9			
	comp=Z,534nm,18.0s								
WRA	**Warramunga Arr**	**145.86**	**18**	PKPbc	**PKPdf**	**19 38 04.8**	**+0.1**		
	comp=Z,19nm,0.8s,baz=342,slow=3.4,SNR=88								
WRA	**Warramunga Arr**	**145.86**	**18**	PKP2	**PKPdf**	**19 38 03.7**	**-1.1**		
WRA	**Warramunga Arr**	**145.86**	**18**	PKPdf	**PKPdf**	**19 38 03.7**	**-1.1**		
WB2	**Warramunga Arr**	**145.86**	**18**	PKPdf	**PKPdf**	**19 38 03.7**	**-1.1**		
WB1	**Warramunga Ar.**	**145.88**	**18**	IAMs_20	IAMs_20	20 53 43.3			
	comp=Z,458nm,19.0s								
WR7	**Warramunga Arr**	**145.90**	**18**	IAMs_20	IAMs_20	20 48 47.9			
	comp=Z,458nm,18.0s								
WR8	**Warramunga Arr**	**145.90**	**18**	IAMs_20	IAMs_20	20 45 20.0			
	comp=Z,478nm,18.0s								
WR0	**Warramunga Arr**	**145.91**	**18**	PKPdf	**PKPdf**	**19 38 04.1**	**-0.8**		
CTA	**Charters Tower**	**146.98**	**358**	PKPbc	**PKPbc**	**19 38 08.2**	**-0.4**		
	comp=Z,15nm,1.1s,baz=104,slow=6.9,SNR=5.1								
CTAO	**Charters Tower**	**146.98**	**358**	PKP2	**PKPbc**	**19 38 08.2**	**-0.4**		
CTAO	**Charters Tower**	**146.98**	**358**	PKPdf	**PKPbc**	**19 38 08.2**	**-0.4**		
MORW	**Morawa**	**147.95**	**53**	PKPdf	**PKPdf**	**19 38 08.4**	**+0.4**		
AS31	**Alice Springs**	**149.40**	**20**		**PKPbc**	**19 38 14.3**	**-0.7**		
ASAR	**Alice Springs**	**149.40**	**20**	PKPbc	**PKPbc**	**19 38 14.2**	**-0.8**		
	comp=Z,8.6nm,0.7s,baz=0.7,slow=1.6,SNR=83								
ASAR	**Alice Springs**	**149.40**	**20**	PKIKP	**PKPdf**	**19 38 08.6**	**-2.0**		
ASAR						19 38 14.7			
ASAR	**Alice Springs**	**149.40**	**20**	PKPdf	**PKPdf**	**19 38 08.6**	**-2.0**		
ASAR				PKPbc	**PKPbc**	**19 38 14.7**	**-0.3**		
NWAO	**Narrogin (SRO)**	**151.70**	**55**	PKPbc	**PKPbc**	**19 38 18.7**	**-1.5**		
	comp=Z,22nm,1.0s,baz=301,slow=2.4,SNR=5.4								
EIDS	**Eidsvold**	**151.87**	**348**		**PKPbc**	**19 38 19.5**	**-1.2**		
URZ	**Urewera**	**153.31**	**291**	PKPbc	**PKPbc**	**19 38 22.0**	**-1.5**		
	comp=Z,18nm,0.9s,baz=54,slow=6.6,SNR=4.8								
VNDA	**Vanda**	**154.75**	**189**	PKP	**PKPdf**	**19 38 16.4**	**-0.5**		
	comp=Z,9.4nm,1.2s,baz=245,slow=2.2,SNR=21								
VNDA				PKPbc	**PKiKP**	**19 38 26.2**	**+0.7**		
	comp=Z,5.2nm,0.9s,baz=324,slow=1.7,SNR=7.8								

DDA ***23*** *19:24:37.6, 38°.75N×29°.36E, h5km±2km, MW3.5*
ISK ***23*** *19:24:37.1, 38°.75N×29°.37E, h6km, ML3.6/51*
ISC 23 19:24:37.7±1.1, 38°.76N±0°.02×29°.37E±0°.02, h4km±10km, n86, σ0s56/102, Turiye

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USAK	**Uak-Merkez**	**0.28**	**261**	*i* P	**Pg**	**19 24 42.8**	**-0.3**
USAK				*i* S	**Sg**	**19 24 47.2**	**+0.5**
USAK				IAML		19 24 48.0	
	comp=E,2μm,0.1s						
GEDZ	**Gediz**	**0.29**	**7**	PG	**Pg**	**19 24 43.7**	**+0.3**
SHAP	**Saphane-Kutahy**	**0.29**	**337**	PG	**Pg**	**19 24 43.7**	**+0.3**
SHAP				SG	**Sg**	**19 24 47.8**	**+0.6**
KULA	**Kula-Manisa**	**0.60**	**247**	PG	**Pg**	**19 24 49.6**	**+0.3**
KULA				SG	**Sg**	**19 24 57.6**	**+0.4**
MANT	**Manisa**	**0.69**	**247**	*i* P	**Pg**	**19 24 51.1**	**+0.2**
MANT				*i* S	**Sg**	**19 24 59.9**	**0.0**
MANT				IAML		19 25 06.0	
	comp=E,786nm,0.6s						
MANT				IAML		19 25 07.0	
	comp=N,720nm,0.3s						
TVSB	**Tavsanli**	**0.70**	**6**	PG	**Pg**	**19 24 50.8**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.79**	**129**	*i* P	**Pg**	**19 24 52.9**	**+0.1**
KZIL				*i* S	**Sg**	**19 25 03.7**	**+0.7**
KZIL				IAML		19 25 07.0	
	comp=N,2μm,0.7s						
KZIL				IAML		19 25 09.0	
	comp=E,1μm,0.4s						
SHUT	**Suhut-Afyon**	**0.95**	**102**	PG	**Pg**	**19 24 55.6**	**-0.4**
SHUT				SG	**Sg**	**19 25 08.8**	**+0.5**
BASM	**Basmaki-Afyon**	**0.99**	**147**	PG	**Pg**	**19 24 56.4**	**-0.4**
DST	**Dursunbey**	**1.03**	**326**	PG	**Pg**	**19 24 57.1**	**-0.3**
AUKIR	**Kırka- Seyitga**	**1.05**	**60**	*i* P	**Pg**	**19 24 58.2**	**+0.4**
AUKIR				*i* S	**Sg**	**19 25 11.1**	**-0.2**
AUKIR				IAML		19 25 21.0	
	comp=E,432nm,0.4s						
AUKIR				IAML		19 25 23.0	
	comp=N,552nm,0.7s						
DURS	**Dursunbey**	**1.09**	**321**	*i* P	**Pg**	**19 24 58.8**	**+0.1**
DURS				*i* S	**Sb**	**19 25 13.8**	**-0.1**
DURS				IAML		19 25 19.0	
	comp=E,718nm,0.4s						
DURS				IAML		19 25 22.0	
	comp=N,696nm,0.6s						
BRDR	**BURDUR-Merkez**	**1.19**	**152**	*i* P	**Pn**	**19 25 01.1**	**-0.2**
BRDR				IAML		19 25 22.0	
	comp=E,933nm,0.4s						
BRDR				IAML		19 25 24.0	
	comp=N,1μm,0.6s						
AKHS	**Akhisar**	**1.22**	**276**	*i* P	**Pg**	**19 25 00.7**	**-0.4**
AKHS				IAML		19 25 22.0	
	comp=E,265nm,0.6s						
AUBOZ	**BOZOYUK**	**1.26**	**24**	PN	**Pg**	**19 25 01.6**	**-0.4**
AUBOZ	**BOZOYUK**	**1.26**	**24**	*i* P	**Pn**	**19 25 02.2**	**-0.1**
AUBOZ				*i* S	**Sn**	**19 25 19.9**	**+0.2**
AUBOZ				IAML		19 25 22.0	
	comp=N,2μm,0.5s						
AUBOZ				IAML		19 25 22.0	
	comp=E,2μm,0.7s						
ISP	**Isparta**	**1.30**	**135**	PN	**Pn**	**19 25 01.8**	**-1.1**
ORLT	**Orhaneli**	**1.34**	**344**	PN	**Pb**	**19 25 03.3**	**-0.2**
TAVA	**DENIZLI_Tavas**	**1.34**	**196**	*i* P	**Pn**	**19 25 02.1**	**-1.2**
TAVA				*i* S	**Sg**	**19 25 20.1**	**-0.6**
TAVA				IAML		19 25 24.0	
	comp=N,152nm,0.6s						
BAGO	**Egridir - ISPA**	**1.35**	**124**	*i* P	**Pn**	**19 25 02.9**	**-0.6**
BAGO				*i* S	**Sn**	**19 25 23.8**	**+1.7**
ULDT	**Uludag**	**1.40**	**353**	*i* P	**Pg**	**19 25 04.6**	**+0.1**
ULDT				*i* S	**Sb**	**19 25 21.2**	**-1.5**
ULDT				IAML		19 25 25.0	
	comp=E,822nm,0.4s						
ULDT				IAML		19 25 26.0	
	comp=N,552nm,0.5s						
BORA	**Eskisehir**	**1.40**	**37**	PN	**Pn**	**19 25 03.9**	**-0.3**
BORA	**Eskisehir**	**1.40**	**37**	*i* P	**Pg**	**19 25 05.3**	**+0.6**
BORA				IAML		19 25 26.0	
	comp=E,199nm,0.5s						
BORA				IAML		19 25 27.0	
	comp=N,239nm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.41**	**236**	PN	**Pb**	**19 25 04.2**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.42**	**296**	*i* P	**Pg**	**19 25 05.4**	**+0.3**
STEP				*i* S	**Sb**	**19 25 21.9**	**-1.6**
STEP				IAML		19 25 28.0	
	comp=N,684nm,0.7s						
STEP				IAML		19 25 30.0	
	comp=E,642nm,0.6s						
CIFT	**Cifteler, Eski**	**1.45**	**65**	PN	**Pn**	**19 25 04.8**	**-0.1**
BALB	**Balikesir**	**1.45**	**308**	PN	**Pb**	**19 25 04.9**	**-0.5**
CAVI	**Cavuskoy**	**1.49**	**14**	PN	**Pn**	**19 25 05.4**	**0.0**
IGD	**Bursa**	**1.51**	**355**	*i* P	**Pg**	**19 25 06.7**	**-0.1**
IGD				IAML		19 25 29.0	
	comp=N,251nm,0.3s						
IGD				IAML		19 25 29.0	
	comp=E,274nm,0.3s						
GOLH	**Golhisar**	**1.52**	**174**	*i* P	**Pg**	**19 25 07.6**	**+0.6**
GOLH				IAML		19 25 35.0	
	comp=N,193nm,0.6s						
GOLH				IAML		19 26 09.0	
	comp=E,585nm,2.0s						
SRCK	**Saricakaya, Es**	**1.61**	**37**	PN	**Pn**	**19 25 07.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.65**	**347**	PN	**Pn**	**19 25 07.4**	**-0.2**
BALY	**Balya**	**1.67**	**306**	*i* P	**Pg**	**19 25 09.6**	**-0.3**
BALY				*i* S	**Sb**	**19 25 30.7**	**0.0**
BALY				IAML		19 25 35.0	
	comp=N,703nm,0.8s						
BALY				IAML		19 25 35.0	
	comp=E,386nm,1.1s						
GEMT	**Gemlik**	**1.68**	**355**	PN	**Pn**	**19 25 08.2**	**+0.2**
ADVT	**Abdulvahap**	**1.70**	**10**	PN	**Pn**	**19 25 07.3**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.81**	**67**	PN	**Pn**	**19 25 09.5**	**-0.4**
GONE	**Gonen-Balikesi**	**1.83**	**315**	PN	**Pn**	**19 25 10.4**	**+0.4**
YER	**Yerkesik**	**1.83**	**208**	PN	**Pn**	**19 25 09.7**	**-0.4**
ARMT	**Armutlu**	**1.85**	**348**	PN	**Pn**	**19 25 09.9**	**-0.4**
TRML	**Termal-Yalova**	**1.86**	**355**	PN	**Pn**	**19 25 10.2**	**-0.2**
BLCB	**Balcova**	**1.86**	**259**	PN	**Pn**	**19 25 10.1**	**-0.3**
GEYV	**SAKARYA_Geyve**	**1.87**	**22**	*i* P	**Pg**	**19 25 13.2**	**-0.3**
GEYV				*i* S	**Sg**	**19 25 37.6**	**-0

mb4.5/4, Error ellipse: s-maj=22.1km s-min=3.2km az=50.0

ISC 23 19:28:29.3±0.9, 11°75'S±0°.1×165°.0E±0°.1, h34km, n14, σ0:92/12, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	4.32	151	Pn	Pn	19 29 32.2	-0.4
HNR	Honiara	5.45	294	LR	LR	19 32 15.2	
	comp=Z,114nm,20.1s,baz=152,slow=42						
HNR	Honiara	5.45	294	Pn	Pn	19 29 47.0	-1.1
DZM	Mont Dzumac	10.44	173	Pn	Pn	19 30 56.6	-0.2
	0.5nm,0.3s,baz=340,slow=16,SNR=6.5						
KRVT	Keravat (AS076	14.78	299	LR	LR	19 36 55.2	
	comp=Z,67nm,20.2s,baz=143,slow=34						
WB0	Warramunga Arr	30.52	251	P	P	19 34 41.2	+1.6
WB0				IAmb	IAmb	19 34 45.6	
	comp=Z,13nm,1.6s						
WB2	Warramunga Arr	30.59	251	P	P	19 34 39.7	-0.6
WB2				IAmb	IAmb	19 34 39.8	
	comp=Z,14nm,1.6s						
WRA	Warramunga Arr	30.60	251	P	P	19 34 41.5	+1.1
	comp=Z,1.0nm,0.9s,baz=82,slow=9.0,SNR=5.3						
MSWZ	Moikau Station	30.97	165	P	P	19 34 43.7	+0.3
PLWZ	Palliser	31.12	165	P	P	19 34 43.9	-0.7
ASAR	Alice Springs	31.88	244	P	P	19 34 52.5	+0.9
	comp=Z,0.5nm,0.8s,baz=78,slow=9.6,SNR=4.3						
MJAR	Matsushiro Arr	54.19	333	P	P	19 37 51.8	+0.3
ILAR	Eielson Array	84.32	19	P	P	19 40 57.9	+0.5
	comp=Z,0.3nm,0.7s,baz=228,slow=6.7,SNR=2.7						
NVAR	Mina Array Bea	86.97	50	P	P	19 41 11.3	-0.2
	comp=Z,0.5nm,0.9s,baz=240,slow=7.2,SNR=3.6						

IDC 23 19:34:03.6±3.4, 53°.18N×35°.13W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.2/36, mbtmp3.4/2, Error ellipse: s-maj=174.9km s-min=41.4km az=47.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	25.14	110	P	P	19 39 30.0	-0.2
	0.7nm,0.9s,baz=310,slow=9.9,SNR=2.7						
TORD	Torodi Ar. Bea	49.47	130	P	P	19 42 55.6	0.0
	0.2nm,0.4s,baz=337,slow=7.7,SNR=1.8						
WRA	Warramunga Arr	145.84	18	PKPbc	PKPdf	19 53 43.9	-0.2
	0.5nm,0.8s,baz=347,slow=3.3,SNR=6.6						
ASAR	Alice Springs	149.38	20	PKPbc	PKPbc	19 53 53.7	-0.6
	0.3nm,0.5s,baz=356,slow=2.4,SNR=8.1						

IDC 23 19:34:30.2±7.3, 1°.33N×99°.81E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/41, mbtmp3.8/3, Error ellipse: s-maj=362.3km s-min=28.5km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	Cape Leeuwin H	38.44	161	T	T	20 22 47.8	
	baz=333,slow=76,SNR=5.1						
H01W2	Cape Leeuwin H	38.45	161	T	T	20 22 47.8	
	baz=333,slow=76,SNR=3.7						
H01W1	Cape Leeuwin H	38.45	161	T	T	20 22 48.9	
	baz=333,slow=76,SNR=3.9						
WRA	Warramunga Arr	39.91	124	P	P	19 42 06.2	-0.2
	0.7nm,0.6s,baz=302,slow=9.0,SNR=7.3						
MKAR	Makanchi Array	47.80	344	P	P	19 43 08.7	-0.7
	0.5nm,0.5s,baz=161,slow=6.9,SNR=6.3						
ZALV	Zalesovo Beam	53.89	349	P	P	19 43 55.7	+0.6
	0.8nm,0.5s,baz=164,slow=6.7,SNR=5.0						

*AEIC **23** 19:39:31.4±1.9, 58°.74N±0°.03×137°.35W±0°.06, h6km±6km, Error ellipse: s-maj=5.2km s-min=3.8km az=206.0*
*NEIC **23** 19:39:33.1±1.8, 58°.76N±0°.02×137°.30W±0°.05, h2km±7km, Error ellipse: s-maj=3.8km s-min=3.1km az=45.0*
*PGC **23** 19:39:33.7±0.6, 58°.77N×137°.35W, h1km, ML3.5/11, ML3.5, 127km west of Haines, Ak Southeastern Alaska*
*OTT **23** 19:39:33.7±1.9, 58°.77N±0°.02×137°.35W±0°.05, h1km±6km, ML3.5, ML3.3/42(AEIC), Error ellipse: s-maj=4.4km s-min=2.5km az=52.0*

ISC 23 19:39:32.9±0.9, 58°.75N±0°.04×137°.31W±0°.03, h10km, n105, σ1:46/122, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	Pleasant Camp	0.86	34	P	Pg	19 39 48.8	-0.7
PLBC				S	Sg	19 40 00.2	-0.4
PLBC	Pleasant Camp	0.86	34		Pg	19 39 48.7	-0.7
PLBC					Sg	19 39 59.5	-1.1
SKAG	Skagway	1.25	54	Pg	Pn	19 39 55.8	-0.5
SKAG	Skagway	1.25	54		Sb	19 40 11.5	-1.0
BESE	Bessie Mountai	1.30	97	P	Pb	19 39 57.0	-0.4
BESE				S	Sn	19 40 14.1	-0.4
BESE	Bessie Mountai	1.30	97		Pn	19 39 56.8	-0.3
BESE	Bessie Mountai	1.30	97		Sg	19 40 14.3	-0.2
PNL	Peninsula	1.41	311	Pn	Pn	19 39 58.3	-0.3
PNL				Sg	Sb	19 40 17.1	-0.3
PNL	Peninsula	1.41	311		Pn	19 39 58.1	-0.6
PNL					Sb	19 40 17.5	+0.1
YKU2	Yakutat	1.44	303	Pn	Pg	19 40 00.4	0.0
JIS	Juneau Island	1.61	106		Sg	19 40 24.3	-0.3
JIS	Juneau Island	1.61	106		Pn	19 40 01.6	+0.2
BCPM	Bancas Point	1.69	316		Pn	19 40 02.5	0.0
YUK7	Dusty Glacier	1.83	347	Pn	Pb	19 40 05.8	-0.8
YUK7				Sg	Sb	19 40 30.0	+0.3
YUK7	Dusty Glacier	1.83	347		Pn	19 40 05.3	+0.6
SIT	Sitka	2.00	147	Pn	Pn	19 40 06.9	+0.1
PCA	Pinnacle	2.02	313	Pn	Pn	19 40 07.8	+0.7
PCA				Sg	Sb	19 40 35.0	+0.1
PCA	Pinnacle	2.02	313		Pn	19 40 07.4	+0.3
HYT	Haines Junctio	2.08	357	Pn	Pn	19 40 09.1	+1.2
HYT				Sg	Sb	19 40 37.9	+1.1
HYT	Haines Junctio	2.08	357	Pn	Pb	19 40 09.2	-1.6
SAMH	Samovar Hills	2.25	309	Pn	Pb	19 40 11.6	-2.0
SAMH				Sg	Sb	19 40 42.3	+0.9
SAMH	Samovar Hills	2.25	309		Pb	19 40 12.1	-1.5
YUK6	Outpost Mounta	2.26	347	Pn	Pn	19 40 11.6	+1.1
YUK6				Sg	Sg	19 40 44.0	-1.5
YUK6	Outpost Mounta	2.26	347		Pn	19 40 11.8	+1.3
WHY	Whitehorse	2.28	32	Pn	Pn	19 40 12.0	+1.4
WHY				Sg	Sb	19 40 44.2	+1.9
WHY	Whitehorse	2.28	32	Pn	Pn	19 40 11.4	+0.8
YUK5	Granite Creek	2.40	354	Pn	Pb	19 40 14.1	-2.2
YUK5				Sg	Sb	19 40 47.7	+1.7
RKAV	Rock Avalanche	2.58	309	Pn	Pn	19 40 16.4	+1.6
RKAV				Sg	Sb	19 40 51.6	+0.6
YUK4	Talbot Arm	2.69	346	Pn	Pb	19 40 19.1	-2.0
YUK4	Talbot Arm	2.69	346		Pb	19 40 19.3	-1.8
MESA	MESA	2.77	303	Pn	Pn	19 40 17.7	+0.3
MESA	MESA	2.77	303		Pn	19 40 18.1	+0.7
YAH	Yahtse	2.77	307		Pn	19 40 18.4	+0.8
LOGN	Logan Glacier	2.79	320	Pn	Pn	19 40 19.4	+1.6
LOGN	Logan Glacier	2.79	320		Pn	19 40 19.2	+1.5
GRNC	Granite Creek	3.00	313	Pn	Pn	19 40 21.4	+0.8
GRNC				Sn	Sn	19 40 57.1	+0.3
GRNC	Granite Creek	3.00	313		Pn	19 40 21.6	+0.9
CTGM	Chitina Glacie	3.01	319	Pn	Pn	19 40 21.5	+0.9
CTGM	Chitina Glacie	3.01	319		Pn	19 40 21.6	+0.9
BARK	Barkley Ridge	3.11	304		Pn	19 40 23.2	+1.2
KULT	Kultieth River	3.14	301		Pn	19 40 23.1	+0.7
ISLE	Juniper Island	3.15	308		Pn	19 40 23.9	+1.2
SNH	Sunshine Point	3.16	299		Pn	19 40 23.7	+0.9
BARN	Barnard Glacie	3.19	318		Pn	19 40 24.8	+1.6
WAX	Waxell Ridge	3.29	304		Pn	19 40 25.6	+1.1
KIAG	Kiagna River	3.35	313	Pn	Pn	19 40 25.8	+0.4
KIAG	Kiagna River	3.35	313		Pn	19 40 26.6	+1.2
YUK3	Moose Creek	3.41	334	Pn	Pn	19 40 27.8	+1.5
YUK3				Sg	Sg	19 41 19.6	-2.8
BALM	Baldy	3.42	314	Pn	Pn	19 40 27.5	+1.2
BALM	Baldy	3.42	314	Pn	Pn	19 40 27.5	+1.2
TGL	Tana Glacier	3.44	308		Pn	19 40 28.2	+1.6
KHIT	Khitrov Hills	3.46	302		Pn	19 40 27.8	+0.9
YUK2	White River	3.52	331	Sg	Sb	19 41 20.9	+2.9
WRAK	Wrangell Islan	3.55	129	Pn	Pn	19 40 28.5	+0.5
PTPK	Patty Peak	3.56	316	Pn	Pn	19 40 29.9	+1.6
PTPK	Patty Peak	3.56	316		Pn	19 40 30.6	+2.2
SUCK	Suckling Hills	3.56	295		Pn	19 40 31.0	+2.8
CRQM	Cirque	3.57	307		Pn	19 40 29.8	+1.4
YUK1	Sand Pete Hill	3.77	336	Pn	Pn	19 40 32.5	+1.3
YUK1				Sg	Sb	19 41 29.3	+4.1
DLBC	Dease Lake	3.83	92	Pn	Pn	19 40 33.4	+1.5
DLBC				Sg	Sg	19 41 33.4	-2.2
DLBC	Dease Lake	3.83	92		Pn	19 40 33.0	+1.1
KAIM	Kayak Island	3.83	291		Pn	19 40 33.0	+1.2
HMT	Hamilton	3.88	297	Pn	Pn	19 40 34.2	+1.6
MCARA	McCarthy VSAT	3.89	315		Pn	19 40 34.8	+2.1
VRDI	Verde Repeater	3.96	311		Pn	19 40 34.7	+0.9
CRAG	Craig	4.01	143		Pn	19 40 34.5	+0.3
BVCY	Beaver Creek	4.07	336	Pg	Pb	19 40 45.4	+0.8
RAGM	Ragged Mountai	4.09	297		Pn	19 40 37.5	+2.1
GOAT	Goat Mountain	4.18	299		Pn	19 40 38.8	+2.1
GLB	Gilahina Butte	4.22	312		Pn	19 40 38.5	+1.2
EYAK	Cordova Ski Ar	4.64	296		Pn	19 40 45.0	+2.0
BCAR	Beaver Creek A	4.85	335		Pn	19 40 47.2	+1.4
HIN	Hinchinbrook I	4.96	293		Pn	19 40 48.5	+1.2
FID	Port Fidalgo	5.05	297	Pn	Pn	19 40 50.3	+1.7
KLU	Klutina	5.11	306		Pn	19 40 51.0	+1.6
MENT	Mentasta	5.24	326		Pn	19 40 53.1	+1.9
GLI	Glacier Island	5.38	298	Pn	Pn	19 40 54.9	+1.8
M24K	Tolsona, Glenn	5.53	311	Pn	Pn	19 40 57.5	+2.3
SCM	Sheep Creek Mo	5.86	306		Pn	19 41 01.7	+1.9
DOT	Dot Lake	5.89	329		Pn	19 41 01.1	+0.8
KNK	Knik Glacier	6.18	300		Pn	19 41 05.8	+1.6
RIDG	Independent Ri	6.18	327		Pn	19 41 06.1	+1.9
DIB	Dawson Inlet,	6.19	152	Pn	Pn	19 41 05.2	+1.0
SML	Sawmill	6.28	304		Pn	19 41 07.2	+1.7
EGAK	Eagle	6.32	345	Pn	Pn	19 41 07.5	+1.6
GHO	Glory Hole Cre	6.52	303		Pn	19 41 09.0	+0.2
DHY	Denali Highway	6.54	316		Pn	19 41 10.1	+0.9
CNPM	China Poot	7.21	282	Pn	Pn	19 41 19.1	+0.9
SUA	Susitna One	7.24	298	Pn	Pn	19 41 19.9	+1.2
RND	Reindeer	7.28	315		Pn	19 41 21.4	+2.2
MCK	McKinley	7.50	317	Pn	Pn	19 41 23.7	+1.4
IL31		7.55	327	Pn	Pn	19 41 24.2	+1.4
WRH	Wood River Hil	7.69	323	Pn	Pn	19 41 27.1	+2.3
SKT	Skwentna	7.75	301		Pn	19 41 26.9	+1.2
TRF	Thorofare Moun	7.85	312	Pn	Pn	19 41 29.3	+2.2
RSO	Redoubt South	8.02	289		Pn	19 41 27.7	-1.8
KDAK	Kodiak Island	8.11	270	Pn	Pn	19 41 31.1	+0.6
KTH	Kantishna Hill	8.14	312	Pn	Pn	19 41 33.7	+2.6
PPLA	Purkeypile	8.36	306	Pn	Pn	19 41 36.7	+2.5
BPAW	Bear Paw Mtn.	8.46	315	Pn	Pn	19 41 37.8	+2.5
OHAK	Old Harbor	8.62	267	Pn	Pn	19 41 37.8	+0.2
FYU	Fort Yukon	8.64	338	Pn	Pn	19 41 38.5	+0.7
BMAR	Burnt Mountain	9.30	342		Pn	19 41 48.8	+1.9
IMAR	Indian Mountai	10.50	321		Pn	19 42 05.5	+2.3
CNBA	Chernabura Isl	12.81	262	Pn	Pn	19 42 35.0	+0.2

IDC 23 20:01:27.7±2.2, 7°.76S×129°.81E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/27, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=136.5km s-min=32.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.89	161	Pn	Pn	20 04 32.2	-0.1
	0.2nm,0.3s,baz=343,slow=13,SNR=13						
WRA				Sn	Sn	20 06 45.1	-12
	1.1nm,0.3s,baz=335,slow=22,SNR=13						
ASAR	Alice Springs	16.30	166	Pn	Pn	20 05 18.3	+0.1
	0.1nm,0.3s,baz=344,slow=9.0,SNR=3.6						
ASAR				Sn	Sn	20 08 07.9	-12
	0.3nm,0.3s,baz=345,slow=23,SNR=2.8						
MKAR	Makanchi Array	68.75	327	P	P	20 12 33.5	0.0
	0.2nm,0.4s,baz=110,slow=6.3,SNR=5.9						

*ISK **23** 20:03:23.4, 38°.64N×26°.13E, h8km, ML2.7/21*
*ATH **23** 20:03:23.6, 38°.64N×26°.11E, h30km±1km, ML2.6/2, Error ellipse: s-maj=2.6km s-min=1.2km az=267.0*
*THE **23** 20:03:24.6, 38°.67N×26°.11E, h14km±1km, ML2.2/3, Error ellipse: s-maj=2.3km s-min=0.4km az=269.0*
*DDA **23** 20:03:25.4, 38°.68N×26°.29E, h7km±2km, ML2.2*

ISC 23 20:03:24.3±0.9, 38°.67N±0°.02×26°.18E±0°.03, h13km±9km, n41, σ0:73/59, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	Chios island	0.29	199	P	Pg	20 03 30.6	+0.1
CHOS				S	Sg	20 03 35.3	+0.7
	1μm,0.2s						
CHOS	Chios island	0.29	199	P	Pg	20 03 30.5	+0.1
CHOS				S	Sg	20 03 35.0	+0.4
CHOS				AML	AML	20 03 36.9	
	comp=N,2202μm,0.2s						
CHOS				AML	AML	20 03 36.9	
	comp=E,2890μm,0.2s						
CHOS	Chios island	0.29	199	PG	Pg	20 03 30.3	-0.2
CESE	eme	0.35	164	PG	Pg	20 03 30.6	-0.8
CESE				SG	Sg	20 03 35.8	-0.3
URLA	Izmir	0.45	133	PG	Pg	20 03 33.1	-0.2
URLA				SG	Sg	20 03 39.9	+0.6
URLA	Izmir	0.45	133	*i* P	Pg	20 03 31.4	-1.8
URLA				*i* S	Sg	20 03 39.7	+0.4
PSRA	Psara	0.49	256	P	Pg	20 03 34.0	-0.1
PSRA				S	Sg	20 03 40.5	-0.1
PRK	Paraskevi	0.59	7	P	Pg	20 03 36.4	+0.6
PRK				S	Sb	20 03 44.7	+0.1
	comp=E,230nm,0.4s						
PRK	Paraskevi	0.59	7	P	Pb	20 03 36.6	+0.2
PRK				S	Sb	20 03 46.0	+1.4
SIGR	SIGRI	0.60	336	P	Pg	20 03 35.7	-0.4
SIGR				S	Sb	20 03 44.5	-0.5
	comp=E,162nm,0.3s						
SIGR	SIGRI	0.60	336	P	Pg	20 03 35.7	-0.4
SIGR				S	Sb	20 03 44.4	-0.7
SIGR	SIGRI	0.60	336	PG	Pg	20 03 35.9	-0.2
SIGR				SG	Sg	20 03 44.2	+0.1
DKL	Dikili	0.70	54	PG	Pg	20 03 38.1	+0.1
BLCB	Balcova	0.73	112	PG	Pg	20 03 38.3	-0.3
AYVA	Ayvalik	0.76	32	*i* P	Pg	20 03 37.5	-1.6
AYVA				*i* S	Sg	20 03 49.1	+0.1
ZEDA	zmir-Bergama	0.77	67	*i* P	Pg	20 03 38.2	-1.0
ZEDA				*i* S	Sg	20 03 47.9	-1.4
DGB	zmir	0.83	137	*i* P	Pb	20 03 40.1	-0.5
DGB				*i* S	Sg	20 03 50.4	-0.8
DGB				IAML		20 03 52.0	
	comp=N,95nm,0.3s						
DGB				IAML		20 03 55.0	
	comp=E,101nm,0.2s						
SMG	Samos	1.09	151	P	Pb	20 03 44.7	-0.3
SMG	Samos	1.09	151	P	Pb	20 03 44.9	-0.1
SMG				S	Sb	20 03 59.8	+0.7
SMG				AML	AML	20 04 01.2	
	comp=E,893μm,0.5s						
SMG				AML	AML	20 04 02.1	
	comp=N,523μm,0.2s						
EZN	Ezine	1.17	6	PN	Pb	20 03 46.8	+0.5
BOZC	Bozcaada	1.18	355	PN	Pb	20 03 46.7	+0.1
GCAM	G?zelcaml?	1.27	139	PN	Pn	20 03 47.7	-0.1
GCAM	G?zelcaml?	1.27	139	*i* P	Pb	20 03 48.5	+0.4
GCAM				*i* S	Sb	20 04 04.3	-0.1
GCAM				IAML		20 04 09.0	
	comp=N,55nm,0.5s						
GCAM				IAML		20 04 11.0	
	comp=E,45nm,0.3s						
AKHS	Akhisar	1.30	80	*i* P	Pn	20 03 48.6	+0.4
AKHS				*i* S	Sg	20 04 07.1	+0.9
AKHS				IAML		20 04 08.0	
	comp=E,43nm,0.3s						
STEP	BALIKESIR_Sava	1.40	59	*i* P	Pn	20 03 48.5	-1.0
STEP				*i* S	Sn	20 04 07.6	-0.2
LIA	Limnos Island	1.45	328	P	Pn	20 03 49.8	-0.4
AYDB	Zeytinkoy-Aydi	1.53	117	PN	Pn	20 03 52.1	+0.7
BALB	Balikesir	1.65	53	PN	Pn	20 03 53.9	+1.0
APE	Apeiranthos	1.67	198	PN	Pn	20 03 52.9	-0.4
GELI	Tayfur-Gelibol	1.75	8	PN	Pn	20 03 55.3	+1.0
LPK	Lapseki	1.77	15	PN	Pb	20 03 55.9	-0.6
GONE	Gonen-Balikesi	1.81	40	PN	Pn	20 03 56.2	+1.0
BODT	Bodrum	1.83	150	PN	Pn	20 03 55.7	+0.2
MLSB	Milas	1.86	137	PN	Pn	20 03 56.5	+0.6
SMTH	Samothraki Isl	1.87	345	P	Pn	20 03 55.5	-0.6
KRBG	Karabiga-Canak	1.93	26	PN	Pn	20 03 57.8	+1.0
KULA	Kula-Manisa	1.95	94	PN	Pn	20 03 58.6	+1.4
EDC	Edincik	2.13	37	PN	Pn	20 04 00.6	+1.1
DAT	Datca	2.23	150	PN	Pn	20 04 01.7	+0.7
SIMA	Simav-Kutahya	2.23	78	PN	Pn	20 04 02.2	+1.2
ALN	Alexandroupoli	2.23	357	P	Pn	20 04 00.4	-0.5

*IDC **23** 20:09:50.2±1.0, 6°.72N×72°.93W, h161km±14km, mb2.6/1, mb1 3.1/3, mb1mx2.9/46, mbtmp3.3/3, Error ellipse: s-maj=52.6km s-min=8.2km az=132.0*
*RSNC **23** 20:09:51.6±1.1, 6°.81N×73°.16W, h144km±5km, ML2.9*

ISC 23 20:09:50.2±1.0, 6°.87N±0°.04×73°.14W±0°.04, h151km±7km, n23, σ0:99/43, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.28	188	⇓*i* P	Pn	20 10 11.1	-0.1
BARC				*e* S	Sn	20 10 25.9	-1.3
BARC				*i*		20 10 27.4	
	comp=Z,204nm,0.2s						
BRRC	Barranca, Sant	0.61	292	⇑*i* P	Pn	20 10 13.0	+0.7
BRRC				*e* S	Sn	20 10 29.6	+0.5
BRRC				*i*		20 10 33.9	
	comp=Z,84nm,0.1s						
PAMC	Pamplona, Colo	0.64	43	*e* P	Pn	20 10 13.9	+0.9
PAMC				*e* S	Sn	20 10 30.9	+0.4
PAMC				*i*		20 10 31.6	
	comp=Z,80nm,0.3s						
RUSC	La Rusia	0.97	177	⇑*i* P	Pn	20 10 15.1	-0.4
RUSC				*e* S	Sn	20 10 33.6	-1.2
RUSC				*i*		20 10 39.2	
	comp=Z,41nm,0.2s						
PTBC	PUERTO BERRIO,	1.35	256	*e* P	Pn	20 10 17.6	-0.7
PTBC				*e* S	Sn	20 10 38.7	-1.1
PTBC				*i*		20 10 41.1	
	comp=Z,109nm,0.2s						
OCAC	Ocana	1.37	353	*e* S	Sn	20 10 41.1	+0.6
OCAC				*i*		20 10 45.9	
	comp=Z,77nm,0.3s						
TAMC	Tame, Arauca	1.41	108	*e* P	Pn	20 10 19.4	+0.4
TAMC				*e* S	Sn	20 10 40.9	0.0
TAMC				*i*		20 10 41.5	
	comp=Z,58nm,0.3s						
SPBC	San Pablo de B	1.52	217	*e* P	Pn	20 10 20.0	-0.2
SPBC				*e* S	Sn	20 10 42.3	-1.0
SPBC				*i*		20 10 51.5	
	comp=Z,86nm,0.2s						
ZARC	Zaragoza, Cauc	1.81	290	*e* P	Pn	20 10 24.2	+0.9
ZARC				*e* S	Sn	20 10 49.2	+0.6
ZARC				*i*		20 10 54.7	
	comp=Z,116nm,0.5s						
SMLC	San Martn de	2.13	334	*e* P	Pn	20 10 27.0	+0.1
SMLC				*e* S	Sn	20 10 55.9	+0.7
SMLC				*i*		20 10 59.7	
	comp=Z,80nm,0.1s						
CHIC	Chingaza	2.30	195	*e* P	Pn	20 10 29.3	-0.1
CHIC				*e* S	Sn	20 10 58.2	-1.4
CHIC				*i*		20 11 05.6	
	comp=Z,28nm,0.4s						
ROSC	El Rosal	2.33	210	P	Pn	20 10 30.8	+1.0
	comp=Z,11nm,0.3s,baz=108,slow=20,SNR=17						
ROSC				S	Sn	20 11 01.6	+1.3
	comp=Z,24nm,0.3s,baz=105,slow=20,SNR=12						
ROSC	El Rosal	2.33	210	*e* P	Pn	20 10 31.5	+1.7
ROSC				*e* S	Sn	20 11 01.9	+1.7
ROSC				*i*		20 11 04.8	
	comp=Z,53nm,0.3s						
UREC	San Jos de Ur	2.53	290	*e* P	Pn	20 10 30.9	-0.8
UREC				*e* S	Sn	20 11 03.0	-0.8
GUY2C	Guyana, Caldas	2.75	234	*e* P	Pn	20 10 35.4	+0.4
GUY2C				*e* S	Sn	20 11 08.5	-1.0
GUY2C				*i*		20 11 17.7	
	comp=Z,50nm,0.4s						
CBOC	Ciudad Bolivar	3.02	251	*e* P	Pn	20 10 39.0	+1.0
CBOC				*e* S	Sn	20 11 14.9	-0.2
CBOC				*i*		20 11 27.8	
	comp=Z,16nm,0.5s						
TOLC	Tolima	3.14	224	*e* P	Pn	20 10 40.8	+1.0
TOLC				*e* S	Sn	20 11 17.8	-0.2
TOLC				*i*		20 11 27.4	
	comp=Z,70nm,0.3s						
SDV	Santo Domingo	3.19	51	P	Pn	20 10 40.4	+0.2
	comp=Z,5.9nm,0.3s,baz=240,slow=9.1,SNR=6.3						
SDV				S	Sn	20 11 18.5	-0.4
	comp=Z,3.4nm,0.3s,baz=248,slow=16,SNR=7.6						
PRAC	Prado	3.59	209	*e* P	Pn	20 10 44.7	-0.5
PRAC				*e* S	Sn	20 11 26.7	-1.1
PRAC				*i*		20 11 33.8	
	comp=Z,43nm,0.2s						
ORTC	Ortega, Tolima	3.61	216	*e* P	Pn	20 10 46.3	+0.8
ORTC				*e* S	Sn	20 11 29.9	+1.4
ORTC				*i*		20 11 33.6	
	comp=Z,28nm,0.3s						
SJCC	San Jacinto, C	3.62	326	*e* P	Pn	20 10 45.5	-0.1
SJCC				*e* S	Sn	20 11 26.8	-1.9
SJCC				*i*		20 11 31.0	
	comp=Z,11nm,0.6s						
TXAR	Lajitas Array	36.41	312	P	P	20 16 41.6	+1.2
	comp=Z,0.1nm,0.5s,baz=133,slow=9.2,SNR=1.7						
WRA	Warramunga Arr	150.34	241	PKPbc	PKiKP	20 29 23.3	-2.0
	comp=Z,0.8nm,1.2s,baz=112,slow=2.2,SNR=5.7						

*SKHL **23** 20:10:30.1±0.7, 45°.27N×153°.22E, h50km±9km, mb4.2/2*
*NEIC **23** 20:10:30.6±1.0, 46°.90N±0°.08×152°.2E±0°.2, h105km±8km, mb4.3/5, Error ellipse: s-maj=20.8km s-min=9.0km az=110.0*
*IDC **23** 20:10:32.1±3.8, 46°.97N×152°.15E, h121km±35km, mb3.6/5, mb1 3.8/6, mb1mx3.2/49, mbtmp4.0/6, MS3.7/1, Ms1 3.7/1, ms1mx2.8/60, Error ellipse: s-maj=39.1km s-min=21.7km az=106.0*

**ISC 23 20:10:30.1±0.8, 46°.8N±0°.1×152°.3E±0°.1, h100km, n34, σ1:64/30, mb4.1/7, Kuril

WRAB IAmb IAmb 20 21 39.2
comp=Z,10nm,1.6s
WRA Warramunga Arr 68.43 198 P **P** **20 21 20.7 -0.4**
comp=Z,0.2nm,0.5s,baz=15,slow=6.7,SNR=6.0
ASAR Alice Springs 72.13 198 P **P** **20 21 44.5 +0.8**
comp=Z,0.7nm,0.6s,baz=10,slow=5.6,SNR=14
BUR08 Bucovina Ar. S 75.19 326 P **P** **20 22 01.6 +0.1**
BURAR Bucovina Array 75.21 326 P **P** **20 22 01.6 0.0**
TX31 Lajitas Ar. Si 77.92 60 P **P** **20 22 16.1 -1.1**
TX31 IAmb IAmb 20 22 17.4
comp=Z,2.2nm,0.6s
TXAR Lajitas Array 77.92 60 P **P** **20 22 17.1 -0.1**
comp=Z,0.7nm,0.6s,baz=307,slow=4.0,SNR=11

IDC 23 20:11:20.1±1.8, 53°.70N×35°.33W, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.3/57, mbtmp3.5/2, Error ellipse: s-maj=120.7km s-min=33.3km az=21.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.43**	**111**	P	P	20 16 49.6	+0.2
	0.6nm,0.8s,baz=309,slow=9.8,SNR=4.4						
PDAR	**Pinedale Array**	**48.47**	**289**	P	P	20 20 04.7	+0.2
	0.3nm,0.5s,baz=62,slow=6.4,SNR=1.3						
WRA	**Warramunga Arr**	**145.38**	**17**	PKPbc	PKPbc	20 30 59.2	-0.5
	0.4nm,0.8s,baz=342,slow=2.9,SNR=4.6						
ASAR	**Alice Springs**	**148.92**	**19**	PKPbc	PKPbc	20 31 08.4	-1.3
	0.3nm,0.5s,baz=354,slow=2.6,SNR=6.8						

*ATH **23** 20:13:36.1, 37°.59N×26°.75E, h17km±3km, ML2.7/3, Error ellipse: s-maj=4.1km s-min=1.2km az=103.0*
*ISK **23** 20:13:36.2, 37°.56N×26°.77E, h8km, ML2.8/22*
*DDA **23** 20:13:36.1, 37°.58N×26°.73E, h7km±2km, ML2.7*
ISC 23 20:13:36.4±1.0, 37°.57N±0°.02×26°.75E±0°.02, h10km±8km, n40, σ0°85/56, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.16**	**26**	P	**Pg**	**20 13 40.3**	**+0.2**
SMG				S	**Sg**	**20 13 42.8**	**+0.3**
SMG				AML	AML	20 13 42.9	
	comp=E,8633μm,0.3s						
SMG				AML	AML	20 13 43.3	
	comp=N,10090μm,0.3s						
GCAM	**G?zelcaml?**	**0.41**	**71**	PG	**Pb**	**20 13 44.9**	**-0.9**
GCAM				SG	**Sb**	**20 13 51.2**	**-0.8**
GCAM	**G?zelcaml?**	**0.41**	**71**	*i* P	**Pb**	**20 13 44.9**	**-0.9**
GCAM				*i* S	**Sg**	**20 13 50.6**	**+0.6**
DGB	**zmir**	**0.50**	**12**	*i* P	**Pg**	**20 13 45.3**	**-0.8**
DGB				*i* S	**Sb**	**20 13 53.2**	**-1.4**
DGB				IAML		20 13 56.0	
	comp=E,560nm,0.4s						
GMLD	**Gumuldur**	**0.53**	**15**	PG	**Pb**	**20 13 46.9**	**-0.9**
YKAV	**Yalikavak-Bodr**	**0.61**	**136**	PG	**Pg**	**20 13 48.2**	**-0.1**
BODT	**Bodrum**	**0.67**	**138**	PG	**Pg**	**20 13 49.8**	**+0.3**
BDRM	**Kayabasi**	**0.75**	**132**	*i* P	**Pb**	**20 13 51.3**	**-0.2**
URLA	**Izmir**	**0.80**	**351**	PG	**Pb**	**20 13 52.0**	**-0.5**
URLA				SG	**Sb**	**20 14 04.1**	**+0.7**
URLA	**Izmir**	**0.80**	**351**	*i* P	**Pg**	**20 13 51.2**	**-0.8**
URLA				*i* S	**Sb**	**20 14 03.9**	**+0.4**
BLCB	**Balcova**	**0.85**	**16**	PG	**Pg**	**20 13 52.3**	**-0.6**
BLCB				SG	**Sb**	**20 14 05.1**	**+0.3**
MLSB	**Milas**	**0.86**	**108**	PG	**Pg**	**20 13 52.9**	**-0.2**
AYDN	**Tasoluk**	**0.90**	**84**	*i* P	**Pb**	**20 13 54.6**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**67**	PG	**Pg**	**20 13 55.1**	**-0.3**
AYDB				SG	**Sb**	**20 14 08.9**	**+0.2**
CHOS	**Chios island**	**0.99**	**327**	P	**Pg**	**20 13 54.7**	**-0.8**
CHOS				S	**Sg**	**20 14 07.6**	**-0.7**
CHOS				AML	AML	20 14 09.8	
	comp=E,939μm,0.2s						
CHOS				AML	AML	20 14 12.9	
	comp=N,639μm,0.4s						
CHOS	**Chios island**	**0.99**	**327**	PG	**Pb**	**20 13 55.4**	**-0.3**
AMGA	**Amorgos Island**	**1.00**	**223**	P	**Pg**	**20 13 55.2**	**-0.5**
AMGA				S	**Sb**	**20 14 09.8**	**+0.7**
DAT	**Datca**	**1.07**	**141**	PG	**Pg**	**20 13 56.8**	**-0.2**
DAT	**Datca**	**1.07**	**141**	*i* P	**Pg**	**20 13 56.5**	**-0.4**
APE	**Apeiranthos**	**1.09**	**243**	P	**Pg**	**20 13 56.7**	**-0.7**
APE				S	**Sn**	**20 14 13.3**	**+0.4**
APE				AML	AML	20 14 15.0	
	comp=E,594μm,0.4s						
APE				AML	AML	20 14 17.1	
	comp=N,461μm,0.4s						
APE	**Apeiranthos**	**1.09**	**243**	PN	**Pn**	**20 13 57.7**	**-0.1**
APE				SN	**Sn**	**20 14 13.6**	**+0.7**
YER	**Yerkesik**	**1.30**	**109**	PN	**Pn**	**20 14 00.6**	**-0.1**
ZEDA	**zmir-Bergama**	**1.42**	**10**	*i* P	**Pb**	**20 14 02.6**	**-0.5**
ZEDA				*i* S	**Sb**	**20 14 19.1**	**-2.1**
ZEDA				IAML		20 14 31.0	
	comp=E,102nm,0.6s						
TURN	**Turunc**	**1.43**	**123**	PN	**Pn**	**20 14 01.9**	**-0.5**
TURN	**Turunc**	**1.43**	**123**	*i* P	**Pn**	**20 14 01.5**	**-1.0**
IOSP	**Ios island**	**1.44**	**235**	P	**Pn**	**20 14 03.0**	**+0.5**
DKL	**Dikili**	**1.51**	**5**	PN	**Pg**	**20 14 04.6**	**-0.8**
DALY	**Dalyan (Mula)**	**1.70**	**116**	PN	**Pn**	**20 14 06.4**	**+0.4**
PRK	**Paraskevi**	**1.72**	**348**	P	**Pb**	**20 14 07.6**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.73**	**93**	*i* P	**Pn**	**20 14 06.9**	**+0.3**
AYVA	**Ayvalik**	**1.74**	**359**	*i* P	**Pg**	**20 14 09.9**	**+0.1**
AYVA				IAML		20 14 34.0	
	comp=N,72nm,0.6s						
AYVA				*i* S	**Sg**	**20 14 34.1**	**+1.6**
AYVA				IAML		20 14 41.0	
	comp=E,63nm,1.0s						
KULA	**Kula-Manisa**	**1.78**	**57**	PN	**Pb**	**20 14 08.3**	**-1.0**
SIGR	**SIGRI**	**1.79**	**337**	PN	**Pn**	**20 14 08.0**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.96**	**23**	*i* P	**Pb**	**20 14 11.7**	**-0.6**
STEP				*i* S	**Sg**	**20 14 38.0**	**-1.6**
STEP				IAML		20 14 44.0	
	comp=E,69nm,0.9s						
STEP				IAML		20 14 45.0	
	comp=N,72nm,0.6s						
BALB	**Balikesir**	**2.25**	**23**	PN	**Pn**	**20 14 14.8**	**+1.1**
BALY	**Balya**	**2.28**	**17**	*i* P	**Pb**	**20 14 17.6**	**-0.1**
BALY				*i* S	**Sg**	**20 14 50.3**	**+0.6**
BALY				IAML		20 14 54.0	
	comp=N,64nm,0.4s						
EZN	**Ezine**	**2.28**	**352**	PN	**Pn**	**20 14 15.5**	**+1.4**
SIMA	**Simav-Kutahya**	**2.32**	**49**	PN	**Pn**	**20 14 15.9**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.84**	**356**	PN	**Pn**	**20 14 23.5**	**+1.7**
TVSB	**Tavsanli**	**2.84**	**48**	PN	**Pn**	**20 14 23.8**	**+1.9**

*IDC **23** 20:28:23.1±1.4, 23°.44S×179°.82W, h517km±14km, mb4.0/28, mb1 4.1/30, mb1mx4.0/49, mbtmp4.9/30, Error ellipse: s-maj=10.9km s-min=9.9km az=81.0*
*BJI **23** 20:28:24.8±0.0, 23°.46S×179°.26W, h566km, mB5.0/14, mb4.7/19*
*NEIC **23** 20:28:25.9±1.9, 23°.54S±0°.10×179°.8W±0°.1, h550km±6km, mb4.6/113, Error ellipse: s-maj=16.8km s-min=12.6km az=125.0*
ISC 23 20:28:24.4±0.5, 23°.56S±0°.05×179°.80W±0°.06, h535km±5km, h536km: pP-P, n289, σ1°.40/307, mb4.6/91, 19C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**5.92**	**164**	P	**P**	**20 30 00.1**	**-1.3**
GLKZ				S	**S**	**20 31 19.9**	**-1.0**
MSVF	**Nonsavu**	**6.14**	**340**		**P**	**20 30 03.7**	**-0.1**
NIUE	**Niue**	**10.22**	**66**	P	**P**	**20 30 43.4**	**-1.1**
AFI	**Afiamalu**	**12.24**	**40**	P	**P**	**20 31 03.0**	**-2.5**
	5.4nm,0.3s,baz=219,slow=13,SNR=3.2						
DZM	**Mont Dzumac**	**12.78**	**274**	*e*P	**P**	**20 31 11.9**	**+0.8**
	48nm,0.9s						
DZM	**Mont Dzumac**	**12.78**	**274**	P	**P**	**20 31 12.2**	**+1.1**
	0.2nm,0.3s,baz=135,slow=20,SNR=1.3						
DZM	**Mont Dzumac**	**12.78**	**274**	P	**P**	**20 31 12.8**	**+1.7**
OUZ	**Omahuta**	**12.96**	**205**	P	**P**	**20 31 14.1**	**+1.4**
OUZ	**Omahuta**	**12.96**	**205**	P	**P**	**20 31 15.1**	**+2.4**
TOZ	**Tahuroa Road**	**14.69**	**195**	P	**P**	**20 31 34.0**	**+3.4**
MARZ	**Manawahe**	**14.69**	**191**	P	**P**	**20 31 33.5**	**+2.7**
URZ	**Urewera**	**14.89**	**190**	P	**P**	**20 31 30.8**	**-1.9**
	9.3nm,0.3s,baz=24,slow=6.3,SNR=22						
URZ				S	**S**	**20 34 01.9**	**-6.2**
	2.4nm,0.3s,baz=56,slow=21,SNR=12						
URZ	**Urewera**	**14.89**	**190**	P	**P**	**20 31 30.1**	**-2.6**
CNGZ	**Carnagh Statio**	**14.97**	**186**	P	**P**	**20 31 35.2**	**+1.6**
RTZ	**Ruatahuna**	**15.26**	**190**	P	**S**	**20 34 13.2**	**-1.7**
SNGZ	**Shannon Statio**	**15.37**	**188**	P	**S**	**20 34 18.1**	**+1.3**
MTHZ	**Maungataniwha**	**15.51**	**190**	P	**P**	**20 31 36.7**	**-2.6**
MTHZ				S	**S**	**20 34 15.4**	**-4.0**
MTHZ	**Maungataniwha**	**15.51**	**190**	P	**S**	**20 34 17.5**	**-1.9**
RAHZ	**Arahi**	**15.54**	**189**	P	**P**	**20 31 36.9**	**-2.6**
RAHZ				S	**S**	**20 34 15.7**	**-4.1**
RAHZ	**Arahi**	**15.54**	**189**	P	**S**	**20 34 15.9**	**-3.9**
KNZ	**Kokohu**	**15.56**	**187**	P	**P**	**20 31 39.8**	**+0.1**
WHHZ	**Waihua**	**15.67**	**189**	P	**S**	**20 34 23.7**	**+1.6**
RITZ	**Rihia Road**	**15.81**	**193**	P	**P**	**20 31 38.8**	**-3.4**
BKZ	**Black Stump Fm**	**15.88**	**191**	P	**S**	**20 34 25.8**	**+0.1**
BKZ	**Black Stump Fm**	**15.88**	**191**	P	**P**	**20 31 40.4**	**-2.6**
BKZ				IAmb	IAmb	20 31 46.6	
	comp=Z,35nm,1.2s						
KRVZ	**Karewarewa**	**15.97**	**193**	P	**P**	**20 31 45.1**	**+1.1**
TWVZ	**Taurewa**	**15.99**	**194**	P	**P**	**20 31 44.5**	**+0.4**
WTVZ	**West Tongariro**	**16.00**	**193**	P	**P**	**20 31 44.0**	**-0.3**
OTVZ	**Oturere**	**16.03**	**193**	P	**P**	**20 31 43.4**	**-1.2**
OTVZ				S	**S**	**20 34 26.7**	**-1.8**
NGZ	**Ngauruhoe**	**16.05**	**193**	P	**P**	**20 31 44.7**	**-0.1**
MCHZ	**McNeill Hill**	**16.11**	**190**	P	**P**	**20 31 44.3**	**-1.0**
MCHZ				S	**S**	**20 34 31.7**	**+2.1**
MCHZ	**McNeill Hill**	**16.11**	**190**	P	**S**	**20 34 30.4**	**+0.8**
TUVZ	**Tukino**	**16.13**	**193**	P	**P**	**20 31 44.8**	**-0.8**
TUVZ				S	**S**	**20 34 31.4**	**+1.2**
WNVZ	**Wahianoa**	**16.20**	**193**	P	**P**	**20 31 45.4**	**-0.8**
WNVZ				S	**S**	**20 34 32.0**	**+0.6**
MOVZ	**Moawhango**	**16.24**	**192**	P	**P**	**20 31 45.9**	**-0.7**
MOVZ				S	**S**	**20 34 29.2**	**-2.8**
BHHZ	**Black Hill Sta**	**16.27**	**192**	P	**S**	**20 34 29.0**	**-3.3**
KRHZ	**Kereru**	**16.36**	**191**	P	**S**	**20 34 32.7**	**-1.2**
PNHZ	**Pukenui**	**16.65**	**191**	P	**S**	**20 34 39.8**	**+1.0**
PXZ	**Pawanui**	**16.66**	**189**	P	**P**	**20 31 50.1**	**-0.4**
PXZ	**Pawanui**	**16.66**	**189**	P	**S**	**20 34 36.2**	**-2.6**
WAZ	**Wanganui**	**16.74**	**194**	P	**P**	**20 31 52.2**	**+0.9**
TSZ	**Takapari Road**	**16.84**	**191**	P	**S**	**20 34 42.9**	**+1.1**
DVHZ	**Dannevirke**	**17.03**	**191**	P	**P**	**20 31 52.2**	**-1.8**
DVHZ	**Dannevirke**	**17.03**	**191**	P	**S**	**20 34 44.6**	**-0.4**
PRWZ	**Pori Road**	**17.32**	**191**	P	**S**	**20 34 48.6**	**-1.0**
BFZ	**Birch Farm**	**17.39**	**190**	P	**P**	**20 31 55.1**	**-2.2**
BFZ				S	**S**	**20 34 48.7**	**-2.2**
BFZ	**Birch Farm**	**17.39**	**190**	P	**S**	**20 34 48.6**	**-2.3**
BFZ	**Birch Farm**	**17.39**	**190**		**P**	**20 31 54.8**	**-2.5**
MRZ	**Mangatainoka R**	**17.49**	**192**	P	**P**	**20 31 54.7**	**-3.5**
MRZ				S	**S**	**20 34 49.9**	**-2.5**
MRZ	**Mangatainoka R**	**17.49**	**192**	P	**S**	**20 34 49.3**	**-3.2**
OGWZ	**Otaki Gorge**	**17.72**	**193**	P	**S**	**20 34 57.0**	**+0.9**
HOWZ	**Holdsworth Sta**	**17.73**	**192**	P	**P**	**20 31 59.6**	**-0.7**
HOWZ	**Holdsworth Sta**	**17.73**	**192**	P	**S**	**20 34 52.0**	**-4.3**
TMWZ	**Te Maipa**	**17.87**	**191**	P	**S**	**20 34 58.8**	**+0.2**
DUWZ	**D'Urville Isla**	**17.98**	**196**	P	**P**	**20 32 02.1**	**-0.6**
TCW	**Tory Channel**	**18.29**	**194**	P	**P**	**20 32 03.3**	**-2.1**
SNZO	**South Karori**	**18.29**	**193**	P	**P**	**20 32 04.5**	**-0.9**
QRZ	**Quartz Range**	**18.39**	**199**	P	**P**	**20 32 07.9**	**+1.6**
NNZ	**Nelson**	**18.51**	**196**	P	**P**	**20 32 05.8**	**-1.6**
THZ	**Tophouse**	**19.15**	**197**	P	**P**	**20 32 14.1**	**+0.8**
THZ	**Tophouse**	**19.15**	**197**	P	**P**	**20 32 13.0**	**-0.3**
DSZ	**Denniston Nort**	**19.45**	**199**	P	**P**	**20 32 16.6**	**+0.6**
KHZ	**Kahutara**	**19.61**	**195**	P	**P**	**20 32 16.6**	**-0.7**
LTZ	**Lake Taylor**	**20.27**	**197**	P	**P**	**20 32 22.3**	**-1.1**
LTZ	**Lake Taylor**	**20.27**	**197**	P	**P**	**20 32 22.8**	**-0.6**
OXZ	**Oxford**	**20.84**	**197**	P	**P**	**20 32 27.3**	**-1.2**
OXZ	**Oxford**	**20.84**	**197**	P	**P**	**20 32 27.4**	**-1.1**
RPZ	**Rata Peaks**	**21.47**	**198**	P	**P**	**20 32 33.1**	**-1.2**
	comp=Z,19nm,0.5s,baz=0.0,slow=3.0,SNR=11						
RPZ	**Rata Peaks**	**21.47**	**198**	IAmb	IAmb	20 32 38.2	
	comp=Z,103nm,1.4s						
KNTN	**Kanton**	**22.09**	**22**	P	**P**	**20 32 39.2**	**-1.1**
WHZ	**Wether Hill Ro**	**24.39**	**201**	P	**P**	**20 33 00.5**	**+0.1**
ARMA	**Armidale**	**26.32**	**249**	P	**P**	**20 33 18.0**	**+0.3**
EIDS	**Eidsvold**	**26.55**	**260**	P	**P**	**20 33 19.9**	**+0.3**
PPT2	**Papeete2**	**28.88**	**84**	*e*P	**P**	**20 33 40.0**	**-0.2**
	comp=Z,29nm,1.0s						
TIAR	**Tiarei**	**29.09**	**84**	*e*P	**P**	**20 33 41.9**	**-0.1**
	comp=Z,11nm,0.9s						
CAN	**Canberra**	**29.47**	**239**	P	**P**	**20 33 45.9**	**+0.8**
CTA	**Charters Tower**	**31.66**	**270**	P	**P**	**20 34 04.7**	**+0.5**
	comp=Z,57nm,0.5s,baz=97,slow=11,SNR=67						
CTAO	**Charters Tower**	**31.66**	**270**	P	**P**	**20 34 04.5**	**+0.4**
TOO	**Toolangi**	**32.79**	**237**	P	**P**	**20 34 14.2**	**+0.7**
TAU	**Tasmania Unive**	**33.30**	**227**	P	**P**	**20 34 18.8**	**+1.1**
TAU				IAmb	IAmb	20 34 19.4	
	comp=Z,34nm,1.1s						
XMAS	**Kiritimati**	**33.48**	**44**	P	**P**	**20 34 20.1**	**+0.5**
PMG	**Port Moresby**	**34.56**	**288**	P	**P**	**20 34 28.7**	**0.0**
	comp=Z,77nm,0.9s,baz=100,slow=2.8,SNR=12						
PMG	**Port Moresby**	**34.56**	**288**	P	**P**	**20 34 28.4**	**-0.2**
STKA	**Stephens Creek**	**35.02**	**248**	P	**P**	**20 34 33.1**	**+0.8**
	comp=Z,25nm,0.7s,baz=91,slow=9.9,SNR=51						
STKA	**Stephens Creek**	**35.02**	**248**	P	**P**	**20 34 32.4**	**+0.1**
COEN	**Coen**	**36.25**	**279**	P	**P**	**20 34 42.4**	**-0.3**
COEN				IAmb	IAmb	20 34 44.4	
	comp=Z,25nm,1.1s						
BBOO	**Buckleboo**	**39.75**	**247**	P	**P**	**20 35 10.8**	**-0.2**
AS31	**Alice Springs**	**42.27**	**260**	P	**P**	**20 35 31.2**	**0.0**
AS31				IAmb	IAmb	20 35 32.2	
	comp=Z,16nm,1.0s						
ASAR	**Alice Springs**	**42.27**	**260**	P	**P**	**20 35 31.3**	**+0.1**
	comp=Z,50nm,0.8s,baz=93,slow=8.2,SNR=294						
ASAR				pP	**pP**	**20 37 04.0**	**-1.9**
	comp=Z,3.0nm,0.8s,baz=95,slow=7.0,SNR=3.6						
ASAR				ScP	**ScP**	**20 40 15.4**	**+2.9**
	comp=Z,5.6nm,0.9s,baz=111,slow=3.9,SNR=15						
ASAR				S	**S**	**20 41 12.4**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=98,slow=13,SNR=12						
WR0	**Warramunga Arr**	**42.43**	**266**	P	**P**	**20 35 31.9**	**-0.5**
WR0				IAmb	IAmb	20 35 32.8	
	comp=Z,34nm,0.8s						
WB2	**Warramunga Arr**	**42.60**	**266**	P	**P**	**20 35 33.5**	**-0.3**
WB0	**Warramunga Arr**	**42.61**	**266**	P	**P**	**20 35 33.3**	**-0.5**
WRAB	**Tennant Creek**	**42.61**	**266**	P	**P**	**20 35 33.3**	**-0.5**
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**20 35 33.2**	**-0.7**
	comp=Z,49nm,0.7s,baz=93,slow=8.4,SNR=792						
WRA				PcP	**pwP**	**20 37 14.5**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=95,slow=3.6,SNR=5.2						
WRA				ScP	**ScP**	**20 40 16.8**	**+2.9**
	comp=Z,5.7nm,1.0s,baz=101,slow=4.0,SNR=12						
WRA				S	**S**	**20 41 14.5**	**-3.9**
	comp=Z,0.6nm,0.8s,baz=102,slow=14,SNR=4.7						
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**20 35 32.6**	**-1.3**
WRA					**ScP**	**20 40 17.1**	**+3.2**
JAY	**Jayapura**	**43.55**	**293**	P	**P**	**20 35 41.0**	**-0.4**
	comp=Z,17nm,0.7s,baz=89,slow=2.0,SNR=9.4						
JAY	**Jayapura**	**43.55**	**293**	P	**P**	**20 35 41.2**	**-0.1**
	comp=Z,21nm,1.1s						
GENI	**Genyem**	**43.97**	**292**	P	**P**	**20 35 41.0**	**-3.5**
	comp=Z,67nm,0.9s						
FORT	**Forrest**	**46.60**	**249**	P	**P**	**20 36 04.2**	**-0.2**
MTN	**Manton Dam**	**47.62**	**274**	P	**P**	**20 36 11.6**	**-0.7**
MTN				IAmb	IAmb	20 36 12.2	
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**48.88**	**269**	P	**P**	**20 36 21.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.04**	**265**	P	**P**	**20 36 37.5**	**0.0**
	comp=Z,41nm,0.9s,baz=178,slow=0.3,SNR=53						
FITZ	**Fitzroy Crossi**	**51.04**	**265**	P	**P**	**20 36 37.9**	**+0.5**
FITZ				IAmb	IAmb	20 36 38.9	
	comp=Z,43nm,0.9s						
BNDI	**Bandanaira**	**52.01**	**283**	P	**P**	**20 36 42.5**	**-2.1**
	comp=Z,110nm,0.8s						
SIJI	**Sorong**	**52.51**	**288**	P	**P**	**20 36 48.0**	**-0.1**
	comp=Z,84nm,0.8s,baz=104,slow=7.0,SNR=17						
VNDA	**Vanda**	**54.73**	**185**	P	**P**	**20 37 05.1**	**+2.3**
	comp=Z,3.7nm,0.7s,baz=18,slow=5.3,SNR=34						
VNDA	**Vanda**	**54.73**	**185**		**P**	**20 37 04.7**	**+1.8**
SOEI	**Soe**	**55.00**	**275**	P	**P**	**20 37 07.4**	**+1.5**
	comp=Z,1μmcomp=Z,123nm,1.1s						
SOEI	**Soe**	**55.00**	**275**	P	**P**	**20 37 07.2**	**+1.3**
BATI	**Baumata**	**55.39**	**274**	P	**P**	**20 37 08.5**	**0.0**
	comp=Z,33nm,0.9s						
PSA00	**Pilbara Seismi**	**55.41**	**259**	P	**P**	**20 37 07.9**	**-0.6**
PSA00				IAmb	IAmb	20 37 09.2	
	comp=Z,38nm,1.0s						
NWAO	**Narrogin (SRO)**	**55.55**	**245**	P	**P**	**20 37 08.1**	**-1.2**
	comp=Z,18nm,0.9s,baz=109,slow=6.8,SNR=7.7						
NWAO	**Narrogin (SRO)**	**55.55**	**245**	P	**P**	**20 37 08.5**	**-0.8**
NWAO				IAmb	IAmb	20 37 10.3	
	comp=Z,48nm,1.2s						
NWAO	**Narrogin (SRO)**	**55.55**	**245**	P	**P**	**20 37 08.4**	**-0.9**
NWAO				IAmb	IAmb	20 37 10.3	
	comp=Z,35nm,1.2s						
SANI	**Sanana**	**56.61**	**284**	P	**P**	**20 37 16.3**	**-0.6**
	comp=Z,36nm,1.2s						
MORW	**Morawa**	**57.17**	**250**	P	**P**	**20 37 20.3**	**-0.2**
MMRI	**Maumere**	**57.28**	**275**	P	**P**	**20 37 21.6**	**+0.1**
MMRI				IAmb	IAmb	20 37 22.0	
	comp=Z,56nm,1.0s						
EDFI	**Ende, Flores**	**57.73**	**275**	P	**P**	**20 37 24.3**	**-0.4**
	comp=Z,41nm,0.9s						
KDI	**Kendari**	**58.80**	**280**	P	**P**	**20 37 31.5**	**-0.3**
	comp=Z,31nm,1.1s						
LUWI	**Luwuk**	**59.93**	**283**	P	**P**	**20 37 38.7**	**-0.6**
	comp=Z,60nm,1.2s						
GIRL	**Giralia**	**60.17**	**257**	P	**P**	**20 37 42.1**	**+1.2**
GTOI	**Gorontalo**	**60.48**	**285**	P	**P**	**20 37 43.5**	**+0.5**
	comp=Z,272nmcomp=Z,31nm,0.8s						
CASY	**Casey**	**60.50**	**206**	P	**P**	**20 37 42.5**	**+0.3**
CASY				IAmb	IAmb	20 37 43.4	
	comp=Z,16nm,0.8s						
BKSI	**Bulukumba**	**60.50**	**277**	P	**P**	**20 37 42.7**	**-0.4**
	comp=Z,42nm,1.2s						
BNSI	**Bone**	**60.89**	**278**	P	**P**	**20 37 45.0**	**-0.7**
	comp=Z,25nm,1.2s						
KAPI	**Kappang**	**60.97**	**278**	P	**P**	**20 37 44.8**	**-1.3**
	comp=Z,10nm,0.5s,baz=93,slow=6.6,SNR=4.4						
KAPI	**Kappang**	**60.97**	**278**	IAmb	IAmb	20 37 46.5	
	comp=Z,13nm,0.6s						
PLAI	**Plampang**	**61.29**	**273**	P	**P**	**20 37 48.0**	**-0.3**
	comp=Z,116nm,0.9s						
SPSI	**Sidrap Palu**	**61.38**	**279**	P	**P**	**20 37 47.7**	**-1.2**
	comp=Z,24nm,1.0s						
TWSI	**Taliwang, Sumb**	**62.14**	**272**	P	**P**	**20 37 53.7**	**-0.2**
	comp=Z,29nm,1.0s						
MPSI	**Mapaga**	**63.11**	**283**	P	**P**	**20 37 59.5**	**-0.6**
QSPA	**South Pole Qui**	**66.52**	**180**	P	**P**	**20 38 22.4**	**+1.5**
	comp=Z,23nm,1.0s,baz=7.2,slow=0.9,SNR=72						
QSPA	**South Pole Qui**	**66.52**	**180**	P	**P**	**20 38 22.4**	**+1.5**
QSPA				IAmb	IAmb	20 38 23.7	
	comp=Z,22nm,0.9s						
KKM	**Kota Kinabalu**	**68.98**	**287**	P	**P**	**20 38 36.5**	**-0.3**
KKM				IAmb	IAmb	20 38 37.3	
	comp=Z,16nm,0.8s						
LEM	**Lembang**	**71.36**	**271**	P	**P**	**20 38 50.7**	**-0.3**
	comp=Z,58nm,0.9s,baz=76,slow=3.7,SNR=8.7						
MJAR	**Matsushiro Arr**	**71.72**	**325**	P	**P**	**20 38 51.3**	**-1.1**
	comp=Z,3.0nm,0.9s,baz=161,slow=6.1,SNR=6.3						
MJAR	**Matsushiro Arr**	**71.72**	**325**	IAmb	IAmb	20 38 53.1	
	comp=Z,1.6nm,0.8s						
KSM	**Kuching**	**72.23**	**280**	P	**P**	**20 38 56.0**	**+0.1**
KSM				IAmb	IAmb	20 38 56.9	
	comp=Z,29nm,0.9s						
JWT	**Wachi**	**72.29**	**323**	P	**P**	**20 38 56.6**	**+0.9**
JWT				IAmb	IAmb	20 38 57.0	
	comp=Z,11nm,0.9s						
JHS	**Saijyo**	**73.38**	**321**	P	**P**	**20 39 03.1**	**+1.1**
JHS				IAmb	IAmb	20 39 03.5	
	comp=Z,21nm,1.0s						
TPUB	**Ta-pu**	**74.28**	**305**	P	**P**	**20 39 06.4**	**-1.0**
TPUB				IAmb	IAmb	20 39 06.8	
	comp=Z,19nm,1.0s						
SSLB	**Suanglung**	**74.31**	**305**	P	**P**	**20 39 07.4**	**-0.2**
ADK	**Adak**	**75.17**	**2**	P	**P**	**20 39 11.4**	**-0.2**
ADK				IAmb	IAmb	20 39 28.6	
	comp=Z,45nm,1.3s						
JKA	**Kamikawa-asahi**	**75.65**	**333**	IAmb	IAmb	20 39 21.1	
	comp=Z,25nm,1.4s						
ASAJ	**Asahikawa**	**75.65**	**333**	P	**P**	**20 39 12.6**	**-1.9**
	comp=Z,2.3nm,0.3s,baz=200,slow=6.6,SNR=8.2						
NIKH	**Nikolski High**	**76.80**	**7**	P	**P**	**20 39 20.1**	**-0.5**
NIKH				IAmb	IAmb	20 39 21.1	
	comp=Z,20nm,0.7s						
KSRS	**Korea Array**	**78.11**	**320**	P	**P**	**20 39 27.9**	**-0.2**
	comp=

G08A IAmb IAmb 20 40 19.8
comp=Z,14nm,1.2s
XAN Xi'an 88.68 308 P P 20 40 22.3 +1.4
XAN pP pwP 20 42 26.0 +3.3
XAN pmax pmax
comp=Z,11nm,0.9s
XAN Xi'an 88.68 308 P P 20 40 20.2 -0.7
XAN IAmb IAmb 20 40 22.9
comp=Z,7.0nm,0.8s
MFID Camas Ranch 88.78 41 IAmb IAmb 20 40 23.1
comp=Z,9.4nm,1.0s
ISLE Juniper Island 89.22 17 P P 20 40 23.2 +0.3
ISLE IAmb IAmb 20 40 24.2
comp=Z,10nm,1.0s
KMI Kunming 89.27 298 ⇑P **P 20 40 26.0 +1.9**
KMI pmax pmax
comp=Z,9.0nm,1.2s
F10A Beach Ranch, E 89.43 38 IAmb IAmb 20 40 24.9
comp=Z,5.6nm,1.0s
TMUT Trail Mountain 89.47 46 P P 20 40 26.1 +1.3
CM31 Chiang Mai Arr 89.58 290 P P 20 40 26.7 +1.2
CM31 IAmb IAmb 20 40 28.3
comp=Z,14nm,1.0s
CMAR Chiang Mai Arr 89.58 290 P P 20 40 26.8 +1.3
comp=Z,6.5nm,0.9s,baz=133,slow=3.2,SNR=39
CMAR PP **PP 20 44 07.2 +0.1**
comp=Z,0.6nm,0.7s,baz=128,slow=5.6,SNR=4.6
CMAR Chiang Mai Arr 89.58 290 P P 20 40 26.4 +1.0
PLID Pearl Lake 89.63 39 P P 20 40 25.0 -0.3
PLID IAmb IAmb 20 40 26.2
comp=Z,7.0nm,1.2s
HLID Hailey 89.72 41 IAmb IAmb 20 40 27.7
comp=Z,6.0nm,1.1s
SPUT South Promonto 89.72 44 P P 20 40 26.4 +0.7
CHTO Chiang Mai 89.73 291 P P 20 40 26.5 +0.4
CHTO IAmb IAmb 20 40 28.5
comp=Z,14nm,1.0s
CTGM Chitina Glacie 89.80 18 IAmb IAmb 20 40 28.3
comp=Z,7.0nm,1.0s
SRU San Rafael Swe 89.83 47 P P 20 40 26.8 +0.5
TX31 Lajitas Ar. Si 90.09 58 P P 20 40 28.8 +1.1
TX32 Lajitas Array 90.09 58 IAmb IAmb 20 40 30.1
comp=Z,5.8nm,0.9s
TXAR Lajitas Array 90.09 58 P P 20 40 28.9 +1.2
comp=Z,2.7nm,0.7s,baz=213,slow=6.9,SNR=27
HHC Hu-ho-hao-te 90.31 315 *e*P **P 20 40 29.6 +1.2**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,63nm,6.6s
ANMO Albuquerque 90.60 52 P P 20 40 31.0 +0.9
S22A 4UR Ranch, Cre 91.67 49 IAmb IAmb 20 40 36.9
comp=Z,4.1nm,0.9s
PDAR Pinedale Array 92.32 44 P P 20 40 37.8 0.0
comp=Z,1.3nm,0.7s,baz=197,slow=4.5,SNR=6.0
PDAR Pinedale Array 92.32 44 P P 20 40 37.6 -0.2
SDCO Great Sand Dun 92.60 50 IAmb IAmb 20 40 40.2
comp=Z,3.4nm,1.1s
ABTX Abilene, Hawle 94.64 57 P P 20 40 48.8 +0.4
ABTX IAmb IAmb 20 40 49.7
comp=Z,6.0nm,1.1s
MKAR Makanchi Array 112.06 313 PKiKP **PKiKP 20 45 57.0 -1.8**
comp=Z,0.5nm,0.5s,baz=112,slow=0.6,SNR=7.3
KSH Kashi 115.24 304 PKP **PKiKP 20 46 12.3 +7.0**
KSH Kashi 115.24 304 SS SS 21 02 40.8 +7.4
KSH LR LR
comp=N,84nm,4.5s
KSH LR LR
comp=E,81nm,5.6s
BRVK Borovoye 120.37 319 PKPdf 20 46 13.8 -0.8
SUR Sutherland 120.99 200 PKP **PKiKP 20 46 17.5 +0.6**
comp=E,8.6nm,0.9s,baz=156,slow=8.5,SNR=3.7
ABKAR Akbulak array 127.10 315 PKPdf **PKPdf 20 46 26.4 -1.2**
GEYT Alibeck 128.96 301 PKP **PKPdf 20 46 29.9 -1.7**
comp=E,1.3nm,0.6s,baz=191,slow=5.3,SNR=4.7
KMBO Kilima Mbogo 136.43 241 SKP 20 49 31.6
comp=E,3.3nm,0.8s,baz=36,slow=10,SNR=6.6
FINES FINESS Array B 138.18 342 PKhKP PKPpre 20 46 38.9
comp=E,2.1nm,0.9s,baz=13,slow=13,SNR=4.0
FINES PKP **PKPdf 20 46 48.0 0.0**
comp=E,2.1nm,0.8s,baz=354,slow=1.4,SNR=5.8
FINES SKP 20 49 32.2
comp=E,2.7nm,0.6s,baz=49,slow=3.5,SNR=8.9
NB2 NORSAR Subarra141.77 351 PKP **PKPdf 20 46 50.1 -4.5**
comp=Z,0.6nm,0.4s,baz=24,slow=3.7
NOA NORSAR Array B 141.77 351 PKhKP PKPpre 20 46 49.8
comp=Z,0.6nm,0.6s,baz=14,slow=4.7,SNR=4.1
NOA SKP 20 49 41.0
comp=Z,1.6nm,0.8s,baz=17,slow=4.2,SNR=4.8
MARD Mardin 142.71 301 PKPdf **PKPdf 20 46 54.5 -2.6**
AKASG Malin Array Be 144.78 328 PKP **PKPdf 20 46 59.9 -0.2**
comp=Z,5.3nm,0.6s,baz=43,slow=4.1,SNR=36
AKASG SKPbc **SKiKP 20 49 49.5 -0.1**
comp=Z,3.0nm,0.8s,baz=46,slow=3.1,SNR=7.0
GAZ Gaziantep 145.53 302 PKPbc 20 47 03.1 -0.2
BRTR Keskin Array B 147.52 308 PKPbc **PKPbc 20 47 08.6 -0.2**
comp=Z,2.7nm,0.6s,baz=151,slow=2.8,SNR=5.5
TLCR 148.29 320 ⇑P **PKPbc 20 47 10.3 0.0**
KWP Kalwaria Pacla 148.56 332 *e*PKP **PKPbc 20 47 11.1 +0.2**
CFR Carcaliu 148.69 320 ⇑P **PKPbc 20 47 10.8 -0.5**
BSEG Bad Segeberg 148.72 348 *e*PKPbc **PKPbc 20 47 11.4 +0.4**
baz=22,slow=2.5
BIZ Bicaz 148.77 325 ⇑P **PKPbc 20 47 10.9 -0.5**
BURAR Bucovina Array 148.79 326 ⇑P **PKiKP 20 47 12.2 -0.4**
BURAR Bucovina Array 148.79 326 PKPbc 20 47 12.0 +0.4
CSS Mathiatis 149.08 299 PKPbc 20 47 11.5 -1.1
HARR Harsova 149.08 320 ⇑P **PKiKP 20 47 14.1 +0.9**
LEF Lefka 149.40 300 ⇑P **PKPbc 20 47 12.6 -0.7**
NIE Niedzica 149.74 334 *e*PKP **PKiKP 20 47 14.4 0.0**
DOPR Dopca 149.77 324 ⇑P **PKPbc 20 47 14.0 +0.1**
KSP Ksiaz 150.04 339 *e*PKP **PKPbc 20 47 14.6 +0.3**
NRDL Niedersach Rie 150.13 348 *e*PKPbc **PKiKP 20 47 14.9 -0.1**
baz=22,slow=2.5
LANS Liptovska Anna 150.29 334 *e*PKP **PKiKP 20 47 16.0 +0.4**
OSTC Ostas 150.31 339⇑*e*PKP **PKPbc 20 47 15.2 +0.2**
CHVC Chvalec 150.33 339⇑*e*PKP **PKiKP 20 47 15.6 0.0**
ASSE Asse, Remlinge 150.37 347 *e*PKPbc **PKiKP 20 47 15.6 +0.1**
baz=22,slow=2.5
UPC Upice 150.42 339⇑*e*PKP **PKPbc 20 47 15.5 +0.2**
DPC Dobruska-Polom 150.45 339⇑*e*PKP **PKiKP 20 47 16.2 +0.3**
MORC Moravsky Berou 150.51 337 ⇑P **PKPbc 20 47 15.4 -0.2**
MORC Moravsky Berou 150.51 337 *e*PKP **PKPbc 20 47 15.8 +0.2**
KRLC Kraliky 150.53 338⇑*e*PKP **PKPbc 20 47 15.6 0.0**
KRLC *e*PKPAB **PKPab 20 47 24.5 -0.2**
CLL Collm 150.58 344 *e*PKPdf **PKPdf 20 47 12.0 +2.5**
CLL *i* PKPbc **PKPbc 20 47 15.3 -0.3**
comp=Z,12nm,0.9s
CLL *i* PKPab **PKPab 20 47 24.2 -0.6**
comp=Z,4.0nm,0.7s
CLL *i* pPKPab **pPKPab 20 49 25.3 +1.7**
CLL *e*SKPdf **SKPdf 20 49 52.0 -0.4**
CLL Collm 150.58 344 PKPbc 20 47 14.7 -0.8
CLZ Clausthal 150.70 347 *e*PKPbc **PKiKP 20 47 16.6 +0.2**
baz=22,slow=2.5
BRG Berggiesshubel 150.72 342 *i* PKP **PKPbc 20 47 15.9 0.0**
comp=Z,7.8nm,0.8s
BRG *e*pPKP **pPKPab 20 49 25.7 +1.5**
comp=Z,8.1nm,1.5s
BRG Berggiesshubel 150.72 342 *e*PKPbc **PKiKP 20 47 16.5 +0.1**
baz=22,slow=2.5
FBE Freiberg 150.84 343 *e*PKPbc **PKiKP 20 47 17.0 +0.4**
baz=22,slow=2.5
FBE *e*pPKPbc **pPKPab 20 49 26.6 +1.9**
HUMR Humele 150.89 322 ⇑P **PKPbc 20 47 15.4 -1.1**
NEUB Neuenburg 150.98 345 *e*PKPbc **PKiKP 20 47 17.0 +0.1**
baz=22,slow=2.5
VYHS Vyhne 151.06 334 *e*PKP **PKPbc 20 47 16.8 0.0**
VYHS *e* 20 47 27.4
JAVC Velka Javorina 151.22 336 *e*PKP **PKiKP 20 47 18.1 +0.5**
VRAC Vranov 151.24 337 *e*PKP **PKiKP 20 47 17.6 +0.1**
PRU Pruhonice 151.33 341⇑*e*PKP **PKPbc 20 47 17.2 -0.1**
KRUC Moravsky 151.52 337 *e*PKP **PKiKP 20 47 18.0 -0.1**
TANN Tannenbergstha 151.54 343 *e*PKPbc **PKiKP 20 47 18.3 +0.1**
baz=22,slow=2.5
MOX Moxa 151.54 345 *e*pPKPbc pPKPbc 20 49 27.7 +5.8
WERN Wernitzgruen 151.68 343 *e*PKPbc **PKiKP 20 47 18.7 +0.3**
baz=22,slow=2.5
UBBA Unterbreizbach 151.74 347 *e*pPKPbc pPKPbc 20 49 27.7 +5.5
BZS Buzias 151.97 327 ⇑P **PKPbc 20 47 17.5 -1.4**
HERR Herculane 152.06 325 ⇑P **PKPbc 20 47 18.0 -1.2**
KHC Kasperske Hory 152.38 341 *e*PKP **PKPbc 20 47 19.8 0.0**
KHC *e*PKPAB **PKPab 20 47 32.4 -0.1**
GERES GERESS Array B 152.60 340 PKPbc **PKPbc 20 47 20.3 0.0**
comp=Z,0.9nm,0.8s,baz=48,slow=2.0,SNR=7.0
GERES PKPab **PKPab 20 47 34.0 +0.5**
comp=Z,0.1nm,0.3s,baz=44,slow=4.1,SNR=4.1
TORD Torodi Ar. Bea 169.55 188 PKP **PKPdf 20 47 30.4 -0.9**
comp=Z,0.4nm,0.7s,baz=252,slow=1.6,SNR=3.5
TORD PKPab **PKPab 20 48 48.2 +0.1**
comp=Z,2.0nm,0.9s,baz=171,slow=3.4,SNR=5.9
TORD PP **PP 20 52 39.4 +1.9**
comp=Z,1.2nm,1.0s,baz=132,slow=2.2,SNR=3.8
TORD Torodi Ar. Bea 169.55 188 PKPdf **PKPdf 20 47 30.9 -0.3**
TORD PKPab **PKPab 20 48 48.0 -0.1**
TAM Tamanrasset 175.04 262 PKPab **PKPab 20 49 13.4 +0.3**

IDC ***23*** *20:48:30.7±0.8, 2°.63N×125°.56E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/38, mbtmp4.0/9, MS2.8/1, Ms1 2.8/1, ms1mx2.4/40, Error ellipse: s-maj=61.0km s-min=15.7km az=77.0*
NEIC ***23*** *20:48:36.8±2.3, 2°.80N±0°.07×126°.42E±0°.07, h35km±2km, mb4.1/11, Error ellipse: s-maj=12.2km s-min=11.1km az=314.0*
DJA ***23*** *20:48:40.6±1.4, 3°N±7°×12°6E±°, h30km±16km, M4.2/7, mbA4.7/2, mb4.5/3, MLv4.1/7, Mw(mB)3.9/2*
MAN ***23*** *20:48:41.6, 3°.04N×126°.10E, h32km, MS3.9*
ISC 23 20:48:36.9±0.6,**2.78N**±0°.04×**126°.29E**±0°.08,**h35**km,**n37,**
σ1§**92**/39,**mb4.1**/14,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.26**	**152**	Pn	**Pn**	**20 49 11.0**	**-0.9**
KMSI	**Cibinong**	**3.18**	**227**	P	**Pn**	**20 49 26.1**	**+1.6**
KMSI				S	**Sn**	**20 50 02.7**	**+1.5**
DDMP	**Don Marcelino,**	**3.36**	**350**	*e*P	**Pn**	**20 49 28.4**	**+1.4**
DDMP				*e*S	**Sn**	**20 50 03.8**	**-1.9**
GTOI	**Gorontalo**	**3.91**	**237**	P	**Pn**	**20 49 35.7**	**+1.2**
SKMP	**Bagumbayan, Su**	**4.11**	**335**	*e*P	**Pn**	**20 49 38.7**	**+1.4**
SKMP				*e*S	**Sn**	**20 50 23.2**	**-0.9**
MATI	**Mati**	**4.14**	**360**	*e*P	**Pn**	**20 49 40.9**	**+3.1**
DAV	**Davao City (W)**	**4.33**	**351**	Sn	**Sn**	**20 50 33.4**	**+3.9**
	60nm,0.3s,baz=103,slow=18,SNR=1.9						
SANI	**Sanana**	**4.80**	**184**	P	**Pn**	**20 49 50.6**	**+3.8**
LUWI	**Luwuk**	**5.17**	**223**	P	Pn	20 50 07.5	+16
LUWI	**Luwuk**	**5.17**	**223**	Pn	**Pn**	**20 49 52.9**	**+1.0**
BUKP	**Musuan**	**5.22**	**346**	*e*P	**Pn**	**20 49 55.5**	**+2.9**
BUKP				*e*S	**Sn**	**20 50 52.4**	**+0.8**
PAGZ	**Pagadian**	**5.81**	**330**	*e*P	**Pn**	**20 50 03.0**	**+2.3**
PAGZ				*e*S	**Sn**	**20 51 01.7**	**-4.5**
MPSI	**Mapaga**	**6.83**	**249**	P	**Pn**	**20 50 15.4**	**+0.7**
	0.1nm374nm16nm,0.7s						
MYLDM	**Lahad Datu**	**8.13**	**287**		**Pn**	**20 50 34.2**	**+1.6**
KAPI	**Kappang**	**10.13**	**220**	LR	LR	20 54 16.0	
	comp=Z,66nm,21.8s,baz=330,slow=36						
KKM	**Kota Kinabalu**	**10.56**	**288**	Pn	**Pn**	**20 51 08.8**	**+2.9**
SBUM	**Sibu**	**14.06**	**269**	P	**P**	**20 52 01.0**	**-0.1**
MTN	**Manton Dam**	**16.24**	**163**		**P**	**20 52 24.7**	**-0.6**
MTN				IAmb	IAmb	20 52 37.4	
	comp=Z,11nm,1.0s						
KNRA	**Kununurra**	**18.50**	**172**	P	**Pn**	**20 52 50.6**	**0.0**
FITZ	**Fitzroy Crossi**	**20.75**	**182**	P	Pn	20 53 18.9	+1.6
WB0	**Warramunga Arr**	**23.77**	**161**	P	**P**	**20 53 45.6**	**-0.8**
WB0				IAmb	IAmb	20 53 47.0	
	comp=Z,6.4nm,0.7s						
WRAB	**Tennant Creek**	**23.91**	**161**	P	**P**	**20 53 47.8**	**0.0**
WRAB				IAmb	IAmb	20 54 15.2	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**23.92**	**161**	P	**P**	**20 53 47.1**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=339,slow=10,SNR=44						
WRA	**Warramunga Arr**	**23.92**	**161**	P	**P**	**20 53 46.8**	**-1.1**
WB2	**Warramunga Arr**	**23.92**	**161**	P	**P**	**20 53 47.5**	**-0.3**
WB2				IAmb	IAmb	20 54 19.8	
	comp=Z,5.4nm,1.1s						
WR0	**Warramunga Arr**	**24.00**	**161**	P	**P**	**20 53 48.3**	**-0.3**
WR0				IAmb	IAmb	20 54 09.2	
	comp=Z,10.0nm,1.3s						
ASAR	**Alice Springs**	**27.31**	**165**	P	**P**	**20 54 18.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=340,slow=10,SNR=8.7						
ASAR				PcP	**PcP**	**20 57 36.7**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=356,slow=1.4,SNR=3.0						
KSRS	**Korea Array**	**34.55**	**2**	P	**P**	**20 55 23.2**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=180,slow=9.7,SNR=4.1						
STKA	**Stephens Creek**	**37.40**	**158**	P	**P**	**20 55 47.1**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=323,slow=9.6,SNR=8.4						
STKA	**Stephens Creek**	**37.40**	**158**	IAmb	IAmb	20 55 48.6	
	comp=Z,2.1nm,1.4s						
USRK	**Ussuriysk Ar.**	**41.56**	**6**	P	**P**	**20 56 22.5**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=228,slow=5.6,SNR=1.8						
PETK	**Petropavlovsk-**	**56.47**	**22**	P	**P**	**20 58 16.4**	**+1.1**
	comp=Z,2.3nm,1.0s,baz=212,slow=8.0,SNR=2.2						
MK31	**Makanchi Array**	**58.09**	**326**	P	**P**	**20 58 24.9**	**-2.0**
MK31				IAmb	IAmb	20 58 40.6	
	comp=Z,2.9nm,1.4s						
MKAR	**Makanchi Array**	**58.09**	**326**	P	**P**	**20 58 23.9**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=120,slow=7.2,SNR=11						
MAKZ	**Makanchi**	**58.27**	**326**	P	**P**	**20 58 25.3**	**-2.8**
NRIK	**Noril'sk**	**71.25**	**346**	P	**P**	**20 59 50.8**	**-1.5**
	comp=Z,3.7nm,0.7s,baz=128,slow=7.2,SNR=4.4						
VNDA	**Vanda**	**82.54**	**173**	P	**P**	**21 00 54.8**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=307,slow=7.1,SNR=5.3						

IDC ***23*** *20:51:38.2±7.5, 12°.73N×89°.06W, h58km±49km, mb3.4/2, mb1 3.8/4, mb1mx3.4/29, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=88.9km s-min=41.4km az=35.0*
GCG ***23*** *20:51:38.1±1.2, 12°.99N×89°.25W, h85km±134km, MD4.2*
INET ***23*** *20:51:41.3, 13°.21N×89°.21W, h15km, ML4.2*
NEIC ***23*** *20:51:41.4±1.4, 12°.99N±0°.10×89°.28W±0°.08, h57km±12km, Error ellipse: s-maj=16.3km s-min=8.0km az=212.0*
SNET ***23*** *20:51:42.3±1.0, 13°.13N×89°.21W, h62km±7km, ML4.0*
UCR ***23*** *20:51:42.5±1.0, 13°.14N×89°.20W, h62km±7km, ML4.1, mb4.0(NEIC)*
ISC 23 20:51:41.8±1.2,**13°.03N**±0°.07×**89°.26W**±0°.04,**h59**km±9km,
n88,σ0§**87**/115,**3C-34D,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.62**	**18**	⇓*i*P	**Pn**	**20 51 54.5**	**-0.6**
LFRS	**El Faro**	**0.62**	**18**	⇓*i*P	**Pn**	**20 51 54.5**	**-0.6**
CPRS	**Casa Presidenc**	**0.65**	**2**	*e*P	**Pn**	**20 51 55.1**	**-0.4**
SNET	**Serv Nac Est T**	**0.65**	**2**	⇓*i*P	**Pn**	**20 51 55.1**	**-0.4**
SNET				*e*S	**Sn**	**20 52 05.0**	**-0.5**
SNET				IAML		20 52 06.4	
	comp=Z,7μm,0.2s						
SNET	**Serv Nac Est T**	**0.65**	**2**	⇓*i*P	**Pn**	**20 51 55.1**	**-0.4**
SNET				*e*S	**Sn**	**20 52 05.0**	**-0.5**
SNET				IAML		20 52 06.4	
	comp=Z,7μm,0.2s						
SNET	**Serv Nac Est T**	**0.65**	**2**		**Pn**	**20 51 55.0**	**-0.5**
AEIL	**Aeropuerto Ilo**	**0.68**	**12**	⇓*i*P	**Pn**	**20 51 55.6**	**-0.2**
AEIL				*e*S	**Sn**	**20 52 06.2**	**+0.2**
AEIL				IAML		20 52 08.6	
	comp=Z,12μm,0.2s						
AEIL	**Aeropuerto Ilo**	**0.68**	**12**	⇓*i*P	**Pn**	**20 51 55.6**	**-0.2**
AEIL				*e*S	**Sn**	**20 52 06.2**	**+0.2**
AEIL				IAML		20 52 08.6	
	comp=Z,12μm,0.2s						
UEES	**Universidad Ev**	**0.68**	**2**	*i* P	**Pn**	**20 51 55.6**	**-0.3**
UEES	**Universidad Ev**	**0.68**	**2**	*i* P	**Pn**	**20 51 55.6**	**-0.3**
IGN	**Direccin Gen**	**0.68**	**7**	⇓*i*P	**Pn**	**20 51 55.7**	**-0.2**
IGN				*e*S	**Sn**	**20 52 06.4**	**+0.2**
IGN				IAML		20 52 08.9	
IGN	**Direccin Gen**	**0.68**	**7**	⇓*i*P	**Pn**	**20 51 55.7**	**-0.2**
IGN				*e*S	**Sn**	**20 52 06.4**	**+0.2**
IGN				IAML		20 52 08.9	
UDBS	**Universidad Do**	**0.69**	**9**	⇓*i*P	**Pn**	**20 51 55.8**	**-0.1**
UDBS				IAML		20 51 56.1	
	comp=Z,8μm,0.2s						
UDBS				*e*S	**Sn**	**20 52 05.9**	**-0.3**
UDBS	**Universidad Do**	**0.69**	**9**	⇓*i*P	**Pn**	**20 51 55.8**	**-0.1**
UDBS				IAML		20 51 56.1	
	comp=Z,8μm,0.2s						
UDBS				*e*S	**Sn**	**20 52 05.9**	**-0.3**
COEG	**Centro de Oper**	**0.69**	**32**	⇓*i*P	**Pn**	**20 51 55.3**	**-0.6**
COEG				IAML		20 52 06.2	
	comp=Z,8μm,0.3s						
COEG	**Centro de Oper**	**0.69**	**32**	⇓*i*P	**Pn**	**20 51 55.3**	**-0.6**
COEG				IAML		20 52 06.2	
	comp=Z,8μm,0.3s						
BOQS	**Boqueron**	**0.70**	**358**	⇓*i*P	**Pn**	**20 51 56.1**	**-0.1**
BOQS	**Boqueron**	**0.70**	**358**	⇓*i*P	**Pn**	**20 51 56.1**	**-0.1**
LFU	**La Fuente**	**0.72**	**11**	⇓*i*P	**Pn**	**20 51 56.3**	**-0.1**
LFU	**La Fuente**	**0.72**	**11**	⇓*i*P	**Pn**	**20 51 56.3**	**-0.1**
ALJI	**Alcalda de J**	**0.73**	**66**	⇓*i*P	**Pn**	**20 51 56.3**	**-0.1**
ALJI				*e*S	**Sn**	**20 52 06.5**	**-0.5**
ALJI	**Alcalda de J**	**0.73**	**66**	⇓*i*P	**Pn**	**20 51 56.3**	**-0.1**
ALJI				*e*S	**Sn**	**20 52 06.5**	**-0.5**
LBRS	**Las Brisas**	**0.73**	**17**	⇓*i*P	**Pn**	**20 51 56.3**	**-0.2**
LBRS	**Las Brisas**	**0.73**	**17**	⇓*i*P	**Pn**	**20 51 56.3**	**-0.2**
PAVA	**Las Pavas**	**0.74**	**25**	⇓*i*P	**Pn**	**20 51 56.3**	**-0.4**
PAVA				*e*S	**Sn**	**20 52 07.2**	**-0.4**
PAVA				IAML		20 52 08.0	
	comp=Z,6μm,0.2s						
PAVA	**Las Pavas**	**0.74**	**25**	⇓*i*P	**Pn**	**20 51 56.3**	**-0.4**
PAVA				*e*S	**Sn**	**20 52 07.2**	**-0.4**
PAVA				IAML		20 52 08.0	
	comp=Z,6μm,0.2s						
CEDA	**San Andres**	**0.78**	**350**	⇓*i*P	**Pn**	**20 51 56.9**	**-0.1**
CEDA				*e*S	**Sn**	**20 52 08.5**	**+0.4**
CEDA	**San Andres**	**0.78**	**350**	⇓*i*P	**Pn**	**20 51 56.9**	**-0.1**
CEDA				*e*S	**Sn**	**20 52 08.5**	**+0.4**
COEB	**Comit de Eme**	**0.85**	**57**	*e*P	**Pn**	**20 51 57.4**	**-0.5**
COEB				*e*S	**Sn**	**20 52 09.1**	**-0.8**
COEB	**Comit de Eme**	**0.85**	**57**	*e*P	**Pn**	**20 51 57.4**	**-0.5**
COEB				*e*S	**Sn**	**20 52 09.1**	**-0.8**
CEVE	**Cerro Verde**	**0.87**	**336**	⇓*i*P	**Pn**	**20 51 58.2**	**-0.1**
CEVE	**Cerro Verde**	**0.87**	**336**	⇓*i*P	**Pn**	**20 51 58.2**	**-0.1**
TECA	**Tecapa**	**0.87**	**58**	⇓*i*P	**Pn**	**20 51 57.8**	**-0.5**
TECA	**Tecapa**	**0.87**	**58**	⇓*i*P	**Pn**	**20 51 57.8**	**-0.5**
SBLS	**San Blas**	**0.88**	**336**	⇓*i*P	**Pn**	**20 51 58.6**	**+0.2**
SBLS	**San Blas**	**0.88**	**336**	⇓*i*P	**Pn**	**20 51 58.6**	**+0.2**
SNJE	**San Jose**	**0.90**	**338**	⇓*i*P	**Pn**	**20 51 58.9**	**+0.2**
SNJE	**San Jose**	**0.90**	**338**	⇓*i*P	**Pn**	**20 51 58.9**	**+0.2**
TACO	**Tacachico**	**0.94**	**354**	*e*P	**Pn**	**20 51 58.7**	**-0.3**
TACO				*e*S	**Sn**	**20 52 11.2**	**-0.5**
TACO	**Tacachico**	**0.94**	**354**	*e*P	**Pn**	**20 51 58.7**	**-0.3**
TACO				*e*S	**Sn**	**20 52 11.2**	**-0.5**
RTR	**El Retiro**	**0.94**	**336**	⇓*i*P	**Pn**	**20 51 59.6**	**+0.4**
RTR	**El Retiro**	**0.94**	**336**	⇓*i*P	**Pn**	**20 51 59.6**	**+0.4**
UNIC	**Universidad Ca**	**0.98**	**343**	*e*P	**Pn**	**20 52 00.0**	**+0.3**
UNIC				*e*S	**Sn**	**20 52 13.7**	**+0.8**
UNIC	**Universidad Ca**	**0.98**	**343**	*e*P	**Pn**	**20 52 00.0**	**+0.3**
UNIC				*e*S	**Sn**	**20 52 13.7**	**+0.8**
LCY	**Lacayo**	**1.02**	**67**	⇑*i*P	**Pn**	**20 52 00.5**	**+0.4**
LCY	**Lacayo**	**1.02**	**67**	⇑*i*P	**Pn**	**20 52 00.5**	**+0.4**
RANC	**El Ranchito**	**1.03**	**67**	*e*P	**Pn**	**20 52 00.4**	**+0.2**
RANC				*e*S	**Sn**	**20 52 14.2**	**+0.3**
RANC	**El Ranchito**	**1.03**	**67**	*e*P	**Pn**	**20 52 00.4**	**+0.2**
RANC				*e*S	**Sn**	**20 52 14.2**	**+0.3**
VSM	**San Miguel**	**1.04**	**68**	*e*P	**Pn**	**20 52 00.8**	**+0.3**
VSM	**San Miguel**	**1.04**	**68**	*e*P	**Pn**	**20 52 00.8**	**+0.3**
LLGN	**La Laguna**	**1.16**	**15**	*e*P	**Pn**	**20 52 01.6**	**-0.5**
LLGN	**La Laguna**	**1.16**	**15**	*e*P	**Pn**	**20 52 01.6**	**-0.5**
MTO3	**Montecristo**	**1.36**	**356**	*i* P	**Pn**	**20 52 04.7**	**-0.1**
MTO3				*e*S	**Sn**	**20 52 21.5**	**-0.5**
MTO3	**Montecristo**	**1.36**	**356**	*i* P	**Pn**	**20 52 04.7**	**-0.1**
MTO3				*e*S	**Sn**	**20 52 21.5**	**-0.5**
MTO3	**Montecristo**	**1.36**	**356**		**Pn**	**20 52 04.7**	**-0.1**
LCND	**La Caada**	**1.36**	**78**	*e*P	**Pn**	**20 52 04.6**	**0.0**
LCND				*e*S	**Sn**	**20 52 22.1**	**+0.4**
LCND				IAML		20 52 24.3	
	comp=Z,4μm,0.3s						
LCND	**La Caada**	**1.36**	**78**	*e*P	**Pn**	**20 52 04.6**	**0.0**
LCND				*e*S	**Sn**	**20 52 22.1**	**+0.4**
LCND				IAML		20 52 24.3	
	comp=Z,4μm,0.3s						
CNCH	**Conchagua**	**1.41**	**80**	*e*P	**Pn**	**20 52 05.2**	**-0.1**
CNCH	**Conchagua**	**1.41**	**80**	*e*P	**Pn**	**20 52 05.2**	**-0.1**
ESQI	**Esquipulas**	**1.52**	**357**	*e*P	**Pn**	**20 52 07.2**	**+0.3**
ESQI	**Esquipulas**	**1.52**	**357**		**Pn**	**20 52 07.2**	**+0.3**
IXG	**Ixpaco**	**1.61**	**315**	⇑*i*P	**Pn**	**20 52 06.1**	**-2.1**
NBG	**Las Nubes**	**1.87**	**326**	*e*P	**Pn**	**20 52 11.1**	**-0.7**
NBG				*e*S	**Sn**	**20 52 35.6**	**+1.1**
MRL	**Marmol**	**2.08**	**349**	*e*P	**Pn**	**20 52 12.3**	**-2.2**
FUG	**Fuego 3**	**2.08**	**313**	*e*P	**Pn**	**20 52 12.9**	**-1.7**
FUG				*e*S	**Sn**	**20 52 39.0**	**-0.5**
CRIN	**San Cristobal**	**2.18**	**98**		**Pn**	**20 52 15.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.18**	**62**	*e*P	**Pn**	**20 52 15.3**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.18**	**62**	*e*P	**Pn**	**20 52 15.3**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.18**	**62**		**Pn**	**20 52 15.5**	**-0.4**
APG	**El Apazote**	**2.28**	**329**	P	**Pn**	**20 52 17.6**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=149,slow=12,SNR=9.2						
APG				S	**Sn**	**20 52 50.4**	**+5.9**
	comp=Z,9.5nm,0.3s,baz=191,slow=9.1,SNR=7.2						
RTAL	**Retalhuleu**	**2.79**	**302**	Pn	**Pn**	**20 52 22.2**	**-1.9**
MATN	**Matagalpa**	**3.25**	**91**	Pn	**Pn**	**20 52 29.9**	**-0.5**
BOAB	**BOACO BROADBAN**	**3.55**	**99**		**Pn**	**20 52 33.8**	**-0.7**
ESPN	**Las Esperanzas**	**4.91**	**99**	Pn	**Pn**	**20 52 52.9**	**-0.2**
JTS	**Las Juntas de**	**5.02**	**122**	Pn	**Pn**	**20 52 56.3**	**+1.7**
TEIG	**Tepich**	**7.21**	**7**	P	**Pn**	**20 53 25.8**	**+1.2**
	comp=

*IDC **23** 21:34:03.5±4.1, 41°.10N×112°.85W, h0km, mb1 2.4/1, mb1mx2.4/37, mbtmp2.0/1, ML2.8/1, Error ellipse: s-maj=77.0km s-min=29.3km az=145.0*
*NEIC **23** 21:34:03.7±1.2, 41°.12N±0°.02×112°.90W±0°.02, h0km±2km, ML1.9/32, Error ellipse: s-maj=4.2km s-min=3.1km az=23.0*
ISC 23 21:34:03.5±1.0, **41°.11N**±0°.03×**112°.92W**±0°.04, **h0km, n22,** σ0°**74/21, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.20**	**205**		**Pg**	**21 34 08.2**	**+0.8**
SPUT	**South Promonto**	**0.40**	**60**		**Pg**	**21 34 11.1**	**-0.1**
HVU	**Hansel Valley**	**0.68**	**9**		**Pg**	**21 34 15.9**	**-0.6**
DUG	**Dugway, Tooele**	**0.92**	**175**		**Pb**	**21 34 22.1**	**-0.3**
DUG				IAML		21 34 37.8	
	23nm,0.7s						
CTU	**Camp Tracy**	**0.98**	**115**		**Pg**	**21 34 22.6**	**+0.4**
HWUT	**Hardware Ranch**	**1.13**	**64**		**Pg**	**21 34 24.7**	**-0.4**
HWUT				IAML		21 34 46.9	
	14nm,1.4s						
TCUT	**Toone Canyon**	**1.14**	**89**		**Pb**	**21 34 25.7**	**-0.5**
JLU	**Jordanelle**	**1.22**	**114**		**Pg**	**21 34 26.9**	**+0.1**
NLU	**North Lily Min**	**1.32**	**151**	Pg	**Pg**	**21 34 28.5**	**-0.2**
ELK	**Elko**	**1.80**	**259**		**Pb**	**21 34 36.3**	**-1.2**
ELK				IAML		21 35 04.6	
	6.2nm,0.3s						
AHID	**Auburn Hatcher**	**2.14**	**39**	Pn	**Pn**	**21 34 40.9**	**+0.3**
AHID				IAML		21 35 13.7	
	comp=E,12nm,0.3s						
TMUT	**Trail Mountain**	**2.23**	**144**	Pn	**Pn**	**21 34 42.8**	**+0.8**
MSU	**Marysvale**	**2.66**	**167**	Pn	**Pn**	**21 34 47.4**	**-0.3**
MVU	**Marysvale**	**2.66**	**168**	Pn	**Pn**	**21 34 47.5**	**-0.3**
PSUT	**Pine Spring**	**2.67**	**196**	Pn	**Pn**	**21 34 48.0**	**0.0**
HLID	**Hailey**	**2.69**	**336**		**Pn**	**21 34 49.4**	**+1.2**
HLID				IAML		21 35 45.7	
	comp=E,8.2nm,4.7s						
HLID				IAML		21 35 45.9	
	comp=E,8.0nm,4.0s						
PD31	**Pinedale Array**	**3.00**	**55**		**Pn**	**21 34 52.4**	**-0.1**
PDAR	**Pinedale Array**	**3.00**	**55**	Pn	**Pn**	**21 34 53.9**	**+1.3**
	comp=E,0.2nm,0.3s,baz=230,slow=13,SNR=4.0						
PDAR				Pg	**Pb**	**21 34 58.1**	**+0.1**
	comp=E,0.7nm,0.3s,baz=235,slow=14,SNR=11						
PDAR				Lg	Lg	21 35 37.1	
	comp=E,0.6nm,0.3s,baz=231,slow=23,SNR=2.2						
PDAR	**Pinedale Array**	**3.00**	**55**		**Pn**	**21 34 51.9**	**-0.7**
YMR	**Madison River**	**3.83**	**21**	Pn	**Pn**	**21 35 05.4**	**+1.5**
I56US	**NEWPORT INFRAS**	**7.75**	**339**	*i*		22 22 40.0	
	baz=153,slow=312,SNR=12						
I10CA	**LAC DU BONNET**	**14.87**	**47**	*i*		23 05 40.0	
	baz=235,slow=312,SNR=5.0						

*IDC **23** 21:45:12.5±0.7, 10°.64N×126°.67E, h0km, mb4.1/16, mb1 4.1/16, mb1mx4.0/40, mbtmp4.1/16, MS3.0/5, Ms1 3.1/5, ms1mx2.7/38, Error ellipse: s-maj=35.3km s-min=13.8km az=76.0*
*NEIC **23** 21:45:14.2±1.0, 10°.68N±0°.08×126°.7E±0°.1, h10km±1km, mb4.6/34, Error ellipse: s-maj=17.1km s-min=12.6km az=289.0*
*MAN **23** 21:45:17.6, 10°.83N×126°.62E, h95km, MS3.7*
ISC 23 21:45:18.4±0.5, **10°.74N**±0°.05×**126°.73E**±0°.07, **h44km, n74,** σ1°**18/76, mb4.4/33, MS2.9/4, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.94**	**252**	*eP*	**Pn**	**21 45 49.3**	**+0.5**
MSLP				*eS*	**Sn**	**21 46 10.6**	**-1.4**
OCLP	**Ormoc**	**2.10**	**279**	*eP*	**Pn**	**21 45 51.8**	**+0.6**
OCLP				*eS*	**Sn**	**21 46 20.5**	**+4.3**
CNP	**Catarman**	**2.68**	**311**	*eP*	**Pn**	**21 45 57.0**	**-2.0**
CNP				*eS*	**Sn**	**21 46 29.9**	**-0.3**
LLP	**Lapu-Lapu**	**2.75**	**261⇑**	*eP*	**Pn**	**21 46 01.4**	**+1.4**
LLP				*i* S	**Sn**	**21 46 34.2**	**+2.1**
PVCP	**Virac**	**3.79**	**319**	*eP*	**Pn**	**21 46 12.9**	**-1.5**
PVCP				*eS*	**Sn**	**21 46 56.9**	**-0.8**
GUIM	**Jordan**	**4.07**	**269**	*eP*	**Pn**	**21 46 18.1**	**-0.1**
GUIM				*eS*	**Sn**	**21 47 02.3**	**-2.3**
CNOP	**Candoni, Negro**	**4.13**	**258**	*eP*	**Pn**	**21 46 18.8**	**-0.2**
CNOP				*eS*	**Sn**	**21 47 04.8**	**-1.1**
TPUB	**Ta-pu**	**13.78**	**336**	Pn	**Pn**	**21 48 29.0**	**-2.2**
FAKI	**Fak Fak**	**14.64**	**158**	Pn	**Pn**	**21 48 42.2**	**-0.7**
SBUM	**Sibu**	**16.59**	**241**	Pn	**Pn**	**21 49 06.6**	**-1.4**
GUMO	**Guam**	**17.96**	**79**	LR	LR	21 54 55.1	
	comp=Z,34nm,21.9s,baz=260,slow=32						
BATI	**Baumata**	**21.04**	**188**	P	**P**	**21 49 58.9**	**+0.2**
	12nm,0.5s,baz=60,slow=3.6,SNR=2.2						
MTN	**Manton Dam**	**23.84**	**169**	P	**P**	**21 50 26.6**	**-1.1**
MTN				IAmb	IAmb	21 50 42.4	
	comp=Z,13nm,1.2s						
MYKOM	**Kota Tinggi**	**24.40**	**250**	P	**P**	**21 50 31.3**	**-1.6**
MYKOM				IAmb	IAmb	21 50 35.7	
	comp=Z,14nm,1.1s						
ENH	**Enshi**	**25.20**	**323**	P	**P**	**21 50 40.6**	**+0.6**
ENH				IAmb	IAmb	21 50 42.2	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**26.33**	**176**	P	**P**	**21 50 48.5**	**-1.9**
KNRA				IAmb	IAmb	21 50 56.8	
	comp=Z,18nm,1.3s						
KULM	**Kulim**	**26.38**	**260**	P	**P**	**21 50 50.0**	**-0.9**
KULM				IAmb	IAmb	21 50 58.5	
	comp=Z,22nm,1.4s						
KSRS	**Korea Array**	**26.62**	**2**	LR	LR	22 02 32.6	
	comp=Z,31nm,18.0s,baz=190,slow=39						
MJAR	**Matsushiro Arr**	**27.70**	**20**	P	**P**	**21 51 03.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**27.93**	**289**	P	**P**	**21 51 04.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=106,slow=7.0,SNR=4.5						
CMAR				LR	LR	22 03 46.5	
	comp=Z,19nm,18.1s,baz=95,slow=40						
CMAR	**Chiang Mai Arr**	**27.93**	**289**	P	**P**	**21 51 03.8**	**-1.0**
XAN	**Xi'an**	**28.34**	**328**	P	**P**	**21 51 08.1**	**-0.2**
PMG	**Port Moresby**	**28.53**	**134**	LR	LR	22 02 27.3	
	comp=Z,37nm,20.4s,baz=160,slow=36						
FITZ	**Fitzroy Crossi**	**28.68**	**182**	P	**P**	**21 51 09.9**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=0.0,slow=19,SNR=1.4						
FITZ	**Fitzroy Crossi**	**28.68**	**182**	P	**P**	**21 51 09.0**	**-2.3**
LHMI	**Lhok Sumawe**	**29.98**	**262**	P	**P**	**21 51 22.7**	**-0.4**
WB0	**Warramunga Arr**	**31.24**	**166**	P	**P**	**21 51 33.0**	**-1.1**
WB0				IAmb	IAmb	21 51 40.8	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**31.40**	**166**	P	**P**	**21 51 33.2**	**-2.2**
	comp=Z,0.7nm,0.9s,baz=342,slow=7.7,SNR=3.8						
WRA				PcP	**PcP**	**21 54 28.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=340,slow=2.9,SNR=8.7						
USRK	**Ussuriysk Ar.**	**33.64**	**7**	P	**P**	**21 51 55.8**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=188,slow=7.5,SNR=7.5						
USRK	**Ussuriysk Ar.**	**33.64**	**7**	P	**P**	**21 51 55.2**	**+0.4**
ASAR	**Alice Springs**	**34.91**	**168**	P	**P**	**21 52 05.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=360,slow=7.7,SNR=4.8						
ASAR				PcP	**PcP**	**21 54 38.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=342,slow=3.0,SNR=6.3						
SHL	**Shillong**	**36.11**	**299**	P	**P**	**21 52 15.8**	**-0.8**
SHL				IAmb	IAmb	21 52 16.5	
	comp=Z,7.3nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**39.68**	**72**	T	T	22 36 16.2	
	baz=262						
H11N2	**WAKE ISLAND Hy**	**39.69**	**72**	T	T	22 36 15.6	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**39.70**	**72**	T	T	22 36 14.5	
	baz=262						
SONM	**Songino Array**	**40.74**	**339**	P	**P**	**21 52 55.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=167,slow=6.8,SNR=3.6						
SONM	**Songino Array**	**40.74**	**339**	P	**P**	**21 52 55.6**	**+0.5**
BBOO	**Buckleboo**	**44.22**	**169**	P	**P**	**21 53 23.1**	**-0.3**
STKA	**Stephens Creek**	**44.71**	**162**	P	**P**	**21 53 27.2**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=316,slow=9.0,SNR=3.5						
STKA	**Stephens Creek**	**44.71**	**162**	P	**P**	**21 53 26.4**	**-0.9**
PETK	**Petropavlovsk-**	**49.02**	**24**	P	**P**	**21 54 02.6**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=222,slow=1.9,SNR=2.9						
PETK	**Petropavlovsk-**	**49.02**	**24**	P	**P**	**21 54 02.2**	**+1.4**
MK31	**Makanchi Array**	**51.93**	**322**	P	**P**	**21 54 24.3**	**+1.4**
MKAR	**Makanchi Array**	**51.93**	**322**	P	**P**	**21 54 24.9**	**+2.0**
	comp=Z,3.1nm,0.7s,baz=118,slow=8.0,SNR=27						
MKAR	**Makanchi Array**	**51.93**	**322**	P	**P**	**21 54 24.0**	**+1.1**
MAKZ	**Makanchi**	**52.12**	**322**	P	**P**	**21 54 25.2**	**+0.9**
MAKZ				IAmb	IAmb	21 54 27.4	
	comp=Z,10nm,1.1s						
NIL	**Nilore**	**53.84**	**304**	P	**P**	**21 54 37.5**	**+0.2**
NIL				IAmb	IAmb	21 54 39.4	
	comp=Z,8.7nm,0.8s						
ZALV	**Zalesovo Beam**	**54.43**	**331**	P	**P**	**21 54 41.7**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=114,slow=7.2,SNR=7.1						
ZALV	**Zalesovo Beam**	**54.43**	**331**	P	**P**	**21 54 41.4**	**+0.3**
KURK	**Kurchatov**	**55.94**	**325**	P	**P**	**21 54 53.0**	**+1.0**
BTK	**Batken**	**57.22**	**311**	P	**P**	**21 55 02.5**	**+1.0**
BTK				IAmb	IAmb	21 55 07.2	
	comp=Z,3.4nm,0.7s						
GAR	**Garm**	**57.34**	**310**	P	**P**	**21 55 03.0**	**+0.6**
KBL	**Kabul**	**57.44**	**304**	P	**P**	**21 55 03.2**	**-0.1**
KBL				IAmb	IAmb	21 55 04.9	
	comp=Z,5.7nm,1.4s						
CHGR	**Chuyangaron**	**58.14**	**309**	P	**P**	**21 55 08.5**	**+0.5**
KK31	**Karatay Array**	**58.24**	**314**	P	**P**	**21 55 09.0**	**+0.5**
KK31				IAmb	IAmb	21 55 10.6	
	comp=Z,4.9nm,0.9s						
KKAR	**Karatay Array**	**58.24**	**314**	P	**P**	**21 55 09.3**	**+0.7**
KKAR				IAmb	IAmb	21 55 10.6	
	comp=Z,4.9nm,0.9s						
KKAR	**Karatay Array**	**58.24**	**314**	P	**P**	**21 55 09.2**	**+0.7**
BRVK	**Borovoye**	**61.61**	**325**	P	**P**	**21 55 32.2**	**+0.8**
BRVK				IAmb	IAmb	21 55 33.6	
	comp=Z,5.4nm,0.7s						
GEYT	**Alibeck**	**66.62**	**307**	LR	LR	22 27 42.8	
	comp=Z,27nm,18.2s,baz=230,slow=38						
ABKAR	**Akbulak array**	**66.81**	**319**	P	**P**	**21 56 06.2**	**+0.6**
ABKAR				IAmb	IAmb	21 56 07.6	
	comp=Z,3.4nm,0.8s						
ABKAR	**Akbulak array**	**66.81**	**319**	P	**P**	**21 56 06.0**	**+0.4**
ARU	**Arti**	**69.08**	**326**	P	**P**	**21 56 19.9**	**+0.2**
CASY	**Casey**	**77.74**	**187**	P	**P**	**21 57 10.6**	**+0.3**
CASY				IAmb	IAmb	21 57 11.9	
	comp=Z,4.8nm,0.8s						
BRTR	**Keskin Array B**	**85.58**	**309**	P	**P**	**21 57 52.6**	**0.0**
	comp=Z,1.7nm,0.7s,baz=101,slow=3.9,SNR=3.3						
FIA1	**FINESS Array S**	**85.69**	**332**	P	**P**	**21 57 53.3**	**+0.8**
FINES	**FINESS Array B**	**85.69**	**332**	P	**P**	**21 57 53.3**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=88,slow=4.4,SNR=20						
AKASG	**Malin Array Be**	**86.48**	**321**	P	**P**	**21 57 57.1**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=63,slow=5.1,SNR=6.6						
AKASG	**Malin Array Be**	**86.48**	**321**	P	**P**	**21 57 56.8**	**+0.1**
BURAR	**Bucovina Array**	**89.79**	**318**	P	**P**	**21 58 13.6**	**+1.0**
BUR08	**Bucovina Ar. S**	**89.79**	**319**	P	**P**	**21 58 13.6**	**+1.0**
BUR08				IAmb	IAmb	21 58 26.5	
	comp=Z,8.2nm,1.4s						
MAW	**Mawson**	**90.30**	**200**	P	**P**	**21 58 14.9**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=350,slow=5.0,SNR=4.4						
MAW	**Mawson**	**90.30**	**200**	P	**P**	**21 58 14.7**	**+0.5**
NOA	**NORSAR Array B**	**92.53**	**334**	P	**P**	**21 58 24.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=66,slow=4.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**120.51**	**292**	PKP	**PKPdf**	**22 04 06.3**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=51,slow=2.3,SNR=3.9						

*NEIC **23** 22:30:19.6±1.2, 11°.9S±0°.1×166°.6E±0°.2, h187km±6km, mb4.3/18, Error ellipse: s-maj=25.6km s-min=14.9km az=82.0*
*IDC **23** 22:30:22.1±3.8, 11°.88S×166°.55E, h206km±35km, mb3.8/16, mb1 3.9/17, mb1mx3.7/48, mbtmp4.3/17, Error ellipse: s-maj=21.2km s-min=15.5km az=90.0*
ISC 23 22:30:20.8±0.6, **11°.91S**±0°.07×**166°.6E**±0°.1, **h200km, n49,** σ0°**86/53, mb4.1/24, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.56**	**171**		**Pn**	**22 31 15.9**	**-1.3**
DZM	**Mont Dzumac**	**10.10**	**181**	P	**Pn**	**22 32 44.3**	**+2.8**
	4.6nm,0.3s,baz=344,slow=10,SNR=46						
DZM				S	**Sn**	**22 34 32.4**	**-2.0**
	0.5nm,0.3s,baz=336,slow=20,SNR=2.0						
COEN	**Coen**	**22.94**	**262**	P	**P**	**22 35 07.4**	**-0.4**
COEN				IAmb	IAmb	22 35 11.2	
	comp=Z,9.0nm,1.1s						
BKZ	**Black Stump Fm**	**28.52**	**164**	P	**P**	**22 35 58.6**	**+0.8**
STKA	**Stephens Creek**	**30.42**	**225**	P	**P**	**22 36 15.4**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=50,slow=19,SNR=3.5						
WR0	**Warramunga Arr**	**31.82**	**251**	P	**P**	**22 36 26.1**	**-1.0**
WB0	**Warramunga Arr**	**31.93**	**252**	P	**P**	**22 36 27.3**	**-0.7**
WB0				IAmb	IAmb	22 36 28.5	
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**32.00**	**251**	P	**P**	**22 36 27.9**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=83,slow=8.8,SNR=11						
WRA	**Warramunga Arr**	**32.00**	**251**	P	**P**	**22 36 27.6**	**-1.0**
AS31	**Alice Springs**	**33.18**	**245**	P	**P**	**22 36 37.2**	**-1.7**
ASAR	**Alice Springs**	**33.18**	**245**	P	**P**	**22 36 38.4**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=76,slow=9.4,SNR=12						
ASAR				PcP	**PcP**	**22 39 17.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=68,slow=3.2,SNR=4.2						
ASAR	**Alice Springs**	**33.18**	**245**	P	**P**	**22 36 37.3**	**-1.6**
BBOO	**Buckleboo**	**34.88**	**228**	P	**P**	**22 36 53.2**	**-0.1**
BBOO				IAmb	IAmb	22 36 53.7	
	comp=Z,10nm,1.1s						
MJAR	**Matsushiro Arr**	**55.13**	**332**	P	**P**	**22 39 31.5**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=169,slow=9.0,SNR=5.5						
MJAR	**Matsushiro Arr**	**55.13**	**332**	P	**P**	**22 39 31.6**	**-1.0**
JNU	**Nakatsue**	**56.28**	**324**	P	**P**	**22 39 40.1**	**-0.7**
	comp=Z,14nm,1.1s,baz=195,slow=12,SNR=2.1						
JNU	**Nakatsue**	**56.28**	**324**	P	**P**	**22 39 39.9**	**-0.9**
JHS	**Saijyo**	**56.43**	**327**	P	**P**	**22 39 41.4**	**-0.5**
JHS				IAmb	IAmb	22 39 42.7	
	comp=Z,8.3nm,0.8s						
JKA	**Kamikawa-asahi**	**59.89**	**340**	P	**P**	**22 40 06.2**	**+0.6**
ASAJ	**Asahikawa**	**59.90**	**340**	P	**P**	**22 40 06.0**	**+0.5**
	comp=Z,5.0nm,0.4s,baz=239,slow=8.0,SNR=6.3						
KSRS	**Korea Array**	**61.07**	**325**	P	**P**	**22 40 14.0**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=111,slow=8.9,SNR=4.8						
USRK	**Ussuriysk Ar.**	**64.10**	**333**	P	**P**	**22 40 34.5**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=130,slow=5.9,SNR=7.0						
USRK	**Ussuriysk Ar.**	**64.10**	**333**	P	**P**	**22 40 33.9**	**+0.2**
VNDA	**Vanda**	**65.64**	**181**	P	**P**	**22 40 44.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=337,slow=7.3,SNR=8.6						
VNDA	**Vanda**	**65.64**	**181**	P	**P**	**22 40 43.5**	**+0.4**
CASY	**Casey**	**65.89**	**202**	P	**P**	**22 40 45.0**	**+0.2**
CASY				IAmb	IAmb	22 40 45.6	
	comp=Z,3.5nm,0.5s						
RPSI	**Rantau Prapat**	**68.81**	**278**	P	**P**	**22 41 03.9**	**-0.2**
PSI	**Prapat**	**68.83**	**278**	P	**P**	**22 41 03.9**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=181,slow=0.4,SNR=4.4						
CMAR	**Chiang Mai Arr**	**73.24**	**294**	P	**P**	**22 41 32.1**	**+1.5**
	comp=Z,3.4nm,0.8s,baz=123,slow=4.7,SNR=15						
CMAR	**Chiang Mai Arr**	**73.24**	**294**	P	**P**	**22 41 31.0**	**+0.3**
CHTO	**Chiang Mai**	**73.36**	**294**	P	**P**	**22 41 31.6**	**+0.3**
CHTO				IAmb	IAmb	22 41 32.5	
	comp=Z,3.3nm,0.8s						
QSPA	**South Pole Qui**	**78.10**	**180**	P	**P**	**22 41 57.7**	**+0.3**
QSPA				IAmb	IAmb	22 41 59.0	
	comp=Z,6.7nm,1.0s						
SONM	**Songino Array**	**79.87**	**324**	P	**P**	**22 42 07.9**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=143,slow=5.9,SNR=14						
SONM	**Songino Array**	**79.87**	**324**	P	**P**	**22 42 07.6**	**+0.3**
IL31		**84.06**	**18**	P	**P**	**22 42 28.1**	**-0.5**
IL31				IAmb	IAmb	22 42 28.8	
	comp=Z,3.1nm,1.0s						
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**22 42 28.3**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=236,slow=5.1,SNR=16						
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**22 42 28.0**	**-0.6**
BELA	**Belgrano 2**	**89.56**	**176**	P	**P**	**22 42 54.6**	**-0.5**
MKAR	**Makanchi Array**	**94.74**	**317**	P	**P**	**22 43 19.6**	**+0.1**
	comp=Z,3.2nm,0.5s,baz=86,slow=6.4,SNR=44						
MKAR	**Makanchi Array**	**94.74**	**317**	P	**P**	**22 43 19.5**	**0.0**
ZALV	**Zalesovo Beam**	**94.76**	**324**	P	**P**	**22 43 19.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=111,slow=8.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**94.76**	**324**	P	**P**	**22 43 18.9**	**-0.5**
TXAR	**Lajitas Array**	**95.49**	**61**	P	**P**	**22 43 22.6**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=234,slow=4.2,SNR=3.6						
FINES	**FINESS Array B**	**122.89**	**339**	PKP	**PKPdf**	**22 48 52.7**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=110,slow=2.4,SNR=9.4						
GERES	**GERESS Array B**	**136.86**	**334**	PKP	**PKPdf**	**22 49 19.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=90,slow=1.0,SNR=4.4						
KEST	**Kesra**	**148.62**	**323**	PKPbc	**PKPbc**	**22 49 44.8**	**0.0**
	comp=Z,4.4nm,0.9s,baz=106,slow=0.8,SNR=4.2						
KEST	**Kesra**	**148.62**	**323**		**PKPbc**	**22 49 45.3**	**+0.5**
ESDC	**Sonseca Array**	**151.12**	**345**	PKPbc	**PKPbc**	**22 49 51.1**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=30,slow=2.2,SNR=9.0						
ESDC				PKPab	**PKPab**	**22 49 59.7**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=12,slow=4.0,SNR=10						
ESDC	**Sonseca Array**	**151.12**	**345**		**PKPbc**	**22 49 50.9**	**+0.2**
ESDC					**PKPab**	**22 49 59.5**	**+0.6**

*DJA **23** 22:33:06.4±0.4, 8°.S±4°.×12°.2E±°, h233km±6km, M4.2/11, mB5.0/1, mb4.3/4, MLv4.1/11, Mw(mB)4.3/1*
*NEIC **23** 22:33:07.9±0.8, 8°.06S±0°.08×122°.52E±0°.08, h213km±8km, mb4.1/12, Error ellipse: s-maj=11.4km s-min=11.0km az=187.0*
*IDC **23** 22:33:08.1±1.4, 7°.93S×122°.65E, h213km±15km, mb3.6/5, mb1 3.8/9, mb1mx3.5/42, mbtmp4.3/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/30, Error ellipse: s-maj=54.9km s-min=9.3km az=58.0*
ISC 23 22:33:08.4±0.6, **8°.15S**±0°.06×**122°.48E**±0°.07, **h226km, n41,** σ1°**49/47, mb4.0/10, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.54**	**207**		**Pn**	**22 33 37.0**	**-1.7**
EDFI	**Ende, Flores**	**0.98**	**233**	P	**Pn**	**22 33 39.3**	**-1.6**
BATI	**Baumata**	**2.35**	**150**	P	**Pn**	**22 33 52.4**	**0.0**
	63nm,0.3s,baz=20,slow=2.0,SNR=30						
BATI				S	**S**	**22 34 22.9**	**-4.0**
	186nm,0.3s,baz=43,slow=20,SNR=10						
BATI	**Baumata**	**2.35**	**150**	P	**Pn**	**22 33 52.0**	**-0.4**
BATI				S	**S**	**22 34 26.6**	**-0.3**
SOEI	**Soe**	**2.38**	**132**	P	**Pn**	**22 33 52.0**	**-0.8**
SOEI				S	**S**	**22 34 26.4**	**-1.1**
SOEI	**Soe**	**2.38**	**132**		**Pn**	**22 33 53.0**	**+0.2**
BASI	**Baing, Sumba**	**2.78**	**222**	P	**Pn**	**22 33 55.1**	**-1.9**
BKSI	**Bulukumba**	**3.66**	**320**	P	**Pn**	**22 34 04.8**	**-2.3**
KAPI	**Kappang**	**4.13**	**319**	P	**Pn**	**22 34 11.0**	**-1.7**
	2.0nm,0.3s,baz=137,slow=12,SNR=11						
KAPI	**Kappang**	**4.13**	**319**		**Pn**	**22 34 11.6**	**-1.2**
BNSI	**Bone**	**4.41**	**328**	P	**Pn**	**22 34 15.0**	**-1.2**
PLAI	**Plampang**	**4.70**	**261**	P	**Pn**	**22 34 18.6**	**-1.2**
TWSI	**Taliwang, Sumb**	**5.57**	**264**	P	**Pn**	**22 34 28.9**	**-1.7**
	0.2nm14nm,0.7s						
KNRA	**Kununurra**	**9.68**	**141**		**Pn**	**22 35 22.4**	**-0.8**
MTN	**Manton Dam**	**9.70**	**119**		**Pn**	**22 35 23.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.35**	**163**	P	**Pn**	**22 35 30.7**	**-1.1**
	1.0nm,0.3s,baz=358,slow=5.6,SNR=14						
FITZ				S	**S**	**22 37 24.3**	**-3.7**
	2.2nm,0.3s,baz=1.3,slow=0.5,SNR=7.4						
FAKI	**Fak Fak**	**11.02**	**62**	Pn	**Pn**	**22 35 39.0**	**-1.3**
PSA00	**Pilbara Seismi**	**13.58**	**190**	Pn	**Pn**	**22 36 12.7**	**+0.4**
WB0	**Warramunga Arr**	**16.33**	**136**	P	**Pn**	**22 36 45.1**	**-0.4**
WB0				IAmb	IAmb	22 36 47.2	
	comp=Z,7.4nm,1.0s						
WRA	**Warramunga Arr**	**16.41**	**137**	P	**Pn**	**22 36 46.4**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=323,slow=13,SNR=37						
WRA				S	**S**	**22 39 44.5**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=312,slow=24,SNR=7.2						
WRA	**Warramunga Arr**	**16.41**	**137**	P	**P**	**22 36 46.0**	**+0.7**
WB2	**Warramunga Arr**	**16.42**	**137**	P	**Pn**	**22 36 46.4**	**-0.2**
WB2				IAmb	IAmb	22 36 47.8	
	comp=Z,8.2nm,0.9s						
AS31	**Alice Springs**	**18.92**	**146**	P	**P**	**22 37 14.3**	**+1.7**
ASAR	**Alice Springs**	**18.92**	**146**	P	**Pn**	**22 37 14.6**	**-1.4**
	comp=Z,2.2nm,0.3s,baz=318,slow=9.4,SNR=49						
ASAR				S	**S**	**22 40 39.1**	**+3.7**
	baz=331,slow=25,SNR=6.0						
ASAR				LR	LR	22 45 27.4	
	comp=Z,55nm,19.5s,baz=133,slow=39						
ASAR	**Alice Springs**	**18.92**	**146**	P	**P**	**22 37 14.1**	**+1.6**
COEN	**Coen**	**21.11**	**108**	P	**P**	**22 37 36.0**	**+0.1**
MORW	**Morawa**	**21.67**	**195**	P	**P**	**22 37 42.6**	**+1.3**
MORW				IAmb	IAmb	22 37 42.7	
	comp=Z,8.9nm,0.9s						
BBOO	**Buckleboo**	**27.58**	**155**	P	**P**	**22 38 35.9**	**+1

IRAM	**Ramesheh**	**3.98**	**101**	*e*Pn	**Pn**	**22 41 22.8**	**0.0**
QSDN	**Sirdan**	**3.98**	**16**	*e*Pn	**Pn**	**22 41 24.5**	**+1.6**
QALM	**Alamut, Qazvin**	**4.42**	**31**	*e*Pn	**Pn**	**22 41 29.9**	**+1.0**
IDMV	**Damavand**	**4.55**	**49**	*e*Pn	**Pn**	**22 41 31.7**	**+1.0**
ANAR	**Anarak**	**5.01**	**83**	*e*Pn	**Pn**	**22 41 37.7**	**+0.7**
ISAD	**Sadrabad**	**5.04**	**97**	*e*Pn	**Pn**	**22 41 37.8**	**+0.3**
IFIR	**Firoozkooh**	**5.06**	**53**	*e*Pn	**Pn**	**22 41 39.3**	**+1.6**
ICHK	**Chekchek**	**5.60**	**93**	*e*Pn	**Pn**	**22 41 45.4**	**+0.2**

WEL 23 22:47:35.0, 38°S±3°×17°6E±°, h182km±4km, M2.7/31, MLv2.7/31, Error ellipse: s-maj=0.0km s-min=0.0km az=113.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.12**	**210**	P	Pn	22 47 59.3	+0.2
GRRZ	**Galatos Road**	**0.17**	**77**	P	Pn	22 47 59.3	+0.1
HRRZ	**Handcock Road**	**0.30**	**90**	P	Pn	22 47 59.5	+0.1
WATZ	**Wairara**	**0.34**	**202**	P	Pn	22 47 59.8	+0.3
ALRZ	**Allen Road**	**0.39**	**116**	P	Pn	22 47 59.7	+0.1
RATZ	**Rangitukua**	**0.49**	**191**	P	Pn	22 48 00.0	0.0
RRRZ	**Republican Roa**	**0.49**	**84**	P	Pn	22 47 59.8	-0.2
RITZ	**Rihia Road**	**0.59**	**183**	P	Pn	22 48 00.9	+0.4
MRHZ	**Matea Rd**	**0.60**	**138**	P	Pn	22 48 00.3	-0.2
TOZ	**Tahuroa Road**	**0.73**	**335**	P	Pn	22 48 01.3	+0.1
KRVZ	**Karewarewa**	**0.73**	**196**	P	Pn	22 48 01.5	+0.2
WTVZ	**West Tongariro**	**0.76**	**198**	P	Pn	22 48 01.6	+0.1
TWVZ	**Taurewa**	**0.77**	**208**	P	Pn	22 48 01.5	0.0
OTVZ	**Oturere**	**0.79**	**193**	P	Pn	22 48 01.8	+0.1
OTVZ				S	Sn	22 48 21.5	-0.9
NGZ	**Ngauruhoe**	**0.82**	**196**	P	Pn	22 48 02.0	+0.1
HIZ	**Hauiti**	**0.83**	**261**	P	Pn	22 48 01.8	+0.1
MTHZ	**Maungataniwha**	**0.87**	**122**	P	Pn	22 48 02.2	+0.1
MTHZ				S	Sn	22 48 21.9	-1.1
RTZ	**Ruatahuna**	**0.88**	**105**	P	Pn	22 48 02.0	-0.2
RTZ				S	Sn	22 48 22.0	-1.2
TUVZ	**Tukino**	**0.90**	**192**	P	Pn	22 48 02.4	+0.1
TUVZ				S	Sn	22 48 22.7	-1.0
BKZ	**Black Stump Fm**	**0.91**	**149**	P	Pn	22 48 02.2	-0.1
BKZ				S	Sn	22 48 22.9	-0.6
FWVZ	**Far West T-bar**	**0.91**	**197**	P	Pn	22 48 02.6	+0.1
URZ	**Urewera**	**0.96**	**83**	P	Pn	22 48 02.0	-0.6
URZ				S	Sn	22 48 21.6	-2.4
WNVZ	**Wahianoa**	**0.96**	**194**	P	Pn	22 48 02.8	0.0
WNVZ				S	Sn	22 48 23.5	-1.0
PKVZ	**Pokaka**	**1.00**	**205**	P	Pn	22 48 02.9	0.0
PKVZ				S	Sn	22 48 24.3	-0.4
MOVZ	**Moawhango**	**1.02**	**186**	P	Pn	22 48 02.8	-0.3
MOVZ				S	Sn	22 48 23.3	-1.8
MTVZ	**Mangateitei**	**1.05**	**198**	P	Pn	22 48 03.4	+0.1
RAHZ	**Arahi**	**1.07**	**120**	P	Pn	22 48 03.9	+0.5
BHHZ	**Black Hill Sta**	**1.11**	**173**	P	Pn	22 48 03.5	-0.2
KWHZ	**Kaweka Forest**	**1.11**	**158**	P	Pn	22 48 04.1	+0.3
SNGZ	**Shannon Statio**	**1.20**	**110**	P	Pn	22 48 04.8	+0.3
MCHZ	**McNeill Hill**	**1.23**	**150**	P	Pn	22 48 05.5	+0.8
WHHZ	**Waihua**	**1.25**	**124**	P	Pn	22 48 05.4	+0.5
KRHZ	**Kereru**	**1.31**	**164**	P	Pn	22 48 05.5	+0.1
RUGZ	**Raukumara Rang**	**1.47**	**74**	P	Pn	22 48 05.8	-1.2
RIGZ	**Rimuhau**	**1.50**	**103**	P	Pn	22 48 07.3	+0.1
TKGZ	**Te Karaka**	**1.54**	**92**	P	Pn	22 48 08.2	+0.8
PNHZ	**Pukenui**	**1.54**	**171**	P	Pn	22 48 07.3	-0.2
HAZ	**Te Kaha**	**1.62**	**68**	P	Pn	22 48 07.7	-0.6
PRGZ	**Paritu Road**	**1.65**	**110**	P	Pn	22 48 08.7	+0.2
TSZ	**Takapari Road**	**1.67**	**178**	P	Pn	22 48 08.6	-0.2
MHGZ	**Mahia Peninsul**	**1.75**	**117**	P	Pn	22 48 09.9	+0.4
PXZ	**Pawanui**	**1.80**	**156**	P	Pn	22 48 10.1	0.0
DVHZ	**Dannevirke**	**1.92**	**174**	P	Pn	22 48 10.7	-0.6
MXZ	**Matakoa Point**	**2.08**	**67**	P	Pn	22 48 13.0	0.0
ANWZ	**Angora Road**	**2.12**	**168**	P	Pn	22 48 13.2	-0.2
PRWZ	**Pori Road**	**2.16**	**178**	P	Pn	22 48 13.5	-0.4
BFZ	**Birch Farm**	**2.31**	**173**	P	Pn	22 48 14.9	-0.7
TIWZ	**Tintock**	**2.38**	**180**	P	Pn	22 48 15.7	-0.8
OGWZ	**Otaki Gorge**	**2.49**	**193**	P	Pn	22 48 16.6	-1.0
HOWZ	**Holdsworth Sta**	**2.52**	**187**	P	Pn	22 48 16.7	-1.3
KIW	**Kapiti Island**	**2.58**	**197**	P	Pn	22 48 17.3	-1.5
TMWZ	**Te Maipa**	**2.71**	**180**	P	Pn	22 48 19.1	-1.2
MTW	**Mount Morrison**	**2.78**	**186**	P	Pn	22 48 19.3	-1.7
TRWZ	**Traveller**	**3.01**	**183**	P	Pn	22 48 21.4	-1.4
MSWZ	**Moikau Station**	**3.06**	**189**	P	Pn	22 48 22.6	-1.9
TCW	**Tory Channel**	**3.08**	**203**	P	Pn	22 48 22.9	-1.7
PLWZ	**Palliser**	**3.21**	**189**	P	Pn	22 48 24.3	-2.0
TUWZ	**Tuamarina**	**3.39**	**206**	P	Pn	22 48 26.6	-1.9
THZ	**Tophouse**	**4.08**	**213**	P	Pn	22 48 35.3	-1.9
KHZ	**Kahutara**	**4.41**	**203**	P	Pn	22 48 39.1	-2.1
GVZ	**Greta Valley S**	**5.06**	**205**	P	Pn	22 48 46.9	-2.8
INZ	**Inchbonnie**	**5.50**	**217**	P	Pn	22 48 52.6	-2.8
MHCZ	**Mount Hutt**	**6.09**	**211**	P	Pn	22 49 00.4	-2.8
RPZ	**Rata Peaks**	**6.46**	**213**	P	Pn	22 49 03.7	-4.2
ARCZ	**Arundel**	**6.59**	**211**	P	Pn	22 49 06.7	-3.1
ODZ	**Otahua Downs**	**7.72**	**209**	P	Pn	22 49 21.5	-3.0

IDC 23 23:15:05.8±3.5, 30°26S×177°53W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/45, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=77.7km s-min=38.7km az=109.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.13**	**208**	Pn	Pn	23 17 18.3	-0.4
	0.2nm,0.3s,baz=119,slow=19,SNR=2.1						
URZ				Sn	Sn	23 19 02.2	0.0
	0.7nm,0.3s,baz=315,slow=23,SNR=1.9						
ASAR	**Alice Springs**	**43.52**	**267**	P	P	23 23 11.1	-0.3
	0.2nm,0.4s,baz=104,slow=7.7,SNR=1.8						
WRA	**Warramunga Arr**	**44.50**	**272**	P	P	23 23 19.5	+0.2
	0.4nm,0.4s,baz=111,slow=7.9,SNR=13						
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	PKPbc	23 34 43.1	-1.0
	2.3nm,0.8s,baz=37,slow=7.3,SNR=2.3						

*NNC **23** 23:19:27.2±0.7, 45°41N×82°03E, h0km, mb3.3, mpv3.3, Error ellipse: s-maj=7.6km s-min=2.5km az=118.0*
*SOME **23** 23:19:30.7, 45°40N×82°08E, h25km*

ISC 23 23:19:30.6±2.3, 45°50N±0°06×82°12E±0°06, h17km±18km, n24, σ1§57/40, 2C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.30**	**5**	⇑P	**Pn**	**23 19 53.0**	**-0.9**
	3.3nm,0.2s,baz=183,slow=14,SNR=410						
MK31				⇓S	**Sb**	**23 20 12.0**	**+1.2**
	9.8nm,0.3s,baz=190,slow=25,SNR=19						
MAKZ	**Makanchi**	**1.31**	**356**	⇓P	**Pn**	**23 19 53.4**	**-0.7**
	7.9nm,0.3s						
MAKZ				⇑S	**Sg**	**23 20 13.0**	**+0.1**
	8.9nm,0.5s						
DJR	**Jarkent**	**2.02**	**235**	*e*P	**Pb**	**23 20 06.4**	**-0.6**
	2.2nm,0.2s						
DJR				*e*S	**Sn**	**23 20 29.7**	**+0.8**
	15nm,0.4s						
TDK	**Taldyqorghan**	**2.67**	**260**	*e*P	**Pb**	**23 20 17.7**	**-0.2**
	12nm,0.2s						
TDK				*e*S	**Sb**	**23 20 49.3**	**-1.0**
	39nm,0.2s						
TDK	**Taldyqorghan**	**2.67**	**260**	Pg	**Pb**	**23 20 15.6**	**-2.2**
	12nm,0.2s						
TDK				Lg	Lg	23 20 49.3	
	39nm,0.2s						
ZSN	**Zaisan**	**2.72**	**43**	*e*P	**Pb**	**23 20 19.1**	**+0.4**
	1.8nm,0.1s						
ZSN				*e*S	**Sb**	**23 20 52.2**	**+0.3**
	18nm,0.2s						
MNBS	**Baschi**	**3.00**	**243**	*e*P	**Pb**	**23 20 22.7**	**-0.9**
	2.8nm,0.1s						
MNBS				*e*S	**Sb**	**23 20 58.5**	**-1.5**
	17nm,0.3s						
MNBS	**Baschi**	**3.00**	**243**	Pg	**Pb**	**23 20 21.0**	**-2.6**
	1.7nm,0.2s						
MNBS				Lg	Lg	23 20 58.7	
	17nm,0.3s						
SHLS	**Shalkode**	**3.02**	**220**	*e*P	**Pn**	**23 20 18.9**	**+1.3**
	4.5nm,0.3s						
SHLS				*e*S	**Sn**	**23 20 51.8**	**-1.7**
	20nm,0.3s						
SHLS	**Shalkode**	**3.02**	**220**	Pg	**Pn**	**23 20 17.0**	**-0.6**
	4.5nm,0.3s						
SHLS				Lg	Lg	23 20 51.8	
	20nm,0.3s						
KPKS	**Kokpek**	**3.19**	**232**	*e*P	**Pb**	**23 20 26.6**	**-0.2**
	3.1nm,0.1s						
KPKS				*e*S	**Sb**	**23 21 04.4**	**-0.9**
	29nm,0.5s						
ARXS	**Arharly**	**3.31**	**249**	*e*P	**Pb**	**23 20 29.1**	**+0.3**
	5.1nm,0.3s						
ARXS				*e*S	**Sb**	**23 21 09.0**	**+0.2**
	11nm,0.2s						
ARXS	**Arharly**	**3.31**	**249**	Pg	**Pb**	**23 20 27.1**	**-1.7**
	4.8nm,0.3s						
ARXS				Lg	Lg	23 21 09.0	
	11nm,0.2s						
KURS	**Kuram**	**3.47**	**236**	*e*P	**Pb**	**23 20 32.0**	**+0.5**
	2.0nm,0.5s						
KURS				*e*S	**Sb**	**23 21 13.6**	**+0.2**
	7.4nm,0.6s						
KURS	**Kuram**	**3.47**	**236**	Pg	**Pb**	**23 20 29.8**	**-1.7**
	1.8nm,0.4s						
KURS				Lg	Lg	23 21 13.6	
	7.4nm,0.6s						
SATY	**Saty**	**3.61**	**229**	*e*P	**Pb**	**23 20 33.9**	**-0.2**
	0.8nm,0.1s						
SATY				*e*S	**Sb**	**23 21 17.1**	**-0.5**
	24nm,0.5s						
SATY	**Saty**	**3.61**	**229**	Pg	**Pb**	**23 20 31.8**	**-2.2**
	1.2nm,0.1s						
SATY				Lg	Lg	23 21 17.1	
	24nm,0.5s						
KOTS	**Kotyrbulak**	**4.24**	**239**	*e*P	**Pb**	**23 20 45.7**	**+0.9**
	4.5nm,0.4s						
KOTS				*e*S	**Sb**	**23 21 37.5**	**+1.8**
	5.6nm,0.3s						
KTBS	**Karatobe**	**4.27**	**247**	*e*P	**Pb**	**23 20 45.9**	**+0.7**
	0.7nm,0.2s						
KTBS				*e*S	**Sb**	**23 21 37.8**	**+1.4**
	6.2nm,0.3s						
MDOK	**Medeo**	**4.32**	**239**	*e*P	**Pb**	**23 20 46.3**	**+0.1**
	1.1nm,0.4s						
MDOK				*e*S	**Sb**	**23 21 38.7**	**+0.7**
	3.3nm,0.6s						
MDOK	**Medeo**	**4.32**	**239**	Pg	**Pb**	**23 20 44.5**	**-1.6**
	1.0nm,0.4s						
MDOK				Lg	Lg	23 21 38.7	
	3.3nm,0.6s						
KUU	**Kurty**	**4.42**	**251**	*e*P	**Pb**	**23 20 48.4**	**+0.7**
	0.9nm,0.1s						
KUU				*e*S	**Sb**	**23 21 42.4**	**+1.7**
	5.2nm,0.3s						
KUU	**Kurty**	**4.42**	**251**	Pg	**Pb**	**23 20 46.7**	**-1.0**
	1.1nm,0.1s						
KUU				Lg	Lg	23 21 42.4	
	5.2nm,0.3s						
KST	**Kastek**	**5.05**	**243**	*e*P	**Pb**	**23 21 01.4**	**+2.8**
	0.8nm,0.2s						
KST				*e*S	**Sb**	**23 22 04.6**	**+5.5**
	1.5nm,0.2s						

*SJA **23** 23:20:23.0±0.6, 24°01S×66°91W, h215km±4km, ML4.5, MW4.3*
*IDC **23** 23:20:24.4±1.0, 23°92S×66°78W, h192km±7km, mb3.9/19, mb1 4.1/24, mb1mx4.0/40, mbtmp4.5/24, MS2.5/1, Ms1 2.5/1, ms1mx2.3/20, Error ellipse: s-maj=12.7km s-min=11.1km az=48.0*
*NEIC **23** 23:20:25.0±2.5, 23°98S±0°06×66°91W±0°10, h202km±5km, mb4.4/70, Md4.3(SJA), Error ellipse: s-maj=12.8km s-min=9.0km az=90.0*
*GUC **23** 23:20:25.6±0.5, 24°06S×67°02W, h192km±5km, ML5.2, MW5.0*
*VAO **23** 23:20:25.8±0.3, 23°82S×66°73W, h206km±4km, mb4.5*

ISC 23 23:20:23.9±0.6, 23°98S±0°03×66°93W±0°03, h194km±5km, n224, σ1§35/266, mb4.4/40, 13C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.49**	**120**	⇑*i*P	**Pn**	**23 20 58.7**	**+1.5**
SLA				*e*S	**Sn**	**23 21 23.8**	**+0.7**
SLA	**San Lorenzo**	**1.49**	**120**	*e*P	**Pn**	**23 20 58.7**	**+1.5**
SLA				*e*S	**Sn**	**23 21 25.2**	**+2.1**
SLA				IAML		23 21 27.1	
	comp=Z,411nm,0.7s						
AZAP	**Zapla**	**1.72**	**99**	*e*P	**Pn**	**23 21 00.5**	**+1.1**
AZAP				*e*S	**Sn**	**23 21 28.5**	**+1.6**
AZAP				IAML		23 21 31.0	
	comp=Z,1μm,0.8s						
YJA	**Yavi**	**2.22**	**36**	*e*P	**Pn**	**23 21 06.5**	**+1.7**
YJA				*e*S	**Sn**	**23 21 38.9**	**+2.4**
YJA				IAML		23 21 41.8	
	comp=Z,92nm,0.8s						
ASTB	**Santa Barbara**	**2.26**	**90**	*e*P	**Pn**	**23 21 05.8**	**+0.9**
ASTB				*e*S	**Sn**	**23 21 37.1**	**+0.2**
ASTB				IAML		23 22 08.9	
	comp=Z,248nm,2.1s						
LVC	**Limon Verde**	**2.28**	**306**	P	**Pn**	**23 21 07.1**	**+1.7**
	comp=Z,230nm,0.3s,baz=154,slow=6.5,SNR=2193						
LVC				S	**Sn**	**23 21 39.1**	**+1.6**
	comp=Z,469nm,0.3s,baz=296,slow=20,SNR=55						
LVC				LR	LR	23 21 49.1	
	comp=Z,105nm,20.2s,baz=150,slow=36						
LVC	**Limon Verde**	**2.28**	**306**	⇑*i*P	**Pn**	**23 21 06.8**	**+1.4**
LVC				*e*S	**Sn**	**23 21 37.9**	**+0.3**
LVC	**Limon Verde**	**2.28**	**306**	*e*P	**Pn**	**23 21 06.9**	**+1.5**
LVC				IAML		23 21 42.5	
	comp=Z,476nm,0.6s						
LVC	**Limon Verde**	**2.28**	**306**	*e*P	**Pn**	**23 21 07.2**	**+1.9**
FSA	**Cafayete**	**2.29**	**158**	*e*P	**Pn**	**23 21 06.0**	**+0.7**
PB15	**IPOC Station P**	**2.46**	**288**	⇑*e*P	**Pn**	**23 21 08.4**	**+1.2**
PB15				*e*S	**Sn**	**23 21 40.7**	**-0.1**
PB15	**IPOC Station P**	**2.46**	**288**		**Pn**	**23 21 08.6**	**+1.4**
PB15	**IPOC Station P**	**2.46**	**288**	*e*P	**Pn**	**23 21 08.8**	**+1.6**
PB15				*e*S	**Sn**	**23 21 41.8**	**+0.9**
PB15				IAML		23 21 44.4	
	comp=Z,22μm,0.2s						
GO02	**Mina Guanaco**	**2.70**	**244**	⇑*i*P	**Pn**	**23 21 11.1**	**+1.1**
GO02				*e*S	**Sn**	**23 21 45.0**	**-0.9**
GO02				IAML		23 21 47.0	
	comp=N,8μm,0.3s						
GO02	**Mina Guanaco**	**2.70**	**244**		**Pn**	**23 21 11.1**	**+1.1**
PB06	**IPOC Station P**	**2.74**	**297**	⇑*i*P	**Pn**	**23 21 11.9**	**+1.5**
PB06				*e*S	**Sn**	**23 21 46.7**	**+0.1**
PB06				IAML		23 21 48.4	
	comp=E,7μm,0.4s						
PB06	**IPOC Station P**	**2.74**	**297**		**Pn**	**23 21 11.3**	**+0.9**
PB06	**IPOC Station P**	**2.74**	**297**	*e*P	**Pn**	**23 21 11.6**	**+1.2**
PB06				*e*S	**Sn**	**23 21 47.2**	**+0.5**
PB06				IAML		23 21 49.7	
	comp=Z,3μm,0.1s						
PB09	**IPOC Station P**	**3.05**	**315**	⇑*i*P	**Pn**	**23 21 15.7**	**+1.7**
PB09				*e*S	**Sn**	**23 21 53.9**	**+0.8**
PB09				IAML		23 21 55.3	
	comp=N,3μm,0.5s						
PB09	**IPOC Station P**	**3.05**	**315**		**Pn**	**23 21 15.6**	**+1.7**
PB09	**IPOC Station P**	**3.05**	**315**	*e*P	**Pn**	**23 21 15.9**	**+1.9**
PB09				*e*S	**Sn**	**23 21 54.6**	**+1.5**
PB09				IAML		23 21 58.4	
	comp=Z,2μm,0.2s						
AHML	**Horco Molle**	**3.14**	**153**	*e*P	**Pn**	**23 21 15.4**	**+0.4**
AHML				*e*S	**Sn**	**23 21 54.1**	**-0.9**
AHML				IAML		23 21 57.4	
	comp=Z,71nm,0.9s						
PB05	**IPOC Station P**	**3.21**	**290**	*e*P	**Pn**	**23 21 16.7**	**+0.8**
PB05				*e*S	**Sn**	**23 21 55.2**	**-1.3**
PB05				IAML		23 21 59.2	
	comp=N,3μm,0.4s						
PB05	**IPOC Station P**	**3.21**	**290**	*e*P	**Pn**	**23 21 16.7**	**+0.8**
PB05				*e*S	**Sn**	**23 21 55.5**	**-1.0**
PB05				IAML		23 22 00.7	
	comp=Z,1μm,0.7s						
PB03	**IPOC Station P**	**3.24**	**306**	*e*P	**Pn**	**23 21 17.2**	**+1.0**
PB03				*e*S	**Sn**	**23 21 56.5**	**-0.7**
PB03	**IPOC Station P**	**3.24**	**306**	*e*P	**Pn**	**23 21 17.3**	**+1.0**
PB03				*e*S	**Sn**	**23 21 56.7**	**-0.5**
PB03				IAML		23 21 58.9	
	comp=Z,5μm,0.2s						
PB14	**IPOC Station P**	**3.24**	**258**	⇑*i*P	**Pn**	**23 21 16.9**	**+0.5**
PB14				*e*S	**Sn**	**23 21 56.3**	**-1.1**
PB14	**IPOC Station P**	**3.24**	**258**		**Pn**	**23 21 16.9**	**+0.5**
PB14	**IPOC Station P**	**3.24**	**258**	*e*P	**Pn**	**23 21 14.2**	**-2.2**
PB14				*e*S	**Sn**	**23 21 57.3**	**-0.1**
PB14				IAML		23 21 59.7	
	comp=Z,1μm,0.5s						
PB10	**IPOC Station P**	**3.36**	**277**	⇑*i*P	**Pn**	**23 21 18.6**	**+1.0**
PB10				*e*S	**Sn**	**23 21 58.7**	**-0.8**
PB10	**IPOC Station P**	**3.36**	**277**	Pn	**Pn**	**23 21 17.9**	**+0.4**
PB10	**IPOC Station P**	**3.36**	**277**	*e*P	**Pn**	**23 21 18.5**	**+1.0**
PB10				*e*S	**Sn**	**23 21 59.3**	**-0.2**
PB10				IAML		23 22 02.6	
	comp=Z,2μm,0.4s						
PB04	**IPOC Station P**	**3.39**	**298**	*e*P	**Pn**	**23 21 19.0**	**+0.9**
PB04				*e*S	**Sn**	**23 21 59.6**	**-0.9**
PB04	**IPOC Station P**	**3.39**	**298**		**Pn**	**23 21 18.9**	**+0.7**
PB04	**IPOC Station P**	**3.39**	**298**	*e*P	**Pn**	**23 21 19.0**	**+0.9**
PB04				*e*S	**Sn**	**23 21 59.7**	**-0.8**
PB04				IAML		23 22 02.0	
	comp=Z,4μm,0.5s						
PB07	**IPOC Station P**	**3.53**	**309**	⇑*e*P	**Pn**	**23 21 20.7**	**+0.9**
PB07				*e*S	**Sn**	**23 22 02.5**	**-1.2**
PB07	**IPOC Station P**	**3.53**	**309**		**Pn**	**23 21 20.1**	**+0.2**
PB07	**IPOC Station P**	**3.53**	**309**	*e*P	**Pn**	**23 21 20.8**	**+0.9**
PB07				*e*S	**Sn**	**23 22 03.0**	**-0.7**
PB07				IAML		23 22 08.8	
	comp=Z,3μm,0.4s						
PB01	**IPOC Station P**	**3.76**	**320**	⇑*e*P	**Pn**	**23 21 23.2**	**+0.6**
PB01				*e*S	**Sn**	**23 22 07.5**	**-1.2**
PB01	**IPOC Station P**	**3.76**	**320**		**Pn**	**23 21 23.3**	**+0.6**
PB02	**IPOC Station P**	**3.81**	**313**	*e*P	**Pn**	**23 21 23.7**	**+0.4**
PB02				*e*S	**Sn**	**23 22 08.3**	**-1.5**
AC01	**Pan de Azucar**	**3.97**	**236**	⇑*e*P	**Pn**	**23 21 24.4**	**-0.7**
AC01				*e*S	**Sn**	**23 22 10.5**	**-2.6**
AC01	**Pan de Azucar**	**3.97**	**236**		**Pn**	**23 21 24.3**	**-0.8**
PATCX	**Punta Patache**	**4.33**	**316**		**Pn**	**23 21 29.4**	**-0.4**
PB08	**IPOC Station P**	**4.34**	**331**	*e*P	**Pn**	**23 21 31.4**	**+1.2**
PB08				*e*S	**Sn**	**23 22 22.4**	**+0.2**
PB08	**IPOC Station P**	**4.34**	**331**		**Pn**	**23 21 30.9**	**+0.7**
TA01	**Diego Aracena**	**4.54**	**318**		**Pn**	**23 21 31.7**	**-0.6**
GO03	**Copiap**	**4.67**	**219**		**Pn**	**23 21 32.9**	**-1.2**
GO03	**Copiap**	**4.67**	**219**	*e*P	**Pn**	**23 21 33.2**	**-0.8**
GO03				*e*S	**Sn**	**23 22 26.8**	**-2.5**
GO01	**Chusmiza**	**4.78**	**333**		**Pn**	**23 21 36.4**	**+0.5**
VCA	**Vinchina**	**4.88**	**193**	*e*P	**Pn**	**23 21 38.2**	**+1.5**
VCA				*e*S	**Sn**	**23 22 36.0**	**+1.9**
VCA				IAML		23 22 46.5	
	comp=Z,52nm,1.4s						
PB11	**IPOC Station P**	**4.90**	**328**	Pn	**Pn**	**23 21 36.5**	**-0.7**
PSGCX	**Pisagua**	**5.28**	**325**	Pn	**Pn**	**23 21 40.4**	**-1.5**
AC04	**Llanos de Chal**	**5.62**	**221**	Pn	**Pn**	**23 21 44.5**	**-1.7**
AC05	**El Transito**	**5.69**	**211**	Pn	**Pn**	**23 21 46.3**	**-0.9**
LCO	**Las Campanas**	**6.05**	**213**	Pn	**Pn**	**23 21 50.1**	**-1.8**
PB12	**IPOC Station P**	**6.21**	**329**	Pn	**Pn**	**23 21 52.4**	**-1.6**
AROD	**Rodeo**	**6.57**	**200**	*e*P	**Pn**	**23 21 58.9**	**+0.1**
AROD				*e*S	**Sn**	**23 23 12.4**	**-1.4**
CO01	**Juntas del Tor**	**6.61**	**205**		**Pn**	**23 21 59.2**	**0.0**
ACCO	**Cerro Coronel**	**6.85**	**196**	*e*P	**Pn**	**23 22 02.5**	**+0.1**
ACCO				*e*S	**Sn**	**23 23 19.4**	**-1.1**
ACCO				IAML		23 23 28.1	
	comp=Z,33nm,0.4s						
GO04	**Tololo Observa**	**7.07**	**208**		**Pn**	**23 22 02.9**	**-2.3**
RTLL	**Cerro Villicun**	**7.45**	**190**	*e*P	**Pn**	**23 22 09.5**	**-0.5**
RTLL				*e*S	**Sn**	**23 23 28.2**	**-6.0**
RTLL				IAML		23 23 35.5	
	comp=Z,44nm,0.9s						
CO03	**El Pedregal**	**7.61**	**205**		**Pn**	**23 22 09.9**	**-2.1**
LPAZ	**La Paz**	**7.74**	**351**	P	**Pn**	**23 22 15.5**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=102,slow=3.7,SNR=25						
LPAZ				S	**Sn**	**23 23 40.3**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=342,slow=12,SNR=5.2						
LPAZ	**La Paz**	**7.74**	**351**	*e*P	**Pn**	**23 22 14.7**	**+0.3**
LPAZ				*e*S	**Sn**	**23 23 40.2**	**-1.8**
RTCV	**Cerro Valdivia**	**7.98**	**190**	*e*S	**Sn**	**23 23 42.2**	**-4.6**
RTCV				IAML		23 23 47.2	
	comp=Z,33nm,3.7s						
CO02	**Combarbal**	**8.05**	**206**	Pn	**Pn**	**23 22 16.3**	**-1.6**
AUSP	**Uspallata**	**8.50**	**194**	*e*P	**Pn**	**23 22 24.1**	**+0.2**
AUSP				*e*S	**Sn**	**23 23 58.2**	**-1.2**
VA03	**San Esteban**	**9.31**	**199**		**Pn**	**23 22 33.2**	**-1.2**
ROC1	**El Roble**	**9.66**	**201**	Pn	**Pn**	**23 22 38.0**	**-1.0**
SIV	**San Ignacio**	**9.66**	**36**	P	**Pn**	**23 22 37.5**	**-1.5**
	comp=Z,5.9nm,0.3s,baz=228,slow=11,SNR=154						
SIV				S	Sn	23 24 13.1	-14
	comp=Z,0.2nm,0.3s,baz=233,slow=15,SNR=4.4						
PTLB	**Pontes e Lacer**	**11.21**	**42**	*e*P	**Pn**	**23 22 57.6**	**-1.4**
PTLB				*e*S	**Sn**	**23 25 00.8**	**-3.1**
BO02	**Sierra Bellavi**	**11.29**	**196**		**Pn**	**23 22 59.1**	**-0.7**
VILB	**Vilhena**	**12.68**	**31**	*e*P	**Pn**	**23 23 17.3**	**-0.4**
VILB				*e*S	**Sn**	**23 25 35.7**	**-3.4**
TRCB	**Terra Rica**	**13.18**	**88**

SNAA	Sanae	59.35 161	P	P	23 30 05.0	-0.2
SNAA			IAmb	IAmb	23 30 06.7	
	comp=Z,7.8nm,0.8s					
X51A	Calhoun	60.66 343	P	P	23 30 15.1	+0.7
833A	Chaparral WMA,	60.69 327	P	P	23 30 16.1	+1.3
X48A	Hartselle	61.17 341	P	P	23 30 18.2	+0.3
TKL	Tuckaleechee C	61.42 344	P	P	23 30 19.5	0.0
	comp=Z,10nm,1.0s,baz=174,slow=7.9,SNR=5.5					
TKL	Tuckaleechee C	61.42 344	IAmb	IAmb	23 30 20.3	
	comp=Z,12nm,1.1s					
SWET	Sewanee	61.57 342	P	P	23 30 21.0	+0.5
WLAR	White Oak Lake	62.53 336	P	P	23 30 29.0	+2.0
JCT	Junction City	62.66 328	P	P	23 30 29.3	+1.3
WVT	Waverly	62.97 341	P	P	23 30 29.6	-0.1
T47A	Sharon Grove	63.55 342	P	P	23 30 33.7	+0.1
TX31	Lajitas Ar. Si	63.70 324	P	P	23 30 36.4	+1.5
TX31			IAmb	IAmb	23 30 36.6	
	comp=Z,6.9nm,0.8s					
TX32	Lajitas Array	63.70 324	P	P	23 30 35.7	+0.8
TXAR	Lajitas Array	63.70 324	P	P	23 30 36.1	+1.2
	comp=Z,1.3nm,0.7s,baz=153,slow=8.6,SNR=17					
TXAR	Lajitas Array	63.70 324	P	P	23 30 36.0	+1.1
W39A	Magazine	64.12 336	P	P	23 30 39.2	+1.8
U40A	Yellville	64.81 337	P	P	23 30 42.4	+0.6
U40A			IAmb	IAmb	23 30 43.1	
	comp=Z,5.4nm,0.8s					
HHAR	Hobbs	65.14 336	P	P	23 30 45.2	+1.2
HHAR			IAmb	IAmb	23 30 45.8	
	comp=Z,7.9nm,0.9s					
MGMO	Mountain Grove	65.33 338	P	P	23 30 45.8	+0.7
CCM	Cathedral Cave	65.80 339	P	P	23 30 48.6	+0.5
QUOK	Quay	66.12 334	P	P	23 30 51.4	+1.2
S39A	Bolivar	66.18 337	P	P	23 30 51.1	+0.6
QSPA	South Pole Qui	66.22 180	P	P	23 30 51.4	+0.6
R40A	Maddies Statio	66.35 338	P	P	23 30 52.1	+0.5
MNTX	Cornudas Mount	66.47 325	P	P	23 30 52.6	0.0
MNTX			IAmb	IAmb	23 30 54.0	
	comp=Z,5.8nm,0.9s					
MSTX	Muleshoe	66.96 328	P	P	23 30 56.7	+1.0
P40A	Paris	67.40 339	P	P	23 30 58.6	+0.4
DBIC	Dimbokro	67.73 72	P	P	23 31 00.5	-0.4
	comp=Z,2.8nm,0.6s,baz=226,slow=5.6,SNR=5.7					
P38A	Dawn	67.98 338	P	P	23 31 02.2	+0.4
N41A	Harden Midland	68.10 341	P	P	23 31 02.6	0.0
121A	Cookes Peak, D	68.40 324	P	P	23 31 07.6	+2.7
121A			IAmb	IAmb	23 31 08.2	
	comp=Z,8.3nm,0.9s					
SADO	Sadowa	69.32 351	P	P	23 31 09.5	-0.5
	comp=Z,1.7nm,0.4s,baz=90,slow=20,SNR=1.6					
L40A	Anamosa	69.45 341	P	P	23 31 10.5	-0.4
ANMO	Albuquerque	69.57 326	P	P	23 31 14.0	+1.9
ANMO			IAmb	IAmb	23 31 14.8	
	comp=Z,7.5nm,0.9s					
TUC	Tucson	69.91 321	P	P	23 31 16.1	+2.1
JFWS	Jewell Farm	69.95 342	P	P	23 31 14.5	+0.6
T25A	Trinidad	70.30 329	P	P	23 31 18.7	+2.2
T25A			IAmb	IAmb	23 31 18.9	
	comp=Z,5.4nm,0.8s					
I42A	Draeger Farm,	70.49 343	P	P	23 31 17.6	+0.4
SDCO	Great Sand Dun	71.31 329	P	P	23 31 24.9	+2.3
X16A	Lo Mia Camp, P	71.83 322	P	P	23 31 27.7	+2.0
MVCO	Mesa Verde	72.36 326	P	P	23 31 31.2	+2.3
MVCO			IAmb	IAmb	23 31 31.8	
	comp=Z,5.3nm,0.8s					
KOWA	Kowa	72.37 65	P	P	23 31 30.1	+1.1
KOWA			IAmb	IAmb	23 31 31.3	
	comp=Z,6.5nm,0.7s					
WUAZ	Wupatki	72.60 323	P	P	23 31 33.1	+2.9
WUAZ			IAmb	IAmb	23 31 33.6	
	comp=Z,7.4nm,0.9s					
ECSD	EROS Data Cent	72.69 338	P	P	23 31 31.1	+0.8
ECSD			IAmb	IAmb	23 31 31.8	
	comp=Z,15nm,1.2s					
SPMN	Marine on St.	72.80 341	P	P	23 31 31.3	+0.4
SPMN			IAmb	IAmb	23 31 31.8	
	comp=Z,16nm,1.1s					
ISCO	Idaho Springs	73.00 330	P	P	23 31 34.8	+2.2
ISCO			IAmb	IAmb	23 32 22.0	
	comp=Z,16nm,2.0s					
SYO	Syowa Base	73.54 159⇑	eP	P	23 31 30.2	-4.8
SYO	Syowa Base	73.54 159⇑	eP	P	23 31 34.6	-0.4
F36A	Milaca	73.59 341	P	P	23 31 36.0	+0.5
F36A			IAmb	IAmb	23 31 36.5	
	comp=Z,10nm,0.8s					
W13A	Hualapai Mount	73.70 321	P	P	23 31 39.2	+2.5
U15A	North Rim	73.78 323	P	P	23 31 40.0	+2.7
U15A			IAmb	IAmb	23 31 40.8	
	comp=Z,6.9nm,0.9s					
PFO	Pinyon Flats O	74.17 319	P	P	23 31 41.2	+1.8
	comp=Z,3.3nm,0.8s,baz=75,slow=4.2,SNR=4.6					
PFO	Pinyon Flats O	74.17 319	IAmb	IAmb	23 31 42.6	
	comp=Z,3.9nm,0.9s					
VNDA	Vanda	74.73 190	P	P	23 31 43.4	+1.5
	comp=Z,1.6nm,0.9s,baz=128,slow=4.9,SNR=9.4					
VNDA	Vanda	74.73 190	P	P	23 31 42.7	+0.8
VNDA			IAmb	IAmb	23 33 26.5	
	comp=Z,11nm,1.9s					
GSC	Goldstone, Bar	75.55 320	P	P	23 31 47.8	+0.6
GSC			IAmb	IAmb	23 31 50.4	
	comp=Z,10nm,1.4s					
RSSD	Black Hills	75.82 333	P	P	23 31 49.5	+0.9
TOA0	Torodi Ar. Sit	76.50 69	P	P	23 31 52.9	0.0
TOA0			IAmb	IAmb	23 31 55.1	
	comp=Z,4.6nm,0.8s					
TORD	Torodi Ar. Bea	76.50 69	P	P	23 31 52.5	-0.3
	comp=Z,3.5nm,0.6s,baz=266,slow=5.9,SNR=35					
TORD	Torodi Ar. Bea	76.50 69	P	P	23 31 51.9	-1.0
ISA	Isabella, Lake	76.78 319	P	P	23 31 55.5	+1.4
PDAR	Pinedale Array	77.17 329	P	P	23 31 57.6	+1.3
	comp=Z,1.1nm,0.6s,baz=129,slow=8.0,SNR=16					
PDAR	Pinedale Array	77.17 329	P	P	23 31 57.4	+1.2
ULM	Lac du Bonnet	78.23 341	P	P	23 32 01.9	+0.3
	comp=Z,6.7nm,0.5s,baz=137,slow=5.2,SNR=7.8					
OMMB	Old Mammoth Mi	78.41 320	P	P	23 32 04.8	+1.4
OMMB			IAmb	IAmb	23 32 06.2	
	comp=Z,5.6nm,0.8s					
ELK	Elko	78.50 325	P	P	23 32 05.1	+1.4
	comp=Z,1.6nm,0.6s,baz=151,slow=2.8,SNR=8.5					
ELK	Elko	78.50 325	P	P	23 32 05.5	+1.8
NVAR	Mina Array Bea	78.56 321	P	P	23 32 05.6	+1.5
	comp=Z,1.2nm,0.8s,baz=150,slow=6.5,SNR=7.8					
NVAR	Mina Array Bea	78.56 321	P	P	23 32 05.1	+1.0
BOSA	Boshof	80.68 117	P	P	23 32 15.9	+0.1
	comp=Z,2.9nm,0.8s,baz=242,slow=5.7,SNR=5.7					
MAW	Mawson	81.44 163	P	P	23 32 19.9	+1.2
	comp=Z,6.4nm,0.6s,baz=204,slow=6.8,SNR=28					
MAW	Mawson	81.44 163	P	P	23 32 20.1	+1.4
HAWA	Hanford	84.68 326	P	P	23 32 36.5	+0.9
ESDC	Sonseca Array	86.33 44	P	P	23 32 45.2	+1.2
	comp=Z,0.8nm,0.7s,baz=247,slow=4.0,SNR=4.2					
CASY	Casey	90.01 179	P	P	23 33 01.7	+0.7
CASY			IAmb	IAmb	23 33 03.2	
	comp=Z,5.3nm,0.8s					
YKA	Yellowknife Ar	94.13 340	P	P	23 33 20.6	+0.9
	comp=Z,1.7nm,0.5s,baz=131,slow=5.1,SNR=10.0					
ASAR	Alice Springs	128.50 205	PKP	PKPdf	23 39 08.7	+0.3
	comp=Z,2.9nm,0.7s,baz=142,slow=2.1,SNR=24					
WRA	Warramunga Arr	131.68 207	PKP	PKPdf	23 39 14.9	+0.5
	comp=Z,1.7nm,0.5s,baz=165,slow=1.6,SNR=41					
WRA			SKPbc	SKPbc	23 42 21.3	-0.5
	comp=Z,0.8nm,0.7s,baz=160,slow=3.5,SNR=7.0					
PETK	Petropavlovsk-	135.64 323	PKP	PKiKP	23 39 22.3	0.0
	comp=Z,1.9nm,0.8s,baz=27,slow=3.5,SNR=2.3					
ZAA0	Zalesovo Array	143.34 28	PKPdf	PKPbc	23 39 33.1	+0.7
ZALV	Zalesovo Beam	143.34 28	PKP	PKPbc	23 39 32.8	+0.4
	comp=Z,5.7nm,0.7s,baz=292,slow=4.1,SNR=25					
KSH	Kashi	145.13 55	PKP	PKPdf	23 39 39.4	+1.0
KSH			LR	LR		
	comp=N,130nm,7.4s					
KSH			LR	LR		
	comp=E,85nm,5.6s					
KSH			LR	LR		
	comp=Z,220nm,13.9s					
TARG	Taragay, Kyrgy	145.79 50	PKPbc	PKPbc	23 39 40.6	-0.1
PRZ	Przheval'sk	145.94 49	PKPbc	PKPab	23 39 42.4	+0.7
MK31	Makanchi Array	146.47 40	PKPbc	PKPbc	23 39 41.5	-0.5
MKAR	Makanchi Array	146.47 40	PKPbc	PKPbc	23 39 41.6	-0.5
	comp=Z,7.4nm,0.7s,baz=318,slow=2.5,SNR=51					
MKAR	Makanchi Array	146.47 40		PKPdf	23 39 40.8	+0.4
MKAR				PKPbc	23 39 41.2	-0.9
MJAR	Matsushiro Arr	155.02 306	PKPab	PKPab	23 40 18.5	-0.6
	comp=Z,0.8nm,0.3s,baz=85,slow=1.6,SNR=5.7					
SONM	Songino Array	155.61 11	PKPab	PKPab	23 40 22.2	+0.9
	comp=Z,1.4nm,0.6s,baz=345,slow=5.2,SNR=4.5					

IDC 23 23:30:15.2±16.0, 17°.25S×178°.76W, h534km±195km, mb2.8/4, mb1 3.1/4, mb1mx2.8/25, mbtmp3.6/4, Error ellipse: s-maj=122.8km s-min=54.8km az=164.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.43	259	P	P	23 37 38.9	0.0
	0.3nm,0.4s,baz=96,slow=7.1,SNR=12						
ASAR	Alice Springs	44.65	254	P	P	23 37 40.4	-0.3
	1.3nm,0.5s,baz=87,slow=8.9,SNR=17						
ILAR	Eielson Array	85.33	13	P	P	23 41 54.8	-0.5
	0.1nm,0.4s,baz=217,slow=5.1,SNR=4.6						
TXAR	Lajitas Array	85.93	58	P	P	23 41 59.4	+0.2
	0.4nm,0.7s,baz=207,slow=5.3,SNR=5.5						
GERES	GERESS Array B	146.89	345	PKPbc	PKPbc	23 48 57.1	-0.6
	0.2nm,0.5s,baz=0.0,slow=2.9,SNR=2.4						

IDC 24 00:11:44.4±0.9, 21°.78S×67°.91W, h102km±15km, mb3.7/3, mb1 3.6/5, mb1mx3.3/25, mbtmp3.9/5, Error ellipse: s-maj=31.8km s-min=11.5km az=113.0
GUC 24 00:11:45.9±0.6, 21°.72S×68°.42W, h120km±4km, ML3.6

ISC 24 00:11:44.3±0.8, 21°.67S±0°.04×68°.37W±0°.07, h126km±8km, n25, σ1s52/46, mb3.7/3, 13C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.82	261⇑	iP	Pn	00 12 05.8	+0.4
PB09				eS	Sn	00 12 21.1	-0.3
LVC	Limon Verde	1.06	208	P	Pn	00 12 08.0	+0.2
LVC	57nm,0.3s,baz=43,slow=9.9,SNR=804			S	Sn	00 12 25.8	0.0
	46nm,0.3s,baz=282,slow=22,SNR=14						
LVC	Limon Verde	1.06	208	eP	Pn	00 12 08.1	+0.2
LVC				eS	Sn	00 12 25.2	-0.5
PB01	IPOC Station P	1.21	301⇑	iP	Pn	00 12 09.2	+0.2
PB01				i S	Sn	00 12 27.7	-0.1
PB01				IAML		00 12 29.5	
	comp=E,1μm,0.3s						
PB03	IPOC Station P	1.34	253⇑	iP	Pn	00 12 10.4	-0.1
PB03				i S	Sn	00 12 29.4	-1.0
PB03				IAML		00 12 31.2	
	comp=E,689nm,0.1s						
PB07	IPOC Station P	1.41	267⇑	iP	Pn	00 12 11.1	-0.2
PB07				i S	Sn	00 12 31.0	-0.8
PB07				IAML		00 12 32.4	
	comp=E,672nm,0.2s						
PB02	IPOC Station P	1.46	283⇑	iP	Pn	00 12 11.7	-0.1
PB02				i S	Sn	00 12 32.4	-0.2
PB02				IAML		00 12 33.8	
	comp=E,1μm,0.3s						
PB06	IPOC Station P	1.52	227⇑	iP	Pn	00 12 12.7	+0.2
PB06				i S	Sn	00 12 33.6	-0.4
PB06				IAML		00 12 34.9	
	comp=E,628nm,0.2s						
PB08	IPOC Station P	1.68	334⇑	iP	Pn	00 12 16.2	+1.6
PB08				i S	Sn	00 12 39.4	+1.6
PB08				IAML		00 12 41.3	
	comp=E,371nm,0.2s						
PB04	IPOC Station P	1.78	248⇑	iP	Pn	00 12 15.2	-0.3
PB04				i S	Sn	00 12 38.4	-1.1
PB04				IAML		00 12 44.6	
	comp=E,365nm,0.2s						
PB15	IPOC Station P	1.84	213⇑	iP	Pn	00 12 16.8	+0.4
PB15				eS	Sn	00 12 40.5	-0.4
PATCX	Punta Patache	1.86	296⇑	iP	Pn	00 12 16.7	+0.2
PATCX				eS	Sn	00 12 40.4	-0.7
PATCX				IAML		00 12 41.3	
	comp=N,984nm,0.3s						
TA01	Diego Aracena	2.01	303	eP	Pn	00 12 18.1	-0.2
TA01				i S	Sn	00 12 43.2	-0.9
TA01				IAML		00 12 45.3	
	comp=E,901nm,0.3s						
PB05	IPOC Station P	2.07	235	eP	Pn	00 12 18.9	-0.1
PB05				i S	Sn	00 12 44.3	-1.3
PB05				IAML		00 12 53.1	
	comp=N,128nm,0.3s						
GO01	Chusmiza	2.13	339	eP	Pn	00 12 21.5	+1.3
GO01				i S	Sn	00 12 49.2	+1.6
TA02	Huaiquique	2.15	310⇑	eP	Pn	00 12 20.2	+0.3
TA02				eS	Sn	00 12 46.6	-0.6
TA02				IAML		00 12 51.2	
	comp=E,935nm,0.1s						
PB11	IPOC Station P	2.24	327⇑	iP	Pn	00 12 21.7	+0.4
PB11				i S	Sn	00 12 49.6	0.0
PSGC	Pisagua	2.63	321⇑	eP	Pn	00 12 25.7	-0.4
PSGC				eS	Sn	00 12 57.7	-0.6
PSGC				IAML		00 13 03.2	
	comp=E,203nm,0.3s						
MNMC	Minye Minye	2.77	335	eP	Pn	00 12 29.0	+0.9
MNMC				eS	Sn	00 13 03.3	+1.5
MNMC				IAML		00 13 06.4	
	comp=N,402nm,0.1s						
LPAZ	La Paz	5.35	2	P	Pn	00 13 04.7	+2.0
	comp=N,0.7nm,0.3s,baz=174,slow=4.3,SNR=21						
LPAZ				S	Sn	00 14 06.3	+2.7
	comp=N,0.1nm,0.3s,baz=223,slow=17,SNR=1.5						
SIV	San Ignacio	8.92	52	P	Pn	00 13 48.2	-2.1
	comp=N,1.6nm,0.3s,baz=243,slow=11,SNR=26						
SIV				S	Sn	00 15 21.6	-7.6
	comp=N,0.1nm,0.3s,baz=305,slow=22,SNR=1.1						
SNAA	Sanae	61.96	161	P	P	00 21 51.2	+0.7
	comp=N,0.8nm,0.9s,baz=263,slow=10,SNR=2.1						
DBIC	Dimbokro	68.30	73	P	P	00 22 32.5	+0.2
	comp=N,3.4nm,0.7s,baz=255,slow=4.8,SNR=3.4						
TORD	Torodi Ar. Bea	76.94	70	P	P	00 23 23.9	+0.5
	comp=N,0.6nm,0.5s,baz=258,slow=5.7,SNR=9.8						
MKAR	Makanchi Array	145.47	36	PKPbc	PKiKP	00 31 10.2	-1.3
	comp=N,0.2nm,0.5s,baz=316,slow=3.3,SNR=2.5						

IDC 24 00:28:24.0±1.4, 31°.29N×110°.73E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/40, mbtmp3.7/5, ML3.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.5/55, Error ellipse: s-maj=63.7km s-min=22.2km az=58.0
NEIC 24 00:28:25.8±2.0, 30°.99N±0°.07×110°.1E±0°.1, h10km±2km, mb4.0/4, Error ellipse: s-maj=19.0km s-min=4.0km az=125.0
BJI 24 00:28:25.0±0.0, 31°.10N×110°.18E, h7km, mb3.7/2, ML3.8/17

ISC 24 00:28:25.5±0.6, 31°.20N±0°.04×110°.19E±0°.04, h10km, n21, σ2s50/25, mb3.7/6, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	Enshi	1.11	213		Pb	00 28 43.5	-3.3
XAN	Xi'an	3.02	340	Pn	Pb	00 29 16.5	-3.0
XAN				Pg	Pg	00 29 24.8	+1.3
XAN				Sn	Sn	00 29 45.3	-4.5
XAN				Sg	Sg	00 30 01.5	-1.2
XAN				smax	smax		
	comp=N,590nm,0.8s						
XAN				smax	smax		
	comp=E,660nm,1.0s						
XAN	Xi'an	3.02	340		Pn	00 29 16.2	+2.8
WHN	Wuhan	3.63	99	Pn	Pn	00 29 22.3	+0.5
WHN				Sn	Sn	00 30 05.3	+0.6
WHN				Sg	Sg	00 30 21.1	-1.1
WHN				smax	smax		
	comp=N,610nm,0.9s						
WHN				smax	smax		
	comp=E,290nm,0.7s						
GYA	Guiyang	5.65	214	Pn	Pn	00 29 51.8	+2.1
GYA				Sn	Sn	00 30 56.1	+1.4
GYA				Sg	Sg	00 31 28.6	+1.6
GYA				smax	smax		
	comp=N,54nm,0.8s						
GYA				smax	smax		
	comp=E,64nm,1.2s						
LZH	Lanzhou	7.19	314	ePn	Pn	00 30 15.1	+4.2
KSRS	Korea Array	15.91	62	Pn	Pn	00 32 10.1	+0.7
	0.1nm,0.3s,baz=242,slow=12,SNR=2.5						
CMAR	Chiang Mai Arr	16.27	221	Pn	P	00 32 17.9	+0.6
	0.1nm,0.3s,baz=27,slow=10,SNR=16						
CMAR	Chiang Mai Arr	16.27	221	Pn	Pn	00 32 09.5	-4.7
SONM	Songino Array	16.86	351	LR	LR	00 39 42.6	
	comp=Z,48nm,19.0s,baz=254,slow=40						
SHL	Shillong	17.06	255	Pn	Pn	00 32 21.4	-2.9
SHL				IAmb	IAmb	00 32 40.7	
	comp=Z,5.1nm,0.8s						
TLY	Talaya	21.02	349	LR	LR	00 42 09.8	
	comp=Z,45nm,19.2s,baz=118,slow=39						
USRK	Ussuriysk Ar.	21.50	47	P	P	00 33 18.1	+3.7
	comp=Z,1.4nm,0.7s,baz=245,slow=8.9,SNR=2.3						
WMQ	Urumqi	21.76	312	eP	P	00 33 18.0	+0.7
MKAR	Makanchi Array	26.51	314	P	P	00 34 04.9	+1.8
	comp=Z,0.4nm,0.4s,baz=108,slow=10,SNR=7.0						
DAV	Davao City (W)	28.00	146	LR	LR	00 47 26.7	
	comp=Z,28nm,18.2s,baz=116,slow=41						
ZAA0	Zalesovo Array	29.14	329	P	P	00 34 26.5	0.0
ZAA0				IAmb	IAmb	00 35 29.1	
	comp=Z,8.0nm,1.8s						
ZALV	Zalesovo Beam	29.14	329	P	P	00 34 28.9	+2.4
	comp=Z,0.8nm,0.5s,baz=145,slow=10,SNR=4.9						
WRA	Warramunga Arr	55.89	152	P	P	00 38 02.6	-1.0
	comp=Z,0.6nm,1.0s,baz=345,slow=8.1,SNR=6.6						
WR0	Warramunga Arr	55.99	152	P	P	00 38 02.8	-1.5
ASAR	Alice Springs	59.10	155	P	P	00 38 25.8	-0.4
	comp=Z,0.4nm,0.5s,baz=335,slow=6.7,SNR=5.6						

IDC 24 00:59:10.8±0.6, 13°.91N×93°.08E, h0km, mb4.0/17, mb1 4.1/18, mb1mx4.0/48, mbtmp4.0/18, ML4.2/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/34, Error ellipse: s-maj=26.8km s-min=13.2km az=52.0
NEIC 24 00:59:17.0±1.5, 14°.10N±0°.07×93°.20E±0°.07, h41km±5km, mb4.3/22, Error ellipse: s-maj=11.3km s-min=9.9km az=141.0

ISC 24 00:59:15.9±0.5, 14°.06N±0°.06×93°.16E±0°.08, h32km, n49, σ0s90/45, mb4.1/25, MS3.2/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.91	194	eP	Pb	00 59 33.0	-0.1
DGPR				eS	Sb	00 59 46.3	+1.5
DGPR				IAML		01 00 16.1	
	comp=E,1μm,0.1s						
DGPR				IAML		01 00 16.9	
	comp=N,989nm,0.6s						
PBA	Port Blair	2.42	190	eP	Pb	01 00 02.8	+3.9
PBA				eS	Sn	01 00 20.4	-1.4
PBA				IAML		01 00 25.1	
	comp=E,370nm,0.4s						
PBA				IAML		01 00 27.4	
	comp=N,296nm,0.8s						
PBA	Port Blair	2.42	190	Pn	Pn	00 59 55.9	+2.6
CMAR	Chiang Mai Arr	7.07	51	Pn	Pn	01 00 59.7	+2.5
	comp=N,1.0nm,0.3s,baz=240,slow=15,SNR=9.9						
CMAR				Sn	Sn	01 02 17.7	+1.2
	comp=N,0.9nm,0.3s,baz=240,slow=28,SNR=5.4						
CMAR				LR	LR	01 04 33.2	
	comp=N,135nm,19.1s,baz=200,slow=45						
CHTO	Chiang Mai	7.29	49	Pn	Pn	01 00 59.3	-1.0
CHTO					Sn	01 02 21.9	0.0
SHL	Shillong	11.51	354	Pn	Pn	01 01 56.4	-1.8
PSI	Prapat	12.55	153	LR	LR	01 07 47.3	
	comp=N,203nm,18.1s,baz=37,slow=41						
PALK	Pallekele	13.97	242	LR	LR	01 07 08.8	
	comp=N,110nm,18.1s,baz=158,slow=34						
XAN	Xi'an	24.49	33	P	P	01 04 32.8	+0.5
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN	Xi'an	24.49	33	P	P	01 04 31.2	-1.2
XAN				IAmb	IAmb	01 04 34.0	
	comp=Z,8.5nm,0.9s						
NIL	Nilore	26.59	321	P	P	01 04 50.2	-1.1
H08S3	Diego Garcia H	29.75	225	T	T	01 36 12.3	
	baz=42,slow=76,SNR=20						
H08S2	Diego Garcia H	29.76	225	T	T	01 36 11.3	
	baz=42,slow=76,SNR=26						
H08S1	Diego Carcia H	29.77	225	T	T	01 36 12.8	
	baz=42,slow=76,SNR=17						
KBL	Kabul	29.84	317	P	P	01 05 19.3	-1.2
KBL				IAmb	IAmb	01 05 42.1	
	comp=Z,2.8nm,0.5s						
GAR	Garm	31.99	325	P	P	01 05 38.6	-0.7
CHGR	Chuyangaron	32.41	324	P	P	01 05 43.5	+0.5
BTK	Batken	32.47	327	P	P	01 05 43.4	-0.1
BTK				IAmb	IAmb	01 05 46.9	
	comp=Z,3.4nm,0.8s						
BJT	Baijiatuau	32.80	34	P	P	01 05 46.5	+0.3
BJT				IAmb	IAmb	01 05 50.4	
	comp=Z,4.3nm,0.7s						
MK31	Makanchi Array	33.88	347	P	P	01 05 56.2	+0.5
MK31				IAmb	IAmb	01 05 57.6	
	comp=Z,3.7nm,0.9s						
MKAR	Makanchi Array	33.88	347	P	P	01 05 57.0	+1.3
	comp=Z,2.3nm,0.7s,baz=164,slow=9.2,SNR=18						
MKAR				LR	LR	01 22 48.7	
	comp=Z,38nm,18.1s,baz=160,slow=42						
MKAR	Makanchi Array	33.88	347	P	P	01 05 56.4	+0.7
WSAR	Wadi Sarin	33.89	291	P	P	01 05 56.7	+0.7
	comp=Z,3.8nm,0.8s,baz=249,slow=8.6,SNR=2.5						
MAKZ	Makanchi	33.97	346	P	P	01 05 56.7	+0.3
MAKZ				IAmb	IAmb	01 05 58.1	
	comp=Z,2.9nm,0.9s						
KK31	Karatay Array	34.88	330	P	P	01 06 04.5	+0.1
KKAR	Karatay Array	34.88	330	P	P	01 06 05.3	+0.9
SONM	Songino Array	35.43	15	P	P	01 06 10.7	+1.5
	comp=Z,2.4nm,1.0s,baz=189,slow=8.8,SNR=7.9						
SONM	Songino Array	35.43	15	P	P	01 06 09.7	+0.6
ULN	Ulaanbaatar	35.63	16	P	P	01 06 11.2	+0.3
ULN				IAmb	IAmb	01 06 13.3	
	comp=Z,9.1nm,1.6s						
KURK	Kurchatov	38.42	345	P	P	01 06 33.9	-0.4
KURK				IAmb	IAmb	01 06 36.2	
	comp=Z,5.4nm,1.1s						
GEYT	Alibeck	39.10	314	P	P	01 06 41.5	+1.2
	comp=Z,1.5nm,0.5s,baz=156,slow=9.0,SNR=5.0						
GEYT				LR	LR	01 24 35.3	
	comp=Z,33nm,18.4s,baz=185,slow=39						
GEYT	Alibeck	39.10	314	IAmb	IAmb	01 06 42.1	
	comp=Z,1.4nm,0.7s						
ZAA0	Zalesovo Array	40.34	352	P	P	01 06 49.8	-0.5
ZALV	Zalesovo Beam	40.34	352	P	P	01 06 50.3	+0.1
	comp=Z,2.2nm,0.6s,baz=179,slow=10,SNR=11						
ZALV				LR	LR	01 27 42.0	
	comp=Z,39nm,18.5s,baz=96,slow=42	

ENAH	Nanao	0.12	348	P		Pg	01 01 19.4 +0.6
	baz=8.0						
ENAH				*i* S		Sg	01 01 21.4 +0.5
	baz=8.0						
ENA	Nanau	0.13	319	⇑ *i* P		Pg	01 01 19.0 +0.1
	baz=340						
ENA				S		Sg	01 01 20.7 -0.4
	baz=340						
NACB	Ninganchiao	0.27	236	⇓ *i* P		Pg	01 01 21.2 0.0
	baz=217						
NACB				S		Sg	01 01 24.9 0.0
	baz=217						
NACB	Ninganchiao	0.27	236			Pg	01 01 20.7 -0.6
NACB					Sg	Sg	01 01 24.9 0.0
TWC	Suao	0.28	2	⇓ *i* P		Pb	01 01 22.3 -0.6
	baz=8.0						
TWC				S		Sg	01 01 26.2 +0.9
	baz=8.0						
ETLH	Xiulin Townshi	0.35	250	⇓ *i* P		Pg	01 01 22.6 -0.1
	baz=245						
ETLH				S		Sg	01 01 27.1 -0.2
	baz=245						
ENTT	Nioudou	0.40	322	⇑ *i* P		Pg	01 01 24.3 +0.6
	baz=327						
ENTT				S		Sg	01 01 29.3 +0.3
	baz=327						
NDT	Datong Townshi	0.40	313	⇑ *i* P		Pg	01 01 24.4 +0.6
	baz=317						
NDT				*e* S		Sg	01 01 29.8 +0.7
	baz=317						
HWA	Hwalien	0.41	211	*e* P		Pb	01 01 24.7 -0.4
	baz=204						
HWA				*e* S		Sg	01 01 29.6 +0.4
	baz=204						
TWE	Neicheng	0.42	338	⇑ *i* P		Pb	01 01 24.9 -0.4
	baz=346						
TWE				*e* S		Sg	01 01 30.3 +0.6
	baz=346						
NNSB	Datong	0.43	284	⇑ *i* P		Pg	01 01 24.4 +0.2
	baz=284						
NNSB				S		Sg	01 01 29.4 -0.5
	baz=284						
NNSH	Datong	0.43	284	⇑ *i* P		Pg	01 01 24.3 +0.1
	baz=284						
NNSH				S		Sg	01 01 29.3 -0.6
	baz=284						
NNS	Nan Shan	0.44	285	⇑ *i* P		Pg	01 01 24.6 +0.1
	baz=285						
NNS				S		Sg	01 01 29.9 -0.3
	baz=285						
ILA	Ilan	0.45	349	*e* P		Pb	01 01 26.1 +0.4
	baz=350						
ILA				*e* S		Sb	01 01 32.0 -0.4
	baz=350						
NTC	Toucheng	0.53	359	⇑ *i* P		Pb	01 01 27.2 +0.1
	baz=4.0						
NTC				*e* S		Sg	01 01 33.6 +0.7
	baz=4.0						
YHNB	Yeheng	0.54	309	⇑ *i* P		Pb	01 01 27.1 -0.3
	baz=320						
YHNB				*e* S		Sg	01 01 33.1 -0.4
	baz=320						
YHNB	Yeheng	0.54	309			Pg	01 01 26.4 +0.1
YHNB					Sg	Sg	01 01 33.5 0.0
NWLT	Wulai	0.54	326	⇑ P		Pb	01 01 27.1 -0.2
	baz=330						
NWLT				*i* S		Sg	01 01 33.6 +0.1
	baz=330						
FUSS	Fushou	0.55	262	⇓ P		Pg	01 01 26.7 +0.2
	baz=260						
FUSS				*e* S		Sg	01 01 33.0 -0.8
	baz=260						
WHF	Hehuan Shan	0.55	251	⇓ *i* P		Pg	01 01 26.5 -0.1
	baz=248						
WHF				*e* S		Sg	01 01 33.7 -0.4
	baz=248						
NSK	Sanguang	0.56	309	⇑ *i* P		Pb	01 01 27.2 -0.4
	baz=311						
NSK				*e* S		Sg	01 01 34.1 +0.1
	baz=311						
TWT	Tachien	0.61	263	*e* P		Pg	01 01 28.2 +0.5
	baz=261						
TWT				*e* S		Sg	01 01 35.5 -0.1
	baz=261						
TDCB	Techi	0.62	263	⇓ *i* P		Pg	01 01 28.1 +0.2
	baz=262						
TDCB				S		Sg	01 01 35.7 -0.5
	baz=262						
ESL	Shilin	0.63	216	⇓ *i* P		Pg	01 01 27.9 -0.1
	baz=221						
ESL				*e* S		Sg	01 01 35.3 -1.0
	baz=221						
TIPB	Shuangxi	0.64	359	*i* P		Pb	01 01 29.3 +0.2
	baz=3.0						
TIPB				*e* S		Sg	01 01 37.1 +0.4
	baz=3.0						
CHGB	Renai	0.66	246	⇓ *i* P		Pg	01 01 28.8 +0.1
	baz=234						
CHGB				*i* S		Sg	01 01 37.0 -0.4
	baz=234						
TWA	Mucha	0.69	340	*e* P		Pb	01 01 30.4 +0.5
	baz=344						
TWA				*e* S		Sb	01 01 39.5 0.0
	baz=344						
TWB1	Santiao Chiao	0.69	11	P		Pb	01 01 29.9 0.0
	baz=16						
TWB1				*e* S		Sb	01 01 39.3 -0.2
	baz=16						
OWD	Renai	0.71	239	*e* P		Pg	01 01 29.6 +0.1
	baz=227						
OWD				*e* S		Sg	01 01 38.8 0.0
	baz=227						
TATO	Taipei	0.72	334	⇑ *i* P		Pb	01 01 30.8 +0.4
	baz=337						
TATO				S		Sg	01 01 39.4 +0.3
	baz=337						
TATO	Taipei	0.72	334			Pb	01 01 30.6 +0.2
TATO					Sg	Sg	01 01 39.3 +0.2
NWF	Wu-fen Shan	0.74	356	*e* P		Pn	01 01 31.8 -0.6
	baz=351						
NWF				*e* S		Sb	01 01 41.0 -0.1
	baz=351						
WFSB	Wu-fen Shan	0.74	356	P		Pb	01 01 31.4 +0.6
	baz=351						
WFSB				S		Sb	01 01 41.0 0.0
	baz=351						
EGFH	Guangfu	0.76	210	⇓ *i* P		Pg	01 01 30.5 +0.1
	baz=215						
EGFH				*e* S		Sb	01 01 41.5 +0.2
	baz=215						
TAP1	Taipei	0.77	338	P		Pn	01 01 31.9 -0.7
	baz=340						
TAP1				S		Sb	01 01 41.7 +0.1
	baz=340						
TAP	Taipei	0.77	337	*e* P		Pn	01 01 32.0 -0.7
	baz=340						
TAP				S		Sb	01 01 41.9 +0.1
	baz=340						
LIOB	Emei	0.81	293	⇑ P		Pb	01 01 32.6 +0.6
	baz=294						
LIOB				*e* S		Sb	01 01 42.9 -0.1
	baz=294						
WHP	Taichung City	0.81	267	⇓ *i* P		Pb	01 01 32.2 +0.1
	baz=266						
WHP				S		Sg	01 01 42.4 +0.2
	baz=266						
NSTT	Nanjuang	0.82	292	⇑ *i* P		Pb	01 01 32.5 +0.4
	baz=292						
NSTT				S		Sg	01 01 42.6 +0.3
	baz=292						
YM01	YM01	0.85	343	P		Pn	01 01 33.5 -0.3
	baz=346						
YM01				*e* S		Sg	01 01 43.6 +0.3
	baz=346						
VWDT	VWDT	0.85	228	⇓ *i* P		Pg	01 01 32.2 0.0
	baz=216						
VWDT				*e* S		Sb	01 01 44.2 0.0
	baz=216						
TWS1	Kuangyinshan	0.86	334	P		Pn	01 01 34.1 +0.2
	baz=336						
TWS1				*e* S		Sb	01 01 45.1 +0.8
	baz=336						
YM10	YM10	0.86	343	P		Pn	01 01 33.9 -0.2
	baz=346						
YM10				*e* S		Sg	01 01 44.0 +0.3
	baz=346						
YM04	YM04	0.87	342	*e* P		Pn	01 01 33.8 -0.2
	baz=344						
YM04				*e* S		Sb	01 01 44.2 -0.4
	baz=344						
YM11	YM11	0.87	344	*e* P		Pn	01 01 33.8 -0.3
	baz=347						
YM11				*e* S		Sb	01 01 44.5 -0.2
	baz=347						
YM05	YM05	0.87	344	*e* P		Pn	01 01 33.9 -0.3
	baz=346						
YM05				*e* S		Sb	01 01 44.6 -0.1
	baz=346						
NCU	National Centr	0.87	317	*e* P		Pn	01 01 34.4 +0.3
	baz=319						
NCUH	Zhongli	0.87	317	*e* P		Pn	01 01 34.2 +0.2
	baz=319						
NCUH				*e* S		Sb	01 01 45.4 +0.7
	baz=319						
NWRT	Kuosheng	0.89	350	*e* P		Pn	01 01 35.3 +1.0
	baz=342						
YM08	YM08	0.89	345	*e* P		Pn	01 01 33.9 -0.4
	baz=348						
YM08				*e* S		Sg	01 01 44.4 -0.1
	baz=348						
YM03	YM03	0.89	342	*e* P		Pn	01 01 34.1 -0.3
	baz=345						
ANP	Anpu	0.90	341	*e* P		Pn	01 01 34.5 -0.1
	baz=344						
ANP				*e* S		Sb	01 01 45.9 +0.1
	baz=344						
SBCB	Hsinchu	0.90	301	*e* P		Pn	01 01 35.2 +0.7
	baz=302						
SBCB				*e* S		Sn	01 01 48.4 +0.8
	baz=302						
NTST	Danshui	0.91	337	*e* P		Pn	01 01 34.7 +0.2
	baz=340						
NTST				*e* S		Sn	01 01 47.8 +0.1
	baz=340						
HGSD	Ruisui	0.91	205	*e* P		Pb	01 01 34.0 +0.4
	baz=188						
HGSD				*e* S		Sn	01 01 49.9 +2.1
	baz=188						
HSN	Hsinchu	0.92	301	*e* P		Pn	01 01 35.4 +0.7
	baz=305						
HSN				*e* S		Sn	01 01 47.6 -0.4
	baz=305						
EHY	Hungye	0.94	210	*e* P		Pg	01 01 33.5 -0.4
	baz=207						
SMLT	Sun Moon Lake	0.96	243	⇓ *i* P		Pg	01 01 34.6 +0.2
	baz=231						
SMLT				*e* S		Sg	01 01 46.5 -0.4
	baz=231						
TWY	Chenhua	0.97	347	*e* P		Pn	01 01 36.2 +0.8
	baz=342						
TWY				S		Sn	01 01 49.8 +0.6
	baz=342						
SSLB	Suanglung	0.97	237	⇓ *i* P		Pg	01 01 34.4 -0.1
	baz=234						
SSLB				*e* S		Sg	01 01 45.8 -1.3
	baz=234						
SSLB	Suanglung	0.97	237			Pg	01 01 34.0 -0.4
SSLB						Sg	01 01 46.1 -1.0
NMLH	Miaoli	0.98	283	*e* P		Pn	01 01 36.9 +1.4
	baz=282						
NMLH				*e* S		Sb	01 01 48.3 +0.6
	baz=282						
NSY	Sanyi	0.99	275	*e* P		Pn	01 01 36.3 +0.6
	baz=275						
NSY				*e* S		Sn	01 01 49.5 -0.1
	baz=275						
TYC	Yuchr	0.99	245	⇓ *i* P		Pg	01 01 34.9 +0.1
	baz=243						
TYC				*e* S		Sg	01 01 46.0 -1.7
	baz=243						
JYNG	Yonagunijimaku	1.02	83	P		Pn	01 01 36.9 +0.9
JYNG				*e* S		Sn	01 01 51.3 +0.9
PTSB	Yuanli	1.04	277	*e* P		Pn	01 01 37.2 +0.8
	baz=276						
PTSB				*e* S		Sn	01 01 51.8 +0.8
	baz=276						
YULB	Yu-li	1.05	208	*e* P		Pg	01 01 35.7 -0.3
	baz=214						
YULB				*e* S		Sb	01 01 50.6 +0.7
	baz=214						
YULB	Yu-li	1.05	208			Pg	01 01 35.2 -0.8
YULB					Sn	Sg	01 01 49.3 -0.4
TCU	Taichung	1.07	261	*e* P		Pn	01 01 38.4 +1.6
	baz=259						
TCU				*e* S		Sn	01 01 52.0 +0.2
	baz=259						
YOJ	Yonaguni jima	1.08	83	P		Pn	01 01 37.5 +0.6
	baz=70						
YOJ				*e* S		Sn	01 01 53.1 +1.3
	baz=70						
YOJ	Yonaguni jima	1.08	83	P		Pn	01 01 37.6 +0.7
YOJ				*e* S		Sn	01 01 53.0 +1.1
YOJ	Yonaguni jima	1.08	83			Pn	01 01 36.9 0.0
YOJ					Sn	Sn	01 01 51.6 -0.3
EYUL	Yuli	1.08	206	*e* P		Pn	01 01 37.1 +0.1
	baz=216						
TWF1	Yuli	1.09	207	*e* P		Pb	01 01 36.6 -0.1
	baz=214						
TWF1				*e* S		Sn	01 01 52.7 +0.5
	baz=214						
WDJ	Dajia District	1.09	271	*e* P		Pn	01 01 38.7 +1.6
	baz=270						
WDJ				*e* S		Sn	01 01 53.3 +1.1
	baz=270						
WHYT	Xinyi Township	1.10	235	*e* P		Pb	01 01 37.0 +0.1
	baz=233						
WHYT				*e* S		Sg	01 01 50.6 -0.6
	baz=233						
WJS	Zhushan	1.13	244	*e* P		Pn	01 01 38.2 +0.5
	baz=236						
WJS				*e* S		Sn	01 01 54.9 +1.6
	baz=236						
WNT	Mingjian	1.15	247	*e* P		Pn	01 01 38.8 +1.0
	baz=241						
WNT				*e* S		Sn	01 01 55.5 +1.9
	baz=241						
YUS	Yu-Shan	1.16	224	P		Pg	01 01 38.2 +0.1
	baz=232						
WCHH	Zhanghua	1.19	258	*e* P		Pg	01 01 39.4 +0.7
	baz=257						
WCHH				*e* S		Sn	01 01 56.3 +1.6
	baz=257						
FULB	Fuli	1.23	204	*e* P		Pg	01 01 39.8 +0.4
	baz=218						
FULB				*e* S		Sn	01 01 56.2 +0.6
	baz=218						
ALS	Alishan	1.25	230	⇓ *i* P		Pn	01 01 39.6 +0.1
	baz=227						
ALS				*e* S		Sn	01 01 57.1 +0.6
	baz=227						
CHN5	Tsauling	1.29	236	⇓ *i* P		Pg	01 01 41.1 +0.6
	baz=223						
CHN5				*e* S		Sg	01 01 58.1 +0.9
	baz=223						
PCYT	Pengchaiyu	1.31	9	*e* P		Pb	01 01 40.8 +0.2
	baz=11						
PCYT				*e* S		Sg	01 01 58.4 +0.3
	baz=11						
WGK	Gukeng	1.33	242	*e* P		Pg	01 01 41.8 +0.4
	baz=254						
WGK				*e* S		Sg	01 02 01.3 +2.7
	baz=254						
WDLH	Douliu	1.35	242	⇓ P		Pg	01 01 42.8 +1.1
	baz=255						
WDLH				*e* S		Sg	01 02 01.7 +2.5
	baz=255						
ELDTW	Lidau	1.36	214	*e* P		Pn	01 01 40.9 0.0
	baz=221						
ELDTW				*e* S		Sn	01 01 59.1 +0.1
	baz=221						
RLNB	Erlin	1.42	253	*e* P		Pg	01 01 43.6 +0.6
	baz=251						
RLNB				*e* S		Sg	01 02 04.1 +2.7
	baz=251						
EDH	Donghe	1.43	200	*e* P		Pn	01 01 41.9 +0.1
	baz=198						
EDH				*e* S		Sg	01 02 03.1 +1.2
	baz=198						
WTK	Tuku	1.47	245	*e* P		Pg	01 01 44.1 +0.1
	baz=255						
WTK				*e* S		Sg	01 02 04.5 +1.4
	baz=255						
CHN2	Minshiung	1.48	238	*e* P		Pg	01 01 43.9 -0.2
	baz=237						
CHN2				*e* S		Sg	01 02 05.1 +1.8
	baz=237						
WTCT	Ta-ch'eng	1.50	252	*e* S		Sg	01 02 04.9 +1.0
	baz=269						
CHN4	Tsaushan	1.50	230	⇑ *i* P		Pg	01 01 45.1 +0.6
	baz=228						
CHN4				*e* S		Sg	01 02 05.1 +1.1
	baz=228						
TPUB	Ta-pu	1.51	228	⇓ *i* P		Pg	01 01 44.5 -0.2
	baz=214						
TPUB				*e* S		Sg	01 02 04.4 +0.1
	baz=214						
TPUB	Ta-pu	1.51	228	Pn		Pn	01 01 41.8 -1.0
STYT	Tauyuan	1.52	221	*e* P		Pb	01 01 44.5 +0.4
	baz=219						
STYT				*e* S		Sg	01 02 04.9 +0.1
	baz=219						
CHY	Chiayi	1.54	238	P		Pg	01 01 45.4 +0.2
	baz=236						
CHY				*e* S		Sg	01 02 06.3 +1.1
	baz=236						
WTP	Ta-pu	1.55	226	P		Pg	01 01 45.8 +0.2
	baz=213						
WTP				*e* S		Sg	01 02 07.5 +1.7
	baz=213						
LONT	Longtian	1.56	205	*e* P		Pb	01 01 45.1 +0.4
	baz=204						
LONT				*e* S		Sg	01 02 05.7 -0.2
	baz=204						
WMLT	Mailiao	1.56	251	*e* S		Sg	01 02 07.4 +1.3
	baz=250						
TWK	Hsinying	1.62	230	*e* P		Pg	01 01 46.7 -0.3
	baz=213						
TWK				*e* S		Sg	01 02 09.9 +1.8
	baz=213						
WSF	Szhu	1.63	245	*e* S		Sg	01 02 09.3 +1.1
	baz=244						
SNST	Tainan City	1.65	228	*e* P		Pg	01 01 47.5 0.0
	baz=213						
SNST				*e* S		Sg	01 02 10.1 +1.3
	baz=213						
CHN1	Nanshi	1.65	227	*e* P		Pg	01 01 47.5 +0.1
	baz=226						
CHN1				*e* S		Sg	01 02 11.1 +2.2
	baz=226						
TWGBT	Beinan	1.66	205	*e* P		Pn	01 01 43.5 -1.4
	baz=203						
TWG	Pinlang	1.66	205	*e* P		Pn	01 01 45.2 +0.3
	baz=203						
TWG	Pinlang	1.66	205			Pn	01 01 43.8 -1.1
LDUT	Ludao	1.68	192	*e* P		Pn	01 01 45.0 -0.1
	baz=190						
SGST	Jiashian	1.69	223	*e* P		Pb	01 01 46.8 -0.1
	baz=222						
SGST				*e* S		Sg	01 02 10.3 +0.2
	baz=222						
SLGT	Liugui	1.72	220	P		Pg	01 01 49.0 +0.2
	baz=218						
ICHU	Yijhu	1.72	236	*e* P		Pb	01 01 48.1 +0.7
	baz=235						
ICHU				*e* S		Sg	01 02 11.5 +0.4
	baz=235						
IRIF	Iriomote-Funau	1.73	89	P		Pb	01 01 47.0 -0.5
IRIF				*e* S		Sb	01 02 09.6 +0.3
CHN8	Yiju	1.78	237	*e* P		Pb	01 01 49.1 +0.7
	baz=236						
CHN8				*e* S		Sg	01 02 13.9 +0.9
	baz=236						
HATJ	Hateruma jima	1.82	98	P		Pb	01 01 49.8 +0.7
HATJ				*e* S		Sg	01 02 13.6 -0.6
SCST	Cishan	1.89	221	*e* P		Pn	01 01 49.4 +1.3
	baz=220						
ECL	Taimali	1.90	205	*e* P		Pn	01 01 48.3 0.0
	baz=190						
TSMG	Majia	1.95	214	*e* P		Pb	01 01 52.0 +0.6
	baz=213						
JKRS	Kuro-shima	1.98	92	P		Pb	01 01 51.3 -0.6
JKRS				S		Sb	01 02 17.2 +0.5
MASBT	Mashibuluo	2.03	213	*e* P		Pb	01 01 51.8 -1.0
	baz=213						
JIJ	Ishigaki jima	2.10	89	P		Pn	01 01 52.1 +1.1
JIJ				S		Sn	01 02 18.2 +1.0
EAST	Anshuo	2.14	205	*e* P		Pn	01 01 51.2 -0.4
	baz=192						
PTTC	Pingtan	2.21	302	*e* P		Pn	01 01 52.4 -0.1
	baz=302						
PNG	Penghu	2.22	251	*e* P		Pn	01 01 54.0 +1.4
	baz=248						
PHUB	P'eng-hu	2.23	249	*e* P		Pb	01 01 55.2 -0.9
	baz=247						
SCZT	Fangliau	2.25	210	*e* P		Pb	01 01 55.7 -0.7
	baz=194						
WDGT	Dungji	2.26	242	*e* P		Pn	01 01 54.7 +1.6
	baz=252						
JISG	Ishigakijimahi	2.27	83	P		Pn	01 01 54.1 +0.8
JISG				S		Sn	01 02 23.0 +1.7
VWUC	VWUC	2.27	287	*e* P		Pn	01 01 53.4 +0.1
	baz=286						
LAY	Lan-yu	2.29	187	*e* P		Pn	01 01 53.0 -0.6
	baz=186						
SLIU	Shizi	2.31	205	*e* P		Pn	01 01 55.2 +1.3
	baz=192						
WLCH	Liuqiu	2.38	215	*e* P		Pb	01 01 60.0 +1.2
	baz=215						
VCHM	Qimei	2.47	244	*e* P		Pn	01 01 58.2 +2.2
	baz=226						
MATB	Ma-tsu	2.50	317	*e* P		Pb	01 01 59.3 -1.4
	baz=316						
TWK1	Hengchun	2.56	202	*e* P		Pb	01 02 00.4 -1.3
	baz=189						
TWKBT	Hengchun	2.56	202	*e* P		Pn	01 01 58.7 +1.5
	baz=189						
PTMZ	Houxiangcun	2.57	287	*e* P		Pn	01 01 58.1 +0.7
	baz=285						
JTJ	Tarama	2.63	83	P		Pn	01 01 59.7 +1.5
JTJ				S		Sn	01 02 32.7 +2.5
LYJJ	Jianjiangzhen	2.90	320	*e* P		Pn	01 02 04.5 +2.5
	baz=320						
XPSS	Dashiqiu	2.99	331	*e* P		Pn	01 02 03.8 +0.6
	baz=330						
MHZQ	Yeshan	3.10	305	*e* P		Pn	01 02 05.8 +1.1
	baz=305						
KNM	Kinmen	3.11	272	*e* P		Pn	01 02 07.4 +2.6
	baz=269						
KNMB	Chin-men Tao	3.15	273	*e* P		Pn	01 02 06.1 +0.7
	baz=271						
KNMB	Chin-men Tao	3.15	273	Pn		Pn	01 02 04.3 -1.1
KNMB				Sn		Sn	01 02 41.4 -1.6
AXDP	Jialang	3.57	280	*e* P		Pn	01 02 11.9 +0.7
	baz=277						
ZPLA	Ao Xicun	3.75	265	*e* P		Pn	01 02 15.1 +1.4
	baz=262						
MK31	Makanchi Array	38.65	316	P		P	01 08 37.1 -2.3
MK31				IAmb		IAmb	01 08 53.4
	comp=Z,1.4nm,1.1s						
WB2	Warramunga Arr	45.66	163	P		P	01 09 37.6 +0.8
WB2				IAmb		IAmb	01 09 47.3
	comp=Z,3.9nm,1.1s						
WR0	Warramunga Arr	45.73	163	P		P	01 09 36.0 -1.2
WR0				IAmb		IAmb	01 09 40.0
	comp=Z,3.3nm,1.1s						
ASAR	Alice Springs	49.12	165	P		P	01 10 01.6 -2.1

ECX ***24*** *01:02:12.6±0.6, 29°.93N×116°.28W, h20km±7km, MD2.9, ML3.1*
MEX ***24*** *01:02:13.4±0.4, 31°.33N×113°.95W, h10km, MD3.6*
ISC 24 01:02:11.8±2.8, 29°.9N±0°.1×116°.26W±0°.09, h10km, n12, σ1§59/22, 2D, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQX	San Quintin	0.72	27	⇓ *e* P	Pg	01 02 25.6	-0.1
SQX				*e* S	Sg	01 02 35.9	+0.8
SPX	San Pedro Mart	1.29	32	*e* P	Pn	01 02 34.1	-2.1
SPX				*e* S	Sb	01 02 50.5	-2.8
SPX	San Pedro Mart	1.29	32	*e* P	Pn	01 02 34.1	-2.1
SPX				*e* S	Sb	01 02 51.5	-1.7
SPX				*e*		01 02 52.4	
SPX				IAML		01 02 52.4	
	comp=E,328nm,0.3s						
SPX				IAML		01 02 53.5	
	comp=N,384nm,0.2s						
SPX				*e*		01 02 53.5	
SPIG	San Pedro Mart	1.30	31	*e* P	Pn	01 02 35.0	-1.3
SPIG				*e* S	Sb	01 02 51.5	-2.0
SPIG	San Pedro Mart	1.30	31	*e* P	Pn	01 02 35.0	-1.3
SPIG				*e* S	Sb	01 02 52.3	-1.2

VTX	**Valle De La Tr**	1.51	16	*e*P	Pn	01 02 38.2	-0.8
VTX				*e*S	Sn	01 02 57.9	-0.8
VTX				*e*		01 03 00.4	
VTX				IAML		01 03 00.4	
	comp=E,348nm,0.4s						
SFX	**San Felipe**	1.64	47	*e*P	Pn	01 02 40.2	-0.4
SFX				*e*S	Sn	01 03 02.3	+0.5
SFX				IAML		01 03 03.3	
	comp=E,163nm,0.2s						
SFX				*e*		01 03 03.3	
SJX	**San Joaquin**	1.84	8	*e*P	Pb	01 02 47.2	+1.7
SJX				*e*S	Sg	01 03 13.5	+2.5
SJX				IAML		01 03 17.6	
	comp=E,118nm,0.2s						
SJX				⇓*e*		01 03 17.6	
ECBX	**El Chinero**	1.85	34	*e*P	Pn	01 02 44.8	+1.2
ECBX				*e*S	Sn	01 03 09.1	+2.1
TJIG	**Tijuana**	2.52	352	*e*P	Pn	01 02 52.1	-0.7
TJIG				*i* S	Sn	01 03 22.2	-1.3
BAR	**Barrett**	2.76	353	*e*P	Pn	01 02 55.8	-0.3
PIX	**Pinacate**	2.90	55	*e*P	Pn	01 02 57.7	-0.3

DJA 24 01:02:30.9±0.6, 1°N±6°×12°1E±°, h21km±7km, M4.1/7, mb4.2/1, MLv4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	1.17	248	P	Pn	01 02 52.0	0.0
MPSI				S	Sn	01 03 07.9	+0.6
GTOI	**Gorontalo**	2.04	94	P	Pn	01 03 01.9	-2.1
GTOI				S	Sn	01 03 25.8	-3.0
LUWI	**Luwuk**	2.55	135	P	Pn	01 03 10.6	-0.4
KMSI	**Cibinong**	3.01	94	P	Pn	01 03 17.7	+0.4

*IDC **24** 01:12:35.3±3.5, 54°.60N×161°.90W, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=83.0km s-min=25.5km az=159.0*
*AEIC **24** 01:12:39.8±1.4, 54°.53N±0°.05×161°.63W±0°.05, h25km±2km, ML3.2, mb3.1/1(NEIC), Error ellipse: s-maj=8.4km s-min=3.6km az=158.0*
ISC 24 01:12:36.3±1.7, 54°.50N±0°.07×161°.64W±0°.04, h16km±12km, n44, σ1s27/44, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	0.72	329		Pn	01 12 51.4	-0.4
HAG	**Hague Volcano**	0.84	349		Pn	01 12 53.8	+0.3
PS4A	**Pavlof South-4**	0.86	352		Pn	01 12 54.1	+0.3
PVV	**Pavlof Volcano**	0.89	354		Pn	01 12 54.3	+0.2
SDPT	**Sand Point**	1.09	38		Pb	01 12 57.3	+0.6
SDPT					Sb	01 13 11.3	+0.7
FALS	**False Pass**	1.10	290		Pn	01 12 57.3	+0.3
FALS					Sn	01 13 11.0	-0.8
CNBA	**Chernabura Isl**	1.23	74		Pn	01 12 58.6	-0.3
CNBA					Sb	01 13 13.2	-1.7
SSLS	**Shishaldin Sou**	1.39	280		Pb	01 13 02.0	0.0
SSLN	**Shishaldin Nor**	1.41	284		Pg	01 13 03.4	0.0
SSLW	**Shishaldin Wes**	1.47	282		Pb	01 13 03.7	+0.4
SSBA	**Shishaldin**	1.47	282		Pb	01 13 03.5	+0.2
SSBA					Sg	01 13 23.1	-0.7
WESP	**Westdahl Peak**	1.80	271		Pb	01 13 08.6	-0.4
WESP					Sb	01 13 31.0	-0.3
WEBT	**Westdahl Beart**	1.82	274		Pb	01 13 09.1	-0.2
VNWF	**Veniaminof 8**	2.04	35		Pn	01 13 11.8	+1.7
VNFG	**Fog Glacier, M**	2.15	33		Pn	01 13 13.4	+1.8
VNHG	**Veniaminof 1**	2.23	38		Pn	01 13 14.3	+1.6
AKSA	**Akutan Strait**	2.41	263		Pn	01 13 16.4	+1.3
AKUT	**Akutan**	2.45	263		Pn	01 13 16.9	+1.3
AKBBA	**Akutan Broad B**	2.55	263		Pn	01 13 18.7	+1.7
AKLV	**Akutan Long Va**	2.55	264		Pn	01 13 18.6	+1.5
AKGG	**Akutan Green G**	2.57	265		Pn	01 13 19.1	+1.8
AKMO	**Akutan Morgan**	2.60	263		Pn	01 13 19.4	+1.8
UNV	**Unalaska Valle**	2.94	259		Pn	01 13 23.4	+1.1
MNAT	**Makushin Natee**	3.03	260		Pn	01 13 24.6	+1.0
MSW	**Makushin Switc**	3.08	261		Pn	01 13 25.5	+1.1
MGOD	**Makushin Gods**	3.16	259		Pn	01 13 26.5	+1.1
MAPS	**Pakushin South**	3.19	260		Pn	01 13 26.9	+1.0
CHIR	**Chirikof Islan**	3.70	66		Pn	01 13 34.0	+1.2
NIKH	**Nikolski High**	4.55	253		Pn	01 13 45.6	+1.1
SII	**Sitkinak Islan**	4.71	61		Pn	01 13 47.6	+0.9
KABU	**Katmai Buttres**	5.17	40		Pn	01 13 55.3	+2.1
OHAK	**Old Harbor**	5.44	56		Pn	01 13 57.1	+0.5
KDAK	**Kodiak Island**	6.04	53	Pn	Pn	01 14 05.3	+0.4
	0.7nm,0.3s,baz=212,slow=6.0,SNR=21						
KDAK				Sn	Sn	01 15 11.4	-2.2
	baz=144,slow=23,SNR=1.1						
ILAR	**Eielson Array**	12.68	30	Pn	Pn	01 15 32.8	-3.0
	0.1nm,0.3s,baz=224,slow=13,SNR=4.7						
TOLK	**Toolik Lake Re**	15.26	17	Pn	Pn	01 16 13.1	+2.2
TOLK				IAmb	IAmb	01 16 32.3	
	comp=Z,0.4nm,0.3s						
PETK	**Petropavlovsk-**	23.82	283	P	P	01 17 48.0	-0.4
	comp=Z,0.9nm,0.4s,baz=88,slow=13,SNR=5.4						
PETK	**Petropavlovsk-**	23.82	283	P	P	01 17 48.3	0.0
YKA	**Yellowknife Ar**	25.31	53	P	P	01 18 03.3	+1.5
	comp=Z,1.6nm,0.8s,baz=290,slow=7.2,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	42.16	227	T	T	02 05 13.5	
	baz=27,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	42.17	227	T	T	02 05 11.6	
	baz=27,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	42.18	227	T	T	02 05 15.4	
	baz=27,slow=76,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	43.33	227	T	T	02 06 38.6	
	baz=18						
H11S2	**WAKE ISLAND Hy**	43.34	227	T	T	02 06 39.5	
	baz=18						
H11S3	**WAKE ISLAND Hy**	43.35	227	T	T	02 05 45.8	
	baz=18						

*IDC **24** 01:30:11.8±0.9, 53°.20N×34°.97W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.6/44, mbtmp3.6/9, ML2.7/1, MS3.2/7, Ms1 3.3/7, ms1mx2.9/32, Error ellipse: s-maj=39.6km s-min=18.2km az=15.0*
*NEIC **24** 01:30:12.5±0.5, 53°.2N±0°.2×34°.9W±0°.1, h9km±5km, mb4.7/6, Error ellipse: s-maj=24.6km s-min=8.4km az=185.0*
ISC 24 01:30:13.4±0.7, 53°.2N±0°.2×34°.97W±0°.08, h13km, n28, σ0s85/25, mb3.6/9, MS3.3/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	13.49	26	LR	LR	01 37 05.6	
	comp=Z,72nm,21.9s,baz=226,slow=31						
DRLN	**Deer Lake**	14.64	263	Pn	Pn	01 33 40.3	+0.2
SFJD	**Kangerlussuaq**	15.80	337	LR	LR	01 38 43.4	
	comp=Z,136nm,18.1s,baz=136,slow=32						
SFJD	**Kangerlussuaq**	15.80	337	Pn	Pn	01 33 54.8	-0.4
SFJD				IAmb	IAmb	01 33 58.1	
	comp=Z,134nm,2.0s						
SCHQ	**Schefferville**	18.71	288	P	P	01 34 31.1	-0.3
	comp=Z,0.2nm,0.3s,baz=101,slow=18,SNR=1.8						
E63A	**Oxbow**	22.48	266	P	P	01 35 11.4	-0.8
E63A				IAmb	IAmb	01 35 53.6	
	comp=Z,36nm,1.5s						
E62A	**Clayton Lake**	23.04	267	P	P	01 35 16.8	-1.3
ESDC	**Sonseca Array**	25.06	110	P	P	01 35 38.5	+1.2
	comp=Z,1.1nm,0.9s,baz=319,slow=9.4,SNR=5.9						
ESDC				LR	LR	01 43 41.8	
	comp=Z,30nm,18.2s,baz=310,slow=32						
ESDC	**Sonseca Array**	25.06	110	P	P	01 35 35.9	-1.4
GERES	**GERESS Array B**	30.44	78	P	P	01 36 24.6	-0.9
	comp=Z,0.1nm,0.2s,baz=306,slow=8.4,SNR=1.4						
GERES	**GERESS Array B**	30.44	78	P	P	01 36 24.9	-0.5
FINES	**FINESS Array B**	32.80	51	LR	LR	01 48 26.4	
	comp=Z,64nm,18.4s,baz=348,slow=33						
AKASG	**Malin Array Be**	38.46	67	LR	LR	01 52 30.9	
	comp=Z,41nm,18.3s,baz=175,slow=35						
BRTR	**Keskin Array B**	47.33	78	P	P	01 38 47.8	+1.1
	comp=Z,2.1nm,0.8s,baz=267,slow=7.3,SNR=3.5						
BRTR	**Keskin Array B**	47.33	78	P	P	01 38 46.4	-0.4
PDAR	**Pinedale Array**	48.84	289	P	P	01 38 58.0	-0.5
	comp=Z,0.6nm,0.7s,baz=35,slow=8.0,SNR=3.4						
PDAR	**Pinedale Array**	48.84	289	P	P	01 38 58.5	-0.1
TORD	**Torodi Ar. Bea**	49.41	130	P	P	01 39 03.1	+0.2
	comp=Z,1.1nm,0.7s,baz=334,slow=7.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	49.41	130	P	P	01 39 03.3	+0.4
HWUT	**Hardware Ranch**	50.73	290	P	P	01 39 12.8	0.0
ILAR	**Eielson Array**	51.28	329	P	P	01 39 18.4	+2.0
	comp=Z,0.3nm,0.7s,baz=46,slow=5.2,SNR=3.1						
ILAR				LR	LR	02 00 50.4	
	comp=Z,13nm,18.7s,baz=120,slow=36						
ILAR	**Eielson Array**	51.28	329	P	P	01 39 15.9	-0.5
TXAR	**Lajitas Array**	54.54	273	P	P	01 39 41.6	+0.5
	comp=Z,0.2nm,0.6s,baz=60,slow=5.5,SNR=2.6						
TXAR				PcP	PcP	01 40 45.4	+1.1
	comp=Z,0.5nm,0.9s,baz=50,slow=6.0,SNR=2.5						
TXAR	**Lajitas Array**	54.54	273	P	P	01 39 40.9	-0.1
MKAR	**Makanchi Array**	66.97	42	P	P	01 41 06.0	+0.6
	comp=Z,0.3nm,0.6s,baz=311,slow=6.6,SNR=2.8						
MKAR				LR	LR	02 10 14.3	
	comp=Z,29nm,18.5s,baz=248,slow=36						
MKAR	**Makanchi Array**	66.97	42	P	P	01 41 05.2	-0.2
WRA	**Warramunga Arr**	145.78	18	PKPbc	PKPbc	01 49 51.7	-0.4
	comp=Z,0.9nm,0.8s,baz=339,slow=3.3,SNR=9.2						
ASAR	**Alice Springs**	149.31	20	PKPbc	PKPbc	01 50 00.8	-0.9
	comp=Z,0.4nm,0.5s,baz=20,slow=2.7,SNR=5.5						

*IDC **24** 01:42:54.2±1.1, 37°.58N×141°.37E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.5/34, mbtmp3.6/9, ML3.1/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/40, Error ellipse: s-maj=26.6km s-min=22.2km az=122.0*
*NIED **24** 01:42:57.9, 37°.48N×141°.33E, h30km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.23; $M_{\theta\theta}$-2.08; $M_{\phi\phi}$0.86; $M_{r\theta}$1.01; $M_{\theta\phi}$-0.86; $M_{r\phi}$1.74; Fault plane solution: $M_0$2.84000×10^{14} NP1:ϕ_s41.00000°, δ74.00000°, λ55.00000°. NP2:ϕ_s290.00000°, δ38.00000°, λ153.00000°.*
*JMA **24** 01:42:57.8±0.1, 37°.48N×141°.33E, h30km±1km, M3.7*
JMA Felt I J1.
*NEIC **24** 01:42:59.5±1.6, 37°.52N±0°.04×141°.21E±0°.08, h38km±8km, mb4.0/5, Error ellipse: s-maj=9.4km s-min=6.1km az=81.0*
ISC 24 01:42:57.8±1.2, 37°.47N±0°.03×141°.32E±0°.06, h28km±8km, n53, σ0s82/58, mb3.6/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	0.37	253	P	Pb	01 43 06.2	+0.1
JFK				S	Sb	01 43 11.8	+0.1
JMST	**Minamisoumatoc**	0.42	307	P	Pb	01 43 06.8	-0.1
JMST				S	Sb	01 43 13.1	0.0
ONAJ	**Iwakimizuishiy**	0.56	228	P	Pb	01 43 08.9	-0.2
ONAJ				S	Sb	01 43 16.6	-0.1
JMM	**Marumori**	0.57	314	P	Pb	01 43 09.0	-0.3
JMM				S	Sb	01 43 17.0	-0.2
JMM	**Marumori**	0.57	314	Pn	Pb	01 43 09.0	-0.3
JMM				Sn	Sb	01 43 16.1	-1.0
JFFD	**Fukushimafurud**	0.71	238	P	Pb	01 43 11.3	-0.4
JFFD				S	Sb	01 43 20.6	-0.5
JFT	**Otama**	0.78	274	P	Pb	01 43 13.0	+0.2
JFT				S	Sn	01 43 23.6	-0.1
JIO	**Ouri**	0.98	2	P	Pn	01 43 15.1	-0.6
JIO				S	Sn	01 43 27.2	-1.4
JOU	**Okura**	1.03	330	P	Pb	01 43 16.6	-0.4
JOU				S	Sb	01 43 30.4	+0.2
JYS	**Shiratake**	1.24	307	P	Pb	01 43 20.6	0.0
JYS				S	Sb	01 43 36.6	+0.4
JFY	**Yanaizu**	1.28	268	P	Pn	01 43 20.7	+0.8
JFY				S	Sb	01 43 37.7	+0.3
JYT	**Yasato**	1.53	216	Pn	Pn	01 43 22.7	-0.6
JSD	**Sado**	2.49	284		Pn	01 43 37.3	+0.9
MJAR	**Matsushiro Arr**	2.66	250	Pn	Pn	01 43 40.4	+1.7
	1.0nm,0.3s,baz=82,slow=17,SNR=17						
MJAR				Sn	Sb	01 44 15.3	-1.5
	1.1nm,0.3s,baz=81,slow=30,SNR=6.0						
MJAR	**Matsushiro Arr**	2.66	250		Pn	01 43 39.6	+0.8
MJAR					Sn	01 44 09.7	-0.3
MAJO	**Matsushiro**	2.66	250		Pn	01 43 39.2	+0.4
MAT	**Matsushiro**	2.66	250	P	Pn	01 43 40.7	+1.9
MAT				S	Sb	01 44 15.9	-1.0
JTM	**Tenmabayashi**	3.31	357	Pn	Pn	01 43 49.3	+1.5
JTM				Sn	Sn	01 44 26.6	+0.3
JGF	**Kuroka**	3.69	241		Pn	01 43 54.0	+0.9
JGF				Sn	Sn	01 44 35.4	-0.3
JHJ	**Hachijo jima 2**	4.52	197	Pn	Pn	01 44 06.2	+1.9
	8.7nm,0.3s,baz=98,slow=23,SNR=6.9						
JHJ				Sn	Sn	01 44 55.4	-0.6
	8.6nm,0.3s,baz=248,slow=22,SNR=1.9						
JHJ2	**Mitsune**	4.52	196	Pn	Pn	01 44 05.5	+1.1
ERM	**Erimo**	4.75	17	Pn	Pn	01 44 08.9	+1.4
JWT	**Wachi**	5.25	247	Pn	Pn	01 44 14.7	+0.4
JHS	**Saijyo**	7.07	252	Pn	Pn	01 44 40.9	+1.5
USRK	**Ussuriysk Ar.**	9.75	316	Pn	Pn	01 45 21.6	+5.6
	baz=134,slow=16,SNR=3.3						
KSRS	**Korea Array**	10.65	274	LR	LR	01 49 28.4	
	comp=Z,28nm,18.2s,baz=150,slow=37						
PEA0B	**Petropavlovsk-**	19.35	31	P	Pn	01 47 21.8	-0.3
PEA0B				IAmb	IAmb	01 47 39.8	
	comp=Z,10nm,1.1s						
MA2	**Magadan**	22.94	12	LR	LR	01 56 37.9	
	comp=Z,17nm,18.5s,baz=164,slow=36						
SONM	**Songino Array**	27.48	303	P	P	01 48 41.8	+0.2
	comp=Z,0.8nm,0.7s,baz=80,slow=11,SNR=3.7						
SONM	**Songino Array**	27.48	303	P	P	01 48 40.8	-0.9
H11N2	**WAKE ISLAND Hy**	28.44	121	T	T	02 18 50.9	
	baz=314,slow=75,SNR=74						
H11N1	**WAKE ISLAND Hy**	28.45	121	T	T	02 18 54.0	
	baz=314,slow=75,SNR=98						
H11N3	**WAKE ISLAND Hy**	28.46	121	T	T	02 18 54.6	
	baz=314,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hy**	29.16	123	T	T	02 19 47.9	
	baz=316,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hy**	29.16	123	T	T	02 19 51.9	
	baz=316,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	29.18	123	T	T	02 19 48.0	
	baz=316,slow=75,SNR=33						
ZALV	**Zalesovo Beam**	41.56	312	P	P	01 50 42.9	+0.1
	comp=Z,0.7nm,0.4s,baz=99,slow=9.2,SNR=3.7						
ZALV	**Zalesovo Beam**	41.56	312	P	P	01 50 42.0	-0.8
MK31	**Makanchi Array**	43.82	302	P	P	01 51 00.3	-0.9
MK31				IAmb	IAmb	01 51 02.5	
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	43.82	302	P	P	01 51 01.4	+0.2
	comp=Z,1.2nm,0.7s,baz=85,slow=9.7,SNR=10						
MKAR	**Makanchi Array**	43.82	302	P	P	01 51 00.7	-0.5
KURK	**Kurchatov**	45.60	308	P	P	01 51 14.7	-0.5
KURK				IAmb	IAmb	01 51 16.5	
	comp=Z,4.2nm,0.8s						
ILAR	**Eielson Array**	49.17	33	P	P	01 51 43.4	+0.6
	comp=Z,0.2nm,0.6s,baz=256,slow=5.5,SNR=2.5						
ILAR	**Eielson Array**	49.17	33	P	P	01 51 43.0	+0.2
WRA	**Warramunga Arr**	57.48	188	P	P	01 52 44.9	+0.5
	comp=Z,0.1nm,0.4s,baz=37,slow=7.6,SNR=5.0						
WRA	**Warramunga Arr**	57.48	188	P	P	01 52 44.1	-0.3
ABKAR	**Akbulak array**	57.60	310	P	P	01 52 44.5	-0.5
GERES	**GERESS Array B**	82.30	328	P	P	01 55 16.4	-0.4
	comp=Z,0.3nm,0.5s,baz=50,slow=6.5,SNR=3.7						
GERES	**GERESS Array B**	82.30	328	P	P	01 55 16.0	-0.7
TXAR	**Lajitas Array**	89.92	52	P	P	01 55 56.0	+1.3
	comp=Z,0.2nm,0.8s,baz=326,slow=4.4,SNR=2.2						
H03N2	**Juan Fernandez**	147.14	95	T	T	04 47 18.3	
	baz=288						
H03N3	**Juan Fernandez**	147.16	95	T	T	04 47 22.5	
	baz=288						
H03N1	**Juan Fernandez**	147.16	95	T	T	04 47 24.8	
	baz=288						

*VAO **24** 01:57:59.1±1.5, 24°.68S×69°.06W, h94km±9km, mb4.4*
*NEIC **24** 01:58:24.5±2.0, 24°.00S±0°.07×66°.9W±0°.1, h215km±7km, Error ellipse: s-maj=14.9km s-min=9.8km az=90.0*
*SJA **24** 01:58:25.5±0.7, 23°.96S×67°.00W, h208km±5km, ML4.3, MW4.3*
*IDC **24** 01:58:27.0±1.3, 23°.86S×66°.82W, h185km±10km, mb3.6/11, mb1 3.8/15, mb1mx3.8/22, mbtmp4.1/15, MS2.6/1, Ms1 2.6/1, ms1mx2.3/17, Error ellipse: s-maj=16.6km s-min=14.6km az=161.0*
*GUC **24** 01:58:28.4±0.6, 23°.98S×67°.64W, h234km±10km, ML4.6*
ISC 24 01:58:25.8±0.6, 23°.96S±0°.04×67°.04W±0°.03, h204km±6km, n144, σ1s65/188, mb4.1/18, 14C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	1.59	119	*e*P	Pn	01 59 01.4	+0.6
SLA				*e*S	S	01 59 27.8	+0.1
AZAP	**Zapla**	1.82	99	*e*P	Pn	01 59 03.1	+0.1
AZAP				*e*S	S	01 59 31.3	-0.3
AZAP				IAML		01 59 42.2	
	comp=Z,591nm,1.4s						
LVC	**Limon Verde**	2.18	308	P	Pn	01 59 08.4	+1.4
	comp=Z,102nm,0.3s,baz=134,slow=7.0,SNR=75						
LVC				S	S	01 59 39.7	+1.4
	comp=Z,156nm,0.3s,baz=294,slow=19,SNR=51						
LVC				LR	LR	01 59 57.0	
	comp=Z,125nm,19.4s,baz=155,slow=39						
LVC	**Limon Verde**	2.18	308	⇑*e*P	Pn	01 59 08.3	+1.4
LVC				*e*S	S	01 59 39.8	+1.4
LVC	**Limon Verde**	2.18	308	Pn	Pn	01 59 08.1	+1.2
LVC				S	S	01 59 38.4	+0.1
YJA	**Yavi**	2.27	39	*e*P	Pn	01 59 08.8	+0.9
YJA				*e*S	S	01 59 40.8	+0.7
FSA	**Cafayete**	2.34	156	*e*P	Pn	01 59 08.7	+0.3
PB15	**IPOC Station P**	2.35	288	⇑*i*P	Pn	01 59 10.0	+1.5
PB15				*i* S	S	01 59 41.2	0.0
PB15	**IPOC Station P**	2.35	288	Pn	Pn	01 59 10.0	+1.5
PB15				S	S	01 59 41.4	+0.2
PB15	**IPOC Station P**	2.35	288	*e*S	S	01 59 42.1	+0.9
ASTB	**Santa Barbara**	2.37	90	*e*P	Pn	01 59 08.5	-0.1
GO02	**Mina Guanaco**	2.61	242	⇑*i*P	Pn	01 59 12.7	+1.3
GO02				*i* S	S	01 59 47.1	+0.7
GO02	**Mina Guanaco**	2.61	242		Pn	01 59 12.7	+1.3
GO02				S	S	01 59 45.5	-1.0
PB06	**IPOC Station P**	2.64	298	⇑*i*P	Pn	01 59 13.2	+1.4
PB06				*i* S	S	01 59 47.4	+0.5
PB06				IAML		01 59 50.1	
	comp=E,2μm,0.1s						
PB06	**IPOC Station P**	2.64	298		Pn	01 59 13.1	+1.4
PB06				S	S	01 59 47.4	+0.5
PB06	**IPOC Station P**	2.64	298	*e*S	S	01 59 47.4	+0.5
PB06				IAML		01 59 52.1	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	2.96	316	⇑*i*P	Pn	01 59 17.1	+1.7
PB09				*i* S	S	01 59 54.8	+1.2
PB09				IAML		01 59 58.8	
	comp=E,681nm,0.3s						
PB09	**IPOC Station P**	2.96	316		Pn	01 59 17.0	+1.7
PB09				S	S	01 59 53.3	-0.2
PB09	**IPOC Station P**	2.96	316	*e*P	Pn	01 59 16.9	+1.5
PB09				*e*S	S	01 59 54.5	+0.9
PB09				IAML		01 59 59.0	
	comp=Z,566nm,0.2s						
PB05	**IPOC Station P**	3.11	290	⇑*i*P	Pn	01 59 17.9	+0.9
PB05				*i* S	S	01 59 55.5	-0.9
PB05				IAML		01 59 59.6	
	comp=N,980nm,0.2s						
PB05	**IPOC Station P**	3.11	290	*e*S	S	01 59 55.9	-0.5
PB05				IAML		01 59 59.3	
	comp=Z,445nm,0.3s						
PB14	**IPOC Station P**	3.14	257	⇑*i*P	Pn	01 59 18.4	+0.9
PB14				*i* S	S	01 59 55.4	-2.0
PB14				IAML		01 59 59.9	
	comp=E,594nm,0.2s						
PB14	**IPOC Station P**	3.14	257	Pn	Pn	01 59 18.4	+0.9
PB14				S	S	01 59 56.9	-0.5
PB14	**IPOC Station P**	3.14	257	*e*P	Pn	01 59 18.5	+0.9
PB14				*e*S	S	01 59 57.7	+0.3
PB14				IAML		01 59 58.8	
	comp=Z,694nm,0.5s						
PB03	**IPOC Station P**	3.14	307	⇑*i*P	Pn	01 59 18.6	+1.1
PB03				*i* S	S	01 59 56.9	-0.4
PB03				IAML		01 59 59.2	
	comp=E,1μm,0.1s						
PB03	**IPOC Station P**	3.14	307	*e*S	S	01 59 57.3	0.0
PB03				IAML		02 00 00.2	
	comp=Z,1μm,0.2s						
AHML	**Horco Molle**	3.21	152	*e*P	Pn	01 59 18.6	+0.5
AHML				*e*S	S	01 59 57.8	-0.8
PB10	**IPOC Station P**	3.25	277	⇑*i*P	Pn	01 59 19.9	+1.3
PB10				*i* S	S	01 59 58.9	-0.4
PB10				IAML		02 00 01.3	
	comp=E,814nm,0.4s						
PB10	**IPOC Station P**	3.25	277	Pn	Pn	01 59 19.8	+1.2
PB10				S	S	01 59 59.2	-0.1
PB10	**IPOC Station P**	3.25	277	*e*P	Pn	01 59 19.9	+1.3
PB10				*e*S	S	01 59 59.4	+0.1
PB10				IAML		02 00 03.6	
	comp=Z,542nm,0.6s						
PB04	**IPOC Station P**	3.29	299	⇑*i*P	Pn	01 59 20.2	+1.0
PB04				*i* S	S	01 59 59.7	-0.7
PB04	**IPOC Station P**	3.29	299		Pn	01 59 20.2	+1.0
PB04				S	S	02 00 00.4	-0.1
PB04	**IPOC Station P**	3.29	299	*e*P	Pn	01 59 20.4	+1.2
PB04				*e*S	S	02 00 00.2	-0.3
PB04				IAML		02 00 05.1	
	comp=Z,1μm,0.1s						
PB07	**IPOC Station P**	3.44	310	⇑*i*P	Pn	01 59 22.0	+1.0
PB07				*i* S	S	02 00 02.7	-1.1
PB07	**IPOC Station P**	3.44	310		Pn	01 59 21.9	+0.8
PB07				S	S	02 00 03.1	-0.7
PB07	**IPOC Station P**	3.44	310	*e*S	S	02 00 03.0	-0.7
PB07				IAML		02 00 08.9	
	comp=Z,772nm,0.5s						
PB01	**IPOC Station P**	3.68	322	*e*P	Pn	01 59 24.6	+0.7
PB01				*e*S	S	02 00 08.3	-0.7
PB01	**IPOC Station P**	3.68	322

FRTB	Fartura	16.03	91	*e*P		Pn	02 02 01.0 +0.6
ITRB	Iturama	16.06	78	*e*P		Pn	02 02 02.8 +2.1
TIJ01	Guaruva-PR	16.46	98	*e*P		Pn	02 02 04.5 -1.1
ARAG	Araguaiana, MT	16.50	63	*e*P		Pn	02 02 07.7 +1.6
CLDB	Colider	16.86	41	*e*P		P	02 02 08.8 -0.2
PLCA	Paso Flores	16.98	189	P		Pn	02 02 19.6 +8.0
	comp=Z,0.1nm,0.3s,baz=19,slow=14,SNR=4.9						
PLCA	Paso Flores	16.98	189	P		P	02 02 08.9 -1.3
PLCA				IAmb		IAmb	02 02 19.9
	comp=Z,4.3nm,0.8s						
CZSB	Cruzeiro do Su	17.03	340	*e*P		P	02 01 53.7 -17
BB19B	Bebedouro	17.35	84	*e*P		Pn	02 02 17.4 +1.3
SPB	Sao Paulo	17.95	93	*e*P		Pn	02 02 22.6 -0.5
PET01	Itanhaem-SP	18.05	95	*e*P		Pn	02 02 22.6 -1.6
VAO	Valinhos	18.44	91	*e*P		Pn	02 02 27.0 -1.9
IPMB	Ipameri, GO	18.56	75	*e*P		Pn	02 02 28.8 -1.5
PARB	Paraibuna	19.63	93	*e*P		P	02 02 39.9 +0.8
BDFB	Brasilia	19.71	69	P		P	02 02 40.7 +0.7
	comp=Z,2.0nm,0.3s,baz=245,slow=11,SNR=34						
BDFB	Brasilia	19.71	69	P		P	02 02 37.5 -2.5
NPGB	Novo Progresso	20.22	36	*e*P		P	02 02 44.4 -1.0
BSCB	Bom Sucesso	20.78	86	*e*P		P	02 02 53.2 +1.8
MACA	Manacapuru-AM	21.57	18	*e*P		P	02 02 54.9 -4.6
VAS01	Vassouras-RJ	21.77	90	*e*P		P	02 03 01.9 +0.4
ITTB	Itaituba	22.33	31	*e*P		P	02 03 06.5 -0.4
MC01	Montes Claros	22.81	76	*e*P		P	02 03 11.7 +0.4
JANB	Januaria	23.16	72	*e*P		P	02 03 14.6 +0.2
SMTB	Santa Maria do	23.90	54	*e*P		P	02 03 21.4 +0.2
SDBA	SAO DESIDERIO	23.93	65	*e*P		P	02 03 21.8 +0.4
PTGA	Pitinga	24.09	18	P		P	02 03 23.8 +1.0
	comp=Z,1.0nm,0.5s,baz=290,slow=22,SNR=5.5						
PRPB	Paraiapebas	24.23	46	*e*P		P	02 03 23.6 -0.5
SJMB	Sao Joao De Ma	24.63	83	*e*P		P	02 03 27.9 +0.1
BSFB	Barra de Sao F	24.90	83	*e*P		P	02 03 30.5 +0.4
RIB01	Linhares ES	25.18	85	*e*P		P	02 03 33.5 +0.8
NAN01	Guarapari, ES	25.85	82	*e*P		P	02 03 38.9 +0.2
GDU01	Guandu, BA	27.87	74	*e*P		P	02 03 56.7 -0.1
USHA	Ushuaia	30.85	182	P		P	02 04 30.8 +8.2
	comp=Z,18nm,0.6s,baz=51,slow=0.9,SNR=3.6						
MTO3	Montecristo	43.93	328	P		P	02 06 15.5 +2.6
MTO3				IAmb		IAmb	02 06 17.7
	comp=Z,5.6nm,0.8s						
VNA3	Neumayer Olymp	57.20	161	P		P	02 07 54.1 +3.0
VNA2	Neumayer--Watz	57.76	160	P		P	02 07 58.4 +3.3
SNAA	Sanae	59.40	161	P		P	02 08 09.0 +2.6
WVT	Waverly	62.92	341	P		P	02 08 28.9 -1.4
TX32	Lajitas Array	63.63	324	P		P	02 08 33.5 -1.8
TXAR	Lajitas Array	63.63	324	P		P	02 08 38.6 +3.3
	comp=Z,0.7nm,0.7s,baz=148,slow=8.9,SNR=10						
TXAR	Lajitas Array	63.63	324	P		P	02 08 33.6 -1.7
TX31	Lajitas Ar. Si	63.63	324	P		P	02 08 33.5 -1.8
TX31				IAmb		IAmb	02 08 39.7
	comp=Z,2.6nm,0.8s						
QSPA	South Pole Qui	66.24	180	P		P	02 08 49.9 -1.8
QSPA				IAmb		IAmb	02 08 55.8
	comp=Z,3.5nm,0.7s						
DBIC	Dimbokro	67.83	72	P		P	02 09 04.7 +2.4
	comp=Z,2.9nm,0.9s,baz=207,slow=4.5,SNR=1.5						
DBIC	Dimbokro	67.83	72	P		P	02 08 59.2 -3.1
DBIC				IAmb		IAmb	02 08 59.8
	comp=Z,3.3nm,1.1s						
VNDA	Vanda	74.73	190	P		P	02 09 47.5 +4.9
	comp=Z,0.6nm,0.9s,baz=149,slow=3.3,SNR=4.6						
TORD	Torodi Ar. Bea	76.59	69	P		P	02 09 55.5 +1.3
	comp=Z,2.4nm,0.6s,baz=256,slow=5.6,SNR=11						
PDAR	Pinedale Array	77.10	329	P		P	02 10 00.5 +3.8
	comp=Z,0.6nm,0.6s,baz=128,slow=6.8,SNR=7.2						
PDAR	Pinedale Array	77.10	329	P		P	02 09 54.6 -2.1
SPUT	South Promonto	77.39	327	P		P	02 09 56.5 -1.8
ULM	Lac du Bonnet	78.18	342	P		P	02 10 05.0 +2.8
	comp=Z,3.0nm,0.5s,baz=129,slow=12,SNR=3.0						
ULM	Lac du Bonnet	78.18	342	P		P	02 10 00.8 -1.4
LOHW	Long Hollow	78.24	329	P		P	02 10 01.2 -1.8
LOHW				IAmb		IAmb	02 10 07.6
	comp=Z,2.6nm,0.6s						
OMMB	Old Mammoth Mi	78.33	320	P		P	02 10 01.7 -2.1
OMMB				IAmb		IAmb	02 10 09.0
	comp=Z,2.7nm,0.7s						
NVAR	Mina Array Bea	78.49	321	P		P	02 10 08.9 +4.5
	comp=Z,0.6nm,0.7s,baz=154,slow=5.0,SNR=5.5						
NVAR	Mina Array Bea	78.49	321	P		P	02 10 02.6 -1.8
MAW	Mawson	81.48	163	P		P	02 10 23.4 +3.6
	comp=Z,1.8nm,0.6s,baz=248,slow=8.4,SNR=6.6						
MAW	Mawson	81.48	163	P		P	02 10 18.1 -1.7
PLID	Pearl Lake	81.93	327	P		P	02 10 21.2 -1.5
PLID				IAmb		IAmb	02 10 27.6
	comp=Z,3.9nm,0.8s						
ESDC	Sonseca Array	86.40	44	P		P	02 10 48.5 +3.4
	comp=Z,0.4nm,0.8s,baz=258,slow=6.2,SNR=2.4						
ESDC	Sonseca Array	86.40	44	P		P	02 10 43.1 -2.0
YKA	Yellowknife Ar	94.08	340	P		P	02 11 23.5 +3.2
	comp=Z,1.1nm,0.5s,baz=126,slow=5.5,SNR=7.5						
ASAR	Alice Springs	128.47	205	PKP		PKiKP	02 17 11.9 +2.3
	comp=Z,1.0nm,0.6s,baz=140,slow=1.7,SNR=11						
ASAR	Alice Springs	128.47	205			PKPdf	02 17 06.0 -3.0
GEYT	Alibeck	131.59	60	PKP		PKiKP	02 17 16.5 +1.1
	comp=Z,1.0nm,0.5s,baz=46,slow=10,SNR=1.5						
GEYT	Alibeck	131.59	60			PKPdf	02 17 12.0 -2.4
WRA	Warramunga Arr	131.64	207	PKP		PKiKP	02 17 18.1 +2.0
	comp=Z,0.7nm,0.5s,baz=164,slow=1.5,SNR=18						
WRA	Warramunga Arr	131.64	207			PKPdf	02 17 11.9 -3.2
ZALV	Zalesovo Beam	143.38	28	PKP		PKPdf	02 17 36.4 +1.0
	comp=Z,2.6nm,0.6s,baz=306,slow=3.7,SNR=13						
MKAR	Makanchi Array	146.52	39	PKPbc		PKiKP	02 17 44.8 -0.8
	comp=Z,4.5nm,0.8s,baz=236,slow=1.3,SNR=26						
SONM	Songino Array	155.61	11	PKPab		PKPab	02 18 25.2 +3.1
	comp=Z,0.9nm,0.7s,baz=347,slow=5.9,SNR=3.1						

*IDC **24** 02:35:23.7±10.0, 8°.42N×94°.20E, h108km±90km, mb3.4/5, mb1 3.5/6, mb1mx3.3/38, mbtmp3.8/6, ML4.7/1, Error ellipse: s-maj=94.6km s-min=20.1km az=53.0*

ISC 24 02:35:22.5±1.4, 8°.4N±0°.2×94°.1E±0°.2, h100km, n18, σ0°60/14, mb3.7/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.07	25	P		Pn	02 37 58.0 +0.1
	1.4nm,0.3s,baz=215,slow=15,SNR=6.0						
RAMN	Ramite	19.80	340	*e*P		P	02 39 46.0 +0.6
	26nm,0.5s						
TAPN	Taplejung	19.82	343	*e*P		P	02 39 44.8 -0.9
	26nm,0.6s						
JIRN	Jiri	20.59	340	*e*P		P	02 39 54.2 +0.1
	36nm,0.7s						
PKI	Pulchoki	20.79	338	*e*P		P	02 39 55.9 -0.3
	13nm,0.5s						
PKIN	Phulchoki	20.80	338	*e*P		P	02 39 55.7 -0.5
GKN	Gorkha	21.48	337	*e*P		P	02 40 02.8 -0.5
KOLN	Koldanda	21.70	334	*e*P		P	02 40 04.8 -0.9
	14nm,0.6s						
PYUN	Piuthan	22.25	333	*e*P		P	02 40 11.1 -0.5
H08S3	Diego Garcia H	26.78	234	T		T	03 07 57.4
	baz=53,slow=75,SNR=30						
H08S2	Diego Garcia H	26.78	234	T		T	03 07 40.7
	baz=53,slow=75,SNR=30						
H08S1	Diego Garcia H	26.80	234	T		T	03 07 43.2
	baz=53,slow=75,SNR=15						
MKAR	Makanchi Array	39.60	347	P		P	02 42 43.5 -0.6
	0.6nm,0.7s,baz=166,slow=8.8,SNR=4.5						
GEYT	Alibeck	43.81	318	P		P	02 43 19.3 +0.7
	0.7nm,0.5s,baz=124,slow=12,SNR=2.2						
ZALV	Zalesovo Beam	46.06	352	P		P	02 43 36.6 +0.5
	1.4nm,0.4s,baz=177,slow=7.4,SNR=6.7						
WRA	Warramunga Arr	48.58	126	P		P	02 43 56.2 -0.1
	0.6nm,0.7s,baz=308,slow=8.4,SNR=6.8						
ASAR	Alice Springs	50.26	130	P		P	02 44 08.9 -0.1
	0.3nm,0.7s,baz=312,slow=8.3,SNR=2.3						
FINES	FINESS Array B	72.26	332	P		P	02 46 43.3 +6.5
	1.0nm,0.6s,baz=101,slow=7.5,SNR=3.9						

*TEH **24** 02:36:16.4, 32°.34N×47°.06E, h8km, ML3.0*
*ISN **24** 02:36:20.3±1.1, 32°.42N×47°.26E, h15km±6km, ML2.9*

ISC 24 02:36:20.4±1.0, 32°.47N±0°.05×47°.20E±0°.04, h10km, n21, σ0°97/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.23	17	*e*Pg		Pg	02 36 24.1 -0.9
IKFM	Kafar-mosalman	1.19	27	*e*Pg		Pb	02 36 42.7 -0.3
IKFM				*e*			02 37 07.3
IBDR	Badra	1.25	301	*e*Pg		Pn	02 36 44.0 +0.1
IBDR				*e*Sg		Sn	02 37 02.0 +1.2
IBDR				AML		AML	02 37 05.9
	comp=E,202nm,0.4s						
IBDR				AML		AML	02 37 06.7
	comp=N,234nm,0.7s						
IKMR	Kamar-syah	1.44	43	*e*Pg		Pb	02 36 47.4 +0.1
IKMR				*e*			02 37 16.6
IDOB	Doab	1.55	32	*e*Pg		Pb	02 36 49.6 +0.3
NSR	Nassriya	1.71	212	*e*Pn		Pn	02 36 51.0 +0.8
NSR				*e*Sn		Sn	02 37 12.0 -0.1
IKOM	Komasi	1.72	9	*e*Pg		Pb	02 36 52.0 -0.2
IKOM				*e*			02 37 25.2
KCHF	Cheshme Sefid,	1.81	356	*e*Pg		Pb	02 36 53.9 +0.2
KCHF				*e*			02 37 20.7
BMDN	Meydan	1.82	48	*e*Pn		Pn	02 36 52.8 +0.9
BMDN				*e*			02 36 55.9
IGHG	Ghaleghazi	1.93	344	*e*Pg		Pb	02 36 55.2 -0.6
IGHG				*e*			02 37 32.4
IBZA	Bozab	2.07	15	*e*Pn		Pn	02 36 55.7 +0.2
IVIS	Veis	2.08	352	*e*		Sb	02 37 34.7 +11
HSAM	Samen	2.10	34	*e*Pn		Pn	02 36 56.8 +1.0
HSAM				*e*			02 37 09.1
IDHR	Dehrash	2.33	343	*e*Pn		Pn	02 37 00.0 +1.1
BHD	Baghdad	2.51	289	*e*Pn		Pn	02 37 03.0 +1.8
BHD				*e*Sn		Sb	02 37 35.0 -1.4
HAGD	Aghdareh	2.85	34	*e*Pn		Pn	02 37 07.1 +0.9
JHBN	Jahan bin	2.94	94	*e*			02 37 59.0
JHBN				*e*Pn		Pn	02 37 08.4 +0.9
IPIR	Pirpir	3.12	85	*e*Pn		Pn	02 37 11.9 +2.0
IPIR				*e*			02 37 54.5
QABG	Abgarm-Qazvin	3.79	31	*e*Pn		Pn	02 37 19.1 0.0
KLNJ	Kolanjah	4.01	110	*e*Pn		Pn	02 37 21.4 -0.8
KRSH	Karshahi	4.40	69	*e*Pn		Pn	02 37 28.1 +0.7

IDC 24 03:28:58.0±2.2, 17°.18S×177°.70W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/23, mbtmp3.7/4, Error ellipse: s-maj=138.3km s-min=29.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.43	259	P		P	03 37 19.0 0.0
	0.5nm,0.5s,baz=98,slow=6.8,SNR=12						
ASAR	Alice Springs	45.64	254	P		P	03 37 20.5 -0.1
	1.9nm,0.6s,baz=86,slow=8.7,SNR=13						
ILAR	Eielson Array	85.03	13	P		P	03 41 34.2 -0.8
	0.2nm,0.5s,baz=225,slow=3.7,SNR=2.3						
TXAR	Lajitas Array	85.03	57	P		P	03 41 36.6 +0.6
	0.1nm,0.6s,baz=210,slow=6.8,SNR=4.5						

*IDC **24** 03:37:15.8±0.9, 52°.92N×35°.30W, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/43, mbtmp3.7/12, ML3.8/1, MS3.3/21, Ms1 3.3/21, ms1mx3.2/40, Error ellipse: s-maj=32.5km s-min=17.0km az=12.0*
*NEIC **24** 03:37:17.3±0.5, 53°.0N±0°.2×35°.3W±0°.2, h10km±1km, mb4.6/7, Error ellipse: s-maj=27.4km s-min=18.0km az=185.0*

ISC 24 03:37:17.1±0.7, 52°.9N±0°.2×35°.28W±0°.09, h10km, n47, σ0°61/33, mb3.9/13, MS3.3/18, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	FLORES T-PHASE	13.56	166	T		T	03 54 37.3
	SNR=3.4						
BORG	Borgarnes	13.82	26	LR		LR	03 43 59.4
	comp=Z,102nm,20.9s,baz=230,slow=29						
SFJD	Kangerlussuaq	15.97	338	LR		LR	03 45 54.4
	comp=Z,80nm,18.3s,baz=154,slow=32						
SCHQ	Schefferville	18.61	288	LR		LR	03 47 20.7
	comp=Z,86nm,21.7s,baz=325,slow=32						
EKA	Eskdalemuir Ar	18.88	70	P		P	03 41 37.0 -0.3
	baz=311,slow=5.4,SNR=2.0						
FRB	Frobisher Bay	20.27	315	LR		LR	03 47 22.1
	comp=Z,48nm,21.8s,baz=200,slow=30						
JMIC	Jan Mayen	21.69	24	LR		LR	03 48 12.7
	comp=Z,136nm,18.8s,baz=239,slow=30						
F62A	Pittston Farm,	23.46	267	P		P	03 42 27.1 +0.5
ESDC	Sonseca Array	25.14	109	P		P	03 42 42.5 +0.2
	3.1nm,1.0s,baz=310,slow=8.8,SNR=11						
ESDC				LR		LR	03 50 44.9
	comp=Z,79nm,18.6s,baz=315,slow=32						
ESDC	Sonseca Array	25.14	109	P		P	03 42 42.5 +0.2
NOA	NORSAR Array B	26.08	53	LR		LR	03 51 57.8
	comp=Z,64nm,18.4s,baz=280,slow=34						
HFS	Hagfors	27.38	55	LR		LR	03 51 59.9
	comp=Z,76nm,20.6s,baz=268,slow=32						
DAVOX	Davos/Dischmat	29.36	84	LR		LR	03 54 11.4
	comp=Z,61nm,18.7s,baz=264,slow=35						
SADO	Sadowa	29.59	272	LR		LR	03 54 23.5
	comp=Z,110nm,18.7s,baz=76,slow=35						
GERES	GERESS Array B	30.68	78	P		P	03 43 32.1 +0.3
	0.2nm,0.3s,baz=313,slow=9.2,SNR=3.7						
GERES				LR		LR	03 55 19.0
	comp=Z,70nm,18.9s,baz=287,slow=35						
GERES	GERESS Array B	30.68	78	P		P	03 43 31.1 -0.6
FINES	FINESS Array B	33.12	51	P		P	03 43 52.7 -0.2
	1.2nm,0.7s,baz=223,slow=7.6,SNR=1.9						
FINES				LR		LR	03 55 40.7
	comp=Z,107nm,19.2s,baz=271,slow=33						
FINES	FINESS Array B	33.12	51	P		P	03 43 52.4 -0.5
KEST	Kesra	35.58	101	P		P	03 44 15.2 +0.6
	2.6nm,0.7s,baz=331,slow=12,SNR=4.0						
KEST	Kesra	35.58	101	P		P	03 44 14.4 -0.2
KEST				IAmb		IAmb	03 44 32.4
	comp=Z,34nm,1.9s						
ULM	Lac du Bonnet	36.76	291	LR		LR	03 57 55.9
	comp=Z,44nm,18.7s,baz=92,slow=34						
BURAR	Bucovina Array	38.02	73	P		P	03 44 34.3 -1.0
AKASG	Malin Array Be	38.74	67	LR		LR	04 00 15.8
	comp=Z,55nm,20.6s,baz=0.0,slow=36						
YKA	Yellowknife Ar	40.79	316	LR		LR	03 59 55.4
	comp=Z,38nm,18.0s,baz=0.0,slow=33						
BRTR	Keskin Array B	47.58	77	P		P	03 45 54.0 +1.1
	comp=Z,2.1nm,0.6s,baz=308,slow=6.1,SNR=4.0						
BRTR				LR		LR	04 07 09.4
	comp=Z,28nm,18.6s,baz=295,slow=38						
BRTR	Keskin Array B	47.58	77	P		P	03 45 53.0 0.0
PDAR	Pinedale Array	48.75	289	P		P	03 46 03.0 +0.9
	comp=Z,0.5nm,0.7s,baz=66,slow=7.2,SNR=5.4						
PDAR				LR		LR	04 05 13.3
	comp=Z,35nm,19.8s,baz=98,slow=34						
PDAR	Pinedale Array	48.75	289	P		P	03 46 02.2 +0.1
TOA0	Torodi Ar. Sit	49.39	129	P		P	03 46 07.0 +0.1
TOA0				IAmb		IAmb	03 46 20.2
	comp=Z,13nm,1.6s						
TORD	Torodi Ar. Bea	49.39	129	P		P	03 46 07.3 +0.4
	comp=Z,0.7nm,0.7s,baz=330,slow=8.2,SNR=3.4						
KBZ	Khabaz	50.34	67	LR		LR	04 09 25.8
	comp=Z,38nm,18.0s,baz=248,slow=38						
HWUT	Hardware Ranch	50.64	290	P		P	03 46 16.7 +0.3
HWUT				IAmb		IAmb	03 46 23.2
	comp=Z,3.1nm,0.8s						
ILAR	Eielson Array	51.41	329	P		P	03 46 22.9 +1.3
	comp=Z,1.0nm,1.1s,baz=28,slow=6.5,SNR=6.5						
ILAR	Eielson Array	51.41	329	P		P	03 46 22.1 +0.5
DBIC	Dimbokro	52.39	141	LR		LR	04 05 09.9
	comp=Z,22nm,21.5s,baz=78,slow=32						
GLI	Glacier Island	54.24	326	P		P	03 46 42.6 0.0
TXAR	Lajitas Array	54.36	273	P		P	03 46 42.9 -1.1
	comp=Z,0.4nm,1.0s,baz=83,slow=7.5,SNR=2.5						
TXAR				PcP		PcP	03 47 47.8 0.0
	comp=Z,0.6nm,0.9s,baz=81,slow=5.9,SNR=4.0						
TXAR				LR		LR	04 09 14.7
	comp=Z,31nm,19.0s,baz=0.0,slow=35						
TXAR	Lajitas Array	54.36	273	P		P	03 46 42.6 -1.4
TXAR						PcP	03 47 47.9 +0.1
ROSC	El Rosal	57.65	228	LR		LR	04 09 42.8
	comp=Z,22nm,20.9s,baz=50,slow=34						
MKAR	Makanchi Array	67.30	41	P		P	03 48 11.5 -0.2
	comp=Z,0.7nm,0.7s,baz=319,slow=5.1,SNR=3.7						
MKAR	Makanchi Array	67.30	41	P		P	03 48 11.8 0.0
SONM	Songino Array	74.43	26	P		P	03 48 56.0 +0.8
	comp=Z,0.5nm,0.6s,baz=335,slow=6.6,SNR=3.8						
SONM	Songino Array	74.43	26	P		P	03 48 55.3 +0.1
WRA	Warramunga Arr	146.09	18	PKPbc		PKPbc	03 56 56.9 -0.4
	comp=Z,1.0nm,0.7s,baz=354,slow=2.6,SNR=11						
WRA	Warramunga Arr	146.09	18			PKPdf	03 56 55.9 -0.5
ASAR	Alice Springs	149.63	20	PKPbc		PKPbc	03 57 06.3 -0.4
	comp=Z,1.0nm,0.5s,baz=347,slow=2.4,SNR=15						
ASAR	Alice Springs	149.63	20			PKPbc	03 57 06.8 0.0

*BJI **24** 03:59:27.6±0.0, 53°.00N×159°.20E, h89km, mB4.9/34, mb4.8/47, Ms4.3/11, Ms7 3.9/13*
*KRSC **24** 03:59:29.7±0.9, 52°.68N×159°.30E, h87km±8km, ML5.3, FELT [III-IV] at Petropavlovsk, Institute; [III] at Viluchinsk, Pionersky, Paratunka, MGeoES-I, state-farm Termalniy; [II-III] at lighthouse Petropavlovskiy; [II] at Nikolaevka.*
*UNK **24** 03:59:30.8, 52°.67N×159°.04E, h86km*
*MOS **24** 03:59:30.6±1.0, 52°.77N×158°.93E, h102km, mb4.9/69, Error ellipse: s-maj=6.2km s-min=3.2km az=81.6*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*NEIC **24** 03:59:30.8±0.8, 52°.67N±0°.07×159°.04E±0°.06, h86km±4km, mb4.9/355, Error ellipse: s-maj=11.2km s-min=3.9km az=162.0*
*BGR **24** 03:59:31.4±0.0, 53°.17N×157°.04E, h33km, mb5.3*
*GCMT **24** 03:59:32.8±0.4, 52°.86N±0°.02×159°.30E±0°.04, h86km±6km, MW4.8/83, Moment Tensor Solution. s22,c24; s83,c115; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}0.29±.14; $M_{\theta\theta}$-0.27±.14; $M_{\phi\phi}$-0.02±.14; $M_{r\theta}$-1.06±.07; $M_{\theta\phi}$-0.45±.12; $M_{\phi r}$-1.75±.05; Best double couple: $M_0$2.10500×10^16 NP1:ϕ_s90.00000°, δ10.00000°, λ149.00000°. NP2: ϕ_s211.00000°, δ85.00000°, λ81.00000°. Principal axes: T 2.0070, Plg50.0000°, Azm111.0000°; N 0.1970, Plg9.0000°, Azm212.0000°; P -2.2040, Plg39.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **24** 03:59:33.2±0.6, 52°.97N×158°.83E, h100km±3km, mb4.5/31, mb1 4.7/33, mb1mx4.6/40, mbtmp4.8/33, MS3.5/16, Ms1 3.5/16, ms1mx3.3/30 Error ellipse: s-maj=13.2km s-min=7.8km az=148.0*

ISC 24 03:59:30.8±0.4, 52°.76N±0°.03×159°.13E±0°.03, h88km±2km, h88km:pP-P, n999, σ1°30/985, mb5.0/304, 23C-59D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALK	Dalny	0.35	320	*i* P		Pn	03 59 45.0 +0.7
DALK				*e*S		Sn	03 59 54.8 +0.5
DALK	Dalny	0.35	320	PN		Pn	03 59 45.0 +0.7
DALK				S		Sn	03 59 54.8 +0.5
PET	Petropavlovsk	0.39	313	*i* P		Pn	03 59 45.4 +0.9
PET	Petropavlovsk	0.39	313	*o i*PN		Pn	03 59 45.8 +1.3
PET				*e*S		Sn	03 59 56.8 +2.1
PET				pmax	pmax		
	comp=Z,66μm,0.6s						
PET				smax	smax		
	comp=N,131μm,0.8s						
PET				smax	smax		
	comp=E,97μm,0.6s						
PET	Petropavlovsk	0.39	313			Pn	03 59 44.5 0.0
PET				Sn		Sn	03 59 55.8 +1.1
NLC	Nalytchevo	0.43	17	*e*P		Pn	03 59 45.4 +0.6
NLC				*e*S		Sn	03 59 55.6 +0.4
NLC	Nalytchevo	0.43	17	PN		Pn	03 59 45.4 +0.6
NLC				S		Sn	03 59 55.6 +0.4
UGLR	Uglovaya	0.49	338	*i* P		Pn	03 59 46.6 +1.2
UGLR	Uglovaya	0.49	338	PN		Pn	03 59 46.6 +1.2
RUS	Russkaya	0.50	229	*e*P		Pn	03 59 46.0 +0.7
RUS				*e*S		Sn	03 59 57.0 +0.9
RUS	Russkaya	0.50	229	PN		Pn	03 59 46.0 +0.7
RUS				S		Sn	03 59 57.0 +0.9
SDLR	Sedlovina	0.54	344	*i* P		Pn	03 59 46.9 +1.1
SDLR	Sedlovina	0.54	344	PN		Pn	03 59 46.9 +1.1
SMAR	Somma	0.54	339	*i* P		Pn	03 59 46.8 +0.8
SMAR	Somma	0.54	339	PN		Pn	03 59 46.8 +0.8
AVH	Avacha	0.56	335	*i* P		Pn	03 59 47.4 +1.5
AVH				*e*S		Sn	03 59 59.5 +2.3
AVH	Avacha	0.56	335	PN		Pn	03 59 47.4 +1.5
AVH				S		Sn	03 59 59.5 +2.3
KRER	Koryakskii	0.59	337	*i* P		Pn	03 59 47.7 +1.3
KRER	Koryakskii	0.59	337	PN		Pn	03 59 47.7 +1.3
KOK	Koryaka	0.61	331	*i* P		Pn	03 59 47.7 +1.3
KOK	Koryaka	0.61	331	PN		Pn	03 59 47.7 +1.3
KRMR	Karymshinskiy	0.61	277	*e*P		Pn	03 59 46.3 0.0
KRMR				*e*S		Sn	03 59 58.2 +0.4
KRMR	Karymshinskiy	0.61	277	PN		Pn	03 59 46.3 0.0
KRMR				S		Sn	03 59 58.2 +0.4
SPN	Mys Shipunski	0.64	58	*i* P		Pn	03 59 46.7 +0.2
SPN				*e*S		Sn	03 59 57.8 -0.4
SPN	Mys Shipunski	0.64	58	PN		Pn	03 59 46.7 +0.2
SPN				S		Sn	03 59 57.8 -0.4
MTVR	Mutnovka	0.64	245	*e*P		Pn	03 59 47.9 +1.2
MTVR	Mutnovka	0.64	245	PN		Pn	03 59 47.9 +1.2
KRX	Arik	0.67	334	*i* P		Pn	03 59 48.1 +1.1
KRX	Arik	0.67	334	PN		Pn	03 59 48.1 +1.1
GRL	Gorel

BDR	**Baidarnaya**	**4.00**	**17**	*eP*	**Pn**	**04 00 32.3 +2.4**
BDR	**Baidarnaya**	**4.00**	**17**	PN	**Pn**	**04 00 32.3 +2.4**
SMKR	**Semkarok**	**4.06**	**19**	*eP*	**Pn**	**04 00 32.9 +2.2**
SMKR	**Semkarok**	**4.06**	**19**	PN	**Pn**	**04 00 32.9 +2.2**
KBTR	**Krutoberegovo**	**4.07**	**30**	*i* P	**Pn**	**04 00 32.3 +1.6**
KBTR	**Krutoberegovo**	**4.07**	**30**	PN	**Pn**	**04 00 32.3 +1.6**
KBG	**Krutoberegovo**	**4.08**	**29**	*eP*	**Pn**	**04 00 32.2 +1.5**
KBG				*eS*	**Sn**	**04 01 19.4 +2.2**
KBG	**Krutoberegovo**	**4.08**	**29**	PN	**Pn**	**04 00 32.2 +1.5**
KBG				S	**Sn**	**04 01 19.4 +2.2**
SRKR	**Sorokina**	**4.08**	**16**	*eP*	**Pn**	**04 00 33.5 +2.6**
SRKR	**Sorokina**	**4.08**	**16**	PN	**Pn**	**04 00 33.5 +2.6**
BKI	**Bering**	**4.72**	**56**	*eP*	**Pn**	**04 00 39.6 +0.1**
BKI				*eS*	**Sn**	**04 01 27.2 -5.8**
BKI	**Bering**	**4.72**	**56**	PN	**Pn**	**04 00 39.6 +0.1**
PALN	**Palana**	**6.36**	**4**	*eP*	**Pn**	**04 01 04.2 +2.4**
PALN	**Palana**	**6.36**	**4**	PN	**Pn**	**04 01 04.2 +2.4**
OSSR	**Ossora**	**6.87**	**17**	*eP*	**Pn**	**04 01 12.1 +3.4**
OSSR	**Ossora**	**6.87**	**17**	PN	**Pn**	**04 01 12.1 +3.4**
MA2	**Magadan**	**8.27**	**329**	P	**Pn**	**04 01 29.4 +1.7**
	comp=E,4.1nm,0.3s,baz=130,slow=14,SNR=13					
MA2				LR	LR	04 04 52.8
	comp=E,353nm,20.6s,baz=114,slow=40					
MA2	**Magadan**	**8.27**	**329**	*de*PN	**Pn**	**04 01 28.8 +1.0**
MA2				pmax	pmax	
	comp=Z,53nm,0.8s					
MA2	**Magadan**	**8.27**	**329**	Pn	**Pn**	**04 01 27.8 0.0**
SMY	**Shemya**	**9.09**	**84**	PN	**Pn**	**04 01 39.9 +1.0**
SMY	**Shemya**	**9.09**	**84**	Pn	**Pn**	**04 01 39.9 +1.0**
SMY				Sn	**Sn**	**04 03 15.0 -4.3**
OKH	**Okha**	**9.77**	**281**	*d i* PN	**Pn**	**04 01 51.9 +3.7**
OKH				pmax	pmax	
	comp=Z,200nm,9.3s					
OKH				MLR	MLR	
	comp=Z,200nm,20.0s					
OKH				MLR	MLR	
	comp=N,200nm,20.0s					
OKH				MLR	MLR	
	comp=E,400nm,17.0s					
TYV	**Tymovskoe**	**10.38**	**266**	*e*PN	**Pn**	**04 02 00.6 +4.0**
TYV				pmax	pmax	
	comp=Z,400nm,2.1s					
TYV				pmax	pmax	
	comp=Z,53nm,1.2s					
TYV				MLR	MLR	
	comp=Z,800nm,20.0s					
SEY	**Seymchan**	**10.81**	**343**	P	**Pn**	**04 02 05.4 +3.1**
	comp=Z,0.4nm,0.3s,baz=146,slow=12,SNR=24					
SEY				LR	LR	04 06 38.0
	comp=Z,278nm,21.0s,baz=168,slow=40					
SEY	**Seymchan**	**10.81**	**343**	*de*PN	**Pn**	**04 02 03.9 +1.6**
NKL	**Nikolayevsk**	**11.14**	**279**	*e*PN	**Pn**	**04 02 08.7 +1.8**
NKL				*e*S	**Sn**	**04 04 16.9 +7.6**
NKL				pmax	pmax	
	comp=N,17nm,1.0s					
NKL				pmax	pmax	
	comp=Z,45nm,1.8s					
NKL				smax	smax	
	comp=N,22nm,4.1s					
NKL				MLR	MLR	
	comp=N,143nm,16.0s					
NKL				MLR	MLR	
	comp=Z,201nm,17.0s					
UGL	**Uglegorsk**	**11.38**	**258**	*e*PN	Pn	04 02 15.7 +5.5
UGL				pmax	pmax	
	comp=Z,154nm,1.0s					
YSS	**Yuzh-Sakhalins**	**12.05**	**248**	*e*PN	**Pn**	**04 02 18.6 -0.6**
YSS				*e*S	**Sn**	**04 04 30.2 -1.3**
YSS				MLR	MLR	
	comp=Z,400nm,16.0s					
YSS				MLR	MLR	
	comp=N,300nm,15.0s					
YSS				MLR	MLR	
	comp=E,300nm,14.0s					
JKA	**Kamikawa-asahi**	**13.94**	**238**	Pn	**Pn**	**04 02 43.9 -0.4**
ASAJ	**Asahikawa**	**13.95**	**238**	P	**Pn**	**04 02 45.9 +1.6**
	comp=E,1.8nm,0.3s,baz=55,slow=10,SNR=29					
ASAJ	**Asahikawa**	**13.95**	**238**	P	**Pn**	**04 02 43.9 -0.4**
GRNR	**Gornyy**	**14.19**	**271**	⇑*i*P	**P**	**04 02 54.3 +2.1**
GRNR				pmax	pmax	
	comp=N,20nm,0.6s					
GRNR				pmax	pmax	
	comp=E,40nm,0.6s					
GRNR				pmax	pmax	
	comp=Z,50nm,0.6s					
GRNR				MLR	MLR	
	comp=E,180nm,15.0s					
GRNR				MLR	MLR	
	comp=N,130nm,12.0s					
GRNR				MLR	MLR	
	comp=Z,120nm,15.0s					
ADK	**Adak**	**14.80**	**84**	P	**Pn**	**04 02 56.6 +1.3**
ADK	**Adak**	**14.80**	**84**	Pn	**Pn**	**04 02 56.6 +1.3**
ERM	**Erimo**	**15.21**	**231**	*de*P	**Pn**	**04 02 57.2 -3.4**
ERM	**Erimo**	**15.21**	**231**	Pn	**Pn**	**04 02 57.3 -3.3**
ERM				IAmb	IAmb	04 03 09.0
	comp=Z,32nm,0.5s					
BILL	**Bilibino**	**15.71**	**10**	⇓*eP*	**P**	**04 03 09.9 +1.0**
BILL				pmax	pmax	
	comp=Z,28nm,0.8s					
BILL				MLR	MLR	
	comp=Z,80nm,16.0s					
ZEA	**Zeya**	**19.02**	**286**	*e*P	**P**	**04 03 45.4 -0.1**
ZEA				pmax	pmax	
	comp=Z,29nm,1.0s					
NIKH	**Nikolski High**	**19.25**	**77**	P	**P**	**04 03 47.6 -0.3**
NIKH				IAmb	IAmb	04 03 53.1
	comp=Z,79nm,0.8s					
JMM	**Marumori**	**19.61**	**228**	P	**P**	**04 03 51.9 -0.2**
JMM				IAmb	IAmb	04 03 55.1
	comp=Z,60nm,0.7s					
USA0B	**Ussuriysk Arra**	**19.83**	**255**	P	**P**	**04 03 54.1 -0.2**
USA0B				pmax	pmax	
	comp=Z,34nm,0.8s					
USA0B	**Ussuriysk Arra**	**19.83**	**255**	P	**P**	**04 03 54.1 -0.2**
USA0B				IAmb	IAmb	04 03 58.2
	comp=Z,34nm,0.8s					
USRK	**Ussuriysk Ar.**	**19.83**	**255**	P	**P**	**04 03 54.2 -0.1**
	baz=54,slow=12,SNR=51					
USRK				LR	LR	04 11 42.7
	comp=Z,135nm,21.0s,baz=50,slow=37					
USRK	**Ussuriysk Ar.**	**19.83**	**255**	P	**P**	**04 03 54.0 -0.3**
UNV	**Unalaska Valle**	**20.45**	**73**	P	Pn	04 04 02.6 -1.3
UNV				IAmb	IAmb	04 04 03.5
	comp=Z,44nm,1.0s					
JSD	**Sado**	**20.66**	**233**	P	**P**	**04 04 03.3 0.0**
AKUT	**Akutan**	**20.82**	**72**	P	**P**	**04 04 06.5 +1.6**
AKUT				IAmb	IAmb	04 04 13.5
	comp=Z,56nm,0.9s					
MDJ	**Mudanjiang**	**21.01**	**259**	P	**P**	**04 04 06.5 -0.6**
MDJ				pP	pP	04 04 24.8 +0.2
MDJ				sP	sP	04 04 36.8 +1.1
MDJ				S	**S**	**04 07 55.3 -0.7**
MDJ				sS	sS	04 08 24.4 0.0
MDJ				pmax	pmax	
	comp=Z,17nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,78nm,3.6s					
MDJ				LR	LR	
	comp=Z,130nm,4.7s					
MDJ				LR	LR	
	comp=Z,220nm,18.5s					
MDJ	**Mudanjiang**	**21.01**	**259**	P	**P**	**04 04 06.6 -0.6**
JYT	**Yasato**	**21.24**	**226**	P	**P**	**04 04 09.5 0.0**
JYT				IAmb	IAmb	04 04 12.5
	comp=Z,52nm,0.8s					
MAJO	**Matsushiro**	**21.88**	**230**	*d i* P	**P**	**04 04 16.8 +0.4**
MAJO				pmax	pmax	
	comp=Z,74nm,0.8s					
MAJO	**Matsushiro**	**21.88**	**230**	P	**P**	**04 04 16.3 -0.1**
MAT	**Matsushiro**	**21.88**	**230**	P	**P**	**04 04 16.9 +0.5**
MAT				S	**S**	**04 08 13.0 0.0**
MJAR	**Matsushiro Arr**	**21.88**	**230**	P	**P**	**04 04 17.5 +1.1**
	comp=Z,53nm,0.8s,baz=18,slow=12,SNR=116					
MJAR				LR	LR	04 12 39.3
	comp=Z,46nm,20.6s,baz=50,slow=36					
MJAR	**Matsushiro Arr**	**21.88**	**230**	P	**P**	**04 04 16.1 -0.3**
JGF	**Kuroka**	**23.05**	**231**	P	**P**	**04 04 28.3 -0.3**
TIXI	**Tiksi**	**23.14**	**336**	P	**P**	**04 04 28.7 -0.4**
TIXI				pmax	pmax	
	comp=Z,105nm,1.0s					
TIXI	**Tiksi**	**23.14**	**336**	P	**P**	**04 04 28.7 -0.4**
INU	**Inuyama**	**23.41**	**231**	P	**P**	**04 04 31.6 -0.3**
RDOG	**Red Dog Mine**	**23.65**	**35**	P	**P**	**04 04 34.5 +0.7**
CNBA	**Chernabura Isl**	**24.23**	**69**	P	**P**	**04 04 39.2 +0.2**
HIA	**Hailar**	**24.81**	**278**	P	**P**	**04 04 44.0 -0.4**
HIA				pmax	pmax	
	comp=Z,23nm,0.5s					
HIA	**Hailar**	**24.81**	**278**	P	**P**	**04 04 44.0 -0.4**
HIA				IAmb	IAmb	04 04 44.3
	comp=Z,23nm,0.5s					
TTA	**Tatalina**	**25.41**	**49**	P	**P**	**04 04 51.1 +1.3**
TTA				pmax	pmax	
	comp=Z,21nm,0.8s					
TTA	**Tatalina**	**25.41**	**49**	P	**P**	**04 04 51.1 +1.3**
SVW2	**Sparrevohn**	**25.60**	**53**	P	**P**	**04 04 52.8 +1.4**
JHS	**Saijyo**	**25.60**	**236**	P	**P**	**04 04 52.0 +0.2**
JHS				IAmb	IAmb	04 04 56.2
	comp=Z,58nm,0.7s					
BOD	**Bodaibo**	**25.80**	**299**	*e*P	**P**	**04 04 51.4 -1.9**
BOD				pmax	pmax	
	comp=Z,10.0nm,1.2s					
JMN	**Monobe**	**26.23**	**234**	P	**P**	**04 04 57.6 +0.1**
JMN				IAmb	IAmb	04 05 07.6
	comp=Z,39nm,0.9s					
KSRS	**Korea Array**	**26.55**	**247**	P	**P**	**04 05 01.3 +1.1**
	comp=Z,9.5nm,0.8s,baz=43,slow=9.1,SNR=26					
KSRS				LR	LR	04 14 57.8
	comp=Z,61nm,19.5s,baz=40,slow=35					
KSAR	**Wonju Array Be**	**26.58**	**247**	P	**P**	**04 04 59.4 -1.1**
KSAR	**Wonju Array Be**	**26.58**	**247**	P	**P**	**04 04 59.4 -1.1**
IMAR	**Indian Mountai**	**26.64**	**42**	P	**P**	**04 05 01.4 +0.6**
SII	**Sitkinak Islan**	**26.86**	**63**	IAmb	IAmb	04 05 07.6
	comp=Z,36nm,0.8s					
RSO	**Redoubt South**	**27.02**	**54**	P	**P**	**04 05 05.6 +1.1**
PPLA	**Purkeypile**	**27.16**	**49**	P	**P**	**04 05 06.7 +1.0**
OHAK	**Old Harbor**	**27.21**	**61**	P	**P**	**04 05 06.3 +0.4**
KDAK	**Kodiak Island**	**27.48**	**60**	P	**P**	**04 05 08.1 -0.2**
	comp=Z,7.2nm,0.5s,baz=338,slow=5.0,SNR=16					
KDAK	**Kodiak Island**	**27.48**	**60**	P	**P**	**04 05 08.1 -0.2**
SKT	**Skwentna**	**27.50**	**51**	P	**P**	**04 05 09.4 +0.8**
TJN	**Taejon**	**27.63**	**246**	⇓*eP*	**P**	**04 05 07.7 -2.2**
BPAW	**Bear Paw Mtn.**	**27.70**	**46**	P	**P**	**04 05 11.3 +1.1**
CNPM	**China Poot**	**27.89**	**56**	P	**P**	**04 05 12.4 +0.4**
CNPM				IAmb	IAmb	04 05 14.0
	comp=Z,30nm,1.1s					
SUA	**Susitna One**	**27.91**	**52**	P	**P**	**04 05 13.2 +0.9**
TRF	**Thorofare Moun**	**28.01**	**48**	P	**P**	**04 05 13.6 +0.4**
BRLK	**Bradley Lake**	**28.03**	**56**	P	**P**	**04 05 13.1 -0.2**
CUT	**Chulitna**	**28.07**	**50**	P	**P**	**04 05 14.1 +0.6**
	baz=273					
COLD	**Coldfoot**	**28.18**	**40**	P	**P**	**04 05 15.1 +0.6**
	baz=264					
COLD	**Coldfoot**	**28.18**	**40**	P	**P**	**04 05 15.3 +0.8**
JNU	**Nakatsue**	**28.22**	**237**	P	**P**	**04 05 15.1 -0.2**
	comp=Z,12nm,0.6s,baz=109,slow=2.3,SNR=8.5					
JNU	**Nakatsue**	**28.22**	**237**	P	**P**	**04 05 14.8 -0.4**
BWN	**Browne**	**28.36**	**46**	P	**P**	**04 05 18.0 +1.8**
BWN				IAmb	IAmb	04 05 23.7
	comp=Z,25nm,1.0s					
RC01	**Rabbit Creek A**	**28.43**	**53**	P	**P**	**04 05 17.5 +0.6**
	baz=276					
NEA2	**Nenana**	**28.53**	**45**	P	**P**	**04 05 18.3 +0.6**
	baz=270,SNR=10					
TOLK	**Toolik Lake Re**	**28.58**	**37**	P	**P**	**04 05 18.8 +0.6**
	baz=262,SNR=7.4					
TOLK	**Toolik Lake Re**	**28.58**	**37**	P	**P**	**04 05 19.1 +1.0**
TOLK				IAmb	IAmb	04 05 19.6
	comp=Z,10.0nm,0.5s					
MCK	**McKinley**	**28.61**	**47**	P	**P**	**04 05 19.6 +1.2**
MCK				pmax	pmax	
	comp=Z,10.0nm,0.8s					
MCK	**McKinley**	**28.61**	**47**	P	**P**	**04 05 19.6 +1.2**
RND	**Reindeer**	**28.66**	**48**	P	**P**	**04 05 19.3 +0.4**
RND				pmax	pmax	
	comp=Z,19nm,1.0s					
RND	**Reindeer**	**28.66**	**48**	P	**P**	**04 05 19.3 +0.4**
PMR	**Palmer**	**28.67**	**52**	P	**P**	**04 05 19.6 +0.7**
PMR				pmax	pmax	
	comp=Z,9.0nm,0.7s					
PMR	**Palmer**	**28.67**	**52**	P	**P**	**04 05 19.6 +0.7**
SEW	**Seward**	**28.70**	**55**	P	**P**	**04 05 19.4 +0.3**
SEW				IAmb	IAmb	04 05 20.1
	comp=Z,21nm,0.7s					
GHO	**Glory Hole Cre**	**28.75**	**51**	P	**P**	**04 05 20.4 +0.7**
WRH	**Wood River Hil**	**28.95**	**45**	P	**P**	**04 05 22.7 +1.3**
WRH				IAmb	IAmb	04 05 23.8
	comp=Z,25nm,1.0s					
KNK	**Knik Glacier**	**29.01**	**52**	P	**P**	**04 05 23.1 +1.2**
SML	**Sawmill**	**29.02**	**51**	P	**P**	**04 05 23.4 +1.2**
TCOL	**CIGO, UAF Yank**	**29.04**	**45**	P	**P**	**04 05 23.3 +1.1**
	baz=271					
COLA	**College**	**29.05**	**45**	⇓*eP*	**P**	**04 05 22.5 +0.3**
COLA				pmax	pmax	
	comp=Z,12nm,1.1s					
CCB	**Clear Creek Bu**	**29.07**	**45**	P	**P**	**04 05 23.3 +0.8**
POKR	**Poker Plat Res**	**29.22**	**44**	P	**P**	**04 05 25.3 +1.5**
	baz=271					
DHY	**Denali Highway**	**29.35**	**48**	P	**P**	**04 05 25.9 +0.8**
HDA	**Harding Lake**	**29.45**	**46**	P	**P**	**04 05 25.8 -0.1**
	baz=273,SNR=21					
HDA	**Harding Lake**	**29.45**	**46**	P	**P**	**04 05 26.3 +0.4**
HDA				IAmb	IAmb	04 05 27.1
	comp=Z,15nm,0.5s					
IL31		**29.46**	**45**	P	**P**	**04 05 26.6 +0.7**
ILAR	**Eielson Array**	**29.46**	**45**	P	**P**	**04 05 26.2 +0.3**
	comp=Z,12nm,0.8s,baz=263,slow=7.8,SNR=132					
ILAR				S	**S**	**04 10 12.3 -1.2**
	comp=Z,1.1nm,1.1s,baz=253,slow=11,SNR=5.0					
ILAR				ScP	**ScP**	**04 12 02.8 0.0**
	comp=Z,0.7nm,1.0s,baz=297,slow=6.0,SNR=3.7					
ILAR				LR	LR	04 17 01.5
	comp=Z,26nm,20.6s,baz=280,slow=36					
ILAR	**Eielson Array**	**29.46**	**45**	P	**P**	**04 05 26.4 +0.5**
SCM	**Sheep Creek Mo**	**29.49**	**51**	P	**P**	**04 05 27.6 +1.2**
SCM				pmax	pmax	
	comp=Z,44nm,0.8s					
SCM	**Sheep Creek Mo**	**29.49**	**51**	P	**P**	**04 05 27.6 +1.2**
M24K	**Tolsona, Glenn**	**30.00**	**50**	P	**P**	**04 05 32.3 +1.5**
	baz=277,SNR=9.7					
M24K	**Tolsona, Glenn**	**30.00**	**50**	P	**P**	**04 05 32.1 +1.3**
M24K				IAmb	IAmb	04 05 33.1
	comp=Z,27nm,0.7s					
HIN	**Hinchinbrook I**	**30.10**	**54**	IAmb	IAmb	04 05 33.2
	comp=Z,27nm,0.7s					
KLU	**Klutina**	**30.20**	**51**	P	**P**	**04 05 33.5 +0.9**
BMAR	**Burnt Mountain**	**30.37**	**39**	P	**P**	**04 05 35.3 +1.3**
RIDG	**Independent Ri**	**30.42**	**47**	P	**P**	**04 05 34.2 -0.2**
RIDG				IAmb	IAmb	04 05 35.2
	comp=Z,21nm,1.1s					
EYAK	**Cordova Ski Ar**	**30.44**	**53**	P	**P**	**04 05 35.8 +1.2**
EYAK				IAmb	IAmb	04 05 36.4
	comp=Z,17nm,0.8s					
SCRK	**Sand Creek**	**30.78**	**46**	P	**P**	**04 05 37.4 -0.3**
	baz=276,SNR=22					
RAGM	**Ragged Mountai**	**31.00**	**53**	P	**P**	**04 05 41.0 +1.4**
RAGM				IAmb	IAmb	04 05 45.2
	comp=Z,23nm,0.7s					
VRDI	**Verde Repeater**	**31.42**	**51**	P	**P**	**04 05 44.7 +1.2**
MCARA	**McCarthy VSAT**	**31.60**	**51**	P	**P**	**04 05 46.2 +1.4**
MCARA				IAmb	IAmb	04 05 49.3
	comp=Z,13nm,0.7s					
K27K	**Chicken**	**31.61**	**46**	P	**P**	**04 05 45.7 +0.9**
	baz=277					
CRQM	**Cirque**	**31.66**	**52**	P	**P**	**04 05 47.0 +1.4**
TGL	**Tana Glacier**	**31.81**	**52**	P	**P**	**04 05 48.1 +1.3**
TGL				IAmb	IAmb	04 05 49.0
	comp=Z,19nm,0.8s					
WAX	**Waxell Ridge**	**31.87**	**53**	P	**P**	**04 05 48.7 +1.5**
WAX				IAmb	IAmb	04 05 49.7
	comp=Z,30nm,0.7s					
BCAR	**Beaver Creek A**	**31.88**	**48**	P	**P**	**04 05 48.7 +1.5**
EGAK	**Eagle**	**31.91**	**44**	P	**P**	**04 05 47.7 +0.2**
EGAK				IAmb	IAmb	04 05 48.4
	comp=Z,19nm,0.7s					
BALM	**Baldy**	**31.99**	**52**	P	**P**	**04 05 49.6 +1.3**
ISLE	**Juniper Island**	**32.08**	**52**	P	**P**	**04 05 50.5 +1.3**
ISLE				IAmb	IAmb	04 05 51.3
	comp=Z,36nm,1.2s					
BARN	**Barnard Glacie**	**32.31**	**51**	P	**P**	**04 05 52.5 +1.2**
YAH	**Yahtse**	**32.42**	**53**	P	**P**	**04 05 53.5 +1.2**
CTGM	**Chitina Glacie**	**32.48**	**52**	P	**P**	**04 05 54.0 +1.3**
ULN	**Ulaanbaatar**	**33.00**	**283**	*c i* P	**P**	**04 05 56.7 -0.7**
ULN				pmax	pmax	
	comp=Z,9.0nm,1.3s					
ULN				MLR	MLR	
	comp=Z,128nm,17.0s					
PCA	**Pinnacle**	**33.21**	**53**	P	**P**	**04 06 00.4 +1.4**
TLY	**Talaya**	**33.30**	**291**	PcP	**PcP**	**04 08 41.8 +2.1**
	comp=Z,4.6nm,0.7s,baz=231,slow=5.0,SNR=5.1					
SONM	**Songino Array**	**33.41**	**283**	P	**P**	**04 06 00.5 -0.4**
	comp=Z,5.1nm,0.6s,baz=62,slow=7.5,SNR=27					
SONM				PcP	**PcP**	**04 08 41.1 +0.8**
	comp=Z,4.0nm,0.7s,baz=66,slow=2.4,SNR=9.6					
SONM				ScP	**ScP**	**04 12 17.4 +1.0**
	comp=Z,5.0nm,1.1s,baz=122,slow=3.3,SNR=15					
SONM	**Songino Array**	**33.41**	**283**	P	**P**	**04 06 00.1 -0.7**
SONM				PcP	**PcP**	**04 08 40.5 +0.3**
SONM					**ScP**	**04 12 17.2 +0.8**
H11N2	**WAKE ISLAND Hy**	**33.51**	**167**	T	T	04 41 55.8
	baz=352,slow=76,SNR=350					
H11N3	**WAKE ISLAND Hy**	**33.53**	**167**	T	T	04 41 49.2
	baz=352,slow=76,SNR=321					
H11N1	**WAKE ISLAND Hy**	**33.53**	**167**	T	T	04 41 51.7
	baz=352,slow=76,SNR=455					
HHC	**Hu-ho-hao-te**	**34.05**	**269**	*e*P	**P**	**04 06 07.8 +1.3**
HHC				pmax	pmax	
	comp=Z,26nm,0.9s					
HHC				pmax	pmax	
	comp=Z,97nm,6.6s					
ZAK	**Zakamensk**	**34.06**	**289**	*e*P	**P**	**04 06 05.8 -0.6**
ZAK				*e*		04 08 40.2
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.3s					
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.1s					
INK	**Inuvik**	**34.49**	**37**	P	**P**	**04 06 11.1 +1.3**
	comp=Z,7.8nm,0.5s,baz=298,slow=10,SNR=43					
INK				PcP	**PcP**	**04 08 44.0 +1.2**
	comp=Z,2.0nm,0.7s,baz=157,slow=1.9,SNR=2.3					
INK	**Inuvik**	**34.49**	**37**	P	**P**	**04 06 11.1 +1.3**
INK				IAmb	IAmb	04 06 11.9
	comp=Z,7.9nm,0.6s					
INK					**PcP**	**04 08 44.0 +1.2**
H11S1	**WAKE ISLAND Hy**	**34.69**	**167**	T	T	04 43 24.0
	baz=352,slow=76,SNR=154					
H11S3	**WAKE ISLAND Hy**	**34.70**	**167**	T	T	04 43 21.4
	baz=352,slow=76,SNR=313					
H11S2	**WAKE ISLAND Hy**	**34.71**	**167**	T	T	04 43 25.5
	baz=352,slow=76,SNR=110					
MOY	**Mondy**	**34.80**	**292**	*e*P	**P**	**04 06 12.2 -0.7**
MOY				*e*		04 06 34.6
MOY				pmax	pmax	
	comp=Z,30nm,1.3s					
NJ2	**Nanjing**	**35.60**	**251**	*e*P	**P**	**04 06 19.8 +0.1**
NJ2				pmax	pmax	
	comp=Z,27nm,0.5s					
WHY	**Whitehorse**	**35.62**	**51**	P	**P**	**04 06 21.1 +1.3**
SKAG	**Skagway**	**35.78**	**53**	P	**P**	**04 06 22.4 +1.4**
NRIK	**Noril'sk**	**35.84**	**325**	P	**P**	**04 06 20.6 -0.9**
	comp=Z,3.0nm,0.6s,baz=78,slow=9.3,SNR=2.8					
NRIK				PcP	**PcP**	**04 08 47.8 +1.1**
	comp=Z,5.9nm,0.7s,baz=63,slow=4.6,SNR=3.9					
NRIK				LR	LR	04 21 58.0
	comp=Z,146nm,20.4s,baz=21,slow=38					
BESE	**Bessie Mountai**	**36.31**	**54**	P	**P**	**04 06 27.0 +1.4**
BESE				IAmb	IAmb	04 06 28.9
	comp=Z,20nm,0.9s					
SIT	**Sitka**	**36.62**	**56**	P	**P**	**04 06 29.5 +1.3**
SIT				pmax	pmax	
	comp=Z,45nm,1.2s					
SIT	**Sitka**	**36.62**	**56**	P	**P**	**04 06 29.5 +1.3**
JIS	**Juneau Island**	**36.65**	**54**	IAmb	IAmb	04 06 31.9
	comp=Z,32nm,1.2s					
C36M	**Paulatuk**	**37.65**	**34**	P	**P**	**04 06 37.7 +0.9**
	baz=284					
WRAK	**Wrangell Islan**	**38.38**	**56**	P	**P**	**04 06 44.6 +1.6**
WRAK				IAmb	IAmb	04 06 47.0
	comp=Z,21nm,0.9s					
DLBC	**Dease Lake**	**38.71**	**53**	P	**P**	**04 06 47.1 +1.3**
DLBC				IAmb	IAmb	04 06 49.8
	comp=Z,14nm,1.0s					
XAN	**Xi'an**	**40.05**	**263**	P	**P**	**04 06 56.6 -0.7**
XAN				pmax	pmax	
	comp=Z,5.0nm,0.7s					
XAN				LR	LR	
	comp=Z,220nm,18.4s					
XAN				LR	LR	
	comp=Z,230nm,18.4s					
XAN				LR	LR	
	comp=Z,400nm,18.6s					
YULB	**Yu-li**	**41.02**	**239**	P	**P**	**04 07 04.9 -0.4**
YULB				IAmb	IAmb	04 07 10.6
	comp=Z,15nm,0.5s					
TPUB	**Ta-pu**	**41.44**	**240**	P	**P**	**04 07 08.7 -0.1**
TPUB				IAmb	IAmb	04 07 14.3
	comp=Z,15nm,0.5s					
TWG	**Pinlang**	**41.60**	**239**	P	**P**	**04 07 09.9 -0.1**
LZH	**Lanzhou**	**41.75**	**269**	*e*P	**P**	**04 07 11.3 -0.1**
LZH				pP	pP	04 07 35.6 +3.3
LZH				sP	sP	04 07 44.8 +2.5
LZH				pmax	pmax	
	comp=Z,20nm,1.3s					
LZH				pmax	pmax	
	comp=Z,110nm,5.1s					
GTA	**Gaotai**	**42.06**	**276**	⇑P	**P**	**04 07 13.5 -0.3**
GTA				pP	pP	04 07 34.8 0.0
GTA				sP	sP	04 07 45.4 +0.6
GTA				PcP	**PcP**	**04 09 08.1 +1.1**
GTA				ScP	**ScP**	**04 12 51.4 +2.2**
GTA				PcS	**PcS**	**04 12 56.1 -2.8**
GTA				pmax	pmax	
	comp=Z,8.0nm,1.0s					
GTA				pmax	pmax	
	comp=Z,39nm,4.4s					
GTA				LR	LR	
	comp=Z,110nm,16.0s					
GTA				LR	LR	
	comp=Z,83nm,17.1s					
GTA				LR	LR	
	comp=Z,76nm,15.3s					
ZAA0	**Zalesovo Array**	**42.46**	**303**	P	**P**	**04 07 14.5 -2.2**
ZAA0				PcP	**PcP**	**04 09 08.4 +0.5**
ZALV	**Zalesovo Beam**	**42.46**	**303**	P	**P**	**04 07 14.5 -2.2**
	comp=Z,2.3nm,0.4s,baz=66,slow=6.5,SNR=8.8					
ZALV				PcP	**PcP**	**04 09 08.4 +0.5**
	comp=Z,5.1nm,0.4s,baz=82,slow=4.2,SNR=7.6					
ZALV				LR	LR	04 26 14.8
	comp=Z,97nm,18.5s,baz=41,slow=38					
DGZ	**Jazzator, Alta**	**43.29**	**296**	*de*P	**P**	**04 07 22.8 -0.8**
DGZ				pmax	pmax	
	comp=Z,7.0nm,0.8s					
DGZ				MLR	MLR	
	comp=Z,80nm,23.0s					
YKA	**Yellowknife Ar**	**43.80**	**42**	P	**P**	**04 07 28.5 +1.1**
	comp=Z,4.1nm,0.7s,baz=299,slow=7.6,SNR=11					
CD2	**Chengdu**	**45.35**	**

MKAR PcP 04 09 26.2 -0.3
MKAR ScP 04 13 13.1 +0.6
D03D Eldon 47.84 63 P P 04 08 01.3 +2.0
baz=307
MAKZ Makanchi 47.94 296 P P 04 07 58.2 -1.9
MAKZ pmax pmax
comp=Z,7.0nm,0.6s
MAKZ Makanchi 47.94 296 P P 04 07 58.2 -1.9
B05A Bryant 47.94 62 P P 04 08 02.0 +1.9
baz=307,SNR=6.3
B06A Marblemount 48.12 61 IAmb IAmb 04 08 03.4
comp=Z,16nm,0.5s
D04E Lakebay 48.23 64 P P 04 08 04.7 +2.5
baz=307
E04D Cinebar 48.72 64 P P 04 08 08.3 +2.2
baz=308
F04D Rainier, OR 48.76 65 P P 04 08 08.6 +2.1
baz=308
C06D Leavenworth 48.79 62 P P 04 08 08.6 +2.0
baz=307
LTY Liberty 49.32 62 P P 04 08 12.0 +1.3
LTY IAmb IAmb 04 08 12.5
comp=Z,8.7nm,0.7s
B08A Colville Reser 49.36 60 P P 04 08 12.3 +1.3
B08A IAmb IAmb 04 08 13.5
comp=Z,16nm,0.9s
F05D White Salmon 49.74 64 P P 04 08 15.8 +1.9
baz=308
H04D Lebanon 49.88 66 P P 04 08 17.1 +2.1
baz=309
I03D Drain, OR 50.06 67 P P 04 08 18.6 +2.3
baz=309
J01E Myrtle Point 50.08 68 P P 04 08 18.8 +2.3
baz=310
BRVK Borovoye 50.17 308*d* iP P 04 08 14.7 -2.3
BRVK *i* *PP pP 04 08 37.8 -0.6
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 50.17 308 P P 04 08 15.5 -1.5
BRVK IAmb IAmb 04 08 16.1
comp=Z,15nm,0.8s
BRVK PcP PcP 04 09 34.9 -0.1
E07A Sunnyside 50.19 63 P P 04 08 18.6 +1.3
E07A IAmb IAmb 04 08 20.0
comp=Z,14nm,1.0s
G05D Wamic, OR 50.22 65 P P 04 08 19.5 +1.9
baz=309
D08A Wollman Farm, 50.38 62 P P 04 08 19.9 +1.2
HAWA Hanford 50.47 63 P P 04 08 20.7 +1.4
HAWA IAmb IAmb 04 08 21.9
comp=Z,14nm,1.1s
K02D Willamette Mer 50.52 69 P P 04 08 22.5 +2.6
baz=310
I04A Tendick Farm, 50.53 67 P P 04 08 22.1 +2.2
baz=310
F07A Phinny Hill Vi 50.56 63 P P 04 08 21.5 +1.4
NEW Newport 50.58 59 P P 04 08 21.3 +1.1
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 50.58 59 P P 04 08 21.5 +1.3
baz=309,SNR=7.5
NEW Newport 50.58 59 P P 04 08 21.3 +1.1
NEW IAmb IAmb 04 08 22.5
comp=Z,12nm,1.1s
QIZ Qiongzhong 50.77 248 P P 04 08 21.9 -0.1
QIZ IAmb IAmb 04 08 25.4
comp=Z,22nm,1.0s
I05D Terrebonne, OR 50.78 66 P P 04 08 23.7 +1.9
baz=310
J04D Umpqua Nationa 51.05 67 P P 04 08 26.6 +2.6
baz=310,SNR=5.4
G08A Pilot Rock 51.47 63 P P 04 08 28.2 +1.1
J05D Fort Rock, OR 51.51 67 P P 04 08 30.1 +2.6
baz=310,SNR=12
L04D Klamath Falls 51.60 68 P P 04 08 30.5 +2.4
baz=311,SNR=7.0
SHLS Shalkode 51.61 293 *eP* P 04 08 24.8 -3.3
comp=Z,7.9nm,0.5s,baz=293
SHLS Shalkode 51.61 293 *eP* P 04 08 24.8 -3.3
SHLS pmax pmax
comp=Z,8.0nm,0.5s
YBH Yreka Blue Hor 51.69 69 P P 04 08 30.0 +1.3
YBH pmax pmax
comp=Z,14nm,0.8s
YBH Yreka Blue Hor 51.69 69 P P 04 08 30.0 +1.3
YBH IAmb IAmb 04 08 32.1
comp=Z,14nm,0.8s
WALA Waterton Lakes 51.73 57 P P 04 08 30.2 +1.2
WALA IAmb IAmb 04 08 30.8
comp=Z,11nm,0.7s
M02C Callahan 51.83 69 P P 04 08 32.8 +3.1
baz=311,SNR=5.7
KPKS Kokpek 51.84 294⇓ *iP* P 04 08 28.5 -1.4
comp=Z,5.8nm,0.6s,baz=294
KPKS Kokpek 51.84 294*d* iP P 04 08 28.4 -1.4
KPKS pmax pmax
comp=Z,6.0nm,0.6s
UZB Uzynbulak 51.86 294 *eP* P 04 08 28.2 -1.8
comp=Z,2.2nm,0.5s,baz=293
UZB Uzynbulak 51.86 294 *eP* P 04 08 28.2 -1.8
UZB pmax pmax
comp=Z,2.0nm,0.5s
F10A Beach Ranch, E 51.97 62 P P 04 08 31.9 +1.2
K05A Summer Lake 52.06 67 P P 04 08 32.6 +1.0
K05A IAmb IAmb 04 08 34.8
comp=Z,11nm,0.6s
M04C Macdoel 52.15 68 P P 04 08 34.6 +2.5
baz=311,SNR=5.9
N02D Trinity Center 52.19 70 P P 04 08 35.3 +2.9
baz=311,SNR=8.7
SATY Saty 52.26 294 *eP* P 04 08 31.6 -1.4
comp=Z,3.6nm,0.9s,baz=294
SATY Saty 52.26 294 *eP* P 04 08 31.6 -1.4
SATY pmax pmax
comp=Z,4.0nm,0.9s
JTMT Jette 52.38 58 P P 04 08 34.9 +1.1
JTMT IAmb IAmb 04 08 36.5
comp=Z,17nm,0.9s
SLVN Son La 52.38 255 P P 04 08 33.9 -0.1
SLVN IAmb IAmb 04 08 36.8
comp=Z,11nm,1.1s
WDC Whiskeytown Da 52.54 70 P P 04 08 36.1 +1.2
WDC pmax pmax
comp=Z,13nm,1.0s
WDC Whiskeytown Da 52.54 70 P P 04 08 36.1 +1.2
WDC IAmb IAmb 04 08 38.5
comp=Z,13nm,0.9s
BMO Blue Mountains 52.65 63 P P 04 08 36.9 +1.1
BMO pmax pmax
comp=Z,11nm,1.1s
BMO Blue Mountains 52.65 63 P P 04 08 36.9 +1.1
BMO IAmb IAmb 04 08 38.5
comp=Z,11nm,1.1s
O02D Mt. Diablo Mer 52.66 71 P P 04 08 38.9 +3.0
baz=312,SNR=5.1
KUU Kurty 52.86 296⇓ *iP* P 04 08 34.8 -2.4
comp=Z,12nm,0.6s,baz=296
KUU Kurty 52.86 296*d* iP P 04 08 34.8 -2.4
KUU pmax pmax
comp=Z,12nm,0.6s
MOD Modoc Plateau 52.93 67 P P 04 08 39.0 +1.1
MDOK Medeo 52.95 295 *eP* P 04 08 36.4 -1.6
baz=295
MDOK Medeo 52.95 295 *eP* P 04 08 36.4 -1.6
AAA Alma-Ata 52.99 295 *eP* P 04 08 36.1 -2.2
baz=295
AAA Alma-Ata 52.99 295 *eP* P 04 08 36.1 -2.2
J08A Circle Bar Ran 52.99 65 P P 04 08 39.4 +1.1
O03E Paynes Creek 53.15 70 P P 04 08 41.5 +2.0
baz=312,SNR=16
MSO Missoula 53.15 59 P P 04 08 41.0 +1.5
baz=311
MSO Missoula 53.15 59 IAmb IAmb 04 08 42.5
comp=Z,12nm,1.1s
PLID Pearl Lake 53.20 62 P P 04 08 40.8 +0.8
PLID IAmb IAmb 04 08 42.5
comp=Z,12nm,0.8s
ARU Arti 53.24 317*d* iP P 04 08 38.3 -1.5
ARU *PP pP 04 09 01.1 -0.4
ARU 04 09 43.1
ARU S S 04 16 03.6 -0.3
ARU SS SS 04 19 39.1 -4.8
ARU pmax pmax
comp=Z,16nm,0.5s
MTBS Maitube 53.31 295 *eP* P 04 08 38.9 -1.8
baz=295
MTBS Maitube 53.31 295 *eP* P 04 08 38.8 -1.8
BTLS Baital 53.35 298 *eP* P 04 08 38.6 -2.1
comp=Z,4.3nm,0.9s,baz=298
BTLS Baital 53.35 298 *eP* P 04 08 38.6 -2.1
BTLS pmax pmax
comp=Z,4.0nm,0.9s
TARG Taragay, Kyrgy 53.47 293 PcP 04 09 48.0 -0.2
GDXM Geysers 53.58 72 P P 04 08 43.7 +1.1
GDXM IAmb IAmb 04 08 46.6
comp=Z,23nm,1.1s
ORV Oroville 53.82 70 P P 04 08 45.5 +1.2
ORV pmax pmax
comp=Z,16nm,0.8s
ORV Oroville 53.82 70 P P 04 08 45.5 +1.2
ORV IAmb IAmb 04 08 46.9
comp=Z,16nm,0.8s
TKM2 Tokmak 2 53.90 295 P P 04 08 43.8 -1.3
SNR=10.0
ULHL Ulahol 54.00 294 P P 04 08 44.5 -1.3
SNR=7.3
SGDS Sogindy 54.08 296⇓ *iP* P 04 08 44.9 -1.3
comp=Z,4.4nm,0.6s,baz=296
SGDS Sogindy 54.08 296*d* iP P 04 08 44.9 -1.3
SGDS pmax pmax
comp=Z,4.0nm,0.6s
USP Ospenovka 54.27 296 P P 04 08 46.5 -1.1
SNR=11
HRY Holter Researc 54.32 58 P P 04 08 49.0 +1.0
SUMG Summit 54.36 6 *i* P P 04 08 49.0 +0.8
comp=Z,90nm,0.8s
SUMG Summit 54.36 6 P P 04 08 49.1 +0.8
SUMG pmax pmax
comp=Z,38nm,0.8s
SUMG Summit 54.36 6 P P 04 08 49.1 +0.8
MFID Camas Ranch 54.40 63 P P 04 08 49.5 +0.9
KBK Karagaybulak 54.44 296 P P 04 08 47.9 -1.0
SNR=5.9
EGMT Eagleton 54.50 56 P P 04 08 50.4 +1.2
baz=312
AFDM Forest Hills D 54.53 70 P P 04 08 50.8 +1.3
AFDM IAmb IAmb 04 08 52.6
comp=Z,12nm,1.2s
LRM Limekiln Ridge 54.59 59 P P 04 08 51.1 +1.0
AAK Ala-Archa 54.70 296 P P 04 08 49.5 -1.3
SNR=12
AAK Ala-Archa 54.70 296*d* iP P 04 08 49.5 -1.3
AAK pmax pmax
comp=Z,37nm,0.7s
TMCR Tamitsa 54.81 333 *eP* P 04 08 50.2 -0.8
TMCR pmax pmax
comp=Z,36nm,1.0s
DLMT Dillon 54.82 60 P P 04 08 52.5 +0.8
PAHR Pah Rah Range 54.92 69 P P 04 08 53.2 +0.7
PAHR IAmb IAmb 04 08 55.8
comp=Z,18nm,0.9s
VCNR Virginia City 55.05 69 P P 04 08 54.2 +0.8
MCMT McKenzie Canyo 55.05 60 P P 04 08 54.4 +0.9
HLID Hailey 55.06 62 P P 04 08 55.4 +1.9
baz=312,SNR=5.5
EKS2 Erkin-Say 55.07 296 P P 04 08 52.4 -1.1
SNR=15
BCYI Bear Canyon 55.10 61 P P 04 08 54.7 +0.9
BOZ Bozeman (W) 55.17 59 P P 04 08 55.2 +1.0
BOZ pmax pmax
comp=Z,8.0nm,0.7s
BOZ Bozeman (W) 55.17 59 P P 04 08 55.9 +1.7
baz=312,SNR=13
BOZ Bozeman (W) 55.17 59 P P 04 08 55.1 +1.0
BOZ IAmb IAmb 04 08 56.4
comp=Z,8.3nm,0.7s
PNTR Pine Nut 55.22 69 P P 04 08 55.4 +0.7
YERR Yerington 55.49 69 P P 04 08 57.4 +0.7
YHL Hebgen Lake 55.91 59 P P 04 09 00.4 +0.8
KVN Kaiserville 56.09 69 P P 04 09 01.9 +0.9
KVN pmax pmax
comp=Z,26nm,1.1s
KVN Kaiserville 56.09 69 P P 04 09 01.9 +0.9
YHH Holmes Hill 56.12 59 P P 04 09 02.0 +0.8
RYN Ryan 56.14 69 P P 04 09 02.1 +0.8
RYN IAmb IAmb 04 09 04.7
comp=Z,17nm,0.9s
UBPT Khong Chiam 56.25 249 P P 04 09 01.5 -0.5
ILULI Ilulissat 56.33 12 *i* P P 04 09 01.7 -0.2
comp=Z,52nm,0.7s
ILULI Ilulissat 56.33 12 *i* P P 04 09 01.7 -0.2
ILULI pmax pmax
comp=Z,52nm,0.7s
NVAR Mina Array Bea 56.41 69 P P 04 09 05.8 +2.6
comp=Z,16nm,0.8s,baz=292,slow=7.6,SNR=94
NVAR Mina Array Bea 56.41 69 P P 04 09 04.0 +0.8
YNE Yellowstone No 56.41 58 P P 04 09 04.0 +0.9
NV11 Mina Array Sit 56.49 69 P P 04 09 04.5 +0.8
NV11 IAmb IAmb 04 09 07.2
comp=Z,12nm,0.9s
YPP Pitchstone Pla 56.50 59 P P 04 09 04.6 +0.7
LKWY Lake 56.51 59 P P 04 09 04.8 +0.9
LKWY pmax pmax
comp=Z,10.0nm,0.8s
LKWY Lake 56.51 59 P P 04 09 04.8 +0.9
LKWY IAmb IAmb 04 09 08.2
comp=Z,10nm,0.8s
MDPB Devils Postpil 56.51 70 P P 04 09 04.8 +0.7
MDPB IAmb IAmb 04 09 07.6
comp=Z,9.7nm,0.9s
YMP Mirror Lake Pl 56.52 59 P P 04 09 04.8 +0.8
ELK Elko 56.53 65 P P 04 09 04.8 +0.7
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 56.53 65 P P 04 09 04.8 +0.7
H17A Grant Village 56.53 59 P P 04 09 07.4 +3.3
baz=313
H17A Grant Village 56.53 59 IAmb IAmb 04 09 09.2
comp=Z,12nm,0.9s
KK31 Karatay Array 56.53 299 P P 04 09 02.0 -1.8
KK31 pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 56.53 299 P P 04 09 02.0 -1.8
KK31 IAmb IAmb 04 09 02.9
comp=Z,12nm,0.8s
KKAR Karatay Array 56.53 299 P P 04 09 01.8 -2.0
KKAR Karatay Array 56.53 299 P P 04 09 01.8 -2.0
KKAR Karatay Array 56.53 299 IAmb IAmb 04 09 02.9
comp=Z,12nm,0.8s
OMMB Old Mammoth Mi 56.57 70 P P 04 09 05.1 +0.6
STEI Steigen 56.65 345 *eP* P 04 09 03.5 -0.7
FLWY Flagg Ranch 56.68 60 P P 04 09 05.9 +0.8
FLWY IAmb IAmb 04 09 08.8
comp=Z,8.0nm,0.8s
IMW Indian Meadow 56.69 60 P P 04 09 05.9 +0.7
RLMT Red Lodge 56.71 58 P P 04 09 07.6 +2.3
baz=313,SNR=10.0
RLMT Red Lodge 56.71 58 P P 04 09 06.3 +1.0
RLMT IAmb IAmb 04 09 08.6
comp=Z,16nm,0.9s
FXWY Fox Creek 56.82 60 P P 04 09 07.0 +0.9
KLMR Klimovskoe 56.94 329 *eP* P 04 09 03.9 -2.4
KLMR pmax pmax
comp=Z,23nm,0.7s
KLMR Klimovskoe 56.94 329 *eP* P 04 09 04.0 -2.4
KLMR AMP 04 09 06.2
comp=Z,23nm,0.7s
TPAW Teton Pass 56.96 60 P P 04 09 07.9 +0.8
TPAW IAmb IAmb 04 09 10.5
comp=Z,7.3nm,0.8s
LOHW Long Hollow 57.06 60 P P 04 09 08.5 +0.8
LOHW IAmb IAmb 04 09 11.3
comp=Z,13nm,1.1s
SNOW Snow King Moun 57.08 60 P P 04 09 08.9 +0.9
SNOW IAmb IAmb 04 09 11.8
comp=Z,11nm,0.9s
REDW Red Top Meadow 57.10 60 P P 04 09 08.8 +0.8
REDW IAmb IAmb 04 09 12.5
comp=Z,15nm,1.1s
FAUS Fauske 57.14 344 *eP* P 04 09 07.1 -0.6
LAO LASA Array 57.17 55 P P 04 09 10.3 +2.0
baz=314,SNR=5.4
LAO LASA Array 57.17 55 IAmb IAmb 04 09 11.4
comp=Z,11nm,0.8s
CHTO Chiang Mai 57.26 258 P P 04 09 08.7 -0.5
CHTO pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 57.26 258 P P 04 09 08.7 -0.5
CHTO IAmb IAmb 04 09 11.2
comp=Z,10nm,0.7s
TPH Tonopah 57.26 69 P P 04 09 10.1 +0.8
TPH Tonopah 57.26 69 P P 04 09 10.1 +0.8
AHID Auburn Hatcher 57.38 61 P P 04 09 10.8 +0.9
AHID IAmb IAmb 04 09 13.2
comp=Z,19nm,1.0s
IUG Iuzhnay 57.45 298 *eP* P 04 09 09.2 -1.2
comp=Z,8.7nm,0.5s,baz=298
IUG Iuzhnay 57.45 298 *eP* P 04 09 09.2 -1.2
IUG pmax pmax
comp=Z,9.0nm,0.5s
CMAR Chiang Mai Arr 57.54 257 P P 04 09 10.6 -0.6
comp=Z,6.2nm,0.4s,baz=28,slow=7.7,SNR=21
CMAR PcP PcP 04 10 04.5 +0.8
comp=Z,2.7nm,0.5s,baz=12,slow=3.7,SNR=7.3
CMAR ScP ScP 04 13 57.5 +2.2
comp=Z,0.8nm,0.3s,baz=23,slow=4.9,SNR=4.5
CMAR Chiang Mai Arr 57.54 257*ceP* P 04 09 10.8 -0.3
CMAR pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 57.54 257 P P 04 09 10.7 -0.5
CMAR PcP PcP 04 10 03.3 -0.3
SMMC Simmler 57.60 73 P P 04 09 13.9 +2.5
baz=315,SNR=5.2
BGU Big Grassy Mou 57.62 64 P P 04 09 12.4 +0.8
TAPN Taplejung 57.65 274 *eP* P 04 09 11.2 -1.0
comp=Z,28nm,0.5s
SPUT South Promonto 57.67 63 P P 04 09 12.7 +0.8
VES Vestal, Richgr 57.76 72 P P 04 09 14.1 +1.6
baz=315
GRAC Grapevine Rang 57.94 70 P P 04 09 16.3 +2.6
baz=315,SNR=12
HWUT Hardware Ranch 57.94 62 P P 04 09 14.7 +0.8
HWUT IAmb IAmb 04 09 17.3
comp=Z,18nm,0.9s
R11A Troy Canyon, C 58.00 68 P P 04 09 16.4 +2.0
baz=314,SNR=22
R11A Troy Canyon, C 58.00 68 P P 04 09 15.0 +0.6
R11A IAmb IAmb 04 09 17.4
comp=Z,8.8nm,0.8s
PKM Mcpherson Peak 58.01 73 P P 04 09 16.9 +2.4
baz=315
BW06 Boulder Array 58.20 60 P P 04 09 17.7 +2.0
baz=314,SNR=24
BW06 Boulder Array 58.20 60 P P 04 09 16.4 +0.7
PD31 Pinedale Array 58.20 60 P P 04 09 16.5 +0.7
PD31 IAmb IAmb 04 09 18.7
comp=Z,14nm,0.8s
PDAR Pinedale Array 58.20 60 P P 04 09 17.6 +1.9
comp=Z,13nm,0.8s,baz=314,slow=2.7,SNR=132
PDAR Pinedale Array 58.20 60 P P 04 09 16.4 +0.7
ISA Isabella, Lake 58.24 72 P P 04 09 17.2 +1.2
baz=315,SNR=6.4
DUG Dugway, Tooele 58.24 64 P P 04 09 18.4 +2.4
baz=314,SNR=17
JIRN Jiri 58.34 275 *eP* P 04 09 16.4 -0.7
comp=Z,20nm,0.6s
GUN Gumba 58.35 275 *eP* P 04 09 16.1 -1.0
comp=Z,25nm,0.4s
TCUT Toone Canyon 58.36 63 P P 04 09 17.6 +0.7
MOR8 Moi Rana 58.39 344 *eP* P 04 09 14.4 -2.0
CTU Camp Tracy 58.48 63 P P 04 09 18.4 +0.8
SFJD Kangerlussuaq 58.48 13 *i* P P 04 09 16.9 -0.1
comp=Z,2.6nm,0.4s
SFJD Kangerlussuaq 58.48 13 *i* P P 04 09 16.9 -0.1
SFJD pmax pmax
comp=Z,3.0nm,0.4s
MPMC Manual Prospec 58.52 71 P P 04 09 20.3 +2.2
baz=315,SNR=13
FURC Furnace Creek, 58.59 70 P P 04 09 20.7 +2.5
baz=315,SNR=40
TPNV Topopah Spring 58.60 69 P P 04 09 19.2 +0.6
TPNV pmax pmax
comp=Z,18nm,0.9s
TPNV Topopah Spring 58.60 69 P P 04 09 20.8 +2.3
baz=315,SNR=26
TPNV Topopah Spring 58.60 69 P P 04 09 19.2 +0.6
RAMN Ramite 58.61 274 *eP* P 04 09 17.7 -1.1
comp=Z,44nm,0.4s
JLU Jordanelle 58.70 63 P P 04 09 20.0 +0.7
KKN Kakani 58.80 276 *eP* P 04 09 19.2 -0.9
comp=Z,34nm,0.5s
LRMC Laurel Mtn Rad 58.82 71 P P 04 09 21.9 +1.9
baz=315
PSUT Pine Spring 58.84 66 P P 04 09 20.9 +0.6
PKI Pulchoki 58.88 276 *eP* P 04 09 19.4 -1.4
comp=Z,15nm,0.4s
PKIN Phulchoki 58.88 276 *eP* P 04 09 19.5 -1.2
comp=Z,27nm,0.5s
PRN Pahroc Range 58.96 68 P P 04 09 21.6 +0.6
PRN IAmb IAmb 04 09 24.4
comp=Z,18nm,1.0s
GKN Gorkha 59.03 276 *eP* P 04 09 20.5 -1.1
comp=Z,17nm,0.4s
DMN Daman 59.03 276 *eP* P 04 09 20.9 -0.9
comp=Z,30nm,0.5s
EDW2 Edwards Air Fo 59.07 72 P P 04 09 23.8 +2.2
baz=315,SNR=20
DANN Dangsing 59.31 277 *eP* P 04 09 22.7 -1.0
comp=Z,41nm,0.6s
DECC Green Verdugo 59.31 73 P P 04 09 25.4 +2.0
baz=316
SHOC Shoshone, Teco 59.33 70 P P 04 09 25.6 +2.2
baz=315,SNR=8.1
GSC Goldstone, Bar 59.45 71 P P 04 09 25.3 +0.9
GSC pmax pmax
comp=Z,15nm,0.8s
GSC Goldstone, Bar 59.45 71 P P 04 09 26.4 +2.1
baz=316,SNR=13
GSC Goldstone, Bar 59.45 71 P P 04 09 25.2 +0.9
GSC IAmb IAmb 04 09 27.4
comp=Z,15nm,0.8s
PASC Pasadena Art C 59.46 73 P P 04 09 25.2 +0.9
ULM Lac du Bonnet 59.47 46 P P 04 09 25.1 +0.9
comp=Z,7.4nm,0.7s,baz=316,slow=7.4,SNR=5.7
MWC Mount Wilson 59.50 73 P P 04 09 25.4 +0.6
MWC pmax pmax
comp=Z,17nm,0.9s
MWC Mount Wilson 59.50 73 P P 04 09 25.4 +0.6
GAR Garm 59.50 295 P P 04 09 23.3 -1.4
GAR PcP 04 10 11.3 -0.1
SHPR Sheep Range 59.53 69 P P 04 09 25.8 +0.8
MDND Maddock 59.54 50 P P 04 09 26.5 +1.8
baz=316
BFSC Mount Baldy Ra 59.72 72 P P 04 09 28.2 +1.9
baz=316,SNR=6.1
RDMU Red Mountain 59.74 62 P P 04 09 27.1 +0.6
RDMU pP 04 09 48.5 +0.2
TMUT Trail Mountain 59.75 64 P P 04 09 27.3 +0.7
MVU Marysvale 59.77 65 P P 04 09 27.4 +0.7
MSU Marysvale 59.78 65 P P 04 09 27.4 +0.7
MSU Marysvale 59.78 65 P P 04 09 27.4 +0.7
CCUT Cedar City 59.80 67 P P 04 09 27.6 +0.7
KOLN Koldanda 59.83 277 *eP* P 04 09 25.9 -1.3
comp=Z,17nm,0.4s
K22A Casper 59.86 58 P P 04 09 28.8 +1.6
baz=316
TUQ Turquoise Moun 59.86 70 P P 04 09 29.3 +2.1
baz=316,SNR=18
SZCU Shurtz Canyon 59.93 67 P P 04 09 28.1 +0.3
PYUN Piuthan 59.95 278 *eP* P 04 09 27.0 -1.0
comp=Z,27nm,0.4s
Q16A Castle Valley 60.04 64 P P 04 09 29.1 +0.5
HEC Hector,Ludlow 60.06 71 P P 04 09 30.5 +2.0
baz=316,SNR=6.1
RSSD Black Hills 60.08 56 P P 04 09 29.5 +0.8
RSSD pmax pmax
comp=Z,24nm,0.6s
RSSD Black Hills 60.08 56 P P 04 09 30.3 +1.6
baz=316
RSSD Black Hills 60.08 56 P P 04 09 29.4 +0.8
MTPU Mount Pierson 60.11 66 P P 04 09 29.6 +0.4
BBRC Big Bear Solar 60.13 72 P P 04 09 31.0 +1.8
baz=316
RWWY Rawlins 60.19 59 IAmb IAmb 04 09 30.5
comp=Z,8.5nm,0.9s
FINES FINESS Array B 60.19 336 P P 04 09 28.0 -0.8
comp=Z,7.1nm,0.4s,baz=36,slow=8.3,SNR=79
FINES PcP PcP 04 10 13.4 -0.1
comp=Z,2.4nm,0.5s,baz=53,slow=5.4,SNR=1.8
FINES LR LR 04 39 02.9
comp=Z,76nm,18.1s,baz=9.0,slow=40
LCMT Little Creek M 60.25 67 P P 04 09 30.5 +0.6
SRU San Rafael Swe 60.26 64 P P 04 09 30.7 +0.8
SRU pmax pmax
comp=Z,26nm,0.8s
SRU San Rafael Swe 60.26 64 P P 04 09 30.7 +0.8
NSS Namsos 60.31 344 *eP* P 04 09 29.3 -0.4

CHGR Chuyangaron 60.38 296 PcP 04 10 14.7 -0.1
MURC Murrieta 60.44 72 P P 04 09 32.9 +1.8
baz=316,SNR=7.8
PKCU Pink Cliffs 60.47 66 P P 04 09 31.9 +0.4
GMRC Granite Mounta 60.48 70 P P 04 09 33.5 +2.1
baz=316,SNR=15
KNB Kanab 60.49 67 P P 04 09 32.1 +0.6
KNB pmax pmax
comp=Z,14nm,1.0s
KNB Kanab 60.49 67 P P 04 09 32.1 +0.6
O20A White River Ci 60.76 61 P P 04 09 35.1 +1.8
baz=316,SNR=8.8
O20A White River Ci 60.76 61 P P 04 09 34.1 +0.8
O20A IAmb IAmb 04 09 36.1
comp=Z,12nm,0.8s
BELC Belle Mtn. Jos 60.85 71 P P 04 09 35.4 +1.5
baz=316,SNR=13
PFO Pinyon Flats O 60.86 72 P P 04 09 34.8 +0.7
PFO pmax pmax
comp=Z,8.0nm,0.9s
PFO Pinyon Flats O 60.86 72 P P 04 09 35.7 +1.7
baz=316,SNR=5.8
PFO Pinyon Flats O 60.86 72 P P 04 09 34.8 +0.7
PFO IAmb IAmb 04 09 36.5
comp=Z,8.2nm,0.8s
TPFO Pinon Flats 60.87 72 P P 04 09 35.8 +1.7
baz=316
AGMN Agassiz Nation 60.92 48 P P 04 09 34.8 +0.8
baz=316
109C Camp Elliot, M 61.01 73 P P 04 09 36.8 +1.9
baz=316
U15A North Rim 61.20 67 P P 04 09 36.8 +0.3
U15A IAmb IAmb 04 09 40.0
comp=Z,8.3nm,1.1s
IRM Iron Mountain 61.22 71 P P 04 09 38.6 +2.2
baz=316,SNR=6.7
W13A Hualapai Mount 61.26 69 IAmb IAmb 04 09 39.8
comp=Z,9.4nm,0.9s
SANI Sanana 61.29 219 P P 04 09 37.6 +0.7
comp=Z,37nm,0.9s
MONP2 Monument Peak 61.40 73 P P 04 09 39.6 +1.8
baz=316
BC3 Big Chuckawall 61.41 71 P P 04 09 39.4 +1.7
baz=316,SNR=10
N23A Red Feather La 61.42 59 P P 04 09 39.8 +1.9
baz=316,SNR=7.9
N23A Red Feather La 61.42 59 IAmb IAmb 04 09 40.9
comp=Z,13nm,0.9s
PV14 Lion Creek, Pa 61.60 63 IAmb IAmb 04 09 41.5
comp=Z,10.0nm,0.8s
MPSI Mapaga 61.62 226 P P 04 09 40.5 +1.4
NIL Nilore 61.68 289 P P 04 09 38.6 -0.8
NIL pmax pmax
comp=Z,43nm,1.1s
NIL Nilore 61.68 289 P P 04 09 38.6 -0.8
SWSC Sam W. Stewart 61.72 72 P P 04 09 41.1 +1.4
baz=317
IKP In-Ko-Pah, Jac 61.76 72 P P 04 09 41.8 +1.7
baz=317
PV07 Paradox Valley 61.76 63 IAmb IAmb 04 09 43.0
comp=Z,15nm,1.0s
PV01 Paradox Valley 62.02 63 IAmb IAmb 04 09 45.5
comp=Z,6.9nm,0.8s
GLA Glamis 62.21 71 P P 04 09 45.1 +2.1
baz=317,SNR=6.0
ESJX Sierra Juarez 62.32 73 IAmb IAmb 04 09 46.9
comp=Z,8.4nm,0.8s
WUAZ Wupatki 62.38 67 P P 04 09 46.7 +2.4
baz=317,SNR=16
WUAZ Wupatki 62.38 67 IAmb IAmb 04 09 48.3
comp=Z,16nm,1.0s
ISCO Idaho Springs 62.39 60 P P 04 09 46.9 +2.4
baz=317,SNR=13
ISCO Idaho Springs 62.39 60 IAmb IAmb 04 09 48.5
comp=Z,14nm,1.1s
OBN Obninsk 62.48 327 *de*P P 04 09 43.0 -1.4
OBN *e* 04 10 22.2
OBN *e*S S 04 18 03.4 -1.0
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,42nm,15.0s
F33A 5 Mile Ranch, 62.55 50 IAmb IAmb 04 09 47.1
comp=Z,17nm,1.1s
VSU Vasula 62.60 334⇑ *i*P P 04 09 44.7 -0.4
VSU pmax pmax
comp=Z,44nm,0.7s
Y14A Wickenburg 62.60 69 IAmb IAmb 04 09 48.8
comp=Z,12nm,1.0s
MVCO Mesa Verde 62.73 64 P P 04 09 48.6 +1.9
baz=317,SNR=11
MVCO Mesa Verde 62.73 64 IAmb IAmb 04 09 49.6
comp=Z,12nm,0.8s
EYMN Ely 63.11 45 P P 04 09 49.3 +0.5
baz=320,SNR=6.0
EYMN Ely 63.11 45 IAmb IAmb 04 09 50.3
comp=Z,14nm,0.9s
DOMB Dombas 63.11 345 *e*P P 04 09 48.0 -0.6
X16A Lo Mia Camp, P 63.14 68 P P 04 09 49.9 +0.5
X16A IAmb IAmb 04 09 52.9
comp=Z,11nm,0.8s
S22A 4UR Ranch, Cre 63.25 62 P P 04 09 52.4 +2.3
baz=317,SNR=21
S22A 4UR Ranch, Cre 63.25 62 P P 04 09 50.4 +0.2
S22A IAmb IAmb 04 09 53.7
comp=Z,18nm,1.1s
AKN Aaknes 63.30 346 *e*P P 04 09 50.0 +0.2
SPX San Pedro Mart 63.31 73 P P 04 09 51.0 +0.3
KBL Kabul 63.42 293 P P 04 09 48.9 -2.4
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 63.42 293 P P 04 09 48.9 -2.4
KBL IAmb IAmb 04 09 49.4
comp=Z,10nm,0.9s
NC303 NORSAR Array S 63.49 343 P P 04 09 50.6 -0.4
NC303 IAmb IAmb 04 09 51.4
comp=Z,15nm,0.7s
NC405 NORSAR Array S 63.54 343 IAmb IAmb 04 09 51.5
comp=Z,15nm,0.7s
W18A Petrified Fore 63.58 66 P P 04 09 54.7 +2.4
baz=317,SNR=7.2
W18A Petrified Fore 63.58 66 P P 04 09 52.9 +0.6
W18A IAmb IAmb 04 09 55.6
comp=Z,12nm,0.9s
NB2 NORSAR Subarra 63.70 343 P P 04 09 52.0 -0.4
comp=Z,5.3nm,0.6s,baz=24,slow=6.9
NB2 NORSAR Subarra 63.70 343 P P 04 09 52.0 -0.4
baz=24,slow=6.9
NOA NORSAR Array B 63.70 343 P P 04 09 51.9 -0.6
comp=Z,5.7nm,0.6s,baz=21,slow=6.7,SNR=48
NOA LR LR 04 43 38.1
comp=Z,14nm,19.0s,baz=15,slow=42
NBO00 NORSAR Array S 63.78 343 IAmb IAmb 04 10 07.7
comp=Z,12nm,1.1s
NC602 NORSAR Array S 63.92 343 *e*P P 04 09 53.2 -0.6
NAO01 NORSAR Array S 63.94 343 *e*P P 04 09 53.4 -0.6
SDCO Great Sand Dun 63.96 61 P P 04 09 56.8 +1.9
baz=318,SNR=9.4
SDCO Great Sand Dun 63.96 61 P P 04 09 55.3 +0.5
ECSD EROS Data Cent 63.99 51 P P 04 09 55.4 +0.8
baz=319,SNR=7.6
ECSD EROS Data Cent 63.99 51 P P 04 09 55.5 +0.8
E38A The Farm, Brul 64.11 46 IAmb IAmb 04 09 57.1
comp=Z,12nm,1.0s
214A Organ Pipe Nat 64.17 71 P P 04 09 57.9 +2.0
baz=318,SNR=9.7
214A Organ Pipe Nat 64.17 71 P P 04 09 56.5 +0.6
214A IAmb IAmb 04 09 59.0
comp=Z,16nm,1.1s
HYA Hoyanger 64.39 346 *e*P P 04 09 56.8 -0.1
SKAR Skarslia 64.52 345 *e*P P 04 09 57.6 -0.3
SPMN Marine on St. 64.62 48 P P 04 09 59.5 +0.9
baz=320
SPMN Marine on St. 64.62 48 IAmb IAmb 04 10 00.3
comp=Z,10.0nm,0.8s
T25A Trinidad 64.99 61 P P 04 10 03.1 +1.6
baz=318,SNR=5.9
T25A Trinidad 64.99 61 P P 04 10 02.1 +0.7
TUC Tucson 65.06 69 P P 04 10 02.5 +0.7
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC Tucson 65.06 69 P P 04 10 04.0 +2.1
baz=318
TUC Tucson 65.06 69 P P 04 10 02.5 +0.7
KSM Kuching 65.15 236 P P 04 10 02.0 -0.4
KONO Kongsberg 65.28 344 *e*P P 04 10 02.3 -0.4

L34A Svendsen Farm, 65.44 53 IAmb IAmb 04 10 05.4
comp=Z,26nm,0.9s
ANMO Albuquerque 65.52 64 *c i*P P 04 10 06.8 +1.9
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 65.52 64 P P 04 10 06.8 +1.9
baz=318
ANMO Albuquerque 65.52 64 P P 04 10 05.6 +0.7
BNSI Bone 65.78 224 P P 04 10 07.9 +1.5
comp=Z,20nm,0.9s
BLS5 Blasjo 66.02 345 *e*P P 04 10 07.4 0.0
SCHQ Schefferville 66.21 27 P P 04 10 09.2 +0.4
comp=Z,3.7nm,0.5s,baz=282,slow=5.4,SNR=12
SCHQ Schefferville 66.21 27 P P 04 10 09.8 +1.0
121A Cookes Peak, D 66.58 67 P P 04 10 14.0 +2.3
baz=319,SNR=5.8
BKSI Bulukumba 66.61 223 P P 04 10 13.2 +1.5
comp=Z,1μmcomp=Z,12nm,0.4s
N35A Tabor 66.64 53 IAmb IAmb 04 10 13.1
comp=Z,15nm,0.8s
GEYT Alibeck 66.78 302 P P 04 10 12.2 -0.6
comp=Z,5.0nm,0.5s,baz=52,slow=2.4,SNR=7.8
GEYT LR LR 04 41 55.0
comp=Z,63nm,18.8s,baz=180,slow=38
GEYT Alibeck 66.78 302 P P 04 10 11.7 -1.1
SCIA State Center 66.99 51 P P 04 10 14.9 +0.9
baz=321,SNR=5.1
KULM Kulim 67.10 247 P P 04 10 14.5 -0.4
KULM IAmb IAmb 04 10 17.3
comp=Z,23nm,0.8s
IPM Ipoh 67.56 246 P P 04 10 17.3 -0.6
L40A Anamosa 67.80 49 IAmb IAmb 04 10 19.8
comp=Z,11nm,0.8s
SRIG Santa Rosalia 67.95 74 IAmb IAmb 04 10 22.7
comp=Z,15nm,0.7s
AMTX Amarillo 68.14 61 P P 04 10 22.6 +1.2
baz=320
AMTX Amarillo 68.14 61 IAmb IAmb 04 10 24.5
comp=Z,8.4nm,0.6s
MSTX Muleshoe 68.25 62 P P 04 10 23.2 +1.1
baz=320,SNR=6.7
MSTX Muleshoe 68.25 62 IAmb IAmb 04 10 24.4
comp=Z,13nm,1.1s
MUD Monsted U'grnd 68.38 343 *i* P P 04 10 23.4 +1.0
comp=Z,3.9nm,0.3s
MUD Monsted U'grnd 68.38 343 *i* P P 04 10 23.4 +1.0
MUD pmax pmax
comp=Z,4.0nm,0.3s
BSD Bornholm Skovb 68.48 339 *i* P P 04 10 23.1 0.0
comp=Z,9.0nm,0.4s
BSD Bornholm Skovb 68.48 339 *i* P P 04 10 23.1 0.0
BSD pmax pmax
comp=Z,9.0nm,0.4s
MNTX Cornudas Mount 68.55 66 P P 04 10 26.0 +2.1
baz=320,SNR=20
AKASG Malin Array Be 68.59 328 P P 04 10 22.4 -1.4
comp=Z,7.7nm,0.4s,baz=30,slow=6.5,SNR=33
AKASG LR LR 04 44 14.0
comp=Z,54nm,18.1s,baz=75,slow=39
AKASG Malin Array Be 68.59 328 *ce*P P 04 10 22.3 -1.5
AKASG pmax pmax
comp=Z,8.0nm,0.4s
AKASG Malin Array Be 68.59 328 P P 04 10 22.3 -1.5
AKBB Malin Array Si 68.59 328 IAmb IAmb 04 10 24.0
comp=Z,16nm,0.8s
P38A Dawn 68.62 52 IAmb IAmb 04 10 25.6
comp=Z,11nm,0.8s
N41A Harden Midland 69.03 50 IAmb IAmb 04 10 28.1
comp=Z,24nm,1.0s
AKT Akhty 69.06 311 *e*P P 04 10 26.5 -0.5
AKT *e**PP pP 04 10 49.0 -0.5
AKT *e* 04 12 59.2
AKT pmax pmax
comp=Z,9.0nm,0.6s
MCD Coleburn Disti 69.08 350 *e*P P 04 10 26.8 0.0
EDFI Ende, Flores 69.08 220 P P 04 10 27.6 +0.2
comp=Z,11nm,0.9s
LHMI Lhok Sumawe 69.25 250 P P 04 10 30.4 +2.0
KIV Kislovodsk 69.28 316 *e*P P 04 10 25.8 -2.5
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,67nm,17.0s
MDO Dochfour 69.33 351 *e*P P 04 10 28.4 +0.1
KAC Achnashellach 69.36 351 *e*P P 04 10 28.0 -0.5
KBZ Khabaz 69.37 316 P P 04 10 28.2 -0.5
comp=Z,6.7nm,0.9s,baz=87,slow=5.0,SNR=7.0
KBZ LR LR 04 43 32.8
comp=Z,26nm,18.4s,baz=358,slow=38
P40A Paris 69.40 51 IAmb IAmb 04 10 30.6
comp=Z,15nm,0.8s
MTN Manton Dam 69.64 209 P P 04 10 29.9 -0.7
MTN IAmb IAmb 04 10 33.2
comp=Z,29nm,1.1s
DRUM Mains of Drumt 69.65 349 *e*P P 04 10 29.5 -0.8
DRUM IAmb IAmb 04 10 31.3
comp=Z,33nm,1.0s
WMOK Wichita Mounta 69.78 59 P P 04 10 32.1 +0.6
WMOK pmax pmax
comp=Z,4.0nm,0.9s
WMOK Wichita Mounta 69.78 59 P P 04 10 32.6 +1.1
baz=321,SNR=9.5
WMOK Wichita Mounta 69.78 59 P P 04 10 32.1 +0.6
HDIL Hopedale 69.88 49 P P 04 10 32.2 +0.3
baz=323
HDIL Hopedale 69.88 49 IAmb IAmb 04 10 33.1
comp=Z,19nm,0.8s
PSI Prapat 70.11 247 P P 04 10 34.6 +0.8
comp=Z,20nm,0.8s,baz=0.0,slow=8.1,SNR=16
RPSI Rantau Prapat 70.20 247 P P 04 10 33.7 -0.5
RPSI IAmb IAmb 04 10 35.5
comp=Z,16nm,0.7s
D55A Sainte-Anne-du 70.23 36 P P 04 10 34.1 +0.1
baz=328
R40A Maddies Statio 70.28 52 IAmb IAmb 04 10 35.5
comp=Z,10nm,0.7s
INVG Invergeldie, C 70.30 350 *e*P P 04 10 33.8 -0.5
INVG IAmb IAmb 04 10 34.6
comp=Z,16nm,0.7s
P43A Skaggs, Pawnee 70.50 50 IAmb IAmb 04 10 37.0
comp=Z,15nm,0.8s
BSEG Bad Segeberg 70.55 341 *e*P P 04 10 36.5 +0.8
comp=Z,49nm,1.2s,baz=21,slow=5.9
EAB Aberfoyle 70.56 350 *e*P P 04 10 35.4 -0.5
LAWE Loch Awe, Argy 70.60 351 *e*P P 04 10 36.0 -0.1
G54A Lake Saint Pet 70.63 39 P P 04 10 36.1 -0.4
baz=327
ESY Stoneypath 70.64 349 *e*P P 04 10 36.0 -0.3
U38A Gravette 70.70 55 IAmb IAmb 04 10 38.0
comp=Z,12nm,0.7s
PLAI Plampang 70.74 224 P P 04 10 36.4 -1.0
SOC Sochi 70.81 318 *e*P P 04 10 35.7 -1.9
SOC *e**PP PcP 04 10 56.4 -1.4
SOC *e**SP sP 04 11 09.2 -0.6
SOC *e* 04 13 12.0
SOC *e*PPP PPP 04 14 59.0
SOC *e*S S 04 19 42.3 -3.0
SOC pmax pmax
comp=Z,119nm,1.1s
L48A N Adams 70.92 45 IAmb IAmb 04 10 39.5
comp=Z,9.6nm,0.8s
PGBU Glenifferbraes 70.95 350 *e*P P 04 10 38.1 -0.1
PGBU IAmb IAmb 04 10 39.1
comp=Z,47nm,0.9s
CCM Cathedral Cave 70.95 52 P P 04 10 39.1 +0.6
baz=323
ABTX Abilene, Hawle 70.96 61 P P 04 10 39.9 +1.2
baz=321
ABTX Abilene, Hawle 70.96 61 P P 04 10 39.3 +0.6
LVV L'vov 70.96 331 *e*P P 04 10 36.8 -1.6
SFIN Lafayette 71.02 48 P P 04 10 39.0 +0.1
baz=324
SORM Soroca 71.11 328 ⇑P P 04 10 38.1 -1.2
MGMO Mountain Grove 71.17 53 IAmb IAmb 04 10 40.6
comp=Z,9.0nm,0.6s
RUE Ruedersdorf 71.18 338 *e*P P 04 10 40.0 +0.3
comp=Z,47nm,1.1s,baz=21,slow=5.9
E57A Chemin Saint G 71.22 36 P P 04 10 40.3 +0.2
baz=329
G55A Calabogie 71.27 38 P P 04 10 40.1 -0.2
baz=328
ESK Eskdalemuir 71.30 349 *e*P P 04 10 40.1 -0.2
ESK IAmb IAmb 04 10 40.7
comp=Z,16nm,0.7s
ESK Eskdalemuir 71.30 349 P P 04 10 40.4 +0.1
ESK pmax pmax
comp=Z,19nm,0.9s
ESK Eskdalemuir 71.30 349 P P 04 10 40.4 +0.1
ESK IAmb IAmb 04 10 41.3
comp=Z,19nm,0.9s
TX31 Lajitas Ar. Si 71.31 66 P P 04 10 41.6 +0.7
TX32 Lajitas Array 71.31 66 IAmb IAmb 04 10 43.7
comp=Z,17nm,0.9s
TXAR Lajitas Array 71.31 66 P P 04 10 42.7 +1.7
comp=Z,15nm,0.8s,baz=300,slow=4.6,SNR=164
TXAR Lajitas Array 71.31 66 P P 04 10 41.6 +0.7
TXAR Lajitas Array 71.31 66 P P 04 10 41.6 +0.7
KWP Kalwaria Pacla 71.51 332 *e*P P 04 10 41.8 0.0
U40A Yellville 71.52 54 P P 04 10 42.2 +0.2
baz=322,SNR=12
U40A Yellville 71.52 54 IAmb IAmb 04 10 43.0
comp=Z,17nm,0.8s
E58A La Victoria 71.56 35 P P 04 10 42.2 +0.1
baz=330
P46A Rosedale 71.58 48 IAmb IAmb 04 10 43.4
comp=Z,18nm,0.8s
SDSI Sungai Dareh 71.83 243 P P 04 10 45.3 +1.3
comp=Z,10nm,0.5s
NRDL Niedersach Rie 71.95 341 *e*P P 04 10 44.7 +0.5
comp=Z,29nm,0.9s,baz=21,slow=5.9
W39A Magazine 71.97 55 P P 04 10 45.2 +0.5
baz=322
KESW Keswick, Cumbr 72.01 349 *e*P P 04 10 44.3 -0.3
KESW IAmb IAmb 04 10 45.5
comp=Z,45nm,0.8s
GSI Gunungsitoli 72.10 247 P P 04 10 46.0 +0.3
comp=Z,80nm,0.8s
KSP Ksiaz 72.12 336 *e*P P 04 10 45.0 -0.3
ASSE Asse, Remlinge 72.18 340 *e*P P 04 10 46.1 +0.6
comp=Z,37nm,1.2s,baz=21,slow=5.9
S44A Carbondale 72.19 51 IAmb IAmb 04 10 47.4
comp=Z,16nm,0.7s
E60A Ste Agathe de 72.20 34 P P 04 10 46.3 +0.5
baz=330
FCAR Ozark Folk Cen 72.25 54 IAmb IAmb 04 10 47.2
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 72.27 332 *e*P P 04 10 45.0 -1.3
KOLS pmax pmax
comp=Z,10.0nm,1.1s
KOLS Kolonicke sedl 72.27 332 *e*P P 04 10 45.0 -1.3
PBMO Poplar Bluff 72.36 52 IAmb IAmb 04 10 48.5
comp=Z,11nm,0.8s
D62A Allapoint, All 72.37 32 P P 04 10 48.0 +1.1
baz=332
NIE Niedzica 72.38 333 *e*P P 04 10 47.2 +0.2
OSTC Ostas 72.40 336 *e*P P 04 10 46.4 -0.6
CHVC Chvalec 72.41 336 *e*P P 04 10 47.0 -0.1
H57A Richville 72.44 38 P P 04 10 47.2 -0.1
baz=329
HPK Haverah Park 72.45 348 *e*P P 04 10 47.4 +0.2
HPK IAmb IAmb 04 10 48.1
comp=Z,38nm,0.7s
CLL Collm 72.45 338⇓ *i*P P 04 10 47.0 -0.3
comp=Z,41nm,1.0s
CLL Collm 72.45 338⇓ *i*P P 04 10 47.0 -0.3
CLL pmax pmax
comp=Z,41nm,1.0s
CLL Collm 72.45 338 *e*P P 04 10 47.2 -0.1
comp=Z,41nm,1.0s,baz=21,slow=5.9
UPC Upice 72.50 336 *e*P P 04 10 47.6 0.0
UPC Upice 72.50 336 *e*P P 04 10 47.6 0.0
P48A Milroy 72.51 47 IAmb IAmb 04 10 49.0
comp=Z,15nm,1.0s
CLZ Clausthal 72.51 340 *e*P P 04 10 48.5 +0.8
comp=Z,60nm,1.1s,baz=21,slow=5.9
CRVS Cervenica-Dubn 72.53 332 *e*P P 04 10 47.3 -0.5
CRVS pmax pmax
comp=Z,14nm,1.0s
CRVS Cervenica-Dubn 72.53 332 *e*P P 04 10 47.3 -0.5
JCT Junction City 72.54 63 P P 04 10 49.3 +1.1
baz=321
BUR08 Bucovina Ar. S 72.55 329 IAmb IAmb 04 10 49.0
comp=Z,12nm,0.9s
DPC Dobruska-Polom 72.56 336 *e*P P 04 10 48.3 +0.3
DPC Dobruska-Polom 72.56 336 *e*P P 04 10 48.3 +0.3
BURAR Bucovina Array 72.57 329 ⇓P P 04 10 47.5 -0.7
IBBN Ibbenburen 72.58 342 *e*P P 04 10 48.8 +0.7
comp=Z,50nm,0.7s,baz=21,slow=5.9
MIAR Mount Idia 72.59 56 P P 04 10 49.2 +0.8
baz=323
WHTX Lake Whitney, 72.61 60 P P 04 10 49.6 +1.1
baz=322
N51A Ashland 72.64 44 P P 04 10 48.9 +0.3
baz=326,SNR=6.9
N51A Ashland 72.64 44 IAmb IAmb 04 10 49.6
comp=Z,21nm,0.7s
BRG Berggiesshubel 72.65 338 *e*P P 04 10 48.1 -0.4
comp=Z,13nm,1.1s
BRG *es*P sP 04 11 19.1 -1.6
comp=Z,6.1nm,1.2s
BRG Berggiesshubel 72.65 338 *e*P P 04 10 48.1 -0.4
BRG *e**SP sP 04 11 19.1 -1.6
BRG pmax pmax
comp=Z,13nm,1.1s
BRG pmax pmax
comp=N,6.0nm,1.3s
BRG Berggiesshubel 72.65 338 *e*P P 04 10 48.3 -0.2
comp=N,13nm,1.1s,baz=21,slow=5.9
PWJI Pagerwojo 72.67 230 P P 04 10 48.7 -0.3
comp=N,55nm,1.1s
KRLC Kraliky 72.70 336 *e*P P 04 10 48.4 -0.5
KRLC Kraliky 72.70 336 *e*P P 04 10 48.4 -0.5
FBE Freiberg 72.74 338 *e*P P 04 10 49.2 +0.3
comp=N,26nm,1.2s,baz=21,slow=5.9
K54A Basiliko Farm, 72.74 41 P P 04 10 49.5 +0.4
baz=328
W41B Gary Mavity, V 72.76 54 P P 04 10 49.9 +0.6
baz=323,SNR=6.0
P49A Miami Univ. Ec 72.76 47 P P 04 10 49.3 0.0
baz=325
MORC Moravsky Berou 72.79 335 ⇓P P 04 10 49.7 +0.3
MORC Moravsky Berou 72.79 335 *e*P P 04 10 49.4 0.0
MORC Moravsky Berou 72.79 335 IAmb IAmb 04 10 50.6
comp=Z,15nm,0.9s
NEUB Neuenburg 72.82 339 *e*P P 04 10 49.5 +0.1
comp=Z,37nm,1.3s,baz=21,slow=5.9
PVCC Panska Ves 72.82 337 *e*P P 04 10 50.0 +0.5
PVCC Panska Ves 72.82 337 *e*P P 04 10 50.0 +0.5
LANS Liptovska Anna 72.85 334 *e*P P 04 10 50.7 +0.9
LANS pmax pmax
comp=Z,13nm,0.8s
LANS Liptovska Anna 72.85 334 *e*P P 04 10 50.7 +0.9
GTTG Gottingen 72.88 340 *e*P P 04 10 49.8 0.0
comp=Z,45nm,1.4s,baz=21,slow=5.9
K55A Perry 72.89 40 P P 04 10 49.9 -0.1
baz=328
BIZ Bicaz 72.89 328 ⇑P P 04 10 49.1 -0.9
J56A Wolcott 72.89 39 P P 04 10 49.7 -0.3
baz=328
ACSO Alum Creek Sta 72.94 45 P P 04 10 50.7 +0.3
baz=326
ACSO Alum Creek Sta 72.94 45 IAmb IAmb 04 10 52.8
comp=Z,12nm,0.9s
LBWR Ladybower, Pea 73.01 348 *e*P P 04 10 50.2 -0.4
LBWR IAmb IAmb 04 10 51.3
comp=Z,42nm,0.9s
X40A Basin Creek Fa 73.01 55 P P 04 10 51.5 +0.6
baz=323
WCI Wyandotte Cave 73.12 48 P P 04 10 52.0 +0.5
baz=325
O51A Pataskala 73.18 45 P P 04 10 52.1 +0.3
baz=326,SNR=6.2
KLSI 73.25 238 P P 04 10 52.6 +0.1
comp=Z,8.1nm,1.2s
PRA Prague 73.28 337 *e*P P 04 10 52.6 +0.4
PRA Prague 73.28 337 *e*P P 04 10 52.6 +0.4
ARCR ARCALIA 73.31 330 ⇑P P 04 10 53.1 +0.7
PRU Pruhonice 73.33 337 *e*P P 04 10 52.6 +0.1
PRU Pruhonice 73.33 337 *e*P P 04 10 52.6 +0.1
GOPC GO Pecny, Ondr 73.34 337 *e*P P 04 10 52.7 +0.1
GOPC GO Pecny, Ondr 73.34 337 *e*P P 04 10 52.7 +0.1
MOX Moxa 73.38 339 *e*P P 04 10 53.2 +0.4
comp=Z,27nm,1.2s,baz=21,slow=5.9
TANN Tannenbergstha 73.41 338 *e*P P 04 10 53.2 +0.1
comp=Z,40nm,1.4s,baz=21,slow=5.9
PLN Plauen 73.41 339 *e*P P 04 10 53.3 +0.3
comp=Z,20nm,1.0s,baz=21,slow=5.9
ESPY Espiye-Giresun 73.44 317 *e*P P 04 10 58.3 +5.0
VRAC Vranov 73.46 335 ⇓P P 04 10 53.7 +0.3
VRAC Vranov 73.46 335 *e*P P 04 10 53.6 +0.3
GUNZ Gunzen 73.49 339 *e*P P 04 10 53.8 +0.3
comp=Z,17nm,1.0s,baz=21,slow=5.9

BUG Bochum--Univer 73.50 342 *eP* **P 04 10 54.0 +0.5**
comp=Z,46nm,0.9s,baz=21,slow=5.9
O52A Adamsville 73.53 44 P **P 04 10 54.2 +0.4**
baz=326,SNR=6.4
TLCR 73.53 326 ⇓P **P 04 10 53.9 +0.1**
WERN Wernitzgruen 73.55 338 *eP* **P 04 10 54.2 +0.4**
comp=Z,24nm,0.9s,baz=21,slow=5.9
UBBA Unterbreizbach 73.56 340 *eP* **P 04 10 54.2 +0.5**
comp=Z,9.9nm,0.8s,baz=21,slow=5.9
NKC Novy Kostel 73.58 338 *eP* **P 04 10 54.2 +0.2**
NKC Novy Kostel 73.58 338 *eP* **P 04 10 54.2 +0.2**
L56A Greenwood 73.59 40 P **P 04 10 54.3 +0.1**
baz=328
JAVC Velka Javorina 73.60 335 *eP* **P 04 10 55.3 +1.1**
N54A Moraine State 73.60 43 P **P 04 10 54.5 +0.2**
baz=327
CWF Charnwood Fore 73.60 348 *eP* **P 04 10 54.4 +0.4**
CWF IAmb IAmb 04 10 55.0
comp=Z,26nm,1.1s
VYHS Vyhne 73.62 334 *eP* **P 04 10 54.4 +0.1**
VYHS pmax pmax
comp=Z,12nm,0.9s
VYHS Vyhne 73.62 334 *eP* **P 04 10 54.4 +0.1**
H61A Lyndonville 73.63 35 P **P 04 10 55.2 +0.8**
baz=331
VRI Vrincioaia 73.64 327 ⇑P **P 04 10 53.2 -1.2**
M55A Ridgway 73.67 42 P **P 04 10 54.8 +0.1**
baz=328
O53A New Philadelph 73.68 44 P **P 04 10 54.9 +0.1**
baz=327
KRUC Moravsky 73.74 335 *eP* **P 04 10 55.1 +0.2**
PBCC Pribram 73.74 337 *eP* **P 04 10 54.8 -0.1**
TREC Trest 73.75 336 *eP* **P 04 10 55.3 +0.3**
TREC Trest 73.75 336 *eP* **P 04 10 55.3 +0.3**
T47A Sharon Grove 73.76 50 IAmb IAmb 04 10 57.1
comp=Z,13nm,0.8s
CFR Carcaliu 73.77 326 ⇑P **P 04 10 54.6 -0.6**
PSZ Piszkesteto 73.86 333 ⇓P **P 04 10 56.2 +0.5**
CJR Cluj-Napoca 73.87 330 ⇑P **P 04 10 56.4 +0.6**
MANZ Manzenberg 73.89 339 *eP* **P 04 10 56.1 +0.2**
comp=Z,14nm,1.0s,baz=21,slow=5.9
DOPR Dopca 73.98 328 ⇑P **P 04 10 56.9 +0.5**
ROTZ Rotzenmuhle 74.08 338 *eP* **P 04 10 57.3 +0.4**
comp=Z,19nm,1.0s,baz=21,slow=5.9
O54A Avella 74.09 43 P **P 04 10 57.1 0.0**
baz=327
WVT Waverly 74.12 51 P **P 04 10 58.1 +0.8**
WVT pmax pmax
comp=Z,10.0nm,0.8s
WVT Waverly 74.12 51 P **P 04 10 58.2 +0.8**
baz=324
WVT Waverly 74.12 51 P **P 04 10 58.1 +0.8**
WVT IAmb IAmb 04 10 59.1
comp=Z,10nm,0.8s
ERZN Erzincan 74.13 316 *eP* **P 04 10 56.6 -0.9**
MODS Modra-Piesok 74.15 335 *eP* **P 04 10 56.6 -0.7**
MODS pmax pmax
comp=Z,20nm,1.3s
MODS Modra-Piesok 74.15 335 *eP* **P 04 10 56.6 -0.7**
N55A Marion Center 74.16 42 P **P 04 10 57.6 0.0**
baz=328
BNGB Bingl 74.22 315 *eP* **P 04 10 57.7 -0.3**
MLR Muntele Rosu 74.22 328 ⇓P **P 04 10 57.6 -0.4**
MLR Muntele Rosu 74.22 328 IAmb IAmb 04 10 59.5
comp=Z,16nm,0.9s
NATX Nacogdoches 74.25 58 P **P 04 10 59.8 +1.6**
baz=323
HARR Harsova 74.27 326 ⇓P **P 04 10 58.0 -0.1**
TIRR Tirgusor 74.31 326 ⇓P **P 04 10 58.3 0.0**
N56A West Decatur 74.33 42 P **P 04 10 58.9 +0.4**
baz=328
L58A Harry Jones Me 74.33 39 P **P 04 10 58.8 +0.3**
baz=329
CUKT Cukurca 74.36 312 *eP* **P 04 10 58.1 -0.8**
ZST Bratislava 74.36 335 *eP* **P 04 10 58.0 -0.5**
ZST pmax pmax
comp=Z,46nm,1.2s
ZST Bratislava 74.36 335 *eP* **P 04 10 58.0 -0.5**
KHC Kasperske Hory 74.36 337 *eP* **P 04 10 58.9 +0.3**
KHC *ex* x 04 13 09.0
KHC Kasperske Hory 74.36 337 *d iP* **P 04 10 58.8 +0.2**
KHC pmax pmax
comp=Z,79nm,1.3s
GRF Grafenberg Arr 74.36 339 *eP* **P 04 10 59.3 +0.7**
comp=Z,38nm,0.9s,baz=21,slow=5.9
KVT Kavak 74.39 319 *eP* **P 04 10 57.7 -1.2**
AHRW Bad Neuenahr-A 74.40 342 *eP* **P 04 10 59.5 +0.8**
comp=Z,44nm,1.2s,baz=21,slow=5.9
BEBN Eben Emael 74.41 343 P **P 04 10 59.3 +0.6**
M57A Sunshine Farm, 74.44 41 P **P 04 10 59.4 +0.3**
baz=328
WET Wettzell 74.51 338 *eP* **P 04 11 00.1 +0.7**
comp=Z,28nm,1.0s,baz=21,slow=5.9
O55A Ligonier 74.51 43 P **P 04 11 00.3 +0.6**
baz=328
I63A Otisfield 74.52 35 P **P 04 11 00.9 +1.4**
baz=331
BTNL Ternell 74.53 343 ⇓P **P 04 11 00.1 +0.5**
MEM Membach 74.53 343 ⇓P **P 04 11 00.1 +0.6**
comp=Z,95nm,0.9s
P54A Burton 74.53 44 P **P 04 11 00.4 +0.7**
baz=327
MCH1 Michaelchurch 74.54 349 *eP* **P 04 10 57.5 -2.0**
MCH1 IAmb IAmb 04 11 00.9
comp=Z,51nm,1.4s
VOIR 74.56 328 ⇓P **P 04 11 00.0 +0.2**
GEC2 GERESS Array S 74.60 337 *eP* **P 04 11 00.0 0.0**
comp=Z,12nm,0.9s,baz=21,slow=5.9
GEC2 GERESS Array S 74.60 337 IAmb IAmb 04 11 01.1
comp=Z,12nm,0.9s
GERES GERESS Array B 74.60 337 P **P 04 10 59.8 -0.2**
comp=Z,6.2nm,0.7s,baz=34,slow=5.0,SNR=56
GERES LR LR 04 48 31.6
comp=Z,28nm,18.5s,baz=32,slow=40
GERES GERESS Array B 74.60 337 P **P 04 11 00.1 0.0**
GERES GERESS Array B 74.60 337 P **P 04 11 00.1 0.0**
BSTI Sart Tilman 74.64 343 ⇓P **P 04 11 00.8 +0.8**
MONM Monmouth 74.67 348 *eP* **P 04 11 00.0 -0.2**
MONM IAmb IAmb 04 11 01.1
comp=Z,20nm,0.7s
OXF Oxford 74.68 53 P **P 04 11 01.1 +0.5**
baz=324
Q53A Leroy 74.71 45 P **P 04 11 01.1 +0.4**
baz=327
SSPA Standing Stone 74.73 41 P **P 04 11 00.8 0.0**
baz=328
ARR Arges 74.75 329 ⇑P **P 04 11 01.4 +0.5**
N57A Milroy 74.76 41 P **P 04 11 01.4 +0.4**
baz=328,SNR=5.3
O56A Blue Knob Stat 74.76 42 P **P 04 11 01.5 +0.4**
baz=328
BHOU Houvegnez 74.78 343 ⇓P **P 04 11 01.6 +0.7**
comp=Z,38nm,0.0s
BCLA Clavier 74.84 343 P **P 04 11 01.7 +0.4**
PTK Pertek 74.85 315 *eP* **P 04 11 00.9 -0.9**
CLTN Cedars of Leba 74.85 50 IAmb IAmb 04 11 03.2
comp=Z,11nm,0.7s
SIRR Siria 74.85 331 ⇓P **P 04 11 01.4 -0.1**
P55A Reedsville 74.89 43 P **P 04 11 02.6 +0.8**
baz=327
V48A Smith Brothers 74.91 50 IAmb IAmb 04 11 03.3
comp=Z,15nm,0.9s
BGES Gesves 74.91 343 ⇓P **P 04 11 01.8 +0.1**
comp=Z,28nm,1.1s
CONA Conrad Observa 74.92 335 *eP* **P 04 11 02.4 +0.5**
comp=Z,9.9nm,0.7s,SNR=16
SNF Seneffe 74.93 344 ⇓P **P 04 11 02.2 +0.4**
comp=Z,37nm,0.8s
BMRD Maredsous 75.05 343 P **P 04 11 02.8 +0.3**
comp=Z,36nm,1.1s
RCHB Rochefort 75.11 343 ⇓P **P 04 11 02.9 +0.1**
comp=Z,30nm,1.2s
ARPR Arapgir-MALATY 75.13 316 *eP* **P 04 11 02.2 -1.2**
Q55A Buckhannon 75.21 44 P **P 04 11 04.3 +0.7**
baz=327
DOU Dourbes 75.28 343 ⇓P **P 04 11 04.1 +0.3**
P56A Dayton Farm, R 75.30 43 P **P 04 11 05.3 +1.1**
baz=328
SVRC Sivrice-ELAZID 75.32 315 *eP* **P 04 11 04.7 +0.2**
N59A State Game Lan 75.33 40 P **P 04 11 04.3 0.0**
baz=329
MOA Molln 75.39 336 *eP* **P 04 11 04.8 +0.2**
comp=Z,3.8nm,0.7s,SNR=5.8
WLF Walferdange 75.41 342 ⇓P **P 04 11 04.4 -0.2**
WLF PcP PcP 04 11 17.2 -0.1
WLF Walferdange 75.41 342 *eP* **P 04 11 05.2 +0.6**
comp=Z,15nm,0.9s,baz=21,slow=5.9
WLF Walferdange 75.41 342 IAmb IAmb 04 11 05.8
comp=Z,11nm,0.8s
BZS Buzias 75.45 331 ⇓P **P 04 11 04.2 -0.6**
WRAB Tennant Creek 75.52 204 *de*P **P 04 11 07.2 +1.8**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 75.52 204 P **P 04 11 05.6 +0.1**
WB2 Warramunga Arr 75.53 204 IAmb IAmb 04 11 07.8
comp=Z,9.4nm,0.8s
WRA Warramunga Arr 75.53 204 P **P 04 11 06.8 +1.3**
comp=Z,17nm,1.1s,baz=19,slow=6.1,SNR=129
WRA Warramunga Arr 75.53 204 P **P 04 11 05.3 -0.2**
Q56A Snyder Ridge, 75.55 43 P **P 04 11 06.1 +0.6**
baz=328
O58A Lewisberry 75.55 41 P **P 04 11 06.1 +0.5**
baz=329
MAZI Mazidag 75.59 314 *eP* **P 04 11 05.6 -0.4**
ARSA Arzberg 75.64 335 *eP* **P 04 11 06.6 +0.6**
comp=Z,9.6nm,0.8s,SNR=7.7
COPA Copaceanca 75.67 328 ⇑P **P 04 11 05.5 -0.6**
STU Stuttgart 75.67 340 *eP* **P 04 11 06.5 +0.5**
comp=Z,34nm,1.2s,baz=21,slow=5.9
STU Stuttgart 75.67 340 IAmb IAmb 04 11 06.9
comp=Z,18nm,0.8s
CORM Corum 75.72 319 *eP* **P 04 11 06.0 -0.7**
MALT Malatya 75.75 316 *eP* **P 04 11 06.0 -0.8**
SWET Sewanee 75.75 50 IAmb IAmb 04 11 07.9
comp=Z,18nm,0.7s
M61A Granite Spring 75.75 38 P **P 04 11 07.0 +0.4**
baz=330
FUR Furstenfeldbru 75.79 338 *eP* **P 04 11 07.4 +0.6**
comp=Z,38nm,1.1s,baz=21,slow=5.9
R55A Marlinton 75.79 44 P **P 04 11 07.7 +0.6**
baz=328
T53A Wise 75.84 47 P **P 04 11 07.3 0.0**
baz=327
HERR Herculane 75.88 330 ⇑P **P 04 11 06.7 -0.6**
DARE Darende-Malaty 75.93 317 *eP* **P 04 11 07.1 -0.7**
PAL Palasios 75.97 39 P **P 04 11 07.8 -0.1**
baz=330
MDVR Moldovita 76.18 330 ⇑P **P 04 11 08.1 -1.1**
P59A Jarrettsville 76.18 41 P **P 04 11 09.6 +0.4**
baz=329
T54A Tazewell 76.19 46 P **P 04 11 09.9 +0.6**
baz=327
BFO Black Forest 76.27 340 P **P 04 11 09.6 +0.1**
BFO pmax pmax
comp=Z,17nm,0.7s
BFO Black Forest 76.27 340 *eP* **P 04 11 09.9 +0.4**
comp=Z,18nm,0.7s,baz=21,slow=5.9
BFO Black Forest 76.27 340 P **P 04 11 09.6 +0.1**
BFO IAmb IAmb 04 11 10.7
comp=Z,17nm,0.7s
SOKA Soboth 76.29 335 *eP* **P 04 11 10.1 +0.4**
comp=Z,11nm,0.5s,SNR=17
FITZ Fitzroy Crossi 76.30 213 IAmb IAmb 04 11 12.4
comp=Z,9.7nm,0.7s
PERS Pernice 76.31 335 *i P* **P 04 11 10.2 +0.4**
URFA Urfa 76.31 315 *eP* **P 04 11 09.2 -0.8**
M63A Gales Ferry 76.31 37 P **P 04 11 10.3 +0.5**
baz=331
KBA Koelnbreinsper 76.33 337 *eP* **P 04 11 11.1 +1.0**
comp=Z,95nm,0.9s,SNR=50
BNN Bunyan 76.36 318 *eP* **P 04 11 09.2 -1.2**
GROS Grobnik 76.37 335 *i P* **P 04 11 10.3 +0.1**
Z47A Carrollton 76.39 53 IAmb IAmb 04 11 12.1
comp=Z,16nm,0.7s
FRGS Fruska Gora 76.40 332 ⇓*i P* **P 04 11 09.7 -0.6**
R57A Stanardsville 76.45 43 P **P 04 11 11.2 +0.5**
baz=328
BRTR Keskin Array B 76.50 320 P **P 04 11 10.9 -0.2**
comp=Z,8.2nm,0.6s,baz=44,slow=3.2,SNR=19
BRTR LR LR 04 49 15.5
comp=Z,16nm,18.8s,baz=12,slow=39
BRTR Keskin Array B 76.50 320 *ce*P **P 04 11 10.8 -0.4**
BRTR pmax pmax
comp=Z,8.0nm,0.6s
BRTR Keskin Array B 76.50 320 P **P 04 11 10.8 -0.4**
WATA Walderalm 76.51 338 *eP* **P 04 11 11.7 +0.6**
comp=Z,11nm,0.7s,SNR=8.8
UBR Ueberruh 76.51 339 *eP* **P 04 11 11.4 +0.5**
comp=Z,28nm,1.1s,baz=21,slow=5.9
U54A Nelsons Funny 76.54 46 P **P 04 11 11.7 +0.4**
baz=327
RETA Reutte 76.55 339 *eP* **P 04 11 11.5 +0.3**
comp=Z,7.4nm,0.7s,SNR=7.2
OBKA Obir 76.57 336 *eP* **P 04 11 11.4 +0.1**
comp=Z,25nm,1.0s,SNR=11
MOTA Moosalm 76.61 338 *eP* **P 04 11 12.0 +0.4**
comp=Z,24nm,0.7s,SNR=16
MYKA Terra Mystica 76.68 336 *eP* **P 04 11 12.1 +0.2**
comp=Z,8.2nm,0.6s,SNR=7.1
SQTA Sankt Quirin 76.70 338 *eP* **P 04 11 12.8 +0.7**
comp=Z,43nm,0.9s,SNR=19
ABTA Abfaltersbach 76.84 337 *eP* **P 04 11 13.0 +0.2**
comp=Z,28nm,0.8s,SNR=24
GCIS Gornji Cirnik 76.89 335 *i P* **P 04 11 13.2 +0.1**
DAVA Damuels 76.93 339 *eP* **P 04 11 13.7 +0.2**
comp=Z,28nm,1.1s,SNR=13
CRES Cresnjev 76.98 335 ⇓*i P* **P 04 11 13.3 -0.2**
FETA Feichten 77.00 338 *eP* **P 04 11 14.5 +0.7**
comp=Z,30nm,0.8s,SNR=16
LJU Ljubljana 77.01 336 *i P* **P 04 11 13.6 -0.1**
LJU Ljubljana 77.01 336 ⇓*i P* P 04 11 28.0 +14
ZAIG Zacatecas 77.02 70 IAmb IAmb 04 11 17.6
comp=Z,13nm,1.0s
LRAL Lakeview Retre 77.04 52 P **P 04 11 14.0 0.0**
baz=325
KMRS Kahramanmaras 77.07 316 *eP* **P 04 11 13.5 -0.8**
V54A Nebo 77.10 47 P **P 04 11 14.8 +0.3**
baz=327
YAYX Yaylak 77.11 319 *eP* **P 04 11 12.4 -2.1**
GAZ Gaziantep 77.22 316 IAmb IAmb 04 11 16.2
comp=Z,24nm,0.8s
PALK Pallekele 77.24 265 P **P 04 11 15.5 0.0**
comp=Z,18nm,0.8s,baz=163,slow=5.7,SNR=6.8
PALK Pallekele 77.24 265 P **P 04 11 15.2 -0.3**
PALK IAmb IAmb 04 11 16.3
comp=Z,24nm,0.9s
T57A Hurt 77.24 44 P **P 04 11 15.6 +0.4**
baz=328
JAVS Javornik 77.27 336 *i P* **P 04 11 14.5 -0.7**
DIVS Divibare 77.32 331 ⇓*i P* **P 04 11 14.8 -0.8**
CEY Cerknica 77.32 335 ⇓*i P* **P 04 11 15.1 -0.4**
GBRS Gornja Briga 77.42 335 *i P* **P 04 11 16.0 0.0**
BLY Banja Luka 77.52 333 ⇓*i P* **P 04 11 15.6 -0.9**
KOZT Kozan 77.54 317 *eP* **P 04 11 16.3 -0.5**
W54A Cherokee Point 77.57 47 P **P 04 11 17.4 +0.4**
baz=327
CLF Chambon-Foret 77.67 344 IAmb IAmb 04 11 20.1
comp=Z,27nm,0.9s
BBLS Lazići 77.70 331 ⇓*i P* **P 04 11 17.6 -0.1**
CMRD Camardi-Nigde 77.73 318 *eP* **P 04 11 17.5 -0.5**
MGRS Mrkonjic Grad 77.85 333 *eP* P 04 11 33.5 +15
UOSS Minazit 77.90 295 P **P 04 11 18.3 -0.7**
KMSC Kings Mountain 77.91 47 P **P 04 11 19.4 +0.5**
baz=327
X54A Belton 77.94 48 P **P 04 11 19.7 +0.6**
baz=327
V57A Coltrane Farms 77.96 45 P **P 04 11 19.3 +0.1**
baz=328
KARA Karaisali 78.05 318 *eP* **P 04 11 18.6 -1.0**
YURE YUREGIR 78.18 317 *eP* **P 04 11 20.3 -0.1**
TAHT Tahtakopru-Hat 78.33 316 *eP* **P 04 11 20.5 -0.7**
X55A Gracelyn & Ava 78.34 47 P **P 04 11 22.1 +0.9**
baz=327
SENIN Lac Senin/Sane 78.35 340 IAmb IAmb 04 11 25.4
comp=Z,11nm,0.8s
MERS Mersin 78.60 318 *eP* **P 04 11 21.9 -0.9**
YAYL Yayladag 78.66 316 *eP* **P 04 11 22.7 -0.5**
SKO Skopje 78.81 329 *i P* **P 04 11 23.6 -0.2**
BRY Bratogost 78.83 332 ⇓*i P* **P 04 11 22.9 -1.1**
W58A Raeford 78.93 45 P **P 04 11 25.0 +0.5**
baz=328
U61A Possum Corner 78.99 43 P **P 04 11 25.0 +0.3**
baz=329
VAY Valandovo 79.05 328 *i P* **P 04 11 24.9 -0.1**
PDG Podgorica 79.06 331 ⇓P **P 04 11 24.4 -0.7**
PDG Podgorica 79.06 331 ⇓*i P* **P 04 11 24.3 -0.8**
ASAR Alice Springs 79.22 203 P **P 04 11 28.1 +2.1**
comp=Z,4.7nm,0.5s,baz=15,slow=5.3,SNR=62
ASAR Alice Springs 79.22 203 P **P 04 11 25.9 -0.1**
HCY Herceg Novi 79.27 331 ⇓*i P* **P 04 11 24.6 -1.6**
DRME Dracevica, Mon 79.30 331 ⇓*i P* **P 04 11 25.5 -0.9**
BNI Bardonecchia 79.73 341 IAmb IAmb 04 11 31.1
comp=Z,17nm,0.6s
OHR Ohrid 79.80 329 *i* P **P 04 11 28.5 -0.7**
TIR Tirane 79.87 330 ⇓P **P 04 11 29.4 -0.1**
FNA Florina 79.91 329 IAmb IAmb 04 11 30.0
comp=Z,22nm,0.8s
LIT Litokhoron 80.18 328 IAmb IAmb 04 11 32.6
comp=Z,18nm,0.8s
AQU L'Aquila 80.75 335 ⇓*i P* **P 04 11 34.6 +0.3**
LATE Laterza 80.90 336 IAmb IAmb 04 11 39.0
comp=Z,11nm,0.8s
PMOR Pomariorio Ree 81.41 129 *e*T T 05 41 23.7
comp=Z,3.3nm,0.2s
MATE Matera 81.44 332 ⇑P **P 04 11 37.9 0.0**
TIP Timpagrande 82.79 331 ⇓P **P 04 11 45.1 0.0**
PPT2 Papeete2 82.88 131 *e*LR LR 04 37 55.8
comp=Z,208nm,29.2s
IDI Anoyia 83.69 324 ⇑P **P 04 11 47.6 -2.2**
PBRG Braganca 85.02 349 *eP* **P 04 11 57.3 +0.9**
comp=Z,24nm,1.8s
PGAV Gavieira, Arco 85.02 351 A A 05 23 41.1
comp=Z,285nm,20.0s
STKA Stephens Creek 85.66 195 P **P 04 12 00.6 +1.3**
comp=Z,1.8nm,0.6s,baz=10,slow=8.9,SNR=3.1
STKA Stephens Creek 85.66 195 P **P 04 11 59.5 +0.2**
STKA pmax pmax
comp=Z,2.0nm,1.2s
STKA Stephens Creek 85.66 195 P **P 04 11 59.5 +0.2**
MVO Moncorvo 85.69 350 *eP* **P 04 12 00.5 +0.8**
comp=Z,22nm,2.4s
MVO Moncorvo 85.69 350 A A 05 26 29.6
comp=Z,181nm,20.0s
PVIS Viseu 86.22 350 *eP* **P 04 12 03.6 +1.3**
ESBB Sonseca Array 86.78 347 IAmb IAmb 04 12 08.1
comp=Z,7.7nm,0.8s
ESDC Sonseca Array 86.78 347 P **P 04 12 05.0 -0.1**
comp=Z,4.5nm,0.7s,baz=1.7,slow=4.4,SNR=38
ESDC Sonseca Array 86.78 347 P **P 04 12 04.8 -0.3**
PCAS Casmilo, Conde 86.94 351 *eP* **P 04 12 05.8 0.0**
PCBR Castelo Branco 87.05 350 *eP* **P 04 12 06.3 0.0**
PMRV Marv??o 87.44 350 A A 05 22 12.6
comp=Z,219nm,22.0s
TBI Tubuai 87.97 134 *e*T T 05 49 29.1
comp=Z,4.3nm,0.3s
KEST Kesra 88.03 336 P **P 04 12 11.3 +0.1**
comp=Z,19nm,0.9s,baz=279,slow=1.1,SNR=18
PVAQ Vaqueiros 89.48 350 A A 05 22 07.8
comp=Z,308nm,22.0s
PMOZ Porto Moniz, M 94.72 357 A A 05 20 31.3
comp=Z,195nm,18.0s
TORD Torodi Ar. Bea 111.54 336 PKiKP **PKiKP 04 17 55.3 +0.2**
comp=Z,0.3nm,0.6s,baz=21,slow=2.0,SNR=4.6
TORD PP **PP 04 18 34.2 -2.2**
comp=Z,1.4nm,0.7s,baz=4.5,slow=8.5,SNR=7.3
DBIC Dimbokro 119.25 342 PKP **PKiKP 04 18 10.4 +0.5**
comp=Z,3.7nm,0.7s,baz=4.8,slow=3.2,SNR=6.2
DBIC Dimbokro 119.25 342 PKIKP **PKiKP 04 18 09.9 0.0**
DBIC Dimbokro 119.25 342 **PKiKP 04 18 09.9 0.0**
VNDA Vanda 130.02 179 PKP **PKiKP 04 18 30.0 +0.7**
comp=Z,0.3nm,0.6s,baz=1.6,slow=5.8,SNR=2.0
BOSA Boshof 138.48 287 PKhKP PKPpre 04 18 38.0
comp=Z,2.1nm,0.9s,baz=45,slow=4.3,SNR=1.8
PLCA Paso Flores 144.59 90 PKP **PKPdf 04 18 56.7 +0.3**
comp=Z,9.7nm,0.8s,baz=299,slow=3.9,SNR=21
PLCA Paso Flores 144.59 90 PKIKP **PKPdf 04 18 56.6 +0.1**
PLCA Paso Flores 144.59 90 **PKPdf 04 18 56.6 +0.1**
SNAA Sanae 159.42 196 PKPab **PKPab 04 19 57.5 +1.7**
VNA2 Neumayer--Watz 160.79 193 PKPab **PKPab 04 20 02.3 +0.6**
VNA3 Neumayer Olymp 160.79 191 PKPab **PKPab 04 20 01.8 +0.1**

IDC 24 04:38:35.2±2.5, 6°39S×130°74E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/22, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=138.3km s-min=33.2km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.92**	**166**	Pn	Pn	04 41 53.8	-0.1
	0.2nm,0.3s,baz=349,slow=13,SNR=16						
WRA				Sn	Sn	04 44 14.6	-15
	0.8nm,0.3s,baz=330,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.45**	**170**	P	Pn	04 42 40.3	+0.1
	0.1nm,0.3s,baz=346,slow=10.0,SNR=2.0						
ASAR				S	Sn	04 45 38.6	-17
	0.2nm,0.3s,baz=344,slow=25,SNR=5.4						
MKAR	**Makanchi Array**	**68.13**	**326**	P	P	04 49 37.2	0.0
	0.5nm,0.6s,baz=116,slow=7.1,SNR=4.1						

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*IDC **24** 04:43:24.4±0.5, 11°50N×88°87W, h0km, mb4.5/24, mb1 4.7/28, mb1mx4.6/40, mbtmp4.5/28, ML4.4/4, MS4.5/19, Ms1 4.5/19, ms1mx4.4/24, Error ellipse: s-maj=20.0km s-min=10.1km az=47.0*

*INET **24** 04:43:25.6, 11°46N×88°95W, h10km, ML5.2*

*BJI **24** 04:43:26.0±0.0, 11°60N×88°80W, h10km, mB5.4/5, Ms5.4/15, Ms7 5.1/16*

*GCMT **24** 04:43:27.6±0.2, 11°47N±0°01×89°15W±0°01, h12km, MW5.3/126, Moment Tensor Solution. s71,c106; s126,c232; Duration: 1s1 Moment tensor: Scale 10^17 Nm; M_{rr}-0.82±.01; $M_{\theta\theta}$1.00±.01; $M_{\phi\phi}$-0.17±.01; $M_{r\theta}$0.06±.04; $M_{\theta\phi}$-0.36±.01; $M_{\phi r}$-0.26±.05; Best double couple: $M_0$1.00900×10^17 NP1:ϕ_s86.00000°, δ45.00000°, λ-119.00000°. NP2:ϕ_s304.00000°, δ52.00000°, λ-64.00000°. Principal axes: T 1.1050, Plg4.0000°, Azm16.0000°; N -0.1910, Plg20.0000°, Azm108.0000°; P -0.9140, Plg70.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SNET **24** 04:43:27.8±1.1, 11°54N×88°94W, h35km±181km, ML5.0*

*GCG **24** 04:43:27.3±0.6, 11°40N×89°12W, h28km±843km, MD4.6*

*UCR **24** 04:43:28.5±1.3, 11°57N×88°92W, h35km±12km, ML4.7, mb4.8(NEIC)*

*UNK **24** 04:43:30.6, 11°57N×88°80W, h49km*

*NEIC **24** 04:43:30.5±0.6, 11°56N±0°06×88°81W±0°06, h49km±5km, mb4.8/332, Md5.0(SNET), Error ellipse: s-maj=10.2km s-min=6.8km az=222.0*

ISC 24 04:43:26.8±0.6, 11°58N±0°04×88°84W±0°04, h15km±3km, n667, σ1§17/625, mb4.8/172, MS4.6/28, 3C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.76**	**9**	*eP*	**Pn**	**04 43 56.9**	**+0.1**
ALJI				*eS*	**Sn**	**04 44 19.1**	**+0.2**
ALJI	**Alcalda de J**	**1.76**	**9**	*eP*	**Pn**	**04 43 56.9**	**+0.1**
ALJI				*eS*	**Sn**	**04 44 19.1**	**+0.2**
LCY	**Lacayo**	**1.91**	**16**	*eP*	**Pn**	**04 43 59.1**	**+0.2**
LCY	**Lacayo**	**1.91**	**16**	*eP*	**Pn**	**04 43 59.1**	**+0.2**
VSM	**San Miguel**	**1.92**	**17**	*eP*	**Pn**	**04 43 59.5**	**+0.3**
VSM	**San Miguel**	**1.92**	**17**	*eP*	**Pn**	**04 43 59.5**	**+0.3**
COEB	**Comit de Eme**	**1.94**	**9**	*eP*	**Pn**	**04 43 59.1**	**-0.1**
COEB				*eS*	**Sn**	**04 44 24.2**	**+0.9**
COEB	**Comit de Eme**	**1.94**	**9**	*eP*	**Pn**	**04 43 59.1**	**-0.1**
COEB				*eS*	**Sn**	**04 44 24.2**	**+0.9**
TECA	**Tecapa**	**1.94**	**10**	*eP*	**Pn**	**04 43 59.3**	**0.0**
TECA	**Tecapa**	**1.94**	**10**	*eP*	**Pn**	**04 43 59.3**	**0.0**
BLLM	**Bellamira**	**1.95**	**17**	*eP*	**Pn**	**04 43 59.5**	**+0.1**
BLLM	**Bellamira**	**1.95**	**17**	*eP*	**Pn**	**04 43 59.5**	**+0.1**
CNCH	**Conchagua**	**1.96**	**30**	IAML		04 44 30.5	
	comp=Z,19μm,0.4s						
CNCH	**Conchagua**	**1.96**	**30**	IAML		04 44 30.5	
	comp=Z,19μm,0.4s						
CNRM	**Centro Naciona**	**2.00**	**19**	*eS*	**Sn**	**04 44 26.2**	**+1.4**
CNRM	**Centro Naciona**	**2.00**	**19**	*eS*	**Sn**	**04 44 26.2**	**+1.4**
COEG	**Centro de Oper**	**2.03**	**359**	*eP*	**Pn**	**04 44 00.1**	**-0.5**
COEG	**Centro de Oper**	**2.03**	**359**	*eP*	**Pn**	**04 44 00.1**	**-0.5**
CRIN	**San Cristobal**	**2.08**	**57**			**04 44 01.4**	**+0.3**
CRIN				Sn	**Sn**	**04 44 27.4**	**+0.6**
AEIL	**Aeropuerto Ilo**	**2.13**	**353**	*eP*	**Pn**	**04 44 01.6**	**-0.2**
AEIL				*eS*	**Sn**	**04 44 27.6**	**-0.5**
AEIL				IAML		04 44 34.3	
	comp=Z,8μm,0.6s						
AEIL	**Aeropuerto Ilo**	**2.13**	**353**	*eP*	**Pn**	**04 44 01.6**	**-0.2**
AEIL				*eS*	**Sn**	**04 44 27.6**	**-0.5**
AEIL				IAML		04 44 34.3	
	comp=Z,8μm,0.6s						
SNET	**Serv Nac Est T**	**2.13**	**350**	*i P*	**Pn**	**04 44 01.2**	**-0.7**
SNET				*eS*	**Sn**	**04 44 29.0**	**+0.7**
SNET				IAML		04 44 33.1	
	comp=Z,6μm,0.3s						
SNET	**Serv Nac Est T**	**2.13**	**350**	*i P*	**Pn**	**04 44 01.2**	**-0.7**

SNET eS Sn 04 44 29.0 +0.7
SNET IAML 04 44 33.1
comp=Z,6µm,0.3s
SNET Serv Nac Est T 2.13 350 Pn 04 44 01.4 -0.5
UDBS Universidad Do 2.15 352 eP **Pn 04 44 02.1 0.0**
UDBS Universidad Do 2.15 352 eP **Pn 04 44 02.1 0.0**
IGN Direccin Gen 2.15 351 eS **Sn 04 44 27.9 -0.7**
IGN Direccin Gen 2.15 351 eS **Sn 04 44 27.9 -0.7**
LBRS Las Brisas 2.16 355 eP **Pn 04 44 02.4 +0.1**
LBRS Las Brisas 2.16 355 eP **Pn 04 44 02.4 +0.1**
UEES Universidad Ev 2.16 350 IAML 04 44 35.6
comp=Z,5µm,0.3s
UEES Universidad Ev 2.16 350 IAML 04 44 35.6
comp=Z,5µm,0.3s
BOQS Boqueron 2.19 349 eP **Pn 04 44 02.8 0.0**
BOQS Boqueron 2.19 349 eP **Pn 04 44 02.8 0.0**
FAGO Alcalda de S 2.23 19 eP **Pn 04 44 03.8 +0.6**
FAGO Alcalda de S 2.23 19 eP **Pn 04 44 03.8 +0.6**
CEDA San Andres 2.28 346 eS **Sn 04 44 30.3 -1.5**
CEDA IAML 04 44 39.9
comp=Z,10µm,0.7s
CEDA San Andres 2.28 346 eS **Sn 04 44 30.3 -1.5**
CEDA IAML 04 44 39.9
comp=Z,10µm,0.7s
CEVE Cerro Verde 2.37 341 IAML 04 44 40.1
comp=Z,11µm,0.3s
CEVE Cerro Verde 2.37 341 IAML 04 44 40.1
comp=Z,11µm,0.3s
SBLS San Blas 2.38 341 eP **Pn 04 44 05.2 -0.2**
SBLS San Blas 2.38 341 eP **Pn 04 44 05.2 -0.2**
SNJE San Jose 2.40 342 eP **Pn 04 44 05.6 -0.1**
SNJE San Jose 2.40 342 eP **Pn 04 44 05.6 -0.1**
TACO Tacachico 2.43 348 eP **Pn 04 44 06.1 +0.1**
TACO eS **Sn 04 44 35.2 -0.3**
TACO Tacachico 2.43 348 eP **Pn 04 44 06.1 +0.1**
TACO eS **Sn 04 44 35.2 -0.3**
MTO3 Montecristo 2.85 350 Pn 04 44 12.5 +0.5
MTO3 Sn **Sn 04 44 46.5 +0.3**
TGUH Tegucigalpa,Un 2.90 32 Pn **Pn 04 44 13.1 +0.5**
ESQI Esquipulas 3.01 351 eS **Sn 04 44 49.9 +0.1**
ESQI Esquipulas 3.01 351 Pn 04 44 14.9 +0.9
ESQI Sn **Sn 04 44 50.5 +0.7**
IXG Ixpaco 3.02 329¶ eP **Pn 04 44 14.2 0.0**
MATN Matagalpa 3.15 64 Pn **Pn 04 44 15.6 -0.4**
MATN Sn **Sn 04 44 53.4 0.0**
BOAB BOACO BROADBAN 3.22 74 Pn **Pn 04 44 16.0 -0.8**
PCG Pacaya 3.29 329 eP **Pn 04 44 18.7 +0.7**
NBG Las Nubes 3.34 334¶ eP **Pn 04 44 20.5 +1.9**
NBG eS **Sn 04 44 58.1 0.0**
BUEV Buena Vista 3.46 103 i P **Pn 04 44 21.1 +1.0**
FUG Fuego 3 3.46 326¶ eP **Pn 04 44 20.0 -0.2**
FUG eS **Sn 04 45 01.5 +0.4**
GB1A Borinquen Arri 3.46 102 i P **Pn 04 44 21.4 +1.2**
GUAI GUAI 3.52 111 i P **Pn 04 44 21.3 +0.4**
GUAI i S **Sn 04 45 01.8 -0.4**
MRL Marmol 3.58 347 eP **Pn 04 44 23.8 +1.8**
MRL eS **Sn 04 45 07.5 +3.3**
ACON Acoyapa 3.61 83 Pn 04 44 20.9 -1.2
GUAB Guayabo de Bag 3.65 103 i P **Pn 04 44 24.0 +1.3**
GUAB i S **Sn 04 45 06.6 +1.0**
COLC Colonia 3.68 104 i P **Pn 04 44 24.7 +1.5**
APG El Apazote 3.76 335 Pn **Pn 04 44 25.1 +0.7**
comp=Z,35nm,0.3s,baz=159,slow=16,SNR=50
APG Sn **Sn 04 45 10.0 +1.5**
comp=Z,91nm,0.3s,baz=225,slow=22,SNR=8.5
PTEN Parque Tenorio 3.88 102 i P **Pn 04 44 27.6 +1.7**
JTS Las Juntas de 4.03 108 Pn **Pn 04 44 29.2 +1.3**
comp=Z,62nm,0.3s,baz=114,slow=4.0,SNR=180
JTS Sn **Sn 04 45 16.2 +1.3**
comp=Z,98nm,0.3s,baz=243,slow=22,SNR=8.5
JTS Las Juntas de 4.03 108 Pn **Pn 04 44 28.8 +0.9**
JTS **Sn 04 45 14.8 0.0**
RTAL Retalhuleu 4.04 317 Pn **Pn 04 44 26.8 -1.4**
CASO Castillo 4.19 105 i P **Pn 04 44 31.4 +1.3**
CEDE Laguna Cedeo 4.20 105 i P **Pn 04 44 31.9 +1.5**
FORC Fortuna 4.24 105 i P **Pn 04 44 32.5 +1.6**
HUEH Huehuetenango 4.53 325 Pn 04 44 36.6 +1.5
HDC Heredia 4.90 108 Pn **Pn 04 44 41.4 +1.3**
LCR2 La Lucha 2 5.09 111 eP **Pn 04 44 44.4 +1.6**
RIMA Rio Macho 5.21 110 eP **Pn 04 44 47.0 +2.6**
CDM Cerro de Muert 5.38 111 eP **Pn 04 44 48.7 +1.8**
PEZE Perez Zeledon, 5.52 113 eP **Pn 04 44 50.5 +1.9**
EDLM Las Mercedes 5.65 113 eP **Pn 04 44 52.4 +2.2**
CCIG Comitan 5.67 326 Pn 04 44 52.4 +1.7
DRK0 Durika 5.96 112 eP **Pn 04 44 56.8 +2.1**
RIOS Rincon, Osa 5.97 118 eP **Pn 04 44 56.8 +2.1**
EDBA Buenos Aires 5.98 113 eP **Pn 04 44 56.2 +1.5**
TEIG Tepich 8.62 4 Pn **Pn 04 45 33.3 +2.3**
comp=Z,8.2nm,0.3s,baz=161,slow=11,SNR=77
TEIG LR LR 04 49 18.2
comp=Z,9µm,19.1s,baz=211,slow=41
TEIG Tepich 8.62 4 Pn **Pn 04 45 32.6 +1.6**
BCIP Isla Barro Col 9.17 104 eP **Pn 04 45 39.4 +0.7**
BCIP Isla Barro Col 9.17 104 Pn **Pn 04 45 39.9 +1.2**
TLIG Tlapa 11.14 303 Pn **Pn 04 46 06.5 +0.9**
CAPC Capurgana 11.68 103 eP **Pn 04 46 15.4 +2.4**
PAYG Puerto Ayora 12.25 187 Pn **Pn 04 46 21.9 +1.0**
UNM Universidad Na 12.60 309 Pn 04 46 27.0 +1.3
MOTC Monteria, Cord 13.26 101 eP **Pn 04 46 38.1 +3.5**
SJCC San Jacinto, C 13.53 96 eP **Pn 04 46 40.3 +2.0**
UREC San Jos de Ur 13.66 105 eP **Pn 04 46 43.5 +3.5**
CBOC Ciudad Bolivar 13.89 113 eP **Pn 04 46 47.1 +3.7**
MOIG Morelia 14.36 306 Pn **Pn 04 46 50.9 +1.1**
ZARC Zaragoza, Cauc 14.37 105 eP **Pn 04 46 51.9 +2.0**
ARGC Ariguani, Magd 14.44 95 eP **Pn 04 46 52.6 +1.8**
GUY2C Guyana, Caldas 14.74 114 eP **P 04 46 59.5 -1.9**
SMLC San Martn de 14.79 99 eP **P 04 47 04.3 +2.8**
BBAC Balboa, Cauca 14.91 129 eP **P 04 47 00.9 -2.1**
ANIL Santa Ana 15.04 117 eP **P 04 47 03.8 -0.8**
PTBC PUERTO BERRIO, 15.06 108 eP **P 04 47 03.3 -1.1**
TOLC Tolima 15.07 116 eP **P 04 47 04.8 -0.1**
OTAV Otavalo 15.27 137 eP **P 04 47 09.5 +2.2**
OTAV Otavalo 15.27 137 Pn 04 47 02.4 0.0
OTAV Otavalo 15.27 137 eP **Pn 04 47 01.1 -1.3**
GCUF Volcan Galeras 15.36 131 eP **P 04 47 07.7 -0.5**
PCON Cinco Dias 15.38 126 eP **P 04 47 12.3 +3.7**
MARP Paez Belalcaza 15.44 123 eP **P 04 47 09.2 +0.3**
BRRC Barranca, Sant 15.57 105 eP **P 04 47 10.1 0.0**
SPBC San Pablo de B 15.74 111 eP **P 04 47 12.9 +0.8**
ROSC El Rosal 15.85 114 Pn **P 04 47 15.1 +1.5**
comp=Z,0.8nm,0.3s,baz=338,slow=15,SNR=6.8
ROSC El Rosal 15.85 114 Pn **Pn 04 47 09.9 +0.1**
ROSC IAmb IAmb 04 47 27.2
comp=Z,131nm,1.1s
PRAC Prado 15.87 118 eP **P 04 47 15.4 +1.9**
BETC Betania 15.95 123 eP **P 04 47 14.8 +0.3**
061Z Ochoppi 16.07 27 Pn **Pn 04 47 13.1 +0.9**
BARC Barichara 16.23 106 eP **P 04 47 19.2 +1.5**
FLOC Florencia 16.42 126 eP **P 04 47 20.9 +1.2**
CHIC Chingaza 16.46 114 eP **P 04 47 21.8 +1.3**
PAMC Pamplona, Colo 16.46 103 eP **P 04 47 21.6 +1.1**
RUSC La Rusia 16.56 109 eP **P 04 47 22.5 +0.9**
ZAIG Zacatecas 17.19 312 Pn **Pn 04 47 27.4 +0.7**
MACC Macarena, Meta 17.57 121 eP **P 04 47 35.1 +2.7**
TAMC Tame, Arauca 17.59 105 eP **P 04 47 35.6 +3.0**
PTLC Puerto Leguiza 17.97 128 eP **P 04 47 42.6 +5.9**
KVTX Kingsville 18.02 333 P 04 47 37.6 +0.5
KVTX IAmb IAmb 04 47 41.2
comp=Z,90nm,0.9s
PTGC Puerto Gaitan, 18.09 113 eP **P 04 47 42.0 +4.0**
SDV Santo Domingo 18.11 97 P **P 04 47 38.7 +0.2**
comp=Z,1.5nm,0.3s,baz=280,slow=8.1,SNR=13
SDV LR LR 04 55 32.6
comp=Z,885nm,18.8s,baz=267,slow=40
SDV Santo Domingo 18.11 97 eP **P 04 47 40.5 +2.0**
SDV Santo Domingo 18.11 97 Pn 04 47 38.3 +0.1
SDV IAmb IAmb 04 47 50.1
comp=Z,67nm,0.9s
SDV Santo Domingo 18.11 97 eP **P 04 47 39.1 +0.6**
SDDR Presa de Saban 18.45 64 P **Pn 04 47 42.2 0.0**
553A Crawfordville 18.97 12 P 04 47 47.6 0.0
SC01 Santiago de lo 19.11 64 P **P 04 47 48.8 -0.4**
SC01 IAmb IAmb 04 47 59.3
comp=Z,74nm,0.9s
833A Chaparral WMA, 19.37 331 P **Pn 04 47 52.7 -0.5**
baz=147,SNR=11
833A Chaparral WMA, 19.37 331 P **P 04 47 52.4 +0.3**
833A IAmb IAmb 04 48 09.2
comp=Z,36nm,0.8s
HKT Hockley 19.41 341 P **P 04 47 52.8 +0.4**
BRAL Brewton 19.57 5 P **Pn 04 47 54.9 -0.6**
baz=185

346A Big Creek Wild 19.73 358 P **P 04 47 56.4 +0.5**
346A IAmb IAmb 04 48 01.2
comp=Z,76nm,1.1s
344A Westbrook Farm 19.86 355 P 04 47 57.8 +0.4
342A Flagon Creek P 19.97 351 P 04 47 59.0 +0.5
342A IAmb IAmb 04 48 11.7
comp=Z,66nm,0.8s
456A Hilliard 20.08 17 P **P 04 48 00.1 +0.4**
352A Blakely 20.14 10 P **P 04 48 00.7 +0.3**
TIGA Tifton 20.36 13 P **P 04 48 03.6 +0.9**
comp=Z,195,SNR=8.6
250A Grady 20.44 6 P **P 04 48 04.2 +0.5**
250A IAmb IAmb 04 48 09.8
comp=Z,55nm,1.1s
VBMS Vicksburg 20.60 356 P **P 04 48 05.6 +0.2**
baz=175,SNR=5.9
VBMS Vicksburg 20.60 356 P **P 04 48 06.0 +0.6**
435B Jarrell 20.76 338 P **P 04 48 06.8 -0.3**
baz=155,SNR=13
NATX Nacogdoches 20.80 346 P **P 04 48 08.0 +0.5**
baz=164
NATX Nacogdoches 20.80 346 P 04 48 08.0 +0.5
NATX IAmb IAmb 04 48 21.2
comp=Z,65nm,0.8s
146A Union 20.96 359 P **P 04 48 09.7 +0.4**
143A Socs Landing, 21.16 354 P **P 04 48 12.0 +0.5**
ATAH Atahualpa 21.29 150 P **P 04 48 13.6 +0.2**
comp=Z,19nm,0.9s,baz=338,slow=7.9,SNR=7.4
ATAH LR LR 04 55 26.1
comp=Z,1µm,19.5s,baz=333,slow=34
237A Washetta, Mont 21.32 344 P **P 04 48 13.8 +0.7**
237A IAmb IAmb 04 48 29.0
comp=Z,39nm,0.7s
152A Waverly Hall 21.33 10 P **P 04 48 13.8 +0.5**
152A IAmb IAmb 04 48 19.0
comp=Z,42nm,0.9s
JCT Junction City 21.39 333 P **P 04 48 13.8 -0.1**
baz=149,SNR=16
JCT Junction City 21.39 333 IAmb IAmb 04 48 23.7
comp=Z,50nm,1.1s
LRAL Lakeview Retre 21.43 4 P **P 04 48 14.2 -0.1**
baz=185,SNR=10
LRAL Lakeview Retre 21.43 4 P **P 04 48 14.6 +0.3**
Z47A Carrollton 21.54 2 P **P 04 48 16.0 +0.5**
Z47A IAmb IAmb 04 48 30.8
comp=Z,44nm,0.9s
154A Montrose 21.59 13 P **P 04 48 16.5 +0.4**
WHTX Lake Whitney, 21.82 340 P **P 04 48 18.2 -0.3**
baz=157,SNR=20
WHTX Lake Whitney, 21.82 340 IAmb IAmb 04 48 29.5
comp=Z,61nm,0.8s
Z41A Richland Creek 21.89 351 P **P 04 48 20.2 +1.0**
baz=170,SNR=9.7
Z41A Richland Creek 21.89 351 P **P 04 48 19.7 +0.5**
Z51A Franklin 21.90 8 IAmb IAmb 04 48 24.7
comp=Z,36nm,1.1s
Y45A Yeager Farm, C 22.20 358 P **P 04 48 23.0 +0.5**
157A Early Branch 22.21 18 P **P 04 48 24.0 +1.3**
baz=200
GOGA Godfrey 22.29 12 P **P 04 48 24.2 +0.7**
baz=194
GOGA Godfrey 22.29 12 P **P 04 48 23.8 +0.3**
GOGA IAmb IAmb 04 48 31.5
comp=Z,25nm,0.9s
Y49A Blount Mountai 22.29 5 IAmb IAmb 04 48 30.5
comp=Z,25nm,0.8s
Z38A Mt. Pleasant 22.31 346 P **P 04 48 24.2 +0.5**
Z38A IAmb IAmb 04 48 27.8
comp=Z,49nm,0.8s
WLAR White Oak Lake 22.36 351 P **P 04 48 24.6 +0.3**
CCAR Cane Creek 22.40 354 P **P 04 48 25.2 +0.5**
TXAR Lajitas Array 22.43 324 P **P 04 48 25.9 +0.7**
comp=Z,19nm,0.9s,baz=144,slow=8.8,SNR=78
TXAR PcP **PcP 04 52 20.0 +0.1**
comp=Z,2.0nm,0.9s,baz=150,slow=2.0,SNR=3.6
TXAR Lajitas Array 22.43 324 P **P 04 48 25.6 +0.3**
TXAR **PcP 04 52 18.3 -1.5**
TX31 Lajitas Ar. Si 22.43 324 P **P 04 48 25.6 +0.4**
TX32 Lajitas Array 22.43 324 P **P 04 48 25.6 +0.3**
Y52A Lilburn 22.61 10 P **P 04 48 27.3 +0.2**
Y52A IAmb IAmb 04 48 35.7
comp=Z,46nm,0.9s
Z56A Williston 22.71 16 P **P 04 48 29.1 +1.1**
baz=199
Z56A Williston 22.71 16 P **P 04 48 28.4 +0.4**
X48A Hartselle 22.83 4 P **P 04 48 29.7 +0.4**
OXF Oxford 22.84 359 P **P 04 48 30.3 +0.9**
baz=178
OXF Oxford 22.84 359 P **P 04 48 29.9 +0.5**
NHSC New Hope 22.86 19 P **P 04 48 31.0 +1.4**
baz=202
NHSC New Hope 22.86 19 P **P 04 48 29.9 +0.4**
Z57A Bowman 22.87 18 P **P 04 48 30.8 +1.1**
baz=201
X43A Marvell 22.91 356 P **P 04 48 31.7 +1.5**
baz=175
X43A Marvell 22.91 356 P **P 04 48 30.6 +0.5**
PDPR Patillas Dam, 22.96 71 P **P 04 48 29.7 -1.1**
Z35A Perchaven, San 22.99 342 IAmb IAmb 04 48 33.5
comp=Z,42nm,0.8s
FPAL Fort Paine 23.05 7 IAmb IAmb 04 48 42.8
comp=Z,36nm,1.1s
X40A Basin Creek Fa 23.10 352 P **P 04 48 33.0 +0.9**
baz=170
X40A Basin Creek Fa 23.10 352 P **P 04 48 32.6 +0.5**
HUMP Col San Antoni 23.15 71 P **P 04 48 32.8 0.0**
HUMP IAmb IAmb 04 48 43.2
comp=Z,31nm,1.1s
Y55A Saluda 23.16 15 P **P 04 48 33.3 +0.6**
baz=198
Y56A Pelion 23.16 16 P **P 04 48 34.1 +1.3**
baz=199
CBYP Canovanas 23.17 71 P **P 04 48 32.8 -0.2**
CBYP IAmb IAmb 04 48 35.1
comp=Z,51nm,1.1s
X51A Calhoun 23.17 8 P **P 04 48 33.2 +0.4**
X51A IAmb IAmb 04 48 41.9
comp=Z,26nm,0.9s
ABTX Abilene, Hawle 23.19 336 P **P 04 48 32.3 -0.8**
baz=152
ABTX Abilene, Hawle 23.19 336 IAmb IAmb 04 48 45.6
comp=Z,30nm,1.0s
MIAR Mount Ida 23.27 350 P **P 04 48 33.6 -0.3**
baz=168,SNR=31
MIAR Mount Ida 23.27 350 IAmb IAmb 04 48 47.0
comp=Z,57nm,0.9s
PLAL Pickwick Lake 23.31 2 P **P 04 48 34.5 +0.2**
UALR University of 23.32 353 P **P 04 48 34.7 +0.4**
UALR IAmb IAmb 04 48 38.1
comp=Z,45nm,1.0s
HODGE Hodges 23.34 14 P **P 04 48 34.8 +0.3**
MTP Monte Pirata 23.41 71 P **P 04 48 35.5 +0.1**
MTP IAmb IAmb 04 48 38.5
comp=Z,35nm,0.8s
W45A Hickory Valley 23.48 359 P **P 04 48 36.3 +0.4**
W45A IAmb IAmb 04 48 47.1
comp=Z,51nm,0.9s
X54A Belton 23.62 13 P **P 04 48 36.8 -0.5**
baz=196,SNR=7.9
Y57A Sumter 23.64 18 P **P 04 48 37.3 -0.2**
baz=201
Y57A Sumter 23.64 18 P **P 04 48 37.8 +0.3**
Y57A IAmb IAmb 04 48 46.5
comp=Z,30nm,0.8s
JSC Jenkinsville 23.64 16 P **P 04 48 37.6 +0.2**
JSC IAmb IAmb 04 48 41.8
comp=Z,26nm,1.0s
X37A Clayton 23.67 346 P **P 04 48 38.0 +0.3**
SWET Sewanee 23.68 6 P **P 04 48 38.2 +0.2**
W41B Gary Mavity, V 23.70 353 P **P 04 48 37.7 -0.3**
baz=172
W41B Gary Mavity, V 23.70 353 P **P 04 48 37.4 -0.6**
X55A Gracelyn & Ava 23.72 15 P **P 04 48 38.1 -0.2**
baz=198
W50A Signal Mountai 23.74 7 P **P 04 48 38.7 +0.2**
W50A IAmb IAmb 04 48 50.5
comp=Z,20nm,0.8s
PCRV Puerto La Cruz 23.81 91 P **P 04 48 40.7 +1.4**
comp=Z,36nm,0.7s,baz=276,slow=4.2,SNR=19
PCRV LR LR 04 59 21.7
comp=Z,525nm,20.7s,slow=40
WHAR Wooly Hollow 23.82 353 P **P 04 48 39.4 +0.2**
WHAR IAmb IAmb 04 48 51.1
comp=Z,37nm,1.0s
PLCV Puerto La Cruz 23.85 91 P **P 04 48 40.7 +0.9**
LPIG La Paz 23.89 304 P **P 04 48 40.7 +0.7**

comp=Z,13nm,0.3s,baz=110,slow=0.9,SNR=4.6
X56A White Oak 23.90 16 P **P 04 48 40.7 +0.8**
baz=199
BG3 Lake Jocassee 23.92 12 P **P 04 48 40.4 +0.1**
W39A Magazine 23.94 350 P **P 04 48 40.6 +0.3**
baz=168,SNR=16
W39A Magazine 23.94 350 IAmb IAmb 04 48 54.7
comp=Z,36nm,1.0s
PAULI Pauline 24.01 14 IAmb IAmb 04 48 44.2
comp=Z,24nm,1.1s
STVI Saint Thomas 24.02 71 P **P 04 48 41.0 -0.3**
W54A Cherokee Point 24.18 13 P **P 04 48 42.8 +0.3**
baz=196
BIRD Birdtown, Kers 24.20 17 P **P 04 48 42.6 -0.2**
BIRD IAmb IAmb 04 48 49.4
comp=Z,21nm,0.9s
X34A Smith Ranch, M 24.34 342 P **P 04 48 44.2 0.0**
FCAR Ozark Folk Cen 24.39 354 P **P 04 48 44.6 +0.1**
FCAR IAmb IAmb 04 48 56.4
comp=Z,47nm,0.9s
TKL Tuckaleechee C 24.41 10 P **P 04 48 44.7 0.0**
comp=Z,25nm,0.9s,baz=180,slow=8.1,SNR=9.3
TKL LR LR 04 59 23.1
comp=Z,1µm,19.3s,baz=196,slow=39
TKL Tuckaleechee C 24.41 10 P **P 04 48 44.8 0.0**
TKL IAmb IAmb 04 48 48.7
comp=Z,25nm,0.8s
KMSC Kings Mountain 24.43 15 P **P 04 48 44.5 -0.4**
baz=198,SNR=6.3
KMSC Kings Mountain 24.43 15 P **P 04 48 44.9 -0.1**
KMSC IAmb IAmb 04 48 49.1
comp=Z,43nm,1.1s
WVT Waverly 24.46 2 P **P 04 48 46.4 +1.3**
baz=182
WVT Waverly 24.46 2 P **P 04 48 45.3 +0.1**
LCAR Lake Charles 24.48 355 P **P 04 48 44.6 -0.7**
LCAR IAmb IAmb 04 48 56.7
comp=Z,18nm,0.8s
W35A Tecumseh 24.58 344 P **P 04 48 46.1 -0.2**
V53A Saluda 24.60 12 P **P 04 48 46.5 -0.1**
V53A IAmb IAmb 04 48 53.7
comp=Z,35nm,0.8s
X59A McDuffie Farm, 24.72 21 P **P 04 48 47.4 -0.1**
baz=204
WMOK Wichita Mounta 24.77 340 P **P 04 48 46.6 -1.4**
baz=156,SNR=17
WMOK Wichita Mounta 24.77 340 P **P 04 48 47.3 -0.8**
WMOK IAmb IAmb 04 48 54.6
comp=Z,26nm,1.1s
W57A Gilead 24.81 17 P **P 04 48 48.3 0.0**
baz=201
FNO Franklin 24.83 343 P **P 04 48 48.5 0.0**
V54A Nebo 24.89 13 P **P 04 48 49.8 +0.7**
baz=196,SNR=7.6
W58A Raeford 24.92 19 P **P 04 48 49.7 +0.4**
baz=203,SNR=5.2
U40A Yellville 24.94 352 P **P 04 48 50.2 +0.7**
baz=171,SNR=38
U40A Yellville 24.94 352 P **P 04 48 49.7 +0.2**
U40A IAmb IAmb 04 48 53.8
comp=Z,43nm,0.8s
X60A Albert Glenn T 24.95 22 P **P 04 48 50.5 +1.0**
baz=206
U49A Red Boiling Sp 24.98 6 P **P 04 48 50.1 +0.2**
OKCFA Oklahoma City 24.99 343 IAmb IAmb 04 49 06.5
comp=Z,35nm,0.7s
CZSB Cruzeiro do Su 25.01 139 eP **P 04 48 51.6 +1.3**
HHAR Hobbs 25.03 350 P **P 04 48 50.5 +0.2**
HHAR IAmb IAmb 04 48 57.5
comp=Z,18nm,0.7s
TUL1 Leonard 25.03 347 P **P 04 48 50.2 -0.1**
baz=164
TUL1 Leonard 25.03 347 P **P 04 48 49.7 -0.6**
TUL1 IAmb IAmb 04 49 05.7
comp=Z,23nm,0.9s
OK025 Westminster Rd 25.11 344 P **P 04 48 50.5 -0.5**
OK025 IAmb IAmb 04 48 52.7
comp=Z,56nm,1.1s
PBMO Poplar Bluff 25.14 357 IAmb IAmb 04 48 58.7
comp=Z,37nm,0.9s
V55A Taylorsville 25.14 15 P **P 04 48 53.2 +1.9**
baz=198,SNR=7.2
V55A Taylorsville 25.14 15 P **P 04 48 51.4 +0.1**
V55A IAmb IAmb 04 48 56.3
comp=Z,46nm,1.1s
MNTX Cornudas Mount 25.18 325 P **P 04 48 51.9 +0.2**
baz=139,SNR=21
MNTX Cornudas Mount 25.18 325 P **P 04 48 52.0 +0.2**
U38A Gravette 25.26 349 P **P 04 48 52.5 +0.1**
U38A IAmb IAmb 04 48 56.0
comp=Z,26nm,1.1s
BCOK Bluff Creek, N 25.26 343 IAmb IAmb 04 48 55.4
comp=Z,38nm,0.8s
V56A Mocksville 25.28 16 P **P 04 48 54.6 +2.0**
baz=199,SNR=8.2
TZTN Tazewell 25.32 10 P **P 04 48 55.1 +2.2**
baz=192
T45A Paducah 25.34 0 P **P 04 48 53.2 +0.2**
OK029 Liberty Lake 25.35 343 P **P 04 48 52.2 -0.9**
OK029 IAmb IAmb 04 48 54.2
comp=Z,29nm,0.7s
T47A Sharon Grove 25.35 3 P **P 04 48 52.3 -0.9**
T47A IAmb IAmb 04 49 08.0
comp=Z,25nm,0.7s
T42A Van Buren 25.43 356 P **P 04 48 53.7 -0.1**
W60A Pink Hill 25.47 22 P **P 04 48 56.2 +1.9**
baz=206
QUOK Quay 25.50 345 IAmb IAmb 04 48 57.1
comp=Z,61nm,1.2s
V57A Coltrane Farms 25.56 17 P **P 04 48 57.1 +2.0**
baz=201
U54A Nelsons Funny 25.63 13 P **P 04 48 56.1 +0.2**
baz=196
MGMO Mountain Grove 25.66 354 IAmb IAmb 04 49 02.5
comp=Z,18nm,0.8s
MSTX Muleshoe 25.67 332 P **P 04 48 56.1 -0.2**
baz=147
MSTX Muleshoe 25.67 332 IAmb IAmb 04 49 00.8
comp=Z,26nm,0.9s
V58A Windy Hill, Pi 25.67 18 P **P 04 48 57.1 +1.0**
baz=202
V58A Windy Hill, Pi 25.67 18 P **P 04 48 56.0 -0.1**
V58A IAmb IAmb 04 49 07.7
comp=Z,28nm,0.8s
U55A TA2, Sparta 25.80 15 P **P 04 48 59.1 +1.7**
baz=198
U56A King 25.82 16 P **P 04 48 59.5 +2.0**
baz=199
U56A King 25.82 16 IAmb IAmb 04 49 03.5
comp=Z,27nm,0.9s
T53A Wise 25.93 12 P **P 04 48 59.8 +1.3**
baz=194
AMTX Amarillo 25.98 335 P **P 04 49 00.0 +1.0**
baz=150
AMTX Amarillo 25.98 335 P **P 04 48 58.9 -0.2**
AMTX IAmb IAmb 04 49 06.1
comp=Z,40nm,0.8s
S44A Carbondale 26.01 359 IAmb IAmb 04 49 06.3
comp=Z,17nm,0.7s
T35A Sooner Cattle 26.16 346 P **P 04 49 00.9 +0.3**
U57A Blanch 26.19 18 P **P 04 49 02.0 +1.2**
baz=201
T54A Tazewell 26.20 13 P **P 04 49 01.2 +0.1**
baz=196
NNA Nana 26.27 153 LR LR 04 57 25.9
comp=Z,789nm,21.6s,baz=318,slow=32
S39A Bolivar 26.32 352 P **P 04 49 01.4 -0.6**
U32A Winter Ranch, 26.35 341 IAmb IAmb 04 49 04.3
comp=Z,32nm,1.1s
U58A Oxford 26.40 19 P **P 04 49 04.7 +2.0**
baz=203
T55A Pulaski 26.45 15 P **P 04 49 04.7 +1.5**
baz=198
CCM Cathedral Cave 26.46 356 P **P 04 49 02.9 -0.4**
baz=175
CCM Cathedral Cave 26.46 356 P **P 04 49 02.3 -0.9**
WCI Wyandotte Cave 26.64 4 P **P 04 49 03.7 -1.2**
baz=186
WCI Wyandotte Cave 26.64 4 P **P 04 49 04.0 -0.9**
WCI IAmb IAmb 04 49 12.2
comp=Z,18nm,0.7s
T57A Hurt 26.75 17 P **P 04 49 07.5 +1.7**
baz=201
T58A Grand View Acr 26.91 18 P **P 04 49 09.2 +1.9**
baz=203
SRIG Santa Rosalia 26.98 309 IAmb IAmb 04 49 09.4
comp=Z,20nm,1.1s

121A	Cookes Peak, D	27.18	323	P	P	04 49 11.9 +1.9
	baz=136,SNR=13					
121A	Cookes Peak, D	27.18	323	P	P	04 49 09.9 0.0
121A				IAmb	IAmb	04 49 14.1
	comp=Z,25nm,1.0s					
Q44A	Meyer Farm, Va	27.22	360	IAmb	IAmb	04 49 24.9
	comp=Z,16nm,0.8s					
R53A	Hurricane	27.35	12	P	P	04 49 12.4 +1.1
	baz=195					
BNM	Barren Site	27.72	327	P	P	04 49 14.9 -0.1
Q51A	Peebles	27.77	9	IAmb	IAmb	04 49 18.9
	comp=Z,14nm,0.7s					
Y22D	IRIS PASSCAL I	27.82	326	IAmb	IAmb	04 49 24.5
	comp=Z,44nm,1.1s					
Q52A	Bidwell	27.90	11	P	P	04 49 17.2 +1.1
	baz=194					
P40A	Paris	27.99	355	IAmb	IAmb	04 49 18.4
	comp=Z,26nm,0.9s					
P49A	Miami Univ. Ec	28.09	7	P	P	04 49 18.1 +0.3
	baz=188					
R32A	Long Quarter,	28.15	343	P	P	04 49 18.7 +0.2
R32A				IAmb	IAmb	04 49 21.2
	comp=Z,26nm,1.0s					
ANMO	Albuquerque	28.25	328	P	P	04 49 20.5 +0.9
	baz=141					
ANMO	Albuquerque	28.25	328	P	P	04 49 19.5 -0.1
P51A	Williamsport	28.26	9	P	P	04 49 18.8 -0.6
	baz=192					
KSU1	Kansas State U	28.27	347	P	P	04 49 18.8 -0.8
	baz=164					
S61A	Accomac	28.55	22	P	P	04 49 23.1 +1.2
	baz=208					
P53A	Whipple	28.57	12	P	P	04 49 22.8 +0.6
	baz=195					
Q56A	Snyder Ridge,	28.67	16	P	P	04 49 24.9 +1.8
	baz=200					
SFIN	Lafayette	28.73	3	P	P	04 49 22.0 -1.6
	baz=184					
TUC	Tucson	28.87	319	P	P	04 49 25.8 +0.7
	baz=131					
TUC	Tucson	28.87	319	P	P	04 49 25.0 0.0
P55A	Reedsville	28.95	14	P	P	04 49 27.1 +1.6
	baz=198					
ACSO	Alum Creek Sta	29.01	9	P	P	04 49 26.8 +0.7
	baz=142					
T25A	Trinidad	29.05	334	P	P	04 49 27.7 +0.9
	baz=147					
T25A	Trinidad	29.05	334	P	P	04 49 26.5 -0.2
O52A	Adamsville	29.09	11	P	P	04 49 27.7 +0.8
	baz=194					
N38A	Joes South For	29.36	353	IAmb	IAmb	04 49 41.2
	comp=Z,14nm,0.7s					
P57A	Homestead Farm	29.41	17	P	P	04 49 30.7 +1.1
	baz=202					
214A	Organ Pipe Nat	29.99	316	P	P	04 49 35.5 +0.6
	baz=127,SNR=8.0					
214A	Organ Pipe Nat	29.99	316	P	P	04 49 34.8 -0.1
SDCO	Great Sand Dun	30.04	333	P	P	04 49 36.5 +0.9
	baz=146					
SDCO	Great Sand Dun	30.04	333	P	P	04 49 35.5 -0.1
M51A	Elyria	30.21	10	P	P	04 49 37.7 +1.0
	baz=193					
N54A	Moraine State	30.29	13	P	P	04 49 39.0 +1.6
	baz=197					
S22A	4UR Ranch, Cre	30.64	331	P	P	04 49 42.2 +1.2
	baz=144,SNR=18					
X16A	Lo Mia Camp, P	30.68	321	P	P	04 49 41.0 -0.1
X16A				IAmb	IAmb	04 49 45.0
	comp=Z,19nm,1.1s					
M54A	Oil Creek Stat	30.89	13	P	P	04 49 44.0 +1.4
	baz=198					
ETMB	Extrema	30.94	132	eP	P	04 49 43.1 -0.3
MVCO	Mesa Verde	31.04	329	P	P	04 49 45.3 +0.9
	baz=140,SNR=8.9					
MVCO	Mesa Verde	31.04	329	P	P	04 49 44.5 +0.1
K38A	Parkersburg	31.14	354	IAmb	IAmb	04 49 46.6
	comp=Z,25nm,1.1s					
PTGA	Pitinga	31.18	111	LR	LR	05 01 57.7
	comp=Z,322nm,21.7s,baz=295,slow=36					
PTGA	Pitinga	31.18	111	P	P	04 49 45.2 -0.4
PTGA				IAmb	IAmb	04 49 50.1
	comp=Z,16nm,1.1s					
JFWS	Jewell Farm	31.25	358	P	P	04 49 45.8 0.0
	baz=177,SNR=7.5					
JFWS	Jewell Farm	31.25	358	IAmb	IAmb	04 49 47.3
	comp=Z,27nm,1.1s					
WUAZ	Wupatki	31.39	323	P	P	04 49 49.4 +2.0
	baz=134,SNR=25					
WUAZ	Wupatki	31.39	323	P	P	04 49 47.3 -0.1
WUAZ				IAmb	IAmb	04 49 51.3
	comp=Z,28nm,1.0s					
MACA	Manacapuru-AM	31.60	116	eP	P	04 49 49.3 +0.1
MACA				epP	pP	04 49 52.1 -0.7
ISCO	Idaho Springs	31.80	335	P	P	04 49 52.3 +1.2
	baz=148					
L56A	Greenwood	32.00	16	P	P	04 49 54.1 +1.5
	baz=201					
GLA	Glamis	32.01	316	P	P	04 49 54.3 +1.6
	baz=126					
GLA	Glamis	32.01	316	IAmb	IAmb	04 49 56.2
	comp=Z,20nm,1.0s					
PV05	Paradox Valley	32.01	329	P	P	04 49 52.7 -0.2
PV03	Paradox Valley	32.02	329	P	P	04 49 52.9 -0.1
PV18	Skein Mesa, Pa	32.05	329	P	P	04 49 52.9 -0.3
PV18				IAmb	IAmb	04 49 58.6
	comp=Z,16nm,1.0s					
K31A	O'Neill	32.12	346	P	P	04 49 53.6 0.0
PV04	Paradox Valley	32.16	330	IAmb	IAmb	04 50 03.4
	comp=Z,10nm,0.8s					
I42A	Draeger Farm,	32.20	360	IAmb	IAmb	04 49 55.6
	comp=Z,15nm,0.9s					
PV14	Lion Creek, Pa	32.20	329	P	P	04 49 54.4 -0.1
PV14				IAmb	IAmb	04 49 58.3
	comp=Z,12nm,1.1s					
BINY	Binghamton	32.51	18	P	P	04 49 57.9 +0.9
	baz=204					
U15A	North Rim	32.55	323	P	P	04 49 57.6 -0.1
U15A				IAmb	IAmb	04 50 02.0
	comp=Z,23nm,1.0s					
I37A	Lemond, Waseca	32.56	354	IAmb	IAmb	04 50 01.8
	comp=Z,28nm,1.1s					
K56A	Middlesex	32.59	16	P	P	04 49 59.4 +1.8
	baz=201					
SWSC	Sam W. Stewart	32.61	315	P	P	04 49 58.7 +0.7
	baz=125					
W13A	Hualapai Mount	32.64	320	P	P	04 49 58.2 -0.2
SAML	Samuel	32.66	128	P	P	04 49 57.6 -0.9
SAML				IAmb	IAmb	04 50 05.6
	comp=Z,13nm,0.8s					
SAML	Samuel	32.66	128	epP	pP	04 50 01.4 -0.6
IKP	In-Ko-Pah, Jac	32.66	314	P	P	04 49 59.8 +1.3
	baz=124					
ECSD	EROS Data Cent	32.74	350	P	P	04 49 58.8 -0.2
	baz=166					
BC3	Big Chuckawall	32.78	316	P	P	04 50 01.0 +1.4
	baz=126,SNR=21					
I51A	Listowel	32.82	10	P	P	04 49 58.7 -0.9
	baz=194					
IRM	Iron Mountain	32.87	317	P	P	04 50 01.8 +1.5
	baz=127,SNR=12					
MONP2	Monument Peak	33.02	314	P	P	04 50 02.5 +0.8
	baz=124					
K58A	Earlville	33.13	18	P	P	04 50 04.3 +2.0
	baz=204					
O20A	White River Ci	33.22	332	P	P	04 50 05.2 +1.8
	baz=144,SNR=5.5					
O20A	White River Ci	33.22	332	IAmb	IAmb	04 50 11.9
	comp=Z,19nm,1.0s					
J56A	Wolcott	33.25	16	P	P	04 50 04.5 +1.1
	baz=202					
J56A	Wolcott	33.25	16	IAmb	IAmb	04 50 13.7
	comp=Z,16nm,0.8s					
KNB	Kanab	33.27	324	P	P	04 50 03.8 -0.1
BELC	Belle Mtn. Jos	33.35	316	P	P	04 50 05.6 +1.0
	baz=126,SNR=8.5					
TPFO	Pinon Flats	33.44	315	P	P	04 50 06.1 +0.8
	baz=125					
PFO	Pinyon Flats O	33.45	315	P	P	04 50 05.8 +0.4
	comp=Z,2.7nm,0.8s,baz=120,slow=9.6,SNR=3.7					
PFO	Pinyon Flats O	33.45	315	P	P	04 50 06.0 +0.6
	baz=125					
PFO	Pinyon Flats O	33.45	315	P	P	04 50 05.3 -0.1
109C	Camp Elliot, M	33.50	314	P	P	04 50 06.7 +1.0
	baz=123					
LCMT	Little Creek M	33.51	323	P	P	04 50 05.8 -0.2
GMRC	Granite Mounta	33.59	318	P	P	04 50 07.7 +1.0
	baz=127,SNR=11					
G40A	Rib Lake	33.60	358	IAmb	IAmb	04 50 07.1
	comp=Z,19nm,1.0s					
MTPU	Mount Pierson	33.62	326	P	P	04 50 06.8 -0.3
SPMN	Marine on St.	33.70	355	P	P	04 50 05.7 -1.6
	baz=173,SNR=16					
J58A	Remsen	33.78	18	P	P	04 50 08.8 +0.8
	baz=204					
CCUT	Cedar City	33.95	324	P	P	04 50 09.8 -0.1
MURC	Murrieta	33.95	315	P	P	04 50 10.4 +0.7
	baz=124					
MSU	Marysvale	33.95	326	P	P	04 50 10.0 +0.1
RWWY	Rawlins	34.04	335	IAmb	IAmb	04 50 18.5
	comp=Z,18nm,1.1s					
HEC	Hector,Ludlow	34.06	317	P	P	04 50 12.0 +1.3
	baz=126,SNR=10					
SADO	Sadowa	34.11	12	P	P	04 50 11.2 +0.3
	comp=Z,2.7nm,0.3s,baz=204,slow=10.0,SNR=5.0					
BBRC	Big Bear Solar	34.13	316	P	P	04 50 12.9 +1.4
	baz=125					
TUQ	Turquoise Moun	34.16	319	P	P	04 50 12.8 +1.3
	baz=128,SNR=13					
I58A	Old Forge	34.17	18	P	P	04 50 12.9 +1.5
	baz=205					
SHPR	Sheep Range	34.34	321	P	P	04 50 12.9 -0.2
SHPR				IAmb	IAmb	04 50 20.5
	comp=Z,12nm,1.1s					
F36A	Milaca	34.40	354	IAmb	IAmb	04 50 17.3
	comp=Z,17nm,1.1s					
COWI	Conover	34.41	360	IAmb	IAmb	04 50 20.0
	comp=Z,14nm,0.7s					
LPAZ	La Paz	34.44	143	P	P	04 50 14.4 -0.3
	comp=Z,2.2nm,1.0s,baz=326,slow=11,SNR=4.8					
LPAZ				LR	LR	05 04 20.9
	comp=Z,706nm,21.1s,baz=298,slow=36					
LPAZ	La Paz	34.44	143	P	P	04 50 13.5 -1.2
LPAZ	La Paz	34.44	143	eP	P	04 50 14.2 -0.5
LPAZ				epP	pP	04 50 17.1 -1.1
K22A	Casper	34.58	337	P	P	04 50 15.9 +0.8
	baz=148					
K22A	Casper	34.58	337	IAmb	IAmb	04 50 22.8
	comp=Z,12nm,0.9s					
I59A	Olmsteadville	34.61	19	P	P	04 50 16.6 +1.4
	baz=206					
BFSC	Mount Baldy Ra	34.62	315	P	P	04 50 16.2 +0.6
	baz=124					
GSC	Goldstone, Bar	34.65	318	P	P	04 50 16.9 +1.1
	baz=126					
GSC	Goldstone, Bar	34.65	318	IAmb	IAmb	04 50 20.3
	comp=Z,12nm,1.1s					
SHOC	Shoshone, Teco	34.66	319	P	P	04 50 17.0 +1.2
	baz=128					
F33A	5 Mile Ranch,	34.73	351	IAmb	IAmb	04 50 28.1
	comp=Z,8.9nm,0.6s					
MWC	Mount Wilson	34.89	315	IAmb	IAmb	04 50 21.6
	comp=Z,17nm,1.1s					
PSUT	Pine Spring	34.90	325	P	P	04 50 17.9 -0.2
RSSD	Black Hills	34.98	341	P	P	04 50 20.0 +1.3
	baz=153					
RSSD	Black Hills	34.98	341	P	P	04 50 18.6 0.0
RSSD				IAmb	IAmb	04 50 26.5
	comp=Z,7.7nm,0.7s					
E38A	The Farm, Brul	34.99	357	IAmb	IAmb	04 50 19.1
	comp=Z,17nm,0.8s					
H58A	Gabriels	35.08	18	P	P	04 50 22.0 +2.7
	baz=205					
G55A	Calabogie	35.13	15	P	P	04 50 19.9 +0.2
	baz=201					
J63A	Strafford	35.14	23	P	P	04 50 20.3 +0.5
	baz=211					
EDW2	Edwards Air Fo	35.21	316	P	P	04 50 21.4 +0.8
	baz=124,SNR=8.0					
TPNV	Topopah Spring	35.29	320	P	P	04 50 22.9 +1.5
	baz=129,SNR=11					
TPNV	Topopah Spring	35.29	320	P	P	04 50 21.4 -0.1
PB16	IPOC Station P	35.31	147	P	P	04 50 21.1 -1.1
LRMC	Laurel Mtn Rad	35.34	317	P	P	04 50 22.9 +1.1
	baz=125,SNR=6.1					
FURC	Furnace Creek,	35.38	319	P	P	04 50 23.9 +1.9
	baz=127,SNR=11					
DUG	Dugway, Tooele	35.51	328	P	P	04 50 24.4 +1.1
	baz=137,SNR=5.6					
MPMC	Manual Prospec	35.55	318	P	P	04 50 25.0 +1.4
	baz=126,SNR=17					
OSI	Osito Audit: C	35.56	315	P	P	04 50 25.1 +1.5
	baz=123					
R11A	Troy Canyon, C	35.78	323	P	P	04 50 27.7 +2.1
	baz=131,SNR=28					
R11A	Troy Canyon, C	35.78	323	P	P	04 50 25.6 -0.1
R11A				IAmb	IAmb	04 50 30.0
	comp=Z,14nm,1.1s					
ARVC	Arvin	35.92	316	P	P	04 50 27.6 +1.0
	baz=124					
PDAR	Pinedale Array	35.92	334	P	P	04 50 27.6 +0.8
	comp=Z,1.0nm,0.7s,baz=139,slow=8.5,SNR=9.3					
PDAR				LR	LR	05 08 15.8
	comp=Z,573nm,20.6s,baz=148,slow=42					
PDAR	Pinedale Array	35.92	334	P	P	04 50 26.7 -0.1
MNMC	Minye Minye	35.93	148	P	P	04 50 26.4 -0.7
MNMC				IAmb	IAmb	04 50 40.6
	comp=Z,16nm,0.9s					
ISA	Isabella, Lake	35.97	317	P	P	04 50 28.8 +1.6
	baz=124,SNR=9.9					
ISA	Isabella, Lake	35.97	317	IAmb	IAmb	04 50 31.0
	comp=Z,10nm,1.1s					
GRAC	Grapevine Rang	36.03	319	P	P	04 50 29.5 +1.9
	baz=127,SNR=12					
SPUT	South Promonto	36.14	329	P	P	04 50 28.7 +0.1
BGU	Big Grassy Mou	36.16	328	P	P	04 50 28.8 0.0
EYMN	Ely	36.32	357	P	P	04 50 28.0 -1.9
	baz=176,SNR=7.2					
EYMN	Ely	36.32	357	IAmb	IAmb	04 50 30.0
	comp=Z,11nm,0.7s					
PKM	Mcpherson Peak	36.47	315	P	P	04 50 32.5 +0.9
	baz=122,SNR=7.5					
VES	Vestal, Richgr	36.48	317	P	P	04 50 33.2 +1.8
	baz=124,SNR=20					
ITTB	Itaituba	36.54	114	eP	P	04 50 32.2 0.0
ITTB				epP	pP	04 50 35.1 -0.7
SMMC	Simmler	36.82	315	P	P	04 50 36.2 +1.8
	baz=122,SNR=11					
MALB	Monte Alegre	36.87	109	eP	P	04 50 36.1 +1.2
MALB				epP	pP	04 50 38.6 +0.1
B35A	Bob, Littlefor	36.90	355	IAmb	IAmb	04 50 47.9
	comp=Z,12nm,1.1s					
REDW	Red Top Meadow	36.97	333	P	P	04 50 35.7 -0.1
SNOW	Snow King Moun	37.00	333	P	P	04 50 35.9 -0.2
AGMN	Agassiz Nation	37.08	352	P	P	04 50 35.3 -1.0
	baz=168					
AGMN	Agassiz Nation	37.08	352	IAmb	IAmb	04 50 53.5
	comp=Z,10nm,0.7s					
TPAW	Teton Pass	37.11	333	IAmb	IAmb	04 50 45.3
	comp=Z,20nm,1.1s					
ELK	Elko	37.20	326	P	P	04 50 37.3 -0.5
ELK				IAmb	IAmb	04 50 41.6
	comp=Z,11nm,1.1s					
ELK					PcP	04 52 56.2 -1.5
PAGB	Antelope Grade	37.22	315	P	P	04 50 37.8 +0.1
MDND	Maddock	37.27	348	P	P	04 50 38.6 +0.7
	baz=162					
NV11	Mina Array Sit	37.40	321	P	P	04 50 39.3 -0.1
NV11				IAmb	IAmb	04 50 43.2
	comp=Z,22nm,1.0s					
VILB	Vilhena	37.44	130	eP	P	04 50 39.8 0.0
VILB				epP	pP	04 50 43.1 -0.2
OMMB	Old Mammoth Mi	37.44	319	P	P	04 50 39.8 -0.2
OMMB				IAmb	IAmb	04 50 44.4
	comp=Z,11nm,0.9s					
H65A	Eastbrook	37.44	24	P	P	04 50 40.1 +0.7
	baz=214					
NVAR	Mina Array Bea	37.49	321	P	P	04 50 42.2 +2.0
	comp=Z,20nm,1.1s,baz=139,slow=7.5,SNR=63					
NVAR				PcP	PcP	04 52 58.8 +0.2
	comp=Z,5.0nm,0.9s,baz=131,slow=3.7,SNR=5.4					
NVAR				LR	LR	05 07 11.8
	comp=Z,468nm,19.4s,baz=130,slow=38					
NVAR	Mina Array Bea	37.49	321	P	P	04 50 39.8 -0.5
NVAR					PcP	04 52 57.1 -1.4
MDPB	Devils Postpil	37.50	319	P	P	04 50 40.4 0.0
MDPB				IAmb	IAmb	04 50 45.0
	comp=Z,16nm,0.9s					
RLMT	Red Lodge	37.73	336	P	P	04 50 42.6 +0.4
	baz=146					
KVN	Kaiserville	37.74	322	P	P	04 50 42.1 -0.2
RYN	Ryan	37.74	321	P	P	04 50 42.2 -0.1
PMPB	Monarch Peak	37.85	316	IAmb	IAmb	04 50 46.3
	comp=Z,22nm,1.1s					
LAO	LASA Array	37.97	340	P	P	04 50 44.1 +0.1
	baz=152					
LAO	LASA Array	37.97	340	IAmb	IAmb	04 50 51.4
	comp=Z,11nm,0.9s					
NPGB	Novo Progresso	38.10	117	eP	P	04 50 44.6 -0.8
NPGB				epP	pP	04 50 48.2 -0.8
WAKR	Walker	38.24	320	P	P	04 50 46.4 -0.2
WAKR				IAmb	IAmb	04 50 51.3
	comp=Z,16nm,1.1s					
YERR	Yerington	38.41	321	IAmb	IAmb	04 50 51.5
	comp=Z,16nm,0.9s					
MCPB	Macapa, AP	38.41	105	eP	P	04 50 48.8 +0.8
MCPB				epP	pP	04 50 50.9 -0.7
CMB	Columbia Colle	38.58	319	IAmb	IAmb	04 50 53.3
	comp=Z,12nm,1.0s					
SAO	San Andreas Ge	38.59	316	IAmb	IAmb	04 50 54.0
	comp=Z,10nm,0.9s					
PNTR	Pine Nut	38.69	320	P	P	04 50 50.1 -0.3
PNTR				IAmb	IAmb	04 50 56.2
	comp=Z,20nm,1.0s					
HLID	Hailey	38.79	330	P	P	04 50 51.7 +0.6
	baz=138					
HLID	Hailey	38.79	330	P	P	04 50 51.1 0.0
PAHR	Pah Rah Range	38.93	321	P	P	04 50 52.3 0.0
PAHR				IAmb	IAmb	04 50 56.3
	comp=Z,16nm,1.2s					
DGMT	Dagmar	38.95	344	P	P	04 50 52.2 0.0
	baz=156,SNR=9.8					
ULM	Lac du Bonnet	38.99	353	P	P	04 50 49.5 -2.9
	comp=Z,6.4nm,0.8s,baz=165,slow=10,SNR=3.4					
MCMT	McKenzie Canyo	39.01	333	P	P	04 50 52.8 -0.2
BOZ	Bozeman (W)	39.08	334	P	P	04 50 54.0 +0.6
	baz=143,SNR=6.4					
BOZ	Bozeman (W)	39.08	334	P	P	04 50 53.6 +0.1
LVC	Limon Verde	39.19	150	eP	P	04 50 55.9 +1.1
MFID	Camas Ranch	39.39	329	IAmb	IAmb	04 50 59.5
	comp=Z,13nm,1.1s					
LRM	Limekiln Ridge	39.61	334	P	P	04 50 57.9 -0.1
CLDB	Colider	39.69	123	epP	P	04 50 59.4 +0.7
PTLB	Pontes e Lacer	39.82	132	eP	P	04 50 60.0 +0.2
PTLB				epP	pP	04 51 02.5 -0.8
ORV	Oroville	40.16	320	P	P	04 51 02.5 +0.2
MCCM	Marconi Confer	40.28	317	P	P	04 51 03.4 0.0
EGMT	Eagleton	40.34	338	P	P	04 51 04.4 +0.6
	baz=147					
EGMT	Eagleton	40.34	338	IAmb	IAmb	04 51 11.8
	comp=Z,18nm,0.8s					
PLID	Pearl Lake	40.68	330	P	P	04 51 06.8 0.0
J08A	Circle Bar Ran	40.74	326	P	P	04 51 07.3 0.0
O03E	Paynes Creek	40.77	320	P	P	04 51 07.8 +0.2
	baz=125					
MOD	Modoc Plateau	40.83	323	P	P	04 51 07.9 -0.1
MOD				IAmb	IAmb	04 51 11.0
	comp=Z,18nm,1.1s					
MSO	Missoula	41.04	334	P	P	04 51 10.2 +0.6
	baz=141,SNR=6.2					
MSO	Missoula	41.04	334	P	P	04 51 09.8 +0.1
O02D	Mt. Diablo Mer	41.33	320	P	P	04 51 12.1 0.0
	baz=124					
M04C	Macdoel	41.67	322	P	P	04 51 15.5 +0.6
	baz=127,SNR=5.4					
K05A	Summer Lake	41.69	324	P	P	04 51 15.0 -0.1
K05A				IAmb	IAmb	04 51 20.7
	comp=Z,19nm,1.2s					
N02D	Trinity Center	41.73	321	P	P	04 51 15.9 +0.6
	baz=125					
I07A	Izee	41.78	327	P	P	04 51 15.8 -0.1
I07A				IAmb	IAmb	04 51 18.4
	comp=Z,15nm,1.0s					
F10A	Beach Ranch, E	41.92	330	IAmb	IAmb	04 51 20.3
	comp=Z,15nm,1.0s					
KMRM	Mail Ridge	41.94	319	P	P	04 51 16.9 -0.3
KMRM				IAmb	IAmb	04 51 20.7
	comp=Z,31nm,1.0s					
K04D	Chiloquin, OR	42.13	323	P	P	04 51 19.1 +0.5
	baz=128					
YBH	Yreka Blue Hor	42.17	322	P	P	04 51 18.5 -0.5
	comp=Z,8.0nm,0.9s,baz=140,slow=5.7,SNR=8.8					
L04D	Klamath Falls	42.21	322	P	P	04 51 19.4 +0.1
	baz=126,SNR=6.0					
J05D	Fort Rock, OR	42.23	324	P	P	04 51 20.4 +0.8
	baz=129					
G08A	Pilot Rock	42.31	328	P	P	04 51 19.9 -0.2
PINE	Pine Mountain	42.39	325	P	P	04 51 20.6 -0.2
PINE				IAmb	IAmb	04 51 23.1
	comp=Z,21nm,0.9s					
PRPB	Parauapebas	42.64	112	eP	P	04 51 23.2 +0.2
J04D	Umpqua Nationa	42.71	324	P	P	04 51 24.4 +1.0
	baz=128,SNR=5.9					
TMAB	Tom-Au,PA,Br	42.81	106	eP	P	04 51 25.3 +0.9
I04A	Tendick Farm,	43.22	324	P	P	04 51 27.8 +0.4
	baz=128					
G05D	Wamic, OR	43.52	327	P	P	04 51 31.2 +1.4
	baz=130,SNR=6.0					
NEW	Newport	43.54	333	P	P	04 51 30.0 +0.1
	comp=Z,1.3nm,0.6s,baz=149,slow=7.9,SNR=2.6					
NEW	Newport	43.54	333	P	P	04 51 31.4 +1.5
	baz=138					
NEW	Newport	43.54	333	P	P	04 51 29.6 -0.3
NEW				PcP	PcP	04 53 16.6 -1.0
E07A	Sunnyside	43.63	329	IAmb	IAmb	04 51 33.6
	comp=Z,20nm,1.2s					
I03D	Drain, OR	43.70	324	P	P	04 51 32.7 +1.5
	baz=127					
J01E	Myrtle Point	43.73	323	P	P	04 51 33.0 +1.5
	baz=126					
H04D	Lebanon	43.85	325	P	P	04 51 33.0 +0.6
	baz=128					
F05D	White Salmon	44.01	327	P	P	04 51 33.5 -0.2
	baz=131,SNR=6.0					
I02D	Swisshome	44.24	324	P	P	04 51 36.6 +1.1
	baz=126					
F04A	Amboy	44.56	327	IAmb	IAmb	04 51 40.7
	comp=Z,30nm,1.1s					
G03D	McMinnville, O	44.57	325	P	P	04 51 39.8 +1.6
	baz=128					
B08A	Colville Reser	44.63	331	P	P	04 51 38.7 +0.1
LON	Longmire	44.76	328	IAmb	IAmb	04 51 42.1
	comp=Z,16nm,1.1s					
F04D	Rainier, OR	44.97	326	P	P	04 51 43.0 +1.6
	baz=129					
E04D	Cinebar	45.03	327	P	P	04 51 42.9 +1.1
	baz=130					
C06D	Leavenworth	45.08	330	P	P	04 51 43.3 +1.1
	baz=133					
ARAG	Araguaiana, MT	45.59	126	eP	P	04 51 45.6 -1.0
H03N2	Juan Fernandez	45.75	168	T	T	05 40 35.8
	baz=346					
H03N1	Juan Fernandez	45.75	168	T	T	05 40 41.1
	baz=346					
H03N3	Juan Fernandez	45.77	168	T	T	05 40 27.4
	baz=346					
SMTB	Santa Maria do	45.77	115	eP	P	04 51 47.6 -0.5
SMTB				epP	pP	04 51 51.2 -0.6
B05A	Bryant	45.91	329	P	P	04 51 49.5 +0.8
	baz=132					
D03D	Eldon	45.94	328	P	P	04 51 49.5 +0.5
	baz=130					
SCHQ	Schefferville	46.51	17	P	P	04 51 53.8 +0.4
	comp=Z,13nm,0.9s,baz=219,slow=5.0,SNR=6.5					
SCHQ				LR	LR	05 12 33.2
	comp=Z,1μm,19.4s,baz=204,slow=38					
SCHQ	Schefferville	46.51	17	P	P	04 51 53.4 0.0
SCHQ				IAmb	IAmb	04 52 09.6
	comp=Z,10nm,1.1s					
VA03	San Esteban	47.42	159	P	P	04 52 00.6 -0.3
BDFB	Brasilia	48.62	123	P	P	04 52 10.0 -0.5
	comp=Z,4.5nm,0.8s,baz=60,slow=2.1,SNR=5.2					
BDFB	Brasilia	48.62	123	P	P	04 52 09.8 -0.7
BDFB				IAmb	IAmb	04 52 11.5
	comp=Z,9.3nm,1.2s

comp=Z,163nm,26.7s
TAOE eLR LR 05 08 36.1
comp=Z,534nm,24.7s
TRQA Tornquist 55.41 154 eP **P 04 53 00.9 +0.3**
RCBR Riachuelo 55.43 105 eP **P 04 53 01.7 +0.5**
comp=Z,15nm,1.0s,baz=260,slow=6.1
RCBR Riachuelo 55.43 105 P **P 04 52 59.8 -1.4**
RCBR Riachuelo 55.43 105 eP **P 04 53 01.3 +0.1**
RCBR epP **pP 04 53 04.7 -0.2**
SJMB Sao Joao De Ma 55.80 122 eP **P 04 53 04.1 +0.4**
BSFB Barra de Sao F 56.14 122 eP **P 04 53 05.6 -0.6**
SKAG Skagway 58.94 334 IAmb IAmb 04 53 29.7
comp=Z,8.0nm,1.0s
CTGM Chitina Glacie 62.28 334 P **P 04 53 48.2 0.0**
CTGM IAmb IAmb 04 53 54.1
comp=Z,10.0nm,1.2s
BALM Baldy 62.75 334 IAmb IAmb 04 53 53.9
comp=Z,14nm,1.0s
VRDI Verde Repeater 63.32 334 IAmb IAmb 04 53 58.1
comp=Z,12nm,1.0s
BCAR Beaver Creek A 63.49 336 P **P 04 53 56.2 +0.1**
GLB Gilahina Butte 63.57 334 P **P 04 53 56.6 -0.1**
INK Inuvik 63.63 343 P **P 04 53 57.5 +0.6**
comp=Z,6.0nm,0.8s,baz=135,slow=7.3,SNR=14
INK Inuvik 63.63 343 IAmb IAmb 04 53 59.4
comp=Z,7.2nm,0.9s
K27K Chicken 64.07 337 P **P 04 54 01.1 +1.2**
baz=119
EGAK Eagle 64.10 338 P **P 04 54 00.3 +0.3**
EGAK IAmb IAmb 04 54 01.9
comp=Z,9.7nm,0.9s
PMOR Pomariorio Ree 64.17 247 eT T 06 03 36.8
comp=Z,1.7nm,0.2s
FID Port Fidalgo 64.45 333 IAmb IAmb 04 54 05.6
comp=Z,16nm,1.1s
DOT Dot Lake 64.67 336 P **P 04 54 04.0 +0.2**
SCRK Sand Creek 64.79 336 P **P 04 54 04.9 +0.1**
baz=117,SNR=7.5
M24K Tolsona, Glenn 64.87 334 P **P 04 54 05.7 +0.5**
baz=114
M24K Tolsona, Glenn 64.87 334 P **P 04 54 05.3 +0.1**
M24K IAmb IAmb 04 54 17.2
comp=Z,17nm,1.1s
SEW Seward 65.58 331 P **P 04 54 10.0 +0.3**
SEW IAmb IAmb 04 54 11.9
comp=Z,12nm,0.9s
SML Sawmill 65.69 333 P **P 04 54 10.6 +0.1**
GHO Glory Hole Cre 65.94 333 P **P 04 54 12.4 +0.3**
PMR Palmer 65.96 333 IAmb IAmb 04 54 14.0
comp=Z,18nm,1.2s
RC01 Rabbit Creek A 66.06 332 P **P 04 54 13.1 +0.3**
baz=110,SNR=17
HDA Harding Lake 66.15 336 P **P 04 54 13.2 -0.1**
baz=114,SNR=22
ILAR Eielson Array 66.27 337 P **P 04 54 14.4 +0.3**
comp=Z,21nm,1.0s,baz=129,slow=4.1,SNR=89
ILAR LR LR 05 27 40.1
comp=Z,611nm,18.8s,baz=116,slow=40
ILAR Eielson Array 66.27 337 P **P 04 54 14.0 -0.2**
OHAK Old Harbor 66.60 328 P **P 04 54 16.3 0.0**
OHAK IAmb IAmb 04 54 18.5
comp=Z,12nm,1.0s
PPT2 Papeete2 66.61 245 eS **S 05 03 10.6 +2.2**
comp=Z,136nm,26.0s
PPT2 eLQ LQ 05 11 24.4
comp=Z,623nm,25.8s
PPT2 eLR LR 05 14 05.8
comp=Z,716nm,25.5s,baz=56
BMAR Burnt Mountain 66.62 340 P **P 04 54 16.4 +0.1**
WRH Wood River Hil 66.62 336 IAmb IAmb 04 54 17.4
comp=Z,16nm,1.1s
POKR Poker Plat Res 66.63 337 P **P 04 54 16.9 +0.5**
baz=114
COLA College 66.69 337 P **P 04 54 17.2 +0.4**
COLA IAmb IAmb 04 54 18.6
comp=Z,10nm,0.8s
TCOL CIGO, UAF Yank 66.70 337 P **P 04 54 17.1 +0.3**
baz=114
CUT Chulitna 66.76 334 P **P 04 54 17.7 +0.4**
baz=110,SNR=7.5
MDM Murphy Dome 66.87 337 IAmb IAmb 04 54 20.7
comp=Z,6.0nm,0.9s
BWN Browne 67.06 336 P **P 04 54 19.1 0.0**
NEA2 Nenana 67.06 336 P **P 04 54 19.3 +0.1**
baz=112,SNR=16
SKT Skwentna 67.17 333 P **P 04 54 20.0 +0.1**
PPLA Purkeypile 67.76 334 IAmb IAmb 04 54 25.2
comp=Z,14nm,1.1s
SUMG Summit 67.77 15 iP **P 04 54 24.0 0.0**
comp=Z,22nm,1.1s
COLD Coldfoot 68.50 338 P **P 04 54 29.3 +1.1**
baz=112,SNR=24
TBI Tubuai 68.70 239 eS **S 05 03 31.3 -1.8**
comp=Z,236nm,30.8s
TBI Tubuai 68.70 239 eLR LR 05 15 17.5
comp=Z,493nm,27.5s,baz=64
SVW2 Sparrevohn 68.76 331 IAmb IAmb 04 54 37.3
comp=Z,10nm,1.1s
TOLK Toolik Lake Re 68.84 340 P **P 04 54 30.9 +0.6**
baz=114
IMAR Indian Mountai 69.39 337 P **P 04 54 32.3 -1.5**
TTA Tatalina 69.44 333 IAmb IAmb 04 54 35.7
comp=Z,14nm,1.0s
PMSA Palmer Station 78.40 169 eP **P 04 55 27.6 +1.3**
ESDC Sonseca Array 78.80 52 P **P 04 55 29.1 -0.2**
comp=Z,2.1nm,0.7s,baz=285,slow=5.5,SNR=13
ESDC LR LR 05 25 16.4
comp=Z,216nm,21.0s,baz=270,slow=32
ESDC Sonseca Array 78.80 52 P **P 04 55 28.6 -0.7**
MDT Midelt 79.02 59 P **P 04 55 31.4 +0.6**
comp=Z,4.0nm,0.9s,baz=276,slow=6.4,SNR=3.4
ADK Adak 79.67 321 P **P 04 55 33.7 0.0**
KOWA Kowa 82.23 77 P **P 04 55 47.1 -1.0**
KOWA IAmb IAmb 04 55 56.8
comp=Z,11nm,0.9s
TIC Toumodi 82.66 85 ePKP1 **P 04 55 51.9 +1.5**
LIC Lamto 82.73 85 ePKP1 **P 04 55 52.9 +2.1**
comp=Z,75nm,1.4s
DBIC Dimbokro 82.82 85 P **P 04 55 51.6 +0.4**
comp=Z,3.2nm,0.8s,baz=347,slow=2.7,SNR=3.2
DBIC LR LR 05 29 44.3
comp=Z,180nm,20.1s,baz=264,slow=34
DBIC Dimbokro 82.82 85 P **P 04 55 50.0 -1.2**
KIC Kosan Boka 82.99 85 ePKP1 **P 04 55 52.5 +0.4**
comp=Z,64nm,1.7s
NB2 NORSAR Subarra 84.78 29 P **P 04 56 02.2 +1.8**
comp=Z,6.7nm,1.2s,baz=286,slow=5.1
NOA NORSAR Array B 84.78 29 P **P 04 56 01.0 +0.5**
comp=Z,0.8nm,0.7s,baz=289,slow=4.7,SNR=3.6
NOA LR LR 05 29 50.4
comp=Z,255nm,21.8s,baz=275,slow=33
DAVA Damuels 87.43 42 ePcP **P 04 56 14.0 +0.1**
comp=Z,5.9nm,1.1s
FUORN Ofenpass-Fuorn 87.85 43 IAmb IAmb 04 56 25.0
comp=Z,7.1nm,1.0s
TORD Torodi Ar. Bea 87.93 77 P **P 04 56 17.2 +0.5**
comp=Z,0.4nm,0.7s,baz=285,slow=5.5,SNR=5.7
TORD LR LR 05 30 59.5
comp=Z,149nm,21.8s,baz=295,slow=32
TORD Torodi Ar. Bea 87.93 77 P **P 04 56 15.5 -1.2**
RETA Reutte 87.96 42 ePcP **P 04 56 17.6 +1.3**
comp=Z,6.6nm,1.0s
FETA Feichten 88.06 42 PcP **P 04 56 18.3 +1.3**
comp=Z,4.5nm,1.2s
MOTA Moosalm 88.22 42 ePcP **P 04 56 18.7 +1.0**
comp=Z,3.7nm,0.7s
CLL Collm 88.34 38 iP **P 04 56 18.0 0.0**
comp=Z,10.0nm,1.5s
CLL eS **S 05 06 54.0 -8.7**
CLL ePS **PnS 05 08 03.0 -2.8**
CLL eSS **SS 05 12 48.0 -3.7**
CLL eSSSS 05 19 48.0
CLL LmV 05 33 00.0
comp=Z,200nm,19.6s
BRG Berggiesshubel 89.03 38 S S 05 06 53.0 -16
BRG SS SS 05 12 12.0 -50
comp=N,92nm,18.9s
comp=E,229nm,20.0s
comp=Z,304nm,17.1s
KHC Kasperske Hory 89.32 40 eP **P 04 56 24.5 +1.8**
GERES GERESS Array B 89.48 40 P **P 04 56 24.1 +0.6**
comp=Z,0.4nm,0.3s,baz=318,slow=1.8,SNR=5.2
GERES LR LR 05 33 56.9
comp=Z,326nm,18.8s,baz=282,slow=34
GERES GERESS Array B 89.48 40 P **P 04 56 23.1 -0.5**
TAM Tamanrasset 89.54 67 P **P 04 56 23.3 -1.1**
TAM IAmb IAmb 04 56 26.6
comp=Z,3.6nm,1.0s
KBA Koelnbreinsper 89.76 42 ePcP **P 04 56 26.7 +1.7**
comp=Z,4.6nm,0.8s
PRED Cave del Predi 90.09 42 IAmb IAmb 04 56 34.6
comp=Z,6.0nm,1.0s
CONA Conrad Observa 91.13 41 ePcP **P 04 56 31.0 -0.2**
comp=Z,2.2nm,0.9s
KLMR Klimovskoe 97.11 23 eP **P 04 56 57.7 -0.5**
KLMR AMP 04 57 00.2
comp=Z,14nm,1.2s
AKASG Malin Array Be 98.01 35 LR LR 05 39 07.7
comp=Z,286nm,20.2s,baz=320,slow=34
DZM Mont Dzumac 107.78 250 eLR LR 05 33 29.4
comp=Z,198nm,23.3s
BOSA Boshof 116.53 116 PKP **PKPdf 05 02 09.9 -1.1**
comp=Z,3.2nm,0.8s,baz=35,slow=1.0,SNR=4.4
BOSA Boshof 116.53 116 **PKPdf 05 02 09.0 -1.9**
SONM Songino Array 119.32 348 PKP **PKPdf 05 02 15.6 -0.3**
comp=Z,0.8nm,0.6s,baz=101,slow=2.2,SNR=4.4
SONM Songino Array 119.32 348 **PKPdf 05 02 14.6 -1.3**
KSRS Korea Array 120.27 327 PKP **PKPdf 05 02 17.0 -0.8**
comp=Z,1.4nm,0.7s,baz=14,slow=0.8,SNR=3.0
MAW Mawson 120.98 168 PKP **PKPdf 05 02 17.3 -0.8**
comp=Z,1.6nm,0.7s,baz=313,slow=4.9,SNR=5.2
MAW Mawson 120.98 168 **PKPdf 05 02 17.5 -0.6**
MKAR Makanchi Array 121.36 7 PKP **PKPdf 05 02 18.3 -1.4**
comp=Z,1.1nm,0.9s,baz=316,slow=3.3,SNR=3.7
MKAR Makanchi Array 121.36 7 **PKPdf 05 02 18.1 -1.5**
HHC Hu-ho-hao-te 124.53 341 ePKP **PKiKP 05 02 27.8 +1.4**
HHC LR LR
comp=Z,330nm,22.1s
HHC LR LR
comp=Z,200nm,23.5s
HHC LR LR
comp=Z,510nm,22.5s
WMQ Urumqi 124.78 3 ePKP **PKiKP 05 02 27.4 +0.7**
WMQ LR LR
comp=Z,220nm,18.5s
WMQ LR LR
comp=Z,170nm,27.1s
WMQ LR LR
comp=Z,250nm,22.9s
KSH Kashi 127.24 15 PKP **PKiKP 05 02 34.5 +2.7**
KSH PP **PP 05 04 34.6 +5.5**
KSH AMB AMB
comp=Z,92nm,7.3s
GTA Gaotai 128.64 351 PKP **PKiKP 05 02 34.4 -0.2**
GTA LR LR
comp=Z,190nm,19.6s
GTA LR LR
comp=Z,140nm,19.6s
GTA LR LR
comp=Z,210nm,21.1s
NJ2 Nanjing 129.16 329 ePKP **PKPdf 05 02 34.3 -0.7**
STKA Stephens Creek 129.48 238 PKP **PKPdf 05 02 34.9 -0.7**
comp=Z,4.3nm,0.9s,baz=20,slow=3.8,SNR=6.3
STKA Stephens Creek 129.48 238 **PKPdf 05 02 34.0 -1.5**
LZH Lanzhou 131.11 346 ePKP **PKiKP 05 02 46.9 +7.2**
LZH pPKP sPKPdf 05 02 56.8 +13
LZH sPKP 05 03 01.9
LZH LR LR
comp=N,160nm,14.4s
LZH LR LR
comp=E,140nm,15.6s
LZH LR LR
comp=Z,190nm,17.2s
XAN Xi'an 131.59 340 PKP **PKiKP 05 02 40.3 -0.3**
XAN LR LR
comp=Z,290nm,17.7s
XAN LR LR
comp=Z,330nm,17.7s
XAN LR LR
comp=Z,450nm,29.3s
CD2 Chengdu 136.06 344 PKP **PKPdf 05 02 46.5 -1.6**
ASAR Alice Springs 137.68 248 PKhKP PKPpre 05 02 37.2
comp=Z,0.7nm,0.8s,baz=84,slow=3.1,SNR=5.5
ASAR PKP **PKPdf 05 02 51.3 +0.1**
comp=Z,3.0nm,0.9s,baz=108,slow=2.1,SNR=14
ASAR Alice Springs 137.68 248 PKPdf **PKPdf 05 02 49.3 -1.9**
WRA Warramunga Arr 137.72 253 PKhKP PKPpre 05 02 38.8
comp=Z,0.6nm,0.8s,baz=102,slow=3.4,SNR=7.0
WRA PKP **PKPdf 05 02 50.9 -0.5**
comp=Z,4.5nm,0.8s,baz=91,slow=1.4,SNR=26
WRA Warramunga Arr 137.72 253 **PKPdf 05 02 49.4 -2.0**
KMI Kunming 141.82 343 PKP **PKPdf 05 02 57.6 -1.4**
KMI sPKP 05 03 02.5
KMI LR LR
comp=Z,200nm,29.6s
KMI LR LR
comp=Z,170nm,27.8s
KMI LR LR
comp=Z,310nm,30.5s
QIZ Qiongzhong 144.45 329 PKP **PKPab 05 03 01.4 -0.2**
QIZ PP **PP 05 06 17.4 -0.4**
QIZ SS SS 05 25 04.5 +0.9
QIZ LR LR
comp=Z,150nm,18.8s
QIZ LR LR
comp=Z,190nm,23.1s
QIZ LR LR
comp=Z,140nm,21.1s
HYB Hyderabad 148.62 24 iPKP **PKPbc 05 03 13.0 -1.2**
CMAR Chiang Mai Arr 149.19 345 PKP **PKPdf 05 03 11.6 +0.2**
comp=Z,11nm,0.9s,baz=300,slow=2.1,SNR=5.3
CMAR PKPbc **PKPbc 05 03 15.8 +0.1**
comp=Z,13nm,0.9s,baz=335,slow=3.1,SNR=36
CMAR Chiang Mai Arr 149.19 345 **PKPdf 05 03 09.2 -2.2**

NEIC ***24*** *04:46:21.3±0.5, 16°.1N±0°.1×100°.5W±0°.1, h9km±8km, mb4.5/42, Error ellipse: s-maj=17.3km s-min=13.0km az=207.0*
IDC ***24*** *04:46:21.8±11.0, 16°.42N×100°.14W, h0km, mb4.2/6, mb1 4.6/6, mb1mx4. 1/40, mbtmp4.2/6, Error ellipse: s-maj=212.7km s-min=95.5km az=5.0*
ISC 24 04:46:25.6±1.1, 16°.5N±0°.1×100°.44W±0°.09, h10km, n54, σ0.972/50, mb4.5/24, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**2.06**	**60**	Pn	**Pn**	**04 47 00.1**	**-0.3**
UNM	**Universidad Na**	**3.02**	**23**	Pn	**Pn**	**04 47 13.7**	**-0.1**
UNM				Sn	**Sb**	**04 47 57.4**	**+0.7**
MOIG	**Morelia**	**3.20**	**347**	Pn	**Pn**	**04 47 17.9**	**+1.7**
MOIG				Sn	**Sb**	**04 48 00.6**	**-1.3**
HSIG		**15.74**	**324**	P	**Pn**	**04 50 08.1**	**+0.6**
214A	**Organ Pipe Nat**	**19.02**	**326**		**P**	**04 50 48.2**	**+0.4**
ANMO	**Albuquerque**	**19.11**	**345**	P	**Pn**	**04 50 49.8**	**+0.1**
113A	**Mohawk Valley,**	**20.16**	**326**	P	**P**	**04 51 00.4**	**+0.2**
X16A	**Lo Mia Camp, P**	**20.36**	**333**		**P**	**04 51 03.0**	**+0.4**
X16A				IAmb	IAmb	04 51 08.0	
comp=Z,17nm,1.1s							
Y14A	**Wickenburg**	**20.69**	**329**	P	**P**	**04 51 06.4**	**+0.4**
WUAZ	**Wupatki**	**21.27**	**335**	P	**P**	**04 51 13.0**	**+0.6**
WUAZ				IAmb	IAmb	04 51 14.1	
comp=Z,27nm,1.0s							
PLAL	**Pickwick Lake**	**21.44**	**29**	P	**P**	**04 51 15.0**	**+1.0**
PLAL				IAmb	IAmb	04 51 18.8	
comp=Z,29nm,1.1s							
MVCO	**Mesa Verde**	**21.79**	**342**	P	**P**	**04 51 18.3**	**+0.3**
PFO	**Pinyon Flats O**	**22.30**	**323**	P	**P**	**04 51 23.4**	**0.0**
comp=Z,3.4nm,1.0s,baz=128,slow=11,SNR=3.7							
PFO	**Pinyon Flats O**	**22.30**	**323**	P	**P**	**04 51 23.0**	**-0.4**
PV01	**Paradox Valley**	**22.67**	**343**	P	**P**	**04 51 28.1**	**+0.7**
LCMT	**Little Creek M**	**23.33**	**333**	P	**P**	**04 51 34.3**	**+0.1**
W52A	**Murphy**	**23.65**	**36**	P	**P**	**04 51 37.2**	**-0.1**
W52A				IAmb	IAmb	04 51 38.5	
comp=Z,19nm,1.1s							
SHPR	**Sheep Range**	**23.79**	**329**	P	**P**	**04 51 38.4**	**-0.4**
SHPR				IAmb	IAmb	04 51 41.1	
comp=Z,12nm,1.2s							
Q16A	**Castle Valley**	**24.19**	**339**	P	**P**	**04 51 42.5**	**-0.1**
MVU	**Marysvale**	**24.20**	**337**	P	**P**	**04 51 42.4**	**-0.3**
TMUT	**Trail Mountain**	**24.55**	**340**	P	**P**	**04 51 45.6**	**-0.3**
TPNV	**Topopah Spring**	**24.68**	**328**	P	**P**	**04 51 46.3**	**-0.7**
TPNV				IAmb	IAmb	04 51 58.8	
comp=Z,9.1nm,1.1s							
P43A	**Skaggs, Pawnee**	**24.91**	**20**	P	**P**	**04 51 49.2**	**+0.4**
P43A				IAmb	IAmb	04 51 50.2	
comp=Z,16nm,1.0s							
RDMU	**Red Mountain**	**25.22**	**344**	P	**P**	**04 51 51.6**	**-0.3**
DUG	**Dugway, Tooele**	**25.91**	**338**	P	**P**	**04 51 58.0**	**-0.1**
DUG				IAmb	IAmb	04 51 59.3	
comp=Z,8.7nm,1.1s							
TPH	**Tonopah**	**26.04**	**329**	P	**P**	**04 51 58.7**	**-0.7**
HWUT	**Hardware Ranch**	**26.75**	**341**	IAmb	IAmb	04 52 07.9	
comp=Z,12nm,0.9s							
NVAR	**Mina Array Bea**	**26.86**	**328**	P	**P**	**04 52 06.7**	**-0.1**
comp=Z,5.8nm,0.8s,baz=148,slow=11,SNR=6.4							
NVAR	**Mina Array Bea**	**26.86**	**328**	P	**P**	**04 52 05.9**	**-0.9**
BW06	**Boulder Array**	**27.28**	**345**	P	**P**	**04 52 10.3**	**-0.2**
BW06				IAmb	IAmb	04 52 11.0	
comp=Z,9.3nm,1.0s							
PD31	**Pinedale Array**	**27.28**	**345**	P	**P**	**04 52 10.1**	**-0.4**
PD31				IAmb	IAmb	04 52 11.0	
comp=Z,8.6nm,1.0s							
PDAR	**Pinedale Array**	**27.28**	**345**	P	**P**	**04 52 10.1**	**-0.4**
comp=Z,6.1nm,0.9s,baz=146,slow=9.8,SNR=12							
PDAR	**Pinedale Array**	**27.28**	**345**	P	**P**	**04 52 09.9**	**-0.6**
AHID	**Auburn Hatcher**	**27.68**	**343**	IAmb	IAmb	04 52 14.5	
comp=Z,11nm,1.0s							
SNOW	**Snow King Moun**	**28.23**	**344**	P	**P**	**04 52 18.9**	**-0.1**
LOHW	**Long Hollow**	**28.33**	**344**	P	**P**	**04 52 19.9**	**0.0**
LOHW				IAmb	IAmb	04 52 22.0	
comp=Z,5.5nm,0.8s							
FXWY	**Fox Creek**	**28.47**	**344**	P	**P**	**04 52 21.0**	**-0.2**
FXWY				IAmb	IAmb	04 52 23.2	
comp=Z,5.5nm,0.9s							
IMW	**Indian Meadow**	**28.69**	**344**	P	**P**	**04 52 22.9**	**-0.2**
BCYI	**Bear Canyon**	**29.77**	**341**	P	**P**	**04 52 32.6**	**-0.2**
DLMT	**Dillon**	**30.49**	**343**	P	**P**	**04 52 39.0**	**0.0**
MSO	**Missoula**	**32.21**	**342**	IAmb	IAmb	04 53 11.3	
comp=Z,8.3nm,1.1s							
WALA	**Waterton Lakes**	**34.24**	**344**	IAmb	IAmb	04 53 12.6	
comp=Z,9.0nm,1.0s							
NEW	**Newport**	**34.47**	**340**	P	**P**	**04 53 13.2**	**-0.5**
comp=Z,2.3nm,0.6s,baz=148,slow=7.4,SNR=4.0							
B08A	**Colville Reser**	**35.31**	**338**	IAmb	IAmb	04 53 23.1	
comp=Z,5.4nm,0.9s							
D62A	**Allapoint, All**	**39.99**	**34**	P	**P**	**04 54 00.1**	**-0.4**
YKA	**Yellowknife Ar**	**46.97**	**351**	P	**P**	**04 54 55.1**	**-1.4**
comp=Z,4.2nm,0.9s,baz=159,slow=7.1,SNR=3.8							
PB06	**IPOC Station P**	**49.33**	**141**	P	P	04 55 07.8	-7.7
RIDG	**Independent Ri**	**56.07**	**338**	P	**P**	**04 56 03.9**	**-0.8**
KNK	**Knik Glacier**	**56.18**	**335**	P	**P**	**04 56 04.6**	**-0.9**
ILAR	**Eielson Array**	**57.39**	**338**	P	**P**	**04 56 13.4**	**-0.7**
comp=Z,2.0nm,0.9s,baz=140,slow=5.4,SNR=4.6							
SKT	**Skwentna**	**57.73**	**334**	P	**P**	**04 56 15.7**	**-0.8**
SKT				IAmb	IAmb	04 56 20.6	
comp=Z,5.5nm,0.9s							
TIC	**Toumodi**	**93.29**	**82**	eP	**P**	**04 59 43.5**	**+2.0**
LIC	**Lamto**	**93.40**	**83**	eP	**P**	**04 59 42.6**	**+0.6**
comp=Z,80nm,0.6s							
KIC	**Kosan Boka**	**93.64**	**82**	eP	**P**	**04 59 45.0**	**+1.9**
comp=Z,109nm,0.8s							

IDC ***24*** *04:54:05.2±0.6, 0°.10N×17°.28W, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.2/43, mbtmp4.3/22, ML5.0/2, MS4.0/16, Ms1 3.9/16, ms1mx3.7/32, Error ellipse: s-maj=19.3km s-min=13.1km az=144.0*
NEIC ***24*** *04:54:06.2±1.0, 0°.19N±0°.08×17°.36W±0°.10, h10km±1km, mb4.7/40, Error ellipse: s-maj=16.3km s-min=13.2km az=269.0*
GCMT ***24*** *04:54:10.2±0.4, 0°.19N±0°.02×17°.27W±0°.02, h22km±1km, MW4.8/77, Moment Tensor Solution. s22,c23; s77,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.10±.12; $M_{\theta\theta}$0.33±.11; $M_{\phi\phi}$-0.42±.10; $M_{r\theta}$-0.18±.16; $M_{\theta\phi}$-2.07±.11; $M_{\phi r}$-0.03±.16; Best double couple: $M_0$2.11200×10^{16} NP1:ϕ_s355.00000°, δ85.00000°, λ0.00000°. NP2: ϕ_s265.00000°, δ90.00000°, λ175.00000°. Principal axes: T 2.0610, Plg4.0000°, Azm220.0000°; N 0.1020, Plg85.0000°, Azm84.0000°; P -2.1630, Plg3.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 04:54:06.7±0.4, 0°.21N±0°.07×17°.33W±0°.06, h12km, n131, σ1.09/97, mb4.5/41, MS4.2/27, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.47**	**160**	T	T	05 05 10.7	
baz=340,slow=74,SNR=1895							
H10N3	**ASCENSION HYDR**	**8.48**	**161**	T	T	05 05 11.2	
baz=340,slow=74,SNR=1953							
H10N1	**ASCENSION HYDR**	**8.49**	**160**	T	T	05 05 12.1	
baz=340,slow=74,SNR=1755							
ASCN	**Ascension**	**8.61**	**160**	Pn	**Pn**	**04 56 10.7**	**-0.6**
H10S3	**ASCENSION HYDR**	**9.48**	**164**	T	T	05 06 23.4	
baz=342,slow=74,SNR=426							
H10S2	**ASCENSION HYDR**	**9.49**	**164**	T	T	05 06 29.1	
baz=238,slow=74,SNR=319							
LIC	**Lamto**	**13.66**	**64**	eP	**Pn**	**04 57 19.3**	**-1.0**
80nm,0.6s							
TIC	**Toumodi**	**13.85**	**62**	eP	**Pn**	**04 57 21.4**	**-1.6**
KIC	**Kosan Boka**	**13.97**	**64**	eP	**Pn**	**04 57 23.4**	**-1.3**
37nm,0.5s							
DBIC	**Dimbokro**	**14.01**	**62**	Pn	**Pn**	**04 57 24.3**	**-0.8**
12nm,0.3s,baz=232,slow=15,SNR=103							
DBIC				Sn	Sn	04 59 47.2	-13
9.8nm,0.3s,baz=132,slow=15,SNR=6.0							
DBIC				LR	LR	05 02 08.3	
comp=Z,382nm,19.2s,baz=220,slow=34							
DBIC	**Dimbokro**	**14.01**	**62**	Pn	**Pn**	**04 57 23.5**	**-1.6**
MBO	**M'Bour**	**14.10**	**2**	Pn	**Pn**	**04 57 24.9**	**-1.4**
KOWA	**Kowa**	**19.37**	**42**		**Pn**	**04 58 32.9**	**-0.6**
RCBR	**Riachuelo**	**19.48**	**252**	P	**Pn**	**04 58 35.2**	**+0.2**
2.7nm,0.3s,baz=74,slow=13,SNR=28							
RCBR				S	S	05 01 56.7	-17
0.2nm,0.3s,baz=97,slow=16,SNR=1.1							
RCBR				LR	LR	05 04 16.9	
comp=Z,324nm,19.2s,baz=71,slow=31							
RCBR	**Riachuelo**	**19.48**	**252**	P	**P**	**04 58 33.3**	**-0.5**
SHEL	**Horse Pasture**	**19.72**	**145**	P	**P**	**04 58 36.3**	**0.0**
TOA0	**Torodi Ar. Sit**	**22.82**	**55**	P	**P**	**04 59 09.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**22.82**	**55**	P	**P**	**04 59 09.4**	**-0.4**
40nm,0.9s,baz=239,slow=10,SNR=55							
TORD				S	**S**	**05 03 16.6**	**-2.6**
10nm,0.9s,baz=232,slow=22,SNR=4.7							
TORD				LR	LR	05 07 05.3	
comp=Z,403nm,21.5s,baz=245,slow=34							
TORD	**Torodi Ar. Bea**	**22.82**	**55**	P	**P**	**04 59 09.7**	**-0.1**
TAM	**Tamanrasset**	**31.60**	**43**	P	**P**	**05 00 29.6**	**-0.1**
TAM				IAmb	IAmb	05 00 33.1	
comp=Z,8.5nm,1.0s							
BDFB	**Brasilia**	**34.15**	**241**	P	**P**	**05 00 51.8**	**-0.2**
comp=Z,1.8nm,0.4s,baz=97,slow=8.1,SNR=4.9							
BDFB	**Brasilia**	**34.15**	**241**	P	**P**	**05 00 51.4**	**-0.7**
MDT	**Midelt**	**34.58**	**19**	P	**P**	**05 00 57.0**	**+1.4**
comp=Z,0.6nm,0.6s,baz=142,slow=0.9,SNR=1.9							
PSMN	**Pico do Norte,**	**37.30**	**350**	eT	T	05 40 19.4	
PSMA	**Santa Maria**	**37.31**	**350**	eT	T	05 40 19.2	
BART	**Pico Bartolome**	**38.08**	**350**	eT	T	05 41 20.1	
CMLA	**Cha da Macela**	**38.13**	**349**	eT	T	05 41 22.9	
PDA	**Ponta Delgada**	**38.14**	**349**	eT	T	05 41 22.4	
PSET	**Sete Cidades**	**38.22**	**349**	eT	T	05 41 23.5	
TSUM	**Tsumeb**	**39.31**	**121**	P	**P**	**05 01 36.7**	**+0.6**
comp=Z,4.8nm,0.9s,baz=316,slow=7.5,SNR=7.9							
TSUM	**Tsumeb**	**39.31**	**121**	P	**P**	**05 01 35.8**	**-0.3**
PPNO	**Prainha do Nor**	**39.38**	**346**	eT	T	05 42 54.7	
PCAN	**Candelaria**	**39.43**	**346**	eT	T	05 43 01.4	
PMAN	**Manadas**	**39.49**	**347**	eT	T	05 43 08.7	
ROSA	**Rosais**	**39.61**	**347**	eT	T	05 41 13.4	
ESDC	**Sonseca Array**	**41.13**	**16**	P	**P**	**05 01 52.4**	**+1.6**
comp=Z,0.5nm,0.8s,baz=200,slow=11,SNR=2.5							
ESDC	**Sonseca Array**	**41.13**	**16**	P	**P**	**05 01 50.8**	**0.0**
PTGA	**Pitinga**	**42.64**	**269**	P	**P**	**05 02 04.0**	**+0.5**
comp=Z,0.6nm,0.3s,baz=83,slow=11,SNR=5.2							
PTGA	**Pitinga**	**42.64**	**269**	P	**P**	**05 02 02.9**	**-0.6**
KEST	**Kesra**	**43.19**	**32**	P	**P**	**05 02 08.9**	**+1.2**
comp=Z,4.2nm,0.8s,baz=104,slow=1.0,SNR=5.7							
KEST				LR	LR	05 21 35.9	
comp=Z,303nm,20.2s,baz=194,slow=38							
KEST	**Kesra**	**43.19**	**32**	P	**P**	**05 02 07.9**	**+0.2**
SAML	**Samuel**	**46.56**	**258**	P	**P**	**05 02 34.1**	**-0.7**
MBAR	**Mbarara**	**48.08**	**91**	P	**P**	**05 02 46.5**	**-0.4**
LBTB	**Lobatse**	**48.49**	**124**	LR	LR	05 19 34.6	
comp=Z,115nm,19.6s,baz=268,slow=32							
BOSA	**Boshof**	**49.79**	**129**	P	**P**	**05 02 59.0**	**-0.7**
comp=Z,3.0nm,0.9s,baz=313,slow=7.6,SNR=5.3							
BOSA				LR	LR	05 19 59.9	
comp=Z,68nm,21.2s,baz=256,slow=31							
BOSA	**Boshof**	**49.79**	**129**	P	**P**	**05 02 59.5**	**-0.3**
BOSA				IAmb	IAmb	05 03 01.3	
comp=Z,6.6nm,1.1s							
CTI	**Castel Tesino**	**52.28**	**25**	P	**P**	**05 03 18.7**	**+0.5**
CTI				IAmb	IAmb	05 03 22.9	

comp=Z,7.7nm,0.9s
DAVA Damuels 52.55 23 *e*P **P 05 03 21.2 +1.1**
comp=Z,13nm,0.8s
FETA Feichten 52.67 24 *e*P **P 05 03 22.1 +1.0**
comp=Z,3.3nm,0.9s
LPAZ La Paz 52.70 249 P **P 05 03 22.1 -0.2**
comp=Z,0.9nm,0.8s,baz=116,slow=7.4,SNR=2.5
LPAZ LR LR 05 24 40.3
comp=Z,198nm,19.6s,baz=31,slow=35
LPAZ La Paz 52.70 249 P **P 05 03 21.1 -1.3**
SQTA Sankt Quirin 53.03 24 *e*P **P 05 03 24.4 +0.8**
comp=Z,6.3nm,0.7s
ABTA Abfaltersbach 53.20 25 *e*P **P 05 03 26.3 +1.4**
comp=Z,3.5nm,0.8s
PRED Cave del Predi 53.42 26 P **P 05 03 26.9 +0.5**
PRED IAmb IAmb 05 03 29.3
comp=Z,5.2nm,0.9s
SOKA Soboth 54.26 27 *e*P **P 05 03 34.6 +1.9**
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 54.60 92 P **P 05 03 38.6 +2.7**
comp=Z,2.6nm,0.8s,baz=268,slow=8.7,SNR=5.6
KMBO LR LR 05 24 47.7
comp=Z,125nm,19.5s,baz=275,slow=34
KMBO Kilima Mbogo 54.60 92 P **P 05 03 35.6 -0.3**
KMBO IAmb IAmb 05 03 43.2
comp=Z,5.7nm,1.1s
TAMC Tame, Arauca 54.68 278 *e*P **P 05 03 35.9 -0.4**
GEC2 GERESS Array S 55.34 24 P **P 05 03 40.9 +0.4**
GEC2 IAmb IAmb 05 03 42.0
comp=Z,5.4nm,1.0s
GERES GERESS Array B 55.34 24 P **P 05 03 41.4 +1.0**
comp=Z,2.7nm,0.7s,baz=210,slow=7.1,SNR=22
GERES PP **PP 05 05 41.3 -3.0**
comp=Z,1.1nm,0.6s,baz=193,slow=8.1,SNR=2.2
GERES GERESS Array B 55.34 24 P **P 05 03 40.9 +0.4**
KHC Kasperske Hory 55.51 24 *e*P **P 05 03 43.4 +1.8**
KHC AMS AMS 05 33 30.0
comp=Z,500nm,20.4s
CONA Conrad Observa 55.57 27 *e*P **P 05 03 43.4 +1.3**
comp=Z,2.4nm,0.8s
PAMC Pamplona, Colo 55.65 279 *e*P **P 05 03 44.5 +0.7**
RUSC La Rusia 55.93 277 *e*P **P 05 03 47.7 +2.0**
TREC Trest 56.43 25 AMS AMS 05 34 20.0
comp=Z,400nm,16.2s
CHIC Chingaza 56.50 275 *e*P **P 05 03 48.7 -1.1**
PRU Pruhonice 56.57 24 AMS AMS 05 34 20.0
comp=Z,400nm,19.9s
PRA Prague 56.59 24 AMS AMS 05 34 20.0
comp=Z,200nm,19.9s
GOPC GO Pecny, Ondr 56.62 24 AMS AMS 05 34 30.0
comp=Z,400nm,10.4s
PVCC Panska Ves 57.00 24 AMS AMS 05 32 20.0
comp=Z,200nm,17.6s
ROSC El Rosal 57.10 276 P **P 05 03 55.5 +1.5**
comp=Z,7.7nm,0.7s,baz=125,slow=18,SNR=5.4
ROSC LR LR 05 25 28.1
comp=Z,195nm,21.4s,baz=108,slow=33
ROSC El Rosal 57.10 276 IAmb IAmb 05 03 56.0
comp=Z,7.9nm,0.8s
SMLC San Martin de 57.14 280 *e*P **P 05 03 51.0 -2.8**
PTBC PUERTO BERRIO, 57.33 278 *e*P **P 05 03 53.4 -1.8**
VYHS Vyhne 57.34 28 *e*P **P 05 03 56.4 +1.8**
KRLC Kraliky 57.58 25 *e*P **P 05 03 57.9 +1.6**
KRLC AMS AMS 05 38 20.0
comp=Z,200nm,17.5s
UPC Upice 57.58 25 AMS AMS 05 34 20.0
comp=Z,200nm,19.6s
DPC Dobruska-Polom 57.59 25 AMS AMS 05 36 40.0
comp=Z,300nm,23.4s
PRAC Prado 57.61 274 *e*P **P 05 03 56.4 -0.9**
MORC Moravsky Berou 57.68 26 P **P 05 03 57.5 +0.4**
OSTC Ostas 57.70 25 AMS AMS 05 33 40.0
comp=Z,300nm,17.0s
TOLC Tolima 58.08 275 *e*P **P 05 04 00.6 -0.3**
GUY2C Guyana, Caldas 58.16 276 *e*P **P 05 04 00.1 -1.5**
MOTC Monteria, Cord 58.70 280 *e*P **P 05 04 05.4 +0.6**
BURAR Bucovina Array 59.93 32 P **P 05 04 13.4 +0.5**
BR131 Keskin Array S 60.80 43 P **P 05 04 20.1 +1.1**
BR131 IAmb IAmb 05 04 24.4
comp=Z,7.5nm,1.1s
BRTR Keskin Array B 60.80 43 P **P 05 04 20.2 +1.2**
comp=Z,3.8nm,0.8s,baz=246,slow=7.0,SNR=6.4
BRTR Keskin Array B 60.80 43 P **P 05 04 19.0 +0.1**
AKASG Malin Array Be 63.89 31 P **P 05 04 39.5 +0.2**
comp=Z,0.3nm,0.3s,baz=232,slow=6.6,SNR=8.1
AKASG Malin Array Be 63.89 31 P **P 05 04 39.7 +0.4**
NB2 NORSAR Subarra 64.49 15 P **P 05 04 44.2 +1.1**
comp=Z,1.2nm,0.8s,baz=208,slow=6.9
NOA NORSAR Array B 64.49 15 P **P 05 04 44.1 +1.1**
comp=Z,1.7nm,0.8s,baz=210,slow=6.5,SNR=5.3
KBZ Khabaz 68.75 42 P **P 05 05 11.5 +1.0**
comp=Z,5.4nm,0.8s,baz=253,slow=6.1,SNR=6.0
FINES FINESS Array B 69.38 21 P **P 05 05 15.3 +1.2**
comp=Z,5.5nm,0.8s,baz=224,slow=5.2,SNR=12
FINES FINESS Array B 69.38 21 P **P 05 05 14.6 +0.5**
VNA2 Neumayer--Watz 71.31 177 P **P 05 05 26.9 +1.1**
baz=348,slow=5.8
SNAA Sanae 72.37 175 P **P 05 05 33.3 +1.0**
SNAA Sanae 72.37 175 P **P 05 05 31.9 -0.3**
comp=Z,0.8nm,0.8s,baz=323,slow=5.1,SNR=5.5
SNAA LR LR 05 29 17.5
comp=Z,56nm,21.8s,baz=282,slow=29
SNAA Sanae 72.37 175 P **P 05 05 32.6 +0.4**
L48A N Adams 72.98 314 P **P 05 05 36.3 -0.1**
WSAR Wadi Sarin 77.03 66 P **P 05 05 59.9 -0.2**
comp=Z,6.5nm,0.8s,baz=219,slow=5.8,SNR=4.6
CCM Cathedral Cave 77.23 309 P **P 05 06 00.8 -0.2**
CCM IAmb IAmb 05 06 02.0
comp=Z,7.2nm,0.8s
JFWS Jewell Farm 77.39 314 IAmb IAmb 05 06 03.8
comp=Z,7.4nm,0.8s
U40A Yellville 78.23 307 P **P 05 06 06.3 -0.3**
U40A IAmb IAmb 05 06 07.8
comp=Z,12nm,1.1s
S39A Bolivar 78.80 308 IAmb IAmb 05 06 10.4
comp=Z,9.3nm,0.9s
P38A Dawn 79.25 310 P **P 05 06 11.6 -0.5**
P38A IAmb IAmb 05 06 13.3
comp=Z,7.4nm,0.8s
ABKAR Akbulak array 81.55 40 P **P 05 06 24.5 +0.3**
ABKAR Akbulak array 81.55 40 IAmb IAmb 05 06 26.2
comp=Z,5.2nm,1.1s
ULM Lac du Bonnet 82.51 321 LR LR 05 36 35.0
comp=Z,63nm,20.3s,baz=103,slow=31
JCT Junction City 83.40 301 IAmb IAmb 05 06 35.8
comp=Z,6.7nm,0.8s
MSTX Muleshoe 86.09 304 P **P 05 06 47.6 -0.5**
TXAR Lajitas Array 86.70 299 P **P 05 06 52.2 +1.1**
comp=Z,3.0nm,1.0s,baz=116,slow=7.0,SNR=16
TXAR LR LR 05 43 21.4
comp=Z,20nm,19.1s,baz=0.0,slow=34
TXAR Lajitas Array 86.70 299 P **P 05 06 50.4 -0.7**
TX32 Lajitas Array 86.70 299 P **P 05 06 50.5 -0.6**
TX32 IAmb IAmb 05 06 56.5
comp=Z,4.0nm,1.1s
KKAR Karatay Array 88.28 47 P **P 05 06 58.4 0.0**
SDCO Great Sand Dun 88.42 308 IAmb IAmb 05 07 02.6
comp=Z,6.3nm,1.1s
121A Cookes Peak, D 90.27 302 IAmb IAmb 05 07 27.9
comp=Z,4.7nm,0.8s
QSPA South Pole Qui 90.28 180 P **P 05 07 07.5 +0.2**
QSPA IAmb IAmb 05 07 12.4
comp=Z,3.9nm,0.9s
PDAR Pinedale Array 91.50 313 LR LR 05 42 33.9
comp=Z,66nm,21.5s,baz=90,slow=32
MKAR Makanchi Array 96.44 43 P **P 05 07 36.6 +0.5**
comp=Z,0.7nm,0.8s,baz=268,slow=3.6,SNR=3.8
MKAR LR LR 05 55 43.4
comp=Z,134nm,21.7s,baz=340,slow=38
MKAR Makanchi Array 96.44 43 P **P 05 07 36.2 +0.2**
ZALV Zalesovo Beam 96.98 36 LR LR 05 56 33.9
comp=Z,273nm,19.5s,baz=344,slow=39
GSC Goldstone, Bar 97.62 306 P **P 05 07 41.4 -0.3**
NVAR Mina Array Bea 98.47 309 LR LR 05 45 49.5
comp=Z,50nm,21.2s,baz=90,slow=32
WMQ Urumqi 100.67 45 *e*P **Pdif 05 07 57.0 +1.9**
WMQ LR LR
comp=Z,140nm,25.1s
WMQ LR LR
comp=Z,140nm,28.1s
WMQ LR LR
comp=Z,190nm,24.7s
GTA Gaotai 110.56 47 *e*PKP **PKiKP 05 12 40.6 +0.8**
GTA LR LR
comp=Z,150nm,20.7s
GTA LR LR
comp=Z,130nm,21.1s
GTA LR LR
comp=Z,370nm,22.9s
HHC Hu-ho-hao-te 118.29 42 *e*PKP **PKiKP 05 12 56.6 +2.0**
HHC LR LR
comp=Z,260nm,16.6s
HHC LR LR
comp=Z,280nm,16.9s
HHC LR LR
comp=Z,290nm,17.9s
ASAR Alice Springs 143.63 132 PKhKP PKPpre 05 13 39.1
comp=Z,0.8nm,0.7s,baz=212,slow=3.1,SNR=6.8
WRA Warramunga Arr 146.03 127 PKPbc **PKPbc 05 13 46.9 -0.6**
comp=Z,1.7nm,1.0s,baz=233,slow=2.7,SNR=14
WRA Warramunga Arr 146.03 127 PKPdf **PKPdf 05 13 46.1 -0.6**

IDC 24 05:17:42.1±1.0, 35°.48S×53°.78E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/34, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=38.7km s-min=26.9km az=51.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.83**	**339**	P	Pn	05 21 51.0	-0.8
0.3nm,0.3s,baz=170,slow=9.4,SNR=2.6							
H08S1	**Diego Carcia H**	**32.58**	**36**	T	T	05 58 14.6	
baz=208,slow=76,SNR=39							
H08S2	**Diego Garcia H**	**32.59**	**36**	T	T	05 58 23.0	
baz=208,slow=76,SNR=19							
H08S3	**Diego Garcia H**	**32.60**	**36**	T	T	05 58 27.4	
baz=208,slow=76,SNR=39							
H01W2	**Cape Leeuwin H**	**48.63**	**108**	T	T	06 18 38.5	
baz=251,slow=75,SNR=7.7							
H01W3	**Cape Leeuwin H**	**48.64**	**108**	T	T	06 18 41.7	
baz=251,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**48.65**	**108**	T	T	06 18 36.4	
baz=251,slow=75,SNR=8.1							
QSPA	**South Pole Qui**	**54.70**	**180**	P	P	05 27 12.6	-0.2
2.4nm,1.0s,baz=257,slow=2.7,SNR=4.7							
CMAR	**Chiang Mai Arr**	**68.63**	**46**	P	P	05 28 47.6	+0.4
0.8nm,0.3s,baz=226,slow=7.5,SNR=1.9							
ASAR	**Alice Springs**	**68.96**	**105**	P	P	05 28 49.6	+0.2
0.8nm,0.7s,baz=232,slow=5.6,SNR=8.3							
TORD	**Torodi Ar. Bea**	**69.03**	**305**	P	P	05 28 50.1	+0.4
0.9nm,1.0s,baz=139,slow=4.8,SNR=2.6							
WRA	**Warramunga Arr**	**71.23**	**101**	P	P	05 29 03.3	-0.1
1.6nm,0.9s,baz=235,slow=5.6,SNR=7.8							
INK	**Inuvik**	**146.87**	**5**	PKPbc	PKPbc	05 37 24.5	-0.7
3.5nm,0.9s,baz=345,slow=3.0,SNR=5.2							
ILAR	**Eielson Array**	**148.14**	**17**	PKPbc	PKPbc	05 37 27.9	-1.0
1.5nm,0.9s,baz=325,slow=3.1,SNR=9.1							

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*IDC **24** 05:49:31.8±1.0, 36°.33N×96°.39W, h0km, mb3.5/1, mb1 3.9/5, mb1mx3.6/37, mbtmp3.5/5, ML3.0/3, MS3.0/5, Ms1 3.0/5, ms1mx2.7/32, Error ellipse: s-maj=14.2km s-min=11.0km az=144.0*
*UNK **24** 05:49:34.0, 36°.39N×96°.78W, h5km*
*ANF **24** 05:49:33.8±0.4, 36°.39N×96°.76W, h8km±2km, ML4.5/17, Error ellipse: s-maj=1.8km s-min=1.6km az=47.0*
*TUL **24** 05:49:33.7±1.6, 36°.40N±0°.02×96°.76W±0°.02, h5km±5km, ML3.7, Mwr3.5/56(NEIC), Error ellipse: s-maj=2.3km s-min=1.9km az=169.0*
*NEIC **24** 05:49:34.0±1.7, 36°.39N±0°.01×96°.77W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=3.0km az=254.0*
*NEIC **24** 05:49:34, 36°.39N×96°.78W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr0.40; Mθθ-0.28; Mφφ-0.12; Mrθ-0.85; Mθφ2.04; Mφr0.68; Fault plane solution: M0 2.34000×10^14^ NP1:φs 180.95000°, δ72.80000°, λ-169.09000°. NP2:φs 87.69000°, δ79.59000°, λ-17.50000°. Principal axes: T 1.8487, Plg5.0000°, Azm135.0000°; N 0.7820, Plg70.0000°, Azm238.0000°; P -2.6307, Plg20.0000°, Azm43.0000°;*
ISC 24 05:49:33.7±1.0, 36°.39N±0°.02×96°.77W±0°.02, h8km±8km, n114, σ0§93/134, MS3.0/3, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.22**	**167**	Pg	**Pg**	05 49 38.8	+0.6
T35A	**Sooner Cattle**	**0.57**	**22**		**Pg**	05 49 44.7	0.0
T35A				Sg	**Sg**	05 49 52.3	+0.2
OK005	**Luther M Schoo**	**0.81**	**205**	Pg	**Pg**	05 49 49.3	+0.1
OK029	**Liberty Lake**	**0.81**	**223**		**Pg**	05 49 49.4	+0.2
OK029					**Pb**	05 49 49.5	-0.5
KAN13	**South Haven SW**	**0.84**	**318**		**Pg**	05 49 50.0	0.0
ADOK	**Arcadia Dam**	**0.88**	**214**	Pn	**Pn**	05 49 53.9	+1.5
OK011	**Prague**	**0.90**	**176**	Sg	**Sb**	05 50 03.8	0.0
TUL1	**Lenard**	**0.93**	**121**	P	**Pg**	05 49 51.6	+0.1
baz=301,SNR=406							
TUL1				S	**Sg**	05 50 03.6	+0.1
baz=301							
TUL1	**Leonard**	**0.93**	**121**		**Pg**	05 49 51.5	+0.1
TUL1				Sg	**Sg**	05 50 03.8	+0.3
TUL1					**Sb**	05 50 04.0	-0.4
OK025	**Westminster Rd**	**0.93**	**210**		**Pg**	05 49 51.5	0.0
OK025				Sg	**Sb**	05 50 04.5	+0.1
CROK	**Carrier**	**0.98**	**277**		**Pg**	05 49 52.6	0.0
CROK				Sg	**Sg**	05 50 05.8	+0.5
BCOK	**Bluff Creek, N**	**1.00**	**223**	Pg	**Pg**	05 49 52.8	0.0
BCOK				Sg	**Sb**	05 50 06.5	0.0
OKCFA	**Oklahoma City**	**1.12**	**210**		**Pg**	05 49 54.6	-0.5
OKCSW	**OKLAHOMA CITY**	**1.12**	**209**		**Pg**	05 49 54.7	-0.5
OKCSW				Sg	**Sb**	05 50 10.5	+0.5
W35A	**Tecumseh**	**1.24**	**184**		**Pb**	05 49 56.6	-0.6
W35A				Sn	**Sb**	05 50 13.9	+0.6
FNO	**Franklin**	**1.24**	**205**	Pg	**Pb**	05 49 57.1	-0.2
FNO				Sn	**Sn**	05 50 14.3	+0.1
KAN10	**Anthony SW Sta**	**1.29**	**305**		**Pn**	05 49 58.1	+0.1
KAN10					**Sb**	05 50 15.1	+0.1
KAN12	**Harper NE Stat**	**1.34**	**313**		**Pn**	05 49 58.8	+0.1
KAN12				Sn	**Sb**	05 50 16.6	+0.2
U32A	**Winter Ranch,**	**1.80**	**270**		**Pb**	05 50 06.5	-0.3
U38A	**Gravette**	**1.93**	**88**		**Pb**	05 50 08.2	-0.8
X34A	**Smith Ranch, M**	**1.98**	**206**		**Pb**	05 50 09.5	-0.5
X37A	**Clayton**	**2.13**	**147**		**Pn**	05 50 10.9	+1.4
HHAR	**Hobbs**	**2.29**	**92**		**Pn**	05 50 13.5	+1.8
WMOK	**Wichita Mounta**	**2.32**	**225**	P	**Pn**	05 50 13.3	+1.1
baz=44							
WMOK	**Wichita Mounta**	**2.32**	**225**		**Pn**	05 50 13.3	+1.1
R32A	**Long Quarter,**	**2.55**	**323**		**Pn**	05 50 16.5	+1.1
W39A	**Magazine**	**2.70**	**115**	P	**Pn**	05 50 18.3	+0.9
baz=297,SNR=52							
W39A	**Magazine**	**2.70**	**115**	Pn	**Pn**	05 50 18.7	+1.3
KSU1	**Kansas State U**	**2.71**	**3**	P	**Pn**	05 50 18.1	+0.5
baz=183,SNR=24							
KSU1				S	**Sn**	05 50 51.9	+1.4
baz=183							
KSU1	**Kansas State U**	**2.71**	**3**		**Pn**	05 50 18.5	+1.0
S39A	**Bolivar**	**3.05**	**64**		**Pn**	05 50 23.6	+1.4
Z35A	**Perchaven, San**	**3.08**	**188**	Pn	**Pn**	05 50 23.7	+1.2
U40A	**Yellville**	**3.16**	**89**	P	**Pn**	05 50 25.0	+1.3
baz=272,SNR=18							
U40A				S	**Sn**	05 51 03.3	+1.7
baz=272							
U40A	**Yellville**	**3.16**	**89**	Pn	**Pn**	05 50 25.2	+1.5
MIAR	**Mount Ida**	**3.19**	**124**	P	**Pn**	05 50 25.2	+1.1
baz=306,SNR=11							
MIAR				S	**Sn**	05 51 03.6	+1.3
baz=306							
MIAR	**Mount Ida**	**3.19**	**124**	Pn	**Pn**	05 50 25.5	+1.4
CBKS	**Cedar Bluff**	**3.38**	**317**	P	**Pn**	05 50 27.3	+0.5
baz=135,SNR=33							
CBKS				Sb	**Sb**	05 51 17.7	+2.6
baz=135							
CBKS	**Cedar Bluff**	**3.38**	**317**	Pn	**Pn**	05 50 27.8	+1.1
Z38A	**Mt. Pleasant**	**3.45**	**154**	Pn	**Pn**	05 50 28.8	+1.2
MGMO	**Mountain Grove**	**3.69**	**77**	Pn	**Pn**	05 50 32.7	+1.7
X40A	**Basin Creek Fa**	**3.73**	**119**	P	**Pn**	05 50 32.8	+1.3
baz=302,SNR=7.2							
FCAR	**Ozark Folk Cen**	**3.79**	**96**		**Pn**	05 50 33.7	+1.3
WHAR	**Wooly Hollow**	**3.80**	**105**		**Pn**	05 50 33.6	+1.1
W41B	**Gary Mavity, V**	**3.87**	**107**	P	**Pn**	05 50 33.7	+0.2
baz=290,SNR=11							
W41B				S	**Sn**	05 51 19.8	+0.7
baz=290							
W41B	**Gary Mavity, V**	**3.87**	**107**	Pn	**Pn**	05 50 34.8	+1.3
UALR	**University of**	**3.95**	**113**	Pn	**Pn**	05 50 35.9	+1.4
WLAR	**White Oak Lake**	**4.03**	**131**	Pn	**Pn**	05 50 36.6	+0.9
R40A	**Maddies Statio**	**4.06**	**61**	Pn	**Pn**	05 50 37.1	+1.0
P38A	**Dawn**	**4.12**	**37**	Pn	**Pn**	05 50 37.5	+0.6
AMTX	**Amarillo**	**4.27**	**251**	P	**Pn**	05 50 40.4	+1.4
baz=68							
AMTX	**Amarillo**	**4.27**	**251**	Pn	**Pn**	05 50 40.4	+1.4
N33A	**J Bar K, Exete**	**4.38**	**353**	Pn	**Pn**	05 50 41.5	+1.0
WHTX	**Lake Whitney,**	**4.42**	**188**	P	**Pn**	05 50 41.7	+0.6
baz=7.1,SNR=6.6							
WHTX				S	**Sn**	05 51 33.3	+0.6
baz=7.1							
WHTX	**Lake Whitney,**	**4.42**	**188**	Pn	**Pn**	05 50 42.0	+0.9
ABTX	**Abilene, Hawle**	**4.44**	**213**	P	**Pn**	05 50 41.5	+0.1
baz=31,SNR=16							
ABTX				S	**Sn**	05 51 34.1	+0.9
baz=31							
237A	**Washetta, Mont**	**4.45**	**169**	Pn	**Pn**	05 50 42.0	+0.6
Z41A	**Richland Creek**	**4.52**	**133**	P	**Pn**	05 50 42.6	+0.2
baz=315,SNR=10							
Z41A				S	**Sn**	05 51 35.5	+0.4
baz=315							
Z41A	**Richland Creek**	**4.52**	**133**	Pn	**Pn**	05 50 42.6	+0.2
LCAR	**Lake Charles**	**4.55**	**92**		**Pn**	05 50 43.5	+0.7
N35A	**Tabor**	**4.55**	**11**	Pn	**Pn**	05 50 43.3	+0.5
T42A	**Van Buren**	**4.61**	**80**	Pn	**Pn**	05 50 44.4	+0.8
CCM	**Cathedral Cave**	**4.71**	**68**	P	**Pn**	05 50 45.5	+0.4
baz=251							
CCM	**Cathedral Cave**	**4.71**	**68**	Pn	**Pn**	05 50 45.4	+0.4
CCAR	**Cane Creek**	**4.78**	**120**	Pn	**Pn**	05 50 46.8	+0.8
P40A	**Paris**	**4.88**	**49**	Pn	**Pn**	05 50 48.7	+1.4
NATX	**Nacogdoches**	**4.94**	**159**	S	**Sn**	05 51 45.9	+0.4
baz=340							
BGNE	**Belgrade**	**5.13**	**348**	P	**Pn**	05 50 51.0	+0.3
baz=168,SNR=5.9							
BGNE				S	**Sn**	05 51 49.3	-0.9
baz=168							
BGNE	**Belgrade**	**5.13**	**348**	Pn	**Pn**	05 50 51.4	+0.7
N38A	**Joes South For**	**5.20**	**31**		**Pn**	05 50 52.0	+0.3
KSCO	**Kaye Shedlock'**	**5.33**	**301**	P	**Pn**	05 50 54.0	+0.3
baz=118,SNR=13							
KSCO				S	**Sn**	05 51 55.8	+0.5
baz=118							
MSTX	**Muleshoe**	**5.47**	**246**	S	**Sn**	05 51 59.1	+0.2
baz=62							
435B	**Jarrell**	**5.63**	**187**	P	**Pn**	05 50 58.4	+0.7
baz=6.7							
435B				S	**Sn**	05 52 03.7	+1.1
baz=6.7							
SCIA	**State Center**	**6.16**	**26**	P	**Pn**	05 51 05.3	+0.3
baz=208							
SCIA				S	**Sn**	05 52 14.1	-1.5
baz=208							
T25A	**Trinidad**	**6.18**	**279**	P	**Pn**	05 51 05.7	+0.3
baz=95							
OXF	**Oxford**	**6.29**	**105**	P	**Pn**	05 51 06.6	-0.2
baz=290							
OXF	**Oxford**	**6.29**	**105**	Pn	**Pn**	05 51 06.2	-0.5
JCT	**Junction City**	**6.41**	**204**	P	**Pn**	05 51 08.5	0.0
baz=22							
Q44A	**Meyer Farm, Va**	**6.64**	**65**	Pn	**Pn**	05 51 12.2	+0.7
L40A	**Anamosa**	**7.12**	**36**	Pn	**Pn**	05 51 18.0	-0.1
Q24A	**Divide**	**7.12**	**294**	P	**Pn**	05 51 18.7	+0.3
baz=109							
HDIL	**Hopedale**	**7.19**	**52**	P	**Pn**	05 51 18.6	-0.5
baz=237,SNR=5.4							
HDIL	**Hopedale**	**7.19**	**52**	Pn	**Pn**	05 51 18.8	-0.3
WVT	**Waverly**	**7.23**	**89**	P	**Pn**	05 51 19.9	+0.3
baz=275							
ECSD	**EROS Data Cent**	**7.34**	**1**	P	**Pn**	05 51 21.3	+0.2
baz=181							
ECSD	**EROS Data Cent**	**7.34**	**1**	Pn	**Pn**	05 51 21.1	0.0
ISCO	**Idaho Springs**	**7.76**	**299**	P	**Pn**	05 51 27.4	+0.2
baz=113							
ISCO	**Idaho Springs**	**7.76**	**299**	Pn	**Pn**	05 51 27.8	+0.6
T47A	**Sharon Grove**	**7.79**	**83**	Pn	**Pn**	05 51 27.5	+0.2
L42A	**Oliver, Polo**	**7.86**	**42**	Pn	**Pn**	05 51 27.6	-0.7
JFWS	**Jewell Farm**	**8.23**	**36**	P	**Pn**	05 51 32.8	-0.6
baz=220							
N23A	**Red Feather La**	**8.47**	**305**	P	**Pn**	05 51 37.3	+0.4
baz=119							
N23A	**Red Feather La**	**8.47**	**305**	Pn	**Pn**	05 51 38.0	+1.1
MNTX	**Cornudas Mount**	**8.54**	**239**	P	**Pn**	05 51 37.8	+0.1
baz=54							
MNTX	**Cornudas Mount**	**8.54**	**239**	Pn	**Pn**	05 51 37.7	+0.1
TX31	**Lajitas Ar. Si**	**9.11**	**221**	Pn	**Pn**	05 51 46.8	+1.3
TX32	**Lajitas Array**	**9.11**	**221**	Pn	**Pn**	05 51 45.5	0.0
TXAR	**Lajitas Array**	**9.11**	**221**	Pn	**Pn**	05 51 44.7	-0.9
0.3nm,0.3s,baz=46,slow=12,SNR=14							
TXAR				Pg		05 52 14.8	
0.7nm,0.3s,baz=46,slow=13,SNR=7.5							
TXAR				Lg	Lg	05 54 18.8	
1.4nm,0.3s,baz=41,slow=27,SNR=10							
TXAR				LR	LR	05 55 27.5	
comp=Z,73nm,19.0s,baz=0.0,slow=38							
TXAR	**Lajitas Array**	**9.11**	**221**	Pn	**Pn**	05 51 44.9	-0.7
SPMN	**Marine on St.**	**9.32**	**18**	P	**Pn**	05 51 48.2	-0.1
baz=200							
SPMN	**Marine on St.**	**9.32**	**18**		**Pn**	05 51 47.7	-0.6
RSSD	**Black Hills**	**9.51**	**327**	P	**Pn**	05 51 52.0	+0.9
baz=142							
RSSD	**Black Hills**	**9.51**	**327**	Pn	**Pn**	05 51 51.5	+0.5
TKL	**Tuckaleechee C**	**10.55**	**90**	Pn	Pn	05 52 00.0	-5.2
0.1nm,0.3s,baz=273,slow=12,SNR=1.7							
TKL				Sn	Sn	05 53 53.7	-10
0.3nm,0.3s,baz=270,slow=6.1,SNR=1.9							
TKL				Lg	Lg	05 54 57.4	
1.7nm,0.3s,baz=127,slow=10,SNR=5.2							
PD31	**Pinedale Array**	**11.74**	**307**	Pn	**Pn**	05 52 21.6	0.0
PDAR	**Pinedale Array**	**11.74**	**307**	Pn	**Pn**	05 52 21.2	-0.4
0.1nm,0.3s,baz=108,slow=15,SNR=8.8							
PDAR				Pg		05 53 11.6	
0.4nm,0.3s,baz=128,slow=19,SNR=5.7							
PDAR				Lg	Lg	05 55 45.7	
1.2nm,0.3s,baz=113,slow=32,SNR=5.0							
PDAR	**Pinedale Array**	**11.74**	**307**		**Pn**	05 52 20.1	-1.5
BW06	**Boulder Array**	**11.74**	**307**	Pn	**Pn**	05 52 21.5	-0.1
ULM	**Lac du Bonnet**	**13.87**	**2**	Pn	**Pn**	05 52 46.0	-4.4
0.4nm,0.3s,baz=176,slow=12,SNR=2.1							
ULM				Sn	Sn	05 55 13.5	-11
0.4nm,0.3s,baz=121,slow=19,SNR=3.5							
ULM				Lg	Lg	05 56 40.6	
baz=86,slow=20,SNR=4.3							
LPIG	**La Paz**	**16.91**	**227**	LR	LR	05 59 58.5	
comp=Z,43nm,18.3s,baz=334,slow=37							
NVAR	**Mina Array Bea**	**17.23**	**283**	P	**P**	05 53 38.3	+1.9
baz=86,slow=13,SNR=2.2							
BBB	**Bella Bella**	**27.16**	**315**	LR	LR	06 07 24.9	
comp=Z,50nm,21.4s,baz=159,slow=39							
JTS	**Las Juntas de**	**28.10**	**155**	LR	LR	06 07 36.8	
comp=Z,25nm,19.1s,baz=20,slow=39							
ILAR	**Eielson Array**	**40.94**	**330**	P	**P**	05 57 17.2	+1.0
0.5nm,0.7s,baz=110,slow=7.0,SNR=6.3							
NOA	**NORSAR Array B**	**66.75**	**30**	LR	LR	06 27 59.2	
comp=Z,13nm,19.7s,baz=75,slow=35							

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*IDC **24** 06:02:13.4±2.5, 6°.37N×92°.89E, h0km, mb3.5/4, mb1 3.7/6, mb1

mb1 3.6/26, mb1mx3.5/52, mbtmp4.2/26, Error ellipse: s-maj=13.8km s-min=8.1km az=70.0

ISC 24 06:04:59.9±0.5, 29°.26N±0°.07×139°.50E±0°.08, h414km, n65, σ1°.70/68, mb3.9/27, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.20**	**132**	P	**P**	**06 06 03.2**	**-2.5**
	100nm,0.3s,baz=299,slow=4.3,SNR=39						
JCJ				S	**S**	**06 06 54.2**	**-5.0**
	66nm,0.3s,baz=290,slow=18,SNR=16						
JCJ	**Chichijima**	**3.20**	**132**		**P**	**06 06 03.8**	**-2.0**
JCJ					**S**	**06 06 54.8**	**-4.5**
JHJ2	**Mitsune**	**3.85**	**4**	Pn	**P**	**06 06 10.2**	**-1.0**
JHJ	**Hachijo jima 2**	**3.85**	**4**	P	**P**	**06 06 10.0**	**-1.2**
	84nm,0.3s,baz=104,slow=18,SNR=25						
JHJ				S	**S**	**06 07 04.5**	**-4.9**
	44nm,0.3s,baz=282,slow=22,SNR=8.1						
INU	**Inuyama**	**6.43**	**342**	Pn	**P**	**06 06 36.9**	**-0.3**
JMN	**Monobe**	**6.55**	**314**	Pn	**P**	**06 06 39.1**	**-0.2**
JGF	**Kuroka**	**6.58**	**345**	Pn	**P**	**06 06 38.5**	**-1.0**
JWT	**Wachi**	**6.94**	**331**		**P**	**06 06 42.9**	**-0.5**
MJAR	**Matsushiro Arr**	**7.34**	**352**	P	**P**	**06 06 45.3**	**-2.6**
	0.5nm,0.3s,baz=171,slow=11,SNR=14						
MJAR				S	**S**	**06 08 13.5**	**-2.2**
	0.2nm,0.3s,baz=222,slow=16,SNR=5.5						
MJAR	**Matsushiro Arr**	**7.34**	**352**	Pn	**P**	**06 06 45.4**	**-2.4**
MAJO	**Matsushiro**	**7.34**	**352**		**P**	**06 06 46.2**	**-1.7**
MAT	**Matsushiro**	**7.34**	**352**	P	**P**	**06 06 45.4**	**-2.5**
MAT				eS	**S**	**06 08 11.2**	**-4.5**
JHS	**Saijyo**	**7.88**	**318**	P	**P**	**06 06 52.9**	**-0.9**
JNU	**Nakatsue**	**8.33**	**300**	P	**P**	**06 06 58.0**	**-0.7**
	0.4nm,0.3s,baz=157,slow=13,SNR=1.9						
JMM	**Marumori**	**8.65**	**7**		**P**	**06 07 01.2**	**-0.9**
JSD	**Sado**	**8.82**	**354**		**P**	**06 07 01.9**	**-2.1**
JTM	**Tenmabayashi**	**11.57**	**6**	P	**P**	**06 07 33.9**	**-0.5**
ERM	**Erimo**	**13.07**	**12**	P	**P**	**06 07 51.2**	**+0.5**
USA0B	**Ussuriysk Arra**	**16.07**	**340**		**P**	**06 08 23.1**	**0.0**
USA0B				IAmb	IAmb	06 08 24.3	
	comp=Z,11nm,0.9s						
USRK	**Ussuriysk Ar.**	**16.07**	**340**	P	**P**	**06 08 23.3**	**+0.1**
	baz=155,slow=11,SNR=22						
USRK	**Ussuriysk Ar.**	**16.07**	**340**		**P**	**06 08 22.2**	**-1.0**
YHNB	**Yeheng**	**16.79**	**258**	P	**P**	**06 08 29.3**	**-1.9**
YULB	**Yu-li**	**17.33**	**255**	P	**P**	**06 08 35.6**	**-1.3**
YULB				IAmb	IAmb	06 08 41.0	
	comp=Z,8.0nm,0.8s						
SSLB	**Suanglung**	**17.46**	**256**	P	**P**	**06 08 37.2**	**-1.1**
SSLB				IAmb	IAmb	06 08 38.8	
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**31.52**	**315**	P	**P**	**06 10 45.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=118,slow=8.4,SNR=7.9						
TLY	**Talaya**	**34.77**	**320**	P	**P**	**06 11 14.0**	**+0.7**
	comp=Z,4.8nm,0.5s,baz=235,slow=12,SNR=2.7						
TLY	**Talaya**	**34.77**	**320**	P	**P**	**06 11 13.2**	**-0.2**
TLY				IAmb	IAmb	06 11 16.4	
	comp=Z,5.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.45**	**263**	P	**P**	**06 11 44.4**	**0.0**
	comp=Z,0.8nm,0.3s,baz=49,slow=9.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**46.31**	**318**	P	**P**	**06 12 46.2**	**0.0**
	comp=Z,1.8nm,0.4s,baz=92,slow=6.7,SNR=8.5						
ZALV				PcP	**PcP**	**06 14 13.9**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=84,slow=4.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**46.31**	**318**	P	**P**	**06 12 45.1**	**-1.0**
MK31	**Makanchi Array**	**47.28**	**308**	P	**P**	**06 12 53.1**	**-0.7**
MKAR	**Makanchi Array**	**47.28**	**308**	P	**P**	**06 12 53.7**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=94,slow=8.9,SNR=16						
MKAR				PcP	**PcP**	**06 14 17.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=93,slow=5.8,SNR=6.2						
MKAR	**Makanchi Array**	**47.28**	**308**	P	**P**	**06 12 53.3**	**-0.5**
WRA	**Warramunga Arr**	**49.17**	**186**	P	**P**	**06 13 08.8**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=3.1,slow=7.8,SNR=30						
WRA				PcP	**PcP**	**06 14 25.5**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=359,slow=3.8,SNR=4.7						
WRA	**Warramunga Arr**	**49.17**	**186**	IAmb	IAmb	06 13 10.9	
	comp=Z,0.2nm,1.1s						
NRIK	**Noril'sk**	**49.78**	**339**	P	**P**	**06 13 12.7**	**+0.6**
	comp=Z,4.1nm,0.4s,baz=103,slow=9.4,SNR=5.4						
KURK	**Kurchatov**	**49.78**	**313**	P	**P**	**06 13 12.0**	**-0.5**
KURK				IAmb	IAmb	06 13 13.6	
	comp=Z,14nm,1.4s						
ASAR	**Alice Springs**	**52.90**	**186**	P	**P**	**06 13 36.7**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=15,slow=14,SNR=6.5						
KDAK	**Kodiak Island**	**54.08**	**38**	P	**P**	**06 13 45.1**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=282,slow=0.3,SNR=5.4						
KDAK	**Kodiak Island**	**54.08**	**38**	IAmb	IAmb	06 13 49.4	
	comp=Z,4.1nm,1.0s						
BVAR	**Borovoye Array**	**54.85**	**316**	P	**P**	**06 13 49.5**	**+0.3**
	comp=Z,4.7nm,0.5s,baz=124,slow=12,SNR=22						
BRVK	**Borovoye**	**54.91**	**316**	P	**P**	**06 13 49.6**	**0.0**
BRVK				IAmb	IAmb	06 13 50.5	
	comp=Z,5.3nm,0.8s						
KK31	**Karatay Array**	**55.91**	**304**	IAmb	IAmb	06 13 57.2	
	comp=Z,5.8nm,0.5s						
KKAR	**Karatay Array**	**55.91**	**304**	IAmb	IAmb	06 13 57.2	
	comp=Z,5.8nm,0.5s						
ILAR	**Eielson Array**	**56.97**	**29**	P	**P**	**06 14 05.4**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=285,slow=6.6,SNR=4.3						
ARMA	**Armidale**	**60.46**	**168**	P	**P**	**06 14 26.7**	**-1.3**
ARU	**Arti**	**61.27**	**321**	P	**P**	**06 14 32.9**	**-0.1**
ABKAR	**Akbulak array**	**61.89**	**313**	P	**P**	**06 14 36.0**	**-1.2**
ABKAR				IAmb	IAmb	06 14 37.8	
	comp=Z,4.4nm,0.9s						
ABKAR	**Akbulak array**	**61.89**	**313**	P	**P**	**06 14 36.0**	**-1.2**
INK	**Inuvik**	**62.06**	**25**	P	**P**	**06 14 39.2**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=307,slow=7.1,SNR=7.5						
INK	**Inuvik**	**62.06**	**25**	P	**P**	**06 14 38.7**	**+0.7**
AKTO	**Aktyubinsk**	**62.83**	**315**	P	**P**	**06 14 43.6**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=83,slow=14,SNR=8.7						
KBZ	**Khabaz**	**74.81**	**312**	P	**P**	**06 15 57.3**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=47,slow=5.2,SNR=5.8						
FINES	**FINESS Array B**	**74.96**	**333**	P	**P**	**06 15 57.2**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=62,slow=5.8,SNR=25						
AKASG	**Malin Array Be**	**79.47**	**323**	P	**P**	**06 16 21.9**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=50,slow=5.5,SNR=14						
AKASG	**Malin Array Be**	**79.47**	**323**	IAmb	IAmb	06 16 22.6	
	comp=Z,1.1nm,0.7s						
NB2	**NORSAR Subarra**	**80.72**	**337**	P	**P**	**06 16 28.0**	**-0.2**
	comp=Z,4.5nm,0.6s,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**80.72**	**337**	P	**P**	**06 16 28.4**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=46,slow=5.0,SNR=17						
NVAR	**Mina Array Bea**	**81.02**	**51**	P	**P**	**06 16 32.7**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=278,slow=6.2,SNR=4.3						
BRTR	**Keskin Array B**	**82.80**	**312**	P	**P**	**06 16 40.4**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=141,slow=2.4,SNR=5.2						
PDAR	**Pinedale Array**	**84.32**	**44**	P	**P**	**06 16 48.9**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=346,slow=2.2,SNR=2.1						
GERES	**GERESS Array B**	**88.43**	**328**	P	**P**	**06 17 06.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=40,slow=5.2,SNR=3.3						
TXAR	**Lajitas Array**	**96.16**	**52**	P	**P**	**06 17 45.9**	**+3.4**
	comp=Z,0.1nm,0.5s,baz=310,slow=4.2,SNR=1.6						
TORD	**Torodi Ar. Bea**	**121.38**	**310**	PKP	**PKiKP**	**06 23 06.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=35,slow=1.7,SNR=2.2						
LPAZ	**La Paz**	**151.52**	**69**	PKPbc	**PKiKP**	**06 24 09.2**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=263,slow=3.1,SNR=10						

*NEIC **24** 06:19:18.4±1.0, 21°.78N±0°.08×143°.61E±0°.09, h203km±6km, mb4.5/67, Error ellipse: s-maj=16.0km s-min=4.6km az=48.0*

*IDC **24** 06:19:20.4±0.7, 21°.83N×143°.62E, h219km±6km, mb3.9/21, mb1 4.0/24, mb1mx3.9/43, mbtmp4.4/24, Error ellipse: s-maj=10.8km s-min=9.0km az=80.0*

ISC 24 06:19:18.4±0.5, 21°.82N±0°.07×143°.66E±0°.08, h200km, n129, σ0°.83/125, mb4.4/54, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.42**	**346**	P	**Pn**	**06 20 38.6**	**+0.5**
	30nm,0.3s,baz=279,slow=13,SNR=24						
JCJ				S	**Sn**	**06 21 37.6**	**-3.6**
	5.9nm,0.3s,baz=287,slow=19,SNR=1.3						
JMN	**Monobe**	**14.67**	**326**	P	**P**	**06 22 38.7**	**+1.0**
JGF	**Kuroka**	**14.80**	**339**		**Pn**	**06 22 38.5**	**+0.4**
JWT	**Wachi**	**15.24**	**333**		**P**	**06 22 45.1**	**+1.3**
MJAR	**Matsushiro Arr**	**15.42**	**343**	P	**Pn**	**06 22 46.0**	**+0.4**
	0.3nm,0.3s,baz=172,slow=8.0,SNR=11						
MJAR	**Matsushiro Arr**	**15.42**	**343**		**Pn**	**06 22 45.9**	**+0.3**
MAJO	**Matsushiro**	**15.42**	**343**	P	**P**	**06 22 47.3**	**+1.4**
MAJO				IAmb	IAmb	06 22 47.8	
	comp=Z,8.3nm,0.5s						
MAT	**Matsushiro**	**15.42**	**343**	P	**Pn**	**06 22 46.5**	**+0.9**
MAT				S	**S**	**06 25 37.4**	**+0.6**
JNU	**Nakatsue**	**15.97**	**318**	P	**Pn**	**06 22 53.9**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=93,slow=11,SNR=11						
JNU	**Nakatsue**	**15.97**	**318**	P	**Pn**	**06 22 53.9**	**+1.6**
JHS	**Saijyo**	**16.06**	**327**	P	**Pn**	**06 22 54.2**	**+0.8**
JMM	**Marumori**	**16.18**	**352**	P	**P**	**06 22 54.6**	**+0.5**
JSD	**Sado**	**16.82**	**345**	P	**P**	**06 23 01.9**	**+0.7**
JSD				IAmb	IAmb	06 23 03.2	
	comp=Z,19nm,0.7s						
JTU	**Tsushima**	**17.82**	**318**	P	**P**	**06 23 13.0**	**+0.9**
KSRS	**Korea Array**	**20.69**	**322**	P	**P**	**06 23 43.7**	**+0.7**
	comp=Z,24nm,0.8s,baz=146,slow=8.8,SNR=53						
KSRS				S	**S**	**06 27 23.0**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=156,slow=17,SNR=2.5						
SSLB	**Suanglung**	**21.02**	**280**	P	**P**	**06 23 46.3**	**-0.5**
SSLB				IAmb	IAmb	06 23 48.7	
	comp=Z,14nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**21.86**	**95**	T	T	06 47 03.9	
	baz=283						
H11S1	**WAKE ISLAND Hy**	**21.87**	**95**	T	T	06 47 13.0	
	baz=283						
H11S2	**WAKE ISLAND Hy**	**21.88**	**95**	T	T	06 47 03.3	
	baz=283						
TGY	**Tagaytay City**	**22.92**	**254**	P	**P**	**06 24 05.2**	**0.0**
	comp=Z,81nm,0.3s,baz=100,slow=2.7,SNR=6.0						
NJ2	**Nanjing**	**24.30**	**300**	*eP*	**P**	**06 24 18.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**24.32**	**339**	P	**P**	**06 24 17.8**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=155,slow=8.3,SNR=9.5						
DL2	**Dalian**	**25.42**	**317**	P	**P**	**06 24 29.0**	**+1.4**
DL2				pmax	pmax		
	comp=Z,59nm,0.7s						
HHC	**Hu-ho-hao-te**	**33.08**	**312**	*eP*	**P**	**06 25 36.4**	**+1.1**
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,97nm,6.6s						
SONM	**Songino Array**	**39.53**	**320**	P	**P**	**06 26 29.9**	**0.0**
	comp=Z,3.0nm,0.6s,baz=130,slow=9.0,SNR=18						
SONM	**Songino Array**	**39.53**	**320**	P	**P**	**06 26 29.9**	**0.0**
GTA	**Gaotai**	**41.16**	**305**	⇓P	**P**	**06 26 43.6**	**+0.2**
GTA				pP	pP	06 27 26.3	+1.2
GTA				sP	sP	06 27 49.3	+1.9
GTA				PcP	**PcP**	**06 28 39.4**	**+0.7**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**42.01**	**274**	P	**P**	**06 26 50.6**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=31,slow=8.5,SNR=8.3						
WB0	**Warramunga Arr**	**42.32**	**193**	P	**P**	**06 26 52.0**	**-0.7**
WR0	**Warramunga Arr**	**42.47**	**193**	P	**P**	**06 26 52.2**	**-1.8**
WRAB	**Tennant Creek**	**42.49**	**193**	P	**P**	**06 26 52.8**	**-1.3**
WB2	**Warramunga Arr**	**42.49**	**193**	P	**P**	**06 26 53.1**	**-1.0**
WRA	**Warramunga Arr**	**42.50**	**193**	P	**P**	**06 26 53.7**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=16,slow=8.9,SNR=24						
WRA				pP	**pwP**	**06 27 41.4**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=12,slow=8.7,SNR=3.0						
WRA	**Warramunga Arr**	**42.50**	**193**	P	**P**	**06 26 52.4**	**-1.7**
ADK	**Adak**	**42.82**	**36**	P	**P**	**06 26 56.6**	**+0.2**
ADK				IAmb	IAmb	06 26 58.0	
	comp=Z,23nm,1.0s						
FITZ	**Fitzroy Crossi**	**43.42**	**205**	P	**P**	**06 27 00.8**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=0.1,slow=9.7,SNR=6.1						
FITZ	**Fitzroy Crossi**	**43.42**	**205**	P	**P**	**06 27 00.3**	**-1.3**
FITZ				IAmb	IAmb	06 27 16.0	
	comp=Z,15nm,1.4s						
ATKA	**Atka Island**	**44.33**	**36**	P	**P**	**06 27 08.9**	**+0.5**
ASAR	**Alice Springs**	**46.20**	**192**	P	**P**	**06 27 23.2**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=10,slow=7.7,SNR=7.0						
ASAR				pP	**pwP**	**06 28 12.4**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=16,slow=8.4,SNR=2.1						
ASAR	**Alice Springs**	**46.20**	**192**	P	**P**	**06 27 22.6**	**-0.8**
NIKH	**Nikolski High**	**47.62**	**37**	P	**P**	**06 27 34.1**	**+0.1**
NIKH				IAmb	IAmb	06 27 34.8	
	comp=Z,17nm,0.7s						
UNV	**Unalaska Valle**	**49.24**	**37**	P	**P**	**06 27 46.5**	**+0.1**
UNV				IAmb	IAmb	06 28 04.0	
	comp=Z,22nm,1.3s						
AKUT	**Akutan**	**49.75**	**37**	P	**P**	**06 27 48.5**	**-1.7**
TAPN	**Taplejung**	**50.83**	**288**	*eP*	**P**	**06 27 58.5**	**-0.7**
	comp=Z,32nm,0.8s						
WMQ	**Urumqi**	**50.85**	**309**	*eP*	**P**	**06 28 00.0**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,12nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,41nm,3.9s						
ODAN	**Odare**	**51.17**	**288**	*eP*	**P**	**06 28 01.2**	**-0.5**
	comp=Z,47nm,1.0s						
RAMN	**Ramite**	**51.86**	**288**	*eP*	**P**	**06 28 06.1**	**-0.7**
	comp=Z,20nm,0.8s						
JIRN	**Jiri**	**52.13**	**289**	*eP*	**P**	**06 28 08.8**	**-0.2**
	comp=Z,66nm,0.7s						
GUN	**Gumba**	**52.38**	**289**	*eP*	**P**	**06 28 10.4**	**-0.3**
PKI	**Pulchoki**	**52.83**	**289**	*eP*	**P**	**06 28 13.1**	**-0.9**
PKIN	**Phulchoki**	**52.84**	**289**	*eP*	**P**	**06 28 13.0**	**-1.0**
GKN	**Gorkha**	**53.45**	**289**	*eP*	**P**	**06 28 17.9**	**-0.5**
DANN	**Dangsing**	**54.18**	**290**	*eP*	**P**	**06 28 23.7**	**-0.1**
ZAA0	**Zalesovo Array**	**54.39**	**322**	P	**P**	**06 28 23.2**	**-1.3**
ZAA0				IAmb	IAmb	06 28 24.7	
	comp=Z,12nm,1.2s						
ZALV	**Zalesovo Beam**	**54.39**	**322**	P	**P**	**06 28 23.9**	**-0.5**
	comp=Z,3.7nm,0.5s,baz=101,slow=7.7,SNR=16						
ZALV	**Zalesovo Beam**	**54.39**	**322**	P	**P**	**06 28 23.7**	**-0.8**
KOLN	**Koldanda**	**54.40**	**289**	*eP*	**P**	**06 28 24.7**	**-0.5**
CHGN	**Chignik**	**54.42**	**36**	P	**P**	**06 28 24.4**	**-0.2**
PYUN	**Piuthan**	**54.88**	**290**	*eP*	**P**	**06 28 28.1**	**-0.7**
MK31	**Makanchi Array**	**54.94**	**313**	P	**P**	**06 28 28.8**	**+0.2**
MK31				IAmb	IAmb	06 28 29.4	
	comp=Z,8.4nm,0.8s						
MKAR	**Makanchi Array**	**54.94**	**313**	P	**P**	**06 28 28.5**	**-0.2**
	comp=Z,8.5nm,0.6s,baz=92,slow=9.0,SNR=68						
MKAR				PcP	**PcP**	**06 29 27.4**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=97,slow=4.3,SNR=4.9						
MKAR	**Makanchi Array**	**54.94**	**313**	P	**P**	**06 28 28.3**	**-0.3**
MAKZ	**Makanchi**	**55.16**	**313**	P	**P**	**06 28 29.9**	**-0.3**
MAKZ				IAmb	IAmb	06 28 31.1	
	comp=Z,15nm,0.8s						
SVW2	**Sparrevohn**	**57.07**	**30**	P	**P**	**06 28 44.9**	**+1.4**
SVW2				IAmb	IAmb	06 28 45.4	
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**57.69**	**317**	P	**P**	**06 28 47.4**	**-0.5**
KDAK	**Kodiak Island**	**57.85**	**35**	P	**P**	**06 28 49.2**	**+0.3**
	comp=Z,5.5nm,0.6s,baz=260,slow=4.9,SNR=7.0						
KDAK	**Kodiak Island**	**57.85**	**35**	IAmb	IAmb	06 28 49.9	
	comp=Z,6.1nm,0.7s						
NRIK	**Noril'sk**	**58.03**	**340**	P	**P**	**06 28 49.6**	**-0.4**
	comp=Z,5.6nm,0.6s,baz=110,slow=8.7,SNR=8.9						
KDJ	**Kajisay**	**58.48**	**307**	P	**P**	**06 28 52.4**	**-1.4**
KDJ				IAmb	IAmb	06 28 55.3	
	comp=Z,12nm,1.1s						
ULHL	**Ulahol**	**59.17**	**307**	P	**P**	**06 28 59.4**	**+0.8**
	SNR=6.6						
IMAR	**Indian Mountai**	**59.18**	**25**	P	**P**	**06 28 56.4**	**-1.6**
TKM2	**Tokmak 2**	**59.62**	**308**	P	**P**	**06 29 02.1**	**+0.4**
	SNR=15						
KTH	**Kantishna Hill**	**59.76**	**28**	IAmb	IAmb	06 29 03.5	
	comp=Z,9.9nm,1.2s						
BPAW	**Bear Paw Mtn.**	**59.85**	**27**	P	**P**	**06 29 03.4**	**+0.8**
BPAW				IAmb	IAmb	06 29 04.1	
	comp=Z,5.8nm,0.6s						
KBK	**Karagaybulak**	**60.11**	**308**	P	**P**	**06 29 05.5**	**+0.5**
	SNR=5.1						
PMR	**Palmer**	**60.22**	**31**	P	**P**	**06 29 04.9**	**-0.1**
GHO	**Glory Hole Cre**	**60.34**	**30**	IAmb	IAmb	06 29 06.7	
	comp=Z,5.4nm,0.6s						
UCH	**Uchtor**	**60.46**	**307**	P	**P**	**06 29 08.6**	**+1.0**
	SNR=14						
KNK	**Knik Glacier**	**60.51**	**31**	IAmb	IAmb	06 29 08.1	
	comp=Z,6.5nm,0.7s						
SML	**Sawmill**	**60.63**	**30**	IAmb	IAmb	06 29 08.9	
	comp=Z,12nm,0.8s						
COLD	**Coldfoot**	**60.87**	**24**	P	**P**	**06 29 10.3**	**+0.9**
EKS2	**Erkin-Say**	**60.97**	**308**	P	**P**	**06 29 10.6**	**-0.1**
	SNR=5.6						
GLI	**Glacier Island**	**61.09**	**32**	IAmb	IAmb	06 29 12.0	
	comp=Z,6.8nm,0.7s						
SCM	**Sheep Creek Mo**	**61.10**	**30**	IAmb	IAmb	06 29 12.5	
	comp=Z,13nm,0.8s						
MDM	**Murphy Dome**	**61.19**	**27**	P	**P**	**06 29 12.3**	**+0.7**
DHY	**Denali Highway**	**61.26**	**29**	P	**P**	**06 29 12.4**	**+0.1**
FID	**Port Fidalgo**	**61.38**	**32**	P	**P**	**06 29 13.0**	**+0.1**
FID				IAmb	IAmb	06 29 13.5	
	comp=Z,9.1nm,0.9s						
TOLK	**Toolik Lake Re**	**61.43**	**23**		**P**	**06 29 14.5**	**+1.3**
TOLK				IAmb	IAmb	06 29 14.9	
	comp=Z,5.5nm,0.8s						
HDA	**Harding Lake**	**61.64**	**28**	P	**P**	**06 29 14.3**	**-0.4**
IL31		**61.73**	**27**	P	**P**	**06 29 14.5**	**-0.6**
ILAR	**Eielson Array**	**61.73**	**27**	P	**P**	**06 29 14.5**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=260,slow=5.5,SNR=43						
ILAR				pP	**pwP**	**06 30 04.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=261,slow=5.8,SNR=3.1						
ILAR	**Eielson Array**	**61.73**	**27**	P	**P**	**06 29 14.3**	**-0.9**
KLU	**Klutina**	**61.73**	**31**	IAmb	IAmb	06 29 16.7	
	comp=Z,5.2nm,0.7s						
DOT	**Dot Lake**	**62.81**	**29**	P	**P**	**06 29 22.7**	**+0.3**
DOT				IAmb	IAmb	06 29 23.4	
	comp=Z,5.2nm,1.0s						
BRVK	**Borovoye**	**62.93**	**319**	P	**P**	**06 29 23.2**	**-0.1**
KK31	**Karatay Array**	**63.33**	**308**	P	**P**	**06 29 26.2**	**0.0**
KKAR	**Karatay Array**	**63.33**	**308**	P	**P**	**06 29 26.1**	**-0.1**
KKAR	**Karatay Array**	**63.33**	**308**	IAmb	IAmb	06 29 27.1	
	comp=Z,16nm,0.8s						
BALM	**Baldy**	**63.41**	**32**		**P**	**06 29 26.9**	**+0.4**
BALM				IAmb	IAmb	06 29 27.7	
	comp=Z,4.0nm,0.8s						
BCAR	**Beaver Creek A**	**63.78**	**29**	P	**P**	**06 29 29.1**	**+0.2**
EGAK	**Eagle**	**64.17**	**27**		**P**	**06 29 31.4**	**+0.2**
INK	**Inuvik**	**67.28**	**24**	P	**P**	**06 29 50.9**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=298,slow=3.6,SNR=7.7						
INK	**Inuvik**	**67.28**	**24**	IAmb	IAmb	06 29 52.1	
	comp=Z,5.8nm,0.9s						
ABKAR	**Akbulak array**	**69.77**	**316**	P	**P**	**06 30 06.0**	**-0.9**
ABKAR	**Akbulak array**	**69.77**	**316**	IAmb	IAmb	06 30 07.0	
	comp=Z,11nm,0.8s						
GEYT	**Alibeck**	**73.54**	**305**	P	**P**	**06 30 29.9**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=83,slow=3.7,SNR=9.8						
YKA	**Yellowknife Ar**	**76.14**	**28**	P	**P**	**06 30 44.0**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=295,slow=5.6,SNR=16						
LTY	**Liberty**	**77.99**	**44**	P	**P**	**06 30 55.1**	**+0.4**
YBH	**Yreka Blue Hor**	**78.40**	**50**	P	**P**	**06 30 58.4**	**+1.3**
YBH				IAmb	IAmb	06 30 59.7	
	comp=Z,9.6nm,1.2s						
PINE	**Pine Mountain**	**78.95**	**47**	P	**P**	**06 30 60.0**	**-0.2**
NEW	**Newport**	**79.89**	**42**	P	**P**	**06 31 04.9**	**0.0**
NEW				IAmb	IAmb	06 31 06.5	
	comp=Z,8.0nm,0.8s						
BMO	**Blue Mountains**	**81.02**	**45**	P	**P**	**06 31 11.0**	**-0.2**
JTMT	**Jette**	**81.85**	**42**	P	**P**	**06 31 15.5**	**+0.1**
JTMT				IAmb	IAmb	06 31 16.9	
	comp=Z,5.9nm,0.9s						
RYN	**Ryan**	**82.48**	**52**	P	**P**	**06 31 18.7**	**-0.3**
MFID	**Camas Ranch**	**82.55**	**46**	P	**P**	**06 31 19.4**	**+0.3**
MFID				IAmb	IAmb	06 31 20.8	
	comp=Z,5.3nm,0.8s						
KBZ	**Khabaz**	**82.60**	**314**	P	**P**	**06 31 19.4**	**+0.1**
	comp=Z,11nm,0.8s,baz=87,slow=5.2,SNR=12						
KVN	**Kaiserville**	**82.63**	**51**	P	**P**	**06 31 19.5**	**-0.3**
KVN				IAmb	IAmb	06 31 21.5	
	comp=Z,8.4nm,1.2s						
NVAR	**Mina Array Bea**	**82.72**	**52**	P	**P**	**06 31 21.1**	**+0.8**
	comp=Z,4.6nm,0.7s,baz=273,slow=5.6,SNR=37						
NVAR				pP	**pwP**	**06 32 13.1**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=278,slow=5.1,SNR=3.5						
FINES	**FINESS Array B**	**83.26**	**335**	P

MNBS	**Baschi**	0.84	346	*e*P		Pg		06 26 47.4	0.0
	1.1nm,0.1s								
MNBS				*e*S		Sg		06 26 58.6	+0.3
	15nm,0.4s								
ANVS	**Anan'yevo**	0.89	237	⇑*i*P		Pb		06 26 48.7	-0.6
	baz=39								
ANVS				⇑*i*S		Sb		06 27 01.1	-0.4
	baz=39								
ARXS	**Arharly**	1.13	327	*e*P		Pb		06 26 52.4	-1.1
	2.4nm,0.3s								
ARXS				*e*S		Sb		06 27 07.2	-1.3
	4.5nm,0.2s								
MDOK	**Medeo**	1.20	266	*e*P		Pb		06 26 54.2	-0.4
	baz=66								
MDOK				*e*S		Sn		06 27 10.4	-1.3
	baz=66								
MDOK	**Medeo**	1.20	266	*e*P		Pb		06 26 54.2	-0.4
	1.4nm,0.3s								
MDOK				*e*S		Sn		06 27 10.4	-1.3
	4.0nm,0.4s								
MDOK	**Medeo**	1.20	266	Pg		Pb		06 26 54.2	-0.4
	1.4nm,0.3s								
MDOK				Lg		Lg		06 27 10.4	
	4.0nm,0.4s								
TNSS	**Tian-Shan**	1.29	260	*e*P		Pb		06 26 55.8	-0.5
	baz=61								
TNSS				*e*S		Sg		06 27 13.2	+0.5
	baz=61								
TNSS	**Tian-Shan**	1.29	260	*e*P		Pb		06 26 55.8	-0.5
	2.0nm,0.2s								
TNSS				*e*S		Sg		06 27 13.2	+0.5
	3.5nm,0.2s								
DJR	**Jarkent**	1.33	37	*e*P		Pb		06 26 56.1	-0.8
	3.6nm,0.2s								
DJR				*e*S		Sg		06 27 13.7	-0.4
	14nm,0.2s								
KTBS	**Karatobe**	1.52	288	*e*P		Pb		06 26 59.8	-0.2
	4.0nm,0.2s								
KTBS				*e*S		Sb		06 27 19.8	+0.1
	10nm,0.3s								
KDJ	**Kajisay**	1.58	225	⇑*i*P		Pb		06 27 00.2	-1.0
	baz=25								
KDJ				⇑*i*S		Sb		06 27 21.5	-0.2
	baz=25								
TARG	**Taragay, Kyrgy**	1.67	203	⇓*i*P		Pb		06 27 01.3	-1.4
	baz=4.0								
TARG				⇓*i*S		Sg		06 27 24.0	-0.8
	baz=4.0								
KST	**Kastek**	2.00	265	*e*P		Pb		06 27 08.6	+0.4
	2.0nm,0.1s								
KST				*e*S		Sg		06 27 35.1	-0.4
	3.1nm,0.3s								
ULHL	**Ulahol**	2.06	241	⇑*i*P		Pb		06 27 09.2	-0.2
	baz=42								
ULHL				⇑*i*S		Sg		06 27 37.0	-0.6
	baz=42								
KAPS	**Kapalarasan**	2.08	13	*e*P		Pb		06 27 09.4	-0.1
	0.6nm,0.1s								
KAPS				*e*S		Sg		06 27 36.4	-1.6
	7.7nm,0.3s								
BOOM	**Boomskoye usch**	2.16	250	⇑*i*P		Pb		06 27 10.7	-0.3
	baz=51								
BOOM				⇑*i*S		Sg		06 27 39.6	-1.0
	baz=51								
TKM2	**Tokmak 2**	2.28	262	⇑*i*P		Pb		06 27 12.8	-0.4
	baz=63								
TKM2				⇑*i*S		Sg		06 27 43.6	-1.0
	baz=63								

IDC ***24*** *06:34:35.4±0.5, 34°.41S×73°.52W, h0km, mb4.9/15, mb1 4.9/18, mb1mx4.9/23, mbtmp4.8/18, ML4.6/3, MS3.9/7, Ms1 3.9/7, ms1mx3.6/17, Error ellipse: s-maj=21.2km s-min=13.0km az=83.0*

NEIC ***24*** *06:34:36.5±1.4, 34°.40S±0°.04×73°.51W±0°.07, h10km±1km, mb5.1/241, Mwr4.6/34, Mww5.0, ML4.7(GUC), Error ellipse: s-maj=9.8km s-min=5.4km az=248.0*

UNK ***24*** *06:34:36.6, 34°.39S×73°.50W, h10km*

NEIC ***24*** *06:34:36.6, 34°.39S×73°.51W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=7.89; $M_{\theta\theta}$0.63; $M_{\phi\phi}$7.26; $M_{r\theta}$1.12; $M_{r\phi}$1.48; $M_{\theta\phi}$3.52; Fault plane solution: $M_0$8.58000×10^{15} NP1:ϕ_s194.41000°, δ57.75000°, λ-87.55000°. NP2:ϕ_s9.83000°, δ32.33000°, λ-93.87000°. Principal axes: T 8.4100, Plg13.0000°, Azm283.0000°; N 0.3274, Plg2.0000°, Azm13.0000°; P -8.7373, Plg77.0000°, Azm112.0000°;*

MOS ***24*** *06:34:37.2±1.1, 34°.39S×73°.38W, h21km, mb5.2/24 Error ellipse: s-maj=13.7km s-min=6.8km az=88.1*

GUC ***24*** *06:34:38.8±0.6, 34°.26S×73°.28W, h20km±6km, ML4.8*

BJI ***24*** *06:34:38.5±0.0, 34°.40S×73°.50W, h20km, mB5.4/3, Ms5.3/4, Ms7 5.0/3*

GCMT ***24*** *06:34:38.5±0.3, 34°.36S±0°.03×73°.76W±0°.02, h20km, MW4.9/95, Moment Tensor Solution. s32,c35; s95,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.28±.17; $M_{\theta\theta}$0.19±.09; $M_{\phi\phi}$3.09±.12; $M_{r\theta}$0.39±.17; $M_{\theta\phi}$0.22±.06; $M_{r\phi}$0.69±.18; Best double couple: $M_0$3.28800×10^{16} NP1:ϕ_s359.00000°, δ39.00000°, λ-99.00000°. NP2: ϕ_s190.00000°, δ52.00000°, λ-83.00000°. Principal axes: T 3.1860, Plg6.0000°, Azm275.0000°; N 0.2020, Plg5.0000°, Azm6.0000°; P -3.3910, Plg82.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***24*** *06:34:39, 34°.39S×73°.38W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.18; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$2.21; $M_{r\theta}$-0.08; $M_{\theta\phi}$0.23; $M_{\phi r}$-2.97; Fault plane solution: $M_0$3.70000×10^{16} NP1:ϕ_s190.00000°, δ18.00000°, λ-83.00000°. NP2:ϕ_s2.00000°, δ72.00000°, λ-92.00000°. Principal axes: T 3.7256, Plg27.0000°, Azm94.0000°; N -0.0545, Plg2.0000°, Azm3.0000°; P -3.6711, Plg63.0000°, Azm269.0000°;*

VAO ***24*** *06:34:39.3±0.3, 34°.38S×73°.38W, h21km±1km, mb5.0*

ISC 24 06:34:38.3±0.5, 34°.37S±0°.03×73°.49W±0°.05, h19km±1km, h19km:pP-P, n635, σ1§12/600, mb5.1/129, MS4.2/9, 7C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
GO05	**Huala**	**1.43**	**117**	*i* P	**Pn**	**06 35 02.2**	**-1.1**
GO05				*e*P	**Pn**	**06 35 02.2**	**-1.1**
GO05				*i* S	**Sn**	**06 35 19.9**	**-1.6**
GO05				IAML		06 35 20.7	
	comp=E,33μm,0.3s						
GO05	**Huala**	**1.43**	**117**		**Pn**	**06 35 02.4**	**-0.9**
VA01	**Torpederas**	**2.04**	**49**	⇑*i*P	**Pn**	**06 35 10.1**	**-1.5**
VA01				*i* S	**Sn**	**06 35 34.1**	**-2.4**
VA01	**Torpederas**	**2.04**	**49**	Pn	**Pn**	**06 35 10.0**	**-1.5**
MT02	**Curacav**	**2.25**	**61**	*e*P	**Pn**	**06 35 13.2**	**-1.3**
MT02				*i* S	**Sn**	**06 35 40.0**	**-1.8**
MT02	**Curacav**	**2.25**	**61**	Pn	**Pn**	**06 35 13.3**	**-1.2**
BO02	**Sierra Bellavi**	**2.27**	**101**	⇓*i*P	**Pn**	**06 35 15.2**	**+0.4**
BO02				*i* S	**Sn**	**06 35 42.4**	**+0.1**
BO02	**Sierra Bellavi**	**2.27**	**101**		**Pn**	**06 35 14.9**	**0.0**
MT05	**Renca**	**2.49**	**68**		**Pn**	**06 35 17.1**	**-0.8**
ROC1	**El Roble**	**2.49**	**57**		**Pn**	**06 35 17.3**	**-0.7**
BI03	**Tigo**	**2.49**	**171**	⇓*i*P	**Pn**	**06 35 15.4**	**-2.4**
BI03				*i* S	**Sn**	**06 35 41.9**	**-5.8**
BI03	**Tigo**	**2.49**	**171**	Pn	**Pn**	**06 35 15.4**	**-2.4**
ROCH	**El Roble**	**2.49**	**57**	⇓*i*P	**Pn**	**06 35 17.3**	**-0.7**
ROCH				*i* S	**Sn**	**06 35 47.0**	**-1.0**
ROCH				IAML		06 35 50.4	
	comp=E,5μm,0.4s						
FSR	**Penalolen**	**2.62**	**71**	*e*P	**Pn**	**06 35 20.3**	**+0.7**
FSR				*i* S	**Sn**	**06 35 50.5**	**-0.3**
MT03	**Universidad Ad**	**2.62**	**71**	⇑*i*P	**Pn**	**06 35 19.2**	**-0.6**
MT03				*i* S	**Sn**	**06 35 50.4**	**-0.8**
MT03				IAML		06 35 55.5	
	comp=N,9μm,0.5s						
PEL	**Peldehue**	**2.64**	**63**	IAML		06 35 55.0	
	comp=E,5μm,0.3s						
PEL	**Peldehue**	**2.64**	**63**	P	**Pn**	**06 35 19.6**	**-0.2**
PEL	**Peldehue**	**2.64**	**63**	Pn	**Pn**	**06 35 19.6**	**-0.2**
CLCH	**Cerro Calan**	**2.64**	**69**	⇑*i*P	**Pn**	**06 35 19.7**	**-0.3**
CLCH				*i* S	**Sn**	**06 35 49.8**	**-1.7**
CLCH				IAML		06 36 02.7	
	comp=E,7μm,0.6s						
LMEL	**Las Melosas**	**2.77**	**80**	IAML		06 35 56.9	
	comp=N,9μm,0.3s						
BI02	**San Fabin de**	**2.91**	**142**	IAML		06 36 06.5	
	comp=N,2μm,0.5s						
BI02	**San Fabin de**	**2.91**	**142**	Pn	**Pn**	**06 35 23.1**	**-0.6**
VA03	**San Esteban**	**2.93**	**58**	⇑*i*P	**Pn**	**06 35 23.5**	**-0.4**
VA03				*i* S	**Sn**	**06 35 57.7**	**-0.9**
VA03				IAML		06 36 01.0	
	comp=N,5μm,0.4s						
VA03	**San Esteban**	**2.93**	**58**		**Pn**	**06 35 23.5**	**-0.4**
CO02	**Combarbal**	**3.79**	**34**	*i* P	**Pn**	**06 35 34.2**	**-1.6**
CO02				*i* S	**Sn**	**06 36 17.7**	**-2.2**
CO02	**Combarbal**	**3.79**	**34**	Pn	**Pn**	**06 35 34.8**	**-1.0**
CO03	**El Pedregal**	**4.24**	**35**	⇑*i*P	**Pn**	**06 35 41.5**	**-0.4**
CO03				*i* S	**Sn**	**06 36 29.7**	**-1.3**
CO03	**El Pedregal**	**4.24**	**35**		**Pn**	**06 35 41.6**	**-0.4**
VA04	**Juan Fernndez**	**4.50**	**278**	Pn	**Pn**	**06 35 42.5**	**-2.9**
H03N1	**Juan Fernandez**	**4.61**	**280**	T	T	06 40 24.2	
	baz=100						
H03N3	**Juan Fernandez**	**4.61**	**280**	T	T	06 40 25.4	
	baz=100						
H03N2	**Juan Fernandez**	**4.62**	**280**	T	T	06 40 24.8	
	baz=100						
LC01	**Cunco**	**4.70**	**164**	Pn	**Pn**	**06 35 46.8**	**-1.3**
GO04	**Tololo Observa**	**4.77**	**29**	Pn	**Pn**	**06 35 47.6**	**-1.7**
ZON	**Zonda**	**4.93**	**56**	P	**Pn**	**06 35 52.9**	**+1.5**
ZON	**Zonda**	**4.93**	**56**		**Pn**	**06 35 52.9**	**+1.5**
CO01	**Juntas del Tor**	**5.24**	**34**		**Pn**	**06 35 55.5**	**-0.3**
LCO	**Las Campanas**	**5.85**	**25**	*e*P	**Pn**	**06 36 02.4**	**-1.8**
LCO	**Las Campanas**	**5.85**	**25**		**Pn**	**06 36 02.4**	**-1.8**
AC05	**El Transito**	**6.16**	**27**	Pn	**Pn**	**06 36 07.3**	**-1.1**
AC04	**Llanos de Chal**	**6.49**	**19**		**Pn**	**06 36 10.1**	**-2.7**
PLCA	**Paso Flores**	**6.76**	**161**	Pn	**Pn**	**06 36 16.5**	**0.0**
	comp=N,4.3nm,0.3s,baz=325,slow=11,SNR=150						
PLCA				Sn	**Sn**	**06 37 36.2**	**+3.2**
	baz=298,slow=20,SNR=2.8						
PLCA				LR	LR	06 38 48.1	
	comp=N,542nm,19.2s,baz=353,slow=38						
PLCA	**Paso Flores**	**6.76**	**161**	*e*P	**Pn**	**06 36 15.0**	**-1.5**
PLCA	**Paso Flores**	**6.76**	**161**		**Pn**	**06 36 16.0**	**-0.6**
PLCA	**Paso Flores**	**6.76**	**161**	*e*P	**Pn**	**06 36 16.2**	**-0.3**
LL01	**San Ignacio de**	**8.04**	**174**		**Pn**	**06 36 31.3**	**-2.6**
AC01	**Pan de Azucar**	**8.57**	**18**	Pn	**Pn**	**06 36 38.3**	**-3.0**
GO02	**Mina Guanaco**	**9.78**	**21**		**Pn**	**06 36 56.5**	**-1.8**
PB14	**IPOC Station P**	**10.08**	**16**	Pn	**Pn**	**06 36 58.9**	**-3.4**
PB15	**IPOC Station P**	**11.67**	**19**		**Pn**	**06 37 22.8**	**-1.2**
LVC	**Limon Verde**	**12.39**	**20**	Pn	**Pn**	**06 37 34.5**	**+0.5**
	comp=N,1.0nm,0.3s,baz=147,slow=6.5,SNR=22						
LVC				Sn	**Sn**	**06 39 43.4**	**-8.3**
	comp=N,0.8nm,0.3s,baz=18,slow=20,SNR=1.9						
LVC				LR	LR	06 42 30.9	
	comp=N,244nm,19.4s,baz=212,slow=38						
LVC	**Limon Verde**	**12.39**	**20**		**Pn**	**06 37 31.5**	**-2.5**
LVC	**Limon Verde**	**12.39**	**20**	*e*P	**Pn**	**06 37 34.1**	**+0.1**
PB07	**IPOC Station P**	**12.99**	**15**	Pn	**Pn**	**06 37 41.7**	**-0.4**
PB09	**IPOC Station P**	**13.08**	**18**		**Pn**	**06 37 43.5**	**+0.2**
PB01	**IPOC Station P**	**13.74**	**16**		**Pn**	**06 37 51.5**	**-0.8**
PB11	**IPOC Station P**	**14.95**	**14**	Pn	**Pn**	**06 38 08.0**	**-0.7**
PSGCX	**Pisagua**	**15.02**	**12**	Pn	**Pn**	**06 38 09.0**	**-0.6**
GO01	**Chusmiza**	**15.13**	**16**		**Pn**	**06 38 10.7**	**-0.9**
MNMC	**Minye Minye**	**15.57**	**14**		**Pn**	**06 38 16.2**	**-0.9**
MNMC				IAmb	IAmb	06 38 24.5	
	comp=Z,82nm,0.8s						
PB16	**IPOC Station P**	**16.36**	**14**	P	**Pn**	**06 38 28.5**	**+0.9**
LPAZ	**La Paz**	**18.64**	**16**	P	**Pn**	**06 38 57.6**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=185,slow=7.8,SNR=27						
LPAZ				PcP	**PcP**	**06 43 24.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=270,slow=2.0,SNR=2.3						
ITAB	**Concordia**	**19.66**	**75**	*e*P	**P**	**06 39 06.6**	**+0.6**
CNLB	**Canela**	**19.86**	**82**	*e*P	**P**	**06 39 08.3**	**0.0**
EFI	**East Falkland**	**20.57**	**152**	*i* P	**P**	**06 39 14.9**	**-0.8**
EFI	**East Falkland**	**20.57**	**152**	P	**P**	**06 39 15.5**	**-0.3**
PTGB	**Pitanga**	**20.94**	**68**	*e*P	**P**	**06 39 20.6**	**+0.5**
PTGB				*e*S	**S**	**06 43 13.7**	**+1.0**
AQDB	**Aquidauana**	**20.95**	**53**	*e*P	**P**	**06 39 20.4**	**+0.3**
SIV	**San Ignacio**	**21.44**	**34**	P	**P**	**06 39 26.0**	**+0.6**
	comp=Z,61nm,0.8s,baz=228,slow=10,SNR=72						
TRCB	**Terra Rica**	**21.59**	**63**	*e*P	**P**	**06 39 27.2**	**+0.1**
TRCB				*e*S	**S**	**06 43 25.7**	**0.0**
NNA	**Nana**	**22.50**	**351**	P	**P**	**06 39 37.9**	**+1.1**
	comp=Z,28nm,0.8s,baz=180,slow=11,SNR=8.3						
PTLB	**Pontes e Lacer**	**22.85**	**38**	*e*P	**P**	**06 39 40.3**	**-0.2**
PTLB				*e*S	**S**	**06 43 49.4**	**+0.3**
TIJ01	**Guaruva-PR**	**23.02**	**74**	*e*P	**P**	**06 39 42.3**	**-0.1**
PCMB	**Pacaembu**	**23.32**	**63**	*e*P	**P**	**06 39 44.3**	**-1.1**
PCMB				*e*S	**S**	**06 43 57.3**	**+0.2**
FRTB	**Fartura**	**23.60**	**69**	*e*P	**P**	**06 39 47.9**	**-0.2**
VILB	**Vilhena**	**24.50**	**33**	*e*P	**P**	**06 39 56.6**	**+0.1**
PET01	**Itanhaem-SP**	**24.90**	**73**	*e*S	**S**	**06 44 22.8**	**+0.4**
SPB	**Sao Paulo**	**25.13**	**72**	*e*P	**P**	**06 40 02.2**	**+0.1**
ITRB	**Iturama**	**25.17**	**60**	*e*P	**P**	**06 40 03.0**	**+0.4**
ETMB	**Extrema**	**25.34**	**17**	*e*P	**P**	**06 40 05.2**	**+1.2**
BB19B	**Bebedouro**	**25.68**	**65**	*e*P	**P**	**06 40 07.3**	**+0.1**
VAO	**Valinhos**	**25.80**	**71**	*e*P	**P**	**06 40 09.4**	**+1.1**
CZSB	**Cruzeiro do Su**	**26.53**	**2**	*e*P	**P**	**06 40 15.4**	**+0.5**
PARB	**Paraibuna**	**26.68**	**73**	*e*S	**S**	**06 44 51.0**	**+0.1**
ARAG	**Araguaiana, MT**	**26.94**	**52**	*e*P	**P**	**06 40 20.5**	**+2.0**
ARAG				*e*S	**S**	**06 44 55.6**	**+0.9**
SAML	**Samuel**	**27.02**	**23**	P	**P**	**06 40 19.6**	**+0.4**
SAML				pmax	pmax		
	comp=Z,15nm,1.2s						
SAML	**Samuel**	**27.02**	**23**	P	**P**	**06 40 19.6**	**+0.4**
SAML	**Samuel**	**27.02**	**23**	*e*P	**P**	**06 40 19.7**	**+0.5**
IPMB	**Ipameri, GO**	**27.83**	**61**	*e*P	**P**	**06 40 26.2**	**-0.4**
CLDB	**Colider**	**28.43**	**39**	*e*P	**P**	**06 40 30.7**	**-1.2**
BDFB	**Brasilia**	**29.54**	**57**	P	**P**	**06 40 41.4**	**-0.5**
	comp=Z,5.0nm,0.6s,baz=224,slow=10,SNR=7.6						
BDFB				LR	LR	06 53 42.3	
	comp=Z,470nm,18.6s,baz=229,slow=39						
BDFB	**Brasilia**	**29.54**	**57**	P	**P**	**06 40 41.2**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BDFB	**Brasilia**	**29.54**	**57**	P	**P**	**06 40 41.2**	**-0.7**
MC01	**Montes Claros**	**31.77**	**64**	*e*P	**P**	**06 41 01.4**	**-0.2**
MC01				*e*pP	**sP**	**06 41 07.9**	**+0.3**
NPGB	**Novo Progresso**	**31.93**	**36**	*e*P	**P**	**06 41 02.3**	**-0.6**
JANB	**Januaria**	**32.56**	**61**	*e*P	**P**	**06 41 07.7**	**-0.8**
SJMB	**Sao Joao De Ma**	**32.67**	**70**	*e*P	**P**	**06 41 09.2**	**-0.2**
SJMB				*e*S	**S**	**06 46 23.6**	**-1.1**
BSFB	**Barra de Sao F**	**32.86**	**70**	*e*P	**P**	**06 41 11.0**	**0.0**
RIB01	**Linhares ES**	**32.94**	**71**	*e*P	**P**	**06 41 11.6**	**-0.2**
MACA	**Manacapuru-AM**	**33.27**	**24**	*e*P	**P**	**06 41 14.8**	**+0.3**
MACA				*e*pP	**sP**	**06 41 21.8**	**+1.2**
SDBA	**SAO DESIDERIO**	**33.95**	**57**	*e*P	**P**	**06 41 20.4**	**-0.2**
NAN01	**Guarapari, ES**	**33.98**	**70**	*e*P	**P**	**06 41 20.6**	**-0.3**
ITTB	**Itaituba**	**34.11**	**33**	*e*P	**P**	**06 41 21.4**	**-0.5**
ITTB				*e*pP	**sP**	**06 41 28.8**	**+0.9**
ITTB				*e*S	**S**	**06 46 48.2**	**+1.2**
PTLC	**Puerto Leguiza**	**34.39**	**358**	*e*P	**P**	**06 41 22.6**	**-1.7**
OTAV	**Otavalo**	**34.74**	**351**	*e*P	**P**	**06 41 29.4**	**+1.6**
OTAV	**Otavalo**	**34.74**	**351**	P	**P**	**06 41 28.0**	**+0.1**
OTAV				pmax	pmax		
	comp=Z,21nm,1.1s						
OTAV	**Otavalo**	**34.74**	**351**	P	**P**	**06 41 28.0**	**+0.1**
OTAV				IAmb	IAmb	06 41 31.1	
	comp=Z,21nm,1.1s						
OTAV	**Otavalo**	**34.74**	**351**	*e*P	**P**	**06 41 29.3**	**+1.4**
SMTB	**Santa Maria do**	**34.78**	**49**	*e*P	**P**	**06 41 27.6**	**-0.2**
PUAC	**Puerto Asis, P**	**34.86**	**355**	*e*P	**P**	**06 41 30.8**	**+2.4**
CMBC	**Cumbal**	**35.37**	**352**	*e*P	**P**	**06 41 36.1**	**+2.9**
PRPB	**Paraupebas**	**35.59**	**43**	*e*P	**P**	**06 41 34.1**	**-0.6**
PRPB				*e*pP	**sP**	**06 41 40.8**	**0.0**
GCUF	**Volcan Galeras**	**35.60**	**353**	*e*P	**P**	**06 41 37.6**	**+2.4**
PTGA	**Pitinga**	**35.78**	**24**	P	**P**	**06 41 36.3**	**0.0**
PTGA				IAmb	IAmb	06 41 37.4	
	comp=Z,54nm,1.3s						
FLOC	**Florencia**	**35.83**	**356**	*e*P	**P**	**06 41 37.9**	**+1.2**
MACC	**Macarena, Meta**	**36.33**	**359**	*e*P	**P**	**06 41 42.3**	**+1.3**
BBAC	**Balboa, Cauca**	**36.38**	**354**	*e*P	**P**	**06 41 41.6**	**0.0**
SOTA	**Rioblanco**	**36.43**	**355**	*e*P	**P**	**06 41 45.1**	**+2.6**
PCON	**Cinco Dias**	**36.61**	**355**	*e*P	**P**	**06 41 46.9**	**+2.9**
GDU01	**Guandu, BA**	**36.91**	**65**	*e*P	**P**	**06 41 45.7**	**-0.4**
MALB	**Monte Alegre**	**37.00**	**33**	*e*P	**P**	**06 41 46.5**	**-0.1**
PRAC	**Prado**	**37.91**	**358**	*e*P	**P**	**06 41 56.7**	**+2.3**
NBCP	**Cabaceiras do**	**37.93**	**64**	*e*P	**P**	**06 41 54.9**	**+0.3**
ANIL	**Santa Ana**	**38.70**	**357**	*e*P	**P**	**06 42 01.5**	**+0.1**
TOLC	**Tolima**	**38.79**	**357**	*e*P	**P**	**06 42 03.8**	**+1.6**
CHIC	**Chingaza**	**38.79**	**360**	*e*P	**P**	**06 42 03.8**	**+1.4**
ROSC	**El Rosal**	**39.01**	**359**	P	**P**	**06 42 06.7**	**+2.5**
	comp=Z,20nm,0.7s,baz=151,slow=4.9,SNR=16						
ROSC	**El Rosal**	**39.01**	**359**	P	**P**	**06 42 05.8**	**+1.7**
ROSC				IAmb	IAmb	06 42 08.8	
	comp=Z,21nm,0.8s						
MCPB	**Macapa, AP**	**39.34**	**35**	*e*P	**P**	**06 42 06.5**	**+0.1**
MCPB				*e*pP	**sP**	**06 42 12.5**	**0.0**
GUY2C	**Guyana, Caldas**	**39.42**	**357**	*e*P	**P**	**06 42 09.1**	**+1.4**
TMAB	**Tom-Au,PA,Br**	**39.67**	**42**	*e*P	**P**	**06 42 10.1**	**+0.8**
SPBC	**San Pablo de B**	**39.81**	**359**	*e*P	**P**	**06 42 10.6**	**+0.1**
RUSC	**La Rusia**	**40.05**	**1**	*e*P	**P**	**06 42 13.7**	**+0.8**
PTBC	**PUERTO BERRIO,**	**40.70**	**359**	*e*P	**P**	**06 42 17.2**	**-0.6**
ROSB	**Rosrio**	**41.57**	**48**	*e*P	**P**	**06 42 25.2**	**+0.3**
ZARC	**Zaragoza, Cauc**	**41.66**	**358**	*e*P	**P**	**06 42 25.9**	**+0.3**
SMLC	**San Martn de**	**42.94**	**359**	*e*P	**P**	**06 42 34.8**	**-1.3**
MOTC	**Monteria, Cord**	**42.97**	**357**	*e*P	**P**	**06 42 36.4**	**+0.2**
NBLI	**Livramento-PB**	**43.05**	**60**	*e*P	**P**	**06 42 37.4**	**+0.2**
SDV	**Santo Domingo**	**43.11**	**4**	P	**P**	**06 42 36.9**	**-0.7**
SDV	**Santo Domingo**	**43.11**	**4**	*e*P	**P**	**06 42 37.9**	**+0.3**
BCIP	**Isla Barro Col**	**43.72**	**351**	P	**P**	**06 42 41.9**	**-0.4**
BCIP				pmax	pmax		
	comp=Z,24nm,1.0s						
BCIP	**Isla Barro Col**	**43.72**	**351**	P	**P**	**06 42 41.9**	**-0.4**
BCIP				IAmb	IAmb	06 42 46.3	
	comp=Z,24nm,1.0s						
NBMO	**Morrinhos-CE**	**43.84**	**53**	*e*S	**S**	**06 49 13.3**	**-0.3**
RCBR	**Riachuelo**	**44.86**	**59**	*e*P	**P**	**06 42 52.2**	**+0.6**
RCBR				*e*pP	**pP**	**06 42 56.6**	**+0.6**
JTS	**Las Juntas de**	**45.73**	**344**	*i* P	**P**	**06 42 58.8**	**+0.4**
JTS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BELA	**Belgrano 2**	**46.73**	**170**	P	**P**	**06 43 05.8**	**+0.2**
TOSP	**Speyside**	**47.06**	**17**	P	**P**	**06 43 09.4**	**+0.6**
GRGR	**Grenville**	**47.60**	**16**		**P**	**06 43 12.5**	**-0.4**
MATN	**Matagalpa**	**48.51**	**344**	IAmb	IAmb	06 43 20.9	
	comp=Z,13nm,0.8s						
SVB	**Belmont**	**48.79**	**16**		**P**	**06 43 22.2**	**0.0**
VNA3	**Neumayer Olymp**	**49.47**	**158**	P	**P**	**06 43 27.4**	**+0.6**
VNA1	**Neumayer--Stat**	**49.80**	**157**	P	**P**	**06 43 30.3**	**+1.0**
TGUH	**Tegucigalpa,Un**	**49.92**	**342**	P	**P**	**06 43 31.7**	**+0.7**
TGUH				IAmb	IAmb	06 43 32.3	
	comp=Z,25nm,0.9s						
VNA2	**Neumayer--Watz**	**50.14**	**157**	P	**P**	**06 43 32.6**	**+0.7**
	baz=289,slow=8.8						
FDF	**Fort de France**	**50.23**	**16**	P	**P**	**06 43 31.9**	**-1.3**
FDF				pmax	pmax		
	comp=Z,34nm,0.6s						
FDF	**Fort de France**	**50.23**	**16**		**P**	**06 43 31.9**	**-1.3**
SNAA	**Sanae**	**51.69**	**158**	P	**P**	**06 43 44.3**	**+0.6**
SNAA	**Sanae**	**51.69**	**158**	P	**P**	**06 43 44.3**	**+0.6**
	comp=Z,36nm,0.7s,baz=278,slow=7.7,SNR=307						
SNAA	**Sanae**	**51.69**	**158**	P	**P**	**06 43 43.4**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,69nm,1.1s						
SNAA	**Sanae**	**51.69**	**158**	P	**P**	**06 43 43.4**	**-0.3**
MLPR	**Magueyes Islan**	**52.41**	**8**	IAmb	IAmb	06 43 50.3	
	comp=Z,26nm,0.8s						
OBIP	**Obispado Ponce**	**52.53**	**8**	P	**P**	**06 43 48.5**	**-1.9**
OBIP				IAmb	IAmb	06 43 50.0	
	comp=Z,25nm,1.4s						
PDPR	**Patillas Dam,**	**52.58**	**9**	IAmb	IAmb	06 43 50.6	
	comp=Z,22nm,1.1s						
CCIG	**Comitan**	**53.41**	**338**	P	**P**	**06 43 57.2**	**+0.1**
CCIG				IAmb	IAmb	06 43 58.7	
	comp=Z,15nm,0.8s						
QSPA	**South Pole Qui**	**55.86**	**180**	P	**P**	**06 44 15.1**	**+0.8**
TEIG	**Tepich**	**56.09**	**343**	P	**P**	**06 44 16.3**	**0.0**
TEIG				*e*P	**pP**	**06 44 16.6**	**-4.2**
NVL	**N'lazarevskaya**	**56.45**	**157**	*e*P	**P**	**06 44 17.9**	**

X40A	Basin Creek Fa	70.86 343	P	P	06 45 53.9 +0.2
	baz=163				
Z35A	Perchaven, San	70.95 339	P	P	06 45 54.4 +0.1
ABTX	Abilene, Hawle	71.04 337	P	P	06 45 55.2 +0.4
	baz=157,SNR=11				
T59A	Double "B" Far	71.08 357	P	P	06 45 55.6 +0.7
	baz=176				
T59A	Double "B" Far	71.08 357	IAmb	IAmb	06 45 56.4
	comp=Z,26nm,0.9s				
MIAR	Mount Ida	71.10 343	P	P	06 45 55.8 +0.7
	baz=163				
T58A	Grand View Acr	71.11 356	P	P	06 45 56.0 +0.9
	baz=176				
CLTN	Cedars of Leba	71.12 349	IAmb	IAmb	06 45 56.4
	comp=Z,24nm,0.9s				
T56A	Rocky Mt	71.30 354	P	P	06 45 56.6 +0.3
	baz=174				
W41B	Gary Mavity, V	71.38 344	P	P	06 45 56.9 +0.1
	baz=164				
W41B	Gary Mavity, V	71.38 344	P	P	06 45 56.8 0.0
W41B			IAmb	IAmb	06 45 58.0
	comp=Z,15nm,1.1s				
WVT	Waverly	71.41 348	P	P	06 45 56.6 -0.4
WVT			pmax	pmax	
	comp=Z,40nm,1.0s				
WVT	Waverly	71.41 348	P	P	06 45 56.7 -0.3
	baz=168				
WVT	Waverly	71.41 348	P	P	06 45 56.6 -0.4
U49A	Red Boiling Sp	71.45 350	P	P	06 45 56.8 -0.4
U49A			IAmb	IAmb	06 45 57.5
	comp=Z,16nm,1.1s				
T55A	Pulaski	71.45 354	P	P	06 45 57.6 +0.3
	baz=174				
T54A	Tazewell	71.47 353	P	P	06 45 57.4 -0.1
	baz=173				
S61A	Accomac	71.72 358	P	P	06 45 59.3 +0.5
	baz=178				
W39A	Magazine	71.77 343	P	P	06 45 59.9 +0.7
	baz=162,SNR=5.9				
W39A	Magazine	71.77 343	P	P	06 45 59.3 +0.1
W39A			IAmb	IAmb	06 46 00.9
	comp=Z,36nm,1.2s				
S59A	Mechanicsville	71.86 357	P	P	06 46 01.0 +1.4
	baz=177				
S56A	Natural Bridge	71.91 355	P	P	06 46 00.8 +0.8
	baz=175				
S57A	Dark Hollow, R	71.95 355	P	P	06 46 00.7 +0.5
	baz=175				
LCAR	Lake Charles	72.00 345	P	P	06 45 59.9 -0.6
LCAR			IAmb	IAmb	06 46 01.2
	comp=Z,24nm,1.0s				
FCAR	Ozark Folk Cen	72.04 344	P	P	06 46 00.1 -0.7
FCAR			IAmb	IAmb	06 46 01.6
	comp=Z,13nm,1.0s				
S55A	Lewisburg	72.08 354	P	P	06 46 01.7 +0.7
	baz=174				
R58B	Mineral	72.09 356	P	P	06 46 01.9 +0.9
	baz=176				
T47A	Sharon Grove	72.12 349	IAmb	IAmb	06 46 04.2
	comp=Z,20nm,1.1s				
MNTX	Cornudas Mount	72.26 332	P	P	06 46 01.7 -0.5
	baz=153,SNR=13				
S51A	Beattyville	72.26 352	IAmb	IAmb	06 46 02.8
	comp=Z,16nm,0.8s				
X34A	Smith Ranch, M	72.31 339	IAmb	IAmb	06 46 03.7
	comp=Z,19nm,1.0s				
GDL2	Guadalupe Moun	72.31 333	P	P	06 46 02.4 -0.3
T45A	Paducah	72.42 347	P	P	06 46 03.1 +0.1
R54A	Victor	72.53 354	P	P	06 46 03.7 +0.1
	baz=174				
PBMO	Poplar Bluff	72.53 346	IAmb	IAmb	06 46 04.5
	comp=Z,17nm,0.9s				
R55A	Marlinton	72.55 355	P	P	06 46 04.3 +0.4
	baz=174				
R56A	Bull Pasture M	72.62 355	P	P	06 46 04.7 +0.4
	baz=175				
U40A	Yellville	72.65 344	P	P	06 46 04.2 -0.2
	baz=163,SNR=7.3				
U40A	Yellville	72.65 344	IAmb	IAmb	06 46 05.4
	comp=Z,20nm,1.1s				
WMOK	Wichita Mounta	72.72 338	P	P	06 46 05.0 +0.1
	baz=158				
HHAR	Hobbs	72.84 343	P	P	06 46 05.4 -0.1
HHAR			IAmb	IAmb	06 46 06.4
	comp=Z,16nm,1.3s				
TUL1	Leonard	72.96 341	P	P	06 46 06.1 -0.2
	baz=161,SNR=6.1				
TUL1	Leonard	72.96 341	IAmb	IAmb	06 46 07.2
	comp=Z,31nm,1.2s				
R50A	Paris	72.99 351	P	P	06 46 05.1 -1.3
R50A			IAmb	IAmb	06 46 06.9
	comp=Z,13nm,0.9s				
MAW	Mawson	73.16 164	P	P	06 46 07.5 +0.3
	comp=Z,20nm,0.8s,baz=208,slow=6.8,SNR=43				
MAW	Mawson	73.16 164	P	P	06 46 07.4 +0.3
MAW			pmax	pmax	
	comp=Z,7.0nm,1.1s				
MAW	Mawson	73.16 164	P	P	06 46 07.4 +0.3
Q57A	Strasburg	73.19 356	P	P	06 46 08.4 +0.9
	baz=176				
MGMO	Mountain Grove	73.28 344	P	P	06 46 07.8 -0.4
MGMO			IAmb	IAmb	06 46 09.7
	comp=Z,14nm,1.1s				
MSTX	Muleshoe	73.32 335	P	P	06 46 08.7 +0.1
	baz=155,SNR=12				
MSTX	Muleshoe	73.32 335	IAmb	IAmb	06 46 09.7
	comp=Z,21nm,0.8s				
Q52A	Bidwell	73.42 353	P	P	06 46 09.1 +0.2
	baz=172				
P58A	Pank, Wackersv	73.58 357	P	P	06 46 10.6 +0.8
	baz=177				
P59A	Jarrettsville	73.67 358	P	P	06 46 11.3 +1.0
	baz=178				
P56A	Dayton Farm, R	73.68 356	P	P	06 46 10.7 +0.3
	baz=175				
AMTX	Amarillo	73.78 336	P	P	06 46 11.4 +0.2
	baz=156				
AMTX	Amarillo	73.78 336	P	P	06 46 11.2 0.0
AMTX			IAmb	IAmb	06 46 12.8
	comp=Z,18nm,0.9s				
P60A	Greenville	73.84 358	P	P	06 46 12.3 +0.9
	baz=178				
P54A	Burton	73.89 354	P	P	06 46 11.9 +0.1
	baz=174				
MCWV	Mont Chateau	73.90 355	P	P	06 46 11.9 +0.2
	baz=175				
CCM	Cathedral Cave	73.93 345	P	P	06 46 11.9 0.0
CCM			pmax	pmax	
	comp=Z,37nm,1.0s				
CCM	Cathedral Cave	73.93 345	P	P	06 46 12.1 +0.2
	baz=165				
CCM	Cathedral Cave	73.93 345	P	P	06 46 11.9 0.0
121A	Cookes Peak, D	73.95 330	P	P	06 46 13.6 +1.2
	baz=151,SNR=7.2				
121A	Cookes Peak, D	73.95 330	P	P	06 46 13.5 +1.1
121A			IAmb	IAmb	06 46 14.8
	comp=Z,14nm,0.9s				
P51A	Williamsport	74.02 352	P	P	06 46 12.1 -0.3
	baz=172				
P51A	Williamsport	74.02 352	IAmb	IAmb	06 46 13.1
	comp=Z,18nm,0.9s				
S39A	Bolivar	74.03 344	IAmb	IAmb	06 46 13.5
	comp=Z,27nm,1.4s				
P52A	Corning	74.07 353	P	P	06 46 12.9 +0.2
	baz=173				
P52A	Corning	74.07 353	IAmb	IAmb	06 46 13.3
	comp=Z,26nm,1.0s				
T35A	Sooner Cattle	74.10 341	P	P	06 46 12.4 -0.5
T35A			IAmb	IAmb	06 46 14.4
	comp=Z,25nm,1.1s				
O61A	Allentown	74.11 359	P	P	06 46 13.9 +1.0
	baz=179				
O58A	Lewisberry	74.20 357	P	P	06 46 13.9 +0.4
	baz=177				
P49A	Miami Univ. Ec	74.27 351	P	P	06 46 13.5 -0.4
	baz=170				
P48A	Milroy	74.29 350	IAmb	IAmb	06 46 13.6
	comp=Z,19nm,1.1s				
O57A	Amberson	74.31 357	P	P	06 46 14.9 +0.8
	baz=176				
O60A	Telford	74.34 358	P	P	06 46 15.2 +0.9
	baz=178				
O59A	Robesonia	74.36 358	P	P	06 46 15.2 +0.8
	baz=178				
R40A	Maddies Statio	74.37 345	P	P	06 46 13.9 -0.6
R40A			IAmb	IAmb	06 46 15.9
	comp=Z,18nm,0.9s				
O55A	Ligonier	74.41 355	P	P	06 46 15.0 +0.3
	baz=175				
O52A	Adamsville	74.52 353	P	P	06 46 15.3 -0.1
	baz=173				
O53A	New Philadelph	74.60 354	P	P	06 46 15.5 -0.3
	baz=173				
O51A	Pataskala	74.63 353	P	P	06 46 15.6 -0.4
	baz=172,SNR=5.7				
SSPA	Standing Stone	74.75 357	P	P	06 46 17.0 +0.3
	baz=176				
ACSO	Alum Creek Sta	74.75 352	P	P	06 46 16.5 -0.2
	baz=172				
N57A	Milroy	74.85 357	P	P	06 46 17.9 +0.7
	baz=176				
N60A	Cedar Hill Far	74.89 359	P	P	06 46 18.1 +0.7
	baz=179				
N58A	Sunbury	74.90 357	P	P	06 46 18.1 +0.6
	baz=177				
BNM	Barren Site	74.91 332	P	P	06 46 18.9 +0.9
N59A	State Game Lan	74.95 358	P	P	06 46 18.8 +0.9
	baz=178				
N55A	Marion Center	74.96 356	P	P	06 46 18.0 +0.1
	baz=175,SNR=5.4				
TUC	Tucson	75.04 328	P	P	06 46 19.7 +1.1
TUC			pmax	pmax	
	comp=Z,8.0nm,1.0s				
TUC	Tucson	75.04 328	P	P	06 46 19.8 +1.1
	baz=149				
TUC	Tucson	75.04 328	P	P	06 46 19.7 +1.1
N56A	West Decatur	75.05 356	P	P	06 46 18.7 +0.3
	baz=176				
LENM	Lemitar	75.06 332	P	P	06 46 18.9 +0.1
N53A	Lisbon	75.12 354	P	P	06 46 18.6 -0.2
	baz=174				
P43A	Skaggs, Pawnee	75.13 347	IAmb	IAmb	06 46 19.4
	comp=Z,24nm,0.8s				
N52A	McGinn's Farm,	75.20 354	P	P	06 46 18.6 -0.6
	baz=173				
N54A	Moraine State	75.20 355	P	P	06 46 19.8 +0.5
	baz=174				
M61A	Granite Spring	75.31 360	P	P	06 46 21.0 +1.1
	baz=180				
M66A	Nantucket	75.33 3	P	P	06 46 21.4 +1.5
	baz=183				
M60A	Port Jervis	75.34 359	P	P	06 46 20.6 +0.6
	baz=179				
N51A	Ashland	75.37 353	P	P	06 46 20.5 +0.3
	baz=172				
M57A	Sunshine Farm,	75.42 357	P	P	06 46 21.2 +0.8
	baz=177				
M58A	Price's Panora	75.43 358	P	P	06 46 21.5 +1.0
	baz=178				
M62A	Hamden	75.45 0	P	P	06 46 21.9 +1.3
	baz=180				
ANMO	Albuquerque	75.55 333	P	P	06 46 22.0 +0.4
ANMO			pmax	pmax	
	comp=Z,11nm,1.1s				
ANMO	Albuquerque	75.55 333	P	P	06 46 22.7 +1.1
	baz=152				
ANMO	Albuquerque	75.55 333	P	P	06 46 22.0 +0.4
M59A	Waymart	75.57 358	P	P	06 46 21.7 +0.3
	baz=178				
N49A	Columbus Grove	75.57 352	IAmb	IAmb	06 46 21.9
	comp=Z,20nm,1.0s				
M56A	Emporium	75.61 356	P	P	06 46 21.9 +0.3
	baz=176				
M55A	Ridgway	75.63 356	P	P	06 46 22.0 +0.3
	baz=176				
214A	Organ Pipe Nat	75.65 326	P	P	06 46 23.2 +1.1
	baz=147,SNR=5.9				
N47A	Urbana	75.72 350	IAmb	IAmb	06 46 22.7
	comp=Z,28nm,1.1s				
M54A	Oil Creek Stat	75.73 355	P	P	06 46 22.3 +0.1
	baz=175				
M53A	Wt Miller and	75.73 354	P	P	06 46 22.5 +0.2
	baz=174				
M51A	Elyria	75.76 353	P	P	06 46 22.6 +0.2
	baz=173				
L63A	North Scituate	75.89 1	P	P	06 46 24.2 +1.0
	baz=182				
M52A	Chesterland	75.89 354	P	P	06 46 23.6 +0.4
	baz=173				
P38A	Dawn	75.93 344	P	P	06 46 22.9 -0.6
P38A			IAmb	IAmb	06 46 24.0
	comp=Z,23nm,1.0s				
HDIL	Hopedale	75.97 348	P	P	06 46 24.1 +0.5
	baz=167				
HDIL	Hopedale	75.97 348	IAmb	IAmb	06 46 24.3
	comp=Z,18nm,0.9s				
L64A	Middleborough	75.98 2	P	P	06 46 24.6 +0.9
	baz=182				
L60A	Shokan	76.00 359	P	P	06 46 24.9 +1.1
	baz=179				
LIC	Lamto	76.03 72	eP	P	06 46 25.1 +0.4
	comp=Z,120nm,0.8s				
L57A	Andrews Acres	76.07 357	P	P	06 46 24.8 +0.6
	baz=177				
L58A	Harry Jones Me	76.08 358	P	P	06 46 25.3 +1.0
	baz=178				
R32A	Long Quarter,	76.12 340	IAmb	IAmb	06 46 26.7
	comp=Z,33nm,1.1s				
KSU1	Kansas State U	76.18 342	P	P	06 46 25.1 +0.2
	baz=161				
L59A	Walton	76.21 359	P	P	06 46 26.3 +1.3
	baz=179				
L53A	Girard	76.21 355	P	P	06 46 24.7 -0.3
	baz=174				
L56A	Greenwood	76.23 357	P	P	06 46 25.6 +0.4
	baz=177,SNR=5.3				
L56A	Greenwood	76.23 357	IAmb	IAmb	06 46 26.4
	comp=Z,25nm,0.9s				
BINY	Binghamton	76.24 358	P	P	06 46 25.5 +0.3
	baz=178				
TIC	Toumodi	76.29 72	eP	P	06 46 26.5 +0.3
L55A	Hinsdale	76.32 356	P	P	06 46 25.9 +0.2
	baz=176,SNR=5.0				
KIC	Kosan Boka	76.34 72	eP	P	06 46 27.0 +0.6
	comp=Z,216nm,1.0s				
L54A	Sinclairville	76.43 356	P	P	06 46 26.6 +0.4
	baz=175				
DBIC	Dimbokro	76.44 72	P	P	06 46 27.6 +0.7
	comp=Z,44nm,0.6s,baz=205,slow=5.8,SNR=67				
DBIC	Dimbokro	76.44 72	P	P	06 46 27.0 +0.1
DBIC			pmax	pmax	
	comp=Z,49nm,0.7s				
DBIC	Dimbokro	76.44 72	P	P	06 46 27.0 +0.1
L61B	Northampton	76.46 1	P	P	06 46 27.3 +0.9
	baz=181				
HRV	Adam Dziewonsk	76.53 1	P	P	06 46 27.9 +1.1
	baz=182				
K61A	Williamstown	76.67 0	P	P	06 46 28.7 +1.1
	baz=180				
K62A	Royalston	76.68 1	P	P	06 46 29.0 +1.4
	baz=181				
TRY	Troy	76.73 360	IAmb	IAmb	06 46 29.9
	comp=Z,18nm,0.9s				
T25A	Trinidad	76.75 335	P	P	06 46 29.6 +1.1
	baz=154,SNR=16				
T25A	Trinidad	76.75 335	IAmb	IAmb	06 46 30.9
	comp=Z,30nm,1.1s				
K54A	Basilico Farm,	76.76 356	P	P	06 46 28.4 +0.3
	baz=176				
CBKS	Cedar Bluff	76.78 339	P	P	06 46 29.2 +0.8
	baz=158,SNR=7.8				
K56A	Middlesex	76.78 357	P	P	06 46 28.8 +0.5
	baz=177				
K57A	Scipio Center	76.78 358	P	P	06 46 28.8 +0.5
	baz=177				
K59A	Cooperstown	76.79 359	P	P	06 46 28.8 +0.5
	baz=179				
K58A	Earlville	76.79 358	P	P	06 46 28.9 +0.6
	baz=178				
K58A	Earlville	76.79 358	IAmb	IAmb	06 46 31.8
	comp=Z,23nm,1.1s				
K55A	Perry	76.85 357	P	P	06 46 29.2 +0.6
	baz=176				
N38A	Joes South For	76.98 345	P	P	06 46 28.9 -0.5
W18A	Petrified Fore	77.00 330	P	P	06 46 31.2 +1.3
	baz=150				
W18A	Petrified Fore	77.00 330	IAmb	IAmb	06 46 32.2
	comp=Z,18nm,1.1s				
X16A	Lo Mia Camp, P	77.12 329	IAmb	IAmb	06 46 33.0
	comp=Z,14nm,1.2s				
J62A	Henniker	77.24 1	P	P	06 46 32.4 +1.6
	baz=181				
J56A	Wolcott	77.34 357	P	P	06 46 31.4 +0.1
	baz=177				
J55A	Hilton	77.37 357	P	P	06 46 31.6 +0.1
	baz=176				
J54A	Appleton	77.42 356	P	P	06 46 31.6 -0.1
	baz=176				
L42A	Oliver, Polo	77.45 348	IAmb	IAmb	06 46 32.9
	comp=Z,22nm,0.8s				
J57A	Williamstown	77.45 358	P	P	06 46 32.7 +0.8
	baz=178				
J57A	Williamstown	77.45 358	IAmb	IAmb	06 46 33.0
	comp=Z,12nm,0.8s				
J59A	Piesco	77.47 359	P	P	06 46 32.6 +0.5
	baz=179				
SDCO	Great Sand Dun	77.68 335	P	P	06 46 34.6 +0.8
	baz=153,SNR=6.0				
I58A	Old Forge	77.70 359	P	P	06 46 33.9 +0.5
	baz=179				
L40A	Anamosa	77.79 347	P	P	06 46 33.1 -0.8
L40A			IAmb	IAmb	06 46 34.3
	comp=Z,24nm,0.9s				
I59A	Olmsteadville	77.80 360	P	P	06 46 34.5 +0.5
	baz=180				
I60A	Shoreham	77.85 0	P	P	06 46 34.5 +0.4
	baz=180				
KSCO	Kaye Shedlock'	77.85 337	P	P	06 46 35.3 +0.8
	baz=156				
KSCO	Kaye Shedlock'	77.85 337	P	P	06 46 34.2 -0.3
KSCO			IAmb	IAmb	06 46 36.6
	comp=Z,32nm,1.2s				
I57A	Carthage	77.97 358	P	P	06 46 35.3 +0.4
	baz=178				
WUAZ	Wupatki	78.03 329	P	P	06 46 36.9 +1.3
	baz=149,SNR=9.0				
WUAZ	Wupatki	78.03 329	IAmb	IAmb	06 46 38.1
	comp=Z,14nm,1.1s				
SCIA	State Center	78.04 345	P	P	06 46 35.9 +0.6
	baz=164				
SCIA	State Center	78.04 345	IAmb	IAmb	06 46 36.4
	comp=Z,28nm,0.9s				
I63A	Otisfield	78.10 2	P	P	06 46 37.2 +1.7
	baz=182				
I51A	Listowel	78.11 354	P	P	06 46 35.4 -0.3
	baz=174				
S22A	4UR Ranch, Cre	78.16 334	P	P	06 46 37.6 +1.2
	baz=152				
LBNH	Lisbon	78.26 1	P	P	06 46 37.4 +1.0
	baz=181				
BC3	Big Chuckawall	78.29 325	P	P	06 46 38.2 +1.2
	baz=146,SNR=7.1				
I55A	Frankford	78.31 357	P	P	06 46 36.9 +0.2
	baz=176				
MVCO	Mesa Verde	78.32 332	P	P	06 46 38.1 +0.8
	baz=151,SNR=7.6				
MVCO	Mesa Verde	78.32 332	IAmb	IAmb	06 46 39.3
	comp=Z,20nm,1.2s				
H58A	Gabriels	78.42 359	P	P	06 46 37.7 +0.3
	baz=179				
JFWS	Jewell Farm	78.43 348	P	P	06 46 37.5 +0.1
JFWS			pmax	pmax	
	comp=Z,18nm,1.1s				
JFWS	Jewell Farm	78.43 348	P	P	06 46 37.3 -0.1
	baz=166,SNR=5.4				
JFWS	Jewell Farm	78.43 348	P	P	06 46 37.5 +0.1
JFWS			IAmb	IAmb	06 46 38.2
	comp=Z,18nm,1.1s				
H57A	Richville	78.48 359	P	P	06 46 37.7 0.0
	baz=178				
H61A	Lyndonville	78.55 1	P	P	06 46 39.2 +1.1
	baz=181				
IRM	Iron Mountain	78.56 326	P	P	06 46 39.3 +0.9
	baz=146				
H60A	Morristown	78.57 1	P	P	06 46 39.5 +1.3
	baz=181				
H55A	Tweed	78.62 357	P	P	06 46 38.8 +0.3
	baz=177				
LONY	Lake Ozonia	78.63 359	P	P	06 46 39.0 +0.5
	baz=179				
LONY	Lake Ozonia	78.63 359	IAmb	IAmb	06 46 40.0
	comp=Z,21nm,1.2s				
H56A	Elgin	78.64 358	P	P	06 46 38.9 +0.5
	baz=178				
Q24A	Divide	78.65 335	P	P	06 46 39.9 +0.8
	baz=154				
H59A	Cadyville	78.65 360	P	P	06 46 39.0 +0.4
	baz=180				
H53A	Bobcaygeon	78.71 356	P	P	06 46 39.1 +0.2
	baz=176				
H63A	New Sharon	78.73 3	P	P	06 46 40.6 +1.6
	baz=183				
PFO	Pinyon Flats O	78.73 325	P	P	06 46 37.3 -2.2
PFO			pmax	pmax	
	comp=Z,11nm,1.1s				
PFO	Pinyon Flats O	78.73 325	P	P	06 46 41.1 +1.6
	baz=145,SNR=5.1				
PFO	Pinyon Flats O	78.73 325	P	P	06 46 37.3 -2.2
BELC	Belle Mtn. Jos	78.83 325	P	P	06 46 41.4 +1.3
	baz=145				
FRNY	Flat Rock	78.84 360	IAmb	IAmb	06 46 41.0
	comp=Z,13nm,0.8s				
H65A	Eastbrook	78.84 4	P	P	06 46 40.9 +1.3
	baz=184				
H66A	Whiting	78.99 4	P	P	06 46 41.5 +1.2
	baz=185				
MURC	Murrieta	79.08 324	P	P	06 46 42.8 +1.5
	baz=145				
G57A	Newington	79.12 359	P	P	06 46 41.8 +0.7
	baz=179				
G58A	Ormstown	79.15 360	P	P	06 46 42.2 +0.9
	baz=180				
I42A	Draeger Farm,	79.15 349	P	P	06 46 40.6 -0.8
I42A			IAmb	IAmb	06 46 42.0
	comp=Z,21nm,1.0s				
U15A	North Rim	79.19 329	P	P	06 46 42.2 0.0
G63A	Kingsbury	79.19 3	P	P	06 46 42.6 +1.0
	baz=183				
G62A	West of Eustis	79.27 2	P	P	06 46 42.9 +0.9
	baz=182,SNR=5.6				
G62A	West of Eustis	79.27 2	P	P	06 46 43.3 +1.3
G62A			IAmb	IAmb	06 46 44.0
	comp=Z,25nm,0.9s				
G61A	St-Isidore-de-	79.31 1	P	P	06 46 43.4 +1.2
	baz=182				
G55A	Calabogie	79.31 358	P	P	06 46 42.4 +0.2
	baz=177				
GMRC	Granite Mounta	79.32 326	P	P	06 46 44.1 +1.5
	baz=146				
PKME	Peaks-Kenny Pk	79.36 3	P	P	06 46 43.6 +1.1
	baz=184				
PV03	Paradox Valley	79.37 332	P	P	06 46 43.1 +0.2
G64A	Maxfield	79.37 3	P	P	06 46 43.4 +0.9
	baz=184				
PV18	Skein Mesa, Pa	79.38 332	P	P	06 46 42.9 -0.1
PV16	Nyswonger Mesa	79.44 332	P	P	06 46 42.6 -0.8
I40A	Norwalk	79.44 347	P	P	06 46 41.4 -1.6
I40A			IAmb	IAmb	06 46 43.6
	comp=Z,12nm,0.9s				
G54A	Lake Saint Pet	79.51 357	P	P	06 46 43.2 -0.1
	baz=176				
PV04	Paradox Valley	79.51 332	P	P	06 46 43.6 -0.1
CIS	Catalina Islan	79.52 323	P	P	06 46 44.7 +1.0
	baz=144				
H43A	Windswept, Lux	79.54 350	IAmb	IAmb	06 46 44.1
	comp=Z,30nm,1.3s				
CASY	Casey	79.62 182	P	P	06 46 44.1 +0.3
HEC	Hector,Ludlow	79.67 325	P	P	06 46 46.1 +1.6
	baz=145,SNR=6.1				
BFSC	Mount Baldy Ra	79.82 324	P	P	06 46 46.9 +1.5
	baz=144				
F62A	Pittston Farm,	79.96 2	P	P	06 46 46.8 +1.1
	baz=183,SNR=6.2				
TUQ	Turquoise Moun	79.97 326	P	P	06 46 47.3 +1.1
	baz=146,SNR=6.9				
F60A	Warwick	79.98 1	P	P	06 46 46.8 +1.0
	baz=181				
F64A	Sherman	80.00 4	P	P	06 46 47.1 +1.2
	baz=184				
K31A	O'Neill	80.04 341	P	P	06 46 46.3 0.0
ALGO	Algonquin Park	80.06 357	P	P	06 46 46.7 +0.4
	baz=176				
I37A	Lemond, Waseca	80.10 346	IAmb	IAmb	06 46 47.2
	comp=Z,21nm,0.7s				
TSUM	Tsumeb	80.26 107	P	P	06 46 48.5 +0.2
TSUM			IAmb	IAmb	06 46 50.9
	comp=Z,17nm,1.2s				
GSC	Goldstone, Bar	80.28 325	P	P	06 46 49.2 +1.4
	baz=145				
E58A	La Victoria	80.38 0	P	P	06 46 48.2 +0.3
	baz=180				
E60A	Ste Agathe de	80.39 1	P	P	06 46 48.7 +0.7
	baz=182				

E57A	Chemin Saint G	80.42	360	P	P	06 46 48.8 +0.6
	baz=180					
EDW2	Edwards Air Fo	80.50	324	P	P	06 46 49.7 +0.7
	baz=144					
SHPR	Sheep Range	80.51	327	P	P	06 46 48.7 -0.4
SZCU	Shurtz Canyon	80.52	329	P	P	06 46 49.3 +0.1
ECSD	EROS Data Cent	80.55	343	P	P	06 46 48.7 -0.2
	baz=161,SNR=14					
ECSD	EROS Data Cent	80.55	343	IAmb	IAmb	06 46 50.0
	comp=Z,26nm,0.9s					
E56A	St. Veronique	80.56	359	P	P	06 46 49.2 +0.3
	baz=179,SNR=6.2					
N23A	Red Feather La	80.64	336	P	P	06 46 50.7 +0.8
	baz=153,SNR=6.1					
E62A	Clayton Lake	80.70	3	P	P	06 46 50.9 +1.2
	baz=183					
SRU	San Rafael Swe	80.76	332	P	P	06 46 50.2 -0.2
SRU				pmax	pmax	
	comp=Z,8.0nm,1.0s					
SRU	San Rafael Swe	80.76	332	P	P	06 46 50.2 -0.2
O20A	White River Ci	80.78	334	P	P	06 46 51.5 +1.0
	baz=152					
O20A	White River Ci	80.78	334	IAmb	IAmb	06 46 52.5
	comp=Z,18nm,1.1s					
LRMC	Laurel Mtn Rad	80.84	325	P	P	06 46 52.5 +1.6
	baz=144					
PHWY	Pilot Hill	80.84	336	P	P	06 46 50.8 -0.1
Q16A	Castle Valley	80.85	331	P	P	06 46 51.3 +0.3
MSU	Marysvale	80.91	330	P	P	06 46 51.7 +0.4
MSU	Marysvale	80.91	330	P	P	06 46 51.7 +0.4
BOSA	Boshof	80.95	118	P	P	06 46 52.2 +0.3
	comp=Z,25nm,0.8s,baz=235,slow=5.2,SNR=24					
BOSA				LR	LR	07 20 22.4
	comp=Z,57nm,18.1s,baz=200,slow=34					
BOSA	Boshof	80.95	118	P	P	06 46 50.9 -1.0
BOSA				pmax	pmax	
	comp=Z,32nm,1.0s					
BOSA	Boshof	80.95	118	P	P	06 46 50.9 -1.0
BOSA				IAmb	IAmb	06 46 53.6
	comp=Z,32nm,0.9s					
E46A	Sault Ste Mari	80.96	352	P	P	06 46 50.5 -0.5
D57A	Chemin Vers le	81.02	360	P	P	06 46 51.7 +0.3
	baz=180,SNR=5.4					
D55A	Sainte-Anne-du	81.04	359	P	P	06 46 51.3 -0.2
	baz=178,SNR=5.0					
D56A	ZEC Mazanza, M	81.06	359	P	P	06 46 52.1 +0.5
	baz=179					
D58A	Chemin du LacG	81.10	0	P	P	06 46 52.3 +0.5
	baz=180,SNR=5.3					
SPMN	Marine on St.	81.14	346	P	P	06 46 51.4 -0.7
	baz=164,SNR=6.1					
SPMN	Marine on St.	81.14	346	IAmb	IAmb	06 46 52.3
	comp=Z,16nm,0.8s					
P17A	Butcher Ranch,	81.16	332	P	P	06 46 53.2 +0.7
D62A	Allapoint, All	81.18	3	P	P	06 46 53.2 +1.0
	baz=184					
D62A	Allapoint, All	81.18	3	P	P	06 46 53.1 +1.0
D62A				IAmb	IAmb	06 46 53.8
	comp=Z,18nm,0.9s					
D63A	Stockholm	81.19	4	P	P	06 46 53.3 +1.1
	baz=184					
PRN	Pahroc Range	81.21	328	IAmb	IAmb	06 46 55.6
	comp=Z,16nm,1.1s					
MPMC	Manual Prospec	81.21	325	P	P	06 46 54.3 +1.4
	baz=145					
E43A	Lone Tree Farm	81.30	351	IAmb	IAmb	06 46 54.4
	comp=Z,13nm,1.1s					
COWI	Conover	81.34	349	IAmb	IAmb	06 46 54.0
	comp=Z,21nm,1.2s					
ISA	Isabella, Lake	81.36	324	P	P	06 46 54.6 +1.0
ISA				pmax	pmax	
	comp=Z,5.0nm,1.1s					
ISA	Isabella, Lake	81.36	324	P	P	06 46 54.7 +1.1
	baz=144					
ISA	Isabella, Lake	81.36	324	P	P	06 46 54.6 +1.0
TPNV	Topopah Spring	81.37	327	P	P	06 46 55.2 +1.5
	baz=146,SNR=5.6					
PKM	Mcpherson Peak	81.40	323	P	P	06 46 55.0 +1.1
	baz=143					
RWWY	Rawlins	81.79	335	IAmb	IAmb	06 46 56.6
	comp=Z,28nm,1.4s					
VES	Vestal, Richgr	81.80	324	P	P	06 46 57.5 +1.7
	baz=144					
KOWA	Kowa	81.88	66	P	P	06 46 56.6 -0.1
F36A	Milaca	81.89	346	IAmb	IAmb	06 46 56.4
	comp=Z,16nm,0.8s					
GRAC	Grapevine Rang	81.92	326	P	P	06 46 57.9 +1.4
	baz=145					
MPU	Maple Canyon	81.97	331	P	P	06 46 56.7 -0.2
NLU	North Lily Min	82.10	331	P	P	06 46 57.2 -0.4
VLDQ	Val d'Or	82.19	357	IAmb	IAmb	06 46 59.0
	comp=Z,30nm,1.1s					
R11A	Troy Canyon, C	82.22	328	P	P	06 46 59.6 +1.4
	baz=146,SNR=9.3					
K22A	Casper	82.41	336	P	P	06 46 59.6 +0.6
	baz=153,SNR=8.8					
DUG	Dugway, Tooele	82.60	331	P	P	06 47 01.1 +1.0
	baz=148,SNR=16					
DUG	Dugway, Tooele	82.60	331	IAmb	IAmb	06 47 02.3
	comp=Z,21nm,1.2s					
RSSD	Black Hills	82.93	338	P	P	06 47 02.3 +0.5
RSSD				pmax	pmax	
	comp=Z,10.0nm,0.9s					
RSSD	Black Hills	82.93	338	P	P	06 47 02.3 +0.5
	baz=155					
RSSD	Black Hills	82.93	338	P	P	06 47 02.3 +0.5
RSSD				IAmb	IAmb	06 47 03.0
	comp=Z,10nm,0.9s					
MLAC	Mammoth, Mammo	83.12	325	P	P	06 47 04.4 +1.4
	baz=144					
LBTB	Lobatse	83.23	116	P	P	06 47 03.1 -0.8
LBTB				pmax	pmax	
	comp=Z,28nm,0.8s					
LBTB	Lobatse	83.23	116	P	P	06 47 03.1 -0.8
BGU	Big Grassy Mou	83.31	331	P	P	06 47 03.2 -0.6
HWUT	Hardware Ranch	83.31	332	IAmb	IAmb	06 47 05.3
	comp=Z,21nm,1.2s					
NVAR	Mina Array Bea	83.52	326	P	P	06 47 05.6 +0.6
	comp=Z,1.5nm,0.8s,baz=141,slow=6.1,SNR=11					
NVAR	Mina Array Bea	83.52	326	P	P	06 47 05.9 +0.9
EYMN	Ely	83.52	348	P	P	06 47 04.8 +0.4
	baz=165,SNR=5.7					
EYMN	Ely	83.52	348	IAmb	IAmb	06 47 05.5
	comp=Z,13nm,1.0s					
BW06	Boulder Array	83.56	334	P	P	06 47 05.1 0.0
	baz=151,SNR=5.6					
PDAR	Pinedale Array	83.56	334	P	P	06 47 05.2 +0.1
	comp=Z,2.9nm,1.0s,baz=153,slow=5.0,SNR=17					
PDAR	Pinedale Array	83.56	334	P	P	06 47 03.9 -1.2
RYN	Ryan	83.78	326	IAmb	IAmb	06 47 08.6
	comp=Z,13nm,1.4s					
KVN	Kaiserville	83.93	327	P	P	06 47 07.1 +0.1
KVN				pmax	pmax	
	comp=Z,9.0nm,1.2s					
KVN	Kaiserville	83.93	327	P	P	06 47 07.1 +0.1
HVU	Hansel Valley	83.93	332	P	P	06 47 07.0 +0.1
HVU				pmax	pmax	
	comp=Z,12nm,0.8s					
HVU	Hansel Valley	83.93	332	P	P	06 47 07.0 +0.1
AHID	Auburn Hatcher	84.13	333	P	P	06 47 07.3 -0.7
YERR	Yerington	84.40	326	IAmb	IAmb	06 47 12.1
	comp=Z,14nm,1.5s					
REDW	Red Top Meadow	84.55	334	P	P	06 47 09.6 -0.6
TPAW	Teton Pass	84.70	334	IAmb	IAmb	06 47 11.4
	comp=Z,9.4nm,1.1s					
AGMN	Agassiz Nation	84.70	345	P	P	06 47 10.2 -0.3
	baz=162,SNR=8.6					
AGMN	Agassiz Nation	84.70	345	P	P	06 47 09.4 -1.0
AGMN				IAmb	IAmb	06 47 11.2
	comp=Z,14nm,0.8s					
PAHR	Pah Rah Range	85.04	326	P	P	06 47 13.7 +1.1
IMW	Indian Meadow	85.05	334	P	P	06 47 12.5 -0.2
IMW				IAmb	IAmb	06 47 14.2
	comp=Z,12nm,1.3s					
FLWY	Flagg Ranch	85.12	334	IAmb	IAmb	06 47 17.2
	comp=Z,14nm,1.2s					
MDND	Maddock	85.13	343	P	P	06 47 12.9 +0.2
	baz=159,SNR=5.1					
TORD	Torodi Ar. Bea	85.47	71	P	P	06 47 15.3 +0.3
	comp=Z,23nm,0.9s,baz=261,slow=3.8,SNR=73					
TORD				LR	LR	07 24 38.1
	comp=Z,107nm,18.3s,baz=165,slow=35					
TORD	Torodi Ar. Bea	85.47	71	P	P	06 47 14.8 -0.3
RLMT	Red Lodge	85.52	335	P	P	06 47 15.1 +0.1
	baz=151,SNR=7.9					
RLMT	Red Lodge	85.52	335	P	P	06 47 14.7 -0.2
RLMT				IAmb	IAmb	06 47 16.2
	comp=Z,9.2nm,0.9s					
LAO	LASA Array	85.91	338	P	P	06 47 16.9 +0.2
	baz=153,SNR=7.5					
LAO	LASA Array	85.91	338	IAmb	IAmb	06 47 17.6
	comp=Z,19nm,1.0s					
ORV	Oroville	85.91	325	IAmb	IAmb	06 47 19.2
	comp=Z,13nm,1.2s					
YHL	Hebgen Lake	85.96	334	P	P	06 47 17.4 +0.2
HLID	Hailey	86.08	331	P	P	06 47 18.6 +0.9
	baz=147,SNR=9.9					
HLID	Hailey	86.08	331	P	P	06 47 17.5 -0.2
HLID				IAmb	IAmb	06 47 19.9
	comp=Z,11nm,1.1s					
MCMT	McKenzie Canyo	86.55	333	P	P	06 47 20.9 +0.8
ULM	Lac du Bonnet	86.56	346	P	P	06 47 19.3 -0.3
	comp=Z,8.4nm,0.8s,baz=122,slow=4.0,SNR=7.3					
O03E	Paynes Creek	86.64	325	P	P	06 47 20.6 +0.2
	baz=142					
BOZ	Bozeman (W)	86.76	334	P	P	06 47 21.4 +0.5
	baz=149					
DLMT	Dillon	86.91	334	IAmb	IAmb	06 47 23.7
	comp=Z,15nm,1.2s					
DGMT	Dagmar	86.92	340	P	P	06 47 21.8 +0.3
	baz=155,SNR=15					
MOD	Modoc Plateau	87.22	327	IAmb	IAmb	06 47 25.3
	comp=Z,12nm,0.8s					
N02D	Trinity Center	87.59	325	P	P	06 47 25.5 +0.5
	baz=141					
M04C	Macdoel	87.82	326	P	P	06 47 27.1 +0.9
	baz=142					
PLID	Pearl Lake	87.98	331	P	P	06 47 25.8 -1.1
PLID				IAmb	IAmb	06 47 28.7
	comp=Z,14nm,0.9s					
K05A	Summer Lake	88.14	327	P	P	06 47 28.1 +0.4
BMO	Blue Mountains	88.31	330	P	P	06 47 28.3 -0.1
BMO				pmax	pmax	
	comp=Z,10.0nm,1.4s					
BMO	Blue Mountains	88.31	330	P	P	06 47 28.3 -0.1
BMO				IAmb	IAmb	06 47 29.4
	comp=Z,10nm,1.4s					
I07A	Izee	88.61	329	IAmb	IAmb	06 47 31.9
	comp=Z,10nm,1.1s					
J05D	Fort Rock, OR	88.73	327	P	P	06 47 31.3 +0.8
	baz=142,SNR=6.4					
PINE	Pine Mountain	89.00	328	IAmb	IAmb	06 47 34.1
	comp=Z,15nm,0.8s					
SCHQ	Schefferville	89.03	4	P	P	06 47 31.0 -0.3
	comp=Z,5.1nm,0.8s,baz=200,slow=4.4,SNR=4.0					
SCHQ	Schefferville	89.03	4	IAmb	IAmb	06 47 31.6
	comp=Z,13nm,1.0s					
TAM	Tamanrasset	94.07	65	P	P	06 47 55.7 -0.1
TAM				pmax	pmax	
	comp=Z,6.0nm,0.9s					
TAM	Tamanrasset	94.07	65	P	P	06 47 55.7 -0.1
TAM				IAmb	IAmb	06 47 57.7
	comp=Z,5.7nm,0.9s					
ESDC	Sonseca Array	97.70	47	P	Pdif	06 48 12.1 +0.3
	comp=Z,1.1nm,0.8s,baz=260,slow=4.6,SNR=5.3					
ESDC				LR	LR	07 31 20.7
	comp=Z,48nm,19.0s,baz=280,slow=35					
ESDC	Sonseca Array	97.70	47	IAmb	IAmb	06 48 12.8
	comp=Z,3.8nm,1.1s					
DZM	Mont Dzumac	100.05	235	eLR	LR	07 20 59.5
	comp=Z,103nm,21.9s					
ILAR	Eielson Array	113.99	333	PKP	PKiKP	06 53 14.7 -0.4
	comp=Z,1.1nm,0.8s,baz=172,slow=2.1,SNR=10					
ILAR				PP	PP	06 54 10.9 +1.0
	comp=Z,0.3nm,0.8s,baz=118,slow=5.2,SNR=2.0					
COLA	College	114.40	333	*i* PKIKP	PKiKP	06 53 17.4 +1.6
ASAR	Alice Springs	116.68	208	PKP	PKPdf	06 53 20.3 -1.4
	comp=Z,0.9nm,0.7s,baz=127,slow=1.7,SNR=12					
ASAR				PKKPbc	PKKPbc	07 03 47.9 -0.1
	comp=Z,0.9nm,0.8s,baz=340,slow=3.2,SNR=5.9					
WRA	Warramunga Arr	119.84	210	PKP	PKPdf	06 53 26.8 -1.1
	comp=Z,2.1nm,0.8s,baz=161,slow=1.6,SNR=31					
WRA	Warramunga Arr	119.84	210	PKIKP	PKPdf	06 53 26.6 -1.3
WRA	Warramunga Arr	119.84	210		PKPdf	06 53 26.6 -1.3
BRTR	Keskin Array B	123.06	62	PKP	PKPdf	06 53 33.6 +0.1
	comp=Z,1.5nm,0.7s,baz=40,slow=2.5,SNR=2.7					
AKASG	Malin Array Be	123.33	48	PKP	PKPdf	06 53 32.7 -0.7
	comp=Z,0.3nm,0.3s,baz=259,slow=2.4,SNR=4.9					
AKASG	Malin Array Be	123.33	48	PKIKP	PKPdf	06 53 32.5 -0.9
AKASG	Malin Array Be	123.33	48		PKPdf	06 53 32.5 -0.9
OBN	Obninsk	128.53	44	⇑*i* PKIKP	PKiKP	06 53 44.1 +0.3
OBN				*e*		06 53 47.6
OBN				pmax	pmax	
	comp=Z,15nm,0.5s					
KLMR	Klimovskoe	130.41	36	*e*PKIKP	PKPdf	06 53 44.9 -1.7
KLMR				pmax	pmax	
	comp=Z,19nm,1.0s					
KLMR	Klimovskoe	130.41	36	*e*PKPdf	PKPdf	06 53 44.9 -1.7
KLMR				AMP		06 53 47.8
	comp=Z,19nm,1.0s					
KIV	Kislovodsk	130.71	59	*i* PKIKP	PKPdf	06 53 48.0 +0.1
KIV				pmax	pmax	
	comp=Z,24nm,1.0s					
BILL	Bilibino	132.64	334	⇓*e*PKIKP	PKPdf	06 53 50.2 -0.5
BILL						06 56 19.0
BILL				pmax	pmax	
	comp=Z,41nm,2.8s					
PETK	Petropavlovsk-	139.55	314	PKP	PKPdf	06 54 03.8 -0.2
	comp=Z,4.7nm,0.9s,baz=112,slow=1.6,SNR=4.9					
SEY	Seymchan	139.75	329	*i* PKIKP	PKPdf	06 54 05.1 +1.1
SEY				*i*		06 54 08.0
ARU	Arti	140.81	41	*i* PKIKP	PKPdf	06 54 06.6 +0.5
ARU						06 57 02.7
ARU				SS	SS	07 15 29.2 -3.2
TIXI	Tiksi	140.84	349	*i* PKIKP	PKPdf	06 54 05.4 -0.3
TIXI				*i*		06 54 10.2
MDSI	Maura Dua	141.29	176	PKP	PKPdf	06 54 05.7 -2.7
MA2	Magadan	141.75	325	*i* PKIKP	PKPdf	06 54 08.7 +1.0
MPSI	Mapaga	143.90	203	PKP	PKPab	06 54 07.8 -2.3
SDSI	Sungai Dareh	144.56	171	PKP	PKPab	06 54 11.1 -1.4
SDSI				PKP	PKPbc	06 54 12.4 -0.3
HYB	Hyderabad	149.85	117	*i* PKP	PKPbc	06 54 27.0 -0.6
KSH	Kashi	155.12	69	PKPbc	PKPdf	06 54 31.3 +1.2
KSH				SKS	SKSdf	07 01 35.3 -0.4
KSH				SS	SS	07 18 15.3 +0.2
KSH				LR	LR	
	comp=Z,170nm,8.3s					
KSH				LR	LR	
	comp=Z,130nm,6.8s					
KSH				LR	LR	
	comp=Z,120nm,5.0s					
ZALV	Zalesovo Beam	155.18	31	PKP	PKPdf	06 54 28.9 -0.6
	comp=Z,4.2nm,0.9s,baz=270,slow=1.5,SNR=11					
ZALV				PKPbc	sPKPdf	06 54 38.4 +2.5
	comp=Z,4.6nm,0.5s,baz=308,slow=3.8,SNR=8.8					
ZALV				PKPab	PKPab	06 54 54.8 +0.4
	comp=Z,13nm,0.9s,baz=306,slow=5.3,SNR=11					
ZALV	Zalesovo Beam	155.18	31	PKIKP	PKPdf	06 54 28.8 -0.7
ZALV	Zalesovo Beam	155.18	31	PKPdf	PKPdf	06 54 28.8 -0.7
BOD	Bodaibo	156.01	350	*e*PKP2	PKPab	06 54 57.3 -0.5
BOD				pmax	pmax	
	comp=Z,19nm,1.0s					
MKAR	Makanchi Array	157.91	49	PKP	PKPdf	06 54 32.9 -0.5
	comp=Z,1.3nm,0.7s,baz=297,slow=0.3,SNR=10					
MKAR				PKPab	PKPab	06 55 06.8 +0.2
	comp=Z,6.3nm,0.7s,baz=300,slow=4.3,SNR=25					
KOLN	Koldanda	159.32	102	*e*P	PKPab	06 55 12.8 -0.6
DMN	Daman	160.47	104	*e*P	PKPab	06 55 18.2 -0.3
	comp=Z,24nm,0.8s					
PKIN	Phulchoki	160.68	105	*e*P	PKPab	06 55 18.9 -0.5
	comp=Z,29nm,1.0s					
PKI	Pulchoki	160.69	105	*e*P	PKPab	06 55 18.7 -0.9
	comp=Z,28nm,0.9s					
JIRN	Jiri	161.35	106	*e*P	PKPab	06 55 22.1 -0.4
	comp=Z,52nm,0.9s					
RAMN	Ramite	161.35	108	*e*P	PKPab	06 55 22.3 -0.1
	comp=Z,18nm,0.8s					
ODAN	Odare	161.93	109	*e*P	PKPab	06 55 24.8 -0.1
	comp=Z,24nm,0.7s					
KSRS	Korea Array	162.39	286	PKPab	PKPab	06 55 26.6 +0.3
	comp=Z,2.0nm,0.7s,baz=91,slow=4.1,SNR=4.7					
TLY	Talaya	162.58	6	*e*PKP2	PKPab	06 55 28.0 +1.5
TLY				pmax	pmax	
	comp=Z,26nm,0.9s					
WMQ	Urumqi	162.64	52	*e*PKP	PKPdf	06 54 38.9 +0.1
CMAR	Chiang Mai Arr	162.77	155	PKP	PKPdf	06 54 39.5 -0.1
	comp=Z,0.9nm,0.3s,baz=260,slow=2.1,SNR=11					
CMAR				PKPab	PKPab	06 55 28.1 -0.1
	comp=Z,0.7nm,0.3s,baz=235,slow=4.9,SNR=4.6					
CMAR	Chiang Mai Arr	162.77	155	PKIKP	PKPdf	06 54 38.7 -0.8
CMAR						06 55 28.1
CMAR	Chiang Mai Arr	162.77	155		PKPdf	06 54 38.7 -0.8
ZAK	Zakamensk	163.83	7	*e*PKP2	PKPab	06 55 32.2 0.0
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.2s					
SONM	Songino Array	166.55	0	PKP	PKPdf	06 54 41.6 -0.5
	comp=Z,1.3nm,0.9s,baz=303,slow=1.6,SNR=4.9					
SONM				PKPab	PKPab	06 55 44.4 +0.2
	comp=Z,3.3nm,0.8s,baz=337,slow=4.3,SNR=11					
SONM	Songino Array	166.55	0		PKPab	06 55 45.1 +0.8
NJ2	Nanjing	169.41	261	*e*PKP	PKPdf	06 54 44.1 -0.3
HHC	Hu-ho-hao-te	172.40	330	*e*PKP	PKPdf	06 54 46.6 +0.7
GTA	Gaotai	172.65	45	PKP	PKPdf	06 54 46.3 +0.2
GTA				PKPab	PKPab	06 56 12.8 +1.2
GTA				LR	LR	
	comp=Z,67nm,19.6s					
GTA				LR	LR	
	comp=Z,84nm,17.4s					
GTA				LR	LR	
	comp=Z,99nm,18.5s					
CD2	Chengdu	175.84	145	PKP	PKPdf	06 54 45.9 -1.4
LZH	Lanzhou	177.22	51	*e*PKP	PKPdf	06 54 42.9 -4.7
LZH				pPKP	sPKPdf	06 54 53.5 -0.5
LZH				sPKP		06 54 59.9
XAN	Xi'an	177.98	261	PKP	PKPdf	06 54 47.9 +0.3
XAN				pPKP	sPKPdf	06 54 58.3 +4.3
XAN				LR	LR	
	comp=Z,370nm,28.2s					
XAN				LR	LR	
	comp=Z,230nm,21.7s					
XAN				LR	LR	
	comp=Z,500nm,23.9s					

IDC ***24*** *06:47:01.4±0.7, 55.°64S×27.°16W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/17, Error ellipse: s-maj=23.5km s-min=18.8km az=92.0*

NEIC ***24*** *06:47:07.8±1.5, 55.°7S±0.°1×27.°2W±0.°2, h47km±2km, mb4.6/19, Error ellipse: s-maj=18.1km s-min=12.6km az=202.0*

ISC 24 06:47:03.6±0.6, 55.°71S±0.°09×27.°29W±0.°08, h10km, n46, σ1§65/39, mb4.5/10, MS3.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HOPE	Hope Point	5.49	281		Pn	06 48 25.5	+0.3
HOPE					Sn	06 49 25.6	-2.7
VNA1	Neumayer--Stat	17.13	158	P	Pn	06 51 05.4	+2.8
VNA3	Neumayer Olymp	17.33	161	P	Pn	06 51 06.9	+1.8
VNA2	Neumayer--Watz	17.52	158	P	Pn	06 51 09.0	+1.4
	baz=314,slow=13						
SNAA	Sanae	19.07	156	P	P	06 51 25.0	-0.8
SNAA	Sanae	19.07	156	P	P	06 51 25.9	+0.1
	0.3nm,0.3s,baz=327,slow=10,SNR=19						
SNAA				S	Sn	06 54 55.4	-4.5
	0.0nm,0.3s,baz=257,slow=14,SNR=1.7						
SNAA				LR	LR	06 56 35.8	
	comp=Z,96nm,20.6s,baz=286,slow=30						
SNAA	Sanae	19.07	156	P	P	06 51 26.0	+0.2
PMSA	Palmer Station	20.08	228	P	P	06 51 38.1	+1.4
	7.8nm,0.9s,baz=107,slow=16,SNR=2.6						
PMSA				LR	LR	06 57 56.7	
	comp=Z,162nm,18.5s,baz=52,slow=32						
PMSA	Palmer Station	20.08	228	P	P	06 51 37.8	+1.1
PMSA				IAmb	IAmb	06 51 53.8	
	comp=Z,17nm,1.0s						
BELA	Belgrano 2	22.41	184	P	P	06 52 01.1	-0.7
PLCA	Paso Flores	31.89	280	LR	LR	07 04 55.9	
	comp=Z,54nm,19.9s,baz=162,slow=34						
QSPA	South Pole Qui	34.54	180	P	P	06 53 51.9	+0.1
	comp=Z,2.9nm,0.6s,baz=208,slow=2.3,SNR=22						
QSPA	South Pole Qui	34.54	180	P	P	06 53 51.9	+0.1
QSPA				IAmb	IAmb	06 53 58.6	
	comp=Z,5.5nm,0.7s						
MAW	Mawson	40.45	144	P	P	06 54 41.1	-0.5
	comp=Z,1.6nm,0.6s,baz=250,slow=8.2,SNR=4.5						
MAW	Mawson	40.45	144	IAmb	IAmb	06 54 50.0	
	comp=Z,2.0nm,1.4s						
GO02	Mina Guanaco	43.29	297	P	P	06 55 05.7	+0.1
LVC	Limon Verde	45.08	300	P	P	06 55 19.9	-0.2
LVC				IAmb	IAmb	06 55 22.4	
	comp=Z,12nm,0.8s						
BOSA	Boshof	45.94	76	P	P	06 55 25.1	-1.5
	comp=Z,3.0nm,0.8s,baz=222,slow=8.9,SNR=5.0						
BOSA	Boshof	45.94	76	IAmb	IAmb	06 55 31.3	
	comp=Z,9.5nm,1.2s						
PB01	IPOC Station P	46.69	300	P	P	06 55 32.1	-0.4
VNDA	Vanda	46.91	183	P	P	06 55 33.3	-0.1
	comp=Z,1.8nm,0.7s,baz=187,slow=6.8,SNR=19						
VNDA	Vanda	46.91	183	P	P	06 55 33.6	+0.2
PB08	IPOC Station P	47.30	301	P	P	06 55 36.6	-1.0
H10S2	ASCENSION HYDR	47.69	17	T	T	07 47 06.8	
	baz=189,slow=74,SNR=18						
H10S3	ASCENSION HYDR	47.70	17	T	T	07 47 07.1	
	baz=31,slow=74,SNR=43						
GO01	Chusmiza	47.72	302	P	P	06 55 41.0	0.0
PB11	IPOC Station P	47.87	301	P	P	06 55 41.7	0.0
MNMC	Minye Minye	48.37	302	P	P	06 55 45.7	0.0
H10N1	ASCENSION HYDR	48.81	17	T	T	07 48 31.0	
	baz=189,slow=75,SNR=16						
H10N3	ASCENSION HYDR	48.81	17	T	T	07 48 31.0	
	baz=189,slow=75,SNR=36						
H10N2	ASCENSION HYDR	48.83	17	T	T	07 48 32.2	
	baz=189,slow=75,SNR=25						
LBTB	Lobatse	48.97	74	P	P	06 55 49.1	-1.0
	comp=Z,3.1nm,0.8s,baz=236,slow=9.7,SNR=4.2						
LBTB	Lobatse	48.97	74	IAmb	IAmb	06 55 50.0	
	comp=Z,14nm,1.3s						
LPAZ	La Paz	50.14	305	P	P	06 55 59.3	-0.4
	comp=Z,6.1nm,0.8s,baz=143,slow=5.9,SNR=22						
LPAZ				LR	LR	07 16 46.8	
	comp=Z,27nm,21.6s,baz=156,slow=36						
LPAZ	La Paz	50.14	305	P	P	06 55 58.8	-0.9
LPAZ				IAmb	IAmb	06 56 00.6	
	comp=Z,8.2nm,0.9s						
SAML	Samuel	54.53	315	P	P	06 56 30.8	-0.8
SAML				IAmb	IAmb	06 56 31.0	
	comp=Z,6.4nm,0.8s						
TOA0	Torodi Ar. Sit	72.79	30	P	P	06 58 31.4	-0.6
TOA0				IAmb	IAmb	06 58 34.2	
	comp=Z,6.9nm,1.4s						
TORD	Torodi Ar. Bea	72.79	30	P	P	06 58 31.5	-0.5
	comp=

6.8nm,0.2s
SHLS Lg Lg 06 48 59.0
20nm,0.5s
UZB Uzynbulak 2.38 348 *e*P **Pg 06 48 26.9 -1.3**
UZB 2.1nm,0.3s
*e*S **Sg 06 48 59.3 +0.2**
8.6nm,0.6s
UZB Uzynbulak 2.38 348 Pg **Pg 06 48 26.9 -1.3**
UZB 2.1nm,0.3s
Lg Lg 06 48 59.3
8.6nm,0.6s
SATY Saty 2.44 337 *e*P **Pg 06 48 28.2 -1.1**
SATY 2.8nm,0.3s
*e*S **Sg 06 49 01.5 +0.6**
13nm,0.4s
SATY Saty 2.44 337 Pg **Pg 06 48 28.2 -1.1**
SATY 2.8nm,0.3s
Lg Lg 06 49 01.5
13nm,0.4s
ANVS Anan'yevo 2.48 323 ⇓*i*P **Pb 06 48 28.2 +1.3**
ANVS baz=23
⇓*i*S **Sg 06 49 01.0 -1.3**
baz=23
PDGK Podgornoye 2.51 357 ⇓Pn **Pg 06 48 29.3 -1.5**
PDGK 2.0nm,0.4s
⇓Lg Lg 06 49 02.7
9.6nm,0.7s
KPKS Kokpek 2.75 344 *e*P **Pb 06 48 33.1 +1.7**
KPKS 5.6nm,0.3s
*e*S **Sg 06 49 10.2 -0.8**
22nm,0.4s
ULHL Ulahol 2.96 300 ⇑*i*P **Pb 06 48 35.0 -0.1**
ULHL baz=0.0
⇑*i*S **Sb 06 49 11.9 +0.8**
baz=0.0
TNSS Tian-Shan 3.02 318 *e*P **Pg 06 48 38.9 -1.6**
TNSS 2.7nm,0.3s
*e*S **Sg 06 49 19.9 +0.3**
3.1nm,0.5s
TNSS Tian-Shan 3.02 318 Pg **Pg 06 48 38.9 -1.6**
TNSS 2.7nm,0.3s
Lg Lg 06 49 19.9
3.1nm,0.5s
BOOM Boomskoye usch 3.27 302 ⇑*i*P **Pb 06 48 38.9 -1.5**
BOOM baz=2.0
⇑*i*S **Sb 06 49 18.8 -1.3**
baz=2.0
MNBS Baschi 3.40 344 *e*P **Pb 06 48 44.9 +2.4**
MNBS 0.8nm,0.3s
*e*S **Sg 06 49 30.1 -1.6**
3.9nm,0.5s
MNBS Baschi 3.40 344 Pg **Pb 06 48 44.9 +2.4**
MNBS 0.8nm,0.3s
Lg Lg 06 49 30.1
3.9nm,0.5s
DJR Jarkent 3.51 1 *e*P **Pb 06 48 46.2 +1.7**
DJR 1.4nm,0.2s
*e*S **Sg 06 49 32.1 -3.2**
3.3nm,0.4s
DJR Jarkent 3.51 1 Pg **Pb 06 48 46.2 +1.7**
DJR 1.4nm,0.2s
Lg Lg 06 49 32.1
3.3nm,0.4s

*IDC **24** 07:17:58.8±0.6, 59°.58S×26°.19W, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/19, mbtmp4.4/12, ML4.8/1, MS3.6/12, Ms1 3.5/12, ms1mx3.5/19, Error ellipse: s-maj=23.7km s-min=17.2km az=74.0*
*NEIC **24** 07:18:04.0±1.2, 59°.7S±0°.1×26°.2W±0°.2, h35km±1km, mb5.0/39, Error ellipse: s-maj=18.5km s-min=11.9km az=207.0*
ISC 24 07:18:04.7±0.5, **59°.72S**±0°.08×**26°.01W**±0°.09, **h40**km, **n78**, σ1º**23**/70, **mb4.8**/26, **MS3.5**/10, **1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.90**	**309**		**Pn**	**07 20 00.1**	**+3.3**
VNA1	**Neumayer--Stat**	**13.18**	**154**	P	**Pn**	**07 21 07.7**	**-1.1**
VNA3	**Neumayer Olymp**	**13.33**	**157**	P	**Pn**	**07 21 09.2**	**-1.9**
VNA2	**Neumayer--Watz**	**13.57**	**153**	P	**Pn**	**07 21 12.4**	**-1.9**
baz=307,slow=14							
SNAA	**Sanae**	**15.16**	**152**	P	**Pn**	**07 21 34.2**	**-1.4**
SNAA	**Sanae**	**15.16**	**152**	Pn	**Pn**	**07 21 34.6**	**-1.0**
4.3nm,0.3s,baz=314,slow=13,SNR=188							
SNAA				Sn	Sn	07 24 11.5	-11
0.8nm,0.3s,baz=225,slow=21,SNR=7.1							
SNAA				LR	LR	07 26 08.3	
comp=Z,183nm,21.0s,baz=309,slow=32							
SNAA	**Sanae**	**15.16**	**152**	Pn	**Pn**	**07 21 34.2**	**-1.4**
PMSA	**Palmer Station**	**18.20**	**238**	LR	LR	07 27 56.9	
comp=Z,307nm,19.4s,baz=66,slow=33							
PMSA	**Palmer Station**	**18.20**	**238**	Pn	**P**	**07 22 15.6**	**+1.9**
BELA	**Belgrano 2**	**18.46**	**186**		**P**	**07 22 16.5**	**-0.1**
EFI	**East Falkland**	**19.61**	**280**	Pn	**Pn**	**07 22 30.1**	**-0.7**
EFI				IAmb	IAmb	07 22 50.9	
comp=Z,132nm,1.4s							
GO09	**Cerro Castillo**	**27.05**	**267**	P	**P**	**07 23 40.6**	**-2.3**
GO09				IAmb	IAmb	07 23 53.3	
comp=Z,30nm,1.4s							
SYO	**Syowa Base**	**28.40**	**136**	⇓*e*P	**P**	**07 23 52.8**	**-2.0**
QSPA	**South Pole Qui**	**30.52**	**180**	P	**P**	**07 24 15.1**	**+1.3**
comp=Z,5.6nm,0.6s,baz=212,slow=1.9,SNR=91							
QSPA				PcP	**PcP**	**07 27 11.4**	**-0.2**
comp=Z,3.7nm,0.7s,baz=199,slow=1.4,SNR=5.1							
QSPA	**South Pole Qui**	**30.52**	**180**	P	**P**	**07 24 15.3**	**+1.6**
PLCA	**Paso Flores**	**33.40**	**284**	P	**P**	**07 24 38.0**	**-1.2**
comp=Z,2.9nm,0.7s,baz=161,slow=7.3,SNR=7.2							
PLCA				LR	LR	07 37 01.5	
comp=Z,85nm,20.5s,baz=165,slow=34							
PLCA	**Paso Flores**	**33.40**	**284**	P	**P**	**07 24 38.0**	**-1.2**
PLCA				IAmb	IAmb	07 25 47.6	
comp=Z,27nm,1.6s							
MAW	**Mawson**	**36.86**	**140**	P	**P**	**07 25 09.7**	**+1.2**
comp=Z,2.7nm,1.0s,baz=222,slow=8.8,SNR=4.9							
MAW				LR	LR	07 38 22.3	
comp=Z,98nm,19.8s,baz=240,slow=33							
MAW	**Mawson**	**36.86**	**140**	IAmb	IAmb	07 25 12.0	
comp=Z,0.7nm,1.0s							
BO02	**Sierra Bellavi**	**38.21**	**290**	P	**P**	**07 25 18.7**	**-1.7**
GO05	**Huala**	**38.58**	**289**	P	**P**	**07 25 22.1**	**-1.3**
GO05				IAmb	IAmb	07 26 04.0	
comp=Z,72nm,1.8s							
PEL	**Peldehue**	**39.52**	**292**	P	**P**	**07 25 30.0**	**-1.3**
PEL				IAmb	IAmb	07 25 31.6	
comp=Z,27nm,1.0s							
MT02	**Curacav**	**39.63**	**291**	P	**P**	**07 25 31.4**	**-0.8**
MT02				IAmb	IAmb	07 26 38.3	
comp=Z,78nm,2.0s							
VA03	**San Esteban**	**39.77**	**293**	P	**P**	**07 25 32.7**	**-0.8**
VA03				IAmb	IAmb	07 25 34.5	
comp=Z,23nm,1.1s							
ROC1	**El Roble**	**39.81**	**292**	P	**P**	**07 25 31.9**	**-2.1**
CO02	**Combarbal**	**41.28**	**293**	P	**P**	**07 25 44.6**	**-1.4**
CO03	**El Pedregal**	**41.44**	**294**	P	**P**	**07 25 47.3**	**0.0**
CO03				IAmb	IAmb	07 26 50.5	
comp=Z,39nm,1.6s							
CO01	**Juntas del Tor**	**41.89**	**295**	P	**P**	**07 25 51.4**	**+0.2**
GO04	**Tololo Observa**	**42.05**	**294**	P	**P**	**07 25 51.6**	**-0.9**
GO04				IAmb	IAmb	07 27 14.3	
comp=Z,89nm,1.7s							
VNDA	**Vanda**	**42.92**	**183**	P	**P**	**07 26 00.6**	**+1.9**
comp=Z,4.1nm,0.8s,baz=187,slow=6.3,SNR=34							
VNDA				PcP	**PcP**	**07 27 50.0**	**+1.4**
comp=Z,1.8nm,0.9s,baz=233,slow=5.0,SNR=5.2							
VNDA				LR	LR	07 42 50.7	
comp=Z,38nm,19.0s,baz=198,slow=35							
VNDA	**Vanda**	**42.92**	**183**	P	**P**	**07 26 00.7**	**+1.9**
AC05	**El Transito**	**42.94**	**296**	P	**P**	**07 25 59.1**	**-0.5**
AC05				IAmb	IAmb	07 26 01.4	
comp=Z,32nm,1.2s							
LCO	**Las Campanas**	**42.99**	**295**	P	**P**	**07 25 59.5**	**-0.7**
AC04	**Llanos de Chal**	**43.84**	**296**	P	**P**	**07 26 05.1**	**-1.6**
GO02	**Mina Guanaco**	**45.80**	**299**	P	**P**	**07 26 21.9**	**-0.8**
GO02				IAmb	IAmb	07 27 04.8	
comp=Z,50nm,1.4s							
BOSA	**Boshof**	**46.41**	**71**	P	**P**	**07 26 27.8**	**+0.5**
comp=Z,2.9nm,0.8s,baz=188,slow=5.6,SNR=3.1							
BOSA				LR	LR	07 42 14.4	
comp=Z,50nm,20.7s,baz=194,slow=31							
BOSA	**Boshof**	**46.41**	**71**	IAmb	IAmb	07 27 48.1	
comp=Z,38nm,1.8s							
PB14	**IPOC Station P**	**46.62**	**299**	P	**P**	**07 26 28.4**	**-0.8**
BDFB	**Brasilia**	**46.87**	**330**	LR	LR	07 43 36.7	
comp=Z,69nm,19.3s,baz=123,slow=33							
LVC	**Limon Verde**	**47.73**	**302**	P	**P**	**07 26 37.0**	**-0.9**
LVC				IAmb	IAmb	07 26 40.8	
comp=Z,10nm,0.8s							
PB09	**IPOC Station P**	**48.59**	**302**	P	**P**	**07 26 43.6**	**-0.7**
PB07	**IPOC Station P**	**48.94**	**301**	P	**P**	**07 26 46.0**	**-0.9**
PB01	**IPOC Station P**	**49.37**	**302**	P	**P**	**07 26 49.2**	**-0.8**
PB08	**IPOC Station P**	**50.02**	**303**	P	**P**	**07 26 55.1**	**-0.4**
PB08				IAmb	IAmb	07 28 17.4	
comp=Z,52nm,2.0s							
GO01	**Chusmiza**	**50.46**	**303**	P	**P**	**07 26 58.2**	**-0.6**
GO01				IAmb	IAmb	07 27 11.8	
comp=Z,51nm,1.9s							
PB11	**IPOC Station P**	**50.57**	**303**	P	**P**	**07 26 57.7**	**-1.6**
PSGCX	**Pisagua**	**50.92**	**302**	P	**P**	**07 26 59.9**	**-2.0**
MNMC	**Minye Minye**	**51.11**	**303**	P	**P**	**07 27 03.0**	**-0.5**
MNMC				IAmb	IAmb	07 27 05.8	
comp=Z,17nm,0.8s							
H10S2	**ASCENSION HYDR**	**51.38**	**14**	T	T	08 22 47.8	
baz=187,slow=74,SNR=8.9							
H10S3	**ASCENSION HYDR**	**51.38**	**14**	T	T	08 22 48.1	
baz=33,slow=74,SNR=22							
PB16	**IPOC Station P**	**51.78**	**304**	P	**P**	**07 27 07.3**	**-1.6**
PB16				IAmb	IAmb	07 27 59.9	
comp=Z,30nm,1.8s							
H10N1	**ASCENSION HYDR**	**52.50**	**14**	T	T	08 24 12.2	
baz=191							
H10N3	**ASCENSION HYDR**	**52.50**	**14**	T	T	08 24 12.3	
baz=191,slow=74							
H10N2	**ASCENSION HYDR**	**52.51**	**14**	T	T	08 24 13.7	
baz=191,slow=74							
LPAZ	**La Paz**	**53.04**	**306**	P	**P**	**07 27 17.1**	**-1.1**
comp=Z,1.8nm,0.3s,baz=100,slow=5.0,SNR=20							
LPAZ				LR	LR	07 50 22.1	
comp=Z,17nm,21.4s,baz=142,slow=37							
LPAZ	**La Paz**	**53.04**	**306**	P	**P**	**07 27 17.3**	**-1.0**
SAML	**Samuel**	**57.85**	**315**	P	**P**	**07 27 49.9**	**-2.2**
SAML				IAmb	IAmb	07 27 50.7	
comp=Z,5.1nm,0.7s							
LSZ	**Lusaka**	**59.22**	**66**	P	**P**	**07 28 02.9**	**+1.1**
LSZ				IAmb	IAmb	07 28 03.4	
comp=Z,6.2nm,0.8s							
DBIC	**Dimbokro**	**68.29**	**23**	P	**P**	**07 29 01.6**	**+0.3**
comp=Z,3.5nm,0.9s,baz=157,slow=7.7,SNR=2.5							
DBIC				LR	LR	07 52 48.2	
comp=Z,24nm,19.2s,baz=132,slow=31							
TOA0	**Torodi Ar. Sit**	**75.99**	**28**	P	**P**	**07 29 47.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**75.99**	**28**	P	**P**	**07 29 47.4**	**+0.1**
comp=Z,4.6nm,0.7s,baz=197,slow=6.4,SNR=21							
TORD				LR	LR	07 57 52.9	
comp=Z,31nm,20.1s,baz=190,slow=32							
TORD	**Torodi Ar. Bea**	**75.99**	**28**	P	**P**	**07 29 47.5**	**+0.2**
STKA	**Stephens Creek**	**88.16**	**169**	P	**P**	**07 30 52.0**	**+0.9**
comp=Z,2.4nm,0.6s,baz=149,slow=2.4,SNR=4.7							
ASAR	**Alice Springs**	**95.29**	**162**	P	**P**	**07 31 24.1**	**-0.2**
comp=Z,1.8nm,0.6s,baz=181,slow=3.8,SNR=29							
ASAR				LR	LR	08 12 45.3	
comp=Z,57nm,18.7s,baz=180,slow=34							
ASAR	**Alice Springs**	**95.29**	**162**	P	**P**	**07 31 23.7**	**-0.5**
WRA	**Warramunga Arr**	**99.01**	**161**	P	**Pdif**	**07 31 41.3**	**+0.2**
comp=Z,0.3nm,0.7s,baz=196,slow=4.3,SNR=1.8							
WRA				LR	LR	08 15 18.6	
comp=Z,70nm,18.8s,baz=180,slow=35							
CMAR	**Chiang Mai Arr**	**123.15**	**112**	PKP	**PKPdf**	**07 36 56.8**	**+0.2**
comp=Z,2.3nm,0.6s,baz=229,slow=3.9,SNR=10							
FINES	**FINESS Array B**	**127.33**	**28**	PKP	**PKPdf**	**07 37 03.0**	**-0.3**
comp=Z,3.6nm,0.8s,baz=225,slow=1.3,SNR=4.8							
ABKAR	**Akbulak array**	**128.89**	**57**		**PKPdf**	**07 37 06.4**	**-0.3**
ABKAR	**Akbulak array**	**128.89**	**57**		**PKPdf**	**07 37 06.0**	**-0.7**
AKTO	**Aktyubinsk**	**128.98**	**55**	PKP	**PKPdf**	**07 37 06.6**	**-0.2**
comp=Z,2.6nm,0.7s,baz=157,slow=2.9,SNR=7.3							
MKAR	**Makanchi Array**	**137.37**	**74**	PKP	**PKPdf**	**07 37 22.2**	**-0.5**
comp=Z,1.0nm,0.8s,baz=279,slow=2.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**143.31**	**68**	PKhKP	PKPpre	07 37 29.3	
comp=Z,1.7nm,0.4s,baz=223,slow=2.1,SNR=6.0							
SONM	**Songino Array**	**150.15**	**92**	PKPbc	**PKPbc**	**07 37 50.4**	**+0.2**
comp=Z,8.0nm,0.7s,baz=216,slow=2.7,SNR=28							
SONM	**Songino Array**	**150.15**	**92**		**PKPbc**	**07 37 50.1**	**0.0**
KSRS	**Korea Array**	**152.16**	**132**	PKPbc	**PKPbc**	**07 37 55.0**	**+0.1**
comp=Z,1.6nm,0.7s,baz=194,slow=1.0,SNR=5.2							
KDAK	**Kodiak Island**	**152.84**	**290**	PKPbc	**PKPbc**	**07 37 54.8**	**-1.0**
comp=Z,2.9nm,0.6s,baz=126,slow=1.7,SNR=1.9							
ILAR	**Eielson Array**	**152.92**	**306**	PKPbc	**PKPbc**	**07 37 54.4**	**-1.4**
comp=Z,1.4nm,0.7s,baz=148,slow=1.4,SNR=2.3							

*MOS **24** 07:30:55.5±0.9, 61°.45N×146°.85W, h51km, mb4.7/14, Error ellipse: s-maj=32.4km s-min=10.8km az=98.8*
*ANF **24** 07:30:55.8±0.4, 61°.36N×146°.65W, h23km±3km, ML5.1/12, Error ellipse: s-maj=1.6km s-min=1.1km az=165.0*
*NEIC **24** 07:30:56.5, 61°.34N×146°.82W, h44km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=5.09; $M_{\theta\theta}$0.79; $M_{\phi\phi}$4.30; $M_{r\theta}$1.33; $M_{r\phi}$1.16; $M_{\theta\phi}$2.15; Fault plane solution: $M_0$5.50000×10^{15} NP1:φs203.13000°, δ58.61000°, λ-83.78000°. NP2:φs11.31000°, δ31.94000°, λ-100.07000°. Principal axes: T 5.2318, Plg13.0000°, Azm289.0000°; N 0.4983, Plg5.0000°, Azm20.0000°; P -5.7301, Plg76.0000°, Azm131.0000°;*
*NEIC **24** 07:30:56.6±1.6, 61°.35N±0°.02×146°.79W±0°.04, h39km±4km Error ellipse: s-maj=3.4km s-min=3.1km az=205.0*
*UNK **24** 07:30:57.1, 61°.35N×146°.78W, h27km*
*IDC **24** 07:30:57.5±0.5, 61°.54N×146°.72W, h45km±4km, mb4.0/24, mb1 4.2/27, mb1mx4.1/47, mbtmp4.3/27, MS3.5/23, Ms1 3.5/23, ms1mx3.4/38, Error ellipse: s-maj=12.9km s-min=9.1km az=50.0*
*AEIC **24** 07:30:57±1.8, 61°.35N±0°.02×146°.78W±0°.04, h27km±4km, ML4.5, mb4.5/119(NEIC), Mwr4.4/100(NEIC), Error ellipse: s-maj=2.8km s-min=2.8km az=70.0*
ISC 24 07:30:56.2±0.4, **61°.36N**±0°.03×**146°.73W**±0°.03, **h36**km, **h37**km:**pP-P, n561**, σ1º**11**/597, **mb4.5**/86, **MS3.6**/22, **3C-2D, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JPK	**Jack Peak**	**0.31**	**168**		**Pn**	**07 31 04.5**	**+0.1**
VMT	**TAPS Tl Valdez**	**0.33**	**148**		**Pn**	**07 31 04.5**	**+0.2**
VMT					**Sn**	**07 31 10.8**	**-0.3**
KLU	**Klutina**	**0.41**	**70**	Pg	**Pn**	**07 31 05.8**	**+0.5**
KLU				Sg	**Sn**	**07 31 12.9**	**+0.6**
GLI	**Glacier Island**	**0.51**	**201**		**Pn**	**07 31 06.5**	**-0.4**
GLI				Sg	**Sn**	**07 31 14.7**	**+0.2**
DIV	**Divide**	**0.52**	**116**		**Pn**	**07 31 06.7**	**-0.4**
DIV					**Sn**	**07 31 15.1**	**+0.4**
SCM	**Sheep Creek Mo**	**0.56**	**329**		**Pn**	**07 31 07.2**	**-0.6**
SCM				Sg	**Sn**	**07 31 15.3**	**-0.4**
FID	**Port Fidalgo**	**0.62**	**169**		**Pn**	**07 31 08.4**	**-0.2**
FID	**Port Fidalgo**	**0.62**	**169**		**Sn**	**07 31 17.9**	**+0.7**
PS12	**TAPS Pump St12**	**0.77**	**80**		**Pn**	**07 31 10.4**	**-0.1**
PS12					**Sn**	**07 31 21.7**	**+0.9**
M24K	**Tolsona, Glenn**	**0.80**	**19**	P	**Pn**	**07 31 11.3**	**+0.4**
baz=201,SNR=1000							
M24K				S	**Sn**	**07 31 23.2**	**+1.6**
baz=201							
M24K	**Tolsona, Glenn**	**0.80**	**19**		**Pn**	**07 31 11.3**	**+0.4**
M24K	**Tolsona, Glenn**	**0.80**	**19**		**Sn**	**07 31 23.4**	**+1.8**
KNK	**Knik Glacier**	**0.84**	**275**		**Pn**	**07 31 11.0**	**-0.4**
KNK	**Knik Glacier**	**0.84**	**275**		**Sn**	**07 31 22.4**	**-0.2**
SML	**Sawmill**	**0.89**	**301**		**Pn**	**07 31 11.5**	**-0.7**
SML					**Sn**	**07 31 23.3**	**-0.7**
PWL	**Port Wells**	**0.93**	**238**		**Pn**	**07 31 12.2**	**-0.4**
PWL					**Sn**	**07 31 25.0**	**+0.2**
PS11	**TAPS Pump St11**	**0.94**	**39**		**Pn**	**07 31 13.8**	**+1.0**
PS11					**Sn**	**07 31 27.6**	**+2.6**
EYAK	**Cordova Ski Ar**	**0.94**	**149**		**Pn**	**07 31 13.6**	**+0.9**
EYAK					**Sn**	**07 31 26.7**	**+1.7**
HIN	**Hinchinbrook I**	**0.97**	**173**		**Pn**	**07 31 13.8**	**+0.6**
BMRM	**Bremner River**	**1.10**	**110**		**Pn**	**07 31 15.1**	**+0.1**
GHO	**Glory Hole Cre**	**1.13**	**293**		**Pn**	**07 31 15.3**	**-0.2**
GHO					**Sn**	**07 31 30.4**	**+0.6**
PMR	**Palmer**	**1.18**	**283**		**Pn**	**07 31 15.9**	**-0.1**
PMR					**Sn**	**07 31 31.1**	**+0.3**
GOAT	**Goat Mountain**	**1.25**	**128**		**Pn**	**07 31 18.5**	**+1.4**
WAT6	**Susitna Watana**	**1.32**	**339**		**Pn**	**07 31 17.8**	**-0.4**
RAGM	**Ragged Mountai**	**1.40**	**133**		**Pn**	**07 31 19.9**	**+0.8**
GLB	**Gilahina Butte**	**1.41**	**85**		**Pn**	**07 31 19.8**	**+0.6**
GLB					**Sn**	**07 31 38.6**	**+2.1**
RC01	**Rabbit Creek A**	**1.48**	**261**	P	**Pn**	**07 31 20.8**	**+0.6**
baz=78,SNR=1000							
RC01				S	**Sn**	**07 31 40.3**	**+2.0**
baz=78							
RC01	**Rabbit Creek A**	**1.48**	**261**		**Pn**	**07 31 20.8**	**+0.6**
HMT	**Hamilton**	**1.58**	**129**		**Pn**	**07 31 22.3**	**+0.7**
VRDI	**Verde Repeater**	**1.59**	**93**		**Pn**	**07 31 22.5**	**+0.7**
FIS	**Fire Island**	**1.70**	**264**		**Pn**	**07 31 24.5**	**+1.3**
O22K	**Cooper Landing**	**1.71**	**240**	P	**Pn**	**07 31 23.7**	**+0.4**
baz=57,SNR=172							
O22K				S	**Sn**	**07 31 46.5**	**+2.7**
baz=57							
O22K	**Cooper Landing**	**1.71**	**240**		**Pn**	**07 31 23.7**	**+0.4**
WAT1	**Susitna Watana**	**1.71**	**331**		**Pn**	**07 31 24.0**	**+0.6**
WAT1					**Sn**	**07 31 45.6**	**+1.6**
PAX	**Paxson**	**1.72**	**19**		**Pn**	**07 31 24.6**	**+1.0**
DHY	**Denali Highway**	**1.75**	**350**		**Pn**	**07 31 24.6**	**+0.5**
NICHA	**Nichawak Mount**	**1.76**	**129**		**Pn**	**07 31 24.5**	**+0.5**
BERG	**Berg Lake**	**1.77**	**122**		**Pn**	**07 31 24.7**	**+0.5**
MCARA	**McCarthy VSAT**	**1.78**	**88**	Pn	**Pn**	**07 31 25.4**	**+1.1**
KAIM	**Kayak Island**	**1.83**	**141**		**Pn**	**07 31 25.9**	**+0.9**
WAT2	**Susitna Watana**	**1.83**	**332**		**Pn**	**07 31 25.9**	**+0.7**
WAT2					**Sn**	**07 31 49.6**	**+2.5**
SEW	**Seward**	**1.84**	**228**		**Pn**	**07 31 25.0**	**0.0**
CRQM	**Cirque**	**1.85**	**107**		**Pn**	**07 31 26.5**	**+1.1**
SLKM	**Skilak Lake**	**1.91**	**245**		**Pn**	**07 31 26.5**	**+0.4**
SLKM					**Sn**	**07 31 48.9**	**+0.1**
KHIT	**Khitrov Hills**	**1.93**	**117**		**Pn**	**07 31 27.0**	**+0.6**
SUA	**Susitna One**	**1.94**	**275**		**Pn**	**07 31 26.9**	**+0.3**
SUCK	**Suckling Hills**	**1.94**	**130**		**Pn**	**07 31 26.9**	**+0.4**
Q23K	**Middleton Isla**	**1.94**	**174**	P	**Pn**	**07 31 27.2**	**+0.7**
baz=354							
Q23K	**Middleton Isla**	**1.94**	**174**		**Pn**	**07 31 27.2**	**+0.7**
MID	**Middleton Isla**	**1.95**	**174**		**Pn**	**07 31 27.3**	**+0.7**
CUT	**Chulitna**	**1.98**	**304**	P	**Pn**	**07 31 28.3**	**+1.2**
baz=121,SNR=1000							
CUT				S	**Sn**	**07 31 53.7**	**+3.1**
baz=121							
CUT	**Chulitna**	**1.98**	**304**		**Pn**	**07 31 28.2**	**+1.2**
GRIN	**Grindle Hills**	**1.99**	**121**		**Pn**	**07 31 28.0**	**+0.8**
TGL	**Tana Glacier**	**1.99**	**106**		**Pn**	**07 31 28.3**	**+1.0**
TGL	**Tana Glacier**	**1.99**	**106**		**Sn**	**07 31 53.7**	**+2.7**
PTPK	**Patty Peak**	**2.06**	**93**		**Pn**	**07 31 29.6**	**+1.2**
WAX	**Waxell Ridge**	**2.10**	**114**	Pn	**Pn**	**07 31 30.1**	**+1.3**
HUR	**Hurricane**	**2.12**	**321**		**Pn**	**07 31 29.9**	**+0.8**
MENT	**Mentasta**	**2.12**	**40**		**Pn**	**07 31 30.2**	**+1.1**
BALM	**Baldy**	**2.15**	**97**		**Pn**	**07 31 30.2**	**+0.8**
KIAG	**Kiagna River**	**2.16**	**100**		**Pn**	**07 31 30.5**	**+0.8**
CAPN	**Captain Cook N**	**2.23**	**257**	P	**Pn**	**07 31 32.5**	**+2.0**
baz=73,SNR=56							
CAPN				S	**Sn**	**07 32 00.2**	**+3.4**
baz=73							
CAPN	**Captain Cook N**	**2.23**	**257**		**Pn**	**07 31 32.5**	**+2.0**
SNH	**Sunshine Point**	**2.24**	**120**		**Pn**	**07 31 31.6**	**+0.8**
KULT	**Kultieth River**	**2.26**	**118**		**Pn**	**07 31 31.6**	**+0.6**
ISLE	**Juniper Island**	**2.27**	**108**		**Pn**	**07 31 31.7**	**+0.6**
BARK	**Barkley Ridge**	**2.28**	**113**		**Pn**	**07 31 32.5**	**+1.2**
RND	**Reindeer**	**2.28**	**335**		**Pn**	**07 31 32.5**	**+1.2**
SKT	**Skwentna**	**2.38**	**287**		**Pn**	**07 31 32.8**	**+0.3**
STLK	**Strandline Lak**	**2.46**	**276**		**Pn**	**07 31 34.3**	**+0.6**
BARN	**Barnard Glacie**	**2.47**	**95**		**Pn**	**07 31 34.7**	**+0.7**
GRNC	**Granite Creek**	**2.50**	**102**		**Pn**	**07 31 35.2**	**+0.8**
RIDG	**Independent Ri**	**2.54**	**19**		**Pn**	**07 31 36.5**	**+1.6**
SPCG	**Spurr Capps Gl**	**2.55**	**271**		**Pn**	**07 31 35.3**	**+0.3**
BRSE	**Bradley Lake S**	**2.56**	**232**		**Pn**	**07 31 35.5**	**+0.4**
MCK	**McKinley**	**2.59**	**338**		**Pn**	**07 31 36.9**	**+1.4**
BRLK	**Bradley Lake**	**2.60**	**234**		**Pn**	**07 31 36.0**	**+0.4**
DOT	**Dot Lake**	**2.61**	**27**		**Pn**	**07 31 37.1**	**+1.4**
SPCP	**Crater Peak Br**	**2.62**	**270**		**Pn**	**07 31 36.3**	**+0.3**
MESA	**MESA**	**2.62**	**115**		**Pn**	**07 31 37.0**	**+0.8**
YAH	**Yahtse**	**2.63**	**110**		**Pn**	**07 31 37.0**	**+0.8**
SPCN	**Chakachatna No**	**2.64**	**269**		**Pn**	**07 31 36.4**	**+0.3**
CTGM	**Chitina Glacie**	**2.64**	**96**		**Pn**	**07 31 37.5**	**+1.2**
SPCR	**Spurr Chakacha**	**2.65**	**269**		**Pn**	**07 31 36.4**	**+0.1**
TRF	**Thorofare Moun**	**2.68**	**323**		**Pn**	**07 31 37.8**	**+1.0**
SPBG	**Spurr Blockage**	**2.72**	**270**		**Pn**	**07 31 37.5**	**+0.1**
LOGN	**Logan Glacier**	**2.83**	**98**		**Pn**	**07 31 40.0**	**+1.1**
RKAV	**Rock Avalanche**	**2.84**	**110**		**Pn**	**07 31 40.1**	**+1.0**
SPNN	**North Nagishla**	**2.88**	**273**		**Pn**	**07 31 39.8**	**+0.3**
BC03		**2.88**	**51**		**Pn**	**07 31 41.1**	**+1.7**
BCAR	**Beaver Creek A**	**2.88**	**51**		**Pn**	**07 31 40.2**	**+0.8**
CNPM	**China Poot**	**2.89**	**233**		**Pn**	**07 31 39.8**	**+0.2**
SCRK	**Sand Creek**	**2.92**	**24**	P	**Pn**	**07 31 40.9**	**+0.9**
baz=207,SNR=69							
SCRK	**Sand Creek**	**2.92**	**24**		**Pn**	**07 31 41.0**	**+0.9**
KTH	**Kantishna Hill**	**2.94**	**320**	Pn	**Pn**	**07 31 41.4**	**+1.0**
HOM	**Homer**	**2.97**	**237**	P	**Pn**	**07 31 41.3**	**+0.7**
baz=53,SNR=9.9							
HOM				S	**Sn**	**07 32 15.7**	**+0.7**
baz=53							
HOM	**Homer**	**2.97**	**237**		**Pn**	**07 31 41.4**	**+0.7**
PPLA	**Purkeypile**	**3.00**	**303**		**Pn**	**07 31 41.5**	**+0.4

SII Sitkinak Islan 6.17 222 Pn 07 32 23.4 -1.1
BMAR Burnt Mountain 6.17 8 Pn 07 32 25.0 +0.5
BESE Bessie Mountai 6.58 110 Pn 07 32 31.2 +1.0
EPYK Eagle Plains 6.69 37 Pn 07 32 32.0 +0.3
JIS Juneau Island 6.95 111 Pn 07 32 35.9 +0.7
CHIR Chirikof Islan 7.24 224 Pn 07 32 37.9 -1.3
SIT Sitka 7.27 121 Pn 07 32 39.5 -0.1
TOLK Toolik Lake Re 7.41 352 P Pn 07 32 42.8 +1.1
baz=170,SNR=22
TOLK Toolik Lake Re 7.41 352 Pn Pn 07 32 43.5 +1.9
CHGN Chignik 7.90 235 Pn Pn 07 32 48.1 -0.1
DLBC Dease Lake 8.88 102 P Pn 07 33 03.3 +1.4
1.3nm,0.3s,baz=335,slow=13,SNR=26
DLBC S Sn 07 34 38.2 -2.3
2.2nm,0.3s,baz=189,slow=19,SNR=1.5
DLBC LR LR 07 36 46.0
comp=Z,537nm,19.7s,baz=292,slow=39
DLBC Dease Lake 8.88 102 Pn 07 33 03.1 +1.3
WRAK Wrangell Islan 8.93 117 Pn 07 33 03.7 +1.4
INK Inuvik 8.94 33 P Pn 07 33 02.9 +0.5
0.9nm,0.3s,baz=222,slow=16,SNR=17
INK S Sn 07 34 37.2 -4.4
baz=300,slow=20,SNR=1.7
INK Inuvik 8.94 33 Pn Pn 07 33 03.3 +0.9
ANM Nome 9.07 299 Pn Pn 07 33 05.4 +1.2
CNBA Chernabura Isl 9.44 232 Pn Pn 07 33 08.6 -0.8
RDOG Red Dog Mine 9.62 321 Pn Pn 07 33 12.7 +0.9
C36M Paulatuk 12.31 40 P Pn 07 33 47.2 -1.3
baz=241,SNR=5.5
C36M Paulatuk 12.31 40 Pn Pn 07 33 46.8 -1.7
AKUT Akutan 12.45 243 Pn Pn 07 33 50.1 -0.3
UNV Unalaska Valle 12.96 243 Pn Pn 07 33 55.6 -1.9
BBB Bella Bella 13.68 124 LR LR 07 39 09.1
comp=Z,159nm,18.6s,baz=346,slow=36
YKA Yellowknife Ar 15.08 72 P Pn 07 34 25.8 -0.4
0.2nm,0.3s,baz=278,slow=13,SNR=12
YKA LR LR 07 40 44.6
comp=Z,216nm,18.1s,baz=0.0,slow=39
YKA Yellowknife Ar 15.08 72 *i* P Pn 07 34 25.5 -0.7
YKA pmax pmax
comp=Z,5.0nm,0.7s
ATKA Atka Island 17.49 251 Pn Pn 07 34 55.8 -1.1
ATKA IAmb IAmb 07 35 03.4
comp=Z,26nm,1.0s
ADK Adak 18.85 253 P 07 35 12.5 -0.1
ADK IAmb IAmb 07 35 24.4
comp=Z,26nm,0.9s
B08A Colville Reser 20.24 118 P P 07 35 29.3 +1.4
BILL Bilibino 20.69 309 *e* P P 07 35 31.0 -1.6
BILL 07 35 48.0
BILL *e* 07 36 00.2
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,171nm,18.0s
NEW Newport 21.27 115 P P 07 35 40.9 +1.8
comp=Z,7.4nm,0.8s,baz=322,slow=8.4,SNR=20
NEW LR LR 07 44 26.9
comp=Z,224nm,18.2s,baz=316,slow=38
NEW Newport 21.27 115 P P 07 35 40.1 +1.0
baz=319,SNR=9.1
NEW Newport 21.27 115 P P 07 35 40.5 +1.4
NEW IAmb IAmb 07 35 58.4
comp=Z,17nm,1.1s
D08A Wollman Farm, 21.43 119 P P 07 35 41.6 +0.8
E07A Sunnyside 21.44 121 P P 07 35 42.6 +1.8
E08A Dider Farm, El 21.82 120 P P 07 35 44.9 0.0
E08A IAmb IAmb 07 35 48.9
comp=Z,19nm,1.4s
F07A Phinny Hill Vi 21.95 123 P P 07 35 46.8 +0.6
F07A IAmb IAmb 07 35 50.9
comp=Z,15nm,0.8s
WALA Waterton Lakes 22.12 109 P P 07 35 49.2 +0.9
WALA IAmb IAmb 07 36 09.1
comp=Z,20nm,1.0s
RES Resolute Bay 22.50 33 LR LR 07 45 36.5
comp=Z,38nm,20.9s,baz=160,slow=39
G08A Pilot Rock 22.84 122 P P 07 35 57.8 +1.9
JTMT Jette 22.92 112 P P 07 35 57.0 +0.3
JTMT IAmb IAmb 07 36 15.8
comp=Z,17nm,1.1s
F10A Beach Ranch, E 23.00 119 P P 07 35 58.7 +1.1
I07A Izee 23.61 125 P P 07 36 05.8 +2.2
J05D Fort Rock, OR 23.62 128 P P 07 36 05.4 +1.7
baz=329
MSO Missoula 23.77 113 P P 07 36 05.7 +0.7
baz=320,SNR=6.2
MSO Missoula 23.77 113 P P 07 36 06.0 +1.0
BMO Blue Mountains 23.87 120 P P 07 36 07.3 +1.3
L04D Klamath Falls 24.14 131 P P 07 36 09.5 +0.9
baz=331
PLID Pearl Lake 24.23 118 P P 07 36 10.0 +0.5
PLID IAmb IAmb 07 36 12.5
comp=Z,10nm,0.8s
YBH Yreka Blue Hor 24.42 133 P P 07 36 13.0 +1.9
comp=Z,8.1nm,0.9s,baz=301,slow=5.2,SNR=9.2
YBH LR LR 07 44 10.6
comp=Z,58nm,21.5s,baz=342,slow=32
YBH Yreka Blue Hor 24.42 133 P P 07 36 13.9 +2.8
YBH IAmb IAmb 07 36 15.2
comp=Z,20nm,1.2s
J08A Circle Bar Ran 24.63 124 P P 07 36 14.4 +1.4
M02C Callahan 24.67 133 P P 07 36 14.5 +1.2
baz=332
EGMT Eagleton 24.78 106 P P 07 36 14.6 +0.2
baz=316
EGMT Eagleton 24.78 106 P P 07 36 13.7 -0.6
EGMT IAmb IAmb 07 36 17.8
comp=Z,19nm,0.9s
HRY Holter Researc 24.80 110 P P 07 36 15.1 +0.5
N02D Trinity Center 25.09 133 P P 07 36 19.0 +1.9
baz=332,SNR=7.2
DLMT Dillon 25.49 113 P P 07 36 23.5 +2.7
DLMT IAmb IAmb 07 36 25.6
comp=Z,19nm,1.2s
WDC Whiskeytown Da 25.50 134 P P 07 36 22.9 +2.2
WDC IAmb IAmb 07 36 26.3
comp=Z,14nm,0.9s
MFID Camas Ranch 25.66 120 P P 07 36 23.6 +1.3
BOZ Bozeman (W) 25.74 112 P P 07 36 24.1 +1.0
baz=320
BOZ Bozeman (W) 25.74 112 P P 07 36 24.4 +1.4
BCYI Bear Canyon 25.97 116 P P 07 36 24.8 -0.5
O03E Paynes Creek 26.01 133 P P 07 36 26.3 +0.8
baz=332,SNR=6.2
HLID Hailey 26.14 118 P P 07 36 27.6 +0.9
baz=324
HLID Hailey 26.14 118 P P 07 36 27.9 +1.2
YHL Hebgen Lake 26.52 112 P P 07 36 32.4 +2.1
YHH Holmes Hill 26.72 112 P P 07 36 34.0 +2.0
YMR Madison River 26.76 112 P P 07 36 34.5 +2.2
YNE Yellowstone No 26.93 111 P P 07 36 35.5 +1.6
H17A Grant Village 27.15 112 P P 07 36 36.2 +0.4
RLMT Red Lodge 27.17 109 P P 07 36 37.5 +1.4
baz=320,SNR=7.5
RLMT Red Lodge 27.17 109 P P 07 36 36.4 +0.3
RLMT IAmb IAmb 07 36 39.5
comp=Z,20nm,1.1s
IMW Indian Meadow 27.38 113 P P 07 36 40.1 +2.1
IMW IAmb IAmb 07 36 58.2
comp=Z,9.7nm,1.1s
LAO LASA Array 27.40 104 P P 07 36 39.1 +1.2
baz=317
AFDM Forest Hills D 27.50 133 P P 07 36 39.8 +0.9
FXWY Fox Creek 27.54 114 P P 07 36 40.9 +1.5
FXWY PcP 07 39 57.0 +0.6
SEY Seymchan 27.57 300 P P 07 36 39.4 +0.2
comp=Z,1.6nm,0.6s,baz=75,slow=16,SNR=2.9
SEY LR LR 07 48 16.5
comp=Z,102nm,21.3s,baz=50,slow=38
SEY Seymchan 27.57 300 *i* P P 07 36 40.0 +0.8
VCNR Virginia City 27.67 130 P P 07 36 41.4 +0.9
TPAW Teton Pass 27.69 114 P P 07 36 41.1 +0.3
REDW Red Top Meadow 27.84 114 P P 07 36 44.0 +1.9
REDW IAmb IAmb 07 36 55.4
comp=Z,9.9nm,1.4s
PNTR Pine Nut 27.87 131 P P 07 36 44.4 +2.1
ELK Elko 28.13 123 P P 07 36 46.6 +1.9
comp=Z,3.4nm,0.9s,baz=325,slow=7.8,SNR=15
ELK LR LR 07 48 08.3
comp=Z,76nm,20.6s,baz=321,slow=36
KVN Kaiserville 28.46 128 P P 07 36 49.2 +1.6
RYN Ryan 28.67 130 P P 07 36 51.5 +2.0
SPUT South Promonto 28.81 118 P P 07 36 52.7 +2.0
BW06 Boulder Array 28.89 113 P P 07 36 52.4 +1.0
baz=323
BW06 Boulder Array 28.89 113 P P 07 36 53.0 +1.7
PDAR Pinedale Array 28.89 113 P P 07 36 52.7 +1.3
comp=Z,1.8nm,0.7s,baz=318,slow=5.8,SNR=16
PDAR PcP PcP 07 39 58.8 -1.0
comp=Z,1.1nm,0.7s,baz=273,slow=0.8,SNR=6.1
PDAR LR LR 07 48 56.3
comp=Z,95nm,21.5s,baz=340,slow=37
PDAR Pinedale Array 28.89 113 P P 07 36 52.6 +1.2
PDAR PcP 07 39 58.6 -1.1
NVAR Mina Array Bea 28.93 129 P P 07 36 53.5 +1.7
comp=Z,4.3nm,0.8s,baz=309,slow=8.0,SNR=31
NVAR PcP PcP 07 39 59.8 -0.2
comp=Z,0.7nm,0.6s,baz=304,slow=2.0,SNR=4.7
MDPB Devils Postpil 29.35 131 P P 07 36 58.1 +2.5
OMMB Old Mammoth Mi 29.40 131 P P 07 36 58.7 +2.6
OMMB IAmb IAmb 07 36 59.3
comp=Z,7.2nm,0.9s
DUG Dugway, Tooele 29.59 120 P P 07 36 58.2 +0.7
baz=327
MA2 Magadan 29.83 295 *i* P P 07 36 57.7 -1.6
MA2 pmax pmax
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 29.87 88 LR LR 07 49 33.3
comp=Z,171nm,19.6s,baz=301,slow=37
R11A Troy Canyon, C 30.04 126 P P 07 37 02.7 +1.2
baz=330,SNR=6.4
R11A Troy Canyon, C 30.04 126 P P 07 37 03.1 +1.5
R11A IAmb IAmb 07 37 04.1
comp=Z,11nm,1.4s
PETK Petropavlovsk- 30.31 280 P P 07 37 05.5 +2.0
comp=Z,0.6nm,0.4s,baz=63,slow=12,SNR=1.9
PETK LR LR 07 49 05.0
comp=Z,73nm,21.7s,baz=58,slow=36
PETK Petropavlovsk- 30.31 280 P P 07 37 04.6 +1.0
K22A Casper 30.34 109 P P 07 37 05.3 +1.1
baz=322
K22A Casper 30.34 109 P P 07 37 04.2 +0.1
K22A IAmb IAmb 07 37 06.9
comp=Z,7.8nm,1.1s
RSSD Black Hills 30.35 105 P P 07 37 05.1 +0.8
baz=320
RSSD Black Hills 30.35 105 P P 07 37 04.3 0.0
RSSD IAmb IAmb 07 37 06.3
comp=Z,8.3nm,0.6s
PSUT Pine Spring 30.57 123 P P 07 37 07.0 +0.7
PAGB Antelope Grade 30.64 135 P P 07 37 07.6 +0.9
RDMU Red Mountain 30.66 116 P P 07 37 05.5 -1.6
VES Vestal, Richgr 30.95 133 P P 07 37 11.3 +2.0
baz=334
TPNV Topopah Spring 31.00 128 P P 07 37 11.0 +0.9
baz=332
SMMC Simmler 31.11 135 P P 07 37 12.7 +1.9
baz=335
FURC Furnace Creek, 31.20 129 P P 07 37 13.2 +1.7
baz=332
MVU Marysvale 31.26 121 P P 07 37 15.0 +2.5
MSU Marysvale 31.27 121 P P 07 37 15.1 +2.6
ISA Isabella, Lake 31.33 132 P P 07 37 14.1 +1.3
baz=334,SNR=9.8
ISA Isabella, Lake 31.33 132 P P 07 37 14.3 +1.5
ISA IAmb IAmb 07 37 15.4
comp=Z,7.8nm,0.8s
MPMC Manual Prospec 31.33 130 P P 07 37 14.5 +1.6
baz=333,SNR=9.9
Q16A Castle Valley 31.35 119 P P 07 37 15.7 +2.6
SRU San Rafael Swe 31.46 118 P P 07 37 16.2 +2.2
PKM Mcpherson Peak 31.55 135 P P 07 37 16.7 +1.7
baz=335,SNR=7.7
O20A White River Ci 31.60 114 P P 07 37 16.8 +1.5
baz=325
CCUT Cedar City 31.61 123 P P 07 37 17.4 +2.0
SZCU Shurtz Canyon 31.68 123 P P 07 37 18.2 +2.1
LRMC Laurel Mtn Rad 31.77 131 P P 07 37 18.7 +1.8
baz=334,SNR=6.6
N23A Red Feather La 32.00 111 P P 07 37 20.0 +1.0
baz=324
EDW2 Edwards Air Fo 32.20 132 P P 07 37 22.2 +1.8
baz=334
TIXI Tiksi 32.22 324 *i* P P 07 37 18.1 -2.1
GSC Goldstone, Bar 32.25 130 P P 07 37 22.9 +1.9
baz=333,SNR=7.8
GSC Goldstone, Bar 32.25 130 P P 07 37 23.2 +2.2
GSC IAmb IAmb 07 37 24.0
comp=Z,14nm,1.1s
KNB Kanab 32.29 123 P P 07 37 23.5 +2.2
TUQ Turquoise Moun 32.46 129 P P 07 37 25.0 +2.1
baz=333
RRX Edison Barstow 32.56 131 P P 07 37 26.1 +2.5
baz=334
HEC Hector,Ludlow 32.85 130 P P 07 37 26.9 +0.8
baz=333
BFSC Mount Baldy Ra 32.90 132 P P 07 37 28.4 +1.8
baz=334,SNR=6.0
U15A North Rim 33.01 123 P P 07 37 29.6 +1.8
U15A IAmb IAmb 07 37 30.6
comp=Z,5.4nm,0.8s
PV01 Paradox Valley 33.11 117 P P 07 37 30.2 +1.6
PV01 IAmb IAmb 07 37 31.7
comp=Z,5.8nm,1.1s
GMRC Granite Mounta 33.14 129 P P 07 37 30.1 +1.4
baz=333
BBRC Big Bear Solar 33.14 131 P P 07 37 30.6 +1.7
baz=334
EYMN Ely 33.55 88 P P 07 37 32.3 +0.2
baz=314
EYMN Ely 33.55 88 P P 07 37 31.9 -0.2
EYMN IAmb IAmb 07 37 51.6
comp=Z,4.1nm,0.7s
BELC Belle Mtn. Jos 33.71 130 P P 07 37 35.4 +1.6
baz=334,SNR=5.1
IRM Iron Mountain 33.89 129 P P 07 37 37.3 +2.1
baz=333
PFO Pinyon Flats O 33.89 131 P P 07 37 36.5 +1.2
baz=334
PFO Pinyon Flats O 33.89 131 P P 07 37 37.1 +1.8
PFO IAmb IAmb 07 37 37.7
comp=Z,7.5nm,1.1s
TPFO Pinon Flats 33.90 131 P P 07 37 36.4 +1.0
baz=334
MVCO Mesa Verde 33.92 118 P P 07 37 37.1 +1.5
baz=328
MVCO Mesa Verde 33.92 118 P P 07 37 38.3 +2.7
MVCO IAmb IAmb 07 37 43.3
comp=Z,3.3nm,0.8s
ECSD EROS Data Cent 34.15 98 P P 07 37 37.1 -0.3
baz=319
WUAZ Wupatki 34.17 123 P P 07 37 39.3 +1.6
baz=330,SNR=13
WUAZ Wupatki 34.17 123 P P 07 37 39.9 +2.1
S22A 4UR Ranch, Cre 34.19 115 P P 07 37 39.4 +1.3
baz=327
BC3 Big Chuckawall 34.22 130 P P 07 37 39.2 +1.0
baz=334
MONP2 Monument Peak 34.55 132 P P 07 37 42.7 +1.6
baz=335,SNR=7.5
SDCO Great Sand Dun 34.77 114 P P 07 37 44.2 +1.1
baz=326
IKP In-Ko-Pah, Jac 34.88 131 P P 07 37 45.4 +1.6
baz=335
X16A Lo Mia Camp, P 35.10 124 P P 07 37 48.0 +2.2
X16A IAmb IAmb 07 37 49.0
comp=Z,5.7nm,0.9s
W18A Petrified Fore 35.18 121 P P 07 37 48.2 +1.6
baz=330,SNR=7.0
G40A Rib Lake 36.09 90 P P 07 37 54.1 +0.1
G40A IAmb IAmb 07 37 55.7
comp=Z,4.8nm,0.7s
CBKS Cedar Bluff 36.51 106 P P 07 37 57.9 +0.2
baz=324
SPX San Pedro Mart 36.57 132 P P 07 37 59.4 +0.7
SPX IAmb IAmb 07 38 00.3
comp=Z,4.3nm,0.7s
ANMO Albuquerque 36.71 117 *i* P P 07 38 00.7 +1.1
ANMO pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 36.71 117 P P 07 38 01.6 +2.0
baz=329
214A Organ Pipe Nat 36.73 128 P P 07 38 01.6 +2.0
baz=333
E43A Lone Tree Farm 36.83 86 P P 07 38 00.8 +0.5
E43A IAmb IAmb 07 38 02.2
comp=Z,5.2nm,0.7s
TUC Tucson 37.21 125 P P 07 38 05.1 +1.4
baz=332
R32A Long Quarter, 37.30 106 P P 07 38 04.8 +0.4
KSU1 Kansas State U 37.74 103 P P 07 38 08.4 +0.3
baz=323
KSU1 Kansas State U 37.74 103 P P 07 38 08.7 +0.6
SUMG Summit 37.81 28 P P 07 38 08.5 -0.3
SUMG IAmb IAmb 07 38 18.8
comp=Z,14nm,1.4s
JFWS Jewell Farm 37.82 93 P P 07 38 09.2 +0.5
baz=319
E46A Sault Ste Mari 38.13 84 P P 07 38 10.3 -1.0
E46A IAmb IAmb 07 38 12.4
comp=Z,6.7nm,0.8s
P38A Dawn 38.78 99 P P 07 38 17.1 +0.3
P38A IAmb IAmb 07 38 18.1
comp=Z,13nm,0.7s
MSTX Muleshoe 39.14 114 P P 07 38 20.8 +0.7
baz=328
T35A Sooner Cattle 39.54 105 P P 07 38 22.8 -0.5
T35A IAmb IAmb 07 38 24.3
comp=Z,11nm,0.8s
P40A Paris 39.56 98 P P 07 38 23.4 +0.1
P40A IAmb IAmb 07 38 23.9
comp=Z,7.9nm,0.8s
MNTX Cornudas Mount 39.96 119 P P 07 38 28.3 +1.6
baz=330,SNR=5.4
MNTX Cornudas Mount 39.96 119 P P 07 38 28.5 +1.7
HDIL Hopedale 40.08 94 P P 07 38 27.3 -0.3
baz=321
VLDQ Val d'Or 40.12 77 P P 07 38 25.8 -2.1
VLDQ IAmb IAmb 07 38 28.0
comp=Z,22nm,1.5s
SCHQ Schefferville 40.21 62 P P 07 38 28.5 -0.1
comp=Z,6.5nm,0.8s,baz=318,slow=8.4,SNR=5.0
SCHQ LR LR 07 55 36.5
comp=Z,135nm,20.7s,baz=208,slow=37
WMOK Wichita Mounta 40.28 109 P P 07 38 29.6 +0.2
baz=326,SNR=7.3
WMOK Wichita Mounta 40.28 109 P P 07 38 30.4 +1.0
WMOK IAmb IAmb 07 38 30.6
comp=Z,5.7nm,0.8s
S39A Bolivar 40.41 101 P P 07 38 29.5 -1.0
S39A IAmb IAmb 07 38 30.1
comp=Z,5.8nm,0.7s
R40A Maddies Statio 40.44 99 P P 07 38 29.6 -1.0
R40A IAmb IAmb 07 38 31.4
comp=Z,6.3nm,0.6s
TUL1 Leonard 40.70 105 P P 07 38 33.0 +0.2
baz=325
U38A Gravette 40.92 103 P P 07 38 34.1 -0.5
CCM Cathedral Cave 41.11 98 P P 07 38 35.1 -1.1
baz=323
HHAR Hobbs 41.26 103 P P 07 38 36.3 -1.2
HHAR IAmb IAmb 07 38 37.2
comp=Z,6.4nm,0.8s
SFIN Lafayette 41.27 92 P P 07 38 37.6 +0.1
baz=321
MGMO Mountain Grove 41.34 100 P P 07 38 37.6 -0.5
MGMO IAmb IAmb 07 38 38.2
comp=Z,14nm,0.8s
ALGO Algonquin Park 41.41 79 P P 07 38 38.1 -0.4
baz=317
AAM Ann Arbor 41.45 88 P P 07 38 39.5 +0.6
baz=320
U40A Yellville 41.71 102 P P 07 38 40.4 -0.7
baz=324
P46A Rosedale 41.81 93 P P 07 38 42.5 +0.6
P46A IAmb IAmb 07 38 43.9
comp=Z,14nm,0.8s
D55A Sainte-Anne-du 41.84 76 P P 07 38 41.8 -0.2
baz=317
E55A Montcerf-Lytto 41.98 77 P P 07 38 43.2 0.0
baz=317
T42A Van Buren 42.00 99 P P 07 38 42.4 -1.1
T42A IAmb IAmb 07 38 43.2
comp=Z,5.5nm,0.6s
D56A ZEC Mazanza, M 42.15 76 P P 07 38 44.1 -0.5
baz=317,SNR=5.8
W39A Magazine 42.22 103 P P 07 38 45.0 -0.2
baz=325
E56A St. Veronique 42.39 76 P P 07 38 46.1 -0.4
baz=317
FCAR Ozark Folk Cen 42.43 101 P P 07 38 46.0 -1.0
PBMO Poplar Bluff 42.52 99 P P 07 38 47.1 -0.6
G55A Calabogie 42.55 79 P P 07 38 47.8 -0.1
baz=318
D57A Chemin Vers le 42.58 75 P P 07 38 47.2 -0.9
baz=317
TX31 Lajitas Ar. Si 42.73 119 P P 07 38 50.9 +1.3
TX31 IAmb IAmb 07 38 52.2
comp=Z,18nm,0.9s
TX31 PcP 07 40 40.4 -0.3
TX32 Lajitas Array 42.74 119 P P 07 38 51.2 +1.6
TX32 IAmb IAmb 07 38 52.2
comp=Z,6.2nm,0.9s
TX32 PcP 07 40 40.4 -0.3
TXAR Lajitas Array 42.74 119 P P 07 38 51.0 +1.4
comp=Z,3.9nm,0.8s,baz=327,slow=6.7,SNR=50
TXAR PcP PcP 07 40 40.3 -0.4
comp=Z,1.4nm,0.5s,baz=37,slow=1.8,SNR=18
TXAR LR LR 07 58 32.0
comp=Z,43nm,20.5s,baz=0.0,slow=39
TXAR Lajitas Array 42.74 119 P P 07 38 50.9 +1.3
TXAR PcP 07 40 40.0 -0.7
MIAR Mount Ida 42.85 104 P P 07 38 50.3 -0.1
baz=326
MIAR Mount Ida 42.85 104 P P 07 38 50.6 +0.2
MIAR IAmb IAmb 07 38 51.2
comp=Z,8.8nm,0.8s
TRQ Mont Tremblant 42.85 76 P P 07 38 50.1 -0.3
E57A Chemin Saint G 42.91 76 P P 07 38 49.8 -1.0
baz=318,SNR=5.0
W41B Gary Mavity, V 42.96 102 P P 07 38 52.4 +1.1
baz=325
D58A Chemin du LacG 42.99 74 P P 07 38 51.0 -0.5
baz=317
N51A Ashland 43.13 88 P P 07 38 52.9 +0.3
baz=321
M52A Chesterland 43.14 86 P P 07 38 53.2 +0.5
baz=320
X40A Basin Creek Fa 43.24 103 P P 07 38 53.1 -0.4
baz=326
H56A Elgin 43.26 79 P P 07 38 52.9 -0.7
baz=319
E58A La Victoria 43.34 75 P P 07 38 54.2 0.0
baz=318
L53A Girard 43.35 85 P P 07 38 54.6 +0.2
baz=320
ACSO Alum Creek Sta 43.37 89 P P 07 38 54.1 -0.4
baz=321
JCT Junction City 43.42 113 P P 07 38 55.8 +0.7
baz=329,SNR=11
JCT Junction City 43.42 113 P P 07 38 56.0 +0.9
JCT IAmb IAmb 07 38 58.5
comp=Z,18nm,1.1s
G57A Newington 43.48 78 P P 07 38 55.1 -0.2
baz=318
M53A WI Miller and 43.55 86 P P 07 38 56.2 +0.2
baz=320
K54A Basiliko Farm, 43.60 83 P P 07 38 56.3 -0.2
baz=320
O51A Pataskala 43.62 89 P P 07 38 56.6 +0.1
baz=321
WVNY West Valley, N 43.80 83 P P 07 38 58.0 -0.1
WVNY IAmb IAmb 07 38 59.4
comp=Z,14nm,0.8s
G58A Ormstown 43.89 77 P P 07 38 57.7 -0.9
baz=318
F59A Saint Guilaume 43.96 75 P P 07 38 58.5 -0.6
baz=318
N53A Lisbon 43.96 87 P P 07 38 58.8 -0.5
baz=321
N53A Lisbon 43.96 87 P P 07 38 59.4 +0.1
NRIK Noril'sk 44.00 335 LR LR 08 01 04.6
comp=Z,47nm,18.0s,baz=21,slow=41
O52A Adamsville 44.01 88 P P 07 38 59.3 -0.4
baz=321
L55A Hinsdale 44.05 83 P P 07 38 60.0 -0.1
baz=320
Q51A Peebles 44.14 90 P P 07 39 00.6 -0.1
X43A Marvell 44.14 101 P P 07 39 00.7 -0.1
baz=325
D61A St Aubert, Com 44.16 72 P P 07 39 00.5 -0.2
baz=318
E60A Ste Agathe de 44.19 74 P P 07 39 00.6 -0.5
baz=318
N54A Moraine State 44.25 86 P P 07 39 01.4 -0.2
baz=321
N54A Moraine State 44.25 86 P P 07 39 02.0 +0.4

F60A	Warwick	44.26	75	P	P	07 39 02.0	+0.4
	baz=318						
WVT	Waverly	44.28	97	P	P	07 39 01.9	0.0
	baz=324						
G59A	Clarenceville	44.35	76	P	P	07 39 01.4	-0.9
	baz=319						
H58A	Gabriels	44.38	78	P	P	07 39 01.3	-1.3
	baz=319						
H59A	Cadyville	44.44	77	P	P	07 39 02.3	-0.8
	baz=319						
L56A	Greenwood	44.51	83	P	P	07 39 03.7	0.0
	baz=320						
L56A	Greenwood	44.51	83	P	P	07 39 03.3	-0.4
MOQ	Mont Orford	44.61	75	P	P	07 39 04.2	-0.3
J58A	Remsen	44.66	80	P	P	07 39 04.1	-0.7
	baz=320						
O54A	Avella	44.66	87	P	P	07 39 04.8	-0.1
	baz=321						
O54A	Avella	44.66	87	P	P	07 39 04.4	-0.5
F61A	St Evariste	44.70	74	P	P	07 39 04.9	-0.2
	baz=318						
M56A	Emporium	44.71	84	P	P	07 39 04.9	-0.4
	baz=320						
P53A	Whipple	44.72	88	P	P	07 39 04.6	-0.8
	baz=322						
G60A	Masonville	44.73	76	P	P	07 39 05.0	-0.4
	baz=319						
D62A	Allapoint, All	44.77	71	P	P	07 39 05.2	-0.4
	baz=318						
OXF	Oxford	44.84	100	P	P	07 39 06.4	0.0
	baz=325						
OXF	Oxford	44.84	100	P	P	07 39 06.7	+0.3
N55A	Marion Center	44.87	85	P	P	07 39 06.3	-0.3
	baz=321						
E62A	Clayton Lake	44.89	72	P	P	07 39 06.4	-0.3
	baz=318						
L57A	Andrews Acres	44.95	82	P	P	07 39 07.1	-0.1
	baz=320						
U49A	Red Boiling Sp	44.96	95	P	P	07 39 07.4	+0.1
H60A	Morristown	44.97	77	P	P	07 39 06.7	-0.6
	baz=319						
G61A	St-Isidore-de-	44.97	75	P	P	07 39 07.3	0.0
	baz=319						
I59A	Olmsteadville	44.99	78	P	P	07 39 07.4	-0.1
	baz=320						
T50A	Nancy	45.01	93	P	P	07 39 07.6	-0.1
P54A	Burton	45.07	87	P	P	07 39 07.6	-0.5
	baz=322						
PLAL	Pickwick Lake	45.09	98	P	P	07 39 08.1	-0.3
PLAL				IAmb	IAmb	07 39 08.7	
	comp=Z,12nm,1.1s						
S51A	Beattyville	45.11	92	P	P	07 39 08.7	+0.2
S51A				IAmb	IAmb	07 39 08.8	
	comp=Z,5.9nm,0.7s						
Q53A	Leroy	45.15	89	P	P	07 39 08.5	-0.3
	baz=322						
O55A	Ligonier	45.16	86	P	P	07 39 08.3	-0.5
	baz=321						
BINY	Binghamton	45.21	81	P	P	07 39 08.9	-0.3
	baz=320						
D63A	Stockholm	45.23	71	P	P	07 39 09.3	0.0
	baz=318						
F62A	Pittston Farm,	45.23	73	P	P	07 39 08.9	-0.5
	baz=319						
M57A	Sunshine Farm,	45.33	83	P	P	07 39 10.2	0.0
	baz=321						
MCWV	Mont Chateau	45.33	87	P	P	07 39 10.1	-0.1
	baz=322						
H61A	Lyndonville	45.35	76	P	P	07 39 10.0	-0.3
	baz=319						
R53A	Hurricane	45.35	90	P	P	07 39 10.3	-0.1
	baz=322						
Q54A	Coxs Mills	45.38	88	P	P	07 39 10.5	-0.1
	baz=322						
L58A	Harry Jones Me	45.39	81	P	P	07 39 11.1	+0.4
	baz=320						
P55A	Reedsville	45.45	87	P	P	07 39 11.4	+0.1
	baz=322						
O56A	Blue Knob Stat	45.47	85	P	P	07 39 11.1	-0.3
	baz=321						
O56A	Blue Knob Stat	45.47	85	P	P	07 39 11.1	-0.3
G62A	West of Eustis	45.48	74	P	P	07 39 11.3	0.0
	baz=319						
SSPA	Standing Stone	45.51	84	P	P	07 39 11.3	-0.2
	baz=321						
E63A	Oxbow	45.55	72	P	P	07 39 11.2	-0.6
	baz=319						
N57A	Milroy	45.58	84	P	P	07 39 12.2	0.0
	baz=321						
M58A	Price's Panora	45.62	82	P	P	07 39 12.4	-0.2
	baz=321						
I61A	Oroboro, Fairl	45.67	77	P	P	07 39 13.2	+0.3
	baz=320						
H62A	Milan	45.68	75	P	P	07 39 13.0	+0.1
	baz=319						
BOD	Bodaibo	45.68	312	*e*P	P	07 39 22.5	+10
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s						
Q55A	Buckhannon	45.73	87	P	P	07 39 13.1	-0.4
	baz=322						
E64A	Bridgewater	45.82	71	P	P	07 39 13.4	-0.5
	baz=319						
P56A	Dayton Farm, R	45.93	86	P	P	07 39 14.8	-0.1
	baz=322						
R54A	Victor	45.94	89	P	P	07 39 14.9	-0.2
	baz=322						
O57A	Amberson	45.96	84	P	P	07 39 15.2	0.0
	baz=321						
BATG	Bathurst New B	45.98	69	P	P	07 39 15.4	+0.2
F64A	Sherman	46.00	72	P	P	07 39 15.2	-0.2
	baz=319						
PKME	Peaks-Kenny Pk	46.02	73	P	P	07 39 15.6	+0.1
	baz=319						
Q56A	Snyder Ridge,	46.13	87	P	P	07 39 16.5	-0.1
	baz=322						
T53A	Wise	46.14	91	P	P	07 39 16.9	+0.2
	baz=323						
L60A	Shokan	46.21	80	P	P	07 39 17.2	+0.1
	baz=321						
N59A	State Game Lan	46.30	82	P	P	07 39 17.8	-0.1
	baz=321						
I63A	Otisfield	46.34	75	P	P	07 39 18.2	0.0
	baz=320						
P57A	Homestead Farm	46.34	85	P	P	07 39 18.4	+0.2
	baz=322						
O58A	Lewisberry	46.37	84	P	P	07 39 18.3	-0.1
	baz=321						
J62A	Henniker	46.40	77	P	P	07 39 18.7	+0.1
	baz=320						
Q57A	Strasburg	46.51	86	P	P	07 39 19.4	-0.1
	baz=322						
R56A	Bull Pasture M	46.52	87	P	P	07 39 19.7	0.0
	baz=322						
M60A	Port Jervis	46.53	81	P	P	07 39 19.3	-0.4
	baz=321						
Z47A	Carrollton	46.55	99	P	P	07 39 20.5	+0.6
O59A	Robesonia	46.57	83	P	P	07 39 20.0	0.0
	baz=321						
N60A	Cedar Hill Far	46.66	82	P	P	07 39 21.0	+0.4
	baz=321						
P58A	Pank, Wackersv	46.68	85	P	P	07 39 21.0	+0.2
	baz=322						
U54A	Nelsons Funny	46.86	91	P	P	07 39 22.6	+0.2
	baz=323						
I64A	Boothbay	46.88	75	P	P	07 39 22.6	+0.3
	baz=320						
Q58A	Fox Den Farm,	46.93	86	P	P	07 39 22.7	0.0
	baz=322						
H65A	Eastbrook	46.93	73	P	P	07 39 22.8	+0.1
	baz=320						
O60A	Telford	46.94	82	P	P	07 39 22.7	-0.1
	baz=321						
K63A	Dunstable	46.94	77	P	P	07 39 23.0	+0.2
	baz=320						
BLA	Blacksburg	46.98	89	P	P	07 39 23.4	+0.2
	baz=323						
V53A	Saluda	47.06	93	P	P	07 39 24.0	+0.1
U55A	TA2, Sparta	47.24	90	P	P	07 39 25.4	0.0
	baz=323						
GGN	Saint George	47.26	72	P	P	07 39 24.5	-0.7
V54A	Nebo	47.39	92	P	P	07 39 26.7	+0.2
	baz=324						
R58B	Mineral	47.61	86	P	P	07 39 28.7	+0.6
	baz=323						
LMN	Caledonia Moun	47.62	70	P	P	07 39 28.3	+0.2
CBN	Corbin Frederi	47.66	86	P	P	07 39 28.5	+0.1
	baz=322						
U56A	King	47.69	90	P	P	07 39 29.1	+0.4
	baz=324						
M63A	Gales Ferry	47.69	79	P	P	07 39 28.6	-0.1
	baz=321						
R59A	King George, V	47.79	86	P	P	07 39 30.0	+0.6
	baz=322						
S58A	Poland Farm, P	47.80	87	P	P	07 39 29.6	+0.1
	baz=323						
M64A	Tiverton	47.97	78	P	P	07 39 30.1	-0.7
	baz=321						
S59A	Mechanicsville	48.05	86	P	P	07 39 31.5	+0.1
	baz=323						
V56A	Mocksville	48.06	90	P	P	07 39 31.5	-0.1
	baz=324						
X54A	Belton	48.18	93	P	P	07 39 32.9	+0.3
	baz=324						
T59A	Double "B" Far	48.55	87	P	P	07 39 35.4	0.0
	baz=323						
W56A	Indian Trail	48.57	91	P	P	07 39 35.8	+0.3
	baz=324						
X55A	Gracelyn & Ava	48.60	93	P	P	07 39 36.0	+0.3
	baz=324						
USRK	Ussuriysk Ar.	48.60	289	P	P	07 39 35.9	+0.2
	comp=Z,1.0nm,0.6s,baz=36,slow=11,SNR=3.0						
W57A	Gilead	48.84	91	P	P	07 39 37.6	0.0
	baz=324						
W57A	Gilead	48.84	91	P	P	07 39 37.2	-0.4
X56A	White Oak	48.87	92	P	P	07 39 38.0	+0.1
	baz=324						
Y55A	Saluda	48.92	93	P	P	07 39 38.3	+0.1
	baz=325						
U59A	Littleton	48.93	88	P	P	07 39 38.5	+0.3
	baz=324						
U60A	Pendleton	49.14	87	P	P	07 39 39.9	0.0
	baz=324						
V59A	Middlesex	49.19	89	P	P	07 39 40.3	+0.1
	baz=324						
W58A	Raeford	49.31	90	P	P	07 39 41.4	+0.2
	baz=324						
X57A	Johnson Farm,	49.34	91	P	P	07 39 41.6	+0.2
	baz=324						
Z56A	Williston	49.66	93	P	P	07 39 44.2	+0.4
	baz=325						
V60A	Jim Taylor Roa	49.66	88	P	P	07 39 43.9	+0.1
	baz=324						
Y59A	Loris	50.32	90	P	P	07 39 49.2	+0.4
	baz=325						
MJAR	Matsushiro Arr	51.72	278	LR	LR	08 02 53.0	
	comp=Z,42nm,21.1s,baz=280,slow=37						
KSRS	Korea Array	55.83	287	P	P	07 40 29.9	+0.5
	comp=Z,0.4nm,0.3s,baz=61,slow=6.0,SNR=1.4						
KSRS				pP	pP	07 40 42.8	+1.8
	comp=Z,1.4nm,0.7s,baz=30,slow=6.9,SNR=3.4						
KSRS				LR	LR	08 03 32.6	
	comp=Z,52nm,21.9s,baz=76,slow=35						
ULN	Ulaanbaatar	56.14	309	pP	pP	07 40 43.6	+0.3
SONM	Songino Array	56.41	309	P	P	07 40 33.7	+0.1
	comp=Z,0.6nm,0.5s,baz=66,slow=3.7,SNR=3.8						
SONM				pP	pP	07 40 45.8	+0.6
	comp=Z,5.9nm,0.9s,baz=39,slow=7.2,SNR=16						
SONM				LR	LR	08 06 19.9	
	comp=Z,70nm,19.0s,baz=34,slow=38						
NB2	NORSAR Subarra	56.76	13	P	P	07 40 34.5	-1.3
	comp=Z,4.7nm,0.9s,baz=349,slow=7.4						
NOA	NORSAR Array B	56.76	13	P	P	07 40 34.8	-1.0
	comp=Z,2.1nm,0.8s,baz=350,slow=7.0,SNR=7.1						
NOA				pP	pP	07 40 47.5	+0.3
	comp=Z,2.0nm,1.0s,baz=349,slow=7.3,SNR=3.8						
FIA1	FINESS Array S	57.40	4	P	P	07 40 39.2	-1.0
FINES	FINESS Array B	57.40	4	P	P	07 40 39.0	-1.2
	comp=Z,6.2nm,0.6s,baz=13,slow=9.2,SNR=22						
FINES				pP	pP	07 40 51.6	0.0
	comp=Z,6.9nm,0.7s,baz=15,slow=7.9,SNR=5.6						
FINES	FINESS Array B	57.40	4	*i* P	P	07 40 39.2	-1.0
FINES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZALV	Zalesovo Beam	58.02	327	P	P	07 40 43.6	-1.1
	comp=Z,0.9nm,0.3s,baz=33,slow=7.6,SNR=1.8						
ZALV				pP	pP	07 40 58.7	+2.5
	comp=Z,1.7nm,0.6s,baz=14,slow=7.9,SNR=1.8						
ZALV				LR	LR	08 07 17.1	
	comp=Z,70nm,18.8s,baz=26,slow=38						
KLMR	Klimovskoe	58.02	356	*e*P	P	07 40 40.3	-4.3
KLMR				pmax	pmax		
	comp=Z,15nm,1.2s						
KLMR	Klimovskoe	58.02	356	*e*P	P	07 40 40.3	-4.3
KLMR				AMP		07 40 54.0	
	comp=Z,15nm,1.2s						
HHC	Hu-ho-hao-te	60.21	301	*e*P	P	07 41 05.0	+4.8
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,76nm,6.2s						
HHC				LR	LR		
	comp=N,140nm,16.0s						
HHC				LR	LR		
	comp=E,130nm,15.7s						
HHC				LR	LR		
	comp=Z,150nm,16.3s						
ARU	Arti	60.88	344*c*	*i* P	P	07 41 03.3	-1.1
ARU						07 43 14.4	
ARU				S	S	07 49 19.2	+0.1
ARU				SS	SS	07 53 17.9	+0.4
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DGZ	Jazzator, Alta	61.10	323	*i* P	P	07 41 04.9	-1.3
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	Borovoye	62.20	336	*i* P	P	07 41 12.3	-1.0
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
KURK	Kurchatov	62.54	329	*i* P	P	07 41 14.3	-1.3
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
OBN	Obninsk	63.84	358⇓	*e*P	P	07 41 23.0	-1.1
OBN				*e*		07 41 35.8	
OBN				pmax	pmax		
	comp=Z,13nm,0.9s						
OBN				MLR	MLR		
	comp=Z,32nm,16.0s						
MTDJ	Mount Denham	64.21	99	P	P	07 41 26.7	-0.5
MKAR	Makanchi Array	65.19	325	P	P	07 41 31.4	-1.8
	comp=Z,0.7nm,0.5s,baz=39,slow=6.2,SNR=8.7						
MKAR				pP	pP	07 41 44.7	-0.2
	comp=Z,1.1nm,0.5s,baz=43,slow=7.4,SNR=6.3						
MKAR	Makanchi Array	65.19	325	P	P	07 41 30.8	-2.4
GTA	Gaotai	66.08	309	P	P	07 41 39.1	0.0
GTA				pP	pP	07 41 50.8	-0.2
GTA				sP	sP	07 41 55.3	+0.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,4.9s						
GTA				LR	LR		
	comp=N,75nm,20.4s						
GTA				LR	LR		
	comp=E,150nm,20.0s						
GTA				LR	LR		
	comp=Z,99nm,18.9s						
WMQ	Urumqi	66.32	320	*e*P	P	07 41 46.1	+5.6
CLL	Collm	66.52	14⇑	*i* P	P	07 41 40.9	-0.7
	comp=Z,5.0nm,1.0s						
CLL				*e*pP	pP	07 41 54.0	+0.8
CLL	Collm	66.52	14⇑	*i* P	P	07 41 40.9	-0.7
CLL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKTO	Aktyubinsk	66.81	343	P	P	07 41 42.8	-0.7
	comp=Z,2.0nm,0.6s,baz=18,slow=4.8,SNR=7.2						
AKTO				pP	pP	07 41 55.3	+0.1
	comp=Z,1.9nm,0.4s,baz=49,slow=3.7,SNR=3.5						
BRG	Berggiesshubel	67.05	13	*e*P	P	07 41 44.6	-0.4
	comp=Z,7.1nm,0.9s						
BRG	Berggiesshubel	67.05	13	*e*P	P	07 41 44.6	-0.4
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN	Xi'an	67.10	299	P	P	07 41 53.8	+8.2
XAN				pP	PcP	07 42 29.3	+16
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ABKAR	Akbulak array	67.67	341	P	P	07 41 48.0	-1.0
AKASG	Malin Array Be	68.25	3	P	P	07 41 51.5	-1.0
	comp=Z,7.1nm,0.6s,baz=1.2,slow=6.5,SNR=8.9						
AKASG				pP	pP	07 42 04.4	+0.2
	comp=Z,6.3nm,0.5s,baz=0.8,slow=6.2,SNR=7.8						
AKASG	Malin Array Be	68.25	3	*i* P	P	07 41 51.2	-1.3
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MORC	Moravsky Berou	68.50	11	P	P	07 41 53.5	-0.7
MORC				IAmb	IAmb	07 42 07.3	
	comp=Z,8.1nm,1.2s						
KHC	Kasperske Hory	68.73	14	P	P	07 41 55.8	+0.2
KHC				IAmb	IAmb	07 41 56.6	
	comp=Z,2.1nm,0.7s						
ECH	Echery	68.77	18	P	P	07 41 55.3	-0.5
GERES	GERESS Array B	69.03	14	P	P	07 41 57.2	-0.4
	comp=Z,1.9nm,0.6s,baz=343,slow=4.2,SNR=13						
GERES				pP	pP	07 42 10.2	+0.9
	comp=Z,1.0nm,0.6s,baz=348,slow=6.0,SNR=4.5						
GERES	GERESS Array B	69.03	14	P	P	07 41 56.1	-1.5
VYHS	Vyhne	69.89	10	*e*P	P	07 42 02.6	-0.1
VYHS	Vyhne	69.89	10	*e*P	P	07 42 02.6	-0.1
KIV	Kislovodsk	74.76	353	*e*P	P	07 42 30.6	-1.4
KIV				pmax	pmax		
	comp=Z,44nm,1.0s						
ESDC	Sonseca Array	74.86	29	P	P	07 42 32.5	-0.1
	comp=Z,7.8nm,0.8s,baz=337,slow=5.6,SNR=30						
ESDC				pP	pP	07 42 45.9	+1.5
	comp=Z,1.4nm,0.6s,baz=340,slow=5.3,SNR=3.6						
KBZ	Khabaz	74.98	353	P	P	07 42 32.9	-0.1
	comp=Z,3.9nm,0.9s,baz=293,slow=2.7,SNR=4.1						
ROSC	El Rosal	77.38	103	LR	LR	08 20 16.2	
	comp=Z,43nm,18.4s,baz=120,slow=38						
PPT	Papeete	78.69	183	LR	LR	08 10 13.1	
	comp=Z,52nm,18.8s,baz=256,slow=30						
GEYT	Alibeck	79.01	340	P	P	07 42 55.6	-0.4
	comp=Z,1.9nm,0.7s,baz=30,slow=10.0,SNR=3.8						
GEYT	Alibeck	79.01	340	P	P	07 42 55.8	-0.1
ANTO	Ankara	79.12	0	P	P	07 42 58.2	+1.6
BRTR	Keskin Array B	79.27	360	P	P	07 42 56.8	-0.6
	comp=Z,2.6nm,0.9s,baz=219,slow=3.2,SNR=4.5						
BRTR	Keskin Array B	79.27	360	*i* P	P	07 42 57.4	-0.1
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	Chiang Mai Arr	84.99	300	P	P	07 43 26.6	-1.0
	comp=Z,1.4nm,0.5s,baz=1.3,slow=4.6,SNR=6.5						
CMAR				pP	pP	07 43 40.1	+0.5
	comp=Z,2.0nm,0.5s,baz=9.8,slow=6.3,SNR=2.4						
CMAR				LR	LR	08 24 12.1	
	comp=Z,23nm,18.4s,baz=210,slow=38						
CMAR	Chiang Mai Arr	84.99	300	*i* P	P	07 43 26.3	-1.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VNDA	Vanda	142.18	196	PKhKP	PKPpre	07 50 17.6	
	comp=Z,0.5nm,0.6s,baz=30,slow=1.6,SNR=6.4						
BOSA	Boshof	146.82	13	PKPbc	PKPdf	07 50 32.4	+0.4
	comp=Z,5.7nm,0.7s,baz=349,slow=3.7,SNR=13						
VNA3	Neumayer Olymp	160.60	138	PKPab	PKPab	07 51 30.7	-1.4
VNA2	Neumayer--Watz	161.39	138	PKPab	PKPab	07 51 34.1	-1.4
	baz=281,slow=5.4						

NNC 24 07:31:51.8±1.0, 50°.04N×78°.54E, h0km, mb3.7, mpv3.4, 7C, Error ellipse: s-maj=18.1km s-min=5.0km az=87.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
KURK	Kurchatov	0.68	4	⇑P		Pg	07 32 04.4	-0.4
	15nm,0.4s							
KURK				⇑S		Sg	07 32 14.9	+1.3
	21nm,0.4s							
BRZS	Berezniki	3.78	271	Pg		Pb	07 33 01.0	+1.7
	3.9nm,0.2s							
BRZS				Lg		Lg	07 33 48.2	
	11nm,0.5s							
MAKZ	Makanchi	3.96	143	⇑Pg		Pb	07 33 01.0	-1.5
	2.6nm,0.5s							
MAKZ				⇑Lg		Lg	07 33 50.0	
	11nm,0.8s							
MK31	Makanchi Array	4.10	141	⇑Pn		Pn	07 32 55.6	0.0
	0.2nm,0.2s,baz=321,slow=10.0,SNR=33							
MK31				⇑Pg		Pb	07 33 03.5	-1.2
	1.7nm,0.5s,baz=344,slow=15,SNR=8.0							
MK31				⇑Lg		Lg	07 33 56.9	
	5.6nm,0.5s,baz=327,slow=28,SNR=13							
KAPS	Kapalarasan	4.79	173	Pg		Pg	07 33 21.5	-2.0
	1.0nm,0.2s							
KAPS				Lg		Lg	07 34 21.3	
	12nm,0.6s							
ZSN	Zaisan	4.92	119	Pg		Pg	07 33 24.5	-1.5
	4.9nm,0.2s							
ZSN				Lg		Lg	07 34 27.3	
	11nm,0.6s							
DJR	Jarkent	5.77	171	Pg		Pg	07 33 40.4	-1.9
	1.6nm,0.3s							
DJR				Lg		Lg	07 34 53.9	
	3.3nm,0.6s							
ARXS	Arharly	5.85	185	Pg		Pg	07 33 40.6	-3.2
	3.5nm,0.5s							
ARXS				Lg		Lg	07 34 54.3	
	12nm,0.8s							
MNBS	Baschi	5.96	181	Pg		Pg	07 33 43.3	-2.7
	1.8nm,0.4s							
MNBS				Lg		Lg	07 34 59.7	
	14nm,0.7s							
KUU	Kurty	6.33	195	Pg		Pg	07 33 50.0	-3.0
	1.5nm,0.3s							
KUU				Lg		Lg	07 35 11.1	
	8.3nm,0.6s							
PDGK	Podgornoye	6.74	174	Pg		Pg	07 33 59.6	-1.3
	0.7nm,0.8s							
PDGK				Lg		Lg	07 35 26.8	
	3.7nm,0.8s							
DGS	Degeres	7.06	197	Pg		Pg	07 34 04.7	-2.3
	2.1nm,0.5s							
DGS				Lg		Lg	07 35 35.0	
	8.9nm,0.5s							

*IDC **24** 08:11:37.5±3.6, 10°.40N×125°.30E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/46, mbtmp3.5/3, Error ellipse: s-maj=309.1km s-min=28.4km az=65.0*
*MAN **24** 08:11:41.8, 9°.92N×124°.31E, h22km, MS3.2*
MAN Intensity III - San Miguel and Dagohoy Bohol.
ISC 24 08:11:41.1±1.3, 9°.96N±0°.04×124°.28E±0°.04, h15km±9km, n12, σ1°.13/19, mb3.4/3, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.47	319⇓	*i* P		Pg	08 11 49.8	-0.8
LLP				*i* S		Sg	08 11 56.8	0.0
TBP	Tagbilaran	0.49	237⇑	*e*P		Pb	08 11 53.0	+1.5
MSLP	Maasin	0.59	73	*e*P		Pg	08 11 53.0	+0.2
MSLP				*e*S		Sb	08 12 01.9	+0.4
OCLP	Ormoc	1.13	17	*e*P		Pb	08 12 02.1	-0.4
OCLP				*e*S		Sn	08 12 18.4	+0.7
CGP	Cagayan de Oro	1.55	165⇓	*e*P		Pn	08 12 07.9	-0.4
CGP				*e*S		Sn	08 12 27.1	-1.1
CNOP	Candoni, Negro	1.62	265	*e*P		Pn	08 12 08.7	-0.6
CNOP				*e*S		Sn	08 12 30.5	+0.6
GUIM	Jordan	1.79	292	*e*P		Pn	08 12 11.1	-0.5
GUIM				*e*S		Sn	08 12 31.4	-2.8
PAGZ	Pagadian	2.28	203	*e*P		Pn	08 12 17.6	-0.7
PAGZ				*e*S		Sn	08 12 45.6	-0.6
JAP	San Jose, Anti	2.43	289⇓	*e*P		Pn	08 12 22.3	+2.0
WRA	Warramunga Arr	31.32	162	P		P	08 18 01.5	+0.3
	0.5nm,1.1s,baz=345,slow=9.8,SNR=1.5							
ASAR	Alice Springs	34.72	164	P		P	08 18 30.4	-0.5
	0.5nm,0.9s,baz=344,slow=6.7,SNR=5.4							
MKAR	Makanchi Array	51.10	324	P		P	08 20 43.8	+0.5
	0.6nm,0.7s,baz=137,slow=6.2,SNR=5.1							

*BJI **24** 08:14:35.5±0.0, 64°.70N×17°.20W, h5km, mB5.3/26, mb4.8/38, Ms4.9/17, Ms7 4.5/18*
*BGS **24** 08:14:36.0±2.6, 64°.65N×17°.51W, h5km, MS4.5*
*REY **24** 08:14:36.4, 64°.68N×17°.46W, h7km*
*IDC **24** 08:14:37.1±0.4, 64°.66N×17°.61W, h0km, mb4.4/31, mb1 4.5/35, mb1mx4.3/51, mbtmp4.4/35, ML2.8/3, MS4.1/38, Ms1 4.1/38, ms1mx4.1/45, Error ellipse: s-maj=14.1km s-min=7.4km az=11.0*
*MOS **24** 08:14:37.8±0.9, 64°.69N×17°.55W, h6km, mb5.0/70, MS4.3

M_{rr}=3.60±.06; $M_{\theta\theta}$1.93±.06; $M_{\phi\phi}$1.67±.06; $M_{r\theta}$-0.78±.24; $M_{\theta\phi}$-0.58±.05; $M_{\phi r}$-2.89±.22; Best double couple: M_0=4.00100×10^{16} NP1:ϕ_s144.00000°,δ26.00000°, λ-119.00000°. NP2:ϕ_s356.00000°,δ68.00000°, λ-77.00000°. Principal axes: T 2.9970, Plg22.0000°, Azm76.0000°; N 2.0080, Plg12.0000°, Azm171.0000°; P -5.0060, Plg65.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

DNK ***24*** *08:14:42.1±5.3, 64°.64N×17°.76W, h35km±81km, ML2.9, Hypocentre not reviewed by the ISC*

BGR ***24*** *08:14:58.8±0.0, 64°.14N×13°.39W, h10km, mb4.8, Ms4.1*

ISC 24 08:14:37.2±0.7,**64°.70N**±0°.02×**17°.49W**±0°.02,**h2**km±4km, **n738,** σ1§**48**/723,**mb4.8**/200,**MS4.2**/65,**21C-13D, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.10**	**32**	P	**Pg**	**08 14 39.1**	**-0.1**
	baz=169						
IVON	**Vonarskard**	**0.12**	**255**	P	**Pg**	**08 14 39.1**	**-0.4**
	baz=269						
IURH	**Urdarhals**	**0.19**	**52**	P	**Pg**	**08 14 40.4**	**-0.4**
	baz=42						
IDJK	**Dyngjujokull**	**0.23**	**151**	P	**Pg**	**08 14 40.4**	**-1.2**
	baz=150						
IGRF	**Grimsfjall**	**0.31**	**162**	P	**Pg**	**08 14 41.7**	**-1.5**
	baz=163						
IKVE	**Kverkfjoll**	**0.35**	**94**	P	**Pg**	**08 14 42.9**	**-1.1**
	baz=89						
IBJK	**Bruarjokull**	**0.40**	**126**	P	**Pg**	**08 14 43.4**	**-1.4**
	baz=124						
ISKR	**Skrokkalda**	**0.41**	**250**	P	**Pg**	**08 14 44.0**	**-1.0**
	baz=254						
IHUS	**Husbondi**	**0.42**	**190**	P	**Pg**	**08 14 43.7**	**-1.4**
	baz=193						
IVOT	**Vottur**	**0.46**	**163**	P	**Pg**	**08 14 44.2**	**-1.6**
	baz=163						
IKRE	**Kreppuhraun**	**0.48**	**80**	P	**Pg**	**08 14 44.8**	**-1.6**
	baz=76						
IJOK	**Jokulheimar**	**0.50**	**219**	P	**Pg**	**08 14 45.2**	**-1.6**
	baz=223						
IJOK				S	**Sg**	**08 14 52.0**	**-1.3**
	baz=223						
IASK	**Askja**	**0.50**	**45**	P	**Pg**	**08 14 45.5**	**-1.3**
	baz=42						
IMKO	**Mokollar**	**0.56**	**60**	P	**Pg**	**08 14 46.6**	**-1.4**
	baz=57						
ISVA	**Svartarkot**	**0.64**	**9**	P	**Pg**	**08 14 48.3**	**-1.2**
	baz=7.4						
IIEY	**Innrieyrar**	**0.67**	**204**	P	**Pg**	**08 14 47.9**	**-2.1**
	baz=207						
IKSK	**Karasker**	**0.70**	**140**	P	**Pg**	**08 14 47.5**	**-3.1**
	baz=140						
IKAL	**Kalfafell**	**0.76**	**186**	P	**Pg**	**08 14 49.3**	**-2.4**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**81**	P	**Pg**	**08 14 49.4**	**-2.4**
	baz=79						
IVAT	**Vatnsfell**	**0.81**	**231**	P	**Pg**	**08 14 50.5**	**-2.1**
	baz=233						
IADA	**Aoalbol**	**0.88**	**68**	P	**Pg**	**08 14 51.4**	**-2.6**
	baz=66						
IHVE	**Hveravellir**	**0.90**	**282**	P	**Pg**	**08 14 52.2**	**-2.3**
	baz=283						
IFAG	**Fagurholsmyri**	**0.91**	**156**	P	**Pg**	**08 14 51.8**	**-2.7**
	baz=156						
IMEL	**Melhnausar**	**0.94**	**22**	P	**Pg**	**08 14 53.0**	**-2.1**
	baz=20						
IKVO	**Krokottuvotn**	**1.05**	**14**	P	**Pg**	**08 14 54.9**	**-2.4**
	baz=13						
ISNB	**Snabyli**	**1.09**	**208**	P	**Pb**	**08 14 55.1**	**-3.6**
	baz=209						
IGRS	**Grimsstaoir**	**1.10**	**31**	P	**Pb**	**08 14 55.8**	**-3.2**
	baz=30						
ISLY	**Slysaalda**	**1.13**	**219**	P	**Pb**	**08 14 55.9**	**-3.6**
	baz=221						
IFED	**Fedgar**	**1.17**	**236**	P	**Pb**	**08 14 56.8**	**-3.4**
	baz=237						
ISKI	**Skildingahlsh**	**1.19**	**9**	P	**Pb**	**08 14 57.2**	**-3.2**
	baz=8.4						
IGHA	**Grjothals**	**1.20**	**17**	P	**Pb**	**08 14 57.2**	**-3.4**
	baz=16						
IRJU	**Rjupnafell**	**1.21**	**206**	P	**Pn**	**08 14 57.2**	**-3.9**
	baz=207						
IMJO	**Mjoaskard**	**1.23**	**232**	P	**Pn**	**08 14 57.6**	**-3.7**
	baz=233						
IGYG	**Gygjarholskot**	**1.25**	**251**	P	**Pn**	**08 14 57.9**	**-3.8**
	baz=253						
IDIM	**Dimmadalss**	**1.28**	**10**	P	**Pn**	**08 14 58.7**	**-3.4**
	baz=9.5						
IHLA	**Hella**	**1.30**	**344**	P	**Pn**	**08 14 59.3**	**-3.0**
	baz=343						
IHAU	**Haukadalur**	**1.30**	**237**	P	**Pn**	**08 14 58.6**	**-3.7**
	baz=238						
IGOD	**Go??abunga**	**1.32**	**218**	P	**Pn**	**08 14 59.5**	**-3.1**
	baz=220						
IHVO	**Lagu-Hvolar**	**1.32**	**207**	P	**Pn**	**08 14 59.0**	**-3.6**
	baz=208						
IHED	**Heoinshofoi**	**1.39**	**3**	P	**Pn**	**08 15 00.2**	**-3.3**
	baz=2.5						
BORG	**Borgarnes**	**1.65**	**273**	Pg	**Pn**	**08 15 04.1**	**-2.9**
	72nm,0.3s,baz=96,slow=11,SNR=80						
BORG				Lg	Lg	08 15 27.9	
	26nm,0.3s,baz=326,slow=18,SNR=13						
BORG				LR	LR	08 15 42.3	
	comp=Z,3μm,21.4s,baz=121,slow=41						
BORG	**Borgarnes**	**1.65**	**273**	P	**Pn**	**08 15 04.3**	**-2.7**
BORG	**Borgarnes**	**1.65**	**273**		**Pn**	**08 15 04.3**	**-2.7**
SCO	**Scoresbysund**	**6.05**	**346**	*i* P	**Pn**	**08 16 07.7**	**+0.3**
SCO				*i* S	**Sn**	**08 17 15.8**	**-1.4**
SCO	**Scoresbysund**	**6.05**	**346**	*i* P	**Pn**	**08 16 07.0**	**-0.5**
SCO				*i* S	**Sn**	**08 17 15.8**	**-1.4**
SCO	**Scoresbysund**	**6.05**	**346**	Pn	**Pn**	**08 16 08.2**	**+0.7**
SCO	**Scoresbysund**	**6.05**	**346**	*e*	**Pn**	**08 16 06.6**	**-0.9**
	baz=177,slow=9.3						
SCO				*i* P	**Pn**	**08 16 07.8**	**+0.3**
SCO				*i* S	**Sn**	**08 17 15.8**	**-1.4**
JMIC	**Jan Mayen**	**7.16**	**24**	LR	LR	08 18 43.6	
	comp=Z,2μm,19.7s,baz=287,slow=34						
LEWI	**Lewis, Hebride**	**8.31**	**137**	*eP*	**Pn**	**08 16 37.3**	**-1.2**
LRW	**Lerwick**	**8.83**	**114**	*eP*	**Pn**	**08 16 44.8**	**-0.8**
LRW				IAMs_20	IAMs_20	08 20 50.5	
	comp=Z,5μm,14.1s						
KAC	**Achnashellach**	**9.31**	**135**	*eP*	**Pn**	**08 16 50.5**	**-1.8**
KPL	**Plockton**	**9.34**	**137**	*eP*	**Pn**	**08 16 50.7**	**-1.9**
KPL	**Plockton**	**9.34**	**137**	*eP*	**Pn**	**08 16 51.0**	**-1.6**
INVG	**Invergeldie, C**	**10.59**	**135**	*eP*	**Pn**	**08 17 06.5**	**-3.2**
INVG				IAMs_20	IAMs_20	08 21 41.2	
	comp=Z,4μm,10.1s						
DRUM	**Mains of Drumt**	**10.68**	**130**	*eP*	**Pn**	**08 17 11.1**	**+0.1**
EAB	**Aberfoyle**	**10.70**	**137**	*eP*	**Pn**	**08 17 08.9**	**-2.4**
SUMG	**Summit**	**10.91**	**325**	*i* P	**Pn**	**08 17 17.0**	**+2.5**
SUMG	**Summit**	**10.91**	**325**	*i* P	**Pn**	**08 17 17.0**	**+2.5**
SUMG	**Summit**	**10.91**	**325**	Pn	**Pn**	**08 17 17.1**	**+2.7**
SUMG	**Summit**	**10.91**	**325**	*i* P	**Pn**	**08 17 17.0**	**+2.5**
PGBU	**Glenifferbraes**	**10.99**	**138**	*eP*	**Pn**	**08 17 13.7**	**-1.5**
AKN	**Aaknes**	**11.22**	**92**	*eP*	**Pn**	**08 17 17.8**	**-0.6**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**08 17 25.9**	**-0.1**
	baz=323,slow=13,SNR=19						
ESK	**Eskdalemuir**	**11.78**	**136**	*eP*	**Pn**	**08 17 24.7**	**-1.3**
ESK				IAMs_20	IAMs_20	08 22 37.5	
	comp=Z,3μm,10.3s						
ESK	**Eskdalemuir**	**11.78**	**136**	P	**Pn**	**08 17 25.5**	**-0.6**
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**08 17 25.5**	**-0.6**
KMY	**Karmoy**	**11.99**	**107**	*eP*	**Pn**	**08 17 28.6**	**-0.2**
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	Pn	08 17 36.3	+5.5
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	Pn	08 17 36.3	+5.5
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	Pn	08 17 36.3	+5.5
DOMB	**Dombas**	**12.16**	**90**	*eP*	**Pn**	**08 17 30.4**	**-0.9**
BLS5	**Blasjo**	**12.36**	**104**	*eP*	**Pn**	**08 17 31.6**	**-2.4**
SKAR	**Skarslia**	**12.46**	**97**	*eP*	**Pn**	**08 17 35.9**	**+0.6**
EDMD	**Edmundbyers**	**12.57**	**135**	*eP*	**Pn**	**08 17 37.4**	**+0.5**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**08 17 44.8**	**-1.0**
NBO00	**NORSAR Array S**	**13.35**	**93**		**Pn**	**08 17 47.4**	**-0.1**
NB2	**NORSAR Subarra**	**13.53**	**92**	Pn	**Pn**	**08 17 47.3**	**-2.6**
	comp=Z,17nm,1.4s,baz=298,slow=14						
NB2	**NORSAR Subarra**	**13.53**	**92**	Pn	**Pn**	**08 17 47.3**	**-2.6**
	baz=298,slow=14						
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**08 17 48.1**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=4.4						
NOA				LR	LR	08 23 35.2	
	comp=Z,602nm,18.2s,baz=295,slow=40						
SFJD	**Kangerlussuaq**	**13.65**	**294**	LR	LR	08 22 46.7	
	comp=Z,1μm,20.1s,baz=83,slow=36						
HFS	**Hagfors**	**15.05**	**93**	Pn	**Pn**	**08 18 10.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=12,SNR=1.8						
HFS				LR	LR	08 23 46.9	
	comp=Z,835nm,21.7s,baz=295,slow=36						
MUD	**Monsted U'grnd**	**15.38**	**110**	*i* P	**Pn**	**08 18 16.0**	**+1.1**
MUD	**Monsted U'grnd**	**15.38**	**110**	*i* P	**Pn**	**08 18 16.0**	**+1.1**
MUD	**Monsted U'grnd**	**15.38**	**110**	*i* P	**Pn**	**08 18 16.0**	**+1.1**
KBS	**Kingsbay**	**16.61**	**19**	*i* P	**P**	**08 18 35.2**	**+2.0**
NOR	**Nord**	**16.99**	**0**	*i* P	**P**	**08 18 38.0**	**+0.5**
NOR	**Nord**	**16.99**	**0**	*i* P	**P**	**08 18 38.0**	**+0.5**
NOR	**Nord**	**16.99**	**0**	*i* P	**P**	**08 18 38.0**	**+0.5**
COP	**Copenhagen**	**17.23**	**108**	*i* P	**P**	**08 18 40.1**	**-0.1**
COP	**Copenhagen**	**17.23**	**108**	*i* P	**P**	**08 18 40.1**	**-0.1**
COP	**Copenhagen**	**17.23**	**108**	*i* P	**P**	**08 18 40.1**	**-0.1**
BSEG	**Bad Segeberg**	**17.65**	**115**	*eP*	**P**	**08 18 43.3**	**-1.5**
	comp=Z,76nm,1.4s,baz=327,slow=11						
IBBN	**Ibbenburen**	**17.95**	**122**	*eP*	**P**	**08 18 48.2**	**+0.1**
	comp=Z,380nm,2.7s,baz=327,slow=11						
SNF	**Seneffe**	**18.25**	**131**	P	**P**	**08 18 51.2**	**-0.3**
BUG	**Bochum--Univer**	**18.48**	**124**	*eP*	**Pn**	**08 18 53.9**	**-0.1**
	comp=Z,75nm,1.3s,baz=327,slow=11						
BMRD	**Maredsous**	**18.58**	**130**	P	**Pn**	**08 18 56.4**	**+1.0**
BGES	**Gesves**	**18.62**	**130**	P	**Pn**	**08 18 54.5**	**-1.3**
BSD	**Bornholm Skovb**	**18.65**	**106**	*i* P	**Pn**	**08 18 58.1**	**+2.0**
BSD	**Bornholm Skovb**	**18.65**	**106**	*i* P	**Pn**	**08 18 58.1**	**+2.0**
BSD	**Bornholm Skovb**	**18.65**	**106**	*i* P	**Pn**	**08 18 58.1**	**+2.0**
BCLA	**Clavier**	**18.66**	**129**	P	**Pn**	**08 18 55.0**	**-1.3**
NRDL	**Niedersach Rie**	**18.68**	**118**	*eP*	**Pn**	**08 18 55.6**	**-0.8**
	comp=Z,474nm,2.9s,baz=327,slow=11						
DOU	**Dourbes**	**18.70**	**131**	P	**P**	**08 18 55.5**	**-1.1**
MEM	**Membach**	**18.73**	**128**	P	**Pn**	**08 18 57.6**	**+0.4**
RCHB	**Rochefort**	**18.86**	**130**	P	**Pn**	**08 18 59.3**	**+0.6**
BHOU	**Houvegnez**	**18.95**	**128**	P	**Pn**	**08 19 00.8**	**+0.9**
AHRW	**Bad Neuenahr-A**	**19.16**	**126**	*eP*	**Pn**	**08 19 04.6**	**+2.3**
	comp=Z,76nm,1.2s,baz=327,slow=11						
ASSE	**Asse, Remlinge**	**19.18**	**118**	*eP*	**Pn**	**08 19 03.4**	**+1.0**
	comp=Z,185nm,2.0s,baz=327,slow=11						
CLZ	**Clausthal**	**19.29**	**119**	*eP*	**Pn**	**08 19 03.8**	**-0.1**
	comp=Z,76nm,1.3s,baz=327,slow=11						
GTTG	**Gottingen**	**19.38**	**120**	*eP*	**Pn**	**08 19 04.5**	**-0.5**
	comp=Z,77nm,1.4s,baz=327,slow=11						
WLF	**Walferdange**	**19.59**	**129**	P	**Pn**	**08 19 07.4**	**-0.1**
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**08 19 07.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=287,slow=9.6,SNR=3.6						
FINES				LR	LR	08 26 30.8	
	comp=Z,562nm,21.0s,baz=296,slow=36						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**08 19 07.9**	**-0.8**
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**08 19 07.8**	**-0.8**
FIA1	**FINESS Array S**	**19.70**	**79**	Pn	**Pn**	**08 19 09.4**	**+0.8**
TULEG	**Thule**	**19.82**	**327**	*i* P	**Pn**	**08 19 09.4**	**-0.7**
CLF	**Chambon-Foret**	**19.82**	**138**	P	**P**	**08 19 07.7**	**-1.1**
CLF				IAmb	IAmb	08 19 12.1	
	comp=Z,122nm,1.5s						
UBBA	**Unterbreizbach**	**19.98**	**121**	*eP*	**Pn**	**08 19 11.3**	**-0.7**
	comp=Z,49nm,1.7s,baz=327,slow=11						
RUE	**Ruedersdorf**	**20.11**	**113**	*eP*	**P**	**08 19 10.9**	**-1.0**
NEUB	**Neuenburg**	**20.33**	**118**	*eP*	Pn	08 19 14.9	-1.3
	comp=Z,84nm,1.0s,baz=327,slow=11						
CLL	**Collm**	**20.72**	**116**	*i* P	**P**	**08 19 18.3**	**-0.2**
	comp=Z,75nm,1.5s						
CLL				*e*		08 19 30.0	
CLL				*eS*	Sn	08 23 11.0	-3.7
CLL				LmV		08 28 00.0	
	comp=Z,800nm,18.4s						
CLL	**Collm**	**20.72**	**116**	*i* P	**P**	**08 19 18.3**	**-0.2**
CLL				*eS*	Sn	08 23 11.0	-3.7
CLL				pmax	pmax		
	comp=Z,75nm,1.5s						
CLL				MLR	MLR		
	comp=Z,800nm,18.4s						
CLL	**Collm**	**20.72**	**116**	*eP*	Pn	08 19 18.7	-2.1
	comp=Z,75nm,1.5s,baz=327,slow=11						
CLL	**Collm**	**20.72**	**116**	P	Pn	08 19 18.6	-2.2
CLL				IAmb	IAmb	08 19 22.0	
	comp=Z,51nm,1.2s						
MOX	**Moxa**	**20.72**	**119**	*eP*	Pn	08 19 19.1	-1.8
	comp=Z,67nm,1.3s,baz=327,slow=11						
MOX				*eL*	L	08 27 20.9	
	comp=Z,911nm,21.4s						
PLN	**Plauen**	**21.05**	**118**	*eP*	**P**	**08 19 22.5**	**+0.3**
	comp=Z,67nm,1.2s,baz=327,slow=11						
FBE	**Freiberg**	**21.16**	**116**	*eP*	**P**	**08 19 23.7**	**+0.4**
	comp=Z,68nm,1.1s,baz=327,slow=11						
ECH	**Echery**	**21.18**	**129**	P	**P**	**08 19 23.9**	**+0.4**
ECH				pmax	pmax		
	comp=Z,29nm,1.1s						
ECH	**Echery**	**21.18**	**129**	P	**P**	**08 19 23.9**	**+0.4**
GUNZ	**Gunzen**	**21.22**	**118**	*eP*	**P**	**08 19 24.2**	**+0.3**
	comp=Z,94nm,1.5s,baz=327,slow=11						
TANN	**Tannenbergstha**	**21.22**	**118**	*eP*	**P**	**08 19 24.2**	**+0.1**
	comp=Z,90nm,1.2s,baz=327,slow=11						
WERN	**Wernitzgruen**	**21.29**	**118**	*eP*	**P**	**08 19 25.1**	**+0.3**
	comp=Z,110nm,1.4s,baz=327,slow=11						
GRA1	**Grafenberg Arr**	**21.35**	**121**	P	**P**	**08 19 25.4**	**+0.1**
GRF	**Grafenberg Arr**	**21.35**	**121**	P	**P**	**08 19 25.4**	**+0.1**
GRF				pmax	pmax		
	comp=Z,120nm,1.5s						
GRF	**Grafenberg Arr**	**21.35**	**121**	*eP*	**P**	**08 19 26.1**	**+0.7**
	comp=Z,91nm,1.3s,baz=327,slow=11						
GRF				*eL*	L	08 28 45.9	
	comp=Z,900nm,19.3s						
NKC	**Novy Kostel**	**21.37**	**118**	*eP*	**P**	**08 19 25.4**	**-0.1**
NKC				*eS*	Sn	08 23 29.9	-0.4
NKC				AMS	AMS	08 28 10.0	
	comp=Z,1μm,17.7s						
NKC	**Novy Kostel**	**21.37**	**118**	*eP*	**P**	**08 19 25.4**	**-0.1**
NKC				*eS*	Sn	08 23 29.9	-0.4
NKC				MLR	MLR		
	comp=Z,1μm,17.7s						
STU	**Stuttgart**	**21.39**	**125**	P	**P**	**08 19 26.2**	**+0.4**
STU				pmax	pmax		
	comp=Z,136nm,1.5s						
STU	**Stuttgart**	**21.39**	**125**	*eP*	**P**	**08 19 26.8**	**+1.0**
	comp=Z,88nm,1.4s,baz=327,slow=11						
STU	**Stuttgart**	**21.39**	**125**	P	**P**	**08 19 26.2**	**+0.4**
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P	**P**	**08 19 25.9**	**-0.2**
	comp=Z,60nm,1.1s						
BRG				*i*		08 19 38.5	
	comp=Z,159nm,1.9s						
BRG				S	Sn	08 23 30.0	-1.8
	comp=N,929nm,14.3s						
	comp=E,970nm,14.7s						
	comp=Z,913nm,14.4s						
BRG	**Berggiesshubel**	**21.43**	**115**	*i* P	**P**	**08 19 25.9**	**-0.2**
BRG				S	Sn	08 23 30.0	-1.8
BRG				pmax	pmax		
	comp=Z,60nm,1.1s						
BRG				pmax	pmax		
	comp=Z,159nm,1.9s						
BRG				MLR	MLR		
	comp=N,929nm,14.3s						
BRG				MLR	MLR		
	comp=E,970nm,14.7s						
BRG				MLR	MLR		
	comp=Z,913nm,14.4s						
BRG	**Berggiesshubel**	**21.43**	**115**	*eP*	**P**	**08 19 26.3**	**+0.1**
	comp=Z,60nm,1.1s,baz=327,slow=11						
MANZ	**Manzenberg**	**21.44**	**119**	*eP*	**P**	**08 19 26.3**	**0.0**
	comp=Z,36nm,1.3s,baz=327,slow=11						
BFO	**Black Forest**	**21.47**	**127**	P	**P**	**08 19 27.0**	**+0.3**
BFO				pmax	pmax		
	comp=Z,35nm,1.1s						
BFO	**Black Forest**	**21.47**	**127**	*eP*	**P**	**08 19 27.5**	**+0.8**
	comp=Z,139nm,2.0s,baz=327,slow=11						
BFO	**Black Forest**	**21.47**	**127**	P	**P**	**08 19 27.0**	**+0.3**
VSU	**Vasula**	**21.56**	**86**	*eP*	**P**	**08 19 26.2**	**-1.3**
VSU	**Vasula**	**21.56**	**86**	*i* P	**P**	**08 19 26.4**	**-1.1**
VSU				pmax	pmax		
	comp=Z,119nm,0.9s						
ROTZ	**Rotzenmuhle**	**21.65**	**119**	*eP*	**P**	**08 19 28.9**	**+0.3**
	comp=Z,66nm,1.6s,baz=327,slow=11						
FRB	**Frobisher Bay**	**21.74**	**291**	LR	LR	08 27 17.9	
	comp=Z,846nm,21.0s,baz=54,slow=35						
PVCC	**Panska Ves**	**21.94**	**115**	*eS*	Sn	08 23 38.9	-5.3
PVCC				AMS	AMS	08 29 20.0	
	comp=Z,800nm,15.6s						
PABE	**Paberze**	**22.21**	**95**	*eP*	**P**	**08 19 35.1**	**+0.6**
PRA	**Prague**	**22.26**	**116**	*eS*	**S**	**08 23 43.4**	**+3.1**
PRA				AMS	AMS	08 28 50.0	
	comp=Z,400nm,19.7s						
PRU	**Pruhonice**	**22.36**	**116**	*eP*	**P**	**08 19 36.7**	**+0.5**
PRU				*eS*	**S**	**08 23 44.3**	**+1.9**
PRU				AMS	AMS	08 29 10.0	
	comp=Z,800nm,14.5s						
PRU	**Pruhonice**	**22.36**	**116**	*eP*	**P**	**08 19 36.7**	**+0.5**
PRU				*eS*	**S**	**08 23 44.3**	**+1.9**
PRU				MLR	MLR		
	comp=Z,800nm,14.5s						
KSP	**Ksiaz**	**22.38**	**112**	*eP*	**P**	**08 19 36.4**	**+0.1**
KSP				*eS*	**S**	**08 23 44.8**	**+2.2**
WET	**Wettzell**	**22.42**	**119**	*eP*	**P**	**08 19 38.5**	**+1.7**
	comp=Z,262nm,2.8s,baz=327,slow=11						
CHVC	**Chvalec**	**22.48**	**113**	*eP*	**P**	**08 19 39.2**	**+1.7**
CHVC				AMS	AMS	08 28 20.0	
	comp=Z,800nm,16.4s						
GOPC	**GO Pecny, Ondr**	**22.52**	**116**	*eP*	**P**	**08 19 38.0**	**+0.1**
GOPC				*eS*	**S**	**08 23 47.5**	**+2.1**
GOPC				AMS	AMS	08 29 20.0	
	comp=Z,900nm,18.1s						
GOPC	**GO Pecny, Ondr**	**22.52**	**116**	*eP*	**P**	**08 19 38.0**	**+0.1**
GOPC				*eS*	**S**	**08 23 47.5**	**+2.1**
GOPC				MLR	MLR		
	comp=Z,900nm,18.1s						
UPC	**Upice**	**22.53**	**113**	*eP*	**P**	**08 19 39.4**	**+1.5**
UPC				*eS*	**S**	**08 23 48.2**	**+2.7**
UPC				AMS	AMS	08 28 20.0	
	comp=Z,900nm,18.2s						
UPC	**Upice**	**22.53**	**113**	*eP*	**P**	**08 19 39.4**	**+1.5**
UPC				*eS*	**S**	**08 23 48.2**	**+2.7**
UPC				MLR	MLR		
	comp=Z,900nm,18.2s						
OSTC	**Ostas**	**22.57**	**113**	*eP*	**P**	**08 19 38.8**	**+0.4**
OSTC				*ex*	x	08 19 56.8	
OSTC				*eS*	**S**	**08 23 49.2**	**+2.9**
OSTC				AMS	AMS	08 27 40.0	
	comp=Z,800nm,21.9s						
UBR	**Ueberruh**	**22.64**	**126**	*eP*	**P**	**08 19 40.1**	**+0.8**
	comp=Z,1μm,3.9s,baz=327,slow=11						
KHC	**Kasperske Hory**	**22.69**	**118**	*eP*	**P**	**08 19 39.4**	**-0.3**
KHC				*eS*	**S**	**08 23 50.2**	**+1.6**
KHC				AMS	AMS	08 31 40.0	
	comp=Z,1μm,10.6s						
KHC	**Kasperske Hory**	**22.69**	**118**	*eP*	**P**	**08 19 39.4**	**-0.3**
KHC				*eS*	**S**	**08 23 50.2**	**+1.6**
KHC				MLR	MLR		
	comp=Z,1μm,10.6s						
KHC	**Kasperske Hory**	**22.69**	**118**	P	**P**	**08 19 39.4**	**-0.3**
DPC	**Dobruska-Polom**	**22.77**	**113**	*eP*	**P**	**08 19 40.9**	**+0.3**
DPC				*ex*	x	08 19 55.0	
DPC				*eS*	**S**	**08 23 54.6**	**+4.5**
DPC				AMS	AMS	08 29 10.0	
	comp=Z,700nm,15.4s						
DPC	**Dobruska-Polom**	**22.77**	**113**	*eP*	**P**	**08 19 40.9**	**+0.3**
DPC				*eS*	**S**	**08 23 54.6**	**+4.5**
DPC				MLR	MLR		
	comp=Z,700nm,15.4s						
SENIN	**Lac Senin/Sane**	**22.85**	**132**	P	**P**	**08 19 42.5**	**+0.9**
SUW	**Suwalki**	**22.89**	**98**	*eP*	**P**	**08 19 43.4**	**+1.7**
SUW	**Suwalki**	**22.89**	**98**	P	**P**	**08 19 43.0**	**+1.3**
SUW				pmax	pmax		
	comp=Z,100nm,1.1s						
SUW	**Suwalki**	**22.89**	**98**	P	**P**	**08 19 43.0**	**+1.3**
DAVA	**Damuels**	**22.90**	**126**	*eP*	**P**	**08 19 42.8**	**+0.7**
	comp=Z,22nm,1.0s						
GEC2	**GERESS Array S**	**22.97**	**119**	*eP*	**P**	**08 19 42.9**	**+0.1**
	comp=Z,412nm,3.0s,baz=327,slow=11						
GEC2	**GERESS Array S**	**22.97**	**119**	P	**P**	**08 19 43.2**	**+0.5**
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**08 19 43.6**	**+0.8**
	comp=Z,8.6nm,1.0s,baz=325,slow=8.1,SNR=21						
GERES				LR	LR	08 28 49.7	
	comp=Z,906nm,21.6s,baz=330,slow=37						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**08 19 42.1**	**-0.6**
IZAR	**Zarasai**	**23.03**	**92**	*eP*	**P**	**08 19 42.5**	**-0.6**
RETA	**Reutte**	**23.04**	**125**	*eP*	**P**	**08 19 44.2**	**+0.8**
	comp=Z,7.9nm,0.8s						
ISAL	**Salakas**	**23.09**	**93**	*eP*	**P**	**08 19 43.6**	**-0.2**
KRLC	**Kraliky**	**23.17**	**113**	*eP*	**P**	**08 19 44.2**	**-0.5**
KRLC				*ex*	x	08 19 55.1	
KRLC				*eS*	**S**	**08 23 58.9**	**+1.9**
KRLC				AMS	AMS	08 29 30.0	
	comp=Z,700nm,18.0s						
KRLC	**Kraliky**	**23.17**	**113**	*eP*	**P**	**08 19 44.2**	**-0.5**
KRLC				*e*		08 19 55.1	
KRLC				*eS*	**S**	**08 23 58.9**	**+1.9**
KRLC				MLR	MLR		
	comp=Z,700nm,18.0s						
MOTA	**Moosalm**	**23.28**	**125**	*eP*	**P**	**08 19 45.6**	**-0.4**
	comp=

STAL	**STALIGIAL**	**24.78**	**124**	P	**P**	**08 20 00.3 +0.2**
STAL				IAmb	IAmb	08 20 04.3
	comp=Z,22nm,1.1s					
MYKA	**Terra Mystica**	**24.80**	**122**	*e*P	**P**	**08 20 00.2 0.0**
	comp=Z,13nm,1.2s					
ZST	**Bratislava**	**24.80**	**115**	*e*P	**P**	**08 20 01.1 +0.9**
ZST	**Bratislava**	**24.80**	**115**	*e*P	**P**	**08 20 01.1 +0.9**
LANS	**Liptovska Anna**	**24.97**	**111**	*e*P	**P**	**08 20 02.6 +0.8**
LANS				pmax	pmax	
	comp=Z,11nm,0.9s					
LANS	**Liptovska Anna**	**24.97**	**111**	*e*P	**P**	**08 20 02.5 +0.8**
ARSA	**Arzberg**	**24.98**	**118**	*e*P	**P**	**08 20 01.5 -0.3**
	comp=Z,17nm,1.2s					
NIE	**Niedzica**	**25.10**	**109**	*e*P	**P**	**08 20 03.2 +0.3**
OBKA	**Obir**	**25.24**	**121**	*e*P	**P**	**08 20 05.0 +0.8**
	comp=Z,13nm,1.0s					
PCAS	**Casmilo, Conde**	**25.24**	**164**	*e*P	**P**	**08 20 08.0 +3.8**
	comp=Z,46nm,1.8s					
PCAS				*e*S	S	08 24 40.3 +10
VYHS	**Vyhne**	**25.25**	**112**	*e*P	**P**	**08 20 04.4 +0.2**
VYHS				pmax	pmax	
	comp=Z,33nm,1.2s					
VYHS	**Vyhne**	**25.25**	**112**	*e*P	**P**	**08 20 04.4 +0.2**
KLMR	**Klimovskoe**	**25.59**	**72**	*e*P	**P**	**08 20 05.8 -1.3**
	comp=Z,56nm,1.3s					
KLMR				*e*PcP	**PcP**	**08 23 38.3 +0.6**
KLMR				*e*S	**S**	**08 24 34.2 -1.3**
KLMR				LQ	LQ	08 27 31.7
KLMR				LR	LR	08 28 17.8
KLMR	**Klimovskoe**	**25.59**	**72**	*e*P	**P**	**08 20 05.9 -1.3**
KLMR				*e*		08 23 38.3
KLMR				*e*S	**S**	**08 24 34.1 -1.3**
KLMR				pmax	pmax	
	comp=Z,56nm,1.3s					
KLMR	**Klimovskoe**	**25.59**	**72**	*e*P	**P**	**08 20 05.9 -1.3**
KLMR				AMP		08 20 10.3
	comp=Z,56nm,1.3s					
KLMR				*e*PcP	**PcP**	**08 23 38.4 +0.6**
KLMR				*e*S	**S**	**08 24 34.2 -1.3**
KLMR				*e*S	**S**	**08 24 34.2 -1.3**
KLMR				LQ	LQ	08 27 31.8
KLMR				LQ	LQ	08 27 31.8
KLMR				LR	LR	08 28 17.8
PSBE	**So Bento**	**25.74**	**164**	*e*S	S	08 24 48.9 +11
KECS	**Kecovo**	**25.91**	**110**	*e*P	**P**	**08 20 11.5 +1.2**
KECS				pmax	pmax	
	comp=Z,7.0nm,1.0s					
KECS	**Kecovo**	**25.91**	**110**	*e*P	**P**	**08 20 11.5 +1.2**
KWP	**Kalwaria Pacla**	**25.92**	**106**	*e*P	**P**	**08 20 10.8 +0.5**
LSH	**Leshukonskoye**	**25.95**	**61**	P	**P**	**08 20 06.3 -4.1**
	comp=Z,69nm,1.3s					
CRVS	**Cervenica-Dubn**	**25.98**	**109**	*e*P	**P**	**08 20 11.6 +0.7**
CRVS				pmax	pmax	
	comp=Z,41nm,1.4s					
CRVS	**Cervenica-Dubn**	**25.98**	**109**	*e*P	**P**	**08 20 11.6 +0.7**
PMRV	**Marv??o**	**26.00**	**162**	*e*P	**P**	**08 20 15.8 +4.7**
	comp=Z,36nm,0.5s					
PMRV				*e*S	S	08 24 55.6 +13
SCHQ	**Schefferville**	**26.04**	**271**	P	**P**	**08 20 12.1 +0.7**
	comp=Z,12nm,0.8s,baz=43,slow=4.8,SNR=7.3					
SCHQ				LR	LR	08 29 11.6
	comp=Z,591nm,21.3s,baz=64,slow=34					
SCHQ	**Schefferville**	**26.04**	**271**	IAmb	IAmb	08 20 20.0
	comp=Z,17nm,0.9s					
PSZ	**Piszkesteto**	**26.13**	**112**	⇑P	**P**	**08 20 12.8 +0.5**
PSZ	**Piszkesteto**	**26.13**	**112**	⇑P	**P**	**08 20 12.8 +0.5**
PMTG	**Montargil**	**26.25**	**164**	*e*S	S	08 25 00.4 +14
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P	**P**	**08 20 13.1 -0.5**
KOLS				pmax	pmax	
	comp=Z,31nm,1.2s					
KOLS	**Kolonicke sedl**	**26.28**	**108**	*e*P	**P**	**08 20 13.1 -0.5**
ESDC	**Sonseca Array**	**26.29**	**156**	P	**P**	**08 20 13.3 -0.5**
	comp=Z,5.9nm,0.9s,baz=346,slow=9.1,SNR=19					
ESDC	**Sonseca Array**	**26.29**	**156**	P	**P**	**08 20 13.5 -0.3**
LVV	**L'vov**	**26.32**	**104**	*e*P	**P**	**08 20 15.8 +1.9**
LVV				*e*S	**S**	**08 24 44.0 -3.2**
LVV				pmax	pmax	
	comp=Z,200nm,1.3s					
LVV				MLR	MLR	
	comp=E,600nm,12.0s					
LVV				MLR	MLR	
	comp=N,1µm,13.0s					
LVV				MLR	MLR	
	comp=Z,500nm,13.0s					
PAB	**San Pablo**	**26.34**	**157**	P	**P**	**08 20 14.9 +0.6**
PAB				pmax	pmax	
	comp=Z,29nm,1.4s					
PAB	**San Pablo**	**26.34**	**157**	P	**P**	**08 20 14.9 +0.6**
PAB				IAmb	IAmb	08 20 30.4
	comp=Z,29nm,1.4s					
RES	**Resolute Bay**	**26.44**	**324**	LR	LR	08 30 37.5
	comp=Z,403nm,19.0s,baz=36,slow=36					
UZH	**Uzhgorod**	**26.53**	**108**	*e*P	**P**	**08 20 16.0 +0.2**
UZH				*e*		08 20 26.0
UZH				*e*		08 21 04.6
UZH				*e*		08 23 45.4
UZH				*e*S	**S**	**08 24 47.4 -3.1**
UZH				*e*SS	**SnSn**	**08 25 58.6 +7.3**
UZH				pmax	pmax	
	comp=Z,14nm,1.2s					
UZH				MLR	MLR	
	comp=N,130nm,15.0s					
UZH				MLR	MLR	
	comp=E,150nm,15.0s					
UZH				MLR	MLR	
	comp=Z,100nm,15.0s					
OSSC	**Osservatorio P**	**26.66**	**129**	P	**P**	**08 20 18.9 +1.8**
OSSC				IAmb	IAmb	08 20 23.1
	comp=Z,29nm,1.0s					
PNCL	**Nicolau / Gran**	**27.15**	**164**	*e*S	S	08 25 15.2 +15
PCVE	**Castro Verde**	**27.68**	**164**	*e*S	S	08 25 18.5 +10
PTEO	**Sao Teotonio**	**27.69**	**165**	*e*P	**P**	**08 20 27.9 +1.6**
	comp=Z,58nm,1.8s					
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**08 20 27.1 -0.5**
	comp=Z,8.4nm,1.0s,baz=322,slow=9.7,SNR=8.4					
AKASG				LR	LR	08 31 24.4
	comp=Z,432nm,21.9s,baz=305,slow=36					
AKASG	**Malin Array Be**	**27.84**	**98**	*i* P	**P**	**08 20 29.0 +1.4**
AKASG				pmax	pmax	
	comp=Z,4.0nm,0.7s					
AKASG	**Malin Array Be**	**27.84**	**98**	IAmb	IAmb	08 20 33.7
	comp=Z,2.8nm,0.9s					
AKBB	**Malin Array Si**	**27.84**	**98**	*ce*P	**P**	**08 20 29.3 +1.7**
AKBB	**Malin Array Si**	**27.84**	**98**	P	**P**	**08 20 27.0 -0.6**
OBN	**Obninsk**	**27.88**	**84**	P	**P**	**08 20 27.6 -0.2**
	comp=Z,2.9nm,0.3s,baz=208,slow=17,SNR=1.3					
OBN				LR	LR	08 31 50.8
	comp=Z,97nm,18.5s,baz=347,slow=37					
OBN	**Obninsk**	**27.88**	**84**	⇓*i* P	**P**	**08 20 28.0 +0.2**
OBN				*e*		08 20 31.9
OBN						08 21 13.0
OBN						08 23 44.0
OBN				*e*S	**S**	**08 25 15.5 +3.9**
OBN				SSS	SSS	08 26 33.0
OBN				pmax	pmax	
	comp=Z,32nm,1.1s					
OBN				MLR	MLR	
	comp=Z,404nm,15.0s					
OBN	**Obninsk**	**27.88**	**84**	P	**P**	**08 20 27.2 -0.6**
NRCA	**Norcia**	**27.91**	**127**	P	**P**	**08 20 27.5 -0.8**
MOS	**Moscow**	**27.91**	**82**	*e*P	**P**	**08 20 32.1 +4.0**
MORF	**Marmelete**	**27.94**	**165**	*e*S	S	08 25 22.2 +9.3
PVAQ	**Vaqueiros**	**27.95**	**163**	*e*S	**S**	**08 25 20.6 +7.5**
PBDV	**Barranco-do-Ve**	**28.08**	**164**	*e*S	S	08 25 23.4 +8.2
PFVI	**Vila Bisbo**	**28.09**	**165**	*e*S	**S**	**08 25 21.5 +6.3**
BUR08	**Bucovina Ar. S**	**28.50**	**106**	P	**P**	**08 20 35.2 +1.5**
BURAR	**Bucovina Array**	**28.53**	**106**	⇓P	P	08 20 38.4 +4.5
BURAR	**Bucovina Array**	**28.53**	**106**	⇓P	P	08 20 38.4 +4.5
BURAR	**Bucovina Array**	**28.53**	**106**	P	**P**	**08 20 34.4 +0.4**
BZS	**Buzias**	**28.69**	**113**	⇓P	**P**	**08 20 37.6 +2.4**
BZS	**Buzias**	**28.69**	**113**	⇓P	**P**	**08 20 37.6 +2.4**
DIVS	**Divibare**	**29.33**	**116**	P	**P**	**08 20 41.0 0.0**
GZR	**Gura Zlata**	**29.34**	**112**	⇑P	**P**	**08 20 41.9 +0.9**
GZR	**Gura Zlata**	**29.34**	**112**	⇑P	**P**	**08 20 41.9 +0.9**
MDVR	**Moldovita**	**29.42**	**114**	⇑P	**P**	**08 20 41.2 -0.5**
ARR	**Arges**	**30.11**	**109**	⇑P	**P**	**08 20 48.6 +0.8**
VOIR		**30.22**	**109**	⇓P	**P**	**08 20 51.6 +2.8**
VOIR		**30.22**	**109**	⇓P	**P**	**08 20 51.6 +2.8**
PDG	**Podgorica**	**30.47**	**119**	⇑P	**P**	**08 20 51.0 0.0**
PLOR	**Plostina**	**30.54**	**107**	⇑P	**P**	**08 20 54.3 +2.7**
PLOR	**Plostina**	**30.54**	**107**	⇑P	**P**	**08 20 54.3 +2.7**
MLR	**Muntele Rosu**	**30.54**	**108**	P	**P**	**08 20 53.1 +1.3**
	comp=Z,5.5nm,0.8s,baz=123,slow=9.5,SNR=3.4					
MLR				LR	LR	08 34 49.3
	comp=Z,544nm,18.2s,baz=302,slow=40					
MLR	**Muntele Rosu**	**30.54**	**108**	IAmb	IAmb	08 20 57.1
	comp=Z,24nm,1.4s					
VRI	**Vrincioaia**	**30.56**	**107**	⇑P	**P**	**08 20 53.4 +1.7**
VRI	**Vrincioaia**	**30.56**	**107**	⇑P	**P**	**08 20 53.4 +1.7**
LPSR	**Galich'ya Gora**	**30.62**	**86**	*e*P	**P**	**08 20 50.4 -1.8**
LPSR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
KIRV	**Kirov**	**30.97**	**69**	P	**P**	**08 20 55.8 +0.6**
	comp=Z,10.0nm,0.5s,baz=255,slow=11,SNR=6.5					
CFR	**Carcaliu**	**31.70**	**106**	⇓P	**P**	**08 21 02.8 +1.1**
CFR	**Carcaliu**	**31.70**	**106**	⇓P	**P**	**08 21 02.8 +1.1**
VSR	**Storozhevoye**	**31.73**	**88**	*e*P	P	08 20 56.8 -5.2
VSR				pmax	pmax	
	comp=Z,40nm,1.7s					
VORD	**Divnogorie**	**31.97**	**88**	*e*P	**P**	**08 21 01.6 -2.5**
VORD				pmax	pmax	
	comp=Z,10.0nm,1.1s					
CHGQ	**Chibougamau**	**32.79**	**271**	P	**P**	**08 21 11.4 +0.1**
	baz=42					
VRH	**Novokhopyorsk**	**32.83**	**85**	*e*P	**P**	**08 21 09.4 -2.3**
VRH				pmax	pmax	
	comp=Z,20nm,1.1s					
MDT	**Midelt**	**32.89**	**160**	P	**P**	**08 21 12.9 +0.4**
	comp=Z,11nm,1.0s,baz=9.2,slow=9.2,SNR=12					
KEST	**Kesra**	**33.18**	**138**	P	**P**	**08 21 16.2 +1.2**
	comp=Z,2.3nm,0.8s,baz=24,slow=3.5,SNR=2.3					
KEST				LR	LR	08 33 35.7
	comp=Z,313nm,21.4s,baz=335,slow=34					
KEST	**Kesra**	**33.18**	**138**	P	**P**	**08 21 15.0 0.0**
KEST				IAmb	IAmb	08 21 29.8
	comp=Z,20nm,1.2s					
G64A	**Maxfield**	**33.99**	**260**	P	**P**	**08 21 22.4 +0.6**
	baz=37					
F62A	**Pittston Farm,**	**33.99**	**262**	P	**P**	**08 21 22.0 +0.1**
	baz=38					
LATQ	**La Tuque**	**34.03**	**266**	P	**P**	**08 21 22.1 0.0**
	baz=39					
E60A	**Ste Agathe de**	**34.25**	**264**	P	**P**	**08 21 24.7 +0.7**
	baz=38					
D58A	**Chemin du LacG**	**34.30**	**266**	P	**P**	**08 21 24.9 +0.4**
	baz=39					
MATQ	**Matagami**	**34.30**	**274**	P	**P**	**08 21 24.9 +0.4**
	baz=41					
D57A	**Chemin Vers le**	**34.79**	**267**	P	**P**	**08 21 29.0 +0.3**
	baz=39					
D56A	**ZEC Mazanza, M**	**35.14**	**268**	P	**P**	**08 21 32.9 +1.2**
	baz=39					
E57A	**Chemin Saint G**	**35.38**	**267**	P	**P**	**08 21 34.1 +0.2**
	baz=38					
D55A	**Sainte-Anne-du**	**35.47**	**269**	P	**P**	**08 21 34.5 -0.1**
	baz=39					
G60A	**Masonville**	**35.64**	**264**	P	**P**	**08 21 35.8 -0.3**
	baz=37					
E56A	**St. Veronique**	**35.65**	**268**	P	**P**	**08 21 35.9 -0.3**
	baz=38					
G59A	**Clarenceville**	**36.02**	**264**	P	**P**	**08 21 40.1 +0.9**
	baz=37					
ARU	**Arti**	**36.06**	**66**	P	**P**	**08 21 41.5 +1.9**
	comp=Z,2.4nm,0.2s,baz=300,slow=9.4,SNR=4.1					
ARU				LR	LR	08 35 50.5
	comp=Z,876nm,21.0s,baz=316,slow=35					
ARU	**Arti**	**36.06**	**66**	*d i* P	**P**	**08 21 39.7 +0.1**
ARU						08 22 56.9
ARU						08 24 01.5
ARU				S	**S**	**08 27 20.6 +1.5**
ARU				SS	**SnSn**	**08 29 45.0 +2.2**
ARU				pmax	pmax	
	comp=Z,8.0nm,1.0s					
ARU				MLR	MLR	
	comp=Z,847nm,20.0s					
ARU	**Arti**	**36.06**	**66**	P	**P**	**08 21 39.3 -0.3**
ARU				IAmb	IAmb	08 21 54.7
	comp=Z,26nm,1.5s					
NRIK	**Noril'sk**	**36.43**	**35**	P	**P**	**08 21 43.8 +1.3**
	comp=Z,6.3nm,1.0s,baz=306,slow=5.1,SNR=6.6					
NRIK				LR	LR	08 38 37.6
	comp=Z,170nm,18.2s,baz=1.5,slow=40					
I61A	**Oroboro, Fairl**	**36.52**	**262**	P	**P**	**08 21 43.7 0.0**
	baz=36					
G57A	**Newington**	**36.77**	**266**	P	**P**	**08 21 46.7 +1.0**
	baz=37					
F55A	**Otter Lake**	**36.78**	**268**	P	**P**	**08 21 46.2 +0.5**
	baz=38					
J62A	**Henniker**	**36.93**	**261**	P	**P**	**08 21 47.6 +0.5**
	baz=36					
H58A	**Gabriels**	**36.97**	**265**	P	**P**	**08 21 47.9 +0.4**
	baz=37					
LONY	**Lake Ozonia**	**36.98**	**265**	P	**P**	**08 21 48.0 +0.5**
	baz=37					
I60A	**Shoreham**	**37.05**	**263**	P	**P**	**08 21 49.2 +1.1**
	baz=36					
G55A	**Calabogie**	**37.39**	**268**	P	**P**	**08 21 51.4 +0.4**
	baz=37					
ALGO	**Algonquin Park**	**37.41**	**270**	P	**P**	**08 21 51.6 +0.5**
	baz=38					
H57A	**Richville**	**37.45**	**266**	P	**P**	**08 21 51.6 0.0**
	baz=37					
K62A	**Royalston**	**37.56**	**261**	P	**P**	**08 21 52.5 0.0**
	baz=35					
G54A	**Lake Saint Pet**	**37.87**	**269**	P	**P**	**08 21 54.8 -0.3**
	baz=38					
I58A	**Old Forge**	**37.90**	**265**	P	**P**	**08 21 55.7 +0.3**
	baz=36					
I57A	**Carthage**	**37.99**	**266**	P	**P**	**08 21 56.7 +0.6**
	baz=36					
GOF	**Gofitskoye**	**38.11**	**91**	⇑*e*P	**P**	**08 21 57.8 +0.7**
GOF				pmax	pmax	
	comp=Z,100nm,1.0s					
H55A	**Tweed**	**38.15**	**268**	P	**P**	**08 21 58.2 +0.8**
	baz=37					
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**08 22 01.3 +0.8**
	comp=Z,6.8nm,1.0s,baz=334,slow=6.3,SNR=8.8					
BRTR	**Keskin Array B**	**38.49**	**105**	P	**P**	**08 22 00.3 -0.2**
K59A	**Cooperstown**	**38.59**	**264**	P	**P**	**08 22 01.8 +0.6**
	baz=35					
H53A	**Bobcaygeon**	**38.74**	**269**	P	**P**	**08 22 02.6 +0.2**
	baz=37					
KIV	**Kislovodsk**	**38.84**	**92**	*e*P	**P**	**08 22 02.1 -1.3**
KIV				*e*S	**S**	**08 27 59.8 -1.9**
KIV				pmax	pmax	
	comp=Z,45nm,1.0s					
KIV				pmax	pmax	
	comp=Z,223nm,4.6s					
KIV				MLR	MLR	
	comp=Z,893nm,16.0s					
K58A	**Earlville**	**38.94**	**265**	P	**P**	**08 22 04.6 +0.5**
	baz=36					
L60A	**Shokan**	**38.96**	**262**	P	**P**	**08 22 04.9 +0.6**
	baz=35					
KBZ	**Khabaz**	**39.11**	**92**	P	**P**	**08 22 07.5 +2.0**
	comp=Z,11nm,0.9s,baz=308,slow=9.2,SNR=8.0					
KBZ				LR	LR	08 38 23.8
	comp=Z,476nm,20.8s,baz=323,slow=36					
L59A	**Walton**	**39.15**	**263**	P	**P**	**08 22 06.8 +1.0**
	baz=35					
YKA	**Yellowknife Ar**	**39.19**	**313**	P	**P**	**08 22 05.8 -0.1**
	comp=Z,3.0nm,1.0s,baz=40,slow=9.1,SNR=8.2					
YKA				PcP	**PcP**	**08 24 14.4 -0.6**
	comp=Z,1.8nm,1.0s,baz=38,slow=3.6,SNR=4.8					
YKA				LR	LR	08 37 55.6
	comp=Z,346nm,19.8s,baz=0.0,slow=36					
J55A	**Hilton**	**39.46**	**267**	P	**P**	**08 22 09.3 +0.9**
	baz=36					
ELL	**Elmali**	**39.51**	**112**	P	**P**	**08 22 08.3 -0.8**
ELL				pmax	pmax	
	comp=Z,71nm,1.1s					
ELL	**Elmali**	**39.51**	**112**	P	**P**	**08 22 08.3 -0.8**
INK	**Inuvik**	**39.81**	**329**	P	**P**	**08 22 10.9 -0.1**
	comp=Z,8.1nm,1.2s,baz=64,slow=4.6,SNR=3.7					
INK	**Inuvik**	**39.81**	**329**	P	**P**	**08 22 12.1 +1.1**
INK				pmax	pmax	
	comp=Z,17nm,1.4s					
INK	**Inuvik**	**39.81**	**329**	P	**P**	**08 22 12.1 +1.1**
M59A	**Waymart**	**39.84**	**263**	P	**P**	**08 22 12.3 +0.7**
	baz=35					
K55A	**Perry**	**40.00**	**267**	P	**P**	**08 22 13.6 +0.6**
	baz=36					
L57A	**Andrews Acres**	**40.07**	**265**	P	**P**	**08 22 14.8 +1.2**
	baz=35					
L56A	**Greenwood**	**40.27**	**266**	P	**P**	**08 22 15.6 +0.4**
	baz=35					
AKTO	**Aktyubinsk**	**40.27**	**73**	P	**P**	**08 22 14.6 -0.5**
	comp=Z,8.6nm,1.0s,baz=319,slow=8.7,SNR=11					
AKTO				LR	LR	08 38 50.3
	comp=Z,722nm,20.1s,baz=324,slow=36					
ZEI	**Tsey**	**40.31**	**92**	*e*P	**P**	**08 22 17.5 +1.8**
ZEI				pmax	pmax	
	comp=Z,16nm,1.2s					
I51A	**Listowel**	**40.40**	**270**	P	**P**	**08 22 16.8 +0.5**
	baz=36					
WVNY	**West Valley, N**	**40.49**	**267**	P	**P**	**08 22 18.2 +1.1**
WVNY				IAmb	IAmb	08 22 21.4
	comp=Z,29nm,1.2s					
M57A	**Sunshine Farm,**	**40.74**	**265**	P	**P**	**08 22 20.0 +1.0**
	baz=35					
GROC	**Groznyy**	**40.78**	**90**	*e*P	**P**	**08 22 21.4 +2.0**
GROC				pmax	pmax	
	comp=Z,23nm,0.4s					
L54A	**Sinclairville**	**40.94**	**267**	P	**P**	**08 22 21.5 +0.7**
	baz=35					
N58A	**Sunbury**	**40.97**	**264**	P	**P**	**08 22 21.3 +0.3**
	baz=34					
M56A	**Emporium**	**41.07**	**266**	P	**P**	**08 22 22.1 +0.3**
	baz=35					
AKH	**Akhalkalaki**	**41.26**	**94**	P	**P**	**08 22 25.1 +1.5**
AKH				pmax	pmax	
	comp=Z,24nm,1.1s					
AKH	**Akhalkalaki**	**41.26**	**94**	P	**P**	**08 22 25.1 +1.5**
AKH				IAmb	IAmb	08 22 28.3
	comp=Z,24nm,1.1s					
N57A	**Milroy**	**41.40**	**265**	P	**P**	**08 22 24.8 +0.3**
	baz=34					
L53A	**Girard**	**41.57**	**268**	P	**P**	**08 22 25.0 -1.0**
	baz=35					
EYMN	**Ely**	**41.58**	**283**	P	**P**	**08 22 26.2 +0.3**
	baz=38					
N56A	**West Decatur**	**41.58**	**265**	P	**P**	**08 22 25.3 -0.7**
	baz=34					
ULM	**Lac du Bonnet**	**41.59**	**289**	P	**P**	**08 22 25.4 -0.6**
	comp=Z,2.7nm,0.6s,baz=141,slow=17,SNR=1.9					
ULM				LR	LR	08 38 57.9
	comp=Z,276nm,18.9s,baz=26,slow=35					
SSPA	**Standing Stone**	**41.64**	**265**	P	**P**	**08 22 26.7 +0.2**
	baz=34					
O58A	**Lewisberry**	**41.65**	**263**	P	**P**	**08 22 26.9 +0.3**
	baz=34					
M54A	**Oil Creek Stat**	**41.68**	**267**	P	**P**	**08 22 27.2 +0.4**
	baz=35					
MAK	**Makhachkala**	**41.71**	**89**	*e*P	**P**	**08 22 23.6 -3.4**
MAK				*e*S	**S**	**08 28 40.4 -3.9**
MAK				*e*SS	**SS**	**08 31 44.2 -5.0**
MAK				pmax	pmax	
	comp=Z,441nm,1.4s					
MAK				MLR	MLR	
	comp=Z,329nm,16.0s					
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**08 22 28.4 -0.7**
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**08 22 28.6 -0.5**
TIXI	**Tiksi**	**41.99**	**15**	*ce*P	**P**	**08 22 30.6 +1.6**
TIXI	**Tiksi**	**41.99**	**15**	P	**P**	**08 22 29.9 +0.9**
EPYK	**Eagle Plains**	**42.11**	**328**	P	**P**	**08 22 30.2 +0.1**
EPYK				IAmb	IAmb	08 22 30.9
	comp=Z,28nm,1.4s					
M53A	**WI Miller and**	**42.17**	**268**	P	**P**	**08 22 31.7 +0.9**
	baz=35					
N54A	**Moraine State**	**42.27**	**267**	P	**P**	**08 22 32.2 +0.5**
	baz=34					
TOLK	**Toolik Lake Re**	**42.72**	**336**	P	**P**	**08 22 36.5 +1.6**
	baz=28,SNR=6.5					
TOLK	**Toolik Lake Re**	**42.72**	**336**	P	**P**	**08 22 36.6 +1.7**
N53A	**Lisbon**	**42.76**	**268**	P	**P**	**08 22 36.4 +0.7**
	baz=34					
M51A	**Elyria**	**42.91**	**269**	P	**P**	**08 22 37.8 +1.0**
	baz=35					
AKT	**Akhty**	**43.02**	**90**	*e*P	P	08 22 54.3 +16
AKT				*e*		08 24 34.2
AKT				pmax	pmax	
	comp=Z,20nm,1.1s					
O54A	**Avella**	**43.08**	**267**	P	**P**	**08 22 39.4 +1.2**
	baz=34					
AGMN	**Agassiz Nation**	**43.11**	**287**	P	**P**	**08 22 39.2 +0.8**
	baz=38					
BRVK	**Borovoye**	**43.11**	**62**	*ce*P	**P**	**08 22 39.0 +0.7**
BRVK				pmax	pmax	
	comp=Z,13nm,1.3s					
BRVK	**Borovoye**	**43.11**	**62**	P	**P**	**08 22 38.4 +0.1**
N52A	**McGinn's Farm,**	**43.12**	**268**	P	**P**	**08 22 39.5 +1.0**
	baz=34					
G40A	**Rib Lake**	**43.15**	**280**	P	**P**	**08 22 38.9 +0.1**
N51A	**Ashland**	**43.33**	**269**	P	**P**	**08 22 40.9 +0.7**
	baz=34					
L48A	**N Adams**	**43.38**	**272**	P	**P**	**08 22 40.6 +0.1**
L48A				IAmb	IAmb	08 22 42.2
	comp=Z,19nm,1.1s					
O53A	**New Philadelph**	**43.38**	**268**	P	**P**	**08 22 41.9 +1.2**
	baz=34					
O53A	**New Philadelph**	**43.38**	**268**	P	**P**	**08 22 41.5 +0.9**
O53A				IAmb	IAmb	08 22 46.4
	comp=Z,30nm,1.3s					
P55A	**Reedsville**	**43.41**	**266**	P	**P**	**08 22 42.8 +1.9**
	baz=34					
MARD	**Mardin**	**43.52**	**100**	P	**P**	**08 22 43.4 +1.5**
MARD				IAmb	IAmb	08 22 46.8
	comp=Z,23nm,1.0s					
I42A	**Draeger Farm,**	**43.71**	**277**	P	**P**	**08 22 43.4 +0.1**
FYU	**Fort Yukon**	**43.74**	**333**	P	**P**	**08 22 44.7 +1.5**
O52A	**Adamsville**	**43.76**	**268**	P	**P**	**08 22 44.2 +0.5**
	baz=34					
O52A	**Adamsville**	**43.76**	**268**	P	**P**	**08 22 44.2 +0.5**
O51A	**Pataskala**	**44.07**	**269**	P	**P**	**08 22 46.6 +0.5**
	baz=34					
F36A	**Milaca**	**44.08**	**283**	P	**P**	**08 22 45.8 -0.4**
COLD	**Coldfoot**	**44.08**	**336**	P	**P**	**08 22 45.7 -0.3**
	baz=27					
P53A	**Whipple**	**44.09**	**267**	P	**P**	**08 22 47.1 +0.7**
	baz=34					
P53A	**Whipple**	**44.09**	**267**	P	**P**	**08 22 45.4 -0.9**
N49A	**Columbus Grove**	**44.11**	**271**	P	**P**	**08 22 45.8 -0.6**
R56A	**Bull Pasture M**	**44.14**	**264**	P	**P**	**08 22 47.5 +0.7**
	baz=33					
ACSO	**Alum Creek Sta**	**44.16**	**269**	P	**P**	**08 22 47.4 +0.5**
	baz=34					
ACSO	**Alum Creek Sta**	**44.16**	**269**	P	**P**	**08 22 46.8 -0.1**
ACSO				IAmb	IAmb	08 22 48.0
	comp=Z,24nm,1.1s					
Q54A	**Coxs Mills**	**44.27**	**266**	P	**P**	**08 22 48.3 +0.5**
	baz=33					
SPMN	**Marine on St.**	**44.28**	**282**	P	**P**	**08 22 47.7 -0.1**
	baz=36					
SPMN	**Marine on St.**	**44.28**	**282**	P	**P**	**08 22 47.7 -0.1**
SPMN				IAmb	IAmb	08 22 49.7
	comp=Z,28nm,1.5s					
P52A	**Corning**	**44.29**	**268**	P	**P**	**08 22 47.9 0.0**
	baz=34					
K43A	**Burlington**	**44.43**	**276**	P	**P**	**08 22 50.1 +1.1**
TAM	**Tamanrasset**	**44.54**	**149**	P	**P**	**08 22 51.3 +1.0**
TAM

COLA IAmb IAmb 08 23 09.0
comp=Z,21nm,1.2s
TCOL CIGO, UAF Yank 45.75 333 P **P 08 23 00.2 +0.9**
baz=27
SCRK Sand Creek 45.76 330 P **P 08 23 00.7 +1.2**
baz=29
SFIN Lafayette 45.80 273 P **P 08 23 00.4 +0.5**
baz=34
IMAR Indian Mountai 45.83 337 P **P 08 23 01.5 +1.7**
CCB Clear Creek Bu 45.95 333 IAmb IAmb 08 23 10.2
comp=Z,11nm,1.3s
HDA Harding Lake 45.99 332 P **P 08 23 02.1 +1.0**
baz=27,SNR=7.6
HDA Harding Lake 45.99 332 P **P 08 23 00.8 -0.4**
HDA IAmb IAmb 08 23 03.7
comp=Z,17nm,1.3s
BCAR Beaver Creek A 46.08 329 P **P 08 23 02.5 +0.6**
RIDG Independent Ri 46.15 331 P **P 08 23 02.7 +0.2**
RIDG IAmb IAmb 08 23 09.9
comp=Z,14nm,0.8s
WRH Wood River Hil 46.16 333 P **P 08 23 04.1 +1.6**
T54A Tazewell 46.20 265 P **P 08 23 04.2 +0.9**
baz=32
NEA2 Nenana 46.24 333 P **P 08 23 03.9 +0.8**
baz=26,SNR=5.5
DGMT Dagmar 46.34 293 P **P 08 23 05.1 +1.0**
baz=36
U55A TA2, Sparta 46.45 264 P **P 08 23 05.9 +0.7**
baz=32
BRZS Berezniki 46.47 63 *e*P **P 08 23 05.1 -0.1**
BRZS *e*PP **PP 08 24 54.0 +0.2**
comp=Z,22nm,1.1s,baz=63
baz=63
BRZS Berezniki 46.47 63 *e*P **P 08 23 05.0 -0.1**
BRZS *e* 08 24 54.0
BRZS pmax pmax
comp=Z,22nm,1.1s
WHY Whitehorse 46.48 323 P **P 08 23 05.5 +0.2**
O44A Mansfield 46.58 274 P **P 08 23 06.6 +0.5**
HDIL Hopedale 46.60 275 P **P 08 23 07.6 +1.4**
baz=34
MENT Mentasta 46.62 329 P **P 08 23 06.5 +0.4**
MENT IAmb IAmb 08 23 16.2
comp=Z,12nm,1.4s
U54A Nelsons Funny 46.76 265 P **P 08 23 10.0 +2.4**
baz=32
U54A Nelsons Funny 46.76 265 P **P 08 23 08.8 +1.1**
V56A Mocksville 46.80 263 P **P 08 23 08.7 +0.8**
baz=32
MCK McKinley 46.99 333 IAmb IAmb 08 23 18.5
comp=Z,16nm,1.4s
BPAW Bear Paw Mtn. 47.05 334 P **P 08 23 09.6 +0.1**
BPAW IAmb IAmb 08 23 11.9
comp=Z,16nm,1.3s
ECSD EROS Data Cent 47.09 284 P **P 08 23 11.1 +1.0**
baz=35
ECSD EROS Data Cent 47.09 284 P **P 08 23 11.0 +1.0**
ECSD IAmb IAmb 08 23 13.8
comp=Z,15nm,1.4s
WCI Wyandotte Cave 47.25 271 P **P 08 23 11.6 +0.3**
WCI pmax pmax
comp=Z,14nm,1.1s
WCI Wyandotte Cave 47.25 271 P **P 08 23 11.8 +0.5**
baz=33
WCI Wyandotte Cave 47.25 271 P **P 08 23 11.6 +0.3**
WCI IAmb IAmb 08 23 17.7
comp=Z,14nm,1.1s
V54A Nebo 47.45 265 P **P 08 23 13.2 +0.3**
baz=32
TRF Thorofare Moun 47.51 333 IAmb IAmb 08 23 13.9
comp=Z,14nm,1.2s
BILL Bilibino 47.51 358⇓ *e*P **P 08 23 15.5 +2.5**
BILL *SP **sP 08 23 18.0 +3.4**
BILL *i*S S 08 30 22.4 +14
BILL SS **SS 08 33 27.0 -7.9**
BILL SSS SSS 08 34 48.0
BILL pmax pmax
comp=Z,8.0nm,0.6s
BILL MLR MLR
comp=Z,180nm,18.0s
ZALV Zalesovo Beam 47.61 51 P **P 08 23 14.1 +0.1**
comp=Z,1.7nm,0.6s,baz=308,slow=7.3,SNR=5.4
ZALV LR LR 08 45 56.1
comp=Z,169nm,18.3s,baz=324,slow=39
ZALV Zalesovo Beam 47.61 51 P **P 08 23 13.9 0.0**
KMSC Kings Mountain 47.73 264 P **P 08 23 16.4 +1.3**
baz=31
KURK Kurchatov 48.09 58 *ce*P **P 08 23 17.7 0.0**
KURK pmax pmax
comp=Z,21nm,1.3s
KURK Kurchatov 48.09 58 P **P 08 23 17.3 -0.4**
W54A Cherokee Point 48.14 265 P **P 08 23 18.1 -0.2**
baz=31
PPLA Purkeypile 48.37 334 P **P 08 23 20.2 +0.3**
PPLA IAmb IAmb 08 23 24.8
comp=Z,19nm,1.4s
SCM Sheep Creek Mo 48.37 331 P **P 08 23 20.9 +1.0**
SCM pmax pmax
comp=Z,28nm,1.3s
SCM Sheep Creek Mo 48.37 331 P **P 08 23 20.9 +1.0**
LAO LASA Array 48.58 293 P **P 08 23 23.0 +1.4**
baz=35,SNR=7.8
SML Sawmill 48.61 331 P **P 08 23 22.5 +0.9**
SML IAmb IAmb 08 23 24.3
comp=Z,21nm,1.4s
T47A Sharon Grove 48.64 270 P **P 08 23 21.3 -0.8**
GHO Glory Hole Cre 48.76 332 P **P 08 23 24.3 +1.4**
GHO IAmb IAmb 08 23 32.3
comp=Z,15nm,1.2s
EGMT Eagleton 48.86 297 P **P 08 23 24.6 +0.8**
baz=35,SNR=11
EGMT Eagleton 48.86 297 P **P 08 23 24.5 +0.7**
PMR Palmer 48.96 332 P **P 08 23 24.9 +0.6**
PMR pmax pmax
comp=Z,25nm,1.4s
PMR Palmer 48.96 332 P **P 08 23 24.9 +0.6**
TTA Tatalina 49.03 336 P **P 08 23 26.2 +1.3**
TTA pmax pmax
comp=Z,14nm,1.4s
TTA Tatalina 49.03 336 P **P 08 23 26.2 +1.3**
TTA IAmb IAmb 08 23 34.5
comp=Z,14nm,1.4s
SKT Skwentna 49.09 333 IAmb IAmb 08 23 33.6
comp=Z,17nm,1.3s
SUA Susitna One 49.41 333 P **P 08 23 28.1 +0.3**
SUA IAmb IAmb 08 23 34.4
comp=Z,10nm,1.0s
CCM Cathedral Cave 49.52 275 P **P 08 23 28.6 -0.3**
baz=33
RC01 Rabbit Creek A 49.55 332 P **P 08 23 30.0 +1.3**
baz=25,SNR=6.8
RSSD Black Hills 49.83 290 P **P 08 23 31.4 0.0**
baz=34
T42A Van Buren 50.31 274 IAmb IAmb 08 23 39.9
comp=Z,19nm,1.4s
GEYT Alibeck 50.42 84 P **P 08 23 36.4 +0.6**
comp=Z,5.4nm,1.1s,baz=289,slow=5.5,SNR=5.6
GEYT LR LR 08 47 30.1
comp=Z,316nm,19.5s,baz=255,slow=39
GEYT Alibeck 50.42 84 P **P 08 23 36.5 +0.8**
HRY Holter Researc 50.74 298 P **P 08 23 38.4 +0.2**
KSU1 Kansas State U 50.93 280 P **P 08 23 39.6 +0.2**
baz=33
KSU1 Kansas State U 50.93 280 IAmb IAmb 08 23 43.8
comp=Z,21nm,1.2s
BRLK Bradley Lake 50.99 332 IAmb IAmb 08 23 50.0
comp=Z,16nm,1.3s
KOWA Kowa 51.00 163 P **P 08 23 39.1 -1.2**
BTLS Baital 51.05 66 *e*P **P 08 23 40.9 +0.5**
comp=Z,8.8nm,1.2s,baz=66
BTLS Baital 51.05 66 *e*P **P 08 23 40.8 +0.5**
BTLS pmax pmax
comp=Z,9.0nm,1.2s
RLMT Red Lodge 51.07 295 P **P 08 23 41.3 +0.5**
baz=34
RLMT Red Lodge 51.07 295 P **P 08 23 41.3 +0.5**
RLMT IAmb IAmb 08 23 51.1
comp=Z,25nm,1.4s
KK31 Karatay Array 51.26 70 P **P 08 23 42.6 +0.6**
KK31 pmax pmax
comp=Z,18nm,1.3s
KK31 Karatay Array 51.26 70 P **P 08 23 42.6 +0.6**
KK31 IAmb IAmb 08 23 46.0
comp=Z,18nm,1.2s
KKAR Karatay Array 51.26 70 IAmb IAmb 08 23 46.0
comp=Z,18nm,1.2s

MSO Missoula 51.44 299 P **P 08 23 43.5 +0.1**
baz=33
YNE Yellowstone No 51.46 295 P **P 08 23 44.1 +0.3**
BOZ Bozeman (W) 51.59 297 P **P 08 23 44.5 -0.1**
BOZ pmax pmax
comp=Z,30nm,1.4s
BOZ Bozeman (W) 51.59 297 P **P 08 23 45.4 +0.8**
baz=33,SNR=12
BOZ Bozeman (W) 51.59 297 P **P 08 23 44.5 -0.1**
BOZ IAmb IAmb 08 23 51.5
comp=Z,30nm,1.4s
U40A Yellville 51.64 275 P **P 08 23 43.9 -1.0**
baz=32
U40A Yellville 51.64 275 IAmb IAmb 08 23 50.0
comp=Z,24nm,1.5s
DZA Taraz 51.77 69 *e*P **P 08 23 46.2 +0.3**
baz=70
DZA Taraz 51.77 69 *e*P **P 08 23 46.1 +0.3**
IUG Iuzhnay 51.87 71 *e*P **P 08 23 47.1 +0.5**
comp=Z,18nm,1.6s,baz=71
IUG LR LR 08 45 22.9
comp=Z,71nm,13.0s,baz=71
IUG Iuzhnay 51.87 71 *e*P **P 08 23 47.1 +0.5**
IUG pmax pmax
comp=Z,18nm,1.6s
IUG MLR MLR
comp=Z,71nm,13.0s
LRAL Lakeview Retre 51.95 268 P **P 08 23 47.1 -0.1**
baz=31
DGZ Jazzator, Alta 52.05 53 *i*P **P 08 23 48.3 +0.3**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
YMR Madison River 52.11 296 P **P 08 23 49.9 +1.3**
YHB Horse Butte 52.13 296 P **P 08 23 50.6 +1.9**
H17A Grant Village 52.19 295 P **P 08 23 51.0 +1.8**
baz=33,SNR=9.5
H17A Grant Village 52.19 295 P **P 08 23 51.2 +2.0**
H17A IAmb IAmb 08 23 59.5
comp=Z,17nm,1.2s
SEY Seymchan 52.45 6 *i*P **P 08 23 51.8 +1.3**
FLWY Flagg Ranch 52.50 295 IAmb IAmb 08 24 04.3
comp=Z,13nm,1.1s
MAKZ Makanchi 52.58 59 P **P 08 23 52.1 +0.4**
MAKZ pmax pmax
comp=Z,15nm,1.4s
MAKZ Makanchi 52.58 59 P **P 08 23 52.1 +0.4**
MAKZ IAmb IAmb 08 23 55.0
comp=Z,15nm,1.4s
SGDS Sogindy 52.61 66 *e*P **P 08 23 52.3 +0.1**
baz=66
SGDS Sogindy 52.61 66 *e*P **P 08 23 52.2 +0.1**
MKAR Makanchi Array 52.70 58 P **P 08 23 52.5 -0.2**
comp=Z,4.3nm,1.0s,baz=324,slow=6.0,SNR=16
MKAR LR LR 08 46 33.6
comp=Z,170nm,20.0s,baz=318,slow=36
MKAR Makanchi Array 52.70 58 P **P 08 23 52.2 -0.5**
T35A Sooner Cattle 52.73 279 IAmb IAmb 08 23 57.3
comp=Z,23nm,1.4s
TDK Taldyqorghan 52.77 62 *e*P **P 08 23 53.5 +0.3**
baz=63
TDK LR LR 08 45 27.2
comp=Z,216nm,18.7s,baz=63
TDK Taldyqorghan 52.77 62 *e*P **P 08 23 53.5 +0.3**
TDK MLR MLR
comp=Z,216nm,19.0s
LOHW Long Hollow 52.86 295 IAmb IAmb 08 23 56.4
comp=Z,15nm,1.4s
KUU Kurty 52.91 65 *e*P **P 08 23 54.6 +0.4**
comp=Z,25nm,1.3s,baz=65
KUU LR LR 08 45 24.6
comp=Z,315nm,14.9s,baz=65
KUU Kurty 52.91 65 *e*P **P 08 23 54.6 +0.4**
KUU pmax pmax
comp=Z,25nm,1.3s
KUU MLR MLR
comp=Z,315nm,15.0s
SNOW Snow King Moun 53.05 295 IAmb IAmb 08 24 02.0
comp=Z,15nm,1.3s
ZSN Zaisan 53.08 56 *e*P **P 08 23 55.2 -0.3**
baz=56
ZSN Zaisan 53.08 56 *e*P **P 08 23 55.1 -0.3**
TPAW Teton Pass 53.10 295 IAmb IAmb 08 24 01.4
comp=Z,15nm,1.2s
BW06 Boulder Array 53.16 293 P **P 08 23 55.8 -0.6**
baz=32,SNR=18
BW06 Boulder Array 53.16 293 IAmb IAmb 08 23 57.4
comp=Z,18nm,1.2s
PD31 Pinedale Array 53.16 293 IAmb IAmb 08 23 57.4
comp=Z,16nm,1.2s
PDAR Pinedale Array 53.16 293 P **P 08 23 56.4 -0.1**
comp=Z,4.5nm,0.8s,baz=54,slow=7.5,SNR=26
PDAR LR LR 08 46 05.4
comp=Z,408nm,20.4s,baz=29,slow=36
PDAR Pinedale Array 53.16 293 P **P 08 23 55.9 -0.5**
REDW Red Top Meadow 53.17 295 IAmb IAmb 08 24 05.6
comp=Z,23nm,1.4s
TORD Torodi Ar. Bea 53.17 156 LR LR 08 47 10.1
comp=Z,64nm,19.1s,baz=10.0,slow=37
TORD Torodi Ar. Bea 53.17 156 P **P 08 23 55.2 -1.2**
AAK Ala-Archa 53.24 67 P **P 08 23 57.8 +0.9**
comp=Z,8.9nm,1.0s,baz=321,slow=1.8,SNR=12
AAK Ala-Archa 53.24 67 *ce*P **P 08 23 57.8 +0.9**
AAK pmax pmax
comp=Z,57nm,1.3s
N23A Red Feather La 53.30 289 P **P 08 23 58.0 +0.6**
baz=32,SNR=9.8
N23A Red Feather La 53.30 289 P **P 08 23 57.8 +0.4**
N23A IAmb IAmb 08 23 59.5
comp=Z,20nm,1.2s
MTBS Maitube 53.59 65 *e*P **P 08 23 59.5 +0.2**
baz=65
MTBS Maitube 53.59 65 *e*P **P 08 23 59.5 +0.2**
PLID Pearl Lake 53.68 300 P **P 08 23 59.5 -0.6**
PLID IAmb IAmb 08 24 08.1
comp=Z,12nm,1.2s
AAA Alma-Ata 53.71 65 *e*P **P 08 23 60.0 -0.3**
baz=65
AAA LR LR 08 45 57.7
comp=Z,295nm,15.8s,baz=65
AAA Alma-Ata 53.71 65 *e*P **P 08 23 59.9 -0.3**
AAA MLR MLR
comp=Z,295nm,16.0s
MDOK Medeo 53.80 65 *e*P **P 08 24 01.5 +0.5**
baz=65
MDOK *e*S **S 08 31 36.0 -0.2**
baz=65
MDOK LR LR 08 45 53.5
comp=Z,284nm,17.4s,baz=65
MDOK Medeo 53.80 65 *e*P **P 08 24 01.5 +0.5**
MDOK *e*S **S 08 31 36.0 -0.2**
MDOK MLR MLR
comp=Z,284nm,17.0s
TNSS Tian-Shan 53.87 65 *e*P **P 08 24 02.1 +0.3**
baz=65
TNSS Tian-Shan 53.87 65 *e*P **P 08 24 02.0 +0.3**
BOOM Boomskoye usch 53.94 66 P **P 08 24 02.5 +0.5**
BOOM pmax pmax
comp=Z,14nm,1.2s
BOOM Boomskoye usch 53.94 66 P **P 08 24 02.5 +0.5**
BOOM IAmb IAmb 08 24 06.3
comp=Z,14nm,1.2s
KPKS Kokpek 54.17 63 *e*P **P 08 24 04.2 +0.5**
baz=63
KPKS Kokpek 54.17 63 *e*P **P 08 24 04.1 +0.5**
BMO Blue Mountains 54.36 300 IAmb IAmb 08 24 12.7
comp=Z,9.2nm,1.1s
HLID Hailey 54.38 297 P **P 08 24 05.7 +0.5**
baz=32
HLID Hailey 54.38 297 P **P 08 24 06.0 +0.8**
SATY Saty 54.41 64 *e*P **P 08 24 05.9 +0.4**
comp=Z,6.6nm,1.1s,baz=64
SATY *e*S **S 08 31 44.3 -0.2**
baz=64
SATY Saty 54.41 64 *e*P **P 08 24 05.8 +0.4**
SATY *e*S **S 08 31 44.2 -0.2**
SATY pmax pmax
comp=Z,7.0nm,1.1s
CHGR Chuyangaron 54.45 74 P **P 08 24 06.0 +0.3**
UZB Uzynbulak 54.58 63 *e*P **P 08 24 07.0 +0.3**
comp=Z,14nm,2.0s,baz=63
UZB Uzynbulak 54.58 63 *e*P **P 08 24 06.9 +0.3**
UZB pmax pmax
comp=Z,14nm,2.0s
MOY Mondy 54.63 42 *e*P **P 08 24 08.3 +1.5**
MOY pmax pmax
comp=Z,41nm,1.5s

GAR Garm 54.64 73 P **P 08 24 07.8 +0.7**
KDJ Kajisay 54.73 65 P **P 08 24 08.3 +0.5**
KDJ pmax pmax
comp=Z,8.0nm,1.1s
KDJ Kajisay 54.73 65 P **P 08 24 08.3 +0.5**
SHLS Shalkode 54.73 63 *e*P **P 08 24 09.9 +2.1**
comp=Z,13nm,1.0s,baz=63
SHLS Shalkode 54.73 63 *e*P **P 08 24 09.8 +2.1**
SHLS pmax pmax
comp=Z,13nm,1.0s
O20A White River Ci 54.87 290 P **P 08 24 09.0 +0.2**
baz=32,SNR=7.3
HWUT Hardware Ranch 54.94 294 P **P 08 24 09.5 +0.2**
RDMU Red Mountain 55.03 292 P **P 08 24 10.3 +0.3**
HRA Herat 55.18 82 P **P 08 24 10.3 -0.9**
HRA IAmb IAmb 08 24 15.4
comp=Z,16nm,1.4s
TCUT Toone Canyon 55.29 294 P **P 08 24 12.7 +0.7**
TARG Taragay, Kyrgy 55.31 65 IAmb IAmb 08 24 16.1
comp=Z,15nm,1.2s
TLY Talaya 55.37 40 *e*P P 08 24 04.1 -8.0
TLY *e*SS **SS 08 35 35.1 -5.2**
TLY pmax pmax
comp=Z,25nm,1.5s
TLY MLR MLR
comp=Z,862nm,23.0s
WMOK Wichita Mounta 55.54 279 P **P 08 24 13.7 +0.1**
WMOK pmax pmax
comp=Z,20nm,1.4s
WMOK Wichita Mounta 55.54 279 P **P 08 24 13.4 -0.1**
baz=31,SNR=8.9
WMOK Wichita Mounta 55.54 279 P **P 08 24 13.7 +0.1**
WMOK IAmb IAmb 08 24 19.0
comp=Z,20nm,1.4s
MA2 Magadan 55.72 7 *ce*P **P 08 24 14.8 +0.3**
MA2 pmax pmax
comp=Z,15nm,1.3s
SDCO Great Sand Dun 55.79 287 P **P 08 24 16.6 +1.0**
baz=31
CTU Camp Tracy 55.79 294 P **P 08 24 13.9 -1.6**
T25A Trinidad 55.85 285 P **P 08 24 17.1 +1.1**
baz=31
T25A Trinidad 55.85 285 P **P 08 24 16.4 +0.4**
T25A IAmb IAmb 08 24 18.1
comp=Z,18nm,1.4s
MPU Maple Canyon 56.32 293 P **P 08 24 20.0 +0.7**
S22A 4UR Ranch, Cre 56.33 288 P **P 08 24 20.5 +1.0**
baz=31
ZAK Zakamensk 56.43 41 *e*P **P 08 24 20.3 +0.5**
ZAK pmax pmax
comp=Z,11nm,1.3s
KSH Kashi 56.48 68 P **P 08 24 22.8 +2.4**
KSH PP **PP 08 26 28.9 +3.3**
KSH S **S 08 32 10.6 -1.5**
KSH sS sS 08 32 22.9 +8.9
KSH pmax pmax
comp=Z,35nm,0.9s
KSH pmax pmax
comp=Z,300nm,5.5s
KSH LR LR
comp=Z,320nm,14.1s
KSH LR LR
comp=Z,440nm,17.1s
KSH LR LR
comp=Z,430nm,17.8s
NLU North Lily Min 56.55 293 P **P 08 24 20.7 -0.3**
PV04 Paradox Valley 56.62 290 P **P 08 24 21.6 +0.2**
PV04 IAmb IAmb 08 24 31.6
comp=Z,9.5nm,1.1s
DUG Dugway, Tooele 56.63 294 P **P 08 24 22.4 +0.9**
DUG pmax pmax
comp=Z,13nm,1.4s
DUG Dugway, Tooele 56.63 294 P **P 08 24 21.9 +0.5**
baz=31,SNR=6.3
DUG Dugway, Tooele 56.63 294 P **P 08 24 22.4 +0.9**
DUG IAmb IAmb 08 24 23.9
comp=Z,13nm,1.4s
PV12 Saucer Basin, 56.64 290 P **P 08 24 21.1 -0.6**
PV12 IAmb IAmb 08 24 27.3
comp=Z,16nm,1.3s
SRU San Rafael Swe 56.66 292 P **P 08 24 21.4 -0.3**
SRU pmax pmax
comp=Z,10.0nm,1.1s
SRU San Rafael Swe 56.66 292 P **P 08 24 21.4 -0.3**
PV10 Paradox Valley 56.69 290 P **P 08 24 21.9 -0.1**
PV02 Paradox Valley 56.71 290 P **P 08 24 22.2 +0.1**
PV02 IAmb IAmb 08 24 23.7
comp=Z,14nm,1.0s
PV17 East Wray Mesa 56.74 290 IAmb IAmb 08 24 28.0
comp=Z,20nm,1.3s
TMUT Trail Mountain 56.77 292 P **P 08 24 21.3 -1.3**
Q16A Castle Valley 57.08 292 P **P 08 24 25.1 +0.4**
ELK Elko 57.10 296 P **P 08 24 25.2 +0.3**
ELK pmax pmax
comp=Z,12nm,1.5s
ELK Elko 57.10 296 P **P 08 24 25.2 +0.3**
ELK IAmb IAmb 08 24 31.6
comp=Z,12nm,1.4s
WMQ Urumqi 57.21 56 *e*P P 08 24 28.8 +3.4
WMQ pmax pmax
comp=Z,8.0nm,1.1s
WMQ pmax pmax
comp=Z,41nm,6.1s
WMQ LR LR
comp=Z,180nm,13.9s
WMQ LR LR
comp=Z,230nm,18.9s
WMQ LR LR
comp=Z,150nm,18.1s
WHTX Lake Whitney, 57.34 276 P **P 08 24 27.4 +1.0**
baz=30
WHTX Lake Whitney, 57.34 276 P **P 08 24 26.7 +0.4**
WHTX IAmb IAmb 08 24 31.4
comp=Z,17nm,1.2s
MVCO Mesa Verde 57.47 289 P **P 08 24 28.3 +0.8**
baz=31
MVCO Mesa Verde 57.47 289 IAmb IAmb 08 24 36.5
comp=Z,13nm,1.4s
K05A Summer Lake 57.52 302 P **P 08 24 30.2 +2.5**
ABTX Abilene, Hawle 57.72 279 P **P 08 24 30.0 +1.0**
baz=30
ABTX Abilene, Hawle 57.72 279 IAmb IAmb 08 24 34.5
comp=Z,9.5nm,1.1s
MVU Marysvale 57.85 293 P **P 08 24 30.6 +0.4**
TCRU Three Creeks R 57.85 293 P **P 08 24 31.0 +0.8**
MSTX Muleshoe 57.89 282 P **P 08 24 31.9 +1.5**
baz=30
MTPU Mount Pierson 58.24 292 P **P 08 24 34.0 +0.9**
PSUT Pine Spring 58.47 294 P **P 08 24 35.2 +0.7**
ANMO Albuquerque 58.58 286 *ce*P **P 08 24 37.0 +1.7**
ANMO pmax pmax
comp=Z,13nm,2.5s
ANMO Albuquerque 58.58 286 P **P 08 24 35.5 +0.2**
baz=30
ANMO Albuquerque 58.58 286 P **P 08 24 36.1 +0.8**
DBIC Dimbokro 58.62 165 P **P 08 24 34.3 -1.2**
comp=Z,9.3nm,0.9s,baz=359,slow=9.8,SNR=4.5
DBIC LR LR 08 51 04.2
comp=Z,37nm,18.0s,baz=346,slow=37
DBIC Dimbokro 58.62 165 P **P 08 24 35.9 +0.4**
DBIC pmax pmax
comp=Z,16nm,1.0s
DBIC Dimbokro 58.62 165 P **P 08 24 35.9 +0.4**
TIC Toumodi 58.63 165 *e*P **P 08 24 34.2 -1.3**
PKCU Pink Cliffs 58.80 292 P **P 08 24 37.9 +1.0**
KIC Kosan Boka 58.94 165 *e*P **P 08 24 36.5 -1.2**
comp=Z,73nm,1.4s
SZCU Shurtz Canyon 58.98 293 P **P 08 24 38.3 +0.3**
LIC Lamto 59.05 166 *e*P **P 08 24 37.2 -1.2**
comp=Z,62nm,1.4s
CCUT Cedar City 59.13 293 P **P 08 24 39.8 +0.7**
R11A Troy Canyon, C 59.31 295 P **P 08 24 41.1 +0.8**
baz=30,SNR=7.8
R11A Troy Canyon, C 59.31 295 IAmb IAmb 08 24 46.5
comp=Z,15nm,1.4s
BNM Barren Site 59.34 285 P **P 08 24 41.2 +0.6**
LENM Lemitar 59.47 286 P **P 08 24 44.2 +2.7**
LCMT Little Creek M 59.55 293 P **P 08 24 42.0 +0.1**
PAHR Pah Rah Range 59.58 299 IAmb IAmb 08 24 44.3
comp=Z,9.0nm,1.3s
SONM Songino Array 59.61 40 P **P 08 24 42.4 +0.3**
comp=Z,3.3nm,1.1s,baz=317,slow=7.1,SNR=11
SONM LR LR 08 53 10.0
comp=Z,234nm,18.9s,baz=324,slow=39
SONM Songino Array 59.61 40 P **P 08 24 41.7 -0.4**

JCT	**Junction City**	**59.64**	**277**	P	**P**	**08 24 41.9**	**-0.6**
JCT				pmax	pmax		
comp=Z,21nm,1.2s							
JCT	**Junction City**	**59.64**	**277**	P	**P**	**08 24 42.3**	**-0.2**
baz=30,SNR=6.5							
JCT	**Junction City**	**59.64**	**277**	P	**P**	**08 24 41.9**	**-0.6**
KVN	**Kaiserville**	**59.67**	**298**	P	**P**	**08 24 42.7**	**-0.1**
KVN				pmax	pmax		
comp=Z,16nm,1.5s							
KVN	**Kaiserville**	**59.67**	**298**	P	**P**	**08 24 42.7**	**-0.1**
KVN				IAmb	IAmb	08 24 48.5	
comp=Z,16nm,1.5s							
U15A	**North Rim**	**59.68**	**291**	IAmb	IAmb	08 24 43.9	
comp=Z,9.6nm,1.1s							
ULN	**Ulaanbaatar**	**59.77**	**40**	*ce*P	**P**	**08 24 44.2**	**+0.9**
ULN				pmax	pmax		
comp=Z,11nm,1.7s							
ULN	**Ulaanbaatar**	**59.77**	**40**	P	**P**	**08 24 44.5**	**+1.2**
PRN	**Pahroc Range**	**59.92**	**294**	P	**P**	**08 24 45.5**	**+1.1**
PRN				IAmb	IAmb	08 24 54.3	
comp=Z,14nm,1.5s							
VCNR	**Virginia City**	**60.04**	**299**	P	**P**	**08 24 46.2**	**+0.9**
VCNR				IAmb	IAmb	08 24 49.2	
comp=Z,11nm,1.4s							
WUAZ	**Wupatki**	**60.10**	**290**	P	**P**	**08 24 46.1**	**+0.4**
baz=30,SNR=9.4							
WUAZ	**Wupatki**	**60.10**	**290**	P	**P**	**08 24 45.7**	**0.0**
YERR	**Yerington**	**60.16**	**298**	P	**P**	**08 24 46.9**	**+0.7**
YERR				IAmb	IAmb	08 24 55.2	
comp=Z,17nm,1.3s							
NVAR	**Mina Array Bea**	**60.29**	**297**	P	**P**	**08 24 47.4**	**+0.4**
comp=Z,0.9nm,0.9s,baz=59,slow=5.5,SNR=6.6							
NVAR				LR	LR	08 50 36.9	
comp=Z,635nm,18.8s,baz=26,slow=36							
NVAR	**Mina Array Bea**	**60.29**	**297**	P	**P**	**08 24 46.8**	**-0.3**
NIL	**Nilore**	**60.44**	**74**	P	**P**	**08 24 48.2**	**+0.3**
NIL				pmax	pmax		
comp=Z,35nm,1.2s							
NIL	**Nilore**	**60.44**	**74**	P	**P**	**08 24 48.2**	**+0.3**
WAKR	**Walker**	**60.65**	**298**	IAmb	IAmb	08 24 58.7	
comp=Z,20nm,1.5s							
SHPR	**Sheep Range**	**60.75**	**294**	P	**P**	**08 24 51.6**	**+1.5**
SHPR				IAmb	IAmb	08 24 56.7	
comp=Z,14nm,1.4s							
TPNV	**Topopah Spring**	**60.79**	**295**	P	**P**	**08 24 50.9**	**+0.5**
TPNV				pmax	pmax		
comp=Z,14nm,1.5s							
TPNV	**Topopah Spring**	**60.79**	**295**	P	**P**	**08 24 50.9**	**+0.5**
TPNV				IAmb	IAmb	08 25 04.5	
comp=Z,14nm,1.4s							
MNTX	**Cornudas Mount**	**60.94**	**283**	P	**P**	**08 24 51.6**	**+0.3**
baz=29							
X16A	**Lo Mia Camp, P**	**61.08**	**290**	IAmb	IAmb	08 25 01.6	
comp=Z,11nm,1.2s							
OMMB	**Old Mammoth Mi**	**61.27**	**297**	P	**P**	**08 24 54.0**	**+0.2**
OMMB				IAmb	IAmb	08 25 00.5	
comp=Z,12nm,1.4s							
MDPB	**Devils Postpil**	**61.28**	**298**	P	**P**	**08 24 54.5**	**+0.6**
MDPB				IAmb	IAmb	08 25 00.4	
comp=Z,8.4nm,1.2s							
833A	**Chaparral WMA,**	**61.34**	**276**	P	**P**	**08 24 55.4**	**+1.4**
baz=29							
FURC	**Furnace Creek,**	**61.45**	**295**	P	**P**	**08 24 55.0**	**+0.4**
baz=29							
SHOC	**Shoshone, Teco**	**61.71**	**294**	P	**P**	**08 24 57.1**	**+0.6**
baz=29							
MPMC	**Manual Prospec**	**62.05**	**295**	P	**P**	**08 24 59.1**	**+0.1**
baz=29							
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**08 25 00.8**	**+0.2**
comp=Z,2.1nm,1.0s,baz=45,slow=4.2,SNR=13							
TXAR				PcP	**PcP**	**08 25 39.3**	**-1.0**
comp=Z,2.7nm,1.1s,baz=45,slow=1.4,SNR=4.6							
TXAR				LR	LR	08 51 32.6	
comp=Z,463nm,19.1s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**62.28**	**280**	P	**P**	**08 25 00.2**	**-0.2**
TXAR					**PcP**	**08 25 40.5**	**+0.2**
GSC	**Goldstone, Bar**	**62.44**	**294**	P	**P**	**08 25 01.8**	**+0.3**
baz=28							
GMRC	**Granite Mounta**	**62.45**	**293**	P	**P**	**08 25 02.6**	**+1.0**
baz=29							
PETK	**Petropavlovsk-**	**62.46**	**3**	LR	LR	08 51 01.6	
comp=Z,38nm,19.6s,baz=51,slow=35							
PET	**Petropavlovsk**	**62.57**	**3**	*e*P	P	08 25 05.6	+3.7
PET				pmax	pmax		
comp=Z,100nm,13.6s							
PET				MLR	MLR		
comp=Z,100nm,19.0s							
TUC	**Tucson**	**62.65**	**288**	P	**P**	**08 25 02.3**	**-0.6**
TUC				pmax	pmax		
comp=Z,11nm,1.4s							
TUC	**Tucson**	**62.65**	**288**	P	**P**	**08 25 04.3**	**+1.3**
baz=29							
TUC	**Tucson**	**62.65**	**288**	P	**P**	**08 25 02.3**	**-0.6**
TUC				IAmb	IAmb	08 25 09.5	
comp=Z,11nm,1.4s							
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 25 05.1**	**+1.4**
ISA				pmax	pmax		
comp=Z,14nm,1.5s							
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 25 05.0**	**+1.3**
baz=28							
ISA	**Isabella, Lake**	**62.77**	**296**	P	**P**	**08 25 05.1**	**+1.4**
ISA				IAmb	IAmb	08 25 10.0	
comp=Z,14nm,1.4s							
IRM	**Iron Mountain**	**62.79**	**292**	P	**P**	**08 25 05.1**	**+1.3**
baz=28							
BELC	**Belle Mtn. Jos**	**63.27**	**293**	P	**P**	**08 25 08.5**	**+1.5**
baz=28							
EDW2	**Edwards Air Fo**	**63.28**	**295**	P	**P**	**08 25 08.1**	**+1.0**
baz=28							
BC3	**Big Chuckawall**	**63.35**	**292**	P	**P**	**08 25 08.9**	**+1.3**
baz=28							
IKP	**In-Ko-Pah, Jac**	**64.50**	**292**	P	**P**	**08 25 16.9**	**+1.8**
baz=28							
GTA	**Gaotai**	**65.27**	**49**	⇑P	**P**	**08 25 20.8**	**+0.6**
GTA				S	**S**	**08 34 03.6**	**-0.7**
GTA				sS	sS	08 34 12.6	+6.4
GTA				pmax	pmax		
comp=Z,7.0nm,1.2s							
GTA				pmax	pmax		
comp=Z,200nm,5.8s							
GTA				LR	LR		
comp=Z,200nm,17.1s							
GTA				LR	LR		
comp=Z,200nm,18.5s							
GTA				LR	LR		
comp=Z,240nm,17.8s							
SDV	**Santo Domingo**	**66.84**	**239**	P	**P**	**08 25 31.3**	**+0.7**
SDV	**Santo Domingo**	**66.84**	**239**	*e*P	**P**	**08 25 32.7**	**+2.2**
HHC	**Hu-ho-hao-te**	**67.48**	**40**	*e*P	**P**	**08 25 36.5**	**+2.3**
HHC				pmax	pmax		
comp=Z,20nm,1.0s							
HHC				pmax	pmax		
comp=Z,88nm,6.7s							
ZAIG	**Zacatecas**	**67.57**	**276**	P	**P**	**08 25 37.0**	**+1.8**
ZAIG				IAmb	IAmb	08 25 40.7	
comp=Z,12nm,1.3s							
YSS	**Yuzh-Sakhalins**	**67.61**	**14**	*e*P	**P**	**08 25 30.7**	**-4.1**
YSS				*e*S	S	08 34 21.3	-11
YSS				MLR	MLR		
comp=Z,300nm,13.0s							
SJCC	**San Jacinto, C**	**67.64**	**244**	*e*P	**P**	**08 25 36.7**	**+1.3**
SMLC	**San Martn de**	**68.21**	**243**	*e*P	**P**	**08 25 37.4**	**-1.6**
PAMC	**Pamplona, Colo**	**69.04**	**241**	*e*P	**P**	**08 25 43.5**	**-1.2**
LZH	**Lanzhou**	**69.60**	**48**	*e*P	**P**	**08 25 48.3**	**+0.7**
LZH				sP	sP	08 25 54.3	+5.1
LZH				pmax	pmax		
comp=Z,15nm,1.0s							
LZH				pmax	pmax		
comp=Z,170nm,4.2s							
LZH				LR	LR		
comp=Z,150nm,13.2s							
LZH				LR	LR		
comp=Z,210nm,14.0s							
LZH				LR	LR		
comp=Z,300nm,14.6s							
ZARC	**Zaragoza, Cauc**	**69.71**	**243**	*e*P	**P**	**08 25 47.5**	**-0.8**
PTBC	**PUERTO BERRIO,**	**70.43**	**242**	*e*P	**P**	**08 25 52.1**	**-0.6**
SPBC	**San Pablo de B**	**71.10**	**241**	*e*P	**P**	**08 25 57.4**	**+0.5**
CBOC	**Ciudad Bolivar**	**71.65**	**243**	*e*P	**P**	**08 26 00.6**	**+0.3**
CHIC	**Chingaza**	**71.92**	**241**	*e*P	**P**	**08 26 01.9**	**-0.3**
ROSC	**El Rosal**	**71.94**	**241**	P	**P**	**08 26 03.0**	**+0.7**
comp=Z,6.8nm,0.5s,baz=146,slow=13,SNR=4.4							
ROSC				LR	LR	08 54 04.3	
comp=Z,94nm,22.0s,baz=329,slow=33							
ROSC	**El Rosal**	**71.94**	**241**	P	**P**	**08 26 02.4**	**0.0**
ROSC				IAmb	IAmb	08 26 18.9	
comp=Z,10nm,0.7s							
GUY2C	**Guyana, Caldas**	**71.99**	**242**	*e*P	**P**	**08 26 03.3**	**+0.6**
PTGA	**Pitinga**	**72.22**	**225**	P	**P**	**08 26 04.0**	**+0.5**
XAN	**Xi'an**	**73.06**	**44**	P	**P**	**08 26 10.1**	**+1.7**
XAN				pP	sP	08 26 14.0	+4.0
XAN				pmax	pmax		
comp=Z,12nm,1.5s							
XAN				LR	LR		
comp=Z,370nm,24.9s							
XAN				LR	LR		
comp=Z,230nm,18.4s							
XAN				LR	LR		
comp=Z,500nm,24.5s							
XAN	**Xi'an**	**73.06**	**44**	P	**P**	**08 26 08.4**	**0.0**
XAN				pmax	pmax		
comp=Z,17nm,1.4s							
XAN	**Xi'an**	**73.06**	**44**	P	**P**	**08 26 08.4**	**0.0**
XAN				IAmb	IAmb	08 26 10.4	
comp=Z,17nm,1.4s							
KSRS	**Korea Array**	**74.61**	**28**	LR	LR	09 01 09.9	
comp=Z,75nm,18.2s,baz=348,slow=37							
KMBO	**Kilima Mbogo**	**76.69**	**123**	LR	LR	09 03 19.5	
comp=Z,53nm,19.5s,baz=94,slow=38							
NJ2	**Nanjing**	**77.71**	**37**	*e*P	**P**	**08 26 34.8**	**-0.3**
NJ2				pmax	pmax		
comp=Z,6.0nm,0.5s							
OTAV	**Otavalo**	**77.74**	**243**	*e*P	**P**	**08 26 38.8**	**+2.8**
GYA	**Guiyang**	**79.40**	**49**	*e*P	**P**	**08 26 46.6**	**+1.9**
GYA				pmax	pmax		
comp=Z,10.0nm,1.2s							
CLDB	**Colider**	**80.68**	**218**	*e*P	**P**	**08 26 52.4**	**+1.0**
BDFB	**Brasilia**	**83.42**	**210**	LR	LR	08 58 31.3	
comp=Z,85nm,20.9s,baz=99,slow=32							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**08 27 09.2**	**-0.2**
comp=Z,0.8nm,0.3s,baz=321,slow=5.8,SNR=11							
CMAR				LR	LR	09 07 20.2	
comp=Z,99nm,19.0s,baz=360,slow=38							
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**08 27 08.3**	**-1.2**
LPAZ	**La Paz**	**89.43**	**228**	LR	LR	09 05 42.2	
comp=Z,34nm,19.1s,baz=360,slow=34							
BOSA	**Boshof**	**98.79**	**143**	LR	LR	09 16 51.9	
comp=Z,63nm,19.0s,baz=1.5,slow=38							
WRA	**Warramunga Arr**	**131.49**	**36**	PKP	**PKiKP**	**08 33 51.5**	**-0.4**
comp=Z,0.4nm,1.1s,baz=116,slow=34,SNR=5.7							
ASAR	**Alice Springs**	**134.94**	**38**	PKP	**PKiKP**	**08 33 56.9**	**-1.9**
comp=Z,1.6nm,1.1s,baz=316,slow=2.6,SNR=6.7							
STKA	**Stephens Creek**	**144.69**	**32**	PKP	PKPbc	08 34 12.5	-1.1
comp=Z,5.3nm,1.1s,baz=133,slow=4.4,SNR=4.7							

NEIC ***24*** *08:29:57.4±2.1,20°.11S±0°.10×177°.8W±0°.1,h587km±9km, mb4.5/5, Error ellipse: s-maj=19.5km s-min=13.7km az=102.0*

IDC ***24*** *08:29:58.5±4.0,19°.93S×177°.96W,h578km±46km, mb3.4/10,mb1 3.6/12,mb1mx3.3/32,mbtmp4.3/12, Error ellipse: s-maj=27.7km s-min=23.2km az=150.0*

ISC 24 08:29:56.6±0.6,20°.1S±0°.1×177.76W±0°.10,h569km,n49, σ1§44/48,mb4.4/21,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.63**	**300**	P	**P**	**08 31 27.7**	**+2.9**
DZM	**Mont Dzumac**	**14.87**	**260**	P	**P**	**08 33 06.4**	**+1.9**
0.8nm,0.3s,baz=115,slow=19,SNR=7.2							
DZM	**Mont Dzumac**	**14.87**	**260**	P	**P**	**08 33 06.0**	**+1.5**
RAR	**Rarotonga**	**16.86**	**97**	P	**P**	**08 33 20.0**	**-3.2**
8.6nm,0.3s,baz=322,slow=2.7,SNR=3.6							
RAR	**Rarotonga**	**16.86**	**97**	IAmb	IAmb	08 33 22.8	
comp=Z,84nm,1.1s							
URZ	**Urewera**	**18.60**	**193**	P	**P**	**08 33 40.7**	**+1.8**
comp=Z,2.2nm,0.3s,baz=284,slow=2.7,SNR=15							
URZ	**Urewera**	**18.60**	**193**	P	**P**	**08 33 40.6**	**+1.7**
URZ				IAmb	IAmb	08 33 42.0	
comp=Z,20nm,1.1s							
BKZ	**Black Stump Fm**	**19.60**	**193**	P	**P**	**08 33 48.4**	**+0.4**
BKZ				IAmb	IAmb	08 33 53.1	
comp=Z,19nm,1.2s							
QRZ	**Quartz Range**	**22.23**	**200**	P	**P**	**08 34 14.2**	**+2.6**
THZ	**Tophouse**	**22.97**	**198**	P	**P**	**08 34 18.1**	**-0.2**
THZ				IAmb	IAmb	08 34 35.6	
comp=Z,20nm,1.2s							
MQZ	**McQueen's Vall**	**24.84**	**197**	P	**P**	**08 34 36.8**	**+2.2**
CTAO	**Charters Tower**	**33.76**	**264**	P	**P**	**08 35 52.2**	**+0.1**
TOO	**Toolangi**	**36.30**	**233**	P	**P**	**08 36 14.0**	**+1.1**
TOO				IAmb	IAmb	08 36 17.1	
comp=Z,16nm,1.3s							
COEN	**Coen**	**37.79**	**273**	P	**P**	**08 36 24.3**	**-1.1**
COEN				IAmb	IAmb	08 36 25.8	
comp=Z,6.7nm,0.6s							
STKA	**Stephens Creek**	**38.15**	**244**	P	**P**	**08 36 29.3**	**+1.2**
comp=Z,3.0nm,0.5s,baz=86,slow=9.6,SNR=10							
STKA	**Stephens Creek**	**38.15**	**244**	IAmb	IAmb	08 36 30.3	
comp=Z,3.0nm,1.3s							
BBOO	**Buckleboo**	**42.91**	**243**	P	**P**	**08 37 06.6**	**+0.6**
BBOO				IAmb	IAmb	08 37 07.8	
comp=Z,16nm,0.8s							
WR0	**Warramunga Arr**	**44.69**	**262**	P	**P**	**08 37 19.0**	**-0.9**
AS31	**Alice Springs**	**44.83**	**256**		**P**	**08 37 20.9**	**0.0**
AS31				IAmb	IAmb	08 37 22.5	
comp=Z,4.6nm,0.4s							
ASAR	**Alice Springs**	**44.83**	**256**	P	**P**	**08 37 20.9**	**0.0**
comp=Z,12nm,0.7s,baz=88,slow=8.0,SNR=209							
ASAR				PcP	**PcP**	**08 38 50.6**	**+0.2**
comp=Z,1.2nm,0.6s,baz=110,slow=3.3,SNR=6.1							
ASAR				S	**S**	**08 43 13.8**	**-4.0**
comp=Z,0.8nm,0.7s,baz=96,slow=15,SNR=7.3							
ASAR	**Alice Springs**	**44.83**	**256**		**P**	**08 37 20.5**	**-0.5**
WB0	**Warramunga Arr**	**44.86**	**262**		**P**	**08 37 20.4**	**-0.8**
WB0				IAmb	IAmb	08 37 21.1	
comp=Z,19nm,1.3s							
WB2	**Warramunga Arr**	**44.87**	**262**		**P**	**08 37 20.5**	**-0.7**
WB2				IAmb	IAmb	08 37 21.2	
comp=Z,17nm,1.2s							
WRAB	**Tennant Creek**	**44.87**	**262**	P	**P**	**08 37 20.4**	**-0.9**
WRAB				IAmb	IAmb	08 37 21.3	
comp=Z,17nm,1.2s							
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**08 37 20.7**	**-0.6**
comp=Z,3.0nm,0.3s,baz=98,slow=7.2,SNR=194							
WRA				PcP	**PcP**	**08 38 50.4**	**-0.3**
comp=Z,0.5nm,0.7s,baz=88,slow=3.8,SNR=2.8							
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**08 37 20.3**	**-1.1**
MTN	**Manton Dam**	**49.39**	**270**	P	**P**	**08 37 53.7**	**-1.5**
MTN				IAmb	IAmb	08 37 55.4	
comp=Z,9.1nm,0.6s							
FORT	**Forrest**	**49.65**	**246**	P	**P**	**08 37 55.5**	**-1.4**
KNRA	**Kununurra**	**50.91**	**266**	P	**P**	**08 38 05.7**	**-0.6**
KNRA				IAmb	IAmb	08 38 24.0	
comp=Z,17nm,1.3s							
FITZ	**Fitzroy Crossi**	**53.30**	**262**	P	**P**	**08 38 22.8**	**-0.7**
PSA00	**Pilbara Seismi**	**57.97**	**257**	P	**P**	**08 38 54.3**	**-1.5**
PSA00				IAmb	IAmb	08 38 55.9	
comp=Z,17nm,0.8s							
PSA00	**Pilbara Seismi**	**57.97**	**257**	P	**P**	**08 38 54.0**	**-1.7**
PSA00				IAmb	IAmb	08 38 55.9	
comp=Z,8.6nm,0.7s							
QSPA	**South Pole Qui**	**69.93**	**180**	P	**P**	**08 40 09.8**	**-1.2**
MJAR	**Matsushiro Arr**	**70.05**	**323**	P	**P**	**08 40 10.5**	**-1.6**
comp=Z,1.5nm,0.5s,baz=155,slow=6.7,SNR=4.8							
PETK	**Petropavlovsk-**	**75.98**	**345**	P	**P**	**08 40 44.6**	**-0.9**
comp=Z,1.5nm,0.7s,baz=120,slow=8.5,SNR=3.0							
USRK	**Ussuriysk Ar.**	**78.79**	**326**	P	**P**	**08 41 01.1**	**+0.2**
comp=Z,2.1nm,0.7s,baz=131,slow=3.3,SNR=6.4							
J08A	**Circle Bar Ran**	**83.34**	**39**		pP	08 43 28.4	+2.8
TXAR	**Lajitas Array**	**86.67**	**57**	P	**P**	**08 41 43.6**	**+2.7**
comp=Z,0.2nm,0.7s,baz=203,slow=5.4,SNR=3.8							
HDA	**Harding Lake**	**87.58**	**13**	P	**P**	**08 41 43.6**	**-0.5**
CCB	**Clear Creek Bu**	**87.61**	**12**	P	**P**	**08 41 43.8**	**-0.5**
ILAR	**Eielson Array**	**87.91**	**13**	P	**P**	**08 41 45.1**	**-0.6**
comp=Z,0.9nm,0.8s,baz=217,slow=5.4,SNR=11							
ILAR	**Eielson Array**	**87.91**	**13**	P	**P**	**08 41 45.0**	**-0.7**
PDAR	**Pinedale Array**	**88.54**	**43**	P	**P**	**08 41 50.8**	**+1.3**
comp=Z,0.3nm,0.6s,baz=166,slow=3.1,SNR=3.7							
CMAR	**Chiang Mai Arr**	**90.21**	**289**	P	**P**	**08 41 58.5**	**+1.1**
comp=Z,1.5nm,0.3s,baz=109,slow=2.9,SNR=5.7							
MKAR	**Makanchi Array**	**111.11**	**313**	PKiKP	**PKiKP**	**08 47 25.5**	**-0.4**
comp=Z,0.2nm,0.5s,baz=63,slow=3.9,SNR=2.5							
AKASG	**Malin Array Be**	**142.81**	**331**	PKhKP	PKPpre	08 48 21.6	
comp=Z,1.7nm,0.5s,baz=41,slow=4.6,SNR=7.6							
BRTR	**Keskin Array B**	**146.76**	**313**	PKPbc	**PKPbc**	**08 48 35.2**	**-0.5**
comp=Z,1.8nm,0.6s,baz=151,slow=4.0,SNR=4.2							
CLL	**Collm**	**147.76**	**347**	*i* PKPbc	**PKPbc**	**08 48 37.7**	**0.0**
comp=Z,5.0nm,0.5s							
GERES	**GERESS Array B**	**149.91**	**345**	PKPbc	**PKPbc**	**08 48 43.2**	**0.0**
comp=Z,0.6nm,0.4s,baz=58,slow=3.3,SNR=9.0							

WEL 24 09:17:37.6,41°.5S±1°.5×17°.4E±°.,h93km±5km,MS3.1/43, ML3.2/41,MLv3.1/43,Error ellipse: s-maj=0.0km s-min=0.0km az=84.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUWZ	**Tuamarina**	**0.23**	**83**	P	Pn	09 17 51.1	0.0
BSWZ	**Blackbirch Sta**	**0.31**	**146**	P	Pn	09 17 51.8	+0.4
NNZ	**Nelson**	**0.31**	**320**	P	Pn	09 17 50.3	-1.1
CMWZ	**Cape Campbell**	**0.52**	**124**	P	Pn	09 17 53.4	+0.6
TCW	**Tory Channel**	**0.54**	**63**	P	Pn	09 17 53.4	+0.5
THZ	**Tophouse**	**0.63**	**241**	P	Pn	09 17 53.4	-0.4
DUWZ	**D'Urville Isla**	**0.69**	**18**	P	Pn	09 17 54.3	0.0
WEL	**Wellington**	**0.86**	**79**	P	Pn	09 17 56.7	+0.7
BHW	**Baring Head**	**0.92**	**87**	P	Pn	09 17 57.2	+0.6
KHZ	**Kahutara**	**0.96**	**185**	P	Pn	09 17 58.0	+0.9
QRZ	**Quartz Range**	**1.05**	**306**	P	Pn	09 17 56.7	-1.4
KIW	**Kapiti Island**	**1.13**	**58**	P	Pn	09 17 59.8	+0.8
CAW	**Cannon Point**	**1.13**	**72**	P	Pn	09 17 59.6	+0.6
MSWZ	**Moikau Station**	**1.21**	**89**	P	Pn	09 18 00.4	+0.5
PLWZ	**Palliser**	**1.22**	**96**	P	Pn	09 18 00.6	+0.6
OGWZ	**Otaki Gorge**	**1.32**	**61**	P	Pn	09 18 01.9	+0.6
PAWZ	**Paruwai Farm**	**1.34**	**87**	P	Pn	09 18 01.9	+0.3
DSZ	**Dennistون Nort**	**1.41**	**258**	P	Pn	09 18 01.6	-0.8
MTW	**Mount Morrison**	**1.43**	**79**	P	Pn	09 18 02.9	+0.3
HOWZ	**Holdsworth Sta**	**1.52**	**69**	P	Pn	09 18 03.9	+0.2
GVZ	**Greta Valley S**	**1.57**	**196**	P	Pn	09 18 04.8	+0.4
MRZ	**Mangatainoka R**	**1.67**	**62**	P	Pn	09 18 05.8	+0.2
LTZ	**Lake Taylor**	**1.67**	**217**	P	Pn	09 18 05.7	0.0
TIWZ	**Tintock**	**1.82**	**69**	P	Pn	09 18 07.8	+0.1
PRWZ	**Pori Road**	**1.98**	**64**	P	Pn	09 18 09.8	+0.2
WAZ	**Wanganui**	**1.98**	**31**	P	Pn	09 18 11.4	+1.7
INZ	**Inchbonnie**	**2.07**	**232**	P	Pn	09 18 10.7	0.0
BFZ	**Birch Farm**	**2.12**	**69**	P	Pn	09 18 11.2	-0.2
KHEZ	**Kahui Hut**	**2.18**	**8**	P	Pn	09 18 13.3	+0.9
NBEZ	**Newall Road No**	**2.19**	**5**	P	Pn	09 18 13.4	+1.0
NEZ	**North Egmont**	**2.21**	**9**	P	Pn	09 18 13.5	+0.7
OXZ	**Oxford**	**2.21**	**212**	P	Pn	09 18 12.2	-0.5
DVHZ	**Dannevirke**	**2.24**	**60**	P	Pn	09 18 12.5	-0.5
TSZ	**Takapari Road**	**2.25**	**52**	P	Pn	09 18 13.1	-0.1
PKE	**Pukeiti**	**2.28**	**7**	P	Pn	09 18 14.5	+1.0
OKCZ	**Okains Bay**	**2.31**	**191**	P	Pn	09 18 14.1	+0.2
DREZ	**Durham Road**	**2.31**	**11**	P	Pn	09 18 15.0	+1.0
MQZ	**McQueen's Vall**	**2.36**	**198**	P	Pn	09 18 13.7	-0.9
MHEZ	**Mangahewa**	**2.44**	**13**	P	Pn	09 18 17.0	+1.4
PNHZ	**Pukenui**	**2.48**	**52**	P	Pn	09 18 15.8	-0.5
VRZ	**Vera Road**	**2.48**	**20**	P	Pn	09 18 18.0	+1.8
MHCZ	**Mount Hutt**	**2.58**	**216**	P	Pn	09 18 17.1	-0.5
WNVZ	**Wahianoa**	**2.60**	**36**	P	Pn	09 18 19.0	+1.1
MOVZ	**Moawhango**	**2.60**	**39**	P	Pn	09 18 18.0	+0.1
TUVZ	**Tukino**	**2.67**	**36**	P	Pn	09 18 20.0	+1.1
BHHZ	**Black Hill Sta**	**2.70**	**44**	P	Pn	09 18 19.4	+0.3
WVZ	**Waitaha Valley**	**2.70**	**232**	P	Pn	09 18 18.8	-0.3
KRHZ	**Kereru**	**2.76**	**50**	P	Pn	09 18 19.3	-0.6
GCSZ	**Gaunt Creek Bo**	**3.08**	**232**	P	Pn	09 18 23.8	-0.4
HIZ	**Hauiti**	**3.08**	**18**	P	Pn	09 18 25.2	+0.9
BKZ	**Black Stump Fm**	**3.16**	**45**	P	Pn	09 18 24.7	-0.6
FOZ	**Fox Glacier**	**3.51**	**233**	P	Pn	09 18 29.0	-0.9
MTHZ	**Maungataniwha**	**3.57**	**44**	P	Pn	09 18 30.2	-0.8
TOZ	**Tahuroa Road**	**3.99**	**22**	P	Pn	09 18 37.5	+1.0
ODZ	**Otahua Downs**	**4.20**	**210**	P	Pn	09 18 39.2	-0.2
JCZ	**Jackson Bay**	**4.43**	**232**	P	Pn	09 18 41.6	-1.0
ETAZ	**East Tamaki Re**	**4.61**	**13**	P	Pn	09 18 46.0	+1.1
RUGZ	**Raukumara Rang**	**4.67**	**43**	P	Pn	09 18 44.5	-1.4
WIAZ	**Waiheke Island**	**4.80**	**14**	P	Pn	09 18 48.7	+1.2

DDA ***24*** *09:18:19.4,37°.07N×39°.24E,h7km±3km,ML2.5*

ISK ***24*** *09:18:22.4,37°.24N×39°.22E,h7km,ML2.4/10*

ISC 24 09:18:20.0±1.2,37°.09N±0°.05×39°.24E±0°.03,h7km±10km, n17,σ0§95/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANL	**SANLIURFA_Merk**	**0.22**	**292**	*i* P	**Pg**	**09 18 24.0**	**-0.4**
SANL				*i* S	**Sg**	**09 18 28.3**	**+1.0**
SANL				IAML		09 18 31.0	
comp=E,860nm,0.4s							
URFA	**Urfa**	**0.48**	**317**	PG	**Pg**	**09 18 29.4**	**0.0**
URFA				SG	**Sg**	**09 18 36.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACO				eS	Sn	09 29 43.6	-0.6
TACO	**Tacachico**	**2.51**	**350**	eP	Pn	09 29 15.2	+0.4
TACO				eS	Sn	09 29 43.6	-0.6

*DJA **24** 09:30:06.3±0.7,8°S±4°×10°7E±°, h19km±5km, M4.8/24, mB6.2/1, mb4.9/7, MLv4.8/24, Mw(mB)6.0/1*
*NEIC **24** 09:30:10.0±2.0,7°.15S±0°.07×106°.87E±0°.06, h79km±4km, mb4.4/24, Error ellipse: s-maj=12.9km s-min=4.8km az=216.0*
*IDC **24** 09:30:11.2±1.0,7°.19S×106°.79E, h90km±8km, mb4.0/23, mb1 4.1/24, mb1mx3.9/58, mbtmp4.3/24, MS3.3/4, Ms1 3.3/4, ms1mx2.8/32, Error ellipse: s-maj=18.4km s-min=10.9km az=55.0*
ISC 24 09:30:06.7±0.4, 7°.47S±0°.06×106°.69E±0°.04, h50km, n103, σ2°20/102, mb4.3/33, MS3.3/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.46**	**70**	P	**Pn**	**09 30 19.3**	**+1.8**
CNJI				S	Sn	09 30 27.3	+2.0
SKJI	**Sukabumi**	**0.48**	**344**	P	**Pn**	**09 30 20.3**	**+2.5**
SKJI				S	Sn	09 30 29.2	+3.5
DBJI	**Dramaga**	**0.91**	**4**	P	**Pn**	**09 30 26.3**	**+3.0**
CISI	**Cisompet, Garu**	**1.12**	**95**	P	**Pn**	**09 30 27.1**	**+1.0**
CISI	**Cisompet, Garu**	**1.12**	**95**		**Pn**	**09 30 27.4**	**+1.3**
CISI				Sn	Sn	09 30 41.4	+0.9
LEM	**Lembang**	**1.12**	**55**	P	**Pn**	**09 30 29.5**	**+3.3**
	946nm,0.3s,baz=210,slow=6.5,SNR=440						
LEM				S	Sn	09 30 40.8	+4.2
	2μm,0.3s,baz=320,slow=21,SNR=36						
LEM				LR	LR	09 31 08.6	
	comp=Z,398nm,18.8s,baz=216,slow=64						
LEM	**Lembang**	**1.12**	**55**	P	**Pn**	**09 30 28.6**	**+2.4**
TNG	**Tangerang**	**1.29**	**358**	P	**Pn**	**09 30 31.4**	**+3.0**
CGJI	**Cibinong**	**1.30**	**311**	P	**Pn**	**09 30 30.7**	**+2.1**
SBJI	**Serang**	**1.45**	**337**	P	**Pn**	**09 30 33.9**	**+3.3**
CMJI	**Cimerak**	**1.77**	**100**	P	**Pn**	**09 30 35.6**	**+0.7**
JCJI	**Jatiwangi**	**1.84**	**58**	P	**Pn**	**09 30 37.4**	**+1.4**
KPJI	**Karang Pucung**	**2.23**	**87**	P	**Pn**	**09 30 43.4**	**+2.2**
BLSI	**Bandar Lampung**	**2.53**	**325**	P	**Pn**	**09 30 49.1**	**+3.7**
KLSI		**3.38**	**325**	P	**Pn**	**09 31 00.8**	**+3.8**
LWLI	**Liwa**	**3.57**	**313**	P	**Pn**	**09 31 03.5**	**+3.7**
SMRI	**Semarang**	**3.74**	**84**	P	**Pn**	**09 31 03.5**	**+1.5**
SMRI	**Semarang**	**3.74**	**84**		**Pn**	**09 31 03.8**	**+1.8**
MDSI	**Maura Dua**	**3.88**	**320**	P	**Pn**	**09 31 07.7**	**+3.9**
WOJI	**Wonogiri, Jawa**	**4.21**	**95**	P	**Pn**	**09 31 09.4**	**+1.0**
TPI	**Tanjungpandan**	**4.78**	**12**	P	**Pn**	**09 31 19.4**	**+3.2**
LHSI	**Lahat**	**4.80**	**319**	P	**Pn**	**09 31 19.7**	**+3.2**
MNAI	**Manna**	**4.83**	**310**	P	**Pn**	**09 31 19.0**	**+2.0**
MNAI	**Manna**	**4.83**	**310**	Pn	**Pn**	**09 31 20.1**	**+3.1**
MNAI				Sn	**Sn**	**09 32 15.0**	**+3.3**
PMBI	**Palembang**	**4.90**	**337**	Pn	**Pn**	**09 31 17.8**	**-0.1**
PWJI	**Pagerwojo**	**5.10**	**97**	P	**Pn**	**09 31 22.7**	**+2.1**
	1.0nm91nm,0.7s						
PPBI	**Pangkal Pinang**	**5.30**	**354**	P	**Pn**	**09 31 27.2**	**+3.8**
KSI	**Kapahiang**	**5.57**	**313**	P	Pn	09 31 35.2	+8.0
DSRI	**Dabo**	**7.25**	**343**	P	**Pn**	**09 31 54.6**	**+4.4**
	0.1nm31nm,1.1s						
JAGI	**Jajag, Banyuwa**	**7.46**	**98**	P	**Pn**	**09 31 55.3**	**+2.3**
	0.5nm65nm,0.9s						
JAGI	**Jajag, Banyuwa**	**7.46**	**98**	Pn	**Pn**	**09 31 56.9**	**+3.9**
KRJI	**Kerinci**	**7.46**	**315**	P	**Pn**	**09 31 56.3**	**+3.1**
	1.4nm125nm,0.4s						
ABJI	**Asem Bagus**	**7.48**	**93**	P	**Pn**	**09 31 55.0**	**+1.6**
	0.4nm98nm,0.8s						
BKNI	**Bangkinang**	**9.58**	**324**	Pn	**Pn**	**09 32 22.8**	**+0.7**
SISI	**Saibi**	**9.73**	**308**	P	**Pn**	**09 32 23.7**	**-0.4**
	52nm,0.8s						
PBSI	**Pulau Batu**	**11.16**	**311**	P	**Pn**	**09 32 43.6**	**-0.2**
GSI	**Gunungsitoli**	**12.60**	**313**	P	Pn	09 32 59.1	-4.2
GSI	**Gunungsitoli**	**12.60**	**313**		**Pn**	**09 32 59.7**	**-3.7**
RPSI	**Rantau Prapat**	**12.73**	**322**	Pn	**Pn**	**09 33 01.5**	**-3.6**
KAPI	**Kappang**	**13.21**	**80**	Pn	**Pn**	**09 33 11.0**	**-0.7**
EDFI	**Ende, Flores**	**14.90**	**96**	P	Pn	09 33 30.4	-4.2
KKM	**Kota Kinabalu**	**16.45**	**36**	Pn	**P**	**09 33 59.2**	**+2.9**
KKM				IAmb	IAmb	09 34 00.3	
	comp=Z,16nm,0.7s						
GIRL	**Giralia**	**16.74**	**155**	Pn	**Pn**	**09 33 57.1**	**-0.8**
BATI	**Baumata**	**16.99**	**100**	P	**P**	**09 34 03.3**	**+0.9**
	comp=Z,3.0nm,0.3s,baz=94,slow=22,SNR=2.1						
SOEI	**Soe**	**17.52**	**99**	P	**Pn**	**09 34 08.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.26**	**122**	P	**P**	**09 34 51.8**	**+2.8**
	comp=Z,3.1nm,0.8s,baz=0.0,slow=1.5,SNR=3.8						
FITZ	**Fitzroy Crossi**	**21.26**	**122**	P	**P**	**09 34 52.4**	**+3.4**
KNRA	**Kununurra**	**23.09**	**113**	P	**P**	**09 35 08.8**	**+0.3**
KNRA				IAmb	IAmb	09 35 23.8	
	comp=Z,9.2nm,0.8s						
MTN	**Manton Dam**	**24.63**	**105**	P	**P**	**09 35 22.7**	**-0.2**
MTN				IAmb	IAmb	09 35 37.0	
	comp=Z,25nm,1.5s						
FAKI	**Fak Fak**	**25.84**	**81**	P	**P**	**09 35 34.1**	**+0.2**
FAKI				IAmb	IAmb	09 35 37.4	
	comp=Z,25nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.87**	**344**	P	**P**	**09 35 39.5**	**-3.5**
	comp=Z,1.1nm,0.3s,baz=174,slow=9.1,SNR=6.3						
CMAR				pP	**sP**	**09 36 04.0**	**+2.0**
	comp=Z,1.5nm,0.3s,baz=172,slow=9.3,SNR=7.1						
CMAR				LR	LR	09 46 00.5	
	comp=Z,45nm,20.2s,baz=150,slow=36						
H01W3	**Cape Leeuwin H**	**28.13**	**167**	T	T	10 05 28.8	
	baz=348,slow=76,SNR=264						
H01W1	**Cape Leeuwin H**	**28.14**	**167**	T	T	10 05 29.0	
	baz=348,slow=76,SNR=207						
H01W2	**Cape Leeuwin H**	**28.14**	**167**	T	T	10 05 29.9	
	baz=348,slow=76,SNR=295						
WB0	**Warramunga Arr**	**29.51**	**117**	P	**P**	**09 36 07.5**	**+0.9**
WB0				IAmb	IAmb	09 36 08.5	
	comp=Z,9.6nm,1.4s						
WRA	**Warramunga Arr**	**29.52**	**118**	P	**P**	**09 36 06.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=296,slow=10,SNR=17						
WRA				PcP	**PcP**	**09 39 11.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=304,slow=2.0,SNR=6.8						
WRA	**Warramunga Arr**	**29.52**	**118**	P	**P**	**09 36 07.0**	**+0.2**
WRAB	**Tennant Creek**	**29.53**	**118**	P	**P**	**09 36 07.1**	**+0.3**
WRAB				IAmb	IAmb	09 36 16.1	
	comp=Z,6.0nm,1.2s						
WB2	**Warramunga Arr**	**29.53**	**118**	P	**P**	**09 36 07.6**	**+0.8**
WR0	**Warramunga Arr**	**29.71**	**118**	P	**P**	**09 36 08.7**	**+0.4**
WR0				IAmb	IAmb	09 36 17.8	
	comp=Z,7.7nm,1.4s						
FORT	**Forrest**	**30.62**	**142**	P	**P**	**09 36 17.3**	**+1.0**
FORT				IAmb	IAmb	09 36 20.3	
	comp=Z,17nm,0.9s						
ASAR	**Alice Springs**	**30.67**	**125**	P	**P**	**09 36 17.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=304,slow=8.5,SNR=8.7						
ASAR				PcP	**PcP**	**09 39 14.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=343,slow=1.9,SNR=5.4						
H08S2	**Diego Garcia H**	**33.90**	**267**	T	T	10 12 23.5	
	baz=92,slow=75,SNR=82						
H08S3	**Diego Garcia H**	**33.91**	**267**	T	T	10 12 18.7	
	baz=92,slow=75,SNR=200						
H08S1	**Diego Carcia H**	**33.92**	**267**	T	T	10 12 25.3	
	baz=92,slow=75,SNR=83						
STKA	**Stephens Creek**	**40.56**	**132**	P	**P**	**09 37 42.4**	**+0.9**
	comp=Z,5.9nm,0.4s,baz=311,slow=7.9,SNR=42						
STKA				LR	LR	09 55 58.5	
	comp=Z,50nm,18.9s,baz=196,slow=38						
STKA	**Stephens Creek**	**40.56**	**132**	P	**P**	**09 37 42.6**	**+1.2**
HHC	**Hu-ho-hao-te**	**48.29**	**5**	*eP*	**P**	**09 38 41.6**	**-1.5**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,7.2s						
KSRS	**Korea Array**	**48.90**	**22**	P	**P**	**09 38 45.9**	**-1.8**
	comp=Z,2.2nm,0.9s,baz=215,slow=10,SNR=4.7						
KSRS				LR	LR	10 01 06.4	
	comp=Z,23nm,18.5s,baz=140,slow=38						
JHS	**Saijyo**	**49.06**	**29**	P	**P**	**09 38 47.0**	**-2.1**
WMQ	**Urumqi**	**53.87**	**343**	*eP*	**P**	**09 39 25.1**	**+0.2**
SONM	**Songino Array**	**55.06**	**360**	P	**P**	**09 39 31.6**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=165,slow=7.2,SNR=2.0						
SONM				PcP	**PcP**	**09 40 33.6**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=171,slow=5.3,SNR=6.3						
WSAR	**Wadi Sarin**	**56.02**	**304**	P	**P**	**09 39 41.8**	**+1.0**
	comp=Z,3.8nm,0.5s,baz=150,slow=6.6,SNR=6.3						
USRK	**Ussuriysk Ar.**	**56.28**	**22**	P	**P**	**09 39 39.2**	**-3.0**
	comp=Z,1.7nm,0.5s,baz=209,slow=7.4,SNR=6.5						
USRK	**Ussuriysk Ar.**	**56.28**	**22**	P	**P**	**09 39 39.5**	**-2.7**
MK31	**Makanchi Array**	**58.22**	**340**	P	**P**	**09 39 53.3**	**-2.6**
MKAR	**Makanchi Array**	**58.22**	**340**	P	**P**	**09 39 52.9**	**-3.0**
	comp=Z,1.3nm,0.5s,baz=151,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**58.22**	**340**	P	**P**	**09 39 53.1**	**-2.8**
UOSS	**Minazif**	**58.76**	**305**	P	**P**	**09 40 00.2**	**+0.1**
ZALV	**Zalesovo Beam**	**63.91**	**346**	P	**P**	**09 40 33.4**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=155,slow=7.0,SNR=3.6						
ZALV				LR	LR	10 11 25.1	
	comp=Z,23nm,18.5s,baz=122,slow=39						
GEYT	**Alibeck**	**63.91**	**319**	P	**P**	**09 40 33.7**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=204,slow=3.3,SNR=3.9						
GEYT	**Alibeck**	**63.91**	**319**	IAmb	IAmb	09 40 35.3	
	comp=Z,1.9nm,0.8s						
MAW	**Mawson**	**66.83**	**197**	P	**P**	**09 40 54.9**	**+1.9**
	comp=Z,0.9nm,0.5s,baz=74,slow=3.9,SNR=8.8						
MAW	**Mawson**	**66.83**	**197**	P	**P**	**09 40 55.3**	**+2.3**
ABKAR	**Akbulak array**	**69.66**	**329**	P	**P**	**09 41 09.2**	**-1.8**
BKZ	**Black Stump Fm**	**69.67**	**129**	P	**P**	**09 41 11.9**	**+0.4**
BKZ				IAmb	IAmb	09 41 24.4	
	comp=Z,18nm,1.4s						
AKTO	**Aktyubinsk**	**71.37**	**330**	P	**P**	**09 41 20.9**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=146,slow=11,SNR=2.4						
PETK	**Petropavlovsk-**	**74.15**	**29**	P	**P**	**09 41 35.7**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=193,slow=5.9,SNR=2.1						
ARU	**Arti**	**74.91**	**335**	P	**P**	**09 41 40.3**	**-1.8**
	comp=Z,2.5nm,0.2s,baz=156,slow=2.6,SNR=3.5						
ARU	**Arti**	**74.91**	**335**	IAmb	IAmb	09 41 41.9	
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**75.57**	**169**	P	**P**	**09 41 46.9**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=311,slow=6.8,SNR=4.0						
KBZ	**Khabaz**	**76.79**	**318**	P	**P**	**09 41 51.4**	**-1.8**
	comp=Z,3.9nm,0.9s,baz=196,slow=10,SNR=2.6						
KVAR	**Kislovodsk Arr**	**77.02**	**318**	P	**P**	**09 41 54.5**	**-0.1**
	comp=Z,6.2nm,0.4s,baz=42,slow=19,SNR=2.3						
MMAI	**Mount Meron Ar**	**78.62**	**306**	P	**P**	**09 42 05.0**	**+1.3**
	comp=Z,3.4nm,0.5s,baz=113,slow=9.6,SNR=6.1						
BOSA	**Boshof**	**78.97**	**242**	P	**P**	**09 42 06.7**	**+0.8**
	comp=Z,5.8nm,1.0s,baz=132,slow=4.2,SNR=5.4						
BOSA	**Boshof**	**78.97**	**242**	P	**P**	**09 42 08.0**	**+2.1**
BRTR	**Keskin Array B**	**81.91**	**312**	P	**P**	**09 42 20.9**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=127,slow=6.4,SNR=6.6						
AKASG	**Malin Array Be**	**87.87**	**322**	P	**P**	**09 42 48.2**	**-2.7**
	comp=Z,1.0nm,0.4s,baz=86,slow=4.3,SNR=2.7						
SNAA	**Sanae**	**88.99**	**197**	P	**P**	**09 42 58.2**	**+2.3**
SNAA				IAmb	IAmb	09 43 01.3	
	comp=Z,4.9nm,1.3s						
NVAR	**Mina Array Bea**	**129.10**	**46**	PKP	**PKPdf**	**09 49 10.9**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=270,slow=0.3,SNR=2.7						
PDAR	**Pinedale Array**	**132.55**	**36**	PKP	**PKPdf**	**09 49 13.8**	**-2.6**
	comp=Z,0.2nm,0.6s,baz=329,slow=6.8,SNR=1.8						
TXAR	**Lajitas Array**	**144.10**	**49**	PKP	**PKPab**	**09 49 36.0**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=331,slow=1.8,SNR=28						
TXAR				SKPbc	**SKPbc**	**09 53 09.9**	**-2.8**
	comp=Z,0.2nm,0.6s,baz=318,slow=1.2,SNR=4.2						
TXAR	**Lajitas Array**	**144.10**	**49**		**PKPab**	**09 49 36.2**	**+0.8**

*AEIC **24** 09:33:23±1.6, 59°.73N±0°.03×136°.48W±0°.04, h8km±5km, Error ellipse: s-maj=4.6km s-min=3.0km az=195.0*
*IDC **24** 09:33:23.6±1.0, 59°.62N×136°.55W, h0km, mb3.3/1, mb1 3.7/7, mb1mx3.4/68, mbtmp3.5/7, ML3.3/6, MS2.6/1, Ms1 2.6/1, ms1mx2.2/24, Error ellipse: s-maj=18.2km s-min=10.3km az=35.0*
*OTT **24** 09:33:24±2.1, 59°.72N±0°.02×136°.59W±0°.05, h1km±2km, ML3.4, ML3.3(AEIC), Error ellipse: s-maj=4.3km s-min=3.1km az=80.0*
*NEIC **24** 09:33:24.1±1.6, 59°.72N±0°.02×136°.51W±0°.06, h11km±6km, Error ellipse: s-maj=4.9km s-min=3.0km az=72.0*
*PGC **24** 09:33:24.3, 59°.72N×136°.59W, h1km, ML3.4/5, 102km Wnw of Haines, Ak Southeastern Alaska*
ISC 24 09:33:22.8±1.2, 59°.71N±0°.03×136°.51W±0°.02, h2km±10km, n82, σ1°22/107, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.27**	**164**	P	**Pb**	**09 33 29.6**	**-0.7**
PLBC				S	**Sg**	**09 33 33.2**	**+1.8**
PLBC	**Pleasant Camp**	**0.27**	**164**		**Pb**	**09 33 29.6**	**-0.7**
PLBC					**Sg**	**09 33 33.2**	**+1.8**
SKAG	**Skagway**	**0.65**	**112**		**Pb**	**09 33 36.5**	**-0.3**
SKAG					**Sb**	**09 33 44.9**	**-1.5**
YUK7	**Dusty Glacier**	**1.16**	**316**	S	**Sg**	**09 33 59.0**	**-1.0**
YUK7	**Dusty Glacier**	**1.16**	**316**		**Pb**	**09 33 44.7**	**-0.9**
HYT	**Haines Junctio**	**1.22**	**336**	P	**Pb**	**09 33 45.4**	**-1.2**
WHY	**Whitehorse**	**1.25**	**40**	P	**Pg**	**09 33 47.3**	**+0.6**
WHY				S	**Sn**	**09 34 04.2**	**-0.6**
WHY	**Whitehorse**	**1.25**	**40**		**Pg**	**09 33 47.3**	**+0.6**
WHY					**Sn**	**09 34 03.6**	**-1.2**
BESE	**Bessie Mountai**	**1.42**	**142**	Pn	**Pb**	**09 33 49.3**	**-0.7**
BESE				Sg	**Sg**	**09 34 08.0**	**-0.4**
BESE	**Bessie Mountai**	**1.42**	**142**		**Pb**	**09 33 49.3**	**-0.7**
BESE	**Bessie Mountai**	**1.42**	**142**		**Sb**	**09 34 07.8**	**-0.7**
BESE	**Bessie Mountai**	**1.42**	**142**	Sn	**Sg**	**09 34 08.5**	**+0.1**
PNL	**Peninsula**	**1.47**	**269**	Pn	**Pb**	**09 33 50.0**	**-0.8**
PNL				Sg	**Sn**	**09 34 08.2**	**-1.7**
PNL	**Peninsula**	**1.47**	**269**		**Pb**	**09 33 50.0**	**-0.8**
PNL					**Sn**	**09 34 08.7**	**-1.2**
YUK6	**Outpost Mounta**	**1.54**	**324**	Sg	**Sg**	**09 34 11.9**	**-0.3**
YUK6	**Outpost Mounta**	**1.54**	**324**		**Pb**	**09 33 51.5**	**-0.7**
YUK5	**Granite Creek**	**1.57**	**335**	Pn	**Pb**	**09 33 51.7**	**-1.0**
YUK5	**Granite Creek**	**1.57**	**335**		**Pb**	**09 33 51.6**	**-1.0**
BCPM	**Bancas Point**	**1.60**	**280**		**Pb**	**09 33 52.2**	**-0.7**
BCPM					**Pg**	**09 33 52.9**	**-0.5**
BCPM					**Sb**	**09 34 12.5**	**-1.0**
YKU2	**Yakutat**	**1.62**	**264**		**Pg**	**09 33 54.1**	**+0.3**
YKU2					**Pb**	**09 33 54.3**	**+1.0**
JIS	**Juneau Island**	**1.81**	**142**	Pn	**Pn**	**09 33 54.7**	**-0.2**
PCA	**Pinnacle**	**1.93**	**283**	Pn	**Pn**	**09 33 56.7**	**+0.1**
PCA				Pg	**Pb**	**09 33 58.7**	**0.0**
PCA				Sg	**Sb**	**09 34 23.4**	**+0.3**
PCA	**Pinnacle**	**1.93**	**283**		**Pn**	**09 33 56.6**	**+0.1**
SAMH	**Samovar Hills**	**2.19**	**283**	Pn	**Pb**	**09 34 01.1**	**-2.0**
SAMH				Sg	**Sg**	**09 34 31.8**	**-1.3**
SAMH	**Samovar Hills**	**2.19**	**283**		**Pb**	**09 34 01.1**	**-2.0**
RKAV	**Rock Avalanche**	**2.50**	**286**	Pn	**Pn**	**09 34 05.2**	**+0.7**
RKAV				Sg	**Sb**	**09 34 41.0**	**+1.3**
RKAV	**Rock Avalanche**	**2.50**	**286**		**Pn**	**09 34 05.3**	**+0.7**
LOGN	**Logan Glacier**	**2.50**	**298**	Pn	**Pn**	**09 34 04.4**	**-0.1**
LOGN				Sg	**Sb**	**09 34 39.9**	**+0.2**
LOGN	**Logan Glacier**	**2.50**	**298**		**Pn**	**09 34 05.4**	**+0.8**
CTGM	**Chitina Glacie**	**2.71**	**300**	Pn	**Pn**	**09 34 08.2**	**+0.8**
CTGM				Sg	**Sb**	**09 34 46.7**	**+1.1**
CTGM	**Chitina Glacie**	**2.71**	**300**		**Pn**	**09 34 08.0**	**+0.7**
YAH	**Yahtse**	**2.71**	**286**		**Pn**	**09 34 08.2**	**+0.8**
SIT	**Sitka**	**2.74**	**166**		**Pn**	**09 34 07.7**	**+0.1**
MESA	**MESA**	**2.78**	**282**	Pn	**Pn**	**09 34 09.2**	**+0.8**
MESA				Sg	**Sb**	**09 34 48.6**	**+0.9**
MESA	**MESA**	**2.78**	**282**		**Pn**	**09 34 08.2**	**-0.2**
GRNC	**Granite Creek**	**2.81**	**294**	Pn	**Pn**	**09 34 09.3**	**+0.5**
GRNC				Sg	**Sb**	**09 34 49.1**	**+0.5**
GRNC	**Granite Creek**	**2.81**	**294**		**Pn**	**09 34 09.2**	**+0.3**
BARN	**Barnard Glacie**	**2.89**	**300**		**Pn**	**09 34 09.7**	**-0.2**
ISLE	**Juniper Island**	**3.05**	**290**		**Pn**	**09 34 12.9**	**+0.8**
KIAG	**Kiagna River**	**3.15**	**295**	Pn	**Pn**	**09 34 13.1**	**-0.5**
KIAG				Sg	**Sb**	**09 34 59.8**	**+1.4**
KIAG	**Kiagna River**	**3.15**	**295**		**Pn**	**09 34 14.6**	**+1.0**
BALM	**Baldy**	**3.19**	**297**	Pn	**Pn**	**09 34 14.4**	**+0.5**
BALM				Sg	**Sb**	**09 35 00.1**	**+0.8**
BALM	**Baldy**	**3.19**	**297**		**Pn**	**09 34 14.2**	**+0.3**
SNH	**Sunshine Point**	**3.22**	**281**		**Pn**	**09 34 15.3**	**+1.0**
WAX	**Waxell Ridge**	**3.26**	**286**		**Pn**	**09 34 14.3**	**-0.6**
PTPK	**Patty Peak**	**3.30**	**299**	Pn	**Pb**	**09 34 18.2**	**-3.9**
PTPK				Sg	**Sb**	**09 35 04.6**	**+1.9**
TGL	**Tana Glacier**	**3.32**	**291**		**Pn**	**09 34 15.1**	**-0.7**
KHIT	**Khitrov Hills**	**3.46**	**285**		**Pn**	**09 34 18.3**	**+0.7**
CRQM	**Cirque**	**3.47**	**290**		**Pn**	**09 34 18.2**	**+0.3**
DLBC	**Dease Lake**	**3.58**	**108**	Pn	**Pn**	**09 34 20.4**	**+1.1**
	5.2nm,0.3s,baz=298,slow=7.4,SNR=65						
DLBC				Lg	Lg	09 35 15.5	
	30nm,0.3s,baz=161,slow=19,SNR=16						
DLBC				LR	LR	09 35 54.5	
	comp=Z,87nm,20.6s,baz=120,slow=42						
DLBC	**Dease Lake**	**3.58**	**108**	Pn	**Pn**	**09 34 19.9**	**+0.6**
DLBC				Sn	**Sn**	**09 35 01.4**	**-0.8**
DLBC				Sg	**Sg**	**09 35 15.7**	**-2.1**
DLBC	**Dease Lake**	**3.58**	**108**		**Pn**	**09 34 19.3**	**0.0**
MCARA	**McCarthy VSAT**	**3.63**	**300**		**Pn**	**09 34 18.1**	**-1.8**
BERG	**Berg Lake**	**3.67**	**284**		**Pn**	**09 34 20.9**	**+0.5**
SUCK	**Suckling Hills**	**3.68**	**279**		**Pn**	**09 34 23.0**	**+2.4**
VRDI	**Verde Repeater**	**3.76**	**297**		**Pn**	**09 34 23.4**	**+1.6**
HMT	**Hamilton**	**3.94**	**282**		**Pn**	**09 34 24.5**	**+0.3**
WRAK	**Wrangell Islan**	**3.98**	**144**		**Pn**	**09 34 23.8**	**-0.8**
GLB	**Gilahina Butte**	**4.00**	**299**		**Pn**	**09 34 26.0**	**+1.0**
BC03		**4.21**	**325**		**Pn**	**09 34 28.6**	**+0.7**
BCAR	**Beaver Creek A**	**4.21**	**325**	Pn	**Pn**	**09 34 30.1**	**+2.1**
CRAG	**Craig**	**4.63**	**155**		**Pn**	**09 34 31.0**	**-2.6**
EYAK	**Cordova Ski Ar**	**4.70**	**284**		**Pn**	**09 34 34.3**	**-0.2**
DIV	**Divide**	**4.80**	**291**	Pn	**Pn**	**09 34 36.7**	**+0.6**
KLU	**Klutina**	**4.97**	**295**		**Pn**	**09 34 38.5**	**+0.1**
GLI	**Glacier Island**	**5.39**	**287**	Pn	**Pn**	**09 34 45.4**	**+1.3**
EGAK	**Eagle**	**5.53**	**339**	Pn	**Pn**	**09 34 47.5**	**+1.6**
SCM	**Sheep Creek Mo**	**5.71**	**296**		**Pn**	**09 34 49.9**	**+1.3**
RUBB	**Prince Rupert**	**6.39**	**145**	Sn	**Sn**	**09 36 09.5**	**-1.6**
RUBB				Sg	**Sg**	**09 36 43.4**	**-4.4**
GHO	**Glory Hole Cre**	**6.43**	**294**		**Pn**	**09 34 59.7**	**+1.3**
PMR	**Palmer**	**6.49**	**292**	Pn	**Pn**	**09 35 00.9**	**+1.9**
DIB	**Dawson Inlet,**	**6.90**	**159**	Pn	**Pn**	**09 35 04.4**	**-0.3**
ILAR	**Eielson Array**	**7.01**	**321**	Pn	**Pn**	**09 35 06.8**	**+0.5**
	0.1nm,0.3s,baz=140,slow=11,SNR=6.9						
ILAR				Lg	Lg	09 37 09.5	
	0.8nm,0.3s,baz=121,slow=28,SNR=9.1						
CNPM	**China Poot**	**7.47**	**275**		**Pn**	**09 35 13.7**	**+1.1**
BMAR	**Burnt Mountain**	**8.53**	**339**	Pn	**Pn**	**09 35 26.4**	**-0.7**
KDAK	**Kodiak Island**	**8.58**	**264**	Pn	**Pn**	**09 35 28.5**	**+0.7**
	0.8nm,0.3s,baz=56,slow=10,SNR=26						
INK	**Inuvik**	**8.73**	**7**	Pn	**Pn**	**09 35 31.9**	**+2.1**
	0.2nm,0.3s,baz=190,slow=20,SNR=6.4						
INK				Lg	Lg	09 37 54.6	
	0.2nm,0.3s,baz=81,slow=26,SNR=2.5						
BBB	**Bella Bella**	**8.89**	**144**	Pn	**Pn**	**09 35 32.8**	**+0.8**
	0.2nm,0.3s,baz=319,slow=17,SNR=2.3						
OHAK	**Old Harbor**	**9.14**	**261**	Pn	**Pn**	**09 35 35.5**	**+0.1**
IMAR	**Indian Mountai**	**10.05**	**316**	Pn	**Pn**	**09 35 49.0**	**+1.1**
YKA	**Yellowknife Ar**	**10.94**	**66**	Pn	**Pn**	**09 36 00.6**	**+0.6**
	0.2nm,0.3s,baz=264,slow=12,SNR=11						
YKA				Lg	Lg	09 39 09.6	
	0.1nm,0.3s,baz=260,slow=29,SNR=3.7						
NVAR	**Mina Array Bea**	**24.25**	**143**	P	**P**	**09 38 43.7**	**+2.6**
	0.5nm,0.7s,baz=331,slow=7.8,SNR=5.3						

*IDC **24** 09:34:17.5±1.0, 13°.54N×145°.88E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/56, mbtmp3.8/6, MS2.8/1, Ms1 3.0/1, ms1mx2.4/37, Error ellipse: s-maj=23.7km s-min=19.1km az=150.0*
ISC 24 09:34:23.6±1.0, 13°.5N±0°.2×145°.8E±0°.1, h43km, n12, σ1°09/9, mb3.8/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.92**	**276**	Pn	**Pn**	**09 34

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.26**	**109**	Pn	Pn	09 46 19.8	-0.7
	6.9nm,0.3s,baz=213,slow=23,SNR=19						
SIJI				Sn	Sn	09 46 49.5	+0.4
	4.4nm,0.3s,baz=5.3,slow=21,SNR=7.4						
WRA	**Warramunga Arr**	**20.33**	**166**	P	P	09 50 19.1	-0.7
	0.7nm,0.7s,baz=343,slow=12,SNR=13						
ASAR	**Alice Springs**	**23.84**	**169**	P	P	09 50 57.4	+0.5
	3.5nm,0.8s,baz=358,slow=11,SNR=36						
STKA	**Stephens Creek**	**33.70**	**161**	P	P	09 52 25.3	+0.5
	2.3nm,0.8s,baz=331,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**62.08**	**325**	P	P	09 56 04.3	-0.1
	0.2nm,0.5s,baz=125,slow=7.6,SNR=2.2						

WEL 24 09:54:34.4, 44°S±2°×17°0E±°, h5km±2km, M2.8/13, mB5.9/1, ML2.9/11, MLv2.8/13, Mw(mB)5.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=107.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.12**	**84**	P	Pg	09 54 38.4	+1.5
ODZ	**Otahua Downs**	**0.78**	**146**	P	Pg	09 54 49.6	+0.2
WKZ	**Wanaka**	**0.84**	**239**	P	Pb	09 54 51.2	-0.2
FOZ	**Fox Glacier**	**0.88**	**350**	P	Pb	09 54 52.1	+0.1
ARCZ	**Arundel**	**0.95**	**62**	P	Pb	09 54 53.5	+0.3
JCZ	**Jackson Bay**	**0.95**	**290**	P	Pb	09 54 53.8	+0.5
RPZ	**Rata Peaks**	**1.01**	**48**	P	Pb	09 54 54.4	0.0
GCSZ	**Gaunt Creek Bo**	**1.10**	**12**	P	Pb	09 54 55.9	0.0
WACZ	**Wakanui South**	**1.39**	**71**	P	Pn	09 55 00.3	0.0
MHCZ	**Mount Hutt**	**1.41**	**53**	P	Pg	09 55 02.1	+0.6
WVZ	**Waitaha Valley**	**1.42**	**22**	P	Pb	09 55 01.4	+0.1
MSZ	**Milford Sound**	**1.52**	**259**	P	Pg	09 55 03.8	+0.2
MLZ	**Mavora Lakes**	**1.66**	**234**	P	Pb	09 55 05.4	-0.1
INZ	**Inchbonnie**	**1.97**	**32**	P	Pb	09 55 10.1	-0.5
MQZ	**McQueen's Vall**	**2.02**	**71**	P	Pg	09 55 13.3	+0.2
WHZ	**Wether Hill Ro**	**2.10**	**224**	P	Pn	09 55 10.2	0.0
SYZ	**Scrubby Hill**	**2.23**	**196**	P	Pb	09 55 15.5	+0.4
OKCZ	**Okains Bay**	**2.29**	**74**	P	Pg	09 55 18.7	+0.5
LTZ	**Lake Taylor**	**2.30**	**46**	P	Pg	09 55 19.0	+0.6
MTW	**Mount Morrison**	**5.17**	**53**	P	Pn	09 55 54.8	+2.4
LIRZ	**Lichensteins R**	**7.99**	**39**	P	Pn	09 56 30.9	-0.1
EPAZ	**Eden Park BICE**	**8.33**	**27**	P	Pn	09 56 35.5	-0.2

*NEIC **24** 10:36:45.2±1.8, 12°.7N±0°.1×49°.32E±0°.02, h10km±1km, mb4.4/23, Error ellipse: s-maj=19.4km s-min=2.9km az=183.0*
*IDC **24** 10:36:45.0±0.7, 12°.77N×49°.28E, h0km, mb4.0/17, mb1 4.1/18, mb1mx3.9/42, mbtmp4.0/18, ML4.3/1, MS3.4/15, Ms1 3.4/15, ms1mx3.2/44, Error ellipse: s-maj=18.4km s-min=17.4km az=63.0*
ISC 24 10:36:45.6±0.5, 12°.70N±0°.09×49°.32E±0°.06, h10km, n56, σ0°99/53, mb4.3/27, MS3.4/13, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**4.58**	**96**		**Pn**	**10 37 53.2**	**-1.9**
SOCY				Sn	**Sn**	**10 38 46.8**	**-1.8**
DAMY	**Dhamar**	**5.14**	**292**		**Pn**	**10 38 01.0**	**-2.0**
ATD	**Arta Tunnel**	**6.44**	**260**	Pn	**Pn**	**10 38 19.5**	**-1.2**
	5.9nm,0.3s,baz=62,slow=10,SNR=16						
ATD				LR	LR	10 40 08.6	
	comp=Z,322nm,20.3s,baz=52,slow=32						
ATD	**Arta Tunnel**	**6.44**	**260**		**Pn**	**10 38 18.6**	**-2.0**
ATD				Sn	**Sn**	**10 39 33.1**	**-1.2**
KMBO	**Kilima Mbogo**	**18.22**	**222**	LR	LR	10 47 23.1	
	comp=Z,44nm,21.6s,baz=92,slow=35						
EIL	**Elat**	**21.52**	**324**	LR	LR	10 48 38.9	
	comp=Z,201nm,19.9s,baz=112,slow=33						
ASF	**Jabal al Asfar**	**22.49**	**332**	P	**P**	**10 41 46.7**	**+1.2**
	2.0nm,0.7s,baz=83,slow=16,SNR=2.7						
MMAI	**Mount Meron Ar**	**23.90**	**330**	LR	LR	10 51 03.2	
	comp=Z,151nm,19.1s,baz=135,slow=36						
HRA	**Herat**	**24.58**	**26**	P	**P**	**10 42 07.9**	**+1.7**
HRA				IAmb	IAmb	10 42 08.8	
	comp=Z,10nm,1.2s						
GEYT	**Alibeck**	**26.33**	**16**	P	**P**	**10 42 23.0**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=239,slow=7.8,SNR=1.7						
GEYT				LR	LR	10 54 32.3	
	comp=Z,77nm,21.2s,baz=175,slow=41						
GEYT	**Alibeck**	**26.33**	**16**	P	**P**	**10 42 22.1**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**26.33**	**16**	P	**P**	**10 42 22.6**	**+0.8**
GYA0B				IAmb	IAmb	10 42 40.5	
	comp=Z,4.8nm,0.7s						
PALK	**Pallekele**	**31.35**	**97**	P	**P**	**10 43 06.2**	**-0.7**
KBZ	**Khabaz**	**31.41**	**351**	LR	LR	10 57 58.6	
	comp=Z,201nm,18.0s,baz=180,slow=41						
KKAR	**Karatay Array**	**35.40**	**27**	P	**P**	**10 43 41.0**	**-0.8**
ABKAR	**Abkulak array**	**37.49**	**11**	P	**P**	**10 43 59.8**	**+0.3**
ABKAR	**Abkulak array**	**37.49**	**11**	P	**P**	**10 43 60.0**	**+0.5**
ABKAR				IAmb	IAmb	10 44 11.9	
	comp=Z,8.7nm,1.4s						
TARG	**Taragay, Kyrgy**	**38.11**	**35**	P	**P**	**10 44 04.5**	**-0.8**
TARG				IAmb	IAmb	10 44 15.6	
	comp=Z,6.1nm,1.0s						
AKTO	**Aktyubinsk**	**38.30**	**9**	P	**P**	**10 44 07.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=260,slow=9.6,SNR=4.2						
DIVS	**Divibare**	**40.15**	**327**	P	**P**	**10 44 22.2**	**+0.2**
BURAR	**Bucovina Array**	**40.23**	**335**	P	**P**	**10 44 22.2**	**-0.4**
BUR08	**Bucovina Ar. S**	**40.26**	**335**	P	**P**	**10 44 22.6**	**-0.3**
BUR08				IAmb	IAmb	10 44 29.2	
	comp=Z,8.3nm,1.3s						
AKASG	**Malin Array Be**	**41.30**	**341**	P	**P**	**10 44 31.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=151,slow=7.3,SNR=7.6						
SHL	**Shillong**	**42.02**	**66**	P	**P**	**10 44 37.5**	**-0.3**
SHL				IAmb	IAmb	10 45 06.5	
	comp=Z,3.9nm,0.5s						
LSA	**Lhasa**	**42.24**	**60**	P	**P**	**10 44 39.3**	**-0.6**
LSA				IAmb	IAmb	10 44 48.1	
	comp=Z,4.0nm,0.5s						
KEST	**Kesra**	**42.66**	**310**	LR	LR	11 02 44.4	
	comp=Z,46nm,18.7s,baz=206,slow=37						
TAM	**Tamanrasset**	**42.77**	**290**	P	**P**	**10 44 44.0**	**+0.2**
BRVK	**Borovoye**	**43.60**	**18**	P	**P**	**10 44 50.6**	**+0.7**
MAKZ	**Makanchi**	**43.69**	**32**		**P**	**10 44 51.3**	**+0.5**
MAKZ				IAmb	IAmb	10 45 01.3	
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**43.85**	**33**	P	**P**	**10 44 51.8**	**-0.3**
MKAR	**Makanchi Array**	**43.85**	**33**	P	**P**	**10 44 52.2**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=224,slow=6.8,SNR=9.3						
MKAR				LR	LR	11 05 10.9	
	comp=Z,36nm,19.8s,baz=248,slow=39						
MKAR	**Makanchi Array**	**43.85**	**33**		**P**	**10 44 51.9**	**-0.2**
ZOU	**Zoufplan**	**45.54**	**325**	P	**P**	**10 45 06.2**	**+0.4**
ZOU				IAmb	IAmb	10 45 07.3	
	comp=Z,8.8nm,1.2s						
CIMO	**Cimolais**	**45.70**	**324**	P	**P**	**10 45 06.5**	**-0.4**
CIMO				IAmb	IAmb	10 45 08.9	
	comp=Z,7.1nm,1.3s						
TORD	**Torodi Ar. Bea**	**46.37**	**276**	P	**P**	**10 45 12.4**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=90,slow=7.7,SNR=5.6						
TORD				LR	LR	11 05 36.5	
	comp=Z,34nm,20.9s,baz=25,slow=37						
TORD	**Torodi Ar. Bea**	**46.37**	**276**	P	**P**	**10 45 11.2**	**-1.4**
GERES	**GERESS Array B**	**46.53**	**328**	P	**P**	**10 45 13.9**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=134,slow=5.8,SNR=8.5						
GERES	**GERESS Array B**	**46.53**	**328**	P	**P**	**10 45 12.9**	**-0.5**
BOSA	**Boshof**	**47.20**	**209**	P	**P**	**10 45 20.6**	**+1.6**
	comp=Z,1.7nm,0.6s,baz=100,slow=6.9,SNR=3.1						
BOSA				LR	LR	11 06 58.7	
	comp=Z,50nm,19.0s,baz=14,slow=38						
CMAR	**Chiang Mai Arr**	**48.02**	**77**	P	**P**	**10 45 26.1**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=276,slow=8.8,SNR=13						
CMAR				LR	LR	11 05 56.2	
	comp=Z,9.7nm,18.4s,baz=250,slow=36						
CMAR	**Chiang Mai Arr**	**48.02**	**77**	P	**P**	**10 45 25.0**	**-0.5**
ZALV	**Zalesovo Beam**	**49.78**	**27**	P	**P**	**10 45 37.4**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=256,slow=5.8,SNR=1.8						
ZALV				LR	LR	11 08 51.3	
	comp=Z,22nm,19.1s,baz=166,slow=39						
FINES	**FINESS Array B**	**51.51**	**346**	P	**P**	**10 45 51.8**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=129,slow=11,SNR=4.2						
FINES				LR	LR	11 09 40.8	
	comp=Z,42nm,20.2s,baz=158,slow=38						
FINES	**FINESS Array B**	**51.51**	**346**	P	**P**	**10 45 50.8**	**-0.5**
ESDC	**Sonseca Array**	**53.91**	**310**	P	**P**	**10 46 09.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=93,slow=5.9,SNR=2.7						
ESDC	**Sonseca Array**	**53.91**	**310**	P	**P**	**10 46 09.3**	**-0.2**
NOA	**NORSAR Array B**	**55.63**	**339**	P	**P**	**10 46 21.4**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=145,slow=8.7,SNR=2.9						
NOA				LR	LR	11 13 44.9	
	comp=Z,46nm,18.9s,baz=285,slow=40						
SONM	**Songino Array**	**58.75**	**41**	P	**P**	**10 46 45.5**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=218,slow=9.1,SNR=1.9						
SONM				LR	LR	11 15 38.7	
	comp=Z,27nm,18.4s,baz=264,slow=40						
SONM	**Songino Array**	**58.75**	**41**	P	**P**	**10 46 45.0**	**+1.0**
MAW	**Mawson**	**80.69**	**175**	P	**P**	**10 49 00.9**	**+2.5**
	comp=Z,1.4nm,0.7s,baz=2.1,slow=7.2,SNR=5.6						
WRA	**Warramunga Arr**	**89.67**	**110**	P	**P**	**10 49 45.6**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=297,slow=3.5,SNR=20						
WRA	**Warramunga Arr**	**89.67**	**110**	P	**P**	**10 49 45.3**	**+0.7**
WRAB	**Tennant Creek**	**89.68**	**110**	P	**P**	**10 49 45.1**	**+0.5**
WB2	**Warramunga Arr**	**89.69**	**110**	P	**P**	**10 49 44.1**	**-0.5**
ASAR	**Alice Springs**	**90.15**	**114**	P	**P**	**10 49 47.9**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=293,slow=4.7,SNR=12						
ASAR	**Alice Springs**	**90.15**	**114**	P	**P**	**10 49 46.9**	**+0.1**

*NEIC **24** 10:38:24.7±1.8, 20°.3S±0°.1×177°.6W±0°.1, h493km±6km, mb4.3/28, Error ellipse: s-maj=21.8km s-min=14.2km az=145.0*
*IDC **24** 10:38:24.3±2.5, 20°.31S×177°.67W, h477km±30km, mb3.4/6, mb1 3.6/8, mb1mx3.2/42, mbtmp4.3/8, Error ellipse: s-maj=35.0km s-min=17.2km az=139.0*
ISC 24 10:38:25.8±0.6, 20°.22S±0°.10×177°.55W±0°.10, h500km, n44, σ1°35/44, mb4.2/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.84**	**300**	P	**P**	**10 39 54.4**	**+2.8**
AFI	**Afiamalu**	**8.36**	**42**	P	**P**	**10 40 26.0**	**-0.1**
	2.3nm,0.3s,baz=261,slow=21,SNR=2.6						
AFI				S	**S**	**10 42 01.7**	**-3.0**
	10nm,0.3s,baz=281,slow=18,SNR=9.1						
RAO	**Raoul Island**	**9.00**	**182**	P	**P**	**10 40 34.1**	**+1.6**
	55nm,0.3s,baz=113,slow=22,SNR=2.1						
DZM	**Mont Dzumac**	**15.05**	**260**	P	**P**	**10 41 37.8**	**+1.2**
	0.8nm,0.3s,baz=68,slow=21,SNR=6.2						
URZ	**Urewera**	**18.56**	**193**	P	**P**	**10 42 09.4**	**-1.8**
	1.6nm,0.3s,baz=307,slow=2.2,SNR=10						
URZ	**Urewera**	**18.56**	**193**	P	**P**	**10 42 09.3**	**-1.8**
URZ				IAmb	IAmb	10 42 17.5	
	comp=Z,19nm,0.9s						
BFZ	**Birch Farm**	**21.07**	**193**	P	**P**	**10 42 31.8**	**-2.3**
BHW	**Baring Head**	**22.08**	**195**	P	**P**	**10 42 41.8**	**-1.3**
CTAO	**Charters Tower**	**33.94**	**264**	P	**P**	**10 44 26.7**	**-0.3**
PMG	**Port Moresby**	**35.69**	**282**	P	**P**	**10 44 41.8**	**0.0**
PMG				IAmb	IAmb	10 44 42.4	
	comp=Z,25nm,1.0s						
TOO	**Toolangi**	**36.40**	**234**	P	**P**	**10 44 47.4**	**0.0**
TOO				IAmb	IAmb	10 45 02.9	
	comp=Z,11nm,1.4s						
COEN	**Coen**	**37.99**	**273**	P	**P**	**10 45 00.4**	**-0.3**
COEN				IAmb	IAmb	10 45 26.1	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**10 45 02.3**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=92,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**10 45 02.6**	**-0.3**
BBOO	**Buckleboo**	**43.05**	**243**	P	**P**	**10 45 40.3**	**-0.7**
BBOO				IAmb	IAmb	10 46 02.9	
	comp=Z,31nm,1.4s						
WR0	**Warramunga Arr**	**44.87**	**262**	P	**P**	**10 45 54.1**	**-1.2**
AS31	**Alice Springs**	**44.99**	**256**	P	**P**	**10 45 55.2**	**-1.1**
ASAR	**Alice Springs**	**44.99**	**256**	P	**P**	**10 45 55.4**	**-0.9**
	comp=Z,9.7nm,0.8s,baz=97,slow=7.6,SNR=146						
ASAR				PcP	**PcP**	**10 47 26.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=108,slow=3.7,SNR=5.6						
ASAR	**Alice Springs**	**44.99**	**256**	P	**P**	**10 45 54.5**	**-1.7**
WB0	**Warramunga Arr**	**45.04**	**262**	P	**P**	**10 45 55.4**	**-1.2**
WB0				IAmb	IAmb	10 45 55.8	
	comp=Z,5.8nm,0.6s						
WB2	**Warramunga Arr**	**45.05**	**262**	P	**P**	**10 45 55.3**	**-1.3**
WB2				IAmb	IAmb	10 45 56.0	
	comp=Z,4.6nm,0.8s						
WRAB	**Tennant Creek**	**45.05**	**262**	P	**P**	**10 45 55.3**	**-1.4**
WRAB				IAmb	IAmb	10 45 56.7	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**45.06**	**262**	P	**P**	**10 45 55.4**	**-1.4**
	comp=Z,3.0nm,0.5s,baz=97,slow=7.0,SNR=196						
WRA				PcP	**PcP**	**10 47 27.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=97,slow=4.0,SNR=3.0						
WRA	**Warramunga Arr**	**45.06**	**262**	IAmb	IAmb	10 45 56.0	
	comp=Z,0.4nm,0.6s						
MTN	**Manton Dam**	**49.58**	**270**	P	**P**	**10 46 29.8**	**-1.1**
MTN				IAmb	IAmb	10 46 30.9	
	comp=Z,6.8nm,0.7s						
FORT	**Forrest**	**49.79**	**246**	P	**P**	**10 46 31.1**	**-1.1**
FORT				IAmb	IAmb	10 46 31.6	
	comp=Z,14nm,0.6s						
KNRA	**Kununurra**	**51.10**	**266**	P	**P**	**10 46 41.1**	**-0.9**
KNRA				IAmb	IAmb	10 46 48.8	
	comp=Z,29nm,1.5s						
FITZ	**Fitzroy Crossi**	**53.48**	**262**	P	**P**	**10 46 58.8**	**-0.3**
PSA00	**Pilbara Seismi**	**58.14**	**257**	P	**P**	**10 47 30.8**	**-0.7**
PSA00				IAmb	IAmb	10 47 31.2	
	comp=Z,8.8nm,0.8s						
NWAO	**Narrogin (SRO)**	**58.87**	**243**	P	**P**	**10 47 35.8**	**-0.5**
NWAO				IAmb	IAmb	10 47 42.7	
	comp=Z,26nm,1.5s						
MORW	**Morawa**	**60.33**	**247**	P	**P**	**10 47 44.8**	**-1.2**
MORW				IAmb	IAmb	10 47 57.2	
	comp=Z,8.9nm,1.2s						
GIRL	**Giralia**	**63.03**	**254**	P	**P**	**10 48 04.0**	**+0.2**
QSPA	**South Pole Qui**	**69.85**	**180**	P	**P**	**10 48 46.8**	**+1.3**
PETK	**Petropavlovsk-**	**76.11**	**345**	P	**P**	**10 49 21.6**	**+0.1**
	comp=Z,4.1nm,1.0s,baz=108,slow=3.3,SNR=3.6						
PETK	**Petropavlovsk-**	**76.11**	**345**	P	**P**	**10 49 19.6**	**-1.9**
NVAR	**Mina Array Bea**	**80.53**	**43**	P	**P**	**10 49 47.8**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=188,slow=6.1,SNR=3.6						
NV11	**Mina Array Sit**	**80.63**	**43**	P	**P**	**10 49 46.1**	**-0.1**
GSI	**Gunungsitoli**	**85.64**	**273**	P	**P**	**10 50 10.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**90.42**	**289**	P	**P**	**10 50 35.4**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=124,slow=3.2,SNR=9.5						
CMAR	**Chiang Mai Arr**	**90.42**	**289**	P	**P**	**10 50 35.1**	**+1.0**
FNO	**Franklin**	**93.78**	**54**	IAmb	IAmb	10 50 51.6	
	comp=Z,90nm,0.9s						
QUOK	**Quay**	**94.64**	**53**	P	**P**	**10 50 55.4**	**+2.4**
AKASG	**Malin Array Be**	**142.97**	**332**	PKhKP	PKPpre	10 56 58.9	
	comp=Z,0.9nm,0.3s,baz=43,slow=4.5,SNR=5.9						
GERES	**GERESS Array B**	**150.04**	**345**	PKPbc	**PKiKP**	**10 57 20.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=313,slow=2.0,SNR=5.7						

*SNET **24** 10:45:34.3±1.2, 12°.28N×89°.09W, h12km±7km, ML4.0*
*IDC **24** 10:45:35.5±0.8, 12°.83N×88°.77W, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.2/39, mbtmp4.3/15, ML3.8/2, MS3.9/5, Ms1 3.9/5, ms1mx3.4/33, Error ellipse: s-maj=28.5km s-min=12.3km az=44.0*
*INET **24** 10:45:38.0, 12°.40N×89°.02W, h15km, ML4.5*
*NEIC **24** 10:45:38.6±2.0, 12°.48N±0°.06×88°.90W±0°.06, h35km±1km, mb4.7/187, Error ellipse: s-maj=12.8km s-min=7.0km az=224.0*
*UCR **24** 10:45:38.3±1.6, 12°.53N×88°.07W, h74km±32km, ML3.9, mb4.7(NEIC)*
*UNK **24** 10:45:40.0, 12°.58N×88°.83W, h30km*
*GCG **24** 10:45:58.5±0.7, 13°.72N×89°.85W, h40km, MD4.4*
ISC 24 10:45:40.0±0.5, 12°.51N±0°.05×88°.96W±0°.05, h39km±4km, n444, σ1°38/429, mb4.7/87, MS4.0/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.90**	**25**	*eP*	**Pn**	**10 45 55.6**	**-0.6**
ALJI				*eS*	**Sn**	**10 46 11.5**	**+3.5**
ALJI				IAML		10 46 38.7	
	comp=Z,3μm,0.7s						
ALJI	**Alcalda de J**	**0.90**	**25**	*eP*	**Pn**	**10 45 55.6**	**-0.6**
ALJI				*eS*	**Sn**	**10 46 11.5**	**+3.5**
ALJI				IAML		10 46 38.7	
	comp=Z,3μm,0.7s						
JUCU	**Jucuarın**	**1.02**	**43**	*eP*	**Pn**	**10 45 57.2**	**-0.6**
JUCU				*eS*	**Sn**	**10 46 13.5**	**+2.5**
JUCU	**Jucuarın**	**1.02**	**43**	*eP*	**Pn**	**10 45 57.2**	**-0.6**
JUCU				*eS*	**Sn**	**10 46 13.5**	**+2.5**
COEB	**Comit de Eme**	**1.07**	**23**	*eP*	**Pn**	**10 45 57.3**	**-1.3**
COEB				IAML		10 46 22.8	
	comp=Z,3μm,0.5s						
COEB	**Comit de Eme**	**1.07**	**23**	*eP*	**Pn**	**10 45 57.3**	**-1.3**
COEB				IAML		10 46 22.8	
	comp=Z,3μm,0.5s						
TECA	**Tecapa**	**1.08**	**24**	*eP*	**Pn**	**10 45 58.5**	**-0.3**
TECA	**Tecapa**	**1.08**	**24**	*eP*	**Pn**	**10 45 58.5**	**-0.3**
SNVI	**San Vicente**	**1.10**	**6**	*eP*	**Pn**	**10 45 58.5**	**-0.7**
SNVI	**San Vicente**	**1.10**	**6**	*eP*	**Pn**	**10 45 58.5**	**-0.7**
SNVI				*eS*	**Sn**	**10 46 17.6**	**+4.3**
COEG	**Centro de Oper**	**1.11**	**4**	*eP*	**Pn**	**10 45 58.0**	**-1.2**
COEG	**Centro de Oper**	**1.11**	**4**	*eP*	**Pn**	**10 45 58.0**	**-1.2**
LFRS	**El Faro**	**1.11**	**355**	*i P*	**Pn**	**10 45 57.9**	**-1.3**
LFRS	**El Faro**	**1.11**	**355**	*i P*	**Pn**	**10 45 57.9**	**-1.3**
LCY	**Lacayo**	**1.12**	**35**	*eP*	**Pn**	**10 45 59.1**	**-0.2**
LCY	**Lacayo**	**1.12**	**35**	*eP*	**Pn**	**10 45 59.1**	**-0.2**
LCY				*eS*	**Sn**	**10 46 18.4**	**+4.8**
VSM	**San Miguel**	**1.13**	**36**	*eP*	**Pn**	**10 45 59.6**	**-0.1**
VSM	**San Miguel**	**1.13**	**36**	*eP*	**Pn**	**10 45 59.6**	**-0.1**
BLLM	**Bellamira**	**1.17**	**37**	*eP*	**Pn**	**10 45 59.7**	**-0.2**
BLLM	**Bellamira**	**1.17**	**37**	*eP*	**Pn**	**10 45 59.7**	**-0.2**
PAVA	**Las Pavas**	**1.20**	**1**	*eP*	**Pn**	**10 45 59.3**	**-1.2**
PAVA				IAML		10 46 26.7	
	comp=Z,2μm,0.4s						
PAVA	**Las Pavas**	**1.20**	**1**	*eP*	**Pn**	**10 45 59.3**	**-1.2**
PAVA				IAML		10 46 26.7	
	comp=Z,2μm,0.4s						
SNET	**Serv Nac Est T**	**1.20**	**347**	*eP*	**Pn**	**10 45 59.3**	**-1.1**
SNET				IAML		10 46 26.6	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**1.20**	**347**	*eP*	**Pn**	**10 45 59.3**	**-1.1**
SNET				IAML		10 46 26.6	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**1.20**	**347**		**Pn**	**10 45 58.8**	**-1.6**
LBRS	**Las Brisas**	**1.23**	**356**	*eP*	**Pn**	**10 46 00.1**	**-0.7**
LBRS	**Las Brisas**	**1.23**	**356**	*eP*	**Pn**	**10 46 00.1**	**-0.7**
UEES	**Universidad Ev**	**1.23**	**347**	IAML		10 46 25.2	
	comp=Z,2μm,0.3s						
UEES	**Universidad Ev**	**1.23**	**347**	IAML		10 46 25.2	
	comp=Z,2μm,0.3s						
LFU	**La Fuente**	**1.24**	**353**	*eP*	**Pn**	**10 46 00.4**	**-0.6**
LFU	**La Fuente**	**1.24**	**353**	*eP*	**Pn**	**10 46 00.4**	**-0.6**
BOQS	**Boqueron**	**1.26**	**346**	*eP*	**Pn**	**10 46 00.4**	**-1.0**
BOQS	**Boqueron**	**1.26**	**346**	*eP*	**Pn**	**10 46 00.4**	**-1.0**
LCND	**La Caada**	**1.31**	**53**	*eP*	**Pn**	**10 46 01.6**	**-0.3**
LCND				*eS*	**Sn**	**10 46 21.8**	**+3.6**
LCND				IAML		10 46 29.6	
	comp=Z,3μm,0.4s						
LCND	**La Caada**	**1.31**	**53**	*eP*	**Pn**	**10 46 01.6**	**-0.3**
LCND				*eS*	**Sn**	**10 46 21.8**	**+3.6**
LCND				IAML		10 46 29.6	
	comp=Z,3μm,0.4s						
CNCH	**Conchagua**	**1.34**	**55**	*eP*	**Pn**	**10 46 02.2**	**-0.2**
CNCH	**Conchagua**	**1.34**	**55**	*eP*	**Pn**	**10 46 02.2**	**-0.2**
CEDA	**San Andres**	**1.36**	**342**	*eP*	**Pn**	**10 46 01.6**	**-0.9**
CEDA				IAML		10 46 36.0	
	comp=Z,4μm,0.4s						
CEDA	**San Andres**	**1.36**	**342**	*eP*	**Pn**	**10 46 01.6**	**-0.9**
CEDA				IAML		10 46 36.0	
	comp=Z,4μm,0.4s						
FAGO	**Alcalda de S**	**1.45**	**35**	*eP*	**Pn**	**10 46 04.0**	**+0.3**
FAGO				IAML		10 46 32.7	
	comp=Z,1μm,0.6s						
FAGO	**Alcalda de S**	**1.45**	**35**	*eP*	**Pn**	**10 46 04.0**	**+0.3**
FAGO				IAML		10 46 32.7	
	comp=Z,1μm,0.6s						
CEVE	**Cerro Verde**	**1.46**	**334**	*eP*	**Pn**	**10 46 03.0**	**-1.2**
CEVE				IAML		10 46 34.0	
	comp=Z,3μm,0.4s						
CEVE	**Cerro Verde**	**1.46**	**334**	*eP*	**Pn**	**10 46 03.0**	**-1.2**
CEVE				IAML		10 46 34.0	
	comp=Z,3μm,0.4s						
SBLS	**San Blas**	**1.47**	**334**	*eP*	**Pn**	**10 46 02.8**	**-1.5**
SBLS	**San Blas**	**1.47**	**334**	*eP*	**Pn**	**10 46 02.8**	**-1.5**
SNJE	**San Jose**	**1.49**	**335**	*eP*	**Pn**	**10 46 03.8**	**-0.7**
SNJE	**San Jose**	**1.49**	**335**	*eP*	**Pn**	**10 46 03.8**	**-0.7**
TACO	**Tacachico**	**1.50**	**345**	*eP*	**Pn**	**10 46 03.2**	**-1.4**
TACO	**Tacachico**	**1.50

comp=Z,47nm,0.7s
VBMS Vicksburg 19.67 356 P Pn 10 50 06.9 -0.5
baz=175
VBMS Vicksburg 19.67 356 P P 10 50 05.1 -0.6
435B Jarrell 19.86 338 P P 10 50 07.1 -0.7
baz=154,SNR=12
435B Jarrell 19.86 338 P P 10 50 07.1 -0.7
NATX Nacogdoches 19.87 346 P P 10 50 06.4 -1.5
baz=163
NATX Nacogdoches 19.87 346 P P 10 50 06.0 -1.9
NATX IAmb IAmb 10 50 15.1
comp=Z,30nm,0.8s
146A Union 20.04 360 P P 10 50 08.7 -1.1
146A IAmb IAmb 10 50 12.6
comp=Z,41nm,0.9s
143A Socs Landing, 20.23 354 P P 10 50 10.4 -1.4
143A IAmb IAmb 10 50 19.2
comp=Z,30nm,0.9s
237A Washetta, Mont 20.40 343 P 10 50 12.2 -1.4
237A IAmb IAmb 10 50 18.9
comp=Z,26nm,0.7s
152A Waverly Hall 20.44 10 P Pn 10 50 15.6 -0.8
JCT Junction City 20.51 332 P P 10 50 14.0 -0.9
baz=148,SNR=19
JCT Junction City 20.51 332 P P 10 50 14.2 -0.7
JCT IAmb IAmb 10 50 15.5
comp=Z,26nm,0.8s
LRAL Lakeview Retre 20.51 5 P P 10 50 15.6 +0.7
baz=185
LRAL Lakeview Retre 20.51 5 P Pn 10 50 16.4 -0.8
Z47A Carrollton 20.61 2 P P 10 50 16.0 +0.1
Z47A IAmb IAmb 10 50 18.2
comp=Z,42nm,0.8s
257A Skidaway Islan 20.70 19 P P 10 50 15.9 -1.0
154A Montrose 20.72 14 P P 10 50 16.2 -0.9
WHTX Lake Whitney, 20.91 339 P P 10 50 18.0 -1.2
baz=156,SNR=14
WHTX Lake Whitney, 20.91 339 P P 10 50 18.2 -0.9
WHTX IAmb IAmb 10 50 19.6
comp=Z,33nm,0.8s
Z41A Richland Creek 20.95 351 P P 10 50 19.1 -0.5
baz=169
Z41A Richland Creek 20.95 351 P P 10 50 18.1 -1.6
Z41A IAmb IAmb 10 50 23.6
comp=Z,17nm,0.7s
Y45A Yeager Farm, C 21.27 359 P P 10 50 22.8 -0.2
Y45A IAmb IAmb 10 50 28.1
comp=Z,30nm,0.7s
Z38A Mt. Pleasant 21.38 346 P P 10 50 21.7 -2.5
Z38A IAmb IAmb 10 50 28.4
comp=Z,48nm,0.8s
Y49A Blount Mountai 21.38 6 P P 10 50 24.7 +0.4
GOGA Godfrey 21.41 13 P P 10 50 24.7 +0.2
baz=194
GOGA Godfrey 21.41 13 P P 10 50 23.9 -0.6
GOGA IAmb IAmb 10 50 27.7
comp=Z,16nm,0.7s
WLAR White Oak Lake 21.42 350 P 10 50 24.5 -0.2
WLAR IAmb IAmb 10 50 28.7
comp=Z,29nm,0.8s
CCAR Cane Creek 21.47 354 P P 10 50 23.5 -1.6
TXAR Lajitas Array 21.62 323 P P 10 50 27.4 +0.4
comp=Z,15nm,0.7s,baz=146,slow=10,SNR=141
TXAR PcP **PcP 10 54 29.1 +1.2**
comp=Z,0.1nm,0.5s,baz=126,slow=4.6,SNR=3.4
TXAR ScP **ScP 10 58 09.4 +7.4**
comp=Z,0.3nm,0.8s,baz=151,slow=2.1,SNR=3.7
TXAR LR LR 11 00 29.7
comp=Z,144nm,21.8s,baz=0.0,slow=42
TXAR Lajitas Array 21.62 323 P P 10 50 26.8 -0.1
Z56A Williston 21.85 17 P P 10 50 30.6 +1.3
baz=200
Z56A Williston 21.85 17 P P 10 50 29.0 -0.3
OXF Oxford 21.91 359 P P 10 50 30.1 +0.2
baz=178
OXF Oxford 21.91 359 P P 10 50 29.1 -0.8
OXF IAmb IAmb 10 50 33.0
comp=Z,33nm,0.8s
X48A Hartselle 21.92 4 P P 10 50 29.3 -0.6
X43A Marvell 21.98 356 P P 10 50 31.6 +0.9
X43A IAmb IAmb 10 50 33.5
comp=Z,24nm,0.7s
H06E1 SOCORRO T-PHAS 22.04 289 T T 11 13 17.9
SNR=19
Z35A Perchaven, San 22.07 341 IAmb IAmb 10 50 31.9
comp=Z,22nm,0.8s
X40A Basin Creek Fa 22.16 351 P P 10 50 33.0 +0.3
baz=170,SNR=7.8
X40A Basin Creek Fa 22.16 351 P P 10 50 32.5 -0.1
X40A IAmb IAmb 10 50 35.0
comp=Z,36nm,1.4s
ABTX Abilene, Hawle 22.29 336 P P 10 50 33.0 -1.1
baz=151,SNR=9.9
ABTX Abilene, Hawle 22.29 336 P P 10 50 33.3 -0.8
ABTX IAmb IAmb 10 50 47.6
comp=Z,17nm,0.8s
Y55A Saluda 22.30 16 P P 10 50 34.0 0.0
baz=198
MIAR Mount Ida 22.34 350 P P 10 50 33.8 -0.8
baz=168,SNR=30
MIAR Mount Ida 22.34 350 P P 10 50 33.7 -0.8
UALR University of 22.38 353 P P 10 50 35.1 +0.1
UALR IAmb IAmb 10 50 37.9
comp=Z,31nm,0.8s
PLAL Pickwick Lake 22.39 2 P P 10 50 35.1 +0.1
X37A Clayton 22.74 346 P P 10 50 39.0 +0.2
X37A IAmb IAmb 10 50 47.1
comp=Z,29nm,1.0s
X54A Belton 22.74 14 P P 10 50 39.1 +0.2
baz=196
W41B Gary Mavity, V 22.76 353 P P 10 50 39.1 +0.1
baz=171,SNR=11
W41B Gary Mavity, V 22.76 353 P P 10 50 38.7 -0.3
W41B IAmb IAmb 10 50 40.8
comp=Z,17nm,0.8s
JSC Jenkinsville 22.78 17 P P 10 50 37.2 -2.0
X55A Gracelyn & Ava 22.86 16 P P 10 50 39.1 -0.9
baz=198,SNR=5.3
WHAR Wooly Hollow 22.88 353 P P 10 50 40.2 0.0
WHAR IAmb IAmb 10 50 41.9
comp=Z,27nm,0.7s
CBYP Canovanas 22.99 73 P P 10 50 38.4 -3.2
HBAR Harrisburg 23.00 356 P P 10 50 41.4 0.0
W39A Magazine 23.01 350 P P 10 50 41.4 -0.1
baz=168,SNR=13
W39A Magazine 23.01 350 P P 10 50 40.7 -0.9
W39A IAmb IAmb 10 50 44.1
comp=Z,47nm,1.1s
LPAR Lepanto 23.03 357 P P 10 50 41.8 +0.1
X56A White Oak 23.04 17 P P 10 50 41.0 -0.9
baz=200
BG3 Lake Jocassee 23.05 13 P P 10 50 42.4 +0.4
PAULI Pauline 23.14 15 P P 10 50 42.5 -0.4
PAULI IAmb IAmb 10 50 43.9
comp=Z,20nm,0.8s
V48A Smith Brothers 23.21 4 P P 10 50 43.6 0.0
V48A IAmb IAmb 10 50 45.3
comp=Z,15nm,0.8s
MTP Monte Pirata 23.24 73 P P 10 50 42.6 -1.5
MTP IAmb IAmb 10 50 43.4
comp=Z,20nm,1.1s
LPIG La Paz 23.28 303 LR LR 10 59 42.1
comp=Z,173nm,20.9s,baz=126,slow=36
W54A Cherokee Point 23.30 14 P P 10 50 44.0 -0.4
baz=197,SNR=8.6
X34A Smith Ranch, M 23.43 341 P P 10 50 45.4 -0.3
FCAR Ozark Folk Cen 23.46 354 P P 10 50 45.6 -0.3
TKL Tuckaleechee C 23.52 11 P P 10 50 45.7 -1.0
comp=Z,22nm,0.7s,baz=186,slow=12,SNR=27
TKL Tuckaleechee C 23.52 11 IAmb IAmb 10 50 47.7
comp=Z,22nm,0.7s
WVT Waverly 23.54 2 P P 10 50 45.8 -1.0
baz=182
WVT Waverly 23.54 2 P P 10 50 46.1 -0.7
LCAR Lake Charles 23.54 356 IAmb IAmb 10 50 47.5
comp=Z,23nm,0.7s
KMSC Kings Mountain 23.57 16 P P 10 50 46.1 -1.0
baz=199
CLTN Cedars of Leba 23.60 5 P P 10 50 46.7 -0.6
CLTN IAmb IAmb 10 50 48.2
comp=Z,24nm,0.7s
W35A Tecumseh 23.66 344 P P 10 50 46.7 -1.2
V53A Saluda 23.72 13 IAmb IAmb 10 50 54.2
comp=Z,23nm,0.9s
STVI Saint Thomas 23.85 73 P P 10 50 48.0 -1.8
STVI IAmb IAmb 10 50 48.4
comp=Z,23nm,0.8s
WMOK Wichita Mounta 23.86 340 P P 10 50 48.4 -1.4
baz=155,SNR=9.8
WMOK Wichita Mounta 23.86 340 P P 10 50 48.5 -1.4
FNO Franklin 23.91 343 P P 10 50 49.6 -0.6
FNO Franklin 23.91 343 P P 10 50 49.6 -0.6
PCRV Puerto La Cruz 23.96 93 P P 10 50 50.5 -0.4
comp=Z,7.0nm,0.7s,baz=216,slow=7.9,SNR=4.0
W57A Gilead 23.97 18 P P 10 50 50.1 -0.6
W57A IAmb IAmb 10 51 00.1
comp=Z,16nm,0.9s
U40A Yellville 24.00 352 P P 10 50 50.9 -0.2
baz=170,SNR=16
U40A Yellville 24.00 352 P P 10 50 50.9 -0.2
U40A IAmb IAmb 10 50 54.1
comp=Z,26nm,0.9s
PLCV Puerto La Cruz 24.01 93 P P 10 50 50.5 -0.9
V54A Nebo 24.02 14 P P 10 50 50.8 -0.5
baz=197,SNR=6.8
PARMO Parma 24.06 358 P P 10 50 51.9 +0.3
U49A Red Boiling Sp 24.07 6 P P 10 50 50.3 -1.4
HHAR Hobbs 24.09 350 P P 10 50 51.6 -0.3
HHAR IAmb IAmb 10 50 53.5
comp=Z,18nm,0.7s
TUL1 Leonard 24.10 346 P P 10 50 51.2 -0.9
baz=163,SNR=10
TUL1 Leonard 24.10 346 P P 10 50 52.1 0.0
TUL1 IAmb IAmb 10 50 52.4
comp=Z,28nm,0.8s
OK025 Westminster Rd 24.19 343 P P 10 50 52.5 -0.3
OK025 IAmb IAmb 10 50 53.1
comp=Z,29nm,0.8s
PBMO Poplar Bluff 24.20 357 P P 10 50 52.5 -0.4
PBMO IAmb IAmb 10 50 53.4
comp=Z,31nm,0.8s
V55A Taylorsville 24.27 15 P P 10 50 53.5 -0.1
V55A IAmb IAmb 10 51 11.7
comp=Z,23nm,1.2s
U38A Gravette 24.32 349 P P 10 50 53.6 -0.5
U38A IAmb IAmb 10 50 54.5
comp=Z,12nm,0.7s
BCOK Bluff Creek, N 24.34 343 P P 10 50 52.9 -1.3
MNTX Cornudas Mount 24.36 324 P P 10 50 53.5 -0.9
baz=138,SNR=7.7
T45A Paducah 24.41 1 P P 10 50 54.2 -0.7
OK029 Liberty Lake 24.43 343 P P 10 50 54.1 -0.9
V56A Mocksville 24.43 17 P P 10 50 54.6 -0.4
baz=200
T47A Sharon Grove 24.43 4 P P 10 50 53.4 -1.7
T42A Van Buren 24.49 356 P P 10 50 54.1 -1.5
T42A IAmb IAmb 10 51 02.1
comp=Z,12nm,0.8s
QUOK Quay 24.58 345 P P 10 50 54.9 -1.5
QUOK IAmb IAmb 10 50 56.4
comp=Z,60nm,0.9s
MGMO Mountain Grove 24.72 354 P P 10 50 57.7 0.0
U54A Nelsons Funny 24.76 14 P P 10 50 56.7 -1.5
baz=196
U54A Nelsons Funny 24.76 14 P P 10 50 57.3 -0.8
U54A IAmb IAmb 10 51 00.4
comp=Z,17nm,0.7s
MSTX Muleshoe 24.80 332 P P 10 50 57.5 -1.1
baz=146,SNR=12
MSTX Muleshoe 24.80 332 P P 10 50 56.6 -1.9
MSTX IAmb IAmb 10 51 03.7
comp=Z,20nm,0.8s
V58A Windy Hill, Pi 24.83 19 P P 10 50 57.3 -1.4
baz=203
T53A Wise 25.05 12 P P 10 50 60.0 -0.7
baz=195
S44A Carbondale 25.08 359 IAmb IAmb 10 51 05.8
comp=Z,22nm,0.7s
AMTX Amarillo 25.09 335 P P 10 51 00.6 -0.5
baz=149
AMTX Amarillo 25.09 335 P P 10 51 01.3 +0.1
AMTX IAmb IAmb 10 51 03.0
comp=Z,21nm,0.8s
T35A Sooner Cattle 25.23 346 P P 10 51 02.5 +0.2
CROK Carrier 25.24 343 P P 10 51 01.5 -0.9
CROK IAmb IAmb 10 51 08.8
comp=Z,30nm,0.8s
T54A Tazewell 25.33 14 P P 10 51 02.4 -0.9
baz=197
U57A Blanch 25.35 18 P P 10 51 02.0 -1.3
baz=202
S39A Bolivar 25.38 352 P P 10 51 02.9 -0.7
U32A Winter Ranch, 25.43 341 P P 10 51 03.9 -0.3
U32A IAmb IAmb 10 51 05.3
comp=Z,16nm,0.7s
CCM Cathedral Cave 25.52 356 P P 10 51 04.0 -0.9
baz=174
CCM Cathedral Cave 25.52 356 P P 10 51 03.5 -1.5
KAN13 South Haven SW 25.57 344 P P 10 51 04.1 -1.3
WCI Wyandotte Cave 25.73 5 P P 10 51 05.6 -1.2
baz=186
WCI Wyandotte Cave 25.73 5 P P 10 51 05.6 -1.2
WCI IAmb IAmb 10 51 07.0
comp=Z,28nm,0.7s
T57A Hurt 25.90 18 P P 10 51 07.9 -0.4
baz=202
KAN12 Harper NE Stat 25.98 343 P P 10 51 07.5 -1.6
OLIL Olney 26.13 2 P P 10 51 09.5 -0.9
OLIL IAmb IAmb 10 51 21.9
comp=Z,32nm,1.2s
Q44A Meyer Farm, Va 26.29 360 P P 10 51 11.1 -0.7
Q44A IAmb IAmb 10 51 11.6
comp=Z,15nm,0.7s
RCRC Randolf Colleg 26.29 18 P P 10 51 11.8 -0.1
121A Cookes Peak, D 26.37 322 P P 10 51 14.1 +1.3
baz=135
T59A Double "B" Far 26.43 21 P P 10 51 13.0 -0.1
baz=205
R55A Marlinton 26.85 16 P P 10 51 16.4 -0.7
baz=199
Q51A Peebles 26.88 10 P P 10 51 16.0 -1.2
Q51A IAmb IAmb 10 51 17.1
comp=Z,19nm,0.6s
BNM Barren Site 26.88 326 P P 10 51 17.8 +0.2
Q52A Bidwell 27.01 12 P P 10 51 17.3 -1.0
baz=194
P43A Skaggs, Pawnee 27.03 359 P P 10 51 17.5 -1.0
P43A IAmb IAmb 10 51 19.1
comp=Z,35nm,1.4s
P40A Paris 27.05 355 P P 10 51 17.4 -1.3
P49A Miami Univ. Ec 27.18 7 P P 10 51 17.7 -2.2
baz=189
R32A Long Quarter, 27.23 343 P P 10 51 19.9 -0.5
R32A IAmb IAmb 10 51 21.0
comp=Z,23nm,0.9s
P38A Dawn 27.31 352 IAmb IAmb 10 51 22.7
comp=Z,15nm,0.9s
R57A Stanardsville 27.32 18 P P 10 51 20.4 -0.7
baz=202
Q54A Coxs Mills 27.34 14 P P 10 51 20.4 -1.0
baz=197
Q54A Coxs Mills 27.34 14 IAmb IAmb 10 51 22.0
comp=Z,21nm,1.1s
KSU1 Kansas State U 27.34 347 P P 10 51 20.8 -0.6
baz=163
KSU1 Kansas State U 27.34 347 IAmb IAmb 10 51 21.6
comp=Z,22nm,0.8s
P51A Williamsport 27.37 10 P P 10 51 20.5 -1.1
baz=192
P51A Williamsport 27.37 10 IAmb IAmb 10 51 21.1
comp=Z,14nm,0.8s
ANMO Albuquerque 27.40 328 P P 10 51 22.9 +0.8
baz=140
O44A Mansfield 27.54 1 IAmb IAmb 10 51 22.5
comp=Z,13nm,0.8s
P53A Whipple 27.70 13 P P 10 51 23.8 -0.7
baz=196
SFIN Lafayette 27.81 3 P P 10 51 23.6 -1.9
baz=184
Q56A Snyder Ridge, 27.82 16 P P 10 51 25.7 +0.1
baz=200
CBKS Cedar Bluff 27.90 342 P P 10 51 25.3 -1.0
baz=157
CBKS Cedar Bluff 27.90 342 P P 10 51 25.1 -1.3
CBKS IAmb IAmb 10 51 26.5
comp=Z,15nm,0.7s
HDIL Hopedale 27.94 359 P P 10 51 25.7 -0.9
baz=179
P54A Burton 28.01 14 P P 10 51 26.7 -0.6
baz=198
O51A Pataskala 28.10 10 P P 10 51 26.9 -1.2
baz=193
TUC Tucson 28.10 318 P P 10 51 29.5 +1.2
baz=129
ACSO Alum Creek Sta 28.11 10 P P 10 51 27.3 -1.0
baz=192
N41A Harden Midland 28.14 357 IAmb IAmb 10 51 28.4
comp=Z,27nm,0.8s
T25A Trinidad 28.17 333 P P 10 51 30.4 +1.4
baz=146,SNR=6.1
T25A Trinidad 28.17 333 P P 10 51 28.8 -0.3
O52A Adamsville 28.21 12 P P 10 51 28.1 -1.0
baz=195
O52A Adamsville 28.21 12 IAmb IAmb 10 51 29.2
comp=Z,15nm,0.8s
N38A Joes South For 28.43 353 P P 10 51 30.1 -0.9
N38A IAmb IAmb 10 51 32.1
comp=Z,14nm,0.6s
Q59A Harwood 28.44 20 P P 10 51 31.1 0.0
baz=206
O53A New Philadelph 28.46 13 P P 10 51 30.6 -0.8
baz=196
P57A Homestead Farm 28.56 18 P P 10 51 32.2 0.0
baz=202
O54A Avella 28.59 14 P P 10 51 31.7 -0.7
baz=197
P58A Pank, Wackersv 28.79 19 P P 10 51 33.6 -0.6
baz=204
N52A McGinn's Farm, 28.91 11 P P 10 51 33.8 -1.6
baz=194
Q61A Milford 28.92 22 P P 10 51 33.8 -1.6
baz=208
KSCO Kaye Shedlock' 29.05 338 P P 10 51 36.3 -0.4
baz=151
KSCO Kaye Shedlock' 29.05 338 P P 10 51 36.0 -0.7
KSCO IAmb IAmb 10 51 37.8
comp=Z,14nm,0.8s
N53A Lisbon 29.08 13 P P 10 51 35.8 -1.0
baz=196
N33A J Bar K, Exete 29.09 347 P P 10 51 35.5 -1.4
SDCO Great Sand Dun 29.16 332 P P 10 51 38.0 +0.1
baz=145
214A Organ Pipe Nat 29.24 315 P P 10 51 38.7 +0.3
baz=126
N54A Moraine State 29.42 14 P P 10 51 38.9 -0.9
baz=198
S22A 4UR Ranch, Cre 29.78 331 P P 10 51 43.3 -0.1
baz=143
S22A 4UR Ranch, Cre 29.78 331 P P 10 51 42.7 -0.7
BGNE Belgrade 29.89 346 P P 10 51 43.4 -0.7
baz=162
BGNE Belgrade 29.89 346 P P 10 51 43.3 -0.7
O59A Robesonia 29.89 20 P P 10 51 43.3 -0.8
baz=205
M54A Oil Creek Stat 30.01 14 P P 10 51 44.3 -0.8
baz=198
L34A Svendsen Farm, 30.05 349 P P 10 51 44.3 -1.2
M55A Ridgway 30.20 15 P P 10 51 45.2 -1.6
baz=200
K38A Parkersburg 30.21 354 P P 10 51 45.2 -1.6
L53A Girard 30.30 13 P P 10 51 46.3 -1.4
baz=197
JFWS Jewell Farm 30.32 358 P P 10 51 46.7 -1.0
baz=177
JFWS Jewell Farm 30.32 358 IAmb IAmb 10 51 47.9
comp=Z,15nm,1.0s
M56A Emporium 30.37 16 P P 10 51 47.5 -0.8
baz=201
ERPA Erie 30.52 13 P P 10 51 49.0 -0.6
baz=197
M57A Sunshine Farm, 30.53 18 P P 10 51 49.2 -0.5
baz=203
WUAZ Wupatki 30.58 322 P P 10 51 50.4 0.0
baz=133
M58A Price's Panora 30.77 19 P P 10 51 50.7 -1.1
baz=204
ISCO Idaho Springs 30.91 335 P P 10 51 54.3 +0.9
baz=147
ISCO Idaho Springs 30.91 335 P P 10 51 53.0 -0.3
L55A Hinsdale 30.95 15 P P 10 51 52.0 -1.5
baz=200
K31A O'Neill 31.19 346 P P 10 51 54.9 -0.6
PV18 Skein Mesa, Pa 31.19 329 P P 10 51 55.6 -0.1
PV12 Saucer Basin, 31.19 329 P P 10 51 55.4 -0.4
PV12 IAmb IAmb 10 52 05.3
comp=Z,6.7nm,0.7s
PV17 East Wray Mesa 31.24 329 P P 10 51 55.5 -0.7
I42A Draeger Farm, 31.27 0 P P 10 51 54.4 -1.7
I42A IAmb IAmb 10 51 56.4
comp=Z,16nm,0.8s
I40A Norwalk 31.31 358 IAmb IAmb 10 51 55.8
comp=Z,13nm,0.8s
PAL Palisades 31.31 22 P P 10 51 55.9 -0.6
baz=209
PV23 Carpenter Ridg 31.40 329 P P 10 51 58.8 +1.1
L58A Harry Jones Me 31.57 19 P P 10 51 58.0 -0.9
baz=205
M61A Granite Spring 31.63 22 P P 10 51 58.4 -0.9
baz=209
I37A Lemond, Waseca 31.63 354 P P 10 51 57.9 -1.4
K56A Middlesex 31.73 16 P P 10 51 59.0 -1.3
baz=202
ECSD EROS Data Cent 31.81 349 P P 10 51 59.3 -1.6
baz=166,SNR=5.4
ECSD EROS Data Cent 31.81 349 P P 10 51 59.6 -1.3
ECSD IAmb IAmb 10 52 10.2
comp=Z,24nm,1.4s
I51A Listowel 31.93 11 P P 10 52 00.5 -1.4
baz=194
J54A Appleton 31.93 14 P P 10 52 00.4 -1.5
baz=199
K57A Scipio Center 31.99 17 P P 10 52 01.7 -0.8
baz=203
BC3 Big Chuckawall 32.04 315 P P 10 52 04.2 +1.0
baz=125,SNR=5.0
PHWY Pilot Hill 32.12 336 P P 10 52 03.6 -0.3
IRM Iron Mountain 32.12 317 P P 10 52 05.0 +1.3
baz=126
J55A Hilton 32.13 15 P P 10 52 03.6 0.0
baz=200
MONP2 Monument Peak 32.29 313 P P 10 52 06.7 +1.2
baz=122
O20A White River Ci 32.34 332 P P 10 52 07.3 +1.4
baz=143,SNR=5.8
O20A White River Ci 32.34 332 P P 10 52 05.2 -0.7
O20A IAmb IAmb 10 52 10.2
comp=Z,9.1nm,1.0s
J56A Wolcott 32.40 17 P P 10 52 04.6 -1.4
baz=202,SNR=5.6
J56A Wolcott 32.40 17 P P 10 52 04.6 -1.4
BELC Belle Mtn. Jos 32.60 316 P P 10 52 09.3 +1.1
baz=124
G40A Rib Lake 32.67 358 IAmb IAmb 10 52 07.8
comp=Z,13nm,0.8s
J57A Williamstown 32.77 18 P P 10 52 08.4 -0.9
baz=204
SPMN Marine on St. 32.77 355 P P 10 52 07.2 -2.1
baz=173,SNR=22
MTPU Mount Pierson 32.79 325 P P 10 52 10.6 +0.6
J58A Remsen 32.94 18 P P 10 52 09.7 -1.1
baz=205
SUSD Miller 32.96 347 P P 10 52 09.7 -1.3
baz=162,SNR=10
I55A Frankford 33.05 15 P P 10 52 10.2 -1.5
baz=200
P17A Butcher Ranch, 33.05 328 P P 10 52 12.5 +0.5
H53A Bobcaygeon 33.17 14 P P 10 52 11.4 -1.4
baz=198
SADO Sadowa 33.23 13 P P 10 52 11.3 -2.1
comp=Z,9.3nm,0.5s,baz=218,slow=8.8,SNR=18
SADO Sadowa 33.23 13 IAmb IAmb 10 52 12.3
comp=Z,13nm,0.7s
SAML Samuel 33.32 129 P P 10 52 13.9 -0.6
I58A Old Forge 33.33 19 P P 10 52 13.0 -1.2
baz=205
I57A Carthage 33.35 18 P P 10 52 13.4 -0.9
baz=204
BBRC Big Bear Solar 33.38 315 P P 10 52 15.0 -0.1
baz=124
TUQ Turquoise Moun 33.39 318 P P 10 52 15.6 +0.7
baz=126
F36A Milaca 33.47 354 IAmb IAmb 10 52 15.0
comp=Z,10nm,0.7s
COWI Conover 33.48 360 IAmb IAmb 10 52 15.4
comp=Z,9.8nm,0.7s
K22A Casper 33.68 336 P P 10 52 17.5 0.0
baz=148
K22A Casper 33.68 336 IAmb IAmb 10 52 18.9
comp=Z,19nm,1.4s

H56A	Elgin	33.78	16	P	P	10 52 17.2	-0.9
	baz=202						
I59A	Olmsteadville	33.78	20	P	P	10 52 17.4	-0.7
	baz=207						
E43A	Lone Tree Farm	33.80	2	IAmb	IAmb	10 52 17.0	
	comp=Z,9.2nm,0.7s						
H57A	Richville	33.91	18	P	P	10 52 18.3	-0.9
	baz=204						
G54A	Lake Saint Pet	34.06	14	P	P	10 52 19.3	-1.3
	baz=199						
RSSD	Black Hills	34.06	340	P	P	10 52 21.7	+0.8
RSSD				IAmb	IAmb	10 52 30.0	
	comp=Z,11nm,0.8s						
H58A	Gabriels	34.23	19	P	P	10 52 20.6	-1.5
	baz=206						
G55A	Calabogie	34.27	15	P	P	10 52 21.1	-1.2
	baz=201						
LONY	Lake Ozonia	34.29	18	P	P	10 52 21.5	-1.1
	baz=205						
ALGO	Algonquin Park	34.60	13	P	P	10 52 23.5	-1.7
	baz=199						
FURC	Furnace Creek,	34.61	318	P	P	10 52 26.4	+1.0
	baz=126						
I62A	Tamworth	34.74	23	P	P	10 52 26.3	-0.2
	baz=211						
MPMC	Manual Prospec	34.78	317	P	P	10 52 28.2	+1.0
	baz=125						
PD31	Pinedale Array	35.04	333	P	P	10 52 26.8	-2.6
PDAR	Pinedale Array	35.04	333	P	P	10 52 28.1	-1.2
	comp=Z,0.9nm,0.8s,baz=124,slow=9.2,SNR=7.6						
PDAR				PcP	PcP	10 55 00.8	+0.1
	comp=Z,0.6nm,0.6s,baz=147,slow=6.0,SNR=4.8						
HWUT	Hardware Ranch	35.07	330	P	P	10 52 28.9	-0.7
G59A	Clarenceville	35.15	20	P	P	10 52 29.2	-0.7
	baz=207						
D32A	Dogwood Acres,	35.18	350	P	P	10 52 28.8	-1.4
LPAZ	La Paz	35.26	144	P	P	10 52 35.4	+3.5
	comp=Z,0.7nm,0.6s,baz=15,slow=6.2,SNR=1.8						
EYMN	Ely	35.39	357	P	P	10 52 29.5	-2.6
	baz=176,SNR=13						
EYMN	Ely	35.39	357	P	P	10 52 29.4	-2.6
E56A	St. Veronique	35.91	16	P	P	10 52 35.4	-1.0
	baz=203						
B35A	Bob, Littlefor	35.96	355	IAmb	IAmb	10 52 35.8	
	comp=Z,9.4nm,0.8s						
REDW	Red Top Meadow	36.09	333	IAmb	IAmb	10 52 41.1	
	comp=Z,11nm,0.9s						
SNOW	Snow King Moun	36.12	333	IAmb	IAmb	10 52 41.4	
	comp=Z,11nm,0.8s						
AGMN	Agassiz Nation	36.14	352	P	P	10 52 36.4	-2.0
	baz=168,SNR=12						
H64A	Troy	36.21	24	P	P	10 52 38.9	-0.1
	baz=214						
D55A	Sainte-Anne-du	36.23	16	P	P	10 52 38.2	-1.0
	baz=202						
TPAW	Teton Pass	36.23	333	IAmb	IAmb	10 52 44.7	
	comp=Z,5.9nm,0.8s						
MDND	Maddock	36.34	348	P	P	10 52 38.9	-1.2
	baz=162,SNR=7.7						
ELK	Elko	36.37	325	P	P	10 52 41.2	+0.4
ELK				PcP	PcP	10 55 06.2	+1.5
	comp=Z,0.1nm,0.7s,baz=112,slow=7.6,SNR=7.4						
	comp=Z,0.9nm,0.9s,baz=86,slow=4.7,SNR=4.0						
NV11	Mina Array Sit	36.61	320	P	P	10 52 43.6	+0.9
D57A	Chemin Vers le	36.67	17	P	P	10 52 41.9	-1.1
	baz=205						
NVAR	Mina Array Bea	36.70	320	P	P	10 52 44.6	+1.0
	comp=Z,1.6nm,0.8s,baz=130,slow=6.6,SNR=16						
NVAR				PcP	PcP	10 55 07.1	+1.4
	comp=Z,1.4nm,0.7s,baz=130,slow=3.4,SNR=12						
NVAR				ScP	ScP	10 58 55.0	+5.4
	comp=Z,0.1nm,0.4s,baz=95,slow=3.8,SNR=2.7						
NVAR				LR	LR	11 09 23.5	
	comp=Z,244nm,19.7s,baz=133,slow=39						
NVAR	Mina Array Bea	36.70	320	P	P	10 52 45.2	+1.6
MDPB	Devils Postpil	36.73	318	P	P	10 52 46.0	+2.1
RLMT	Red Lodge	36.83	336	P	P	10 52 45.0	+0.3
	baz=145						
E60A	Ste Agathe de	36.86	20	P	P	10 52 45.1	+0.6
	baz=209						
D58A	Chemin du LacG	37.04	18	P	P	10 52 45.0	-1.1
	baz=206						
LAO	LASA Array	37.05	340	P	P	10 52 46.8	+0.5
	baz=151						
LAO	LASA Array	37.05	340	IAmb	IAmb	10 53 02.3	
	comp=Z,6.1nm,0.7s						
LSQQ	Lebel-sur-Quev	37.77	13	P	P	10 52 50.1	-2.2
	baz=199						
DGMT	Dagmar	38.03	344	P	P	10 52 54.2	-0.3
	baz=155,SNR=6.3						
ULM	Lac du Bonnet	38.06	353	P	P	10 52 52.1	-2.6
	comp=Z,9.2nm,0.7s,baz=164,slow=9.3,SNR=9.1						
ULM				LR	LR	11 10 10.0	
	comp=Z,269nm,21.0s,baz=149,slow=39						
ULM	Lac du Bonnet	38.06	353	IAmb	IAmb	10 52 53.3	
	comp=Z,12nm,0.8s						
BOZ	Bozeman (W)	38.20	334	P	P	10 52 55.8	-0.3
	baz=142						
BOZ	Bozeman (W)	38.20	334	P	P	10 52 56.3	+0.2
D62A	Allapoint, All	38.32	22	P	P	10 52 56.0	-0.8
	baz=212						
D62A	Allapoint, All	38.32	22	P	P	10 52 56.0	-0.8
D62A				IAmb	IAmb	10 52 57.0	
	comp=Z,6.3nm,0.8s						
PQI	Presque Isle	38.36	23	P	P	10 52 56.8	-0.5
PQI				IAmb	IAmb	10 53 00.5	
	comp=Z,17nm,1.4s						
DLMT	Dillon	38.43	333	P	P	10 52 59.0	+0.9
D63A	Stockholm	38.63	23	P	P	10 52 57.8	-1.7
	baz=214						
LRM	Limekiln Ridge	38.73	334	P	P	10 53 01.8	+1.1
LMN	Caledonia Moun	39.04	27	P	P	10 53 02.2	-0.8
LMN				IAmb	IAmb	10 53 02.7	
	comp=Z,12nm,0.9s						
EGMT	Eagleton	39.43	338	P	P	10 53 06.7	+0.4
	baz=147						
EGMT	Eagleton	39.43	338	P	P	10 53 06.1	-0.3
EGMT				IAmb	IAmb	10 53 15.1	
	comp=Z,20nm,1.4s						
BATG	Bathurst New B	39.63	25	P	P	10 53 06.9	-1.0
PLID	Pearl Lake	39.82	330	P	P	10 53 11.9	+2.1
F10A	Beach Ranch, E	41.06	330	P	P	10 53 22.1	+2.3
FFC	Flin Flon	43.35	349	P	P	10 53 38.8	+0.6
SCHQ	Schefferville	45.66	18	P	P	10 53 54.3	-2.4
	comp=Z,8.6nm,0.7s,baz=222,slow=9.1,SNR=9.8						
SCHQ	Schefferville	45.66	18	IAmb	IAmb	10 54 00.9	
	comp=Z,31nm,1.4s						
YKA	Yellowknife Ar	53.18	345	P	P	10 54 52.6	-1.2
	comp=Z,2.7nm,0.7s,baz=136,slow=7.7,SNR=22						
TAOE	Nuku Hiva Isla	55.11	250	eLR	LR	11 11 01.0	
	comp=Z,122nm,25.0s						
DLBC	Dease Lake	55.23	335	P	P	10 55 09.5	+0.5
	comp=Z,4.2nm,1.1s,baz=150,slow=8.0,SNR=5.9						
DLBC	Dease Lake	55.23	335	IAmb	IAmb	10 55 17.4	
	comp=Z,6.6nm,1.1s						
BCAR	Beaver Creek A	62.59	336	P	P	10 55 59.4	-0.6
RIDG	Independent Ri	64.13	336	P	P	10 56 11.0	+0.8
RIDG				IAmb	IAmb	10 56 14.8	
	comp=Z,10nm,1.4s						
HDA	Harding Lake	65.25	336	P	P	10 56 16.6	-0.9
	baz=114						
ILAR	Eielson Array	65.38	336	P	P	10 56 17.4	-0.8
	comp=Z,1.3nm,1.0s,baz=120,slow=6.3,SNR=7.6						
ILAR				PP	PP	10 58 40.4	-1.8
	comp=Z,0.7nm,1.0s,baz=98,slow=8.8,SNR=4.5						
ILAR	Eielson Array	65.38	336	P	P	10 56 14.5	-3.7
PPT2	Papeete2	66.89	245	eLR	LR	11 16 33.5	
	comp=Z,121nm,25.2s						
TBI	Tubuai	69.07	239	eLR	LR	11 17 44.0	
	comp=Z,122nm,27.0s						
MKAR	Makanchi Array	120.45	7	PKP	PKPdf	11 04 27.1	-0.5
	comp=Z,0.6nm,0.8s,baz=321,slow=2.0,SNR=3.9						
MKAR	Makanchi Array	120.45	7		PKPdf	11 04 25.9	-1.7
WRA	Warramunga Arr	137.87	254	PKP	PKPdf	11 05 01.0	-0.2
	comp=Z,0.9nm,1.0s,baz=87,slow=1.8,SNR=4.8						
ASAR	Alice Springs	137.92	249	PKP	PKPdf	11 05 01.1	-0.2
	comp=Z,0.2nm,0.6s,baz=102,slow=3.0,SNR=5.8						
ASAR	Alice Springs	137.92	249	PKPdf	PKPdf	11 05 00.2	-1.1
CMAR	Chiang Mai Arr	148.26	346	PKPbc	PKPdf	11 05 21.2	+1.6
	comp=Z,4.5nm,0.7s,baz=344,slow=3.7,SNR=22						
CMAR	Chiang Mai Arr	148.26	346		PKPdf	11 05 21.4	+1.8
CMAR				PKPab	PKPbc	11 05 23.9	+1.1

IDC ***24*** *10:58:30.1±1.0, 39°.12N×106°.32E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/50, mbtmp3.5/7, ML3.3/2, Error*

ellipse: s-maj=37.3km s-min=17.9km az=77.0

ISC 24 10:58:35.3±0.9, 39°.2N±0°.1×106°.1E±0°.1, h35km, n8, σ0.97/8, mb3.6/4, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	8.66	1	Pn	Pn	11 00 38.4	+0.2
	0.4nm,0.3s,baz=186,slow=15,SNR=3.9						
SONM				Lg	Lg	11 03 08.7	
	0.1nm,0.3s,baz=188,slow=29,SNR=3.2						
KSRS	Korea Array	17.19	89	P	Pn	11 02 32.8	+0.2
	0.1nm,0.3s,baz=283,slow=11,SNR=2.5						
MKAR	Makanchi Array	18.98	301	P	Pn	11 02 53.7	-0.8
	0.1nm,0.3s,baz=104,slow=12,SNR=4.0						
ZALV	Zalesovo Beam	20.69	323	P	P	11 03 12.4	+0.3
	1.5nm,0.6s,baz=123,slow=9.5,SNR=5.1						
CMAR	Chiang Mai Arr	21.56	199	P	P	11 03 23.1	+1.4
	0.9nm,0.5s,baz=6.0,slow=9.7,SNR=6.2						
ILAR	Eielson Array	61.90	28	P	P	11 08 51.1	+0.3
	0.2nm,0.6s,baz=290,slow=5.6,SNR=2.0						
WRA	Warramunga Arr	64.46	150	P	P	11 09 07.2	-1.1
	0.4nm,0.6s,baz=345,slow=6.7,SNR=7.5						
ASAR	Alice Springs	67.70	152	P	P	11 09 28.3	-0.7
	1.1nm,0.6s,baz=338,slow=6.5,SNR=29						

JMA ***24*** *11:10:59.4±0.1, 24°.31N×121°.81E, h0km, M2.6*
TAP ***24*** *11:11:00.3, 24°.33N×121°.78E, h7km, ML3.0, C*

ISC 24 11:10:59.9±0.8, 24°.34N±0°.02×121°.81E±0°.02, h11km±5km, n88, σ0.69/141, 10C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.11	325	⇑iP	Pg	11 11 02.9	0.0
	baz=343						
ENA				iS	Sg	11 11 04.6	-0.3
	baz=343						
ENAH	Nanao	0.11	0	⇑iP	Pg	11 11 03.2	+0.4
	baz=10.0						
ENAH				iS	Sg	11 11 05.1	+0.2
	baz=10.0						
NACB	Ninganchiao	0.26	231	⇓iP	Pg	11 11 05.0	-0.2
	baz=216						
NACB				iS	Sg	11 11 08.7	0.0
	baz=216						
TWC	Suao	0.27	7	⇓iP	Pb	11 11 06.2	-0.7
	baz=9.0						
TWC				S	Sg	11 11 10.1	+0.8
	baz=9.0						
ETLH	Xiulin Townshi	0.33	247	⇓iP	Pg	11 11 06.5	-0.1
	baz=245						
ETLH				iS	Sg	11 11 10.9	0.0
	baz=245						
ENTT	Nioudou	0.38	324	⇑iP	Pb	11 11 08.1	-0.5
	baz=328						
ENTT				eS	Sg	11 11 13.2	+0.8
	baz=328						
NDT	Datong Townshi	0.38	314	⇑iP	Pb	11 11 08.3	-0.4
	baz=318						
NDT				eS	Sb	11 11 13.4	-1.2
	baz=318						
NNSB	Datong	0.40	283	P	Pg	11 11 08.1	+0.2
	baz=284						
NNSB				eS	Sg	11 11 13.7	+0.4
	baz=284						
NNSH	Datong	0.40	283	⇑iP	Pg	11 11 08.3	+0.4
	baz=284						
NNSH				eS	Sg	11 11 13.5	+0.2
	baz=284						
HWA	Hwalien	0.40	208	eP	Pg	11 11 08.7	+0.8
	baz=213						
NNS	Nan Shan	0.41	285	⇑iP	Pg	11 11 08.3	+0.2
	baz=286						
NNS				eS	Sg	11 11 13.8	+0.2
	baz=286						
ILA	Ilan	0.43	352	eP	Pn	11 11 10.7	-1.4
	baz=350						
ILA				eS	Sb	11 11 15.6	-0.5
	baz=350						
NTC	Toucheng	0.52	2	eP	Pb	11 11 10.9	-0.1
	baz=5.0						
NTC				eS	Sg	11 11 17.3	+0.4
	baz=5.0						
YHNB	Yeheng	0.52	310	⇑iP	Pb	11 11 11.0	-0.1
	baz=312						
YHNB				eS	Sb	11 11 18.2	-0.4
	baz=312						
EGS		0.52	12	eP	Pb	11 11 11.1	0.0
	baz=24						
EGS				eS	Sb	11 11 19.5	+0.9
	baz=24						
NWLT	Wulai	0.52	328	⇑P	Pb	11 11 11.0	-0.1
	baz=330						
NWLT				eS	Sg	11 11 17.1	+0.1
	baz=330						
FUSS	Fushou	0.52	260	eP	Pg	11 11 10.2	0.0
	baz=260						
FUSS				eS	Sg	11 11 17.6	+0.4
	baz=260						
NSK	Sanguang	0.53	309	⇑iP	Pb	11 11 11.1	-0.2
	baz=312						
NSK				eS	Sb	11 11 18.7	-0.3
	baz=312						
WHF	Hehuan Shan	0.53	249	iP	Pg	11 11 10.4	0.0
	baz=247						
WHF				eS	Sg	11 11 17.8	+0.2
	baz=247						
TWT	Tachien	0.58	262	P	Pb	11 11 12.0	-0.3
	baz=261						
TWT				eS	Sb	11 11 20.1	-0.6
	baz=261						
TDCB	Techi	0.60	262	⇑iP	Pg	11 11 12.0	+0.3
	baz=262						
TDCB				S	Sg	11 11 19.7	+0.1
	baz=262						
ESL	Shilin	0.62	214	⇓iP	Pg	11 11 11.7	-0.3
	baz=211						
ESL				eS	Sg	11 11 20.8	+0.5
	baz=211						
TIPB	Shuangxi	0.63	1	P	Pb	11 11 13.4	+0.3
	baz=4.0						
TIPB				S	Sb	11 11 21.8	-0.1
	baz=4.0						
CHGB	Renai	0.64	245	⇓iP	Pg	11 11 12.7	+0.2
	baz=234						
CHGB				S	Sg	11 11 21.4	+0.4
	baz=234						
TWA	Mucha	0.67	342	eP	Pb	11 11 13.8	+0.1
	baz=345						
TWA				eS	Sb	11 11 23.6	+0.5
	baz=345						
TWB1	Santiao Chiao	0.69	14	eP	Pn	11 11 14.4	-1.2
	baz=8.0						
TWB1				eS	Sb	11 11 23.2	-0.3
	baz=8.0						
OWD	Renai	0.69	237	eP	Pg	11 11 11.5	-1.9
	baz=228						
TATO	Taipei	0.70	335	eP	Pb	11 11 14.5	+0.3
	baz=337						
TATO				eS	Sb	11 11 23.3	-0.5
	baz=337						
NWF	Wu-fen Shan	0.73	358	eP	Pn	11 11 16.9	+0.6
	baz=350						
NWF				eS	Sb	11 11 24.9	+0.1
	baz=350						
WFSB	Wu-fen Shan	0.73	358	eP	Pn	11 11 15.6	-0.6
	baz=352						
WFSB				eS	Sb	11 11 25.1	+0.4
	baz=352						
TAP1	Taipei	0.75	340	eS	Sb	11 11 25.5	+0.4
	baz=341						
EGFH	Guangfu	0.75	208	P	Pg	11 11 13.9	-0.5
	baz=214						
EGFH				eS	Sb	11 11 25.7	+0.4
	baz=214						
TAP	Taipei	0.75	338	eS	Sb	11 11 24.6	-0.7
	baz=341						
LIOB	Emei	0.79	293	eP	Pn	11 11 16.4	-0.6
	baz=294						
LIOB				eS	Sb	11 11 26.7	+0.4
	baz=294						
WHP	Taichung City	0.79	266	eP	Pb	11 11 16.0	+0.2
	baz=266						
WHP				eS	Sg	11 11 25.9	+0.3
	baz=266						
NSTT	Nanjuang	0.79	292	P	Pn	11 11 16.4	-0.6
	baz=292						
NSTT				eS	Sn	11 11 27.2	-1.7
	baz=292						
YM01	YM01	0.83	345	P	Pn	11 11 17.6	-0.1
	baz=347						
YM01				eS	Sb	11 11 27.9	+0.1
	baz=347						
TWS1	Kuangyinshan	0.84	335	eP	Pn	11 11 17.7	0.0
	baz=337						
TWS1				eS	Sn	11 11 28.7	-1.4
	baz=337						
VWDT	VWDT	0.84	227	eP	Pb	11 11 15.9	-0.7
	baz=216						
VWDT				eS	Sg	11 11 28.2	+1.0
	baz=216						
YM10	YM10	0.85	345	eP	Pn	11 11 17.8	0.0
	baz=346						
YM10				eS	Sn	11 11 29.2	-1.1
	baz=346						
NCUH	Zhongli	0.85	318	eP	Pn	11 11 17.9	+0.1
	baz=319						
YM04	YM04	0.85	343	eP	Pn	11 11 17.7	-0.2
	baz=345						
YM04				eS	Sn	11 11 28.6	-1.8
	baz=345						
YM11	YM11	0.85	345	eP	Pn	11 11 18.3	+0.4
	baz=347						
YM11				eS	Sn	11 11 30.2	-0.3
	baz=347						
YM08	YM08	0.87	347	eP	Pn	11 11 17.6	-0.6
	baz=348						
YM08				eS	Sg	11 11 28.5	+0.4
	baz=348						
YM03	YM03	0.87	344	eP	Pn	11 11 17.9	-0.3
	baz=346						
SBCB	Hsinchu	0.88	301	eP	Pn	11 11 19.2	+1.0
	baz=302						
ANP	Anpu	0.89	343	eP	Pn	11 11 18.4	-0.1
	baz=345						
ANP				eS	Sn	11 11 30.3	-1.0
	baz=345						
NTST	Danshui	0.89	338	eP	Pn	11 11 18.6	+0.3
	baz=340						
NTST				eS	Sn	11 11 31.4	+0.2
	baz=340						
HGSD	Ruisui	0.91	203	eP	Pg	11 11 18.1	+0.6
	baz=208						
EHY	Hungye	0.94	208	eP	Pb	11 11 17.8	-0.5
	baz=211						
SMLT	Sun Moon Lake	0.95	242	P	Pg	11 11 18.6	+0.4
	baz=230						
SMLT				eS	Sg	11 11 31.6	+1.0
	baz=230						
TWQ1	Liyutan	0.95	271	eP	Pn	11 11 19.4	+0.2
	baz=270						
TWQ1				eS	Sn	11 11 32.5	-0.2
	baz=270						
SSLB	Suanglung	0.95	235	P	Pb	11 11 18.2	-0.3
	baz=234						
SSLB				eS	Sb	11 11 29.9	-1.3
	baz=234						
TWY	Chenhua	0.95	348	eP	Pn	11 11 19.9	+0.6
	baz=351						
NSY	Sanyi	0.96	275	eP	Pn	11 11 19.2	-0.1
	baz=275						
TYC	Yuchr	0.97	244	eP	Pb	11 11 18.8	0.0
	baz=243						
TYC				eS	Sb	11 11 31.1	-0.5
	baz=243						
PTSB	Yuanli	1.01	276	eP	Pn	11 11 21.0	+0.9
	baz=276						
JYNG	Yonagunijimaku	1.04	83	P	Pb	11 11 19.6	-0.4
JYNG				S	Sn	11 11 35.2	+0.2
YULB	Yu-li	1.05	207	eP	Pb	11 11 19.8	-0.4
	baz=218						
WDJ	Dajia District	1.07	271	eP	Pg	11 11 22.5	+2.0
	baz=271						
EYUL	Yuli	1.08	205	eP	Pn	11 11 20.8	-0.3
	baz=216						
TWF1	Yuli	1.09	206	eP	Pb	11 11 20.1	-0.6
	baz=217						
YOJ	Yonaguni jima	1.10	83	eP	Pg	11 11 21.4	+0.3
	baz=71						
WJS	Zhushan	1.11	243	eP	Pg	11 11 22.4	+1.0
	baz=232						
WNT	Mingjian	1.13	246	eP	Pg	11 11 22.6	+1.1
	baz=239						
WNT				eS	Sg	11 11 39.0	+2.8
	baz=239						
YUS	Yu-Shan	1.15	223	P	Pn	11 11 22.2	-0.2
	baz=213						
YUS				eS	Sn	11 11 38.1	-0.3
	baz=213						
FULB	Fuli	1.23	203	eP	Pg	11 11 24.3	+0.8
	baz=215						
CHN5	Tsauling	1.27	235	eP	Pg	11 11 25.3	+1.0
	baz=227						
PCYT	Pengchaiyu	1.31	10	eP	Pg	11 11 24.9	-0.2
	baz=12						
WDLH	Douliu	1.33	241	eP	Pg	11 11 26.4	+0.9
	baz=240						
ELDTW	Lidau	1.35	213	eP	Pb	11 11 25.5	+0.1
	baz=211						
EDH	Donghe	1.44	199	eP	Pn	11 11 25.3	-0.5
	baz=184						
WTK	Tuku	1.45	244	eP	Pg	11 11 28.4	+0.6
	baz=242						
CHN4	Tsaushan	1.48	229	eP	Pg	11 11 28.6	+0.2
	baz=227						
TPUB	Ta-pu	1.49	227	eP	Pg	11 11 28.5	-0.1
	baz=213						
TPUB				eS	Sg	11 11 48.0	0.0
	baz=213						
STYT	Tauyuan	1.52	220	eP	Pg	11 11 29.1	+0.1
	baz=218						
WTP	Ta-pu	1.54	226	eP	Pg	11 11 30.0	+0.4
	baz=211						
TWK	Hsinying	1.61	229	eP	Pg	11 11 31.1	+0.2
	baz=211						
CHN1	Nanshi	1.64	226	eP	Pg	11 11 32.3	+0.8
	baz=225						
SLGT	Liugui	1.71	219	eP	Pb	11 11 31.9	+0.5
	baz=218						
IRIF	Iriomote-Funau	1.75	90	P	Pn	11 11 30.8	+0.6
IRIF				eS	Sb	11 11 54.0	-0.1
JKRS	Kuro-shima	2.01	92	P	Pb	11 11 35.3	-1.2
JKRS				S	Sb	11 12 00.2	-1.3
JIJ	Ishigaki jima	2.13	89	P	Pn	11 11 36.4	+1.0
JIJ				eS	Sn	11 12 01.9	+0.1
EAST	Anshuo	2.14	205	eP	Pn	11 11 35.6	+0.1
	baz=190						
WDGT	Dungji	2.24	242	eP	Pb	11 11 39.2	-1.3
	baz=252						
VWUC	VWUC	2.25	287	eP	Pn	11 11 37.0	0.0
	baz=286						
JISG	Ishigakijimahi	2.29	83	P	Pn	11 11 38.3	+0.6
JISG				eS	Sn	11 12 06.9	+1.0
PTMZ	Houxiangcun	2.54	287	eP	Pn	11 11 42.6	+1.4
	baz=285						

KRSC 24 11:12:51.2±1.9, 50°.12N×156°.93E, h88km±28km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.77	318	eP	Pn	11 13 09.1	+1.0
SKR				eS	Sn	11 13 22.0	+1.3
ALID	Alaid	1.16	311	eP	Pn	11 13 12.0	-0.7
PAU	Pauzhetka	1.35	357	eP	Pn	11 13 16.5	+1.6
PAU				eS	Sn	11 13 35.1	+2.3
KDTR	Khodutka, Kamc	1.84	23	eP	Pn	11 13 23.0	+1.8
KDTR				eS	Sn	11 13 46.7	+2.7
MIPR	Malaya Ipel'ka	2.16	357	eP	Pn	11 13 26.0	+0.6
ASAK	Asacha	2.35	15	eP	Pn	11 13 30.1	+2.1
MTVR	Mutnovka	2.50	18	eP	Pn	11 13 32.1	+2.1
MTVR				eS	Sn	11 14 02.5	+2.8
RUS	Russkaya	2.52	23	eP	Pn	11 13 31.4	+1.2
RUS				eS	Sn	11 14 01.2	+1.1
GRL	Gorelyy	2.54	16	eP	Pn	11 13 33.0	+2.4
GRL				eS	Sn	11 14 04.8	+4.0
PET	Petropavlovsk	3.10	20	eS	Sn	11 14 17.5	+3.5
DALK	Dalny	3.13	21	eS	Sn	11 14 16.7	+2.0
AVH	Avacha	3.35	19	eP	Pn	11 13 44.2	+2.9
KOK	Koryaka	3.35	18	eP	Pn	11 13 44.2	+2.8
SDLR	Sedlovina	3.39	20	eP	Pn	11 13 44.0	+2.0
NLC	Nalytchevo	3.41	25	eS	Sn	11 14 21.0	-0.4
KRX	Arik	3.

KZV	**Kizimen**	**5.41**	**21**	*eP*	Pn	11 14 13.5	+4.2
TUMR	**Tumrok**	**5.53**	**19**	*eP*	Pn	11 14 14.7	+3.7

ROM 24 11:14:09.1±0.1, 43°.155N±0°.004×12°.592E±0°.005, h8km, ML1.1/4, Error ellipse: s-maj=0.5km s-min=0.2km az=223.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATCC	**AVT- Casa Cast**	**0.05**	**50**	P	Pg	11 14 10.8	-0.1
ATCC				S	Sg	11 14 12.2	+0.1
MURB	**Monte Urbino**	**0.12**	**336**	P	Pg	11 14 12.3	+0.4
MURB				S	Sg	11 14 14.9	+1.1
MURB				AML	AML		
	comp=E,316μm,0.4s						
MURB				AML	AML		
	comp=N,248μm,1.2s						
MURB				AML	AML		
	comp=E,315μm,0.4s						
ASSB	**Assisi San Ben**	**0.12**	**156**	P	Pg	11 14 12.2	+0.3
ASSB				S	Sg	11 14 14.7	+0.9
ASSB				AML	AML		
	comp=E,214μm,1.1s						
ASSB				AML	AML		
	comp=N,168μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.18**	**284**	P	Pg	11 14 13.6	+0.7
ATTE				S	Sg	11 14 16.4	+1.0
CESI	**CESI - Serrava**	**0.27**	**123**	P	Pb	11 14 15.5	-0.8
CESI				S	Sb	11 14 20.2	-1.0
CESI				AML	AML		
	comp=E,14μm,1.4s						
CESI				AML	AML		
	comp=N,19μm,1.5s						
CESI				AML	AML		
	comp=E,14μm,1.4s						
FDMO	**Fiordimonte**	**0.38**	**108**	P	Pg	11 14 17.2	+0.6
FDMO				S	Sb	11 14 23.4	-0.9
FDMO				AML	AML		
	comp=E,18μm,0.5s						
FDMO				AML	AML		
	comp=N,34μm,0.2s						
FDMO				AML	AML		
	comp=E,19μm,0.5s						
PIEI	**Pieia**	**0.38**	**354**	P	Pg	11 14 17.2	+0.6
PIEI				S	Sb	11 14 23.5	-0.8
CSP1	**Cessapalombo**	**0.45**	**98**	P	Pb	11 14 18.7	-0.7
CSP1				S	Sb	11 14 26.1	-0.3

BUC 24 11:15:54.0±0.3, 46°.31N×23°.15E, h2km, ml1.8/4, 20C-2D, Error ellipse: s-maj=3.6km s-min=2.3km az=139.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJR	**Cluj-Napoca**	**0.51**	**37**	⇑P	Pg	11 16 04.5	+0.7
CJR				⇑S	Sg	11 16 11.2	+0.8
CJR	**Cluj-Napoca**	**0.51**	**37**	⇑P	Pg	11 16 04.5	+0.7
CJR				⇑S	Sg	11 16 11.2	+0.8
GZR	**Gura Zlata**	**0.95**	**196**	⇑P	Pb	11 16 13.1	-0.1
GZR				⇑S	Sb	11 16 25.5	-0.7
GZR	**Gura Zlata**	**0.95**	**196**	⇑P	Pb	11 16 13.1	-0.1
GZR	**Gura Zlata**	**0.95**	**196**	⇑S	Sb	11 16 25.5	-0.7
SIRR	**Siria**	**1.04**	**268**	⇑P	Pg	11 16 13.2	-0.6
SIRR				⇑S	Sb	11 16 28.2	-0.6
SIRR	**Siria**	**1.04**	**268**	⇑P	Pg	11 16 13.2	-0.6
SIRR	**Siria**	**1.04**	**268**	⇑S	Sb	11 16 28.2	-0.6
BZS	**Buzias**	**1.27**	**238**	⇑P	Pg	11 16 17.4	-1.0
BZS				⇑S	Sb	11 16 35.7	+0.2
BZS	**Buzias**	**1.27**	**238**	⇑P	Pg	11 16 17.4	-1.0
BZS	**Buzias**	**1.27**	**238**	⇑S	Sb	11 16 35.7	+0.2
VOIR		**1.58**	**123**	⇑S	Sb	11 16 44.5	0.0
VOIR		**1.58**	**123**	⇑S	Sb	11 16 44.5	0.0
MDVR	**Moldovita**	**1.83**	**214**	⇑P	Pn	11 16 25.6	-0.9
MDVR				⇓S	Sg	11 16 52.5	-0.2
MDVR	**Moldovita**	**1.83**	**214**	⇑P	Pn	11 16 25.6	-0.9
MDVR	**Moldovita**	**1.83**	**214**	⇓S	Sg	11 16 52.5	-0.2

*MOS **24** 11:16:12.3±1.0, 23°.81S×66°.49W, h200km, mb6.1/34, Error ellipse: s-maj=9.5km s-min=6.1km az=86.1*
*SJA **24** 11:16:12.3±0.7, 23°.77S×66°.64W, h232km±6km, ML6.2, MW6.0*
*BJI **24** 11:16:12.1±0.0, 23°.84S×66°.56W, h190km, mB6.0/60*
*UNK **24** 11:16:12.2, 23°.85S×66°.55W, h189km*
*NEIC **24** 11:16:12.2, 23°.82S×66°.53W, h228km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=2.24; Mθθ=0.11; Mφφ=2.35; Mrθ=0.09; Mrφ=0.29; Mθφ=1.27; Fault plane solution: M0=2.64000×1018 NP1:φs=358.72000°, δ59.41000°, λ=-84.30000°. NP2:φs=167.63000°, δ31.07000°, λ=-99.53000°. Principal axes: T 2.7048, Plg14.0000°, Azm85.0000°; N -0.1260, Plg5.0000°, Azm176.0000°; P -2.5788, Plg75.0000°, Azm284.0000°;*
*VAO **24** 11:16:13.7±0.2, 23°.66S×66°.56W, h213km±1km, mb6.0*
*IDC **24** 11:16:13.4±0.5, 23°.71S×66°.49W, h200km±3km, mb5.5/30, mb1 5.5/36, mb1mx5.5/36, mbtmp6.0/36, MS5.0/2, Ms1 5.0/2, ms1mx4.4/30, Error ellipse: s-maj=7.5km s-min=5.9km az=67.0*
*GUC **24** 11:16:14.1±0.5, 23°.62S×67°.16W, h258km±7km, MW6.2*
*NEIC **24** 11:16:15.0±2.4, 23°.80S±0°.06×66°.63W±0°.07, h224km±1km, mb6.0/652, Mwb6.2/94, Mwc6.2/17, Mww6.2, Md5.9(SJA), Mwc6.2(GCMT), Error ellipse: s-maj=11.6km s-min=9.5km az=280.0*
*NEIC **24** 11:16:17, 23°.85S×66°.33W, h200km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=1.80; Mθθ=0.27; Mφφ=2.07; Mrθ=0.31; Mrφ=0.16; Mθφ=1.19; Fault plane solution: M0=2.31000×1018 NP1:φs=164.00000°, δ31.00000°, λ=-109.00000°. NP2:φs=7.00000°, δ61.00000°, λ=-78.00000°. Principal axes: T 2.4053, Plg16.0000°, Azm88.0000°; N -0.2103, Plg10.0000°, Azm181.0000°; P -2.1950, Plg71.0000°, Azm303.0000°;*
*GCMT **24** 11:16:18.9±0.1, 23°.78S×66°.72W, h228km, MW6.2/168, Moment Tensor Solution. s166,c383; s168,c646; Duration: 3s2 Moment tensor: Scale 1018Nm; Mrr=2.27±.01; Mθθ=0.21±.01; Mφφ=2.48±.01; Mrθ=0.19±.01; Mrφ=0.07±.01; Mθφ=1.28±.01; Best double couple: M0=2.70600×1018 NP1:φs=177.00000°, δ31.00000°, λ=-97.00000°. NP2:φs=5.00000°, δ59.00000°, λ=-86.00000°. Principal axes: T 2.8070, Plg14.0000°, Azm92.0000°; N -0.2060, Plg3.0000°, Azm183.0000°; P -2.6050, Plg75.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 11:16:20, 23°.82S×66°.74W, h229km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=2.43; Mθθ=0.15; Mφφ=2.58; Mrθ=0.18; Mrφ=0.08; Mθφ=1.39; Fault plane solution: M0=2.87000×1018 NP1:φs=178.00000°, δ31.00000°, λ=-95.00000°. NP2:φs=5.00000°, δ60.00000°, λ=-87.00000°. Principal axes: T 2.9450, Plg15.0000°, Azm92.0000°; N -0.1462, Plg3.0000°, Azm183.0000°; P -2.7987, Plg75.0000°, Azm283.0000°;*
*NEIC **24** 11:16:50, 22°.44S×65°.33W, h188km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=2.28; Mθθ=0.18; Mφφ=2.46; Mrθ=0.24; Mrφ=0.07; Mθφ=1.02; Fault plane solution: M0=2.60000×1018 NP1:φs=171.72000°, δ33.76000°, λ=-100.91000°. NP2:φs=4.77000°, δ56.92000°, λ=-82.79000°. Principal axes: T 2.6746, Plg12.0000°, Azm90.0000°; N -0.1527, Plg6.0000°, Azm181.0000°; P -2.5219, Plg77.0000°, Azm298.0000°;*

ISC 24 11:16:13.3±0.3, 23°.79S±0°.02×66°.59W±0°.02, h204km±2km, h205km:pP-P, n1594, σ1s82/1957, mb6.0/345, 27C-42D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.46**	**108**	*eP*	**Pn**	11 16 49.5	+2.2
AZAP				*eS*	**S**	11 17 16.6	+3.2
YJA	**Yavi**	**1.88**	**32**	*eP*	**Pn**	11 16 54.1	+2.6
YJA				*eS*	**S**	11 17 24.2	+3.5
ASTB	**Santa Barbara**	**1.96**	**95**	*eP*	**Pn**	11 16 54.0	+2.1
FSA	**Cafayete**	**2.38**	**167**	*eP*	**Pn**	11 16 58.4	+2.1
LVC	**Limon Verde**	**2.44**	**298**	P	**Pn**	11 16 58.0	+0.9
	6μm,0.3s,baz=126,slow=6.9,SNR=2800						
LVC				S	**S**	11 17 30.9	+0.2
	8μm,0.3s,baz=293,slow=21,SNR=27						
LVC	**Limon Verde**	**2.44**	**298**	*eP*	**Pn**	11 16 58.1	+0.9
LVC				*eS*	**S**	11 17 32.2	+1.5
LVC	**Limon Verde**	**2.44**	**298**	Pn	**Pn**	11 16 58.1	+0.9
LVC					**S**	11 17 32.8	+2.1
LVC	**Limon Verde**	**2.44**	**298**	*eP*	**Pn**	11 16 58.2	+1.1
LVC				*eS*	**S**	11 17 31.6	+0.9
LVC	**Limon Verde**	**2.44**	**298**	*eP*	**Pn**	11 16 58.2	+1.1
LVC				*eS*	**S**	11 17 32.2	+1.5
PB15	**IPOC Station P**	**2.71**	**282**	⇑*iP*	**Pn**	11 17 00.6	+0.6
PB15	**IPOC Station P**	**2.71**	**282**		**Pn**	11 17 01.0	+1.0
PB15					**S**	11 17 36.8	+0.9
PB15	**IPOC Station P**	**2.71**	**282**	*eP*	**Pn**	11 17 00.7	+0.6
PB15				*eS*	**S**	11 17 36.8	+0.9
PB15				IAML		11 17 41.1	
	comp=Z,175μm,0.2s						
PB06	**IPOC Station P**	**2.95**	**291**	⇑*iP*	**Pn**	11 17 03.2	+0.6
PB06	**IPOC Station P**	**2.95**	**291**		**Pn**	11 17 03.2	+0.6
PB06					**S**	11 17 39.8	-0.9
PB06	**IPOC Station P**	**2.95**	**291**	*eP*	**Pn**	11 17 03.4	+0.6
PB06				*eS*	**S**	11 17 40.8	+0.1
PB06				IAML		11 17 43.9	
	comp=Z,57μm,0.4s						
GO02	**Mina Guanaco**	**3.06**	**243**	*eP*	**Pn**	11 17 04.5	+0.3
GO02				*eS*	**S**	11 17 43.4	+0.1
GO02	**Mina Guanaco**	**3.06**	**243**		**Pn**	11 17 04.3	+0.1
GO02					**S**	11 17 43.3	-0.1
PB09	**IPOC Station P**	**3.15**	**308**	⇑*iP*	**Pn**	11 17 06.1	+1.0
PB09				*eS*	**S**	11 17 46.0	+0.9
PB09	**IPOC Station P**	**3.15**	**308**		**Pn**	11 17 06.0	+1.0
PB09					**S**	11 17 45.6	+0.5
PB09	**IPOC Station P**	**3.15**	**308**	*eP*	**Pn**	11 17 06.0	+0.9
PB09				*eS*	**S**	11 17 45.4	+0.3
PB09				IAML		11 17 50.8	
	comp=Z,31μm,0.7s						
AHML	**Horco Molle**	**3.20**	**159**	*eP*	**Pn**	11 17 06.8	+1.3
AHML				*eS*	**S**	11 17 47.2	+1.3
PB03	**IPOC Station P**	**3.39**	**300**	⇑*iP*	**Pn**	11 17 08.2	+0.2
PB03				*i* S	**S**	11 17 48.9	-1.3
PB05	**IPOC Station P**	**3.45**	**285**	⇑*iP*	**Pn**	11 17 08.4	-0.2
PB05				*i* S	**S**	11 17 49.5	-1.8
PB05	**IPOC Station P**	**3.45**	**285**	*eP*	**Pn**	11 17 08.6	0.0
PB05				*eS*	**S**	11 17 50.5	-0.8
PB05				IAML		11 17 56.5	
	comp=Z,19μm,0.5s						
PB04	**IPOC Station P**	**3.58**	**293**	⇑*iP*	**Pn**	11 17 10.2	-0.1
PB04				*i* S	**S**	11 17 52.6	-1.8
PB04	**IPOC Station P**	**3.58**	**293**		**Pn**	11 17 10.2	-0.1
PB04	**IPOC Station P**	**3.58**	**293**	*eP*	**Pn**	11 17 10.4	+0.1
PB04				*eS*	**S**	11 17 53.7	-0.7
PB04				IAML		11 17 59.5	
	comp=Z,44μm,0.8s						
PB14	**IPOC Station P**	**3.58**	**256**	*i* P	**Pn**	11 17 10.1	-0.4
PB14	**IPOC Station P**	**3.58**	**256**	Pn	**Pn**	11 17 09.9	-0.5
PB14					**S**	11 17 52.9	-1.7
PB14	**IPOC Station P**	**3.58**	**256**	*eP*	**Pn**	11 17 10.5	+0.1
PB14				*eS*	**S**	11 17 53.8	-0.8
PB14				IAML		11 18 00.2	
	comp=Z,41μm,0.7s						
PB10	**IPOC Station P**	**3.65**	**273**	⇑*iP*	**Pn**	11 17 10.7	-0.2
PB10				*i* S	**S**	11 17 53.6	-1.9
PB10	**IPOC Station P**	**3.65**	**273**	Pn	**Pn**	11 17 10.7	-0.2
PB10	**IPOC Station P**	**3.65**	**273**	*eP*	**Pn**	11 17 10.7	-0.2
PB10				*eS*	**S**	11 17 54.8	-0.6
PB10				IAML		11 18 00.6	
	comp=Z,17μm,0.3s						
PB07	**IPOC Station P**	**3.67**	**303**	⇑*iP*	**Pn**	11 17 11.3	0.0
PB07	**IPOC Station P**	**3.67**	**303**		**Pn**	11 17 11.2	-0.1
PB07					**S**	11 17 55.1	-1.2
PB01	**IPOC Station P**	**3.83**	**315**	*eP*	**Pn**	11 17 13.0	-0.2
PB01	**IPOC Station P**	**3.83**	**315**	Pn	**Pn**	11 17 13.2	-0.1
AC01	**Pan de Azucar**	**4.33**	**236**	⇑*iP*	**Pn**	11 17 17.9	-1.5
AC01	**Pan de Azucar**	**4.33**	**236**	Pn	**Pn**	11 17 17.8	-1.5
AC01					**S**	11 18 06.4	-4.5
PB08	**IPOC Station P**	**4.34**	**326**	*i* P	**Pn**	11 17 20.6	+0.7
PB08	**IPOC Station P**	**4.34**	**326**		**Pn**	11 17 20.7	+0.8
PB08					**S**	11 18 12.4	+0.7
PATCX	**Punta Patache**	**4.43**	**311**	⇑*iP*	**Pn**	11 17 19.4	-1.3
PATCX				*i* S	**S**	11 18 09.8	-3.4
PATCX	**Punta Patache**	**4.43**	**311**		**Pn**	11 17 19.8	-0.9
TA01	**Diego Aracena**	**4.62**	**313**	⇑*iP*	**Pn**	11 17 21.4	-1.6
TA01				*eS*	**S**	11 18 14.6	-2.9
TA01	**Diego Aracena**	**4.62**	**313**		**Pn**	11 17 21.6	-1.4
GO01	**Chusmiza**	**4.76**	**329**		**Pn**	11 17 25.4	+0.2
PB11	**IPOC Station P**	**4.92**	**324**	Pn	**Pn**	11 17 25.8	-1.2
GO03	**Copiap**	**5.02**	**220**	⇑*eP*	**Pn**	11 17 26.2	-1.9
GO03				*eS*	**S**	11 18 23.2	-3.6
GO03	**Copiap**	**5.02**	**220**		**Pn**	11 17 26.2	-1.9
PSGCX	**Pisagua**	**5.31**	**321**	Pn	**Pn**	11 17 31.2	-0.6
MNMC	**Minye Minye**	**5.41**	**328**		**Pn**	11 17 32.9	-0.4
AC04	**Llanos de Chal**	**5.97**	**222**	Pn	**Pn**	11 17 38.0	-2.2
AC05	**El Transito**	**6.02**	**213**	Pn	**Pn**	11 17 39.5	-1.4
PB16	**IPOC Station P**	**6.07**	**333**		**Pn**	11 17 41.9	-0.2
LCO	**Las Campanas**	**6.38**	**214**	P	**Pn**	11 17 43.4	-2.3
LCO	**Las Campanas**	**6.38**	**214**	Pn	**Pn**	11 17 43.4	-2.3
AP01	**Chacalluta**	**6.43**	**326**		**Pn**	11 17 43.8	-2.4
ACDV	**Cuesta del Vie**	**6.75**	**199**	*eP*	**Pn**	11 17 50.4	0.0
ACDV				*eS*	**S**	11 19 07.4	0.0
CO01	**Juntas del Tor**	**6.92**	**206**		**Pn**	11 17 52.8	+0.1
ACCO	**Cerro Coronel**	**7.13**	**197**	*eP*	**Pn**	11 17 55.4	-0.1
ACCO				*eS*	**S**	11 19 14.6	-1.9
ACCO				IAML		11 19 21.1	
	comp=Z,1μm,1.2s						
GO04	**Tololo Observa**	**7.39**	**210**		**Pn**	11 17 56.5	-2.3
LPAZ	**La Paz**	**7.60**	**349**	P	**Pn**	11 18 02.4	+0.4
	comp=Z,51nm,0.3s,baz=162,slow=8.6,SNR=362						
LPAZ				S	**S**	11 19 27.5	-0.7
	comp=Z,105nm,0.3s,baz=18,slow=9.9,SNR=8.9						
LPAZ				P3KPbc		11 55 12.9	
	comp=Z,0.1nm,0.3s,baz=336,slow=0.7,SNR=5.1						
LPAZ	**La Paz**	**7.60**	**349**	Pn	**Pn**	11 18 02.2	+0.2
LPAZ					**S**	11 19 26.5	-1.8
LPAZ	**La Paz**	**7.60**	**349**	*eS*	**S**	11 19 26.8	-1.4
CO03	**El Pedregal**	**7.92**	**207**		**Pn**	11 18 04.1	-1.4
ZON	**Zonda**	**7.95**	**193**	P	**Pn**	11 18 05.5	-0.4
ZON	**Zonda**	**7.95**	**193**	Pn	**Pn**	11 18 05.5	-0.4
CO02	**Combarbal**	**8.36**	**207**	Pn	**Pn**	11 18 09.3	-2.0
SIV	**San Ignacio**	**9.33**	**35**	P	**Pn**	11 18 22.7	-1.1
	comp=Z,41nm,0.3s,baz=228,slow=12,SNR=784						
SIV				S	S	11 19 58.4	-10
	comp=Z,14nm,0.3s,baz=225,slow=16,SNR=4.2						
VA03	**San Esteban**	**9.60**	**200**		**Pn**	11 18 27.2	-0.1
ROC1	**El Roble**	**9.95**	**202**		**Pn**	11 18 30.9	-1.1
PEL	**Peldehue**	**9.99**	**200**	P	**Pn**	11 18 31.1	-1.3
PEL	**Peldehue**	**9.99**	**200**	Pn	**Pn**	11 18 31.1	-1.3
MT05	**Renca**	**10.24**	**200**		**Pn**	11 18 34.3	-1.3
MT02	**Curacav**	**10.25**	**202**	Pn	**Pn**	11 18 32.6	-3.0
PTLB	**Pontes e Lacer**	**10.86**	**42**	*eP*	**Pn**	11 18 43.1	-0.5
PTLB				*eS*	**S**	11 20 43.4	-1.8
BO02	**Sierra Bellavi**	**11.56**	**197**		**Pn**	11 18 52.6	+0.1
GO05	**Huala**	**12.11**	**201**	P	**Pn**	11 18 57.8	-1.6
VILB	**Vilhena**	**12.36**	**30**	*eP*	**Pn**	11 19 02.2	-0.5
VILB				*eS*	**S**	11 21 18.0	-2.2
TRCB	**Terra Rica**	**12.86**	**88**	*eP*	**Pn**	11 19 08.3	-0.7
PTGB	**Pitanga**	**13.28**	**97**	*eP*	**Pn**	11 19 14.1	-0.2
PTGB				*eS*	**S**	11 21 44.5	+2.5
LPA	**La Plata**	**13.40**	**148**	*c iP*	Pn	11 19 08.3	-7.2
LPA				S	**S**	11 21 39.4	-5.1
LPA				PCP	PcP	11 24 18.2	-8.9
LPA				SCS	**ScS**	11 31 07.2	-11
LPA				PKIKP	**PKiKP**	11 32 28.0	+4.3
LPA				SKIKS		11 39 02.8	
CPSB	**Cacapava Do Su**	**13.44**	**122**	*eS*	**S**	11 21 47.3	+2.0
BI02	**San Fabin de**	**13.46**	**196**		**Pn**	11 19 16.1	-0.2
ITAB	**Concordia**	**13.50**	**108**	*eP*	**Pn**	11 19 16.6	-0.2
ITAB				*eS*	**S**	11 21 48.6	+1.8
ETMB	**Extrema**	**13.89**	**2**	*eP*	**Pn**	11 19 19.9	-1.9
ETMB				*eS*	**S**	11 21 52.2	-4.1
PLTB	**Pedras Altas**	**13.97**	**128**	*eP*	**Pn**	11 19 21.4	-1.2
PLTB				*eS*	**S**	11 21 59.9	+2.2
BI03	**Tigo**	**14.15**	**202**	P	**Pn**	11 19 24.4	-0.3
PCMB	**Pacaembu**	**14.31**	**84**	*eP*	**Pn**	11 19 26.3	-0.7
PCMB				*eS*	**S**	11 22 05.7	-0.3
H03N1	**Juan Fernandez**	**14.47**	**226**	P	**P**	11 19 30.8	+1.2
	baz=111,slow=15,SNR=785						
H03N1				S	**S**	11 22 03.9	-5.0
H03N2	**Juan Fernandez**	**14.48**	**226**	P	**P**	11 19 30.7	+1.0
	baz=111,slow=15,SNR=418						
H03N2				S	**S**	11 22 04.4	-4.7
H03N3	**Juan Fernandez**	**14.48**	**226**	P	**P**	11 19 30.8	+0.9
	baz=111,slow=15,SNR=697						
VA04	**Juan Fernndez**	**14.54**	**225**	Pn	**Pn**	11 19 28.8	-0.8
H03S3	**Juan Fernandez**	**14.71**	**224**	P	**P**	11 19 33.8	+1.5
	baz=30,slow=20,SNR=574						
H03S3				S	**S**	11 22 07.1	-7.3
	baz=105,slow=74,SNR=6.5						
H03S1	**Juan Fernandez**	**14.72**	**224**	P	**P**	11 19 33.6	+1.2
	baz=30,slow=20,SNR=336						
H03S1				S	**S**	11 22 06.9	-7.7
	baz=75,slow=74,SNR=6.5						
H03S2	**Juan Fernandez**	**14.73**	**224**	P	**P**	11 19 33.7	+1.2
	baz=30,slow=20,SNR=462						
H03S2				S	**S**	11 22 08.2	-6.5
TRQA	**Tornquist**	**14.76**	**166**	*eP*	**P**	11 19 34.5	+1.3
SAML	**Samuel**	**15.11**	**13**	P	**Pn**	11 19 36.1	-0.6
SAML				pmax	pmax		
	comp=Z,787nm,0.8s						
SAML	**Samuel**	**15.11**	**13**	P	**Pn**	11 19 36.1	-0.6
SAML				IAmb	IAmb	11 19 40.1	
	comp=Z,787nm,0.8s						
CNLB	**Canela**	**15.12**	**115**	*eP*	**Pn**	11 19 35.9	-0.9
CNLB				*eS*	**S**	11 22 24.6	+0.1
NNA	**Nana**	**15.25**	**319**	P	**P**	11 19 39.2	+0.4
	comp=Z,14nm,0.3s,baz=159,slow=12,SNR=33						
NNA				S	**S**	11 22 22.9	-4.9
	comp=Z,11nm,0.3s,baz=275,slow=20,SNR=2.0						
NNA	**Nana**	**15.25**	**319**	*eP*	**P**	11 19 39.6	+0.8
NNA	**Nana**	**15.25**	**319**	P	**P**	11 19 39.1	+0.3
NNA				IAmb	IAmb	11 19 42.8	
	comp=Z,934nm,1.2s						
ITRB	**Iturama**	**15.61**	**78**	*eP*	**P**	11 19 42.9	+0.1
ITRB				*eS*	**S**	11 22 35.2	-0.8
FRTB	**Fartura**	**15.62**	**92**	*eP*	**P**	11 19 42.8	0.0
FRTB				*eS*	**S**	11 22 35.7	-0.4
LC01	**Cunco**	**15.72**	**195**	P	**P**	11 19 43.5	-0.3
ARAG	**Araguaiana, MT**	**16.05**	**63**	*eP*	**P**	11 19 47.7	+0.1
TIJ01	**Guaruva-PR**	**16.07**	**99**	*eP*	**P**	11 19 48.0	+0.1
TIJ01				*eS*	**S**	11 22 46.5	+0.3
CLDB	**Colider**	**16.45**	**41**	*eP*	**P**	11 19 50.7	-1.3
CLDB				*eS*	**S**	11 22 51.6	-2.3
BB19B	**Bebedouro**	**16.92**	**84**	*eP*	**P**	11 19 57.1	0.0
BB19B				*eS*	**S**	11 23 02.3	-0.9
CZSB	**Cruzeiro do Su**	**17.01**	**339**	*eP*	**P**	11 19 56.2	-1.9
CZSB				*eS*	**S**	11 23 02.7	-2.2
PLCA	**Paso Flores**	**17.22**	**190**	P	**P**	11 20 00.2	-0.1
	comp=Z,5.4nm,0.3s,baz=10,slow=9.1,SNR=99						
PLCA				S	**S**	11 23 05.7	-3.3
	baz=341,slow=22,SNR=1.5						
PLCA				PcP	**PcP**	11 24 33.4	+0.7
	comp=Z,1.0nm,0.3s,baz=51,slow=6.5,SNR=3.8						
PLCA				ScP	**ScP**	11 27 49.1	+0.9
	comp=Z,0.4nm,0.3s,baz=357,slow=2.1,SNR=4.6						
PLCA	**Paso Flores**	**17.22**	**190**	P	**Pn**	11 20 00.9	-1.0
PLCA				S	**S**	11 23 05.7	-3.3
PLCA				pmax	pmax		
	comp=Z,1μm,1.5s						
PLCA	**Paso Flores**	**17.22**	**190**	P	**Pn**	11 20 00.9	-1.0
PLCA				IAmb	IAmb	11 20 09.3	
	comp=Z,1μm,1.4s						
PLCA	**Paso Flores**	**17.22**	**190**	*eP*	**P**	11 20 00.4	+0.1
PLCA				*eS*	**S**	11 23 11.8	+2.8
SPB	**Sao Paulo**	**17.55**	**93**	P	**P**	11 20 04.2	+0.3
SPB	**Sao Paulo**	**17.55**	**93**	*eP*	**P**	11 20 04.2	+0.3
SPB				*eS*	**S**	11 23 15.5	-0.2
PET01	**Itanhaem-SP**	**17.65**	**96**	*eP*	**P**	11 20 05.1	+0.1
PET01				*eS*	**S**	11 23 17.4	-0.3
VAO	**Valinhos**	**18.03**	**91**	*eP*	**P**	11 20 09.4	+0.1
VAO				*eS*	**S**	11 23 25.8	+0.3
IPMB	**Ipameri, GO**	**18.11**	**75**	*eP*	**P**	11 20 10.8	+0.7
IPMB				*eS*	**S**	11 23 26.4	-0.7
LL01	**San Ignacio de**	**19.16**	**193**	P	**P**	11 20 20.8	-0.4
PARB	**Paraibuna**	**19.23**	**93**	*eP*	**P**	11 20 21.7	-0.5
PARB				*eS*	**S**	11 23 48.3	-0.8
BDFB	**Brasilia**	**19.26**	**69**	P	**P**	11 20 22.6	-0.1
	comp=Z,65nm,0.3s,baz=242,slow=12,SNR=349						
BDFB				S	**S**	11 23 48.0	-1.9
	comp=Z,3.2nm,0.3s,baz=35,slow=19,SNR=1.7						
BDFB	**Brasilia**	**19.26**	**69**	P	**P**	11 20 22.6	-0.1
NPGB	**Novo Progresso**	**19.83**	**35**	*eP*	**P**	11 20 26.3	-2.4
ATAH	**Atahualpa**	**20.06**	**324**	P	**P**	11 20 33.8	+2.2
	comp=Z,149nm,0.8s,baz=153,slow=8.0,SNR=60						
ATAH				S	**S**	11 24 08.6	+2.5
	comp=Z,38nm,1.0s,baz=218,slow=7.5,SNR=2.0						
BSCB	**Bom Sucesso**	**20.36**	**86**	*eP*	**P**	11 20 33.7	-0.6
BSCB				*eS*	**S**	11 24 10.8	-0.4
MACA	**Manacapuru-AM**	**21.28**	**16**	*eP*	**P**	11 20 41.6	-2.5
VAS01	**Vassouras-RJ**	**21.35**	**91**	*eP*	**P**	11 20 44.3	-0.4
VAS01				*eS*	**S**	11 24 27.8	-1.1
ITTB	**Itaituba**	**21.96**	**30**	*eP*	**P**	11 20 48.6	-2.2
ITTB				*eS*	**S**	11 24 34.6	-4.0

MALC Bahia Malaga 29.55 338 eP P 11 22 00.9 +1.9
PLMC San Jos del P 30.04 340 eP P 11 21 53.9 -10
ROSB Rosrio 30.05 50 eP P 11 22 01.7 -1.7
GUY2C Guyana, Caldas 30.08 342 eP P 11 22 03.4 -0.8
SPBC San Pablo de B 30.16 345 eP P 11 22 02.7 -1.7
RUSC La Rusia 30.17 347 eP P 11 22 03.9 -1.2
PIZC Pizarro, Choco 30.45 338 eP P 11 22 09.0 +2.1
TAMC Tame, Arauca 30.46 350 eP P 11 22 05.6 -1.5
CBOC Ciudad Bolivar 30.87 341 eP P 11 22 09.1 -1.7
BARC Barichara 30.87 347 eP P 11 22 07.9 -3.0
USHA Ushuaia 31.04 182 P P 11 22 14.0 +2.3
comp=Z,61nm,0.6s,baz=9.2,slow=7.0,SNR=28
USHA S S 11 27 02.3 +1.1
comp=Z,14nm,0.6s,baz=91,slow=17,SNR=7.6
USHA ScP ScP 11 28 28.1 +2.5
comp=Z,30nm,0.8s,baz=9.4,slow=3.1,SNR=4.4
PTBC PUERTO BERRIO, 31.10 345 eP P 11 22 09.4 -3.2
MG01 Puerto William 31.12 181 P P 11 22 12.9 +0.6
MG01 IAmb IAmb 11 22 16.4
comp=Z,683nm,1.2s
BRRC Barranca, Sant 31.48 346 eP P 11 22 14.3 -1.6
PAMC Pamplona, Colo 31.50 348 eP P 11 22 14.5 -2.2
SOLC Bahia Solano 31.64 339 eP P 11 22 17.4 0.0
MDP Montagnes des 31.77 27 P P 11 22 18.1 -0.4
comp=Z,102nm,0.5s,baz=200,slow=9.1,SNR=77
MDP S S 11 27 07.9 -5.6
comp=Z,35nm,1.0s,baz=322,slow=18,SNR=2.7
DBBC Dabeiba 32.02 342 eP P 11 22 19.1 -1.7
ZARC Zaragoza, Cauc 32.12 344 eP P 11 22 18.6 -3.0
PAYG Puerto Ayora 32.49 312 P P 11 22 24.8 -0.1
PAYG PcP PcP 11 25 09.1 +2.2
OCAC Ocana 32.50 348 eP P 11 22 21.3 -3.8
UREC San Jos de Ur 32.54 343 eP P 11 22 22.4 -2.9
PTAC Punta Ardita, 32.64 339 eP P 11 22 24.9 -1.2
SDV Santo Domingo 32.71 353 P P 11 22 25.3 -1.6
comp=Z,260nm,1.1s,baz=187,slow=6.8,SNR=63
SDV S S 11 27 22.7 -5.7
comp=Z,7.6nm,0.4s,baz=297,slow=17,SNR=1.1
SDV Santo Domingo 32.71 353 eP P 11 22 25.2 -1.6
SDV Santo Domingo 32.71 353 P P 11 22 25.5 -1.4
SDV Santo Domingo 32.71 353 eP P 11 22 25.5 -1.4
NBMO Morrinhos-CE 32.74 56 eP P 11 22 25.5 -1.5
NBLI Livramento-PB 32.78 65 eP P 11 22 26.4 -1.1
SMLC San Martn de 33.20 346 eP P 11 22 27.0 -3.9
MOTC Monteria, Cord 33.56 344 eP P 11 22 31.6 -2.4
PLCV Puerto La Cruz 33.80 4 S H 11 27 41.3 -3.4
PCRV Puerto La Cruz 33.81 3 P P 11 22 36.0 -0.2
comp=Z,138nm,0.8s,baz=178,slow=4.9,SNR=37
PCRV S S 11 27 41.3 -3.6
comp=Z,12nm,0.8s,baz=275,slow=21,SNR=1.6
LCBC Los crdobas, 33.82 342 eP P 11 22 35.7 -0.6
CAPC Capurgana 33.90 341 eP P 11 22 36.0 -1.0
UPD2 Meteti 34.02 340 eP P 11 22 37.1 -0.9
ARGC Ariguani, Magd 34.26 347 eP P 11 22 37.5 -2.6
RCBR Riachuelo 34.49 64 P P 11 22 41.6 -0.6
comp=Z,419nm,0.9s,baz=229,slow=11,SNR=41
RCBR S S 11 27 49.8 -5.9
comp=Z,38nm,1.0s,baz=180,slow=12,SNR=2.3
RCBR Riachuelo 34.49 64 P P 11 22 41.5 -0.6
RCBR IAmb IAmb 11 22 45.4
comp=Z,624nm,1.0s
RCBR Riachuelo 34.49 64 eP P 11 22 41.6 -0.6
SJCC San Jacinto, C 34.51 345 eP P 11 22 39.8 -2.5
TRN Trinidad (W) 34.59 9 eP P 11 22 43.4 +0.5
UPA Univ. de Panam 34.94 337 eP P 11 22 46.6 +0.7
BCIP Isla Barro Col 35.22 337 eP P 11 22 49.7 +1.4
BCIP Isla Barro Col 35.22 337 P P 11 22 49.8 +1.5
BCIP pmax pmax
comp=Z,918nm,0.7s
BCIP Isla Barro Col 35.22 337 P P 11 22 49.8 +1.5
TPR Prospect 35.22 10 eP P 11 22 48.7 +0.4
TOSP Speyside 35.37 10 eP P 11 22 49.9 +0.3
TOSP Speyside 35.37 10 P P 11 22 50.0 +0.5
SMRC Santa Marta, M 35.53 347 eP P 11 22 47.2 -3.7
URIC Uribia, Colomb 35.66 351 eP P 11 22 47.5 -4.5
BRU2 Volcan 36.00 332 eP P 11 22 56.9 +1.7
GRGR Grenville 36.02 8 eP P 11 22 55.0 -0.1
GRGR Grenville 36.02 8 P P 11 22 54.6 -0.5
GRHS Sauteurs 36.11 8 eP P 11 22 56.2 +0.3
GRSS Sisters 36.19 8 eP P 11 22 58.4 +1.9
GCMP Grenada, Carri 36.40 9 eP P 11 22 59.5 +1.2
CDM Cerro de Muert 37.15 331 ||iP P 11 23 07.2 +2.0
SVB Belmont 37.20 9 eP P 11 23 05.5 +0.5
SVB Belmont 37.20 9 P P 11 23 03.7 -1.4
SVB IAmb IAmb 11 23 08.5
comp=Z,391nm,0.7s
SVB PcP PcP 11 25 22.9 +2.4
SVB S S 11 28 38.4 +1.8
SVCV St. Vincent, C 37.21 9 eP P 11 23 05.8 +0.6
SVV Soufriere Volc 37.25 9 eP P 11 23 06.9 +1.4
BBSP Saint Philip 37.32 12 eP P 11 23 06.9 +0.8
BBGH Gun Hill 37.34 11 eP P 11 23 09.3 +3.1
BBGH Gun Hill 37.34 11 P P 11 23 08.1 +1.9
BBGH IAmb IAmb 11 23 10.5
comp=Z,640nm,1.1s
RIMA Rio Macho 37.38 331 ||iP P 11 23 08.8 +2.0
CVTR Volcan Turrial 37.56 332 ||iP P 11 23 11.0 +2.4
MCLT Moule a Chique 37.67 9 eP P 11 23 12.4 +3.4
HDC Heredia 37.70 331 ||iP P 11 23 12.0 +2.6
HDC Heredia 37.70 331 P P 11 23 11.9 +2.6
SLDE Delcer 37.75 9 eP P 11 23 13.1 +3.4
SLB Belfond 37.77 9 eP P 11 23 13.3 +3.4
SLPA Patience 37.82 9 eP P 11 23 14.0 +3.8
HOPE Hope Point 37.85 151 P P 11 23 09.8 -0.3
HOPE pmax pmax
comp=Z,336nm,1.1s
HOPE Hope Point 37.85 151 P P 11 23 09.8 -0.3
HOPE IAmb IAmb 11 23 12.9
comp=Z,336nm,1.1s
SLAC Saint Lucia, A 37.86 9 eP P 11 23 12.7 +2.1
SLBI Saint Lucia, B 37.98 9 eP P 11 23 10.9 -0.6
SLW Petit Monier 37.98 9 eP P 11 23 14.2 +2.6
JTS Las Juntas de 38.33 330 P P 11 23 16.7 +2.1
comp=Z,214nm,0.7s,baz=229,slow=2.6,SNR=97
JTS PcP PcP 11 25 25.5 +1.4
comp=Z,46nm,0.8s,baz=118,slow=1.7,SNR=3.4
JTS ScP ScP 11 28 52.0 -0.5
comp=Z,24nm,1.1s,baz=108,slow=4.3,SNR=6.1
JTS Las Juntas de 38.33 330 eP P 11 23 16.6 +2.1
JTS Las Juntas de 38.33 330 P P 11 23 16.7 +2.1
JTS IAmb IAmb 11 23 20.3
comp=Z,860nm,1.2s
JTS Las Juntas de 38.33 330 S H 11 28 52.3 -1.4
CASO Castillo 38.36 330 eP P 11 23 17.0 +2.2
FORC Fortuna 38.36 331 iP P 11 23 17.2 +2.4
H05S1 Guadeloupe/Mar 38.39 9 P P 11 23 14.4 -0.6
SNR=97
H05S1 S S 11 28 52.7 -1.7
SNR=16
CEDE Laguna Cedeo 38.39 331 eP P 11 23 17.1 +2.0
CEDE ||iP P 11 23 17.6 +2.4
MPOM Morne Pois Mar 38.41 9 eP P 11 23 14.0 -1.1
BIM Bigot 38.45 9 eP P 11 23 14.1 -1.4
GUAI GUAI 38.57 329 ||iP P 11 23 18.6 +2.1
RPN Rapa Nui 38.61 256 P P 11 23 18.4 +1.6
comp=Z,276nm,1.0s,baz=107,slow=4.6,SNR=9.1
RPN Rapa Nui 38.61 256 P P 11 23 18.7 +1.9
RPN pmax pmax
comp=Z,535nm,1.2s
RPN Rapa Nui 38.61 256 P P 11 23 18.7 +1.9
RPN IAmb IAmb 11 23 21.2
comp=Z,535nm,1.1s
FDF Fort de France 38.65 8 eP P 11 23 15.8 -1.4
FDF Fort de France 38.65 8 P P 11 23 15.5 -1.7
FDF S S 11 28 55.8 -2.6
ACAL Aguas Claras 38.67 330 ||iP P 11 23 19.2 +1.7
PTEN Parque Tenorio 38.72 330 ||iP P 11 23 20.0 +2.1
ILAM Ilet Lapin Mar 38.73 9 eP P 11 23 16.1 -1.7
COLC Colonia 38.78 330 ||iP P 11 23 20.3 +2.0
GUAB Guayabo de Bag 38.83 330 ||iP P 11 23 20.5 +1.8
BUEV Buena Vista 38.99 330 eP P 11 23 21.3 +1.2
GB1A Boringuen Arri 39.00 330 ||iP P 11 23 22.2 +2.0
BUAI Buenos Aires 39.02 330 ||iP P 11 23 21.6 +1.3
MDN Morne-Daniel 39.19 8 eP P 11 23 23.3 +1.7
DLPL La Plaine 39.23 8 eP P 11 23 23.5 +1.5
DLPL La Plaine 39.23 8 P P 11 23 21.1 -0.8
DLPL IAmb IAmb 11 23 24.6
comp=Z,532nm,0.7s
PRVC Isla de Provid 39.66 337 eP P 11 23 26.6 +1.1
TDBA Terre de Bas, 39.69 7 eP P 11 23 25.0 -0.7
TBG Guadaloupe-3 39.69 7 eP P 11 23 27.9 +2.2
ESPN Las Esperanzas 39.73 332 P P 11 23 27.0 +0.9
ESPN IAmb IAmb 11 23 32.0
comp=Z,1μm,1.2s
MAGL Barre de l'ile 39.83 8 eP P 11 23 26.3 -0.6
CBE Ff, Capester 39.91 7 eP P 11 23 27.3 -0.3
H05N1 Guadeloupe/Mar 40.22 8 P P 11 23 28.5 -1.7
SNR=79
H05N1 S S 11 29 17.5 -4.3
ABD La Joyeuse, An 40.32 8 eP P 11 23 28.5 -2.4
BOAB BOACO BROADBAN 40.56 331 P P 11 23 33.2 +0.3
BOAB IAmb IAmb 11 23 39.5
comp=Z,836nm,1.1s
BPA Boggy Peak 40.84 7 eP P 11 23 33.2 -2.0
PMSA Palmer Station 41.02 178 P P 11 23 36.8 +0.8
comp=Z,62nm,0.6s,baz=6.3,slow=7.1,SNR=27
PMSA S S 11 29 35.1 +2.6
comp=Z,4.7nm,0.9s,baz=264,slow=19,SNR=1.2
PMSA Palmer Station 41.02 178 P P 11 23 37.3 +1.3
PMSA Palmer Station 41.02 178 eP P 11 23 37.1 +1.0
SKI Saint Kitts 41.04 6 eP P 11 23 35.0 -1.8
SKI Saint Kitts 41.04 6 P P 11 23 34.6 -2.2
SKI pmax pmax
comp=Z,393nm,1.0s
SKI Saint Kitts 41.04 6 P P 11 23 34.6 -2.2
MATN Matagalpa 41.10 331 P P 11 23 37.9 +0.5
MATN IAmb IAmb 11 23 42.9
comp=Z,960nm,1.2s
SEUS St. Eustatius 41.18 5 eP P 11 23 36.4 -1.5
SEUS St. Eustatius 41.18 5 P P 11 23 38.0 +0.2
SEUS IAmb IAmb 11 23 39.5
comp=Z,246nm,0.6s
SABA Saba 41.28 5 eP P 11 23 36.1 -2.6
SABA Saba 41.28 5 P P 11 23 36.6 -2.2
SABA IAmb IAmb 11 23 40.2
comp=Z,713nm,1.4s
CDVI St. Croix 41.32 3 eP P 11 23 37.0 -2.1
ANWB Willy Bob 41.47 7 eP P 11 23 37.2 -3.0
ANWB Willy Bob 41.47 7 P P 11 23 37.2 -3.0
IGPR InterUniversit 41.50 1 P P 11 23 38.2 -2.3
CRPR Cabo Rojo, PR 41.54 359 IAmb IAmb 11 23 42.8
comp=Z,457nm,1.1s
OBIP Obispado Ponce 41.57 360 IAmb IAmb 11 23 43.0
comp=Z,1μm,1.4s
MPR Mayaguez 41.74 359 IAmb IAmb 11 23 43.6
comp=Z,357nm,0.9s
GCPR Guaynabo City 41.84 1 IAmb IAmb 11 23 44.0
comp=Z,371nm,0.8s
AOPR Arecibo Observ 41.88 360 eP P 11 23 40.7 -2.9
PCDR Punta Cana, DR 42.08 357 IAmb IAmb 11 23 46.1
comp=Z,1μm,1.1s
BANI BANI 42.08 355 P P 11 23 44.0 -1.4
SDD Santo Domingo 42.11 355 IAmb IAmb 11 23 46.9
comp=Z,1μm,1.4s
PAPH Port-au-Prince 42.42 352 P P 11 23 47.0 -0.9
LGNH Logne 42.45 352 P P 11 23 47.3 -0.9
TGUH Tegucigalpa,Un 42.70 330 P P 11 23 50.9 +0.4
SDDR Presa de Saban 42.75 353 P P 11 23 48.9 -1.8
MTDJ Mount Denham 43.10 345 P P 11 23 52.7 -0.9
SC01 Santiago de lo 43.14 354 P P 11 23 52.4 -1.3
SC01 IAmb IAmb 11 24 15.9
comp=Z,425nm,0.9s
SNET Serv Nac Est T 43.33 327 P P 11 23 56.7 +1.3
ESQI Esquipulas 44.13 327 IAmb IAmb 11 24 06.4
comp=Z,787nm,1.0s
APG El Apazote 45.06 326 P P 11 24 10.2 +0.8
comp=Z,314nm,0.8s,baz=161,slow=8.0,SNR=145
APG ScP ScP 11 29 19.3 -0.3
comp=Z,13nm,0.9s,baz=213,slow=4.8,SNR=5.1
APG S S 11 30 35.2 +2.2
comp=Z,1.8nm,0.6s,baz=321,slow=20,SNR=0.8
CBCY The Bluff, Cay 45.12 342 P P 11 24 09.4 -0.1
CBCY PcP PcP 11 25 47.8 +1.5
GRTK Grand Turk 45.24 354 IAmb IAmb 11 24 11.6
comp=Z,624nm,0.8s
HUEH Huehuetenango 45.86 326 IAmb IAmb 11 24 19.6
comp=Z,971nm,1.0s
CCIG Comitan 47.00 326 IAmb IAmb 11 24 28.1
comp=Z,684nm,1.3s
TEIG Tepich 48.58 332 P P 11 24 35.7 -0.6
comp=Z,340nm,0.5s,baz=145,slow=4.1,SNR=125
TEIG PcP PcP 11 25 59.5 +0.8
comp=Z,59nm,0.6s,baz=121,slow=1.5,SNR=3.9
TEIG ScP ScP 11 29 33.7 -0.3
comp=Z,41nm,1.1s,baz=200,slow=2.3,SNR=3.8
TEIG S S 11 31 19.7 -2.5
comp=Z,5.6nm,0.8s,baz=159,slow=23,SNR=13
TEIG Tepich 48.58 332 P P 11 24 35.7 -0.6
TEIG IAmb IAmb 11 24 39.2
comp=Z,947nm,1.2s
TEIG Tepich 48.58 332 ScP ScP 11 29 36.3 +2.3
TLIG Tlapa 51.61 320 P P 11 25 00.4 +1.2
TLIG IAmb IAmb 11 25 03.9
comp=Z,527nm,1.4s
060A Indiantown 52.25 344 P P 11 25 04.0 +0.5
H10N3 ASCENSION HYDR 52.26 81 P P 11 25 03.6 0.0
baz=244,slow=5.9,SNR=6.6
H10N1 ASCENSION HYDR 52.28 81 P P 11 25 03.8 0.0
baz=244,slow=5.9,SNR=8.6
H10N2 ASCENSION HYDR 52.28 81 P P 11 25 03.9 0.0
baz=244,slow=5.9,SNR=7.3
ASCN Ascension 52.35 81 P P 11 25 04.0 -0.7
UNM Universidad Na 53.35 321 P P 11 25 13.8 +1.7
UNM pmax pmax
comp=Z,1μm,1.3s
UNM Universidad Na 53.35 321 P P 11 25 13.8 +1.7
UNM IAmb IAmb 11 25 17.4
comp=Z,1000nm,1.3s
MOIG Morelia 54.81 319 P P 11 25 24.0 +1.4
MOIG IAmb IAmb 11 25 27.4
comp=Z,814nm,1.2s
656A Willston 55.03 343 P P 11 25 23.3 -0.4
656A IAmb IAmb 11 25 27.1
comp=Z,547nm,1.1s
BBSR BB Station 55.87 2 P P 11 25 28.9 -0.7
456A Hilliard 56.18 344 P P 11 25 31.7 -0.2
BELA Belgrano 2 56.20 172 P P 11 25 31.9 +0.4
553A Crawfordville 56.33 341 P P 11 25 33.1 +0.2
SACV Santiago Islan 56.99 52 P P 11 25 38.3 +0.4
451A Vernon 57.13 340 P P 11 25 38.0 -0.5
257A Skidaway Islan 57.14 345 P P 11 25 38.0 -0.6
VNA3 Neumayer Olymp 57.23 161 P P 11 25 39.4 +0.6
TIGA Tifton 57.27 343 P P 11 25 39.0 -0.6
baz=162,SNR=15
TIGA S S 11 33 20.0 +0.6
baz=162
TIGA Tifton 57.27 343 IAmb IAmb 11 25 42.6
comp=Z,483nm,1.1s
SHEL Horse Pasture 57.39 94 P P 11 25 40.7 -0.1
SHEL pmax pmax
comp=Z,385nm,0.9s
SHEL Horse Pasture 57.39 94 P P 11 25 40.7 -0.1
SHEL IAmb IAmb 11 25 45.0
comp=Z,385nm,0.9s
VNA1 Neumayer--Stat 57.42 160 P P 11 25 41.4 +1.3
158A Hollywood 57.69 346 P P 11 25 42.9 +0.5
baz=165,SNR=5.3
VNA2 Neumayer--Watz 57.79 161 P P 11 25 42.5 -0.2
baz=288,slow=7.1
157A Early Branch 57.81 346 P P 11 25 43.5 +0.3
baz=164,SNR=12
157A S S 11 33 27.8 +1.6
baz=164
Z59A Georgetown, SC 57.98 347 P P 11 25 44.2 -0.2
baz=166
Z59A S S 11 33 29.8 +1.3
baz=166
ZAIG Zacatecas 58.00 320 IAmb IAmb 11 25 50.8
comp=Z,312nm,0.9s
NHSC New Hope 58.04 347 P P 11 25 45.3 +0.5
baz=165,SNR=44
NHSC S S 11 33 31.6 +2.3
baz=165
NHSC New Hope 58.04 347 P P 11 25 45.5 +0.7
BRAL Brewton 58.05 339 P P 11 25 44.7 -0.2
baz=158,SNR=20
BRAL S S 11 33 29.9 +0.4
baz=158
Z58A St. Stephen 58.18 347 P P 11 25 45.8 0.0
baz=166,SNR=43
Z58A S S 11 33 34.2 +3.1
baz=166
Z57A Bowman 58.34 346 P P 11 25 46.9 0.0
baz=165,SNR=53
Z57A S S 11 33 35.1 +2.0
baz=165
Z56A Williston 58.51 345 P P 11 25 48.1 0.0
baz=164,SNR=39
Z56A S S 11 33 34.9 -0.5
baz=164
Y60A Bolivia 58.52 349 P P 11 25 48.0 -0.2
baz=168,SNR=27
Y60A S S 11 33 36.6 +1.1
baz=168
Y60A Bolivia 58.52 349 P P 11 25 47.8 -0.4
250A Grady 58.55 340 P P 11 25 47.5 -0.9
Y59A Loris 58.63 348 P P 11 25 48.5 -0.4
baz=167,SNR=20
Y58A Scranton 58.70 347 P P 11 25 49.1 -0.3
baz=166
Y58A S S 11 33 37.2 -0.6
baz=166
152A Waverly Hall 58.74 342 IAmb IAmb 11 25 52.4
comp=Z,351nm,1.2s
Y56A Pelion 58.95 346 P P 11 25 51.1 0.0
baz=164,SNR=7.4
Y56A S S 11 33 41.9 +1.0
baz=164
Y57A Sumter 58.96 347 P P 11 25 51.0 -0.2
baz=165,SNR=17
Y57A S S 11 33 42.5 +1.3
baz=165
X60A Albert Glenn T 59.04 349 P P 11 25 51.3 -0.4
baz=168,SNR=23
X60A S S 11 33 40.9 -1.2
baz=168
GOGA Godfrey 59.11 344 P P 11 25 51.2 -1.0
GOGA pmax pmax
comp=Z,283nm,1.1s
GOGA Godfrey 59.11 344 P P 11 25 51.4 -0.8
baz=162,SNR=43
GOGA S S 11 33 40.5 -2.5
baz=162
GOGA Godfrey 59.11 344 P P 11 25 51.2 -1.0
GOGA IAmb IAmb 11 25 55.0
comp=Z,283nm,1.1s
X59A McDuffie Farm, 59.15 348 P P 11 25 52.1 -0.4
baz=167,SNR=53
X59A S S 11 33 42.4 -1.1
baz=167
Y55A Saluda 59.21 345 P P 11 25 52.7 -0.2
baz=164,SNR=42
Y55A S S 11 33 42.8 -1.6
baz=164
X58A Rowland 59.27 348 P P 11 25 53.2 -0.1
baz=166,SNR=34
X58A S S 11 33 43.3 -1.8
baz=166
X57A Johnson Farm, 59.33 347 P P 11 25 53.7 0.0
baz=166,SNR=21
X57A S S 11 33 44.5 -1.4
baz=166
SNAA Sanae 59.43 161 P P 11 25 54.7 +0.6
SNAA Sanae 59.43 161 P P 11 25 54.4 +0.4
comp=Z,108nm,0.7s,baz=284,slow=6.5,SNR=192
SNAA LR LR 11 51 48.1
comp=Z,818nm,18.5s,baz=294,slow=36
SNAA PKPPKP P'P'df 11 55 20.7 -2.7
comp=Z,7.0nm,1.2s,baz=101,slow=0.7,SNR=6.1
SNAA Sanae 59.43 161 *d iP* P 11 25 54.4 +0.4
SNAA pmax pmax
comp=Z,705nm,1.8s
SNAA Sanae 59.43 161 P P 11 25 54.5 +0.4
W60A Pink Hill 59.46 349 P P 11 25 54.4 -0.2
baz=168,SNR=20
W61A Ground Anchor 59.46 350 P P 11 25 54.4 -0.2
baz=169,SNR=10
Z51A Franklin 59.48 342 IAmb IAmb 11 25 57.7
comp=Z,411nm,1.2s
X56A White Oak 59.56 346 P P 11 25 55.3 +0.1
baz=165,SNR=82
X56A S S 11 33 47.6 -1.2
baz=165
HODGE Hodges 59.59 345 IAmb IAmb 11 25 58.9
comp=Z,349nm,1.3s
344A Westbrook Farm 59.59 336 IAmb IAmb 11 25 59.5
comp=Z,329nm,0.8s
CNNC Cliffs of the 59.67 349 P P 11 25 55.6 -0.4
baz=168,SNR=5.5
CNNC Cliffs of the 59.67 349 IAmb IAmb 11 25 59.1
comp=Z,231nm,0.9s
X55A Gracelyn & Ava 59.67 346 P P 11 25 55.9 -0.1
baz=164,SNR=69
X55A S S 11 33 48.0 -2.3
baz=164
V62A Hyde County Ai 59.69 351 P P 11 25 55.8 -0.3
baz=170
Y52A Lilburn 59.69 343 IAmb IAmb 11 25 59.0
comp=Z,328nm,1.0s
W59A Clinton 59.70 349 P P 11 25 55.9 -0.3
baz=167,SNR=14
W59A S S 11 33 50.5 0.0
baz=167
W58A Raeford 59.70 348 P P 11 25 56.2 0.0
baz=167,SNR=68
W58A S S 11 33 49.4 -1.2
baz=167
LRAL Lakeview Retre 59.76 340 P P 11 25 55.8 -0.9
baz=158,SNR=107
LRAL S S 11 33 48.9 -2.6
baz=158
LRAL Lakeview Retre 59.76 340 IAmb IAmb 11 25 59.4
comp=Z,488nm,1.2s
X54A Belton 59.92 345 P P 11 25 57.5 -0.2
baz=163,SNR=39
X54A S S 11 33 50.8 -2.6
baz=163
W57A Gilead 59.98 347 P P 11 25 58.0 -0.1
baz=166,SNR=47
W57A S S 11 33 52.8 -1.3
baz=166
W57A Gilead 59.98 347 IAmb IAmb 11 26 01.5
comp=Z,378nm,0.8s
V61A Roper 60.00 351 P P 11 25 57.9 -0.3
baz=169,SNR=5.7
PAULI Pauline 60.05 346 IAmb IAmb 11 26 02.2
comp=Z,390nm,1.0s
146A Union 60.07 338 P P 11 25 58.0 -0.8
146A IAmb IAmb 11 26 00.9
comp=Z,365nm,0.8s
V60A Jim Taylor Roa 60.08 350 P P 11 25 58.5 -0.3
baz=169,SNR=14
V60A Jim Taylor Roa 60.08 350 IAmb IAmb 11 26 01.9
comp=Z,596nm,1.4s
W56A Indian Trail 60.08 347 P P 11 25 58.9 +0.1
baz=165,SNR=50
W56A S S 11 33 55.9 +0.4
baz=165
342A Flagon Creek P 60.13 335 P P 11 25 59.6 +0.4
VBMS Vicksburg 60.20 337 P P 11 25 59.2 -0.5
baz=155,SNR=29
VBMS Vicksburg 60.20 337 IAmb IAmb 11 26 02.8
comp=Z,718nm,1.2s
V59A Middlesex 60.24 349 P P 11 25 59.6 -0.3
baz=168,SNR=52
V59A S S 11 33 55.4 -2.1
baz=168
KMSC Kings Mountain 60.25 346 P P 11 25 59.7 -0.2
baz=164,SNR=55
KMSC Kings Mountain 60.25 346 P P 11 25 59.8 -0.2
KMSC IAmb IAmb 11 26 03.5
comp=Z,410nm,1.1s
Z47A Carrollton 60.25 339 P P 11 25 59.1 -0.9
Y49A Blount Mountai 60.35 341 IAmb IAmb 11 26 03.3
comp=Z,268nm,0.9s
HKT Hockley 60.36 331 P P 11 26 01.0 +0.2
HKT pmax pmax
comp=Z,558nm,1.3s
HKT Hockley 60.36 331 P P 11 26 01.0 +0.2
HKT IAmb IAmb 11 26 04.9
comp=Z,558nm,1.3s
W54A Cherokee Point 60.39 345 P P 11 26 01.1 +0.2
baz=164,SNR=54
W54A S S 11 33 58.7 -0.7
baz=164
V58A Windy Hill, Pi 60.43 348 P P 11 26 00.6 -0.5
baz=167,SNR=42
V58A S S 11 33 58.6 -1.2
baz=167
V58A Windy Hill, Pi 60.43 348 IAmb IAmb 11 26 04.4
comp=Z,353nm,1.1s
H06S1 SOCORRO T 60.49 310 P P 11 26 03.1 +1.2
SNR=16
H06E1 SOCORRO T-PHAS 60.50 310 P P 11 26 03.8 +1.8
SNR=42

U61A	**Possum Corner**	**60.51**	**351**	P	**P**	**11 26 01.5**	**-0.2**
	baz=170,SNR=14						
X51A	**Calhoun**	**60.57**	**343**	IAmb	IAmb	11 26 05.7	
	comp=Z,504nm,0.9s						
H06N1	**SOCORRO T-PHAS**	**60.60**	**310**	P	**P**	**11 26 03.3**	**+0.6**
	SNR=7.4						
V57A	**Coltrane Farms**	**60.65**	**348**	P	**P**	**11 26 02.0**	**-0.6**
	baz=166,SNR=37						
V57A				S	**S**	**11 34 00.9**	**-1.8**
	baz=166						
833A	**Chaparral WMA,**	**60.69**	**327**	P	**P**	**11 26 03.5**	**+0.4**
	baz=146,SNR=129						
833A				S	**S**	**11 34 03.9**	**+0.4**
	baz=146						
V56A	**Mocksville**	**60.72**	**347**	P	**P**	**11 26 03.1**	**0.0**
	baz=165,SNR=108						
V56A				S	**S**	**11 34 02.9**	**-0.6**
	baz=165						
U59A	**Littleton**	**60.74**	**350**	P	**P**	**11 26 02.9**	**-0.3**
	baz=168,SNR=30						
U59A				S	**S**	**11 34 01.5**	**-2.3**
	baz=168						
U59A	**Littleton**	**60.74**	**350**	IAmb	IAmb	11 26 06.5	
	comp=Z,359nm,1.1s						
FPAL	**Fort Paine**	**60.75**	**342**	IAmb	IAmb	11 26 06.1	
	comp=Z,268nm,0.8s						
U60A	**Pendleton**	**60.76**	**350**	P	**P**	**11 26 02.9**	**-0.5**
	baz=169,SNR=17						
U60A				S	**S**	**11 34 01.6**	**-2.3**
	baz=169						
V55A	**Taylorsville**	**60.91**	**346**	P	**P**	**11 26 04.4**	**0.0**
	baz=165,SNR=57						
V55A				S	**S**	**11 34 04.2**	**-1.8**
	baz=165						
V55A	**Taylorsville**	**60.91**	**346**	IAmb	IAmb	11 26 08.2	
	comp=Z,728nm,1.2s						
U58A	**Oxford**	**60.91**	**349**	P	**P**	**11 26 04.2**	**-0.2**
	baz=168,SNR=44						
U58A				S	**S**	**11 34 05.0**	**-0.9**
	baz=168						
V54A	**Nebo**	**61.00**	**346**	P	**P**	**11 26 04.7**	**-0.3**
	baz=164,SNR=42						
V54A				S	**S**	**11 34 04.8**	**-2.3**
	baz=164						
U57A	**Blanch**	**61.09**	**348**	P	**P**	**11 26 05.2**	**-0.4**
	baz=167,SNR=51						
U57A				S	**S**	**11 34 06.2**	**-2.0**
	baz=167						
V53A	**Saluda**	**61.09**	**345**	P	**P**	**11 26 05.2**	**-0.6**
U56A	**King**	**61.21**	**347**	P	**P**	**11 26 06.7**	**+0.2**
	baz=166,SNR=32						
U56A				S	**S**	**11 34 09.4**	**-0.4**
	baz=166						
U56A	**King**	**61.21**	**347**	IAmb	IAmb	11 26 10.4	
	comp=Z,685nm,1.4s						
W50A	**Signal Mountai**	**61.29**	**343**	IAmb	IAmb	11 26 10.0	
	comp=Z,340nm,1.0s						
T59A	**Double "B" Far**	**61.31**	**350**	P	**P**	**11 26 06.5**	**-0.6**
	baz=169,SNR=29						
T59A				S	**S**	**11 34 10.4**	**-0.5**
	baz=169						
T59A	**Double "B" Far**	**61.31**	**350**	P	**P**	**11 26 06.7**	**-0.4**
TKL	**Tuckaleechee C**	**61.32**	**344**	IAmb	IAmb	11 26 09.8	
	comp=Z,404nm,1.2s						
T60A	**Surry**	**61.35**	**351**	P	**P**	**11 26 07.2**	**-0.2**
	baz=169,SNR=6.8						
T60A	**Surry**	**61.35**	**351**	P	**P**	**11 26 07.1**	**-0.2**
T60A				IAmb	IAmb	11 26 11.2	
	comp=Z,379nm,0.9s						
NATX	**Nacogdoches**	**61.41**	**333**	P	**P**	**11 26 08.4**	**+0.6**
	baz=151,SNR=76						
NATX				S	**S**	**11 34 13.2**	**+0.7**
	baz=151						
T58A	**Grand View Acr**	**61.45**	**349**	P	**P**	**11 26 07.6**	**-0.4**
	baz=168,SNR=30						
T58A				S	**S**	**11 34 10.2**	**-2.5**
	baz=168						
V52A	**Sevierville**	**61.45**	**344**	P	**P**	**11 26 07.0**	**-1.0**
V52A				IAmb	IAmb	11 26 10.8	
	comp=Z,472nm,1.2s						
SWET	**Sewanee**	**61.48**	**342**	IAmb	IAmb	11 26 11.1	
	comp=Z,498nm,0.9s						
U55A	**TA2, Sparta**	**61.50**	**347**	P	**P**	**11 26 08.3**	**-0.2**
	baz=165,SNR=38						
U55A				S	**S**	**11 34 12.1**	**-1.4**
	baz=165						
MBO	**M'Bour**	**61.58**	**57**	P	**P**	**11 26 08.3**	**-1.0**
MBO				IAmb	IAmb	11 26 12.7	
	comp=Z,441nm,1.4s						
V51A	**Loudon**	**61.60**	**344**	P	**P**	**11 26 08.0**	**-1.1**
T57A	**Hurt**	**61.62**	**348**	P	**P**	**11 26 09.1**	**-0.1**
	baz=167,SNR=19						
T57A				S	**S**	**11 34 12.6**	**-2.4**
	baz=167						
U54A	**Nelsons Funny**	**61.68**	**346**	P	**P**	**11 26 09.3**	**-0.4**
	baz=164,SNR=44						
U54A				S	**S**	**11 34 15.3**	**-0.6**
	baz=164						
U54A	**Nelsons Funny**	**61.68**	**346**	IAmb	IAmb	11 26 13.0	
	comp=Z,380nm,1.1s						
S61A	**Accomac**	**61.73**	**352**	P	**P**	**11 26 09.6**	**-0.2**
	baz=171						
T56A	**Rocky Mt**	**61.80**	**348**	P	**P**	**11 26 10.5**	**+0.1**
	baz=166,SNR=41						
T56A				S	**S**	**11 34 18.4**	**+1.2**
	baz=166						
435B	**Jarrell**	**61.86**	**330**	P	**P**	**11 26 10.8**	**-0.1**
	baz=148,SNR=24						
435B				S	**S**	**11 34 19.3**	**+1.1**
	baz=148						
435B	**Jarrell**	**61.86**	**330**	IAmb	IAmb	11 26 14.5	
	comp=Z,262nm,0.9s						
S60A	**Water View**	**61.89**	**351**	P	**P**	**11 26 10.7**	**-0.3**
	baz=170						
OXF	**Oxford**	**61.90**	**339**	P	**P**	**11 26 09.5**	**-1.5**
	baz=156,SNR=108						
PLAL	**Pickwick Lake**	**61.90**	**340**	IAmb	IAmb	11 26 13.3	
	comp=Z,375nm,1.1s						
Z41A	**Richland Creek**	**61.98**	**335**	P	**P**	**11 26 11.6**	**0.0**
	baz=153,SNR=38						
Z41A				S	**S**	**11 34 21.8**	**+2.2**
	baz=153						
Z41A	**Richland Creek**	**61.98**	**335**	IAmb	IAmb	11 26 15.4	
	comp=Z,374nm,0.8s						
S58A	**Poland Farm, P**	**62.02**	**350**	P	**P**	**11 26 11.5**	**-0.3**
	baz=168,SNR=6.1						
S58A				S	**S**	**11 34 19.1**	**-0.7**
	baz=168						
T55A	**Pulaski**	**62.04**	**347**	P	**P**	**11 26 12.1**	**+0.1**
	baz=165,SNR=39						
T55A				S	**S**	**11 34 21.6**	**+1.4**
	baz=165						
S59A	**Mechanicsville**	**62.04**	**350**	P	**P**	**11 26 11.6**	**-0.3**
	baz=169,SNR=12						
S59A				S	**S**	**11 34 19.3**	**-0.8**
	baz=169						
BLA	**Blacksburg**	**62.05**	**348**	P	**P**	**11 26 12.0**	**-0.1**
	baz=166,SNR=23						
BLA				S	**S**	**11 34 21.7**	**+1.3**
	baz=166						
BLA	**Blacksburg**	**62.05**	**348**	IAmb	IAmb	11 26 15.2	
	comp=Z,564nm,1.5s						
TZTN	**Tazewell**	**62.10**	**345**	P	**P**	**11 26 11.4**	**-1.1**
	baz=162,SNR=18						
TZTN				S	**S**	**11 34 19.6**	**-1.4**
	baz=162						
237A	**Washetta, Mont**	**62.11**	**332**	P	**P**	**11 26 13.0**	**+0.5**
T54A	**Tazewell**	**62.15**	**346**	P	**P**	**11 26 12.1**	**-0.6**
	baz=164,SNR=21						
T54A				S	**S**	**11 34 21.1**	**-0.5**
	baz=164						
V48A	**Smith Brothers**	**62.22**	**341**	IAmb	IAmb	11 26 15.9	
	comp=Z,328nm,0.8s						
T53A	**Wise**	**62.28**	**346**	P	**P**	**11 26 12.8**	**-0.8**
	baz=164,SNR=27						
T53A				S	**S**	**11 34 22.4**	**-0.9**
	baz=164						
S57A	**Dark Hollow, R**	**62.31**	**349**	P	**P**	**11 26 13.4**	**-0.4**
	baz=167,SNR=25						
S57A				S	**S**	**11 34 23.4**	**-0.1**
	baz=167						
S57A	**Dark Hollow, R**	**62.31**	**349**	P	**P**	**11 26 13.7**	**-0.1**
S57A				IAmb	IAmb	11 26 16.5	
	comp=Z,367nm,1.5s						
R61A	**Willards**	**62.33**	**352**	P	**P**	**11 26 13.7**	**-0.1**
	baz=171						
R58B	**Mineral**	**62.33**	**350**	P	**P**	**11 26 13.7**	**-0.2**
	baz=168,SNR=32						
R58B				S	**S**	**11 34 22.8**	**-1.0**
	baz=168						
S56A	**Natural Bridge**	**62.34**	**348**	P	**P**	**11 26 13.7**	**-0.3**
	baz=167,SNR=13						
S56A				S	**S**	**11 34 24.8**	**+0.8**
	baz=167						
X43A	**Marvell**	**62.41**	**337**	P	**P**	**11 26 13.9**	**-0.5**
	baz=155,SNR=42						
X43A				S	**S**	**11 34 24.3**	**-0.5**
	baz=155						
CLTN	**Cedars of Leba**	**62.41**	**342**	IAmb	IAmb	11 26 17.1	
	comp=Z,298nm,0.9s						
R60A	**Leonardtown, M**	**62.43**	**351**	P	**P**	**11 26 14.3**	**-0.2**
	baz=170						
R59A	**King George, V**	**62.44**	**351**	P	**P**	**11 26 14.5**	**0.0**
	baz=169,SNR=10.0						
R59A				S	**S**	**11 34 27.1**	**+2.0**
	baz=169						
CBN	**Corbin Frederi**	**62.49**	**350**	P	**P**	**11 26 14.5**	**-0.4**
	baz=169						
CBN				S	**S**	**11 34 24.6**	**-1.1**
	baz=169						
CBN	**Corbin Frederi**	**62.49**	**350**	IAmb	IAmb	11 26 18.2	
	comp=Z,336nm,1.4s						
S55A	**Lewisburg**	**62.61**	**348**	P	**P**	**11 26 15.9**	**+0.1**
	baz=166,SNR=61						
S55A				S	**S**	**11 34 28.9**	**+1.5**
	baz=166						
JCT	**Junction City**	**62.66**	**328**	P	**P**	**11 26 16.2**	**-0.1**
	baz=146,SNR=133						
JCT				S	**S**	**11 34 28.1**	**-0.2**
	baz=146						
R58A	**Rapidan**	**62.68**	**350**	P	**P**	**11 26 16.0**	**-0.2**
	baz=168,SNR=20						
R58A				S	**S**	**11 34 29.0**	**+0.9**
	baz=168						
R57A	**Stanardsville**	**62.76**	**349**	P	**P**	**11 26 16.9**	**+0.1**
	baz=168,SNR=23						
R57A				S	**S**	**11 34 30.3**	**+1.2**
	baz=168						
S54A	**Dingess, Beckl**	**62.80**	**347**	P	**P**	**11 26 16.6**	**-0.4**
	baz=165,SNR=40						
S54A				S	**S**	**11 34 30.2**	**+0.4**
	baz=165						
S54A	**Dingess, Beckl**	**62.80**	**347**	IAmb	IAmb	11 26 20.3	
	comp=Z,540nm,1.2s						
WHTX	**Lake Whitney,**	**62.83**	**331**	P	**P**	**11 26 17.1**	**-0.2**
	baz=148,SNR=84						
WHTX				S	**S**	**11 34 29.2**	**-0.9**
	baz=148						
WHTX	**Lake Whitney,**	**62.83**	**331**	IAmb	IAmb	11 26 20.8	
	comp=Z,527nm,1.1s						
Z38A	**Mt. Pleasant**	**62.85**	**333**	P	**P**	**11 26 17.8**	**+0.4**
S53A	**Williamson**	**62.86**	**346**	P	**P**	**11 26 16.8**	**-0.6**
	baz=164,SNR=14						
S53A				S	**S**	**11 34 30.2**	**-0.3**
	baz=164						
WVT	**Waverly**	**62.88**	**341**	P	**P**	**11 26 16.4**	**-1.2**
WVT				pmax	pmax		
	comp=Z,550nm,0.8s						
WVT	**Waverly**	**62.88**	**341**	P	**P**	**11 26 16.5**	**-1.0**
	baz=158						
WVT				S	**S**	**11 34 27.9**	**-2.8**
	baz=158						
WVT	**Waverly**	**62.88**	**341**	P	**P**	**11 26 16.4**	**-1.2**
R56A	**Bull Pasture M**	**63.02**	**349**	P	**P**	**11 26 18.7**	**+0.2**
	baz=167,SNR=11						
R56A				S	**S**	**11 34 34.8**	**+2.3**
	baz=167						
Q59A	**Harwood**	**63.03**	**351**	P	**P**	**11 26 18.4**	**-0.1**
	baz=170						
Q59A				S	**S**	**11 34 34.1**	**+1.7**
	baz=170						
R55A	**Marlinton**	**63.03**	**348**	P	**P**	**11 26 18.9**	**+0.3**
	baz=166,SNR=39						
R55A				S	**S**	**11 34 36.4**	**+3.8**
	baz=166						
R55A	**Marlinton**	**63.03**	**348**	P	**P**	**11 26 18.9**	**+0.3**
Q60A	**Greensboro**	**63.05**	**352**	P	**P**	**11 26 18.5**	**-0.1**
	baz=170						
Q60A	**Greensboro**	**63.05**	**352**	P	**P**	**11 26 19.1**	**+0.5**
Q60A				IAmb	IAmb	11 26 22.4	
	comp=Z,382nm,0.9s						
X40A	**Basin Creek Fa**	**63.09**	**336**	P	**P**	**11 26 18.1**	**-0.8**
	baz=153,SNR=43						
X40A				S	**S**	**11 34 33.8**	**+0.5**
	baz=153						
R54A	**Victor**	**63.10**	**347**	P	**P**	**11 26 18.8**	**-0.3**
	baz=165,SNR=47						
R54A				S	**S**	**11 34 34.6**	**+1.1**
	baz=165						
HALT	**Halls**	**63.15**	**339**	IAmb	IAmb	11 26 21.6	
	comp=Z,268nm,0.6s						
S51A	**Beattyville**	**63.16**	**345**	P	**P**	**11 26 18.4**	**-1.0**
UALR	**University of**	**63.16**	**336**	IAmb	IAmb	11 26 22.3	
	comp=Z,287nm,1.0s						
Q58A	**Fox Den Farm,**	**63.26**	**350**	P	**P**	**11 26 19.8**	**-0.1**
	baz=169,SNR=22						
Q58A				S	**S**	**11 34 37.5**	**+2.3**
	baz=169						
HBAR	**Harrisburg**	**63.27**	**338**	P	**P**	**11 26 19.1**	**-1.0**
HBAR				IAmb	IAmb	11 26 22.9	
	comp=Z,625nm,1.3s						
LNXT	**Lenox**	**63.38**	**339**	P	**P**	**11 26 20.4**	**-0.4**
MIAR	**Mount Ida**	**63.42**	**335**	P	**P**	**11 26 20.7**	**-0.4**
	baz=152,SNR=184						
MIAR				S	**S**	**11 34 36.0**	**-1.4**
	baz=152						
R53A	**Hurricane**	**63.45**	**347**	P	**P**	**11 26 20.8**	**-0.4**
	baz=164,SNR=13						
R53A				S	**S**	**11 34 36.8**	**-0.9**
	baz=164						
Q57A	**Strasburg**	**63.46**	**350**	P	**P**	**11 26 21.7**	**+0.4**
	baz=168,SNR=32						
Q57A				S	**S**	**11 34 39.6**	**+1.8**
	baz=168						
T47A	**Sharon Grove**	**63.47**	**342**	P	**P**	**11 26 20.1**	**-1.3**
T47A				IAmb	IAmb	11 26 24.3	
	comp=Z,361nm,0.8s						
W41B	**Gary Mavity, V**	**63.48**	**337**	P	**P**	**11 26 20.7**	**-0.8**
	baz=154,SNR=67						
W41B				S	**S**	**11 34 39.2**	**+1.0**
	baz=154						
W41B	**Gary Mavity, V**	**63.48**	**337**	IAmb	IAmb	11 26 24.4	
	comp=Z,264nm,1.2s						
P61A	**Hammonton**	**63.59**	**353**	P	**P**	**11 26 22.1**	**0.0**
	baz=172						
P61A				S	**S**	**11 34 41.3**	**+2.0**
	baz=172						
P61A	**Hammonton**	**63.59**	**353**	P	**P**	**11 26 22.2**	**+0.1**
P61A				IAmb	IAmb	11 26 25.6	
	comp=Z,408nm,1.1s						
Q56A	**Snyder Ridge,**	**63.60**	**349**	P	**P**	**11 26 22.6**	**+0.4**
	baz=167,SNR=21						
Q56A				S	**S**	**11 34 40.5**	**+1.0**
	baz=167						
Q56A	**Snyder Ridge,**	**63.60**	**349**	P	**P**	**11 26 22.6**	**+0.4**
WHAR	**Wooly Hollow**	**63.60**	**337**	IAmb	IAmb	11 26 25.2	
	comp=Z,185nm,0.9s						
Q55A	**Buckhannon**	**63.72**	**348**	P	**P**	**11 26 23.3**	**+0.3**
	baz=166,SNR=36						
Q55A				S	**S**	**11 34 40.9**	**-0.1**
	baz=166						
TXAR	**Lajitas Array**	**63.72**	**324**	P	**P**	**11 26 23.4**	**+0.1**
	comp=Z,62nm,0.8s,baz=146,slow=7.9,SNR=280						
TXAR				S	**S**	**11 34 42.3**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=33,slow=14,SNR=1.2						
TXAR				PKPPKP	**P'P'df**	**11 55 16.1**	**+1.6**
	comp=Z,1.7nm,1.0s,baz=318,slow=1.7,SNR=6.8						
TXAR				P4KPbc		12 03 18.8	
	comp=Z,2.4nm,0.8s,baz=128,slow=5.8,SNR=15						
TX31	**Lajitas Ar. Si**	**63.73**	**324**	IAmb	IAmb	11 26 49.1	
	comp=Z,320nm,1.1s						
P59A	**Jarrettsville**	**63.73**	**352**	P	**P**	**11 26 23.2**	**+0.1**
	baz=170,SNR=44						
P59A				S	**S**	**11 34 42.6**	**+1.5**
	baz=170						
P58A	**Pank, Wackersv**	**63.73**	**351**	P	**P**	**11 26 23.0**	**0.0**
	baz=169,SNR=17						
P58A				S	**S**	**11 34 41.0**	**-0.1**
	baz=169						
LPIG	**La Paz**	**63.76**	**315**	P	**P**	**11 26 24.6**	**+1.1**
	comp=Z,217nm,1.0s,baz=108,slow=0.2,SNR=21						
P60A	**Greenville**	**63.83**	**352**	P	**P**	**11 26 23.3**	**-0.4**
	baz=171,SNR=13						
P60A				S	**S**	**11 34 40.8**	**-1.3**
	baz=171						
P57A	**Homestead Farm**	**63.84**	**350**	P	**P**	**11 26 24.0**	**+0.3**
	baz=168,SNR=28						
P57A				S	**S**	**11 34 44.4**	**+2.1**
	baz=168						
Q54A	**Coxs Mills**	**63.85**	**348**	P	**P**	**11 26 23.3**	**-0.6**
	baz=166,SNR=27						
Q54A				S	**S**	**11 34 43.7**	**+1.2**
	baz=166						
Q54A	**Coxs Mills**	**63.85**	**348**	IAmb	IAmb	11 26 26.9	
	comp=Z,281nm,1.2s						
Q53A	**Leroy**	**63.87**	**347**	P	**P**	**11 26 23.5**	**-0.5**
	baz=165,SNR=40						
Q53A				S	**S**	**11 34 42.6**	**-0.1**
	baz=165						
LCAR	**Lake Charles**	**63.90**	**338**	IAmb	IAmb	11 26 26.8	
	comp=Z,335nm,1.2s						
PSUB	**Penn St. - Bra**	**63.92**	**352**	P	**P**	**11 26 24.0**	**-0.2**
NVL	**N'lazarevskaya**	**63.94**	**159**	⇑/P	**P**	**11 26 24.4**	**+0.3**
NVL				/S	**S**	**11 34 41.1**	**-1.9**
	comp=Z,304nm,0.8s			pmax	pmax		
O61A	**Allentown**	**63.98**	**353**	P	**P**	**11 26 24.5**	**-0.1**
	baz=172,SNR=6.2						
O61A				S	**S**	**11 34 43.4**	**-0.6**
	baz=172						
P56A	**Dayton Farm, R**	**63.99**	**349**	P	**P**	**11 26 25.0**	**+0.3**
	baz=168,SNR=21						
P56A				S	**S**	**11 34 45.4**	**+1.2**
	baz=168						
W39A	**Magazine**	**64.07**	**335**	P	**P**	**11 26 25.4**	**0.0**
	baz=152,SNR=223						
W39A				S	**S**	**11 34 43.8**	**-1.6**
	baz=152						
W39A	**Magazine**	**64.07**	**335**	P	**P**	**11 26 25.4**	**0.0**
FCAR	**Ozark Folk Cen**	**64.08**	**337**	IAmb	IAmb	11 26 27.9	
	comp=Z,403nm,1.1s						
Q52A	**Bidwell**	**64.12**	**346**	P	**P**	**11 26 24.9**	**-0.7**
	baz=164,SNR=20						
Q52A				S	**S**	**11 34 44.7**	**-1.2**
	baz=164						
R49A	**Shelbyville**	**64.17**	**344**	P	**P**	**11 26 24.9**	**-1.0**
P55A	**Reedsville**	**64.17**	**349**	P	**P**	**11 26 26.0**	**+0.1**
	baz=167,SNR=18						
P55A				S	**S**	**11 34 46.2**	**-0.3**
	baz=167						
O60A	**Telford**	**64.30**	**353**	P	**P**	**11 26 26.8**	**+0.1**
	baz=171,SNR=22						
O60A				S	**S**	**11 34 48.6**	**+0.7**
	baz=171						
O58A	**Lewisberry**	**64.30**	**351**	P	**P**	**11 26 26.9**	**+0.1**
	baz=170,SNR=19						
O58A				S	**S**	**11 34 49.0**	**+0.9**
	baz=170						
MCWV	**Mont Chateau**	**64.32**	**349**	P	**P**	**11 26 27.0**	**+0.1**
	baz=167,SNR=24						
MCWV				S	**S**	**11 34 50.3**	**+2.0**
	baz=167						
ABTX	**Abilene, Hawle**	**64.36**	**329**	P	**P**	**11 26 27.2**	**-0.2**
	baz=146,SNR=146						
ABTX				S	**S**	**11 34 48.6**	**-0.5**
	baz=146						
P54A	**Burton**	**64.38**	**348**	P	**P**	**11 26 27.1**	**-0.2**
	baz=166,SNR=55						
P54A				S	**S**	**11 34 49.9**	**+0.8**
	baz=166						
PAGS	**Pennsylvania G**	**64.38**	**351**	P	**P**	**11 26 27.2**	**-0.1**
O59A	**Robesonia**	**64.39**	**352**	P	**P**	**11 26 27.2**	**-0.1**
	baz=170,SNR=18						
O59A				S	**S**	**11 34 50.0**	**+0.9**
	baz=170						
WCI	**Wyandotte Cave**	**64.40**	**343**	P	**P**	**11 26 26.0**	**-1.4**
WCI				pmax	pmax		
	comp=Z,315nm,1.0s						
WCI	**Wyandotte Cave**	**64.40**	**343**	P	**P**	**11 26 26.1**	**-1.4**
	baz=160						
WCI				S	**S**	**11 34 44.5**	**-4.9**
	baz=160						
WCI	**Wyandotte Cave**	**64.40**	**343**	P	**P**	**11 26 26.0**	**-1.4**
WCI				IAmb	IAmb	11 26 29.5	
	comp=Z,315nm,0.9s						
Q51A	**Peebles**	**64.42**	**346**	IAmb	IAmb	11 26 30.3	
	comp=Z,340nm,1.5s						
P53A	**Whipple**	**64.44**	**347**	P	**P**	**11 26 27.4**	**-0.3**
	baz=165,SNR=50						
P53A				S	**S**	**11 34 49.1**	**-0.7**
	baz=165						
O57A	**Amberson**	**64.49**	**351**	P	**P**	**11 26 28.2**	**+0.2**
	baz=169,SNR=24						
O57A				S	**S**	**11 34 50.7**	**+0.2**
	baz=169						
USIN	**University of**	**64.54**	**342**	IAmb	IAmb	11 26 30.1	
	comp=Z,261nm,1.1s						
BRNJ	**Basking Ridge**	**64.56**	**353**	IAmb	IAmb	11 26 32.3	
	comp=Z,218nm,0.9s						
N61A	**South Mountain**	**64.60**	**354**	P	**P**	**11 26 28.8**	**+0.2**
	baz=172,SNR=33						
CPNY	**Central Park**	**64.61**	**354**	IAmb	IAmb	11 26 32.1	
	comp=Z,378nm,1.2s						
O56A	**Blue Knob Stat**	**64.69**	**350**	P	**P**	**11 26 29.5**	**+0.1**
	baz=168,SNR=26						
O56A				S	**S**	**11 34 53.5**	**+0.6**
	baz=168						
N62A	**Caumsett State**	**64.70**	**354**	P	**P**	**11 26 29.1**	**-0.2**
	baz=173,SNR=8.0						
N62A				S	**S**	**11 34 52.4**	**-0.4**
	baz=173						
P52A	**Corning**	**64.74**	**347**	P	**P**	**11 26 28.7**	**-0.9**
	baz=164,SNR=34						
P52A				S	**S**	**11 34 52.6**	**-0.8**
	baz=164						
P52A	**Corning**	**64.74**	**347**	IAmb	IAmb	11 26 32.3	
	comp=Z,513nm,1.2s						
O55A	**Ligonier**	**64.76**	**349**	P	**P**	**11 26 29.9**	**+0.1**
	baz=167,SNR=31						
O55A				S	**S**	**11 34 53.5**	**-0.1**
	baz=167						
U40A	**Yellville**	**64.76**	**337**	P	**P**	**11 26 29.1**	**-0.8**
	baz=154,SNR=231						
U40A				S	**S**	**11 34 52.6**	**-1.3**
	baz=154						
U40A	**Yellville**	**64.76**	**337**	IAmb	IAmb	11 26 32.7	
	comp=Z,518nm,1.1s						
P51A	**Williamsport**	**64.79**	**346**	P	**P**	**11 26 28.7**	**-1.2**
	baz=163,SNR=23						
P51A				S	**S**	**11 34 52.6**	**-1.5**
	baz=163						
P51A	**Williamsport**	**64.79**	**346**	IAmb	IAmb	11 26 32.5	
	comp=Z,365nm,1.4s						
N60A	**Cedar Hill Far**	**64.81**	**353**	P	**P**	**11 26 29.8**	**-0.3**
	baz=171,SNR=38						
N60A				S	**S**	**11 34 53.5**	**-0.7**
	baz=171						
PAL	**Palisades**	**64.82**	**354**	P	**P**	**11 26 29.7**	**-0.3**
	baz=173,SNR=33						
PAL				S	**S**	**11 34 53.2**	**-1.1**
	baz=173						
PAL	**Palisades**	**64.82**	**354**	IAmb	IAmb	11 26 34.1	
	comp=Z,408nm,1.2s						
O54A	**Avella**	**64.92**	**348**	P	**P**	**11 26 30.0**	**-0.7**
	baz=166,SNR=17						
O54A				S	**S**	**11 34 55.8**	**+0.1**
	baz=166						
WSPT	**Westport, CT**	**64.92**	**354**	IAmb	IAmb	11 26 34.3	
	comp=Z,352nm,1.0s						
N59A	**State Game Lan**	**64.93**	**352**	P	**P**	**11 26 31.1**	**+0.2**
	baz=171,SNR=39						
N59A				S	**S**	**11 34 56.3**	**+0.4**
	baz=171						
N59A	**State Game Lan**	**64.93**	**352**	IAmb	IAmb	11 26 34.8	
	comp=Z,416nm,1.4s						
SSPA	**Standing Stone**	**64.95**	**351**	P	**P**	**11 26 30.8**	**-0.1**
	baz=169						
SSPA				S	**S**	**11 34 57.5**	**+1.6**
	baz=169						
SSPA	**Standing Stone**	**64.95**	**351**	P	**P**	**11 26 30.8**	**-0.1**
ODNJ	**Ogdensburg**	**64.96**	**353**	IAmb	IAmb	11 26 34.6	
	comp=Z,329nm,1.2s						
N58A	**Sunbury**	**64.98**	**352**	P	**P**	**11 26 31.4**	**+0.3**
	baz=170,SNR=48						
N58A				S	**S**	**11 34 56.5**	**+0.3**
	baz=170						
N58A	**Sunbury**	**64.98**	**352**	IAmb	IAmb	11 26 35.0	
	comp=Z,310nm,1.1s						
N57A	**Milroy**	**65.01**	**351**	P	**P**	**11 26 31.2**	**-0.1**
	baz=169,SN

M63A S S 11 34 59.0 +1.9
baz=174
HHAR Hobbs 65.09 336 IAmb IAmb 11 26 35.1
comp=Z,348nm,0.7s
M61A Granite Spring 65.11 354 P P 11 26 31.7 -0.2
baz=173,SNR=35
M61A S S 11 34 59.3 +1.5
baz=173
M65A Busby, Falmout 65.12 357 P P 11 26 31.6 -0.4
baz=176
M65A Busby, Falmout 65.12 357 P P 11 26 31.3 -0.7
M65A IAmb IAmb 11 26 35.8
comp=Z,287nm,1.0s
O52A Adamsville 65.14 347 P P 11 26 31.4 -0.7
baz=165,SNR=29
O52A S S 11 34 56.4 -2.0
baz=165
O52A Adamsville 65.14 347 IAmb IAmb 11 26 35.1
comp=Z,336nm,1.2s
M64A Tiverton 65.14 356 P P 11 26 31.7 -0.4
baz=175,SNR=20
M64A S S 11 34 58.4 +0.2
baz=175
O53A New Philadelph 65.15 348 P P 11 26 31.5 -0.7
baz=165,SNR=29
O53A S S 11 34 55.6 -2.8
baz=165
O53A New Philadelph 65.15 348 IAmb IAmb 11 26 35.4
comp=Z,389nm,1.2s
M62A Hamden 65.16 355 P P 11 26 32.4 +0.2
baz=174,SNR=49
M62A S S 11 34 58.1 -0.3
baz=174
M60A Port Jervis 65.21 353 P P 11 26 32.5 0.0
baz=172,SNR=52
M60A S S 11 34 57.6 -1.5
baz=172
P49A Miami Univ. Ec 65.23 345 P P 11 26 31.3 -1.5
baz=162,SNR=32
P49A S S 11 34 54.5 -4.9
baz=162
P49A Miami Univ. Ec 65.23 345 IAmb IAmb 11 26 34.9
comp=Z,452nm,1.4s
N55A Marion Center 65.26 350 P P 11 26 33.0 0.0
baz=168,SNR=48
N55A S S 11 34 59.1 -0.7
baz=168
N56A West Decatur 65.28 350 P P 11 26 33.1 0.0
baz=168,SNR=14
N56A S S 11 35 00.9 +0.8
baz=168
O51A Pataskala 65.33 347 P P 11 26 32.4 -1.0
baz=164,SNR=27
O51A S S 11 34 57.6 -3.1
baz=164
BLO Bloomington 65.35 343 IAmb IAmb 11 26 35.8
comp=Z,280nm,1.0s
OLIL Olney 65.38 342 IAmb IAmb 11 26 35.6
comp=Z,234nm,1.1s
U38A Gravette 65.40 336 IAmb IAmb 11 26 37.0
comp=Z,318nm,0.8s
M58A Price's Panora 65.47 352 P P 11 26 34.6 +0.3
baz=170,SNR=72
M58A S S 11 35 01.7 -0.7
baz=170
L63A North Scituate 65.48 356 P P 11 26 34.5 +0.2
baz=175,SNR=112
L63A S S 11 35 01.7 -0.6
baz=175
TUL1 Leonard 65.48 334 P P 11 26 34.1 -0.4
baz=151,SNR=97
TUL1 S S 11 35 02.3 -0.4
baz=151
KSCT Kent School, K 65.49 354 IAmb IAmb 11 26 38.0
comp=Z,468nm,1.3s
ACSO Alum Creek Sta 65.49 346 P P 11 26 33.5 -0.9
baz=164,SNR=44
ACSO S S 11 35 01.4 -1.2
baz=164
ACSO Alum Creek Sta 65.49 346 P P 11 26 34.0 -0.5
ACSO IAmb IAmb 11 26 37.1
comp=Z,444nm,1.2s
L64A Middleborough 65.51 357 P P 11 26 34.4 0.0
baz=176,SNR=52
L64A S S 11 35 04.3 +1.6
baz=176
M59A Waymart 65.51 353 P P 11 26 34.8 +0.3
baz=171,SNR=121
M59A S S 11 35 04.7 +1.9
baz=171
M57A Sunshine Farm, 65.52 351 P P 11 26 34.9 +0.2
baz=169,SNR=51
M57A S S 11 35 04.4 +1.4
baz=169
M57A Sunshine Farm, 65.52 351 IAmb IAmb 11 26 38.5
comp=Z,262nm,0.9s
KSPA Keystone Colle 65.56 352 IAmb IAmb 11 26 38.7
comp=Z,454nm,1.1s
N54A Moraine State 65.61 349 P P 11 26 35.3 +0.1
baz=167,SNR=51
N54A S S 11 35 04.9 +0.9
baz=167
N54A Moraine State 65.61 349 IAmb IAmb 11 26 38.9
comp=Z,484nm,1.2s
N53A Lisbon 65.61 348 P P 11 26 34.7 -0.5
baz=166,SNR=25
N53A S S 11 35 02.5 -1.5
baz=166
N53A Lisbon 65.61 348 IAmb IAmb 11 26 38.6
comp=Z,311nm,1.2s
OKCSW OKLAHOMA CITY 65.72 333 P P 11 26 35.7 -0.3
L62A Suffield 65.73 355 P P 11 26 35.5 -0.3
baz=174
CCM Cathedral Cave 65.73 339 P P 11 26 35.2 -0.8
CCM pmax pmax
comp=Z,575nm,0.7s
CCM Cathedral Cave 65.73 339 P P 11 26 35.4 -0.6
baz=155
CCM S S 11 35 04.7 -0.8
baz=155
CCM Cathedral Cave 65.73 339 P P 11 26 35.2 -0.8
WMOK Wichita Mounta 65.73 331 P P 11 26 35.3 -0.8
baz=148,SNR=40
WMOK S S 11 35 03.0 -2.8
baz=148
WMOK Wichita Mounta 65.73 331 IAmb IAmb 11 26 39.0
comp=Z,302nm,1.3s
OKCFA Oklahoma City 65.74 333 IAmb IAmb 11 26 38.1
comp=Z,290nm,1.0s
O49A Covington 65.76 345 IAmb IAmb 11 26 38.6
comp=Z,359nm,1.3s
N52A McGinn's Farm, 65.78 347 P P 11 26 35.3 -1.0
baz=165,SNR=17
N52A S S 11 35 04.8 -1.3
baz=165
Q44A Meyer Farm, Va 65.80 341 IAmb IAmb 11 26 38.2
comp=Z,323nm,1.2s
M56A Emporium 65.82 350 P P 11 26 36.4 -0.1
baz=168,SNR=58
M56A S S 11 35 04.3 -2.3
baz=168
M56A Emporium 65.82 350 IAmb IAmb 11 26 40.1
comp=Z,415nm,1.2s
L60A Shokan 65.82 354 P P 11 26 36.9 +0.4
baz=172,SNR=94
L60A S S 11 35 07.4 +0.9
baz=172
M55A Ridgway 65.90 350 P P 11 26 36.8 -0.2
baz=168,SNR=39
M55A S S 11 35 06.3 -1.2
baz=168
M55A Ridgway 65.90 350 IAmb IAmb 11 26 40.6
comp=Z,504nm,1.3s
P46A Rosedale 65.95 343 IAmb IAmb 11 26 39.3
comp=Z,269nm,1.1s
L61A Hillsdale 1, H 65.96 354 P P 11 26 37.5 +0.1
baz=173,SNR=40
L61A S S 11 35 08.3 +0.2
baz=173
N51A Ashland 66.02 347 P P 11 26 36.8 -1.0
baz=164,SNR=12
N51A S S 11 35 06.3 -2.7
baz=164
N51A Ashland 66.02 347 IAmb IAmb 11 26 40.5
comp=Z,354nm,1.4s
L58A Harry Jones Me 66.06 352 P P 11 26 38.5 +0.5
baz=171,SNR=112
L58A S S 11 35 08.5 -0.8
baz=171
M54A Oil Creek Stat 66.08 349 P P 11 26 37.9 -0.3
baz=167,SNR=59
M54A S S 11 35 09.1 -0.7
baz=167
M54A Oil Creek Stat 66.08 349 IAmb IAmb 11 26 41.6
comp=Z,467nm,1.2s
L59A Walton 66.11 353 P P 11 26 38.8 +0.4
baz=172,SNR=140
L59A S S 11 35 10.4 +0.4
baz=172
HRV Adam Dziewonsk 66.12 356 P P 11 26 38.5 +0.2
HRV pmax pmax
comp=Z,332nm,0.9s
HRV Adam Dziewonsk 66.12 356 P P 11 26 38.6 +0.3
baz=175
HRV S S 11 35 12.1 +2.0
baz=175
HRV Adam Dziewonsk 66.12 356 P P 11 26 38.5 +0.2
HRV IAmb IAmb 11 26 42.6
comp=Z,332nm,0.9s
L57A Andrews Acres 66.14 352 P P 11 26 38.6 0.0
baz=170,SNR=41
L57A S S 11 35 09.1 -1.3
baz=170
L61B Northampton 66.14 355 P P 11 26 38.4 -0.1
baz=174
L61B S S 11 35 11.8 +1.5
baz=174
M53A WI Miller and 66.19 348 P P 11 26 38.3 -0.6
baz=166,SNR=28
M53A S S 11 35 11.0 -0.1
baz=166
M53A WI Miller and 66.19 348 IAmb IAmb 11 26 42.1
comp=Z,276nm,1.1s
BINY Binghamton 66.22 352 P P 11 26 39.4 +0.3
baz=171,SNR=107
BINY S S 11 35 12.0 +0.6
baz=171
R40A Maddies Statio 66.29 338 IAmb IAmb 11 26 42.3
comp=Z,392nm,0.8s
K63A Dunstable 66.30 356 P P 11 26 39.4 0.0
baz=175,SNR=25
K63A S S 11 35 13.2 +1.1
baz=175
ALLY Alegheny Colle 66.30 349 IAmb IAmb 11 26 42.9
comp=Z,372nm,1.1s
K62A Royalston 66.32 355 P P 11 26 39.7 0.0
baz=174,SNR=41
K62A S S 11 35 12.6 +0.1
baz=174
K62A Royalston 66.32 355 IAmb IAmb 11 26 43.5
comp=Z,326nm,1.2s
L56A Greenwood 66.37 351 P P 11 26 40.1 0.0
baz=169,SNR=67
L56A S S 11 35 14.1 +0.8
baz=169
L56A Greenwood 66.37 351 IAmb IAmb 11 26 43.7
comp=Z,618nm,1.2s
M51A Elyria 66.38 347 P P 11 26 39.4 -0.7
baz=164,SNR=13
M51A S S 11 35 10.6 -2.7
baz=164
K61A Williamstown 66.41 355 P P 11 26 40.5 +0.3
baz=173,SNR=46
K61A S S 11 35 15.1 +1.5
baz=173
K60A Five Rivers En 66.41 354 P P 11 26 40.7 +0.5
baz=173,SNR=13
K60A S S 11 35 17.5 +3.9
baz=173
QSPA South Pole Qui 66.42 180 P P 11 26 41.2 +0.9
comp=Z,197nm,0.7s,baz=178,slow=1.2,SNR=612
QSPA South Pole Qui 66.42 180 P P 11 26 41.2 +0.9
QSPA IAmb IAmb 11 26 43.9
comp=Z,263nm,0.8s
M52A Chesterland 66.42 348 P P 11 26 39.8 -0.5
baz=165,SNR=18
M52A S S 11 35 11.6 -2.2
baz=165
M52A Chesterland 66.42 348 IAmb IAmb 11 26 43.4
comp=Z,375nm,1.4s
N49A Columbus Grove 66.42 346 IAmb IAmb 11 26 43.0
comp=Z,483nm,1.2s
MNTX Cornudas Mount 66.49 324 P P 11 26 40.3 -0.7
baz=141,SNR=299
MNTX S S 11 35 17.9 +2.8
baz=141
MNTX Cornudas Mount 66.49 324 IAmb IAmb 11 26 44.0
comp=Z,339nm,1.1s
TRY Troy 66.50 354 IAmb IAmb 11 26 45.5
comp=Z,519nm,1.0s
L55A Hinsdale 66.54 350 P P 11 26 41.2 0.0
baz=168,SNR=50
L55A S S 11 35 15.9 +0.6
baz=168
L53A Girard 66.62 349 P P 11 26 41.2 -0.4
baz=166,SNR=41
L53A S S 11 35 16.4 +0.3
baz=166
SFIN Lafayette 66.63 343 P P 11 26 39.8 -1.8
baz=160,SNR=67
SFIN S S 11 35 12.9 -3.4
baz=160
SFIN Lafayette 66.63 343 IAmb IAmb 11 26 43.5
comp=Z,332nm,1.1s
P43A Skaggs, Pawnee 66.63 341 IAmb IAmb 11 26 43.8
comp=Z,366nm,0.9s
K59A Cooperstown 66.66 353 P P 11 26 42.3 +0.4
baz=172,SNR=178
K59A S S 11 35 18.3 +1.6
baz=172
ERPA Erie 66.73 349 P P 11 26 42.0 -0.3
baz=167,SNR=36
ERPA S S 11 35 17.1 -0.4
baz=167
ERPA Erie 66.73 349 IAmb IAmb 11 26 45.6
comp=Z,428nm,0.8s
L54A Sinclairville 66.73 350 P P 11 26 42.2 -0.1
baz=167,SNR=79
L54A S S 11 35 17.5 0.0
baz=167
K58A Earlville 66.74 353 P P 11 26 42.6 +0.2
baz=171,SNR=157
K58A S S 11 35 19.2 +1.6
baz=171
N47A Urbana 66.74 344 IAmb IAmb 11 26 44.5
comp=Z,568nm,1.2s
WVNY West Valley, N 66.79 350 IAmb IAmb 11 26 46.4
comp=Z,556nm,1.1s
K57A Scipio Center 66.81 352 P P 11 26 42.5 -0.3
baz=170,SNR=50
K57A S S 11 35 19.2 +0.8
baz=170
J62A Henniker 66.85 356 P P 11 26 43.2 +0.2
baz=175,SNR=40
J62A S S 11 35 21.0 +2.2
baz=175
J63A Strafford 66.86 356 P P 11 26 43.1 +0.1
baz=176,SNR=8.3
J63A S S 11 35 21.9 +3.0
baz=176
K56A Middlesex 66.89 351 P P 11 26 43.2 -0.1
baz=169,SNR=68
K56A S S 11 35 19.7 +0.3
baz=169
MSTX Muleshoe 66.96 328 P P 11 26 43.7 -0.4
baz=144,SNR=330
MSTX S S 11 35 19.3 -1.4
baz=144
J60A Lant Hill Farm 66.99 355 P P 11 26 44.4 +0.5
baz=173,SNR=40
J60A S S 11 35 23.1 +2.6
baz=173
K54A Basiliko Farm, 67.00 350 P P 11 26 43.9 -0.1
baz=168,SNR=77
K54A S S 11 35 21.6 +0.9
baz=168
LIC Lamto 67.01 72 *e*P P 11 26 43.2 -1.5
comp=Z,269nm,0.9s
K55A Perry 67.02 351 P P 11 26 43.9 -0.2
baz=169,SNR=52
K55A S S 11 35 20.1 -0.8
baz=169
J61A Chester 67.02 355 P P 11 26 44.4 +0.3
baz=174,SNR=46
J61A S S 11 35 20.9 +0.1
baz=174
FFD Franklin Falls 67.08 356 IAmb IAmb 11 26 49.1
comp=Z,270nm,1.0s
AMTX Amarillo 67.18 329 P P 11 26 45.0 -0.3
baz=145
AMTX S S 11 35 22.3 -1.0
baz=145
AMTX Amarillo 67.18 329 IAmb IAmb 11 26 47.8
comp=Z,595nm,1.3s
U32A Winter Ranch, 67.22 332 IAmb IAmb 11 26 49.0
comp=Z,393nm,0.9s
TIC Toumodi 67.22 71 *e*P P 11 26 44.7 -1.3
SRIG Santa Rosalia 67.25 316 IAmb IAmb 11 26 50.7
comp=Z,522nm,1.3s
J58A Remsen 67.29 353 P P 11 26 45.7 0.0
baz=171,SNR=65
J58A S S 11 35 23.9 -0.2
baz=171
J58A Remsen 67.29 353 IAmb IAmb 11 26 49.5
comp=Z,438nm,1.2s
J59A Piesco 67.31 354 P P 11 26 46.2 +0.2
baz=172,SNR=145
J59A S S 11 35 26.9 +2.5
baz=172
KIC Kosan Boka 67.33 72 *e*P P 11 26 45.5 -1.2
comp=Z,535nm,0.9s
P40A Paris 67.33 339 IAmb IAmb 11 26 49.4
comp=Z,547nm,1.1s
DBIC Dimbokro 67.38 71 P P 11 26 45.8 -1.1
comp=Z,169nm,0.7s,baz=211,slow=6.8,SNR=69
DBIC pP pP 11 27 33.1 -2.8
comp=Z,42nm,0.9s,baz=197,slow=7.4,SNR=1.6
DBIC PP PP 11 29 14.1 -4.2
comp=Z,77nm,1.1s,baz=224,slow=11,SNR=5.7
DBIC PKPPKP P'P'df 11 55 06.9 -3.6
comp=Z,8.7nm,1.1s,baz=76,slow=2.2,SNR=3.9
DBIC Dimbokro 67.38 71 IAmb IAmb 11 26 49.4
comp=Z,207nm,0.8s
J56A Wolcott 67.39 352 P P 11 26 45.9 -0.5
baz=170,SNR=111
J56A S S 11 35 24.6 -0.7
baz=170
HDIL Hopedale 67.41 341 P P 11 26 45.0 -1.6
baz=158,SNR=34
HDIL Hopedale 67.41 341 IAmb IAmb 11 26 48.6
comp=Z,322nm,0.9s
J57A Williamstown 67.42 353 P P 11 26 46.4 -0.2
baz=171,SNR=76
J57A S S 11 35 27.3 +1.7
baz=171
J57A Williamstown 67.42 353 IAmb IAmb 11 26 50.1
comp=Z,424nm,1.1s
I64A Boothbay 67.43 358 P P 11 26 46.8 +0.3
baz=177,SNR=25
I64A S S 11 35 26.2 +0.6
baz=177
L48A N Adams 67.45 346 IAmb IAmb 11 26 49.1
comp=Z,200nm,0.8s
I62A Tamworth 67.47 356 P P 11 26 47.2 +0.3
baz=175,SNR=17
I62A S S 11 35 27.1 +0.9
baz=175
MEDO Medina 67.51 351 IAmb IAmb 11 26 50.5
comp=Z,323nm,1.2s
J55A Hilton 67.51 351 P P 11 26 46.7 -0.4
baz=169,SNR=52
J55A S S 11 35 24.8 -1.9
baz=169
J55A Hilton 67.51 351 IAmb IAmb 11 26 50.4
comp=Z,620nm,1.4s
I60A Shoreham 67.58 355 P P 11 26 47.7 +0.2
baz=173,SNR=47
I60A S S 11 35 26.8 -0.7
baz=173
I59A Olmsteadville 67.58 354 P P 11 26 47.5 0.0
baz=173,SNR=73
I59A S S 11 35 29.5 +2.0
baz=173
I61A Oroboro, Fairl 67.58 356 P P 11 26 48.0 +0.4
baz=174,SNR=52
I61A S S 11 35 28.0 +0.4
baz=174
I58A Old Forge 67.58 353 P P 11 26 47.6 0.0
baz=172,SNR=65
I58A S S 11 35 28.8 +1.1
baz=172
I63A Otisfield 67.60 357 P P 11 26 48.4 +0.7
baz=176,SNR=64
I63A S S 11 35 29.3 +1.5
baz=176
AAM Ann Arbor 67.62 346 P P 11 26 46.8 -1.1
baz=163
AAM S S 11 35 25.4 -2.6
baz=163
J54A Appleton 67.64 351 P P 11 26 47.6 -0.4
baz=168,SNR=26
J54A S S 11 35 26.7 -1.5
baz=168
HSIG 67.66 319 P P 11 26 48.5 +0.1
HSIG IAmb IAmb 11 26 53.0
comp=Z,691nm,1.3s
K50A Casco 67.86 347 IAmb IAmb 11 26 51.7
comp=Z,614nm,1.2s
LBNH Lisbon 67.87 356 P P 11 26 49.5 +0.2
baz=175,SNR=47
LBNH S S 11 35 33.7 +2.7
baz=175
LBNH Lisbon 67.87 356 IAmb IAmb 11 26 53.4
comp=Z,216nm,0.9s
I57A Carthage 67.90 353 P P 11 26 49.5 -0.1
baz=171,SNR=69
I57A S S 11 35 32.7 +1.4
baz=171
L46A Eue Claire 67.96 344 IAmb IAmb 11 26 52.0
comp=Z,414nm,1.1s
PECO Prince Edward 68.06 352 IAmb IAmb 11 26 54.0
comp=Z,565nm,1.1s
WVL Waterville 68.07 358 IAmb IAmb 11 26 54.5
comp=Z,282nm,1.1s
H64A Troy 68.14 358 P P 11 26 50.9 0.0
baz=177,SNR=32
H64A S S 11 35 35.7 +1.7
baz=177
H62A Milan 68.15 356 P P 11 26 51.4 +0.3
baz=176,SNR=31
H62A S S 11 35 37.8 +3.5
baz=176
H61A Lyndonville 68.16 356 P P 11 26 51.7 +0.5
baz=175,SNR=54
H61A S S 11 35 38.0 +3.6
baz=175
HQIL Hanson Quary C 68.16 343 IAmb IAmb 11 26 53.2
comp=Z,293nm,1.2s
H65A Eastbrook 68.16 359 P P 11 26 51.2 +0.1
baz=178,SNR=48
H65A S S 11 35 36.3 +1.9
baz=178
EMMW East Machias 68.17 359 IAmb IAmb 11 26 54.9
comp=Z,318nm,1.0s
H63A New Sharon 68.19 357 P P 11 26 51.7 +0.4
baz=177,SNR=15
H63A S S 11 35 37.9 +3.3
baz=177
H58A Gabriels 68.22 354 P P 11 26 51.5 -0.1
baz=172,SNR=73
H58A S S 11 35 39.0 +3.8
baz=172
H66A Whiting 68.24 359 P P 11 26 51.8 +0.2
baz=179,SNR=37
H66A S S 11 35 37.1 +1.8
baz=179
H60A Morristown 68.24 355 P P 11 26 52.0 +0.3
baz=174,SNR=18
H60A S S 11 35 39.1 +3.7
baz=174
H57A Richville 68.39 353 P P 11 26 52.3 -0.2
baz=171,SNR=51
H57A S S 11 35 38.6 +1.5
baz=171
H59A Cadyville 68.41 355 P P 11 26 52.9 +0.2
baz=173,SNR=34
H59A S S 11 35 39.2 +2.0
baz=173
I55A Frankford 68.43 351 P P 11 26 52.4 -0.4
baz=169,SNR=121
I55A S S 11 35 39.1 +1.6
baz=169
121A Cookes Peak, D 68.43 323 P P 11 26 54.6 +1.3
baz=140,SNR=183

121A			S	S	11 35 40.6	+2.2
	baz=140					
LONY	Lake Ozonia	68.46 354	P	P	11 26 53.1	0.0
	baz=172,SNR=59					
LONY			S	S	11 35 40.5	+2.5
	baz=172					
LONY	Lake Ozonia	68.46 354	IAmb	IAmb	11 26 56.8	
	comp=Z,293nm,1.2s					
L44A	Lake County Fo	68.53 343	P	P	11 26 52.2	-1.3
	baz=159,SNR=14					
L44A	Lake County Fo	68.53 343	IAmb	IAmb	11 26 55.8	
	comp=Z,551nm,1.4s					
I51A	Listowel	68.55 349	P	P	11 26 53.1	-0.5
	baz=166,SNR=80					
GGN	Saint George	68.57 360	IAmb	IAmb	11 26 58.0	
	comp=Z,253nm,1.0s					
KSU1	Kansas State U	68.58 335	P	P	11 26 53.3	-0.6
	baz=151,SNR=110					
KSU1			S	S	11 35 39.5	0.0
	baz=151					
H56A	Elgin	68.62 353	P	P	11 26 53.8	-0.2
	baz=170,SNR=52					
G63A	Kingsbury	68.62 358	P	P	11 26 54.2	+0.2
	baz=177,SNR=37					
G63A			S	S	11 35 42.0	+2.2
	baz=177					
G65A	Princeton	68.66 359	P	P	11 26 54.3	+0.1
	baz=179,SNR=32					
G65A			S	S	11 35 41.7	+1.5
	baz=179					
G65A	Princeton	68.66 359	IAmb	IAmb	11 26 58.0	
	comp=Z,207nm,0.8s					
H55A	Tweed	68.69 352	P	P	11 26 54.4	-0.1
	baz=170,SNR=66					
H55A			S	S	11 35 42.4	+1.8
	baz=170					
G64A	Maxfield	68.73 358	P	P	11 26 54.6	0.0
	baz=178,SNR=41					
G64A			S	S	11 35 42.1	+1.1
	baz=178					
G60A	Masonville	68.75 356	P	P	11 26 54.9	+0.1
	baz=174,SNR=35					
G60A			S	S	11 35 44.2	+2.9
	baz=174					
PKME	Peaks-Kenny Pk	68.76 358	P	P	11 26 55.0	+0.2
	baz=177,SNR=39					
PKME			S	S	11 35 44.0	+2.7
	baz=177					
PKME	Peaks-Kenny Pk	68.76 358	IAmb	IAmb	11 26 58.5	
	comp=Z,283nm,0.9s					
G62A	West of Eustis	68.76 357	P	P	11 26 55.3	+0.4
	baz=176,SNR=76					
G62A			S	S	11 35 43.8	+2.3
	baz=176					
G62A	West of Eustis	68.76 357	IAmb	IAmb	11 26 58.9	
	comp=Z,319nm,0.9s					
J47A	Sunmer	68.77 346	IAmb	IAmb	11 26 57.5	
	comp=Z,384nm,1.2s					
G59A	Clarenceville	68.80 355	P	P	11 26 54.7	-0.3
	baz=174,SNR=15					
L42A	Oliver, Polo	68.85 342	IAmb	IAmb	11 26 58.0	
	comp=Z,592nm,1.4s					
N38A	Joes South For	68.86 339	IAmb	IAmb	11 26 59.0	
	comp=Z,299nm,0.7s					
G61A	St-Isidore-de-	68.88 356	P	P	11 26 56.1	+0.5
	baz=175,SNR=44					
G61A			S	S	11 35 43.9	+1.0
	baz=175					
H53A	Bobcaygeon	68.91 351	P	P	11 26 55.4	-0.4
	baz=168,SNR=71					
H53A			S	S	11 35 40.9	-2.3
	baz=168					
G58A	Ormstown	68.94 354	P	P	11 26 55.8	-0.1
	baz=173,SNR=33					
G58A			S	S	11 35 46.0	+2.5
	baz=173					
G57A	Newington	68.98 354	P	P	11 26 56.0	-0.2
	baz=172,SNR=40					
G57A			S	S	11 35 44.5	+0.5
	baz=172					
GBN	Guysborough	69.01 4	IAmb	IAmb	11 26 59.7	
	comp=Z,363nm,1.5s					
I49A	Point Hope	69.02 348	IAmb	IAmb	11 26 58.5	
	comp=Z,160nm,0.7s					
Y22D	IRIS PASSCAL I	69.15 325	P	P	11 26 58.3	+0.6
	baz=141					
Y22D			S	S	11 35 47.4	+0.6
	baz=141					
PLVO	Plevna	69.16 352	IAmb	IAmb	11 27 00.8	
	comp=Z,277nm,1.0s					
SADO	Sadowa	69.18 350	IAmb	IAmb	11 27 00.5	
	comp=Z,437nm,1.4s					
LMN	Caledonia Moun	69.32 1	IAmb	IAmb	11 27 01.5	
	comp=Z,311nm,1.1s					
G55A	Calabogie	69.32 352	P	P	11 26 57.8	-0.5
	baz=170,SNR=51					
G55A			S	S	11 35 48.9	+0.9
	baz=170					
F64A	Sherman	69.33 359	P	P	11 26 58.6	+0.3
	baz=178,SNR=94					
F64A			S	S	11 35 49.3	+1.2
	baz=178					
ORIO	Orleans, Innes	69.38 353	P	P	11 26 58.3	-0.3
	baz=171					
ORIO			S	S	11 35 50.1	+1.5
	baz=171					
F62A	Pittston Farm,	69.42 357	P	P	11 26 58.9	+0.1
	baz=177,SNR=16					
F62A			S	S	11 35 50.6	+1.6
	baz=177					
F59A	Saint Guilaume	69.53 355	P	P	11 27 01.2	+1.6
	baz=174					
F61A	St Evariste	69.54 357	P	P	11 26 59.6	0.0
	baz=176,SNR=17					
F61A			S	S	11 35 53.1	+2.6
	baz=176					
ANMO	Albuquerque	69.58 326	*d iP*	P	11 27 01.1	+0.7
ANMO			pmax	pmax		
	comp=Z,542nm,1.3s					
ANMO	Albuquerque	69.58 326	P	P	11 27 01.2	+0.8
	baz=141					
ANMO			S	S	11 35 51.2	-0.7
	baz=141					
ANMO	Albuquerque	69.58 326	P	P	11 27 01.2	+0.8
ANMO			IAmb	IAmb	11 27 05.0	
	comp=Z,534nm,1.2s					
CBKS	Cedar Bluff	69.58 333	P	P	11 27 00.6	+0.4
	baz=148,SNR=164					
CBKS			S	S	11 35 52.6	+1.1
	baz=148					
F60A	Warwick	69.59 356	P	P	11 26 59.5	-0.4
	baz=175,SNR=25					
F60A			S	S	11 35 53.4	+2.3
	baz=175					
F58A	St-Lin Laurent	69.63 355	P	P	11 26 59.5	-0.6
	baz=173					
F58A			S	S	11 35 51.9	+0.4
	baz=173					
G54A	Lake Saint Pet	69.64 351	P	P	11 26 59.9	-0.4
	baz=169,SNR=70					
G54A			S	S	11 35 52.6	+0.8
	baz=169					
F57A	Harrington	69.65 354	P	P	11 26 59.9	-0.5
	baz=172					
F57A			S	S	11 35 52.7	+0.8
	baz=172					
F55A	Otter Lake	69.85 353	P	P	11 27 01.3	-0.2
	baz=170,SNR=15					
F55A			S	S	11 35 55.3	+1.2
	baz=170					
I45A	Fountain	69.85 345	P	P	11 27 00.6	-1.0
SCIA	State Center	69.85 339	P	P	11 27 01.0	-0.7
	baz=154,SNR=45					
SCIA			S	S	11 35 50.6	-3.8
	baz=154					
SCIA	State Center	69.85 339	IAmb	IAmb	11 27 05.1	
	comp=Z,450nm,1.1s					
JFWS	Jewell Farm	69.86 342	P	P	11 27 00.9	-0.8
	baz=157,SNR=114					
JFWS			S	S	11 35 51.2	-3.2
	baz=157					
E64A	Bridgewater	69.88 359	P	P	11 27 01.8	+0.1
	baz=179,SNR=68					
E64A			S	S	11 35 54.3	-0.1
	baz=179					
E63A	Oxbow	69.89 359	P	P	11 27 01.7	-0.1
	baz=178,SNR=39					
E63A			S	S	11 35 56.7	+2.1
	baz=178					
E63A	Oxbow	69.89 359	IAmb	IAmb	11 27 05.5	
	comp=Z,238nm,0.9s					
TUC	Tucson	69.95 321	P	P	11 27 03.4	+0.8
TUC			pmax	pmax		
	comp=Z,522nm,1.4s					
TUC	Tucson	69.95 321	P	P	11 27 03.4	+0.8
	baz=137					
TUC			S	S	11 35 58.5	+2.5
	baz=137					
TUC	Tucson	69.95 321	P	P	11 27 03.4	+0.8
TUC			IAmb	IAmb	11 27 07.2	
	comp=Z,522nm,1.4s					
E60A	Ste Agathe de	69.96 356	P	P	11 27 01.8	-0.4
	baz=175,SNR=19					
E60A			S	S	11 35 56.5	+1.2
	baz=175					
E61A	Lac Etchemin	69.97 357	P	P	11 27 02.3	0.0
	baz=176,SNR=18					
E61A			S	S	11 35 57.5	+1.9
	baz=176					
E58A	La Victoria	70.09 355	P	P	11 27 02.7	-0.3
	baz=174,SNR=45					
E58A			S	S	11 35 59.1	+2.2
	baz=174					
E62A	Clayton Lake	70.12 358	P	P	11 27 03.6	+0.4
	baz=177,SNR=101					
E62A	Clayton Lake	70.12 358	IAmb	IAmb	11 27 07.1	
	comp=Z,278nm,0.8s					
PQI	Presque Isle	70.13 359	IAmb	IAmb	11 27 06.8	
	comp=Z,200nm,0.7s					
E59A	St. Maurice	70.14 356	P	P	11 27 03.3	+0.1
	baz=174					
E59A			S	S	11 35 59.1	+1.7
	baz=174					
ALGO	Algonquin Park	70.18 352	P	P	11 27 02.9	-0.7
	baz=169,SNR=53					
ALGO			S	S	11 35 58.8	+0.8
	baz=169					
E57A	Chemin Saint G	70.20 354	P	P	11 27 03.3	-0.3
	baz=173,SNR=36					
E57A			S	S	11 35 59.4	+1.2
	baz=173					
GLMI	Grayling	70.24 346	P	P	11 27 03.1	-0.9
	baz=162,SNR=14					
GLMI	Grayling	70.24 346	IAmb	IAmb	11 27 06.6	
	comp=Z,204nm,0.8s					
T25A	Trinidad	70.30 329	P	P	11 27 05.4	+0.7
	baz=144,SNR=287					
T25A			S	S	11 36 02.9	+2.7
	baz=144					
T25A	Trinidad	70.30 329	IAmb	IAmb	11 27 09.3	
	comp=Z,483nm,1.0s					
K38A	Parkersburg	70.38 340	IAmb	IAmb	11 27 07.5	
	comp=Z,448nm,1.1s					
I42A	Draeger Farm,	70.39 343	IAmb	IAmb	11 27 07.8	
	comp=Z,611nm,1.4s					
E56A	St. Veronique	70.41 354	P	P	11 27 04.5	-0.5
	baz=172,SNR=50					
E56A			S	S	11 36 01.9	+1.2
	baz=172					
E55A	Montcerf-Lytto	70.43 353	P	P	11 27 04.5	-0.5
	baz=171,SNR=21					
E55A			S	S	11 36 02.0	+1.2
	baz=171					
D60A	Saint Jean D'O	70.47 357	P	P	11 27 05.2	0.0
	baz=176,SNR=22					
D60A			S	S	11 36 03.7	+2.4
	baz=176					
D63A	Stockholm	70.50 359	P	P	11 27 05.7	+0.2
	baz=178,SNR=67					
D63A			S	S	11 36 03.9	+2.2
	baz=178					
D62A	Allapoint, All	70.57 358	P	P	11 27 05.9	+0.1
	baz=178,SNR=113					
D62A	Allapoint, All	70.57 358	IAmb	IAmb	11 27 09.5	
	comp=Z,442nm,1.1s					
H43A	Windswept, Lux	70.64 344	IAmb	IAmb	11 27 08.9	
	comp=Z,196nm,0.8s					
D61A	St Aubert, Com	70.73 357	P	P	11 27 07.0	+0.2
	baz=176,SNR=37					
D61A			S	S	11 36 06.7	+2.5
	baz=176					
BATG	Bathurst New B	70.73 0	IAmb	IAmb	11 27 10.4	
	comp=Z,249nm,0.9s					
MACI	Morro de la Ar	70.75 46	P	P	11 27 07.5	-0.1
D58A	Chemin du LacG	70.78 355	P	P	11 27 07.1	0.0
	baz=174,SNR=101					
D58A			S	S	11 36 06.4	+1.5
	baz=174					
D57A	Chemin Vers le	70.78 355	P	P	11 27 07.0	-0.1
	baz=173,SNR=79					
I40A	Norwalk	70.86 342	IAmb	IAmb	11 27 10.5	
	comp=Z,408nm,1.3s					
214A	Organ Pipe Nat	70.88 319	P	P	11 27 09.4	+1.2
	baz=136,SNR=177					
214A			S	S	11 36 09.9	+3.1
	baz=136					
214A	Organ Pipe Nat	70.88 319	IAmb	IAmb	11 27 13.2	
	comp=Z,569nm,1.4s					
D56A	ZEC Mazanza, M	70.89 354	P	P	11 27 07.5	-0.3
	baz=172					
D56A			S	S	11 36 05.3	-0.8
	baz=172					
D55A	Sainte-Anne-du	70.93 354	P	P	11 27 07.5	-0.5
	baz=171,SNR=60					
D55A			S	S	11 36 06.4	-0.2
	baz=171					
KSCO	Kaye Shedlock'	70.99 331	P	P	11 27 09.5	+0.7
	baz=145,SNR=158					
KSCO			S	S	11 36 10.3	+2.3
	baz=145					
H07S1	FLORES T-PHASE	71.01 28	P	P	11 27 09.9	+1.1
	SNR=8.2					
H07S1	FLORES T-PHASE	71.01 28	*eP*	S	11 36 12.0	+4.1
BGNE	Belgrade	71.16 335	P	P	11 27 09.8	+0.2
	baz=150,SNR=286					
BGNE			S	S	11 36 10.8	+1.2
	baz=150					
SDCO	Great Sand Dun	71.30 328	P	P	11 27 11.9	+1.0
	baz=143,SNR=392					
SDCO			S	S	11 36 16.4	+4.5
	baz=143					
SDCO	Great Sand Dun	71.30 328	IAmb	IAmb	11 27 15.6	
	comp=Z,430nm,1.1s					
W18A	Petrified Fore	71.44 324	P	P	11 27 12.8	+1.1
	baz=139,SNR=65					
CALA	Caldeira	71.48 31	*eP*	S	11 36 15.4	+1.9
TAOE	Nuku Hiva Isla	71.49 268	*eP*	P	11 27 13.9	+1.6
	comp=Z,898nm,1.5s					
TAOE			*eS*	S	11 36 15.3	+0.7
	comp=Z,3μm,25.4s					
TAOE			*eLQ*	LQ	11 46 13.8	
	comp=Z,3μm,25.5s					
TAOE			*eLR*	LR	11 49 17.3	
	comp=Z,2μm,24.4s					
TAOE	Nuku Hiva Isla	71.49 268	P	P	11 27 14.8	+2.5
TAOE			IAmb	IAmb	11 27 17.6	
	comp=Z,472nm,1.4s					
PCAN	Candelaria	71.49 31	*eP*	S	11 36 19.7	+6.2
PCED	Cedros	71.52 30	*eP*	S	11 36 20.2	+6.5
PPNO	Prainha do Nor	71.60 31	*eP*	S	11 36 22.1	+7.3
E46A	Sault Ste Mari	71.64 347	IAmb	IAmb	11 27 15.1	
	comp=Z,414nm,1.1s					
ROSA	Rosais	71.81 31	*eP*	S	11 36 20.2	+3.1
PMAN	Manadas	71.81 31	*eP*	S	11 36 22.1	+5.0
X16A	Lo Mia Camp, P	71.87 322	IAmb	IAmb	11 27 19.2	
	comp=Z,499nm,1.4s					
S22A	4UR Ranch, Cre	71.95 327	P	P	11 27 15.7	+0.9
	baz=142,SNR=155					
S22A			S	S	11 36 22.3	+2.9
	baz=142					
PSMA	Santa Maria	71.98 34	*eP*	S	11 36 20.7	+1.7
KOWA	Kowa	72.00 65	PKPPKP		11 54 59.1	
	comp=Z,28nm,1.3s,baz=37,slow=3.6,SNR=14					
KOWA	Kowa	72.00 65	P	P	11 27 14.2	-1.0
KOWA			IAmb	IAmb	11 27 18.0	
	comp=Z,219nm,0.8s					
PSMN	Pico do Norte,	72.02 34	*eP*	S	11 36 22.6	+3.1
Q24A	Divide	72.11 329	P	P	11 27 16.6	+0.9
	baz=143,SNR=274					
Q24A			S	SKiKP	11 36 25.2	-5.8
	baz=143					
PGRA	Graciosa	72.18 31	*eP*	S	11 36 22.1	+0.9
PSET	Sete Cidades	72.32 33	*eP*	S	11 36 24.0	+1.0
PSCM	Serra do Cume	72.33 31	*eP*	S	11 36 24.0	+1.0
CMLA	Cha da Macela	72.37 33	*eP*	S	11 36 23.1	-0.4
MVCO	Mesa Verde	72.38 326	P	P	11 27 18.2	+1.0
	baz=140,SNR=256					
MVCO			S	SKiKP	11 36 29.1	-2.3
	baz=140					
Y14A	Wickenburg	72.41 321	IAmb	IAmb	11 27 22.0	
	comp=Z,321nm,1.4s					
PCALD	Caldeiras da R	72.42 33	*eP*	S	11 36 19.7	-4.3
GUVIX	Guadalupe Vict	72.49 318	IAmb	IAmb	11 27 22.7	
	comp=Z,493nm,1.1s					
BART	Pico Bartolome	72.56 33	*eP*	S	11 36 25.0	-0.8
ECSD	EROS Data Cent	72.62 338	P	P	11 27 17.6	-0.6
	baz=151,SNR=277					
ECSD			S	S	11 36 23.8	-2.3
	baz=151					
ECSD	EROS Data Cent	72.62 338	IAmb	IAmb	11 27 21.9	
	comp=Z,506nm,1.1s					
WUAZ	Wupatki	72.64 323	P	P	11 27 19.9	+1.2
	baz=138,SNR=217					
WUAZ			S	SKiKP	11 36 34.0	+2.3
	baz=138					
WUAZ	Wupatki	72.64 323	IAmb	IAmb	11 27 23.8	
	comp=Z,603nm,1.4s					
SPMN	Marine on St.	72.72 341	P	P	11 27 17.9	-0.8
	baz=155,SNR=70					
SPMN			S	S	11 36 27.0	-0.1
	baz=155					
SPMN	Marine on St.	72.72 341	IAmb	IAmb	11 27 22.0	
	comp=Z,230nm,0.8s					
GLA	Glamis	72.86 319	P	P	11 27 21.1	+1.2
	baz=134,SNR=46					
GLA			S	SKiKP	11 36 35.2	+3.2
	baz=134					
GLA	Glamis	72.86 319	IAmb	IAmb	11 27 24.7	
	comp=Z,252nm,1.1s					
ISCO	Idaho Springs	72.99 330	P	P	11 27 21.9	+1.0
	baz=143,SNR=357					
ISCO			S	SKiKP	11 36 34.5	+2.2
	baz=143					
ISCO	Idaho Springs	72.99 330	IAmb	IAmb	11 27 25.4	
	comp=Z,484nm,1.2s					
PV01	Paradox Valley	73.12 327	IAmb	IAmb	11 27 26.5	
	comp=Z,548nm,1.3s					
DRLN	Deer Lake	73.16 6	IAmb	IAmb	11 27 24.6	
	comp=Z,428nm,0.9s					
D41A	Chassel	73.25 345	IAmb	IAmb	11 27 25.3	
	comp=Z,318nm,0.8s					
PV13	Radium Mtn., P	73.27 326	IAmb	IAmb	11 27 27.1	
	comp=Z,458nm,1.2s					
RMX	La Rumorosa	73.31 318	IAmb	IAmb	11 27 26.3	
	comp=Z,274nm,1.2s					
PV03	Paradox Valley	73.35 326	IAmb	IAmb	11 27 26.7	
	comp=Z,364nm,1.5s					
IKP	In-Ko-Pah, Jac	73.36 318	P	P	11 27 24.1	+1.2
	baz=134,SNR=81					
IKP			S	S	11 36 41.9	+6.8
	baz=134					
SWSC	Sam W. Stewart	73.37 318	P	P	11 27 23.8	+1.0
	baz=134,SNR=48					
SWSC			S	S	11 36 42.2	+7.3
	baz=134					
PV18	Skein Mesa, Pa	73.38 326	IAmb	IAmb	11 27 26.7	
	comp=Z,340nm,1.4s					
PV11	David Mesa, Pa	73.40 326	IAmb	IAmb	11 27 27.8	
	comp=Z,440nm,1.3s					
PMOZ	Porto Moniz, M	73.40 42	*eS*	S	11 36 35.2	-0.3
PV17	East Wray Mesa	73.43 326	IAmb	IAmb	11 27 27.9	
	comp=Z,314nm,1.2s					
F36A	Milaca	73.51 341	IAmb	IAmb	11 27 26.2	
	comp=Z,303nm,0.9s					
PV14	Lion Creek, Pa	73.53 326	IAmb	IAmb	11 27 28.6	
	comp=Z,399nm,1.3s					
PV23	Carpenter Ridg	73.58 326	IAmb	IAmb	11 27 29.0	
	comp=Z,289nm,1.2s					
TKX	Tecate	73.61 318	IAmb	IAmb	11 27 29.0	
	comp=Z,300nm,1.2s					
SYO	Syowa Base	73.61 159⇑	*iP*	P	11 27 23.1	-0.6
SYO	Syowa Base	73.61 159⇑	*ep*PKiKP	pPKiKP	11 34 12.4	-0.2
E38A	The Farm, Brul	73.62 342	IAmb	IAmb	11 27 26.9	
	comp=Z,304nm,1.1s					
BC3	Big Chuckawall	73.66 319	P	P	11 27 25.6	+1.0
	baz=134,SNR=230					
BC3			S	S	11 36 43.9	+5.5
	baz=134					
MONP2	Monument Peak	73.72 318	P	P	11 27 26.3	+1.1
	baz=133,SNR=94					
MONP2			S	S	11 36 45.4	+6.1
	baz=133					
BAR	Barrett	73.73 318	IAmb	IAmb	11 27 29.6	
	comp=Z,268nm,1.1s					
U15A	North Rim	73.81 323	IAmb	IAmb	11 27 31.0	
	comp=Z,514nm,1.2s					
IRM	Iron Mountain	73.82 320	P	P	11 27 26.5	+1.0
	baz=134,SNR=177					
IRM			S	S	11 36 44.6	+4.5
	baz=134					
TJX	Tijuana	73.85 317	IAmb	IAmb	11 27 30.4	
	comp=Z,271nm,1.0s					
MATQ	Matagami	73.87 353	P	P	11 27 24.0	-1.3
	baz=170,SNR=28					
NEE2	Needles Airpor	73.94 320	P	P	11 27 27.0	+0.9
	baz=135,SNR=13					
NEE2			S	S	11 36 47.0	+5.8
	baz=135					
N23A	Red Feather La	74.01 330	P	P	11 27 27.6	+0.8
	baz=143,SNR=245					
N23A			S	S	11 36 46.5	+4.1
	baz=143					
N23A	Red Feather La	74.01 330	IAmb	IAmb	11 27 31.9	
	comp=Z,337nm,0.9s					
SUSD	Miller	74.08 336	P	P	11 27 26.3	-0.4
	baz=149,SNR=71					
SUSD			S	S	11 36 42.7	+0.2
	baz=149					
PHWY	Pilot Hill	74.12 331	IAmb	IAmb	11 27 31.8	
	comp=Z,574nm,1.3s					
109C	Camp Elliot, M	74.14 318	P	P	11 27 28.2	+0.9
	baz=133,SNR=8.6					
109C			S	S	11 36 47.2	+3.7
	baz=133					
BELC	Belle Mtn. Jos	74.22 319	P	P	11 27 29.2	+1.2
	baz=134,SNR=109					
BELC			S	S	11 36 49.5	+4.7
	baz=134					
PFO	Pinyon Flats O	74.23 318	*d iP*	P	11 27 29.1	+1.1
PFO			pmax	pmax		
	comp=Z,505nm,1.7s					
PFO	Pinyon Flats O	74.23 318	P	P	11 27 29.1	+1.1
	baz=133,SNR=76					
PFO			S	S	11 36 51.0	+6.1
	baz=133					
PFO	Pinyon Flats O	74.23 318	P	P	11 27 29.1	+1.1
F33A	5 Mile Ranch,	74.37 339	IAmb	IAmb	11 27 31.1	
	comp=Z,201nm,0.8s					
O20A	White River Ci	74.50 328	P	P	11 27 30.7	+1.3
	baz=141,SNR=287					
O20A			S	S	11 36 50.7	+3.0
	baz=141					
GMRC	Granite Mounta	74.56 320	P	P	11 27 31.2	+1.4
	baz=134,SNR=322					
GMRC			S	S	11 36 53.5	+5.0
	baz=134					
MURC	Murrieta	74.67 318	P	P	11 27 31.7	+1.2
	baz=133,SNR=60					
MURC			S	S	11 36 55.2	+5.7
	baz=133					
TBI	Tubuai	74.78 251	*eP*	P	11 27 33.0	+1.7
	comp=Z,1μm,1.5s					
TBI			*eS*	S	11 36 50.8	-0.4
	comp=Z,3μm,27.8s,baz=108					
TBI	Tubuai	74.78 251	*eLQ*	LQ	11 47 39.9	
	comp=Z,3μm,33.0s					
TBI			*eLR*	LR	11 50 48.5	
	comp=Z,2μm,24.8s					
EYMN	Ely	74.83 343	P	P	11 27 29.9	-1.0
	baz=156,SNR=54					
EYMN			S	S	11 36 48.2	-2.4
	baz=156					
EYMN	Ely	74.83 343	P	P	11 27 29.6	-1.3
BBRC	Big Bear Solar	74.96 319	P	P	11 27 33.8	+1.5
	baz=133,SNR=84					
BBRC			S	S	11 36 59.5	+6.4
	baz=133					
VNDA	Vanda	74.97 190	P	P	11 27 33.1	+1.6
	comp=Z,58nm,1.0s,baz=136,slow=4.9,SNR=98					
VNDA			S	S	11 36 54.4	+2.7
	comp=Z,0.6nm,0.9s,baz=323,slow=18,SNR=0.8					
VNDA			PKKPbc	PKKPbc	11 46 53.9	-1.6
	comp=Z,0.7nm,0.8s,baz=310,slow=3.0,SNR=5.6					

VNDA PKPPKP **P'P'df** **11 54 59.1 +2.2**
comp=Z,2.2nm,1.1s,baz=282,slow=3.9,SNR=4.6
HEC Hector,Ludlow 74.99 319 P **P** **11 27 33.6 +1.3**
baz=134,SNR=58
HEC S **S** **11 36 59.7 +6.5**
baz=134
SCI2 San Clemente I 75.09 317 P **P** **11 27 33.8 +1.0**
baz=132,SNR=17
TUQ Turquoise Moun 75.17 320 P **P** **11 27 34.4 +1.1**
baz=134,SNR=148
TUQ S **S** **11 37 00.4 +5.2**
baz=134
RWWY Rawlins 75.22 330 IAmb IAmb 11 27 37.4
comp=Z,387nm,0.9s
CIS Catalina Islan 75.29 317 P **P** **11 27 34.9 +0.9**
baz=132,SNR=18
CIS S **S** **11 37 00.2 +3.8**
baz=132
BFSC Mount Baldy Ra 75.39 318 P **P** **11 27 35.5 +0.8**
baz=133,SNR=64
BFSC S **S** **11 37 01.9 +4.3**
baz=133
RRX Edison Barstow 75.42 319 P **P** **11 27 36.1 +1.4**
baz=133,SNR=17
RRX S **S** **11 37 01.5 +3.8**
baz=133
FMP Fort Macarthur 75.42 317 P **P** **11 27 35.8 +1.1**
baz=132
FMP S **S** **11 37 02.1 +4.4**
baz=132
MEH Mehetia 75.42 257 *e*P **P** **11 27 36.6 +1.5**
comp=Z,105nm,1.6s
SHPR Sheep Range 75.47 321 IAmb IAmb 11 27 40.2
comp=Z,424nm,1.3s
SUR Sutherland 75.59 119 P **P** **11 27 36.6 +0.5**
GSC Goldstone, Bar 75.60 320 P **P** **11 27 36.9 +1.2**
baz=134,SNR=154
GSC S **S** **11 37 05.4 +5.6**
baz=134
GSC Goldstone, Bar 75.60 320 IAmb IAmb 11 27 40.8
comp=Z,498nm,1.4s
MWC Mount Wilson 75.62 318 IAmb IAmb 11 27 40.8
comp=Z,630nm,1.4s
PASC Pasadena Art C 75.67 318 IAmb IAmb 11 27 40.8
comp=Z,583nm,1.4s
K22A Casper 75.67 331 P **P** **11 27 37.0 +0.9**
baz=143,SNR=128
K22A S **S** **11 37 04.1 +3.6**
baz=143
SHOC Shoshone, Teco 75.70 320 P **P** **11 27 37.1 +0.9**
baz=134,SNR=60
SHOC S **S** **11 37 06.0 +5.3**
baz=134
D32A Dogwood Acres, 75.75 339 IAmb IAmb 11 27 39.3
comp=Z,333nm,0.8s
RSSD Black Hills 75.78 333 P **P** **11 27 37.3 +0.5**
RSSD pmax pmax
comp=Z,263nm,0.8s
RSSD Black Hills 75.78 333 P **P** **11 27 37.3 +0.5**
baz=145
RSSD S **S** **11 37 03.3 +1.6**
baz=145
RSSD Black Hills 75.78 333 P **P** **11 27 37.3 +0.5**
RSSD IAmb IAmb 11 27 41.4
comp=Z,263nm,0.8s
DECC Green Verdugo 75.81 318 P **P** **11 27 38.0 +1.1**
baz=132,SNR=16
DECC S **S** **11 37 06.6 +4.5**
baz=132
B35A Bob, Littlefor 75.83 342 IAmb IAmb 11 27 39.6
comp=Z,353nm,0.8s
VAH Vaihoa 75.97 259 *e*P **P** **11 27 39.9 +1.7**
EDW2 Edwards Air Fo 76.03 319 P **P** **11 27 38.8 +0.6**
baz=133,SNR=78
EDW2 S **S** **11 37 07.0 +2.5**
baz=133
PRN Pahroc Range 76.05 322 IAmb IAmb 11 27 43.6
comp=Z,694nm,1.3s
TOA0 Torodi Ar. Sit 76.14 69 IAmb IAmb 11 27 41.8
comp=Z,254nm,0.8s
TORD Torodi Ar. Bea 76.14 69 P **P** **11 27 38.1 -1.0**
comp=Z,166nm,0.6s,baz=254,slow=5.5,SNR=204
TORD pP **pP** **11 28 27.8 -1.4**
comp=Z,130nm,1.2s,baz=258,slow=5.1,SNR=2.5
TORD S **S** **11 37 01.1 -5.2**
comp=Z,5.0nm,0.7s,baz=255,slow=10,SNR=6.0
TORD PKPPKP **P'P'df** **11 54 52.1 -3.1**
comp=Z,3.4nm,1.3s,baz=48,slow=2.1,SNR=4.0
TORD Torodi Ar. Bea 76.14 69 P **P** **11 27 37.8 -1.4**
LRMC Laurel Mtn Rad 76.24 319 P **P** **11 27 40.4 +0.9**
baz=133,SNR=87
OSI Osito Audit: C 76.29 318 P **P** **11 27 40.5 +0.9**
baz=132
OSI Osito Audit: C 76.29 318 IAmb IAmb 11 27 44.1
comp=Z,436nm,1.4s
PMOR Pomariorio Ree 76.29 259 *e*P **P** **11 27 41.7 +1.7**
comp=Z,897nm,1.4s,baz=125
AGMN Agassiz Nation 76.41 340 P **P** **11 27 39.4 -0.5**
baz=153,SNR=114
AGMN S **S** **11 37 06.9 -0.9**
baz=153
AGMN Agassiz Nation 76.41 340 IAmb IAmb 11 27 43.0
comp=Z,227nm,0.8s
TPNV Topopah Spring 76.41 321 P **P** **11 27 41.7 +1.4**
baz=134,SNR=252
TPNV S **S** **11 37 13.8 +5.0**
baz=134
TPNV Topopah Spring 76.41 321 IAmb IAmb 11 27 45.6
comp=Z,678nm,1.4s
FURC Furnace Creek, 76.43 320 P **P** **11 27 41.6 +1.4**
baz=134,SNR=157
FURC S **S** **11 37 14.5 +5.9**
baz=134
TVO Taravao 76.51 256 *e*P **P** **11 27 43.0 +1.7**
comp=Z,135nm,1.5s
MPMC Manual Prospec 76.52 320 P **P** **11 27 41.7 +0.6**
baz=133,SNR=137
MPMC S **S** **11 37 15.2 +5.1**
baz=133
E28A Huff 76.53 337 P **P** **11 27 41.0 +0.4**
TIAR Tiarei 76.68 257 *e*P **P** **11 27 43.4 +1.2**
comp=Z,36nm,1.3s
ARVC Arvin 76.70 318 P **P** **11 27 42.7 +0.9**
baz=132,SNR=26
ARVC S **S** **11 37 16.7 +5.1**
baz=132
SBC Santa Barbara 76.79 317 P **P** **11 27 43.4 +1.0**
baz=131
SBC S **S** **11 37 17.0 +4.4**
baz=131
ISA Isabella, Lake 76.84 319 P **P** **11 27 43.9 +1.2**
baz=132,SNR=191
ISA S **S** **11 37 18.3 +5.0**
baz=132
ISA Isabella, Lake 76.84 319 IAmb IAmb 11 27 47.7
comp=Z,334nm,1.1s
DUG Dugway, Tooele 76.84 325 P **P** **11 27 43.7 +1.0**
baz=137,SNR=258
DUG S **S** **11 37 17.7 +4.4**
baz=137
DUG Dugway, Tooele 76.84 325 IAmb IAmb 11 27 46.7
comp=Z,526nm,1.5s
PAE Paea 76.85 256 *e*P **P** **11 27 44.7 +1.6**
comp=Z,67nm,1.2s
PPTF Pamatai, Papee 76.86 256 IAmb IAmb 11 27 49.8
comp=Z,581nm,1.4s
PPT2 Papeete2 76.87 256 *e*P **P** **11 27 45.0 +1.7**
comp=Z,386nm,1.4s,baz=107
PPT2 *e*S **S** **11 37 14.0 -0.4**
comp=Z,3μm,24.2s,baz=110
PPT2 Papeete2 76.87 256 *e*LQ LQ 11 48 29.3
comp=Z,5μm,28.5s
PPT2 *e*LR LR 11 51 47.7
comp=Z,3μm,29.8s
PPT Papeete 76.88 256 P **P** **11 27 44.2 +0.9**
comp=Z,201nm,1.2s,baz=106,slow=9.5,SNR=18
R11A Troy Canyon, C 77.01 322 P **P** **11 27 45.0 +1.3**
baz=135,SNR=351
R11A S **S** **11 37 21.6 +6.3**
baz=135
R11A Troy Canyon, C 77.01 322 IAmb IAmb 11 27 48.1
comp=Z,560nm,1.5s
GRAC Grapevine Rang 77.09 320 P **P** **11 27 45.3 +1.3**
baz=133,SNR=14
GRAC S **S** **11 37 21.5 +5.7**
baz=133
PKM Mcpherson Peak 77.14 318 P **P** **11 27 45.8 +1.2**
baz=131,SNR=118
PKM S **S** **11 37 21.8 +4.9**
baz=131
BW06 Boulder Array 77.16 329 P **P** **11 27 44.8 +0.3**
baz=140,SNR=200
BW06 S **S** **11 37 19.9 +3.2**
baz=140
BW06 Boulder Array 77.16 329 IAmb IAmb 11 27 48.6
comp=Z,281nm,1.1s
PDAR Pinedale Array 77.16 329 P **P** **11 27 44.8 +0.2**
comp=Z,111nm,0.9s,baz=143,slow=7.5,SNR=216
PDAR S **S** **11 37 18.8 +2.1**
comp=Z,0.6nm,0.9s,baz=144,slow=5.5,SNR=1.3
PDAR PKPPKP **P'P'df** **11 54 50.0 -1.1**
comp=Z,0.3nm,0.6s,baz=4.1,slow=2.1,SNR=4.0
PDAR P4KPbc 12 04 18.1
comp=Z,0.4nm,0.7s,baz=133,slow=6.3,SNR=5.0
PDAR Pinedale Array 77.16 329 P **P** **11 27 43.7 -0.8**
MDND Maddock 77.23 338 P **P** **11 27 44.9 +0.4**
baz=149,SNR=282
HWUT Hardware Ranch 77.25 327 IAmb IAmb 11 27 49.3
comp=Z,496nm,1.1s
VES Vestal, Richgr 77.33 319 P **P** **11 27 46.2 +0.9**
baz=132,SNR=181
VES S **S** **11 37 23.4 +5.1**
baz=132
TSUM Tsumeb 77.35 106 P **P** **11 27 45.4 -0.7**
SMMC Simmler 77.54 318 P **P** **11 27 48.0 +1.4**
baz=131,SNR=59
SMMC S **S** **11 37 26.1 +5.4**
baz=131
TIN Tinemaha, Big 77.63 320 P **P** **11 27 48.5 +1.4**
baz=133,SNR=70
TIN S **S** **11 37 27.5 +5.7**
baz=133
VOG Valley Oaks Go 77.83 319 P **P** **11 27 48.1 0.0**
baz=132
PAGB Antelope Grade 77.97 318 IAmb IAmb 11 27 53.8
comp=Z,580nm,1.3s
ULM Lac du Bonnet 78.14 341 P **P** **11 27 48.9 -0.6**
comp=Z,213nm,0.6s,baz=155,slow=6.3,SNR=57
ULM pP **pP** **11 28 39.6 -0.5**
comp=Z,29nm,0.9s,baz=134,slow=2.6,SNR=1.4
ULM S **S** **11 37 22.7 -3.8**
comp=Z,3.9nm,0.7s,baz=69,slow=20,SNR=2.8
REDW Red Top Meadow 78.22 329 IAmb IAmb 11 27 54.9
comp=Z,415nm,1.1s
SNOW Snow King Moun 78.25 329 IAmb IAmb 11 27 56.0
comp=Z,274nm,1.0s
SCHQ Schefferville 78.29 360 P **P** **11 27 50.0 -0.2**
comp=Z,166nm,0.6s,baz=207,slow=3.8,SNR=54
SCHQ S **S** **11 37 25.5 -2.4**
comp=Z,12nm,1.0s,baz=31,slow=17,SNR=3.8
SCHQ Schefferville 78.29 360 IAmb IAmb 11 27 53.5
comp=Z,569nm,1.2s
MLAC Mammoth, Mammo 78.38 320 P **P** **11 27 52.5 +1.1**
baz=132,SNR=63
OMMB Old Mammoth Mi 78.46 320 IAmb IAmb 11 27 56.5
comp=Z,307nm,1.1s
FXWY Fox Creek 78.52 329 IAmb IAmb 11 27 56.5
comp=Z,279nm,1.1s
ELK Elko 78.52 324 PKPPKP **P'P'df** **11 54 53.4 +4.5**
comp=Z,1.1nm,1.0s,baz=317,slow=3.1,SNR=4.7
ELK Elko 78.52 324 IAmb IAmb 11 27 56.5
comp=Z,338nm,1.3s
NV11 Mina Array Sit 78.52 321 IAmb IAmb 11 27 56.7
comp=Z,412nm,1.5s
NVAR Mina Array Bea 78.61 321 P **P** **11 27 53.4 +0.8**
comp=Z,71nm,1.0s,baz=151,slow=5.6,SNR=182
NVAR S **S** **11 37 34.7 +2.3**
comp=Z,0.3nm,0.8s,baz=76,slow=14,SNR=1.7
NVAR PKKPbc **PKKPbc** **11 46 47.4 -1.0**
comp=Z,0.5nm,0.5s,baz=281,slow=2.6,SNR=4.0
NVAR PKPPKP **P'P'df** **11 54 47.2 -1.8**
comp=Z,1.1nm,1.0s,baz=322,slow=3.8,SNR=5.8
NVAR P4KPbc 12 04 25.8
comp=Z,0.6nm,0.9s,baz=141,slow=5.8,SNR=6.5
NVAR Mina Array Bea 78.61 321 P **P** **11 27 52.5 -0.1**
PMPB Monarch Peak 78.62 318 IAmb IAmb 11 27 56.5
comp=Z,344nm,1.2s
LAO LASA Array 78.77 333 P **P** **11 27 53.4 +0.4**
baz=144,SNR=231
LAO S **S** **11 37 36.6 +3.2**
baz=144
LAO LASA Array 78.77 333 IAmb IAmb 11 27 57.1
comp=Z,625nm,1.1s
RLMT Red Lodge 78.84 331 P **P** **11 27 54.5 +0.8**
baz=141,SNR=260
RLMT S **S** **11 37 38.9 +4.3**
baz=141
RYN Ryan 78.87 321 IAmb IAmb 11 27 58.6
comp=Z,413nm,1.4s
H17A Grant Village 78.88 330 P **P** **11 27 55.3 +1.3**
baz=140,SNR=121
H17A S **S** **11 37 40.7 +5.6**
baz=140
KVN Kaiserville 78.91 322 IAmb IAmb 11 27 58.5
comp=Z,478nm,1.2s
LKWY Lake 78.93 330 IAmb IAmb 11 28 02.4
comp=Z,320nm,1.1s
WAKR Walker 79.31 320 IAmb IAmb 11 28 01.6
comp=Z,532nm,1.4s
DGMT Dagmar 79.42 336 P **P** **11 27 57.4 +0.9**
baz=145,SNR=285
PNTR Pine Nut 79.80 321 IAmb IAmb 11 28 04.0
comp=Z,526nm,1.0s
VCNR Virginia City 79.97 321 IAmb IAmb 11 28 04.7
comp=Z,437nm,1.3s
AVE Averroes 79.98 47 ⇓*i*P **P** **11 27 59.4 -0.4**
AVE *i* S **S** **11 37 44.7 -1.9**
RUBR Rubicon Trail 80.10 321 IAmb IAmb 11 28 05.6
comp=Z,446nm,1.4s
HLID Hailey 80.11 327 P **P** **11 28 02.1 +1.5**
baz=137,SNR=992
HLID S **S** **11 37 54.9 +6.9**
baz=137
BOZ Bozeman (W) 80.28 330 P **P** **11 28 01.9 +0.5**
baz=139,SNR=250
BOZ S **S** **11 37 53.6 +4.1**
baz=139
BOZ Bozeman (W) 80.28 330 IAmb IAmb 11 28 05.6
comp=Z,256nm,1.1s
BOSA Boshof 80.50 117 P **P** **11 28 02.1 -0.9**
comp=Z,84nm,0.9s,baz=255,slow=4.6,SNR=40
BOSA pP **pP** **11 28 52.8 -1.1**
comp=Z,26nm,1.0s,baz=250,slow=6.6,SNR=2.3
BOSA S **S** **11 37 49.3 -3.4**
comp=Z,3.9nm,1.0s,baz=134,slow=19,SNR=2.7
BOSA PKKPbc **PKKPbc** **11 46 42.5 +0.4**
comp=Z,3.5nm,0.5s,baz=25,slow=2.1,SNR=7.3
AFDM Forest Hills D 80.51 320 IAmb IAmb 11 28 06.7
comp=Z,393nm,1.3s
MFID Camas Ranch 80.72 326 IAmb IAmb 11 28 08.6
comp=Z,356nm,1.1s
MCCM Marconi Confer 81.13 318 IAmb IAmb 11 28 10.1
comp=Z,359nm,1.2s
EGMT Eagleton 81.30 332 P **P** **11 28 06.7 +0.1**
baz=141,SNR=138
EGMT S **S** **11 38 02.2 +2.4**
baz=141
PFVI Vila Bisbo 81.40 43 A A 11 28 16.4
comp=Z,114nm,2.3s
PFVI *e*pP pP 11 28 59.7 +1.6
PFVI *e*S **S** **11 38 04.1 +2.9**
MAW Mawson 81.53 163 P **P** **11 28 08.3 +0.8**
comp=Z,175nm,1.1s,baz=220,slow=6.3,SNR=171
MAW S **S** **11 37 59.4 -2.2**
comp=Z,1.4nm,0.9s,baz=288,slow=5.0,SNR=1.9
MAW PKKPbc **PKKPbc** **11 46 38.7 -2.2**
comp=Z,2.9nm,0.6s,baz=28,slow=2.9,SNR=10
MAW PKPPKP **P'P'df** **11 54 41.4 -3.9**
comp=Z,3.7nm,1.1s,baz=34,slow=3.6,SNR=5.0
MORF Marmelete 81.62 43 *e*P **P** **11 28 09.5 +0.9**
MORF AMb AMB 11 28 16.0
comp=Z,117nm,1.9s
MORF *e*pP **pP** **11 28 55.4 -4.0**
MORF *e*S **S** **11 38 06.3 +2.8**
MORF Marmelete 81.62 43 *e*P **P** **11 28 09.4 +0.9**
MORF *e**PP **pP** **11 28 55.3 -4.0**
MORF *e*S **S** **11 38 06.3 +2.8**
MORF pmax pmax
comp=Z,117nm,1.9s
MORF Marmelete 81.62 43 *e*P **P** **11 28 11.0 +2.5**
comp=Z,117nm,1.3s
MORF *e*pP **pP** **11 29 02.4 +3.1**
MORF *e*S **S** **11 38 06.7 +3.2**
IFR Ifrane 81.65 48 ⇓*i*P **P** **11 28 09.4 +0.4**
IFR *i* S **S** **11 38 02.3 -2.0**
PTEO Sao Teotonio 81.72 43 *e*P **P** **11 28 12.7 +3.8**
comp=Z,160nm,2.9s
PTEO *e*pP **pP** **11 29 00.0 +0.2**
O03E Paynes Creek 81.87 321 P **P** **11 28 09.2 -0.6**
baz=131,SNR=126
PLID Pearl Lake 82.00 327 IAmb IAmb 11 28 14.9
comp=Z,468nm,0.9s
PBDV Barranco-do-Ve 82.03 43 *e*P **P** **11 28 12.7 +2.1**
comp=Z,110nm,2.1s
PBDV *e*pP **pP** **11 29 02.3 +0.8**
PBDV *e*S **S** **11 38 09.8 +2.1**
MOD Modoc Plateau 82.08 323 IAmb IAmb 11 28 15.3
comp=Z,606nm,1.5s
LBTB Lobatse 82.13 114 PKKPbc PKKPbc 11 46 38.5 +0.2
comp=Z,13nm,0.8s,baz=82,slow=3.1,SNR=8.9
LIS Lisbon 82.19 42 *e*P **P** **11 28 12.3 +1.0**
LIS AMb AMB 11 28 22.1
comp=Z,156nm,2.0s
LIS *e*pP **pP** **11 28 58.3 -4.0**
LIS *e*S **S** **11 38 11.9 +2.7**
LIS Lisbon 82.19 42 *e*P **P** **11 28 12.3 +1.0**
LIS *e**PP **pP** **11 28 58.2 -4.0**
LIS *e*S **S** **11 38 11.8 +2.7**
LIS pmax pmax
comp=Z,156nm,2.0s
LIS Lisbon 82.19 42 A A 11 28 21.3
comp=Z,158nm,1.8s
LIS *e*pP pP 11 29 02.5 +0.3
PNCL Nicolau / Gran 82.20 43 *e*P **P** **11 28 11.9 +0.5**
comp=Z,59nm,2.3s
PNCL *e*pP **pP** **11 29 03.7 +1.4**
PNCL *e*S **S** **11 38 11.6 +2.4**
PCVE Castro Verde 82.20 43 *e*P **P** **11 28 12.1 +0.6**
comp=Z,74nm,1.6s
PCVE *e*pP **pP** **11 29 03.1 +0.8**
PCVE *e*S **S** **11 38 11.4 +2.0**
PMAFR Mafra 82.26 41 *e*pP **pP** **11 29 04.7 +2.1**
PMAFR *e*S **S** **11 38 11.8 +1.9**
MSO Missoula 82.27 329 P **P** **11 28 12.4 +0.7**
baz=137,SNR=110
MSO Missoula 82.27 329 IAmb IAmb 11 28 16.2
comp=Z,392nm,1.4s
PVAQ Vaqueiros 82.27 43 P **P** **11 28 11.6 -0.2**
PVAQ Vaqueiros 82.27 43 *e*P **P** **11 28 12.7 +0.9**
comp=Z,90nm,1.8s
PVAQ *e*pP **pP** **11 29 04.9 +2.2**
PVAQ *e*S **S** **11 38 12.4 +2.4**
O02D Mt. Diablo Mer 82.37 320 P **P** **11 28 12.4 0.0**
baz=130,SNR=28
BMO Blue Mountains 82.49 326 IAmb IAmb 11 28 17.2
comp=Z,609nm,1.4s
KCPM Cahto Peak 82.53 319 IAmb IAmb 11 28 18.2
comp=Z,444nm,1.2s
PBEJ Beja 82.56 43 *e*P **P** **11 28 15.3 +2.0**
comp=Z,74nm,1.1s
PBEJ *e*pP **pP** **11 29 09.2 +5.0**
SFS San Fernando 82.67 45 ⇓*i*P **P** **11 28 16.8 +2.9**
SFS *i* S **S** **11 38 14.5 +0.4**
N02D Trinity Center 82.83 321 P **P** **11 28 14.4 -0.3**
baz=130,SNR=40
M04C Macdoel 82.86 322 P **P** **11 28 15.3 +0.4**
baz=131,SNR=98
CEU Ceuta 82.88 46 ⇓*i*P **P** **11 28 15.3 +0.4**
CEU *i* S **S** **11 38 16.1 -0.1**
PSBE So Bento 82.90 41 *e*P **P** **11 28 15.9 +0.8**
comp=Z,152nm,1.6s
PSBE *e*pP **pP** **11 29 09.3 +3.3**
PSBE *e*S **S** **11 38 18.7 +2.3**
KMRM Mail Ridge 82.94 320 IAmb IAmb 11 28 20.1
comp=Z,574nm,1.2s
PMTG Montargil 82.97 42 *e*P **P** **11 28 16.7 +1.3**
comp=Z,126nm,2.1s
PMTG *e*pP **pP** **11 29 08.8 +2.5**
PMTG *e*S **S** **11 38 18.5 +1.4**
JTMT Jette 83.10 330 IAmb IAmb 11 28 20.2
comp=Z,298nm,1.0s
PVLZ Peæn de 83.17 47 ⇓*i*P **P** **11 28 15.8 -0.7**
PVLZ *i* S **S** **11 38 16.6 -2.5**
M02C Callahan 83.19 321 P **P** **11 28 16.4 -0.1**
baz=130,SNR=29
F10A Beach Ranch, E 83.24 327 IAmb IAmb 11 28 22.4
comp=Z,717nm,1.4s
YBH Yreka Blue Hor 83.32 321 S **S** **11 38 20.0 -0.7**
comp=Z,1.7nm,0.9s,baz=88,slow=2.3,SNR=2.6
K04D Chiloquin, OR 83.36 322 P **P** **11 28 18.1 +0.6**
baz=131
KHMM Horse Mountain 83.37 320 P **P** **11 28 18.4 +0.8**
L04D Klamath Falls 83.41 322 P **P** **11 28 17.6 -0.1**
baz=130,SNR=54
PCAS Casmilo, Conde 83.42 41 *e*P **P** **11 28 18.8 +1.1**
comp=Z,115nm,1.1s
PCAS *e*pP **pP** **11 29 12.6 +4.0**
PCAS *e*S **S** **11 38 21.4 -0.1**
J05D Fort Rock, OR 83.51 323 P **P** **11 28 18.9 +0.6**
baz=131,SNR=142
JCC Jacoby Creek, 83.51 320 P **P** **11 28 18.8 +0.7**
JCC IAmb IAmb 11 28 22.7
comp=Z,404nm,1.3s
COI Coimbra 83.57 41 A A 11 28 23.0
comp=Z,181nm,1.1s
COI *e*pP pP 11 29 12.4 +3.0
COI *e*S **S** **11 38 24.4 +1.4**
PINE Pine Mountain 83.68 324 IAmb IAmb 11 28 23.9
comp=Z,550nm,1.1s
PMRV Marv??o 83.70 42 *e*P **P** **11 28 19.7 +0.5**
comp=Z,72nm,1.4s
PMRV *e*pP **pP** **11 29 11.1 +0.9**
PMRV *e*S **S** **11 38 23.6 -0.9**
KRMB Red Mountain 83.88 321 P **P** **11 28 20.5 +0.4**
KRMB IAmb IAmb 11 28 24.6
comp=Z,281nm,1.2s
WALA Waterton Lakes 83.89 331 P **P** **11 28 19.9 -0.1**
PCBR Castelo Branco 83.91 42 *e*P **P** **11 28 21.3 +1.2**
comp=Z,68nm,1.1s
J04D Umpqua Nationa 83.96 323 P **P** **11 28 21.1 +0.5**
baz=131,SNR=20
EMAL Malaga-Limoner 84.00 46 ⇓*i*P **P** **11 28 20.9 +0.2**
EMAL *i* S **S** **11 38 26.2 -1.2**
L02E Cave Junction 84.11 321 P **P** **11 28 21.9 +0.8**
baz=130,SNR=30
MELI Melilla 84.15 47 ⇓*i*P **P** **11 28 20.8 -0.7**
MELI *i* S **S** **11 38 27.4 -1.5**
PVIS Viseu 84.19 41 *e*P **P** **11 28 22.7 +1.1**
comp=Z,129nm,1.5s
PVIS *e*pP **pP** **11 29 15.9 +3.2**
I05D Terrebonne, OR 84.26 324 P **P** **11 28 22.8 +0.9**
baz=131,SNR=72
RAR Rarotonga 84.45 249 P **P** **11 28 25.1 +1.7**
RAR pmax pmax
comp=Z,572nm,1.5s
RAR Rarotonga 84.45 249 P **P** **11 28 25.1 +1.7**
RAR IAmb IAmb 11 28 28.4
comp=Z,572nm,1.4s
K02D Willamette Mer 84.48 322 P **P** **11 28 23.9 +0.8**
baz=130,SNR=92
K02D S **S** **11 38 37.2 +5.0**
baz=130
I04A Tendick Farm, 84.49 323 P **P** **11 28 22.9 -0.2**
baz=130,SNR=46
F07A Phinny Hill Vi 84.55 326 IAmb IAmb 11 28 28.0
comp=Z,505nm,1.3s
PVRL Vila Real 84.64 40 *e*P **P** **11 28 24.7 +0.8**
comp=Z,306nm,1.4s
PVRL *e*pP **pP** **11 29 18.1 +3.2**
HAWA Hanford 84.69 326 IAmb IAmb 11 28 28.2
comp=Z,451nm,1.1s
PCAB Cabril 84.73 40 *e*P **P** **11 28 24.6 +0.3**
comp=Z,212nm,1.3s
PCAB *e*pP **pP** **11 29 21.1 +5.8**
PGAV Gavieira, Arco 84.74 40 *e*P **P** **11 28 25.0 +0.6**
comp=Z,189nm,1.5s
PGAV *e*pP **pP** **11 29 17.4 +1.8**
PGAV *e*S **S** **11 38 31.0 -3.8**
NEW Newport 84.80 329 P **P** **11 28 24.0 -0.4**
baz=135,SNR=88
D08A Wollman Farm, 84.83 327 IAmb IAmb 11 28 28.9
comp=Z,503nm,1.2s
G05D Wamic, OR 84.84 325 P **P** **11 28 25.8 +1.0**
baz=131,SNR=76
J01E Myrtle Point 84.93 322 P **P** **11 28 26.0 +0.8**
baz=129,SNR=26
H04A Detroit Lake 84.94 324 IAmb IAmb 11 28 28.8
comp=Z,243nm,1.1s
I03D Drain, OR 84.94 322 P **P** **11 28 25.8 +0.5**
baz=130,SNR=33

I03D S **S** **11 38 41.5 +5.0**
baz=130
E07A Sunnyside 84.96 326 P **P** **11 28 25.3 0.0**
KEBM Edson Butte 84.98 321 P **P** **11 28 24.9 -0.6**
MVO Moncorvo 84.98 41 *e*P **P** **11 28 25.6 0.0**
comp=Z,341nm,1.5s
MVO *e*pP **pP** **11 29 18.1 +1.4**
MVO *e*S **S** **11 38 33.0 -4.2**
H04D Lebanon 85.14 323 P **P** **11 28 25.9 -0.3**
baz=130,SNR=13
F05D White Salmon 85.34 325 P **P** **11 28 27.7 +0.5**
baz=131,SNR=32
I02D Swisshome 85.48 323 P **P** **11 28 28.8 +0.9**
baz=130,SNR=13
I02D S **S** **11 38 47.1 +5.4**
baz=130
COR Corvallis 85.49 323 P **P** **11 28 28.9 +1.0**
COR pmax pmax
comp=Z,640nm,1.1s
COR Corvallis 85.49 323 P **P** **11 28 28.9 +1.0**
PBRG Braganca 85.54 40 *e*P **P** **11 28 28.6 +0.3**
comp=Z,275nm,1.4s
PBRG *e*pP **pP** **11 29 20.4 +0.9**
PAB San Pablo 85.67 43 P **P** **11 28 29.6 +0.6**
PAB pmax pmax
comp=Z,204nm,1.2s
PAB San Pablo 85.67 43 P **P** **11 28 29.6 +0.6**
LTY Liberty 85.85 326 IAmb IAmb 11 28 33.5
comp=Z,394nm,1.1s
G03D McMinnville, O 85.87 324 P **P** **11 28 30.4 +0.7**
baz=130,SNR=25
G03D S **S** **11 38 50.4 +5.0**
baz=130
F04A Amboy 85.88 325 IAmb IAmb 11 28 34.2
comp=Z,366nm,1.0s
B08A Colville Reser 85.92 328 IAmb IAmb 11 28 33.4
comp=Z,587nm,1.4s
ESDC Sonseca Array 85.98 43 P **P** **11 28 31.2 +0.6**
comp=Z,55nm,1.0s,baz=242,slow=4.2,SNR=84
ESDC pP **pP** **11 29 21.9 0.0**
comp=Z,20nm,1.1s,baz=234,slow=2.9,SNR=2.8
ESDC S **SKSac** **11 38 35.6 -1.2**
comp=Z,0.2nm,0.5s,baz=44,slow=37,SNR=1.1
ESDC PKPPKP **P'P'df** **11 54 35.1 -0.5**
comp=Z,1.8nm,1.2s,baz=114,slow=3.7,SNR=4.5
ESDC Sonseca Array 85.98 43 P **P** **11 28 31.0 +0.5**
ITZ Itezhi-Tezhi 86.10 105 *e*P P 11 28 22.3 -10
ITZ *e* 11 38 28.3
F04D Rainier, OR 86.29 324 P **P** **11 28 32.3 +0.5**
baz=130,SNR=22
E04D Cinebar 86.36 325 P **P** **11 28 32.0 -0.2**
baz=131,SNR=34
E04D S **S** **11 38 53.9 +3.7**
baz=131
NRS Narsarsuaq 86.36 10 *i* P **P** **11 28 32.6 +0.8**
comp=Z,235nm,1.0s
NRS Narsarsuaq 86.36 10 *i* P **P** **11 28 32.6 +0.8**
NRS pmax pmax
comp=Z,240nm,1.0s
NRS Narsarsuaq 86.36 10 P **P** **11 28 32.1 +0.4**
NRS IAmb IAmb 11 28 35.6
comp=Z,193nm,0.9s
C06D Leavenworth 86.40 327 P **P** **11 28 31.9 -0.5**
baz=132,SNR=11
CART Cartagena 86.72 46 ⇓*i*P **P** **11 28 34.0 -0.1**
CART *i* S **SKSac** **11 38 42.9 +1.6**
D04E Lakebay 86.87 325 P **P** **11 28 35.2 +0.7**
baz=130,SNR=28
E03A Lebam 86.88 325 P **P** **11 28 34.7 0.0**
B06A Marblemount 87.09 327 IAmb IAmb 11 28 38.7
comp=Z,305nm,0.8s
B05A Bryant 87.23 327 P **P** **11 28 35.8 -0.5**
baz=131,SNR=74
D03D Eldon 87.27 326 P **P** **11 28 36.8 +0.3**
baz=130,SNR=49
D03D S **S** **11 39 03.4 +4.5**
baz=130
NLWA Neilton Lookou 87.58 325 IAmb IAmb 11 28 42.2
comp=Z,280nm,1.0s
A04D Lummi Island 87.84 327 P **P** **11 28 39.8 +0.7**
baz=130,SNR=13
A04D S **S** **11 39 07.5 +3.3**
baz=130
LSZ Lusaka 88.20 106 PKKPbc PKKPbc 11 46 26.0 +2.0
comp=Z,20nm,0.7s,baz=59,slow=1.9,SNR=12
LSZ Lusaka 88.20 106 P **P** **11 28 43.2 +1.3**
LSZ pmax pmax
comp=Z,352nm,1.3s
LSZ Lusaka 88.20 106 P **P** **11 28 43.2 +1.3**
LSZ IAmb IAmb 11 28 47.7
comp=Z,352nm,1.2s
CASY Casey 90.19 179 P **P** **11 28 51.2 +1.2**
SFJD Kangerlussuaq 91.30 6 *i* P **P** **11 28 54.2 -0.6**
SFJD Kangerlussuaq 91.30 6 P **P** **11 28 55.1 +0.2**
SFJD pmax pmax
comp=Z,163nm,1.3s
SFJD Kangerlussuaq 91.30 6 P **P** **11 28 55.1 +0.2**
SFJD IAmb IAmb 11 28 58.3
comp=Z,163nm,1.2s
DSB Dublin 92.70 31 P **P** **11 29 01.4 -0.2**
BBB Bella Bella 92.70 327 IAmb IAmb 11 29 05.4
comp=Z,135nm,1.0s
KEST Kesra 92.98 52 P **P** **11 29 04.4 +0.9**
comp=Z,27nm,0.8s,baz=230,slow=3.4,SNR=23
KEST S **SKSac** **11 39 18.6 +0.6**
comp=Z,1.8nm,0.7s,baz=1.4,slow=22,SNR=1.4
KEST Kesra 92.98 52 P **P** **11 29 03.1 -0.4**
ILULI Ilulissat 93.41 5 *i* P **P** **11 29 04.3 -0.3**
comp=Z,192nm,1.2s
ILULI Ilulissat 93.41 5 *i* P **P** **11 29 04.3 -0.3**
ILULI pmax pmax
comp=Z,190nm,1.2s
ILULI Ilulissat 93.41 5 P **P** **11 29 03.6 -0.9**
ILULI IAmb IAmb 11 29 08.6
comp=Z,182nm,1.2s
YKA Yellowknife Ar 94.05 340 P **P** **11 29 07.4 -0.3**
comp=Z,86nm,0.8s,baz=125,slow=4.2,SNR=160
YKA pP **pP** **11 30 00.5 +1.0**
comp=Z,4.4nm,0.7s,baz=129,slow=4.2,SNR=1.0
YKA PP **PP** **11 32 57.3 +0.1**
comp=Z,14nm,1.0s,baz=133,slow=7.8,SNR=5.9
YKA ScS **S** **11 39 58.8 -1.0**
comp=Z,1.5nm,1.1s,baz=114,slow=8.5,SNR=3.9
YKA PKKP **PKKPdf** **11 46 10.4 -0.4**
comp=Z,2.4nm,1.0s,baz=323,slow=3.4,SNR=7.0
YKA PKPPKP **P'P'df** **11 54 22.1 +3.1**
comp=Z,0.3nm,0.8s,baz=316,slow=2.9,SNR=3.9
URZ Urewera 94.14 225 LR LR 12 03 51.3
comp=Z,921nm,20.2s,baz=119,slow=30
SSB Saint Sauveur 94.29 42 P **P** **11 29 08.5 -0.8**
SSB pmax pmax
comp=Z,118nm,1.5s
SSB Saint Sauveur 94.29 42 P **P** **11 29 08.5 -0.8**
CLF Chambon-Foret 94.32 39 IAmb IAmb 11 29 13.5
comp=Z,109nm,1.2s
LTZ Lake Taylor 94.44 219 IAmb IAmb 11 29 15.5
comp=Z,89nm,1.0s
THZ Tophouse 94.69 220 P **P** **11 29 10.8 -0.6**
THZ IAmb IAmb 11 29 16.4
comp=Z,68nm,0.9s
VSL Villasalto 94.71 49 P **P** **11 29 11.9 +0.6**
NNZ Nelson 94.74 221 P **P** **11 29 10.7 -0.8**
NNZ IAmb IAmb 11 29 16.3
comp=Z,207nm,1.4s
ESK Eskdalemuir 95.42 31 P **P** **11 29 13.8 -0.3**
ESK pmax pmax
comp=Z,40nm,1.1s
ESK Eskdalemuir 95.42 31 P **P** **11 29 13.8 -0.3**
DIB Dawson Inlet, 95.47 327 P **P** **11 29 13.1 -1.2**
BNI Bardonecchia 95.50 43 P **P** **11 29 14.1 -0.9**
BNI pmax pmax
comp=Z,38nm,1.2s
BNI Bardonecchia 95.50 43 P **P** **11 29 14.1 -0.9**
PUH Pauahi 96.40 288 P **P** **11 29 19.1 -0.5**
SENIN Lac Senin/Sane 96.50 42 P **P** **11 29 19.0 -0.5**
DOU Dourbes 96.69 38 P **P** **11 29 21.0 +1.0**
SNF Seneffe 96.72 37 P **P** **11 29 21.2 +1.2**
POHA Pohakuloa 96.83 288 P **P** **11 29 24.1 +2.5**
POHA IAmb IAmb 11 29 25.3
comp=Z,114nm,1.0s
BMRD Maredsous 96.89 38 ⇑P **P** **11 29 20.9 0.0**
UCC Uccle 96.90 37 P **P** **11 29 21.2 +0.3**
RCHB Rochefort 97.08 38 P Pdif 11 29 22.8 +1.0
BGES Gesves 97.11 38 P Pdif 11 29 23.7 +1.7
WRAK Wrangell Islan 97.15 329 P **P** **11 29 21.0 -0.8**
WRAK IAmb IAmb 11 29 25.5
comp=Z,57nm,0.9s
CASP Castiglione de 97.18 46 P **P** **11 29 20.6 -1.9**
DLBC Dease Lake 97.22 332 PP **PP** **11 33 22.7 +0.9**
comp=Z,20nm,0.9s,baz=145,slow=8.2,SNR=4.1
DLBC Dease Lake 97.22 332 P Pdif 11 29 22.6 +0.3
DLBC IAmb IAmb 11 29 26.3
comp=Z,72nm,0.9s
BCLA Clavier 97.25 38 P Pdif 11 29 24.9 +2.4
ECH Echery 97.28 40 P **P** **11 29 21.8 -0.9**
ECH pmax pmax
comp=Z,36nm,1.1s
ECH Echery 97.28 40 P **P** **11 29 21.8 -0.9**
WLF Walferdange 97.37 39 P Pdif 11 29 23.7 +0.6
WLF Walferdange 97.37 39 P **P** **11 29 21.8 -1.3**
WLF pmax pmax
comp=Z,45nm,1.0s
WLF Walferdange 97.37 39 *e*Pdiff Pdif 11 29 23.5 +0.4
baz=246,slow=4.7
WLF Walferdange 97.37 39 P **P** **11 29 21.8 -1.3**
VLC Villacollemand 97.46 45 P Pdif 11 29 23.5 -0.2
LATE Laterza 97.73 47 P Pdif 11 29 25.5 +0.5
LATE IAmb IAmb 11 29 30.5
comp=Z,77nm,1.3s
OSSC Osservatorio P 97.75 46 P Pdif 11 29 24.8 -0.2
TUE Stuetta 97.82 43 P Pdif 11 29 25.5 0.0
TUE IAmb IAmb 11 29 29.2
comp=Z,52nm,1.0s
ZCCA Zocca 97.92 45 P **P** **11 29 25.3 -0.5**
ZCCA IAmb IAmb 11 29 34.2
comp=Z,40nm,0.8s
SUMG Summit 97.99 8 *i* P Pdif 11 29 25.7 -0.2
comp=Z,128nm,0.9s
SUMG Summit 97.99 8 *i* P Pdif 11 29 25.7 -0.2
SUMG pmax pmax
comp=Z,130nm,0.9s
SUMG Summit 97.99 8 P **P** **11 29 25.5 -0.3**
SUMG IAmb IAmb 11 29 30.2
comp=Z,50nm,0.9s
BFO Black Forest 98.03 41 P Pdif 11 29 25.9 -0.2
BFO pmax pmax
comp=Z,16nm,0.9s
BFO Black Forest 98.03 41 *e*Pdiff **P** **11 29 25.7 -0.4**
baz=246,slow=4.7
BFO Black Forest 98.03 41 P Pdif 11 29 25.9 -0.3
SALO Salr 98.18 44 P Pdif 11 29 26.8 -0.1
SALO IAmb IAmb 11 29 34.8
comp=Z,34nm,0.7s
AHRW Bad Neuenahr-A 98.30 38 *e*Pdiff Pdif 11 29 27.4 +0.2
baz=246,slow=4.7
FUORN Ofenpass-Fuorn 98.45 43 P **P** **11 29 27.9 -0.5**
MURB Monte Urbino 98.48 46 P **P** **11 29 27.4 -1.0**
DAVA Damuels 98.50 42 *e*Pdiff Pdif 11 29 28.9 +0.4
comp=Z,60nm,0.9s,SNR=18
DAVA *e*PKKPdf **PKKPbc** **11 45 59.2 +0.2**
comp=Z,11nm,1.0s
NRCA Norcia 98.70 47 P Pdif 11 29 28.2 -1.1
UBR Ueberruh 98.81 42 *e*Pdiff **P** **11 29 30.2 +0.6**
baz=246,slow=4.7
BUG Bochum--Univer 98.82 37 *e*Pdiff **P** **11 29 29.5 0.0**
baz=246,slow=4.7
BUG *e*pPKKPab 11 46 27.5
baz=64,slow=4.6
FETA Feichten 98.91 43 *e*Pdiff **P** **11 29 30.4 +0.2**
comp=Z,46nm,1.3s,SNR=21
FETA *e*PKKPdf **PKKPbc** **11 45 57.1 -0.7**
comp=Z,10nm,1.1s
CTI Castel Tesino 99.08 44 P **Pdif** **11 29 30.4 -0.6**
CTI pmax pmax
comp=Z,48nm,1.4s
CTI Castel Tesino 99.08 44 Pdif **Pdif** **11 29 30.4 -0.6**
RETA Reutte 99.13 42 *e*Pdiff **Pdif** **11 29 30.8 -0.4**
comp=Z,27nm,1.0s,SNR=14
RETA *e*PKKPdf **PKKPbc** **11 45 56.0 -1.1**
comp=Z,11nm,1.5s
MOTA Moosalm 99.28 42 *e*Pdiff **Pdif** **11 29 31.7 -0.2**
comp=Z,79nm,1.3s,SNR=19
MOTA *e*PKKPdf **PKKPbc** **11 45 55.5 -1.2**
comp=Z,7.7nm,0.8s
SQTA Sankt Quirin 99.29 42 *e*Pdiff **Pdif** **11 29 31.9 0.0**
comp=Z,60nm,0.8s,SNR=25
SQTA *e*PKKPdf **PKKPbc** **11 45 55.9 -0.8**
comp=Z,9.3nm,1.0s
IBBN Ibbenburen 99.48 37 *e*Pdiff **Pdif** **11 29 32.5 +0.1**
baz=246,slow=4.7
IBBN *e*pPKKPab 11 46 24.6
baz=64,slow=4.6
WATA Walderalm 99.57 42 *e*Pdiff **Pdif** **11 29 33.2 0.0**
comp=Z,44nm,1.4s,SNR=9.7
WATA *e*PKKPdf **PKKPbc** **11 45 55.9 0.0**
comp=Z,4.1nm,0.6s
ABTA Abfaltersbach 99.91 43 *e*Pdiff **Pdif** **11 29 35.6 +1.0**
comp=Z,16nm,0.8s,SNR=7.5
GRF Grafenberg Arr 100.33 40 *e*Pdiff **Pdif** **11 29 36.7 +0.4**
baz=246,slow=4.7
GRF *e*pP pP 11 30 33.2 +4.9
GRF *e*PP **PP** **11 33 40.5 -5.2**
baz=243,slow=7.2
GRF *e*PKiKP PKiKP 11 34 11.7 +9.5
GRF *e*PKKPab **PKKPbc** **11 45 55.4 +1.7**
GRF *e*pPKKPab 11 46 20.9
baz=64,slow=4.6
JAVS Javornik 100.55 45 *e*Pdiff **Pdif** **11 29 38.0 +0.5**
JAVS *e* 11 34 33.2
JAVS *e*SKSac **SKSac** **11 40 00.3 +3.7**
JAVS *e* 11 41 00.7
KBA Koelnbreinsper 100.56 43 *e*Pdiff **Pdif** **11 29 37.9 +0.3**
comp=Z,9.6nm,0.7s,SNR=8.3
MYKA Terra Mystica 100.57 44 *e*Pdiff **Pdif** **11 29 38.5 +1.0**
comp=Z,18nm,0.8s,SNR=8.1
NRDL Niedersach Rie 100.86 37 *e*Pdiff **Pdif** **11 29 39.5 +1.0**
baz=246,slow=4.7
NRDL *e*pPKKPab 11 46 18.7
baz=64,slow=4.6
ROTZ Rotzenmuhle 100.95 40 *e*pPKKPab PKKPdf 11 46 18.7 +21
baz=64,slow=4.6
MOX Moxa 100.95 39 *e*pPKKPab PKKPdf 11 46 18.1 +20
baz=64,slow=4.6
MANZ Manzenberg 100.98 40 *e*Pdiff **Pdif** **11 29 39.8 +0.6**
baz=246,slow=4.7
ASSE Asse, Remlinge 101.03 38 *e*Pdiff **Pdif** **11 29 40.9 +1.7**
baz=246,slow=4.7
WET Wettzell 101.10 41 *e*Pdiff **Pdif** **11 29 40.2 +0.4**
baz=246,slow=4.7
OBKA Obir 101.10 44 *e*Pdiff **Pdif** **11 29 40.8 +0.9**
comp=Z,22nm,1.2s,SNR=6.4
OBKA *e*PKKPdf **PKKPbc** **11 45 51.2 -0.2**
comp=Z,5.9nm,1.0s
PLN Plauen 101.21 40 *e*Pdiff **Pdif** **11 29 40.7 +0.5**
baz=246,slow=4.7
PLN *e*pPKKPab 11 46 17.0
baz=64,slow=4.6
WERN Wernitzgruen 101.25 40 *e*Pdiff **Pdif** **11 29 41.3 +0.8**
baz=246,slow=4.7
WERN *e*pPKKPab 11 46 17.0
baz=64,slow=4.6
GUNZ Gunzen 101.26 40 *e*Pdiff **Pdif** **11 29 40.8 +0.3**
baz=246,slow=4.7
GUNZ *e*pPKKPab 11 46 16.8
baz=64,slow=4.6
NKC Novy Kostel 101.28 40 *e*PDIFF **Pdif** **11 29 42.9 +2.4**
NKC *e*SKS 11 39 51.0
NKC Novy Kostel 101.28 40 *e*P **Pdif** **11 29 42.9 +2.4**
TANN Tannenbergstha 101.36 40 *e*Pdiff **Pdif** **11 29 41.7 +0.8**
baz=246,slow=4.7
CRES Cresnjev 101.42 45 *i* Pdiff **Pdif** **11 29 41.9 +0.6**
CRES *e* 11 30 37.9
CRES *e* 11 34 39.9
CRES *e*SKSac **SKSac** **11 40 01.9 +1.3**
CRES *e* 11 41 07.8
MOA Molln 101.44 43 *e*Pdiff **Pdif** **11 29 41.9 +0.5**
comp=Z,11nm,0.7s,SNR=8.1
MOA *e*PKKPdf **PKKPbc** **11 45 51.5 +1.1**
comp=Z,11nm,1.5s
SOKA Soboth 101.47 44 *e*Pdiff **Pdif** **11 29 42.5 +0.9**
comp=Z,10nm,1.3s,SNR=5.7
SOKA *e*PKKPdf **PKKPbc** **11 45 51.7 +1.4**
comp=Z,9.3nm,1.1s
GEC2 GERESS Array S 101.48 42 *e*Pdiff **Pdif** **11 29 41.5 0.0**
baz=246,slow=4.7
GERES GERESS Array B 101.48 42 P **Pdif** **11 29 41.6 0.0**
comp=Z,2.9nm,0.8s,baz=252,slow=3.8,SNR=14
GERES PP **PP** **11 33 52.9 -1.5**
comp=Z,0.5nm,0.3s,baz=196,slow=6.9,SNR=3.7
GERES PKiKP **PKiKP** **11 34 04.9 +0.4**
comp=Z,2.6nm,0.7s,baz=225,slow=1.3,SNR=6.7
GERES PKKPbc **PKKPbc** **11 45 48.5 -2.0**
comp=Z,4.2nm,0.9s,baz=64,slow=3.1,SNR=9.2
GERES GERESS Array B 101.48 42 Pdif **Pdif** **11 29 41.4 -0.2**
KHC Kasperske Hory 101.52 41 *e*PDIFF **Pdif** **11 29 42.1 +0.5**
KHC *ex* x 11 32 53.0
KHC *ex* x 11 33 44.0
KHC *e*SKS 11 39 56.5
KHC Kasperske Hory 101.52 41 *e*P **Pdif** **11 29 42.1 +0.5**
KHC *e* 11 39 56.5
C36M Paulatuk 101.55 342 Pdiff **Pdif** **11 29 42.7 +1.4**
baz=128
ARSA Arzberg 102.00 44 *e*Pdiff **Pdif** **11 29 44.2 +0.3**
comp=Z,8.9nm,0.9s
CLL Collm 102.02 39 *e*Pdif **Pdif** **11 29 46.0 +2.2**
CLL *ep*Pdif **pPdif** **11 30 38.0 +2.3**
CLL *e*PP **PP** **11 33 55.0 -3.3**
CLL *e*PKiKP **PKiKP** **11 34 04.0 -1.2**
CLL *ep*PP 11 34 43.0
CLL *e*SKSac **SKSac** **11 40 01.0 -2.2**
CLL *e*Sdif **Sdif** **11 41 08.0 +0.1**
CLL *e*SP SP 11 42 40.0 -2.5
CLL *e* 11 46 11.0
comp=Z,27nm,1.3s
CLL *e*SS **SS** **11 48 13.0 -4.8**
CLL *es*SS 11 49 36.0
CLL *es*SSS SSS 11 52 18.0
CLL *es*SSS 11 53 18.0
CLL *e*PPPrev 11 54 06.0
CLL Lm MLR 12 10 00.0
comp=N,700nm,20.2s
CLL Lm MLR 12 10 00.0
comp=E,1μm,20.8s
CLL Lm MLR 12 10 00.0
comp=Z,1μm,20.7s
CLL Collm 102.02 39 *e*P **Pdif** **11 29 46.0 +2.2**
CLL *e* 11 34 04.0
CLL *e* 11 40 01.0
CLL *e*S **Sdif** **11 41 13.0 +5.1**
CLL Collm 102.02 39 *ep*PKKPab PKKPdf 11 46 12.7 +17
baz=64,slow=4.6
FBE Freiberg 102.08 40 *e*Pdiff **Pdif** **11 29 45.0 +1.0**
baz=246,slow=4.7
FBE *ep*PKKPab 11 46 13.5
baz=64,slow=4.6
PRA Prague 102.39 41 *e*SKS **SKSac** **11 40 05.8 +0.9**
BRG Berggiesshubel 102.40 40 *e*PDIFF **Pdif** **11 29 47.8 +2.3**
comp=Z,7.5nm,0.8s
BRG pPDIFF 11 30 36.0
BRG PP **PP** **11 33 58.0 -3.1**
BRG SKS 11 40 05.0
BRG SDIFF **Sdif** **11 41 14.0 +2.9**
BRG *e*PKKP PKKPdf 11 46 11.1 +16
comp=Z,54nm,1.8s
BRG SS **SS** **11 48 19.0 -4.1**
comp=N,439nm,17.6s
comp=E,775nm,17.5s
comp=Z,1μm,21.9s
BRG Berggiesshubel 102.40 40 *e*P **Pdif** **11 29 47.8 +2.3**
BRG 11 33 58.0
BRG 11 40 05.0
BRG S **Sdif** **11 41 14.0 +2.9**
BRG SS **SS** **11 48 19.0 -4.1**
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG pmax pmax
comp=Z,54nm,1.8s
BRG MLR MLR
comp=N,439nm,17.6s
BRG MLR MLR
comp=E,775nm,17.5s
BRG MLR MLR
comp=Z,1μm,21.9s
BRG Berggiesshubel 102.40 40 *ep*PKKPab PKKPdf 11 46 11.5 +17
baz=64,slow=4.6
PRU Pruhonice 102.42 41 *e*PDIFF **Pdif** **11 29 46.4 +0.8**
PRU *e*SKS 11 40 03.5
PRU Pruhonice 102.42 41 *e*P **Pdif** **11 29 46.4 +0.8**
PRU *e* 11 40 03.5
CONA Conrad Observa 102.47 43 *e*Pdiff **Pdif** **11 29 46.5 +0.5**
comp=Z,12nm,1.3s,SNR=6.3
CONA *e*PKKPdf **PKKPbc** **11 45 49.2 +1.7**
comp=Z,6.0nm,0.7s
GOPC GO Pecny, Ondr 102.54 41 *e*PDIFF **Pdif** **11 29 49.0 +2.8**
GOPC *e*SKS 11 40 03.4
GOPC GO Pecny, Ondr 102.54 41 *e*P **Pdif** **11 29 49.0 +2.8**
GOPC *e* 11 40 03.4
UPC Upice 103.49 41 *e*SKS **SKSac** **11 40 06.0 -4.1**
CHVC Chvalec 103.55 41 *e*PDIFF **Pdif** **11 29 51.7 +1.1**
DPC Dobruska-Polom 103.62 41 *e*PDIFF **Pdif** **11 29 52.0 +1.0**
DPC *e*SKS 11 40 06.1
DPC Dobruska-Polom 103.62 41 *e*P **Pdif** **11 29 52.0 +1.0**
DPC *e* 11 40 06.1
OSTC Ostas 103.63 41 *e*PDIFF **Pdif** **11 29 52.4 +1.4**
OSTC *e*SKS 11 40 09.2
KRLC Kraliky 103.80 41 *e*PDIFF **Pdif** **11 29 53.0 +1.2**
KRLC Kraliky 103.80 41 *e*P **Pdif** **11 29 53.0 +1.2**
INK Inuvik 103.82 339 PKiKP **PKiKP** **11 34 09.0 +1.1**
comp=Z,28nm,1.2s,baz=114,slow=4.3,SNR=3.8
INK PKKPbc **PKKPbc** **11 45 42.4 -1.6**
comp=Z,7.5nm,0.9s,baz=287,slow=5.7,SNR=6.5
INK Inuvik 103.82 339 P **Pdif** **11 29 50.9 -0.4**
INK Inuvik 103.82 339 Pdif **Pdif** **11 29 50.9 -0.4**
VYHS Vyhne 104.53 43 *e*PP **PKiKP** **11 34 12.7 +2.8**
GLB Gilahina Butte 104.73 331 Pdif **Pdif** **11 29 55.4 -0.3**
NB2 NORSAR Subarra 104.84 29 P **Pdif** **11 29 58.7 +2.6**
comp=Z,58nm,2.0s,baz=253,slow=4.1
NB2 NORSAR Subarra 104.84 29 P **Pdif** **11 29 58.7 +2.6**
baz=253,slow=4.1
NOA NORSAR Array B 104.84 29 Pdiff **Pdif** **11 29 55.9 -0.2**
comp=Z,0.3nm,0.5s,baz=247,slow=4.1,SNR=3.7
NOA PKKPab **PKKPab** **11 45 56.7 +1.0**
comp=Z,2.3nm,0.8s,baz=76,slow=4.3,SNR=5.7
K27K Chicken 105.01 334 Pdiff **Pdif** **11 29 57.5 +0.8**
baz=113
OJC Ojcow 105.68 42 *e*PKiKP **PKiKP** **11 34 13.9 +1.9**
OJC *e*SKSac **SKSac** **11 40 23.2 +3.1**
OJC *e*SKKSac **SKKSac** **11 41 12.0 +3.8**
OJC *e*Sdif SKSdf 11 41 41.4 +37
OJC *e*SP SP 11 43 20.2 -0.5
SCRK Sand Creek 105.77 333 Pdiff **Pdif** **11 30 00.4 +0.1**
baz=112
M24K Tolsona, Glenn 106.03 331 Pdiff **Pdif** **11 30 01.7 +0.2**
baz=110
HDA Harding Lake 107.13 333 Pdiff **Pdif** **11 30 06.9 +0.6**
baz=109
ILAR Eielson Array 107.23 334 Pdiff **Pdif** **11 30 06.7 0.0**
comp=Z,4.2nm,0.7s,baz=134,slow=2.8,SNR=23
ILAR PKiKP **PKiKP** **11 34 13.2 -1.3**
comp=Z,6.3nm,1.1s,baz=106,slow=4.5,SNR=7.6
ILAR PP **PP** **11 34 37.2 +0.8**
comp=Z,5.6nm,0.8s,baz=116,slow=5.3,SNR=8.0
ILAR PKKPbc **PKKPbc** **11 45 30.9 -2.6**
comp=Z,0.7nm,0.6s,baz=303,slow=3.4,SNR=6.9
ILAR Eielson Array 107.23 334 P **Pdif** **11 30 05.5 -1.1**
ILAR Eielson Array 107.23 334 Pdif **Pdif** **11 30 05.5 -1.1**
RC01 Rabbit Creek A 107.30 330 Pdiff **Pdif** **11 30 07.3 +0.3**
baz=108
POKR Poker Plat Res 107.56 334 Pdiff **Pdif** **11 30 08.7 +0.6**
baz=108
WRH Wood River Hil 107.62 333 Pdif **Pdif** **11 30 06.7 -1.7**
TCOL CIGO, UAF Yank 107.66 334 Pdiff **Pdif** **11 30 08.7 +0.2**
baz=108
HOM Homer 107.78 328 Pdiff **Pdif** **11 30 10.1 +0.9**
baz=107
OHAK Old Harbor 107.93 325 Pdif **Pdif** **11 30 10.1 +0.2**
CUT Chulitna 107.94 331 Pdiff **Pdif** **11 30 10.3 +0.5**
baz=107
NEA2 Nenana 108.06 333 Pdiff **Pdif** **11 30 10.7 +0.3**
baz=107
PPLA Purkeypile 108.92 331 Pdif **Pdif** **11 30 13.2 -1.2**
COLD Coldfoot 109.25 336 Pdiff **Pdif** **11 30 16.6 +1.1**
baz=105
TOLK Toolik Lake Re 109.40 337 Pdiff **Pdif** **11 30 18.0 +1.7**
baz=105
DZM Mont Dzumac 111.17 233 *e*LR LR 12 07 38.3
comp=Z,2μm,27.6s
MICGM Minsk 111.56 39 *e* **PKiKP** **11 34 26.0 +3.2**
MNK Minsk 111.56 39 *e*PKIKP **PKiKP** **11 34 26.0 +3.2**
AKASG Malin Array Be 111.62 43 PKIKP **PKiKP** **11 34 22.4 -0.7**
comp=Z,16nm,0.6s,baz=265,slow=2.5,SNR=19
AKASG PP **PP** **11 35 07.5 -0.9**
comp=Z,2.1nm,0.7s,baz=258,slow=7.0,SNR=8.1
AKASG PKKPbc **PKKPbc** **11 45 17.7 -1.2**
comp=Z,3.1nm,0.5s,baz=68,slow=3.6,SNR=9.4
AKASG PKKPab **PKKPab** **11 45 27.7 +1.8**
comp=Z,8.7nm,0.7s,baz=63,slow=4.4,SNR=15

AKASG PKKP **PKKPdf** **11 45 37.2 -0.4**
comp=Z,0.4nm,0.4s,baz=62,slow=4.4,SNR=4.2
AKBB Malin Array Si 111.62 43c *i* PKIKP **PKiKP 11 34 22.8 -0.3**
SPITS Spitsbergen Ar 111.67 13 PKKPbc PKKPbc 11 45 19.6 +0.1
comp=Z,14nm,0.9s,baz=88,slow=12,SNR=5.0
FINES FINESS Array B 111.85 31 PKiKP **PKiKP 11 34 23.4 +0.2**
comp=Z,3.4nm,0.5s,baz=346,slow=1.4,SNR=14
FINES PKKPbc **PKKPbc 11 45 18.5 +0.1**
comp=Z,1.6nm,0.5s,baz=93,slow=3.8,SNR=5.7
BRTR Keskin Array B 112.38 55 PKiKP **PKiKP 11 34 25.1 0.0**
comp=Z,5.8nm,0.8s,baz=194,slow=4.6,SNR=9.3
BRTR PP **PP 11 35 11.9 -2.5**
comp=Z,7.1nm,1.0s,baz=240,slow=9.8,SNR=5.5
BRTR PKKPab **PKKPab 11 45 25.2 +1.9**
comp=Z,2.7nm,0.7s,baz=94,slow=5.0,SNR=5.0
ARCES ARCESS Array B 112.78 22 PKKPbc PKKPbc 11 45 16.1 +0.4
comp=Z,2.4nm,0.3s,baz=94,slow=3.6,SNR=3.8
APA Apatity 115.55 25 ‖ *i* PKIKP PKiKP 11 34 42.8 +13
APA pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 116.62 39c *i* PKIKP **PKiKP 11 34 32.6 +0.1**
OBN *e* 11 35 41.0
OBN *i* 11 41 05.5
OBN *e*PS **PKKPab 11 45 02.9 -0.8**
OBN *e*PPS PPS 11 46 29.3
OBN pmax pmax
comp=Z,184nm,1.3s
OBN MLR MLR
comp=Z,2μm,19.0s
OBN Obninsk 116.62 39 PKPdf **PKiKP 11 34 32.3 -0.2**
MOS Moscow 117.25 38 *i* PKIKP **PKPdf 11 34 32.7 -1.0**
MOS *e* 11 35 45.5
MOS *e* 11 41 07.9
MOS pmax pmax
comp=Z,145nm,1.2s
MARD Mardin 117.39 59 PKPdf **PKiKP 11 34 34.8 0.0**
TMCR Tamitsa 117.50 29 *e*PKIKP **PKiKP 11 34 34.0 0.0**
TMCR pmax pmax
comp=Z,35nm,0.8s
SOC Sochi 117.54 52 *i* PKIKP **PKiKP 11 34 35.4 +0.7**
SOC *e* 11 35 49.9
SOC *e*PS PKKPdf 11 45 38.8 +13
SOC *e*SS SS 11 51 38.7 -7.0
LPSR Galich'ya Gora 117.86 42 *e*PKIKP **PKPdf 11 34 34.6 -0.4**
LPSR pmax pmax
comp=Z,110nm,0.8s
VSR Storozhevoye 117.92 43 *e*PKIKP **PKPdf 11 34 33.6 -1.5**
VSR *e*SP SP 11 45 12.4 -3.9
VSR pmax pmax
comp=Z,90nm,1.1s
VORD Divnogorie 117.98 44 *e*PKIKP **PKPdf 11 34 34.3 -1.0**
VORD pmax pmax
comp=Z,40nm,0.8s
KLMR Klimovskoe 118.30 32 *e*PKIKP **PKPdf 11 34 34.7 -0.8**
KLMR pmax pmax
comp=Z,202nm,1.5s
KLMR Klimovskoe 118.30 32 *e*PKPdf **PKPdf 11 34 34.8 -0.8**
KLMR AMP 11 34 39.5
comp=Z,202nm,1.5s
KLMR *e*SKP 11 37 50.6
KLMR *e*PKKPab **PKKPbc 11 44 56.7 +0.6**
STKA Stephens Creek 118.44 207 PKP **PKiKP 11 34 36.6 -0.3**
comp=Z,9.8nm,0.8s,baz=192,slow=1.2,SNR=12
STKA PP **PP 11 35 55.5 +0.2**
comp=Z,6.2nm,1.0s,baz=148,slow=10,SNR=6.0
STKA PKKPbc **PKKPbc 11 44 54.8 -0.5**
comp=Z,10nm,0.6s,baz=326,slow=5.3,SNR=24
STKA Stephens Creek 118.44 207 **PKPdf 11 34 36.2 -0.7**
ATKA Atka Island 119.12 318 PKPdf **PKPdf 11 34 36.1 -1.3**
VRH Novokhopyorsk 119.52 43 *e*PKIKP **PKPdf 11 34 37.7 -0.5**
VRH pmax pmax
comp=Z,140nm,1.4s
KIV Kislovodsk 119.72 52 *e*P **Pdif 11 31 02.3 -0.5**
KIV *i* 11 34 38.4
KIV *e* 11 36 04.9
KIV *e*PS **PS 11 45 56.7 -0.6**
KIV *e*SS SS 11 52 15.3 +1.4
KIV pmax pmax
comp=Z,151nm,1.0s
KIV Kislovodsk 119.72 52 PKPdf **PKPdf 11 34 38.1 -0.9**
KBZ Khabaz 119.85 52 PKP **PKiKP 11 34 39.7 +0.6**
comp=Z,41nm,1.0s,baz=180,slow=4.0,SNR=15
KBZ Khabaz 119.85 52c *i* PKIKP **PKiKP 11 34 40.0 +0.8**
GOF Gofitskoye 120.07 50 ⇑ *e*PKIKP **PKiKP 11 34 39.4 -0.2**
GOF pmax pmax
comp=Z,96nm,0.8s
ZEI Tsey 120.50 53 *i* PKIKP **PKPdf 11 34 40.0 -0.7**
ZEI pmax pmax
comp=Z,44nm,1.2s
ADK Adak 120.65 317 PKIKP **PKPdf 11 34 38.4 -2.0**
ADK Adak 120.65 317 PKPdf **PKPdf 11 34 38.4 -2.0**
PRGR Permogore 121.18 31 *e*PKIKP **PKiKP 11 34 40.9 -0.3**
MAK Makhachkala 123.15 53 *e*P **Pdif 11 31 10.9 -7.0**
MAK *i* 11 34 46.0
MAK *e* 11 36 28.5
MAK *e* 11 41 25.6
MAK pmax pmax
comp=Z,931nm,2.0s
AKT Akhty 123.24 55 *e*PKIKP **PKiKP 11 34 46.9 +0.8**
AKT *e* 11 35 39.9
AKT *e* 11 36 33.4
AKT pmax pmax
comp=Z,72nm,1.5s
NWAO Narrogin (SRO) 123.49 184 PKP **PKiKP 11 34 46.6 -0.3**
comp=Z,32nm,0.7s,baz=240,slow=1.8,SNR=6.8
NWAO Narrogin (SRO) 123.49 184 **PKPdf 11 34 45.0 -1.6**
NWAO Narrogin (SRO) 123.49 184 PKPdf **PKPdf 11 34 45.0 -1.6**
FORT Forrest 123.96 195 **PKPdf 11 34 46.7 -0.9**
BILL Bilibino 125.42 338 ⇑ *i* PKIKP **PKiKP 11 34 49.7 +0.2**
BILL *i* 11 35 44.0
BILL *i* 11 36 40.1
BILL pmax pmax
comp=Z,95nm,1.0s
CTA Charters Tower 125.91 219 PP PP 11 36 49.0 +2.8
comp=Z,7.6nm,1.1s,baz=77,slow=4.9,SNR=3.4
CTAO Charters Tower 125.91 219 PKIKP **PKPdf 11 34 51.2 -0.4**
CTAO Charters Tower 125.91 219 PKPdf **PKPdf 11 34 51.2 -0.4**
MORW Morawa 127.39 183 PKPdf **PKPdf 11 34 53.3 -0.9**
HATD Hatta, Dubai 128.13 76 PKPdf **PKPdf 11 34 55.5 -0.1**
SNR=5.6
ARQ Araqi 128.16 78 PKPdf **PKPdf 11 34 55.6 -0.1**
SNR=6.5
UOSS Minazif 128.21 76 PKPdf **PKPdf 11 34 54.7 -1.0**
DQM DQM 128.28 83 PKPdf **PKiKP 11 34 56.1 -0.6**
SNR=12
BSY Bisya 128.64 79 PKPdf **PKPdf 11 34 56.5 -0.2**
SNR=13
ARU Arti 128.79 36 *i* PKIKP **PKiKP 11 34 56.2 -0.3**
ARU 11 37 06.8
ARU PPP PPP 11 39 54.6
ARU Arti 128.79 36 PKPdf **PKiKP 11 34 56.2 -0.3**
AS31 Alice Springs 128.81 204 **PKPdf 11 34 56.5 -0.6**
ASAR Alice Springs 128.81 204 PKP **PKiKP 11 34 57.0 -0.8**
comp=Z,80nm,0.8s,baz=134,slow=1.6,SNR=96
ASAR PKKPab PKKPdf 11 44 16.6 -47
comp=Z,1.2nm,0.8s,baz=336,slow=3.5,SNR=8.8
ASAR PKKP 11 45 03.4
comp=Z,1.2nm,0.4s,baz=358,slow=1.6,SNR=13
ASAR SKKPbc SKKPbc 11 47 45.3 -0.8
comp=Z,1.8nm,1.0s,baz=1.5,slow=3.9,SNR=1.8
ASAR Alice Springs 128.81 204 **PKPdf 11 34 56.4 -0.7**
HOQ Hoqain 128.92 78 PKPdf **PKPdf 11 34 56.7 -0.5**
SNR=7.7
MHTO MHTO 128.93 82 PKPdf **PKPdf 11 34 56.8 -0.4**
SNR=12
JMDO Jabal Madar 129.37 80 PKPdf **PKPdf 11 34 57.7 -0.3**
SNR=5.4
SMDO Samad 129.48 79 PKPdf **PKPdf 11 34 58.2 -0.2**
SNR=26
BIDO Bidbid 129.64 78 PKiKP **PKiKP 11 34 59.0 -0.3**
SNR=9.0
SVE Sverdlovsk 129.77 35 *e*PKIKP **PKiKP 11 34 58.5 0.0**
SVE pmax pmax
comp=Z,140nm,1.6s
AKTO Aktyubinsk 129.87 43 PKIKP **PKiKP 11 34 58.3 -0.6**
WSAR Wadi Sarin 130.04 79 PKPdf **PKiKP 11 34 59.5 -0.5**
SNR=13
WBK Wadi Bani Khal 130.21 80 PKiKP **PKiKP 11 35 00.1 -0.4**
SNR=14
WAKE Wake Island 130.50 276 **PKPdf 11 34 59.9 -0.3**
JLN Jalan Bani Buh 130.50 81 PKiKP **PKiKP 11 35 00.6 -0.4**
SNR=16
GEYT Alibeck 131.14 60 PKP **PKiKP 11 35 01.7 -0.2**
comp=Z,11nm,0.9s,baz=264,slow=6.9,SNR=17
GEYT PP **PP 11 37 21.6 +0.3**
comp=Z,6.5nm,0.8s,baz=250,slow=7.7,SNR=5.2
GEYT SKPbc **SKPab 11 38 07.8 +0.8**
comp=Z,15nm,0.9s,baz=256,slow=3.0,SNR=10
GEYT Alibeck 131.14 60 PKPdf **PKPdf 11 34 59.3 -1.7**
TIXI Tiksi 131.30 354 ‖ *i* PKIKP **PKPdf 11 34 59.7 -0.5**
AB31 Akbulak array 131.32 45 *i* PKIKP **PKPdf 11 35 00.6 -0.3**
ABKAR Akbulak array 131.32 45 **PKiKP 11 35 01.1 -0.7**
ABKAR Akbulak array 131.32 45 **PKiKP 11 35 01.2 -0.6**
NRIK Noril'sk 131.88 12 PKP **PKiKP 11 35 01.9 -0.5**
comp=Z,30nm,1.1s,baz=41,slow=1.0,SNR=19
NRIK SKPbc **SKPab 11 38 09.7 +0.7**
comp=Z,25nm,1.1s,baz=21,slow=2.0,SNR=9.0
WR0 Warramunga Arr 131.89 207 **PKPdf 11 35 02.7 -0.2**
WRA Warramunga Arr 131.99 207 PKhKP PKPpre 11 34 42.4
comp=Z,0.4nm,0.3s,baz=184,slow=2.0,SNR=21
WRA PKP **PKiKP 11 35 03.2 -1.0**
comp=Z,51nm,0.7s,baz=163,slow=1.7,SNR=38
WRA PP **PP 11 37 23.0 -2.4**
comp=Z,22nm,1.3s,baz=148,slow=5.1,SNR=14
WRA SKPbc **SKPab 11 38 09.6 -1.5**
comp=Z,85nm,0.8s,baz=156,slow=3.8,SNR=43
WRA PKKP **PKKPdf 11 44 58.1 +0.9**
comp=Z,0.8nm,1.0s,baz=330,slow=2.0,SNR=5.2
WRA SKKPbc **SKKPbc 11 47 35.1 +0.3**
comp=Z,5.7nm,1.1s,baz=343,slow=6.1,SNR=5.0
SEY Seymchan 133.03 337 PKhKP PKPpre 11 34 49.3
comp=Z,5.1nm,0.7s,baz=221,slow=2.9,SNR=8.4
SEY PKP **PKiKP 11 35 04.8 -0.1**
comp=Z,69nm,0.7s,baz=84,slow=2.9,SNR=18
SEY PP **PP 11 37 31.6 -0.6**
comp=Z,20nm,0.9s,baz=65,slow=5.6,SNR=8.4
SEY SKPbc **SKPbc 11 38 11.0 -1.2**
comp=Z,24nm,1.1s,baz=111,slow=5.7,SNR=4.7
SEY Seymchan 133.03 337 *i* PKIKP **PKPdf 11 35 03.5 -0.2**
KRVT Keravat (AS076 133.15 239 PP PP 11 37 34.2 +0.4
comp=Z,56nm,1.1s,baz=198,slow=3.8,SNR=5.4
HRA Herat 134.47 65 PKPdf **PKPdf 11 35 07.2 -0.4**
PSA00 Pilbara Seismi 134.48 188 **PKPdf 11 35 07.1 -0.7**
PSA00 Pilbara Seismi 134.48 188 PKPdf **PKPdf 11 35 06.5 -1.2**
PET Petropavlovsk 135.17 323 *i* PKIKP **PKiKP 11 35 08.9 -0.6**
PEA0B Petropavlovsk- 135.67 323 *c* PKIKP **PKiKP 11 35 13.2 +2.6**
PETK Petropavlovsk- 135.67 323 PKhKP PKPpre 11 35 01.4
comp=Z,14nm,0.6s,baz=64,slow=1.7,SNR=17
PETK PKP **PKiKP 11 35 10.2 -0.4**
comp=Z,42nm,0.8s,baz=85,slow=4.4,SNR=19
PETK PP **PP 11 37 52.5 +3.2**
comp=Z,20nm,0.9s,baz=71,slow=11,SNR=5.6
PETK SKPbc **SKPbc 11 38 19.9 -1.1**
comp=Z,70nm,1.2s,baz=74,slow=5.4,SNR=5.6
PETK Petropavlovsk- 135.67 323 **PKiKP 11 35 09.4 -1.2**
MA2 Magadan 135.71 334 PKhKP PKPpre 11 35 00.5
comp=Z,22nm,1.0s,baz=129,slow=3.8,SNR=5.7
MA2 PKP **PKiKP 11 35 09.4 -1.0**
comp=Z,21nm,0.8s,baz=96,slow=3.4,SNR=7.3
MA2 PP **PP 11 37 49.8 +0.7**
comp=Z,13nm,0.8s,baz=14,slow=9.7,SNR=4.5
MA2 SKPbc **SKPbc 11 38 20.3 -0.7**
comp=Z,30nm,1.1s,baz=98,slow=4.2,SNR=5.4
BRVK Borovoye 136.33 37 *c* *i* PKIKP **PKiKP 11 35 11.2 -0.7**
BRVK pmax pmax
comp=Z,195nm,2.5s
BRVK Borovoye 136.33 37 PKPdf **PKPdf 11 35 10.6 +0.5**
BVAR Borovoye Array 136.40 37 SKKPbc SKKPbc 11 47 22.4 +0.3
comp=Z,6.0nm,1.0s,baz=156,slow=11,SNR=6.4
FITZ Fitzroy Crossi 136.69 197 PKhKP PKPpre 11 35 00.5
comp=Z,8.0nm,0.7s,baz=165,slow=2.7,SNR=15
FITZ PKP **PKiKP 11 35 13.1 -0.6**
comp=Z,32nm,0.6s,baz=360,slow=3.0,SNR=21
FITZ PP **PP 11 37 54.5 -0.4**
comp=Z,7.3nm,1.0s,baz=180,slow=8.2,SNR=4.4
FITZ SKPbc **SKPbc 11 38 25.3 0.0**
comp=Z,41nm,1.0s,baz=180,slow=1.9,SNR=7.0
FITZ Fitzroy Crossi 136.69 197 **PKPdf 11 35 11.7 -0.2**
SKR Severo-Kuril's 137.53 320 *i* PKHKP PKPpre 11 35 02.8
SKR *e* 11 37 58.7
SKR pmax pmax
comp=Z,600nm,3.0s
BRZS Berezniki 138.97 40 *e*PKP **PKPdf 11 35 15.2 0.0**
comp=Z,31nm,1.1s,baz=40
BRZS *i* SKP 11 38 30.9
baz=40
BRZS Berezniki 138.97 40 *e*PKIKP **PKPdf 11 35 15.1 -0.1**
BRZS pmax pmax
comp=Z,31nm,1.1s
IUG Iuzhnay 139.75 52 *e*PKP **PKPdf 11 35 17.0 0.0**
baz=52
IUG Iuzhnay 139.75 52 *e*PKIKP **PKPdf 11 35 17.0 0.0**
KK31 Karatay Array 139.87 51 PKIKP **PKPdf 11 35 13.9 -3.1**
YAK Yakutsk 140.20 348 PKhKP PKPpre 11 35 09.9
comp=Z,0.2nm,0.6s,baz=6.8,slow=16,SNR=1.3
YAK Yakutsk 140.20 348 ⇑ *e*PKIKP **PKiKP 11 35 19.4 -0.1**
YAK pmax pmax
comp=Z,263nm,1.3s
DZA Taraz 140.50 51 *e*PKP **PKPdf 11 35 17.2 -1.1**
baz=51
DZA Taraz 140.50 51 *e*PKIKP **PKPdf 11 35 17.1 -1.1**
BTLS Baital 141.72 47 *e*PKP **PKPdf 11 35 20.7 +0.4**
comp=Z,32nm,1.7s,baz=47
BTLS Baital 141.72 47 *e*PKIKP **PKPdf 11 35 20.7 +0.4**
BTLS pmax pmax
comp=Z,32nm,1.7s
KURK Kurchatov 141.98 36 PKHKP PKPpre 11 35 15.0
EKS2 Erkin-Say 142.30 50 P **PKPdf 11 35 21.1 -0.5**
SNR=18
AML Almayashu 142.39 51 P **PKPdf 11 35 18.5 -3.6**
SNR=17
USP Ospenovka 142.61 49 P **PKPdf 11 35 18.6 -3.4**
SNR=13
SGDS Sogindy 142.65 49 *i* PKP **PKPdf 11 35 21.5 -0.6**
baz=49
SGDS Sogindy 142.65 49 *i* PKIKP **PKPdf 11 35 21.5 -0.6**
JAY Jayapura 142.73 229 PKhKP **PKPdf 11 35 19.8 -3.3**
comp=Z,57nm,0.9s,baz=232,slow=1.7,SNR=17
JAY Jayapura 142.73 229 PKP **PKPdf 11 35 19.6 -3.5**
JAY PKP **PKiKP 11 35 21.1 -5.2**
AAK Ala-Archa 142.81 50 SKPbc **SKiKP 11 38 41.7 -0.7**
comp=Z,53nm,1.1s,baz=221,slow=3.1,SNR=8.2
AAK SKKPbc **SKKPbc 11 46 57.0 +0.4**
comp=Z,2.9nm,0.7s,baz=166,slow=5.7,SNR=4.8
AAK Ala-Archa 142.81 50 P **PKPdf 11 35 20.1 -2.4**
SNR=31
AAK Ala-Archa 142.81 50 PKIKP **PKPdf 11 35 19.3 -3.2**
POO Poona 142.82 90 *e*P **PKPdf 11 35 19.9 -3.1**
POO *ex* x 11 35 21.0
POO *i* x x 11 36 15.2
POO *e*PP **PP 11 38 40.7 +6.2**
FRU1 Bishkek 142.85 50 PKIKP **PKPdf 11 35 20.8 -1.6**
FRU1 Bishkek 142.85 50 **PKPdf 11 35 20.8 -1.6**
CHMS Chumysh 142.87 49 P **PKPdf 11 35 19.7 -2.7**
SNR=7.3
UCH Uchtor 142.94 51 P **PKPdf 11 35 21.2 -1.9**
SNR=23
ZALV Zalesovo Beam 143.03 28 PKP **PKPdf 11 35 21.8 -0.5**
comp=Z,208nm,0.9s,baz=304,slow=3.5,SNR=35
ZALV SKPbc **SKiKP 11 38 41.5 -0.7**
comp=Z,15nm,0.5s,baz=304,slow=3.3,SNR=5.6
ZALV Zalesovo Beam 143.03 28 PKPbc 11 35 20.0 +0.3
GENI Genyem 143.05 228 PKP PKPbc 11 35 21.4 +0.4
KBK Karagaybulak 143.12 50 P PKPbc 11 35 21.1 +0.5
SNR=24
TKM2 Tokmak 2 143.49 49 PKIKP PKPbc 11 35 21.8 +0.1
KZA Kyzart 143.51 51 P **PKPdf 11 35 22.9 -1.2**
SNR=68
NIL Nilore 143.63 65 PKIKP PKPbc 11 35 21.7 -0.4
NIL Nilore 143.63 65 PKPdf PKPbc 11 35 21.7 -0.4
KUU Kurty 143.66 47 *e*PKP PKPbc 11 35 21.4 -0.5
comp=Z,217nm,1.4s,baz=48
KUU Kurty 143.66 47 *e*PKIKP PKPbc 11 35 21.3 -0.6
KUU pmax pmax
comp=Z,217nm,1.4s
SAUI Saumlaki 143.91 211 **PKPdf 11 35 24.3 -0.8**
MTBS Maitube 143.99 49 *e*PKP **PKPdf 11 35 23.4 -1.1**
baz=49
MTBS Maitube 143.99 49 *e*PKIKP PKPbc 11 35 23.3 +0.4
NKL Nikolayevsk 144.15 332 *i* PKIKP **PKiKP 11 35 25.7 -2.2**
ULHL Ulahol 144.16 50 P **PKPdf 11 35 25.1 +0.1**
SNR=33
AAA Alma-Ata 144.29 48 *e*PKP **PKPdf 11 35 24.5 -0.5**
baz=48
AAA *e*PP **PP 11 38 42.9 +0.5**
baz=48
AAA Alma-Ata 144.29 48 *e*PKIKP **PKPdf 11 35 24.5 -0.5**
AAA *e* 11 38 42.8
baz=48
TNSS Tian-Shan 144.38 48 ‖ *i* PKP **PKPdf 11 35 24.9 -0.6**
TNSS *e*SKP 11 38 40.3
baz=48
TNSS Tian-Shan 144.38 48 *d* *i* PKIKP **PKPdf 11 35 24.9 -0.6**
TNSS *e* 11 38 40.3
MDOK Medeo 144.40 48 *i* PKP **PKPab 11 35 23.5 -0.6**
baz=48
MDOK *e*SKP 11 38 39.9
baz=48
MDOK Medeo 144.40 48 *i* PKIKP **PKPab 11 35 23.4 -0.6**
MDOK *e* 11 38 39.8
TDK Taldyqorghan 144.58 45 *e*PKP **PKPdf 11 35 24.8 -0.6**
comp=Z,588nm,1.1s,baz=45
TDK Taldyqorghan 144.58 45 *e*PKIKP **PKPdf 11 35 24.7 -0.6**
TDK pmax pmax
comp=Z,588nm,1.1s
PALK Pallekele 144.60 112 PKP **PKPdf 11 35 26.0 -0.3**
comp=Z,118nm,1.0s,baz=340,slow=3.4,SNR=20
PALK SKPbc **SKiKP 11 38 46.9 +0.1**
comp=Z,26nm,1.1s,baz=358,slow=4.3,SNR=4.7
PALK Pallekele 144.60 112 PKIKP **PKPdf 11 35 26.2 -0.1**
PALK Pallekele 144.60 112 PKPdf **PKPdf 11 35 26.2 -0.1**
BATI Baumata 144.76 198 PKP **PKPdf 11 35 26.9 +0.3**
comp=Z,715nm,0.9s,baz=182,slow=0.9,SNR=46
KSH Kashi 144.77 55 PKP **PKPab 11 35 25.3 -0.2**
KSH PP **PP 11 38 49.4 +3.9**
KSH AMB AMB
comp=Z,910nm,9.5s
KSH LR LR
comp=Z,540nm,16.9s
KSH LR LR
comp=Z,1μm,20.0s
KSH LR LR
comp=Z,680nm,16.9s
KUR Kuril'sk 144.84 316 *i* PKIKP **PKiKP 11 35 30.0 +0.5**
KUR *e* 11 42 13.1
KUR *e* 11 51 26.2
KUR *e*SSS SSS 12 02 46.5
KUR MLR MLR
comp=Z,450nm,14.0s
KDJ Kajisay 144.85 50 PKIKP **PKPdf 11 35 26.6 +0.5**
KDJ Kajisay 144.85 50 **PKPdf 11 35 26.6 +0.5**
AJM Ajmer 144.89 77 ‖ *i* *x* PKPbc 11 35 25.0 -1.1
SOEI Soe 145.02 199 **PKPdf 11 35 27.8 +0.7**
SATY Saty 145.36 48 ‖ *i* PKP **PKPdf 11 35 25.2 -1.7**
comp=Z,255nm,1.4s,baz=48
SATY Saty 145.36 48 *d* *i* PKIKP **PKPdf 11 35 25.2 -1.7**
SATY pmax pmax
comp=Z,255nm,1.4s
KPKS Kokpek 145.39 47 ‖ *i* PKP **PKPdf 11 35 25.7 -1.3**
comp=Z,840nm,1.4s,baz=47
KPKS Kokpek 145.39 47 *d* *i* PKIKP **PKPdf 11 35 25.6 -1.3**
KPKS pmax pmax
comp=Z,840nm,1.4s
UZB Uzynbulak 145.75 47 *i* PKP **PKPdf 11 35 26.7 -0.9**
comp=Z,411nm,2.0s,baz=47
UZB Uzynbulak 145.75 47 *i* PKIKP **PKPdf 11 35 26.7 -0.9**
UZB pmax pmax
comp=Z,411nm,2.0s
THN Thein Dam 145.79 67 *ex* **PKPab 11 35 32.0 +2.6**
MAKZ Makanchi 145.93 40 PKIKP **PKPbc 11 35 28.0 -0.6**
MAKZ Makanchi 145.93 40 PKPdf **PKPbc 11 35 28.0 -0.6**
PDGK Podgornoye 145.99 47 PKP2 **PKPbc 11 35 28.7 -0.4**
BOD Bodaibo 146.00 359 *e*PKIKP **PKPdf 11 35 26.4 -0.9**
BOD pmax pmax
comp=Z,660nm,1.6s
SHLS Shalkode 146.04 47 ‖ *i* PKP **PKPdf 11 35 28.2 +0.2**
comp=Z,254nm,1.2s,baz=47
SHLS Shalkode 146.04 47 *d* *i* PKIKP **PKPdf 11 35 28.2 +0.2**
SHLS pmax pmax
comp=Z,254nm,1.2s
MK31 Makanchi Array 146.12 40 *i* PKIKP **PKPdf 11 35 28.2 +0.3**
MKAR Makanchi Array 146.12 40 PKPbc **PKPbc 11 35 28.3 -0.9**
comp=Z,191nm,0.7s,baz=321,slow=2.4,SNR=207
MKAR pPKPbc pPKPab 11 36 24.5 +1.6
comp=Z,132nm,1.0s,baz=337,slow=2.8,SNR=4.7
MKAR SKPbc **SKiKP 11 38 49.6 +0.7**
comp=Z,14nm,0.9s,baz=322,slow=2.7,SNR=3.1
MKAR SKKPbc **SKKPbc 11 46 41.6 -1.4**
comp=Z,7.8nm,0.9s,baz=123,slow=6.4,SNR=9.0
MKAR Makanchi Array 146.12 40 PKPdf **PKPdf 11 35 27.4 -0.5**
DHRM DHARAMSHALA 146.30 67 *e*P **PKPbc 11 35 29.4 -1.1**
DHRM IAmb IAmb 11 35 34.5
comp=Z,447nm,0.8s
DHRM *i* pP pPKPab 11 36 26.4 +2.1
BHK Bhakra 146.47 69 *ex* **PKPab 11 35 33.2 +1.1**
BHK *ex* x 11 36 07.0
YUK Yuzh-Kuril'sk 146.65 315 *i* PKHKP PKPpre 11 35 17.6
YUK 11 35 31.6
YUK *e* 11 39 02.9
YUK pmax pmax
comp=Z,2.0nm,1.3s
HYB Hyderabad 146.82 94 *i* PKP **PKPdf 11 35 30.0 0.0**
HYB *e*pPKP pPKPab 11 36 28.0 +1.7
HYB *e* 11 38 47.0
HYB *e*PP **PP 11 38 54.0 -4.2**
HYB *e* 11 39 19.0
HYB *e* 11 45 32.0
HYB Hyderabad 146.82 94 *e*P **PKPbc 11 35 31.2 -0.9**
HYB IAmb IAmb 11 35 40.1
comp=Z,299nm,1.1s
HYB *i* pP pPKPbc 11 36 26.6 +1.1
MDRS Chennai 146.86 103 *e*P **PKPbc 11 35 31.9 -0.3**
MDRS IAmb IAmb 11 35 34.2
comp=Z,147nm,1.1s
MDRS *i* pP pPKPbc 11 36 27.0 +1.3
BHPL Bhopal 147.05 84 *e*P **PKPdf 11 35 30.0 -0.2**
BHPL IAmb IAmb 11 35 35.9
comp=Z,119nm,0.6s
BHPL *i* pP **pPKPdf 11 36 25.9 +1.3**
YSS Yuzh-Sakhalins 147.05 322 ⇑ *i* PKIKP **PKPdf 11 35 29.6 +0.2**
YSS *e* 11 36 44.6
YSS *e*SS SS 11 57 46.8 +4.9
YSS *e*SSS SSS 12 03 24.2
YSS pmax pmax
comp=Z,5μm,5.6s
YSS pmax pmax
comp=Z,520nm,0.7s
YSS pmax pmax
comp=N,400nm,8.3s
YSS pmax pmax
comp=Z,2μm,8.3s
YSS pmax pmax
comp=E,600nm,8.8s
YSS MLR MLR
comp=Z,600nm,14.0s
YSS Yuzh-Sakhalins 147.05 322 PKPdf **PKPdf 11 35 29.2 -0.2**
SMLA Simla 147.12 69 *e*P **PKPbc 11 35 31.0 -1.5**
SMLA IAmb IAmb 11 35 39.6
comp=Z,347nm,1.0s
SMLA *i* pP **pPKPbc 11 36 27.0 +0.9**
ZSN Zaisan 147.21 37 ‖ *i* PKP **PKPdf 11 35 28.8 -0.9**
baz=37
ZSN Zaisan 147.21 37 *d* *i* PKIKP **PKPdf 11 35 28.8 -0.9**
NDI New Delhi 147.25 74 *ex* **PKPdf 11 35 30.0 -0.3**
NDI *ex* x 11 45 29.0
GRNR Gornyy 147.69 332 ⇑ *i* PKP2 **PKiKP 11 35 34.4 -0.9**
GRNR pmax pmax
comp=Z,120nm,1.2s
FAKI Fak Fak 147.74 217 **PKPbc 11 35 34.7 0.0**
JAGI Jajag, Banyuwa 147.93 181 PKPdf **PKPdf 11 35 30.9 -1.0**
JAGI PKPbc **PKPbc 11 35 34.5 -0.7**
DDI Dehra Dun 147.94 70 *e*P **PKPdf 11 35 32.5 +1.0**
DDI IAmb IAmb 11 35 39.0
comp=Z,607nm,0.9s
DDI *i* pP **pPKPbc 11 36 30.4 +1.9**
NGP Nagpur 148.18 88 *ex* **PKPdf 11 35 33.2 +1.1**
NGP *i* x x 11 36 31.2
ZEA Zeya 148.32 344 *i* PKIKP **PKPdf 11 35 31.0 -0.3**
ZEA *e* 11 39 06.0
ZEA pmax pmax
comp=N,350nm,1.8s
ZEA pmax pmax
comp=Z,1μm,1.8s
ZEA pmax pmax
comp=Z,3μm,9.0s
ZEA pmax pmax
comp=Z,1μm,8.0s
ZEA MLR MLR
comp=Z,500nm,20.0s
ZEA MLR MLR
comp=N,400nm,18.0s
ZEA MLR MLR
comp=E,200nm,18.0s
GUMO Guam 148.59 257 PKPbc **PKPbc 11 35 36.8 0.0**
comp=E,2μm,1.1s,baz=162,slow=3.8,SNR=22
GUMO Guam 148.59 257 PKIKP **PKPbc 11 35 35.8 -1.0**

GUMO						11 35 39.6	
GUMO	**Guam**	**148.59**	**257**		**PKPbc**	**11 35 35.8**	**-1.0**
GUMO				PKPab	**PKPab**	**11 35 39.6**	**-1.4**
JKA	**Kamikawa-asahi**	**148.67**	**317**	PKPdf	**PKPdf**	**11 35 32.1**	**-0.1**
JKA					**PKPbc**	**11 35 36.2**	**0.0**
JKA				PKPab	**PKPab**	**11 35 39.5**	**-1.0**
SKJI	**Sukabumi**	**148.67**	**167**	PKP	**PKPdf**	**11 35 30.3**	**-2.8**
SKJI				PKP	**PKPab**	**11 35 41.3**	**+0.1**
ASAJ	**Asahikawa**	**148.68**	**318**	PKPbc	**PKPbc**	**11 35 36.2**	**0.0**
ASAJ	**Asahikawa**	**148.68**	**318**	PKIKP	**PKPdf**	**11 35 32.1**	**-0.1**
ASAJ						11 35 39.5	
KPJI	**Karang Pucung**	**148.76**	**171**	PKP	**PKPdf**	**11 35 32.5**	**-0.8**
KPJI				PKP	**PKPbc**	**11 35 36.6**	**-0.7**
CGJI	**Cibinong**	**148.86**	**165**	PKP	**PKPbc**	**11 35 36.2**	**-1.3**
LEM	**Lembang**	**149.05**	**169**	PKPbc	**PKPbc**	**11 35 38.2**	**0.0**
	comp=E,356nm,0.7s,baz=132,slow=2.6,SNR=17						
LEM				PP	**PP**	**11 39 11.8**	**+2.6**
	comp=E,31nm,0.8s,baz=164,slow=8.4,SNR=5.3						
MSAI	**Masohi**	**149.09**	**211**	PKP	**PKPdf**	**11 35 33.9**	**+0.1**
DBJI	**Dramaga**	**149.15**	**167**	PKP	**PKPdf**	**11 35 33.2**	**-0.7**
DBJI				PKP	**PKPbc**	**11 35 37.1**	**-1.2**
SMRI	**Semarang**	**149.22**	**174**		**PKPbc**	**11 35 37.7**	**-0.8**
JEM	**Erimo**	**149.33**	**314**		**PKPbc**	**11 35 37.3**	**-0.6**
ERM	**Erimo**	**149.33**	**314**		**PKPbc**	**11 35 35.8**	**-2.1**
SBJI	**Serang**	**149.44**	**166**	PKP	**PKPab**	**11 35 41.9**	**-2.4**
GRJI	**Gresik**	**149.47**	**178**	PKP	**PKPdf**	**11 35 33.6**	**-0.8**
GRJI				PKP	**PKiKP**	**11 35 39.7**	**-0.4**
BLSI	**Bandar Lampung**	**149.95**	**164**	PKP	**PKiKP**	**11 35 41.1**	**0.0**
LWLI	**Liwa**	**149.95**	**161**	PKP	**PKiKP**	**11 35 41.0**	**-0.2**
SIJI	**Sorong**	**149.97**	**218**	PKPbc	**PKiKP**	**11 35 40.9**	**-0.2**
	comp=E,336nm,0.7s,baz=21,slow=4.0,SNR=32						
SIJI				PKPab	**PKPab**	**11 35 49.7**	**+3.1**
	comp=E,149nm,0.9s,baz=172,slow=6.0,SNR=6.2						
SIJI				PP	**PP**	**11 39 15.7**	**+0.6**
	comp=E,19nm,1.0s,baz=142,slow=1.9,SNR=6.4						
NLAI	**Namlea**	**150.01**	**208**	PKP	**PKPdf**	**11 35 34.1**	**-1.2**
NLAI				PKP	**PKPbc**	**11 35 40.1**	**-0.3**
MDSI	**Maura Dua**	**150.49**	**161**	PKP	**PKPdf**	**11 35 35.3**	**-0.7**
MDSI				PKP	**PKPbc**	**11 35 36.1**	**-5.4**
MOY	**Mondy**	**150.57**	**16**	*e*PKIKP	**PKPdf**	**11 35 36.5**	**+1.4**
MOY				pmax	pmax		
	comp=Z,1μm,1.6s						
KAPI	**Kappang**	**150.72**	**193**	PKPbc	**PKiKP**	**11 35 42.7**	**0.0**
	comp=Z,111nm,0.9s,baz=258,slow=1.9,SNR=9.2						
KAPI				PKPab	**PKPab**	**11 35 51.9**	**+2.4**
	comp=Z,306nm,0.9s,baz=202,slow=8.8,SNR=9.6						
KAPI	**Kappang**	**150.72**	**193**	PKIKP	**PKPdf**	**11 35 37.6**	**+1.3**
KAPI	**Kappang**	**150.72**	**193**	PKPdf	**PKPdf**	**11 35 37.6**	**+1.3**
IRK	**Irkutsk**	**150.74**	**12**	*e*PKIKP	**PKPdf**	**11 35 36.0**	**+0.8**
IRK				pmax	pmax		
	comp=Z,871nm,2.5s						
WMQ	**Urumqi**	**150.94**	**40**	PKPbc	**PKPdf**	**11 35 36.1**	**+0.2**
WMQ				PKPab	**PKPab**	**11 35 53.3**	**+3.4**
WMQ				pPKP	pPKPdf	11 36 25.0	-5.3
WMQ				sPKP		11 36 47.3	
WMQ				PP	**PP**	**11 39 22.8**	**+1.9**
WMQ				SKKS		11 45 52.9	
WMQ				SS	**SS**	**11 58 27.9**	**+2.3**
WMQ				AMB	AMB		
	comp=Z,240nm,4.9s						
WMQ				LR	LR		
	comp=Z,370nm,24.1s						
WMQ				LR	LR		
	comp=Z,250nm,23.7s						
WMQ				LR	LR		
	comp=Z,360nm,21.7s						
TLY	**Talaya**	**151.15**	**13**	PKP	**PKPdf**	**11 35 37.6**	**+1.7**
TLY				PKPbc	**PKiKP**	**11 35 42.6**	**+0.2**
TLY				PKPab	**PKPab**	**11 35 52.1**	**+1.7**
TLY	**Talaya**	**151.15**	**13**	*d i* PKIKP	**PKPdf**	**11 35 36.6**	**+0.7**
TLY				*e*		11 36 32.1	
TLY				*e*		11 39 25.8	
TLY				*e*SS	SS	11 58 29.2	+2.8
TLY				pmax	pmax		
	comp=Z,756nm,1.8s						
SISI	**Saibi**	**151.42**	**149**	PKP	**PKiKP**	**11 35 47.8**	**+3.7**
TEY	**Ternei**	**151.62**	**324**	⇓*e*PKIKP	**PKPdf**	**11 35 37.3**	**+0.6**
TEY				pmax	pmax		
	comp=Z,30nm,1.2s						
TEY				pmax	pmax		
	comp=E,20nm,1.1s						
TEY				pmax	pmax		
	comp=Z,300nm,5.8s						
SPSI	**Sidrap Palu**	**151.73**	**193**	PKP	**PKPdf**	**11 35 40.3**	**+2.4**
KRJI	**Kerinci**	**151.77**	**154**	PKP	**PKPbc**	**11 35 41.6**	**-3.0**
CIT	**Chita**	**151.81**	**360**	*e*PKIKP	**PKPdf**	**11 35 37.0**	**+0.1**
CIT				*e*		11 35 52.0	
CIT				*e*		11 36 44.2	
CIT				*e*		11 39 22.1	
PMBI	**Palembang**	**152.15**	**161**	PKP	**PKiKP**	**11 35 49.9**	**+4.3**
ZAK	**Zakamensk**	**152.30**	**14**	*e*PKIKP	**PKPdf**	**11 35 38.6**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,113nm,1.5s						
PYUN	**Piuthan**	**152.35**	**75**	*e*P	**PKPdf**	**11 35 38.4**	**-0.3**
	comp=Z,126nm,0.5s						
SDSI	**Sungai Dareh**	**152.81**	**153**	PKP	**PKPdf**	**11 35 38.8**	**-0.7**
BBKI	**Banjar Baru**	**152.88**	**183**	PKP	**PKiKP**	**11 35 47.2**	**+0.1**
KOLN	**Koldanda**	**152.90**	**75**	*e*P	**PKPdf**	**11 35 39.2**	**-0.3**
	comp=Z,462nm,1.5s						
KBKI	**Kotabaru**	**152.95**	**186**	PKP	**PKiKP**	**11 35 47.4**	**+0.2**
DANN	**Dangsing**	**153.01**	**74**	*e*P	**PKPdf**	**11 35 40.2**	**+0.5**
	comp=Z,481nm,1.1s						
TPI	**Tanjungpandan**	**153.03**	**167**	PKP	**PKPdf**	**11 35 39.0**	**-0.8**
TPI				PKP	**PKPbc**	**11 35 43.6**	**-3.7**
PPBI	**Pangkal Pinang**	**153.26**	**164**	PKP	**PKPdf**	**11 35 39.3**	**-0.8**
PPBI				PKP	**PKPbc**	**11 35 43.2**	**-4.6**
TNTI	**Ternate**	**153.42**	**213**	PKP	**PKiKP**	**11 35 51.2**	**+3.0**
TNTI	**Ternate**	**153.42**	**213**	PKPdf	**PKPdf**	**11 35 38.6**	**-1.7**
MNSI	**Mandailing Nat**	**153.50**	**148**	PKP	**PKPdf**	**11 35 39.6**	**-0.9**
MNSI				PKP	**PKPbc**	**11 35 42.4**	**-5.9**
PBKI	**Pangkalan Bun**	**153.62**	**176**	PKP	**PKiKP**	**11 35 52.6**	**+4.0**
BKNI	**Bangkinang**	**153.77**	**151**	PKPdf	**PKPdf**	**11 35 39.9**	**-1.0**
GKN	**Gorkha**	**153.81**	**75**	*e*P	**PKPdf**	**11 35 40.6**	**-0.1**
	comp=Z,404nm,1.6s						
JCJ	**Chichijima**	**153.83**	**283**	PKPbc	**PKiKP**	**11 35 49.7**	**+1.0**
	comp=Z,82nm,0.6s,baz=51,slow=6.5,SNR=5.3						
JCJ	**Chichijima**	**153.83**	**283**		**PKPbc**	**11 35 47.6**	**-1.1**
HIA	**Hailar**	**154.08**	**350**	PKIKP	**PKiKP**	**11 35 50.5**	**+1.9**
HIA	**Hailar**	**154.08**	**350**	PKPbc	**PKiKP**	**11 35 50.5**	**+1.9**
DMN	**Daman**	**154.24**	**75**	*e*P	**PKPdf**	**11 35 41.6**	**+0.1**
TPTI		**154.26**	**140**	PKP	**PKPdf**	**11 35 40.6**	**-1.0**
TPTI				PKP	**PKPbc**	**11 35 44.9**	**-5.0**
DSRI	**Dabo**	**154.40**	**159**	PKP	**PKPdf**	**11 35 45.4**	**+3.6**
PKIN	**Phulchoki**	**154.50**	**76**	*e*P	**PKPdf**	**11 35 41.5**	**-0.3**
PKI	**Pulchoki**	**154.51**	**76**	*e*P	**PKPdf**	**11 35 41.2**	**-0.7**
	comp=Z,303nm,1.6s						
USRK	**Ussuriysk Ar.**	**154.58**	**328**	PKP	**PKPdf**	**11 35 41.5**	**+0.5**
	comp=Z,63nm,1.2s,baz=271,slow=2.0,SNR=28						
USRK				PKPab	**PKPab**	**11 36 06.4**	**+1.3**
	comp=Z,32nm,0.8s,baz=52,slow=3.1,SNR=7.1						
USRK	**Ussuriysk Ar.**	**154.58**	**328**	PKPdf	**PKPdf**	**11 35 41.1**	**0.0**
MLSI	**Meulaboh, Aceh**	**154.59**	**137**	PKP	**PKPdf**	**11 35 41.0**	**-1.0**
MLSI				PKP	**PKPbc**	**11 35 45.3**	**-5.3**
RPSI	**Rantau Prapat**	**154.78**	**144**	PKPdf	**PKPdf**	**11 35 42.3**	**0.0**
BOK	**Bokaro**	**154.83**	**84**	*e*P	**PKPdf**	**11 35 42.0**	**0.0**
BOK				IAmb	IAmb	11 35 45.7	
	comp=Z,299nm,1.6s						
BOK				*i* pP	**pPKPdf**	**11 36 39.1**	**+2.6**
PSI	**Prapat**	**154.87**	**144**	PKP	**PKPdf**	**11 35 42.6**	**+0.1**
	comp=Z,28nm,1.0s,baz=177,slow=5.3,SNR=24						
PSI				PKPab	**PKPab**	**11 36 07.8**	**+0.5**
	comp=Z,56nm,0.9s,baz=177,slow=8.0,SNR=10.0						
GUN	**Gumba**	**154.91**	**75**	*e*P	**PKPdf**	**11 35 42.0**	**-0.5**
MJAR	**Matsushiro Arr**	**155.16**	**306**	PKP	**PKPdf**	**11 35 42.2**	**0.0**
	comp=Z,31nm,1.3s,baz=101,slow=0.1,SNR=24						
MJAR				PKPab	**PKPab**	**11 36 08.0**	**+0.1**
	comp=Z,66nm,0.9s,baz=60,slow=1.3,SNR=12						
MAJO	**Matsushiro**	**155.16**	**306**	PKIKP	**PKPdf**	**11 35 42.3**	**+0.1**
MAJO						11 36 08.6	
MAJO	**Matsushiro**	**155.16**	**306**	PKPdf	**PKPdf**	**11 35 42.3**	**+0.1**
MAJO				PKPbc	PKPbc	11 35 53.4	
MAJO				PKPab	**PKPab**	**11 36 08.6**	**+0.6**
MAT	**Matsushiro**	**155.16**	**306**	PKP	**PKPdf**	**11 35 40.9**	**-1.2**
GTOI	**Gorontalo**	**155.18**	**203**	PKP	**PKPdf**	**11 35 40.0**	**-2.8**
GTOI				PKP	PKPab	11 35 57.8	-11
JIRN	**Jiri**	**155.19**	**75**	*e*P	**PKPdf**	**11 35 42.6**	**-0.3**
	comp=Z,270nm,1.4s						
SONM	**Songino Array**	**155.36**	**11**	PKP	**PKPdf**	**11 35 42.9**	**+0.7**
	comp=Z,33nm,0.9s,baz=317,slow=0.4,SNR=75						
SONM				PKPab	**PKPab**	**11 36 09.2**	**+0.7**
	comp=Z,85nm,0.8s,baz=314,slow=2.6,SNR=24						
SONM				PP	**PP**	**11 39 46.0**	**+1.0**
	comp=Z,6.6nm,0.9s,baz=330,slow=5.5,SNR=2.6						
SONM	**Songino Array**	**155.36**	**11**	PKIKP	**PKPdf**	**11 35 42.2**	**0.0**
SONM						11 36 09.2	
SONM	**Songino Array**	**155.36**	**11**	PKPdf	**PKPdf**	**11 35 42.2**	**0.0**
MDJ	**Mudanjiang**	**155.37**	**331**	PKP	**PKPdf**	**11 35 41.6**	**-0.5**
MDJ				SS	SS	11 59 15.3	+2.3
MTKI	**Muara Teweh, K**	**155.38**	**184**	PKP	**PKPdf**	**11 35 46.3**	**+3.2**
ULN	**Ulaanbaatar**	**155.44**	**10**	PKIKP	**PKPdf**	**11 35 43.1**	**+0.8**
ULN						11 36 10.0	
ULN	**Ulaanbaatar**	**155.44**	**10**	PKPdf	**PKPdf**	**11 35 43.1**	**+0.8**
ULN				PKPab	**PKPab**	**11 36 10.0**	**+1.1**
RAMN	**Ramite**	**155.59**	**77**	*e*P	**PKPdf**	**11 35 43.5**	**+0.2**
SMKI	**Samarinda**	**155.63**	**189**	PKP	**PKPdf**	**11 35 38.5**	**-5.0**
ODAN	**Odare**	**156.29**	**77**	*e*P	**PKPdf**	**11 35 44.4**	**+0.2**
	comp=Z,161nm,0.9s						
INU	**Inuyama**	**156.52**	**305**	PKPab	**PKPab**	**11 36 13.0**	**-0.8**
TAPN	**Taplejung**	**156.56**	**76**	*e*P	**PKPdf**	**11 35 44.6**	**0.0**
	comp=Z,317nm,1.4s						
PBA	**Port Blair**	**156.95**	**118**	*e*P	PKPdf	11 35 45.8	+0.8
PBA				IAmb	IAmb	11 35 50.2	
	comp=Z,94nm,0.8s						
LSA	**Lhasa**	**159.28**	**69**	PKP	**PKPdf**	**11 35 48.9**	**+0.8**
LSA				LR	LR		
	comp=Z,7μm,19.9s						
LSA				LR	LR		
	comp=Z,4μm,22.8s						
SNY	**Shenyang**	**160.11**	**337**	⇓PKP	**PKPdf**	**11 35 47.8**	**-0.2**
SNY				PP	**PP**	**11 40 12.4**	**+1.4**
SNY				SKKS		11 46 41.6	
SNY				SS	**SS**	**12 00 11.1**	**+8.1**
SNY				AMB	AMB		
	comp=Z,1μm,8.2s						
SHL	**Shillong**	**160.36**	**80**	*e*P	**PKPdf**	**11 35 48.5**	**-0.5**
SHL				IAmb	IAmb	11 35 53.0	
	comp=Z,110nm,1.0s						
GTA	**Gaotai**	**160.63**	**33**	⇓PKP	**PKPdf**	**11 35 49.3**	**+0.4**
GTA				PKPab	**PKPab**	**11 36 34.9**	**+3.3**
GTA				PP	**PP**	**11 40 19.3**	**+5.0**
GTA				SKKS		11 46 44.3	
GTA				SS	**SS**	**12 00 15.3**	**+6.0**
GTA				AMB	AMB		
	comp=Z,730nm,8.4s						
GTA				LR	LR		
	comp=Z,430nm,22.2s						
GTA				LR	LR		
	comp=Z,350nm,21.4s						
GTA				LR	LR		
	comp=Z,580nm,22.5s						
KSRS	**Korea Array**	**161.55**	**321**	PKP	**PKPdf**	**11 35 50.3**	**+0.6**
	comp=Z,70nm,1.2s,baz=68,slow=0.6,SNR=33						
KSRS				PKPab	**PKPab**	**11 36 36.2**	**+0.7**
	comp=Z,94nm,1.1s,baz=44,slow=3.9,SNR=19						
KSRS				PP	**PP**	**11 40 21.7**	**+2.4**
	comp=Z,25nm,1.1s,baz=29,slow=5.2,SNR=9.9						
KSAR	**Wonju Array Be**	**161.58**	**321**	PKIKP	**PKPdf**	**11 35 49.9**	**+0.1**
KSAR						11 36 36.6	
KSAR	**Wonju Array Be**	**161.58**	**321**		**PKPdf**	**11 35 49.9**	**+0.1**
KSAR				PKPab	**PKPab**	**11 36 36.5**	**+0.9**
INCN	**Inchon**	**162.25**	**323**	PKP2	**PKPab**	**11 36 38.8**	**+0.1**
INCN	**Inchon**	**162.25**	**323**		**PKPab**	**11 36 38.8**	**+0.1**
HHC	**Hu-ho-hao-te**	**162.91**	**5**	*e*PKP	**PKPdf**	**11 35 52.3**	**+1.1**
HHC				PP	**PP**	**11 40 25.8**	**0.0**
HHC				SKKS		11 46 59.8	
HHC				SS	**SS**	**12 00 33.4**	**+1.6**
HHC				AMB	AMB		
	comp=Z,2μm,10.9s						
BTO	**Baotou**	**162.99**	**9**	*e*PKP	**PKPdf**	**11 35 51.3**	**+0.1**
DL2	**Dalian**	**163.38**	**337**	PKP	**PKPdf**	**11 35 51.4**	**-0.1**
DL2				PKPab	**pPKPdf**	**11 36 45.6**	**-0.6**
DL2				PP	**PP**	**11 40 30.4**	**+2.0**
DL2				*e*SS	SS	12 00 42.6	+5.6
DL2				AMB	AMB		
	comp=Z,910nm,5.9s						
BJI	**Beijing**	**163.62**	**352**	PKP	**PKPdf**	**11 35 52.8**	**+1.1**
BJI				pPKP	**pPKPdf**	**11 36 45.8**	**-0.5**
BJI				PP	**PP**	**11 40 30.5**	**+1.1**
BJI				AMB	AMB		
	comp=Z,2μm,7.7s						
BJI				LR	LR		
	comp=Z,620nm,14.5s						
BJT	**Baijiatuau**	**163.65**	**352**	PKIKP	**PKPdf**	**11 35 52.1**	**+0.4**
BJT	**Baijiatuau**	**163.65**	**352**		**PKPdf**	**11 35 52.1**	**+0.4**
LZH	**Lanzhou**	**165.21**	**32**	*e*PKP	**PKPdf**	**11 35 54.1**	**+0.6**
LZH				SKKS		11 47 07.5	
LZH				AMB	AMB		
	comp=Z,930nm,8.7s						
LZH				LR	LR		
	comp=Z,680nm,14.6s						
LZH				LR	LR		
	comp=Z,1μm,16.3s						
LZH				LR	LR		
	comp=Z,1μm,17.9s						
CMAR	**Chiang Mai Arr**	**165.50**	**109**	PKP	**PKPdf**	**11 35 54.2**	**+0.3**
	comp=Z,27nm,1.0s,baz=261,slow=2.0,SNR=73						
CMAR				PKPab	**PKPab**	**11 36 53.5**	**0.0**
	comp=Z,34nm,0.8s,baz=246,slow=5.3,SNR=30						
CMAR				PP	**PP**	**11 40 39.3**	**-1.8**
	comp=Z,3.3nm,1.0s,baz=282,slow=6.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**165.50**	**109**		**PKPdf**	**11 35 53.5**	**-0.4**
CMAR					**PKPab**	**11 36 53.8**	**+0.2**
CHTO	**Chiang Mai**	**165.64**	**107**	PKIKP	**PKPdf**	**11 35 54.1**	**0.0**
CHTO						11 36 54.1	
CHTO	**Chiang Mai**	**165.64**	**107**		**PKPdf**	**11 35 54.1**	**0.0**
CHTO				PKPab	**PKPab**	**11 36 54.1**	**-0.1**
TIY	**Taiyuan**	**166.09**	**3**	PKP	**PKPdf**	**11 35 56.5**	**+2.5**
TIY				PKPab	**pPKPdf**	**11 36 52.3**	**+3.6**
TIY				sPKP		11 37 06.6	
TIY				PP	**PP**	**11 40 41.4**	**-0.9**
TIY				SS	SS	12 01 04.3	+0.1
TIY				AMB	AMB		
	comp=Z,1μm,9.0s						
TIY				LR	LR		
	comp=Z,460nm,11.0s						
TIY				LR	LR		
	comp=Z,330nm,11.8s						
TIY				LR	LR		
	comp=Z,2μm,30.3s						
TIA	**Tai'an**	**167.21**	**346**	PKP	**PKPdf**	**11 35 54.3**	**-0.5**
TIA				PP	**PP**	**11 40 48.9**	**+0.9**
TIA				AMB	AMB		
	comp=Z,2μm,6.3s						
TIA				LR	LR		
	comp=Z,740nm,14.9s						
TIA				LR	LR		
	comp=Z,1μm,12.4s						
TIA				LR	LR		
	comp=Z,1μm,13.1s						
CD2	**Chengdu**	**168.87**	**48**	PKP	**PKPdf**	**11 35 55.8**	**-0.4**
CD2				pPKP	pPKPdf	11 36 51.3	+0.4
CD2				SKKS		11 47 25.6	
CD2				SS	**SS**	**12 01 34.8**	**+0.6**
CD2				AMB	AMB		
	comp=Z,820nm,12.9s						
XAN	**Xi'an**	**169.05**	**20**	PKP	**PKPdf**	**11 35 56.6**	**+0.4**
XAN				PKPab	**PKPab**	**11 37 08.6**	**-0.1**
XAN				SKKS		11 47 27.3	
XAN				AMB	AMB		
	comp=Z,2μm,7.5s						
XAN				LR	LR		
	comp=Z,740nm,15.7s						
XAN				LR	LR		
	comp=Z,680nm,20.1s						
XAN				LR	LR		
	comp=Z,2μm,26.0s						
SSE	**Sheshan**	**169.97**	**318**	PKP	**PKPdf**	**11 35 59.3**	**+2.6**
SSE				PP	**PP**	**11 41 07.9**	**+5.1**
SSE				SS	SS	12 01 51.3	+6.8
SSE				AMB	AMB		
	comp=Z,820nm,4.4s						
SSE				LR	LR		
	comp=Z,420nm,3.5s						
SSE				LR	LR		
	comp=Z,520nm,10.1s						
KMI	**Kunming**	**170.19**	**80**	PKP	**PKPdf**	**11 35 56.8**	**-0.5**
KMI				pPKP	pPKPdf	11 36 52.1	0.0
NJ2	**Nanjing**	**170.46**	**331**	*e*PKP	**PKPdf**	**11 35 57.0**	**0.0**
NJ2				pPKP	**pPKPdf**	**11 36 44.3**	**-7.4**
NJ2				PKPab	**sPKPdf**	**11 37 15.6**	**+2.7**
NJ2				PP	**PP**	**11 41 05.1**	**+0.3**
NJ2				SS	SS	12 01 48.3	-0.2
NJ2				AMB	AMB		
	comp=Z,1μm,9.2s						
NJ2				LR	LR		
	comp=Z,880nm,15.7s						
NJ2				LR	LR		
	comp=Z,880nm,18.6s						
NJ2				LR	LR		
	comp=Z,1μm,19.1s						
NACB	**Ninganchiao**	**172.51**	**275**		**PKPab**	**11 37 25.1**	**+0.6**
TWG	**Pinlang**	**172.89**	**264**		**PKPdf**	**11 35 58.8**	**+0.4**
SSLB	**Suanglung**	**173.09**	**272**		**PKPdf**	**11 35 58.0**	**-0.5**
WHN	**Wuhan**	**173.22**	**353**	⇓PKP	**PKPdf**	**11 35 58.5**	**+0.2**
WHN				PKPab	**PKPab**	**11 37 25.8**	**-1.3**
WHN				SKKS		11 47 52.3	
WHN				LR	LR		
	comp=Z,1μm,10.7s						
WHN				LR	LR		
	comp=Z,3μm,16.9s						
WHN				LR	LR		
	comp=Z,5μm,27.9s						
GYA	**Guiyang**	**173.33**	**65**	⇓PKP	**PKPdf**	**11 35 58.4**	**-0.2**
GYA				PKPab	**PKPab**	**11 37 31.8**	**+3.6**
GYA				PP	**PP**	**11 41 22.8**	**+2.3**
GYA				SKKS		11 47 44.6	
GYA				SS	**SS**	**12 02 16.3**	**-2.9**
GYA				AMB	AMB		
	comp=Z,610nm,8.1s						
GYA				LR	LR		
	comp=Z,500nm,16.2s						
GYA				LR	LR		
	comp=Z,780nm,20.5s						
GYA				LR	LR		
	comp=Z,1μm,23.7s						
TPUB	**Ta-pu**	**173.36**	**267**		**PKPdf**	**11 35 59.5**	**+0.9**
QIZ	**Qiongzhong**	**174.22**	**144**	PKP	**PKPdf**	**11 35 59.5**	**+0.5**
QIZ				PKPab	**PKPab**	**11 37 33.9**	**+2.0**
QIZ				PP	PP	11 41 32.0	+8.5
QIZ				SKKS		11 47 56.1	
QIZ				LR	LR		
	comp=Z,600nm,17.7s						
QIZ				LR	LR		
	comp=Z,600nm,18.6s						
QIZ				LR	LR		
	comp=Z,620nm,19.8s						
QZH	**Quanzhou**	**175.14**	**285**	*i* PKP	**PKPdf**	**11 35 59.6**	**+0.5**
QZH				PKPab	**PKPab**	**11 37 38.0**	**+1.8**
QZH				PP	**PP**	**11 41 27.4**	**-1.9**
QZH				AMB	AMB		
	comp=Z,2μm,7.1s						
QZH				LR	LR		
	comp=Z,1μm,24.2s						
QZH				LR	LR		
	comp=Z,560nm,24.6s						
QZH				LR	LR		
	comp=Z,1μm,23.7s						
GZH	**Guangzhou**	**179.30**	**175**	PKP	**PKPdf**	**11 36 00.9**	**+1.1**
GZH				PKPab	sPKPdf	11 38 00.0	+44
GZH				PP	**PP**	**11 41 51.3**	**+4.6**
GZH				SKKS		11 48 19.0	
GZH				SS	**SS**	**12 03 19.3**	**+7.4**

MAN 24 11:31:32.8, 11°.43N×125°.95E, h27km, MS3.9, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**1.37**	**254**	*e*P	Pn	11 31 56.8	+0.6
OCLP				*e*S	Sn	11 32 13.9	+0.5
MSLP	**Maasin**	**1.67**	**220**	*e*P	Pn	11 32 00.4	0.0
MSLP				*e*S	Sn	11 32 21.2	+0.3
LLP	**Lapu-Lapu**	**2.24**	**241**	⇑*e*P	Pn	11 32 10.1	+1.9
LLP				*i* S	Sb	11 32 45.0	+5.0
TBP	**Tagbilaran**	**2.68**	**230**	*e*P	Pb	11 32 20.0	-0.1
CGP	**Cagayan de Oro**	**3.20**	**203**	⇑*i* P	Pn	11 32 22.6	+1.2
CGP				*i* S	Sn	11 33 01.2	+2.5
GUIM	**Jordan**	**3.39**	**257**	*e*P	Pn	11 32 24.4	+0.4
GUIM				*e*S	Sn	11 32 50.3	-13
CNOP	**Candoni, Negro**	**3.62**	**244**	*e*P	Pn	11 32 27.6	+0.4
CNOP				*e*S	Sn	11 33 05.3	-3.8
BUKP	**Musuan**	**3.63**	**194**	*e*P	Pn	11 32 28.2	+0.8
BUKP				*e*S	Sn	11 33 11.6	+2.2

WEL 24 11:32:27.2, 37°.S±15°×17°.8E±°, h259km±16km, M3.5/49, mB4.3/1, MLv3.5/49, Mw(mB)3.4/1, Error ellipse: s-maj=0.0km s-min=0.0km az=8.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**143**	P	Pn	11 33 01.4	-1.3
HAZ	**Te Kaha**	**0.94**	**172**	P	Pn	11 33 01.2	-1.6
RUGZ	**Raukumara Rang**	**1.14**	**177**	P	Pn	11 33 02.5	-1.6
WMGZ	**Waiomatatini S**	**1.18**	**147**	P	Pn	11 33 04.0	-0.2
OPRZ	**Ohinepanea**	**1.32**	**219**	P	Pn	11 33 04.1	-0.9
PUZ	**Puketiti**	**1.34**	**158**	P	Pn	11 33 05.1	-0.1
MARZ	**Manawahe**	**1.38**	**213**	P	Pn	11 33 05.0	-0.5
URZ	**Urewera**	**1.48**	**195**	P	Pn	11 33 05.7	-0.5
KUZ	**Kuaotunu**	**1.52**	**272**	P	Pn	11 33 05.2	-1.3
TKGZ	**Te Karaka**	**1.62**	**173**	P	Pn	11 33 07.6	+0.4
CNGZ	**Carnagh Statio**	**1.72**	**164**	P	Pn	11 33 09.1	+1.1
GRZ	**Great Barrier**	**1.83**	**288**	P	Pn	11 33 08.0	-1.0
RTZ	**Ruatahuna**	**1.85**	**196**	P	Pn	11 33 09.3	+0.1
RIGZ	**Rimuhau**	**1.88**	**176**	P	Pn	11 33 10.1	+0.7

WRA	Warrarunga Arr	46.58	258	P	P	11 55 13.3	-0.9
	0.5nm,0.8s,baz=97,slow=7.4,SNR=11						
ASAR	Alice Springs	46.80	253	P	P	11 55 15.8	-0.1
	3.2nm,0.6s,baz=90,slow=7.9,SNR=78						
BATI	Baumata	58.33	268	LR	LR	12 19 55.6	
	comp=Z,467nm,21.1s,baz=355,slow=34						

*NEIC **24** 11:51:40.0±0.7,51°.8N±0°.1×178°.45E±0°.08,h102km±4km, Error ellipse: s-maj=15.0km s-min=6.1km az=197.0*
*AEIC **24** 11:51:41±0.8,51°.78N±0°.07×178°.51E±0°.09,h94km±4km, ML3.1,Error ellipse: s-maj=11.6km s-min=5.3km az=215.0*
*IDC **24** 11:51:46.4±10.0,51°.91N×178°.45E,h156km±112km, mb3.1/5,mb1 3.4/6,mb1mx3.0/60,mbtmp3.5/6,Error ellipse: s-maj=98.5km s-min=24.7km az=155.0*

ISC 24 11:51:40.8±0.8,51°.8N±0°.1×178°.51E±0°.05,h100km±6km, n32,σ0°.78/34,mb3.5/5,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	0.15	0		Pn	11 51 54.5	-0.3
LSPA	Little Sitkin	0.16	13		Pn	11 51 54.6	-0.2
LSPA					Sn	11 52 05.0	-0.3
LSNW	Little Sitkin	0.17	1		Pn	11 51 54.7	-0.2
LSNW					Sn	11 52 04.7	-0.7
CETU	Semis' Tuman	0.63	74		Pn	11 51 57.5	0.0
AMKA	Amchitka	0.65	130		Pn	11 51 57.2	-0.4
AMKA					Sn	11 52 09.6	-0.7
CESW	Semis' Southwe	0.66	81		Pn	11 51 57.3	-0.5
CEAP	Semis' Anvil P	0.69	73		Pn	11 51 57.7	-0.3
CERAA	Semis' Rag'd T	0.73	81		Pn	11 51 58.2	-0.3
GALAA	Gareloi Lava P	1.69	90		Pn	11 52 09.3	0.0
GAEA	Gareloi East	1.70	90		Pn	11 52 09.5	0.0
TASE	Tanaga Southea	2.14	88		Pn	11 52 15.1	-0.1
TAFP	Tanaga Falls P	2.17	86		Pn	11 52 15.2	-0.4
TAFP					Sn	11 52 41.2	-1.0
KIMD	Kanaga Island	2.64	89		Pn	11 52 21.4	-0.3
KICM	Kanaga Island	2.66	86		Pn	11 52 21.8	-0.2
KIKV	Kanaga Island	2.68	87		Pn	11 52 22.0	-0.2
SMY	Shemya	2.87	291		Pn	11 52 23.8	-0.9
SMY				Sn	Sn	11 52 56.5	-1.9
ADK	Adak	2.98	87	Pn	Pn	11 52 25.7	-0.5
ADAG	Mount Adagdak	3.03	85		Pn	11 52 26.2	-0.7
GSMY	Great Sitkin M	3.37	84		Pn	11 52 31.2	-0.3
GSTR	Great Sitkin T	3.37	83	Pn	Pn	11 52 31.4	0.0
ATKA	Atka Island	4.52	82		Pn	11 52 46.3	-0.6
ATKA	Atka Island	4.52	82		Sn	11 53 38.5	+0.2
UNV	Unalaska Valle	9.30	71	Pn	Pn	11 53 52.0	+0.3
PETK	Petropavlovsk-	12.76	284	P	Pn	11 54 41.1	+2.8
	0.1nm,0.3s,baz=87,slow=16,SNR=2.3						
H11N2	WAKE ISLAND Hy	33.28	200	T	T	12 33 42.3	
	baz=11,slow=76						
H11N3	WAKE ISLAND Hy	33.29	200	T	T	12 33 52.4	
	baz=11						
H11N1	WAKE ISLAND Hy	33.30	200	T	T	12 33 50.6	
	baz=11,slow=76						
YKA	Yellowknife Ar	36.16	46	P	P	11 58 33.1	+0.1
	0.4nm,0.6s,baz=281,slow=8.1,SNR=3.2						
NVAR	Mina Array Bea	45.15	81	P	P	11 59 48.1	+0.6
	0.7nm,0.6s,baz=299,slow=8.0,SNR=7.0						
PDAR	Pinedale Array	47.77	71	P	P	12 00 06.9	-1.0
	0.4nm,0.6s,baz=295,slow=3.7,SNR=5.3						
TXAR	Lajitas Array	60.23	79	P	P	12 01 38.0	-0.5
	0.3nm,0.7s,baz=301,slow=4.4,SNR=4.6						
WRA	Warrarunga Arr	81.19	222	P	P	12 03 44.9	-0.4
	0.4nm,1.0s,baz=32,slow=5.7,SNR=1.8						

ASRS 24 11:55:48.8±0.5,47°N±2°×9°5E±°,h10km,MLh3.9/11, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERNS	Erzin	3.14	7	Pg	Pb	11 56 44.5	-0.3
ERNS				Sg	Sg	11 57 31.9	+2.2
KNGR	Kungurtug, Tuv	3.98	28	Pg	Pb	11 56 58.7	-0.3
KNGR				Sg	Sg	11 57 58.1	+1.6
TEL	Teeli	4.81	325	Pn	Pn	11 56 60.0	-1.4
TEL				Pg	Pb	11 57 14.3	+1.1
TEL				Sg	Sg	11 58 22.0	-1.2
CUR	Chagan-Uzun	5.06	308	Pg	Pb	11 57 17.3	-0.1
CUR				Sg	Sg	11 58 28.3	-2.8
TDJR	Todzha	5.35	10	Pg	Pg	11 57 27.6	-3.7
TDJR				Sg	Sg	11 58 41.4	+0.9
DGZ	Jazzator, Alta	5.38	301	Pn	Pn	11 57 07.7	-1.5
DGZ				Pg	Pg	11 57 28.1	-3.6
DGZ				Sg	Sg	11 58 37.7	-3.7
ARDR	Aradan	5.49	353	Pn	Pn	11 57 13.6	+3.0
ARDR				Pg	Pb	11 57 27.7	+3.0
ARDR				Sg	Sg	11 58 42.7	-2.1
ULGR	Ulagan, Altay	5.56	311	Pg	Pg	11 57 31.5	-3.8
ULGR				Sg	Sg	11 58 45.2	-2.1
CHBI	Chibit, Altay	5.63	307	Pg	Pb	11 57 27.9	+0.7
CHBI				Sg	Sg	11 58 45.5	-4.0
DJOS	Djoyskaya Sosn	6.00	341	Pg	Pb	11 57 37.9	+4.4
DJOS				Sg	Sg	11 59 02.2	+0.7
DJO	Djoy, Khakassi	6.03	340	Sg	Sg	11 58 57.4	-5.0
CERR	Cheremushki	6.06	342	Pg	Pb	11 57 37.6	+3.2
CERR				Sg	Sg	11 58 57.9	-5.2
TUNR	Tungur	6.22	302	Sg	Sg	11 59 07.7	-0.6
TBTR	Tabat	6.29	338	Sg	Sg	11 59 06.0	-4.6
ZAK	Zakamensk	6.62	58	Pg	Pb	11 57 46.0	+2.0
ZAK				Sg	Sg	11 59 15.1	-6.1
ARTR	Artybash	6.64	317	Sg	Sg	11 59 24.7	+3.1
TASR	Tashtagol	7.07	325	Sg	Sg	11 59 36.3	+0.8
UKR	Ust'-Kan	7.46	304	Sg	Sg	11 59 48.0	+0.1
TLY	Talaya	7.47	49	Sg	Sg	11 59 44.5	-3.9

*DJA **24** 12:06:08.8±0.7,4°N±4°×9°6E±°,h41km±12km,M4.4/11, mb4.3/7,mB5.4/3,MLv4.4/11,Mw(mB)4.8/3*
*NEIC **24** 12:06:09.3±2.1,4°.25N±0°.06×95°.68E±0°.08,h81km±7km, mb4.5/33,Error ellipse: s-maj=11.4km s-min=8.5km az=92.0*
*IDC **24** 12:06:09.0±3.2,4°.39N×95°.79E,h64km±28km,mb3.9/16, mb1 4.0/18,mb1mx3.8/46,mbtmp4.1/18,ML3.9/2,MS4.6/2, Ms1 4.6/2,ms1mx3.5/55,Error ellipse: s-maj=29.9km s-min=13.5km az=54.0*

ISC 24 12:06:07.9±0.5,4°.26N±0°.05×95°.69E±0°.06,h63km,n85, σ1§32/86,mb4.3/27,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	0.72	89	P	Pn	12 06 24.0	+1.5
MLSI				S	Sn	12 06 34.5	+1.2
LHMI	Lhok Sumawe	1.59	52	P	Pn	12 06 36.2	+2.3
LHMI	Lhok Sumawe	1.59	52		Pn	12 06 36.6	+2.7
LHMI				Sn	Sn	12 06 52.2	-1.2
TPTI		1.79	123	P	Pn	12 06 38.1	+1.5
TPTI				S	Sn	12 06 59.0	+0.7
GSI	Gunungsitoli	3.49	147	P	Pn	12 07 00.7	+0.9
GSI	Gunungsitoli	3.49	147	Pn	Pn	12 07 01.1	+1.4
GSI				Sn	Sn	12 07 38.0	-1.8
PSI	Prapat	3.54	114	P	Pn	12 07 03.5	+3.0
	15nm,0.3s,baz=359,slow=7.9,SNR=35						
PSI				S	Sn	12 07 42.7	+1.4
	7.8nm,0.3s,baz=179,slow=22,SNR=2.2						
RPSI	Rantau Prapat	3.58	116	Pn	Pn	12 07 03.6	+2.5
RPSI	Rantau Prapat	3.58	116		Pn	12 07 03.5	+2.5
RPSI					Sn	12 07 42.7	+0.5
PBSI	Pulau Batu	5.00	149	P	Pn	12 07 21.7	+1.2
	1.0nm95nm,0.5s						
KULM	Kulim	5.05	78	Pn	Pn	12 07 23.4	+2.2
KULM				Sn	Sn	12 08 14.9	-3.4
MNSI	Mandailing Nat	5.19	131	P	Pn	12 07 25.0	+1.9
IPM	Ipoh	5.33	87	Pn	Pn	12 07 26.6	+1.6
IPM				Sn	Sn	12 08 21.8	-3.3
SISI	Saibi	6.50	148	P	Pn	12 07 42.3	+1.2
	0.3nm64nm,0.7s						
MYKOM	Kota Tinggi	8.51	106	Pn	Pn	12 08 07.5	-1.1
MNAI	Manna	11.22	140	Pn	Pn	12 08 45.9	+0.3
MDSI	Maura Dua	12.14	136	P	Pn	12 08 57.9	-0.3
	13nm,0.8s						
KLSI		12.67	134	P	Pn	12 09 05.6	+0.2
	6.9nm,0.8s						
CMAR	Chiang Mai Arr	14.47	12	P	Pn	12 09 29.1	-0.5
	0.1nm,0.3s,baz=193,slow=12,SNR=3.2						
CMAR	Chiang Mai Arr	14.47	12	Pn	Pn	12 09 29.5	0.0
CHTO	Chiang Mai	14.82	12	Pn	Pn	12 09 35.9	+1.9
PALK	Pallekele	15.21	282	Pn	Pn	12 09 38.0	-1.1
PALK				IAmb	IAmb	12 09 42.3	
	comp=Z,32nm,1.4s						
MYLDM	Lahad Datu	22.75	87	P	P	12 11 07.1	+1.8
MYLDM				IAmb	IAmb	12 11 20.2	
	comp=Z,16nm,1.4s						
LSA	Lhasa	25.67	351	P	P	12 11 31.6	-0.9
LSA				IAmb	IAmb	12 11 35.4	
	comp=Z,8.9nm,0.4s						
H08S2	Diego Garcia H	25.98	243	T	T	12 38 40.3	
	baz=63,slow=76,SNR=239						
H08S3	Diego Garcia H	25.99	243	T	T	12 38 42.4	
	baz=63,slow=76,SNR=182						
H08S1	Diego Carcia H	26.00	243	T	T	12 38 43.6	
	baz=63,slow=76,SNR=198						
XAN	Xi'an	32.09	21	P	P	12 12 28.9	-0.3
XAN				IAmb	IAmb	12 12 29.8	
	comp=Z,6.5nm,0.9s						
PSA00	Pilbara Seismi	34.91	138	P	P	12 12 51.8	-2.0
NIL	Nilore	35.95	327	P	P	12 13 01.3	-1.3
FITZ	Fitzroy Crossi	36.96	128	P	P	12 13 11.5	+0.2
	comp=Z,1.9nm,0.5s,baz=0.0,slow=7.1						
FITZ	Fitzroy Crossi	36.96	128	P	P	12 13 09.9	-1.5
FITZ				IAmb	IAmb	12 13 18.5	
	comp=Z,9.5nm,1.5s						
KNRA	Kununurra	38.26	122	P	P	12 13 22.2	-0.2
MORW	Morawa	38.47	151	P	P	12 13 22.6	-1.4
MORW				IAmb	IAmb	12 13 48.9	
	comp=Z,8.8nm,1.2s						
MTN	Manton Dam	39.10	116	P	P	12 13 28.9	-0.5
MTN				IAmb	IAmb	12 13 44.7	
	comp=Z,12nm,1.3s						
BJT	Baijiatuau	40.12	25	P	P	12 13 37.7	+0.1
BJT				IAmb	IAmb	12 13 40.1	
	comp=Z,5.9nm,0.7s						
WSAR	Wadi Sarin	40.45	301	LR	LR	12 30 07.1	
	comp=Z,805nm,18.8s,baz=248,slow=36						
GAR	Garm	41.55	330	P	P	12 13 49.6	+0.1
H01W3	Cape Leeuwin H	42.63	157	T	T	12 58 12.6	
	baz=331,slow=76,SNR=5.6						
H01W2	Cape Leeuwin H	42.64	157	T	T	12 58 12.6	
	baz=331,slow=76,SNR=5.7						
H01W1	Cape Leeuwin H	42.64	157	T	T	12 58 12.1	
	baz=331,slow=76,SNR=6.1						
MK31	Makanchi Array	43.94	347	P	P	12 14 08.0	-0.6
MKAR	Makanchi Array	43.94	347	P	P	12 14 08.1	-0.6
	comp=Z,1.9nm,0.5s,baz=163,slow=7.7,SNR=22						
MKAR				LR	LR	12 32 59.0	
	comp=Z,787nm,21.9s,baz=312,slow=37						
MAKZ	Makanchi	44.02	346	P	P	12 14 08.9	-0.4
KSRS	Korea Array	44.28	37	P	P	12 14 10.3	-1.1
	comp=Z,1.9nm,0.6s,baz=222,slow=8.7,SNR=7.0						
SONM	Songino Array	44.38	10	P	P	12 14 11.8	-0.5
	comp=Z,2.2nm,0.5s,baz=188,slow=8.3,SNR=12						
SONM				PcP	PcP	12 15 56.1	+0.8
	comp=Z,0.7nm,0.5s,baz=189,slow=4.0,SNR=2.4						
SONM	Songino Array	44.38	10	P	P	12 14 11.5	-0.8
ULN	Ulaanbaatar	44.53	11	P	P	12 14 12.8	-0.7
KK31	Karatay Array	44.67	334	P	P	12 14 14.7	+0.1
KKAR	Karatay Array	44.67	334	P	P	12 14 15.5	+1.0
KKAR	Karatay Array	44.67	334	P	P	12 14 14.7	+0.1
KKAR				IAmb	IAmb	12 14 40.4	
	comp=Z,1.4nm,0.6s						
WB0	Warrarunga Arr	44.91	123	P	P	12 14 17.4	+0.6
WRA	Warrarunga Arr	44.95	124	P	P	12 14 18.1	+0.9
	comp=Z,5.6nm,0.6s,baz=302,slow=9.3,SNR=75						
WRA	Warrarunga Arr	44.95	124	P	P	12 14 17.7	+0.6
WRAB	Tennant Creek	44.96	124	P	P	12 14 17.7	+0.5
WRAB				IAmb	IAmb	12 14 18.9	
	comp=Z,6.0nm,0.6s						
WB2	Warrarunga Arr	44.96	124	P	P	12 14 17.1	-0.1
WB2				IAmb	IAmb	12 14 18.9	
	comp=Z,6.1nm,0.6s						
WR0	Warrarunga Arr	45.13	124	P	P	12 14 19.6	+1.1
WR0				IAmb	IAmb	12 14 20.4	
	comp=Z,7.1nm,0.7s						
AS31	Alice Springs	46.45	128	P	P	12 14 27.4	-1.6
ASAR	Alice Springs	46.45	128	P	P	12 14 30.0	+1.1
	comp=Z,1.5nm,0.5s,baz=301,slow=7.9,SNR=20						
ASAR	Alice Springs	46.45	128	P	P	12 14 27.2	-1.7
TLY	Talaya	47.73	7	P	P	12 14 37.8	-0.6
GEYT	Alibeck	47.92	319	P	P	12 14 42.3	+2.2
	comp=Z,2.0nm,0.6s,baz=111,slow=7.9,SNR=3.6						
GEYT	Alibeck	47.92	319	IAmb	IAmb	12 14 42.7	
	comp=Z,2.2nm,0.8s						
KURK	Kurchatov	48.47	346	P	P	12 14 44.0	-0.1
ZAA0	Zalesovo Array	50.33	352	P	P	12 14 57.6	-0.7
ZAA0				IAmb	IAmb	12 14 58.5	
	comp=Z,6.7nm,0.9s						
ZALV	Zalesovo Beam	50.33	352	P	P	12 14 57.8	-0.4
	comp=Z,4.2nm,0.4s,baz=174,slow=6.8,SNR=18						
MJAR	Matsushiro Arr	50.53	45	P	P	12 15 00.8	+0.6
	comp=Z,1.7nm,0.7s,baz=228,slow=8.0,SNR=4.9						
MJAR	Matsushiro Arr	50.53	45	P	P	12 14 58.2	-1.9
USRK	Ussuriysk Ar.	51.00	33	P	P	12 15 03.7	+0.2
	comp=Z,1.2nm,0.5s,baz=238,slow=7.7,SNR=2.6						
USRK	Ussuriysk Ar.	51.00	33	P	P	12 15 02.8	-0.6
ABKAR	Abkulak array	54.12	332	P	P	12 15 26.5	+0.1
ABKAR				IAmb	IAmb	12 15 28.1	
	comp=Z,4.3nm,0.9s						
BRTR	Keskin Array B	65.95	312	P	P	12 16 48.2	+0.3
	comp=Z,0.9nm,0.6s,baz=126,slow=9.0,SNR=2.0						
BRTR	Keskin Array B	65.95	312	P	P	12 16 47.2	-0.7
PET	Petropavlovsk	70.58	35	P	P	12 17 16.4	0.0
AKASG	Malin Array Be	71.93	322	P	P	12 17 24.8	+0.2
	comp=Z,0.7nm,0.3s,baz=95,slow=4.7,SNR=2.6						
AKASG	Malin Array Be	71.93	322	P	P	12 17 23.7	-0.9
FINES	FINESS Array B	76.61	332	P	P	12 17 51.7	+0.1
	comp=Z,1.8nm,0.7s,baz=93,slow=7.6,SNR=6.5						
ARCES	ARCESS Array B	79.17	340	P	P	12 18 06.4	+0.8
	comp=Z,0.7nm,0.2s,baz=92,slow=6.3,SNR=1.8						
GERES	GERESS Array B	81.53	319	P	P	12 18 20.6	+1.7
	comp=Z,0.3nm,0.2s,baz=88,slow=8.9,SNR=5.0						
NB2	NORSAR Subarra	83.62	331	P	P	12 18 29.4	0.0
	comp=Z,0.5nm,0.6s,baz=95,slow=5.3						
NOA	NORSAR Array B	83.62	331	P	P	12 18 28.9	-0.5
	comp=Z,0.7nm,0.7s,baz=98,slow=5.3,SNR=3.5						
IMAR	Indian Mountai	94.37	23	P	P	12 19 20.0	-0.5
NVAR	Mina Array Bea	127.14	33	PKP	PKiKP	12 25 07.8	+1.4
	comp=Z,0.2nm,0.5s,baz=257,slow=3.2,SNR=2.8						
TXAR	Lajitas Array	141.78	28	PKP	PKPdf	12 25 32.3	-1.0
	comp=Z,0.1nm,0.5s,baz=4.8,slow=1.1,SNR=2.2						
TXAR	Lajitas Array	141.78	28	PKPdf	PKPdf	12 25 31.6	-1.7

*NEIC **24** 12:14:10.6±1.6,2°.73N±0°.05×128°.43E±0°.06,h35km±2km, mb4.2/11,Error ellipse: s-maj=12.2km s-min=3.9km az=129.0*
*DJA **24** 12:14:14.3±1.4,2°N±8°×12°8E±°,h27km±11km,M4.3/9, mb4.4/7,mB4.8/2,MLv4.3/9,Mw(mB)4.0/2*
*IDC **24** 12:14:16.0±3.3,2°.56N×128°.52E,h95km±33km,mb3.7/7, mb1 3.8/8,mb1mx3.4/51,mbtmp4.0/8,Error ellipse: s-maj=39.3km s-min=15.6km az=78.0*

ISC 24 12:14:10.5±0.6,2°.67N±0°.06×128°.36E±0°.06,h35km,n40, σ1§61/39,mb4.2/11,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.13	208	P	Pn	12 14 44.8	+1.2
TNTI	Ternate	2.13	208		Pn	12 14 44.9	+1.3
SIJI	Sorong	4.56	140	P	Pn	12 15 20.0	+2.9
	8.4nm,0.3s,baz=107,slow=20,SNR=25						
SIJI				S	Sn	12 16 11.0	+2.1
	5.9nm,0.3s,baz=51,slow=22,SNR=8.8						
KMSI	Cibinong	4.84	245	P	Pn	12 15 23.2	+2.3
SANI	Sanana	5.25	207	P	Pn	12 15 26.4	-0.1
GTOI	Gorontalo	5.71	249	P	Pn	12 15 36.0	+3.1
	0.1nm464nm32nm,0.9s						
LUWI	Luwuk	6.69	237	P	Pn	12 15 46.7	+0.4
	0.2nm1μm68nm,1.4s						
LUWI	Luwuk	6.69	237	Pn	Pn	12 15 46.7	+0.4
LUWI				Sn	Sn	12 17 04.1	+2.7
FAKI	Fak Fak	6.78	145	P	Pn	12 15 50.5	+2.9
	0.1nm24nm,1.2s						
FAKI	Fak Fak	6.78	145	Pn	Pn	12 15 48.5	+0.9
FAKI				Sn	Sn	12 17 03.3	-0.3
MYLDM	Lahad Datu	10.14	285		Pn	12 16 34.8	+1.1
MYLDM				Sn	Sn	12 18 27.8	+1.5
KNRA	Kununurra	18.23	179	P	P	12 18 20.2	-0.7
KPJI	Karang Pucung	21.78	243	P	P	12 18 55.7	-3.8
COEN	Coen	22.11	139	P	P	12 19 01.9	-1.2
COEN				IAmb	IAmb	12 19 13.0	
	comp=Z,15nm,1.2s						
WB0	Warrarunga Arr	23.07	165	P	P	12 19 11.9	-1.2
WRAB	Tennant Creek	23.22	166	P	P	12 19 13.9	-0.7
WRAB				IAmb	IAmb	12 19 14.2	
	comp=Z,6.4nm,0.7s						
WRA	Warrarunga Arr	23.23	166	P	P	12 19 12.9	-1.8
	comp=Z,6.4nm,0.7s,baz=346,slow=10,SNR=51						
WRA	Warrarunga Arr	23.23	166	P	P	12 19 12.7	-2.0
WB2	Warrarunga Arr	23.23	166	P	P	12 19 13.6	-1.2
WB2				IAmb	IAmb	12 19 14.2	
	comp=Z,7.1nm,0.8s						
WR0	Warrarunga Arr	23.29	165	P	P	12 19 14.1	-1.3
WR0				IAmb	IAmb	12 19 14.8	
	comp=Z,5.9nm,0.7s						
ASAR	Alice Springs	26.73	169	P	P	12 19 45.4	-1.5
	comp=Z,0.8nm,0.7s,baz=355,slow=8.5,SNR=9.2						
ASAR				PcP	PcP	12 23 08.0	-1.9
	comp=Z,0.2nm,0.7s,baz=335,slow=3.4,SNR=5.5						
CMAR	Chiang Mai Arr	32.80	301	P	P	12 20 43.3	+2.5
	comp=Z,0.4nm,0.3s,baz=125,slow=7.8,SNR=2.0						
CMAR	Chiang Mai Arr	32.80	301	P	P	12 20 40.9	0.0
KSRS	Korea Array	34.62	359	P	P	12 20 56.2	-0.1
	comp=Z,2.4nm,0.7s,baz=176,slow=10.0,SNR=8.5						
XAN	Xi'an	36.10	332	P	P	12 21 08.9	-0.3
H11S3	WAKE ISLAND Hy	40.69	65	T	T	13 05 06.6	
	baz=251,slow=75,SNR=24						
H11S2	WAKE ISLAND Hy	40.71	65	T	T	13 05 13.5	
	baz=251,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	40.71	65	T	T	13 05 12.6	
	baz=251,slow=75,SNR=10						
H11N1	WAKE ISLAND Hy	41.27	63	T	T	13 05 47.8	
	baz=250,slow=75,SNR=43						
H11N2	WAKE ISLAND Hy	41.28	63	T	T	13 05 46.9	
	baz=250,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	41.28	63	T	T	13 05 49.2	
	baz=250,slow=75,SNR=30						
USRK	Ussuriysk Ar.	41.48	4	P	P	12 21 54.6	+0.6
	comp=Z,1.5nm,0.6s,baz=181,slow=7.2,SNR=4.1						
USRK	Ussuriysk Ar.	41.48	4	P	P	12 21 53.9	-0.1
SONM	Songino Array	48.82	340	P	P	12 22 51.8	-0.7
	comp=Z,0.4nm,0.3s,baz=148,slow=8.5,SNR=2.1						
PEA0B	Petropavlovsk-	55.81	21	P	P	12 23 44.2	0.0
PETK	Petropavlovsk-	55.81	21	P	P	12 23 44.0	-0.1
	comp=Z,2.7nm,0.7s,baz=192,slow=3.5,SNR=6.1						
PETK	Petropavlovsk-	55.81	21	P	P	12 23 44.3	+0.2
ATKA	Atka Island	68.45	34	P	P	12 25 08.4	-0.5
UNV	Unalaska Valle	73.38	34	P	P	12 25 38.4	-0.4
IMAR	Indian Mountai	82.65	24	P	P	12 26 30.2	+0.1

*IDC **24** 12:33:21.5±1.0,10°.12S×90°.96E,h0km,mb4.1/8, mb1 4.2/8,mb1mx3.8/51,mbtmp4.1/8,Error ellipse: s-maj=31.3km s-min=22.4km az=56.0*
*NEIC **24** 12:33:22.6±1.3,10°.2S±0°.1×91°.2E±0°.1,h10km±1km, mb4.5/16,Error ellipse: s-maj=19.2km s-min=15.0km az=222.0*

ISC 24 12:33:22.9±0.6,10°.2S±0°.1×91°.27E±0°.09,h10km,n42, σ1§44/38,mb4.4/15,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	West Island	5.80	110	Pn	Pn	12 34 48.7	-0.4
COCO				Sn	Sn	12 35 51.6	-4.2
GSI	Gunungsitoli	13.05	29	Pn	Pn	12 36 28.7	+0.2
H08S2	Diego Garcia H	18.72	276	T	T	12 56 34.2	
	baz=98,slow=72,SNR=67						
H08S3	Diego Garcia H	18.73	276	T	T	12 56 32.8	
	baz=98,slow=72,SNR=59						
H08S1	Diego Carcia H	18.74	276	T	T	12 56 35.5	
	baz=98,slow=72,SNR=52						
H01W3	Cape Leeuwin H	32.23	143	T	T	13 13 57.4	
	baz=307,slow=75						
H01W2	Cape Leeuwin H	32.24	143	T	T	13 13 53.0	
	baz=307,slow=75						
H01W1	Cape Leeuwin H	32.25	143	T	T	13 13 56.3	
	baz=307,slow=75						
KNRA	Kununurra	36.91	102	P	P	12 40 34.9	+2.7
KNRA				IAmb	IAmb	12 40 50.1	
	comp=Z,19nm,1.4s						
MTN	Manton Dam	39.12	98	P	P	12 40 53.9	+2.9
MTN				IAmb	IAmb	12 41 10.8	
	comp=Z,10nm,1.2s						
FORT	Forrest	39.81	126	P	P	12 40 57.1	+0.6
WRA	Warrarunga Arr	42.59	108	P	P	12 41 22.1	+2.5
	comp=Z,1.4nm,0.7s,baz=279,slow=9.9,SNR=21						
WRA				PcP	PcP	12 43 12.8	+0.8
	comp=Z,0.3nm,0.6s,baz=287,slow=2.4,SNR=5.4						
WRA	Warrarunga Arr	42.59	108	IAmb	IAmb	12 41 22.8	
	comp=Z,0.1nm,0.8s						
WRAB	Tennant Creek	42.60	108	P	P	12 41 19.4	-0.2
WB2	Warrarunga Arr	42.60	108	P	P	12 41 18.0	-1.7
WB0	Warrarunga Arr	42.62	108	P	P	12 41 20.4	+0.5
WB0				IAmb	IAmb	12 41 31.2	
	comp=Z,12nm,1.4s						
ASAR	Alice Springs	42.75	114	P	P	12 41 23.6	+2.7
	comp=Z,2.3nm,0.8s,baz=283,slow=8.0,

Broadband fault plane solution: P waves. NP1: ϕ_s=201.00000°, δ32.00000°, λ85.00000°. NP2:ϕ_s=27.00000°, δ58.00000°, λ93.00000°. Principal axes: T Plg77.0000°, Azm308.0000°; N Plg3.0000°, Azm206.0000°; P Plg13.0000°, Azm115.0000°;

JMA Felt IV J1.

IDC ***24*** *12:45:47.2±1.7, 37°.54N×141°.31E, h54km±15km, mb4.3/34, mb1 4.5/39, mb1mx4.5/49, mbtmp4.6/39, ML4.2/5, MS4.4/26, Ms1 4.4/26, ms1mx4.3/32 Error ellipse: s-maj=13.1km s-min=10.1km az=106.0*

NEIC ***24*** *12:45:48, 37°.55N×141°.57E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=5.74; $M_{\theta\theta}$=0.07; $M_{\phi\phi}$=-5.67; $M_{r\theta}$=1.47; $M_{\phi\theta}$=-1.70; $M_{\phi r}$=3.25; Fault plane solution: M_0=6.94000×10^{16} NP1:ϕ_s=190.00000°, δ30.00000°, λ81.00000°. NP2:ϕ_s=20.00000°, δ60.00000°, λ95.00000°. Principal axes: T 6.7517, Plg74.0000°, Azm303.0000°; N 0.3617, Plg4.0000°, Azm198.0000°; P -7.1134, Plg15.0000°, Azm107.0000°;*

GCMT ***24*** *12:45:49.9±0.3, 37°.57N±0°.02×141°.48E±0°.03, h55km±1km, MW5.3/98, Moment Tensor Solution. s40,c46; s98,c170; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.98±.06; $M_{\theta\theta}$=-0.18±.04; $M_{\phi\phi}$=-0.80±.04; $M_{r\theta}$=0.31±.03; $M_{\theta\phi}$=-0.26±.02; $M_{\phi r}$=0.42±.03; Best double couple: M_0=1.07600×10^{17} NP1:ϕ_s=193.00000°, δ31.00000°, λ78.00000°. NP2:ϕ_s=27.00000°, δ59.00000°, λ97.00000°. Principal axes: T 1.1280, Plg75.0000°, Azm317.0000°; N -0.1030, Plg6.0000°, Azm204.0000°; P -1.0250, Plg14.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***24*** *12:45:50.2±0.0, 37°.87N×142°.15E, h64km±4km, mb5.2*

ISC 24 12:45:46.2±0.4, 37°.54N±0°.03×141°.46E±0°.04, h48km±2km, h48km:pP-P, n611, σ1§45/627, mb5.0/193, MS4.6/64, 22C-25D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.49**	**293**	⇓P			**Pn**	**12 45 57.2**	**0.0**
JMST				S			**Sn**	**12 46 04.7**	**-0.3**
JFK	**Kawauchi**	**0.50**	**250**	⇓P			**Pn**	**12 45 57.3**	**0.0**
JFK				S			**Sn**	**12 46 04.6**	**-0.6**
JMM	**Marumori**	**0.62**	**302**	⇓P			**Pn**	**12 45 59.0**	**+0.2**
JMM				S			**Sn**	**12 46 07.6**	**-0.3**
JMM	**Marumori**	**0.62**	**302**				**Pn**	**12 45 59.2**	**+0.4**
JMM					Sn		**Sn**	**12 46 07.7**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.68**	**231**	⇓P			**Pn**	**12 45 59.6**	**-0.1**
ONAJ				S			**Sn**	**12 46 08.5**	**-0.9**
JIKH	**Ishinomakikobu**	**0.77**	**0**	⇓P			**Pn**	**12 46 01.3**	**+0.5**
JIKH				S			**Sn**	**12 46 11.6**	**+0.2**
JFT	**Otama**	**0.89**	**269**	⇓P			**Pn**	**12 46 02.9**	**+0.5**
JFT				S			**Sn**	**12 46 14.4**	**+0.1**
JIO	**Ouri**	**0.92**	**355**	⇓P			**Pn**	**12 46 03.2**	**+0.4**
JIO				S			**Sn**	**12 46 14.7**	**-0.2**
JOU	**Okura**	**1.04**	**323**	⇓P			**Pn**	**12 46 04.4**	**0.0**
JOU				S			**Sn**	**12 46 17.9**	**0.0**
JYS	**Shiratake**	**1.30**	**302**	⇓P			**Pn**	**12 46 08.0**	**+0.1**
JFY	**Yanaizu**	**1.40**	**265**	⇓P			**Pn**	**12 46 09.4**	**+0.1**
JFY				*e*S			**Sn**	**12 46 26.4**	**-0.3**
JMK	**Ichinoseki**	**1.43**	**352**	⇓P			**Pn**	**12 46 10.1**	**+0.5**
JYK	**Kaneyama**	**1.63**	**328**	⇓P			**Pn**	**12 46 13.0**	**+0.6**
JYT	**Yasato**	**1.66**	**218**		Pn		**Pn**	**12 46 12.4**	**-0.3**
JSD	**Sado**	**2.58**	**282**		Pn		**Pn**	**12 46 25.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.79**	**250**		P		**Pn**	**12 46 27.9**	**-0.4**
	12nm,0.3s,baz=337,slow=17,SNR=229								
MJAR					S		**Sn**	**12 47 04.1**	**+3.4**
	26nm,0.3s,baz=73,slow=14,SNR=2.7								
MJAR					LR		LR	12 47 50.2	
	comp=Z,13μm,18.8s,baz=65,slow=46								
MJAR	**Matsushiro Arr**	**2.79**	**250**		P		**Pn**	**12 46 28.2**	**0.0**
MJAR								12 47 04.1	
MJAR	**Matsushiro Arr**	**2.79**	**250**		Pn		**Pn**	**12 46 28.2**	**0.0**
MAJO	**Matsushiro**	**2.79**	**250**	*d*	*i*P		**Pn**	**12 46 29.3**	**+1.0**
MAJO	**Matsushiro**	**2.79**	**250**		Pn		**Pn**	**12 46 29.3**	**+1.0**
MAT	**Matsushiro**	**2.79**	**250**		P		**Pn**	**12 46 29.4**	**+1.1**
MAT					*e*S		**Sn**	**12 47 00.6**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.79**	**250**				**Pn**	**12 46 29.4**	**+1.1**
JTM	**Tenmabayashi**	**3.26**	**355**		Pn		**Pn**	**12 46 36.3**	**+1.5**
JGF	**Kuroka**	**3.83**	**241**				**Pn**	**12 46 44.0**	**+1.4**
JSG	**Sagara**	**3.90**	**224**				**Pn**	**12 46 44.8**	**+1.3**
INU	**Inuyama**	**4.20**	**240**		Pn		**Pn**	**12 46 48.8**	**+1.2**
JHJ2	**Mitsune**	**4.62**	**197**		Pn		**Pn**	**12 46 53.9**	**+0.5**
JHJ2					Sn		**Sn**	**12 47 46.0**	**+0.3**
JHJ	**Hachijo jima 2**	**4.62**	**198**		P		**Pn**	**12 46 53.5**	**+0.1**
	205nm,0.3s,baz=329,slow=16,SNR=88								
JHJ					S		**Sn**	**12 47 44.5**	**-1.2**
	712nm,0.3s,baz=86,slow=22,SNR=12								
ERM	**Erimo**	**4.66**	**16**	*ce*	P		**Pn**	**12 46 54.9**	**+1.0**
ERM					pmax		pmax		
	comp=Z,116nm,1.7s								
ERM	**Erimo**	**4.66**	**16**				**Pn**	**12 46 54.6**	**+0.6**
ERM					Sn		**Sn**	**12 47 48.8**	**+2.1**
JEW	**Eniwo**	**5.30**	**360**		Pn		**Pn**	**12 47 04.2**	**+1.5**
JWT	**Wachi**	**5.38**	**247**		Pn		**Pn**	**12 47 05.7**	**+1.9**
ASAJ	**Asahikawa**	**6.63**	**7**		P		**Pn**	**12 47 20.6**	**-0.4**
	comp=Z,8.9nm,0.3s,baz=219,slow=9.5,SNR=68								
ASAJ					S		**Sn**	**12 48 35.7**	**+0.6**
	comp=Z,10nm,0.3s,baz=73,slow=28,SNR=1.7								
ASAJ	**Asahikawa**	**6.63**	**7**		P		**Pn**	**12 47 21.8**	**+0.8**
JKA	**Kamikawa-asahi**	**6.63**	**7**				**Pn**	**12 47 21.8**	**+0.8**
NMR	**Nemuro--Hokkai**	**6.67**	**28**	⇑	*i*P		**Pn**	**12 47 20.3**	**-1.2**
NMR					*i* S		**Sn**	**12 48 31.3**	**-4.9**
GLVR	**Golovnino**	**6.92**	**25**		*e*P		**Pn**	**12 47 25.0**	**+0.1**
GLVR					*e*S		**Sn**	**12 48 38.2**	**-4.1**
GLVR					pmax		pmax		
	comp=N,57nm,0.3s								
GLVR					pmax		pmax		
	comp=Z,129nm,0.3s								
RUSJ	**Misakicho**	**7.16**	**22**		*e*P		**Pn**	**12 47 28.2**	**0.0**
RUSJ					*e*S		**Sn**	**12 48 43.3**	**-4.9**
JHS	**Saijyo**	**7.20**	**252**				**Pn**	**12 47 32.1**	**+3.2**
GRPR	**Tuman**	**7.23**	**26**		*e*P		**Pn**	**12 47 29.1**	**-0.1**
GRPR					*e*S		**Sn**	**12 48 44.9**	**-5.0**
GRPR					pmax		pmax		
	comp=Z,150nm,0.3s								
GRPR					pmax		pmax		
	comp=E,85nm,0.2s								
JMN	**Monobe**	**7.25**	**241**		Pn		**Pn**	**12 47 32.0**	**+2.5**
YUK	**Yuzh-Kuril'sk**	**7.30**	**26**	*d*	*i*P		**Pn**	**12 47 30.7**	**+0.6**
YUK					*i* S		**Sn**	**12 48 47.0**	**-4.5**
YUK					pmax		pmax		
	comp=E,85nm,0.3s								
YUK					pmax		pmax		
	comp=Z,223nm,0.3s								
TEY	**Ternei**	**8.34**	**336**	⇑	*e*P		Pn	12 47 50.2	+5.9
TEY					pmax		pmax		
	comp=N,150nm,0.7s								
TEY					pmax		pmax		
	comp=E,100nm,0.7s								
TEY					pmax		pmax		
	comp=Z,140nm,0.7s								
TEY					MLR		MLR		
	comp=N,200nm,19.0s								
TEY					MLR		MLR		
	comp=Z,200nm,17.0s								
KUR	**Kuril'sk**	**9.07**	**30**		P		**Pn**	**12 47 54.3**	**0.0**
KUR					*e*S		**Sn**	**12 49 29.7**	**-5.3**
KUR					pmax		pmax		
	comp=Z,77nm,0.4s								
KUR					pmax		pmax		
	comp=E,27nm,0.3s								
KUR					smax		smax		
	comp=E,190nm,0.4s								
KUR					smax		smax		
	comp=N,100nm,0.5s								
KUR					MLR		MLR		
	comp=Z,1μm,18.0s								
KUR					MLR		MLR		
	comp=E,1μm,17.0s								
KUR					MLR		MLR		
	comp=N,900nm,18.0s								
YSS	**Yuzh-Sakhalins**	**9.46**	**5**		*e*P		**Pn**	**12 48 00.9**	**+1.2**
YSS					*e*S		**Sn**	**12 49 45.4**	**+0.8**
YSS					pmax		pmax		
	comp=Z,40nm,0.5s								
YSS					MLR		MLR		
	comp=Z,1μm,13.0s								
YSS	**Yuzh-Sakhalins**	**9.46**	**5**				**Pn**	**12 48 01.4**	**+1.7**
JNU	**Nakatsue**	**9.70**	**246**		P		**Pn**	**12 48 04.3**	**+1.1**
	comp=Z,2.2nm,0.3s,baz=58,slow=3.3,SNR=11								
JNU					LR		LR	12 52 13.2	
	comp=Z,4μm,20.5s,baz=52,slow=40								
USRK	**Ussuriysk Ar.**	**9.78**	**316**		P		**Pn**	**12 48 05.3**	**+1.1**
	baz=133,slow=13,SNR=65								
USRK					LR		LR	12 51 38.9	
	comp=Z,4μm,19.2s,baz=135,slow=36								
USRK	**Ussuriysk Ar.**	**9.78**	**316**		P		**Pn**	**12 48 06.4**	**+2.3**
USRK	**Ussuriysk Ar.**	**9.78**	**316**				**Pn**	**12 48 06.4**	**+2.3**
USA0B	**Ussuriysk Arra**	**9.78**	**316**		P		**Pn**	**12 48 05.2**	**+1.1**
USA0B	**Ussuriysk Arra**	**9.78**	**316**				**Pn**	**12 48 05.2**	**+1.1**
JTU	**Tsushima**	**10.22**	**257**		Pn		**Pn**	**12 48 12.2**	**+2.0**
JCJ	**Chichijima**	**10.43**	**176**		P		**Pn**	**12 48 11.3**	**-1.8**
	comp=Z,31nm,0.3s,baz=274,slow=21,SNR=46								
JCJ					S		Sn	12 49 59.1	-9.4
	comp=Z,30nm,0.3s,baz=269,slow=21,SNR=3.0								
JCJ	**Chichijima**	**10.43**	**176**				**Pn**	**12 48 11.6**	**-1.5**
KSRS	**Korea Array**	**10.76**	**274**		P		**Pn**	**12 48 21.1**	**+3.5**
	comp=Z,2.4nm,0.3s,baz=88,slow=14,SNR=32								
KSRS					LR		LR	12 52 10.2	
	comp=Z,2μm,20.8s,baz=90,slow=36								
KS19	**Wonju Array Si**	**10.80**	**274**				**Pn**	**12 48 20.9**	**+2.9**
JSU	**Suzuyama**	**10.89**	**240**		Pn		**Pn**	**12 48 21.9**	**+2.5**
MDJ	**Mudanjiang**	**11.41**	**312**		P		**Pn**	**12 48 30.1**	**+3.8**
MDJ					pP			12 48 37.9	
MDJ					sP			12 48 44.8	
MDJ					S		**Sn**	**12 50 31.1**	**-1.1**
MDJ					pmax		pmax		
	comp=Z,55nm,1.0s								
MDJ					pmax		pmax		
	comp=Z,58nm,3.8s								
MDJ					LR		LR		
	comp=Z,2μm,17.1s								
MDJ					LR		LR		
	comp=Z,2μm,19.9s								
MDJ					LR		LR		
	comp=Z,4μm,22.8s								
UGL	**Uglegorsk**	**11.54**	**2**		P		Pn	12 48 34.3	+6.1
UGL					S		**Sn**	**12 50 31.8**	**-3.8**
UGL					MLR		MLR		
	comp=Z,2μm,18.0s								
UGL					MLR		MLR		
	comp=N,1μm,20.0s								
TYV	**Tymovskoe**	**13.35**	**3**	*e*	P		**Pn**	**12 48 52.6**	**-0.2**
TYV				*e*S			**Sn**	**12 51 19.0**	**-0.6**
TYV					pmax		pmax		
	comp=Z,9.0nm,1.1s								
TYV					smax		smax		
	comp=E,11nm,1.2s								
TYV					smax		smax		
	comp=E,200nm,4.1s								
TYV					MLR		MLR		
	comp=E,1μm,16.0s								
TYV					MLR		MLR		
	comp=Z,1μm,16.0s								
GRNR	**Gornyy**	**13.71**	**346**	*e*	P		**Pn**	**12 48 55.3**	**-2.5**
GRNR					pmax		pmax		
	comp=Z,5.0nm,0.9s								
GRNR					MLR		MLR		
	comp=E,800nm,19.0s								
GRNR					MLR		MLR		
	comp=N,730nm,20.0s								
GRNR					MLR		MLR		
	comp=Z,1μm,18.0s								
DL2	**Dalian**	**15.65**	**281**		P		**Pn**	**12 49 24.8**	**+1.4**
DL2					sP		**sP**	**12 49 42.9**	**-1.0**
DL2					S		**S**	**12 52 22.3**	**-6.5**
DL2					pmax		pmax		
	comp=Z,43nm,1.2s								
DL2					LR		LR		
	comp=Z,750nm,16.9s								
DL2					LR		LR		
	comp=Z,2μm,17.8s								
DL2					LR		LR		
	comp=Z,2μm,16.9s								
OKH	**Okha**	**16.05**	**3**	*de*	P		Pn	12 49 20.3	-8.0
OKH					pmax		pmax		
	comp=Z,200nm,16.1s								
OKH					MLR		MLR		
	comp=N,1μm,21.0s								
OKH					MLR		MLR		
	comp=Z,1μm,20.0s								
OKH					MLR		MLR		
	comp=E,1μm,17.0s								
ZEA	**Zeya**	**18.95**	**333**	*e*	P		**P**	**12 50 00.5**	**-2.5**
ZEA					pmax		pmax		
	comp=N,31nm,0.8s								
ZEA					pmax		pmax		
	comp=E,21nm,0.8s								
ZEA					pmax		pmax		
	comp=Z,41nm,0.8s								
ZEA					MLR		MLR		
	comp=Z,2μm,15.0s								
ZEA					MLR		MLR		
	comp=E,600nm,16.0s								
ZEA					MLR		MLR		
	comp=N,1μm,15.0s								
PEA0B	**Petropavlovsk-**	**19.24**	**31**		P		**Pn**	**12 50 07.8**	**+0.2**
PEA0B					pmax		pmax		
	comp=Z,83nm,1.6s								
PEA0B	**Petropavlovsk-**	**19.24**	**31**		P		**Pn**	**12 50 07.8**	**+0.2**
PETK	**Petropavlovsk-**	**19.24**	**31**		P		**Pn**	**12 50 10.1**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=216,slow=6.1,SNR=9.3								
PETK					LR		LR	12 57 17.3	
	comp=Z,506nm,21.7s,baz=235,slow=36								
PETK	**Petropavlovsk-**	**19.24**	**31**		P		**P**	**12 50 07.5**	**+1.3**
PETK	**Petropavlovsk-**	**19.24**	**31**		P		**P**	**12 50 07.5**	**+1.3**
NJ2	**Nanjing**	**19.34**	**260**	*e*	P		**Pn**	**12 50 08.9**	**0.0**
NJ2					S		**Sn**	**12 53 45.0**	**0.0**
NJ2					sS		**sS**	**12 53 58.4**	**-3.2**
NJ2					pmax		pmax		
	comp=Z,16nm,0.5s								
NJ2					pmax		pmax		
	comp=Z,350nm,4.8s								
NJ2					LR		LR		
	comp=Z,1μm,19.4s								
NJ2					LR		LR		
	comp=Z,940nm,18.4s								
NJ2					LR		LR		
	comp=Z,2μm,19.0s								
PET	**Petropavlovsk**	**19.57**	**32**	*e*	P		**P**	**12 50 11.4**	**+1.6**
PET				*e*S			**S**	**12 53 40.6**	**-7.5**
PET					pmax		pmax		
	comp=Z,113nm,0.9s								
PET					MLR		MLR		
	comp=Z,400nm,16.0s								
PET	**Petropavlovsk**	**19.57**	**32**		P		**Pn**	**12 50 13.4**	**+1.9**
BJI	**Beijing**	**19.85**	**285**		P		**P**	**12 50 11.0**	**-2.0**
BJI					S		**S**	**12 53 54.5**	**+0.6**
BJI					pmax		pmax		
	comp=Z,9.0nm,0.7s								
BJI					LR		LR		
	comp=Z,620nm,14.1s								
BJI					LR		LR		
	comp=Z,720nm,19.0s								
BJI					LR		LR		
	comp=Z,490nm,19.6s								
BJT	**Baijiatuau**	**19.86**	**285**		P		**P**	**12 50 12.9**	**-0.2**
BJT					pmax		pmax		
	comp=Z,31nm,1.0s								
BJT	**Baijiatuau**	**19.86**	**285**		P		**P**	**12 50 12.9**	**-0.2**
YOJ	**Yonaguni jima**	**20.45**	**236**		P		**P**	**12 50 17.0**	**-2.6**
YOJ					pmax		pmax		
	comp=Z,63nm,1.1s								
YOJ	**Yonaguni jima**	**20.45**	**236**		P		**P**	**12 50 17.0**	**-2.6**
YOJ					IAmb		IAmb	12 50 26.8	
	comp=Z,63nm,1.1s								
TATO	**Taipei**	**21.12**	**239**		P		**P**	**12 50 27.6**	**+0.7**
YHNB	**Yeheng**	**21.40**	**239**		P		**P**	**12 50 27.8**	**-2.1**
NACB	**Ninganchiao**	**21.58**	**238**		P		**P**	**12 50 28.8**	**-3.1**
SSLB	**Suanglung**	**22.27**	**238**		P		**P**	**12 50 35.8**	**-3.5**
YULB	**Yu-li**	**22.31**	**237**		P		**P**	**12 50 36.8**	**-3.0**
MA2	**Magadan**	**22.86**	**12**		P		**P**	**12 50 45.7**	**+0.6**
	comp=Z,15nm,0.7s,baz=193,slow=9.3,SNR=7.3								
MA2	**Magadan**	**22.86**	**12**	*ce*	P		**P**	**12 50 45.8**	**+0.7**
MA2					pmax		pmax		
	comp=Z,13nm,0.8s								
TWG	**Pinlang**	**22.86**	**236**		P		**P**	**12 50 44.4**	**-1.1**
TWG					IAmb		IAmb	12 50 53.5	
	comp=Z,38nm,0.8s								
TIY	**Taiyuan**	**22.95**	**279**	*e*	P		**P**	**12 50 47.4**	**+0.9**
TIY					pmax		pmax		
	comp=Z,150nm,3.9s								
TIY					LR		LR		
	comp=Z,680nm,12.4s								
TIY					LR		LR		
	comp=Z,920nm,13.6s								
TIY					LR		LR		
	comp=Z,1μm,17.4s								
HHC	**Hu-ho-hao-te**	**23.35**	**287**	*e*	P		**P**	**12 50 50.0**	**-0.4**
HHC					sP		sP	12 51 09.1	+1.1
HHC					S		**S**	**12 55 01.6**	**+1.9**
HHC					pmax		pmax		
	comp=Z,30nm,0.9s								
HHC					pmax		pmax		
	comp=Z,560nm,7.8s								
HHC					LR		LR		
	comp=Z,1μm,13.4s								
HHC					LR		LR		
	comp=Z,740nm,15.9s								
HHC					LR		LR		
	comp=Z,2μm,18.0s								
WHN	**Wuhan**	**23.47**	**261**	⇓	P		**P**	**12 50 51.3**	**-0.2**
WHN					LR		LR		
	comp=Z,2μm,18.3s								
WHN					LR		LR		
	comp=Z,3μm,16.9s								
WHN					LR		LR		
	comp=Z,5μm,27.9s								
BTO	**Baotou**	**24.53**	**287**	*e*	P		**P**	**12 51 02.6**	**+1.3**
YAK	**Yakutsk**	**25.59**	**347**		P		**P**	**12 51 09.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=185,slow=22,SNR=1.3								
YAK	**Yakutsk**	**25.59**	**347**	⇑	*e*P		**P**	**12 51 09.6**	**-0.9**
YAK					pmax		pmax		
	comp=Z,101nm,1.0s								
YAK	**Yakutsk**	**25.59**	**347**		P		**P**	**12 51 11.4**	**+1.0**
SEY	**Seymchan**	**26.29**	**11**		P		**P**	**12 51 18.5**	**+1.7**
	comp=Z,10nm,0.7s,baz=192,slow=9.8,SNR=18								
XAN	**Xi'an**	**26.55**	**272**		P		**P**	**12 51 18.0**	**-1.6**
XAN					pmax		pmax		
	comp=Z,55nm,0.6s								
XAN					pmax		pmax		
	comp=Z,370nm,4.1s								
XAN					LR		LR		
	comp=Z,750nm,16.7s								
XAN					LR		LR		
	comp=Z,680nm,17.4s								
XAN					LR		LR		
	comp=Z,1μm,15.7s								
XAN	**Xi'an**	**26.55**	**272**		P		**P**	**12 51 18.4**	**-1.2**
XAN					pmax		pmax		
	comp=Z,33nm,0.7s								
XAN	**Xi'an**	**26.55**	**272**		P		**P**	**12 51 18.4**	**-1.2**
XAN					IAmb		IAmb	12 51 23.3	
	comp=Z,33nm,0.7s								
ULN	**Ulaanbaatar**	**27.11**	**303**	*ce*	P		**P**	**12 51 23.7**	**-0.9**
ULN					pmax		pmax		
	comp=Z,8.0nm,0.6s								
ULN	**Ulaanbaatar**	**27.11**	**303**		P		**P**	**12 51 24.6**	**0.0**
BOD	**Bodaibo**	**27.13**	**327**	*e*	P		**P**	**12 51 23.6**	**-0.8**
BOD					pmax		pmax		
	comp=Z,31nm,1.4s								
ENH	**Enshi**	**27.42**	**264**		P		**P**	**12 51 27.0**	**-0.3**
SONM	**Songino Array**	**27.54**	**303**		P		**P**	**12 51 27.7**	**-0.7**
	comp=Z,14nm,0.5s,baz=101,slow=8.9,SNR=48								
SONM					PcP		**PcP**	**12 54 45.9**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=80,slow=1.6,SNR=1.5								
SONM					LR		LR	13 03 15.8	
	comp=Z,865nm,18.3s,baz=113,slow=38								
SONM	**Songino Array**	**27.54**	**303**		P		**P**	**12 51 27.4**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**28.38**	**122**		T		T	13 21 49.8	
	baz=314,slow=75,SNR=833								
H11N1	**WAKE ISLAND Hy**	**28.38**	**122**		T		T	13 21 50.3	
	baz=314,slow=75,SNR=1189								
H11N3	**WAKE ISLAND Hy**	**28.39**	**122**		T		T	13 21 51.2	
	baz=314,slow=75,SNR=1402								
H11S1	**WAKE ISLAND Hy**	**29.10**	**124**		T		T	13 22 45.6	
	baz=316,slow=76,SNR=788								
H11S3	**WAKE ISLAND Hy**	**29.10**	**124**		T		T	13 22 45.9	
	baz=316,slow=76,SNR=774								
H11S2	**WAKE ISLAND Hy**	**29.12**	**124**		T		T	13 22 46.9	
	baz=316,slow=76,SNR=768								
ZAK	**Zakamensk**	**29.99**	**308**	*e*	P		**P**	**12 51 49.7**	**-0.4**
ZAK					pmax		pmax		
	comp=Z,9.0nm,1.2s								
LZH	**Lanzhou**	**30.02**	**279**	*e*	P		**P**	**12 51 49.9**	**-0.7**
LZH					pP		pP	12 52 01.5	-1.6
LZH					sP		sP	12 52 06.6	-2.2
LZH					pmax		pmax		
	comp=Z,25nm,1.2s								
LZH					LR		LR		
	comp=Z,480nm,11.4s								
LZH					LR		LR		
	comp=Z,580nm,11.4s								
LZH					LR		LR		
	comp=Z,580nm,13.0s								
TLY	**Talaya**	**30.03**	**310**		P		**P**	**12 51 50.8**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=186,slow=4.1,SNR=8.4								
TLY	**Talaya**	**30.03**	**310**	*e*	P		**P**	**12 51 50.3**	**-0.1**
TLY				*e*				12 52 54.0	
TLY					pmax		pmax		
	comp=Z,14nm,0.8s								
TLY					MLR		MLR		
	comp=Z,3μm,16.0s								
TLY	**Talaya**	**30.03**	**310**		P		**P**	**12 51 51.0**	**+0.6**
GYA	**Guiyang**	**31.34**	**260**	⇑	P		**P**	**12 52 00.8**	**-1.5**
GYA					pmax		pmax		
	comp=Z,26nm,0.8s								
GYA					pmax		pmax		
	comp=Z,180nm,4.5s								
GYA					LR		LR		
	comp=Z,500nm,17.6s								
GYA					LR		LR		
	comp=Z,580nm,22.5s								
GYA					LR		LR		
	comp=Z,1μm,23.7s								
MOY	**Mondy**	**31.64**	**310**	*e*	P		**P**	**12 52 04.1**	**-0.6**
CD2	**Chengdu**	**31.71**	**269**		P		**P**	**12 52 06.3**	**+0.8**
CD2					pmax		pmax		
	comp=Z,30nm,0.5s								
GTA	**Gaotai**	**32.45**	**286**	⇑	P		**P**	**12 52 10.9**	**-1.1**
GTA					pP		pP	12 52 23.0	-1.5
GTA					sP		sP	12 52 29.1	-1.1
GTA					pmax		pmax		
	comp=Z,11nm,0.8s								
GTA					pmax		pmax		
	comp=Z,140nm,5.6s								
GTA					LR		LR		
	comp=Z,610nm,18.5s								
GTA					LR		LR		
	comp=Z,690nm,18.9s								
GTA					LR		LR		
	comp=Z,970nm,19.3s								
QIZ	**Qiongzhong**	**33.17**	**245**		P		**P**	**12 52 18.3**	**+0.1**
QIZ					S		**S**	**12 57 36.4**	**+

comp=Z,70nm,1.1s
DGZ Jazzator, Alta 40.13 305 *c i*P **P 12 53 18.0 +0.7**
DGZ pmax pmax
comp=Z,32nm,0.6s
GTOI Gorontalo 40.47 209 P **P 12 53 17.5 -2.8**
comp=Z,21nm,0.8s
WMQ Urumqi 40.65 296 *e*P **P 12 53 22.9 +1.3**
WMQ pP pP 12 53 32.5 -1.9
WMQ sP sP 12 53 41.9 +1.9
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,300nm,4.7s
WMQ LR LR
comp=Z,270nm,17.3s
WMQ LR LR
comp=Z,350nm,22.7s
WMQ LR LR
comp=Z,500nm,25.7s
WMQ Urumqi 40.65 296 P **P 12 53 21.7 +0.1**
WMQ pmax pmax
comp=Z,38nm,1.0s
WMQ Urumqi 40.65 296 P **P 12 53 21.7 +0.1**
WMQ IAmb IAmb 12 53 53.7
comp=Z,38nm,1.0s
PBKT Sadao Pong 41.26 251 P **P 12 53 25.1 -1.7**
CHTO Chiang Mai 41.45 255 P **P 12 53 27.7 -0.7**
CHTO pmax pmax
comp=Z,22nm,1.7s
CHTO Chiang Mai 41.45 255 P **P 12 53 27.7 -0.7**
ZAA0 Zalesovo Array 41.61 312 P **P 12 53 28.5 -0.7**
ZAA0 IAmb IAmb 12 53 30.6
comp=Z,41nm,1.3s
ZALV Zalesovo Beam 41.61 312 P **P 12 53 29.0 -0.2**
comp=Z,7.4nm,0.3s,baz=88,slow=7.7,SNR=60
ZALV PcP **PcP 12 55 24.3 -1.2**
comp=Z,2.6nm,0.5s,baz=101,slow=4.2,SNR=1.3
ZALV Zalesovo Beam 41.61 312 P **P 12 53 28.4 -0.8**
CMAR Chiang Mai Arr 41.66 255 P **P 12 53 29.2 -0.9**
comp=Z,0.9nm,0.4s,baz=45,slow=8.6,SNR=7.9
CMAR LR LR 13 11 49.4
comp=Z,574nm,18.9s,baz=77,slow=38
CMAR Chiang Mai Arr 41.66 255 P **P 12 53 30.3 +0.2**
CMAR Chiang Mai Arr 41.66 255 P **P 12 53 30.2 +0.2**
SANI Sanana 41.92 204 P **P 12 53 32.4 +0.3**
comp=Z,976nmcomp=Z,61nm,0.8s
ZSN Zaisan 42.05 302 *e*P **P 12 53 32.4 -0.6**
comp=Z,11nm,0.7s,baz=302
ZSN *e*S **S 12 59 46.2 -2.4**
baz=302
ZSN Zaisan 42.05 302 *e*P **P 12 53 32.3 -0.6**
ZSN *e*S **S 12 59 46.2 -2.4**
ZSN pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 42.20 275 P **P 12 53 34.4 -0.6**
LSA pmax pmax
comp=Z,16nm,1.0s
LSA Lhasa 42.20 275 P **P 12 53 34.4 -0.6**
NRIK Noril'sk 42.83 335 P **P 12 53 38.3 -0.7**
comp=Z,2.0nm,0.4s,baz=29,slow=7.5,SNR=2.7
NRIK LR LR 13 12 37.8
comp=Z,606nm,19.0s,baz=174,slow=38
SHL Shillong 43.45 269 P **P 12 53 43.0 -1.8**
SHL pmax pmax
comp=Z,24nm,0.5s
SHL Shillong 43.45 269 P **P 12 53 43.0 -1.8**
MK31 Makanchi Array 43.89 302 P **P 12 53 47.5 -0.4**
MK31 pmax pmax
comp=Z,21nm,1.0s
MK31 Makanchi Array 43.89 302 P **P 12 53 47.5 -0.4**
MK31 IAmb IAmb 12 53 48.9
comp=Z,21nm,0.9s
MKAR Makanchi Array 43.89 302 P **P 12 53 47.4 -0.4**
comp=Z,17nm,0.7s,baz=88,slow=9.9,SNR=124
MKAR LR LR 13 12 30.3
comp=Z,381nm,21.8s,baz=75,slow=37
MKAR Makanchi Array 43.89 302 P **P 12 53 47.3 -0.6**
SBUM Sibu 44.05 225 P **P 12 53 49.6 +0.2**
SBUM Sibu 44.05 225 P **P 12 53 51.0 +1.6**
MAKZ Makanchi 44.09 302 P **P 12 53 49.2 -0.3**
MAKZ pmax pmax
comp=Z,47nm,1.3s
MAKZ Makanchi 44.09 302 P **P 12 53 49.2 -0.3**
MAKZ IAmb IAmb 12 53 51.2
comp=Z,47nm,1.2s
TTA Tatalina 44.99 35 P **P 12 53 58.1 +1.6**
TTA pmax pmax
comp=Z,15nm,1.4s
TTA Tatalina 44.99 35 P **P 12 53 58.1 +1.6**
SVW2 Sparrevohn 45.10 38 IAmb IAmb 12 54 28.7
comp=Z,19nm,1.1s
MTKI Muara Teweh, K 45.49 219 P **P 12 54 00.9 0.0**
comp=Z,22nm,1.0s
KURK Kurchatov 45.65 308 P **P 12 54 01.1 -0.7**
KURK pmax pmax
comp=Z,45nm,0.7s
KURK Kurchatov 45.65 308 P **P 12 54 01.1 -0.7**
KSM Kuching 45.93 226 P **P 12 54 04.0 -0.3**
KSM IAmb IAmb 12 54 25.6
comp=Z,20nm,0.8s
KSM Kuching 45.93 226 P **P 12 54 07.0 +2.7**
TAPN Taplejung 45.95 274 *e*P **P 12 54 04.4 -0.4**
comp=Z,49nm,0.4s
SPSI Sidrap Palu 45.95 211 P **P 12 54 05.1 +0.6**
comp=Z,7.2nm,0.5s
IMAR Indian Mountai 46.20 31 P **P 12 54 07.0 +1.1**
ODAN Odare 46.42 273 *e*P **P 12 54 08.0 -0.5**
comp=Z,25nm,0.4s
PDGK Podgornoye 46.57 298 P **P 12 54 08.4 -0.9**
SHLS Shalkode 46.64 297 *e*P **P 12 54 06.2 -3.7**
baz=297
SHLS LR LR 13 14 12.3
comp=Z,144nm,13.0s,baz=297
SHLS Shalkode 46.64 297 *e*P **P 12 54 06.1 -3.7**
SHLS MLR MLR
comp=Z,144nm,13.0s
PPLA Purkeypile 46.73 35 P **P 12 54 12.8 +2.5**
PPLA IAmb IAmb 12 54 31.9
comp=Z,28nm,1.2s
TDK Taldyqorghan 46.91 300 *e*P **P 12 54 11.3 -0.5**
baz=300
TDK *e*S **S 13 00 57.0 -2.3**
baz=300
TDK LR LR 13 13 49.1
comp=Z,458nm,16.5s,baz=300
TDK Taldyqorghan 46.91 300 *e*P **P 12 54 11.3 -0.5**
TDK *e*S **S 13 00 57.0 -2.3**
TDK MLR MLR
comp=Z,458nm,16.0s
UZB Uzynbulak 46.95 297 *e*P **P 12 54 11.1 -1.3**
baz=297
UZB LR LR 13 13 56.9
comp=Z,182nm,14.2s,baz=297
UZB Uzynbulak 46.95 297 *e*P **P 12 54 11.0 -1.3**
UZB MLR MLR
comp=Z,182nm,14.0s
RAMN Ramite 47.01 274 *e*P **P 12 54 12.6 -0.5**
comp=Z,24nm,0.4s
JIRN Jiri 47.01 275 *e*P **P 12 54 13.1 -0.1**
comp=Z,48nm,0.3s
BKSI Bulukumba 47.05 210 P **P 12 54 13.1 0.0**
comp=Z,624nmcomp=Z,26nm,1.2s
KPKS Kokpek 47.11 298 *e*P **P 12 54 12.3 -1.2**
baz=298
KPKS LR LR 13 14 07.4
comp=Z,634nm,17.3s,baz=298
KPKS Kokpek 47.11 298 *e*P **P 12 54 12.3 -1.2**
KPKS MLR MLR
comp=Z,634nm,17.0s
BPAW Bear Paw Mtn. 47.28 34 P **P 12 54 15.6 +1.1**
BPAW IAmb IAmb 12 54 35.5
comp=Z,26nm,1.6s
KTH Kantishna Hill 47.31 34 P **P 12 54 15.8 +1.1**
KTH IAmb IAmb 12 54 35.9
comp=Z,19nm,1.0s
SATY Saty 47.41 297 *e*P **P 12 54 14.6 -1.3**
baz=297
SATY LR LR 13 14 33.4
comp=Z,172nm,14.7s,baz=297
SATY Saty 47.41 297 *e*P **P 12 54 14.6 -1.3**
SATY MLR MLR
comp=Z,172nm,15.0s
PKI Pulchoki 47.67 275 *e*P **P 12 54 17.6 -0.7**
comp=Z,17nm,0.3s
KKN Kakani 47.67 275 *e*P **P 12 54 17.9 -0.3**
comp=Z,70nm,0.7s
PKIN Phulchoki 47.68 275 *e*P **P 12 54 18.0 -0.3**
comp=Z,28nm,0.4s
COLD Coldfoot 47.70 29 P **P 12 54 20.0 +2.4**
baz=267
DMN Daman 47.89 275 *e*P **P 12 54 19.1 -0.8**
RC01 Rabbit Creek A 47.94 38 P **P 12 54 21.1 +1.6**
baz=273
TOLK Toolik Lake Re 48.01 27 P **P 12 54 22.3 +2.2**
baz=267
GKN Gorkha 48.09 276 *e*P **P 12 54 20.9 -0.4**
comp=Z,37nm,0.5s
NEA2 Nenana 48.12 33 P **P 12 54 22.7 +1.8**
baz=271
PMR Palmer 48.20 37 P **P 12 54 22.7 +1.2**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 48.20 37 P **P 12 54 22.7 +1.2**
PMR IAmb IAmb 12 54 38.7
comp=Z,15nm,1.0s
TARG Taragay, Kyrgy 48.21 296 P **P 12 54 21.8 -0.6**
RND Reindeer 48.24 34 P **P 12 54 23.3 +1.3**
RND pmax pmax
comp=Z,20nm,1.0s
RND Reindeer 48.24 34 P **P 12 54 23.3 +1.3**
RND IAmb IAmb 12 54 41.5
comp=Z,20nm,1.0s
GHO Glory Hole Cre 48.29 37 P **P 12 54 23.7 +1.4**
MDOK Medeo 48.34 298 *e*P **P 12 54 22.1 -0.9**
baz=298
MDOK LR LR 13 14 32.7
comp=Z,562nm,19.6s,baz=298
MDOK Medeo 48.34 298 *e*P **P 12 54 22.1 -0.9**
MDOK MLR MLR
comp=Z,562nm,20.0s
AAA Alma-Ata 48.42 298 *e*P **P 12 54 22.9 -0.7**
baz=298
AAA LR LR 13 14 51.7
comp=Z,501nm,17.0s,baz=298
AAA Alma-Ata 48.42 298 *e*P **P 12 54 22.9 -0.7**
AAA MLR MLR
comp=Z,501nm,17.0s
MDM Murphy Dome 48.47 32 P **P 12 54 25.5 +1.9**
MDM IAmb IAmb 12 54 44.8
comp=Z,20nm,1.0s
KNK Knik Glacier 48.53 37 P **P 12 54 24.7 +0.6**
KNK IAmb IAmb 12 54 54.4
comp=Z,12nm,0.8s
KDJ Kajisay 48.54 297 P **P 12 54 24.6 -0.1**
KDJ pmax pmax
comp=Z,22nm,1.3s
KDJ Kajisay 48.54 297 P **P 12 54 24.6 -0.1**
KDJ IAmb IAmb 12 54 45.1
comp=Z,22nm,1.3s
WRH Wood River Hil 48.54 33 P **P 12 54 25.2 +1.0**
WRH IAmb IAmb 12 54 44.5
comp=Z,11nm,1.0s
SML Sawmill 48.57 37 P **P 12 54 25.1 +0.7**
DANN Dangsing 48.62 277 *e*P **P 12 54 25.6 0.0**
comp=Z,239nm,0.7s
TCOL CIGO, UAF Yank 48.63 32 P **P 12 54 27.0 +2.2**
baz=272
COLA College 48.63 32 P **P 12 54 25.8 +1.0**
COLA pmax pmax
comp=Z,22nm,1.3s
COLA College 48.63 32 P **P 12 54 25.8 +1.0**
COLA IAmb IAmb 12 54 47.3
comp=Z,22nm,1.2s
CCB Clear Creek Bu 48.66 33 P **P 12 54 26.6 +1.6**
CCB IAmb IAmb 12 54 59.3
comp=Z,25nm,1.6s
POKR Poker Plat Res 48.80 32 P **P 12 54 28.5 +2.3**
baz=272
DHY Denali Highway 48.93 35 P **P 12 54 28.1 +0.8**
DHY IAmb IAmb 12 54 50.8
comp=Z,7.0nm,0.6s
KOLN Koldanda 49.01 276 *e*P **P 12 54 28.2 -0.3**
comp=Z,31nm,0.6s
SCM Sheep Creek Mo 49.04 37 P **P 12 54 29.1 +1.0**
SCM pmax pmax
comp=Z,18nm,0.9s
SCM Sheep Creek Mo 49.04 37 P **P 12 54 29.1 +1.0**
SCM IAmb IAmb 12 54 48.5
comp=Z,18nm,0.9s
HDA Harding Lake 49.04 33 P **P 12 54 29.2 +1.2**
baz=273
HDA Harding Lake 49.04 33 P **P 12 54 28.4 +0.5**
HDA IAmb IAmb 12 54 47.9
comp=Z,13nm,0.9s
IL31 49.05 33 P **P 12 54 29.2 +1.2**
IL31 IAmb IAmb 12 54 50.3
comp=Z,18nm,1.2s
ILAR Eielson Array 49.05 33 P **P 12 54 28.8 +0.7**
comp=Z,3.3nm,0.7s,baz=268,slow=5.7,SNR=48
KULM Kulim 49.10 239 P **P 12 54 32.0 +3.0**
BOOM Boomskoye usch 49.31 297 P **P 12 54 30.5 -0.1**
BOOM pmax pmax
comp=Z,56nm,1.5s
BOOM Boomskoye usch 49.31 297 P **P 12 54 30.4 -0.1**
PYUN Piuthan 49.34 277 *e*P **P 12 54 30.8 -0.2**
comp=Z,82nm,0.4s
TKM2 Tokmak 2 49.43 298 P **P 12 54 31.8 +0.3**
SNR=52
TKM2 Tokmak 2 49.43 298 P **P 12 54 30.8 -0.7**
IPM Ipoh 49.44 238 P **P 12 54 30.0 -1.6**
IPM IAmb IAmb 12 54 34.2
comp=Z,13nm,0.8s
IPM Ipoh 49.44 238 P **P 12 54 34.0 +2.4**
BRZS Berezniki 49.53 308 *e*P **P 12 54 30.9 -1.1**
comp=Z,6.5nm,0.4s,baz=308
BRZS Berezniki 49.53 308 *e*P **P 12 54 30.8 -1.1**
BRZS pmax pmax
comp=Z,6.0nm,0.4s
FID Port Fidalgo 49.55 38 P **P 12 54 32.4 +0.5**
EDFI Ende, Flores 49.62 206 P **P 12 54 32.2 -0.8**
comp=Z,15nm,1.3s
FYU Fort Yukon 49.66 30 P **P 12 54 35.2 +2.6**
SOEI Soe 49.73 202 P **P 12 54 34.4 +0.6**
comp=Z,43nm,0.9s
KLU Klutina 49.74 37 P **P 12 54 34.4 +0.9**
KLU IAmb IAmb 12 54 53.1
comp=Z,25nm,1.2s
BMAR Burnt Mountain 49.88 29 P **P 12 54 37.0 +2.7**
BTLS Baital 49.89 301 *e*P **P 12 54 33.6 -1.1**
comp=Z,6.1nm,0.4s,baz=301
BTLS Baital 49.89 301 *e*P **P 12 54 33.5 -1.1**
BTLS pmax pmax
comp=Z,6.0nm,0.4s
KZA Kyzart 49.93 297 P **P 12 54 36.5 +0.9**
SNR=13
SGDS Sogindy 49.94 299 *e*P **P 12 54 34.4 -0.9**
comp=Z,3.9nm,0.7s,baz=299
SGDS Sogindy 49.94 299 *e*P **P 12 54 34.3 -0.9**
SGDS pmax pmax
comp=Z,4.0nm,0.7s
KBK Karagaybulak 49.96 298 P **P 12 54 35.6 +0.1**
SNR=12
RIDG Independent Ri 50.01 34 P **P 12 54 37.2 +1.8**
RIDG IAmb IAmb 12 55 12.9
comp=Z,10nm,1.0s
USP Ospenovka 50.09 299 P **P 12 54 36.1 -0.2**
SNR=10
KSH Kashi 50.24 294 P **P 12 54 40.1 +2.5**
KSH pP sP 12 54 55.4 -0.8
KSH S **S 13 01 52.8 +6.3**
KSH SS **SS 13 05 24.8 +4.7**
KSH pmax pmax
comp=Z,31nm,1.2s
KSH pmax pmax
comp=Z,330nm,5.9s
KSH LR LR
comp=Z,710nm,16.2s
KSH LR LR
comp=Z,800nm,16.5s
KSH LR LR
comp=Z,1μm,19.3s
AAK Ala-Archa 50.28 298 LR LR 13 17 22.6
comp=Z,1μm,19.1s,baz=80,slow=38
AAK Ala-Archa 50.28 298 P **P 12 54 37.2 -0.8**
SNR=14
AAK Ala-Archa 50.28 298 P **P 12 54 37.0 -1.0**
BRVK Borovoye 50.32 312 P **P 12 54 37.5 -0.3**
BRVK pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 50.32 312 P **P 12 54 37.5 -0.3**
BRVK IAmb IAmb 12 54 43.7
comp=Z,12nm,0.6s
DOT Dot Lake 50.37 34 P **P 12 54 38.2 +0.1**
DOT IAmb IAmb 12 54 59.7
comp=Z,14nm,1.1s
SCRK Sand Creek 50.37 34 P **P 12 54 39.5 +1.3**
baz=276
UCH Uchtor 50.40 298 P **P 12 54 39.5 +0.3**
SNR=6.1
EKS2 Erkin-Say 50.78 298 P **P 12 54 41.1 -0.5**
SNR=15
AML Almayashu 51.01 298 P **P 12 54 43.9 +0.3**
SNR=21
K27K Chicken 51.20 33 P **P 12 54 46.3 +2.0**
baz=277
BCAR Beaver Creek A 51.46 35 P **P 12 54 48.2 +1.9**
EGAK Eagle 51.49 32 P **P 12 54 47.4 +0.9**
EGAK IAmb IAmb 12 55 04.2
comp=Z,24nm,1.6s
PSI Prapat 52.08 239 LR LR 13 15 00.7
comp=Z,339nm,21.5s,baz=272,slow=34
KK31 Karatay Array 52.91 300 P **P 12 54 56.8 -0.5**
KK31 pmax pmax
comp=Z,16nm,1.1s
KK31 Karatay Array 52.91 300 P **P 12 54 56.8 -0.5**
KK31 IAmb IAmb 12 55 00.3
comp=Z,16nm,1.1s
KKAR Karatay Array 52.91 300 P **P 12 54 56.8 -0.6**
KKAR pmax pmax
comp=Z,16nm,1.1s
KKAR Karatay Array 52.91 300 P **P 12 54 56.8 -0.6**
KKAR IAmb IAmb 12 55 00.3
comp=Z,16nm,1.1s
KKAR Karatay Array 52.91 300 P **P 12 54 56.7 -0.6**
BCPM Bancas Point 53.04 38 P **P 12 54 58.1 +0.1**
EPYK Eagle Plains 53.07 30 P **P 12 55 00.4 +2.1**
baz=280
EPYK Eagle Plains 53.07 30 P **P 12 55 00.4 +2.1**
PWJI Pagerwojo 53.13 218 P **P 12 54 58.2 -0.9**
comp=Z,55nm,0.8s
IUG Iuzhnay 53.57 299 *e*P **P 12 55 01.5 -0.9**
comp=Z,12nm,1.0s,baz=299
IUG LR LR 13 18 08.5
comp=Z,154nm,15.2s,baz=299
IUG Iuzhnay 53.57 299 *e*P **P 12 55 01.4 -0.9**
IUG pmax pmax
comp=Z,12nm,1.0s
IUG MLR MLR
comp=Z,154nm,15.0s
HYT Haines Junctio 53.87 37 P **P 12 55 06.0 +1.7**
INK Inuvik 53.92 27 P **P 12 55 05.8 +1.5**
INK pmax pmax
comp=Z,16nm,1.2s
INK Inuvik 53.92 27 P **P 12 55 05.8 +1.5**
INK IAmb IAmb 12 55 29.4
comp=Z,16nm,1.2s
GSI Gunungsitoli 54.09 239 P **P 12 55 06.1 -0.2**
KNRA Kununurra 54.26 195 P **P 12 55 07.9 +0.5**
LEM Lembang 54.27 223 LR LR 13 19 52.0
comp=Z,246nm,19.1s,baz=350,slow=38
NIL Nilore 54.49 288 P **P 12 55 08.9 -0.2**
NIL pmax pmax
comp=Z,18nm,0.5s
NIL Nilore 54.49 288 P **P 12 55 08.9 -0.2**
GAR Garm 54.52 295 P **P 12 55 08.5 -0.8**
SVE Sverdlovsk 54.80 318⇓ *e*P **P 12 55 10.9 0.0**
SVE pmax pmax
comp=Z,27nm,0.9s
SVE MLR MLR
comp=Z,1μm,17.0s
CHGR Chuyangaron 55.48 295 P **P 12 55 16.0 -0.3**
ARU Arti 56.01 318 *d i*P **P 12 55 19.1 -0.5**
ARU *PP **sP 12 55 36.9 -1.5**
ARU 12 56 14.3
ARU 12 57 19.7
ARU S **S 13 03 03.9 -0.3**
ARU pmax pmax
comp=Z,51nm,1.3s
ARU MLR MLR
comp=Z,818nm,17.0s
ARU Arti 56.01 318 P **P 12 55 19.2 -0.4**
KBL Kabul 57.27 291 P **P 12 55 28.6 -0.6**
KBL pmax pmax
comp=Z,25nm,1.1s
KBL Kabul 57.27 291 P **P 12 55 28.6 -0.6**
WB0 Warramunga Arr 57.38 188 P **P 12 55 29.6 -0.1**
WRAB Tennant Creek 57.55 188 P **P 12 55 30.9 0.0**
WRAB pmax pmax
comp=Z,22nm,1.0s
WRAB Tennant Creek 57.55 188 P **P 12 55 30.9 0.0**
WR0 Warramunga Arr 57.56 188 P **P 12 55 30.8 -0.1**
WRA Warramunga Arr 57.56 188 P **P 12 55 30.9 -0.1**
comp=Z,5.2nm,0.5s,baz=5.0,slow=7.3,SNR=210
WRA LR LR 13 19 34.9
comp=Z,141nm,20.4s,baz=335,slow=35
WRA Warramunga Arr 57.56 188 P **P 12 55 30.8 -0.2**
AB31 Akbulak array 57.65 310 *i* P **P 12 55 30.4 -0.9**
ABKAR Akbulak array 57.65 310 P **P 12 55 30.6 -0.8**
HYB Hyderabad 58.26 268 *i* P **P 12 55 35.0 -1.1**
HYB *es*P **sP 12 55 55.0 +0.1**
AKTO Aktyubinsk 58.37 312 P **P 12 55 35.2 -1.2**
SPA0 Spitsbergen Ar 60.04 349 *e*P **P 12 55 47.6 +0.1**
PRGR Permogore 60.37 327 *e*P **P 12 55 49.7 -0.2**
AS31 Alice Springs 61.29 188 P **P 12 55 56.8 +0.2**
ASAR Alice Springs 61.29 188 P **P 12 55 56.8 +0.1**
comp=Z,3.8nm,0.7s,baz=14,slow=6.0,SNR=34
ASAR LR LR 13 22 10.7
comp=Z,172nm,19.0s,baz=312,slow=36
APA Apatity 62.25 336⇓ *i*P **P 12 56 06.3 +3.8**
APA pmax pmax
comp=Z,15nm,1.0s
TMCR Tamitsa 62.32 331 *e*P **P 12 56 01.1 -2.0**
TMCR pmax pmax
comp=Z,64nm,1.1s
HRA Herat 62.35 293 P **P 12 56 03.0 -1.1**
HRA IAmb IAmb 12 56 05.3
comp=Z,7.9nm,0.7s
KLMR Klimovskoe 63.35 328 *e*P **P 12 56 08.6 -1.4**
KLMR pmax pmax
comp=Z,14nm,0.8s
KLMR Klimovskoe 63.35 328 *e*P **P 12 56 08.6 -1.4**
KLMR AMP 12 56 10.1
comp=Z,14nm,0.8s
KLMR LQ LQ 13 19 14.0
KLMR LQ LQ 13 19 14.0
KLMR LR LR 13 23 32.9
YKA Yellowknife Ar 63.35 30 P **P 12 56 10.6 +0.6**
comp=Z,1.1nm,0.6s,baz=307,slow=6.7,SNR=10
GEYT Alibeck 63.63 299 P **P 12 56 11.9 -0.4**
comp=Z,10nm,0.7s,baz=41,slow=2.7,SNR=15
GEYT LR LR 13 24 27.5
comp=Z,160nm,20.3s,baz=150,slow=36
GEYT Alibeck 63.63 299 P **P 12 56 11.9 -0.4**
GYA0B ALIBECK ARRAY 63.63 299 P **P 12 56 12.5 +0.3**
GYA0B IAmb IAmb 12 56 17.1
comp=Z,12nm,0.8s
DZM Mont Dzumac 63.79 154 *e*P P 12 56 29.2 +16
comp=Z,2.1nm,0.4s
DZM Mont Dzumac 63.79 154 *e*LR LR 13 15 36.7
comp=Z,699nm,21.8s
TRO Tromso 65.25 341 *e*P **P 12 56 22.7 +0.4**
MOS Moscow 66.87 323 *e*P **P 12 56 30.6 -2.3**
MOS pmax pmax
comp=Z,57nm,0.8s
VRH Novokhopyorsk 67.23 318 *e*P **P 12 56 33.1 -2.2**
VRH pmax pmax
comp=Z,30nm,0.6s
VRH MLR MLR
comp=Z,570nm,16.0s
STEI Steigen 67.41 341 *e*P **P 12 56 36.2 +0.1**
OBN Obninsk 67.72 323⇓ *i*P **P 12 56 38.1 -0.1**
OBN *PP **pP 12 56 52.0 +0.2**
OBN *e*SP **sP 12 56 58.5 +1.2**
OBN pmax pmax
comp=Z,18nm,1.2s
OBN MLR MLR
comp=Z,354nm,17.0s
FAUS Fauske 67.79 340 *e*P **P 12 56 39.0 +0.5**
LPSR Galich'ya Gora 67.94 320 *e*P **P 12 56 38.2 -1.5**
LPSR pmax pmax
comp=Z,20nm,0.6s
LPSR MLR MLR
comp=Z,1μm,19.0s
FIA1 FINESS Array S 68.39 332 P **P 12 56 42.4 0.0**
FINES FINESS Array B 68.39 332 P **P 12 56 42.0 -0.3**
comp=Z,10nm,0.4s,baz=31,slow=9.0,SNR=106
VSR Storozhevoye 68.58 319 *e*P **P 12 56 43.4 -0.3**

VSR pmax pmax
comp=Z,20nm,0.5s
VSR MLR MLR
comp=Z,1µm,17.0s
VORD Divnogorie 68.65 318 *e*P **P 12 56 43.3 -0.9**
VORD pmax pmax
comp=Z,30nm,1.4s
AKT Akhty 68.81 306 *e*P **P 12 56 44.8 -0.7**
AKT *e**PP **pP 12 57 02.0 +2.8**
AKT *e* 12 57 08.8
AKT pmax pmax
comp=Z,17nm,0.6s
MOR8 Moi Rana 68.91 340 *e*P **P 12 56 44.3 -1.2**
STKA Stephens Creek 69.06 180 P **P 12 56 46.7 -0.1**
comp=Z,1.7nm,0.6s,baz=21,slow=20,SNR=6.1
FORT Forrest 69.11 192 P **P 12 56 48.1 +1.0**
NEW Newport 69.74 44 P **P 12 56 52.8 +1.7**
baz=304
PINE Pine Mountain 69.98 50 P **P 12 56 53.2 +0.3**
PINE IAmb IAmb 12 57 12.0
comp=Z,27nm,0.9s
SUMG Summit 70.18 360 *i* P **P 12 56 54.6 +0.8**
SUMG Summit 70.18 360 *e*P **P 12 56 54.6 +0.8**
KBZ Khabaz 70.60 311 P **P 12 56 56.5 +0.1**
comp=Z,7.9nm,0.7s,baz=44,slow=3.2,SNR=9.4
KBZ LR LR 13 32 45.5
comp=Z,382nm,18.7s,baz=52,slow=40
KIV Kislovodsk 70.61 311 *e*P **P 12 56 55.9 -0.6**
KIV pmax pmax
comp=Z,111nm,1.1s
KIV MLR MLR
comp=Z,631nm,18.0s
KIV Kislovodsk 70.61 311 P **P 12 56 56.3 -0.2**
NSS Namsos 70.83 339 *e*P **P 12 56 58.2 +0.9**
BMO Blue Mountains 71.56 47 P **P 12 57 03.3 +1.0**
BMO pmax pmax
comp=Z,14nm,1.3s
BMO Blue Mountains 71.56 47 P **P 12 57 03.3 +1.0**
JTMT Jette 71.61 44 P **P 12 57 04.5 +1.9**
UOSS Minazif 71.69 288 P **P 12 57 03.1 -0.1**
UOSS IAmb IAmb 12 57 24.2
comp=Z,18nm,0.8s
J08A Circle Bar Ran 71.72 49 P **P 12 57 05.6 +2.3**
J08A IAmb IAmb 12 57 23.9
comp=Z,21nm,1.3s
MFID Camas Ranch 73.26 48 P **P 12 57 14.2 +1.7**
MFID IAmb IAmb 12 57 30.6
comp=Z,17nm,1.2s
NC405 NORSAR Array S 73.53 337 P **P 12 57 13.2 -0.4**
NC303 NORSAR Array S 73.55 337 P **P 12 57 13.6 -0.1**
NC303 NORSAR Array S 73.55 337 *e*P **P 12 57 13.8 +0.2**
HRY Holter Researc 73.56 43 P **P 12 57 15.5 +1.3**
DOMB Dombas 73.59 339 *e*P **P 12 57 14.1 +0.1**
MOL Molde 73.60 340 *e*P **P 12 57 14.6 +0.7**
HFS Hagfors 73.65 336 P **P 12 57 14.3 0.0**
baz=46,slow=6.2
NC204 NORSAR Array S 73.69 338 P **P 12 57 14.1 -0.5**
NB201 NORSAR Array S 73.71 337 P **P 12 57 14.5 -0.2**
NB2 NORSAR Subarra 73.74 337 P **P 12 57 14.5 -0.3**
comp=Z,4.9nm,0.6s,baz=39,slow=5.9
NB2 NORSAR Subarra 73.74 337 P **P 12 57 14.5 -0.3**
baz=39,slow=5.9
NOA NORSAR Array B 73.74 337 P **P 12 57 14.8 -0.1**
comp=Z,5.1nm,0.6s,baz=39,slow=5.9,SNR=29
YERR Yerington 73.74 53 P **P 12 57 16.2 +0.7**
YERR IAmb IAmb 12 57 33.5
comp=Z,22nm,1.2s
LRM Limekiln Ridge 73.76 44 P **P 12 57 17.3 +1.8**
EGMT Eagleton 73.87 41 P **P 12 57 17.4 +1.5**
baz=308
EGMT Eagleton 73.87 41 P **P 12 57 17.1 +1.2**
EGMT IAmb IAmb 12 57 47.8
comp=Z,22nm,1.2s
NC602 NORSAR Array S 73.87 337 *e*P **P 12 57 15.3 -0.3**
AKASG Malin Array Be 73.92 322 P **P 12 57 15.5 -0.5**
comp=Z,8.0nm,0.4s,baz=46,slow=6.1,SNR=43
AKASG LR LR 13 32 59.3
comp=Z,455nm,18.9s,baz=60,slow=38
AKASG Malin Array Be 73.92 322 P **P 12 57 15.7 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 73.92 322 P **P 12 57 15.7 -0.3**
AKBB Malin Array Si 73.92 322 P **P 12 57 15.7 -0.4**
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 73.92 322 P **P 12 57 15.7 -0.4**
AKBB IAmb IAmb 12 57 16.3
comp=Z,14nm,0.8s
DLMT Dillon 73.96 45 P **P 12 57 18.2 +1.6**
DLMT IAmb IAmb 12 57 34.1
comp=Z,35nm,1.6s
HLID Hailey 74.00 47 P **P 12 57 18.1 +1.2**
MCMT McKenzie Canyo 74.14 45 P **P 12 57 18.2 +0.4**
BOZ Bozeman (W) 74.36 44 P **P 12 57 19.4 +0.5**
BOZ pmax pmax
comp=Z,12nm,1.1s
BOZ Bozeman (W) 74.36 44 P **P 12 57 20.4 +1.5**
baz=308
BOZ Bozeman (W) 74.36 44 P **P 12 57 19.4 +0.5**
KVN Kaiserville 74.42 53 P **P 12 57 20.7 +1.2**
KVN pmax pmax
comp=Z,30nm,1.4s
KVN Kaiserville 74.42 53 P **P 12 57 20.7 +1.2**
KVN IAmb IAmb 12 57 40.0
comp=Z,30nm,1.4s
MDPB Devils Postpil 74.62 54 P **P 12 57 21.3 +0.6**
NVAR Mina Array Bea 74.66 53 P **P 12 57 22.2 +1.3**
comp=Z,1.6nm,0.7s,baz=293,slow=5.6,SNR=14
NVAR LR LR 13 24 31.5
comp=Z,108nm,19.5s,baz=298,slow=31
NV11 Mina Array Sit 74.75 53 P **P 12 57 21.9 +0.6**
SKAR Skarslia 74.90 338 *e*P **P 12 57 22.3 +0.7**
YHL Hebgen Lake 75.06 45 P **P 12 57 24.6 +1.4**
HYA Hoyanger 75.12 339 *e*P **P 12 57 23.3 +0.6**
YHB Horse Butte 75.12 45 P **P 12 57 23.5 +0.1**
YHH Holmes Hill 75.29 45 P **P 12 57 27.2 +2.7**
TPH Tonopah 75.55 53 P **P 12 57 26.8 +0.8**
TPH pmax pmax
comp=Z,96nm,1.3s
TPH Tonopah 75.55 53 P **P 12 57 26.8 +0.8**
MARD Mardin 75.60 306 P **P 12 57 26.8 +0.6**
YPP Pitchstone Pla 75.64 45 P **P 12 57 27.6 +1.1**
H17A Grant Village 75.69 45 P **P 12 57 28.8 +2.1**
H17A IAmb IAmb 12 57 48.8
comp=Z,15nm,1.0s
IMW Indian Meadow 75.79 45 P **P 12 57 28.8 +1.4**
IMW IAmb IAmb 12 57 48.5
comp=Z,15nm,1.2s
FLWY Flagg Ranch 75.81 45 P **P 12 57 29.1 +1.8**
FLWY IAmb IAmb 12 57 47.3
comp=Z,30nm,1.4s
FXWY Fox Creek 75.91 46 P **P 12 57 29.8 +1.9**
ASK Askoy 75.96 339 *e*P **P 12 57 28.3 +0.8**
ODD1 Odda 76.02 338 *e*P **P 12 57 28.7 +0.7**
TPAW Teton Pass 76.04 46 P **P 12 57 30.2 +1.4**
R11A Troy Canyon, C 76.42 52 P **P 12 57 32.8 +1.9**
baz=307
R11A Troy Canyon, C 76.42 52 P **P 12 57 32.6 +1.7**
R11A IAmb IAmb 12 57 49.0
comp=Z,16nm,1.2s
BLS5 Blasjo 76.47 338 *e*P **P 12 57 31.1 +0.6**
FURC Furnace Creek, 76.74 54 P **P 12 57 34.8 +2.3**
baz=307
TPNV Topopah Spring 76.85 53 P **P 12 57 34.6 +1.3**
TPNV pmax pmax
comp=Z,23nm,1.3s
TPNV Topopah Spring 76.85 53 P **P 12 57 34.9 +1.6**
baz=307
TPNV Topopah Spring 76.85 53 P **P 12 57 34.6 +1.3**
TPNV IAmb IAmb 12 57 51.3
comp=Z,23nm,1.2s
HWUT Hardware Ranch 76.86 47 P **P 12 57 34.3 +0.9**
HWUT IAmb IAmb 12 57 51.7
comp=Z,27nm,1.4s
DUG Dugway, Tooele 77.00 49 P **P 12 57 35.6 +1.5**
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG Dugway, Tooele 77.00 49 P **P 12 57 35.9 +1.9**
baz=308
DUG Dugway, Tooele 77.00 49 P **P 12 57 35.6 +1.5**
SNART Snartemo 77.12 337 *e*P **P 12 57 34.7 +0.4**
BW06 Boulder Array 77.29 46 P **P 12 57 37.0 +1.2**
baz=310
BW06 Boulder Array 77.29 46 P **P 12 57 37.0 +1.2**

PD31 Pinedale Array 77.29 46 P **P 12 57 37.0 +1.2**
PDAR Pinedale Array 77.29 46 P **P 12 57 36.8 +1.0**
comp=Z,1.0nm,0.5s,baz=294,slow=0.5,SNR=18
PDAR Pinedale Array 77.29 46 P **P 12 57 36.5 +0.8**
PRN Pahroc Range 77.33 53 P **P 12 57 37.6 +1.6**
PSUT Pine Spring 77.39 51 P **P 12 57 38.2 +1.8**
GSC Goldstone, Bar 77.48 55 P **P 12 57 37.3 +0.5**
GSC pmax pmax
comp=Z,17nm,1.5s
GSC Goldstone, Bar 77.48 55 P **P 12 57 37.3 +0.5**
GSC IAmb IAmb 12 57 54.6
comp=Z,18nm,1.4s
KWP Kalwaria Pacla 77.74 324 *e*P **P 12 57 38.1 +0.2**
KWP *e*p*P* **pP 12 57 55.3 +3.6**
KWP Kalwaria Pacla 77.74 324 P **P 12 57 38.4 +0.5**
KWP Kalwaria Pacla 77.74 324 P **P 12 57 38.4 +0.5**
SHPR Sheep Range 77.81 53 P **P 12 57 39.1 +0.4**
SHPR IAmb IAmb 12 57 57.0
comp=Z,16nm,1.3s
BUR08 Bucovina Ar. S 77.93 322 P **P 12 57 39.1 0.0**
BURAR Bucovina Array 77.94 322 ⇓P **P 12 57 40.2 +1.1**
BURAR Bucovina Array 77.94 322 ⇓P **P 12 57 40.2 +1.1**
BURAR Bucovina Array 77.94 322 P **P 12 57 38.7 -0.5**
BIZ Bicaz 77.96 321 ⇑P **P 12 57 42.3 +3.2**
RGN Rugen 78.05 332 *e*P **P 12 57 40.1 +0.6**
comp=Z,348nm,1.6s,baz=37,slow=5.2
CCUT Cedar City 78.30 52 P **P 12 57 43.6 +2.1**
VRI Vrincioaia 78.37 320 ⇑P **P 12 57 42.2 +0.8**
VRI Vrincioaia 78.37 320 ⇑P **P 12 57 42.2 +0.8**
MSU Marysvale 78.43 50 P **P 12 57 42.8 +0.6**
MSU Marysvale 78.43 50 P **P 12 57 42.8 +0.6**
KOLS Kolonicke sedl 78.44 324 *e*P **P 12 57 41.4 -0.4**
KOLS Kolonicke sedl 78.44 324 *e*P **P 12 57 41.4 -0.4**
BRTR Keskin Array B 78.55 311 P **P 12 57 43.4 +0.7**
comp=Z,2.6nm,0.8s,baz=110,slow=1.4,SNR=3.9
BRTR LR LR 13 38 07.8
comp=Z,91nm,18.3s,baz=64,slow=40
BRTR Keskin Array B 78.55 311 *i* P **P 12 57 43.4 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 78.55 311 P **P 12 57 42.5 -0.2**
OJC Ojcow 78.64 326 *e*P **P 12 57 43.3 +0.4**
OJC *e*p*P* **pP 12 57 59.0 +2.3**
OJC Ojcow 78.64 326 P **P 12 57 43.3 +0.4**
OJC pmax pmax
comp=Z,16nm,0.9s
OJC Ojcow 78.64 326 P **P 12 57 43.3 +0.4**
OJC IAmb IAmb 12 58 15.8
comp=Z,16nm,0.9s
RDMU Red Mountain 78.69 47 P **P 12 57 44.4 +0.9**
LCMT Little Creek M 78.71 52 P **P 12 57 44.6 +0.9**
MTPU Mount Pierson 78.72 51 P **P 12 57 44.5 +0.5**
PFO Pinyon Flats O 78.73 56 P **P 12 57 44.9 +1.1**
PFO pmax pmax
comp=Z,17nm,1.2s
PFO Pinyon Flats O 78.73 56 P **P 12 57 44.9 +1.1**
PFO IAmb IAmb 12 58 04.0
comp=Z,17nm,1.2s
CRVS Cervenica-Dubn 78.84 324 *e*P **P 12 57 45.4 +1.4**
CRVS Cervenica-Dubn 78.84 324 *e*P **P 12 57 45.4 +1.4**
KNB Kanab 78.97 52 P **P 12 57 46.1 +1.0**
KNB pmax pmax
comp=Z,31nm,1.3s
KNB Kanab 78.97 52 P **P 12 57 46.1 +1.0**
NIE Niedzica 79.00 325 *e*P **P 12 57 46.8 +1.9**
MLR Muntele Rosu 79.03 320 P **P 12 57 45.9 +0.7**
comp=Z,2.1nm,0.4s,baz=124,slow=12,SNR=3.8
MLR Muntele Rosu 79.03 320 IAmb IAmb 12 58 17.2
comp=Z,15nm,1.1s
SRU San Rafael Swe 79.05 49 P **P 12 57 47.4 +1.8**
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael Swe 79.05 49 P **P 12 57 47.4 +1.8**
ULM Lac du Bonnet 79.06 33 P **P 12 57 46.0 +0.9**
comp=Z,5.3nm,1.0s,baz=333,slow=2.3,SNR=3.5
ULM LR LR 13 33 33.3
comp=Z,113nm,21.8s,baz=298,slow=36
ULM Lac du Bonnet 79.06 33 IAmb IAmb 12 58 05.2
comp=Z,42nm,1.6s
IRM Iron Mountain 79.26 55 P **P 12 57 48.3 +1.7**
baz=308
VOIR 79.52 320 ⇑P **P 12 57 48.2 +0.3**
VOIR 79.52 320 ⇑P **P 12 57 48.2 +0.3**
BSEG Bad Segeberg 79.63 333 *e*P **P 12 57 48.2 +0.1**
comp=Z,43nm,1.8s,baz=37,slow=5.2
BSEG *e*p*P* **sP 12 58 06.2 -1.1**
baz=42,slow=5.4
U15A North Rim 79.67 52 P **P 12 57 49.7 +0.6**
U15A IAmb IAmb 12 58 07.7
comp=Z,17nm,1.2s
KSP Ksiaz 79.69 328 *e*P **P 12 57 48.7 +0.1**
OSTC Ostas 79.94 328 AMS AMS 13 36 40.0
comp=Z,400nm,16.1s
MORC Moravsky Berou 79.96 327 ⇑P **P 12 57 50.4 +0.3**
MORC Moravsky Berou 79.96 327 *e*P **P 12 57 50.6 +0.5**
MORC Moravsky Berou 79.96 327 ⇑P **P 12 57 50.4 +0.3**
MORC Moravsky Berou 79.96 327 P **P 12 57 49.6 -0.5**
MORC IAmb IAmb 12 58 11.7
comp=Z,23nm,1.5s
CHVC Chvalec 79.99 328 AMS AMS 13 36 00.0
comp=Z,500nm,15.4s
DPC Dobruska-Polom 80.05 328 *e*P **P 12 57 50.0 -0.6**
DPC *e*p*P* **pP 12 58 04.3 -0.2**
DPC AMS AMS 13 36 20.0
comp=Z,500nm,17.0s
DPC Dobruska-Polom 80.05 328 *e*P **P 12 57 50.0 -0.6**
DPC *e* 12 58 04.3
DPC MLR MLR
comp=Z,500nm,17.0s
KRLC Kraliky 80.06 327 *e*P **P 12 57 51.3 +0.6**
KRLC *e*PCP **PcP 12 57 59.3 +1.4**
KRLC AMS AMS 13 36 10.0
comp=Z,500nm,17.3s
KRLC Kraliky 80.06 327 *e*P **P 12 57 51.3 +0.6**
KRLC *e* 12 57 59.3
KRLC MLR MLR
comp=Z,500nm,17.3s
UPC Upice 80.06 328 AMS AMS 13 36 00.0
comp=Z,400nm,14.7s
PSZ Piszkesteto 80.27 324 ⇓P **P 12 57 52.9 +1.0**
PSZ Piszkesteto 80.27 324 ⇓P **P 12 57 52.9 +1.0**
PSZ Piszkesteto 80.27 324 P **P 12 57 51.8 0.0**
PSZ IAmb IAmb 12 58 25.0
comp=Z,24nm,1.2s
VYHS Vyhne 80.33 325 *e*P **P 12 57 52.2 +0.1**
VYHS Vyhne 80.33 325 *e*P **P 12 57 52.2 +0.1**
PV23 Carpenter Ridg 80.38 49 P **P 12 57 54.0 +1.2**
PV23 IAmb IAmb 12 58 11.1
comp=Z,24nm,1.1s
PV04 Paradox Valley 80.48 49 P **P 12 57 54.9 +1.6**
PV04 IAmb IAmb 12 58 18.4
comp=Z,34nm,1.3s
PV19 Morning Glory 80.49 49 P **P 12 57 54.8 +1.4**
PV19 IAmb IAmb 12 58 11.5
comp=Z,43nm,1.6s
PV16 Nyswonger Mesa 80.53 49 P **P 12 57 55.3 +1.7**
PV16 IAmb IAmb 12 58 11.8
comp=Z,39nm,1.6s
N23A Red Feather La 80.55 45 P **P 12 57 55.4 +1.7**
baz=312
N23A Red Feather La 80.55 45 P **P 12 57 54.1 +0.3**
N23A IAmb IAmb 12 58 16.2
comp=Z,26nm,1.4s
PV18 Skein Mesa, Pa 80.58 49 P **P 12 57 55.2 +1.4**
PV18 IAmb IAmb 12 58 12.1
comp=Z,36nm,1.4s
JAVC Velka Javorina 80.58 326 *e*P **P 12 57 55.0 +1.5**
BRG Berggiesshubel 80.64 329 *e*P **P 12 57 53.4 -0.2**
comp=Z,7.8nm,1.1s
BRG Berggiesshubel 80.64 329 *e*P **P 12 57 53.4 -0.2**
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 80.64 329 *e*P **P 12 57 53.6 0.0**
comp=Z,36nm,1.8s,baz=37,slow=5.2
CLL Collm 80.68 330 *i* P **P 12 57 53.7 -0.2**
comp=Z,38nm,1.8s
CLL *e*p*P* **pP 12 58 10.0 +2.3**
CLL Lm MLR 13 36 00.0
comp=N,400nm,18.1s
CLL Lm MLR 13 36 00.0
comp=E,200nm,19.2s
CLL Lm MLR 13 36 00.0
comp=Z,300nm,21.2s
CLL Collm 80.68 330 *i* P **P 12 57 53.7 -0.2**

CLL *e**PP **pP 12 58 10.0 +2.3**
CLL pmax pmax
comp=Z,38nm,1.8s
CLL MLR MLR
comp=Z,300nm,21.2s
CLL Collm 80.68 330 *e*P **P 12 57 53.7 -0.2**
comp=Z,38nm,1.8s,baz=37,slow=5.2
CLL *e*p*P* **pP 12 58 10.5 +2.7**
baz=42,slow=5.4
CLL Collm 80.68 330 P **P 12 57 53.2 -0.6**
PV13 Radium Mtn., P 80.69 49 P **P 12 57 55.5 +1.1**
PV13 IAmb IAmb 12 58 15.1
comp=Z,33nm,1.2s
GZR Gura Zlata 80.70 321 ⇑P **P 12 57 54.1 -0.1**
GZR Gura Zlata 80.70 321 ⇑P **P 12 57 54.1 -0.1**
PV02 Paradox Valley 80.70 49 P **P 12 57 54.9 +0.4**
PV02 IAmb IAmb 12 58 15.3
comp=Z,38nm,1.6s
VRAC Vranov 80.72 327 P **P 12 57 54.3 +0.2**
comp=Z,2.6nm,0.4s,baz=32,slow=6.5,SNR=7.7
VRAC Vranov 80.72 327 *e*P **P 12 57 54.9 +0.8**
WUAZ Wupatki 80.82 52 P **P 12 57 59.0 +3.8**
WUAZ IAmb IAmb 12 58 16.0
comp=Z,25nm,1.3s
PV01 Paradox Valley 80.85 49 P **P 12 57 58.2 +2.8**
PV01 IAmb IAmb 12 58 16.0
comp=Z,18nm,1.2s
ASSE Asse, Remlinge 80.93 332 *e*P **P 12 57 55.1 0.0**
comp=Z,14nm,1.2s,baz=37,slow=5.2
KRUC Moravsky 80.99 327 *e*P **P 12 57 56.0 +0.4**
GOPC GO Pecny, Ondr 81.03 328 *e*P **P 12 57 56.2 +0.4**
GOPC AMS AMS 13 36 40.0
comp=Z,500nm,16.9s
GOPC GO Pecny, Ondr 81.03 328 *e*P **P 12 57 56.2 +0.4**
GOPC MLR MLR
comp=Z,500nm,16.9s
PRA Prague 81.06 329 AMS AMS 13 36 50.0
comp=Z,200nm,15.0s
PRU Pruhonice 81.07 329 *e*P **P 12 58 00.6 +4.6**
PRU AMS AMS 13 36 50.0
comp=Z,500nm,17.1s
PRU Pruhonice 81.07 329 *e*P **P 12 58 00.6 +4.6**
PRU MLR MLR
comp=Z,500nm,17.1s
TREC Trest 81.20 328 AMS AMS 13 37 00.0
comp=Z,400nm,18.1s
ASF Jabal al Asfar 81.26 304 P **P 12 57 57.3 -0.2**
comp=Z,1.5nm,0.5s,baz=130,slow=21,SNR=1.2
CLZ Clausthal 81.28 332 *e*P **P 12 57 55.9 -1.2**
comp=Z,13nm,1.2s,baz=37,slow=5.2
CLZ *e*p*P* **pP 12 58 14.2 +3.3**
baz=42,slow=5.4
ISCO Idaho Springs 81.47 46 P **P 12 57 59.8 +1.1**
baz=312
ISCO Idaho Springs 81.47 46 **PcP 12 58 05.1 +0.5**
X16A Lo Mia Camp, P 81.48 53 P **P 12 58 00.1 +1.4**
MVCO Mesa Verde 81.50 49 P **P 12 57 59.9 +1.0**
MVCO IAmb IAmb 12 58 19.4
comp=Z,18nm,1.2s
MDVR Moldovita 81.66 321 ⇑P **P 12 57 59.0 -0.3**
GUNZ Gunzen 81.68 330 *e*P **P 12 57 59.5 +0.2**
comp=Z,50nm,2.2s,baz=37,slow=5.2
MMAI Mount Meron Ar 81.71 305 P **P 12 57 59.6 -0.1**
comp=Z,4.2nm,0.6s,baz=51,slow=6.9,SNR=6.3
NKC Novy Kostel 81.74 330 AMS AMS 13 37 30.0
comp=Z,400nm,17.3s
MOX Moxa 81.75 330 *e*P **P 12 57 58.6 -0.9**
comp=Z,104nm,2.9s,baz=37,slow=5.2
IBBN Ibbenburen 81.86 333 *e*P **P 12 58 00.0 0.0**
comp=Z,15nm,0.7s,baz=37,slow=5.2
IBBN *e*p*P* **sP 12 58 17.9 -1.4**
baz=42,slow=5.4
MANZ Manzenberg 82.07 330 *e*P **P 12 58 01.4 +0.1**
comp=Z,34nm,2.1s,baz=37,slow=5.2
F33A 5 Mile Ranch, 82.11 37 P **P 12 58 02.7 +1.2**
F33A IAmb IAmb 12 58 32.0
comp=Z,21nm,1.2s
KHC Kasperske Hory 82.14 328 *e*P **P 12 58 01.5 -0.2**
KHC *ex* x 12 58 18.4
KHC AMS AMS 13 37 20.0
comp=Z,500nm,16.3s
KHC Kasperske Hory 82.14 328 *e*P **P 12 58 01.5 -0.2**
KHC *e* 12 58 18.4
KHC MLR MLR
comp=Z,500nm,16.3s
KHC Kasperske Hory 82.14 328 P **P 12 58 01.5 -0.2**
S22A 4UR Ranch, Cre 82.14 48 P **P 12 58 04.2 +2.0**
baz=312
S22A 4UR Ranch, Cre 82.14 48 P **P 12 58 03.8 +1.5**
S22A IAmb IAmb 12 58 20.8
comp=Z,16nm,1.4s
ROTZ Rotzenmuhle 82.20 330 *e*P **P 12 58 02.3 +0.3**
comp=Z,34nm,1.8s,baz=37,slow=5.2
UBBA Unterbreizbach 82.23 331 *e*P **P 12 58 02.0 0.0**
comp=Z,37nm,1.9s,baz=37,slow=5.2
GEC2 GERESS Array S 82.31 328 *e*P **P 12 58 02.5 -0.2**
comp=Z,20nm,1.9s,baz=37,slow=5.2
GEC2 GERESS Array S 82.31 328 P **P 12 58 02.2 -0.4**
GEC2 IAmb IAmb 12 58 04.5
comp=Z,19nm,1.7s
GERES GERESS Array B 82.31 328 P **P 12 58 02.4 -0.2**
comp=Z,1.6nm,0.4s,baz=38,slow=6.0,SNR=15
GERES LR LR 13 38 07.4
comp=Z,412nm,18.3s,baz=65,slow=38
GERES GERESS Array B 82.31 328 P **P 12 58 02.2 -0.4**
WET Wettzell 82.42 329 *e*P **P 12 58 03.5 +0.4**
comp=Z,29nm,2.1s,baz=37,slow=5.2
GRF Grafenberg Arr 82.65 330 *e*P **P 12 58 04.9 +0.5**
comp=Z,86nm,2.0s,baz=37,slow=5.2
EKA Eskdalemuir Ar 82.67 341 P **P 12 58 04.1 -0.2**
comp=Z,0.7nm,0.4s,baz=38,slow=5.0,SNR=6.3
SDCO Great Sand Dun 82.92 47 P **P 12 58 06.2 -0.1**
DIVS Divibare 83.01 322 P **P 12 58 06.7 +0.3**
TUC Tucson 83.25 54 P **P 12 58 06.0 -1.8**
TUC pmax pmax
comp=Z,17nm,1.6s
TUC Tucson 83.25 54 P **P 12 58 06.0 -1.8**
TUC IAmb IAmb 12 58 26.0
comp=Z,18nm,1.6s
PERS Pernice 83.39 326 *e*P **P 12 58 08.1 -0.2**
SOKA Soboth 83.40 326 *i* P **P 12 58 08.5 +0.2**
comp=Z,11nm,1.0s
RJOB Jochberg 83.55 328 *e*P **P 12 58 08.4 -0.7**
comp=Z,11nm,1.1s,baz=37,slow=5.2
KBA Koelnbreinsper 83.83 327 *i* PcP **P 12 58 11.6 +0.9**
comp=Z,7.8nm,0.9s
T25A Trinidad 83.97 47 P **P 12 58 13.0 +1.4**
baz=313
T25A Trinidad 83.97 47 P **P 12 58 12.4 +0.8**
T25A IAmb IAmb 12 58 21.0
comp=Z,13nm,1.2s
MYKA Terra Mystica 84.05 327 *i* P **P 12 58 11.2 -0.4**
comp=Z,3.2nm,0.7s
LJU Ljubljana 84.11 326 *e*P **P 12 58 10.9 -1.0**
EIL Elat 84.14 303 P **P 12 58 11.7 -0.6**
comp=Z,7.6nm,0.7s,baz=336,slow=6.9,SNR=6.5
BOJS Bojanci 84.20 325 *e*P **P 12 58 11.4 -0.9**
PRED Cave del Predi 84.23 327 P **P 12 58 11.6 -1.0**
ANMO Albuquerque 84.23 50 P **P 12 58 13.5 +0.5**
ANMO pmax pmax
comp=Z,12nm,1.2s
ANMO Albuquerque 84.23 50 P **P 12 58 13.5 +0.5**
ANMO IAmb IAmb 12 58 34.4
comp=Z,12nm,1.2s
PMOR Pomariorio Ree 84.35 114 *e*T T 14 30 26.2
comp=Z,34nm,0.2s
WATA Walderalm 84.37 328 *i* PcP **P 12 58 15.3 +1.9**
comp=Z,4.7nm,0.4s
LENM Lemitar 84.44 51 P **P 12 58 14.7 +0.6**
ABTA Abfaltersbach 84.44 327 *i* P **P 12 58 13.0 -0.7**
comp=Z,2.3nm,0.6s
RETA Reutte 84.59 329 *i* P **P 12 58 14.5 +0.1**
comp=Z,3.8nm,0.5s
PDG Podgorica 84.60 321 ⇑P **P 12 58 14.0 -0.3**
PDG Podgorica 84.60 321 P **P 12 58 14.4 0.0**
LIT Litokhoron 84.61 318 P **P 12 58 13.3 -1.2**
LIT pmax pmax
comp=Z,22nm,0.9s
LIT Litokhoron 84.61 318 P **P 12 58 13.3 -1.2**
STAL STALIGIAL 84.74 327 P **P 12 58 14.1 -1.0**
PPT Papeete 84.83 117 P **P 12 58 17.6 +1.8**
comp=Z,18nm,1.0s,baz=17,slow=15,SNR=2.5
PPT LR LR 13 30 25.9
comp=Z,184nm,19.4s,baz=318,slow=32
PPT2 Papeete2 84.84 117 *e*LR LR 13 24 45.0
comp=Z,934nm,28.5s,baz=321

PPT2	**Papeete2**	**84.84**	**117**	*e*T	T	14 31 03.4	
	comp=Z,7.2nm,0.3s						
SCHQ	**Schefferville**	**84.84**	**16**	LR	LR	13 38 13.4	
	comp=Z,124nm,20.2s,baz=344,slow=37						
BFO	**Black Forest**	**84.88**	**331**	P	**P**	**12 58 16.0**	**+0.2**
BFO				pmax	pmax		
	comp=Z,14nm,1.0s						
BFO	**Black Forest**	**84.88**	**331**	*e*P	**P**	**12 58 15.7**	**-0.1**
	comp=Z,43nm,1.8s,baz=37,slow=5.2						
BFO				*e*pP	**sP**	**12 58 33.6**	**-1.5**
	baz=42,slow=5.4						
BFO	**Black Forest**	**84.88**	**331**	P	**P**	**12 58 16.0**	**+0.2**
BFO				IAmb	IAmb	12 58 36.7	
	comp=Z,14nm,1.0s						
PAE	**Paea**	**84.88**	**117**	*e*T	T	14 31 06.0	
	comp=Z,1.5nm,0.3s						
FETA	**Feichten**	**84.98**	**329**	*i* PcP	**PcP**	**12 58 19.4**	**-0.3**
	comp=Z,4.6nm,0.8s						
TIAR	**Tiarei**	**84.98**	**116**	*e*T	T	14 31 13.4	
	comp=Z,7.5nm,0.3s						
121A	**Cookes Peak, D**	**85.02**	**52**	P	**P**	**12 58 18.9**	**+1.9**
	baz=312						
121A	**Cookes Peak, D**	**85.02**	**52**	P	**P**	**12 58 18.0**	**+1.0**
121A				IAmb	IAmb	12 58 41.4	
	comp=Z,11nm,1.1s						
DAVA	**Damuels**	**85.11**	**329**	*i* PcP	**P**	**12 58 17.4**	**+0.3**
	comp=Z,6.1nm,0.8s						
TVO	**Taravao**	**85.20**	**117**	*e*T	T	14 31 29.6	
	comp=Z,0.8nm,0.3s						
ECH	**Echery**	**85.43**	**331**	P	**P**	**12 58 17.9**	**-0.6**
ECH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ECH	**Echery**	**85.43**	**331**	P	**P**	**12 58 17.9**	**-0.6**
ECH				IAmb	IAmb	12 58 37.9	
	comp=Z,6.1nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**85.49**	**329**	P	**P**	**12 58 18.9**	**-0.2**
FUORN				IAmb	IAmb	12 58 53.4	
	comp=Z,13nm,0.9s						
DAVOX	**Davos/Dischmat**	**85.52**	**329**	P	**P**	**12 58 19.3**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=133,slow=5.2,SNR=2.8						
MEH	**Mehetia**	**86.10**	**116**	*e*T	T	14 32 37.7	
	comp=Z,63nm,0.3s						
TAOE	**Nuku Hiva Isla**	**86.26**	**104**	*e*LR	LR	13 25 31.9	
	comp=Z,1μm,26.6s						
TAOE	**Nuku Hiva Isla**	**86.26**	**104**	*e*T	T	14 32 50.9	
	comp=Z,25nm,0.2s						
IDI	**Anoyia**	**86.67**	**313**	P	**P**	**12 58 24.3**	**-0.7**
	comp=Z,11nm,0.8s,baz=322,slow=2.7,SNR=8.2						
I42A	**Draeger Farm,**	**86.98**	**34**	P	**P**	**12 58 27.3**	**+1.1**
I42A				IAmb	IAmb	12 58 42.6	
	comp=Z,12nm,1.1s						
ITM	**Ithomi**	**87.01**	**316**	P	**P**	**12 58 25.9**	**-0.6**
MNTX	**Cornudas Mount**	**87.09**	**52**	P	**P**	**12 58 28.1**	**+1.1**
	baz=313						
TBI	**Tubuai**	**88.75**	**121**	*e*LR	LR	13 26 31.5	
	comp=Z,683nm,31.0s,baz=315						
TBI	**Tubuai**	**88.75**	**121**	*e*T	T	14 35 55.3	
	comp=Z,108nm,0.3s						
TX31	**Lajitas Ar. Si**	**89.78**	**52**	P	**P**	**12 58 39.4**	**-0.5**
TX32	**Lajitas Array**	**89.78**	**52**	P	**P**	**12 58 40.2**	**+0.4**
TXAR	**Lajitas Array**	**89.78**	**52**	P	**P**	**12 58 40.9**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=289,slow=3.0,SNR=55						
TXAR				LR	LR	13 32 44.2	
	comp=Z,71nm,21.9s,baz=0.0,slow=31						
U40A	**Yellville**	**90.93**	**41**	P	**P**	**12 58 45.3**	**+0.3**
	baz=320						
U40A	**Yellville**	**90.93**	**41**	P	**P**	**12 58 45.1**	**+0.1**
KEST	**Kesra**	**94.65**	**323**	LR	LR	13 45 22.4	
	comp=Z,298nm,20.1s,baz=324,slow=38						
ESDC	**Sonseca Array**	**96.86**	**334**	P	**P**	**12 59 11.7**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=23,slow=7.0,SNR=2.7						
ESDC				LR	LR	13 47 20.8	
	comp=Z,495nm,21.1s,baz=20,slow=38						
ESDC	**Sonseca Array**	**96.86**	**334**	IAmb	IAmb	12 59 13.9	
	comp=Z,8.6nm,1.6s						
TORD	**Torodi Ar. Bea**	**117.00**	**315**	PKP	**PKPdf**	**13 04 25.2**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=42,slow=2.2,SNR=6.4						
TORD				PP	PP	13 05 26.4	-8.8
	comp=Z,1.0nm,0.8s,baz=28,slow=7.6,SNR=2.9						
QSPA	**South Pole Qui**	**127.28**	**180**		**PKiKP**	**13 04 45.5**	**+0.5**
SYO	**Syowa Base**	**128.67**	**207**	‖*e*P	PKPdf	13 04 34.3	-13
SNAA	**Sanae**	**141.24**	**197**	PKPdf	**PKPdf**	**13 05 03.0**	**-7.3**
VNA2	**Neumayer--Watz**	**142.81**	**196**	PKPdf	**PKPdf**	**13 05 10.1**	**-2.9**
	baz=126,slow=2.9						
VNA3	**Neumayer Olymp**	**143.06**	**195**	PKPdf	PKPab	13 05 09.3	+0.3
VNA1	**Neumayer--Stat**	**143.21**	**196**	PKPdf	PKPab	13 05 10.2	+0.6
PB16	**IPOC Station P**	**146.84**	**63**		**PKPdf**	**13 05 22.1**	**-0.2**
H03N2	**Juan Fernandez**	**147.03**	**95**	T	T	15 50 17.4	
	baz=292,slow=76,SNR=100						
H03N3	**Juan Fernandez**	**147.05**	**95**	T	T	15 50 25.6	
	baz=292,slow=76,SNR=164						
H03N1	**Juan Fernandez**	**147.05**	**95**	T	T	15 50 19.1	
	baz=292,slow=76,SNR=127						

*SNET **24** 13:19:00.4±1.3, 13°.85N×90°.88W, h71km±21km, ML3.4*
*GCG **24** 13:19:02.1±0.3, 13°.77N×90°.88W, h32km±3km, MD3.6*
ISC 24 13:19:00.9±3.3, 13°.7N±0°.1×90°.9W±0°.1, h30km±17km, n10, σ0°59/16, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.66**	**44**	‖*e*P	**Pn**	**13 19 14.4**	**+0.1**
FUG	**Fuego 3**	**0.75**	**5**	‖*e*P	**Pb**	**13 19 15.7**	**+0.2**
NBG	**Las Nubes**	**1.04**	**32**	‖*e*P	**Pb**	**13 19 20.2**	**-0.3**
NBG				*e*S	**Sb**	**13 19 34.4**	**+0.4**
NUBE	**Las Nubes**	**1.12**	**79**	*e*P	**Pn**	**13 19 20.1**	**-0.5**
NUBE				*e*S	**Sn**	**13 19 35.3**	**+0.2**
NUBE				IAML		13 19 37.2	
	comp=Z,418nm,0.3s						
RTR	**El Retiro**	**1.25**	**81**	*e*P	**Pn**	**13 19 22.6**	**+0.1**
RTR				*e*S	**Sb**	**13 19 40.3**	**+0.6**
CEVE	**Cerro Verde**	**1.26**	**84**	*e*P	**Pn**	**13 19 22.4**	**-0.3**
CEVE				*e*S	**Sn**	**13 19 39.4**	**+0.7**
CEVE				IAML		13 19 46.0	
	comp=Z,2μm,0.6s						
SBLS	**San Blas**	**1.26**	**84**	*e*P	**Pn**	**13 19 22.6**	**-0.1**
SBLS				*e*S	**Sb**	**13 19 39.6**	**-0.6**
SNJE	**San Jose**	**1.28**	**82**	*e*P	**Pn**	**13 19 22.9**	**0.0**
SNJE				*e*		13 19 22.9	
MTO3	**Montecristo**	**1.66**	**65**	*e*P	**Pn**	**13 19 26.7**	**-1.5**
LFRS	**El Faro**	**1.80**	**92**	*e*P	**Pn**	**13 19 30.1**	**+0.1**
LFRS				*e*S	**Sn**	**13 19 52.2**	**+0.3**

*KEA **24** 13:30:52.3±0.0, 37°.40N×141°.70E, h33km, mB5.3/3*
*MOS **24** 13:30:53.2±0.8, 37°.55N×141°.26E, h33km, mb5.5/83, MS4.2/14, Error ellipse: s-maj=5.5km s-min=3.7km az=101.0*
*BJI **24** 13:30:54.0±0.0, 37°.59N×141°.43E, h60km, mB5.0/50, mb5.3/78, Ms4.5/73, Ms7 4.4/70*
*JMA **24** 13:30:56.5, 37°.54N×141°.39E, h51km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φ±204.00000°, δ29.00000°, λ92.00000°. NP2: φ±21.00000°, δ61.00000°, λ89.00000°. Principal axes: T Plg74.0000°, Azm288.0000°; N Plg1.0000°, Azm22.0000°; P Plg16.0000°, Azm112.0000°;*
JMA Felt IV J1.
*NIED **24** 13:30:56.5, 37°.54N×141°.39E, h51km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr2.25; Mθθ0.02; Mφφ-2.27; Mrθ1.24; Mθφ-0.81; Mφr3.37; Fault plane solution: M0 4.31000×10^16 NP1: φ±20.00000°, δ73.00000°, λ91.00000°. NP2: φ±195.00000°, δ17.00000°, λ85.00000°.*
*BGR **24** 13:30:56.3±0.0, 37°.70N×141°.70E, h33km, mb5.4*
*NEIC **24** 13:30:57.4, 37°.56N×141°.33E, h51km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr2.70; Mθθ-0.59; Mφφ-2.11; Mrθ0.87; Mθφ-0.49; Mφr2.66; Fault plane solution: M0 3.76000×10^16 NP1: φ±195.70000°, δ20.81000°, λ88.13000°. NP2: φ±17.70000°, δ69.20000°, λ90.71000°. Principal axes: T 3.9611, Plg66.0000°, Azm289.0000°; N -0.4480, Plg1.0000°, Azm197.0000°; P -3.5131, Plg24.0000°, Azm107.0000°;*
*NEIC **24** 13:30:57.0±1.7, 37°.55N±0°.05×141°.37E±0°.09, h53km±4km, mb5.1/303, Mwr5.0/37, Mww5.1 Error ellipse: s-maj=10.6km s-min=7.1km az=111.0*
*UNK **24** 13:30:57.4, 37°.56N×141°.33E, h56km*
*IDC **24** 13:30:59.8±1.6, 37°.56N×141°.26E, h77km±14km, mb4.8/32, mb1 4.9/35, mb1mx4.8/42, mbtmp5.1/35, MS4.1/35, Ms1 4.2/35, ms1mx4.0/47, Error ellipse: s-maj=11.6km s-min=8.3km az=111.0*
*GCMT **24** 13:31:00.0±0.3, 37°.55N±0°.02×141°.43E±0°.03, h61km±2km, MW5.1/103, Moment Tensor Solution. s32,c34; s103,c141; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr4.91±.36; Mθθ-1.05±.26; Mφφ-3.86±.25; Mrθ1.08±.17; Mθφ-2.47±.21; Mφr2.94±.17; Best double couple: M0 5.99000×10^16 NP1: φ±216.00000°, δ30.00000°, λ100.00000°. NP2: φ±25.00000°, δ61.00000°, λ84.00000°. Principal axes: T 5.8200, Plg74.0000°, Azm280.0000°; N 0.3390, Plg5.0000°, Azm27.0000°; P -6.1600, Plg16.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 13:31:00, 37°.63N×141°.39E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr4.32; Mθθ-0.84; Mφφ-3.47; Mrθ0.77; Mθφ-0.36; Mφr2.46; Fault plane solution: M0 4.74000×10^16 NP1: φ±185.00000°, δ29.00000°, λ83.00000°. NP2: φ±12.00000°, δ62.00000°, λ94.00000°. Principal axes: T 5.0981, Plg73.0000°, Azm292.0000°; N -0.8217, Plg3.0000°, Azm191.0000°; P -4.2764, Plg17.0000°, Azm100.0000°;*
ISC 24 13:30:56.5±0.3, 37°.55N±0°.03×141°.39E±0°.03, h52km±2km, h52km: pP-P, n1077, σ1°29/1122, mb5.2/314, MS4.3/58, 63C-64D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.43**	**294**	‖P	**Pn**	**13 31 07.2**	**+0.2**
JMST				S	**Sn**	**13 31 14.6**	**0.0**
JFK	**Kawauchi**	**0.45**	**246**	‖P	**Pn**	**13 31 07.2**	**-0.1**
JFK				S	**Sn**	**13 31 14.4**	**-0.6**
JMM	**Marumori**	**0.57**	**304**	‖P	**Pn**	**13 31 08.9**	**+0.3**
JMM				S	**Sn**	**13 31 17.8**	**+0.4**
JMM	**Marumori**	**0.57**	**304**		**Pn**	**13 31 09.0**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.65**	**226**	‖P	**Pn**	**13 31 09.5**	**-0.2**
ONAJ				*i* S	**Sn**	**13 31 18.4**	**-0.8**
JIKH	**Ishinomakikobu**	**0.76**	**5**	‖P	**Pn**	**13 31 11.3**	**+0.2**
JIKH				*e*S	**Sn**	**13 31 21.7**	**0.0**
JFFD	**Fukushimafurud**	**0.80**	**235**	‖P	**Pn**	**13 31 11.5**	**-0.1**
JFT	**Otama**	**0.83**	**268**	‖P	**Pn**	**13 31 12.7**	**+0.7**
JFT				S	**Sn**	**13 31 24.1**	**+0.7**
JIO	**Ouri**	**0.90**	**358**	‖P	**Pn**	**13 31 13.2**	**+0.3**
JIO				S	**Sn**	**13 31 25.0**	**0.0**
JOU	**Okura**	**0.99**	**325**	‖P	**Pn**	**13 31 14.3**	**+0.1**
JOU				S	**Sn**	**13 31 27.4**	**+0.2**
JOFO	**Osakifurukawao**	**1.11**	**341**	‖P	**Pn**	**13 31 16.4**	**+0.6**
JHO	**Hitachi**	**1.14**	**215**	‖P	**Pn**	**13 31 15.5**	**-0.7**
JYS	**Shiratake**	**1.24**	**303**	‖P	**Pn**	**13 31 18.0**	**+0.5**
JKMT	**Kesennumamotoy**	**1.26**	**3**	‖P	**Pn**	**13 31 18.1**	**+0.4**
JSB	**Shiboa**	**1.31**	**244**	‖P	**Pn**	**13 31 18.8**	**+0.4**
JFY	**Yanaizu**	**1.34**	**264**	‖P	**Pn**	**13 31 19.3**	**+0.4**
JFY				*e*S	**Sn**	**13 31 36.3**	**+0.6**
JMK	**Ichinoseki**	**1.41**	**355**	‖P	**Pn**	**13 31 20.0**	**+0.3**
JMK				S	**Sn**	**13 31 37.6**	**+0.5**
OFUJ	**Ofunato**	**1.54**	**8**	‖P	**Pn**	**13 31 21.9**	**+0.3**
JYK	**Kaneyama**	**1.59**	**330**	‖P	**Pn**	**13 31 22.9**	**+0.7**
JYT	**Yasato**	**1.63**	**216**	Pn	**Pn**	**13 31 22.2**	**-0.5**
JNS	**Sasagawa**	**1.66**	**280**	‖P	**Pn**	**13 31 23.7**	**+0.5**
JYA	**Atsumi**	**1.68**	**309**	‖P	**Pn**	**13 31 24.2**	**+0.8**
JYYZ	**Yamagatayuza**	**1.86**	**322**	‖P	**Pn**	**13 31 27.3**	**+1.4**
JKT	**Katashina**	**1.88**	**246**	‖P	**Pn**	**13 31 27.4**	**+1.2**
JHK	**Hiroka**	**1.91**	**262**	‖P	**Pn**	**13 31 27.0**	**+0.4**
JAG	**Ashikaga**	**1.91**	**235**	‖P	**Pn**	**13 31 26.8**	**+0.2**
JOM	**Ohasama**	**1.92**	**358**	‖P	**Pn**	**13 31 27.4**	**+0.7**
JRG	**Rokugo**	**1.94**	**342**	‖P	**Pn**	**13 31 28.2**	**+1.3**
JIZZ	**Izumozaki**	**2.13**	**270**	‖P	**Pn**	**13 31 30.7**	**+1.2**
JRY	**Ryogami san**	**2.51**	**233**	‖P	**Pn**	**13 31 35.1**	**+0.2**
JSD	**Sado**	**2.52**	**282**	‖P	**Pn**	**13 31 35.0**	**0.0**
JSD	**Sado**	**2.52**	**282**	Pn	**Pn**	**13 31 35.0**	**0.0**
JJN	**Nakama**	**2.61**	**261**	‖P	**Pn**	**13 31 37.2**	**+1.1**
JSGW	**Sagamiharawaka**	**2.62**	**223**	P	**Pn**	**13 31 35.9**	**-0.4**
JAH	**Hinai**	**2.70**	**348**	‖P	**Pn**	**13 31 39.2**	**+1.8**
MJAR	**Matsushiro Arr**	**2.73**	**249**	P	**Pn**	**13 31 39.1**	**+1.2**
	12nm,0.3s,baz=50,slow=10.0,SNR=657						
MJAR				S	**Sn**	**13 32 12.5**	**+2.8**
	33nm,0.3s,baz=81,slow=26,SNR=4.8						
MJAR				LR	LR	13 32 59.3	
	comp=Z,8μm,19.1s,baz=75,slow=46						
MJAR	**Matsushiro Arr**	**2.73**	**249**		**Pn**	**13 31 37.7**	**-0.2**
MAJO	**Matsushiro**	**2.73**	**249**	*d* iP	**Pn**	**13 31 39.2**	**+1.3**
MAJO	**Matsushiro**	**2.73**	**249**	Pn	**Pn**	**13 31 39.0**	**+1.1**
MAT	**Matsushiro**	**2.73**	**249**	P	**Pn**	**13 31 39.3**	**+1.3**
MAT				S	**Sn**	**13 32 09.9**	**+0.1**
MAT	**Matsushiro**	**2.73**	**249**	P	**Pn**	**13 31 39.2**	**+1.3**
MJB9	**Matsu-Tunnel**	**2.74**	**249**		**Pn**	**13 31 39.1**	**+1.2**
JNG	**Nsakai**	**2.87**	**248**	‖P	**Pn**	**13 31 41.1**	**+1.3**
JNTW	**Noshirotokiwa**	**2.88**	**341**	‖P	**Pn**	**13 31 41.7**	**+1.9**
JYN	**Shimob**	**3.07**	**229**	‖P	**Pn**	**13 31 43.5**	**+0.9**
JNT	**Takato**	**3.10**	**238**	‖P	**Pn**	**13 31 44.4**	**+1.4**
JTM	**Tenmabayashi**	**3.24**	**356**	‖P	**Pn**	**13 31 46.4**	**+1.6**
JTM	**Tenmabayashi**	**3.24**	**356**		**Pn**	**13 31 46.2**	**+1.4**
JGN	**Niukaw**	**3.52**	**249**	‖P	**Pn**	**13 31 50.5**	**+1.8**
JGF	**Kuroka**	**3.78**	**240**	Pn	**Pn**	**13 31 53.8**	**+1.5**
JSG	**Sagara**	**3.87**	**223**		**Pn**	**13 31 54.1**	**+0.7**
INU	**Inuyama**	**4.15**	**239**	Pn	**Pn**	**13 31 58.6**	**+1.3**
JHJ2	**Mitsune**	**4.61**	**197**		**Pn**	**13 32 03.3**	**-0.3**
JHJ	**Hachijo jima 2**	**4.61**	**197**	P	**Pn**	**13 32 03.7**	**0.0**
	248nm,0.3s,baz=86,slow=2.6,SNR=87						
JHJ				S	**Sn**	**13 32 53.8**	**-2.1**
	959nm,0.3s,baz=55,slow=23,SNR=18						
JHJ				LR	LR	13 33 31.4	
	comp=Z,304nm,20.6s,baz=94,slow=33						
ERM	**Erimo**	**4.66**	**16**	*e*P	**Pn**	**13 32 04.6**	**+0.3**
ERM				pmax	pmax		
	comp=Z,119nm,1.0s						
ERM	**Erimo**	**4.66**	**16**		**Pn**	**13 32 04.4**	**+0.1**
JFM	**Mihama**	**4.79**	**247**	‖P	**Pn**	**13 32 08.8**	**+2.7**
JEW	**Eniwo**	**5.28**	**1**		**Pn**	**13 32 14.6**	**+1.8**
JWT	**Wachi**	**5.33**	**247**	Pn	**Pn**	**13 32 15.7**	**+2.2**
ASAJ	**Asahikawa**	**6.62**	**8**	P	**Pn**	**13 32 31.1**	**0.0**
	comp=Z,10nm,0.3s,baz=234,slow=8.8,SNR=63						
ASAJ				S	**Sn**	**13 33 46.1**	**+0.9**
	comp=Z,7.8nm,0.3s,baz=318,slow=29,SNR=4.6						
JKA	**Kamikawa-asahi**	**6.62**	**8**	Pn	**Pn**	**13 32 31.1**	**0.0**
JKA	**Kamikawa-asahi**	**6.62**	**8**		**Sn**	**13 33 46.1**	**+0.9**
NMR	**Nemuro--Hokkai**	**6.69**	**28**	‖*i* iP	**Pn**	**13 32 30.8**	**-1.2**
NMR				*e*S	**Sn**	**13 33 41.1**	**-5.7**
GLVR	**Golovnino**	**6.93**	**26**	‖*i* iP	**Pn**	**13 32 36.6**	**+1.2**
GLVR				*i* S	**Sn**	**13 33 49.1**	**-3.7**
GLVR				pmax	pmax		
	comp=Z,232nm,0.5s						
GLVR				pmax	pmax		
	comp=N,131nm,0.3s						
GLVR				pmax	pmax		
	comp=E,192nm,0.5s						
JHS	**Saijyo**	**7.15**	**252**		**Pn**	**13 32 40.4**	**+1.9**
RUSJ	**Misakicho**	**7.17**	**23**	*e*P	**Pn**	**13 32 39.1**	**+0.5**
RUSJ				*e*S	**Sn**	**13 33 57.7**	**-1.0**
JMN	**Monobe**	**7.20**	**240**		**Pn**	**13 32 41.4**	**+2.2**
GRPR	**Tuman**	**7.24**	**26**	‖*i* iP	**Pn**	**13 32 40.5**	**+0.9**
GRPR				*i* S	**Sn**	**13 33 55.3**	**-5.2**
GRPR				pmax	pmax		
	comp=Z,189nm,0.3s						
GRPR				pmax	pmax		
	comp=E,85nm,0.2s						
GRPR				pmax	pmax		
	comp=N,49nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**7.31**	**26**	*d* iP	**Pn**	**13 32 40.8**	**+0.2**
YUK				*i* S	**Sn**	**13 33 57.9**	**-4.2**
YUK				pmax	pmax		
	comp=Z,175nm,0.4s						
YUK				pmax	pmax		
	comp=E,51nm,0.2s						
YUK				pmax	pmax		
	comp=N,54nm,0.5s						
TEY	**Ternei**	**8.30**	**336**	↑*e*P	**Pn**	**13 32 58.3**	**+4.2**
TEY				pmax	pmax		
	comp=N,50nm,1.1s						
TEY				pmax	pmax		
	comp=Z,30nm,1.1s						
KUR	**Kuril'sk**	**9.09**	**30**	*e*P	**Pn**	**13 33 04.9**	**0.0**
KUR				*i* S	**Sn**	**13 34 40.8**	**-4.8**
KUR				pmax	pmax		
	comp=Z,66nm,0.5s						
KUR				pmax	pmax		
	comp=E,50nm,0.3s						
KUR				pmax	pmax		
	comp=N,27nm,0.4s						
KUR				smax	smax		
	comp=N,135nm,0.6s						
KUR				smax	smax		
	comp=E,234nm,0.6s						
KUR				smax	smax		
	comp=N,800nm,19.0s						
KUR				smax	smax		
	comp=E,600nm,18.0s						
VLA	**Vladivostok**	**9.14**	**310**	*i* P	**Pn**	**13 33 09.7**	**+4.1**
YSS	**Yuzh-Sakhalins**	**9.45**	**6**	*e*P	**Pn**	**13 33 10.8**	**+1.0**
YSS				*e*S	**Sn**	**13 34 55.3**	**+0.7**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				MLR	MLR		
	comp=Z,800nm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.45**	**6**	Pn	**Pn**	**13 33 08.8**	**-1.1**
JNU	**Nakatsue**	**9.65**	**246**	P	**Pn**	**13 33 15.9**	**+3.2**
	comp=Z,4.6nm,0.3s,baz=255,slow=13,SNR=22						
JNU				LR	LR	13 37 22.2	
	comp=Z,3μm,20.9s,baz=54,slow=40						
JNU	**Nakatsue**	**9.65**	**246**		**Pn**	**13 33 15.4**	**+2.6**
USRK	**Ussuriysk Ar.**	**9.73**	**316**	P	**Pn**	**13 33 15.6**	**+2.0**
	baz=133,slow=14,SNR=134						
USRK				LR	LR	13 36 48.0	
	comp=Z,2μm,19.1s,baz=128,slow=36						
USRK	**Ussuriysk Ar.**	**9.73**	**316**	P	**Pn**	**13 33 16.0**	**+2.3**
USRK	**Ussuriysk Ar.**	**9.73**	**316**	Pn	**Pn**	**13 33 16.0**	**+2.3**
USA0B	**Ussuriysk Arra**	**9.73**	**316**	‖*i* iP	**Pn**	**13 33 17.7**	**+4.0**
USA0B	**Ussuriysk Arra**	**9.73**	**316**	Pn	**Pn**	**13 33 15.4**	**+1.7**
CHJN	**Chongjin**	**9.89**	**299**	P	**Pn**	**13 33 16.1**	**+0.2**
JTU	**Tsushima**	**10.17**	**256**	Pn	**Pn**	**13 33 18.6**	**-1.1**
JCJ	**Chichijima**	**10.45**	**176**	P	**Pn**	**13 33 20.8**	**-2.8**
	comp=Z,59nm,0.3s,baz=260,slow=23,SNR=33						
JCJ				S	Sn	13 35 08.7	-10
	comp=Z,48nm,0.3s,baz=292,slow=21,SNR=4.8						
JCJ	**Chichijima**	**10.45**	**176**	Pn	**Pn**	**13 33 20.1**	**-3.5**
KSRS	**Korea Array**	**10.70**	**274**	P	**Pn**	**13 33 31.2**	**+4.3**
	comp=Z,2.7nm,0.3s,baz=90,slow=13,SNR=101						
KSRS				LR	LR	13 37 18.7	
	comp=Z,2μm,20.7s,baz=66,slow=36						
KSAR	**Wonju Array Be**	**10.73**	**274**	P	**Pn**	**13 33 26.5**	**-0.9**
KSAR	**Wonju Array Be**	**10.73**	**274**		**Pn**	**13 33 26.5**	**-0.9**
KS19	**Wonju Array Si**	**10.74**	**274**		**Pn**	**13 33 28.6**	**+1.1**
JSU	**Suzuyama**	**10.84**	**239**	Pn	**Pn**	**13 33 30.6**	**+1.6**
HHU	**Hamhung**	**11.08**	**287**	P	**Pn**	**13 33 35.2**	**+3.0**
HHU				S	Sn	13 35 53.9	+19
WOSN	**Wonsan**	**11.08**	**283**	P	**Pn**	**13 33 35.2**	**+3.0**
TJN	**Taejon**	**11.28**	**268**	*c*eP	**Pn**	**13 33 38.1**	**+3.2**
MDJ	**Mudanjiang**	**11.35**	**312**	P	**Pn**	**13 33 39.9**	**+4.1**
MDJ				pP		13 33 47.8	
MDJ				sP		13 33 54.6	
MDJ				S	**Sn**	**13 35 41.0**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,130nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,560nm,2.8s						
MDJ				LR	LR		
	comp=Z,1μm,19.9s						
MDJ				LR	LR		
	comp=Z,1μm,19.9s						
MDJ				LR	LR		
	comp=Z,3μm,25.6s						
UGL	**Uglegorsk**	**11.53**	**2**	*e*P	Pn	13 33 47.4	+9.1
UGL				S	**Sn**	**13 35 45.6**	**+0.1**
UGL				pmax	pmax		
	comp=Z,200nm,1.4s						
UGL				pmax	pmax		
	comp=Z,76nm,0.8s						
UGL				MLR	MLR		
	comp=Z,1μm,18.0s						
INCN	**Inchon**	**11.72**	**274**	P	**Pn**	**13 33 42.2**	**+1.3**
INCN	**Inchon**	**11.72**	**274**	Pn	**Pn**	**13 33 42.2**	**+1.3**
KGE	**Kanggye**	**11.95**	**291**	P	**Pn**	**13 33 42.7**	**-1.3**
PYS	**Pyongsong**	**12.30**	**283**	P	**Pn**	**13 33 44.7**	**-4.2**
PYAG	**Pyongyang**	**12.37**	**282**	P	**Pn**	**13 33 48.5**	**-1.3**
PYAG				S	Sn	13 35 57.0	-9.0
HJU	**Haeju**	**12.40**	**277**	P	**Pn**	**13 33 54.7**	**+4.5**
TYV	**Tymovskoe**	**13.34**	**3**	*e*P	**Pn**	**13 34 02.6**	**-0.3**
TYV				*e*S	**Sn**	**13 36 30.5**	**+1.0**
TYV				pmax	pmax		
	comp=Z,15nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,2.7s						
TYV				smax	smax		
	comp=N,11nm,1.3s						
TYV				MLR	MLR		
	comp=Z,900nm,20.0s						
SUJ	**Sinuiju**	**13.42**	**286**	P	Pn	13 33 58.0	-6.0
GRNR	**Gornyy**	**13.68**	**347**	‖*i* iP	**P**	**13 34 14.0**	**-0.9**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,350nm,15.0s						
GRNR				MLR	MLR		
	comp=N,430nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,690nm,19.0s						
DL2	**Dalian**	**15.59**	**281**	P	**Pn**	**13 34 33.3**	**+0.6**
DL2				sP	**sP**	**13 34 51.9**	**-2.5**
DL2				S	**Sn**	**13 37 25.5

PET Petropavlovsk 19.59 32⇑ *i*P Pn 13 35 22.6 +0.8
PET *e*S **Sn 13 39 00.6 -0.2**
PET pmax pmax
comp=Z,126nm,0.8s
PET Petropavlovsk 19.59 32 P 13 35 20.4 +0.3
BJI Beijing 19.79 285 P **P 13 35 21.5 -0.9**
BJI S **Sn 13 39 04.3 -1.5**
BJI pmax pmax
comp=Z,40nm,0.8s
BJI LR LR
comp=Z,340nm,16.2s
BJI LR LR
comp=Z,300nm,22.6s
BJT Baijiatuau 19.80 285 P **P 13 35 21.2 -1.3**
BJT pmax pmax
comp=Z,88nm,1.1s
BJT Baijiatuau 19.80 285 P **P 13 35 21.2 -1.3**
BJT IAmb IAmb 13 35 26.5
comp=Z,88nm,1.1s
YOJ Yonaguni jima 20.41 235 P **P 13 35 26.0 -3.2**
YOJ pmax pmax
comp=Z,96nm,1.3s
YOJ Yonaguni jima 20.41 235 P **P 13 35 26.0 -3.2**
YOJ IAmb IAmb 13 35 35.3
comp=Z,96nm,1.3s
TATO Taipei 21.08 239 P **P 13 35 33.7 -2.7**
TATO IAmb IAmb 13 35 38.0
comp=Z,50nm,0.7s
YHNB Yeheng 21.36 239 P **P 13 35 36.8 -2.7**
YHNB IAmb IAmb 13 35 40.6
comp=Z,51nm,0.7s
NACB Ninganchiao 21.54 237 P **P 13 35 38.4 -3.0**
SSLB Suanglung 22.23 238 P **P 13 35 45.4 -3.4**
SSLB IAmb IAmb 13 35 47.6
comp=Z,48nm,0.8s
YULB Yu-li 22.27 236 P **P 13 35 45.5 -3.7**
YULB IAmb IAmb 13 35 58.0
comp=Z,47nm,0.7s
TPUB Ta-pu 22.78 237 P **P 13 35 50.6 -4.0**
TPUB IAmb IAmb 13 35 52.0
comp=Z,108nm,0.7s
TWG Pinlang 22.82 236 P **P 13 35 51.0 -4.0**
TWG IAmb IAmb 13 35 59.5
comp=Z,166nm,1.0s
MA2 Magadan 22.85 12 P **P 13 35 55.5 +0.4**
comp=Z,61nm,1.0s,baz=197,slow=8.5,SNR=15
MA2 LR LR 13 44 34.0
comp=Z,256nm,21.3s,baz=194,slow=36
MA2 Magadan 22.85 12 *ce*P **P 13 35 54.4 -0.7**
MA2 pmax pmax
comp=Z,84nm,1.3s
MA2 Magadan 22.85 12 P **P 13 35 53.5 -1.6**
MA2 IAmb IAmb 13 35 58.0
comp=Z,61nm,0.9s
TIY Taiyuan 22.89 279 *e*P **P 13 35 53.6 -2.2**
TIY S S 13 39 50.9 -11
TIY pmax pmax
comp=Z,130nm,1.0s
TIY pmax pmax
comp=Z,150nm,3.6s
TIY LR LR
comp=Z,290nm,10.8s
TIY LR LR
comp=Z,670nm,11.1s
TIY LR LR
comp=Z,680nm,17.2s
QZH Quanzhou 23.12 244 P **P 13 35 55.9 -2.2**
QZH S **S 13 40 06.8 +1.3**
QZH LR LR
comp=Z,750nm,22.3s
HHC Hu-ho-hao-te 23.29 287 *e*P **P 13 35 58.0 -1.8**
HHC S **S 13 40 07.8 -0.6**
HHC SS **SnSn 13 40 52.6 +6.1**
HHC pmax pmax
comp=Z,42nm,0.9s
HHC pmax pmax
comp=Z,140nm,4.9s
HHC LR LR
comp=Z,600nm,13.7s
HHC LR LR
comp=Z,460nm,18.6s
HHC LR LR
comp=Z,570nm,19.0s
WHN Wuhan 23.42 261 ⇑P **P 13 36 00.5 -0.4**
WHN S **S 13 40 04.8 -5.5**
WHN pmax pmax
comp=Z,160nm,0.7s
WHN LR LR
comp=Z,580nm,11.4s
WHN LR LR
comp=Z,2μm,18.0s
WHN LR LR
comp=Z,3μm,31.0s
KNMB Chin-men Tao 23.56 243 P **P 13 35 59.1 -3.2**
KNMB IAmb IAmb 13 36 04.5
comp=Z,78nm,0.8s
GUMO Guam 24.07 172 LR LR 13 46 07.7
comp=Z,141nm,19.0s,baz=14,slow=38
CIT Chita 24.29 315 *e*P **P 13 36 07.4 -1.5**
CIT *e* 13 36 18.2
CIT *e* 13 36 24.6
CIT *e* 13 36 43.2
CIT pmax pmax
comp=Z,151nm,1.3s
BTO Baotou 24.47 287 *e*P **P 13 36 06.3 -4.4**
YAK Yakutsk 25.56 347 P **P 13 36 20.1 -0.1**
comp=Z,0.1nm,0.4s,baz=194,slow=20,SNR=1.6
YAK Yakutsk 25.56 347 P **P 13 36 19.0 -1.1**
SEY Seymchan 26.29 11 P **P 13 36 27.8 +1.1**
comp=Z,114nm,1.2s,baz=195,slow=8.0,SNR=46
SEY LR LR 13 47 07.1
comp=Z,200nm,20.7s,baz=205,slow=37
SEY Seymchan 26.29 11⇓ *e*P **P 13 36 28.0 +1.2**
XAN Xi'an 26.49 272 P **P 13 36 28.0 -1.0**
XAN pP pP 13 36 39.8 -2.3
XAN S S 13 40 47.9 -12
XAN pmax pmax
comp=Z,110nm,0.7s
XAN LR LR
comp=Z,360nm,12.2s
XAN LR LR
comp=Z,380nm,13.5s
XAN LR LR
comp=Z,550nm,18.4s
XAN Xi'an 26.49 272 P **P 13 36 26.9 -2.1**
XAN pmax pmax
comp=Z,69nm,0.7s
XAN Xi'an 26.49 272 P **P 13 36 26.9 -2.1**
XAN IAmb IAmb 13 36 33.3
comp=Z,68nm,0.7s
ULN Ulaanbaatar 27.05 303 *ce*P **P 13 36 33.3 -0.7**
ULN pmax pmax
comp=Z,34nm,0.8s
ULN Ulaanbaatar 27.05 303 P **P 13 36 32.8 -1.2**
ULN IAmb IAmb 13 36 35.5
comp=Z,31nm,0.8s
BOD Bodaibo 27.08 327 *e*P **P 13 36 33.3 -0.7**
BOD pmax pmax
comp=Z,44nm,0.9s
ENH Enshi 27.36 264 P **P 13 36 35.7 -1.1**
SONM Songino Array 27.48 303 P **P 13 36 37.3 -0.5**
comp=Z,48nm,0.8s,baz=102,slow=8.5,SNR=111
SONM PcP **PcP 13 39 54.6 -0.4**
comp=Z,2.6nm,0.6s,baz=140,slow=4.7,SNR=5.4
SONM LR LR 13 47 58.2
comp=Z,390nm,18.2s,baz=90,slow=37
SONM Songino Array 27.48 303 P **P 13 36 36.6 -1.2**
HKPS Hong Kong Po S 27.96 245 P **P 13 36 40.9 -1.3**
HKPS IAmb IAmb 13 36 43.8
comp=Z,30nm,0.8s
H11N2 WAKE ISLAND Hy 28.43 122 T T 14 06 59.8
baz=314,slow=76,SNR=678
H11N1 WAKE ISLAND Hy 28.44 122 T T 14 07 00.5
baz=314,slow=76,SNR=1092
H11N3 WAKE ISLAND Hy 28.45 122 T T 14 07 01.4
baz=314,slow=76,SNR=605
H11S1 WAKE ISLAND Hy 29.16 124 T T 14 07 56.4
baz=316,slow=76,SNR=749
H11S3 WAKE ISLAND Hy 29.16 124 T T 14 07 56.4
baz=316,slow=76,SNR=771
H11S2 WAKE ISLAND Hy 29.18 124 T T 14 07 57.5
baz=316,slow=76,SNR=695
TGY Tagaytay City 29.60 223 P **P 13 36 56.9 0.0**
comp=Z,196nm,0.5s,baz=290,slow=4.2,SNR=5.0
ZAK Zakamensk 29.93 308 *e*P **P 13 36 58.4 -1.2**
ZAK pmax pmax
comp=Z,25nm,1.0s
LZH Lanzhou 29.96 279 *e*P **P 13 36 59.9 -0.1**
LZH pP pP 13 37 13.0 -0.3
LZH sP sP 13 37 21.6 +2.2
LZH *e*PP **PnPn 13 38 02.3 +4.2**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,86nm,4.9s
LZH LR LR
comp=Z,400nm,15.2s
LZH LR LR
comp=Z,730nm,14.6s
LZH LR LR
comp=Z,780nm,17.9s
TLY Talaya 29.98 310 P **P 13 36 60.0 +0.1**
comp=Z,15nm,0.7s,baz=191,slow=5.1,SNR=7.5
TLY Talaya 29.98 310 *e*P **P 13 36 59.8 0.0**
TLY *e* 13 37 56.1
TLY *e*SS SS 13 43 58.6 -4.2
TLY pmax pmax
comp=Z,64nm,0.8s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 29.98 310 P **P 13 36 57.9 -1.9**
TLY IAmb IAmb 13 37 01.2
comp=Z,26nm,0.9s
GYA Guiyang 31.29 259 ⇑P **P 13 37 10.8 -1.0**
GYA PP **PnPn 13 38 18.5 +3.0**
GYA pmax pmax
comp=Z,130nm,0.7s
GYA pmax pmax
comp=Z,290nm,3.5s
GYA LR LR
comp=Z,360nm,17.4s
GYA LR LR
comp=Z,360nm,22.0s
GYA LR LR
comp=Z,660nm,22.8s
MOY Mondy 31.59 310 *e*P **P 13 37 14.4 +0.2**
MOY pmax pmax
comp=Z,23nm,1.2s
CD2 Chengdu 31.65 269 P **P 13 37 12.9 -2.0**
CD2 pP pP 13 37 28.0 -0.1
CD2 PP **PnPn 13 38 23.4 +3.3**
CD2 S **S 13 42 16.3 -4.3**
CD2 pmax pmax
comp=Z,110nm,0.8s
CD2 LR LR
comp=Z,540nm,14.4s
CD2 LR LR
comp=Z,660nm,21.6s
CD2 LR LR
comp=Z,970nm,16.5s
GTA Gaotai 32.39 286 ⇑P **P 13 37 20.3 -1.1**
GTA pP sP 13 37 37.8 -2.9
GTA sP pP 13 37 46.4 +12
GTA PcP **PcP 13 40 08.6 +0.7**
GTA S **S 13 42 33.6 +1.5**
GTA PcS **PcS 13 43 53.3 +0.3**
GTA pmax pmax
comp=Z,38nm,0.7s
GTA pmax pmax
comp=Z,130nm,6.0s
GTA LR LR
comp=Z,400nm,20.4s
GTA LR LR
comp=Z,480nm,20.0s
GTA LR LR
comp=Z,710nm,22.9s
QIZ Qiongzhong 33.12 245 P **P 13 37 28.6 +0.8**
QIZ S **S 13 42 46.8 +3.3**
QIZ pmax pmax
comp=Z,30nm,1.0s
QIZ LR LR
comp=Z,290nm,15.9s
QIZ LR LR
comp=Z,310nm,20.8s
QIZ LR LR
comp=Z,350nm,23.7s
QIZ Qiongzhong 33.12 245 P **P 13 37 26.6 -1.2**
QIZ IAmb IAmb 13 37 30.0
comp=Z,45nm,1.2s
BILL Bilibino 33.54 17⇓ *e*P **P 13 37 31.4 +0.5**
BILL *PP **sP 13 37 50.0 -0.2**
BILL *e* 13 40 11.5
BILL pmax pmax
comp=Z,6.0nm,0.5s
BILL MLR MLR
comp=Z,251nm,19.0s
TIXI Tiksi 34.77 353 *ce*P **P 13 37 40.8 -0.7**
TIXI Tiksi 34.77 353 P **P 13 37 40.4 -1.0**
KMI Kunming 35.02 261 ⇑P **P 13 37 44.0 -0.4**
KMI pP pP 13 37 59.0 +1.2
KMI sP sP 13 38 07.5 +3.6
KMI PP **PP 13 39 04.6 +0.1**
KMI S **S 13 43 10.8 -2.4**
KMI sS sS 13 43 35.0 -0.7
KMI pmax pmax
comp=Z,190nm,0.9s
KMI pmax pmax
comp=Z,270nm,3.5s
KMI LR LR
comp=Z,410nm,23.0s
KMI LR LR
comp=Z,500nm,17.0s
KMI LR LR
comp=Z,750nm,24.1s
KMI Kunming 35.02 261 P **P 13 37 43.6 -0.8**
KMI pmax pmax
comp=Z,161nm,0.9s
KMI Kunming 35.02 261 P **P 13 37 43.6 -0.8**
SLVN Son La 36.15 254 P **P 13 37 53.0 -0.9**
SLVN IAmb IAmb 13 37 55.0
comp=Z,25nm,0.9s
MYLDM Lahad Datu 38.40 219 P **P 13 38 13.2 +0.2**
UBPT Khong Chiam 38.73 245 P **P 13 38 15.9 +0.2**
UBPT IAmb IAmb 13 38 17.4
comp=Z,54nm,0.9s
KKM Kota Kinabalu 38.84 222 P **P 13 38 18.3 +1.5**
KKM IAmb IAmb 13 38 19.2
comp=Z,65nm,1.2s
DLV T Lat 38.94 238 P **P 13 38 18.1 +0.4**
SIJI Sorong 39.36 196 P **P 13 38 21.2 +0.2**
comp=Z,27nm,0.7s,baz=21,slow=12,SNR=11
JAY Jayapura 39.87 181 P **P 13 38 26.0 +0.8**
comp=Z,6.1nm,0.8s,baz=7.8,slow=19,SNR=2.4
JAY Jayapura 39.87 181 P **P 13 38 26.0 +0.8**
GENI Genyem 39.96 182 P **P 13 38 25.7 -0.2**
comp=Z,70nm,1.0s
DGZ Jazzator, Alta 40.07 305 *c i*P **P 13 38 27.8 +1.0**
DGZ pmax pmax
comp=Z,246nm,1.0s
KMSI Cibinong 40.15 208 P **P 13 38 28.6 +1.1**
comp=Z,3μmcomp=Z,220nm,0.9s
GTOI Gorontalo 40.46 209 P **P 13 38 29.9 -0.2**
comp=Z,721nmcomp=Z,90nm,1.0s
WMQ Urumqi 40.59 296 *e*P **P 13 38 32.0 +1.0**
WMQ pP sP 13 38 47.8 -2.8
WMQ sP pP 13 38 54.9 +10
WMQ pmax pmax
comp=Z,69nm,0.9s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ LR LR
comp=Z,160nm,17.7s
WMQ LR LR
comp=Z,300nm,25.9s
WMQ LR LR
comp=Z,330nm,26.1s
WMQ Urumqi 40.59 296 P **P 13 38 31.7 +0.6**
WMQ pmax pmax
comp=Z,114nm,0.9s
WMQ Urumqi 40.59 296 P **P 13 38 31.7 +0.6**
FAKI Fak Fak 41.15 194 P **P 13 38 36.1 +0.3**
CHTO Chiang Mai 41.40 255 P **P 13 38 37.5 -0.4**
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 41.40 255 P **P 13 38 37.5 -0.4**
ZAA0 Zalesovo Array 41.55 312 P **P 13 38 38.3 -0.4**
ZALV Zalesovo Beam 41.55 312 P **P 13 38 39.0 +0.3**
comp=Z,62nm,0.8s,baz=90,slow=7.4,SNR=196
ZALV PcP **PcP 13 40 35.1 0.0**
comp=Z,10.0nm,0.8s,baz=85,slow=4.0,SNR=4.6
ZALV LR LR 13 56 29.1
comp=Z,434nm,20.4s,baz=70,slow=37
ZALV Zalesovo Beam 41.55 312 *i* P **P 13 38 39.0 +0.3**
ZALV pmax pmax
comp=Z,62nm,0.8s
ZALV Zalesovo Beam 41.55 312 P **P 13 38 38.2 -0.5**
ZALV **PcP 13 40 34.6 -0.5**
CM31 Chiang Mai Arr 41.61 255 P **P 13 38 38.5 -1.1**
CMAR Chiang Mai Arr 41.61 255 P **P 13 38 39.3 -0.3**
comp=Z,3.0nm,0.5s,baz=43,slow=8.7,SNR=24
CMAR PcP **PcP 13 40 36.5 +0.6**
comp=Z,3.7nm,0.9s,baz=35,slow=3.5,SNR=5.5
CMAR LR LR 13 57 09.2
CMAR Chiang Mai Arr 41.61 255 *i* P **P 13 38 39.5 -0.1**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 41.61 255 P **P 13 38 39.0 -0.6**
SANI Sanana 41.91 203 P **P 13 38 41.4 -0.6**
comp=Z,733nmcomp=Z,82nm,0.9s
ZSN Zaisan 41.99 302⇑ *i*P **P 13 38 43.1 +0.7**
comp=Z,87nm,1.0s,baz=302
ZSN Zaisan 41.99 302 *c i*P **P 13 38 43.1 +0.7**
ZSN pmax pmax
comp=Z,87nm,1.0s
MPSI Mapaga 42.01 213 P **P 13 38 44.1 +1.3**
comp=Z,4μmcomp=Z,20nm,0.7s
LUWI Luwuk 42.09 208 P **P 13 38 42.5 -1.0**
LSA Lhasa 42.14 275 *i* P **P 13 38 45.3 +0.8**
SNR=7.5
LSA Lhasa 42.14 275 P **P 13 38 44.6 +0.2**
LSA pmax pmax
comp=Z,29nm,0.9s
LSA Lhasa 42.14 275 P **P 13 38 44.6 +0.2**
LSA IAmb IAmb 13 39 07.5
comp=Z,29nm,0.9s
NRIK Noril'sk 42.79 335 P **P 13 38 48.1 -0.5**
comp=Z,4.1nm,0.5s,baz=95,slow=9.2,SNR=8.0
NRIK PcP **PcP 13 40 39.7 +0.7**
comp=Z,3.4nm,0.4s,baz=86,slow=8.1,SNR=3.9
NRIK LR LR 13 57 36.4
comp=Z,264nm,18.6s,baz=90,slow=37
SHL Shillong 43.39 269 P **P 13 38 53.5 -0.7**
SNR=15
MK31 Makanchi Array 43.83 302 *i* P **P 13 38 57.2 -0.1**
MK31 Makanchi Array 43.83 302 P **P 13 38 57.2 -0.1**
MKAR Makanchi Array 43.83 302 P **P 13 38 57.4 0.0**
comp=Z,86nm,0.9s,baz=87,slow=8.6,SNR=337
MKAR PcP **PcP 13 40 41.7 -1.3**
comp=Z,6.9nm,0.9s,baz=76,slow=6.1,SNR=2.4
MKAR LR LR 13 57 38.6
comp=Z,311nm,20.5s,baz=78,slow=37
MKAR Makanchi Array 43.83 302 P **P 13 38 57.0 -0.3**
SBUM Sibu 44.02 224 P **P 13 38 58.6 -0.4**
SBUM Sibu 44.02 224 P **P 13 39 00.0 +0.9**
MAKZ Makanchi 44.04 302 P **P 13 38 59.0 0.0**
MAKZ Makanchi 44.04 302 P **P 13 38 58.9 -0.1**
SVW2 Sparrevohn 45.13 38 P **P 13 39 08.8 +1.4**
MTKI Muara Teweh, K 45.47 219 P **P 13 39 10.9 +0.3**
comp=Z,3μmcomp=Z,70nm,0.9s
KURK Kurchatov 45.60 308 P **P 13 39 10.7 -0.6**
KURK pmax pmax
comp=Z,138nm,0.9s
KURK Kurchatov 45.60 308 P **P 13 39 10.7 -0.6**
TAPN Taplejung 45.88 273 *e*P **P 13 39 14.4 +0.2**
KSM Kuching 45.89 226 P **P 13 39 14.1 +0.1**
KSM IAmb IAmb 13 39 16.4
comp=Z,45nm,0.9s
BNSI Bone 46.20 210 P **P 13 39 16.2 -0.1**
comp=Z,933nmcomp=Z,78nm,1.0s
ODAN Odare 46.36 273 *e*P **P 13 39 18.2 +0.3**
comp=Z,151nm,1.1s
OHAK Old Harbor 46.39 43 P **P 13 39 17.8 +0.4**
OHAK IAmb IAmb 13 39 34.1
comp=Z,16nm,0.9s
RSO Redoubt South 46.51 39 P **P 13 39 19.5 +0.9**
PDGK Podgornoye 46.52 297 P **P 13 39 18.4 -0.4**
SHLS Shalkode 46.58 297⇑ *i*P **P 13 39 16.9 -2.4**
comp=Z,36nm,1.3s,baz=297
SHLS *e*S **S 13 46 00.7 -3.7**
baz=297
SHLS LR LR 13 58 53.2
comp=Z,89nm,13.1s,baz=297
SHLS Shalkode 46.58 297 *c i*P **P 13 39 16.9 -2.4**
SHLS *e*S **S 13 46 00.7 -3.7**
SHLS pmax pmax
comp=Z,36nm,1.3s
SHLS MLR MLR
comp=Z,89nm,13.0s
KDAK Kodiak Island 46.73 42 P **P 13 39 20.9 +0.8**
comp=Z,11nm,0.8s,baz=288,slow=5.4,SNR=9.5
KDAK Kodiak Island 46.73 42 P **P 13 39 21.1 +1.0**
KDAK pmax pmax
comp=Z,27nm,0.9s
KDAK Kodiak Island 46.73 42 P **P 13 39 21.1 +1.0**
KDAK IAmb IAmb 13 39 36.9
comp=Z,27nm,0.9s
PPLA Purkeypile 46.76 35 P **P 13 39 22.4 +2.0**
PPLA IAmb IAmb 13 39 47.2
comp=Z,26nm,1.2s
TDK Taldyqorghan 46.85 300 *e*P **P 13 39 21.6 +0.3**
baz=300
TDK Taldyqorghan 46.85 300 *e*P **P 13 39 21.5 +0.3**
UZB Uzynbulak 46.89 297⇑ *i*P **P 13 39 21.6 -0.2**
comp=Z,22nm,1.3s,baz=297
UZB Uzynbulak 46.89 297 *c i*P **P 13 39 21.5 -0.2**
UZB pmax pmax
comp=Z,22nm,1.3s
KAPI Kappang 46.90 210 P **P 13 39 23.2 +1.4**
KAPI pmax pmax
comp=Z,79nm,0.9s
KAPI Kappang 46.90 210 P **P 13 39 23.2 +1.4**
KBKI Kotabaru 46.91 216 P **P 13 39 24.9 +3.0**
comp=Z,28nm,0.8s
RAMN Ramite 46.95 274 *e*P **P 13 39 22.5 0.0**
comp=Z,157nm,1.0s
JIRN Jiri 46.95 275 *e*P **P 13 39 23.2 +0.5**
comp=Z,94nm,0.6s
BKSI Bulukumba 47.03 210 P **P 13 39 22.5 -0.3**
comp=Z,38nm,1.0s
KPKS Kokpek 47.05 298⇑ *i*P **P 13 39 22.8 -0.2**
comp=Z,88nm,3.1s,baz=298
KPKS LR LR 13 59 29.2
comp=Z,241nm,15.1s,baz=298
KPKS Kokpek 47.05 298 *c i*P **P 13 39 22.7 -0.2**
KPKS pmax pmax
comp=Z,88nm,3.1s
KPKS MLR MLR
comp=Z,241nm,15.0s
SKT Skwentna 47.07 36 P **P 13 39 24.7 +2.0**
BPAW Bear Paw Mtn. 47.30 34 P **P 13 39 26.0 +1.5**
CNPM China Poot 47.31 40 P **P 13 39 25.7 +1.0**
CNPM IAmb IAmb 13 39 46.2
comp=Z,46nm,1.4s
SATY Saty 47.35 297 *e*P **P 13 39 25.5 +0.1**
comp=Z,33nm,2.4s,baz=297
SATY *e*S **S 13 46 16.0 +0.5**
baz=297
SATY Saty 47.35 297 *e*P **P 13 39 25.4 +0.1**
SATY *e*S **S 13 46 15.9 +0.5**
SATY pmax pmax
comp=Z,33nm,2.4s
BRLK Bradley Lake 47.48 39 P **P 13 39 26.1 +0.1**
PRZ Przheval'sk 47.51 297 P **P 13 39 27.5 +0.8**
PRZ pmax pmax
comp=Z,59nm,1.1s
PRZ Przheval'sk 47.51 297 P **P 13 39 27.4 +0.8**
PKI Pulchoki 47.61 275 *e*P **P 13 39 27.4 -0.3**
comp=Z,88nm,1.0s
KKN Kakani 47.61 275 *e*P **P 13 39 27.6 0.0**
comp=Z,197nm,0.9s
PKIN Phulchoki 47.62 275 *e*P **P 13 39 27.4 -0.3**
comp=Z,63nm,0.9s
TRF Thorofare Moun 47.62 34 P **P 13 39 28.2 +1.1**
TRF IAmb IAmb 13 39 45.5
comp=Z,13nm,1.0s
CUT Chulitna 47.65 36 P **P 13 39 28.1 +0.9**
baz=272
BBKI Banjar Baru 47.68 217 P **P 13 39 27.6 -0.3**
comp=Z,3μmcomp=Z,53nm,1.0s
COLD Coldfoot 47.71 29 P **P 13 39 29.1 +1.5**
baz=268
COLD Coldfoot 47.71 29 P **P 13 39 28.7 +1.1**
DMN Daman 47.83 275 *e*P **P 13 39 29.3 -0.1**
comp=Z,150nm,1.4s
RC01 Rabbit Creek A 47.96 38 P **P 13 39 31.0 +1.4**
baz=274

BWN	Browne	47.97	33	P	P	13 39 32.0 +2.4
O22K	Cooper Landing	48.01	38	P	P	13 39 31.3 +1.3
	baz=274					
TOLK	Toolik Lake Re	48.02	27	P	P	13 39 31.9 +1.9
	baz=267					
TOLK	Toolik Lake Re	48.02	27	P	P	13 39 31.4 +1.3
TOLK				IAmb	IAmb	13 39 33.1
	comp=Z,18nm,0.8s					
GKN	Gorkha	48.03	276	eP	P	13 39 30.7 -0.1
	comp=Z,373nm,1.0s					
NEA2	Nenana	48.14	33	P	P	13 39 32.5 +1.6
	baz=271,SNR=8.2					
TARG	Taragay, Kyrgy	48.15	296	P	P	13 39 31.4 -0.5
SEW	Seward	48.17	39	P	P	13 39 32.0 +0.8
SEW				IAmb	IAmb	13 39 36.1
	comp=Z,18nm,1.0s					
PMR	Palmer	48.23	37	P	P	13 39 32.3 +0.7
PMR				pmax	pmax	
	comp=Z,11nm,0.8s					
PMR	Palmer	48.23	37	P	P	13 39 32.3 +0.7
PMR				IAmb	IAmb	13 39 33.4
	comp=Z,10nm,0.8s					
RND	Reindeer	48.26	34	P	P	13 39 32.5 +0.5
RND				pmax	pmax	
	comp=Z,12nm,0.8s					
RND	Reindeer	48.26	34	P	P	13 39 32.5 +0.5
RND				IAmb	IAmb	13 39 34.0
	comp=Z,12nm,0.8s					
MDOK	Medeo	48.28	298	*i* P	P	13 39 33.0 +0.4
	baz=298					
MDOK				LR	LR	14 00 00.9
	comp=Z,357nm,19.6s,baz=298					
MDOK	Medeo	48.28	298	*i* P	P	13 39 32.9 +0.4
MDOK				MLR	MLR	
	comp=Z,357nm,20.0s					
GHO	Glory Hole Cre	48.31	37	P	P	13 39 33.3 +0.9
GHO				IAmb	IAmb	13 39 34.6
	comp=Z,22nm,1.0s					
AAA	Alma-Ata	48.36	298	*e*P	P	13 39 33.7 +0.7
	baz=298					
AAA				LR	LR	14 00 00.2
	comp=Z,387nm,19.7s,baz=298					
AAA	Alma-Ata	48.36	298	*e*P	P	13 39 33.6 +0.6
AAA				MLR	MLR	
	comp=Z,387nm,20.0s					
TNSS	Tian-Shan	48.38	298	*i* P	P	13 39 34.2 +0.6
	baz=298					
TNSS	Tian-Shan	48.38	298	*i* P	P	13 39 34.2 +0.6
KDJ	Kajisay	48.48	297	P	P	13 39 34.1 0.0
KDJ				pmax	pmax	
	comp=Z,20nm,0.7s					
KDJ	Kajisay	48.48	297	P	P	13 39 34.1 0.0
KDJ				IAmb	IAmb	13 39 36.8
	comp=Z,20nm,0.7s					
MDM	Murphy Dome	48.49	32	P	P	13 39 35.3 +1.6
MDM				IAmb	IAmb	13 39 36.7
	comp=Z,25nm,1.1s					
KNK	Knik Glacier	48.56	37	P	P	13 39 35.1 +0.9
KNK				IAmb	IAmb	13 39 36.4
	comp=Z,11nm,0.8s					
DANN	Dangsing	48.56	277	*e*P	P	13 39 35.6 +0.5
	comp=Z,482nm,0.8s					
WRH	Wood River Hil	48.56	33	P	P	13 39 35.2 +1.0
KUU	Kurty	48.57	299	*e*P	P	13 39 34.4 -0.3
	comp=Z,59nm,0.9s,baz=299					
KUU	Kurty	48.57	299	*e*P	P	13 39 34.3 -0.3
KUU				pmax	pmax	
	comp=Z,59nm,0.9s					
SML	Sawmill	48.59	37	P	P	13 39 35.6 +1.0
SML				IAmb	IAmb	13 39 51.6
	comp=Z,20nm,0.8s					
TCOL	CIGO, UAF Yank	48.65	32	P	P	13 39 36.2 +1.3
	baz=272					
COLA	College	48.65	32	*i* P	P	13 39 36.3 +1.5
COLA				pmax	pmax	
	comp=Z,8.0nm,0.9s					
COLA	College	48.65	32	P	P	13 39 36.3 +1.5
COLA				IAmb	IAmb	13 39 57.3
	comp=Z,8.4nm,0.8s					
MTBS	Maitube	48.72	298	*e*P	P	13 39 36.1 +0.3
	baz=298					
MTBS	Maitube	48.72	298	*e*P	P	13 39 36.1 +0.3
POKR	Poker Plat Res	48.82	32	P	P	13 39 38.2 +2.0
	baz=272,SNR=16					
DHY	Denali Highway	48.95	35	P	P	13 39 38.9 +1.5
DHY				IAmb	IAmb	13 40 02.7
	comp=Z,14nm,1.2s					
KOLN	Koldanda	48.95	276	*e*P	P	13 39 38.1 +0.2
	comp=Z,172nm,0.8s					
KULM	Kulim	49.06	239	P	P	13 39 38.9 +0.2
KULM	Kulim	49.06	239	P	P	13 39 39.0 +0.4
HDA	Harding Lake	49.06	33	P	P	13 39 38.9 +0.8
	baz=273,SNR=13					
HDA	Harding Lake	49.06	33	P	P	13 39 38.8 +0.7
HDA				IAmb	IAmb	13 39 39.8
	comp=Z,18nm,1.0s					
SCM	Sheep Creek Mo	49.06	37	P	P	13 39 39.6 +1.4
SCM				pmax	pmax	
	comp=Z,23nm,1.0s					
SCM	Sheep Creek Mo	49.06	37	P	P	13 39 39.6 +1.4
SCM				IAmb	IAmb	13 39 40.6
	comp=Z,23nm,1.0s					
IL31		49.07	33	P	P	13 39 38.8 +0.8
IL31				IAmb	IAmb	13 39 40.0
	comp=Z,14nm,0.7s					
ILAR	Eielson Array	49.07	33	P	P	13 39 39.0 +0.9
	comp=Z,12nm,0.8s,baz=270,slow=6.4,SNR=129					
ILAR	Eielson Array	49.07	33	P	P	13 39 38.6 +0.5
BOOM	Boomskoye usch	49.25	297	P	P	13 39 40.3 +0.2
BOOM				pmax	pmax	
	comp=Z,30nm,0.8s					
BOOM	Boomskoye usch	49.25	297	P	P	13 39 40.3 +0.2
BOOM				IAmb	IAmb	13 39 41.7
	comp=Z,30nm,0.8s					
GLI	Glacier Island	49.26	38	P	P	13 39 40.7 +1.1
GLI				IAmb	IAmb	13 40 05.3
	comp=Z,14nm,1.0s					
PYUN	Piuthan	49.28	277	*e*P	P	13 39 40.8 +0.3
	comp=Z,576nm,1.0s					
TKM2	Tokmak 2	49.37	298	P	P	13 39 41.7 +0.7
	SNR=79					
TKM2	Tokmak 2	49.37	298	P	P	13 39 41.2 +0.3
IPM	Ipoh	49.39	238	P	P	13 39 40.5 -0.7
IPM	Ipoh	49.39	238	P	P	13 39 41.0 -0.2
BRZS	Berezniki	49.47	308	⇑*i* P	P	13 39 41.1 -0.3
	comp=Z,40nm,0.9s,baz=308					
FID	Port Fidalgo	49.58	38	P	P	13 39 43.0 +1.0
FID				IAmb	IAmb	13 39 58.8
	comp=Z,13nm,1.0s					
M24K	Tolsona, Glenn	49.58	36	P	P	13 39 43.9 +1.8
	baz=276					
M24K	Tolsona, Glenn	49.58	36	P	P	13 39 44.0 +1.8
M24K				IAmb	IAmb	13 39 47.7
	comp=Z,17nm,0.8s					
HIN	Hinchinbrook I	49.61	38	P	P	13 39 43.8 +1.5
HIN				IAmb	IAmb	13 40 04.9
	comp=Z,32nm,1.0s					
EDFI	Ende, Flores	49.61	206	P	P	13 39 42.2 -0.6
	comp=Z,17nm,0.9s					
FYU	Fort Yukon	49.67	30	P	P	13 39 44.9 +2.3
FYU				IAmb	IAmb	13 40 08.6
	comp=Z,48nm,1.4s					
SOEI	Soe	49.72	202	P	P	13 39 46.6 +2.9
	comp=Z,65nm,1.0s					
SOEI	Soe	49.72	202	P	P	13 39 42.6 -1.1
KLU	Klutina	49.76	37	P	P	13 39 44.6 +1.0
KLU				IAmb	IAmb	13 39 46.1
	comp=Z,20nm,1.1s					
BTLS	Baital	49.83	301	⇑*i* P	P	13 39 43.9 -0.3
	comp=Z,17nm,0.8s,baz=301					
BTLS				LR	LR	14 01 05.0
	comp=Z,126nm,19.3s,baz=301					
BTLS	Baital	49.83	301	*c i* P	P	13 39 43.8 -0.3
BTLS				pmax	pmax	
	comp=Z,17nm,0.8s					
BTLS				MLR	MLR	
	comp=Z,126nm,19.0s					
KZA	Kyzart	49.87	297	P	P	13 39 46.3 +1.3
	SNR=36					
SGDS	Sogindy	49.88	299	⇑*i* P	P	13 39 44.7 0.0
	comp=Z,13nm,0.9s,baz=299					
SGDS	Sogindy	49.88	299	*c i* P	P	13 39 44.7 0.0
SGDS				pmax	pmax	
	comp=Z,13nm,0.9s					
KBK	Karagaybulak	49.90	298	P	P	13 39 45.5 +0.6
	SNR=43					
CHMS	Chumysh	49.94	298	P	P	13 39 45.3 +0.3
	SNR=9.6					
USP	Ospenovka	50.03	299	P	P	13 39 45.9 +0.1
	SNR=22					
RIDG	Independent Ri	50.03	34	P	P	13 39 46.3 +0.8
FRU1	Bishkek	50.08	298	P	P	13 39 46.5 +0.3
FRU1				pmax	pmax	
	comp=Z,51nm,0.8s					
FRU1	Bishkek	50.08	298	P	P	13 39 46.5 +0.3
KSH	Kashi	50.18	294	P	P	13 39 51.3 +4.3
KSH				sP	sP	13 40 10.9 +4.0
KSH				S	S	13 46 58.6 +3.3
KSH				pmax	pmax	
	comp=Z,61nm,0.9s					
KSH				pmax	pmax	
	comp=Z,120nm,6.9s					
KSH				LR	LR	
	comp=Z,440nm,15.2s					
KSH				LR	LR	
	comp=Z,450nm,15.1s					
KSH				LR	LR	
	comp=Z,1μm,20.8s					
BVAR	Borovoye Array	50.21	312	P	P	13 39 46.9 -0.1
	comp=Z,26nm,0.9s,baz=119,slow=12,SNR=66					
BVAR				PcP	PcP	13 41 05.6 +0.2
	comp=Z,16nm,0.8s,baz=146,slow=8.6,SNR=6.1					
AAK	Ala-Archa	50.23	298	LR	LR	14 02 31.4
	comp=Z,754nm,19.1s,baz=69,slow=38					
AAK	Ala-Archa	50.23	298	P	P	13 39 47.7 +0.3
	SNR=33					
AAK	Ala-Archa	50.23	298	*i* P	P	13 39 47.5 +0.1
	SNR=41					
AAK	Ala-Archa	50.23	298	P	P	13 39 47.3 -0.1
BRVK	Borovoye	50.27	312	P	P	13 39 47.1 -0.2
BRVK	Borovoye	50.27	312	P	P	13 39 47.1 -0.2
BRVK				IAmb	IAmb	13 39 48.6
	comp=Z,38nm,0.9s					
BATI	Baumata	50.33	203	P	P	13 39 53.3 +5.1
UCH	Uchtor	50.34	297	P	P	13 39 49.4 +0.7
	SNR=17					
DOT	Dot Lake	50.39	34	P	P	13 39 48.9 +0.7
SCRK	Sand Creek	50.39	34	P	P	13 39 49.1 +0.8
	baz=276,SNR=24					
EKS2	Erkin-Say	50.72	298	P	P	13 39 51.2 +0.1
	SNR=43					
GLB	Gilahina Butte	50.78	37	P	P	13 39 52.5 +1.4
TPI	Tanjungpandan	50.86	226	P	P	13 39 53.4 +1.2
	comp=Z,64nm,1.1s					
AML	Almayashu	50.95	298	P	P	13 39 53.9 +0.8
	SNR=57					
VRDI	Verde Repeater	50.98	37	P	P	13 39 54.3 +1.4
MTN	Manton Dam	51.04	193	P	P	13 39 53.1 -0.4
MTN				IAmb	IAmb	13 40 00.8
	comp=Z,28nm,0.7s					
MCARA	McCarthy VSAT	51.16	37	P	P	13 39 55.6 +1.6
MCARA				IAmb	IAmb	13 40 01.9
	comp=Z,26nm,1.2s					
CRQM	Cirque	51.20	38	P	P	13 39 56.1 +1.6
CRQM				IAmb	IAmb	13 40 18.3
	comp=Z,16nm,0.8s					
PPBI	Pangkal Pinang	51.25	228	P	P	13 39 57.3 +2.1
	comp=Z,9μmcomp=Z,36nm,0.8s					
COEN	Coen	51.26	178	P	P	13 39 55.5 +0.4
COEN				IAmb	IAmb	13 40 11.4
	comp=Z,18nm,0.9s					
TGL	Tana Glacier	51.35	38	P	P	13 39 57.3 +1.8
TGL				IAmb	IAmb	13 40 01.7
	comp=Z,30nm,1.4s					
TWSI	Taliwang, Sumb	51.44	212	P	P	13 40 00.9 +4.4
EGAK	Eagle	51.51	32	P	P	13 39 57.1 +0.6
EGAK				IAmb	IAmb	13 40 19.8
	comp=Z,20nm,1.5s					
BALM	Baldy	51.54	37	P	P	13 39 57.9 +0.9
BALM				IAmb	IAmb	13 40 03.4
	comp=Z,18nm,1.2s					
ISLE	Juniper Island	51.62	38	P	P	13 39 59.0 +1.5
ISLE				IAmb	IAmb	13 40 02.7
	comp=Z,14nm,1.0s					
GRJI	Gresik	51.82	218	P	P	13 40 02.9 +3.6
	comp=Z,1μmcomp=Z,157nm,0.8s					
BARN	Barnard Glacie	51.86	37	P	P	13 40 00.3 +0.9
BARN				IAmb	IAmb	13 40 06.6
	comp=Z,17nm,1.4s					
PSI	Prapat	52.04	239	P	P	13 40 01.4 +0.2
PSI				pmax	pmax	
	comp=Z,42nm,0.9s					
RPSI	Rantau Prapat	52.12	239	P	P	13 40 01.4 -0.3
DZA	Taraz	52.35	299	*e*P	P	13 40 03.2 +0.1
	baz=299					
DZA	Taraz	52.35	299	*e*P	P	13 40 03.2 +0.1
JAGI	Jajag, Banyuwa	52.39	215	P	P	13 40 08.2 +4.6
BKNI	Bangkinang	52.47	235	P	P	13 40 05.6 +1.3
	comp=Z,5μmcomp=Z,205nm,1.1s					
BKNI	Bangkinang	52.47	235	P	P	13 40 04.5 +0.2
KK31	Karatay Array	52.85	300	P	P	13 40 06.8 0.0
KK31				pmax	pmax	
	comp=Z,70nm,1.0s					
KK31	Karatay Array	52.85	300	P	P	13 40 06.8 0.0
KKAR	Karatay Array	52.85	300	P	P	13 40 06.4 -0.4
KKAR				pmax	pmax	
	comp=Z,70nm,1.0s					
KKAR	Karatay Array	52.85	300	P	P	13 40 06.4 -0.4
KKAR	Karatay Array	52.85	300	P	P	13 40 06.3 -0.4
KKAR				IAmb	IAmb	13 40 09.4
	comp=Z,70nm,1.0s					
MNSI	Mandailing Nat	53.08	236	P	P	13 40 08.6 -0.1
	comp=Z,45nm,0.7s					
EPYK	Eagle Plains	53.09	30	P	P	13 40 10.7 +2.4
PWJI	Pagerwojo	53.10	218	P	P	13 40 08.3 -0.6
	comp=Z,158nm,0.8s					
SDSI	Sungai Dareh	53.18	233	P	P	13 40 09.9 +0.4
	comp=Z,95nm,1.1s					
IUG	Iuzhnay	53.51	299	⇑*i* P	P	13 40 12.1 +0.3
	comp=Z,68nm,1.1s,baz=299					
IUG	Iuzhnay	53.51	299	*c i* P	P	13 40 12.0 +0.3
IUG				pmax	pmax	
	comp=Z,68nm,1.1s					
BTK	Batken	53.70	296	P	P	13 40 12.5 -0.7
BTK	Batken	53.70	296	P	P	13 40 12.5 -0.7
INK	Inuvik	53.94	27	P	P	13 40 16.1 +1.8
	comp=Z,14nm,0.6s,baz=290,slow=6.8,SNR=42					
INK	Inuvik	53.94	27	P	P	13 40 15.4 +1.0
INK				IAmb	IAmb	13 40 16.8
	comp=Z,34nm,1.2s					
KPJI	Karang Pucung	53.96	221	P	P	13 40 15.0 -0.2
	comp=Z,90nm,1.0s					
GSI	Gunungsitoli	54.05	239	P	P	13 40 15.4 -0.5
KLSI		54.11	227	P	P	13 40 17.0 +0.7
	comp=Z,23nm,1.3s					
LHSI	Lahat	54.14	229	P	P	13 40 17.3 +0.8
	comp=Z,123nm,1.1s					
LEM	Lembang	54.24	223	P	P	13 40 17.5 +0.1
	comp=Z,79nm,0.8s,baz=131,slow=10,SNR=8.0					
KNRA	Kununurra	54.26	195	P	P	13 40 17.2 0.0
MDSI	Maura Dua	54.27	228	P	P	13 40 17.3 -0.2
	comp=Z,56nm,1.1s					
TAS	Tashkent	54.32	298	P	P	13 40 17.7 +0.1
TAS				pmax	pmax	
	comp=Z,128nm,0.9s					
TAS	Tashkent	54.32	298	P	P	13 40 17.7 +0.1
BLSI	Bandar Lampung	54.36	226	P	P	13 40 21.2 +3.1
	comp=Z,183nm,0.7s					
NIL	Nilore	54.43	288	P	P	13 40 18.6 0.0
NIL				pmax	pmax	
	comp=Z,46nm,0.9s					
NIL	Nilore	54.43	288	P	P	13 40 18.6 0.0
GAR	Garm	54.46	295	P	P	13 40 18.3 -0.5
SVE	Sverdlovsk	54.75	318	*d i* P	P	13 40 20.9 +0.5
SVE				pmax	pmax	
	comp=Z,123nm,1.0s					
SVE				MLR	MLR	
	comp=Z,670nm,19.0s					
WHY	Whitehorse	55.19	37	P	P	13 40 25.6 +1.9
CHGR	Chuyangaron	55.42	295	P	P	13 40 25.8 0.0
NGP	Nagpur	55.80	272	*ex*	P	13 40 27.8 -0.7
ARU	Arti	55.96	318	LR	LR	14 06 55.0
	comp=Z,446nm,18.1s,baz=68,slow=39					
ARU	Arti	55.96	318	*c i* P	P	13 40 29.1 0.0
ARU				*PP	pP	13 40 44.7 +1.5
ARU						13 41 26.5
ARU				S	S	13 48 14.8 +1.7
ARU				SS	SS	13 51 58.1 -1.0
ARU				pmax	pmax	
	comp=Z,145nm,1.1s					
ARU				MLR	MLR	
	comp=Z,436nm,17.0s					
ARU	Arti	55.96	318	P	P	13 40 28.8 -0.3
C36M	Paulatuk	56.97	25	P	P	13 40 37.7 +1.6
	baz=289					
C36M	Paulatuk	56.97	25	P	P	13 40 37.5 +1.4
C36M				IAmb	IAmb	13 40 38.4
	comp=Z,47nm,1.1s					
KBL	Kabul	57.21	291	P	P	13 40 38.4 -0.3
	SNR=31					
KBL				P	P	13 40 38.4 -0.3
	SNR=31					
KBL	Kabul	57.21	291	P	P	13 40 37.7 -0.9
KBL				pmax	pmax	
	comp=Z,84nm,1.1s					
KBL	Kabul	57.21	291	P	P	13 40 37.7 -0.9
FITZ	Fitzroy Crossi	57.30	198	P	P	13 40 39.3 +0.3
FITZ				IAmb	IAmb	13 41 04.0
	comp=Z,13nm,0.8s					
WB0	Warramunga Arr	57.39	188	P	P	13 40 39.1 -0.6
WRAB	Tennant Creek	57.56	188	*ce*P	P	13 40 39.9 -0.9
WRAB				pmax	pmax	
	comp=Z,21nm,1.3s					
WRAB	Tennant Creek	57.56	188	P	P	13 40 40.2 -0.6
WRAB				IAmb	IAmb	13 40 41.4
	comp=Z,20nm,0.6s					
WR0	Warramunga Arr	57.56	188	P	P	13 40 40.2 -0.6
WB2	Warramunga Arr	57.57	188	P	P	13 40 40.3 -0.6
WRA	Warramunga Arr	57.57	188	P	P	13 40 40.6 -0.3
	comp=Z,20nm,0.6s,baz=5.0,slow=7.4,SNR=488					
WRA				LR	LR	14 04 52.8
	comp=Z,69nm,19.5s,baz=205,slow=35					
WRA	Warramunga Arr	57.57	188	P	P	13 40 40.0 -0.9
AB31	Akbulak array	57.59	310	*i* P	P	13 40 40.4 -0.4
ABKAR	Akbulak array	57.59	310	P	P	13 40 40.3 -0.5
HYB	Hyderabad	58.20	268	*i* P	P	13 40 44.0 -1.5
HYB				*es*P	sP	13 41 05.5 -0.1
HYB				*e*PcP	PcP	13 41 36.0 -0.6
DLBC	Dease Lake	58.23	38	P	P	13 40 48.2 +2.9
DLBC				IAmb	IAmb	13 40 49.1
	comp=Z,14nm,1.2s					
AKTO	Aktyubinsk	58.31	312	LR	LR	14 07 05.5
	comp=Z,314nm,20.1s,baz=70,slow=37					
KBS	Kingsbay	60.14	350	*e*P	P	13 40 59.0 +0.9
PRGR	Permogore	60.32	327	*e*P	P	13 40 56.3 -3.2
PRGR				*e*PP	pP	13 41 14.3 +0.6
NOR	Nord	60.54	356	*i* P	P	13 41 01.0 +0.3
	comp=Z,30nm,1.1s					
NOR	Nord	60.54	356	*i* P	P	13 41 01.0 +0.3
NOR				pmax	pmax	
	comp=Z,30nm,1.1s					
AS31	Alice Springs	61.30	188	P	P	13 41 06.0 -0.5
ASAR	Alice Springs	61.30	188	P	P	13 41 06.6 0.0
	comp=Z,10nm,0.7s,baz=12,slow=6.7,SNR=120					
ASAR				LR	LR	14 06 59.2
	comp=Z,112nm,20.6s,baz=344,slow=35					
ASAR	Alice Springs	61.30	188	P	P	13 41 06.2 -0.3
POO	Poona	61.33	272	*ex*	P	13 41 05.0 -2.1
LVZ	Lovozero	61.63	336	P	P	13 41 09.1 +0.7
LVZ				pmax	pmax	
	comp=Z,132nm,1.5s					
LVZ	Lovozero	61.63	336	P	P	13 41 09.1 +0.7
APA	Apatity	62.21	336	⇓*i* P	P	13 41 09.5 -2.7
APA				pmax	pmax	
	comp=Z,31nm,0.9s					
APA				MLR	MLR	
	comp=Z,700nm,17.0s					
PSA00	Pilbara Seismi	62.21	203	P	P	13 41 12.2 -0.5
PSA00	Pilbara Seismi	62.21	203	P	P	13 41 12.1 -0.6
PSA00				IAmb	IAmb	13 41 30.2
	comp=Z,24nm,1.2s					
TMCR	Tamitsa	62.28	331	*e*P	P	13 41 09.5 -3.2
TMCR				pmax	pmax	
	comp=Z,33nm,0.5s					
HRA	Herat	62.29	293	P	P	13 41 13.5 -0.1
KEV	Kevo	62.95	339	P	P	13 41 17.7 +0.6
KEV				pmax	pmax	
	comp=Z,52nm,1.1s					
KEV	Kevo	62.95	339	P	P	13 41 17.7 +0.6
EIDS	Eidsvold	63.25	170	P	P	13 41 19.9 +0.3
EIDS				pP	pP	13 41 35.6 +1.7
EIDS				IAmb	IAmb	13 41 35.6
	comp=Z,26nm,1.1s					
KLMR	Klimovskoe	63.31	328	*e*P	P	13 41 18.4 -1.1
KLMR				*e*		13 43 37.9
KLMR				pmax	pmax	
	comp=Z,78nm,1.2s					
KLMR	Klimovskoe	63.31	328	*e*P	P	13 41 18.5 -1.1
KLMR				AMP		13 41 20.7
	comp=Z,78nm,1.2s					
KLMR				*e*PP	PP	13 43 38.0 -0.8
YKA	Yellowknife Ar	63.37	30	P	P	13 41 20.9 +0.9
	comp=Z,4.1nm,0.7s,baz=309,slow=6.6,SNR=17					
ARCES	ARCESS Array B	63.51	339	LR	LR	14 14 42.2
	comp=Z,153nm,18.1s,baz=55,slow=41					
GEYT	Alibeck	63.57	299	P	P	13 41 22.1 +0.3
	comp=Z,58nm,0.9s,baz=41,slow=3.2,SNR=63					
GEYT				LR	LR	14 11 27.2
	comp=Z,174nm,18.1s,baz=335,slow=38					
GEYT	Alibeck	63.57	299	P	P	13 41 22.0 +0.3
GYA0	ALIBECK ARRAY	63.57	299	P	P	13 41 21.7 -0.1
GYA0B	ALIBECK ARRAY	63.57	299	P	P	13 41 21.9 +0.1
DZM	Mont Dzumac	63.83	154	*e*P	P	13 41 40.5 +17
	comp=Z,229nm,1.2s					
DZM	Mont Dzumac	63.83	154	*e*LR	LR	14 00 33.5
	comp=Z,457nm,21.9s					
TRO	Tromso	65.22	341	*e*P	P	13 41 32.3 +0.4
DAG	Danmarks Havn	65.26	355	⇑*i* P	P	13 41 32.1 0.0
	comp=Z,38nm,1.0s					
DAG	Danmarks Havn	65.26	355	⇑*i* P	P	13 41 32.1 0.0
DAG				pmax	pmax	
	comp=Z,39nm,1.0s					
NLWA	Neilton Lookou	66.38	48	P	P	13 41 42.1 +2.2
NLWA				IAmb	IAmb	13 42 01.2
	comp=Z,17nm,1.1s					
D03D	Eldon	66.77	47	P	P	13 41 43.2 +0.9
	baz=301					
MOS	Moscow	66.82	323	*e*P	P	13 41 41.7 -0.8
MOS				pmax	pmax	
	comp=Z,128nm,1.3s					
VRH	Novokhopyorsk	67.18	318	*e*P	P	13 41 43.7 -1.1
VRH				pmax	pmax	
	comp=Z,80nm,0.7s					
STEI	Steigen	67.37	341	*e*P	P	13 41 46.1 +0.4
LOF	Lofoten	67.67	341	*e*P	P	13 41 48.1 +0.5
OBN	Obninsk	67.67	323	LR	LR	14 13 47.9
	comp=Z,32nm,18.1s,baz=296,slow=38					
OBN	Obninsk	67.67	323	*c i* P	P	13 41 47.7 -0.1
OBN				*e*PP	pP	13 42 02.3 0.0
OBN				pmax	pmax	
	comp=Z,138nm,1.7s					
OBN				MLR	MLR	
	comp=Z,131nm,17.0s					
FAUS	Fauske	67.76	340	*e*P	P	13 41 48.7 +0.5
LPSR	Galich'ya Gora	67.89	320	*e*P	P	13 41 48.7 -0.6
LPSR				pmax	pmax	
	comp=Z,100nm,0.9s					
LTY	Liberty	68.31	47	P	P	13 41 53.5 +1.3
FIA1	FINESS Array S	68.35	332	P	P	13 41 52.1 +0.1
FINES	FINESS Array B	68.35	332	P	P	13 41 52.1 +0.1
	comp=Z,41nm,0.8s,baz=34,slow=9.0,SNR=69					
FINES				LR	LR	14 14 07.1
	comp=Z,344nm,18.6s,baz=66,slow=38					
B08A	Colville Reser	68.49	45	P	P	13 41 54.3 +1.1
VSR	Storozhevoye	68.53	319	*e*P	P	13 41 53.1 -0.2
VSR				pmax	pmax	
	comp=Z,100nm,0.9s					
I03D	Drain, OR	68.60	51	P	P	13 41 55.4 +1.5
	baz=302					
VORD	Divnogorie	68.60	318	*e*P	P	13 41 53.0 -0.7
VORD				pmax	pmax	
	comp=Z,50nm,0.8s					
AKT	Akhty	68.75	306	*e*P	P	13 41 54.8 -0.3
AKT				*e*PP	pP	13 42 10.5 +1.0
AKT				*e*		13 42 18.0
AKT				pmax	pmax	
	comp=Z,127nm,1.4s					
H04A	Detroit Lake	68.79	49	P	P	13 41 56.8 +1.7
H04A				IAmb	IAmb	13 42 17.3
	comp=Z,34nm,1.4s					
MOR8	Moi Rana	68.87	340	*

comp=Z,8.8nm,0.7s,baz=28,slow=6.1,SNR=18
STKA Stephens Creek 69.07 180 P P 13 41 57.1 +0.5
FORT Forrest 69.11 192 P P 13 41 57.1 +0.2
I04A Tendick Farm, 69.12 50 P P 13 41 59.1 +1.9
baz=302
L02E Cave Junction 69.25 52 P P 13 42 00.2 +2.1
baz=302
C09A Chrisman Ranch 69.39 45 P P 13 41 59.8 +1.1
HUMO Hull Mountain 69.42 52 P P 13 42 00.6 +1.6
I05D Terrebonne, OR 69.48 49 P P 13 42 01.3 +1.8
baz=303
J04D Umpqua Nationa 69.61 51 P P 13 42 02.5 +2.1
baz=303
GOF Gofitskoye 69.73 312⇑ iP P 13 42 01.2 +0.3
GOF pmax pmax
comp=Z,148nm,1.0s
NEW Newport 69.77 44 P P 13 42 02.0 +0.8
NEW pmax pmax
comp=Z,6.0nm,0.7s
NEW Newport 69.77 44 P P 13 42 02.6 +1.4
baz=304
NEW Newport 69.77 44 P P 13 42 02.0 +0.8
VSU Vasula 70.00 329 eP P 13 42 02.8 +0.5
PINE Pine Mountain 70.02 50 P P 13 42 05.0 +2.0
PINE IAmb IAmb 13 42 06.2
comp=Z,26nm,0.8s
L04D Klamath Falls 70.04 52 P P 13 42 05.0 +2.0
baz=303
J05D Fort Rock, OR 70.12 50 P P 13 42 05.6 +2.1
baz=303
M02C Callahan 70.14 53 P P 13 42 05.7 +2.2
baz=303
SUMG Summit 70.17 360 i P P 13 42 04.8 +1.2
comp=Z,61nm,0.9s
SUMG Summit 70.17 360 i P P 13 42 04.8 +1.2
SUMG pmax pmax
comp=Z,61nm,0.9s
SUMG Summit 70.17 360 P P 13 42 04.3 +0.7
SUMG IAmb IAmb 13 42 05.8
comp=Z,23nm,0.9s
BBOO Buckleboo 70.18 185 P P 13 42 03.8 +0.3
BBOO IAmb IAmb 13 42 04.9
comp=Z,23nm,0.9s
MORW Morawa 70.40 203 P P 13 42 04.9 -0.1
MORW IAmb IAmb 13 42 06.1
comp=Z,27nm,0.9s
ZEI Tsey 70.45 309 eP P 13 42 03.4 -2.2
ZEI pmax pmax
comp=Z,42nm,1.3s
N02D Trinity Center 70.46 53 P P 13 42 07.8 +2.3
baz=303
KVAR Kislovodsk Arr 70.55 311 LR LR 14 13 51.3
comp=Z,144nm,21.3s,baz=264,slow=36
KBZ Khabaz 70.55 311 P P 13 42 06.8 +0.9
comp=Z,52nm,0.9s,baz=59,slow=4.1,SNR=37
KBZ LR LR 14 17 54.7
comp=Z,206nm,18.6s,baz=65,slow=40
KIV Kislovodsk 70.55 311 i P P 13 42 06.7 +0.7
SNR=13
KIV Kislovodsk 70.55 311 eP P 13 42 06.7 +0.7
KIV pmax pmax
comp=Z,415nm,1.0s
KIV MLR MLR
comp=Z,343nm,17.0s
KIV Kislovodsk 70.55 311 P P 13 42 06.3 +0.2
M04C Macdoel 70.56 52 P P 13 42 08.1 +1.9
baz=303
K05A Summer Lake 70.63 51 P P 13 42 08.7 +2.0
K05A IAmb IAmb 13 42 09.9
comp=Z,21nm,0.9s
JLN Jalan Bani Buh 70.71 283 P P 13 42 07.6 +0.4
SNR=5.2
JLN P P 13 42 07.6 +0.4
SNR=5.2
I07A Izee 70.73 49 P P 13 42 08.9 +1.8
NSS Namsos 70.79 339 eP P 13 42 06.9 -0.1
WBK Wadi Bani Khal 70.80 284 P P 13 42 08.6 +0.8
SNR=8.1
O02D Mt. Diablo Mer 70.84 54 P P 13 42 10.1 +2.2
baz=303
BIDO Bidbid 70.94 285 P P 13 42 09.9 +1.2
SNR=9.6
BIDO P P 13 42 09.9 +1.2
SNR=9.6
BANOM Banah 71.02 288 i P P 13 42 09.5 +0.4
SNR=10
WALA Waterton Lakes 71.07 42 P P 13 42 10.1 +0.9
SHME Shamm 71.07 289 i P P 13 42 09.6 +0.1
SNR=27
SMDO Samad 71.26 285 P P 13 42 11.8 +1.2
SNR=11
MDH Madha 71.36 288 P P 13 42 11.1 -0.1
O03E Paynes Creek 71.41 53 P P 13 42 13.0 +1.7
baz=304
MSFE Esma-Masafi 71.44 288 i P P 13 42 11.9 +0.3
SNR=12
MOD Modoc Plateau 71.45 51 P P 13 42 12.9 +1.2
HOQ Hoqain 71.54 286 P P 13 42 12.6 +0.4
SNR=11
BMO Blue Mountains 71.59 47 P P 13 42 13.7 +1.3
BMO pmax pmax
comp=Z,8.0nm,0.9s
BMO Blue Mountains 71.59 47 P P 13 42 13.7 +1.3
JMDO Jabal Madar 71.60 284 P P 13 42 12.9 +0.3
SNR=9.3
UOSS Minazif 71.63 288 i P P 13 42 12.6 -0.2
SNR=12
UOSS Minazif 71.63 288 P P 13 42 12.6 -0.2
JTMT Jette 71.64 44 P P 13 42 13.9 +1.3
HATD Hatta, Dubai 71.75 288 i P P 13 42 13.8 +0.3
SNR=21
HATD Hatta, Dubai 71.75 288 P P 13 42 14.2 +0.7
SNR=5.5
J08A Circle Bar Ran 71.75 49 P P 13 42 14.8 +1.4
SOHO SOHO 71.83 287 i P P 13 42 13.8 -0.2
SNR=16
ASHO Ashiyiah 71.88 287 i P P 13 42 14.3 -0.1
SNR=10
ASHO Ashiyiah 71.88 287 P P 13 42 14.6 +0.3
SNR=7.3
IZAR Zarasai 71.96 327 eP P 13 42 15.3 +1.1
ORV Oroville 72.01 54 P P 13 42 15.5 +0.7
ORV pmax pmax
comp=Z,11nm,1.4s
ORV Oroville 72.01 54 P P 13 42 15.5 +0.7
IDID Didziasalis 72.03 327 eP P 13 42 15.3 +0.6
BSY Bisya 72.08 285 P P 13 42 16.2 +0.6
SNR=9.4
ISAL Salakas 72.13 327 eP P 13 42 16.3 +1.1
PLID Pearl Lake 72.22 47 P P 13 42 16.8 +0.5
IIGN Ignalina 72.23 327 eP P 13 42 16.4 +0.6
TBLU Trondheim 72.26 339 eP P 13 42 15.6 -0.3
ARQ Araqi 72.28 286 P P 13 42 17.5 +0.8
SNR=14
NACGM Naroch 72.28 327 e P 13 42 16.0 -0.1
MSO Missoula 72.36 44 P P 13 42 18.3 +1.3
baz=306
MSO Missoula 72.36 44 P P 13 42 17.1 +0.2
ALNE Al Ain 72.46 287 i P P 13 42 17.7 -0.1
SNR=7.7
MHTO MHTO 72.47 283 P P 13 42 18.1 +0.3
SNR=23
SOC Sochi 72.54 312 eP P 13 42 16.0 -1.9
SOC e 13 44 55.6
SOC ePPP PPP 13 46 41.1
SOC eS S 13 51 37.8 -0.5
SOC pmax pmax
comp=Z,116nm,1.3s
SOC MLR MLR
comp=Z,322nm,5.0s
PABE Paberze 73.09 328 eP P 13 42 21.4 +0.5
ANN Anapa 73.16 314 eP P 13 42 21.3 -0.2
ANN pmax pmax
comp=Z,214nm,1.0s
PAHR Pah Rah Range 73.27 53 P P 13 42 22.6 +0.1
FFC Flin Flon 73.28 33 P P 13 42 22.3 +0.2
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 73.28 33 P P 13 42 22.3 +0.2
MFID Camas Ranch 73.30 48 P P 13 42 23.4 +0.9
PNTR Pine Nut 73.49 53 P P 13 42 24.2 +0.3
PNTR IAmb IAmb 13 42 41.8
comp=Z,25nm,1.4s
NC405 NORSAR Array S 73.49 337 P P 13 42 23.4 +0.2
NC303 NORSAR Array S 73.51 337 P P 13 42 23.4 +0.1
FCC Fort Churchill 73.55 27 P P 13 42 23.9 +0.4
FCC pmax pmax
comp=Z,53nm,1.4s
FCC Fort Churchill 73.55 27 P P 13 42 23.9 +0.4
FCC IAmb IAmb 13 42 27.1
comp=Z,53nm,1.4s
DOMB Dombas 73.56 339 eP P 13 42 24.0 +0.4
MOL Molde 73.56 340 eP P 13 42 23.7 +0.1
PBUR Paburge 73.57 329 eP P 13 42 23.2 -0.6
CMB Columbia Colle 73.59 55 P P 13 42 24.1 -0.2
CMB 13 42 40.3
CMB Columbia Colle 73.59 55 P P 13 42 24.1 -0.2
CMB PcP 13 42 40.3 +0.3
HRY Holter Researc 73.59 43 P P 13 42 24.8 +0.6
NWAO Narrogin (SRO) 73.64 201 P P 13 42 24.2 -0.1
NWAO pmax pmax
comp=Z,29nm,1.0s
NWAO Narrogin (SRO) 73.64 201 P P 13 42 24.1 -0.1
NWAO IAmb IAmb 13 42 25.6
comp=Z,29nm,0.9s
NC204 NORSAR Array S 73.66 338 P P 13 42 24.2 0.0
NB201 NORSAR Array S 73.67 337 P P 13 42 24.3 0.0
NB2 NORSAR Subarra 73.70 337 P P 13 42 24.5 0.0
comp=Z,52nm,0.9s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.70 337 P P 13 42 24.5 0.0
baz=39,slow=6.2
NOA NORSAR Array B 73.70 337 P P 13 42 24.7 +0.2
comp=Z,22nm,0.8s,baz=38,slow=5.8,SNR=72
NOA LR LR 14 18 12.4
comp=Z,252nm,19.3s,baz=35,slow=38
YERR Yerington 73.78 53 P P 13 42 26.4 +0.8
YERR IAmb IAmb 13 42 43.3
comp=Z,24nm,1.4s
LRM Limekiln Ridge 73.79 44 P P 13 42 26.6 +1.0
NC602 NORSAR Array S 73.84 337 P P 13 42 25.3 0.0
NC602 NORSAR Array S 73.84 337 eP P 13 42 25.3 0.0
NBO00 NORSAR Array S 73.84 337 P P 13 42 25.1 -0.2
AKASG Malin Array Be 73.88 322 P P 13 42 25.5 -0.1
comp=Z,37nm,0.7s,baz=46,slow=6.1,SNR=42
AKASG LR LR 14 17 58.7
comp=Z,240nm,18.1s,baz=75,slow=38
AKASG Malin Array Be 73.88 322 P P 13 42 25.1 -0.5
AKBB Malin Array Si 73.88 322 ceP P 13 42 25.3 -0.3
AKBB Malin Array Si 73.88 322 P P 13 42 25.3 -0.3
EGMT Eagleton 73.90 41 P P 13 42 26.9 +1.0
baz=309,SNR=5.8
EGMT Eagleton 73.90 41 P P 13 42 26.0 0.0
EGMT IAmb IAmb 13 42 28.2
comp=Z,17nm,1.0s
NAO01 NORSAR Array S 73.95 337 P P 13 42 25.7 -0.3
HLID Hailey 74.04 47 P P 13 42 28.5 +1.5
baz=307,SNR=7.4
HLID Hailey 74.04 47 P P 13 42 27.7 +0.7
BCYI Bear Canyon 74.17 46 P P 13 42 28.4 +0.6
BOZ Bozeman (W) 74.39 44 P P 13 42 29.1 +0.2
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 74.39 44 P P 13 42 30.3 +1.4
baz=308,SNR=12
BOZ Bozeman (W) 74.39 44 P P 13 42 29.1 +0.2
RYN Ryan 74.44 53 P P 13 42 30.3 +0.9
SUW Suwalki 74.44 327 eP P 13 42 28.7 -0.2
SUW Suwalki 74.44 327 P P 13 42 29.3 +0.4
SUW pmax pmax
comp=Z,84nm,1.0s
SUW Suwalki 74.44 327 P P 13 42 29.3 +0.4
KVN Kaiserville 74.46 53 P P 13 42 30.5 +0.9
KVN pmax pmax
comp=Z,25nm,1.3s
KVN Kaiserville 74.46 53 P P 13 42 30.5 +0.9
KVN IAmb IAmb 13 42 47.3
comp=Z,25nm,1.3s
NVAR Mina Array Bea 74.70 53 P P 13 42 32.8 +1.8
comp=Z,5.8nm,0.7s,baz=288,slow=5.6,SNR=52
NVAR LR LR 14 09 09.4
comp=Z,70nm,19.8s,baz=279,slow=31
NVAR Mina Array Bea 74.70 53 P P 13 42 32.1 +1.1
OSL Oslo 74.72 337 eP P 13 42 31.1 +0.8
OMMB Old Mammoth Mi 74.73 54 P P 13 42 31.8 +0.6
NV11 Mina Array Sit 74.79 53 P P 13 42 31.4 0.0
TOO Toolangi 74.85 177 P P 13 42 31.5 +0.2
TOO pmax pmax
comp=Z,22nm,1.5s
TOO Toolangi 74.85 177 P P 13 42 31.5 +0.2
TOO IAmb IAmb 13 42 48.9
comp=Z,22nm,1.4s
SKAR Skarslia 74.86 338 eP P 13 42 32.3 +1.0
PAGB Antelope Grade 75.00 56 P P 13 42 33.9 +1.4
PAGB IAmb IAmb 13 42 35.3
comp=Z,16nm,1.0s
FOO Floro 75.04 340 eP P 13 42 32.1 0.0
HYA Hoyanger 75.08 339 eP P 13 42 33.2 +0.8
YHL Hebgen Lake 75.09 45 P P 13 42 34.4 +1.2
YHB Horse Butte 75.15 45 P P 13 42 34.8 +1.4
ELK Elko 75.23 50 P P 13 42 35.3 +1.2
ELK pmax pmax
comp=Z,3.0nm,0.6s
ELK Elko 75.23 50 P P 13 42 35.2 +1.2
KONO Kongsberg 75.29 337 ceP P 13 42 34.8 +1.1
KONO pmax pmax
comp=Z,47nm,2.5s
KONO Kongsberg 75.29 337 P P 13 42 33.9 +0.2
KONO IAmb IAmb 13 42 35.0
comp=Z,26nm,1.1s
KONO Kongsberg 75.29 337 eP P 13 42 34.4 +0.7
YHH Holmes Hill 75.32 45 P P 13 42 35.4 +0.9
YMR Madison River 75.33 45 P P 13 42 35.5 +1.0
GCMT Greycliff 75.34 43 P P 13 42 35.3 +0.8
SMMC Simmler 75.41 57 P P 13 42 36.5 +1.6
baz=306
MARD Mardin 75.54 306 P P 13 42 35.8 +0.1
MARD IAmb IAmb 13 42 37.4
comp=Z,38nm,0.9s
TPH Tonopah 75.59 53 P P 13 42 37.4 +1.3
TPH pmax pmax
comp=Z,94nm,1.3s
TPH Tonopah 75.59 53 P P 13 42 37.4 +1.3
YNE Yellowstone No 75.65 44 P P 13 42 37.5 +1.1
VES Vestal, Richgr 75.71 56 P P 13 42 37.6 +1.1
baz=306
LKWY Lake 75.71 44 P P 13 42 36.3 -0.4
LKWY pmax pmax
comp=Z,17nm,1.3s
LKWY Lake 75.71 44 P P 13 42 36.2 -0.4
H17A Grant Village 75.72 45 P P 13 42 39.9 +3.1
baz=309
PKM Mcpherson Peak 75.78 57 P P 13 42 39.2 +1.9
baz=306
IMW Indian Meadow 75.83 45 P P 13 42 39.0 +1.5
ASK Askov 75.92 339 eP P 13 42 38.0 +0.8
FXWY Fox Creek 75.94 46 P P 13 42 39.5 +1.4
SHAO Shalim 75.96 282 P P 13 42 37.8 -0.4
SORM Soroca 75.98 321 ⇑P P 13 42 37.5 -0.3
ODD1 Odda 75.98 338 eP P 13 42 38.2 +0.5
RLMT Red Lodge 75.98 44 P P 13 42 39.4 +1.1
baz=310
TPAW Teton Pass 76.07 46 P P 13 42 40.5 +1.7
GRAC Grapevine Rang 76.14 54 P P 13 42 41.1 +2.1
baz=307
LOHW Long Hollow 76.19 45 P P 13 42 41.0 +1.6
REDW Red Top Meadow 76.21 46 P P 13 42 41.0 +1.4
ISA Isabella, Lake 76.21 56 P P 13 42 40.0 +0.5
ISA pmax pmax
comp=Z,8.0nm,1.3s
ISA Isabella, Lake 76.21 56 P P 13 42 40.1 +0.5
baz=306
ISA Isabella, Lake 76.21 56 P P 13 42 40.0 +0.5
BLS5 Blasjo 76.43 338 eP P 13 42 40.8 +0.6
DGMT Dagmar 76.45 39 P P 13 42 41.5 +0.9
baz=312
DGMT Dagmar 76.45 39 P P 13 42 41.1 +0.5
DGMT IAmb IAmb 13 42 59.8
comp=Z,38nm,1.4s
BGU Big Grassy Mou 76.45 49 P P 13 42 41.9 +1.0
R11A Troy Canyon, C 76.46 52 P P 13 42 42.5 +1.5
baz=307,SNR=11
R11A Troy Canyon, C 76.46 52 P P 13 42 42.0 +1.0
R11A IAmb IAmb 13 42 58.9
comp=Z,19nm,1.4s
LAO LASA Array 76.60 41 P P 13 42 43.5 +2.0
baz=311
LAO LASA Array 76.60 41 P P 13 42 42.8 +1.3
LAO IAmb IAmb 13 43 00.8
comp=Z,17nm,1.0s
MPMC Manual Prospec 76.62 55 P P 13 42 43.2 +1.3
baz=307,SNR=7.2
FURC Furnace Creek, 76.78 54 P P 13 42 44.5 +2.0
baz=307
TPNV Topopah Spring 76.89 53 P P 13 42 44.1 +0.7
TPNV pmax pmax
comp=Z,9.0nm,0.9s
TPNV Topopah Spring 76.89 53 P P 13 42 44.9 +1.5
baz=307,SNR=14
TPNV Topopah Spring 76.89 53 P P 13 42 44.1 +0.7
HWUT Hardware Ranch 76.90 47 P P 13 42 44.4 +1.0
HWUT IAmb IAmb 13 43 01.5
comp=Z,26nm,1.4s
LVV L'vov 76.95 324 eP P 13 42 42.1 -1.2
KMY Karmoy 76.96 339 eP P 13 42 43.5 +0.3
EDW2 Edwards Air Fo 76.99 56 P P 13 42 45.5 +1.6
baz=307
BEL Belsk 77.00 327 eP P 13 42 44.5 +1.0
DUG Dugway, Tooele 77.03 49 P P 13 42 44.6 +0.4
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG Dugway, Tooele 77.03 49 P P 13 42 45.9 +1.7
baz=308,SNR=9.2
DUG Dugway, Tooele 77.03 49 P P 13 42 44.6 +0.4
SNART Snartemo 77.09 337 eP P 13 42 44.9 +1.0
BW06 Boulder Array 77.32 46 P P 13 42 46.8 +1.0
baz=310,SNR=6.1
BW06 Boulder Array 77.32 46 P P 13 42 46.4 +0.6
PD31 Pinedale Array 77.32 46 P P 13 42 46.6 +0.8
PDAR Pinedale Array 77.32 46 P P 13 42 47.1 +1.3
comp=Z,3.0nm,0.6s,baz=283,slow=1.5,SNR=28
PDAR Pinedale Array 77.32 46 P P 13 42 46.4 +0.6
PRN Pahroc Range 77.37 52 P P 13 42 47.1 +1.1
PSUT Pine Spring 77.42 51 P P 13 42 47.4 +1.0
GSC Goldstone, Bar 77.52 55 P P 13 42 48.1 +1.2
baz=307
JLU Jordanelle 77.59 48 P P 13 42 48.4 +1.0
BFSC Mount Baldy Ra 77.60 56 P P 13 42 48.6 +1.2
baz=307
ILGA Ilgaz 77.61 312 P P 13 42 48.4 +0.9
NLU North Lily Min 77.63 49 P P 13 42 48.7 +1.2
KWP Kalwaria Pacla 77.70 324 eP P 13 42 48.4 +0.9
KWP Kalwaria Pacla 77.70 324 P P 13 42 48.2 +0.7
KWP pmax pmax
comp=Z,124nm,1.1s
KWP Kalwaria Pacla 77.70 324 P P 13 42 48.2 +0.7
SHPR Sheep Range 77.85 53 P P 13 42 49.9 +1.1
SHPR IAmb IAmb 13 43 06.8
comp=Z,21nm,1.4s
BUR08 Bucovina Ar. S 77.88 322 P P 13 42 49.0 +0.3
BUR08 IAmb IAmb 13 42 50.4
comp=Z,31nm,0.9s
BURAR Bucovina Array 77.89 322 ⇑P P 13 42 49.1 +0.3
BURAR Bucovina Array 77.89 322 P P 13 42 48.6 -0.1
GAZ Gaziantep 77.90 308 P P 13 42 48.9 -0.1
BIZ Bicaz 77.91 321 ⇓P P 13 42 49.8 +1.1
TUQ Turquoise Moun 78.01 55 P P 13 42 51.0 +1.4
baz=308,SNR=8.6
CFR Carcaliu 78.05 318 ⇓P P 13 42 49.9 +0.4
BBRC Big Bear Solar 78.07 56 P P 13 42 51.5 +1.3
baz=308
HEC Hector,Ludlow 78.11 55 P P 13 42 52.0 +1.8
baz=308
VRI Vrincioaia 78.32 320 ⇓P P 13 42 52.0 +1.0
CCUT Cedar City 78.34 52 P P 13 42 52.1 +0.5
PLOR Plostina 78.37 320 ⇓P P 13 42 52.1 +0.8
KOLS Kolonicke sedl 78.39 324 eP P 13 42 51.0 -0.4
KOLS pmax pmax
comp=Z,21nm,1.1s
KOLS Kolonicke sedl 78.39 324 eP P 13 42 51.0 -0.4
MVU Marysvale 78.45 50 P P 13 42 53.9 +1.7
MSU Marysvale 78.47 50 P P 13 42 54.0 +1.7
MSU Marysvale 78.47 50 P P 13 42 54.0 +1.7
BR131 Keskin Array S 78.49 311 P P 13 42 52.0 -0.2
BR131 pmax pmax
comp=Z,19nm,1.1s
BR131 Keskin Array S 78.49 311 P P 13 42 52.0 -0.2
BR131 IAmb IAmb 13 42 53.7
comp=Z,19nm,1.1s
BRTR Keskin Array B 78.49 311 P P 13 42 52.8 +0.5
comp=Z,17nm,1.1s,baz=93,slow=4.2,SNR=23
BRTR LR LR 14 22 05.5
comp=Z,56nm,18.6s,baz=59,slow=39
BRTR Keskin Array B 78.49 311 P P 13 42 51.8 -0.4
BISRR Bisoca 78.54 319 ⇑P P 13 42 53.8 +1.5
GMRC Granite Mounta 78.58 55 P P 13 42 54.1 +1.2
baz=308,SNR=5.5
UZH Uzhgorod 78.59 324 eP P 13 42 53.0 +0.6
UZH e 13 42 59.4
OJC Ojcow 78.60 326 eP P 13 42 53.1 +0.6
OJC Ojcow 78.60 326 P P 13 42 52.7 +0.2
OJC pmax pmax
comp=Z,60nm,1.0s
OJC Ojcow 78.60 326 P P 13 42 52.6 +0.2
ARCR ARCALIA 78.68 322 ⇓P P 13 42 54.8 +1.8
RDMU Red Mountain 78.72 47 P P 13 42 54.9 +1.3
P17A Butcher Ranch, 78.73 49 P P 13 42 54.7 +1.1
LCMT Little Creek M 78.75 52 P P 13 42 54.9 +1.2
MTPU Mount Pierson 78.76 51 P P 13 42 56.1 +2.1
PFO Pinyon Flats O 78.77 56 P P 13 42 54.5 +0.6
PFO pmax pmax
comp=Z,22nm,1.4s
PFO Pinyon Flats O 78.77 56 P P 13 42 55.1 +1.2
baz=308
PFO Pinyon Flats O 78.77 56 P P 13 42 54.5 +0.6
PFO IAmb IAmb 13 43 13.8
comp=Z,22nm,1.4s
CRVS Cervenica-Dubn 78.79 324 eP P 13 42 54.4 +0.8
CRVS pmax pmax
comp=Z,51nm,1.3s
CRVS Cervenica-Dubn 78.79 324 eP P 13 42 54.4 +0.8
BELC Belle Mtn. Jos 78.84 56 P P 13 42 55.0 +0.7
baz=308
DOPR Dopca 78.94 320 ⇓P P 13 42 56.0 +1.5
NIE Niedzica 78.95 325 eP P 13 42 55.5 +1.0
MLR Muntele Rosu 78.98 320 ⇑P P 13 42 55.4 +0.6
MLR Muntele Rosu 78.98 320 P P 13 42 54.9 +0.1
MLR pmax pmax
comp=Z,30nm,1.2s
MLR Muntele Rosu 78.98 320 P P 13 42 54.9 +0.1
MLR IAmb IAmb 13 42 57.1
comp=Z,30nm,1.2s
ULM Lac du Bonnet 79.08 33 P P 13 42 55.6 +0.5
comp=Z,5.4nm,0.8s,baz=313,slow=10,SNR=4.3
ULM Lac du Bonnet 79.08 33 P P 13 42 55.2 +0.1
ULM IAmb IAmb 13 42 56.6
comp=Z,16nm,1.1s
SRU San Rafael Swe 79.09 49 P P 13 42 56.2 +0.6
SRU pmax pmax
comp=Z,17nm,1.0s
SRU San Rafael Swe 79.09 49 P P 13 42 56.2 +0.6
K22A Casper 79.09 44 P P 13 42 56.4 +0.8
baz=312
MDND Maddock 79.11 37 P P 13 42 56.0 +0.6
MDND IAmb IAmb 13 42 56.9
comp=Z,26nm,0.6s
MONP2 Monument Peak 79.23 57 P P 13 42 57.4 +0.9
baz=308
IRM Iron Mountain 79.30 55 P P 13 42 57.9 +1.3
baz=308,SNR=5.3
RWWY Rawlins 79.35 45 P P 13 42 57.0 -0.1
RWWY IAmb IAmb 13 43 13.3
comp=Z,16nm,1.1s
BC3 Big Chuckawall 79.41 56 P P 13 42 58.5 +1.1
baz=308
RUE Ruedersdorf 79.42 330 eP P 13 42 57.6 +0.7
comp=Z,65nm,1.2s,baz=37,slow=5.2
MDUB Mudurnu 79.45 313 P P 13 42 57.8 +0.3
VOIR 79.47 320 ⇓P P 13 42 58.3 +0.9
LANS Liptovska Anna 79.52 325 eP P 13 42 59.0 +1.4
LANS pmax pmax
comp=Z,15nm,1.0s
LANS Liptovska Anna 79.52 325 eP P 13 42 59.0 +1.4
KECS Kecovo 79.54 325 eP P 13 42 58.2 +0.5
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 79.54 325 eP P 13 42 58.2 +0.5
BSEG Bad Segeberg 79.59 333 eP P 13 42 58.2 +0.5
comp=Z,49nm,1.2s,baz=37,slow=5.2
IKP In-Ko-Pah, Jac 79.59 57 P P 13 42 59.7 +1.4
baz=308
KSP Ksiaz 79.65 328 eP P 13 42 58.9 +0.7
U15A North Rim 79.71 52 P P 13 43 00.5 +1.4
U15A IAmb IAmb 13 43 17.4
comp=Z,30nm,1.4s

ARR Arges 79.73 320 ⇓P P P 13 43 00.7 +1.8
O20A White River Ci 79.77 47 P P 13 43 00.6 +1.3
baz=311
OSTC Ostas 79.90 328 eP P 13 43 00.5 +0.9
MORC Moravsky Berou 79.91 327 ⇓P P 13 43 01.8 +2.1
MORC Moravsky Berou 79.91 327 eP P 13 43 00.2 +0.5
MORC Moravsky Berou 79.91 327 P P 13 43 00.0 +0.3
MORC pmax pmax
comp=Z,37nm,1.0s
MORC Moravsky Berou 79.91 327 P P 13 43 00.0 +0.3
MORC IAmb IAmb 13 43 01.6
comp=Z,37nm,1.0s
CHVC Chvalec 79.94 328 eP P 13 43 00.4 +0.6
DPC Dobruska-Polom 80.01 328 eP P 13 43 01.2 +1.0
DPC ex x 13 43 25.4
DPC Dobruska-Polom 80.01 328 eP P 13 43 01.2 +1.0
KRLC Kraliky 80.02 327 eP P 13 43 00.9 +0.6
KRLC Kraliky 80.02 327 eP P 13 43 00.9 +0.6
UPC Upice 80.02 328 eP P 13 43 00.5 +0.3
UPC Upice 80.02 328 eP P 13 43 00.5 +0.3
ESJX Sierra Juarez 80.09 57 P P 13 43 01.5 +0.3
ESJX IAmb IAmb 13 43 19.0
comp=Z,29nm,1.5s
LOT Lotru 80.11 321 ⇓P P 13 43 02.7 +1.8
GLA Glamis 80.19 56 P P 13 43 01.8 +0.3
GLA Glamis 80.19 56 P P 13 43 02.9 +1.4
baz=309,SNR=5.1
GLA Glamis 80.19 56 P P 13 43 01.8 +0.3
GLA IAmb IAmb 13 43 19.3
comp=Z,36nm,1.5s
PSZ Piszkesteto 80.22 324 ⇓P P 13 43 02.3 +0.8
PSZ Piszkesteto 80.22 324 P P 13 43 02.0 +0.5
PSZ pmax pmax
comp=Z,47nm,1.0s
PSZ Piszkesteto 80.22 324 P P 13 43 01.9 +0.5
PSZ IAmb IAmb 13 43 03.5
comp=Z,47nm,1.0s
VYHS Vyhne 80.29 325 eP P 13 43 02.6 +0.9
VYHS pmax pmax
comp=Z,28nm,1.2s
VYHS Vyhne 80.29 325 eP P 13 43 02.6 +0.9
PV23 Carpenter Ridg 80.42 49 P P 13 43 03.8 +0.8
PV23 IAmb IAmb 13 43 27.8
comp=Z,20nm,1.0s
PV14 Lion Creek, Pa 80.46 49 P P 13 43 04.3 +1.2
PV14 pP pP 13 43 18.6 +0.7
PV14 IAmb IAmb 13 43 20.8
comp=Z,37nm,1.2s
PV22 Blue Mesa, Par 80.50 48 P P 13 43 05.2 +1.9
AGMN Agassiz Nation 80.52 35 P P 13 43 03.5 +0.6
baz=318
JAVC Velka Javorina 80.54 326 eP P 13 43 04.7 +1.6
PV17 East Wray Mesa 80.56 49 P P 13 43 04.6 +1.0
PV17 IAmb IAmb 13 43 06.2
comp=Z,24nm,0.9s
PV16 Nyswonger Mesa 80.56 49 P P 13 43 04.8 +1.1
PV16 IAmb IAmb 13 43 06.2
comp=Z,11nm,0.8s
SIRR Siria 80.58 322 ⇑P P 13 43 04.0 +0.7
N23A Red Feather La 80.59 45 P P 13 43 05.6 +1.8
baz=312
N23A Red Feather La 80.59 45 P P 13 43 05.0 +1.2
N23A pP pP 13 43 19.7 +1.1
N23A IAmb IAmb 13 43 21.8
comp=Z,29nm,1.3s
BRG Berggiesshubel 80.60 329 i P P 13 43 03.4 +0.1
comp=Z,24nm,1.0s
comp=N,277nm,15.9s
comp=E,123nm,12.2s
comp=Z,321nm,14.3s
BRG Berggiesshubel 80.60 329 i P P 13 43 03.4 +0.1
BRG pmax pmax
comp=Z,24nm,1.0s
BRG MLR MLR
comp=N,277nm,15.9s
BRG MLR MLR
comp=E,123nm,12.2s
BRG MLR MLR
comp=Z,321nm,14.3s
BRG Berggiesshubel 80.60 329 eP P 13 43 03.7 +0.4
comp=Z,24nm,1.0s,baz=37,slow=5.2
PVCC Panska Ves 80.61 329 eP P 13 43 04.3 +1.0
PVCC Panska Ves 80.61 329 eP P 13 43 04.3 +1.0
PV18 Skein Mesa, Pa 80.61 49 P P 13 43 04.7 +0.8
PV18 IAmb IAmb 13 43 06.5
comp=Z,14nm,0.9s
CLL Collm 80.64 330 ⇑ i P P 13 43 03.5 0.0
comp=Z,46nm,1.0s
CLL epP pP 13 43 18.0 -0.3
CLL esP sP 13 43 24.0 0.0
CLL ePS PnS 13 54 00.0 +2.4
CLL Lm MLR 14 21 00.0
comp=Z,200nm,21.1s
CLL Collm 80.64 330 ⇑ i P P 13 43 03.5 0.0
CLL e*PP pP 13 43 18.0 -0.3
CLL pmax pmax
comp=Z,46nm,1.0s
CLL Collm 80.64 330 eP P 13 43 03.7 +0.2
comp=Z,46nm,1.0s,baz=37,slow=5.2
CLL Collm 80.64 330 P P 13 43 03.3 -0.2
CLL IAmb IAmb 13 43 04.8
comp=Z,37nm,0.9s
PV07 Paradox Valley 80.64 48 P P 13 43 04.7 +0.6
PV07 IAmb IAmb 13 43 21.7
comp=Z,21nm,1.5s
GZR Gura Zlata 80.65 321 ⇓P P 13 43 04.4 +0.6
VRAC Vranov 80.68 327 ⇑P P 13 43 04.8 +1.1
VRAC Vranov 80.68 327 eP P 13 43 04.5 +0.7
BOLV Bolvadin 80.74 312 P P 13 43 03.9 -0.5
BOLV IAmb IAmb 13 43 06.0
comp=Z,44nm,1.2s
FBE Freiberg 80.80 330 eP P 13 43 05.1 +0.8
comp=Z,51nm,1.1s,baz=37,slow=5.2
NRDL Niedersach Rie 80.81 332 eP P 13 43 04.7 +0.4
comp=Z,35nm,1.3s,baz=37,slow=5.2
Y14A Wickenburg 80.82 54 P P 13 43 05.6 +0.7
WUAZ Wupatki 80.86 52 P P 13 43 06.8 +1.5
baz=310,SNR=6.9
WUAZ Wupatki 80.86 52 P P 13 43 06.0 +0.7
WUAZ IAmb IAmb 13 43 23.3
comp=Z,20nm,1.2s
PV01 Paradox Valley 80.89 49 P P 13 43 06.1 +0.7
PV01 IAmb IAmb 13 43 23.3
comp=Z,23nm,1.3s
ASSE Asse, Remlinge 80.89 332 eP P 13 43 05.2 +0.5
comp=Z,38nm,1.6s,baz=37,slow=5.2
SMOL Smolenice 80.90 326 eP P 13 43 06.2 +1.2
SMOL pmax pmax
comp=Z,20nm,1.1s
SMOL Smolenice 80.90 326 eP P 13 43 06.2 +1.2
KRUC Moravsky 80.95 327 eP P 13 43 05.7 +0.5
GOPC GO Pecny, Ondr 80.98 328 eP P 13 43 05.8 +0.4
GOPC GO Pecny, Ondr 80.98 328 eP P 13 43 05.8 +0.4
SPX San Pedro Mart 81.02 58 P P 13 43 06.5 +0.2
PRU Pruhonice 81.03 328 eP P 13 43 06.2 +0.6
PRU epP pP 13 43 20.1 -0.3
PRU Pruhonice 81.03 328 eP P 13 43 06.2 +0.6
PRU e 13 43 20.1
BZS Buzias 81.06 322 ⇑P P 13 43 06.0 +0.1
113A Mohawk Valley, 81.06 56 P P 13 43 06.6 +0.5
MODS Modra-Piesok 81.08 326 eP P 13 43 06.1 +0.1
MODS pmax pmax
comp=Z,32nm,1.1s
MODS Modra-Piesok 81.08 326 eP P 13 43 06.0 +0.1
TREC Trest 81.16 328 eP P 13 43 07.1 +0.7
TREC Trest 81.16 328 eP P 13 43 07.1 +0.7
HERR Herculane 81.19 321 ⇓P P 13 43 06.6 0.0
NEUB Neuenburg 81.20 331 eP P 13 43 06.9 +0.4
comp=Z,51nm,1.1s,baz=37,slow=5.2
CLZ Clausthal 81.23 332 eP P 13 43 07.3 +0.6
comp=Z,54nm,1.2s,baz=37,slow=5.2
ZST Bratislava 81.29 326 eP P 13 43 07.0 0.0
ZST pmax pmax
comp=Z,51nm,1.2s
ZST Bratislava 81.29 326 eP P 13 43 07.0 0.0
B35A Bob, Littlefor 81.43 34 P P 13 43 08.3 +0.5
PBCC Pribram 81.49 329 eP P 13 43 08.4 +0.3
ISCO Idaho Springs 81.51 46 P P 13 43 10.4 +1.6
ISCO pmax pmax
comp=Z,3.0nm,0.7s
ISCO Idaho Springs 81.51 46 P P 13 43 10.2 +1.4
baz=312
ISCO Idaho Springs 81.51 46 P P 13 43 10.4 +1.6
X16A Lo Mia Camp, P 81.52 53 P P 13 43 09.9 +1.1

MVCO Mesa Verde 81.53 49 P P 13 43 10.4 +1.6
baz=311
MVCO Mesa Verde 81.53 49 P P 13 43 10.0 +1.1
MVCO IAmb IAmb 13 43 26.7
comp=Z,22nm,1.2s
TANN Tannenbergstha 81.55 330 eP P 13 43 08.7 +0.3
comp=Z,82nm,2.0s,baz=37,slow=5.2
MDVR Moldovita 81.61 321 ⇑P P 13 43 09.2 +0.3
PLN Plauen 81.61 330 eP P 13 43 09.0 +0.3
comp=Z,50nm,1.9s,baz=37,slow=5.2
GTTG Gottingen 81.62 332 eP P 13 43 09.3 +0.6
comp=Z,42nm,1.1s,baz=37,slow=5.2
GUNZ Gunzen 81.64 330 eP P 13 43 09.4 +0.5
comp=Z,20nm,1.1s,baz=37,slow=5.2
WERN Wernitzgruen 81.68 330 eP P 13 43 09.8 +0.6
comp=Z,22nm,1.1s,baz=37,slow=5.2
NKC Novy Kostel 81.70 330 eP P 13 43 09.4 +0.2
NKC Novy Kostel 81.70 330 eP P 13 43 09.4 +0.2
MOX Moxa 81.70 330 eP P 13 43 09.5 +0.3
comp=Z,43nm,1.6s,baz=37,slow=5.2
IBBN Ibbenburen 81.82 333 eP P 13 43 10.1 +0.4
comp=Z,57nm,1.2s,baz=37,slow=5.2
MANZ Manzenberg 82.03 330 eP P 13 43 11.5 +0.6
comp=Z,16nm,0.9s,baz=37,slow=5.2
CONA Conrad Observa 82.04 326 i P P 13 43 12.1 +1.0
comp=Z,32nm,1.4s,SNR=14
KHC Kasperske Hory 82.09 328 eP P 13 43 11.7 +0.4
KHC ex x 13 43 23.6
KHC ex x 13 43 38.0
KHC Kasperske Hory 82.09 328 eP P 13 43 11.7 +0.4
KHC e 13 43 23.6
KHC pmax pmax
comp=Z,2.0nm,0.6s
KHC Kasperske Hory 82.09 328 P P 13 43 11.7 +0.4
KHC IAmb IAmb 13 43 13.0
comp=Z,13nm,1.0s
ROTZ Rotzenmuhle 82.16 330 eP P 13 43 12.4 +0.8
comp=Z,51nm,1.5s,baz=37,slow=5.2
S22A 4UR Ranch, Cre 82.18 48 P P 13 43 13.9 +1.6
baz=312
S22A 4UR Ranch, Cre 82.18 48 P P 13 43 13.7 +1.4
UBBA Unterbreizbach 82.19 331 eP P 13 43 11.9 +0.3
comp=Z,19nm,1.4s,baz=37,slow=5.2
214A Organ Pipe Nat 82.20 56 P P 13 43 13.7 +1.5
baz=310
GEC2 GERESS Array S 82.26 328 eP P 13 43 12.5 +0.2
comp=Z,19nm,1.1s,baz=37,slow=5.2
GEC2 GERESS Array S 82.26 328 P P 13 43 12.0 -0.3
GEC2 IAmb IAmb 13 43 13.5
comp=Z,15nm,1.0s
GERES GERESS Array B 82.26 328 P P 13 43 12.4 +0.2
comp=Z,8.0nm,0.8s,baz=38,slow=5.0,SNR=46
GERES LR LR 14 23 16.7
comp=Z,239nm,18.2s,baz=69,slow=38
GERES GERESS Array B 82.26 328 P P 13 43 12.0 -0.3
FRGS Fruska Gora 82.28 323 ⇑ i P P 13 43 12.6 +0.3
Q24A Divide 82.34 46 P P 13 43 13.8 +0.6
baz=313
WET Wettzell 82.37 329 eP P 13 43 13.4 +0.7
comp=Z,30nm,1.3s,baz=37,slow=5.2
GRF Grafenberg Arr 82.61 330 eP P 13 43 14.9 +0.9
comp=Z,121nm,1.6s,baz=37,slow=5.2
ELL Elmali 82.66 311 P P 13 43 13.9 -0.7
ELL Elmali 82.66 311 P P 13 43 13.9 -0.7
ARSA Arzberg 82.70 326 i P P 13 43 15.1 +0.6
comp=Z,17nm,1.1s,SNR=6.6
BUG Bochum--Univer 82.70 333 eP P 13 43 14.5 +0.1
comp=Z,21nm,1.1s,baz=37,slow=5.2
EYMN Ely 82.72 33 P P 13 43 15.1 +0.5
baz=320
EYMN Ely 82.72 33 P P 13 43 14.5 0.0
EYMN IAmb IAmb 13 43 15.9
comp=Z,36nm,1.4s
MOA Molln 82.79 327 eP P 13 43 16.0 +1.0
comp=Z,21nm,1.2s,SNR=9.1
SDCO Great Sand Dun 82.96 47 P P 13 43 17.7 +1.4
baz=313
SDCO Great Sand Dun 82.96 47 P P 13 43 16.9 +0.6
DIVS Divibare 82.96 322 ⇑ i P P 13 43 15.7 -0.3
DIVS Divibare 82.96 322 P P 13 43 15.9 -0.1
DIVS IAmb IAmb 13 43 17.4
comp=Z,31nm,1.2s
TUC Tucson 83.30 54 P P 13 43 18.4 +0.5
TUC pmax pmax
comp=Z,6.0nm,1.1s
TUC Tucson 83.30 54 P P 13 43 18.7 +0.8
baz=311
TUC Tucson 83.30 54 P P 13 43 18.4 +0.5
GROS Grobnik 83.31 326 eP P 13 43 17.6 -0.1
PERS Pernice 83.35 326 eP P 13 43 18.1 +0.2
SOKA Soboth 83.35 326 i P P 13 43 18.1 +0.1
comp=Z,48nm,1.2s,SNR=33
BBLS Lazići 83.42 322 ⇑ i P P 13 43 18.5 +0.2
RJOB Jochberg 83.50 328 eP P 13 43 18.4 -0.3
comp=Z,36nm,1.0s,baz=37,slow=5.2
AHRW Bad Neuenahr-A 83.51 333 eP P 13 43 19.1 +0.6
comp=Z,31nm,1.2s,baz=37,slow=5.2
ECSD EROS Data Cent 83.53 38 P P 13 43 19.3 +0.5
baz=317
ECSD EROS Data Cent 83.53 38 P P 13 43 19.0 +0.2
ECSD IAmb IAmb 13 43 20.3
comp=Z,12nm,1.0s
SJES Sjenica 83.58 321 ⇑ i P P 13 43 19.1 -0.1
VAY Valandovo 83.65 318 i P P 13 43 20.0 +0.6
OBKA Obir 83.70 326 i P P 13 43 19.7 -0.1
comp=Z,13nm,1.1s
GCIS Gornji Cirnik 83.70 325 i P P 13 43 19.7 0.0
E38A The Farm, Brul 83.72 34 P P 13 43 19.4 -0.3
E38A IAmb IAmb 13 43 20.4
comp=Z,12nm,0.6s
SKO Skopje 83.77 319 i P P 13 43 21.2 +1.1
KBA Koelnbreinsper 83.78 327 i P P 13 43 20.4 +0.1
comp=Z,20nm,0.9s,SNR=15
FUR Furstenfeldbru 83.80 329 eP P 13 43 20.9 +0.7
comp=Z,54nm,0.8s,baz=37,slow=5.2
CRES Cresnjev 83.81 325 ⇑ i P P 13 43 20.0 -0.2
BLY Banja Luka 83.83 324 ⇑ i P P 13 43 19.9 -0.4
MEM Membach 83.84 333 P P 13 43 20.3 0.0
comp=Z,14nm,1.2s
MYKA Terra Mystica 84.00 327 i P P 13 43 20.9 -0.4
comp=Z,10nm,0.8s,SNR=6.9
T25A Trinidad 84.00 47 P P 13 43 23.3 +1.7
baz=313
T25A Trinidad 84.00 47 P P 13 43 22.6 +0.9
T25A IAmb IAmb 13 43 24.0
comp=Z,13nm,0.8s
LJU Ljubljana 84.06 326 eP P 13 43 21.2 -0.3
LJU Ljubljana 84.06 326 ⇑ i P P 13 43 19.1 -2.4
VISS Visnje 84.11 326 i P P 13 43 21.4 -0.4
MGRS Mrkonjic Grad 84.13 323 eP P 13 43 36.9 +15
STU Stuttgart 84.15 330 eP P 13 43 22.1 +0.3
comp=Z,55nm,1.2s,baz=37,slow=5.2
UPM Unac-Piva 84.15 322 eP P 13 43 21.7 -0.5
BOJS Bojanci 84.15 325 eP P 13 43 21.9 -0.1
BCLA Clavier 84.25 334 P P 13 43 22.8 +0.4
ANMO Albuquerque 84.27 50 ceP P 13 43 24.2 +1.2
ANMO pmax pmax
comp=Z,12nm,1.3s
ANMO Albuquerque 84.27 50 P P 13 43 24.6 +1.6
baz=312
ANMO Albuquerque 84.27 50 P P 13 43 23.0 -0.1
ANMO IAmb IAmb 13 43 41.7
comp=Z,12nm,1.1s
WATA Walderalm 84.33 328 i P P 13 43 22.9 -0.1
comp=Z,23nm,1.9s
CEY Cerknica 84.34 326 ⇑ i P P 13 43 22.3 -0.7
ZOU Zoufplan 84.35 327 P P 13 43 22.0 -1.2
ZOU IAmb IAmb 13 43 23.4
comp=Z,24nm,1.4s
BGES Gesves 84.35 334 ⇑P P 13 43 22.5 -0.3
comp=Z,17nm,1.5s
ABTA Abfaltersbach 84.40 327 i P P 13 43 22.4 -0.9
comp=Z,15nm,1.0s,SNR=5.9
PMOR Pomariorio Ree 84.41 114 eT T 15 15 49.8
comp=Z,31nm,0.2s
LENM Lemitar 84.48 51 P P 13 43 24.3 +0.2
RCHB Rochefort 84.49 333 ⇑P P 13 43 23.4 -0.1
MOTA Moosalm 84.52 329 i P P 13 43 24.2 +0.2
comp=Z,19nm,0.9s,SNR=9.0
BMRD Maredsous 84.53 334 ⇑P P 13 43 23.9 +0.1
comp=Z,26nm,1.3s
RETA Reutte 84.55 329 i P P 13 43 24.4 +0.4
comp=Z,49nm,1.4s,SNR=13
PDG Podgorica 84.55 321 ⇑P P 13 43 24.1 +0.1
PDG Podgorica 84.55 321 ⇑ i P P 13 43 23.8 -0.2
PDG Podgorica 84.55 321 P P 13 43 23.9 -0.1

BRY Bratogost 84.56 322 ⇑ i P P 13 43 23.4 -0.8
LIT Litokhoron 84.56 318 P P 13 43 23.5 -0.6
LIT pmax pmax
comp=Z,70nm,0.9s
LIT Litokhoron 84.56 318 P P 13 43 23.5 -0.6
WLF Walferdange 84.57 333 P P 13 43 24.7 +0.8
WLF Walferdange 84.57 333 eP P 13 43 24.5 +0.5
comp=Z,41nm,1.4s,baz=37,slow=5.2
SQTA Sankt Quirin 84.58 328 i P P 13 43 24.3 +0.1
comp=Z,22nm,1.9s
UBR Ueberruh 84.66 329 eP P 13 43 24.6 0.0
comp=Z,15nm,1.3s,baz=37,slow=5.2
FNA Florina 84.66 319 P P 13 43 24.1 -0.6
FNA pmax pmax
comp=Z,26nm,1.1s
FNA Florina 84.66 319 P P 13 43 24.1 -0.6
FNA IAmb IAmb 13 43 25.5
comp=Z,26nm,1.1s
STAL STALIGIAL 84.69 327 P P 13 43 23.4 -1.4
STAL IAmb IAmb 13 43 24.5
comp=Z,19nm,0.9s
BNM Barren Site 84.70 51 P P 13 43 26.4 +1.2
OHR Ohrid 84.72 319 i P P 13 43 24.8 -0.2
DRME Dracevica, Mon 84.76 321 ⇑ i P P 13 43 25.1 0.0
DOU Dourbes 84.77 334 P P 13 43 24.9 -0.1
CIMO Cimolais 84.77 327 P P 13 43 23.0 -2.1
CIMO IAmb IAmb 13 43 24.9
comp=Z,12nm,1.0s
BFO Black Forest 84.84 331 P P 13 43 24.5 -0.9
BFO pmax pmax
comp=Z,44nm,1.0s
BFO Black Forest 84.84 331 eP P 13 43 25.6 +0.2
comp=Z,59nm,1.2s,baz=37,slow=5.2
BFO Black Forest 84.84 331 P P 13 43 24.5 -0.9
SCHQ Schefferville 84.85 16 LR LR 14 24 15.4
comp=Z,100nm,20.0s,baz=336,slow=38
PPT Papeete 84.88 117 LR LR 14 18 02.3
comp=Z,126nm,20.1s,baz=308,slow=33
PPT2 Papeete2 84.90 117 eLR LR 14 10 13.7
comp=Z,446nm,27.2s,baz=314
PPT2 Papeete2 84.90 117 eT T 15 16 24.0
comp=Z,5.9nm,0.3s
HCY Herceg Novi 84.92 321 eP P 13 43 24.5 -1.4
FETA Feichten 84.93 329 i P P 13 43 26.2 +0.1
comp=Z,16nm,1.0s,SNR=8.2
PAE Paea 84.94 117 eT T 15 16 27.4
comp=Z,1.9nm,0.3s
TIAR Tiarei 85.04 116 eT T 15 16 34.6
comp=Z,6.0nm,0.3s
121A Cookes Peak, D 85.06 52 P P 13 43 28.4 +1.4
baz=312
DAVA Damuels 85.07 329 i PcP P 13 43 27.2 +0.5
comp=Z,37nm,1.0s,SNR=9.3
KARP Karpathos 85.11 312 P P 13 43 27.1 +0.1
TVO Taravao 85.26 117 eT T 15 16 50.4
comp=Z,0.9nm,0.3s
CTI Castel Tesino 85.32 327 P P 13 43 26.3 -1.7
CTI pmax pmax
comp=Z,15nm,1.0s
CTI Castel Tesino 85.32 327 P P 13 43 26.3 -1.7
CTI IAmb IAmb 13 43 28.0
comp=Z,15nm,1.0s
G40A Rib Lake 85.36 34 P P 13 43 27.9 -0.1
G40A IAmb IAmb 13 43 29.5
comp=Z,12nm,0.9s
ECH Echery 85.39 331 P P 13 43 27.3 -0.9
ECH pmax pmax
comp=Z,23nm,0.9s
ECH Echery 85.39 331 P P 13 43 27.3 -0.9
ECH IAmb IAmb 13 43 29.2
comp=Z,23nm,0.9s
FUORN Ofenpass-Fuorn 85.44 329 P P 13 43 28.4 -0.3
TUE Stuetta 85.94 329 P P 13 43 30.5 -0.6
TUE IAmb IAmb 13 43 34.5
comp=Z,26nm,1.1s
MEH Mehetia 86.16 116 eT T 15 17 59.7
comp=Z,46nm,0.3s
TAOE Nuku Hiva Isla 86.32 104 eLR LR 14 10 44.7
comp=Z,447nm,23.8s,baz=310
IDI Anoyia 86.62 313 ⇑P P 13 43 33.6 -1.0
DAMY Dhamar 86.67 286 P P 13 43 37.1 +1.7
SNR=5.3
SENIN Lac Senin/Sane 86.85 330 P P 13 43 35.2 -0.5
SENIN IAmb IAmb 13 43 35.9
comp=Z,22nm,1.5s
KSU1 Kansas State U 86.94 41 P P 13 43 36.3 +0.4
baz=318
KSU1 Kansas State U 86.94 41 P P 13 43 35.6 -0.3
KSU1 IAmb IAmb 13 43 37.0
comp=Z,15nm,0.9s
ITM Ithomi 86.96 316 P P 13 43 34.9 -1.2
H43A Windswept, Lux 87.05 33 P P 13 43 36.7 +0.3
H43A IAmb IAmb 13 43 37.6
comp=Z,23nm,0.8s
MURB Monte Urbino 87.12 325 P P 13 43 37.3 +0.5
MURB IAmb IAmb 13 43 38.8
comp=Z,17nm,0.8s
MNTX Cornudas Mount 87.13 52 P P 13 43 37.9 +0.9
baz=313
MSTX Muleshoe 87.16 48 P P 13 43 38.0 +0.8
baz=314
AMTX Amarillo 87.16 47 P P 13 43 38.4 +1.2
baz=315
AMTX Amarillo 87.16 47 P P 13 43 37.0 -0.2
AMTX IAmb IAmb 13 43 39.8
comp=Z,18nm,1.1s
AMTX pP 13 43 53.7 +1.6
NRCA Norcia 87.19 325 P P 13 43 36.9 -0.3
LSQQ Lebel-sur-Quev 87.30 24 P P 13 43 37.8 +0.4
baz=330
CHGQ Chibougamau 87.36 22 P P 13 43 37.8 0.0
baz=332
INTR Introdacqua 87.46 324 P P 13 43 37.6 -0.9
INTR IAmb IAmb 13 43 39.6
comp=Z,16nm,0.8s
TBI Tubuai 88.81 121 eLR LR 14 11 53.6
comp=Z,403nm,28.2s,baz=311
TBI Tubuai 88.81 121 eT T 15 21 13.1
comp=Z,99nm,0.3s
WMOK Wichita Mounta 88.93 46 P P 13 43 46.3 +0.7
baz=317
D55A Sainte-Anne-du 89.57 24 P P 13 43 48.7 +0.4
baz=332
ALGO Algonquin Park 89.62 26 P P 13 43 48.5 0.0
baz=330
D56A ZEC Mazanza, M 89.78 24 P P 13 43 49.8 +0.5
baz=332
TX31 Lajitas Ar. Si 89.82 52 P P 13 43 50.3 +0.4
TX32 Lajitas Array 89.82 52 P P 13 43 50.6 +0.7
TX32 IAmb IAmb 13 43 51.9
comp=Z,6.6nm,0.7s
TXAR Lajitas Array 89.82 52 P P 13 43 51.1 +1.2
comp=Z,6.0nm,0.6s,baz=296,slow=3.1,SNR=57
TXAR LR LR 14 17 42.4
comp=Z,60nm,21.9s,baz=0.0,slow=31
TXAR Lajitas Array 89.82 52 P P 13 43 50.5 +0.5
ABTX Abilene, Hawle 89.96 48 P P 13 43 51.2 +0.8
baz=316
ABTX Abilene, Hawle 89.96 48 P P 13 43 50.8 +0.4
ABTX IAmb IAmb 13 43 52.4
comp=Z,12nm,1.0s
D57A Chemin Vers le 90.08 23 P P 13 43 51.5 +0.9
baz=333
E56A St. Veronique 90.13 24 P P 13 43 51.5 +0.7
baz=332
HHAR Hobbs 90.45 42 P P 13 43 52.9 +0.3
HHAR IAmb IAmb 13 43 53.8
comp=Z,5.5nm,0.8s
CCM Cathedral Cave 90.47 39 P P 13 43 52.5 -0.2
CCM pmax pmax
comp=Z,18nm,1.4s
CCM Cathedral Cave 90.47 39 P P 13 43 53.7 +1.0
baz=321
CCM Cathedral Cave 90.47 39 P P 13 43 52.5 -0.2
CCM IAmb IAmb 13 43 53.8
comp=Z,18nm,1.4s
E57A Chemin Saint G 90.53 24 P P 13 43 53.8 +0.9
baz=333
TRQ Mont Tremblant 90.57 24 P P 13 43 53.1 +0.1
H53A Bobcaygeon 90.62 27 P P 13 43 53.8 +0.5
baz=329
E58A La Victoria 90.84 23 P P 13 43 55.1 +0.9
baz=333
U40A Yellville 90.96 41 P P 13 43 55.4 +0.5
baz=320
U40A Yellville 90.96 41 P P 13 43 54.8 -0.1

U40A				IAmb	IAmb	13 43 56.2
	comp=Z,15nm,0.8s					
D60A	**Saint Jean D'O**	**91.07**	**21**	P	**P**	**13 43 55.8 +0.6**
	baz=335					
H55A	**Tweed**	**91.15**	**26**	P	**P**	**13 43 56.1 +0.4**
	baz=330					
W39A	**Magazine**	**91.35**	**42**	P	**P**	**13 43 57.5 +0.7**
	baz=319					
JCT	**Junction City**	**91.40**	**49**	P	**P**	**13 43 57.5 +0.3**
JCT				pmax	pmax	
	comp=Z,8.0nm,0.6s					
JCT	**Junction City**	**91.40**	**49**	P	**P**	**13 43 57.7 +0.6**
	baz=316					
JCT	**Junction City**	**91.40**	**49**	P	**P**	**13 43 57.5 +0.3**
JCT				IAmb	IAmb	13 43 58.6
	comp=Z,7.9nm,0.6s					
E60A	**Ste Agathe de**	**91.41**	**22**	P	**P**	**13 43 57.6 +0.8**
	baz=335					
F60A	**Warwick**	**91.62**	**23**	P	**P**	**13 43 58.6 +0.9**
	baz=334					
E61A	**Lac Etchemin**	**91.63**	**21**	P	**P**	**13 43 58.3 +0.4**
	baz=335					
WHTX	**Lake Whitney,**	**91.69**	**47**	P	**P**	**13 43 59.6 +1.2**
	baz=317					
WHTX	**Lake Whitney,**	**91.69**	**47**	P	**P**	**13 43 59.4 +1.0**
E62A	**Clayton Lake**	**91.74**	**21**	P	**P**	**13 43 57.4 -1.0**
	baz=336					
H57A	**Richville**	**91.85**	**25**	P	**P**	**13 43 59.6 +0.8**
	baz=332					
F61A	**St Evariste**	**91.90**	**22**	P	**P**	**13 43 59.9 +0.8**
	baz=335					
MIAR	**Mount Ida**	**91.95**	**43**	P	**P**	**13 44 00.2 +0.6**
	baz=320					
WHAR	**Wooly Hollow**	**92.07**	**41**	P	**P**	**13 43 59.5 -0.6**
WHAR				IAmb	IAmb	13 44 01.3
	comp=Z,12nm,0.9s					
W41B	**Gary Mavity, V**	**92.18**	**41**	P	**P**	**13 44 01.1 +0.5**
	baz=320					
E63A	**Oxbow**	**92.22**	**20**	P	**P**	**13 44 01.3 +0.7**
	baz=337					
F62A	**Pittston Farm,**	**92.27**	**21**	P	**P**	**13 44 01.5 +0.7**
	baz=336					
H58A	**Gabriels**	**92.29**	**25**	P	**P**	**13 44 01.5 +0.5**
	baz=333					
G61A	**St-Isidore-de-**	**92.36**	**23**	P	**P**	**13 44 01.9 +0.6**
	baz=334					
L55A	**Hinsdale**	**92.73**	**28**	P	**P**	**13 44 03.4 +0.3**
	baz=330					
F64A	**Sherman**	**92.76**	**20**	P	**P**	**13 44 03.4 +0.4**
	baz=337					
M54A	**Oil Creek Stat**	**92.84**	**30**	P	**P**	**13 44 03.7 +0.1**
	baz=329					
PKME	**Peaks-Kenny Pk**	**93.04**	**21**	P	**P**	**13 44 05.1 +0.7**
	baz=336					
H62A	**Milan**	**93.12**	**23**	P	**P**	**13 44 05.1 +0.3**
	baz=335					
M59A	**Waymart**	**94.40**	**27**	P	**P**	**13 44 09.1 -1.6**
	baz=332					
KEST	**Kesra**	**94.60**	**323**	P	**P**	**13 44 11.9 +0.1**
	comp=Z,6.3nm,0.9s,baz=323,slow=13,SNR=4.1					
KEST				LR	LR	14 30 32.4
	comp=Z,154nm,20.6s,baz=332,slow=38					
ESDC	**Sonseca Array**	**96.82**	**334**	P	**P**	**13 44 20.8 -1.1**
	comp=Z,1.3nm,0.8s,baz=23,slow=4.0,SNR=5.9					
ESDC				LR	LR	14 32 19.0
	comp=Z,243nm,20.9s,baz=25,slow=38					
ESDC	**Sonseca Array**	**96.82**	**334**	IAmb	IAmb	13 44 22.2
	comp=Z,3.0nm,1.0s					
VNDA	**Vanda**	**115.49**	**175**	PKP	**PKPdf**	**13 49 31.2 0.0**
	comp=Z,1.0nm,0.8s,baz=323,slow=4.6,SNR=6.9					
TORD	**Torodi Ar. Bea**	**116.95**	**315**	PKP	**PKPdf**	**13 49 35.1 -0.9**
	comp=Z,1.3nm,0.7s,baz=39,slow=1.5,SNR=6.1					
TORD				PP	**PP**	**13 50 38.2 -6.5**
	comp=Z,6.5nm,1.1s,baz=28,slow=7.6,SNR=7.1					
MAW	**Mawson**	**120.00**	**206**	PKP	**PKiKP**	**13 49 40.5 +0.4**
	comp=Z,1.0nm,0.7s,baz=2.7,slow=4.7,SNR=4.1					
LBTB	**Lobatse**	**124.67**	**263**	PKIKP	**PKPdf**	**13 49 50.6 0.0**
LBTB	**Lobatse**	**124.67**	**263**		**PKPdf**	**13 49 50.5 0.0**
SDV	**Santo Domingo**	**124.94**	**40**	*e*P	**PKiKP**	**13 49 54.6 +2.7**
DBIC	**Dimbokro**	**125.90**	**317**	PKP	**PKPdf**	**13 49 52.7 -0.4**
	comp=Z,6.1nm,0.8s,baz=10,slow=7.9,SNR=6.2					
DBIC				PP	**PP**	**13 51 40.8 -4.8**
	comp=Z,6.0nm,0.9s,baz=27,slow=7.7,SNR=4.1					
BOSA	**Boshof**	**126.65**	**260**	PKP	**PKPdf**	**13 49 54.5 +0.2**
	comp=Z,3.8nm,0.8s,baz=356,slow=6.5,SNR=5.0					
QSPA	**South Pole Qui**	**127.29**	**180**		**PKPdf**	**13 49 54.0 -0.2**
SYO	**Syowa Base**	**128.66**	**207⇑**	*e*Pdiff	**Pdif**	**13 46 43.1 +0.7**
SYO	**Syowa Base**	**128.66**	**207⇓**	*e*pPdiff	pPdif	13 47 00.8 +3.3
SNAA	**Sanae**	**141.24**	**197**	PKPdf	**PKPdf**	**13 50 13.1 -7.1**
MALB	**Monte Alegre**	**141.67**	**26**	*e*P	**PKiKP**	**13 50 26.2 +0.7**
VNA2	**Neumayer--Watz**	**142.81**	**196**	PKPdf	**PKPdf**	**13 50 18.9 -4.0**
ETMB	**Extrema**	**142.84**	**49**	*e*P	**PKiKP**	**13 50 28.7 +0.9**
VNA3	**Neumayer Olymp**	**143.06**	**195**	PKPdf	PKPbc	13 50 19.7 -0.7
VNA1	**Neumayer--Stat**	**143.21**	**196**	PKPdf	PKPbc	13 50 20.5 -0.2
ITTB	**Itaituba**	**143.45**	**30**	*e*P	**PKPdf**	**13 50 27.2 +1.4**
TMAB	**Tom-Au,PA,Br**	**143.92**	**16**	*e*P	**PKiKP**	**13 50 30.4 +0.2**
NPGB	**Novo Progresso**	**146.03**	**31**	*e*P	**PKPab**	**13 50 31.7 0.0**
LPAZ	**La Paz**	**146.45**	**59**	PKPbc	**PKPab**	**13 50 33.5 -0.5**
	comp=Z,11nm,0.7s,baz=335,slow=2.3,SNR=32					
LPAZ	**La Paz**	**146.45**	**59**		**PKPbc**	**13 50 32.9 -0.1**
LPAZ	**La Paz**	**146.45**	**59**	*e*P	**PKPab**	**13 50 34.0 0.0**
PB16	**IPOC Station P**	**146.89**	**63**	PKPbc	**PKPbc**	**13 50 34.3 +0.1**
H03N2	**Juan Fernandez**	**147.10**	**95**	T	T	16 35 40.3
	baz=291,slow=76,SNR=54					
H03N3	**Juan Fernandez**	**147.11**	**95**	T	T	16 35 39.9
	baz=291,slow=76,SNR=77					
H03N1	**Juan Fernandez**	**147.11**	**95**	T	T	16 35 41.6
	baz=291,slow=76,SNR=64					
PRPB	**Parauapebas**	**147.14**	**21**	*e*P	**PKPbc**	**13 50 34.6 +0.2**
MNMC	**Minye Minye**	**147.34**	**64**		**PKPbc**	**13 50 35.4 +0.4**
PB11	**IPOC Station P**	**147.71**	**65**		**PKPbc**	**13 50 35.6 -0.3**
GO01	**Chusmiza**	**147.98**	**65**		**PKPbc**	**13 50 37.9 +0.9**
PB08	**IPOC Station P**	**148.31**	**65**	PKPbc	**PKPbc**	**13 50 36.4 -1.4**
RCBR	**Riachuelo**	**148.33**	**355**	*e*P	**PKPbc**	**13 50 36.4 -1.2**
VILB	**Vilhena**	**148.83**	**44**	*e*P	**PKPbc**	**13 50 38.3 -0.5**
CLDB	**Colider**	**149.27**	**35**	*e*P	**PKPbc**	**13 50 38.9 -1.0**
AC05	**El Transito**	**152.22**	**81**		**PKiKP**	**13 50 47.5 +0.6**
PLCA	**Paso Flores**	**155.10**	**107**	PKP	**PKPdf**	**13 50 45.0 +1.4**
	comp=Z,1.6nm,0.8s,baz=257,slow=18,SNR=1.7					
PLCA				PKPab	**PKPab**	**13 51 08.3 -0.1**
	comp=Z,3.0nm,1.0s,baz=217,slow=11,SNR=2.9					
IPMB	**Ipameri, GO**	**158.76**	**26**	*e*P	**PKPdf**	**13 50 52.8 +3.9**
TRCB	**Terra Rica**	**160.98**	**43**	*e*P	**PKPdf**	**13 50 56.4 +5.1**
SPB	**Sao Paulo**	**164.16**	**31**	*e*P	**PKPdf**	**13 50 56.6 +2.3**

*OSPL **24** 13:35:43.8±0.8, 20°.46N×74°.56W, h38km±33km, ML3.1*
*SSNC **24** 13:35:44.2±1.1, 19°.78N×74°.39W, h10km±8km, MD3.1, ML3.0, MW3.0*

ISC 24 13:35:42.1±3.3, **19°.91N**±0°.07×**74°.54W**±0°.03, **h9**km±25km, **n9**, σ1°59/17, **Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.39**	**47**	*e*P	**Pb**	**13 35 51.7**	**+0.5**
MASC				*e*S	**Sb**	**13 35 57.5**	**+0.2**
MASC				IAML		13 35 59.0	
	comp=N,562nm,0.1s						
MASC				IAML		13 35 59.4	
	comp=E,944nm,0.1s						
GTBY	**Guantanamo Bay**	**0.54**	**272**	*i* P	**Pn**	**13 35 56.4**	**+0.4**
GTBY				*e*S	**Sn**	**13 36 06.6**	**+1.4**
GTBY				IAML		13 36 12.5	
	comp=Z,771nm,0.6s						
GTMO	**Guantanamo**	**0.59**	**287**	*e*P	**Pb**	**13 35 55.7**	**+1.1**
GTMO				*e*S	**Sb**	**13 36 04.3**	**+1.2**
GTMO				IAML		13 36 06.6	
	comp=N,4μm,0.3s						
GTMO				IAML		13 36 06.6	
	comp=E,3μm,0.5s						
MOAC	**Moa**	**0.85**	**332**	*e*P	**Pn**	**13 35 60.0**	**-0.2**
MOAC				*e*S	**Sb**	**13 36 11.2**	**+0.7**
RCC	**Rio Carpintero**	**1.09**	**275**	*e*P	**Pn**	**13 36 04.1**	**+0.5**
RCC				*e*S	**Sn**	**13 36 19.4**	**+0.5**
LMGC	**Las Mercedes**	**2.33**	**274**	*e*P	**Pb**	**13 36 22.7**	**-1.5**
LMGC				*e*S	**Sn**	**13 36 50.9**	**+1.6**
LMGC				IAML		13 36 55.2	
	comp=N,58nm,0.1s						
LMGC				IAML		13 36 55.3	
	comp=E,67nm,0.1s						
PAPH	**Port-au-Prince**	**2.52**	**123**	*i* P	**Pb**	**13 36 26.5**	**-1.1**
SDDR	**Presa de Saban**	**3.20**	**106**	*i* P	**Pn**	**13 36 33.9**	**+1.2**
SDDR				*e*S	**Sn**	**13 37 10.2**	**-0.8**
SDDR				IAML		13 37 11.7	
	comp=Z,35nm,0.5s						
CCCC	**Cccc**	**3.29**	**294**	*e*P	**Pn**	**13 36 32.4**	**-1.4**
CCCC				*e*S	**Sn**	**13 37 09.0**	**-4.1**
CCCC				IAML		13 37 15.4	
	comp=N,12nm,0.3s						
CCCC				IAML		13 37 15.7	
	comp=E,6.1nm,0.4s						

*ISN **24** 13:39:09.3±1.1, 32°.42N×47°.26E, h15km±6km, ML3.5*
*THR **24** 13:39:10.2±0.3, 32°.45N×47°.20E, h18km±2km, ML3.4*
*TEH **24** 13:39:11.2, 32°.51N×47°.27E, h14km, ML3.6*

ISC 24 13:39:09.8±1.7, **32°.42N**±0°.04×**47°.17E**±0°.04, **h1**km±14km, **n40**, σ0°75/47, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.28**	**20**	*e*Pg	**Pg**	**13 39 14.6**	**-0.5**
DHL1				*e*Sg	**Sg**	**13 39 18.6**	**-0.1**
IKFM	**Kafar-mosalman**	**1.24**	**27**	*e*Pg	**Pn**	**13 39 32.5**	**-1.8**
IKFM				*e*		13 39 57.9	
IBDR	**Badra**	**1.25**	**304**	*e*Pg	**Pn**	**13 39 33.0**	**-1.5**
IBDR				*e*Sg	**Sb**	**13 39 51.0**	**+0.1**
IBDR				AML	AML	13 39 56.1	
	comp=E,737nm,0.4s						
IBDR				AML	AML	13 39 57.2	
	comp=N,935nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.42**	**102**	*e*Pg	**Pn**	**13 39 35.9**	**-0.8**
SHGR				*e*Sg	**Sb**	**13 39 54.8**	**-0.8**
SHGR				IAML		13 40 06.5	
	comp=N,439nm,0.6s						
SHGR				IAML		13 40 07.0	
	comp=E,600nm,0.8s						
SHGR	**Shooshtar-Gavs**	**1.42**	**102**	*e*Pn	**Pn**	**13 39 35.9**	**-0.8**
IKMR	**Kamar-syah**	**1.49**	**43**	*e*Pg	**Pn**	**13 39 37.8**	**0.0**
IKMR				*e*		13 40 06.8	
IDOB	**Doab**	**1.60**	**32**	*e*Pg	**Pn**	**13 39 39.7**	**+0.1**
AHWZ	**Ahwaz**	**1.66**	**131**	*e*Pg	**Pg**	**13 39 43.0**	**+1.4**
NSR	**Nassriya**	**1.66**	**212**	*e*Pn	**Pn**	**13 39 40.0**	**-0.1**
NSR				*e*Sn	**Sn**	**13 40 01.0**	**-1.0**
NSR				AML	AML	13 40 08.6	
	comp=E,800nm,0.2s						
IKOM	**Komasi**	**1.77**	**9**	*e*Pg	**Pb**	**13 39 42.5**	**-0.7**
IKOM				*e*		13 40 17.9	
KCHF	**Cheshme Sefid,**	**1.85**	**357**	*e*Pg	**Pb**	**13 39 44.4**	**-0.2**
KCHF				*e*		13 40 11.2	
BMDN	**Meydan**	**1.87**	**48**	*e*Pn	**Pn**	**13 39 43.2**	**+0.1**
BMDN				*e*		13 39 46.4	
KER	**Kermanshah**	**1.96**	**359**	*e*Pg	**Pb**	**13 39 45.6**	**-0.8**
IGHG	**Ghaleghazi**	**1.97**	**345**	*e*Pn	**Pb**	**13 39 45.9**	**-0.8**
IGHG				*e*		13 40 28.6	
IVIS	**Veis**	**2.12**	**353**	*e*Pn	**Pn**	**13 39 46.6**	**+0.1**
IVIS				*e*		13 40 25.1	
IBZA	**Bozab**	**2.12**	**16**	*e*Pn	**Pn**	**13 39 47.3**	**+0.6**
IBZA				*e*		13 40 25.8	
HSAM	**Samen**	**2.15**	**33**	*e*Pn	**Pn**	**13 39 47.4**	**+0.3**
HSAM				*e*		13 39 59.6	
IDHR	**Dehrash**	**2.37**	**344**	*e*Pn	**Pn**	**13 39 51.0**	**+1.0**
IDHR				*e*		13 40 28.2	
ILIN	**Lien**	**2.50**	**356**	*e*Pn	**Pn**	**13 39 52.8**	**+0.9**
ILIN				*e*		13 40 39.5	
BHD	**Baghdad**	**2.50**	**291**	*e*Pn	**Pn**	**13 39 52.0**	**+0.4**
BHD				*e*Sn	**Sn**	**13 40 24.0**	**+1.2**
BHD				AML	AML	13 40 33.0	
	comp=E,373nm,0.3s						
IALM	**Almabolaq**	**2.57**	**19**	*e*Pn	**Pn**	**13 39 53.5**	**+0.6**
SNGE	**Sanandaj**	**2.67**	**3**	*e*Pn	**Pn**	**13 39 54.2**	**0.0**
SNGE				*e*Sg	**Sb**	**13 40 33.1**	**+1.1**
SNGE				IAML		13 40 46.6	
	comp=N,146nm,0.7s						
SNGE	**Sanandaj**	**2.67**	**3**	*e*Pn	**Pn**	**13 39 54.2**	**0.0**
KHMZ	**Khomeyn**	**2.68**	**60**	*e*Pn	**Pn**	**13 39 54.4**	**0.0**
KHMZ				*e*Sg	**Sb**	**13 40 33.4**	**+1.0**
KHMZ	**Khomeyn**	**2.68**	**60**	*e*Pn	**Pn**	**13 39 54.4**	**0.0**
HAGD	**Aghdareh**	**2.90**	**34**	*e*Pn	**Pn**	**13 39 57.8**	**+0.3**
HAGD				*e*		13 40 04.2	
HSRG	**Sareghieh**	**2.96**	**18**	*e*Pn	**Pn**	**13 39 58.1**	**-0.2**
HSRG				*e*		13 40 46.2	
JHBN	**Jahan bin**	**2.96**	**93**	*e*Pn	**Pn**	**13 39 58.6**	**+0.2**
JHBN				*e*		13 40 49.0	
IPIR	**Pirpir**	**3.15**	**84**	*e*Pn	**Pn**	**13 40 01.2**	**+0.3**
IPIR				*e*		13 40 45.1	
ASAO	**Ashtian**	**3.19**	**48**	*e*Pn	**Pn**	**13 40 01.4**	**0.0**
ASAO	**Ashtian**	**3.19**	**48**	*e*Pn	**Pn**	**13 40 01.4**	**0.0**
IKLH	**Kolahrood**	**3.81**	**75**	*e*Pn	**Pn**	**13 40 09.5**	**-0.5**
QAM	**Ghamsar**	**3.82**	**68**	*e*Pn	**Pn**	**13 40 11.3**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.84**	**31**	*e*Pn	**Pn**	**13 40 10.3**	**0.0**
KLNJ	**Kolanjah**	**4.02**	**109**	*e*Pn	**Pn**	**13 40 12.9**	**0.0**
IZEF	**Zefreh**	**4.38**	**82**	*e*Pn	**Pn**	**13 40 18.0**	**+0.3**
QSDN	**Sirdan**	**4.40**	**22**	*e*Pn	**Pn**	**13 40 18.8**	**+0.8**
KRSH	**Karshahi**	**4.44**	**68**	*e*Pn	**Pn**	**13 40 18.1**	**-0.4**
QALM	**Alamut, Qazvin**	**4.92**	**35**	*e*Pn	**Pn**	**13 40 25.4**	**+0.2**
IDMV	**Damavand**	**5.12**	**51**	*e*Pn	**Pn**	**13 40 26.6**	**-1.4**

*OSPL **24** 13:42:11.8±0.5, 19°.83N×74°.84W, h94km±5km, ML3.9*
*SSNC **24** 13:42:14.0±2.3, 19°.94N×74°.52W, h0km±10km, MD3.9, ML3.5, MW3.8*

ISC 24 13:42:13.6±1.2, **19°.98N**±0°.05×**74°.54W**±0°.03, **h19**km±4km, **n20**, σ2°17/32, **1C, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.35**	**56**	*i* P	**Pg**	**13 42 20.3**	**-0.8**
MASC				*i* S	**Sg**	**13 42 26.5**	**+0.3**
MASC				IAML		13 42 28.4	
	comp=N,4μm,0.2s						
MASC				IAML		13 42 28.5	
	comp=E,4μm,0.3s						
GTBY	**Guantanamo Bay**	**0.54**	**265**	*e*P	**Pb**	**13 42 24.9**	**+0.5**
GTBY				*e*S	**Sn**	**13 42 35.4**	**+0.6**
GTBY	**Guantanamo Bay**	**0.54**	**265**	*i* P	**Pb**	**13 42 25.1**	**+0.7**
GTBY				*e*S	**Sn**	**13 42 34.3**	**-0.5**
GTBY				IAML		13 42 41.4	
	comp=Z,7μm,0.6s						
GTMO	**Guantanamo**	**0.57**	**280**	*i* P	**Pg**	**13 42 24.3**	**-0.9**
GTMO				*i* S	**Sb**	**13 42 33.5**	**+0.8**
MOAC	**Moa**	**0.78**	**330**	*e*P	**Pb**	**13 42 28.8**	**+0.1**
MOAC				*e*S	**Sn**	**13 42 40.7**	**-0.2**
RCC	**Rio Carpintero**	**1.09**	**271**	*i* P	**Pb**	**13 42 32.9**	**-1.0**
RCC				*e*S	**Sb**	**13 42 47.7**	**0.0**
RCC				IAML		13 42 52.4	
	comp=N,992nm,0.4s						
RCC				IAML		13 42 52.6	
	comp=E,1μm,0.5s						
LMGC	**Las Mercedes**	**2.32**	**272**	*e*P	**Pn**	**13 42 50.1**	**-0.7**
LMGC				*e*S	**Sn**	**13 43 19.9**	**+1.1**
LGNH	**Logne**	**2.34**	**128**	*i* P	**Pn**	**13 42 49.0**	**-2.1**
LGNH				*e*S	**Sn**	**13 43 16.8**	**-2.4**
LGNH				IAML		13 43 22.2	
	comp=Z,148nm,0.7s						
PAPH	**Port-au-Prince**	**2.56**	**124**	*i* P	**Pn**	**13 42 52.2**	**-1.9**
PAPH				*e*S	**Sn**	**13 43 22.5**	**-2.3**
PAPH				IAML		13 43 43.4	
	comp=Z,227nm,0.5s						
SDDR	**Presa de Saban**	**3.22**	**107**	*i* P	**Pn**	**13 43 01.9**	**-1.3**
SDDR				*e*S	**Sn**	**13 43 38.8**	**-2.4**
SDDR				IAML		13 44 06.0	
	comp=Z,334nm,0.6s						
CCCC	**Cccc**	**3.26**	**292**	⇑*i*P	**Pn**	**13 43 01.7**	**-2.0**
CCCC				*e*S	**Sn**	**13 43 34.1**	**-7.9**
GRTK	**Grand Turk**	**3.53**	**64**	*e*P	**Pn**	**13 43 09.3**	**+1.8**
GRTK				*e*S	**Sn**	**13 43 48.5**	**-0.2**
CAPC	**Capurgana**	**11.60**	**194**	*e*P	**Pn**	**13 44 59.3**	**+1.0**
DBBC	**Dabeiba**	**12.99**	**187**	*e*P	**Pn**	**13 45 19.2**	**+1.9**
PTBC	**PUERTO BERRIO,**	**13.36**	**180**	*e*P	**Pn**	**13 45 23.7**	**+1.3**
CBOC	**Ciudad Bolivar**	**14.10**	**186**	*e*P	**Pn**	**13 45 36.2**	**+3.6**
GUY2C	**Guyana, Caldas**	**14.69**	**183**	*e*P	**Pn**	**13 45 42.0**	**+1.0**
CHIC	**Chingaza**	**15.28**	**177**	*e*P	**Pn**	**13 45 49.8**	**+1.0**
TOLC	**Tolima**	**15.32**	**183**	*e*P	**P**	**13 45 56.8**	**+2.8**
ORTC	**Ortega, Tolima**	**15.99**	**183**	*e*P	**P**	**13 46 02.1**	**+1.0**

*ASRS **24** 13:53:26.1±0.2, 52°N±1°×8°6E±°, h10km, MLh3.2/12,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
OriginPublished
*NNC **24** 13:53:33.9±2.9, 51°.55N×85°.41E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=25.7km s-min=17.1km az=79.0

ISC 24 13:53:27.6±0.9, **51°.85N**±0°.03×**86°.07E**±0°.03, **h13**km±7km, **n20**, σ1°41/38, **3C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALT	**Gorno-Altaysk,**	**0.14**	**326**	Pg	**Pg**	**13 53 30.7**	**-0.3**
GALT				Sg	**Sg**	**13 53 33.0**	**-0.4**
ARTR	**Artybash**	**0.75**	**93**	Pg	**Pb**	**13 53 42.6**	**0.0**
ARTR				Sg	**Sb**	**13 53 53.5**	**+0.7**
UKR	**Ust'-Kan**	**1.22**	**222**	Pg	**Pn**	**13 53 48.6**	**-1.9**
UKR				Sg	**Sb**	**13 54 03.3**	**-3.0**
TASR	**Tashtagol**	**1.44**	**50**	Pg	**Pg**	**13 53 55.2**	**0.0**
TASR				Sg	**Sg**	**13 54 15.1**	**+1.2**
ULGR	**Ulagan, Altay**	**1.71**	**135**	Pg	**Pb**	**13 53 59.9**	**+1.0**
ULGR				Sg	**Sb**	**13 54 21.6**	**+1.2**
CHBI	**Chibit, Altay**	**1.78**	**149**	Pg	**Pb**	**13 54 00.8**	**+0.6**
CHBI				Sg	**Sg**	**13 54 26.3**	**+1.4**
DGZ	**Jazzator, Alta**	**2.32**	**158**	Pg	**Pb**	**13 54 09.5**	**+0.1**
DGZ				Sg	**Sb**	**13 54 40.0**	**+2.0**
POMOR	**Pomortsevo, Ku**	**2.58**	**6**	Pg	**Pg**	**13 54 15.8**	**-1.2**
POMOR				Sg	**Sg**	**13 54 49.4**	**-1.0**
SALR	**Pechorkino, Sa**	**2.58**	**355**	Pg	**Pg**	**13 54 15.0**	**-2.0**
SALR				Sg	**Sg**	**13 54 49.3**	**-1.2**
TEL	**Teeli**	**2.71**	**106**	Pg	**Pb**	**13 54 17.7**	**+1.6**
TEL				Sg	**Sg**	**13 54 54.4**	**-0.4**
TBTR	**Tabat**	**3.05**	**67**	Pg	**Pg**	**13 54 23.7**	**-2.3**
TBTR				Sg	**Sg**	**13 55 04.1**	**-1.4**
DJO	**Djoy, Khakassi**	**3.30**	**71**	Pg	**Pg**	**13 54 28.5**	**-2.2**
DJO				Sg	**Sg**	**13 55 14.4**	**+1.0**
DJOS	**Djoyskaya Sosn**	**3.41**	**72**	Sg	**Sg**	**13 55 16.4**	**-0.5**
CERR	**Cheremushki**	**3.43**	**71**	Pg	**Pg**	**13 54 31.3**	**-1.9**
CERR				Sg	**Sg**	**13 55 17.8**	**+0.2**
NVS	**Novosibirsk**	**3.45**	**332**	Pg	**Pg**	**13 54 34.0**	**+0.4**
NVS				Sg	**Sg**	**13 55 18.9**	**+0.7**
NVSII	**Novosibirsk**	**3.45**	**332**	Pg	**Pg**	**13 54 34.1**	**+0.5**
NVSII				Sg	**Sg**	**13 55 19.3**	**+1.1**
SHRR	**Shira**	**3.62**	**41**	Pg	**Pb**	**13 54 33.2**	**+1.8**
SHRR				Sg	**Sg**	**13 55 22.6**	**-1.0**
KURK	**Kurchatov**	**4.81**	**259**	⇓Pn	**Pn**	**13 54 40.6**	**+0.9**
	2.6nm,0.7s						
KURK				⇑Lg	Lg	13 55 52.1	
	16nm,0.8s						
MK31	**Makanchi Array**	**5.63**	**207**	⇓Pn	**Pn**	**13 54 53.2**	**+2.2**
	0.6nm,0.3s,baz=26,slow=13,SNR=65						
MK31				⇓Sn	**Sn**	**13 55 54.7**	**-0.8**
	1.2nm,0.6s,baz=26,slow=27,SNR=5.0						
MK31				⇑Lg	Lg	13 56 15.5	
	2.4nm,0.5s,baz=32,slow=30,SNR=4.5						
MAKZ	**Makanchi**	**5.71**	**210**	⇑Pn	**Pn**	**13 54 53.3**	**+1.2**
	1.7nm,0.5s						
MAKZ				⇓Sn	**Sn**	**13 55 56.3**	**-1.2**
	4.4nm,0.9s						
MAKZ				⇓Lg	Lg	13 56 18.2	
	4.0nm,0.9s						

*JMA **24** 13:58:01.6±0.1, 23°.21N×121°.56E, h44km±2km, M3.2*
*TAP **24** 13:58:02.6, 23°.23N×121°.57E, h39km, ML3.4, C*

ISC 24 13:58:01.8±1.2, **23°.21N**±0°.02×**121°.64E**±0°.02, **h21**km±4km, **n113**, σ0°89/214, **5C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.28**	**246**	⇑*i*P	**Pn**	**13 58 09.9**	**-0.7**
	baz=235						
CHKT				*i* S	**Sn**	**13 58 15.2**	**-0.9**
	baz=235						
FULB	**Fuli**	**0.32**	**268**	*i* P	**Pn**	**13 58 10.3**	**-0.9**
	baz=263						
FULB				*i* S	**Sn**	**13 58 16.9**	**-0.4**
	baz=263						
EYUL	**Yuli**	**0.32**	**295**	P	**Pn**	**13 58 10.8**	**-0.4**
	baz=297						
EYUL				S	**Sn**	**13 58 17.7**	**+0.4**
	baz=297						
HGSD	**Ruisui**	**0.34**	**325**	⇑P	**Pn**	**13 58 10.5**	**-1.0**
	baz=333						
HGSD				*e*S	**Sn**	**13 58 17.0**	**-0.8**
	baz=333						
TWF1	**Yuli**	**0.34**	**294**	⇓*i*P	**Pn**	**13 58 10.7**	**-0.8**
	baz=296						
TWF1				*i* S	**Sn**	**13 58 16.9**	**-1.0**
	baz=296						
YULB	**Yu-li**	**0.36**	**300**	⇓P	**Pn**	**13 58 10.8**	**-1.0**
	baz=303						
YULB				S	**Sn**	**13 58 16.6**	**-1.7**
	baz=303						
EDH	**Donghe**	**0.39**	**232**	P	**Pn**	**13 58 11.6**	**-0.5**
	baz=221						
EDH				S	**Sn**	**13 58 18.3**	**-0.6**
	baz=221						

WTP	**Ta-pu**	**0.94 272**	*i* P		**Pb**	**13 58 19.7**	**+0.2**
	baz=270						
WTP			*i* S		**Sn**	**13 58 32.5**	**-0.2**
	baz=270						
CHGB	**Renai**	**0.95 333**	⇑P		**Pb**	**13 58 19.3**	**-0.3**
	baz=343						
CHGB			S		**Sb**	**13 58 31.1**	**-0.8**
	baz=343						
SMLT	**Sun Moon Lake**	**0.95 315**	*i* P		**Pb**	**13 58 19.7**	**0.0**
	baz=321						
SMLT			*i* S		**Sb**	**13 58 31.6**	**-0.3**
	baz=321						
NACB	**Ninganchiao**	**0.96 358**	P		**Pb**	**13 58 19.1**	**-0.6**
	baz=350						
NACB			S		**Sb**	**13 58 30.8**	**-1.2**
	baz=350						
CHN5	**Tsauling**	**0.96 294**	*i* P		**Pn**	**13 58 20.2**	**+0.1**
	baz=294						
CHN5			*i* S		**Sn**	**13 58 33.3**	**0.0**
	baz=294						
CHN4	**Tsaushan**	**0.97 278**	*i* P		**Pn**	**13 58 20.3**	**+0.1**
	baz=277						
CHN4			*i* S		**Sn**	**13 58 34.3**	**+0.9**
	baz=277						
SGST	**Jiashian**	**0.98 263**	*i* P		**Pb**	**13 58 19.3**	**-0.7**
	baz=260						
SGST			S		**Sn**	**13 58 33.1**	**-0.5**
	baz=260						
WHF	**Hehuan Shan**	**0.99 340**	*i* P		**Pb**	**13 58 19.8**	**-0.7**
	baz=343						
WHF			S		**Sb**	**13 58 32.5**	**-0.8**
	baz=343						
TYC	**Yuchr**	**0.99 314**	*i* P		**Pb**	**13 58 20.3**	**0.0**
	baz=324						
TYC			*i* S		**Sb**	**13 58 33.2**	**+0.2**
	baz=324						
ETLH	**Xiulin Townshi**	**1.00 352**	P		**Pb**	**13 58 19.6**	**-0.9**
	baz=355						
ETLH			S		**Sb**	**13 58 31.0**	**-2.3**
	baz=355						
CHN1	**Nanshi**	**1.02 269**	*i* P		**Pn**	**13 58 21.2**	**+0.3**
	baz=266						
CHN1			*i* S		**Sn**	**13 58 35.2**	**+0.6**
	baz=266						
WJS	**Zhushan**	**1.03 306**	*e*P		**Pn**	**13 58 21.7**	**+0.7**
	baz=307						
WJS			S		**Sn**	**13 58 36.1**	**+1.2**
	baz=307						
SSD	**Sandimen**	**1.04 244**	P		**Pb**	**13 58 20.5**	**-0.6**
	baz=240						
SSD			S		**Sb**	**13 58 34.0**	**-0.2**
	baz=240						
TSMG	**Majia**	**1.05 241**	*e*P		**Pb**	**13 58 20.4**	**-0.8**
	baz=232						
SNST	**Tainan City**	**1.05 271**	P		**Pn**	**13 58 21.5**	**+0.2**
	baz=269						
SNST			S		**Sn**	**13 58 36.5**	**+1.2**
	baz=269						
TWK	**Hsinying**	**1.06 273**	*i* P		**Pb**	**13 58 21.5**	**0.0**
	baz=271						
TWK			S		**Sn**	**13 58 36.2**	**+0.6**
	baz=271						
TAW	**Tawu**	**1.09 219**	P		**Pn**	**13 58 20.5**	**-1.3**
	baz=216						
TAW			S		**Sb**	**13 58 33.7**	**-2.1**
	baz=216						
FUSS	**Fushou**	**1.09 341**	P		**Pn**	**13 58 21.8**	**-0.3**
	baz=353						
FUSS			S		**Sb**	**13 58 35.2**	**-0.9**
	baz=353						
WGK	**Gukeng**	**1.10 296**	*i* P		**Pb**	**13 58 22.7**	**+0.6**
	baz=296						
WGK			*i* S		**Sn**	**13 58 37.0**	**+0.6**
	baz=296						
WNT	**Mingjian**	**1.10 307**	*i* P		**Pb**	**13 58 22.1**	**0.0**
	baz=309						
WNT			*i* S		**Sn**	**13 58 36.8**	**+0.3**
	baz=309						
EAST	**Anshuo**	**1.10 222**	P		**Pn**	**13 58 20.8**	**-1.2**
	baz=218						
EAST			S		**Sb**	**13 58 33.7**	**-2.4**
	baz=218						
MASBT	**Mashibuluo**	**1.10 237**	P		**Pn**	**13 58 21.2**	**-0.8**
	baz=230						
MASBT			*e*S		**Sb**	**13 58 35.6**	**-0.5**
	baz=230						
SCST	**Cishan**	**1.10 253**	*e*P		**Pb**	**13 58 23.5**	**+1.3**
	baz=250						
SCST			*e*S		**Sn**	**13 58 36.5**	**-0.1**
	baz=250						
WDLH	**Douliu**	**1.12 295**	P		**Pb**	**13 58 22.8**	**+0.4**
	baz=296						
TWT	**Tachien**	**1.12 338**	P		**Pb**	**13 58 22.8**	**+0.3**
	baz=347						
TWT			S		**Sb**	**13 58 35.9**	**-0.9**
	baz=347						
TDCB	**Techi**	**1.13 337**	⇑P		**Pn**	**13 58 22.3**	**-0.1**
	baz=347						
TDCB			S		**Sb**	**13 58 35.4**	**-1.6**
	baz=347						
CHY	**Chiayi**	**1.15 285**	P		**Pb**	**13 58 23.2**	**+0.2**
	baz=284						
CHY			S		**Sn**	**13 58 39.6**	**+1.8**
	baz=284						
SGLT	**Jiouru**	**1.16 246**	P		**Pb**	**13 58 23.7**	**+0.5**
	baz=233						
SGLT			*e*S		**Sn**	**13 58 39.0**	**+1.0**
	baz=233						
LAY	**Lan-yu**	**1.17 184**	P		**Pn**	**13 58 22.1**	**-0.8**
	baz=174						
LAY			S		**Sb**	**13 58 36.9**	**-1.1**
	baz=174						
CHN3	**Shinhua**	**1.18 264**	P		**Pb**	**13 58 24.8**	**+1.3**
	baz=261						
CHN3			S		**Sn**	**13 58 41.4**	**+2.9**
	baz=261						
TWM1	**Shoushan**	**1.19 251**	*i* P		**Pb**	**13 58 24.8**	**+1.2**
	baz=249						
TWM1			S		**Sn**	**13 58 42.0**	**+3.4**
	baz=249						
ENA	**Nanau**	**1.22 4**	*i* P		**Pn**	**13 58 23.0**	**-0.5**
	baz=17						
ENA			S		**Sb**	**13 58 38.8**	**-0.6**
	baz=17						
SSPT	**Xinbi**	**1.23 234**	P		**Pb**	**13 58 24.1**	**-0.1**
	baz=223						
SSPT			*e*S		**Sn**	**13 58 39.8**	**+0.2**
	baz=223						
NNSB	**Datong**	**1.23 349**	P		**Pn**	**13 58 23.3**	**-0.6**
NNSB			*e*S		**Sb**	**13 58 38.3**	**-1.7**
NNSH	**Datong**	**1.23 349**	P		**Pn**	**13 58 24.1**	**+0.2**
	baz=360						
NNSH			S		**Sb**	**13 58 38.3**	**-1.7**
	baz=360						
WHP	**Taichung City**	**1.24 329**	P		**Pb**	**13 58 24.6**	**+0.1**
	baz=337						
WHP			*e*S		**Sn**	**13 58 40.1**	**+0.1**
	baz=337						
ENAH	**Nanao**	**1.24 7**	P		**Pn**	**13 58 23.5**	**-0.4**
	baz=10.0						
ENAH			S		**Sn**	**13 58 39.3**	**-0.7**
	baz=10.0						
WTK	**Tuku**	**1.24 293**	P		**Pn**	**13 58 24.0**	**+0.1**
	baz=293						
WTK			*e*S		**Sb**	**13 58 40.6**	**+0.5**
	baz=293						
NNS	**Nan Shan**	**1.25 349**	P		**Pn**	**13 58 23.8**	**-0.3**
NNS			S		**Sn**	**13 58 39.6**	**-0.7**
SLIU	**Shizi**	**1.26 218**	*e*P		**Pn**	**13 58 22.8**	**-1.3**
	baz=216						
SLIU			*e*S		**Sn**	**13 58 39.4**	**-1.0**
	baz=216						
ICHU	**Yijhu**	**1.26 277**	*e*P		**Pn**	**13 58 24.3**	**+0.2**
	baz=275						
ICHU			*e*S		**Sn**	**13 58 40.3**	**-0.1**
	baz=275						
WLGB	**Puzi**	**1.26 282**	P		**Pn**	**13 58 23.8**	**-0.3**
	baz=281						
WLGB			*e*S		**Sn**	**13 58 39.4**	**-1.0**
	baz=281						
TCU	**Taichung**	**1.28 317**	*e*P		**Pb**	**13 58 26.1**	**+0.8**
	baz=306						
TCU			*e*S		**Sb**	**13 58 43.3**	**+2.0**
	baz=306						
SNJT	**Kaohsiung City**	**1.28 249**	*e*P		**Pb**	**13 58 25.9**	**+0.7**
	baz=247						
WCHH	**Zhanghua**	**1.31 311**	P		**Pb**	**13 58 25.6**	**-0.2**
	baz=312						
WCHH			S		**Sb**	**13 58 42.8**	**+0.6**
	baz=312						
CHN8	**Yiju**	**1.32 276**	P		**Pn**	**13 58 25.3**	**+0.3**
	baz=274						
CHN8			S		**Sb**	**13 58 42.4**	**0.0**
	baz=274						
RLNB	**Erlin**	**1.35 300**	*e*P		**Pn**	**13 58 25.8**	**+0.4**
	baz=301						
RLNB			*e*S		**Sb**	**13 58 43.3**	**0.0**
	baz=301						
WSF	**Szhu**	**1.37 288**	*e*P		**Pn**	**13 58 25.4**	**-0.2**
	baz=288						
WSF			*e*S		**Sn**	**13 58 42.4**	**-0.8**
	baz=288						
NDT	**Datong Townshi**	**1.39 355**	*e*P		**Pn**	**13 58 25.8**	**-0.2**
	baz=359						
TWC	**Suao**	**1.41 8**	*e*P		**Pn**	**13 58 26.4**	**+0.3**
	baz=24						
TWC			*e*S		**Sn**	**13 58 44.3**	**+0.3**
	baz=24						
WTCT	**Ta-ch'eng**	**1.41 298**	*e*P		**Pn**	**13 58 26.4**	**+0.3**
	baz=298						
WTCT			*e*S		**Sn**	**13 58 43.8**	**-0.2**
	baz=298						
ENTT	**Nioudou**	**1.42 357**	P		**Pn**	**13 58 26.2**	**-0.2**
	baz=352						
ENTT			S		**Sn**	**13 58 44.3**	**-0.2**
	baz=352						
NSY	**Sanyi**	**1.44 326**	*e*P		**Pb**	**13 58 27.9**	**-0.1**
	baz=329						
NSY			S		**Sb**	**13 58 46.6**	**+0.6**
	baz=329						
WLCH	**Liuqiu**	**1.45 234**	*e*P		**Pb**	**13 58 29.7**	**+1.7**
	baz=231						
WLCH			*e*S		**Sb**	**13 58 49.3**	**+3.4**
	baz=231						
WDJ	**Dajia District**	**1.46 321**	*e*P		**Pn**	**13 58 27.6**	**+0.7**
	baz=323						
WDJ			*e*S		**Sb**	**13 58 47.4**	**+1.1**
	baz=323						
TWP	**Hsiaoliuchiu**	**1.46 234**	*e*P		**Pb**	**13 58 28.5**	**+0.3**
	baz=231						
TWP			*e*S		**Sb**	**13 58 47.4**	**+1.0**
	baz=231						
HEN	**Hengchun**	**1.46 215**	*e*P		**Pb**	**13 58 28.0**	**-0.2**
	baz=202						
HEN			*e*S		**Sn**	**13 58 45.6**	**+0.2**
	baz=202						
YHNB	**Yeheng**	**1.47 351**	*e*P		**Pn**	**13 58 26.9**	**-0.2**
	baz=353						
YHNB			*e*S		**Sn**	**13 58 44.6**	**-1.2**
	baz=353						
TSEB	**Hengchuen, Pin**	**1.47 208**	*e*S		**Sn**	**13 58 45.1**	**-0.6**
	baz=207						
TWKBT	**Hengchun**	**1.48 211**	*e*P		**Pn**	**13 58 26.8**	**-0.4**
	baz=199						
TWKBT			*e*S		**Sn**	**13 58 45.0**	**-0.8**
	baz=199						
TWK1	**Hengchun**	**1.48 212**	*e*P		**Pn**	**13 58 26.8**	**-0.4**
	baz=199						
TWK1			*e*S		**Sn**	**13 58 44.1**	**-1.7**
	baz=199						
NSK	**Sanguang**	**1.48 350**	P		**Pn**	**13 58 27.6**	**+0.4**
	baz=353						
NSK			*e*S		**Sn**	**13 58 44.6**	**-1.4**
	baz=353						
PTSB	**Yuanli**	**1.50 325**	*e*P		**Pb**	**13 58 28.9**	**-0.1**
	baz=327						
PTSB			*e*S		**Sb**	**13 58 47.1**	**-0.4**
	baz=327						
TWE	**Neicheng**	**1.50 1**	*e*P		**Pn**	**13 58 27.4**	**-0.1**
	baz=356						
TWE			*e*S		**Sn**	**13 58 45.9**	**-0.5**
	baz=356						
NSTT	**Nanjuang**	**1.53 338**	*e*P		**Pn**	**13 58 28.5**	**+0.7**
	baz=340						
NSTT			*e*S		**Sn**	**13 58 46.9**	**-0.2**
	baz=340						
NMLH	**Miaoli**	**1.53 330**	*e*P		**Pb**	**13 58 28.9**	**-0.6**
	baz=345						
NMLH			*e*S		**Sb**	**13 58 48.4**	**-0.1**
	baz=345						
LIOB	**Emei**	**1.54 338**	*e*P		**Pb**	**13 58 29.0**	**-0.6**
	baz=341						
LIOB			*e*S		**Sb**	**13 58 48.9**	**+0.2**
	baz=341						
NWLT	**Wulai**	**1.56 355**	*e*P		**Pb**	**13 58 30.0**	**-0.1**
	baz=358						
NWLT			*e*S		**Sn**	**13 58 47.2**	**-0.8**
	baz=358						
NTC	**Toucheng**	**1.65 6**	*e*P		**Pn**	**13 58 30.3**	**+0.9**
	baz=357						
NTC			*e*S		**Sn**	**13 58 49.8**	**-0.1**
	baz=357						
EGS		**1.65 9**	*e*P		**Pn**	**13 58 30.3**	**+0.8**
	baz=12						
JYNG	**Yonagunijimaku**	**1.72 44**	P		**Pn**	**13 58 31.6**	**+1.2**
JYNG			*e*S		**Sn**	**13 58 52.4**	**+0.7**
TIPB	**Shuangxi**	**1.76 6**	*e*P		**Pb**	**13 58 32.8**	**-0.7**
	baz=358						
TIPB			*e*S		**Sn**	**13 58 53.7**	**+0.9**
	baz=358						
YOJ	**Yonaguni jima**	**1.77 45**	*e*P		**Pn**	**13 58 32.1**	**+1.0**
	baz=47						
YOJ	**Yonaguni jima**	**1.77 45**	P		**Pn**	**13 58 32.3**	**+1.2**
YOJ			*e*S		**Sn**	**13 58 53.7**	**+0.7**
WDGT	**Dungji**	**1.82 272**	*e*P		**Pn**	**13 58 31.3**	**-0.6**
	baz=270						
NWF	**Wu-fen Shan**	**1.86 4**	*e*P		**Pb**	**13 58 34.2**	**-0.8**
	baz=357						
WFSB	**Wu-fen Shan**	**1.86 4**	*e*P		**Pb**	**13 58 34.2**	**-0.8**
	baz=357						
YM01	**YM01**	**1.93 358**	*e*P		**Pn**	**13 58 34.7**	**+1.3**
	baz=2.0						
HATJ	**Hateruma jima**	**2.16 67**	P		**Pn**	**13 58 37.3**	**+0.8**
HATJ			S		**Sn**	**13 59 03.2**	**+0.6**
IRIF	**Iriomote-Funau**	**2.22 59**	P		**Pn**	**13 58 38.4**	**+1.1**
IRIF			S		**Sn**	**13 59 05.5**	**+1.4**
JKRS	**Kuro-shima**	**2.40 64**	P		**Pn**	**13 58 41.0**	**+1.2**
JKRS			S		**Sn**	**13 59 09.7**	**+1.1**
JIJ	**Ishigaki jima**	**2.56 63**	P		**Pn**	**13 58 42.6**	**+0.5**
JIJ			S		**Sn**	**13 59 12.1**	**-0.5**
JISG	**Ishigakijimahi**	**2.80 60**	P		**Pn**	**13 58 45.6**	**+0.3**
JISG			S		**Sn**	**13 59 17.6**	**-0.9**
JTJ	**Tarama**	**3.14 62**	P		**Pn**	**13 58 50.6**	**+0.6**
JTJ			S		**Sn**	**13 59 27.8**	**+0.9**
JIRB	**Irabujima**	**3.61 63**	P		**Pn**	**13 58 57.1**	**+0.7**
JIRB			*e*S		**Sn**	**13 59 37.5**	**-0.9**
JMJ2	**Miyako jima3**	**3.70 65**	P		**Pn**	**13 58 59.0**	**+1.3**
JMJ2			*e*S		**Sn**	**13 59 41.5**	**+0.8**

*IDC **24** 14:00:27.2±1.7,36.°74N×140.°75E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.3/47,mbtmp3.5/4,ML3.3/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/39,Error ellipse: s-maj=31.1km s-min=24.8km az=79.0*

*JMA **24** 14:00:28.8,36.°85N×140.°63E,h8km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φs156.00000°,δ44.00000°,λ-114.00000°. NP2:φs8.00000°, δ51.00000°,λ-69.00000°. Principal axes: T Plg4.0000°, Azm83.0000°; N Plg17.0000°, Azm174.0000°; P Plg73.0000°, Azm340.0000°;*

JMA Felt II J1.

ISC 24 14:00:28.0±1.1,36.°85N±0.°03×140.°71E±0.°06,h9km±8km, n24,σ0.965/24,4C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.26**	**16**	⇑P	**Pb**	**14 00 34.5**	**-0.5**
ONAJ				S	**Sb**	**14 00 38.6**	**-1.0**
JHO	**Hitachi**	**0.26**	**205**	⇑P	**Pg**	**14 00 33.6**	**+0.2**
JHO				*e*S	**Sg**	**14 00 37.0**	**+0.1**
JFFD	**Fukushimafurud**	**0.27**	**334**	⇓P	**Pg**	**14 00 33.9**	**+0.4**
JFFD				*e*S	**Sg**	**14 00 37.1**	**0.0**
JFK	**Kawauchi**	**0.53**	**14**	P	**Pb**	**14 00 39.2**	**-0.4**
JSB	**Shiboa**	**0.64**	**281**	⇑P	**Pg**	**14 00 40.7**	**+0.2**
JFT	**Otama**	**0.73**	**336**	⇓P	**Pg**	**14 00 42.4**	**+0.3**
JFT				*e*S	**Sg**	**14 00 51.9**	**+0.2**
JYT	**Yasato**	**0.75**	**214**	⇑P	**Pg**	**14 00 42.1**	**-0.3**
JYT				*e*S	**Sg**	**14 00 51.5**	**-0.7**
JFY	**Yanaizu**	**0.98**	**305**	P	**Pg**	**14 00 46.3**	**-0.5**
JFY				*e*S	**Sg**	**14 00 58.2**	**-1.3**
JMM	**Marumori**	**1.02**	**4**	⇓P	**Pg**	**14 00 47.4**	**-0.2**
JMM				*e*S	**Sg**	**14 01 01.0**	**+0.2**
MJAR	**Matsushiro Arr**	**2.03**	**262**	Pn	**Pn**	**14 01 03.0**	**+0.6**
	6.6nm,0.3s,baz=84,slow=15,SNR=149						
MJAR				Sn	**Sn**	**14 01 28.6**	**+0.7**
	3.2nm,0.3s,baz=84,slow=33,SNR=4.8						
MAT	**Matsushiro**	**2.04**	**262**	P	**Pn**	**14 01 03.2**	**+0.7**
MAT				S	**Sn**	**14 01 28.8**	**+0.8**
ASAJ	**Asahikawa**	**7.40**	**11**	Pn	**Pn**	**14 02 17.4**	**+1.3**
	0.6nm,0.3s,baz=216,slow=12,SNR=8.1						
ASAJ				Sn	**Sn**	**14 03 39.6**	**-0.5**
	0.1nm,0.3s,baz=206,slow=6.2,SNR=2.0						
MA2	**Magadan**	**23.65**	**13**	LR	LR	14 15 41.6	
	comp=Z,51nm,20.3s,baz=258,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	14 36 11.4	
	baz=313,slow=75,SNR=87						
H11N1	**WAKE ISLAND Hy**	**28.55**	**120**	T	T	14 36 12.0	
	baz=313,slow=75,SNR=103						
H11N3	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	14 36 12.4	
	baz=313,slow=75,SNR=98						
H11S1	**WAKE ISLAND Hy**	**29.24**	**122**	T	T	14 37 02.5	
	baz=314,slow=76,SNR=150						
H11S3	**WAKE ISLAND Hy**	**29.24**	**122**	T	T	14 37 02.2	
	baz=314,slow=76,SNR=187						
H11S2	**WAKE ISLAND Hy**	**29.25**	**122**	T	T	14 37 03.3	
	baz=314,slow=76,SNR=98						
WRA	**Warramunga Arr**	**56.80**	**187**	P	**P**	**14 10 12.5**	**-0.1**
	0.5nm,0.7s,baz=4.3,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**60.53**	**187**	P	**P**	**14 10 38.4**	**-0.2**
	0.2nm,0.7s,baz=14,slow=8.8,SNR=1.9						
H03N2	**Juan Fernandez**	**147.57**	**96**	T	T	17 05 02.2	
	baz=291,slow=76,SNR=12						
H03N3	**Juan Fernandez**	**147.58**	**96**	T	T	17 05 04.6	
	baz=291,slow=76,SNR=12						
H03N1	**Juan Fernandez**	**147.58**	**96**	T	T	17 05 04.8	
	baz=291,slow=76,SNR=14						

*TAP **24** 14:06:21.6,24.°26N×122.°96E,h42km,ML3.6,C*

*JMA **24** 14:06:22.0±0.1,24.°31N×122.°97E,h47km±2km,M2.7*

ISC 24 14:06:22.4±1.4,24.°20N±0.°03×122.°98E±0.°02,h33km±4km, n97,σ1.941/171,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.25**	**354**	P	**Pn**	**14 06 29.5**	**0.0**
JYNG				S	**Sb**	**14 06 34.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.26**	**7**	⇑P	**Pn**	**14 06 29.7**	**0.0**
	baz=12						
YOJ				S	**Sb**	**14 06 35.4**	**+0.8**
	baz=12						
YOJ	**Yonaguni jima**	**0.26**	**7**	P	**Pn**	**14 06 29.7**	**0.0**
YOJ				S	**Sb**	**14 06 35.0**	**+0.4**
IRIF	**Iriomote-Funau**	**0.70**	**79**	P	**Pn**	**14 06 35.5**	**-0.4**
IRIF				S	**Sn**	**14 06 45.4**	**-0.2**
HATJ	**Hateruma jima**	**0.77**	**101**	P	**Pn**	**14 06 37.0**	**+0.1**
HATJ				S	**Sn**	**14 06 48.8**	**+1.4**
JKRS	**Kuro-shima**	**0.94**	**88**	P	**Pn**	**14 06 39.4**	**+0.1**
JKRS				S	**Sn**	**14 06 52.3**	**+0.7**
JIJ	**Ishigaki jima**	**1.08**	**81**	P	**Pn**	**14 06 40.6**	**-0.5**
JIJ				S	**Sn**	**14 06 53.9**	**-1.0**
ENAH	**Nanao**	**1.09**	**283**	P	**Pn**	**14 06 40.1**	**-1.2**
	baz=280						
TWC	**Suao**	**1.10**	**292**	P	**Pn**	**14 06 39.5**	**-2.0**
	baz=299						
TWC				S	**Sn**	**14 06 52.9**	**-2.7**
	baz=299						
EGS		**1.15**	**304**	*e*P	**Pn**	**14 06 40.1**	**-2.0**
	baz=302						
ENA	**Nanau**	**1.15**	**281**	P	**Pn**	**14 06 41.1**	**-1.0**
	baz=288						
ENA				S	**Sn**	**14 06 58.0**	**+1.3**
	baz=288						
TWB1	**Santiao Chiao**	**1.20**	**312**	P	**Pn**	**14 06 40.9**	**-2.0**
	baz=320						
TWB1				S	**Sn**	**14 06 55.6**	**-2.5**
	baz=320						
NTC	**Toucheng**	**1.23**	**302**	*e*P	**Pn**	**14 06 41.5**	**-1.7**
	baz=299						
NTC				*e*S	**Sn**	**14 06 56.4**	**-2.3**
	baz=299						
NACB	**Ninganchiao**	**1.26**	**269**	P	**Pn**	**14 06 42.9**	**-0.8**
	baz=252						
NACB				S	**Sn**	**14 06 58.1**	**-1.4**
	baz=252						
JISG	**Ishigakijimahi**	**1.28**	**72**	P	**Pn**	**14 06 43.2**	**-0.7**
JISG				S	**Sn**	**14 06 58.7**	**-1.1**
TIPB	**Shuangxi**	**1.30**	**306**	P	**Pn**	**14 06 42.8**	**-1.5**
	baz=314						
TIPB				S	**Sn**	**14 06 58.2**	**-2.2**
	baz=314						
TWE	**Neicheng**	**1.30**	**294**	P	**Pn**	**14 06 43.0**	**-1.2**
	baz=300						
TWE				S	**Sn**	**14 06 58.6**	**-1.8**
	baz=300						
ENTT	**Nioudou**	**1.36**	**289**	P	**Pn**	**14 06 44.4**	**-0.6**
	baz=295						
ETLH	**Xiulin Townshi**	**1.36**	**270**	P	**Pn**	**14 06 44.4**	**-0.8**
	baz=267						
ETLH				S	**Sn**	**14 07 01.7**	**-0.5**
	baz=267						
NWF	**Wu-fen Shan**	**1.39**	**309**	*e*P	**Pn**	**14 06 44.0**	**-1.5**
	baz=307						
WFSB	**Wu-fen Shan**	**1.39**	**309**	*e*P	**Pn**	**14 06 43.8**	**-1.7**
	baz=307						
NDT	**Datong Townshi**	**1.39**	**287**	P	**Pn**	**14 06 45.4**	**-0.1**
	baz=291						
NDT				S	**Sn**	**14 07 03.9**	**+1.1**
	baz=291						
NWLT	**Wulai**	**1.46**	**293**	*e*P	**Pn**	**14 06 46.2**	**-0.2**
	baz=302						
ESL	**Shilin**	**1.46**	**255**	*i* P	**Pn**	**14 06 45.0**	**-1.5**
	baz=251						
ESL				S	**Sn**	**14 07 02.7**	**-1.8**
	baz=251						
NNSH	**Datong**	**1.47**	**279**	*e*P	**Pn**	**14 06 46.6**	**-0.1**
	baz=264						
NNSH				*e*S	**Sn**	**14 07 04.7**	**-0.1**
	baz=264						
NNSB	**Datong**	**1.47**	**279**	P	**Pn**	**14 06 46.4**	**-0.3**
	baz=264						
NNSB				S	**Sn**	**14 07 04.7**	**-0.1**
	baz=264						
NNS	**Nan Shan**	**1.48**	**279**	P	**Pn**	**14 06 46.4**	**-0.4**
	baz=264						
NNS				S	**Sn**	**14 07 05.7**	**+0.6**
	baz=264						
TWA	**Mucha**	**1.48**	**302**	*e*P	**Pn**	**14 06 46.0**	**-0.8**
	baz=300						
EGFH	**Guangfu**	**1.51**	**250**	P	**Pn**	**14 06 46.4**	**-0.7**
	baz=246						
EGFH				S	**Sn**	**14 07 05.3**	**-0.4**
	baz=246						
YHNB	**Yeheng**	**1.53**	**288**	*e*P	**Pn**	**14 06 46.6**	**-0.8**
	baz=273						
NSK	**Sanguang**	**1.55**	**288**	P	**Pn**	**14 06 48.0**	**+0.3**
	baz=295						
NSK				S	**Sn**	**14 07 06.3**	**-0.4**
	baz=295						
WHF	**Hehuan Shan**	**1.56**	**268**	*i* P	**Pn**	**14 06 47.8**	**-0.4**
	baz=253						
WHF				*i* S	**Sn**	**14 07 07.2**	**-0.4**
	baz=253						
FUSS	**Fushou**	**1.58**	**272**	P	**Pn**	**14 06 48.7**	**+0.3**
	baz=257						
FUSS				*e*S	**Sn**	**14 07 07.0**	**-0.8**
	baz=257						
YM01	**YM01**	**1.59**	**307**	*e*P	**Pn**	**14 06 48.2**	**0.0**
	baz=304						
YM01				*e*S	**Sn**	**14 07 04.9**	**-2.7**
	baz=304						
HGSD	**Ruisui**	**1.59**	**244**	P	**Pn**	**14 06 46.6**	**-1.5**
	baz=241						
HGSD				S	**Sn**	**14 07 05.9**	**-1.6**
	baz=241						
YM10	**YM10**	**1.60**	**307**	*e*P	**Pn**	**14 06 47.2**	**-1.2**
	baz=305						
YM05	**YM05**	**1.60**	**307**	*e*P	**Pn**	**14 06 46.8**	**-1.6**
	baz=305						
YM04	**YM04**	**1.62**	**306**	*e*P	**Pn**	**14 06 46.2**	**-2.4**
	baz=304						
JTJ	**Tarama**	**1.63**	**74**	P	**Pn**	**14 06 48.6**

	baz=250					
TDCB	**Techi**	**1.66 272**	P	**Pn**	**14 06 49.7**	**+0.4**
	baz=257					
TDCB			*e*S	**Sn**	**14 07 08.0**	**-1.6**
	baz=257					
EHY	**Hungye**	**1.67 246**	*i* P	**Pn**	**14 06 48.5**	**-0.8**
	baz=242					
EHY			*i* S	**Sn**	**14 07 08.2**	**-1.3**
	baz=242					
YULB	**Yu-li**	**1.74 243**	P	**Pn**	**14 06 49.5**	**-0.8**
	baz=230					
YULB			S	**Sn**	**14 07 10.2**	**-1.1**
	baz=230					
VWDT	**VWDT**	**1.74 255**	P	**Pn**	**14 06 50.1**	**-0.1**
	baz=252					
VWDT			S	**Sn**	**14 07 10.8**	**-0.4**
	baz=252					
EYUL	**Yuli**	**1.74 241**	*e*P	**Pn**	**14 06 49.7**	**-0.6**
	baz=238					
EYUL			*e*S	**Sn**	**14 07 10.8**	**-0.5**
	baz=238					
TWF1	**Yuli**	**1.76 241**	*i* P	**Pn**	**14 06 49.9**	**-0.6**
	baz=238					
TWF1			S	**Sn**	**14 07 09.9**	**-1.9**
	baz=238					
FULB	**Fuli**	**1.84 237**	*i* P	**Pn**	**14 06 50.7**	**-1.0**
	baz=223					
FULB			*i* S	**Sn**	**14 07 12.8**	**-0.9**
	baz=223					
LIOB	**Emei**	**1.84 284**	P	**Pn**	**14 06 52.9**	**+1.2**
	baz=271					
LIOB			S	**Sn**	**14 07 15.5**	**+1.6**
	baz=271					
CHKT	**Chengkung**	**1.84 234**	*i* P	**Pn**	**14 06 50.3**	**-1.4**
	baz=221					
CHKT			*i* S	**Sn**	**14 07 11.4**	**-2.4**
	baz=221					
NSTT	**Nanjuang**	**1.85 284**	P	**Pn**	**14 06 52.9**	**+1.1**
	baz=270					
NSTT			S	**Sn**	**14 07 15.7**	**+1.6**
	baz=270					
WHP	**Taichung City**	**1.85 273**	P	**Pn**	**14 06 52.7**	**+0.8**
	baz=259					
WHP			S	**Sn**	**14 07 15.1**	**+0.8**
	baz=259					
SSLB	**Suanglung**	**1.90 258**	P	**Pn**	**14 06 51.9**	**-0.5**
	baz=255					
SSLB			S	**Sn**	**14 07 13.8**	**-1.4**
	baz=255					
SMLT	**Sun Moon Lake**	**1.93 261**	*i* P	**Pn**	**14 06 52.9**	**0.0**
	baz=258					
SMLT			*i* S	**Sn**	**14 07 15.9**	**-0.2**
	baz=258					
TYC	**Yuchr**	**1.96 262**	*i* P	**Pn**	**14 06 53.3**	**+0.1**
	baz=259					
TYC			*i* S	**Sn**	**14 07 16.9**	**+0.2**
	baz=259					
EDH	**Donghe**	**1.96 232**	P	**Pn**	**14 06 51.9**	**-1.4**
	baz=221					
EDH			S	**Sn**	**14 07 14.7**	**-2.2**
	baz=221					
WHYT	**Xinyi Township**	**2.01 256**	*e*P	**Pn**	**14 06 55.0**	**+1.0**
	baz=243					
WHYT			*e*S	**Sn**	**14 07 19.4**	**+1.4**
	baz=243					
TWQ1	**Liyutan**	**2.02 275**	P	**Pn**	**14 06 54.8**	**+0.7**
	baz=272					
TWQ1			S	**Sn**	**14 07 19.4**	**+1.2**
	baz=272					
NMLH	**Miaoli**	**2.02 280**	*e*P	**Pn**	**14 06 54.8**	**+0.6**
	baz=278					
LDUT	**Ludao**	**2.06 223**	P	**Pn**	**14 06 53.3**	**-1.3**
	baz=220					
LDUT			*e*S	**Sn**	**14 07 16.7**	**-2.4**
	baz=220					
ELDTW	**Lidau**	**2.06 241**	*i* P	**Pn**	**14 06 53.9**	**-0.8**
	baz=238					
ELDTW			S	**Sn**	**14 07 17.7**	**-1.7**
	baz=238					
WJS	**Zhushan**	**2.09 260**	*e*P	**Pn**	**14 06 56.6**	**+1.5**
	baz=257					
WJS			*e*S	**Sn**	**14 07 22.6**	**+2.6**
	baz=257					
ALS	**Alishan**	**2.10 251**	*i* P	**Pn**	**14 06 56.0**	**+0.4**
	baz=248					
ALS			*i* S	**Sn**	**14 07 20.2**	**-0.6**
	baz=248					
WNT	**Mingjian**	**2.12 262**	*i* P	**Pn**	**14 06 57.0**	**+1.5**
	baz=259					
WNT			S	**Sn**	**14 07 22.8**	**+2.1**
	baz=259					
LONT	**Longtian**	**2.13 233**	P	**Pn**	**14 06 54.5**	**-1.1**
	baz=223					
LONT			S	**Sn**	**14 07 19.4**	**-1.6**
	baz=223					
WDJ	**Dajia District**	**2.14 274**	*e*P	**Pn**	**14 06 58.0**	**+2.3**
	baz=272					
WDJ			*e*S	**Sn**	**14 07 22.2**	**+1.1**
	baz=272					
CHN5	**Tsauling**	**2.19 254**	P	**Pn**	**14 06 57.4**	**+0.9**
	baz=243					
CHN5			S	**Sn**	**14 07 23.6**	**+1.1**
	baz=243					
JMJ	**Miyako jima 2**	**2.20 73**	P	**Pn**	**14 06 56.8**	**+0.2**
	baz=76					
JMJ			S	**Sn**	**14 07 22.2**	**-0.4**
	baz=76					
WCHH	**Zhanghua**	**2.21 267**	*e*S	**Sn**	**14 07 24.4**	**+1.5**
	baz=254					
TWGBT	**Beinan**	**2.22 232**	P	**Pn**	**14 06 55.6**	**-1.3**
	baz=222					
TWGBT			*e*S	**Sn**	**14 07 20.6**	**-2.6**
	baz=222					
TWG	**Pinlang**	**2.22 232**	P	**Pn**	**14 06 55.8**	**-1.2**
	baz=222					
TWG			S	**Sn**	**14 07 20.6**	**-2.7**
	baz=222					
WGK	**Gukeng**	**2.27 257**	P	**Pn**	**14 07 00.2**	**+2.7**
	baz=254					
WGK			S	**Sn**	**14 07 26.2**	**+1.9**
	baz=254					
STYT	**Tauyuan**	**2.28 243**	P	**Pn**	**14 06 58.0**	**+0.2**
	baz=233					
STYT			S	**Sn**	**14 07 24.6**	**-0.2**
	baz=233					
WDLH	**Douliu**	**2.29 258**	*e*P	**Pn**	**14 06 58.6**	**+0.8**
	baz=255					
WDLH			*e*S	**Sn**	**14 07 26.9**	**+2.0**
	baz=255					
TPUB	**Ta-pu**	**2.33 248**	P	**Pn**	**14 06 59.4**	**+1.0**
	baz=245					
TPUB			S	**Sn**	**14 07 27.3**	**+1.3**
	baz=245					
CHN4	**Tsaushan**	**2.34 249**	*i* P	**Pn**	**14 06 59.8**	**+1.3**
	baz=246					
CHN4			*i* S	**Sn**	**14 07 28.5**	**+2.3**
	baz=246					
WTP	**Ta-pu**	**2.37 247**	*i* P	**Pn**	**14 07 00.0**	**+1.1**
	baz=244					
WTP			S	**Sn**	**14 07 28.9**	**+2.0**
	baz=244					
WTK	**Tuku**	**2.42 258**	*e*P	**Pn**	**14 07 00.8**	**+1.2**
	baz=255					
WTK			*e*S	**Sn**	**14 07 30.5**	**+2.4**
	baz=255					
ECL	**Taimali**	**2.45 230**	P	**Pn**	**14 06 59.0**	**-1.0**
	baz=237					
ECL			S	**Sn**	**14 07 27.5**	**-1.4**
	baz=237					
SLGT	**Liugui**	**2.45 241**	P	**Pn**	**14 07 01.9**	**+1.8**
	baz=231					
SLGT			*e*S	**Sn**	**14 07 30.7**	**+1.8**
	baz=231					
CHN1	**Nanshi**	**2.46 246**	P	**Pn**	**14 07 01.2**	**+1.0**
	baz=243					
CHN1			S	**Sn**	**14 07 31.1**	**+1.9**
	baz=243					
SGST	**Jiashian**	**2.46 244**	P	**Pn**	**14 07 01.2**	**+1.0**
	baz=241					
SGST			S	**Sn**	**14 07 30.5**	**+1.3**
	baz=241					
TWK	**Hsinying**	**2.46 248**	*i* P	**Pn**	**14 07 01.7**	**+1.4**
	baz=245					
TWK			*i* S	**Sn**	**14 07 30.9**	**+1.7**
	baz=245					
SNST	**Tainan City**	**2.47 247**	P	**Pn**	**14 07 02.3**	**+1.9**
	baz=244					
SNST			S	**Sn**	**14 07 31.7**	**+2.3**
	baz=244					
WTCT	**Ta-ch'eng**	**2.49 263**	*e*P	**Pn**	**14 07 01.2**	**+0.7**
	baz=260					
WTCT			*e*S	**Sn**	**14 07 30.9**	**+1.2**
	baz=260					
LAY	**Lan-yu**	**2.52 212**	P	**Pn**	**14 06 59.0**	**-2.0**
	baz=210					
SSD	**Sandimen**	**2.59 236**	P	**Pn**	**14 07 02.3**	**+0.2**
	baz=228					
ICHU	**Yijhu**	**2.61 252**	*e*P	**Pn**	**14 07 03.7**	**+1.5**
	baz=249					
ICHU			*e*S	**Sn**	**14 07 34.0**	**+1.2**
	baz=249					
TSMG	**Majia**	**2.61 236**	*e*S	**Sn**	**14 07 32.6**	**-0.2**
	baz=229					
SCST	**Cishan**	**2.63 241**	*e*P	**Pn**	**14 07 02.7**	**+0.2**
	baz=238					
CHN3	**Shinhua**	**2.64 245**	*e*S	**Sn**	**14 07 38.5**	**+4.8**
	baz=253					
TAW	**Tawu**	**2.65 227**	*e*P	**Pn**	**14 07 03.1**	**+0.3**
	baz=233					
EAST	**Anshuo**	**2.67 228**	P	**Pn**	**14 07 02.5**	**-0.6**
	baz=233					
EAST			*e*S	**Sn**	**14 07 33.0**	**-1.3**
	baz=233					
MASBT	**Mashibuluo**	**2.67 234**	P	**Pn**	**14 07 02.9**	**-0.2**
	baz=225					
TWM1	**Shoushan**	**2.72 240**	*e*P	**Pn**	**14 07 06.7**	**+3.0**
	baz=228					
TWM1			*e*S	**Sn**	**14 07 39.5**	**+4.0**
	baz=228					
SLIU	**Shizi**	**2.81 226**	*e*P	**Pn**	**14 07 04.3**	**-0.8**
	baz=224					
WDGT	**Dungji**	**3.18 253**	*e*P	**Pn**	**14 07 10.8**	**+0.7**
	baz=251					

TEH ***24*** *14:10:02.9, 32°.44N×47°.22E, h10km, ML2.8*
ISN ***24*** *14:10:02.4±1.0, 32°.44N×47°.18E, h6km±7km, ML2.8*
ISC 24 14:10:03.4±1.0, 32°.48N±0°.05×47°.15E±0°.04, h10km, n12, σ0°90/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**29**	*e*		14 10 15.0	
DHL1				*e*Pg	**Pg**	**14 10 07.6**	**-0.6**
IKFM	**Kafar-mosalman**	**1.20**	**29**	*e*Pg	**Pg**	**14 10 26.4**	**0.0**
IKFM				*e*		14 10 51.1	
IBDR	**Badra**	**1.21**	**302**	*e*Pg	**Pg**	**14 10 26.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**14 10 44.0**	**+1.3**
IBDR				AML	AML	14 10 50.4	
	comp=N,115nm,0.6s						
IBDR				AML	AML	14 10 50.8	
	comp=E,109nm,0.6s						
IKMR	**Kamar-syah**	**1.47**	**45**	*e*Pg	**Pg**	**14 10 31.0**	**-0.6**
IKMR				*e*		14 11 00.4	
IDOB	**Doab**	**1.57**	**33**	*e*Pg	**Pb**	**14 10 32.5**	**-0.1**
NSR	**Nassriya**	**1.69**	**211**	*e*Pn	**Pb**	**14 10 34.0**	**-0.6**
NSR				*e*Sn	**Sb**	**14 10 55.5**	**-0.5**
NSR				AML	AML	14 10 58.2	
	comp=E,425nm,0.3s						
IKOM	**Komasi**	**1.72**	**10**	*e*Pg	**Pg**	**14 10 36.4**	**0.0**
IKOM				*e*		14 11 03.6	
BMDN	**Meydan**	**1.85**	**49**	*e*Pn	**Pb**	**14 10 37.1**	**-0.2**
BMDN				*e*		14 11 16.0	
HSAM	**Samen**	**2.12**	**35**	*e*Pn	**Pn**	**14 10 39.9**	**+0.8**
ILIN	**Lien**	**2.44**	**356**	*e*Pn	**Pb**	**14 10 46.1**	**-1.4**
BHD	**Baghdad**	**2.46**	**290**	*e*Pn	**Pn**	**14 10 45.0**	**+1.5**
BHD				*e*Sn	**Sb**	**14 11 17.0**	**-1.0**
IPIR	**Pirpir**	**3.17**	**85**	*e*Pn	**Pn**	**14 10 54.2**	**+0.6**
IPIR				*e*		14 11 36.1	

IDC ***24*** *14:22:20.3±1.5, 26°.88N×55°.77E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.4/64, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=35.2km s-min=27.8km az=130.0*
NEIC ***24*** *14:22:21.8±0.6, 26°.89N±0°.04×55°.8E±0°.2, h10km±1km, mb4.1/5, Error ellipse: s-maj=24.9km s-min=5.3km az=97.0*
TEH ***24*** *14:22:21.9, 26°.87N×55°.87E, h8km, ML3.8*
THR ***24*** *14:22:21.7±0.4, 26°.85N×55°.87E, h7km±3km, ML3.6*
DSN ***24*** *14:22:23.0±1.1, 26°.90N×56°.38E, h10km, ML3.9/8, Error ellipse: s-maj=29.8km s-min=8.8km az=101.0*
OMAN ***24*** *14:22:23.6±3.2, 26°.86N×56°.04E, h11km, ml3.6/13, Error ellipse: s-maj=163.4km s-min=44.4km az=247.0*
ISC 24 14:22:23.1±1.1, 26°.85N±0°.02×55°.94E±0°.04, h17km±8km, n67, σ1°44/80, mb4.1/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.58**	**21**	*e*Pg	**Pg**	**14 22 33.8**	**-1.0**
BNDS	**Bandar-Abbas**	**0.58**	**21**	*e*Pg	**Pg**	**14 22 33.8**	**-1.0**
GENO	**Geno**	**0.59**	**21**	*e*Pg	**Pg**	**14 22 33.7**	**-1.1**
IBND	**Bandar-abas**	**0.80**	**42**	*e*Pg	**Pb**	**14 22 38.3**	**-0.2**
IBND				*e*		14 22 59.8	
SHME	**Shamm**	**0.82**	**167**	*e*P	**Pb**	**14 22 38.7**	**-0.2**
	SNR=58						
SHME				*e*S	**Sn**	**14 22 52.7**	**+1.1**
	SNR=7.3						
BANOM	**Banah**	**0.98**	**161**	*e*P	**Pb**	**14 22 41.7**	**+0.1**
	SNR=1619						
BANOM				*e*S	**Sn**	**14 22 57.0**	**+1.4**
	SNR=9.7						
BANOM	**Banah**	**0.98**	**161**	P	**Pb**	**14 22 41.7**	**+0.1**
	SNR=1619						
BANOM				S	**Sn**	**14 22 56.1**	**+0.5**
UMQ	**Umm Al-Quwin**	**1.34**	**191**	P	**Pg**	**14 22 49.6**	**+0.7**
	SNR=5.5						
MSFE	**Esma-Masafi**	**1.50**	**172**	*e*P	**Pb**	**14 22 50.4**	**0.0**
	SNR=188						
MSFE				*e*S	**Sg**	**14 23 11.0**	**-0.5**
	SNR=9.7						
MDH	**Madha**	**1.58**	**168**	*e*P	**Pb**	**14 22 52.0**	**+0.2**
	SNR=48						
MDH	**Madha**	**1.58**	**168**	P	**Pn**	**14 22 51.1**	**+0.8**
	SNR=65						
MDH				S	**Sb**	**14 23 12.0**	**+0.6**
LAR1	**LAR**	**1.61**	**301**	*e*Pg	**Pb**	**14 22 52.0**	**-0.4**
LAR1				*e*Sg	**Sb**	**14 23 13.5**	**+1.0**
LAR1				*e*		14 23 19.6	
NAZ	**Nazwa, Dubai**	**1.87**	**188**	*e*P	**Pb**	**14 22 58.0**	**+1.2**
	SNR=14						
NAZ	**Nazwa, Dubai**	**1.87**	**188**	P	**Pb**	**14 22 55.8**	**-1.0**
	SNR=15						
NAZ				S	**Sb**	**14 23 19.8**	**0.0**
UOSS	**Minazif**	**1.91**	**173**	*e*P	**Pn**	**14 22 55.7**	**+0.9**
	SNR=120						
UOSS	**Minazif**	**1.91**	**173**		**Pn**	**14 22 55.5**	**+0.7**
KHNJ	**Kahnooj**	**1.92**	**55**	*e*Pn	**Pn**	**14 22 56.1**	**+1.2**
HATD	**Hatta, Dubai**	**2.02**	**175**	*e*P	**Pb**	**14 22 58.4**	**-1.0**
	SNR=59						
HATD	**Hatta, Dubai**	**2.02**	**175**	P	**Pb**	**14 22 58.1**	**-1.3**
	SNR=27						
HATD				S	**Sb**	**14 23 25.1**	**+0.8**
JSK1	**Jask**	**2.04**	**126**	*e*Pn	**Pb**	**14 22 59.5**	**-0.2**
ASHO	**Ashiyiah**	**2.16**	**177**	*e*P	**Pb**	**14 23 01.0**	**-0.8**
	SNR=55						
ASHO	**Ashiyiah**	**2.16**	**177**	P	**Pn**	**14 22 60.0**	**+1.7**
	SNR=43						
ASHO				S	**Sg**	**14 23 35.0**	**+2.4**
JHRM	**Jahrom**	**2.66**	**309**	*e*	Sg	14 24 01.5	+13
SOHO	**SOHO**	**2.76**	**169**	*e*P	**Pn**	**14 23 07.0**	**+0.5**
	SNR=9.2						
NGRK	**Negar Kerman**	**2.87**	**14**	*e*Pn	**Pn**	**14 23 10.4**	**+2.0**
NGRK				*e*		14 23 54.7	
KBAM	**BAM**	**3.18**	**44**	*e*Pn	**Pn**	**14 23 14.7**	**+2.3**
KRBR	**Kerman**	**3.20**	**13**	*e*Pn	**Pn**	**14 23 15.1**	**+2.2**
KRBR				*e*S	**Sn**	**14 23 53.8**	**+2.9**
KRBR				IAML		14 24 00.1	
	comp=N,111nm,0.8s						
KRBR	**Kerman**	**3.20**	**13**	*e*Pn	**Pn**	**14 23 15.1**	**+2.2**
TVBK	**TV Kerman**	**3.21**	**13**	*e*Pn	**Pn**	**14 23 15.6**	**+2.6**
TVBK				*e*		14 24 08.2	
CHMN	**Cheshme madani**	**3.31**	**25**	*e*Pn	**Pn**	**14 23 16.9**	**+2.4**
CHMN				*e*		14 24 18.1	
ARQ	**Araqi**	**3.54**	**171**	P	**Pn**	**14 23 18.2**	**+0.9**
	SNR=28						
ARQ				S	**Sn**	**14 23 59.9**	**+1.2**
SMDO	**Samad**	**4.23**	**153**	P	**Pn**	**14 23 28.2**	**+1.3**
	SNR=11						
SMDO				S	**Sn**	**14 24 18.1**	**+2.1**
WSAR	**Wadi Sarin**	**4.35**	**145**	Pn	**Pn**	**14 23 29.1**	**+0.7**
	comp=N,1.5nm,0.3s,baz=318,slow=4.9,SNR=38						
WSAR				Sn	**Sn**	**14 24 16.2**	**-2.5**
	comp=N,2.1nm,0.3s,baz=235,slow=24,SNR=2.0						
WSAR	**Wadi Sarin**	**4.35**	**145**	P	**Pn**	**14 23 29.0**	**+0.7**
	SNR=22						
WSAR				S	**Sn**	**14 24 17.9**	**-0.8**
IMEH	**Mehriz**	**4.67**	**346**	*e*Pn	**Pn**	**14 23 35.3**	**+2.3**
IBAF	**Bafgh**	**4.73**	**356**	*e*Pn	**Pn**	**14 23 35.9**	**+2.1**
JMDO	**Jabal Madar**	**4.88**	**156**	P	**Pn**	**14 23 37.6**	**+1.9**
WBK	**Wadi Bani Khal**	**5.04**	**146**	P	**Pn**	**14 23 38.3**	**+0.4**
ISAD	**Sadrabad**	**5.41**	**339**	*e*Pn	**Pn**	**14 23 45.3**	**+2.0**
KLNJ	**Kolanjah**	**5.63**	**318**	*e*Pn	**Pn**	**14 23 47.1**	**+0.9**
YZKH	**Yazd**	**5.64**	**348**	*e*Pn	**Pn**	**14 23 48.2**	**+2.0**
YZKH	**Yazd**	**5.64**	**348**	*e*Pn	**Pn**	**14 23 48.2**	**+2.0**
BSRN	**Basiran**	**5.81**	**28**	*e*Pn	**Pn**	**14 23 50.8**	**+2.3**
BSRN	**Basiran**	**5.81**	**28**	*e*Pn	**Pn**	**14 23 50.8**	**+2.3**
IRAM	**Ramesheh**	**5.83**	**329**	*e*Pn	**Pn**	**14 23 50.9**	**+1.9**
TPRV	**Parvadeh(Tabas**	**6.19**	**6**	*e*Pn	**Pn**	**14 23 56.2**	**+2.4**
IGAR	**Gharneh**	**6.49**	**329**	*e*Pn	**Pn**	**14 23 59.8**	**+1.8**
IZEF	**Zefreh**	**6.79**	**333**	*e*Pn	**Pn**	**14 24 03.0**	**+0.9**
TNSJ	**Nastanj**	**7.11**	**5**	*e*Pn	**Pn**	**14 24 08.7**	**+2.3**
IPIR	**Pirpir**	**7.28**	**324**	*e*Pn	**Pn**	**14 24 09.8**	**+0.9**
KRSH	**Karshahi**	**7.82**	**336**	*e*Pn	**Pn**	**14 24 18.0**	**+1.8**
SHAO	**Shalim**	**8.79**	**182**	P	**Pn**	**14 24 28.1**	**-1.3**
	SNR=19						
WHFO	**Wadi Hawf**	**9.11**	**193**	P	**Pn**	**14 24 33.1**	**-0.7**
	SNR=9.7						
HRA	**Herat**	**9.27**	**34**	Pn	**Pn**	**14 24 36.7**	**+0.6**
KKAR	**Karatay Array**	**20.09**	**32**	P	**P**	**14 26 56.3**	**+0.6**
ABKAR	**Akbulak array**	**22.58**	**7**	P	**P**	**14 27 22.1**	**-0.4**
AKTO	**Aktyubinsk**	**23.60**	**3**	P	**P**	**14 27 32.9**	**0.0**
	comp=N,1.2nm,0.4s,baz=193,slow=14,SNR=2.3						
MKAR	**Makanchi Array**	**28.78**	**39**	P	**P**	**14 28 21.1**	**+1.2**
	comp=N,0.2nm,0.4s,baz=233,slow=8.3,SNR=4.4						
MKAR	**Makanchi Array**	**28.78**	**39**	P	**P**	**14 28 20.6**	**+0.6**
ZAA0	**Zalesovo Array**	**34.43**	**30**	P	**P**	**14 29 09.3**	**-0.2**
ZAA0				IAmb	IAmb	14 29 09.6	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**34.43**	**30**	P	**P**	**14 29 09.1**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=246,slow=8.5,SNR=8.7						
ZALV	**Zalesovo Beam**	**34.43**	**30**	P	**P**	**14 29 08.9**	**-0.6**
FINES	**FINESS Array B**	**39.98**	**338**	P	**P**	**14 29 55.5**	**-0.9**
TOA0	**Torodi Ar. Sit**	**52.40**	**266**	P	**P**	**14 31 33.4**	**-1.4**
TOA0				IAmb	IAmb	14 31 36.8	
	comp=Z,5.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**52.40**	**266**	P	**P**	**14 31 33.7**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=65,slow=7.5,SNR=7.1						
TORD	**Torodi Ar. Bea**	**52.40**	**266**	P	**P**	**14 31 33.4**	**-1.4**
BOSA	**Boshof**	**62.52**	**210**	P	**P**	**14 32 44.2**	**-1.7**

IDC ***24*** *14:25:43.5±1.0, 26°.85N×55°.79E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/64, mbtmp3.8/14, ML3.4/2, Error ellipse: s-maj=22.8km s-min=19.7km az=158.0*
NEIC ***24*** *14:25:44.9±1.6, 26°.87N±0°.07×55°.8E±0°.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=16.0km s-min=11.3km az=272.0*
TEH ***24*** *14:25:44.1, 26°.73N×55°.92E, h13km, ML3.9*
DSN ***24*** *14:25:45.3±1.1, 26°.93N×56°.17E, h10km, ML4.0/10, Error ellipse: s-maj=27.6km s-min=6.8km az=80.0*
THR ***24*** *14:25:45.4±0.4, 26°.85N×55°.86E, h7km±3km, ML3.7*
OMAN ***24*** *14:25:47.2±1.7, 27°.01N×56°.09E, h36km, mb5.5/1, ml3.7/11, Error ellipse: s-maj=38.3km s-min=12.3km az=105.0*
ISC 24 14:25:45.0±1.1, 26°.77N±0°.02×55°.93E±0°.04, h12km±7km, n91, σ1°88/94, mb3.9/19, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.66**	**19**	*e*Pg	**Pg**	**14 25 57.5**	**-0.4**
BNDS				*e*Sg	**Sg**	**14 26 06.4**	**-0.3**
BNDS	**Bandar-Abbas**	**0.66**	**19**	*e*Pg	**Pg**	**14 25 57.5**	**-0.4**
GENO	**Geno**	**0.67**	**19**	*e*Pg	**Pg**	**14 25 57.2**	**-0.8**
SHME	**Shamm**	**0.74**	**165**	*e*P	**Pn**	**14 26 01.0**	**-0.3**
	SNR=39						
SHME				S	**Sn**	**14 26 14.6**	**+2.1**
IBND	**Bandar-abas**	**0.87**	**39**	*e*Pg	**Pb**	**14 26 01.8**	**-0.2**
IBND				*e*Sg	**Sn**	**14 26 14.7**	**-0.9**
IBND				*e*		14 26 27.1	
BANOM	**Banah**	**0.91**	**158**	*e*P	**Pn**	**14 26 04.8**	**+1.3**
	SNR=678						
BANOM				S	**Sn**	**14 26 19.4**	**+2.8**
BANOM	**Banah**	**0.91**	**158**	P	**Pn**	**14 26 05.0**	**+1.5**
	SNR=678						
BANOM				S	**Sn**	**14 26 19.5**	**+3.0**
	SNR=7.9						
UMQ	**Umm Al-Quwin**	**1.26**	**191**	*e*P	Pg	14 26 12.5	+3.3
	SNR=5.8						
UMQ	**Umm Al-Quwin**	**1.26**	**191**	P	Pg	14 26 13.6	+4.3
	SNR=5.9						
UMQ				S	Sg	14 26 33.4	+7.7
	SNR=6.5						
MSFE	**Esma-Masafi**	**1.42**	**172**	*e*P	**Pg**	**14 26 13.7**	**+1.5**
	SNR=202						
MDH	**Madha**	**1.50**	**167**	*e*P	**Pg**	**14 26 14.5**	**+0.7**
	SNR=102						
MDH	**Madha**	**1.50**	**167**	P	**Pg**	**14 26 14.5**	**+0.7**
	SNR=102						
MDH				S	**Sg**	**14 26 35.5**	**+2.2**
LAR1	**LAR**	**1.65**	**303**	*e*Pg	**Pb**	**14 26 15.4**	**+0.1**
NAZ	**Nazwa, Dubai**	**1.79**	**188**	P	**Pg**	**14 26 19.9**	**+0.5**
NAZ	**Nazwa, Dubai**	**1.79**	**188**	P	**Pg**	**14 26 20.3**	**+1.0**
	SNR=9.3						
NAZ				S	**Sg**	**14 26 44.5**	**+2.0**
UOSS	**Minazif**	**1.83**	**172**	*e*P	**Pg**	**14 26 19.4**	**-0.8**
	SNR=100						
UOSS	**Minazif**	**1.83**	**172**		**Pg**	**14 26 19.1**	**-1.0**
HATD	**Hatta, Dubai**	**1.94**	**175**	*e*P	**Pg**	**14 26 21.7**	**-0.6**
	SNR=27						
HATD	**Hatta, Dubai**	**1.94**	**175**	P	**Pg**	**14 26 21.9**	**-0.4**
	SNR=12						
KHNJ	**Kahnooj**	**1.97**	**53**	*e*Pn	**Pb**	**14 26 19.2**	**-1.6**
ASHO	**Ashiyiah**	**2.08**	**177**	*e*P	**Pg**	**14 26 23.5**	**-1.3**
	SNR=27						
ASHO	**Ashiyiah**	**2.08**	**177**	P	**Pg**	**14 26 23.5**	**-1.3**
	SNR=27						
SOHO	**SOHO**	**2.68**	**168**	*e*P	**Pn**	**14 26 28.5**	**+0.6**
	SNR=6.3						
ALNE	**Al Ain**	**2.71**	**183**	*e*P	**Pb**	**14 26 32.2**	**-1.2**
	SNR=8.0						
NGRK	**Negar Kerman**	**2.95**	**14**	*e*Pn	**Pn**	**14 26 34.0**	**+2.0**
NGRK				*e*		14 27 27.9	
KBAM	**BAM**	**3.25**	**43**	*e*Pn	**Pn**	**14 26 38.3**	**+2.5**
KRBR	**Kerman**	**3.28**	**13**	*e*Pn	**Pn**	**14 26 38.9**	**+2.4**
KRBR				*e*S	**Sn**	**14 27 17.6**	**+1.9**
KRBR				IAML		14 27 23.5	
	comp=N,165nm,0.4s						
KRBR				IAML		14 27 33.2	
	comp=E,183nm,0.5s						
KRBR	**Kerman**	**3.28**	**13**	*e*Pn	**Pn**	**14 26 38.9**	**+2.4**
TVBK	**TV Kerman**	**3.29**	**13**	*e*Pn	**Pn**	**

```
WHFO Wadi Hawf          9.03 193  P    Pn    14 27 59.0 +3.7
     SNR=7.1
HRA  Herat              9.34  34  Pn    Pn    14 28 00.1 +0.5
GEYT Alibeck           11.28   9  Pn    Pn    14 28 25.9 -0.1
MMAI Mount Meron Ar    18.84 294  P     Pn    14 30 07.1 +1.7
     comp=E,1.1nm,0.3s,baz=243,slow=38,SNR=1.7
KBZ  Khabaz            19.95 331  P     P     14 30 16.1 -0.6
     comp=E,0.1nm,0.3s,baz=162,slow=3.2,SNR=1.5
KKAR Karatay Array     20.16  32  P     Pn    14 30 20.0 -1.1
CSS  Mathiatis         21.02 298  P     P     14 30 27.7 -0.8
CSS                               IAmb  IAmb  14 30 50.7
     comp=Z,16nm,1.0s
AAK  Ala-Archa         21.91  39  P     P     14 30 42.2 +4.0
     comp=Z,1.0nm,0.4s,baz=186,slow=6.9,SNR=3.5
BRTR Keskin Array B    22.61 310  P     P     14 30 44.7 -1.0
     comp=Z,0.7nm,0.4s,baz=146,slow=14,SNR=2.4
BOOM Boomskoye usch    22.66  41  P     P     14 30 46.3 +0.1
ABKAR Akbulak array    22.66   7  P     P     14 30 45.4 -0.6
TARG Taragay, Kyrgy    23.35  45  P     P     14 30 53.5 -0.2
AKTO Aktyubinsk        23.68   3  P     P     14 31 01.1 +4.7
     comp=Z,0.8nm,0.5s,baz=185,slow=11,SNR=1.7
BVAR Borovoye Array    28.36  19  P     P     14 31 39.3 +0.5
     comp=Z,0.8nm,0.7s,baz=185,slow=16,SNR=4.9
MKAR Makanchi Array    28.85  39  P     P     14 31 43.8 +0.6
     comp=Z,0.2nm,0.4s,baz=218,slow=9.1,SNR=2.9
AKASG Malin Array Be   31.39 327  P     P     14 32 05.6  0.0
     comp=Z,0.3nm,0.4s,baz=133,slow=9.4,SNR=1.2
AKASG Malin Array Be   31.39 327  IAmb  IAmb  14 32 11.6
     comp=Z,1.7nm,1.4s
ZAA0 Zalesovo Array    34.51  30  P     P     14 32 32.6 -0.2
ZALV Zalesovo Beam     34.51  30  P     P     14 32 32.8  0.0
     comp=Z,1.2nm,0.3s,baz=241,slow=8.3,SNR=5.6
ZALV Zalesovo Beam     34.51  30  P     P     14 32 32.4 -0.4
TIP  Timpagrande       34.85 301  P     P     14 32 32.8 -3.2
TIP                               IAmb  IAmb  14 32 48.1
     comp=Z,8.4nm,1.1s
OJC  Ojcow             36.18 320  P     P     14 32 46.1 -1.2
OJC                               IAmb  IAmb  14 33 13.3
     comp=Z,3.5nm,0.6s
FIA1 FINESS Array S    40.05 338  P     P     14 33 19.1 -0.5
FIA1                              IAmb  IAmb  14 33 40.2
     comp=Z,29nm,1.2s
FINES FINESS Array B   40.05 338  P     P     14 33 19.4 -0.3
     comp=Z,2.5nm,0.8s,baz=152,slow=16,SNR=1.8
FINES FINESS Array B   40.05 338  P     P     14 33 18.6 -1.0
SONM Songino Array     44.40  48  P     P     14 33 57.1 +1.5
     comp=Z,0.7nm,0.7s,baz=246,slow=11,SNR=3.9
SONM Songino Array     44.40  48  IAmb  IAmb  14 34 02.5
     comp=Z,0.9nm,0.9s
IPM  Ipoh              48.40 109  P     P     14 34 29.2 +2.0
IPM                               IAmb  IAmb  14 34 51.1
     comp=Z,5.1nm,0.8s
CART Cartagena         48.73 298  P     P     14 34 29.2 -0.2
BKNI Bangkinang        50.69 114  P     P     14 34 45.0 +0.3
ESDC Sonseca Array     50.88 301  P     P     14 34 44.0 -1.9
     comp=Z,0.6nm,0.5s,baz=60,slow=7.6,SNR=4.2
TOA0 Torodi Ar. Sit    52.39 266  P     P     14 34 56.4 -1.0
TORD Torodi Ar. Bea    52.39 266  P     P     14 34 57.3 -0.1
     comp=Z,2.1nm,0.6s,baz=61,slow=7.2,SNR=8.2
TORD Torodi Ar. Bea    52.39 266  P     P     14 34 56.6 -0.8
KSRS Korea Array       60.58  60  P     P     14 35 55.4 -0.1
     comp=Z,0.8nm,0.8s,baz=274,slow=6.1,SNR=1.5
BOSA Boshof            62.44 210  P     P     14 36 08.9 +0.7
     comp=Z,2.7nm,0.9s,baz=59,slow=5.9,SNR=2.2
BOSA Boshof            62.44 210  P     P     14 36 08.6 +0.4
BOSA                              IAmb  IAmb  14 36 19.6
     comp=Z,8.6nm,1.4s
MBO  M'Bour            68.55 276  P     P     14 36 46.4 -1.5
ILAR Eielson Array     87.04  10  P     P     14 38 29.8 -0.3
     comp=Z,0.4nm,0.6s,baz=325,slow=5.8,SNR=5.6
```

*IDC **24** 14:47:48.0±1.3, 53°.41S×160°.24E, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.0/19, mbtmp4.0/6, ML3.7/1, MS3.9/6, Ms1 3.9/6, ms1mx3.4/30, Error ellipse: s-maj=41.2km s-min=19.4km az=78.0*

*NEIC **24** 14:47:51.0±2.1, 53°.79S±0°.05×159°.2E±0°.2, h12km±6km, mb4.2/9, Error ellipse: s-maj=20.2km s-min=5.7km az=103.0*

ISC 24 14:47:51.5±0.7, 53°.75S±0°.06×159°.2E±0°.1, h10km, n43, σ1§15/25, mb4.0/7, MS3.8/5, Macquarie Island region

```
Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
MCQ  Macquarie Isla    0.76 189          Pg   14 48 05.0 -1.2
MCQ                                      Sg   14 48 13.7 -2.4
WHZ  Wether Hill Ro    9.69  39  Pn    Pn   14 50 09.9 -1.1
DCZ  Deep Cove         9.78  35  Pn    Pn   14 50 11.6 -0.5
MLZ  Mavora Lakes     10.20  38  Pn    Pn   14 50 17.5 -0.4
WKZ  Wanaka           11.00  40  Pn    Pn   14 50 28.7 -0.2
ODZ  Otahua Downs     11.47  45  Pn    Pn   14 50 33.8 -1.5
RPZ  Rata Peaks       12.73  43  LR    LR   14 55 21.2
     comp=Z,362nm,18.4s,baz=302,slow=38
TAU  Tasmania Unive   13.38 319  Pn    Pn   14 51 00.2 -1.1
URZ  Urewera          19.80  46  P     P    14 52 11.7  -10
     0.2nm,0.3s,baz=193,slow=18,SNR=2.4
URZ  Urewera          19.80  46  P     P    14 52 11.2  -11
URZ                               IAmb  IAmb 14 52 29.5
     comp=Z,26nm,1.1s
VNDA Vanda            23.89 179  P     P    14 53 05.8 +1.0
     comp=Z,2.1nm,0.8s,baz=338,slow=9.3,SNR=13
VNDA                              LR    LR   15 00 50.3
     comp=Z,136nm,18.4s,baz=338,slow=32
VNDA Vanda            23.89 179  P     P    14 53 05.8 +1.0
VNDA                              IAmb  IAmb 14 53 06.9
     comp=Z,3.9nm,1.1s
CTA  Charters Tower   35.03 339  LR    LR   15 08 18.4
     comp=Z,164nm,18.3s,baz=260,slow=35
CTAO Charters Tower   35.03 339  P     P    14 54 44.6 +0.3
ASAR Alice Springs    35.55 318  P     P    14 54 48.9 +0.1
     comp=Z,1.1nm,0.8s,baz=151,slow=8.3,SNR=16
ASAR Alice Springs    35.55 318  P     P    14 54 49.1 +0.3
AS31 Alice Springs    35.55 318  P     P    14 54 49.0 +0.3
QSPA South Pole Qui   36.37 180  P     P    14 54 57.3 +1.8
     comp=Z,5.8nm,1.0s,baz=360,slow=2.8,SNR=14
QSPA South Pole Qui   36.37 180  P     P    14 54 57.3 +1.8
H01W1 Cape Leeuwin H  36.55 283  T     T    15 33 31.6
     baz=135,slow=76,SNR=849
H01W2 Cape Leeuwin H  36.56 283  T     T    15 33 29.8
     baz=135,slow=76,SNR=671
H01W3 Cape Leeuwin H  36.57 283  T     T    15 33 32.9
     baz=135,slow=76,SNR=924
WR0  Warramunga Arr   38.66 321  P     P    14 55 14.5 -0.6
WR0                               IAmb  IAmb 14 55 20.7
     comp=Z,11nm,1.4s
WRA  Warramunga Arr   38.75 321  P     P    14 55 15.1 -0.8
     comp=Z,1.3nm,0.8s,baz=152,slow=7.4,SNR=9.1
WB0  Warramunga Arr   38.89 321  P     P    14 55 15.9 -1.2
WB0                               IAmb  IAmb 14 55 38.4
     comp=Z,7.0nm,1.4s
MAW  Mawson           44.09 213  P     P    14 56 00.9 +1.6
     comp=Z,2.4nm,1.0s,baz=121,slow=5.9,SNR=5.1
MAW  Mawson           44.09 213  P     P    14 56 00.7 +1.5
JAY  Jayapura         53.28 337  LR    LR   15 19 59.0
     comp=Z,59nm,18.0s,baz=298,slow=36
SNAA Sanae            54.23 187  P     P    14 57 17.0 +0.2
VNA3 Neumayer Olymp   55.06 184  P     P    14 57 22.8 +0.1
VNA2 Neumayer--Watz   55.26 185  P     P    14 57 23.5 -0.7
     baz=158,slow=8.8
VNA1 Neumayer--Stat   55.58 185  P     P    14 57 26.9 +0.5
H03S2 Juan Fernandez  79.37 134  T     T    16 27 43.7
     baz=209,slow=74,SNR=388
H03S1 Juan Fernandez  79.37 134  T     T    16 27 45.0
     baz=209,slow=74,SNR=344
H03S3 Juan Fernandez  79.38 134  T     T    16 27 44.1
     baz=209,slow=74,SNR=380
H03N3 Juan Fernandez  79.69 134  T     T    16 28 12.0
     baz=216,slow=76,SNR=147
H03N2 Juan Fernandez  79.70 134  T     T    16 28 14.0
     baz=216,slow=76,SNR=220
H03N1 Juan Fernandez  79.71 134  T     T    16 28 12.8
     baz=216,slow=76,SNR=101
H08S2 Diego Garcia H  81.92 268  T     T    16 30 23.4
     baz=143,slow=76,SNR=99
H08S1 Diego Garcia H  81.93 268  T     T    16 30 21.6
     baz=143,slow=76,SNR=92
H08S3 Diego Garcia H  81.94 268  T     T    16 30 18.3
     baz=143,slow=76,SNR=129
JHJ  Hachijo jima 2   88.13 344  LR    LR   15 36 53.4
     comp=Z,170nm,21.9s,baz=82,slow=34
JNU  Nakatsue         89.92 337  LR    LR   15 37 19.9
     comp=Z,74nm,18.5s,baz=256,slow=33
```

*ECX **24** 14:48:41.0±0.7, 30°.50N×114°.30W, h0km±7km, MD2.8, ML3.1*

*MEX **24** 14:48:46.2±1.0, 30°.88N×114°.39W, h16km±999km, MD3.9*

ISC 24 14:48:38.7±2.2, 30°.8N±0°.2×114°.2W±0°.1, h10km, n7, σ1§81/12, 2D, Gulf of California

```
Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
SFX  San Felipe        0.60 298  eP    Pn   14 48 53.6 +0.3
SFX                               eS    Sn   14 49 04.6 +1.5
SFX                               IAML       14 49 05.4
     comp=N,1μm,0.2s
SFX                               ⇓e         14 49 05.4
SPX  San Pedro Mart    1.10 285  eP    Pn   14 49 00.8 +0.3
SPX                               eS    Sg   14 49 12.2 -2.0
SPX  San Pedro Mart    1.10 285  eP    Pn   14 49 01.0 +0.5
SPX                               IAML       14 49 18.9
     comp=N,324nm,0.3s
SPX                               ⇓e         14 49 18.9
SPX                               e          14 49 18.9
SPX                               IAML       14 49 18.9
     comp=E,226nm,0.5s
SPIG San Pedro Mart    1.10 286  eP    Pn   14 49 01.9 +1.4
SPIG                              i S   Sg   14 49 12.2 -2.0
SPIG San Pedro Mart    1.10 286  eP    Pn   14 49 01.8 +1.3
SPIG                              eS    Sn   14 49 17.5 +1.6
SQX  San Quintin       1.43 263  eP    Pb   14 49 05.1 -0.3
SRIG Santa Rosalia     3.84 152  eP    Pb   14 49 44.5 -2.0
SRIG                              i S   Sn   14 50 25.9 +2.9
```

IDC 24 15:04:41.1±1.8, 5°.84S×129°.97E, h0km, mb3.7/1, mb1 3.4/5, mb1mx3.3/35, mbtmp3.3/5, ML2.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.5/34, Error ellipse: s-maj=69.9km s-min=25.7km az=88.0, Banda Sea

```
Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
SIJI Sorong            5.10  15  Pn    Pn   15 05 58.8  0.0
     0.8nm,0.3s,baz=199,slow=23,SNR=6.8
SIJI                              Sn    Sn   15 06 54.1 -4.4
     1.0nm,0.3s,baz=226,slow=23,SNR=5.7
FITZ Fitzroy Crossi   12.90 199  Pn    Pn   15 07 47.9 +2.1
     0.0nm,0.3s,baz=180,slow=9.9,SNR=1.8
FITZ                              Sn    Sn   15 09 59.8  -10
     0.0nm,0.3s,baz=1.1,slow=13,SNR=1.4
WRA  Warramunga Arr   14.65 164  Pn    Pn   15 08 08.5 -1.3
     0.0nm,0.3s,baz=344,slow=14,SNR=1.2
WRA                               Sn    Sn   15 10 40.9  -12
     0.1nm,0.3s,baz=337,slow=22,SNR=2.6
ASAR Alice Springs    18.13 168  P     Pn   15 08 53.8 -0.7
     0.0nm,0.3s,baz=346,slow=9.1,SNR=6.9
CTA  Charters Tower   21.24 133  LR    LR   15 19 30.0
     comp=Z,145nm,20.7s,baz=286,slow=42
ZALV Zalesovo Beam    70.53 334  P     P    15 15 57.7 +0.1
     0.3nm,0.3s,baz=143,slow=6.2,SNR=2.0
```

IDC 24 15:13:38.6±6.4, 6°.59S×148°.29E, h164km±33km, mb3.2/3, mb1 3.2/5, mb1mx3.0/37, mbtmp3.5/5, Error ellipse: s-maj=63.7km s-min=53.1km az=51.0, New Britain region

```
Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
PMG  Port Moresby      3.02 202  P     Pn   15 14 27.0 +0.3
     6.8nm,0.3s,baz=13,slow=5.5,SNR=27
PMG                               S     Sn   15 15 04.5 +0.3
     2.6nm,0.3s,baz=336,slow=10,SNR=3.8
WRA  Warramunga Arr   18.97 224  P     P    15 17 47.2 -0.3
     0.1nm,0.3s,baz=51,slow=11,SNR=8.8
ASAR Alice Springs    21.90 218  P     P    15 18 20.5 +1.7
     0.5nm,0.8s,baz=51,slow=8.9,SNR=8.9
FITZ Fitzroy Crossi   24.87 241  P     P    15 18 45.6 -0.7
     3.9nm,0.7s,baz=356,slow=5.6,SNR=14
STKA Stephens Creek   25.93 193  P     P    15 18 55.1 -0.5
     1.2nm,0.9s,baz=326,slow=14,SNR=2.8
```

*IDC **24** 15:16:07.2±1.5, 12°.94N×70°.58W, h0km, mb4.1/3, mb1 4.2/7, mb1mx3.8/31, mbtmp4.2/7, ML3.3/4, MS3.3/10, Ms1 3.4/10, ms1mx3.1/33, Error ellipse: s-maj=38.6km s-min=29.5km az=70.0*

*NEIC **24** 15:16:10.7±2.1, 12°.91N±0°.06×70°.24W±0°.08, h29km±5km, mb4.5/9, Error ellipse: s-maj=11.4km s-min=8.5km az=81.0*

*RSNC **24** 15:16:12.3±0.6, 12°.93N×70°.70W, h124km±10km, ML3.6, Mw4.2*

ISC 24 15:16:08.4±0.6, 12°.86N±0°.05×70°.47W±0°.05, h11km, n78, σ2§45/95, mb4.2/7, Near coast of Venezuela

```
Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
URIC Uribia, Colomb    1.89 232  eP    Pn   15 16 42.3 +1.8
URIC                              eS    Sb   15 17 06.6 +0.2
URIC Uribia, Colomb    1.89 232  eP    Pn   15 16 42.3 +1.8
URIC                              eS    Sn   15 17 06.0 +1.7
URIC                              i          15 17 08.8
     comp=N,240nm,0.3s
CVALL Valledupar, Ce   3.60 230  eP    Pb   15 17 09.3 -2.8
CVALL                             eS    Sn   15 17 49.8 +3.1
SDV  Santo Domingo     3.96 182  Pn    Pn   15 17 12.4 +3.2
     comp=N,8.3nm,0.3s,baz=20,slow=8.3,SNR=41
SDV                               Sn    Sn   15 17 58.9 +3.2
     comp=N,13nm,0.3s,baz=73,slow=20,SNR=8.6
SDV                               LR    LR   15 19 10.1
     comp=N,530nm,18.0s,baz=28,slow=45
SDV  Santo Domingo     3.96 182  eP    Pn   15 17 12.5 +3.2
SDV                               eS    Sn   15 17 58.0 +2.3
SDV  Santo Domingo     3.96 182  Pn    Pn   15 17 11.4 +2.2
SMRC Santa Marta, M    4.04 246  eS    Sn   15 17 53.8 -3.9
ARGC Ariguani, Magd    4.76 232  eP    Pn   15 17 24.2 +4.1
ARGC                              eS    Sn   15 18 15.6 +0.2
SMLC San Martn de      5.37 222  eP    Pn   15 17 29.6 +1.1
SMLC                              eS    Sn   15 18 28.1 -2.3
OCAC Ocana             5.38 212  eP    Pn   15 17 30.3 +1.5
OCAC                              eS    Sn   15 18 29.9 -1.0
OCAC                              i          15 18 38.8
     comp=Z,125nm,0.3s
SJCC San Jacinto, C    5.48 238  eP    Pn   15 17 34.7 +4.6
SJCC                              eS    Sn   15 18 29.5 -3.7
BANI BANI              5.50   1  Pn    Pn   15 17 31.3 +0.9
PAPH Port-au-Prince    5.90 343  Pn    Pn   15 17 37.1 +1.4
PAMC Pamplona, Colo    5.91 202  eP    Pn   15 17 39.7 +3.3
PAMC                              eS    Sn   15 18 44.7 +0.3
PAMC                              i          15 18 50.7
     comp=Z,24nm,0.3s
LGNH Logne             5.98 340  Pn    Pn   15 17 38.0 +1.1
DR12 Loma Pena Alta    5.98  10          Pn   15 17 37.2 +0.3
CRPR Cabo Rojo, PR     6.05  32  Pn    Pn   15 17 36.0 -1.9
MLPR Magueyes Islan    6.05  33  Pn    Pn   15 17 35.4 -2.5
SDDR Presa de Saban    6.13 353          Pn   15 17 41.0 +1.9
MPR  Mayaguez          6.21  31  Pn    Pn   15 17 38.8 -1.2
ICMP Isla Caja de M    6.28  37          Pn   15 17 38.6 -2.3
PCRV Puerto La Cruz    6.31 114  Pn    Pn   15 17 44.3 +2.9
     comp=Z,3.8nm,0.3s,baz=274,slow=2.7,SNR=20
PCRV                              Sn    Sn   15 18 50.0 -3.6
     comp=Z,0.9nm,0.3s,baz=6.7,slow=8.1,SNR=1.2
PLCV Puerto La Cruz    6.36 114          Sn   15 17 44.4 +2.3
PLCV                                     Sn   15 18 50.0 -4.7
AGPR Aguadilla, PR     6.44  30  Pn    Pn   15 17 42.2 -1.1
AOPR Arecibo Observ    6.52  33  Pn    Pn   15 17 42.6 -1.8
MOTC Monteria, Cord    6.52 232  eP    Pn   15 17 47.7 +3.4
MOTC                              eS    Sn   15 18 58.2 -0.6
MOTC                              i          15 19 14.7
     comp=Z,7.0nm,0.6s
BRRC Barranca, Sant    6.55 209  eP    Pn   15 17 44.4 -0.4
BRRC                              eS    Sn   15 19 01.6 +2.1
BRRC                              i          15 19 06.3
     comp=Z,19nm,0.2s
IGPR InterUniversit    6.59  39  Pn    Pn   15 17 42.3 -3.0
PDPR Patillas Dam,     6.68  39          Pn   15 17 43.4 -3.2
EMPR Esperanza - Ma    6.75  34  Pn    Pn   15 17 46.5 -0.9
BARC Barichara         6.78 203  eP    Pn   15 17 51.0 +2.9
GCPR Guaynabo City     6.87  37  Pn    Pn   15 17 46.7 -2.4
ZARC Zaragoza, Cauc    6.87 219  eP    Pn   15 17 48.5 -0.6
ZARC                              eS    Sn   15 19 04.9 -2.4
ZARC                              i          15 19 16.4
     comp=Z,27nm,0.5s
HUMP Col San Antoni    6.88  40  Pn    Pn   15 17 46.8 -2.5
CBYP Canovanas         6.97  39  Pn    Pn   15 17 48.2 -2.4
MTP  Monte Pirata      7.04  42  Pn    Pn   15 17 48.2 -3.2
UREC San Jos de Ur     7.12 225  eP    Pn   15 17 57.1 +4.6
UREC                              eS    Sn   15 19 10.1 -3.3
UREC                              i          15 19 21.9
     comp=Z,11nm,0.2s
CUPR Culebra, Puert    7.37  42  Pn    Pn   15 17 53.1 -2.8
RUSC La Rusia          7.39 201  eP    Pn   15 17 58.8 +2.1
RUSC                              eS    Sn   15 19 20.4 -0.5
RUSC                              i          15 20 15.6
     comp=Z,6.8nm,0.7s
PTBC PUERTO BERRIO,    7.41 212  eP    Pn   15 17 56.8 +0.2
STVI Saint Thomas      7.61  44  Pn    Pn   15 17 56.7 -2.6
CAPC Capurgana         7.96 239  eP    Pn   15 18 06.5 +2.4
CAPC                              eS    Sn   15 19 26.8 -7.5
CAPC                              i          15 19 42.6
     comp=Z,3.7nm,0.6s
DBBC Dabeiba           8.11 225  eP    Pn   15 18 05.4 -0.8
DBBC                              eS    Sn   15 19 28.8 -9.2
GTBY Guantanamo Bay    8.32 328  Pn    Pn   15 18 10.4 +1.5
GRGR Grenville         8.64  94  Pn    Pn   15 18 10.9 -2.6
MTDJ Mount Denham      8.65 309  Pn    Pn   15 18 15.3 +1.7
CHIC Chingaza          8.79 202  eP    Pn   15 18 18.9 +2.9
CHIC                              eS    Sn   15 19 53.0 -2.3
CHIC                              i          15 20 16.8
     comp=Z,6.6nm,0.6s
ROSC El Rosal          8.83 206  Pn    Pn   15 18 18.4 +2.0
     comp=Z,1.8nm,0.3s,baz=174,slow=22,SNR=1.6
ROSC                              Sn    Sn   15 19 58.1 +1.9
     baz=81,slow=19,SNR=1.6
ROSC                              LR    LR   15 22 19.9
     comp=Z,268nm,18.3s,baz=230,slow=42
CBOC Ciudad Bolivar    8.85 219  eP    Pn   15 18 19.5 +3.1
CBOC                              eS    Sn   15 19 55.4 -0.9
CBOC                              i          15 20 19.2
     comp=Z,5.3nm,0.5s
GUY2C Guyana, Caldas   9.00 213  eP    Pn   15 18 21.9 +3.1
GUY2C                             eS    Sn   15 19 57.1 -3.3
GUY2C                             i          15 20 16.1
     comp=Z,7.7nm,0.6s
H05S1 Guadeloupe/Mar   9.49  79  T     T    15 27 49.9
     SNR=12
TOLC Tolima            9.52 211  eP    Pn   15 18 29.1 +3.3
TOLC                              eS    Sn   15 20 10.6 -2.5
ORTC Ortega, Tolima   10.07 208  eP    Pn   15 18 33.6 +0.4
ORTC                              eS    Sn   15 20 23.4 -2.9
ORTC                              i          15 20 48.1
     comp=Z,5.5nm,0.7s
PRAC Prado            10.09 206  eP    Pn   15 18 35.5 +2.2
PRAC                              i          15 20 35.7
     comp=Z,4.2nm,0.6s
HDC  Heredia          13.68 259  Pn    Pn   15 19 26.3 +3.8
JTS  Las Juntas de    14.42 261  LR    LR   15 24 38.6
     comp=Z,42nm,21.1s,baz=156,slow=36
PTGA Pitinga          17.06 142  P     P    15 20 10.4 +1.6
     comp=Z,0.2nm,0.3s,baz=302,slow=19,SNR=1.7
PTGA                              LR    LR   15 27 07.1
     comp=Z,105nm,19.9s,baz=89,slow=38
MDP  Montagnes des    19.21 112  LR    LR   15 29 00.5
     comp=Z,76nm,19.0s,baz=194,slow=40
APG  El Apazote       19.52 279  LR    LR   15 28 01.9
     comp=Z,86nm,19.6s,baz=48,slow=37
ATAH Atahualpa        21.37 202  LR    LR   15 30 27.3
     comp=Z,72nm,21.5s,baz=38,slow=40
SAML Samuel           22.85 161  P     P    15 21 10.5 -1.3
SAML                              IAmb  IAmb 15 21 13.3
     comp=Z,5.9nm,0.7s
TKL  Tuckaleechee C   25.68 334  LR    LR   15 33 24.9
     comp=Z,88nm,18.9s,baz=162,slow=41
LPAZ La Paz           29.06 175  P     P    15 22 11.0 +1.4
     comp=Z,1.5nm,0.6s,baz=240,slow=2.3,SNR=5.8
LPAZ                              LR    LR   15 35 13.1
     comp=Z,124nm,18.0s,baz=20,slow=39
LPAZ La Paz           29.06 175  P     P    15 22 10.3 +0.7
SIV  San Ignacio      30.14 162  P     P    15 22 19.1 +0.6
     comp=Z,1.3nm,0.5s,baz=332,slow=8.0,SNR=6.8
GO01 Chusmiza         32.35 178  P     P    15 22 37.0 -1.5
GO01                              IAmb  IAmb 15 22 38.4
     comp=Z,7.9nm,0.5s
PB11 IPOC Station P   32.43 179  P     P    15 22 37.2 -1.6
LVC  Limon Verde      35.29 178  P     P    15 23 03.2 -0.7
PB06 IPOC Station P   35.36 179  P     P    15 23 04.6 +0.3
PB14 IPOC Station P   37.26 180  P     P    15 23 19.5 -1.2
PB14                              IAmb  IAmb 15 23 38.1
     comp=Z,22nm,1.1s
SCHQ Schefferville    41.97   3  P     P    15 24 00.6 +1.3
O20A White River Ci   42.86 316  P     P    15 24 07.7 +0.7
O20A                              IAmb  IAmb 15 24 25.1
     comp=Z,6.3nm,1.2s
PLCA Paso Flores      53.32 180  P     P    15 25 26.8 -0.8
     comp=Z,1.8nm,0.7s,baz=1.3,slow=3.6,SNR=4.9
PLCA Paso Flores      53.32 180  P     P    15 25 26.6 -1.0
PLCA                              IAmb  IAmb 15 25 38.0
     comp=Z,6.2nm,1.4s
YKA  Yellowknife Ar   58.61 338  LR    LR   15 51 33.1
     comp=Z,30nm,19.3s,baz=0.0,slow=36
CMAR Chiang Mai Arr   147.17  19  PKPbc PKPbc 15 35 53.1 +0.5
     comp=Z,0.2nm,0.4s,baz=312,slow=4.5,SNR=2.4
ASAR Alice Springs    154.53 242  PKPbc PKiKP 15 36 10.9 +0.8
     comp=Z,0.4nm,0.9s,baz=141,slow=4.7,SNR=2.3
WRA  Warramunga Arr   155.20 250  PKPab PKPab 15 36 27.5  0.0
     comp=Z,0.4nm,1.0s,baz=109,slow=2.1,SNR=2.2
```

*ISK **24** 15:23:15.1, 37°.32N×42°.53E, h6km, ML2.6/8*

*DDA **24** 15:23:16.1, 37°.42N×42°.60E, h7km±4km, ML2.5*

ISC 24 15:23:15.9±1.1, 37°.39N±0°.05×42°.60E±0°.03, h7km±8km, n18, σ0§85/32, Turkey

```
Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
SIRT Sirnak            0.17 311  PG    Pg   15 23 19.2 -0.2
SIRT                              SG    Sg   15 23 23.2 +1.3
SIRN Sırnak            0.18 306  i P   Pg   15 23 19.5 -0.2
SIRN                              i S   Sg   15 23 22.7 +0.4
SRTM Siirt_Merkez      0.81 318  i P   Pb   15 23 31.8 -0.5
SRTM                              i S   Sn   15 23 45.0 -1.1
CUKT Cukurca           0.81 100  PG    Pb   15 23 32.3 -0.1
CUKT                              SG    Sb   15 23 44.7 +1.0
CUKT Cukurca           0.81 100  i P   Pb   15 23 32.4  0.0
CUKT                              i S   Sb   15 23 44.8 +1.2
CUKT                              IAML       15 23 52.0
     comp=E,168nm,0.5s
HAKT HAKKARI           0.90  79  i P   Pg   15 23 31.9 -1.2
HAKT                              i S   Sg   15 23 45.0 +0.3
AKDM Akdamar-Van       0.99  18  PG    Pb   15 23 35.7 +0.3
AKDM                              SG    Sn   15 23 51.4 +0.8
GEVA Gevas             0.99  21  i P   Pg   15 23 34.6 -0.3
GEVA                              i S   Sg   15 23 44.9 -2.9
BLIS Bitlis-Merkez     1.09 340  i P   Pb   15 23 37.5 -0.3
BLIS                              i S   Sn   15 23 53.5 +0.3
BTMN Batman            1.17 296  i P   Pn   15 23 39.1 +0.3
BTMN                              i S   Sn   15 23 55.5 +0.5
BTMN                              IAML       15 23 59.0
     comp=N,87nm,0.7s
BTMN                              IAML       15 24 01.0
     comp=E,145nm,0.5s
SVAN Silvan-Diyarba    1.35 305  PN    Pb   15 23 41.0 -0.5
SVAN                              SN    Sn   15 23 59.9 +0.6
SVAN Silvan-Diyarba    1.35 305  i P   Pg   15 23 41.5 -0.2
SVAN                              i S   Sn   15 23 59.1 -0.2
MARD Mardin            1.45 268  i P   Pb   15 23 42.6 -0.7
MARD                              i S   Sg   15 24 02.8 +0.2
MARD                              IAML       15 24 05.0
     comp=E,160nm,0.5s
MARD                              IAML       15 24 06.0
     comp=N,141nm,0.6s
MUSM Mu-Merkez         1.59 328  i P   Pb   15 23 45.6  0.0
MUSM                              i S   Sn   15 24 05.3 -0.1
MAZI Mazidag           1.72 273  PN    Pn   15 23 45.8 -0.5
DYBB Diyarbakir        2.03 287  PN    Pn   15 23 50.6  0.0
AGRB Hanur-Agry        2.21   8  PN    Pn   15 23 54.4 +1.3
SVRC Sivrice-ELAZID    2.79 292  PN    Pn   15 24 00.9 -0.2
```

IDC 24 15:36:40.5±4.6, 19°.68N×145°.13E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/33, mbtmp3.5/3, Error ellipse: s-maj=314.8km s-min=32.8km az=119.0, Mariana Islands

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Code Station Name        Δ°   AZ°  Phase ID   Time      Res
                                  Op    ISC  h m s     ISC
H11S3 WAKE ISLAND Hy 20.41  90  T     T    16 02 08.7
     baz=275,slow=75,SNR=8.2
H11S1 WAKE ISLAND Hy 20.42  90  T     T    16 02 06.2
     baz=275,slow=75,SNR=6.4
H11S2 WAKE ISLAND Hy 20.43  90  T     T    16 02 14.7
     baz=275,slow=75,SNR=7.2
```

WRA	Warramunga Arr	40.77	196	P	P	15 44 23.1 -0.5
	0.4nm,0.4s,baz=17,slow=8.7,SNR=11					
ASAR	Alice Springs	44.45	195	P	P	15 44 53.7 +0.2
	0.2nm,0.6s,baz=19,slow=7.1,SNR=6.9					
NVAR	Mina Array Bea	82.96	52	P	P	15 49 08.1 0.0
	0.4nm,0.5s,baz=267,slow=6.1,SNR=5.0					

WEL 24 15:38:44.4,41°S±2°×17°5E±°, h37km±8km, M3.0/42, ML3.2/43, MLv3.0/42, Error ellipse: s-maj=0.0km s-min=0.0km az=101.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	Otaki Gorge	0.10	10	P	Pn	15 38 50.2	-7.6
KIW	Kapiti Island	0.19	288	P	Pn	15 38 50.9	-3.2
CAW	Cannon Point	0.20	198	P	Pn	15 38 51.8	-2.0
HOWZ	Holdsworth Sta	0.28	86	P	Pn	15 38 52.3	-0.3
MTW	Mount Morrison	0.36	132	P	Pn	15 38 54.0	+1.1
MRZ	Mangatainoka R	0.42	52	P	Pn	15 38 53.3	-0.3
WEL	Wellington	0.46	218	P	Pn	15 38 55.0	+0.6
MSWZ	Moikau Station	0.50	171	P	Pn	15 38 56.0	+1.0
PAWZ	Paruwai Farm	0.51	156	P	Pn	15 38 56.0	+0.9
BHW	Baring Head	0.53	203	P	Pn	15 38 56.1	+0.5
TIWZ	Tintock	0.58	76	P	Pn	15 38 56.3	+0.1
TMWZ	Te Maipa	0.59	109	P	Pn	15 38 56.8	+0.3
TRWZ	Traveller	0.63	140	P	Pn	15 38 57.3	+0.3
PLWZ	Palliser	0.66	173	P	Pn	15 38 57.8	+0.5
POWZ	Post Office Ro	0.71	42	P	Pn	15 38 56.3	-1.6
TCW	Tory Channel	0.72	246	P	Pn	15 38 58.5	+0.4
OHWZ	Ohakea	0.72	10	P	Pn	15 38 58.0	-0.1
PRWZ	Pori Road	0.72	60	P	Pn	15 38 58.5	+0.4
BFZ	Birch Farm	0.87	74	P	Pn	15 38 59.9	-0.1
DUWZ	D'Urville Isla	0.94	277	P	Pn	15 39 01.3	+0.3
DVHZ	Dannevirke	0.99	52	P	Pn	15 39 01.5	-0.3
TUWZ	Tuamarina	1.04	240	P	Pn	15 39 02.8	+0.4
TSZ	Takapari Road	1.06	36	P	Pn	15 39 02.5	-0.2
CMWZ	Cape Campbell	1.09	220	P	Pn	15 39 06.9	+3.8
WAZ	Wanganui	1.17	354	P	Pn	15 39 04.9	+0.7
BSWZ	Blackbirch Sta	1.25	230	P	Pn	15 39 05.8	+0.6
PNHZ	Pukenui	1.29	39	P	Pn	15 39 05.3	-0.5
NNZ	Nelson	1.37	257	P	Pn	15 39 07.4	+0.5
MTVZ	Mangateitei	1.55	9	P	Pn	15 39 10.8	+1.3
LREZ	Lake Rotokare	1.56	338	P	Pn	15 39 10.9	+1.3
MOVZ	Moawhango	1.58	17	P	Pn	15 39 09.7	-0.1
PXZ	Pawanui	1.58	56	P	Pn	15 39 09.1	-0.7
KRHZ	Kereru	1.58	37	P	Pn	15 39 09.2	-0.6
BHHZ	Black Hill Sta	1.59	26	P	Pn	15 39 10.0	-0.1
WNVZ	Wahianoa	1.63	12	P	Pn	15 39 11.1	+0.5
PKVZ	Pokaka	1.64	5	P	Pn	15 39 11.7	+1.0
TUVZ	Tukino	1.69	13	P	Pn	15 39 12.0	+0.5
NGZ	Ngauruhoe	1.78	11	P	Pn	15 39 13.9	+1.3
KWHZ	Kaweka Forest	1.78	34	P	Pn	15 39 13.1	+0.4
OTVZ	Oturere	1.80	13	P	Pn	15 39 14.3	+1.4
VRZ	Vera Road	1.82	350	P	Pn	15 39 14.1	+1.1
ETVZ	East Tongariro	1.83	14	P	Pn	15 39 14.5	+1.1
WTVZ	West Tongariro	1.83	11	P	Pn	15 39 15.0	+1.6
NEZ	North Egmont	1.83	334	P	Pn	15 39 14.7	+1.3
KHEZ	Kahui Hut	1.84	331	P	Pn	15 39 15.2	+1.7
TMVZ	Te Maari	1.85	14	P	Pn	15 39 14.4	+0.7
TWVZ	Taurewa	1.86	7	P	Pn	15 39 14.6	+0.9
KRVZ	Karewarewa	1.86	12	P	Pn	15 39 15.3	+1.5
THZ	Tophouse	1.89	243	P	Pn	15 39 14.0	-0.1
MCHZ	McNeill Hill	1.89	39	P	Pn	15 39 16.6	+2.5
NBEZ	Newall Road No	1.92	329	P	Pn	15 39 16.3	+1.8
KHZ	Kahutara	1.92	218	P	Pn	15 39 14.6	+0.1
MHEZ	Mangahewa	1.95	341	P	Pn	15 39 16.8	+1.9
QRZ	Quartz Range	1.99	272	P	Pn	15 39 15.8	+0.3
BKZ	Black Stump Fm	2.03	31	P	Pn	15 39 16.0	-0.1
MRHZ	Matea Rd	2.30	26	P	Pn	15 39 18.8	-0.9
HIZ	Hauiti	2.41	355	P	Pn	15 39 22.7	+1.4
MTHZ	Maungataniwha	2.44	33	P	Pn	15 39 28.6	+6.9
TLZ	Tolley Road	2.60	7	P	Pn	15 39 25.3	+1.4
DSZ	Denniston Nort	2.65	251	P	Pn	15 39 24.3	-0.2
LTZ	Lake Taylor	2.84	228	P	Pn	15 39 26.6	-0.6
INZ	Inchbonnie	3.30	236	P	Pn	15 39 32.8	-0.7

PRU 24 16:36:42.1±0.0, 50°22N×18°97E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.53	90	ePg	Pg	16 36 52.4	+0.1
OJC				eSg	Sg	16 36 59.3	+0.1
MORC	Moravsky Berou	1.02	245	ePG	Pg	16 37 01.3	-0.4
MORC				eSG	Sg	16 37 12.9	-2.0
KRLC	Kraliky	1.42	265	ePG	Pn	16 37 07.4	-1.7
KRLC				eSG	Sg	16 37 27.7	+0.2
	comp=Z,9.1nm,0.9s						
DPC	Dobruska-Polom	1.70	275	ePG	Pn	16 37 13.6	+0.5
DPC				eSG	Sg	16 37 36.9	+0.1
	comp=Z,5.4nm,0.5s						
VYHS	Vyhne	1.73	183	ePN	Pn	16 37 12.4	-1.0
VYHS				eSN	Sn	16 37 35.5	-0.7
CHVC	Chvalec	1.90	282	ePG	Pb	16 37 17.5	-0.2
CHVC				eSG	Sb	16 37 42.5	+0.5
KHC	Kasperske Hory	3.67	255	eSG	Sg	16 38 38.3	-1.6
	comp=Z,2.2nm,0.7s						

KRSZO 24 16:38:16.3±1.6, 48°03N×19°45E, h10km, ML1.7, Error ellipse: s-maj=15.0km s-min=4.4km az=36.0
BUD 24 16:38:16.6, 48°05N×19°44E, h0km±339km, ML1.7/1, 2C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSZ	Piszkesteto	0.33	113⇑	ePg	Pg	16 38 23.2	+0.2
PSZ			⇑	eSg	Sg	16 38 28.0	+0.7
PSZ	Piszkesteto	0.33	113	ePg	Pg	16 38 23.2	+0.2
PSZ				Pg	Pg	16 38 23.2	+0.2
PSZ				Sg	Sg	16 38 28.0	+0.7
PSZ				eSg	Sg	16 38 28.0	+0.8
IZAB	Izabela	0.55	19	ePg	Pg	16 38 27.6	+0.4
IZAB	Izabela	0.55	19	Pg	Pg	16 38 27.6	+0.4
IZAB				ePg	Pg	16 38 27.6	+0.4
VYHS	Vyhne	0.60	318	ePg	Pg	16 38 28.6	+0.5
VYHS				eSg	Sg	16 38 36.7	+0.8
VYHS	Vyhne	0.60	318	Pg	Pg	16 38 28.6	+0.5
VYHS				ePg	Pg	16 38 28.6	+0.5
VYHS				Sg	Sg	16 38 36.7	+0.8
VYHS				eSg	Sg	16 38 36.7	+0.8
VYHS	Vyhne	0.60	318	ePG	Pg	16 38 28.6	+0.5
VYHS				eSG	Sg	16 38 36.7	+0.8
KOLL	Kolacno	0.87	308	ePG	Pg	16 38 33.7	+0.4
KOLL				eSG	Sg	16 38 44.8	+0.2

OMAN 24 16:54:20.2±0.6, 27°72N×54°79E, h57km, mb5.2/5, ml4.0/10, Error ellipse: s-maj=32.9km s-min=8.3km az=241.0
IDC 24 16:54:22.2±0.7, 27°17N×54°94E, h0km, mb3.9/17, mb1 4.0/21, mb1mx3.8/57, mbtmp3.9/21, ML3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=17.2km s-min=14.8km az=30.0
DSN 24 16:54:23.1±1.7, 27°29N×54°84E, h10km, ML4.0/8, Error ellipse: s-maj=24.6km s-min=7.6km az=22.0
NEIC 24 16:54:23.7±1.7, 27°18N±0°09×54°9E±0°1, h10km±1km, mb4.5/15, Error ellipse: s-maj=17.9km s-min=12.6km az=227.0
TEH 24 16:54:23.6, 27°19N×54°98E, h8km, ML4.1
THR 24 16:54:24.3±0.4, 27°14N×54°94E, h14km±5km, ML4.0
ISC 24 16:54:25.3±0.4, 27°20N±0°04×54°96E±0°03, h17km, n130, σ1°45/133, mb4.0/22, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.70	312	ePg	Pg	16 54 37.2	-1.8
LAR1				e		16 54 58.8	
BNDS	Bandar-Abbas	1.10	79	ePg	Pb	16 54 45.5	-0.4
BNDS				IAML		16 55 07.1	
	comp=N,3μm,0.5s						
BNDS				IAML		16 55 13.2	
	comp=E,3μm,0.5s						
BNDS	Bandar-Abbas	1.10	79	ePg	Pb	16 54 45.5	-0.4
GENO	Geno	1.10	79	ePg	Pb	16 54 44.6	-1.3
GENO				e		16 55 10.1	
IBND	Bandar-abas	1.43	80	ePg	Pb	16 54 50.9	-0.5
IBND				e		16 55 25.8	
SHME	Shamm	1.56	137	eP	Pn	16 54 52.2	-0.1
	SNR=33						
SHME				S	Sb	16 55 14.8	+1.7
SHME	Shamm	1.56	137	ePn	Pn	16 54 52.5	+0.2
LMD1	Lamerd	1.60	275	ePg	Pb	16 54 55.2	+0.8
LMD1				e		16 56 26.3	
BANOM	Banah	1.75	136	eP	Pn	16 54 55.3	+0.4
	SNR=76						
BANOM				S	Sb	16 55 20.8	+2.2
BANOM	Banah	1.75	136	P	Pn	16 54 55.5	+0.7
	SNR=24						
BANOM				S	Sg	16 55 21.3	-0.3
BANOM	Banah	1.75	136	ePn	Pn	16 54 55.4	+0.5
UMQ	Umm Al-Quwin	1.78	159	ePn	Pb	16 54 58.2	+0.7
JHRM	Jahrom	1.79	317	ePg	Pb	16 54 58.2	+0.6
JHRM				e		16 55 36.8	
MSFE	Esma-Masafi	2.12	149	eP	Pn	16 55 00.8	+0.8
	SNR=27						
MSFE	Esma-Masafi	2.12	149	ePn	Pn	16 55 01.1	+1.1
MDH	Madha	2.24	147	eP	Pn	16 55 02.3	+0.7
	SNR=12						
MDH	Madha	2.24	147	P	Pn	16 55 02.9	+1.3
	SNR=12						
MDH	Madha	2.24	147	ePn	Pn	16 55 02.7	+1.1
NAZ	Nazwa, Dubai	2.29	164	eP	Pn	16 55 03.7	+1.4
	SNR=8.3						
NAZ	Nazwa, Dubai	2.29	164	ePn	Pn	16 55 03.9	+1.6
UOSS	Minazif	2.51	153	eP	Pn	16 55 05.9	+0.6
	SNR=25						
UOSS	Minazif	2.51	153	P	Pn	16 55 06.1	+0.8
UOSS				S	Sg	16 55 46.1	+0.2
UOSS	Minazif	2.51	153	ePn	Pn	16 55 06.1	+0.8
UOSS	Minazif	2.51	153		Pn	16 55 05.6	+0.3
FAQ	Al Faqa, Dubai	2.51	167	ePn	Pn	16 55 06.7	+1.4
KHNJ	Kahnooj	2.55	72	ePn	Pn	16 55 06.3	+0.4
HATD	Hatta, Dubai	2.59	156	eP	Pn	16 55 07.4	+1.0
	SNR=33						
HATD	Hatta, Dubai	2.59	156	P	Pn	16 55 07.8	+1.4
	SNR=33						
HATD	Hatta, Dubai	2.59	156	ePn	Pn	16 55 07.8	+1.4
AJN	Ajban	2.62	179	ePn	Pn	16 55 08.4	+1.5
ASHO	Ashiyiah	2.69	158	eP	Pn	16 55 08.7	+0.9
	SNR=42						
ASHO	Ashiyiah	2.69	158	ePn	Pn	16 55 09.1	+1.2
	SNR=127						
ASHO	Ashiyiah	2.69	158	ePn	Pn	16 55 08.9	+1.0
NGRK	Negar Kerman	2.89	32	ePn	Pn	16 55 11.4	+0.5
NGRK				e		16 56 25.4	
JRN	Qarnain Island	2.94	221	ePn	Pn	16 55 13.2	+2.0
KRBR	Kerman	3.19	29	ePn	Pn	16 55 17.4	+2.4
KRBR	Kerman	3.19	29	ePn	Pn	16 55 17.4	+2.4
TVBK	TV Kerman	3.20	29	ePn	Pn	16 55 16.8	+1.7
TVBK				e		16 56 07.5	
ALNE	Al Ain	3.21	167	i P	Pn	16 55 15.8	+0.9
	SNR=7.7						
ALNE	Al Ain	3.21	167	ePn	Pn	16 55 16.0	+1.1
SOHO	SOHO	3.37	155	i P	Pn	16 55 17.0	0.0
	SNR=13						
SOHO	SOHO	3.37	155	P	Pn	16 55 17.3	+0.3
SOHO	SOHO	3.37	155	ePn	Pn	16 55 17.4	+0.3
KHGB	Koh Gabri	3.44	22	ePn	Pn	16 55 20.5	+2.2
CHMN	Cheshme madani	3.49	40	ePn	Pn	16 55 22.0	+2.9
CHMN				e		16 56 33.8	
AHBU	AHRAM	3.64	298	ePn	Pn	16 55 22.4	+1.6
KBAM	BAM	3.64	57	ePn	Pn	16 55 22.8	+1.9
KAZ1	Kazerun	3.79	310	e		16 56 48.9	
ARQ	Araqi	4.10	159	P	Pn	16 55 28.1	+0.9
	SNR=42						
HOQ	Hoqain	4.18	149	P	Pn	16 55 27.4	-0.9
	SNR=5.2						
IMEH	Mehriz	4.19	356	ePn	Pn	16 55 30.6	+2.0
IBAF	Bafgh	4.41	7	ePn	Pn	16 55 32.9	+1.3
UMZA	Um Al Zommool	4.47	178	ePn	Pn	16 55 33.0	+0.8
KLNJ	Kolanjah	4.80	323	ePn	Pn	16 55 38.3	+1.1
ISAD	Sadrabad	4.83	347	ePn	Pn	16 55 39.6	+2.1
SMDO	Samad	4.98	145	P	Pn	16 55 40.6	+1.1
	SNR=12						
ICHK	Chekchek	5.05	355	ePn	Pn	16 55 42.1	+1.6
IRAM	Ramesheh	5.11	335	ePn	Pn	16 55 42.5	+1.2
WSAR	Wadi Sarin	5.16	139	Pn	Pn	16 55 42.4	+0.7
	comp=E,5.2nm,0.3s,baz=344,slow=10,SNR=62						
WSAR				Sn	Sn	16 56 40.9	0.0
	comp=E,1.8nm,0.3s,baz=248,slow=22,SNR=2.8						
WSAR	Wadi Sarin	5.16	139	P	Pn	16 55 42.4	+0.7
	SNR=53						
WSAR				S	Sn	16 56 44.9	+4.0
YZKH	Yazd	5.18	357	eP	Pn	16 55 44.3	+2.1
YZKH	Yazd	5.18	357	ePn	Pn	16 55 44.3	+2.1
CHBR	Chabahar	5.20	107	ePn	Pn	16 55 43.8	+1.4
CHBR	Chabahar	5.20	107	ePn	Pn	16 55 43.8	+1.4
IGAR	Gharneh	5.77	335	ePn	Pn	16 55 51.8	+1.4
WBK	Wadi Bani Khal	5.84	141	P	Pn	16 55 51.4	+0.2
	SNR=8.5						
BSRN	Basiran	5.98	36	ePn	Pn	16 55 55.6	+2.5
BSRN	Basiran	5.98	36	ePn	Pn	16 55 55.6	+2.5
TPRV	Parvadeh(Tabas	6.00	14	ePn	Pn	16 55 54.5	+1.1
ANAR	Anarak	6.07	350	ePn	Pn	16 55 55.0	+0.7
IZEF	Zefreh	6.12	339	ePn	Pn	16 55 55.9	+0.7
ROKH	ROKH	6.16	327	ePn	Pn	16 55 57.6	+1.9
IKOO	Kooshah	6.28	33	ePn	Pn	16 55 59.2	+1.8
JLN	Jalan Bani Buh	6.45	140	P	Pn	16 55 59.1	-0.5
	SNR=12						
IPIR	Pirpir	6.51	328	ePn	Pn	16 56 01.9	+1.4
TKDS	Koohdasht(Taba	6.66	16	ePn	Pn	16 56 04.1	+1.6
TABS	Tabas	6.70	16	ePn	Pn	16 56 05.6	+2.6
TABS	Tabas	6.70	16	ePn	Pn	16 56 05.6	+2.6
IKLH	Kolahrood	6.76	335	ePn	Pn	16 56 05.8	+1.8
MHTO	MHTO	6.77	155	P	Pn	16 56 04.1	+0.2
	SNR=35						
AFRZ	Afriz	7.13	28	ePn	Pn	16 56 11.7	+2.8
KRSH	Karshahi	7.17	341	ePn	Pn	16 56 10.4	+0.8
KHMZ	Khomeyn	7.82	328	ePn	Pn	16 56 20.7	+2.3
KHMZ	Khomeyn	7.82	328	ePn	Pn	16 56 20.7	+2.3
IANJ	Anjilo	8.29	354	ePn	Pn	16 56 27.0	+2.0
BMDN	Meydan	8.35	322	ePn	Pn	16 56 27.9	+2.2
SHAO	Shalim	9.15	176	i P	Pn	16 56 35.5	-1.1
	SNR=13						
IKOM	Komasi	9.46	319	ePn	Pn	16 56 41.1	+0.2
GEYT	Alibeck	11.03	13	LR	LR	17 02 10.5	
	comp=E,117nm,18.1s,baz=180,slow=42						
SOCY	Socotra	14.96	184	Pn	Pn	16 57 51.2	-5.0
MARD	Mardin	15.65	314	Pn	Pn	16 58 05.5	+0.3
MARD				IAmb	IAmb	16 58 14.2	
	comp=Z,15nm,0.7s						
ASF	Jabal al Asfar	16.46	292	Pn	P	16 58 19.3	+1.1
	comp=Z,0.2nm,0.3s,baz=343,slow=7.0,SNR=4.2						
EIL	Elat	17.77	283	P	Pn	16 58 31.1	-0.8
	comp=Z,0.2nm,0.3s,baz=3.5,slow=19,SNR=1.5						
MMAI	Mount Meron Ar	17.88	294	P	Pn	16 58 33.2	0.0
	comp=Z,0.4nm,0.3s,baz=103,slow=18,SNR=5.5						
KBZ	Khabaz	19.16	333	P	Pn	16 58 48.1	-0.6
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=1.9						
KKAR	Karatay Array	20.28	35	P	P	16 59 00.5	+0.4
BRTR	Keskin Array B	21.67	311	P	P	16 59 15.9	+0.6
	comp=Z,3.0nm,0.7s,baz=136,slow=13,SNR=6.6						
BRTR	Keskin Array B	21.67	311	P	P	16 59 15.2	-0.1
AAK	Ala-Archa	22.14	41	P	P	16 59 19.0	-1.3
	comp=Z,0.8nm,0.4s,baz=248,slow=5.4,SNR=1.6						
ANTO	Ankara	22.31	310	P	P	16 59 23.2	+1.1
ABKAR	Akbulak array	22.36	9	P	P	16 59 21.8	-0.5
ABKAR	Akbulak array	22.36	9	P	P	16 59 20.5	-1.8
ABKAR				IAmb	IAmb	16 59 41.2	
	comp=Z,3.1nm,0.8s						
AKTO	Aktyubinsk	23.32	5	P	P	16 59 30.6	-1.7
	comp=Z,1.2nm,0.6s,baz=187,slow=8.1,SNR=2.0						
BVAR	Borovoye Array	28.24	20	P	P	17 00 16.9	-0.4
	comp=Z,1.5nm,0.7s,baz=192,slow=13,SNR=6.7						
MKAR	Makanchi Array	29.08	40	P	P	17 00 25.8	+1.0
	comp=Z,0.3nm,0.5s,baz=238,slow=7.8,SNR=2.1						
AKBB	Malin Array Si	30.56	327	P	P	17 00 38.5	+0.7
AKBB				IAmb	IAmb	17 00 43.3	
	comp=Z,7.4nm,1.2s						
ZAA0	Zalesovo Array	34.58	31	P	P	17 01 12.1	-0.9
ZAA0				IAmb	IAmb	17 01 18.4	
	comp=Z,5.9nm,1.4s						
ZALV	Zalesovo Beam	34.58	31	P	P	17 01 12.6	-0.4
	comp=Z,0.9nm,0.4s,baz=240,slow=8.9,SNR=6.3						
ZALV	Zalesovo Beam	34.58	31	P	P	17 01 11.9	-1.1
GTA	Gaotai	39.05	60	eP	P	17 01 55.3	+3.9
GTA				pP	sP	17 02 05.4	+6.4
GTA				sP	pP	17 02 09.3	+12
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
FIA1	FINESS Array S	39.34	339	P	P	17 01 52.5	-0.8
FIA1				IAmb	IAmb	17 02 13.7	
	comp=Z,34nm,1.4s						
FINES	FINESS Array B	39.34	339	P	P	17 01 52.6	-0.7
	comp=Z,3.2nm,0.8s,baz=140,slow=10,SNR=10						
FINES	FINESS Array B	39.34	339	P	P	17 01 52.3	-1.0
SENIN	Lac Senin/Sane	41.98	310	P	P	17 02 16.1	+0.5
NC405	NORSAR Array S	44.56	332	P	P	17 02 36.6	+0.6
NB2	NORSAR Subarra	44.74	331	P	P	17 02 38.5	+1.0
	comp=Z,3.0nm,1.0s,baz=118,slow=7.9						
NOA	NORSAR Array B	44.74	331	P	P	17 02 38.0	+0.5
	comp=Z,1.1nm,0.7s,baz=121,slow=7.4,SNR=4.9						
KEV	Kevo	45.57	347	P	P	17 02 42.7	-1.2
ESDC	Sonseca Array	49.91	300	P	P	17 03 17.8	-0.3
	comp=Z,0.5nm,0.4s,baz=77,slow=7.4,SNR=4.1						
TOA0	Torodi Ar. Sit	51.56	265	P	P	17 03 29.9	-0.8
TOA0				IAmb	IAmb	17 03 33.7	
	comp=Z,3.0nm,0.9s						
TORD	Torodi Ar. Bea	51.56	265	P	P	17 03 29.7	-1.0
	comp=Z,2.9nm,0.8s,baz=56,slow=7.1,SNR=8.9						
TORD	Torodi Ar. Bea	51.56	265	P	P	17 03 29.9	-0.8
DBIC	Dimbokro	60.18	262	P	P	17 04 31.5	-1.1
	comp=Z,1.7nm,0.6s,baz=22,slow=5.4,SNR=1.7						
KSRS	Korea Array	61.12	60	P	P	17 04 38.6	-0.1
	comp=Z,0.6nm,0.6s,baz=272,slow=6.3,SNR=2.0						
BOSA	Boshof	62.38	209	P	P	17 04 46.1	-1.1
	comp=Z,1.3nm,0.7s,baz=27,slow=4.5,SNR=1.1						
BOSA	Boshof	62.38	209	IAmb	IAmb	17 05 07.2	
	comp=Z,14nm,1.5s						
FITZ	Fitzroy Crossi	81.96	115	P	P	17 06 44.9	+0.3
	comp=Z,1.8nm,0.6s,baz=182,slow=1.9,SNR=6.7						
ILAR	Eielson Array	86.76	9	P	P	17 07 07.6	-0.6
	comp=Z,0.2nm,0.7s,baz=15,slow=3.7,SNR=1.7						
WRA	Warramunga Arr	89.98	112	P	P	17 07 24.1	-0.1
	comp=Z,0.5nm,0.5s,baz=313,slow=4.2,SNR=13						
ASAR	Alice Springs	91.43	116	P	P	17 07 30.4	-0.6
	comp=Z,0.3nm,0.5s,baz=304,slow=4.6,SNR=21						

JMA 24 16:57:22.6±0.1, 33°56N×137°13E, h412km, M2.8
IDC 24 16:57:28.5±1.9, 33°63N×137°15E, h353km±44km, mb2.7/2, mb1 2.8/5, mb1mx2.6/48, mbtmp3.3/5, Error ellipse: s-maj=61.8km s-min=37.5km az=42.0
ISC 24 16:57:28.3±1.1, 34°0N±0°1×137°4E±0°1, h400km, n13, σ2°53/13, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	Ise	0.69	308	P	Pn	16 58 14.8	-3.6
HMMJ	Hamamatsu 2	0.94	19	P	Pn	16 58 16.6	-2.5
JNY	Yasuok	1.45	16	P	Pn	16 58 19.4	-1.8
JWT	Wachi	2.08	310	P	Pn	16 58 21.4	-3.3
JRY	Ryogami san	2.41	31	eS	S	16 59 13.8	-0.6
JHU	Hanno	2.46	39	S	S	16 59 13.4	-1.5
MJAR	Matsushiro Arr	2.66	15	P	Pn	16 58 28.3	-0.5
	0.1nm,0.3s,baz=195,slow=9.8,SNR=5.6						
JAG	Ashikaga	2.99	34	P	Pn	16 58 30.4	-0.9
JHO	Hitachi	3.72	44	S	S	16 59 30.8	-3.2
KSRS	Korea Array	8.43	297	P	P	16 59 27.9	-0.4
	0.2nm,0.3s,baz=106,slow=13,SNR=5.4						
USRK	Ussuriysk Ar.	11.03	339	P	Pn	17 00 01.1	+3.0
	baz=159,slow=9.2,SNR=3.4						
WRA	Warramunga Arr	53.69	184	P	P	17 06 12.6	+1.8
	0.3nm,0.3s,baz=360,slow=7.7,SNR=11						
ASAR	Alice Springs	57.41	184	P	P	17 06 39.0	+2.1
	0.1nm,0.4s,baz=355,slow=4.9,SNR=12						

OSPL 24 17:02:28.8±0.5, 19°71N×74°88W, h98km±6km, ML3.3
SSNC 24 17:02:30.2±1.3, 19°79N×74°37W, h13km±8km, MD3.5, ML2.9, MW3.4
ISC 24 17:02:28.2±3.4, 19°89N±0°06×74°56W±0°03, h13km±24km, n11, σ1°52/22, 1C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.41	47	‖i P	Pb	17 02 37.5	+0.1
MASC				i S	Sb	17 02 43.5	-0.2
MASC				IAML		17 02 43.7	
	comp=E,980nm,0.2s						
MASC				IAML		17 02 45.5	
	comp=N,1μm,0.2s						
GTBY	Guantanamo Bay	0.52	274	eP	Pn	17 02 42.2	+0.8
GTBY				eS	Sn	17 02 52.7	+2.5
GTBY	Guantanamo Bay	0.52	274	i P	Pn	17 02 42.2	+0.8
GTBY				eS	Sn	17 02 52.7	+2.5
GTBY				IAML		17 02 58.5	
	comp=Z,1μm,0.6s						
GTMO	Guantanamo	0.58	289⇑	i P	Pn	17 02 41.6	-0.5
GTMO				eS	Sn	17 02 50.8	-0.7
MOAC	Moa	0.85	334	eP	Pn	17 02 46.2	+0.3
MOAC				eS	Sb	17 02 57.8	+1.5
RCC	Rio Carpintero	1.08	276	i P	Pn	17 02 50.0	+1.0
RCC				i S

1.3nm,0.3s,baz=23,slow=11,SNR=8.0
PMG Sn **Sn** **17 08 18.0 -1.9**
0.8nm,0.3s,baz=221,slow=21,SNR=1.6
WRA Warramunga Arr 21.75 230 P **P** **17 10 44.5 -0.1**
1.5nm,0.8s,baz=54,slow=9.9,SNR=7.4
ASAR Alice Springs 24.39 223 P **P** **17 11 11.7 +0.5**
1.8nm,0.5s,baz=57,slow=8.9,SNR=24
STKA Stephens Creek 27.11 200 P **P** **17 11 34.4 -1.2**
0.7nm,0.4s,baz=342,slow=23,SNR=1.4
FITZ Fitzroy Crossi 28.16 243 P **P** **17 11 45.3 +0.1**
0.9nm,0.6s,baz=355,slow=5.5,SNR=1.8
JNU Nakatsue 44.13 334 LR LR 17 30 45.3
comp=Z,54nm,21.8s,baz=72,slow=34
SONM Songino Array 67.25 329 P **P** **17 16 47.5 +0.6**
0.4nm,0.3s,baz=125,slow=6.3,SNR=2.2
ZALV Zalesovo Beam 82.03 327 P **P** **17 18 11.8 -0.5**
0.7nm,0.6s,baz=109,slow=7.8,SNR=4.0
ILAR Eielson Array 83.97 22 P **P** **17 18 22.6 +0.5**
1.4nm,0.7s,baz=250,slow=5.1,SNR=13
TORD Torodi Ar. Bea 149.96 285 PKPbc **PKiKP** **17 25 44.3 -0.2**
1.7nm,0.6s,baz=66,slow=3.1,SNR=10

*JMA **24** 17:26:43.0±0.1, 35°.15N×129°.83E, h25km±2km, M4.4*
*NIED **24** 17:26:43.0, 35°.15N×129°.83E, h25km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.13; $M_{\theta\theta}$0.93; $M_{\phi\phi}$-0.80; $M_{r\theta}$-0.28; $M_{\theta\phi}$-0.33; $M_{\phi r}$0.33; Fault plane solution: $M_0$1.02000×10^{15} NP1: ϕ_s=144.00000°, δ87.00000°, λ-25.00000°. NP2: ϕ_s=236.00000°, δ65.00000°, λ-177.00000°.*
*IDC **24** 17:26:45.2±1.1, 34°.82N×129°.95E, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.5/35, mbtmp3.5/7, ML3.3/2, MS3.1/9, Ms1 3.0/9, ms1mx2.9/29 Error ellipse: s-maj=32.2km s-min=18.3km az=60.0*
*KEA **24** 17:26:56.2±0.0, 35°.44N×129°.53E, h0km, ML4.1/6*
ISC 24 17:26:45.2±0.6,**34°.91N**±0°.03×**129°.92E**±0°.03,**h10**km,**n28,**
σ1$**97/31,mb3.4/5,MS3.0/5,South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTU	**Tsushima**	**0.58**	**228**	P	**Pb**	**17 26 56.6**	**-0.9**
JTU				*eS*	**Sb**	**17 27 05.5**	**-0.2**
JTSM	**Tsushimamitsus**	**0.72**	**218**	P	**Pb**	**17 26 59.3**	**-0.6**
JTSM				*eS*	**Sn**	**17 27 10.6**	**-2.0**
JHGM	**Hagimishima**	**1.01**	**97**	P	**Pg**	**17 27 03.7**	**-1.0**
JHGM				*eS*	**Sb**	**17 27 18.6**	**+0.4**
JII	**Iki**	**1.12**	**188**	P	**Pn**	**17 27 06.9**	**-0.1**
JII				*eS*	**Sn**	**17 27 24.8**	**+2.2**
JTY	**Toyota**	**1.15**	**124**	P	**Pb**	**17 27 06.1**	**-1.0**
JTY				*eS*	**Sn**	**17 27 23.4**	**+0.3**
JNU	**Nakatsue**	**1.96**	**156**	Pn	**Pb**	**17 27 19.3**	**-1.7**
23nm,0.3s,baz=6.8,slow=1.5,SNR=60							
JNU				Lg	Lg	17 27 49.0	
85nm,0.3s,baz=231,slow=22,SNR=14							
JHT	**Toyohira**	**2.07**	**96**	P	**Pn**	**17 27 18.4**	**-1.7**
JGT2	**ShimaneMisato**	**2.13**	**85**	P	**Pn**	**17 27 18.7**	**-2.2**
KSRS	**Korea Array**	**3.01**	**328**	Pn	**Pb**	**17 27 36.0**	**-2.8**
19nm,0.3s,baz=141,slow=17,SNR=74							
KSRS				Sn	**Sn**	**17 28 11.6**	**+2.6**
76nm,0.3s,baz=146,slow=31,SNR=4.9							
KSRS				LR	LR	17 28 46.0	
comp=Z,102nm,21.6s,baz=170,slow=39							
HJU	**Haeju**	**4.60**	**314**	Pg	**Pg**	**17 28 10.9**	**-2.5**
HJU				Sg	**Sb**	**17 29 01.0**	**-0.6**
WOSN	**Wonsan**	**4.69**	**336**	Sg	**Sb**	**17 29 06.5**	**+2.4**
PYAG	**Pyongyang**	**5.31**	**322**	Sg	**Sb**	**17 29 23.7**	**+1.9**
HHU	**Hamhung**	**5.36**	**340**	Pg	**Pg**	**17 28 24.6**	**-3.2**
HHU				Sg	**Sb**	**17 29 23.8**	**+0.6**
PYS	**Pyongsong**	**5.41**	**324**	Sg	**Sb**	**17 29 25.8**	**+0.9**
SUJ	**Sinuiju**	**6.74**	**322**	Sg	**Sb**	**17 30 06.9**	**+3.9**
MAT	**Matsushiro**	**6.93**	**74**	P	**Pn**	**17 28 28.6**	**+1.7**
MJAR	**Matsushiro Arr**	**6.94**	**74**	Pn	**Pn**	**17 28 29.5**	**+2.5**
0.1nm,0.3s,baz=260,slow=12,SNR=9.9							
MJAR				LR	LR	17 31 27.8	
comp=Z,164nm,18.7s,baz=280,slow=41							
USRK	**Ussuriysk Ar.**	**9.41**	**9**	Pn	**Pn**	**17 28 58.6**	**-2.3**
baz=185,slow=12,SNR=7.5							
USRK				LR	LR	17 32 15.0	
comp=Z,89nm,19.9s,baz=166,slow=35							
ASAJ	**Asahikawa**	**13.41**	**43**	LR	LR	17 34 10.7	
comp=Z,61nm,21.6s,baz=184,slow=33							
SONM	**Songino Array**	**21.77**	**314**	P	**P**	**17 31 39.5**	**+2.3**
1.5nm,0.9s,baz=116,slow=11,SNR=6.2							
SONM				LR	LR	17 40 30.7	
comp=Z,32nm,19.3s,baz=115,slow=38							
TLY	**Talaya**	**25.23**	**320**	LR	LR	17 41 33.7	
comp=Z,35nm,18.3s,baz=260,slow=35							
PETK	**Petropavlovsk-**	**26.76**	**39**	LR	LR	17 43 10.5	
comp=Z,43nm,18.3s,baz=239,slow=37							
MA2	**Magadan**	**28.20**	**23**	LR	LR	17 44 04.1	
comp=Z,36nm,18.4s,baz=220,slow=37							
MKAR	**Makanchi Array**	**37.39**	**303**	P	**P**	**17 34 00.5**	**+2.2**
0.4nm,0.7s,baz=83,slow=12,SNR=4.6							
WRA	**Warramunga Arr**	**54.71**	**175**	P	**P**	**17 36 14.4**	**-0.4**
0.4nm,0.8s,baz=354,slow=7.6,SNR=2.5							
ILAR	**Eielson Array**	**56.19**	**31**	P	**P**	**17 36 26.0**	**+1.1**
0.3nm,0.7s,baz=291,slow=7.5,SNR=2.8							
ASAR	**Alice Springs**	**58.38**	**176**	P	**P**	**17 36 42.1**	**+1.2**
0.2nm,0.6s,baz=353,slow=7.5,SNR=2.2							
KBZ	**Khabaz**	**64.95**	**307**	LR	LR	18 08 40.1	
comp=Z,36nm,18.9s,baz=182,slow=39							

*NEIC **24** 18:09:15.1±1.1, 4°.90S±0°.10×153°.2E±0°.1, h53km±8km, mb4.5/15, Error ellipse: s-maj=15.0km s-min=14.0km az=100.0*
*IDC **24** 18:09:16.9±2.9, 4°.82S×153°.07E, h65km±20km, mb3.6/11, mb1 3.8/12, mb1mx3.6/34, mbtmp3.9/12, MS3.1/4, Ms1 3.1/4, ms1mx2.7/34, Error ellipse: s-maj=29.6km s-min=15.9km az=98.0*
ISC 24 18:09:14.3±0.6,**4°.86S**±0°.07×**153°.19E**±0°.08,**h43**km,**n45,**
σ0$**87/42,mb4.3/17,MS2.9/3,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.22**	**303**	Pn	**Pn**	**18 09 35.8**	**+0.9**
KRVT	**Keravat (AS076**	**1.28**	**296**	P	**Pn**	**18 09 36.4**	**+0.6**
126nm,0.3s,baz=169,slow=0.8,SNR=241							
KRVT				S	**Sn**	**18 09 52.5**	**+0.7**
300nm,0.3s,baz=359,slow=22,SNR=11							
KRVT				LR	LR	18 10 09.7	
comp=Z,108nm,20.8s,baz=119,slow=46							
PMG	**Port Moresby**	**7.49**	**233**	P	**Pn**	**18 11 02.9**	**+1.8**
0.9nm,0.3s,baz=358,slow=16,SNR=1.6							
PMG				S	**Sn**	**18 12 23.2**	**-1.6**
0.6nm,0.3s,baz=328,slow=20,SNR=1.9							
PMG				LR	LR	18 14 09.8	
comp=Z,84nm,20.7s,baz=140,slow=39							
PMG	**Port Moresby**	**7.49**	**233**		**Pn**	**18 11 01.0**	**-0.1**
PATS	**Pohnpei**	**12.70**	**24**	Pn	**Pn**	**18 12 12.9**	**+0.5**
SANVU	**Saraoutou**	**17.33**	**128**		**Pn**	**18 13 13.7**	**+0.5**
SANVU				IAmb	IAmb	18 13 36.2	
comp=Z,24nm,0.7s							
GUMO	**Guam**	**20.11**	**336**	LR	LR	18 19 39.5	
comp=Z,41nm,21.1s,baz=213,slow=31							
SIJI	**Sorong**	**22.25**	**280**	P	**P**	**18 14 07.2**	**-0.6**
comp=Z,4.2nm,0.5s,baz=172,slow=8.3,SNR=4.1							
MTN	**Manton Dam**	**23.17**	**249**	P	**P**	**18 14 18.2**	**+0.8**
MTN				IAmb	IAmb	18 14 21.4	
comp=Z,43nm,1.9s							
WB0	**Warramunga Arr**	**23.55**	**229**	P	**P**	**18 14 21.2**	**+0.2**
WB0				IAmb	IAmb	18 14 41.2	
comp=Z,20nm,2.0s							
WR0	**Warramunga Arr**	**23.55**	**229**	P	**P**	**18 14 21.0**	**-0.1**
WRAB	**Tennant Creek**	**23.68**	**229**	P	**P**	**18 14 21.7**	**-0.6**
WRAB				IAmb	IAmb	18 14 55.2	
comp=Z,8.2nm,0.7s							
WB2	**Warramunga Arr**	**23.68**	**229**	P	**P**	**18 14 22.3**	**0.0**
WRA	**Warramunga Arr**	**23.69**	**229**	P	**P**	**18 14 22.4**	**0.0**
comp=Z,2.7nm,0.8s,baz=48,slow=9.2,SNR=21							
WRA	**Warramunga Arr**	**23.69**	**229**	P	**P**	**18 14 21.2**	**-1.2**
KNRA	**Kununurra**	**26.29**	**244**	P	**P**	**18 14 45.5**	**-0.5**
KNRA				IAmb	IAmb	18 14 50.2	
comp=Z,9.7nm,0.5s							
ASAR	**Alice Springs**	**26.36**	**223**	P	**P**	**18 14 47.0**	**+0.3**
comp=Z,0.5nm,0.5s,baz=50,slow=9.4,SNR=19							
ASAR	**Alice Springs**	**26.36**	**223**	P	**P**	**18 14 49.5**	**+2.8**
STKA	**Stephens Creek**	**28.99**	**201**	LR	LR	18 28 17.4	
comp=Z,27nm,18.3s,baz=192,slow=39							
FITZ	**Fitzroy Crossi**	**29.97**	**242**	P	**P**	**18 15 17.9**	**-1.0**
comp=Z,3.0nm,0.5s,baz=2.7,slow=5.2,SNR=22							
FITZ	**Fitzroy Crossi**	**29.97**	**242**	P	**P**	**18 15 17.7**	**-1.1**
FITZ				IAmb	IAmb	18 15 21.3	
comp=Z,18nm,1.6s							

JNU	**Nakatsue**	**43.30**	**332**	P	**P**	**18 17 11.4**	**-0.6**
comp=Z,31nm,1.3s,baz=199,slow=7.9,SNR=2.3							
JNU	**Nakatsue**	**43.30**	**332**	IAmb	IAmb	18 17 13.8	
comp=Z,126nm,1.7s							
RAR	**Rarotonga**	**48.40**	**114**	LR	LR	18 36 41.4	
comp=Z,84nm,21.3s,baz=226,slow=34							
PEA0B	**Petropavlovsk-**	**57.88**	**3**	P	**P**	**18 19 01.9**	**+0.2**
PETK	**Petropavlovsk-**	**57.88**	**3**	P	**P**	**18 19 02.2**	**+0.5**
comp=Z,4.2nm,1.1s,baz=153,slow=5.4,SNR=6.4							
PETK	**Petropavlovsk-**	**57.88**	**3**	P	**P**	**18 19 02.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.25**	**295**	P	**P**	**18 19 04.5**	**-0.4**
comp=Z,0.7nm,0.3s,baz=127,slow=5.8,SNR=5.6							
CMAR	**Chiang Mai Arr**	**58.25**	**295**	P	**P**	**18 19 05.6**	**+0.6**
SONM	**Songino Array**	**66.58**	**328**	P	**P**	**18 20 00.4**	**+0.1**
comp=Z,0.4nm,0.4s,baz=151,slow=4.7,SNR=3.2							
SONM	**Songino Array**	**66.58**	**328**	IAmb	IAmb	18 20 03.8	
comp=Z,3.8nm,1.9s							
VNDA	**Vanda**	**72.75**	**178**	P	**P**	**18 20 38.5**	**+0.9**
comp=Z,0.4nm,0.7s,baz=328,slow=9.5,SNR=2.4							
MK31	**Makanchi Array**	**80.63**	**319**	P	**P**	**18 21 22.9**	**+0.3**
MKAR	**Makanchi Array**	**80.63**	**319**	P	**P**	**18 21 21.5**	**-1.2**
comp=Z,0.7nm,0.6s,baz=86,slow=9.1,SNR=4.6							
MKAR	**Makanchi Array**	**80.63**	**319**	P	**P**	**18 21 22.7**	**0.0**
MAKZ	**Makanchi**	**80.84**	**319**	P	**P**	**18 21 23.7**	**-0.1**
MAKZ				IAmb	IAmb	18 22 41.6	
comp=Z,7.0nm,1.1s							
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**18 21 26.4**	**-0.3**
comp=Z,0.8nm,0.4s,baz=114,slow=4.6,SNR=6.2							
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**18 21 26.7**	**0.0**
ILAR	**Eielson Array**	**82.07**	**22**	P	**P**	**18 21 28.4**	**-1.5**
comp=Z,0.4nm,0.8s,baz=241,slow=5.6,SNR=2.9							
ILAR	**Eielson Array**	**82.07**	**22**	P	**P**	**18 21 29.6**	**-0.3**
KKAR	**Karatay Array**	**87.95**	**313**	P	**P**	**18 21 59.6**	**-0.3**
BRVK	**Borovoye**	**89.59**	**323**	P	**P**	**18 22 06.3**	**-1.0**
GERES	**GERESS Array B**	**124.31**	**329**	PKP	**PKPdf**	**18 28 08.7**	**-0.1**
comp=Z,0.3nm,0.5s,baz=57,slow=3.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**150.69**	**288**	PKPbc	**PKPbc**	**18 29 02.2**	**-0.7**
comp=Z,2.7nm,0.6s,baz=71,slow=2.4,SNR=13							
BDFB	**Brasilia**	**150.75**	**135**	PKPbc	**PKiKP**	**18 29 03.8**	**0.0**
comp=Z,2.6nm,0.7s,baz=130,slow=9.0,SNR=3.4							

*NEIC **24** 18:33:53.4±1.3, 6°.9S±0°.1×129°.15E±0°.10, h213km±17km, mb4.3/2, Error ellipse: s-maj=14.8km s-min=14.3km az=179.0*
*IDC **24** 18:33:53.7±1.9, 6°.98S×129°.08E, h166km±25km, mb3.2/1, mb1 3.7/6, mb1mx3.2/46, mbtmp4.1/6, Error ellipse: s-maj=26.4km s-min=18.3km az=115.0*
ISC 24 18:33:53.0±0.8,**7°.00S**±0°.05×**129°.21E**±0°.07,**h200**km,**n19,**
σ2$**95/26,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.29**	**115**	Pn	**Pn**	**18 34 37.4**	**+2.8**
SAUI				S	**Sn**	**18 35 05.0**	**-2.0**
FAKI	**Fak Fak**	**5.06**	**37**	Pn	**Pn**	**18 35 08.3**	**+0.1**
FAKI				S	**Sn**	**18 36 01.6**	**-6.0**
SOEI	**Soe**	**5.60**	**240**	Pn	**Pn**	**18 35 16.5**	**+1.2**
MTN	**Manton Dam**	**6.11**	**162**	Pn	**Pn**	**18 35 23.8**	**+2.1**
BATI	**Baumata**	**6.34**	**239**	P	**Pn**	**18 35 25.2**	**+0.5**
2.0nm,0.3s,baz=129,slow=4.7,SNR=7.0							
BATI				S	**Sn**	**18 36 34.5**	**-2.9**
15nm,0.3s,baz=180,slow=9.9,SNR=12							
SIJI	**Sorong**	**6.43**	**19**	P	**Pn**	**18 35 26.5**	**+0.7**
4.2nm,0.3s,baz=57,slow=24,SNR=92							
SIJI				S	**Sn**	**18 36 36.2**	**-3.2**
3.0nm,0.3s,baz=261,slow=23,SNR=7.1							
KNRA	**Kununurra**	**8.63**	**183**		**Pn**	**18 35 55.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.57**	**197**	P	**Pn**	**18 36 32.8**	**+0.4**
1.0nm,0.3s,baz=360,slow=13,SNR=50							
FITZ				S	**Sn**	**18 38 34.8**	**-6.6**
1.1nm,0.3s,baz=180,slow=18,SNR=5.9							
FITZ	**Fitzroy Crossi**	**11.57**	**197**	P	**Pn**	**18 36 32.6**	**+0.2**
WB0	**Warramunga Arr**	**13.65**	**159**	Pn	**P**	**18 36 59.7**	**-1.3**
WRA	**Warramunga Arr**	**13.80**	**159**	P	**P**	**18 37 01.6**	**-1.0**
0.7nm,0.3s,baz=331,slow=13,SNR=28							
WRA				S	**S**	**18 39 30.2**	**-4.0**
0.9nm,0.3s,baz=322,slow=25,SNR=8.0							
WRA	**Warramunga Arr**	**13.80**	**159**	P	**P**	**18 37 02.0**	**-0.6**
WB2	**Warramunga Arr**	**13.80**	**159**		**P**	**18 37 02.7**	**+0.1**
WR0	**Warramunga Arr**	**13.88**	**159**		**P**	**18 37 03.5**	**1.0**
AS31	**Alice Springs**	**17.18**	**165**	P	**Pn**	**18 37 45.2**	**+3.8**
AS31				IAmb	IAmb	18 37 46.8	
comp=Z,2.2nm,0.5s							
ASAR	**Alice Springs**	**17.18**	**165**	P	**Pn**	**18 37 45.2**	**+3.8**
comp=Z,1.1nm,0.3s,baz=338,slow=9.7,SNR=219							
ASAR				S	**S**	**18 40 50.6**	**+2.1**
comp=Z,0.2nm,0.3s,baz=346,slow=25,SNR=4.7							
ASAR	**Alice Springs**	**17.18**	**165**	P	**Pn**	**18 37 45.5**	**+4.0**
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**	**18 44 33.0**	**+3.7**
comp=Z,0.5nm,0.8s,baz=120,slow=8.6,SNR=4.1							
SNAA	**Sanae**	**95.48**	**194**	P	**P**	**18 46 54.4**	**-0.3**
SNAA				IAmb	IAmb	18 47 02.5	
comp=Z,7.9nm,1.6s							

JMA 24 18:34:13.9±0.1,**37°.71N**×**141°.91E,h43**km±2km,**M3.6,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.69**	**330**	P	Pn	18 34 27.3	0.0
JMST	**Minamisoumatoc**	**0.81**	**271**	P	Pn	18 34 29.0	+0.1
JMST				S	Sn	18 34 39.8	0.0
JIO	**Ouri**	**0.86**	**329**	P	Pn	18 34 29.7	+0.1
JIO				S	Sn	18 34 40.8	-0.3
JFK	**Kawauchi**	**0.89**	**248**	P	Pn	18 34 30.2	+0.2
JFK				S	Sn	18 34 41.9	+0.1
JMM	**Marumori**	**0.90**	**280**	P	Pn	18 34 30.3	+0.2
JMM				*eS*	Sn	18 34 42.4	+0.5
ONAJ	**Iwakimizuishiy**	**1.07**	**236**	P	Pn	18 34 32.9	+0.4
ONAJ				S	Sn	18 34 46.5	+0.2
JOU	**Okura**	**1.18**	**304**	P	Pn	18 34 34.6	+0.6
JFT	**Otama**	**1.26**	**262**	P	Pn	18 34 36.3	+1.2
JFT				S	Sn	18 34 52.6	+1.7
JMK	**Ichinoseki**	**1.35**	**337**	P	Pn	18 34 36.8	+0.5
JMK				S	Sn	18 34 53.2	+0.1
JYS	**Shiratake**	**1.54**	**290**	P	Pn	18 34 40.0	+1.1
JYS				S	Sn	18 35 00.4	+2.6
JYK	**Kaneyama**	**1.71**	**315**	P	Pn	18 34 42.0	+0.7
JFY	**Yanaizu**	**1.78**	**261**	P	Pn	18 34 43.7	+1.5
JOM	**Ohasama**	**1.83**	**345**	P	Pn	18 34 43.5	+0.7
JOM				*eS*	Sn	18 35 06.2	+1.5
JYA	**Atsumi**	**1.94**	**298**	P	Pn	18 34 45.4	+1.0
JRG	**Rokugo**	**1.96**	**330**	P	Pn	18 34 46.2	+1.6
JRG				S	Sn	18 35 10.1	+2.1
MAT	**Matsushiro**	**3.18**	**250**	P	Pn	18 35 03.7	+2.3
MAT				S	Sn	18 35 45.2	+7.1

*KRNET **24** 18:38:34.2±0.1, 42°.87N×77°.51E, h18km, mb2.2*
*NNC **24** 18:38:34.2±0.5, 42°.89N×77°.54E, h0km, mb2.4, mpv2.6, Error ellipse: s-maj=5.2km s-min=2.0km az=2.0*
*SOME **24** 18:38:34.8, 42°.88N×77°.53E, h10km*
ISC 24 18:38:34.3±0.9,**42°.86N**±0°.02×**77°.52E**±0°.02,**h11**km±7km,
n36,σ1$**01/65,12C-4D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.14**	**125**	⇑*iP*	**Pg**	**18 38 37.8**	**+0.1**
baz=26							
ANVS				⇑*iS*	**Sg**	**18 38 39.9**	**-0.2**
baz=26							
TNSS	**Tian-Shan**	**0.45**	**293**	*eP*	**Pg**	**18 38 43.6**	**+0.3**
baz=93							
TNSS				*eS*	**Sg**	**18 38 49.9**	**+0.5**
baz=93							
TNSS	**Tian-Shan**	**0.45**	**293**	*eP*	**Pg**	**18 38 43.6**	**+0.3**
1.8nm,0.2s							
TNSS				*eS*	**Sg**	**18 38 49.8**	**+0.5**
7.3nm,0.1s							
TNSS	**Tian-Shan**	**0.45**	**293**	P	**Pg**	**18 38 43.6**	**+0.3**
1.8nm,0.2s							
TNSS				S	**Sg**	**18 38 49.8**	**+0.5**
7.3nm,0.1s							
MDOK	**Medeo**	**0.46**	**311**	*eP*	**Pg**	**18 38 43.3**	**+0.1**
baz=11							
MDOK				*eS*	**Sg**	**18 38 49.3**	**0.0**
baz=11							
MDOK	**Medeo**	**0.46**	**311**	*eP*	**Pg**	**18 38 43.3**	**+0.1**
3.3nm,0.1s							
MDOK				*eS*	**Sg**	**18 38 49.3**	**0.0**
11nm,0.3s							
MDOK	**Medeo**	**0.46**	**311**	Pg	**Pg**	**18 38 43.3**	**+0.1**
3.3nm,0.1s							
MDOK				Lg	Lg	18 38 49.3	
11nm,0.3s							
KOTS	**Kotyrbulak**	**0.47**	**322**	*eP*	**Pg**	**18 38 43.5**	**-0.1**
baz=21							
KOTS				*eS*	**Sg**	**18 38 50.0**	**0.0**
baz=21							
KOTS	**Kotyrbulak**	**0.47**	**322**	*eP*	**Pg**	**18 38 43.5**	**-0.1**
15nm,0.1s							
KOTS				*eS*	**Sg**	**18 38 50.0**	**0.0**
35nm,0.3s							
KOTS	**Kotyrbulak**	**0.47**	**322**	P	**Pg**	**18 38 43.5**	**-0.1**
15nm,0.1s							
KOTS				S	**Sg**	**18 38 50.0**	**0.0**
35nm,0.3s							
SATY	**Saty**	**0.68**	**73**	*eP*	**Pg**	**18 38 47.2**	**-0.3**
1.4nm,0.1s							
SATY				*eS*	**Sg**	**18 38 56.2**	**-0.3**
8.9nm,0.1s							
SATY	**Saty**	**0.68**	**73**	P	**Pg**	**18 38 47.2**	**-0.3**
1.4nm,0.1s							
SATY				S	**Sg**	**18 38 56.2**	**-0.3**
8.9nm,0.1s							
PRZ	**Przheval'sk**	**0.75**	**120**	⇑*iP*	**Pb**	**18 38 49.4**	**-0.2**
baz=20							
PRZ				⇑*iS*	**Sb**	**18 38 59.9**	**0.0**
baz=20							
KDJ	**Kajisay**	**0.77**	**199**	⇓*iP*	**Pg**	**18 38 48.8**	**-0.4**
baz=98							
KDJ				⇓*iS*	**Sg**	**18 38 59.2**	**-0.1**
baz=98							
KTBS	**Karatobe**	**1.04**	**325**	*eP*	**Pg**	**18 38 53.6**	**-0.8**
baz=25							
KTBS				*eS*	**Sg**	**18 39 07.3**	**-0.7**
baz=25							
KTBS	**Karatobe**	**1.04**	**325**	*eP*	**Pg**	**18 38 53.6**	**-0.8**
1.6nm,0.1s							
KTBS				*eS*	**Sg**	**18 39 07.3**	**-0.7**
8.4nm,0.2s							
KTBS	**Karatobe**	**1.04**	**325**	P	**Pg**	**18 38 53.6**	**-0.8**
1.6nm,0.1s							
KTBS				S	**Sg**	**18 39 07.3**	**-0.7**
8.4nm,0.2s							
ULHL	**Ulahol**	**1.12**	**237**	⇑*iP*	**Pb**	**18 38 55.7**	**-0.2**
baz=37							
ULHL				⇑*iS*	**Sg**	**18 39 10.5**	**-0.1**
baz=37							
UZB	**Uzynbulak**	**1.14**	**75**	*eP*	**Pg**	**18 38 54.9**	**-1.3**
1.4nm,0.1s							
UZB				*eS*	**Sg**	**18 39 09.4**	**-1.7**
3.4nm,0.1s							
UZB	**Uzynbulak**	**1.14**	**75**	P	**Pg**	**18 38 54.9**	**-1.3**
1.4nm,0.1s							
UZB				S	**Sg**	**18 39 09.4**	**-1.7**
3.4nm,0.1s							
TARG	**Taragay, Kyrgy**	**1.15**	**169**	⇑*iP*	**Pg**	**18 38 55.8**	**-0.7**
baz=69							
TARG				⇑*iS*	**Sg**	**18 39 11.3**	**-0.2**
baz=69							
BOOM	**Boomskoye usch**	**1.22**	**253**	⇑*iP*	**Pn**	**18 38 57.3**	**-0.2**
baz=53							
BOOM				⇑*iS*	**Sb**	**18 39 13.4**	**+0.1**
baz=53							
ARXS	**Arharly**	**1.37**	**9**	*eP*	**Pn**	**18 38 59.4**	**0.0**
3.9nm,0.3s							
ARXS				*eS*	**Sb**	**18 39 16.9**	**-0.6**
5.0nm,0.2s							
ARXS	**Arharly**	**1.37**	**9**	P	**Pn**	**18 38 59.4**	**0.0**
3.9nm,0.3s							
ARXS				S	**Sb**	**18 39 17.0**	**-0.6**
5.0nm,0.2s							
MNBS	**Baschi**	**1.38**	**28**	*eP*	**Pg**	**18 39 00.1**	**-0.6**
2.0nm,0.2s							
MNBS				*eS*	**Sg**	**18 39 18.2**	**-0.4**
5.6nm,0.1s							
MNBS	**Baschi**	**1.38**	**28**	P	**Pg**	**18 39 00.1**	**-0.6**
2.0nm,0.2s							
MNBS				S	**Sg**	**18 39 18.2**	**-0.4**
5.6nm,0.1s							
TKM2	**Tokmak 2**	**1.41**	**273**	⇑P	**Pb**	**18 39 01.2**	**+0.5**
0.7nm,0.6s							
TKM2				⇓S	**Sg**	**18 39 20.0**	**+0.3**
1.3nm,0.5s							
SHLS	**Shalkode**	**1.46**	**78**	*eP*	**Pg**	**18 39 06.7**	**+4.4**
baz=80							
SHLS				*eS*	Sg	18 39 29.7	+8.5
baz=80							
SHLS	**Shalkode**	**1.46**	**78**	*eP*	Pg	18 39 06.7	+4.4
1.9nm,0.3s							
SHLS				*eS*	Sg	18 39 29.7	+8.5
3.1nm,0.5s							
SHLS	**Shalkode**	**1.46**	**78**	P	**Pg**	**18 39 06.7**	**+4.4**
1.9nm,0.3s							
SHLS				S	Sg	18 39 29.7	+8.5
3.1nm,0.5s							
PDGK	**Podgornoye**	**1.52**	**71**	P	**Pb**	**18 39 02.2**	**-0.4**
0.4nm,

baz=225
NSK Sanguang 0.26 344 *e*P Pg 18 43 56.7 -0.1
baz=345
NSK *e*S Sg 18 44 00.2 0.0
baz=345

IDC ***24*** *18:44:07.2±0.9, 27°.65N×57°.68E, h0km, mb3.8/15, mb1 3.9/19, mb1mx3.7/45, mbtmp3.9/19, ML4.1/4, MS3.1/8, Ms1 3.1/8, ms1mx2.8/44, Error ellipse: s-maj=19.6km s-min=16.6km az=176.0*
DSN ***24*** *18:44:07.0±1.6, 27°.61N×58°.15E, h10km, ML4.3/8, Error ellipse: s-maj=31.6km s-min=8.3km az=151.0*
NEIC ***24*** *18:44:09.0±1.6, 27°.67N±0°.04×57°.5E±0°.1, h10km±1km, Error ellipse: s-maj=16.3km s-min=6.7km az=100.0*
TEH ***24*** *18:44:09.8, 27°.72N×57°.74E, h20km, ML4.3*
THR ***24*** *18:44:10.0±0.3, 27°.70N×57°.73E, h14km±3km, ML4.3*
OMAN ***24*** *18:44:13.0±1.9, 27°.57N×57°.74E, h30km, ml4.0/16, Error ellipse: s-maj=60.8km s-min=3.6km az=312.0*
ISC 24 18:44:09.8±1.1**, 27°.66N**±0°.03×**57°.73E**±0°.04**, h16**km±7km**, n123**, σ1§**69**/131**, mb3.9**/20**, MS3.0**/6**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.28**	**356**	*e*Pg	**Pg**	**18 44 15.3**	**-0.7**
KHNJ				*e*Sg	**Sg**	**18 44 19.7**	**-0.5**
IBND	**Bandar-abas**	**1.07**	**259**	*e*Pg	**Pn**	**18 44 30.6**	**+0.3**
IBND				*e*Sg	**Sn**	**18 44 47.0**	**+2.1**
IBND				*e*		18 45 00.2	
GENO	**Geno**	**1.41**	**260**	*e*Pg	**Pb**	**18 44 36.0**	**+0.2**
GENO				*e*		18 44 59.9	
BNDS	**Bandar-Abbas**	**1.41**	**260**	*e*Pg	**Pb**	**18 44 36.1**	**+0.3**
BNDS				*e*Sg	**Sg**	**18 44 55.4**	**+0.1**
BNDS				IAML		18 44 57.5	
	comp=E,4μm,0.5s						
BNDS	**Bandar-Abbas**	**1.41**	**260**	*e*Pg	**Pb**	**18 44 36.1**	**+0.3**
KBAM	**BAM**	**1.60**	**23**	*e*Pg	**Pn**	**18 44 37.3**	**-0.3**
JSK1	**Jask**	**2.02**	**179**	*e*Pn	**Pb**	**18 44 45.1**	**-1.1**
SHME	**Shamm**	**2.14**	**222**	*e*P	**Pn**	**18 44 45.8**	**+0.8**
	SNR=134						
SHME				S	**Sb**	**18 45 15.9**	**+1.2**
SHME	**Shamm**	**2.14**	**222**	*e*Pn	**Pn**	**18 44 46.1**	**+1.1**
BANOM	**Banah**	**2.15**	**217**	*e*P	**Pn**	**18 44 46.0**	**+0.8**
	SNR=191						
BANOM				S	**Sb**	**18 45 16.3**	**+1.3**
BANOM	**Banah**	**2.15**	**217**	P	**Pn**	**18 44 46.8**	**+1.7**
	SNR=190						
BANOM	**Banah**	**2.15**	**217**	*e*Pn	**Pn**	**18 44 46.0**	**+0.8**
NGRK	**Negar Kerman**	**2.16**	**336**	*e*Pn	**Pn**	**18 44 45.9**	**+0.3**
NGRK				*e*		18 45 23.2	
CHMN	**Cheshme madani**	**2.20**	**356**	*e*Pn	**Pn**	**18 44 46.9**	**+0.8**
CHMN				*e*		18 45 27.4	
KRBR	**Kerman**	**2.46**	**340**	*e*Pn	**Pn**	**18 44 51.6**	**+1.9**
KRBR				*e*Sg	**Sb**	**18 45 26.3**	**+2.1**
KRBR	**Kerman**	**2.46**	**340**	*e*Pn	**Pn**	**18 44 51.6**	**+1.9**
TVBK	**TV Kerman**	**2.46**	**340**	*e*Pn	**Pn**	**18 44 51.7**	**+1.9**
TVBK				*e*		18 45 30.5	
MDH	**Madha**	**2.68**	**209**	*e*P	**Pn**	**18 44 51.6**	**-0.7**
	SNR=23						
MDH	**Madha**	**2.68**	**209**	P	**Pn**	**18 44 51.9**	**-0.5**
	SNR=23						
MDH	**Madha**	**2.68**	**209**	*e*Pn	**Pn**	**18 44 52.0**	**-0.4**
MSFE	**Esma-Masafi**	**2.69**	**212**	*e*P	**Pn**	**18 44 54.0**	**+1.4**
	SNR=10						
MSFE	**Esma-Masafi**	**2.69**	**212**	*e*Pn	**Pn**	**18 44 52.9**	**+0.3**
UMQ	**Umm Al-Quwin**	**2.82**	**221**	*e*Pn	**Pn**	**18 44 56.9**	**+2.6**
LAR1	**LAR**	**2.97**	**271**	*e*Pn	**Pn**	**18 44 57.2**	**+0.7**
UOSS	**Minazif**	**3.03**	**207**	*i* P	**Pn**	**18 44 56.5**	**-0.7**
	SNR=16						
UOSS	**Minazif**	**3.03**	**207**	*e*Pn	**Pn**	**18 44 56.6**	**-0.7**
UOSS	**Minazif**	**3.03**	**207**		**Pn**	**18 44 56.7**	**-0.6**
HATD	**Hatta, Dubai**	**3.17**	**207**	P	**Pn**	**18 44 58.7**	**-0.3**
HATD	**Hatta, Dubai**	**3.17**	**207**	*e*Pn	**Pn**	**18 44 58.8**	**-0.3**
CHBR	**Chabahar**	**3.21**	**129**	*e*Pn	**Pn**	**18 45 02.4**	**+2.7**
CHBR	**Chabahar**	**3.21**	**129**	*e*Pn	**Pn**	**18 45 02.4**	**+2.7**
NAZ	**Nazwa, Dubai**	**3.25**	**215**	*i* P	**Pn**	**18 45 01.4**	**+1.3**
	SNR=13						
NAZ	**Nazwa, Dubai**	**3.25**	**215**	P	**Pn**	**18 45 02.6**	**+2.5**
	SNR=13						
NAZ	**Nazwa, Dubai**	**3.25**	**215**	*e*Pn	**Pn**	**18 45 02.0**	**+1.8**
ASHO	**Ashiyiah**	**3.32**	**207**	*i* P	**Pn**	**18 45 01.8**	**+0.5**
	SNR=19						
ASHO	**Ashiyiah**	**3.32**	**207**	P	**Pn**	**18 45 02.0**	**+0.8**
	SNR=57						
ASHO	**Ashiyiah**	**3.32**	**207**	*e*Pn	**Pn**	**18 45 01.6**	**+0.3**
FAQ	**Al Faqa, Dubai**	**3.48**	**214**	*e*Pn	**Pn**	**18 45 04.6**	**+1.2**
SOHO	**SOHO**	**3.67**	**197**	*i* P	**Pn**	**18 45 04.6**	**-1.5**
	SNR=61						
SOHO	**SOHO**	**3.67**	**197**	P	**Pn**	**18 45 05.1**	**-1.0**
JHRM	**Jahrom**	**3.76**	**284**	*e*Pn	**Pn**	**18 45 07.9**	**+0.5**
AJN	**Ajban**	**3.95**	**219**	*e*Pn	**Pn**	**18 45 10.8**	**+1.0**
ALNE	**Al Ain**	**4.01**	**207**	*i* P	**Pn**	**18 45 11.9**	**+1.2**
	SNR=10						
ALNE	**Al Ain**	**4.01**	**207**	*e*Pn	**Pn**	**18 45 12.3**	**+1.6**
LMD1	**Lamerd**	**4.07**	**267**	*e*Pn	**Pn**	**18 45 13.9**	**+2.4**
LMD1				*e*		18 46 13.8	
HOQ	**Hoqain**	**4.08**	**185**	P	**Pn**	**18 45 11.2**	**-0.5**
	SNR=16						
HOQ				S	**Sn**	**18 45 58.4**	**-0.8**
BIDO	**Bidbid**	**4.14**	**175**	P	**Pn**	**18 45 12.5**	**0.0**
	SNR=20						
BIDO	**Bidbid**	**4.14**	**175**	*e*Pn	**Pn**	**18 45 12.2**	**-0.3**
NHDN	**Nehbandan**	**4.23**	**28**	*e*Pn	**Pn**	**18 45 15.2**	**+1.3**
IBAF	**Bafgh**	**4.34**	**335**	*e*Pn	**Pn**	**18 45 18.1**	**+2.7**
ARQ	**Araqi**	**4.44**	**194**	P	**Pn**	**18 45 18.5**	**+1.8**
	SNR=24						
ARQ				S	**Sn**	**18 46 09.9**	**+1.8**
BSRN	**Basiran**	**4.46**	**15**	*e*Pn	**Pn**	**18 45 18.8**	**+1.8**
BSRN				*e*Sg	**Sg**	**18 46 26.9**	**-6.1**
BSRN	**Basiran**	**4.46**	**15**	*e*Pn	**Pn**	**18 45 18.8**	**+1.8**
WSAR	**Wadi Sarin**	**4.48**	**169**	Pn	**Pn**	**18 45 17.9**	**+0.8**
	comp=E,16nm,0.3s,baz=338,slow=6.4,SNR=254						
WSAR				Sn	**Sn**	**18 46 05.8**	**-3.2**
	comp=E,26nm,0.3s,baz=117,slow=16,SNR=10.0						
WSAR	**Wadi Sarin**	**4.48**	**169**	P	**Pn**	**18 45 18.2**	**+1.0**
	SNR=248						
SMDO	**Samad**	**4.59**	**176**	P	**Pn**	**18 45 19.4**	**+0.6**
	SNR=7.1						
IMEH	**Mehriz**	**4.60**	**325**	*e*Pn	**Pn**	**18 45 20.2**	**+1.2**
IKOO	**Kooshah**	**4.87**	**13**	*e*Pn	**Pn**	**18 45 24.8**	**+2.0**
BSY	**Bisya**	**4.92**	**186**	P	**Pn**	**18 45 25.3**	**+2.1**
	SNR=32						
WBK	**Wadi Bani Khal**	**5.16**	**167**	P	**Pn**	**18 45 26.7**	**+0.2**
	SNR=87						
WBK				S	**Sn**	**18 46 23.8**	**-1.9**
MZWR	**Madinat Zayed**	**5.21**	**223**	*e*Pn	**Pn**	**18 45 27.1**	**-0.1**
JMDO	**Jabal Madar**	**5.28**	**176**	P	**Pn**	**18 45 29.6**	**+1.5**
	SNR=13						
ITEG	**Tejag**	**5.29**	**9**	*e*Pn	**Pn**	**18 45 31.0**	**+2.5**
ICHK	**Chekchek**	**5.40**	**329**	*e*Pn	**Pn**	**18 45 31.9**	**+1.9**
YZKH	**Yazd**	**5.44**	**331**	*e*Pn	**Pn**	**18 45 32.5**	**+2.2**
YZKH	**Yazd**	**5.44**	**331**	*e*Pn	**Pn**	**18 45 32.6**	**+2.2**
UMZA	**Um Al Zommool**	**5.45**	**206**	*e*Pn	**Pn**	**18 45 30.5**	**0.0**
ISAD	**Sadrabad**	**5.50**	**321**	*e*Pn	**Pn**	**18 45 33.3**	**+1.8**
AFRZ	**Afriz**	**5.85**	**11**	*e*Pn	**Pn**	**18 45 38.7**	**+2.6**
TKDS	**Koohdasht(Taba**	**5.95**	**355**	*e*Pn	**Pn**	**18 45 39.9**	**+2.4**
IRAM	**Ramesheh**	**6.22**	**313**	*e*Pn	**Pn**	**18 45 42.0**	**+0.8**
KLNJ	**Kolanjah**	**6.31**	**303**	*e*Pn	**Pn**	**18 45 43.2**	**+0.6**
TNSJ	**Nastanj**	**6.35**	**352**	*e*Pn	**Pn**	**18 45 42.6**	**-0.4**
ANAR	**Anarak**	**6.50**	**329**	*e*Pn	**Pn**	**18 45 46.7**	**+1.7**
IGAR	**Gharneh**	**6.83**	**315**	*e*Pn	**Pn**	**18 45 50.6**	**+1.0**
IZEF	**Zefreh**	**7.00**	**319**	*e*Pn	**Pn**	**18 45 52.9**	**+0.9**
ROKH	**ROKH**	**7.45**	**310**	*e*Pn	**Pn**	**18 45 58.9**	**+0.8**
IKLH	**Kolahrood**	**7.74**	**318**	*e*Pn	**Pn**	**18 46 02.3**	**+0.1**
HRA	**Herat**	**7.74**	**29**		**Pn**	**18 46 04.1**	**+2.0**
IPIR	**Pirpir**	**7.75**	**312**	*e*Pn	**Pn**	**18 46 02.9**	**+0.6**
QAM	**Ghamsar**	**8.14**	**320**	*e*Pn	**Pn**	**18 46 08.8**	**+1.2**
GEYT	**Alibeck**	**10.24**	**2**	Pn	**Pn**	**18 46 36.2**	**-0.1**
	comp=E,0.2nm,0.3s,baz=186,slow=10,SNR=2.2						
GEYT				LR	LR	18 50 57.8	
	comp=E,69nm,18.2s,baz=95,slow=40						
CEP	**Cherat**	**13.65**	**60**	P	**Pn**	**18 47 26.9**	**+3.9**
MARD	**Mardin**	**17.21**	**308**		**Pn**	**18 48 07.3**	**-2.5**
MARD				IAmb	IAmb	18 48 17.7	
	comp=Z,30nm,1.0s						
KK31	**Karatay Array**	**18.57**	**31**	P	**P**	**18 48 23.4**	**-2.6**
KKAR	**Karatay Array**	**18.57**	**31**	P	**Pn**	**18 48 27.1**	**+0.8**
ASF	**Jabal al Asfar**	**18.60**	**289**	P	**P**	**18 48 24.0**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=53,slow=12,SNR=9.5						
ASF				S	Sn	18 51 39.8	-15
	comp=Z,0.2nm,0.3s,baz=234,slow=11,SNR=4.7						
MMAI	**Mount Meron Ar**	**19.98**	**291**	P	**P**	**18 48 41.9**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=101,slow=16,SNR=14						
MMAI				LR	LR	18 58 05.1	
	comp=Z,68nm,19.1s,baz=125,slow=42						
EIL	**Elat**	**20.08**	**281**	P	**P**	**18 48 43.2**	**+0.4**
	comp=Z,5.6nm,0.6s,baz=50,slow=4.3,SNR=9.7						
EIL				S	**S**	**18 52 20.6**	**-7.3**
	comp=Z,3.0nm,0.7s,baz=10,slow=18,SNR=1.6						
AAK	**Ala-Archa**	**20.22**	**38**	P	**P**	**18 48 45.2**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=232,slow=12,SNR=2.5						
ABKAR	**Akbulak array**	**21.63**	**4**	P	**P**	**18 48 59.1**	**-0.1**
AKTO	**Aktyubinsk**	**22.74**	**0**	P	**P**	**18 49 11.7**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=161,slow=7.3,SNR=5.8						
AKTO				LR	LR	18 58 55.6	
	comp=Z,37nm,18.6s,baz=159,slow=39						
BRTR	**Keskin Array B**	**23.30**	**307**	P	**P**	**18 49 17.3**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=122,slow=12,SNR=6.3						
BVAR	**Borovoye Array**	**27.03**	**17**	P	**P**	**18 49 51.0**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=194,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**27.15**	**39**	P	**P**	**18 49 52.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=231,slow=7.8,SNR=6.9						
MKAR	**Makanchi Array**	**27.15**	**39**	P	**P**	**18 49 53.2**	**+0.9**
ARU	**Arti**	**28.75**	**1**	LR	LR	19 03 29.0	
	comp=Z,39nm,19.8s,baz=138,slow=40						
IDI	**Anoyia**	**28.92**	**293**	P	**P**	**18 50 08.3**	**-0.1**
	comp=Z,6.4nm,0.9s,baz=90,slow=20,SNR=2.1						
AKASG	**Malin Array Be**	**31.56**	**325**	P	**P**	**18 50 31.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=137,slow=8.2,SNR=2.5						
ZAA0	**Zalesovo Array**	**32.94**	**30**	P	**P**	**18 50 43.3**	**-0.2**
ZAA0				IAmb	IAmb	18 50 53.9	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**32.94**	**30**	P	**P**	**18 50 43.1**	**-0.4**
	comp=Z,1.2nm,0.2s,baz=231,slow=8.5,SNR=10.0						
ZALV	**Zalesovo Beam**	**32.94**	**30**	P	**P**	**18 50 43.3**	**-0.2**
KOLS	**Kolonicke sedl**	**34.55**	**318**	*e*P	**P**	**18 50 58.6**	**+1.0**
VYHS	**Vyhne**	**36.48**	**315**	*e*P	**P**	**18 51 17.3**	**+3.1**
GTA	**Gaotai**	**36.68**	**60**	P	**P**	**18 51 20.9**	**+4.7**
GTA				pP	sP	18 51 25.8	+2.5
GTA				sP	pP	18 51 28.4	+7.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.86**	**95**	LR	LR	19 09 41.1	
	comp=Z,19nm,18.2s,baz=180,slow=39						
GERES	**GERESS Array B**	**39.82**	**314**	P	**P**	**18 51 42.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=110,slow=8.7,SNR=3.4						
GERES				LR	LR	19 11 20.1	
	comp=Z,16nm,18.4s,baz=116,slow=41						
FINES	**FINESS Array B**	**39.84**	**337**	P	**P**	**18 51 41.4**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=129,slow=8.5,SNR=7.7						
FINES	**FINESS Array B**	**39.84**	**337**	P	**P**	**18 51 41.7**	**-0.6**
KHC	**Kasperske Hory**	**39.98**	**315**	*e*P	**P**	**18 51 43.2**	**-0.5**
KHC				*ex*	x	18 51 55.9	
CLL	**Collm**	**40.97**	**318**	*e*P	**P**	**18 51 53.0**	**+1.2**
CLL				*e*		18 52 03.0	
SQTA	**Sankt Quirin**	**41.07**	**311**	*e*P	**P**	**18 51 51.6**	**-1.2**
	comp=Z,1.4nm,0.3s						
MOTA	**Moosalm**	**41.16**	**311**	*e*P	**P**	**18 51 52.6**	**-1.0**
	comp=Z,0.7nm,0.3s						
FETA	**Feichten**	**41.35**	**311**	*i* P	**P**	**18 51 54.2**	**-1.0**
	comp=Z,1.6nm,0.5s						
DAVA	**Damuels**	**41.97**	**311**	*i* P	**P**	**18 52 00.2**	**-0.1**
	comp=Z,2.8nm,0.6s						
SONM	**Songino Array**	**42.61**	**48**	LR	LR	19 11 42.9	
	comp=Z,46nm,19.4s,baz=260,slow=39						
NOA	**NORSAR Array B**	**45.53**	**330**	P	**P**	**18 52 27.1**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=99,slow=7.3,SNR=1.1						
TOA0	**Torodi Ar. Sit**	**54.05**	**266**	P	**P**	**18 53 32.5**	**-1.4**
TOA0				IAmb	IAmb	18 53 33.9	
	comp=Z,4.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**54.05**	**266**	P	**P**	**18 53 32.2**	**-1.8**
	comp=Z,1.6nm,0.3s,baz=64,slow=7.2,SNR=24						
TORD	**Torodi Ar. Bea**	**54.05**	**266**	P	**P**	**18 53 32.5**	**-1.5**
KSRS	**Korea Array**	**58.75**	**61**	LR	LR	19 21 03.6	
	comp=Z,20nm,18.3s,baz=320,slow=38						
WRA	**Warramunga Arr**	**87.90**	**114**	P	**P**	**18 56 59.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=319,slow=4.1,SNR=6.6						
ASAR	**Alice Springs**	**89.43**	**117**	P	**P**	**18 57 06.5**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=303,slow=5.1,SNR=1.7						

IDC 24 18:54:20.9±2.4**, 30°.35N**×**70°.13E, h0**km**, mb3.5**/4**, mb1 3.7**/5**, mb1mx3.3**/39**, mbtmp3.6**/5**, ML3.4**/1**, Error ellipse: s-maj=86.1km s-min=26.5km az=71.0, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**12.76**	**15**	Pn	Pn	18 57 22.5	-1.1
	0.2nm,0.3s,baz=198,slow=6.4,SNR=2.0						
AKTO	**Aktyubinsk**	**22.03**	**339**	P	P	18 59 16.6	-0.2
	0.6nm,0.4s,baz=145,slow=12,SNR=4.2						
ZALV	**Zalesovo Beam**	**25.87**	**20**	P	P	18 59 55.0	+0.9
	0.6nm,0.3s,baz=208,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**79.43**	**120**	P	P	19 06 29.2	-0.1
	0.5nm,0.9s,baz=321,slow=4.9,SNR=5.4						
ASAR	**Alice Springs**	**81.40**	**124**	P	P	19 06 40.0	+0.1
	0.2nm,0.5s,baz=307,slow=5.6,SNR=8.6						

ISK ***24*** *19:19:39.5, 35°.75N×31°.47E, h11km, ML3.4/44*
DDA ***24*** *19:19:40.7, 35°.76N×31°.55E, h22km, ML3.1*
IDC ***24*** *19:19:41.6±1.1, 35°.65N×31°.43E, h90km±28km, mb3.8/1, mb1 3.1/7, mb1mx2.9/43, mbtmp3.4/7, Error ellipse: s-maj=13.5km s-min=10.2km az=54.0*
NIC ***24*** *19:19:43.4±0.0, 35°.75N×31°.62E, h60km±7km, Ml3.5/4*
ISC 24 19:19:42.0±1.0**, 35°.77N**±0°.03×**31°.50E**±0°.02**, h45**km±17km**, n104**, σ1§**84**/144**, 4C-1D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.81**	**55**	PG	**Pn**	**19 19 56.8**	**-0.3**
GAZI				SG	**Sn**	**19 20 07.8**	**-0.2**
GAZI	**Gazipasa**	**0.81**	**55**	*i* S	**Sn**	**19 20 07.2**	**-0.8**
ALAN	**Alanya-ANTALYA**	**0.90**	**29**	PG	**Pn**	**19 19 58.5**	**+0.2**
ALAN				SG	**Sn**	**19 20 10.1**	**0.0**
AKMS	**Akamas**	**1.01**	**137**	⇑P	**Pn**	**19 20 01.1**	**+1.2**
AKMS				S	**Sn**	**19 20 14.6**	**+1.6**
AKMS				AML	AML	19 20 20.6	
	4.4nm,0.3s						
AKMS				AML	AML	19 20 20.6	
	4.4nm,0.3s						
AKMS				AML	AML	19 20 22.2	
	6.2nm,0.4s						
AKMS				AML	AML	19 20 22.2	
	6.2nm,0.4s						
AKUM	**Antalya-Kumluc**	**1.09**	**301**	*i* P	**Pn**	**19 20 02.2**	**+1.4**
AKUM				*i* S	**Sn**	**19 20 18.5**	**+3.8**
AKUM				IAML		19 20 23.0	
	comp=N,576nm,0.6s						
AKUM				IAML		19 20 27.0	
	comp=E,425nm,0.8s						
ALFC	**Alefka**	**1.09**	**124**	P	**Pn**	**19 20 00.9**	**0.0**
ALFC				S	**Sn**	**19 20 15.5**	**+0.7**
ALFC				AML	AML	19 20 22.8	
	comp=E,3.0nm,0.3s						
ALFC				AML	AML	19 20 22.8	
	comp=E,3.0nm,0.3s						
ALFC				AML	AML	19 20 25.1	
	comp=E,4.2nm,0.5s						
ALFC				AML	AML	19 20 25.1	
	comp=E,4.2nm,0.5s						
KEMT	**Kemer-ANTALYA**	**1.13**	**318**	PN	**Pn**	**19 20 01.9**	**+0.5**
KEPZ	**Antalya-Kepez**	**1.13**	**4**	*i* P	**Pn**	**19 20 02.2**	**+0.7**
KEPZ				*i* S	**Sn**	**19 20 13.9**	**-2.0**
KEPZ				IAML		19 20 19.0	
	comp=E,378nm,0.7s						
BOZY	**Bozyazi-Mersin**	**1.25**	**74**	PN	**Pn**	**19 20 03.1**	**+0.1**
AKDN	**Akdeniz- Kıbrı**	**1.29**	**111**	PN	**Pn**	**19 20 04.3**	**+0.8**
LEF	**Lefka**	**1.31**	**119**	PN	**Pn**	**19 20 03.8**	**0.0**
LEF	**Lefka**	**1.31**	**119**	*i* P	**Pn**	**19 20 04.1**	**+0.2**
LEF				*i* S	**Sn**	**19 20 18.5**	**-1.6**
LEF				IAML		19 20 29.0	
	comp=E,387nm,0.4s						
ANTB	**Antalya**	**1.32**	**329**	PN	**Pn**	**19 20 04.2**	**+0.2**
NATA	**Nata**	**1.32**	**138**	⇑P	**Pn**	**19 20 05.5**	**+1.4**
NATA				AML	AML	19 20 30.9	
	comp=E,6.6nm,0.6s						
NATA				AML	AML	19 20 33.1	
	comp=E,8.0nm,0.6s						
TEKE	**Tekeli-Mersin**	**1.36**	**74**	PN	**Pn**	**19 20 05.7**	**+1.1**
DEMR	**Demre-Antalya**	**1.37**	**290**	PN	**Pn**	**19 20 04.9**	**+0.2**
BERE	**Bereket-Mersin**	**1.51**	**67**	PN	**Pn**	**19 20 07.8**	**+1.0**
BERE				SN	**Sn**	**19 20 27.7**	**+2.3**
SZAC	**Souni**	**1.52**	**131**	⇓P	**Pn**	**19 20 08.3**	**+1.5**
SZAC				AML	AML	19 20 34.4	
	comp=E,1.3nm,0.4s						
SZAC				AML	AML	19 20 37.3	
	comp=E,1.7nm,0.6s						
KORT	**Korkueli**	**1.54**	**323**	PN	**Pn**	**19 20 07.8**	**+0.7**
YORU	**Yoruktepe-Mers**	**1.59**	**76**	PN	**Pn**	**19 20 09.1**	**+1.3**
AKAS	**Kas**	**1.60**	**287**	PN	**Pn**	**19 20 07.8**	**-0.2**
AKAS	**Kas**	**1.60**	**287**	*i* P	**Pn**	**19 20 08.4**	**+0.4**
AKAS				*i* S	**Sn**	**19 20 34.0**	**+6.4**
ELL	**Elmali**	**1.61**	**308**	PN	**Pn**	**19 20 08.9**	**+0.7**
OREN	**Orenkoy-Mersin**	**1.65**	**74**	PN	**Pn**	**19 20 09.6**	**+1.1**
SEYD	**Seydisehir-KON**	**1.66**	**9**	PN	**Pn**	**19 20 09.9**	**+1.2**
ATHAL	**Athalassa**	**1.67**	**111**	P	**Pn**	**19 20 09.6**	**+0.8**
ATHAL				S	**Sn**	**19 20 29.4**	**+0.4**
AKK1	**Akkuyu-Mersin**	**1.70**	**77**	PN	**Pn**	**19 20 10.4**	**+1.2**
CSS	**Mathiatis**	**1.70**	**118**	PN	**Pn**	**19 20 09.4**	**+0.2**
CSS	**Mathiatis**	**1.70**	**118**	P	**Pn**	**19 20 09.7**	**+0.5**
CSS				S	**Sn**	**19 20 30.4**	**+0.6**
AKK2	**Akkuyu-Mersin**	**1.70**	**77**	PN	**Pn**	**19 20 10.2**	**+1.0**
AKKU	**Akkuyu-Mersin**	**1.71**	**76**	PN	**Pn**	**19 20 10.6**	**+1.3**
GULN	**MERSIN_Gulnar**	**1.71**	**75**	*i* P	**Pn**	**19 20 11.5**	**+2.1**
GULN				*i* S	**Sn**	**19 20 31.6**	**+1.6**
GULN				IAML		19 20 34.0	
	comp=N,220nm,0.4s						
TEVE	**Tevekalti-Mers**	**1.71**	**67**	PN	**Pn**	**19 20 10.8**	**+1.4**
ASGA	**Asgata**	**1.73**	**124**	⇑P	**Pn**	**19 20 11.0**	**+1.4**
AKIN	**Akıncılar- Kıb**	**1.77**	**114**	PN	**Pn**	**19 20 10.5**	**+0.3**
YESI	**Yesilovacik-Me**	**1.79**	**76**	PN	**Pn**	**19 20 11.4**	**+1.0**
TISA	**Tisan-Mersin**	**1.81**	**77**	PN	**Pn**	**19 20 11.9**	**+1.2**
IKL	**Isikli**	**1.83**	**75**	PN	**Pn**	**19 20 12.1**	**+1.1**
BCK	**Bucak**	**1.84**	**337**	PN	**Pn**	**19 20 11.9**	**+0.7**
KARG	**Kargicak-Mersi**	**1.84**	**76**	PN	**Pn**	**19 20 12.4**	**+1.2**
MVOU	**Mavrovouni**	**1.90**	**113**	⇑P	**Pn**	**19 20 11.9**	**0.0**
KEBE	**Keben-Mersin**	**1.92**	**69**	PN	**Pn**	**19 20 13.3**	**+1.0**
KRMN	**Karaman**	**2.00**	**45**	PN	**Pn**	**19 20 14.8**	**+1.4**
SILI	**Silifke-Mersin**	**2.05**	**72**	PN	**Pn**	**19 20 15.2**	**+1.1**
SLFK	**Silifke-Mersin**	**2.08**	**72**	PN	**Pn**	**19 20 15.3**	**+0.9**
FETY	**Fethiye**	**2.14**	**295**	PN	**Pn**	**19 20 16.1**	**+0.9**
FETY	**Fethiye**	**2.14**	**295**	*i* P	**Pn**	**19 20 16.8**	**+1.5**
FETY				*i* S	**Sn**	**19 20 38.0**	**-2.5**
GOLH	**Golhisar**	**2.14**	**314**	*i* P	**Pn**	**19 20 18.8**	**+3.4**
GOLH				*i* S	**Sn**	**19 20 43.4**	**+2.6**
GOLH				IAML		19 21 01.0	
	comp=N,146nm,0.6s						
EREN	**Erenkoy**	**2.19**	**95**	PN	**Pn**	**19 20 16.8**	**+0.9**
ISP	**Isparta**	**2.19**	**339**	PN	**Pn**	**19 20 16.5**	**+0.4**
BRDR	**BURDUR-Merkez**	**2.24**	**329**	*i* P	**Pn**	**19 20 19.3**	**+2.6**
BRDR				*i* S	**Sn**	**19 20 45.5**	**+2.3**
KIZK	**Mersin**	**2.26**	**71**	PN	**Pn**	**19 20 17.9**	**+1.1**
KIZK	**Mersin**	**2.26**	**71**	*i* P	**Pn**	**19 20 19.7**	**+2.9**
KIZK				*i* S	**Sn**	**19 20 45.0**	**+1.5**
KIZK				IAML		19 20 49.0	
	comp=E,132nm,0.8s						
KIZK				IAML		19 20 53.0	
	comp=N,117nm,0.6s						
OSC1	**CSNet OBS 1**	**2.27**	**185**	P	**Pn**	**19 20 18.4**	**+1.4**
OSC1				S	**Sn**	**19 20 46.4**	**+2.6**
KONT	**Konya--

*NEIC **24** 19:38:17.7±3.0, 8°.57S±0°.10×29°.9E±0°.1, h10km±2km, mb4.1/5, Error ellipse: s-maj=24.1km s-min=10.6km az=306.0*
*LSZ **24** 19:38:20.4±0.3, 8°.22S×31°.19E, h10km, MD3.4, ML3.6*
ISC 24 19:38:15.6±0.5, 8°.88S±0°.03×29°.72E±0°.05, h10km, n65, σ2s62/71, mb3.9/7, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMZ	**Kasama**	**1.96**	**131**	*i* P	**Pg**	**19 38 53.4**	**+0.1**
KSMZ				*i*		19 38 53.5	
	baz=359,slow=10						
KSMZ				AMP		19 38 53.7	
	comp=Z,721nm,0.1s						
KSMZ				*i* S	**Sg**	**19 39 17.5**	**-1.3**
MZUN	**Kiwira**	**3.76**	**94**	*i* P	**Pg**	**19 39 25.1**	**-2.7**
MZUN				*i* S	**Sb**	**19 40 06.6**	**-1.4**
MZUN				IAML		19 40 19.6	
	comp=Z,1μm,0.5s						
LSZ	**Lusaka**	**6.54**	**193**	*i* P	**Pn**	**19 39 52.5**	**+0.5**
LSZ				*i* S	**Sn**	**19 41 10.3**	**+3.6**
LSZ	**Lusaka**	**6.54**	**193**	Pn	Pn	19 39 59.0	+7.0
LSZ	**Lusaka**	**6.54**	**193**	*i* P	**Pn**	**19 39 52.5**	**+0.5**
LSZ				*i* S	**Sn**	**19 41 02.6**	**-4.1**
LSZ	**Lusaka**	**6.54**	**193**	*i* P	Pn	19 39 59.8	+7.8
LSZ				IAML		19 42 06.5	
	comp=Z,315nm,0.7s						
DODT	**Dodoma, Tanzan**	**6.54**	**66**	*i* P	**Pn**	**19 39 50.0**	**-2.1**
DODT				*i* S	Sn	19 40 55.7	-11
KOND	**Kondoa**	**7.20**	**57**	*e*P	**Pn**	**19 39 58.2**	**-3.0**
KOND				*e*S	Sn	19 41 08.9	-14
ITZ	**Itezhi-Tezhi**	**7.73**	**208**	*e*P	Pn	19 40 14.5	+6.1
ITZ				*i*		19 40 14.5	
	baz=11,slow=14						
ITZ				*e*S	**Sn**	**19 41 40.4**	**+4.3**
ITZ	**Itezhi-Tezhi**	**7.73**	**208**	*i*	Pn	19 40 14.4	+6.1
	baz=40,slow=18						
ITZ				*e*P	Pn	19 40 14.4	+6.1
ITZ				*e*		19 40 14.4	
	baz=40,slow=18						
ITZ				*e*S	**Sg**	**19 42 18.2**	**-5.6**
PR61	**Kiloki Boma**	**8.05**	**43**	*i* P	**Pn**	**19 40 10.8**	**-2.0**
PR61				*i* S	Sn	19 41 32.2	-12
PR61				IAML		19 42 24.9	
	comp=Z,199nm,0.4s						
NG56	**Ngoile bomas**	**8.06**	**45**	*i* P	**Pn**	**19 40 11.6**	**-1.4**
NG56				IAML		19 42 25.1	
	comp=Z,302nm,0.8s						
PR62	**Oldupai Boma**	**8.12**	**44**	*i* P	**Pn**	**19 40 12.5**	**-1.2**
PR62				IAML		19 42 28.6	
	comp=Z,409nm,0.6s						
PR63	**Meshili Boma**	**8.20**	**45**	*i* P	**Pn**	**19 40 13.3**	**-1.6**
PR63				IAML		19 42 43.5	
	comp=Z,178nm,0.8s						
NG55	**Lemala Gate**	**8.22**	**47**	IAML		19 42 36.5	
	comp=Z,206nm,0.8s						
MBAR	**Mbarara**	**8.28**	**7**	*i* P	**Pn**	**19 40 12.0**	**-4.1**
MBAR				*i* S	**Sn**	**19 41 43.9**	**-5.9**
MBAR	**Mbarara**	**8.28**	**7**	Pn	**Pn**	**19 40 14.7**	**-1.3**
MBAR	**Mbarara**	**8.28**	**7**	*i* P	**Pn**	**19 40 14.4**	**-1.6**
MBAR				*i* S	**Sn**	**19 41 43.9**	**-5.9**
MBAR	**Mbarara**	**8.28**	**7**	*i* P	**Pn**	**19 40 15.0**	**-1.0**
MBAR				IAML		19 42 27.2	
	comp=Z,167nm,1.4s						
NG54	**Nasera Bomas**	**8.29**	**43**	*i* P	**Pn**	**19 40 14.0**	**-2.2**
NG54				IAML		19 42 41.7	
	comp=Z,85nm,0.7s						
LL66	**Piyaya bomas**	**8.46**	**43**	*i* P	**Pn**	**19 40 16.3**	**-2.2**
LL66				IAML		19 42 40.9	
	comp=Z,108nm,0.5s						
ZOMB	**Zomba**	**8.49**	**140**	*i* P	**Pn**	**19 40 22.1**	**+3.3**
ZOMB				S	**Sn**	**19 41 52.3**	**-2.5**
ZOMB	**Zomba**	**8.49**	**140**	*i* P	**Pn**	**19 40 22.4**	**+3.6**
ZOMB				IAML		19 42 51.9	
	comp=Z,70nm,0.6s						
LL22	**Malambo SS**	**8.61**	**43**	*i* P	**Pn**	**19 40 21.4**	**+1.0**
LL22				IAML		19 42 46.1	
	comp=Z,405nm,0.8s						
LN34	**Lwondulwo boma**	**8.75**	**46**	*i* P	**Pn**	**19 40 21.6**	**-0.9**
LN34				IAML		19 42 57.7	
	comp=Z,134nm,0.6s						
PR33	**Engutoto Boma**	**8.76**	**47**	*i* P	**Pn**	**19 40 21.1**	**-1.4**
PR33				IAML		19 42 58.0	
	comp=Z,89nm,0.6s						
PR32	**Iloiriento PS**	**8.76**	**48**	*i* P	**Pn**	**19 40 22.2**	**-0.5**
PR32				IAML		19 42 57.7	
	comp=Z,270nm,0.6s						
LN35	**Magadini PS**	**8.81**	**46**	*i* P	**Pn**	**19 40 21.7**	**-1.4**
LN35				IAML		19 43 08.2	
	comp=Z,78nm,0.7s						
LL21	**Loliondo SS**	**8.91**	**41**	*i* P	**Pn**	**19 40 23.1**	**-1.6**
LL21				IAML		19 42 51.4	
	comp=Z,350nm,0.7s						
LL24	**Masusu PS**	**8.93**	**43**	*i* P	**Pn**	**19 40 22.4**	**-2.5**
LL24				IAML		19 42 59.3	
	comp=Z,260nm,0.6s						
LN15	**Lekule Girls S**	**8.94**	**46**	*i* P	**Pn**	**19 40 24.6**	**-0.3**
LN15				IAML		19 42 57.9	
	comp=Z,120nm,0.8s						
LN46	**New Vision PS**	**9.04**	**50**	*i* P	**Pn**	**19 40 25.0**	**-1.5**
LN46				IAML		19 43 03.2	
	comp=Z,64nm,0.8s						
LN16	**Kitarini PS**	**9.14**	**48**	*i* P	**Pn**	**19 40 25.0**	**-2.8**
LN16				IAML		19 43 04.0	
	comp=Z,94nm,0.6s						
LN14	**Matela PS**	**9.23**	**47**	*i* P	**Pn**	**19 40 27.2**	**-1.9**
LN14				IAML		19 43 06.8	
	comp=Z,98nm,0.8s						
KEN3	**Shompole Clini**	**9.27**	**44**	*i* P	**Pn**	**19 40 26.9**	**-2.5**
KEN3				IAML		19 43 00.9	
	comp=Z,271nm,0.7s						
TEBE	**Entebbe**	**9.29**	**17**	*i* P	**Pn**	**19 40 27.0**	**-2.8**
KEN4	**Ngurumani**	**9.45**	**42**	*i* P	**Pn**	**19 40 29.9**	**-2.1**
KEN4				IAML		19 43 07.3	
	comp=Z,249nm,1.0s						
KEN2	**Magadi Soda Va**	**9.51**	**44**	*i* P	**Pn**	**19 40 35.6**	**+2.8**
KEN2				IAML		19 43 08.2	
	comp=Z,85nm,0.9s						
KMBO	**Kilima Mbogo**	**10.74**	**45**	Pn	**Pn**	**19 40 47.2**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=224,slow=18,SNR=6.1						
KMBO				Sn	Sn	19 42 37.1	-13
	comp=Z,3.7nm,0.3s,baz=276,slow=14,SNR=7.2						
KMBO				Lg	Lg	19 43 43.3	
	comp=Z,3.1nm,0.3s,baz=312,slow=22,SNR=7.4						
KMBO	**Kilima Mbogo**	**10.74**	**45**		**Pn**	**19 40 47.3**	**-2.6**
BLWY	**Bulawayo**	**11.25**	**185**	*i* P	**Pn**	**19 40 58.5**	**+1.8**
BLWY	**Bulawayo**	**11.25**	**185**	*i* P	Pn	19 41 00.9	+4.2
BLWY				*i* S	**Sn**	**19 42 58.1**	**-4.6**
MATP	**Matopo**	**11.54**	**186**	*i* P	**Pn**	**19 41 02.4**	**+1.7**
MATP				*i* S	**Sn**	**19 43 15.2**	**+5.3**
MATP	**Matopo**	**11.54**	**186**	*e*P	**Pn**	**19 41 02.4**	**+1.7**
MATP				*e*S	**Sn**	**19 43 12.7**	**+2.9**
TSUM	**Tsumeb**	**15.61**	**228**	*i* P	Pn	19 41 49.3	-6.7
TSUM				*i* S	Sn	19 44 39.4	-10
TSUM	**Tsumeb**	**15.61**	**228**		**P**	**19 42 01.2**	**+1.0**
TSUM	**Tsumeb**	**15.61**	**228**	*i* P	Pn	19 41 49.3	-6.7
TSUM				*i* S	Sn	19 44 39.4	-10
LBTB	**Lobatse**	**16.52**	**193**	*i* P	**Pn**	**19 42 07.7**	**0.0**
LBTB				*i* S	**Sn**	**19 45 13.7**	**+2.4**
LBTB	**Lobatse**	**16.52**	**193**	Pn	**P**	**19 42 10.7**	**+0.4**
LBTB				IAmb	IAmb	19 42 21.4	
	comp=Z,11nm,0.8s						
LBTB	**Lobatse**	**16.52**	**193**	*i* P	**Pn**	**19 42 07.7**	**0.0**
LBTB				*i* S	**Sn**	**19 45 13.7**	**+2.4**
BOSA	**Boshof**	**20.08**	**192**	P	Pn	19 42 54.2	+3.0
	comp=Z,2.3nm,0.6s,baz=17,slow=12,SNR=6.4						
BOSA				S	**S**	**19 46 30.1**	**-5.1**
	comp=Z,4.1nm,0.7s,baz=134,slow=19,SNR=3.7						
BOSA				Lg	Lg	19 48 54.5	
	comp=Z,13nm,0.9s,baz=121,slow=20,SNR=3.0						
BOSA				LR	LR	19 50 55.1	
	comp=Z,96nm,18.8s,baz=36,slow=37						
BOSA	**Boshof**	**20.08**	**192**	*i* P	**P**	**19 42 49.6**	**+0.1**
BOSA				*i* S	**S**	**19 46 37.9**	**+2.7**
BOSA	**Boshof**	**20.08**	**192**	P	Pn	19 42 53.5	+2.3
BOSA	**Boshof**	**20.08**	**192**	*i* P	**P**	**19 42 49.6**	**+0.1**
BOSA				*i* S	**S**	**19 46 37.9**	**+2.7**
TOA0	**Torodi Ar. Sit**	**35.41**	**308**	P	**P**	**19 45 12.2**	**+0.1**
TOA0				IAmb	IAmb	19 45 30.5	
	comp=Z,2.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**35.41**	**308**	P	**P**	**19 45 13.5**	**+1.5**
	comp=Z,1.9nm,1.0s,baz=121,slow=8.1,SNR=5.7						
TORD				LR	LR	19 59 09.4	
	comp=Z,40nm,20.1s,baz=115,slow=35						
TORD	**Torodi Ar. Bea**	**35.41**	**308**	P	**P**	**19 45 14.1**	**+2.0**
ESDC	**Sonseca Array**	**57.51**	**330**	P	**P**	**19 48 08.3**	**+3.1**
	comp=Z,0.3nm,0.7s,baz=134,slow=7.3,SNR=2.0						
GERES	**GERESS Array B**	**59.18**	**348**	P	**P**	**19 48 19.7**	**+2.9**
	comp=Z,0.1nm,0.4s,baz=165,slow=8.1,SNR=1.6						
GERES	**GERESS Array B**	**59.18**	**348**	P	**P**	**19 48 15.9**	**-0.9**
AKASG	**Malin Array Be**	**59.33**	**360**	P	**P**	**19 48 18.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=182,slow=6.6,SNR=1.1						
KHC	**Kasperske Hory**	**59.48**	**348**	*e*P	P	19 48 27.4	+8.6
MKAR	**Makanchi Array**	**72.47**	**35**	P	**P**	**19 49 43.4**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=245,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**72.47**	**35**	P	**P**	**19 49 43.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**73.47**	**68**	P	**P**	**19 49 50.8**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=254,slow=6.5,SNR=4.4						

*ISN **24** 20:11:19.9±1.2, 32°.73N×47°.55E, h15km±6km, ML2.8*
*TEH **24** 20:11:20.0, 32°.72N×47°.52E, h10km, ML2.9*
ISC 24 20:11:20.4±1.1, 32°.71N±0°.06×47°.54E±0°.05, h10km, n13, σ0s68/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.22**	**261**	*e*Pg	**Pg**	**20 11 24.1**	**-0.9**
DHL1				*e*Sg	**Sg**	**20 11 28.3**	**+0.3**
IKFM	**Kafar-mosalman**	**0.85**	**18**	*e*Pg	**Pg**	**20 11 36.2**	**-0.6**
IKMR	**Kamar-syah**	**1.07**	**41**	*e*Pg	**Pg**	**20 11 40.5**	**-0.5**
IKMR				*e*		20 11 59.1	
IDOB	**Doab**	**1.20**	**26**	*e*Pg	**Pb**	**20 11 43.0**	**-0.4**
IBDR	**Badra**	**1.41**	**287**	*e*Pg	**Pn**	**20 11 45.0**	**-1.1**
IBDR				*e*Sg	**Sn**	**20 12 05.0**	**+0.3**
IBDR				AML	AML	20 12 10.5	
	comp=N,113nm,0.6s						
IBDR				AML	AML	20 12 11.6	
	comp=E,79nm,0.7s						
BMDN	**Meydan**	**1.44**	**48**	*e*Pg	**Pg**	**20 11 48.1**	**0.0**
BMDN				*e*		20 12 16.0	
IKOM	**Komasi**	**1.46**	**359**	*e*Pg	**Pb**	**20 11 47.8**	**0.0**
IKOM				*e*		20 11 50.9	
HSAM	**Samen**	**1.74**	**31**	*e*Pn	**Pb**	**20 11 52.3**	**-0.3**
HSAM				*e*		20 12 23.4	
IBZA	**Bozab**	**1.77**	**9**	*e*Pn	**Pb**	**20 11 52.7**	**-0.5**
IBZA				*e*		20 12 25.4	
IGHG	**Ghaleghazi**	**1.80**	**334**	*e*Pn	**Pn**	**20 11 52.5**	**+0.7**
IGHG				*e*		20 12 32.6	
IVIS	**Veis**	**1.90**	**343**	*e*Pn	**Pb**	**20 11 55.3**	**+0.1**
IVIS				*e*		20 12 25.8	
NSR	**Nassriya**	**2.07**	**215**	*e*Pn	**Pn**	**20 11 56.0**	**+0.7**
NSR				*e*Sn	**Sn**	**20 12 21.0**	**-0.2**
NSR				AML	AML	20 12 25.2	
	comp=E,270nm,0.2s						
BHD	**Baghdad**	**2.71**	**283**	*e*Pn	**Pn**	**20 12 05.0**	**+1.0**
BHD				*e*Sn	**Sn**	**20 12 38.0**	**+1.1**

*IDC **24** 20:14:11.9±0.9, 77°.29N×18°.35E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.4/39, mbtmp3.8/5, ML2.9/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/37, Error ellipse: s-maj=16.2km s-min=8.8km az=69.0*
*NAO **24** 20:14:12.8±1.3, 77°.18N×17°.98E, h15km±13km, ML3.8*
*BER **24** 20:14:14.1±2.2, 77°.20N×17°.95E, h10km, ML3.4, MW3.6, ML3.8(NAO), Confirmed Earthquake*
*IEPN **24** 20:14:15.0, 77°.19N×17°.82E, h10km*
*KOLA **24** 20:14:16.2, 77°.02N×19°.95E, h0km*
ISC 24 20:14:11.5±1.0, 77°.18N±0°.03×18°.30E±0°.03, h16km±8km, n40, σ2s19/65, 3C-3D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.65**	**255**	Pg	**Pb**	**20 14 24.7**	**+0.3**
HSPB				Lg	Lg	20 14 32.2	
HSPB	**Hornsund (broa**	**0.65**	**255**	⇓*i*P	**Pb**	**20 14 24.6**	**+0.2**
HSPB				*i* S	**Sg**	**20 14 32.1**	**-0.7**
HSPB	**Hornsund (broa**	**0.65**	**255**	⇓*i*P	**Pb**	**20 14 24.6**	**+0.2**
HSPB				*e*S	**Sg**	**20 14 32.1**	**-0.7**
HSPB				IAML		20 14 38.6	
	comp=Z,373nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.09**	**338**	Pn	**Pg**	**20 14 32.6**	**+0.1**
	baz=157,slow=28						
SPA0				Lg	Lg	20 14 46.6	
	baz=155,slow=37						
SPA0	**Spitsbergen Ar**	**1.09**	**338**	⇑*i*P	**Pg**	**20 14 32.5**	**0.0**
SPA0				*i* S	**Sn**	**20 14 46.2**	**-0.5**
SPA0	**Spitsbergen Ar**	**1.09**	**338**	Pn	**Pg**	**20 14 32.6**	**+0.1**
	baz=157,slow=28						
SPA0				Sg	**Sn**	**20 14 46.6**	**-0.1**
	baz=155,slow=37						
SPITS	**Spitsbergen Ar**	**1.09**	**338**	Pn	**Pg**	**20 14 32.5**	**0.0**
	baz=152,slow=23,SNR=1160						
SPITS				Sn	**Sn**	**20 14 46.9**	**+0.2**
	baz=154,slow=27,SNR=20						
BRBA	**Barentsburg A**	**1.25**	**317**	Pn	**Pg**	**20 14 35.8**	**+0.3**
BRBA				Lg	Lg	20 14 50.7	
BRBA	**Barentsburg A**	**1.25**	**317**	Pn	**Pg**	**20 14 35.8**	**+0.3**
BRBA				Sg	**Sg**	**20 14 50.7**	**-1.2**
BRBB	**Barentsburg B**	**1.27**	**318**	Pn	**Pg**	**20 14 35.8**	**-0.3**
BRBB				Lg	Lg	20 14 51.2	
BRBB	**Barentsburg B**	**1.27**	**318**	Pn	**Pg**	**20 14 35.8**	**-0.3**
BRBB				Sg	**Sg**	**20 14 51.2**	**-1.4**
HOPEN	**Hopen**	**1.68**	**110**	Pn	**Pg**	**20 14 43.6**	**0.0**
HOPEN				Sn	**Sg**	**20 15 05.0**	**-0.4**
HOPEN				Lg	Lg	20 15 08.7	
HOPEN	**Hopen**	**1.68**	**110**	⇓*i*P	**Pg**	**20 14 43.6**	**0.0**
HOPEN				*i* S	**Sg**	**20 15 04.9**	**-0.5**
HOPEN	**Hopen**	**1.68**	**110**	*e*P	**Pg**	**20 14 43.6**	**0.0**
HOPEN				*e*S	**Sg**	**20 15 04.9**	**-0.5**
HOPEN				IAML		20 15 12.2	
	comp=Z,2μm,0.3s						
KBS	**Kingsbay**	**2.20**	**326**	Pn	**Pb**	**20 14 48.5**	**-2.3**
KBS				Pg	**Pg**	**20 14 52.5**	**-1.1**
KBS				Lg	Lg	20 15 19.2	
KBS	**Kingsbay**	**2.20**	**326**	⇑*i*P	**Pb**	**20 14 48.4**	**-2.5**
KBS				*i* S	**Sn**	**20 15 14.0**	**0.0**
KBS	**Kingsbay**	**2.20**	**326**	*e*P	**Pb**	**20 14 48.3**	**-2.5**
KBS				*e*Pg	**Pg**	**20 14 52.6**	**-1.1**
KBS				*e*Sg	**Sg**	**20 15 19.7**	**-2.4**
KBS				IAML		20 15 26.5	
	comp=Z,680nm,0.5s						
BJO1	**Bjornoya**	**2.70**	**176**	*e*P	**Pg**	**20 15 03.1**	**-0.1**
BJO1				*i* S	**Sg**	**20 15 37.9**	**-0.2**
BJO1	**Bjornoya**	**2.70**	**176**	*e*P	**Pb**	**20 14 57.2**	**-2.1**
BJO1				*e*Pg	**Pg**	**20 15 03.3**	**+0.2**
BJO1				*e*Sg	**Sg**	**20 15 38.4**	**+0.3**
BJO1				IAML		20 15 44.3	
	comp=Z,377nm,0.4s						
ZFI	**Zemlya Franca-**	**6.61**	**43**	*e*P	**Pn**	**20 15 50.9**	**+3.2**
ZFI				*e*S	**Sn**	**20 17 01.2**	**-1.2**
	comp=Z,43nm,0.9s						
ZFI2	**Zemlya Franca-**	**6.61**	**43**	⇑*i*P	**Pn**	**20 15 50.5**	**+2.8**
ZFI2				*e*S	**Sn**	**20 17 01.2**	**-1.3**
	comp=Z,39nm,0.9s						
HAMF	**Hammerfest**	**6.74**	**165**	Pn	**Pn**	**20 15 51.4**	**+1.9**
HAMF				Sn	**Sn**	**20 17 00.3**	**-5.4**
HAMF	**Hammerfest**	**6.74**	**165**	*e*P	**Pn**	**20 15 52.0**	**+2.5**
TRO	**Tromso**	**7.59**	**178**	*e*P	**Pn**	**20 16 00.6**	**-0.7**
ARCES	**ARCESS Array B**	**7.95**	**161**	Pn	**Pn**	**20 16 07.7**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=344,slow=9.4,SNR=2.0						
ARCES				Sn	**Sn**	**20 17 30.0**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=349,slow=23,SNR=2.3						
ARCES				LR	LR	20 19 42.0	
	comp=Z,31nm,18.8s,baz=40,slow=41						
KIF	**Kilpisjarvi**	**8.25**	**174**	Pn	**Pn**	**20 16 12.3**	**+2.1**
KIF				Sn	**Sn**	**20 17 39.2**	**-3.7**
KIF	**Kilpisjarvi**	**8.25**	**174**	Pn	**Pn**	**20 16 12.3**	**+2.1**
KIF				Sn	**Sn**	**20 17 39.2**	**-3.7**
LOF	**Lofoten**	**9.20**	**191**	*e*P	**Pn**	**20 16 24.6**	**+1.3**
APA0	**Apatity Array**	**10.54**	**148**	Pn	**Pn**	**20 16 41.9**	**+0.3**
	baz=340,slow=11						
APA0				Sn	**Sn**	**20 18 33.6**	**-5.4**
	baz=341,slow=22						
APA0	**Apatity Array**	**10.54**	**148**	P	**Pn**	**20 16 40.5**	**-1.1**
APA0				S	Sn	20 18 29.5	-10
APA0	**Apatity Array**	**10.54**	**148**	Pn	**Pn**	**20 16 41.9**	**+0.3**
	baz=340,slow=11						
APA0				Sn	**Sn**	**20 18 33.6**	**-5.4**
	baz=341,slow=22						
APA	**Apatity**	**10.62**	**147**	S	Sn	20 18 31.4	-10
LSH	**Leshukonskoye**	**14.96**	**130**	*e*P	**Pn**	**20 17 40.6**	**-1.3**
LSH				*i* S	Sn	20 20 17.1	-10
FIA0	**FINESS Array S**	**16.02**	**166**	P	**Pn**	**20 17 55.2**	**-0.4**
	slow=14						
FIA0	**FINESS Array S**	**16.02**	**166**	P	**Pn**	**20 17 55.2**	**-0.4**
	slow=14						
FINES	**FINESS Array B**	**16.02**	**166**	Pn	**Pn**	**20 17 54.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=355,slow=13,SNR=4.0						
FINES				Sn	**Sn**	**20 20 47.2**	**-5.4**
	comp=Z,0.2nm,0.3s,baz=360,slow=24,SNR=1.8						
HFS	**Hagfors**	**17.20**	**188**	P	**P**	**20 18 14.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=355,slow=12,SNR=2.9						
KLMR	**Klimovskoe**	**17.85**	**145**	*e*P	**Pn**	**20 18 16.5**	**-2.1**
KLMR				*i* S	Sn	20 21 22.3	-15
ILAR	**Eielson Array**	**37.99**	**350**	P	**P**	**20 21 29.9**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=4.0,slow=8.6,SNR=4.9						
MKAR	**Makanchi Array**	**39.15**	**102**	P	**P**	**20 21 41.6**	**+3.8**
	comp=Z,1.0nm,0.9s,baz=344,slow=7.0,SNR=2.8						

JMA 24 20:23:19.0, 35°.04N×135°.65E, h11km, M2.6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.32**	**320**	P	Pg	20 23 25.5	+0.1
JWT				S	Sg	20 23 29.6	-0.1
JHE	**Heguri**	**0.39**	**176**	P	Pg	20 23 26.7	0.0
JHE				*e*S	Sg	20 23 32.0	+0.2
MAT	**Matsushiro**	**2.56**	**53**	P	Pb	20 24 05.0	0.0
MAT				*e*S	Sb	20 24 37.2	+0.7

*GCG **24** 20:42:20.8±0.5, 14°.46N×91°.38W, h204km±7km, MD3.9*
*UCR **24** 20:42:30.1±1.1, 13°.92N×91°.60W, h18km±999km, ML3.6*
*SNET **24** 20:42:30.0±1.0, 13°.91N×91°.60W, h18km±999km, ML3.7*
ISC 24 20:42:16.8±3.2, 13°.5N±0°.1×92°.2W±0°.1, h9km±13km, n13, σ1s79/20, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.16**	**23**	⇑*i*P	**Pn**	**20 42 41.1**	**+1.9**
RTAL				*e*S	**Sg**	**20 42 50.8**	**-3.5**
FUG	**Fuego 3**	**1.63**	**52**	*e*P	**Pg**	**20 42 47.7**	**-0.4**
FUG				*e*S	**Sg**	**20 43 11.7**	**+2.5**
PCG	**Pacaya**	**1.78**	**58**	*e*P	**Pg**	**20 42 50.8**	**-0.3**
PCG				*e*S	**Sb**	**20 43 13.7**	**+1.3**
IXG	**Ixpaco**	**1.83**	**67**	*e*P	**Pg**	**20 42 51.6**	**-0.3**
IXG				*e*S	**Sb**	**20 43 15.9**	**+2.3**
NBG	**Las Nubes**	**2.10**	**57**	*e*P	**Pb**	**20 42 56.0**	**+0.8**
NBG				*e*S	**Sn**	**20 43 17.1**	**-1.7**
NUBE	**Las Nubes**	**2.37**	**79**	*e*P	**Pb**	**20 42 59.7**	**-0.1**
NUBE				*e*S	**Sn**	**20 43 22.6**	**-2.7**
NUBE	**Las Nubes**	**2.37**	**79**	*e*P	**Pb**	**20 42 59.7**	**-0.1**
NUBE				*e*S	**Sn**	**20 43 22.6**	**-2.7**
CEVE	**Cerro Verde**	**2.50**	**81**	*e*P	**Pb**	**20 43 02.1**	**0.0**
CEVE				IAML		20 43 33.1	
	comp=Z,669nm,0.2s						
CEVE	**Cerro Verde**	**2.50**	**81**	*e*P	**Pb**	**20 43 02.1**	**0.0**
CEVE				IAML		20 43 33.1	
	comp=Z,669nm,0.2s						
SNJE	**San Jose**	**2.53**	**80**	*e*P	**Pb**	**20 43 03.1**	**+0.6**
SNJE	**San Jose**	**2.53**	**80**	*e*P	**Pb**	**20 43 03.1**	**+0.6**
TACO	**Tacachico**	**2.79**	**79**	*e*P	**Pb**	**20 43 05.5**	**-1.3**
TACO				IAML		20 43 07.2	
TACO	**Tacachico**	**2.79**	**79**	*e*P	**Pb**	**20 43 05.5**	**-1.3**
TACO				IAML		20 43 07.2	

*DRS **24** 20:57:37.3±0.0, 41°.20N×45°.39E, h7km*
*DDA **24** 20:57:45.6, 41°.21N×45°.53E, h7km±4km, ML2.4*
*NORS **24** 20:57:45.8±0.0, 41°.17N×45°.62E, h13km, MPVA3.4*
*TIF **24** 20:57:45.2, 41°.22N×45°.46E, h12km±1km*
ISC 24 20:57:45.3±1.2, 41°.18N±0°.03×45°.49E±0°.02, h4km±10km, n26, σ0s82/52, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.28**	**342**	*i* P	**Pb**	**20 57 52.2**	**-0.9**
DGRG				*i* S	**Sg**	**20 57 55.5**	**+0.9**
DGRG				IAML		20 57 58.0	
	comp=E,434nm,0.3s						
KZRT	**Kazreti**	**0.85**	**284**	*i* P	**Pg**	**20 58 02.0**	**+0.4**
KZRT				*i* S	**Sg**	**20 58 12.3**	**-0.3**
KZRT	**Kazreti**	**0.85**	**284**	P	**Pg**	**20 58 01.7**	**+0.1**
KZRT				S	**Sg**	**20 58 13.1**	**+0.5**
LGD	**Lagodekhi**	**0.86**	**41**	P	**Pg**	**20 58 01.9**	**0.0**
LGD				S	**Sb**	**20 58 14.3**	**-0.6**
DMNI	**Dmanisi**	**0.99**	**279**	P	**Pg**	**20 58 04.5**	**+0.1**
DMNI				S	**Sg**	**20 58 17.7**	**+0.5**
TRLG	**Trialeti**	**1.10**	**289**	P	**Pg**	**20 58 05.0**	**-1.5**
TRLG				S	**Sg**	**20 58 20.4**	**-0.5**
EAK	**Akyaka**	**1.51**	**252**	*i* P	**Pg**	**20 58 14.5**	**+0.3**
EAK				*i* S	**

Ms1 3.1/3, ms1mx2.6/35, Error ellipse: s-maj=29.1km s-min=13.2km az=81.0
*NEIC **24** 21:21:11.5±1.4, 23°.53N±0°.07×143°.4E±0°.2, h10km±4km, mb4.5/31, Error ellipse: s-maj=20.7km s-min=9.8km az=78.0*
ISC 24 21:21:14.4±0.6, **23°.54N**±0°.06×**143°.4E**±0°.1, **h31**km, **n71**, σ0§**90**/65, **mb4.4**/27, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.71**	**343**	Pn	**Pn**	**21 22 09.2**	**-0.3**
	6.7nm,0.3s,baz=34,slow=23,SNR=8.3						
JCJ				Sn	**Sn**	**21 22 52.6**	**+0.5**
	14nm,0.3s,baz=307,slow=23,SNR=2.0						
JCJ	**Chichijima**	**3.71**	**343**		**Pn**	**21 22 10.3**	**+0.8**
JCJ				Sn	**Sn**	**21 22 53.1**	**+1.0**
GUMO	**Guam**	**10.00**	**172**	LR	LR	21 26 46.9	
	comp=Z,51nm,20.9s,baz=280,slow=34						
GUMO	**Guam**	**10.00**	**172**	Pn	**Pn**	**21 23 35.8**	**-0.1**
INU	**Inuyama**	**13.01**	**336**	Pn	**Pn**	**21 24 17.0**	**0.0**
MJAR	**Matsushiro Arr**	**13.71**	**342**	Pn	**Pn**	**21 24 25.5**	**-1.2**
	0.1nm,0.3s,baz=154,slow=11,SNR=2.0						
MJAR	**Matsushiro Arr**	**13.71**	**342**		**Pn**	**21 24 26.7**	**0.0**
JMM	**Marumori**	**14.45**	**352**	Pn	**Pn**	**21 24 35.1**	**-1.7**
JSD	**Sado**	**15.10**	**344**	Pn	**Pn**	**21 24 41.4**	**-4.1**
JSD				IAmb	IAmb	21 24 55.3	
	comp=Z,31nm,1.3s						
YOJ	**Yonaguni jima**	**18.64**	**277**		**Pn**	**21 25 30.7**	**+0.5**
YOJ				IAmb	IAmb	21 25 46.2	
	comp=Z,76nm,1.4s						
KSRS	**Korea Array**	**19.20**	**320**	P	**P**	**21 25 33.7**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=137,slow=12,SNR=3.3						
SSLB	**Suanglung**	**20.55**	**275**	P	**P**	**21 25 51.1**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**22.17**	**95**	T	T	21 50 03.0	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**22.17**	**95**	T	T	21 50 03.8	
	baz=283,slow=74						
H11N3	**WAKE ISLAND Hy**	**22.19**	**95**	T	T	21 50 04.3	
	baz=283,slow=74						
H11S3	**WAKE ISLAND Hy**	**22.31**	**99**	T	T	21 49 37.7	
	baz=289,slow=74,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**22.32**	**99**	T	T	21 49 12.6	
	baz=289,slow=74,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**22.33**	**99**	T	T	21 49 13.6	
	baz=289,slow=74,SNR=4.1						
USRK	**Ussuriysk Ar.**	**22.63**	**338**	P	**P**	**21 26 10.7**	**-2.1**
	comp=Z,1.5nm,0.7s,baz=161,slow=9.2,SNR=2.3						
USRK	**Ussuriysk Ar.**	**22.63**	**338**	P	**P**	**21 26 11.7**	**-1.0**
SONM	**Songino Array**	**38.06**	**319**	P	**P**	**21 28 30.6**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=108,slow=9.3,SNR=1.7						
MTN	**Manton Dam**	**38.10**	**200**	P	**P**	**21 28 30.3**	**-0.2**
MTN				IAmb	IAmb	21 28 31.9	
	comp=Z,8.4nm,1.1s						
KNRA	**Kununurra**	**41.52**	**202**	P	**P**	**21 28 59.0**	**0.0**
KNRA				IAmb	IAmb	21 29 09.9	
	comp=Z,22nm,1.4s						
CMAR	**Chiang Mai Arr**	**41.68**	**272**	P	**P**	**21 28 59.9**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=63,slow=7.2,SNR=4.9						
WR0	**Warramunga Arr**	**44.09**	**192**	P	**P**	**21 29 19.5**	**-0.4**
WR0				IAmb	IAmb	21 29 30.6	
	comp=Z,9.5nm,1.4s						
WB2	**Warramunga Arr**	**44.11**	**192**	P	**P**	**21 29 19.8**	**-0.2**
WRA	**Warramunga Arr**	**44.11**	**192**	P	**P**	**21 29 19.7**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=315,slow=9.2,SNR=21						
FITZ	**Fitzroy Crossi**	**44.87**	**204**	P	**P**	**21 29 26.3**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=5.6,slow=2.2,SNR=8.8						
FITZ	**Fitzroy Crossi**	**44.87**	**204**	P	**P**	**21 29 26.1**	**0.0**
SHL	**Shillong**	**46.65**	**284**	P	**P**	**21 29 40.3**	**-0.2**
SHL				IAmb	IAmb	21 29 42.0	
	comp=Z,3.5nm,0.6s						
AS31	**Alice Springs**	**47.82**	**192**	P	**P**	**21 29 48.9**	**-0.3**
ASAR	**Alice Springs**	**47.82**	**192**	P	**P**	**21 29 48.8**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=15,slow=11,SNR=14						
ASAR	**Alice Springs**	**47.82**	**192**	P	**P**	**21 29 48.5**	**-0.7**
ZALV	**Zalesovo Beam**	**52.90**	**321**	P	**P**	**21 30 26.5**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=115,slow=7.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**52.90**	**321**	P	**P**	**21 30 26.3**	**-1.0**
MK31	**Makanchi Array**	**53.61**	**312**	P	**P**	**21 30 32.8**	**+0.1**
MKAR	**Makanchi Array**	**53.61**	**312**	P	**P**	**21 30 32.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=85,slow=8.6,SNR=5.3						
MKAR				LR	LR	21 53 57.2	
	comp=Z,30nm,19.7s,baz=325,slow=37						
MKAR	**Makanchi Array**	**53.61**	**312**	P	**P**	**21 30 32.8**	**0.0**
STKA	**Stephens Creek**	**55.13**	**182**	P	**P**	**21 30 43.6**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=8.4,slow=6.6,SNR=7.5						
STKA	**Stephens Creek**	**55.13**	**182**	P	**P**	**21 30 43.5**	**-0.2**
KURK	**Kurchatov**	**56.27**	**316**	P	**P**	**21 30 51.6**	**-0.2**
NRIK	**Noril'sk**	**56.34**	**339**	P	**P**	**21 30 52.1**	**0.0**
	comp=Z,3.4nm,0.8s,baz=117,slow=11,SNR=5.7						
PPLA	**Purkeypile**	**57.69**	**29**	P	**P**	**21 31 03.7**	**+1.8**
IMAR	**Indian Mountai**	**57.75**	**26**	P	**P**	**21 31 03.3**	**+1.2**
BOOM	**Boomskoye usch**	**58.16**	**306**	P	**P**	**21 31 06.3**	**+0.7**
BOOM				IAmb	IAmb	21 31 08.7	
	comp=Z,5.0nm,1.3s						
BPAW	**Bear Paw Mtn.**	**58.46**	**28**	P	**P**	**21 31 08.7**	**+1.6**
BPAW				IAmb	IAmb	21 31 15.2	
	comp=Z,6.0nm,1.5s						
IL31		**60.32**	**28**	P	**P**	**21 31 19.6**	**-0.2**
IL31				IAmb	IAmb	21 31 27.5	
	comp=Z,5.4nm,1.4s						
ILAR	**Eielson Array**	**60.32**	**28**	P	**P**	**21 31 20.6**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=271,slow=5.2,SNR=7.1						
ILAR	**Eielson Array**	**60.32**	**28**	P	**P**	**21 31 20.0**	**0.0**
RIDG	**Independent Ri**	**61.09**	**29**	P	**P**	**21 31 25.6**	**+0.4**
RIDG				IAmb	IAmb	21 31 29.9	
	comp=Z,6.5nm,1.2s						
NIL	**Nilore**	**61.37**	**297**	P	**P**	**21 31 27.8**	**+0.2**
BRVK	**Borovoye**	**61.47**	**319**	P	**P**	**21 31 28.0**	**+0.1**
BRVK				IAmb	IAmb	21 31 30.5	
	comp=Z,4.8nm,0.8s						
KK31	**Karatay Array**	**62.08**	**308**	P	**P**	**21 31 33.1**	**+0.9**
KK31				IAmb	IAmb	21 31 35.4	
	comp=Z,3.5nm,0.8s						
KKAR	**Karatay Array**	**62.08**	**308**	P	**P**	**21 31 33.1**	**+0.9**
GAR	**Garm**	**62.80**	**303**	P	**P**	**21 31 37.7**	**+0.4**
CHGR	**Chuyangaron**	**63.75**	**303**	P	**P**	**21 31 44.3**	**+0.8**
KBL	**Kabul**	**64.62**	**298**	P	**P**	**21 31 50.2**	**+0.8**
ARU	**Arti**	**67.90**	**323**	P	**P**	**21 32 10.3**	**+0.5**
ABKAR	**Akbulak array**	**68.37**	**316**	P	**P**	**21 32 13.0**	**+0.1**
ABKAR				IAmb	IAmb	21 32 14.9	
	comp=Z,2.2nm,0.7s						
ABKAR	**Akbulak array**	**68.37**	**316**	P	**P**	**21 32 12.8**	**-0.1**
HRA	**Herat**	**70.12**	**300**	P	**P**	**21 32 24.3**	**+0.1**
HRA				IAmb	IAmb	21 32 26.9	
	comp=Z,3.2nm,0.7s						
GEYT	**Alibeck**	**72.37**	**304**	P	**P**	**21 32 37.7**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=64,slow=7.2,SNR=2.5						
GEYT	**Alibeck**	**72.37**	**304**	P	**P**	**21 32 37.5**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**72.37**	**304**	P	**P**	**21 32 36.8**	**-0.8**
GYA0B				IAmb	IAmb	21 32 44.4	
	comp=Z,4.0nm,0.9s						
KBZ	**Khabaz**	**81.23**	**314**	P	**P**	**21 33 28.2**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=236,slow=3.6,SNR=2.2						
FIA1	**FINESS Array S**	**81.61**	**334**	P	**P**	**21 33 29.5**	**+0.4**
FINES	**FINESS Array B**	**81.61**	**334**	P	**P**	**21 33 28.8**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=93,slow=4.0,SNR=8.7						
ULM	**Lac du Bonnet**	**89.81**	**33**	LR	LR	22 13 36.6	
	comp=Z,19nm,20.2s,baz=48,slow=35						
PLCA	**Paso Flores**	**146.80**	**129**	PKPbc	**PKPab**	**21 40 54.8**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=248,slow=5.1,SNR=4.8						
PLCA	**Paso Flores**	**146.80**	**129**		**PKPbc**	**21 40 54.4**	**+0.7**
LPAZ	**La Paz**	**149.55**	**82**	PKPbc	**PKiKP**	**21 41 03.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=225,slow=1.4,SNR=2.0						

*IDC **24** 21:35:47.6±2.5, 40°.53S×178°.59E, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.7/26, mbtmp4.0/4, ML4.3/2, MS3.4/2, Ms1 3.5/2, ms1mx3.0/21, Error ellipse: s-maj=51.0km s-min=37.5km az=77.0*
*NEIC **24** 21:35:50.3±1.6, 40°.46S±0°.06×178°.69E±0°.09, h22km±8km, Error ellipse: s-maj=11.2km s-min=6.9km az=128.0*
*WEL **24** 21:35:52.3±0.5, 40°.S±2°×17°.9E±°, h33km, M4.3/131, ML4.3/24, MLv4.3/131, Error ellipse: s-maj=0.0km s-min=0.0km az=107.9*
ISC 24 21:35:48.7±3.0, **40°.51S**±0°.03×**178°.73E**±0°.05, **h15**km±20km, **n178**, σ1§**75**/200, **mb3.9**/4, **1D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**1.49**	**335**	P	**Pn**	**21 36 15.9**	**+0.9**
MHGZ				S	**Sn**	**21 36 32.4**	**-1.9**
PXZ	**Pawanui**	**1.50**	**288**	P	**Pb**	**21 36 16.8**	**+0.5**
PXZ				S	**Sn**	**21 36 33.6**	**-0.8**
KNZ	**Kokohu**	**1.69**	**331**	P	**Pn**	**21 36 18.5**	**+0.8**
KNZ				S	**Sn**	**21 36 35.7**	**-3.4**
PRGZ	**Paritu Road**	**1.71**	**337**	P	**Pn**	**21 36 18.7**	**+0.6**
ANWZ	**Angora Road**	**1.72**	**271**	P	**Pb**	**21 36 20.1**	**+0.2**
ANWZ				S	**Sn**	**21 36 39.1**	**-0.6**
WHHZ	**Waihua**	**1.83**	**321**	P	**Pn**	**21 36 21.1**	**+1.4**
WHHZ				S	**Sn**	**21 36 41.2**	**-1.4**
MCHZ	**McNeill Hill**	**1.89**	**304**	P	**Pb**	**21 36 22.3**	**-0.6**
MCHZ				S	**Sb**	**21 36 45.2**	**-1.0**
BFZ	**Birch Farm**	**1.90**	**264**	P	**Pb**	**21 36 22.3**	**-0.7**
BFZ				S	**Sn**	**21 36 43.2**	**-1.0**
BFZ	**Birch Farm**	**1.90**	**264**		**Pb**	**21 36 22.3**	**-0.7**
BFZ				Sn	**Sn**	**21 36 43.3**	**-0.9**
RIGZ	**Rimuhau**	**1.95**	**337**	P	**Pn**	**21 36 22.2**	**+0.9**
RIGZ				S	**Sn**	**21 36 43.4**	**-2.1**
CPWZ	**Castlepoint**	**1.96**	**257**	P	**Pb**	**21 36 23.7**	**-0.4**
CPWZ				S	**Sb**	**21 36 46.6**	**-1.7**
DVHZ	**Dannevirke**	**1.96**	**275**	S	**Sn**	**21 36 44.4**	**-1.5**
KRHZ	**Kereru**	**2.00**	**295**	P	**Pb**	**21 36 23.9**	**-1.0**
KRHZ				S	**Sn**	**21 36 46.8**	**0.0**
PNHZ	**Pukenui**	**2.02**	**286**	P	**Pb**	**21 36 24.3**	**-0.9**
SNGZ	**Shannon Statio**	**2.03**	**328**	P	**Pn**	**21 36 23.6**	**+1.2**
SNGZ				S	**Sn**	**21 36 45.8**	**-1.7**
RAHZ	**Arahi**	**2.03**	**321**	P	**Pn**	**21 36 23.8**	**+1.4**
RAHZ				S	**Sn**	**21 36 45.8**	**-1.7**
CNGZ	**Carnagh Statio**	**2.06**	**349**	P	**Pn**	**21 36 23.7**	**+0.9**
KWHZ	**Kaweka Forest**	**2.07**	**301**	P	**Pn**	**21 36 24.9**	**+1.8**
KWHZ				S	**Sn**	**21 36 47.8**	**-0.8**
PRWZ	**Pori Road**	**2.10**	**268**	P	**Pb**	**21 36 25.6**	**-0.9**
PRWZ				S	**Sn**	**21 36 48.5**	**-0.7**
TSZ	**Takapari Road**	**2.16**	**281**	P	**Pn**	**21 36 26.2**	**+1.9**
TSZ				S	**Sn**	**21 36 49.0**	**-1.8**
TKGZ	**Te Karaka**	**2.17**	**342**	P	**Pn**	**21 36 25.1**	**+0.8**
TKGZ				S	**Sn**	**21 36 48.1**	**-2.9**
TIWZ	**Tintock**	**2.18**	**262**	P	**Pn**	**21 36 26.2**	**+1.8**
BKZ	**Black Stump Fm**	**2.18**	**307**	P	**Pn**	**21 36 26.2**	**+1.7**
BKZ				S	**Sn**	**21 36 49.7**	**-1.5**
BKZ	**Black Stump Fm**	**2.18**	**307**		**Pn**	**21 36 26.0**	**+1.5**
BKZ				Sn	**Sn**	**21 36 49.7**	**-1.5**
MTHZ	**Maungataniwha**	**2.20**	**318**	P	**Pn**	**21 36 26.1**	**+1.3**
MTHZ				S	**Sn**	**21 36 49.4**	**-2.3**
TMWZ	**Te Maipa**	**2.23**	**254**	P	**Pn**	**21 36 26.7**	**+1.4**
TMWZ				S	**Sn**	**21 36 51.6**	**-1.0**
POWZ	**Post Office Ro**	**2.26**	**272**	P	**Pb**	**21 36 27.8**	**-1.4**
POWZ				S	**Sn**	**21 36 51.9**	**-1.2**
BHHZ	**Black Hill Sta**	**2.28**	**296**	P	**Pn**	**21 36 27.8**	**+1.8**
BHHZ				S	**Sn**	**21 36 52.6**	**-1.3**
RTZ	**Ruatahuna**	**2.32**	**324**	P	**Pn**	**21 36 27.9**	**+1.4**
RTZ				S	**Sn**	**21 36 52.4**	**-2.3**
MRZ	**Mangatainoka R**	**2.40**	**265**	P	**Pn**	**21 36 29.2**	**+1.7**
MRZ				S	**Sn**	**21 36 54.8**	**-1.8**
MRHZ	**Matea Rd**	**2.44**	**312**	P	**Pn**	**21 36 30.1**	**+1.9**
PUZ	**Puketiti**	**2.46**	**351**	P	**Pn**	**21 36 28.3**	**0.0**
TRWZ	**Traveller**	**2.47**	**248**	P	**Pn**	**21 36 29.5**	**+1.1**
TRWZ				S	**Sn**	**21 36 57.9**	**-0.3**
HOWZ	**Holdsworth Sta**	**2.47**	**260**	P	**Pn**	**21 36 29.9**	**+1.4**
HOWZ				S	**Sn**	**21 36 56.9**	**-1.5**
MTW	**Mount Morrison**	**2.53**	**254**	P	**Pn**	**21 36 30.5**	**+1.3**
MOVZ	**Moawhango**	**2.54**	**295**	P	**Pn**	**21 36 31.8**	**+2.4**
URZ	**Urewera**	**2.57**	**330**	Pn	**Pn**	**21 36 30.8**	**+1.0**
	149nm,0.3s,baz=262,slow=3.7,SNR=992						
URZ				Sn	**Sn**	**21 36 56.8**	**-4.0**
	90nm,0.3s,baz=63,slow=19,SNR=20						
URZ	**Urewera**	**2.57**	**330**	P	**Pn**	**21 36 30.9**	**+1.0**
URZ	**Urewera**	**2.57**	**330**		**Pn**	**21 36 30.7**	**+1.0**
URZ				Sn	**Sn**	**21 36 57.6**	**-3.1**
HATZ	**Hinemaiaia**	**2.59**	**308**	P	**Pn**	**21 36 32.5**	**+2.3**
OHWZ	**Ohakea**	**2.62**	**276**	P	**Pb**	**21 36 33.8**	**-1.6**
PAWZ	**Paruwai Farm**	**2.65**	**250**	P	**Pn**	**21 36 31.8**	**+0.9**
RUGZ	**Raukumara Rang**	**2.67**	**342**	P	**Pn**	**21 36 31.6**	**+0.4**
TUVZ	**Tukino**	**2.67**	**297**	P	**Pn**	**21 36 34.1**	**+2.8**
ALRZ	**Allen Road**	**2.68**	**316**	P	**Pn**	**21 36 33.2**	**+1.9**
WNVZ	**Wahianoa**	**2.68**	**295**	P	**Pn**	**21 36 34.2**	**+2.7**
RITZ	**Rihia Road**	**2.69**	**304**	P	**Pn**	**21 36 34.1**	**+2.6**
ETVZ	**East Tongariro**	**2.70**	**300**	P	**Pn**	**21 36 34.2**	**+2.5**
WMGZ	**Waiomatatini S**	**2.70**	**355**	P	**Pn**	**21 36 32.1**	**+0.6**
TMVZ	**Te Maari**	**2.71**	**300**	P	**Pn**	**21 36 34.3**	**+2.5**
OTVZ	**Oturere**	**2.71**	**299**	P	**Pn**	**21 36 34.5**	**+2.6**
OGWZ	**Otaki Gorge**	**2.72**	**262**	P	**Pn**	**21 36 33.6**	**+1.7**
MTVZ	**Mangateitei**	**2.74**	**293**	P	**Pn**	**21 36 35.2**	**+3.0**
FWVZ	**Far West T-bar**	**2.74**	**296**	P	**Pn**	**21 36 34.8**	**+2.4**
NGZ	**Ngauruhoe**	**2.75**	**298**	P	**Pn**	**21 36 34.8**	**+2.4**
RRRZ	**Republican Roa**	**2.76**	**321**	P	**Pn**	**21 36 34.1**	**+1.6**
KRVZ	**Karewarewa**	**2.76**	**300**	P	**Pn**	**21 36 35.0**	**+2.4**
MSWZ	**Moikau Station**	**2.78**	**250**	P	**Pn**	**21 36 33.4**	**+0.7**
MSWZ	**Moikau Station**	**2.78**	**250**	Pn	**Pn**	**21 36 33.5**	**+0.7**
WTVZ	**West Tongariro**	**2.79**	**299**	P	**Pn**	**21 36 35.5**	**+2.5**
KATZ	**Kakaramea**	**2.79**	**302**	P	**Pn**	**21 36 35.4**	**+2.4**
WPRZ	**Whakapapatarin**	**2.81**	**314**	P	**Pn**	**21 36 34.6**	**+1.5**
RATZ	**Rangitukua**	**2.81**	**305**	P	**Pn**	**21 36 35.2**	**+2.1**
WHTZ	**Whakaora**	**2.82**	**310**	P	**Pn**	**21 36 35.6**	**+2.3**
PLWZ	**Palliser**	**2.83**	**247**	P	**Pn**	**21 36 33.9**	**+0.5**
PLWZ	**Palliser**	**2.83**	**247**		**Pn**	**21 36 34.0**	**+0.5**
HRRZ	**Handcock Road**	**2.84**	**317**	P	**Pn**	**21 36 35.1**	**+1.6**
CAW	**Cannon Point**	**2.84**	**257**	P	**Pn**	**21 36 34.9**	**+1.4**
HAZ	**Te Kaha**	**2.84**	**345**	P	**Pn**	**21 36 34.1**	**+0.5**
TARZ	**Mount Tarawera**	**2.85**	**322**	P	**Pn**	**21 36 35.3**	**+1.6**
PKVZ	**Pokaka**	**2.87**	**294**	P	**Pn**	**21 36 36.6**	**+2.6**
HLRZ	**Highlands Stat**	**2.91**	**320**	P	**Pn**	**21 36 36.3**	**+1.8**
TWVZ	**Taurewa**	**2.91**	**298**	P	**Pn**	**21 36 36.7**	**+2.1**
HSRZ	**Hossack Road**	**2.92**	**318**	P	**Pn**	**21 36 36.3**	**+1.7**
KIW	**Kapiti Island**	**2.92**	**262**	P	**Pn**	**21 36 36.6**	**+1.9**
WATZ	**Wairara**	**2.93**	**307**	P	**Pn**	**21 36 36.5**	**+1.8**
MKRZ	**Makatiti**	**2.94**	**323**	P	**Pn**	**21 36 36.6**	**+1.6**
GRRZ	**Galatos Road**	**2.96**	**316**	P	**Pn**	**21 36 37.4**	**+2.2**
MXZ	**Matakaoa Point**	**2.96**	**354**	P	**Pn**	**21 36 35.9**	**+0.7**
MXZ	**Matakaoa Point**	**2.96**	**354**		**Pn**	**21 36 35.8**	**+0.7**
WAZ	**Wanganui**	**2.96**	**283**	P	**Pb**	**21 36 38.7**	**-2.5**
WHRZ	**Whale Island**	**2.98**	**332**	P	**Pn**	**21 36 36.5**	**+1.0**
MARZ	**Manawahe**	**2.98**	**327**	P	**Pn**	**21 36 37.0**	**+1.5**
OMRZ	**Omania**	**3.01**	**322**	P	**Pn**	**21 36 37.1**	**+1.1**
KUTZ	**Kaahu Road**	**3.02**	**311**	P	**Pn**	**21 36 37.8**	**+1.8**
UTU	**Utuhina**	**3.04**	**319**	P	**Pn**	**21 36 38.2**	**+1.9**
BHW	**Baring Head**	**3.05**	**252**	P	**Pn**	**21 36 37.4**	**+1.0**
BHW	**Baring Head**	**3.05**	**252**	Pn	**Pn**	**21 36 37.1**	**+0.7**
WEL	**Wellington**	**3.10**	**254**	P	**Pn**	**21 36 38.4**	**+1.3**
NGRZ	**Ngongotaha**	**3.11**	**320**	P	**Pn**	**21 36 38.9**	**+1.6**
KARZ	**Kaharoa**	**3.14**	**321**	P	**Pn**	**21 36 38.8**	**+1.0**
OPRZ	**Ohinepanea**	**3.15**	**327**	P	**Pn**	**21 36 38.5**	**+0.7**
SNZO	**South Karori**	**3.15**	**254**		**Pn**	**21 36 38.6**	**+0.8**
TLZ	**Tolley Road**	**3.29**	**310**	P	**Pn**	**21 36 41.2**	**+1.4**
VRZ	**Vera Road**	**3.35**	**293**	P	**Pn**	**21 36 43.3**	**+2.7**
TGRZ	**Tauranga**	**3.37**	**325**	P	**Pn**	**21 36 41.4**	**+0.6**
TCW	**Tory Channel**	**3.45**	**257**	P	**Pn**	**21 36 43.1**	**+1.2**
LREZ	**Lake Rotokare**	**3.48**	**286**	P	**Pn**	**21 36 45.9**	**+3.6**
HIZ	**Hauiti**	**3.59**	**302**	P	**Pn**	**21 36 45.7**	**+1.8**
HIZ	**Hauiti**	**3.59**	**302**		**Pn**	**21 36 45.6**	**+1.7**
CMWZ	**Cape Campbell**	**3.63**	**249**		**Pn**	**21 36 45.6**	**+1.3**
DUWZ	**D'Urville Isla**	**3.67**	**264**	P	**Pn**	**21 36 46.8**	**+1.9**
MHEZ	**Mangahewa**	**3.68**	**291**	P	**Pn**	**21 36 48.9**	**+3.9**
PREZ	**Palmer Road**	**3.70**	**287**	P	**Pn**	**21 36 49.2**	**+3.8**
DREZ	**Durham Road**	**3.72**	**289**	P	**Pn**	**21 36 49.1**	**+3.4**
TUWZ	**Tuamarina**	**3.74**	**254**	P	**Pn**	**21 36 46.4**	**+0.5**
TUWZ	**Tuamarina**	**3.74**	**254**		**Pn**	**21 36 46.4**	**+0.5**
TOZ	**Tahuroa Road**	**3.74**	**317**	P	**Pn**	**21 36 46.9**	**+1.1**
NEZ	**North Egmont**	**3.77**	**288**	P	**Pn**	**21 36 50.2**	**+3.8**
KHEZ	**Kahui Hut**	**3.82**	**287**	P	**Pn**	**21 36 50.9**	**+3.8**
BSWZ	**Blackbirch Sta**	**3.86**	**250**	P	**Pn**	**21 36 48.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**3.86**	**250**		**Pn**	**21 36 48.0**	**+0.5**
PKE	**Pukeiti**	**3.88**	**288**	P	**Pn**	**21 36 51.5**	**+3.7**
NMEZ	**Namu Road**	**3.88**	**285**	P	**Pn**	**21 36 51.6**	**+3.8**
NBEZ	**Newall Road No**	**3.94**	**287**	P	**Pn**	**21 36 52.2**	**+3.6**
NNZ	**Nelson**	**4.12**	**258**	P	**Pn**	**21 36 52.4**	**+1.4**
NNZ	**Nelson**	**4.12**	**258**	Pn	**Pn**	**21 36 52.0**	**+1.0**
KHZ	**Kahutara**	**4.34**	**242**	P	**Pn**	**21 36 54.3**	**+0.2**
KHZ	**Kahutara**	**4.34**	**242**		**Pn**	**21 36 54.5**	**+0.4**
KUZ	**Kuaotunu**	**4.43**	**327**	P	**Pn**	**21 36 56.2**	**+0.8**
THZ	**Tophouse**	**4.57**	**252**	P	**Pn**	**21 36 58.1**	**+0.7**
THZ	**Tophouse**	**4.57**	**252**	Pn	**Pn**	**21 36 57.8**	**+0.5**
ETAZ	**East Tamaki Re**	**4.63**	**319**	P	**Pn**	**21 37 00.1**	**+2.0**
WIAZ	**Waiheke Island**	**4.65**	**322**	P	**Pn**	**21 36 59.6**	**+1.2**
AWAZ	**Awhitu Peninsu**	**4.69**	**316**	P	**Pn**	**21 37 00.8**	**+1.9**
QRZ	**Quartz Range**	**4.72**	**264**	P	**Pn**	**21 37 00.9**	**+1.5**
QRZ	**Quartz Range**	**4.72**	**264**		**Pn**	**21 37 00.5**	**+1.1**
CTZ	**Chatham Island**	**4.73**	**134**	P	**Pn**	**21 37 03.9**	**+4.4**
CTZ				S	**Sn**	**21 37 53.2**	**-0.9**
MBAZ	**Motutapu North**	**4.79**	**320**	P	**Pn**	**21 37 02.1**	**+1.8**
WTAZ	**Waiatarua**	**4.83**	**316**	P	**Pn**	**21 37 02.9**	**+2.1**
GVZ	**Greta Valley S**	**4.92**	**238**	P	**Pn**	**21 37 02.2**	**+0.2**
ABAZ	**Army Bay**	**4.95**	**321**	P	**Pn**	**21 37 04.6**	**+2.1**
GRZ	**Great Barrier**	**4.97**	**328**	P	**Pn**	**21 37 03.6**	**+0.9**
OKCZ	**Okains Bay**	**5.30**	**231**	P	**Pn**	**21 37 08.0**	**+0.7**
LTZ	**Lake Taylor**	**5.34**	**243**	P	**Pn**	**21 37 08.4**	**+0.5**
LTZ	**Lake Taylor**	**5.34**	**243**	Pn	**Pn**	**21 37 08.0**	**0.0**
DSZ	**Denniston Nort**	**5.37**	**254**	P	**Pn**	**21 37 09.1**	**+0.8**
AKCZ	**Akaroa Harbour**	**5.47**	**230**	P	**Pn**	**21 37 10.2**	**+0.5**
MQZ	**McQueen's Vall**	**5.53**	**233**	P	**Pn**	**21 37 09.8**	**-0.7**
MQZ	**McQueen's Vall**	**5.53**	**233**	Pn	**Pn**	**21 37 10.7**	**+0.3**
WCZ	**Waipu Caves**	**5.72**	**322**	P	**Pn**	**21 37 14.7**	**+1.7**
OXZ	**Oxford**	**5.73**	**238**	P	**Pn**	**21 37 12.8**	**-0.4**
OXZ	**Oxford**	**5.73**	**238**	Pn	**Pn**	**21 37 13.0**	**-0.2**
INZ	**Inchbonnie**	**5.89**	**246**	P	**Pn**	**21 37 16.2**	**+0.8**
MHCZ	**Mount Hutt**	**6.13**	**238**	P	**Pn**	**21 37 18.3**	**-0.4**
WACZ	**Wakanui South**	**6.16**	**234**	P	**Pn**	**21 37 21.1**	**+2.1**
WVZ	**Waitaha Valley**	**6.50**	**244**	P	**Pn**	**21 37 24.4**	**+0.6**
RPZ	**Rata Peaks**	**6.54**	**238**	Pn	**Pn**	**21 37 24.5**	**+0.1**
	3.1nm,0.3s,baz=68,slow=3.2,SNR=8.6						
RPZ				Sn	**Sn**	**21 38 33.6**	**-5.2**
	12nm,0.3s,baz=322,slow=22,SNR=32						
RPZ	**Rata Peaks**	**6.54**	**238**		**Pn**	**21 37 23.8**	**-0.7**
ARCZ	**Arundel**	**6.57**	**236**	P	**Pn**	**21 37 24.9**	**+0.1**
OUZ	**Omahuta**	**6.66**	**321**	P	**Pn**	**21 37 28.1**	**+2.1**
OUZ	**Omahuta**	**6.66**	**321**		**Pn**	**21 37 27.0**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**6.86**	**243**	P	**Pn**	**21

TWT	**Tachien**	**0.66**	**258**	*e*P	**Pb**	**21 37 20.2**	**-0.9**
	baz=257						
TWT				*e*S	**Sb**	**21 37 29.7**	**-0.4**
	baz=257						
TDCB	**Techi**	**0.67**	**258**	P	**Pb**	**21 37 20.0**	**-1.3**
	baz=257						
TDCB				*e*S	**Sb**	**21 37 29.1**	**-1.4**
	baz=257						
TATO	**Taipei**	**0.68**	**329**	*e*P	**Pb**	**21 37 20.4**	**-1.0**
	baz=321						
TATO				*e*S	**Sb**	**21 37 30.4**	**-0.1**
	baz=321						
NWF	**Wu-fen Shan**	**0.68**	**353**	*e*P	**Pb**	**21 37 21.3**	**-0.1**
	baz=356						
NWF				*e*S	**Sb**	**21 37 31.0**	**+0.3**
	baz=356						
WFSB	**Wu-fen Shan**	**0.68**	**353**	*e*P	**Pb**	**21 37 21.5**	**+0.1**
	baz=356						
WFSB				*e*S	**Sb**	**21 37 31.0**	**+0.4**
	baz=356						
ESL	**Shilin**	**0.71**	**215**	*e*P	Pb	21 37 19.2	-2.6
	baz=222						
CHGB	**Renai**	**0.72**	**243**	P	**Pb**	**21 37 20.8**	**-1.4**
	baz=241						
CHGB				*e*S	**Sb**	**21 37 30.7**	**-1.3**
	baz=241						
YM01	**YM01**	**0.80**	**340**	*e*P	**Pn**	**21 37 21.6**	**-1.4**
	baz=333						
YM01				*e*S	**Sb**	**21 37 34.2**	**+0.2**
	baz=333						
YM10	**YM10**	**0.81**	**339**	*e*S	**Sb**	**21 37 34.1**	**-0.2**
	baz=333						
YM11	**YM11**	**0.82**	**340**	*e*P	**Pn**	**21 37 22.7**	**-0.5**
	baz=330						
YM04	**YM04**	**0.82**	**338**	*e*P	**Pn**	**21 37 22.0**	**-1.2**
	baz=331						
YM04				*e*S	**Sb**	**21 37 32.8**	**-1.7**
	baz=331						
YM05	**YM05**	**0.82**	**340**	*e*P	**Pn**	**21 37 22.7**	**-0.5**
	baz=333						
YM05				*e*S	**Sb**	**21 37 34.8**	**+0.3**
	baz=333						
TWS1	**Kuangyinshan**	**0.82**	**329**	*e*P	**Pn**	**21 37 22.9**	**-0.2**
	baz=332						
TWS1				*e*S	**Sb**	**21 37 34.3**	**-0.2**
	baz=332						
LIOB	**Emei**	**0.82**	**288**	P	**Pn**	**21 37 23.2**	**0.0**
	baz=288						
LIOB				*e*S	**Sb**	**21 37 35.7**	**+1.1**
	baz=288						
EGFH	**Guangfu**	**0.83**	**210**	*e*P	Pn	21 37 20.8	-2.5
	baz=219						
NSTT	**Nanjuang**	**0.83**	**287**	*e*P	**Pn**	**21 37 23.1**	**-0.3**
	baz=287						
NSTT				*e*S	**Sb**	**21 37 34.3**	**-0.5**
	baz=287						
WHP	**Taichung City**	**0.86**	**262**	*e*P	**Pn**	**21 37 23.4**	**-0.3**
	baz=262						
WHP				*e*S	**Sb**	**21 37 35.8**	**+0.2**
	baz=262						
VWDT	**VWDT**	**0.93**	**227**	*e*P	**Pn**	**21 37 23.5**	**-1.1**
	baz=217						
VWDT				*e*S	**Sn**	**21 37 35.8**	**-1.0**
	baz=217						
JYNG	**Yonagunijimaku**	**0.97**	**86**	P	**Pn**	**21 37 24.6**	**-0.7**
JYNG				S	**Sn**	**21 37 38.8**	**+0.8**
HGSD	**Ruisui**	**0.99**	**205**	*e*P	**Pn**	**21 37 25.0**	**-0.5**
	baz=216						
TWQ1	**Liyutan**	**1.01**	**268**	*e*P	**Pn**	**21 37 26.2**	**+0.4**
	baz=266						
TWQ1				*e*S	**Sn**	**21 37 40.3**	**+1.5**
	baz=266						
YOJ	**Yonaguni jima**	**1.03**	**86**	P	**Pn**	**21 37 25.4**	**-0.7**
YOJ				S	**Sn**	**21 37 40.6**	**+1.1**
SSLB	**Suanglung**	**1.04**	**235**	*e*P	**Pn**	**21 37 26.4**	**+0.1**
	baz=233						
TYC	**Yuchr**	**1.05**	**243**	*e*P	**Pn**	**21 37 26.5**	**+0.1**
	baz=237						
YULB	**Yu-li**	**1.13**	**208**	*e*P	Pn	21 37 25.9	-1.5
	baz=206						
TWF1	**Yuli**	**1.17**	**207**	*e*P	**Pn**	**21 37 27.3**	**-0.7**
	baz=215						
WJS	**Zhushan**	**1.20**	**242**	*e*P	**Pn**	**21 37 28.9**	**+0.6**
	baz=240						
CHN5	**Tsauling**	**1.35**	**234**	*e*P	**Pn**	**21 37 30.9**	**+0.3**
	baz=232						
CHN5				*e*S	**Sn**	**21 37 49.5**	**+2.0**
	baz=232						
TPUB	**Ta-pu**	**1.58**	**227**	*e*P	**Pn**	**21 37 34.7**	**+1.1**
	baz=216						
TPUB				*e*S	**Sn**	**21 37 55.5**	**+2.5**
	baz=216						
WTP	**Ta-pu**	**1.63**	**226**	*e*P	**Pn**	**21 37 35.4**	**+1.1**
	baz=223						
WTP				*e*S	**Sn**	**21 37 57.3**	**+3.1**
	baz=223						
IRIF	**Iriomote-Funau**	**1.69**	**92**	P	**Pn**	**21 37 35.6**	**+0.5**
TWK	**Hsinying**	**1.70**	**229**	*e*P	**Pn**	**21 37 36.4**	**+1.1**
	baz=225						
TWK				*e*S	**Sn**	**21 37 58.6**	**+2.7**
	baz=225						
CHN1	**Nanshi**	**1.73**	**226**	*e*P	**Pn**	**21 37 36.7**	**+1.1**
	baz=223						
CHN1				*e*S	**Sn**	**21 37 59.3**	**+2.7**
	baz=223						
JKRS	**Kuro-shima**	**1.95**	**94**	P	**Pn**	**21 37 38.5**	**-0.2**
JKRS				*e*S	**Sn**	**21 38 02.1**	**0.0**
JIJ	**Ishigaki jima**	**2.06**	**90**	P	**Pn**	**21 37 39.6**	**-0.7**
JIJ				*e*S	**Sn**	**21 38 03.7**	**-1.2**
JISG	**Ishigakijimahi**	**2.22**	**85**	P	**Pn**	**21 37 41.6**	**-0.9**
JISG				*e*S	**Sn**	**21 38 08.8**	**0.0**
JTJ	**Tarama**	**2.58**	**84**	P	**Pn**	**21 37 47.4**	**0.0**

ANF 24 21:58:52.2±3.1, 43°.37N×105°.11W, h14km±34km, ML3.5/13, Error ellipse: s-maj=20.3km s-min=5.5km az=125.0, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.08**	**46**	P	Pb	21 59 12.9	+0.1
	baz=226						
K22A	**Casper**	**1.26**	**236**	P	Pn	21 59 14.8	-0.8
	baz=55						
K22A				S	Sg	21 59 33.6	+0.7
	baz=55						
N23A	**Red Feather La**	**2.55**	**194**	Pb	Pb	21 59 38.0	+0.1
	baz=14,SNR=33						
N23A				Sg	Sg	22 00 17.9	+3.8
	baz=14						
BW06	**Boulder Array**	**3.32**	**261**	P	Pn	21 59 44.9	+1.0
	baz=78						
BW06				Sb	Sb	22 00 32.0	+0.8
	baz=78						
LAO	**LASA Array**	**3.41**	**347**	Sb	Sb	22 00 35.6	+1.8
	baz=166						
RLMT	**Red Lodge**	**3.46**	**302**	P	Pn	21 59 45.3	-0.6
	baz=119,SNR=11						
RLMT				Sb	Sb	22 00 35.3	-0.3
	baz=119						
ISCO	**Idaho Springs**	**3.59**	**186**	Pb	Pb	21 59 57.5	+1.9
	baz=5.9,SNR=7.4						
O20A	**White River Ci**	**3.99**	**217**	Pb	Pb	22 00 01.8	-0.6
	baz=35						
O20A				Sg	Sg	22 01 02.6	+2.2
	baz=35						
Q24A	**Divide**	**4.40**	**180**	Sg	Sg	22 01 19.4	+5.9
	baz=0.4						
SUSD	**Miller**	**4.57**	**74**	Sg	Sg	22 01 24.2	+5.3
	baz=258						
KSCO	**Kaye Shedlock'**	**4.74**	**156**	Sg	Sg	22 01 31.7	+7.4
	baz=338						
DGMT	**Dagmar**	**5.14**	**7**	Sb	Sb	22 01 26.6	+3.0
	baz=187						
BOZ	**Bozeman (W)**	**5.17**	**298**	Sb	Sb	22 01 27.2	+2.7
	baz=113						

JMA ***24*** *22:28:54.6±0.4, 20°.23N×121°.87E, h50km, M3.6*
ISC 24 22:28:54.4±1.6, 20°.11N±0°.07×122°.0E±0°.2, h27km, n9, σ1§20/18, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.40**	**184⇑**	*e*P	**Pn**	**22 29 31.4**	**-0.5**
CVP				*i* S	**Sn**	**22 30 01.5**	**+1.1**
HATJ	**Hateruma jima**	**4.27**	**23**	P	**Pn**	**22 29 58.2**	**+0.5**
HATJ				*e*S	**Sn**	**22 30 46.1**	**-0.5**
JYNG	**Yonagunijimaku**	**4.41**	**11**	P	**Pn**	**22 29 59.5**	**-0.1**
JYNG				S	**Sn**	**22 30 49.1**	**-1.0**
YOJ	**Yonaguni jima**	**4.43**	**12**	P	**Pn**	**22 29 59.8**	**-0.1**
YOJ				S	**Sn**	**22 30 50.2**	**-0.4**
IRIF	**Iriomote-Funau**	**4.50**	**20**	P	**Pn**	**22 30 02.1**	**+1.3**
IRIF				S	**Sn**	**22 30 52.2**	**-0.1**
JIJ	**Ishigaki jima**	**4.68**	**25**	P	**Pn**	**22 30 03.1**	**-0.2**
JIJ				S	**Sn**	**22 30 56.3**	**-0.3**
JISG	**Ishigakijimahi**	**4.94**	**25**	P	**Pn**	**22 30 07.6**	**+0.7**
JISG				S	**Sn**	**22 31 03.2**	**0.0**
JTJ	**Tarama**	**5.16**	**28**	P	**Pn**	**22 30 11.0**	**+1.2**
JTJ				*e*S	**Sn**	**22 31 09.3**	**+0.8**
JOW	**Kunigami**	**8.82**	**39**	P	**Pn**	**22 31 02.0**	**+1.7**
JOW				*e*S	**Sn**	**22 32 35.5**	**-3.4**

IDC ***24*** *22:29:23.2±0.7, 35°.00N×141°.22E, h0km, mb4.0/12, mb1 4.2/16, mb1mx3.9/62, mbtmp4.0/16, ML2.7/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/38, Error ellipse: s-maj=20.2km s-min=15.1km az=89.0*
JMA ***24*** *22:29:25.4±0.3, 35°.05N×141°.29E, h35km±5km, M3.2*
NEIC ***24*** *22:29:25.8±0.9, 35°.07N±0°.04×141°.43E±0°.09, h25km±6km, mb4.5/17, Error ellipse: s-maj=10.6km s-min=6.5km az=87.0*
ISC 24 22:29:26.3±0.6, 35°.06N±0°.04×141°.32E±0°.06, h27km, n74, σ1§43/71, mb4.2/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.49**	**215**	P	**Pb**	**22 29 35.3**	**-0.8**
BSO3	**Boso 3**	**0.71**	**249**	P	**Pb**	**22 29 38.9**	**-1.0**
BSO3				X		22 29 48.8	
CHOJ	**Chosi**	**0.75**	**330**	P	**Pb**	**22 29 39.7**	**-1.0**
CHOJ				S	**Sb**	**22 29 50.0**	**-0.5**
BSO4	**Boso 4**	**0.81**	**266**	P	**Pb**	**22 29 40.6**	**-1.1**
KTR	**Katsuura**	**0.83**	**277**	S	**Sb**	**22 29 50.9**	**-1.9**
JKUC	**kamogawauchiur**	**0.92**	**277**	P	**Pn**	**22 29 41.9**	**-1.6**
JYT	**Yasato**	**1.48**	**322**	Pn	**Pn**	**22 29 51.3**	**+0.1**
JYT				Sn	**Sn**	**22 30 10.8**	**+1.1**
JIM2	**Oshima 3**	**1.59**	**258**	P	**Pn**	**22 29 50.4**	**-2.3**
JHJ2	**Mitsune**	**2.31**	**213**	Pn	**Pn**	**22 30 02.8**	**+0.3**
JHJ	**Hachijo jima 2**	**2.32**	**214**	Pn	**Pn**	**22 30 03.2**	**+0.6**
	22nm,0.3s,baz=60,slow=20,SNR=5.7						
JHJ				Sn	**Sn**	**22 30 27.9**	**-2.3**
	42nm,0.3s,baz=72,slow=20,SNR=5.1						
JMM	**Marumori**	**2.83**	**352**		**Pn**	**22 30 09.5**	**-0.3**
MJAR	**Matsushiro Arr**	**2.93**	**301**	Pn	**Pn**	**22 30 11.1**	**-0.1**
	0.9nm,0.3s,baz=100,slow=12,SNR=21						
MJAR				LR	LR	22 31 28.8	
	comp=Z,383nm,19.0s,baz=125,slow=44						
MJAR	**Matsushiro Arr**	**2.93**	**301**		**Pn**	**22 30 11.7**	**+0.5**
MAJO	**Matsushiro**	**2.93**	**301**	Pn	**Pn**	**22 30 13.0**	**+1.8**
MAT	**Matsushiro**	**2.93**	**301**	P	**Pn**	**22 30 12.9**	**+1.8**
MAT				*e*S	**Sn**	**22 30 42.7**	**-2.8**
JGF	**Kuroka**	**3.29**	**281**	Pn	**Pn**	**22 30 17.0**	**+1.0**
INU	**Inuyama**	**3.54**	**276**	Pn	**Pn**	**22 30 20.7**	**+1.3**
JSD	**Sado**	**3.86**	**321**	Pn	**Pn**	**22 30 24.2**	**+0.3**
JWT	**Wachi**	**4.85**	**274**	Pn	**Pn**	**22 30 39.0**	**+1.5**
JTM	**Tenmabayashi**	**5.72**	**358**	Pn	**Pn**	**22 30 48.8**	**-0.6**
JHS	**Saijyo**	**6.73**	**272**	Pn	**Pn**	**22 31 05.6**	**+2.2**
ERM	**Erimo**	**7.09**	**11**	Pn	**Pn**	**22 31 07.1**	**-1.1**
JCJ	**Chichijima**	**7.97**	**174**	Pn	**Pn**	**22 31 18.6**	**-1.7**
	9.9nm,0.3s,baz=293,slow=10,SNR=5.4						
JCJ	**Chichijima**	**7.97**	**174**		**Pn**	**22 31 18.8**	**-1.6**
ASAJ	**Asahikawa**	**9.10**	**6**	Pn	Pn	22 31 32.8	-3.0
	1.1nm,0.3s,baz=258,slow=9.3,SNR=7.2						
ASAJ				Sn	**Sn**	**22 33 12.6**	**-4.7**
	0.2nm,0.3s,baz=225,slow=18,SNR=1.5						
JKA	**Kamikawa-asahi**	**9.10**	**6**		**Pn**	**22 31 35.2**	**-0.6**
KSRS	**Korea Array**	**11.08**	**286**	Pn	**Pn**	**22 32 07.5**	**+4.6**
	0.1nm,0.3s,baz=38,slow=16,SNR=2.2						
KSRS				LR	LR	22 36 38.2	
	comp=Z,221nm,18.0s,baz=92,slow=39						
USRK	**Ussuriysk Ar.**	**11.62**	**325**	Pn	**Pn**	**22 32 11.2**	**+1.0**
	baz=134,slow=13,SNR=4.7						
PETK	**Petropavlovsk-**	**21.45**	**28**	LR	LR	22 43 25.7	
	comp=Z,38nm,19.8s,baz=241,slow=39						
MA2	**Magadan**	**25.30**	**11**	P	**P**	**22 34 52.9**	**+2.6**
	3.1nm,0.3s,baz=171,slow=18,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**27.25**	**117**	T	T	23 03 42.2	
	baz=310,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.26**	**117**	T	T	23 03 41.7	
	baz=310,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**27.27**	**117**	T	T	23 03 43.6	
	baz=310,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	23 04 41.0	
	baz=312,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	23 04 28.6	
	baz=312,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**27.92**	**120**	T	T	23 04 32.3	
	baz=312,slow=75,SNR=21						
SONM	**Songino Array**	**28.87**	**307**	P	**P**	**22 35 23.3**	**+0.7**
	0.3nm,0.4s,baz=98,slow=10,SNR=3.2						
SONM	**Songino Array**	**28.87**	**307**	P	**P**	**22 35 23.1**	**+0.4**
ATKA	**Atka Island**	**35.82**	**47**	P	**P**	**22 36 20.9**	**-2.3**
LUWI	**Luwuk**	**39.89**	**210**	P	**P**	**22 36 57.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.96**	**257**	P	**P**	**22 37 06.9**	**0.0**
	0.4nm,0.3s,baz=53,slow=8.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**43.21**	**314**	P	**P**	**22 37 25.1**	**+0.3**
	1.2nm,0.6s,baz=84,slow=7.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**43.21**	**314**	P	**P**	**22 37 24.1**	**-0.7**
MK31	**Makanchi Array**	**45.13**	**304**	P	**P**	**22 37 40.7**	**+0.4**
MKAR	**Makanchi Array**	**45.13**	**304**	P	**P**	**22 37 40.5**	**+0.2**
	0.7nm,0.6s,baz=88,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**45.13**	**304**	P	**P**	**22 37 40.7**	**+0.4**
KURK	**Kurchatov**	**47.11**	**310**	P	**P**	**22 37 56.2**	**+0.4**
KURK				IAmb	IAmb	22 37 59.3	
	comp=Z,6.2nm,0.8s						
IMAR	**Indian Mountai**	**48.40**	**30**	P	**P**	**22 38 06.8**	**+1.2**
MTN	**Manton Dam**	**48.61**	**193**	P	**P**	**22 38 08.7**	**+1.1**
MTN				IAmb	IAmb	22 38 19.1	
	comp=Z,14nm,1.2s						
TARG	**Taragay, Kyrgy**	**49.23**	**298**	P	**P**	**22 38 12.2**	**-0.7**
TARG				IAmb	IAmb	22 38 18.9	
	comp=Z,2.6nm,0.7s						
IL31		**51.21**	**31**	P	**P**	**22 38 27.6**	**+0.7**
IL31				IAmb	IAmb	22 38 28.9	
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**51.21**	**31**	P	**P**	**22 38 28.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=266,slow=5.8,SNR=13						
ILAR	**Eielson Array**	**51.21**	**31**	P	**P**	**22 38 27.6**	**+0.7**
AAK	**Ala-Archa**	**51.38**	**300**	P	**P**	**22 38 29.2**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=136,slow=8.9,SNR=2.2						
EGAK	**Eagle**	**53.66**	**31**	P	**P**	**22 38 45.8**	**+0.7**
EGAK				IAmb	IAmb	22 38 58.5	
	comp=Z,4.8nm,1.4s						
KK31	**Karatay Array**	**54.07**	**301**	P	**P**	**22 38 49.0**	**+0.5**
KK31				IAmb	IAmb	22 38 50.6	
	comp=Z,2.8nm,1.1s						
KKAR	**Karatay Array**	**54.07**	**301**	P	**P**	**22 38 48.6**	**+0.1**
WB0	**Warramunga Arr**	**54.92**	**188**	P	**P**	**22 38 54.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**54.92**	**198**	P	**P**	**22 38 55.9**	**+1.2**
FITZ				IAmb	IAmb	22 39 01.4	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**55.09**	**188**	P	**P**	**22 38 55.7**	**-0.3**
WB2				IAmb	IAmb	22 38 57.9	
	comp=Z,8.4nm,0.9s						
WRA	**Warramunga Arr**	**55.10**	**188**	P	**P**	**22 38 56.0**	**0.0**
	comp=Z,6.7nm,0.7s,baz=6.3,slow=7.5,SNR=43						
WRA				PcP	**PcP**	**22 39 59.1**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=357,slow=5.2,SNR=1.1						
WRA	**Warramunga Arr**	**55.10**	**188**	P	**P**	**22 38 55.7**	**-0.3**
CHGR	**Chuyangaron**	**56.46**	**297**	P	**P**	**22 39 05.9**	**0.0**
CHGR				IAmb	IAmb	22 39 09.2	
	comp=Z,5.5nm,1.0s						
AS31	**Alice Springs**	**58.82**	**188**	P	**P**	**22 39 22.6**	**+0.2**
ASAR	**Alice Springs**	**58.82**	**188**	P	**P**	**22 39 22.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=3.1,slow=5.1,SNR=9.2						
ASAR	**Alice Springs**	**58.82**	**188**	P	**P**	**22 39 22.4**	**0.0**
ABKAR	**Akbulak array**	**59.16**	**311**	P	**P**	**22 39 24.9**	**+0.3**
ABKAR	**Akbulak array**	**59.16**	**311**	P	**P**	**22 39 24.5**	**0.0**
FINES	**FINESS Array B**	**70.53**	**333**	P	**P**	**22 40 38.2**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=54,slow=5.9,SNR=2.3						
NOA	**NORSAR Array B**	**75.98**	**337**	LR	LR	23 21 29.5	
	comp=Z,21nm,18.6s,baz=290,slow=41						
NVAR	**Mina Array Bea**	**76.24**	**53**	P	**P**	**22 41 15.4**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=299,slow=6.1,SNR=2.1						
NVAR	**Mina Array Bea**	**76.24**	**53**	P	**P**	**22 41 12.4**	**-0.3**
PDAR	**Pinedale Array**	**79.11**	**45**	P	**P**	**22 41 30.6**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=265,slow=2.4,SNR=5.4						
PDAR	**Pinedale Array**	**79.11**	**45**	P	**P**	**22 41 30.3**	**+1.6**

REY ***24*** *22:35:33.3, 64°.67N×17°.46W, h6km*
MOS ***24*** *22:35:33.5±0.9, 64°.65N×17°.67W, h10km, mb4.9/20, MS4.2/13, Error ellipse: s-maj=9.6km s-min=6.2km az=116.1*
IDC ***24*** *22:35:33.5±0.5, 64°.64N×17°.57W, h0km, mb4.0/22, mb1 4.2/26, mb1mx4.1/51, mbtmp4.0/26, ML2.6/3, MS3.7/33, Ms1 3.7/33, ms1mx3.6/40, Error ellipse: s-maj=17.4km s-min=8.3km az=11.0*
NEIC ***24*** *22:35:35.2±1.3, 64°.63N±0°.08×17°.6W±0°.1, h10km±4km, mb4.9/105, Error ellipse: s-maj=10.9km s-min=7.6km az=177.0*
GCMT ***24*** *22:35:38.2±0.3, 64°.54N±0°.03×16°.68W±0°.07, h19km±1km, MW4.8/103, Moment Tensor Solution. s19,c20; s103,c129; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-2.18±.14; $M_{\theta\theta}$1.51±.10; $M_{\phi\phi}$0.67±.08; $M_{r\theta}$-0.10±.17; $M_{\theta\phi}$-0.42±.06; $M_{\phi r}$-1.52±.18; Best double couple: $M_0$2.32100×10^16 NP1:ϕ_s101.00000°, δ38.00000°, λ-125.00000°. NP2:ϕ_s323.00000°, δ60.00000°, λ-66.00000°. Principal axes: T 1.7890, Plg11.0000°, Azm36.0000°; N 1.0670, Plg21.0000°, Azm130.0000°; P -2.8540, Plg66.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DNK ***24*** *22:35:42.8±7.4, 64°.70N×17°.64W, h59km±202km, ML2.7, Hypocentre not reviewed by the ISC*
BGR ***24*** *22:35:47.1±0.0, 64°.56N×15°.03W, h10km, mb4.7, Ms3.5*
ISC 24 22:35:35.2±0.3, 64°.68N±0°.02×17°.47W±0°.03, h10km, n418, σ1§60/421, mb4.8/138, MS3.7/39, 18C-23D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.12**	**22**	P	**Pg**	**22 35 36.0**	**-2.2**
	baz=19						
IDYN				S	**Sg**	**22 35 38.7**	**-1.6**
	baz=19						
IURH	**Urdarhals**	**0.20**	**45**	P	**Pg**	**22 35 37.3**	**-2.1**
	baz=42						
IGRF	**Grimsfjall**	**0.29**	**162**	P	**Pg**	**22 35 38.5**	**-2.6**
	baz=162						
IGRF				S	**Sg**	**22 35 42.2**	**-2.8**
	baz=162						
IKVE	**Kverkfjoll**	**0.34**	**90**	P	**Pg**	**22 35 40.1**	**-2.0**
	baz=88						
IBJK	**Bruarjokull**	**0.38**	**124**	P	**Pg**	**22 35 40.2**	**-2.5**
	baz=123						
IHUS	**Husbondi**	**0.40**	**192**	P	**Pg**	**22 35 40.6**	**-2.4**
	baz=193						
IKRE	**Kreppuhraun**	**0.48**	**77**	P	**Pg**	**22 35 41.9**	**-2.7**
	baz=76						
IKRE				S	**Sg**	**22 35 49.0**	**-1.9**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**222**	P	**Pg**	**22 35 42.0**	**-2.8**
	baz=223						
IMKO	**Mokollar**	**0.57**	**58**	P	**Pg**	**22 35 43.4**	**-2.9**
	baz=57						
IMKO				S	**Sg**	**22 35 51.8**	**-1.9**
	baz=57						
ISVA	**Svartarkot**	**0.66**	**8**	P	**Pg**	**22 35 45.1**	**-3.0**
	baz=7.4						
IKSK	**Karasker**	**0.68**	**140**	P	**Pg**	**22 35 44.5**	**-3.8**
	baz=140						
IKSK				S	**Sg**	**22 35 54.4**	**-2.8**
	baz=140						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**22 35 47.6**	**-3.1**
	baz=233						
IKVO	**Krokottuvotn**	**1.07**	**13**	P	**Pg**	**22 35 51.8**	**-4.0**
	baz=13						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**22 35 52.5**	**-4.1**
	baz=30						
IGHA	**Grjothals**	**1.22**	**16**	P	**Pn**	**22 35 53.9**	**-4.3**
	baz=16						
IGYG	**Gygjarholskot**	**1.25**	**253**	P	**Pn**	**22 35 54.8**	**-4.0**
	baz=253						
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pn**	**22 35 55.6**	**-3.9**
	baz=9.5						
IGIL	**Gilhagi**	**1.48**	**18**	P	**Pn**	**22 35 58.1**	**-3.8**
	baz=18						
BORG	**Borgarnes**	**1.66**	**274**	Pg	**Pn**	**22 36 00.9**	**-3.3**
	40nm,0.3s,baz=98,slow=11,SNR=48						
BORG				Lg	Lg	22 36 25.7	
	33nm,0.3s,baz=53,slow=20,SNR=10						
BORG	**Borgarnes**	**1.66**	**274**	P	**Pn**	**22 36 01.0**	**-3.3**
BORG						22 36 24.4	
BORG	**Borgarnes**	**1.66**	**274**		**Pn**	**22 36 01.0**	**-3.3**
BORG				Sn	**Sb**	**22 36 24.4**	**-2.3**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**22 37 05.2**	**+0.3**
SCO				*i* S	**Sn**	**22 38 18.1**	**+3.8**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**22 37 05.2**	**+0.3**
SCO				*i* S	**Sn**	**22 38 18.1**	**+3.8**
SCO	**Scoresbysund**	**6.07**	**346**		**Pn**	**22 37 04.8**	**-0.1**
JMIC	**Jan Mayen**	**7.17**	**24**	LR	LR	22 39 42.4	
	comp=Z,522nm,20.8s,baz=288,slow=34						
SUMG	**Summit**	**10.94**	**325**	*i* P	Pn	22 38 20.0	+8.1
SUMG	**Summit**	**10.94**	**325**	P	**Pn**	**22 38 11.5**	**-0.3**
SUMG	**Summit**	**10.94**	**325**	Pn	**Pn**	**22 38 11.5**	**-0.3**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**22 38 21.7**	**-1.1**
	baz=323,slow=13,SNR=27						
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**	**22 38 22.8**	**-0.1**
ESK	**Eskdalemuir**	**11.76**	**136**		**Pn**	**22 38 22.8**	**-0.1**
NBO00	**NORSAR Array S**	**13.34**	**93**	Pn	**Pn**	**22 38 42.2**	**-2.2**
NOA	**NORSAR Array B**	**13.52**	**92**	Pn	**Pn**	**22 38 44.5**	**-2.4**
	0.0nm,0.3s,baz=300,slow=13,SNR=4.1						
NOA				LR	LR	22 43 59.1	
	comp

comp=Z,91nm,1.7s,baz=327,slow=11
FBE Freiberg 21.14 116 *e*P **P 22 40 20.9 +0.9**
comp=Z,79nm,1.6s,baz=327,slow=11
ECH Echery 21.15 129 P **P 22 40 19.8 -0.4**
ECH pmax pmax
comp=Z,15nm,1.1s
ECH Echery 21.15 129 P **P 22 40 19.8 -0.4**
GUNZ Gunzen 21.20 118 *e*P **P 22 40 21.5 +0.9**
comp=Z,65nm,1.5s,baz=327,slow=11
TANN Tannenbergstha 21.20 118 *e*P **P 22 40 21.6 +0.8**
comp=Z,207nm,1.8s,baz=327,slow=11
WERN Wernitzgruen 21.28 118 *e*P **P 22 40 22.4 +0.9**
comp=Z,88nm,1.4s,baz=327,slow=11
GRA1 Grafenberg Arr 21.33 121 P **P 22 40 21.8 -0.2**
GRA1 IAmb IAmb 22 40 37.7
comp=Z,101nm,1.7s
GRF Grafenberg Arr 21.33 121 P **P 22 40 21.8 -0.2**
GRF pmax pmax
comp=Z,101nm,1.7s
GRF Grafenberg Arr 21.33 121 *e*P **P 22 40 23.4 +1.3**
comp=Z,261nm,2.4s,baz=327,slow=11
GRF *e*L L 22 48 52.7
comp=Z,221nm,21.0s
NKC Novy Kostel 21.35 118 *e*P **P 22 40 24.0 +1.8**
NKC *e*S Sn 22 44 28.6 +2.2
NKC AMS AMS 22 51 20.0
comp=Z,500nm,8.7s
NKC Novy Kostel 21.35 118 *e*P **P 22 40 24.0 +1.8**
NKC *e*S Sn 22 44 28.6 +2.2
NKC MLR MLR
comp=Z,500nm,8.7s
STU Stuttgart 21.37 125 P **P 22 40 23.0 +0.5**
STU pmax pmax
comp=Z,92nm,1.5s
STU Stuttgart 21.37 125 *e*P **P 22 40 24.3 +1.9**
comp=Z,96nm,1.6s,baz=327,slow=11
STU Stuttgart 21.37 125 P **P 22 40 23.0 +0.5**
STU IAmb IAmb 22 40 28.8
comp=Z,92nm,1.5s
BRG Berggiesshubel 21.41 115 *i*P **P 22 40 23.3 +0.4**
comp=Z,51nm,1.3s
BRG S Sn 22 44 28.0 +0.2
comp=N,444nm,10.9s
comp=E,675nm,10.9s
comp=Z,508nm,12.2s
BRG Berggiesshubel 21.41 115 *i*P **P 22 40 23.3 +0.4**
BRG S Sn 22 44 28.0 +0.2
BRG pmax pmax
comp=Z,51nm,1.3s
BRG MLR MLR
comp=N,444nm,10.9s
BRG MLR MLR
comp=E,675nm,10.9s
BRG MLR MLR
comp=Z,508nm,12.2s
BRG Berggiesshubel 21.41 115 *e*P **P 22 40 23.6 +0.8**
comp=Z,186nm,2.2s,baz=327,slow=11
MANZ Manzenberg 21.42 119 *e*P **P 22 40 23.7 +0.7**
comp=Z,40nm,1.5s,baz=327,slow=11
BFO Black Forest 21.45 127 P **P 22 40 23.4 0.0**
BFO pmax pmax
comp=Z,57nm,1.4s
BFO Black Forest 21.45 127 *e*P **P 22 40 24.8 +1.5**
comp=Z,83nm,1.7s,baz=327,slow=11
BFO Black Forest 21.45 127 P **P 22 40 23.4 0.0**
BFO IAmb IAmb 22 40 30.3
comp=Z,57nm,1.4s
VSU Vasula 21.55 86 *e*P **P 22 40 24.2 -0.1**
VSU Vasula 21.55 86 *i*P **P 22 40 25.5 +1.2**
VSU pmax pmax
comp=Z,68nm,0.9s
ROTZ Rotzenmuhle 21.64 119 *e*P **P 22 40 26.4 +1.1**
comp=Z,53nm,1.7s,baz=327,slow=11
FRB Frobisher Bay 21.75 291 LR LR 22 48 22.4
comp=Z,378nm,19.9s,baz=46,slow=35
PVCC Panska Ves 21.93 115 *e*P **P 22 40 32.4 +4.0**
PVCC *e*S Sn 22 44 37.9 -2.3
PVCC AMS AMS 22 53 00.0
comp=Z,500nm,9.3s
PVCC Panska Ves 21.93 115 *e*P **P 22 40 32.4 +4.0**
PVCC MLR MLR
comp=Z,500nm,9.3s
PABE Paberze 22.20 95 *e*P **P 22 40 32.6 +1.4**
PRA Prague 22.24 116 *e*P **P 22 40 34.4 +2.7**
PRA *e*S **S 22 44 33.8 -2.4**
PRA AMS AMS 22 52 20.0
comp=Z,300nm,9.2s
PRA Prague 22.24 116 *e*P **P 22 40 34.4 +2.7**
PRA *e*S **S 22 44 33.8 -2.4**
PRA MLR MLR
comp=Z,300nm,9.2s
PRU Pruhonice 22.34 116 *e*P **P 22 40 33.8 +0.9**
PRU *e*S Sn 22 44 44.2 -6.1
PRU AMS AMS 22 52 30.0
comp=Z,500nm,10.8s
PRU Pruhonice 22.34 116 *e*P **P 22 40 33.8 +0.9**
PRU *e*S Sn 22 44 44.2 -6.1
PRU MLR MLR
comp=Z,500nm,10.8s
KSP Ksiaz 22.36 112 *e*P **P 22 40 33.6 +0.6**
PBCC Pribram 22.38 117 *e*P P 22 40 39.1 +5.8
CHVC Chvalec 22.46 113 *e*P **P 22 40 33.5 -0.7**
CHVC AMS AMS 22 54 20.0
comp=Z,600nm,7.1s
GOPC GO Pecny, Ondr 22.50 116 *e*P **P 22 40 35.1 +0.5**
GOPC *e*S **S 22 44 44.0 +2.8**
GOPC AMS AMS 22 53 40.0
comp=Z,600nm,10.2s
GOPC GO Pecny, Ondr 22.50 116 *e*P **P 22 40 35.1 +0.5**
GOPC *e*S **S 22 44 44.0 +2.8**
GOPC MLR MLR
comp=Z,600nm,10.2s
UPC Upice 22.51 113 *e*P **P 22 40 35.9 +1.2**
UPC *e*S **S 22 44 41.8 +0.5**
UPC AMS AMS 22 53 50.0
comp=Z,500nm,9.8s
UPC Upice 22.51 113 *e*P **P 22 40 35.9 +1.2**
UPC *e*S **S 22 44 41.8 +0.5**
UPC MLR MLR
comp=Z,500nm,9.8s
OSTC Ostas 22.55 113 *e*P **P 22 40 36.5 +1.4**
OSTC *e*S Sn 22 44 48.7 -6.6
OSTC AMS AMS 22 54 30.0
comp=Z,500nm,6.6s
UBR Ueberruh 22.62 126 *e*P **P 22 40 37.4 +1.4**
comp=Z,58nm,1.4s,baz=327,slow=11
KHC Kasperske Hory 22.67 118 *e*P **P 22 40 36.8 +0.4**
KHC *e*S **S 22 44 45.6 +1.3**
KHC AMS AMS 22 52 30.0
comp=Z,800nm,9.3s
KHC Kasperske Hory 22.67 118 *e*P **P 22 40 36.8 +0.4**
KHC *e*S **S 22 44 45.6 +1.3**
KHC MLR MLR
comp=Z,800nm,9.3s
KHC Kasperske Hory 22.67 118 P **P 22 40 36.9 +0.5**
DPC Dobruska-Polom 22.75 113 *e*P **P 22 40 38.4 +1.1**
DPC *e*S **S 22 44 45.6 -0.3**
DPC AMS AMS 22 54 00.0
comp=Z,500nm,7.2s
DPC Dobruska-Polom 22.75 113 *e*P **P 22 40 38.4 +1.1**
DPC *e*S **S 22 44 45.6 -0.3**
DPC MLR MLR
comp=Z,500nm,7.2s
SENIN Lac Senin/Sane 22.83 132 P **P 22 40 38.8 +0.6**
SUW Suwalki 22.87 98 *e*P **P 22 40 37.4 -1.1**
SUW Suwalki 22.87 98 P **P 22 40 37.9 -0.6**
SUW pmax pmax
comp=Z,43nm,1.2s
SUW Suwalki 22.87 98 P **P 22 40 37.9 -0.6**
SUW IAmb IAmb 22 40 42.5
comp=Z,43nm,1.2s
DAVA Damuels 22.88 126 *i*pP **P 22 40 41.8 +3.0**
comp=Z,27nm,1.7s
GEC2 GERESS Array S 22.95 119 *e*P **P 22 40 39.8 +0.3**
comp=Z,57nm,1.5s,baz=327,slow=11
GEC2 GERESS Array S 22.95 119 P **P 22 40 39.1 -0.4**
GEC2 IAmb IAmb 22 40 49.2
comp=Z,42nm,1.4s
GERES GERESS Array B 22.95 119 P **P 22 40 39.5 +0.1**
comp=Z,5.4nm,1.1s,baz=336,slow=8.8,SNR=16
GERES LR LR 22 49 57.6
comp=Z,245nm,19.8s,baz=324,slow=38
GERES GERESS Array B 22.95 119 P **P 22 40 39.1 -0.4**
GERES GERESS Array B 22.95 119 P **P 22 40 39.0 -0.4**
SSB Saint Sauveur 22.95 137 P **P 22 40 38.8 -0.6**
SSB pmax pmax
comp=Z,54nm,1.8s
SSB Saint Sauveur 22.95 137 P **P 22 40 38.8 -0.6**
SSB IAmb IAmb 22 40 47.1
comp=Z,54nm,1.8s
IZAR Zarasai 23.02 92 *e*P **P 22 40 40.6 +0.7**
RETA Reutte 23.02 125 *es*P **P 22 40 44.1 +4.0**
comp=Z,35nm,1.4s
ISAL Salakas 23.08 93 *e*P **P 22 40 41.4 +0.8**
KRLC Kraliky 23.15 113 *e*P **P 22 40 41.6 +0.1**
KRLC *e*S **S 22 44 57.2 +4.4**
KRLC AMS AMS 22 52 50.0
comp=Z,400nm,15.1s
KRLC Kraliky 23.15 113 *e*P **P 22 40 41.6 +0.1**
KRLC *e*S **S 22 44 57.2 +4.4**
KRLC MLR MLR
comp=Z,400nm,15.1s
MOTA Moosalm 23.26 125 *i*pP **P 22 40 45.0 +2.3**
comp=Z,25nm,1.5s,SNR=10
IIGN Ignalina 23.27 93 *e*P **P 22 40 43.0 +0.5**
TREC Trest 23.27 116 *e*P **P 22 40 42.8 +0.2**
TREC AMS AMS 22 52 50.0
comp=Z,600nm,8.6s
TREC Trest 23.27 116 *e*P **P 22 40 42.8 +0.2**
TREC MLR MLR
comp=Z,600nm,8.6s
DAVOX Davos/Dischmat 23.32 127 P **P 22 40 43.8 +0.5**
comp=Z,3.5nm,0.9s,baz=346,slow=12,SNR=6.6
DAVOX LR LR 22 49 47.6
comp=Z,146nm,21.6s,baz=329,slow=37
TMCR Tamitsa 23.33 66 *e*P **P 22 40 43.1 +0.1**
TMCR pmax pmax
comp=Z,32nm,1.0s
PGAV Gavieira, Arco 23.36 162 *e*S Sn 22 45 04.6 -10
SQTA Sankt Quirin 23.40 125 *i*P **P 22 40 45.0 +0.9**
comp=Z,24nm,1.5s,SNR=8.5
FETA Feichten 23.41 126 *e*pP **P 22 40 46.5 +2.4**
comp=Z,30nm,1.6s
TUE Stuetta 23.41 128 P **P 22 40 44.8 +0.6**
TUE IAmb IAmb 22 40 58.7
comp=Z,56nm,1.7s
BEL Belsk 23.43 105 *e*P **P 22 40 46.3 +2.1**
WATA Walderalm 23.43 124 *i*pP **P 22 40 46.1 +1.7**
comp=Z,24nm,1.6s,SNR=7.6
IDID Didziasalis 23.51 92 *e*P **P 22 40 45.7 +0.8**
FUORN Ofenpass-Fuorn 23.59 127 P **P 22 40 46.1 0.0**
PCAB Cabril 23.64 162 *e*P **P 22 40 49.3 +2.9**
EUNU Eureka 23.66 336 P **P 22 40 46.4 +0.1**
VRAC Vranov 23.69 114 P **P 22 40 47.3 +0.6**
comp=Z,3.0nm,0.8s,baz=313,slow=10.0,SNR=9.9
VRAC LR LR 22 50 04.8
comp=Z,164nm,21.5s,baz=331,slow=37
VRAC Vranov 23.69 114 ⇓P **P 22 40 48.2 +1.4**
VRAC Vranov 23.69 114 *e*P **P 22 40 47.1 +0.3**
VRAC *e* 22 40 56.9
MORC Moravsky Berou 23.69 112 ⇓P **P 22 40 48.6 +1.8**
MORC Moravsky Berou 23.69 112 *e*P **P 22 40 47.0 +0.2**
MORC *e* 22 40 57.6
MORC Moravsky Berou 23.69 112 P **P 22 40 46.4 -0.4**
MORC pmax pmax
comp=Z,53nm,1.7s
MORC Moravsky Berou 23.69 112 P **P 22 40 46.4 -0.4**
MORC IAmb IAmb 22 40 52.6
comp=Z,53nm,1.7s
PBRG Braganca 23.73 160 *e*P **P 22 40 51.1 +3.8**
comp=Z,39nm,1.8s
BNI Bardonecchia 23.80 134 P **P 22 40 48.1 +0.1**
BNI pmax pmax
comp=Z,23nm,1.4s
BNI Bardonecchia 23.80 134 P **P 22 40 48.1 +0.1**
NACGM Naroch 23.81 93 *e* **P 22 40 47.0 -0.8**
KRUC Moravsky 23.81 115 *e*P **P 22 40 48.1 +0.2**
KRUC *e* 22 40 58.1
OKC Ostrava-Krasne 23.89 111 *e*P **P 22 40 49.4 +0.8**
OKC Ostrava-Krasne 23.89 111 *e*P **P 22 40 49.4 +0.8**
MOA Molln 23.99 119 *i*pP **P 22 40 51.2 +1.6**
comp=Z,17nm,1.9s
PVRL Vila Real 24.11 162 *e*P **P 22 40 53.5 +2.6**
comp=Z,42nm,2.0s
OJC Ojcow 24.25 109 *e*P **P 22 40 51.2 -0.8**
OJC Ojcow 24.25 109 P **P 22 40 51.1 -1.0**
OJC pmax pmax
comp=Z,19nm,1.3s
OJC Ojcow 24.25 109 P **P 22 40 51.1 -1.0**
ABTA Abfaltersbach 24.27 123 *i*pP **P 22 40 54.9 +2.6**
comp=Z,16nm,1.7s
KBA Koelnbreinsper 24.29 122 *i*pP **P 22 40 54.3 +1.7**
comp=Z,13nm,1.4s
MVO Moncorvo 24.32 161 *e*S **S 22 45 15.8 +4.2**
JAVC Velka Javorina 24.47 113 *e*P **P 22 40 55.5 +1.4**
CONA Conrad Observa 24.53 117 *e*P **P 22 40 55.5 +0.8**
comp=Z,7.0nm,0.9s
MICGM Minsk 24.55 93⇓*e*P **P 22 40 56.0 +1.3**
MICGM *e*S **S 22 45 18.0 +3.0**
MNK Minsk 24.55 93⇓*e*P **P 22 40 56.0 +1.3**
MNK *e*S **S 22 45 18.0 +3.0**
CTI Castel Tesino 24.57 125 P **P 22 40 55.0 0.0**
CTI pmax pmax
comp=Z,48nm,1.5s
CTI Castel Tesino 24.57 125 P **P 22 40 55.0 0.0**
CTI IAmb IAmb 22 41 08.2
comp=Z,48nm,1.5s
CIMO Cimolais 24.62 124 P **P 22 40 54.8 -0.7**
PVIS Viseu 24.64 162 *e*P **P 22 40 59.1 +3.4**
comp=Z,36nm,2.9s
SMOL Smolenice 24.66 114 *e*P **P 22 40 56.2 +0.5**
SMOL pmax pmax
comp=Z,13nm,1.2s
SMOL Smolenice 24.66 114 *e*P **P 22 40 56.2 +0.5**
MODS Modra-Piesok 24.71 115 *e*P **P 22 40 57.9 +1.7**
MODS pmax pmax
comp=Z,33nm,1.5s
MODS Modra-Piesok 24.71 115 *e*P **P 22 40 57.9 +1.7**
STAL STALIGIAL 24.76 124 P **P 22 40 56.1 -0.6**
STAL IAmb IAmb 22 41 09.1
comp=Z,31nm,1.4s
MYKA Terra Mystica 24.78 122 *i*sP **P 22 41 01.9 +5.0**
comp=Z,19nm,1.4s
LANS Liptovska Anna 24.96 111 *e*P **P 22 41 01.1 +2.6**
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 24.96 111 *e*P **P 22 41 01.1 +2.6**
ARSA Arzberg 24.96 118 *e*P **P 22 40 58.7 +0.2**
comp=Z,6.3nm,1.0s
NIE Niedzica 25.08 109 *e*P **P 22 41 00.4 +0.8**
OBKA Obir 25.22 121 *i*P **P 22 41 02.2 +1.3**
comp=Z,12nm,1.4s
VYHS Vyhne 25.23 112 *e*P **P 22 41 01.1 +0.2**
VYHS pmax pmax
comp=Z,24nm,1.3s
VYHS Vyhne 25.23 112 *e*P **P 22 41 01.1 +0.2**
SOKA Soboth 25.25 120 *i*P **P 22 41 02.1 +0.9**
comp=Z,13nm,1.4s,SNR=8.4
PCBR Castelo Branco 25.56 162 *e*P **P 22 41 03.5 -0.4**
comp=Z,38nm,1.8s
KLMR Klimovskoe 25.59 72 *e*P **P 22 41 03.3 -0.7**
comp=Z,53nm,1.5s
KLMR *i*PcP **PcP 22 44 34.7 +0.3**
KLMR *e*S **S 22 45 31.8 +0.4**
KLMR LQ LQ 22 47 57.0
KLMR LR LR 22 49 18.2
KLMR Klimovskoe 25.59 72 *e*P **P 22 41 03.3 -0.7**
KLMR *e* 22 44 34.8
KLMR pmax pmax
comp=Z,53nm,1.5s
KLMR Klimovskoe 25.59 72 *e*P **P 22 41 03.3 -0.7**
KLMR AMP 22 41 21.0
comp=Z,53nm,1.5s
KLMR *e*PcP **PcP 22 44 34.8 +0.3**
KLMR LQ LQ 22 47 57.7
KLMR LQ LQ 22 47 57.7
KLMR LR LR 22 49 18.3
SRO2 Moca 25.64 114 *e*P **P 22 41 05.2 +0.6**
SRO2 pmax pmax
comp=Z,15nm,1.1s
SRO2 Moca 25.64 114 *e*P **P 22 41 05.2 +0.6**
ZCCA Zocca 25.82 128 P **P 22 41 07.0 +0.6**
ZCCA IAmb IAmb 22 41 23.4
comp=Z,23nm,1.0s
KWP Kalwaria Pacla 25.90 106 *e*P **P 22 41 08.6 +1.6**
KWP Kalwaria Pacla 25.90 106 P **P 22 41 07.4 +0.4**
KWP pmax pmax
comp=Z,109nm,1.3s
KWP Kalwaria Pacla 25.90 106 P **P 22 41 07.4 +0.4**
LSH Leshukonskoye 25.95 61 *e*P **P 22 41 05.8 -1.5**
comp=Z,70nm,1.8s
CRVS Cervenica-Dubn 25.96 109 *e*P **P 22 41 08.2 +0.7**
CRVS pmax pmax
comp=Z,48nm,1.5s
CRVS Cervenica-Dubn 25.96 109 *e*P **P 22 41 08.2 +0.7**
PMRV Marv??o 25.97 162 *e*S **S 22 45 43.9 +5.9**
SCHQ Schefferville 26.05 271 P **P 22 41 08.5 +0.2**
comp=Z,8.0nm,0.8s,baz=27,slow=8.2,SNR=4.4
SCHQ LR LR 22 50 17.4
comp=Z,200nm,19.5s,baz=347,slow=34
PSZ Piszkesteto 26.11 112 ⇓P **P 22 41 10.8 +1.8**
PSZ Piszkesteto 26.11 112 P **P 22 41 08.9 -0.1**
PSZ pmax pmax
comp=Z,78nm,1.5s
PSZ Piszkesteto 26.11 112 P **P 22 41 08.9 -0.1**
ESDC Sonseca Array 26.26 156 P **P 22 41 10.0 -0.4**
comp=Z,2.3nm,0.9s,baz=347,slow=9.2,SNR=13
ESDC LR LR 22 50 28.4
comp=Z,67nm,21.1s,baz=330,slow=34
ESDC Sonseca Array 26.26 156 P **P 22 41 10.6 +0.2**
KOLS Kolonicke sedl 26.27 108 *e*P **P 22 41 10.9 +0.6**
KOLS pmax pmax
comp=Z,35nm,1.4s
KOLS Kolonicke sedl 26.27 108 *e*P **P 22 41 10.9 +0.6**
LVV L'vov 26.31 104 *e*P **P 22 41 11.3 +0.7**
LVV *e*S **S 22 45 40.3 -2.8**
LVV pmax pmax
comp=Z,170nm,1.4s
LVV MLR MLR
comp=N,400nm,12.0s
LVV MLR MLR
comp=E,300nm,12.0s
LVV MLR MLR
comp=Z,200nm,13.0s
RES Resolute Bay 26.46 324 LR LR 22 50 39.1
comp=Z,148nm,19.4s,baz=239,slow=34
UZH Uzhgorod 26.51 108 *e*P **P 22 41 12.9 +0.4**
UZH *e* 22 41 19.1
UZH *e* 22 41 52.7
UZH *e* 22 44 44.7
UZH *e*S **S 22 45 41.9 -4.4**
UZH *e*SSS SSS 22 46 53.9
UZH MLR MLR
comp=N,100nm,15.0s
UZH MLR MLR
comp=E,80nm,15.0s
UZH MLR MLR
comp=Z,50nm,15.0s
OSSC Osservatorio P 26.64 129 P **P 22 41 14.0 +0.2**
OSSC IAmb IAmb 22 41 25.6
comp=Z,29nm,1.2s
MURB Monte Urbino 27.30 127 P **P 22 41 19.6 -0.1**
AKASG Malin Array Be 27.83 98 P **P 22 41 23.8 -0.5**
comp=Z,0.5nm,0.3s,baz=325,slow=9.6,SNR=9.0
AKASG LR LR 22 52 33.7
comp=Z,76nm,20.9s,baz=290,slow=37
AKASG Malin Array Be 27.83 98 *ce*P **P 22 41 26.2 +1.9**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 27.83 98 P **P 22 41 23.5 -0.8**
AKBB Malin Array Si 27.83 98 P **P 22 41 24.1 -0.2**
AKBB pmax pmax
comp=Z,20nm,1.6s
AKBB Malin Array Si 27.83 98 P **P 22 41 24.1 -0.2**
OBN Obninsk 27.87 84 LR LR 22 52 57.2
comp=Z,32nm,18.2s,baz=344,slow=37
OBN Obninsk 27.87 84 ⇓P **P 22 41 24.8 +0.2**
OBN Obninsk 27.87 84⇓*i*P **P 22 41 25.4 +0.8**
OBN *e* 22 41 30.2
OBN SSS SSS 22 47 37.0
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,111nm,15.0s
OBN Obninsk 27.87 84 P **P 22 41 24.4 -0.1**
OBN IAmb IAmb 22 41 27.7
comp=Z,31nm,1.1s
MOS Moscow 27.91 82 *e*P **P 22 41 27.2 +2.3**
MOS *e* 22 46 09.7
PVAQ Vaqueiros 27.93 163 *e*S **S 22 46 14.5 +5.8**
SIRR Siria 28.16 112 ⇓P **P 22 41 28.5 +1.2**
BUR08 Bucovina Ar. S 28.49 106 P **P 22 41 30.4 +0.1**
BURAR Bucovina Array 28.52 106 ⇓P **P 22 41 30.9 +0.3**
BURAR Bucovina Array 28.52 106 P **P 22 41 31.4 +0.8**
CJR Cluj-Napoca 28.58 109 ⇓P **P 22 41 32.8 +1.8**
BZS Buzias 28.68 113 ⇓P **P 22 41 33.7 +1.8**
DEV Deva 28.97 111 ⇑P **P 22 41 35.8 +1.3**
PRAR RASCA 29.14 105 ⇓P **P 22 41 37.5 +1.5**
GZR Gura Zlata 29.32 112 ⇓P **P 22 41 39.0 +1.3**
MDVR Moldovita 29.41 114 ⇓P **P 22 41 39.9 +1.4**
SORM Soroca 29.42 102 ⇑P **P 22 41 38.6 +0.2**
BIZ Bicaz 29.42 106 ⇓P **P 22 41 39.1 +0.6**
HERR Herculane 29.60 113 ⇓P **P 22 41 41.8 +1.7**
LOT Lotru 29.68 110 ⇑P **P 22 41 43.1 +2.2**
TESR Tescani 29.99 106 ⇓P **P 22 41 43.6 +0.1**
VOIR 30.20 109 ⇓P **P 22 41 45.4 -0.1**
PLOR Plostina 30.52 107 ⇓P **P 22 41 49.1 +0.8**
MLR Muntele Rosu 30.52 108 ⇑P **P 22 41 50.0 +1.6**
MLR Muntele Rosu 30.52 108 P **P 22 41 48.4 0.0**
MLR pmax pmax
comp=Z,16nm,1.2s
MLR Muntele Rosu 30.52 108 P **P 22 41 48.4 0.0**
MLR IAmb IAmb 22 42 05.7
comp=Z,16nm,1.2s
NEHR Nehoiu 30.72 108 ⇑P **P 22 41 51.6 +1.5**
BISRR Bisoca 30.79 107 ⇑P **P 22 41 52.5 +1.8**
KIRV Kirov 30.96 69⇑*e*P **P 22 41 51.9 -0.1**
VSR Storozhevoye 31.72 88 *e*P **P 22 41 59.2 +0.5**
VSR pmax pmax
comp=Z,20nm,1.3s
FNA Florina 32.67 118 P **P 22 42 07.6 +0.3**
FNA pmax pmax
comp=Z,17nm,1.5s
FNA Florina 32.67 118 P **P 22 42 07.6 +0.3**
FNA IAmb IAmb 22 42 09.5
comp=Z,17nm,1.5s
KEST Kesra 33.16 138 LR LR 22 54 58.9
comp=Z,132nm,19.0s,baz=212,slow=35
LIT Litokhoron 33.69 117 P **P 22 42 16.0 -0.1**
LIT pmax pmax
comp=Z,7.0nm,0.9s
LIT Litokhoron 33.69 117 P **P 22 42 16.0 -0.1**
ALN Alexandroupoli 34.39 112 P **P 22 42 22.3 +0.2**
ALN pmax pmax
comp=Z,13nm,1.2s
ALN Alexandroupoli 34.39 112 P **P 22 42 22.3 +0.2**
ALN IAmb IAmb 22 42 25.8
comp=Z,13nm,1.2s
ARU Arti 36.06 66 *d i*P **P 22 42 36.7 +0.3**
ARU 22 43 55.1
ARU S **S 22 48 17.2 +2.1**
ARU SS **SS 22 50 44.6 -7.2**
ARU pmax pmax
comp=Z,15nm,1.4s
ARU Arti 36.06 66 P **P 22 42 36.9 +0.5**
ARU IAmb IAmb 22 42 41.3
comp=Z,30nm,1.7s
NRIK Noril'sk 36.44 35 P **P 22 42 40.6 +1.2**
comp=Z,4.1nm,0.9s,baz=320,slow=3.5,SNR=7.8
SVE Sverdlovsk 36.59 64 *e*P **P 22 42 41.8 +0.9**
SVE *e*S **S 22 48 27.5 +4.3**
MANT Manisa 37.45 112 P **P 22 42 48.8 +0.2**
GOF Gofitskoye 38.10 91⇑*e*P **P 22 42 55.3 +1.5**
GOF pmax pmax
comp=Z,86nm,1.3s
BR131 Keskin Array S 38.47 105 P **P 22 42 58.0 +0.8**
BR131 pmax pmax
comp=Z,10.0nm,1.3s
BR131 Keskin Array S 38.47 105 P **P 22 42 58.0 +0.8**
BRTR Keskin Array B 38.47 105 P **P 22 42 58.0 +0.8**
comp=Z,2.3nm,0.8s,baz=9.9,slow=9.2,SNR=4.8
BRTR LR LR 23 00 13.9
comp=Z,29nm,18.6s,baz=314,slow=38
BRTR Keskin Array B 38.47 105 P **P 22 42 58.0 +0.8**
BRTR Keskin Array B 38.47 105 P **P 22 42 57.0 -0.2**
SADO Sadowa 38.83 270 LR LR 22 57 36.8
comp=Z,130nm,21.1s,baz=46,slow=34
KIV Kislovodsk 38.83 92 *e*P **P 22 43 01.6 +1.5**
KIV pmax pmax
comp=Z,35nm,1.0s
KIV MLR MLR
comp=Z,312nm,16.0s
KBZ Khabaz 39.10 92 P **P 22 43 02.8 +0.6**

comp=Z,7.8nm,0.9s,baz=320,slow=9.5,SNR=6.1
KBZ LR LR 22 59 21.1
comp=Z,131nm,21.7s,baz=317,slow=36
KBZ Khabaz 39.10 92 *ce*P P 22 43 05.2 +3.0
YKA Yellowknife Ar 39.21 313 P **P 22 43 01.9 -1.0**
comp=Z,0.7nm,0.7s,baz=51,slow=8.8,SNR=2.5
YKA LR LR 22 58 50.4
comp=Z,188nm,18.9s,baz=0.0,slow=36
INK Inuvik 39.84 329 LR LR 23 01 47.5
comp=Z,77nm,19.2s,baz=334,slow=40
AKH Akhalkalaki 41.24 94 ⇓P **P 22 43 20.9 +0.7**
AKH Akhalkalaki 41.24 94 P **P 22 43 21.0 +0.7**
AKH pmax pmax
comp=Z,66nm,1.7s
AKH Akhalkalaki 41.24 94 P **P 22 43 21.0 +0.7**
ULM Lac du Bonnet 41.61 289 LR LR 23 00 04.7
comp=Z,121nm,18.1s,baz=70,slow=35
MAK Makhachkala 41.70 89 *e*P **P 22 43 21.7 -2.0**
MAK *e* 22 44 57.4
MAK *e*PPP PPP 22 45 25.7
MAK *e*S **S 22 49 38.2 -2.0**
MAK *e*SS **SS 22 52 44.0 -1.3**
MAK pmax pmax
comp=Z,158nm,1.5s
ABKAR Akbulak array 41.98 73 P **P 22 43 26.0 +0.1**
ABKAR Akbulak array 41.98 73 P **P 22 43 25.9 -0.1**
TIXI Tiksi 42.01 15 *ce*P **P 22 43 28.1 +2.2**
TIXI Tiksi 42.01 15 P **P 22 43 26.9 +1.0**
BMAR Burnt Mountain 42.89 333 P **P 22 43 33.3 +0.1**
BRVK Borovoye 43.11 62 *ce*P **P 22 43 36.1 +1.0**
BRVK pmax pmax
comp=Z,17nm,1.7s
BRVK Borovoye 43.11 62 P **P 22 43 35.6 +0.5**
G40A Rib Lake 43.16 280 P **P 22 43 36.0 +0.3**
G40A IAmb IAmb 22 43 42.6
comp=Z,34nm,1.5s
N51A Ashland 43.34 269 P **P 22 43 37.4 +0.3**
N51A IAmb IAmb 22 43 44.3
comp=Z,21nm,0.9s
MARD Mardin 43.50 100 P **P 22 43 39.0 +0.4**
MARD IAmb IAmb 22 43 45.8
comp=Z,30nm,1.2s
I42A Draeger Farm, 43.72 277 **P 22 43 41.0 +0.9**
I42A IAmb IAmb 22 43 47.3
comp=Z,34nm,1.7s
FYU Fort Yukon 43.77 333 P **P 22 43 41.5 +1.3**
FYU IAmb IAmb 22 43 49.9
comp=Z,36nm,1.3s
N49A Columbus Grove 44.12 271 P **P 22 43 43.4 +0.1**
ACSO Alum Creek Sta 44.17 269 P **P 22 43 43.0 -0.7**
TAM Tamanrasset 44.52 149 P **P 22 43 47.1 +0.2**
TAM pmax pmax
comp=Z,16nm,1.8s
TAM Tamanrasset 44.52 149 P **P 22 43 47.1 +0.2**
DAWY Dawson 44.69 328 P **P 22 43 48.5 +0.8**
P51A Williamsport 44.82 269 P **P 22 43 49.3 +0.3**
IL31 45.68 332 P **P 22 43 56.4 +0.9**
IL31 IAmb IAmb 22 44 06.1
comp=Z,14nm,1.4s
ILAR Eielson Array 45.68 332 P **P 22 43 55.3 -0.2**
comp=Z,1.1nm,1.0s,baz=29,slow=4.3,SNR=4.3
ILAR PcP **PcP 22 45 33.9 +0.6**
comp=Z,2.0nm,1.0s,baz=4.8,slow=3.7,SNR=5.0
ILAR LR LR 23 05 31.8
comp=Z,61nm,19.1s,baz=2.0,slow=39
ILAR Eielson Array 45.68 332 P **P 22 43 56.3 +0.8**
ILAR Eielson Array 45.68 332 P **P 22 43 56.3 +0.8**
MDM Murphy Dome 45.77 333 P **P 22 43 57.6 +1.3**
MDM IAmb IAmb 22 44 04.7
comp=Z,23nm,1.4s
COLA College 45.78 333 P **P 22 43 56.9 +0.7**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 45.78 333 P **P 22 43 56.9 +0.7**
COLA IAmb IAmb 22 44 03.8
comp=Z,9.3nm,0.8s
IMAR Indian Mountai 45.85 337 P **P 22 43 57.4 +0.6**
CCB Clear Creek Bu 45.97 333 P **P 22 43 59.0 +1.2**
BCAR Beaver Creek A 46.10 329 P **P 22 44 00.1 +1.2**
RIDG Independent Ri 46.17 331 P **P 22 44 01.0 +1.5**
RIDG IAmb IAmb 22 44 11.1
comp=Z,16nm,1.4s
DGMT Dagmar 46.35 293 P **P 22 44 01.7 +0.6**
ZAA0 Zalesovo Array 47.61 51 P **P 22 44 11.6 +0.8**
ZAA0 IAmb IAmb 22 44 14.8
comp=Z,17nm,1.6s
ZALV Zalesovo Beam 47.61 51 P **P 22 44 10.3 -0.5**
comp=Z,0.9nm,0.6s,baz=327,slow=8.3,SNR=6.1
ZALV LR LR 23 05 46.1
comp=Z,61nm,18.0s,baz=320,slow=38
ZALV Zalesovo Beam 47.61 51 *i* P **P 22 44 11.5 +0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 47.61 51 P **P 22 44 10.9 +0.2**
KURK Kurchatov 48.09 58 *ce*P **P 22 44 14.9 +0.4**
KURK pmax pmax
comp=Z,18nm,1.7s
KURK Kurchatov 48.09 58 P **P 22 44 14.8 +0.4**
KURK IAmb IAmb 22 44 18.1
comp=Z,10nm,1.1s
TKL Tuckaleechee C 48.34 266 P **P 22 44 15.1 -1.5**
comp=Z,2.2nm,0.3s,baz=49,slow=11,SNR=1.8
TKL LR LR 23 02 36.9
comp=Z,117nm,21.7s,baz=17,slow=34
EGMT Eagleton 48.88 297 P **P 22 44 21.4 +0.7**
GEYT Alibeck 50.41 84 P **P 22 44 32.3 -0.1**
comp=Z,2.7nm,0.8s,baz=338,slow=11,SNR=5.5
GEYT Alibeck 50.41 84 P **P 22 44 32.6 +0.1**
KOWA Kowa 50.98 163 P **P 22 44 36.9 +0.1**
KOWA IAmb IAmb 22 44 51.6
comp=Z,22nm,1.6s
RLMT Red Lodge 51.09 295 P **P 22 44 38.6 +0.9**
RLMT IAmb IAmb 22 44 46.1
comp=Z,30nm,1.4s
KK31 Karatay Array 51.26 70 P **P 22 44 39.4 +0.6**
KK31 pmax pmax
comp=Z,14nm,1.4s
KK31 Karatay Array 51.26 70 P **P 22 44 39.4 +0.6**
KK31 IAmb IAmb 22 44 42.8
comp=Z,14nm,1.4s
KKAR Karatay Array 51.26 70 P **P 22 44 39.0 +0.3**
KKAR 22 44 39.8
KKAR pmax pmax
comp=Z,14nm,1.4s
KKAR Karatay Array 51.26 70 P **P 22 44 39.8 +1.0**
KKAR IAmb IAmb 22 44 42.8
comp=Z,14nm,1.4s
KKAR Karatay Array 51.26 70 P **P 22 44 39.0 +0.3**
BOZ Bozeman (W) 51.61 297 P **P 22 44 42.4 +0.9**
BOZ pmax pmax
comp=Z,29nm,1.3s
BOZ Bozeman (W) 51.61 297 P **P 22 44 42.4 +0.9**
DGZ Jazzator, Alta 52.06 53 *i* P **P 22 44 46.4 +1.6**
DGZ pmax pmax
comp=Z,15nm,1.6s
TAS Tashkent 52.25 72 P **P 22 44 47.1 +0.9**
TAS pmax pmax
comp=Z,27nm,0.5s
TAS Tashkent 52.25 72 P **P 22 44 47.1 +0.9**
MAKZ Makanchi 52.58 59 P **P 22 44 48.7 +0.1**
MAKZ pmax pmax
comp=Z,19nm,1.5s
MAKZ Makanchi 52.58 59 P **P 22 44 48.6 +0.1**
MAKZ IAmb IAmb 22 44 52.5
comp=Z,20nm,1.5s
MK31 Makanchi Array 52.71 58 P **P 22 44 49.3 -0.2**
MK31 pmax pmax
comp=Z,19nm,1.7s
MK31 Makanchi Array 52.71 58 P **P 22 44 49.3 -0.2**
MK31 IAmb IAmb 22 44 53.5
comp=Z,19nm,1.7s
MKAR Makanchi Array 52.71 58 P **P 22 44 49.4 -0.1**
comp=Z,1.7nm,0.8s,baz=326,slow=6.0,SNR=8.5
MKAR LR LR 23 07 53.5
comp=Z,57nm,19.4s,baz=3.5,slow=37
MKAR Makanchi Array 52.71 58 *ce*P **P 22 44 50.2 +0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 52.71 58 P **P 22 44 49.8 +0.3**
FRU1 Bishkek 53.15 67 P **P 22 44 53.0 +0.1**
FRU1 pmax pmax
comp=Z,23nm,1.4s
FRU1 Bishkek 53.15 67 P **P 22 44 53.0 +0.1**
FRU1 IAmb IAmb 22 44 58.0
comp=Z,22nm,1.4s

TOA0 Torodi Ar. Sit 53.15 156 P **P 22 44 52.5 -0.5**
TOA0 IAmb IAmb 22 45 06.2
comp=Z,36nm,1.8s
TORD Torodi Ar. Bea 53.15 156 P **P 22 44 52.1 -0.9**
comp=Z,2.6nm,0.9s,baz=339,slow=7.4,SNR=9.7
TORD Torodi Ar. Bea 53.15 156 P **P 22 44 52.6 -0.4**
PD31 Pinedale Array 53.18 293 P **P 22 44 52.4 -0.9**
PD31 IAmb IAmb 22 44 59.6
comp=Z,25nm,1.4s
PDAR Pinedale Array 53.18 293 P **P 22 44 52.3 -1.0**
comp=Z,1.5nm,0.7s,baz=76,slow=8.4,SNR=9.1
PDAR LR LR 23 06 36.1
comp=Z,179nm,20.7s,baz=28,slow=35
PDAR Pinedale Array 53.18 293 P **P 22 44 52.5 -0.9**
AAK Ala-Archa 53.24 67 *ce*P **P 22 44 55.7 +2.0**
AAK pmax pmax
comp=Z,46nm,1.7s
N23A Red Feather La 53.31 289 P **P 22 44 54.2 -0.1**
BTK Batken 53.94 72 P **P 22 44 59.3 +0.5**
BTK pmax pmax
comp=Z,17nm,1.2s
BTK Batken 53.94 72 P **P 22 44 59.3 +0.5**
BTK IAmb IAmb 22 45 03.1
comp=Z,17nm,1.1s
CHGR Chuyangaron 54.45 74 P **P 22 45 03.1 +0.7**
GAR Garm 54.63 73 P **P 22 45 04.8 +0.9**
MOY Mondy 54.64 42 *e*P **P 22 45 05.6 +1.9**
MOY pmax pmax
comp=Z,61nm,2.2s
HWUT Hardware Ranch 54.95 294 P **P 22 45 06.5 +0.3**
HRA Herat 55.18 82 P **P 22 45 08.5 +0.6**
HRA IAmb IAmb 22 45 14.3
comp=Z,16nm,1.4s
TCUT Toone Canyon 55.31 294 P **P 22 45 09.2 +0.4**
TARG Taragay, Kyrgy 55.31 65 P **P 22 45 09.7 +0.6**
TARG IAmb IAmb 22 45 13.0
comp=Z,8.8nm,1.0s
TLY Talaya 55.38 40 P **P 22 45 08.6 -0.3**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 55.38 40 P **P 22 45 08.6 -0.3**
SDCO Great Sand Dun 55.80 287 P **P 22 45 11.9 -0.5**
ZAK Zakamensk 56.44 41 *e*P **P 22 45 17.9 +1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
KSH Kashi 56.48 68 P P 22 45 20.3 +3.2
KSH pP sP 22 45 24.5 +2.3
KSH ScP **ScP 22 50 14.0 +1.2**
KSH S **S 22 53 07.5 -0.6**
KSH sS sS 22 53 19.4 +5.3
KSH ScS **ScS 22 55 05.1 -1.1**
KSH pmax pmax
comp=Z,130nm,2.0s
KSH pmax pmax
comp=Z,160nm,5.7s
KSH LR LR
comp=N,170nm,6.3s
KSH LR LR
comp=E,140nm,7.9s
KSH LR LR
comp=Z,140nm,6.6s
PDPR Patillas Dam, 56.74 239 P **P 22 45 17.2 -1.8**
PV18 Skein Mesa, Pa 56.77 290 P **P 22 45 19.3 0.0**
PV18 IAmb IAmb 22 45 25.6
comp=Z,12nm,1.0s
ELK Elko 57.12 296 P **P 22 45 22.3 +0.5**
comp=Z,0.7nm,0.6s,baz=341,slow=3.4,SNR=4.0
ELK Elko 57.12 296 P **P 22 45 21.9 +0.1**
WMQ Urumqi 57.21 56 *e*P P 22 45 25.8 +3.6
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,140nm,5.1s
WMQ LR LR
comp=E,140nm,21.3s
WMQ LR LR
comp=Z,55nm,26.3s
WMQ Urumqi 57.21 56 P **P 22 45 21.5 -0.7**
WMQ pmax pmax
comp=Z,11nm,0.4s
WMQ Urumqi 57.21 56 P **P 22 45 21.5 -0.7**
KBL Kabul 57.92 77 P **P 22 45 28.2 +0.8**
KBL pmax pmax
comp=Z,10.0nm,1.6s
KBL Kabul 57.92 77 P **P 22 45 28.2 +0.8**
ANMO Albuquerque 58.60 286 P **P 22 45 31.7 -0.5**
ANMO pmax pmax
comp=Z,12nm,1.6s
ANMO Albuquerque 58.60 286 P **P 22 45 31.7 -0.5**
DBIC Dimbokro 58.60 165 LR LR 23 10 48.9
comp=Z,23nm,19.6s,baz=3.5,slow=36
TIC Toumodi 58.61 165 *e*P **P 22 45 31.6 -0.6**
KIC Kosan Boka 58.92 165 *e*P **P 22 45 33.8 -0.5**
comp=Z,57nm,1.8s
LIC Lamto 59.02 166 *e*P **P 22 45 33.4 -1.6**
comp=Z,42nm,1.7s
R11A Troy Canyon, C 59.33 295 P **P 22 45 37.2 0.0**
R11A IAmb IAmb 22 45 44.0
comp=Z,17nm,1.4s
SONM Songino Array 59.62 40 P **P 22 45 39.0 0.0**
comp=Z,1.4nm,0.9s,baz=329,slow=6.5,SNR=8.4
SONM LR LR 23 13 36.6
comp=Z,59nm,20.5s,baz=316,slow=38
SONM Songino Array 59.62 40 P **P 22 45 39.0 0.0**
SONM Songino Array 59.62 40 P **P 22 45 38.5 -0.5**
JCT Junction City 59.66 278 P **P 22 45 38.6 -0.8**
JCT pmax pmax
comp=Z,52nm,1.7s
JCT Junction City 59.66 278 P **P 22 45 38.6 -0.8**
ULN Ulaanbaatar 59.78 40 *ce*P **P 22 45 41.6 +1.5**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 59.78 40 P **P 22 45 39.7 -0.4**
WUAZ Wupatki 60.11 290 P **P 22 45 42.6 +0.1**
NVAR Mina Array Bea 60.31 297 P **P 22 45 44.3 +0.4**
comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=1.7
NVAR LR LR 23 10 56.8
comp=Z,267nm,21.2s,baz=52,slow=35
NIL Nilore 60.43 74 P **P 22 45 44.7 +0.1**
NIL pmax pmax
comp=Z,17nm,1.3s
NIL Nilore 60.43 74 P **P 22 45 44.7 +0.1**
X16A Lo Mia Camp, P 61.09 290 P **P 22 45 49.4 +0.1**
X16A IAmb IAmb 22 45 56.9
comp=Z,20nm,1.5s
TXAR Lajitas Array 62.29 280 P **P 22 45 57.5 +0.1**
comp=Z,0.8nm,0.9s,baz=31,slow=7.5,SNR=6.9
TXAR LR LR 23 12 06.5
comp=Z,163nm,21.3s,baz=0.0,slow=35
TXAR Lajitas Array 62.29 280 P **P 22 45 57.2 -0.2**
PETK Petropavlovsk- 62.48 3 LR LR 23 11 57.1
comp=Z,21nm,19.2s,baz=61,slow=35
TUC Tucson 62.66 288 P **P 22 46 00.5 +0.7**
TUC pmax pmax
comp=Z,14nm,1.4s
TUC Tucson 62.66 288 P **P 22 46 00.5 +0.7**
TUC IAmb IAmb 22 46 07.0
comp=Z,14nm,1.4s
ISA Isabella, Lake 62.79 296 P **P 22 46 01.2 +0.6**
ISA IAmb IAmb 22 46 07.7
comp=Z,9.9nm,1.2s
GTA Gaotai 65.28 49 ⇓P **P 22 46 17.6 +0.6**
GTA pP sP 22 46 22.4 +0.4
GTA sP pP 22 46 24.9 +4.3
GTA pmax pmax
comp=Z,3.0nm,1.5s
GTA pmax pmax
comp=Z,170nm,5.8s
GTA LR LR
comp=N,100nm,18.9s
GTA LR LR
comp=E,110nm,17.8s
GTA LR LR
comp=Z,90nm,17.5s
SDV Santo Domingo 66.84 239 P **P 22 46 26.3 -1.0**
SDV IAmb IAmb 22 46 35.1
comp=Z,6.5nm,0.6s
HHC Hu-ho-hao-te 67.49 40 *e*P **P 22 46 32.8 +1.7**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,76nm,6.3s
LZH Lanzhou 69.61 48 *e*P P 22 46 47.3 +2.9
LZH pP sP 22 46 53.0 +3.5
LZH sP PcP 22 46 56.0 -11
LZH pmax pmax
comp=Z,18nm,0.9s
LZH pmax pmax
comp=Z,69nm,6.0s
LSA Lhasa 71.00 61 P **P 22 46 53.8 +0.4**
LSA pmax pmax
comp=Z,8.0nm,1.3s
LSA Lhasa 71.00 61 P **P 22 46 53.8 +0.4**
ROSC El Rosal 71.94 241 LR LR 23 13 41.7
comp=Z,32nm,21.8s,baz=54,slow=32
XAN Xi'an 73.07 44 P **P 22 47 07.6 +2.4**
XAN pP sP 22 47 11.8 +1.5
XAN pmax pmax
comp=Z,7.0nm,1.7s
XAN LR LR
comp=N,170nm,23.9s
XAN LR LR
comp=E,150nm,17.3s
XAN LR LR
comp=Z,200nm,22.8s
XAN Xi'an 73.07 44 P **P 22 47 05.5 +0.3**
XAN pmax pmax
comp=Z,14nm,1.4s
XAN Xi'an 73.07 44 P **P 22 47 05.5 +0.3**
XAN IAmb IAmb 22 47 08.7
comp=Z,14nm,1.4s
SHL Shillong 75.00 62 P **P 22 47 16.7 -0.1**
SHL pmax pmax
comp=Z,7.0nm,1.0s
SHL Shillong 75.00 62 P **P 22 47 16.7 -0.1**
ENH Enshi 76.75 45 P **P 22 47 27.1 +0.6**
GYA Guiyang 79.41 49 ⇓P **P 22 47 43.8 +2.4**
GYA pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 83.79 59 P **P 22 48 04.5 0.0**
CHTO pmax pmax
comp=Z,9.0nm,1.4s
CHTO Chiang Mai 83.79 59 P **P 22 48 04.5 0.0**
CHTO IAmb IAmb 22 48 09.9
comp=Z,9.3nm,1.4s
CMAR Chiang Mai Arr 84.11 59 P **P 22 48 06.5 +0.3**
comp=Z,1.2nm,0.9s,baz=315,slow=6.5,SNR=8.2
CMAR Chiang Mai Arr 84.11 59 P **P 22 48 06.0 -0.2**
PSI Prapat 98.46 65 LR LR 23 38 07.1
comp=Z,61nm,19.8s,baz=271,slow=38
BOSA Boshof 98.77 143 LR LR 23 35 12.4
comp=Z,37nm,18.2s,baz=34,slow=36
WRA Warramunga Arr 131.50 36 PKP **PKiKP 22 54 47.3 -1.3**
comp=Z,1.0nm,1.1s,baz=305,slow=2.9,SNR=2.6
ASAR Alice Springs 134.95 38 PKP **PKiKP 22 54 54.2 -1.3**
comp=Z,0.7nm,0.8s,baz=11,slow=2.7,SNR=5.5
ASAR Alice Springs 134.95 38 PKIKP **PKiKP 22 54 53.8 -1.7**
ASAR Alice Springs 134.95 38 **PKiKP 22 54 53.8 -1.7**

IDC ***24*** *22:54:40.3±1.8, 6°.82S×130°.01E, h65km±17km, mb4.4/17, mb1 4.5/23, mb1mx4.5/34, mbtmp4.7/23, MS3.4/10, Ms1 3.3/10, ms1mx3.1/27, Error ellipse: s-maj=15.7km s-min=9.4km az=84.0*
BJI ***24*** *22:54:42.0±0.0, 7°.03S×129°.94E, h104km, mB5.0/37, mb4.9/48*
NEIC ***24*** *22:54:43.4±1.4, 6°.77S±0°.05×129°.96E±0°.06, h92km±5km, mb4.8/75, Error ellipse: s-maj=8.6km s-min=7.7km az=71.0*
DJA ***24*** *22:54:44.7±0.2, 7°.S±2°×13°0E±°, h112km±3km, M4.9/42, mb5.0/42, mB5.3/19, MLv5.3/14, Mw(mB)4.8/19*
KLM ***24*** *22:54:46.0, 6°.85S×129°.93E, h105km, mb5.0*
ISC 24 22:54:44.1±0.3, **6°.87S**±0°.04×**130°.02E**±0°.04, **h104**km, **n256,** σ1§**53**/255, **mb4.8**/73, **2C-3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.69**	**131**	P	**Pn**	**22 55 15.1**	**+2.2**
SAUI				S	**Sn**	**22 55 30.4**	**-4.4**
SAUI	**Saumlaki**	**1.69**	**131**		**Pn**	**22 55 14.5**	**+1.6**
SAUI				Sn	**Sn**	**22 55 38.9**	**+4.1**
BNDI	**Bandanaira**	**2.33**	**357**	P	**Pn**	**22 55 21.6**	**+0.4**
MSAI	**Masohi**	**3.66**	**343**	P	**Pn**	**22 55 40.0**	**+1.1**
MSAI				S	**Sn**	**22 56 25.6**	**+4.4**
FAKI	**Fak Fak**	**4.51**	**30**	P	**Pn**	**22 55 49.5**	**-0.8**
FAKI	**Fak Fak**	**4.51**	**30**		**Pn**	**22 55 49.3**	**-1.0**
NLAI	**Namlea**	**4.63**	**321**	P	**Pn**	**22 55 54.3**	**+2.4**
MTN	**Manton Dam**	**6.04**	**170**	Pn	**Pn**	**22 56 10.9**	**0.0**
SIJI	**Sorong**	**6.09**	**12**	P	**Pn**	**22 56 08.1**	**-3.6**
	24nm,0.3s,baz=15,slow=22,SNR=28						
SIJI				S	**Sn**	**22 57 15.1**	**-5.0**
	40nm,0.3s,baz=77,slow=23,SNR=8.5						
SANI	**Sanana**	**6.25**	**320**	P	**Pn**	**22 56 15.9**	**+2.1**
	0.4nm1μm61nm,0.6s						
SOEI	**Soe**	**6.37**	**243**	P	**Pn**	**22 56 17.2**	**+1.6**
	4.6nm5μm406nm,0.6s						
SOEI	**Soe**	**6.37**	**243**	Pn	**Pn**	**22 56 16.5**	**+0.9**
LBMI	**Labuha**	**6.68**	**338**	P	**Pn**	**22 56 22.0**	**+2.3**
	1.4nm3μm226nm,0.6s						
BATI	**Baumata**	**7.10**	**242**	P	**Pn**	**22 56 24.7**	**-0.8**
	104nm,0.3s,baz=119,slow=3.3,SNR=44						
BATI				S	**Sn**	**22 57 42.0**	**-2.7**
	77nm,0.3s,baz=75,slow=23,SNR=12						
BATI				LR	LR	22 58 43.8	
	comp=Z,116nm,19.6s,baz=42,slow=34						
BATI	**Baumata**	**7.10**	**242**	P	**Pn**	**22 56 26.9**	**+1.4**
	2.5nm3μm247nm,0.7s						
MMRI	**Maumere**	**7.90**	**257**	P	Pn	22 56 39.7	+3.4
	0.6nm121nm,1.6s						
MMRI	**Maumere**	**7.90**	**257**		**Pn**	**22 56 37.6**	**+1.3**
TNTI	**Ternate**	**8.04**	**341**	P	**Pn**	**22 56 38.5**	**+0.3**
	2μm83nm,0.9s						
TNTI	**Ternate**	**8.04**	**341**		**Pn**	**22 56 38.4**	**+0.3**
EDFI	**Ende, Flores**	**8.46**	**257**	P	**Pn**	**22 56 45.8**	**+1.9**
	20nm,0.8s						
KNRA	**Kununurra**	**8.84**	**188**	Pn	**Pn**	**22 56 47.2**	**-1.8**
WAMI	**Wamena**	**9.15**	**72**	P	**Pn**	**22 56 56.0**	**+2.7**
	30um2μm,0.7s						
LUWI	**Luwuk**	**9.26**	**308**	P	Pn	22 56 58.1	+3.4
	66nm,0.9s						
LUWI	**Luwuk**	**9.26**	**308**	Pn	**Pn**	**22 56 54.9**	**+0.1**
BASI	**Baing, Sumba**	**9.91**	**250**	P	**Pn**	**22 57 02.6**	**-1.0**
SMPI	**Sarmi**	**9.93**	**61**	P	**Pn**	**22 57 04.0**	**+0.1**
BKSI	**Bulukumba**	**9.96**	**278**	P	**Pn**	**22 57 04.8**	**+0.6**
	38nm,0.8s						
BNSI	**Bone**	**10.16**	**283**	P	Pn	22 57 10.0	+3.0
	873nm71nm,0.7s						
GTOI	**Gorontalo**	**10.22**	**317**	P	Pn	22 57 13.2	+5.4
	453nm35nm,0.7s						
KAPI	**Kappang**	**10.37**	**280**	LR	LR	23 01 35.3	
	comp=Z,50nm,18.9s,baz=102,slow=40						
MMPI	**Merauke**	**10.40**	**99**	P	**Pn**	**22 57 11.0**	**+0.8**
SPSI	**Sidrap Palu**	**10.60**	**285**	P	**Pn**	**22 57 15.7**	**+2.7**
	100nm,0.7s						
GENI	**Genyem**	**10.97**	**68**	P	**Pn**	**22 57 16.8**	**-1.3**
	160nm,0.9s						
JAY	**Jayapura**	**11.50**	**68**	P	**Pn**	**22 57 22.5**	**-2.6**
	1.7nm,0.3s,baz=272,slow=7.1,SNR=18						
JAY				S	**Sn**	**22 59 32.1**	**+0.5**
	0.9nm,0.3s,baz=73,slow=22,SNR=3.1						
JAY	**Jayapura**	**11.50**	**68**	P	**Pn**	**22 57 24.2**	**-0.9**
	422nm39nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.95**	**201**	P	**Pn**	**22 57 27.2**	**-3.8**
	6.1nm,0.3s,baz=360,slow=9.2,SNR=63						
FITZ				S	Sn	22 59 32.4	-10
	9.4nm,0.3s,baz=360,slow=19,SNR=7.4						
FITZ	**Fitzroy Crossi**	**11.95**	**201**	Pn	**Pn**	**22 57 27.8**	**-3.2**
PLAI	**Plampang**	**12.28**	**260**	P	**Pn**	**22 57 35.1**	**-0.4**
MPSI	**Mapaga**	**12.38**	**305**	P	**Pn**	**22 57 36.5**	**-0.2**
TWSI	**Taliwang, Sumb**	**13.14**	**261**	P	P	22 57 48.1	-4.9
	16nm,0.8s						
WB0	**Warramunga Arr**	**13.51**	**162**	Pn	**Pn**	**22 57 48.3**	**-3.3**
WRA	**Warramunga Arr**	**13.66**	**163**	P	**Pn**	**22 57 50.1**	**-3.4**
	7.4nm,0.3s,baz=324,slow=14,SNR=81						
WRA				LR	LR	23 04 10.1	
	comp=Z,209nm,21.6s,baz=265,slow=42						
KBKI	**Kotabaru**	**14.24**	**284**	P	**P**	**22 58 05.4**	**+0.2**
DAV	**Davao City (W)**	**14.54**	**342**	LR	LR	23 04 32.1	
	comp=Z,72nm,19.3s,baz=122,slow=41						
COEN	**Coen**	**14.73**	**120**	Pn	**Pn**	**22 58 06.0**	**-1.3**
BBKI	**Banjar Baru**	**15.48**	**282**	P	**P**	**22 58 21.7**	**+2.6**
JAGI	**Jajag, Banyuwa**	**15.80**	**263**	P	**P**	**22 58 22.1**	**-0.5**
	46nm,1.3s						
KMMI	**Kalianget**	**15.93**	**268**	P	**P**	**22 58 25.8**	**+1.8**
	147nm,0.7s						
MTKI	**Muara Teweh, K**	**16.19**	**291**	P	**P**	**22 58 30.1**	**+3.3**
BLJI	**Banyuglugur**	**16.31**	**266**	P	**P**	**22 58 28.3**	**+0.1**
	47nm,0.5s						
MYLDM	**Lahad Datu**	**16.59**	**316**	P	**P**	**22 58 31.4**	**+0.1**

MYLDM IAmb IAmb 22 58 46.9
comp=Z,38nm,0.9s
AS31 Alice Springs 17.11 168 P 22 58 35.8 -1.3
ASAR Alice Springs 17.11 168 P **P 22 58 35.7 -1.4**
comp=Z,3.5nm,0.3s,baz=333,slow=8.8,SNR=104
ASAR S **Sn 23 01 37.8 -10**
comp=Z,1.9nm,0.3s,baz=352,slow=24,SNR=9.5
ASAR LR LR 23 05 35.9
comp=Z,138nm,21.6s,baz=328,slow=38
ASAR ScP **ScP 23 06 41.9 +0.4**
baz=326,slow=2.1,SNR=4.4
ASAR Alice Springs 17.11 168 P P 22 58 35.5 -1.6
PMG Port Moresby 17.16 100 P **P 22 58 36.6 -0.9**
comp=Z,1.2nm,0.3s,baz=20,slow=22,SNR=1.7
PMG LR LR 23 06 41.9
comp=Z,174nm,19.3s,baz=277,slow=42
PMG Port Moresby 17.16 100 P P 22 58 36.3 -1.2
MBWA Marble Bar 17.34 214 P **Pn 22 58 38.7 -1.0**
PSA00 Pilbara Seismi 17.61 213 Pn 22 58 42.6 -0.4
PSA00 IAmb IAmb 22 58 45.6
comp=Z,49nm,0.7s
PSA00 Pilbara Seismi 17.61 213 P **Pn 22 58 42.5 -0.6**
PSA00 IAmb IAmb 22 58 45.3
comp=Z,19nm,0.6s
PWJI Pagerwojo 18.09 265 P **Pn 22 58 47.8 -1.1**
comp=Z,40nm,1.1s
PBKI Pangkalan Bun 18.74 282 P **Pn 22 58 58.1 +1.5**
comp=Z,249nm,0.9s
KKM Kota Kinabalu 18.82 313 P **Pn 22 58 56.5 -1.1**
KKM IAmb IAmb 22 59 00.6
comp=Z,40nm,0.8s
SBUM Sibu 20.03 297 P Pn 22 59 10.6 -1.1
SBUM IAmb IAmb 22 59 12.0
comp=Z,27nm,0.9s
CTA Charters Tower 20.52 131 P **P 22 59 13.1 -1.0**
comp=Z,1.5nm,0.7s,baz=285,slow=21,SNR=2.0
CTAO Charters Tower 20.52 131 P Pn 22 59 15.4 -1.8
KPJI Karang Pucung 20.93 267 P Pn 22 59 19.3 -2.9
comp=Z,63nm,0.8s
KSM Kuching 21.34 292 P **P 22 59 22.6 -0.5**
KSM IAmb IAmb 22 59 27.4
comp=Z,54nm,1.3s
KSM Kuching 21.34 292 P **P 22 59 25.0 +1.9**
GIRL Giralia 21.84 222 P **P 22 59 29.7 +1.4**
CISI Cisompet, Garu 22.03 267 P **P 22 59 29.6 -0.9**
CISI Cisompet, Garu 22.03 267 P **P 22 59 30.0 -0.5**
LEM Lembang 22.24 269 P **P 22 59 31.7 -1.1**
comp=Z,52nm,0.6s,baz=86,slow=11,SNR=10.0
LEM LR LR 23 09 11.8
comp=Z,98nm,21.6s,baz=307,slow=39
TGY Tagaytay City 22.70 337 P **P 22 59 36.6 -0.7**
comp=Z,306nm,0.4s,baz=222,slow=2.9,SNR=18
CNJI Cibinong 22.71 267 P **P 22 59 37.9 +0.5**
comp=Z,153nm,1.1s
CBJI Citeko 23.01 270 P **P 22 59 43.5 +3.1**
FORT Forrest 23.86 184 P **P 22 59 49.1 +1.2**
FORT IAmb IAmb 22 59 59.6
comp=Z,37nm,0.6s
PPBI Pangkal Pinang 24.25 280 P **P 22 59 55.3 +3.6**
KLSI 25.25 274 P P 23 00 07.4 +6.6
MORW Morawa 25.72 209 P **P 23 00 05.5 +0.7**
BBOO Buckleboo 26.42 169 P **P 23 00 12.1 +1.0**
STKA Stephens Creek 27.13 158 P **P 23 00 18.1 +0.7**
comp=Z,6.8nm,0.5s,baz=335,slow=9.1,SNR=18
STKA LR LR 23 12 56.3
comp=Z,160nm,18.8s,baz=242,slow=40
STKA Stephens Creek 27.13 158 P P 23 00 19.0 +1.5
MYKOM Kota Tinggi 27.49 287 P **P 23 00 21.3 +0.3**
NWAO Narrogin (SRO) 28.52 203 P **P 23 00 30.6 +0.7**
comp=Z,2.7nm,0.3s,baz=32,slow=6.5,SNR=7.0
NWAO LR LR 23 11 53.0
comp=Z,111nm,18.9s,baz=258,slow=36
NWAO Narrogin (SRO) 28.52 203 P **P 23 00 31.0 +1.2**
SDSI Sungai Dareh 29.11 280 P **P 23 00 36.8 +1.5**
comp=Z,787nmcomp=Z,17nm,0.8s
HNR Honiara 29.73 97 LR LR 23 12 50.3
comp=Z,86nm,20.2s,baz=241,slow=37
BKNI Bangkinang 29.78 283 P **P 23 00 41.3 0.0**
ARMA Armidale 30.99 142 P **P 23 00 53.3 +1.4**
IPM Ipoh 31.05 290 P **P 23 00 52.1 -0.5**
IPM IAmb IAmb 23 00 57.3
comp=Z,11nm,0.7s
MNSI Mandailing Nat 31.31 283 P **P 23 00 55.6 +0.8**
comp=Z,41nm,0.7s
KULM Kulim 31.70 292 P **P 23 00 57.4 -0.8**
KULM IAmb IAmb 23 01 02.6
comp=Z,13nm,0.7s
KULM Kulim 31.70 292 P **P 23 00 58.0 -0.2**
YOJ Yonaguni jima 31.88 348 P **P 23 00 59.5 -0.1**
YOJ IAmb IAmb 23 01 13.9
comp=Z,32nm,1.1s
RPSI Rantau Prapat 32.46 286 P **P 23 01 04.0 -0.9**
PSI Prapat 32.49 286 P **P 23 01 04.5 -0.7**
comp=Z,46nm,0.8s,baz=149,slow=2.1,SNR=25
QIZ Qiongzhong 32.52 323 P **P 23 01 04.6 -0.7**
QIZ IAmb IAmb 23 01 05.8
comp=Z,13nm,1.0s
UBPT Khong Chiam 32.80 312 P **P 23 01 07.1 -0.7**
CAN Canberra 33.26 151 P **P 23 01 14.1 +2.5**
CAN IAmb IAmb 23 01 32.3
comp=Z,41nm,1.5s
GSI Gunungsitoli 33.38 283 P **P 23 01 15.2 +2.3**
comp=Z,78nm,1.1s
GSI Gunungsitoli 33.38 283 P **P 23 01 11.3 -1.6**
LHMI Lhok Sumawe 35.12 289 P **P 23 01 27.7 -0.2**
MLSI Meulaboh, Aceh 35.33 287 P **P 23 01 32.6 +2.9**
SLVN Son La 37.98 318 P **P 23 01 51.3 -0.8**
SLVN IAmb IAmb 23 01 53.3
comp=Z,7.4nm,0.7s
CM31 Chiang Mai Arr 39.66 310 P **P 23 02 06.7 +0.5**
CM31 Chiang Mai Arr 39.66 310 P **P 23 02 05.5 -0.7**
CM31 IAmb IAmb 23 02 07.2
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 39.66 310 P **P 23 02 06.0 -0.2**
comp=Z,14nm,0.7s,baz=139,slow=7.4,SNR=90
CMAR Chiang Mai Arr 39.66 310 P **P 23 02 05.7 -0.5**
CHTO Chiang Mai 39.87 310 P **P 23 02 08.1 +0.2**
CHTO Chiang Mai 39.87 310 P **P 23 02 07.6 -0.4**
GYA Guiyang 40.13 327 ⇑P **P 23 02 09.9 -0.2**
GYA pmax pmax
comp=Z,18nm,0.8s
GYA LR LR
comp=Z,88nm,3.8s
GYA LR LR
comp=Z,89nm,5.9s
GYA LR LR
comp=Z,81nm,6.8s
NJ2 Nanjing 40.14 345 *e*P **P 23 02 12.0 +2.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
JMN Monobe 40.54 5 P **P 23 02 13.8 +0.6**
KMI Kunming 41.42 321 ⇓P **P 23 02 21.6 +0.7**
KMI pP pwP 23 02 48.3 +1.4
KMI pmax pmax
comp=Z,15nm,1.2s
KMI Kunming 41.42 321 P **P 23 02 20.8 -0.1**
KMI IAmb IAmb 23 02 22.3
comp=Z,23nm,1.3s
ENH Enshi 41.85 333 P **P 23 02 23.6 -0.5**
ENH IAmb IAmb 23 02 24.5
comp=Z,25nm,1.2s
JWT Wachi 42.23 7 P **P 23 02 27.2 +0.2**
MJAR Matsushiro Arr 43.86 10 P **P 23 02 38.8 -1.4**
comp=Z,4.0nm,0.8s,baz=186,slow=9.1,SNR=7.1
MAT Matsushiro 43.86 10 P **P 23 02 38.0 -2.2**
MAT *e*S **S 23 08 59.0 -4.6**
KSRS Korea Array 44.14 358 P **P 23 02 42.5 +0.2**
comp=Z,2.2nm,0.7s,baz=174,slow=8.9,SNR=6.1
CD2 Chengdu 45.20 328 P **P 23 02 50.3 -0.7**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,120nm,7.3s
XAN Xi'an 45.33 335 P **P 23 02 50.6 -1.3**
XAN pmax pmax
comp=Z,20nm,1.0s
XAN LR LR
comp=Z,180nm,28.2s
XAN LR LR
comp=Z,160nm,18.4s
XAN LR LR
comp=Z,200nm,23.9s
XAN Xi'an 45.33 335 P **P 23 02 51.2 -0.7**
XAN IAmb IAmb 23 02 52.0
comp=Z,14nm,0.9s

BJT Baijiatuau 48.38 346 P **P 23 03 15.6 +0.1**
BJT IAmb IAmb 23 03 16.9
comp=Z,6.4nm,0.8s
SHL Shillong 49.12 312 P **P 23 03 20.6 -1.0**
SHL IAmb IAmb 23 03 22.0
comp=Z,16nm,0.9s
LZH Lanzhou 49.30 332 *e*P **P 23 03 23.4 +0.6**
LZH pP pwP 23 03 47.9 -1.4
LZH sP sP 23 03 58.4 0.0
LZH *e*PP **PP 23 05 20.6 +2.8**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.7s
HHC Hu-ho-hao-te 50.42 342 *e*P **P 23 03 31.6 +0.4**
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,140nm,6.7s
USA0B Ussuriysk Arra 50.86 2 P **P 23 03 34.0 -0.2**
USA0B IAmb IAmb 23 03 34.5
comp=Z,15nm,1.4s
USRK Ussuriysk Ar. 50.86 2 P **P 23 03 34.1 -0.1**
comp=Z,3.6nm,0.6s,baz=188,slow=8.6,SNR=10.0
USRK Ussuriysk Ar. 50.86 2 P **P 23 03 34.4 +0.1**
PALK Pallekele 51.15 285 P **P 23 03 35.5 -1.5**
PALK Pallekele 51.15 285 P **P 23 03 36.9 -0.2**
PALK IAmb IAmb 23 03 37.2
comp=Z,11nm,0.9s
RPZ Rata Peaks 51.33 142 P **P 23 03 39.5 +1.6**
LSA Lhasa 52.12 316 P **P 23 03 44.2 -0.3**
LSA IAmb IAmb 23 03 45.8
comp=Z,12nm,1.0s
BFZ Birch Farm 53.17 137 P **P 23 03 53.8 +2.3**
ODAN Odare 53.18 311 *e*P **P 23 03 51.4 -0.7**
comp=Z,30nm,0.4s
TAPN Taplejung 53.21 312 *e*P **P 23 03 52.3 -0.1**
comp=Z,58nm,0.4s
RAMN Ramite 53.83 311 *e*P **P 23 03 56.7 -0.1**
comp=Z,61nm,0.4s
GTA Gaotai 53.87 331 P **P 23 03 56.8 +0.1**
GTA pP pP 23 04 20.3 -0.7
GTA sP sP 23 04 33.3 +1.0
GTA pmax pmax
comp=Z,19nm,1.2s
GTA pmax pmax
comp=Z,39nm,4.9s
GTA LR LR
comp=Z,55nm,14.9s
GTA LR LR
comp=Z,58nm,16.0s
GTA LR LR
comp=Z,36nm,16.0s
JIRN Jiri 54.51 311 *e*P **P 23 04 01.8 -0.1**
comp=Z,41nm,0.3s
PKI Pulchoki 55.05 310 *e*P **P 23 04 04.8 -1.0**
comp=Z,18nm,0.5s
PKIN Phulchoki 55.06 310 *e*P **P 23 04 04.8 -1.0**
comp=Z,11nm,0.4s
KKN Kakani 55.27 311 *e*P **P 23 04 06.5 -0.7**
comp=Z,28nm,0.4s
DMN Daman 55.30 310 *e*P **P 23 04 07.1 -0.4**
comp=Z,28nm,0.5s
GKN Gorkha 55.86 311 *e*P **P 23 04 10.8 -0.6**
comp=Z,66nm,0.4s
HYB Hyderabad 56.27 296 *i*P **P 23 04 13.0 -1.3**
KOLN Koldanda 56.53 310 *e*P **P 23 04 15.9 -0.3**
comp=Z,38nm,0.5s
DANN Dangsing 56.70 310 *e*P **P 23 04 17.2 -0.3**
comp=Z,25nm,0.5s
PYUN Piuthan 57.16 310 *e*P **P 23 04 20.2 -0.5**
comp=Z,89nm,0.8s
ULN Ulaanbaatar 58.15 342 P **P 23 04 27.9 +0.8**
ULN Ulaanbaatar 58.15 342 P **P 23 04 27.6 +0.5**
ULN IAmb IAmb 23 04 29.1
comp=Z,6.7nm,0.6s
SONM Songino Array 58.32 342 P **P 23 04 28.8 +0.5**
comp=Z,2.1nm,0.4s,baz=160,slow=6.9,SNR=16
SONM Songino Array 58.32 342 P **P 23 04 28.8 +0.5**
CASY Casey 60.83 189 P **P 23 04 46.3 +1.2**
CASY IAmb IAmb 23 04 50.4
comp=Z,6.9nm,1.0s
WMQ Urumqi 63.29 327 *e*P **P 23 05 02.9 +0.9**
WMQ sP sP 23 05 42.8 +4.7
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,80nm,4.5s
WMQ Urumqi 63.29 327 P **P 23 05 03.0 +0.9**
PEA0B Petropavlovsk- 64.20 18 P **P 23 05 08.6 +0.9**
PEA0B IAmb IAmb 23 05 15.4
comp=Z,30nm,1.4s
PETK Petropavlovsk- 64.20 18 P **P 23 05 08.2 +0.6**
comp=Z,3.0nm,0.6s,baz=181,slow=5.9,SNR=6.1
NIL Nilore 67.14 311 P **P 23 05 26.9 -0.1**
NIL Nilore 67.14 311 P **P 23 05 27.0 -0.1**
NIL IAmb IAmb 23 05 28.6
comp=Z,11nm,0.8s
ZSN Zaisan 67.17 329 *i*P **P 23 05 27.2 +0.3**
comp=Z,2.9nm,0.6s,baz=328
SHLS Shalkode 67.62 322 *i*P **P 23 05 28.9 -1.1**
comp=Z,13nm,1.2s,baz=322
TARG Taragay, Kyrgy 67.88 320 P **P 23 05 31.5 -0.5**
UZB Uzynbulak 67.89 322 *i*P **P 23 05 31.9 +0.2**
comp=Z,7.9nm,1.4s,baz=322
KSH Kashi 67.93 317 P **P 23 05 33.6 +1.6**
KSH pP sP 23 06 02.9 -5.9
KSH S **S 23 14 21.3 -1.6**
KSH ScS **SKSac 23 15 18.1 -2.9**
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,120nm,5.0s
KSH LR LR
comp=Z,100nm,5.3s
KSH LR LR
comp=Z,100nm,5.1s
KSH LR LR
comp=Z,220nm,9.0s
MK31 Makanchi Array 68.12 327 P **P 23 05 33.7 +0.7**
MKAR Makanchi Array 68.12 327 P **P 23 05 33.4 +0.4**
comp=Z,17nm,0.5s,baz=113,slow=8.7,SNR=247
MKAR Makanchi Array 68.12 327 P **P 23 05 33.2 +0.3**
SATY Saty 68.22 322 *e*P **P 23 05 34.0 +0.2**
comp=Z,11nm,1.2s,baz=322
KPKS Kokpek 68.27 322 *i*P **P 23 05 34.2 +0.2**
comp=Z,14nm,0.9s,baz=322
MAKZ Makanchi 68.31 327 P **P 23 05 34.5 +0.4**
TNSS Tian-Shan 69.11 321 *i*P **P 23 05 40.3 +0.7**
baz=321
MDOK Medeo 69.11 321 ⇑*i*P **P 23 05 39.8 +0.5**
comp=Z,161nm,2.6s,baz=321
AAA Alma-Ata 69.22 321 *e*P **P 23 05 40.7 +0.8**
baz=321
TDK Taldyqorghan 69.28 324 *e*P **P 23 05 40.6 +0.4**
baz=323
BOOM Boomskoye usch 69.46 320 P **P 23 05 42.4 +0.9**
BOOM IAmb IAmb 23 05 43.3
comp=Z,12nm,0.9s
KZA Kyzart 69.69 320 P **P 23 05 44.9 +1.7**
SNR=6.6
TKM2 Tokmak 2 69.89 320 P **P 23 05 44.8 +0.5**
SNR=14
KUU Kurty 69.93 322 *i*P **P 23 05 44.6 +0.5**
comp=Z,27nm,0.8s,baz=322
UCH Uchtor 70.24 319 P **P 23 05 48.1 +1.4**
SNR=9.9
FRU1 Bishkek 70.45 320 P **P 23 05 47.8 +0.3**
AAK Ala-Archa 70.45 320 P **P 23 05 49.0 +1.4**
SNR=7.5
AAK Ala-Archa 70.45 320 *i*P **P 23 05 48.3 +0.7**
SNR=9.7
KBL Kabul 70.69 310 P **P 23 05 49.4 +0.1**
AML Almayashu 70.72 319 P **P 23 05 51.0 +1.4**
SNR=6.8
USP Ospenovka 70.76 320 P **P 23 05 49.8 +0.5**
SNR=22
SGDS Sogindy 70.77 321 *i*P **P 23 05 49.6 +0.2**
comp=Z,3.9nm,0.6s,baz=320
EKS2 Erkin-Say 70.92 320 P **P 23 05 51.3 +0.9**
SNR=14
ZAA0 Zalesovo Array 71.47 334 P **P 23 05 52.6 -0.6**
ZAA0 IAmb IAmb 23 05 53.9
comp=Z,7.2nm,0.7s
ZALV Zalesovo Beam 71.47 334 P **P 23 05 52.9 -0.4**
comp=Z,7.6nm,0.5s,baz=131,slow=5.6,SNR=40

ZALV Zalesovo Beam 71.47 334 P **P 23 05 52.4 -0.9**
GAR Garm 71.58 315 P **P 23 05 54.2 -0.2**
BTK Batken 71.69 316 P **P 23 05 55.5 +0.5**
BTLS Baital 71.93 322 *i*P **P 23 05 56.5 +0.3**
comp=Z,9.6nm,1.4s,baz=322
CHGR Chuyangaron 72.26 314 P **P 23 05 58.3 -0.2**
CHGR IAmb IAmb 23 05 59.0
comp=Z,20nm,1.1s
KURK Kurchatov 72.42 329 P **P 23 05 59.3 +0.4**
KURK Kurchatov 72.42 329 P **P 23 05 58.9 0.0**
KURK IAmb IAmb 23 06 01.5
comp=Z,18nm,0.9s
VNDA Vanda 72.57 173 P **P 23 06 00.3 +0.8**
comp=Z,1.4nm,0.5s,baz=318,slow=6.9,SNR=12
VNDA Vanda 72.57 173 P **P 23 06 00.8 +1.3**
DZA Taraz 72.62 319 *e*P **P 23 06 00.6 +0.2**
baz=319
IUG Iuzhnay 73.15 318 *e*P **P 23 06 04.2 +0.6**
comp=Z,11nm,1.0s,baz=318
KK31 Karatay Array 73.25 319 P **P 23 06 04.2 +0.1**
KK31 IAmb IAmb 23 06 05.5
comp=Z,14nm,1.2s
KKAR Karatay Array 73.25 319 P **P 23 06 04.3 +0.1**
JLN Jalan Bani Buh 74.86 295 P **P 23 06 15.6 +1.7**
MAW Mawson 75.08 201 P **P 23 06 15.8 +1.6**
comp=Z,7.3nm,0.6s,baz=80,slow=7.4,SNR=20
MAW Mawson 75.08 201 P **P 23 06 15.8 +1.6**
BRZS Berezniki 75.22 326 *e*P **P 23 06 15.5 +0.2**
comp=Z,32nm,1.8s,baz=326
WBK Wadi Bani Khal 75.37 295 P **P 23 06 18.6 +1.8**
WSAR Wadi Sarin 75.82 296 P **P 23 06 20.7 +1.2**
HRA Herat 75.89 308 P **P 23 06 19.5 -0.3**
MHTO MHTO 75.89 294 P **P 23 06 20.7 +0.9**
DQM DQM 76.05 292 P **P 23 06 22.1 +1.4**
SMDO Samad 76.30 296 P **P 23 06 23.7 +1.5**
BIDO Bidbid 76.34 296 P **P 23 06 24.2 +1.9**
BSY Bisya 76.99 295 P **P 23 06 27.5 +1.5**
HOQ Hoqain 77.08 296 P **P 23 06 27.8 +1.3**
SHAO Shalim 77.43 290 P **P 23 06 29.8 +1.3**
SOHO SOHO 77.90 296 *i*P **P 23 06 31.2 +0.2**
SNR=16
SOHO SOHO 77.90 296 P **P 23 06 31.3 +0.2**
SOCY Socotra 77.91 284 P **P 23 06 31.6 +0.3**
DMTO DMTO 78.00 290 P **P 23 06 32.9 +1.2**
BRVK Borovoye 78.03 328 P **P 23 06 31.1 0.0**
BRVK IAmb IAmb 23 06 32.9
comp=Z,5.8nm,0.6s
UOSS Minazif 78.38 297 P **P 23 06 35.3 +1.7**
UOSS Minazif 78.38 297 P **P 23 06 35.0 +1.3**
UOSS IAmb IAmb 23 06 36.0
comp=Z,11nm,0.8s
HATD Hatta, Dubai 78.41 297 P **P 23 06 36.0 +2.1**
ASHO Ashiyiah 78.45 297 P **P 23 06 35.6 +1.5**
BANOM Banah 78.52 298 P **P 23 06 35.9 +1.4**
BANOM Banah 78.52 298 P **P 23 06 35.7 +1.2**
ALNE Al Ain 78.58 296 *i*P **P 23 06 37.0 +2.1**
SNR=5.9
RBK Rabkut 78.65 289 P **P 23 06 36.9 +1.5**
SHME Shamm 78.69 298 P **P 23 06 36.0 +0.6**
WHFO Wadi Hawf 79.14 290 P **P 23 06 37.8 -0.2**
SNR=6.4
GEYT Alibeck 80.14 310 P **P 23 06 44.0 +0.9**
comp=Z,1.4nm,0.4s,baz=145,slow=5.4,SNR=5.0
GEYT Alibeck 80.14 310 P **P 23 06 43.3 +0.2**
GYA0B ALIBECK ARRAY 80.14 310 P **P 23 06 43.0 0.0**
NRIK Noril'sk 81.44 346 P **P 23 06 49.6 +0.4**
comp=Z,3.1nm,0.8s,baz=158,slow=6.2,SNR=4.4
ABKAR Akbulak array 82.42 322 P **P 23 06 54.3 -0.4**
ABKAR Akbulak array 82.42 322 P **P 23 06 54.5 -0.3**
QSPA South Pole Qui 83.11 180 P **P 23 06 59.0 +0.8**
QSPA IAmb IAmb 23 06 59.4
comp=Z,5.3nm,0.6s
SYO Syowa Base 83.79 201 ⇓*i*P **P 23 07 01.2 -0.3**
SYO Syowa Base 83.79 201 ⇓*e*pP pP 23 07 26.6 -0.6
CNBA Chernabura Isl 84.50 33 P **P 23 07 06.0 +0.8**
CNBA IAmb IAmb 23 07 07.1
comp=Z,8.2nm,0.7s
ARU Arti 85.60 328 P **P 23 07 10.2 -0.6**
ARU IAmb IAmb 23 07 12.2
comp=Z,8.0nm,0.9s
OHAK Old Harbor 88.59 32 P **P 23 07 26.0 +0.8**
OHAK IAmb IAmb 23 07 26.1
comp=Z,9.6nm,1.0s
ILAR Eielson Array 93.22 25 P **P 23 07 45.0 -1.5**
comp=Z,0.8nm,0.7s,baz=262,slow=4.4,SNR=7.7
SNAA Sanae 95.79 193 P **P 23 07 59.9 +1.5**
FINES FINESS Array B 102.66 331 PKiKP **PKiKP 23 12 50.4 +0.9**
comp=Z,4.3nm,1.0s,baz=149,slow=3.2,SNR=3.6
GERES GERESS Array B 112.33 320 PKiKP **PKiKP 23 13 07.9 -0.1**
comp=Z,0.3nm,0.4s,baz=75,slow=1.5,SNR=4.9
PDAR Pinedale Array 116.79 45 PKP **PKiKP 23 13 16.8 -0.2**
comp=Z,0.4nm,0.6s,baz=95,slow=1.2,SNR=4.4
TXAR Lajitas Array 124.85 59 PKP **PKiKP 23 13 33.5 +0.5**
comp=Z,0.3nm,0.5s,baz=173,slow=0.9,SNR=4.1
TXAR Lajitas Array 124.85 59 PKP **PKiKP 23 13 32.9 -0.1**
TORD Torodi Ar. Bea 128.80 281 PKP **PKiKP 23 13 40.4 -0.7**
comp=Z,0.5nm,0.4s,baz=83,slow=2.0,SNR=5.7
TORD Torodi Ar. Bea 128.80 281 PKiKP 23 13 40.6 -0.5
DBIC Dimbokro 135.20 273 PKP **PKiKP 23 13 52.4 -1.7**
comp=Z,4.5nm,1.0s,baz=35,slow=1.6,SNR=4.7
DBIC Dimbokro 135.20 273 PKiKP 23 13 52.5 -1.5
LPAZ La Paz 150.81 142 PKPbc **PKiKP 23 14 28.0 +1.2**
comp=Z,3.2nm,0.4s,baz=223,slow=3.0,SNR=18

NEIC ***24*** *23:15:06.2±1.4, 8.°97S±0.°08×126.°98E±0.°03, h35km±2km, mb4.0/6, Error ellipse: s-maj=14.5km s-min=3.0km az=161.0*
IDC ***24*** *23:15:09.8±5.1, 9.°18S×126.°95E, h79km±55km, mb3.5/3, mb1 3.8/7, mb1mx3.5/29, mbtmp3.9/7, ML4.0/4, Error ellipse: s-maj=47.9km s-min=16.5km az=33.0*
ISC 24 23:15:06.2±0.8, 9.°04S±0.°07×126.°98E±0.°07, h35km, n27, σ1**§36/32, mb4.0/6, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.77**	**255**		**Pn**	**23 15 48.6**	**+0.4**
SOEI				Sn	**Sn**	**23 16 17.9**	**-2.7**
BATI	**Baumata**	**3.48**	**250**	P	**Pn**	**23 16 00.2**	**+2.3**
14nm,0.3s,baz=87,slow=18,SNR=6.4							
BATI				S	**Sn**	**23 16 40.5**	**+2.7**
33nm,0.3s,baz=18,slow=20,SNR=15							
MTN	**Manton Dam**	**5.56**	**133**		**Pn**	**23 16 27.9**	**+1.4**
KNRA	**Kununurra**	**6.83**	**165**		**Pn**	**23 16 46.5**	**+2.6**
FAKI	**Fak Fak**	**8.02**	**41**	Pn	**Pn**	**23 17 01.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**9.10**	**188**	P	**Pn**	**23 17 17.1**	**+1.9**
2.1nm,0.3s,baz=0.6,slow=11,SNR=18							
FITZ				S	**Sn**	**23 18 55.8**	**-0.6**
3.5nm,0.3s,baz=0.0,slow=20,SNR=6.9							
FITZ	**Fitzroy Crossi**	**9.10**	**188**		**Pn**	**23 17 16.1**	**+0.9**
WB0	**Warramunga Arr**	**12.85**	**147**		**Pn**	**23 18 07.3**	**+0.8**
WRA	**Warramunga Arr**	**12.97**	**148**	P	**Pn**	**23 18 08.2**	**+0.1**
0.6nm,0.3s,baz=319,slow=14,SNR=8.3							
WRA				S	**Sn**	**23 20 29.2**	**-2.0**
1.0nm,0.3s,baz=316,slow=24,SNR=7.2							
WRA	**Warramunga Arr**	**12.97**	**148**		**Pn**	**23 18 08.6**	**+0.5**
WB2	**Warramunga Arr**	**12.97**	**147**		**Pn**	**23 18 09.2**	**+1.0**
WR0	**Warramunga Arr**	**13.09**	**147**		**Pn**	**23 18 10.8**	**+1.1**
PSA00	**Pilbara Seismi**	**14.23**	**208**	Pn	**Pn**	**23 18 24.7**	**-0.6**
AS31	**Alice Springs**	**15.98**	**156**		**Pn**	**23 18 47.2**	**-1.3**
ASAR	**Alice Springs**	**15.99**	**156**	P	**Pn**	**23 18 49.7**	**+1.2**
0.5nm,0.3s,baz=321,slow=11,SNR=19							
ASAR				S	**Sn**	**23 21 43.8**	**-1.0**
0.4nm,0.3s,baz=318,slow=19,SNR=7.3							
ASAR	**Alice Springs**	**15.99**	**156**		**Pn**	**23 18 48.5**	**0.0**
COEN	**Coen**	**16.60**	**109**	P	**P**	**23 18 58.8**	**+0.2**
COEN				IAmb	IAmb	23 19 11.4	
comp=Z,13nm,1.1s							
MORW	**Morawa**	**22.42**	**206**	P	**P**	**23 20 02.3**	**+0.3**
MORW				IAmb	IAmb	23 20 15.0	
comp=Z,6.8nm,1.2s							
CMAR	**Chiang Mai Arr**	**38.88**	**315**	P	**P**	**23 22 27.8**	**-0.8**
comp=Z,0.6nm,0.5s,baz=146,slow=7.6,SNR=5.1							
CMAR	**Chiang Mai Arr**	**38.88**	**315**	P	**P**	**23 22 27.2**	**-1.4**
MK31	**Makanchi Array**	**68.34**	**329**	P	**P**	**23 26 03.3**	**-0.8**
MKAR	**Makanchi Array**	**68.34**	**329**	P	**P**	**23 26 04.0**	**0.0**
comp=Z,0.5nm,0.5s,baz=123,slow=7.2,SNR=7.0							
MKAR	**Makanchi Array**	**68.34**	**329**	P	**P**	**23 26 03.4**	**-0.6**
ZAA0	**Zalesovo Array**	**72.13**	**335**	P	**P**	**23 26 26.1**	**-0.9**
ZAA0				IAmb	IAmb	23 26 41.2	
comp=Z,1.7nm,0.8s							
ZALV	**Zalesovo Beam**	**72.13**	**335**	P	**P**	**23 26 26.2**	**-0.7**
comp=Z,0.6nm,0.4s,baz=121,slow=7.1,SNR=2.5							
ZALV	**Zalesovo Beam**	**72.13**	**335**	P	**P**	**23 26 25.9**	**-1.1**

KURK	Kurchatov	72.74	330	P	P	23 26 30.6	0.0
KURK				IAmb	IAmb	23 26 48.3	
	comp=Z,2.9nm,1.3s						

*IDC **24** 23:16:36.5±5.4, 9.°23S×126.°91E, h92km±58km, mb3.5/3, mb1 3.7/7, mb1mx3.5/29, mbtmp3.9/7, ML3.7/3, Error ellipse: s-maj=54.7km s-min=16.6km az=36.0*

ISC 24 23:16:31.7±1.1, 8.°96S±0.°09×127.°08E±0.°10, h35km, n7, σ1°54/10, mb3.8/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	3.58	250	P	Pn	23 17 25.8	+0.9
	baz=323,slow=16,SNR=0.9						
BATI				S	Sn	23 18 06.2	+0.2
	38nm,0.3s,baz=30,slow=21,SNR=7.2						
FITZ	**Fitzroy Crossi**	9.19	189	P	Pn	23 18 42.8	+1.0
	1.9nm,0.3s,baz=360,slow=9.4,SNR=3.0						
FITZ				S	Sn	23 20 21.2	-2.9
	2.8nm,0.3s,baz=0.1,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	12.98	148	P	Pn	23 19 34.9	+1.1
	0.3nm,0.3s,baz=318,slow=14,SNR=1.7						
WRA				S	Sn	23 21 57.0	0.0
	0.7nm,0.3s,baz=314,slow=23,SNR=5.9						
ASAR	**Alice Springs**	16.02	157	P	Pn	23 20 15.5	+1.1
	0.2nm,0.3s,baz=326,slow=11,SNR=1.4						
CMAR	**Chiang Mai Arr**	38.90	315	P	P	23 23 54.1	-0.1
	0.4nm,0.3s,baz=140,slow=7.8,SNR=4.0						
MKAR	**Makanchi Array**	68.32	329	P	P	23 27 29.6	+0.2
	0.6nm,0.7s,baz=118,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	72.10	335	P	P	23 27 50.3	-2.1
	0.4nm,0.3s,baz=104,slow=6.1,SNR=1.9						

*IDC **24** 23:42:17.2±0.9, 19.°16N×108.°42W, h0km, mb4.2/10, mb1 4.4/14, mb1mx4.2/35, mbtmp4.2/14, ML3.9/4, MS3.8/24, Ms1 3.8/24, ms1mx3.7/36, Error ellipse: s-maj=38.3km s-min=16.4km az=64.0*

*NEIC **24** 23:42:17.6±2.0, 19.°09N±0.°08×108.°52W±0.°06, h10km±1km, mb4.5/105, Error ellipse: s-maj=13.9km s-min=10.3km az=181.0*

*GCMT **24** 23:42:20.6±0.5, 19.°38N±0.°02×108.°32W±0.°03, h30km±1km, MW4.9/94, Moment Tensor Solution. s18,c20; s94,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.21±.20; $M_{\theta\theta}$=2.75±.14; $M_{\phi\phi}$=2.95±.14; $M_{r\theta}$=0.01±.18; $M_{r\phi}$=-1.47±.10; $M_{\theta\phi}$=0.54±.19; Best double couple: M_0=3.24800×10^{16} NP1:ϕ_s=301.00000°, δ82.00000°, λ176.00000°. NP2: ϕ_s=32.00000°, δ86.00000°, λ8.00000°. Principal axes: T 3.3830, Plg8.0000°, Azm257.0000°; N -0.2760, Plg81.0000°, Azm58.0000°; P -3.1130, Plg3.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MEX **24** 23:42:20.8±0.5, 19.°24N×108.°09W, h10km, MD4.2*

ISC 24 23:42:18.3±0.5, 19.°19N±0.°07×108.°29W±0.°06, h10km, n175, σ1°37/159, mb4.5/33, MS3.8/23, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	2.53	261	Pn	Pn	23 42 55.7	-3.8
	SNR=1438						
H06E1				T	T	23 45 31.7	
H06S1	**SOCORRO T**	2.56	260	Pn	Pn	23 42 53.4	-6.6
H06S1				T	T	23 45 33.8	
	SNR=978						
H06N1	**SOCORRO T-PHAS**	2.57	263	Pn	Pn	23 42 55.3	-4.8
H06N1				T	T	23 45 30.0	
	SNR=1087						
CJM	**Chamela**	3.08	84	eP	Pn	23 43 03.9	-3.2
CJM				eS	Sn	23 43 37.3	-6.7
ANIG	**Ahuacatlan**	4.00	62	eP	Pn	23 43 17.8	-2.0
ANIG				i S	Sn	23 44 02.0	-4.8
COIG	**Colima**	4.35	89	eP	Pn	23 43 22.5	-2.1
COIG				eS	Sn	23 44 10.3	-5.1
EZ5V		4.44	86	eP	Pn	23 43 25.3	-0.7
LPIG	**La Paz**	5.23	339	Pn	Pn	23 43 36.2	-0.4
	8.2nm,0.3s,baz=148,slow=19,SNR=4.6						
LPIG				LR	LR	23 45 14.5	
	comp=Z,2μm,20.9s,baz=178,slow=34						
ZAIG	**Zacatecas**	6.42	55	Pn	Pn	23 43 53.4	+0.1
MOIG	**Morelia**	6.72	85	Pn	Pn	23 44 00.7	+3.3
ARIG	**Puente Sto Nin**	7.58	96	i P	Pn	23 44 08.1	-0.9
TLIG	**Tlapa**	9.37	98	Pn	Pn	23 44 34.8	+1.1
HSIG		10.08	347	Pn	Pn	23 44 43.7	+0.5
TX32	**Lajitas Array**	10.94	22		Pn	23 44 55.5	+0.4
TX31	**Lajitas Ar. Si**	10.94	22		Pn	23 44 55.8	+0.7
TXAR	**Lajitas Array**	10.94	22	Pn	Pn	23 44 56.2	+1.2
	0.2nm,0.3s,baz=204,slow=13,SNR=20						
TXAR				LR	LR	23 48 41.1	
	comp=Z,481nm,19.3s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	10.94	22	Pn	Pn	23 44 56.6	+1.5
833A	**Chaparral WMA,**	12.20	40	Pn	Pn	23 45 13.8	+1.5
MNTX	**Cornudas Mount**	12.73	11	Pn	Pn	23 45 19.8	+0.4
SFX	**San Felipe**	13.20	335		Pn	23 45 25.6	-0.3
TUC	**Tucson**	13.25	351	Pn	Pn	23 45 28.0	+1.3
121A	**Cookes Peak, D**	13.29	2	Pn	Pn	23 45 29.3	+2.0
214A	**Organ Pipe Nat**	13.35	343	Pn	Pn	23 45 28.7	+0.8
GDL2	**Guadalupe Moun**	13.43	14	Pn	Pn	23 45 31.4	+2.2
SPX	**San Pedro Mart**	13.46	333	Pn	Pn	23 45 29.4	-0.4
JCT	**Junction City**	13.62	33	Pn	Pn	23 45 33.7	+2.1
113A	**Mohawk Valley,**	14.38	341	Pn	Pn	23 45 42.0	-0.1
CPBX	**Cerro Prieto**	14.60	336	Pn	Pn	23 45 47.5	+2.4
Y22D	**IRIS PASSCAL I**	14.87	4	Pn	Pn	23 45 48.6	-0.3
BNM	**Barren Site**	14.97	5	Pn	Pn	23 45 51.9	+1.6
GLA	**Glamis**	14.99	338		Pn	23 45 51.4	+1.0
435B	**Jarrell**	15.07	38	Pn	Pn	23 45 53.1	+1.8
435B				IAmb	IAmb	23 45 59.9	
	comp=Z,18nm,1.1s						
RMX	**La Rumorosa**	15.07	334	Pn	Pn	23 45 51.7	+0.1
RMX				IAmb	IAmb	23 46 02.3	
	comp=Z,14nm,1.1s						
TKX	**Tecate**	15.27	332	Pn	Pn	23 45 53.9	-0.2
TKX				IAmb	IAmb	23 45 58.3	
	comp=Z,26nm,1.1s						
Y14A	**Wickenburg**	15.28	345		Pn	23 45 55.0	+0.9
Y14A				IAmb	IAmb	23 46 03.5	
	comp=Z,31nm,1.5s						
BAR	**Barrett**	15.39	332		Pn	23 45 56.9	+1.2
BAR				IAmb	IAmb	23 46 12.0	
	comp=Z,45nm,1.6s						
X16A	**Lo Mia Camp, P**	15.42	350		Pn	23 45 57.7	+1.4
ABTX	**Abilene, Hawle**	15.46	28	Pn	Pn	23 45 58.5	+1.9
ABTX				IAmb	IAmb	23 46 11.2	
	comp=Z,20nm,1.1s						
HKT	**Hockley**	15.58	44	Pn	Pn	23 45 58.6	+0.6
HKT				IAmb	IAmb	23 46 02.0	
	comp=Z,64nm,1.8s						
CCIG	**Comitan**	15.66	98	Pn	P	23 46 01.8	-1.8
ANMO	**Albuquerque**	15.78	6	Pn	Pn	23 46 02.8	+1.9
WHTX	**Lake Whitney,**	16.05	35	Pn	Pn	23 46 06.2	+2.1
PFO	**Pinyon Flats O**	16.11	335	Pn	Pn	23 46 05.7	+0.6
	comp=Z,0.1nm,0.3s,baz=151,slow=10,SNR=6.7						
PFO				LR	LR	23 51 20.6	
	comp=Z,1μm,21.5s,baz=164,slow=34						
PFO	**Pinyon Flats O**	16.11	335		Pn	23 46 06.1	+1.0
WUAZ	**Wupatki**	16.49	351		Pn	23 46 10.9	+1.0
WUAZ				IAmb	IAmb	23 46 28.7	
	comp=Z,52nm,1.4s						
AMTX	**Amarillo**	16.69	19	P	P	23 46 15.6	+0.7
237A	**Washetta, Mont**	16.99	39	Pn	Pn	23 46 16.4	+0.1
237A				IAmb	IAmb	23 46 28.4	
	comp=Z,25nm,1.0s						
Z35A	**Perchaven, San**	17.19	33		P	23 46 21.2	+0.9
Z35A				IAmb	IAmb	23 46 39.1	
	comp=Z,40nm,1.4s						
NATX	**Nacogdoches**	17.53	42	Pn	Pn	23 46 23.4	+0.5
APG	**El Apazote**	17.54	101	P	P	23 46 26.1	+1.7
	comp=Z,0.3nm,0.3s,baz=260,slow=16,SNR=5.5						
APG				LR	LR	23 52 14.1	
	comp=Z,352nm,18.5s,baz=288,slow=34						
WMOK	**Wichita Mounta**	17.64	27	Pn	Pn	23 46 24.1	-0.2
PETF	**Flores**	17.66	94		P	23 46 26.8	+1.2
PETF				IAmb	IAmb	23 46 34.5	
	comp=Z,56nm,1.4s						
GSC	**Goldstone, Bar**	17.73	337	P	P	23 46 26.7	+0.4
GSC				IAmb	IAmb	23 46 32.6	
	comp=Z,44nm,1.6s						
MVCO	**Mesa Verde**	17.95	359	P	P	23 46 29.9	+0.9
MVCO				IAmb	IAmb	23 46 45.5	
	comp=Z,50nm,1.4s						
KNB	**Kanab**	18.20	348	P	P	23 46 32.4	+0.8
T25A	**Trinidad**	18.20	10	P	P	23 46 32.6	+1.0
LCMT	**Little Creek M**	18.28	347	P	Pn	23 46 33.7	+1.5
S22A	**4UR Ranch, Cre**	18.53	4		Pn	23 46 37.4	+1.9
SDCO	**Great Sand Dun**	18.65	7	P	Pn	23 46 38.5	+1.6
ESQI	**Esquipulas**	18.71	101		Pn	23 46 40.3	+2.7
ESQI				IAmb	IAmb	23 46 50.9	
	comp=Z,65nm,1.5s						
ISA	**Isabella, Lake**	18.71	333	P	Pn	23 46 38.0	+0.5
MTO3	**Montecristo**	18.74	102	P	Pn	23 46 39.8	+1.7
MTO3				IAmb	IAmb	23 46 58.8	
	comp=Z,36nm,1.3s						
SZCU	**Shurtz Canyon**	18.81	348	P	P	23 46 39.2	+0.9
342A	**Flagon Creek P**	18.83	47	P	Pn	23 46 39.5	+0.7
TEIG	**Tepich**	18.87	84	LR	LR	23 54 58.9	
	comp=Z,365nm,21.4s,baz=298,slow=40						
PV01	**Paradox Valley**	18.88	359	P	Pn	23 46 40.4	+0.8
OK025	**Westminster Rd**	18.98	28	P	Pn	23 46 41.6	+1.0
OK025				IAmb	IAmb	23 46 49.0	
	comp=Z,34nm,1.5s						
TPNV	**Topopah Spring**	19.02	340	P	P	23 46 40.6	+0.1
PRN	**Pahroc Range**	19.09	343	P	P	23 46 40.4	-0.9
MSU	**Marysvale**	19.55	351		P	23 46 46.7	+0.3
WLAR	**White Oak Lake**	19.79	40	P	P	23 46 49.8	+1.0
WLAR				IAmb	IAmb	23 46 59.4	
	comp=Z,41nm,1.2s						
Q16A	**Castle Valley**	19.81	353	P	P	23 46 50.8	+1.5
PSUT	**Pine Spring**	19.87	347	P	P	23 46 50.6	+0.6
TUL1	**Leonard**	19.97	31	P	P	23 46 50.7	-0.2
344A	**Westbrook Farm**	19.99	49	P	P	23 46 51.3	+0.3
R11A	**Troy Canyon, C**	20.12	343	P	P	23 46 52.5	-0.1
R11A				IAmb	IAmb	23 46 57.0	
	comp=Z,18nm,1.2s						
W39A	**Magazine**	20.47	36	P	P	23 46 56.6	+0.4
W39A				IAmb	IAmb	23 47 12.2	
	comp=Z,49nm,1.6s						
X40A	**Basin Creek Fa**	20.51	39	P	P	23 46 57.9	+1.2
X40A				IAmb	IAmb	23 47 01.6	
	comp=Z,67nm,1.8s						
OMMB	**Old Mammoth Mi**	20.60	335	P	P	23 46 58.9	+0.9
OMMB				IAmb	IAmb	23 47 06.9	
	comp=Z,15nm,1.1s						
ISCO	**Idaho Springs**	20.67	6	P	P	23 46 59.4	+0.7
O20A	**White River Ci**	20.87	0		P	23 47 00.5	-0.3
O20A				IAmb	IAmb	23 47 14.6	
	comp=Z,16nm,0.9s						
R32A	**Long Quarter,**	20.89	22	P	P	23 47 00.3	-0.5
R32A				IAmb	IAmb	23 47 14.1	
	comp=Z,16nm,0.8s						
MPU	**Maple Canyon**	20.95	353	P	P	23 47 01.8	+0.1
UALR	**University of**	21.00	39		P	23 47 03.3	+1.3
NVAR	**Mina Array Bea**	21.05	338	P	P	23 47 04.7	+1.9
	comp=Z,12nm,1.1s,baz=163,slow=12,SNR=28						
NVAR				LR	LR	23 55 03.2	
	comp=Z,256nm,19.0s,baz=138,slow=36						
NVAR	**Mina Array Bea**	21.05	338	P	P	23 47 02.7	-0.1
DUG	**Dugway, Tooele**	21.29	350	P	P	23 47 05.3	+0.1
DUG				IAmb	IAmb	23 47 12.5	
	comp=Z,38nm,1.3s						
RDMU	**Red Mountain**	21.34	357	P	P	23 47 06.6	+0.8
WHAR	**Wooly Hollow**	21.39	38	P	P	23 47 06.5	+0.3
JLU	**Jordanelle**	21.51	353	P	P	23 47 08.7	+1.0
N23A	**Red Feather La**	21.72	5	P	P	23 47 10.6	+0.6
N23A				IAmb	IAmb	23 47 25.0	
	comp=Z,25nm,1.4s						
TCUT	**Toone Canyon**	22.02	354	P	P	23 47 12.1	-1.1
BGU	**Big Grassy Mou**	22.04	350	P	P	23 47 13.2	-0.1
PHWY	**Pilot Hill**	22.17	6	P	P	23 47 14.6	-0.2
KSU1	**Kansas State U**	22.27	25	P	P	23 47 16.5	+0.9
KSU1				IAmb	IAmb	23 47 19.3	
	comp=Z,27nm,1.5s						
ELK	**Elko**	22.29	346	P	P	23 47 16.9	+0.8
	comp=Z,5.4nm,1.0s,baz=184,slow=7.4,SNR=9.7						
ELK				LR	LR	23 55 16.7	
	comp=Z,178nm,20.2s,baz=168,slow=35						
ELK	**Elko**	22.29	346	P	P	23 47 15.6	-0.5
SPUT	**South Promonto**	22.33	352	P	P	23 47 16.2	-0.2
HWUT	**Hardware Ranch**	22.52	354	P	P	23 47 18.2	-0.3
LCAR	**Lake Charles**	22.59	38	P	P	23 47 19.9	+0.8
LCAR				IAmb	IAmb	23 47 25.1	
	comp=Z,17nm,1.2s						
MGMO	**Mountain Grove**	22.74	35	P	P	23 47 21.6	+0.9
W45A	**Hickory Valley**	23.21	43	P	P	23 47 25.8	+0.2
ACON	**Acoyapa**	23.38	105	P	P	23 47 28.3	+0.8
K22A	**Casper**	23.43	3	P	P	23 47 26.9	-1.0
K22A				IAmb	IAmb	23 47 37.9	
	comp=Z,10nm,1.0s						
LRAL	**Lakeview Retre**	23.51	50	P	P	23 47 29.5	+1.0
LRAL				IAmb	IAmb	23 47 32.0	
	comp=Z,17nm,0.9s						
PD31	**Pinedale Array**	23.53	358	P	P	23 47 29.5	+0.6
PDAR	**Pinedale Array**	23.53	358	P	P	23 47 30.5	+1.6
	comp=Z,1.6nm,0.7s,baz=160,slow=9.5,SNR=8.2						
PDAR				LR	LR	23 56 20.2	
	comp=Z,199nm,18.6s,baz=184,slow=36						
PDAR	**Pinedale Array**	23.53	358	P	P	23 47 29.6	+0.6
250A	**Grady**	23.54	53	P	P	23 47 29.4	+0.5
R40A	**Maddies Statio**	23.59	33	P	P	23 47 28.6	-0.7
R40A				IAmb	IAmb	23 47 32.5	
	comp=Z,10nm,0.9s						
PLAL	**Pickwick Lake**	23.83	45	P	P	23 47 31.5	-0.2
CCM	**Cathedral Cave**	23.95	35	P	P	23 47 32.5	-0.3
CCM				IAmb	IAmb	23 47 35.9	
	comp=Z,12nm,0.9s						
REDW	**Red Top Meadow**	24.19	355	P	P	23 47 35.8	+0.5
REDW				IAmb	IAmb	23 47 43.6	
	comp=Z,23nm,1.4s						
X48A	**Hartselle**	24.23	47	P	P	23 47 35.4	0.0
X48A				IAmb	IAmb	23 47 36.3	
	comp=Z,19nm,1.1s						
SNOW	**Snow King Moun**	24.29	356	P	P	23 47 36.3	+0.1
LOHW	**Long Hollow**	24.43	356	P	P	23 47 37.1	-0.3
LOHW				IAmb	IAmb	23 47 45.7	
	comp=Z,14nm,1.1s						
FXWY	**Fox Creek**	24.48	355	P	P	23 47 37.4	-0.5
FXWY				IAmb	IAmb	23 47 46.4	
	comp=Z,16nm,1.6s						
MOD	**Modoc Plateau**	24.84	338	P	P	23 47 40.7	-0.3
Z51A	**Franklin**	24.98	51	P	P	23 47 42.6	+0.4
Z51A				IAmb	IAmb	23 47 45.9	
	comp=Z,15nm,0.9s						
152A	**Waverly Hall**	25.02	53	P	P	23 47 43.0	+0.4
RSSD	**Black Hills**	25.11	7	P	P	23 47 44.2	+0.7
FPAL	**Fort Paine**	25.27	48	P	P	23 47 45.4	+0.4
SWET	**Sewanee**	25.41	47	P	P	23 47 46.3	+0.2
SWET				IAmb	IAmb	23 48 03.6	
	comp=Z,8.3nm,0.8s						
Q44A	**Meyer Farm, Va**	25.78	36	P	P	23 47 50.3	+0.9
MCMT	**McKenzie Canyo**	25.84	353	P	P	23 47 50.9	+0.6
P43A	**Skaggs, Pawnee**	26.02	34	P	P	23 47 52.7	+1.1
OLIL	**Olney**	26.18	38	P	P	23 47 54.2	+1.0
OLIL				IAmb	IAmb	23 48 05.1	
	comp=Z,17nm,1.0s						
CPCT	**Cooper Cave**	26.51	48	P	P	23 47 57.3	+1.2
CPCT				IAmb	IAmb	23 48 08.4	
	comp=Z,9.9nm,1.0s						
TKL	**Tuckaleechee C**	27.14	48	LR	LR	00 00 15.7	
	comp=Z,189nm,18.1s,baz=244,slow=40						
NEW	**Newport**	29.87	348	LR	LR	23 59 38.3	
	comp=Z,146nm,21.0s,baz=176,slow=35						
EYMN	**Ely**	31.77	22	P	P	23 48 43.1	+0.4
EYMN				IAmb	IAmb	23 48 44.7	
	comp=Z,10.0nm,1.1s						
OTAV	**Otavalo**	34.80	119	P	P	23 49 10.0	-0.1
OTAV				IAmb	IAmb	23 49 28.3	
	comp=Z,12nm,1.4s						
SDV	**Santo Domingo**	37.86	100	P	P	23 49 36.2	+0.3
SDV				IAmb	IAmb	23 49 51.0	
	comp=Z,10nm,0.7s						
MTP	**Monte Pirata**	40.44	84	P	P	23 49 57.4	+0.2
TAOE	**Nuku Hiva Isla**	41.98	231	eLR	LR	00 01 35.8	
	comp=Z,339nm,25.0s						
TAOE	**Nuku Hiva Isla**	41.98	231	eT	T	00 34 34.2	
	comp=Z,84nm,0.2s						
YKA	**Yellowknife Ar**	43.48	356	P	P	23 50 21.1	-0.4
	comp=Z,1.6nm,0.9s,baz=172,slow=6.4,SNR=3.6						
YKA				LR	LR	00 08 41.1	
	comp=Z,246nm,19.5s,baz=0.0,slow=36						
SCHQ	**Schefferville**	47.44	31	LR	LR	00 08 37.5	
	comp=Z,73nm,20.8s,baz=270,slow=33						
BCAR	**Beaver Creek A**	49.47	341	P	P	23 51 08.6	-0.1
EGAK	**Eagle**	50.55	342	P	P	23 51 17.0	+0.2
EGAK				IAmb	IAmb	23 51 28.6	
	comp=Z,7.5nm,1.1s						
RIDG	**Independent Ri**	50.92	340	P	P	23 51 19.5	-0.1
INK	**Inuvik**	51.60	348	P	P	23 51 24.1	-0.4
PMOR	**Pomariorio Ree**	51.71	232	eT	T	00 46 43.5	
	comp=Z,1.9nm,0.2s						
IL31		52.28	340	P	P	23 51 29.6	-0.1
IL31				IAmb	IAmb	23 51 32.9	
	comp=Z,16nm,1.6s						
ILAR	**Eielson Array**	52.28	340	P	P	23 51 30.0	+0.3
	comp=Z,5.1nm,1.1s,baz=152,slow=6.1,SNR=20						
ILAR				LR	LR	00 11 38.2	
	comp=Z,84nm,19.7s,baz=152,slow=34						
ILAR	**Eielson Array**	52.28	340	P	P	23 51 29.7	0.0
SAML	**Samuel**	52.52	118	P	P	23 51 32.0	-0.2
TRF	**Thorofare Moun**	52.59	338	P	P	23 51 32.4	+0.2
TRF				IAmb	IAmb	23 51 34.3	
	comp=Z,7.8nm,1.0s						
BWN	**Browne**	52.74	339	P	P	23 51 32.6	-0.5
LPAZ	**La Paz**	52.95	129	P	P	23 51 36.5	+0.5
	comp=Z,2.1nm,0.7s,baz=286,slow=4.9,SNR=6.3						
LPAZ				LR	LR	00 11 41.3	
	comp=Z,47nm,19.6s,baz=298,slow=33						
LPAZ	**La Paz**	52.95	129	P	P	23 51 36.3	+0.3
LPAZ				IAmb	IAmb	23 51 55.7	
	comp=Z,10.0nm,1.5s						
PPLA	**Purkeypile**	52.96	337	P	P	23 51 34.7	-0.2
TTA	**Tatalina**	54.45	335	P	P	23 51 45.3	-0.4
TTA				IAmb	IAmb	23 51 47.5	
	comp=Z,7.1nm,1.2s						
PPT	**Papeete**	54.59	231	LR	LR	00 09 01.8	
	comp=Z,98nm,18.0s,baz=12,slow=29						
PPT2	**Papeete2**	54.60	231	eS	S	23 59 28.9	+1.4
	comp=Z,80nm,25.0s						
PPT2				eLR	LR	00 07 28.5	
	comp=Z,360nm,26.2s						
IMAR	**Indian Mountai**	55.29	339	P	P	23 51 51.3	-0.4
TBI	**Tubuai**	58.33	225	eLR	LR	00 09 07.0	
	comp=Z,239nm,27.2s						
H03N2	**Juan Fernandez**	59.37	152	T	T	00 56 53.3	
	baz=329,slow=77,SNR=180						
H03N1	**Juan Fernandez**	59.38	152	T	T	00 56 54.6	
	baz=329,slow=77,SNR=240						
H03N3	**Juan Fernandez**	59.38	152	T	T	00 56 53.7	
	baz=329,slow=77,SNR=170						
CO03	**El Pedregal**	61.49	143	P	P	23 52 36.0	+0.5
PLCA	**Paso Flores**	69.17	150	P	P	23 53 26.6	+1.4
	comp=Z,5.2nm,1.0s,baz=317,slow=8.1,SNR=4.8						
PLCA				LR	LR	00 16 32.2	
	comp=Z,215nm,21.8s,baz=342,slow=30						
PLCA	**Paso Flores**	69.17	150	P	P	23 53 25.7	+0.5
PETK	**Petropavlovsk-**	77.24	322	P	P	23 54 12.4	-0.3
	comp=Z,1.7nm,0.4s,baz=87,slow=7.4,SNR=2.3						
PETK				LR	LR	00 23 16.2	
	comp=Z,18nm,19.1s,baz=61,slow=32						
PETK	**Petropavlovsk-**	77.24	322	P	P	23 54 11.1	-1.6
ARCES	**ARCESS Array B**	85.65	15	LR	LR	00 33 54.6	
	comp=Z,22nm,18.2s,baz=20,slow=36						
NOA	**NORSAR Array B**	86.62	25	LR	LR	00 33 06.1	
	comp=Z,41nm,21.4s,baz=305,slow=35						
ESDC	**Sonseca Array**	88.44	48	LR	LR	00 34 22.5	
	comp=Z,41nm,19.7s,baz=175,slow=35						
NRIK	**Noril'sk**	90.98	354	P	P	23 55 23.3	+0.9
	comp=Z,0.7nm,0.3s,baz=351,slow=3.3,SNR=3.7						
NRIK				LR	LR	00 37 22.8	
	comp=Z,72nm,19.9s,baz=20,slow=36						
DZM	**Mont Dzumac**	92.85	248	eLR	LR	00 25 36.9	
	comp=Z,280nm,26.8s						
HNR	**Honiara**	94.70	262	LR	LR	00 28 11.7	
	comp=Z,107nm,19.1s,baz=65,slow=29						
GERES	**GERESS Array B**	94.90	34	P	P	23 55 41.0	0.0
	comp=Z,0.2nm,0.4s,baz=311,slow=7.7,SNR=1.7						
GERES				LR	LR	00 37 38.0	
	comp=Z,34nm,20.6s,baz=278,slow=35						
MJAR	**Matsushiro Art**	96.30	312	LR	LR	00 30 56.6	
	comp=Z,32nm,20.9s,baz=20,slow=30						
WRA	**Warramunga Arr**	121.30	258	PKP	PKiKP	00 01 12.4	-0.3
	comp=Z,0.3nm,0.6s,baz=64,slow=0.8,SNR=1.8						
ASAR	**Alice Springs**	122.32	254	PKP	PKiKP	00 01 14.3	-0.4
	comp=Z,0.3nm,0.5s,baz=116,slow=2.2,SNR=2.3						

*IDC **24** 23:49:36.6±1.8, 3.°97N×97.°68E, h131km±15km, mb3.4/6, mb1 3.5/7, mb1mx3.2/43, mbtmp3.8/7, Error ellipse: s-maj=69.5km s-min=17.3km az=54.0*

*DJA **24** 23:49:37.7±0.9, 4.°N±6.°×9.°7E±.°, h119km±10km, M3.3/7, MLv3.3/7*

ISC 24 23:49:33.6±0.9, 4.°08N±0.°08×97.°9E±0.°1, h100km, n15, σ0°88/12, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		1.11	223	P	Pn	23 49 56.2	+0.9
TPTI				S	Sn	23 50 11.5	-0.2
LHMI	**Lhok Sumawe**	1.51	319	P	Pn	23 50 05.8	+5.8
MLSI	**Meulaboh, Aceh**	1.54	277	P	Pn	23 50 01.7	+1.3
MLSI				S	Sn	23 50 20.1	-0.7
PSI	**Prapat**	1.61	142	P	Pn	23 50 08.7	+7.3
	7.1nm,0.3s,baz=360,slow=4.9,SNR=20						
PSI				S	Sn	23 50 32.4	+10
	5.

EHY	**Hungye**	**1.20 294**	*eP*	**Pn**	**00 58 54.8**	**+0.1**
	baz=295					
EHY			*eS*	**Sb**	**00 59 09.8**	**-0.5**
	baz=295					
ESL	**Shilin**	**1.27 309**	*eP*	**Pb**	**00 58 56.2**	**+0.1**
	baz=310					
ESL			*eS*	**Sb**	**00 59 11.5**	**-0.9**
	baz=310					
LONT	**Longtian**	**1.28 266**	*eP*	**Pg**	**00 58 57.0**	**0.0**
	baz=264					
LONT			S	**Sb**	**00 59 12.3**	**-0.2**
	baz=264					
TTN	**Taitung**	**1.29 259**	*eP*	**Pg**	**00 58 57.1**	**0.0**
	baz=257					
TTN			*eS*	**Sb**	**00 59 12.3**	**-0.4**
	baz=257					
LAY	**Lan-yu**	**1.31 223**	*eP*	**Pb**	**00 58 56.9**	**+0.1**
	baz=219					
LAY			*eS*	**Sb**	**00 59 13.2**	**-0.4**
	baz=219					
TWGBT	**Beinan**	**1.33 262**	*eP*	**Pg**	**00 58 57.9**	**-0.2**
	baz=260					
TWGBT			S	**Sb**	**00 59 13.7**	**-0.4**
	baz=260					
TWG	**Pinlang**	**1.34 262**	*eP*	**Pg**	**00 58 57.9**	**-0.3**
	baz=260					
TWG			S	**Sb**	**00 59 13.8**	**-0.5**
	baz=260					
ELDTW	**Lidau**	**1.39 278**	P	**Pb**	**00 58 58.1**	**-0.1**
	baz=277					
ELDTW			*eS*	**Sn**	**00 59 14.0**	**-1.6**
	baz=277					
NACB	**Ninganchiao**	**1.43 324**	*eP*	**Pb**	**00 58 58.7**	**-0.1**
	baz=325					
NACB			*eS*	**Sn**	**00 59 15.4**	**-1.1**
	baz=325					
VWDT	**VWDT**	**1.46 301**	P	**Pb**	**00 58 59.5**	**+0.2**
	baz=301					
VWDT			*eS*	**Sn**	**00 59 16.8**	**-0.4**
	baz=301					
JYNG	**Yonagunijimaku**	**1.49 15**	P	**Pg**	**00 59 00.5**	**-0.4**
JYNG			*eS*	**Sb**	**00 59 18.3**	**-0.2**
ECL	**Taimali**	**1.50 254**	*eP*	**Pb**	**00 59 00.1**	**+0.2**
	baz=252					
ECL			*eS*	**Sn**	**00 59 16.9**	**-1.2**
	baz=252					
YOJ	**Yonaguni jima**	**1.52 17**	P	**Pg**	**00 59 00.9**	**-0.5**
	baz=19					
YOJ			S	**Sb**	**00 59 19.9**	**+0.7**
	baz=19					
YOJ	**Yonaguni jima**	**1.52 17**	P	**Pg**	**00 59 00.9**	**-0.5**
YOJ			*eS*	**Sb**	**00 59 19.6**	**+0.3**
ETLH	**Xiulin Townshi**	**1.52 322**	*eP*	**Pb**	**00 59 00.1**	**-0.2**
	baz=323					
ETLH			*eS*	**Sn**	**00 59 18.1**	**-0.8**
	baz=323					
ENAH	**Nanao**	**1.57 336**	*eP*	**Pb**	**00 59 01.4**	**+0.2**
	baz=337					
ENAH			*eS*	**Sn**	**00 59 20.2**	**+0.2**
	baz=337					
ENA	**Nanau**	**1.58 334**	*eP*	**Pb**	**00 59 01.3**	**0.0**
	baz=335					
HATJ	**Hateruma jima**	**1.58 48**	P	**Pb**	**00 59 01.2**	**-0.1**
HATJ			S	**Sn**	**00 59 19.6**	**-0.5**
WHF	**Hehuan Shan**	**1.61 315**	*eP*	**Pb**	**00 59 01.6**	**-0.5**
	baz=316					
WHF			*eS*	**Sn**	**00 59 20.4**	**-1.1**
	baz=316					
CHGB	**Renai**	**1.61 311**	*eP*	**Pb**	**00 59 01.9**	**-0.1**
	baz=311					
CHGB			*eS*	**Sn**	**00 59 20.3**	**-1.0**
	baz=311					
STYT	**Tauyuan**	**1.62 276**	*eP*	**Pb**	**00 59 02.0**	**-0.1**
	baz=275					
STYT			*eS*	**Sn**	**00 59 20.9**	**-0.5**
	baz=275					
SSLB	**Suanglung**	**1.63 299**	*eP*	**Pb**	**00 59 01.6**	**-0.6**
	baz=299					
SSLB			*eS*	**Sn**	**00 59 21.1**	**-0.3**
	baz=299					
ALS	**Alishan**	**1.65 288**	*eP*	**Pb**	**00 59 02.2**	**-0.5**
	baz=287					
ALS			*eS*	**Sn**	**00 59 21.6**	**-0.7**
	baz=287					
EAST	**Anshuo**	**1.66 248**	P	**Pb**	**00 59 02.5**	**-0.3**
	baz=246					
EAST			*eS*	**Sn**	**00 59 21.4**	**-0.8**
	baz=246					
FUSS	**Fushou**	**1.69 317**	P	**Pb**	**00 59 03.0**	**-0.4**
	baz=318					
FUSS			S	**Sn**	**00 59 22.5**	**-0.9**
	baz=318					
TWC	**Suao**	**1.70 339**	*eP*	**Pb**	**00 59 03.4**	**0.0**
	baz=341					
TWC			*eS*	**Sn**	**00 59 22.9**	**-0.3**
	baz=341					
SMLT	**Sun Moon Lake**	**1.72 301**	*eP*	**Pb**	**00 59 03.4**	**-0.4**
	baz=301					
SLGT	**Liugui**	**1.72 270**	*eP*	**Pb**	**00 59 03.9**	**+0.2**
	baz=269					
SLGT			*eS*	**Sn**	**00 59 23.3**	**-0.3**
	baz=269					
IRIF	**Iriomote-Funau**	**1.73 40**	P	**Pb**	**00 59 03.6**	**-0.2**
IRIF			*eS*	**Sn**	**00 59 23.8**	**0.0**
TWT	**Tachien**	**1.74 316**	*eP*	**Pb**	**00 59 04.0**	**-0.2**
	baz=316					
TWT			*eS*	**Sn**	**00 59 23.9**	**-0.6**
	baz=316					
NNSB	**Datong**	**1.75 324**	*eP*	**Pb**	**00 59 03.8**	**-0.5**
	baz=325					
NNSB			*eS*	**Sn**	**00 59 24.2**	**-0.4**
	baz=325					
NNSH	**Datong**	**1.75 324**	*eP*	**Pb**	**00 59 03.8**	**-0.5**
	baz=325					
NNSH			*eS*	**Sn**	**00 59 24.2**	**-0.3**
	baz=325					
SSD	**Sandimen**	**1.75 262**	*eP*	**Pb**	**00 59 04.0**	**-0.3**
	baz=260					
SSD			*eS*	**Sn**	**00 59 23.6**	**-0.9**
	baz=260					
TPUB	**Ta-pu**	**1.76 280**	*eP*	**Pb**	**00 59 04.6**	**+0.2**
	baz=279					
TPUB			*eS*	**Sn**	**00 59 24.7**	**+0.1**
	baz=279					
TYC	**Yuchr**	**1.76 301**	*eP*	**Pb**	**00 59 04.6**	**+0.2**
	baz=301					
WTP	**Ta-pu**	**1.76 278**	*eP*	**Pb**	**00 59 05.0**	**+0.5**
	baz=277					
WTP			*eS*	**Sn**	**00 59 24.9**	**+0.1**
	baz=277					
NNS	**Nan Shan**	**1.77 324**	*eP*	**Pb**	**00 59 03.9**	**-0.7**
	baz=325					
NNS			*eS*	**Sn**	**00 59 24.6**	**-0.3**
	baz=325					
SLIU	**Shizi**	**1.77 244**	*eP*	**Pb**	**00 59 04.4**	**-0.2**
	baz=242					
SLIU			*eS*	**Sn**	**00 59 23.8**	**-1.1**
	baz=242					
SGST	**Jiashian**	**1.78 273**	*eS*	**Sb**	**00 59 27.6**	**+0.6**
	baz=271					
MASBT	**Mashibuluo**	**1.78 257**	*eP*	**Pb**	**00 59 04.2**	**-0.6**
	baz=256					
MASBT			*eS*	**Sn**	**00 59 25.6**	**+0.5**
	baz=256					
CHN5	**Tsauling**	**1.79 289**	*eP*	**Pb**	**00 59 05.1**	**+0.2**
	baz=289					
CHN5			*eS*	**Sn**	**00 59 25.8**	**+0.4**
	baz=289					
NDT	**Datong Townshi**	**1.83 330**	*eP*	**Pb**	**00 59 05.0**	**-0.6**
	baz=331					
NDT			*eS*	**Sn**	**00 59 25.9**	**-0.5**
	baz=331					
CHN1	**Nanshi**	**1.84 276**	*eP*	**Pb**	**00 59 05.7**	**-0.1**
	baz=275					
CHN1			*eS*	**Sn**	**00 59 27.3**	**+0.8**
	baz=275					
JKRS	**Kuro-shima**	**1.84 48**	P	**Pb**	**00 59 05.1**	**-0.6**
JKRS			*eS*	**Sn**	**00 59 26.4**	**-0.1**
ENTT	**Nioudou**	**1.84 332**	*eP*	**Pb**	**00 59 05.2**	**-0.6**
	baz=333					
ENTT			*eS*	**Sn**	**00 59 26.3**	**-0.3**
	baz=333					
TSEB	**Hengchuen, Pin**	**1.86 234**	*eP*	**Pb**	**00 59 06.2**	**+0.2**
	baz=232					
TSEB			*eS*	**Sb**	**00 59 28.4**	**-0.8**
	baz=232					
SCST	**Cishan**	**1.87 267**	*eP*	**Pn**	**00 59 05.1**	**+1.3**
	baz=265					
SCST			*eS*	**Sn**	**00 59 27.3**	**+0.1**
	baz=265					
SNST	**Tainan City**	**1.87 277**	*eP*	**Pb**	**00 59 06.2**	**-0.1**
	baz=276					
SNST			*eS*	**Sn**	**00 59 27.2**	**0.0**
	baz=276					
TWE	**Neicheng**	**1.87 336**	*eP*	**Pb**	**00 59 06.2**	**-0.1**
	baz=337					
TWE			*eS*	**Sn**	**00 59 28.1**	**+0.8**
	baz=337					
TWK	**Hsinying**	**1.88 278**	*eP*	**Pb**	**00 59 06.1**	**-0.4**
	baz=277					
TWK			*eS*	**Sb**	**00 59 28.9**	**-1.0**
	baz=277					
TWKBT	**Hengchun**	**1.90 236**	*eP*	**Pn**	**00 59 05.5**	**+1.2**
	baz=234					
TWKBT			*eS*	**Sn**	**00 59 28.4**	**+0.3**
	baz=234					
TWK1	**Hengchun**	**1.90 236**	*eP*	**Pb**	**00 59 06.2**	**-0.7**
	baz=234					
TWK1			*eS*	**Sn**	**00 59 27.5**	**-0.6**
	baz=234					
WHP	**Taichung City**	**1.91 312**	*eP*	**Pb**	**00 59 06.5**	**-0.6**
	baz=312					
WHP			*eS*	**Sn**	**00 59 28.3**	**-0.3**
	baz=312					
HEN	**Hengchun**	**1.92 239**	*eP*	**Pb**	**00 59 06.9**	**-0.3**
	baz=237					
HEN			*eS*	**Sn**	**00 59 28.9**	**+0.3**
	baz=237					
YHNB	**Yeheng**	**1.95 328**	*eP*	**Pb**	**00 59 06.8**	**-1.0**
	baz=329					
YHNB			*eS*	**Sn**	**00 59 29.0**	**-0.5**
	baz=329					
NSK	**Sanguang**	**1.97 328**	*eP*	**Pb**	**00 59 07.0**	**-0.9**
	baz=329					
NSK			*eS*	**Sn**	**00 59 29.6**	**-0.2**
	baz=329					
CHN3	**Shinhua**	**1.98 272**	*eP*	**Pn**	**00 59 04.2**	**-1.3**
	baz=271					
CHY	**Chiayi**	**1.98 285**	*eP*	**Pn**	**00 59 03.8**	**-1.7**
	baz=284					
CHY			*eS*	**Sb**	**00 59 32.6**	**-0.1**
	baz=284					
NWLT	**Wulai**	**1.99 332**	*eP*	**Pb**	**00 59 07.7**	**-0.6**
	baz=333					
NWLT			*eS*	**Sn**	**00 59 30.1**	**-0.2**
	baz=333					
JIJ	**Ishigaki jima**	**2.01 48**	P	**Pn**	**00 59 06.9**	**+1.0**
JIJ			*eS*	**Sn**	**00 59 29.6**	**-1.2**
TWB1	**Santiao Chiao**	**2.05 347**	*eP*	**Pn**	**00 59 05.2**	**-1.1**
	baz=348					
TWB1			*eS*	**Sn**	**00 59 30.9**	**-0.8**
	baz=348					
TIPB	**Shuangxi**	**2.05 342**	*eP*	**Pb**	**00 59 08.5**	**-0.9**
	baz=343					
TIPB			*eS*	**Sn**	**00 59 32.4**	**+0.5**
	baz=343					
TWQ1	**Liyutan**	**2.08 310**	*eP*	**Pb**	**00 59 09.0**	**-0.8**
	baz=310					
TWQ1			*eS*	**Sb**	**00 59 35.9**	**+0.4**
	baz=310					
NSTT	**Nanjuang**	**2.13 320**	*eP*	**Pb**	**00 59 10.5**	**-0.1**
	baz=320					
NSTT			*eS*	**Sn**	**00 59 34.9**	**+1.3**
	baz=320					
LIOB	**Emei**	**2.13 320**	*eP*	**Pb**	**00 59 11.2**	**+0.5**
	baz=321					
LIOB			*eS*	**Sn**	**00 59 35.0**	**+1.3**
	baz=321					
JISG	**Ishigakijimahi**	**2.27 46**	P	**Pn**	**00 59 10.0**	**+0.5**
JISG			S	**Sn**	**00 59 36.5**	**-0.8**
YM01	**YM01**	**2.29 338**	*eP*	**Pb**	**00 59 12.3**	**-1.3**
	baz=339					
YM01			*eS*	**Sn**	**00 59 38.6**	**+0.7**
	baz=339					
YM10	**YM10**	**2.31 338**	*eP*	**Pb**	**00 59 13.1**	**-0.7**
	baz=339					
YM10			*eS*	**Sn**	**00 59 38.6**	**+0.4**
	baz=339					
YM05	**YM05**	**2.31 338**	*eP*	**Pn**	**00 59 10.7**	**+0.7**
	baz=339					
YM05			*eS*	**Sn**	**00 59 39.0**	**+0.6**
	baz=339					
YM04	**YM04**	**2.31 337**	*eP*	**Pb**	**00 59 12.1**	**-1.8**
	baz=338					
YM04			*eS*	**Sn**	**00 59 39.1**	**+0.8**
	baz=338					
YM08	**YM08**	**2.33 339**	*eP*	**Pn**	**00 59 11.3**	**+1.1**
	baz=340					
YM08			*eS*	**Sn**	**00 59 40.1**	**+1.4**
	baz=340					
JTJ	**Tarama**	**2.58 51**	P	**Pn**	**00 59 15.2**	**+1.5**
JTJ			S	**Sn**	**00 59 44.9**	**+0.1**
WDGT	**Dungji**	**2.64 276**	*eP*	**Pn**	**00 59 16.4**	**+1.9**
	baz=275					
WDGT			*eS*	**Sn**	**00 59 46.2**	**-0.1**
	baz=275					
PNG	**Penghu**	**2.78 282**	*eP*	**Pn**	**00 59 18.9**	**+2.5**
	baz=281					
PNG			*eS*	**Sn**	**00 59 49.4**	**-0.3**
	baz=281					
VWUC	**VWUC**	**3.43 306**	*eP*	**Pn**	**00 59 27.3**	**+2.0**
	baz=305					

*DJA **25** 01:00:41.8±1.0, 3°S±5°×12°9E±°, h11km±8km, M4.2/10, mB5.5/2, mb4.7/2, MLv3.9/10, Mw(mB)5.0/2*
*NEIC **25** 01:00:43.7±1.2, 3.02S±0.07°×129.65E±0.09, h55km±9km, mb4.0/11, Error ellipse: s-maj=12.4km s-min=10.4km az=86.0*
*IDC **25** 01:00:44.3±1.9, 2.91S×129.65E, h46km±22km, mb3.9/4, mb1 4.1/8, mb1mx3.7/34, mbtmp4.1/8, ML3.7/4, Error ellipse: s-maj=24.5km s-min=14.3km az=109.0*
ISC 25 01:00:41.4±0.6, 2.94S±0.05×129.67E±0.05, h28km, n39, σ1°69/45, mb4.2/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.84**	**241**	P	**Pn**	**01 00 56.4**	**-1.1**
BNDI	**Bandanaira**	**1.59**	**172**	P	**Pb**	**01 01 14.2**	**+4.0**
AAI	**Ambon**	**1.65**	**243**	P	**Pn**	**01 01 10.0**	**+1.4**
FAKI	**Fak Fak**	**2.57**	**90**	P	**Pb**	**01 01 25.8**	**-1.1**
FAKI	**Fak Fak**	**2.57**	**90**		**Pb**	**01 01 25.5**	**-1.4**
FAKI				Sn	**Sn**	**01 01 54.3**	**+2.6**
NLAI	**Namlea**	**2.58**	**263**	P	**Pn**	**01 01 21.9**	**+0.5**
SIJI	**Sorong**	**2.60**	**38**	P	**Pn**	**01 01 24.4**	**+2.7**
	28nm,0.3s,baz=258,slow=14,SNR=61						
SIJI				S	**Sn**	**01 01 54.6**	**+2.2**
	27nm,0.3s,baz=228,slow=23,SNR=12						
LBMI	**Labuha**	**3.15**	**316**	P	**Pn**	**01 01 27.8**	**-1.5**
SANI	**Sanana**	**3.79**	**283**	P	**Pn**	**01 01 36.2**	**-1.8**
GTOI	**Gorontalo**	**7.55**	**298**	P	**Pn**	**01 02 30.9**	**+1.2**
	0.2nm544nm37nm,0.7s						
KAPI	**Kappang**	**10.11**	**258**	P	**Pn**	**01 03 08.3**	**+3.5**
	0.7nm,0.3s,baz=131,slow=11,SNR=4.6						
KAPI	**Kappang**	**10.11**	**258**		**Pn**	**01 03 07.2**	**+2.4**
MPSI	**Mapaga**	**10.30**	**288**	P	Pn	01 03 12.7	+5.3
FITZ	**Fitzroy Crossi**	**15.57**	**194**	P	**Pn**	**01 04 19.7**	**+0.5**
	0.1nm,0.3s,baz=353,slow=8.1,SNR=2.7						
FITZ	**Fitzroy Crossi**	**15.57**	**194**	Pn	**Pn**	**01 04 19.1**	**-0.1**
COEN	**Coen**	**17.25**	**130**		**Pn**	**01 04 41.2**	**+0.6**
COEN				IAmb	IAmb	01 04 45.2	
	comp=Z,7.7nm,0.9s						
WB0	**Warramunga Arr**	**17.35**	**165**		**Pn**	**01 04 41.9**	**+0.1**
WB0				IAmb	IAmb	01 04 46.2	
	comp=Z,5.3nm,0.8s						
WRA	**Warramunga Arr**	**17.50**	**165**	P	**Pn**	**01 04 43.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=342,slow=12,SNR=11						
WRA				S	**Sn**	**01 07 54.8**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=350,slow=21,SNR=1.6						
WRA	**Warramunga Arr**	**17.50**	**165**		**Pn**	**01 04 43.3**	**-0.4**
WRA					**Sn**	**01 07 57.1**	**-0.8**
WB2	**Warramunga Arr**	**17.51**	**165**		**Pn**	**01 04 43.4**	**-0.3**
WC3	**Warramunga Arr**	**17.53**	**165**		**Pn**	**01 04 43.9**	**-0.1**
WR0	**Warramunga Arr**	**17.57**	**165**		**Pn**	**01 04 44.5**	**0.0**
PSAD1	**Pilbara Seismi**	**20.75**	**207**	P	**P**	**01 05 18.9**	**-1.2**
PSAC2	**Pilbara Seismi**	**20.81**	**206**	P	**P**	**01 05 19.1**	**-1.6**
AS31	**Alice Springs**	**21.01**	**169**	P	**P**	**01 05 21.6**	**-1.4**
AS31				IAmb	IAmb	01 05 31.6	
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**21.01**	**169**	P	**P**	**01 05 24.6**	**+1.6**
	comp=Z,4.5nm,0.7s,baz=346,slow=8.8,SNR=44						
ASAR				S	**S**	**01 09 13.6**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=348,slow=19,SNR=4.0						
ASAR				PcP	**PcP**	**01 09 30.9**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=12,slow=1.7,SNR=11						
ASAR	**Alice Springs**	**21.01**	**169**	P	**P**	**01 05 24.0**	**+1.0**
ASAR					**S**	**01 09 11.1**	**-4.6**
ASAR					**PcP**	**01 09 29.3**	**-0.4**
RGRI	**Rengat**	**27.45**	**275**	P	P	01 06 18.0	-7.3
MNSI	**Mandailing Nat**	**30.31**	**277**	P	**P**	**01 06 49.2**	**-1.6**
RPSI	**Rantau Prapat**	**31.24**	**280**	P	**P**	**01 06 59.8**	**+0.8**
RPSI				IAmb	IAmb	01 07 06.5	
	comp=Z,5.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.98**	**306**	P	**P**	**01 07 49.7**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=140,slow=7.1,SNR=6.4						
JHJ2	**Mitsune**	**37.12**	**14**	P	**P**	**01 07 49.8**	**+0.1**
CHTO	**Chiang Mai**	**37.17**	**307**	P	**P**	**01 07 50.4**	**0.0**
CHTO				IAmb	IAmb	01 07 51.9	
	comp=Z,3.8nm,0.8s						
TOO	**Toolangi**	**37.40**	**159**	P	**P**	**01 07 51.0**	**-1.1**
MKAR	**Makanchi Array**	**64.68**	**326**	P	**P**	**01 11 17.2**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=123,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**64.68**	**326**	P	**P**	**01 11 16.6**	**-0.3**
ZALV	**Zalesovo Beam**	**67.83**	**333**	P	**P**	**01 11 36.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=111,slow=6.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**67.83**	**333**	P	**P**	**01 11 35.9**	**-0.9**
KURK	**Kurchatov**	**68.91**	**328**	P	**P**	**01 11 43.2**	**-0.6**
KURK				IAmb	IAmb	01 11 44.9	
	comp=Z,3.6nm,0.8s						

TIR 25 01:16:30.6, 41.22N×19.95E, h10km±4km, Md2.1, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.14**	**333**	P	Pg	01 16 34.2	+0.4
	baz=334						
TIR				S	Sg	01 16 36.6	+0.6
	baz=334						
PHP	**Peshkopia**	**0.59**	**38**	P	Pg	01 16 42.4	+0.3
	baz=38						
PHP				S	Sb	01 16 51.6	0.0
	baz=38						
PUK	**Puka**	**0.82**	**357**	P	Pg	01 16 46.7	+0.3
	baz=358						
PUK				S	Sb	01 16 59.3	+1.1
	baz=358						

*NEIC **25** 01:18:29.1±1.1, 19.6S±0.1×177.9W±0.1, h599km±11km, mb4.2/15, Error ellipse: s-maj=20.3km s-min=17.8km az=222.0*
*IDC **25** 01:18:34.5±11.0, 19.14S×178.35W, h651km±159km, mb2.9/6, mb1 3.3/7, mb1mx3.0/25, mbtmp3.9/7, Error ellipse: s-maj=137.0km s-min=49.7km az=159.0*
ISC 25 01:18:29.3±0.7, 19.5S±0.1×178.0W±0.1, h600km, n29, σ1°01/30, mb4.0/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.19**	**295**	P	**P**	**01 19 55.7**	**-0.6**
MSVF				S	**S**	**01 21 06.2**	**-0.9**
SANVU	**Saraoutou**	**14.72**	**284**	P	**P**	**01 21 34.0**	**-1.1**
DZM	**Mont Dzumac**	**14.80**	**257**	P	**P**	**01 21 37.6**	**+1.8**
	0.5nm,0.3s,baz=90,slow=19,SNR=2.2						
DZM	**Mont Dzumac**	**14.80**	**257**	P	**P**	**01 21 36.3**	**+0.4**
OUZ	**Omahuta**	**17.31**	**204**	P	**P**	**01 22 00.1**	**+1.6**
URZ	**Urewera**	**19.14**	**192**	P	**P**	**01 22 11.8**	**-3.3**
MLZ	**Mavora Lakes**	**28.22**	**201**	P	**P**	**01 23 34.8**	**-0.7**
MLZ				IAmb	IAmb	01 23 36.2	
	comp=Z,10nm,0.8s						
WHZ	**Wether Hill Ro**	**28.74**	**201**	P	**P**	**01 23 39.9**	**-0.1**
WHZ				IAmb	IAmb	01 23 49.3	
	comp=Z,12nm,1.0s						
CTAO	**Charters Tower**	**33.63**	**263**	P	**P**	**01 24 22.7**	**+0.7**
COEN	**Coen**	**37.57**	**272**	P	**P**	**01 24 55.6**	**+1.1**
COEN				IAmb	IAmb	01 24 56.2	
	comp=Z,6.9nm,0.9s						
BBOO	**Buckleboo**	**43.01**	**243**	P	**P**	**01 25 37.5**	**0.0**
BBOO				IAmb	IAmb	01 25 54.7	
	comp=Z,9.5nm,1.1s						
WB0	**Warramunga Arr**	**44.75**	**261**	P	**P**	**01 25 51.0**	**0.0**
WB0				IAmb	IAmb	01 25 52.9	
	comp=Z,5.2nm,1.1s						
WB2	**Warramunga Arr**	**44.77**	**261**	P	**P**	**01 25 50.7**	**-0.5**
WB2				IAmb	IAmb	01 25 54.7	
	comp=Z,2.4nm,0.9s						
WRA	**Warramunga Arr**	**44.78**	**261**	P	**P**	**01 25 50.6**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=98,slow=7.6,SNR=31						
WRA	**Warramunga Arr**	**44.78**	**261**	P	**P**	**01 25 49.9**	**-1.4**
AS31	**Alice Springs**	**44.78**	**256**	P	**P**	**01 25 51.7**	**+0.4**
AS31				IAmb	IAmb	01 25 53.1	
	comp=Z,1.8nm,0.3s						
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**	**01 25 51.6**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=87,slow=8.3,SNR=28						
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**	**01 25 51.3**	**0.0**
FORT	**Forrest**	**49.71**	**246**	P	**P**	**01 26 28.0**	**0.0**
FORT				IAmb	IAmb	01 26 29.3	
	comp=Z,11nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.20**	**262**	P	**P**	**01 26 53.6**	**+0.4**
QSPA	**South Pole Qui**	**70.52**	**180**	P	**P**	**01 28 44.6**	**-0.1**
NVAR	**Mina Array Bea**	**80.31**	**43**	P	**P**	**01 29 39.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=216,slow=7.6,SNR=2.7						
NVAR	**Mina Array Bea**	**80.31**	**43**	P	**P**	**01 29 38.9**	**-0.5**
MAW	**Mawson**	**82.47**	**200**	P	**P**	**01 29 50.0**	**+0.3**
TXAR	**Lajitas Array**	**86.51**	**57**	P	**P**	**01 30 11.4**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=213,slow=6.5,SNR=4.4						
TXAR	**Lajitas Array**	**86.51**	**57**	P	**P**	**01 30 09.6**	**-0.5**
ILAR	**Eielson Array**	**87.38**	**13**	P	**P**	**01 30 13.0**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=212,slow=4.9,SNR=2.0						
ILAR	**Eielson Array**	**87.38**	**13**	P	**P**	**01 30 13.4**	**+0.2**
PDAR	**Pinedale Array**	**88.24**	**43**	P	**P**	**01 30 18.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=249,slow=4.3,SNR=1.6						

*IDC **25** 01:20:32.5±1.6, 18.97N×39.12E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/38, mbtmp3.9/9, MS3.1/9, Ms1 3.1/9, ms1mx2.8/35, Error ellipse: s-maj=40.5km s-min=21.8km az=173.0*
ISC 25 01:20:34.4±1.5, 19.0N±0.2×39.1E±0.1, h13km, n17, σ0°83/9, mb3.9/9, MS3.1/7, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**11.30**	**341**	LR	LR	01 26 24.4	
	comp=Z,59nm,20.6s,baz=134,slow=31						
MMAI	**Mount Meron Ar**	**14.37**	**347**	LR	LR	01 29 00.7	
	comp=Z,47nm,18.3s,baz=165,slow=35						
WSAR	**Wadi Sarin**	**18.70**	**74**	LR	LR	01 32 56.7	
	comp=Z,74nm,20.6s,baz=239,slow=40						
KMBO	**Kilima Mbogo**	**20.06**	**185**	LR	LR	01 32 08.7	
	comp=Z,62nm,20.0s,baz=112,slow=35						
BRTR	**Keskin Array B**	**21.21**	**348**	P	**P**	**01 25 21.5**	**+1.5**
	2.7nm,0.7s,baz=170,slow=16,SNR=6.9						
BRTR				LR	LR	01 33 05.6	
	comp=Z,13nm,19.3s,baz=142,slow=36						
KBZ	**Khabaz**	**24.88**	**7**	LR	LR	01 36 14.5	
	comp=Z,29nm,18.1s,baz=198,slow=38						
GEYT	**Alibeck**	**25.13**	**37**	LR	LR	01 36 53.4	
	comp=Z,109nm,18.5s,baz=205,slow=39						
GERES	**GERESS Array B**	**36.16**	**331**	P	**P**	**01 27 36.2**	**-0.4**
	0.1nm,0.3s,baz=129,slow=7.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**36.36**	**266**	P	**P**	**01 27 38.8**	**+0.2**

ISC 25 01:43:32.8±0.8, 21°27S±0°.04×68°45W±0°.07, h116km±8km, n28, σ1§38/47, mb3.6/5, 10C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.91**	**235**	⇑*i*P	**Pn**	**01 43 54.2**	**+0.4**
PB09				*i* S	**Sn**	**01 44 09.2**	**-0.4**
PB09				IAML		01 44 12.6	
	comp=E,1μm,0.6s						
PB01	**IPOC Station P**	**1.00**	**283**	⇑*i*P	**Pn**	**01 43 54.5**	**-0.2**
PB01				*i* S	**Sn**	**01 44 10.3**	**-0.8**
PB01				IAML		01 44 12.3	
	comp=N,2μm,0.3s						
PB08	**IPOC Station P**	**1.31**	**329**	⇑*i*P	**Pn**	**01 43 59.7**	**+1.5**
PB08				*i* S	**Sn**	**01 44 19.3**	**+1.9**
PB02	**IPOC Station P**	**1.35**	**268**	⇑*i*P	**Pn**	**01 43 58.2**	**-0.2**
PB02				*i* S	**Sn**	**01 44 17.1**	**-0.8**
PB02				IAML		01 44 18.7	
	comp=E,4μm,0.4s						
LVC	**Limon Verde**	**1.40**	**198**	P	**Pn**	**01 43 59.5**	**+0.3**
	comp=E,157nm,0.3s,baz=28,slow=9.0,SNR=1862						
LVC				S	**Sn**	**01 44 19.3**	**0.0**
	comp=E,65nm,0.3s,baz=213,slow=18,SNR=22						
LVC	**Limon Verde**	**1.40**	**198**	*e*P	**Pn**	**01 43 59.5**	**+0.3**
LVC				*i* S	**Sn**	**01 44 18.8**	**-0.4**
PB07	**IPOC Station P**	**1.41**	**251**	⇑*i*P	**Pn**	**01 43 58.9**	**-0.3**
PB07				*i* S	**Sn**	**01 44 18.3**	**-0.9**
PB07				IAML		01 44 18.8	
	comp=N,2μm,0.3s						
PB03	**IPOC Station P**	**1.44**	**237**	⇑*i*P	**Pn**	**01 43 59.3**	**-0.2**
PB03				*i* S	**Sn**	**01 44 19.0**	**-0.7**
PB03				IAML		01 44 19.5	
	comp=N,1μm,0.4s						
PATCX	**Punta Patache**	**1.66**	**285**	⇑*i*P	**Pn**	**01 44 02.0**	**0.0**
PATCX				*i* S	**Sn**	**01 44 23.6**	**-0.5**
PATCX				IAML		01 44 30.0	
	comp=E,2μm,0.3s						
GO01	**Chusmiza**	**1.74**	**336**	⇓*i*P	**Pn**	**01 44 04.7**	**+1.3**
GO01				*i* S	**Sn**	**01 44 28.4**	**+1.7**
GO01				IAML		01 44 32.0	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.77**	**216**	⇑*i*P	**Pn**	**01 44 03.2**	**-0.2**
PB06				*i* S	**Sn**	**01 44 25.7**	**-1.0**
TA01	**Diego Aracena**	**1.77**	**293**	⇑*i*P	**Pn**	**01 44 03.0**	**-0.2**
TA01				*i* S	**Sn**	**01 44 25.7**	**-0.7**
TA01				IAML		01 44 27.5	
	comp=N,2μm,0.6s						
PB11	**IPOC Station P**	**1.88**	**323**	⇓*i*P	**Pn**	**01 44 05.2**	**+0.4**
PB11				*i* S	**Sn**	**01 44 30.3**	**+1.1**
PB11				IAML		01 44 35.1	
	comp=N,1μm,0.2s						
PB04	**IPOC Station P**	**1.90**	**236**	*e*P	**Pn**	**01 44 04.5**	**-0.6**
PB04				*i* S	**Sn**	**01 44 28.8**	**-0.9**
PB15	**IPOC Station P**	**2.15**	**206**	⇑*i*P	**Pn**	**01 44 08.1**	**-0.1**
PB15				*i* S	**Sn**	**01 44 35.1**	**-0.1**
PB15				IAML		01 44 38.5	
	comp=N,1μm,0.2s						
PB05	**IPOC Station P**	**2.26**	**226**	*e*P	**Pn**	**01 44 08.5**	**-1.0**
PSGC	**Pisagua**	**2.29**	**316**	*e*P	**Pn**	**01 44 09.5**	**-0.4**
PSGC				*i* S	**Sn**	**01 44 37.9**	**-0.5**
PSGC				IAML		01 44 44.2	
	comp=E,590nm,0.5s						
MNMC	**Minye Minye**	**2.39**	**333**	*e*P	**Pn**	**01 44 12.3**	**+1.0**
MNMC				*i* S	**Sn**	**01 44 42.9**	**+2.1**
LPAZ	**La Paz**	**4.97**	**4**	P	**Pn**	**01 44 49.4**	**+3.5**
	comp=E,3.7nm,0.3s,baz=186,slow=6.2,SNR=65						
LPAZ				S	**Sn**	**01 45 42.2**	**-0.5**
	baz=8.1,slow=7.1,SNR=1.4						
SIV	**San Ignacio**	**8.74**	**54**	P	**Pn**	**01 45 34.4**	**-2.1**
	comp=E,3.6nm,0.3s,baz=253,slow=12,SNR=175						
SIV				S	**Sn**	**01 47 08.0**	**-5.4**
	baz=291,slow=12,SNR=3.2						
PLCA	**Paso Flores**	**19.48**	**185**	P	**Pn**	**01 47 53.6**	**+0.6**
	comp=E,0.1nm,0.3s,baz=45,slow=13,SNR=2.8						
PTGA	**Pitinga**	**22.03**	**23**	P	**P**	**01 48 16.2**	**-1.9**
	comp=E,1.3nm,0.4s,baz=204,slow=18,SNR=7.8						
SNAA	**Sanae**	**62.35**	**161**	P	**P**	**01 53 43.6**	**+0.9**
	comp=E,0.6nm,0.8s,baz=283,slow=7.4,SNR=6.6						
PDAR	**Pinedale Array**	**74.13**	**330**	P	**P**	**01 54 58.2**	**+1.6**
	comp=E,0.1nm,0.5s,baz=119,slow=7.3,SNR=1.5						
NVAR	**Mina Array Bea**	**75.58**	**322**	P	**P**	**01 55 03.8**	**-1.4**
	comp=E,0.6nm,0.9s,baz=177,slow=8.6,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.87**	**70**	P	**P**	**01 55 11.6**	**-1.1**
	comp=E,0.8nm,0.6s,baz=251,slow=5.2,SNR=6.8						
WRA	**Warramunga Arr**	**133.37**	**210**	PKP	**PKPdf**	**02 02 36.6**	**+0.6**
	comp=E,0.5nm,0.7s,baz=155,slow=1.7,SNR=2.4						
MKAR	**Makanchi Array**	**145.20**	**36**	PKPbc	**PKPdf**	**02 02 57.8**	**+1.1**
	comp=E,1.2nm,0.7s,baz=320,slow=4.3,SNR=6.8						

*IDC **25** 02:04:23.6±0.7, 38°.37N×21°.82E, h0km, mb3.9/12, mb1 3.9/21, mb1mx3.8/44, mbtmp3.8/21, ML3.5/8, MS3.3/5, Ms1 3.3/5, ms1mx2.8/52, Error ellipse: s-maj=13.9km s-min=13.7km az=166.0*
*THE **25** 02:04:24.4, 38°.35N×21°.81E, h15km, ML3.7/14, Error ellipse: s-maj=0.6km s-min=0.3km az=94.0*
*ATH **25** 02:04:24.0, 38°.36N×21°.80E, h18km, ML3.7/26, Error ellipse: s-maj=0.7km s-min=0.4km az=336.0*
*PDG **25** 02:04:24.7±0.5, 38°.34N×21°.81E, h11km, ML3.9/14, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
*NEIC **25** 02:04:24.2±0.9, 38°.40N±0°.03×21°.86E±0°.07, h17km±4km, Error ellipse: s-maj=7.6km s-min=4.4km az=79.0*
*BEO **25** 02:04:26.5±0.8, 38°.41N×21°.92E, h0km, ML3.6/2*
ISC 25 02:04:24.7±0.7, 38°.36N±0°.01×21°.81E±0°.01, h15km±4km, n255, σ1§79/319, mb4.0/15, 21C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.10**	**47**	P	**Pg**	**02 04 27.3**	**-0.7**
EFP				S	**Sg**	**02 04 30.1**	**-0.1**
	195μm,0.6s						
EFP	**Efpalio**	**0.10**	**47**	P	**Pg**	**02 04 27.3**	**-0.7**
EFP				AML	AML	02 04 30.0	
EFP				S	**Sg**	**02 04 30.0**	**-0.1**
EFP				AML	AML	02 04 30.6	
SERG	**Sergoula**	**0.20**	**74**	P	**Pg**	**02 04 29.2**	**-0.2**
SERG				S	**Sg**	**02 04 32.9**	**+0.4**
	55μm,0.7s						
SERG	**Sergoula**	**0.20**	**74**	P	**Pg**	**02 04 29.2**	**-0.2**
SERG				S	**Sg**	**02 04 32.6**	**+0.1**
SERG				AML	AML	02 04 34.1	
SERG				AML	AML	02 04 37.0	
	comp=N,85827μm,0.6s						
ANX	**Ano Chora**	**0.25**	**20**	P	**Pg**	**02 04 30.0**	**-0.2**
ANX				S	**Sg**	**02 04 34.5**	**+0.5**
	comp=N,43μm,0.7s						
ANX	**Ano Chora**	**0.25**	**20**	P	**Pg**	**02 04 30.0**	**-0.2**
ANX				S	**Sg**	**02 04 34.6**	**+0.5**
ANX				AML	AML	02 04 35.1	
	comp=N,68147μm,0.7s						
ANX				AML	AML	02 04 37.1	
ALIK	**Aliki, Aigiali**	**0.26**	**112**	P	**Pb**	**02 04 30.1**	**-0.9**
AXS	**Araxos**	**0.38**	**245**	P	**Pg**	**02 04 31.6**	**-0.8**
AXS				S	**Sg**	**02 04 37.7**	**+0.1**
	comp=N,6μm,0.4s						
AXS	**Araxos**	**0.38**	**245**	P	**Pg**	**02 04 31.6**	**-0.8**
AXS				S	**Sg**	**02 04 37.9**	**+0.3**
AXS				AML	AML	02 04 40.7	
	comp=N,10627μm,0.4s						
AXS				AML	AML	02 04 41.4	
	comp=E,14139μm,0.3s						
RLS	**Riolos of Patr**	**0.40**	**222**	P	**Pg**	**02 04 32.5**	**-0.3**
RLS				S	**Sg**	**02 04 38.7**	**+0.4**
	comp=E,8μm,0.5s						
RLS	**Riolos of Patr**	**0.40**	**222**	P	**Pg**	**02 04 32.5**	**-0.3**
RLS				S	**Sg**	**02 04 38.4**	**0.0**
RLS				AML	AML	02 04 39.1	
	comp=N,14366μm,0.8s						
RLS				AML	AML	02 04 40.7	
	comp=E,13667μm,0.3s						
KLV	**Kalavryta, Ach**	**0.41**	**139**	P	**Pb**	**02 04 32.5**	**-1.2**
KLV				S	**Sg**	**02 04 38.2**	**-0.5**
	comp=E,9μm,0.7s						
KLV	**Kalavryta, Ach**	**0.41**	**139**	P	**Pb**	**02 04 32.7**	**-1.1**
KLV				S	**Sb**	**02 04 38.7**	**-1.2**
KLV				AML	AML	02 04 40.4	
	comp=E,18041μm,0.4s						
KLV				AML	AML	02 04 41.6	
	comp=N,17358μm,0.6s						
DLFA	**Delphi**	**0.55**	**77**	P	**Pb**	**02 04 35.0**	**-1.1**
DLFA				S	**Sb**	**02 04 43.8**	**-0.1**
DLFA				AML	AML	02 04 46.7	
	comp=N,17393μm,0.6s						
DLFA				AML	AML	02 04 56.1	
	comp=E,13104μm,1.0s						
EVR	**Evrytania**	**0.56**	**360**	P	**Pb**	**02 04 35.2**	**-1.1**
EVR				S	**Sb**	**02 04 44.0**	**-0.2**
	comp=E,12μm,0.9s						
EVR	**Evrytania**	**0.56**	**360**	P	**Pb**	**02 04 35.4**	**-0.9**
EVR				S	**Sb**	**02 04 43.9**	**-0.2**
EVR				AML	AML	02 04 47.3	
	comp=E,22256μm,0.9s						
EVR				AML	AML	02 04 51.4	
	comp=N,21981μm,0.8s						
DSF	**Desfina**	**0.57**	**84**	P	**Pb**	**02 04 35.0**	**-1.4**
DSF				S	**Sb**	**02 04 44.0**	**-0.3**
	comp=N,5μm,0.3s						
DSF	**Desfina**	**0.57**	**84**	P	**Pb**	**02 04 35.2**	**-1.1**
DSF				S	**Sb**	**02 04 43.2**	**-1.1**
DSF				AML	AML	02 04 45.8	
	comp=N,8252μm,0.4s						
DSF				AML	AML	02 04 51.2	
	comp=E,8687μm,0.4s						
GUR	**Goura**	**0.59**	**135**	P	**Pg**	**02 04 35.6**	**-0.8**
GUR				S	**Sb**	**02 04 44.4**	**-0.7**
	comp=E,17μm,0.4s						
GUR	**Goura**	**0.59**	**135**	P	**Pg**	**02 04 35.6**	**-0.8**
GUR				S	**Sb**	**02 04 44.7**	**-0.5**
GUR				AML	AML	02 04 45.8	
	comp=N,40809μm,0.4s						
GUR				AML	AML	02 04 49.3	
	comp=E,26156μm,0.6s						
AST1	**Astakos**	**0.59**	**288**	P	**Pg**	**02 04 35.6**	**-0.8**
AST1				S	**Sb**	**02 04 44.9**	**-0.1**
	comp=E,15μm,0.3s						
VTN	**Vitineika**	**0.66**	**228**	P	**Pb**	**02 04 37.5**	**-0.4**
VTN				S	**Sg**	**02 04 46.3**	**0.0**
AXAR	**Agios Charalam**	**0.78**	**58**	P	**Pb**	**02 04 39.1**	**-0.9**
AXAR				S	**Sb**	**02 04 51.3**	**+0.9**
	comp=E,18μm,0.6s						
AXAR	**Agios Charalam**	**0.78**	**58**	P	**Pb**	**02 04 39.3**	**-0.8**
AXAR				S	**Sb**	**02 04 51.0**	**+0.5**
AXAR				AML	AML	02 05 00.1	
	comp=E,29035μm,0.5s						
AXAR				AML	AML	02 05 03.3	
	comp=N,45631μm,0.7s						
TRIP	**Tripoli**	**0.91**	**156**	P	**Pg**	**02 04 41.4**	**-0.8**
TRIP	**Tripoli**	**0.91**	**156**	P	**Pg**	**02 04 41.4**	**-0.8**
TRIP				S	**Sb**	**02 04 54.8**	**+0.8**
TRIP				AML	AML	02 04 56.5	
	comp=E,6568μm,0.8s						
TRIP				AML	AML	02 04 57.2	
	comp=N,9290μm,0.6s						
EVGI	**Lefkada island**	**0.94**	**287**	P	**Pg**	**02 04 41.5**	**-1.5**
EVGI				S	**Sb**	**02 04 55.1**	**0.0**
	comp=N,2μm,1.7s						
EVGI	**Lefkada island**	**0.94**	**287**	P	**Pg**	**02 04 41.6**	**-1.4**
EVGI				S	**Sb**	**02 04 55.3**	**+0.2**
LTK	**Loutraki**	**0.97**	**110**	P	**Pb**	**02 04 42.8**	**-0.5**
LTK				S	**Sb**	**02 04 56.7**	**+0.8**
LTK				AML	AML	02 05 00.4	
	comp=E,8007μm,0.9s						
LTK				AML	AML	02 05 03.5	
	comp=N,6051μm,0.7s						
VLS	**Valsamata**	**0.98**	**260**	P	**Pg**	**02 04 42.1**	**-1.5**
VLS	**Valsamata**	**0.98**	**260**	P	**Pg**	**02 04 42.4**	**-1.2**
VLS				AML	AML	02 04 59.8	
	comp=N,6754μm,0.3s						
VLS				AML	AML	02 04 59.9	
	comp=E,5400μm,0.3s						
LKR	**Lokris**	**0.98**	**72**	P	**Pb**	**02 04 42.5**	**-0.8**
LKR	**Lokris**	**0.98**	**72**	P	**Pb**	**02 04 42.6**	**-0.8**
LKR				AML	AML	02 05 01.5	
	comp=E,5380μm,0.5s						
LKR				AML	AML	02 05 07.4	
	comp=N,5646μm,0.7s						
FSK	**Fiskardo**	**0.99**	**276**	P	**Pg**	**02 04 42.2**	**-1.6**
FSK				S	**Sb**	**02 04 56.7**	**+0.4**
	comp=N,3μm,0.6s						
FSK	**Fiskardo**	**0.99**	**276**	P	**Pg**	**02 04 42.4**	**-1.4**
FSK				AML	AML	02 05 04.7	
	comp=E,8976μm,0.6s						
FSK				AML	AML	02 05 06.3	
	comp=N,3855μm,0.7s						
LKD2	**Lefkada island**	**1.00**	**296**	P	**Pg**	**02 04 42.7**	**-1.4**
LKD2				S	**Sb**	**02 04 57.7**	**+0.9**
	comp=N,3μm,0.7s						
LKD2	**Lefkada island**	**1.00**	**296**	P	**Pg**	**02 04 42.9**	**-1.1**
DRAG	**Dragano-Lefkad**	**1.02**	**289**	P	**Pg**	**02 04 42.9**	**-1.6**
VLMS	**Volimes, Zakyn**	**1.02**	**242**	P	**Pg**	**02 04 43.2**	**-1.3**
VLMS				S	**Sg**	**02 04 57.1**	**-0.8**
VLMS				AML	AML	02 05 02.3	
	comp=N,15349μm,0.3s						
VLMS				AML	AML	02 05 02.4	
	comp=E,13049μm,0.3s						
KEF5	**Kardakata, Kep**	**1.06**	**266**	P	**Pg**	**02 04 43.6**	**-1.5**
ARGA	**Argostoli. Kep**	**1.06**	**261**	P	**Pg**	**02 04 43.8**	**-1.4**
ARGA				S	**Sg**	**02 04 58.3**	**-0.9**
ARGA				AML	AML	02 05 04.3	
	comp=N,8897μm,0.3s						
ARGA				AML	AML	02 05 09.5	
	comp=E,9225μm,0.5s						
VLX	**Vlachokerasia**	**1.08**	**155**	P	**Pg**	**02 04 44.5**	**-1.1**
VLX	**Vlachokerasia**	**1.08**	**155**	P	**Pg**	**02 04 44.5**	**-1.1**
KEF4	**Livadi, Kephal**	**1.09**	**265**	P	**Pg**	**02 04 44.2**	**-1.6**
VIL2	**Platees**	**1.16**	**97**	P	**Pn**	**02 04 47.0**	**+0.6**
VIL2				S	**Sn**	**02 05 02.7**	**+0.7**
VIL2				AML	AML	02 05 13.3	
	comp=E,13258μm,0.9s						
VIL2				AML	AML	02 05 13.6	
	comp=N,7566μm,0.9s						
ITM	**Ithomi**	**1.18**	**175**	P	**Pb**	**02 04 46.6**	**-0.2**
ITM	**Ithomi**	**1.18**	**175**		**Pg**	**02 04 46.3**	**-1.1**
ITM					**Sg**	**02 05 01.0**	**-1.8**
THL	**Klokotos Trika**	**1.22**	**7**	P	**Pn**	**02 04 47.8**	**+0.6**
THL				S	**Sn**	**02 05 03.1**	**-0.3**
THL				AML	AML	02 05 12.6	
	comp=E,4520μm,0.8s						
THL				AML	AML	02 05 17.6	
	comp=N,2622μm,0.6s						
VOL3	**Nea Ionia, Vol**	**1.34**	**41**	P	**Pn**	**02 04 46.8**	**-2.1**
VOL2	**Volos**	**1.34**	**41**	P	**Pg**	**02 04 50.8**	**+0.2**
LRSO	**Larissa Observ**	**1.39**	**19**	P	**Pg**	**02 04 50.7**	**-0.7**
KRND	**KRANIDI**	**1.44**	**132**	P	**Pb**	**02 04 50.9**	**-0.3**
NEO	**Neokhori**	**1.46**	**49**	P	**Pg**	**02 04 51.7**	**-1.0**
PYL	**PYLOS**	**1.46**	**182**	P	**Pb**	**02 04 51.2**	**-0.3**
XOR	**Xorichti**	**1.48**	**47**	P	**Pg**	**02 04 51.9**	**-1.2**
XOR				AML	AML	02 05 18.7	
	comp=E,2448μm,0.7s						
XOR				AML	AML	02 05 19.6	
	comp=N,3866μm,1.2s						
ATH	**Athens Observa**	**1.55**	**104**	P	**Pg**	**02 04 53.0**	**-1.5**
ATH				S	**Sg**	**02 05 14.3**	**-0.4**
ATH				AML	AML	02 05 19.5	
	comp=E,4482μm,1.1s						
ATH				AML	AML	02 05 22.0	
	comp=N,3194μm,0.9s						
ATHU	**Athens Univers**	**1.60**	**103**	P	**Pb**	**02 04 53.5**	**-0.5**
ATHU				S	**Sg**	**02 05 14.9**	**-1.5**
ATHU				AML	AML	02 05 22.9	
	comp=N,1702μm,0.6s						
ATHU				AML	AML	02 05 25.2	
	comp=E,683μm,0.9s						
KPRO	**Kipourio**	**1.63**	**348**	P	**Pg**	**02 04 54.4**	**-1.7**
IGT	**Igoumenitsa**	**1.64**	**316**	*e*Pn	**Pg**	**02 04 55.6**	**-0.7**
IGT				*e*Sg	**Sg**	**02 05 20.0**	**+2.3**
IGT	**Igoumenitsa**	**1.64**	**316**	P	**Pg**	**02 04 54.9**	**-1.4**
VLY	**Voula,Athens**	**1.64**	**107**	P	**Pb**	**02 04 54.2**	**-0.5**
PTL	**Penteli**	**1.65**	**100**	P	**Pb**	**02 04 54.0**	**-0.8**
PTL				S	**Sg**	**02 05 16.4**	**-1.4**
PTL				AML	AML	02 05 18.5	
	comp=N,2779μm,0.7s						
PTL				AML	AML	02 05 25.6	
	comp=E,3279μm,0.5s						
YDRA	**Hydra**	**1.65**	**127**	P	**Pb**	**02 04 54.6**	**-0.2**
DION	**Dionisos Attik**	**1.69**	**99**	P	**Pb**	**02 04 54.9**	**-0.7**
DION				AML	AML	02 05 29.4	
	comp=N,6206μm,0.9s						
DION				AML	AML	02 05 29.5	
	comp=E,6935μm,0.8s						
ALNA	**Alonissos**	**1.79**	**63**	P	**Pb**	**02 04 56.3**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.82**	**81**	P	**Pb**	**02 04 56.4**	**-1.3**
LIT	**Litokhoron**	**1.82**	**17**	P	**Pb**	**02 04 57.0**	**-0.8**
LIT	**Litokhoron**	**1.82**	**17**	Pn	**Pn**	**02 04 54.5**	**-1.1**
LIT				Sn	**Sn**	**02 05 16.1**	**-2.2**
VLI	**Veliai**	**1.87**	**151**	P	**Pn**	**02 04 57.1**	**+1.0**
PENT	**Pentalofos**	**1.91**	**344**	P	**Pg**	**02 04 59.6**	**-1.7**
KZN	**Kozani**	**1.95**	**359**	P	**Pg**	**02 04 59.8**	**-2.2**
KASA	**Kassiopi**	**2.01**	**314**	P	**Pb**	**02 05 01.0**	**0.0**
KEK	**Kerkira**	**2.07**	**311**	P	**Pb**	**02 05 01.3**	**-0.7**
KARY	**Karystos**	**2.10**	**98**	P	**Pb**	**02 05 00.9**	**-1.5**
NEST	**Nestorio**	**2.14**	**344**	P	**Pb**	**02 05 02.5**	**-0.7**
SKY	**Skiros Island**	**2.21**	**76**	P	**Pn**	**02 05 01.9**	**+1.0**
KTHA	**Kythira Island**	**2.32**	**154**	P	**Pb**	**02 05 05.1**	**-1.2**
PLG	**Polygyros**	**2.38**	**32**	P	**Pn**	**02 05 03.6**	**+0.3**
SERI	**Serifos**	**2.43**	**119**	P	**Pn**	**02 05 04.6**	**+0.7**
THE	**Thessaloniki**	**2.44**	**21**	P	**Pb**	**02 05 05.7**	**-2.6**
FNA	**Florina**	**2.45**	**352**	*e*Pn	**Pb**	**02 05 07.1**	**-1.3**
FNA				*e*Sg	**Sg**	**02 05 42.3**	**-1.0**
FNA	**Florina**	**2.45**	**352**	P	**Pb**	**02 05 07.3**	**-1.2**
FNA	**Florina**	**2.45**	**352**		**Pn**	**02 05 02.9**	**-1.3**
HORT	**Hortiatis**	**2.45**	**24**	P	**Pn**	**02 05 04.8**	**+0.5**
MHLA	**Plaka, Milos I**	**2.63**	**127**	P	**Pn**	**02 05 08.2**	**+1.6**
MHLO	**Agia Marina, M**	**2.65**	**128**	P	**Pn**	**02 05 07.2**	**+0.3**
SOH	**Sokhos**	**2.73**	**25**	P	**Pn**	**02 05 09.4**	**+1.3**
ANKY	**Antikythira Is**	**2.76**	**154**	P	**Pn**	**02 05 10.9**	**+2.5**
KNT	**Kendrikon**	**2.92**	**16**	P	**Pn**	**02 05 12.2**	**+1.5**
VAY	**Valandovo**	**3.02**	**11**	*e*Pn	**Pb**	**02 05 15.1**	**-3.0**
VAY	**Valandovo**	**3.02**	**11**	*i* Pn	**Pb**	**02 05 16.2**	**-1.9**
LIA	**Limnos Island**	**3.04**	**59**	P	**Pn**	**02 05 13.0**	**+0.7**
SRS	**Serrai**	**3.08**	**26**	*e*Pn	**Pn**	**02 05 14.5**	**+1.7**
SRS	**Serrai**	**3.08**	**26**	P	**Pn**	**02 05 13.4**	**+0.6**
SCTE	**Santa Cesarea**	**3.11**	**304**	P	**Pn**	**02 05 14.3**	**+1.1**
SCTE	**Santa Cesarea**	**3.11**	**304**	Pn	**Pn**	**02 05 12.4**	**-0.8**
THAS	**Thassos island**	**3.18**	**44**	P	**Pn**	**02 05 14.6**	**+0.4**
IOSP	**Ios island**	**3.21**	**119**	P	**Pn**	**02 05 16.1**	**+1.4**
APE	**Apeiranthos**	**3.22**	**112**	P	**Pn**	**02 05 15.9**	**+1.2**
APE	**Apeiranthos**	**3.22**	**112**	⇓P	**Pn**	**02 05 16.2**	**+1.4**
APE	**Apeiranthos**	**3.22**	**112**	⇑S	**Sn**	**02 05 53.9**	**+1.0**
SIGR	**SIGRI**	**3.27**	**74**	P	**Pn**	**02 05 16.5**	**+1.1**
TIR	**Tirane**	**3.34**	**334**	*e*Pn	**Pb**	**02 05 19.9**	**-3.7**
TIR	**Tirane**	**3.34**	**334**	⇑P	**Pb**	**02 05 19.9**	**-3.7**
TIR	**Tirane**	**3.34**	**334**		**Pn**	**02 05 15.0**	**-1.4**
KAVA	**Kavala**	**3.36**	**38**	P	**Pn**	**02 05 17.1**	**+0.4**
IMMV	**Iera Moni Meta**	**3.37**	**148**	P	**Pn**	**02 05 19.0**	**+2.1**
NVR	**Nevrokopi**	**3.38**	**27**	P	**Pn**	**02 05 18.8**	**+1.8**
SAP3	**Santorini-Thir**	**3.41**	**123**	P	**Pn**	**02 05 18.0**	**+0.7**
THR5	**Thira Island,**	**3.42**	**123**	P	**Pn**	**02 05 19.0**	**+1.5**
THR3	**Thira Island,**	**3.46**	**123**	P	**Pn**	**02 05 20.1**	**+2.1**
THR2	**Thira island,**	**3.46**	**122**	P	**Pn**	**02 05 19.0**	**+0.9**
THR6	**Thira Island,**	**3.49**	**124**	P	**Pn**	**02 05 19.4**	**+1.0**
VAM	**Vamos**	**3.51**	**146**	P	**Pn**	**02 05 20.2**	**+1.5**
SANT	**Santorini**	**3.52**	**123**	⇓P	**Pn**	**02 05 20.0**	**+1.1**
SANT	**Santorini**	**3.52**	**123**		**Pn**	**02 05 17.4**	**-1.5**
MMB	**Musomiste**	**3.55**	**24**	*e*P	**Pn**	**02 05 21.3**	**+2.0**
SMTH	**Samothraki Isl**	**3.57**	**53**	P	**Pn**	**02 05 20.1**	**+0.5**
AMGA	**Amorgos Island**	**3.58**	**114**	P	**Pn**	**02 05 21.8**	**+2.1**
SKO	**Skopje**	**3.62**	**356**	*e*Pn	**Pn**	**02 05 23.4**	**+3.1**
KKB	**Krupnik**	**3.64**	**15**	*e*P	**Pn**	**02 05 23.6**	**+3.1**
IDI	**Anoyia**	**3.94**	**140**	Pn	**Pn**	**02 05 26.4**	**+1.7**
	comp=E,2.1nm,0.3s,baz=311,slow=6.0,SNR=26						
IDI				Sn	**Sn**	**02 06 11.9**	**+1.3**
	comp=E,3.9nm,0.3s,baz=242,slow=11,SNR=4.4						
IDI	**Anoyia**	**3.94**	**140**	P	**Pn**	**02 05 26.2**	**+1.6**
IDI	**Anoyia**	**3.94**	**140**	⇓P	**Pn**	**02 05 25.2**	**+0.5**
IDI	**Anoyia**	**3.94**	**140**	Pn	**Pn**	**02 05 25.1**	**+0.5**
IDI					**Sn**	**02 06 11.2**	**+0.6**
RZN	**Rozhen**	**4.00**	**33**	*e*P	**Pn**	**02 05 28.4**	**+2.7**
TIP	**Timpagrande**	**4.03**	**283**	⇑P	**Pn**	**02 05 27.1**	**+1.1**
TIP	**Timpagrande**	**4.03**	**283**	Pn	**Pn**	**02 05 26.1**	**+0.1**
ULC	**Ulcinj**	**4.10**	**332**	⇑*i*Pn	**Pn**	**02 05 29.1**	**+2.2**
ULC				*i* Sn	**Sn**	**02 06 17.9**	**+3.2**
ALN	**Alexandroupoli**	**4.14**	**51**	Pn	**Pn**	**02 05 25.7**	**-1.6**
BOSS	**Bosilegrad**	**4.17**	**7**	*e*Pn	**Pn**	**02 05 30.0**	**+2.2**
DRME	**Dracevica, Mon**	**4.32**	**333**	⇓*i*Pn	**Pn**	**02 05 32.3**	**+2.4**
DRME				*i* Sn	**Sn**	**02 06 23.1**	**+3.1**
DRME	**Dracevica, Mon**	**4.32**	**333**	*e*Pn	**Pn**	**02 05 32.0**	**+2.1**
VTS	**Vitosha**	**4.39**	**14**	*e*P	**Pn**	**02 05 34.3**	**+3.3**
NOCI	**Noci**	**4.40**	**305**	P	**Pn**	**02 05 32.0**	**+1.1**
BARS	**Barje**	**4.45**	**0**	*e*Pn	**Pn**	**02 05 34.4**	**+2.7**
PVY	**Plav**	**4.46**	**342**	⇑*i*Pn	**Pn**	**02 05 34.1**	**+2.2**
PVY				*i* Sn	**Sn**	**02 06 26.7**	**+3.1**
PDG	**Podgorica**	**4.51**	**335**	*e*Pn	**Pn**	**02 05 35.3**	**+2.8**
PDG	**Podgorica**	**4.51**	**335**	⇓P	**Pn**	**02 05 35.9**	**+3.

SOKA			*i* Sn	**Sn**	**02 08 33.3**	**+0.8**
	comp=E,2.4nm,0.6s					
OBKA	**Obir**	**9.75 329**	*e*Pn	**Pn**	**02 06 46.3**	**+1.8**
	comp=E,2.9nm,0.4s					
OBKA			*i* Sn	**Sn**	**02 08 38.2**	**+4.4**
	comp=E,14nm,0.8s					
PRED	**Cave del Predi**	**10.12 326**		**Pn**	**02 06 48.2**	**-1.3**
STAL	**STALIGIAL**	**10.38 322**		**Pn**	**02 06 51.4**	**-1.6**
ZOU	**Zoufplan**	**10.47 324**		**Pn**	**02 06 52.8**	**-1.6**
CIMO	**Cimolais**	**10.54 322**		**Pn**	**02 06 54.1**	**-1.2**
KBA	**Koelnbreinsper**	**10.71 327**	*i* Sn	**Sn**	**02 08 57.2**	**-0.1**
	comp=E,2.1nm,0.8s					
CTI	**Castel Tesino**	**10.76 319**	Pn	**Pn**	**02 06 57.2**	**-1.1**
ABTA	**Abfaltersbach**	**10.82 324**	Pn	**Pn**	**02 07 00.5**	**+1.4**
	comp=E,4.4nm,0.6s,SNR=6.7					
MOA	**Molln**	**10.97 332**	*i* Pn	**Pn**	**02 07 04.0**	**+2.9**
	comp=E,0.9nm,0.2s					
MOA			*e*Sn	**Sn**	**02 09 05.0**	**+1.6**
	comp=E,1.4nm,0.4s					
WATA	**Walderalm**	**11.69 323**	Pn	**Pn**	**02 07 13.2**	**+2.2**
	comp=E,4.4nm,0.4s,SNR=6.4					
WATA			*i* Sn	**Sn**	**02 09 23.1**	**+1.8**
	comp=E,3.8nm,0.4s					
SQTA	**Sankt Quirin**	**11.78 322**	*i* Pn	**Pn**	**02 07 14.0**	**+1.7**
	comp=E,2.2nm,0.4s					
FETA	**Feichten**	**11.88 320**	*e*Pn	**Pn**	**02 07 15.7**	**+2.0**
	comp=E,1.8nm,0.5s					
FETA			*e*Sn	**Sn**	**02 09 28.3**	**+2.3**
	comp=E,1.6nm,0.6s					
MOTA	**Moosalm**	**11.92 322**	*i* Pn	**Pn**	**02 07 15.4**	**+1.1**
	comp=E,5.8nm,0.6s,SNR=6.8					
MOTA			*i* Sn	**Sn**	**02 09 27.0**	**0.0**
	comp=E,4.9nm,0.7s					
GERES	**GERESS Array B**	**12.01 333**	Pn	**Pn**	**02 07 17.4**	**+2.0**
	comp=E,0.2nm,0.3s,baz=156,slow=13,SNR=4.8					
GERES			Sn	**Sn**	**02 09 28.0**	**-1.0**
	comp=E,0.1nm,0.3s,baz=152,slow=25,SNR=2.6					
GERES			LR	LR	02 12 52.6	
	comp=E,466nm,18.6s,baz=124,slow=42					
GERES	**GERESS Array B**	**12.01 333**		**Pn**	**02 07 14.0**	**-1.4**
GERES				**Sn**	**02 09 27.6**	**-1.4**
DAVOX	**Davos/Dischmat**	**12.16 318**	Pn	**Pn**	**02 07 18.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=144,slow=19,SNR=3.2					
DAVOX			Sn	**Sn**	**02 09 32.3**	**-0.6**
	comp=E,0.2nm,0.3s,baz=278,slow=9.5,SNR=3.2					
RETA	**Reutte**	**12.19 322**	*e*Pn	**Pn**	**02 07 20.0**	**+2.3**
TUE	**Stuetta**	**12.26 315**	Pn	**Pn**	**02 07 19.1**	**+0.2**
MMAI	**Mount Meron Ar**	**12.27 112**	Pn	**Pn**	**02 07 19.4**	**+0.5**
	comp=E,0.3nm,0.3s,baz=316,slow=9.3,SNR=3.8					
KHC	**Kasperske Hory**	**12.29 334**	*e*PN	**Pn**	**02 07 22.5**	**+3.3**
KHC			*e*SN	**Sn**	**02 09 37.4**	**+1.5**
DAVA	**Damuels**	**12.49 319**	*i* Pn	**Pn**	**02 07 24.9**	**+2.9**
	comp=E,0.8nm,0.2s					
AKASG	**Malin Array Be**	**13.42 21**	Pn	**Pn**	**02 07 35.8**	**+1.3**
	comp=E,0.4nm,0.3s,baz=240,slow=12,SNR=1.5					
EIL	**Elat**	**13.91 125**	Pn	**Pn**	**02 07 41.2**	**-0.1**
	comp=E,0.2nm,0.3s,baz=22,slow=19,SNR=1.9					
CLL	**Collm**	**14.36 337**	*e*sPP		02 07 59.0	
SUW	**Suwalki**	**15.69 3**	Pn	**Pn**	**02 08 04.0**	**-1.0**
ESBB	**Sonseca Array**	**20.05 282**	P	**P**	**02 08 56.6**	**-0.7**
ESBB			IAmb	IAmb	02 09 01.1	
	comp=Z,7.2nm,1.1s					
ESDC	**Sonseca Array**	**20.05 282**	P	Pn	02 08 59.3	+0.1
	comp=Z,1.7nm,0.7s,baz=77,slow=11,SNR=15					
ESDC	**Sonseca Array**	**20.05 282**	P	**P**	**02 08 58.3**	**+1.0**
PAB	**San Pablo**	**20.36 282**	P	**P**	**02 08 58.6**	**-2.1**
HFS	**Hagfors**	**22.40 349**	P	**P**	**02 09 23.6**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=163,slow=11,SNR=10					
FINES	**FINESS Array B**	**23.26 5**	P	**P**	**02 09 31.2**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=177,slow=9.1,SNR=7.5					
FINES	**FINESS Array B**	**23.26 5**	P	**P**	**02 09 31.0**	**-0.4**
NC602	**NORSAR Array S**	**23.31 347**	P	**P**	**02 09 30.7**	**-1.2**
NC405	**NORSAR Array S**	**23.64 348**	P	**P**	**02 09 33.9**	**-1.2**
NC405			IAmb	IAmb	02 09 36.6	
	comp=Z,16nm,0.9s					
NB201	**NORSAR Array S**	**23.65 347**	P	**P**	**02 09 34.4**	**-0.8**
NB201			IAmb	IAmb	02 09 48.9	
	comp=Z,14nm,1.1s					
NB2	**NORSAR Subarra**	**23.66 347**	P	**P**	**02 09 35.7**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=160,slow=11					
NOA	**NORSAR Array B**	**23.66 347**	P	**P**	**02 09 35.9**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=154,slow=9.4,SNR=7.8					
NOA			LR	LR	02 19 27.7	
	comp=Z,40nm,21.8s,baz=165,slow=38					
NC303	**NORSAR Array S**	**23.80 347**	P	**P**	**02 09 35.8**	**-0.9**
NC303			IAmb	IAmb	02 09 38.9	
	comp=Z,15nm,1.0s					
EKA	**Eskdalemuir Ar**	**23.88 323**	P	**P**	**02 09 37.9**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=122,slow=11,SNR=7.7					
TOA0	**Torodi Ar. Sit**	**30.82 221**	P	**P**	**02 10 38.3**	**-1.8**
TOA0			IAmb	IAmb	02 10 44.5	
	comp=Z,3.1nm,0.9s					
TORD	**Torodi Ar. Bea**	**30.82 221**	P	**P**	**02 10 41.6**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=33,slow=9.2,SNR=12					
TORD	**Torodi Ar. Bea**	**30.82 221**	P	**P**	**02 10 36.9**	**-3.2**
ARCES	**ARCESS Array B**	**31.30 3**	LR	LR	02 24 06.5	
	comp=Z,107nm,18.1s,baz=85,slow=38					
KOWA	**Kowa**	**32.95 231**	P	**P**	**02 11 00.3**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=27,slow=14,SNR=2.3					
MKAR	**Makanchi Array**	**44.34 59**	P	**P**	**02 12 35.7**	**+1.5**
	comp=Z,3.0nm,0.5s,baz=279,slow=7.6,SNR=26					
MKAR			PcP	**PcP**	**02 14 18.7**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=276,slow=4.2,SNR=3.0					
MKAR	**Makanchi Array**	**44.34 59**	P	**P**	**02 12 33.0**	**-1.2**
MKAR				**PP**	**02 14 16.8**	**-0.6**
ZALV	**Zalesovo Beam**	**44.81 48**	P	**P**	**02 12 38.8**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=282,slow=7.4,SNR=11					
SONM	**Songino Array**	**59.56 51**	P	**P**	**02 14 28.6**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=276,slow=10,SNR=6.3					
SONM	**Songino Array**	**59.56 51**	P	**P**	**02 14 26.4**	**-1.3**
ILAR	**Eielson Array**	**76.82 355**	P	**P**	**02 16 17.4**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=353,slow=4.8,SNR=8.4					
ILAR	**Eielson Array**	**76.82 355**	P	**P**	**02 16 14.4**	**-1.1**
PDAR	**Pinedale Array**	**87.97 326**	P	**P**	**02 17 14.8**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=25,slow=3.0,SNR=2.5					
PDAR	**Pinedale Array**	**87.97 326**	P	**P**	**02 17 12.6**	**-1.8**
ASAR	**Alice Springs**	**121.19 97**	PKP	**PKPdf**	**02 23 17.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=289,slow=2.8,SNR=1.9					
ASAR	**Alice Springs**	**121.19 97**		**PKPdf**	**02 23 15.6**	**-1.7**

GCG ***25*** *02:06:53.5±0.5, 13°.35N×91°.06W, h19km±5km, MD3.6*
SNET ***25*** *02:06:59.5±1.4, 13°.72N×90°.84W, h30km±6km, ML3.2*
ISC 25 02:06:56.9±3.2, 13°.6N±0°.1×91°.0W±0°.1, h29km, n12, σ0°62/15, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.80**	**40**	*e*P	**Pn**	**02 07 12.4**	**-0.1**
FUG	**Fuego 3**	**0.90**	**8**	*e*P	**Pn**	**02 07 13.9**	**+0.2**
PCG	**Pacaya**	**0.91**	**23**	*e*P	**Pn**	**02 07 14.1**	**+0.1**
NBG	**Las Nubes**	**1.19**	**31**	*e*P	**Pb**	**02 07 18.9**	**-0.2**
NUBE	**Las Nubes**	**1.21**	**73**	*e*P	**Pb**	**02 07 18.8**	**-0.6**
NUBE				*e*S	**Sn**	**02 07 33.0**	**-0.6**
NUBE				IAML		02 07 34.2	
	comp=Z,456nm,0.3s						
RTR	**El Retiro**	**1.34**	**75**	*e*P	**Pb**	**02 07 21.1**	**-0.4**
CEVE	**Cerro Verde**	**1.34**	**78**	*e*P	**Pb**	**02 07 20.6**	**-1.1**
CEVE				*e*S	**Sn**	**02 07 36.9**	**0.0**
CEVE				IAML		02 07 38.9	
	comp=Z,2μm,0.2s						
SBLS	**San Blas**	**1.35**	**78**	*e*P	**Pn**	**02 07 20.2**	**+0.2**
SBLS				*e*S	**Sn**	**02 07 37.1**	**+0.1**
TACO	**Tacachico**	**1.63**	**75**	*e*P	**Pn**	**02 07 24.1**	**+0.4**
MTO3	**Montecristo**	**1.78**	**62**	*e*P	**Pn**	**02 07 25.8**	**-0.1**
LFRS	**El Faro**	**1.86**	**88**	*e*P	**Pn**	**02 07 28.1**	**+1.2**
MRL	**Marmol**	**1.97**	**39**	*e*S	**Sb**	**02 07 57.4**	**+1.0**

WEL 25 02:24:36.4, 41°.S±4°.×17°.3E±°., h224km±5km, M3.2/12, MLv3.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=109.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.32**	**360**	P	Pn	02 25 06.0	+0.1
QRZ				S	S	02 25 27.3	-1.6
NNZ	**Nelson**	**0.65**	**97**	P	Pn	02 25 06.7	-0.2
NNZ				S	S	02 25 29.7	-0.9
THZ	**Tophouse**	**0.68**	**156**	P	Pn	02 25 07.2	+0.1
THZ				S	S	02 25 28.9	-2.2
DSZ	**Denniston Nort**	**0.81**	**222**	P	Pn	02 25 07.4	-0.2
DSZ				S	S	02 25 29.4	-2.8
TUWZ	**Tuamarina**	**1.10**	**105**	P	Pn	02 25 09.5	+0.2
TUWZ				S	S	02 25 33.2	-1.7
DUWZ	**D'Urville Isla**	**1.11**	**73**	P	Pn	02 25 09.5	0.0
DUWZ				S	S	02 25 34.0	-1.0
BSWZ	**Blackbirch Sta**	**1.16**	**120**	P	Pn	02 25 09.9	+0.2
BSWZ				S	S	02 25 34.3	-1.4
TCW	**Tory Channel**	**1.32**	**93**	P	Pn	02 25 11.0	+0.1
TCW				S	S	02 25 36.5	-1.2
CMWZ	**Cape Campbell**	**1.40**	**116**	P	Pn	02 25 11.8	+0.3
KHZ	**Kahutara**	**1.48**	**150**	P	Pn	02 25 11.8	-0.2
KHZ				S	S	02 25 37.5	-2.4
LTZ	**Lake Taylor**	**1.65**	**187**	P	Pn	02 25 13.3	-0.2
LTZ				S	S	02 25 39.2	-3.4
INZ	**Inchbonnie**	**1.77**	**207**	P	Pn	02 25 14.1	-0.5
INZ				S	S	02 25 41.6	-2.9
BHW	**Baring Head**	**1.79**	**99**	P	Pn	02 25 14.5	-0.2
KIW	**Kapiti Island**	**1.82**	**82**	P	Pn	02 25 15.1	0.0
KIW				S	S	02 25 42.8	-2.4
GVZ	**Greta Valley S**	**1.86**	**168**	P	Pn	02 25 15.1	-0.3
CAW	**Cannon Point**	**1.92**	**90**	P	Pn	02 25 15.9	-0.1
OGWZ	**Otaki Gorge**	**2.03**	**82**	P	Pn	02 25 17.2	+0.2
AMCZ	**Amberley**	**2.03**	**177**	P	Pn	02 25 16.7	-0.3
MSWZ	**Moikau Station**	**2.07**	**98**	P	Pn	02 25 17.2	-0.2
PLWZ	**Palliser**	**2.10**	**103**	P	Pn	02 25 17.5	-0.2
KHEZ	**Kahui Hut**	**2.17**	**32**	P	Pn	02 25 17.0	-1.6
PAWZ	**Paruwai Farm**	**2.20**	**97**	P	Pn	02 25 18.6	-0.1
OXZ	**Oxford**	**2.21**	**189**	P	Pn	02 25 18.0	-0.8
MTW	**Mount Morrison**	**2.24**	**91**	P	Pn	02 25 19.1	0.0
HOWZ	**Holdsworth Sta**	**2.27**	**85**	P	Pn	02 25 19.5	0.0
OHWZ	**Ohakea**	**2.32**	**67**	P	Pn	02 25 20.4	+0.5
WAZ	**Wanganui**	**2.33**	**54**	P	Pn	02 25 20.6	+0.5
WVZ	**Waitaha Valley**	**2.35**	**214**	P	Pn	02 25 19.5	-0.7
MRZ	**Mangatainoka R**	**2.36**	**79**	P	Pn	02 25 20.3	-0.1
TRWZ	**Traveller**	**2.39**	**97**	P	Pn	02 25 20.9	+0.2
MHCZ	**Mount Hutt**	**2.49**	**196**	P	Pn	02 25 21.2	-0.6
TMWZ	**Te Maipa**	**2.54**	**90**	P	Pn	02 25 22.4	+0.2
MQZ	**McQueen's Vall**	**2.56**	**178**	P	Pn	02 25 21.2	-1.2
TIWZ	**Tintock**	**2.57**	**83**	P	Pn	02 25 22.8	+0.2
POWZ	**Post Office Ro**	**2.57**	**74**	P	Pn	02 25 22.5	-0.1
OKCZ	**Okains Bay**	**2.61**	**172**	P	Pn	02 25 22.5	-0.5
PRWZ	**Pori Road**	**2.68**	**78**	P	Pn	02 25 24.2	+0.5
GCSZ	**Gaunt Creek Bo**	**2.72**	**216**	P	Pn	02 25 23.3	-0.9
RPZ	**Rata Peaks**	**2.79**	**203**	P	Pn	02 25 24.3	-0.7
PKVZ	**Pokaka**	**2.84**	**50**	P	Pn	02 25 25.2	-0.5
WACZ	**Wakanui South**	**2.84**	**190**	P	Pn	02 25 25.3	-0.2
BFZ	**Birch Farm**	**2.85**	**82**	P	Pn	02 25 25.9	+0.2
DVHZ	**Dannevirke**	**2.89**	**74**	P	Pn	02 25 26.0	-0.1
WNVZ	**Wahianoa**	**2.97**	**53**	P	Pn	02 25 26.6	-0.6
ARCZ	**Arundel**	**2.98**	**199**	P	Pn	02 25 26.1	-0.9
MOVZ	**Moawhango**	**3.02**	**56**	P	Pn	02 25 27.0	-0.6
TWVZ	**Taurewa**	**3.04**	**48**	P	Pn	02 25 27.4	-0.6
NGZ	**Ngauruhoe**	**3.07**	**51**	P	Pn	02 25 28.2	0.0
ANWZ	**Angora Road**	**3.07**	**78**	P	Pn	02 25 28.5	+0.4
WTVZ	**West Tongariro**	**3.10**	**50**	P	Pn	02 25 28.1	-0.5
FOZ	**Fox Glacier**	**3.12**	**219**	P	Pn	02 25 27.5	-1.1
ETVZ	**East Tongariro**	**3.16**	**52**	P	Pn	02 25 28.8	-0.5
TMVZ	**Te Maari**	**3.17**	**51**	P	Pn	02 25 28.9	-0.5
BHHZ	**Black Hill Sta**	**3.17**	**60**	P	Pn	02 25 28.7	-0.6
KRHZ	**Kereru**	**3.29**	**64**	P	Pn	02 25 30.6	-0.1
KWHZ	**Kaweka Forest**	**3.44**	**61**	P	Pn	02 25 32.5	0.0
MCHZ	**McNeill Hill**	**3.61**	**63**	P	Pn	02 25 34.4	0.0
BKZ	**Black Stump Fm**	**3.62**	**58**	P	Pn	02 25 33.7	-0.9
LBZ	**Lake Benmore**	**3.67**	**207**	P	Pn	02 25 33.9	-1.2
MTHZ	**Maungataniwha**	**4.03**	**57**	P	Pn	02 25 39.2	-0.3
JCZ	**Jackson Bay**	**4.03**	**222**	P	Pn	02 25 38.3	-1.1
ODZ	**Otahua Downs**	**4.14**	**199**	P	Pn	02 25 39.9	-0.7
RTZ	**Ruatahuna**	**4.25**	**55**	P	Pn	02 25 42.2	-0.1
SNGZ	**Shannon Statio**	**4.38**	**59**	P	Pn	02 25 44.5	+0.6
WKZ	**Wanaka**	**4.49**	**214**	P	Pn	02 25 43.6	-1.5
URZ	**Urewera**	**4.56**	**52**	P	Pn	02 25 45.0	-0.9
MHGZ	**Mahia Peninsul**	**4.58**	**66**	P	Pn	02 25 46.7	+0.6
RIGZ	**Rimuhau**	**4.70**	**61**	P	Pn	02 25 47.9	+0.1
MSZ	**Milford Sound**	**4.89**	**222**	P	Pn	02 25 48.8	-1.1
RUGZ	**Raukumara Rang**	**5.09**	**53**	P	Pn	02 25 52.3	-0.4
MLZ	**Mavora Lakes**	**5.31**	**216**	P	Pn	02 25 54.3	-1.0
WHZ	**Wether Hill Ro**	**5.80**	**214**	P	Pn	02 25 59.8	-1.6

BGR ***25*** *02:31:53.5±0.0, 25°.07N×64°.43E, h46km±6km, mb5.7, Ms4.5*
MOS ***25*** *02:31:54.4±1.0, 27°.34N×65°.81E, h32km, mb5.6/79, MS4.7/30, Error ellipse: s-maj=4.8km s-min=3.2km az=93.5*
NEIC ***25*** *02:31:56.1, 27°.39N×65°.77E, h57km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.42; $M_{\theta\theta}$2.27; $M_{\phi\phi}$-0.85; $M_{r\theta}$-0.36; $M_{\theta\phi}$0.80; $M_{\phi r}$0.90; Fault plane solution: $M_0$2.35000×10^{17} NP1:ϕ_s223.72000°, δ55.14000°, λ-140.75000°. NP2:ϕ_s108.68000°, δ58.72000°, λ-41.98000°. Principal axes: T 2.4670, Plg2.0000°, Azm167.0000°; N -0.2564, Plg39.0000°, Azm259.0000°; P -2.2106, Plg50.0000°, Azm74.0000°;*
NEIC ***25*** *02:31:57.7±0.8, 27°.31N±0°.06×65°.75E±0°.08, h52km±1km, mb5.4/227, Mwb5.5/46, Mww5.4, Mwc5.6(GCMT) Error ellipse: s-maj=11.6km s-min=10.1km az=291.0*
BJI ***25*** *02:31:57.9±0.0, 27°.47N×65°.91E, h50km, mB5.7/61, mb5.7/76, Ms5.1/87, Ms7 5.1/81*
UNK ***25*** *02:31:58.8, 27°.46N×65°.76E, h52km*
GCMT ***25*** *02:31:58.7±0.1, 27°.10N±0°.01×65°.81E±0°.01, h60km±1km, MW5.6/126, Moment Tensor Solution. s125,c216; s126,c226; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.05±.04; $M_{\theta\theta}$3.00±.04; $M_{\phi\phi}$-1.94±.04; $M_{r\theta}$-0.08±.04; $M_{\theta\phi}$0.44±.03; $M_{\phi r}$1.42±.04; Best double couple: $M_0$3.02500×10^{17} NP1:ϕ_s124.00000°, δ65.00000°, λ-27.00000°. NP2:ϕ_s226.00000°, δ66.00000°, λ-152.00000°. Principal axes: T 3.0400, Plg1.0000°, Azm355.0000°; N -0.0200, Plg54.0000°, Azm264.0000°; P -3.0100, Plg36.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***25*** *02:31:58.5±0.3, 27°.33N×65°.80E, h52km±2km, mb4.8/44, mb1 4.9/46, mb1mx4.8/50, mbtmp5.1/46, MS4.7/37, Ms1 4.7/37, ms1mx4.6/45 Error ellipse: s-maj=7.5km s-min=6.7km az=6.0*
NEIC ***25*** *02:32:01, 27°.11N×65°.81E, h48km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97; $M_{\theta\theta}$3.13; $M_{\phi\phi}$-2.16; $M_{r\theta}$-0.69; $M_{\theta\phi}$1.02; $M_{\phi r}$1.24; Fault plane solution: $M_0$3.28000×10^{17} NP1:ϕ_s219.00000°, δ63.00000°, λ-161.00000°. NP2:ϕ_s120.00000°, δ73.00000°, λ-28.00000°. Principal axes: T 3.3723, Plg6.0000°, Azm171.0000°; N -0.1920, Plg57.0000°, Azm271.0000°; P -3.1804, Plg32.0000°, Azm77.0000°;*
NEIC ***25*** *02:32:04, 27°.46N×65°.76E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.96; $M_{\theta\theta}$1.26; $M_{\phi\phi}$-0.29; $M_{r\theta}$-0.42; $M_{\theta\phi}$0.67; $M_{\phi r}$0.53; Fault plane solution: $M_0$1.48000×10^{17} NP1:ϕ_s219.00000°, δ50.00000°, λ-138.00000°. NP2:ϕ_s100.00000°, δ59.00000°, λ-48.00000°. Principal axes: T 1.5252, Plg5.0000°, Azm161.0000°; N -0.0870, Plg35.0000°, Azm255.0000°; P -1.4382, Plg54.0000°, Azm64.0000°;*
OMAN ***25*** *02:32:09.2±0.8, 26°.83N×64°.83E, h30km±28km, mb6.6/30, ms4.4/18 Error ellipse: s-maj=37.9km s-min=5.9km az=254.0*
ISC 25 02:31:57.7±0.2, 27°.28N±0°.03×65°.78E±0°.02, h51km±1km, h51km: pP-P, n1057, σ1°60/1309, mb5.4/299, MS4.8/85, 47C-53D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**5.33**	**138**	*e*P	**Pn**	**02 33 15.3**	**+0.5**
THW	**Thamme Wali**	**7.54**	**42**	P	**Pn**	**02 33 44.1**	**-1.1**
SARP	**Sargodha**	**7.58**	**51**	P	**Pn**	**02 33 44.5**	**-1.1**
WSAR	**Wadi Sarin**	**7.62**	**240**	P	**Pn**	**02 33 44.3**	**-1.9**
	24nm,0.3s,baz=108,slow=7.5,SNR=205						
WSAR				S	Sn	02 34 58.6	-13
	269nm,0.3s,baz=5.3,slow=2.1,SNR=36						
WSAR				LR	LR	02 37 38.4	
	comp=Z,7μm,18.4s,baz=90,slow=44						
WSAR	**Wadi Sarin**	**7.62**	**240**	P	**Pn**	**02 33 44.7**	**-1.5**
	SNR=34						
WSAR				S	Sn	02 35 00.6	-11
HRA	**Herat**	**7.71**	**338**	Pn	**Pn**	**02 33 46.9**	**-0.6**
JLN	**Jalan Bani Buh**	**7.72**	**230**	P	**Pn**	**02 33 46.2**	**-1.3**
	SNR=15						
JLN				S	Sn	02 35 04.0	-10
	SNR=30						
WBK	**Wadi Bani Khal**	**7.73**	**235**	P	**Pn**	**02 33 46.6**	**-1.2**
	SNR=531						
WBK				S	Sn	02 35 04.1	-10
KBL	**Kabul**	**7.76**	**20**	Pn	**Pn**	**02 33 47.5**	**-0.8**
KBL				Sn	**Sn**	**02 35 11.9**	**-3.0**
BIDO	**Bidbid**	**7.86**	**243**	P	**Pn**	**02 33 48.6**	**-0.9**
	SNR=34						
BIDO				S	**Sn**	**02 35 08.3**	**-8.9**
AJM	**Ajmer**	**7.96**	**94**	⇓*i*P	**Pn**	**02 33 50.0**	**-0.8**
AJM				*i* S	**Sn**	**02 35 13.0**	**-6.5**
SMDO	**Samad**	**8.16**	**241**	P	**Pn**	**02 33 52.6**	**-1.1**
	SNR=54						
SMDO				P	**Pn**	**02 33 52.6**	**-1.1**
	SNR=54						
SMDO				S	Sn	02 35 15.0	-10
SMDO				S	Sn	02 35 15.0	-10
CEP	**Cherat**	**8.39**	**38**	P	**Pn**	**02 33 55.9**	**-1.0**
HOQ	**Hoqain**	**8.49**	**246**	P	**Pn**	**02 33 56.5**	**-1.6**
	SNR=50						
HOQ				P	**Pn**	**02 33 56.5**	**-1.6**
	SNR=50						
HOQ				S	Sn	02 35 23.1	-10
HOQ				S	Sn	02 35 23.1	-10
JMDO	**Jabal Madar**	**8.51**	**237**	P	**Pn**	**02 33 58.3**	**-0.1**
	SNR=167						
JMDO				P	**Pn**	**02 33 58.3**	**-0.1**
	SNR=167						
JMDO				S	Sn	02 35 24.0	-9.2
	SNR=16						
JMDO				S	Sn	02 35 24.0	-9.2
	SNR=16						
BANOM	**Banah**	**8.59**	**263**	*i* Pn	**Pn**	**02 33 58.3**	**-1.3**
	SNR=577						
BANOM	**Banah**	**8.59**	**263**	P	**Pn**	**02 33 58.8**	**-0.7**
	SNR=577						
BANOM				P	**Pn**	**02 33 58.8**	**-0.7**
	SNR=577						
BANOM				S	**Sn**	**02 35 27.3**	**-7.8**
	SNR=280						
BANOM				S	**Sn**	**02 35 27.3**	**-7.8**
	SNR=280						
SHME	**Shamm**	**8.71**	**264**	*i* Pn	**Pn**	**02 34 00.9**	**-0.2**
	SNR=372						
MDH	**Madha**	**8.73**	**259**	*i* Pn	**Pn**	**02 33 59.5**	**-1.9**
	SNR=101						
MDH	**Madha**	**8.73**	**259**	P	**Pn**	**02 33 59.9**	**-1.5**
	SNR=101						
MDH				P	**Pn**	**02 33 59.9**	**-1.5**
	SNR=101						
MDH				S	Sn	02 35 27.9	-11
MDH				S	Sn	02 35 27.9	-11
MSFE	**Esma-Masafi**	**8.84**	**260**	*i* Pn	**Pn**	**02 34 01.2**	**-1.8**
	SNR=211						
SOHO	**SOHO**	**8.90**	**251**	*i* Pn	**Pn**	**02 34 01.9**	**-1.9**
	SNR=155						
SOHO	**SOHO**	**8.90**	**251**	P	**Pn**	**02 34 01.9**	**-1.9**
SOHO				P	**Pn**	**02 34 01.9**	**-1.9**
SOHO				S	Sn	02 35 31.7	-11
SOHO				S	Sn	02 35 31.7	-11
UOSS	**Minazif**	**8.91**	**257**	*i* Pn	**Pn**	**02 34 01.4**	**-2.5**
	SNR=310						
UOSS	**Minazif**	**8.91**	**257**	P	**Pn**	**02 34 02.4**	**-1.6**
UOSS				P	**Pn**	**02 34 02.4**	**-1.6**
UOSS				S	Sn	02 35 32.1	-11
UOSS				S	Sn	02 35 32.1	-11
UOSS	**Minazif**	**8.91**	**257**	Pn	**Pn**	**02 34 01.7**	**-2.2**
BSY	**Bisya**	**8.99**	**242**	P	**Pn**	**02 34 04.8**	**-0.2**
	SNR=140						
BSY				P	**Pn**	**02 34 04.8**	**-0.2**
	SNR=140						
BSY				S	**Sn**	**02 35 37.0**	**-7.9**
BSY				S	**Sn**	**02 35 37.0**	**-7.9**
HATD	**Hatta, Dubai**	**9.01**	**256**	*i* Pn	**Pn**	**02 34 03.4**	**-1.8**
	SNR=24						
HATD	**Hatta, Dubai**	**9.01**	**256**	P	**Pn**	**02 34 03.7**	**-1.5**
	SNR=46						
HATD				S	**Sn**	**02 35 36.9**	**-8.5**
NIL	**Nilore**	**9.05**	**44**	P	**Pn**	**02 34 04.3**	**-1.5**
NIL	**Nilore**	**9.05**	**44**	Pn	**Pn**	**02 34 04.2**	**-1.5**
ASHO	**Ashiyiah**	**9.12**	**256**	*i* Pn	**Pn**	**02 34 04.3**	**-2.5**
	SNR=114						
ASHO	**Ashiyiah**

BTK	**Batken**	**13.41**	**17**		**Pn**		**02 35 03.4**	**-2.0**
BTK				Sn	**Sn**		**02 37 29.7**	**-3.2**
KLRI	**Killari**	**13.55**	**130**	*e*P	**Pn**		**02 35 06.3**	**-1.0**
KLRI				IVmB_BB			02 35 30.9	
	comp=Z,870nm,2.5s							
KLRI				IVMs_BB	IVMs_BB		02 40 28.6	
	comp=Z,1μm,3.4s							
NGP	**Nagpur**	**13.56**	**114**	*e*P	**Pn**		**02 35 08.2**	**+0.7**
DMTO	**DMTO**	**13.80**	**229**	P	**Pn**		**02 35 10.8**	**0.0**
	SNR=20							
DMTO				P	**Pn**		**02 35 10.8**	**0.0**
	SNR=20							
GOA	**Goa**	**13.91**	**146**	*e*P	**Pn**		**02 35 12.8**	**+0.5**
GOA				IAmb	IAmb		02 35 14.3	
	comp=Z,151nm,1.1s							
TAS	**Tashkent**	**14.31**	**11**	P	**Pn**		**02 35 15.7**	**-1.7**
TAS	**Tashkent**	**14.31**	**11**	Pn	**Pn**		**02 35 15.7**	**-1.7**
RBK	**Rabkut**	**14.45**	**230**	P	**Pn**		**02 35 19.8**	**+0.3**
	SNR=7.8							
RBK				P	**Pn**		**02 35 19.8**	**+0.3**
	SNR=7.8							
RBK				S	Sn		02 37 46.6	-12
RBK				S	Sn		02 37 46.6	-12
WHFO	**Wadi Hawf**	**14.47**	**232**	P	**Pn**		**02 35 19.6**	**-0.1**
	SNR=36							
WHFO				P	**Pn**		**02 35 19.6**	**-0.1**
	SNR=36							
KSH	**Kashi**	**14.87**	**32**	P	Pn		02 35 17.8	-7.1
KSH				pP	P		02 35 27.5	-2.1
KSH				sS	Sn		02 38 09.6	+1.2
KSH				pmax	pmax			
	comp=Z,270nm,1.0s							
KSH				pmax	pmax			
	comp=Z,2μm,4.8s							
KSH				LR	LR			
	comp=Z,4μm,12.3s							
KSH				LR	LR			
	comp=Z,6μm,14.1s							
KSH				LR	LR			
	comp=Z,6μm,13.9s							
RPR	**Rampur**	**14.99**	**121**	*e*P	**Pn**		**02 35 26.1**	**-0.3**
RPR				IVmB_BB			02 35 53.0	
	comp=Z,1μm,1.5s							
RPR				IVMsBB			02 42 21.7	
	comp=Z,821nm,8.3s							
ABTO	**Aybut**	**15.19**	**232**	P	**Pn**		**02 35 29.1**	**+0.1**
	SNR=11							
ABTO				P	**Pn**		**02 35 29.1**	**+0.1**
	SNR=11							
IUG	**Iuzhnay**	**15.23**	**12**	*i* P	**Pn**		**02 35 27.4**	**-2.2**
	comp=Z,431nm,1.3s,baz=13							
IUG				*e*S	**Sn**		**02 38 15.6**	**-1.7**
	comp=Z,159nm,1.0s,baz=13							
IUG	**Iuzhnay**	**15.23**	**12**	*i* P	**Pn**		**02 35 27.4**	**-2.2**
IUG				*e*S	**Sn**		**02 38 15.5**	**-1.7**
IUG				pmax	pmax			
	comp=Z,431nm,1.3s							
PYUN	**Piuthan**	**15.27**	**83**	*e*P	**Pn**		**02 35 27.0**	**-3.3**
	comp=Z,946nm,0.6s							
HYBB	**Hyderabad (bro**	**15.35**	**127**	*e*P	**Pn**		**02 35 29.9**	**-1.3**
HYBB				IVmB_BB			02 35 50.1	
	comp=Z,780nm,2.6s							
HYBB				IVMs_BB	IVMs_BB		02 41 19.8	
	comp=Z,895nm,5.1s							
HYB	**Hyderabad**	**15.35**	**127**	*i* P	**Pn**		**02 35 29.0**	**-2.2**
	comp=Z,140nm,1.0s							
HYB				*e*S	**Sn**		**02 38 22.0**	**+1.7**
HYB	**Hyderabad**	**15.35**	**127**	*ex*	**Pn**		**02 35 29.0**	**-2.2**
HYB				IAmb	IAmb		02 35 36.9	
	comp=Z,96nm,1.2s							
CUPL	**Choutuppal**	**15.69**	**127**	*e*P	**Pn**		**02 35 34.9**	**-0.7**
KOLN	**Koldanda**	**15.82**	**84**	*e*P	**Pn**		**02 35 34.2**	**-3.2**
	comp=Z,2μm,1.1s							
DANN	**Dangsing**	**15.95**	**82**	*e*P	**Pn**		**02 35 36.1**	**-3.0**
	comp=Z,2μm,0.9s							
AML	**Almayashu**	**16.17**	**22**	P	**Pn**		**02 35 38.9**	**-3.0**
	SNR=179							
DZA	**Taraz**	**16.22**	**15**	*e*P	**Pn**		**02 35 40.2**	**-2.0**
	comp=Z,86nm,0.9s,baz=15							
DZA	**Taraz**	**16.22**	**15**	*e*P	**Pn**		**02 35 40.1**	**-2.0**
DZA				pmax	pmax			
	comp=Z,86nm,0.9s							
KK31	**Karatay Array**	**16.25**	**12**	P	**Pn**		**02 35 39.6**	**-2.9**
KK31				pmax	pmax			
	comp=Z,143nm,1.1s							
KK31	**Karatay Array**	**16.25**	**12**	Pn	**Pn**		**02 35 39.6**	**-2.9**
KKAR	**Karatay Array**	**16.25**	**12**	P	**Pn**		**02 35 39.2**	**-3.3**
KKAR				pmax	pmax			
	comp=Z,143nm,1.1s							
KKAR	**Karatay Array**	**16.25**	**12**	P	**Pn**		**02 35 39.5**	**-3.0**
KKAR	**Karatay Array**	**16.25**	**12**	P	**Pn**		**02 35 39.2**	**-3.3**
URV	**Uravakonda**	**16.27**	**137**	*e*P	**Pn**		**02 35 41.2**	**-1.8**
URV				IVmB_BB			02 36 00.5	
	comp=Z,760nm,2.5s							
URV				IVMsBB			02 42 22.2	
	comp=Z,590nm,4.7s							
GGR	**Gangavaram**	**16.30**	**122**	*e*P	**Pn**		**02 35 42.5**	**-0.8**
GGR				IVmBBB			02 36 02.3	
	comp=Z,1μm,1.0s							
GGR				IVMsBB			02 41 47.4	
	comp=Z,1μm,5.8s							
NJS	**Nagarjunasagar**	**16.46**	**128**	*e*P	**Pn**		**02 35 44.0**	**-1.3**
NJS				IVmBBB			02 35 57.8	
	comp=Z,949nm,2.0s							
NJS				IVMs_BB	IVMs_BB		02 42 25.8	
	comp=Z,976nm,8.8s							
SRLM	**Srisailam**	**16.49**	**130**	*e*P	**Pn**		**02 35 44.0**	**-1.6**
SRLM				IVmBBB			02 36 03.3	
	comp=Z,746nm,2.6s							
SRLM				IVMsBB			02 43 14.8	
	comp=Z,763nm,4.4s							
UCH	**Uchtor**	**16.53**	**23**	P	**Pn**		**02 35 43.9**	**-2.7**
	SNR=227							
EKS2	**Erkin-Say**	**16.67**	**21**	P	**Pn**		**02 35 46.0**	**-2.0**
	SNR=77							
KZA	**Kyzart**	**16.67**	**25**	P	**P**		**02 35 50.7**	**+0.8**
	SNR=40							
GKN	**Gorkha**	**16.73**	**83**	*e*P	**Pn**		**02 35 45.4**	**-3.4**
	comp=Z,3μm,1.1s							
AAK	**Ala-Archa**	**16.89**	**23**	P	**Pn**		**02 35 49.5**	**-1.2**
	comp=Z,3.4nm,0.3s,baz=193,slow=7.9,SNR=69							
AAK				S	Sn		02 38 46.1	-11
	comp=Z,1.8nm,0.3s,baz=341,slow=16,SNR=8.9							
AAK				LR	LR		02 42 20.3	
	comp=Z,2μm,21.5s,baz=217,slow=37							
AAK	**Ala-Archa**	**16.89**	**23**	P	**Pn**		**02 35 48.3**	**-2.4**
	SNR=30							
AAK	**Ala-Archa**	**16.89**	**23**	*i* Pn	**Pn**		**02 35 50.3**	**-0.3**
	SNR=59							
AAK	**Ala-Archa**	**16.89**	**23**	*ce*P	**Pn**		**02 35 48.2**	**-2.4**
AAK				pmax	pmax			
	comp=Z,132nm,0.8s							
KBK	**Karagaybulak**	**17.06**	**24**	P	**Pn**		**02 35 51.5**	**-1.3**
	SNR=26							
DMN	**Daman**	**17.16**	**84**	*e*P	**Pn**		**02 35 51.2**	**-3.1**
	comp=Z,1μm,0.9s							
ULHL	**Ulahol**	**17.21**	**27**	P	**Pn**		**02 35 54.3**	**-0.4**
	SNR=33							
MYLAV	**Mylavaram**	**17.29**	**124**	*e*P	**P**		**02 35 56.2**	**-0.3**
MYLAV				IVmB_BB			02 36 16.5	
	comp=Z,2μm,4.1s							
MYLAV				IVMsBB			02 41 49.8	
	comp=Z,1μm,5.4s							
BOOM	**Boomskoye usch**	**17.29**	**26**	P	**Pn**		**02 35 53.4**	**-2.3**
BOOM				pmax	pmax			
	comp=Z,210nm,1.1s							
BOOM	**Boomskoye usch**	**17.29**	**26**	P	**Pn**		**02 35 53.4**	**-2.3**
BOOM				IAmb	IAmb		02 36 11.9	
	comp=Z,210nm,1.1s							
CHMS	**Chumysh**	**17.30**	**23**	P	**Pn**		**02 35 55.5**	**-0.1**
	SNR=41							
KKN	**Kakani**	**17.31**	**84**	*e*P	**Pn**		**02 35 52.6**	**-3.4**
	comp=Z,1μm,1.0s							
ADKI	**Addanki**	**17.41**	**128**	*e*P	**Pn**		**02 35 57.1**	**0.0**
ADKI				IVmBBB			02 36 15.7	
	comp=Z,725nm,1.5s							
ADKI				IVMsBB			02 43 41.7	
	comp=Z,707nm,8.6s							
PKIN	**Phulchoki**	**17.42**	**85**	*e*P	**Pn**		**02 35 54.1**	**-3.4**
	comp=Z,916nm,0.9s							
PKI	**Pulchoki**	**17.43**	**85**	*e*P	**Pn**		**02 35 54.1**	**-3.6**
	comp=Z,519nm,0.6s							
USP	**Ospenovka**	**17.45**	**22**	P	**Pn**		**02 35 55.9**	**-1.5**
	SNR=33							
TKM2	**Tokmak 2**	**17.53**	**25**	P	**Pn**		**02 35 56.5**	**-2.2**
	SNR=93							
PVM	**Polavaram**	**17.72**	**121**	*e*P	**P**		**02 36 01.5**	**+0.3**
PVM				IVmB_BB			02 36 22.7	
	comp=Z,1μm,3.0s							
PVM				IVMsBB			02 42 37.6	
	comp=Z,968nm,5.6s							
MTBS	**Maitube**	**18.02**	**26**	*e*P	**P**		**02 36 03.0**	**-1.6**
	baz=26							
MTBS	**Maitube**	**18.02**	**26**	*e*P	**P**		**02 36 02.9**	**-1.6**
JIRN	**Jiri**	**18.12**	**84**	*e*P	**P**		**02 36 03.7**	**-2.3**
TNSS	**Tian-Shan**	**18.15**	**27**	*i* P	**P**		**02 36 04.2**	**-2.0**
	baz=28							
TNSS	**Tian-Shan**	**18.15**	**27**	*i* P	**P**		**02 36 04.2**	**-2.0**
AAA	**Alma-Ata**	**18.28**	**27**	*i* P	**P**		**02 36 06.4**	**-0.9**
	comp=Z,157nm,1.2s,baz=27							
AAA				*i* S	**Sn**		**02 39 30.2**	**-0.8**
	baz=27							
AAA				LR	LR		02 40 48.2	
	comp=Z,800nm,10.2s,baz=27							
AAA	**Alma-Ata**	**18.28**	**27**	*e*P	**Pn**		**02 36 08.1**	**+0.4**
MDOK	**Medeo**	**18.30**	**27**	*e*P	**P**		**02 36 06.4**	**-1.2**
	baz=28							
MDOK				*i* S	**Sn**		**02 39 30.4**	**-1.2**
	comp=Z,4μm,4.6s,baz=28							
MDOK	**Medeo**	**18.30**	**27**	*e*P	**P**		**02 36 06.4**	**-1.2**
MDOK				*i* S	**Sn**		**02 39 30.3**	**-1.2**
KNDC	**Almaty**	**18.31**	**27**	P	**P**		**02 36 07.4**	**-0.2**
PRZ	**Przheval'sk**	**18.33**	**31**	IAmb	IAmb		02 36 24.4	
	comp=Z,484nm,1.1s							
RAMN	**Ramite**	**18.54**	**86**	*e*P	**P**		**02 36 08.6**	**-1.9**
	comp=Z,596nm,0.7s							
KUU	**Kurty**	**18.64**	**24**	*e*P	**P**		**02 36 10.3**	**-1.0**
	comp=Z,248nm,1.7s,baz=25							
KUU	**Kurty**	**18.64**	**24**	*e*P	**P**		**02 36 10.2**	**-1.0**
KUU				pmax	pmax			
	comp=Z,248nm,1.7s							
SOCY	**Socotra**	**18.65**	**219**		**P**		**02 36 09.3**	**-2.3**
SKHT	**Srikalahasti**	**18.73**	**133**	*e*P	**Pn**		**02 36 13.0**	**-0.2**
SKHT				IVmBBB			02 36 28.9	
	comp=Z,804nm,1.5s							
SKHT				IVMs_BB	IVMs_BB		02 44 03.3	
	comp=Z,636nm,6.7s							
SATY	**Saty**	**18.79**	**30**⇓	*i* P	**P**		**02 36 12.2**	**-0.8**
	comp=Z,177nm,1.9s,baz=30							
SATY	**Saty**	**18.79**	**30**	*d i* P	**P**		**02 36 12.2**	**-0.8**
SATY				pmax	pmax			
	comp=Z,177nm,1.9s							
BTLS	**Baital**	**18.92**	**18**⇓	*i* P	**P**		**02 36 13.4**	**-0.8**
	comp=Z,87nm,1.4s,baz=19							
BTLS	**Baital**	**18.92**	**18**	*d i* P	**P**		**02 36 13.3**	**-0.9**
BTLS				pmax	pmax			
	comp=Z,87nm,1.4s							
CHLP	**Challavanipeta**	**18.95**	**114**	*e*P	**Pn**		**02 36 16.8**	**+0.9**
CHLP				IVmB_BB			02 36 37.0	
	comp=Z,2μm,3.3s							
CHLP				IVMsBB			02 44 16.6	
	comp=Z,1μm,7.2s							
UZB	**Uzynbulak**	**19.14**	**31**⇓	*i* P	**P**		**02 36 16.6**	**-0.2**
	comp=Z,237nm,1.7s,baz=31							
UZB	**Uzynbulak**	**19.14**	**31**	*d i* P	**P**		**02 36 16.6**	**-0.2**
UZB				pmax	pmax			
	comp=Z,237nm,1.7s							
KPKS	**Kokpek**	**19.24**	**30**⇓	*i* P	**P**		**02 36 17.4**	**-0.4**
	comp=Z,256nm,1.3s,baz=30							
KPKS	**Kokpek**	**19.24**	**30**	*d i* P	**P**		**02 36 17.4**	**-0.4**
KPKS				pmax	pmax			
	comp=Z,256nm,1.3s							
ODAN	**Odare**	**19.25**	**86**	*e*P	**P**		**02 36 18.5**	**+0.2**
TAPN	**Taplejung**	**19.49**	**85**	*e*P	**P**		**02 36 21.5**	**+0.6**
	comp=Z,1μm,0.8s							
PDGK	**Podgornoye**	**19.49**	**31**	P	**P**		**02 36 20.0**	**-0.6**
PDGK				S	S		02 39 44.2	-14
MDRS	**Chennai**	**19.58**	**133**	*e*P	**Pn**		**02 36 23.6**	**+0.3**
MDRS				IAmb	IAmb		02 36 32.3	
	comp=Z,69nm,0.9s							
BWNR	**Bhubaneshwar**	**19.59**	**106**	IAmb	IAmb		02 36 18.7	
	comp=Z,183nm,1.2s							
MNCY	**Minicoy**	**20.12**	**159**	IAmb	IAmb		02 37 04.2	
	comp=Z,1μm,2.2s							
TDK	**Taldyqorghan**	**20.37**	**26**	*e*P	**P**		**02 36 29.2**	**-0.8**
	comp=Z,62nm,0.9s,baz=27							
TDK				LR	LR		02 42 43.6	
	comp=Z,1μm,11.6s,baz=27							
TDK	**Taldyqorghan**	**20.37**	**26**	*e*P	**P**		**02 36 29.2**	**-0.8**
TDK				pmax	pmax			
	comp=Z,61nm,0.9s							
TDK				MLR	MLR			
	comp=Z,1μm,12.0s							
AKT	**Akhty**	**20.50**	**318**	*e*P	**P**		**02 36 31.0**	**-0.6**
AKT				*e*			02 36 47.4	
AKT				*e*S	**S**		**02 40 17.0**	**-1.2**
AKT				*e*SS	**SnSn**		**02 40 34.3**	**-5.4**
AKT				pmax	pmax			
	comp=Z,875nm,1.0s							
MAK	**Makhachkala**	**21.56**	**321**	*e*P	**P**		**02 36 42.4**	**-0.4**
MAK				*e*			02 37 02.4	
MAK				*e*S	**S**		**02 40 38.7**	**-0.3**
MAK				*e*SS	**SnSn**		**02 41 07.7**	**+2.1**
MAK				pmax	pmax			
	comp=Z,361nm,1.0s							
MAK				MLR	MLR			
	comp=Z,1μm,16.0s							
GEVA	**Gevas**	**21.98**	**306**	P	**P**		**02 36 47.1**	**-0.5**
GEVA				IAmb	IAmb		02 37 05.9	
	comp=Z,270nm,1.1s							
AB31	**Akbulak array**	**22.40**	**350**	*i* P	**P**		**02 36 51.9**	**+0.1**
ABKAR	**Akbulak array**	**22.40**	**350**	P	**P**		**02 36 52.0**	**+0.2**
LSA	**Lhasa**	**22.42**	**78**	P	**P**		**02 36 54.9**	**+2.2**
LSA				LR	LR			
	comp=Z,6μm,16.4s							
LSA				LR	LR			
	comp=Z,10μm,19.2s							
LSA				LR	LR			
	comp=Z,16μm,23.5s							
LSA	**Lhasa**	**22.42**	**78**	P	**P**		**02 36 52.8**	**+0.1**
LSA				pmax	pmax			
	comp=Z,724nm,1.1s							
LSA	**Lhasa**	**22.42**	**78**	P	**P**		**02 36 52.8**	**+0.1**
GROC	**Groznyy**	**22.69**	**320**	*e*P	**P**		**02 36 53.6**	**-1.3**
GROC				*e*			02 37 17.2	
GROC				*e*S	**S**		**02 41 00.0**	**+0.5**
GROC				pmax	pmax			
	comp=Z,740nm,0.7s							
AKH	**Akhalkalaki**	**23.09**	**313**	⇑P	**P**		**02 37 00.2**	**+0.9**
AKH	**Akhalkalaki**	**23.09**	**313**	P	**P**		**02 36 58.9**	**-0.4**
AKH				pmax	pmax			
	comp=Z,158nm,0.9s							
AKH	**Akhalkalaki**	**23.09**	**313**	P	**P**		**02 36 58.9**	**-0.4**
AKH				IAmb	IAmb		02 37 18.1	
	comp=Z,158nm,0.9s							
BRZS	**Berezniki**	**23.28**	**11**⇓	*i* P	**P**		**02 37 00.3**	**-0.6**
	comp=Z,139nm,1.9s,baz=12							
BRZS				*e*S	**S**		**02 41 10.9**	**+1.7**
	baz=12							
BRZS				LR	LR		02 45 48.6	
	comp=Z,417nm,9.2s,baz=12							
BRZS	**Berezniki**	**23.28**	**11**	*d i* P	**P**		**02 37 00.2**	**-0.6**
BRZS				*e*S	**S**		**02 41 10.9**	**+1.7**
BRZS				pmax	pmax			
	comp=Z,139nm,1.9s							
BRZS				MLR	MLR			
	comp=Z,417nm,9.0s							
MAKZ	**Makanchi**	**23.30**	**29**	P	**P**		**02 36 59.5**	**-1.6**
MAKZ				pmax	pmax			
	comp=Z,183nm,0.9s							
MAKZ	**Makanchi**	**23.30**	**29**	P	**P**		**02 36 59.5**	**-1.6**
MAKZ				IAmb	IAmb		02 37 15.2	
	comp=Z,183nm,0.8s							
MARD	**Mardin**	**23.32**	**302**	P	**P**		**02 37 01.3**	**-0.2**
MARD				IAmb	IAmb		02 37 20.1	
	comp=Z,158nm,1.1s							
MK31	**Makanchi Array**	**23.43**	**29**	*i* P	**P**		**02 37 01.7**	**-0.6**
MK31	**Makanchi Array**	**23.43**	**29**	IAmb	IAmb		02 37 04.1	
	comp=Z,111nm,0.8s							
MKAR	**Makanchi Array**	**23.43**	**29**	P	**P**		**02 37 01.6**	**-0.8**
	comp=Z,123nm,0.8s,baz=213,slow=8.9,SNR=324							
MKAR				pP	**pP**		**02 37 16.3**	**+1.2**
	comp=Z,112nm,0.9s,baz=213,slow=8.7,SNR=14							
MKAR				PcP	**PcP**		**02 40 47.0**	**-0.2**
	comp=Z,9.5nm,0.9s,baz=196,slow=1.8,SNR=3.9							
MKAR	**Makanchi Array**	**23.43**	**29**	P	**P**		**02 37 00.6**	**-1.8**
MKAR					**PcP**		**02 40 47.1**	**-0.2**
SHL	**Shillong**	**23.43**	**88**⇓	*i* P	**P**		**02 37 02.5**	**-0.2**
SHL				IAmb	IAmb		02 37 05.1	
	comp=Z,390nm,1.2s							
SHL				*ex*	**S**		**02 41 03.5**	**-9.0**
SHL	**Shillong**	**23.43**	**88**	P	**P**		**02 37 03.0**	**+0.3**
SHL				pmax	pmax			
	comp=Z,376nm,1.1s							
SHL	**Shillong**	**23.43**	**88**	P	**P**		**02 37 03.0**	**+0.3**
ZEI	**Tsey**	**23.57**	**317**	*e*P	**P**		**02 37 03.5**	**-0.4**
ZEI				*e*S	**S**		**02 41 11.8**	**-2.7**
ZEI				pmax	pmax			
	comp=Z,129nm,1.0s							
DAMY	**Dhamar**	**23.59**	**242**	P	**P**		**02 37 03.6**	**-0.8**
	SNR=55							
DAMY	**Dhamar**	**23.59**	**242**	P	**P**		**02 37 04.5**	**+0.1**
AKTO	**Aktyubinsk**	**23.87**	**348**	P	**P**		**02 37 07.0**	**+0.7**
	comp=Z,37nm,0.8s,baz=153,slow=8.2,SNR=123							
AKTO				LR	LR		02 47 45.5	
	comp=Z,4μm,21.1s,baz=163,slow=40							
TEZP	**TEZPUR**	**24.08**	**85**⇓	*i* P	**P**		**02 37 07.4**	**-1.2**
WMQ	**Urumqi**	**24.18**	**41**	*e*P	**P**		**02 37 10.6**	**+1.2**
WMQ				pP	pP		02 37 23.8	+0.9
WMQ				PP	sP		02 37 46.3	+17
WMQ				S	**S**		**02 41 25.0**	**+0.9**
WMQ				sS	sS		02 41 43.3	-3.4
WMQ				pmax	pmax			
	comp=Z,320nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,1μm,3.8s							
WMQ				LR	LR			
	comp=Z,1μm,12.1s							
WMQ				LR	LR			
	comp=Z,850nm,15.9s							
WMQ	**Urumqi**	**24.18**	**41**	P	**P**		**02 37 09.5**	**+0.1**
WMQ				pmax	pmax			
	comp=Z,420nm,0.8s							
WMQ	**Urumqi**	**24.18**	**41**	P	**P**		**02 37 09.5**	**+0.1**
PALK	**Pallekele**	**24.43**	**142**	P	**P**		**02 37 13.4**	**+1.6**
	comp=Z,39nm,0.9s,baz=67,slow=11,SNR=15							
PALK				LR	LR		02 48 14.4	
	comp=Z,2μm,18.3s,baz=67,slow=40							
PALK	**Pallekele**	**24.43**	**142**	P	**P**		**02 37 12.9**	**+1.1**
KOPT	**Kop Dagi**	**24.49**	**308**	P	**P**		**02 37 11.7**	**-0.7**
CHVG	**Ch'k'valeri**	**24.66**	**315**	⇑P	**P**		**02 37 14.9**	**+1.3**
KBZ	**Khabaz**	**24.70**	**318**	P	**P**		**02 37 15.2**	**+1.2**
	comp=Z,36nm,0.7s,baz=120,slow=7.4,SNR=57							
KBZ				PcP	**PcP**		**02 40 50.1**	**+0.2**
	comp=Z,22nm,0.9s,baz=145,slow=5.1,SNR=4.1							
KBZ	**Khabaz**	**24.70**	**318**	*ce*P	**P**		**02 37 15.6**	**+1.6**
KBZ				pmax	pmax			
	comp=Z,178nm,1.5s							
ZIRO	**ZIRO**	**24.91**	**83**	*e*P	**P**		**02 37 16.9**	**+0.7**
ZIRO				*ex*	x		02 41 55.2	
KVAR	**Kislovodsk Arr**	**24.95**	**318**	P	**P**		**02 37 18.6**	**+2.2**
	comp=Z,31nm,0.8s,baz=254,slow=23,SNR=47							
KIV	**Kislovodsk**	**24.96**	**318**	⇑P	**P**		**02 37 17.6**	**+1.2**
KIV	**Kislovodsk**	**24.96**	**318**	*i* P	**P**		**02 37 18.1**	**+1.7**
	SNR=69							
KIV	**Kislovodsk**	**24.96**	**318**	*e*P	**P**		**02 37 17.9**	**+1.5**
KIV				*e*S	**S**		**02 41 40.3**	**+3.8**
KIV				pmax	pmax			
	comp=Z,626nm,4.3s							
KIV				pmax	pmax			
	comp=Z,1μm,1.1s							
KIV	**Kislovodsk**	**24.96**	**318**	P	**P**		**02 37 16.0**	**-0.4**
ZSN	**Zaisan**	**25.09**	**32**⇓	*i* P	**P**		**02 37 17.6**	**+0.1**
	comp=Z,197nm,2.5s,baz=32							
ZSN				*e*S	**S**		**02 41 41.2**	**+2.8**
	baz=32							
ZSN				LR	LR		02 46 05.2	
	comp=Z,599nm,10.0s,baz=32							
ZSN	**Zaisan**	**25.09**	**32**	*d i* P	**P**		**02 37 17.5**	**+0.1**
ZSN				*e*S	**S**		**02 41 41.2**	**+2.8**
ZSN				pmax	pmax			
	comp=Z,197nm,2.5s							
ZSN				MLR	MLR			
	comp=Z,599nm,10.0s							
KURK	**Kurchatov**	**25.37**	**19**	P	**P**		**02 37 20.0**	**+0.1**
KURK				pmax	pmax			
	comp=Z,90nm,1.1s							
KURK	**Kurchatov**	**25.37**	**19**	P	**P**		**02 37 20.0**	**+0.1**
KURK				IAmb	IAmb		02 37 22.9	
	comp=Z,90nm,1.1s							
GOF	**Gofitskoye**	**25.39**	**320**⇑	*e*P	**P**		**02 37 21.9**	**+1.7**
GOF				pmax	pmax			
	comp=Z,486nm,0.9s							
KTUT	**Trabzon**	**25.39**	**309**	⇑P	**P**		**02 37 22.4**	**+2.1**
ASF	**Jabal al Asfar**	**25.51**	**288**	P	**P**		**02 37 23.3**	**+1.7**
	comp=Z,11nm,0.9s,baz=40,slow=4.6,SNR=12							
ASF				pP	**pP**		**02 37 36.6**	**+1.6**
	comp=Z,32nm,1.0s,baz=55,slow=4.8,SNR=15							
BVAR	**Borovoye Array**	**25.95**	**6**	P	**P**		**02 37 26.0**	**+0.9**
	comp=Z,48nm,0.8s,baz=169,slow=17,SNR=81							
BVAR				PcP	**PcP**		**02 40 53.1**	**+0.5**
	comp=Z,9.7nm,0.7s,baz=170,slow=9.6,SNR=4.5							
BRVK	**Borovoye**	**25.97**	**6**	P	**P**		**02 37 25.7**	**+0.3**
BRVK	**Borovoye**	**25.97**	**6**	P	**P**		**02 37 25.2**	**-0.1**
BRVK				IAmb	IAmb		02 37 32.9	
	comp=Z,161nm,0.9s							
GAZ	**Gaziantep**	**26.02**	**299**	P	**P**		**02 37 25.7**	**-0.4**
SOC	**Sochi**	**26.59**	**315**	*e*P	P		02 37 42.9	+12
SOC				*e*			02 38 10.8	
SOC				*e*SS	SS		02 43 09.0	-46
SOC				pmax	pmax			
	comp=Z,114nm,1.0s							
SOC				MLR	MLR			
	comp=Z,713nm,17.0s							
ATD	**Arta Tunnel**	**26.63**	**238**	P	**P**		**02 37 34.0**	**+2.2**
	comp=Z,20nm,0.9s,baz=8.9,slow=3.8,SNR=11							
ATD				pP	**pP**		**02 37 47.8**	**+2.6**
	comp=Z,137nm,1.0s,baz=3.8,slow=7.2,SNR=20							
ATD				LR	LR		02 48 38.3	
	comp=Z,1μm,20.9s,baz=52,slow=38							
ATD	**Arta Tunnel**	**26.63**	**238**	P	**P**		**02 37 32.0**	**+0.

comp=Z,20nm,0.7s
VRH MLR MLR
comp=Z,2µm,26.0s
ZALV Zalesovo Beam 30.11 23 P P 02 38 02.3 0.0
comp=Z,22nm,0.6s,baz=223,slow=9.6,SNR=91
ZALV pP **pP 02 38 16.7 +0.9**
comp=Z,19nm,0.8s,baz=231,slow=9.2,SNR=7.4
ZALV LR LR 02 52 11.6
comp=Z,2µm,20.3s,baz=218,slow=40
ZALV Zalesovo Beam 30.11 23 P P 02 38 01.8 -0.5
GTA Gaotai 30.72 58 ⇓P **P 02 38 09.8 +1.7**
GTA pP pP 02 38 20.8 -0.9
GTA sP sP 02 38 25.9 -2.1
GTA S **S 02 43 12.4 +4.9**
GTA pmax pmax
comp=Z,200nm,0.8s
GTA pmax pmax
comp=Z,490nm,3.8s
GTA LR LR
comp=Z,930nm,17.8s
GTA LR LR
comp=Z,2µm,19.3s
GTA LR LR
comp=Z,3µm,20.4s
SIM Simferopol' 30.80 313*c iP* P 02 38 20.6 +12
SIM pmax pmax
comp=Z,175nm,0.8s
MHMT Maesarieng 30.94 100 P **P 02 38 11.7 +1.7**
VSR Storozhevoye 31.25 327 *eP* **P 02 38 12.8 +0.4**
VSR pmax pmax
comp=Z,20nm,0.8s
VSR MLR MLR
comp=Z,820nm,17.0s
CHTO Chiang Mai 31.59 98 P **P 02 38 16.5 +0.8**
CHTO pmax pmax
comp=Z,359nm,1.1s
CHTO Chiang Mai 31.59 98 P **P 02 38 16.5 +0.8**
CMMT Chiang Mai 31.59 98 P **P 02 38 17.0 +1.2**
CM13 Chiang Mai Arr 31.70 99 P **P 02 38 18.0 +1.2**
CM15 Chiang Mai Arr 31.70 99 P **P 02 38 18.6 +1.8**
CM31 Chiang Mai Arr 31.72 99 P **P 02 38 18.5 +1.6**
CMAR Chiang Mai Arr 31.72 99 P **P 02 38 18.1 +1.1**
comp=Z,104nm,1.0s,baz=299,slow=7.3,SNR=238
CMAR PcP **PcP 02 41 08.4 +0.8**
comp=Z,14nm,0.9s,baz=289,slow=5.0,SNR=6.6
CMAR LR LR 02 53 44.8
comp=Z,971nm,19.9s,baz=320,slow=41
CMAR Chiang Mai Arr 31.72 99 P **P 02 38 17.8 +0.9**
CMAR **PcP 02 41 07.2 -0.5**
CM02 Chiang Mai Arr 31.73 99 P **P 02 38 18.3 +1.3**
CM05 Chiang Mai Arr 31.74 99 P **P 02 38 18.2 +1.1**
CM09 Chiang Mai Arr 31.77 99 P **P 02 38 18.6 +1.3**
CM04 Chiang Mai Arr 31.77 99 P **P 02 38 18.6 +1.2**
PAYA Payao 32.21 97 P **P 02 38 22.9 +1.7**
LPSR Galich'ya Gora 32.26 329 *eP* **P 02 38 20.9 -0.3**
LPSR pmax pmax
comp=Z,60nm,0.8s
CRAI Chiangrai 32.36 95 P **P 02 38 24.0 +1.5**
SUKH Sukhothai 32.70 100 P **P 02 38 27.3 +1.8**
PHRA Phrae 32.83 98 P **P 02 38 28.2 +1.6**
KMI Kunming 33.16 85⇓*iP* **P 02 38 30.6 +0.9**
KMI pP pP 02 38 45.5 +2.2
KMI sP sP 02 38 51.8 +2.4
KMI S **S 02 43 45.0 -1.0**
KMI pmax pmax
comp=Z,190nm,1.2s
KMI pmax pmax
comp=Z,860nm,3.5s
KMI LR LR
comp=Z,730nm,15.0s
KMI LR LR
comp=Z,730nm,20.9s
KMI LR LR
comp=Z,850nm,16.0s
CD2 Chengdu 33.28 75⇓*iP* **P 02 38 31.9 +1.4**
CD2 pP pP 02 38 45.1 +1.0
CD2 sP sP 02 38 51.9 +1.6
CD2 S **S 02 43 46.8 -0.6**
CD2 sS sS 02 44 07.8 -2.6
CD2 SS **SnSn 02 45 50.4 -1.1**
CD2 pmax pmax
comp=Z,500nm,5.9s
CD2 LR LR
comp=Z,3µm,22.6s
CD2 LR LR
comp=Z,2µm,20.2s
CD2 LR LR
comp=Z,3µm,20.2s
KIRV Kirov 33.31 344 P **P 02 38 30.5 +0.2**
comp=Z,36nm,0.7s,baz=163,slow=2.3,SNR=12
KIRV pP **pP 02 38 44.0 0.0**
comp=Z,30nm,0.8s,baz=147,slow=15,SNR=2.7
KIRV LR LR 02 53 47.4
comp=Z,4µm,21.4s,baz=158,slow=39
UTHA Uthaitani 33.34 104 P **P 02 38 33.3 +2.2**
LZH Lanzhou 33.39 65 *eP* **P 02 38 33.3 +1.7**
LZH pP pP 02 38 47.4 +2.2
LZH S S 02 43 39.3 -10
LZH SS **SnSn 02 45 46.8 -7.5**
LZH pmax pmax
comp=Z,170nm,1.0s
LZH pmax pmax
comp=Z,1µm,5.9s
LZH LR LR
comp=Z,2µm,13.9s
LZH LR LR
comp=Z,3µm,16.0s
LZH LR LR
comp=Z,2µm,17.7s
UTTA Uttaradit 33.41 99 P **P 02 38 33.5 +1.9**
PHIT Phitsanulok 33.50 100 P **P 02 38 34.6 +2.2**
SRDT SRDT 33.60 106 P **P 02 38 36.0 +2.6**
TIRR Tirgusor 34.43 310 ⇑P **P 02 38 40.2 -0.1**
PHET Kaeng Krachan 34.72 108 P **P 02 38 45.8 +2.7**
HARR Harsova 34.83 310 ⇓P **P 02 38 44.1 +0.4**
CFR Carcaliu 34.84 311 ⇑P **P 02 38 44.4 +0.6**
MOS Moscow 34.93 332 *eP* **P 02 38 43.7 -0.7**
MOS *e* 02 38 57.2
MOS *e* 02 39 59.8
MOS *eS* **S 02 44 09.1 -3.1**
MOS pmax pmax
comp=Z,157nm,1.4s
MOS MLR MLR
comp=Z,2µm,20.0s
OBN Obninsk 34.97 331 P **P 02 38 45.0 +0.3**
comp=Z,6.9nm,0.5s,baz=108,slow=4.7,SNR=20
OBN pP **pP 02 38 58.7 +0.3**
comp=Z,7.0nm,0.5s,baz=78,slow=18,SNR=1.8
OBN PcP **PcP 02 41 16.7 +0.6**
comp=Z,7.8nm,0.6s,baz=116,slow=19,SNR=3.7
OBN LR LR 02 54 60.0
comp=Z,254nm,22.0s,baz=126,slow=40
OBN Obninsk 34.97 331 *eP* **P 02 38 45.5 +0.8**
OBN *e* 02 40 03.6
OBN *e*PPP PPP 02 40 17.8
OBN *e* 02 41 15.4
OBN *eS* **S 02 44 17.0 +4.3**
OBN *e*SS **SnSn 02 46 35.7 +4.1**
OBN pmax pmax
comp=Z,174nm,1.7s
OBN MLR MLR
comp=Z,1µm,22.0s
OBN Obninsk 34.97 331 P **P 02 38 44.5 -0.2**
OBN IAmb IAmb 02 38 48.0
comp=Z,85nm,1.0s
OBN **PcP 02 41 15.7 -0.4**
MILM Milestii Mici 34.97 314 ⇑P **P 02 38 45.0 +0.1**
KIS Kishinev 35.00 314⇑*iP* P 02 38 54.4 +9.3
comp=Z,200nm,1.4s
KIS Kishinev 35.00 314*c iP* P 02 38 54.4 +9.3
KIS *i* 02 39 01.0
KIS *e* 02 40 20.0
KIS *e*SS SS 02 46 56.0 +9.1
KIS pmax pmax
comp=Z,200nm,1.4s
SLVN Son La 35.15 91 P **P 02 38 47.6 +0.8**
AMRR Amara 35.22 310 ⇑P **P 02 38 48.6 +1.6**
SANT Santorini 35.23 295 ⇑P **P 02 38 49.2 +1.9**
VASR Vaslui 35.54 313 ⇑P **P 02 38 50.8 +1.0**
GHRR 35.60 312 ⇓P **P 02 38 51.7 +1.4**
IDI Anoyia 35.64 293 ⇑P **P 02 38 53.3 +2.3**
SORM Soroca 35.71 316 ⇑P **P 02 38 50.7 -0.6**
PATY Pattaya 35.77 106 P **P 02 38 53.6 +1.5**
SZH Strazhica 35.85 307 *eP* **P 02 38 53.9 +1.4**

ISR Istrita 35.90 310 ⇓P **P 02 38 53.6 +0.6**
BISRR Bisoca 35.91 311 ⇑P **P 02 38 54.0 +1.0**
MOY Mondy 35.95 38 *eP* **P 02 38 55.2 +1.8**
MOY pmax pmax
comp=Z,151nm,1.7s
KHON Khomkaen 35.95 100 P **P 02 38 54.9 +1.3**
VRI Vrincioaia 35.99 311 ⇑P **P 02 38 54.4 +0.7**
PLOR Plostina 36.04 311 ⇑P **P 02 38 55.3 +1.1**
SURT Suratani 36.12 114 P **P 02 38 58.0 +2.9**
AKASG Malin Array Be 36.24 320 P **P 02 38 55.1 -0.6**
comp=Z,4.5nm,0.5s,baz=111,slow=7.4,SNR=30
AKASG pP **pP 02 39 08.8 -0.7**
comp=Z,32nm,0.9s,baz=121,slow=7.5,SNR=15
AKASG PP **PP 02 40 18.9 +0.1**
comp=Z,16nm,1.0s,baz=115,slow=9.7,SNR=5.1
AKASG PcP **PcP 02 41 19.6 -0.4**
comp=Z,24nm,0.8s,baz=89,slow=2.7,SNR=22
AKASG pPcP 02 41 34.9
comp=Z,12nm,0.9s,baz=90,slow=2.4,SNR=5.2
AKASG LR LR 02 57 24.3
comp=Z,492nm,21.5s,baz=110,slow=42
AKASG Malin Array Be 36.24 320 P **P 02 38 55.5 -0.3**
AKASG PcP **PcP 02 41 18.9 -1.1**
AKBB Malin Array Si 36.24 320*cP* **P 02 38 55.6 -0.2**
AKBB pmax pmax
comp=Z,24nm,0.8s
SRAK Srakaew 36.27 104 P P 02 39 02.6 +6.2
PKDT Phuket 36.36 116 P **P 02 38 59.8 +2.6**
GYA Guiyang 36.37 82 ⇓P **P 02 38 58.1 +0.8**
GYA sP sP 02 39 18.3 +1.2
GYA PcP **PcP 02 41 22.3 +1.3**
GYA S **S 02 44 31.9 -3.3**
GYA sS sS 02 44 53.6 -4.7
GYA pmax pmax
comp=Z,170nm,1.0s
GYA pmax pmax
comp=Z,810nm,3.5s
GYA LR LR
comp=Z,810nm,12.1s
GYA LR LR
comp=Z,400nm,11.2s
GYA LR LR
comp=Z,520nm,9.2s
MLR Muntele Rosu 36.41 311 ⇓P **P 02 38 59.6 +2.2**
MLR Muntele Rosu 36.41 311 P **P 02 38 57.1 -0.3**
MLR Muntele Rosu 36.41 311 P **P 02 38 57.1 -0.3**
RZN Rozhen 36.42 304 *eP* **P 02 38 58.6 +1.0**
COPA Copaceanca 36.56 308 ⇑P **P 02 39 00.2 +1.7**
BIZ Bicaz 36.73 313 ⇑P **P 02 39 00.3 +0.3**
PRAR RASCA 36.78 314 ⇓P **P 02 39 00.8 +0.3**
HUMR Humele 36.82 309 ⇑P **P 02 39 02.5 +1.7**
PRGR Permogore 36.91 344 *eP* **P 02 39 00.4 -0.9**
PRGR *e**SP **pP 02 39 14.7 -0.3**
DOPR Dopca 36.91 311 ⇑P **P 02 39 02.2 +0.6**
MTUR Matau 36.94 310 ⇑P **P 02 39 02.7 +0.8**
SRIT Nakonsritamara 36.98 114 P **P 02 39 04.3 +1.9**
VOIR 37.00 310 ⇓P **P 02 39 04.6 +2.2**
MLSI Meulaboh, Aceh 37.11 123 P **P 02 39 06.0 +2.5**
comp=Z,6µmcomp=Z,490nm,1.0s
MMB Musomiste 37.13 304 *eP* **P 02 39 04.5 +1.0**
ARR Arges 37.27 310 ⇑P **P 02 39 06.1 +1.5**
TLY Talaya 37.42 39 P **P 02 39 07.5 +1.7**
comp=Z,22nm,0.8s,baz=237,slow=8.0,SNR=44
TLY Talaya 37.42 39*d iP* **P 02 39 06.8 +1.0**
TLY *i* 02 40 35.1
TLY *e*PPP PPP 02 40 48.5
TLY *eS* **S 02 44 52.1 +1.7**
TLY pmax pmax
comp=Z,89nm,1.4s
TLY MLR MLR
comp=Z,4µm,19.0s
TLY Talaya 37.42 39 P **P 02 39 06.2 +0.4**
TLY IAmb IAmb 02 39 09.0
comp=Z,51nm,1.0s
TRTT Trang 37.48 115 P **P 02 39 09.1 +2.4**
XAN Xi'an 37.51 69 P **P 02 39 07.0 +0.2**
XAN pP pP 02 39 19.6 -1.0
XAN PP **PnPn 02 40 35.3 +1.0**
XAN S **S 02 44 52.8 +0.5**
XAN PcS **PcS 02 45 08.8 -4.1**
XAN pmax pmax
comp=Z,290nm,1.2s
XAN pmax pmax
comp=Z,1µm,3.0s
XAN LR LR
comp=Z,810nm,14.7s
XAN LR LR
comp=Z,2µm,21.6s
XAN LR LR
comp=Z,4µm,22.8s
XAN Xi'an 37.51 69 P **P 02 39 07.3 +0.5**
XAN pmax pmax
comp=Z,264nm,1.1s
XAN Xi'an 37.51 69 P **P 02 39 07.3 +0.5**
BURAR Bucovina Array 37.51 314 ⇓P **P 02 39 07.2 +0.4**
BURAR Bucovina Array 37.51 314 P **P 02 39 06.3 -0.5**
BUR08 Bucovina Ar. S 37.53 314 P **P 02 39 07.2 +0.2**
SONM Songino Array 37.62 46 P **P 02 39 09.3 +1.6**
comp=Z,45nm,0.9s,baz=248,slow=8.7,SNR=171
SONM pP **pP 02 39 22.3 +0.9**
comp=Z,14nm,1.0s,baz=219,slow=9.2,SNR=5.6
SONM PP **PnPn 02 40 37.7 +2.1**
comp=Z,40nm,1.0s,baz=247,slow=10,SNR=10
SONM LR LR 02 57 38.9
comp=Z,5µm,20.0s,baz=266,slow=41
SONM Songino Array 37.62 46 P **P 02 39 07.9 +0.2**
VTS Vitosha 37.66 305 *eP* **P 02 39 08.7 +0.6**
LIT Litokhoron 37.87 301 P **P 02 39 09.4 -0.3**
LIT pmax pmax
comp=Z,34nm,1.0s
LIT Litokhoron 37.87 301 P **P 02 39 09.4 -0.3**
LIT IAmb IAmb 02 39 23.5
comp=Z,34nm,1.0s
ARCR ARCALIA 37.92 313 ⇑P **P 02 39 11.2 +1.1**
KLMR Klimovskoe 37.97 339 *eP* **P 02 39 08.9 -1.3**
KLMR *e* 02 40 34.4
KLMR *eS* **S 02 44 58.3 -0.2**
KLMR pmax pmax
comp=Z,95nm,1.0s
KLMR Klimovskoe 37.97 339 *eP* **P 02 39 09.0 -1.3**
KLMR AMP 02 39 11.9
comp=Z,95nm,1.0s
KLMR *e*PP **PP 02 40 34.5 -3.2**
KLMR *eS* **S 02 44 58.4 -0.1**
KLMR *eS* **S 02 44 58.4 -0.1**
KLMR LQ LQ 02 50 27.3
KLMR LQ LQ 02 50 27.3
KLMR LR LR 02 54 00.3
IRK Irkutsk 38.01 38 *eP* **P 02 39 12.4 +1.6**
IRK pmax pmax
comp=Z,170nm,2.6s
ULN Ulaanbaatar 38.05 46*d iP* **P 02 39 12.1 +0.8**
ULN pmax pmax
comp=Z,82nm,1.0s
ULN Ulaanbaatar 38.05 46 P **P 02 39 11.4 0.0**
ULN IAmb IAmb 02 39 14.1
comp=Z,84nm,1.1s
ITM Ithomi 38.10 296 P **P 02 39 11.3 -0.4**
ITM IAmb IAmb 02 39 27.4
comp=Z,53nm,0.9s
ENH Enshi 38.26 75 P **P 02 39 13.9 +0.7**
CJR Cluj-Napoca 38.31 312 ⇓P **P 02 39 13.5 +0.1**
TPTI 38.35 123 P **P 02 39 14.9 +0.9**
comp=Z,1µmcomp=Z,98nm,1.4s
GZR Gura Zlata 38.54 310 ⇑P **P 02 39 16.3 +0.9**
DEV Deva 38.57 310 ⇑P **P 02 39 16.8 +1.2**
BTO Baotou 38.65 58 *eP* **P 02 39 16.4 0.0**
HERR Herculane 38.68 309 ⇓P **P 02 39 16.6 +0.2**
UBPT Khong Chiam 38.71 100 P **P 02 39 17.7 +0.7**
UBPT Khong Chiam 38.71 100 P **P 02 39 17.3 +0.3**
MICGM Minsk 38.74 325⇓*eP* **P 02 39 16.0 -0.8**
MICGM *e*PP PP 02 40 34.0 -12
MICGM *e*PPP PPP 02 41 05.0
MICGM *e*PcP **PcP 02 41 26.0 -1.6**
MICGM *eS* **S 02 45 06.0 -4.2**
MNK Minsk 38.74 325⇓*eP* **P 02 39 16.0 -0.8**
MNK *e* 02 41 26.0
MNK *eS* **S 02 45 06.0 -4.2**
FNA Florina 38.78 302 P **P 02 39 17.1 -0.4**
FNA pmax pmax
comp=Z,69nm,1.0s
FNA Florina 38.78 302 P **P 02 39 17.1 -0.4**
FNA IAmb IAmb 02 39 31.8

comp=Z,69nm,1.0s
SKO Skopje 38.88 304 *eP* **P 02 39 18.5 +0.3**
LVV L'vov 38.97 317 *eP* **P 02 39 19.4 +0.6**
LVV *e* 02 39 31.4
LVV *e* 02 40 51.6
LVV *eS* **S 02 45 11.9 -2.0**
LVV *e* 02 47 56.7
LVV MLR MLR
comp=E,300nm,18.0s
LVV MLR MLR
comp=N,200nm,15.0s
LVV MLR MLR
comp=Z,400nm,17.0s
MDVR Moldovita 39.15 308 ⇓P **P 02 39 21.4 +0.9**
KMBO Kilima Mbogo 39.38 229 P **P 02 39 26.9 +3.9**
comp=Z,5.5nm,0.8s,baz=37,slow=13,SNR=12
KMBO pP **pP 02 39 39.3 +2.5**
comp=Z,29nm,1.0s,baz=30,slow=9.9,SNR=21
KMBO LR LR 02 56 56.7
comp=Z,872nm,19.0s,baz=52,slow=38
KMBO Kilima Mbogo 39.38 229 P **P 02 39 23.0 +0.1**
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 39.38 229 P **P 02 39 23.0 +0.1**
BZS Buzias 39.39 310 ⇓P **P 02 39 23.2 +0.8**
NACGM Naroch 39.49 325 *e* P 02 39 15.0 -8.1
NACGM *e*LQ LQ 02 57 02.0
NACGM *e*LR LR 03 00 22.0
SIRR Siria 39.50 311 ⇑P **P 02 39 23.2 -0.2**
BANR Banloc 39.67 309 ⇑P **P 02 39 25.8 +1.1**
UZH Uzhgorod 39.69 314 *eP* **P 02 39 25.7 +0.9**
UZH *i* 02 39 39.0
UZH *i* PPP PPP 02 41 06.5
UZH *i* S **S 02 45 25.8 +1.2**
UZH *i* SSS SSS 02 48 19.5
IDID Didziasalis 39.71 326 *eP* **P 02 39 26.1 +1.1**
KWP Kalwaria Pacla 39.72 316 *eP* **P 02 39 25.0 -0.2**
KWP *e*pP **pP 02 39 37.6 -1.4**
KWP Kalwaria Pacla 39.72 316 P **P 02 39 24.9 -0.2**
KWP pmax pmax
comp=Z,210nm,1.1s
KWP Kalwaria Pacla 39.72 316 P **P 02 39 24.9 -0.2**
KULM Kulim 39.75 117 P **P 02 39 26.4 +0.7**
KULM IAmb IAmb 02 39 32.1
comp=Z,114nm,1.1s
KULM Kulim 39.75 117 P **P 02 39 27.0 +1.3**
KOLS Kolonicke sedl 39.79 315 *eP* **P 02 39 26.0 +0.3**
KOLS *e* 02 39 39.1
KOLS pmax pmax
comp=Z,191nm,1.4s
KOLS Kolonicke sedl 39.79 315 *eP* **P 02 39 26.0 +0.3**
KOLS *e* 02 39 39.1
HHC Hu-ho-hao-te 39.84 58 *eP* **P 02 39 26.8 +0.5**
HHC PP **PnPn 02 41 03.4 +1.3**
HHC S **S 02 45 26.5 -0.8**
HHC SS **SS 02 48 18.3 -6.6**
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,1µm,6.2s
HHC LR LR
comp=Z,710nm,12.7s
HHC LR LR
comp=Z,520nm,10.2s
HHC LR LR
comp=Z,780nm,19.2s
GSI Gunungsitoli 39.95 125 P **P 02 39 28.3 +0.9**
PSI Prapat 39.96 122 P **P 02 39 29.2 +1.6**
comp=Z,129nm,0.9s,baz=360,slow=6.0,SNR=89
PSI pP **pP 02 39 43.0 +1.6**
comp=Z,29nm,0.7s,baz=0.9,slow=7.6,SNR=5.1
PSI PcP **PcP 02 41 32.6 +0.3**
comp=Z,13nm,0.8s,baz=63,slow=2.3,SNR=3.1
IIGN Ignalina 39.99 326 *eP* **P 02 39 28.7 +1.5**
RPSI Rantau Prapat 40.03 122 P **P 02 39 28.6 +0.6**
ISAL Salakas 40.14 326 *eP* **P 02 39 30.5 +2.0**
IZAR Zarasai 40.17 326 *eP* **P 02 39 31.1 +2.5**
DIVS Divibare 40.24 307 *eP* **P 02 39 29.3 -0.3**
DIVS Divibare 40.24 307 P **P 02 39 29.1 -0.5**
CRVS Cervenica-Dubn 40.29 315 *eP* **P 02 39 30.2 +0.3**
CRVS *e* 02 39 43.9
CRVS pmax pmax
comp=Z,284nm,1.3s
CRVS Cervenica-Dubn 40.29 315 *eP* **P 02 39 30.2 +0.3**
CRVS *e* 02 39 43.9
TIY Taiyuan 40.34 63 *eP* **P 02 39 32.4 +1.9**
TIY S **S 02 45 34.8 -0.1**
TIY pmax pmax
comp=Z,190nm,1.0s
TIY pmax pmax
comp=Z,810nm,3.6s
TIY LR LR
comp=Z,540nm,11.0s
TIY LR LR
comp=Z,690nm,11.4s
TIY LR LR
comp=Z,4µm,25.1s
IPM Ipoh 40.53 118 P **P 02 39 33.0 +0.7**
IPM IAmb IAmb 02 39 35.5
comp=Z,84nm,1.1s
IPM Ipoh 40.53 118 P **P 02 39 34.0 +1.8**
FRGS Fruska Gora 40.55 309 *eP* **P 02 39 32.1 +0.1**
PDG Podgorica 40.55 304 ⇑P **P 02 39 32.6 +0.6**
PDG Podgorica 40.55 304 *eP* **P 02 39 30.8 -1.2**
PDG Podgorica 40.55 304 P **P 02 39 31.1 -0.9**
DRME Dracevica, Mon 40.57 304 *eP* **P 02 39 30.0 -2.3**
BBLS Lazići 40.62 306 *eP* **P 02 39 29.5 -3.3**
KECS Kecovo 40.80 314 *eP* **P 02 39 35.2 +1.1**
KECS *e* 02 39 47.8
KECS pmax pmax
comp=Z,22nm,1.1s
KECS Kecovo 40.80 314 *eP* **P 02 39 35.2 +1.1**
KECS *e* 02 39 47.8
TMCR Tamitsa 40.98 342 *eP* **P 02 39 35.4 +0.2**
TMCR *eS* **S 02 45 44.4 +1.0**
TMCR pmax pmax
comp=Z,96nm,1.1s
SUW Suwalki 41.00 322 *eP* **P 02 39 36.8 +1.2**
SUW *e*pP **pP 02 39 47.6 -1.9**
SUW Suwalki 41.00 322 P **P 02 39 35.4 -0.1**
SUW pmax pmax
comp=Z,103nm,1.0s
SUW Suwalki 41.00 322 P **P 02 39 35.4 -0.1**
SUW IAmb IAmb 02 39 50.7
comp=Z,103nm,1.0s
PSZ Piszkesteto 41.05 313 ⇑P **P 02 39 36.8 +0.6**
PSZ Piszkesteto 41.05 313 P **P 02 39 35.9 -0.3**
PSZ pmax pmax
comp=Z,31nm,1.0s
PSZ Piszkesteto 41.05 313 P **P 02 39 35.9 -0.3**
HCY Herceg Novi 41.11 304 *eP* **P 02 39 35.4 -1.3**
BRY Bratogost 41.13 305 *eP* **P 02 39 36.3 -0.7**
NIE Niedzica 41.16 315 *eP* **P 02 39 37.4 +0.3**
NIE *e*pP **pP 02 39 51.3 +0.3**
NIE *eS* **S 02 45 47.2 +0.5**
QIZ Qiongzhong 41.17 92 P **P 02 39 37.1 -0.3**
QIZ PP **PP 02 41 13.9 +0.7**
QIZ S **S 02 45 46.6 -0.8**
QIZ pmax pmax
comp=Z,140nm,1.5s
QIZ LR LR
comp=Z,730nm,18.8s
QIZ LR LR
comp=Z,420nm,17.5s
QIZ LR LR
comp=Z,740nm,48.5s
QIZ Qiongzhong 41.17 92 P **P 02 39 38.1 +0.6**
PABE Paberze 41.20 325 *eP* **P 02 39 38.3 +1.1**
VSU Vasula 41.31 330 *eP* **P 02 39 39.8 +1.8**
VSU Vasula 41.31 330⇑*eP* **P 02 39 39.6 +1.6**
VSU pmax pmax
comp=Z,115nm,0.7s
PBSI Pulau Batu 41.39 126 P **P 02 39 42.2 +2.9**
comp=Z,353nm,1.0s
BEL Belsk 41.57 319 *eP* **P 02 39 41.2 +0.9**
BEL *e*pP **pP 02 39 54.2 0.0**
LANS Liptovska Anna 41.62 314 *eP* **P 02 39 41.6 +0.8**
LANS *e* 02 39 54.8
LANS pmax pmax
comp=Z,34nm,1.2s
LANS Liptovska Anna 41.62 314 *eP* **P 02 39 41.6 +0.8**
LANS *e* 02 39 54.8
OJC Ojcow 41.69 316 *eS* **S 02 45 56.4 +1.9**

OJC	**Ojcow**	**41.69**	**316**	*e*P	**P**	**02 39 42.5 +1.1**
OJC	**Ojcow**	**41.69**	**316**	*ep*P	pP	02 39 54.9 -0.5
VYHS	**Vyhne**	**41.87**	**313**	*e*P	**P**	**02 39 43.4 +0.5**
VYHS				*e*		02 39 56.3
VYHS				pmax	pmax	
comp=Z,107nm,1.6s						
VYHS	**Vyhne**	**41.87**	**313**	*e*P	**P**	**02 39 43.4 +0.5**
VYHS				*e*		02 39 56.3
SRO2	**Moca**	**42.00**	**312**	*e*P	**P**	**02 39 44.7 +0.8**
SRO2				*e*		02 39 56.6
SRO2				pmax	pmax	
comp=Z,53nm,1.2s						
SRO2	**Moca**	**42.00**	**312**	*e*P	**P**	**02 39 44.7 +0.8**
SRO2				*e*		02 39 56.6
TIP	**Timpagrande**	**42.22**	**299**	⇓P	**P**	**02 39 48.1 +2.2**
TIP	**Timpagrande**	**42.22**	**299**	P	**P**	**02 39 45.4 -0.5**
BLY	**Banja Luka**	**42.33**	**307**	*e*P	**P**	**02 39 47.0 +0.4**
WHN	**Wuhan**	**42.39**	**74**	⇓P	**P**	**02 39 49.1 +1.8**
WHN				pP	**pP**	**02 40 04.0 +2.8**
WHN				sP	**sP**	**02 40 10.0 +2.6**
WHN				PP	**PP**	**02 41 31.3 +5.1**
WHN				LR	LR	
comp=Z,880nm,10.1s						
WHN				LR	LR	
comp=Z,3μm,15.8s						
WHN				LR	LR	
comp=Z,5μm,20.1s						
PBUR	**Paburge**	**42.47**	**325**	*e*P	**P**	**02 39 49.1 +1.6**
OKC	**Ostrava-Krasne**	**42.62**	**315**	*e*P	**P**	**02 39 50.6 +1.7**
OKC	**Ostrava-Krasne**	**42.62**	**315**	*e*P	**P**	**02 39 50.6 +1.7**
JAVC	**Velka Javorina**	**42.71**	**314**	*e*P	**P**	**02 39 51.2 +1.5**
JAVC				*es*P	**pP**	**02 40 03.9 +0.2**
JAVC				*e*PP	**PcP**	**02 41 42.3 +1.7**
SMOL	**Smolenice**	**42.79**	**313**	*e*P	**P**	**02 39 50.9 +0.6**
SMOL				*e*		02 40 04.4
SMOL				pmax	pmax	
comp=Z,29nm,1.2s						
SMOL	**Smolenice**	**42.79**	**313**	*e*P	**P**	**02 39 50.9 +0.6**
SMOL				*e*		02 40 04.4
DLV	**T Lat**	**42.80**	**102**	P	**P**	**02 39 51.3 +0.3**
SISI	**Saibi**	**42.85**	**126**	P	**P**	**02 39 53.8 +2.6**
comp=Z,124nm,1.0s						
BEHE	**Becsehely**	**42.86**	**310**	*e*P	**P**	**02 39 54.7 +3.8**
MODS	**Modra-Piesok**	**42.86**	**313**	*e*P	**P**	**02 39 50.4 -0.5**
MODS				*e*		02 40 03.6
MODS				pmax	pmax	
comp=Z,91nm,1.4s						
MODS	**Modra-Piesok**	**42.86**	**313**	*e*P	**P**	**02 39 50.4 -0.5**
MODS				*e*		02 40 03.6
MORC	**Moravsky Berou**	**42.99**	**315**	⇓P	**P**	**02 39 51.0 -1.0**
MORC	**Moravsky Berou**	**42.99**	**315**	*e*P	**P**	**02 39 52.3 +0.3**
MORC				*es*P	**pP**	**02 40 05.4 -0.6**
MORC				*e*PP	**PcP**	**02 41 42.6 +1.0**
BKNI	**Bangkinang**	**43.17**	**122**	P	**P**	**02 39 55.0 +1.2**
comp=Z,10μmcomp=Z,237nm,1.0s						
BKNI	**Bangkinang**	**43.17**	**122**	P	**P**	**02 39 54.6 +0.8**
FINES	**FINESS Array B**	**43.21**	**333**	P	**P**	**02 39 54.0 +0.5**
comp=Z,16nm,0.7s,baz=127,slow=9.0,SNR=39						
FINES				LR	LR	03 00 33.6
comp=Z,1μm,21.3s,baz=130,slow=40						
FINES	**FINESS Array B**	**43.21**	**333**	P	**P**	**02 39 54.0 +0.5**
FINES	**FINESS Array B**	**43.21**	**333**	P	**P**	**02 39 53.5 0.0**
CIT	**Chita**	**43.28**	**42**	*e*P	P	02 39 47.0 -7.2
CIT				*e*		02 41 36.8
CIT				pmax	pmax	
comp=Z,263nm,1.7s						
BJI	**Beijing**	**43.30**	**60**	P	**P**	**02 39 56.1 +1.5**
BJI				PcP	**PcP**	**02 41 42.0 -0.7**
BJI				S	**S**	**02 46 20.3 +1.9**
BJI				pmax	pmax	
comp=Z,90nm,1.0s						
BJI				LR	LR	
comp=Z,790nm,11.6s						
BJI				LR	LR	
comp=Z,690nm,11.8s						
VRAC	**Vranov**	**43.49**	**314**	⇑P	**P**	**02 39 56.5 +0.5**
VRAC	**Vranov**	**43.49**	**314**	*e*P	**P**	**02 39 56.5 +0.5**
VRAC				*es*P	**pP**	**02 40 09.3 -0.7**
KRLC	**Kraliky**	**43.54**	**315**	*e*P	**P**	**02 39 57.2 +0.8**
KRLC				*ep*P	**pP**	**02 40 09.7 -0.7**
KRLC				AMS	AMS	03 00 40.0
comp=Z,500nm,17.2s						
KRLC	**Kraliky**	**43.54**	**315**	*e*P	**P**	**02 39 57.2 +0.8**
KRLC				*e*		02 40 09.7
KRLC				MLR	MLR	
comp=Z,500nm,17.2s						
KRUC	**Moravsky**	**43.57**	**314**	*e*P	**P**	**02 39 57.1 +0.5**
KRUC				*es*P	**pP**	**02 40 09.9 -0.7**
KRUC				*e*PP	**PcP**	**02 41 44.4 +0.9**
MBAR	**Mbarara**	**43.62**	**236**	*i* P	**P**	**02 39 59.3 +1.7**
MBAR				pmax	pmax	
comp=Z,6.0nm,0.9s						
CRES	**Cresnjev**	**43.67**	**309**	*e*P	**P**	**02 39 56.0 -1.5**
CONA	**Conrad Observa**	**43.71**	**312**	*i* P	**P**	**02 39 58.0 +0.2**
comp=Z,6.6nm,1.1s						
CONA				*i* pP	**pP**	**02 40 11.1 -0.8**
comp=Z,40nm,1.4s						
BOJS	**Bojanci**	**43.78**	**308**	*e*P	**P**	**02 39 58.8 +0.5**
BOJS				*i*		02 40 11.8
BOJS				*i* PcP	**PcP**	**02 41 45.7 +1.4**
BOJS				*i*		02 41 59.8
BOJS				*e*S	**S**	**02 46 24.4 -0.8**
ARSA	**Arzberg**	**43.83**	**311**	*i* P	**P**	**02 39 59.1 +0.4**
comp=Z,13nm,0.7s,SNR=8.7						
ARSA				*i* pP	**pP**	**02 40 12.7 -0.1**
comp=Z,78nm,1.1s						
ARSA				*i* PP	**PcP**	**02 41 45.3 +0.9**
comp=Z,32nm,1.0s						
DPC	**Dobruska-Polom**	**43.89**	**315**	*e*P	**P**	**02 40 00.1 +0.9**
DPC				*ep*P	**pP**	**02 40 13.2 0.0**
DPC				*e*S	**S**	**02 46 24.3 -2.5**
DPC				AMS	AMS	03 04 40.0
comp=Z,600nm,16.6s						
DPC	**Dobruska-Polom**	**43.89**	**315**	*e*P	**P**	**02 40 00.1 +0.9**
DPC				*e*		02 40 13.2
DPC				*e*S	**S**	**02 46 24.3 -2.5**
DPC				MLR	MLR	
comp=Z,600nm,16.6s						
NRIK	**Noril'sk**	**43.98**	**11**	P	**P**	**02 39 59.9 +0.3**
comp=Z,24nm,0.7s,baz=208,slow=6.9,SNR=25						
NRIK				pP	**pP**	**02 40 14.1 +0.5**
comp=Z,45nm,0.8s,baz=183,slow=5.4,SNR=16						
NRIK				LR	LR	02 59 11.7
comp=Z,1μm,18.7s,baz=204,slow=37						
HKPS	**Hong Kong Po S**	**43.98**	**85**	P	**P**	**02 40 00.8 +0.5**
OSTC	**Ostas**	**44.00**	**316**	*e*P	**P**	**02 40 01.0 +1.0**
OSTC				*ex*	x	02 40 14.2
OSTC				*e*S	**S**	**02 46 30.3 +1.9**
PERS	**Pernice**	**44.01**	**310**	*i* P	**P**	**02 40 00.5 +0.3**
PERS				*e*		02 40 13.6
PERS				*i* PcP	**PcP**	**02 41 46.4 +1.2**
PERS				*i*		02 42 00.5
KSP	**Ksiaz**	**44.02**	**316**	*e*P	**P**	**02 40 00.8 +0.7**
KSP				*ep*P	**pP**	**02 40 13.8 -0.4**
KSP				*e*S	**S**	**02 46 29.0 +0.5**
GKP	**Gorka Klasztor**	**44.07**	**320**	*e*P	**P**	**02 40 00.9 +0.4**
GKP				*ep*P	**pP**	**02 40 13.2 -1.4**
SOKA	**Soboth**	**44.08**	**310**	*i* P	**P**	**02 40 01.7 +0.9**
comp=Z,15nm,1.3s,SNR=8.6						
SOKA				*i* pP	**pP**	**02 40 15.1 +0.2**
comp=Z,61nm,1.6s						
SOKA				*i* PP	**PcP**	**02 41 46.8 +1.5**
comp=Z,22nm,1.0s						
CHVC	**Chvalec**	**44.11**	**316**	*e*P	**P**	**02 40 01.5 +0.6**
CHVC				*ex*	x	02 40 15.1
UPC	**Upice**	**44.11**	**316**	*e*P	**P**	**02 40 02.0 +1.1**
UPC	**Upice**	**44.11**	**316**	*e*P	**P**	**02 40 02.0 +1.1**
TIA	**Tai'an**	**44.13**	**65**	P	**P**	**02 40 03.1 +1.8**
TIA				pmax	pmax	
comp=Z,170nm,1.3s						
TIA				pmax	pmax	
comp=Z,980nm,5.2s						
TIA				LR	LR	
comp=Z,600nm,14.2s						
TIA				LR	LR	
comp=Z,1μm,19.1s						
TIA				LR	LR	
comp=Z,2μm,18.6s						
RAFF	**Raffo Rosso**	**44.13**	**296**	IAmb	IAmb	02 40 18.1
comp=Z,120nm,1.0s						
TREC	**Trest**	**44.20**	**314**	*e*P	**P**	**02 40 03.1 +1.4**
TREC				AMS	AMS	03 01 20.0
comp=Z,600nm,20.3s						
TREC	**Trest**	**44.20**	**314**	*e*P	**P**	**02 40 03.1 +1.4**
TREC				MLR	MLR	
comp=Z,600nm,20.3s						
SDSI	**Sungai Dareh**	**44.30**	**123**	P	**P**	**02 40 03.2 +0.4**
comp=Z,1μmcomp=Z,74nm,1.3s						
LJU	**Ljubljana**	**44.34**	**309**	*e*P	**P**	**02 40 03.3 +0.5**
LJU				*e*		02 40 16.4
LJU				*i* PcP	**PP**	**02 41 47.8 +0.9**
LJU				*i*		02 42 01.7
LJU				*e*S	**S**	**02 46 32.6 -0.9**
LJU				*e*SS	**SnSn**	**02 50 16.3 -1.4**
LJU	**Ljubljana**	**44.34**	**309**	*e*P	**P**	**02 40 02.9 +0.1**
CEY	**Cerknica**	**44.38**	**309**	*e*P	**P**	**02 40 01.8 -1.4**
OBKA	**Obir**	**44.39**	**310**	*i* P	**P**	**02 40 04.6 +1.3**
comp=Z,14nm,1.3s						
OBKA				*i* pP	**pP**	**02 40 17.8 +0.5**
comp=Z,71nm,1.4s						
MYKOM	**Kota Tinggi**	**44.40**	**118**	P	**P**	**02 40 04.4 +0.8**
MYKOM	**Kota Tinggi**	**44.40**	**118**	P	**P**	**02 40 06.0 +2.4**
INTR	**Introdacqua**	**44.48**	**303**	P	**P**	**02 40 03.7 -0.4**
RGRI	**Rengat**	**44.59**	**122**	P	**P**	**02 40 05.4 +0.3**
MOA	**Molln**	**44.76**	**312**	*i* P	**P**	**02 40 06.3 +0.1**
comp=Z,16nm,1.1s						
MOA				*i* pP	**pP**	**02 40 19.8 -0.4**
comp=Z,55nm,1.4s						
GOPC	**GO Pecny, Ondr**	**44.77**	**314**	*e*P	**P**	**02 40 07.2 +1.0**
GOPC				*ep*P	**pP**	**02 40 19.8 -0.4**
GOPC				AMS	AMS	03 01 20.0
comp=Z,600nm,17.7s						
GOPC	**GO Pecny, Ondr**	**44.77**	**314**	*e*P	**P**	**02 40 07.2 +1.0**
GOPC				*e*		02 40 19.8
GOPC				MLR	MLR	
comp=Z,600nm,17.7s						
APA	**Apatity**	**44.81**	**343**	⇓*i* P	**P**	**02 40 06.7 +0.5**
APA				pmax	pmax	
comp=Z,67nm,0.8s						
APA				MLR	MLR	
comp=Z,3μm,18.0s						
AQU	**L'Aquila**	**44.86**	**304**	*e*P	**P**	**02 40 07.4 +0.3**
PRU	**Pruhonice**	**44.93**	**315**	*e*P	**P**	**02 40 08.5 +1.0**
PRU				*ep*P	**pP**	**02 40 20.5 -1.0**
PRU				*e*S	**S**	**02 46 40.9 -1.0**
PRU				AMS	AMS	03 01 20.0
comp=Z,700nm,21.6s						
PRU	**Pruhonice**	**44.93**	**315**	*e*P	**P**	**02 40 08.5 +1.0**
PRU				*e*		02 40 20.5
PRU				*e*S	**S**	**02 46 40.9 -1.0**
PRU				MLR	MLR	
comp=Z,700nm,21.6s						
PRA	**Prague**	**45.02**	**315**	*e*P	**P**	**02 40 09.7 +1.6**
PRA				AMS	AMS	03 01 30.0
comp=Z,200nm,15.5s						
PRA	**Prague**	**45.02**	**315**	*e*P	**P**	**02 40 09.7 +1.6**
PRA				MLR	MLR	
comp=Z,200nm,15.5s						
PVCC	**Panska Ves**	**45.02**	**315**	*e*P	**P**	**02 40 10.1 +2.0**
PVCC	**Panska Ves**	**45.02**	**315**	*e*P	**P**	**02 40 10.1 +2.0**
MYKA	**Terra Mystica**	**45.02**	**310**	*i* P	**P**	**02 40 08.8 +0.5**
comp=Z,7.9nm,1.0s						
MYKA				*i* pP	**pP**	**02 40 22.2 -0.2**
comp=Z,31nm,1.2s						
PRED	**Cave del Predi**	**45.05**	**309**	P	**P**	**02 40 08.2 -0.4**
NRCA	**Norcia**	**45.10**	**304**	P	**P**	**02 40 08.5 -0.4**
KRJI	**Kerinci**	**45.10**	**125**	P	**P**	**02 40 11.1 +1.8**
comp=Z,10μmcomp=Z,733nm,0.9s						
PBCC	**Pribram**	**45.23**	**314**	*e*P	**P**	**02 40 11.0 +1.2**
KBA	**Koelnbreinsper**	**45.28**	**310**	*i* P	**P**	**02 40 11.2 +0.7**
comp=Z,21nm,0.8s,SNR=16						
KBA				*i* pP	**pP**	**02 40 23.9 -0.6**
comp=Z,63nm,0.9s						
GEC2	**GERESS Array S**	**45.28**	**313**	*e*P	**P**	**02 40 10.6 +0.3**
comp=Z,128nm,1.6s,baz=101,slow=7.8						
GEC2				*ep*P	**pP**	**02 40 24.0 -0.5**
baz=100,slow=7.7						
GEC2				*e*PcP	**PcP**	**02 41 50.8 +1.3**
baz=98,slow=3.5						
GEC2				*ep*PcP		02 42 06.3
baz=98,slow=3.4						
GEC2	**GERESS Array S**	**45.28**	**313**	P	**P**	**02 40 10.0 -0.3**
GERES	**GERESS Array B**	**45.28**	**313**	P	**P**	**02 40 10.4 0.0**
comp=Z,6.9nm,0.7s,baz=106,slow=5.6,SNR=57						
GERES				pP	**pP**	**02 40 23.5 -1.0**
comp=Z,14nm,0.8s,baz=96,slow=8.2,SNR=17						
GERES				PcP	**PcP**	**02 41 50.2 +0.8**
comp=Z,22nm,0.9s,baz=106,slow=4.3,SNR=10						
GERES				pPcP		02 42 04.9
comp=Z,9.4nm,0.8s,baz=113,slow=3.0,SNR=4.5						
GERES				LR	LR	03 03 16.0
comp=Z,405nm,19.6s,baz=112,slow=42						
GERES	**GERESS Array B**	**45.28**	**313**	P	**P**	**02 40 10.1 -0.3**
GERES					**PcP**	**02 41 48.7 -0.7**
BOD	**Bodaibo**	**45.38**	**34**	*e*P	**P**	**02 40 11.5 +0.7**
BOD				pmax	pmax	
comp=Z,84nm,1.7s						
KHC	**Kasperske Hory**	**45.41**	**313**	*e*P	**P**	**02 40 11.6 +0.3**
KHC				*ep*P	**pP**	**02 40 24.6 -0.8**
KHC				*e*S	**S**	**02 46 43.5 -5.3**
KHC				AMS	AMS	03 01 50.0
comp=Z,800nm,25.2s						
KHC	**Kasperske Hory**	**45.41**	**313**	*e*P	**P**	**02 40 11.6 +0.3**
KHC				*e*		02 40 24.6
KHC				*e*S	**S**	**02 46 43.5 -5.3**
KHC				MLR	MLR	
comp=Z,800nm,25.2s						
KHC	**Kasperske Hory**	**45.41**	**313**	P	**P**	**02 40 11.0 -0.3**
ZOU	**Zoufplan**	**45.47**	**310**	P	**P**	**02 40 11.6 -0.5**
BRG	**Berggiesshubel**	**45.48**	**316**	SS	SS	02 50 20.0 +6.1
BRG	**Berggiesshubel**	**45.48**	**316**	*i* P	**P**	**02 40 12.3 +0.6**
BRG				*i*		02 40 25.9
BRG				S	**S**	**02 46 49.0 -0.7**
BRG				pmax	pmax	
comp=Z,41nm,1.2s						
BRG				MLR	MLR	
comp=N,344nm,16.4s						
BRG				MLR	MLR	
comp=E,501nm,16.9s						
BRG				MLR	MLR	
comp=Z,682nm,14.1s						
BRG	**Berggiesshubel**	**45.48**	**316**	*e*P	**P**	**02 40 12.9 +1.1**
comp=Z,88nm,1.1s,baz=101,slow=7.8						
BRG				*ep*P	**pP**	**02 40 26.0 +0.1**
baz=100,slow=7.7						
BRG				*e*PcP	**PcP**	**02 41 51.2 +1.2**
baz=98,slow=3.5						
BRG				*ep*PcP		02 42 06.8
baz=98,slow=3.4						
BRG	**Berggiesshubel**	**45.48**	**316**			
comp=Z,682nm,14.1s						
BRG	**Berggiesshubel**	**45.48**	**316**			
comp=E,501nm,16.9s						
BRG	**Berggiesshubel**	**45.48**	**316**			
comp=N,344nm,16.4s						
BRG	**Berggiesshubel**	**45.48**	**316**	*i* P	**P**	**02 40 12.3 +0.6**
comp=N,271nm,1.0s,SNR=16						
ABTA				*i* pP	**pP**	**02 40 28.2 -0.4**
comp=N,94nm,1.2s						
CIMO	**Cimolais**	**45.81**	**309**	P	**P**	**02 40 14.2 -0.4**
FBE	**Freiberg**	**45.85**	**316**	*e*P	**P**	**02 40 16.1 +1.3**
comp=N,328nm,2.0s,baz=101,slow=7.8						
FBE				*ep*P	**pP**	**02 40 29.3 +0.5**
baz=100,slow=7.7						
FBE				*e*PcP	**PcP**	**02 41 52.7 +1.4**
baz=98,slow=3.5						
WET	**Wettzell**	**45.86**	**313**	*ep*P	**pP**	**02 40 27.9 -1.1**
baz=100,slow=7.7						
WET				*e*PcP	**PcP**	**02 41 52.6 +1.2**
baz=98,slow=3.5						
WET				*ep*PcP		02 42 08.3
baz=98,slow=3.4						
RUE	**Ruedersdorf**	**45.90**	**318**	*e*P	**P**	**02 40 17.1 +2.1**
RUE	**Ruedersdorf**	**45.90**	**318**	*e*PcP	**PcP**	**02 41 52.5 +1.2**
baz=98,slow=3.5						
NJ2	**Nanjing**	**45.99**	**71**	*e*P	**P**	**02 40 16.8 +0.7**
NJ2				sP	**sP**	**02 40 38.0 +1.8**
NJ2				PP	**PP**	**02 42 06.8 +2.3**
NJ2				S	**S**	**02 46 59.8 +2.3**
NJ2				sS	**sS**	**02 47 18.6 -2.5**
NJ2				pmax	pmax	
comp=N,140nm,1.1s						
NJ2				LR	LR	
comp=N,820nm,18.9s						
NJ2				LR	LR	
comp=N,860nm,24.1s						
NJ2				LR	LR	
comp=N,2μm,24.1s						
CLL	**Collm**	**46.14**	**316**	*e*P	**P**	**02 40 19.0 +2.0**
comp=Z,18nm,0.9s						
CLL				*i* pP	**pP**	**02 40 31.0 -0.1**
comp=Z,45nm,0.9s						
CLL				*i* PcP	**PcP**	**02 41 52.4 +0.1**
comp=Z,21nm,0.9s						
CLL				*e*PP	**PP**	**02 42 06.0 +0.2**
CLL				*e*S	**S**	**02 46 57.0 -2.2**
CLL				*e*		02 48 32.0
CLL				*e*SS	SS	02 50 48.0 +23
CLL				LmV		03 06 00.0
comp=Z,700nm,18.2s						
CLL	**Collm**	**46.14**	**316**	*e*P	**P**	**02 40 19.0 +2.0**
CLL				*i*		02 40 31.0
CLL				*i*		02 41 52.4
CLL				*e*S	**S**	**02 46 57.0 -2.2**
CLL				pmax	pmax	
comp=Z,18nm,0.9s						
CLL	**Collm**	**46.14**	**316**	*e*P	**P**	**02 40 18.7 +1.7**
comp=Z,45nm,0.9s,baz=101,slow=7.8						
CLL				*e*PcP	**PcP**	**02 41 53.3 +1.0**
baz=98,slow=3.5						
CLL				*ep*PcP		02 42 08.7
baz=98,slow=3.4						
CLL	**Collm**	**46.14**	**316**	P	**P**	**02 40 16.8 -0.2**
CLL				IAmb	IAmb	02 40 32.6
comp=Z,35nm,0.9s						
TEOL	**Teolo**	**46.27**	**308**	P	**P**	**02 40 17.9 -0.3**
TEOL				IAmb	IAmb	02 40 32.1
comp=Z,40nm,0.8s						
NKC	**Novy Kostel**	**46.30**	**315**	*e*P	**P**	**02 40 20.6 +2.3**
NKC				*e*S	**S**	**02 46 59.4 -2.3**
NKC	**Novy Kostel**	**46.30**	**315**	*e*P	**P**	**02 40 20.6 +2.3**
NKC				*e*S	**S**	**02 46 59.4 -2.3**
TANN	**Tannenbergstha**	**46.33**	**315**	*ep*P	**pP**	**02 40 32.2 -0.4**
baz=100,slow=7.7						
TANN				*e*PcP	**PcP**	**02 41 54.2 +1.2**
baz=98,slow=3.5						
TANN				*ep*PcP		02 42 09.8
baz=98,slow=3.4						
CTI	**Castel Tesino**	**46.34**	**309**	P	**P**	**02 40 18.5 -0.3**
CTI				pmax	pmax	
comp=Z,34nm,1.1s						
CTI	**Castel Tesino**	**46.34**	**309**	P	**P**	**02 40 18.5 -0.3**
CTI				IAmb	IAmb	02 40 33.7
comp=Z,34nm,1.1s						
WERN	**Wernitzgruen**	**46.36**	**315**	*ep*P	pP	02 40 32.8 -0.1
baz=100,slow=7.7						
MASI	**Maura Aman, Be**	**46.38**	**125**	P	**P**	**02 40 19.8 +0.5**
comp=Z,421nm,1.2s						
ROTZ	**Rotzenmuhle**	**46.39**	**314**	*ep*P	**pP**	**02 40 32.7 -0.4**
baz=100,slow=7.7						
ROTZ				*ep*PcP		02 42 10.2
baz=98,slow=3.4						
GUNZ	**Gunzen**	**46.40**	**315**	*e*P	**P**	**02 40 21.1 +2.0**
comp=Z,68nm,1.7s,baz=101,slow=7.8						
GUNZ				*ep*P	**pP**	**02 40 32.7 -0.5**
baz=100,slow=7.7						
GUNZ				*e*PcP	**PcP**	**02 41 54.5 +1.3**
baz=98,slow=3.5						
MANZ	**Manzenberg**	**46.48**	**314**	*e*P	**P**	**02 40 20.9 +1.1**
comp=Z,158nm,2.2s,baz=101,slow=7.8						
MANZ				*ep*P	**pP**	**02 40 33.6 -0.2**
baz=100,slow=7.7						
MANZ				*e*PcP	**PcP**	**02 41 55.2 +1.7**
baz=98,slow=3.5						
OSSC	**Osservatorio P**	**46.49**	**305**	P	**P**	**02 40 19.6 -0.2**
WATA	**Walderalm**	**46.50**	**310**	*i* P	**P**	**02 40 20.7 +0.6**
comp=Z,18nm,0.9s,SNR=8.6						
WATA				*i* pP	**pP**	**02 40 32.9 -1.3**
comp=Z,56nm,1.0s						
PLN	**Plauen**	**46.53**	**315**	*e*P	**P**	**02 40 22.0 +2.0**
comp=Z,56nm,1.7s,baz=101,slow=7.8						
PLN				*ep*P	**pP**	**02 40 33.9 -0.3**
baz=100,slow=7.7						
PLN				*e*PcP	**PcP**	**02 41 54.9 +1.2**
baz=98,slow=3.5						
PLN				*ep*PcP		02 42 10.4
baz=98,slow=3.4						
HIA	**Hailar**	**46.57**	**47**	P	**P**	**02 40 20.9 +0.4**
HIA				pmax	pmax	
comp=Z,53nm,1.1s						
HIA	**Hailar**	**46.57**	**47**	P	**P**	**02 40 20.9 +0.4**
HIA				IAmb	IAmb	02 40 22.8
comp=Z,53nm,1.1s						
ZCCA	**Zocca**	**46.71**	**306**	P	**P**	**02 40 21.4 -0.2**
ZCCA				IAmb	IAmb	02 40 37.4
comp=Z,38nm,1.0s						
SQTA	**Sankt Quirin**	**46.74**	**310**	*e*P	**P**	**02 40 21.1 -0.9**
comp=Z,15nm,0.6s,SNR=9.2						
SQTA				*i* pP	**pP**	**02 40 34.9 -1.2**
comp=Z,62nm,1.2s						
SQTA				*i* PcP	**PcP**	**02 41 55.3 +0.6**
comp=Z,53nm,1.3s						
FUR	**Furstenfeldbru**	**46.79**	**312**	*e*P	**P**	**02 40 23.2 +1.1**
comp=Z,58nm,1.1s,baz=101,slow=7.8						
FUR				*ep*P	**pP**	**02 40 34.8 -1.5**
baz=100,slow=7.7						
MOTA	**Moosalm**	**46.82**	**310**	*i* P	**P**	**02 40 21.6 -1.0**
comp=Z,16nm,0.7s,SNR=14						
MOTA				*i* pP	**pP**	**02 40 35.3 -1.5**
comp=Z,70nm,1.1s						
MOTA				*i* PcP	**PcP**	**02 41 56.1 +1.2**
comp=Z,40nm,1.0s						
NEUB	**Neuenburg**	**46.88**	**316**	*e*P	**P**	**02 40 25.1 +2.3**
comp=Z,187nm,1.5s,baz=101,slow=7.8						
NEUB				*ep*P	**pP**	**02 40 37.0 0.0**
baz=100,slow=7.7						
NEUB				*e*PcP	**PcP**	**02 41 56.0 +1.2**
baz=98,slow=3.5						
NEUB				*ep*PcP		02 42 11.5
baz=98,slow=3.4						
MOX	**Moxa**	**46.89**	**315**	*e*P	**P**	**02 40 24.0 +1.0**
comp=Z,55nm,0.8s,baz=101,slow=7.8						
MOX				*ep*P	**pP**	**02 40 37.2 +0.1**
baz=100,slow=7.7						
MOX				*e*PcP	**PcP**	**02 41 56.1 +1.1**
baz=98,slow=3.5						
MOX				*e*L	L	03 06 36.5
comp=Z,517nm,18.8s						
KSI	**Kapahiang**	**46.98**	**125**	P	**P**	**02 40 25.4 +1.3**
comp=Z,191nm,0.7s						
GRA1	**Grafenberg Arr**	**47.01**	**314**	P	**P**	**02 40 23.6 -0.3**
GRA1				IAmb	IAmb	02 40 38.6
comp=Z,42nm,1.0s						
GRF	**Grafenberg Arr**	**47.01**	**314**	P	**P**	**02 40 23.6 -0.3**
GRF				pmax	pmax	
comp=Z,42nm,1.0s						
GRF	**Grafenberg Arr**	**47.01**	**314**	*e*P	**P**	**02 40 24.8 +1.0**
comp=Z,276nm,2.1s,baz=101,slow=7.8						
GRF				*ep*P	**pP**	**02 40 38.0 0.0**
baz=100,slow=7.7						
GRF				*e*PcP	**PcP**	**02 41 56.9 +1.5**
baz=98,slow=3.5						
GRF				*ep*PcP		02 42 12.4
baz=98,slow=3.4						
GRF				*e*L	L	03 05 43.3
comp=Z,395nm,18.5s						
FETA	**Feichten**	**47.05**	**310**	*i* P	**P**	**02 40 23.9 -0.5**
comp=Z,26nm,0.8s,SNR=20						
FETA				*i* pP	**pP**	**02 40 38.2 -0.4**
comp=Z,65nm,1.0s						
FETA				*i* PcP	**PcP**	**02 41 57.0 +1.2**
comp=Z,50nm,1.1s						
RETA	**Reutte**	**47.07**	**311

FUORN	Ofenpass-Fuorn	47.34	309	P	P	02 40 26.1	-0.6
FUORN				IAmb	IAmb	02 40 42.5	
	comp=Z,29nm,0.9s						
UBR	Ueberruh	47.53	311	*e*pP	pP	02 40 40.5	-1.6
	baz=100,slow=7.7						
DL2	Dalian	47.55	61	P	P	02 40 29.5	+1.4
DL2				sP	sP	02 40 46.8	-1.5
DL2				PP	PP	02 42 23.6	+3.7
DL2				S	S	02 47 24.3	+4.7
DL2				SS	SS	02 50 40.3	-7.6
DL2				pmax	pmax		
	comp=Z,100nm,1.2s						
DL2				pmax	pmax		
	comp=Z,750nm,5.3s						
DL2				LR	LR		
	comp=Z,660nm,17.7s						
DL2				LR	LR		
	comp=Z,780nm,19.1s						
DL2				LR	LR		
	comp=Z,1µm,23.3s						
DAVA	Damuels	47.65	310	*i* P	P	02 40 28.4	-0.7
	comp=Z,43nm,0.8s,SNR=22						
ASSE	Asse, Remlinge	47.71	317	*e*pP	pP	02 40 43.0	-0.4
	baz=100,slow=7.7						
ASSE				*e*pPcP		02 42 14.2	
	baz=98,slow=3.4						
MSSA	Maissana	47.76	306	P	P	02 40 29.2	-0.6
CLZ	Clausthal	47.85	316	*e*pP	pP	02 40 44.5	-0.1
	baz=100,slow=7.7						
CLZ				*e*PcP	PcP	02 41 59.5	+1.1
	baz=98,slow=3.5						
CLZ				*e*pPcP		02 42 15.0	
	baz=98,slow=3.4						
UBBA	Unterbreizbach	47.94	315	*e*pP	pP	02 40 45.0	0.0
	baz=100,slow=7.7						
VSL	Villasalto	47.94	300	P	P	02 40 30.9	-0.3
TUE	Stuetta	47.96	309	P	P	02 40 31.0	-0.6
TUE				IAmb	IAmb	02 40 46.5	
	comp=Z,32nm,0.8s						
KEV	Kevo	48.01	343	P	P	02 40 31.4	+0.1
KEV				pmax	pmax		
	comp=Z,56nm,0.8s						
KEV	Kevo	48.01	343	P	P	02 40 31.4	+0.1
KEV				IAmb	IAmb	02 40 33.2	
	comp=Z,56nm,0.8s						
GTTG	Gottingen	48.06	316	*e*pP	pP	02 40 45.9	-0.2
	baz=100,slow=7.7						
GTTG				*e*PcP	PcP	02 42 00.3	+1.2
	baz=98,slow=3.5						
SSE	Sheshan	48.11	72	P	P	02 40 32.2	-0.3
NRDL	Niedersach Rie	48.11	317	*e*pP	pP	02 40 46.5	0.0
	baz=100,slow=7.7						
NRDL				*e*PcP	PcP	02 42 00.5	+1.4
	baz=98,slow=3.5						
STU	Stuttgart	48.23	312	P	P	02 40 33.2	-0.1
STU				pmax	pmax		
	comp=Z,45nm,0.9s						
STU	Stuttgart	48.23	312	*e*pP	pP	02 40 46.0	-1.5
	baz=100,slow=7.7						
STU				*e*PcP	PcP	02 42 00.7	+1.0
	baz=98,slow=3.5						
STU	Stuttgart	48.23	312	P	P	02 40 33.2	-0.1
STU				IAmb	IAmb	02 40 47.2	
	comp=Z,45nm,0.9s						
BSEG	Bad Segeberg	48.24	319	*e*P	P	02 40 35.7	+2.5
	comp=Z,90nm,1.2s,baz=101,slow=7.8						
BSEG				*e*pP	pP	02 40 47.1	-0.3
	baz=100,slow=7.7						
BSEG				*e*pPcP		02 42 16.2	
	baz=98,slow=3.4						
ARCES	ARCESS Array B	48.27	342	LR	LR	03 03 00.8	
	comp=Z,1µm,19.1s,baz=130,slow=39						
KEST	Kesra	48.28	295	P	P	02 40 36.2	+2.2
	comp=Z,26nm,0.9s,baz=42,slow=1.9,SNR=10						
KEST				pP	pP	02 40 49.3	+1.0
	comp=Z,61nm,1.0s,baz=349,slow=0.7,SNR=12						
KEST				LR	LR	03 05 06.0	
	comp=Z,317nm,21.0s,baz=21,slow=41						
KEST	Kesra	48.28	295	P	P	02 40 33.5	-0.5
KEST				IAmb	IAmb	02 40 50.6	
	comp=Z,76nm,1.1s						
PPBI	Pangkal Pinang	48.65	120	P	P	02 40 37.8	+0.9
	comp=Z,5µmcomp=Z,23nm,0.9s						
MDSI	Maura Dua	48.70	124	P	P	02 40 36.4	-0.9
	comp=Z,24nm,1.1s						
BFO	Black Forest	48.77	312	P	P	02 40 37.1	-0.4
BFO				pmax	pmax		
	comp=Z,11nm,1.0s						
BFO	Black Forest	48.77	312	*e*P	P	02 40 38.1	+0.6
	comp=Z,19nm,1.2s,baz=101,slow=7.8						
BFO				*e*pP	pP	02 40 49.5	-2.2
	baz=100,slow=7.7						
BFO				*e*PcP	PcP	02 42 02.4	+0.7
	baz=98,slow=3.5						
BFO				*e*pPcP		02 42 18.0	
	baz=98,slow=3.4						
BFO	Black Forest	48.77	312	P	P	02 40 37.1	-0.4
SNY	Shenyang	48.90	57	‖P	P	02 40 39.0	+0.5
SNY				S	S	02 47 39.3	+0.7
SNY				pmax	pmax		
	comp=Z,33nm,1.4s						
SNY				pmax	pmax		
	comp=Z,430nm,5.5s						
SNY				LR	LR		
	comp=Z,530nm,13.7s						
SNY				LR	LR		
	comp=Z,1µm,20.6s						
SNY				LR	LR		
	comp=Z,2µm,20.0s						
LWLI	Liwa	48.98	125	P	P	02 40 40.0	+0.5
	comp=Z,300nm,0.8s						
KLSI		49.24	124	P	P	02 40 40.3	-1.2
	comp=Z,14nm,0.9s						
NC602	NORSAR Array S	49.26	328	P	P	02 40 40.6	-0.4
NC602				IAmb	IAmb	02 40 55.8	
	comp=Z,41nm,0.9s						
NC405	NORSAR Array S	49.29	329	P	P	02 40 41.3	0.0
SENIN	Lac Senin/Sane	49.37	309	P	P	02 40 41.7	-0.7
OSL	Oslo	49.41	327	*e*P	P	02 40 42.2	0.0
TPUB	Ta-pu	49.43	82	P	P	02 40 42.6	-0.3
TPUB				IAmb	IAmb	02 40 50.0	
	comp=Z,32nm,1.0s						
HAMF	Hammerfest	49.45	343	*e*P	P	02 40 43.4	+1.1
NB201	NORSAR Array S	49.47	329	P	P	02 40 42.2	-0.4
NC303	NORSAR Array S	49.49	329	P	P	02 40 42.6	-0.1
NC303				IAmb	IAmb	02 40 58.0	
	comp=Z,51nm,1.1s						
NB2	NORSAR Subarra	49.50	329	P	P	02 40 42.1	-0.8
	comp=Z,105nm,1.7s,baz=109,slow=7.4						
NB2	NORSAR Subarra	49.50	329	P	P	02 40 42.1	-0.8
	baz=109,slow=7.4						
NOA	NORSAR Array B	49.50	329	P	P	02 40 42.0	-0.8
	comp=Z,10nm,0.6s,baz=109,slow=7.4,SNR=49						
NOA				pP	pP	02 40 56.5	-0.6
	comp=Z,16nm,0.8s,baz=109,slow=7.5,SNR=11						
NOA				PcP	PcP	02 42 03.6	-0.6
	comp=Z,4.7nm,0.9s,baz=101,slow=4.3,SNR=2.9						
NOA				PP	PP	02 42 37.6	+0.4
	comp=Z,5.0nm,0.9s,baz=128,slow=6.7,SNR=3.4						
NOA				LR	LR	03 05 38.9	
	comp=Z,585nm,18.9s,baz=110,slow=41						
IBBN	Ibbenburen	49.51	317	*e*pP	pP	02 40 57.0	-0.3
	baz=100,slow=7.7						
ECH	Echery	49.54	311	IAmb	IAmb	02 40 57.3	
	comp=Z,54nm,1.0s						
SSLB	Suanglung	49.58	81	P	P	02 40 43.7	-0.3
NAO01	NORSAR Array S	49.60	328	P	P	02 40 43.5	-0.1
NAO01				IAmb	IAmb	02 40 54.8	
	comp=Z,44nm,1.1s						
NAO01	NORSAR Array S	49.60	328	*e*P	P	02 40 44.0	+0.4
NBO00	NORSAR Array S	49.70	328	IAmb	IAmb	02 40 59.4	
	comp=Z,59nm,1.0s						
YHNB	Yeheng	49.70	80	P	P	02 40 44.6	-0.4
BUG	Bochum--Univer	49.72	316	*e*P	P	02 40 45.5	+0.9
	comp=Z,101nm,1.0s,baz=101,slow=7.8						
BUG				*e*pP	pP	02 40 58.6	-0.3
	baz=100,slow=7.7						
BUG				*e*PcP	PcP	02 42 06.1	+1.0
	baz=98,slow=3.5						
AHRW	Bad Neuenahr-A	49.75	314	*e*P	P	02 40 46.3	+1.4
	comp=Z,39nm,1.0s,baz=101,slow=7.8						
AHRW				*e*pP	pP	02 40 59.4	+0.2
	baz=100,slow=7.7						
AHRW				*e*PcP	PcP	02 42 06.5	+1.3
	baz=98,slow=3.5						
AHRW				*e*pPcP		02 42 22.0	
	baz=98,slow=3.4						
KSM	Kuching	49.77	113	P	P	02 40 45.2	-0.3
KSM	Kuching	49.77	113	P	P	02 40 47.0	+1.5
NC204	NORSAR Array S	49.78	329	IAmb	IAmb	02 40 46.8	
	comp=Z,39nm,0.9s						
BNI	Bardonecchia	49.79	307	IAmb	IAmb	02 40 59.2	
	comp=Z,54nm,0.9s						
TWG	Pinlang	49.96	82	P	P	02 40 46.5	-0.3
YULB	Yu-li	49.99	81	IAmb	IAmb	02 40 51.2	
	comp=Z,68nm,1.1s						
MOR8	Moi Rana	50.02	336	*e*P	P	02 40 46.2	-0.6
N2ST	Straumen	50.13	337	*e*P	P	02 40 46.9	-0.6
TRO	Tromso	50.20	341	*e*P	P	02 40 49.0	+1.0
FAUS	Fauske	50.25	337	*e*P	P	02 40 48.3	-0.1
WLF	Walferdange	50.28	313	P	P	02 40 47.9	-1.1
WLF				pP	pP	02 41 01.6	-1.6
WLF	Walferdange	50.28	313	P	P	02 40 48.6	-0.4
WLF				pmax	pmax		
	comp=Z,23nm,1.1s						
WLF	Walferdange	50.28	313	*e*P	P	02 40 50.0	+1.1
	comp=Z,196nm,1.9s,baz=101,slow=7.8						
WLF				*e*pP	pP	02 41 02.9	-0.3
	baz=100,slow=7.7						
WLF				*e*pPcP		02 42 22.3	
	baz=98,slow=3.4						
WLF	Walferdange	50.28	313	P	P	02 40 48.6	-0.4
N2IH	Innhavet	50.30	338	*e*P	P	02 40 49.1	+0.4
NSS	Namsos	50.33	333	*e*P	P	02 40 49.0	-0.1
BTNL	Ternell	50.36	314	P	P	02 40 50.4	+0.8
BTNL				pP	pP	02 41 03.9	0.0
BTNL				x	x	02 41 25.1	
BTNL				PcP	PcP	02 42 07.4	-0.1
N2TV	T¥rnvik	50.39	337	*e*P	P	02 40 49.7	+0.3
BHOU	Houvegnez	50.42	314	P	P	02 40 51.5	+1.5
BHOU				pP	pP	02 41 04.3	0.0
BHOU				sP	sP	02 41 09.8	-0.5
MEM	Membach	50.44	314	P	P	02 40 51.0	+0.9
MEM				pP	pP	02 41 03.9	-0.5
MEM				PcP	PcP	02 42 07.5	-0.3
NBB17	Glomfjord B¥r	50.47	336	*e*P	P	02 40 50.2	+0.2
NBB08	Skaug oppvekst	50.48	337	*e*P	P	02 40 52.9	+2.8
STEI	Steigen	50.51	338	‖*e*P	P	02 40 51.0	+0.6
NBB05	Inndyr	50.54	336	*e*P	P	02 40 51.1	+0.5
TBLU	Trondheim	50.61	331	*e*P	P	02 40 50.7	-0.5
STOK	Stokkvaagen	50.61	335	*e*P	P	02 40 51.1	0.0
NBB30	Finnes	50.62	336	*e*P	P	02 40 51.2	+0.1
KONS	Konsvik	50.64	336	*e*P	P	02 40 51.5	+0.1
BEBN	Eben Emael	50.66	315	P	P	02 40 53.9	+2.1
BEBN				pP	pP	02 41 05.6	-0.5
NBB40	Tonnes	50.69	336	*e*P	P	02 40 51.9	+0.2
BSTI	Sart Tilman	50.72	314	pP	pP	02 41 06.6	+0.1
SKAR	Skarslia	50.77	328	*e*P	P	02 40 54.2	+1.7
SBUM	Sibu	50.80	111	P	P	02 40 53.0	-0.2
SBUM				IAmb	IAmb	02 40 56.4	
	comp=Z,53nm,1.1s						
BCLA	Clavier	50.88	314	P	P	02 40 54.0	+0.6
BCLA				x	x	02 41 25.5	
BCLA				PcP	PcP	02 42 09.6	+0.2
RCHB	Rochefort	50.91	314	P	P	02 40 54.3	+0.6
RCHB				pP	pP	02 41 07.9	0.0
RCHB				sP	sP	02 41 13.3	-0.7
RCHB				PcP	PcP	02 42 10.3	+0.8
BGES	Gesves	51.01	314	P	P	02 40 55.4	+1.0
BGES				pP	pP	02 41 07.7	-1.1
BGES				PcP	PcP	02 42 07.2	-2.7
N2VI	Vinje	51.04	338	*e*P	P	02 40 54.5	+0.2
YOJ	Yonaguni jima	51.19	80	P	P	02 40 55.9	-0.3
YOJ				pmax	pmax		
	comp=Z,59nm,0.9s						
YOJ	Yonaguni jima	51.19	80	P	P	02 40 55.9	-0.3
YOJ				IAmb	IAmb	02 40 57.5	
	comp=Z,59nm,0.9s						
BMRD	Maredsous	51.21	314	P	P	02 40 56.8	+0.8
BMRD				pP	pP	02 41 09.0	-1.2
BMRD				PcP	PcP	02 42 10.1	-0.5
CGJI	Cibinong	51.24	125	P	P	02 40 56.0	-0.6
	comp=Z,3µmcomp=Z,150nm,0.9s						
N2VA	Vr_y	51.27	337	*e*P	P	02 40 55.2	-0.9
SSB	Saint Sauveur	51.30	308	IAmb	IAmb	02 41 10.9	
	comp=Z,35nm,0.9s						
DOU	Dourbes	51.31	314	P	P	02 40 57.2	+0.6
DOU				pP	pP	02 41 09.1	-1.9
DOU				PcP	PcP	02 42 11.5	+0.5
N2RO	R_st	51.41	337	*e*P	P	02 40 56.3	-0.8
UCC	Uccle	51.50	315	P	P	02 40 59.1	+1.1
UCC				pP	pP	02 41 11.6	-0.8
UCC				x	x	02 41 32.6	
UCC	Uccle	51.50	315	P	P	02 40 57.8	-0.2
UCC				pmax	pmax		
	comp=Z,26nm,0.9s						
UCC	Uccle	51.50	315	P	P	02 40 57.8	-0.2
UCC				IAmb	IAmb	02 41 15.3	
	comp=Z,26nm,0.9s						
STKI	Sintang	51.53	114	P	P	02 41 00.4	+1.6
SNF	Seneffe	51.53	314	P	P	02 40 58.7	+0.4
SNF				pP	pP	02 41 12.7	+0.1
SNF				PcP	PcP	02 42 12.2	+0.5
INCN	Inchon	51.61	62	P	P	02 40 58.8	-0.3
INCN				pmax	pmax		
	comp=Z,78nm,1.0s						
INCN	Inchon	51.61	62	P	P	02 40 58.8	-0.3
ZEA	Zeya	51.74	42	*e*P	P	02 41 01.8	+2.0
ZEA				*e*S	S	02 48 20.0	+2.2
ZEA				*e*SS	SS	02 51 48.0	-6.4
ZEA				pmax	pmax		
	comp=N,47nm,1.0s						
ZEA				pmax	pmax		
	comp=E,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,100nm,1.2s						
ZEA				MLR	MLR		
	comp=E,1µm,18.0s						
SKJI	Sukabumi	52.14	125	P	P	02 41 05.9	+2.6
	comp=E,156nm,0.9s						
TJN	Taejon	52.34	64	*ce*P	P	02 41 04.5	0.0
KS19	Wonju Array Si	52.58	62	P	P	02 41 06.1	-0.2
KS19				IAmb	IAmb	02 41 07.9	
	comp=Z,58nm,0.8s						
KSAR	Wonju Array Be	52.60	62	P	P	02 41 06.3	-0.2
KSAR	Wonju Array Be	52.60	62	P	P	02 41 06.2	-0.2
KSRS	Korea Array	52.63	62	P	P	02 41 06.7	+0.1
	comp=Z,45nm,0.8s,baz=270,slow=7.4,SNR=85						
KSRS				pP	pP	02 41 22.1	+1.1
	comp=Z,16nm,0.8s,baz=271,slow=7.7,SNR=5.1						
KSRS				PcP	PcP	02 42 16.4	+0.2
	comp=Z,16nm,0.9s,baz=272,slow=4.2,SNR=4.7						
KSRS				LR	LR	03 06 37.6	
	comp=Z,516nm,19.3s,baz=282,slow=40						
CNJI	Cibinong	52.76	125	P	P	02 41 08.7	+0.8
	comp=Z,78nm,0.9s						
CLF	Chambon-Foret	52.82	311	P	P	02 41 07.7	-0.2
CLF				IAmb	IAmb	02 41 24.9	
	comp=Z,50nm,1.1s						
HOPEN	Hopen	53.03	349	*e*P	P	02 41 10.9	+1.9
MDJ	Mudanjiang	53.16	53	P	P	02 41 11.3	+0.8
MDJ				sP	sP	02 41 31.1	+0.2
MDJ				PcP	PcP	02 42 18.8	+0.7
MDJ				S	S	02 48 36.3	-1.1
MDJ				sS	sS	02 48 59.0	-1.9
MDJ				pmax	pmax		
	comp=Z,30nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,560nm,5.5s						
MDJ				LR	LR		
	comp=Z,1µm,19.9s						
MDJ				LR	LR		
	comp=Z,630nm,12.5s						
MDJ				LR	LR		
	comp=Z,2µm,17.1s						
MDJ	Mudanjiang	53.16	53	P	P	02 41 10.5	0.0
YAK	Yakutsk	54.08	32	‖*e*P	P	02 41 16.4	-0.5
YAK				pmax	pmax		
	comp=Z,143nm,0.8s						
TAM	Tamanrasset	54.33	279	P	P	02 41 18.9	-0.7
TAM				pmax	pmax		
	comp=Z,59nm,1.0s						
TAM	Tamanrasset	54.33	279	P	P	02 41 18.9	-0.7
TAM				IAmb	IAmb	02 41 36.1	
	comp=Z,59nm,1.0s						
MYLDM	Lahad Datu	54.71	104	P	P	02 41 22.0	-0.2
USA0B	Ussuriysk Arra	54.90	54	P	P	02 41 23.0	-0.2
USA0B				pmax	pmax		
	comp=Z,18nm,1.2s						
USA0B	Ussuriysk Arra	54.90	54	P	P	02 41 23.0	-0.2
USRK	Ussuriysk Ar.	54.90	54	P	P	02 41 23.5	+0.3
	comp=Z,11nm,1.0s,baz=289,slow=5.8,SNR=16						
USRK				pP	pP	02 41 38.0	+0.4
	comp=Z,4.2nm,0.7s,baz=276,slow=7.3,SNR=3.9						
USRK				LR	LR	03 09 01.7	
	comp=Z,1µm,19.1s,baz=273,slow=40						
USRK	Ussuriysk Ar.	54.90	54	P	P	02 41 23.1	-0.1
HSPB	Hornsund (broa	55.05	348	*e*P	P	02 41 23.3	-0.4
HSPB	Hornsund (broa	55.05	348	*e*P	P	02 41 25.2	+1.5
CWF	Charnwood Fore	55.06	317	*e*P	P	02 41 24.1	-0.1
CWF				IAmb	IAmb	02 41 27.2	
	comp=Z,14nm,0.9s						
LBWR	Ladybower, Pea	55.31	318	*e*P	P	02 41 26.2	+0.2
LBWR				IAmb	IAmb	02 41 29.5	
	comp=Z,38nm,0.8s						
SWN1	Swindon	55.38	315	*e*P	P	02 41 27.0	+0.4
SWN1				IAmb	IAmb	02 41 28.0	
	comp=Z,142nm,0.6s						
EDMD	Edmundbyers	55.46	319	*e*P	P	02 41 26.8	-0.2
EDMD				IAmb	IAmb	02 41 29.9	
	comp=Z,93nm,0.9s						
SPA0	Spitsbergen Ar	55.56	349	P	P	02 41 27.7	+0.2
SPA0	Spitsbergen Ar	55.56	349	*e*P	P	02 41 28.4	+1.0
BATH	Bath	55.72	315	*e*P	P	02 41 28.9	0.0
BATH				IAmb	IAmb	02 41 33.5	
	comp=Z,70nm,1.0s						
JNU	Nakatsue	55.78	67	P	P	02 41 29.5	-0.2
DRUM	Mains of Drumt	55.81	322	*e*P	P	02 41 28.6	-0.8
OLDB	Oldbury-Upon-S	55.85	316	*e*P	P	02 41 30.2	+0.4
OLDB				IAmb	IAmb	02 41 30.6	
	comp=Z,68nm,0.7s						
ESY	Stoneypath	55.85	321	*e*P	P	02 41 30.6	+0.8
LSZ	Lusaka	55.86	225	P	P	02 41 30.2	-0.3
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LSZ	Lusaka	55.86	225	P	P	02 41 30.1	-0.3
TIXI	Tiksi	55.94	20	*d* iP	P	02 41 29.9	-0.3
TIXI	Tiksi	55.94	20	P	P	02 41 30.4	+0.2
HLM1	Long Mynd	56.02	317	*e*P	P	02 41 31.2	+0.1
HLM1				IAmb	IAmb	02 41 35.5	
	comp=Z,42nm,1.3s						
MCH1	Michaelchurch	56.11	316	*e*P	P	02 41 31.4	-0.3
MCH1				IAmb	IAmb	02 41 37.3	
	comp=Z,72nm,1.2s						
ESK	Eskdalemuir	56.18	320	P	P	02 41 32.1	-0.1
ESK				pmax	pmax		
	comp=Z,23nm,0.8s						
ESK	Eskdalemuir	56.18	320	P	P	02 41 32.1	-0.1
ESK				IAmb	IAmb	02 41 50.0	
	comp=Z,23nm,0.8s						
MCD	Coleburn Disti	56.24	323	*e*P	P	02 41 33.0	+0.5
INVG	Invergeldie, C	56.66	321	*e*P	P	02 41 34.9	-0.7
INVG				IAmb	IAmb	02 41 39.1	
	comp=Z,25nm,1.0s						
KBS	Kingsbay	56.71	349	*ce*P	P	02 41 36.4	+0.8
KBS				pmax	pmax		
	comp=Z,207nm,0.8s						
KBS	Kingsbay	56.71	349	P	P	02 41 35.8	+0.2
KBS	Kingsbay	56.71	349	*e*P	P	02 41 36.8	+1.2
PWJI	Pagerwojo	56.72	122	P	P	02 41 34.0	-2.5
	comp=Z,38nm,1.8s						
BKB	Balikpapan	56.73	111	P	P	02 41 38.2	+1.5
	comp=Z,235nm,1.1s						
PGBU	Glenifferbraes	56.91	321	*e*P	P	02 41 38.0	+0.6
PGBU				IAmb	IAmb	02 41 38.9	
	comp=Z,80nm,1.4s						
RSBS	Rosebush, Pemb	57.20	316	*e*P	P	02 41 39.6	+0.2
RSBS				IAmb	IAmb	02 41 40.4	
	comp=Z,23nm,0.7s						
KBKI	Kotabaru	57.29	114	P	P	02 41 40.2	-0.4
	comp=Z,2µmcomp=Z,50nm,0.9s						
KAC	Achnashellach	57.34	323	*e*P	P	02 41 40.2	-0.2
GRNR	Gornyy	57.35	45	‖*i* P	P	02 41 37.8	-2.8
GRNR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,1µm,19.0s						
GRNR				MLR	MLR		
	comp=N,210nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,1µm,18.0s						
LAWE	Loch Awe, Argy	57.41	321	*e*P	P	02 41 41.1	+0.2
LAWE				IAmb	IAmb	02 41 45.2	
	comp=Z,48nm,1.0s						
GMM	Mts of Mourne	57.80	319	*e*P	P	02 41 44.2	+0.6
JMN	Monobe	58.09	66	P	P	02 41 45.8	-0.3
ESBB	Sonseca Array	58.14	302	P	P	02 41 46.0	-0.5
ESDC	Sonseca Array	58.15	302	P	P	02 41 45.9	-0.5
	comp=Z,7.3nm,0.9s,baz=64,slow=7.3,SNR=48						
ESDC				pP	pP	02 42 00.6	-0.4
	comp=Z,6.7nm,0.9s,baz=65,slow=7.4,SNR=7.8						
ESDC				sP	sP	02 42 07.2	+0.2
	comp=Z,9.1nm,0.8s,baz=65,slow=6.8,SNR=7.9						
ESDC	Sonseca Array	58.15	302	P	P	02 41 45.9	-0.5
MPSI	Mapaga	58.38	108	P	P	02 41 49.8	+1.5
	comp=Z,5µmcomp=Z,1µmcomp=Z,88nm,1.5s						
ABJI	Asem Bagus	58.44	119	P	P	02 41 48.4	-0.2
	comp=Z,113nm,1.0s						
PAB	San Pablo	58.46	301	P	P	02 41 48.1	-0.6
PAB				pmax	pmax		
	comp=Z,21nm,1.0s						
PAB	San Pablo	58.46	301	P	P	02 41 48.1	-0.6
PAB				IAmb	IAmb	02 41 49.7	
	comp=Z,21nm,1.0s						
JWT	Wachi	58.96	64	P	P	02 41 51.9	-0.2
NKL	Nikolayevsk	59.76	42	*e*P	P	02 41 57.5	+0.2
NKL				*e*		02 42 50.1	
NKL				*e*S	S	02 50 09.7	+5.2
NKL				pmax	pmax		
	comp=N,14nm,1.0s						
NKL				pmax	pmax		
	comp=Z,37nm,1.1s						
NKL				pmax	pmax		
	comp=Z,74nm,2.0s						
NKL				MLR	MLR		
	comp=N,188nm,16.0s						
NKL				MLR	MLR		
	comp=Z,1µm,18.0s						
PBRG	Braganca	59.82	304	*e*P	P	02 41 58.5	+0.5
	comp=Z,64nm,1.5s						
MVO	Moncorvo	60.16	304	*e*P	P	02 42 00.5	+0.2
	comp=Z,47nm,2.0s						
MVO				*e*S	S	02 50 12.5	+2.3
MVO				A	A	03 16 01.9	
	comp=Z,167nm,20.0s						
INU	Inuyama	60.23	63	P	P	02 42 00.5	-0.3
PVRL	Vila Real	60.65	304	*e*P	P	02 42 04.1	+0.5
	comp=Z,86nm,1.5s						
PCBR	Castelo Branco	60.77	302	*e*P	P	02 42 04.5	+0.1
	comp=Z,85nm,1.2s						
PCAB	Cabril	60.78	305	*e*P	P	02 42 04.2	-0.4
	comp=Z,88nm,1.6s						
PMRV	Marv??o	60.79	302	*e*P	P	02 42 05.0	+0.4
	comp=Z,48nm,1.3s						
PMRV				*e*S	S	02 50 19.9	+1.7
PMRV				A	A	03 18 19.2	
	comp=Z,197nm,18.0s						
GTOI	Gorontalo	60.88	106	P	P	02 42 05.3	-0.2
	comp=Z,521nmcomp=Z

BNSI	Bone	61.14	112		P	P	02 42 06.6 -0.6
	comp=Z,36nm,1.3s						
TOA0	Torodi Ar. Sit	61.19	270		P	P	02 42 06.9 -0.7
TORD	Torodi Ar. Bea	61.19	270		P	P	02 42 07.7 +0.1
	comp=Z,26nm,0.8s,baz=57,slow=6.7,SNR=131						
TORD					pP	pP	02 42 21.8 -0.5
	comp=Z,153nm,0.9s,baz=58,slow=4.6,SNR=61						
TORD					sP	sP	02 42 28.4 +0.2
	comp=Z,66nm,0.8s,baz=60,slow=6.6,SNR=8.5						
TORD					LR	LR	03 10 44.9
	comp=Z,403nm,19.7s,baz=60,slow=38						
TORD	Torodi Ar. Bea	61.19	270		P	P	02 42 06.9 -0.7
KAPI	Kappang	61.19	113		P	P	02 42 07.3 -0.3
KAPI					pmax	pmax	
	comp=Z,42nm,0.9s						
KAPI	Kappang	61.19	113		P	P	02 42 07.3 -0.3
KAPI					IAmb	IAmb	02 42 09.9
	comp=Z,42nm,0.9s						
TYV	Tymovskoe	61.27	45	*e*P	P	P	02 42 09.2 +1.6
TYV				*e*S	S	S	02 50 28.9 +5.0
TYV					pmax	pmax	
	comp=Z,33nm,1.2s						
TYV					pmax	pmax	
	comp=Z,600nm,7.7s						
TYV					smax	smax	
	comp=N,300nm,9.6s						
TYV					MLR	MLR	
	comp=E,2μm,21.0s						
TYV					MLR	MLR	
	comp=Z,2μm,21.0s						
PBEJ	Beja	61.47	300	*e*P	P	P	02 42 08.8 -0.4
	comp=Z,62nm,1.5s						
PCAS	Casmilo, Conde	61.49	303	*e*P	P	P	02 42 10.0 +0.7
	comp=Z,50nm,1.8s						
PMTG	Montargil	61.50	302	*e*P	P	P	02 42 09.5 +0.1
	comp=Z,49nm,1.5s						
PVAQ	Vaqueiros	61.50	300	*e*S	S	S	02 50 26.6 -0.7
PVAQ				A	A	A	03 12 01.4
	comp=Z,190nm,22.0s						
BKSI	Bulukumba	61.67	113		P	P	02 42 10.7 -0.1
	comp=Z,126nm,1.3s						
PCVE	Castro Verde	61.70	300	*e*P	P	P	02 42 10.8 +0.1
	comp=Z,65nm,1.8s						
PBDV	Barranco-do-Ve	61.71	300	*e*P	P	P	02 42 10.8 0.0
	comp=Z,46nm,1.8s						
PNCL	Nicolau / Gran	61.96	301	*e*P	P	P	02 42 13.2 +0.7
	comp=Z,60nm,2.1s						
YSS	Yuzh-Sakhalins	62.00	49K	*e*P	P	P	02 42 12.9 +0.3
YSS				*e*			02 42 27.8
YSS				*e*			02 44 36.5
YSS				*e*			02 45 58.2
YSS				*e*			02 50 23.6
YSS					pmax	pmax	
	comp=Z,80nm,1.0s						
YSS					pmax	pmax	
	comp=Z,400nm,2.9s						
YSS					MLR	MLR	
	comp=Z,1μm,18.0s						
YSS	Yuzh-Sakhalins	62.00	49		P	P	02 42 12.5 -0.1
NOR	Nord	62.09	351	*i*	P	P	02 42 13.0 +0.3
	comp=Z,77nm,1.0s						
NOR	Nord	62.09	351	*i*	P	P	02 42 13.0 +0.3
NOR					pmax	pmax	
	comp=Z,77nm,1.0s						
MORF	Marmelete	62.25	300	*e*P	P	P	02 42 15.1 +0.6
MORF					AMb	AMB	02 42 32.6
	comp=Z,62nm,2.3s						
MORF				*e*S	S	S	02 50 36.9 +0.1
MORF	Marmelete	62.25	300	*e*P	P	P	02 42 15.1 +0.6
MORF				*e*S	S	S	02 50 36.9 +0.1
MORF					pmax	pmax	
	comp=Z,62nm,2.3s						
DAG	Danmarks Havn	62.38	345⇓	*i*	P	P	02 42 15.3 +0.6
	comp=Z,116nm,0.9s						
DAG	Danmarks Havn	62.38	345⇓	*i*	P	P	02 42 15.3 +0.6
DAG					pmax	pmax	
	comp=Z,120nm,0.9s						
PFVI	Vila Bisbo	62.43	300		P	P	02 42 15.2 -0.4
PFVI	Vila Bisbo	62.43	300	*e*P	P	P	02 42 15.8 +0.2
	comp=Z,93nm,1.1s						
JMM	Marumori	62.56	59		P	P	02 42 16.3 -0.2
JMM					IAmb	IAmb	02 42 32.3
	comp=Z,51nm,1.0s						
MA2	Magadan	64.41	34		P	P	02 42 28.0 -0.3
	comp=Z,28nm,0.8s,baz=265,slow=5.1,SNR=9.2						
MA2					pP	pP	02 42 43.7 +0.7
	comp=Z,19nm,0.9s,baz=178,slow=20,SNR=2.2						
MA2					LR	LR	03 13 21.1
	comp=Z,1μm,21.1s,baz=278,slow=39						
MA2	Magadan	64.41	34	*ce*P	P	P	02 42 28.3 0.0
MA2					pmax	pmax	
	comp=Z,39nm,1.0s						
MA2	Magadan	64.41	34		P	P	02 42 28.4 0.0
MA2					IAmb	IAmb	02 42 29.7
	comp=Z,48nm,1.0s						
SEY	Seymchan	64.56	30		P	P	02 42 29.5 +0.2
	comp=Z,47nm,0.8s,baz=266,slow=6.7,SNR=70						
SEY					pP	pP	02 42 45.4 +1.4
	comp=Z,22nm,0.8s,baz=246,slow=6.8,SNR=4.6						
SEY					LR	LR	03 13 25.6
	comp=Z,2μm,21.6s,baz=273,slow=39						
SEY	Seymchan	64.56	30	*d*P	P	P	02 42 30.3 +1.0
TNTI	Ternate	64.56	103		P	P	02 42 29.7 -0.4
TNTI					IAmb	IAmb	02 42 30.9
	comp=Z,52nm,1.0s						
YUK	Yuzh-Kuril'sk	64.76	52		pmax	pmax	
	comp=Z,418nm,1.2s						
YUK					pmax	pmax	
	comp=N,310nm,0.9s						
YUK					pmax	pmax	
	comp=E,164nm,0.9s						
YUK					MLR	MLR	
	comp=Z,1μm,20.0s						
YUK					MLR	MLR	
	comp=N,1μm,17.0s						
YUK					MLR	MLR	
	comp=E,1μm,20.0s						
LBTB	Lobatse	64.83	220		P	P	02 42 31.5 -0.2
LBTB					pmax	pmax	
	comp=Z,75nm,1.1s						
LBTB	Lobatse	64.83	220		P	P	02 42 31.4 -0.2
LBTB					IAmb	IAmb	02 42 48.2
	comp=Z,75nm,1.1s						
EDFI	Ende, Flores	64.90	115		P	P	02 42 29.3 -3.0
	comp=Z,507nmcomp=Z,39nm,1.3s						
TSUM	Tsumeb	65.69	231		P	P	02 42 36.9 -0.4
TSUM					IAmb	IAmb	02 42 54.1
	comp=Z,59nm,1.1s						
KOWA	Kowa	65.72	274		P	P	02 42 37.1 -0.5
KUR	Kuril'sk	65.85	50	*e*P	P	P	02 42 37.5 -0.4
KUR				*e*			02 43 07.9
KUR				*e*			02 45 02.0
KUR					MLR	MLR	
	comp=Z,651nm,15.0s						
KUR					MLR	MLR	
	comp=E,634nm,13.0s						
SOEI	Soe	67.56	115		P	P	02 42 48.7 -0.7
	comp=E,2μmcomp=E,159nm,0.9s						
SOEI	Soe	67.56	115		P	P	02 42 48.5 -0.9
BOSA	Boshof	67.81	218		P	P	02 42 51.4 +0.8
	comp=E,17nm,1.0s,baz=43,slow=6.1,SNR=21						
BOSA					pP	pP	02 43 05.8 +0.4
	comp=E,25nm,0.9s,baz=37,slow=7.0,SNR=11						
BOSA					sP	sP	02 43 12.5 +1.2
	comp=E,9.1nm,0.7s,baz=19,slow=5.0,SNR=3.5						
BOSA					LR	LR	03 10 14.4
	comp=E,774nm,21.2s,baz=43,slow=34						
BOSA	Boshof	67.81	218		P	P	02 42 50.1 -0.6
BOSA					IAmb	IAmb	02 43 06.5
	comp=Z,38nm,1.0s						
SUMG	Summit	68.36	342	*i*	P	P	02 42 55.2 +1.3
	comp=Z,242nm,0.8s						
SUMG	Summit	68.36	342	*i*	P	P	02 42 55.2 +1.3
SUMG					pmax	pmax	
	comp=Z,240nm,0.8s						
SUMG	Summit	68.36	342		P	P	02 42 53.6 -0.3
BILL	Bilibino	68.81	23⇑	*e*P	P	P	02 42 57.0 +0.7
BILL					pmax	pmax	
	comp=Z,43nm,1.3s						
BILL	Bilibino	68.81	23		P	P	02 42 56.7 +0.4
SKR	Severo-Kuril's	69.61	43	*e*P	P		02 42 52.9 -8.6
SKR				*e*PPP	PPP		02 47 22.3
SKR				*e*S	S		02 51 58.8 -7.0
SKR				*e*			02 52 40.4
SKR				*e*SSS	SSS		02 59 42.2
SKR				pmax	pmax		
	comp=Z,44nm,1.4s						
SKR				pmax	pmax		
	comp=Z,100nm,20.1s						
SKR				MLR	MLR		
	comp=Z,600nm,16.0s						
SKR				MLR	MLR		
	comp=Z,600nm,16.0s						
DBIC	Dimbokro	69.77	267		P	P	02 43 03.9 +0.8
	comp=Z,11nm,0.8s,baz=41,slow=7.7,SNR=10						
DBIC					pP	pP	02 43 17.9 -0.1
	comp=Z,28nm,0.8s,baz=48,slow=7.5,SNR=15						
DBIC					LR	LR	03 14 53.3
	comp=Z,524nm,21.7s,baz=46,slow=37						
DBIC	Dimbokro	69.77	267		P	P	02 43 02.6 -0.5
DBIC					IAmb	IAmb	02 43 18.5
	comp=Z,40nm,0.9s						
PEA0B	Petropavlovsk-	69.77	40	*ce*P	P	P	02 43 01.1 -1.4
PETK	Petropavlovsk-	69.77	40	P	P	P	02 43 01.6 -0.9
	comp=Z,17nm,0.9s,baz=263,slow=2.4,SNR=14						
PETK					LR	LR	03 17 22.1
	comp=Z,872nm,20.8s,baz=261,slow=39						
KIC	Kosan Boka	69.81	267	*e*P	P	P	02 43 04.0 +0.7
	comp=Z,97nm,1.6s						
TIC	Toumodi	69.93	267	*e*P	P	P	02 43 04.7 +0.6
PMAR	Madeira	70.08	297	*e*P	P	P	02 43 07.8 +2.8
	comp=Z,245nm,1.5s						
LIC	Lamto	70.12	267	*e*P	P	P	02 43 05.6 +0.4
	comp=Z,38nm,1.2s						
PET	Petropavlovsk	70.34	40	*e*P	P	P	02 43 01.7 -4.2
PET				*e**SP	pP	pP	02 43 22.0 +1.2
PET				*e*S	S	S	02 52 08.5 -5.8
PET				pmax	pmax		
	comp=Z,100nm,11.5s						
PET				MLR	MLR		
	comp=Z,800nm,19.0s						
PET				MLR	MLR		
	comp=Z,800nm,21.0s						
EUNU	Eureka	71.81	355		P	P	02 43 14.3 -0.2
SUR	Sutherland	73.15	219		P	P	02 43 24.4 +1.1
	comp=Z,7.1nm,0.8s,baz=56,slow=4.9,SNR=5.4						
SUR					pP	PcP	02 43 39.3 -0.3
	comp=Z,26nm,0.9s,baz=61,slow=8.0,SNR=7.6						
SUR	Sutherland	73.15	219		P	P	02 43 23.0 -0.2
SUR					IAmb	IAmb	02 43 40.2
	comp=Z,42nm,1.0s						
FITZ	Fitzroy Crossi	73.49	121		P	P	02 43 25.1 -0.2
ILULI	Ilulissat	73.61	341	*i*	P	P	02 43 25.3 +0.1
	comp=Z,73nm,0.9s						
ILULI	Ilulissat	73.61	341	*i*	P	P	02 43 25.3 +0.1
ILULI					pmax	pmax	
	comp=Z,73nm,0.9s						
MORW	Morawa	73.88	136		P	P	02 43 27.3 -0.1
KNRA	Kununurra	74.52	117		P	P	02 43 31.1 -0.2
KNRA					IAmb	IAmb	02 43 32.6
	comp=Z,37nm,0.9s						
SFJD	Kangerlussuaq	74.71	339	*i*	P	P	02 43 30.7 -0.9
SFJD	Kangerlussuaq	74.71	339		P	P	02 43 31.8 +0.1
SFJD					pmax	pmax	
	comp=Z,19nm,0.7s						
SFJD	Kangerlussuaq	74.71	339		P	P	02 43 31.8 +0.1
MTN	Manton Dam	74.86	113		P	P	02 43 33.1 -0.3
MTN					IAmb	IAmb	02 43 50.4
	comp=Z,28nm,0.8s						
NRS	Narsarsuaq	75.95	332	*i*	P	P	02 43 39.6 +0.7
	comp=Z,67nm,0.9s						
NRS	Narsarsuaq	75.95	332	*i*	P	P	02 43 39.6 +0.7
NRS					pmax	pmax	
	comp=Z,67nm,0.9s						
NRS	Narsarsuaq	75.95	332		P	P	02 43 38.8 -0.1
NWAO	Narrogin (SRO)	77.31	138		P	P	02 43 46.7 -0.2
	comp=Z,8.8nm,0.8s,baz=318,slow=8.5,SNR=3.8						
NWAO					LR	LR	03 14 43.1
	comp=Z,409nm,19.9s,baz=51,slow=33						
GENI	Genyem	77.36	100		P	P	02 43 48.6 +0.9
	comp=Z,177nm,0.7s						
RES	Resolute Bay	77.51	355		LR	LR	03 22 03.3
	comp=Z,475nm,21.1s,baz=20,slow=39						
JAY	Jayapura	77.80	99		LR	LR	03 17 21.9
	comp=Z,40nm,21.8s,baz=334,slow=35						
JAY	Jayapura	77.80	99		P	P	02 43 51.3 +1.1
	comp=Z,518nmcomp=Z,18nm,1.4s						
RDOG	Red Dog Mine	78.37	17		P	P	02 43 52.5 +0.1
RDOG					IAmb	IAmb	02 43 53.9
	comp=Z,27nm,1.0s						
ANM	Nome	80.21	20		IAmb	IAmb	02 44 05.3
	comp=Z,32nm,1.0s						
TOLK	Toolik Lake Re	80.89	12		P	P	02 44 06.8 +0.7
	baz=329						
TOLK	Toolik Lake Re	80.89	12		P	P	02 44 06.1 0.0
TOLK					IAmb	IAmb	02 44 07.5
	comp=Z,32nm,0.8s						
WB0	Warramunga Arr	81.24	117		P	P	02 44 08.3 -0.3
WB0					IAmb	IAmb	02 44 09.4
	comp=Z,39nm,1.1s						
WRA	Warramunga Arr	81.29	118		P	P	02 44 08.7 -0.3
	comp=Z,40nm,1.1s,baz=312,slow=4.7,SNR=95						
WRA					pP	pP	02 44 24.1 +0.1
	comp=Z,11nm,0.8s,baz=319,slow=4.7,SNR=6.7						
WRA					PP	PP	02 47 16.8 +1.4
	comp=Z,2.9nm,1.1s,baz=310,slow=8.4,SNR=5.4						
WRA					PKKPbc	PKKPbc	03 02 44.4 +0.7
	comp=Z,2.3nm,0.7s,baz=131,slow=1.9,SNR=16						
WRA					LR	LR	03 24 48.0
	comp=Z,114nm,18.1s,baz=240,slow=39						
WRA	Warramunga Arr	81.29	118		P	P	02 44 08.8 -0.1
WRAB	Tennant Creek	81.29	118		P	P	02 44 08.9 0.0
WRAB					pmax	pmax	
	comp=Z,64nm,1.2s						
WRAB	Tennant Creek	81.29	118		P	P	02 44 08.9 0.0
WRAB					IAmb	IAmb	02 44 11.2
	comp=Z,64nm,1.1s						
WB2	Warramunga Arr	81.30	118		P	P	02 44 08.9 -0.1
WB2					IAmb	IAmb	02 44 09.8
	comp=Z,38nm,1.1s						
WR0	Warramunga Arr	81.46	118		P	P	02 44 09.8 0.0
COLD	Coldfoot	81.98	13		P	P	02 44 12.5 +0.7
	baz=328						
COLD	Coldfoot	81.98	13		P	P	02 44 12.1 +0.2
COLD					IAmb	IAmb	02 44 15.1
	comp=Z,46nm,1.0s						
IMAR	Indian Mountai	82.24	15		P	P	02 44 12.6 -0.7
AMKA	Amchitka	82.38	35		P	P	02 44 14.1 0.0
FORT	Forrest	82.87	130		P	P	02 44 17.0 +0.1
BMAR	Burnt Mountain	82.87	11		P	P	02 44 16.7 +0.2
AS31	Alice Springs	82.99	121		P	P	02 44 17.6 -0.2
ASAR	Alice Springs	82.99	121		P	P	02 44 17.6 -0.2
	comp=Z,27nm,1.0s,baz=307,slow=4.9,SNR=110						
ASAR					pP	pP	02 44 32.9 0.0
	comp=Z,12nm,0.7s,baz=308,slow=5.1,SNR=8.4						
ASAR					PKKPbc	PKKPbc	03 02 40.6 +0.5
	comp=Z,1.3nm,0.7s,baz=118,slow=2.0,SNR=15						
ASAR					LR	LR	03 21 15.1
	comp=Z,200nm,21.9s,baz=296,slow=36						
ASAR	Alice Springs	82.99	121		P	P	02 44 17.4 -0.4
C36M	Paulatuk	83.39	4		P	P	02 44 18.7 -0.3
	baz=351						
INK	Inuvik	83.63	7		P	P	02 44 20.0 -0.3
	comp=Z,23nm,0.6s,baz=6.1,slow=6.8,SNR=47						
INK	Inuvik	83.63	7		P	P	02 44 20.5 +0.2
INK					pmax	pmax	
	comp=Z,28nm,0.8s						
INK	Inuvik	83.63	7		P	P	02 44 20.5 +0.2
INK					IAmb	IAmb	02 44 22.5
	comp=Z,28nm,0.8s						
TTA	Tatalina	84.16	18		P	P	02 44 23.1 -0.1
TTA					pmax	pmax	
	comp=Z,7.0nm,1.2s						
TTA	Tatalina	84.16	18		P	P	02 44 23.1 -0.1
MDM	Murphy Dome	84.34	14		P	P	02 44 23.9 -0.2
MDM					IAmb	IAmb	02 44 27.0
	comp=Z,45nm,0.9s						
POKR	Poker Plat Res	84.37	13		P	P	02 44 24.4 +0.1
	baz=331						
BPAW	Bear Paw Mtn.	84.47	15		P	P	02 44 24.7 0.0
BPAW					IAmb	IAmb	02 44 28.3
	comp=Z,33nm,1.2s						
NEA2	Nenana	84.48	14		P	P	02 44 24.5 -0.2
	baz=329						
TCOL	CIGO, UAF Yank	84.50	14		P	P	02 44 24.7 -0.1
	baz=330						
COLA	College	84.50	14		P	P	02 44 25.0 +0.2
COLA					pmax	pmax	
	comp=Z,39nm,1.1s						
COLA	College	84.50	14		P	P	02 44 25.0 +0.2
COLA					IAmb	IAmb	02 44 27.5
	comp=Z,39nm,1.1s						
CCB	Clear Creek Bu	84.71	14		P	P	02 44 25.6 -0.2
IL31		84.79	13		P	P	02 44 25.6 -0.6
ILAR	Eielson Array	84.79	13		P	P	02 44 25.7 -0.6
	comp=Z,6.5nm,0.6s,baz=323,slow=3.9,SNR=74						
ILAR					pP	pP	02 44 41.4 -0.2
	comp=Z,5.9nm,0.9s,baz=326,slow=4.4,SNR=7.4						
ILAR					PP	PP	02 47 43.4 +1.1
	comp=Z,2.6nm,0.9s,baz=308,slow=5.5,SNR=5.2						
ILAR					PKKPbc	PKKPbc	03 02 35.0 -1.0
	comp=Z,0.2nm,0.6s,baz=179,slow=2.2,SNR=4.8						
ILAR					LR	LR	03 28 15.4
	comp=Z,490nm,19.0s,baz=319,slow=40						
ILAR	Eielson Array	84.79	13		P	P	02 44 25.2 -1.1
WRH	Wood River Hil	84.80	14		P	P	02 44 26.1 -0.3
KTH	Kantishna Hill	84.94	16		P	P	02 44 27.1 -0.1
EPYK	Eagle Plains	85.08	9		P	P	02 44 27.6 -0.2
	baz=340						
EPYK	Eagle Plains	85.08	9		P	P	02 44 28.0 +0.2
EPYK					IAmb	IAmb	02 44 46.2
	comp=Z,23nm,1.0s						
HDA	Harding Lake	85.10	14		P	P	02 44 27.3 -0.5
	baz=331						
HDA	Harding Lake	85.10	14		P	P	02 44 27.0 -0.9
HDA					IAmb	IAmb	02 44 29.3
	comp=Z,20nm,0.8s						
TRF	Thorofare Moun	85.18	15		P	P	02 44 28.4 -0.2
PPLA	Purkeypile	85.19	16		P	P	02 44 28.4 -0.2
MCK	McKinley	85.25	15		P	P	02 44 28.7 0.0
MCK					pmax	pmax	
	comp=Z,13nm,1.0s						
MCK	McKinley	85.25	15		P	P	02 44 28.7 0.0
COEN	Coen	85.45	108		P	P	02 44 29.9 -0.5
RND	Reindeer	85.55	15		P	P	02 44 29.6 -0.6
RND					pmax	pmax	
	comp=Z,16nm,0.9s						
RND	Reindeer	85.55	15		P	P	02 44 29.6 -0.6
RND					IAmb	IAmb	02 44 32.8
	comp=Z,16nm,0.9s						
SVW2	Sparrevohn	85.76	19		P	P	02 44 31.3 0.0
EGAK	Eagle	85.87	11		P	P	02 44 31.8 +0.1
EGAK					IAmb	IAmb	02 44 48.7
	comp=Z,18nm,1.1s						
SCRK	Sand Creek	86.08	13		P	P	02 44 33.2 +0.3
	baz=334						
RIDG	Independent Ri	86.12	13		P	P	02 44 33.0 0.0
SKT	Skwentna	86.12	17		P	P	02 44 33.0 0.0
SKT					IAmb	IAmb	02 44 33.8
	comp=Z,30nm,1.0s						
DOT	Dot Lake	86.36	13		P	P	02 44 34.2 0.0
DOT					IAmb	IAmb	02 44 36.8
	comp=Z,26nm,1.0s						
K27K	Chicken	86.39	12		P	P	02 44 34.9 +0.6
	baz=336						
PMG	Port Moresby	86.70	102		P	P	02 44 36.2 -0.4
PMG					pmax	pmax	
	comp=Z,60nm,1.1s						
PMG	Port Moresby	86.70	102		P	P	02 44 36.2 -0.4
SUA	Susitna One	86.76	17		P	P	02 44 36.1 -0.2
DAWY	Dawson	86.83	11		P	P	02 44 36.5 0.0
DAWY					IAmb	IAmb	02 44 53.5
	comp=Z,27nm,1.0s						
GHO	Glory Hole Cre	86.95	16		P	P	02 44 36.9 -0.2
GHO					IAmb	IAmb	02 44 38.1
	comp=Z,24nm,0.9s						
SML	Sawmill	87.06	15		P	P	02 44 37.6 0.0
SML					IAmb	IAmb	02 44 40.3
	comp=Z,33nm,0.9s						
MENT	Mentasta	87.07	13		P	P	02 44 37.6 0.0
MENT					IAmb	IAmb	02 44 40.8
	comp=Z,20nm,0.9s						
RSO	Redoubt South	87.08	18		P	P	02 44 37.7 -0.2
SCM	Sheep Creek Mo	87.27	15		IAmb	IAmb	02 44 41.4
	comp=Z,20nm,1.0s						
M24K	Tolsona, Glenn	87.29	14		P	P	02 44 39.8 +1.0
	baz=332						
BCAR	Beaver Creek A	87.33	12		P	P	02 44 38.9 0.0
RC01	Rabbit Creek A	87.34	16		P	P	02 44 38.8 -0.1
	baz=329						
KNK	Knik Glacier	87.37	16		P	P	02 44 39.1 0.0
KNK					IAmb	IAmb	02 44 40.2
	comp=Z,20nm,0.8s						
O22K	Cooper Landing	87.86	17		P	P	02 44 41.3 -0.1
	baz=329						
KLU	Klutina	87.89	15		P	P	02 44 41.7 0.0
KLU					IAmb	IAmb	02 44 45.0
	comp=Z,28nm,1.0s						
BRLK	Bradley Lake	88.17	18		IAmb	IAmb	02 44 44.6
	comp=Z,24nm,0.7s						
SEW	Seward	88.26	17		P	P	02 44 43.4 +0.1
SEW					IAmb	IAmb	02 45 02.7
	comp=Z,24nm,1.0s						
CNPM	China Poot	88.28	18		P	P	02 44 43.4 -0.1
CNPM					IAmb	IAmb	02 44 47.7
	comp=Z,18nm,0.8s						
GLB	Gilahina Butte	88.40	14		P	P	02 44 44.1 0.0
FID	Port Fidalgo	88.42	15		P	P	02 44 44.0 -0.1
FID					IAmb	IAmb	02 44 47.2
	comp=Z,24nm,0.9s						
SCHQ	Schefferville	88.67	335		P	P	02 44 45.4 0.0
	comp=Z,29nm,1.0s,baz=32,slow=5.6,SNR=9.9						
SCHQ					LR	LR	03 25 29.3
	comp=Z,1μm,21.9s,baz=76,slow=36						
VRDI	Verde Repeater	88.67	14		P	P	02 44 45.2 -0.3
VRDI					IAmb	IAmb	02 44 48.5
	comp=Z,24nm,1.1s						
EYAK	Cordova Ski Ar	88.77	15		IAmb	IAmb	02 44 47.9
	comp=Z,25nm,1.0s						
BALM	Baldy	89.07	13		P	P	02 44 47.1 -0.2
BALM					IAmb	IAmb	02 44 48.8
	comp=Z,16nm,1.0s						
CRQM	Cirque	89.16	14		IAmb	IAmb	02 44 50.8
	comp=Z,20nm,0.8s						
BARN	Barnard Glacie	89.19	13		P	P	02 44 47.5 -0.4
BARN					IAmb	IAmb	02 44 51.3
	comp=Z,25nm,1.1s						
TGL	Tana Glacier	89.23	14		P	P	02 44 47.9 -0.1
TGL					IAmb	IAmb	02 44 49.2
	comp=Z,11nm,0.8s						
CTGM	Chitina Glacie	89.34	13		P	P	02 44 48.5 -0.1
KDAK	Kodiak Island	89.36	19		P	P	02 44 48.7 +0.2
KDAK					pmax	pmax	
	comp=Z,19nm,0.9s						
KDAK	Kodiak Island	89.36	19		P	P	02 44 48.7 +0.2
KDAK					IAmb	IAmb	02 44 51.3
	comp=Z,19nm,0.8s						
CNBA	Chernabura Isl	89.43	24		IAmb	IAmb	02 44 50.5
	comp=Z,23nm,0.8s						
ISLE	Juniper Island	89.47	13		P	P	02 44 49.0 -0.2
ISLE					IAmb	IAmb	02 44 60.0
	comp=Z,15nm,1.0s						
WAX	Waxell Ridge	89.50	14		P	P	02 44 49.3 +0.1
BBOO	Buckleboo	89.60	128		P	P	02 44 49.6 -0.3
OHAK	Old Harbor	89.62	20		IAmb	IAmb	02 44 52.0
	comp=Z,14nm,0.8s						
SUCK	Suckling Hills	89.64	14		P	P	02 44 49.9 +0.1
YAH	Yahtse	89.81	13		P	P	02 44 50.6 -0.3
YAH					IAmb	IAmb	02 44 53.8
	comp=Z,22nm,0.8s						
HYT	Haines Junctio	90.18	11		P	P	02 44 52.3 -0.2
HYT					IAmb	IAmb	02 44 54.9
	comp=Z,23nm,0.9s						
YKA	Yellowknife Ar	90.54	0		P	P	02 44 53.9 -0.1
	comp=Z,9.4nm,0.9s,

STKA	Stephens Creek	93.10	124	P	P	02 45 06.1	-0.2
GBN	Guysborough	93.22	326	P	P	02 45 06.5	-0.2
DLBC	Dease Lake	93.59	8	P	P	02 45 08.1	-0.1
BATG	Bathurst New B	94.03	329	P	P	02 45 10.1	-0.3
BATG				IAmb	IAmb	02 45 12.2	
	comp=Z,20nm,1.1s						
MAW	Mawson	94.62	181	P	P	02 45 13.8	+1.5
	comp=Z,12nm,1.1s,baz=346,slow=5.8,SNR=14						
MAW				pP	pP	02 45 27.9	+0.2
	comp=Z,12nm,0.9s,baz=357,slow=7.9,SNR=11						
MAW				LR	LR	03 20 04.7	
	comp=Z,256nm,21.8s,baz=41,slow=30						
MAW	Mawson	94.62	181	P	P	02 45 13.1	+0.8
HAL	Halifax	94.81	326	P	P	02 45 13.8	-0.2
HAL				pmax	pmax		
	comp=Z,35nm,0.9s						
HAL	Halifax	94.81	326	P	P	02 45 13.8	-0.2
D63A	Stockholm	95.13	330	P	P	02 45 16.6	+1.2
	baz=40						
PQI	Presque Isle	95.37	330	P	P	02 45 16.0	-0.5
PQI				IAmb	IAmb	02 45 18.1	
	comp=Z,16nm,0.8s						
CHGQ	Chibougamau	95.39	335	P	P	02 45 17.5	+0.9
	baz=35						
E64A	Bridgewater	95.48	330	P	P	02 45 18.1	+1.1
	baz=40						
D62A	Allapoint, All	95.51	331	P	P	02 45 18.3	+1.1
	baz=39						
D62A	Allapoint, All	95.51	331	IAmb	IAmb	02 45 19.0	
	comp=Z,16nm,0.8s						
E63A	Oxbow	95.74	330	P	P	02 45 19.1	+0.8
	baz=40						
E63A	Oxbow	95.74	330	P	P	02 45 17.9	-0.3
E63A				IAmb	IAmb	02 45 19.8	
	comp=Z,14nm,0.8s						
F64A	Sherman	96.14	330	P	P	02 45 20.9	+0.8
	baz=40						
F64A	Sherman	96.14	330	P	P	02 45 19.7	-0.3
F64A				IAmb	IAmb	02 45 21.9	
	comp=Z,17nm,0.9s						
E61A	Lac Etchemin	96.63	331	P	P	02 45 23.4	+1.0
	baz=38						
MATQ	Matagami	96.69	337	P	P	02 45 24.0	+1.5
	baz=32						
G64A	Maxfield	96.79	330	P	P	02 45 24.2	+1.2
	baz=40						
F62A	Pittston Farm,	96.83	331	P	P	02 45 23.9	+0.7
	baz=39						
F62A	Pittston Farm,	96.83	331	IAmb	IAmb	02 45 25.2	
	comp=Z,17nm,0.9s						
PKME	Peaks-Kenny Pk	97.02	330	IAmb	IAmb	02 45 28.3	
	comp=Z,8.8nm,1.1s						
G63A	Kingsbury	97.28	330	P	Pdif	02 45 26.5	+1.1
	baz=39						
G62A	West of Eustis	97.60	330	P	Pdif	02 45 28.1	+1.3
	baz=38						
G62A	West of Eustis	97.60	330	P	P	02 45 26.4	-0.4
G62A				IAmb	IAmb	02 45 28.9	
	comp=Z,19nm,1.0s						
SYO	Syowa Base	97.90	189⇑	*e*Pdif	Pdif	02 45 28.6	+1.4
SYO	Syowa Base	97.90	189⇑	*e*X	Pdif	02 45 41.8	+15
SYO	Syowa Base	97.90	189⇑	*es*P	sP	02 45 52.5	+4.2
D55A	Sainte-Anne-du	98.19	334	P	Pdif	02 45 30.3	+1.0
	baz=34						
MOQ	Mont Orford	98.27	332	P	P	02 45 29.5	-0.3
LBNH	Lisbon	98.99	331	P	Pdif	02 45 35.2	+2.3
	baz=37						
ULM	Lac du Bonnet	101.11	348	P	Pdif	02 45 42.0	-0.3
	comp=Z,6.1nm,0.7s,baz=331,slow=7.8,SNR=5.8						
ULM				PP	PP	02 49 50.9	+0.6
	comp=Z,5.7nm,0.9s,baz=343,slow=6.9,SNR=5.0						
SNAA	Sanae	109.26	198	PKKPbc	PKKPbc	03 01 28.1	-1.7
	comp=Z,1.5nm,0.9s,baz=260,slow=14,SNR=6.0						
SNAA				PKKPab	PKKPab	03 01 38.2	+0.6
	comp=Z,1.2nm,0.8s,baz=231,slow=6.9,SNR=7.8						
PDAR	Pinedale Array	110.17	356	PKiKP	PKiKP	02 50 23.8	-0.5
	comp=Z,0.9nm,0.6s,baz=64,slow=2.1,SNR=9.1						
PDAR				PP	PP	02 51 00.6	+3.2
	comp=Z,1.9nm,1.1s,baz=41,slow=4.7,SNR=4.7						
PDAR				PKKPab	PKKPab	03 01 40.1	0.0
	comp=Z,0.9nm,0.9s,baz=167,slow=7.2,SNR=4.0						
VNA2	Neumayer--Watz	110.23	200	PKiKP	PKiKP	02 50 23.3	+0.3
	baz=27,slow=3.5						
VNA1	Neumayer--Stat	110.38	200	PKiKP	PKiKP	02 50 24.8	+1.6
VNA3	Neumayer Olymp	111.04	200	PKiKP	PKiKP	02 50 25.1	+0.6
NVAR	Mina Array Bea	114.52	4	PKiKP	PKPdf	02 50 33.4	+0.7
	comp=Z,4.1nm,0.7s,baz=284,slow=1.0,SNR=38						
NVAR				PKKPab	PKKPab	03 01 19.3	-1.4
	comp=Z,0.2nm,0.6s,baz=229,slow=5.7,SNR=3.8						
NVAR				PKKP	PKKPdf	03 01 34.0	+0.5
	comp=Z,1.6nm,1.1s,baz=195,slow=6.4,SNR=6.9						
MIAR	Mount Ida	115.48	341	P	PKPdf	02 50 35.1	+0.8
	baz=20						
LCMT	Little Creek M	116.04	359		PKiKP	02 50 34.9	-0.6
U15A	North Rim	116.61	358	PKPdf	PKPdf	02 50 35.9	-0.9
WMOK	Wichita Mounta	116.61	346	PKiKP	PKPdf	02 50 35.8	-0.7
WMOK	Wichita Mounta	116.61	346	P	PKPdf	02 50 36.4	-0.1
	baz=15						
WMOK	Wichita Mounta	116.61	346	PKPdf	PKPdf	02 50 35.8	-0.7
MPMC	Manual Prospec	116.93	3	P	PKiKP	02 50 38.1	+0.8
	baz=357						
QSPA	South Pole Qui	117.11	180	PKP	PKiKP	02 50 36.5	+0.1
	comp=Z,2.6nm,0.7s,baz=245,slow=0.7,SNR=11						
SHOC	Shoshone, Teco	117.13	2	P	PKiKP	02 50 38.5	+1.0
	baz=358						
WUAZ	Wupatki	117.48	357	P	PKiKP	02 50 39.0	+0.6
	baz=2.9						
VNDA	Vanda	117.74	166	PKKPbc	PKKPbc	03 01 00.5	-0.3
	comp=Z,2.1nm,0.8s,baz=76,slow=2.2,SNR=13						
X16A	Lo Mia Camp, P	118.58	357		PKPdf	02 50 39.5	-1.0
BELC	Belle Mtn. Jos	119.03	2	P	PKiKP	02 50 42.7	+1.3
	baz=358						
Y14A	Wickenburg	119.11	359		PKPdf	02 50 40.6	-0.8
BC3	Big Chuckawall	119.39	1	P	PKiKP	02 50 43.1	+1.1
	baz=359						
MONP2	Monument Peak	120.12	2	P	PKiKP	02 50 45.0	+1.3
	baz=358						
121A	Cookes Peak, D	120.20	354	P	PKiKP	02 50 44.5	+0.7
	baz=6.6						
121A	Cookes Peak, D	120.20	354	PKPdf	PKPdf	02 50 43.0	-0.7
TUC	Tucson	120.65	357	PKiKP	PKPdf	02 50 43.7	-0.7
TUC	Tucson	120.65	357	P	PKiKP	02 50 45.4	+0.9
	baz=3.5						
TUC	Tucson	120.65	357		PKPdf	02 50 43.6	-0.7
MNTX	Cornudas Mount	120.75	351	P	PKiKP	02 50 45.2	+0.6
	baz=9.1						
MNTX	Cornudas Mount	120.75	351	PKPdf	PKPdf	02 50 43.9	-0.6
JCT	Junction City	120.93	345	PKiKP	PKPdf	02 50 44.1	-0.9
JCT	Junction City	120.93	345	P	PKiKP	02 50 45.2	+0.1
	baz=15						
JCT	Junction City	120.93	345	PKPdf	PKPdf	02 50 44.1	-0.9
214A	Organ Pipe Nat	121.08	359	P	PKiKP	02 50 46.0	+0.7
	baz=1.5						
ITRB	Iturama	121.48	263	*e*P	PKiKP	02 50 47.4	+1.1
PTGA	Pitinga	121.71	287	PKP	PKiKP	02 50 46.8	-0.1
	comp=Z,2.1nm,0.3s,baz=42,slow=4.4,SNR=7.8						
PTGA	Pitinga	121.71	287		PKPdf	02 50 45.5	-1.2
FRTB	Fartura	121.99	258	*e*P	PKiKP	02 50 48.9	+1.7
TIJ01	Guaruva-PR	122.11	256	*e*P	PKiKP	02 50 50.0	+2.6
TXAR	Lajitas Array	122.81	349	PKP	PKPdf	02 50 48.6	-0.1
	comp=Z,3.0nm,0.6s,baz=176,slow=1.5,SNR=39						
TXAR				pPKP	pPKPdf	02 51 04.7	+0.1
	comp=Z,8.7nm,1.0s,baz=227,slow=0.2,SNR=14						
TXAR				PP	PP	02 52 24.5	-1.1
	comp=Z,2.1nm,0.8s,baz=28,slow=4.9,SNR=4.5						
TXAR				PKKPbc	PKKPbc	03 00 40.4	-1.0
	comp=Z,0.2nm,0.8s,baz=194,slow=8.6,SNR=4.8						
TXAR	Lajitas Array	122.81	349	PKPdf	PKPdf	02 50 47.8	-0.9
CLDB	Colider	122.90	275	*e*P	PKPdf	02 50 48.7	-0.3
PCMB	Pacaembu	122.92	261	*e*P	PKiKP	02 50 50.4	+1.3
TRCB	Terra Rica	124.50	260	*e*P	PKiKP	02 50 54.2	+2.0
SDV	Santo Domingo	124.54	304	PKP	PKPdf	02 50 52.5	+0.1
	comp=Z,6.0nm,0.5s,baz=348,slow=3.3,SNR=5.0						
PTGB	Pitanga	124.58	258	*e*P	PKiKP	02 50 54.6	+2.3
TEIG	Tepich	126.50	329	PKP	PKiKP	02 50 56.4	+0.2
	comp=Z,23nm,0.9s,baz=129,slow=2.9,SNR=7.5						
TEIG				pPKP	pPKPdf	02 51 11.5	-0.1
	comp=Z,31nm,1.0s,baz=329,slow=6.9,SNR=6.7						
SMLC	San Martn de	127.09	307	*e*P	PKiKP	02 50 57.4	-0.1
PLTB	Pedras Altas	127.65	250	*e*P	PKiKP	02 50 59.1	+1.0
VILB	Vilhena	127.68	275	*e*P	PKiKP	02 50 59.7	+1.0
PTLB	Pontes e Lacer	127.73	271	*e*P	PKiKP	02 50 59.0	+0.4
BARC	Barichara	127.95	304	*e*P	PKiKP	02 51 10.9	+11
BRRC	Barranca, Sant	127.99	305	*e*P	PKiKP	02 50 59.8	+0.4
RUSC	La Rusia	128.34	303	*e*P	PKiKP	02 51 01.1	+0.5
ZARC	Zaragoza, Cauc	128.55	306	*e*P	PKPdf	02 50 59.9	0.0
SAML	Samuel	128.56	281	PKIKP	PKPdf	02 50 58.9	-0.9
SAML	Samuel	128.56	281		PKPdf	02 50 58.9	-0.9
PTGC	Puerto Gaitan,	128.72	301	*e*P	PKPdf	02 51 00.1	-0.1
UREC	San Jos de Ur	128.85	307	*e*P	PKPdf	02 51 00.3	-0.1
PTBC	PUERTO BERRIO	128.91	305	*e*P	PKPdf	02 51 00.6	0.0
ZAIG	Zacatecas	128.98	346	PKPdf	PKPdf	02 50 59.8	-1.1
SPBC	San Pablo de B	129.23	304	*e*P	PKiKP	02 51 01.8	-0.1
CAPC	Capurgana	129.50	310	*e*P	PKiKP	02 51 03.1	+0.7
CHIC	Chingaza	129.65	303	*e*P	PKiKP	02 51 03.0	-0.3
SIV	San Ignacio	129.66	271	PKP	PKiKP	02 51 02.6	-0.1
	comp=Z,15nm,0.9s,baz=99,slow=3.1,SNR=56						
SIV				pPKP	pPKPdf	02 51 18.3	+0.6
	comp=Z,10nm,1.0s,baz=16,slow=1.0,SNR=10						
ROSC	El Rosal	129.95	304	PKP	PKiKP	02 51 04.2	+0.4
	comp=Z,37nm,0.8s,baz=126,slow=3.3,SNR=20						
ROSC	El Rosal	129.95	304	PKPdf	PKPdf	02 51 01.6	-1.5
GUVC	San Jose del G	130.15	300	*e*P	PKiKP	02 51 03.5	-0.3
GUY2C	Guyana, Caldas	130.47	305	*e*P	PKiKP	02 51 04.7	-0.2
BCIP	Isla Barro Col	130.78	313	*e*P	PKPdf	02 51 04.3	+0.2
BCIP	Isla Barro Col	130.78	313	PKIKP	PKPdf	02 51 03.1	-0.9
BCIP	Isla Barro Col	130.78	313	PKPdf	PKPdf	02 51 03.1	-0.9
TOLC	Tolima	130.86	304	*e*P	PKiKP	02 51 05.8	+0.3
ANIL	Santa Ana	130.99	304	*e*P	PKiKP	02 51 05.4	-0.4
PMSA	Palmer Station	131.01	206	*e*P	PKiKP	02 51 04.4	+0.6
PRAC	Prado	131.12	303	*e*P	PKPdf	02 51 04.8	-0.1
MACC	Macarena, Meta	131.35	300	*e*P	PKiKP	02 51 06.0	-0.2
ETMB	Extrema	131.61	282	*e*P	PKiKP	02 51 06.4	-0.2
BOAB	BOADICEA-VR	134.75	321	PKPdf	PKPdf	02 51 04.9	-1.0
APG	El Apazote	132.06	328	PKP	PKPdf	02 51 07.2	+0.5
	comp=Z,6.2nm,0.9s,baz=242,slow=6.4,SNR=5.9						
BETC	Betania	132.21	302	*e*P	PKiKP	02 51 08.4	+0.5
GARC	Garzon, Huila	132.57	302	*e*P	PKiKP	02 51 08.6	-0.4
FLOC	Florencia	133.09	301	*e*P	PKPdf	02 51 08.7	+0.2
PCON	Cinco Dias	133.16	303	*e*P	PKPdf	02 51 09.4	+0.1
POPC	Popayan, Colom	133.23	303	*e*P	PKPdf	02 51 08.8	-0.2
PTLC	Puerto Leguiza	133.32	299	*e*P	PKPdf	02 51 08.7	-0.2
BBAC	Balboa, Cauca	134.00	303	*e*P	PKPdf	02 51 08.8	-1.6
CRUC	La Cruz	134.07	303	*e*P	PKiKP	02 51 15.2	+3.1
GCUF	Volcan Galeras	134.59	303	*e*P	PKiKP	02 51 14.7	+1.3
LPAZ	La Paz	136.04	275	PKP	PKPdf	02 51 15.0	+0.4
	comp=Z,9.5nm,0.8s,baz=199,slow=0.7,SNR=18						
LPAZ	La Paz	136.04	275	PKPdf	PKPdf	02 51 13.1	-1.5
LPAZ	La Paz	136.04	275	*e*P	PKPdf	02 51 15.3	+0.7
OTAV	Otavalo	136.07	303	*e*P	PKPdf	02 51 14.6	-0.1
OTAV	Otavalo	136.07	303	PKIKP	PKPdf	02 51 13.1	-1.6
OTAV	Otavalo	136.07	303	PKPdf	PKPdf	02 51 13.1	-1.6
OTAV	Otavalo	136.07	303	*e*P	PKiKP	02 51 16.7	+0.4
CZSB	Cruzeiro do Su	136.17	288	*e*P	PKiKP	02 51 17.1	+1.3
PB16	IPOC Station P	138.01	273		PKPdf	02 51 16.5	-1.7
GO01	Chusmiza	138.19	271		PKPdf	02 51 17.1	-1.3
PB08	IPOC Station P	138.30	270		PKPdf	02 51 17.1	-1.3
MNMC	Minye Minye	138.37	271		PKPdf	02 51 17.4	-1.1
PB11	IPOC Station P	138.63	271	PKPdf	PKPdf	02 51 17.7	-1.0
LVC	Limon Verde	138.82	266	PKP	PKiKP	02 51 20.8	-0.6
	comp=Z,28nm,1.0s,baz=90,slow=0.8,SNR=10						
LVC	Limon Verde	138.82	266	PKPdf	PKPdf	02 51 18.1	-1.2
LVC	Limon Verde	138.82	266	*e*P	PKiKP	02 51 21.8	+0.3
GO02	Mina Guanaco	140.06	263	PKPdf	PKPdf	02 51 20.4	-1.0
PLCA	Paso Flores	141.77	238	PKP	PKiKP	02 51 25.4	-1.3
	comp=Z,24nm,1.0s,baz=128,slow=2.4,SNR=23						
PLCA				pPKP	pPKPdf	02 51 41.2	+1.6
	comp=Z,28nm,1.0s,baz=112,slow=2.8,SNR=12						
PLCA	Paso Flores	141.77	238	PKPdf	PKPdf	02 51 23.5	-0.2
BI02	San Fabin de	142.64	245	PKPdf	PKPdf	02 51 25.2	-0.3
LC01	Cunco	142.98	241	PKPdf	PKPdf	02 51 24.3	-1.6
PAYG	Puerto Ayora	144.96	315	PKPbc	PKPab	02 51 28.5	-0.9
PPT	Papeete	146.02	81	PKPbc	PKiKP	02 51 34.6	-1.3
	comp=Z,44nm,0.8s,baz=311,slow=19,SNR=4.6						
PPT2	Papeete2	146.03	81	*e*PKPbc	PKPab	02 51 34.6	+1.3
	comp=Z,79nm,1.2s						
PPT2	Papeete2	146.03	81	*e*LR	LR	03 39 38.5	
	comp=Z,666nm,25.5s						
TIAR	Tiarei	146.22	81	*e*PKPbc	PKPab	02 51 34.7	+0.7
	comp=Z,14nm,0.9s						
TVO	Taravao	146.39	81	*e*PKPbc	PKPab	02 51 35.0	+0.3
	comp=Z,21nm,0.9s						
PMOR	Pomariorio Ree	146.41	76	*e*PKPbc	PKPab	02 51 35.2	+0.5
PMOR	Pomariorio Ree	146.41	76	*e*P	PKiKP	02 51 36.1	-0.6
	comp=Z,110nm,0.8s						
VAH	Vaihoa	146.75	76	*e*PKPbc	PKPab	02 51 36.1	+0.1
VAH	Vaihoa	146.75	76	*e*P	PKiKP	02 51 36.8	-0.6
	comp=Z,210nm,1.1s						
TBI	Tubuai	147.97	91	*e*LR	LR	03 40 28.1	
	comp=Z,306nm,30.0s						

PRU 25 02:36:38.1±0.0, 49°.80N×18°.41E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.17	283	*e*PG	Pg	02 36 41.4	0.0
OKC				*e*SG	Sg	02 36 44.2	+0.5
	comp=Z,12nm,0.2s						
MORC	Moravsky Berou	0.56	268	*e*PG	Pg	02 36 48.6	-0.3
MORC				*e*SG	Sg	02 36 55.3	-0.9
KRLC	Kraliky	1.09	285	*e*SG	Sg	02 37 12.3	-0.7
DPC	Dobruska-Polom	1.45	293	*e*SG	Sg	02 37 23.8	-1.0

PRU 25 02:39:23.4±0.0, 50°.06N×18°.51E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.32	227	*e*PG	Pg	02 39 29.6	0.0
MORC	Moravsky Berou	0.69	246	*e*PG	Pg	02 39 35.8	-0.7
MORC				*e*SG	Sg	02 39 43.7	-1.7
MUVC	Mutkov	0.84	252	*e*PG	Pg	02 39 38.5	-0.9
MUVC				*e*SG	Sg	02 39 50.1	-0.2
LIPC	Lipinka	0.97	258	*e*PG	Pg	02 39 41.0	-0.9
LIPC				*e*SG	Sg	02 39 54.0	-0.5
KRLC	Kraliky	1.11	271	*e*PG	Pg	02 39 42.8	-1.9
DPC	Dobruska-Polom	1.44	283	*e*PG	Pn	02 39 49.3	-1.4

BGR ***25*** *02:59:48.9±0.0, 19°.55S×176°.10W, h33km*
BJI ***25*** *03:00:54.0±0.0, 17°.90S×178°.50W, h580km, mB4.9/15, mb4.7/21*
NEIC ***25*** *03:00:55.2±0.5, 17°.8S±0°.1×178°.6W±0°.1, h587km±6km, mb4.5/191, Error ellipse: s-maj=16.9km s-min=12.8km az=131.0*
IDC ***25*** *03:00:56.5±1.2, 17°.91S×178°.60W, h593km±13km, mb4.0/28, mb1 4.1/29, mb1mx4.0/39, mbtmp4.9/29, Error ellipse: s-maj=12.4km s-min=8.4km az=146.0*
ISC 25 03:00:54.8±0.6, 17°.92S±0°.06×178°.43W±0°.06, h587km±6km, n362, σ0.98/343, mb4.5/122, 13C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.36	273	P	P	03 02 16.7	+1.5
MSVF				S	S	03 03 24.0	+3.4
AFI	Afiamalu	7.54	59	P	P	03 02 48.4	-1.0
	8.5nm,0.3s,baz=212,slow=2.5,SNR=6.4						
AFI				S	S	03 04 17.4	-5.8
	1.5nm,0.3s,baz=201,slow=18,SNR=1.6						
AFI	Afiamalu	7.54	59	P	P	03 02 49.0	-0.5
SANVU	Saraoutou	13.99	278	P	P	03 03 52.1	-1.7
DZM	Mont Dzumac	14.81	251	P	P	03 04 00.9	-0.9
	4.3nm,0.3s,baz=107,slow=19,SNR=27						
DZM	Mont Dzumac	14.81	251	P	P	03 04 00.8	-1.0
KNTN	Kanton	16.42	24	P	P	03 04 16.4	-0.5
OUZ	Omahuta	18.64	201	P	P	03 04 37.1	+0.4
URZ	Urewera	20.64	190	P	P	03 04 54.5	-0.2
	13nm,0.7s,baz=178,slow=0.5,SNR=8.8						
URZ				S	S	03 08 02.2	-6.2
	5.5nm,0.8s,baz=228,slow=21,SNR=2.3						
URZ	Urewera	20.64	190	P	P	03 04 54.4	-0.3
URZ				IAmb	IAmb	03 05 01.4	
	comp=Z,19nm,0.8s						
URZ					S	03 08 05.4	-3.0
QRZ	Quartz Range	24.12	197	P	P	03 05 26.2	+0.5
QRZ				IAmb	IAmb	03 05 27.4	
	comp=Z,20nm,0.9s						
THZ	Tophouse	24.90	196	P	P	03 05 33.0	+0.3
THZ				IAmb	IAmb	03 05 39.9	
	comp=Z,12nm,1.2s						
FOZ	Fox Glacier	27.40	199	P	P	03 05 55.1	+0.6
FOZ				IAmb	IAmb	03 05 57.0	
	comp=Z,26nm,0.9s						
EIDS	Eidsvold	29.25	250	P	P	03 06 10.8	-0.1
	baz=29,SNR=20						
EIDS	Eidsvold	29.25	250	P	P	03 06 10.5	-0.4
ARMA	Armidale	29.92	240	P	P	03 06 18.0	+1.2
	baz=30,SNR=56						
ARMA	Armidale	29.92	240	P	P	03 06 16.7	-0.1
MGCD	Mangrove Creek	31.27	235	P	P	03 06 29.6	+1.5
	baz=31,SNR=18						
RMQ	Roma	31.49	248	P	P	03 06 31.0	+0.9
	baz=32,SNR=21						
CNB	Canberra Magne	33.41	232	P	P	03 06 47.5	+1.3
	baz=34,SNR=77						
CTA	Charters Tower	33.43	261	P	P	03 06 46.6	+0.1
	comp=Z,40nm,0.6s,baz=89,slow=11,SNR=60						
CTA				PcP	PcP	03 09 11.0	+0.7
	comp=Z,3.3nm,0.6s,baz=66,slow=5.2,SNR=3.6						
CTAO	Charters Tower	33.43	261	P	P	03 06 46.0	-0.6
CTAO				PcP	PcP	03 09 10.5	+0.1
CAN	Canberra	33.69	233	P	P	03 06 48.5	-0.1
YNG	Young	33.77	235	P	P	03 06 50.7	+1.4
	baz=34,SNR=6.0						
PMG	Port Moresby	34.45	280	P	P	03 06 56.0	+0.9
	comp=Z,160nm,0.8s,baz=80,slow=6.1,SNR=32						
PMG	Port Moresby	34.45	280	P	P	03 06 54.3	-0.8
CMSA	Cobar Meteorol	35.13	240	P	P	03 07 01.3	+0.8
	baz=35,SNR=81						
MTSU	Mount Surprise	35.39	264	P	P	03 07 02.9	-0.1
	baz=35,SNR=47						
QLP	Quilpie	35.52	249	P	P	03 07 04.1	+0.3
	baz=36,SNR=39						
JOHN	Johnston Islan	35.53	15	P	P	03 07 03.6	-0.4
COEN	Coen	37.09	270	P	P	03 07 17.6	+0.7
	baz=37,SNR=73						
COEN	Coen	37.09	270	P	P	03 07 16.1	-0.8
TOO	Toolangi	37.15	231	P	P	03 07 18.2	+1.1
	baz=37,SNR=29						
TOO	Toolangi	37.15	231	P	P	03 07 17.2	+0.1
TAU	Tasmania Unive	38.22	222	P	P	03 07 26.0	+0.3
TAU				IAmb	IAmb	03 07 27.4	
	comp=Z,13nm,0.8s						
ARPS	Mount Arapiles	39.63	234	P	P	03 07 37.9	+0.8
	baz=40,SNR=11						
QIS	Mount Isa	39.64	259	P	P	03 07 36.9	-0.5
	baz=40,SNR=13						
HTT	Hallett	41.13	239	P	P	03 07 50.1	+0.9
	baz=41,SNR=51						
JAY	Jayapura	42.89	286	P	P	03 08 04.0	+0.7
	comp=Z,93nm,0.7s,baz=110,slow=3.4,SNR=46						
JAY	Jayapura	42.89	286	P	P	03 08 00.0	-3.2
KHU	Kahuku	43.20	32	P	P	03 08 05.9	+0.2
KHLU	Kahalu`u	43.35	32	P	P	03 08 06.9	+0.3
GENI	Genyem	43.35	286	P	P	03 08 09.0	+2.2
	comp=Z,189nm,0.8s						
AIN	Ainahou	43.38	32	P	P	03 08 07.5	+0.4
BBOO	Buckleboo	43.39	241	P	P	03 08 07.3	+0.6
	baz=44,SNR=65						
BBOO	Buckleboo	43.39	241	P	P	03 08 06.7	0.0
HMH	Humu`ula Sheep	43.56	32	P	P	03 08 08.8	+0.2
WR0	Warramunga Arr	44.42	260	P	P	03 08 14.0	-1.0
WB0	Warramunga Arr	44.58	260	P	P	03 08 15.5	-0.6
WB2	Warramunga Arr	44.60	260	P	P	03 08 15.7	-0.6
WRA	Warramunga Arr	44.61	260	P	P	03 08 15.7	-0.7
	comp=Z,49nm,0.7s,baz=95,slow=7.0,SNR=341						
WRA				PcP	PcP	03 09 47.0	+0.6
	comp=Z,6.8nm,0.7s,baz=92,slow=3.6,SNR=6.1						
WRA				ScP	ScP	03 12 44.4	+1.1
	comp=Z,1.3nm,0.8s,baz=88,slow=4.2,SNR=4.2						
WRA				S	S	03 14 06.6	-4.3
	comp=Z,0.3nm,0.6s,baz=257,slow=23,SNR=3.4						
WRA	Warramunga Arr	44.61	260	P	P	03 08 14.9	-1.5
WRA					PcP	03 09 46.0	-0.3
WRA					ScP	03 12 43.0	-0.2
AS31	Alice Springs	44.77	254	P	P	03 08 17.4	-0.2
ASAR	Alice Springs	44.77	254	P	P	03 08 17.8	+0.2
	comp=Z,308nm,0.6s,baz=88,slow=8.4,SNR=3505						
ASAR				PcP	PcP	03 09 47.4	+0.5
	comp=Z,9.0nm,0.6s,baz=115,slow=3.6,SNR=5.2						
ASAR				ScP	ScP	03 12 45.6	+1.7
	comp=Z,1.

comp=Z,72µmcomp=Z,62nm,1.2s
YOJ Yonaguni jima 70.94 305 P **P 03 11 13.7 -0.5**
SBUM Sibu 71.19 279 P **P 03 11 15.3 -0.7**
KPJI Karang Pucung 71.31 268 P **P 03 11 17.0 +0.3**
comp=Z,71nm,0.7s
YULB Yu-li 71.76 303 P **P 03 11 18.5 -0.6**
YULB IAmb IAmb 03 11 19.3
comp=Z,9.0nm,0.6s
QSPA South Pole Qui 72.14 180 P **P 03 11 22.0 +1.3**
QSPA IAmb IAmb 03 11 23.3
comp=Z,15nm,0.9s
SSLB Suanglung 72.23 303 P **P 03 11 20.4 -1.4**
TPUB Ta-pu 72.25 302 P **P 03 11 21.4 -0.6**
CISI Cisompet, Garu 72.31 268 P **P 03 11 21.7 -0.9**
KSM Kuching 72.67 277 P **P 03 11 24.0 -0.6**
PETK Petropavlovsk- 73.69 345 P **P 03 11 30.1 +0.6**
comp=Z,4.2nm,0.7s,baz=135,slow=6.9,SNR=7.0
PETK Petropavlovsk- 73.69 345 P **P 03 11 29.8 +0.3**
CGJI Cibinong 74.59 268 P **P 03 11 35.0 -0.5**
comp=Z,184nm,0.7s
KSRS Korea Array 74.70 318 P **P 03 11 36.5 +1.0**
comp=Z,2.0nm,0.7s,baz=125,slow=6.1,SNR=7.0
SAO San Andreas Ge 76.44 44 P **P 03 11 46.0 +0.8**
SAO IAmb IAmb 03 11 48.4
comp=Z,18nm,0.8s
PMPB Monarch Peak 76.56 45 P **P 03 11 46.7 +0.8**
PMPB IAmb IAmb 03 11 48.9
comp=Z,15nm,0.9s
USRK Ussuriysk Ar. 76.61 326 P **P 03 11 47.5 +1.5**
comp=Z,2.0nm,0.6s,baz=99,slow=5.6,SNR=5.7
USRK Ussuriysk Ar. 76.61 326 P **P 03 11 46.2 +0.2**
MDSI Maura Dua 76.65 270 P **P 03 11 46.4 -0.4**
KMRM Mail Ridge 77.03 40 P **P 03 11 49.0 +0.6**
KMRM IAmb IAmb 03 11 51.9
comp=Z,27nm,0.8s
ESJX Sierra Juarez 77.73 50 P **P 03 11 53.0 +0.5**
CMB Columbia Colle 77.86 43 P **P 03 11 53.7 +0.8**
NJ2 Nanjing 77.93 309 *e*P **P 03 11 54.3 +1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
RMX La Rumorosa 77.94 50 P **P 03 11 54.2 +0.7**
RMX IAmb IAmb 03 11 56.9
comp=Z,15nm,0.7s
AFDM Forest Hills D 78.00 42 P **P 03 11 54.4 +0.7**
SFX San Felipe 78.06 52 P **P 03 11 54.6 +0.6**
PFO Pinyon Flats O 78.17 49 P **P 03 11 56.7 +1.9**
comp=Z,2.7nm,0.8s,baz=283,slow=6.8,SNR=4.0
PFO Pinyon Flats O 78.17 49 P **P 03 11 54.9 +0.1**
MDJ Mudanjiang 78.19 325 P **P 03 11 56.3 +1.9**
MDJ pmax pmax
comp=Z,16nm,0.9s
MDJ pmax pmax
comp=Z,110nm,4.1s
KDAK Kodiak Island 78.42 14 P **P 03 11 55.7 +0.4**
comp=Z,11nm,0.6s,baz=196,slow=4.7,SNR=9.8
KDAK Kodiak Island 78.42 14 P **P 03 11 56.3 +1.0**
KDAK IAmb IAmb 03 11 58.0
comp=Z,17nm,0.8s
MDPB Devils Postpil 78.49 44 P **P 03 11 57.1 +0.5**
MDPB IAmb IAmb 03 11 59.5
comp=Z,15nm,0.9s
OMMB Old Mammoth Mi 78.54 44 P **P 03 11 57.3 +0.4**
YBH Yreka Blue Hor 78.54 39 P **P 03 11 57.2 +0.7**
YBH IAmb IAmb 03 11 59.3
comp=Z,11nm,0.8s
WAKR Walker 78.74 43 IAmb IAmb 03 12 01.0
comp=Z,13nm,0.9s
PNTR Pine Nut 78.96 43 IAmb IAmb 03 12 02.1
comp=Z,25nm,0.9s
VCNR Virginia City 79.04 43 P **P 03 11 60.0 +0.6**
GLA Glamis 79.07 50 IAmb IAmb 03 12 03.1
comp=Z,11nm,0.8s
RYN Ryan 79.41 44 P **P 03 12 01.8 +0.6**
PAHR Pah Rah Range 79.44 42 P **P 03 12 02.1 +0.7**
NVAR Mina Array Bea 79.44 44 P **P 03 12 03.5 +2.0**
comp=Z,8.9nm,0.8s,baz=225,slow=9.0,SNR=64
NVAR Mina Array Bea 79.44 44 P **P 03 12 02.3 +0.7**
KVN Kaiserville 79.91 43 P **P 03 12 04.6 +0.6**
214A Organ Pipe Nat 80.03 52 P **P 03 12 05.3 +0.8**
MOD Modoc Plateau 80.10 40 P **P 03 12 05.3 +0.5**
MOD IAmb IAmb 03 12 07.6
comp=Z,14nm,0.7s
K05A Summer Lake 80.22 39 P **P 03 12 06.1 +0.7**
K05A IAmb IAmb 03 12 08.6
comp=Z,26nm,1.0s
BRLK Bradley Lake 80.59 14 IAmb IAmb 03 12 08.2
comp=Z,11nm,0.7s
H04A Detroit Lake 80.61 37 P **P 03 12 08.0 +0.7**
H04A IAmb IAmb 03 12 09.1
comp=Z,13nm,0.6s
Y14A Wickenburg 80.83 50 P **P 03 12 09.4 +0.7**
PRN Pahroc Range 81.09 46 P **P 03 12 10.5 +0.5**
PRN IAmb IAmb 03 12 13.4
comp=Z,13nm,0.9s
R11A Troy Canyon, C 81.21 45 P **P 03 12 11.3 +0.6**
TUC Tucson 81.72 52 P **P 03 12 14.1 +0.9**
TUC IAmb IAmb 03 12 17.2
comp=Z,12nm,1.1s
UBPT Khong Chiam 81.92 289 P **P 03 12 13.7 -0.8**
UBPT IAmb IAmb 03 12 15.9
comp=Z,12nm,0.7s
J08A Circle Bar Ran 82.04 40 P **P 03 12 15.2 +0.5**
J08A IAmb IAmb 03 12 17.6
comp=Z,14nm,1.0s
SUA Susitna One 82.15 13 P **P 03 12 15.2 +0.4**
SUA IAmb IAmb 03 12 16.7
comp=Z,13nm,0.7s
LCMT Little Creek M 82.15 47 P **P 03 12 16.0 +0.6**
X16A Lo Mia Camp, P 82.20 50 P **P 03 12 16.2 +0.4**
X16A IAmb IAmb 03 12 19.5
comp=Z,11nm,0.9s
CCUT Cedar City 82.33 47 P **P 03 12 17.0 +0.6**
IPM Ipoh 82.41 277 P **P 03 12 16.2 -0.8**
KNB Kanab 82.45 47 P **P 03 12 17.6 +0.7**
TTA Tatalina 82.49 10 P **P 03 12 17.3 +0.9**
U15A North Rim 82.54 48 P **P 03 12 18.2 +0.6**
U15A IAmb IAmb 03 12 21.1
comp=Z,17nm,0.8s
SZCU Shurtz Canyon 82.54 47 P **P 03 12 18.1 +0.6**
KNK Knik Glacier 82.61 14 IAmb IAmb 03 12 18.3
comp=Z,9.2nm,0.7s
F07A Phinny Hill Vi 82.61 37 P **P 03 12 18.2 +0.8**
F07A IAmb IAmb 03 12 20.0
comp=Z,9.4nm,0.8s
ELK Elko 82.67 43 P **P 03 12 18.6 +0.5**
WUAZ Wupatki 82.76 49 P **P 03 12 19.2 +0.6**
WUAZ IAmb IAmb 03 12 22.6
comp=Z,11nm,1.0s
G08A Pilot Rock 82.83 38 P **P 03 12 19.3 +0.7**
G08A IAmb IAmb 03 12 20.9
comp=Z,8.2nm,0.8s
PKCU Pink Cliffs 83.01 47 P **P 03 12 20.4 +0.4**
KULM Kulim 83.02 278 P **P 03 12 19.6 -0.5**
KULM IAmb IAmb 03 12 22.2
comp=Z,12nm,0.9s
E07A Sunnyside 83.03 36 P **P 03 12 20.3 +0.8**
E07A IAmb IAmb 03 12 21.8
comp=Z,10nm,0.6s
HAWA Hanford 83.12 37 P **P 03 12 20.8 +0.9**
HAWA IAmb IAmb 03 12 22.7
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 83.24 14 P **P 03 12 21.1 +0.8**
CRQM Cirque 83.38 17 P **P 03 12 21.8 +0.7**
CRQM IAmb IAmb 03 12 22.8
comp=Z,16nm,1.0s
MTPU Mount Pierson 83.38 47 P **P 03 12 22.1 +0.3**
E08A Dider Farm, El 83.45 37 P **P 03 12 22.1 +0.7**
E08A IAmb IAmb 03 12 23.8
comp=Z,9.7nm,0.8s
MSU Marysvale 83.61 46 P **P 03 12 23.5 +0.7**
MFID Camas Ranch 83.69 41 P **P 03 12 23.4 +0.5**
MFID IAmb IAmb 03 12 25.8
comp=Z,9.9nm,1.0s
GLB Gilahina Butte 83.78 16 IAmb IAmb 03 12 24.3
comp=Z,12nm,0.6s
SEY Seymchan 83.78 347 P **P 03 12 23.1 +0.4**
comp=Z,3.1nm,0.3s,baz=140,slow=6.3,SNR=7.7
BALM Baldy 83.83 17 P **P 03 12 24.2 +1.0**
BALM IAmb IAmb 03 12 24.5
comp=Z,11nm,0.6s
MAW Mawson 83.84 200 P **P 03 12 24.4 +1.2**
comp=Z,7.5nm,0.7s,baz=128,slow=6.2,SNR=22
MAW Mawson 83.84 200 P **P 03 12 23.2 0.0**
baz=84,SNR=13
MAW Mawson 83.84 200 P **P 03 12 24.3 +1.2**

D08A Wollman Farm, 83.85 36 IAmb IAmb 03 12 25.7
comp=Z,9.2nm,0.7s
MCARA McCarthy VSAT 83.94 16 P **P 03 12 24.5 +1.0**
KTH Kantishna Hill 83.99 12 IAmb IAmb 03 12 24.3
comp=Z,10.0nm,0.9s
TRF Thorofare Moun 84.02 12 IAmb IAmb 03 12 25.3
comp=Z,18nm,0.7s
BARN Barnard Glacie 84.04 17 IAmb IAmb 03 12 26.2
comp=Z,12nm,0.8s
CTGM Chitina Glacie 84.06 17 IAmb IAmb 03 12 26.1
comp=Z,10nm,0.8s
F10A Beach Ranch, E 84.22 38 P **P 03 12 26.1 +0.7**
F10A IAmb IAmb 03 12 28.2
comp=Z,16nm,0.9s
ENH Enshi 84.26 304 P **P 03 12 25.5 -0.5**
RND Reindeer 84.28 13 IAmb IAmb 03 12 26.7
comp=Z,17nm,0.7s
DHY Denali Highway 84.31 14 IAmb IAmb 03 12 26.3
comp=Z,4.6nm,0.5s
B08A Colville Reser 84.36 35 IAmb IAmb 03 12 28.0
comp=Z,9.2nm,0.8s
MCK McKinley 84.55 13 IAmb IAmb 03 12 27.7
comp=Z,13nm,1.1s
C09A Chrisman Ranch 84.63 36 IAmb IAmb 03 12 29.6
comp=Z,8.4nm,1.0s
HLID Hailey 84.65 41 P **P 03 12 28.2 +0.5**
HLID IAmb IAmb 03 12 30.8
comp=Z,6.9nm,0.8s
TMUT Trail Mountain 84.65 46 P **P 03 12 28.5 +0.5**
GSI Gungsitoli 84.69 273 P **P 03 12 27.7 -0.7**
GYA Guiyang 85.03 300 *e*P **P 03 12 31.0 +1.1**
GYA pmax pmax
comp=Z,8.0nm,1.2s
WRH Wood River Hil 85.38 13 IAmb IAmb 03 12 32.3
comp=Z,9.2nm,0.9s
RIDG Independent Ri 85.47 14 IAmb IAmb 03 12 32.6
comp=Z,10nm,1.0s
NEW Newport 85.53 36 P **P 03 12 32.3 +0.7**
comp=Z,4.0nm,0.7s,baz=249,slow=4.4,SNR=9.6
HDA Harding Lake 85.57 13 IAmb IAmb 03 12 32.6
comp=Z,7.5nm,1.0s
DOT Dot Lake 85.58 15 IAmb IAmb 03 12 33.0
comp=Z,6.8nm,0.8s
BCAR Beaver Creek A 85.66 16 P **P 03 12 32.8 +0.9**
IMAR Indian Mountai 85.69 10 P **P 03 12 33.0 +1.0**
PV17 East Wray Mesa 85.75 48 P **P 03 12 33.7 +0.6**
MDM Murphy Dome 85.78 12 IAmb IAmb 03 12 33.2
comp=Z,7.4nm,1.1s
PV23 Carpenter Ridg 85.79 47 IAmb IAmb 03 12 36.1
comp=Z,7.1nm,0.9s
DLBC Dease Lake 85.85 23 P **P 03 12 34.5 +1.6**
comp=Z,2.1nm,0.6s,baz=223,slow=7.7,SNR=6.2
PV21 Cone Mtn., Par 85.86 47 P **P 03 12 34.3 +0.6**
IL31 85.90 13 IAmb IAmb 03 12 33.9
comp=Z,4.1nm,0.6s
ILAR Eielson Array 85.90 13 P **P 03 12 32.8 -0.2**
comp=Z,2.5nm,0.4s,baz=220,slow=5.0,SNR=29
ILAR Eielson Array 85.90 13 P **P 03 12 33.0 +0.1**
TX31 Lajitas Ar. Si 86.01 58 P **P 03 12 35.0 +0.6**
TX32 Lajitas Array 86.01 58 P **P 03 12 35.0 +0.5**
TX32 IAmb IAmb 03 12 38.6
comp=Z,11nm,0.9s
TXAR Lajitas Array 86.01 58 P **P 03 12 37.5 +3.0**
comp=Z,6.5nm,0.7s,baz=220,slow=6.1,SNR=89
TXAR Lajitas Array 86.01 58 P **P 03 12 35.2 +0.7**
ANMO Albuquerque 86.12 52 P **P 03 12 35.7 +0.7**
XAN Xi'an 86.25 307 P **P 03 12 36.8 +1.4**
XAN pmax pmax
comp=Z,28nm,1.0s
XAN Xi'an 86.25 307 P **P 03 12 35.1 -0.3**
XAN IAmb IAmb 03 12 37.9
comp=Z,18nm,0.8s
MCMT McKenzie Canyo 86.26 40 P **P 03 12 36.0 +0.5**
DLMT Dillon 86.68 40 P **P 03 12 37.8 +0.5**
DLMT IAmb IAmb 03 12 40.2
comp=Z,6.2nm,0.8s
REDW Red Top Meadow 86.81 42 IAmb IAmb 03 12 41.1
comp=Z,12nm,1.1s
SNOW Snow King Moun 86.92 42 IAmb IAmb 03 12 41.2
comp=Z,10.0nm,0.8s
IMW Indian Meadow 87.00 42 IAmb IAmb 03 12 42.1
comp=Z,11nm,0.9s
QLMT Earthquake Lak 87.14 41 P **P 03 12 40.2 +0.6**
FLWY Flagg Ranch 87.24 42 IAmb IAmb 03 12 43.4
comp=Z,10nm,0.9s
HHC Hu-ho-hao-te 87.27 314 *e*P **P 03 12 38.3 -1.8**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,220nm,7.3s
BW06 Boulder Array 87.37 43 IAmb IAmb 03 12 43.0
comp=Z,6.0nm,0.7s
PD31 Pinedale Array 87.37 43 IAmb IAmb 03 12 43.0
comp=Z,5.3nm,0.7s
PDAR Pinedale Array 87.37 43 P **P 03 12 42.4 +1.6**
comp=Z,4.3nm,0.6s,baz=220,slow=3.5,SNR=50
PDAR PP **PP 03 16 15.2 -1.4**
comp=Z,1.0nm,0.9s,baz=230,slow=6.7,SNR=7.2
PDAR Pinedale Array 87.37 43 P **P 03 12 41.3 +0.5**
COLD Coldfoot 87.43 11 IAmb IAmb 03 12 42.1
comp=Z,6.1nm,1.0s
H17A Grant Village 87.47 42 P **P 03 12 41.4 +0.2**
H17A IAmb IAmb 03 12 45.3
comp=Z,7.1nm,0.8s
YHH Holmes Hill 87.48 41 P **P 03 12 41.9 +0.6**
LKWY Lake 87.66 42 IAmb IAmb 03 12 46.3
comp=Z,9.5nm,1.1s
HRY Holter Researc 87.80 39 P **P 03 12 43.0 +0.5**
MSTX Muleshoe 88.51 54 IAmb IAmb 03 12 48.7
comp=Z,7.0nm,0.8s
RLMT Red Lodge 88.63 41 P **P 03 12 46.5 -0.1**
RLMT IAmb IAmb 03 12 50.2
comp=Z,5.1nm,0.9s
BMAR Burnt Mountain 88.67 12 P **P 03 12 46.5 +0.5**
CMAR Chiang Mai Arr 88.87 290 P **P 03 12 48.8 +0.8**
comp=Z,9.0nm,0.9s,baz=112,slow=2.9,SNR=24
CMAR Chiang Mai Arr 88.87 290 P **P 03 12 47.2 -0.8**
N23A Red Feather La 88.98 46 IAmb IAmb 03 12 51.4
comp=Z,8.5nm,1.1s
CHTO Chiang Mai 88.99 290 P **P 03 12 47.6 -0.9**
CHTO IAmb IAmb 03 12 50.9
comp=Z,9.0nm,0.9s
SYO Syowa Base 89.14 193 ‖ *e*P **P 03 12 46.3 -1.9**
SYO Syowa Base 89.14 193 ‖ *e*P P 03 12 55.0 +6.8
JCT Juneau City 89.55 58 IAmb IAmb 03 12 53.5
comp=Z,4.3nm,0.7s
ABTX Abilene, Hawle 90.44 56 IAmb IAmb 03 12 57.2
comp=Z,5.9nm,0.7s
SNAA Sanae 90.59 179 P **P 03 12 55.4 +0.4**
VNA3 Neumayer Olymp 90.73 176 P **P 03 12 56.3 +0.7**
VNA2 Neumayer--Watz 91.17 177 P **P 03 12 58.4 +0.8**
baz=168,slow=4.8
LAO LASA Array 91.23 41 IAmb IAmb 03 13 01.7
comp=Z,8.6nm,0.8s
VNA1 Neumayer--Stat 91.40 177 P **P 03 12 59.6 +1.0**
RSSD Black Hills 91.58 44 P **P 03 13 00.7 +0.5**
RSSD IAmb IAmb 03 13 02.4
comp=Z,5.1nm,0.9s
INK Inuvik 91.90 15 P **P 03 13 01.5 +0.7**
comp=Z,6.3nm,0.9s,baz=200,slow=1.1,SNR=6.8
INK Inuvik 91.90 15 IAmb IAmb 03 13 02.0
comp=Z,7.3nm,0.9s
SONM Songino Array 93.55 319 P **P 03 13 08.8 -0.2**
comp=Z,0.5nm,0.4s,baz=145,slow=3.6,SNR=3.7
SONM Songino Array 93.55 319 P **P 03 13 08.6 -0.4**
ZALV Zalesovo Beam 108.23 322 PKiKP **PKiKP 03 18 16.4 -0.3**
comp=Z,0.9nm,0.5s,baz=74,slow=1.8,SNR=4.4
MKAR Makanchi Array 109.13 314 PKiKP **PKiKP 03 18 18.4 -0.3**
comp=Z,1.5nm,0.5s,baz=211,slow=0.6,SNR=18
KKAR Karatay Array 117.31 310 PKPdf **PKiKP 03 18 34.6 +0.1**
ABKAR Abkulak array 123.93 318 **PKiKP 03 18 47.2 -0.1**
GEYT Alibeck 127.03 304 PKP **PKiKP 03 18 53.7 -0.2**
comp=Z,2.0nm,0.5s,baz=202,slow=1.6,SNR=4.6
GEYT Alibeck 127.03 304 **PKPdf 03 18 53.4 +0.1**
FINES FINESS Array B 133.19 344 PKhKP PKPpre 03 18 58.6
comp=Z,2.7nm,0.8s,baz=166,slow=18,SNR=3.4
FINES PKP **PKPdf 03 19 04.6 +0.4**
comp=Z,5.0nm,1.0s,baz=116,slow=8.7,SNR=5.0
FINES SKPbc **SKPbc 03 21 37.4 -0.6**
comp=Z,4.4nm,0.9s,baz=11,slow=1.9,SNR=4.2
FINES FINESS Array B 133.19 344 **PKiKP 03 19 05.2 -0.3**
NOA NORSAR Array B 136.38 353 PKP **PKiKP 03 19 11.3 -0.8**
comp=Z,0.4nm,0.8s,baz=44,slow=6.2,SNR=1.7
NOA SKPbc **SKPbc 03 21 48.6 +0.6**
comp=Z,0.7nm,0.9s,baz=16,slow=4.5,SNR=3.4
AKASG Malin Array Be 140.56 332 PKhKP PKPpre 03 19 11.7
comp=Z,1.2nm,0.5s,baz=45,slow=4.1,SNR=5.1
AKASG PKP **PKPdf 03 19 19.2 +1.1**
comp=Z,1.2nm,0.4s,baz=44,slow=3.3,SNR=4.8
AKASG Malin Array Be 140.56 332 **PKPdf 03 19 18.6 +0.6**
SORM Soroca 142.79 330 ⇑P **PKPdf 03 19 20.1 -2.0**
GAZ Gaziantep 143.33 309 PKPdf **PKPdf 03 19 23.1 -0.5**
KWP Kalwaria Pacla 144.07 336 *e*PKP **PKPdf 03 19 24.9 +0.6**
VASR Vaslui 144.11 329 ⇓P **PKPab 03 19 25.3 +0.8**
RUE Ruedersdorf 144.20 347 *e*PKPbc **PKPab 03 19 25.8 +1.2**
baz=14,slow=2.6
TLCR 144.57 326 ⇑P **PKPab 03 19 26.7 +0.4**
BUR08 Bucovina Ar. S 144.60 332 PKPdf PKPbc 03 19 25.7 -0.1
BURAR Bucovina Array 144.62 332 ⇓P **PKPab 03 19 27.8 +1.3**
BURAR Bucovina Array 144.62 332 PKPdf PKPbc 03 19 25.8 0.0
OJC Ojcow 144.62 340 *e*PKP **PKPab 03 19 26.4 0.0**
BIZ Bicaz 144.71 331 ⇑P **PKPab 03 19 27.8 +0.9**
BR131 Keskin Array S 144.78 315 PKPdf **PKPdf 03 19 26.3 +0.2**
BRTR Keskin Array B 144.78 315 PKP **PKPab 03 19 27.1 -0.4**
comp=Z,13nm,1.0s,baz=145,slow=3.0,SNR=27
BRTR Keskin Array B 144.78 315 PKPdf **PKPdf 03 19 26.0 0.0**
KOLS Kolonicke sedl 144.81 336 *e*PKP PKPbc 03 19 26.6 +0.3
CFR Carcaliu 144.94 327 ⇑P **PKPab 03 19 27.8 +0.1**
KSP Ksiaz 145.12 344 *e*PKP **PKPab 03 19 28.4 +0.1**
NIE Niedzica 145.13 338 *e*PKP **PKPab 03 19 28.6 +0.3**
CRVS Cervenica-Dubn 145.14 337 *e*PKP **PKPab 03 19 28.5 +0.1**
VRI Vrincioaia 145.18 329 ⇑P **PKPab 03 19 28.6 -0.1**
VRI ⇓P **PKPbc 03 19 28.7 +1.3**
OSTC Ostas 145.40 344 *e*PKP **PKPab 03 19 29.4 0.0**
BISRR Bisoca 145.41 328 ⇑P **PKPdf 03 19 23.6 -3.3**
CLZ Clausthal 145.44 350 *e*PKPbc **PKPab 03 19 29.2 -0.3**
baz=14,slow=2.6
CLL Collm 145.47 347 *i* PKPbc **PKPab 03 19 28.9 -0.6**
comp=Z,12nm,1.0s
CLL Collm 145.47 347 *e*PKPbc **PKPab 03 19 29.0 -0.6**
baz=14,slow=2.6
UPC Upice 145.50 344 *e*PKP **PKPab 03 19 29.4 -0.3**
DPC Dobruska-Polom 145.55 343 *e*PKP **PKPab 03 19 29.8 -0.2**
LANS Liptovska Anna 145.64 339 *e*PKP **PKPab 03 19 30.7 +0.3**
BRG Berggiesshubel 145.67 346 *e*PKP **PKPab 03 19 29.6 -0.8**
comp=Z,8.6nm,1.1s
BRG Berggiesshubel 145.67 346 *e*PKPbc **PKPab 03 19 29.7 -0.8**
baz=14,slow=2.6
KRLC Kraliky 145.67 343 *e*PKP **PKPab 03 19 30.0 -0.5**
MORC Moravsky Berou 145.72 342 *e*PKP **PKPbc 03 19 29.8 +0.9**
DOPR Dopca 145.76 330 ⇓P **PKPab 03 19 30.6 -0.4**
FBE Freiberg 145.76 347 *e*PKPbc **PKPab 03 19 30.3 -0.4**
baz=14,slow=2.6
GTTG Gottingen 145.79 351 *e*PKPbc **PKPab 03 19 30.2 -0.7**
baz=14,slow=2.6
ISR Istrita 145.80 328 ⇑P **PKiKP 03 19 32.1 +0.2**
MLR Muntele Rosu 145.83 329 ⇑P **PKPab 03 19 31.0 -0.4**
PVCC Panska Ves 145.84 345 *e*PKP **PKPab 03 19 30.5 -0.6**
MDUB Mudurnu 146.01 318 PKPdf **PKPdf 03 19 28.3 +0.2**
CJR Cluj-Napoca 146.02 333 ⇑P **PKPab 03 19 31.3 -0.7**
VOIR 146.31 330 ⇓P **PKiKP 03 19 32.9 -0.1**
PRU Pruhonice 146.35 345 *e*PKP **PKPbc 03 19 31.7 +1.1**
GOPC GO Pecny, Ondr 146.36 345 *e*PKP **PKiKP 03 19 31.9 -1.0**
VRAC Vranov 146.41 342 ⇑P **PKPbc 03 19 31.2 +0.4**
VYHS Vyhne 146.42 339 *e*PKP **PKiKP 03 19 32.4 -0.6**
VYHS *e* 03 19 34.9
PLN Plauen 146.42 348 *e*PKPbc **PKPbc 03 19 31.8 +1.0**
baz=14,slow=2.6
TANN Tannenbergstha 146.43 347 *e*PKPbc **PKPbc 03 19 31.9 +1.0**
baz=14,slow=2.6
INCR INCERC-Sediu C 146.46 327 ⇑P **PKPdf 03 19 29.0 +0.4**
JAVC Velka Javorina 146.49 341 *e*PKP **PKiKP 03 19 33.3 +0.1**
GUNZ Gunzen 146.50 347 *e*PKPbc **PKiKP 03 19 32.3 -0.8**
baz=14,slow=2.6
PSZ Piszkesteto 146.54 337 ⇑P **PKPbc 03 19 30.2 -1.1**
PSZ Piszkesteto 146.54 337 PKPdf **PKPdf 03 19 29.1 +0.4**
WERN Wernitzgruen 146.56 347 *e*PKPbc **PKiKP 03 19 32.4 -0.9**
baz=14,slow=2.6
KRUC Moravsky 146.69 342 *e*PKP **PKPbc 03 19 32.5 +0.9**
SMOL Smolenice 146.87 341 *e*PKP **PKiKP 03 19 33.8 -0.1**
MANZ Manzenberg 146.91 348 *e*PKPbc **PKiKP 03 19 33.3 -0.7**
baz=14,slow=2.6
MODS Modra-Piesok 147.04 341 *e*PKP **PKPbc 03 19 33.4 +0.9**
ROTZ Rotzenmuhle 147.09 347 *e*PKPbc **PKiKP 03 19 33.8 -0.6**
baz=14,slow=2.6
MEM Membach 147.19 355 PKPbc **PKPbc 03 19 32.8 0.0**
MEM PKiKP **PKiKP 03 19 34.5 0.0**
KHC Kasperske Hory 147.38 345 *e*PKP **PKiKP 03 19 34.5 -0.5**
BMRD Maredsous 147.59 356 PKPbc **PKPbc 03 19 34.1 +0.2**
BMRD PKiKP **PKiKP 03 19 35.3 0.0**
GEC2 GERESS Array S 147.62 345 *e*PKPbc **PKiKP 03 19 35.0 -0.6**
baz=14,slow=2.6
GERES GERESS Array B 147.62 345 PKPbc **PKiKP 03 19 35.0 -0.6**
comp=Z,5.3nm,0.6s,baz=26,slow=3.0,SNR=43
GERES GERESS Array B 147.62 345 **PKPbc 03 19 34.5 +0.4**
CONA Conrad Observa 147.87 342 *i* PKiKP **PKiKP 03 19 36.0 -0.1**
comp=Z,6.2nm,0.6s,SNR=7.1
MOA Molln 148.39 344 *i* PKiKP **PKiKP 03 19 37.7 +0.6**
comp=Z,5.5nm,1.2s
ARSA Arzberg 148.58 342 *i* PKiKP **PKiKP 03 19 38.0 +0.5**
comp=Z,5.9nm,0.9s
BFO Black Forest 149.17 351 *e*PKPbc **PKiKP 03 19 38.5 -0.2**
baz=14,slow=2.6
BFO Black Forest 149.17 351 **PKPbc 03 19 38.2 +0.3**
SOKA Soboth 149.24 342 *i* PKiKP **PKPbc 03 19 38.5 +0.3**
comp=Z,3.9nm,0.8s
KBA Koelnbreinsper 149.34 344 *i* PKiKP **PKiKP 03 19 39.4 0.0**
comp=Z,4.0nm,0.5s
UBR Ueberruh 149.50 349 *e*PKPbc **PKiKP 03 19 39.6 +0.1**
baz=14,slow=2.6
WATA Walderalm 149.53 347 *i* PKiKP **PKiKP 03 19 39.6 -0.1**
comp=Z,4.9nm,0.5s
RETA Reutte 149.56 348 *i* PKiKP **PKiKP 03 19 39.7 +0.1**
comp=Z,2.7nm,0.5s
MOTA Moosalm 149.62 347 *i* PKiKP **PKiKP 03 19 39.9 0.0**
comp=Z,6.3nm,0.8s
DIVS Divibare 149.64 333 **PKPbc 03 19 39.5 +0.3**
MYKA Terra Mystica 149.68 343 *i* PKiKP **PKPbc 03 19 39.3 +0.1**
comp=Z,6.2nm,0.7s
SQTA Sankt Quirin 149.72 347 *i* PKiKP **PKiKP 03 19 40.1 +0.1**
comp=Z,7.3nm,0.6s
ABTA Abfaltersbach 149.86 345 *i* PKiKP **PKPbc 03 19 39.8 +0.1**
comp=Z,9.2nm,0.6s,SNR=7.0
DAVA Damuels 149.92 349 *i* PKiKP **PKiKP 03 19 40.6 +0.1**
comp=Z,6.6nm,1.1s
LJU Ljubljana 149.96 342 *e*PKPbc **PKiKP 03 19 40.4 0.0**
FETA Feichten 150.01 347 *i* PKiKP **PKiKP 03 19 40.9 +0.2**
comp=Z,9.6nm,1.0s
GBAS Gorenja Brezov 150.09 342 *e*PKPbc **PKiKP 03 19 40.5 -0.2**
CIMO Cimolais 150.29 345 **PKPbc 03 19 40.4 -0.2**
FUORN Ofenpass-Fuorn 150.49 348 **PKPbc 03 19 41.4 +0.1**
TUE Stuetta 150.81 349 **PKPbc 03 19 42.2 +0.2**
PDG Podgorica 151.30 332 ⇓P **PKiKP 03 19 43.5 +0.2**
LIT Litokhoron 151.45 325 **PKPbc 03 19 43.2 -0.2**
FNA Florina 151.54 327 **PKPbc 03 19 43.6 0.0**
ESDC Sonseca Array 157.79 11 PKPab **PKPab 03 20 22.1 +0.3**
comp=Z,0.9nm,0.9s,baz=339,slow=4.3,SNR=5.9
TORD Torodi Ar. Bea 175.26 181 PKP **PKPdf 03 19 58.3 -0.7**
comp=Z,1.4nm,0.9s,baz=323,slow=1.7,SNR=6.5
TORD PKPab **PKPab 03 21 40.0 +0.7**
comp=Z,0.5nm,0.6s,baz=180,slow=3.0,SNR=3.5

JMA ***25*** *03:12:57.8±0.1,24°.36N×121°.91E,h40km±4km,M2.3*
TAP ***25*** *03:12:58.0,24°.42N×121°.94E,h26km,ML3.1,B*
ISC 25 03:12:58.2±0.9,24°.39N±0°.02×121°.93E±0°.02,h24km±5km,
n82,σ1°.03/131,2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.12**	**297**	*i* P	**Pn**	**03 13 02.9**	**-1.8**
baz=285							
ENAH				*i* S	**Sb**	**03 13 06.6**	**+0.4**
baz=285							
ENA	**Nanau**	**0.18**	**281**	⇓*i*P	**Pn**	**03 13 03.4**	**-2.0**
baz=272							
ENA				*i* S	**Sb**	**03 13 07.4**	**+0.3**
baz=272							
TWC	**Suao**	**0.23**	**341**	⇓*i*P	**Pn**	**03 13 04.0**	**-2.1**
baz=339							
TWC				*i* S	**Sn**	**03 13 07.7**	**-0.5**
baz=339							
NACB	**Ninganchiao**	**0.38**	**235**	*i* P	**Pb**	**03 13 06.5**	**+0.1**
baz=235							
NACB				*i* S	**Sn**	**03 13 13.3**	**-1.4**
baz=235							
TWE	**Neicheng**	**0.41**	**324**	P	**Pb**	**03 13 06.8**	**0.0**
baz=322							
TWE				S	**Sb**	**03 13 12.9**	**+0.2**
baz=322							
ILA	**Ilan**	**0.41**	**336**	*e*S	**Sb**	**03 13 13.5**	**+0.7**

	baz=328						
ENTT	**Nioudou**	**0.41 307**	P		**Pb**	**03 13 07.1**	**+0.1**
	baz=303						
ENTT			*i* S		**Sb**	**03 13 13.0**	**0.0**
	baz=303						
NDT	**Datong Townshi**	**0.43 299**	*i* P		**Pb**	**03 13 07.6**	**+0.2**
	baz=295						
NDT			*i* S		**Sb**	**03 13 14.1**	**+0.5**
	baz=295						
ETLH	**Xiulin Townshi**	**0.45 246**	*e*P		**Pb**	**03 13 07.8**	**+0.2**
	baz=246						
ETLH			*e*S		**Sa**	**03 13 15.3**	**-1.4**
	baz=246						
NTC	**Toucheng**	**0.47 349**	*e*P		**Pb**	**03 13 08.0**	**+0.1**
	baz=348						
NTC			*e*S		**Sb**	**03 13 14.8**	**+0.3**
	baz=348						
NNSB	**Datong**	**0.50 274**	*e*P		**Pb**	**03 13 08.6**	**+0.1**
	baz=276						
NNSB			*e*S		**Sb**	**03 13 16.0**	**+0.5**
	baz=276						
NNSH	**Datong**	**0.50 274**	*e*P		**Pb**	**03 13 08.6**	**+0.1**
	baz=274						
NNSH			*e*S		**Sb**	**03 13 15.7**	**+0.1**
	baz=274						
HWA	**Hwalien**	**0.51 216**	*e*P		**Pn**	**03 13 09.5**	**-0.5**
	baz=213						
HWA			*e*S		**Sn**	**03 13 20.1**	**+2.1**
	baz=213						
NNS	**Nan Shan**	**0.51 275**	*e*P		**Pn**	**03 13 09.0**	**-1.2**
	baz=277						
NNS			*e*S		**Sn**	**03 13 16.6**	**-1.6**
	baz=277						
NWLT	**Wulai**	**0.55 315**	*e*P		**Pb**	**03 13 09.1**	**-0.2**
	baz=312						
NWLT			*e*S		**Sb**	**03 13 16.5**	**-0.2**
	baz=312						
YHNB	**Yeheng**	**0.57 299**	P		**Pn**	**03 13 09.8**	**-1.2**
	baz=296						
YHNB			S		**Sb**	**03 13 17.9**	**+0.3**
	baz=296						
TIPB	**Shuangxi**	**0.58 351**	*e*P		**Pb**	**03 13 09.8**	**0.0**
	baz=355						
TIPB			*e*S		**Sb**	**03 13 17.9**	**+0.1**
	baz=355						
NSK	**Sanguang**	**0.59 298**	P		**Pn**	**03 13 10.1**	**-1.2**
	baz=296						
NSK			*e*S		**Sb**	**03 13 18.1**	**0.0**
	baz=296						
TWB1	**Santiao Chiao**	**0.61 5**	*e*P		**Pb**	**03 13 10.6**	**+0.2**
TWB1			*e*S		**Sb**	**03 13 18.6**	**0.0**
FUSS	**Fushou**	**0.64 257**	P		**Pb**	**03 13 11.4**	**+0.4**
	baz=259						
FUSS			*e*S		**Sn**	**03 13 20.9**	**-0.8**
	baz=259						
WHF	**Hehuan Shan**	**0.66 248**	P		**Pb**	**03 13 11.4**	**+0.1**
	baz=252						
WHF			S		**Sn**	**03 13 21.4**	**-0.8**
	baz=252						
TWA	**Mucha**	**0.66 332**	P		**Pb**	**03 13 12.4**	**+1.1**
	baz=322						
TWA			S		**Sn**	**03 13 21.0**	**-0.9**
	baz=322						
NWF	**Wu-fen Shan**	**0.69 349**	*e*P		**Pb**	**03 13 12.0**	**+0.3**
	baz=341						
NWF			*e*S		**Sn**	**03 13 21.4**	**-1.1**
	baz=341						
WFSB	**Wu-fen Shan**	**0.69 349**	*e*P		**Pb**	**03 13 11.9**	**+0.3**
	baz=341						
WFSB			*e*S		**Sn**	**03 13 21.3**	**-1.1**
	baz=341						
TWT	**Tachien**	**0.70 259**	*e*P		**Pb**	**03 13 13.7**	**+1.7**
	baz=256						
TWT			*e*S		**Sn**	**03 13 23.5**	**+0.4**
	baz=256						
TATO	**Taipei**	**0.71 325**	*e*P		**Pb**	**03 13 12.7**	**+0.8**
	baz=317						
TATO			*e*S		**Sb**	**03 13 21.5**	**+0.3**
	baz=317						
TDCB	**Techi**	**0.72 259**	*e*P		**Pb**	**03 13 12.7**	**+0.5**
	baz=257						
TDCB			S		**Sn**	**03 13 22.5**	**-0.8**
	baz=257						
ESL	**Shilin**	**0.73 218**	*e*P		**Pb**	**03 13 12.1**	**-0.3**
	baz=216						
TAP1	**Taipei**	**0.74 330**	*e*S		**Sb**	**03 13 23.9**	**+1.7**
	baz=322						
TAP	**Taipei**	**0.75 329**	*e*S		**Sb**	**03 13 24.1**	**+1.7**
	baz=322						
CHGB	**Renai**	**0.77 244**	P		**Pb**	**03 13 13.3**	**+0.2**
	baz=243						
CHGB			*e*S		**Sb**	**03 13 24.7**	**+1.5**
	baz=243						
YM01	**YM01**	**0.82 336**	*e*P		**Pb**	**03 13 14.4**	**+0.6**
	baz=349						
YM01			*e*S		**Sb**	**03 13 25.1**	**+0.6**
	baz=349						
YM10	**YM10**	**0.83 336**	*e*P		**Pb**	**03 13 13.7**	**-0.3**
	baz=347						
YM10			*e*S		**Sb**	**03 13 26.0**	**+1.1**
	baz=347						
YM11	**YM11**	**0.83 337**	*e*P		**Pb**	**03 13 15.2**	**+1.1**
	baz=349						
YM11			*e*S		**Sb**	**03 13 27.1**	**+2.1**
	baz=349						
YM05	**YM05**	**0.84 337**	P		**Pb**	**03 13 14.5**	**+0.3**
	baz=349						
YM05			*e*S		**Sb**	**03 13 25.9**	**+0.9**
	baz=349						
YM04	**YM04**	**0.84 335**	P		**Pb**	**03 13 14.7**	**+0.6**
	baz=334						
YM04			*e*S		**Sb**	**03 13 26.6**	**+1.6**
	baz=334						
TWS1	**Kuangyinshan**	**0.84 327**	*e*S		**Sb**	**03 13 27.6**	**+2.4**
	baz=336						
YM08	**YM08**	**0.85 339**	*e*P		**Pb**	**03 13 14.8**	**+0.4**
	baz=338						
YM08			*e*S		**Sb**	**03 13 28.1**	**+2.7**
	baz=338						
EGFH	**Guangfu**	**0.86 213**	*e*P		**Pb**	**03 13 16.0**	**+1.6**
	baz=226						
YM03	**YM03**	**0.86 336**	*e*P		**Pb**	**03 13 14.9**	**+0.3**
	baz=334						
YM03			*e*S		**Sb**	**03 13 26.8**	**+1.1**
	baz=334						
LIOB	**Emei**	**0.87 287**	*e*P		**Pb**	**03 13 15.4**	**+0.7**
	baz=285						
NSTT	**Nanjuang**	**0.88 286**	*e*P		**Pb**	**03 13 15.6**	**+0.8**
	baz=284						
NTST	**Danshui**	**0.88 330**	*e*S		**Sb**	**03 13 28.6**	**+2.3**
	baz=339						
NCUH	**Zhongli**	**0.89 310**	*e*S		**Sb**	**03 13 29.1**	**+2.6**
	baz=295						
WHP	**Taichung City**	**0.91 263**	*e*P		**Pb**	**03 13 16.2**	**+0.8**
	baz=261						
WHP			*e*S		**Sb**	**03 13 28.9**	**+1.9**
	baz=261						
JYNG	**Yonagunijimaku**	**0.93 86**	P		**Pb**	**03 13 15.2**	**-0.4**
JYNG			S		**Sb**	**03 13 27.6**	**+0.1**
TWY	**Chenhua**	**0.93 341**	*e*P		**Pb**	**03 13 16.5**	**+0.8**
	baz=341						
TWY			*e*S		**Sb**	**03 13 29.0**	**+1.4**
	baz=341						
VWDT	**VWDT**	**0.96 229**	P		**Pb**	**03 13 15.9**	**-0.4**
	baz=227						
VWDT			S		**Sb**	**03 13 29.9**	**+1.3**
	baz=227						
YOJ	**Yonaguni jima**	**0.99 86**	P		**Pb**	**03 13 16.3**	**-0.3**
	baz=81						
YOJ			S		**Sb**	**03 13 29.6**	**+0.3**
	baz=81						
YOJ	**Yonaguni jima**	**0.99 86**	P		**Pn**	**03 13 15.7**	**-0.9**
YOJ			*e*S		**Sb**	**03 13 29.4**	**+0.1**
HGSD	**Ruisui**	**1.01 207**	P		**Pb**	**03 13 17.4**	**+0.3**
	baz=206						
HGSD			*e*S		**Sb**	**03 13 30.9**	**+1.0**
	baz=206						
EHY	**Hungye**	**1.04 212**	*e*P		**Pb**	**03 13 17.4**	**-0.2**
	baz=211						
TWQ1	**Liyutan**	**1.06 268**	*e*S		**Sb**	**03 13 31.8**	**+0.5**
	baz=266						
SMLT	**Sun Moon Lake**	**1.07 242**	*e*P		**Pb**	**03 13 18.1**	**-0.1**
	baz=230						
SSLB	**Suanglung**	**1.08 236**	P		**Pb**	**03 13 18.0**	**-0.2**
	baz=224						
TYC	**Yuchr**	**1.09 244**	*e*P		**Pb**	**03 13 18.4**	**-0.1**
	baz=234						
YULB	**Yu-li**	**1.15 210**	*e*P		**Pb**	**03 13 19.0**	**-0.5**
	baz=209						
WDJ	**Dajia District**	**1.18 268**	*e*S		**Sb**	**03 13 37.0**	**+2.3**
	baz=266						
EYUL	**Yuli**	**1.18 208**	*e*P		**Pb**	**03 13 19.3**	**-0.7**
	baz=221						
TWF1	**Yuli**	**1.19 209**	*e*P		**Pb**	**03 13 19.6**	**-0.5**
	baz=220						
FULB	**Fuli**	**1.32 206**	*e*P		**Pb**	**03 13 21.5**	**-1.0**
	baz=218						
ALS	**Alishan**	**1.35 230**	*e*P		**Pb**	**03 13 22.2**	**-0.9**
	baz=217						
CHN5	**Tsauling**	**1.39 236**	*e*P		**Pb**	**03 13 23.7**	**0.0**
	baz=234						
ELDTW	**Lidau**	**1.46 215**	*e*P		**Pn**	**03 13 23.2**	**0.0**
	baz=203						
WTK	**Tuku**	**1.57 244**	*e*S		**Sb**	**03 13 46.0**	**-0.2**
	baz=242						
TPUB	**Ta-pu**	**1.61 228**	*e*P		**Pb**	**03 13 26.5**	**-0.9**
	baz=227						
TPUB			*e*S		**Sb**	**03 13 48.5**	**+1.1**
	baz=227						
CHY	**Chiayi**	**1.64 237**	*e*S		**Sb**	**03 13 50.3**	**+2.2**
	baz=236						
IRIF	**Iriomote-Funau**	**1.64 92**	P		**Pn**	**03 13 25.3**	**-0.3**
IRIF			*e*S		**Sn**	**03 13 45.6**	**-0.3**
WTP	**Ta-pu**	**1.66 227**	*e*P		**Pb**	**03 13 27.6**	**-0.6**
	baz=225						
TWK	**Hsinying**	**1.73 230**	*e*P		**Pb**	**03 13 28.7**	**-0.7**
	baz=228						
SNST	**Tainan City**	**1.76 229**	*e*P		**Pb**	**03 13 28.9**	**-0.9**
	baz=228						
SNST			*e*S		**Sb**	**03 13 53.8**	**+2.3**
	baz=228						
CHN1	**Nanshi**	**1.76 227**	*e*P		**Pb**	**03 13 29.1**	**-0.8**
	baz=226						
CHN1			*e*S		**Sb**	**03 13 53.0**	**+1.5**
	baz=226						
SLGT	**Liugui**	**1.82 220**	*e*P		**Pb**	**03 13 29.9**	**-1.0**
	baz=220						
JKRS	**Kuro-shima**	**1.90 94**	P		**Pn**	**03 13 29.5**	**+0.3**
JKRS			S		**Sn**	**03 13 52.6**	**+0.2**
JIJ	**Ishigaki jima**	**2.02 90**	S		**Sn**	**03 13 54.5**	**-0.7**
MASBT	**Mashibuluo**	**2.14 214**	*e*P		**Pb**	**03 13 34.5**	**-1.8**
	baz=214						
MASBT			*e*S		**Sb**	**03 14 01.4**	**-1.0**
	baz=214						
JISG	**Ishigakijimahi**	**2.18 84**	P		**Pn**	**03 13 32.7**	**-0.2**
JISG			S		**Sn**	**03 13 59.2**	**+0.1**
PHUB	**P'eng-hu**	**2.33 248**	*e*S		**Sn**	**03 14 02.4**	**-0.5**
	baz=246						
VWUC	**VWUC**	**2.33 285**	*e*P		**Pn**	**03 13 34.8**	**-0.4**
	baz=284						
JTJ	**Tarama**	**2.54 84**	P		**Pn**	**03 13 39.3**	**+1.4**
TWKBT	**Hengchun**	**2.65 203**	*e*P		**Pn**	**03 13 40.4**	**+0.9**
	baz=191						
XPSS	**Dashiqiu**	**2.97 328**	*e*P		**Pn**	**03 13 43.6**	**-0.3**
	baz=328						
XPSS			*e*S		**Sn**	**03 14 18.6**	**-0.2**
	baz=328						

WEL 25 03:26:27.2,42°S±2°×17°2E±°, h14km±4km, M2.7/11, ML2.8/9, MLv2.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=115.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.35**	**273**	P	Pb	03 26 35.0	-0.2
THZ	**Tophouse**	**0.48**	**90**	P	Pg	03 26 37.0	+0.3
QRZ	**Quartz Range**	**0.96**	**12**	P	Pg	03 26 45.9	+0.2
NNZ	**Nelson**	**1.00**	**57**	P	Pb	03 26 46.0	-0.2
LTZ	**Lake Taylor**	**1.02**	**180**	P	Pn	03 26 47.4	+0.2
INZ	**Inchbonnie**	**1.14**	**212**	P	Pb	03 26 48.4	-0.3
KHZ	**Kahutara**	**1.15**	**125**	P	Pg	03 26 50.6	+1.2
BSWZ	**Blackbirch Sta**	**1.21**	**88**	P	Pg	03 26 50.6	+0.2
TUWZ	**Tuamarina**	**1.30**	**76**	P	Pb	03 26 51.5	+0.1
GVZ	**Greta Valley S**	**1.33**	**155**	P	Pg	03 26 52.9	0.0
DUWZ	**D'Urville Isla**	**1.57**	**53**	P	Pb	03 26 56.1	0.0
TCW	**Tory Channel**	**1.61**	**71**	P	Pb	03 26 56.7	0.0
WVZ	**Waitaha Valley**	**1.73**	**220**	P	Pb	03 26 59.5	+0.7
GCSZ	**Gaunt Creek Bo**	**2.11**	**222**	P	Pg	03 27 07.0	-0.7
FOZ	**Fox Glacier**	**2.53**	**225**	P	Pn	03 27 09.2	+1.4
JCZ	**Jackson Bay**	**3.44**	**227**	P	Pn	03 27 20.4	-0.1

IDC 25 03:48:10.4±1.4, 4°65S×150°73E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.2/38, mbtmp3.3/3, Error ellipse: s-maj=57.3km s-min=18.5km az=151.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.33**	**75**	Pn	Pb	03 48 36.8	+0.5
	38nm,0.3s,baz=320,slow=1.2,SNR=21						
KRVT				Sn	Sn	03 48 55.7	+1.0
	39nm,0.3s,baz=31,slow=18,SNR=6.5						
WRA	**Warramunga Arr**	**22.05**	**225**	P	P	03 53 07.6	+0.6
	0.4nm,0.8s,baz=52,slow=9.7,SNR=1.7						
ASAR	**Alice Springs**	**24.92**	**219**	P	P	03 53 35.2	-0.2
	0.5nm,0.6s,baz=55,slow=9.1,SNR=6.3						
ILAR	**Eielson Array**	**82.80**	**23**	P	P	04 00 35.8	-0.4
	0.3nm,0.6s,baz=250,slow=5.6,SNR=5.1						

*VIE **25** 03:50:21.0±2.0, 51°43N×16°30E, h0km, mb2.0/3, ml2.5/4, Error ellipse: s-maj=14.0km s-min=7.4km az=138.0 62 km NW of Wroclaw Suspected Mining induced.*
*PRU **25** 03:50:21.4±0.0, 51°46N×16°17E, h0km*
ISC 25 03:50:20.2±1.3, 51°49N±0°06×16°23E±0°03, h0km, n21, σ0§66/42, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**176**	*e*Pg	**Pg**	**03 50 33.2**	**+0.7**
KSP				*e*Sg	**Sg**	**03 50 41.2**	**+0.3**
CHVC	**Chvalec**	**0.91**	**187**	*e*PG	**Pb**	**03 50 38.1**	**-0.7**
CHVC				*e*SG	**Sg**	**03 50 49.7**	**+0.4**
OSTC	**Ostas**	**0.93**	**180**	*e*PG	**Pb**	**03 50 38.9**	**-0.3**
OSTC				*e*SG	**Sg**	**03 50 50.9**	**+0.8**
	comp=Z,22nm,0.3s						
UPC	**Upice**	**0.99**	**188**	*e*PG	**Pg**	**03 50 39.5**	**+0.3**
UPC				*e*SG	**Sg**	**03 50 52.1**	**+0.1**
DPC	**Dobruska-Polom**	**1.14**	**177**	*e*PG	**Pg**	**03 50 42.1**	**+0.1**
DPC				*e*SG	**Sg**	**03 50 56.9**	**+0.1**
	comp=Z,26nm,0.3s						
PVCC	**Panska Ves**	**1.42**	**228**	*e*PG	**Pg**	**03 50 47.5**	**+0.1**
PVCC				*e*SG	**Sb**	**03 51 06.2**	**0.0**
	comp=Z,46nm,0.2s						
KRLC	**Kraliky**	**1.46**	**166**	*e*PG	**Pn**	**03 50 47.8**	**0.0**
KRLC				*e*SG	**Sb**	**03 51 06.9**	**-0.4**
	comp=Z,18nm,0.3s						
BRG	**Berggiesshubel**	**1.56**	**248**	PG	**Pg**	**03 50 50.4**	**+0.2**
BRG				SG	**Sg**	**03 51 10.5**	**+0.2**
	22nm,0.6s						
PRU	**Pruhonice**	**1.84**	**216**	*e*PG	**Pb**	**03 50 55.0**	**+0.2**
PRU				*e*SG	**Sb**	**03 51 18.1**	**-0.2**
	comp=Z,15nm,0.2s						
MORC	**Moravsky Berou**	**1.91**	**153**	*e*PN	**Pn**	**03 50 54.3**	**+0.3**
MORC				*e*SG	**Sn**	**03 51 17.0**	**-1.7**
CLL	**Collm**	**2.03**	**266**	*e*Pg	**Pb**	**03 50 58.0**	**+0.1**
CLL				*e*Sg	**Sb**	**03 51 24.0**	**+0.4**
	comp=Z,9.0nm,0.4s						
VRAC	**Vranov**	**2.19**	**174**	*e*PN	**Pn**	**03 50 58.9**	**+1.0**
VRAC				*e*SG	**Sb**	**03 51 28.0**	**-0.5**
KRUC	**Moravsky**	**2.43**	**177**	*e*PN	**Pn**	**03 51 02.3**	**+1.1**
KRUC				*e*SG	**Sb**	**03 51 35.8**	**+0.6**
OJC	**Ojcow**	**2.60**	**118**	*e*Pg	**Pg**	**03 51 09.8**	**-0.2**
OJC				*e*Sg	**Sg**	**03 51 44.3**	**+0.7**
NKC	**Novy Kostel**	**2.70**	**244**	*e*PN	**Pn**	**03 51 05.2**	**+0.3**
NKC				*e*PG	**Pg**	**03 51 12.0**	**0.0**
NKC				*e*SG	**Sg**	**03 51 46.2**	**-0.8**
	comp=Z,13nm,0.3s						
KHC	**Kasperske Hory**	**2.91**	**217**	*e*PN	**Pn**	**03 51 07.6**	**-0.1**
KHC				*e*PG	**Pb**	**03 51 14.0**	**+1.1**
KHC				*e*SN	**Sn**	**03 51 42.5**	**-0.9**
KHC				*e*SG	**Sg**	**03 51 51.8**	**-1.7**
	comp=Z,5.5nm,0.4s						
LANS	**Liptovska Anna**	**3.13**	**137**	*e*PG	**Pg**	**03 51 19.8**	**-0.3**
MODS	**Modra-Piesok**	**3.19**	**167**	*e*SG	**Sg**	**03 52 03.1**	**+0.5**
CONA	**Conrad Observa**	**3.57**	**184**	*e*Pn	**Pn**	**03 51 17.0**	**+0.1**
	comp=Z,0.2nm,0.1s						
CONA				Sg	**Sg**	**03 52 14.0**	**-0.8**
	comp=Z,5.5nm,0.3s						
MOA	**Molln**	**3.86**	**200**	*i* Pn	**Pn**	**03 51 21.6**	**+0.8**
MOA				*e*Sg	**Sg**	**03 52 24.5**	**+0.5**
	comp=Z,4.3nm,0.4s						
ARSA	**Arzberg**	**4.26**	**186**	Sg	**Sg**	**03 52 38.0**	**+0.8**
	comp=Z,3.4nm,0.4s						

*IDC **25** 03:53:56.5±1.2, 14°30N×144°25E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/55, mbtmp3.9/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/47, Error ellipse: s-maj=35.1km s-min=15.4km az=56.0*
ISC 25 03:54:01.2±1.0, 14°3N±0°2×144°3E±0°2, h35km, n14, σ0§91/8, mb3.9/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.94**	**141**	Pn	**Pn**	**03 54 17.2**	**-0.7**
	47nm,0.3s,baz=267,slow=3.2,SNR=12						
GUMO				Sn	**Sn**	**03 54 31.4**	**+1.4**
	42nm,0.3s,baz=174,slow=17,SNR=6.0						
GUMO				T	T	03 55 27.4	
	277nm,0.3s,baz=163,slow=22,SNR=11						
H11S3	**WAKE ISLAND Hy 21.90**	**76**		T	T	04 21 51.0	
	baz=262,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy 21.91**	**76**		T	T	04 21 52.1	
	baz=262,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy 21.92**	**76**		T	T	04 21 52.4	
	baz=262,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy 22.28**	**73**		T	T	04 22 23.7	
	baz=243,slow=74,SNR=5.9						
H11N2	**WAKE ISLAND Hy 22.29**	**73**		T	T	04 22 22.1	
	baz=243,slow=74,SNR=5.3						
H11N3	**WAKE ISLAND Hy 22.30**	**73**		T	T	04 22 22.1	
	baz=243,slow=74,SNR=6.0						
MJAR	**Matsushiro Arr**	**22.78**	**347**	P	**P**	**03 59 00.6**	**-0.2**
	4.3nm,1.0s,baz=179,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**35.42**	**196**	P	**P**	**04 00 54.4**	**+0.2**
	4.9nm,0.9s,baz=15,slow=9.5,SNR=25						
ASAR	**Alice Springs**	**39.09**	**195**	P	**P**	**04 01 25.8**	**+0.4**
	0.1nm,0.4s,baz=8.8,slow=15,SNR=4.9						
CMAR	**Chiang Mai Arr**	**43.59**	**282**	P	**P**	**04 02 02.9**	**+0.5**
	0.6nm,0.3s,baz=74,slow=7.1,SNR=5.3						
SONM	**Songjino Array**	**45.80**	**325**	P	**P**	**04 02 20.0**	**+0.3**
	0.6nm,0.4s,baz=86,slow=7.8,SNR=3.0						
STKA	**Stephens Creek**	**46.01**	**183**	P	**P**	**04 02 20.2**	**-1.1**
	2.0nm,0.9s,baz=331,slow=12,SNR=4.6						
TLY	**Talaya**	**49.42**	**328**	LR	LR	04 25 09.9	
	comp=Z,17nm,18.6s,baz=149,slow=38						

*JMA **25** 04:00:59.0±0.1, 24°44N×121°93E, h8km±5km, M2.0*
*TAP **25** 04:00:59.7, 24°44N×121°88E, h19km, ML2.8, B*
ISC 25 04:00:59.5±0.8, 24°44N±0°02×121°91E±0°02, h17km±6km, n66, σ0§52/111, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.09**	**277**	*i* P	**Pg**	**04 01 03.2**	**+0.3**
	baz=279						
ENAH				S	**Sg**	**04 01 05.5**	**+0.3**
	baz=279						
ENA	**Nanau**	**0.16**	**266**	P	**Pb**	**04 01 03.7**	**-0.3**
	baz=263						
ENA				*i* S	**Sb**	**04 01 06.4**	**-0.6**
	baz=263						
TWC	**Suao**	**0.18**	**341**	P	**Pb**	**04 01 04.5**	**+0.1**
	baz=1.0						
TWC				S	**Sb**	**04 01 07.3**	**-0.4**
	baz=1.0						
ILA	**Ilan**	**0.36**	**335**	*e*P	**Pb**	**04 01 07.6**	**+0.2**
	baz=337						
ILA				*e*S	**Sb**	**04 01 12.3**	**-0.5**
	baz=337						
TWE	**Neicheng**	**0.36**	**322**	*e*P	**Pb**	**04 01 07.3**	**-0.2**
	baz=327						
TWE				S	**Sg**	**04 01 11.5**	**-0.6**
	baz=327						
ENTT	**Nioudou**	**0.37**	**303**	P	**Pb**	**04 01 07.4**	**-0.3**
	baz=305						
ENTT				S	**Sg**	**04 01 12.4**	**-0.1**
	baz=305						
NACB	**Ninganchiao**	**0.39**	**228**	‖ *i* P	**Pg**	**04 01 07.0**	**-0.5**
	baz=224						
NACB				S	**Sg**	**04 01 12.5**	**-0.4**
	baz=224						
NDT	**Datong Townshi**	**0.40**	**294**	P	**Pb**	**04 01 08.0**	**-0.1**
	baz=296						
NDT				*e*S	**Sg**	**04 01 13.1**	**-0.2**
	baz=296						
NTC	**Toucheng**	**0.42**	**350**	*e*P	**Pb**	**04 01 08.4**	**-0.1**
	baz=354						
NTC				*e*S	**Sg**	**04 01 14.1**	**+0.2**
	baz=354						
ETLH	**Xiulin Townshi**	**0.46**	**240**	P	**Pg**	**04 01 08.2**	**-0.5**
	baz=238						
ETLH				S	**Sg**	**04 01 14.9**	**0.0**
	baz=238						
NNSB	**Datong**	**0.48**	**269**	P	**Pg**	**04 01 09.2**	**-0.1**
	baz=269						
NNSB				S	**Sg**	**04 01 15.4**	**-0.4**
	baz=269						
NNSH	**Datong**	**0.48**	**269**	P	**Pg**	**04 01 09.1**	**-0.1**
	baz=269						
NNSH				*e*S	**Sg**	**04 01 14.9**	**-0.8**
	baz=269						
NNS	**Nan Shan**	**0.49**	**270**	P	**Pg**	**04 01 09.3**	**-0.1**
	baz=270						
NNS				S	**Sg**	**04 01 15.6**	**-0.5**
	baz=270						
NWLT	**Wulai**	**0.50**	**312**	*e*P	**Pb**	**04 01 09.8**	**-0.1**
	baz=311						
NWLT				*e*S	**Sg**	**04 01 16.0**	**-0.4**
	baz=311						
TIPB	**Shuangxi**	**0.54**	**352**	*e*P	**Pb**	**04 01 10.5**	**0.0**
	baz=3.0						
TIPB				*e*S	**Sg**	**04 01 17.5**	**0.0**
	baz=3.0						
YHNB	**Yeheng**	**0.54**	**295**	P	**Pb**	**04 01 10.4**	**-0.2**
	baz=297						
YHNB				S	**Sg**	**04 01 17.2**	**-0.3**
	baz=297						
NSK	**Sanguang**	**0.56**	**295**	*e*P	**Pb**	**04 01 10.6**	**-0.2**
	baz=297						
NSK				*e*S	**Sg**	**04 01 17.4**	**-0.7**
	baz=297						
TWB1	**Santiao Chiao**	**0.57**	**7**	*e*P	**Pb**	**04 01 11.1**	**+0.1**
	baz=3.0						
TWB1				*e*S	**Sg**	**04 01 18.6**	**0.0**
	baz=3.0						
TWA	**Mucha**	**0.62**	**331**	*e*P	**Pb**	**04 01 12.8**	**+1.0**
	baz=324						
TWA				*e*S	**Sb**	**04 01 20.0**	**-0.3**
	baz=324						
FUSS	**Fushou**	**0.64**	**253**	*e*P	**Pg**	**04 01 12.0**	**-0.1**
	baz=252						
FUSS				*e*S	**Sg**	**04 01 20.5**	**-0.2**
	baz=252						
WHF	**Hehuan Shan**	**0.66**	**244**	*e*P	**Pg**	**04 01 12.0**	**-0.5**
	baz=249						
WHF				*e*S	**Sg**	**04 01 21.0**	**-0.4**
	baz=249						
TATO	**Taipei**	**0.66**	**324**	*e*P	**Pb**	**04 01 13.1**	**+0.5**
	baz=317						
TATO				*e*S	**Sg**	**04 01 20.9**	**-0.3**
	baz=317						
TWT	**Tachien**	**0.70**	**255**	*e*P	**Pb**	**04 01 13.3**	**0.0**
	baz=249						
TWT				*e*S	**

	baz=339						
YM05	**YM05**	**0.79**	**337**	*e*P	**Pn**	**04 01 15.6**	**-0.3**
	baz=331						
YM05				*e*S	**Sb**	**04 01 25.7**	**+0.4**
	baz=331						
YM04	**YM04**	**0.79**	**334**	*e*P	**Pn**	**04 01 15.6**	**-0.4**
	baz=336						
YM04				*e*S	**Sb**	**04 01 25.4**	**+0.2**
	baz=336						
NWRT	**Kuosheng**	**0.80**	**343**	*e*S	**Sb**	**04 01 25.9**	**+0.6**
	baz=349						
TWS1	**Kuangyinshan**	**0.80**	**326**	*e*P	**Pn**	**04 01 15.9**	**-0.1**
	baz=322						
TWS1				*e*S	**Sn**	**04 01 27.6**	**+0.1**
	baz=322						
YM08	**YM08**	**0.80**	**339**	*e*P	**Pb**	**04 01 15.6**	**+0.6**
	baz=340						
YM08				*e*S	**Sb**	**04 01 25.6**	**0.0**
	baz=340						
YM03	**YM03**	**0.81**	**335**	*e*P	**Pb**	**04 01 15.8**	**+0.5**
	baz=337						
ANP	**Anpu**	**0.83**	**335**	*e*P	**Pb**	**04 01 16.0**	**+0.5**
	baz=337						
NTST	**Danshui**	**0.84**	**330**	*e*S	**Sb**	**04 01 27.5**	**+0.9**
	baz=331						
LIOB	**Emei**	**0.84**	**284**	*e*P	**Pn**	**04 01 16.6**	**0.0**
	baz=284						
NCUH	**Zhongli**	**0.85**	**309**	*e*S	**Sn**	**04 01 28.2**	**-0.5**
	baz=317						
NSTT	**Nanjuang**	**0.85**	**283**	*e*P	**Pn**	**04 01 16.7**	**0.0**
	baz=276						
NSTT				*e*S	**Sb**	**04 01 27.3**	**+0.3**
	baz=276						
TWY	**Chenhua**	**0.88**	**341**	*e*P	**Pn**	**04 01 17.4**	**+0.3**
	baz=343						
TWY				*e*S	**Sb**	**04 01 29.0**	**+1.1**
	baz=343						
EGFH	**Guangfu**	**0.89**	**210**	*e*P	**Pb**	**04 01 16.7**	**+0.3**
	baz=223						
WHP	**Taichung City**	**0.90**	**260**	*e*P	**Pn**	**04 01 17.2**	**-0.2**
	baz=259						
JYNG	**Yonagunijimaku**	**0.94**	**89**	P	**Pb**	**04 01 16.5**	**-0.8**
JYNG				*e*S	**Sb**	**04 01 29.7**	**+0.1**
VWDT	**VWDT**	**0.98**	**226**	*e*P	**Pb**	**04 01 18.0**	**0.0**
	baz=225						
VWDT				*e*S	**Sg**	**04 01 31.5**	**+0.1**
	baz=225						
YOJ	**Yonaguni jima**	**1.00**	**88**	*e*P	**Pb**	**04 01 18.1**	**-0.3**
	baz=78						
YOJ				*e*S	**Sb**	**04 01 31.6**	**+0.3**
	baz=78						
YOJ	**Yonaguni jima**	**1.00**	**88**	P	**Pb**	**04 01 18.1**	**-0.3**
YOJ				S	**Sb**	**04 01 31.8**	**+0.5**
HGSD	**Ruisui**	**1.04**	**205**	*e*P	**Pg**	**04 01 19.4**	**-0.3**
	baz=194						
HGSD				*e*S	**Sn**	**04 01 35.2**	**+1.7**
	baz=194						
EHY	**Hungye**	**1.07**	**210**	*e*P	**Pb**	**04 01 19.6**	**-0.1**
	baz=208						
SMLT	**Sun Moon Lake**	**1.08**	**239**	*e*P	**Pn**	**04 01 20.4**	**+0.5**
	baz=238						
SSLB	**Suanglung**	**1.09**	**234**	*e*P	**Pb**	**04 01 19.9**	**0.0**
	baz=233						
TYC	**Yuchr**	**1.10**	**241**	*e*P	**Pg**	**04 01 20.6**	**-0.1**
	baz=240						
YULB	**Yu-li**	**1.18**	**209**	*e*P	**Pn**	**04 01 20.6**	**-0.7**
	baz=207						
TWF1	**Yuli**	**1.22**	**208**	*e*P	**Pg**	**04 01 23.4**	**+0.4**
	baz=219						
FULB	**Fuli**	**1.36**	**205**	*e*P	**Pb**	**04 01 24.4**	**-0.1**
	baz=218						
CHN5	**Tsauling**	**1.41**	**234**	*e*P	**Pg**	**04 01 26.6**	**0.0**
	baz=235						
CHN5				*e*S	**Sg**	**04 01 47.2**	**+2.2**
	baz=235						
TPUB	**Ta-pu**	**1.63**	**226**	*e*P	**Pn**	**04 01 26.3**	**-1.1**
	baz=217						
TPUB				*e*S	**Sg**	**04 01 53.3**	**+1.2**
	baz=217						
IRIF	**Iriomote-Funau**	**1.66**	**93**	P	**Pn**	**04 01 27.6**	**-0.2**
IRIF				*e*S	**Sn**	**04 01 48.5**	**-0.3**
WTP	**Ta-pu**	**1.68**	**225**	*e*P	**Pb**	**04 01 30.5**	**+0.5**
	baz=227						
WTP				*e*S	**Sg**	**04 01 53.1**	**-0.6**
	baz=227						
TWK	**Hsinying**	**1.75**	**228**	*e*P	**Pb**	**04 01 31.5**	**+0.3**
	baz=229						
CHN1	**Nanshi**	**1.78**	**226**	*e*P	**Pb**	**04 01 31.9**	**+0.3**
	baz=226						
SLGT	**Liugui**	**1.85**	**219**	*e*P	**Pb**	**04 01 32.9**	**+0.1**
	baz=221						
SLGT				*e*S	**Sg**	**04 01 58.9**	**-0.1**
	baz=221						
JKRS	**Kuro-shima**	**1.92**	**96**	P	**Pn**	**04 01 31.8**	**+0.4**
JKRS				*e*S	**Sn**	**04 01 55.6**	**+0.4**
JIJ	**Ishigaki jima**	**2.04**	**92**	*e*S	**Sn**	**04 01 57.7**	**-0.3**
JISG	**Ishigakijimahi**	**2.19**	**86**	P	**Pn**	**04 01 34.8**	**-0.3**
JISG				*e*S	**Sn**	**04 02 02.1**	**+0.3**

IDC 25 04:04:10.5±3.1, 6°.62N×123°.75E, h631^{km}±48^{km}, mb3.0/5, mb1 3.1/5, mb1mx2.6/58, mbtmp4.1/5, Error ellipse: s-maj=107.0km s-min=12.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.63**	**176**	P	P	04 08 43.8	-0.2
	1.3nm,0.7s,baz=2.4,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**28.38**	**159**	P	P	04 09 16.3	-0.5
	2.5nm,0.3s,baz=336,slow=10,SNR=35						
WRA				S	S	04 13 20.1	-1.4
	0.2nm,0.6s,baz=336,slow=15,SNR=1.5						
ASAR	**Alice Springs**	**31.69**	**162**	P	P	04 09 45.6	+0.6
	1.9nm,0.3s,baz=341,slow=6.9,SNR=36						
ASAR				S	S	04 14 14.1	+1.9
	0.3nm,0.6s,baz=355,slow=21,SNR=3.1						
STKA	**Stephens Creek**	**41.90**	**157**	P	P	04 11 09.2	+1.3
	0.8nm,0.4s,baz=325,slow=8.4,SNR=4.0						
MKAR	**Makanchi Array**	**53.51**	**326**	P	P	04 12 33.9	-0.1
	0.9nm,0.4s,baz=117,slow=7.9,SNR=16						

*IDC **25** 04:06:11.1±3.3, 35°.65N×20°.91E, h0^{km}, mb4.1/8, mb1 4.0/13, mb1mx3.7/55, mbtmp3.9/13, ML3.8/5, Error ellipse: s-maj=59.1km s-min=21.8km az=33.0*
*ATH **25** 04:06:19.5, 36°.15N×21°.25E, h29^{km}±3^{km}, ML3.2/6, Error ellipse: s-maj=4.9km s-min=2.0km az=42.0*
*THE **25** 04:06:20.9, 36°.20N×21°.30E, h8^{km}±7^{km}, ML3.1/7, Error ellipse: s-maj=11.7km s-min=0.7km az=299.0*

ISC 25 04:06:17.3±1.9, 36°.05N±0°.06×21°.19E±0°.05, h14^{km}±10^{km}, n84, σ1^{s}48/93, mb4.1/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.96**	**28**	P	**Pg**	**04 06 35.6**	**-0.2**
PYL				S	**Sg**	**04 06 46.8**	**-1.5**
	1μm,0.7s						
PYL	**PYLOS**	**0.96**	**28**	P	**Pb**	**04 06 36.2**	**+0.4**
PYL				S	**Sb**	**04 06 48.1**	**-0.2**
PYL				AML	AML	04 06 55.5	
	comp=E,2889μm,0.6s						
PYL				AML	AML	04 06 56.2	
	comp=N,2278μm,0.5s						
ITM	**Ithomi**	**1.28**	**28**	P	**Pg**	**04 06 41.0**	**-0.9**
ITM				S	**Sb**	**04 06 57.6**	**+0.1**
	comp=N,838nm,0.4s						
ITM	**Ithomi**	**1.28**	**28**	P	**Pg**	**04 06 41.2**	**-0.8**
ITM				S	**Sn**	**04 06 57.8**	**0.0**
ITM				AML	AML	04 07 06.4	
	comp=E,1724μm,0.4s						
ITM				AML	AML	04 07 09.2	
	comp=N,1646μm,0.4s						
KTHA	**Kythira Island**	**1.53**	**82**	P	**Pb**	**04 06 46.7**	**+1.1**
KTHA				S	**Sb**	**04 07 06.2**	**+1.3**
	comp=N,802nm,0.7s						
KTHA	**Kythira Island**	**1.53**	**82**	P	**Pb**	**04 06 46.7**	**+1.1**
KTHA				AML	AML	04 07 21.5	
	comp=N,1330μm,0.6s						
KTHA				AML	AML	04 07 23.2	
	comp=E,1783μm,0.7s						
VLI	**Veliai**	**1.56**	**64**	P	**Pb**	**04 06 47.0**	**+0.9**
VLI				S	**Sn**	**04 07 04.5**	**-0.3**
	comp=E,775nm,0.9s						
VLI	**Veliai**	**1.56**	**64**	P	**Pb**	**04 06 47.0**	**+0.9**
VLI				AML	AML	04 07 19.1	
	comp=E,1332μm,0.5s						
VLI				AML	AML	04 07 19.3	
	comp=N,1623μm,0.9s						
MNVA	**Monemvasia**	**1.62**	**66**	P	**Pb**	**04 06 47.9**	**+0.8**
VLX	**Vlachokerasia**	**1.63**	**36**	P	**Pn**	**04 06 46.7**	**+0.9**
VLX	**Vlachokerasia**	**1.63**	**36**	P	**Pn**	**04 06 47.0**	**+1.2**
KRI1	**kERI**	**1.64**	**350**	P	**Pn**	**04 06 46.1**	**+0.3**
KRI1				S	**Sb**	**04 07 08.1**	**+0.3**
	comp=N,582nm,0.5s						
TRIP	**Tripoli**	**1.71**	**30**	P	**Pn**	**04 06 48.2**	**+1.3**
TRIP	**Tripoli**	**1.71**	**30**	P	**Pn**	**04 06 48.2**	**+1.3**
TRIP				AML	AML	04 07 23.4	
	comp=N,925μm,0.5s						
TRIP				AML	AML	04 07 23.6	
	comp=E,1084μm,0.7s						
ANKY	**Antikythira Is**	**1.73**	**95**	P	**Pn**	**04 06 49.8**	**+2.8**
ANKY	**Antikythira Is**	**1.73**	**95**	P	**Pn**	**04 06 49.8**	**+2.8**
VLMS	**Volimes, Zakyn**	**1.87**	**347**	P	**Pn**	**04 06 49.7**	**+0.6**
KRND	**KRANIDI**	**2.06**	**49**	P	**Pn**	**04 06 52.8**	**+1.2**
KRND	**KRANIDI**	**2.06**	**49**	P	**Pn**	**04 06 52.7**	**+1.0**
GUR	**Goura**	**2.10**	**26**	P	**Pn**	**04 06 53.9**	**+1.7**
GUR	**Goura**	**2.10**	**26**	P	**Pn**	**04 06 53.9**	**+1.7**
KLV	**Kalavryta, Ach**	**2.13**	**21**	P	**Pn**	**04 06 54.0**	**+1.3**
KLV	**Kalavryta, Ach**	**2.13**	**21**	P	**Pn**	**04 06 54.2**	**+1.6**
RODP	**Rodopos**	**2.15**	**102**	P	**Pn**	**04 06 56.1**	**+3.3**
AXS	**Araxos**	**2.15**	**4**	P	**Pn**	**04 06 54.6**	**+1.8**
AXS	**Araxos**	**2.15**	**4**	P	**Pn**	**04 06 54.5**	**+1.7**
VLS	**Valsamata**	**2.18**	**348**	P	**Pn**	**04 06 54.0**	**+0.8**
VLS	**Valsamata**	**2.18**	**348**	P	**Pn**	**04 06 54.3**	**+1.1**
KNDR	**Palaiochora Ch**	**2.19**	**111**	P	**Pn**	**04 06 55.2**	**+1.8**
DMLN	**Damoulianata-K**	**2.28**	**344**	P	**Pn**	**04 06 55.6**	**+1.0**
DMLN				S	**Sn**	**04 07 23.0**	**+0.5**
	comp=E,270nm,0.5s						
KEF5	**Kardakata, Kep**	**2.30**	**346**	P	**Pn**	**04 06 55.8**	**+0.9**
IMMV	**Iera Moni Meta**	**2.35**	**104**	P	**Pn**	**04 06 58.4**	**+2.9**
LTK	**Loutraki**	**2.43**	**35**	P	**Pn**	**04 06 57.5**	**+0.8**
LTK	**Loutraki**	**2.43**	**35**	P	**Pn**	**04 06 57.5**	**+0.8**
EFP	**Efpalio**	**2.44**	**13**	P	**Pn**	**04 06 59.3**	**+2.5**
EFP	**Efpalio**	**2.44**	**13**	P	**Pn**	**04 06 59.2**	**+2.4**
FSK	**Fiskardo**	**2.46**	**349**	P	**Pn**	**04 06 58.6**	**+1.6**
SERG	**Sergoula**	**2.46**	**16**	P	**Pn**	**04 06 59.3**	**+2.2**
SERG	**Sergoula**	**2.46**	**16**	P	**Pn**	**04 06 59.2**	**+2.0**
DSF	**Desfina**	**2.59**	**24**	P	**Pn**	**04 07 00.2**	**+1.3**
DSF	**Desfina**	**2.59**	**24**	P	**Pn**	**04 07 00.5**	**+1.6**
EVGI	**Lefkada island**	**2.60**	**351**	P	**Pn**	**04 07 00.7**	**+1.7**
ANX	**Ano Chora**	**2.61**	**13**	P	**Pn**	**04 07 01.8**	**+2.6**
ANX	**Ano Chora**	**2.61**	**13**	P	**Pn**	**04 07 01.8**	**+2.6**
MHLO	**Agia Marina, M**	**2.67**	**75**	P	**Pn**	**04 07 00.7**	**+0.7**
NYDR	**Nydri-Lefkada**	**2.69**	**352**	P	**Pn**	**04 07 02.3**	**+2.1**
NYDR				S	**Sn**	**04 07 34.0**	**+1.5**
	comp=E,72nm,0.9s						
VIL2	**Platees**	**2.73**	**37**	P	**Pn**	**04 07 00.7**	**-0.1**
VLY	**Voula,Athens**	**2.76**	**49**	P	**Pn**	**04 07 01.8**	**+0.6**
LKD2	**Lefkada island**	**2.77**	**351**	P	**Pn**	**04 07 03.6**	**+2.3**
ATHU	**Athens Univers**	**2.83**	**47**	P	**Pn**	**04 07 01.9**	**-0.2**
SERI	**Serifos**	**2.88**	**66**	P	**Pn**	**04 07 03.4**	**+0.6**
SERI				AML	AML	04 07 36.8	
	comp=E,273μm,0.3s						
SERI				AML	AML	04 07 36.9	
	comp=N,204μm,0.4s						
EVR	**Evrytania**	**2.90**	**10**	P	**Pn**	**04 07 05.8**	**+2.5**
EVR	**Evrytania**	**2.90**	**10**	P	**Pn**	**04 07 05.8**	**+2.5**
PTL	**Penteli**	**2.93**	**46**	P	**Pn**	**04 07 04.3**	**+0.8**
AXAR	**Agios Charalam**	**2.95**	**23**	P	**Pn**	**04 07 05.7**	**+1.8**
LKR	**Lokris**	**2.97**	**29**	P	**Pn**	**04 07 05.1**	**+1.0**
DION	**Dionisos Attik**	**2.99**	**47**	P	**Pn**	**04 07 04.9**	**+0.6**
IDI	**Anoyia**	**3.11**	**103**	Pn	**Pn**	**04 07 04.4**	**-1.7**
	comp=N,0.2nm,0.3s,baz=135,slow=10,SNR=1.8						
IDI				Sn	Sn	04 07 29.9	-13
	comp=N,2.4nm,0.3s,baz=257,slow=13,SNR=8.5						
IDI	**Anoyia**	**3.11**	**103**	P	**Pn**	**04 07 08.7**	**+2.6**
KARY	**Karystos**	**3.27**	**52**	P	**Pn**	**04 07 08.6**	**+0.4**
IOSP	**Ios island**	**3.38**	**77**	P	**Pn**	**04 07 10.5**	**+0.8**
IGT	**Igoumenitsa**	**3.54**	**349**	P	**Pn**	**04 07 12.7**	**+0.7**
THL	**Klokotos Trika**	**3.57**	**10**	P	**Pn**	**04 07 13.7**	**+1.4**
APE	**Apeiranthos**	**3.64**	**73**	P	**Pn**	**04 07 14.2**	**+0.8**
XOR	**Xorichti**	**3.67**	**25**	P	**Pn**	**04 07 15.3**	**+1.5**
KEK	**Kerkira**	**3.82**	**344**	P	**Pn**	**04 07 16.9**	**+1.2**
VAY	**Valandovo**	**5.37**	**11**	*i* P	**Pn**	**04 07 38.8**	**+1.7**
MMB	**Musomiste**	**5.88**	**19**	*e*P	**Pn**	**04 07 44.0**	**-0.1**
RZN	**Rozhen**	**6.27**	**25**	*e*P	**Pn**	**04 07 50.6**	**+1.0**
MLR	**Muntele Rosu**	**10.10**	**19**	Pn	**Pn**	**04 08 43.4**	**+1.4**
	comp=N,0.2nm,0.3s,baz=333,slow=20,SNR=2.1						
BRTR	**Keskin Array B**	**10.50**	**66**	Pn	**Pn**	**04 08 47.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=267,slow=15,SNR=2.1						
DAVOX	**Davos/Dischmat**	**13.65**	**325**	Pn	**Pn**	**04 09 32.9**	**+2.2**
	comp=N,0.4nm,0.3s,baz=131,slow=21,SNR=4.1						
GERES	**GERESS Array B**	**13.92**	**339**	Pn	**Pn**	**04 09 33.6**	**-0.6**
	comp=N,0.2nm,0.3s,baz=157,slow=14,SNR=6.2						
AKASG	**Malin Array Be**	**15.75**	**19**	Pn	**Pn**	**04 10 00.0**	**+1.3**
	comp=N,2.2nm,0.3s,baz=209,slow=10,SNR=5.6						
KBZ	**Khabaz**	**18.31**	**59**	P	**Pn**	**04 10 31.4**	**+0.5**
	comp=N,0.1nm,0.3s,baz=325,slow=6.9,SNR=4.3						
HFS	**Hagfors**	**24.58**	**351**	P	**P**	**04 11 35.8**	**-0.9**
	comp=N,1.6nm,0.5s,baz=155,slow=11,SNR=7.1						
FINES	**FINESS Array B**	**25.60**	**5**	P	**P**	**04 11 45.4**	**-0.5**
	comp=N,4.3nm,1.1s,baz=180,slow=9.4,SNR=6.2						
NB2	**NORSAR Subarra**	**25.80**	**349**	P	**P**	**04 11 47.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=158,slow=9.3						
NOA	**NORSAR Array B**	**25.80**	**349**	P	**P**	**04 11 47.8**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=159,slow=9.3,SNR=4.7						
GEYT	**Alibeck**	**29.44**	**75**	P	**P**	**04 12 20.0**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=292,slow=7.6,SNR=2.0						
SPITS	**Spitsbergen Ar**	**42.28**	**359**	P	**P**	**04 14 08.2**	**-1.7**
	comp=Z,5.5nm,0.9s,baz=54,slow=10,SNR=6.5						
MKAR	**Makanchi Array**	**45.99**	**57**	P	**P**	**04 14 39.4**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=267,slow=7.9,SNR=17						
ZALV	**Zalesovo Beam**	**46.74**	**47**	P	**P**	**04 14 44.8**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=278,slow=10.0,SNR=2.8						
SONM	**Songino Array**	**61.41**	**50**	P	**P**	**04 16 31.1**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=227,slow=5.9,SNR=3.6						

IDC 25 04:21:20.4±2.6, 10°.62S×113°.24E, h0^{km}, mb3.3/3, mb1 3.6/4, mb1mx3.3/52, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=115.9km s-min=27.1km az=45.0, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.12**	**123**	Pn	Pn	04 24 40.6	-1.3
	0.1nm,0.3s,baz=360,slow=20,SNR=1.6						
FITZ				Sn	Sn	04 27 07.1	-12
	0.1nm,0.3s,baz=181,slow=4.4,SNR=1.4						
WRA	**Warramunga Arr**	**22.34**	**117**	P	P	04 26 20.4	+0.2
	1.4nm,0.6s,baz=290,slow=11,SNR=16						
ASAR	**Alice Springs**	**23.59**	**126**	P	P	04 26 33.1	+0.1
	0.3nm,0.6s,baz=304,slow=9.7,SNR=7.3						
MKAR	**Makanchi Array**	**63.50**	**337**	P	P	04 31 52.4	0.0
	0.2nm,0.4s,baz=160,slow=7.0,SNR=2.4						

*MOS **25** 04:25:44.5±0.9, 42°.09N×142°.53E, h75^{km}, mb4.9/12, Error ellipse: s-maj=8.0km s-min=6.5km az=90.6*
*SKHL **25** 04:25:45.4±0.3, 41°.99N×142°.59E, h81^{km}±3^{km}, mb5.5/5, msh6.3/4*
*JMA **25** 04:25:45.6±0.2, 42°.10N×142°.58E, h62^{km}±2^{km}, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s173.00000°, δ11.00000°, λ67.00000°. NP2:ϕ_s17.00000°, δ80.00000°, λ94.00000°. Principal axes: T Plg55.0000°, Azm292.0000°; N Plg4.0000°, Azm196.0000°; P Plg35.0000°, Azm103.0000°;*
JMA Felt II J1.
*NIED **25** 04:25:45.6, 42°.10N×142°.58E, h62^{km}, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.07; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-0.66; $M_{r\theta}$0.50; $M_{\theta\phi}$-0.45; $M_{\phi r}$1.38; Fault plane solution: $M_0$1.80000×10^{15} NP1:ϕ_s23.00000°, δ73.00000°, λ82.00000°. NP2:ϕ_s227.00000°, δ19.00000°, λ113.00000°.*
*NEIC **25** 04:25:45.2±0.7, 42°.01N±0°.05×142°.49E±0°.05, h69^{km}±6^{km}, mb4.6/26 Error ellipse: s-maj=6.9km s-min=4.8km az=194.0*
*IDC **25** 04:25:46.3±1.6, 42°.14N×142°.51E, h74^{km}±12^{km}, mb4.0/26, mb1 4.1/29, mb1mx3.9/62, mbtmp4.3/29, MS2.9/7, Ms1 2.9/7, ms1mx2.7/47, Error ellipse: s-maj=14.5km s-min=10.7km az=126.0*

ISC 25 04:25:45.4±0.7, 42°.06N±0°.04×142°.55E±0°.03, h68^{km}±5^{km}, n177, σ0^{s}95/190, mb4.5/51, 10C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.27**	**35**	⇑P	**Pn**	**04 25 55.2**	**-0.9**
JNBK				*e*S	**Sn**	**04 26 02.6**	**-1.4**
JSHD	**Hidakashinhida**	**0.35**	**350**	⇑P	**Pn**	**04 25 56.2**	**-0.6**
ERM	**Erimo**	**0.46**	**96**	PN	**Pn**	**04 25 57.5**	**-0.1**
ERM						04 26 07.1	
ERM	**Erimo**	**0.46**	**96**	Pn	**Pn**	**04 25 57.5**	**-0.1**
ERM				Sn	**Sn**	**04 26 07.0**	**+0.5**
JEM	**Erimo**	**0.46**	**96**	⇑P	**Pn**	**04 25 57.2**	**-0.4**
JTHR	**Tokachihiroo**	**0.60**	**67**	⇑P	**Pn**	**04 25 58.6**	**-0.5**
JTHR				*e*S	**Sn**	**04 26 08.3**	**-0.8**
JBT2	**Biratori 2**	**0.73**	**349**	⇓P	**Pn**	**04 25 59.7**	**-0.8**
JBT2				*e*S	**Sn**	**04 26 10.3**	**-1.3**
JIAM	**Iburiatsuma**	**0.73**	**320**	⇓P	**Pn**	**04 26 00.7**	**+0.2**
JCH	**Churui**	**0.82**	**47**	⇑P	**Pn**	**04 26 00.9**	**-0.6**
JFR	**Furan**	**1.10**	**2**	P	**Pn**	**04 26 04.3**	**-0.8**
JEW	**Eniwo**	**1.13**	**314**	⇓P	**Pn**	**04 26 05.2**	**-0.2**
JEW	**Eniwo**	**1.13**	**314**	Pn	**Pn**	**04 26 05.1**	**-0.2**
JEW				Sn	**Sn**	**04 26 20.2**	**-0.1**
JKB	**Kayabe**	**1.14**	**262**	⇓P	**Pn**	**04 26 05.3**	**-0.3**
JKB				*e*S	**Sn**	**04 26 20.2**	**-0.5**
JNB	**Noboribetsu**	**1.19**	**290**	⇓P	**Pn**	**04 26 05.3**	**-0.9**
JNB				*e*S	**Sn**	**04 26 20.4**	**-1.4**
JOB	**Onbets**	**1.27**	**48**	⇑P	**Pn**	**04 26 07.6**	**+0.4**
JOB				*e*S	**Sn**	**04 26 24.6**	**+1.0**
JOT	**Ohata**	**1.31**	**239**	⇓P	**Pn**	**04 26 07.7**	**-0.1**
JOT				*e*S	**Sn**	**04 26 24.0**	**-0.6**
JAB	**Ashibetsu**	**1.46**	**351**	⇓P	**Pn**	**04 26 09.6**	**-0.2**
JISS	**Ishikarishitsu**	**1.47**	**326**	⇓P	**Pn**	**04 26 09.8**	**-0.1**
JISS				*e*S	**Sn**	**04 26 28.4**	**0.0**
JAR	**Ashorobuto**	**1.53**	**36**	⇑P	**Pn**	**04 26 10.2**	**-0.4**
JAR				*e*S	**Sn**	**04 26 28.7**	**-1.0**
JTM	**Tenmabayashi**	**1.69**	**222**	Pn	**Pn**	**04 26 13.6**	**+0.8**
AKK	**Akkeshi**	**1.94**	**60**	*e*P	**Pn**	**04 26 15.6**	**-0.6**
AKK				*e*S	**Sn**	**04 26 38.2**	**-1.5**
JKA	**Kamikawa-asahi**	**2.05**	**1**	*e*P	**Pn**	**04 26 18.0**	**+0.3**
JKA	**Kamikawa-asahi**	**2.05**	**1**	Pn	**Pn**	**04 26 18.0**	**+0.3**
JKA					**Sn**	**04 26 42.9**	**+0.5**
ASAJ	**Asahikawa**	**2.06**	**1**	P	**Pn**	**04 26 18.0**	**+0.3**
	111nm,0.3s,baz=211,slow=9.3,SNR=141						
ASAJ				S	**Sn**	**04 26 42.1**	**-0.2**
	72nm,0.3s,baz=258,slow=33,SNR=9.8						
NMR	**Nemuro--Hokkai**	**2.68**	**60**	*e*P	**Pn**	**04 26 25.0**	**-1.2**
NMR				*i* S	**Sn**	**04 26 56.0**	**-1.5**
NMR	**Nemuro--Hokkai**	**2.68**	**60**	*e*PN	**Pn**	**04 26 24.7**	**-1.5**
NMR				*i* S	**Sn**	**04 26 55.3**	**-2.2**
GLVR	**Golovnino**	**2.75**	**51**	*i* P	**Pn**	**04 26 28.3**	**+1.2**
GLVR				AMB	AMB	04 26 28.6	
	1μm,0.4s						
GLVR				*i* S	**Sn**	**04 27 00.7**	**+1.5**
GLVR				A	A	04 27 02.2	
	2μm,0.5s						
GLVR				A	A	04 27 02.2	
	4μm,0.5s						
GLVR	**Golovnino**	**2.75**	**51**	⇓*i*PN	**Pn**	**04 26 28.3**	**+1.2**
GLVR				*i* S	**Sn**	**04 27 01.1**	**+1.9**
GLVR				pmax	pmax		
	comp=N,87nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,1μm,0.1s						
GLVR				smax	smax		
	comp=N,2060μm,0.3s						
GLVR				smax	smax		
	comp=E,3982μm,0.3s						
RUSJ	**Misakicho**	**2.84**	**43**	PN	**Pn**	**04 26 30.0**	**+1.6**
RUSJ				S	**Sn**	**04 27 03.6**	**+2.2**
GRPR	**Tuman**	**3.05**	**50**	*i* P	**Pn**	**04 26 32.0**	**+0.8**
GRPR				AMB	AMB	04 26 33.0	
	comp=E,270nm,0.2s						
GRPR				*i* S	**Sn**	**04 27 07.0**	**+0.4**
GRPR				A	A	04 27 11.0	
	comp=E,1μm,0.3s						
GRPR				A	A	04 27 11.0	
	comp=E,1μm,0.3s						
GRPR	**Tuman**	**3.05**	**50**	⇓*i*PN	**Pn**	**04 26 32.0**	**+0.8**
GRPR				*i* S	**Sn**	**04 27 05.6**	**-1.0**
GRPR				pmax	pmax		
	comp=N,53nm,0.2s						
GRPR				pmax	pmax		
	comp=E,78nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,272nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.13**	**50**	*e*P	**Pn**	**04 26 33.0**	**+0.8**
YUK				AMB	AMB	04 26 34.0	
	comp=N,450nm,0.3s						
YUK				*i* S	**Sn**	**04 27 08.7**	**+0.3**
YUK				A	A	04 27 12.0	
	comp=N,1μm,0.3s					

comp=Z,2.0nm,0.5s
SONM Songino Array 26.06 295 P **P 04 31 12.0 -0.4**
comp=Z,1.7nm,0.5s,baz=70,slow=9.3,SNR=11
SONM Songino Array 26.06 295 P **P 04 31 11.8 -0.6**
TLY Talaya 27.98 304 LR LR 04 43 15.9
comp=Z,52nm,20.6s,baz=78,slow=38
H11N2 WAKE ISLAND Hy 30.34 130 T T 05 03 29.7
baz=323,slow=75,SNR=299
H11N1 WAKE ISLAND Hy 30.35 130 T T 05 03 18.7
baz=323,slow=75,SNR=310
H11N3 WAKE ISLAND Hy 30.35 130 T T 05 03 33.1
baz=323,slow=75,SNR=292
H11S1 WAKE ISLAND Hy 31.20 131 T T 05 04 32.9
baz=325,slow=76,SNR=330
H11S3 WAKE ISLAND Hy 31.20 131 T T 05 04 36.6
baz=325,slow=76,SNR=247
H11S2 WAKE ISLAND Hy 31.22 131 T T 05 04 22.1
baz=325,slow=76,SNR=249
DGZ Jazzator, Alta 38.36 301 *i* P **P 04 33 00.2 +0.5**
DGZ pmax pmax
comp=Z,3.0nm,0.5s
NRIK Noril'sk 39.14 333 P **P 04 33 04.9 -0.9**
comp=Z,3.4nm,0.5s,baz=100,slow=2.9,SNR=5.6
ZAA0 Zalesovo Array 39.34 308 P **P 04 33 07.7 0.0**
ZALV Zalesovo Beam 39.34 308 P **P 04 33 07.5 -0.2**
comp=Z,11nm,0.7s,baz=85,slow=7.5,SNR=29
ZALV Zalesovo Beam 39.34 308 *i* P **P 04 33 08.0 +0.3**
ZALV pmax pmax
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 39.34 308 P **P 04 33 07.6 0.0**
MK31 Makanchi Array 42.37 298 *i* P **P 04 33 32.1 -0.7**
MK31 Makanchi Array 42.37 298 IAmb IAmb 04 33 33.7
comp=Z,6.7nm,1.0s
MKAR Makanchi Array 42.37 298 P **P 04 33 32.8 +0.1**
comp=Z,2.6nm,0.6s,baz=81,slow=9.6,SNR=25
MAKZ Makanchi 42.58 298 P **P 04 33 34.4 0.0**
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
MAKZ Makanchi 42.58 298 P **P 04 33 34.4 0.0**
MAKZ IAmb IAmb 04 33 35.9
comp=Z,8.1nm,1.1s
KDAK Kodiak Island 42.86 45 P **P 04 33 36.5 0.0**
comp=Z,2.3nm,0.4s,baz=354,slow=2.4,SNR=8.7
KDAK Kodiak Island 42.86 45 P **P 04 33 36.5 0.0**
KDAK IAmb IAmb 04 33 46.8
comp=Z,12nm,1.1s
KURK Kurchatov 43.68 304 *eP* **P 04 33 43.0 -0.1**
KURK Kurchatov 43.68 304 *i* P **P 04 33 43.0 -0.1**
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 43.68 304 P **P 04 33 43.0 -0.1**
CMAR Chiang Mai Arr 43.79 251 LR LR 04 51 51.1
comp=Z,12nm,18.3s,baz=150,slow=36
ILAR Eielson Array 44.83 35 P **P 04 33 52.2 0.0**
comp=Z,1.1nm,0.7s,baz=258,slow=5.4,SNR=19
ILAR Eielson Array 44.83 35 P **P 04 33 52.3 +0.1**
PDGK Podgornoye 45.37 294 P **P 04 33 56.2 -0.7**
TAPN Taplejung 46.65 270 *eP* **P 04 34 08.5 +1.1**
comp=Z,8.7nm,0.4s
TARG Taragay, Kyrgy 47.12 293 P **P 04 34 10.1 -0.9**
TARG IAmb IAmb 04 34 12.1
comp=Z,5.1nm,0.7s
BCAR Beaver Creek A 47.30 37 P **P 04 34 12.5 +0.8**
JIRN Jiri 47.61 271 *eP* **P 04 34 16.5 +1.5**
comp=Z,16nm,0.4s
RAMN Ramite 47.70 270 *eP* **P 04 34 16.0 +0.5**
comp=Z,13nm,0.5s
GUN Gumba 47.71 272 *eP* **P 04 34 16.5 +0.8**
comp=Z,57nm,0.3s
BRVK Borovoye 48.01 309 *eP* **P 04 34 17.6 +0.4**
BRVK Borovoye 48.01 309 *i* P **P 04 34 17.6 +0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 48.01 309 P **P 04 34 17.3 +0.1**
BRVK IAmb IAmb 04 34 18.5
comp=Z,7.9nm,1.1s
BOOM Boomskoye usch 48.10 294 P **P 04 34 17.9 -0.4**
BOOM pmax pmax
comp=Z,11nm,0.7s
BOOM Boomskoye usch 48.10 294 P **P 04 34 17.9 -0.4**
KKN Kakani 48.22 272 *eP* **P 04 34 20.3 +0.8**
comp=Z,14nm,0.4s
PKI Pulchoki 48.24 272 *eP* **P 04 34 20.0 +0.2**
comp=Z,8.0nm,0.4s
PKIN Phulchoki 48.25 272 *eP* **P 04 34 19.8 0.0**
comp=Z,8.5nm,0.3s
DMN Daman 48.45 272 *eP* **P 04 34 21.8 +0.5**
comp=Z,11nm,0.5s
GKN Gorkha 48.58 273 *eP* **P 04 34 23.2 +1.0**
comp=Z,11nm,0.4s
AAK Ala-Archa 49.02 295 *eP* **P 04 34 25.6 +0.2**
AAK Ala-Archa 49.02 295 *ceP* **P 04 34 25.6 +0.2**
AAK pmax pmax
comp=Z,7.0nm,0.5s
DANN Dangsing 49.05 274 *eP* **P 04 34 26.8 +0.9**
comp=Z,27nm,0.4s
KOLN Koldanda 49.48 273 *eP* **P 04 34 29.8 +0.7**
comp=Z,12nm,0.2s
INK Inuvik 49.54 29 P **P 04 34 28.8 +0.1**
comp=Z,2.4nm,0.4s,baz=303,slow=11,SNR=15
INK Inuvik 49.54 29 P **P 04 34 28.9 +0.1**
HYT Haines Junctio 49.80 39 P **P 04 34 31.6 +0.6**
HYT IAmb IAmb 04 34 34.5
comp=Z,7.1nm,0.9s
KK31 Karatay Array 51.49 297 *eP* **P 04 34 43.6 -0.3**
KK31 Karatay Array 51.49 297 P **P 04 34 43.5 -0.3**
KK31 IAmb IAmb 04 34 44.2
comp=Z,4.9nm,0.6s
KKAR Karatay Array 51.49 297 P **P 04 34 43.7 -0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 51.49 297 P **P 04 34 43.8 -0.2**
KKAR IAmb IAmb 04 34 44.2
comp=Z,4.9nm,0.6s
KKAR Karatay Array 51.49 297 P **P 04 34 43.7 -0.2**
NIL Nilore 54.01 285 P **P 04 35 02.2 -0.4**
NIL pmax pmax
comp=Z,11nm,0.9s
NIL Nilore 54.01 285 P **P 04 35 02.2 -0.4**
DLBC Dease Lake 54.18 40 P **P 04 35 04.1 +0.6**
comp=Z,1.2nm,0.8s,baz=158,slow=18,SNR=1.6
CHGR Chuyangaron 54.42 293 P **P 04 35 05.2 -0.3**
AB31 Akbulak array 55.46 308 *i* P **P 04 35 12.6 -0.2**
ABKAR Akbulak array 55.46 308 P **P 04 35 12.9 +0.1**
ABKAR IAmb IAmb 04 35 13.4
comp=Z,4.3nm,0.6s
AKTO Aktyubinsk 56.05 310 P **P 04 35 17.1 +0.1**
comp=Z,1.5nm,0.4s,baz=69,slow=14,SNR=6.2
KIRV Kirov 56.82 321 P **P 04 35 22.4 +0.1**
comp=Z,12nm,0.4s,baz=143,slow=11,SNR=3.6
RES Resolute Bay 57.52 15 P **P 04 35 26.5 -0.5**
comp=Z,9.8nm,0.8s,baz=94,slow=11,SNR=1.6
WB0 Warramunga Arr 61.98 189 P **P 04 35 58.0 -0.2**
WB0 IAmb IAmb 04 36 13.0
comp=Z,3.5nm,1.1s
WR0 Warramunga Arr 62.15 189 P **P 04 35 58.9 -0.4**
WB2 Warramunga Arr 62.15 189 P **P 04 35 58.7 -0.7**
WRA Warramunga Arr 62.16 189 P **P 04 35 58.9 -0.5**
comp=Z,0.7nm,0.5s,baz=6.7,slow=7.3,SNR=11
WRA Warramunga Arr 62.16 189 P **P 04 35 59.4 0.0**
WRA Warramunga Arr 62.16 189 P **P 04 35 59.4 0.0**
OBN Obninsk 64.63 322 *eP* **P 04 36 15.6 +0.2**
OBN Obninsk 64.63 322 *eP* **P 04 36 14.3 -1.1**
OBN pmax pmax
comp=Z,6.0nm,0.4s
FINES FINESS Array B 64.80 332 P **P 04 36 16.1 -0.3**
comp=Z,4.5nm,0.6s,baz=46,slow=8.0,SNR=22
FINES FINESS Array B 64.80 332 P **P 04 36 16.5 +0.1**
FINES FINESS Array B 64.80 332 P **P 04 36 16.5 +0.1**
SUMG Summit 65.66 0 *i* P **P 04 36 22.9 +0.6**
SUMG Summit 65.66 0 *eP* **P 04 36 22.9 +0.6**
ASAR Alice Springs 65.88 189 P **P 04 36 24.8 +1.0**
comp=Z,0.3nm,0.6s,baz=15,slow=12,SNR=4.5
BMO Blue Mountains 67.92 49 IAmb IAmb 04 36 45.8
comp=Z,4.8nm,0.9s
HFS Hagfors 69.88 335 P **P 04 36 48.3 -0.2**
comp=Z,5.2nm,0.5s,baz=46,slow=4.9,SNR=20
NB2 NORSAR Subarra 69.90 337 P **P 04 36 47.9 -0.8**
comp=Z,2.7nm,0.7s,baz=36,slow=6.2
NOA NORSAR Array B 69.90 337 P **P 04 36 48.3 -0.4**
comp=Z,3.0nm,0.6s,baz=37,slow=6.1,SNR=18
AKASG Malin Array Be 70.88 322 P **P 04 36 54.2 -0.5**
comp=Z,3.2nm,0.4s,baz=44,slow=6.7,SNR=7.9
AKASG Malin Array Be 70.88 322 P **P 04 36 54.7 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.7s

AKASG Malin Array Be 70.88 322 P **P 04 36 54.7 0.0**
NVAR Mina Array Bea 71.33 55 P **P 04 36 58.6 +0.6**
comp=Z,0.6nm,0.7s,baz=284,slow=4.7,SNR=6.7
PDAR Pinedale Array 73.56 47 P **P 04 37 11.4 +0.2**
comp=Z,0.7nm,0.7s,baz=274,slow=3.0,SNR=7.3
PDAR Pinedale Array 73.56 47 P **P 04 37 11.3 +0.1**
BUR08 Bucovina Ar. S 74.91 322 P **P 04 37 18.6 -0.2**
BURAR Bucovina Array 74.92 322 P **P 04 37 18.8 -0.1**
RDMU Red Mountain 75.03 49 P **P 04 37 20.1 +0.3**
BRTR Keskin Array B 76.19 311 P **P 04 37 26.6 +0.2**
comp=Z,1.2nm,0.7s,baz=116,slow=2.8,SNR=3.2
BRTR Keskin Array B 76.19 311 P **P 04 37 25.1 -1.2**
CLL Collm 77.18 330 *i* P **P 04 37 31.6 +0.1**
comp=Z,7.0nm,1.0s
CLL *i* 04 37 36.5
CLL Collm 77.18 330 *i* P **P 04 37 31.6 +0.1**
CLL *i* 04 37 36.5
CLL pmax pmax
comp=Z,7.0nm,1.0s
EKA Eskdalemuir Ar 78.68 341 P **P 04 37 38.5 -1.3**
comp=Z,0.8nm,0.5s,baz=38,slow=4.2,SNR=4.7
GERES GERESS Array B 78.90 328 P **P 04 37 40.9 -0.3**
comp=Z,0.9nm,0.5s,baz=54,slow=6.8,SNR=4.2
GERES GERESS Array B 78.90 328 P **P 04 37 40.2 -1.0**
SDCO Great Sand Dun 79.27 48 P **P 04 37 43.5 -0.2**
MMAI Mount Meron Ar 79.78 305 P **P 04 37 47.1 +0.9**
comp=Z,5.5nm,0.7s,baz=18,slow=6.1,SNR=4.3
SOKA Soboth 80.11 326 *i* P **P 04 37 48.4 +0.6**
comp=Z,3.2nm,0.6s
OBKA Obir 80.44 327 *i* P **P 04 37 49.9 +0.3**
comp=Z,3.3nm,0.6s
MOTA Moosalm 81.13 329 *i* P **P 04 37 53.8 +0.4**
comp=Z,5.3nm,0.9s
RETA Reutte 81.14 329 *i* P **P 04 37 54.6 +1.2**
comp=Z,3.2nm,0.8s
SQTA Sankt Quirin 81.19 329 *i* P **P 04 37 54.3 +0.7**
comp=Z,1.9nm,0.4s
DAVA Damuels 81.65 330 *i* P **P 04 37 54.3 -1.7**
comp=Z,3.8nm,0.7s
FUORN Ofenpass-Fuorn 82.06 329 P **P 04 37 57.4 -1.0**
FUORN IAmb IAmb 04 37 59.8
comp=Z,5.4nm,0.7s
DAVOX Davos/Dischmat 82.07 329 P **P 04 37 59.1 +0.7**
comp=Z,1.8nm,0.4s,baz=173,slow=21,SNR=2.9
TXAR Lajitas Array 86.38 53 P **P 04 38 21.4 +1.0**
comp=Z,1.0nm,0.6s,baz=301,slow=3.6,SNR=18
SNAA Sanae 145.80 199 PKPdf **PKPab 04 45 15.8 -0.3**
H03N2 Juan Fernandez 146.36 89 T T 07 28 34.1
baz=300,slow=76,SNR=34
H03N3 Juan Fernandez 146.38 89 T T 07 28 35.2
baz=300,slow=76,SNR=24
H03N1 Juan Fernandez 146.38 89 T T 07 28 35.4
baz=300,slow=76,SNR=36
VNA2 Neumayer--Watz 147.38 198 PKPdf **PKPbc 04 45 20.0 -0.1**
baz=117,slow=2.6
VNA3 Neumayer Olymp 147.64 196 PKPdf **PKiKP 04 45 21.4 -1.4**
VNA1 Neumayer--Stat 147.78 198 PKPdf **PKiKP 04 45 22.1 -0.9**

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*BGR **25** 04:31:38.4±0.0, 32°.21N×26°.23E, h33km, mb4.2*
*IDC **25** 04:31:54.8±0.7, 34°.05N×25°.40E, h0km, mb4.3/20, mb1 4.3/30, mb1mx4.2/43, mbtmp4.2/30, ML4.1/10, MS3.0/6, Ms1 3.0/6, ms1mx2.7/43, Error ellipse: s-maj=13.8km s-min=12.4km az=20.0*
*ISK **25** 04:31:54.8, 33°.94N×25°.54E, h6km, ML4.0/25*
*NEIC **25** 04:31:57.4±2.2, 33°.96N±0°.08×25°.53E±0°.06, h24km±6km, mb4.1/23, ML3.8(ISK), ML3.5(ATH), Error ellipse: s-maj=12.1km s-min=7.0km az=185.0*
*HLW **25** 04:31:57.2, 34°.11N×25°.51E, h26km±30km, Md4.5*
*ATH **25** 04:31:57.7, 34°.09N×25°.41E, h18km±3km, ML3.5/5, Error ellipse: s-maj=6.5km s-min=2.3km az=350.0*
*THE **25** 04:31:59.0, 34°.17N×25°.47E, h2km±1km, ML3.3/7, Error ellipse: s-maj=2.4km s-min=0.7km az=148.0*
*NIC **25** 04:32:01.3±0.0, 33°.81N×25°.67E, h35km±28km, Ml4.6/4*
*GII **25** 04:32:03.4±0.0, 33°.61N×26°.00E, h10km, mb4.3/5, MD4.1/5*
ISC 25 04:31:56.5±1.8, **33°.95N**±0°.04×**25°.48E**±0°.03, **h16**km±11km, **n224**, σ1§**56**/254, **mb4.2**/24, **MS3.1**/4, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**1.08**	**11**	P	**Pb**	**04 32 16.8**	**-0.1**
FRMA				S	**Sb**	**04 32 30.1**	**-0.7**
985nm,0.6s							
SIVA	**Sivas**	**1.20**	**333**	P	**Pn**	**04 32 17.2**	**-1.4**
SIVA				S	**Sb**	**04 32 32.8**	**-1.3**
SIVA				AML	AML	04 32 37.1	
comp=N,12866μm,0.6s							
SIVA				AML	AML	04 32 49.2	
comp=E,19605μm,0.7s							
LAST	**Lasithi**	**1.21**	**0**	P	**Pn**	**04 32 17.8**	**-1.1**
LAST				S	**Sb**	**04 32 32.8**	**-1.7**
comp=E,2μm,0.6s							
LAST	**Lasithi**	**1.21**	**0**	P	**Pn**	**04 32 17.7**	**-1.1**
LAST				AML	AML	04 32 46.9	
comp=E,4682μm,0.7s							
LAST				AML	AML	04 32 52.8	
comp=N,4302μm,0.7s							
TMBK	**Timbaki Herakl**	**1.26**	**333**	P	**Pn**	**04 32 19.0**	**-0.5**
TMBK				S	**Sb**	**04 32 35.1**	**-0.9**
comp=N,1μm,1.0s							
ZKR	**Zakros**	**1.31**	**28**	P	**Pn**	**04 32 20.2**	**0.0**
ZKR				S	**Sn**	**04 32 36.2**	**-1.2**
comp=N,2μm,0.7s							
ZKR	**Zakros**	**1.31**	**28**	P	**Pn**	**04 32 20.4**	**+0.1**
ZKR				S	**Sb**	**04 32 38.5**	**+1.1**
ZKR				AML	AML	04 32 48.5	
comp=N,1943μm,0.6s							
ZKR				AML	AML	04 32 53.3	
comp=E,5886μm,0.8s							
ZKR	**Zakros**	**1.31**	**28**	PN	**Pn**	**04 32 19.9**	**-0.3**
ZKR				SN	**Sg**	**04 32 38.6**	**-0.4**
STIA	**Sitia Lasithi**	**1.35**	**22**	P	**Pn**	**04 32 20.7**	**0.0**
HRKL	**Herakleio**	**1.39**	**347**	PN	**Pn**	**04 32 21.7**	**+0.4**
IDI	**Anoyia**	**1.42**	**340**	Pn	**Pn**	**04 32 21.3**	**-0.4**
comp=E,16nm,0.3s,baz=163,slow=17,SNR=71							
IDI				Sn	**Sn**	**04 32 38.6**	**-1.5**
comp=E,65nm,0.3s,baz=129,slow=19,SNR=9.7							
IDI				LR	LR	04 32 49.7	
comp=E,200nm,20.1s,baz=250,slow=42							
IDI	**Anoyia**	**1.42**	**340**	P	**Pn**	**04 32 21.0**	**-0.7**
IDI				S	**Sn**	**04 32 39.0**	**-1.1**
comp=E,1μm,0.7s							
IDI	**Anoyia**	**1.42**	**340**	P	**Pn**	**04 32 21.0**	**-0.7**
IDI				AML	AML	04 32 44.6	
comp=N,1940μm,0.7s							
IDI				AML	AML	04 32 53.6	
comp=E,1822μm,0.6s							
IDI	**Anoyia**	**1.42**	**340**	PN	**Pn**	**04 32 21.9**	**+0.2**
IDI	**Anoyia**	**1.42**	**340**	Pn	**Pn**	**04 32 21.0**	**-0.7**
IDI					**Sn**	**04 32 40.0**	**-0.1**
GVD	**Gavdhos**	**1.45**	**308**	P	**Pb**	**04 32 23.4**	**+0.3**
GVD				S	**Sb**	**04 32 41.6**	**+0.2**
comp=E,2μm,0.6s							
GVD	**Gavdhos**	**1.45**	**308**	P	**Pb**	**04 32 23.5**	**+0.3**
GVD	**Gavdhos**	**1.45**	**308**	PN	**Pb**	**04 32 23.3**	**+0.1**
GVD				SN	**Sg**	**04 32 43.5**	**+0.1**
GVDS	**Gavdos**	**1.45**	**308**	P	**Pb**	**04 32 22.9**	**-0.3**
GVDS				S	**Sb**	**04 32 42.6**	**+1.2**
comp=E,992nm,0.5s							
GVDS	**Gavdos**	**1.45**	**308**	PN	**Pb**	**04 32 23.4**	**+0.2**
GVDS	**Gavdos**	**1.45**	**308**	Pn	**Pb**	**04 32 23.3**	**+0.2**
VAM	**Vamos**	**1.79**	**324**	P	**Pn**	**04 32 27.7**	**+0.9**
VAM	**Vamos**	**1.79**	**324**	P	**Pb**	**04 32 28.1**	**-0.9**
VAM				AML	AML	04 32 58.5	
comp=N,2050μm,0.7s							
VAM				AML	AML	04 33 06.3	
comp=E,2316μm,0.8s							
IMMV	**Iera Moni Meta**	**1.95**	**321**	P	**Pb**	**04 32 30.5**	**-1.1**
IMMV	**Iera Moni Meta**	**1.95**	**321**	PN	**Pn**	**04 32 29.8**	**+0.9**
KNDR	**Palaiochora Ch**	**1.95**	**311**	PN	**Pb**	**04 32 30.6**	**-1.1**
KNDR	**Palaiochora Ch**	**1.95**	**311**	Pn	**Pb**	**04 32 31.1**	**-0.6**
KARP	**Karpathos**	**2.11**	**41**	P	**Pb**	**04 32 34.6**	**+0.2**
KARP	**Karpathos**	**2.11**	**41**	PN	**Pn**	**04 32 31.4**	**+0.2**
KARP	**Karpathos**	**2.11**	**41**	P	**Pb**	**04 32 34.6**	**+0.2**
KARP				S	**Sb**	**04 33 01.1**	**+0.6**
KARP				AML	AML	04 33 05.2	
comp=E,1.5nm,0.7s							
KARP				AML	AML	04 33 05.2	
comp=E,1.5nm,0.7s							
KARP				AML	AML	04 33 16.7	
comp=E,1.8nm,0.7s							

KARP AML AML 04 33 16.7
comp=E,1.8nm,0.7s
KARP Karpathos 2.11 41 Pn **Pn 04 32 31.2 -0.1**
RODP Rodopos 2.14 319 PN **Pn 04 32 32.7 +1.1**
ANAF Anafi Island 2.41 6 P **Pn 04 32 36.7 +1.4**
SANT Santorini 2.42 360 PN **Pn 04 32 36.1 +0.7**
SANT Santorini 2.42 360 **Pn 04 32 34.3 -1.1**
THR5 Thira Island, 2.46 358 P **Pn 04 32 37.9 +1.9**
THT2 Imerovigli 2.48 359 PN **Pn 04 32 36.8 +0.5**
THT2 Imerovigli 2.48 359 Pn **Pn 04 32 37.5 +1.2**
ANKY Antikythira Is 2.62 318 P **Pn 04 32 40.5 +2.4**
IOSP Ios island 2.77 357 P **Pn 04 32 41.4 +1.2**
MHLO Agia Marina, M 2.87 342 P **Pn 04 32 42.8 +1.2**
AMGA Amorgos Island 2.90 7 P **Pn 04 32 42.8 +0.8**
KTHA Kythira Island 3.03 320 P **Pn 04 32 45.2 +1.3**
KTHA Kythira Island 3.03 320 PN **Pn 04 32 45.3 +1.4**
KTHA Kythira Island 3.03 320 Pn **Pn 04 32 44.8 +0.9**
KOSK Kos Island 3.05 23 PN **Pn 04 32 44.9 +0.8**
APE Apeiranthos 3.11 1 P **Pn 04 32 45.7 +0.8**
APE Apeiranthos 3.11 1 PN **Pn 04 32 45.8 +0.8**
ARG Arkhangelos 3.13 43 P **Pn 04 32 48.3 +3.0**
ARG Arkhangelos 3.13 43 PN **Pn 04 32 46.0 +0.7**
ARG Arkhangelos 3.13 43 P **Pn 04 32 48.4 +3.2**
ARG S **Sn 04 33 25.3 +3.0**
DAT Datca 3.26 31 PN **Pn 04 32 48.1 +1.0**
SERI Serifos 3.30 346 P **Pn 04 32 48.4 +0.8**
BODT Bodrum 3.45 25 Pn **Pn 04 32 50.5 +1.0**
TURN Turunc 3.61 38 PN **Pn 04 32 53.1 +1.3**
MLSB Milas 3.83 29 PN **Pn 04 32 55.8 +1.0**
MLSB Milas 3.83 29 Pn **Pn 04 32 56.8 +2.0**
DALY Dalyan (Mula) 3.86 41 PN **Pn 04 32 56.3 +1.1**
DALY Dalyan (Mula) 3.86 41 Pn **Pn 04 32 57.4 +2.2**
YER Yerkesik 3.92 35 PN **Pn 04 32 57.1 +1.1**
YER Yerkesik 3.92 35 Pn **Pn 04 32 58.1 +2.1**
FETY Fethiye 3.98 47 PN **Pn 04 32 58.1 +1.1**
FETY Fethiye 3.98 47 Pn **Pn 04 32 57.9 +0.9**
KSL Kastellorizon 4.02 56 P **Pn 04 33 01.5 +4.1**
AKAS Kas 4.08 55 PN **Pn 04 32 59.4 +1.0**
AKAS Kas 4.08 55 Pn **Pn 04 32 57.9 -0.4**
AYDB Zeytinkoy-Aydi 4.44 25 PN **Pn 04 33 04.3 +0.9**
AYDB Zeytinkoy-Aydi 4.44 25 Pn **Pn 04 33 05.0 +1.7**
CHOS Chios island 4.45 6 PN **Pn 04 33 04.4 +1.0**
URLA Izmir 4.49 11 PN **Pn 04 33 05.1 +1.1**
ELL Elmali 4.57 51 PN **Pn 04 33 06.7 +1.6**
ELL Elmali 4.57 51 **Pn 04 33 05.0 -0.2**
BLCB Balcova 4.60 16 PN **Pn 04 33 06.6 +1.2**
BLCB Balcova 4.60 16 Pn **Pn 04 33 06.7 +1.2**
OSC1 CSNet OBS 1 4.86 94 P **Pn 04 33 10.4 +1.5**
OSC1 S **Sn 04 34 04.1 -0.6**
KORT Korkueli 5.01 51 PN **Pn 04 33 12.5 +1.4**
ANTB Antalya 5.15 54 PN **Pn 04 33 14.5 +1.6**
KULA Kula-Manisa 5.23 29 PN **Pn 04 33 15.8 +1.7**
BCK Bucak 5.44 48 PN **Pn 04 33 18.5 +1.5**
OSC2 CSNet OBS 4 5.74 97 P **Pn 04 33 23.1 +2.1**
OSC2 S **Sn 04 34 26.9 +0.3**
AKMS Akamas 5.76 77 P **Pn 04 33 24.4 +3.0**
AKMS AML AML 04 34 28.5
comp=E,0.8nm,0.4s
AKMS AML AML 04 34 33.1
comp=E,0.6nm,0.7s
NATA Nata 5.92 80 P **Pn 04 33 25.9 +2.2**
GAZI Gazipasa 6.05 66 PN **Pn 04 33 26.9 +1.5**
SHUT Suhut-Afyon 6.16 40 PN **Pn 04 33 28.8 +1.9**
SZAC Souni 6.18 80 P **Pn 04 33 29.2 +2.0**
SZAC AML AML 04 34 43.4
comp=E,0.9nm,0.4s
SZAC AML AML 04 34 46.6
comp=E,0.8nm,0.7s
SEYD Seydisehir-KON 6.22 55 PN **Pn 04 33 28.9 +1.1**
ASGA Asgata 6.48 80 P **Pn 04 33 34.2 +3.0**
ASGA AML AML 04 34 47.8
comp=E,1.1nm,0.7s
ASGA AML AML 04 34 53.3
comp=E,0.9nm,0.5s
CSS Mathiatis 6.57 79 PN **Pn 04 33 34.6 +2.2**
CSS Mathiatis 6.57 79 Pn **Pn 04 33 34.9 +2.5**
CSS Mathiatis 6.57 79 P **Pn 04 33 35.1 +2.6**
MVOU Mavrovouni 6.82 79 P **Pn 04 33 39.0 +3.1**
KONT Konya--Tatoy 6.86 53 PN **Pn 04 33 37.7 +1.2**
LADK Ladik-KONYA 7.01 51 PN **Pn 04 33 40.3 +1.7**
IKL Isikli 7.11 69 PN **Pn 04 33 40.9 +1.1**
EREN Erenkoy 7.33 75 PN **Pn 04 33 44.5 +1.6**
KIZK Mersin 7.53 68 PN **Pn 04 33 46.5 +0.9**
FNA Florina 7.56 336 **Pn 04 33 45.9 -0.2**
OFRI `Ofer 8.07 97 Pn **Pn 04 33 55.1 +2.0**
KZIT Kziot 8.13 109 Pn **Pn 04 33 54.3 +0.4**
KZIT Sn **Sn 04 35 20.4 -5.0**
SLTI Sal'it 8.21 99 Pn **Pn 04 33 55.3 +0.4**
SLTI Sn **Sn 04 35 24.4 -2.9**
AMAZ Amatzia 8.31 104 Pn **Pn 04 33 57.1 +0.7**
AMAZ Sn **Sn 04 35 25.4 -4.5**
MMAI Mount Meron Ar 8.35 94 Pn **Pn 04 33 57.0 +0.1**
comp=E,4.6nm,0.3s,baz=266,slow=11,SNR=8.2
MMAI Sn **Sn 04 35 28.5 -2.4**
comp=E,7.4nm,0.3s,baz=267,slow=24,SNR=8.4
MMLI Mount Malkishu 8.47 98 Pn **Pn 04 34 00.7 +2.1**
MMLI Sn **Sn 04 35 30.2 -3.7**
YTIR Yattir 8.53 105 Pn **Pn 04 34 00.0 +0.6**
YTIR Sn **Sn 04 35 31.4 -4.0**
GEM Giv'at Ha'Em 8.53 92 Pn **Pn 04 34 01.3 +1.9**
HMDT Nahal Hemdat 8.60 99 Pn **Pn 04 34 00.8 +0.5**
HMDT Sn **Sn 04 35 34.4 -2.6**
DSI Dead Sea 8.67 103 Pn **Pn 04 34 02.6 +1.3**
BRTR Keskin Array B 8.72 46 Pn **Pn 04 34 03.8 +1.8**
comp=E,0.3nm,0.3s,baz=238,slow=14,SNR=5.8
BRTR Sn **Sn 04 35 38.7 -1.4**
comp=E,0.2nm,0.3s,baz=142,slow=42,SNR=1.5
BRTR LR LR 04 38 33.9
comp=E,55nm,18.6s,baz=254,slow=46
BRTR Keskin Array B 8.72 46 **Pn 04 34 02.0 -0.1**
BRTR **Sn 04 35 39.0 -1.1**
KRMI Paran Flat 8.73 113 Pn **Pn 04 34 02.9 +0.7**
KRMI Sn **Sn 04 35 35.9 -4.4**
TIP Timpagrande 8.74 309 Pn **Pn 04 34 01.3 -1.0**
PRNI Paran 8.84 111 Pn **Pn 04 34 04.7 +1.1**
PRNI Sn **Sn 04 35 38.4 -4.5**
DAMI2 DAM2 8.86 106 Pn **Pn 04 34 05.1 +1.3**
CEL Celeste 8.86 302 Pn **Pn 04 34 02.6 -1.4**
ZFRI Zfri 8.89 110 Sn **Sn 04 35 38.4 -5.6**
HRFI Mount Harif 9.01 113 Pn **Pn 04 34 07.1 +1.1**
HRFI Sn **Sn 04 35 42.9 -4.2**
MBRI Mt Berech 9.03 115 Pn **Pn 04 34 07.2 +0.9**
MBRI Sn **Sn 04 35 43.2 -4.5**
EIL Elat 9.12 115 Pn **Pn 04 34 08.1 +0.6**
comp=E,1.7nm,0.3s,baz=271,slow=2.8,SNR=18
EIL Sn **Sn 04 35 45.3 -4.5**
comp=E,1.0nm,0.3s,baz=26,slow=20,SNR=1.8
EIL Elat 9.12 115 Pn **Pn 04 34 07.9 +0.4**
RAFF Raffo Rosso 9.62 293 Pn **Pn 04 34 13.6 -0.7**
ASF Jabal al Asfar 9.75 97 Pn **Pn 04 34 17.1 +1.0**
comp=E,0.5nm,0.3s,baz=244,slow=15,SNR=3.6
ASF Sn **Sn 04 36 01.9 -3.5**
comp=E,0.5nm,0.3s,baz=276,slow=18,SNR=1.7
PDG Podgorica 9.78 332 Pn **Pn 04 34 15.1 -1.3**
MLR Muntele Rosu 11.53 2 Pn **Pn 04 34 40.2 -0.3**
comp=E,0.2nm,0.3s,baz=164,slow=8.5,SNR=3.4
MLR Muntele Rosu 11.53 2 **Pn 04 34 39.1 -1.5**
NRCA Norcia 13.13 316 **Pn 04 35 00.6 -1.7**
STAL STALIGIAL 15.68 325 Pn **Pn 04 35 35.3 -1.4**
ZOU Zoufplan 15.77 327 Pn **Pn 04 35 36.4 -1.7**
CIMO Cimolais 15.84 325 Pn **Pn 04 35 36.8 -2.0**
CTI Castel Tesino 16.04 323 Pn **Pn 04 35 39.9 -1.6**
CTI IAmb IAmb 04 35 46.4
comp=Z,11nm,0.7s
ABTA Abfaltersbach 16.13 326 *i* P **P 04 35 46.9 +1.2**
comp=Z,18nm,0.7s,SNR=13
MOA Molln 16.24 332 *i* P **P 04 35 47.9 +1.0**
comp=Z,7.9nm,0.8s
KBZ Khabaz 16.69 49 Pn **P 04 35 51.3 -0.6**
comp=Z,0.2nm,0.3s,baz=222,slow=3.6,SNR=12
KBZ LR LR 04 44 06.1
comp=Z,35nm,18.7s,baz=273,slow=44
VRAC Vranov 16.70 339 Pn **Pn 04 35 49.6 -0.1**
comp=Z,1.0nm,0.3s,baz=175,slow=11,SNR=4.7
AKASG Malin Array Be 16.96 8 Pn **Pn 04 35 52.3 -0.7**
comp=Z,3.9nm,0.3s,baz=200,slow=11,SNR=20
AKASG Malin Array Be 16.96 8 **Pn 04 35 51.7 -1.3**
AKBB Malin Array Si 16.96 8 **Pn 04 35 52.1 -0.9**
AKBB IAmb IAmb 04 35 55.8
comp=Z,13nm,0.7s
WATA Walderalm 16.99 326 *i* P **P 04 36 00.0 +4.6**
comp=Z,12nm,0.6s

SQTA	Sankt Quirin	17.08 325	*e*Pn		P	04 35 57.2	+0.8
	comp=Z,4.3nm,0.4s						
FUORN	Ofenpass-Fuorn	17.13 322	Pn		Pn	04 35 54.1	-1.3
FETA	Feichten	17.17 324	*i* Pn		P	04 35 59.3	+1.8
	comp=Z,8.2nm,0.7s,SNR=14						
MOTA	Moosalm	17.22 325	*i* Pn		P	04 35 58.7	+0.7
	comp=Z,5.8nm,0.6s						
GEC2	GERESS Array S	17.27 333	*e*P		P	04 35 58.7	+0.3
	comp=Z,12nm,1.1s,baz=142,slow=11						
GEC2	GERESS Array S	17.27 333	Pn		Pn	04 35 56.0	-1.0
GERES	GERESS Array B	17.27 333	P		Pn	04 35 56.2	-0.8
	comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=37						
GERES	GERESS Array B	17.27 333	Pn		Pn	04 35 56.0	-1.0
DAVOX	Davos/Dischmat	17.44 322	P		P	04 36 00.1	-0.3
	comp=Z,0.3nm,0.3s,baz=124,slow=6.9,SNR=7.7						
RETA	Reutte	17.49 325	*i* Pn		P	04 36 02.4	+1.6
	comp=Z,4.1nm,0.5s						
KHC	Kasperske Hory	17.55 333	*e*P		P	04 36 01.9	+0.4
FUR	Furstenfeldbru	17.74 327	*e*P		P	04 36 04.1	+0.5
	comp=Z,29nm,0.8s,baz=142,slow=11						
WET	Wettzell	17.83 332	*e*P		P	04 36 04.4	-0.1
	comp=Z,17nm,1.4s,baz=142,slow=11						
SENIN	Lac Senin/Sane	18.57 317	P		P	04 36 11.8	-1.0
SENIN			IAmb		IAmb	04 36 22.2	
	comp=Z,8.5nm,0.7s						
MANZ	Manzenberg	18.81 332	*e*P		P	04 36 15.1	-0.2
	comp=Z,4.9nm,0.9s,baz=142,slow=11						
GRF	Grafenberg Arr	18.93 330	*e*P		P	04 36 16.8	+0.2
	comp=Z,22nm,1.2s,baz=142,slow=11						
TANN	Tannenbergstha	19.02 334	*e*P		P	04 36 17.8	+0.2
	comp=Z,27nm,1.0s,baz=142,slow=11						
GUNZ	Gunzen	19.03 333	*e*P		Pn	04 36 18.9	+0.5
	comp=Z,6.9nm,0.9s,baz=142,slow=11						
PLN	Plauen	19.19 333	*e*P		P	04 36 19.6	+0.1
	comp=Z,4.4nm,0.7s,baz=142,slow=11						
BFO	Black Forest	19.25 323			P	04 36 19.3	-0.9
BFO			IAmb		IAmb	04 36 34.7	
	comp=Z,6.7nm,0.7s						
MOX	Moxa	19.52 333	*e*P		P	04 36 23.2	+0.1
	comp=Z,6.2nm,0.9s,baz=142,slow=11						
CLL	Collm	19.58 336	*e*P		P	04 36 23.0	-0.6
CLL	Collm	19.58 336	*e*P		Pn	04 36 24.5	-0.5
	comp=Z,3.7nm,0.7s,baz=142,slow=11						
UBBA	Unterbreizbach	20.30 331	*e*P		P	04 36 32.4	+1.1
	comp=Z,29nm,1.7s,baz=142,slow=11						
TAM	Tamanrasset	20.74 243	P		P	04 36 36.8	+0.1
TAM			IAmb		IAmb	04 36 42.0	
	comp=Z,6.2nm,0.8s						
GTTG	Gottingen	20.87 332	*e*P		P	04 36 38.0	+0.3
	comp=Z,44nm,1.1s,baz=142,slow=11						
CLZ	Clausthal	20.95 333	*e*P		P	04 36 38.3	-0.3
	comp=Z,8.4nm,0.8s,baz=142,slow=11						
ESBB	Sonseca Array	24.19 292	P		P	04 37 11.8	-0.4
ESDC	Sonseca Array	24.19 292	P		P	04 37 12.4	+0.1
	comp=Z,4.5nm,0.7s,baz=83,slow=9.1,SNR=34						
ESDC	Sonseca Array	24.19 292	P		P	04 37 10.3	-2.0
PAB	San Pablo	24.48 292	P		P	04 37 14.2	-0.7
PBRG	Braganca	26.50 297	*e*P		P	04 37 33.0	-0.2
MVO	Moncorvo	26.65 295	*e*P		P	04 37 34.3	-0.2
	comp=Z,25nm,0.9s						
GEYT	Alibeck	26.65 72	P		P	04 37 37.3	+2.8
	comp=Z,1.8nm,0.5s,baz=267,slow=16,SNR=1.9						
PMRV	Marv??o	26.82 291	*e*P		P	04 37 36.4	+0.3
	comp=Z,22nm,1.8s						
PVAQ	Vaqueiros	27.10 287	*e*P		P	04 37 39.1	+0.5
PBEJ	Beja	27.20 288	*e*P		P	04 37 42.1	+2.6
PBDV	Barranco-do-Ve	27.28 287	*e*P		P	04 37 40.2	-0.1
HFS	Hagfors	27.31 347	P		P	04 37 39.6	-0.5
	comp=Z,3.1nm,0.7s,baz=142,slow=7.5,SNR=2.5						
FINES	FINESS Array B	27.51 1	P		P	04 37 40.8	-1.2
	comp=Z,5.7nm,0.9s,baz=152,slow=13,SNR=2.7						
FINES			LR		LR	04 49 55.2	
	comp=Z,31nm,19.6s,baz=212,slow=39						
FINES	FINESS Array B	27.51 1	P		P	04 37 40.9	-1.0
PGAV	Gavieira, Arco	27.65 297	*e*P		P	04 37 44.6	+1.0
	comp=Z,46nm,1.9s						
KLMR	Klimovskoe	28.42 14	*e*		P	04 37 48.5	-1.6
KLMR			AMP			04 37 50.3	
	comp=Z,11nm,0.8s						
NB2	NORSAR Subarra	28.63 346	P		P	04 37 51.0	-1.1
	comp=Z,1.0nm,0.6s,baz=146,slow=9.3						
NOA	NORSAR Array B	28.63 346	P		P	04 37 50.8	-1.2
	comp=Z,0.7nm,0.7s,baz=149,slow=11,SNR=4.6						
NOA			LR		LR	04 50 46.6	
	comp=Z,14nm,18.4s,baz=185,slow=40						
AKTO	Aktyubinsk	28.90 45	P		P	04 37 54.9	+0.4
	comp=Z,2.1nm,0.5s,baz=253,slow=6.6,SNR=6.1						
EKA	Eskdalemuir Ar	29.18 326	P		P	04 37 56.1	-0.8
	comp=Z,2.4nm,0.8s,baz=108,slow=9.8,SNR=5.5						
ABKAR	Akbulak array	29.66 49	P		P	04 38 01.4	+0.2
ABKAR	Akbulak array	29.66 49	IAmb		IAmb	04 38 03.4	
	comp=Z,3.0nm,0.7s						
TOA0	Torodi Ar. Sit	29.93 232	P		P	04 38 04.3	+0.4
TOA0			IAmb		IAmb	04 38 08.2	
	comp=Z,2.8nm,0.8s						
TORD	Torodi Ar. Bea	29.93 232	P		P	04 38 04.8	+0.8
	comp=Z,1.9nm,0.7s,baz=35,slow=9.8,SNR=10						
TORD			LR		LR	04 51 24.2	
	comp=Z,68nm,20.4s,baz=75,slow=39						
TORD	Torodi Ar. Bea	29.93 232	P		P	04 38 03.5	-0.5
KOWA	Kowa	32.96 241	P		P	04 38 30.9	+0.3
	comp=Z,1.1nm,0.8s,baz=149,slow=7.4,SNR=2.1						
KOWA	Kowa	32.96 241	P		P	04 38 30.1	-0.5
KOWA			IAmb		IAmb	04 38 48.1	
	comp=Z,3.9nm,1.1s						
KK31	Karatay Array	36.03 62	P		P	04 38 56.5	-0.5
KK31			IAmb		IAmb	04 38 59.2	
	comp=Z,2.3nm,0.8s						
KKAR	Karatay Array	36.03 62	P		P	04 38 56.2	-0.8
KKAR	Karatay Array	36.03 62	IAmb		IAmb	04 38 59.2	
	comp=Z,2.3nm,0.8s						
KURK	Kurchatov	41.75 50	P		P	04 39 44.3	-0.5
MKAR	Makanchi Array	44.23 56	P		P	04 40 06.3	+1.3
	comp=Z,6.9nm,0.6s,baz=277,slow=6.6,SNR=54						
MKAR			LR		LR	05 02 23.8	
	comp=Z,32nm,18.1s,baz=295,slow=41						
MKAR	Makanchi Array	44.23 56	P		P	04 40 04.2	-0.7
ZALV	Zalesovo Beam	45.66 45	P		P	04 40 16.7	+0.5
	comp=Z,6.0nm,0.5s,baz=266,slow=8.5,SNR=20						
ZALV	Zalesovo Beam	45.66 45	P		P	04 40 16.3	+0.2
NRIK	Noril'sk	48.86 25	P		P	04 40 41.9	+1.0
	comp=Z,3.4nm,0.8s,baz=253,slow=20,SNR=5.5						
PYUN	Piuthan	49.09 80	*e*P		P	04 40 45.3	+1.8
	comp=Z,30nm,0.6s						
DANN	Dangsing	49.63 80	*e*P		P	04 40 49.5	+1.8
	comp=Z,55nm,0.7s						
KOLN	Koldanda	49.71 81	*e*P		P	04 40 49.5	+1.2
GKN	Gorkha	50.47 80	*e*P		P	04 40 55.1	+1.1
	comp=Z,21nm,0.7s						
DMN	Daman	51.01 80	*e*P		P	04 40 59.5	+1.4
KKN	Kakani	51.08 80	*e*P		P	04 40 59.8	+1.2
PKIN	Phulchoki	51.26 80	*e*P		P	04 41 01.0	+1.0
PKI	Pulchoki	51.27 80	*e*P		P	04 41 01.2	+1.0
	comp=Z,22nm,0.8s						
GUN	Gumba	51.52 79	*e*P		P	04 41 03.3	+1.2
	comp=Z,23nm,0.7s						
JIRN	Jiri	51.88 80	*e*P		P	04 41 06.0	+1.2
SONM	Songino Array	60.05 50	P		P	04 42 04.1	+1.4
	comp=Z,1.3nm,0.5s,baz=280,slow=8.5,SNR=6.8						
SONM	Songino Array	60.05 50	P		P	04 42 02.5	-0.3
BOSA	Boshof	62.23 180	P		P	04 42 19.2	+1.7
	comp=Z,2.0nm,0.9s,baz=24,slow=10.0,SNR=1.5						
SCHQ	Schefferville	64.28 320	P		P	04 42 31.0	+0.2
	comp=Z,5.5nm,0.9s,baz=56,slow=5.4,SNR=6.4						
CMAR	Chiang Mai Arr	66.45 83	P		P	04 42 46.6	+1.1
	comp=Z,0.6nm,0.3s,baz=300,slow=8.5,SNR=5.1						
USRK	Ussuriysk Ar.	77.51 45	P		P	04 43 50.7	-0.7
	comp=Z,2.0nm,0.5s,baz=314,slow=3.2,SNR=5.9						
USRK	Ussuriysk Ar.	77.51 45	P		P	04 43 51.0	-0.3
YKA	Yellowknife Ar	78.68 342	P		P	04 43 57.8	+0.4
	comp=Z,1.4nm,0.8s,baz=51,slow=5.3,SNR=2.7						
KSRS	Korea Array	78.81 52	P		P	04 44 00.1	+1.4
	comp=Z,1.7nm,0.7s,baz=322,slow=4.0,SNR=2.9						
ILAR	Eielson Array	81.42 357	P		P	04 44 13.0	+0.7
	comp=Z,0.9nm,0.6s,baz=352,slow=3.9,SNR=12						
ILAR	Eielson Array	81.42 357	P		P	04 44 12.6	+0.3
WRA	Warramunga Arr	116.19 97	PKP		PKPdf	04 50 39.4	-0.1
	comp=Z,0.2nm,0.6s,baz=319,slow=2.2,SNR=1.6						
ASAR	Alice Springs	117.57 101	PKP		PKiKP	04 50 42.3	+0.2
	comp=Z,0.2nm,0.5s,baz=302,slow=1.7,SNR=1.6						
ASAR	Alice Springs	117.57 101			PKPdf	04 50 42.0	-0.1

IDC 25 04:36:15.3±1.2, 30°.56S×179°.30W, h256km±17km, mb3.1/2, mb1 3.4/3, mb1mx3.1/19, mbtmp3.8/3, Error ellipse: s-maj=48.7km s-min=28.1km az=125.0,

Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.77	43	P	Pn	04 36 57.4	+1.0
	95nm,0.3s,baz=28,slow=14,SNR=8.6						
RAO				S	S	04 37 28.7	0.0
	214nm,0.3s,baz=88,slow=23,SNR=6.0						
URZ	Urewera	8.24	200	P	Pn	04 38 11.2	-0.3
	0.5nm,0.3s,baz=135,slow=23,SNR=1.4						
URZ				S	S	04 39 34.6	-11
	0.8nm,0.3s,baz=50,slow=21,SNR=1.3						
ASAR	Alice Springs	41.98	268	P	P	04 43 41.5	-0.3
	0.5nm,0.7s,baz=110,slow=7.6,SNR=5.5						
WRA	Warramunga Arr	42.98	273	P	P	04 43 49.7	-0.1
	0.9nm,0.4s,baz=111,slow=8.0,SNR=16						
WRA				PcP	PcP	04 45 34.5	-0.7
	0.2nm,0.7s,baz=145,slow=2.0,SNR=1.7						
FINES	FINESS Array B	144.90	339	PKP	PKPbc	04 55 20.5	-0.3
	1.3nm,0.5s,baz=29,slow=4.4,SNR=7.0						

IDC ***25*** *04:56:45.7±3.5, 35°.74S×179°.00E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/28, mbtmp4.2/4, ML4.0/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/21, Error ellipse: s-maj=73.0km s-min=39.4km az=65.0*

WEL ***25*** *04:56:53.6, 36°S±13°×17°8E±°, h5km, M3.8/19, ML4.1/18, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=175.8*

ISC 25 04:56:51.2±3.3, 36°.00S±0°.08×178°.22E±0°.08, h8km±18km, n64, σ2°.30/68, mb4.2/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.56	177	P	Pn	04 57 18.7	-0.6
MXZ				S	Sn	04 57 39.4	-0.3
HAZ	Te Kaha	1.79	191	P	Pn	04 57 24.0	+1.6
HAZ				S	Sb	04 57 47.5	+0.7
WMGZ	Waiomatatini S	1.83	175	P	Pn	04 57 24.4	+1.5
RUGZ	Raukumara Rang	2.01	192	P	Pn	04 57 26.9	+1.3
RUGZ				S	Sb	04 57 53.2	-0.2
PUZ	Puketiti	2.07	179	P	Pn	04 57 28.7	+2.4
PUZ				S	Sg	04 57 58.5	+0.7
KUZ	Kuaotunu	2.15	249	P	Pn	04 57 28.4	+1.1
OPRZ	Ohinepanea	2.28	215	P	Pb	04 57 32.5	0.0
URZ	Urewera	2.43	201	Pn	Pn	04 57 32.8	+1.7
	20nm,0.3s,baz=275,slow=4.1,SNR=81						
URZ				Sn	Sb	04 58 03.2	-1.9
	27nm,0.3s,baz=252,slow=23,SNR=15						
URZ				LR	LR	04 58 23.4	
	comp=Z,334nm,21.8s,baz=5.5,slow=33						
URZ	Urewera	2.43	201	P	Pn	04 57 32.7	+1.6
URZ				S	Sb	04 58 03.0	-2.1
TKGZ	Te Karaka	2.46	187	P	Pb	04 57 34.9	-0.6
CNGZ	Carnagh Statio	2.48	180	P	Pb	04 57 35.3	-0.7
OMRZ	Omania	2.57	215	P	Pb	04 57 36.1	-1.5
WIAZ	Waiheke Island	2.61	251	P	Pn	04 57 35.2	+1.5
RIGZ	Rimuhau	2.73	188	P	Pn	04 57 38.6	+3.2
RIGZ				S	Sb	04 58 15.2	+1.4
RTZ	Ruatahuna	2.80	200	P	Pn	04 57 37.5	+1.2
SNGZ	Shannon Statio	2.87	194	P	Pb	04 57 41.5	-1.1
PRGZ	Paritu Road	2.93	185	P	Pn	04 57 41.1	+3.0
ALRZ	Allen Road	2.97	210	P	Pb	04 57 43.4	-0.9
RVAZ	Riverhead Bore	3.04	254	P	Pn	04 57 42.3	+2.8
KNZ	Kokohu	3.05	188	P	Pn	04 57 41.9	+2.2
RAHZ	Arahi	3.05	197	P	Pb	04 57 44.3	-1.5
MTHZ	Maungataniwha	3.06	201	P	Pn	04 57 42.2	+2.4
AWAZ	Awhitu Peninsu	3.07	249	P	Pn	04 57 42.1	+2.2
WCZ	Waipu Caves	3.14	270	P	Pn	04 57 42.4	+1.4
MHGZ	Mahia Peninsul	3.16	184	P	Pn	04 57 44.1	+2.9
TLZ	Tolley Road	3.17	222	P	Pn	04 57 44.0	+2.7
WHHZ	Waihua	3.17	194	P	Pb	04 57 45.4	-2.4
MRHZ	Matea Rd	3.18	206	P	Pb	04 57 45.3	-2.6
BKZ	Black Stump Fm	3.45	203	P	Pn	04 57 49.2	+4.0
RATZ	Rangitukua	3.46	213	P	Pb	04 57 53.0	+0.2
MCHZ	McNeill Hill	3.65	199	P	Pn	04 57 51.3	+3.3
HIZ	Hauiti	3.68	226	P	Pn	04 57 51.3	+3.0
KWHZ	Kaweka Forest	3.71	202	P	Pn	04 57 52.2	+3.4
KRVZ	Karewarewa	3.71	213	P	Pb	04 57 54.7	-2.4
WTVZ	West Tongariro	3.75	213	P	Pb	04 57 55.3	-2.4
OTVZ	Oturere	3.76	212	P	Pb	04 57 55.2	-2.6
TWVZ	Taurewa	3.78	215	P	Pb	04 57 56.1	-2.2
NGZ	Ngauruhoe	3.79	212	P	Pb	04 57 54.9	-3.6
FWVZ	Far West T-bar	3.88	212	P	Pb	04 57 56.4	-3.6
BHHZ	Black Hill Sta	3.88	205	P	Pn	04 57 55.4	+4.2
WNVZ	Wahianoa	3.92	211	P	Pn	04 57 55.1	+3.3
KRHZ	Kereru	3.92	201	P	Pn	04 57 54.7	+3.0
MOVZ	Moawhango	3.93	209	P	Pn	04 57 54.6	+2.8
PKVZ	Pokaka	4.00	214	P	Pb	04 57 59.2	-2.7
VRZ	Vera Road	4.16	220	P	Pb	04 58 01.3	-3.3
PXZ	Pawanui	4.17	195	P	Pn	04 57 56.6	+1.6
PNHZ	Pukenui	4.22	202	P	Pn	04 57 58.4	+2.5
WAZ	Wanganui	4.54	213	P	Pb	04 58 07.1	-4.0
NEZ	North Egmont	4.63	224	P	Pb	04 58 14.4	+1.8
KHEZ	Kahui Hut	4.69	224	P	Pb	04 58 11.0	-2.6
BFZ	Birch Farm	4.93	198	P	Pn	04 58 06.6	+1.1
MRZ	Mangatainoka R	5.10	203	P	Pn	04 58 10.7	+2.8
KHZ	Kahutara	7.37	208	P	Pn	04 58 41.8	+2.8
DZM	Mont Dzumac	17.26	320	LR	LR	05 06 11.4	
	comp=Z,318nm,18.4s,baz=230,slow=32						
RAR	Rarotonga	24.22	58	LR	LR	05 09 48.1	
	comp=Z,76nm,21.6s,baz=194,slow=33						
ASAR	Alice Springs	40.04	275	P	P	05 04 27.8	+0.8
	5.7nm,1.0s,baz=114,slow=7.8,SNR=34						
WRA	Warramunga Arr	41.56	281	P	P	05 04 39.9	+0.4
	1.0nm,0.4s,baz=120,slow=7.5,SNR=17						
VNDA	Vanda	42.24	185	LR	LR	05 20 07.0	
	comp=Z,35nm,19.5s,baz=6.0,slow=33						
FITZ	Fitzroy Crossi	49.51	277	P	P	05 05 42.8	+0.4
	4.5nm,0.9s,baz=181,slow=13,SNR=6.9						
SNAA	Sanae	72.63	180	P	P	05 08 17.5	-1.3
VNA3	Neumayer Olymp	72.91	177	P	P	05 08 20.3	-0.1
VNA2	Neumayer--Watz	73.31	178	P	P	05 08 22.9	+0.3
	baz=175,slow=6.3						
VNA1	Neumayer--Stat	73.55	178	P	P	05 08 24.4	+0.3
TORD	Torodi Ar. Bea	157.04	189	PKPab	PKPab	05 17 15.2	-2.8
	0.4nm,0.8s,baz=191,slow=2.1,SNR=2.4						

BJI ***25*** *05:00:03.0±0.0, 64°.50N×17°.30W, h10km, mB5.3/28, mb4.8/34, Ms5.1/23, Ms7 4.9/23*

REY ***25*** *05:00:03.3, 64°.61N×17°.39W, h12km*

IDC ***25*** *05:00:04.0±0.5, 64°.48N×17°.59W, h0km, mb4.3/23, mb1 4.5/28, mb1mx4.3/43, mbtmp4.3/28, ML3.1/4, MS4.7/34, Ms1 4.7/34, ms1mx4.6/36, Error ellipse: s-maj=15.5km s-min=7.9km az=16.0*

IEPN ***25*** *05:00:03.0, 64°.36N×17°.89W, h10km*

BGS ***25*** *05:00:04.2±1.9, 64°.56N×17°.34W, h5km, MS4.7*

MOS ***25*** *05:00:04.7±1.0, 64°.57N×17°.42W, h10km, mb5.0/66, MS4.5/19, Error ellipse: s-maj=10.2km s-min=5.4km az=115.3*

UNK ***25*** *05:00:06.8, 64°.53N×17°.39W, h9km*

NEIC ***25*** *05:00:06.8±1.6, 64°.51N±0°.07×17°.5W±0°.1, h9km±4km, mb4.8/236, Mww5.2, Mwc5.2(GCMT), Error ellipse: s-maj=10.8km s-min=8.4km az=187.0*

GCMT ***25*** *05:00:07.8±0.1, 64°.60N±0°.01×17°.19W±0°.02, h12km, MW5.2/145, Moment Tensor Solution. s75,c106; s145,c279; Duration: 0 Moment tensor: Scale 10^17Nm; Mrr=0.76±.01; Mθθ0.58±.01; Mφφ0.17±.01; Mrθ0.18±.03; Mrφ0.01±.01; Mθφ=0.23±.03; Best double couple: M0=0.71800×10^17 NP1:φs78.00000°, δ39.00000°, λ-110.00000°. NP2:φs283.00000°, δ54.00000°, λ-75.00000°. Principal axes: T 0.6040, Plg8.0000°, Azm2.0000°; N 0.2280, Plg12.0000°, Azm94.0000°; P -0.8320, Plg75.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***25*** *05:00:07, 64°.62N×17°.24W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=7.64; Mθθ5.85; Mφφ1.79; Mrθ1.59; Mrφ-0.01; Mθφ-2.20; Fault plane solution: M0=7.43000×10^16 NP1:φs81.00000°, δ39.00000°, λ-109.00000°. NP2:φs284.00000°, δ53.00000°, λ-75.00000°. Principal axes: T 6.0527, Plg7.0000°, Azm4.0000°; N 2.2453, Plg12.0000°, Azm95.0000°; P -8.2980, Plg76.0000°, Azm243.0000°;*

DNK ***25*** *05:00:08.9±6.0, 64°.62N×17°.45W, h0km±923km, Hypocentre not reviewed by the ISC*

NEIC ***25*** *05:00:11, 64°.53N×17°.63W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=8.20; Mθθ6.33; Mφφ1.87; Mrθ1.58; Mθφ-0.40; Mφr1.59; Fault plane solution: M0=7.78000×10^16 NP1:φs103.00000°, δ40.00000°, λ-75.00000°. NP2:φs265.00000°, δ51.00000°, λ-101.00000°. Principal axes: T 6.5108, Plg6.0000°, Azm3.0000°; N 2.1087, Plg9.0000°, Azm272.0000°; P -8.6196, Plg79.0000°, Azm125.0000°;*

ISC 25 05:00:05.9±0.2, 64°.56N±0°.02×17°.46W±0°.02, h10km, n775, σ1°.63/734, mb4.8/191, MS4.6/62, 22C-15D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	Dyngjujokull	0.12	121	P	Pg	05 00 06.4	-2.5
	baz=147						
IVON	Vonarskard	0.17	311	P	Pg	05 00 07.0	-2.6
	baz=292						
IGRF	Grimsfjall	0.18	151	P	Pg	05 00 07.8	-2.1
	baz=165						
IDYN	Dyngjuhals	0.23	10	P	Pg	05 00 07.5	-3.2
	baz=3.7						
IURH	Urdarhals	0.29	28	P	Pg	05 00 08.0	-3.8
	baz=27						
IVOT	Vottur	0.32	157	P	Pg	05 00 10.2	-2.1
	baz=165						
IBJK	Bruarjokull	0.32	107	P	Pg	05 00 09.3	-3.1
	baz=117						
IKVE	Kverkfjoll	0.36	71	P	Pg	05 00 09.7	-3.4
	baz=77						
ISKR	Skrokkalda	0.40	270	P	Pg	05 00 11.2	-2.5
	baz=264						
IJOK	Jokulheimar	0.41	233	P	Pg	05 00 12.0	-2.1
	baz=231						
IKRE	Kreppuhraun	0.52	64	P	Pg	05 00 12.0	-4.0
	baz=68						
IKRE				S	Sg	05 00 18.9	-3.8
	baz=68						
IIEY	Innrieyrar	0.55	212	P	Pg	05 00 14.2	-2.4
	baz=212						
IKSK	Karasker	0.59	133	P	Pg	05 00 13.8	-3.6
	baz=138						
IASK	Askja	0.60	35	P	Pg	05 00 13.0	-4.6
	baz=35						
IKAL	Kalfafell	0.62	189	P	Pg	05 00 15.6	-2.5
	baz=191						
IMKO	Mokollar	0.64	49	P	Pg	05 00 13.9	-4.3
	baz=50						
IVAT	Vatnsfell	0.74	240	P	Pg	05 00 17.4	-2.8
	baz=238						
IFAG	Fagurholsmyri	0.78	153	P	Pg	05 00 17.7	-3.2
	baz=156						
ISVA	Svartarkot	0.78	6	P	Pg	05 00 16.1	-4.9
	baz=4.6						
IVSH	V-Sauoaohnukur	0.79	71	P	Pg	05 00 16.6	-4.5
	baz=74						
IADA	Aoalbol	0.93	60	P	Pg	05 00 18.6	-5.2
	baz=61						
IHVE	Hveravellir	0.95	290	P	Pg	05 00 20.0	-4.3
	baz=287						
ISNB	Snabyli	0.98	212	P	Pg	05 00 21.4	-3.3
	baz=212						
ISLY	Slysaalda	1.04	225	P	Pg	05 00 22.5	-3.3
	baz=224						
IMEL	Melhnausar	1.07	18	P	Pg	05 00 20.8	-5.7
	baz=18						
IRJU	Rjupnafell	1.09	210	P	Pb	05 00 23.7	-3.1
	baz=210						
IRJU				S	Sb	05 00 38.8	-2.2
	baz=210						
IFED	Fedgar	1.11	242	P	Pb	05 00 23.7	-3.5
	baz=241						
IMJO	Mjoaskard	1.15	238	P	Pb	05 00 24.6	-3.4
	baz=237						
IKVO	Krokottuvotn	1.18	12	P	Pb	05 00 22.7	-5.8
	baz=11						
IHVO	Lagu-Hvolar	1.21	211	P	Pn	05 00 25.6	-3.2
	baz=211						
IGRS	Grimsstaoir	1.22	27	P	Pb	05 00 23.5	-5.5
	baz=27						
IGOD	Go??abunga	1.22	223	P	Pn	05 00 25.9	-3.2
	baz=222						
IGYG	Gygjarholskot	1.23	258	P	Pn	05 00 25.2	-3.9
	baz=256						
IHAU	Haukadalur	1.24	242	P	Pn	05 00 25.9	-3.5
	baz=241						
IALF	Alftagrof	1.32	216	P	Pn	05 00 27.2	-3.2
	baz=216						
ISKI	Skildingahlsh	1.32	8	P	Pn	05 00 25.1	-5.4
	baz=6.8						
IGHA	Grjothals	1.33	14	P	Pn	05 00 25.4	-5.1
	baz=14						
IESK	Eystri-Skogar	1.36	221	P	Pn	05 00 27.8	-3.1
	baz=221						
IDIM	Dimmadalss	1.42	9	P	Pn	05 00 26.8	-5.0
	baz=7.9						
IHLA	Hella	1.44	345	P	Pn	05 00 27.0	-5.0
	baz=343						
BORG	Borgarnes	1.67	278	Pg	Pn	05 00 32.1	-3.1
	85nm,0.3s,baz=90,slow=7.8,SNR=77						
BORG				Lg	Lg	05 00 56.6	
	36nm,0.3s,baz=255,slow=21,SNR=11						
BORG				LR	LR	05 01 21.6	
	comp=Z,10μm,21.2s,baz=104,slow=48						
BORG	Borgarnes	1.67	278	P	Pn	05 00 32.4	-2.8
BORG

comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=4.9
NOA LR LR 05 08 26.9
comp=Z,961nm,19.1s,baz=300,slow=37
NOA NORSAR Array B 13.51 92 P **Pn 05 03 15.0 -2.5**
NB201 NORSAR Array S 13.54 92 Pn **Pn 05 03 19.4 +1.5**
SFJD Kangerlussuaq 13.72 295 LR LR 05 08 07.4
comp=Z,5μm,19.6s,baz=88,slow=35
HFS Hagfors 15.03 93 Pn **Pn 05 03 37.7 -0.3**
comp=Z,0.2nm,0.3s,baz=339,slow=7.7,SNR=1.5
HFS LR LR 05 09 13.8
comp=Z,1μm,20.0s,baz=287,slow=36
HSPB Hornsund (broa 16.16 26 *eP* **P 05 03 58.5 +2.7**
HSPB Hornsund (broa 16.16 26 P **P 05 03 52.8 -3.1**
HSPB S **Sn 05 06 53.8 +2.3**
KBS Kingsbay 16.73 19 P **Pn 05 03 57.0 -3.0**
KBS *eS* **Sn 05 07 03.0 -2.5**
SPA0 Spitsbergen Ar 16.96 23 P **P 05 04 04.2 -0.6**
SPA0 *eS* **S 05 07 16.5 -4.7**
SPITS Spitsbergen Ar 16.96 23 LR LR 05 08 56.1
comp=Z,3μm,19.9s,baz=220,slow=31
NOR Nord 17.13 0 *i* P **P 05 04 08.8 +2.2**
NOR Nord 17.13 0 *i* P **P 05 04 08.8 +2.2**
BSEG Bad Segeberg 17.58 114 *eP* **P 05 04 09.1 -2.6**
comp=Z,484nm,2.5s,baz=325,slow=11
HOPEN Hopen 17.92 31 P **P 05 04 16.8 +1.5**
HOPEN S **S 05 07 42.2 +1.6**
RGN Rugen 18.34 109 *eP* **P 05 04 20.6 +0.5**
BEBN Eben Emael 18.37 128 P **P 05 04 20.1 -0.3**
BUG Bochum--Univer 18.39 124 *eP* **P 05 04 20.8 +0.2**
comp=Z,376nm,2.2s,baz=325,slow=11
BMRD Maredsous 18.48 130 P **Pn 05 04 22.2 +0.4**
BSTI Sart Tilman 18.51 128 P **Pn 05 04 23.3 +1.1**
BGES Gesves 18.52 129 P **Pn 05 04 21.8 -0.4**
BCLA Clavier 18.56 129 P **Pn 05 04 23.5 +0.8**
BCLA *x* x 05 04 27.0
BSD Bornholm Skovb 18.60 105 *i* P **Pn 05 04 26.5 +3.3**
BSD Bornholm Skovb 18.60 105 *i* P **Pn 05 04 26.5 +3.3**
DOU Dourbes 18.60 131 P **Pn 05 04 24.4 +1.2**
MEM Membach 18.64 127 P **Pn 05 04 22.7 -1.0**
BTNL Ternell 18.70 127 P **Pn 05 04 23.8 -0.7**
RCHB Rochefort 18.76 130 P **Pn 05 04 24.1 -1.1**
BHOU Houvegnez 18.85 128 P **Pn 05 04 24.9 -1.5**
AHRW Bad Neuenahr-A 19.07 126 *eP* **Pn 05 04 29.4 +0.5**
comp=Z,423nm,2.3s,baz=325,slow=11
ASSE Asse, Remlinge 19.10 117 *eP* **Pn 05 04 28.5 -0.7**
comp=Z,700nm,2.8s,baz=325,slow=11
CLZ Clausthal 19.21 118 *eP* **Pn 05 04 30.3 -0.4**
comp=Z,485nm,2.5s,baz=325,slow=11
GTTG Gottingen 19.29 119 *eP* **Pn 05 04 31.2 -0.4**
comp=Z,863nm,3.0s,baz=325,slow=11
WLF Walferdange 19.49 129 P **Pn 05 04 33.6 -0.4**
WLF Walferdange 19.49 129 P **Pn 05 04 33.8 -0.2**
WLF pmax pmax
comp=Z,45nm,1.4s
WLF Walferdange 19.49 129 *eP* **Pn 05 04 33.8 -0.2**
comp=Z,494nm,2.9s,baz=325,slow=11
WLF Walferdange 19.49 129 P **Pn 05 04 33.8 -0.2**
CLF Chambon-Foret 19.71 138 P **Pn 05 04 35.6 -0.9**
CLF IAmb IAmb 05 04 50.9
comp=Z,98nm,1.4s
FINES FINESS Array B 19.71 79 P **Pn 05 04 36.6 +0.1**
comp=Z,0.2nm,0.3s,baz=321,slow=2.7,SNR=9.9
FINES LR LR 05 11 45.8
comp=Z,1μm,20.3s,baz=296,slow=36
FINES FINESS Array B 19.71 79 P **Pn 05 04 38.1 +1.6**
FIA1 FINESS Array S 19.71 79 P **Pn 05 04 38.0 +1.5**
FIA1 IAmb IAmb 05 04 47.5
comp=Z,59nm,1.4s
UBBA Unterbreizbach 19.89 121 *eP* **Pn 05 04 38.2 -0.5**
comp=Z,291nm,2.3s,baz=325,slow=11
RUE Ruedersdorf 20.05 112 *eP* Pn 05 04 39.3 -1.3
NEUB Neuenburg 20.25 117 *eP* Pn 05 04 41.7 -1.3
comp=Z,362nm,2.2s,baz=325,slow=11
MOX Moxa 20.64 119 *eP* Pn 05 04 45.8 -1.7
comp=Z,427nm,2.6s,baz=325,slow=11
MOX *eL* L 05 13 07.3
comp=Z,2μm,20.3s
CLL Collm 20.65 115 *i* P Pn 05 04 44.9 -2.7
comp=Z,111nm,1.8s
CLL *i* (sP) sP 05 04 51.2 +1.1
CLL *eP*P **PnPn 05 05 05.0 +2.2**
CLL *eS* Sn 05 08 40.0 -0.2
CLL *e*SSS SSS 05 09 07.0
CLL Collm 20.65 115 *i* P Pn 05 04 44.9 -2.7
CLL *i* 05 04 51.2
CLL *eS* Sn 05 08 40.0 -0.2
CLL pmax pmax
comp=Z,111nm,1.8s
CLL Collm 20.65 115 *eP* Pn 05 04 45.5 -2.2
comp=Z,111nm,1.8s,baz=325,slow=11
CLL Collm 20.65 115 P Pn 05 04 44.8 -2.8
PLN Plauen 20.97 118 *eP* Pn 05 04 49.2 -2.3
comp=Z,244nm,1.9s,baz=325,slow=11
ECH Echery 21.07 129 P **P 05 04 50.8 +0.8**
ECH pmax pmax
comp=Z,43nm,1.3s
ECH Echery 21.07 129 P **P 05 04 50.8 +0.8**
FBE Freiberg 21.09 116 *eP* **P 05 04 50.4 +0.3**
comp=Z,531nm,2.4s,baz=325,slow=11
GUNZ Gunzen 21.14 118 *eP* **P 05 04 51.0 +0.3**
comp=Z,1μm,3.1s,baz=325,slow=11
TANN Tannenbergstha 21.15 118 *eP* **P 05 04 51.0 +0.2**
comp=Z,2μm,3.2s,baz=325,slow=11
WERN Wernitzgruen 21.22 118 *eP* **P 05 04 51.7 +0.2**
comp=Z,989nm,3.2s,baz=325,slow=11
GRA1 Grafenberg Arr 21.27 121 P **P 05 04 53.9 +1.8**
GRA1 IAmb IAmb 05 05 13.3
comp=Z,66nm,1.3s
GRF Grafenberg Arr 21.27 121 P **P 05 04 53.9 +1.8**
GRF pmax pmax
comp=Z,67nm,1.3s
GRF Grafenberg Arr 21.27 121 *eP* **P 05 04 52.7 +0.6**
comp=Z,415nm,2.4s,baz=325,slow=11
GRF *eL* L 05 13 17.8
comp=Z,2μm,20.5s
NKC Novy Kostel 21.29 118 *eP* **P 05 04 54.0 +1.7**
NKC *eS* Sn 05 08 56.7 +1.0
NKC AMS AMS 05 14 10.0
comp=Z,2μm,18.7s
NKC Novy Kostel 21.29 118 *eP* **P 05 04 54.0 +1.7**
NKC *eS* Sn 05 08 56.7 +1.0
NKC MLR MLR
comp=Z,2μm,18.7s
STU Stuttgart 21.30 125 P **P 05 04 52.7 +0.3**
STU pmax pmax
comp=Z,82nm,1.2s
STU Stuttgart 21.30 125 *eP* **P 05 04 53.6 +1.2**
comp=Z,753nm,3.0s,baz=325,slow=11
STU Stuttgart 21.30 125 P **P 05 04 52.7 +0.3**
STU IAmb IAmb 05 05 02.4
comp=Z,82nm,1.2s
BRG Berggiesshubel 21.36 115 *i* P **P 05 04 52.5 -0.5**
comp=Z,86nm,1.6s
BRG S Sn 05 08 56.0 -1.3
comp=N,2μm,15.6s
comp=E,2μm,12.9s
comp=Z,2μm,17.1s
BRG Berggiesshubel 21.36 115 *i* P **P 05 04 52.5 -0.5**
BRG S Sn 05 08 56.0 -1.3
BRG pmax pmax
comp=Z,86nm,1.6s
BRG MLR MLR
comp=N,2μm,15.6s
BRG MLR MLR
comp=E,2μm,12.9s
BRG MLR MLR
comp=Z,2μm,17.1s
BRG Berggiesshubel 21.36 115 *eP* **P 05 04 53.1 +0.1**
comp=Z,489nm,2.6s,baz=325,slow=11
MANZ Manzenberg 21.36 119 *eP* **P 05 04 53.2 +0.1**
comp=Z,759nm,3.5s,baz=325,slow=11
BFO Black Forest 21.37 127 P **P 05 04 53.9 +0.6**
BFO pmax pmax
comp=Z,64nm,1.2s
BFO Black Forest 21.37 127 *eP* **P 05 04 54.1 +0.9**
comp=Z,192nm,1.9s,baz=325,slow=11
BFO Black Forest 21.37 127 P **P 05 04 53.9 +0.6**
BFO IAmb IAmb 05 05 03.1
comp=Z,64nm,1.2s
VSU Vasula 21.56 86 *i* P **P 05 04 56.1 +1.0**
ROTZ Rotzenmuhle 21.57 119 *eP* **P 05 04 57.2 +1.8**
comp=Z,557nm,3.1s,baz=325,slow=11
FRB Frobisher Bay 21.80 291 LR LR 05 12 57.1
comp=Z,1μm,18.8s,baz=66,slow=36
PVCC Panska Ves 21.87 115 AMS AMS 05 14 30.0
comp=Z,2μm,17.1s
PRA Prague 22.18 116 *e*S Sn 05 09 13.7 -3.4
PRA AMS AMS 05 14 50.0
comp=Z,900nm,16.3s
PABE Paberze 22.19 94 *eP* **P 05 05 02.5 +0.7**
PRU Pruhonice 22.29 116 *eP* **P 05 05 04.5 +1.5**
PRU *eS* Sn 05 09 14.4 -5.3
PRU AMS AMS 05 14 50.0
comp=Z,2μm,12.8s
PRU Pruhonice 22.29 116 *eP* **P 05 05 04.5 +1.5**
PRU MLR MLR
comp=Z,2μm,12.8s
KSP Ksiaz 22.31 112 *eP* **P 05 05 02.7 -0.6**
WET Wettzell 22.34 119 *eP* **P 05 05 05.2 +1.7**
comp=Z,1μm,4.5s,baz=325,slow=11
CHVC Chvalec 22.41 113 *eP* **P 05 05 05.6 +1.2**
GOPC GO Pecny, Ondr 22.45 115 *eP* **P 05 05 07.0 +2.3**
GOPC *e*S Sn 05 09 18.9 -4.5
GOPC AMS AMS 05 18 00.0
comp=Z,2μm,11.2s
GOPC GO Pecny, Ondr 22.45 115 *eP* **P 05 05 07.0 +2.3**
GOPC MLR MLR
comp=Z,2μm,11.2s
UPC Upice 22.46 113 AMS AMS 05 14 10.0
comp=Z,2μm,18.6s
OSTC Ostas 22.50 112 *eP* **P 05 05 06.9 +1.6**
OSTC AMS AMS 05 14 10.0
comp=Z,2μm,16.0s
UBR Ueberruh 22.55 125 *eP* **P 05 05 06.7 +0.8**
comp=Z,1μm,3.2s,baz=325,slow=11
KHC Kasperske Hory 22.61 118 *eP* **P 05 05 06.4 -0.1**
KHC *ex* x 05 05 17.0
KHC *e*S Sn 05 09 21.6 -5.9
KHC AMS AMS 05 14 40.0
comp=Z,2μm,18.3s
KHC Kasperske Hory 22.61 118 *eP* **P 05 05 06.4 -0.1**
KHC MLR MLR
comp=Z,2μm,18.3s
KHC Kasperske Hory 22.61 118 P **P 05 05 06.6 +0.1**
DPC Dobruska-Polom 22.71 113 *eP* **P 05 05 07.9 +0.4**
DPC *e*S Sn 05 09 23.1 -6.6
DPC AMS AMS 05 14 30.0
comp=Z,2μm,18.3s
DPC Dobruska-Polom 22.71 113 *eP* **P 05 05 07.9 +0.4**
DPC MLR MLR
comp=Z,2μm,18.3s
SENIN Lac Senin/Sane 22.74 131 P **P 05 05 11.3 +3.2**
DAVA Damuels 22.81 126 *e*sP sP 05 05 12.0 -1.6
comp=Z,24nm,1.2s,SNR=6.6
SUW Suwalki 22.85 98 *eP* **P 05 05 08.8 -0.1**
SUW Suwalki 22.85 98 P **P 05 05 08.8 -0.1**
SUW pmax pmax
comp=Z,143nm,1.5s
SUW Suwalki 22.85 98 P **P 05 05 08.8 -0.1**
SSB Saint Sauveur 22.86 137 P **P 05 05 10.6 +1.4**
SSB pmax pmax
comp=Z,11nm,1.0s
SSB Saint Sauveur 22.86 137 P **P 05 05 10.6 +1.4**
GEC2 GERESS Array S 22.89 118 *eP* **P 05 05 09.5 -0.1**
comp=Z,376nm,2.6s,baz=325,slow=11
GEC2 GERESS Array S 22.89 118 P **P 05 05 09.4 -0.1**
GEC2 IAmb IAmb 05 05 14.2
comp=Z,65nm,1.5s
GERES GERESS Array B 22.89 118 P **P 05 05 09.1 -0.4**
comp=Z,5.0nm,0.9s,baz=327,slow=9.5,SNR=20
GERES LR LR 05 15 15.5
comp=Z,2μm,18.6s,baz=330,slow=40
GERES GERESS Array B 22.89 118 P **P 05 05 09.4 -0.1**
RETA Reutte 22.95 125 *i* P **P 05 05 10.9 +0.8**
comp=Z,22nm,1.5s,SNR=11
IZAR Zarasai 23.01 92 *eP* **P 05 05 11.3 +0.7**
ISAL Salakas 23.07 92 *eP* **P 05 05 11.9 +0.7**
KRLC Kraliky 23.11 112 AMS AMS 05 18 40.0
comp=Z,2μm,10.6s
MOTA Moosalm 23.19 124 *i* P **P 05 05 13.2 +0.5**
comp=Z,52nm,1.9s,SNR=11
TREC Trest 23.21 115 *eP* **P 05 05 12.9 +0.1**
TREC *e*S Sn 05 09 32.7 -9.1
TREC AMS AMS 05 15 20.0
comp=Z,2μm,16.2s
TREC Trest 23.21 115 *eP* **P 05 05 12.9 +0.1**
TREC MLR MLR
comp=Z,2μm,16.2s
DAVOX Davos/Dischmat 23.24 127 P **P 05 05 13.2 0.0**
comp=Z,5.6nm,0.8s,baz=318,slow=12,SNR=11
PGAV Gavieira, Arco 23.25 162 *eP* **P 05 05 14.7 +1.5**
comp=Z,82nm,1.7s
PGAV *e*S Sn 05 09 35.0 -7.8
PGAV A A 05 13 35.8
comp=Z,3μm,18.0s
IIGN Ignalina 23.26 93 *eP* **P 05 05 13.8 +0.7**
TUE Stuetta 23.33 128 P **P 05 05 15.1 +0.9**
TUE IAmb IAmb 05 05 37.7
comp=Z,27nm,1.1s
SQTA Sankt Quirin 23.33 124 *i* P **P 05 05 15.3 +1.2**
comp=Z,44nm,1.9s,SNR=8.9
FETA Feichten 23.33 125 P **P 05 05 15.6 +1.5**
comp=Z,38nm,1.5s,SNR=6.0
WATA Walderalm 23.37 124 *i* P **P 05 05 15.7 +1.2**
comp=Z,52nm,2.2s,SNR=8.2
TMCR Tamitsa 23.38 66 *eP* P 05 05 18.4 +4.2
TMCR Tamitsa 23.38 66 *eP* P 05 05 18.4 +4.2
TMCR pmax pmax
comp=Z,59nm,1.0s
BEL Belsk 23.40 105 *eP* **P 05 05 16.4 +1.8**
IDID Didziasalis 23.51 92 *eP* **P 05 05 16.1 +0.5**
FUORN Ofenpass-Fuorn 23.52 127 P **P 05 05 16.4 +0.3**
FUORN IAmb IAmb 05 05 42.1
comp=Z,36nm,1.4s
PCAB Cabril 23.53 162 *eP* **P 05 05 18.2 +2.2**
comp=Z,67nm,1.4s
PBRG Braganca 23.62 160 *eP* **P 05 05 19.3 +2.4**
comp=Z,61nm,2.1s
VRAC Vranov 23.64 114 P **P 05 05 17.0 +0.1**
comp=Z,4.0nm,0.7s,baz=327,slow=10,SNR=21
VRAC LR LR 05 15 32.2
comp=Z,2μm,18.5s,baz=330,slow=39
VRAC Vranov 23.64 114⇑ *i* P **P 05 05 18.7 +1.7**
VRAC *e*S Sn 05 09 41.6 -10
MORC Moravsky Berou 23.64 112⇑ *i* P **P 05 05 18.6 +1.5**
MORC *e*S Sn 05 09 41.5 -11
MORC Moravsky Berou 23.64 112 P **P 05 05 17.2 +0.1**
MORC pmax pmax
comp=Z,19nm,1.2s
MORC Moravsky Berou 23.64 112 P **P 05 05 17.2 +0.1**
BNI Bardonecchia 23.71 134 P **P 05 05 18.8 +0.9**
BNI pmax pmax
comp=Z,14nm,1.2s
BNI Bardonecchia 23.71 134 P **P 05 05 18.8 +0.9**
KRUC Moravsky 23.76 115⇑ *i* P **P 05 05 19.7 +1.6**
KRUC *e*S Sn 05 09 43.5 -11
EUNU Eureka 23.77 336 P **P 05 05 18.9 +0.9**
EUNU IAmb IAmb 05 05 21.3
comp=Z,30nm,0.8s
MOA Molln 23.93 119 *i* P **P 05 05 21.2 +1.5**
comp=Z,19nm,1.5s,SNR=5.8
PVRL Vila Real 24.00 162 *eP* **P 05 05 22.6 +2.1**
comp=Z,80nm,1.9s
ABTA Abfaltersbach 24.20 123 *i* P **P 05 05 23.1 +0.6**
comp=Z,18nm,1.2s,SNR=6.7
MVO Moncorvo 24.20 161 *eP* **P 05 05 24.4 +1.9**
comp=Z,94nm,1.8s
MVO *e*S S 05 09 50.0 +9.5
MVO A A 05 14 27.7
comp=Z,2μm,18.0s
OJC Ojcow 24.21 109 *eP* **P 05 05 21.9 -0.5**
OJC *e*S **S 05 09 43.1 +2.7**
OJC Ojcow 24.21 109 P **P 05 05 20.8 -1.6**
OJC pmax pmax
comp=Z,26nm,1.4s
OJC Ojcow 24.21 109 P **P 05 05 20.8 -1.6**
KBA Koelnbreinsper 24.23 121 *i* pP pP 05 05 25.5 -0.8
comp=Z,21nm,1.8s
JAVC Velka Javorina 24.42 113⇑ *i* P **P 05 05 27.2 +2.8**
JAVC *e*S S 05 09 56.5 +13
CONA Conrad Observa 24.47 117 *i* P **P 05 05 24.9 0.0**
comp=Z,19nm,1.1s,SNR=8.0
CTI Castel Tesino 24.49 125 P **P 05 05 26.4 +1.3**
CTI pmax pmax
comp=Z,24nm,1.2s
CTI Castel Tesino 24.49 125 P **P 05 05 26.4 +1.3**
CTI IAmb IAmb 05 05 34.7
comp=Z,24nm,1.2s
PVIS Viseu 24.53 162 *eP* **P 05 05 28.0 +2.6**
comp=Z,89nm,2.0s
ZOU Zoufplan 24.53 123 P **P 05 05 25.9 +0.3**
MICGM Minsk 24.54 93‖ *eP* **P 05 05 28.0 +2.7**
MICGM *e*S **S 05 09 48.0 +2.4**
MICGM *e*LR LR 05 14 52.0
MNK Minsk 24.54 93‖ *eP* **P 05 05 28.0 +2.7**
MNK *e*S **S 05 09 48.0 +2.4**
CIMO Cimolais 24.55 124 P **P 05 05 26.3 +0.8**
SMOL Smolenice 24.61 114 *eP* **P 05 05 26.7 +0.7**
SMOL pmax pmax
comp=Z,20nm,1.3s
SMOL Smolenice 24.61 114 *eP* **P 05 05 26.7 +0.7**
MODS Modra-Piesok 24.66 114 *eP* **P 05 05 26.1 -0.4**
MODS pmax pmax
comp=Z,221nm,2.5s
MODS Modra-Piesok 24.66 114 *eP* **P 05 05 26.1 -0.4**
STAL STALIGIAL 24.69 123 P **P 05 05 27.3 +0.5**
MYKA Terra Mystica 24.71 122 *i* P **P 05 05 28.8 +1.7**
comp=Z,28nm,2.1s,SNR=6.4
ZST Bratislava 24.73 115 *eP* **P 05 05 27.9 +0.8**
ZST Bratislava 24.73 115 *eP* **P 05 05 27.9 +0.8**
PRED Cave del Predi 24.85 122 P **P 05 05 28.3 +0.1**
PRED IAmb IAmb 05 05 40.5
comp=Z,30nm,1.3s
ARSA Arzberg 24.90 118 *i* P **P 05 05 24.6 -4.1**
comp=Z,16nm,1.3s
LANS Liptovska Anna 24.91 111 *eP* **P 05 05 29.5 +0.7**
LANS Liptovska Anna 24.91 111 *eP* **P 05 05 29.5 +0.7**
COI Coimbra 24.96 163 *eP* **P 05 05 33.1 +3.9**
comp=Z,89nm,1.8s
ROBS Robic 24.99 122 *eP* **P 05 05 28.0 -1.5**
NIE Niedzica 25.04 109 *eP* **P 05 05 29.5 -0.4**
TEOL Teolo 25.10 126 P **P 05 05 31.3 +0.8**
TEOL IAmb IAmb 05 05 33.1
comp=Z,23nm,1.0s
PCAS Casmilo, Conde 25.10 164 *eP* **P 05 05 32.6 +2.1**
comp=Z,76nm,1.8s
VYHS Vyhne 25.18 112 *eP* **P 05 05 31.1 -0.1**
VYHS pmax pmax
comp=Z,136nm,2.1s
VYHS Vyhne 25.18 112 *eP* **P 05 05 31.1 -0.1**
SOKA Soboth 25.19 120 *i* P **P 05 05 30.3 -1.1**
comp=Z,18nm,1.5s
PERS Pernice 25.26 120 *i* P **P 05 05 31.9 -0.1**
PERS *e*S **S 05 10 03.3 +5.9**
PCBR Castelo Branco 25.44 162 *eP* **P 05 05 35.7 +2.1**
comp=Z,57nm,2.0s
PSBE So Bento 25.60 164 *eP* **P 05 05 38.8 +3.8**
comp=Z,93nm,1.7s
KLMR Klimovskoe 25.62 72 *eP* **P 05 05 34.7 -0.3**
comp=Z,37nm,1.2s
KLMR *e*S **S 05 10 04.2 +1.5**
KLMR Klimovskoe 25.62 72 *eP* **P 05 05 34.7 -0.3**
KLMR *e*S **S 05 10 04.4 +1.7**
KLMR pmax pmax
comp=Z,37nm,1.2s
KLMR Klimovskoe 25.62 72 *eP* **P 05 05 34.8 -0.2**
KLMR AMP 05 05 41.6
comp=Z,37nm,1.2s
KLMR *e*S **S 05 10 04.4 +1.7**
KLMR *e*S **S 05 10 04.4 +1.7**
KLMR LQ LQ 05 12 36.8
KLMR LQ LQ 05 12 36.8
KLMR LR LR 05 13 45.9
ZCCA Zocca 25.74 128 P **P 05 05 37.6 +1.3**
PMRV Marv??o 25.86 162 *eP* **P 05 05 39.5 +2.1**
comp=Z,91nm,1.8s
PMRV *e*S **S 05 10 13.4 +6.5**
PMRV A A 05 15 03.3
comp=Z,3μm,18.0s
KWP Kalwaria Pacla 25.87 106 *eP* **P 05 05 37.2 -0.2**
KWP Kalwaria Pacla 25.87 106 P **P 05 05 37.5 +0.1**
KWP pmax pmax
comp=Z,65nm,1.1s
KWP Kalwaria Pacla 25.87 106 P **P 05 05 37.5 +0.1**
LSH Leshukonskoye 26.00 60 *eP* **P 05 05 37.3 -1.2**
comp=Z,58nm,1.2s
LSH *e*S **S 05 10 10.0 +1.3**
SCHQ Schefferville 26.06 272 P **P 05 05 38.9 -0.2**
comp=Z,13nm,0.9s,baz=40,slow=7.0,SNR=9.2
SCHQ LR LR 05 14 17.8
comp=Z,747nm,19.5s,baz=91,slow=33
SCHQ Schefferville 26.06 272 P **P 05 05 38.9 -0.2**
SCHQ IAmb IAmb 05 05 42.8
comp=Z,17nm,0.9s
PSZ Piszkesteto 26.07 112 ‖P **P 05 05 40.0 +0.7**
PSZ Piszkesteto 26.07 112 P **P 05 05 39.6 +0.3**
PSZ pmax pmax
comp=Z,38nm,1.2s
PSZ Piszkesteto 26.07 112 P **P 05 05 39.6 +0.3**
PSZ IAmb IAmb 05 05 44.2
comp=Z,38nm,1.2s
PMAFR Mafra 26.10 165 *eP* **P 05 05 43.8 +4.3**
comp=Z,225nm,1.7s
PMTG Montargil 26.11 164 *eP* **P 05 05 41.2 +1.6**
comp=Z,66nm,1.9s
ESBB Sonseca Array 26.15 156 P **P 05 05 40.1 +0.1**
ESBB IAmb IAmb 05 05 56.1
comp=Z,26nm,1.4s
ESDC Sonseca Array 26.15 156 P **P 05 05 39.8 -0.3**
comp=Z,4.5nm,0.8s,baz=348,slow=9.5,SNR=21
ESDC LR LR 05 15 58.5
comp=Z,3μm,18.2s,baz=330,slow=37
ESDC Sonseca Array 26.15 156 P **P 05 05 40.1 +0.1**
PAB San Pablo 26.21 157 P **P 05 05 40.2 -0.4**
PAB pmax pmax
comp=Z,18nm,1.3s
PAB San Pablo 26.21 157 P **P 05 05 40.2 -0.4**
LVV L'vov 26.27 104 *eP* **P 05 05 42.6 +1.5**
LVV *e*S **S 05 10 09.8 -3.5**
LVV MLR MLR
comp=N,600nm,13.0s
LVV MLR MLR
comp=E,600nm,13.0s
LVV MLR MLR
comp=Z,900nm,14.0s
LIS Lisbon 26.35 165 *eP* **P 05 05 42.8 +1.0**
LIS AMb AMB 05 05 49.9
comp=Z,92nm,3.1s
LIS Lisbon 26.35 165 *eP* **P 05 05 42.7 +1.0**
LIS pmax pmax
comp=Z,92nm,3.1s
UZH Uzhgorod 26.47 108 *eP* **P 05 05 41.4 -1.4**
UZH *i* 05 05 44.5
UZH *e* 05 06 24.7
UZH *e*PPP PPP 05 06 33.1
UZH *e* 05 09 11.4
UZH *i* S **S 05 10 10.4 -6.0**
UZH *e*SSS SSS 05 11 20.4
UZH MLR MLR
comp=N,330nm,16.0s
UZH MLR MLR
comp=E,340nm,16.0s
UZH MLR MLR
comp=Z,130nm,16.0s
RES Resolute Bay 26.56 325 LR LR 05 15 55.5
comp=Z,2μm,19.3s,baz=65,slow=36
OSSC Osservatorio P 26.56 129 P **P 05 05 45.3 +1.6**
PBEJ Beja 27.18 163 *eP* **P 05 05 52.1 +2.8**
comp=Z,36nm,2.0s
PCVE Castro Verde 27.55 164 *eP* **P 05 05 54.7 +2.1**
comp=Z,40nm,2.2s
MORF Marmelete 27.80 165 *eP* **P 05 05 55.8 +0.9**
MORF AMb AMB 05 06 04.3
comp=Z,49nm,1.7s
MORF Marmelete 27.80 165 *eP* **P 05 05 55.8 +0.9**
MORF pmax pmax
comp=Z,49nm,1.7s
NRCA Norcia 27.81 127 P **P 05 05 55.5 +0.5**
PVAQ Vaqueiros 27.81 163 *e*S S 05 10 51.4 +14
PVAQ A A 05 15 49.0
comp=Z,2μm,22.0s
AKASG Malin Array Be 27.81 97 P **P 05 05 53.6 -1.3**
comp=Z,2.2nm,0.7s,baz=324,slow=9.7,SNR=12
AKASG LR LR 05 16 39.6
comp=Z,655nm,21.1s,baz=320,slow=36
AKBB Malin Array Si 27.81 97 *ceP* **P 05 05 56.2 +1.3**
AKBB Malin Array Si 27.81 97 P **P 05 05 55.6 +0.7**
OBN Obninsk 27.88 84 P **P 05 05 56.1 +0.7**
comp=Z,4.9nm,0.4s,baz=328,slow=2.1,SNR=4.5
OBN LR LR 05 16 31.5
comp=Z,109nm,20.5s,baz=334,slow=35
OBN Obninsk 27.88 84 *eP* **P 05 05 55.5 +0.1**
OBN *e*PPP PPP 05 06 49.0
OBN *e* 05 09 12.4

OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,556nm,15.0s
OBN Obninsk 27.88 84 P **P 05 05 56.5 +1.1**
MOS Moscow 27.92 82 *e*P **P 05 05 56.2 +0.5**
MOS *e* 05 06 41.6
MOS *e*S **S 05 10 40.6 +1.6**
MOS *e*SS **SnSn 05 11 58.5 +6.2**
MOS MLR MLR
comp=Z,600nm,15.0s
PBDV Barranco-do-Ve 27.94 164 *e*P **P 05 05 59.0 +2.8**
PFVI Vila Bisbo 27.95 165 *e*P **P 05 05 57.6 +1.4**
AQU L'Aquila 28.33 127 P **P 05 06 01.5 +1.9**
AQU pmax pmax
comp=Z,15nm,1.0s
AQU L'Aquila 28.33 127 P **P 05 06 01.5 +1.9**
AQU IAmb IAmb 05 06 15.8
comp=Z,15nm,1.0s
BUR08 Bucovina Ar. S 28.45 106 P **P 05 06 01.3 +0.6**
BURAR Bucovina Array 28.48 106 ⇓P P 05 06 03.4 +2.4
BURAR Bucovina Array 28.48 106 ⇓P P 05 06 03.4 +2.4
BURAR Bucovina Array 28.48 106 P **P 05 06 01.8 +0.8**
BZS Buzias 28.63 113 ⇓P **P 05 06 01.7 -0.5**
BZS Buzias 28.63 113 ⇓P **P 05 06 01.7 -0.5**
INTR Introdacqua 28.81 126 P **P 05 06 05.9 +2.0**
DIVS Divibare 29.25 116 P **P 05 06 07.0 -0.8**
GZR Gura Zlata 29.27 111 ⇑P **P 05 06 08.8 +0.8**
GZR Gura Zlata 29.27 111 ⇑P **P 05 06 08.8 +0.8**
MDVR Moldovita 29.36 113 ⇑P **P 05 06 07.8 -0.9**
BIZ Bicaz 29.39 106 ⇓P **P 05 06 09.6 +0.7**
HERR Herculane 29.55 112 ⇓P **P 05 06 11.3 +0.9**
VOIR 30.16 109 ⇑P **P 05 06 15.9 0.0**
VOIR 30.16 109 ⇑P **P 05 06 15.9 0.0**
PDG Podgorica 30.39 119 ⇑P **P 05 06 15.0 -2.8**
PDG Podgorica 30.39 119 P **P 05 06 16.6 -1.2**
PDG IAmb IAmb 05 06 19.5
comp=Z,17nm,1.2s
MLR Muntele Rosu 30.48 108 ⇑P **P 05 06 18.3 -0.5**
MLR Muntele Rosu 30.48 108 ⇑P **P 05 06 18.3 -0.5**
MLR Muntele Rosu 30.48 108 P **P 05 06 19.5 +0.7**
MLR IAmb IAmb 05 06 32.4
comp=Z,13nm,1.2s
VRI Vrincioaia 30.50 106 ⇓P **P 05 06 19.5 +0.7**
VRI Vrincioaia 30.50 106 ⇓P **P 05 06 19.5 +0.7**
LPSR Galich'ya Gora 30.62 86 *e*P **P 05 06 19.1 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR MLR MLR
comp=Z,710nm,17.0s
MATE Matera 31.00 124 ⇓P **P 05 06 19.0 -4.2**
KIRV Kirov 31.00 69⇑*e*P **P 05 06 20.9 -2.1**
TIR Tirane 31.55 119 P **P 05 06 29.2 +1.1**
TIR pmax pmax
comp=Z,31nm,1.0s
TIR Tirane 31.55 119 P **P 05 06 29.2 +1.1**
CFR Carcaliu 31.64 106 ⇓P **P 05 06 27.3 -1.5**
CFR Carcaliu 31.64 106 ⇓P **P 05 06 27.3 -1.5**
VSR Storozhevoye 31.72 87 *e*P P 05 06 33.6 +4.2
VSR pmax pmax
comp=Z,30nm,1.1s
VSR MLR MLR
comp=Z,1µm,17.0s
PMOZ Porto Moniz, M 31.77 180 *e*S S 05 11 55.0 +15
PMOZ A A 05 16 52.9
comp=Z,1µm,20.0s
VORD Divnogorie 31.96 88 *e*P **P 05 06 31.0 -0.5**
VORD pmax pmax
comp=Z,10.0nm,1.2s
D63A Stockholm 32.30 262 P **P 05 06 35.7 +1.1**
baz=39
FNA Florina 32.62 118 P **P 05 06 36.8 -0.7**
FNA pmax pmax
comp=Z,21nm,1.1s
FNA Florina 32.62 118 P **P 05 06 36.8 -0.7**
FNA IAmb IAmb 05 06 40.5
comp=Z,20nm,1.1s
CHGQ Chibougamau 32.80 271 P **P 05 06 38.5 -0.5**
baz=42
VRH Novokhopyorsk 32.83 85 *e*P **P 05 06 38.0 -1.2**
VRH pmax pmax
comp=Z,30nm,1.6s
VRH MLR MLR
comp=Z,880nm,15.0s
KEST Kesra 33.07 138 P **P 05 06 43.2 +1.7**
comp=Z,5.8nm,1.0s,baz=355,slow=3.5,SNR=4.7
KEST LR LR 05 20 11.0
comp=Z,2µm,18.5s,baz=316,slow=36
KEST Kesra 33.07 138 IAmb IAmb 05 07 08.9
comp=Z,15nm,1.2s
E61A Lac Etchemin 33.79 263 P **P 05 06 48.1 +0.5**
baz=38
F62A Pittston Farm, 33.99 262 P **P 05 06 50.0 +0.6**
baz=38
LATQ La Tuque 34.04 267 P **P 05 06 50.7 +0.9**
baz=39
PKME Peaks-Kenny Pk 34.20 261 P **P 05 06 51.8 +0.7**
baz=37
E60A Ste Agathe de 34.25 264 P **P 05 06 52.0 +0.4**
baz=38
D58A Chemin du LacG 34.30 267 P **P 05 06 52.9 +0.8**
baz=39
ALN Alexandroupoli 34.34 112 P **P 05 06 52.0 -0.4**
ALN pmax pmax
comp=Z,21nm,1.3s
ALN Alexandroupoli 34.34 112 P **P 05 06 52.0 -0.4**
ALN IAmb IAmb 05 06 55.0
comp=Z,21nm,1.3s
F61A St Evariste 34.37 263 P **P 05 06 53.2 +0.6**
baz=38
LSQQ Lebel-sur-Quev 34.57 272 P **P 05 06 54.8 +0.4**
baz=41
H64A Troy 34.67 260 P **P 05 06 55.5 +0.3**
baz=37
G62A West of Eustis 34.77 262 P **P 05 06 56.7 +0.6**
baz=37
D57A Chemin Vers le 34.80 267 P **P 05 06 57.1 +0.8**
baz=39
G61A St-Isidore-de- 35.14 263 P **P 05 07 00.8 +1.5**
baz=37
D56A ZEC Mazanza, M 35.15 268 P **P 05 07 00.6 +1.2**
baz=39
E57A Chemin Saint G 35.38 267 P **P 05 07 02.4 +1.0**
baz=38
I64A Boothbay 35.43 260 P **P 05 07 02.5 +0.8**
baz=36
D55A Sainte-Anne-du 35.48 269 P **P 05 07 02.5 +0.3**
baz=39
VLDQ Val d'Or 35.49 272 P **P 05 07 03.1 +0.9**
VLDQ IAmb IAmb 05 07 05.3
comp=Z,16nm,1.2s
G60A Masonville 35.64 264 P **P 05 07 04.1 +0.6**
baz=37
E56A St. Veronique 35.66 268 P **P 05 07 04.2 +0.5**
baz=39
H61A Lyndonville 35.91 263 P **P 05 07 07.2 +1.3**
baz=37
ITM Ithomi 35.97 120 P **P 05 07 07.7 +1.1**
ITM IAmb IAmb 05 07 23.6
comp=Z,29nm,1.4s
ARU Arti 36.11 66*c i*P **P 05 07 08.1 +0.6**
ARU 05 08 27.9
ARU S **S 05 12 50.8 +4.3**
ARU SS **SS 05 15 16.6 -6.8**
ARU pmax pmax
comp=Z,19nm,1.4s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 36.11 66 P **P 05 07 08.3 +0.8**
ARU IAmb IAmb 05 07 09.9
comp=Z,24nm,1.4s
LBNH Lisbon 36.15 263 P **P 05 07 08.9 +0.9**
baz=36
G58A Ormstown 36.34 266 P **P 05 07 10.8 +1.3**
baz=38
FRNY Flat Rock 36.39 265 P **P 05 07 09.6 -0.4**
FRNY IAmb IAmb 05 07 13.8
comp=Z,20nm,1.3s
NRIK Noril'sk 36.53 35 P **P 05 07 11.4 +0.5**
comp=Z,4.4nm,0.9s,baz=341,slow=5.4,SNR=8.7
NRIK LR LR 05 24 03.6
comp=Z,1µm,18.1s,baz=356,slow=39
G57A Newington 36.77 266 P **P 05 07 14.5 +1.3**
baz=38
G55A Calabogie 37.40 268 P **P 05 07 19.9 +1.3**
baz=38
ALGO Algonquin Park 37.42 270 P **P 05 07 20.0 +1.2**
baz=38
H56A Elgin 37.73 267 P **P 05 07 23.0 +1.7**
baz=37
SOC Sochi 37.84 95 *e*P **P 05 07 18.7 -3.6**
SOC *e* 05 08 47.3
SOC *e*PPP PPP 05 09 10.4
SOC *e*S **S 05 13 10.2 -2.9**
SOC *e*SS **SS 05 15 56.8 -2.0**
SOC *e*SSS SSS 05 16 16.7
SOC MLR MLR
comp=Z,586nm,14.0s
G54A Lake Saint Pet 37.88 270 P **P 05 07 23.1 +0.4**
baz=38
I58A Old Forge 37.90 265 P **P 05 07 24.1 +1.2**
baz=36
I57A Carthage 37.99 266 P **P 05 07 25.3 +1.7**
baz=37
GOF Gofitskoye 38.10 91⇑*e*P P 05 07 27.2 +2.7
GOF pmax pmax
comp=Z,49nm,0.6s
H55A Tweed 38.16 268 P **P 05 07 25.9 +0.9**
baz=37
BR131 Keskin Array S 38.44 105 P **P 05 07 27.5 -0.1**
BR131 pmax pmax
comp=Z,6.0nm,1.0s
BR131 Keskin Array S 38.44 105 P **P 05 07 27.5 -0.1**
BRTR Keskin Array B 38.44 105 P **P 05 07 27.8 +0.2**
comp=Z,3.5nm,0.8s,baz=335,slow=5.5,SNR=11
BRTR LR LR 05 25 55.0
comp=Z,219nm,18.6s,baz=315,slow=40
BRTR Keskin Array B 38.44 105 P **P 05 07 28.1 +0.5**
H53A Bobcaygeon 38.75 269 P **P 05 07 31.6 +1.6**
baz=37
IDI Anoyia 38.76 118 P **P 05 07 29.8 -0.4**
KIV Kislovodsk 38.82 92 *e*P **P 05 07 31.7 +1.0**
KIV *e*S **S 05 13 30.3 +2.2**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,1µm,16.0s
KBZ Khabaz 39.09 92 P **P 05 07 33.4 +0.5**
comp=Z,7.9nm,0.9s,baz=325,slow=8.0,SNR=8.1
KBZ LR LR 05 24 12.1
comp=Z,609nm,19.6s,baz=326,slow=37
KBZ Khabaz 39.09 92*ce*P **P 05 07 33.8 +1.0**
KBZ pmax pmax
comp=Z,39nm,2.3s
YKA Yellowknife Ar 39.30 313 P **P 05 07 33.9 -0.4**
comp=Z,3.3nm,0.8s,baz=44,slow=9.4,SNR=5.8
YKA LR LR 05 23 45.2
comp=Z,846nm,18.5s,baz=0.0,slow=36
E46A Sault Ste Mari 39.80 276 P **P 05 07 40.0 +1.2**
E46A IAmb IAmb 05 07 41.6
comp=Z,23nm,1.1s
INK Inuvik 39.94 329 P **P 05 07 40.1 +0.5**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 39.94 329 P **P 05 07 40.1 +0.5**
N60A Cedar Hill Far 40.25 262 P **P 05 07 43.0 +0.5**
baz=34
L54A Sinclairville 40.95 268 P **P 05 07 48.7 +0.4**
baz=36
N58A Sunbury 40.97 264 P **P 05 07 49.7 +1.2**
baz=34
GLMI Grayling 41.15 275 P **P 05 07 50.7 +0.7**
baz=37
GLMI Grayling 41.15 275 P **P 05 07 49.6 -0.4**
M55A Ridgway 41.33 266 P **P 05 07 51.9 +0.4**
baz=35
N57A Milroy 41.40 265 P **P 05 07 52.4 +0.4**
baz=34
N56A West Decatur 41.59 266 P **P 05 07 55.2 +1.6**
baz=35
ULM Lac du Bonnet 41.65 289 P **P 05 07 54.7 +0.7**
comp=Z,2.7nm,0.6s,baz=51,slow=5.7,SNR=3.0
ULM LR LR 05 24 46.2
comp=Z,745nm,18.4s,baz=52,slow=36
ULM Lac du Bonnet 41.65 289 IAmb IAmb 05 07 59.3
comp=Z,27nm,1.4s
M54A Oil Creek Stat 41.69 267 P **P 05 07 55.2 +0.8**
baz=35
M54A Oil Creek Stat 41.69 267 P **P 05 07 56.9 +2.4**
MAK Makhachkala 41.70 89 *e*P **P 05 07 51.3 -3.1**
MAK *e* 05 09 28.4
MAK *e*S **S 05 14 07.7 -3.2**
MAK *e*SS **SS 05 17 15.5 -0.5**
MAK pmax pmax
comp=Z,154nm,1.3s
MAK MLR MLR
comp=Z,714nm,16.0s
ABKAR Akbulak array 42.01 73 P **P 05 07 57.5 +0.7**
ABKAR Akbulak array 42.01 73 P **P 05 07 56.5 -0.3**
TIXI Tiksi 42.13 15 P **P 05 07 59.1 +1.5**
TIXI pmax pmax
comp=Z,64nm,0.9s
TIXI Tiksi 42.13 15 P **P 05 07 59.1 +1.5**
B35A Bob, Littlefor 42.23 285 P **P 05 07 59.9 +1.2**
O56A Blue Knob Stat 42.24 265 P **P 05 08 00.1 +1.2**
baz=34
EPYK Eagle Plains 42.24 328 P **P 05 07 59.1 +0.4**
baz=34
N54A Moraine State 42.28 267 P **P 05 08 00.2 +1.0**
baz=35
N54A Moraine State 42.28 267 P **P 05 08 01.4 +2.2**
N54A IAmb IAmb 05 08 03.5
comp=Z,45nm,1.4s
P57A Homestead Farm 42.65 264 P **P 05 08 01.9 -0.3**
baz=34
N53A Lisbon 42.77 268 P **P 05 08 04.4 +1.2**
baz=35
TOLK Toolik Lake Re 42.85 336 P **P 05 08 04.0 +0.4**
baz=28,SNR=7.3
TOLK Toolik Lake Re 42.85 336 P **P 05 08 04.7 +1.1**
TOLK IAmb IAmb 05 08 06.7
comp=Z,22nm,0.9s
AGMN Agassiz Nation 43.16 287 P **P 05 08 07.1 +0.8**
baz=38
AGMN Agassiz Nation 43.16 287 P **P 05 08 06.3 0.0**
BRVK Borovoye 43.17 62*ce*P **P 05 08 07.5 +1.2**
BRVK pmax pmax
comp=Z,22nm,2.1s
BRVK Borovoye 43.17 62 P **P 05 08 07.3 +1.1**
G40A Rib Lake 43.19 280 P **P 05 08 07.5 +1.0**
G40A IAmb IAmb 05 08 10.2
comp=Z,25nm,1.4s
Q57A Strasburg 43.19 264 P **P 05 08 07.5 +0.9**
baz=33
N51A Ashland 43.34 269 P **P 05 08 07.8 0.0**
baz=35
O53A New Philadelph 43.39 268 P **P 05 08 09.8 +1.6**
baz=34
O53A New Philadelph 43.39 268 P **P 05 08 10.6 +2.4**
O53A IAmb IAmb 05 08 12.6
comp=Z,31nm,1.2s
L48A N Adams 43.39 272 P **P 05 08 10.0 +1.8**
L48A IAmb IAmb 05 08 11.2
comp=Z,22nm,1.1s
MARD Mardin 43.48 100 P **P 05 08 10.0 +0.9**
MARD IAmb IAmb 05 08 19.7
comp=Z,19nm,0.8s
I42A Draeger Farm, 43.74 278 P **P 05 08 12.5 +1.5**
O52A Adamsville 43.77 268 P **P 05 08 13.3 +2.0**
baz=34
O52A Adamsville 43.77 268 P **P 05 08 13.3 +2.0**
O52A IAmb IAmb 05 08 14.6
comp=Z,33nm,1.2s
R58B Mineral 43.86 263 P **P 05 08 11.3 -0.7**
baz=33
FYU Fort Yukon 43.87 333 P P 05 08 13.8 +2.1
Q55A Buckhannon 43.94 266 P **P 05 08 14.3 +1.6**
baz=34
O51A Pataskala 44.08 269 P **P 05 08 15.3 +1.6**
baz=34
P53A Whipple 44.10 267 P **P 05 08 15.5 +1.6**
baz=34
P53A Whipple 44.10 267 P **P 05 08 15.4 +1.5**
P53A IAmb IAmb 05 08 19.0
comp=Z,20nm,1.0s
N49A Columbus Grove 44.12 271 P **P 05 08 15.2 +1.2**
R56A Bull Pasture M 44.14 265 P **P 05 08 16.3 +1.9**
baz=33
ACSO Alum Creek Sta 44.17 269 P **P 05 08 16.1 +1.6**
baz=34
ACSO Alum Creek Sta 44.17 269 P **P 05 08 16.4 +1.9**
ACSO IAmb IAmb 05 08 18.9
comp=Z,20nm,1.1s
COLD Coldfoot 44.22 336 P P 05 08 16.9 +2.4
baz=27
COLD Coldfoot 44.22 336 P **P 05 08 16.4 +1.9**
Q54A Coxs Mills 44.28 266 P **P 05 08 16.6 +1.2**
baz=34
P52A Corning 44.30 268 P **P 05 08 16.9 +1.4**
baz=34
P52A Corning 44.30 268 P P 05 08 18.3 +2.8
SPMN Marine on St. 44.33 282 P **P 05 08 16.5 +0.8**
baz=37
SPMN Marine on St. 44.33 282 P **P 05 08 17.9 +2.2**
SPMN IAmb IAmb 05 08 19.6
comp=Z,24nm,1.5s
TAM Tamanrasset 44.41 149 P **P 05 08 18.8 +2.0**
TAM pmax pmax
comp=Z,14nm,1.5s
TAM Tamanrasset 44.41 149 P **P 05 08 18.8 +2.0**
EGAK Eagle 44.58 329 P **P 05 08 17.9 +0.5**
EGAK IAmb IAmb 05 08 21.5
comp=Z,13nm,1.2s
Q53A Leroy 44.68 267 P **P 05 08 18.6 0.0**
baz=34
O49A Covington 44.79 271 P **P 05 08 20.7 +1.2**
O49A IAmb IAmb 05 08 21.8
comp=Z,21nm,1.1s
DAWY Dawson 44.80 328 P **P 05 08 20.0 +0.8**
DAWY IAmb IAmb 05 08 28.0
comp=Z,17nm,1.4s
N47A Urbana 44.81 272 P **P 05 08 21.0 +1.4**
N47A IAmb IAmb 05 08 21.7
comp=Z,15nm,1.1s
P51A Williamsport 44.82 269 P **P 05 08 21.3 +1.6**
P51A IAmb IAmb 05 08 22.0
comp=Z,20nm,1.1s
Q52A Bidwell 44.91 268 P **P 05 08 21.3 +0.8**
baz=34
T58A Grand View Acr 45.00 263 P **P 05 08 22.4 +1.3**
baz=32
R54A Victor 45.01 266 P **P 05 08 22.0 +0.7**
baz=33
T57A Hurt 45.26 263 P **P 05 08 23.7 +0.5**
baz=32
F33A 5 Mile Ranch, 45.30 285 P **P 05 08 25.3 +1.9**
F33A IAmb IAmb 05 08 27.4
comp=Z,12nm,1.2s
Q51A Peebles 45.33 269 P **P 05 08 25.9 +2.2**
K27K Chicken 45.43 329 P **P 05 08 24.5 +0.3**
baz=30
P49A Miami Univ. Ec 45.50 270 P **P 05 08 25.5 +0.4**
baz=34
P49A Miami Univ. Ec 45.50 270 P **P 05 08 26.4 +1.4**
POKR Poker Plat Res 45.59 333 P **P 05 08 26.4 +1.0**
baz=28
L42A Oliver, Polo 45.60 277 P P 05 08 28.7 +2.9
L42A IAmb IAmb 05 08 29.7
comp=Z,19nm,1.1s
IL31 45.78 332 P **P 05 08 28.2 +1.2**
IL31 IAmb IAmb 05 08 31.9
comp=Z,13nm,1.4s
ILAR Eielson Array 45.78 332 P **P 05 08 27.2 +0.2**
comp=Z,4.3nm,1.0s,baz=25,slow=6.7,SNR=25
ILAR PcP **PcP 05 10 04.2 -0.1**
comp=Z,2.3nm,0.9s,baz=348,slow=2.9,SNR=12
ILAR LR LR 05 30 03.7
comp=Z,886nm,19.6s,baz=32,slow=39
ILAR Eielson Array 45.78 332 P **P 05 08 27.9 +0.9**
SFIN Lafayette 45.83 273 P **P 05 08 28.0 +0.4**
baz=34
SFIN Lafayette 45.83 273 P **P 05 08 28.5 +0.9**
P48A Milroy 45.86 271 P **P 05 08 28.4 +0.4**
MDM Murphy Dome 45.88 333 P **P 05 08 29.4 +1.6**
MDM IAmb IAmb 05 08 31.3
comp=Z,16nm,1.2s
COLA College 45.88 333 P **P 05 08 29.5 +1.8**
COLA pmax pmax
comp=Z,14nm,1.0s
COLA College 45.88 333 P **P 05 08 29.5 +1.8**
COLA IAmb IAmb 05 08 30.5
comp=Z,14nm,1.0s
TCOL CIGO, UAF Yank 45.89 333 P **P 05 08 29.0 +1.2**
baz=27
SCRK Sand Creek 45.89 330 P **P 05 08 28.3 +0.2**
baz=29
IMAR Indian Mountai 45.96 337 P **P 05 08 29.5 +1.1**
CCB Clear Creek Bu 46.08 333 P **P 05 08 30.5 +1.2**
HDA Harding Lake 46.12 332 P **P 05 08 30.0 +0.4**
baz=28
HDA Harding Lake 46.12 332 P **P 05 08 31.0 +1.3**
HDA IAmb IAmb 05 08 34.4
comp=Z,12nm,1.2s
DOT Dot Lake 46.19 330 P **P 05 08 32.0 +1.7**
DOT IAmb IAmb 05 08 33.1
comp=Z,7.6nm,1.0s
BCAR Beaver Creek A 46.20 329 P **P 05 08 31.5 +1.1**
T54A Tazewell 46.21 266 P **P 05 08 31.9 +1.1**
baz=32
WRH Wood River Hil 46.29 333 P P 05 08 33.0 +2.0
U56A King 46.30 264 P **P 05 08 32.3 +0.9**
baz=32
R50A Paris 46.37 269 P **P 05 08 33.6 +1.6**
R50A IAmb IAmb 05 08 35.8
comp=Z,14nm,1.3s
NEA2 Nenana 46.37 334 P **P 05 08 31.9 +0.3**
baz=26,SNR=18
U55A TA2, Sparta 46.45 265 P **P 05 08 34.2 +1.5**
baz=32
S51A Beattyville 46.59 268 P **P 05 08 35.4 +1.7**
O44A Mansfield 46.60 274 P P 05 08 37.0 +3.2
HDIL Hopedale 46.63 275 P **P 05 08 35.0 +1.1**
baz=34
HDIL Hopedale 46.63 275 P **P 05 08 36.2 +2.2**
T53A Wise 46.69 266 P **P 05 08 35.7 +1.1**
baz=32
U54A Nelsons Funny 46.77 265 P **P 05 08 36.2 +1.0**
baz=32
V56A Mocksville 46.80 264 P **P 05 08 36.6 +1.3**
baz=32
V55A Taylorsville 47.07 264 P **P 05 08 38.6 +1.1**
baz=32
MCK McKinley 47.12 333 P **P 05 08 38.6 +1.0**
MCK pmax pmax
comp=Z,20nm,1.4s
MCK McKinley 47.12 333 P **P 05 08 38.6 +1.0**
ECSD EROS Data Cent 47.14 284 P **P 05 08 38.2 +0.2**
baz=35
ECSD EROS Data Cent 47.14 284 P **P 05 08 40.2 +2.2**
ECSD IAmb IAmb 05 08 41.6
comp=Z,10nm,1.2s
BPAW Bear Paw Mtn. 47.18 334 P **P 05 08 38.9 +0.9**
BPAW IAmb IAmb 05 08 41.0
comp=Z,11nm,1.1s
WCI Wyandotte Cave 47.26 271 P **P 05 08 39.9 +0.9**
WCI pmax pmax
comp=Z,15nm,1.0s
WCI Wyandotte Cave 47.26 271 P **P 05 08 38.6 -0.4**
baz=33
WCI Wyandotte Cave 47.26 271 P **P 05 08 39.9 +0.9**
W56A Indian Trail 47.41 263 P **P 05 08 40.7 +0.6**
baz=32
V54A Nebo 47.45 265 P **P 05 08 40.9 +0.5**
baz=32
P43A Skaggs, Pawnee 47.48 275 P P 05 08 43.1 +2.5
TZTN Tazewell 47.49 267 P **P 05 08 42.1 +1.3**
baz=32
BILL Bilibino 47.66 358 *e*P **P 05 08 42.8 +1.2**
BILL *e* 05 10 34.1
BILL *e*PPP PPP 05 11 19.0
BILL pmax pmax
comp=Z,24nm,2.1s
KTH Kantishna Hill 47.67 334 P P 05 08 43.9 +2.1
ZAA0 Zalesovo Array 47.69 51 P P 05 08 44.0 +1.9
ZALV Zalesovo Beam 47.69 51 P **P 05 08 42.1 +0.1**
comp=Z,2.1nm,0.6s,baz=342,slow=7.8,SNR=7.3
ZALV LR LR 05 31 22.2
comp=Z,367nm,18.4s,baz=322,slow=39
ZALV Zalesovo Beam 47.69 51 P **P 05 08 42.7 +0.7**
ZALV Zalesovo Beam 47.69 51 P **P 05 08 42.6 +0.7**
KMSC Kings Mountain 47.72 264 P **P 05 08 43.9 +1.3**
baz=32
USIN University of 48.08 272 P **P 05 08 46.1 +0.9**
W54A Cherokee Point 48.14 265 P **P 05 08 45.9 +0.1**
baz=32
X56A White Oak 48.15 263 P **P 05 08 47.2 +1.3**
baz=31

KURK	Kurchatov	48.15	58	*i* P	P	05 08 45.0 -0.7
KURK				pmax	pmax	
comp=Z,12nm,0.9s						
V51A	Loudon	48.46	267	P	P	05 08 50.6 +2.3
U49A	Red Boiling Sp	48.48	269	P	P	05 08 50.4 +2.0
LAO	LASA Array	48.65	294	P	P	05 08 51.0 +1.3
baz=35,SNR=8.0						
LAO	LASA Array	48.65	294	P	P	05 08 52.1 +2.5
T47A	Sharon Grove	48.65	271	P	P	05 08 50.0 +0.3
X54A	Belton	48.68	265	P	P	05 08 51.2 +1.3
baz=31						
HODGE	Hodges	48.90	264	P	P	05 08 54.0 +2.4
EGMT	Eagleton	48.94	297	P	P	05 08 52.8 +0.9
baz=35,SNR=9.2						
EGMT	Eagleton	48.94	297	P	P	05 08 53.4 +1.6
Y55A	Saluda	48.98	264	P	P	05 08 53.4 +1.2
baz=31						
PMR	Palmer	49.09	332	P	P	05 08 54.5 +1.8
PMR				pmax	pmax	
comp=Z,8.0nm,1.1s						
PMR	Palmer	49.09	332	P	P	05 08 54.5 +1.8
KNK	Knik Glacier	49.12	331	P	P	05 08 55.0 +2.0
KNK				IAmb	IAmb	05 08 56.9
comp=Z,8.4nm,0.9s						
TTA	Tatalina	49.16	336	P	P	05 08 54.6 +1.2
TTA				pmax	pmax	
comp=Z,7.0nm,1.0s						
TTA	Tatalina	49.16	336	P	P	05 08 54.5 +1.2
W50A	Signal Mountai	49.39	268	P	P	05 08 56.8 +1.3
V48A	Smith Brothers	49.58	269	P	P	05 08 58.0 +1.1
RC01	Rabbit Creek A	49.67	332	P	P	05 08 57.4 +0.1
baz=25,SNR=7.2						
RSSD	Black Hills	49.88	290	P	P	05 08 59.2 -0.1
baz=34						
Y52A	Lilburn	49.99	266	P	P	05 09 01.7 +1.8
Y52A				IAmb	IAmb	05 09 13.8
comp=Z,24nm,1.4s						
GOGA	Godfrey	50.12	265	P	P	05 09 01.9 +1.0
baz=31						
PBMO	Poplar Bluff	50.26	273	P	P	05 09 04.3 +2.3
PBMO				IAmb	IAmb	05 09 04.5
comp=Z,17nm,1.5s						
T42A	Van Buren	50.34	274	P	P	05 09 03.3 +0.8
T42A				IAmb	IAmb	05 09 04.1
comp=Z,16nm,1.5s						
GEYT	Alibeck	50.42	84	P	P	05 09 04.8 +1.5
comp=Z,2.3nm,0.6s,baz=57,slow=39,SNR=2.1						
GEYT				LR	LR	05 32 47.1
comp=Z,542nm,18.1s,baz=330,slow=39						
GEYT	Alibeck	50.42	84	IAmb	IAmb	05 09 07.4
comp=Z,7.2nm,1.4s						
S39A	Bolivar	50.74	277	P	P	05 09 05.4 -0.2
GCMT	Greycliff	50.74	295	P	P	05 09 07.4 +1.7
SVW2	Sparrevohn	50.79	335	P	P	05 09 07.3 +1.6
HRY	Holter Researc	50.82	298	P	P	05 09 08.2 +2.0
KOWA	Kowa	50.86	163	P	P	05 09 06.8 +0.2
KOWA				IAmb	IAmb	05 09 08.5
comp=Z,14nm,1.1s						
KSU1	Kansas State U	50.96	280	P	P	05 09 07.1 -0.1
RLMT	Red Lodge	51.15	295	P	P	05 09 07.1 -1.7
RLMT				IAmb	IAmb	05 09 12.1
comp=Z,25nm,1.5s						
KK31	Karatay Array	51.30	70	P	P	05 09 11.2 +1.4
KK31				pmax	pmax	
comp=Z,14nm,1.3s						
KK31	Karatay Array	51.30	70	P	P	05 09 11.2 +1.4
KK31				IAmb	IAmb	05 09 14.0
comp=Z,14nm,1.2s						
KKAR	Karatay Array	51.30	70	P	P	05 09 11.2 +1.4
KKAR				pmax	pmax	
comp=Z,14nm,1.3s						
KKAR	Karatay Array	51.30	70	P	P	05 09 11.2 +1.4
KKAR				IAmb	IAmb	05 09 14.0
comp=Z,14nm,1.2s						
KKAR	Karatay Array	51.30	70	P	P	05 09 10.2 +0.4
MSO	Missoula	51.52	299	P	P	05 09 10.7 -0.8
baz=33						
YNE	Yellowstone No	51.53	295	P	P	05 09 13.0 +1.2
U40A	Yellville	51.66	275	P	P	05 09 12.5 0.0
U40A				IAmb	IAmb	05 09 14.7
comp=Z,16nm,1.3s						
BOZ	Bozeman (W)	51.67	297	P	P	05 09 13.7 +1.0
BOZ				pmax	pmax	
comp=Z,22nm,1.2s						
BOZ	Bozeman (W)	51.67	297	P	P	05 09 12.6 -0.1
baz=33,SNR=16						
BOZ	Bozeman (W)	51.67	297	P	P	05 09 13.7 +1.0
BOZ				IAmb	IAmb	05 09 15.7
comp=Z,22nm,1.2s						
LRM	Limekiln Ridge	51.80	298	P	P	05 09 15.8 +2.1
YMP	Mirror Lake Pl	51.81	295	P	P	05 09 15.4 +1.5
K22A	Casper	52.12	291	P	P	05 09 16.1 +0.1
baz=33,SNR=5.7						
K22A	Casper	52.12	291	P	P	05 09 15.8 -0.2
K22A				IAmb	IAmb	05 09 18.0
comp=Z,14nm,1.1s						
YHL	Hebgen Lake	52.12	296	P	P	05 09 18.7 +2.4
DGZ	Jazzator, Alta	52.13	53	*i* P	P	05 09 17.3 +1.2
DGZ				pmax	pmax	
comp=Z,2.0nm,0.4s						
HHAR	Hobbs	52.19	276	P	P	05 09 14.0 -2.6
HHAR				IAmb	IAmb	05 09 19.6
comp=Z,7.8nm,0.5s						
YHB	Horse Butte	52.21	296	P	P	05 09 19.3 +2.5
DLMT	Dillon	52.24	297	P	P	05 09 18.9 +2.0
DLMT				IAmb	IAmb	05 09 20.0
comp=Z,14nm,1.5s						
H17A	Grant Village	52.27	295	P	P	05 09 18.9 +1.6
baz=33,SNR=9.3						
H17A	Grant Village	52.27	295	P	P	05 09 19.5 +2.2
H17A				IAmb	IAmb	05 09 21.5
comp=Z,16nm,1.1s						
WHAR	Wooly Hollow	52.32	274	P	P	05 09 19.6 +2.2
WHAR				IAmb	IAmb	05 09 23.3
comp=Z,26nm,1.5s						
YPP	Pitchstone Pla	52.46	295	P	P	05 09 21.8 +3.1
CBKS	Cedar Bluff	52.53	283	P	P	05 09 20.4 +1.4
CBKS				pmax	pmax	
comp=Z,10.0nm,0.8s						
CBKS	Cedar Bluff	52.53	283	P	P	05 09 20.4 +1.4
CBKS				IAmb	IAmb	05 09 28.1
comp=Z,10nm,0.8s						
FLWY	Flagg Ranch	52.58	295	P	P	05 09 21.7 +2.2
FLWY				IAmb	IAmb	05 09 22.4
comp=Z,11nm,1.1s						
MKAR	Makanchi Array	52.77	58	P	P	05 09 20.1 -0.6
comp=Z,2.8nm,1.0s,baz=352,slow=7.5,SNR=5.4						
MKAR				LR	LR	05 31 50.6
comp=Z,358nm,19.5s,baz=324,slow=36						
MKAR	Makanchi Array	52.77	58	P	P	05 09 21.6 +0.9
MCMT	McKenzie Canyo	52.78	297	P	P	05 09 23.9 +2.8
PHWY	Pilot Hill	52.81	289	P	P	05 09 21.7 +0.3
IMW	Indian Meadow	52.83	295	P	P	05 09 23.0 +1.6
LOHW	Long Hollow	52.93	295	P	P	05 09 23.0 +0.8
TOA0	Torodi Ar. Sit	53.04	156	P	P	05 09 22.4 -0.5
TOA0				IAmb	IAmb	05 09 24.2
comp=Z,10nm,1.1s						
TORD	Torodi Ar. Bea	53.04	156	P	P	05 09 21.1 -1.8
comp=Z,4.8nm,0.9s,baz=347,slow=8.6,SNR=17						
TORD				LR	LR	05 32 05.1
comp=Z,573nm,18.7s,baz=335,slow=36						
TORD	Torodi Ar. Bea	53.04	156	P	P	05 09 21.7 -1.2
FXWY	Fox Creek	53.08	295	P	P	05 09 25.2 +1.9
FXWY				IAmb	IAmb	05 09 26.5
comp=Z,17nm,1.5s						
SNOW	Snow King Moun	53.12	295	P	P	05 09 24.7 +1.1
SNOW				IAmb	IAmb	05 09 26.9
comp=Z,22nm,1.4s						
TPAW	Teton Pass	53.17	295	P	P	05 09 25.4 +1.4
TPAW				IAmb	IAmb	05 09 27.3
comp=Z,17nm,1.5s						
RWWY	Rawlins	53.20	291	P	P	05 09 24.3 +0.1
RWWY				IAmb	IAmb	05 09 25.7
comp=Z,12nm,1.2s						
BW06	Boulder Array	53.23	293	P	P	05 09 23.7 -0.7
baz=32,SNR=18						
BW06	Boulder Array	53.23	293	P	P	05 09 23.9 -0.4
BW06				IAmb	IAmb	05 09 25.8
comp=Z,10nm,0.9s						
PD31	Pinedale Array	53.23	293	P	P	05 09 23.9 -0.5
PD31				IAmb	IAmb	05 09 25.8
comp=Z,9.1nm,0.9s						
PDAR	Pinedale Array	53.23	293	P	P	05 09 23.3 -1.1
comp=Z,7.4nm,0.8s,baz=56,slow=5.6,SNR=49						
PDAR				LR	LR	05 31 22.4
comp=Z,668nm,19.6s,baz=26,slow=35						
PDAR	Pinedale Array	53.23	293	P	P	05 09 23.4 -1.0
REDW	Red Top Meadow	53.24	295	P	P	05 09 25.4 +0.9
REDW				IAmb	IAmb	05 09 28.3
comp=Z,15nm,1.3s						
AAK	Ala-Archa	53.29	67	*ce*P	P	05 09 25.4 +0.7
AAK				pmax	pmax	
comp=Z,49nm,1.5s						
N23A	Red Feather La	53.35	289	P	P	05 09 25.4 +0.1
baz=32,SNR=11						
N23A	Red Feather La	53.35	289	P	P	05 09 26.4 +1.0
MIAR	Mount Ida	53.51	275	P	P	05 09 27.3 +1.0
MIAR				pmax	pmax	
comp=Z,5.0nm,0.9s						
MIAR	Mount Ida	53.51	275	P	P	05 09 27.2 +1.0
PLID	Pearl Lake	53.76	300	P	P	05 09 28.8 +0.6
PLID				IAmb	IAmb	05 09 33.5
comp=Z,16nm,1.4s						
BTK	Batken	53.98	72	P	P	05 09 27.8 -1.9
BTK				pmax	pmax	
comp=Z,32nm,1.3s						
BTK	Batken	53.98	72	P	P	05 09 27.8 -1.9
ISCO	Idaho Springs	54.14	288	P	P	05 09 32.9 +1.7
ISCO				pmax	pmax	
comp=Z,8.0nm,1.5s						
ISCO	Idaho Springs	54.14	288	P	P	05 09 32.9 +1.7
HLID	Hailey	54.45	298	P	P	05 09 34.0 +0.7
baz=32						
HLID	Hailey	54.45	298	P	P	05 09 35.1 +1.8
CHGR	Chuyangaron	54.48	74	P	P	05 09 34.0 +0.6
GAR	Garm	54.67	73	P	P	05 09 35.4 +0.6
MOY	Mondy	54.73	42	*eP*	P	05 09 36.2 +1.2
MOY				pmax	pmax	
comp=Z,40nm,1.9s						
O20A	White River Ci	54.93	291	P	P	05 09 36.8 0.0
baz=32						
O20A	White River Ci	54.93	291	P	P	05 09 37.8 +1.0
O20A				IAmb	IAmb	05 09 39.6
comp=Z,15nm,1.2s						
HWUT	Hardware Ranch	55.01	294	P	P	05 09 37.5 +0.2
RDMU	Red Mountain	55.09	292	P	P	05 09 38.7 +0.7
TARG	Taragay, Kyrgy	55.36	65	P	P	05 09 41.7 +1.6
TARG				IAmb	IAmb	05 09 44.2
comp=Z,12nm,1.0s						
TCUT	Toone Canyon	55.36	294	P	P	05 09 42.0 +2.1
JLU	Jordanelle	55.82	293	P	P	05 09 44.5 +1.2
T25A	Trinidad	55.90	285	P	P	05 09 46.3 +2.5
T25A				IAmb	IAmb	05 09 47.9
comp=Z,16nm,1.4s						
G03D	McMinnville, O	56.30	305	P	P	05 09 46.4 +0.2
baz=30						
S22A	4UR Ranch, Cre	56.39	288	P	P	05 09 47.7 +0.3
baz=31						
S22A	4UR Ranch, Cre	56.39	288	P	P	05 09 48.7 +1.3
MTP	Monte Pirata	56.44	238	P	P	05 09 50.1 +2.6
P17A	Butcher Ranch,	56.50	292	P	P	05 09 49.0 +1.0
PV22	Blue Mesa, Par	56.51	290	P	P	05 09 50.0 +1.9
KSH	Kashi	56.52	68	P	P	05 09 52.0 +3.9
KSH				S	S	05 17 38.3 -1.0
KSH				sS	sS	05 17 47.8 +2.4
KSH				pmax	pmax	
comp=Z,38nm,1.1s						
KSH				pmax	pmax	
comp=Z,270nm,5.8s						
KSH				LR	LR	
comp=Z,1μm,16.5s						
KSH				LR	LR	
comp=Z,590nm,14.5s						
KSH				LR	LR	
comp=Z,580nm,14.2s						
ZAK	Zakamensk	56.53	41	*eP*	P	05 09 48.5 +0.5
ZAK				pmax	pmax	
comp=Z,7.0nm,1.0s						
PV15	Paradox Valley	56.55	290	P	P	05 09 49.9 +1.4
PV15				IAmb	IAmb	05 09 51.2
comp=Z,14nm,1.4s						
PV21	Cone Mtn., Par	56.57	290	P	P	05 09 48.9 +0.4
PV21				IAmb	IAmb	05 09 50.4
comp=Z,7.6nm,0.9s						
PV23	Carpenter Ridg	56.67	290	P	P	05 09 50.2 +0.8
PV23				IAmb	IAmb	05 09 51.2
comp=Z,14nm,0.9s						
PV04	Paradox Valley	56.68	290	P	P	05 09 50.6 +1.3
PV04				IAmb	IAmb	05 09 51.2
comp=Z,8.6nm,1.0s						
DUG	Dugway, Tooele	56.70	294	P	P	05 09 51.5 +2.1
DUG				pmax	pmax	
comp=Z,18nm,1.5s						
DUG	Dugway, Tooele	56.70	294	P	P	05 09 49.7 +0.3
baz=31,SNR=6.2						
DUG	Dugway, Tooele	56.70	294	P	P	05 09 51.5 +2.1
DUG				IAmb	IAmb	05 09 52.8
comp=Z,18nm,1.4s						
PV12	Saucer Basin,	56.70	290	P	P	05 09 50.1 +0.5
PV12				IAmb	IAmb	05 09 53.0
comp=Z,20nm,1.3s						
SRU	San Rafael Swe	56.72	292	P	P	05 09 50.0 +0.4
SRU				pmax	pmax	
comp=Z,8.0nm,1.0s						
SRU	San Rafael Swe	56.72	292	P	P	05 09 50.0 +0.4
PV14	Lion Creek, Pa	56.75	290	P	P	05 09 50.3 +0.4
PV14				IAmb	IAmb	05 09 51.6
comp=Z,8.8nm,0.8s						
PV11	David Mesa, Pa	56.75	290	P	P	05 09 50.4 +0.6
PV20	West Nyswonger	56.75	290	P	P	05 09 50.7 +0.9
PV16	Nyswonger Mesa	56.76	290	P	P	05 09 50.8 +0.8
PV16				IAmb	IAmb	05 09 52.7
comp=Z,20nm,1.3s						
PV01	Paradox Valley	56.77	290	P	P	05 09 50.8 +0.8
PV01				IAmb	IAmb	05 09 52.8
comp=Z,18nm,1.2s						
PV02	Paradox Valley	56.77	290	P	P	05 09 51.1 +1.1
PV03	Paradox Valley	56.78	290	P	P	05 09 50.2 +0.2
PV17	East Wray Mesa	56.80	290	P	P	05 09 50.7 +0.5
PV18	Skein Mesa, Pa	56.81	290	P	P	05 09 50.9 +0.6
PV18				IAmb	IAmb	05 09 52.3
comp=Z,12nm,0.9s						
TMUT	Trail Mountain	56.84	292	P	P	05 09 51.8 +1.2
PV13	Radium Mtn., P	56.85	290	P	P	05 09 50.9 +0.4
Q16A	Castle Valley	57.15	292	P	P	05 09 53.9 +1.2
ELK	Elko	57.18	296	P	P	05 09 55.1 +2.2
ELK				pmax	pmax	
comp=Z,8.0nm,1.5s						
ELK	Elko	57.18	296	P	P	05 09 55.1 +2.2
J05D	Fort Rock, OR	57.24	302	P	P	05 09 53.4 +0.2
baz=30						
WMQ	Urumqi	57.28	56	*eP*	P	05 09 57.5 +4.2
WMQ				pmax	pmax	
comp=Z,11nm,0.7s						
WMQ				pmax	pmax	
comp=Z,120nm,5.1s						
WHTX	Lake Whitney,	57.36	276	P	P	05 09 54.6 +0.6
baz=30						
WHTX	Lake Whitney,	57.36	276	P	P	05 09 56.1 +2.1
MVCO	Mesa Verde	57.53	289	P	P	05 09 57.2 +1.8
ABTX	Abilene, Hawle	57.76	279	P	P	05 09 58.0 +1.2
baz=30						
ABTX	Abilene, Hawle	57.76	279	P	P	05 09 59.1 +2.4
SDDR	Presa de Saban	57.80	245	P	P	05 09 58.7 +1.4
MSU	Marysvale	57.90	293	P	P	05 09 59.3 +1.3
MSU	Marysvale	57.90	293	P	P	05 09 59.3 +1.3
MTPU	Mount Pierson	58.30	292	P	P	05 10 02.3 +1.3
DBIC	Dimbokro	58.48	165	P	P	05 10 00.6 -1.3
comp=Z,8.6nm,1.0s,baz=307,slow=9.1,SNR=8.1						
DBIC				LR	LR	05 35 48.9
comp=Z,897nm,19.1s,baz=343,slow=37						
DBIC	Dimbokro	58.48	165	P	P	05 10 01.3 -0.6
DBIC				pmax	pmax	
comp=Z,10.0nm,1.0s						
DBIC	Dimbokro	58.48	165	P	P	05 10 01.3 -0.6
DBIC				IAmb	IAmb	05 10 03.0
comp=Z,10nm,1.0s						
TIC	Toumodi	58.49	165	*eP*	P	05 10 00.9 -1.1
PSUT	Pine Spring	58.54	294	P	P	05 10 04.5 +2.0
ANMO	Albuquerque	58.63	286	*ce*P	P	05 10 03.9 +0.8
ANMO				pmax	pmax	
comp=Z,7.0nm,1.3s						
ANMO	Albuquerque	58.63	286	P	P	05 10 04.0 +0.9
baz=30						
ANMO	Albuquerque	58.63	286	P	P	05 10 04.3 +1.2
KIC	Kosan Boka	58.80	165	*eP*	P	05 10 01.0 -3.2
comp=Z,92nm,1.5s						
PKCU	Pink Cliffs	58.87	292	P	P	05 10 02.9 -2.0
LIC	Lamto	58.91	166	*eP*	P	05 10 03.8 -1.1
comp=Z,75nm,1.2s						
SZCU	Shurtz Canyon	59.05	293	P	P	05 10 07.3 +1.3
CCUT	Cedar City	59.20	293	P	P	05 10 08.4 +1.4
R11A	Troy Canyon, C	59.38	295	P	P	05 10 08.2 0.0
baz=30,SNR=9.0						
R11A	Troy Canyon, C	59.38	295	P	P	05 10 09.2 +0.9
R11A				IAmb	IAmb	05 10 22.6
comp=Z,15nm,1.5s						
BNM	Barren Site	59.39	286	P	P	05 10 10.5 +2.1
KNB	Kanab	59.44	292	P	P	05 10 09.9 +1.2
KNB				pmax	pmax	
comp=Z,15nm,1.4s						
KNB	Kanab	59.44	292	P	P	05 10 09.9 +1.2
LCMT	Little Creek M	59.62	293	P	P	05 10 10.9 +1.1
JCT	Junction City	59.67	278	P	P	05 10 10.7 +0.5
JCT				pmax	pmax	
comp=Z,19nm,1.2s						
JCT	Junction City	59.67	278	P	P	05 10 10.2 0.0
baz=30,SNR=6.9						
JCT	Junction City	59.67	278	P	P	05 10 10.7 +0.5
SONM	Songino Array	59.71	40	P	P	05 10 10.1 -0.2
comp=Z,2.0nm,0.8s,baz=334,slow=6.9,SNR=8.2						
SONM				LR	LR	05 38 18.5
comp=Z,1μm,20.0s,baz=346,slow=38						
SONM	Songino Array	59.71	40	P	P	05 10 10.9 +0.6
SONM				pmax	pmax	
comp=Z,3.0nm,1.0s						
SONM	Songino Array	59.71	40	P	P	05 10 10.9 +0.6
U15A	North Rim	59.74	292	P	P	05 10 10.3 -0.5
U15A				IAmb	IAmb	05 10 12.4
comp=Z,8.3nm,0.9s						
KVN	Kaiserville	59.74	298	P	P	05 10 12.2 +1.4
KVN				pmax	pmax	
comp=Z,9.0nm,1.1s						
KVN	Kaiserville	59.74	298	P	P	05 10 12.2 +1.4
KVN				IAmb	IAmb	05 10 13.4
comp=Z,9.0nm,1.1s						
ULN	Ulaanbaatar	59.87	40	*ce*P	P	05 10 11.3 -0.1
ULN				pmax	pmax	
comp=Z,11nm,1.7s						
PRN	Pahroc Range	59.99	294	P	P	05 10 15.9 +3.5
PRN				IAmb	IAmb	05 10 33.6
comp=Z,14nm,1.5s						
WUAZ	Wupatki	60.16	290	P	P	05 10 13.7 +0.1
baz=30,SNR=9.8						
WUAZ	Wupatki	60.16	290	P	P	05 10 14.1 +0.5
WUAZ				IAmb	IAmb	05 10 15.9
comp=Z,10nm,1.0s						
NVAR	Mina Array Bea	60.36	297	P	P	05 10 14.4 -0.6
comp=Z,1.2nm,0.8s,baz=47,slow=5.0,SNR=7.3						
NVAR				LR	LR	05 36 26.6
comp=Z,2μm,18.8s,baz=29,slow=36						
NIL	Nilore	60.47	73	P	P	05 10 17.1 +1.5
NIL				pmax	pmax	
comp=Z,12nm,1.0s						
NIL	Nilore	60.47	73	P	P	05 10 17.1 +1.5
NIL				IAmb	IAmb	05 10 17.8
comp=Z,12nm,0.9s						
SHPR	Sheep Range	60.81	294	P	P	05 10 19.8 +1.7
SHPR				IAmb	IAmb	05 10 21.6
comp=Z,15nm,1.4s						
TPNV	Topopah Spring	60.86	295	P	P	05 10 20.3 +1.9
TPNV				pmax	pmax	
comp=Z,7.0nm,1.3s						
TPNV	Topopah Spring	60.86	295	P	P	05 10 18.5 +0.1
baz=29						
TPNV	Topopah Spring	60.86	295	P	P	05 10 20.3 +1.9
MNTX	Cornudas Mount	60.99	283	P	P	05 10 19.6 +0.5
baz=30,SNR=5.5						
MNTX	Cornudas Mount	60.99	283	P	P	05 10 19.9 +0.7
X16A	Lo Mia Camp, P	61.14	290	P	P	05 10 21.1 +0.8
121A	Cookes Peak, D	61.27	286	P	P	05 10 21.4 +0.2
baz=29						
121A	Cookes Peak, D	61.27	286	P	P	05 10 22.9 +1.7
121A				IAmb	IAmb	05 10 24.0
comp=Z,8.2nm,1.1s						
OMMB	Old Mammoth Mi	61.34	298	P	P	05 10 24.7 +2.9
MDPB	Devils Postpil	61.36	298	P	P	05 10 24.1 +2.2
MDPB				IAmb	IAmb	05 10 25.3
comp=Z,13nm,1.4s						
FURC	Furnace Creek,	61.52	295	P	P	05 10 23.3 +0.7
baz=29						
W13A	Hualapai Mount	61.53	292	P	P	05 10 24.5 +1.5
SHOC	Shoshone, Teco	61.78	294	P	P	05 10 24.6 +0.1
baz=29						
MPMC	Manual Prospec	62.12	295	P	P	05 10 26.6 -0.3
baz=29						
TX31	Lajitas Ar. Si	62.32	280	P	P	05 10 28.9 +0.6
TX32	Lajitas Array	62.32	280	P	P	05 10 28.9 +0.6
TX32				IAmb	IAmb	05 10 44.9
comp=Z,8.4nm,1.4s						
TXAR	Lajitas Array	62.32	280	P	P	05 10 27.9 -0.4
comp=Z,2.8nm,1.0s,baz=44,slow=3.8,SNR=17						
TXAR				LR	LR	05 36 49.5
comp=Z,816nm,19.3s,baz=0.0,slow=35						
TXAR	Lajitas Array	62.32	280	P	P	05 10 28.0 -0.2
TXAR	Lajitas Array	62.32	280	P	P	05 10 28.0 -0.2
GMRC	Granite Mounta	62.51	293	P	P	05 10 29.5 0.0
baz=29						
PEA0B	Petropavlovsk-	62.60	3	*ce*P	P	05 10 32.4 +2.7
TUC	Tucson	62.70	288	P	P	05 10 32.1 +1.4
TUC				pmax	pmax	
comp=Z,20nm,1.5s						
TUC	Tucson	62.70	288	P	P	05 10 31.1 +0.4
baz=29						
TUC	Tucson	62.70	288	P	P	05 10 32.1 +1.4
PET	Petropavlovsk	62.71	3	*eP*	P	05 10 35.4 +5.1
PET				*eS*	S	05 19 04.3 +5.9
PET				MLR	MLR	
comp=Z,300nm,20.0s						
ISA	Isabella, Lake	62.85	296	P	P	05 10 33.2 +1.5
ISA				pmax	pmax	
comp=Z,7.0nm,1.3s						
ISA	Isabella, Lake	62.85	296	P	P	05 10 31.9 +0.2
baz=28						
ISA	Isabella, Lake	62.85	296	P	P	05 10 33.2 +1.5
ISA				IAmb	IAmb	05 10 47.5
comp=Z,7.3nm,1.3s						
IRM	Iron Mountain	62.86	293	P	P	05 10 32.4 +0.7
baz=29						
BELC	Belle Mtn. Jos	63.33	293	P	P	05 10 35.6 +0.6
baz=28,SNR=6.3						
113A	Mohawk Valley,	63.52	291	P	P	05 10 37.6 +1.5
113A				IAmb	IAmb	05 10 39.9
comp=Z,8.3nm,1.4s						
GTA	Gaotai	65.36	49	*eP*	P	05 10 49.5 +1.4
GTA				pP	sP	05 10 54.9 +1.6
GTA				sP	pP	05 10 58.3 +6.4
GTA				S	S	05 19 38.4 +6.5
GTA				pmax	pmax	
comp=Z,8.0nm,2.0s						
GTA				pmax	pmax	
comp=Z,150nm,4.5s						
GTA				LR	LR	
comp=Z,440nm,17.8s						
GTA				LR	LR	
comp=Z,460nm,18.5s						
GTA				LR	LR	
comp=Z,580nm,17.4s						
HHC	Hu-ho-hao-te	67.58	40	*eP*	P	05 11 04.3 +2.0
HHC				PP	**PP**	**05 13 35.1 +4.4**
HHC				S	**S**	**05 19 59.3 +0.5**
HHC				SS	**SS**	**05 24 21.3 +2.9**
HHC				pmax	pmax	
comp=Z,18nm,0.8s						
HHC				pmax	pmax	
comp=Z,130nm,6.4s						
HHC				LR	LR	
comp=Z,360nm,16.8s						
HHC				LR	LR	
comp=Z,260nm,12.4s						
HHC				LR	LR	
comp=Z,580nm,16.3s						
SJCC	San Jacinto, C	67.59	244	*eP*	P	05 11 00.8 -1.7
ZAIG	Zacatecas	67.60	276	P	P	05 11 04.3 +1.4
ZAIG				IAmb	IAmb	05 11 13.6
comp=Z,8.5nm,1.3s						
YSS	Yuzh-

comp=Z,273nm,18.0s,baz=332,slow=38
BRRC Barranca, Sant 69.58 242 *e*P **P 05 11 14.4 -0.5**
LZH Lanzhou 69.69 48 *e*P **P 05 11 17.1 +1.5**
LZH pP sP 05 11 21.8 +1.0
LZH sP pP 05 11 24.4 +5.0
LZH pmax pmax
comp=Z,12nm,1.2s
PTBC PUERTO BERRIO, 70.38 242 *e*P **P 05 11 20.7 +0.9**
RUSC La Rusia 70.45 241 *e*P P 05 11 12.6 -8.3
SPBC San Pablo de B 71.05 241 *e*P **P 05 11 24.6 +0.5**
CBOC Ciudad Bolivar 71.60 243 *e*P **P 05 11 28.0 +0.6**
CHIC Chingaza 71.86 241 *e*P **P 05 11 28.9 -0.4**
ROSC El Rosal 71.89 241 LR LR 05 39 20.4
comp=Z,426nm,21.9s,baz=360,slow=33
ROSC El Rosal 71.89 243 P **P 05 11 30.6 +1.2**
GUY2C Guyana, Caldas 71.93 243 *e*P **P 05 11 29.6 -0.3**
PTGA Pitinga 72.12 225 P **P 05 11 32.3 +1.9**
TOLC Tolima 72.50 242 *e*P **P 05 11 30.5 -2.5**
XAN Xi'an 73.15 44 P **P 05 11 37.3 +0.9**
XAN pP sP 05 11 41.5 -0.1
XAN S **SKiKP 05 21 06.9 -1.0**
XAN SS **SS 05 25 50.1 +6.0**
XAN pmax pmax
comp=Z,8.0nm,1.3s
XAN pmax pmax
comp=Z,120nm,5.1s
XAN LR LR
comp=Z,680nm,23.9s
XAN LR LR
comp=Z,630nm,17.7s
XAN LR LR
comp=Z,1μm,22.6s
POPC Popayan, Colom 74.90 243 *e*P **P 05 11 46.4 -0.6**
FLOC Florencia 75.39 241 *e*P **P 05 11 49.3 -0.3**
KMBO Kilima Mbogo 76.60 123 LR LR 05 49 06.3
comp=Z,376nm,19.4s,baz=282,slow=38
NJ2 Nanjing 77.81 37 *e*P **P 05 12 04.5 +1.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,140nm,5.2s
NJ2 LR LR
comp=Z,260nm,21.3s
NJ2 LR LR
comp=Z,350nm,20.8s
NJ2 LR LR
comp=Z,710nm,19.8s
SAML Samuel 80.88 226 P **P 05 12 20.9 +1.0**
SAML pmax pmax
comp=Z,12nm,1.3s
SAML Samuel 80.88 226 P **P 05 12 20.9 +1.0**
SAML IAmb IAmb 05 12 23.3
comp=Z,12nm,1.2s
BDFB Brasilia 83.30 210 LR LR 05 43 24.0
comp=Z,436nm,21.5s,baz=5.3,slow=31
CMAR Chiang Mai Arr 84.17 59 P **P 05 12 36.8 -0.4**
comp=Z,1.4nm,0.5s,baz=101,slow=22,SNR=7.5
CMAR Chiang Mai Arr 84.17 59 P **P 05 12 38.1 +0.9**
QIZ Qiongzhong 87.44 49 P **P 05 12 54.3 +0.9**
QIZ S **SKSac 05 23 26.1 +5.1**
QIZ LR LR
comp=Z,430nm,17.3s
QIZ LR LR
comp=Z,230nm,18.8s
QIZ LR LR
comp=Z,510nm,17.6s
BOSA Boshof 98.67 143 LR LR 06 00 54.7
comp=Z,878nm,18.1s,baz=346,slow=37
TAOE Nuku Hiva Isla 111.62 297 *e*LR LR 05 52 03.0
comp=Z,191nm,22.4s
PPT2 Papeete2 123.17 302 *e*LR LR 05 57 10.9
comp=Z,341nm,22.2s
WRA Warramunga Arr 131.60 36 PKP **PKiKP 05 19 18.2 -1.3**
comp=Z,0.8nm,1.0s,baz=299,slow=1.7,SNR=3.8
ASAR Alice Springs 135.04 38 PKP **PKiKP 05 19 24.2 -2.2**
comp=Z,1.1nm,0.9s,baz=340,slow=1.9,SNR=7.0
ASAR Alice Springs 135.04 38 PKiKP 05 19 25.3 -1.0
VNA2 Neumayer--Watz 135.40 175 PKPdf **PKiKP 05 19 26.3 +0.8**
VNA3 Neumayer Olymp 135.64 176 PKPdf **PKiKP 05 19 25.2 -0.9**
SNAA Sanae 136.34 173 PKPdf **PKiKP 05 19 27.3 -0.2**
DZM Mont Dzumac 137.44 355 *e*LR LR 06 03 58.9
comp=Z,663nm,24.3s
SYO Syowa Base 139.18 152 *e*PKPdf **PKiKP 05 19 31.2 -2.0**
MAW Mawson 143.64 140 PKP **PKPdf 05 19 37.4 -1.6**
comp=Z,1.7nm,0.9s,baz=358,slow=5.4,SNR=5.2
STKA Stephens Creek 144.80 32 PKP **PKPdf 05 19 40.1 -2.2**
comp=Z,2.0nm,0.7s,baz=348,slow=3.6,SNR=3.6

IDC 25 05:02:22.0±45.0, 15°.54S×171°.51W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/28, mbtmp4.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.9/22, Error ellipse: s-maj=891.9km s-min=186.3km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**21.12**	**99**	LR	LR	05 12 58.1	
	comp=Z,68nm,20.2s,baz=120,slow=30						
STKA	**Stephens Creek**	**45.55**	**240**	P	P	05 10 44.0	+0.2
	0.8nm,0.4s,baz=69,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**51.59**	**257**	P	P	05 11 30.0	-0.6
	0.5nm,0.6s,baz=95,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**51.80**	**252**	P	P	05 11 32.2	+0.1
	5.2nm,0.6s,baz=89,slow=8.1,SNR=74						

IDC 25 05:03:50.7±1.1, 52°.67S×27°.01E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/26, mbtmp4.0/6, MS3.2/3, Ms1 3.2/3, ms1mx3.0/18, Error ellipse: s-maj=54.4km s-min=21.4km az=73.0

ISC 25 05:03:52.2±1.1, 52°.7S±0°.2×27°.0E±0°.4, h10km, n11, σ0°36/6, mb4.0/5, MS3.1/3, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.77**	**345**	P	**P**	**05 08 33.9**	**+0.5**
	3.9nm,0.9s,baz=146,slow=11,SNR=5.6						
SUR				LR	LR	05 14 17.9	
	comp=Z,109nm,19.2s,baz=164,slow=30						
SNAA	**Sanae**	**23.13**	**204**	LR	LR	05 15 45.5	
	comp=Z,62nm,19.8s,baz=290,slow=31						
BOSA	**Boshof**	**24.07**	**356**	LR	LR	05 16 56.2	
	comp=Z,42nm,20.4s,baz=200,slow=33						
MATP	**Matopo**	**32.21**	**3**	P	**P**	**05 10 20.4**	**-0.2**
	1.9nm,0.7s,baz=173,slow=11,SNR=3.6						
QSPA	**South Pole Qui**	**37.55**	**180**	P	**P**	**05 11 06.3**	**+0.1**
	4.6nm,1.0s,baz=253,slow=1.5,SNR=11						
H01W2	**Cape Leeuwin H**	**61.53**	**111**	T	T	06 22 25.2	
	baz=227,slow=74,SNR=12						
H01W3	**Cape Leeuwin H**	**61.55**	**111**	T	T	06 22 26.1	
	baz=227,slow=74,SNR=10						
H01W1	**Cape Leeuwin H**	**61.55**	**111**	T	T	06 22 26.3	
	baz=227,slow=74,SNR=9.7						
TORD	**Torodi Ar. Bea**	**69.08**	**334**	P	**P**	**05 14 57.9**	**-0.3**
	0.6nm,0.6s,baz=173,slow=5.2,SNR=5.1						
ASAR	**Alice Springs**	**81.13**	**117**	P	**P**	**05 16 08.1**	**+0.1**
	0.7nm,0.5s,baz=215,slow=4.9,SNR=10						
WRA	**Warramunga Arr**	**84.37**	**116**	P	**P**	**05 16 24.7**	**-0.1**
	0.9nm,0.8s,baz=212,slow=4.2,SNR=7.0						

ATH 25 05:03:55.9, 38°.34N×21°.95E, h9km±4km, ML1.5/3, Error ellipse: s-maj=4.3km s-min=1.1km az=25.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.09**	**338**	P	Pg	05 03 58.0	-0.2
EFP				S	Sg	05 03 59.7	-0.1
EFP				AML	AML	05 03 59.9	
	comp=N,1364μm,0.2s						
EFP				AML	AML	05 04 00.2	
	comp=E,1029μm,0.1s						
SERG	**Sergoula**	**0.11**	**50**	P	Pg	05 03 58.8	+0.3
SERG				S	Sg	05 04 00.6	+0.3
SERG				AML	AML	05 04 01.8	
	comp=N,1250μm,0.1s						
SERG				AML	AML	05 04 01.9	
	comp=E,646μm,0.1s						
ANX	**Ano Chora**	**0.25**	**355**	P	Pg	05 04 00.8	-0.1
ANX				S	Sg	05 04 04.8	+0.4
ANX				AML	AML	05 04 05.3	
	comp=E,233μm,0.2s						
ANX				AML	AML	05 04 05.6	
	comp=N,198μm,0.2s						
KLV	**Kalavryta, Ach**	**0.34**	**152**	P	Pg	05 04 02.7	+0.1
KLV				S	Sg	05 04 07.2	+0.2
DSF	**Desfina**	**0.46**	**81**	P	Pg	05 04 04.3	-0.5
AXS	**Araxos**	**0.47**	**252**	P	Pg	05 04 05.3	+0.3

REY 25 05:16:10.2, 64°.67N×17°.52W, h9km
IDC 25 05:16:10.2±0.7, 64°.63N×17°.65W, h0km, mb3.7/10, mb1 4.0/12, mb1mx3.8/37, mbtmp3.8/12, ML3.5/2, MS2.5/1, Ms1 2.6/1, ms1mx2.5/39, Error ellipse: s-maj=21.6km s-min=10.5km az=12.0
NEIC 25 05:16:11.8±1.3, 64°.58N±0°.09×17°.7W±0°.1, h8km±4km, mb4.3/39, Error ellipse: s-maj=12.9km s-min=6.5km az=189.0

ISC 25 05:16:11.5±0.4, 64°.66N±0°.02×17°.55W±0°.02, h10km, n102, σ1°72/106, mb4.1/27, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.09**	**278**	P	**Pg**	**05 16 12.7**	**-1.4**
	baz=274						
IVON				S	**Sg**	**05 16 15.4**	**-0.5**
	baz=274						
IDYN	**Dyngjuhals**	**0.15**	**31**	P	**Pg**	**05 16 13.3**	**-1.7**
	baz=27						
IDYN				S	**Sg**	**05 16 16.4**	**-1.0**
	baz=27						
IDJK	**Dyngjujokull**	**0.21**	**139**	P	**Pg**	**05 16 14.5**	**-1.4**
	baz=143						
IURH	**Urdarhals**	**0.24**	**47**	P	**Pg**	**05 16 14.7**	**-1.7**
	baz=46						
IGRF	**Grimsfjall**	**0.28**	**154**	P	**Pg**	**05 16 15.8**	**-1.5**
	baz=157						
IHUS	**Husbondi**	**0.37**	**187**	P	**Pg**	**05 16 17.4**	**-1.5**
	baz=189						
ISKR	**Skrokkalda**	**0.37**	**255**	P	**Pg**	**05 16 17.6**	**-1.3**
	baz=255						
IKVE	**Kverkfjoll**	**0.38**	**87**	P	**Pg**	**05 16 17.1**	**-1.9**
	baz=88						
IBJK	**Bruarjokull**	**0.39**	**119**	P	**Pg**	**05 16 17.3**	**-2.0**
	baz=120						
IVOT	**Vottur**	**0.42**	**158**	P	**Pg**	**05 16 18.2**	**-1.6**
	baz=160						
IJOK	**Jokulheimar**	**0.45**	**220**	P	**Pg**	**05 16 18.8**	**-1.6**
	baz=221						
IKRE	**Kreppuhraun**	**0.52**	**76**	P	**Pg**	**05 16 19.3**	**-2.3**
	baz=76						
IASK	**Askja**	**0.55**	**44**	P	**Pg**	**05 16 20.0**	**-2.2**
	baz=43						
IMKO	**Mokollar**	**0.61**	**58**	P	**Pg**	**05 16 21.0**	**-2.3**
	baz=58						
IIEY	**Innrieyrar**	**0.62**	**204**	P	**Pg**	**05 16 21.5**	**-2.0**
	baz=205						
IKSK	**Karasker**	**0.69**	**137**	P	**Pg**	**05 16 22.0**	**-2.7**
	baz=138						
ISVA	**Svartarkot**	**0.69**	**10**	P	**Pg**	**05 16 22.4**	**-2.5**
	baz=9.3						
ISVA				S	**Sg**	**05 16 32.5**	**-1.4**
	baz=9.3						
IKAL	**Kalfafell**	**0.72**	**185**	P	**Pg**	**05 16 22.5**	**-2.8**
	baz=186						
IVAT	**Vatnsfell**	**0.76**	**232**	P	**Pg**	**05 16 24.2**	**-2.0**
	baz=232						
IVSH	**V-Sauoahnukur**	**0.80**	**78**	P	**Pg**	**05 16 23.9**	**-2.9**
	baz=79						
IFAG	**Fagurholsmyri**	**0.88**	**153**	P	**Pg**	**05 16 25.7**	**-2.7**
	baz=154						
IHVE	**Hveravellir**	**0.89**	**285**	P	**Pg**	**05 16 25.9**	**-2.8**
	baz=284						
IADA	**Aoalbol**	**0.92**	**66**	P	**Pg**	**05 16 25.9**	**-3.3**
	baz=66						
IMEL	**Melhnausar**	**0.99**	**22**	P	**Pg**	**05 16 27.5**	**-3.1**
	baz=22						
ISNB	**Snabyli**	**1.04**	**207**	P	**Pg**	**05 16 28.8**	**-2.7**
	baz=208						
ISLY	**Slysaalda**	**1.08**	**220**	P	**Pg**	**05 16 29.5**	**-2.8**
	baz=220						
IKVO	**Krokottuvotn**	**1.09**	**15**	P	**Pg**	**05 16 29.3**	**-3.3**
	baz=14						
IFED	**Fedgar**	**1.13**	**237**	P	**Pb**	**05 16 30.7**	**-2.4**
	baz=237						
IGRS	**Grimsstaoir**	**1.15**	**31**	P	**Pb**	**05 16 30.1**	**-3.4**
	baz=30						
IRJU	**Rjupnafell**	**1.16**	**206**	P	**Pb**	**05 16 30.8**	**-2.7**
	baz=206						
IMJO	**Mjoaskard**	**1.18**	**233**	P	**Pb**	**05 16 31.3**	**-2.7**
	baz=233						
IGYG	**Gygjarholskot**	**1.22**	**253**	P	**Pn**	**05 16 31.6**	**-2.9**
	baz=253						
ISKI	**Skildingahlsh**	**1.23**	**10**	P	**Pn**	**05 16 31.4**	**-3.4**
	baz=9.5						
IGHA	**Grjothals**	**1.25**	**17**	P	**Pn**	**05 16 31.6**	**-3.4**
	baz=16						
IHAU	**Haukadalur**	**1.26**	**238**	P	**Pn**	**05 16 32.5**	**-2.6**
	baz=238						
IGOD	**Go??abunga**	**1.27**	**219**	P	**Pn**	**05 16 33.0**	**-2.4**
	baz=219						
BORG	**Borgarnes**	**1.62**	**275**	Pg	**Pn**	**05 16 38.0**	**-2.2**
	19nm,0.3s,baz=89,slow=6.0,SNR=61						
BORG				Lg	Lg	05 17 00.8	
	18nm,0.3s,baz=253,slow=22,SNR=15						
BORG	**Borgarnes**	**1.62**	**275**		**Pn**	**05 16 38.0**	**-2.2**
BORG				Sg	**Sg**	**05 17 01.9**	**-1.8**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**05 17 41.4**	**+0.1**
SCO				*e*S	**Sn**	**05 18 54.1**	**+3.2**
SCO	**Scoresbysund**	**6.08**	**346**		**Pn**	**05 17 41.5**	**+0.1**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**05 18 58.0**	**-1.3**
	baz=321,slow=13,SNR=7.8						
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**05 19 00.1**	**+0.8**
NOA	**NORSAR Array B**	**13.55**	**92**	LR	LR	05 25 00.4	
	comp=Z,22nm,21.4s,baz=220,slow=39						
HFS	**Hagfors**	**15.07**	**93**	Pn	**P**	**05 19 48.5**	**-1.1**
	0.1nm,0.3s,baz=350,slow=21,SNR=5.1						
FINES	**FINESS Array B**	**19.73**	**79**	P	**Pn**	**05 20 41.1**	**-1.2**
	0.1nm,0.3s,baz=254,slow=8.5,SNR=2.0						
CLL	**Collm**	**20.72**	**116**	P	Pn	05 20 52.4	-1.7
CLL				IAmb	IAmb	05 20 56.2	
	comp=Z,6.2nm,0.8s						
ECH	**Echery**	**21.17**	**129**	P	**P**	**05 20 57.1**	**+0.5**
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**05 21 00.4**	**+0.6**
KHC	**Kasperske Hory**	**22.69**	**118**	P	**P**	**05 21 14.2**	**+1.3**
SENIN	**Lac Senin/Sane**	**22.84**	**131**	P	**P**	**05 21 14.6**	**-0.1**
SENIN				IAmb	IAmb	05 21 26.0	
	comp=Z,6.8nm,1.3s						
GEC2	**GERESS Array S**	**22.97**	**119**	P	**P**	**05 21 16.0**	**0.0**
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**05 21 16.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=321,slow=10,SNR=7.1						
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**05 21 17.2**	**+1.2**
FUORN	**Ofenpass-Fuorn**	**23.60**	**127**	P	**P**	**05 21 23.4**	**+0.8**
MORC	**Moravsky Berou**	**23.71**	**112**	P	**P**	**05 21 24.0**	**+0.7**
MORC				IAmb	IAmb	05 21 38.1	
	comp=Z,5.4nm,1.2s						
CIMO	**Cimolais**	**24.64**	**124**	P	**P**	**05 21 32.1**	**+0.2**
ZCCA	**Zocca**	**25.83**	**128**	P	**P**	**05 21 41.7**	**-1.0**
KWP	**Kalwaria Pacla**	**25.93**	**106**	P	**P**	**05 21 44.6**	**+1.1**
KWP				IAmb	IAmb	05 21 50.4	
	comp=Z,19nm,1.4s						
ESDC	**Sonseca Array**	**26.26**	**156**	P	**P**	**05 21 47.6**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=347,slow=8.8,SNR=11						
ESDC	**Sonseca Array**	**26.26**	**156**	IAmb	IAmb	05 21 49.2	
	comp=Z,3.5nm,1.1s						
ROSA	**Rosais**	**26.73**	**199**	P	**P**	**05 21 51.0**	**+0.1**
AKASG	**Malin Array Be**	**27.86**	**98**	P	**P**	**05 22 00.7**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=319,slow=9.8,SNR=2.0						
NRCA	**Norcia**	**27.90**	**127**	P	**P**	**05 22 01.7**	**+0.3**
NRCA				IAmb	IAmb	05 22 02.6	
	comp=Z,7.4nm,1.4s						
OBN	**Obninsk**	**27.90**	**84**	P	**P**	**05 22 03.0**	**+1.8**
BUR08	**Bucovina Ar. S**	**28.52**	**106**	P	**P**	**05 22 08.3**	**+1.4**
BUR08				IAmb	IAmb	05 22 25.5	
	comp=Z,7.6nm,1.4s						
BURAR	**Bucovina Array**	**28.55**	**106**	P	**P**	**05 22 06.5**	**-0.7**
ABKAR	**Abkulak array**	**42.01**	**73**	P	**P**	**05 24 03.5**	**+1.0**
ABKAR	**Abkulak array**	**42.01**	**73**	P	**P**	**05 24 03.6**	**+1.1**
O56A	**Blue Knob Stat**	**42.21**	**265**	P	**P**	**05 24 03.1**	**-1.1**
BLA	**Blacksburg**	**45.55**	**264**	P	**P**	**05 24 31.1**	**0.0**
IL31		**45.68**	**332**	P	**P**	**05 24 33.0**	**+1.3**
IL31				IAmb	IAmb	05 24 54.0	
	comp=Z,5.0nm,1.5s						
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**	**05 24 33.0**	**+1.1**
	comp=Z,2.9nm,1.2s,baz=30,slow=5.3,SNR=9.4						
ILAR				PcP	**PcP**	**05 26 08.2**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=7.5,slow=3.1,SNR=6.3						
IMAR	**Indian Mountai**	**45.85**	**337**	P	**P**	**05 24 34.7**	**+1.6**
ZALV	**Zalesovo Beam**	**47.65**	**51**	P	**P**	**05 24 48.0**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=25,slow=36,SNR=2.2						
ZALV				PcP	**PcP**	**05 26 17.8**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=232,slow=47,SNR=1.5						
ZALV	**Zalesovo Beam**	**47.65**	**51**	P	**P**	**05 24 48.0**	**+0.6**
KURK	**Kurchatov**	**48.13**	**58**	P	**P**	**05 24 52.0**	**+0.9**
KURK				IAmb	IAmb	05 24 52.6	
	comp=Z,2.9nm,0.9s						
GEYT	**Alibeck**	**50.45**	**84**	P	**P**	**05 25 10.9**	**+1.8**
GCMT	**Greycliff**	**50.67**	**295**	P	**P**	**05 25 11.1**	**+0.4**
KK31	**Karatay Array**	**51.30**	**70**	P	**P**	**05 25 17.1**	**+1.7**
KK31				IAmb	IAmb	05 25 18.1	
	comp=Z,2.2nm,1.1s						
KKAR	**Karatay Array**	**51.30**	**70**	P	**P**	**05 25 17.1**	**+1.7**
KKAR				IAmb	IAmb	05 25 18.1	
	comp=Z,2.2nm,1.1s						
MAKZ	**Makanchi**	**52.62**	**58**	P	**P**	**05 25 25.9**	**+0.8**
MAKZ				IAmb	IAmb	05 25 29.3	
	comp=Z,3.8nm,1.1s						
PHWY	**Pilot Hill**	**52.74**	**289**	P	**P**	**05 25 27.0**	**+0.5**
PHWY				IAmb	IAmb	05 25 46.3	
	comp=Z,7.1nm,0.9s						
MK31	**Makanchi Array**	**52.75**	**58**	P	**P**	**05 25 26.2**	**+0.1**
MK31				IAmb	IAmb	05 25 31.9	
	comp=Z,3.4nm,1.2s						
MKAR	**Makanchi Array**	**52.75**	**58**	P	**P**	**05 25 25.9**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=343,slow=7.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**05 25 29.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=340,slow=8.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**05 25 28.9**	**-0.4**
PD31	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 25 29.8**	**+0.4**
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 25 29.4**	**-0.1**
	comp=Z,2.5nm,1.1s,baz=54,slow=7.5,SNR=9.4						
PDAR	**Pinedale Array**	**53.16**	**293**	P	**P**	**05 25 29.9**	**+0.4**
N23A	**Red Feather La**	**53.29**	**289**	P	**P**	**05 25 30.7**	**+0.2**
N23A				IAmb	IAmb	05 25 31.9	
	comp=Z,3.9nm,1.1s						
BTK	**Batken**	**53.98**	**72**	P	**P**	**05 25 36.6**	**+1.3**
BTK				IAmb	IAmb	05 25 37.6	
	comp=Z,5.2nm,0.9s						
GAR	**Garm**	**54.67**	**73**	P	**P**	**05 25 42.2**	**+1.8**
TARG	**Taragay, Kyrgy**	**55.35**	**65**	P	**P**	**05 25 46.9**	**+1.2**
TARG				IAmb	IAmb	05 25 49.8	
	comp=Z,4.3nm,1.0s						
CHGN	**Chignik**	**55.71**	**335**	P	**P**	**05 25 48.6**	**+1.1**
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**05 26 16.9**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=143,slow=36,SNR=1.9						
SONM	**Songino Array**	**59.66**	**40**	P	**P**	**05 26 16.6**	**+1.0**
U15A	**North Rim**	**59.67**	**291**	P	**P**	**05 26 17.0**	**+1.0**
U15A				IAmb	IAmb	05 26 18.2	
	comp=Z,6.4nm,1.4s						
ULN	**Ulaanbaatar**	**59.81**	**40**	P	**P**	**05 26 18.3**	**+1.7**
ULN				IAmb	IAmb	05 26 31.7	
	comp=Z,3.7nm,1.1s						
NIL	**Nilore**	**60.47**	**73**	P	**P**	**05 26 20.6**	**-0.6**
TXAR	**Lajitas Array**	**62.26**	**280**	P	**P**	**05 26 33.8**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=129,slow=1.8,SNR=4.7						
TXAR	**Lajitas Array**	**62.26**	**280**	P	**P**	**05 26 33.2**	**-0.2**
KSAR	**Wonju Array Be**	**74.67**	**28**	P	**P**	**05 27 51.5**	**+0.7**

TEH 25 05:17:16.6, 32°.68N×47°.69E, h14km, ML3.1
ISN 25 05:17:18.0±1.6, 32°.72N×47°.67E, h15km±8km, ML2.8

ISC 25 05:17:15.3±1.2, 32°.59N±0°.05×47°.80E±0°.05, h10km, n20, σ1°06/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.45**	**282**	*e*Pg	**Pg**	**05 17 23.9**	**-0.2**
IKFM	**Kafar-mosalman**	**0.93**	**2**	*e*Pg	**Pg**	**05 17 32.4**	**-0.8**
IKFM				*e*		05 17 56.1	
IKMR	**Kamar-syah**	**1.04**	**28**	*e*Pg	**Pn**	**05 17 36.1**	**+0.1**
IKMR				*e*		05 17 54.9	
IDOB	**Doab**	**1.23**	**15**	*e*Pg	**Pg**	**05 17 39.7**	**+0.7**
BMDN	**Meydan**	**1.38**	**38**	*e*	Sn	05 18 08.6	+9.4
IKOM	**Komasi**	**1.60**	**351**	*e*Pg	**Pg**	**05 17 45.7**	**-0.3**
IKOM				*e*		05 18 11.2	
IBDR	**Badra**	**1.66**	**289**	*e*Pg	**Pb**	**05 17 45.0**	**-0.9**
IBDR				*e*Sg	**Sb**	**05 18 06.0**	**-0.9**
IBDR				AML	AML	05 18 11.9	
	comp=E,151nm,0.7s						
IBDR				AML	AML	05 18 12.1	
	comp=N,182nm,0.4s						
HSAM	**Samen**	**1.75**	**22**	*e*Pg	**Pg**	**05 17 48.9**	**0.0**
HSAM				*e*		05 18 16.9	
KCHF	**Cheshme Sefid,**	**1.79**	**339**	*e*Pg	**Pb**	**05 17 48.1**	**-0.3**
KCHF				*e*		05 18 16.1	
IBZA	**Bozab**	**1.87**	**1**	*e*Pg	**Pg**	**05 17 50.5**	**-0.8**
IBZA				*e*		05 18 24.3	
KER	**Kermanshah**	**1.87**	**343**	*e*Pg	**Pg**	**05 17 50.0**	**-1.2**
IGHG	**Ghaleghazi**	**2.02**	**330**	*e*Pg	**Pb**	**05 17 51.4**	**-0.8**
IGHG				*e*		05 18 35.1	
IVIS	**Veis**	**2.09**	**338**	*e*Pn	**Pb**	**05 17 52.0**	**-1.3**
IVIS				*e*		05 18 27.9	
NSR	**Nassriya**	**2.12**	**222**	*e*Pn	**Pg**	**05 17 55.0**	**-0.9**
NSR				*e*Sn	**Sb**	**05 18 20.0**	**-0.1**
IDHR	**Dehrash**	**2.41**	**331**	*e*Pn	**Pn**	**05 17 56.0**	**+1.0**
IDHR				*e*		05 18 37.7	
ILIN	**Lien**	**2.42**	**343**	*e*Pn	**Pn**	**05 17 56.7**	**+1.5**
ILIN				*e*		05 18 45.7	
HAGD	**Aghdareh**	**2.49**	**26**	*e*Pn	**Pb**	**05 17 59.3**	**-0.9**
HAGD				*e*		05 18 43.6	
HSRG	**Sareghieh**	**2.67**	**8**	*e*Pn	**Pb**	**05 18 02.2**	**-1.2**
BHD	**Baghdad**	**2.96**	**284**	*e*Pn	**Pn**	**05 18 04.0**	**+1.7**
BHD				*e*Sn	**Sn**	**05 18 39.0**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.44**	**25**	*e*Pn	**Pn**	**05 18 10.9**	**+1.7**

NEIC 25 05:31:34.2±1.1, 10°.1S±0°.1×156°.71E±0°.08, h10km±1km, mb4.5/14, Error ellipse: s-maj=21.6km s-min=6.9km az=146.0
IDC 25 05:31:35.9±1.0, 9°.94S×156°.35E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.2/26, mbtmp4.1/12, MS3.6/10, Ms1 3.6/10, ms1mx3.4/26, Error ellipse: s-maj=35.4km s-min=18.5km az=114.0

ISC 25 05:31:39.9±0.8, 10°.1S±0°.1×156°.4E±0°.2, h35km, n42, σ1°23/35, mb4.2/18, MS3.5/6, South of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.56**	**79**	LR	LR	05 33 44.2	
	comp=Z,610nm,19.9s,baz=296,slow=36						
KRVT	**Keravat (AS076**	**7.24**	**323**	LR	LR	05 36 17.7	
	comp=Z,394nm,19.3s,baz=177,slow=40						
PMG	**Port Moresby**	**9.14**	**274**	LR	LR	05 37 13.9	
	comp=Z,581nm,19.5s,baz=94,slow=37						
SANVU	**Saraoutou**	**11.78**	**118**	Pn	Pn	05 34 20.1	-5.5
JAY	**Jayapura**	**17.33**	**295**	LR	LR	05 41 22.7	
	comp=Z,200nm,20.8s,baz=181,slow=34		

USRK	Ussuriysk Ar.	58.44 340	P	P	05 41 31.8	-0.4
	comp=Z,4.6nm,0.9s,baz=158,slow=6.6,SNR=7.0					
USRK	Ussuriysk Ar.	58.44 340	P	P	05 41 30.7	-1.5
RPSI	Rantau Prapat	58.63 279	P	P	05 41 35.0	+0.9
PETK	Petropavlovsk-	63.00 1	P	P	05 42 03.8	+0.7
	comp=Z,3.9nm,0.9s,baz=163,slow=10,SNR=3.2					
PETK			LR	LR	06 06 46.4	
	comp=Z,49nm,20.6s,baz=240,slow=34					
CMAR	Chiang Mai Arr	63.41 297	P	P	05 42 07.1	+0.6
	comp=Z,0.7nm,0.4s,baz=116,slow=4.8,SNR=5.8					
CMAR	Chiang Mai Arr	63.41 297	P	P	05 42 05.8	-0.6
ULN	Ulaanbaatar	72.38 328	P	P	05 43 01.6	-1.0
ULN			IAmb	IAmb	05 43 05.5	
	comp=Z,4.3nm,1.1s					
SONM	Songino Array	72.71 327	P	P	05 43 05.3	+0.8
	comp=Z,2.7nm,0.8s,baz=133,slow=6.3,SNR=10					
SONM	Songino Array	72.71 327	P	P	05 43 02.8	-1.8
LSA	Lhasa	74.19 305	P	P	05 43 12.4	-1.7
LSA			IAmb	IAmb	05 43 17.5	
	comp=Z,3.2nm,0.7s					
MAW	Mawson	82.05 203	P	P	05 43 58.7	+2.4
	comp=Z,0.8nm,0.8s,baz=224,slow=11,SNR=2.0					
MAW	Mawson	82.05 203	P	P	05 43 57.0	+0.7
ILAR	Eielson Array	85.78 21	P	P	05 44 14.9	-0.4
	comp=Z,0.8nm,1.0s,baz=260,slow=3.6,SNR=2.2					
MKAR	Makanchi Array	86.67 319	P	P	05 44 21.2	+1.1
	comp=Z,1.2nm,0.9s,baz=100,slow=5.0,SNR=5.8					
NVAR	Mina Array Bea	92.56 52	P	P	05 44 48.6	+0.3
	comp=Z,0.7nm,0.8s,baz=204,slow=3.3,SNR=5.1					
NVAR	Mina Array Bea	92.56 52	P	P	05 44 49.3	+1.0
BDFB	Brasilia	144.78 136	PKP	PKPdf	05 51 14.9	+0.6
	comp=Z,1.6nm,0.5s,baz=92,slow=13,SNR=1.9					
ESDC	Sonseca Array	145.78 333	PKPbc	PKPab	05 51 16.8	+0.6
	comp=Z,1.6nm,1.1s,baz=48,slow=3.1,SNR=4.7					
ESDC	Sonseca Array	145.78 333	PKPdf	PKPdf	05 51 14.3	-1.0
TORD	Torodi Ar. Bea	155.05 279	PKPab	PKPab	05 51 56.3	+1.5
	comp=Z,0.8nm,0.9s,baz=56,slow=3.7,SNR=4.9					

WEL 25 05:33:39.8,38°S±2°×17°6E±°, h213km±4km, M3.0/49, MLv3.0/49, Error ellipse: s-maj=0.0km s-min=0.0km az=73.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.24	257	P	Pn	05 34 07.7	-0.1
KMRZ	Kaimai	0.44	11	P	Pn	05 34 08.3	0.0
WATZ	Wairara	0.44	191	P	Pn	05 34 08.5	+0.3
ALRZ	Allen Road	0.49	126	P	Pn	05 34 08.5	+0.1
RATZ	Rangitukua	0.59	185	P	Pn	05 34 08.8	0.0
TOZ	Tahuroa Road	0.60	334	P	Pn	05 34 08.9	0.0
TOZ				S	S	05 34 31.1	-0.2
TGRZ	Tauranga	0.64	32	P	Pn	05 34 08.8	-0.2
RITZ	Rihia Road	0.70	179	P	Pn	05 34 09.6	+0.3
KATZ	Kakaramea	0.71	189	P	Pn	05 34 09.7	+0.3
OPRZ	Ohinepanea	0.71	53	P	Pn	05 34 09.1	-0.2
MRHZ	Matea Rd	0.72	141	P	Pn	05 34 09.2	-0.1
MRHZ				S	S	05 34 30.3	-2.2
HIZ	Hauiti	0.81	253	P	Pn	05 34 09.9	+0.1
HIZ				S	S	05 34 33.0	-0.1
KRVZ	Karewarewa	0.83	190	P	Pn	05 34 10.1	0.0
TWVZ	Taurewa	0.85	201	P	Pn	05 34 10.1	0.0
TWVZ				S	S	05 34 33.1	-0.8
WTVZ	West Tongariro	0.86	193	P	Pn	05 34 10.2	0.0
OTVZ	Oturere	0.90	189	P	Pn	05 34 10.9	+0.4
OTVZ				S	S	05 34 33.2	-1.2
NGZ	Ngauruhoe	0.92	191	P	Pn	05 34 10.7	+0.1
NGZ				S	S	05 34 33.0	-1.7
RTZ	Ruatahuna	0.96	111	P	Pn	05 34 10.7	-0.1
RTZ				S	S	05 34 33.2	-1.5
MTHZ	Maungataniwha	0.98	126	P	Pn	05 34 11.0	+0.2
MTHZ				S	S	05 34 33.2	-1.7
TUVZ	Tukino	1.00	188	P	Pn	05 34 11.2	+0.1
TUVZ				S	S	05 34 34.0	-1.5
FWVZ	Far West T-bar	1.00	193	P	Pn	05 34 11.0	-0.2
FWVZ				S	S	05 34 34.3	-1.4
URZ	Urewera	1.00	89	P	Pn	05 34 10.5	-0.4
URZ				S	S	05 34 32.4	-2.6
BKZ	Black Stump Fm	1.03	150	P	Pn	05 34 10.8	-0.3
BKZ				S	S	05 34 33.0	-2.6
WNVZ	Wahianoa	1.07	190	P	Pn	05 34 11.5	0.0
PKVZ	Pokaka	1.08	201	P	Pn	05 34 11.4	-0.1
MOVZ	Moawhango	1.13	183	P	Pn	05 34 11.5	-0.4
MOVZ				S	S	05 34 33.7	-3.2
MTVZ	Mangateitei	1.14	194	P	Pn	05 34 12.0	+0.1
RAHZ	Arahi	1.17	124	P	Pn	05 34 12.8	+0.8
VRZ	Vera Road	1.20	225	P	Pn	05 34 12.4	+0.2
BHHZ	Black Hill Sta	1.23	172	P	Pn	05 34 12.3	-0.2
KWHZ	Kaweka Forest	1.23	158	P	Pn	05 34 13.0	+0.4
SNGZ	Shannon Statio	1.28	114	P	Pn	05 34 13.5	+0.6
MCHZ	McNeill Hill	1.35	150	P	Pn	05 34 14.3	+0.9
KRHZ	Kereru	1.43	163	P	Pn	05 34 14.3	+0.2
RUGZ	Raukumara Rang	1.48	79	P	Pn	05 34 13.9	-0.8
ETAZ	East Tamaki Re	1.50	331	P	Pn	05 34 14.6	-0.2
KUZ	Kuaotunu	1.53	357	P	Pn	05 34 14.7	-0.3
AWAZ	Awhitu Peninsu	1.54	322	P	Pn	05 34 15.1	+0.1
RIGZ	Rimuhau	1.57	106	P	Pn	05 34 15.9	+0.6
WIAZ	Waiheke Island	1.58	339	P	Pn	05 34 15.3	-0.1
TKGZ	Te Karaka	1.59	97	P	Pn	05 34 16.8	+1.4
WAZ	Wanganui	1.62	204	P	Pn	05 34 15.7	0.0
KNZ	Kokohu	1.62	118	P	Pn	05 34 16.2	+0.6
HAZ	Te Kaha	1.62	72	P	Pn	05 34 15.4	-0.3
PNHZ	Pukenui	1.66	170	P	Pn	05 34 16.0	-0.1
PNHZ				S	S	05 34 42.4	-1.9
WTAZ	Waiatarua	1.67	323	P	Pn	05 34 16.5	+0.2
NEZ	North Egmont	1.68	233	P	Pn	05 34 17.1	+0.7
PREZ	Palmer Road	1.69	230	P	Pn	05 34 16.8	+0.4
PKE	Pukeiti	1.71	237	P	Pn	05 34 17.1	+0.6
PRGZ	Paritu Road	1.73	113	P	Pn	05 34 17.3	+0.6
TSZ	Takapari Road	1.78	177	P	Pn	05 34 17.1	-0.1
MHGZ	Mahia Peninsul	1.84	119	S	Pn	05 34 18.5	+0.8
CNGZ	Carnagh Statio	1.88	97	P	Pn	05 34 19.3	+1.3
NMEZ	Namu Road	1.91	233	P	Pn	05 34 19.1	+0.8
PUZ	Puketiti	1.92	85	P	Pn	05 34 19.1	+0.6
PUZ				S	S	05 34 46.6	-1.7
PXZ	Pawanui	1.93	156	P	Pn	05 34 18.6	+0.2
PXZ				S	S	05 34 47.3	-1.2
OHWZ	Ohakea	1.97	192	P	Pn	05 34 19.1	+0.2
OHWZ				S	S	05 34 49.1	-0.1
DVHZ	Dannevirke	2.04	173	P	Pn	05 34 19.2	-0.5
GRZ	Great Barrier	2.04	351	P	Pn	05 34 19.7	-0.1
MXZ	Matakaoa Point	2.08	71	P	Pn	05 34 20.9	+0.9
MXZ				S	S	05 34 50.3	-0.8
WMGZ	Waiomatatini S	2.09	78	P	Pn	05 34 20.3	+0.1
POWZ	Post Office Ro	2.11	181	P	Pn	05 34 19.8	-0.6
ANWZ	Angora Road	2.24	167	P	Pn	05 34 21.6	0.0
ANWZ				S	S	05 34 52.8	-1.4
PRWZ	Pori Road	2.28	177	P	Pn	05 34 21.8	-0.3
MRZ	Mangatainoka R	2.39	185	P	Pn	05 34 22.4	-0.9
BFZ	Birch Farm	2.42	173	P	Pn	05 34 23.0	-0.6
OGWZ	Otaki Gorge	2.59	191	P	Pn	05 34 24.8	-0.6
HOWZ	Holdsworth Sta	2.63	185	P	Pn	05 34 24.8	-1.2
KIW	Kapiti Island	2.68	195	P	Pn	05 34 25.3	-1.2
TMWZ	Te Maipa	2.83	179	P	Pn	05 34 27.0	-1.2
CAW	Cannon Point	2.89	192	P	Pn	05 34 27.7	-1.1
MTW	Mount Morrison	2.89	185	P	Pn	05 34 27.4	-1.4
DUWZ	D'Urville Isla	2.92	210	P	Pn	05 34 27.7	-1.5
WEL	Wellington	3.12	195	P	Pn	05 34 30.1	-1.3
PAWZ	Paruwai Farm	3.12	186	P	Pn	05 34 30.0	-1.4
TRWZ	Traveller	3.12	182	P	Pn	05 34 30.1	-1.3
TCW	Tory Channel	3.17	202	P	Pn	05 34 30.7	-1.3
MSWZ	Moikau Station	3.17	188	P	Pn	05 34 30.5	-1.6
BHW	Baring Head	3.22	193	P	Pn	05 34 31.1	-1.4
PLWZ	Palliser	3.32	188	P	Pn	05 34 32.1	-1.7
TUWZ	Tuamarina	3.47	204	P	Pn	05 34 33.9	-1.7
NNZ	Nelson	3.50	212	P	Pn	05 34 33.8	-2.1
QRZ	Quartz Range	3.61	224	P	Pn	05 34 34.6	-2.6
BSWZ	Blackbirch Sta	3.75	203	P	Pn	05 34 37.5	-1.5
THZ	Tophouse	4.15	212	P	Pn	05 34 41.4	-2.5
KHZ	Kahutara	4.49	202	P	Pn	05 34 46.5	-1.5
DSZ	Denniston Nort	4.65	221	P	Pn	05 34 46.9	-3.2
GVZ	Greta Valley S	5.15	204	P	Pn	05 34 54.3	-2.0
LTZ	Lake Taylor	5.26	210	P	Pn	05 34 55.6	-2.1
AMCZ	Amberley	5.46	205	P	Pn	05 34 57.7	-2.6
INZ	Inchbonnie	5.56	216	P	Pn	05 34 58.6	-3.0
OXZ	Oxford	5.81	209	P	Pn	05 35 01.6	-3.2
OKCZ	Okains Bay	5.83	200	P	Pn	05 35 02.7	-2.4
MOZ	McQueen's Vall	5.94	203	P	Pn	05 35 03.0	-3.3
AKCZ	Akaroa Harbour	6.01	201	P	Pn	05 35 05.0	-2.4
WVZ	Waitaha Valley	6.16	217	P	Pn	05 35 06.2	-3.0
MHCZ	Mount Hutt	6.17	210	P	Pn	05 35 06.0	-3.3
WACZ	Wakanui South	6.42	207	P	Pn	05 35 09.6	-2.8
RPZ	Rata Peaks	6.53	212	P	Pn	05 35 10.9	-3.0
GCSZ	Gaunt Creek Bo	6.54	218	P	Pn	05 35 11.3	-2.9
ARCZ	Arundel	6.67	210	P	Pn	05 35 12.2	-3.6
FOZ	Fox Glacier	6.95	219	P	Pn	05 35 16.4	-3.0
LBZ	Lake Benmore	7.44	213	P	Pn	05 35 22.9	-2.8
ODZ	Otahua Downs	7.80	208	P	Pn	05 35 27.7	-2.6
JCZ	Jackson Bay	7.86	220	P	Pn	05 35 26.6	-4.7

WEL 25 05:37:57.0,39°S±2°×17°6E±°, h134km±5km, M2.7/48, MLv2.7/48, Error ellipse: s-maj=0.0km s-min=0.0km az=81.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	Rangitukua	0.11	102	P	Pn	05 38 14.6	-0.5
WATZ	Wairara	0.16	30	P	Pn	05 38 14.6	-0.6
RITZ	Rihia Road	0.22	127	P	Pn	05 38 15.3	0.0
KRVZ	Karewarewa	0.25	179	P	Pn	05 38 15.4	-0.2
TWVZ	Taurewa	0.27	214	P	Pn	05 38 15.5	-0.1
WTVZ	West Tongariro	0.27	187	P	Pn	05 38 15.5	-0.1
TMVZ	Te Maari	0.28	169	P	Pn	05 38 15.7	+0.1
ETVZ	East Tongariro	0.30	168	P	Pn	05 38 15.7	0.0
NGZ	Ngauruhoe	0.33	184	P	Pn	05 38 15.9	+0.1
KUTZ	Kaahu Road	0.38	23	P	Pn	05 38 15.9	0.0
FWVZ	Far West T-bar	0.41	189	P	Pn	05 38 16.4	+0.1
TUVZ	Tukino	0.42	178	P	Pn	05 38 16.5	+0.2
WNVZ	Wahianoa	0.48	183	P	Pn	05 38 16.8	+0.3
PKVZ	Pokaka	0.50	207	P	Pn	05 38 16.8	+0.3
TLZ	Tolley Road	0.52	352	P	Pn	05 38 16.5	-0.1
WPRZ	Whakapapatarin	0.53	52	P	Pn	05 38 19.4	+2.8
MTVZ	Mangateitei	0.55	193	P	Pn	05 38 17.4	+0.5
MOVZ	Moawhango	0.57	171	P	Pn	05 38 16.9	0.0
MRHZ	Matea Rd	0.61	89	P	Pn	05 38 16.7	-0.5
ALRZ	Allen Road	0.62	63	P	Pn	05 38 16.9	-0.3
HIZ	Hauiti	0.69	298	P	Pn	05 38 18.3	+0.6
BHHZ	Black Hill Sta	0.72	153	P	Pn	05 38 18.0	+0.1
VRZ	Vera Road	0.74	247	P	Pn	05 38 18.8	+0.8
BKZ	Black Stump Fm	0.74	116	P	Pn	05 38 18.0	-0.1
KWHZ	Kaweka Forest	0.84	134	P	Pn	05 38 19.3	+0.4
MTHZ	Maungataniwha	0.94	91	P	Pn	05 38 19.8	+0.1
KRHZ	Kereru	0.98	145	P	Pn	05 38 20.8	+0.8
MCHZ	McNeill Hill	1.02	126	P	Pn	05 38 21.8	+1.5
WAZ	Wanganui	1.04	209	P	Pn	05 38 21.9	+1.4
RTZ	Ruatahuna	1.08	78	P	Pn	05 38 21.4	+0.4
TOZ	Tahuroa Road	1.12	355	P	Pn	05 38 22.2	+0.9
RAHZ	Arahi	1.14	94	P	Pn	05 38 22.4	+0.9
LREZ	Lake Rotokare	1.14	237	P	Pn	05 38 23.1	+1.7
PNHZ	Pukenui	1.15	158	P	Pn	05 38 22.6	+0.9
TSZ	Takapari Road	1.24	168	P	Pn	05 38 23.6	+1.0
NEZ	North Egmont	1.27	250	P	Pn	05 38 24.9	+2.0
URZ	Urewera	1.30	64	P	Pn	05 38 23.3	+0.3
PKE	Pukeiti	1.33	254	P	Pn	05 38 25.2	+1.8
SNGZ	Shannon Statio	1.33	88	P	Pn	05 38 25.7	+2.2
KHEZ	Kahui Hut	1.34	250	P	Pn	05 38 25.6	+2.0
DVHZ	Dannevirke	1.51	164	P	Pn	05 38 26.2	+0.8
PXZ	Pawanui	1.52	142	P	Pn	05 38 26.5	+1.0
POWZ	Post Office Ro	1.55	176	P	Pn	05 38 28.5	+2.6
RIGZ	Rimuhau	1.67	86	P	Pn	05 38 28.2	+1.0
PRGZ	Paritu Road	1.76	93	P	Pn	05 38 29.0	+0.8
MHGZ	Mahia Peninsul	1.80	101	P	Pn	05 38 29.7	+1.0
MRZ	Mangatainoka R	1.81	181	P	Pn	05 38 29.7	+0.8
RUGZ	Raukumara Rang	1.83	62	P	Pn	05 38 29.4	+0.2
BFZ	Birch Farm	1.90	166	P	Pn	05 38 31.0	+1.2
OGWZ	Otaki Gorge	2.00	190	P	Pn	05 38 32.0	+0.9
HAZ	Te Kaha	2.01	58	P	Pn	05 38 31.7	+0.5
HOWZ	Holdsworth Sta	2.05	183	P	Pn	05 38 32.2	+0.5
KIW	Kapiti Island	2.09	195	P	Pn	05 38 32.7	+0.6
KUZ	Kuaotunu	2.10	2	P	Pn	05 38 33.6	+1.3
TMWZ	Te Maipa	2.27	175	P	Pn	05 38 34.9	+0.5
CAW	Cannon Point	2.30	191	P	Pn	05 38 35.2	+0.4
MTW	Mount Morrison	2.31	182	P	Pn	05 38 35.1	+0.2
DUWZ	D'Urville Isla	2.36	213	P	Pn	05 38 36.2	+0.7
WMGZ	Waiomatatini S	2.42	66	P	Pn	05 38 36.8	+0.6
MXZ	Matakaoa Point	2.46	60	P	Pn	05 38 38.0	+1.2
TRWZ	Traveller	2.55	179	P	Pn	05 38 38.4	+0.5
TCW	Tory Channel	2.58	203	P	Pn	05 38 38.6	+0.3
MSWZ	Moikau Station	2.58	186	P	Pn	05 38 38.3	-0.1
PLWZ	Palliser	2.74	186	P	Pn	05 38 39.9	-0.4
NNZ	Nelson	2.93	215	P	Pn	05 38 43.1	+0.4
QRZ	Quartz Range	3.10	229	P	Pn	05 38 45.5	+0.5
BSWZ	Blackbirch Sta	3.17	205	P	Pn	05 38 46.2	+0.4
THZ	Tophouse	3.58	215	P	Pn	05 38 51.5	+0.2
GVZ	Greta Valley S	4.56	205	P	Pn	05 39 03.1	-1.2
OKCZ	Okains Bay	5.25	201	P	Pn	05 39 12.2	-1.2
WACZ	Wakanui South	5.84	208	P	Pn	05 39 23.5	+2.3

UPA ***25*** *06:06:22.2±2.1, 9°.50N×84°.37W, h10km±13km, MW3.3*
UCR ***25*** *06:06:23.6±1.1, 9°.93N×84°.19W, h68km±2km, MD3.6*

ISC 25 06:06:23.9±1.4, 9°.95N±0°.05×84°.18W±0°.04, h69km±7km, n41, σ0°68/59, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDC	Heredia	0.09	49	||*iP*	06 06 34.1	-0.1
HDC				*eS*	Sn	06 06 42.1	+0.4
HDC	Heredia	0.09	49	*eP*	Pn	06 06 34.0	-0.1
HDC				*eS*	Sn	06 06 42.3	+0.6
SJS	Escuela Geolog	0.12	93	*eP*	Pn	06 06 34.1	-0.2
SJS				*eS*	Sn	06 06 42.5	+0.7
LCR2	La Lucha 2	0.27	139	*eP*	Pn	06 06 34.5	-0.6
LCR2				*eS*	Sn	06 06 43.2	+0.1
SRA1	San Ramn	0.33	295	*eP*	Pn	06 06 34.8	-0.5
RIMA	Rio Macho	0.36	120	*eP*	Pn	06 06 35.3	-0.4
CVTR	Volcan Turrial	0.42	80	*eP*	Pn	06 06 36.3	-0.2
JACO	JACO, Garabito	0.55	239	*eP*	Pn	06 06 36.5	-0.6
CDM	Cerro de Muert	0.56	133	*eP*	Pn	06 06 37.1	-0.8
CDM				*eS*	Sn	06 06 48.0	0.0
FORC	Fortuna	0.71	317	*iP*	Pn	06 06 38.7	-0.2
FORC				*iS*	Sn	06 06 50.5	+0.6
CASO	Castillo	0.73	312	*iP*	Pn	06 06 38.9	-0.3
CASO				*iS*	Sn	06 06 51.2	+0.8
LAFE	Finca La Fe, P	0.73	259	*eP*	Pn	06 06 39.1	0.0
CEDE	Laguna Cedeo	0.74	316	*eP*	Pn	06 06 39.2	-0.2
CEDE				*iS*	Sn	06 06 51.6	+0.8
PEZE	Perez Zeledon,	0.75	138	*eP*	Pn	06 06 38.9	-0.5
EDDO	Dominical	0.76	156	*eP*	Pn	06 06 39.2	-0.2
EDDO				*eS*	Sn	06 06 51.4	+0.6
COVE	Coope Vega, Sa	0.80	344	*eP*	Pn	06 06 39.2	-0.8
COVE				*eS*	Sn	06 06 51.4	-0.3
TRT1	Tortuguero	0.80	36	*eP*	Pn	06 06 39.9	-0.1
JTS	Las Juntas de	0.83	294	*eP*	Pn	06 06 39.9	-0.5
JTS				*eS*	Sn	06 06 52.9	+0.4
JTS	Las Juntas de	0.83	294	*eP*	Pn	06 06 39.7	-0.7
EDLM	Las Mercedes	0.88	139	*eP*	Pn	06 06 40.8	-0.2
EDLM				*eS*	Sn	06 06 54.1	+0.5
ACAL	Aguas Claras	1.08	309	*iP*	Pn	06 06 43.2	-0.3
ACAL				*iS*	Sn	06 06 58.3	+0.2
PTEN	Parque Tenorio	1.10	314	*iP*	Pn	06 06 43.3	-0.4
DRK0	Durika	1.14	126	||*eP*	Pn	06 06 44.2	-0.2
DRK0				*eS*	Sn	06 06 59.4	-0.3
DRK0	Durika	1.14	126	*eP*	Pn	06 06 44.2	-0.2
EDBA	Buenos Aires	1.18	131	*eP*	Pn	06 06 44.3	-0.5
EDBA				*eS*	Sn	06 07 00.6	+0.2
EDPN	Palmar Norte	1.21	144	*eP*	Pn	06 06 45.3	+0.2
PLVR	Palo Verde	1.22	289	*eP*	Pn	06 06 45.1	-0.3
DUNO	Dulce Nombre,	1.30	276	*eP*	Pn	06 06 45.5	-0.8
ORTG	Ortega, Santa	1.32	288	*eP*	Pn	06 06 46.4	-0.3
GUAI	GUAI	1.35	284	*iP*	Pn	06 06 46.6	-0.3
RIOS	Rincon, Osa	1.40	152	*eP*	Pn	06 06 47.1	-0.5
GRZA	Playa Garza	1.43	269	*eP*	Pn	06 06 46.7	-1.3
BUEV	Buena Vista	1.48	305	*eP*	Pn	06 06 49.8	+1.2
GB1A	Boringuen Arri	1.48	306	*eP*	Pn	06 06 48.5	-0.2
EDSV	San Vito	1.63	133	*eP*	Pn	06 06 50.2	-0.6
PTJ1	Puerto Jimnez	1.65	148	*eS*	Sn	06 07 11.2	+0.1
PTJ1	Puerto Jimnez	1.65	148	*eP*	Pn	06 06 53.9	+3.1
BRU2	Volcan	1.86	128	*eP*	Pn	06 06 54.0	+0.1
BRU2				*eS*	Sn	06 07 14.9	-1.6
BRU2	Volcan	1.86	128	*eP*	Pn	06 06 54.0	+0.1
BC3P	Paso Ancho	1.91	126	*eP*	Pn	06 06 54.7	+0.1
BC3P				*eS*	Sn	06 07 18.4	+0.5
BCO2	Palmira	2.04	127	*eP*	Pn	06 06 56.1	-0.1
BCO2				*eS*	Sn	06 07 20.1	-0.7

IDC ***25*** *06:16:07.7±0.4, 27°.26N×65°.85E, h0km, mb4.7/38, mb1 4.7/41, mb1mx4.6/52, mbtmp4.7/41, ML4.4/3, MS3.9/31, Ms1 3.9/31, ms1mx3.8/46, Error ellipse: s-maj=12.3km s-min=10.3km az=175.0*
BJI ***25*** *06:16:11.4±0.0, 27°.32N×65°.64E, h37km, mB5.2/50, mb5.4/68, Ms4.4/51, Ms7 4.2/47*
MOS ***25*** *06:16:12.0±1.1, 27°.35N×65°.85E, h36km, mb5.3/63, Error ellipse: s-maj=5.5km s-min=3.3km az=84.2*
NEIC ***25*** *06:16:12.5±1.8, 27°.28N±0°.07×65°.73E±0°.07, h31km±3km, mb5.1/138, Ms_20 4.7/58, Error ellipse: s-maj=11.0km s-min=7.3km az=147.0*
UNK ***25*** *06:16:12.2, 27°.25N×65°.73E, h29km*
GCMT ***25*** *06:16:15.5±0.3, 27°.06N±0°.02×65°.85E±0°.02, h48km±2km, MW5.0/94, Moment Tensor Solution. s56,c69; s94,c138; Duration: 1s4 Moment tensor: Scale 10^16 Nm; M_{rr}-1.05±.18; $M_{\theta\theta}$3.61±.15; $M_{\phi\phi}$-2.56±.15; $M_{r\theta}$-1.24±.16; $M_{\theta\phi}$1.89±.13; $M_{\phi r}$2.86±.18; Best double couple: M_o4.75900×10^16 NP1:ϕ_s216.00000°, δ61.00000°, λ-157.00000°. NP2:ϕ_s114.00000°, δ70.00000°, λ-31.00000°. Principal axes: T 4.1870, Plg6.0000°, Azm167.0000°; N 1.1440, Plg53.0000°, Azm265.0000°; P -5.3310, Plg36.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***25*** *06:16:29.2±0.0, 26°.89N×62°.74E, h49km±3km, mb5.2, Ms3.6*

ISC 25 06:16:13.2±0.4, 27°.26N±0°.03×65°.83E±0°.03, h34km±1km, h35km: pP-P, n677, σ1.9±51/757, mb5.1/179, MS4.2/71, 26C-23D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	Jaisalmer	4.54	93	*eP*	Pn	06 17 22.7	+3.2
BHUJ	Bhuj	5.28	138	*eP*	Pn	06 17 33.0	+3.2
BHUJ				*eS*	Sn	06 18 28.9	-0.5
THW	Thamme Wali	7.53	41	P	Pn	06 18 00.9	+0.2
SARP	Sargodha	7.56	50	P	Pn	06 18 00.9	-0.1
WSAR	Wadi Sarin	7.64	240	Pn	Pn	06 18 01.4	-0.8
	15nm,0.3s,baz=109,slow=8.2,SNR=106						
WSAR				Sn	Sn	06 19 14.7	-13
	76nm,0.3s,baz=3.6,slow=3.9,SNR=18						
WSAR				LR	LR	06 21 54.7	
	comp=Z,1μm,18.4s,baz=86,slow=45						
WSAR	Wadi Sarin	7.64	240	P	Pn	06 18 01.4	-0.8
	SNR=107						
WSAR				S	Sn	06 19 16.9	-11
JLN	Jalan Bani Buh	7.74	230	P	Pn	06 18 03.6	+0.1
	SNR=27						
JLN				S	Sn	06 19 20.8	-9.2
HRA	Herat	7.75	337	Pn	Pn	06 18 04.3	+0.5
WBK	Wadi Bani Khal	7.75	235	P	Pn	06 18 03.9	+0.2
	SNR=262						
WBK				S	Sn	06 19 20.1	-10
KBL	Kabul	7.77	20	P	Pn	06 18 04.8	+0.8
	SNR=20						
KBL				S	Sn	06 19 29.2	-1.7
KBL	Kabul	7.77	20	P	Pn	06 18 04.9	+0.8
KBL						06 19 28.5	
KBL	Kabul	7.77	20	Pn	Pn	06 18 04.9	+0.8
KBL				Sn	Sn	06 19 28.5	-2.4
BIDO	Bidbid	7.89	244	P	Pn	06 18 06.0	+0.3
	SNR=15						
BIDO				S	Sn	06 19 24.3	-9.5
AJM	Ajmer	7.91	94	||*ix*	Pn	06 18 07.0	+1.1
AJM				*i* S	Sn	06 19 30.0	-4.3
SMDO	Samad	8.19	241	P	Pn	06 18 09.9	+0.1
	SNR=28						
SMDO				S	Sn	06 19 29.8	-11
C

KSH pmax pmax
comp=Z,76nm,0.7s
KSH pmax pmax
comp=Z,350nm,7.1s
KSH LR LR
comp=Z,1μm,10.9s
KSH LR LR
comp=Z,670nm,8.1s
KSH LR LR
comp=Z,570nm,12.8s
RPR Rampur 14.94 121 *e*P **Pn 06 19 42.4 +0.4**
PYUN Piuthan 15.23 83 *e*P **Pn 06 19 44.0 -2.0**
comp=Z,564nm,0.6s
IUG Iuzhnay 15.25 12 *i* P **Pn 06 19 44.1 -1.9**
comp=Z,82nm,1.2s,baz=13
IUG Iuzhnay 15.25 12 *i* P **Pn 06 19 44.1 -1.9**
IUG pmax pmax
comp=Z,82nm,1.2s
HYBB Hyderabad (bro 15.30 127 *e*P **Pn 06 19 47.3 +0.5**
HYB Hyderabad 15.30 127 *i* P **Pn 06 19 46.0 -0.8**
HYB *e*S **Sn 06 22 25.0 -10**
CUPL Choutuppal 15.64 127 *e*P **Pn 06 19 52.2 +0.9**
KOLN Koldanda 15.78 84 *e*P **Pn 06 19 51.0 -2.1**
comp=Z,485nm,1.0s
DANN Dangsing 15.91 82 *e*P **Pn 06 19 53.2 -1.7**
comp=Z,1μm,0.8s
AML Almayashu 16.18 21 P **Pn 06 19 56.2 -2.0**
SNR=56
URV Uravakonda 16.23 137 *e*P **Pn 06 19 58.8 0.0**
DZA Taraz 16.23 15 *e*P **Pn 06 19 57.2 -1.4**
comp=Z,19nm,0.8s,baz=16
DZA Taraz 16.23 15 *e*P **Pn 06 19 57.1 -1.5**
DZA pmax pmax
comp=Z,19nm,0.8s
GGR Gangavaram 16.25 122 *e*P **Pn 06 19 59.4 +0.4**
KK31 Karatay Array 16.26 12 *i* P **Pn 06 19 56.1 -2.9**
KK31 Karatay Array 16.26 12 Pn 06 19 56.9 -2.1
KKAR Karatay Array 16.26 12 P **Pn 06 19 56.6 -2.4**
KKAR pmax pmax
comp=Z,42nm,1.0s
KKAR Karatay Array 16.26 12 Pn 06 19 56.7 -2.3
KKAR Karatay Array 16.26 12 Pn 06 19 56.6 -2.4
NJS Nagarjunasagar 16.41 128 *e*P **Pn 06 20 01.1 0.0**
SRLM Srisailam 16.44 130 *e*P **Pn 06 20 01.3 -0.1**
UCH Uchtor 16.54 23 P **Pn 06 20 01.2 -1.7**
SNR=51
KZA Kyzart 16.68 25 P **P 06 20 08.3 +1.6**
SNR=31
EKS2 Erkin-Say 16.68 21 P **Pn 06 20 03.1 -1.3**
SNR=15
GKN Gorkha 16.69 83 *e*P **Pn 06 20 01.9 -2.8**
comp=Z,771nm,1.1s
AAK Ala-Archa 16.89 22 Pn **Pn 06 20 05.8 -1.4**
comp=Z,2.9nm,0.3s,baz=205,slow=7.7,SNR=28
AAK Sn Sn 06 23 00.7 -13
comp=Z,1.4nm,0.3s,baz=343,slow=18,SNR=8.8
AAK LR LR 06 26 37.3
comp=Z,330nm,21.8s,baz=218,slow=37
AAK Ala-Archa 16.89 22 P **Pn 06 20 06.6 -0.5**
SNR=16
AAK Ala-Archa 16.89 22 *i* P **Pn 06 20 05.9 -1.2**
SNR=36
AAK Ala-Archa 16.89 22 *d* P **Pn 06 20 05.7 -1.4**
AAK pmax pmax
comp=Z,197nm,1.3s
KBK Karagaybulak 17.07 23 P **Pn 06 20 08.3 -1.0**
SNR=32
FRU1 Bishkek 17.09 23 P **Pn 06 20 09.3 -0.2**
FRU1 pmax pmax
comp=Z,92nm,1.2s
FRU1 Bishkek 17.09 23 Pn 06 20 09.3 -0.2
DMN Daman 17.12 84 *e*P **Pn 06 20 08.1 -2.1**
ULHL Ulahol 17.21 27 P **P 06 20 14.7 +2.3**
SNR=17
MYLAV Mylavaram 17.24 124 *e*P **P 06 20 12.3 -0.4**
KKN Kakani 17.27 84 *e*P **Pn 06 20 09.6 -2.3**
comp=Z,329nm,0.8s
BOOM Boomskoye usch 17.29 26 P **Pn 06 20 10.9 -1.2**
BOOM pmax pmax
comp=Z,62nm,0.8s
BOOM Boomskoye usch 17.29 26 P **Pn 06 20 10.9 -1.2**
CHMS Chumysh 17.30 23 P **Pn 06 20 11.6 -0.5**
SNR=16
ADKI Addanki 17.36 128 *e*P **Pn 06 20 13.1 +0.2**
PKIN Phulchoki 17.38 84 *e*P **Pn 06 20 11.1 -2.3**
comp=Z,266nm,0.7s
PKI Pulchoki 17.39 84 *e*P **Pn 06 20 11.1 -2.5**
comp=Z,200nm,0.7s
USP Ospenovka 17.45 22 P **Pn 06 20 13.5 -0.5**
SNR=26
TARG Taragay, Kyrgy 17.46 31 P **P 06 20 15.1 -0.3**
KDJ Kajisay 17.50 29 P **Pn 06 20 14.1 -0.6**
KDJ pmax pmax
comp=Z,284nm,1.0s
KDJ Kajisay 17.50 29 Pn 06 20 14.1 -0.6
KDJ IAmb IAmb 06 20 19.2
comp=Z,284nm,1.0s
TKM2 Tokmak 2 17.53 24 P **Pn 06 20 13.8 -1.3**
SNR=46
SGDS Sogindy 17.66 22 *e*P **Pn 06 20 15.4 -1.2**
comp=Z,84nm,1.7s,baz=22
SGDS LR LR 06 25 30.0
comp=Z,191nm,11.8s,baz=22
SGDS Sogindy 17.66 22 *e*P **Pn 06 20 15.3 -1.2**
SGDS pmax pmax
comp=Z,84nm,1.7s
SGDS MLR MLR
comp=Z,191nm,12.0s
PVM Polavaram 17.67 121 *e*P **P 06 20 17.5 +0.1**
GUN Gumba 17.79 83 *e*P **Pn 06 20 16.6 -2.0**
comp=Z,874nm,0.7s
MTBS Maitube 18.03 26 *e*P **Pn 06 20 20.2 -0.9**
baz=27
MTBS Maitube 18.03 26 *e*P **Pn 06 20 20.2 -0.9**
JIRN Jiri 18.08 84 *e*P **Pn 06 20 20.5 -1.6**
comp=Z,2μm,1.0s
TNSS Tian-Shan 18.15 27 *e*P **Pn 06 20 21.9 -1.1**
baz=28
TNSS Tian-Shan 18.15 27 *e*P **Pn 06 20 21.8 -1.1**
AAA Alma-Ata 18.28 27 *e*P **P 06 20 23.4 -0.7**
comp=Z,78nm,1.1s,baz=27
AAA *e*S **Sn 06 23 46.1 -1.2**
baz=27
AAA Alma-Ata 18.28 27 *e*P **P 06 20 23.4 -0.7**
AAA *e*S **Sn 06 23 46.1 -1.2**
AAA pmax pmax
comp=Z,78nm,1.1s
MDOK Medeo 18.30 27 *e*P **P 06 20 23.9 -0.5**
baz=28
MDOK *e*S **Sn 06 23 46.8 -1.1**
baz=28
MDOK Medeo 18.30 27 *e*P **P 06 20 23.9 -0.5**
MDOK *e*S **Sn 06 23 46.7 -1.1**
PRZ Przheval'sk 18.33 31 P **Pn 06 20 25.9 +1.0**
PRZ pmax pmax
comp=Z,177nm,0.9s
PRZ Przheval'sk 18.33 31 P **Pn 06 20 25.9 +1.0**
PRZ IAmb IAmb 06 20 27.6
comp=Z,177nm,0.8s
BOK Bokaro 18.43 96 *e*P **Pn 06 20 27.2 +1.1**
RAMN Ramite 18.50 86 *e*P **P 06 20 25.6 -1.2**
comp=Z,297nm,0.7s
KUU Kurty 18.64 24 *e*P **P 06 20 27.9 -0.1**
comp=Z,128nm,2.5s,baz=25
KUU *e*S **Sn 06 23 55.2 -0.7**
baz=25
KUU Kurty 18.64 24 *e*P **P 06 20 27.9 -0.1**
KUU *e*S **Sn 06 23 55.2 -0.7**
KUU pmax pmax
comp=Z,128nm,2.5s
SOCY Socotra 18.66 219 P **P 06 20 21.5 -6.9**
SKHT Srikalahasti 18.68 133 *e*P **Pn 06 20 29.9 +0.8**
SATY Saty 18.79 30 *e*P **P 06 20 29.7 0.0**
comp=Z,96nm,2.5s,baz=30
SATY Saty 18.79 30 *e*P **P 06 20 29.7 0.0**
SATY pmax pmax
comp=Z,96nm,2.5s
CHLP Challavanipeta 18.90 114 *e*P **Pn 06 20 31.5 -0.3**
BTLS Baital 18.93 18 *e*P **P 06 20 30.4 -0.8**
comp=Z,16nm,1.7s,baz=19
BTLS *e*S **Sn 06 24 01.3 -1.5**
baz=19
BTLS Baital 18.93 18 *e*P **P 06 20 30.3 -0.8**
BTLS *e*S **Sn 06 24 01.2 -1.5**
BTLS pmax pmax
comp=Z,16nm,1.7s

UZB Uzynbulak 19.13 31 *e*P **P 06 20 33.4 -0.1**
comp=Z,76nm,1.6s,baz=31
UZB *e*S **Sn 06 24 06.8 -1.2**
baz=31
UZB Uzynbulak 19.13 31 *e*P **P 06 20 33.4 -0.1**
UZB *e*S **Sn 06 24 06.7 -1.2**
UZB pmax pmax
comp=Z,76nm,1.6s
ODAN Odare 19.21 86 *e*P **P 06 20 35.0 +0.4**
comp=Z,820nm,0.8s
TAPN Taplejung 19.45 85 *e*P **Pn 06 20 38.2 -0.4**
comp=Z,411nm,0.8s
PDGK Podgornoye 19.49 31 P **P 06 20 35.3 -2.1**
MDRS Chennai 19.53 133 *e*P **Pn 06 20 41.1 +1.8**
MDRS IAmb IAmb 06 20 42.8
comp=Z,48nm,1.0s
GTK Tadong 20.24 85 *e*P Pn 06 20 48.7 +0.9
TDK Taldyqorghan 20.37 26 *e*P **P 06 20 46.3 -0.6**
baz=27
TDK *e*S **S 06 24 32.2 -1.0**
baz=27
TDK LR LR 06 27 01.1
comp=Z,300nm,12.4s,baz=27
TDK Taldyqorghan 20.37 26 *e*P **P 06 20 46.3 -0.6**
TDK *e*S **S 06 24 32.2 -1.0**
TDK MLR MLR
comp=Z,300nm,12.0s
AKT Akhty 20.54 318 *e*P **P 06 20 48.1 -0.8**
AKT *e* 06 21 06.5
AKT *e*S **S 06 24 37.4 +0.5**
AKT pmax pmax
comp=Z,283nm,1.0s
MAK Makhachkala 21.61 321 *e*P **P 06 20 59.2 -1.0**
MAK *e* 06 21 19.9
MAK *e*S **S 06 24 57.1 -0.6**
MAK pmax pmax
comp=Z,152nm,0.8s
MAK MLR MLR
comp=Z,175nm,11.0s
GEVA Gevas 22.03 306 P **P 06 21 05.1 +0.1**
GEVA IAmb IAmb 06 21 21.6
comp=Z,86nm,1.0s
LSA Lhasa 22.38 78 P **P 06 21 11.3 +2.2**
LSA S **S 06 25 14.4 +1.0**
LSA LR LR
comp=Z,950nm,15.0s
LSA LR LR
comp=Z,1μm,19.2s
LSA LR LR
comp=Z,2μm,22.8s
LSA Lhasa 22.38 78 P **P 06 21 11.4 +2.2**
LSA pmax pmax
comp=Z,178nm,0.9s
LSA MLR MLR
comp=Z,500nm,22.0s
LSA Lhasa 22.38 78 P **P 06 21 11.4 +2.2**
AB31 Akbulak array 22.43 350 *i* P **P 06 21 08.4 -0.5**
ABKAR Akbulak array 22.43 350 P **P 06 21 08.8 -0.1**
GROC Groznyy 22.73 320 *e*P **P 06 21 10.8 -1.4**
GROC *e* 06 21 34.2
GROC *e*S **S 06 25 16.9 -1.6**
GROC pmax pmax
comp=Z,217nm,0.8s
AKH Akhalkalaki 23.14 313 ⇑P **P 06 21 17.5 +0.9**
AKH Akhalkalaki 23.14 313 P **P 06 21 16.4 -0.2**
AKH pmax pmax
comp=Z,83nm,1.2s
AKH Akhalkalaki 23.14 313 P **P 06 21 16.4 -0.2**
AKH IAmb IAmb 06 21 35.4
comp=Z,83nm,1.2s
BRZS Berezniki 23.29 11 *e*P **P 06 21 17.6 -0.3**
comp=Z,40nm,0.9s,baz=12
BRZS Berezniki 23.29 11 *e*P **P 06 21 17.5 -0.3**
BRZS pmax pmax
comp=Z,40nm,0.9s
MAKZ Makanchi 23.30 29 P **P 06 21 17.0 -1.0**
MAKZ pmax pmax
comp=Z,73nm,0.9s
MAKZ Makanchi 23.30 29 P **P 06 21 17.0 -1.0**
MAKZ IAmb IAmb 06 21 31.9
comp=Z,73nm,0.8s
MARD Mardin 23.37 302 P **P 06 21 18.3 -0.6**
MARD IAmb IAmb 06 21 43.0
comp=Z,98nm,1.2s
SHL Shillong 23.39 88 *e*P **P 06 21 19.6 +0.4**
SHL IAmb IAmb 06 21 21.4
comp=Z,42nm,0.8s
SHL Shillong 23.39 88 P **P 06 21 19.6 +0.4**
SHL IAmb IAmb 06 21 21.2
comp=Z,90nm,0.9s
SHL **S 06 25 33.9 +3.7**
MK31 Makanchi Array 23.43 29 *i* P **P 06 21 17.5 -1.8**
MK31 Makanchi Array 23.43 29 P **P 06 21 19.4 +0.2**
MK31 IAmb IAmb 06 21 20.6
comp=Z,56nm,0.8s
MKAR Makanchi Array 23.43 29 P **P 06 21 18.2 -1.1**
comp=Z,52nm,0.7s,baz=212,slow=8.5,SNR=240
MKAR PcP **PcP 06 25 05.2 +0.4**
comp=Z,4.1nm,0.9s,baz=202,slow=1.6,SNR=4.4
MKAR Makanchi Array 23.43 29 P **P 06 21 18.3 -0.9**
MKAR **PcP 06 25 03.3 -1.5**
ZEI Tsey 23.62 317 *e*P **P 06 21 20.6 -0.7**
ZEI pmax pmax
comp=Z,34nm,0.8s
DAMY Dhamar 23.62 242 P **P 06 21 24.3 +2.6**
DAMY IAmb IAmb 06 21 37.6
comp=Z,100nm,0.9s
AKTO Aktyubinsk 23.90 348 P **P 06 21 23.4 -0.4**
comp=Z,13nm,0.7s,baz=163,slow=7.0,SNR=24
AKTO LR LR 06 32 02.6
comp=Z,571nm,21.1s,baz=162,slow=40
WMQ Urumqi 24.17 41 P **P 06 21 27.0 +0.6**
WMQ pP pP 06 21 34.3 -2.3
WMQ sP sP 06 21 37.1 -3.8
WMQ S **S 06 25 40.8 -1.5**
WMQ sS sS 06 25 59.0 -0.2
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,330nm,3.7s
WMQ LR LR
comp=Z,280nm,10.3s
WMQ LR LR
comp=Z,200nm,12.5s
WMQ Urumqi 24.17 41 P **P 06 21 27.7 +1.3**
WMQ pmax pmax
comp=Z,210nm,0.8s
WMQ Urumqi 24.17 41 P **P 06 21 27.7 +1.3**
CHVG Ch'k'valeri 24.71 315 ⇑P **P 06 21 36.9 +5.7**
KBZ Khabaz 24.75 318 P **P 06 21 32.2 +0.7**
comp=Z,12nm,0.8s,baz=120,slow=11,SNR=15
KBZ Khabaz 24.75 318 *ce*P **P 06 21 32.5 +1.0**
KBZ pmax pmax
comp=Z,15nm,0.9s
KVAR Kislovodsk Arr 25.00 318 LR LR 06 33 32.1
comp=Z,104nm,20.4s,baz=344,slow=42
KIV Kislovodsk 25.00 318 ⇑P **P 06 21 34.9 +1.0**
KIV Kislovodsk 25.00 318 *e*P **P 06 21 35.0 +1.0**
KIV *e*S **S 06 25 57.6 +1.9**
KIV pmax pmax
comp=Z,179nm,1.0s
KIV pmax pmax
comp=Z,90nm,4.4s
KIV Kislovodsk 25.00 318 P **P 06 21 34.7 +0.8**
KIV IAmb IAmb 06 21 51.3
comp=Z,81nm,1.0s
SAIH SAIHA 25.07 95 *e*P **P 06 21 37.0 +2.2**
ZSN Zaisan 25.08 31 *e*P **P 06 21 34.4 -0.2**
comp=Z,20nm,0.9s,baz=32
ZSN *e*S **S 06 25 56.7 0.0**
baz=32
ZSN LR LR 06 30 48.3
comp=Z,88nm,9.1s,baz=32
ZSN Zaisan 25.08 31 *e*P **P 06 21 34.3 -0.2**
ZSN *e*S **S 06 25 56.7 0.0**
ZSN pmax pmax
comp=Z,20nm,0.9s
ZSN MLR MLR
comp=Z,89nm,9.0s
KURBB Kurchatov Arra 25.27 19 P **P 06 21 36.2 +0.1**
comp=Z,30nm,1.0s,baz=208,slow=9.0,SNR=80
KOHI KOHIMA 25.34 87 *e*P **P 06 21 38.8 +1.6**
KURK Kurchatov 25.38 19 *d* P **P 06 21 37.0 -0.1**
KURK pmax pmax
comp=Z,55nm,1.3s

KURK Kurchatov 25.38 19 P **P 06 21 37.0 -0.1**
KURK IAmb IAmb 06 21 39.4
comp=Z,38nm,1.0s
GOF Gofitskoye 25.43 320 ⇑*e*P **P 06 21 38.0 +0.3**
GOF pmax pmax
comp=Z,105nm,0.9s
ASF Jabal al Asfar 25.56 288 P **P 06 21 39.7 +0.6**
comp=Z,4.1nm,0.8s,baz=274,slow=19,SNR=2.3
ASF LR LR 06 33 37.8
comp=Z,321nm,18.5s,baz=56,slow=41
BVAR Borovoye Array 25.96 6 P **P 06 21 42.7 +0.3**
comp=Z,15nm,0.7s,baz=169,slow=16,SNR=37
BVAR PcP **PcP 06 25 10.1 -0.1**
comp=Z,5.1nm,0.8s,baz=153,slow=13,SNR=4.5
BRVK Borovoye 25.99 6 *d* P **P 06 21 42.5 -0.1**
BRVK pmax pmax
comp=Z,64nm,1.3s
BRVK Borovoye 25.99 6 P **P 06 21 42.4 -0.2**
BRVK IAmb IAmb 06 22 03.2
comp=Z,60nm,1.0s
SOC Sochi 26.64 315 *e*P **P 06 21 55.0 +6.4**
SOC *e*PPP PPP 06 22 41.9
SOC *e*SS 06 27 28.6
SOC *e*SSS SSS 06 27 44.0
ATD Arta Tunnel 26.66 239 LR LR 06 33 17.2
comp=Z,200nm,18.1s,baz=50,slow=39
MMAI Mount Meron Ar 26.88 290 P **P 06 21 51.8 +0.8**
comp=Z,4.3nm,0.8s,baz=13,slow=41,SNR=3.1
MMAI PcP **PcP 06 25 13.0 +0.2**
comp=Z,5.0nm,0.7s,baz=88,slow=5.9,SNR=3.8
MMAI LR LR 06 34 21.1
comp=Z,359nm,21.8s,baz=115,slow=41
EIL Elat 27.21 282 P **P 06 21 55.1 +1.2**
comp=Z,4.1nm,1.0s,baz=51,slow=17,SNR=1.5
EIL LR LR 06 34 58.3
comp=Z,412nm,21.8s,baz=97,slow=42
DGZ Jazzator, Alta 27.89 31 *d* P **P 06 22 00.6 +0.6**
DGZ pmax pmax
comp=Z,24nm,0.9s
ANN Anapa 28.66 315 *e*P **P 06 22 05.2 -1.5**
ANN *e*S **S 06 26 51.7 -1.5**
ANN pmax pmax
comp=Z,176nm,1.3s
DGPR DIGLIPUR 28.95 114 *e*P **P 06 22 12.6 +3.1**
DGPR IAmb IAmb 06 22 15.2
comp=Z,39nm,1.1s
BRTR Keskin Array B 29.42 303 P **P 06 22 14.0 +0.2**
comp=Z,0.4nm,0.4s,baz=51,slow=30,SNR=1.5
BRTR PcP **PcP 06 25 18.8 -0.3**
comp=Z,5.3nm,0.8s,baz=124,slow=6.3,SNR=7.9
BRTR Keskin Array B 29.42 303 P **P 06 22 13.1 -0.7**
ARU Arti 29.61 352 P **P 06 22 14.2 -0.8**
comp=Z,3.3nm,0.2s,baz=178,slow=6.7,SNR=19
ARU LR LR 06 35 26.9
comp=Z,617nm,19.5s,baz=158,slow=39
ARU Arti 29.61 352 *c i* P **P 06 22 15.2 +0.2**
ARU 06 23 07.6
ARU S **S 06 27 11.0 +3.1**
ARU SS **SnSn 06 28 39.0 +1.0**
ARU pmax pmax
comp=Z,14nm,0.7s
ARU MLR MLR
comp=Z,589nm,18.0s
ARU Arti 29.61 352 P **P 06 22 14.5 -0.5**
ARU IAmb IAmb 06 22 16.8
comp=Z,18nm,0.7s
SVE Sverdlovsk 29.78 354 *e*P **P 06 22 16.7 +0.2**
SVE pmax pmax
comp=Z,26nm,1.3s
ZAA0 Zalesovo Array 30.12 23 P **P 06 22 18.8 -0.7**
ZAA0 IAMs_20 IAMs_20 06 36 17.2
comp=Z,448nm,21.0s
ZALV Zalesovo Beam 30.12 23 P **P 06 22 18.5 -1.0**
comp=Z,14nm,0.7s,baz=224,slow=9.4,SNR=38
ZALV LR LR 06 36 28.5
comp=Z,316nm,20.4s,baz=212,slow=40
ZALV Zalesovo Beam 30.12 23 P **P 06 22 18.9 -0.6**
GTA Gaotai 30.70 58 ⇓P **P 06 22 26.8 +1.8**
GTA pP pP 06 22 34.5 -0.7
GTA sP sP 06 22 38.5 -1.0
GTA pmax pmax
comp=Z,100nm,0.8s
GTA pmax pmax
comp=Z,200nm,4.1s
GTA LR LR
comp=Z,160nm,15.3s
GTA LR LR
comp=Z,330nm,18.9s
GTA LR LR
comp=Z,470nm,20.4s
MHMT Maesarieng 30.89 100 P **P 06 22 28.8 +2.1**
VSR Storozhevoye 31.29 327 *e*P **P 06 22 30.0 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 31.54 98 P **P 06 22 33.9 +1.5**
CHTO pmax pmax
comp=Z,109nm,1.0s
CHTO MLR MLR
comp=Z,200nm,19.0s
CHTO Chiang Mai 31.54 98 P **P 06 22 33.9 +1.5**
CMMT Chiang Mai 31.54 98 P **P 06 22 34.0 +1.5**
CM13 Chiang Mai Arr 31.65 99 P **P 06 22 35.1 +1.7**
CM15 Chiang Mai Arr 31.66 99 P **P 06 22 35.1 +1.7**
CM31 Chiang Mai Arr 31.67 99 P **P 06 22 35.0 +1.4**
CMAR Chiang Mai Arr 31.67 99 P **P 06 22 34.3 +0.7**
comp=Z,37nm,1.0s,baz=302,slow=7.6,SNR=135
CMAR PcP **PcP 06 25 24.6 -0.5**
comp=Z,4.9nm,0.8s,baz=287,slow=5.0,SNR=5.6
CMAR LR LR 06 37 50.4
comp=Z,134nm,19.1s,baz=318,slow=41
CMAR Chiang Mai Arr 31.67 99 P **P 06 22 34.5 +0.9**
CM02 Chiang Mai Arr 31.68 99 P **P 06 22 35.3 +1.6**
CM05 Chiang Mai Arr 31.69 99 P **P 06 22 35.4 +1.6**
CM09 Chiang Mai Arr 31.72 99 P **P 06 22 35.7 +1.6**
CM04 Chiang Mai Arr 31.72 99 P **P 06 22 35.7 +1.6**
PAYA Payao 32.16 97 P **P 06 22 39.3 +1.4**
LPSR Galich'ya Gora 32.30 329 *e*P **P 06 22 40.3 +1.5**
LPSR pmax pmax
comp=Z,20nm,0.7s
CRAI Chiangrai 32.31 95 P **P 06 22 41.3 +2.0**
SUKH Sukhothai 32.65 100 P **P 06 22 44.0 +1.9**
PHRA Phrae 32.79 98 P **P 06 22 45.1 +1.7**
KMI Kunming 33.12 85 ⇓*e*P **P 06 22 47.8 +1.3**
KMI pP pP 06 22 55.3 -1.5
KMI sP sP 06 22 59.6 -1.5
KMI pmax pmax
comp=Z,74nm,0.9s
KMI Kunming 33.12 85 P **P 06 22 47.6 +1.1**
KMI pmax pmax
comp=Z,59nm,0.8s
KMI Kunming 33.12 85 P **P 06 22 47.6 +1.1**
CD2 Chengdu 33.24 75 P **P 06 22 48.0 +0.7**
CD2 pP pP 06 22 57.1 -0.5
CD2 sP sP 06 23 01.1 -0.8
CD2 S **S 06 28 06.6 +1.3**
CD2 pmax pmax
comp=Z,140nm,0.9s
CD2 pmax pmax
comp=Z,150nm,5.5s
CD2 LR LR
comp=Z,630nm,22.3s
CD2 LR LR
comp=Z,370nm,19.3s
CD2 LR LR
comp=Z,440nm,19.9s
UTHA Uthaitani 33.29 104 P **P 06 22 50.3 +2.6**
UTTA Uttaradit 33.36 99 P **P 06 22 50.1 +1.8**
LZH Lanzhou 33.36 65 *e*P **P 06 22 50.3 +1.9**
LZH pP sP 06 23 04.3 +1.2
LZH sP pP 06 23 09.6 +11
LZH PP **PP 06 24 06.5 +2.3**
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.2s
LZH LR LR
comp=Z,280nm,14.4s
LZH LR LR
comp=Z,470nm,13.9s
LZH LR LR
comp=Z,330nm,14.8s
PHIT Phitsanulok 33.45 100 P **P 06 22 51.7 +2.5**
SRDT SRDT 33.55 106 P **P 06 22 53.0 +2.9**
PHET Kaeng Krachan 34.67 108 P **P 06 23 02.7 +2.9**
MOS Moscow 34.98 332 *e*P **P 06 23 02.0 +0.1**

MOS pmax pmax
comp=Z,40nm,1.1s
OBN Obninsk 35.01 331 *e*P **P 06 23 03.8 +1.6**
OBN *e* 06 24 19.9
OBN *e*PPP PPP 06 24 34.5
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,217nm,20.0s
SLVN Son La 35.11 91 P **P 06 23 05.5 +1.8**
SANT Santorini 35.28 295 ⇑P P 06 23 15.9 +11
CHAI Chaiyaphum 35.35 101 P **P 06 23 07.8 +2.2**
NONG Nongkai 35.52 97 P **P 06 23 08.1 +1.0**
IDI Anoyia 35.69 293 P **P 06 23 09.6 +1.1**
comp=Z,4.1nm,0.6s,baz=53,slow=10,SNR=2.0
IDI Anoyia 35.69 293 ⇑P P 06 23 22.1 +14
IDI Anoyia 35.69 293 P **P 06 23 07.0 -1.5**
IDI IAmb IAmb 06 23 22.4
comp=Z,33nm,1.0s
PATY Pattaya 35.72 107 P **P 06 23 11.0 +2.2**
SORM Soroca 35.76 316 ⇑P **P 06 23 08.3 -0.5**
SORM Soroca 35.76 316 ⇑P **P 06 23 08.3 -0.5**
KHON Khomkaen 35.90 100 P **P 06 23 11.9 +1.5**
MOY Mondy 35.94 38 *e*P **P 06 23 11.5 +1.0**
MOY pmax pmax
comp=Z,44nm,1.5s
PLOR Plostina 36.09 311 ⇓P P 06 23 25.4 +14
SRAK Srakaew 36.22 104 P P 06 23 19.3 +6.2
AKASG Malin Array Be 36.29 320 P **P 06 23 11.8 -1.5**
comp=Z,1.8nm,0.5s,baz=120,slow=7.7,SNR=6.0
AKASG PcP **PcP 06 25 36.3 -1.4**
comp=Z,7.8nm,0.7s,baz=89,slow=2.8,SNR=16
AKASG LR LR 06 43 12.1
comp=Z,62nm,18.6s,baz=100,slow=45
AKASG Malin Array Be 36.29 320 P **P 06 23 11.8 -1.5**
AKBB Malin Array Si 36.29 320 *c*eP **P 06 23 14.1 +0.8**
AKBB Malin Array Si 36.29 320 P **P 06 23 12.6 -0.7**
AKBB IAmb IAmb 06 23 26.4
comp=Z,16nm,0.6s
GYA Guiyang 36.33 82 ⇓P **P 06 23 14.5 +0.4**
GYA pP sP 06 23 30.1 +1.4
GYA sS sS 06 29 17.0 +7.0
GYA pmax pmax
comp=Z,63nm,0.9s
GYA pmax pmax
comp=Z,150nm,3.5s
GYA LR LR
comp=Z,81nm,3.8s
GYA LR LR
comp=Z,64nm,5.7s
GYA LR LR
comp=Z,96nm,7.3s
MLR Muntele Rosu 36.46 311 P **P 06 23 13.9 -1.1**
MLR pP **sP 06 23 30.0 +0.5**
ZAK Zakamensk 36.64 41 *e*P **P 06 23 17.2 +0.7**
ZAK pmax pmax
comp=Z,13nm,1.4s
BIZ Bicaz 36.78 313 ⇑P P 06 23 31.1 +14
PRGR Permogore 36.94 344 *e*P **P 06 23 16.2 -2.5**
PRGR *e**SP **sP 06 23 32.4 -0.9**
PRGR *e* 06 25 35.0
DOPR Dopca 36.96 311 ⇓P **P 06 23 20.1 +0.9**
VOIR 37.05 310 ⇑P P 06 23 33.8 +14
MLSI Meulaboh, Aceh 37.06 123 P **P 06 23 22.3 +2.0**
comp=Z,149nm,0.9s
ARR Arges 37.31 310 ⇑P P 06 23 27.2 +5.0
TLY Talaya 37.41 39 *e*P **P 06 23 24.8 +1.9**
TLY *e*PPP PPP 06 24 54.1
TLY *e*S **S 06 29 07.3 -1.4**
TLY pmax pmax
comp=Z,34nm,0.9s
TLY MLR MLR
comp=Z,965nm,18.0s
TLY Talaya 37.41 39 P **P 06 23 24.6 +1.8**
TLY IAmb IAmb 06 23 25.5
comp=Z,17nm,0.9s
TLY IAMs_20 IAMs_20 06 41 28.8
comp=Z,422nm,22.0s
TRTT Trang 37.43 115 P **P 06 23 25.4 +2.0**
XAN Xi'an 37.47 69 P **P 06 23 24.3 +0.6**
XAN pmax pmax
comp=Z,110nm,1.1s
XAN LR LR
comp=Z,140nm,19.5s
XAN LR LR
comp=Z,320nm,23.9s
XAN LR LR
comp=Z,540nm,23.9s
XAN Xi'an 37.47 69 P **P 06 23 24.1 +0.4**
XAN pmax pmax
comp=Z,79nm,0.9s
XAN MLR MLR
comp=Z,400nm,22.0s
XAN Xi'an 37.47 69 P **P 06 23 24.1 +0.4**
XAN Xi'an 37.47 69 IAMs_20 IAMs_20 06 41 24.8
comp=Z,362nm,22.0s
BURAR Bucovina Array 37.56 314 ⇑P **P 06 23 25.0 +0.7**
BURAR Bucovina Array 37.56 314 ⇑P **P 06 23 25.0 +0.7**
BURAR Bucovina Array 37.56 314 P **P 06 23 24.1 -0.3**
BUR08 Bucovina Ar. S 37.58 314 P **P 06 23 23.7 -0.8**
BUR08 IAmb IAmb 06 23 38.7
comp=Z,23nm,0.7s
SONM Songino Array 37.60 46 P **P 06 23 25.5 +0.8**
comp=Z,19nm,0.9s,baz=248,slow=8.6,SNR=80
SONM PP **PnPn 06 24 56.0 +4.1**
comp=Z,18nm,1.0s,baz=239,slow=11,SNR=8.5
SONM LR LR 06 41 55.8
comp=Z,841nm,20.2s,baz=240,slow=41
SONM Songino Array 37.60 46 P **P 06 23 25.6 +0.8**
KLMR Klimovskoe 38.01 339 *e*P **P 06 23 25.3 -2.5**
KLMR *e* 06 24 51.7
KLMR pmax pmax
comp=Z,54nm,1.2s
KLMR Klimovskoe 38.01 339 *e*P **P 06 23 25.4 -2.4**
KLMR AMP 06 23 28.9
comp=Z,54nm,1.2s
KLMR *e*PP **PP 06 24 51.7 -3.2**
ULN Ulaanbaatar 38.03 46 *d i*P **P 06 23 29.1 +0.7**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN Ulaanbaatar 38.03 46 P **P 06 23 29.0 +0.7**
ULN IAmb IAmb 06 23 30.5
comp=Z,28nm,1.1s
ULN Ulaanbaatar 38.03 46 IAMs_20 IAMs_20 06 41 47.7
comp=Z,786nm,21.0s
ENH Enshi 38.22 75 P **P 06 23 30.5 +0.5**
ENH IAmb IAmb 06 23 58.7
comp=Z,32nm,0.9s
ENH IAMs_20 IAMs_20 06 41 53.8
comp=Z,277nm,19.0s
GZR Gura Zlata 38.59 310 ⇑P P 06 23 28.1 -4.9
BTO Baotou 38.62 58 *e*P **P 06 23 34.0 +0.7**
MICGM Minsk 38.78 325 *e* **P 06 23 35.0 +0.6**
MNK Minsk 38.78 325 *e*P **P 06 23 35.0 +0.6**
LVV L'vov 39.02 317 *e*P **P 06 23 36.0 -0.4**
KMBO Kilima Mbogo 39.40 229 LR LR 06 40 09.4
comp=Z,153nm,18.9s,baz=87,slow=37
BZS Buzias 39.44 310 ⇑P P 06 23 46.4 +6.4
SIRR Siria 39.55 311 ⇓P **P 06 23 41.6 +0.7**
KULM Kulim 39.70 117 P **P 06 23 43.7 +1.3**
KULM IAmb IAmb 06 23 47.9
comp=Z,31nm,1.1s
KULM Kulim 39.70 117 P **P 06 23 44.0 +1.5**
UZH Uzhgorod 39.73 314 *e*P **P 06 23 42.7 +0.3**
UZH *e* 06 23 54.7
UZH *i* 06 24 00.6
KWP Kalwaria Pacla 39.77 316 *e*P **P 06 23 45.9 +3.2**
KWP *e*pP **sP 06 23 55.4 -1.9**
HHC Hu-ho-hao-te 39.81 58 *e*P **P 06 23 44.4 +1.1**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,300nm,6.2s
KOLS Kolonicke sedl 39.83 315 *e*P **P 06 23 42.9 -0.3**
KOLS *e* 06 23 56.2
KOLS pmax pmax
comp=Z,19nm,0.9s
KOLS Kolonicke sedl 39.83 315 *e*P **P 06 23 42.9 -0.3**
KOLS *e* 06 23 56.2
GSI Gunungsitoli 39.91 125 P **P 06 23 47.3 +3.2**
PSI Prapat 39.91 122 P **P 06 23 45.8 +1.4**
PSI pmax pmax
comp=Z,44nm,0.8s
RPSI Rantau Prapat 39.98 122 P **P 06 23 45.8 +1.0**
RPSI IAmb IAmb 06 23 46.7
comp=Z,44nm,0.8s
TIY Taiyuan 40.31 63 P **P 06 23 49.1 +1.6**
TIY pmax pmax
comp=Z,58nm,0.7s
IPM Ipoh 40.48 118 P **P 06 23 49.7 +0.7**
IPM Ipoh 40.48 118 P **P 06 23 51.0 +2.0**
PUL Pulkovo 40.57 333 ⇑*e*P **P 06 23 51.5 +2.4**
PUL pmax pmax
comp=Z,81nm,1.0s
TMCR Tamitsa 41.01 342 *e*P **P 06 23 52.4 -0.3**
PSZ Piszkesteto 41.10 313 ⇑P **P 06 23 54.6 +0.8**
PSZ Piszkesteto 41.10 313 P **P 06 23 52.6 -1.2**
PSZ pmax pmax
comp=Z,28nm,1.1s
PSZ Piszkesteto 41.10 313 P **P 06 23 52.6 -1.2**
PSZ IAmb IAmb 06 24 08.6
comp=Z,28nm,1.1s
QIZ Qiongzhong 41.12 92 P **P 06 23 55.1 +0.9**
QIZ S **S 06 30 08.3 +3.0**
QIZ pmax pmax
comp=Z,42nm,1.2s
QIZ LR LR
comp=Z,130nm,13.5s
QIZ LR LR
comp=Z,97nm,17.3s
QIZ LR LR
comp=Z,100nm,14.5s
QIZ Qiongzhong 41.12 92 P **P 06 23 55.2 +0.9**
QIZ IAmb IAmb 06 23 56.3
comp=Z,51nm,1.1s
NIE Niedzica 41.21 315 *e*P **P 06 23 55.9 +1.2**
NIE *e*pP **sP 06 24 08.3 -0.9**
NIE *e*PcP **PcP 06 25 53.0 -0.2**
VSU Vasula 41.35 330 ⇑*e*P **P 06 23 56.7 +1.2**
VSU pmax pmax
comp=Z,81nm,1.3s
LANS Liptovska Anna 41.67 314 *e*P **P 06 23 57.8 -0.6**
LANS *e* 06 24 12.6
LANS pmax pmax
comp=Z,11nm,1.4s
LANS Liptovska Anna 41.67 314 *e*P **P 06 23 57.8 -0.6**
LANS *e* 06 24 12.6
MNSI Mandailing Nat 41.72 123 P **P 06 24 01.2 +2.0**
OJC Ojcow 41.74 316 *e*P **P 06 24 00.6 +1.7**
OJC *e*pP **sP 06 24 12.0 -1.6**
VYHS Vyhne 41.92 313 *e*P **P 06 24 01.9 +1.4**
VYHS *e* 06 24 13.6
VYHS pmax pmax
comp=Z,36nm,1.4s
VYHS Vyhne 41.92 313 *e*P **P 06 24 01.9 +1.4**
VYHS *e* 06 24 13.6
TIP Timpagrande 42.27 299 ⇑P P 06 24 17.2 +14
WHN Wuhan 42.35 74 ⇓*i*P **P 06 24 05.5 +1.3**
WHN pP **sP 06 24 19.3 +0.4**
WHN LR LR
comp=Z,690nm,20.4s
DLV T Lat 42.75 102 P **P 06 24 08.2 +0.5**
DLV IAmb IAmb 06 24 10.3
comp=Z,87nm,1.5s
JAVC Velka Javorina 42.75 314 *e*P **P 06 24 06.9 -0.4**
JAVC *e*sP **pP 06 24 19.3 +1.4**
SISI Saibi 42.80 126 P **P 06 24 10.1 +2.1**
comp=Z,60nm,1.3s
SMOL Smolenice 42.84 313 *e* P 06 24 20.9 +13
MODS Modra-Piesok 42.91 313 *e*P **P 06 24 08.6 +0.1**
MODS *e* 06 24 20.7
MODS pmax pmax
comp=Z,33nm,1.0s
MODS Modra-Piesok 42.91 313 *e*P **P 06 24 08.6 +0.1**
MODS *e* 06 24 20.7
CEL Celeste 42.95 298 P **P 06 24 07.0 -1.9**
MORC Moravsky Berou 43.04 315 *e*P **P 06 24 09.0 -0.6**
MORC *e*sP **pP 06 24 22.0 +1.9**
MORC Moravsky Berou 43.04 315 P **P 06 24 08.9 -0.6**
MORC pmax pmax
comp=Z,24nm,1.0s
MORC Moravsky Berou 43.04 315 P **P 06 24 08.9 -0.7**
BKNI Bangkinang 43.12 122 P **P 06 24 10.7 +0.1**
comp=Z,93nm,0.5s
FIA1 FINESS Array S 43.25 333 P **P 06 24 09.9 -1.0**
FINES FINESS Array B 43.25 333 P **P 06 24 09.7 -1.3**
comp=Z,9.0nm,0.9s,baz=124,slow=9.3,SNR=13
FINES LR LR 06 44 38.9
comp=Z,229nm,20.4s,baz=128,slow=40
FINES FINESS Array B 43.25 333 P **P 06 24 10.4 -0.6**
BJT Baijiatuau 43.27 60 P **P 06 24 13.7 +2.2**
BJT pmax pmax
comp=Z,28nm,0.9s
BJT MLR MLR
comp=Z,200nm,18.0s
BJT Baijiatuau 43.27 60 P **P 06 24 13.7 +2.2**
BJT IAmb IAmb 06 24 14.4
comp=Z,28nm,0.9s
BJI Beijing 43.28 60 P **P 06 24 13.3 +1.8**
BJI PcP **PcP 06 26 01.3 +1.1**
BJI S **S 06 30 39.0 +2.4**
BJI LR LR
comp=Z,130nm,9.5s
BJI LR LR
comp=Z,110nm,7.2s
VRAC Vranov 43.54 314 *e*P **P 06 24 12.8 -0.8**
VRAC *e*sP **pP 06 24 26.1 +1.9**
KRUC Moravsky 43.62 314 *e*P **P 06 24 13.4 -0.8**
KRUC *e*sP **pP 06 24 26.6 +1.8**
MBAR Mbarara 43.65 236 P **P 06 24 14.6 -0.4**
MBAR pmax pmax
comp=Z,20nm,1.4s
MBAR Mbarara 43.65 236 **P 06 24 14.6 -0.4**
CRES Cresnjev 43.72 309 *e*P **P 06 24 15.1 0.0**
CONA Conrad Observa 43.76 312 *i*P **P 06 24 17.4 +1.9**
comp=Z,4.8nm,1.0s
CONA *i* sP **sP 06 24 28.5 -1.6**
comp=Z,15nm,1.0s
CONA *i* PcP **PcP 06 26 04.7 +2.9**
comp=Z,3.0nm,0.3s
CONA *i* PcP **PcP 06 26 04.7 +2.9**
comp=Z,3.7nm,0.4s
CONA *i* PcP PcP 06 26 05.2 +3.5
comp=Z,2.6nm,0.4s
BOJS Bojanci 43.83 308 *e*P **P 06 24 18.2 +2.3**
BOJS *e*PcP **PcP 06 26 01.8 -0.1**
ARSA Arzberg 43.88 311 *i*pP **P 06 24 19.2 +2.9**
comp=Z,13nm,1.0s
ARSA *i* sP **sP 06 24 29.8 -1.1**
comp=Z,42nm,1.3s
ARSA *i* PP **PcP 06 26 02.8 +0.7**
comp=Z,3.8nm,0.6s
DPC Dobruska-Polom 43.93 315 *e*P **P 06 24 17.5 +0.7**
DPC *e*sP **sP 06 24 30.6 -0.8**
DPC Dobruska-Polom 43.93 315 *e*P **P 06 24 17.5 +0.7**
DPC *e**PP **sP 06 24 30.6 -0.8**
HKPS Hong Kong Po S 43.94 85 P **P 06 24 18.0 +0.9**
NRIK Noril'sk 44.00 11 P **P 06 24 17.0 +0.1**
comp=Z,9.2nm,0.6s,baz=194,slow=5.5,SNR=16
NRIK LR LR 06 43 28.7
comp=Z,229nm,19.3s,baz=200,slow=37
OSTC Ostas 44.05 316 *e*P **P 06 24 19.6 +2.0**
OSTC *e*pP **sP 06 24 31.0 -1.3**
KSP Ksiaz 44.06 316 *e*P **P 06 24 18.5 +0.8**
KSP *e*pP **sP 06 24 30.8 -1.6**
KSP *e*PcP **PcP 06 26 02.9 +0.2**
TIA Tai'an 44.10 65 P **P 06 24 19.3 +1.0**
TIA pmax pmax
comp=Z,49nm,1.1s
TIA LR LR
comp=Z,210nm,16.5s
TIA LR LR
comp=Z,410nm,21.6s
SOKA Soboth 44.13 310 *i*pP **P 06 24 21.5 +3.1**
comp=Z,4.6nm,0.8s
SOKA *i* sP **sP 06 24 31.6 -1.4**
comp=Z,19nm,1.1s
SOKA *i* PP **PcP 06 26 03.0 0.0**
comp=Z,5.0nm,1.1s
SOKA *i* PP **PcP 06 26 03.0 0.0**
comp=Z,14nm,1.0s
CHVC Chvalec 44.15 316 *e*pP pP 06 24 32.1 +3.0
UPC Upice 44.16 316 *e*P **P 06 24 20.7 +2.2**
UPC Upice 44.16 316 *e*P **P 06 24 20.7 +2.2**
SDSI Sungai Dareh 44.24 123 P **P 06 24 20.4 +0.8**
comp=Z,1μmcomp=Z,24nm,1.3s
CEY Cerknica 44.43 309 *i*P **P 06 24 20.7 -0.1**
CEY *i* 06 24 33.4
OBKA Obir 44.43 310 *i* sP **sP 06 24 34.6 -1.0**
comp=Z,30nm,1.1s
OBKA *i* PcP **PcP 06 26 04.2 0.0**
comp=Z,7.3nm,1.0s
RGRI Rengat 44.54 122 P **P 06 24 23.3 +1.3**
LVZ Lovozero 44.77 344 ⇓*e*P **P 06 24 22.3 -0.9**
LVZ pmax pmax
comp=Z,52nm,0.9s
LVZ Lovozero 44.77 344 P **P 06 24 22.6 -0.6**
LVZ IAmb IAmb 06 24 25.8
comp=Z,48nm,1.0s
MOA Molln 44.81 312 *i*pP **P 06 24 26.6 +2.9**
comp=Z,10nm,1.6s
MOA *i* sP **sP 06 24 37.0 -1.4**
comp=Z,28nm,1.2s
APA Apatity 44.84 343 ⇑*i*P **P 06 24 22.8 -0.9**
APA pmax pmax
comp=Z,37nm,0.8s
APA MLR MLR
comp=Z,900nm,21.0s
PRU Pruhonice 44.98 315 *e*P **P 06 24 27.3 +2.2**
PRU *e*sP **sP 06 24 38.3 -1.5**
PRU Pruhonice 44.98 315 *e*P **P 06 24 27.3 +2.2**
PRU *e**PP **sP 06 24 38.3 -1.5**
KRJI Kerinci 45.05 125 P **P 06 24 27.9 +1.8**
comp=Z,5μmcomp=Z,255nm,0.8s
MYKA Terra Mystica 45.07 310 *i* sP sP 06 24 39.4 -1.2
comp=Z,9.4nm,0.9s
PRED Cave del Predi 45.10 309 P **P 06 24 24.2 -2.0**
PRED IAmb IAmb 06 24 47.0
comp=Z,21nm,1.1s
KBA Koelnbreinsper 45.33 310 *i* sP sP 06 24 40.9 -1.8
comp=Z,25nm,0.8s
GEC2 GERESS Array S 45.33 313 *e*pP **pP 06 24 41.2 +2.6**
baz=101,slow=8.0
GEC2 *e*PcP **PcP 06 26 07.1 0.0**
baz=98,slow=3.5
GEC2 GERESS Array S 45.33 313 P **P 06 24 28.1 +0.1**
GEC2 IAmb IAmb 06 24 42.5
comp=Z,30nm,1.1s
GERES GERESS Array B 45.33 313 P **P 06 24 27.3 -0.7**
comp=Z,2.3nm,0.7s,baz=99,slow=6.9,SNR=13
GERES PcP **PcP 06 26 06.6 -0.6**
comp=Z,7.2nm,0.8s,baz=101,slow=2.7,SNR=9.1
GERES LR LR 06 46 56.9
comp=Z,111nm,21.1s,baz=94,slow=41
GERES GERESS Array B 45.33 313 P **P 06 24 27.1 -0.9**
GERES 06 26 06.8
GERES GERESS Array B 45.33 313 P **P 06 24 27.1 -0.9**
GERES **PcP 06 26 06.8 -0.4**
BOD Bodaibo 45.37 34 *e*P **P 06 24 27.9 -0.1**
BOD pmax pmax
comp=Z,28nm,1.7s
KHC Kasperske Hory 45.45 313 *e*P **P 06 24 29.2 +0.3**
KHC *e*sP **pP 06 24 41.5 +2.0**
KHC *e*x x 06 26 07.0
KHC Kasperske Hory 45.45 313 *e*P **P 06 24 29.2 +0.3**
KHC *e**PP **pP 06 24 41.5 +2.0**
KHC *e* 06 26 07.0
KHC Kasperske Hory 45.45 313 P **P 06 24 28.5 -0.4**
KHC PcP **PcP 06 26 07.5 -0.1**
BRG Berggiesshubel 45.52 316 *i* P **P 06 24 31.4 +2.0**
comp=Z,20nm,1.3s
BRG *i* 06 24 43.7
comp=Z,38nm,1.0s
BRG S **S 06 31 08.0 -1.0**
BRG Berggiesshubel 45.52 316 *i* P **P 06 24 31.4 +2.0**
BRG *i* 06 24 43.7
BRG S **S 06 31 08.0 -1.0**
BRG pmax pmax
comp=Z,20nm,1.3s
BRG pmax pmax
comp=Z,38nm,1.0s
BRG Berggiesshubel 45.52 316 *e*pP **pP 06 24 43.4 +3.3**
baz=101,slow=8.0
BRG *e*PcP **PcP 06 26 07.8 +0.1**
baz=98,slow=3.5
MURB Monte Urbino 45.60 305 P **P 06 24 31.5 +1.4**
ABTA Abfaltersbach 45.86 310 *i* P **P 06 24 31.7 -0.5**
comp=Z,9.8nm,0.8s
ABTA *i* sP **sP 06 24 45.1 -1.8**
comp=Z,31nm,1.2s
CIMO Cimolais 45.86 309 P **P 06 24 31.1 -1.0**
CIMO PcP **PcP 06 26 08.6 -0.4**
FBE Freiberg 45.90 316 *e*pP **pP 06 24 46.7 +3.7**
baz=101,slow=8.0
FBE *e*PcP **PcP 06 26 09.1 +0.2**
baz=98,slow=3.5
WET Wettzell 45.91 313 *e*PcP **PcP 06 26 09.0 -0.1**
baz=98,slow=3.5
NJ2 Nanjing 45.95 71 ⇓P **P 06 24 34.5 +1.5**
NJ2 pP **pP 06 24 40.3 -3.3**
NJ2 pmax pmax
comp=Z,30nm,0.6s
CLL Collm 46.19 316 *e*P **P 06 24 37.0 +2.4**
CLL *i* sP **sP 06 24 48.3 -1.0**
comp=Z,15nm,0.9s
CLL *e* 06 24 57.0
CLL *i* PcP **PcP 06 26 09.4 -0.6**
CLL *e*PP **PP 06 26 24.0 +0.8**
CLL *e*PPP PPP 06 27 03.0
CLL *e*S **S 06 31 19.0 +0.5**
CLL *e*SS **SS 06 34 48.0 +4.2**
CLL Collm 46.19 316 *e*P **P 06 24 37.0 +2.4**
CLL *i* 06 24 48.3
CLL *e*S **S 06 31 19.0 +0.5**
TANN Tannenbergstha 46.37 315 *e*PcP **PcP 06 26 10.7 0.0**
baz=98,slow=3.5
CTI Castel Tesino 46.39 309 P **P 06 24 34.7 -1.7**
CTI pmax pmax
comp=Z,16nm,1.2s
CTI Castel Tesino 46.39 309 P **P 06 24 34.7 -1.7**
WERN Wernitzgruen 46.41 315 *e*pP **pP 06 24 50.5 +3.4**
baz=101,slow=8.0
WERN *e*PcP **PcP 06 26 11.0 +0.2**
baz=98,slow=3.5
ROTZ Rotzenmuhle 46.43 314 *e*pP pP 06 24 50.2 +2.9
baz=101,slow=8.0
GUNZ Gunzen 46.45 315 *e*PcP **PcP 06 26 11.2 +0.2**
baz=98,slow=3.5
MANZ Manzenberg 46.53 314 *e*PcP **PcP 06 26 11.7 +0.4**
baz=98,slow=3.5
WATA Walderalm 46.55 311 *i* P **P 06 24 36.8 -0.9**
comp=Z,7.3nm,0.7s
WATA *i* sP **pP 06 24 50.3 +2.0**
comp=Z,37nm,1.3s
HIA Hailar 46.55 47 IAMs_20 IAMs_20 06 47 02.2
comp=Z,461nm,18.0s
PLN Plauen 46.58 315 *e*pP **pP 06 24 51.3 +3.0**
baz=101,slow=8.0
PLN *e*PcP **PcP 06 26 11.3 -0.1**
baz=98,slow=3.5
ZCCA Zocca 46.76 306 IAMs_20 IAMs_20 06 37 50.2
comp=Z,377nm,19.0s
SQTA Sankt Quirin 46.79 310 *i* P **P 06 24 38.5 -1.0**
comp=Z,6.4nm,0.9s
SQTA *i* sP **pP 06 24 51.6 +1.4**
comp=Z,6.9nm,0.5s
SQTA *i* PcP **PcP 06 26 12.0 -0.4**
comp=Z,7.1nm,0.6s
MOTA Moosalm 46.87 310 *i* P **P 06 24 38.8 -1.5**
comp=Z,6.8nm,0.8s
MOTA *i* sP **pP 06 24 52.2 +1.3**
comp=Z,18nm,0.8s
MOTA *i* PcP **PcP 06 26 12.3 -0.4**
comp=Z,17nm,1.1s
KSI Kapahiang 46.93 125 P **P 06 24 42.1 +1.2**
NEUB Neuenburg 46.93 316 *e*pP pP 06 24 54.3 +3.3
baz=101,slow=8.0
MOX Moxa 46.94 315 *e*P **P 06 24 40.6 +0.1**
comp=Z,33nm,0.8s
MOX *e*pP **sP 06 24 54.5 -0.8**
baz=101,slow=8.0
MOX *e*L L 06 48 17.5
comp=Z,62nm,20.4s
GRF Grafenberg Arr 47.06 314 *e*P **P 06 24 42.6 +1.1**
comp=Z,29nm,1.2s
GRF *e*pP **sP 06 24 54.9 -1.3**
baz=101,slow=8.0
GRF *e*L L 06 51 36.1
comp=Z,95nm,20.0s
FETA Feichten 47.10 310 *i* P **P 06 24 40.9 -1.1**
comp=Z,9.8nm,0.9s
FETA *i* sP **sP 06 24 55.0 -1.7**
comp=Z,30nm,1.1s
FETA *i* PcP **PcP 06 26 13.5 0.0**

comp=Z,14nm,1.1s
RETA Reutte 47.12 311 *i* sP **sP 06 24 54.0 -2.8**
comp=Z,14nm,1.1s
RETA *i* PcP **PcP 06 26 12.7 -0.7**
UBR Ueberruh 47.57 311 *e*pP **pP 06 24 58.0 +1.7**
baz=101,slow=8.0
UBR *e*PcP **PcP 06 26 15.0 -0.1**
baz=98,slow=3.5
DAVA Damuels 47.70 310 *i* P **P 06 24 45.4 -1.2**
comp=Z,12nm,0.7s
DAVA *i* sP **pP 06 24 58.9 +1.5**
comp=Z,32nm,0.8s
UBBA Unterbreizbach 47.98 315 *e*pP pP 06 25 02.5 +3.3
baz=101,slow=8.0
TUE Stuetta 48.01 309 P **P 06 24 47.2 -1.9**
TUE IAmb IAmb 06 25 16.8
comp=Z,12nm,0.7s
NRDL Niedersach Rie 48.16 317 *e*PcP **PcP 06 26 17.1 +0.2**
baz=98,slow=3.5
STU Stuttgart 48.28 312 IAMs_20 IAMs_20 06 47 16.2
comp=Z,241nm,20.0s
BSEG Bad Segeberg 48.28 319 *e*PcP **PcP 06 26 17.4 0.0**
baz=98,slow=3.5
KEST Kesra 48.33 295 P **P 06 24 52.1 +0.4**
comp=Z,11nm,0.9s,baz=16,slow=5.8,SNR=8.5
BFO Black Forest 48.81 312 *e*PcP **PcP 06 26 18.9 -0.6**
baz=98,slow=3.5
NC602 NORSAR Array S 49.30 328 P **P 06 24 57.7 -0.9**
NC602 NORSAR Array S 49.30 328 *e*P **P 06 24 57.4 -1.2**
NC405 NORSAR Array S 49.34 329 P **P 06 24 58.1 -0.7**
SENIN Lac Senin/Sane 49.42 309 P **P 06 24 59.1 -0.9**
HAMF Hammerfest 49.49 343 *e*P **P 06 25 00.3 +0.5**
SSLB Suanglung 49.54 81 P **P 06 25 02.4 +1.5**
NB2 NORSAR Subarra 49.54 329 P **P 06 24 58.7 -1.8**
comp=Z,3.8nm,0.6s,baz=109,slow=7.4
NB2 NORSAR Subarra 49.54 329 P **P 06 24 58.7 -1.8**
baz=109,slow=7.4
NOA NORSAR Array B 49.54 329 P **P 06 24 59.1 -1.4**
comp=Z,7.9nm,0.7s,baz=108,slow=7.4,SNR=23
NOA LR LR 06 47 57.2
comp=Z,126nm,22.0s,baz=110,slow=38
ECH Echery 49.59 311 P **P 06 24 59.5 -1.5**
ECH Echery 49.59 311 P **P 06 24 59.5 -1.5**
ECH IAmb IAmb 06 25 23.0
comp=Z,20nm,1.2s
AHRW Bad Neuenahr-A 49.80 314 *e*pP pP 06 25 17.5 +4.2
baz=101,slow=8.0
BNI Bardonecchia 49.84 307 P **P 06 25 02.2 -0.9**
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 49.84 307 P **P 06 25 02.2 -0.9**
BNI IAmb IAmb 06 25 24.3
comp=Z,15nm,0.8s
TWG Pinlang 49.92 82 P **P 06 25 06.1 +2.2**
KONO Kongsberg 49.93 327⇓ *e*P **P 06 25 03.7 +0.3**
KONO pmax pmax
comp=Z,17nm,1.3s
YULB Yu-li 49.95 81 P **P 06 25 05.8 +1.8**
YULB IAmb IAmb 06 25 07.5
comp=Z,23nm,1.1s
MOR8 Moi Rana 50.06 336 *e*P **P 06 25 02.8 -1.5**
TRO Tromso 50.23 341 *e*P **P 06 25 05.6 +0.1**
NSS Namsos 50.37 333 *e*P **P 06 25 05.5 -1.2**
N2TV Tyrnvik 50.43 337 *e*P **P 06 25 05.5 -1.5**
MEM Membach 50.49 314 P **P 06 25 07.9 +0.1**
MEM x x 06 25 21.1
MEM PcP **PcP 06 26 24.7 -0.7**
NBB17 Glomfjord Byr 50.51 336 *e*P **P 06 25 06.3 -1.3**
NBB30 Finnes 50.66 336 *e*P **P 06 25 07.8 -0.9**
KONS Konsvik 50.68 336 *e*P **P 06 25 08.3 -0.7**
SBUM Sibu 50.74 111 P **P 06 25 10.6 +0.4**
BMRD Maredsous 51.26 314 P **P 06 25 13.7 +0.1**
BMRD sP **pP 06 25 26.0 +1.6**
BMRD PcP **PcP 06 26 27.9 -0.5**
N2VA Vr_y 51.31 337 *e*P **P 06 25 12.0 -1.6**
DOU Dourbes 51.36 314 P **P 06 25 13.7 -0.6**
DOU PcP **PcP 06 26 28.1 -0.6**
N2RO R_st 51.45 337 *e*P **P 06 25 13.2 -1.5**
INCN Inchon 51.58 62 P **P 06 25 15.9 -0.3**
INCN pmax pmax
comp=Z,86nm,1.4s
INCN Inchon 51.58 62 P **P 06 25 15.9 -0.3**
SNF Seneffe 51.58 314 P **P 06 25 14.4 -1.5**
SNF x x 06 25 30.6
SNF PcP **PcP 06 26 28.6 -0.9**
ZEA Zeya 51.73 42 *e*P **P 06 25 18.1 +1.1**
ZEA pmax pmax
comp=Z,39nm,1.2s
TJN Taejon 52.31 64⇑ *e*P **P 06 25 20.8 -0.8**
KS19 Wonju Array Si 52.55 62 P **P 06 25 23.3 -0.1**
KS19 IAmb IAmb 06 25 24.7
comp=Z,21nm,0.8s
KSAR Wonju Array Be 52.57 62 P **P 06 25 23.6 +0.1**
KSAR Wonju Array Be 52.57 62 P **P 06 25 23.6 +0.1**
KSRS Korea Array 52.60 62 P **P 06 25 23.8 0.0**
comp=Z,20nm,0.7s,baz=271,slow=7.5,SNR=49
KSRS PcP **PcP 06 26 33.1 -0.5**
comp=Z,1.2nm,0.4s,baz=259,slow=3.0,SNR=4.0
KSRS LR LR 06 50 44.6
comp=Z,99nm,20.4s,baz=286,slow=40
MDJ Mudanjiang 53.14 53 P **P 06 25 28.1 +0.5**
MDJ pmax pmax
comp=Z,18nm,1.4s
MDJ pmax pmax
comp=Z,210nm,3.6s
MYLDM Lahad Datu 54.66 104 P **P 06 25 40.9 +1.8**
MYLDM IAmb IAmb 06 26 07.3
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 54.88 54 P **P 06 25 39.6 -0.7**
comp=Z,2.8nm,0.8s,baz=283,slow=4.4,SNR=5.6
USRK LR LR 06 53 18.1
comp=Z,146nm,19.3s,baz=282,slow=41
USRK Ussuriysk Ar. 54.88 54 P **P 06 25 40.2 -0.2**
HSPB Hornsund (broa 55.08 348 *e*P **P 06 25 41.6 +0.4**
HSPB Hornsund (broa 55.08 348 *e*P **P 06 25 41.6 +0.4**
SPA0 Spitsbergen Ar 55.59 349 P **P 06 25 44.8 -0.2**
SPA0 Spitsbergen Ar 55.59 349 *e*P **P 06 25 45.1 +0.1**
JNU Nakatsue 55.75 67 P **P 06 25 47.9 +1.1**
TIXI Tiksi 55.95 20 P **P 06 25 46.2 -1.4**
TIXI pmax pmax
comp=Z,42nm,0.7s
TIXI Tiksi 55.95 20 P **P 06 25 46.2 -1.4**
KBS Kingsbay 56.74 349 *d i* P **P 06 25 53.1 0.0**
KBS pmax pmax
comp=Z,175nm,2.5s
KBS Kingsbay 56.74 349 P **P 06 25 53.3 +0.1**
KBS Kingsbay 56.74 349 *e*P **P 06 25 53.2 +0.1**
JMN Monobe 58.06 66 IAMs_20 IAMs_20 06 45 28.5
comp=Z,850nm,19.0s
ESDC Sonseca Array 58.20 302 P **P 06 26 02.8 -1.3**
comp=Z,3.6nm,0.9s,baz=66,slow=6.8,SNR=16
ESDC PcP **PcP 06 26 55.4 +0.1**
comp=Z,3.4nm,1.1s,baz=58,slow=6.1,SNR=4.0
ESDC LR LR 06 54 28.6
comp=Z,20nm,20.2s,baz=15,slow=40
ESDC Sonseca Array 58.20 302 P **P 06 26 02.6 -1.5**
PAB San Pablo 58.51 301 P **P 06 26 05.3 -1.0**
PAB pmax pmax
comp=Z,10.0nm,1.1s
PAB San Pablo 58.51 301 P **P 06 26 05.3 -1.0**
MATP Matopo 59.61 221 P **P 06 26 13.7 -0.4**
comp=Z,4.8nm,0.8s,baz=32,slow=7.5,SNR=7.5
PBRG Braganca 59.87 304 *e*P **P 06 26 15.1 -0.6**
comp=Z,25nm,1.6s
MVO Moncorvo 60.21 304 *e*P **P 06 26 17.4 -0.6**
comp=Z,22nm,1.4s
PCBR Castelo Branco 60.82 302 *e*P **P 06 26 21.4 -0.7**
comp=Z,31nm,1.1s
MJB9 Matsu-Tunnel 60.85 62 IAMs_20 IAMs_20 06 44 51.3
comp=Z,717nm,22.0s
MAJO Matsushiro 60.85 62⇑ *i* P **P 06 26 21.5 -0.9**
MAJO pmax pmax
comp=Z,20nm,1.1s
MAJO Matsushiro 60.85 62 P **P 06 26 21.4 -1.0**
MAJO IAmb IAmb 06 26 23.7
comp=Z,20nm,1.1s
MAT Matsushiro 60.85 62 P **P 06 26 21.8 -0.6**
MJAR Matsushiro Arr 60.85 62 P **P 06 26 22.2 -0.3**
comp=Z,4.9nm,0.8s,baz=295,slow=7.0,SNR=9.1
MJAR LR LR 06 55 04.2
comp=Z,74nm,21.8s,baz=305,slow=38
MJAR Matsushiro Arr 60.85 62 P **P 06 26 22.4 0.0**
PVIS Viseu 60.94 303 *e*P **P 06 26 22.6 -0.4**
TOA0 Torodi Ar. Sit 61.23 270 P **P 06 26 24.7 -0.5**
TORD Torodi Ar. Bea 61.23 270 P **P 06 26 24.5 -0.7**
comp=Z,8.8nm,0.9s,baz=57,slow=6.9,SNR=45
TORD LR LR 06 57 34.3
comp=Z,77nm,18.7s,baz=0.0,slow=41
TORD Torodi Ar. Bea 61.23 270 P **P 06 26 24.4 -0.9**
TYV Tymovskoe 61.25 45 *e*P **P 06 26 25.3 +0.5**
TYV pmax pmax
comp=Z,200nm,3.8s
TYV pmax pmax
comp=Z,15nm,0.9s
PMTG Montargil 61.55 302 *e-* 06 26 39.5
PCVE Castro Verde 61.75 300 *e*P **P 06 26 27.4 -1.0**
comp=Z,34nm,1.5s
YSS Yuzh-Sakhalins 61.98 49⇓ *e*P **P 06 26 29.3 -0.5**
YSS *e* 06 26 37.8
YSS pmax pmax
comp=Z,30nm,0.7s
YSS MLR MLR
comp=Z,200nm,20.0s
YSS Yuzh-Sakhalins 61.98 49 P **P 06 26 29.6 -0.1**
PNCL Nicolau / Gran 62.01 301 *e*P **P 06 26 29.2 -0.9**
comp=Z,29nm,1.8s
NOR Nord 62.12 351 *i* P **P 06 26 29.7 -0.5**
comp=Z,30nm,1.0s
NOR Nord 62.12 351 *i* P **P 06 26 29.7 -0.5**
NOR pmax pmax
comp=Z,30nm,1.0s
DAG Danmarks Havn 62.42 345 *i* P **P 06 26 31.0 -1.2**
comp=Z,53nm,0.9s
DAG Danmarks Havn 62.42 345 *i* P **P 06 26 31.0 -1.2**
DAG pmax pmax
comp=Z,53nm,0.9s
PFVI Vila Bisbo 62.48 300 *e*P **P 06 26 34.5 +1.2**
comp=Z,72nm,1.7s
MA2 Magadan 64.40 34⇑ *e*P **P 06 26 45.5 -0.1**
MA2 pmax pmax
comp=Z,25nm,1.3s
KOWA Kowa 65.77 274 P **P 06 26 54.7 -0.5**
KUR Kuril'sk 65.83 50 P **P 06 26 55.0 -0.1**
KUR *e* 06 29 19.2
SOEI Soe 67.51 115 P **P 06 27 04.9 -1.5**
BOSA Boshof 67.82 218 P **P 06 27 08.3 +0.2**
comp=Z,3.2nm,0.6s,baz=36,slow=6.2,SNR=5.3
BOSA LR LR 06 53 37.4
comp=Z,116nm,21.9s,baz=52,slow=33
BOSA Boshof 67.82 218 IAmb IAmb 06 27 36.0
comp=Z,19nm,1.2s
GIRL Giralia 68.19 132 P **P 06 27 12.2 +1.8**
SUMG Summit 68.39 342 *i* P **P 06 27 11.5 0.0**
comp=Z,119nm,0.8s
SUMG Summit 68.39 342 *i* P **P 06 27 11.5 0.0**
SUMG pmax pmax
comp=Z,120nm,0.8s
SUMG Summit 68.39 342 P **P 06 27 11.7 +0.2**
BILL Bilibino 68.81 23⇓ *e*P **P 06 27 13.7 0.0**
BILL pmax pmax
comp=Z,22nm,1.3s
BILL Bilibino 68.81 23 P **P 06 27 13.9 +0.3**
PETK Petropavlovsk- 69.76 40 P **P 06 27 18.3 -1.5**
comp=Z,7.3nm,0.9s,baz=186,slow=1.5,SNR=4.7
PETK LR LR 07 01 48.6
comp=Z,131nm,20.2s,baz=249,slow=39
DBIC Dimbokro 69.81 267 P **P 06 27 20.6 -0.2**
comp=Z,2.6nm,0.6s,baz=32,slow=11,SNR=3.6
DBIC LR LR 07 00 35.5
comp=Z,87nm,18.2s,baz=50,slow=38
DBIC Dimbokro 69.81 267 P **P 06 27 20.1 -0.6**
DBIC pmax pmax
comp=Z,11nm,0.8s
DBIC Dimbokro 69.81 267 P **P 06 27 20.1 -0.6**
DBIC IAmb IAmb 06 27 35.2
comp=Z,11nm,0.8s
KIC Kosan Boka 69.85 267 *e*P **P 06 27 20.8 -0.2**
comp=Z,40nm,1.4s
TIC Toumodi 69.97 267 *e*P **P 06 27 21.4 -0.3**
LIC Lamto 70.16 267 *e*P **P 06 27 22.5 -0.4**
comp=Z,60nm,1.8s
EUNU Eureka 71.84 355 IAMs_20 IAMs_20 07 04 27.6
comp=Z,1μm,18.0s
FITZ Fitzroy Crossi 73.44 121 P **P 06 27 42.0 -0.3**
KNRA Kununurra 74.47 117 P **P 06 27 48.9 +0.4**
KNRA IAmb IAmb 06 27 49.0
comp=Z,11nm,0.8s
TOLK Toolik Lake Re 80.91 12 P **P 06 28 23.3 -0.3**
baz=329
TOLK Toolik Lake Re 80.91 12 P **P 06 28 22.7 -0.9**
TOLK IAmb IAmb 06 28 24.4
comp=Z,28nm,1.2s
WB0 Warramunga Arr 81.19 117 P **P 06 28 25.3 -0.6**
WB0 IAmb IAmb 06 28 26.5
comp=Z,35nm,1.4s
WRA Warramunga Arr 81.24 118 P **P 06 28 25.4 -0.8**
comp=Z,10nm,1.1s,baz=313,slow=4.7,SNR=38
WRA Warramunga Arr 81.24 118 P **P 06 28 25.3 -0.8**
WRA pmax pmax
comp=Z,1.0nm,1.2s
WRA Warramunga Arr 81.24 118 P **P 06 28 25.3 -0.8**
WRAB Tennant Creek 81.24 118⇓ *i* P **P 06 28 25.6 -0.5**
WRAB pmax pmax
comp=Z,27nm,1.4s
WRAB Tennant Creek 81.24 118 P **P 06 28 25.8 -0.3**
WRAB IAmb IAmb 06 28 26.9
comp=Z,33nm,1.3s
WB2 Warramunga Arr 81.25 118 P **P 06 28 25.7 -0.4**
WB2 IAmb IAmb 06 28 26.9
comp=Z,30nm,1.4s
WR0 Warramunga Arr 81.41 118 P **P 06 28 26.7 -0.3**
WR0 IAmb IAmb 06 28 27.6
comp=Z,25nm,1.4s
COLD Coldfoot 81.99 13 P **P 06 28 28.8 -0.5**
baz=328
COLD Coldfoot 81.99 13 P **P 06 28 28.3 -1.0**
COLD IAmb IAmb 06 28 31.5
comp=Z,17nm,1.0s
IMAR Indian Mountai 82.25 15 P **P 06 28 29.5 -1.2**
FORT Forrest 82.82 130 P **P 06 28 33.4 -0.8**
BMAR Burnt Mountain 82.89 11 P **P 06 28 34.5 +0.4**
AS31 Alice Springs 82.94 121 P **P 06 28 34.6 -0.4**
ASAR Alice Springs 82.94 121 P **P 06 28 34.5 -0.5**
comp=Z,5.0nm,0.6s,baz=308,slow=5.3,SNR=47
ASAR Alice Springs 82.94 121 P **P 06 28 34.2 -0.8**
ASAR Alice Springs 82.94 121 P **P 06 28 34.2 -0.8**
FYU Fort Yukon 83.54 12 P **P 06 28 38.0 +0.7**
FYU IAmb IAmb 06 28 40.1
comp=Z,38nm,1.4s
INK Inuvik 83.65 7 P **P 06 28 37.3 -0.6**
INK pmax pmax
comp=Z,12nm,0.7s
INK Inuvik 83.65 7 P **P 06 28 37.3 -0.6**
INK IAmb IAmb 06 28 39.0
comp=Z,12nm,0.7s
TTA Tatalina 84.17 18 P **P 06 28 40.7 0.0**
TTA pmax pmax
comp=Z,6.0nm,1.3s
TTA Tatalina 84.17 18 P **P 06 28 40.7 0.0**
MDM Murphy Dome 84.36 14 P **P 06 28 40.8 -0.8**
MDM IAmb IAmb 06 28 43.4
comp=Z,18nm,0.9s
POKR Poker Plat Res 84.39 13 P **P 06 28 41.7 -0.1**
baz=331
BPAW Bear Paw Mtn. 84.48 15 P **P 06 28 41.5 -0.7**
NEA2 Nenana 84.49 14 P **P 06 28 41.6 -0.6**
baz=329
COLA College 84.51 14⇓ *e*P **P 06 28 41.4 -0.9**
COLA pmax pmax
comp=Z,10.0nm,0.9s
CCB Clear Creek Bu 84.72 14 P **P 06 28 42.2 -1.2**
IL31 84.80 13 P **P 06 28 42.5 -1.3**
ILAR Eielson Array 84.80 13 P **P 06 28 42.2 -1.6**
comp=Z,2.6nm,0.7s,baz=320,slow=4.0,SNR=34
ILAR LR LR 07 11 08.2
comp=Z,112nm,21.9s,baz=318,slow=39
WRH Wood River Hil 84.81 14 P **P 06 28 42.7 -1.2**
KTH Kantishna Hill 84.95 16 P **P 06 28 43.8 -0.9**
EPYK Eagle Plains 85.09 9 P **P 06 28 44.7 -0.7**
baz=340
EPYK Eagle Plains 85.09 9 P **P 06 28 44.6 -0.7**
EPYK IAmb IAmb 06 28 46.7
comp=Z,22nm,1.3s
HDA Harding Lake 85.11 14 P **P 06 28 43.5 -1.9**
baz=331
HDA Harding Lake 85.11 14 P **P 06 28 43.2 -2.1**
PPLA Purkeypile 85.20 16 P **P 06 28 44.6 -1.4**
MCK McKinley 85.26 15 P **P 06 28 45.2 -1.0**
MCK pmax pmax
comp=Z,20nm,1.3s
MCK McKinley 85.26 15 P **P 06 28 45.2 -1.0**
MCK IAmb IAmb 06 28 46.3
comp=Z,20nm,1.3s
RND Reindeer 85.56 15 P **P 06 28 46.2 -1.6**
RND pmax pmax
comp=Z,8.0nm,1.0s
RND Reindeer 85.56 15 P **P 06 28 46.2 -1.6**
SVW2 Sparrevohn 85.77 19 P **P 06 28 48.4 -0.4**
SVW2 IAmb IAmb 06 29 14.7
comp=Z,13nm,1.3s
SVW2 IAMs_20 IAMs_20 07 11 39.3
comp=Z,183nm,22.0s
EGAK Eagle 85.89 11 P **P 06 28 48.5 -0.8**
EGAK IAmb IAmb 06 28 51.1
comp=Z,18nm,1.4s
SCRK Sand Creek 86.09 13 P **P 06 28 49.8 -0.6**
baz=334
RIDG Independent Ri 86.14 13 P **P 06 28 49.5 -1.0**
RIDG IAmb IAmb 06 29 15.4
comp=Z,9.4nm,1.1s
SKT Skwentna 86.14 17 P **P 06 28 49.7 -0.8**
SKT IAmb IAmb 06 28 50.2
comp=Z,14nm,1.0s
DOT Dot Lake 86.37 13 P **P 06 28 51.1 -0.6**
DOT IAmb IAmb 06 28 53.2
comp=Z,8.7nm,1.0s
K27K Chicken 86.41 12 P **P 06 28 51.5 -0.3**
baz=335
SUA Susitna One 86.77 17 P **P 06 28 53.1 -0.7**
DAWY Dawson 86.85 11 P **P 06 28 53.5 -0.6**
DAWY IAmb IAmb 06 28 55.8
comp=Z,16nm,1.1s
GHO Glory Hole Cre 86.96 16 P **P 06 28 54.3 -0.3**
GHO IAmb IAmb 06 28 56.5
comp=Z,11nm,1.0s
NIKH Nikolski High 87.05 30 P **P 06 28 52.5 -2.6**
PMR Palmer 87.07 16 P **P 06 28 54.4 -0.7**
PMR pmax pmax
comp=Z,25nm,1.5s
PMR Palmer 87.07 16 P **P 06 28 54.4 -0.7**
PMR IAmb IAmb 06 28 55.3
comp=Z,24nm,1.5s
SML Sawmill 87.07 15 P **P 06 28 54.7 -0.5**
SML IAmb IAmb 06 28 56.8
comp=Z,15nm,0.9s
MENT Mentasta 87.08 13 P **P 06 28 54.9 -0.3**
M24K Tolsona, Glenn 87.31 14 P **P 06 28 56.7 +0.4**
baz=332
M24K Tolsona, Glenn 87.31 14 P **P 06 28 56.1 -0.2**
BCAR Beaver Creek A 87.34 12 P **P 06 28 56.0 -0.5**
RC01 Rabbit Creek A 87.35 16 P **P 06 28 55.3 -1.2**
baz=329
KNK Knik Glacier 87.38 16 P **P 06 28 56.2 -0.4**
KNK IAmb IAmb 06 28 56.6
comp=Z,15nm,1.0s
KLU Klutina 87.91 15 P **P 06 28 59.1 -0.1**
KLU IAmb IAmb 06 29 01.4
comp=Z,10nm,0.9s
BRLK Bradley Lake 88.18 18 P **P 06 28 59.2 -1.3**
BRLK IAmb IAmb 06 28 59.9
comp=Z,11nm,0.8s
MCARA McCarthy VSAT 88.63 13 IAMs_20 IAMs_20 07 11 51.2
comp=Z,296nm,20.0s
SCHQ Schefferville 88.71 335 P **P 06 29 02.5 -0.5**
comp=Z,9.3nm,1.0s,baz=57,slow=8.0,SNR=3.8
SCHQ LR LR 07 09 57.6
comp=Z,157nm,21.9s,baz=98,slow=36
SCHQ Schefferville 88.71 335 P **P 06 29 02.1 -1.0**
EYAK Cordova Ski Ar 88.78 15 P **P 06 29 04.0 +0.8**
EYAK IAmb IAmb 06 29 29.4
comp=Z,15nm,1.2s
BARN Barnard Glacie 89.20 13 P **P 06 29 05.7 +0.2**
CTGM Chitina Glacie 89.35 13 P **P 06 29 06.6 +0.4**
CTGM IAmb IAmb 06 29 08.0
comp=Z,10nm,0.9s
KDAK Kodiak Island 89.37 19 P **P 06 29 05.5 -0.6**
comp=Z,9.5nm,0.7s,baz=288,slow=6.0,SNR=7.7
KDAK Kodiak Island 89.37 19 P **P 06 29 05.8 -0.3**
KDAK IAmb IAmb 06 29 07.8
comp=Z,17nm,1.0s
CNBA Chernabura Isl 89.43 24 P **P 06 29 05.5 -0.9**
BBOO Buckleboo 89.55 128 P **P 06 29 06.6 -0.6**
HYT Haines Junctio 90.19 11 P **P 06 29 10.4 +0.3**
HYT IAmb IAmb 06 29 11.9
comp=Z,8.3nm,0.8s
YKA Yellowknife Ar 90.56 0 P **P 06 29 10.9 -0.6**
comp=Z,5.3nm,1.0s,baz=355,slow=5.6,SNR=7.1
YKA LR LR 07 13 31.3
comp=Z,86nm,21.8s,baz=0.0,slow=38
STKA Stephens Creek 93.05 124 P **P 06 29 22.8 -0.7**
comp=Z,4.0nm,0.8s,baz=302,slow=3.0,SNR=7.8
STKA LR LR 07 17 09.8
comp=Z,69nm,18.3s,baz=225,slow=39
STKA Stephens Creek 93.05 124 P **P 06 29 23.4 -0.1**
DLBC Dease Lake 93.61 8 P **P 06 29 25.2 -0.7**
comp=Z,3.3nm,1.0s,baz=308,slow=8.9,SNR=4.3
DLBC Dease Lake 93.61 8 IAmb IAmb 06 29 26.4
comp=Z,9.4nm,1.2s
MAW Mawson 94.59 181 P **P 06 29 29.8 +0.2**
comp=Z,1.9nm,1.0s,baz=317,slow=2.5,SNR=4.0
CHGQ Chibougamau 95.43 335 P **P 06 29 34.7 +0.4**
baz=35
D62A Allapoint, All 95.55 331 P **P 06 29 34.7 -0.1**
baz=39
E63A Oxbow 95.78 330 P **P 06 29 35.6 -0.3**
baz=40
F64A Sherman 96.18 330 P **P 06 29 37.1 -0.6**
baz=40
SYO Syowa Base 97.89 189⇓ *e*P **P 06 29 44.2 -0.4**
EGMT Eagleton 104.96 357 IAMs_20 IAMs_20 07 16 12.1
comp=Z,495nm,22.0s
MSO Missoula 106.26 360 IAMs_20 IAMs_20 07 20 18.7
comp=Z,353nm,18.0s
FXWY Fox Creek 109.39 358 IAMs_20 IAMs_20 07 08 09.5
comp=Z,341nm,22.0s
PDAR Pinedale Array 110.19 356 PKiKP **PKiKP 06 34 40.5 -1.4**
comp=Z,0.5nm,0.6s,baz=74,slow=1.6,SNR=5.3
VNA2 Neumayer--Watz 110.23 200 PKiKP **PKiKP 06 34 41.0 +0.4**
VNA3 Neumayer Olymp 111.03 200 PKiKP **PKiKP 06 34 41.4 -0.8**
PHWY Pilot Hill 111.31 353 IAMs_20 IAMs_20 07 23 07.1
comp=Z,302nm,22.0s
SKI Saint Kitts 113.28 306 IAMs_20 IAMs_20 07 06 37.2
comp=Z,152nm,22.0s
PV15 Paradox Valley 114.53 355 IAMs_20 IAMs_20 07 08 53.2
comp=Z,384nm,20.0s
NVAR Mina Array Bea 114.54 4 PKP **PKiKP 06 34 49.8 -0.5**
comp=Z,1.6nm,0.7s,baz=290,slow=1.2,SNR=16
NVAR Mina Array Bea 114.54 4 **PKiKP 06 34 50.1 -0.1**
PV20 West Nyswonger 114.56 356 IAMs_20 IAMs_20 07 14 59.2
comp=Z,446nm,20.0s
PV19 Morning Glory 114.59 356 IAMs_20 IAMs_20 07 22 00.1
comp=Z,431nm,19.0s
OK025 Westminster Rd 115.51 345 IAMs_20 IAMs_20 07 07 44.2
comp=Z,297nm,22.0s
MIAR Mount Ida 115.51 341 P **PKiKP 06 34 51.4 -0.5**
baz=20
OKCFA Oklahoma City 115.69 345 IAMs_20 IAMs_20 07 27 21.1
comp=Z,365nm,21.0s
GRGR Grenville 115.76 300 IAMs_20 IAMs_20 07 08 44.4
comp=Z,139nm,19.0s
121A Cookes Peak, D 120.23 354 P **PKiKP 06 35 01.3 -0.1**
baz=6.7
TUC Tucson 120.67 357 P **PKPdf 06 35 01.8 -0.3**
baz=3.6
MNTX Cornudas Mount 120.78 351 P **PKPdf 06 35 01.6 -0.6**
baz=9.2
MNTX Cornudas Mount 120.78 351 PKPdf **PKPdf 06 35 02.0 -0.2**
JCT Junction City 120.97 346 PKiKP **PKPdf 06 35 01.5 -1.1**
JCT Junction City 120.97 346 P **PKPdf 06 35 01.7 -0.9**
baz=15
JCT Junction City 120.97 346 PKPdf **PKPdf 06 35 01.5 -1.1**
TX31 Lajitas Ar. Si 122.84 349 **PKPdf 06 35 05.7 -0.6**
TX32 Lajitas Array 122.84 349 **PKPdf 06 35 05.7 -0.6**
TXAR Lajitas Array 122.84 349 PKP **PKPdf 06 35 05.6 -0.6**
comp=Z,1.4nm,0.6s,baz=172,slow=1.9,SNR=24
TXAR PP **PP 06 36 40.5 -2.6**
comp=Z,1.0nm,0.9s,baz=32,slow=5.0,SNR=3.9
TXAR Lajitas Array 122.84 349 PKPdf **PKPdf 06 35 05.7 -0.6**
TXAR **PP 06 36 43.2 0.0**
SDV Santo Domingo 124.59 304 IAMs_20 IAMs_20 07 25 41.3
comp=Z,132nm,21.0s
TEIG Tepich 126.55 329 IAMs_20 IAMs_20 07 24 35.0
comp=Z,224nm,19.0s
SMLC San Martn de 127.14 307 *e*P **PKPdf 06 35 14.1 -0.6**
SJCC San Jacinto, C 127.15 309 *e*P **PKPdf 06 35 14.9 +0.1**
BRRC Barranca, Sant 128.04 305 *e*P **PKPdf 06 35 16.4 -0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOTC	Monteria, Cord	128.28	308	eP	PKPdf	06 35 16.7	-0.2
RUSC	La Rusia	128.39	303	eP	PKPdf	06 35 16.4	-1.4
SAML	Samuel	128.61	281	PKIKP	PKPdf	06 35 17.4	-0.1
SAML	Samuel	128.61	281		PKPdf	06 35 17.4	-0.1
SAML				IAMs_20	IAMs_20	07 27 23.3	
	comp=Z,181nm,20.0s						
PTBC	PUERTO BERRIO	128.96	305	eP	PKPdf	06 35 16.2	-2.0
SPBC	San Pablo de B	129.28	304	eP	PKPdf	06 35 18.6	-0.3
CHIC	Chingaza	129.70	303	eP	PKPdf	06 35 19.1	-1.0
ROSC	El Rosal	130.00	304	PKP	PKiKP	06 35 21.0	-0.5
	comp=Z,13nm,0.8s,baz=70,slow=1.8,SNR=6.7						
GUVC	San Jose del G	130.20	300	eP	PKPdf	06 35 18.8	-1.8
GUY2C	Guyana, Caldas	130.51	305	eP	PKPdf	06 35 21.6	-0.1
BCIP	Isla Barro Col	130.82	313	PKIKP	PKPdf	06 35 21.0	-0.7
BCIP	Isla Barro Col	130.82	313		PKPdf	06 35 21.0	-0.7
TOLC	Tolima	130.91	304	eP	PKPdf	06 35 22.4	0.0
PRAC	Prado	131.17	303	eP	PKPdf	06 35 21.7	-0.8
TGUH	Tegucigalpa,Un	131.34	324	PKPdf	PKPdf	06 35 23.1	+0.2
MATN	Matagalpa	131.55	322		PKPdf	06 35 22.8	-0.4
BOAB	BOACO BROADBAN	131.80	321	IAMs_20	IAMs_20	07 22 30.8	
	comp=Z,274nm,22.0s						
ACON	Acoyapa	131.91	320		PKPdf	06 35 22.9	-0.9
ACON				IAMs_20	IAMs_20	07 20 38.9	
	comp=Z,252nm,20.0s						
FLOC	Florencia	133.14	301	eP	PKPdf	06 35 26.0	-0.2
LPAZ	La Paz	136.09	275	PKP	PKPdf	06 35 31.9	-0.4
	comp=Z,3.7nm,0.8s,baz=5.7,slow=2.2,SNR=12						
LPAZ	La Paz	136.09	275	PKPdf	PKPdf	06 35 32.1	-0.2
OTAV	Otavalo	136.12	303	eP	PKPdf	06 35 32.7	+0.4
OTAV	Otavalo	136.12	303	PKIKP	PKPdf	06 35 32.7	+0.4
OTAV	Otavalo	136.12	303	PKPdf	PKPdf	06 35 32.7	+0.4
PB16	IPOC Station P	138.06	273		PKPdf	06 35 36.4	+0.6
GO01	Chusmiza	138.23	271		PKPdf	06 35 36.2	+0.2
PLCA	Paso Flores	141.80	238	PKP	PKPdf	06 35 42.1	+0.8
	comp=Z,8.9nm,1.1s,baz=164,slow=4.2,SNR=8.0						
PLCA	Paso Flores	141.80	238	PKIKP	PKPdf	06 35 41.9	+0.5
PLCA	Paso Flores	141.80	238	PKPdf	PKPdf	06 35 41.9	+0.5
VA03	San Esteban	142.03	251		PKPdf	06 35 42.0	-0.1

IDC 25 06:16:48.8±6.0, 23°.45S×119°.67E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/37, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=75.5km s-min=25.1km az=137.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	9.68	192	Pn	Pn	06 19 10.8	+1.4
	0.9nm,0.3s,baz=8.2,slow=14,SNR=1.9						
NWAO				Sn	Sn	06 20 58.1	-0.7
	0.7nm,0.3s,baz=253,slow=21,SNR=1.5						
NWAO				Lg	Lg	06 21 56.1	
	0.6nm,0.3s,baz=93,slow=20,SNR=1.4						
ASAR	Alice Springs	13.06	94	Pn	Pn	06 19 57.3	+1.6
	0.3nm,0.3s,baz=272,slow=12,SNR=15						
ASAR				Sn	Sn	06 22 21.2	-0.5
	0.1nm,0.3s,baz=302,slow=38,SNR=1.9						
ASAR				Lg	Lg	06 23 45.6	
	0.0nm,0.3s,baz=279,slow=17,SNR=1.1						
WRA	Warramunga Arr	14.07	78	Pn	Pn	06 20 08.9	-0.7
	0.3nm,0.3s,baz=253,slow=11,SNR=17						
WRA				Sn	Sn	06 22 40.5	-6.1
	0.1nm,0.3s,baz=125,slow=9.5,SNR=1.4						
STKA	Stephens Creek	21.13	118	P	P	06 21 34.4	-0.9
	0.6nm,0.4s,baz=307,slow=14,SNR=1.8						

ATH 25 06:20:49.8, 40°.41N×23°.87E, h25km±1km, ML3.3/15, Error ellipse: s-maj=1.2km s-min=0.6km az=321.0
ISK 25 06:20:50.0, 40°.45N×23°.91E, h15km, ML3.4/17
DDA 25 06:20:50.9, 40°.06N×23°.84E, h4km±2km, MW3.4
THE 25 06:20:50.6, 40°.43N×23°.87E, h14km, ML3.4/10, Error ellipse: s-maj=0.8km s-min=0.6km az=20.0
SKO 25 06:20:51.4, 40°.44N×23°.86E, h3km
SOF 25 06:20:52.1, 40°.48N×23°.82E, h22km, MD3.7
BEO 25 06:20:52.8±1.3, 40°.54N×23°.85E, h11km±5km, ML3.1/3
ISC 25 06:20:50.9±0.8, 40°.42N±0°.02×23°.87E±0°.01, h17km±5km, n129, σ1°.07/164, 14C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.12	135	P	Pg	06 20 54.4	-0.2
OUR				S	Sg	06 20 56.6	-0.6
	30μm,0.3s						
OUR	Ouranopolis	0.12	135	PG	Pg	06 20 54.4	-0.2
OUR				SG	Sg	06 20 56.7	-0.5
PLG	Polygyros	0.33	262	P	Pg	06 20 57.5	-0.3
PLG				S	Sg	06 21 01.9	-0.6
	28μm,0.4s						
PLG	Polygyros	0.33	262	P	Pg	06 20 57.5	-0.3
PLG				S	Sg	06 21 02.1	-0.4
PLG				AML	AML	06 21 02.8	
	comp=N,29850μm,0.2s						
PLG				AML	AML	06 21 02.9	
	comp=E,67901μm,0.3s						
PAIG	Paliouri	0.51	196	P	Pg	06 21 00.8	-0.3
PAIG				S	Sg	06 21 08.0	0.0
	comp=E,4μm,0.2s						
PAIG	Paliouri	0.51	196	P	Pg	06 21 00.6	-0.6
PAIG				S	Sg	06 21 07.0	-1.0
PAIG				AML	AML	06 21 12.4	
	comp=E,7541μm,0.2s						
PAIG				AML	AML	06 21 12.6	
	comp=N,7242μm,0.3s						
SOH	Sokhos	0.56	316	P	Pg	06 21 01.8	-0.2
SOH				S	Sg	06 21 09.0	-0.5
	comp=N,4μm,0.3s						
SOH	Sokhos	0.56	316	P	Pg	06 21 01.4	-0.6
SOH				S	Sg	06 21 09.2	-0.3
SOH				AML	AML	06 21 10.5	
	comp=E,8527μm,0.3s						
SOH				AML	AML	06 21 11.2	
	comp=N,9037μm,0.3s						
HORT	Hortiatis	0.61	287	P	Pg	06 21 02.3	-0.6
HORT	Hortiatis	0.61	287	P	Pg	06 21 02.4	-0.6
HORT				S	Sg	06 21 10.7	-0.4
HORT				AML	AML	06 21 12.9	
	comp=E,5677μm,0.1s						
HORT				AML	AML	06 21 13.0	
	comp=N,6193μm,0.1s						
HORT	Hortiatis	0.61	287	PG	Pg	06 21 02.5	-0.5
KVLA	Kavala	0.65	37	P	Pg	06 21 03.4	-0.3
KVLA				S	Sb	06 21 12.4	-0.1
KVLA				AML	AML	06 21 14.3	
	comp=N,43457μm,0.2s						
KVLA				AML	AML	06 21 14.3	
	comp=E,35744μm,0.2s						
THAS	Thassos island	0.68	74	P	Pg	06 21 03.3	-0.8
THAS				S	Sg	06 21 13.0	-0.1
	comp=E,6μm,0.3s						
THAS	Thassos island	0.68	74	P	Pg	06 21 03.4	-0.8
THAS				S	Sg	06 21 13.1	-0.1
THAS				AML	AML	06 21 15.5	
	comp=N,14489μm,0.2s						
THAS				AML	AML	06 21 16.7	
	comp=E,9589μm,0.4s						
THE	Thessaloniki	0.72	287	P	Pg	06 21 04.0	-0.9
THE	Thessaloniki	0.72	287	P	Pg	06 21 04.1	-0.8
THE				S	Sb	06 21 14.4	-0.1
THE				AML	AML	06 21 15.5	
	comp=E,1788μm,0.2s						
THE				AML	AML	06 21 15.6	
	comp=N,2007μm,0.4s						
SRS	Serrai	0.73	343	P	Pg	06 21 03.3	-1.8
SRS	Serrai	0.73	343	ePg	Pg	06 21 03.4	-1.7
SRS				eSg	Sg	06 21 12.8	-1.9
SRS	Serrai	0.73	343	P	Pg	06 21 03.4	-1.7
SRS				S	Sg	06 21 14.2	-0.5
SRS				AML	AML	06 21 15.8	
	comp=E,5790μm,0.4s						
SRS				AML	AML	06 21 21.0	
	comp=N,4516μm,0.3s						
KAVA	Kavala	0.76	40	P	Pg	06 21 04.9	-0.7
KAVA				S	Sb	06 21 15.9	+0.3
	comp=N,8μm,0.2s						
KAVA	Kavala	0.76	40	P	Pg	06 21 05.2	-0.5
KAVA				S	Sb	06 21 15.8	+0.2
KAVA				AML	AML	06 21 17.2	
	comp=N,19452μm,0.2s						
KAVA				AML	AML	06 21 17.5	
	comp=E,15424μm,0.1s						
NVR	Nevrokopi	0.93	360	P	Pb	06 21 08.2	-0.3
NVR				S	Sg	06 21 21.0	-0.1
	comp=E,1μm,0.3s						
NVR	Nevrokopi	0.93	360	P	Pb	06 21 08.2	-0.3
NVR				S	Sg	06 21 20.6	-0.5
NVR				AML	AML	06 21 22.9	
	comp=E,2909μm,0.3s						
NVR				AML	AML	06 21 23.4	
	comp=N,2856μm,0.3s						
KNT	Kendrikon	1.04	315	P	Pb	06 21 10.1	-0.3
KNT	Kendrikon	1.04	315	P	Pb	06 21 10.1	-0.3
KNT				S	Sg	06 21 24.5	-0.3
KNT				AML	AML	06 21 27.6	
	comp=E,2442μm,0.2s						
KNT				AML	AML	06 21 28.3	
	comp=N,3095μm,0.2s						
KNT	Kendrikon	1.04	315	PG	Pb	06 21 10.4	-0.1
LIT	Litokhoron	1.10	254	P	Pb	06 21 10.9	-0.5
LIT				S	Sb	06 21 25.9	+0.4
	comp=N,608nm,0.3s						
LIT	Litokhoron	1.10	254	P	Pb	06 21 11.1	-0.3
LIT				S	Sb	06 21 25.9	+0.4
LIT				AML	AML	06 21 28.4	
	comp=N,1069μm,0.2s						
LIT				AML	AML	06 21 30.1	
	comp=E,1322μm,0.3s						
LIT	Litokhoron	1.10	254	iP	Pb	06 21 11.1	-0.3
LIT				iS	Sb	06 21 26.1	+0.6
LIA	Limnos Island	1.14	117	P	Pb	06 21 11.4	-0.6
LIA				S	Sb	06 21 27.0	+0.6
	comp=E,1μm,0.6s						
LIA	Limnos Island	1.14	117	P	Pb	06 21 11.4	-0.6
LIA				S	Sb	06 21 26.9	+0.4
LIA				AML	AML	06 21 30.4	
	comp=E,2586μm,0.6s						
LIA				AML	AML	06 21 30.5	
	comp=N,1905μm,0.6s						
MMB	Musomiste	1.17	355	iP	Pb	06 21 12.2	-0.5
XOR	Xorichti	1.18	206	P	Pn	06 21 12.0	-0.6
XOR				S	Sb	06 21 27.7	+0.1
	comp=N,752nm,0.6s						
XOR	Xorichti	1.18	206	P	Pn	06 21 11.9	-0.6
XOR				S	Sb	06 21 27.8	+0.1
XOR				AML	AML	06 21 28.7	
	comp=E,939μm,0.7s						
XOR				AML	AML	06 21 28.9	
	comp=N,2100μm,0.6s						
NEO	Neokhori	1.22	204	P	Pn	06 21 12.7	-0.4
SMTH	Samothraki Isl	1.27	87	P	Pn	06 21 12.8	-1.0
SMTH	Samothraki Isl	1.27	87	P	Pn	06 21 13.5	-0.3
SMTH				S	Sg	06 21 31.8	-0.1
SMTH				AML	AML	06 21 32.6	
	comp=E,3052μm,0.5s						
SMTH				AML	AML	06 21 34.0	
	comp=N,2135μm,0.3s						
ALNA	Alonissos	1.27	180	P	Pn	06 21 13.5	-0.3
VAY	Valandovo	1.33	313	ePg	Pg	06 21 16.1	-0.5
VAY				eSg	Sn	06 21 32.5	+0.5
VAY	Valandovo	1.33	313	iPg	Pg	06 21 15.9	-0.6
VAY				iSg	Sg	06 21 33.7	-0.2
VAY				eLg	Lg	06 21 34.8	
	comp=E,203nm,0.5s						
VAY				eLg	Lg	06 21 35.3	
	comp=N,122nm,0.3s						
RDO	Rodhopi	1.46	60	P	Pn	06 21 16.6	+0.2
RDO	Rodhopi	1.46	60	PN	Pn	06 21 16.0	-0.4
KKB	Krupnik	1.56	338	iP	Pb	06 21 18.7	-0.6
GADA	Gvkgeada	1.57	98	PN	Pn	06 21 17.0	-0.9
GOKA	anakkale-Gk	1.58	98	iP	Pg	06 21 21.2	0.0
GOKA				iS	Sg	06 21 42.0	+0.2
KZN	Kozani	1.61	267	P	Pn	06 21 18.9	+0.4
SKY	Skiros Island	1.63	161	P	Pn	06 21 18.9	+0.2
SKY	Skiros Island	1.63	161	P	Pn	06 21 18.3	-0.4
THL	Klokotos Trika	1.66	240	P	Pn	06 21 19.4	+0.3
THL	Klokotos Trika	1.66	240	P	Pn	06 21 19.5	+0.3
KDZ	Kurdzhali	1.70	43	iP	Pb	06 21 21.0	-0.6
KDZ	Kurdzhali	1.70	43	PN	Pn	06 21 18.8	-0.9
ALN	Alexandroupoli	1.72	73	P	Pn	06 21 20.0	0.0
ALN	Alexandroupoli	1.72	73	PN	Pn	06 21 19.5	-0.5
ALN	Alexandroupoli	1.72	73	iP	Pg	06 21 23.4	-0.5
ALN				iS	Sg	06 21 46.1	-0.3
ENEZ	Enez	1.77	79	PN	Pn	06 21 20.5	-0.1
BOZC	Bozcaada	1.77	108	PN	Pn	06 21 20.6	-0.1
BOZC	Bozcaada	1.77	108	iP	Pn	06 21 20.9	+0.3
BOZC				iS	Sb	06 21 45.0	+0.2
KYMI	Kymi, Euboea I	1.79	174	P	Pn	06 21 20.9	-0.1
KYMI	Kymi, Euboea I	1.79	174	P	Pn	06 21 20.8	-0.1
PLD	Plovdiv	1.80	20	PN	Pn	06 21 21.4	+0.4
FNA	Florina	1.93	282	ePn	Pb	06 21 24.5	-1.1
FNA				eSg	Sg	06 21 52.6	-0.4
FNA	Florina	1.93	282	P	Pn	06 21 23.8	+0.8
FNA	Florina	1.93	282	PN	Pn	06 21 24.2	+1.3
FNA	Florina	1.93	282	iP	Pb	06 21 24.6	-1.0
FNA				iS	Sg	06 21 51.9	-1.1
SIGR	SIGRI	1.95	128	P	Pn	06 21 23.5	+0.4
SIGR	SIGRI	1.95	128	PN	Pn	06 21 23.6	+0.5
EZN	Ezine	1.98	107	PN	Pn	06 21 24.2	+0.7
GELI	Tayfur-Gelibol	1.99	90	PN	Pn	06 21 23.4	-0.3
ERIK	Erikli-Kesan	2.03	82	PN	Pn	06 21 24.3	+0.1
PENT	Pentalofos	2.10	265	P	Pn	06 21 26.5	+1.2
PGB	Panagyurishte	2.14	6	iP	Pb	06 21 29.9	+0.7
BAYC	CANAKKALE_Bayr	2.17	107	iP	Pn	06 21 26.3	+0.2
BAYC				iS	Sn	06 21 52.2	-0.4
KESN	Edirne-Kesan	2.18	78	iP	Pb	06 21 30.8	+0.8
KESN				iS	Sg	06 21 59.8	-1.3
EVR	Evrytania	2.19	227	P	Pn	06 21 27.1	+0.6
LPK	Lapseki	2.21	90	PN	Pn	06 21 26.7	0.0
UKOP	Uzunkopru-Edir	2.21	71	PN	Pn	06 21 26.9	+0.1
VTS	Vitosha	2.25	348	iP	Pn	06 21 28.6	+1.2
VIL2	Platees	2.25	192	P	Pn	06 21 28.0	+0.6
DSF	Desfina	2.26	208	P	Pn	06 21 27.6	+0.1
BOSS	Bosilegrad	2.32	334	ePn	Pn	06 21 29.8	+1.5
DION	Dionisos Attik	2.34	179	P	Pn	06 21 28.8	+0.2
ANX	Ano Chora	2.37	220	P	Pn	06 21 29.7	+0.7
SERG	Sergoula	2.45	216	P	Pn	06 21 30.0	0.0
LTK	Loutraki	2.50	197	P	Pn	06 21 30.5	-0.2
EDRB	Edirne	2.60	56	PN	Pn	06 21 32.6	+0.6
KRBG	Karabiga-Canak	2.62	90	PN	Pn	06 21 32.0	-0.3
MAR3	Marsite Statio	2.63	82	PN	Pn	06 21 32.6	+0.1
MAR4	Marsite Statio	2.64	81	PN	Pn	06 21 33.0	+0.3
CHOS	Chios island	2.65	139	P	Pn	06 21 33.1	+0.3
CHOS	Chios island	2.65	139	PN	Pn	06 21 32.8	0.0
KLV	Kalavryta, Ach	2.72	210	P	Pn	06 21 34.5	+0.7
GUR	Goura	2.75	206	P	Pn	06 21 34.8	+0.5
KNL	Balıkesir	2.80	92	iP	Pn	06 21 35.7	+0.9
KNL				iS	Sb	06 22 14.5	+0.1
BARS	Barje	2.84	328	ePn	Pn	06 21 36.5	+1.0
MRMT	Marmara Adasi	2.85	85	PN	Pn	06 21 35.8	+0.2
IGT	Igoumenitsa	2.86	253	ePn	Pn	06 21 38.8	+3.2
MAR9	Marsite Statio	2.93	85	PN	Pn	06 21 36.2	-0.4
URLA	Izmir	2.95	133	PN	Pn	06 21 37.5	+0.6
BALY	Balya	2.96	102	iP	Pn	06 21 37.7	+0.7
BALY				iS	Sn	06 22 13.5	+1.3
ZAPS	Zavoj	3.00	342	ePn	Pn	06 21 38.9	+1.3
BALB	Balikesir	3.18	103	PN	Pn	06 21 40.6	+0.6
KEK	Kerkira	3.20	259	P	Pn	06 21 41.3	+1.0
SELS	Selova	3.47	325	ePn	Pn	06 21 44.6	+0.5
BOVS	Bovan	3.59	334	ePn	Pn	06 21 47.0	+1.3
VLAD	Vladila	3.60	6	↑↑P	Pg	06 21 58.7	-1.0
ZAGS	Zajecar	3.60	341	ePn	Pn	06 21 46.4	+0.6
RAZG	Razgrad	3.71	31	↓↓P	Pg	06 22 00.4	-1.5
PUNG	Punghina	3.92	350	↑↑P	Pg	06 22 02.8	-3.0
PDG	Podgorica	4.01	302	↑↑P	Pn	06 21 55.2	+3.8
SJES	Sjenica	4.06	316	ePn	Pn	06 21 53.6	+1.3
GRUS	Gruza	4.18	327	ePn	Pn	06 21 54.7	+0.9
HERR	Herculane	4.58	347	↑↑P	Pn	06 21 59.7	+0.4
TRUS	Trudelj	4.58	327	ePn	Pn	06 22 01.0	+1.6
LOT	Lotru	5.03	359	↓↓P	Pn	06 22 09.9	+4.4
GZR	Gura Zlata	5.03	351	↓↓P	Pg	06 22 23.7	-3.5
VOIR		5.09	9	↑↑P	Pn	06 22 08.1	+1.8
ISR	Istrita	5.09	22	↑↑P	Pn	06 21 59.5	-6.9
IDI	Anoyia	5.19	171	↓↓P	Pn	06 22 14.1	+6.3
HARR	Harsova	5.21	34	↑↑P	Pg	06 22 26.9	-3.8
TIRR	Tirgusor	5.25	38	↑↑P	Pb	06 22 26.4	+4.2
MLR	Muntele Rosu	5.29	16	↑↑P	Pn	06 22 15.1	+5.9
BZS	Buzias	5.45	343	↑↑P	Pn	06 22 13.0	+1.8
DEV	Deva	5.50	353	↑↑P	Pg	06 22 34.6	-1.6
DOPR	Dopca	5.65	11	↓↓P	Pn	06 22 14.0	-0.1
CFR	Carcaliu	5.70	32	↓↓P	Pg	06 22 38.7	-1.1
PLOR	Plostina	5.80	20	↑↑P	Pn	06 22 17.6	+1.6
VRI	Vrincioaia	5.83	20	↑↑P	Pn	06 22 21.5	+5.0
OZUR		5.84	13	↑↑P	Pn	06 22 18.9	+2.2

TEH 25 06:21:44.6, 32°.68N×47°.60E, h10km, ML2.8
ISN 25 06:21:45.4±0.8, 32°.67N×47°.59E, h14km±5km, ML2.8
ISC 25 06:21:44.8±1.2, 32°.66N±0°.06×47°.65E±0°.06, h10km, n13, σ1°.55/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.31	273	ePg	Pg	06 21 50.0	-1.0
IKFM	Kafar-mosalman	0.88	11	ePg	Pg	06 21 59.8	-1.9
IKFM				e		06 22 14.6	
IDOB	Doab	1.21	21	e		06 22 10.7	
IDOB				ePg	Pb	06 22 06.9	-1.0
BMDN	Meydan	1.41	44	ePg	Pn	06 22 12.1	+1.3
BMDN				e		06 22 37.0	
IBDR	Badra	1.51	288	ePg	Pn	06 22 12.0	+0.1
IBDR				eSg	Sn	06 22 32.0	+0.3
IBDR				AML	AML	06 22 36.4	
	comp=E,125nm,0.4s						
IBDR				AML	AML	06 22 36.9	
	comp=N,174nm,1.0s						
IKOM	Komasi	1.51	356	ePg	Pn	06 22 12.8	+0.7
IKOM				e		06 22 37.3	
HSAM	Samen	1.74	27	ePn	Pn	06 22 17.5	+2.1
HSAM				e		06 22 46.0	
IBZA	Bozab	1.81	6	ePn	Pn	06 22 18.4	+2.1
IBZA				e		06 22 47.7	
IGHG	Ghaleghazi	1.89	332	ePn	Pn	06 22 19.8	+2.4
IGHG				e		06 22 53.2	
IVIS	Veis	1.97	341	ePn	Pn	06 22 20.1	+1.7
IVIS				e		06 22 50.9	
NSR	Nassriya	2.09	218	ePn	Pn	06 22 21.0	+1.1
NSR				eSn	Sn	06 22 46.0	+0.1
IDHR	Dehrash	2.29	333	ePn	Pn	06 22 24.1	+1.3
IDHR				e		06 23 01.8	
BHD	Baghdad	2.81	283	ePn	Pn	06 22 31.0	+1.2
BHD				eSn	Sn	06 23 05.0	+1.2

ROM 25 06:56:55.0±0.1, 44°.346N±0°.008×7°.22E±0°.01, h8km, ML2.4/25, Error ellipse: s-maj=1.3km s-min=0.1km az=228.0, hypocenter
STR 25 06:56:55.5±0.3, 44°N±1°×±°, h0km, MLv2.4/11, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary
GEN 25 06:56:55.5, 44°.32N×7°.19E, h7km±2km, MI2.5
LDG 25 06:56:55.5±0.0, 44°.34N×7°.20E, h5km, Md2.6/2, Ml2.7/25, Error ellipse: s-maj=1.0km s-min=0.7km az=52.0
ISC 25 06:56:55.3±0.8, 44°.34N±0°.02×7°.19E±0°.02, h13km±5km, n78, σ1°.38/117, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	Sant Anna di V	0.14	133	P	Pg	06 56 58.4	-0.5
STV				S	Sg	06 57 00.2	-1.1
STV	Sant Anna di V	0.14	133	P	Pg	06 56 58.4	-0.5
STV				S	Sg	06 57 00.2	-1.1
STV				AML	AML		
	comp=E,3845μm,0.3s						
STV				AML	AML		
	comp=N,4685μm,0.3s						
PZZ	Stroppo	0.18	343	P	Pg	06 56 59.6	0.0
PZZ				S	Sg	06 57 02.3	-0.1
PZZ	Stroppo	0.18	343	P	Pg	06 56 59.6	0.0
PZZ				S	Sg	06 57 02.3	-0.1
PZZ				AML	AML		
	comp=E,5710μm,0.8s						
PZZ				AML	AML		
	comp=N,6950μm,0.4s						
PZZ				AML	AML		
	comp=E,5715μm,0.8s						
ISO	Isola	0.18	212	Pg	Pg	06 56 59.1	-0.4
ISO				Sg	Sg	06 57 01.4	-1.1
ENR	Entracque	0.20	123	P	Pg	06 56 59.4	-0.5
ENR				S	Sg	06 57 02.3	-0.6
ENR	Entracque	0.20	123	P	Pg	06 56 59.4	-0.5
ENR				S	Sg	06 57 02.4	-0.6
ENR				AML	AML		
	comp=N,3970μm,1.2s						
ENR				AML	AML		
	comp=E,3160μm,0.9s						
SURF	Saint Ours	0.30	298	Pg	Pg	06 57 01.7	0.0
TURF	col de Turini	0.39	158	Pg	Pg	06 57 03.1	-0.1
TURF				Sg	Sg	06 57 08.4	-0.1
SAOF	Saorge	0.44	143	Pg	Pg	06 57 03.9	-0.1
SAOF				Sg	Sg	06 57 09.5	-0.4
SAOF	Saorge	0.44	143	P	Pg	06 57 03.9	-0.1
SAOF				S	Sg	06 57 09.7	-0.2
SAOF	Saorge	0.44	143	AML	AML		
	comp=N,645μm,0.5s						
SAOF				AML	AML		
	comp=E,890μm,0.3s						
OGAG	Argentiere	0.48	284	Pg	Pn	06 57 07.9	0.0
OGAG				Sg	Sb	06 57 17.7	+5.2
GBOS	Grotte di Boss	0.48	101	P	Pg	06 57 04.5	-0.2
GBOS				S	Sg	06 57 11.1	-0.1
GBOS	Grotte di Boss	0.48	101	P	Pg	06 57 04.6	-0.2
GBOS				S	Sg	06 57 11.5	+0.3
GBOS				AML	AML		
	comp=N,1079μm,1.0s						
GBOS				AML	AML		
	comp=E,634μm,0.3s						
MBDF	Montbardon	0.49	323	ePg	Pg	06 57 05.3	+0.3
MBDF				eSg	Sg	06 57 11.9	+0.3
	comp=E,215nm,0.3s						
BHB	Bricherasio	0.51	6	P	Pg	06 57 05.1	-0.2
BHB				S	Sg	06 57 11.9	-0.2
BHB	Bricherasio	0.51	6	P	Pg	06 57 05.2	-0.2
BHB				S	Sg	06 57 12.1	0.0
BHB				AML	AML		
	comp=N,818μm,0.3s						
BHB				AML	AML		
	comp=E,880μm,1.4s						
BHB				AML	AML		
	comp=N,818μm,0.3s						
SBF	Sospel	0.51	159	ePg	Pg	06 57 05.0	-0.3
SBF				eSg	Sg	06 57 11.9	-0.2
	comp=N,169nm,0.3s						
ESCA	l'Escarene	0.52	165	Pg	Pg	06

BNI				AML	AML		
	comp=E,86μm,0.2s						
BNI				AML	AML		
	comp=N,76μm,0.7s						
BNI				AML	AML		
	comp=E,86μm,0.2s						
BNI				AML	AML		
	comp=N,76μm,0.7s						
RSP	**Reno Superiore**	**0.81**	**4**	P	**Pg**	**06 57 10.1**	**-1.0**
RSP				AML	AML		
	comp=E,228μm,0.5s						
RSP				AML	AML		
	comp=N,234μm,0.1s						
RSP				AML	AML		
	comp=E,236μm,1.2s						
RSP				AML	AML		
	comp=N,246μm,0.2s						
QLNO	**Quiliano**	**0.83**	**91**	AML	AML		
	comp=N,242μm,0.2s						
QLNO				AML	AML		
	comp=E,320μm,1.0s						
QLNO				AML	AML		
	comp=E,320μm,1.0s						
FINB	**Finale Ligure**	**0.83**	**101**	P	**Pg**	**06 57 11.1**	**-0.3**
FINB				S	**Sg**	**06 57 22.2**	**-0.2**
FINB				AML	AML		
	comp=N,255μm,0.3s						
FINB				AML	AML		
	comp=E,282μm,0.3s						
FINB				AML	AML		
	comp=N,254μm,0.3s						
BLAF	**les Blancs**	**0.91**	**245**	Pg	**Pg**	**06 57 13.2**	**+0.3**
OGMO	**Fort Saint-Gob**	**0.94**	**338**	Pg	**Pg**	**06 57 13.7**	**+0.2**
ROTM	**Rocchetta Tana**	**0.98**	**58**	AML	AML		
	comp=E,1425μm,0.3s						
ROTM				AML	AML		
	comp=N,1635μm,0.3s						
PCP	**Piancastagn**	**0.99**	**78**	AML	AML		
	comp=E,131μm,1.4s						
PCP				AML	AML		
	comp=N,150μm,1.4s						
MLYF	**Mely**	**1.08**	**252**	Pg	**Pb**	**06 57 16.8**	**+1.0**
ORIF	**Oris-en-Rattie**	**1.10**	**302**	*e*Pg	**Pg**	**06 57 16.1**	**-0.4**
ORIF				*e*Sg	**Sg**	**06 57 30.2**	**-0.6**
	comp=N,43nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.10**	**302**	P	**Pg**	**06 57 16.4**	**-0.1**
ORIF				S	**Sg**	**06 57 30.4**	**-0.4**
ORIF				AML	AML		
	comp=E,145μm,0.9s						
ORIF				AML	AML		
	comp=N,105μm,1.4s						
LMR	**La Mourre**	**1.12**	**206**	*e*Pg	**Pg**	**06 57 16.5**	**-0.3**
LMR				*e*Sg	**Sg**	**06 57 30.1**	**-1.2**
	comp=N,283nm,0.2s						
LSD	**Lago del Serru**	**1.12**	**358**	AML	AML		
	comp=N,122μm,0.9s						
LSD				AML	AML		
	comp=E,183μm,0.4s						
LSD				AML	AML		
	comp=N,122μm,0.9s						
LSD				AML	AML		
	comp=E,182μm,0.4s						
GDM	**Grand'Maison**	**1.15**	**319**	Pg	**Pg**	**06 57 17.4**	**-0.2**
GDM				Sg	**Sg**	**06 57 32.3**	**-0.2**
LPG	**La Plagne**	**1.20**	**345**	*e*Pg	**Pg**	**06 57 18.1**	**-0.3**
LPG				*e*Sg	**Sg**	**06 57 33.8**	**-0.3**
	comp=E,31nm,0.3s						
BSTF	**la Bastide-des**	**1.20**	**248**	Pg	**Pn**	**06 57 19.3**	**+1.5**
SMRF	**Simiane la Rot**	**1.22**	**253**	*e*P	**Pn**	**06 57 19.3**	**+1.3**
SMRF				*e*Sg	**Sg**	**06 57 34.5**	**0.0**
	comp=E,48nm,0.3s						
LPL	**La Plagne**	**1.22**	**345**	*e*Pg	**Pg**	**06 57 18.5**	**-0.3**
LPL				*e*Sg	**Sg**	**06 57 34.4**	**-0.4**
	comp=E,65nm,0.4s						
TRAV	**Traversella**	**1.24**	**19**	AML	AML		
	comp=E,60μm,0.3s						
TRAV				AML	AML		
	comp=N,72μm,0.3s						
ARTF	**Artigues**	**1.25**	**234**	Pg	**Pn**	**06 57 19.3**	**+0.9**
CIRO	**Champorcher**	**1.29**	**12**	AML	AML		
	comp=N,28μm,0.4s						
CIRO				AML	AML		
	comp=E,40μm,0.6s						
CIRO				AML	AML		
	comp=E,40μm,0.6s						
GRN	**Grenoble**	**1.37**	**312**	Pg	**Pg**	**06 57 22.0**	**+0.5**
RSL	**Roselend**	**1.41**	**344**	Pn	**Pg**	**06 57 22.4**	**+0.1**
MRGE	**Morge**	**1.44**	**356**	AML	AML		
	comp=N,60μm,0.7s						
MRGE				AML	AML		
	comp=E,63μm,1.5s						
GORR	**Gorreto**	**1.53**	**79**	AML	AML		
	comp=E,70μm,0.7s						
GORR				AML	AML		
	comp=N,71μm,0.5s						
SATI	**Passo dei Sala**	**1.61**	**17**	AML	AML		
	comp=N,17μm,0.2s						
SATI				AML	AML		
	comp=E,20μm,0.8s						
SATI				AML	AML		
	comp=E,20μm,0.8s						
OGSM	**Saint Maurice**	**1.65**	**321**	Pn	**Pg**	**06 57 27.0**	**0.0**
MMK	**Mattmark**	**1.80**	**18**	AML	AML		
	comp=N,20μm,1.1s						
MMK				AML	AML		
	comp=E,15μm,1.6s						
VIVF	**Saint-Julien-I**	**1.87**	**287**	*e*P	**Pn**	**06 57 28.4**	**+1.4**
VIVF				*e*Sn	**Sn**	**06 57 49.1**	**-1.3**
	comp=E,28nm,0.5s						
PGF	**Pioggiola**	**2.22**	**143**	*e*Pn	**Pn**	**06 57 31.6**	**-0.3**
PGF				*e*Sn	**Sn**	**06 57 57.6**	**-1.6**
	comp=E,16nm,0.2s						
PGF	**Pioggiola**	**2.22**	**143**	AML	AML		
	comp=N,48μm,0.9s						
PGF				AML	AML		
	comp=E,39μm,1.2s						
GIMEL	**St. Georges /**	**2.29**	**344**	Pn	**Pb**	**06 57 35.7**	**-0.8**
CABF	**La Chapelle**	**2.40**	**342**	*e*P	**Pn**	**06 57 36.3**	**+2.0**
CABF	**La Chapelle**	**2.40**	**342**	*e*Pg	**Pg**	**06 57 40.8**	**-0.5**
CABF				*e*Sn	**Sn**	**06 58 01.3**	**-2.3**
CABF				*e*Sg	**Sg**	**06 58 11.5**	**-1.0**
	comp=E,3.3nm,0.3s						
LASF	**Ste Croix**	**2.41**	**265**	*e*Pn	**Pn**	**06 57 34.0**	**-0.4**
LASF	**Ste Croix**	**2.41**	**265**	*e*Pg	**Pg**	**06 57 40.8**	**-0.6**
LASF				*e*Sn	**Sn**	**06 58 02.2**	**-1.5**
	comp=E,3.3nm,0.2s						
CHMF	**Charmoille**	**2.94**	**353**	Pn	**Pn**	**06 57 44.3**	**+2.7**
AVF	**Avril sur Loir**	**3.64**	**314**	*e*P	**Pn**	**06 57 53.8**	**+2.5**
AVF				*e*Sg	**Sg**	**06 58 49.8**	**-2.4**
	comp=E,4.6nm,0.5s						
CAF	**Calviac**	**3.70**	**281**	*e*P	**Pn**	**06 57 53.8**	**+1.6**
CAF				*e*Sn	**Sn**	**06 58 33.2**	**-2.4**
	comp=E,2.1nm,0.2s						
MTLF	**Montolieu**	**3.73**	**256**	*e*Pn	**Pn**	**06 57 52.2**	**-0.3**
MTLF				*e*Sg	**Sg**	**06 58 52.8**	**-2.2**
	comp=E,1.9nm,0.4s						
LOR	**Lormes**	**3.74**	**323**	*e*P	**Pn**	**06 57 54.9**	**+2.2**
	baz=143						
LOR				*e*Sn	**Sn**	**06 58 33.3**	**-3.3**
	comp=E,2.2nm,0.3s						
LOR				*e*Sg	**Sg**	**06 58 52.9**	**-2.5**
	comp=E,2.5nm,0.4s,baz=149						
SSF	**Saint Saulge**	**3.75**	**318**	*e*P	**Pn**	**06 57 55.2**	**+2.4**
SSF				*e*Sn	**Sn**	**06 58 33.5**	**-3.3**
SSF				*e*Sg	**Sg**	**06 58 53.2**	**-2.5**
	comp=E,2.4nm,0.4s						
BGF	**Bois d'Agland**	**3.78**	**308**	*e*P	**Pn**	**06 57 55.7**	**+2.6**
BGF				*e*Sn	**Sn**	**06 58 33.8**	**-3.6**
BGF				*e*Sg	**Sg**	**06 58 54.1**	**-2.4**
	comp=E,5.7nm,0.3s						
TCF	**Toulx Ste Croi**	**4.02**	**301**	*e*P	**Pn**	**06 57 58.9**	**+2.5**
TCF				*e*Sn	**Sn**	**06 58 40.3**	**-3.0**
	comp=E,1.2nm,0.3s						
TCF				*e*Sg	**Sg**	**06 59 02.1**	**-2.1**
	comp=E,0.9nm,0.3s						
RJF	**Les Rejaudoux**	**4.15**	**285**	*e*P	**Pn**	**06 58 01.0**	**+2.7**
PAGF	**Fort de Pagny**	**4.34**	**347**	*e*Pn	**Pn**	**06 57 59.8**	**-1.0**
PAGF	**Fort de Pagny**	**4.34**	**347**	*e*P	**Pn**	**06 58 03.6**	**+2.8**
PAGF				*e*Sn	**Sn**	**06 58 48.1**	**-3.1**
	comp=E,5.2nm,0.4s						
CLL	**Collm**	**7.99**	**27**	*e*Sg	Sg	07 01 06.0	-5.6

RHSSO ***25*** *06:57:35.7±0.3, 44°.89N×17°.36E, h3km±2km, ML3.0/12*
PDG ***25*** *06:57:35.8±0.3, 44°.91N×17°.40E, h9km±1km, ML3.1/13,*

Error ellipse: s-maj=0.6km s-min=0.8km az=0.0
BEO ***25*** *06:57:36.2±0.5, 44°.84N×17°.32E, h10km±2km, ML2.9/10*
PRU ***25*** *06:57:37.9±0.0, 45°.00N×17°.27E, h0km*
ISC 25 06:57:35.7±1.1, 44°.90N±0°.02×17°.39E±0°.02, h4km±9km, n79, σ1.14/142, 13C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.21**	**224**	*e*Pg	**Pg**	**06 57 39.6**	**-0.1**
BLY				*e*Sg	**Sg**	**06 57 41.7**	**-0.7**
BLY	**Banja Luka**	**0.21**	**224**	*e*Pg	**Pg**	**06 57 39.1**	**-0.6**
BLY				*e*Sg	**Sg**	**06 57 41.9**	**-0.5**
PRIJ	**Prijedor**	**0.48**	**279**	*e*Pg	**Pg**	**06 57 44.3**	**-0.6**
PRIJ				*e*Sg	**Sg**	**06 57 51.5**	**+0.3**
MOSL	**Moslavina**	**0.84**	**328**	*i* Pg	**Pb**	**06 57 53.2**	**+0.3**
MOSL				Sg	**Sb**	**06 58 04.7**	**+0.1**
KIJV	**Kijevo**	**1.14**	**218**	*i* Pg	**Pb**	**06 57 56.5**	**-1.4**
KIJV				Sg	**Sg**	**06 58 10.6**	**-1.6**
UDBI	**Udbina**	**1.21**	**253**	*i* Pg	**Pb**	**06 57 58.2**	**-1.0**
UDBI				Sg	**Sg**	**06 58 15.3**	**+0.7**
ZAG	**Zagreb**	**1.35**	**314**	*e*Pg	**Pg**	**06 58 02.6**	**+1.0**
ZAG				Sg	**Sg**	**06 58 21.5**	**+2.3**
PTJ	**Puntijarka**	**1.42**	**316**	*e*Pg	**Pg**	**06 58 02.8**	**0.0**
PTJ				Sg	**Sg**	**06 58 23.2**	**+1.9**
OZLJ	**Ozalj**	**1.53**	**299**	*e*Pn	**Pb**	**06 58 04.1**	**-0.5**
OZLJ				Sn	**Sg**	**06 58 27.2**	**+2.3**
TEKS	**Tekeris**	**1.57**	**102**	*e*Pn	**Pb**	**06 58 05.3**	**+0.1**
TEKS				*e*Sg	**Sg**	**06 58 27.3**	**+1.3**
TEKS	**Tekeris**	**1.57**	**102**	*e*Pn	**Pn**	**06 58 04.4**	**+0.1**
TEKS				*e*Sn	**Sb**	**06 58 25.8**	**+0.4**
MORI	**Morici**	**1.58**	**230**	*e*Pn	**Pn**	**06 58 04.8**	**+0.3**
MORI				Sn	**Sg**	**06 58 27.1**	**+0.5**
BEHE	**Becsehely**	**1.63**	**345**	*e*Pn	**Pb**	**06 58 05.6**	**-0.7**
BEHE				*e*Sn	**Sb**	**06 58 27.1**	**-0.1**
MAKA	**Makarska**	**1.63**	**189**	*i* Pn	**Pn**	**06 58 05.8**	**+0.6**
MAKA				Sn	**Sb**	**06 58 27.7**	**+0.5**
CRES	**Cresnjev**	**1.65**	**305**	*e*Pn	**Pn**	**06 58 05.1**	**-0.3**
CRES				*e*Sn	**Sb**	**06 58 26.6**	**-1.1**
FRGS	**Fruska Gora**	**1.74**	**81**	*e*Pn	**Pn**	**06 58 07.0**	**+0.3**
FRGS				*e*Sg	**Sg**	**06 58 33.1**	**+1.6**
FRGS	**Fruska Gora**	**1.74**	**81**	*e*Pn	**Pn**	**06 58 06.4**	**-0.3**
FRGS				*e*Sn	**Sn**	**06 58 29.1**	**-0.2**
BBLS	**Lazići**	**1.78**	**125**	*e*Pn	**Pn**	**06 58 07.7**	**+0.4**
BBLS	**Lazići**	**1.78**	**125**	*e*Pn	**Pn**	**06 58 07.2**	**-0.1**
BBLS				*e*Sn	**Sn**	**06 58 30.7**	**+0.3**
NVLJ	**Novalja**	**1.82**	**260**	*e*Pn	**Pb**	**06 58 08.6**	**-1.0**
NVLJ				Sn	**Sb**	**06 58 32.6**	**-0.1**
DUGI	**Dugi Otok**	**1.90**	**242**	*e*Pn	**Pb**	**06 58 10.2**	**-0.6**
DUGI				Sn	**Sb**	**06 58 34.6**	**-0.3**
UPM	**Unac-Piva**	**2.02**	**147**	⇓*i*Pn	**Pn**	**06 58 11.2**	**+0.5**
UPM				*i* Sn	**Sb**	**06 58 39.2**	**+0.6**
UPM	**Unac-Piva**	**2.02**	**147**	*e*Pn	**Pn**	**06 58 11.0**	**+0.3**
UPM				*e*Sn	**Sn**	**06 58 36.5**	**+0.1**
DIVS	**Divibare**	**2.03**	**112**	*e*Pn	**Pn**	**06 58 10.5**	**-0.3**
DIVS				*e*Sg	**Sg**	**06 58 41.3**	**+0.5**
DIVS	**Divibare**	**2.03**	**112**	*e*Pn	**Pn**	**06 58 10.4**	**-0.3**
DIVS				*e*Sn	**Sn**	**06 58 36.8**	**+0.2**
PLE	**Pljevlja**	**2.13**	**137**	⇑*i*Pn	**Pn**	**06 58 12.7**	**+0.5**
PLE				*i* Sn	**Sb**	**06 58 41.8**	**+0.1**
LSTV	**Lastovo**	**2.16**	**190**	*e*Pn	**Pn**	**06 58 13.5**	**+1.1**
LSTV				Sn	**Sb**	**06 58 41.4**	**-1.0**
BRY	**Bratogost**	**2.16**	**157**	⇓*i*Pn	**Pn**	**06 58 13.5**	**+0.9**
BRY				*i* Sn	**Sb**	**06 58 42.5**	**-0.2**
BRY	**Bratogost**	**2.16**	**157**	*e*Pn	**Pn**	**06 58 13.2**	**+0.6**
BRY				*e*Sn	**Sn**	**06 58 39.6**	**-0.4**
CEY	**Cerknica**	**2.25**	**293**	*e*Pn	**Pn**	**06 58 13.1**	**-0.6**
CEY				*e*Sn	**Sn**	**06 58 41.2**	**-0.7**
TRUS	**Trudelj**	**2.26**	**106**	*e*Pn	**Pn**	**06 58 13.7**	**-0.1**
TRUS				*e*Sg	**Sg**	**06 58 49.4**	**+1.1**
DBRK	**Dubrovnik**	**2.30**	**166**	*e*Pn	**Pn**	**06 58 16.0**	**+1.7**
DBRK				Sn	**Sb**	**06 58 45.4**	**-1.0**
LJU	**Ljubljana**	**2.31**	**301**	*e*Pn	**Pn**	**06 58 14.3**	**-0.3**
LJU				*e*Sn	**Sn**	**06 58 43.5**	**0.0**
NKY	**Niksic**	**2.39**	**150**	⇑*i*Pn	**Pb**	**06 58 17.9**	**-1.4**
NKY				*i* Sn	**Sb**	**06 58 48.1**	**-1.0**
NKME	**Niksic**	**2.41**	**151**	⇓*i*Pn	**Pn**	**06 58 16.6**	**+0.6**
NKME				*i* Sn	**Sb**	**06 58 48.8**	**-1.0**
SOKA	**Soboth**	**2.42**	**318**	*e*Pn	**Pn**	**06 58 16.7**	**+0.6**
	3.3nm,0.4s						
SOKA				*e*Sn	**Sn**	**06 58 45.0**	**-1.4**
	15nm,0.4s						
SJES	**Sjenica**	**2.48**	**130**	*e*Pn	**Pn**	**06 58 16.6**	**-0.4**
OBKA	**Obir**	**2.56**	**310**	*e*Pg	**Pg**	**06 58 25.4**	**+0.7**
	9.3nm,0.3s						
OBKA				*e*Sg	**Sg**	**06 58 58.8**	**+1.0**
	53nm,0.4s						
KOME	**Kolasin**	**2.56**	**142**	⇑*i*Pn	**Pn**	**06 58 18.6**	**+0.5**
KOME				*i* Sn	**Sb**	**06 58 52.3**	**-1.8**
HCY	**Herceg Novi**	**2.58**	**161**	⇑*i*Pn	**Pn**	**06 58 18.8**	**+0.6**
HCY				*i* Sn	**Sn**	**06 58 52.3**	**+2.3**
HCY	**Herceg Novi**	**2.58**	**161**	*e*Pn	**Pn**	**06 58 18.9**	**+0.7**
HCY				*e*Sn	**Sn**	**06 58 50.6**	**+0.6**
GRUS	**Gruza**	**2.59**	**112**	*e*Pn	**Pn**	**06 58 19.1**	**+0.7**
GRUS				*e*Sg	**Sg**	**06 58 59.5**	**+0.6**
CEME	**Cevo**	**2.60**	**154**	⇓*i*Pn	**Pn**	**06 58 19.7**	**+1.1**
CEME				*i* Sn	**Sb**	**06 58 53.2**	**-2.0**
ARSA	**Arzberg**	**2.69**	**332**	*e*Pn	**Pn**	**06 58 20.9**	**+1.2**
	7.1nm,0.2s,SNR=10						
ARSA				*i* Sn	**Sn**	**06 58 51.8**	**-0.9**
	11nm,0.4s						
BANR	**Banloc**	**2.70**	**78**	⇑P	**Pg**	**06 58 27.4**	**+0.1**
BANR	**Banloc**	**2.70**	**78**	⇓S	**Sg**	**06 59 00.8**	**-1.5**
IVA	**Berane**	**2.72**	**137**	⇑*i*Pn	**Pn**	**06 58 21.1**	**+0.9**
IVA				*i* Sn	**Sn**	**06 58 56.1**	**+2.5**
PDG	**Podgorica**	**2.82**	**151**	*e*Pn	**Pn**	**06 58 21.4**	**0.0**
PDG	**Podgorica**	**2.82**	**151**	⇑P	**Pb**	**06 58 26.3**	**-0.2**
PDG	**Podgorica**	**2.82**	**151**	⇑S	**Sn**	**06 58 57.5**	**+1.7**
PDG	**Podgorica**	**2.82**	**151**	*e*Pn	**Pn**	**06 58 22.0**	**+0.6**
PDG				*e*Sn	**Sn**	**06 58 55.7**	**-0.1**
TTG	**Podgorica**	**2.82**	**151**	*e*Pn	**Pn**	**06 58 22.3**	**+0.9**
TTG				*i* Sn	**Sn**	**06 58 58.3**	**+2.5**
BUM	**Brajici-Budva**	**2.82**	**157**	⇑*i*Pn	**Pn**	**06 58 22.7**	**+1.1**
BUM				*i* Sn	**Sn**	**06 58 58.2**	**+2.2**
PVY	**Plav**	**2.96**	**140**	⇑*i*Pn	**Pn**	**06 58 24.1**	**+0.5**
PVY				*i* Sn	**Sn**	**06 59 01.5**	**+1.8**
SRO	**Srobarova**	**2.98**	**12**	*e*PN	**Pn**	**06 58 25.2**	**+1.4**
DRME	**Dracevica, Mon**	**3.01**	**154**	⇑*i*Pn	**Pn**	**06 58 25.2**	**+1.1**
DRME				*i* Sn	**Sn**	**06 59 02.8**	**+2.2**
DRME	**Dracevica, Mon**	**3.01**	**154**	*e*Pn	**Pn**	**06 58 24.7**	**+0.6**
DRME				*e*Sn	**Sn**	**06 59 00.6**	**0.0**
BZS	**Buzias**	**3.07**	**75**	*e*Pn	**Pn**	**06 58 25.3**	**+0.3**
MDVR	**Moldovita**	**3.08**	**91**	⇑S	**Sb**	**06 59 08.2**	**-0.8**
MYKA	**Terra Mystica**	**3.14**	**305**	*e*Pg	**Pg**	**06 58 36.1**	**+0.3**
	4.1nm,0.3s						
MYKA				*e*Sg	**Sg**	**06 59 18.1**	**+1.6**
	9.3nm,0.4s						
SELS	**Selova**	**3.17**	**121**	*e*Pn	**Pn**	**06 58 26.7**	**+0.3**
CONA	**Conrad Observa**	**3.21**	**341**	*i* Pn	**Pn**	**06 58 28.4**	**+1.4**
	14nm,0.3s,SNR=37						
CONA				*i* Sn	**Sn**	**06 59 05.0**	**-0.7**
	7.5nm,0.3s						
ULC	**Ulcinj**	**3.23**	**155**	*e*Pn	**Pn**	**06 58 28.5**	**+1.3**
ULC				*i* Sn	**Sn**	**06 59 08.0**	**+1.9**
ZST	**Bratislava**	**3.30**	**357**	*e*PN	**Pn**	**06 58 27.9**	**-0.3**
ZST				*e*SN	**Sn**	**06 59 05.0**	**-2.9**
BOVS	**Bovan**	**3.35**	**111**	*e*Pn	**Pn**	**06 58 28.5**	**-0.3**
MODS	**Modra-Piesok**	**3.48**	**359**	*e*PN	**Pn**	**06 58 30.2**	**-0.4**
MODS				*e*SN	**Sn**	**06 59 09.1**	**-3.1**
PSZ	**Piszkesteto**	**3.48**	**29**	⇓P	**Pg**	**06 58 41.7**	**-0.7**
PSZ	**Piszkesteto**	**3.48**	**29**	⇑S	**Sg**	**06 59 26.9**	**-0.6**
ZAGS	**Zajecar**	**3.64**	**106**	*e*Pn	**Pn**	**06 58 32.9**	**+0.1**
MOA	**Molln**	**3.66**	**325**	*i* Pn	**Pn**	**06 58 35.1**	**+2.1**
	9.2nm,0.2s,SNR=13						
MOA				*i* Sn	**Sn**	**06 59 18.0**	**+1.3**
	17nm,0.5s						
VYHS	**Vyhne**	**3.73**	**15**	*e*PN	**Pn**	**06 58 35.0**	**+0.9**
VYHS				*e*SN	**Sn**	**06 59 19.5**	**+1.0**
BARS	**Barje**	**3.82**	**121**	*e*Pn	**Pn**	**06 58 36.0**	**+0.7**
BARS				*e*Sn	**Sn**	**06 59 18.5**	**-2.1**
JAVC	**Velka Javorina**	**3.97**	**3**	*e*PN	**Pn**	**06 58 39.2**	**+1.9**
JAVC				*e*SN	**Sn**	**06 59 26.4**	**+2.1**
ZAPS	**Zavoj**	**4.12**	**111**	*e*Pn	**Pn**	**06 58 39.0**	**-0.4**
ZAPS				*e*Sn	**Sn**	**06 59 26.7**	**-1.2**
KRUC	**Moravsky**	**4.22**	**351**	*e*PN	**Pn**	**06 58 41.4**	**+0.7**
KRUC				*e*SN	**Sn**	**06 59 28.3**	**-2.1**
BOSS	**Bosilegrad**	**4.41**	**121**	*e*Pn	**Pn**	**06 58 43.1**	**-0.2**
VRAC	**Vranov**	**4.44**	**353**	*e*PN	**Pn**	**06 58 44.2**	**+0.4**
VRAC				*e*SN	**Sn**	**06 59 34.1**	**-1.9**
MORC	**Moravsky Berou**	**4.88**	**1**	*e*PN	**Pn**	**06 58 50.7**	**+0.8**
MORC				*e*SN	**Sn**	**06 59 45.2**	**-1.6**
KHC	**Kasperske Hory**	**4.97**	**330**	*e*PN	**Pn**	**06 58 52.6**	**+1.5**
KHC				*e*SN	**Sn**	**06 59 47.2**	**-1.8**

NNC 25 07:07:58.1±3.2, 41°.71N×78°.17E, h0km, mb3.3, mpv2.9, 1C-1D, Error ellipse: s-maj=24.6km s-min=12.1km az=154.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**1.36**	**7**	P	Pg	07 08 23.0	-1.1
	1.6nm,0.1s						
SATY				S	Sn	07 08 42.9	-0.4
	6.8nm,0.1s						
UZB	**Uzynbulak**	**1.57**	**23**	P	Pn	07 08 26.1	-1.2
	1.5nm,0.1s						
UZB				S	Sn	07 08 48.3	-0.1
	2.7nm,0.2s						
PDGK	**Podgornoye**	**1.89**	**31**	Pg	Pb	07 08 33.2	-0.3
	1.6nm,0.1s						
PDGK				Lg	Lg	07 09 00.1	
	1.0nm,0.3s						
TKM2	**Tokmak 2**	**2.26**	**303**	⇓Pn	Pn	07 08 37.4	+0.5
	0.7nm,0.2s						
TKM2				⇑Sn	Sb	07 09 08.4	-0.1
	1.6nm,0.3s						
MNBS	**Baschi**	**2.37**	**4**	Pg	Pn	07 08 38.7	+0.3
	3.0nm,0.2s						
MNBS				Lg	Lg	07 09 09.6	
	7.6nm,0.2s						
KUU	**Kurty**	**2.56**	**329**	Pg	Pn	07 08 42.3	+1.4
	2.9nm,0.3s						
KUU				Lg	Lg	07 09 15.7	
	4.3nm,0.4s						

WEL 25 07:08:36.0, 38°.S±2°×17°.6E±°, h164km±3km, M2.8/43, ML1.8/6, MLv2.8/43, Error ellipse: s-maj=0.0km s-min=0.0km az=130.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.07**	**197**	P	Pn	07 08 58.1	+0.2
HSRZ	**Hossack Road**	**0.09**	**106**	P	Pn	07 08 58.0	+0.2
OMRZ	**Omania**	**0.26**	**46**	P	Pn	07 08 58.2	+0.1
KARZ	**Kaharoa**	**0.28**	**18**	P	Pn	07 08 58.1	-0.1
TARZ	**Mount Tarawera**	**0.30**	**80**	P	Pn	07 08 58.6	+0.3
RRRZ	**Republican Roa**	**0.30**	**100**	P	Pn	07 08 58.3	+0.1
KMRZ	**Kaimai**	**0.47**	**341**	P	Pn	07 08 58.9	0.0
TLZ	**Tolley Road**	**0.47**	**265**	P	Pn	07 08 59.0	+0.1
TLZ				S	Sn	07 09 16.2	-0.1
MARZ	**Manawahe**	**0.52**	**55**	P	Pn	07 08 59.2	+0.1
OPRZ	**Ohinepanea**	**0.55**	**37**	P	Pn	07 08 59.0	-0.1
TGRZ	**Tauranga**	**0.56**	**10**	P	Pn	07 08 59.2	-0.1
MRHZ	**Matea Rd**	**0.59**	**158**	P	Pn	07 08 59.4	0.0
MRHZ				S	Sn	07 09 15.5	-2.0
RITZ	**Rihia Road**	**0.72**	**197**	P	Pn	07 09 00.6	+0.5
RTZ	**Ruatahuna**	**0.74**	**117**	P	Pn	07 09 00.3	0.0
RTZ				S	Sn	07 09 18.1	-0.9
TOZ	**Tahuroa Road**	**0.75**	**318**	P	Pn	07 09 00.4	+0.1
TOZ				S	Sn	07 09 18.6	-0.2
URZ	**Urewera**	**0.77**	**88**	P	Pn	07 09 00.0	-0.4
URZ				S	Sn	07 09 17.5	-1.6
MTHZ	**Maungataniwha**	**0.79**	**136**	P	Pn	07 09 00.9	+0.3
MTHZ				S	Sn	07 09 18.6	-1.0
BKZ	**Black Stump Fm**	**0.92**	**162**	P	Pn	07 09 01.6	0.0
BKZ				S	Sn	07 09 19.5	-1.8
WTVZ	**West Tongariro**	**0.93**	**207**	P	Pn	07 09 01.8	+0.1
TWVZ	**Taurewa**	**0.95**	**215**	P	Pn	07 09 01.9	0.0
RAHZ	**Arahi**	**0.98**	**130**	P	Pn	07 09 02.7	+0.8
RAHZ				S	Sn	07 09 21.6	-0.3
NGZ	**Ngauruhoe**	**0.98**	**205**	P	Pn	07 09 02.3	+0.2
HIZ	**Hauiti**	**1.03**	**257**	P	Pn	07 09 02.7	+0.4
TUVZ	**Tukino**	**1.05**	**201**	P	Pn	07 09 02.8	+0.2
TUVZ				S	Sn	07 09 23.0	-0.2
SNGZ	**Shannon Statio**	**1.07**	**118**	P	Pn	07 09 03.2	+0.6
SNGZ				S	Sn	07 09 22.6	-0.5
FWVZ	**Far West T-bar**	**1.07**	**205**	P	Pn	07 09 02.7	-0.2
FWVZ				S	Sn	07 09 23.1	-0.6
WNVZ	**Wahianoa**	**1.12**	**202**	P	Pn	07 09 03.3	0.0
MOVZ	**Moawhango**	**1.16**	**195**	P	Pn	07 09 03.1	-0.3
MOVZ				S	Sn	07 09 22.6	-2.1
KWHZ	**Kaweka Forest**	**1.16**	**169**	P	Pn	07 09 03.8	+0.3
KWHZ				S	Sn	07 09 25.3	+0.6
BHHZ	**Black Hill Sta**	**1.20**	**183**	P	Pn	07 09 03.7	-0.2
BHHZ	

baz=36
KDJ Kajisay 0.89 319⇑*i*P Pg 07 08 56.3 -0.1
baz=20
KDJ ⇑*i*S Sb 07 09 08.6 -0.1
baz=20
PRZ Przheval'sk 1.07 18⇑*i*P Pn 07 09 00.3 -0.1
baz=18
PRZ ⇑*i*S Sn 07 09 15.1 -0.4
baz=18
ANVS Anan'yevo 1.34 351⇑*i*P Pb 07 09 04.6 +0.1
baz=51
ANVS ⇑*i*S Sg 07 09 23.7 +1.3
baz=51
ULHL Ulahol 1.50 302⇑*i*P Pg 07 09 07.9 -0.2
baz=2.0
ULHL ⇑*i*S Sg 07 09 28.9 +1.3
baz=2.0
BOOM Boomskoye usch 1.82 305⇑*i*P Pb 07 09 13.0 +0.3
baz=5.0
BOOM ⇑*i*S Sg 07 09 37.9 +0.1
baz=5.0
TKM2 Tokmak 2 2.28 311⇑*i*P Pb 07 09 19.4 -1.2
baz=11
TKM2 ⇑*i*S Sb 07 09 49.3 +0.4
baz=11

*IDC **25** 07:25:45.5±1.9, 30°.29S×177°.64W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/28, mbtmp4.2/4, ML3.2/1, Error ellipse: s-maj=47.4km s-min=23.9km az=111.0*
*NEIC **25** 07:25:47.2±1.9, 30°.22S±0°.05×177°.7W±0°.2, h10km±1km, mb4.5/9, Error ellipse: s-maj=23.9km s-min=7.8km az=84.0*
ISC 25 07:25:47.1±1.1, 30°.26S±0°.07×177°.6W±0°.2, h10km, n29, σ1§04/22, mb4.5/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**346**	Pn	**Pn**	**07 26 08.0**	**+0.3**
RAO	538nm,0.3s,baz=68,slow=18,SNR=50			Sn	**Sb**	**07 26 19.4**	**-1.3**
	2μm,0.3s,baz=81,slow=22,SNR=16						
URZ	**Urewera**	**9.09**	**207**	Pn	**Pn**	**07 27 57.9**	**-0.4**
URZ	0.3nm,0.3s,baz=196,slow=18,SNR=1.7			Sn	**Sn**	**07 29 38.7**	**-2.0**
	1.7nm,0.3s,baz=190,slow=19,SNR=7.4						
URZ	**Urewera**	**9.09**	**207**		**Pn**	**07 27 57.3**	**-1.0**
BFZ	**Birch Farm**	**11.53**	**204**	Pn	**Pn**	**07 28 33.5**	**+1.7**
CTAO	**Charters Tower**	**34.09**	**279**	P	**P**	**07 32 34.0**	**+1.9**
CTAO				IAmb	IAmb	07 32 34.2	
	comp=Z,5.5nm,0.5s						
STKA	**Stephens Creek**	**34.82**	**257**	P	**P**	**07 32 39.2**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=76,slow=7.1,SNR=5.1						
STKA	**Stephens Creek**	**34.82**	**257**	IAmb	IAmb	07 32 46.9	
	comp=Z,2.7nm,1.5s						
BBOO	**Buckleboo**	**39.31**	**254**	P	**P**	**07 33 16.6**	**+0.1**
ASAR	**Alice Springs**	**43.43**	**267**	P	**P**	**07 33 49.7**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=103,slow=7.3,SNR=21						
ASAR	**Alice Springs**	**43.43**	**267**	P	**P**	**07 33 50.4**	**0.0**
WR0	**Warramunga Arr**	**44.23**	**272**	P	**P**	**07 33 56.0**	**-0.8**
WR0				IAmb	IAmb	07 33 58.6	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**44.40**	**272**	P	**P**	**07 33 58.5**	**+0.3**
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**07 33 57.6**	**-0.7**
	comp=Z,3.3nm,0.3s,baz=110,slow=8.1,SNR=154						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**07 33 57.6**	**-0.7**
WB0	**Warramunga Arr**	**44.43**	**272**	P	**P**	**07 33 57.7**	**-0.7**
WB0				IAmb	IAmb	07 33 59.0	
	comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**59.85**	**180**	P	**P**	**07 35 53.5**	**+0.8**
QSPA				IAmb	IAmb	07 36 02.6	
	comp=Z,6.8nm,1.3s						
SNAA	**Sanae**	**78.29**	**178**	P	**P**	**07 37 46.2**	**-0.8**
H03S2	**Juan Fernandez**	**80.28**	**123**	T	T	09 07 29.9	
	baz=239,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**80.29**	**123**	T	T	09 07 20.2	
	baz=239,slow=74,SNR=15						
H03S3	**Juan Fernandez**	**80.30**	**123**	T	T	09 07 19.0	
	baz=239,slow=74,SNR=13						
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKiKP**	**07 44 34.6**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=169,slow=1.1,SNR=2.0						
H10S3	**ASCENSION HYDR**	**137.72**	**155**	T	T	10 19 38.3	
	baz=14,SNR=4.7						
H10S2	**ASCENSION HYDR**	**137.72**	**155**	T	T	10 19 36.2	
	baz=206						
H10N3	**ASCENSION HYDR**	**138.80**	**154**	T	T	10 21 04.0	
	baz=203,slow=75,SNR=6.4						
H10N1	**ASCENSION HYDR**	**138.80**	**154**	T	T	10 21 04.2	
	baz=203,slow=75,SNR=6.8						
H10N2	**ASCENSION HYDR**	**138.82**	**154**	T	T	10 21 05.2	
	baz=203,slow=75,SNR=8.8						
FINES	**FINESS Array B**	**145.12**	**340**	PKPbc	**PKPbc**	**07 45 22.7**	**-0.9**
	comp=Z,2.8nm,0.5s,baz=63,slow=3.7,SNR=18						
FINES	**FINESS Array B**	**145.12**	**340**		**PKPab**	**07 45 23.0**	**-0.6**
AKASG	**Malin Array Be**	**151.38**	**323**	PKPbc	**PKPbc**	**07 45 40.1**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=52,slow=2.3,SNR=5.5						

*IDC **25** 07:31:15.9±0.7, 55°.02N×165°.66E, h0km, mb4.0/15, mb1 4.3/17, mb1mx4.0/46, mbtmp4.1/17, ML4.1/2, MS3.1/9, Ms1 3.1/9, ms1mx2.9/39, Error ellipse: s-maj=26.9km s-min=13.5km az=159.0*
*KRSC **25** 07:31:16.2±2.3, 54°.93N×165°.58E, h43km±16km, ML4.7*
*NEIC **25** 07:31:17.2±1.4, 55°.0N±0°.1×165°.6E±0°.1, h10km±1km, mb4.4/72, Error ellipse: s-maj=20.9km s-min=10.8km az=167.0*
*MOS **25** 07:31:18.6±0.8, 54°.98N×165°.65E, h34km, mb4.5/9, Error ellipse: s-maj=6.4km s-min=5.3km az=150.9*
ISC 25 07:31:18.6±0.4, 54°.97N±0°.04×165°.64E±0°.04, h20km±3km, n227, σ1§17/259, mb4.4/52, MS3.1/6, 3C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**39**	*e*P	**Pb**	**07 31 25.1**	**-0.2**
BKI				*e*S	**Sb**	**07 31 29.5**	**-0.3**
BKI	**Bering**	**0.30**	**39**	PN	**Pb**	**07 31 25.1**	**-0.2**
KBTR	**Krutoberegovo**	**2.03**	**309**	*e*P	**Pn**	**07 31 49.2**	**-2.3**
KBTR				*e*S	**Sn**	**07 32 12.5**	**-3.7**
KBTR	**Krutoberegovo**	**2.03**	**309**	PN	**Pn**	**07 31 49.2**	**-2.3**
KBTR				S	**Sn**	**07 32 12.5**	**-3.7**
KBG	**Krutoberegovo**	**2.11**	**309**	*e*S	**Sn**	**07 32 15.3**	**-2.8**
SMKR	**Semkarok**	**2.86**	**306**	*e*P	**Pn**	**07 32 02.4**	**-0.6**
SMKR				*e*S	**Sn**	**07 32 36.7**	**-0.1**
SMKR	**Semkarok**	**2.86**	**306**	PN	**Pn**	**07 32 02.4**	**-0.6**
SMKR				S	**Sn**	**07 32 36.7**	**-0.1**
ZLN	**Zelenaya**	**2.95**	**293**	*e*P	**Pn**	**07 32 04.7**	**+0.4**
ZLN				*e*S	**Sn**	**07 32 40.0**	**+1.0**
ZLN	**Zelenaya**	**2.95**	**293**	PN	**Pn**	**07 32 04.7**	**+0.4**
ZLN				S	**Sn**	**07 32 40.0**	**+1.0**
BDR	**Baidarnaya**	**2.97**	**304**	*e*P	**Pn**	**07 32 04.5**	**-0.1**
BDR				*e*S	**Sn**	**07 32 40.1**	**+0.4**
BDR	**Baidarnaya**	**2.97**	**304**	PN	**Pn**	**07 32 04.5**	**-0.1**
BDR				S	**Sn**	**07 32 40.1**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**2.98**	**291**	*e*P	**Pn**	**07 32 05.4**	**+0.7**
BZGR				*e*S	**Sn**	**07 32 39.8**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.98**	**291**	PN	**Pn**	**07 32 05.4**	**+0.7**
BZGR				S	**Sn**	**07 32 39.8**	**-0.1**
CIRR	**Tsirk**	**3.01**	**294**	*e*P	**Pn**	**07 32 05.6**	**+0.5**
CIRR	**Tsirk**	**3.01**	**294**	PN	**Pn**	**07 32 05.6**	**+0.5**
TUMD	**Tumrok D**	**3.02**	**277**	*e*P	**Pn**	**07 32 05.3**	**+0.1**
LGNR	**Loginova**	**3.03**	**294**	*e*P	**Pn**	**07 32 06.0**	**+0.5**
LGNR	**Loginova**	**3.03**	**294**	PN	**Pn**	**07 32 06.0**	**+0.5**
SRKR	**Sorokina**	**3.04**	**306**	*e*P	**Pn**	**07 32 05.3**	**-0.2**
SRKR				*e*S	**Sn**	**07 32 40.1**	**-1.1**
SRKR	**Sorokina**	**3.04**	**306**	PN	**Pn**	**07 32 05.3**	**-0.2**
SRKR				S	**Sn**	**07 32 40.1**	**-1.1**
KZV	**Kizimen**	**3.08**	**275**	*e*P	**Pn**	**07 32 06.1**	**-0.1**
KZV	**Kizimen**	**3.08**	**275**	PN	**Pn**	**07 32 06.1**	**-0.1**
BZWR	**Bezymyannyi-We**	**3.10**	**291**	*e*P	**Pn**	**07 32 07.2**	**+0.8**
BZWR				*e*S	**Sn**	**07 32 43.3**	**+0.5**
BZWR	**Bezymyannyi-We**	**3.10**	**291**	PN	**Pn**	**07 32 07.2**	**+0.8**
BZWR				S	**Sn**	**07 32 43.3**	**+0.5**
KLY	**Klyuchi**	**3.13**	**297**	*e*P	**Pn**	**07 32 05.8**	**-0.9**
KLY				*e*S	**Sn**	**07 32 41.4**	**-2.0**
KLY	**Klyuchi**	**3.13**	**297**	PN	**Pn**	**07 32 05.8**	**-0.9**
KLY				S	**Sn**	**07 32 41.4**	**-2.0**
KRSR	**Krestovskiy**	**3.14**	**296**	*e*P	**Pn**	**07 32 06.8**	**-0.1**
KRSR	**Krestovskiy**	**3.14**	**296**	PN	**Pn**	**07 32 06.8**	**-0.1**
TUMR	**Tumrok**	**3.17**	**278**	*i*P	**Pn**	**07 32 07.8**	**+0.4**
TUMR				*e*S	**Sn**	**07 32 45.6**	**+1.0**
TUMR	**Tumrok**	**3.17**	**278**	PN	**Pn**	**07 32 07.8**	**+0.4**
TUMR				S	**Sn**	**07 32 45.6**	**+1.0**
KIRR	**Kirishev**	**3.18**	**290**	*e*P	**Pn**	**07 32 07.9**	**+0.5**
KIRR				*e*S	**Sn**	**07 32 45.0**	**+0.3**
KIRR	**Kirishev**	**3.18**	**290**	PN	**Pn**	**07 32 07.9**	**+0.5**
KIRR				S	**Sn**	**07 32 45.0**	**+0.3**
KMNR	**Kamenistaya**	**3.19**	**287**	*i*P	**Pn**	**07 32 08.3**	**+0.8**
KMNR	**Kamenistaya**	**3.19**	**287**	PN	**Pn**	**07 32 08.3**	**+0.8**
KPT	**Kopyto**	**3.24**	**290**	*e*P	**Pn**	**07 32 09.2**	**+0.9**
KPT	**Kopyto**	**3.24**	**290**	PN	**Pn**	**07 32 09.2**	**+0.9**
KOZ	**Kozyrevsk**	**3.46**	**291**	*e*P	**Pn**	**07 32 11.9**	**+0.7**
KOZ	**Kozyrevsk**	**3.46**	**291**	PN	**Pn**	**07 32 11.9**	**+0.7**
SRDR	**Sredinnyy**	**3.62**	**294**	*e*P	**Pn**	**07 32 14.1**	**+0.6**
SRDR				*e*S	**Sn**	**07 32 56.1**	**+0.5**
SRDR	**Sredinnyy**	**3.62**	**294**	PN	**Pn**	**07 32 14.1**	**+0.6**
SRDR				S	**Sn**	**07 32 56.1**	**+0.5**
KII	**Karymskiy**	**3.73**	**258**	*e*P	**Pn**	**07 32 15.8**	**+0.8**
KII	**Karymskiy**	**3.73**	**258**	PN	**Pn**	**07 32 15.8**	**+0.8**
SPN	**Mys Shipunski**	**3.81**	**243**	*e*P	**Pn**	**07 32 15.4**	**-0.6**
SPN				*e*S	**Sn**	**07 32 56.2**	**-3.9**
SPN	**Mys Shipunski**	**3.81**	**243**	PN	**Pn**	**07 32 15.4**	**-0.6**
NLC	**Nalytchevo**	**4.12**	**247**	*e*P	**Pn**	**07 32 20.3**	**0.0**
NLC				*e*S	**Sn**	**07 33 05.1**	**-2.8**
NLC	**Nalytchevo**	**4.12**	**247**	PN	**Pn**	**07 32 20.3**	**0.0**
SDLR	**Sedlovina**	**4.32**	**250**	*i*P	**Pn**	**07 32 23.6**	**+0.4**
SDLR	**Sedlovina**	**4.32**	**250**	PN	**Pn**	**07 32 23.6**	**+0.4**
SMAR	**Somma**	**4.37**	**250**	*e*P	**Pn**	**07 32 25.0**	**+1.0**
SMAR				*e*S	**Sn**	**07 33 13.1**	**-1.3**
SMAR	**Somma**	**4.37**	**250**	PN	**Pn**	**07 32 25.0**	**+1.0**
KRER	**Koryakskii**	**4.38**	**250**	*e*P	**Pn**	**07 32 25.1**	**+1.0**
KRER				*e*S	**Sn**	**07 33 13.1**	**-1.5**
KRER	**Koryakskii**	**4.38**	**250**	PN	**Pn**	**07 32 25.1**	**+1.0**
UGLR	**Uglovaya**	**4.39**	**249**	*i*P	**Pn**	**07 32 24.8**	**+0.8**
UGLR	**Uglovaya**	**4.39**	**249**	PN	**Pn**	**07 32 24.8**	**+0.8**
AVH	**Avacha**	**4.41**	**250**	*e*P	**Pn**	**07 32 25.2**	**+0.9**
AVH				*e*S	**Sn**	**07 33 13.5**	**-1.5**
AVH	**Avacha**	**4.41**	**250**	PN	**Pn**	**07 32 25.2**	**+0.9**
KRX	**Arik**	**4.42**	**251**	*i*P	**Pn**	**07 32 25.2**	**+0.7**
KRX				*e*S	**Sn**	**07 33 13.4**	**-1.9**
KRX	**Arik**	**4.42**	**251**	PN	**Pn**	**07 32 25.2**	**+0.7**
KOK	**Koryaka**	**4.45**	**251**	*i*P	**Pn**	**07 32 25.6**	**+0.7**
KOK				*e*S	**Sn**	**07 33 14.6**	**-1.5**
KOK	**Koryaka**	**4.45**	**251**	PN	**Pn**	**07 32 25.6**	**+0.7**
DALK	**Dalny**	**4.50**	**247**	*e*P	**Pn**	**07 32 26.1**	**+0.6**
DALK				*e*S	**Sn**	**07 33 14.2**	**-3.0**
DALK	**Dalny**	**4.50**	**247**	PN	**Pn**	**07 32 26.1**	**+0.6**
OSSR	**Ossora**	**4.52**	**343**	*e*P	**Pn**	**07 32 25.0**	**-0.7**
OSSR				*e*S	**Sn**	**07 33 15.0**	**-2.5**
OSSR	**Ossora**	**4.52**	**343**	PN	**Pn**	**07 32 25.0**	**-0.7**
PET	**Petropavlovsk**	**4.56**	**248**	*e*P	**Pn**	**07 32 27.2**	**+0.9**
PET				*e*S	**Sn**	**07 33 15.9**	**-2.8**
PET	**Petropavlovsk**	**4.56**	**248**	*e*PN	**Pn**	**07 32 27.0**	**+0.7**
PET				pmax	pmax		
	comp=Z,358nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
PET	**Petropavlovsk**	**4.56**	**248**		**Pn**	**07 32 26.4**	**+0.1**
PET				Sn	**Sn**	**07 33 15.8**	**-2.8**
GNL	**Ganaly**	**4.69**	**257**	*e*P	**Pn**	**07 32 29.5**	**+1.4**
GNL	**Ganaly**	**4.69**	**257**	PN	**Pn**	**07 32 29.5**	**+1.4**
KRMR	**Karymshinskiy**	**4.93**	**247**	*e*P	**Pn**	**07 32 33.0**	**+1.6**
KRMR				*e*S	**Sn**	**07 33 26.9**	**-0.9**
KRMR	**Karymshinskiy**	**4.93**	**247**	PN	**Pn**	**07 32 33.0**	**+1.6**
RUS	**Russkaya**	**4.94**	**242**	*e*P	**Pn**	**07 32 31.5**	**0.0**
RUS				*e*S	**Sn**	**07 33 24.4**	**-3.6**
RUS	**Russkaya**	**4.94**	**242**	PN	**Pn**	**07 32 31.5**	**0.0**
PEA0B	**Petropavlovsk-**	**5.04**	**252**	PN	**Pn**	**07 32 34.0**	**+1.1**
PEA0B	**Petropavlovsk-**	**5.04**	**252**	Pn	**Pn**	**07 32 34.0**	**+1.1**
PEA0B				Sn	**Sn**	**07 33 30.0**	**-0.4**
PETK	**Petropavlovsk-**	**5.04**	**252**	Pn	**Pn**	**07 32 33.9**	**+1.0**
	comp=Z,20nm,0.3s,baz=78,slow=18,SNR=65						
PETK				Sn	**Sn**	**07 33 30.5**	**0.0**
	comp=Z,8.0nm,0.3s,baz=89,slow=25,SNR=2.3						
PETK				LR	LR	07 34 46.8	
	comp=Z,173nm,18.5s,baz=61,slow=42						
PETK	**Petropavlovsk-**	**5.04**	**252**	PN	**Pn**	**07 32 33.8**	**+0.9**
MTVR	**Mutnovka**	**5.08**	**244**	*e*P	**Pn**	**07 32 34.2**	**+0.6**
MTVR				*e*S	**Sn**	**07 33 28.5**	**-3.2**
MTVR	**Mutnovka**	**5.08**	**244**	PN	**Pn**	**07 32 34.2**	**+0.6**
GRL	**Gorelyy**	**5.10**	**245**	*e*P	**Pn**	**07 32 34.9**	**+1.0**
GRL				*e*S	**Sn**	**07 33 31.7**	**-0.5**
GRL	**Gorelyy**	**5.10**	**245**	PN	**Pn**	**07 32 34.9**	**+1.0**
ASAK	**Asacha**	**5.28**	**244**	*i*P	**Pn**	**07 32 37.6**	**+1.3**
ASAK				*e*S	**Sn**	**07 33 35.2**	**-1.3**
ASAK	**Asacha**	**5.28**	**244**	PN	**Pn**	**07 32 37.6**	**+1.3**
APC	**Apacha**	**5.41**	**251**	*e*P	**Pn**	**07 32 39.9**	**+1.9**
APC				*e*S	**Sn**	**07 33 40.9**	**+1.3**
APC	**Apacha**	**5.41**	**251**	PN	**Pn**	**07 32 39.9**	**+1.9**
SMY	**Shemya**	**5.49**	**111**	PN	**Pn**	**07 32 39.4**	**+0.4**
SMY	**Shemya**	**5.49**	**111**	Pn	**Pn**	**07 32 39.4**	**+0.4**
KDTR	**Khodutka, Kamc**	**5.52**	**238**	*e*P	**Pn**	**07 32 39.4**	**-0.1**
KDTR				*e*S	**Sn**	**07 33 37.4**	**-4.9**
KDTR	**Khodutka, Kamc**	**5.52**	**238**	PN	**Pn**	**07 32 39.4**	**-0.1**
MIPR	**Malaya Ipel'ka**	**5.94**	**247**	*e*P	**Pn**	**07 32 47.3**	**+2.1**
MIPR	**Malaya Ipel'ka**	**5.94**	**247**	PN	**Pn**	**07 32 47.3**	**+2.1**
SKR	**Severo-Kuril's**	**7.19**	**237**	*e*PN	**Pn**	**07 33 02.3**	**-0.1**
SKR				pmax	pmax		
	comp=Z,31nm,0.5s						
SKR				MLR	MLR		
	comp=Z,100nm,20.0s						
MA2	**Magadan**	**9.28**	**306**	LR	LR	07 37 24.8	
	comp=Z,94nm,18.5s,baz=86,slow=40						
ADK	**Adak**	**10.98**	**99**	PN	**Pn**	**07 33 54.7**	**+0.4**
ADK	**Adak**	**10.98**	**99**	Pn	**Pn**	**07 33 54.7**	**+0.4**
ATKA	**Atka Island**	**12.29**	**95**	Pn	**Pn**	**07 34 12.4**	**+0.3**
BILL	**Bilibino**	**13.12**	**1**	*e*PN	**Pn**	**07 34 24.6**	**+1.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GAMB	**Gambell**	**14.45**	**43**	Pn	**Pn**	**07 34 39.8**	**-1.8**
UNV	**Unalaska Valle**	**16.21**	**83**	Pn	**Pn**	**07 35 04.4**	**-0.4**
UNV				IAmb	IAmb	07 35 16.2	
	comp=Z,35nm,1.3s						
JKA	**Kamikawa-asahi**	**18.39**	**243**		**P**	**07 35 31.3**	**-0.7**
JKA				IAmb	IAmb	07 35 40.3	
	comp=Z,40nm,1.5s						
ASAJ	**Asahikawa**	**18.39**	**243**	P	**Pn**	**07 35 32.0**	**0.0**
	comp=Z,1.4nm,0.3s,baz=352,slow=15,SNR=1.9						
ASAJ				LR	LR	07 42 39.4	
	comp=Z,48nm,19.6s,baz=345,slow=37						
ASAJ	**Asahikawa**	**18.39**	**243**	P	**P**	**07 35 31.3**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,40nm,1.5s						
YAK	**Yakutsk**	**19.86**	**305**	P	**P**	**07 35 46.7**	**-1.2**
YAK				pmax	pmax		
	comp=Z,35nm,0.4s						
YAK	**Yakutsk**	**19.86**	**305**	P	**P**	**07 35 46.7**	**-1.2**
CNBA	**Chernabura Isl**	**19.88**	**76**	P	**P**	**07 35 47.9**	**-0.2**
CNBA				IAmb	IAmb	07 36 11.2	
	comp=Z,28nm,1.4s						
CHGN	**Chignik**	**20.19**	**71**	P	**P**	**07 35 51.6**	**+0.1**
CHGN				IAmb	IAmb	07 35 56.7	
	comp=Z,23nm,1.0s						
TTA	**Tatalina**	**21.03**	**52**	P	**P**	**07 36 01.1**	**+0.4**
TTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TTA	**Tatalina**	**21.03**	**52**	P	**P**	**07 36 01.1**	**+0.4**
IMAR	**Indian Mountai**	**22.39**	**44**	P	**P**	**07 36 15.8**	**+0.6**
OHAK	**Old Harbor**	**22.77**	**67**	P	**P**	**07 36 17.8**	**-1.5**
OHAK				IAmb	IAmb	07 36 20.2	
	comp=Z,21nm,1.2s						
PPLA	**Purkeypile**	**22.77**	**53**	P	**P**	**07 36 18.2**	**-1.3**
KDAK	**Kodiak Island**	**23.03**	**66**	P	**P**	**07 36 21.3**	**-0.7**
	comp=Z,5.2nm,0.4s,baz=297,slow=2.4,SNR=16						
KDAK				LR	LR	07 46 22.1	
	comp=Z,47nm,18.4s,baz=230,slow=39						
KDAK	**Kodiak Island**	**23.03**	**66**	P	**P**	**07 36 21.8**	**-0.2**
KDAK				IAmb	IAmb	07 36 39.6	
	comp=Z,17nm,1.1s						
BPAW	**Bear Paw Mtn.**	**23.35**	**50**	P	**P**	**07 36 25.8**	**+0.6**
KTH	**Kantishna Hill**	**23.36**	**51**	P	**P**	**07 36 25.2**	**-0.1**
CNPM	**China Poot**	**23.44**	**61**	P	**P**	**07 36 25.7**	**-0.4**
CNPM				IAmb	IAmb	07 36 28.9	
	comp=Z,18nm,1.2s						
BRLK	**Bradley Lake**	**23.59**	**60**	P	**P**	**07 36 27.6**	**+0.1**
BRLK				IAmb	IAmb	07 36 30.6	
	comp=Z,8.6nm,0.7s						
TRF	**Thorofare Moun**	**23.64**	**51**	P	**P**	**07 36 28.6**	**+0.3**
TRF				IAmb	IAmb	07 36 30.5	
	comp=Z,11nm,1.1s						
PMR	**Palmer**	**24.25**	**56**	P	**P**	**07 36 33.7**	**0.0**
PMR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
PMR	**Palmer**	**24.25**	**56**	P	**P**	**07 36 33.7**	**0.0**
GHO	**Glory Hole Cre**	**24.33**	**55**	P	**P**	**07 36 34.8**	**+0.2**
TOLK	**Toolik Lake Re**	**24.47**	**39**	P	**P**	**07 36 34.9**	**-0.9**
TOLK				IAmb	IAmb	07 36 38.7	
	comp=Z,15nm,1.1s						
MDM	**Murphy Dome**	**24.57**	**48**	P	**P**	**07 36 36.5**	**-0.2**
KNK	**Knik Glacier**	**24.59**	**56**	P	**P**	**07 36 37.0**	**+0.2**
KNK				IAmb	IAmb	07 36 37.8	
	comp=Z,8.1nm,0.7s						
WRH	**Wood River Hil**	**24.62**	**49**	P	**P**	**07 36 37.7**	**+0.5**
WRH				IAmb	IAmb	07 36 39.3	
	comp=Z,8.6nm,0.8s						
COLA	**College**	**24.73**	**48**⇓	*e*P	**P**	**07 36 38.1**	**0.0**
COLA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CCB	**Clear Creek Bu**	**24.75**	**48**	P	**P**	**07 36 38.6**	**+0.3**
DHY	**Denali Highway**	**24.97**	**52**	P	**P**	**07 36 40.2**	**-0.2**
DHY				IAmb	IAmb	07 36 42.4	
	comp=Z,6.7nm,0.9s						
SCM	**Sheep Creek Mo**	**25.08**	**55**	P	**P**	**07 36 41.5**	**+0.1**
SCM				pmax	pmax		
	comp=Z,16nm,0.8s						
SCM	**Sheep Creek Mo**	**25.08**	**55**	P	**P**	**07 36 41.5**	**+0.1**
HDA	**Harding Lake**	**25.12**	**49**	P	**P**	**07 36 42.1**	**+0.5**
HDA				IAmb	IAmb	07 36 43.7	
	comp=Z,8.7nm,1.2s						
IL31		**25.14**	**48**	P	**P**	**07 36 41.8**	**+0.1**
IL31				IAmb	IAmb	07 36 44.5	
	comp=Z,7.5nm,1.0s						
ILAR	**Eielson Array**	**25.14**	**48**	P	**P**	**07 36 41.6**	**-0.2**
	comp=Z,5.1nm,0.9s,baz=258,slow=8.7,SNR=38						
ILAR	**Eielson Array**	**25.14**	**48**	P	**P**	**07 36 41.7**	**-0.1**
M24K	**Tolsona, Glenn**	**25.60**	**54**	P	**P**	**07 36 46.3**	**+0.3**
JYT	**Yasato**	**25.61**	**233**	P	**P**	**07 36 47.2**	**+0.9**
KLU	**Klutina**	**25.79**	**56**	P	**P**	**07 36 47.6**	**-0.2**
KLU				IAmb	IAmb	07 36 52.8	
	comp=Z,8.5nm,0.9s						
FYU	**Fort Yukon**	**25.87**	**44**	P	**P**	**07 36 49.5**	**+1.1**
EYAK	**Cordova Ski Ar**	**26.01**	**58**	P	**P**	**07 36 49.6**	**-0.1**
RIDG	**Independent Ri**	**26.07**	**50**	P	**P**	**07 36 49.5**	**-0.8**
RIDG				IAmb	IAmb	07 37 10.9	
	comp=Z,10.0nm,1.4s						
BMAR	**Burnt Mountain**	**26.18**	**42**	P	**P**	**07 36 52.0**	**+0.7**
DOT	**Dot Lake**	**26.42**	**50**	P	**P**	**07 36 52.8**	**-0.7**
GLB	**Gilahina Butte**	**26.80**	**55**	P	**P**	**07 36 56.8**	**-0.1**
BCAR	**Beaver Creek A**	**27.50**	**52**	P	**P**	**07 37 04.0**	**+0.8**
EGAK	**Eagle**	**27.60**	**48**	P	**P**	**07 37 03.8**	**-0.2**
BARN	**Barnard Glacie**	**27.89**	**56**	P	**P**	**07 37 08.0**	**+1.1**
CTGM	**Chitina Glacie**	**28.07**	**56**	P	**P**	**07 37 09.2**	**+0.8**
CTGM				IAmb	IAmb	07 37 29.2	
	comp=Z,7.7nm,1.3s						
DAWY	**Dawson**	**28.43**	**49**	P	**P**	**07 37 12.0**	**+0.5**
EPYK	**Eagle Plains**	**29.29**	**44**	P	**P**	**07 37 20.3**	**+1.2**
HYT	**Haines Junctio**	**29.92**	**55**	P	**P**	**07 37 25.7**	**+0.9**
HYT				IAmb	IAmb	07 37 26.4	
	comp=Z,7.3nm,1.1s						
INK	**Inuvik**	**30.35**	**40**	P	**P**	**07 37 28.7**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=277,slow=6.6,SNR=11						
INK	**Inuvik**	**30.35**	**40**	P	**P**	**07 37 28.7**	**+0.4**
INK				IAmb	IAmb	07 37 49.8	
	comp=Z,10.0nm,1.4s						
KSRS	**Korea Array**	**30.94**	**251**	LR	LR	07 49 49.0	
	comp=Z,41nm,19.0s,baz=44,slow=36						
KSAR	**Wonju Array Be**	**30.97**	**251**	P	**P**	**07 37 33.1**	**-1.0**
KSAR	**Wonju Array Be**	**30.97**	**251**	P	**P**	**07 37 33.1**	**-1.0**
DLBC	**Dease Lake**	**34.28**	**57**	P	**P**	**07 38 03.7**	**+0.7**
DLBC				IAmb	IAmb	07 38 05.3	
	comp=Z,9.6nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**35.19**	**178**	T	T	08 15 40.3	
	baz=359,slow=76,SNR=902						
H11N3	**WAKE ISLAND Hy**	**35.21**	**178**	T	T	08 15 44.4	
	baz=359,slow=76

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNB	**Kanab**	**56.10**	**73**	P	**P**	**07 40 58.4**	**+2.1**
O20A	**White River Ci**	**56.32**	**67**	P	**P**	**07 40 58.9**	**+1.0**
N23A	**Red Feather La**	**56.98**	**65**	P	**P**	**07 41 04.0**	**+1.3**
N23A				IAmb	IAmb	07 41 04.8	
comp=Z,4.3nm,0.8s							
PV14	**Lion Creek, Pa**	**57.18**	**69**	P	**P**	**07 41 05.6**	**+1.5**
PV14				IAmb	IAmb	07 41 19.4	
comp=Z,2.9nm,0.9s							
PV22	**Blue Mesa, Par**	**57.19**	**68**	P	**P**	**07 41 06.8**	**+2.7**
PV22				IAmb	IAmb	07 41 07.2	
comp=Z,3.0nm,0.7s							
PV04	**Paradox Valley**	**57.23**	**69**	P	**P**	**07 41 05.0**	**+0.7**
PV04				IAmb	IAmb	07 41 06.4	
comp=Z,5.6nm,0.9s							
TKX	**Tecate**	**57.25**	**79**	P	**P**	**07 41 03.3**	**-1.0**
PV17	**East Wray Mesa**	**57.28**	**69**	P	**P**	**07 41 06.3**	**+1.6**
PV17				IAmb	IAmb	07 41 06.8	
comp=Z,4.5nm,0.9s							
PV13	**Radium Mtn., P**	**57.45**	**69**	P	**P**	**07 41 07.3**	**+1.4**
FINES	**FINESS Array B**	**59.63**	**339**	LR	LR	08 11 21.6	
comp=Z,26nm,18.5s,baz=278,slow=40							
CMAR	**Chiang Mai Arr**	**61.73**	**262**	LR	LR	08 11 55.2	
comp=Z,11nm,18.4s,baz=170,slow=40							
NB2	**NORSAR Subarra**	**62.58**	**346**	P	**P**	**07 41 39.9**	**-0.6**
comp=Z,0.9nm,0.6s,baz=16,slow=6.9							
NOA	**NORSAR Array B**	**62.58**	**346**	P	**P**	**07 41 40.3**	**-0.3**
comp=Z,0.5nm,0.6s,baz=4.6,slow=5.2,SNR=3.8							
TXAR	**Lajitas Array**	**66.91**	**72**	P	**P**	**07 42 10.2**	**+0.9**
comp=Z,1.9nm,0.7s,baz=302,slow=5.1,SNR=28							
WB2	**Warramunga Arr**	**79.25**	**210**	P	**P**	**07 43 22.0**	**-0.1**
WB2				IAmb	IAmb	07 43 45.5	
comp=Z,6.9nm,1.2s							
WRA	**Warramunga Arr**	**79.25**	**210**	P	**P**	**07 43 22.1**	**0.0**
comp=Z,0.8nm,0.9s,baz=26,slow=6.1,SNR=5.7							
ASAR	**Alice Springs**	**82.91**	**209**	P	**P**	**07 43 42.6**	**+1.1**
comp=Z,1.0nm,0.9s,baz=16,slow=6.3,SNR=8.0							
ASAR	**Alice Springs**	**82.91**	**209**	P	**P**	**07 43 41.7**	**+0.2**
ASAR	**Alice Springs**	**82.91**	**209**	P	**P**	**07 43 41.7**	**+0.2**
ESDC	**Sonseca Array**	**85.31**	**352**	P	**P**	**07 43 54.6**	**+0.8**
comp=Z,0.6nm,0.7s,baz=350,slow=6.5,SNR=3.1							

*SOME **25** 07:51:48.3, 47°.20N×85°.22E, h0km*
*NNC **25** 07:51:50.9±2.1, 47°.65N×85°.66E, h0km, mb3.4, mpv3.0,*
Error ellipse: s-maj=16.4km s-min=15.9km az=3.0
*ASRS **25** 07:51:55.7±0.8, 48°N±5°×8°6E±°, h10km, MLh3.1/6,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
ISC 25 07:51:47.1±1.2, 47°.58N±0°.08×85°.66E±0°.07, h10km, n14,
σ1§57/24, 4C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.55**	**256**	*e*P	**Pn**	**07 52 00.5**	**-0.6**
57nm,0.1s							
ZSN				*e*S	**Sn**	**07 52 08.7**	**-1.6**
148nm,0.2s							
DGZ	**Jazzator, Alta**	**2.42**	**28**	Pg	**Pg**	**07 52 33.8**	**+0.3**
DGZ				Sg	**Sg**	**07 53 04.7**	**-0.2**
MK31	**Makanchi Array**	**2.43**	**252**	⇓Pn	**Pb**	**07 52 31.8**	**+0.9**
1.4nm,0.2s,baz=65,slow=17,SNR=199							
MK31				Sn	**Sg**	**07 53 03.9**	**-1.2**
5.9nm,0.2s,baz=74,slow=28,SNR=6.7							
MAKZ	**Makanchi**	**2.63**	**254**	⇑Pn	**Pb**	**07 52 35.3**	**+1.0**
2.6nm,0.2s							
MAKZ				⇑Sn	**Sb**	**07 53 08.7**	**+2.1**
12nm,0.3s							
CHBI	**Chibit, Altay**	**2.99**	**23**	Pn	**Pb**	**07 52 37.9**	**-2.7**
CHBI				Pg	**Pg**	**07 52 45.3**	**+0.9**
CHBI				Sg	**Sb**	**07 53 19.6**	**+2.5**
CUR	**Chagan-Uzun**	**3.08**	**34**	Pg	**Pg**	**07 52 48.3**	**+2.1**
CUR				Sg	**Sg**	**07 53 24.9**	**-1.2**
ULGR	**Ulagan, Altay**	**3.40**	**26**	Pn	**Pn**	**07 52 40.7**	**+0.4**
ULGR				Pg	**Pg**	**07 52 53.0**	**+0.8**
ULGR				Sg	**Sg**	**07 53 35.0**	**-1.2**
ARTR	**Artybash**	**4.35**	**13**	Pg	**Pg**	**07 53 08.7**	**-1.7**
ARTR				Sg	**Sg**	**07 54 06.0**	**-0.7**
TEL	**Teeli**	**4.54**	**39**	Pn	Pb	07 53 01.6	-5.3
TEL				Pg	**Pg**	**07 53 16.6**	**+2.4**
TEL				Sg	**Sg**	**07 54 11.6**	**-1.3**
KAPS	**Kapalarasan**	**4.92**	**244**	*e*P	**Pb**	**07 53 12.1**	**-1.4**
3.1nm,0.2s							
KAPS				*e*S	**Sb**	**07 54 12.1**	**-0.6**
6.2nm,0.3s							
TASR	**Tashtagol**	**5.38**	**15**	Sg	**Sg**	**07 54 41.7**	**+2.2**
KURK	**Kurchatov**	**5.58**	**307**	Sg	**Sg**	**07 54 47.0**	**+0.9**
KURK	**Kurchatov**	**5.58**	**307**	⇑Lg	Lg	07 54 46.1	
8.0nm,0.4s							
KURBB	**Kurchatov Arra**	**5.58**	**306**	⇑Lg	Lg	07 54 47.6	
26nm,0.6s							

*SOME **25** 07:52:03.8, 41°.58N×82°.12E, h10km*
*NNC **25** 07:52:06.4±4.9, 41°.64N×82°.07E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=51.2km s-min=32.7km az=45.0
ISC 25 07:52:11.6±2.9, 42°.1N±0°.2×82°.2E±0°.1, h10km, n14,
σ1§09/21, 2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.95**	**315**	*e*P	**Pb**	**07 52 46.3**	**-1.0**
18nm,0.3s							
KTMS				*e*S	**Sg**	**07 53 16.8**	**+2.4**
70nm,0.3s							
KTMS	**Ketmen**	**1.95**	**315**	Pg	**Pb**	**07 52 46.3**	**-1.0**
18nm,0.3s							
KTMS				Lg	Lg	07 53 16.7	
70nm,0.3s							
PDGK	**Podgornoye**	**2.38**	**303**	Pg	**Pn**	**07 52 51.5**	**+0.7**
4.4nm,0.5s							
PDGK				Lg	Lg	07 53 25.9	
17nm,0.6s							
PDGK	**Podgornoye**	**2.38**	**303**	⇓P	**Pn**	**07 52 50.8**	**0.0**
6.3nm,0.6s							
PDGK				⇓S	**Sb**	**07 53 25.3**	**+1.1**
44nm,0.9s							
UZB	**Uzynbulak**	**2.60**	**296**	*e*P	**Pn**	**07 52 54.6**	**+0.7**
2.9nm,0.5s							
UZB				*e*S	**Sb**	**07 53 31.3**	**+0.8**
17nm,0.6s							
UZB	**Uzynbulak**	**2.60**	**296**	Pg	**Pn**	**07 52 54.6**	**+0.7**
2.9nm,0.5s							
UZB				Lg	Lg	07 53 31.3	
17nm,0.6s							
DJR	**Jarkent**	**2.88**	**323**	*e*P	**Pb**	**07 53 02.2**	**-1.0**
2.8nm,0.3s							
DJR				*e*S	**Sg**	**07 53 44.4**	**+0.2**
7.6nm,0.4s							
DJR	**Jarkent**	**2.88**	**323**	Pg	**Pb**	**07 53 02.2**	**-1.0**
2.8nm,0.3s							
DJR				Lg	Lg	07 53 44.4	
7.6nm,0.4s							
SATY	**Saty**	**3.00**	**291**	*e*P	**Pn**	**07 53 00.1**	**+0.9**
4.4nm,0.4s							
SATY				*e*S	**Sb**	**07 53 40.6**	**-1.2**
19nm,0.3s							
SATY	**Saty**	**3.00**	**291**	Pg	**Pn**	**07 53 00.1**	**+0.9**
4.4nm,0.4s							
SATY				Lg	Lg	07 53 40.6	
19nm,0.3s							
MNBS	**Baschi**	**3.45**	**307**	*e*P	**Pb**	**07 53 11.9**	**-1.0**
2.3nm,0.2s							
MNBS				*e*S	**Sg**	**07 54 00.9**	**-1.5**
9.3nm,0.3s							
MNBS	**Baschi**	**3.45**	**307**	Pg	**Pb**	**07 53 11.9**	**-1.0**
2.3nm,0.2s							
MNBS				Lg	Lg	07 54 00.9	
9.3nm,0.3s							
ARXS	**Arharly**	**3.87**	**305**	*e*P	**Pb**	**07 53 20.0**	**0.0**
5.1nm,0.3s							
ARXS				*e*S	**Sg**	**07 54 14.8**	**-1.1**
7.9nm,0.5s							
ARXS	**Arharly**	**3.87**	**305**	Pg	**Pb**	**07 53 20.0**	**0.0**
5.1nm,0.3s							
ARXS				Lg	Lg	07 54 14.8	
7.9nm,0.5s							

IDC 25 08:08:05.8±5.3, 9°.43S×156°.83E, h0km, mb3.7/3,
mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, MS3.3/4, Ms1 3.3/4,
ms1mx2.9/37, Error ellipse: s-maj=99.5km
s-min=73.9km az=172.0, Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.54**	**269**	LR	LR	08 13 05.2	
comp=Z,92nm,19.4s,baz=65,slow=31							
DZM	**Mont Dzumac**	**15.60**	**145**	LR	LR	08 16 14.5	
comp=Z,163nm,18.4s,baz=28,slow=31							
WRA	**Warramunga Arr**	**24.10**	**242**	P	P	08 13 23.0	-0.5
2.0nm,1.0s,baz=70,slow=9.7,SNR=7.7							
WRA				LR	LR	08 21 27.6	
comp=Z,90nm,21.6s,baz=195,slow=33							
GUMO	**Guam**	**25.77**	**332**	LR	LR	08 22 17.9	
comp=Z,72nm,18.7s,baz=272,slow=33							
ASAR	**Alice Springs**	**26.08**	**234**	P	P	08 13 41.9	+0.5
0.8nm,0.7s,baz=64,slow=9.6,SNR=10							
STKA	**Stephens Creek**	**26.43**	**210**	P	P	08 13 44.3	-0.1
0.7nm,0.3s,baz=6.3,slow=9.2,SNR=3.0							

*ATH **25** 08:29:31.9, 38°.32N×20°.39E, h14km±1km, ML3.1/4, Error*
ellipse: s-maj=2.5km s-min=1.0km az=261.0
*THE **25** 08:29:32.3, 38°.31N×20°.42E, h14km±1km, ML3.1/6, Error*
ellipse: s-maj=1.7km s-min=0.5km az=255.0
ISC 25 08:29:32.1±1.0, 38°.32N±0°.02×20°.43E±0°.05, h15km±5km,
n32, σ0§34/46, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF5	**Kardakata, Kep**	**0.05**	**143**	P	**Pg**	**08 29 34.8**	**0.0**
KEF5				S	**Sg**	**08 29 36.5**	**-0.2**
DMLN	**Damoulianata-K**	**0.09**	**207**	P	**Pg**	**08 29 35.3**	**+0.1**
DMLN				S	**Sg**	**08 29 37.3**	**0.0**
61μm,0.1s							
VSK1	**VASILIKIADES**	**0.14**	**51**	P	**Pg**	**08 29 35.1**	**-0.7**
ARGA	**Argostoli. Kep**	**0.15**	**164**	P	**Pg**	**08 29 36.0**	**+0.1**
ARGA				S	**Sg**	**08 29 38.8**	**+0.4**
ARG2	**Argostoli**	**0.15**	**162**	P	**Pg**	**08 29 36.1**	**+0.2**
FSK	**Fiskardo**	**0.17**	**37**	P	**Pg**	**08 29 36.5**	**+0.2**
FSK				S	**Sg**	**08 29 39.6**	**+0.5**
10μm,0.4s							
FSK	**Fiskardo**	**0.17**	**37**	P	**Pg**	**08 29 36.5**	**+0.2**
FSK				S	**Sg**	**08 29 39.6**	**+0.5**
FSK				AML	AML	08 29 39.9	
comp=E,17138μm,0.1s							
FSK				AML	AML	08 29 40.0	
comp=N,15533μm,0.2s							
VLS	**Valsamata**	**0.19**	**138**	P	**Pg**	**08 29 36.7**	**+0.1**
VLS				S	**Sg**	**08 29 40.0**	**+0.4**
comp=N,19μm,0.2s							
VLS	**Valsamata**	**0.19**	**138**	P	**Pg**	**08 29 36.6**	**+0.1**
VLS				S	**Sg**	**08 29 39.9**	**+0.4**
VLS				AML	AML	08 29 40.2	
comp=E,31091μm,0.1s							
VLS				AML	AML	08 29 40.4	
comp=N,30674μm,0.1s							
EVGI	**Lefkada island**	**0.35**	**31**	P	**Pg**	**08 29 39.5**	**+0.3**
EVGI				S	**Sb**	**08 29 45.2**	**-0.3**
comp=N,2μm,0.1s							
EVGI	**Lefkada island**	**0.35**	**31**	P	**Pg**	**08 29 39.4**	**+0.1**
EVGI				S	**Sb**	**08 29 45.1**	**-0.3**
DRAG	**Dragano-Lefkad**	**0.38**	**18**	P	**Pg**	**08 29 39.8**	**0.0**
MGNA	**Meganis**	**0.44**	**40**	P	**Pg**	**08 29 40.7**	**-0.2**
MGNA				S	**Sg**	**08 29 47.6**	**+0.7**
NYDR	**Nydri-Lefkada**	**0.45**	**28**	P	**Pg**	**08 29 40.9**	**-0.1**
NYDR				S	**Sb**	**08 29 48.1**	**-0.1**
comp=N,1μm,0.5s							
VLMS	**Volimes, Zakyn**	**0.48**	**157**	P	**Pg**	**08 29 41.3**	**-0.3**
VLMS				S	**Sg**	**08 29 48.6**	**+0.5**
VLMS				AML	AML	08 29 51.5	
comp=E,5037μm,0.2s							
VLMS				AML	AML	08 29 57.2	
comp=N,5751μm,0.4s							
LKD2	**Lefkada island**	**0.50**	**21**	P	**Pg**	**08 29 41.9**	**-0.2**
LKD2				S	**Sb**	**08 29 50.2**	**+0.4**
comp=N,982nm,0.3s							
LKD2	**Lefkada island**	**0.50**	**21**	P	**Pg**	**08 29 41.8**	**-0.2**
LKD2				S	**Sb**	**08 29 49.8**	**0.0**
LKD2				AML	AML	08 29 55.0	
comp=N,1901μm,0.3s							
LKD2				AML	AML	08 29 55.8	
comp=E,1455μm,0.2s							
AST1	**Astakos**	**0.56**	**67**	P	**Pg**	**08 29 43.2**	**0.0**
VTN	**Vitineika**	**0.72**	**124**	P	**Pg**	**08 29 46.3**	**+0.2**
AXS	**Araxos**	**0.76**	**99**	P	**Pg**	**08 29 46.7**	**-0.1**
AXS	**Araxos**	**0.76**	**99**	P	**Pg**	**08 29 46.7**	**-0.1**
RLS	**Riolos of Patr**	**0.86**	**107**	P	**Pg**	**08 29 48.7**	**0.0**
ANX	**Ano Chora**	**1.20**	**76**	P	**Pn**	**08 29 54.4**	**-0.1**
IGT	**Igoumenitsa**	**1.21**	**357**	P	**Pn**	**08 29 54.5**	**0.0**
EVR	**Évrytania**	**1.23**	**61**	P	**Pg**	**08 29 56.6**	**+0.7**
KLV	**Kalavryta, Ach**	**1.39**	**101**	P	**Pn**	**08 29 57.2**	**+0.2**
KEK	**Kerkira**	**1.47**	**341**	P	**Pn**	**08 29 58.7**	**+0.5**
GUR	**Goura**	**1.56**	**104**	P	**Pb**	**08 30 00.4**	**-0.3**
TRIP	**Tripoli**	**1.66**	**118**	P	**Pg**	**08 30 04.4**	**+0.4**
THL	**Klokotos Trika**	**1.75**	**44**	P	**Pg**	**08 30 05.2**	**-0.5**
VLX	**Vlachokerasia**	**1.81**	**121**	P	**Pg**	**08 30 06.8**	**-0.1**
VIL2	**Platees**	**2.24**	**92**	P	**Pb**	**08 30 11.5**	**-0.7**

*BGR **25** 08:29:29.0±0.0, 3°.51N×96°.15E, h33km, mb5.2*
*BJI **25** 08:29:52.4±0.0, 5°.44N×95°.43E, h183km, mB4.7/42,*
mb4.8/65
*MOS **25** 08:29:56.9±1.0, 6°.02N×95°.53E, h193km, mb4.9/54, Error*
ellipse: s-maj=7.7km s-min=4.5km az=122.4
*NEIC **25** 08:29:58.4±2.2, 6°.00N±0°.03×95°.56E±0°.07, h195km±4km,*
mb5.0/141, Error ellipse: s-maj=10.7km s-min=2.7km
az=68.0
*GCMT **25** 08:29:59.4±0.2, 5°.90N±0°.01×95°.47E±0°.01, h198km±1km,*
MW5.2/115, Moment Tensor Solution. s64,c79;
s115,c175; Duration: 1§0 Moment tensor: Scale 10^16
Nm; Mrr=3.58±.17; Mθθ=2.34±.18; Mφφ=5.93±.20;
Mrθ=2.02±.14; Mφφ=2.12±.17; Mφr=-5.63±.17; Best double
couple: M=8.13700×10^16 NP1:φ=228.00000°, δ=33.00000°,
λ=-31.00000°. NP2:φ=345.00000°, δ=74.00000°,
λ=-119.00000°. Principal axes: T 8.6540, Plg24.0000°,
Azm96.0000°; N -1.0240, Plg28.0000°, Azm353.0000°; P
-7.6200, Plg52.0000°, Azm221.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*IDC **25** 08:29:59.1±0.4, 6°.07N×95°.61E, h194km±3km, mb4.5/49,*
mb1 4.5/50, mb1mx4.4/70, mbtmp5.0/50, MS3.6/5,
Ms1 3.6/5, ms1mx3.1/55 Error ellipse: s-maj=7.8km
s-min=5.4km az=48.0
*DJA **25** 08:30:00.3±0.2, 6°N±2°×9°6E±°, h191km±2km, M4.9/67,*
mB5.4/37, mb5.2/67, MLv5.2/12, Mw(mB)4.9/37, Mwp5.0/1
*KLM **25** 08:30:00.0, 5°.82N×95°.61E, h192km, mb5.2*
ISC 25 08:29:58.6±0.3, 5°.95N±0°.03×95°.58E±0°.03, h195km±2km,
h196km: pP-P, n601, σ1§38/700, mb4.9/218, 18C-29D,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.54**	**118**	P	**Pn**	**08 30 32.1**	**-0.2**
LHMI				S	**Sn**	**08 30 57.2**	**-1.2**
LHMI	**Lhok Sumawe**	**1.54**	**118**	Pn	**Pn**	**08 30 32.7**	**+0.4**
MLSI	**Meulaboh, Aceh**	**1.86**	**154**	P	**Pn**	**08 30 33.8**	**-1.6**
MLSI				S	**Sn**	**08 31 01.2**	**-2.9**
TPTI		**3.11**	**149**	P	**Pn**	**08 30 47.2**	**-2.2**
TPTI				S	**Sn**	**08 31 25.6**	**-3.6**
PSI	**Prapat**	**4.57**	**133**	P	**Pn**	**08 31 07.1**	**-0.5**
16nm,0.3s,baz=351,slow=7.5,SNR=66							
PSI				S	**Sn**	**08 31 55.5**	**-6.4**
16nm,0.3s,baz=0.3,slow=17,SNR=5.9							
PSI				ScP	**ScP**	**08 41 19.4**	**-0.1**
0.5nm,0.3s,baz=180,slow=3.0,SNR=3.5							
RPSI	**Rantau Prapat**	**4.65**	**134**	Pn	**Pn**	**08 31 07.1**	**-1.3**
RPSI	**Rantau Prapat**	**4.65**	**134**		**Pn**	**08 31 07.1**	**-1.3**
SRIT	**Nakonsritamara**	**4.78**	**56**	Pn	**Pn**	**08 31 08.0**	**-2.1**
GSI	**Gunungsitoli**	**5.03**	**157**	Pn	**Pn**	**08 31 11.8**	**-1.5**
KULM	**Kulim**	**5.09**	**97**	Pn	**Pn**	**08 31 14.2**	**+0.1**
KULM	**Kulim**	**5.09**	**97**	P	**Pn**	**08 31 15.0**	**+0.9**
IPM	**Ipoh**	**5.62**	**105**	Pn	**Pn**	**08 31 20.8**	**-0.1**
IPM	**Ipoh**	**5.62**	**105**	P	**Pn**	**08 31 21.0**	**0.0**
PBA	**Port Blair**	**6.32**	**334**	*e*P	Pn	08 31 27.1	-3.0
PBA				*e*S	Sn	08 32 36.7	-5.7
PBA	**Port Blair**	**6.32**	**334**		Pn	08 31 27.1	-2.9
MNSI	**Mandailing Nat**	**6.49**	**142**	P	**Pn**	**08 31 30.0**	**-2.3**
3.9nm14μm303nm,0.4s							
PBSI	**Pulau Batu**	**6.55**	**156**	P	**Pn**	**08 31 31.2**	**-1.8**
3.6nm261nm,0.7s							
DGPR	**DIGLIPUR**	**7.64**	**340**	*e*P	**Pn**	**08 31 43.6**	**-3.6**
DGPR				*e*S	**Sn**	**08 33 06.1**	**-7.4**
BKNI	**Bangkinang**	**7.81**	**136**	P	**Pn**	**08 31 47.6**	**-1.8**
2.6nm6μm836nm,0.8s							
BKNI	**Bangkinang**	**7.81**	**136**	Pn	**Pn**	**08 31 47.4**	**-2.0**
SISI	**Saibi**	**8.04**	**154**	P	**Pn**	**08 31 50.0**	**-2.4**
0.7nm51nm,0.8s							
MYKOM	**Kota Tinggi**	**9.23**	**116**	P	**Pn**	**08 32 08.0**	**0.0**
DSRI	**Dabo**	**11.02**	**125**	P	**Pn**	**08 32 31.1**	**-0.2**
1μm102nm,1.1s							
KSI	**Kapahiang**	**11.84**	**144**	P	**Pn**	**08 32 40.1**	**-1.6**
129nm,0.7s							
LHSI	**Lahat**	**12.54**	**141**	P	**Pn**	**08 32 48.7**	**-1.9**
203nm,0.8s							
MNAI	**Manna**	**12.62**	**144**	P	**Pn**	**08 32 49.7**	**-1.9**
361nm,0.7s							
MNAI	**Manna**	**12.62**	**144**	Pn	**Pn**	**08 32 49.8**	**-1.8**
CM31	**Chiang Mai Arr**	**12.86**	**15**	P	**P**	**08 33 00.6**	**+2.5**
SNR=38							
CM31	**Chiang Mai Arr**	**12.86**	**15**		**P**	**08 32 57.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**12.86**	**15**	P	**P**	**08 32 57.6**	**-0.5**
2.3nm,0.3s,baz=203,slow=12,SNR=48							
CMAR				LR	LR	08 38 35.3	
comp=Z,189nm,19.2s,baz=257,slow=40							
CMAR				ScP	**ScP**	**08 41 28.6**	**+0.5**
1.0nm,0.3s,baz=234,slow=3.1,SNR=24							
CMAR	**Chiang Mai Arr**	**12.86**	**15**	P	**P**	**08 32 57.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**12.86**	**15**		**P**	**08 32 57.0**	**-1.1**
CHTO	**Chiang Mai**	**13.20**	**14**	P	**P**	**08 33 01.0**	**-0.9**
CHTO	**Chiang Mai**	**13.20**	**14**		**P**	**08 33 01.0**	**-0.9**
MDSI	**Maura Dua**	**13.46**	**140**	P	**Pn**	**08 33 00.8**	**-1.4**
1μm74nm,1.2s							
LWLI	**Liwa**	**13.80**	**142**	P	**Pn**	**08 33 04.5**	**-2.0**
9μm287nm,0.6s							
KLSI		**13.97**	**139**	P	**Pn**	**08 33 08.0**	**-0.5**
48nm,0.8s							
DLV	**T Lat**	**14.07**	**64**		**P**	**08 33 12.6**	**+0.8**
PALK	**Pallekele**	**14.84**	**276**	P	**P**	**08 33 19.9**	**-0.3**
PALK	**Pallekele**	**14.84**	**276**		**P**	**08 33 19.9**	**-0.3**
KSM	**Kuching**	**15.36**	**106**	P	**P**	**08 33 26.1**	**+0.2**
KSM	**Kuching**	**15.36**	**106**	P	**P**	**08 33 28.0**	**+2.1**
CGJI	**Cibinong**	**16.05**	**141**	P	**P**	**08 33 32.1**	**-1.4**
2μm63nm,0.7s							
SAIH	**SAIHA**	**16.63**	**352**	*ex*	Pn	08 33 48.6	+7.6
MDRS	**Chennai**	**16.68**	**296**	*e*P	**Pn**	**08 33 43.3**	**+1.8**
MDRS				*i x*	Pn	08 33 50.5	+9.1
DBJI	**Dramaga**	**16.69**	**138**	P	**P**	**08 33 39.9**	**-0.7**
83nm,0.5s							
STKI	**Sintang**	**16.91**	**110**	P	**Pn**	**08 33 44.4**	**+0.1**
SBUM	**Sibu**	**16.96**	**101**		**Pn**	**08 33 45.2**	**+0.5**
SBUM				IAmb	IAmb	08 33 48.1	
comp=Z,62nm,1.4s							
SBUM	**Sibu**	**16.96**	**101**	P	**Pn**	**08 33 46.0**	**+1.2**
BWNR	**Bhubaneshwar**	**17.13**	**327**	*ex*	**PcP**	**08 38 18.0**	**-1.3**
SLVN	**Son La**	**17.29**	**27**	P	**Pn**	**08 33 49.5**	**+0.9**
SLVN				IAmb	IAmb	08 33 56.9	
comp=Z,43nm,1.0s							
LEM	**Lembang**	**17.48**	**136**	P	**P**	**08 33 49.2**	**-0.2**
comp=Z,5.6nm,0.3s,baz=72,slow=5.6,SNR=3.8							
LEM				S	**S**	**08 37 03.2**	**+2.1**
comp=Z,5.5nm,0.3s,baz=327,slow=21,SNR=3.7							
JCJI	**Jatiwangi**	**17.70**	**134**	P	**Pn**	**08 33 53.4**	**-0.1**
comp=Z,158nm,0.4s							
CISI	**Cisompet, Garu**	**18.14**	**138**	P	**P**	**08 33 55.7**	**-0.8**
comp=Z,104nm,0.6s							
CISI	**Cisompet, Garu**	**18.14**	**138**		**P**	**08 33 55.9**	**-0.6**
PBKI	**Pangkalan Bun**	**18.23**	**118**	P	**P**	**08 33 54.1**	**-3.3**
comp=Z,418nm,1.3s							
KPJI	**Karang Pucung**	**18.75**	**135**	P	**P**	**08 34 02.2**	**-0.8**
comp=Z,80nm,0.5s							
QIZ	**Qiongzhong**	**19.03**	**46**	P	**Pn**	**08 34 08.5**	**-0.6**
QIZ				sP	**sP**	**08 34 59.8**	**-3.3**
QIZ				S	**S**	**08 37 33.5**	**+1.9**
QIZ				ScP	**ScP**	**08 41 40.0**	**+0.1**
QIZ				pmax	pmax		
comp=Z,87nm,1.2s							
QIZ	**Qiongzhong**	**19.03**	**46**	P	**Pn**	**08 34 08.4**	**-0.7**
XMIS	**Christmas Isla**	**19.16**	**148**	P	**P**	**08 34 08.5**	**+1.0**
SHL	**Shillong**	**19.82**	**350**	*e*P	**P**	**08 34 14.5**	**-0.2**
SHL				IAmb	IAmb	08 34 22.1	
comp=Z,24nm,0.5s							
SHL	**Shillong**	**19.82**	**350**	P	**P**	**08 34 13.3**	**-1.4**
SHL				pmax	pmax		
comp=Z,37nm,0.7s							
SHL	**Shillong**	**19.82**	**350**	P	**P**	**08 34 13.3**	**-1.4**
SHL				IAmb	IAmb	08 34 23.6	
comp=Z,37nm,0.7s							
BOK	**Bokaro**	**20.04**	**333**	*e*P	**P**	**08 34 18.7**	**+1.8**
HYB	**Hyderabad**	**20.17**	**306**	*i* P	**P**	**08 34 19.0**	**+0.7**
HYB				*e*PP	**pP**	**08 34 53.0**	**+2.0**
HYB				*e*S	**S**	**08 37 56.0**	**+1.9**
KMI	**Kunming**	**20.26**	**19⇑**	*e*P	Pn	08 34 22.5	-1.7
KMI				pP	pP	08 34 39.5	-13
KMI				S	**S**	**08 37 50.8**	**-5.3**
KMI				pmax	pmax		
comp=Z,53nm,1.1s							
KMI				pmax	pmax		
comp=Z,140nm,3.5s							
KMI				LR	LR		
comp=Z,200nm,15.6s							
KMI				LR	LR		
comp=Z,290nm,11.0s							
KMI				LR	LR		
comp=Z,130nm,11.6s							
MTKI	**Muara Teweh, K**	**20.47

comp=Z,31nm,0.4s
PKIN Phulchoki 23.59 337 *e*P **ScP 08 41 51.2 -0.3**
comp=Z,44nm,0.4s
GUN Gumba 23.70 338 *e*P **P 08 34 54.1 +0.9**
comp=Z,61nm,0.7s
GUN Gumba 23.70 338 *e*P **ScP 08 41 51.4 -0.5**
comp=Z,92nm,0.6s
DMN Daman 23.73 336 *e*P **ScP 08 41 52.0 +0.2**
comp=Z,86nm,0.6s
LSA Lhasa 23.99 350 P **P 08 34 57.8 +1.9**
LSA S **S 08 38 58.5 -0.3**
LSA LR LR
comp=Z,1μm,13.5s
LSA LR LR
comp=Z,6μm,15.7s
LSA LR LR
comp=Z,960nm,10.7s
LSA Lhasa 23.99 350 P **P 08 34 55.0 -0.9**
LSA pmax pmax
comp=Z,22nm,0.6s
LSA Lhasa 23.99 350 P **P 08 34 55.0 -0.9**
LSA IAmb IAmb 08 35 06.4
comp=Z,22nm,0.6s
HKPS Hong Kong Po S 24.19 46 P **P 08 34 58.6 +1.3**
HKPS IAmb IAmb 08 35 02.2
comp=Z,52nm,0.8s
GKN Gorkha 24.27 336 *e*P **P 08 34 58.9 +0.8**
comp=Z,56nm,0.5s
GKN Gorkha 24.27 336 *e*P **ScP 08 41 52.6 -0.6**
comp=Z,35nm,0.6s
KOLN Koldanda 24.50 334 *e*P **P 08 35 00.7 +0.4**
KOLN Koldanda 24.50 334 *e*P **ScP 08 41 53.3 -0.6**
comp=Z,14nm,0.3s
BHPL Bhopal 24.52 316 *e*P **P 08 35 01.6 +1.3**
POO Poona 24.60 302 *e*P **P 08 35 02.0 +0.9**
POO *e*P **P 08 35 02.8 +1.6**
POO IAmb IAmb 08 35 04.9
comp=Z,13nm,0.9s
MPSI Mapaga 24.91 102 P **P 08 35 05.5 +1.6**
comp=Z,4μmcomp=Z,461nm,1.1s
DANN Dangsing 24.94 335 *e*P **P 08 35 04.6 +0.2**
comp=Z,46nm,0.5s
DANN Dangsing 24.94 335 *e*P **ScP 08 41 54.3 -0.9**
comp=Z,94nm,0.7s
CD2 Chengdu 25.99 16 P **P 08 35 14.8 +1.3**
CD2 pP pP 08 35 52.0 -0.8
CD2 sP sP 08 36 11.5 -3.9
CD2 S **S 08 39 30.0 +0.4**
CD2 sS sS 08 40 38.5 -1.1
CD2 ScP **ScP 08 41 57.8 -0.1**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,110nm,6.7s
SPSI Sidrap Palu 26.09 112 P **P 08 35 14.9 +0.4**
comp=Z,3μmcomp=Z,25nm,0.9s
TGY Tagaytay City 26.23 70 P **P 08 35 17.8 +1.9**
comp=Z,93nm,0.3s,baz=274,slow=4.0,SNR=11
KAPI Kappang 26.48 114 P **P 08 35 19.0 +1.0**
comp=Z,60nm,1.0s,baz=258,slow=8.2,SNR=11
KAPI ScP **ScP 08 41 59.1 -0.4**
comp=Z,23nm,0.9s,baz=316,slow=2.1,SNR=5.7
KAPI Kappang 26.48 114 P **P 08 35 17.0 -1.0**
PLAI Plampang 26.56 123 P **P 08 35 19.2 +0.5**
comp=Z,52nm,1.1s
H08S3 Diego Garcia H 26.70 240 T T 09 01 32.7
baz=60,slow=76
H08S2 Diego Garcia H 26.70 240 T T 09 01 23.9
baz=60,slow=76
H08S1 Diego Carcia H 26.71 240 T T 09 01 27.2
baz=60,slow=76
BKSI Bulukumba 26.94 114 P **P 08 35 22.7 +0.5**
comp=Z,2μmcomp=Z,171nm,1.2s
ENH Enshi 27.51 27 P **P 08 35 26.8 -0.3**
ENH IAmb IAmb 08 35 28.7
comp=Z,24nm,0.9s
GTOI Gorontalo 27.88 100 P **P 08 35 30.8 +0.2**
comp=Z,1μmcomp=Z,169nm,1.3s
LUWI Luwuk 28.03 103 P **P 08 35 32.9 +1.1**
comp=Z,260nm,0.9s
LUWI Luwuk 28.03 103 P **P 08 35 31.8 -0.1**
KMSI Cibinong 28.84 100 P **P 08 35 39.9 +0.8**
comp=Z,6μmcomp=Z,355nm,1.0s
QZH Quanzhou 29.04 47⇑*i*P **P 08 35 43.0 +2.4**
QZH S **S 08 40 20.0 +2.4**
QZH LR LR
comp=Z,270nm,10.0s
QZH LR LR
comp=Z,220nm,10.9s
QZH LR LR
comp=Z,370nm,12.9s
TPUB Ta-pu 29.66 52 P **P 08 35 47.7 +1.5**
TPUB IAmb IAmb 08 35 49.4
comp=Z,33nm,1.0s
TWG Pinlang 29.76 53 P **P 08 35 48.6 +1.5**
EDFI Ende, Flores 29.85 119 P **P 08 35 46.9 -1.2**
comp=Z,22nm,0.7s
WHN Wuhan 30.17 34⇑P **P 08 35 52.5 +2.0**
WHN pP **pP 08 36 33.3 +3.1**
WHN S **S 08 40 37.3 +2.2**
WHN ScP **ScP 08 42 10.5 -0.3**
WHN pmax pmax
comp=Z,130nm,1.2s
SSLB Suanglung 30.17 51 P **P 08 35 51.7 +1.0**
SSLB IAmb IAmb 08 35 54.2
comp=Z,29nm,1.0s
YULB Yu-li 30.23 52 P **P 08 35 52.4 +1.2**
YULB IAmb IAmb 08 35 55.1
comp=Z,35nm,1.0s
SMLA Simla 30.42 328 *e*P **P 08 35 52.4 -0.3**
SMLA IAmb IAmb 08 35 54.1
comp=Z,17nm,0.3s
XAN Xi'an 30.56 22 P **P 08 35 54.8 +0.7**
XAN S **S 08 40 40.0 -1.4**
XAN pmax pmax
comp=Z,84nm,0.8s
XAN LR LR
comp=Z,190nm,16.3s
XAN LR LR
comp=Z,190nm,10.5s
XAN LR LR
comp=Z,250nm,15.2s
XAN Xi'an 30.56 22 P **P 08 35 54.7 +0.7**
XAN pmax pmax
comp=Z,50nm,0.7s
XAN Xi'an 30.56 22 P **P 08 35 54.7 +0.6**
LZH Lanzhou 30.94 13 *e*P **P 08 36 02.0 +4.5**
LZH sP sP 08 37 03.3 +3.5
LZH ScP **ScP 08 42 13.5 +0.1**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.9s
DHRM DHARAMSHALA 31.76 328 *e*P **P 08 36 04.5 -0.3**
DHRM IAmb IAmb 08 36 06.8
comp=Z,20nm,0.5s
BATI Baumata 32.25 120 S **S 08 41 01.4 -6.7**
comp=Z,40nm,0.5s,baz=96,slow=16,SNR=2.5
BATI ScP **ScP 08 42 18.0 -0.1**
comp=Z,31nm,0.4s,baz=1.5,slow=12,SNR=2.1
SOEI Soe 32.56 118 P **P 08 36 11.6 -0.3**
comp=Z,110nm,1.3s
SOEI Soe 32.56 118 P **P 08 36 11.6 -0.3**
GTA Gaotai 33.53 6 *e*P **P 08 36 21.8 +1.9**
GTA pP pP 08 37 00.5 +0.4
GTA sP sP 08 37 25.5 +3.1
GTA PcP **PcP 08 38 58.8 +2.7**
GTA S **S 08 41 27.3 -0.1**
GTA ScP **ScP 08 42 23.0 +0.8**
GTA sS sS 08 42 41.8 +3.3
GTA ScS **ScS 08 46 23.3 -0.6**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,62nm,3.6s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,380nm,19.3s
GTA LR LR
comp=Z,120nm,19.6s
NJ2 Nanjing 33.87 37⇓P **P 08 36 25.3 +2.5**
NJ2 pmax pmax
comp=Z,42nm,0.7s
NIL Nilore 34.48 326 P **P 08 36 27.4 -0.7**
NIL pmax pmax
comp=Z,52nm,0.5s
NIL Nilore 34.48 326 P **P 08 36 27.4 -0.7**
TIA Tai'an 36.02 30 P **P 08 36 42.5 +1.3**
TIA pmax pmax
comp=Z,37nm,1.1s
PSA00 Pilbara Seismi 36.26 140 P **P 08 36 42.5 -0.8**
PSA00 Pilbara Seismi 36.26 140 P **P 08 36 41.5 -1.9**
PSA00 IAmb IAmb 08 36 49.3
comp=Z,38nm,1.0s
KBL Kabul 37.56 323 P **P 08 36 52.8 -1.6**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 37.56 323 P **P 08 36 52.8 -1.6**
HHC Hu-ho-hao-te 37.58 20 *e*P **P 08 36 54.8 +0.4**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,80nm,5.5s
FAKI Fak Fak 37.67 103 P **P 08 36 55.6 +0.2**
KSH Kashi 37.81 335 P **P 08 36 55.0 -1.3**
KSH S **S 08 42 32.0 -0.6**
KSH sS sS 08 43 43.5 -1.1
KSH pmax pmax
comp=Z,16nm,0.9s
KSH pmax pmax
comp=Z,74nm,7.5s
KSH LR LR
comp=Z,160nm,7.2s
KSH LR LR
comp=Z,160nm,6.1s
KSH LR LR
comp=Z,230nm,9.0s
FITZ Fitzroy Crossi 38.09 129 P **P 08 36 58.7 -0.1**
comp=Z,40nm,0.9s,baz=360,slow=7.6,SNR=48
FITZ ScP **ScP 08 42 38.9 -0.2**
comp=Z,25nm,0.6s,baz=2.0,slow=0.9,SNR=19
FITZ Fitzroy Crossi 38.09 129 P **P 08 36 58.5 -0.3**
baz=38,SNR=35
FITZ Fitzroy Crossi 38.09 129 P **P 08 36 58.3 -0.6**
FITZ IAmb IAmb 08 36 59.9
comp=Z,51nm,1.0s
WMQ Urumqi 38.35 351 *e*P **P 08 37 02.3 +1.6**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ pmax pmax
comp=Z,48nm,4.3s
BJI Beijing 38.66 26 P **P 08 37 06.0 +2.7**
BJI S **S 08 42 48.5 +3.3**
BJI LR LR
comp=Z,99nm,7.1s
BJI LR LR
comp=Z,200nm,14.7s
TARG Taragay, Kyrgy 38.99 339 P **P 08 37 05.1 -1.4**
WBK Wadi Bani Khal 38.99 299 P **P 08 37 08.4 +2.0**
SNR=5.3
KNRA Kununurra 39.27 124 P **P 08 37 08.0 -0.6**
baz=39,SNR=13
KNRA Kununurra 39.27 124 P **P 08 37 06.5 -2.2**
KNRA IAmb IAmb 08 37 11.2
comp=Z,39nm,0.8s
MEEK Meekatharra 39.34 146 P **P 08 37 09.5 +0.4**
baz=40,SNR=15
WSAR Wadi Sarin 39.50 300 P **P 08 37 12.6 +2.0**
comp=Z,21nm,0.5s,baz=132,slow=8.4,SNR=45
WSAR ScP **ScP 08 42 44.9 +0.3**
comp=Z,11nm,0.8s,baz=130,slow=6.0,SNR=8.2
WSAR Wadi Sarin 39.50 300 P **P 08 37 12.3 +1.7**
SNR=8.2
SMDO Samad 39.95 299 P **P 08 37 16.0 +1.7**
SNR=7.3
MTN Manton Dam 39.96 118 P **P 08 37 14.0 -0.4**
baz=40,SNR=41
MTN Manton Dam 39.96 118 P **P 08 37 13.3 -1.1**
MORW Morawa 40.00 152 P **P 08 37 17.2 +2.7**
baz=40,SNR=6.7
BIDO Bidbid 40.03 300 P **P 08 37 16.8 +1.9**
SNR=15
GAR Garm 40.05 329 P **P 08 37 14.4 -0.6**
BOOM Boomskoye usch 40.34 337 P **P 08 37 17.5 +0.1**
BOOM pmax pmax
comp=Z,9.0nm,1.0s
BOOM Boomskoye usch 40.34 337 P **P 08 37 17.5 +0.1**
DL2 Dalian 40.39 32 P **P 08 37 19.5 +1.9**
DL2 pmax pmax
comp=Z,96nm,0.9s
CHGR Chuyangaron 40.40 327 P **P 08 37 15.9 -1.9**
CHGR IAmb IAmb 08 37 18.3
comp=Z,97nm,1.2s
BSY Bisya 40.59 298 P **P 08 37 21.3 +1.8**
SNR=12
BTK Batken 40.60 330 P **P 08 37 18.2 -1.2**
BTK pmax pmax
comp=Z,40nm,1.3s
BTK Batken 40.60 330 P **P 08 37 18.2 -1.2**
BTK IAmb IAmb 08 37 26.7
comp=Z,40nm,1.2s
HOQ Hoqain 40.76 300 P **P 08 37 22.5 +1.6**
SNR=10
AAK Ala-Archa 41.03 336 P **P 08 37 24.3 +1.3**
comp=Z,8.7nm,0.9s,baz=164,slow=9.0,SNR=8.3
AAK ScP **ScP 08 42 50.7 +0.4**
comp=Z,7.9nm,0.5s,baz=160,slow=5.0,SNR=9.8
AAK LR LR 08 55 54.7
comp=Z,53nm,19.8s,baz=153,slow=38
KDU Kakadu 41.08 117 P **P 08 37 23.7 +0.2**
baz=41,SNR=33
ARQ Araqi 41.36 299 P **P 08 37 27.3 +1.5**
SNR=6.0
HRA Herat 41.83 317 P **P 08 37 28.3 -1.4**
TJN Taejon 42.00 39*de*P **P 08 37 31.4 +0.7**
INCN Inchon 42.25 38 P **P 08 37 33.1 +0.4**
INCN pmax pmax
comp=Z,45nm,1.0s
INCN Inchon 42.25 38 P **P 08 37 33.1 +0.4**
INCN IAmb IAmb 08 37 34.5
comp=Z,45nm,0.9s
MK31 Makanchi Array 42.27 346 P **P 08 37 32.6 -0.2**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 42.27 346 P **P 08 37 32.6 -0.2**
MKAR Makanchi Array 42.27 346 P **P 08 37 33.0 +0.2**
comp=Z,9.4nm,0.8s,baz=161,slow=7.8,SNR=58
MKAR ScP **ScP 08 42 54.6 -0.4**
comp=Z,3.4nm,1.0s,baz=143,slow=5.3,SNR=6.0
MKAR Makanchi Array 42.27 346 P **P 08 37 32.1 -0.8**
MAKZ Makanchi 42.36 346 P **P 08 37 33.2 -0.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 42.36 346 P **P 08 37 33.2 -0.3**
JNU Nakatsue 42.50 46 P **P 08 37 36.0 +1.0**
comp=Z,27nm,0.9s,baz=148,slow=1.8,SNR=7.4
JNU Nakatsue 42.50 46 P **P 08 37 36.3 +1.4**
JNU IAmb IAmb 08 37 37.8
comp=Z,54nm,1.1s
MUN Mundaring 42.54 154 P **P 08 37 38.7 +3.5**
baz=43,SNR=5.3
SONM Songino Array 42.75 11 pP **pP 08 38 19.1 +0.6**
comp=Z,7.0nm,0.8s,baz=194,slow=8.7,SNR=3.7
SONM ScP **ScP 08 42 57.2 +0.1**
comp=Z,6.2nm,0.7s,baz=196,slow=4.1,SNR=12
KSAR Wonju Array Be 42.99 39 P **P 08 37 37.1 -1.6**
KSAR Wonju Array Be 42.99 39 P **P 08 37 37.1 -1.6**
KS19 Wonju Array Si 43.02 39 P **P 08 37 39.4 +0.5**
KS19 IAmb IAmb 08 37 41.0
comp=Z,26nm,0.9s
KSRS Korea Array 43.02 39 P **P 08 37 40.1 +1.2**
comp=Z,13nm,0.8s,baz=220,slow=8.5,SNR=33
KSRS pP **pP 08 38 19.9 -0.7**
comp=Z,7.8nm,0.9s,baz=230,slow=7.9,SNR=4.8
KSRS ScP **ScP 08 42 57.4 -0.8**
comp=Z,2.4nm,0.8s,baz=213,slow=5.5,SNR=4.8
KSRS LR LR 08 58 56.4
comp=Z,70nm,19.0s,baz=215,slow=40
KK31 Karatay Array 43.11 333 P **P 08 37 39.8 +0.2**
KK31 pmax pmax
comp=Z,12nm,1.1s
KK31 Karatay Array 43.11 333 P **P 08 37 39.8 +0.2**
KKAR Karatay Array 43.11 333 P **P 08 37 39.1 -0.5**
KKAR pmax pmax
comp=Z,12nm,1.1s
KKAR Karatay Array 43.11 333 P **P 08 37 39.7 0.0**
KKAR Karatay Array 43.11 333 P **P 08 37 39.1 -0.5**
NWAO Narrogin (SRO) 43.80 153 P **P 08 37 46.5 +1.3**
comp=Z,6.6nm,0.5s,baz=321,slow=9.5,SNR=3.2
NWAO ScP **ScP 08 43 00.6 -0.8**
comp=Z,11nm,0.8s,baz=360,slow=5.4,SNR=4.3
NWAO Narrogin (SRO) 43.80 153 P **P 08 37 46.5 +1.3**
baz=44,SNR=5.3
NWAO Narrogin (SRO) 43.80 153 P **P 08 37 45.4 +0.2**
DGZ Jazzator, Alta 44.14 352⇑*e*P **P 08 37 48.6 +0.7**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
H01W3 Cape Leeuwin H 44.23 158 T T 09 24 47.2
baz=335,slow=74
H01W2 Cape Leeuwin H 44.24 158 T T 09 24 50.2
baz=335,slow=74
H01W1 Cape Leeuwin H 44.24 158 T T 09 24 59.6
baz=335
WRKA Warakurna 44.29 135 P **P 08 37 50.3 +1.0**
baz=44,SNR=119
KMBL Kambalda 44.81 147 P **P 08 37 55.9 +2.6**
baz=45,SNR=13
JHS Saijyo 45.06 45 P **P 08 37 56.4 +1.1**
JHS IAmb IAmb 08 37 58.3
comp=Z,69nm,1.1s
WB0 Warramunga Arr 45.95 125 P **P 08 38 02.3 -0.2**
WB0 IAmb IAmb 08 38 06.2
comp=Z,47nm,1.0s
WRA Warramunga Arr 45.99 125 P **P 08 38 03.3 +0.6**
comp=Z,29nm,0.4s,baz=306,slow=8.9,SNR=148
WRA pP **pP 08 38 45.6 +0.2**
comp=Z,16nm,0.8s,baz=306,slow=9.3,SNR=2.8
WRA ScP **ScP 08 43 10.1 -0.7**
comp=Z,9.3nm,0.7s,baz=312,slow=3.7,SNR=14
WRA S **S 08 44 29.9 -3.2**
comp=Z,19nm,0.9s,baz=295,slow=15,SNR=26
WRA LR LR 08 59 20.2
comp=Z,105nm,20.8s,baz=250,slow=38
WRA Warramunga Arr 45.99 125 P **P 08 38 02.0 -0.8**
WRAB Tennant Creek 46.00 125*c i*P **P 08 38 03.1 +0.3**
WRAB pmax pmax
comp=Z,51nm,0.7s
WRAB Tennant Creek 46.00 125 P **P 08 38 02.8 0.0**
WRAB IAmb IAmb 08 38 06.7
comp=Z,77nm,1.0s
WB2 Warramunga Arr 46.00 125 P **P 08 38 03.0 +0.1**
WB2 IAmb IAmb 08 38 06.7
comp=Z,70nm,0.9s
WR0 Warramunga Arr 46.16 125 P **P 08 38 04.3 +0.2**
WR0 IAmb IAmb 08 38 08.0
comp=Z,96nm,1.2s
GEYT Alibeck 46.58 319 P **P 08 38 07.7 +0.6**
comp=Z,22nm,0.7s,baz=147,slow=8.3,SNR=29
GEYT ScP **ScP 08 43 12.4 -0.6**
comp=Z,2.9nm,0.6s,baz=145,slow=3.1,SNR=3.7
GEYT Alibeck 46.58 319 P **P 08 38 06.4 -0.7**
GYA0 ALIBECK ARRAY 46.58 319 P **P 08 38 07.1 0.0**
GYA0B ALIBECK ARRAY 46.58 319 P **P 08 38 07.4 +0.4**
GYA0B IAmb IAmb 08 38 08.8
comp=Z,36nm,0.9s
KURBB Kurchatov Arra 46.75 345 P **P 08 38 08.3 +0.1**
comp=Z,4.2nm,0.9s,baz=167,slow=6.7,SNR=24
KURBB pP **pP 08 38 50.9 +0.6**
comp=Z,16nm,0.8s,baz=162,slow=7.2,SNR=8.8
KURBB ScP **ScP 08 43 12.9 -0.4**
comp=Z,6.1nm,0.8s,baz=166,slow=3.6,SNR=19
KURBB S **S 08 44 42.1 -0.8**
comp=Z,1.1nm,0.8s,baz=158,slow=15,SNR=4.0
KURK Kurchatov 46.82 345 P **P 08 38 08.3 -0.3**
KURK *PP **pP 08 38 50.9 +0.1**
KURK S **S 08 44 42.1 -1.7**
KURK Kurchatov 46.82 345 P **P 08 38 08.8 +0.2**
AS31 Alice Springs 47.60 130 P **P 08 38 15.3 +0.1**
ASAR Alice Springs 47.60 130 P **P 08 38 15.4 +0.2**
comp=Z,25nm,0.5s,baz=301,slow=8.0,SNR=219
ASAR pP **pP 08 38 57.1 -0.9**
comp=Z,7.4nm,0.7s,baz=299,slow=8.1,SNR=2.1
ASAR ScP **ScP 08 43 17.0 -0.5**
comp=Z,10.0nm,0.7s,baz=304,slow=4.3,SNR=17
ASAR S **S 08 44 53.8 -2.0**
comp=Z,12nm,0.9s,baz=294,slow=13,SNR=27
HIA Hailar 47.76 21 P **P 08 38 18.0 +2.0**
HIA pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 47.76 21 P **P 08 38 18.0 +2.0**
FORT Forrest 47.95 142 P **P 08 38 19.5 +1.7**
baz=48,SNR=22
FORT Forrest 47.95 142 P **P 08 38 17.6 -0.2**
FORT IAmb IAmb 08 38 34.1
comp=Z,61nm,0.9s
INU Inuyama 48.02 47 P **P 08 38 19.6 +1.5**
INU IAmb IAmb 08 38 20.5
comp=Z,37nm,0.9s
JGF Kuroka 48.38 47 P **P 08 38 20.8 -0.2**
JGF IAmb IAmb 08 38 22.9
comp=Z,30nm,0.8s
MDJ Mudanjiang 48.63 32 P **P 08 38 24.3 +1.6**
MDJ pP pP 08 39 06.8 +1.4
MDJ S **S 08 45 13.0 +3.4**
MDJ SS **SS 08 48 41.5 -1.0**
MDJ pmax pmax
comp=Z,24nm,1.0s
MDJ pmax pmax
comp=Z,98nm,3.5s
ZAA0 Zalesovo Array 48.65 352 P **P 08 38 21.9 -0.8**
ZALV Zalesovo Beam 48.65 352 P **P 08 38 23.0 +0.4**
comp=Z,6.3nm,0.5s,baz=180,slow=5.9,SNR=18
ZALV pP **pP 08 39 05.0 -0.1**
comp=Z,21nm,0.9s,baz=168,slow=7.6,SNR=4.8
ZALV ScP **ScP 08 43 20.5 -0.7**
comp=Z,5.4nm,0.6s,baz=171,slow=2.3,SNR=7.0
ZALV S **S 08 45 07.7 -1.8**
comp=Z,1.0nm,0.4s,baz=173,slow=12,SNR=2.9
ZALV Zalesovo Beam 48.65 352 P **P 08 38 22.0 -0.6**
MAJO Matsushiro 49.43 46⇓*e*P **P 08 38 29.8 +0.9**
MAJO pmax pmax
comp=Z,40nm,1.8s
MAT Matsushiro 49.43 46 P **P 08 38 29.3 +0.4**
MAT S **S 08 45 22.4 +1.4**
MJAR Matsushiro Arr 49.43 46 P **P 08 38 29.9 +0.9**
comp=Z,6.3nm,0.8s,baz=247,slow=9.5,SNR=10
MJAR ScP **ScP 08 43 24.4 -0.6**
comp=Z,7.4nm,0.9s,baz=242,slow=4.4,SNR=8.5
MJAR Matsushiro Arr 49.43 46 P **P 08 38 27.8 -1.2**
USA0B Ussuriysk Arra 49.66 34 P **P 08 38 30.8 +0.3**
USA0B pmax pmax
comp=Z,24nm,1.1s
USA0B Ussuriysk Arra 49.66 34 P **P 08 38 30.8 +0.3**
USRK Ussuriysk Ar. 49.66 34 P **P 08 38 31.9 +1.5**
comp=Z,18nm,1.0s,baz=232,slow=6.5,SNR=18
USRK ScP **ScP 08 43 24.6 -1.2**
comp=Z,1.6nm,0.5s,baz=234,slow=2.8,SNR=4.8
USRK Ussuriysk Ar. 49.66 34 P **P 08 38 32.0 +1.5**
USRK Ussuriysk Ar. 49.66 34 P **P 08 38 29.9 -0.7**
QIS Mount Isa 50.64 123 P **P 08 38 38.6 +0.3**
baz=51,SNR=35
COEN Coen 51.21 113 P **P 08 38 41.9 -0.6**
baz=51,SNR=11
COEN Coen 51.21 113 P **P 08 38 44.3 +1.7**
BVAR Borovoye Array 51.26 341 P **P 08 38 42.0 -0.4**
comp=Z,3.0nm,0.7s,baz=152,slow=16,SNR=15
BVAR pP **pwP 08 39 26.7 -1.2**
comp=Z,7.5nm,0.8s,baz=156,slow=16,SNR=4.1
BRVK Borovoye 51.32 341*de*P **P 08 38 41.8 -1.0**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK Borovoye 51.32 341 P **P 08 38 41.9 -0.9**
JMM Marumori 51.87 46 P **P 08 38 48.4 +1.3**
ATD Arta Tunnel 52.35 280 P **P 08 38 53.0 +1.9**
comp=Z,19nm,0.8s,baz=75,slow=3.4,SNR=13
ATD Arta Tunnel 52.35 280 P **P 08 38 53.2 +2.0**
SNR=6.1
AB31 Akbulak array 52.59 331 *e*P **P 08 38 51.7 -0.5**
ABKAR Akbulak array 52.59 331 P **P 08 38 52.1 -0.1**
OPO Ambohidratompo 53.56 242 P **P 08 39 02.5 +2.5**
comp=Z,46nm,0.9s,baz=62,slow=6.6,SNR=33
OPO ScP **ScP 08 43 44.2 +0.8**
comp=Z,9.3nm,0.8s,baz=24,slow=3.8,SNR=5.5
PMG Port Moresby 53.62 106*de*P **P 08 39 01.0 +0.7**
PMG pmax pmax
comp=Z,23nm,1.0s
ABPO Ambohimpanom 53.70 241 P **P 08 39 02.5 +1.5**
ABPO pmax pmax
comp=Z,76nm,1.2s
ABPO Ambohimpanom 53.70 241 P **P 08 39 02.5 +1.5**
BOD Bodaibo 53.70 12 *e*P **P 08 39 01.2 +1.1**
BOD pmax pmax
comp=Z,28nm,1.0s
MTSU Mount Surprise 53.70 118 P **P 08 39 01.4 +0.5**
baz=54,SNR=9.3
ZEA Zeya 54.14 23 *e*P **P 08 39 05.1 +1.7**
ZEA pmax pmax

comp=Z,17nm,1.0s
AKTO Aktyubinsk 54.31 331 P P 08 39 04.0 -0.7
comp=Z,4.9nm,0.4s,baz=112,slow=6.0,SNR=16
AKTO ScP **ScP 08 43 44.6 -1.3**
comp=Z,2.9nm,0.6s,baz=80,slow=3.5,SNR=4.5
AKTO S **S 08 46 24.5 -2.6**
comp=Z,1.1nm,0.5s,baz=108,slow=16,SNR=11
BBOO Buckleboo 54.44 138 P P 08 39 06.3 +0.4
baz=55,SNR=26
BBOO Buckleboo 54.44 138 P P 08 39 04.7 -1.2
BBOO IAmb IAmb 08 39 07.4
comp=Z,34nm,1.1s
ASAJ Asahikawa 55.95 39 P P 08 39 17.7 +1.1
comp=Z,15nm,0.9s,baz=270,slow=13,SNR=3.5
JKA Kamikawa-asahi 55.95 39 P P 08 39 17.0 +0.4
JKA IAmb IAmb 08 39 27.5
comp=Z,32nm,1.1s
CTA Charters Tower 56.13 119 ScP ScP 08 43 54.4 -0.2
comp=Z,2.1nm,0.5s,baz=280,slow=4.8,SNR=2.6
CTAO Charters Tower 56.13 119 P P 08 39 18.5 +0.2
CTAO pmax pmax
comp=Z,30nm,1.1s
CTAO Charters Tower 56.13 119 P P 08 39 18.5 +0.2
CTAO IAmb IAmb 08 39 19.7
comp=Z,30nm,1.1s
FOMA Nahampoana Res 56.38 235 P P 08 39 19.4 -0.5
HTT Hallett 56.74 137 P P 08 39 23.6 +1.2
baz=57,SNR=39
QLP Quilpie 57.14 127 P P 08 39 26.6 +1.3
baz=57,SNR=8.6
YSS Yuzh-Sakhalins 57.44 37⇓ *i* P **P 08 39 28.8 +1.8**
YSS *e* 08 40 16.7
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 57.44 37 P P 08 39 25.3 -1.6
YSS IAmb IAmb 08 39 30.1
comp=Z,42nm,0.9s
STKA Stephens Creek 57.76 134 P P 08 39 30.1 +0.6
comp=Z,16nm,0.8s,baz=312,slow=8.4,SNR=21
STKA ScP **ScP 08 44 00.8 -0.6**
comp=Z,4.6nm,0.8s,baz=327,slow=8.4,SNR=5.1
STKA S **S 08 47 12.1 -1.1**
comp=Z,3.3nm,1.0s,baz=187,slow=18,SNR=2.8
STKA Stephens Creek 57.76 134 P P 08 39 30.1 +0.7
baz=58,SNR=14
STKA Stephens Creek 57.76 134 P P 08 39 29.8 +0.4
KIBK Kibwezi 58.04 264 P P 08 39 33.7 +1.9
SNR=6.1
AKH Akhalkalaki 58.16 316 P P 08 39 31.8 -0.5
AKH pmax pmax
comp=Z,17nm,0.9s
AKH Akhalkalaki 58.16 316 P P 08 39 31.8 -0.5
AKH IAmb IAmb 08 39 33.4
comp=Z,17nm,0.9s
ARU Arti 58.21 337 P P 08 39 31.1 -1.1
comp=Z,5.3nm,0.2s,baz=168,slow=4.0,SNR=4.4
ARU pP **pP 08 40 15.5 -0.6**
comp=Z,2.9nm,0.2s,baz=188,slow=4.3,SNR=1.0
ARU S **S 08 47 16.6 -1.6**
comp=Z,4.3nm,0.2s,baz=331,slow=22,SNR=6.0
ARU Arti 58.21 337 *d i* P **P 08 39 31.3 -0.8**
ARU *PP **pP 08 40 14.4 -1.7**
ARU S **S 08 47 17.1 -1.1**
ARU SS **SS 08 51 11.0 -2.2**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 58.21 337 P P 08 39 31.3 -0.8
ZEI Tsey 58.41 317 *e* P **P 08 39 32.7 -1.4**
ZEI pmax pmax
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 58.66 265 P P 08 39 38.9 +2.5
comp=Z,58nm,1.2s,baz=59,slow=8.6,SNR=31
KMBO ScP **ScP 08 44 08.2 +2.0**
comp=Z,5.3nm,1.0s,baz=47,slow=8.1,SNR=5.8
KMBO LR LR 09 03 32.2
comp=Z,46nm,19.1s,baz=134,slow=34
KMBO Kilima Mbogo 58.66 265 P P 08 39 37.9 +1.5
KMBO IAmb IAmb 08 39 39.8
comp=Z,48nm,1.1s
MARD Mardin 58.71 310 P P 08 39 35.9 -0.3
MARD IAmb IAmb 08 39 36.5
comp=Z,31nm,0.9s
KBZ Khabaz 59.46 318 P P 08 39 40.9 -0.1
comp=Z,13nm,0.8s,baz=108,slow=6.8,SNR=18
KBZ pP **pP 08 40 25.3 +0.5**
comp=Z,9.8nm,0.9s,baz=168,slow=3.1,SNR=3.5
KBZ ScP **ScP 08 44 09.4 +0.7**
comp=Z,6.1nm,0.8s,baz=184,slow=3.2,SNR=6.7
KIV Kislovodsk 59.69 318 *e* P **P 08 39 42.2 -0.5**
KIV pmax pmax
comp=Z,84nm,1.0s
KIV Kislovodsk 59.69 318 P P 08 39 42.0 -0.7
KIV IAmb IAmb 08 39 43.3
comp=Z,25nm,0.9s
LODK Lodwar 60.05 271 P P 08 39 47.9 +2.2
SNR=5.1
ASF Jabal al Asfar 60.46 304 P P 08 39 49.0 +0.8
comp=Z,18nm,1.0s,baz=60,slow=3.2,SNR=14
ASF ScP **ScP 08 44 14.7 +1.1**
comp=Z,2.0nm,0.6s,baz=114,slow=3.5,SNR=4.2
ASF Jabal al Asfar 60.46 304 P P 08 39 49.0 +0.8
CMSA Cobar Meteorol 60.59 131 P P 08 39 49.8 +0.9
baz=61,SNR=63
RMQ Roma 60.75 125 P P 08 39 50.8 +0.7
baz=61,SNR=22
EIL Elat 61.62 300 P P 08 39 56.6 +0.7
comp=Z,38nm,0.9s,baz=99,slow=4.1,SNR=22
MMAI Mount Meron Ar 61.87 304 P P 08 39 58.8 +1.2
comp=Z,31nm,0.9s,baz=93,slow=8.7,SNR=20
VRH Novokhopyorsk 63.31 325 *e* P **P 08 40 04.7 -1.9**
VRH *e**PP **pP 08 40 50.8 -0.5**
VRH *e*S **S 08 48 18.8 -4.2**
VRH pmax pmax
comp=Z,50nm,1.3s
VRH smax smax
comp=N,100nm,1.7s
KIRV Kirov 63.35 335⇓ *e* P **P 08 40 05.9 -0.8**
TOO Toolangi 63.49 137 P P 08 40 10.7 +2.6
baz=64,SNR=4.9
TOO Toolangi 63.49 137 P P 08 40 09.3 +1.2
TOO pmax pmax
comp=Z,20nm,1.0s
TOO Toolangi 63.49 137 P P 08 40 09.3 +1.2
TOO IAmb IAmb 08 40 14.7
comp=Z,20nm,1.0s
ANN Anapa 63.51 317 *e* P **P 08 40 08.9 +0.8**
ANN *e**PP **pP 08 40 53.0 +0.4**
ANN *e*S **S 08 48 26.8 +1.1**
ANN pmax pmax
comp=Z,121nm,0.9s
NRIK Noril'sk 63.52 357 P P 08 40 06.6 -1.1
comp=Z,2.3nm,0.6s,baz=212,slow=5.3,SNR=4.5
NRIK pP **pP 08 40 51.2 -1.4**
comp=Z,4.2nm,0.5s,baz=159,slow=7.1,SNR=3.0
VORD Divnogorie 64.60 324 *e* P **P 08 40 13.3 -1.8**
VORD *e**PP **pP 08 40 59.0 -0.8**
VORD *e*S **S 08 48 33.9 -5.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD smax smax
comp=N,30nm,0.9s
ARMA Armidale 64.66 128 P P 08 40 14.0 -2.0
ARMA IAmb IAmb 08 40 20.0
comp=Z,24nm,1.2s
BR131 Keskin Array S 64.76 311 P P 08 40 15.5 -1.0
BR131 pmax pmax
comp=Z,9.0nm,0.9s
BR131 Keskin Array S 64.76 311 P P 08 40 15.5 -1.0
BRTR Keskin Array B 64.76 311 P P 08 40 15.3 -1.2
comp=Z,9.1nm,0.8s,baz=120,slow=7.3,SNR=25
BRTR pP **pP 08 41 00.3 -0.9**
comp=Z,6.9nm,0.8s,baz=125,slow=8.2,SNR=4.8
BRTR ScP 08 44 31.8
comp=Z,2.4nm,0.8s,baz=108,slow=6.4,SNR=4.7
BRTR Keskin Array B 64.76 311 P P 08 40 15.0 -1.6
VSR Storozhevoye 64.78 325 *e* P **P 08 40 13.8 -2.4**
VSR *e**PP **pP 08 41 00.6 -0.4**
VSR *e*S **S 08 48 36.2 -4.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR smax smax
comp=N,40nm,1.1s
CAN Canberra 64.82 133 P P 08 40 18.2 +1.3
CAN pmax pmax
comp=Z,28nm,1.1s
CAN Canberra 64.82 133 P P 08 40 18.2 +1.3
CAN IAmb IAmb 08 40 19.1
comp=Z,28nm,1.1s
ILGA Ilgaz 65.03 313 P P 08 40 17.5 -0.8
ILGA IAmb IAmb 08 40 18.9
comp=Z,24nm,1.0s
MBAR Mbarara 65.05 267 P P 08 40 17.2 -1.7
MBAR pmax pmax
comp=Z,50nm,1.2s
MBAR Mbarara 65.05 267 P P 08 40 17.2 -1.7
LPSR Galich'ya Gora 65.47 326 *e* P **P 08 40 17.9 -2.7**
LPSR *e**PP **pP 08 41 04.4 -1.1**
LPSR *e*S **S 08 48 44.8 -4.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR smax smax
comp=N,20nm,1.1s
BOLV Bolvadin 66.57 310 P P 08 40 27.5 -0.6
BOLV IAmb IAmb 08 40 28.5
comp=Z,36nm,1.0s
PRGR Permogore 66.66 337 *e* P **P 08 40 26.3 -1.7**
PRGR *e**PP **pP 08 41 11.0 -2.2**
PRGR pmax pmax
comp=Z,68nm,1.2s
ISP Isparta 66.73 309 P P 08 40 28.1 -1.0
ISP pmax pmax
comp=Z,45nm,1.1s
ISP Isparta 66.73 309 P P 08 40 28.1 -1.0
ISP IAmb IAmb 08 40 29.4
comp=Z,44nm,1.1s
AKAS Kas 67.17 307 P P 08 40 30.3 -1.6
AKAS IAmb IAmb 08 40 50.6
comp=Z,21nm,0.9s
MOS Moscow 67.45 329 *e* P **P 08 40 30.1 -3.0**
OBN Obninsk 67.76 328 *d i* P **P 08 40 34.3 -0.7**
OBN *e**PP **pP 08 41 21.4 +1.1**
OBN *e**SP **sP 08 41 39.3 -1.9**
OBN *e* 08 43 08.5
OBN pmax pmax
comp=Z,13nm,0.4s
PETK Petropavlovsk- 68.74 35 pP pP 08 41 25.6 -1.3
comp=Z,3.7nm,0.9s,baz=283,slow=7.2,SNR=4.3
KLMR Klimovskoe 68.80 334 *e* P **P 08 40 39.9 -1.4**
KLMR pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 68.80 334 *e* P **P 08 40 40.0 -1.4**
KLMR AMP 08 40 41.4
comp=Z,17nm,1.0s
TIXI Tiksi 68.83 11 P P 08 40 40.7 -0.7
TIXI Tiksi 68.83 11 P P 08 40 40.7 -0.7
TIXI IAmb IAmb 08 41 05.2
comp=Z,26nm,0.7s
KARP Karpathos 69.02 306 P P 08 40 43.4 0.0
TIRR Tirgusor 69.62 315 ⇓ P **P 08 40 45.8 -1.0**
TIRR Tirgusor 69.62 315 P P 08 40 45.6 -1.1
TIRR pmax pmax
comp=Z,57nm,0.9s
TIRR Tirgusor 69.62 315 P P 08 40 45.6 -1.1
LSZ Lusaka 69.99 251 P P 08 40 51.3 +1.5
comp=Z,11nm,0.4s,baz=79,slow=4.9,SNR=32
LSZ Lusaka 69.99 251 P P 08 40 51.1 +1.4
HARR Harsova 70.00 315 ⇑ P **P 08 40 47.8 -1.3**
SEY Seymchan 70.08 24⇑ *e* P **P 08 40 52.6 +3.4**
SANT Santorini 70.50 306 P P 08 40 50.2 -2.2
AKASG Malin Array Be 70.54 322 P P 08 40 50.6 -1.6
comp=Z,2.3nm,0.4s,baz=86,slow=5.3,SNR=18
AKASG Malin Array Be 70.54 322 IAmb IAmb 08 40 52.1
comp=Z,6.0nm,1.1s
AKBB Malin Array Si 70.54 322 P P 08 40 51.2 -1.0
AKBB pmax pmax
comp=Z,10.0nm,1.0s
AKBB Malin Array Si 70.54 322 P P 08 40 51.2 -1.0
ALN Alexandroupoli 70.68 311 P P 08 40 53.1 -0.2
ALN pmax pmax
comp=Z,33nm,1.0s
ALN Alexandroupoli 70.68 311 P P 08 40 53.1 -0.2
ALN IAmb IAmb 08 40 53.9
comp=Z,33nm,1.0s
RAZG Razgrad 70.79 314 ⇓ P **P 08 40 53.3 -0.7**
IDI Anoyia 70.83 305 P **P 08 40 54.0 -0.4**
comp=Z,15nm,0.5s,baz=91,slow=9.4,SNR=20
IDI Anoyia 70.83 305 P P 08 40 54.1 -0.4
IDI IAmb IAmb 08 40 55.3
comp=Z,43nm,1.1s
VRI Vrincioaia 71.07 316 ⇓ P **P 08 40 55.4 -0.2**
PLOR Plostina 71.12 316 ⇑ P **P 08 40 55.3 -0.6**
MLR Muntele Rosu 71.54 316 P P 08 40 58.6 +0.1
comp=Z,26nm,1.0s,baz=99,slow=2.4,SNR=18
MLR Muntele Rosu 71.54 316 ⇑ P **P 08 40 58.2 -0.3**
MLR Muntele Rosu 71.54 316 P P 08 40 58.3 -0.2
MLR IAmb IAmb 08 40 59.7
comp=Z,42nm,1.1s
BIZ Bicaz 71.70 317 ⇓ P **P 08 40 58.4 -0.9**
DOPR Dopca 72.00 316 ⇑ P **P 08 41 00.5 -0.7**
BURAR Bucovina Array 72.42 318 ⇓ P **P 08 41 03.5 -0.2**
BURAR Bucovina Array 72.42 318 P **P 08 41 03.5 -0.2**
ARR Arges 72.42 316 ⇑ P **P 08 41 02.6 -1.2**
BUR08 Bucovina Ar. S 72.44 318 P **P 08 41 04.1 +0.3**
CASY Casey 72.87 174 P P 08 41 06.9 +1.2
CASY IAmb IAmb 08 41 08.4
comp=Z,15nm,0.9s
LOT Lotru 73.04 316 ⇓ P **P 08 41 06.4 -1.1**
LIT Litokhoron 73.26 310 P P 08 41 07.5 -1.2
LIT pmax pmax
comp=Z,58nm,1.0s
LIT Litokhoron 73.26 310 P P 08 41 07.5 -1.2
VAY Valandovo 73.34 311 *i* P **P 08 41 08.0 -1.1**
ITM Ithomi 73.41 307 P P 08 41 08.4 -1.2
STIP Stip 73.67 312 *i* P **P 08 41 08.7 -2.3**
GZR Gura Zlata 73.72 315 ⇑ P **P 08 41 10.3 -1.0**
HERR Herculane 73.90 315 ⇓ P **P 08 41 11.8 -0.5**
FNA Florina 74.18 311 P P 08 41 12.7 -1.4
FNA pmax pmax
comp=Z,12nm,0.9s
FNA Florina 74.18 311 P P 08 41 12.7 -1.4
MDVR Moldovita 74.39 315 ⇓ P **P 08 41 14.6 -0.5**
KWP Kalwaria Pacla 74.41 320 *e* P **P 08 41 15.1 -0.1**
KWP Kalwaria Pacla 74.41 320 P P 08 41 15.2 0.0
KWP pmax pmax
comp=Z,46nm,1.2s
KWP Kalwaria Pacla 74.41 320 P P 08 41 15.2 0.0
KWP IAmb IAmb 08 41 16.2
comp=Z,46nm,1.2s
UZH Uzhgorod 74.52 319 *e* P **P 08 41 16.0 +0.2**
UZH *e* 08 41 32.5
BZS Buzias 74.56 316 ⇑ P **P 08 41 15.2 -0.9**
KOLS Kolonicke sedl 74.58 319 *e* P **P 08 41 15.3 -0.9**
KOLS pmax pmax
comp=Z,17nm,1.3s
KOLS Kolonicke sedl 74.58 319 *e* P **P 08 41 15.3 -0.9**
LBTB Lobatse 74.59 242 P P 08 41 18.1 +1.3
LBTB pmax pmax
comp=Z,73nm,0.9s
LBTB Lobatse 74.59 242 P P 08 41 18.1 +1.3
SIRR Siria 74.61 316 ⇑ P **P 08 41 16.0 -0.4**
SUW Suwalki 74.89 324 *e* P **P 08 41 16.6 -1.2**
FINES FINESS Array B 75.07 332 P P 08 41 17.9 -0.7
comp=Z,6.6nm,0.4s,baz=107,slow=6.1,SNR=71
FINES pP **pP 08 42 05.0 0.0**
comp=Z,11nm,0.8s,baz=76,slow=8.0,SNR=4.8
CRVS Cervenica-Dubn 75.11 319 *e* P **P 08 41 20.2 +1.0**
CRVS pmax pmax
comp=Z,43nm,1.2s
CRVS Cervenica-Dubn 75.11 319 *e* P **P 08 41 20.2 +1.0**
DIVS Divibare 75.53 314 ⇓ *i* P **P 08 41 20.7 -1.1**
DIVS Divibare 75.53 314 P **P 08 41 21.5 -0.4**
KECS Kecovo 75.69 318 *e* P **P 08 41 22.4 -0.1**
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 75.69 318 *e* P **P 08 41 22.4 -0.1**
BOSA Boshof 75.79 239 P **P 08 41 25.0 +1.4**
comp=Z,42nm,0.8s,baz=95,slow=3.9,SNR=77
BOSA Boshof 75.79 239 P P 08 41 25.0 +1.4
BOSA Boshof 75.79 239 P **P 08 41 24.6 +1.0**
PDG Podgorica 75.92 312 ⇑ P **P 08 41 22.7 -1.2**
PDG Podgorica 75.92 312 ⇓ *i* P **P 08 41 22.5 -1.4**
PDG Podgorica 75.92 312 P P 08 41 22.1 -1.8
PDG IAmb IAmb 08 41 23.8
comp=Z,20nm,0.8s
NIE Niedzica 75.93 319 *e* P **P 08 41 24.4 +0.5**
BBLS Lazići 75.93 314 ⇓ *i* P **P 08 41 23.3 -0.8**
DRME Dracevica, Mon 75.95 312 ⇓ *i* P **P 08 41 22.8 -1.3**
PSZ Piszkesteto 76.02 318 P **P 08 41 23.8 -0.7**
PSZ pmax pmax
comp=Z,16nm,0.8s
PSZ Piszkesteto 76.02 318 P P 08 41 23.8 -0.7
PSZ IAmb IAmb 08 41 25.4
comp=Z,16nm,0.8s
UPM Unac-Piva 76.24 313 *e* P **P 08 41 24.6 -1.4**
OJC Ojcow 76.36 320 *e* P **P 08 41 25.8 -0.4**
OJC Ojcow 76.36 320 P P 08 41 25.9 -0.4
OJC pmax pmax
comp=Z,38nm,0.7s
OJC Ojcow 76.36 320 P P 08 41 25.9 -0.4
BRY Bratogost 76.48 313 *e* P **P 08 41 26.0 -1.3**
VYHS Vyhne 76.78 318 *e* P **P 08 41 28.5 -0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.0s
VYHS Vyhne 76.78 318 *e* P **P 08 41 28.5 -0.2**
MAW Mawson 76.96 192 P P 08 41 31.3 +2.1
comp=Z,20nm,1.0s,baz=20,slow=6.4,SNR=36
MAW Mawson 76.96 192 P P 08 41 31.2 +2.1
baz=77,SNR=22
MAW Mawson 76.96 192 P P 08 41 31.2 +2.1
BILL Bilibino 77.34 21 *e* P **P 08 41 34.3 +2.9**
BILL *e* 08 41 42.1
BILL *e**SP **sP 08 42 42.2 +3.3**
BILL pmax pmax
comp=Z,4.0nm,0.9s
JAVC Velka Javorina 77.59 319 *e* P **P 08 41 34.0 +0.8**
BLY Banja Luka 77.59 314 ⇓ *i* P **P 08 41 32.8 -0.4**
TIP Timpagrande 77.60 309 ⇑ P **P 08 41 33.0 -0.5**
MORC Moravsky Berou 77.75 320 ⇑ P **P 08 41 33.6 -0.5**
MORC Moravsky Berou 77.75 320 *e* P **P 08 41 34.4 +0.3**
MORC Moravsky Berou 77.75 320 IAmb IAmb 08 41 35.3
comp=Z,19nm,1.2s
MODS Modra-Piesok 77.81 318 *e* P **P 08 41 33.4 -1.0**
MODS pmax pmax
comp=Z,67nm,2.4s
MODS Modra-Piesok 77.81 318 *e* P **P 08 41 33.4 -1.0**
ZST Bratislava 77.91 318 *e* P **P 08 41 34.0 -0.9**
ZST pmax pmax
comp=Z,54nm,1.0s
ZST Bratislava 77.91 318 *e* P **P 08 41 34.0 -0.9**
BEHE Becsehely 78.00 316 ⇓ *i* P **P 08 41 38.1 +2.6**
CEL Celeste 78.24 308 IAmb IAmb 08 41 38.5
comp=Z,54nm,1.1s
KRLC Kraliky 78.27 320 *e* P **P 08 41 37.4 +0.5**
KRLC Kraliky 78.27 320 *e* P **P 08 41 37.4 +0.5**
VRAC Vranov 78.33 319 *e* P **P 08 41 37.1 -0.1**
KRUC Moravsky 78.44 319 *e* P **P 08 41 37.7 -0.1**
DPC Dobruska-Polom 78.59 320 *e* P **P 08 41 39.2 +0.5**
DPC Dobruska-Polom 78.59 320 *e* P **P 08 41 39.2 +0.5**
DPC MLR MLR
comp=Z,4μm,25.6s
KSP Ksiaz 78.64 321 *e* P **P 08 41 38.8 -0.1**
CONA Conrad Observa 78.72 318 *i* P **P 08 41 39.4 -0.1**
comp=Z,8.8nm,1.1s
GCIS Gornji Cirnik 78.76 315 *i* P **P 08 41 39.3 -0.3**
GCIS *i* pP **pP 08 42 26.4 +0.2**
CHVC Chvalec 78.78 320 *e* P **P 08 41 40.4 +0.7**
CRES Cresnjev 78.88 315 ⇓ *i* P **P 08 41 39.9 -0.4**
ARSA Arzberg 78.91 317 *i* P **P 08 41 40.6 +0.2**
comp=Z,13nm,1.0s,SNR=5.2
PERS Pernice 79.15 316 *i* P **P 08 41 41.7 -0.1**
SOKA Soboth 79.21 316 *i* P **P 08 41 42.3 +0.1**
SNR=16
SOKA *i* P **P 08 41 42.6 +0.4**
comp=Z,28nm,1.1s
VAE Valguarnera 79.40 307 P P 08 41 44.4 +1.0
comp=Z,36nm,1.0s,baz=340,slow=1.7,SNR=5.5
LJU Ljubljana 79.53 316 *i* P **P 08 41 44.1 +0.2**
LJU *e*pP **pP 08 42 30.7 +0.3**
LJU Ljubljana 79.53 316 ⇓ *i* P **P 08 41 44.1 +0.2**
OBKA Obir 79.54 316 *i* P **P 08 41 44.2 +0.2**
comp=Z,21nm,1.4s
GOPC GO Pecny, Ondr 79.54 320 *e* P **P 08 41 44.3 +0.5**
GOPC GO Pecny, Ondr 79.54 320 *e* P **P 08 41 44.3 +0.5**
CEY Cerknica 79.59 315 *e* P **P 08 41 43.8 -0.4**
PRU Pruhonice 79.71 320 *e* P **P 08 41 45.4 +0.7**
PRU Pruhonice 79.71 320 *e* P **P 08 41 45.4 +0.7**
PRU MLR MLR
comp=Z,4μm,21.0s
MOA Molln 79.79 317 *i* P **P 08 41 45.2 0.0**
comp=Z,6.2nm,0.8s
INTR Introdacqua 79.86 311 IAmb IAmb 08 41 50.0
comp=Z,18nm,1.0s
PBCC Pribram 80.04 319 *e* P **P 08 41 46.6 +0.1**
BRG Berggiesshubel 80.13 320 *e* P **P 08 41 47.1 +0.2**
comp=Z,14nm,1.1s
BRG Berggiesshubel 80.13 320 *e* P **P 08 41 47.1 +0.2**
BRG pmax pmax
comp=Z,14nm,1.1s
BRG Berggiesshubel 80.13 320 *e* P **P 08 41 47.4 +0.5**
comp=Z,14nm,1.1s,baz=92,slow=5.1
MYKA Terra Mystica 80.17 316 *i* P **P 08 41 47.5 +0.2**
comp=Z,5.4nm,0.6s
GEC2 GERESS Array S 80.20 318 *e* P **P 08 41 48.0 +0.5**
comp=Z,23nm,1.2s,baz=92,slow=5.1
GEC2 GERESS Array S 80.20 318 P **P 08 41 47.1 -0.4**
GEC2 IAmb IAmb 08 41 48.5
comp=Z,19nm,1.1s
GERES GERESS Array B 80.20 318 P **P 08 41 47.1 -0.4**
comp=Z,7.8nm,0.8s,baz=88,slow=6.0,SNR=37
GERES pP **pP 08 42 33.9 -0.2**
comp=Z,3.5nm,0.8s,baz=80,slow=7.3,SNR=3.1
GERES GERESS Array B 80.20 318 P **P 08 41 47.2 -0.3**
PRED Cave del Predi 80.21 316 P **P 08 41 47.3 -0.3**
PRED IAmb IAmb 08 41 48.3
comp=Z,26nm,0.9s
AQU L'Aquila 80.24 312 P **P 08 41 45.9 -1.9**
AQU pmax pmax
comp=Z,43nm,0.9s
AQU L'Aquila 80.24 312 P **P 08 41 45.9 -1.9**
AQU IAmb IAmb 08 41 48.8
comp=Z,43nm,0.9s
KHC Kasperske Hory 80.29 319 *e* P **P 08 41 47.7 -0.2**
KHC Kasperske Hory 80.29 319⇓ *e* P **P 08 41 47.3 -0.6**
KHC pmax pmax
comp=Z,15nm,0.9s
KBA Koelnbreinsper 80.38 317 *i* P **P 08 41 48.3 -0.3**
comp=Z,12nm,1.5s
SUR Sutherland 80.43 236 P P 08 41 51.0 +1.8
NRCA Norcia 80.46 312 P P 08 41 48.0 -0.9
NRCA IAmb IAmb 08 41 49.8
comp=Z,29nm,1.1s
FBE Freiberg 80.51 321 *e* P **P 08 41 49.6 +0.7**
comp=Z,19nm,1.1s,baz=92,slow=5.1
ZOU Zoufplan 80.62 316 IAmb IAmb 08 41 50.6
comp=Z,25nm,1.3s
TSUM Tsumeb 80.69 250 P P 08 41 49.1 -1.5
TSUM IAmb IAmb 08 41 53.6
comp=Z,35nm,1.1s
CLL Collm 80.74 321 *e* P **P 08 41 49.0 -1.2**
comp=Z,5.0nm,0.9s
CLL *e*pP **pP 08 42 38.0 +0.9**
CLL *e*sP **sP 08 43 01.0 +3.4**
CLL Collm 80.74 321 *e* P **P 08 41 49.0 -1.2**
CLL *e**PP **pP 08 42 38.0 +0.9**
CLL pmax pmax
comp=Z,5.0nm,0.9s
WET Wettzell 80.75 319 *e* P **P 08 41 50.8 +0.4**
comp=Z,13nm,1.1s,baz=92,slow=5.1
HFS Hagfors 80.83 330 P P 08 41 49.9 -0.5
comp=Z,2.8nm,0.4s,baz=108,slow=4.8,SNR=14
ABTA Abfaltersbach 80.95 316 *i* P **P 08 41 50.9 -0.5**
comp=Z,7.9nm,0.9s
CIMO Cimolais 80.99 316 IAmb IAmb 08 41 52.4
comp=Z,42nm,0.9s
GUNZ Gunzen 81.14 320 *e* P **P 08 41 52.8 +0.5**
comp=Z,14nm,0.9s,baz=92,slow=5.1
ROTZ Rotzenmuhle 81.21 319 *e* P **P 08 41 53.4 +0.7**
comp=Z,14nm,1.1s,baz=92,slow=5.1
MANZ Manzenberg 81.28 320 *e* P **P 08 41 53.9 +0.8**
comp=Z,17nm,1.2s,baz=92,slow=5.1
CTI Castel Tesino 81.54 316 P P 08 41 54.5 -0.1
CTI pmax pmax
comp=Z,33nm,1.0s
CTI Castel Tesino 81.54 316 P P 08 41 54.5 -0.1
CTI IAmb IAmb 08 41 55.6
comp=Z,34nm,1.0s
WATA Walderalm 81.59 317 *i* P **P 08 41 54.4 -0.5**
comp=Z,11nm,0.9s
MOX Moxa 81.60 320 *e* P **P 08 41 55.0 +0.3**
comp=Z,9.5nm,1.2s,baz=92,slow=5.1
SQTA Sankt Quirin 81.84 317 *i* P **P 08 41 55.8 -0.4**
comp=Z,14nm,0.9s
GRF Grafenberg Arr 81.84 319 *e* P **P 08 41 56.7 +0.6**
comp=Z,22nm,1.0s,baz=92,slow=5.1
MOTA Moosalm 81.92 317 *i* P **P 08 41 56.1 -0.6**

comp=Z,21nm,1.1s,SNR=6.0
SPITS Spitsbergen Ar 82.00 348 P **P** **08 41 56.0 -0.3**
comp=Z,17nm,0.8s,baz=114,slow=14,SNR=9.7
SPITS pP **pP** **08 42 41.9 -1.6**
comp=Z,22nm,1.0s,baz=121,slow=13,SNR=2.9
ZCCA Zocca 82.02 314 P **P** **08 41 56.7 -0.4**
ZCCA IAmb IAmb 08 42 03.1
comp=Z,21nm,0.8s
NB2 NORSAR Subarra 82.10 331 P **P** **08 41 55.8 -1.3**
comp=Z,5.4nm,1.0s,baz=96,slow=5.1
NOA NORSAR Array B 82.10 331 P **P** **08 41 56.5 -0.7**
comp=Z,1.5nm,0.8s,baz=92,slow=5.4,SNR=5.9
RETA Reutte 82.15 317 *i* P **P** **08 41 57.4 -0.4**
comp=Z,18nm,1.0s,SNR=6.8
FETA Feichten 82.17 317 *i* P **P** **08 41 57.8 -0.2**
comp=Z,13nm,1.1s
ASSE Asse, Remlinge 82.21 322 *eP* **P** **08 41 58.0 +0.3**
comp=Z,18nm,1.0s,baz=92,slow=5.1
CLZ Clausthal 82.39 321 *eP* **P** **08 41 59.2 +0.3**
comp=Z,20nm,1.0s,baz=92,slow=5.1
BSEG Bad Segeberg 82.44 324 *eP* **P** **08 41 59.6 +0.7**
comp=Z,29nm,1.3s,baz=92,slow=5.1
NRDL Niedersach Rie 82.56 322 *eP* **P** **08 42 00.4 +0.8**
comp=Z,22nm,1.2s,baz=92,slow=5.1
UBR Ueberruh 82.59 317 *eP* **P** **08 41 59.6 -0.5**
comp=Z,17nm,1.1s,baz=92,slow=5.1
GTTG Gottingen 82.65 321 *eP* **P** **08 42 00.5 +0.4**
comp=Z,16nm,1.0s,baz=92,slow=5.1
DAVA Damuels 82.75 317 *i* P **P** **08 42 00.9 0.0**
comp=Z,26nm,1.2s
DAVOX Davos/Dischmat 82.76 316 P **P** **08 41 59.7 -1.4**
comp=Z,17nm,0.8s,baz=101,slow=6.8,SNR=22
VSL Villasalto 83.32 309 P **P** **08 42 02.9 -1.0**
VSL IAmb IAmb 08 42 04.6
comp=Z,35nm,1.0s
KEST Kesra 83.51 305 P **P** **08 42 05.2 +0.2**
comp=Z,15nm,0.5s,baz=328,slow=2.6,SNR=19
KEST Kesra 83.51 305 IAmb IAmb 08 42 06.8
comp=Z,28nm,0.8s
BFO Black Forest 83.77 318 P **P** **08 42 05.7 -0.3**
BFO pmax pmax
comp=Z,10.0nm,0.9s
BFO Black Forest 83.77 318 *eP* **P** **08 42 05.6 -0.3**
comp=Z,13nm,0.9s,baz=92,slow=5.1
BFO Black Forest 83.77 318 P **P** **08 42 05.7 -0.3**
IBBN Ibbenburen 84.00 322 *eP* **P** **08 42 07.5 +0.5**
comp=Z,40nm,1.2s,baz=92,slow=5.1
SYO Syowa Base 84.01 197⇓ *eP* **P** **08 42 06.2 -0.4**
SYO Syowa Base 84.01 197⇑ *eP*cP **PcP** **08 42 10.0 -0.1**
BUG Bochum--Univer 84.34 321 *eP* **P** **08 42 09.1 +0.4**
comp=Z,38nm,1.0s,baz=92,slow=5.1
AHRW Bad Neuenahr-A 84.50 320 *eP* **P** **08 42 10.3 +0.7**
comp=Z,17nm,0.7s,baz=92,slow=5.1
ECH Echery 84.55 318 P **P** **08 42 09.3 -0.6**
ECH pmax pmax
comp=Z,9.0nm,1.1s
ECH Echery 84.55 318 P **P** **08 42 09.3 -0.6**
BNI Bardonecchia 85.06 315 P **P** **08 42 12.3 -0.4**
BNI pmax pmax
comp=Z,10.0nm,0.9s
BNI Bardonecchia 85.06 315 P **P** **08 42 12.3 -0.4**
SSB Saint Sauveur 86.55 315 IAmb IAmb 08 42 20.6
comp=Z,15nm,1.0s
URZ Urewera 87.03 129 P **P** **08 42 22.6 +0.4**
comp=Z,6.9nm,0.8s,baz=354,slow=18,SNR=1.5
URZ Urewera 87.03 129 P **P** **08 42 22.4 +0.2**
TAM Tamanrasset 87.78 293 P **P** **08 42 26.3 -0.1**
TAM pmax pmax
comp=Z,23nm,1.1s
TAM Tamanrasset 87.78 293 P **P** **08 42 26.3 -0.1**
TAM IAmb IAmb 08 42 29.3
comp=Z,23nm,1.1s
EKA Eskdalemuir Ar 90.10 326 P **P** **08 42 36.8 +0.4**
comp=Z,0.7nm,0.4s,baz=80,slow=5.3,SNR=3.7
VNDA Vanda 90.77 169 P **P** **08 42 40.1 +1.2**
comp=Z,3.6nm,0.9s,baz=310,slow=7.2,SNR=24
VNDA Vanda 90.77 169 P **P** **08 42 40.2 +1.2**
VNDA pmax pmax
comp=Z,24nm,1.7s
VNDA Vanda 90.77 169 P **P** **08 42 40.2 +1.2**
VNDA IAmb IAmb 08 42 42.5
comp=Z,24nm,1.6s
TOA0 Torodi Ar. Sit 92.43 283 P **P** **08 42 48.5 +0.5**
TOA0 IAmb IAmb 08 42 49.8
comp=Z,14nm,0.9s
TORD Torodi Ar. Bea 92.43 283 P **P** **08 42 48.6 +0.7**
comp=Z,10nm,0.8s,baz=84,slow=5.0,SNR=41
TORD pP **pP** **08 46 31.7 -0.1**
comp=Z,2.6nm,1.1s,baz=73,slow=5.1,SNR=5.3
TORD SKKPbc SKKPbc 09 03 22.6 +1.6
comp=Z,0.3nm,0.7s,baz=218,slow=1.6,SNR=1.6
TORD Torodi Ar. Bea 92.43 283 P **P** **08 42 48.4 +0.4**
ESDC Sonseca Array 93.54 310 P **P** **08 42 52.8 +0.1**
comp=Z,4.2nm,0.9s,baz=52,slow=4.2,SNR=16
ESDC Sonseca Array 93.54 310 P **P** **08 42 52.5 -0.1**
ILAR Eielson Array 95.97 22 pP **pP** **08 43 50.8 -0.6**
comp=Z,1.0nm,0.7s,baz=302,slow=4.5,SNR=6.5
ILAR PKKPbc **PKKPdf** **08 59 49.1 -3.8**
comp=Z,0.5nm,0.9s,baz=144,slow=1.0,SNR=4.5
ILAR SKKPbc SKKPbc 09 03 11.5 -2.4
comp=Z,0.6nm,0.6s,baz=150,slow=1.8,SNR=6.3
SNAA Sanae 98.27 198 Pdiff Pdif 08 43 15.7 +2.4
SNAA Sanae 98.27 198⇓ *eP* Pdif 08 43 16.5 +3.1
SNAA pmax pmax
comp=Z,14nm,4.4s
DBIC Dimbokro 99.62 278 P **Pdif** **08 43 21.9 +1.3**
comp=Z,3.0nm,0.7s,baz=77,slow=5.5,SNR=4.5
DBIC Dimbokro 99.62 278 **Pdif** **08 43 19.1 -1.5**
VNA2 Neumayer--Watz 99.83 199 Pdiff **Pdif** **08 43 22.6 +2.3**
baz=89,slow=5.4
ULM Lac du Bonnet 123.15 9 SKP 08 51 48.3
comp=Z,0.8nm,0.3s,baz=316,slow=6.2,SNR=3.3
SNOW Snow King Moun 125.35 23 **PKPdf** **08 48 35.8 -1.1**
NVAR Mina Array Bea 125.79 33 PKP **PKiKP** **08 48 39.4 +1.2**
comp=Z,0.6nm,0.6s,baz=279,slow=1.7,SNR=6.7
NVAR pPKP **pPKPdf** **08 49 27.9 -0.2**
comp=Z,1.1nm,0.9s,baz=279,slow=1.6,SNR=2.8
NVAR SKPbc SKPbc 08 51 34.8
comp=Z,1.4nm,0.8s,baz=338,slow=1.5,SNR=5.1
NVAR PKKPbc **PKKPbc** **08 58 15.2 +0.2**
comp=Z,0.3nm,0.6s,baz=116,slow=6.8,SNR=4.1
NVAR SKKPbc **SKKPbc** **09 01 44.7 -2.0**
comp=Z,0.9nm,0.7s,baz=120,slow=3.9,SNR=6.4
NVAR Mina Array Bea 125.79 33 **PKPdf** **08 48 36.9 -0.9**
PDAR Pinedale Array 126.40 23 PKP **PKPdf** **08 48 38.2 -0.7**
comp=Z,0.6nm,0.7s,baz=304,slow=0.5,SNR=5.8
PDAR pPKP **pPKPdf** **08 49 28.4 -0.8**
comp=Z,0.8nm,0.7s,baz=90,slow=2.9,SNR=3.1
PDAR SKPbc SKPbc 08 51 34.4
comp=Z,0.9nm,0.5s,baz=57,slow=1.3,SNR=5.8
PDAR PKKPbc **PKKPab** **08 58 11.6 +0.2**
comp=Z,0.4nm,0.6s,baz=140,slow=4.9,SNR=5.3
PDAR Pinedale Array 126.40 23 PKPdf **PKPdf** **08 48 36.5 -2.3**
R11A Troy Canyon, C 127.27 31 **PKPdf** **08 48 38.4 -2.2**
PFO Pinyon Flats O 130.31 35 SKPbc **SKPbc** **08 51 50.3 -1.0**
comp=Z,8.9nm,0.8s,baz=327,slow=5.0,SNR=17
PV03 Paradox Valley 130.50 25 PKPdf **PKiKP** **08 48 47.4 -0.3**
R40A Maddies Statio 135.38 9 PKPdf **PKiKP** **08 48 57.3 0.0**
S39A Bolivar 135.80 10 PKPdf **PKPdf** **08 48 55.3 -1.2**
CLTN Cedars of Leba 138.14 2 PKPdf **PKiKP** **08 49 03.1 +0.1**
TXAR Lajitas Array 140.34 27 PKP **PKPdf** **08 49 03.3 -1.9**
comp=Z,0.3nm,0.5s,baz=228,slow=0.8,SNR=6.2
TXAR SKPbc **SKPbc** **08 52 22.1 -1.0**
comp=Z,4.7nm,0.4s,baz=196,slow=0.5,SNR=23
TXAR SKKPbc **SKKPbc** **09 00 52.0 -1.3**
comp=Z,0.4nm,0.5s,baz=143,slow=7.4,SNR=7.9
TXAR Lajitas Array 140.34 27 **PKPdf** **08 49 03.6 -1.6**
JCT Junction City 140.89 21 PKIKP **PKPdf** **08 49 06.4 +0.3**
JCT Junction City 140.89 21 PKPdf **PKPdf** **08 49 06.4 +0.3**
BDFB Brasilia 143.02 252 PKP PKPbc 08 49 08.1 +0.5
comp=Z,6.9nm,0.3s,baz=118,slow=3.8,SNR=11
BDFB SKPbc **SKPbc** **08 52 30.6 +0.4**
comp=Z,15nm,0.8s,baz=106,slow=1.9,SNR=8.8
BDFB SKKPbc **SKKPbc** **09 00 41.7 -0.8**
comp=Z,2.3nm,0.4s,baz=232,slow=6.8,SNR=4.4
BDFB Brasilia 143.02 252 PKPdf PKPbc 08 49 08.3 +0.6
PLCA Paso Flores 143.21 198 PKP PKPbc 08 49 08.0 +0.6
comp=Z,6.8nm,0.7s,baz=201,slow=1.1,SNR=23
PLCA SKPbc **SKPbc** **08 52 30.0 +0.1**
comp=Z,7.2nm,0.8s,baz=172,slow=4.1,SNR=9.6
PLCA PKKPbc 08 57 01.9
comp=Z,2.2nm,0.9s,baz=252,slow=2.6,SNR=3.0
PLCA Paso Flores 143.21 198 PKIKP PKPbc 08 49 07.7 +0.3
PLCA Paso Flores 143.21 198 PKPdf PKPbc 08 49 07.7 +0.3
LC01 Cunco 145.29 197 **PKPdf** **08 49 13.2 -0.3**
ZAIG Zacatecas 146.39 31 **PKPab** **08 49 18.5 -0.4**
BI02 San Fabin de 147.15 200 **PKPbc** **08 49 18.7 -0.5**
EDS3 Malargue 147.27 203 *i* P **PKiKP** **08 49 21.0 -0.8**
TCA Tanti 148.65 214 *eP* **PKPdf** **08 49 21.2 +1.8**
BO02 Sierra Bellavi 148.66 202 **PKiKP** **08 49 24.3 -0.4**
AAGR Agrelo 149.35 206 *eP* **PKiKP** **08 49 26.3 +0.1**
CUPR Culebra, Puert 149.38 322 **PKPbc** **08 49 25.1 -0.2**
ARCO CERRO ARCO 149.60 206 *i* P **PKiKP** **08 49 26.6 -0.1**
MTP Monte Pirata 149.71 322 **PKPbc** **08 49 25.6 -0.6**
ASAL Salagasta 149.77 207 *eP* **PKPdf** **08 49 23.6 +2.4**
HUMP Col San Antoni 149.85 323 PKPbc **PKPbc** **08 49 26.9 +0.4**
GCPR Guaynabo City 149.86 323 **PKPbc** **08 49 26.4 -0.2**
PDPR Patillas Dam, 150.05 323 PKPbc **PKPbc** **08 49 25.7 -1.3**
PEL Peldehue 150.08 204 PKIKP **PKPbc** **08 49 26.6 -0.2**
PEL Peldehue 150.08 204 **PKPbc** **08 49 26.6 -0.2**
MT02 Curacav 150.15 203 **PKPbc** **08 49 26.9 -0.1**
MT02 PKPab **PKPab** **08 49 34.1 +0.7**
RTCV Cerro Valdivia 150.25 208 *i* P **PKiKP** **08 49 28.0 +0.1**
AUSP Uspallata 150.33 206 *i* P **PKiKP** **08 49 28.2 -0.2**
ROC1 El Roble 150.35 203 **PKPbc** **08 49 27.4 -0.3**
ROC1 El Roble 150.35 203 *i* P **PKiKP** **08 49 28.1 -0.3**
ICMP Isla Caja de M 150.45 324 PKPdf **PKPdf** **08 49 20.2 -2.3**
ICMP **PKPbc** **08 49 27.8 -0.1**
VA01 Torpederas 150.56 202 **PKPbc** **08 49 27.8 -0.1**
VA01 PKPab **PKPab** **08 49 36.6 +1.6**
ZON Zonda 150.57 208 PKIKP **PKPdf** **08 49 21.5 -0.9**
ZON 08 49 35.0
ZON Zonda 150.57 208 PKPdf **PKPdf** **08 49 21.5 -0.9**
ZON **PKiKP** **08 49 28.5 -0.2**
ZON PKPab **PKPab** **08 49 35.0 -0.3**
ZON Zonda 150.57 208 *i* P **PKiKP** **08 49 28.4 -0.2**
RTLS Leoncito 150.65 207 *i* P **PKiKP** **08 49 29.5 +0.4**
RTLL Cerro Villicun 150.66 209 *i* P **PKiKP** **08 49 29.5 +0.6**
MLPR Magueyes Islan 150.69 324 **PKiKP** **08 49 28.9 -0.3**
GRGR Grenville 151.10 308 **PKiKP** **08 49 30.0 -0.1**
ACCO Cerro Coronel 151.56 209 *i* P **PKiKP** **08 49 31.6 +0.5**
CO02 Combarbal 151.90 205 **PKiKP** **08 49 31.7 +0.2**
CO03 El Pedregal 152.08 206 **PKPbc** **08 49 31.6 0.0**
CO03 PKPab **PKPab** **08 49 42.4 +0.7**
AROD Rodeo 152.10 209 *i* P **PKiKP** **08 49 33.1 +1.0**
BANI BANI 152.12 330 **PKPbc** **08 49 31.0 -0.9**
VCA Vinchina 152.63 212 *i* P **PKiKP** **08 49 34.2 +1.1**
AC05 El Transito 153.59 209 **PKPbc** **08 49 34.7 -0.3**
PB11 IPOC Station P 160.13 225 PKPab **PKPab** **08 50 14.7 -1.9**
LPAZ La Paz 161.02 236 PKP **PKPdf** **08 49 37.9 +0.7**
comp=Z,4.0nm,0.9s,baz=110,slow=3.0,SNR=11
LPAZ PKPab **PKPab** **08 50 22.0 +0.8**
comp=Z,16nm,1.0s,baz=92,slow=5.9,SNR=29
LPAZ La Paz 161.02 236 PKPdf **PKPdf** **08 49 38.0 +0.7**
LPAZ PKPab **PKPab** **08 50 20.3 -0.9**
ROSC El Rosal 165.28 317 PKPab **PKPdf** **08 49 37.7 -3.5**
ROSC PKPab **PKPab** **08 50 38.0 -1.6**

IDC 25 08:34:03.9±2.6, 54°.15N×86°.50E, h0km, mb1 3.1/2, mb1mx3.0/78, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=21.1km s-min=13.4km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**259**	*i*		08 41 00.0	
	baz=78,slow=334,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.01**	**259**	Pg	Pg	08 34 23.1	-0.1
	1.0nm,0.3s,baz=76,slow=18,SNR=6.2						
ZALV				Lg	Lg	08 34 36.8	
	3.3nm,0.3s,baz=79,slow=28,SNR=16						
ZALV				Rg	Rg	08 34 41.7	
	7.3nm,0.4s,baz=78,slow=30,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.02**	**237**	Pn	Pn	08 35 34.8	+0.7
	0.2nm,0.3s,baz=54,slow=13,SNR=11						
KURBB				Lg	Lg	08 37 17.8	
	0.0nm,0.3s,baz=61,slow=31,SNR=6.4						
MKAR	**Makanchi Array**	**7.83**	**202**	Pn	Pn	08 36 00.0	+0.9
	0.3nm,0.3s,baz=25,slow=14,SNR=10						

RSNC 25 08:35:51.2±1.1, 6°.83N×73°.15W, h154km±5km, ML3.1, Mw3.5, 5C-5D, Fault plane solution: NP1:φs55.00000°, δ60.00000°, λ-169.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**188**⇓	*iP*	Pn	08 36 11.9	-0.5
BARC				*eS*	Sn	08 36 27.6	-0.9
BARC				*i*		08 36 29.9	
	comp=Z,469nm,0.4s						
BRRC	**Barranca, Sant**	**0.62**	**296**⇑	*iP*	Pn	08 36 13.7	0.0
BRRC				*eS*	Sn	08 36 31.0	+0.2
BRRC				*i*		08 36 35.3	
	comp=Z,102nm,0.5s						
PAMC	**Pamplona, Colo**	**0.67**	**41**⇓	*iP*	Pn	08 36 14.7	+0.1
PAMC				*eS*	Sn	08 36 31.8	-0.6
PAMC				*i*		08 36 34.0	
	comp=Z,149nm,0.5s						
RUSC	**La Rusia**	**0.94**	**176**⇑	*eP*	Pn	08 36 15.8	-0.6
RUSC				*eS*	Sn	08 36 35.2	-0.4
RUSC				*i*		08 36 36.4	
	comp=Z,104nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.33**	**257**⇑	*eP*	Pn	08 36 18.4	-1.0
PTBC				*eS*	Sn	08 36 40.0	-0.9
PTBC				*i*		08 36 42.0	
	comp=Z,199nm,0.6s						
TAMC	**Tame, Arauca**	**1.40**	**106**⇓	*iP*	Pn	08 36 20.1	0.0
TAMC				*i*		08 36 40.9	
	comp=Z,135nm,0.3s						
TAMC				*eS*	Sn	08 36 41.9	-0.4
SPBC	**San Pablo de B**	**1.49**	**218**	*eP*	Pn	08 36 20.7	-0.4
SPBC				*eS*	Sn	08 36 43.5	-0.5
SPBC				*i*		08 36 51.1	
	comp=Z,272nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*eP*	Pn	08 36 24.6	+0.1
ZARC				*eS*	Sn	08 36 49.7	-0.4
ZARC				*i*		08 36 56.7	
	comp=Z,153nm,0.3s						
SMLC	**San Martn de**	**2.16**	**335**	*eP*	Pn	08 36 28.1	-0.4
SMLC				*eS*	Sn	08 36 55.8	-1.3
SMLC				*i*		08 37 00.3	
	comp=Z,129nm,0.1s						
CHIC	**Chingaza**	**2.27**	**195**⇑	*eP*	Pn	08 36 29.8	-0.3
CHIC				*eS*	Sn	08 36 59.5	-0.6
CHIC				*i*		08 37 08.3	
	comp=Z,55nm,0.5s						
ROSC	**El Rosal**	**2.30**	**211**	*eP*	Pn	08 36 31.4	+0.9
ROSC				*eS*	Sn	08 37 00.6	-0.1
ROSC				*i*		08 37 09.8	
	comp=Z,188nm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**291**	*eP*	Pn	08 36 31.8	-1.2
GUY2C	**Guyana, Caldas**	**2.72**	**234**	*eP*	Pn	08 36 37.1	+1.3
GUY2C				*eS*	Sn	08 37 11.8	+1.7
GUY2C				*i*		08 37 18.3	
	comp=Z,104nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.81**	**159**⇑	*iP*	Pn	08 36 34.9	-1.4
PTGC				*eS*	Sn	08 37 08.2	-3.0
PTGC				*i*		08 37 10.1	
	comp=Z,44nm,0.6s						
CBOC	**Ciudad Bolivar**	**3.00**	**251**	*eP*	Pn	08 36 39.7	+0.7
CBOC				*eS*	Sn	08 37 16.3	+0.4
CBOC				*i*		08 37 33.2	
	comp=Z,33nm,0.6s						
DBBC	**Dabeiba**	**3.04**	**274**⇓	*eP*	Pn	08 36 39.4	0.0
DBBC				*eS*	Sn	08 37 15.3	-1.3
TOLC	**Tolima**	**3.11**	**224**	*eP*	Pn	08 36 41.2	+0.8
MOTC	**Monteria, Cord**	**3.15**	**308**	*eP*	Pn	08 36 39.1	-1.6
MOTC				*eS*	Sn	08 37 17.9	-1.2
MOTC				*i*		08 37 19.8	
	comp=Z,24nm,0.5s						
ARGC	**Ariguani, Magd**	**3.20**	**340**	*eP*	Pn	08 36 42.2	+0.9
SDV	**Santo Domingo**	**3.22**	**51**	*eP*	Pn	08 36 41.0	-0.7
ANIL	**Santa Ana**	**3.23**	**224**	*eP*	Pn	08 36 42.6	+0.6
ANIL				*eS*	Sn	08 37 22.4	+1.1
ANIL				*i*		08 37 28.0	
	comp=Z,24nm,0.3s						
PRAC	**Prado**	**3.55**	**209**	*eP*	Pn	08 36 45.1	-0.7
PRAC				*eS*	Sn	08 37 24.6	-3.6
PRAC				*i*		08 37 34.3	
	comp=Z,87nm,0.3s						
SJCC	**San Jacinto, C**	**3.65**	**327**	*eP*	Pn	08 36 45.5	-1.5
SJCC				*eS*	Sn	08 37 27.1	-3.3
SJCC				*i*		08 37 36.0	
	comp=Z,14nm,0.4s						
GUVC	**San Jose del G**	**4.29**	**173**	*eP*	Pn	08 36 54.5	-0.9
CAPC	**Capurgana**	**4.53**	**294**	*eP*	Pn	08 36 53.6	-5.0
MACC	**Macarena, Meta**	**4.71**	**189**⇓	*iP*	Pn	08 36 58.9	-2.1
MACC				*eS*	Sn	08 37 49.8	-5.5
MACC				*i*		08 37 55.0	
	comp=Z,11nm,0.7s						
GARC	**Garzon, Huila**	**5.17**	**207**	*eP*	Pn	08 37 05.8	-1.4
POPC	**Popayan, Colom**	**5.53**	**220**	*eP*	Pn	08 37 11.8	-0.2
FLOC	**Florencia**	**5.78**	**206**	*eP*	Pn	08 37 14.3	-0.8

GCG ***25*** *08:36:39.3±0.4, 13°.87N×91°.53W, h43km±40km, MD4.0*
NEIC ***25*** *08:36:41.0±2.7, 13°.99N±0°.07×91°.46W±0°.08, h47km±11km, mb4.3/3, Error ellipse: s-maj=13.4km s-min=7.3km az=47.0*
UCR ***25*** *08:36:41.8±1.2, 14°.01N×91°.23W, h13km±8km, ML3.6, mb4.3(NEIC)*
SNET ***25*** *08:36:41.8±1.2, 14°.01N×91°.23W, h13km±8km, ML3.7*
IDC ***25*** *08:36:41.8±4.2, 14°.03N×91°.49W, h63km±54km, mb3.1/2, mb1 3.5/4, mb1mx3.2/44, mbtmp3.3/4, ML3.9/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/12, Error ellipse: s-maj=51.4km s-min=29.6km az=90.0*

ISC 25 08:36:41.6±1.0, 14°.02N±0°.07×91°.43W±0°.06, h61km, n43, σ1§09/48, mb3.7/3, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.56**	**333**		**Pn**	**08 36 53.6**	**-0.8**
FUG	**Fuego 3**	**0.71**	**53**	*eP*	**Pn**	**08 36 55.8**	**-0.5**
PCG	**Pacaya**	**0.88**	**65**	*eP*	**Pn**	**08 36 58.3**	**-0.1**
IXG	**Ixpaco**	**0.97**	**81**	*eP*	**Pn**	**08 36 58.8**	**-0.7**
NBG	**Las Nubes**	**1.19**	**62**	*eP*	**Pn**	**08 37 02.9**	**+0.5**
NBG				*eS*	**Sn**	**08 37 20.9**	**+2.9**
HUEH	**Huehuetenango**	**1.29**	**357**		**Pn**	**08 37 03.6**	**-0.2**
APG	**El Apazote**	**1.35**	**44**	P	**Pn**	**08 37 03.2**	**-1.4**
	47nm,0.3s,baz=194,slow=12,SNR=142						
APG				S	**Sn**	**08 37 23.1**	**+1.3**
	91nm,0.3s,baz=92,slow=22,SNR=22						
APG				LR	LR	08 37 50.0	
	comp=Z,199nm,19.5s,baz=178,slow=49						
NUBE	**Las Nubes**	**1.61**	**94**	*eP*	**Pn**	**08 37 06.7**	**-1.2**
NUBE				IAML		08 37 28.0	
	comp=Z,625nm,0.3s						
NUBE	**Las Nubes**	**1.61**	**94**	*eP*	**Pn**	**08 37 06.7**	**-1.2**
NUBE				IAML		08 37 28.0	
	comp=Z,625nm,0.3s						
CEVE	**Cerro Verde**	**1.76**	**96**	*eP*	**Pn**	**08 37 09.2**	**-0.9**
CEVE				*eS*	**Sn**	**08 37 31.4**	**-0.3**
CEVE				IAML		08 37 37.5	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**1.76**	**96**	*eP*	**Pn**	**08 37 09.2**	**-0.9**
CEVE				*eS*	**Sn**	**08 37 31.4**	**-0.3**
CEVE				IAML		08 37 37.5	
	comp=Z,2μm,0.3s						
MRL	**Marmol**	**2.00**	**58**	*eP*	**Pn**	**08 37 13.6**	**+0.3**
TACO	**Tacachico**	**2.02**	**91**	*eP*	**Pn**	**08 37 11.9**	**-1.4**
TACO				*eS*	**Sn**	**08 37 37.1**	**-0.3**
TACO	**Tacachico**	**2.02**	**91**	*eP*	**Pn**	**08 37 11.9**	**-1.4**
TACO				*eS*	**Sn**	**08 37 37.1**	**-0.3**
MTO3	**Montecristo**	**2.04**	**79**	Pn	**Pn**	**08 37 12.4**	**-1.5**
ESQI	**Esquipulas**	**2.10**	**75**	Pn	**Pn**	**08 37 13.3**	**-1.1**
UEES	**Universidad Ev**	**2.15**	**98**	*eP*	**Pn**	**08 37 15.5**	**+0.3**
UEES	**Universidad Ev**	**2.15**	**98**	*eP*	**Pn**	**08 37 15.5**	**+0.3**
SNET	**Serv Nac Est T**	**2.16**	**98**	Pn	**Pn**	**08 37 15.0**	**-0.3**
CCIG	**Comitan**	**2.35**	**343**	Pn	**Pn**	**08 37 19.4**	**+1.4**
COEG	**Centro de Oper**	**2.51**	**99**	*eP*	**Pn**	**08 37 19.5**	**-0.6**
COEG				IAML		08 37 59.6	
	comp=Z,331nm,0.3s						
COEG	**Centro de Oper**	**2.51**	**99**	*eP*	**Pn**	**08 37 19.5**	**-0.6**
COEG				IAML		08 37 59.6	
	comp=Z,331nm,0.3s						
COEB	**Comit de Eme**	**2.87**	**100**	*eP*	**Pn**	**08 37 25.1**	**+0.2**
COEB	**Comit de Eme**	**2.87**	**100**	*eP*	**Pn**	**08 37 25.1**	**+0.2**
JUCU	**Jucuarın**	**3.19**	**103**	*eP*	**Pn**	**08 37 29.0**	**-0.3**
JUCU	**Jucuarın**	**3.19**	**103**	*eP*	**Pn**	**08 37 29.0**	**-0.3**
PETF	**Flores**	**3.25**	**27**	Pn	**Pn**	**08 37 29.1**	**-1.0**
TGUH	**Tegucigalpa,Un**	**4.04**	**89**	Pn	**Pn**	**08 37 39.9**	**-1.1**
MATN	**Matagalpa**	**5.46**	**101**		**Pn**	**08 37 60.0**	**-0.6**
BOAB	**BOACO BROADBAN**	**6.83**	**105**	Pn	**Pn**	**08 38 05.2**	**-0.2**
TEIG	**Tepich**	**6.87**	**26**	P	**Pn**	**08 38 19.2**	**-0.5**
	comp=Z,14nm,0.3s,baz=209,slow=10,SNR=170						
TEIG	**Tepich**	**6.87**	**26**		**Pn**	**08 38 19.4**	**-0.4**
ESPN	**Las Esperanzas**	**7.18**	**104**	Pn	**Pn**	**08 38 25.8**	**+1.9**
JTS	**Las Juntas de**	**7.34**	**120**	P	**Pn**	**08 38 29.0**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=6.4,slow=20,SNR=1.9						
JTS	**Las Juntas de**	**7.34**	**120**		**Pn**	**08 38 27.0**	**+0.8**
TXAR	**Lajitas Array**	**18.99**	**325**	P	**Pn**	**08 40 59.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=149,slow=11,SNR=6.4						
TXAR	**Lajitas Array**	**18.99**	**325**	P	**Pn**	**08 40 59.0**	**-0.7**
TX31	**Lajitas Ar. Si**	**18.99**	**325**	P	**P**	**08 40 57.5**	**-0.9**
TX31				IAmb	IAmb	08 41 05.4	
	comp=Z,4.4nm,1.2s						
N38A	**Joes South For**	**26.72**	**357**	P	**P**	**08 42 17.1**	**+1.9**
N38A				IAmb	IAmb	08 42 20.3	
	comp=Z,9.6nm,0.4s						
PDAR	**Pinedale Array**	**32.64**	**335**	LR	LR	08 57 12.8	
	comp=Z,12nm,18.4s,baz=140,slow=38						
NVAR	**Mina Array Bea**	**34.01**	**321**	P	**P**	**08 43 20.5**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=134,slow=8.9,SNR=4.9						
ILAR	**Eielson Array**	**63.04**	**337**	P	**P**	**08 47 00.1**	**-2.0**
	comp=Z,0.1nm,0.5s,baz=119,slow=5.9,SNR=1.7						
ILAR	**Eielson Array**	**63.04**	**337**	P	**P**	**08 47 01.7**	**-0.4**

IDC ***25*** *08:48:33.6±1.1, 58°.39S×13°.72W, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.8/23, mbtmp3.8/6, MS3.5/2, Ms1 3.4/2, ms1mx3.2/22, Error ellipse: s-maj=45.1km s-min=24.1km az=57.0*
NEIC ***25*** *08:48:35.8±1.8, 58°.4S±0°.1×13°.1W±0°.3, h10km±1km, mb4.2/6, Error ellipse: s-maj=28.1km s-min=18.6km az=49.0*

ISC 25 08:48:35.5±0.9, 58°.4S±0°.1×12°.9W±0°.1, h10km, n24, σ1§70/21, mb4.0/6, 1C-1D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.47**	**173**	P	**Pn**	**08 51 33.0**	**+0.2**
VNA2	**Neumayer--Watz**	**12.81**	**172**	P	**Pn**	**08

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	**Kazerun**	**0.49**	**201**	*e*		08 57 09.3	
KAZ1				*e*Pg	**Pg**	**08 57 01.1**	**-2.0**
SHI	**Shiraz**	**0.73**	**127**	*e*Sg	**Sb**	**08 57 20.1**	**+1.3**
SHI				*e*Pg	**Pg**	**08 57 07.6**	**0.0**
SHI				*e*		08 57 22.5	
KLNJ	**Kolanjah**	**0.94**	**347**	*e*Pg	**Pg**	**08 57 11.1**	**-0.6**
KLNJ				*e*		08 57 30.5	
AHBU	**AHRAM**	**1.31**	**202**	*e*Pg	**Pg**	**08 57 19.2**	**+0.6**
IRAM	**Rameshеh**	**1.78**	**15**	*e*Pn	**Pg**	**08 57 26.9**	**-0.7**
IRAM				*e*		08 57 30.3	
IBRJ	**Brojen**	**1.88**	**345**	*e*	Sg	08 58 03.5	+9.4
GHIR	**Ghir-Karzin**	**2.05**	**151**	*e*Pn	**Pn**	**08 57 29.6**	**+1.1**
GHIR				*e*Sg	**Sg**	**08 58 00.2**	**+0.6**
GHIR	**Ghir-Karzin**	**2.05**	**151**	*e*Pn	**Pn**	**08 57 29.6**	**+1.1**
IGAR	**Gharneh**	**2.32**	**4**	*e*Pn	**Pb**	**08 57 34.8**	**-0.9**
IGAR				*e*		08 57 39.9	
ROKH	**ROKH**	**2.36**	**343**	*e*Pn	**Pb**	**08 57 34.8**	**-1.6**
ROKH				*e*		08 58 18.2	
JHBN	**Jahan bin**	**2.37**	**335**	*e*Pn	**Pb**	**08 57 35.0**	**-1.6**
JHBN				*e*		08 58 19.9	
IPIR	**Pirpir**	**2.71**	**343**	*e*Pn	**Pn**	**08 57 39.3**	**+1.6**
IPIR				*e*		08 58 31.8	
IZEF	**Zefreh**	**2.83**	**8**	*e*Pn	**Pb**	**08 57 42.6**	**-1.9**
IZEF				*e*		08 57 53.8	
ICHK	**Chekchek**	**3.07**	**45**	*e*	Pg	08 57 58.2	+5.8
IKLH	**Kolahrood**	**3.23**	**356**	*e*Pn	**Pn**	**08 57 46.8**	**+2.0**
YZKH	**Yazd**	**3.29**	**45**	*e*Pn	**Pb**	**08 57 49.2**	**-3.0**
YZKH	**Yazd**	**3.29**	**45**	*e*Pn	**Pb**	**08 57 49.2**	**-3.0**
ANAR	**Anarak**	**3.48**	**27**	*e*Pn	**Pn**	**08 57 50.8**	**+2.6**
KRSH	**Karshahi**	**3.88**	**4**	*e*Pn	**Pn**	**08 57 55.8**	**+2.2**
KRBR	**Kerman**	**4.26**	**90**	IAML		08 58 58.6	
	comp=N,39nm,0.5s						
IDOB	**Doab**	**4.83**	**321**	*e*Pn	**Pn**	**08 58 08.4**	**+1.7**

BJI ***25*** *09:06:08.0±0.0, 8°.80S×111°.10E, h86km, mB5.1/27, mb5.0/40, Ms5.5/1, Ms7 5.4/1*
IDC ***25*** *09:06:09.9±1.4, 8°.65S×111°.19E, h91km±12km, mb4.3/23, mb1 4.3/28, mb1mx4.2/51, mbtmp4.6/28, MS3.1/2, Ms1 3.1/2, ms1mx3.0/38, Error ellipse: s-maj=13.4km s-min=8.5km az=49.0*
NEIC ***25*** *09:06:09.5±2.5, 8°.79S±0°.07×111°.15E±0°.06, h91km±5km, mb4.9/62, Error ellipse: s-maj=10.5km s-min=8.2km az=215.0*
DJA ***25*** *09:06:09.1±0.2, 9°.S±3°×11°.1E±°, h63km±6km, M5.0/24, mb4.8/24, mB5.5/12, MLv5.0/23, Mw(mB)5.0/12*
ISC 25 09:06:09.2±0.7, 8°.84S±0°.05×111°.15E±0°.05, h87km±6km, n188, σ1°52/193, mb4.8/58, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WOJI	**Wonogiri, Jawa**	**1.02**	**347**	P	**Pn**	**09 06 29.3**	**+0.4**
WOJI				S	**Sn**	**09 06 44.0**	**+0.4**
PWJI	**Pagerwojo**	**1.04**	**39**	P	**Pn**	**09 06 30.2**	**+1.1**
PWJI				S	**Sn**	**09 06 45.3**	**+1.3**
YOGI	**Yogyakarta**	**1.32**	**320**	P	**Pn**	**09 06 32.7**	**+0.2**
YOGI				S	**Sn**	**09 06 49.7**	**-0.4**
SMRI	**Semarang**	**1.91**	**338**	P	**Pn**	**09 06 41.7**	**+1.6**
SMRI				S	**Sn**	**09 07 06.9**	**+3.3**
SMRI	**Semarang**	**1.91**	**338**	Pn	**Pn**	**09 06 41.3**	**+1.2**
TBJI	**Tambak Boyo**	**2.12**	**19**	P	**Pn**	**09 06 44.4**	**+1.5**
GRJI	**Gresik**	**2.32**	**35**	P	**Pn**	**09 06 47.3**	**+1.8**
KPJI	**Karang Pucung**	**2.66**	**304**	P	**Pn**	**09 06 50.7**	**+0.7**
CMJI	**Cimerak**	**2.87**	**291**	P	**Pn**	**09 06 52.7**	**-0.2**
JAGI	**Jajag, Banyuwa**	**2.99**	**83**	P	**Pn**	**09 06 55.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.99**	**83**	Pn	**Pn**	**09 06 55.6**	**+1.1**
ABJI	**Asem Bagus**	**3.22**	**72**	P	**Pn**	**09 06 59.6**	**+2.0**
BWJI	**Bawean**	**3.32**	**27**	P	**Pn**	**09 07 01.0**	**+2.0**
CISI	**Cisompet, Garu**	**3.54**	**291**	P	**Pn**	**09 07 01.9**	**0.0**
CISI	**Cisompet, Garu**	**3.54**	**291**	Pn	**Pn**	**09 07 02.0**	**0.0**
LEM	**Lembang**	**4.03**	**299**	P	**Pn**	**09 07 09.8**	**+1.0**
	8.5nm,0.3s,baz=114,slow=11,SNR=10						
LEM				S	**Sn**	**09 07 55.1**	**+0.3**
	28nm,0.3s,baz=326,slow=14,SNR=1.9						
CNJI	**Cibinong**	**4.26**	**291**	P	**Pn**	**09 07 11.6**	**-0.1**
SKJI	**Sukabumi**	**4.90**	**291**	P	**Pn**	**09 07 20.6**	**+0.2**
XMIS	**Christmas Isla**	**5.66**	**253**		**Pn**	**09 07 28.6**	**-2.2**
TWSI	**Taliwang, Sumb**	**5.67**	**89**	P	**Pn**	**09 07 32.2**	**+1.3**
	0.7nm3μm54nm,0.6s						
CGJI	**Cibinong**	**5.84**	**292**	P	**Pn**	**09 07 34.5**	**+1.3**
	1.2nm3μm180nm,0.6s						
PBKI	**Pangkalan Bun**	**6.11**	**5**	P	**Pn**	**09 07 39.7**	**+2.7**
	1.6nm331nm,0.8s						
BBKI	**Banjar Baru**	**6.48**	**35**	P	**Pn**	**09 07 44.8**	**+2.8**
	0.7nm7μm122nm,0.7s						
PLAI	**Plampang**	**6.55**	**90**	P	**Pn**	**09 07 44.3**	**+1.4**
	1.3nm2μm129nm,0.7s						
TPI	**Tanjungpandan**	**6.97**	**330**	P	**Pn**	**09 07 49.7**	**+1.1**
	0.3nm19nm,0.9s						
KLSI		**7.59**	**302**	P	**Pn**	**09 07 57.8**	**+0.7**
	0.0nm14nm,1.1s						
MDSI	**Maura Dua**	**8.16**	**302**	P	**Pn**	**09 08 05.0**	**+0.1**
	35nm,0.9s						
PPBI	**Pangkal Pinang**	**8.30**	**323**	P	**Pn**	**09 08 07.3**	**+0.5**
MTKI	**Muara Teweh, K**	**8.68**	**26**	P	**Pn**	**09 08 15.0**	**+2.9**
LHSI	**Lahat**	**9.06**	**303**	P	**Pn**	**09 08 17.4**	**+0.1**
	4μm53nm,1.1s						
MNAI	**Manna**	**9.27**	**298**	P	**Pn**	**09 08 20.4**	**+0.3**
	9μm449nm,0.8s						
MNAI	**Manna**	**9.27**	**298**	Pn	**Pn**	**09 08 19.5**	**-0.6**
KAPI	**Kappang**	**9.35**	**67**	P	**Pn**	**09 08 22.2**	**+1.2**
	1.5nm,0.3s,baz=112,slow=15,SNR=2.7						
KAPI				LR	LR	09 13 03.6	
	comp=Z,82nm,18.2s,baz=266,slow=45						
SPSI	**Sidrap Palu**	**9.84**	**61**	P	**Pn**	**09 08 29.4**	**+1.6**
	22nm,1.2s						
KSI	**Kapahiang**	**9.94**	**301**	P	**Pn**	**09 08 29.9**	**+0.6**
	21μm603nm,0.6s						
EDFI	**Ende, Flores**	**10.42**	**90**	P	**Pn**	**09 08 35.2**	**-0.6**
	438nm24nm,0.6s						
DSRI	**Dabo**	**10.57**	**321**	P	**Pn**	**09 08 39.3**	**+1.5**
SBUM	**Sibu**	**11.26**	**5**	Pn	**Pn**	**09 08 47.6**	**+0.4**
KRJI	**Kerinci**	**11.74**	**304**	P	**Pn**	**09 08 53.1**	**-0.6**
BATI	**Baumata**	**12.42**	**97**	P	**Pn**	**09 09 04.4**	**+1.6**
	6.1nm,0.3s,baz=270,slow=11,SNR=1.7						
BATI				S	**Sn**	**09 11 11.8**	**-7.6**
	9.3nm,0.3s,baz=143,slow=22,SNR=1.6						
SDSI	**Sungai Dareh**	**12.46**	**309**	P	**Pn**	**09 09 01.7**	**-1.7**
	1μm9.9nm,0.8s						
MPSI	**Mapaga**	**12.61**	**44**	P	**Pn**	**09 09 08.9**	**+3.5**
SOEI	**Soe**	**12.98**	**95**	P	**Pn**	**09 09 08.9**	**-1.5**
	74nm,0.8s						
SOEI	**Soe**	**12.98**	**95**		**Pn**	**09 09 09.8**	**-0.6**
GIRL	**Giralia**	**14.04**	**168**	Pn	**Pn**	**09 09 22.1**	**-2.1**
GTOI	**Gorontalo**	**15.11**	**52**	P	**P**	**09 09 42.0**	**+0.9**
	16nm,0.8s						
PSA00	**Pilbara Seismi**	**15.18**	**147**		**Pn**	**09 09 37.9**	**-1.0**
PSA00	**Pilbara Seismi**	**15.18**	**147**		**Pn**	**09 09 37.6**	**-1.3**
PSA00				IAmb	IAmb	09 09 38.7	
	comp=Z,44nm,0.7s						
RPSI	**Rantau Prapat**	**16.73**	**313**	P	**P**	**09 09 58.5**	**-0.6**
PSI	**Prapat**	**16.80**	**313**	P	**Pn**	**09 09 58.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=135,slow=8.6,SNR=0.9						
PSI				LR	LR	09 18 01.7	
	comp=Z,75nm,20.4s,baz=244,slow=43						
FITZ	**Fitzroy Crossi**	**16.82**	**125**	P	**Pn**	**09 09 60.0**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=356,slow=2.3,SNR=33						
FITZ				S	Sn	09 12 52.3	-14
	comp=Z,0.8nm,0.3s,baz=180,slow=20,SNR=6.7						
FITZ	**Fitzroy Crossi**	**16.82**	**125**		**Pn**	**09 09 59.5**	**+0.1**
KULM	**Kulim**	**17.51**	**323**	P	**P**	**09 10 05.9**	**-1.8**
KNRA	**Kununurra**	**18.50**	**113**		**Pn**	**09 10 19.6**	**-0.2**
KNRA				IAmb	IAmb	09 10 20.9	
	comp=Z,33nm,0.7s						
MTN	**Manton Dam**	**20.02**	**103**	P	**P**	**09 10 36.4**	**+1.1**
MTN				IAmb	IAmb	09 10 37.6	
	comp=Z,70nm,1.3s						
MORW	**Morawa**	**20.65**	**168**	P	Pn	09 10 46.3	+1.4
FAKI	**Fak Fak**	**21.79**	**76**	P	**P**	**09 10 52.9**	**-1.4**
WB0	**Warrumunga Arr**	**24.97**	**118**	P	**P**	**09 11 25.5**	**+0.6**
WB0				IAmb	IAmb	09 11 27.4	
	comp=Z,41nm,1.4s						
WRA	**Warrumunga Arr**	**24.99**	**119**	P	**P**	**09 11 25.2**	**+0.2**
	comp=Z,6.7nm,0.6s,baz=294,slow=11,SNR=86						
WRA				PcP	**PcP**	**09 14 58.6**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=311,slow=2.0,SNR=10						
WRA	**Warrumunga Arr**	**24.99**	**119**	P	**P**	**09 11 25.2**	**+0.2**
WRAB	**Tennant Creek**	**25.00**	**119**	P	**P**	**09 11 25.1**	**0.0**
WRAB				IAmb	IAmb	09 11 27.7	
	comp=Z,39nm,1.3s						
WB2	**Warrumunga Arr**	**25.00**	**119**	P	**P**	**09 11 25.2**	**+0.1**
WB2				IAmb	IAmb	09 11 27.7	
	comp=Z,40nm,1.3s						
AS31	**Alice Springs**	**26.30**	**127**	P	**P**	**09 11 37.1**	**+0.3**
ASAR	**Alice Springs**	**26.30**	**127**	P	**P**	**09 11 37.4**	**+0.6**
	comp=Z,10nm,0.8s,baz=300,slow=8.4,SNR=140						
ASAR				PcP	**PcP**	**09 15 01.9**	**+0.7**
	comp=Z,5.0nm,0.8s,baz=308,slow=2.0,SNR=13						
ASAR	**Alice Springs**	**26.30**	**127**	P	**P**	**09 11 37.0**	**+0.1**
ASAR				PcP	**PcP**	**09 15 01.3**	**+0.1**
FORT	**Forrest**	**26.94**	**146**	P	**P**	**09 11 44.0**	**+1.5**
FORT				IAmb	IAmb	09 11 47.2	
	comp=Z,30nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.68**	**336**	P	**P**	**09 12 05.5**	**-1.4**
	comp=Z,4.0nm,0.7s,baz=171,slow=7.9,SNR=19						
CMAR				ScP	**ScP**	**09 18 42.0**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=192,slow=3.6,SNR=4.2						
COEN	**Coen**	**31.79**	**102**	P	**P**	**09 12 26.1**	**+0.4**
COEN				IAmb	IAmb	09 12 26.8	
	comp=Z,12nm,0.7s						
BBOO	**Buckleboo**	**33.16**	**140**	P	**P**	**09 12 37.5**	**+0.1**
TPUB	**Ta-pu**	**33.26**	**16**	P	**P**	**09 12 38.4**	**0.0**
TPUB				IAmb	IAmb	09 12 39.4	
	comp=Z,23nm,0.8s						
YULB	**Yu-li**	**33.53**	**17**	IAmb	IAmb	09 12 42.8	
	comp=Z,17nm,0.8s						
SSLB	**Suanglung**	**33.81**	**16**	P	**P**	**09 12 43.1**	**0.0**
YHNB	**Yeheng**	**34.76**	**16**	P	**P**	**09 12 51.5**	**0.0**
YHNB				IAmb	IAmb	09 12 59.5	
	comp=Z,24nm,0.8s						
YOJ	**Yonaguni jima**	**35.06**	**19**	P	**P**	**09 12 53.0**	**-0.9**
CTA	**Charters Tower**	**35.70**	**112**	P	**P**	**09 12 59.5**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=272,slow=8.9,SNR=7.8						
CTA				PcP	**PcP**	**09 15 26.9**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=261,slow=3.4,SNR=2.4						
CTAO	**Charters Tower**	**35.70**	**112**	P	**P**	**09 13 00.6**	**+1.0**
STKA	**Stephens Creek**	**36.38**	**133**	P	**P**	**09 13 06.5**	**+1.3**
	comp=Z,5.7nm,0.4s,baz=314,slow=7.9,SNR=30						
STKA				PcP	**PcP**	**09 15 28.8**	**+0.7**
	comp=Z,10nm,0.5s,baz=340,slow=2.9,SNR=15						
STKA	**Stephens Creek**	**36.38**	**133**	P	**P**	**09 13 06.2**	**+0.9**
H08S2	**Diego Garcia H**	**38.26**	**269**	T	T	09 53 53.6	
	baz=93						
H08S3	**Diego Garcia H**	**38.27**	**269**	T	T	09 54 04.0	
	baz=93,slow=74						
H08S1	**Diego Carcia H**	**38.28**	**269**	T	T	09 54 03.3	
	baz=93,slow=74						
SHL	**Shillong**	**39.00**	**332**	P	**P**	**09 13 25.8**	**-1.7**
SHL				IAmb	IAmb	09 13 28.4	
	comp=Z,12nm,0.5s						
CD2	**Chengdu**	**40.15**	**350**	P	**P**	**09 13 36.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
NJ2	**Nanjing**	**41.32**	**10**	*e*P	**P**	**09 13 48.3**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
ODAN	**Odare**	**42.31**	**328**	*e*P	**P**	**09 13 52.6**	**-2.3**
TAPN	**Taplejung**	**42.54**	**328**	*e*P	**P**	**09 13 53.7**	**-3.1**
JIRN	**Jiri**	**43.59**	**327**	*e*P	**P**	**09 14 03.0**	**-2.3**
	comp=Z,14nm,0.3s						
PKI	**Pulchoki**	**43.95**	**326**	*e*P	**P**	**09 14 05.5**	**-2.6**
GUM	**Gumba**	**43.96**	**327**	*e*P	**P**	**09 14 05.6**	**-2.6**
	comp=Z,18nm,0.4s						
PKIN	**Phulchoki**	**43.96**	**326**	*e*P	**P**	**09 14 06.0**	**-2.1**
	comp=Z,10nm,0.5s						
DMN	**Daman**	**44.14**	**326**	*e*P	**P**	**09 14 07.4**	**-2.2**
	comp=Z,13nm,0.5s						
GKN	**Gorkha**	**44.71**	**326**	*e*P	**P**	**09 14 11.6**	**-2.4**
KOLN	**Koldanda**	**45.11**	**325**	*e*P	**P**	**09 14 15.4**	**-1.9**
	comp=Z,15nm,0.3s						
LZH	**Lanzhou**	**45.21**	**352**	*e*P	**P**	**09 14 21.8**	**+4.0**
LZH				pP	pP	09 14 36.8	-1.9
LZH				sP	sP	09 14 46.8	-1.7
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
LZH				pmax	pmax		
	comp=Z,70nm,4.6s						
DANN	**Dangsing**	**45.47**	**325**	*e*P	**P**	**09 14 17.9**	**-2.3**
	comp=Z,25nm,0.5s						
JNU	**Nakatsue**	**45.76**	**23**	P	**P**	**09 14 21.1**	**-1.0**
	comp=Z,4.8nm,0.6s,baz=197,slow=9.0,SNR=1.8						
JNU	**Nakatsue**	**45.76**	**23**	IAmb	IAmb	09 14 24.4	
	comp=Z,25nm,1.3s						
JHS	**Saijyo**	**48.29**	**24**	P	**P**	**09 14 40.8**	**-1.0**
JHS				IAmb	IAmb	09 14 41.1	
	comp=Z,17nm,1.0s						
KSAR	**Wonju Array Be**	**48.63**	**18**	P	**P**	**09 14 44.4**	**+0.2**
KSRS	**Korea Array**	**48.65**	**18**	P	**P**	**09 14 44.1**	**-0.3**
	comp=Z,6.7nm,0.8s,baz=198,slow=8.8,SNR=15						
BJI	**Beijing**	**48.85**	**5**	P	**P**	**09 14 45.0**	**-0.9**
BJI				PcP	**PcP**	**09 16 08.3**	**-0.9**
GTA	**Gaotai**	**49.14**	**348**	P	**P**	**09 14 49.0**	**+0.7**
GTA				pP	pP	09 15 06.0	-3.4
GTA				sP	sP	09 15 17.5	-1.7
GTA				PcP	**PcP**	**09 16 11.5**	**+1.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**49.44**	**0**	*e*P	**P**	**09 14 52.8**	**+2.3**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,79nm,6.8s						
JWT	**Wachi**	**49.50**	**26**	P	**P**	**09 14 51.0**	**+0.1**
JWT				IAmb	IAmb	09 14 51.2	
	comp=Z,10nm,0.9s						
MAT	**Matsushiro**	**51.81**	**28**	P	**P**	**09 15 05.7**	**-2.6**
MJAR	**Matsushiro Arr**	**51.81**	**28**	P	**P**	**09 15 05.7**	**-2.6**
	comp=Z,3.3nm,0.6s,baz=205,slow=8.5,SNR=9.0						
MJAR	**Matsushiro Arr**	**51.81**	**28**	IAmb	IAmb	09 15 10.5	
	comp=Z,2.4nm,0.8s						
JSD	**Sado**	**53.06**	**27**	P	**P**	**09 15 16.1**	**-1.4**
JSD				IAmb	IAmb	09 15 17.8	
	comp=Z,20nm,1.0s						
NIL	**Nilore**	**55.50**	**322**	P	**P**	**09 15 33.1**	**-2.3**
USA0B	**Ussuriysk Arra**	**56.06**	**18**	P	**P**	**09 15 38.2**	**-0.9**
USA0B				IAmb	IAmb	09 15 40.3	
	comp=Z,8.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**56.06**	**18**	P	**P**	**09 15 37.9**	**-1.2**
	comp=Z,4.9nm,0.6s,baz=197,slow=3.2,SNR=13						
USRK	**Ussuriysk Ar.**	**56.06**	**18**	P	**P**	**09 15 38.1**	**-1.0**
WMQ	**Urumqi**	**56.57**	**340**	*e*P	**P**	**09 15 44.5**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,81nm,3.7s						
SONM	**Songino Array**	**56.58**	**356**	P	**P**	**09 15 41.9**	**-1.0**
	comp=Z,5.0nm,0.6s,baz=175,slow=7.9,SNR=25						
SONM				ScP	**ScP**	**09 20 29.3**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=166,slow=3.0,SNR=5.2						
SONM	**Songino Array**	**56.58**	**356**	P	**P**	**09 15 41.7**	**-1.2**
CASY	**Casey**	**57.36**	**180**	P	**P**	**09 15 48.8**	**+0.8**
CASY				IAmb	IAmb	09 15 49.4	
	comp=Z,9.0nm,1.2s						
KSH	**Kashi**	**58.12**	**328**	P	**P**	**09 15 56.8**	**+2.9**
KSH				S	**S**	**09 23 52.0**	**+3.3**
KSH				pmax	pmax		
	comp=Z,340nm,4.9s						
UZB	**Uzynbulak**	**59.43**	**333**	*e*P	**P**	**09 16 01.8**	**-1.2**
	comp=Z,23nm,2.2s,baz=333						
KDJ	**Kajisay**	**59.49**	**331**	P	**P**	**09 16 02.2**	**-1.2**
SATY	**Saty**	**59.64**	**333**	*e*P	**P**	**09 16 03.2**	**-1.1**
	comp=Z,5.4nm,0.7s,baz=333						
ASAJ	**Asahikawa**	**59.91**	**26**	P	**P**	**09 16 05.2**	**-0.8**
	comp=Z,5.8nm,0.8s,baz=231,slow=6.5,SNR=1.8						
MDOK	**Medeo**	**60.34**	**332**	*e*P	**P**	**09 16 07.8**	**-1.5**
	baz=332						
KZA	**Kyzart**	**60.39**	**330**	P	**P**	**09 16 08.9**	**-1.0**
	SNR=10						
AAA	**Alma-Ata**	**60.44**	**332**	*e*P	**P**	**09 16 08.1**	**-1.7**
	baz=332						
MTBS	**Maitube**	**60.61**	**331**	*e*P	**P**	**09 16 09.0**	**-2.0**
	baz=332						
ZSN	**Zaisan**	**60.70**	**340**	*e*P	**P**	**09 16 10.2**	**-1.3**
	baz=340						
MLZ	**Mavora Lakes**	**60.79**	**137**	P	**P**	**09 16 13.9**	**+1.7**
TKM2	**Tokmak 2**	**60.85**	**331**	P	**P**	**09 16 11.4**	**-1.3**
	SNR=38						
UCH	**Uchtor**	**60.87**	**330**	P	**P**	**09 16 11.9**	**-1.3**
	SNR=12						
KBK	**Karagaybulak**	**60.97**	**330**	P	**P**	**09 16 12.7**	**-0.8**
	SNR=23						
MK31	**Makanchi Array**	**61.06**	**338**	P	**P**	**09 16 12.7**	**-1.2**
MK31				IAmb	IAmb	09 16 13.4	
	comp=Z,9.7nm,0.8s						
MKAR	**Makanchi Array**	**61.06**	**338**	P	**P**	**09 16 12.5**	**-1.4**
	comp=Z,10nm,0.6s,baz=146,slow=7.3,SNR=114						
TDK	**Taldyqorghan**	**61.17**	**334**	*e*P	**P**	**09 16 13.1**	**-1.6**
	baz=334						
AAK	**Ala-Archa**	**61.18**	**330**	P	**P**	**09 16 14.0**	**-0.9**
	SNR=9.6						
AML	**Almayashu**	**61.21**	**329**	P	**P**	**09 16 14.0**	**-1.5**
	SNR=11						
WKZ	**Wanaka**	**61.23**	**137**	P	**P**	**09 16 15.9**	**+0.7**
KUU	**Kurty**	**61.24**	**332**	*e*P	**P**	**09 16 13.4**	**-1.7**
	comp=Z,25nm,0.6s,baz=332						
FOZ	**Fox Glacier**	**61.41**	**135**	P	**P**	**09 16 16.7**	**+0.4**
EKS2	**Erkin-Say**	**61.55**	**329**	P	**P**	**09 16 16.6**	**-0.9**
	SNR=21						
USP	**Ospenovka**	**61.64**	**330**	P	**P**	**09 16 16.6**	**-1.3**
	SNR=12						
SGDS	**Sogindy**	**61.72**	**331**	*e*P	**P**	**09 16 16.8**	**-1.6**
	comp=Z,11nm,0.8s,baz=331						
LBZ	**Lake Benmore**	**61.90**	**136**	P	**P**	**09 16 20.0**	**+0.3**
LBZ				IAmb	IAmb	09 16 23.5	
	comp=Z,27nm,1.3s						
RPZ	**Rata Peaks**	**62.33**	**135**	P	**P**	**09 16 24.0**	**+1.5**
	comp=Z,14nm,0.5s,baz=279,slow=3.3,SNR=11						
RPZ	**Rata Peaks**	**62.33**	**135**	IAmb	IAmb	09 16 24.2	
	comp=Z,63nm,1.4s						
QRZ	**Quartz Range**	**62.70**	**131**	P	**P**	**09 16 27.2**	**+2.2**
QRZ				IAmb	IAmb	09 16 27.9	
	comp=Z,22nm,0.9s						
IUG	**Iuzhnay**	**63.15**	**327**	*e*P	**P**	**09 16 26.3**	**-1.7**
	comp=Z,12nm,1.1s,baz=327						
BTLS	**Baital**	**63.18**	**331**	*e*P	**P**	**09 16 26.1**	**-1.9**
	comp=Z,4.7nm,0.9s,baz=332						
THZ	**Tophouse**	**63.18**	**132**	P	**P**	**09 16 29.3**	**+1.0**
MQZ	**McQueen's Vall**	**63.45**	**135**	P	**P**	**09 16 31.8**	**+1.9**
KK31	**Karatay Array**	**63.55**	**328**	P	**P**	**09 16 28.5**	**-2.1**
KKAR	**Karatay Array**	**63.55**	**328**	P	**P**	**09 16 28.2**	**-2.4**
KKAR	**Karatay Array**	**63.55**	**328**	IAmb	IAmb	09 16 30.9	
	comp=Z,7.7nm,1.1s						
KURK	**Kurchatov**	**65.67**	**338**	P	**P**	**09 16 42.7**	**-1.4**
KURK				IAmb	IAmb	09 16 43.7	
	comp=Z,16nm,0.8s						
ZALV	**Zalesovo Beam**	**66.39**	**343**	P	**P**	**09 16 46.9**	**-1.8**
	comp=Z,11nm,0.7s,baz=146,slow=4.4,SNR=26						
MXZ	**Matakaoa Point**	**66.58**	**127**	P	**P**	**09 16 49.3**	**-1.0**
MAW	**Mawson**	**66.86**	**198**	P	**P**	**09 16 52.1**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=30,slow=7.7,SNR=8.2						
MAW	**Mawson**	**66.86**	**198**	P	**P**	**09 16 53.0**	**+1.5**
BRZS	**Berezniki**	**67.48**	**334**	*e*P	**P**	**09 16 54.7**	**-1.0**
	comp=Z,11nm,0.6s,baz=334						
GEYT	**Alibeck**	**67.88**	**317**	P	**P**	**09 16 57.6**	**-0.9**
	comp=Z,5.2nm,0.7s,baz=152,slow=6.6,SNR=9.1						
GEYT	**Alibeck**	**67.88**	**317**	P	**P**	**09 16 57.6**	**-0.9**
BRVK	**Borovoye**	**70.77**	**335**	P	**P**	**09 17 14.6**	**-1.4**
ABKAR	**Akbulak array**	**73.12**	**328**	P	**P**	**09 17 29.0**	**-1.2**
ABKAR	**Akbulak array**	**73.12**	**328**	IAmb	IAmb	09 17 30.4	
	comp=Z,26nm,0.8s						
PETK	**Petropavlovsk-**	**73.26**	**27**	P	**P**	**09 17 30.4**	**-0.5**
	comp=Z,4.2nm,0.9s,baz=203,slow=3.1,SNR=4.4						
PETK				LR	LR	09 48 35.3	
	comp=Z,4μm,21.3s,baz=175,slow=35						
VNDA	**Vanda**	**73.44**	**170**	P	**P**	**09 17 32.7**	**+1.2**
	comp=Z,4.0nm,0.8s,baz=320,slow=5.7,SNR=35						
VNDA	**Vanda**	**73.44**	**170**	P	**P**	**09 17 32.8**	**+1.2**
SYO	**Syowa Base**	**75.23**	**201**	‖*e*P	**P**	**09 17 41.6**	**-0.5**
KBZ	**Khabaz**	**80.77**	**317**	P	**P**	**09 18 12.9**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=120,slow=5.1,SNR=4.2						
QSPA	**South Pole Qui**	**81.16**	**180**	P	**P**	**09 18 16.2**	**+1.1**
QSPA				IAmb	IAmb	09 18 17.3	
	comp=Z,26nm,1.2s						
TIXI	**T

-1.5770, Plg8.0000°, Azm226.0000°;
NEIC ***25*** *09:14:08.5,9°.53S-156°.09E,h10km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.08; Mθθ0.10; Mφφ-0.02; Mrθ1.04; Mθφ1.57; Mφr-1.30; Fault plane solution: M0=2.13000×1018 NP1:φ1=263.86000°, δ59.31000°, λ-17.97000°. NP2:φ2=3.26000°, δ74.61000°, λ-148.04000°. Principal axes: T 1.6363, Plg10.0000°, Azm131.0000°; N 0.9815, Plg55.0000°, Azm26.0000°; P -2.6178, Plg33.0000°, Azm227.0000°;*
ISC 25 09:13:52.7±0.4, 9°.45S±0°.04×156°.35E±0°.04, h20km±1km, h20km:pP-P, n1258, σ2s09/875, mb5.8/239, MS6.0/564, 28C-41D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.55**	**90**	Pn		**Pn**	**Pn**	**09 14 44.9**	**-1.9**
	80nm,0.3s,baz=221,slow=11,SNR=11								
HNR				Sn		**Sn**	**Sn**	**09 15 24.8**	**-3.3**
	103nm,0.3s,baz=126,slow=13,SNR=5.7								
HNR				LR		LR	LR	09 16 27.8	
	comp=Z,54μm,18.6s,baz=267,slow=44								
HNR	**Honiara**	**3.55**	**90**	Pn		**Pn**	**Pn**	**09 14 44.2**	**-2.6**
KRVT	**Keravat (AS076**	**6.67**	**320**	Pn		**Pn**	**Pn**	**09 15 28.3**	**-1.4**
	31nm,0.3s,baz=351,slow=2.0,SNR=112								
RABL	**Rabaul**	**6.67**	**321**	Pn		**Pn**	**Pn**	**09 15 29.0**	**-0.8**
PMG	**Port Moresby**	**9.07**	**270**	Pn		**Pn**	**Pn**	**09 16 03.4**	**+0.7**
	1.2nm,0.3s,baz=81,slow=13,SNR=12								
PMG				LR		LR	LR	09 19 24.8	
	comp=Z,62μm,18.4s,baz=86,slow=37								
PMG	**Port Moresby**	**9.07**	**270**	*de*P			**Pn**	**09 16 05.9**	**+3.3**
PMG						pmax	pmax		
	comp=Z,301nm,1.7s								
PMG	**Port Moresby**	**9.07**	**270**	Pn		**Pn**	**Pn**	**09 16 05.8**	**+3.1**
SANVU	**Saraoutou**	**12.16**	**120**	Pn		**Pn**	**Pn**	**09 16 44.3**	**-0.7**
COEN	**Coen**	**13.66**	**250**	P		**Pn**	**Pn**	**09 17 05.3**	**-0.2**
	baz=14,SNR=18								
COEN	**Coen**	**13.66**	**250**	Pn		**Pn**	**Pn**	**09 17 05.5**	**+0.1**
CTA	**Charters Tower**	**14.39**	**222**	Pn		**Pn**	**Pn**	**09 17 14.0**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=46,slow=15,SNR=46								
CTA				LR		LR	LR	09 22 33.1	
	comp=Z,67μm,18.3s,baz=42,slow=37								
CTAO	**Charters Tower**	**14.39**	**222**	P		**Pn**	**Pn**	**09 17 13.9**	**-1.5**
CTAO	**Charters Tower**	**14.39**	**222**	Pn		**Pn**	**Pn**	**09 17 13.9**	**-1.5**
MTSU	**Mount Surprise**	**14.52**	**232**	P		**Pn**	**Pn**	**09 17 16.6**	**-0.7**
	baz=15,SNR=134								
DZM	**Mont Dzumac**	**15.86**	**143**	*e*Pn		**Pn**	**Pn**	**09 17 34.9**	**-0.2**
	comp=Z,1μm,1.5s								
DZM					*e*LR		LR	09 21 21.4	
	comp=Z,165μm,25.4s								
DZM	**Mont Dzumac**	**15.86**	**143**	Pn		**Pn**	**Pn**	**09 17 34.4**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=326,slow=10,SNR=32								
DZM				LR			LR	09 22 43.8	
	comp=Z,89μm,20.9s,baz=312,slow=34								
DZM	**Mont Dzumac**	**15.86**	**143**	Pn		**Pn**	**Pn**	**09 17 34.5**	**-0.6**
DZM				IAmb			IAmb	09 17 38.8	
	comp=Z,736nm,1.4s								
PATS	**Pohnpei**	**16.30**	**7**	P		**Pn**	**Pn**	**09 17 41.1**	**+0.5**
	baz=16,SNR=6.1								
PATS	**Pohnpei**	**16.30**	**7**				**P**	**09 17 42.4**	**-1.1**
PATS				IAmb			IAmb	09 17 50.9	
	comp=Z,1μm,1.3s								
EIDS	**Eidsvold**	**16.61**	**197**	P		**Pn**	**Pn**	**09 17 44.4**	**-0.2**
	baz=17,SNR=23								
EIDS	**Eidsvold**	**16.61**	**197**	Pn		**Pn**	**Pn**	**09 17 42.8**	**-1.7**
JAY	**Jayapura**	**17.01**	**293**	Pn		**Pn**	**Pn**	**09 17 47.9**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=127,slow=9.9,SNR=29								
JAY	**Jayapura**	**17.01**	**293**	P			**Pn**	**09 17 48.8**	**-0.9**
	comp=Z,16μmcomp=Z,5μmcomp=Z,169nm,1.4s								
GENI	**Genyem**	**17.47**	**292**	P			**Pn**	**09 17 53.0**	**-2.4**
	comp=Z,34μmcomp=Z,455nm,1.4s								
RMQ	**Roma**	**18.41**	**202**	P			**P**	**09 18 06.1**	**-0.8**
	baz=18,SNR=47								
QIS	**Mount Isa**	**19.56**	**234**	P			**P**	**09 18 20.0**	**+0.4**
	baz=20,SNR=199								
QLP	**Quilpie**	**20.54**	**212**	P			**P**	**09 18 30.0**	**-0.2**
	baz=21,SNR=67								
KWAJ	**Kwajalein Atol**	**21.32**	**32**	P			**P**	**09 18 36.9**	**-1.7**
KWAJ				pmax			pmax		
	comp=Z,5μm,2.0s								
KWAJ				MLR			MLR		
	comp=Z,38μm,20.0s								
KWAJ	**Kwajalein Atol**	**21.32**	**32**	P			**P**	**09 18 36.9**	**-1.7**
ARMA	**Armidale**	**21.32**	**191**	P			**P**	**09 18 38.6**	**-0.1**
	baz=21,SNR=14								
ARMA	**Armidale**	**21.32**	**191**	P			**P**	**09 18 37.8**	**-0.9**
SRPI	**Serui, Papua**	**21.37**	**289**	P			**P**	**09 18 39.0**	**-0.2**
	comp=Z,22μmcomp=Z,344nm,1.5s								
FUNA	**Funafuti**	**22.58**	**90**	P			**P**	**09 18 52.0**	**-0.2**
MSVF	**Nonsavu**	**22.62**	**114**	*c iP*			**P**	**09 18 52.9**	**+0.2**
MSVF				pmax			pmax		
	comp=Z,846nm,1.5s								
MSVF				MLR			MLR		
	comp=Z,29μm,17.0s								
MSVF	**Nonsavu**	**22.62**	**114**	P			**P**	**09 18 52.8**	**+0.2**
MSVF				IAmb			IAmb	09 19 15.9	
	comp=Z,839nm,1.4s								
RKPI	**Ransiki, Papua**	**23.42**	**288**	P			**P**	**09 19 03.4**	**+2.6**
	comp=Z,12μmcomp=Z,980nm,1.3s								
WR0	**Warramunga Arr**	**23.51**	**241**	P			**P**	**09 19 00.1**	**-1.6**
WR0				IAMs_20		IAMs_20		09 27 54.4	
	comp=Z,40μm,19.0s								
WR9	**Warramunga Arr**	**23.53**	**241**	IAMs_20		IAMs_20		09 27 46.9	
	comp=Z,39μm,18.0s								
WR8	**Warramunga Arr**	**23.55**	**241**	IAMs_20		IAMs_20		09 27 55.3	
	comp=Z,40μm,19.0s								
WB0	**Warramunga Arr**	**23.56**	**242**	P			**P**	**09 19 01.1**	**-1.2**
WR7	**Warramunga Arr**	**23.57**	**241**	IAMs_20		IAMs_20		09 27 47.8	
	comp=Z,39μm,18.0s								
WR6	**Warramunga Arr**	**23.58**	**241**	IAMs_20		IAMs_20		09 27 48.3	
	comp=Z,39μm,19.0s								
WB8	**Warramunga Arr**	**23.59**	**242**	IAMs_20		IAMs_20		09 27 48.6	
	comp=Z,34μm,18.0s								
WR5	**Warramunga Arr**	**23.60**	**241**	IAMs_20		IAMs_20		09 27 57.8	
	comp=Z,37μm,19.0s								
WR4	**Warramunga Arr**	**23.62**	**241**	IAMs_20		IAMs_20		09 27 49.4	
	comp=Z,37μm,18.0s								
WR3	**Warramunga Arr**	**23.64**	**241**	IAMs_20		IAMs_20		09 27 58.8	
	comp=Z,37μm,19.0s								
WB4	**Warramunga Arr**	**23.65**	**241**	IAMs_20		IAMs_20		09 27 51.0	
	comp=Z,36μm,18.0s								
KDU	**Kakadu**	**23.65**	**260**	P			**P**	**09 19 01.6**	**-1.5**
	baz=24,SNR=11								
WC2	**Warramunga Arr**	**23.65**	**241**	IAMs_20		IAMs_20		09 27 51.0	
	comp=Z,37μm,18.0s								
WB3	**Warramunga Arr**	**23.66**	**241**	IAMs_20		IAMs_20		09 27 50.2	
	comp=Z,38μm,18.0s								
WC3	**Warramunga Arr**	**23.66**	**241**	IAMs_20		IAMs_20		09 27 50.2	
	comp=Z,39μm,18.0s								
WRAB	**Tennant Creek**	**23.67**	**241**	*d iP*			**P**	**09 19 02.0**	**-1.2**
WRAB				pmax			pmax		
	comp=Z,1μm,1.7s								
WRAB				MLR			MLR		
	comp=Z,33μm,18.0s								
WRAB	**Tennant Creek**	**23.67**	**241**	P			**P**	**09 19 02.0**	**-1.2**
WRAB	**Tennant Creek**	**23.67**	**241**	IAMs_20		IAMs_20		09 27 51.3	
	comp=Z,37μm,18.0s								
WB2	**Warramunga Arr**	**23.67**	**241**	IAMs_20		IAMs_20		09 27 59.6	
	comp=Z,38μm,19.0s								
WC1	**Warramunga Arr**	**23.67**	**241**	IAMs_20		IAMs_20		09 28 00.6	
	comp=Z,36μm,19.0s								
WB1	**Warramunga Ar.**	**23.68**	**241**	IAMs_20		IAMs_20		09 27 51.8	
	comp=Z,39μm,18.0s								
WRA	**Warramunga Arr**	**23.68**	**241**	P			**P**	**09 19 02.0**	**-1.4**
	comp=Z,477nm,1.3s,baz=66,slow=9.8,SNR=122								
WRA				PcP			**PcP**	**09 22 47.7**	**0.0**
	comp=Z,5.8nm,0.9s,baz=69,slow=2.7,SNR=2.6								
WRA				LR			LR	09 28 02.3	
	comp=Z,35μm,18.5s,baz=70,slow=36								
WRA	**Warramunga Arr**	**23.68**	**241**	P			**P**	**09 19 00.6**	**-2.7**
WRA								09 22 47.7	
WRA				pmax			pmax		
	comp=Z,26nm,1.4s								
WRA	**Warramunga Arr**	**23.68**	**241**	P			**P**	**09 19 00.6**	**-2.7**
WC4	**Warramunga Arr**	**23.69**	**241**	IAMs_20		IAMs_20		09 27 52.0	
	comp=Z,41μm,18.0s								
CMSA	**Cobar Meteorol**	**24.11**	**203**	P			**P**	**09 19 05.7**	**-1.6**
	baz=24,SNR=55								
MGCD	**Mangrove Creek**	**24.14**	**191**	P			**P**	**09 19 07.2**	**-0.3**
	baz=24,SNR=7.9								
SAUI	**Saumlaki**	**24.80**	**271**	IAMs_20		IAMs_20		09 29 43.1	
	comp=Z,61μm,19.0s								
FAKI	**Fak Fak**	**24.81**	**284**	P			**P**	**09 19 14.1**	**+0.3**
MTN	**Manton Dam**	**24.97**	**260**	P			**P**	**09 19 14.8**	**-0.5**
	baz=25,SNR=3.6								
MTN	**Manton Dam**	**24.97**	**260**	P			**P**	**09 19 15.0**	**-0.3**
MTN				IAMs_20		IAMs_20		09 28 26.4	
	comp=Z,33μm,19.0s								
GUMO	**Guam**	**25.57**	**333**	P			**P**	**09 19 18.9**	**-1.7**
	comp=Z,174nm,1.2s,baz=173,slow=9.2,SNR=2.5								
GUMO	**Guam**	**25.57**	**333**	P			**P**	**09 19 18.9**	**-1.7**
GUMO				pmax			pmax		
	comp=Z,615nm,1.4s								
GUMO				MLR			MLR		
	comp=Z,16μm,22.0s								
AS31	**Alice Springs**	**25.69**	**234**	P			**P**	**09 19 20.7**	**-1.1**
ASAR	**Alice Springs**	**25.69**	**234**	P			**P**	**09 19 19.8**	**-2.0**
	comp=Z,112nm,1.1s,baz=63,slow=8.8,SNR=53								
ASAR				PcP			**PcP**	**09 22 53.5**	**+1.4**
	comp=Z,5.2nm,0.9s,baz=38,slow=4.7,SNR=2.2								
ASAR				LR			LR	09 29 07.8	
	comp=Z,26μm,19.8s,baz=60,slow=36								
ASAR	**Alice Springs**	**25.69**	**234**	P			**P**	**09 19 18.7**	**-3.1**
ASAR								09 22 53.5	
ASAR	**Alice Springs**	**25.69**	**234**	P			**P**	**09 19 18.7**	**-3.1**
YNG	**Young**	**25.79**	**195**	P			**P**	**09 19 23.3**	**+0.8**
	baz=26,SNR=17								
STKA	**Stephens Creek**	**26.18**	**209**	P			**P**	**09 19 24.9**	**-1.2**
	comp=Z,102nm,0.9s,baz=29,slow=12,SNR=91								
STKA				LR			LR	09 29 24.2	
	comp=Z,23μm,20.1s,baz=28,slow=36								
STKA	**Stephens Creek**	**26.18**	**209**	P			**P**	**09 19 24.8**	**-1.2**
	baz=26,SNR=116								
STKA	**Stephens Creek**	**26.18**	**209**	P			**P**	**09 19 24.8**	**-1.3**
STKA				pmax			pmax		
	comp=Z,97nm,1.1s								
STKA				MLR			MLR		
	comp=Z,6μm,20.0s								
STKA	**Stephens Creek**	**26.18**	**209**	P			**P**	**09 19 24.8**	**-1.3**
SIJI	**Sorong**	**26.37**	**287**	P			**P**	**09 19 27.8**	**-0.3**
	comp=Z,20nm,0.8s,baz=93,slow=6.7,SNR=6.1								
SIJI				LR			LR	09 31 16.8	
	comp=Z,14μm,20.5s,baz=108,slow=40								
CNB	**Canberra Magne**	**26.53**	**193**	P			**P**	**09 19 28.9**	**-0.3**
	baz=27,SNR=7.5								
CAN	**Canberra**	**26.61**	**194**	P			**P**	**09 19 30.5**	**+0.5**
CAN				pmax			pmax		
	comp=Z,224nm,1.5s								
CAN				MLR			MLR		
	comp=Z,21μm,20.0s								
CAN	**Canberra**	**26.61**	**194**	P			**P**	**09 19 30.5**	**+0.5**
CAN				IAmb			IAmb	09 19 40.0	
	comp=Z,224nm,1.5s								
KNRA	**Kununurra**	**27.61**	**254**	P			**P**	**09 19 38.5**	**-0.6**
	baz=28,SNR=17								
KNRA	**Kununurra**	**27.61**	**254**	P			**P**	**09 19 38.7**	**-0.4**
KNRA				IAmb			IAmb	09 20 18.5	
	comp=Z,412nm,1.2s								
KNRA				IAMs_20		IAMs_20		09 30 28.4	
	comp=Z,29μm,18.0s								
MSAI	**Masohi**	**27.90**	**281**	P			**P**	**09 19 39.8**	**-2.0**
	comp=Z,1μmcomp=Z,78nm,1.2s								
AAI	**Ambon**	**28.54**	**280**	P			**P**	**09 19 51.8**	**+4.4**
	comp=Z,6μmcomp=Z,4μmcomp=Z,287nm,1.4s								
HTT	**Hallett**	**28.77**	**211**	P			**P**	**09 19 48.4**	**-0.9**
	baz=29,SNR=13								
TOO	**Toolangi**	**29.67**	**198**	P			**P**	**09 19 57.3**	**0.0**
	baz=30,SNR=11								
TOO	**Toolangi**	**29.67**	**198**	P			**P**	**09 19 57.6**	**+0.4**
TOO				pmax			pmax		
	comp=Z,153nm,1.4s								
TOO				MLR			MLR		
	comp=Z,18μm,18.0s								
TOO	**Toolangi**	**29.67**	**198**	P			**P**	**09 19 57.6**	**+0.4**
NLAI	**Namlea**	**29.70**	**280**	P			**P**	**09 19 59.5**	**+1.7**
	comp=Z,4μmcomp=Z,166nm,1.6s								
BBOO	**Buckleboo**	**29.86**	**216**	P			**P**	**09 19 58.0**	**-1.0**
	baz=30,SNR=7.3								
BBOO	**Buckleboo**	**29.86**	**216**	P			**P**	**09 19 56.4**	**-2.6**
BBOO				IAmb			IAmb	09 20 05.1	
	comp=Z,328nm,1.3s								
OUZ	**Omahuta**	**30.10**	**151**	P			**P**	**09 20 00.1**	**-1.0**
OUZ				IAMs_20		IAMs_20		09 30 54.2	
	comp=Z,29μm,18.0s								
ARPS	**Mount Arapiles**	**30.21**	**204**	P			**P**	**09 20 01.7**	**-0.3**
	baz=30,SNR=21								
WAKE	**Wake Island**	**30.30**	**20**	IAMs_20		IAMs_20		09 30 30.9	
	comp=Z,26μm,20.0s								
WRKA	**Warakurna**	**30.86**	**236**	P			**P**	**09 20 05.7**	**-2.3**
	baz=31,SNR=29								
FITZ	**Fitzroy Crossi**	**31.00**	**251**	P			**P**	**09 20 08.2**	**-1.1**
	comp=Z,15nm,0.7s,baz=360,slow=2.9,SNR=27								
FITZ	**Fitzroy Crossi**	**31.00**	**251**	P			**P**	**09 20 07.9**	**-1.3**
	baz=31,SNR=17								
SANI	**Sanana**	**31.07**	**282**	P			**P**	**09 20 09.5**	**-0.4**
	comp=Z,6μmcomp=Z,7μmcomp=Z,591nm,1.2s								
RAO	**Raoul Island**	**31.13**	**133**	LR		LR		09 30 29.4	
	comp=Z,29μm,21.2s,baz=291,slow=32								
RAO	**Raoul Island**	**31.13**	**133**	IAMs_20		IAMs_20		09 30 18.2	
	comp=Z,28μm,21.0s								
AFI	**Afiamalu**	**31.51**	**101**	P			**P**	**09 20 13.4**	**-0.4**
	comp=Z,95nm,1.0s,baz=246,slow=12,SNR=4.5								
AFI				LR			LR	09 30 26.5	
	comp=Z,16μm,20.8s,baz=282,slow=32								
AFI	**Afiamalu**	**31.51**	**101**	P			**P**	**09 20 14.4**	**+0.6**
AFI				pmax			pmax		
	comp=Z,175nm,1.1s								
AFI	**Afiamalu**	**31.51**	**101**	P			**P**	**09 20 14.4**	**+0.6**
AFI				IAmb			IAmb	09 20 20.8	
	comp=Z,175nm,1.1s								
SOEI	**Soe**	**31.63**	**267**	P			**P**	**09 20 15.3**	**+0.3**
	comp=Z,6μmcomp=Z,184nm,1.3s								
SOEI	**Soe**	**31.63**	**267**	IAMs_20		IAMs_20		09 32 47.1	
	comp=Z,26μm,21.0s								
BATI	**Baumata**	**32.21**	**266**	P			**P**	**09 20 20.4**	**+0.5**
	comp=Z,3μmcomp=Z,4μmcomp=Z,180nm,1.4s								
KNTN	**Kanton**	**32.41**	**80**	P			**P**	**09 20 20.9**	**-0.8**
HIZ	**Hauiti**	**33.37**	**153**	P			**P**	**09 20 29.8**	**0.0**
HIZ				IAmb			IAmb	09 20 33.5	
	comp=Z,198nm,1.2s								
KMSI	**Cibinong**	**33.73**	**285**	P			**P**	**09 20 34.8**	**+1.6**
	comp=Z,16μmcomp=Z,648nm,1.2s								
FORT	**Forrest**	**33.83**	**227**	P			**P**	**09 20 32.8**	**-1.1**
	baz=34,SNR=18								
FORT	**Forrest**	**33.83**	**227**	P			**P**	**09 20 32.7**	**-1.2**
FORT				IAmb			IAmb	09 20 40.3	
	comp=Z,190nm,1.1s								
EDFI	**Ende, Flores**	**34.22**	**268**	P			**P**	**09 20 36.2**	**-1.4**
	comp=Z,2μmcomp=Z,3μmcomp=Z,158nm,1.4s								
URZ	**Urewera**	**34.23**	**150**	P			**P**	**09 20 36.6**	**-0.6**
	comp=Z,82nm,1.1s,baz=26,slow=4.0,SNR=12								
URZ				LR			LR	09 33 18.0	
	comp=Z,17μm,18.2s,baz=328,slow=34								
URZ	**Urewera**	**34.23**	**150**	P			**P**	**09 20 34.4**	**-2.8**
URZ				IAmb			IAmb	09 20 49.2	
	comp=Z,268nm,1.3s								
TAU	**Tasmania Unive**	**34.26**	**192**	P			**P**	**09 20 37.3**	**-0.1**
TAU				pmax			pmax		
	comp=Z,268nm,1.4s								
TAU				MLR			MLR		
	comp=Z,12μm,18.0s								
TAU	**Tasmania Unive**	**34.26**	**192**	P			**P**	**09 20 37.3**	**-0.1**
TAU							**pP**	**09 20 40.4**	**-2.0**
TAU				IAmb			IAmb	09 20 46.3	
	comp=Z,268nm,1.4s								
QRZ	**Quartz Range**	**34.38**	**158**	P			**P**	**09 20 37.3**	**-1.2**
QRZ				IAmb			IAmb	09 20 41.9	
	comp=Z,224nm,1.3s								
QRZ				IAMs_20		IAMs_20		09 32 51.5	
	comp=Z,40μm,19.0s								
LUWI	**Luwuk**	**34.43**	**282**	P			**P**	**09 20 40.6**	**+1.3**
	comp=Z,7μmcomp=Z,7μmcomp=Z,423nm,1.2s								
LUWI	**Luwuk**	**34.43**	**282**	P			**P**	**09 20 40.7**	**+1.3**
BKZ	**Black Stump Fm**	**34.65**	**152**	IAMs_20		IAMs_20		09 32 12.5	
	comp=Z,27μm,22.0s								
GTOI	**Gorontalo**	**34.67**	**285**	P			**P**	**09 20 39.9**	**-1.5**
	comp=Z,2μmcomp=Z,160nm,1.6s								
DAV	**Davao City (W)**	**34.77**	**297**	*e*P			**P**	**09 20 40.0**	**-2.3**
NNZ	**Nelson**	**35.04**	**157**	IAMs_20		IAMs_20		09 32 52.9	
	comp=Z,27μm,20.0s								
BASI	**Baing, Sumba**	**35.24**	**266**	P			**P**	**09 20 47.4**	**+1.1**
	comp=Z,2μmcomp=Z,8μmcomp=Z,536nm,1.7s								
THZ	**Tophouse**	**35.34**	**158**	P			**P**	**09 20 45.0**	**-1.9**
THZ				IAmb			IAmb	09 20 48.4	
	comp=Z,448nm,1.8s								
THZ				IAMs_20		IAMs_20		09 33 39.8	
	comp=Z,39μm,20.0s								
SNZO	**South Karori**	**35.64**	**156**	IAMs_20		IAMs_20		09 33 11.7	
	comp=Z,23μm,20.0s								
BFZ	**Birch Farm**	**35.76**	**154**	IAMs_20		IAMs_20		09 34 48.0	
	comp=Z,28μm,18.0s								
FOZ	**Fox Glacier**	**35.93**	**163**	P			**P**	**09 20 51.6**	**-0.1**
FOZ				IAmb			IAmb	09 20 54.3	
	comp=Z,236nm,1.3s								
FOZ				IAMs_20		IAMs_20		09 34 32.4	
	comp=Z,21μm,19.0s								
LTZ	**Lake Taylor**	**36.02**	**160**	IAmb		IAmb		09 20 55.3	
	comp=Z,208nm,1.3s								
BKSI	**Bulukumba**	**36.15**	**274**	P			**P**	**09 20 55.1**	**+1.0**
	comp=Z,3μmcomp=Z,4μmcomp=Z,198nm,1.7s								
BNSI	**Bone**	**36.31**	**275**	P			**P**	**09 20 55.9**	**+0.4**
	comp=Z,5μmcomp=Z,304nm,1.4s								
RPZ	**Rata Peaks**	**36.46**	**162**	P			**P**	**09 20 56.1**	**-0.3**
	comp=Z,103nm,0.9s,baz=355,slow=4.9,SNR=20								
RPZ	**Rata Peaks**	**36.46**	**162**	IAmb		IAmb		09 20 58.8	
	comp=Z,266nm,1.1s								
KAPI	**Kappang**	**36.56**	**274**	P			**P**	**09 20 57.3**	**-0.3**
	comp=Z,117nm,0.9s,baz=106,slow=7.3,SNR=18								
KAPI	**Kappang**	**36.56**	**274**	P			**P**	**09 20 58.1**	**+0.5**
KAPI				pmax			pmax		
	comp=Z,443nm,1.3s								
KAPI				MLR			MLR		
	comp=Z,11μm,22.0s								
KAPI	**Kappang**	**36.56**	**274**	P			**P**	**09 20 58.1**	**+0.5**
SPSI	**Sidrap Palu**	**36.72**	**276**	P			**P**	**09 20 59.5**	**+0.5**
	comp=Z,3μmcomp=Z,103nm,1.4s								
LBZ	**Lake Benmore**	**36.82**	**163**	IAMs_20		IAMs_20		09 35 10.9	
	comp=Z,36μm,19.0s								
WKZ	**Wanaka**	**36.91**	**165**	IAmb		IAmb		09 21 08.5	
	comp=Z,362nm,1.7s								
MQZ	**McQueen's Vall**	**36.96**	**160**	IAMs_20		IAMs_20		09 34 31.8	
	comp=Z,36μm,20.0s								
PSAD2	**Pilbara Seismi**	**36.99**	**247**	IAMs_20		IAMs_20		09 36 52.5	
	comp=Z,20μm,19.0s								
PSAB2	**Pilbara Seismi**	**37.06**	**247**	IAMs_20		IAMs_20		09 36 54.6	
	comp=Z,25μm,18.0s								
PSAD1	**Pilbara Seismi**	**37.07**	**247**	IAMs_20		IAMs_20		09 36 45.7	
	comp=Z,23μm,18.0s								
PSAA3	**Pilbara Seismi**	**37.07**	**247**	IAMs_20		IAMs_20		09 36 55.9	
	comp=Z,24μm,18.0s								
PSAB3	**Pilbara Seismi**	**37.08**	**247**	IAMs_20		IAMs_20		09 36 55.0	
	comp=Z,25μm,19.0s								
PSA00	**Pilbara Seismi**	**37.08**	**247**	IAmb		IAmb		09 21 14.4	
	comp=Z,228nm,1.4s								
MBWA	**Marble Bar**	**37.09**	**247**	IAMs_20		IAMs_20		09 36 45.4	
	comp=Z,18μm,18.0s								
PSAC1	**Pilbara Seismi**	**37.11**	**247**	IAMs_20		IAMs_20		09 36 46.7	
	comp=Z,19μm,18.0s								
PSAD3	**Pilbara Seismi**	**37.16**	**247**	IAMs_20		IAMs_20		09 36 58.1	
	comp=Z,22μm,18.0s								
MLZ	**Mavora Lakes**	**37.20**	**166**	IAmb		IAmb		09 21 04.8	
	comp=Z,356nm,1.2s								
MLZ				IAMs_20		IAMs_20		09 34 05.0	
	comp=Z,34μm,20.0s								
MPSI	**Mapaga**	**37.57**	**283**	P			**P**	**09 21 05.1**	**-1.1**
	comp=Z,7μmcomp=Z,3μmcomp=Z,87nm,1.2s								
WHZ	**Wether Hill Ro**	**37.65**	**167**	IAmb		IAmb		09 21 19.3	
	comp=Z,277nm,1.8s								
WHZ				IAMs_20		IAMs_20		09 33 56.1	
	comp=Z,22μm,22.0s								
PLAI	**Plampang**	**38.08**	**268**	P			**P**	**09 21 09.7**	**-0.8**
	comp=Z,5μmcomp=Z,388nm,1.4s								
KMBL	**Kambalda**	**38.72**	**231**	P			**P**	**09 21 15.3**	**-0.4**
	baz=39,SNR=16								
TWSI	**Taliwang, Sumb**	**38.97**	**268**	P			**P**	**09 21 17.4**	**-0.6**
	comp=Z,2μmcomp=Z,98nm,1.3s								
MEEK	**Meekatharra**	**39.55**	**239**	P			**P**	**09 21 21.1**	**-1.7**
	baz=40,SNR=14								
SMKI	**Samarinda**	**39.96**	**281**	P			**P**	**09 21 28.0**	**+1.7**
BKB	**Balikpapan**	**40.08**	**279**	P	

MJAR				pmax	pmax		
	comp=Z,41nm,1.6s						
MJAR	**Matsushiro Arr**	**48.82**	**341**	P	**P**	**09 22 36.8**	**0.0**
MAJO	**Matsushiro**	**48.83**	**341**	⇓*e*P	**P**	**09 22 36.5**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,85nm,1.3s						
MAJO	**Matsushiro**	**48.83**	**341**	P	**P**	**09 22 37.3**	**+0.5**
MAJO				IAmb	IAmb	09 22 48.3	
	comp=Z,183nm,1.7s						
MAT	**Matsushiro**	**48.83**	**341**	P	**P**	**09 22 36.2**	**-0.6**
MAT				S	**S**	**09 29 41.0**	**+1.8**
TPI	**Tanjungpandan**	**48.83**	**275**	P	**P**	**09 22 39.2**	**+1.9**
	comp=Z,5μmcomp=Z,242nm,1.5s						
CBJI	**Citeko**	**49.09**	**270**	P	**P**	**09 22 39.4**	**+0.1**
	comp=Z,8μmcomp=Z,337nm,1.2s						
DBJI	**Dramaga**	**49.17**	**269**	P	**P**	**09 22 40.5**	**+0.6**
	comp=Z,231nm,1.5s						
SKJI	**Sukabumi**	**49.31**	**269**	P	**P**	**09 22 42.6**	**+1.6**
	comp=Z,6μmcomp=Z,415nm,1.3s						
CGJI	**Cibinong**	**50.21**	**269**	P	**P**	**09 22 45.4**	**-2.4**
	comp=Z,15μmcomp=Z,6μmcomp=Z,590nm,1.4s						
QZH	**Quanzhou**	**50.23**	**314**	⇑*i*P	**P**	**09 22 46.5**	**-1.2**
QZH				S	**S**	**09 29 53.3**	**-5.9**
QZH				pmax	pmax		
	comp=Z,66nm,1.3s						
QZH				pmax	pmax		
	comp=Z,1μm,9.2s						
QZH				LR	LR		
	comp=Z,3μm,19.4s						
QZH				LR	LR		
	comp=Z,3μm,18.9s						
QZH				LR	LR		
	comp=Z,5μm,22.3s						
PPBI	**Pangkal Pinang**	**50.43**	**275**	P	**P**	**09 22 49.2**	**-0.3**
KLSI		**51.41**	**272**	P	**P**	**09 22 55.6**	**-1.3**
	comp=Z,640nmcomp=Z,22nm,1.6s						
MDSI	**Maura Dua**	**51.98**	**272**	P	**P**	**09 23 01.0**	**-0.1**
	comp=Z,3μmcomp=Z,141nm,1.5s						
HKC	**Hong Kong Obse**	**52.01**	**308**	⇑P	**P**	**09 23 03.0**	**+1.9**
LWLI	**Liwa**	**52.02**	**271**	P	**P**	**09 23 01.0**	**-0.6**
	comp=Z,149nm,1.1s						
DLV	**T Lat**	**52.10**	**293**	IAmb	IAmb	09 23 09.0	
	comp=Z,270nm,1.2s						
DSRI	**Dabo**	**52.28**	**277**	P	**P**	**09 23 04.3**	**+1.0**
	comp=Z,4μmcomp=Z,103nm,1.4s						
SSE	**Sheshan**	**52.55**	**322**	P	**P**	**09 23 05.0**	**0.0**
SSE				S	**S**	**09 30 32.8**	**+1.8**
SSE				pmax	pmax		
	comp=Z,24nm,0.8s						
SSE				pmax	pmax		
	comp=Z,730nm,9.9s						
SSE				LR	LR		
	comp=Z,2μm,22.5s						
SSE				LR	LR		
	comp=Z,3μm,14.8s						
SSE	**Sheshan**	**52.55**	**322**	IAMs_20	IAMs_20	09 41 46.4	
	comp=Z,15μm,21.0s						
TPRI	**Tanjung Pinang**	**52.62**	**278**	P	**P**	**09 23 07.0**	**+1.1**
ERM	**Erimo**	**52.62**	**348**	IAMs_20	IAMs_20	09 41 22.6	
	comp=Z,12μm,20.0s						
JEM	**Erimo**	**52.62**	**348**	IAMs_20	IAMs_20	09 41 15.1	
	comp=Z,14μm,21.0s						
LHSI	**Lahat**	**52.73**	**272**	P	**P**	**09 23 06.4**	**-0.3**
	comp=Z,4μmcomp=Z,130nm,1.7s						
PPT	**Papeete**	**53.05**	**105**	LR	LR	09 40 57.7	
	comp=Z,6μm,21.6s,baz=274,slow=31						
PPT2	**Papeete2**	**53.05**	**105**	*e*P	**P**	**09 23 09.4**	**+0.3**
	comp=Z,142nm,1.5s						
PPT2				*e*S	**S**	**09 30 38.6**	**+0.1**
	comp=Z,5μm,28.5s						
PPT2				*e*LQ	LQ	09 36 23.9	
	comp=Z,34μm,29.2s						
PPT2				*e*LR	LR	09 38 34.1	
	comp=Z,12μm,24.0s,baz=267						
GZH	**Guangzhou**	**53.07**	**308**	⇑*i*P	**P**	**09 23 09.8**	**+0.8**
GZH				S	**S**	**09 30 40.5**	**+2.1**
GZH				LR	LR		
	comp=Z,6μm,20.5s						
GZH				LR	LR		
	comp=Z,12μm,21.0s						
TJN	**Taejon**	**53.12**	**331**	*ce*P	**P**	**09 23 09.7**	**+0.6**
TIAR	**Tiarei**	**53.27**	**105**	*e*P	**P**	**09 23 11.0**	**+0.4**
	comp=Z,36nm,1.2s						
MYKOM	**Kota Tinggi**	**53.47**	**279**	P	**P**	**09 23 13.0**	**+0.9**
TBI	**Tubuai**	**53.50**	**112**	*e*P	**P**	**09 23 12.5**	**+0.3**
	comp=Z,462nm,1.2s						
TBI				*e*S	**S**	**09 30 45.4**	**+1.0**
	comp=Z,4μm,28.2s						
TBI				*e*LQ	LQ	09 36 31.0	
	comp=Z,10μm,37.8s						
TBI				*e*LR	LR	09 38 46.4	
	comp=Z,15μm,32.5s,baz=273						
KSRS	**Korea Array**	**53.72**	**332**	P	**P**	**09 23 13.2**	**-0.2**
	comp=Z,13nm,1.1s,baz=152,slow=7.0,SNR=22						
KSRS				LR	LR	09 46 01.2	
	comp=Z,694nm,18.7s,baz=134,slow=36						
KSAR	**Wonju Array Be**	**53.73**	**332**	P	**P**	**09 23 12.7**	**-0.9**
KSAR	**Wonju Array Ba**	**53.73**	**332**	P	**P**	**09 23 12.7**	**-0.9**
KS19	**Wonju Array Si**	**53.78**	**332**	IAmb	IAmb	09 23 20.9	
	comp=Z,261nm,1.7s						
JEW	**Eniwo**	**53.79**	**346**	P	**P**	**09 23 14.2**	**+0.3**
JEW				IAMs_20	IAMs_20	09 41 43.6	
	comp=Z,11μm,21.0s						
QIZ	**Qiongzhong**	**53.88**	**302**	P	**P**	**09 23 14.5**	**-0.5**
QIZ				PP	**PP**	**09 25 15.3**	**-1.1**
QIZ				S	**S**	**09 30 44.0**	**-5.5**
QIZ				pmax	pmax		
	comp=Z,38nm,1.5s						
QIZ				LR	LR		
	comp=Z,3μm,20.6s						
QIZ				LR	LR		
	comp=Z,7μm,18.6s						
QIZ				LR	LR		
	comp=Z,13μm,25.5s						
QIZ	**Qiongzhong**	**53.88**	**302**	IAmb	IAmb	09 23 22.4	
	comp=Z,153nm,1.5s						
QIZ	**Qiongzhong**	**53.88**	**302**	IAMs_20	IAMs_20	09 43 19.2	
	comp=Z,10μm,20.0s						
YUK	**Yuzh-Kuril'sk**	**54.07**	**351**	*d i*P	**P**	**09 23 15.5**	**-0.4**
YUK				*i*		09 24 17.3	
YUK				*e*		09 25 12.4	
YUK				*e*S	**S**	**09 30 48.6**	**-2.7**
YUK				*e*		09 33 06.1	
YUK				*e*SS	**SKiKP**	**09 34 27.8**	**+0.1**
YUK				*e*SSS	SSS	09 36 18.6	
YUK				pmax	pmax		
	comp=Z,666nm,1.2s						
YUK				pmax	pmax		
	comp=N,410nm,1.0s						
YUK				pmax	pmax		
	comp=E,207nm,1.5s						
HON	**Honolulu**	**54.26**	**55**	IAMs_20	IAMs_20	09 41 37.9	
	comp=Z,10μm,21.0s						
KIP	**Kipapa**	**54.30**	**55**	⇓*e*P	**P**	**09 23 20.0**	**+1.9**
KIP				pmax	pmax		
	comp=Z,319nm,1.3s						
KIP				MLR	MLR		
	comp=Z,6μm,17.0s						
KIP	**Kipapa**	**54.30**	**55**	IAMs_20	IAMs_20	09 41 25.0	
	comp=Z,12μm,21.0s						
INCN	**Inchon**	**54.35**	**331**	P	**P**	**09 23 19.9**	**+1.7**
INCN				pmax	pmax		
	comp=Z,437nm,1.5s						
INCN				MLR	MLR		
	comp=Z,3μm,19.0s						
INCN	**Inchon**	**54.35**	**331**	P	**P**	**09 23 19.9**	**+1.7**
OPA	**Opana**	**54.43**	**55**	P	**P**	**09 23 20.9**	**+1.9**
OPA				pmax	pmax		
	comp=Z,520nm,1.0s						
OPA	**Opana**	**54.43**	**55**	P	**P**	**09 23 20.9**	**+1.9**
OPA				IAMs_20	IAMs_20	09 41 30.5	
	comp=Z,11μm,22.0s						
RGRI	**Rengat**	**54.50**	**276**	P	P	09 23 25.7	+6.0
NJ2	**Nanjing**	**54.65**	**321**	⇓P	**P**	**09 23 20.8**	**+0.4**
NJ2				pP	**pP**	**09 23 24.3**	**-1.5**
NJ2				sP	**sP**	**09 23 27.0**	**-0.6**
NJ2				S	**S**	**09 31 02.8**	**+3.3**
NJ2				sS	**sS**	**09 31 11.3**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,2μm,3.5s						
NJ2				LR	LR		
	comp=Z,4μm,18.4s						
NJ2				LR	LR		
	comp=Z,4μm,16.5s						
NJ2				LR	LR		
	comp=Z,13μm,23.6s						
PMOR	**Pomariorio Ree**	**54.66**	**102**	*e*P	**P**	**09 23 21.1**	**+0.3**
	comp=Z,255nm,1.3s						
JKA	**Kamikawa-asahi**	**54.75**	**348**	P	**P**	**09 23 22.9**	**+2.0**
JKA				IAMs_20	IAMs_20	09 43 45.1	
	comp=Z,11μm,20.0s						
ASAJ	**Asahikawa**	**54.75**	**348**	P	**P**	**09 23 21.8**	**+0.9**
	comp=Z,69nm,1.1s,baz=171,slow=22,SNR=5.3						
ASAJ				LR	LR	09 43 45.8	
	comp=Z,10μm,21.3s,baz=172,slow=33						
ASAJ	**Asahikawa**	**54.75**	**348**	P	**P**	**09 23 22.9**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,435nm,1.7s						
VAH	**Vaihoa**	**54.91**	**102**	*e*P	**P**	**09 23 22.7**	**+0.1**
	comp=Z,120nm,1.4s						
KUR	**Kuril'sk**	**54.96**	**353**	*c i*P	**P**	**09 23 22.2**	**-0.2**
KUR				*e*		09 24 23.5	
KUR				*e*		09 25 23.6	
KUR				*i* PPP	PPP	09 26 37.3	
KUR				*i* S	**S**	**09 31 07.2**	**+4.0**
KUR				*i* SS	**SS**	**09 34 44.1**	**-3.2**
KUR				pmax	pmax		
	comp=Z,368nm,1.5s						
KUR				pmax	pmax		
	comp=N,171nm,1.6s						
KUR				pmax	pmax		
	comp=E,159nm,1.5s						
KUR				pmax	pmax		
	comp=Z,2μm,4.0s						
KUR				MLR	MLR		
	comp=Z,5μm,15.0s						
KUR				MLR	MLR		
	comp=N,3μm,13.0s						
KUR				MLR	MLR		
	comp=E,3μm,14.0s						
KRJI	**Kerinci**	**55.04**	**274**	P	**P**	**09 23 22.8**	**-0.9**
	comp=E,508nm,1.2s						
HJU	**Haeju**	**55.23**	**331**	P	**P**	**09 23 22.1**	**-2.4**
KHU	**Kahuku**	**55.26**	**59**	P	**P**	**09 23 24.0**	**-1.3**
KHU				pmax	pmax		
	comp=Z,481nm,1.1s						
KHU	**Kahuku**	**55.26**	**59**	P	**P**	**09 23 24.0**	**-1.3**
SDSI	**Sungai Dareh**	**55.28**	**275**	P	**P**	**09 23 25.3**	**0.0**
	comp=Z,6μmcomp=Z,363nm,1.3s						
WOSN	**Wonsan**	**55.34**	**333**	P	**P**	**09 23 26.3**	**+1.1**
HMH	**Humu'ula Sheep**	**55.53**	**58**	P	**P**	**09 23 29.4**	**+2.0**
BKNI	**Bangkinang**	**55.90**	**277**	P	**P**	**09 23 31.0**	**+1.2**
	comp=Z,3μmcomp=Z,10μmcomp=Z,305nm,1.4s						
HHU	**Hamhung**	**55.91**	**333**	P	**P**	**09 23 28.9**	**-0.4**
HHU				S	**S**	**09 31 14.5**	**-1.6**
PYAG	**Pyongyang**	**56.02**	**331**	P	**P**	**09 23 28.6**	**-1.5**
PYAG				pP	**sP**	**09 23 36.2**	**-1.1**
PYAG				S	**S**	**09 31 16.1**	**-1.4**
PYS	**Pyongsong**	**56.13**	**332**	P	**P**	**09 23 32.0**	**+1.1**
PYS				pP	**pP**	**09 23 36.7**	**+0.4**
CHJN	**Chongjin**	**56.53**	**336**	P	**P**	**09 23 30.2**	**-3.5**
WHN	**Wuhan**	**56.63**	**316**	⇓P	P	09 23 23.0	-12
WHN				S	**S**	**09 31 26.8**	**+0.8**
WHN				pmax	pmax		
	comp=Z,96nm,0.5s						
WHN				LR	LR		
	comp=N,6μm,21.0s						
WHN				LR	LR		
	comp=E,9μm,18.5s						
WHN				LR	LR		
	comp=Z,13μm,19.7s						
WHN	**Wuhan**	**56.63**	**316**	⇓P	**P**	**09 23 36.5**	**+1.9**
WHN				pmax	pmax		
	comp=Z,310nm,1.3s						
IPM	**Ipoh**	**56.84**	**282**	IAmb	IAmb	09 24 39.8	
	comp=Z,184nm,1.2s						
IPM	**Ipoh**	**56.84**	**282**	P	**P**	**09 23 38.0**	**+1.5**
VLA	**Vladivostok**	**56.87**	**339**	*ce*P	**P**	**09 23 35.4**	**-0.7**
VLA				pmax	pmax		
	comp=Z,310nm,1.8s						
VLA				MLR	MLR		
	comp=Z,3μm,18.0s						
TEY	**Ternei**	**57.08**	**343**	⇓*e*P	**P**	**09 23 33.3**	**-4.3**
TEY				*e*		09 23 41.8	
TEY				*e*		09 31 32.6	
TEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=Z,10.0nm,1.6s						
TEY				pmax	pmax		
	comp=E,200nm,18.5s						
TEY				pmax	pmax		
	comp=N,200nm,19.1s						
TEY				MLR	MLR		
	comp=Z,200nm,16.0s						
KULM	**Kulim**	**57.40**	**282**	P	**P**	**09 23 40.1**	**-0.4**
KULM				IAmb	IAmb	09 23 46.7	
	comp=Z,202nm,1.4s						
KULM	**Kulim**	**57.40**	**282**	P	**P**	**09 23 42.0**	**+1.5**
MNSI	**Mandailing Nat**	**57.43**	**277**	P	**P**	**09 23 40.5**	**-0.2**
SUJ	**Sinuiju**	**57.44**	**331**	P	**P**	**09 23 39.0**	**-1.2**
SUJ				pP	**pwP**	**09 23 51.0**	**+1.5**
SUJ				S	**S**	**09 31 39.2**	**+2.8**
YSS	**Yuzh-Sakhalins**	**57.44**	**349**	*c i*P	**P**	**09 23 40.0**	**-0.1**
YSS				*e*		09 23 45.5	
YSS				*e*		09 23 57.8	
YSS				*e*PPP	PPP	09 27 09.2	
YSS				*e*S	**S**	**09 31 35.6**	**-0.5**
YSS				*e*SS	**SS**	**09 35 29.7**	**+3.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,900nm,8.3s						
YSS				smax	smax		
	comp=N,2μm,14.3s						
YSS				smax	smax		
	comp=E,3μm,15.8s						
YSS				MLR	MLR		
	comp=Z,4μm,16.0s						
YSS				MLR	MLR		
	comp=N,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**57.44**	**349**	P	**P**	**09 23 40.2**	**+0.1**
YSS				IAMs_20	IAMs_20	09 43 49.3	
	comp=Z,11μm,22.0s						
SISI	**Saibi**	**57.51**	**274**	P	**P**	**09 23 41.2**	**0.0**
	comp=Z,69nm,1.4s						
USA0B	**Ussuriysk Arra**	**57.78**	**339**	IAmb	IAmb	09 23 51.4	
	comp=Z,211nm,1.2s						
USRK	**Ussuriysk Ar.**	**57.78**	**339**	P	**P**	**09 23 42.5**	**-0.1**
	comp=Z,18nm,0.8s,baz=161,slow=7.0,SNR=37						
USRK				LR	LR	09 49 07.2	
	comp=Z,1μm,18.1s,baz=142,slow=37						
USRK	**Ussuriysk Ar.**	**57.78**	**339**	P	**P**	**09 23 41.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**57.78**	**339**	P	**P**	**09 23 41.4**	**-1.1**
DL2	**Dalian**	**57.95**	**328**	P	**P**	**09 23 43.0**	**-0.8**
DL2				PP	**PP**	**09 25 50.5**	**-2.0**
DL2				S	**S**	**09 31 44.3**	**+1.2**
DL2				SS	**SS**	**09 35 31.5**	**-3.0**
DL2				pmax	pmax		
	comp=Z,200nm,1.3s						
DL2				pmax	pmax		
	comp=Z,1μm,5.9s						
DL2				LR	LR		
	comp=Z,3μm,29.1s						
DL2				LR	LR		
	comp=Z,3μm,25.4s						
DL2				LR	LR		
	comp=Z,7μm,27.8s						
TIA	**Tai'an**	**58.52**	**323**	P	**P**	**09 23 46.3**	**-1.6**
TIA				S	**S**	**09 31 51.0**	**+0.3**
TIA				SS	**SS**	**09 35 48.8**	**+5.1**
TIA				pmax	pmax		
	comp=Z,86nm,1.4s						
TIA				pmax	pmax		
	comp=Z,1μm,8.0s						
TIA				LR	LR		
	comp=Z,5μm,23.1s						
TIA				LR	LR		
	comp=Z,4μm,23.3s						
TIA				LR	LR		
	comp=Z,9μm,25.0s						
PBSI	**Pulau Batu**	**58.54**	**276**	P	P	09 23 54.3	+5.8
MDJ	**Mudanjiang**	**59.00**	**338**	P	**P**	**09 23 52.0**	**+0.9**
MDJ				pP	pP	09 23 55.5	-1.0
MDJ				sP	sP	09 23 56.8	-1.5
MDJ				PP	**PP**	**09 26 00.8**	**-1.0**
MDJ				S	**S**	**09 32 01.0**	**+4.4**
MDJ				ScS	**ScS**	**09 33 41.3**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,22nm,1.0s						
MDJ				LR	LR		
	comp=Z,4μm,17.7s						
MDJ				LR	LR		
	comp=Z,3μm,17.3s						
MDJ				LR	LR		
	comp=Z,6μm,22.9s						
MDJ	**Mudanjiang**	**59.00**	**338**	IAmb	IAmb	09 23 59.8	
	comp=Z,134nm,1.3s						
SNY	**Shenyang**	**59.23**	**332**	⇑P	**P**	**09 23 53.3**	**+0.6**
SNY				S	**S**	**09 32 02.0**	**+2.4**
SNY				pmax	pmax		
	comp=Z,1μm,9.0s						
SNY				LR	LR		
	comp=Z,4μm,18.2s						
SNY				LR	LR		
	comp=Z,4μm,16.3s						
SNY				LR	LR		
	comp=Z,5μm,20.8s						
SKR	**Severo-Kuril's**	**59.88**	**360**	*e*P	**P**	**09 23 56.5**	**-0.5**
SKR				*e*		09 24 15.2	
SKR				*e*S	**S**	**09 32 08.5**	**+0.8**
SKR				*e*		09 33 40.3	
SKR				*e*SS	**SS**	**09 36 04.4**	**-0.1**
SKR				*e*SSS	SSS	09 38 37.7	
SKR				pmax	pmax		
	comp=Z,46nm,1.6s						
SKR				pmax	pmax		
	comp=Z,400nm,8.2s						
SKR				pmax	pmax		
	comp=Z,300nm,12.0s						
SKR				MLR	MLR		
	comp=Z,3μm,18.0s						
SKR				MLR	MLR		
	comp=Z,3μm,18.0s						
ENH	**Enshi**	**59.88**	**313**	IAMs_20	IAMs_20	09 46 04.3	
	comp=Z,12μm,22.0s						
SLVN	**Son La**	**59.89**	**301**	IAmb	IAmb	09 24 05.3	
	comp=Z,174nm,1.4s						
GYA	**Guiyang**	**60.00**	**308**	⇑P	**P**	**09 23 59.3**	**+0.8**
GYA				PP	**PP**	**09 26 13.5**	**+2.4**
GYA				S	**S**	**09 32 09.5**	**-1.0**
GYA				pmax	pmax		
	comp=Z,24nm,1.3s						
GYA				pmax	pmax		
	comp=Z,680nm,3.9s						
GYA				LR	LR		
	comp=Z,3μm,21.3s						
GYA				LR	LR		
	comp=Z,4μm,19.0s						
GYA				LR	LR		
	comp=Z,7μm,19.3s						
TPTI		**60.29**	**279**	P	**P**	**09 23 59.8**	**-0.8**
	comp=Z,904nmcomp=Z,64nm,1.1s						
TYV	**Tymovskoe**	**61.23**	**350**	*e*P	P	09 24 11.5	+5.3
TYV				*e*S	**S**	**09 32 29.5**	**+4.5**
TYV				pmax	pmax		
	comp=Z,800nm,3.2s						
TYV				pmax	pmax		
	comp=Z,47nm,1.4s						
TYV				smax	smax		
	comp=E,4μm,9.4s						
MLSI	**Meulaboh, Aceh**	**61.27**	**280**	P	**P**	**09 24 06.5**	**-0.7**
	comp=E,349nm,1.1s						
BJT	**Baijiatuau**	**61.68**	**326**	P	**P**	**09 24 08.7**	**-0.8**
BJT				pmax	pmax		
	comp=Z,146nm,1.6s						
BJT	**Baijiatuau**	**61.68**	**326**	P	**P**	**09 24 08.7**	**-0.8**
BJT				IAmb	IAmb	09 24 16.5	
	comp=Z,146nm,1.6s						
BJI	**Beijing**	**61.69**	**326**	P	**P**	**09 24 09.0**	**-0.5**
BJI				PcP	**PcP**	**09 24 49.0**	**-1.8**
BJI				S	**S**	**09 32 30.8**	**-0.4**
BJI				SS	**SS**	**09 36 34.5**	**+1.2**
BJI				pmax	pmax		
	comp=Z,1μm,3.7s						
BJI				LR	LR		
	comp=Z,3μm,24.7s						
BJI				LR	LR		
	comp=Z,5μm,23.3s						
PET	**Petropavlovsk**	**62.26**	**2**	*c i*P	**P**	**09 24 12.5**	**-0.5**
PET				*e*S	**S**	**09 32 41.3**	**+3.4**
PET				*e*SS	**SS**	**09 36 34.0**	**-7.6**
PET				pmax	pmax		
	comp=Z,900nm,8.2s						
PET				pmax	pmax		
	comp=Z,600nm,11.8s						
PET				pmax	pmax		
	comp=Z,212nm,1.3s						
PET				pmax	pmax		
	comp=Z,600nm,9.1s						
PET	**Petropavlovsk**	**62.26**	**2**	P	**P**	**09 24 12.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**62.32**	**1**	*de*P	**P**	**09 24 12.0**	**-1.5**
PETK	**Petropavlovsk-**	**62.32**	**1**	P	**P**	**09 24 13.7**	**+0.1**
	comp=Z,24nm,1.0s,baz=150,slow=6.8,SNR=17						
PETK	**Petropavlovsk-**	**62.32**	**1**	P	**P**	**09 24 12.9**	**-0.6**
PETK	**Petropavlovsk-**	**62.32**	**1**	P	**P**	**09 24 12.9**	**-0.6**
TIY	**Taiyuan**	**62.34**	**322**	*e*P	**P**	**09 24 13.0**	**-1.1**
TIY				S	**S**	**09 32 44.3**	**+4.6**
TIY				pmax	pmax		
	comp=Z,720nm,4.4s						
TIY				LR	LR		
	comp=Z,5μm,26.0s						
TIY				LR	LR		
	comp=Z,3μm,16.0s						
TIY				LR	LR		
	comp=Z,10μm,22.7s						
XAN	**Xi'an**	**62.40**	**316**	P	**P**	**09 24 12.5**	**-2.0**
XAN				pP	pwP	09 24 23.5	-0.2
XAN				S	**S**	**09 32 40.3**	**-0.2**
XAN				ScS	**SKSac**	**09 34 04.5**	**-1.6**
XAN				SS	**SS**	**09 36 41.5**	**-3.2**
XAN				pmax	pmax		
	comp=Z,67nm,1.4s						
XAN				pmax	pmax		
	comp=Z,1μm,4.9s						
XAN				LR	LR		
	comp=Z,6μm,20.6s						
XAN				LR	LR		
	comp=Z,4μm,23.8s						
XAN				LR	LR		
	comp=Z,12μm,21.2s						
XAN	**Xi'an**	**62.40**	**316**	IAmb	IAmb	09 24 20.9	
	comp=Z,154nm,1.5s						
XAN	**Xi'an**	**62.40**	**316**	IAMs_20	IAMs_20	09 47 58.7	
	comp=Z,9μm,21.0s						
GRNR	**Gornyy**	**62.42**	**346**	*e*P	**P**	**09 24 10.8**	**-3.5**
KMI	**Kunming**	**62.50**	**305**	⇑*e*P	**P**	**09 24 17.0**	**+1.4**
KMI				pP	pP	09 24 19.5	-1.6
KMI				sP	sP	09 24 22.0	-0.9
KMI				S	**S**	**09 32 45.5**	**+3.0**
KMI				pmax	pmax		
	comp=Z,98nm,1.5s						
KMI				pmax	pmax		
	comp=Z,1μm,6.4s						
KMI				LR	LR		
	comp=Z,3μm,21.4s						
KMI				LR	LR		
	comp=Z,2μm,20.5s						
KMI				LR	LR		
	comp=Z,10μm,32.1s						
KMI	**Kunming**	**62.50**	**305**	P	**P**	**09 24 15.5**	**-0.1**
KMI				pmax	pmax		
	comp=Z,264nm,1.2s						
KMI	**Kunming**	**62.50**	**305**	P	**P**	**09 24 15.5**	**-0.1**
TAOE	**Nuku Hiva Isla**	**62.62**	**95**	*e*LR	LR	09 42 59.8	
	comp=Z,7μm,25.2s						
CM31	**Chiang Mai Arr**	**63.05**	**296**	P	**P**	**09 24 21.3**	**+2.2**
CMAR	**Chiang Mai Arr**	**63.05**	**296**	P	**P**	**09 24 19.6**	**+0.5**
	comp=Z,6.5nm,0.9s,baz=118,slow=3.8,SNR=37						
CMAR				LR	LR	09 50 40.3	
	comp=Z,3μm,21.2s,baz=168,slow=35						
CMAR				PKP2bc		09 53 26.5	
	comp=Z,0.7nm,0.3s,baz=293,slow=4.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**63.05**	**296**	*i* P	**P**	**09 24 20.1**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.05**	**296**	P	**P**	**09 24 17.6**	**-1.5**
CHTO	**Chiang Mai**	**63.18**	**297**	P	**P**	**09 24 20.0**	**0.0**
CHTO				pmax	pmax		
	comp=Z,210nm,1.7s						
CHTO	**Chiang Mai**	**63.18**	**297**	P	**P**	**09 24 20.0**	**0.0**
SMY	**Shemya**	**63.77**	**12**	IAMs_20	IAMs_20	09 47 27.2	
	comp=Z,10μm,21.0s						

NKL	**Nikolayevsk**	**63.77**	**350**	*e*P	**P**	**09 24 23.2**	**+0.1**
NKL				*e*		09 25 01.0	
NKL				*e*S	**S**	**09 33 00.8**	**+4.0**
NKL				pmax	pmax		
	comp=N,8.0nm,1.0s						
NKL				pmax	pmax		
	comp=Z,37nm,1.7s						
NKL				pmax	pmax		
	comp=Z,360nm,3.3s						
CD2	**Chengdu**	**64.42**	**311**⇑	*i*P	**P**	**09 24 27.0**	**-1.0**
CD2				PcP	**PcP**	**09 25 02.0**	**-0.3**
CD2				S	**S**	**09 33 07.0**	**+1.1**
CD2				SS	**SS**	**09 37 18.3**	**+1.8**
CD2				pmax	pmax		
	comp=Z,130nm,1.7s						
CD2				pmax	pmax		
	comp=Z,2μm,6.4s						
CD2				LR	LR		
	comp=Z,10μm,27.5s						
CD2				LR	LR		
	comp=Z,14μm,23.5s						
CD2				LR	LR		
	comp=Z,17μm,24.5s						
CASY	**Casey**	**64.70**	**199**	P	**P**	**09 24 28.0**	**-1.1**
CASY				IAmb	IAmb	09 24 39.7	
	comp=Z,95nm,1.4s						
CASY	**Casey**	**64.70**	**199**	IAMs_20	IAMs_20	09 49 00.5	
	comp=Z,9μm,19.0s						
HHC	**Hu-ho-hao-te**	**64.85**	**324**	*e*P	**P**	**09 24 28.3**	**-2.4**
HHC				PP	**PP**	**09 26 52.8**	**-0.8**
HHC				S	**S**	**09 33 07.0**	**-4.0**
HHC				SS	**SS**	**09 37 21.0**	**-2.0**
HHC				pmax	pmax		
	comp=Z,1μm,7.0s						
HHC				LR	LR		
	comp=Z,5μm,18.8s						
HHC				LR	LR		
	comp=Z,6μm,18.7s						
HHC				LR	LR		
	comp=Z,10μm,18.4s						
ADK	**Adak**	**65.35**	**18**	P	**P**	**09 24 32.4**	**-1.1**
ADK				pmax	pmax		
	comp=Z,204nm,1.6s						
ADK	**Adak**	**65.35**	**18**	P	**P**	**09 24 32.4**	**-1.1**
ADK	**Adak**	**65.35**	**18**	IAMs_20	IAMs_20	09 48 55.8	
	comp=Z,9μm,20.0s						
BTO	**Baotou**	**65.61**	**323**	*e*P	**P**	**09 24 34.3**	**-1.3**
ATKA	**Atka Island**	**66.41**	**19**	P	**P**	**09 24 39.3**	**-1.0**
ATKA				IAmb	IAmb	09 24 54.5	
	comp=Z,135nm,1.6s						
ATKA				IAMs_20	IAMs_20	09 47 14.8	
	comp=Z,9μm,22.0s						
PBA	**Port Blair**	**66.61**	**287**	IAMs_20	IAMs_20	09 59 03.6	
	comp=Z,7μm,20.0s						
HIA	**Hailar**	**66.70**	**335**	P	**P**	**09 24 41.8**	**-0.5**
HIA				pmax	pmax		
	comp=Z,72nm,1.0s						
HIA	**Hailar**	**66.70**	**335**	P	**P**	**09 24 41.8**	**-0.5**
HIA				IAmb	IAmb	09 24 49.7	
	comp=Z,72nm,1.0s						
LZH	**Lanzhou**	**67.00**	**316**	*e*P	**P**	**09 24 44.5**	**-0.2**
LZH				pP	sP	09 24 51.8	-0.2
LZH				PP	**PP**	**09 27 10.5**	**-2.0**
LZH				S	**S**	**09 33 38.3**	**+0.8**
LZH				sS	sS	09 33 54.0	+7.7
LZH				SS	**SS**	**09 37 53.0**	**-3.6**
LZH				pmax	pmax		
	comp=Z,120nm,1.1s						
LZH				pmax	pmax		
	comp=Z,1μm,6.0s						
LZH				LR	LR		
	comp=Z,3μm,14.6s						
LZH				LR	LR		
	comp=Z,4μm,16.8s						
LZH				LR	LR		
	comp=Z,5μm,17.3s						
ZEA	**Zeya**	**67.61**	**342**	*e*P	**P**	**09 24 47.8**	**-0.1**
ZEA				*e*		09 25 08.0	
ZEA				*e*		09 33 48.0	
ZEA				pmax	pmax		
	comp=N,210nm,1.6s						
ZEA				pmax	pmax		
	comp=E,80nm,1.8s						
ZEA				pmax	pmax		
	comp=Z,470nm,1.8s						
ZEA				pmax	pmax		
	comp=Z,1μm,4.0s						
ZEA				pmax	pmax		
	comp=E,300nm,3.0s						
ZEA				pmax	pmax		
	comp=Z,600nm,8.0s						
ZEA				pmax	pmax		
	comp=N,400nm,4.0s						
VNDA	**Vanda**	**68.11**	**179**	P	**P**	**09 24 51.3**	**+0.5**
	comp=N,9.5nm,0.9s,baz=334,slow=6.7,SNR=45						
VNDA				LR	LR	09 48 37.7	
	comp=N,7μm,21.8s,baz=2.0,slow=31						
VNDA				PKP2bc		09 53 08.6	
	comp=N,0.5nm,0.9s,baz=266,slow=4.1,SNR=3.4						
VNDA	**Vanda**	**68.11**	**179**	P	**P**	**09 24 51.4**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,80nm,1.5s						
VNDA	**Vanda**	**68.11**	**179**	P	**P**	**09 24 51.4**	**+0.6**
VNDA				IAmb	IAmb	09 25 02.4	
	comp=Z,80nm,1.5s						
MA2	**Magadan**	**68.94**	**357**	*de*P	**P**	**09 24 57.4**	**+1.3**
MA2				pmax	pmax		
	comp=Z,112nm,2.4s						
CIT	**Chita**	**71.39**	**334**	*e*P	**P**	**09 25 12.0**	**+0.6**
CIT				*e*		09 25 34.9	
CIT				pmax	pmax		
	comp=Z,336nm,2.1s						
GTA	**Gaotai**	**71.44**	**317**	⇑P	**P**	**09 25 12.0**	**-0.1**
GTA				pP	pP	09 25 18.0	+0.4
GTA				sP	pwP	09 25 22.3	+0.9
GTA				PcP	**PcP**	**09 25 35.5**	**+3.9**
GTA				S	**S**	**09 34 32.3**	**+2.5**
GTA				sS	sS	09 34 44.3	+5.6
GTA				SS	**SS**	**09 39 08.8**	**+3.8**
GTA				pmax	pmax		
	comp=Z,1μm,6.5s						
GTA				LR	LR		
	comp=Z,2μm,20.7s						
GTA				LR	LR		
	comp=Z,4μm,20.4s						
GTA				LR	LR		
	comp=Z,4μm,22.5s						
SHL	**Shillong**	**71.69**	**301**	*e*P	**P**	**09 25 13.9**	**-0.1**
SHL	**Shillong**	**71.69**	**301**	P	**P**	**09 25 14.3**	**+0.3**
SHL				pmax	pmax		
	comp=Z,419nm,1.4s						
SHL	**Shillong**	**71.69**	**301**	P	**P**	**09 25 14.3**	**+0.3**
ULN	**Ulaanbaatar**	**71.78**	**327**	*c i*P	**P**	**09 25 13.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,157nm,1.7s						
ULN				MLR	MLR		
	comp=Z,3μm,18.0s						
ULN	**Ulaanbaatar**	**71.78**	**327**	P	**P**	**09 25 13.3**	**-0.7**
ULN				IAmb	IAmb	09 25 22.1	
	comp=Z,204nm,1.4s						
SONM	**Songino Array**	**72.11**	**327**	P	**P**	**09 25 16.3**	**+0.3**
	comp=Z,19nm,1.0s,baz=139,slow=5.7,SNR=37						
SONM				PKPPKP		09 53 05.6	
	comp=Z,0.4nm,0.4s,baz=248,slow=1.6,SNR=3.9						
SONM				LR	LR	09 55 46.7	
	comp=Z,4μm,21.9s,baz=128,slow=35						
SONM	**Songino Array**	**72.11**	**327**	P	**P**	**09 25 15.9**	**0.0**
SONM				pmax	pmax		
	comp=Z,59nm,1.0s						
SONM	**Songino Array**	**72.11**	**327**	P	**P**	**09 25 15.9**	**0.0**
SEY	**Seymchan**	**72.23**	**358**‖	*e*P	**P**	**09 25 17.7**	**+1.6**
FALS	**False Pass**	**72.39**	**23**	IAMs_20	IAMs_20	09 52 43.1	
	comp=Z,6μm,20.0s						
LSA	**Lhasa**	**73.76**	**305**	P	**P**	**09 25 26.3**	**-0.2**
LSA				pmax	pmax		
	comp=Z,190nm,1.7s						
LSA				LR	LR		
	comp=Z,4μm,14.2s						
LSA				LR	LR		
	comp=Z,13μm,14.2s						
LSA				LR	LR		
	comp=Z,4μm,10.7s						
LSA	**Lhasa**	**73.76**	**305**	IAmb	IAmb	09 25 33.5	
	comp=Z,90nm,1.2s						
YAK	**Yakutsk**	**74.23**	**347**	P	**P**	**09 25 28.7**	**+0.8**
	comp=Z,15nm,0.4s,baz=124,slow=3.0,SNR=11						
YAK	**Yakutsk**	**74.23**	**347**	*e*P	**P**	**09 25 28.9**	**+1.0**
YAK				*e**PP	**pwP**	**09 25 40.1**	**+2.4**
YAK				*e*		09 25 42.8	
YAK				*e*		09 28 21.1	
YAK				*e*S	**S**	**09 35 01.8**	**+1.5**
YAK				*e**SS	**SKSac**	**09 35 25.9**	**-8.3**
YAK				*e*		09 35 35.5	
YAK				pmax	pmax		
	comp=Z,143nm,1.0s						
YAK				pmax	pmax		
	comp=N,41nm,1.1s						
YAK				pmax	pmax		
	comp=Z,331nm,3.1s						
YAK				pmax	pmax		
	comp=N,314nm,3.3s						
YAK				smax	smax		
	comp=N,3μm,7.6s						
YAK				smax	smax		
	comp=E,31nm,6.3s						
YAK				MLR	MLR		
	comp=Z,3μm,20.0s						
YAK				MLR	MLR		
	comp=N,915nm,20.0s						
YAK	**Yakutsk**	**74.23**	**347**	P	**P**	**09 25 29.5**	**+1.6**
YAK				IAmb	IAmb	09 25 34.7	
	comp=Z,162nm,1.0s						
ZAK	**Zakamensk**	**75.27**	**328**	*e*P	**P**	**09 25 33.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,66nm,1.3s						
BOD	**Bodaibo**	**75.38**	**338**	*e*P	**P**	**09 25 33.8**	**-0.9**
BOD				pmax	pmax		
	comp=Z,97nm,1.7s						
TAPN	**Taplejung**	**75.81**	**301**	*e*P	**P**	**09 25 38.9**	**+0.6**
	comp=Z,382nm,1.3s						
TLY	**Talaya**	**75.84**	**329**	P	**P**	**09 25 38.2**	**+0.7**
	comp=Z,31nm,0.9s,baz=147,slow=6.3,SNR=8.2						
TLY	**Talaya**	**75.84**	**329**	*c i*P	**P**	**09 25 35.1**	**-2.5**
TLY				*e*		09 25 55.4	
TLY				*e*PPP	PPP	09 30 09.3	
TLY				*e*S	**S**	**09 35 18.3**	**-0.5**
TLY				*e*SS	**SS**	**09 40 07.7**	**-3.8**
TLY				pmax	pmax		
	comp=Z,199nm,1.3s						
TLY				MLR	MLR		
	comp=Z,4μm,15.0s						
TLY	**Talaya**	**75.84**	**329**	P	**P**	**09 25 38.2**	**+0.7**
IRK	**Irkutsk**	**75.86**	**330**	*e*P	**P**	**09 25 37.1**	**-0.6**
IRK				pmax	pmax		
	comp=Z,226nm,3.2s						
ODAN	**Odare**	**75.93**	**301**	*e*P	**P**	**09 25 39.4**	**+0.5**
	comp=Z,434nm,1.2s						
CHIR	**Chirikof Islan**	**76.25**	**26**	IAMs_20	IAMs_20	10 02 09.0	
	comp=Z,6μm,19.0s						
BOK	**Bokaro**	**76.30**	**297**	*e*P	**P**	**09 25 40.7**	**-0.1**
BOK				IAmb	IAmb	09 25 47.6	
	comp=Z,95nm,1.2s						
RAMN	**Ramite**	**76.63**	**301**	*e*P	**P**	**09 25 43.1**	**+0.2**
	comp=Z,179nm,1.5s						
GAMB	**Gambell**	**76.95**	**14**	IAMs_20	IAMs_20	09 57 01.5	
	comp=Z,8μm,20.0s						
PALK	**Pallekele**	**77.17**	**280**	P	**P**	**09 25 46.4**	**+0.5**
PALK				pmax	pmax		
	comp=Z,114nm,1.3s						
PALK				MLR	MLR		
	comp=Z,4μm,21.0s						
PALK	**Pallekele**	**77.17**	**280**	P	**P**	**09 25 46.4**	**+0.5**
PALK				IAmb	IAmb	09 25 52.7	
	comp=Z,114nm,1.3s						
JIRN	**Jiri**	**77.19**	**301**	*e*P	**P**	**09 25 46.5**	**+0.3**
	comp=Z,1μm,1.7s						
MOY	**Mondy**	**77.19**	**328**	*e*P	**P**	**09 25 45.3**	**0.0**
MOY				pmax	pmax		
	comp=Z,267nm,2.2s						
GUN	**Gumba**	**77.53**	**301**	*e*P	**P**	**09 25 48.4**	**+0.4**
BILL	**Bilibino**	**77.62**	**4**	*d i*P	**P**	**09 25 49.0**	**+1.8**
BILL				pmax	pmax		
	comp=Z,131nm,1.7s						
BILL				MLR	MLR		
	comp=Z,2μm,19.0s						
BILL	**Biilibino**	**77.62**	**4**	P	**P**	**09 25 47.8**	**+0.6**
BILL				IAmb	IAmb	09 25 55.1	
	comp=Z,172nm,1.3s						
PKI	**Pulchoki**	**77.82**	**301**	*e*P	**P**	**09 25 49.7**	**0.0**
	comp=Z,666nm,1.6s						
PKIN	**Phulchoki**	**77.84**	**301**	*e*P	**P**	**09 25 49.7**	**0.0**
	comp=Z,687nm,1.6s						
KKN	**Kakani**	**78.00**	**301**	*e*P	**P**	**09 25 50.5**	**0.0**
DMN	**Daman**	**78.09**	**301**	*e*P	**P**	**09 25 51.5**	**+0.4**
	comp=Z,690nm,1.4s						
OHAK	**Old Harbor**	**78.14**	**25**	IAmb	IAmb	09 26 19.4	
	comp=Z,178nm,1.8s						
PVM	**Polavaram**	**78.45**	**290**	*e*P	**P**	**09 25 52.8**	**0.0**
GKN	**Gorkha**	**78.61**	**301**	*e*P	**P**	**09 25 53.9**	**+0.1**
	comp=Z,924nm,1.5s						
KDAK	**Kodiak Island**	**78.79**	**25**	P	**P**	**09 25 55.0**	**+1.1**
	comp=Z,9.9nm,1.0s,baz=253,slow=4.7,SNR=3.5						
KDAK				LR	LR	09 57 00.1	
	comp=Z,4μm,20.4s,baz=233,slow=33						
KDAK	**Kodiak Island**	**78.79**	**25**	P	**P**	**09 25 55.0**	**+1.1**
KDAK				pmax	pmax		
	comp=Z,128nm,1.7s						
KDAK	**Kodiak Island**	**78.79**	**25**	IAmb	IAmb	09 26 10.6	
	comp=Z,128nm,1.7s						
MDRS	**Chennai**	**78.80**	**285**	*e*P	**P**	**09 25 56.0**	**+1.2**
ANM	**Nome**	**79.20**	**16**	IAMs_20	IAMs_20	09 56 08.0	
	comp=Z,10μm,21.0s						
MYLAV	**Mylavaram**	**79.25**	**289**	*e*P	**P**	**09 25 57.6**	**+0.3**
KOLN	**Koldanda**	**79.42**	**301**	*e*P	**P**	**09 25 57.7**	**-0.6**
	comp=Z,697nm,1.5s						
DANN	**Dangsing**	**79.45**	**301**	*e*P	**P**	**09 25 58.4**	**-0.2**
	comp=Z,642nm,1.5s						
SKHT	**Srikalahasti**	**79.45**	**286**	*e*P	**P**	**09 25 58.9**	**+0.5**
SVW2	**Sparrevohn**	**79.76**	**22**	IAmb	IAmb	09 26 17.6	
	comp=Z,154nm,1.4s						
PYUN	**Piuthan**	**80.03**	**301**	*e*P	**P**	**09 26 01.4**	**-0.2**
	comp=Z,607nm,1.4s						
HOM	**Homer**	**80.34**	**24**	P	**P**	**09 26 03.1**	**+0.9**
	baz=232						
CNPM	**China Poot**	**80.42**	**24**	IAmb	IAmb	09 26 11.6	
	comp=Z,168nm,1.4s						
CNPM				IAMs_20	IAMs_20	09 55 52.3	
	comp=Z,6μm,21.0s						
NJS	**Nagarjunasagar**	**80.45**	**289**	*e*P	**P**	**09 26 03.7**	**-0.1**
QSPA	**South Pole Qui**	**80.54**	**180**	P	**P**	**09 26 03.6**	**0.0**
QSPA				IAmb	IAmb	09 26 15.1	
	comp=Z,265nm,1.4s						
QSPA	**South Pole Qui**	**80.54**	**180**	IAMs_20	IAMs_20	09 59 08.9	
	comp=Z,5μm,19.0s						
BRLK	**Bradley Lake**	**80.71**	**24**	IAMs_20	IAMs_20	09 56 33.5	
	comp=Z,6μm,21.0s						
SRLM	**Srisailam**	**80.73**	**288**	*e*P	**P**	**09 26 05.3**	**-0.1**
RPR	**Rampur**	**80.97**	**291**	*e*P	**P**	**09 26 06.5**	**-0.1**
HYB	**Hyderabad**	**81.34**	**289**	*i* P	**P**	**09 26 08.0**	**-0.6**
HYB				*e*S	**S**	**09 36 20.0**	**+1.0**
HYBB	**Hyderabad (bro**	**81.34**	**289**	*e*P	**P**	**09 26 08.5**	**-0.1**
SEW	**Seward**	**81.49**	**24**	P	**P**	**09 26 08.0**	**-0.4**
SEW				IAmb	IAmb	09 26 25.9	
	comp=Z,156nm,1.4s						
WMQ	**Urumqi**	**81.52**	**317**	P	**P**	**09 26 10.5**	**+1.4**
WMQ				pP	pP	09 26 14.5	-0.2
WMQ				S	**S**	**09 36 21.5**	**+1.4**
WMQ				SS	**SS**	**09 41 41.5**	**+4.2**
WMQ				pmax	pmax		
	comp=Z,57nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,790nm,4.5s						
WMQ				LR	LR		
	comp=Z,1μm,22.5s						
WMQ				LR	LR		
	comp=Z,1μm,24.7s						
WMQ				LR	LR		
	comp=Z,3μm,27.3s						
O22K	**Cooper Landing**	**81.60**	**24**	P	**P**	**09 26 10.0**	**+1.0**
	baz=234						
NGP	**Nagpur**	**81.72**	**293**	*e*P	**P**	**09 26 10.3**	**-0.2**
NGP				*e*P	**pP**	**09 26 12.6**	**-3.4**
NGP				*e*S	**S**	**09 36 17.3**	**-5.6**
SUA	**Susitna One**	**81.80**	**23**	P	**P**	**09 26 10.2**	**0.0**
SUA				IAmb	IAmb	09 26 26.1	
	comp=Z,214nm,1.9s						
SKT	**Skwentna**	**81.82**	**22**	IAMs_20	IAMs_20	10 01 50.2	
	comp=Z,6μm,20.0s						
RC01	**Rabbit Creek A**	**81.96**	**23**	P	**P**	**09 26 11.6**	**+0.7**
	baz=234						
URV	**Uravakonda**	**82.03**	**287**	*e*P	**P**	**09 26 12.6**	**+0.3**
PPLA	**Purkeypile**	**82.15**	**21**	P	**P**	**09 26 12.2**	**+0.1**
PPLA				IAmb	IAmb	09 26 36.6	
	comp=Z,140nm,1.7s						
PPLA				IAMs_20	IAMs_20	10 03 20.0	
	comp=Z,5μm,19.0s						
RDOG	**Red Dog Mine**	**82.54**	**14**	P	**P**	**09 26 14.7**	**+0.8**
RDOG				IAmb	IAmb	09 26 31.1	
	comp=Z,196nm,1.6s						
RDOG				IAMs_20	IAMs_20	09 57 22.3	
	comp=Z,7μm,22.0s						
CUT	**Chulitna**	**82.55**	**22**	P	**P**	**09 26 14.0**	**+0.1**
	baz=233						
KNK	**Knik Glacier**	**82.65**	**23**	IAmb	IAmb	09 26 32.5	
	comp=Z,150nm,1.6s						
MAW	**Mawson**	**82.66**	**203**	P	**P**	**09 26 14.2**	**-0.3**
	comp=Z,8.1nm,0.7s,baz=98,slow=8.0,SNR=36						
MAW				LR	LR	10 00 35.6	
	comp=Z,2μm,19.0s,baz=94,slow=34						
MAW	**Mawson**	**82.66**	**203**	P	**P**	**09 26 14.0**	**-0.5**
	baz=83,SNR=27						
MAW	**Mawson**	**82.66**	**203**	P	**P**	**09 26 14.4**	**-0.1**
MAW				pmax	pmax		
	comp=Z,49nm,1.6s						
MAW				MLR	MLR		
	comp=Z,800nm,19.0s						
MAW	**Mawson**	**82.66**	**203**	P	**P**	**09 26 14.4**	**-0.1**
GHO	**Glory Hole Cre**	**82.68**	**23**	IAmb	IAmb	09 26 39.8	
	comp=Z,85nm,1.3s						
GHO				IAMs_20	IAMs_20	09 58 46.0	
	comp=Z,6μm,20.0s						
GLI	**Glacier Island**	**82.89**	**24**	IAMs_20	IAMs_20	09 58 26.6	
	comp=Z,5μm,21.0s						
SML	**Sawmill**	**82.93**	**23**	P	**P**	**09 26 16.9**	**+0.9**
SML				IAmb	IAmb	09 26 33.7	
	comp=Z,136nm,1.2s						
TIXI	**Tiksi**	**82.96**	**352**	*d i*P	**P**	**09 26 16.8**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,275nm,1.7s						
TIXI	**Tiksi**	**82.96**	**352**	P	**P**	**09 26 15.8**	**-0.1**
KTH	**Kantishna Hill**	**83.01**	**21**	IAMs_20	IAMs_20	09 58 42.6	
	comp=Z,6μm,19.0s						
FID	**Port Fidalgo**	**83.07**	**25**	P	**P**	**09 26 17.3**	**+0.6**
FID				IAmb	IAmb	09 26 34.0	
	comp=Z,66nm,1.3s						
FID				IAMs_20	IAMs_20	09 58 06.8	
	comp=Z,6μm,22.0s						
TRF	**Thorofare Moun**	**83.17**	**21**	IAMs_20	IAMs_20	09 58 28.0	
	comp=Z,6μm,20.0s						
EYAK	**Cordova Ski Ar**	**83.26**	**25**	P	**P**	**09 26 17.5**	**-0.1**
KLRI	**Killari**	**83.30**	**290**	*e*P	**P**	**09 26 19.5**	**+0.6**
SCM	**Sheep Creek Mo**	**83.34**	**23**	IAmb	IAmb	09 26 35.2	
	comp=Z,140nm,1.5s						
IMAR	**Indian Mountai**	**83.61**	**18**	P	**P**	**09 26 18.6**	**-0.7**
RAGM	**Ragged Mountai**	**83.63**	**25**	IAMs_20	IAMs_20	09 58 18.1	
	comp=Z,5μm,19.0s						
RND	**Reindeer**	**83.66**	**22**	P	**P**	**09 26 19.9**	**+0.1**
RND				pmax	pmax		
	comp=Z,56nm,1.2s						
RND	**Reindeer**	**83.66**	**22**	P	**P**	**09 26 19.9**	**+0.1**
RND				IAmb	IAmb	09 26 40.9	
	comp=Z,56nm,1.2s						
RND				IAMs_20	IAMs_20	09 56 37.0	
	comp=Z,5μm,22.0s						
BHPL	**Bhopal**	**83.67**	**295**	*e*P	**P**	**09 26 20.8**	**+0.1**
BHPL				IAmb	IAmb	09 26 25.9	
	comp=Z,101nm,1.1s						
KLU	**Klutina**	**83.70**	**24**	IAmb	IAmb	09 26 39.5	
	comp=Z,104nm,1.3s						
KLU				IAMs_20	IAMs_20	09 58 09.2	
	comp=Z,5μm,21.0s						
MCK	**McKinley**	**83.83**	**21**	IAmb	IAmb	09 26 42.3	
	comp=Z,63nm,1.0s						
MCK				IAMs_20	IAMs_20	09 59 19.3	
	comp=Z,5μm,20.0s						
SUCK	**Suckling Hills**	**83.85**	**26**	IAMs_20	IAMs_20	10 05 16.9	
	comp=Z,4μm,18.0s						
DGZ	**Jazzator, Alta**	**83.89**	**322**‖	*i*P	**P**	**09 26 20.5**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,115nm,1.7s						
DGZ				MLR	MLR		
	comp=Z,3μm,19.0s						
BWN	**Browne**	**83.90**	**21**	IAmb	IAmb	09 26 42.9	
	comp=Z,126nm,1.4s						
BWN				IAMs_20	IAMs_20	09 59 00.8	
	comp=Z,5μm,20.0s						
M24K	**Tolsona, Glenn**	**83.94**	**24**	P	**P**	**09 26 20.7**	**-0.6**
	baz=237						
M24K	**Tolsona, Glenn**	**83.94**	**24**	P	**P**	**09 26 21.3**	**+0.1**
DHY	**Denali Highway**	**84.02**	**22**	IAMs_20	IAMs_20	10 04 50.5	
	comp=Z,6μm,18.0s						
NEA2	**Nenana**	**84.29**	**21**	P	**P**	**09 26 22.7**	**-0.2**
	baz=234						
GLB	**Gilahina Butte**	**84.54**	**25**	IAmb	IAmb	09 26 41.3	
	comp=Z,146nm,1.7s						
WRH	**Wood River Hil**	**84.56**	**21**	IAMs_20	IAMs_20	10 01 18.6	
	comp=Z,5μm,20.0s						
VRDI	**Verde Repeater**	**84.58**	**25**	P	**P**	**09 26 25.3**	**+0.7**
VRDI				IAmb	IAmb	09 26 41.5	
	comp=Z,110nm,1.8s						
ZSN	**Zaisan**	**84.67**	**320**	*e*P	**P**	**09 26 25.7**	**+0.5**
	comp=Z,81nm,2.2s,baz=320						
ZSN				*e*S	**S**	**09 36 49.6**	**-2.2**
	baz=320						
ZSN	**Zaisan**	**84.67**	**320**	*e*P	**P**	**09 26 25.7**	**+0.5**
ZSN				*e*S	**S**	**09 36 49.6**	**-2.2**
ZSN				pmax	pmax		
	comp=Z,81nm,2.2s						
CCB	**Clear Creek Bu**	**84.76**	**21**	IAmb	IAmb	09 26 43.5	
	comp=Z,83nm,1.8s						
CCB				IAMs_20	IAMs_20	10 01 34.0	
	comp=Z,6μm,20.0s						
DDI	**Dehra Dun**	**84.77**	**302**	*e*P	**P**	**09 26 26.1**	**-0.1**
DDI				IAmb	IAmb	09 26 32.2	
MCARA	**McCarthy VSAT**	**84.83**	**25**	P	**P**	**09 26 27.6**	**+1.9**
TCOL	**CIGO, UAF Yank**	**84.87**	**21**	P	**P**	**09 26 25.7**	**-0.1**
	baz=235						
COLA	**College**	**84.88**	**21**	*d i*P	**P**	**09 26 26.1**	**+0.3**
COLA				pmax	pmax		
	comp=Z,32nm,0.9s						
COLA				MLR	MLR		
	comp=Z,4μm,19.0s						
COLA	**College**	**84.88**	**21**	IAMs_20	IAMs_20	10 01 47.0	
	comp=Z,5μm,20.0s						
HDA	**Harding Lake**	**84.93**	**21**	P	**P**	**09 26 27.0**	**+0.9**
	baz=236						
HDA	**Harding Lake**	**84.93**	**21**	P	**P**	**09 26 26.5**	**+0.3**
HDA				IAMs_20	IAMs_20	10 03 12.6	
	comp=Z,5μm,18.0s						
NDI	**New Delhi**	**85.09**	**300**	*e*P	**P**	**09 26 28.0**	**+0.3**
IL31		**85.16**	**21**	IAmb	IAmb	09 26 42.7	
	comp=Z,97nm,1.9s						
ILAR	**Eielson Array**	**85.16**	**21**	P	**P**	**09 26 27.4**	**+0.1**
	comp=Z,6.3nm,1.0s,baz=249,slow=5.0,SNR=26						
ILAR				PKKPbc	**PKKPbc**	**09 44 38.8**	**+2.1**
	comp=Z,0.5nm,1.0s,baz=358,slow=1.6,SNR=4.6						
ILAR				LR	LR	10 02 26.4	
	comp=Z,4μm,19.2s,baz=254,slow=34						
ILAR	**Eielson Array**	**85.16**	**21**	P	**P**	**09 26 24.4**	**-2.9**
ILAR	**Eielson Array**	**85.16**	**21**	P	**P**	**09 26 24.4**	**-2.9**
POKR	**Poker Plat Res**	**85.16**	**21**	P	**P**	**09 26 27.1**	**-0.1**
	baz=235						
RIDG	**Independent Ri**	**85.34**	**22**	IAmb	IAmb	09 26 47.2	
	comp=Z,124nm,1.6s						
RIDG				IAMs_20	IAMs_20	10 00 28.3	
	comp=Z,6μm,20.0s						
GOA	**Goa**	**85.39**	**286**	*e*P	**P**	**09 26 30.3**	**+0.8**
GOA				IAmb	IAmb	09 26 35.2	
	comp=Z,149nm,1.4s						
COLD	**Coldfoot**

comp=Z,2.2nm,0.7s,baz=108,slow=5.7,SNR=24
MKAR PKPPKP P'P'df 09 52 45.8 +8.3
comp=Z,0.7nm,1.0s,baz=342,slow=3.1,SNR=4.1
MKAR LR LR 10 05 56.8
comp=Z,2µm,19.7s,baz=95,slow=36
MKAR Makanchi Array 86.12 319 P **P 09 26 31.1 -1.3**
BCAR Beaver Creek A 86.18 24 P **P 09 26 32.5 +0.1**
MAKZ Makanchi 86.33 318 P **P 09 26 33.8 +0.3**
MAKZ pmax pmax
comp=Z,102nm,1.6s
MAKZ MLR MLR
comp=Z,3µm,19.0s
MAKZ Makanchi 86.33 318 P **P 09 26 33.8 +0.3**
MAKZ IAmb IAmb 09 26 41.5
comp=Z,102nm,1.6s
BHK Bhakra 86.40 302 *ex* P 09 26 40.8 +6.6
A21K Barrow 86.43 14 IAMs_20 IAMs_20 10 01 39.1
comp=Z,8µm,21.0s
K27K Chicken 86.54 23 P **P 09 26 34.8 +0.7**
baz=240
TOLK Toolik Lake Re 86.54 17 P **P 09 26 34.6 +0.5**
baz=233
TOLK Toolik Lake Re 86.54 17 IAMs_20 IAMs_20 10 00 09.1
comp=Z,8µm,22.0s
DHRM DHARAMSHALA 86.68 303 *eP* **P 09 26 35.0 -0.8**
DHRM IAmb IAmb 09 26 41.3
HYT Haines Junctio 86.94 27 IAmb IAmb 09 26 54.9
comp=Z,108nm,1.3s
ZALV Zalesovo Beam 86.95 326 P **P 09 26 36.0 -0.3**
comp=Z,3.7nm,0.6s,baz=130,slow=6.0,SNR=11
ZALV LR LR 10 04 56.5
comp=Z,2µm,21.9s,baz=110,slow=35
ZALV Zalesovo Beam 86.95 326 P **P 09 26 35.3 -1.0**
ZALV Zalesovo Beam 86.95 326 P **P 09 26 35.3 -1.0**
PDGK Podgornoye 87.01 315 P P 09 26 31.6 -5.5
BESE Bessie Mountai 87.25 29 IAMs_20 IAMs_20 10 00 57.8
comp=Z,7µm,20.0s
EGAK Eagle 87.25 22 IAmb IAmb 09 26 55.0
comp=Z,119nm,1.6s
UZB Uzynbulak 87.29 314 *eP* **P 09 26 39.1 +0.7**
comp=Z,70nm,2.2s,baz=314
UZB *eS* **SKSac 09 37 05.5 +0.1**
baz=314
UZB LR LR 10 01 21.3
comp=Z,717nm,20.1s,baz=314
UZB Uzynbulak 87.29 314 *eP* **P 09 26 39.1 +0.7**
UZB *eS* **SKSac 09 37 05.4 +0.1**
UZB pmax pmax
comp=Z,70nm,2.2s
UZB MLR MLR
comp=Z,717nm,20.0s
JIS Juneau Island 87.36 30 IAMs_20 IAMs_20 09 59 53.8
comp=Z,8µm,20.0s
SKAG Skagway 87.37 28 IAmb IAmb 09 26 56.8
comp=Z,129nm,1.4s
SKAG IAMs_20 IAMs_20 10 01 45.1
comp=Z,5µm,20.0s
BMAR Burnt Mountain 87.40 19 P **P 09 26 38.9 +0.6**
PRZ Przheval'sk 87.56 314 IAMs_20 IAMs_20 10 04 26.9
comp=Z,7µm,21.0s
DAWY Dawson 87.60 23 IAmb IAmb 09 26 53.1
comp=Z,49nm,1.3s
DAWY IAMs_20 IAMs_20 10 01 41.0
comp=Z,6µm,21.0s
SATY Saty 87.70 314 *eP* **P 09 26 41.0 +0.6**
comp=Z,56nm,2.3s,baz=314
SATY LR LR 10 01 30.1
comp=Z,513nm,18.4s,baz=314
SATY Saty 87.70 314 *eP* **P 09 26 41.0 +0.6**
SATY pmax pmax
comp=Z,56nm,2.3s
SATY MLR MLR
comp=Z,513nm,18.0s
TDK Taldyqorghan 88.21 316 *eP* **P 09 26 43.6 +1.0**
baz=316
TDK LR LR 10 00 47.5
comp=Z,2µm,22.0s,baz=316
TDK Taldyqorghan 88.21 316 *eP* **P 09 26 43.6 +1.0**
TDK MLR MLR
comp=Z,2µm,22.0s
KRMB Red Mountain 88.61 48 IAMs_20 IAMs_20 09 57 57.4
comp=Z,5µm,22.0s
KSH Kashi 88.61 310 P **P 09 26 48.8 +4.0**
KSH sP pwP 09 26 53.5 -1.3
KSH S **S 09 37 28.5 -2.1**
KSH pmax pmax
comp=Z,61nm,1.3s
KSH pmax pmax
comp=Z,380nm,4.2s
KSH LR LR
comp=Z,4µm,22.0s
KSH LR LR
comp=Z,5µm,20.3s
KSH LR LR
comp=Z,2µm,23.8s
KEBM Edson Butte 88.63 46 IAMs_20 IAMs_20 09 59 10.9
comp=Z,6µm,20.0s
HOPS Hopland Field 88.64 50 IAMs_20 IAMs_20 10 07 53.4
comp=Z,5µm,19.0s
MDOK Medeo 88.69 314 *eP* **P 09 26 46.0 +0.8**
baz=314
MDOK *eS* **SKSac 09 37 14.6 +0.9**
baz=314
MDOK LR LR 10 02 08.2
comp=Z,910nm,18.5s,baz=314
MDOK Medeo 88.69 314 *eP* **P 09 26 45.9 +0.8**
MDOK *eS* **SKSac 09 37 14.6 +0.9**
MDOK MLR MLR
comp=Z,910nm,19.0s
TNSS Tian-Shan 88.73 314 *eP* **P 09 26 46.3 +0.6**
baz=314
TNSS Tian-Shan 88.73 314 *eP* **P 09 26 46.2 +0.6**
AAA Alma-Ata 88.80 314 *eP* **P 09 26 46.5 +1.0**
baz=314
AAA *eS* **SKSac 09 37 15.7 +1.5**
baz=314
AAA LR LR 10 02 20.0
comp=Z,975nm,18.7s,baz=314
AAA Alma-Ata 88.80 314 *eP* **P 09 26 47.6 +2.1**
GDXM Geysers 88.81 50 IAMs_20 IAMs_20 09 59 07.8
comp=Z,5µm,20.0s
L02E Cave Junction 88.98 47 P **P 09 26 47.4 +1.0**
baz=256
ULHL Ulahol 89.05 313 P P 09 26 53.5 +6.5
SNR=7.2
K02D Willamette Mer 89.06 47 P **P 09 26 47.2 +0.4**
baz=256
MTBS Maitube 89.12 314 *eP* **P 09 26 47.5 +0.4**
baz=314
MTBS Maitube 89.12 314 *eP* **P 09 26 47.4 +0.4**
O02D Mt. Diablo Mer 89.13 49 P **P 09 26 47.6 +0.5**
baz=257
BOOM Boomskoye usch 89.32 313 IAMs_20 IAMs_20 10 05 35.8
comp=Z,4µm,21.0s
M02C Callahan 89.35 48 P **P 09 26 48.3 +0.1**
baz=257
KUU Kurty 89.37 315 *eP* **P 09 26 48.4 +0.2**
comp=Z,136nm,2.0s,baz=314
KUU *eS* **SKSac 09 37 18.1 +0.7**
baz=314
KUU LR LR 10 03 15.7
comp=Z,1µm,18.1s,baz=314
KUU Kurty 89.37 315 *eP* **P 09 26 48.3 +0.2**
KUU *eS* **SKSac 09 37 18.1 +0.7**
KUU pmax pmax
comp=Z,137nm,2.0s
KUU MLR MLR
comp=Z,1µm,18.0s
N02D Trinity Center 89.37 48 P **P 09 26 48.2 -0.1**
baz=257
SAO San Andreas Ge 89.41 53 IAMs_20 IAMs_20 10 08 59.7
comp=Z,6µm,18.0s
NIL Nilore 89.49 304 P **P 09 26 48.8 -0.2**
NIL pmax pmax
comp=Z,245nm,1.7s
NIL MLR MLR
comp=Z,3µm,22.0s
NIL Nilore 89.49 304 P **P 09 26 48.8 -0.2**
YBH Yreka Blue Hor 89.53 48 IAMs_20 IAMs_20 09 58 25.8
comp=Z,7µm,22.0s
HUMO Hull Mountain 89.55 47 IAMs_20 IAMs_20 09 58 15.3
comp=Z,7µm,22.0s
KURK Kurchatov 89.58 322 *d iP* **P 09 26 49.1 +0.2**
KURK pmax pmax
comp=Z,36nm,1.7s
KURK MLR MLR
comp=Z,3µm,19.0s
KURK Kurchatov 89.58 322 P **P 09 26 48.2 -0.7**
KURK IAmb IAmb 09 26 55.3
comp=Z,79nm,1.9s
KURBB Kurchatov Arra 89.61 321 P **P 09 26 48.8 -0.2**
comp=Z,1.0nm,0.3s,baz=117,slow=3.3,SNR=20
EPYK Eagle Plains 89.62 22 P **P 09 26 49.8 +1.0**
baz=245
EPYK Eagle Plains 89.62 22 IAmb IAmb 09 27 07.0
comp=Z,68nm,1.1s
EPYK IAMs_20 IAMs_20 10 05 45.5
comp=Z,4µm,20.0s
TKM2 Tokmak 2 89.67 314 P **P 09 26 50.4 +0.6**
SNR=8.6
TKM2 Tokmak 2 89.67 314 P **P 09 26 46.9 -2.9**
KZA Kyzart 89.73 313 P **P 09 26 51.8 +1.4**
SNR=9.4
O03E Paynes Creek 89.89 49 P **P 09 26 51.0 +0.3**
baz=258
NLWA Neilton Lookou 90.04 42 IAMs_20 IAMs_20 10 00 53.1
comp=Z,7µm,20.0s
E03A Lebam 90.04 43 IAMs_20 IAMs_20 10 00 00.2
comp=Z,8µm,20.0s
KBK Karagaybulak 90.07 313 P P 09 26 57.7 +6.0
SNR=6.5
PAGB Antelope Grade 90.15 54 IAmb IAmb 09 27 01.0
comp=Z,122nm,1.1s
PAGB IAMs_20 IAMs_20 09 59 44.3
comp=Z,8µm,20.0s
M04C Macdoel 90.18 48 P **P 09 26 52.6 +0.4**
baz=258
AFDM Forest Hills D 90.23 51 IAmb IAmb 09 27 01.4
comp=Z,59nm,1.2s
SMMC Simmler 90.27 54 P **P 09 26 53.7 +1.2**
baz=259,SNR=8.4
CHMS Chumysh 90.29 313 P P 09 26 58.4 +5.9
SNR=6.8
UCH Uchtor 90.30 313 P **P 09 26 54.2 +1.2**
SNR=20
PKM Mcpherson Peak 90.33 55 P **P 09 26 53.2 +0.2**
baz=259,SNR=12
AAK Ala-Archa 90.40 313 P **P 09 26 54.0 +0.8**
SNR=7.8
AAK Ala-Archa 90.40 313 P **P 09 26 51.5 -1.7**
SYO Syowa Base 90.45 199‖ *eP* **P 09 26 50.8 -1.9**
SYO Syowa Base 90.45 199‖ *i PcP* **P 09 26 52.2 -0.5**
SYO Syowa Base 90.45 199‖ *i isP* **P 09 26 54.6 +1.9**
SYO Syowa Base 90.45 199‖ *ePP* PP 09 30 27.2 +0.4
SGDS Sogindy 90.47 314 *eP* **P 09 26 53.6 +0.2**
comp=Z,65nm,2.5s,baz=314
SGDS Sogindy 90.47 314 *eP* **P 09 26 53.6 +0.2**
SGDS pmax pmax
comp=Z,65nm,2.5s
CMB Columbia Colle 90.50 52 IAMs_20 IAMs_20 10 00 52.5
comp=Z,5µm,20.0s
USP Ospenovka 90.53 314 P **P 09 26 54.6 +1.0**
SNR=15
PGC Sidney 90.61 41 IAMs_20 IAMs_20 09 58 48.4
comp=Z,6µm,22.0s
BHUJ Bhuj 90.67 293 *eP* **P 09 26 55.7 +1.1**
BHUJ *ex* P 09 26 59.7 +5.1
BHUJ IAmb IAmb 09 27 01.8
comp=Z,105nm,1.1s
F04A Amboy 90.68 44 IAMs_20 IAMs_20 10 04 39.0
comp=Z,6µm,18.0s
E04D Cinebar 90.72 43 P **P 09 26 55.5 +1.2**
baz=257
AML Almayashu 90.87 312 P **P 09 26 56.8 +1.1**
SNR=14
EKS2 Erkin-Say 90.92 313 P **P 09 26 54.9 -0.7**
SNR=13
J05D Fort Rock, OR 90.94 46 P **P 09 26 56.6 +1.0**
baz=258
K05A Summer Lake 91.06 47 P **P 09 26 58.9 +2.6**
K05A IAmb IAmb 09 27 14.9
comp=Z,104nm,1.6s
K05A IAMs_20 IAMs_20 10 00 20.3
comp=Z,5µm,21.0s
I05D Terrebonne, OR 91.08 45 P **P 09 26 56.4 +0.2**
baz=258
VES Vestal, Richgr 91.10 54 P **P 09 26 57.8 +1.4**
baz=259,SNR=8.6
OSI Osito Audit: C 91.16 55 IAMs_20 IAMs_20 09 59 26.2
comp=Z,6µm,19.0s
ARVC Arvin 91.17 55 P **P 09 26 56.9 +0.2**
baz=259,SNR=7.4
CIS Catalina Islan 91.19 56 P **P 09 26 57.5 +0.6**
baz=259
BTLS Baital 91.22 315 *eP* **P 09 26 56.7 0.0**
comp=Z,41nm,1.9s,baz=315
BTLS LR LR 10 02 46.4
comp=Z,424nm,18.7s,baz=315
BTLS Baital 91.22 315 *eP* **P 09 26 56.7 0.0**
BTLS pmax pmax
comp=Z,41nm,1.9s
BTLS MLR MLR
comp=Z,424nm,19.0s
D05A Enumclaw 91.24 42 IAMs_20 IAMs_20 10 00 58.9
comp=Z,6µm,20.0s
PINE Pine Mountain 91.25 46 IAmb IAmb 09 27 15.5
comp=Z,51nm,1.4s
PINE IAMs_20 IAMs_20 10 00 57.2
comp=Z,7µm,20.0s
LON Longmire 91.27 43 IAMs_20 IAMs_20 10 00 58.6
comp=Z,6µm,20.0s
PNTR Pine Nut 91.31 51 IAmb IAmb 09 27 06.1
comp=Z,59nm,1.0s
PNTR IAMs_20 IAMs_20 10 00 46.9
comp=Z,4µm,22.0s
VCNR Virginia City 91.31 51 P **P 09 26 59.2 +1.7**
VCNR IAmb IAmb 09 27 06.0
comp=Z,46nm,1.1s
F05D White Salmon 91.32 44 P **P 09 26 58.1 +0.9**
baz=258
WAKR Walker 91.32 51 IAmb IAmb 09 27 16.7
comp=Z,93nm,1.5s
WAKR IAMs_20 IAMs_20 10 01 48.3
comp=Z,6µm,20.0s
MOD Modoc Plateau 91.33 48 IAmb IAmb 09 27 16.0
comp=Z,70nm,1.6s
B05A Bryant 91.40 41 P **P 09 26 58.1 +0.6**
baz=257
MDPB Devils Postpil 91.44 52 IAmb IAmb 09 27 06.6
comp=Z,50nm,1.2s
NRIK Noril'sk 91.48 341 P **P 09 26 57.0 -0.3**
comp=Z,11nm,0.8s,baz=172,slow=2.8,SNR=9.4
NRIK LR LR 10 07 57.5
comp=Z,3µm,20.2s,baz=110,slow=36
OMMB Old Mammoth Mi 91.49 52 IAmb IAmb 09 27 12.7
comp=Z,55nm,1.3s
OMMB IAMs_20 IAMs_20 10 12 11.9
comp=Z,4µm,18.0s
PASC Pasadena Art C 91.52 56 IAMs_20 IAMs_20 09 59 05.6
comp=Z,8µm,21.0s
INK Inuvik 91.53 20 P **P 09 26 58.4 +0.8**
comp=Z,6.3nm,1.1s,baz=269,slow=3.8,SNR=6.5
INK Inuvik 91.53 20 IAMs_20 IAMs_20 10 09 26.0
comp=Z,5µm,19.0s
ISA Isabella, Lake 91.55 54 P **P 09 26 59.2 +0.7**
baz=260,SNR=8.0
PAHR Pah Rah Range 91.59 50 IAmb IAmb 09 27 07.2
comp=Z,55nm,1.1s
MLAC Mammoth, Mammo 91.62 52 P **P 09 26 59.4 +0.3**
baz=259
MWC Mount Wilson 91.63 56 IAmb IAmb 09 27 07.5
comp=Z,101nm,1.1s
MWC IAMs_20 IAMs_20 09 59 09.6
comp=Z,7µm,21.0s
EDW2 Edwards Air Fo 91.80 55 P **P 09 27 00.6 +0.9**
baz=260,SNR=9.1
BFSC Mount Baldy Ra 91.96 56 P **P 09 27 01.5 +1.0**
baz=260,SNR=9.8
RYN Ryan 92.05 51 IAmb IAmb 09 27 09.3
comp=Z,68nm,1.1s
RYN IAMs_20 IAMs_20 10 02 41.5
comp=Z,5µm,20.0s
LTY Liberty 92.14 43 IAMs_20 IAMs_20 10 01 16.6
comp=Z,6µm,20.0s
LRMC Laurel Mtn Rad 92.16 55 P **P 09 27 02.5 +1.1**
baz=260
NVAR Mina Array Bea 92.18 52 P **P 09 27 02.6 +1.0**
comp=Z,12nm,0.9s,baz=247,slow=6.9,SNR=32
NVAR LR LR 10 02 42.3
comp=Z,5µm,20.3s,baz=271,slow=32
NVAR Mina Array Bea 92.18 52 P **P 09 27 02.0 +0.4**
109C Camp Elliot, M 92.18 57 P **P 09 27 01.2 -0.3**
baz=260
MURC Murrieta 92.23 56 P **P 09 27 02.1 +0.4**
baz=260
NV11 Mina Array Sit 92.30 52 IAmb IAmb 09 27 10.5
comp=Z,82nm,1.1s
NV11 IAMs_20 IAMs_20 10 02 20.1
comp=Z,5µm,20.0s
I07A Izee 92.32 46 P **P 09 27 02.4 +0.4**
I07A IAMs_20 IAMs_20 10 02 51.6
comp=Z,8µm,20.0s
F07A Phinny Hill Vi 92.37 44 IAMs_20 IAMs_20 10 04 46.8
comp=Z,7µm,19.0s
CCX Cicese 92.38 58 IAMs_20 IAMs_20 09 59 32.5
comp=Z,6µm,21.0s
MPMC Manual Prospec 92.41 54 P **P 09 27 03.2 +0.5**
baz=260,SNR=35
KVN Kaiserville 92.45 51 IAmb IAmb 09 27 11.1
comp=Z,67nm,1.0s
E07A Sunnyside 92.55 43 IAMs_20 IAMs_20 10 06 23.5
comp=Z,8µm,19.0s
BBRC Big Bear Solar 92.57 56 P **P 09 27 02.9 -0.6**
baz=260
BELA Belgrano 2 92.60 178 P **P 09 27 02.0 -0.5**
GRAC Grapevine Rang 92.67 53 P **P 09 27 02.9 -0.8**
baz=260,SNR=7.8
DZA Taraz 92.73 313 *eP* **P 09 27 04.1 +0.2**
baz=313
DZA LR LR 10 05 27.8
comp=Z,578nm,17.8s,baz=313
DZA Taraz 92.73 313 *eP* **P 09 27 04.0 +0.2**
DZA MLR MLR
comp=Z,578nm,18.0s
MONP2 Monument Peak 92.75 57 P **P 09 27 03.2 -1.2**
baz=260
GSC Goldstone, Bar 92.83 55 P **P 09 27 04.6 +0.1**
baz=260,SNR=5.9
PFO Pinyon Flats O 92.84 57 P **P 09 27 04.0 -0.7**
baz=260
J08A Circle Bar Ran 92.93 47 IAmb IAmb 09 27 12.7
comp=Z,36nm,1.2s
J08A IAMs_20 IAMs_20 10 01 31.6
comp=Z,6µm,22.0s
G08A Pilot Rock 92.93 45 IAmb IAmb 09 27 22.6
comp=Z,52nm,1.8s
IKP In-Ko-Pah, Jac 92.97 58 P **P 09 27 04.6 -0.7**
baz=261
FURC Furnace Creek, 92.98 54 P **P 09 27 05.8 +0.8**
baz=260,SNR=39
ESJX Sierra Juarez 93.00 58 IAMs_20 IAMs_20 09 59 53.1
comp=Z,9µm,22.0s
CRZF Crozet Islands 93.04 222 IAMs_20 IAMs_20 10 07 20.5
comp=Z,6µm,18.0s
E08A Dider Farm, El 93.08 44 IAMs_20 IAMs_20 10 06 22.4
comp=Z,7µm,19.0s
KBL Kabul 93.08 304 P **P 09 27 05.2 -0.7**
KBL pmax pmax
comp=Z,42nm,1.6s
KBL MLR MLR
comp=Z,2µm,22.0s
KBL Kabul 93.08 304 P **P 09 27 05.2 -0.7**
BRZS Berezniki 93.11 320 *eP* **P 09 27 05.6 +0.2**
baz=320
BRZS Berezniki 93.11 320 *eP* **P 09 27 05.6 +0.2**
HEC Hector,Ludlow 93.14 55 P **P 09 27 06.5 +0.6**
baz=261,SNR=6.5
B08A Colville Reser 93.23 42 P **P 09 27 07.8 +1.9**
B08A IAMs_20 IAMs_20 10 01 43.5
comp=Z,6µm,20.0s
D08A Wollman Farm, 93.27 43 IAMs_20 IAMs_20 10 02 00.6
comp=Z,6µm,21.0s
SWSC Sam W. Stewart 93.28 57 P **P 09 27 05.8 -0.7**
baz=261
BELC Belle Mtn. Jos 93.28 56 P **P 09 27 06.6 -0.1**
baz=261
SHOC Shoshone, Teco 93.35 54 P **P 09 27 07.4 +0.6**
baz=261,SNR=8.9
KK31 Karatay Array 93.36 313 *i* P **P 09 27 04.3 -2.4**
KK31 Karatay Array 93.36 313 IAmb IAmb 09 27 13.0
comp=Z,86nm,1.4s
KKAR Karatay Array 93.36 313 P **P 09 27 04.9 -1.8**
KKAR Karatay Array 93.36 313 P **P 09 27 04.9 -1.8**
KKAR Karatay Array 93.36 313 IAmb IAmb 09 27 13.0
comp=Z,86nm,1.4s
TPNV Topopah Spring 93.54 53 P **P 09 27 08.4 +0.6**
TPNV pmax pmax
comp=Z,43nm,1.2s
TPNV Topopah Spring 93.54 53 P **P 09 27 08.5 +0.6**
baz=261,SNR=23
TPNV Topopah Spring 93.54 53 P **P 09 27 08.4 +0.6**
TPNV IAmb IAmb 09 27 16.3
comp=Z,43nm,1.2s
TPNV IAMs_20 IAMs_20 10 02 14.1
comp=Z,7µm,21.0s
IUG Iuzhnay 93.55 312 *eP* **P 09 27 07.8 0.0**
comp=Z,47nm,2.2s,baz=312
IUG Iuzhnay 93.55 312 *eP* **P 09 27 07.7 0.0**
IUG pmax pmax
comp=Z,47nm,2.2s
TUQ Turquoise Moun 93.56 55 P **P 09 27 08.5 +0.5**
baz=261,SNR=6.0
CPBX Cerro Prieto 93.61 58 IAMs_20 IAMs_20 10 00 43.0
comp=Z,7µm,21.0s
BC3 Big Chuckawall 93.67 57 P **P 09 27 07.4 -1.1**
baz=261
GMRC Granite Mounta 93.68 56 P **P 09 27 07.6 -0.9**
baz=261
SFX San Felipe 93.78 59 IAMs_20 IAMs_20 10 02 44.6
comp=Z,8µm,20.0s
GUVIX Guadalupe Vict 93.78 58 IAMs_20 IAMs_20 10 00 37.8
comp=Z,8µm,22.0s
C09A Chrisman Ranch 93.83 42 IAMs_20 IAMs_20 10 02 20.4
comp=Z,6µm,20.0s
IRM Iron Mountain 94.00 56 P **P 09 27 08.9 -1.0**
baz=261
BMO Blue Mountains 94.01 45 IAMs_20 IAMs_20 10 04 10.2
comp=Z,6µm,20.0s
F10A Beach Ranch, E 94.24 44 IAmb IAmb 09 27 30.9
comp=Z,73nm,2.0s
F10A IAMs_20 IAMs_20 10 04 13.3
comp=Z,6µm,20.0s
R11A Troy Canyon, C 94.28 52 P **P 09 27 11.9 +0.6**
baz=261,SNR=28
R11A Troy Canyon, C 94.28 52 P **P 09 27 11.8 +0.6**
R11A IAMs_20 IAMs_20 10 12 07.5
comp=Z,4µm,18.0s
SHPR Sheep Range 94.34 54 IAmb IAmb 09 27 31.9
comp=Z,61nm,1.7s
PRN Pahroc Range 94.56 53 P **P 09 27 14.2 +1.7**
PRN IAmb IAmb 09 27 27.7
comp=Z,53nm,1.3s
PRN IAMs_20 IAMs_20 10 03 28.0
comp=Z,6µm,20.0s
NEW Newport 94.67 42 P **P 09 27 12.1 -0.5**
baz=261
NEW Newport 94.67 42 IAMs_20 IAMs_20 10 05 02.5
comp=Z,7µm,20.0s
MFID Camas Ranch 94.84 47 P **P 09 27 15.3 +1.7**
MFID IAmb IAmb 09 27 47.4
comp=Z,68nm,1.8s
MFID IAMs_20 IAMs_20 10 03 05.2
comp=Z,5µm,21.0s
PLID Pearl Lake 94.96 45 IAMs_20 IAMs_20 10 04 38.4
comp=Z,6µm,20.0s
PIX Pinacate 95.03 59 IAMs_20 IAMs_20 10 03 50.8
comp=Z,6µm,19.0s
BRVK Borovoye 95.12 323 *d iP* **P 09 27 13.9 -0.6**
BRVK pmax pmax
comp=Z,17nm,1.3s
BRVK MLR MLR
comp=Z,2µm,18.0s
BRVK Borovoye 95.12 323 P **P 09 27 13.1 -1.3**
BRVK Borovoye 95.12 323 IAMs_20 IAMs_20 10 08 45.8
comp=Z,4µm,21.0s
W13A Hualapai Mount 95.17 55 IAMs_20 IAMs_20 10 00 49.2
comp=Z,5µm,22.0s
A36M Sachs Harbour 95.35 18 IAMs_20 IAMs_20 10 08 07.9
comp=Z,5µm,21.0s
214A Organ Pipe Nat 95.63 59 P **P 09 27 17.4 0.0**
baz=262
214A Organ Pipe Nat 95.63 59 IAMs_20 IAMs_20 10 00 36.7
comp=Z,8µm,22.0s
HLID Hailey 95.88 47 P **P 09 27 19.2 +0.8**
baz=263
HLID Hailey 95.88 47 IAMs_20 IAMs_20 10 03 36.7
comp=Z,6µm,21.0s
CCUT Cedar City 95.91 53 P **P 09 27 17.6 -1.2**
NVL N'lazarevskaya 96.45 191 *eP* **P 09 27 24.9 +4.6**
NVL pmax pmax
comp=Z,7.0nm,0.8s
JTMT Jette 96.49 43 IAMs_20 IAMs_20 10 03 19.7

comp=Z,5µm,20.0s
MSO Missoula 96.61 44 IAMs_20 IAMs_20 10 08 06.0
comp=Z,6µm,19.0s
U15A North Rim 96.62 54 IAMs_20 IAMs_20 10 07 24.7
comp=Z,5µm,18.0s
DUG Dugway, Tooele 96.65 50 P **P** **09 27 23.1 +1.1**
DUG pmax pmax
comp=Z,19nm,1.4s
DUG Dugway, Tooele 96.65 50 P **P** **09 27 22.0 +0.1**
baz=263,SNR=6.6
DUG Dugway, Tooele 96.65 50 P **P** **09 27 23.1 +1.1**
HSIG 96.86 62 IAMs_20 IAMs_20 10 11 45.3
comp=Z,5µm,18.0s
WALA Waterton Lakes 96.88 41 IAMs_20 IAMs_20 10 04 19.1
comp=Z,7µm,20.0s
MSU Marysvale 96.95 52 P **P** **09 27 22.9 -0.6**
MSU Marysvale 96.95 52 P **P** **09 27 22.9 -0.6**
WUAZ Wupatki 97.25 55 IAMs_20 IAMs_20 10 05 40.5
comp=Z,5µm,19.0s
DLMT Dillon 97.38 45 IAMs_20 IAMs_20 10 05 47.4
comp=Z,5µm,20.0s
TUC Tucson 97.38 59 P Pdif 09 27 25.9 +0.4
baz=263
JLU Jordanelle 97.73 50 P Pdif 09 27 27.9 +0.9
YKA Yellowknife Ar 97.86 28 P Pdif 09 27 27.1 +0.3
comp=Z,3.3nm,0.9s,baz=91,slow=5.4,SNR=4.6
YKA LR LR 10 06 07.1
comp=Z,4µm,20.2s,baz=0.0,slow=32
SNAA Sanae 97.88 187 P **P** **09 27 24.4 -2.4**
SNAA Sanae 97.88 187 P **P** **09 27 26.2 -0.6**
comp=Z,0.8nm,0.8s,baz=172,slow=1.3
SNAA Sanae 97.88 187⇓ *e*P **P** **09 27 26.5 -0.3**
SNAA pmax pmax
comp=Z,11nm,1.4s
SNAA Sanae 97.88 187 IAMs_20 IAMs_20 10 10 00.6
comp=Z,4µm,19.0s
BOZ Bozeman (W) 98.08 45 P **P** **09 27 27.9 -0.4**
baz=265
BOZ Bozeman (W) 98.08 45 IAMs_20 IAMs_20 10 08 30.9
comp=Z,4µm,19.0s
AHID Auburn Hatcher 98.20 48 IAMs_20 IAMs_20 10 05 53.2
comp=Z,4µm,21.0s
FXWY Fox Creek 98.33 47 IAMs_20 IAMs_20 10 05 28.7
comp=Z,6µm,20.0s
TPAW Teton Pass 98.38 47 P Pdif 09 27 31.0 +1.1
TPAW IAMs_20 IAMs_20 10 04 47.8
comp=Z,6µm,21.0s
IMW Indian Meadow 98.42 47 IAMs_20 IAMs_20 10 06 21.0
comp=Z,6µm,20.0s
REDW Red Top Meadow 98.44 47 IAMs_20 IAMs_20 10 04 28.4
comp=Z,6µm,21.0s
SNOW Snow King Moun 98.52 47 IAMs_20 IAMs_20 10 05 03.5
comp=Z,6µm,21.0s
FLWY Flagg Ranch 98.61 47 IAMs_20 IAMs_20 10 06 26.9
comp=Z,7µm,20.0s
LOHW Long Hollow 98.64 47 IAMs_20 IAMs_20 10 05 17.7
comp=Z,6µm,21.0s
H17A Grant Village 98.72 46 P Pdif 09 27 31.5 +0.2
baz=265
VNA3 Neumayer Olymp 98.94 185 Pdiff Pdif 09 27 32.0 +0.4
VNA2 Neumayer--Watz 99.06 185 Pdiff **Pdif** **09 27 32.5 +0.5**
BW06 Boulder Array 99.33 48 P **Pdif** **09 27 33.7 -0.4**
baz=266
BW06 Boulder Array 99.33 48 IAMs_20 IAMs_20 10 06 29.2
comp=Z,4µm,21.0s
PDAR Pinedale Array 99.33 48 P **Pdif** **09 27 34.4 +0.3**
comp=Z,3.7nm,0.9s,baz=244,slow=3.1,SNR=18
PDAR LR LR 10 07 01.4
comp=Z,3µm,20.8s,baz=288,slow=32
VNA1 Neumayer--Stat 99.40 185 Pdiff **Pdif** **09 27 34.4 +0.8**
PV19 Morning Glory 99.43 53 IAMs_20 IAMs_20 10 06 26.0
comp=Z,7µm,20.0s
PV20 West Nyswonger 99.44 53 IAMs_20 IAMs_20 10 06 15.5
comp=Z,7µm,20.0s
PV16 Nyswonger Mesa 99.48 53 IAMs_20 IAMs_20 10 06 16.4
comp=Z,7µm,21.0s
PV18 Skein Mesa, Pa 99.48 53 IAMs_20 IAMs_20 10 06 35.4
comp=Z,7µm,20.0s
PV13 Radium Mtn., P 99.55 53 IAMs_20 IAMs_20 10 06 28.0
comp=Z,7µm,20.0s
PV07 Paradox Valley 99.70 53 IAMs_20 IAMs_20 10 06 55.2
comp=Z,7µm,21.0s
RLMT Red Lodge 99.70 46 P **Pdif** **09 27 36.1 +0.4**
baz=266
RLMT Red Lodge 99.70 46 IAMs_20 IAMs_20 10 07 32.9
comp=Z,4µm,20.0s
MVCO Mesa Verde 99.72 54 IAMs_20 IAMs_20 10 10 43.8
comp=Z,5µm,18.0s
MSEY Mahe Island 99.92 264 IAMs_20 IAMs_20 10 11 57.6
comp=Z,5µm,20.0s
121A Cookes Peak, D 99.93 59 P **Pdif** **09 27 36.3 -0.6**
baz=265
PMSA Palmer Station 100.06 164 IAMs_20 IAMs_20 10 06 42.0
comp=Z,6µm,19.0s
O20A White River Ci 100.14 51 P **Pdif** **09 27 37.1 -0.6**
baz=266
S22A 4UR Ranch, Cre 101.09 53 P **Pdif** **09 27 41.2 -0.9**
baz=267
S22A 4UR Ranch, Cre 101.09 53 IAMs_20 IAMs_20 10 09 16.9
comp=Z,5µm,19.0s
ANMO Albuquerque 101.21 56 IAMs_20 IAMs_20 10 05 26.6
comp=Z,7µm,21.0s
ABKAR Akbulak array 101.26 318 Pdif **Pdif** **09 27 42.0 -0.2**
K22A Casper 101.56 48 P **Pdif** **09 27 43.4 -0.5**
baz=268
K22A Casper 101.56 48 IAMs_20 IAMs_20 10 07 29.1
comp=Z,4µm,21.0s
LAO LASA Array 101.89 44 P **Pdif** **09 27 45.4 +0.2**
baz=269
LAO LASA Array 101.89 44 IAMs_20 IAMs_20 10 09 51.7
comp=Z,6µm,20.0s
MNTX Cornudas Mount 101.90 60 P **Pdif** **09 27 45.7 +0.2**
baz=266
MNTX Cornudas Mount 101.90 60 IAMs_20 IAMs_20 10 04 46.7
comp=Z,7µm,22.0s
N23A Red Feather La 101.93 50 P **Pdif** **09 27 44.6 -1.1**
baz=268
N23A Red Feather La 101.93 50 IAMs_20 IAMs_20 10 07 51.0
comp=Z,4µm,20.0s
ARU Arti 102.11 326 P **Pdif** **09 27 45.7 -0.1**
ARU 09 31 56.5
ARU S **SKSac** **09 38 25.2 +1.0**
ARU SP SP 09 40 58.9 -1.4
ARU MLR MLR
comp=Z,6µm,22.0s
ARU Arti 102.11 326 IAMs_20 IAMs_20 10 13 24.7
comp=Z,6µm,22.0s
ISCO Idaho Springs 102.14 51 IAMs_20 IAMs_20 10 06 17.5
comp=Z,5µm,22.0s
SDCO Great Sand Dun 102.14 53 IAMs_20 IAMs_20 10 10 01.7
comp=Z,4µm,19.0s
PHWY Pilot Hill 102.31 50 IAMs_20 IAMs_20 10 13 00.1
comp=Z,3µm,18.0s
Q24A Divide 102.46 52 IAMs_20 IAMs_20 10 10 13.3
comp=Z,6µm,19.0s
T25A Trinidad 102.98 54 P **Pdif** **09 27 51.0 +0.6**
baz=268
T25A Trinidad 102.98 54 IAMs_20 IAMs_20 10 08 35.0
comp=Z,5µm,21.0s
FOMA Nahampoana Res 103.21 242 IAMs_20 IAMs_20 10 09 12.1
comp=Z,4µm,21.0s
TXAR Lajitas Array 103.23 62 PKiKP **PKiKP** **09 32 11.3 +0.2**
comp=Z,3.6nm,1.1s,baz=224,slow=2.5,SNR=7.3
TXAR PKKP **PKKPdf** **09 43 53.3 -2.5**
comp=Z,1.7nm,1.0s,baz=119,slow=4.7,SNR=9.6
DGMT Dagmar 103.27 42 IAMs_20 IAMs_20 10 08 16.1
comp=Z,4µm,21.0s
RSSD Black Hills 103.40 47 IAMs_20 IAMs_20 10 06 32.9
comp=Z,6µm,22.0s
ZAIG Zacatecas 103.76 69 IAMs_20 IAMs_20 10 05 58.4
comp=Z,5µm,21.0s
EUNU Eureka 103.83 9 IAMs_20 IAMs_20 10 15 20.0
comp=Z,5µm,20.0s
RES Resolute Bay 103.97 15 IAMs_20 IAMs_20 10 12 56.7
comp=Z,4µm,22.0s
ABPO Ambohimpanom 104.65 248 IAMs_20 IAMs_20 10 11 01.8
comp=Z,4µm,20.0s
E28A Huff 105.70 44 IAMs_20 IAMs_20 10 14 39.6
comp=Z,5µm,19.0s
MG01 Puerto William 106.06 155 IAMs_20 IAMs_20 10 13 58.1
comp=Z,6µm,18.0s
GO09 Cerro Castillo 106.40 151 IAMs_20 IAMs_20 10 09 15.5
comp=Z,4µm,19.0s
UNM Universidad Na 106.65 73 IAMs_20 IAMs_20 10 07 15.9
comp=Z,4µm,21.0s
CBKS Cedar Bluff 106.69 52 IAMs_20 IAMs_20 10 12 07.0
comp=Z,4µm,20.0s
833A Chaparral WMA, 106.93 63 IAMs_20 IAMs_20 10 18 32.0
comp=Z,4µm,18.0s
SUSD Miller 107.04 46 IAMs_20 IAMs_20 10 09 07.1
comp=Z,5µm,22.0s
K31A O'Neill 107.29 48 IAMs_20 IAMs_20 10 12 26.8
comp=Z,5µm,20.0s
R32A Long Quarter, 107.50 53 IAMs_20 IAMs_20 10 13 08.6
comp=Z,4µm,20.0s
BGNE Belgrade 107.81 50 IAMs_20 IAMs_20 10 13 05.5
comp=Z,3µm,20.0s
D32A Dogwood Acres, 108.18 44 IAMs_20 IAMs_20 10 09 59.0
comp=Z,3µm,22.0s
KVTX Kingsville 108.23 64 IAMs_20 IAMs_20 10 17 30.6
comp=Z,4µm,18.0s
735A Kenedy 108.33 63 IAMs_20 IAMs_20 10 11 58.2
comp=Z,5µm,20.0s
KBS Kingsbay 108.37 353 IAMs_20 IAMs_20 10 17 03.2
comp=Z,3µm,21.0s
435B Jarrell 108.54 61 IAMs_20 IAMs_20 10 13 17.6
comp=Z,6µm,20.0s
ULM Lac du Bonnet 108.57 40 IAMs_20 IAMs_20 10 09 19.1
comp=Z,5µm,22.0s
WHTX Lake Whitney, 108.65 59 IAMs_20 IAMs_20 10 10 35.4
comp=Z,6µm,20.0s
ECSD EROS Data Cent 108.78 47 IAMs_20 IAMs_20 10 12 51.0
comp=Z,4µm,21.0s
F33A 5 Mile Ranch, 108.81 45 IAMs_20 IAMs_20 10 16 15.7
comp=Z,6µm,19.0s
AGMN Agassiz Nation 108.82 42 IAMs_20 IAMs_20 10 12 57.0
comp=Z,5µm,20.0s
L34A Svendsen Farm, 109.09 49 IAMs_20 IAMs_20 10 12 16.6
comp=Z,5µm,20.0s
KSU1 Kansas State U 109.11 52 IAMs_20 IAMs_20 10 20 15.2
comp=Z,3µm,18.0s
T35A Sooner Cattle 109.30 54 IAMs_20 IAMs_20 10 09 46.4
comp=Z,7µm,22.0s
MAK Makhachkala 110.16 312 *e*P **Pdif** **09 28 18.5 -3.4**
MAK *i* 09 32 19.8
MAK *e* 09 32 54.1
MAK *e*PPP PPP 09 35 13.2
MAK *e* 09 38 56.0
MAK *e*PS **PS** **09 42 25.9 -1.2**
MAK *e*SS SS 09 48 30.5 +7.6
MAK *e*SSS SSS 09 52 28.8
MAK pmax pmax
comp=Z,264nm,1.1s
B35A Bob, Littlefor 110.23 42 IAMs_20 IAMs_20 10 15 48.1
comp=Z,4µm,19.0s
LVZ Lovozero 110.31 340 IAMs_20 IAMs_20 10 19 15.1
comp=Z,5µm,20.0s
X37A Clayton 110.33 57 IAMs_20 IAMs_20 10 10 32.8
comp=Z,6µm,21.0s
TMCR Tamitsa 110.59 336 *e*P **Pdif** **09 28 21.1 -2.2**
TMCR pmax pmax
comp=Z,18nm,0.8s
F36A Milaca 110.72 45 IAMs_20 IAMs_20 10 16 38.5
comp=Z,5µm,19.0s
APA Apatity 110.89 340⇓ *i*PKIKP **PKiKP** **09 32 20.6 -3.4**
APA pmax pmax
comp=Z,9.0nm,0.9s
APA MLR MLR
comp=Z,6µm,22.0s
U38A Gravette 111.03 55 IAMs_20 IAMs_20 10 10 48.3
comp=Z,6µm,22.0s
I37A Lemond, Waseca 111.06 46 IAMs_20 IAMs_20 10 17 15.4
comp=Z,3µm,20.0s
KLMR Klimovskoe 111.11 332 *e*P **Pdif** **09 28 23.7 -2.0**
KLMR *i* 09 32 25.6
KLMR *e* 09 32 59.4
KLMR *e*PS **PS** **09 42 33.9 -1.2**
KLMR *e* 09 43 30.7
KLMR *e*SS SS 09 48 33.5 -0.9
KLMR pmax pmax
comp=Z,20nm,1.5s
KLMR Klimovskoe 111.11 332 *e*Pdif **Pdif** **09 28 23.8 -2.0**
KLMR AMP 09 28 27.5
comp=Z,20nm,1.5s
KLMR *e*PKiKP **PKiKP** **09 32 25.6 +1.0**
KLMR *e*PP **PP** **09 32 59.5 -4.0**
KLMR *e*PS **PS** **09 42 33.9 -1.2**
KLMR *e*PS **PS** **09 42 33.9 -1.2**
KLMR *e*PKKPab **PKKPab** **09 43 30.8 -0.2**
KLMR *e*SS **SS** **09 48 33.5 -0.9**
KLMR *e*SS **SS** **09 48 33.5 -0.9**
KLMR LQ LQ 10 09 09.6
KLMR LQ LQ 10 09 09.6
KLMR LR LR 10 13 57.4
SPMN Marine on St. 111.31 45 IAMs_20 IAMs_20 10 17 36.1
comp=Z,5µm,19.0s
SCIA State Center 111.45 49 IAMs_20 IAMs_20 10 14 18.8
comp=Z,5µm,20.0s
K38A Parkersburg 111.69 48 IAMs_20 IAMs_20 10 16 04.1
comp=Z,5µm,20.0s
KEV Kevo 111.75 343 IAMs_20 IAMs_20 10 17 16.0
comp=Z,4µm,22.0s
EYMN Ely 111.77 42 IAMs_20 IAMs_20 10 14 45.9
comp=Z,3µm,20.0s
S39A Bolivar 111.79 53 IAMs_20 IAMs_20 10 14 39.1
comp=Z,4µm,20.0s
LL01 San Ignacio de 111.86 143 IAMs_20 IAMs_20 10 09 00.9
comp=Z,3µm,20.0s
E38A The Farm, Brul 111.96 44 IAMs_20 IAMs_20 10 12 55.1
comp=Z,3µm,21.0s
EFI East Falkland 112.28 158 IAMs_20 IAMs_20 10 11 29.7
comp=Z,3µm,20.0s
441A DeRidder 112.33 61 IAMs_20 IAMs_20 10 17 02.8
comp=Z,5µm,19.0s
R40A Maddies Statio 112.56 53 IAMs_20 IAMs_20 10 14 36.6
comp=Z,4µm,21.0s
P40A Paris 112.60 51 IAMs_20 IAMs_20 10 16 01.5
comp=Z,6µm,20.0s
WHAR Wooly Hollow 112.82 56 IAMs_20 IAMs_20 10 13 57.5
comp=Z,5µm,20.0s
L40A Anamosa 112.90 48 IAMs_20 IAMs_20 10 13 08.3
comp=Z,5µm,22.0s
342A Flagon Creek P 113.04 60 IAMs_20 IAMs_20 10 18 28.7
comp=Z,5µm,18.0s
I40A Norwalk 113.06 46 IAMs_20 IAMs_20 10 20 47.4
comp=Z,4µm,18.0s
G40A Rib Lake 113.12 45 IAMs_20 IAMs_20 10 15 05.9
comp=Z,3µm,20.0s
CCAR Cane Creek 113.35 57 IAMs_20 IAMs_20 10 14 27.7
comp=Z,6µm,20.0s
CCM Cathedral Cave 113.39 53 IAMs_20 IAMs_20 10 15 12.5
comp=Z,5µm,20.0s
RTAL Retalhuleu 113.45 78 IAMs_20 IAMs_20 10 14 41.4
comp=Z,3µm,18.0s
DAMY Dhamar 113.45 282 IAMs_20 IAMs_20 10 25 09.8
comp=Z,3µm,20.0s
JFWS Jewell Farm 113.49 47 IAMs_20 IAMs_20 10 12 34.7
comp=Z,3µm,22.0s
KIV Kislovodsk 113.50 314 *e*P **Pdif** **09 28 35.1 -1.8**
KIV *i* 09 32 28.3
KIV *e* 09 33 19.2
KIV *e*PS **SP** **09 42 55.2 +0.3**
KIV *e*SS **SS** **09 49 07.1 -0.4**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,8µm,21.0s
T42A Van Buren 113.62 54 IAMs_20 IAMs_20 10 15 25.7
comp=Z,5µm,20.0s
COWI Conover 113.70 44 IAMs_20 IAMs_20 10 13 38.1
comp=Z,4µm,22.0s
MOS Moscow 113.75 327 *i* PKIKP **PKiKP** **09 32 29.9 +0.1**
MOS *e* 09 33 20.5
MOS *e*PS **SP** **09 42 46.8 -9.4**
MOS pmax pmax
comp=Z,36nm,0.9s
MOS MLR MLR
comp=N,4µm,21.0s
MOS MLR MLR
comp=E,4µm,21.0s
MOS MLR MLR
comp=Z,5µm,21.0s
D41A Chassel 113.89 43 IAMs_20 IAMs_20 10 20 26.1
comp=Z,4µm,19.0s
L42A Oliver, Polo 114.06 48 IAMs_20 IAMs_20 10 16 00.8
comp=Z,4µm,20.0s
SLM Saint Louis 114.11 52 IAMs_20 IAMs_20 10 16 52.4
comp=Z,5µm,20.0s
HBAR Harrisburg 114.12 55 IAMs_20 IAMs_20 10 12 33.0
comp=Z,5µm,22.0s
I42A Draeger Farm, 114.28 46 IAMs_20 IAMs_20 10 19 01.5
comp=Z,5µm,19.0s
LPAR Lepanto 114.41 55 IAMs_20 IAMs_20 10 14 37.5
comp=Z,4µm,20.0s
F42A Maple Grove Fa 114.45 44 IAMs_20 IAMs_20 10 18 33.1
comp=Z,3µm,19.0s
OBN Obninsk 114.52 327⇓ *i*PKIKP **PKiKP** **09 32 32.9 +1.6**
OBN *e* 09 33 27.6
OBN *e*PPP PPP 09 35 50.1
OBN *e* 09 39 43.4
OBN *e*SS SS 09 49 22.0 +2.2
OBN *e*SSS SSS 09 53 33.8
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,2µm,19.0s
OBN Obninsk 114.52 327 IAMs_20 IAMs_20 10 19 32.6
comp=Z,4µm,22.0s
P43A Skaggs, Pawnee 114.52 51 IAMs_20 IAMs_20 10 16 45.4
comp=Z,5µm,20.0s
VBMS Vicksburg 114.52 59 IAMs_20 IAMs_20 10 19 52.9
comp=Z,4µm,19.0s
HDIL Hopedale 114.56 50 IAMs_20 IAMs_20 10 17 27.3
comp=Z,5µm,20.0s
GNAR Gosnell 114.59 55 IAMs_20 IAMs_20 10 14 29.5
comp=Z,5µm,22.0s
PEBM Pemiscott Bayo 114.70 55 IAMs_20 IAMs_20 10 14 43.4
comp=Z,6µm,21.0s
BI03 Tigo 114.70 138 IAMs_20 IAMs_20 10 16 53.7
comp=Z,3µm,18.0s
K43A Burlington 114.91 47 IAMs_20 IAMs_20 10 14 12.4
comp=Z,4µm,22.0s
H43A Windswept, Lux 114.97 45 IAMs_20 IAMs_20 10 20 14.9
comp=Z,4µm,18.0s
S44A Carbondale 115.00 53 IAMs_20 IAMs_20 10 13 38.0
comp=Z,5µm,22.0s
Q44A Meyer Farm, Va 115.02 52 IAMs_20 IAMs_20 10 18 15.5
comp=Z,5µm,20.0s
E43A Lone Tree Farm 115.09 43 IAMs_20 IAMs_20 10 16 48.0
comp=Z,4µm,20.0s
Y45A Yeager Farm, C 115.20 57 IAMs_20 IAMs_20 10 13 33.7
comp=Z,4µm,22.0s
O44A Mansfield 115.25 50 IAMs_20 IAMs_20 10 16 58.5
comp=Z,5µm,20.0s
HQIL Hanson Quary C 115.42 48 IAMs_20 IAMs_20 10 16 51.1
comp=Z,5µm,20.0s
346A Big Creek Wild 115.48 60 IAMs_20 IAMs_20 10 14 40.3
comp=Z,5µm,20.0s
SOC Sochi 115.69 314 *i* PKIKP **PKPdf** **09 32 31.1 -2.8**
SOC *e* 09 33 32.9
SOC *e*PPP PPP 09 36 01.2
SOC *e* 09 39 25.3
SOC *e*PS **PKKPab** **09 43 11.3 +0.1**
SOC pmax pmax
comp=Z,54nm,0.9s
SOC MLR MLR
comp=Z,2µm,20.0s
PUL Pulkovo 115.74 333⇑ *i*PKIKP **PKPdf** **09 32 34.4 +0.9**
OLIL Olney 115.75 52 IAMs_20 IAMs_20 10 17 58.9
comp=Z,5µm,20.0s
I45A Fountain 116.14 45 IAMs_20 IAMs_20 10 22 19.9
comp=Z,5µm,18.0s
SFIN Lafayette 116.24 50 IAMs_20 IAMs_20 10 19 13.8
comp=Z,4µm,19.0s
P46A Rosedale 116.29 50 IAMs_20 IAMs_20 10 15 53.2
comp=Z,4µm,20.0s
G45A Suttons Bay 116.32 44 IAMs_20 IAMs_20 10 17 39.4
comp=Z,4µm,21.0s
WVT Waverly 116.33 54 IAMs_20 IAMs_20 10 15 57.6
comp=Z,4µm,20.0s
Z47A Carrollton 116.49 58 IAMs_20 IAMs_20 10 16 15.9
comp=Z,6µm,21.0s
BLO Bloomington 116.89 51 IAMs_20 IAMs_20 10 18 04.1
comp=Z,4µm,19.0s
E46A Sault Ste Mari 116.90 43 IAMs_20 IAMs_20 10 18 22.7
comp=Z,5µm,20.0s
ANN Anapa 117.01 316 *i* PKIKP **PKPdf** **09 32 30.4 -6.0**
ANN pmax pmax
comp=Z,130nm,0.9s
ANN MLR MLR
comp=Z,3µm,22.0s
GLMI Grayling 117.08 44 IAMs_20 IAMs_20 10 20 26.7
comp=Z,3µm,21.0s
V48A Smith Brothers 117.20 55 IAMs_20 IAMs_20 10 16 43.5
comp=Z,5µm,20.0s
J47A Sunmer 117.32 46 IAMs_20 IAMs_20 10 23 08.1
comp=Z,5µm,19.0s
LRAL Lakeview Retre 117.40 58 IAMs_20 IAMs_20 10 16 54.1
comp=Z,5µm,20.0s
CLTN Cedars of Leba 117.54 54 IAMs_20 IAMs_20 10 15 53.5
comp=Z,5µm,21.0s
BRAL Brewton 117.56 60 IAMs_20 IAMs_20 10 19 51.3
comp=Z,3µm,20.0s
R49A Shelbyville 118.09 52 IAMs_20 IAMs_20 10 19 48.0
comp=Z,4µm,20.0s
250A Grady 118.14 59 IAMs_20 IAMs_20 10 16 56.6
comp=Z,5µm,21.0s
O49A Covington 118.35 49 IAMs_20 IAMs_20 10 18 59.6
comp=Z,3µm,19.0s
AAM Ann Arbor 118.38 47 IAMs_20 IAMs_20 10 17 50.1
comp=Z,4µm,20.0s
KMBO Kilima Mbogo 118.46 264 PKP **PKiKP** **09 32 41.5 +1.0**
comp=Z,0.6nm,0.3s,baz=119,slow=5.7,SNR=4.2
FURI Furi 118.54 275 IAMs_20 IAMs_20 10 24 35.6
comp=Z,4µm,21.0s
I49A Point Hope 118.55 45 IAMs_20 IAMs_20 10 19 07.6
comp=Z,5µm,21.0s
451A Vernon 118.73 60 IAMs_20 IAMs_20 10 18 17.4
comp=Z,4µm,20.0s
R50A Paris 118.74 51 IAMs_20 IAMs_20 10 16 02.1
comp=Z,5µm,22.0s
X51A Calhoun 118.96 56 IAMs_20 IAMs_20 10 17 05.3
comp=Z,5µm,21.0s
M50A Fremont 119.03 48 IAMs_20 IAMs_20 10 20 08.6
comp=Z,4µm,20.0s
V51A Loudon 119.17 54 IAMs_20 IAMs_20 10 18 43.7
comp=Z,5µm,20.0s
CO02 Combarbal 119.25 134 IAMs_20 IAMs_20 10 11 00.7
comp=Z,4µm,22.0s
352A Blakely 119.33 59 IAMs_20 IAMs_20 10 22 20.2
comp=Z,4µm,18.0s
Q51A Peebles 119.34 50 IAMs_20 IAMs_20 10 18 29.0
comp=Z,4µm,20.0s
ACSO Alum Creek Sta 119.35 49 IAMs_20 IAMs_20 10 24 34.1
comp=Z,3µm,19.0s
P51A Williamsport 119.46 50 IAMs_20 IAMs_20 10 16 41.0
comp=Z,4µm,22.0s
BOSA Boshof 119.50 230 PKP **PKiKP** **09 32 42.9 +0.8**
comp=Z,5.2nm,1.0s,baz=114,slow=3.6,SNR=5.7
CO03 El Pedregal 119.68 134 IAMs_20 IAMs_20 10 12 42.0
comp=Z,3µm,22.0s
553A Crawfordville 119.91 61 IAMs_20 IAMs_20 10 23 10.6
comp=Z,5µm,20.0s
GO04 Tololo Observa 119.97 133 IAMs_20 IAMs_20 10 11 53.7
comp=Z,5µm,21.0s
P52A Corning 120.13 50 IAMs_20 IAMs_20 10 17 44.6
comp=Z,5µm,22.0s
O52A Adamsville 120.23 49 IAMs_20 IAMs_20 10 22 02.5
comp=Z,4µm,19.0s
AKASG Malin Array Be 120.30 324 PKP **PKiKP** **09 32 44.4 +1.7**
comp=Z,6.4nm,0.8s,baz=59,slow=2.6,SNR=19
AKASG PKKPbc **PKKPbc** **09 42 54.5 +3.3**
comp=Z,0.4nm,0.4s,baz=256,slow=4.2,SNR=5.9
AKASG Malin Array Be 120.30 324 PKIKP **PKPdf** **09 32 42.4 -0.2**
AKASG Malin Array Be 120.30 324 PKPdf **PKPdf** **09 32 42.4 -0.2**
AKBB Malin Array Si 120.30 324 IAMs_20 IAMs_20 10 24 19.8
comp=Z,5µm,22.0s
BG3 Lake Jocassee 120.46 55 IAMs_20 IAMs_20 10 17 21.7
comp=Z,5µm,21.0s
TIGA Tifton 120.47 59 IAMs_20 IAMs_20 10 18 19.3
comp=Z,4µm,20.0s
R53A Hurricane 120.56 51 IAMs_20 IAMs_20 10 27 20.2
comp=Z,3µm,18.0s
CO01 Juntas del Tor 120.58 133 IAMs_20 IAMs_20 10 13 11.0
comp=Z,5µm,22.0s
P53A Whipple 120.72 50 IAMs_20 IAMs_20 10 17 37.3
comp=Z,4µm,22.0s
N53A Lisbon 120.80 48 IAMs_20 IAMs_20 10 17 03.2
comp=Z,5µm,22.0s
SADO Sadowa 120.84 43 IAMs_20 IAMs_20 10 18 07.9
comp=Z,4µm,22.0s
BRTR Keskin Array B 121.00 311 PKP **PKPdf** **09 32 43.5 -0.9**
comp=Z,0.5nm,0.5s,baz=96,slow=2.9,SNR=1.6
ERPA Erie 121.05 46 IAMs_20 IAMs_20 10 19 03.9
comp=Z,4µm,21.0s
Q54A Coxs Mills 121.26 50 IAMs_20 IAMs_20 10 19 07.6
comp=Z,5µm,21.0s
H53A Bobcaygeon 121.28 43 P **PKPdf** **09 32 42.4 -2.3**
baz=289
O54A Avella 121.30 49 P **PKPdf** **09 32 43.9 -1.0**
baz=285
G54A Lake Saint Pet 121.33 42 P **PKPdf** **09 32 44.8 0.0**

baz=290
255A Hazlehurst 121.34 58 IAMs_20 IAMs_20 10 18 44.3
comp=Z,5μm,21.0s
P54A Burton 121.37 49 P PKPdf 09 32 44.0 -1.0
baz=285
N54A Moraine State 121.38 48 P PKPdf 09 32 44.0 -1.0
baz=286
N54A Moraine State 121.38 48 IAMs_20 IAMs_20 10 25 52.5
comp=Z,4μm,19.0s
M54A Oil Creek Stat 121.46 47 P PKPdf 09 32 44.2 -1.0
baz=286
L54A Sinclairville 121.50 46 P PKPdf 09 32 44.5 -0.7
baz=287
656A Willston 121.64 61 IAMs_20 IAMs_20 10 20 01.6
comp=Z,5μm,20.0s
J54A Appleton 121.66 45 IAMs_20 IAMs_20 10 31 05.7
comp=Z,3μm,18.0s
V55A Taylorsville 121.67 54 P PKPdf 09 32 44.7 -1.0
baz=282
GO03 Copiap 121.78 131 IAMs_20 IAMs_20 10 13 00.0
comp=Z,3μm,22.0s
MEDO Medina 121.82 45 IAMs_20 IAMs_20 10 21 17.0
comp=Z,3μm,20.0s
SORM Soroca 121.87 322 ⇑P PKiKP 09 32 49.6 +3.8
SORM Soroca 121.87 322 ⇑PKIKP PKiKP 09 32 49.6 +3.8
456A Hilliard 121.90 60 IAMs_20 IAMs_20 10 21 34.3
comp=Z,4μm,20.0s
JSC Jenkinsville 121.94 55 IAMs_20 IAMs_20 10 18 07.1
comp=Z,4μm,22.0s
DELO Deloro Mine 121.95 43 IAMs_20 IAMs_20 10 19 31.3
comp=Z,4μm,20.0s
R55A Marlinton 121.97 51 P PKPdf 09 32 45.5 -0.8
baz=284
R55A Marlinton 121.97 51 IAMs_20 IAMs_20 10 29 54.6
comp=Z,4μm,18.0s
I55A Frankford 122.01 43 P PKPdf 09 32 45.5 -0.5
baz=290
SUW Suwalki 122.01 329 *e*PKiKP PKiKP 09 32 51.2 +5.3
SUW *e*L L 10 23 50.0
comp=Z,5μm,23.7s
SUW Suwalki 122.01 329 IAMs_20 IAMs_20 10 23 44.9
comp=Z,5μm,22.0s
M55A Ridgway 122.12 47 P PKPdf 09 32 46.3 -0.1
baz=287
L55A Hinsdale 122.14 46 P PKiKP 09 32 46.6 0.0
baz=288
N55A Marion Center 122.16 48 P PKPdf 09 32 46.4 -0.2
baz=287
K55A Perry 122.22 45 P PKPdf 09 32 46.5 -0.1
baz=288
H55A Tweed 122.23 43 P PKPdf 09 32 46.2 -0.3
baz=290
J55A Hilton 122.23 44 P PKPdf 09 32 45.6 -0.9
baz=289
J55A Hilton 122.23 44 IAMs_20 IAMs_20 10 35 36.8
comp=Z,3μm,18.0s
AC01 Pan de Azucar 122.27 129 IAMs_20 IAMs_20 10 15 42.2
comp=Z,4μm,21.0s
G55A Calabogie 122.29 42 P PKPdf 09 32 46.6 0.0
baz=291
MMNY Mt. Morris Dam 122.34 45 IAMs_20 IAMs_20 10 23 32.8
comp=Z,4μm,19.0s
D55A Sainte-Anne-du 122.42 40 P PKiKP 09 32 49.9 +3.0
baz=293
NB2 NORSAR Subarra 122.44 341 PKPdf PKiKP 09 32 51.0 +4.3
comp=Z,4.1nm,1.2s,baz=44,slow=1.9
NOA NORSAR Array B 122.44 341 PKP PKPdf 09 32 46.5 0.0
comp=Z,1.1nm,1.0s,baz=44,slow=2.3,SNR=5.5
Q56A Snyder Ridge, 122.48 50 IAMs_20 IAMs_20 10 31 10.0
comp=Z,3μm,18.0s
M56A Emporium 122.53 47 P PKiKP 09 32 50.7 +3.3
baz=288
257A Skidaway Islan 122.55 58 IAMs_20 IAMs_20 10 22 37.3
comp=Z,4μm,20.0s
PECO Prince Edward 122.57 43 IAMs_20 IAMs_20 10 21 23.7
comp=Z,3μm,20.0s
O56A Blue Knob Stat 122.61 48 IAMs_20 IAMs_20 10 25 39.2
comp=Z,3μm,19.0s
W57A Gilead 122.79 54 P PKiKP 09 32 51.5 +3.4
baz=282
D56A ZEC Mazanza, M 122.86 39 P PKiKP 09 32 51.1 +3.3
baz=294
J56A Wolcott 122.89 44 IAMs_20 IAMs_20 10 24 56.2
comp=Z,3μm,20.0s
SSPA Standing Stone 123.00 47 IAMs_20 IAMs_20 10 22 59.4
comp=Z,4μm,20.0s
NNA Nana 123.01 111 IAMs_20 IAMs_20 10 14 09.0
comp=Z,3μm,22.0s
LSZ Lusaka 123.07 245 PKIKP PKiKP 09 32 50.8 +1.5
LSZ Lusaka 123.07 245 PKiKP 09 32 50.8 +1.5
LSZ Lusaka 123.07 245 IAMs_20 IAMs_20 10 21 36.8
comp=Z,3μm,21.0s
P57A Homestead Farm 123.24 49 IAMs_20 IAMs_20 10 25 26.0
comp=Z,4μm,19.0s
TIRR Tirgusor 123.24 318 ⇓P PKiKP 09 32 51.9 +3.3
TIRR Tirgusor 123.24 318 ⇓PKIKP PKiKP 09 32 51.9 +3.3
SCHQ Schefferville 123.31 28 IAMs_20 IAMs_20 10 20 59.4
comp=Z,5μm,20.0s
M57A Sunshine Farm, 123.33 46 P PKiKP 09 32 51.7 +2.7
baz=288
M57A Sunshine Farm, 123.33 46 IAMs_20 IAMs_20 10 20 13.1
comp=Z,5μm,21.0s
D57A Chemin Vers le 123.42 39 P PKiKP 09 32 50.7 +1.8
baz=295
J57A Williamstown 123.43 44 IAMs_20 IAMs_20 10 25 49.5
comp=Z,4μm,19.0s
H57A Richville 123.46 42 P PKiKP 09 32 51.6 +2.6
baz=292
I57A Carthage 123.47 43 P PKiKP 09 32 51.7 +2.5
baz=291
HARR Harsova 123.48 318 ⇑P PKiKP 09 32 53.0 +3.9
HARR Harsova 123.48 318 ⇑PKIKP PKiKP 09 32 53.0 +3.9
E57A Chemin Saint G 123.50 40 P PKiKP 09 32 51.2 +2.0
baz=294
GO02 Mina Guanaco 123.56 129 IAMs_20 IAMs_20 10 14 24.4
comp=Z,3μm,21.0s
PB10 IPOC Station P 123.65 126 IAMs_20 IAMs_20 10 19 16.0
comp=Z,3μm,20.0s
LVV L'vov 123.68 325 *e*PKIKP PKiKP 09 32 50.5 +1.1
LVV *e* 09 44 28.1
LVV MLR MLR
comp=E,3μm,23.0s
LVV MLR MLR
comp=N,1μm,22.0s
LVV MLR MLR
comp=Z,3μm,22.0s
BIZ Bicaz 123.75 321 ⇓P PKiKP 09 32 52.8 +3.2
R58B Mineral 123.76 50 IAMs_20 IAMs_20 10 18 48.9
comp=Z,5μm,22.0s
N58A Sunbury 123.78 47 P PKiKP 09 32 52.3 +2.4
baz=288
VRI Vrincioaia 123.80 320 ⇑P PKiKP 09 32 53.2 +3.4
VRI Vrincioaia 123.80 320 ⇑PKIKP PKiKP 09 32 53.2 +3.4
060A Indiantown 123.83 64 IAMs_20 IAMs_20 10 21 06.7
comp=Z,3μm,22.0s
O58A Lewisberry 123.85 48 P PKiKP 09 32 53.4 +3.4
baz=288
K58A Earlville 123.89 44 P PKiKP 09 32 52.1 +2.0
baz=290
K58A Earlville 123.89 44 IAMs_20 IAMs_20 10 21 21.9
comp=Z,4μm,21.0s
J58A Remsen 123.93 44 IAMs_20 IAMs_20 10 19 29.8
comp=Z,5μm,22.0s
LONY Lake Ozonia 123.93 42 P PKiKP 09 32 52.8 +2.8
baz=293
LONY Lake Ozonia 123.93 42 IAMs_20 IAMs_20 10 22 33.7
comp=Z,3μm,21.0s
LATQ La Tuque 123.94 38 IAMs_20 IAMs_20 10 19 58.7
comp=Z,3μm,21.0s
PAGS Pennsylvania G 123.97 48 IAMs_20 IAMs_20 10 24 35.1
comp=Z,3μm,18.0s
KONO Kongsberg 124.02 340 IAMs_20 IAMs_20 10 29 23.5
comp=Z,4μm,20.0s
KSPA Keystone Colle 124.22 46 IAMs_20 IAMs_20 10 21 32.8
comp=Z,4μm,20.0s
H58A Gabriels 124.28 42 P PKiKP 09 32 52.7 +1.9
baz=293
MVL Millersville 124.31 48 IAMs_20 IAMs_20 10 22 21.2
comp=Z,3μm,21.0s
J59A Piesco 124.42 43 P PKiKP 09 32 53.5 +2.4
baz=292
J59A Piesco 124.42 43 IAMs_20 IAMs_20 10 24 51.8
comp=Z,4μm,19.0s
K59A Cooperstown 124.44 44 P PKiKP 09 32 53.2 +2.1
baz=291
MLR Muntele Rosu 124.45 319 ⇓P PKiKP 09 32 55.3 +4.1
MLR Muntele Rosu 124.45 319 PKIKP PKPdf 09 32 50.7 -0.2
MLR MLR MLR
comp=Z,4μm,22.0s
MLR Muntele Rosu 124.45 319 PKPdf PKPdf 09 32 50.7 -0.2
MLR IAMs_20 IAMs_20 10 26 17.2
comp=Z,4μm,22.0s
M59A Waymart 124.47 46 P PKiKP 09 32 54.2 +3.0
baz=290
FRNY Flat Rock 124.50 41 IAMs_20 IAMs_20 10 18 54.7
comp=Z,5μm,21.0s
KWP Kalwaria Pacla 124.52 325 *e*PKiKP PKiKP 09 32 56.3 +5.2
KWP *e*L L 10 24 39.8
comp=Z,5μm,26.2s
KWP Kalwaria Pacla 124.52 325 IAMs_20 IAMs_20 10 28 37.2
comp=Z,4μm,21.0s
PB04 IPOC Station P 124.56 125 IAMs_20 IAMs_20 10 15 25.2
comp=Z,4μm,22.0s
DOPR Dopca 124.61 320 ⇓P PKiKP 09 32 55.0 +3.6
PB15 IPOC Station P 124.66 127 IAMs_20 IAMs_20 10 15 48.8
comp=Z,3μm,21.0s
PB06 IPOC Station P 124.83 126 IAMs_20 IAMs_20 10 15 09.5
comp=Z,4μm,21.0s
WUPA West Chester U 124.87 48 IAMs_20 IAMs_20 10 22 35.1
comp=Z,3μm,21.0s
O60A Telford 124.89 47 P PKiKP 09 32 55.0 +3.0
baz=289
MBAR Mbarara 124.94 263 IAMs_20 IAMs_20 10 22 29.7
comp=Z,3μm,22.0s
PSUB Penn St. - Bra 124.99 48 IAMs_20 IAMs_20 10 22 37.1
comp=Z,5μm,20.0s
Q60A Greensboro 124.99 49 IAMs_20 IAMs_20 10 26 35.3
comp=Z,4μm,18.0s
VOIR 125.05 320 ⇓P PKiKP 09 32 56.4 +4.0
VOIR 125.05 320 ⇓PKIKP PKiKP 09 32 56.4 +4.0
F60A Warwick 125.07 40 P PKiKP 09 32 52.9 +0.6
baz=296
KOLS Kolonicke sedl 125.11 325 *e*PKIKP PKiKP 09 32 57.2 +4.9
KOLS Kolonicke sedl 125.11 325 *e*PKP PKiKP 09 32 57.2 +4.9
MANT Manisa 125.14 311 IAMs_20 IAMs_20 10 38 01.8
comp=Z,5μm,21.0s
G60A Masonville 125.20 41 P PKiKP 09 32 54.7 +2.1
baz=295
ODNJ Ogdensburg 125.21 46 IAMs_20 IAMs_20 10 21 49.9
comp=Z,5μm,21.0s
UZH Uzhgorod 125.25 324 *e*PKIKP PKiKP 09 32 53.7 +1.2
UZH *e* 09 32 59.8
UZH *e* 09 33 04.8
ARR Arges 125.34 320 ⇑P PKiKP 09 32 56.6 +3.7
LVC Limon Verde 125.41 126 IAMs_20 IAMs_20 10 16 22.6
comp=Z,4μm,21.0s
PB09 IPOC Station P 125.55 125 IAMs_20 IAMs_20 10 15 31.6
comp=Z,3μm,20.0s
CRVS Cervenica-Dubn 125.59 325 *e*PKIKP PKiKP 09 32 59.3 +6.1
CRVS Cervenica-Dubn 125.59 325 *e*PKP PKiKP 09 32 59.3 +6.1
PB01 IPOC Station P 125.72 124 IAMs_20 IAMs_20 10 15 46.3
comp=Z,3μm,21.0s
I61A Oroboro, Fairl 125.77 42 P PKiKP 09 32 55.2 +1.5
baz=294
E61A Lac Etchemin 125.77 38 P PKiKP 09 32 56.3 +2.6
baz=298
J61A Chester 125.78 43 P PKPdf 09 32 53.2 -0.1
baz=294
OJC Ojcow 125.81 327 *e*PKiKP PKiKP 09 32 58.9 +5.3
OJC *e*L L 10 26 10.1
comp=Z,7μm,24.3s
HNH Hanover 125.81 42 IAMs_20 IAMs_20 10 23 51.5
comp=Z,4μm,20.0s
LBNH Lisbon 125.83 41 IAMs_20 IAMs_20 10 26 50.8
comp=Z,5μm,19.0s
PSGCX Pisagua 125.89 122 IAMs_20 IAMs_20 10 15 35.0
comp=Z,5μm,21.0s
V62A Hyde County Ai 125.89 53 P PKPdf 09 32 53.5 -0.3
baz=286
NIE Niedzica 125.97 326 *e*PKiKP PKiKP 09 32 56.5 +2.5
NIE *e*PP PP 09 34 46.5 -0.1
NIE *e*L L 10 26 52.3
comp=Z,3μm,23.8s
WSPT Westport, CT 126.08 45 IAMs_20 IAMs_20 10 24 07.9
comp=Z,4μm,20.0s
H62A Milan 126.18 41 P PKPdf 09 32 53.5 -0.6
baz=296
BBAC Balboa, Cauca 126.22 94 *e*P PKiKP 09 32 55.7 -0.1
AP01 Chacalluta 126.27 121 IAMs_20 IAMs_20 10 16 19.2
comp=Z,4μm,21.0s
RGN Rugen 126.28 334 IAMs_20 IAMs_20 10 30 26.9
comp=Z,3μm,22.0s
J62A Henniker 126.32 43 P PKiKP 09 32 54.7 -0.1
baz=294
FFD Franklin Falls 126.33 42 IAMs_20 IAMs_20 10 22 50.1
comp=Z,5μm,21.0s
D62A Allapoint, All 126.33 37 IAMs_20 IAMs_20 10 23 13.9
comp=Z,4μm,20.0s
I62A Tamworth 126.37 42 P PKPdf 09 32 53.5 -1.0
baz=295
GZR Gura Zlata 126.51 321 ⇑P PKiKP 09 32 58.1 +2.9
GZR Gura Zlata 126.51 321 ⇑PKIKP PKiKP 09 32 58.1 +2.9
MNMC Minye Minye 126.55 122 IAMs_20 IAMs_20 10 16 36.4
comp=Z,4μm,20.0s
GO01 Chusmiza 126.63 123 IAMs_20 IAMs_20 10 15 00.7
comp=Z,3μm,22.0s
I63A Otisfield 126.78 41 P PKPdf 09 32 52.4 -2.8
baz=296
HRV Adam Dziewonsk 126.79 43 P PKPdf 09 32 55.4 +0.2
baz=294
HRV Adam Dziewonsk 126.79 43 IAMs_20 IAMs_20 10 28 25.3
comp=Z,4μm,18.0s
D63A Stockholm 126.92 37 P PKiKP 09 32 56.3 +0.4
baz=300
G63A Kingsbury 126.92 40 P PKPdf 09 32 52.7 -2.8
baz=298
PSZ Piszkesteto 126.99 325 ⇓P PKiKP 09 32 59.1 +3.0
PSZ Piszkesteto 126.99 325 ⇓PKIKP PKiKP 09 32 59.1 +3.0
PSZ Piszkesteto 126.99 325 IAMs_20 IAMs_20 10 29 56.8
comp=Z,4μm,21.0s
WES Weston 127.00 43 IAMs_20 IAMs_20 10 28 12.9
comp=Z,4μm,18.0s
PKME Peaks-Kenny Pk 127.06 39 P PKPdf 09 32 54.8 -0.9
baz=298
BCX Boston College 127.12 43 IAMs_20 IAMs_20 10 28 24.1
comp=Z,4μm,19.0s
BZS Buzias 127.12 321 ⇓P PKiKP 09 32 59.3 +3.0
BZS Buzias 127.12 321 ⇓PKIKP PKiKP 09 32 59.3 +3.0
PQI Presque Isle 127.15 37 IAMs_20 IAMs_20 10 24 36.5
comp=Z,5μm,21.0s
MORC Moravsky Berou 127.26 328 *e*PKP PKiKP 09 32 57.7 +1.1
KSP Ksiaz 127.28 329 *e*PKiKP PKiKP 09 33 00.4 +3.9
KSP *e*PP PP 09 34 51.6 -3.4
KSP *e*L L 10 27 34.8
comp=Z,4μm,24.8s
VYHS Vyhne 127.28 326 *e*PKIKP PKiKP 09 33 01.8 +5.2
VYHS Vyhne 127.28 326 *e*PKP PKiKP 09 33 01.8 +5.2
H64A Troy 127.39 40 P PKiKP 09 32 56.7 -0.2
baz=298
G64A Maxfield 127.39 39 P PKPdf 09 32 56.2 -0.1
baz=298
I64A Boothbay 127.45 41 P PKPdf 09 32 55.5 -1.0
baz=297
MDVR Moldovita 127.46 320 ⇓P PKiKP 09 33 00.2 +3.1
KRLC Kraliky 127.49 328 AMS AMS 10 30 50.0
comp=Z,4μm,21.3s
OSTC Ostas 127.49 329 *e*PKP PKiKP 09 33 04.2 +7.2
OSTC *e*PP PP 09 34 57.9 +1.4
OSTC AMS AMS 10 28 00.0
comp=Z,4μm,21.7s
L64A Middleborough 127.51 44 P PKPdf 09 32 55.9 -0.7
baz=294
CHVC Chvalec 127.55 329 AMS AMS 10 28 50.0
comp=Z,4μm,21.6s
DPC Dobruska-Polom 127.56 329 *e*PP PP 09 34 59.5 +2.5
DPC *e*PS SP 09 44 54.8 -4.9
DPC AMS AMS 10 28 00.0
comp=Z,4μm,25.6s
UPC Upice 127.62 329 AMS AMS 10 28 00.0
comp=Z,4μm,22.1s
JAVC Velka Javorina 127.72 327 *e*PKP PKiKP 09 32 59.5 +2.0
BSEG Bad Segeberg 127.98 335 *e*PKPdf PKiKP 09 33 03.7 +6.0
baz=48,slow=1.8
CBOC Ciudad Bolivar 128.02 90 *e*P PKiKP 09 33 00.9 +1.6
VRAC Vranov 128.04 328 *e*PKP PKiKP 09 32 59.7 +1.6
G65A Princeton 128.16 39 P PKiKP 09 32 58.9 +0.5
baz=300
MODS Modra-Piesok 128.21 326 *e*PKIKP PKiKP 09 33 01.5 +3.0
MODS Modra-Piesok 128.21 326 *e*PKP PKiKP 09 33 01.5 +3.0
PTLC Puerto Leguiza 128.27 97 *e*P PKiKP 09 33 00.1 +0.5
KRUC Moravsky 128.29 327 *e*PKP PKiKP 09 32 59.8 +1.2
PVCC Panska Ves 128.34 330 AMS AMS 10 30 10.0
comp=Z,4μm,19.6s
BRG Berggiesshubel 128.43 330 *e*PKP PKiKP 09 32 58.6 -0.2
comp=Z,8.5nm,1.4s
BRG Berggiesshubel 128.43 330 *i* PKP PKiKP 09 33 04.0 +5.2
comp=Z,40nm,1.3s
comp=N,2μm,21.9s
comp=E,1μm,22.6s
BRG Berggiesshubel 128.43 330 *e*PKIKP PKiKP 09 32 58.6 -0.2
BRG *i* 09 33 04.0
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG pmax pmax
comp=Z,40nm,1.3s
BRG MLR MLR
comp=N,2μm,21.9s
BRG MLR MLR
comp=E,1μm,22.6s
BRG Berggiesshubel 128.43 330 *e*PKPdf PKiKP 09 33 04.2 +5.4
baz=48,slow=1.8
TOLC Tolima 128.53 92 *e*P PKiKP 09 33 00.2 -0.3
GUY2C Guyana, Caldas 128.57 91 *e*P PKiKP 09 33 01.1 +0.3
CLL Collm 128.59 331 *e*PKPdf PKiKP 09 33 00.0 +0.9
CLL ⇓*i*PKPdf(2) 09 33 04.8
comp=Z,27nm,1.2s
CLL *e* 09 33 12.0
CLL *e*PP PP 09 35 06.0 +2.4
CLL *e* 09 35 23.0
CLL *e* 09 35 42.0
CLL *e*PPP PPP 09 37 45.0
CLL *e* 09 38 54.0
CLL *e*PPPP 09 39 48.0
CLL *e*SKKSac SKKSac 09 42 00.0 -0.3
CLL *e*Sdif Sdif 09 43 12.0 +3.2
CLL *e*PS PS 09 45 09.0 -3.1
CLL *e*PPS PPS 09 46 48.0
CLL *e* 09 47 30.0
CLL *e*SS SS 09 52 24.0 +4.8
CLL *e*SSS SSS 09 57 00.0
CLL *e* 09 58 12.0
CLL *e*SSSS 10 00 30.0
CLL LmV 10 33 00.0
comp=Z,3μm,21.2s
CLL Lm(360 11 15 00.0
comp=N,300nm,21.2s
CLL Lm(360 11 15 00.0
comp=E,700nm,21.6s
CLL Lm(360 11 15 00.0
comp=Z,800nm,19.8s
CLL Collm 128.59 331 ⇓*i*PKIKP PKiKP 09 33 04.8 +5.7
CLL *e* 09 33 12.0
CLL *e* 09 35 06.0
CLL pmax pmax
comp=Z,27nm,1.2s
CLL MLR MLR
comp=Z,3μm,21.2s
CLL Collm 128.59 331 *e*PKPdf PKiKP 09 33 04.2 +5.1
baz=48,slow=1.8
CLL Collm 128.59 331 IAMs_20 IAMs_20 10 33 17.5
comp=Z,3μm,21.0s
GOPC GO Pecny, Ondr 128.61 329 *e*PKP PKiKP 09 33 05.5 +6.3
GOPC *e*PP PP 09 35 04.6 +0.7
GOPC *e*PS PS 09 45 10.5 -1.9
GOPC AMS AMS 10 29 30.0
comp=Z,4μm,20.2s
GOPC GO Pecny, Ondr 128.61 329 *e*PKIKP PKiKP 09 33 05.5 +6.3
GOPC *e* 09 35 04.6
GOPC *e*PS PS 09 45 10.5 -1.9
GOPC MLR MLR
comp=Z,4μm,20.2s
TREC Trest 128.63 328 AMS AMS 10 29 30.0
comp=Z,5μm,23.4s
MOTC Monteria, Cord 128.68 86 *e*P PKPdf 09 32 59.0 -0.7
FBE Freiberg 128.68 331 *e*PKPdf PKiKP 09 33 04.8 +5.5
baz=48,slow=1.8
PRU Pruhonice 128.69 329 *e*PP PP 09 35 06.3 +2.0
PRU *e*PS PS 09 45 06.3 -6.7
PRU AMS AMS 10 29 30.0
comp=Z,4μm,21.0s
PRA Prague 128.69 329 AMS AMS 10 29 20.0
comp=Z,2μm,20.9s
PRAC Prado 128.82 93 *e*P PKiKP 09 33 00.6 -0.2
DIVS Divibare 128.87 320 PKPdf PKiKP 09 33 00.5 +0.4
IDI Anoyia 128.92 308 ⇓P PKiKP 09 33 05.3 +5.0
NRDL Niedersach Rie 129.09 334 *e*PKPdf PKiKP 09 33 05.7 +5.7
baz=48,slow=1.8
LPAZ La Paz 129.09 120 PKP PKPdf 09 33 00.7 -0.6
comp=Z,4.5nm,1.1s,baz=315,slow=4.3,SNR=6.2
ASSE Asse, Remlinge 129.10 333 *e*PKPdf PKiKP 09 33 05.7 +5.7
baz=48,slow=1.8
NEUB Neuenburg 129.24 332 *e*PKPdf PKiKP 09 33 05.9 +5.5
baz=48,slow=1.8
SJCC San Jacinto, C 129.24 85 *e*P PKiKP 09 33 03.7 +2.2
ZARC Zaragoza, Cauc 129.35 88 *e*P PKiKP 09 33 04.3 +2.6
CLZ Clausthal 129.44 333 *e*PKPdf PKiKP 09 33 06.6 +5.7
baz=48,slow=1.8
TANN Tannenbergstha 129.44 331 *e*PKPdf PKiKP 09 33 06.1 +5.2
baz=48,slow=1.8
FNA Florina 129.47 316 PKIKP PKiKP 09 33 01.4 +0.1
FNA Florina 129.47 316 PKiKP 09 33 01.4 +0.1
LMN Caledonia Moun 129.48 37 IAMs_20 IAMs_20 10 24 48.1
comp=Z,4μm,20.0s
GUNZ Gunzen 129.54 331 *e*PKPdf PKiKP 09 33 06.7 +5.6
baz=48,slow=1.8
PLN Plauen 129.54 331 *e*PKPdf PKiKP 09 33 06.3 +5.2
baz=48,slow=1.8
ROSC El Rosal 129.55 92 IAMs_20 IAMs_20 10 33 25.3
comp=Z,2μm,18.0s
WERN Wernitzgruen 129.56 331 *e*PKPdf PKiKP 09 33 06.4 +5.3
baz=48,slow=1.8
NKC Novy Kostel 129.57 331 AMS AMS 10 32 10.0
comp=Z,3μm,19.8s
MACC Macarena, Meta 129.58 95 *e*P PKPdf 09 33 01.0 -0.5
PTBC PUERTO BERRIO 129.64 89 *e*P PKiKP 09 33 04.2 +1.9
MOX Moxa 129.69 331 *e*PKPdf PKiKP 09 33 06.6 +5.2
baz=48,slow=1.8
MOX *e*L L 10 34 08.2
comp=Z,2μm,21.9s
KHC Kasperske Hory 129.72 329 *e*x x 09 33 06.5
KHC *e*PKP PKiKP 09 33 06.9 +5.4
KHC *e*PP PP 09 35 02.9 -8.2
KHC *e*PS SP 09 45 07.6 -11
KHC AMS AMS 10 30 10.0
comp=Z,5μm,21.8s
KHC Kasperske Hory 129.72 329 *e*PKIKP PKiKP 09 33 06.9 +5.4
KHC MLR MLR
comp=Z,5μm,21.8s
GTTG Gottingen 129.82 333 *e*PKPdf PKiKP 09 33 07.2 +5.6
baz=48,slow=1.8
GEC2 GERESS Array S 129.83 329 *e*PKPdf PKiKP 09 33 06.7 +4.9
baz=48,slow=1.8
GEC2 GERESS Array S 129.83 329 IAMs_20 IAMs_20 10 33 10.4
comp=Z,3μm,21.0s
GERES GERESS Array B 129.83 329 PKP PKPdf 09 33 00.5 -0.5
comp=Z,3.8nm,0.9s,baz=67,slow=2.6,SNR=4.7
GERES PP PP 09 35 13.3 +1.4
comp=Z,1.1nm,0.8s,baz=39,slow=7.0,SNR=3.5
GERES GERESS Array B 129.83 329 PKIKP PKPdf 09 32 58.4 -2.6
GERES GERESS Array B 129.83 329 PKPdf PKPdf 09 32 58.4 -2.6
MANZ Manzenberg 129.89 331 *e*PKPdf PKiKP 09 33 07.3 +5.5
baz=48,slow=1.8
ROTZ Rotzenmuhle 129.99 330 *e*PKPdf PKiKP 09 33 07.1 +5.1
baz=48,slow=1.8
WET Wettzell 130.06 329 *e*PKPdf PKiKP 09 33 07.5 +5.3
baz=48,slow=1.8
CHIC Chingaza 130.10 92 *e*P PKiKP 09 33 06.5 +2.7
IBBN Ibbenburen 130.22 335 *e*PKPdf PKiKP 09 33 07.8 +5.5
baz=48,slow=1.8
SMLC San Martn de 130.25 86 *e*P PKiKP 09 33 05.9 +2.4
UBBA Unterbreizbach 130.32 333 *e*PKPdf PKiKP 09 33 07.7 +5.2
baz=48,slow=1.8
TSUM Tsumeb 130.38 235 PKPdf PKiKP 09 33 04.5 +0.6
TSUM Tsumeb 130.38 235 IAMs_20 IAMs_20 10 25 31.0
comp=Z,5μm,20.0s
GRF Grafenberg Arr 130.52 331 *e*PKPdf PKiKP 09 33 08.2 +5.1
baz=48,slow=1.8
GRF *e*PP PP 09 35 20.6 +4.4
baz=51,slow=5.7
GRF *e*L L 10 34 43.5
comp=Z,2μm,20.4s
BARC Barichara 130.90 89 *e*P PKiKP 09 33 10.4 +5.2
RUSC La Rusia 130.91 90 *e*P PKiKP 09 33 07.1 +1.6
BUG Bochum--Univer 131.07 335 *e*PKPdf PKiKP 09 33 09.2 +5.2
baz=48,slow=1.8
ESK Eskdalemuir 131.47 345 IAMs_20 IAMs_20 10 34 38.1
comp=Z,3μm,20.0s
CIMO Cimolais 132.08 327 PKiKP 09 33 06.8 +0.4
STU Stuttgart 132.12 331 IAMs_20 IAMs_20 10 38 05.6

comp=Z,2μm,19.0s
UBR Ueberruh 132.41 329 *e*PKPdf **PKiKP 09 33 11.9 +4.9**
baz=48,slow=1.8
CTI Castel Tesino 132.67 327 IAMs_20 IAMs_20 10 33 42.8
comp=Z,4μm,21.0s
MATE Matera 132.68 318 ⇑P **PKiKP 09 33 10.8 +3.2**
BFO Black Forest 132.84 331 *e*PKPdf **PKiKP 09 33 12.0 +4.2**
baz=48,slow=1.8
WLF Walferdange 132.86 334 IAMs_20 IAMs_20 10 31 23.0
comp=Z,5μm,22.0s
GRTK Grand Turk 132.87 69 IAMs_20 IAMs_20 10 33 33.5
comp=Z,2μm,20.0s
FUORN Ofenpass-Fuorn 133.04 328 IAMs_20 IAMs_20 10 33 12.3
comp=Z,4μm,22.0s
TIP Timpagrande 133.35 316 ⇓P **PKiKP 09 33 12.3 +3.1**
ECH Echery 133.47 332 IAMs_20 IAMs_20 10 36 13.3
comp=Z,2μm,20.0s
SC01 Santiago de Io 133.47 72 IAMs_20 IAMs_20 10 28 51.6
comp=Z,3μm,21.0s
SALO Salr 133.55 327 IAMs_20 IAMs_20 10 31 33.1
comp=Z,5μm,22.0s
PAOL Paolisi 133.87 320 IAMs_20 IAMs_20 10 31 57.5
comp=Z,3μm,22.0s
AQU L'Aquila 133.88 322 IAMs_20 IAMs_20 10 33 21.3
comp=Z,4μm,22.0s
MURB Monte Urbino 133.88 323 IAMs_20 IAMs_20 10 34 15.2
comp=Z,4μm,22.0s
DSB Dublin 134.15 346 IAMs_20 IAMs_20 10 45 06.8
comp=Z,2μm,20.0s
PRMA PARMA 134.22 326 IAMs_20 IAMs_20 10 34 01.7
comp=Z,4μm,22.0s
OSSC Osservatorio P 134.47 324 IAMs_20 IAMs_20 10 33 41.6
comp=Z,4μm,21.0s
SENIN Lac Senin/Sane 134.72 330 IAMs_20 IAMs_20 10 34 10.5
comp=Z,3μm,22.0s
MSSA Maissana 134.94 326 IAMs_20 IAMs_20 10 35 28.8
comp=Z,3μm,21.0s
BBSR BB Station 135.77 53 IAMs_20 IAMs_20 10 25 11.0
comp=Z,4μm,22.0s
BNI Bardonecchia 135.94 329 PKIKP **PKPdf 09 33 13.5 +0.8**
BNI MLR MLR
comp=Z,5μm,22.0s
BNI Bardonecchia 135.94 329 PKPdf **PKPdf 09 33 13.5 +0.8**
BNI IAMs_20 IAMs_20 10 35 05.1
comp=Z,5μm,22.0s
SSB Saint Sauveur 136.84 331 IAMs_20 IAMs_20 10 36 06.5
comp=Z,3μm,22.0s
SPB Sao Paulo 139.76 145 IAMs_20 IAMs_20 10 30 06.4
comp=Z,2μm,20.0s
KEST Kesra 140.18 316 IAMs_20 IAMs_20 10 40 51.2
comp=Z,2μm,21.0s
PTGA Pitinga 142.45 104 PKP **PKPdf 09 33 25.0 -0.3**
comp=Z,7.5nm,0.9s,baz=236,slow=6.5,SNR=6.9
DLPL La Plaine 142.85 77 IAMs_20 IAMs_20 10 36 04.4
comp=Z,3μm,22.0s
UCM Universidad Co 144.31 333 PKP **PKPab 09 33 19.4 -6.5**
PBRG Braganca 144.49 338 *e*PKPfd **PKPdf 09 33 28.1 -0.1**
BBGH Gun Hill 144.62 81 IAMs_20 IAMs_20 10 42 14.2
comp=Z,3μm,21.0s
PGAV Gavieira, Arco 144.89 340 *e*PKPbc PKPbc 09 33 28.3 +0.3
PGAV Gavieira, Arco 144.89 340 *e*SS SS 09 55 41.0 +7.9
PGAV Gavieira, Arco 144.89 340 *e*LR LR 10 23 16.1
comp=Z,3μm,22.0s
PCAB Cabril 145.04 339 *e*PKPbc **PKPdf 09 33 30.1 +1.0**
ES19 SONSECA Array 145.10 333 IAMs_20 IAMs_20 10 48 34.5
comp=Z,2μm,19.0s
ES18 SONSECA Array 145.11 333 IAMs_20 IAMs_20 10 48 33.8
comp=Z,2μm,18.0s
ES08 SONSECA Array 145.12 333 IAMs_20 IAMs_20 10 48 35.9
comp=Z,2μm,19.0s
ES09 SONSECA Array 145.12 333 IAMs_20 IAMs_20 10 48 35.9
comp=Z,2μm,19.0s
ES17 SONSECA Array 145.13 333 IAMs_20 IAMs_20 10 48 36.3
comp=Z,2μm,19.0s
ES07 SONSECA Array 145.13 333 IAMs_20 IAMs_20 10 48 35.4
comp=Z,2μm,19.0s
ES02 SONSECA Array 145.13 333 IAMs_20 IAMs_20 10 48 35.4
comp=Z,2μm,19.0s
ES10 SONSECA Array 145.14 333 IAMs_20 IAMs_20 10 48 37.4
comp=Z,2μm,18.0s
ES03 SONSECA Array 145.14 333 IAMs_20 IAMs_20 10 48 36.6
comp=Z,2μm,19.0s
ES06 SONSECA Array 145.14 333 IAMs_20 IAMs_20 10 48 36.6
comp=Z,2μm,18.0s
ES01 SONSECA Array 145.15 333 IAMs_20 IAMs_20 10 48 46.7
comp=Z,2μm,19.0s
ESBB Sonseca Array 145.15 333 IAMs_20 IAMs_20 10 48 36.7
comp=Z,2μm,19.0s
ESDC Sonseca Array 145.15 333 PKPbc **PKPbc 09 33 28.2 -0.7**
comp=Z,13nm,1.2s,baz=26,slow=3.2,SNR=26
ESDC PP **PP 09 36 48.0 +0.8**
comp=Z,2.2nm,1.1s,baz=49,slow=2.7,SNR=3.3
ESDC Sonseca Array 145.15 333 **PKPbc 09 33 28.9 0.0**
ES11 SONSECA Array 145.15 333 IAMs_20 IAMs_20 10 48 39.8
comp=Z,2μm,19.0s
ES16 SONSECA Array 145.15 333 IAMs_20 IAMs_20 10 48 55.9
comp=Z,2μm,20.0s
ES04 SONSECA Array 145.16 333 IAMs_20 IAMs_20 10 48 37.9
comp=Z,2μm,19.0s
MVO Moncorvo 145.16 338 *e*PKPbc **PKPdf 09 33 29.8 +0.4**
MVO Moncorvo 145.16 338 *e*SS SS 09 55 26.9 -9.2
MVO Moncorvo 145.16 338 *e*LR LR 10 23 42.9
comp=Z,2μm,24.0s
ES05 SONSECA Array 145.16 333 IAMs_20 IAMs_20 10 48 47.0
comp=Z,2μm,19.0s
ES13 SONSECA Array 145.17 333 IAMs_20 IAMs_20 10 48 37.3
comp=Z,2μm,19.0s
ES15 SONSECA Array 145.18 333 IAMs_20 IAMs_20 10 48 58.4
comp=Z,2μm,20.0s
ES14 SONSECA Array 145.18 333 IAMs_20 IAMs_20 10 48 57.6
comp=Z,2μm,19.0s
BDFB Brasilia 145.31 136 PKPbc **PKPbc 09 33 29.4 -0.6**
comp=Z,49nm,0.7s,baz=233,slow=1.8,SNR=57
BDFB Brasilia 145.31 136 PKIKP **PKPbc 09 33 29.5 -0.6**
BDFB MLR MLR
comp=Z,5μm,18.0s
BDFB Brasilia 145.31 136 **PKPbc 09 33 29.5 -0.6**
CART Cartagena 145.32 327 PKP **PKPdf 09 33 29.6 0.0**
CART Cartagena 145.32 327 IAMs_20 IAMs_20 10 45 15.0
comp=Z,2μm,21.0s
PAB San Pablo 145.43 333 PKIKP **PKPab 09 33 30.4 +0.4**
PAB San Pablo 145.43 333 PKPdf **PKPab 09 33 30.4 +0.4**
PVIS Viseu 145.87 338 *e*PKPbc **PKPbc 09 33 31.2 +0.1**
PCBR Castelo Branco 146.47 337 *e*PKPbc **PKPab 09 33 33.5 -0.3**
COI Coimbra 146.50 339 IAMs_20 IAMs_20 10 39 55.3
comp=Z,4μm,22.0s
COI Coimbra 146.50 339 *e*PKPbc **PKPab 09 33 34.8 +0.9**
PCAS Casmilo, Conde 146.67 339 *e*PKPbc **PKPab 09 33 34.4 -0.2**
PMRV Marv??o 146.80 337 *e*PKPbc **PKPab 09 33 35.3 +0.2**
PMRV Marv??o 146.80 337 *e*SS SS 09 56 12.1 +17
PMRV Marv??o 146.80 337 *e*LR LR 10 26 48.2
comp=Z,3μm,22.0s
PSBE So Bento 147.25 338 *e*PKPbc **PKiKP 09 33 37.9 +0.3**
PMTG Montargil 147.43 337 *e*PKPbc **PKPbc 09 33 35.8 +0.2**
EMAL Malaga-Limoner 147.71 330 PKP **PKiKP 09 33 38.0 -0.5**
MELI Melilla 148.07 327 PKP **PKPbc 09 33 36.6 -0.8**
LIS Lisbon 148.08 338 *e*PKPdf **PKPdf 09 33 33.5 -0.8**
LIS AMS AMS 10 44 00.6
comp=Z,4μm,20.2s
LIS Lisbon 148.08 338 *e*PKIKP **PKPdf 09 33 33.4 -0.8**
PBEJ Beja 148.19 336 *e*PKPbc **PKPab 09 33 44.0 +3.4**
PNCL Nicolau / Gran 148.38 337 *e*PKPbc **PKPab 09 33 44.7 +3.4**
PCVE Castro Verde 148.60 336 *e*PKPbc **PKPab 09 33 45.5 +3.2**
PVAQ Vaqueiros 148.66 335 IAMs_20 IAMs_20 10 48 51.6
comp=Z,2μm,20.0s
PVAQ Vaqueiros 148.66 335 *e*PKPbc **PKPab 09 33 45.1 +2.6**
PVAQ Vaqueiros 148.66 335 *e*SS SS 09 56 27.6 +12
PVAQ Vaqueiros 148.66 335 *e*LR LR 10 27 37.2
comp=Z,2μm,20.0s
SFS San Fernando 148.79 332 PKP **PKiKP 09 33 41.5 +0.7**
CEU Ceuta 148.85 331 PKP **PKiKP 09 33 41.4 +0.5**
PVLZ Peæn de 148.88 328 PKP **PKiKP 09 33 41.5 +0.6**
PBDV Barranco-do-Ve 148.89 335 *e*PKPbc **PKPab 09 33 46.3 +2.8**
PTEO Sao Teotonio 148.95 337 *e*PKPbc **PKPab 09 33 46.3 +2.6**
TAM Tamanrasset 149.07 299 PKP2 **PKiKP 09 33 42.5 +0.5**
TAM Tamanrasset 149.07 299 **PKiKP 09 33 42.5 +0.5**
TAM IAMs_20 IAMs_20 10 54 21.4
comp=Z,2μm,20.0s
MORF Marmelete 149.13 336 *e*PKPdf **PKPdf 09 33 35.1 -1.0**
MORF AMS AMS 10 40 01.8
comp=Z,2μm,20.7s
MORF Marmelete 149.13 336 *e*PKIKP **PKPdf 09 33 35.1 -1.0**
MORF Marmelete 149.13 336 *e*PKPbc **PKPab 09 33 46.5 +2.0**
PFVI Vila Bisbo 149.35 336 PKPab **PKPab 09 33 44.5 -0.8**
PFVI IAMs_20 IAMs_20 10 49 00.9
comp=Z,2μm,21.0s

PFVI Vila Bisbo 149.35 336 *e*PKPbc **PKPab 09 33 46.2 +0.9**
CMLA Cha da Macela 151.76 3 IAMs_20 IAMs_20 10 41 27.1
comp=Z,3μm,20.0s
AVE Averroes 151.94 330 PP PP 09 37 28.0 +1.2
TOC2 Torodi Ar. Sit 154.86 281 IAMs_20 IAMs_20 10 59 50.2
comp=Z,3μm,20.0s
TOC3 Torodi Ar. Sit 154.86 281 IAMs_20 IAMs_20 10 43 56.2
comp=Z,3μm,21.0s
TOC1 Torodi Ar. Sit 154.87 281 IAMs_20 IAMs_20 11 00 00.6
comp=Z,3μm,20.0s
TOB3 Torodi Ar. Sit 154.87 281 IAMs_20 IAMs_20 10 53 41.7
comp=Z,3μm,21.0s
TOA2 Torodi Ar. Sit 154.88 281 IAMs_20 IAMs_20 10 59 50.7
comp=Z,3μm,20.0s
TOC4 Torodi Ar. Sit 154.88 281 IAMs_20 IAMs_20 10 53 41.8
comp=Z,3μm,21.0s
TOA0 Torodi Ar. Sit 154.88 281 PKPdf **PKPdf 09 33 44.8 -0.4**
TOA0 IAMs_20 IAMs_20 10 43 56.9
comp=Z,3μm,21.0s
TOB1 Torodi Ar. Sit 154.88 281 IAMs_20 IAMs_20 10 43 57.9
comp=Z,3μm,21.0s
TORD Torodi Ar. Bea 154.88 281 PKP **PKPdf 09 33 45.1 -0.1**
comp=Z,5.9nm,1.2s,baz=66,slow=1.8,SNR=8.6
TORD PKPbc **PKiKP 09 33 56.4 +2.5**
comp=Z,29nm,1.1s,baz=31,slow=1.3,SNR=18
TORD PKPab **PKPab 09 34 10.8 +1.7**
comp=Z,56nm,1.2s,baz=62,slow=2.0,SNR=12
TORD PP **PP 09 37 45.5 +0.3**
comp=Z,4.4nm,1.1s,baz=83,slow=2.9,SNR=3.8
TORD Torodi Ar. Bea 154.88 281 PKPdf **PKPdf 09 33 45.5 +0.2**
TOA3 Torodi Ar. Sit 154.88 281 IAMs_20 IAMs_20 10 59 50.9
comp=Z,3μm,20.0s
TOB4 Torodi Ar. Sit 154.89 281 IAMs_20 IAMs_20 10 43 57.2
comp=Z,3μm,21.0s
TOB5 Torodi Ar. Sit 154.90 281 IAMs_20 IAMs_20 10 43 57.2
comp=Z,3μm,21.0s
TOC7 Torodi Ar. Sit 154.90 281 IAMs_20 IAMs_20 10 43 57.2
comp=Z,3μm,22.0s
TOC5 Torodi Ar. Sit 154.90 281 IAMs_20 IAMs_20 10 53 41.4
comp=Z,3μm,21.0s
KOWA Kowa 160.15 287 PKPab **PKPab 09 34 32.7 +0.8**
KIC Kosan Boka 161.02 262 *e*P **PKPdf 09 33 55.8 +3.0**
comp=Z,96nm,1.5s
DBIC Dimbokro 161.19 263 PKP **PKPdf 09 33 54.1 +1.2**
comp=Z,11nm,1.1s,baz=110,slow=4.2,SNR=3.5
DBIC PKPab **pPKPab 09 34 40.9 -1.2**
comp=Z,25nm,1.1s,baz=86,slow=4.3,SNR=6.1
DBIC Dimbokro 161.19 263 PKIKP **PKPdf 09 33 53.9 +0.9**
DBIC Dimbokro 161.19 263 **PKPdf 09 33 53.9 +0.9**
LIC Lamto 161.28 262 *e*P **PKPdf 09 33 57.0 +3.9**
comp=Z,71nm,1.5s
TIC Toumodi 161.35 263 *e*P **PKPdf 09 33 58.4 +5.2**

UCR ***25*** *09:23:11.2±3.4, 10°.35N×86°.27W, h14km±14km, mb4.6(NEIC)*
INET ***25*** *09:23:12.3, 10°.35N×86°.22W, h15km, ML4.1*
IDC ***25*** *09:23:13.2±3.0, 10°.93N×85°.89W, h14km±19km, mb4.1/12, mb1 4.2/14, mb1mx4.1/41, mbtmp4.1/14, ML3.0/2, MS4.1/1, Ms1 4.1/1, ms1mx3.4/32, Error ellipse: s-maj=31.3km s-min=11.1km az=46.0*
NEIC ***25*** *09:23:13.2±3.2, 10°.56N±0°.07×86°.03W±0°.07, h24km±4km, mb4.6/93, ML4.8(UCR), Error ellipse: s-maj=12.4km s-min=6.9km az=221.0*
ISC 25 09:23:10.8±0.8, 10°.37N±0°.04×86°.26W±0°.04, h17km±4km, n144, σ1§46/131, mb4.6/53, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.74**	**62**	*e*P		**Pb**	**09 23 25.6**	**+0.4**
HZTE				*e*S		**Sb**	**09 23 37.4**	**+2.4**
GUAI	**GUAI**	**0.75**	**98**	*i* P		**Pb**	**09 23 25.0**	**-0.3**
GUAI				*i* S		**Sb**	**09 23 35.8**	**+0.6**
GRZA	**Playa Garza**	**0.76**	**126**	*e*P		**Pn**	**09 23 25.2**	**-1.6**
GRZA				*e*S		**Sb**	**09 23 35.1**	**-0.6**
ORTG	**Ortega, Santa**	**0.79**	**90**	*e*P		**Pb**	**09 23 25.6**	**-0.5**
ORTG				*e*S		**Sg**	**09 23 36.6**	**-0.1**
DUNO	**Dulce Nombre,**	**0.81**	**111**	*e*P		**Pb**	**09 23 26.0**	**-0.4**
PLVR	**Palo Verde**	**0.90**	**91**	*e*P		**Pb**	**09 23 27.6**	**-0.4**
PLVR				*e*S		**Sb**	**09 23 41.2**	**+1.5**
BUEV	**Buena Vista**	**0.94**	**63**	*i* P		**Pg**	**09 23 28.4**	**-0.8**
GB1A	**Borinquen Arri**	**0.96**	**62**	*i* P		**Pg**	**09 23 28.6**	**-0.8**
GB1A				*e*P		**Pb**	**09 23 29.0**	**0.0**
GB1A				*i* S		**Sg**	**09 23 42.8**	**+0.7**
GPS3	**Bodega del ICE**	**0.96**	**66**	*i* P		**Pg**	**09 23 28.7**	**-0.8**
GPS3				*i* S		**Sg**	**09 23 43.0**	**+0.9**
GPS2	**Hotel Rincn d**	**0.97**	**67**	*i* P		**Pg**	**09 23 28.9**	**-0.8**
GPS1	**Guardaparques**	**0.98**	**66**	*i* P		**Pg**	**09 23 29.0**	**-0.9**
GPS1				*i* S		**Sg**	**09 23 43.2**	**+0.4**
BUAI	**Buenos Aires**	**1.04**	**61**	*i* P		**Pg**	**09 23 30.3**	**-0.8**
GUAB	**Guayabo de Bag**	**1.07**	**72**	*i* P		**Pg**	**09 23 30.2**	**-1.3**
MICM	**Guayabo**	**1.10**	**72**	*i* P		**Pg**	**09 23 31.2**	**-0.8**
ACAL	**Aguas Claras**	**1.23**	**78**	*i* P		**Pn**	**09 23 32.9**	**-0.4**
ACAL				*i* S		**Sb**	**09 23 50.5**	**+1.1**
JTS	**Las Juntas de**	**1.29**	**93**	Pg		**Pn**	**09 23 33.2**	**-0.8**
	108nm,0.3s,baz=1.4,slow=8.3,SNR=519							
JTS				Lg		Lg	09 23 51.5	
	234nm,0.3s,baz=62,slow=22,SNR=7.0							
JTS	**Las Juntas de**	**1.29**	**93**	*e*P		**Pn**	**09 23 33.4**	**-0.7**
PTEN	**Parque Tenorio**	**1.30**	**75**	*i* P		**Pn**	**09 23 34.1**	**-0.1**
PACM	**Arenal**	**1.48**	**85**	*i* P		Pn	09 23 29.0	-7.6
CASO	**Castillo**	**1.50**	**87**	*i* P		**Pn**	**09 23 37.1**	**+0.1**
CEDE	**Laguna Cedeo**	**1.54**	**86**	*e*P		**Pn**	**09 23 38.0**	**+0.6**
FORC	**Fortuna**	**1.57**	**86**	*i* P		**Pn**	**09 23 38.1**	**+0.2**
MASN	**Masaya**	**1.61**	**4**	*e*P		**Pb**	**09 23 39.6**	**-0.5**
JACO	**JACO, Garabito**	**1.73**	**114**	*e*P		**Pg**	**09 23 43.3**	**-0.7**
SRA1	**San Ramn**	**1.78**	**99**	*e*P		**Pg**	**09 23 43.3**	**-1.7**
COVE	**Coope Vega, Sa**	**1.86**	**79**	*e*P		**Pn**	**09 23 41.2**	**-0.7**
ACON	**Acoyapa**	**1.91**	**34**	*e*P		**Pn**	**09 23 42.7**	**+0.1**
ACON	**Acoyapa**	**1.91**	**34**			**Pn**	**09 23 42.7**	**+0.1**
HDC	**Heredia**	**2.15**	**100**	*e*P		**Pn**	**09 23 46.3**	**+0.4**
HDC	**Heredia**	**2.15**	**100**			**Pn**	**09 23 45.5**	**-0.4**
BOAB	**BOACO BROADBAN**	**2.15**	**16**	Pn		**Pn**	**09 23 45.6**	**-0.2**
HDC3	**Heredia 3**	**2.15**	**100**	*e*P		**Pn**	**09 23 46.5**	**+0.6**
SJS	**Escuela Geolog**	**2.21**	**101**	*e*P		**Pb**	**09 23 48.5**	**-2.0**
LCR2	**La Lucha 2**	**2.31**	**105**	*e*P		**Pb**	**09 23 51.4**	**-0.7**
RIMA	**Rio Macho**	**2.44**	**104**	*e*P		**Pn**	**09 23 51.5**	**+1.6**
CRIN	**San Cristobal**	**2.44**	**342**	*e*P		**Pb**	**09 23 52.1**	**-2.2**
CRIN	**San Cristobal**	**2.44**	**342**			**Pn**	**09 23 50.6**	**+0.6**
CVTR	**Volcan Turrial**	**2.49**	**98**	*e*P		**Pn**	**09 23 51.8**	**+0.9**
MATN	**Matagalpa**	**2.57**	**7**	*e*P		**Pn**	**09 23 52.4**	**+0.7**
MATN	**Matagalpa**	**2.57**	**7**			**Pn**	**09 23 51.6**	**-0.1**
ESPN	**Las Esperanzas**	**2.65**	**46**			**Pn**	**09 23 50.5**	**-2.2**
PEZE	**Perez Zeledon,**	**2.73**	**111**	*e*P		**Pn**	**09 23 54.8**	**+0.9**
RCON	**San Juan de Ri**	**3.10**	**2**	*e*P		**Pn**	**09 24 00.4**	**+1.3**
RIOS	**Rincon, Osa**	**3.18**	**121**	*e*P		**Pn**	**09 24 01.5**	**+1.5**
PTJ1	**Puerto Jimnez**	**3.44**	**122**	*e*P		**Pn**	**09 24 05.8**	**+2.1**
TGUH	**Tegucigalpa,Un**	**3.80**	**345**	Pn		**Pn**	**09 24 10.0**	**+1.4**
MTO3	**Montecristo**	**5.02**	**323**			**Pn**	**09 24 28.6**	**+3.0**
ESQI	**Esquipulas**	**5.14**	**324**			Pn	09 24 30.5	+3.5
APG	**El Apazote**	**6.17**	**319**	Pn		**Pn**	**09 24 41.8**	**+0.5**
	0.5nm,0.3s,baz=143,slow=6.9,SNR=4.4							
BCIP	**Isla Barro Col**	**6.44**	**100**	Pn		**Pn**	**09 24 44.6**	**-0.4**
CCIG	**Comitan**	**8.20**	**316**			Pn	09 25 12.3	+3.1
TEIG	**Tepich**	**9.99**	**349**	Pn		**Pn**	**09 25 29.7**	**-3.9**
	0.1nm,0.3s,baz=154,slow=14,SNR=1.6							
TEIG				LR		LR	09 29 44.7	
	comp=Z,1μm,18.6s,baz=196,slow=41							
TEIG	**Tepich**	**9.99**	**349**			**Pn**	**09 25 34.7**	**+1.1**
FSCY	**Frank Sound, G**	**10.15**	**28**	Pn		**Pn**	**09 25 35.7**	**-0.2**
TLIG	**Tlapa**	**13.91**	**302**	Pn		**P**	**09 26 32.6**	**-3.0**
MLPR	**Magueyes Islan**	**20.09**	**66**	Pn		**P**	**09 27 44.2**	**+0.5**
PCRV	**Puerto La Cruz**	**21.28**	**89**	P		**P**	**09 27 57.4**	**+0.7**
	6.1nm,0.5s,baz=126,slow=9.2,SNR=3.1							
PLCV	**Puerto La Cruz**	**21.33**	**89**	P		**P**	**09 27 57.4**	**+0.2**
344A	**Westbrook Farm**	**21.39**	**349**	P		**P**	**09 27 58.7**	**+1.1**
LRAL	**Lakeview Retre**	**22.57**	**358**	P		**P**	**09 28 11.3**	**+1.1**
LRAL				IAmb		IAmb	09 28 21.8	
	comp=Z,42nm,1.3s							
NATX	**Nacogdoches**	**22.66**	**341**	P		**P**	**09 28 11.4**	**+0.2**
Z47A	**Carrollton**	**22.78**	**356**	P		**P**	**09 28 12.8**	**+0.3**
Z47A				IAmb		IAmb	09 28 20.9	
	comp=Z,20nm,1.1s							
Z51A	**Franklin**	**22.86**	**2**	P		**P**	**09 28 13.9**	**+0.5**
435B	**Jarrell**	**22.88**	**334**	P		**P**	**09 28 15.3**	**+1.7**
237A	**Washetta, Mont**	**23.27**	**339**	IAmb		IAmb	09 28 26.2	
	comp=Z,27nm,1.1s							
Y49A	**Blount Mountai**	**23.38**	**360**	IAmb		IAmb	09 28 20.1	
	comp=Z,12nm,0.8s							
Y52A	**Lilburn**	**23.47**	**5**	IAmb		IAmb	09 28 30.8	
	comp=Z,19nm,0.9s							
WHTX	**Lake Whitney,**	**23.88**	**336**	P		**P**	**09 28 23.2**	**-0.4**
WHTX				IAmb		IAmb	09 28 36.3	
	comp=Z,15nm,0.9s							
HODGE	**Hodges**	**24.03**	**8**	P		**P**	**09 28 24.2**	**-0.7**
HODGE				IAmb		IAmb	09 28 25.6	
	comp=Z,22nm,1.3s							
PLAL	**Pickwick Lake**	**24.56**	**356**	IAmb		IAmb	09 28 37.3	
	comp=Z,23nm,1.2s							
PAULI	**Pauline**	**24.68**	**9**	P		**P**	**09 28 30.4**	**-0.5**
W50A	**Signal Mountai**	**24.73**	**2**	IAmb		IAmb	09 28 41.0	
	comp=Z,13nm,0.9s							
SWET	**Sewanee**	**24.74**	**1**	IAmb		IAmb	09 28 40.2	
	comp=Z,28nm,1.2s							
TX32	**Lajitas Array**	**24.92**	**322**	P		**P**	**09 28 34.5**	**+1.3**
TXAR	**Lajitas Array**	**24.92**	**322**	P		**P**	**09 28 35.1**	**+1.9**
	comp=Z,3.3nm,0.6s,baz=147,slow=7.3,SNR=44							
UALR	**University of**	**24.92**	**348**	IAmb		IAmb	09 28 39.4	
	comp=Z,20nm,1.0s							
MIAR	**Mount Ida**	**24.98**	**346**	IAmb		IAmb	09 28 41.8	
	comp=Z,12nm,0.7s							
CPCT	**Cooper Cave**	**25.02**	**3**	IAmb		IAmb	09 28 43.5	
	comp=Z,24nm,1.3s							
TKL	**Tuckaleechee C**	**25.28**	**5**	P		**P**	**09 28 35.3**	**-1.0**
	comp=Z,6.3nm,0.9s,baz=91,slow=6.0,SNR=7.0							
TKL	**Tuckaleechee C**	**25.28**	**5**	IAmb		IAmb	09 28 47.0	
	comp=Z,24nm,1.2s							
W41B	**Gary Mavity, V**	**25.29**	**348**	IAmb		IAmb	09 28 46.4	
	comp=Z,16nm,1.1s							
ABTX	**Abilene, Hawle**	**25.36**	**333**	IAmb		IAmb	09 28 46.4	
	comp=Z,16nm,1.1s							
V51A	**Loudon**	**25.38**	**4**	IAmb		IAmb	09 28 47.7	
	comp=Z,22nm,1.1s							
V53A	**Saluda**	**25.38**	**7**	P		**P**	**09 28 37.2**	**0.0**
V53A				IAmb		IAmb	09 28 41.2	
	comp=Z,17nm,1.1s							
X37A	**Clayton**	**25.51**	**342**	IAmb		IAmb	09 28 46.1	
	comp=Z,29nm,1.4s							
W39A	**Magazine**	**25.65**	**346**	P		**P**	**09 28 38.7**	**-0.9**
W39A				IAmb		IAmb	09 28 48.5	
	comp=Z,27nm,1.2s							
FCAR	**Ozark Folk Cen**	**25.96**	**349**	P		**P**	**09 28 40.8**	**-1.6**
FCAR				IAmb		IAmb	09 28 50.3	
	comp=Z,14nm,1.1s							
LCAR	**Lake Charles**	**25.97**	**351**	P		**P**	**09 28 41.2**	**-1.3**
LCAR				IAmb		IAmb	09 28 50.5	
	comp=Z,19nm,1.1s							
U49A	**Red Boiling Sp**	**26.03**	**1**	IAmb		IAmb	09 28 50.4	
	comp=Z,18nm,1.2s							
PBMO	**Poplar Bluff**	**26.56**	**353**	P		**P**	**09 28 46.5**	**-1.3**
PBMO				IAmb		IAmb	09 28 54.5	
	comp=Z,18nm,1.2s							
HHAR	**Hobbs**	**26.72**	**346**	P		**P**	**09 28 48.5**	**-0.9**
WMOK	**Wichita Mounta**	**26.82**	**337**	IAmb		IAmb	09 29 00.4	
	comp=Z,24nm,1.1s							
TUL1	**Leonard**	**26.86**	**343**	P		**P**	**09 28 48.0**	**-2.6**
TUL1						**pwP**	**09 28 56.0**	**+0.4**
TUL1				IAmb		IAmb	09 28 57.2	
	comp=Z,15nm,1.1s							
T42A	**Van Buren**	**26.90**	**351**	P		**P**	**09 28 49.5**	**-1.4**
S51A	**Beattyville**	**27.26**	**5**	IAmb		IAmb	09 29 03.4	
	comp=Z,9.4nm,0.7s							
WCI	**Wyandotte Cave**	**27.74**	**360**	P		**P**	**09 28 57.4**	**-1.0**
WCI				IAmb		IAmb	09 29 07.8	
	comp=Z,12nm,0.9s							
CCM	**Cathedral Cave**	**27.93**	**352**	P		**P**	**09 28 59.2**	**-1.0**
CCM				IAmb		IAmb	09 29 06.6	
	comp=Z,27nm,1.4s							
MSTX	**Muleshoe**	**27.94**	**330**	P		**P**	**09 29 00.6**	**+0.1**
MSTX						**PcP**	**09 32 17.9**	**+2.2**
PTGA	**Pitinga**	**28.39**	**111**	P		**P**	**09 29 05.4**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=280,slow=22,SNR=2.0							
PTGA	**Pitinga**	**28.39**	**111**	P		**P**	**09 29 04.8**	**+0.3**
Q44A	**Meyer Farm, Va**	**28.52**	**355**	P		**P**	**09 29 03.7**	**-1.7**
Q44A						**pwP**	**09 29 11.4**	**+1.1**
Q44A				IAmb		IAmb	09 29 11.9	
	comp=Z,16nm,0.8s							
Q51A	**Peebles**	**28.66**	**5**	P		**P**	**09 29 05.3**	**-1.3**
P38A	**Dawn**	**29.84**	**349**	P		**P**	**09 29 16.0**	**-1.2**
P38A				IAmb		IAmb	09 29 22.7	
	comp=Z,20nm,1.4s							
SAML	**Samuel**	**29.93**	**129**	P		**P**	**09 29 19.4**	**+1.1**
ANMO	**Albuquerque**	**30.62**	**326**	P		**P**	**09 29 27.1**	**+2.8**
K38A	**Parkersburg**	**32.65**	**351**	P		**P**	**09 29 39.3**	**-2.6**
PV12	**Saucer Basin,**	**34.39**	**328**	P		**P**	**09 29 58.2**	**+0.9**
PV18	**Skein Mesa, Pa**	**34.39**	**328**	P		**P**	**09 29 58.0**	**+0.6**
PV18				IAmb		IAmb	09 29 59.7	
	comp=Z,4.4nm,0.6s							
ECSD	**EROS Data Cent**	**34.44**	**347**	P		**P**	**09 29 56.8**	**-0.7**
ECSD				IAmb		IAmb	09 30 04.9	
	comp=Z,12nm,1.4s							
PV10	**Paradox Valley**	**34.56**	**328**	P		**P**	**09 29 60.0**	**+1.1**
PV10				IAmb		IAmb	09 30 00.4	
	comp=Z,6.6nm,0.6s							
SPMN	**Marine on St.**	**35.18**	**352**	IAmb		IAmb	09 30 10.1	
	comp=Z,9.9nm,1.0s							
LONY	**Lake Ozonia**	**35.58**	**14**	P		**P**	**09 30 06.4**	**-1.0**
E43A	**Lone Tree Farm**	**35.89**	**359**	P		**P**	**09 30 06.9**	**-3.0**
E43A				IAmb		IAmb	09 30 16.3	
	comp=Z,7.7nm,1.0s							
F36A	**Milaca**	**35.91**	**351**	P		**P**	**09 30 07.5**	**-2.6**
SIV	**San Ignacio**	**36.16**	**136**

ISC 25 09:23:27.5±1.3, 23°.98S±0°.09×67°.1W±0°.1, h201km±19km, n17, σ1°.00/29, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.16**	**309**	P	**Pn**	**09 24 09.2**	**+1.0**
	4.0nm,0.3s,baz=121,slow=6.4,SNR=9.7						
LVC				S	**Sn**	**09 24 39.5**	**-0.2**
	15nm,0.3s,baz=323,slow=16,SNR=40						
LVC	**Limon Verde**	**2.16**	**309**	*e*P	**Pn**	**09 24 09.1**	**+0.9**
LVC				*i* S	**Sn**	**09 24 39.5**	**-0.2**
PB15	**IPOC Station P**	**2.31**	**289⇑**	*i*P	**Pn**	**09 24 10.6**	**+0.9**
PB15				*i* S	**Sn**	**09 24 41.9**	**-0.6**
PB06	**IPOC Station P**	**2.61**	**298⇑**	*i*P	**Pn**	**09 24 13.8**	**+0.9**
PB06				*i* S	**Sn**	**09 24 47.6**	**-0.7**
PB06				IAML		09 24 49.9	
	comp=E,574nm,0.2s						
PB09	**IPOC Station P**	**2.94**	**317**	*e*P	**Pn**	**09 24 18.4**	**+1.6**
PB09				*i* S	**Sn**	**09 24 55.1**	**-0.1**
PB09				IAML		09 24 59.2	
	comp=E,123nm,0.5s						
PB03	**IPOC Station P**	**3.12**	**307⇓**	*i*P	**Pn**	**09 24 19.5**	**+0.7**
PB03				*i* S	**Sn**	**09 24 57.9**	**-0.9**
PB03				IAML		09 25 00.1	
	comp=E,313nm,0.3s						
PB10	**IPOC Station P**	**3.21**	**278⇑**	*i*P	**Pn**	**09 24 20.3**	**+0.6**
PB10				*i* S	**Sn**	**09 24 59.7**	**-0.8**
PB10				IAML		09 25 04.8	
	comp=N,84nm,0.3s						
PB04	**IPOC Station P**	**3.26**	**300⇑**	*i*P	**Pn**	**09 24 21.1**	**+0.6**
PB04				*i* S	**Sn**	**09 25 00.7**	**-1.2**
PB04				IAML		09 25 03.5	
	comp=E,357nm,0.3s						
PB07	**IPOC Station P**	**3.42**	**310⇑**	*i*P	**Pn**	**09 24 22.9**	**+0.5**
PB07				*i* S	**Sn**	**09 25 03.6**	**-1.7**
PB01	**IPOC Station P**	**3.67**	**322⇑**	*i*P	**Pn**	**09 24 26.1**	**+0.7**
PB01				*i* S	**Sn**	**09 25 09.6**	**-1.1**
PB08	**IPOC Station P**	**4.27**	**333⇑**	*i*P	**Pn**	**09 24 34.5**	**+1.3**
PB08				*i* S	**Sn**	**09 25 25.3**	**+0.6**
TA01	**Diego Aracena**	**4.44**	**319**	*e*P	**Pn**	**09 24 36.2**	**+1.3**
LPAZ	**La Paz**	**7.71**	**353**	P	**Pn**	**09 25 18.2**	**+0.6**
	comp=E,1.2nm,0.3s,baz=162,slow=7.2,SNR=51						
LPAZ				S	**Sn**	**09 26 44.4**	**-0.8**
	baz=288,slow=16,SNR=1.1						
SIV	**San Ignacio**	**9.75**	**37**	P	**Pn**	**09 25 41.7**	**-1.9**
	comp=E,0.9nm,0.3s,baz=230,slow=13,SNR=12						
PLCA	**Paso Flores**	**16.96**	**189**	P	**P**	**09 27 11.7**	**-0.2**
	comp=E,0.1nm,0.3s,baz=2.8,slow=11,SNR=1.8						
BDFB	**Brasilia**	**19.75**	**69**	P	**P**	**09 27 42.2**	**-0.2**
	comp=E,0.9nm,0.3s,baz=245,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**146.56**	**39**	PKPbc	**PKPab**	**09 42 47.5**	**+0.9**
	comp=E,0.4nm,0.5s,baz=290,slow=3.6,SNR=3.8						

IDC 25 09:29:52.6±2.2, 29°.34S×175°.94W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/31, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=53.7km s-min=32.3km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.73**	**273**	Pn	Pg	09 30 25.9	+0.2
	138nm,0.3s,baz=239,slow=23,SNR=6.7						
RAO				Sn	Sb	09 30 47.3	-0.1
	289nm,0.3s,baz=122,slow=24,SNR=7.7						
URZ	**Urewera**	**10.60**	**211**	Pn	Pn	09 32 25.3	-0.4
	0.2nm,0.3s,baz=332,slow=6.3,SNR=3.0						
URZ				Sn	Sn	09 34 22.7	-2.5
	1.4nm,0.3s,baz=111,slow=17,SNR=9.3						
ASAR	**Alice Springs**	**44.97**	**265**	P	P	09 38 09.1	-0.7
	0.3nm,0.7s,baz=102,slow=8.0,SNR=6.5						
WRA	**Warramunga Arr**	**45.86**	**270**	P	P	09 38 16.0	-0.9
	0.2nm,0.3s,baz=108,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**96.51**	**12**	P	P	09 43 24.0	+0.7
	0.5nm,1.1s,baz=211,slow=5.1,SNR=2.3						

BJI ***25*** *10:35:00.0±0.2, 22°.78N×121°.36E, h7km, mB5.1/45, mb4.7/60, ML5.3/8, Ms5.1/80, Ms7 5.1/70*
MOS ***25*** *10:35:00.6±1.2, 22°.60N×121°.31E, h14km, mb5.2/49, MS4.4/9, Error ellipse: s-maj=7.7km s-min=4.5km az=114.0*
NIED ***25*** *10:35:01.7, 22°.76N×121°.31E, h21km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.95; $M_{\theta\theta}$0.20; $M_{\phi\phi}$-2.15; $M_{r\theta}$0.90; $M_{\theta\phi}$-0.95; $M_{\phi r}$-0.22; Fault plane solution: $M_0$2.44000×10^{16} NP1:ϕ_s43.00000°, δ52.00000°, λ124.00000°. NP2:ϕ_s176.00000°, δ49.00000°, λ54.00000°.*
JMA ***25*** *10:35:01.6±0.1, 22°.76N×121°.31E, h21km±4km, M4.9*
NEIC ***25*** *10:35:02.5±2.1, 22°.77N±0°.05×121°.37E±0°.06, h15km±3km, mb5.0/103, ML5.2(TAP), Error ellipse: s-maj=7.8km s-min=7.5km az=220.0*
ASIES ***25*** *10:35:03.1, 22°.74N×121°.30E, h19km, MW5.0*
GCMT ***25*** *10:35:03.5±0.3, 22°.73N±0°.02×121°.32E±0°.02, h22km, MW5.2/87, Moment Tensor Solution. s31,c34; s87,c127; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.77±.06; $M_{\theta\theta}$-0.05±.03; $M_{\phi\phi}$-0.72±.03; $M_{r\theta}$-0.17±.05; $M_{\theta\phi}$-0.25±.02; $M_{\phi r}$-0.01±.04; Best double couple: $M_0$0.80900×10^{17} NP1:ϕ_s7.00000°, δ44.00000°, λ73.00000°. NP2:ϕ_s210.00000°, δ49.00000°, λ106.00000°. Principal axes: T 0.8100, Plg78.0000°, Azm187.0000°; N -0.0030, Plg12.0000°, Azm20.0000°; P -0.8080, Plg2.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
TAP ***25*** *10:35:03.0, 22°.79N×121°.27E, h18km, ML5.3, B*
IDC ***25*** *10:35:05.5±1.5, 22°.71N×121°.47E, h39km±12km, mb4.5/44, mb1 4.6/47, mb1mx4.5/65, mbtmp4.7/47, ML4.2/3, MS4.5/19, Ms1 4.5/19, ms1mx4.3/49, Error ellipse: s-maj=12.4km s-min=8.1km az=67.0*

ISC 25 10:35:03.3±0.5, 22°.78N±0°.01×121°.33E±0°.02, h17km±3km, n582, σ1°.61/714, mb4.9/157, MS4.5/35, 35C-54D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.17**	**262⇑**	*i*P	**Pb**	**10 35 07.5**	**-0.3**
	baz=248						
TTN				*i* S	**Sg**	**10 35 10.8**	**+0.1**
	baz=248						
LDUT	**Ludao**	**0.17**	**128⇓**	*i*P	**Pg**	**10 35 08.7**	**+1.0**
	baz=113						
LDUT				S	**Sg**	**10 35 12.9**	**+2.2**
	baz=113						
EDH	**Donghe**	**0.19**	**354⇑**	*i*P	**Pg**	**10 35 08.0**	**-0.1**
	baz=8.0						
EDH				S	**Sg**	**10 35 11.3**	**-0.1**
	baz=8.0						
LONT	**Longtian**	**0.22**	**305⇑**	*i*P	**Pg**	**10 35 07.8**	**-0.7**
	baz=315						
LONT				S	**Sg**	**10 35 10.9**	**-1.2**
	baz=315						
TWGBT	**Beinan**	**0.23**	**280⇑**	*i*P	**Pg**	**10 35 07.8**	**-0.8**
	baz=279						
TWGBT				*i* S	**Sb**	**10 35 12.4**	**-0.4**
	baz=279						
TWG	**Pinlang**	**0.24**	**280⇑**	*i*P	**Pg**	**10 35 07.8**	**-0.9**
	baz=279						
TWG				*i* S	**Sg**	**10 35 12.4**	**-0.1**
	baz=279						
TWG	**Pinlang**	**0.24**	**280**		**Pg**	**10 35 07.9**	**-0.9**
CHKT	**Chengkung**	**0.32**	**7**	P	**Pg**	**10 35 10.3**	**+0.1**
	baz=27						
CHKT				*i* S	**Sb**	**10 35 15.8**	**+0.4**
	baz=27						
ECL	**Taimali**	**0.39**	**242⇓**	*i*P	**Pg**	**10 35 10.4**	**-0.9**
	baz=234						
ECL				S	**Sg**	**10 35 16.1**	**-0.6**
	baz=234						
FULB	**Fuli**	**0.42**	**356**	*e*P	**Pb**	**10 35 12.1**	**-0.1**
	baz=350						
FULB				*e*S	**Sb**	**10 35 19.1**	**+0.8**
	baz=350						
ELDTW	**Lidau**	**0.50**	**325⇓**	*i*P	**Pg**	**10 35 12.2**	**-1.2**
	baz=331						
EYUL	**Yuli**	**0.57**	**359**	P	**Pg**	**10 35 13.8**	**-0.7**
	baz=354						
EYUL				*e*S	**Sg**	**10 35 22.3**	**+0.1**
	baz=354						
TWF1	**Yuli**	**0.57**	**357**	*i* P	**Pg**	**10 35 13.6**	**-1.1**
	baz=352						
TWF1				*e*S	**Sg**	**10 35 22.3**	**0.0**
	baz=352						
TAW	**Tawu**	**0.58**	**224**	P	**Pg**	**10 35 13.9**	**-0.8**
	baz=216						
TAW				*e*S	**Sg**	**10 35 21.5**	**-1.0**
	baz=216						
EAST	**Anshuo**	**0.59**	**228⇑**	*i*P	**Pg**	**10 35 14.0**	**-1.1**
	baz=231						
EAST				*e*S	**Sg**	**10 35 22.2**	**-0.7**
	baz=231						
YULB	**Yu-li**	**0.61**	**358⇓**	*i*P	**Pg**	**10 35 14.0**	**-1.4**
	baz=352						
YULB				S	**Sg**	**10 35 22.9**	**-0.7**
	baz=352						
YULB	**Yu-li**	**0.61**	**358**		**Pg**	**10 35 14.1**	**-1.4**
TSMG	**Majia**	**0.63**	**264⇓**	*i*P	**Pg**	**10 35 14.3**	**-1.4**
	baz=263						
TSMG				S	**Sg**	**10 35 21.9**	**-2.3**
	baz=263						
SSD	**Sandimen**	**0.64**	**267⇓**	*i*P	**Pg**	**10 35 14.3**	**-1.6**
	baz=267						
SSD				S	**Sg**	**10 35 21.5**	**-3.0**
	baz=267						
STYT	**Tauyuan**	**0.65**	**306⇓**	*i*P	**Pg**	**10 35 14.8**	**-1.3**
	baz=309						
STYT				*e*S	**Sg**	**10 35 22.8**	**-2.0**
	baz=309						
MASBT	**Mashibuluo**	**0.66**	**256⇓**	*i*P	**Pb**	**10 35 15.0**	**-1.4**
	baz=244						
MASBT				S	**Sg**	**10 35 22.8**	**-2.3**
	baz=244						
SLGT	**Liugui**	**0.66**	**289⇓**	*i*P	**Pb**	**10 35 15.1**	**-1.3**
	baz=292						
SLGT				*e*S	**Sg**	**10 35 23.2**	**-1.9**
	baz=292						
HGSD	**Ruisui**	**0.72**	**7**	*i* P	**Pb**	**10 35 16.6**	**-0.7**
	baz=21						
HGSD				S	**Sg**	**10 35 28.1**	**+1.2**
	baz=21						
EHY	**Hungye**	**0.72**	**360**	*e*P	**Pb**	**10 35 16.1**	**-1.3**
	baz=355						
EHY				S	**Sb**	**10 35 25.5**	**-1.6**
	baz=355						
SLIU	**Shizi**	**0.74**	**221**	*e*P	**Pb**	**10 35 16.3**	**-1.4**
	baz=215						
SLIU				*e*S	**Sb**	**10 35 26.9**	**-0.6**
	baz=215						
SGST	**Jiashian**	**0.75**	**294⇓**	*i*P	**Pb**	**10 35 16.2**	**-1.7**
	baz=295						
SGST				*e*S	**Sb**	**10 35 26.7**	**-1.1**
	baz=295						
SSPT	**Xinbi**	**0.76**	**247⇓**	*i*P	**Pb**	**10 35 17.5**	**-0.5**
	baz=238						
SSPT				*e*S	**Sb**	**10 35 26.9**	**-1.2**
	baz=238						
LAY	**Lan-yu**	**0.77**	**164**	P	**Pb**	**10 35 17.0**	**-1.2**
	baz=150						
LAY				*e*S	**Sb**	**10 35 27.7**	**-0.5**
	baz=150						
SCZT	**Fangliau**	**0.77**	**238**	*i* P	**Pb**	**10 35 17.0**	**-1.1**
	baz=233						
SCZT				*e*S	**Sb**	**10 35 26.6**	**-1.7**
	baz=233						
SGLT	**Jiouru**	**0.77**	**266⇓**	*i*P	**Pb**	**10 35 17.8**	**-0.4**
	baz=264						
SGLT				*e*S	**Sb**	**10 35 28.4**	**0.0**
	baz=264						
SCST	**Cishan**	**0.78**	**278⇓**	*e*P	**Pb**	**10 35 15.7**	**-2.5**
	baz=277						
SCST				*e*S	**Sg**	**10 35 28.8**	**+0.1**
	baz=277						
YUS	**Yu-Shan**	**0.79**	**334**	P	**Pb**	**10 35 17.4**	**-1.3**
	baz=338						
WTP	**Ta-pu**	**0.80**	**305⇓**	*i*P	**Pb**	**10 35 18.1**	**-0.7**
	baz=308						
WTP				S	**Sg**	**10 35 30.3**	**+0.6**
	baz=308						
TPUB	**Ta-pu**	**0.82**	**309⇓**	*i*P	**Pb**	**10 35 18.5**	**-0.6**
	baz=311						
TPUB				S	**Sg**	**10 35 30.2**	**-0.2**
	baz=311						
TPUB	**Ta-pu**	**0.82**	**309**		**Pb**	**10 35 18.6**	**-0.6**
TWM1	**Shoushan**	**0.83**	**273⇓**	*i*P	**Pg**	**10 35 19.5**	**-0.1**
	baz=268						
TWM1				*e*S	**Sn**	**10 35 32.0**	**-0.1**
	baz=268						
CHN1	**Nanshi**	**0.84**	**299⇓**	*i*P	**Pb**	**10 35 19.1**	**-0.3**
	baz=308						
CHN1				*e*S	**Sn**	**10 35 32.1**	**-0.2**
	baz=308						
ALS	**Alishan**	**0.87**	**327⇓**	*i*P	**Pb**	**10 35 19.2**	**-0.9**
	baz=337						
ALS				*e*S	**Sb**	**10 35 30.3**	**-1.2**
	baz=337						
SNST	**Tainan City**	**0.88**	**300**	*i* P	**Pb**	**10 35 19.8**	**-0.3**
	baz=301						
SNST				*e*S	**Sg**	**10 35 31.9**	**-0.2**
	baz=301						
CHN4	**Tsaushan**	**0.88**	**310**	P	**Pb**	**10 35 19.7**	**-0.5**
	baz=312						
CHN4				*e*S	**Sn**	**10 35 33.4**	**+0.1**
	baz=312						
EGFH	**Guangfu**	**0.89**	**6**	*e*P	**Pb**	**10 35 18.9**	**-1.4**
	baz=357						
EGFH				*e*S	**Sb**	**10 35 30.4**	**-1.5**
	baz=357						
TWK	**Hsinying**	**0.91**	**302**	P	**Pb**	**10 35 20.0**	**-0.6**
	baz=304						
TWK				*e*S	**Sb**	**10 35 31.9**	**-0.6**
	baz=304						
SNJT	**Kaohsiung City**	**0.91**	**269**	⇓P	**Pn**	**10 35 21.6**	**+0.3**
	baz=267						
SNJT				*e*S	**Sn**	**10 35 36.9**	**+2.8**
	baz=267						
CHN3	**Shinhua**	**0.93**	**289**	*i* P	**Pn**	**10 35 21.9**	**+0.3**
	baz=289						
CHN3				*e*S	**Sn**	**10 35 34.7**	**+0.2**
	baz=289						
HEN	**Hengchun**	**0.94**	**215**	*e*P	**Pb**	**10 35 20.5**	**-0.6**
	baz=209						
HEN				S	**Sb**	**10 35 32.5**	**-0.8**
	baz=209						
TSEB	**Hengchuen, Pin**	**0.96**	**204**	*e*P	**Pb**	**10 35 20.3**	**-1.1**
	baz=190						
TSEB				*e*S	**Sg**	**10 35 34.7**	**+0.2**
	baz=190						
TWKBT	**Hengchun**	**0.96**	**210⇑**	*i*P	**Pb**	**10 35 20.0**	**-1.4**
	baz=193						
TWKBT				*e*S	**Sb**	**10 35 31.9**	**-1.9**
	baz=193						
TWK1	**Hengchun**	**0.96**	**210**	P	**Pb**	**10 35 20.1**	**-1.4**
	baz=192						
TWK1				*e*S	**Sb**	**10 35 32.7**	**-1.1**
	baz=192						
KAU	**Kaohsiung**	**0.96**	**258**	*i* P	**Pg**	**10 35 23.3**	**+1.3**
	baz=255						
WLCH	**Liuqiu**	**0.97**	**244⇓**	*e*P	**Pg**	**10 35 24.1**	**+1.9**
	baz=233						
WLCH				*e*S	**Sn**	**10 35 35.6**	**+0.1**
	baz=233						
SNW	**Nanwan**	**0.97**	**213**	*e*P	**Pb**	**10 35 20.1**	**-1.5**
	baz=200						
SNW				*e*S	**Sb**	**10 35 33.1**	**-1.1**
	baz=200						
VWDT	**VWDT**	**0.98**	**350⇓**	*i*P	**Pb**	**10 35 20.6**	**-1.3**
	baz=2.0						
VWDT				*e*S	**Sb**	**10 35 34.8**	**+0.3**
	baz=2.0						
TWP	**Hsiaoliuchiu**	**0.99**	**244**	*e*P	**Pg**	**10 35 24.3**	**+1.8**
	baz=233						
TWP				*e*S	**Sg**	**10 35 35.4**	**-0.1**
	baz=233						
CHN5	**Tsauling**	**1.01**	**324**	P	**Pb**	**10 35 21.8**	**-0.5**
	baz=326						
CHN5				*e*S	**Sn**	**10 35 37.1**	**+0.6**
	baz=326						
WHYT	**Xinyi Township**	**1.01**	**335**	*e*P	**Pb**	**10 35 21.8**	**-0.6**
	baz=338						
WHYT				*e*S	**Sb**	**10 35 35.3**	**-0.1**
	baz=338						
ESL	**Shilin**	**1.03**	**5**	*e*P	**Pb**	**10 35 22.1**	**-0.6**
	baz=9.0						
ESL				*e*S	**Sb**	**10 35 33.7**	**-2.3**
	baz=9.0						
TAI1	**Yung-k'ang**	**1.04**	**285⇓**	*i*P	**Pg**	**10 35 23.7**	**+0.2**
	baz=284						
TAI1				S	**Sg**	**10 35 39.6**	**+2.4**
	baz=284						
SSLB	**Suanglung**	**1.06**	**341**	*i*P	**Pb**	**10 35 21.9**	**-1.2**
	baz=354						
SSLB				S	**Sn**	**10 35 37.3**	**-0.4**
	baz=354						
SSLB	**Suanglung**	**1.06**	**341**		**Pb**	**10 35 22.2**	**-1.0**
CHY	**Chiayi**	**1.10**	**311⇓**	*i*P	**Pn**	**10 35 23.7**	**0.0**
	baz=312						
CHY				*i* S	**Sg**	**10 35 39.4**	**+0.5**
	baz=312						
SCLT	**Jiali**	**1.11**	**291**	*e*P	**Pb**	**10 35 24.1**	**+0.1**
	baz=291						
SCLT				*e*S	**Sg**	**10 35 41.2**	**+1.7**
	baz=291						
ICHU	**Yijhu**	**1.12**	**301⇓**	*i*P	**Pb**	**10 35 24.2**	**0.0**
	baz=302						
ICHU				S	**Sg**	**10 35 40.4**	**+0.6**
	baz=302						
WGK	**Gukeng**	**1.14**	**322⇓**	*i*P	**Pb**	**10 35 24.6**	**0.0**
	baz=323						
WGK				*e*S	**Sg**	**10 35 42.1**	**+1.7**
	baz=323						
WDLH	**Douliu**	**1.16**	**322**	⇓P	**Pb**	**10 35 24.8**	**0.0**
	baz=322						
WDLH				*e*S	**Sg**	**10 35 41.5**	**+0.6**
	baz=322						
SMLT	**Sun Moon Lake**	**1.17**	**340**	P	**Pn**	**10 35 24.8**	**-0.1**
	baz=343						
CHN8	**Yiju**	**1.17**	**299⇓**	*i*P	**Pn**	**10 35 24.6**	**-0.2**
	baz=300						
CHN8				S	**Sg**	**10 35 42.4**	**+1.1**
	baz=300						
WLGB	**Puzi**	**1.17**	**307⇓**	*i*P	**Pn**	**10 35 24.2**	**-0.6**
	baz=307						
WLGB				S	**Sg**	**10 35 41.7**	**+0.4**
	baz=307						
WJS	**Zhushan**	**1.18**	**332⇓**	*i*P	**Pb**	**10 35 25.4**	**+0.3**
	baz=333						
WJS				S	**Sg**	**10 35 41.9**	**+0.5**
	baz=333						
OWD	**Renai**	**1.18**	**353**	*e*P	**Pn**	**10 35 24.6**	**-0.5**
	baz=8.0						
OWD				*e*S	**Sb**	**10 35 39.1**	**-1.1**
	baz=8.0						
TYC	**Yuchr**	**1.20**	**339**	P	**Pb**	**10 35 25.6**	**+0.1**
	baz=354						
TYC				*e*S	**Sg**	**10 35 42.9**	**+0.7**
	baz=354						
HWA	**Hwalien**	**1.22**	**12**	*e*P	**Pn**	**10 35 24.6**	**-0.9**
	baz=3.0						
HWA				*e*S	**Sb**	**10 35 40.6**	**-0.7**
	baz=3.0						
WNT	**Mingjian**	**1.24**	**332⇓**	*i*P	**Pb**	**10 35 26.5**	**+0.3**
	baz=332						
WNT				*e*S	**Sg**	**10 35 44.6**	**+1.0**
	baz=332						
WTK	**Tuku**	**1.25**	**317⇓**	*i*P	**Pn**	**10 35 25.9**	**0.0**
	baz=317						
WTK				S	**Sg**	**10 35 43.2**	**-0.6**
	baz=317						
CHGB	**Renai**	**1.28**	**354**	*e*P	**Pn**	**10 35 25.6**	**-1.0**
	baz=5.0						
WSF	**Szhu**	**1.33**	**310⇓**	*i*P	**Pn**	**10 35 26.7**	**-0.3**
	baz=310						
WSF				*e*S	**Sg**	**10 35 45.7**	**-0.5**
	baz=310						
WHF	**Hehuan Shan**	**1.36**	**358**	P	**Pn**	**10 35 26.6**	**-1.3**
	baz=12						
WHF				*e*S	**Sn**	**10 35 44.2**	**-1.4**
	baz=12						
NACB	**Ninganchiao**	**1.41**	**10**	P	**Pn**	**10 35 25.8**	**-2.3**
	baz=11						
NACB				*e*S	**Sn**	**10 35 42.5**	**-3.8**
	baz=11						
NACB	**Ninganchiao**	**1.41**	**10**		**Pn**	**10 35 26.3**	**-1.9**
RLNB	**Erlin**	**1.42**	**321**	*e*P	**Pn**	**10 35 27.8**	**-0.4**
	baz=312						
RLNB				*e*S	**Sb**	**10 35 47.5**	**+0.5**
	baz=312						
ETLH	**Xiulin Townshi**	**1.43**	**6**	*e*P	**Pn**	**10 35 28.2**	**-0.3**
	baz=7.0						
ETLH				*e*S	**Sn**	**10 35 44.6**	**-2.3**
	baz=7.0						
WMLT	**Mailiao**	**1.44**	**315**	*e*P	**Pn**	**10 35 27.7**	**-0.8**
	baz=315						
WMLT				*e*S	**Sn**	**10 35 47.2**	**+0.2**
	baz=315						
WTCT	**Ta-ch'eng**	**1.45**	**319**	P	**Pn**	**10 35 28.7**	**+0.1**
	baz=318						
WTCT				*e*S	**Sg**	**10 35 49.4**	**-0.6**
	baz=318						
FUSS	**Fushou**	**1.46**	**357**	P	**Pn**	**10 35 28.5**	**-0.6**
	baz=10.0						
FUSS				*e*S	**Sb**	**10 35 48.3**	**-0.3**
	baz=10.0						
TWT	**Tachien**	**1.47**	**355**	P	**Pn**	**10 35 28.8**	**-0.4**
	baz=7.0						
TWT				*e*S	**Sn**	**10 35 47.8**	**-0.3**
	baz=7.0						
WCHH	**Zhanghua**	**1.47**	**332⇓**	*i*P	**Pb**	**10 35 30.1**	**-0.1**
	baz=331						
WCHH				S	**Sg**	**10 35 49.9**	**-1.1**
	baz=331						
TDCB	**Techi**	**1.48**	**354**	*i* P	**Pn**	**10 35 28.6**	**-0.5**
	baz=7.0						
TDCB				*e*S	**Sn**	**10 35 46.2**	**-1.9**
	baz=7.0						
TCU	**Taichung**	**1.49**	**336⇓**	*i*P	**Pb**	**10 35 30.4**	**-0.1**
	baz=336						
TCU				S	**Sg**	**10 35 50.7**	**-0.7**
	baz=336						
WHP	**Taichung City**	**1.53**	**347**	*i* P	**Pb**	**10 35 31.3**	**0.0**
	baz=356						
WHP				*e*S	**Sg**	**10 35 51.9**	**-0.9**
	baz=356						
WDGT	**Dungji**	**1.61**	**288⇓**	*i*P	**Pn**	**10 35 29.8**	**-1.0**
	baz=286						
WDGT				*e*S	**Sn**	**10 35 49.9**	**-1.2**
	baz=286						
TWQ1	**Liyutan**	**1.64**	**342**	*i* P	**Pb**	**10 35 33.0**	**-0.1**
	baz=341						
TWQ1				*e*S	**Sg**	**10 35 55.7**	**-0.6**
	baz=341						
NNSB	**Datong**	**1.64**	**2**	P	**Pn**	**10 35 30.3**	**-1.2**
	baz=15						
NNSH	**Datong**	**1.64**	**2**	*e*P	**Pn**	**10 35 31.5**	**+0.1**
	baz=14						
NNS	**Nan Shan**	**1.65**	**2**	*e*P	**Pn**	**10 35 31.2**	**-0.5**
	baz=15						
WDJ	**Dajia District**	**1.68**	**338**	P	**Pb**	**10 35 33.6**	**-0.1**
	baz=337						
WDJ				*e*S	**Sb**	**10 35 56.1**	**+1.4**
	baz=337						
ENA	**Nanau**	**1.69**	**13**	*e*P	**Pn**	**10 35 30.7**	**-1.2**
	baz=1.0						
ENA				*e*S	**Sn**	**10 35 52.2**	**-0.8**
	baz=1.0						
NSY	**Sanyi**	**1.71**	**342**	*e*P	**Pb**	**10 35 34.1**	**-0.2**
	baz=341						
NSY				*e*S	**Sg**	**10 35 58.0**	**-0.4**
	baz=341						
ENAH	**Nanao**	**1.72**	**15**	*e*P	**Pn**	**10 35 32.4**	**0.0**
ENAH				*e*S	**Sn**	**10 35 52.6**	**-1.3**
PTSB	**Yuanli**	**1.75**	**341**	P	**Pb**	**10 35 34.1**	**-0.9**
	baz=340						
PTSB				*e*S	**Sg**	**10 35 58.6**	**-1.2**
	baz=340						
PHUB	**P'eng-hu**	**1.77**	**295**	P	**Pn**	**10 35 31.9**	**-1.2**
	baz=293						
PHUB				*e*S	**Sn**	**10 35 53.4**	**-1.9**
	baz=293						
VCHM	**Qimei**	**1.80**	**284⇓**	*i*P	**Pn**	**10 35 32.4**	**-1.1**
	baz=283						
VCHM				*e*S	**Sn**	**10 35 54.3**	**-1.6**
	baz=283						
PNG	**Penghu**	**1.81**	**296**	P	**Pn**	**10 35 32.6**	**-1.0**
	baz=295						
PNG				*e*S	**Sn**	**10 35 55.2**	**-0.9**
	baz=295						
NMLH	**Miaoli**	**1.82**	**344**	*e*P	**Pb**	**10 35 35

	baz=3.0						
NSTT				*e*S	**Sb**	**10 36 00.3**	**+0.4**
	baz=3.0						
LIOB	**Emei**	**1.88**	**351**	*e*P	**Pn**	**10 35 35.6**	**+1.0**
	baz=4.0						
LIOB				*e*S	**Sb**	**10 36 00.0**	**-0.4**
	baz=4.0						
YHNB	**Yeheng**	**1.88**	**1**	*e*P	**Pn**	**10 35 35.1**	**+0.4**
	baz=15						
YHNB				*e*S	**Sn**	**10 35 57.1**	**-1.0**
	baz=15						
YHNB	**Yeheng**	**1.88**	**1**		**Pn**	**10 35 34.9**	**+0.2**
TWC	**Suao**	**1.88**	**15**	*e*P	**Pn**	**10 35 35.2**	**+0.6**
	baz=3.0						
TWC				*e*S	**Sn**	**10 35 56.6**	**-1.4**
	baz=3.0						
NSK	**Sanguang**	**1.89**	**1**	P	**Pn**	**10 35 34.9**	**+0.2**
	baz=14						
NSK				*e*S	**Sn**	**10 35 58.9**	**+0.7**
	baz=14						
TWE	**Neicheng**	**1.96**	**9**	*e*P	**Pn**	**10 35 35.5**	**-0.1**
	baz=9.0						
TWE				*e*S	**Sn**	**10 35 57.5**	**-2.3**
	baz=9.0						
NWLT	**Wulai**	**2.00**	**5**	*e*P	**Pn**	**10 35 36.9**	**+0.7**
	baz=16						
NWLT				*e*S	**Sn**	**10 35 58.6**	**-2.2**
	baz=16						
ILA	**Ilan**	**2.02**	**11**	*e*P	**Pn**	**10 35 35.8**	**-0.6**
	baz=9.0						
SBCB	**Hsinchu**	**2.03**	**351**	*e*P	**Pn**	**10 35 37.3**	**+0.7**
	baz=347						
SBCB				*e*S	**Sb**	**10 36 04.1**	**-0.5**
	baz=347						
HSN	**Hsinchu**	**2.04**	**351**	*e*P	**Pn**	**10 35 37.9**	**+1.1**
	baz=349						
NTC	**Toucheng**	**2.12**	**12**	*e*P	**Pn**	**10 35 38.8**	**+0.9**
	baz=10.0						
NCUH	**Zhongli**	**2.18**	**357**	*e*P	**Pb**	**10 35 42.4**	**+0.1**
	baz=338						
NCU	**National Centr**	**2.19**	**357**	*e*P	**Pb**	**10 35 41.2**	**-1.1**
	baz=338						
TATO	**Taipei**	**2.19**	**4**	*e*P	**Pn**	**10 35 38.9**	**0.0**
	baz=15						
TATO				*e*S	**Sn**	**10 36 06.7**	**+1.1**
	baz=15						
TATO	**Taipei**	**2.19**	**4**		**Pn**	**10 35 39.6**	**+0.7**
TWA	**Mucha**	**2.20**	**6**	*e*P	**Pn**	**10 35 39.6**	**+0.6**
	baz=15						
JYNG	**Yonaguni jima**	**2.23**	**41**	P	**Pn**	**10 35 39.2**	**-0.2**
TIPB	**Shuangxi**	**2.23**	**12**	*e*P	**Pn**	**10 35 40.1**	**+0.7**
	baz=9.0						
TAP	**Taipei**	**2.26**	**4**	*e*P	**Pb**	**10 35 42.0**	**-1.5**
	baz=15						
TAP1	**Taipei**	**2.26**	**5**	*e*P	**Pn**	**10 35 40.5**	**+0.7**
	baz=15						
YOJ	**Yonaguni jima**	**2.28**	**42**	*e*P	**Pn**	**10 35 39.9**	**-0.2**
	baz=58						
YOJ				*e*S	**Sn**	**10 36 07.1**	**-0.6**
	baz=58						
YOJ	**Yonaguni jima**	**2.28**	**42**	P	**Pn**	**10 35 39.7**	**-0.4**
YOJ				S	**Sn**	**10 36 07.6**	**-0.1**
YOJ	**Yonaguni jima**	**2.28**	**42**	P	**Pn**	**10 35 39.8**	**-0.2**
YOJ	**Yonaguni jima**	**2.28**	**42**		**Pn**	**10 35 39.8**	**-0.2**
TWB1	**Santiao Chiao**	**2.30**	**15**	*e*P	**Pn**	**10 35 41.6**	**+1.2**
	baz=3.0						
TWS1	**Kuangyinshan**	**2.31**	**2**	*e*P	**Pn**	**10 35 41.9**	**+1.3**
	baz=13						
TWS1				*e*S	**Sn**	**10 36 10.3**	**+1.8**
	baz=13						
NWF	**Wu-fen Shan**	**2.32**	**10**	*e*P	**Pn**	**10 35 41.6**	**+0.9**
	baz=8.0						
WFSB	**Wu-fen Shan**	**2.32**	**10**	*e*P	**Pn**	**10 35 40.9**	**+0.2**
	baz=9.0						
WFSB				*e*S	**Sn**	**10 36 07.2**	**-1.6**
	baz=9.0						
YM01	**YM01**	**2.37**	**5**	*e*P	**Pn**	**10 35 42.4**	**+1.1**
	baz=15						
YM04	**YM04**	**2.37**	**5**	*e*P	**Pn**	**10 35 42.3**	**+0.9**
	baz=15						
YM10	**YM10**	**2.38**	**5**	*e*P	**Pn**	**10 35 42.0**	**+0.6**
	baz=15						
NTST	**Danshui**	**2.38**	**3**	*e*P	**Pn**	**10 35 42.7**	**+1.3**
	baz=13						
YM11	**YM11**	**2.39**	**5**	*e*P	**Pn**	**10 35 42.8**	**+1.2**
	baz=15						
YM03	**YM03**	**2.40**	**5**	*e*P	**Pn**	**10 35 41.9**	**+0.2**
	baz=15						
ANP	**Anpu**	**2.40**	**4**	*e*P	**Pn**	**10 35 43.7**	**+1.9**
	baz=8.0						
YM08	**YM08**	**2.41**	**6**	*e*P	**Pn**	**10 35 42.1**	**+0.2**
	baz=15						
TWY	**Chenhua**	**2.50**	**6**	*e*P	**Pn**	**10 35 44.6**	**+1.5**
	baz=15						
HATJ	**Hateruma jima**	**2.61**	**60**	P	**Pn**	**10 35 43.9**	**-0.7**
HATJ				S	**Sn**	**10 36 14.9**	**-1.0**
IRIF	**Iriomote-Funau**	**2.70**	**54**	P	**Pn**	**10 35 45.7**	**-0.1**
IRIF				*e*S	**Sn**	**10 36 17.5**	**-0.5**
VWUC	**VWUC**	**2.79**	**322**	*e*P	**Pn**	**10 35 46.8**	**-0.4**
	baz=322						
JKRS	**Kuro-shima**	**2.86**	**59**	P	**Pn**	**10 35 47.8**	**-0.3**
JKRS				*e*S	**Sn**	**10 36 21.6**	**-0.5**
PCYT	**Pengchaiyu**	**2.92**	**13**	*e*P	**Pn**	**10 35 49.9**	**+1.0**
	baz=8.0						
PTMZ	**Houxiangcun**	**3.02**	**319**	*e*P	**Pn**	**10 35 49.8**	**-0.5**
	baz=317						
PTMZ				*e*S	**Sn**	**10 36 24.7**	**-1.4**
	baz=317						
JIJ	**Ishigaki jima**	**3.03**	**58**	P	**Pn**	**10 35 49.9**	**-0.5**
JIJ				*e*S	**Sn**	**10 36 25.5**	**-0.7**
PTTC	**Pingtan**	**3.06**	**333**	*e*P	**Pn**	**10 35 51.0**	**+0.2**
	baz=331						
KNM	**Kinmen**	**3.11**	**302**	*e*P	**Pn**	**10 35 52.1**	**+0.6**
	baz=299						
KNM				*e*S	**Sn**	**10 36 30.2**	**+1.9**
	baz=299						
KNMB	**Chin-men Tao**	**3.17**	**302**	*e*P	**Pn**	**10 35 51.5**	**-0.9**
	baz=302						
KNMB	**Chin-men Tao**	**3.17**	**302**	Pn	**Pn**	**10 35 51.8**	**-0.6**
JISG	**Ishigakijimahi**	**3.27**	**56**	P	**Pn**	**10 35 52.9**	**-0.9**
JISG				*e*S	**Sn**	**10 36 30.5**	**-1.8**
QZH	**Quanzhou**	**3.30**	**311**	⇓*i*Pn	**Pn**	**10 35 53.3**	**-0.8**
QZH				Sn	**Sn**	**10 36 31.5**	**-1.5**
QZH				smax	smax		
	comp=N,1μm,0.5s						
QZH				smax	smax		
	comp=E,1μm,1.0s						
QZH				LR	LR		
	comp=N,14μm,15.4s						
QZH				LR	LR		
	comp=E,13μm,14.0s						
QZH				LR	LR		
	comp=Z,22μm,11.8s						
ZPLA	**Ao Xicun**	**3.48**	**290**	*e*P	**Pn**	**10 35 55.9**	**-0.7**
	baz=288						
ZPLA				*e*S	**Sn**	**10 36 35.9**	**-1.5**
	baz=288						
MATB	**Ma-tsu**	**3.58**	**340**	*e*P	**Pn**	**10 35 57.6**	**-0.4**
	baz=337						
MATB				*e*S	**Sn**	**10 36 38.7**	**-1.3**
	baz=337						
JTJ	**Tarama**	**3.61**	**58**	P	**Pn**	**10 35 57.9**	**-0.4**
JTJ				S	**Sn**	**10 36 39.8**	**-0.7**
AXDP	**Jialang**	**3.73**	**305**	*e*P	**Pn**	**10 35 59.1**	**-0.9**
	baz=305						
ZZJH	**Jiuhuzhen**	**3.78**	**297**	*e*P	**Pn**	**10 36 00.2**	**-0.6**
	baz=295						
ZZJH				*e*S	**Sn**	**10 36 44.4**	**-0.5**
	baz=295						
MHZQ	**Yeshan**	**3.91**	**328**	*e*P	**Pn**	**10 36 02.3**	**-0.3**
	baz=327						
LYJJ	**Jianjiangzhen**	**4.02**	**340**	*e*P	**Pn**	**10 36 03.6**	**-0.3**
	baz=337						
JIRB	**Irabujima**	**4.07**	**59**	P	**Pn**	**10 36 04.2**	**-0.5**
JIRB				S	**Sn**	**10 36 51.9**	**-0.1**
JMJ2	**Miyako jima3**	**4.15**	**61**	P	**Pn**	**10 36 05.9**	**0.0**
JMJ2				S	**Sn**	**10 36 54.1**	**+0.1**
JMJ	**Miyako jima 2**	**4.16**	**60**	*e*P	**Pn**	**10 36 05.5**	**-0.5**
	baz=67						
JMJ				*e*S	**Sn**	**10 36 53.8**	**-0.4**
	baz=67						
JIKM	**Ikemajima**	**4.18**	**58**	P	**Pn**	**10 36 06.1**	**-0.1**
JIKM				S	**Sn**	**10 36 53.9**	**-0.7**
JOGS	**Gusukube**	**4.23**	**61**	P	**Pn**	**10 36 06.8**	**-0.1**
JOGS				S	**Sn**	**10 36 55.7**	**-0.1**
XPSS	**Dashiqiu**	**4.26**	**346**	*e*P	**Pn**	**10 36 06.4**	**-0.9**
	baz=343						
VDOS	**Pratas Island**	**4.75**	**245**	*e*P	**Pn**	**10 36 14.6**	**+0.5**
	baz=243						
SIPP	**Brgy, Tapao**	**4.90**	**190**	⇑*e*P	**Pn**	**10 36 19.7**	**+3.6**
SIPP				*e*S	**Sb**	**10 37 30.8**	**+3.5**
CVP	**Callao Caves**	**5.07**	**175**	⇑*e*P	**Pn**	**10 36 19.2**	**+0.7**
CVP				*i*S	**Sn**	**10 37 20.2**	**+3.5**
BCP	**Baguio City**	**6.36**	**186**	⇑*i*P	**Pn**	**10 36 35.6**	**-0.8**
BCP				*i*S	Sn	10 37 30.1	-19
HKPS	**Hong Kong Po S**	**6.66**	**267**	*e*P	**Pn**	**10 36 40.6**	**+0.2**
	baz=262						
HKPS	**Hong Kong Po S**	**6.66**	**267**	Pn	**Pn**	**10 36 40.6**	**+0.2**
MCO	**Taipa Grande**	**7.21**	**266**	P	Pn	10 36 53.0	+5.1
GZH	**Guangzhou**	**7.36**	**274**	Pn	**Pn**	**10 36 46.8**	**-3.2**
GZH				Sn	**Sn**	**10 38 05.5**	**-7.6**
GZH				smax	smax		
	comp=N,700nm,1.1s						
GZH				smax	smax		
	comp=E,500nm,0.9s						
SSE	**Sheshan**	**8.29**	**359**	P	Pb	10 37 16.5	-10
SSE				S	Sb	10 38 51.3	-13
SSE				pmax	pmax		
	comp=Z,46nm,0.7s						
SSE				LR	LR		
	comp=N,3μm,13.2s						
SSE				LR	LR		
	comp=E,870nm,20.0s						
SSE				LR	LR		
	comp=Z,2μm,21.8s						
TGY	**Tagaytay City**	**8.64**	**183**	Pn	Pn	10 37 12.6	+5.0
	comp=Z,78nm,0.3s,baz=170,slow=5.2,SNR=7.4						
TGY				Sn	**Sn**	**10 38 51.8**	**+7.1**
	baz=189,slow=19,SNR=0.9						
TGY				LR	LR	10 40 58.4	
	comp=Z,4μm,22.0s,baz=23,slow=41						
NJ2	**Nanjing**	**9.49**	**347**	*e*P	**Pn**	**10 37 18.8**	**-0.4**
NJ2				pP		10 37 22.0	
NJ2				S	**Sn**	**10 39 00.5**	**-5.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				smax	smax		
	comp=Z,370nm,1.4s						
NJ2				smax	smax		
	comp=Z,230nm,1.3s						
NJ2				LR	LR		
	comp=Z,12μm,12.8s						
NJ2				LR	LR		
	comp=Z,5μm,9.9s						
NJ2				LR	LR		
	comp=Z,12μm,13.2s						
JMZ	**Minamidaito 2**	**9.52**	**69**	Pn	**Pn**	**10 37 16.8**	**-2.7**
WHN	**Wuhan**	**9.93**	**323**	⇓P	**Pn**	**10 37 25.5**	**+0.3**
WHN				sP		10 37 30.3	
WHN				S	**Sn**	**10 39 16.5**	**+0.2**
WHN				LR	LR		
	comp=Z,16μm,12.1s						
WHN				LR	LR		
	comp=Z,8μm,7.9s						
WHN				LR	LR		
	comp=Z,22μm,14.0s						
QIZ	**Qiongzhong**	**11.36**	**253**	P	**Pn**	**10 37 45.0**	**+0.2**
QIZ				S	**Sn**	**10 39 52.3**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
QIZ				LR	LR		
	comp=Z,5μm,16.3s						
QIZ				LR	LR		
	comp=Z,6μm,13.3s						
QIZ				LR	LR		
	comp=Z,9μm,15.7s						
QIZ	**Qiongzhong**	**11.36**	**253**	Pn	**Pn**	**10 37 46.3**	**+1.4**
JNU	**Nakatsue**	**13.31**	**37**	Pn	**Pn**	**10 38 11.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=199,slow=7.7,SNR=3.6						
JNU				LR	LR	10 43 19.0	
	comp=Z,873nm,20.2s,baz=223,slow=37						
GYA	**Guiyang**	**13.83**	**288**	⇓P	**Pn**	**10 38 20.0**	**+1.4**
GYA				S	**Sn**	**10 40 48.8**	**-3.1**
GYA				pmax	pmax		
	comp=Z,19nm,1.1s						
GYA				pmax	pmax		
	comp=Z,130nm,3.5s						
GYA				LR	LR		
	comp=Z,2μm,8.0s						
GYA				LR	LR		
	comp=Z,7μm,11.9s						
GYA				LR	LR		
	comp=Z,9μm,12.8s						
TJN	**Taejon**	**14.53**	**20**	⇓*e*P	**P**	**10 38 32.5**	**-2.0**
XAN	**Xi'an**	**15.63**	**319**	P	**Pn**	**10 38 43.5**	**+0.6**
XAN				pP	P	10 38 47.5	+0.6
XAN				S	**Sn**	**10 41 31.3**	**-4.4**
XAN				pmax	pmax		
	comp=Z,45nm,2.2s						
XAN				LR	LR		
	comp=Z,7μm,14.7s						
XAN				LR	LR		
	comp=Z,6μm,15.2s						
XAN				LR	LR		
	comp=Z,12μm,15.3s						
XAN	**Xi'an**	**15.63**	**319**	P	**P**	**10 38 45.8**	**-1.1**
XAN				pmax	pmax		
	comp=Z,57nm,1.5s						
XAN	**Xi'an**	**15.63**	**319**	P	**P**	**10 38 45.8**	**-1.1**
KSAR	**Wonju Array Be**	**15.67**	**20**	P	**P**	**10 38 45.3**	**-1.9**
KSAR	**Wonju Array Be**	**15.67**	**20**	P	**P**	**10 38 45.3**	**-1.9**
KSRS	**Korea Array**	**15.69**	**20**	Pn	**Pn**	**10 38 45.1**	**+1.7**
	comp=Z,1.1nm,0.3s,baz=194,slow=12,SNR=30						
KSRS				LR	LR	10 45 35.9	
	comp=Z,2μm,19.7s,baz=204,slow=40						
KS19	**Wonju Array Si**	**15.72**	**20**	P	**P**	**10 38 46.3**	**-1.5**
DL2	**Dalian**	**16.08**	**1**	*e*P	**P**	**10 38 56.8**	**+5.1**
DL2				S	**S**	**10 42 03.8**	**+4.1**
DL2				pmax	pmax		
	comp=Z,43nm,1.1s						
DL2				pmax	pmax		
	comp=Z,600nm,7.9s						
DL2				LR	LR		
	comp=N,3μm,13.7s						
DL2				LR	LR		
	comp=E,2μm,16.7s						
DL2				LR	LR		
	comp=Z,3μm,15.6s						
DAV	**Davao City (W)**	**16.15**	**165**	LR	LR	10 44 53.1	
	comp=Z,3μm,20.8s,baz=346,slow=37						
SLVN	**Son La**	**16.21**	**268**	P	**P**	**10 38 52.6**	**-0.8**
DLV	**T Lat**	**16.30**	**231**	P	**P**	**10 38 55.2**	**+0.6**
TIY	**Taiyuan**	**16.73**	**335**	*e*P	**P**	**10 39 01.3**	**+2.2**
TIY				S	**Sn**	**10 42 05.8**	**+3.3**
TIY				pmax	pmax		
	comp=Z,280nm,5.7s						
TIY				LR	LR		
	comp=Z,13μm,11.2s						
TIY				LR	LR		
	comp=Z,8μm,11.2s						
TIY				LR	LR		
	comp=Z,14μm,11.8s						
KMI	**Kunming**	**17.15**	**282**	⇓*e*P	**P**	**10 39 04.8**	**+0.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KKM	**Kota Kinabalu**	**17.35**	**197**		**P**	**10 39 07.5**	**+1.4**
KKM				IAmb	IAmb	10 39 21.5	
	comp=Z,125nm,1.2s						
CD2	**Chengdu**	**17.63**	**301**	P	**P**	**10 39 09.8**	**+0.7**
CD2				S	**Sn**	**10 42 23.0**	**-1.2**
CD2				SS	**SnSn**	**10 42 46.8**	**+9.0**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
CD2				pmax	pmax		
	comp=Z,940nm,13.5s						
CD2				LR	LR		
	comp=Z,5μm,12.9s						
CD2				LR	LR		
	comp=Z,9μm,13.7s						
CD2				LR	LR		
	comp=Z,13μm,14.5s						
MYLDM	**Lahad Datu**	**17.71**	**189**		**P**	**10 39 10.5**	**+0.6**
MYLDM				IAmb	IAmb	10 39 23.2	
	comp=Z,122nm,1.2s						
BJT	**Baijiatuau**	**17.73**	**347**	P	**P**	**10 39 12.1**	**+2.0**
BJT				pmax	pmax		
	comp=Z,25nm,0.9s						
BJT	**Baijiatuau**	**17.73**	**347**	P	**P**	**10 39 12.1**	**+2.0**
BJI	**Beijing**	**17.75**	**347**	P	**P**	**10 39 11.5**	**+1.2**
BJI				S	**Sn**	**10 42 26.0**	**-1.0**
BJI				pmax	pmax		
	comp=Z,30nm,0.8s						
BJI				pmax	pmax		
	comp=Z,630nm,7.3s						
BJI				LR	LR		
	comp=Z,5μm,13.9s						
BJI				LR	LR		
	comp=Z,2μm,11.6s						
INU	**Inuyama**	**18.54**	**44**		**Pn**	**10 39 19.4**	**+0.1**
JGF	**Kuroka**	**18.92**	**44**		**P**	**10 39 21.9**	**-1.4**
SNY	**Shenyang**	**19.09**	**5**	⇑P	**P**	**10 39 21.0**	**-3.9**
SNY				S	**Sn**	**10 42 58.5**	**-0.7**
SNY				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SNY				pmax	pmax		
	comp=Z,530nm,13.3s						
SNY				LR	LR		
	comp=Z,2μm,16.3s						
SNY				LR	LR		
	comp=Z,2μm,13.3s						
SNY				LR	LR		
	comp=Z,4μm,14.0s						
JHJ	**Hachijo jima 2**	**19.26**	**54**	P	**Pn**	**10 39 29.9**	**+2.0**
	comp=Z,13nm,0.3s,baz=206,slow=4.8,SNR=7.6						
JCJ	**Chichijima**	**19.39**	**73**	P	**P**	**10 39 28.2**	**-0.2**
	comp=Z,4.4nm,0.3s,baz=177,slow=21,SNR=5.3						
JCJ				LR	LR	10 45 13.2	
	comp=Z,606nm,21.9s,baz=268,slow=32						
JCJ	**Chichijima**	**19.39**	**73**	P	**Pn**	**10 39 30.7**	**+1.1**
HHC	**Hu-ho-hao-te**	**19.81**	**338**	*e*P	**P**	**10 39 32.3**	**-0.7**
HHC				PP	**PnPn**	**10 39 51.0**	**+2.4**
HHC				S	**S**	**10 43 09.3**	**-6.3**
HHC				pmax	pmax		
	comp=Z,27nm,0.6s						
HHC				LR	LR		
	comp=Z,6μm,12.6s						
HHC				LR	LR		
	comp=Z,2μm,9.6s						
HHC				LR	LR		
	comp=Z,6μm,13.6s						
MAJO	**Matsushiro**	**20.04**	**43**	⇓*e*P	Pn	10 39 38.1	+0.8
MAJO				pmax	pmax		
	comp=Z,62nm,1.7s						
MAJO	**Matsushiro**	**20.04**	**43**		Pn	10 39 38.0	+0.7
MAT	**Matsushiro**	**20.04**	**43**	P	**P**	**10 39 35.1**	**-0.4**
MAT				S	Sn	10 43 21.6	-0.8
MJAR	**Matsushiro Arr**	**20.04**	**43**	P	**P**	**10 39 34.5**	**-0.9**
	comp=Z,28nm,1.0s,baz=230,slow=9.2,SNR=33						
MJAR				LR	LR	10 48 19.7	
	comp=Z,914nm,18.4s,baz=225,slow=40						
MJAR	**Matsushiro Arr**	**20.04**	**43**	P	Pn	10 39 36.6	-0.7
MJAR				pmax	pmax		
	comp=Z,21nm,1.1s						
MJAR	**Matsushiro Arr**	**20.04**	**43**		Pn	10 39 36.6	-0.7
LZH	**Lanzhou**	**20.15**	**315**	*e*P	Pn	10 39 39.5	+0.8
LZH				pP	sP	10 39 43.0	-0.6
LZH				S	Sn	10 43 24.0	-1.2
LZH				pmax	pmax		
	comp=Z,43nm,1.2s						
LZH				pmax	pmax		
	comp=Z,430nm,4.8s						
LZH				LR	LR		
	comp=Z,3μm,11.7s						
LZH				LR	LR		
	comp=Z,5μm,12.3s						
LZH				LR	LR		
	comp=Z,6μm,15.0s						
BTO	**Baotou**	**20.18**	**334**	*e*P	Pn	10 39 39.5	+0.6
CMAR	**Chiang Mai Arr**	**21.38**	**263**	P	**P**	**10 39 52.6**	**+2.5**
	comp=Z,36nm,1.0s,baz=68,slow=8.8,SNR=68						
CMAR				PcP	**PcP**	**10 43 54.5**	**+0.6**
	comp=Z,4.5nm,0.7s,baz=56,slow=0.9,SNR=20						
CMAR				ScP	**ScP**	**10 47 28.2**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=115,slow=0.8,SNR=7.8						
CMAR				LR	LR	10 49 07.4	
	comp=Z,3μm,19.8s,baz=114,slow=39						
SBUM	**Sibu**	**22.05**	**205**	P	**P**	**10 39 57.2**	**-0.1**
GTOI	**Gorontalo**	**22.07**	**176**	P	**P**	**10 39 55.7**	**-1.8**
	comp=Z,1μmcomp=Z,118nm,1.1s						
VLA	**Vladivostok**	**22.10**	**21**	⇓*e*P	**P**	**10 40 03.4**	**+5.8**
VLA				pmax	pmax		
	comp=Z,90nm,1.8s						
KMSI	**Cibinong**	**22.22**	**173**	P	**P**	**10 39 59.2**	**+0.1**
MPSI	**Mapaga**	**22.35**	**184**	P	**P**	**10 40 00.8**	**+0.3**
	comp=Z,836nmcomp=Z,84nm,1.1s						
JMM	**Marumori**	**22.48**	**44**	P	**P**	**10 40 00.7**	**-1.0**
JMM				IAmb	IAmb	10 40 01.1	
	comp=Z,49nm,0.8s						
MDJ	**Mudanjiang**	**22.82**	**15**	P	**P**	**10 40 04.5**	**-0.7**
MDJ				pP	pP	10 40 07.5	-2.6
MDJ				sP	sP	10 40 09.3	-3.0
MDJ				S	**S**	**10 44 14.5**	**+0.8**
MDJ				sS	sS	10 44 21.0	-1.0
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,430nm,4.9s						
MDJ				LR	LR		
	comp=Z,3μm,15.1s						
MDJ				LR	LR		
	comp=Z,3μm,14.5s						
MDJ				LR	LR		
	comp=Z,5μm,14.6s						
USA0B	**Ussuriysk Arra**	**23.10**	**20**	P	**P**	**10 40 09.0**	**+0.8**
USA0B				pmax	pmax		
	comp=Z,11nm,0.8s						
USA0B	**Ussuriysk Arra**	**23.10**	**20**	P	**P**	**10 40 09.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**23.10**	**20**	P	**P**	**10 40 08.6**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=202,slow=9.8,SNR=9.2						
USRK				LR	LR	10 49 32.5	
	comp=Z,643nm,19.8s,baz=208,slow=38						
USRK	**Ussuriysk Ar.**	**23.10**	**20**	P	**P**	**10 40 07.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**23.10**	**20**	P	**P**	**10 40 07.7**	**-0.5**
SMKI	**Samarinda**	**23.43**	**190**	P	**P**	**10 40 13.9**	**+2.2**
	comp=Z,4μmcomp=Z,153nm,1.2s						
LUWI	**Luwuk**	**23.72**	**176**	P	**P**	**10 40 15.2**	**+0.7**
	comp=Z,3μmcomp=Z,263nm,0.9s						
LUWI	**Luwuk**	**23.72**	**176**	P	**P**	**10 40 13.4**	**-1.1**
KSM	**Kuching**	**23.73**	**208**	P	**P**	**10 40 16.3**	**+1.6**
KSM				IAmb	IAmb	10 40 20.0	
	comp=Z,35nm,1.0s						
GUMO	**Guam**	**24.13**	**108**	P	**P**	**10 40 18.1**	**-0.4**
	comp=Z,142nm,0.9s,baz=221,slow=7.1,SNR=4.5						
GUMO				LR	LR	10 49 01.1	
	comp=Z,1μm,19.6s,baz=275,slow=35						
GUMO	**Guam**	**24.13**	**108**	P	**P**	**10 40 18.1**	**-0.4**
GUMO				pmax	pmax		
	comp=Z,675nm,1.5s						
GUMO	**Guam**	**24.13**	**108**	IAmb	IAmb	10 40 22.0	
	comp=Z,675nm,1.5s						
MTKI	**Muara Teweh, K**	**24.39**	**196**	P	**P**	**10 40 21.2**	**+0.4**
JTM	**Tenmabayashi**	**24.48**	**38**	P	**P**	**10 40 20.4**	**-1.0**
GTA	**Gaotai**	**24.68**	**317**	P	**P**	**10 40 25.3**	**+1.8**
GTA				pP	pP	10 40 29.5	+0.8
GTA				sP	sP	10 40 32.5	+2.0
GTA				pmax	pmax		
	comp=Z,21nm,1.7s						
GTA				pmax	pmax		
	comp=Z,430nm,5.6s						
GTA				LR	LR		
	comp=Z,2μm,16.4s						
GTA				LR	LR		
	comp=Z,3μm,18.2s						
GTA				LR	LR		
	comp=Z,4μm,15.6s						
SANI	**Sanana**	**25.09**	**169**	P	**P**	**10 40 24.4**	**-2.7**
	comp=Z,828nmcomp=Z,67nm,1.2s						
ZIRO	**ZIRO**	**25.29**	**286**	*e*P	**P**	**10 40 30.7**	**+1.6**
ZIRO				IAmb	IAmb	10 40 33.5	
	comp=Z,60nm,0.8s						
SIJI	**Sorong**	**25.42**	**156**	P	**P**	**10 40 28.9**	**-1.3**
	comp=Z,10nm,0.4s,baz=336,slow=20,SNR=2.0						
SAIH	**SAIHA**	**26.14**	**275**	*e*P	**P**	**10 40 36.8**	**0.0**
SAIH				IAmb	IAmb	10 40 40.9	
	comp=Z,27nm,1.0s						
**T

comp=Z,48nm,1.5s
SHL Shillong 26.98 282 *e*P **P 10 40 45.2 +0.7**
SHL IAmb IAmb 10 40 49.5
comp=Z,61nm,1.3s
MSAI Masohi 27.01 163 P **P 10 40 44.9 +0.4**
comp=Z,18nm,1.1s
PBKI Pangkalan Bun 27.02 202 P **P 10 40 46.3 +1.7**
comp=Z,12μmcomp=Z,149nm,0.6s
BNSI Bone 27.04 183 P **P 10 40 45.7 +1.0**
comp=Z,59nm,1.1s
ULN Ulaanbaatar 27.52 339*c i*P **P 10 40 48.5 -0.5**
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 27.52 339 P **P 10 40 49.0 +0.1**
ULN IAmb IAmb 10 40 53.4
comp=Z,22nm,1.0s
ASAJ Asahikawa 27.56 34 P **P 10 40 50.1 +0.8**
comp=Z,11nm,0.7s,baz=234,slow=11,SNR=17
ASAJ LR LR 10 51 12.3
comp=Z,1μm,20.9s,baz=246,slow=35
ASAJ Asahikawa 27.56 34 P **P 10 40 51.1 +1.9**
ASAJ pmax pmax
comp=Z,77nm,1.4s
JKA Kamikawa-asahi 27.56 34 P **P 10 40 51.1 +1.8**
KAPI Kappang 27.66 183 P **P 10 40 49.3 -1.0**
comp=Z,19nm,0.6s,baz=80,slow=20,SNR=1.6
KAPI LR LR 10 52 00.6
comp=Z,700nm,21.7s,baz=11,slow=37
KAPI Kappang 27.66 183 P **P 10 40 49.3 -1.0**
KAPI pmax pmax
comp=Z,29nm,0.8s
KAPI Kappang 27.66 183 IAmb IAmb 10 41 05.5
comp=Z,29nm,0.8s
SONM Songino Array 27.71 338 P **P 10 40 50.5 -0.2**
comp=Z,8.2nm,0.8s,baz=151,slow=10.0,SNR=31
SONM LR LR 10 52 40.5
comp=Z,2μm,21.8s,baz=148,slow=38
SONM Songino Array 27.71 338 P **P 10 40 49.9 -0.8**
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 27.71 338 P **P 10 40 49.9 -0.8**
LSA Lhasa 27.88 291 P **P 10 40 55.3 +2.5**
LSA LR LR
comp=Z,4μm,14.2s
LSA LR LR
comp=Z,6μm,18.9s
LSA LR LR
comp=Z,12μm,18.2s
SRPI Serui, Papua 28.49 147 P **P 10 40 58.3 +0.5**
PPBI Pangkal Pinang 28.88 213 P **P 10 41 03.3 +2.1**
PSI Prapat 29.43 231 P **P 10 41 07.1 +0.8**
comp=Z,20nm,1.0s,baz=17,slow=6.2,SNR=13
PSI PcP **PcP 10 44 11.5 -0.6**
comp=Z,2.4nm,0.4s,baz=355,slow=11,SNR=5.3
PSI LR LR 10 52 06.8
comp=Z,558nm,21.0s,baz=88,slow=34
RGRI Rengat 29.50 221 P **P 10 41 08.9 +2.1**
comp=Z,353nm,0.4s
RPSI Rantau Prapat 29.50 231 P **P 10 41 07.1 +0.4**
RPSI **PcP 10 44 11.5 -0.6**
YSS Yuzh-Sakhalins 29.66 30⇑*i*P **P 10 41 10.9 +3.1**
YSS *e* 10 41 17.7
YSS pmax pmax
comp=Z,30nm,0.8s
BWJI Bawean 29.69 198 P **P 10 41 07.8 -0.6**
comp=Z,495nm,1.6s
BKNI Bangkinang 29.79 224 P **P 10 41 11.2 +1.9**
comp=Z,101nm,0.5s
MLSI Meulaboh, Aceh 30.33 236 P **P 10 41 15.1 +1.0**
comp=Z,105nm,0.8s
MNSI Mandailing Nat 30.40 227 P **P 10 41 14.2 -0.6**
comp=Z,26nm,1.1s
SDSI Sungai Dareh 30.52 222 P **P 10 41 17.0 +1.3**
comp=Z,14nm,1.2s
TAPN Taplejung 30.73 286*e*P **P 10 41 20.0 +2.0**
comp=Z,63nm,0.9s
ZAK Zakamensk 30.96 337*e*P **P 10 41 18.0 -1.5**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ODAN Odare 31.01 285*e*P **P 10 41 21.5 +1.1**
comp=Z,81nm,1.2s
ZEA Zeya 31.24 7*e*P P 10 41 27.0 +5.3
ZEA pmax pmax
comp=Z,16nm,0.9s
ZEA MLR MLR
comp=Z,3μm,14.0s
ZEA MLR MLR
comp=E,600nm,11.0s
ZEA MLR MLR
comp=N,2μm,14.0s
BLJI Banyuglugur 31.27 195 P **P 10 41 23.2 +0.9**
comp=N,27nm,0.8s
EDFI Ende, Flores 31.34 179 P **P 10 41 21.8 -1.2**
comp=N,37nm,1.1s
KRJI Kerinci 31.41 221 P **P 10 41 25.2 +1.5**
comp=N,11μmcomp=N,279nm,0.9s
LHSI Lahat 31.65 216 P **P 10 41 27.6 +1.9**
RAMN Ramite 31.72 285*e*P **P 10 41 28.2 +1.6**
comp=N,96nm,1.0s
KLSI 31.76 213 P **P 10 41 29.3 +2.6**
comp=N,16nm,1.3s
MDSI Maura Dua 31.86 214 P **P 10 41 28.4 +0.8**
comp=N,59nm,1.1s
TLY Talaya 31.93 339 P **P 10 41 27.1 -0.7**
comp=N,2.9nm,0.4s,baz=269,slow=7.9,SNR=9.5
TLY Talaya 31.93 339*e*P **P 10 41 28.1 +0.2**
TLY *e*PPP PPP 10 42 41.4
TLY *e*S **S 10 46 39.6 +1.5**
TLY *e*SS **SnSn 10 48 40.0 +13**
TLY pmax pmax
comp=Z,21nm,0.7s
TLY MLR MLR
comp=Z,12μm,14.0s
KSI Kapahiang 32.01 217 P **P 10 41 29.6 +0.6**
JIRN Jiri 32.09 286*e*P **P 10 41 31.8 +1.8**
comp=Z,149nm,1.1s
KPJI Karang Pucung 32.29 203 P **P 10 41 35.8 +4.5**
comp=Z,37nm,1.6s
GUN Gumba 32.37 287*e*P **P 10 41 33.9 +1.5**
comp=Z,103nm,1.0s
SOEI Soe 32.46 175 P P 10 41 39.3 +6.3
TYV Tymovskoe 32.58 25*e*P P 10 41 38.8 +5.2
TYV pmax pmax
comp=Z,11nm,1.1s
TYV pmax pmax
comp=Z,500nm,8.8s
PKI Pulchoki 32.78 286*e*P **P 10 41 37.0 +1.0**
comp=Z,60nm,1.1s
PKIN Phulchoki 32.79 286*e*P **P 10 41 37.1 +1.1**
comp=Z,107nm,1.4s
BATI Baumata 32.86 176 P **P 10 41 34.9 -1.4**
comp=Z,31nm,0.6s,baz=287,slow=9.1,SNR=2.1
KKN Kakani 32.90 286*e*P **P 10 41 38.1 +1.2**
comp=Z,56nm,0.9s
DMN Daman 33.05 286*e*P **P 10 41 39.6 +1.3**
comp=Z,62nm,1.0s
GKN Gorkha 33.47 287*e*P **P 10 41 42.9 +1.1**
comp=Z,97nm,1.1s
DANN Dangsing 34.24 287*e*P **P 10 41 49.9 +1.2**
comp=Z,152nm,1.3s
KOLN Koldanda 34.38 286*e*P **P 10 41 50.4 +0.6**
comp=Z,80nm,1.0s
WMQ Urumqi 34.73 315*e*P **P 10 41 53.8 +1.3**
WMQ LR LR
comp=Z,790nm,14.1s
WMQ LR LR
comp=Z,960nm,13.3s
WMQ LR LR
comp=Z,470nm,17.3s
DGZ Jazzator, Alta 37.80 324⇓*i*P **P 10 42 19.5 +0.8**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
ZSN Zaisan 38.14 319*e*P **P 10 42 23.6 +2.1**
baz=320
ZSN Zaisan 38.14 319*e*P **P 10 42 23.5 +2.1**
KNRA Kununurra 38.91 169 P **P 10 42 25.7 -2.4**
KNRA IAmb IAmb 10 42 40.5
comp=Z,20nm,1.0s
PATS Pohnpei 38.96 108 P **P 10 42 29.5 +0.8**
MK31 Makanchi Array 39.44 317 P **P 10 42 33.4 +1.0**
MK31 pmax pmax
comp=Z,22nm,0.9s
MK31 Makanchi Array 39.44 317 P **P 10 42 33.4 +1.0**
MK31 IAmb IAmb 10 42 38.7
comp=Z,22nm,0.8s
MKAR Makanchi Array 39.44 317 P **P 10 42 33.5 +1.0**
comp=Z,42nm,1.0s,baz=110,slow=10,SNR=60
MKAR PcP **PcP 10 44 39.8 -0.5**
comp=Z,3.3nm,0.8s,baz=101,slow=3.8,SNR=3.9
MKAR ScP **ScP 10 48 25.7 -2.5**
comp=Z,1.4nm,1.0s,baz=119,slow=5.0,SNR=4.7
MKAR LR LR 10 58 47.1
comp=Z,548nm,18.8s,baz=94,slow=36
MKAR Makanchi Array 39.44 317 P **P 10 42 32.6 +0.2**
MAKZ Makanchi 39.65 317 P **P 10 42 35.2 +1.1**
MAKZ pmax pmax
comp=Z,35nm,0.9s
MAKZ Makanchi 39.65 317 P **P 10 42 35.2 +1.1**
MAKZ IAmb IAmb 10 42 40.5
comp=Z,35nm,0.8s
YAK Yakutsk 39.65 6⇑*e*P **P 10 42 36.8 +3.0**
YAK pmax pmax
comp=Z,15nm,0.8s
SMLA Simla 40.02 292*e*P **P 10 42 38.4 +1.0**
SMLA IAmb IAmb 10 42 42.4
comp=Z,153nm,2.0s
PDGK Podgornoye 40.09 311 P **P 10 42 38.6 +0.6**
KRVT Keravat (AS076 40.30 128 LR LR 10 59 01.5
comp=Z,524nm,18.0s,baz=279,slow=36
UZB Uzynbulak 40.37 310*e*P **P 10 42 41.5 +1.2**
comp=Z,19nm,1.5s,baz=311
UZB *e*S **S 10 48 50.3 +2.6**
baz=311
UZB LR LR 10 59 27.0
comp=Z,176nm,13.5s,baz=311
UZB Uzynbulak 40.37 310*e*P **P 10 42 41.5 +1.2**
UZB *e*S **S 10 48 50.3 +2.6**
UZB pmax pmax
comp=Z,19nm,1.5s
UZB MLR MLR
comp=Z,176nm,13.0s
HYB Hyderabad 40.42 270*i*P **P 10 42 42.0 +1.1**
SATY Saty 40.78 310*e*P **P 10 42 45.0 +1.3**
comp=Z,17nm,1.3s,baz=311
SATY LR LR 11 00 02.5
comp=Z,159nm,12.0s,baz=311
SATY Saty 40.78 310*e*P **P 10 42 44.9 +1.3**
SATY pmax pmax
comp=Z,17nm,1.3s
SATY MLR MLR
comp=Z,159nm,12.0s
DHRM DHARAMSHALA 40.78 293*e*P **P 10 42 44.7 +0.7**
DHRM IAmb IAmb 10 42 48.1
comp=Z,21nm,0.9s
FITZ Fitzroy Crossi 40.84 174 P **P 10 42 41.3 -2.9**
comp=Z,5.8nm,0.5s,baz=360,slow=3.7,SNR=39
FITZ PcP **PcP 10 44 43.6 -1.3**
comp=Z,2.7nm,0.6s,baz=3.2,slow=4.9,SNR=2.5
TARG Taragay, Kyrgy 40.87 308 P **P 10 42 46.3 +1.5**
TARG IAmb IAmb 10 42 50.5
comp=Z,24nm,1.2s
PETK Petropavlovsk- 40.96 33 P **P 10 42 45.2 +0.3**
comp=Z,2.8nm,0.7s,baz=201,slow=6.6,SNR=5.0
PETK LR LR 11 00 53.0
comp=Z,564nm,18.7s,baz=233,slow=38
PETK Petropavlovsk- 40.96 33 P **P 10 42 45.3 +0.4**
PETK **pP 10 42 48.2 -2.0**
TDK Taldyqorghan 41.34 313*e*P **P 10 42 49.7 +1.5**
baz=314
TDK *e*S **S 10 49 05.1 +3.2**
baz=314
TDK LR LR 11 00 09.8
comp=Z,580nm,13.6s,baz=314
TDK Taldyqorghan 41.34 313*e*P **P 10 42 49.6 +1.5**
TDK *e*S **S 10 49 05.1 +3.2**
TDK MLR MLR
comp=Z,581nm,14.0s
PET Petropavlovsk 41.40 34 P **P 10 42 48.2 -0.2**
PET pmax pmax
comp=Z,50nm,1.1s
PET Petropavlovsk 41.40 34 P **P 10 42 48.2 -0.2**
PET IAmb IAmb 10 43 02.2
comp=Z,50nm,1.1s
ZAA0 Zalesovo Array 41.49 328 P **P 10 42 49.3 +0.1**
ZAA0 IAmb IAmb 10 42 53.7
comp=Z,29nm,0.7s
ZALV Zalesovo Beam 41.49 328 P **P 10 42 49.1 -0.1**
comp=Z,42nm,0.8s,baz=116,slow=6.8,SNR=42
ZALV PcP **PcP 10 44 44.7 -1.9**
comp=Z,2.1nm,0.6s,baz=147,slow=2.9,SNR=1.7
ZALV ScP **ScP 10 48 32.7 -3.3**
comp=Z,0.5nm,0.3s,baz=108,slow=4.7,SNR=1.9
ZALV LR LR 11 02 09.2
comp=Z,565nm,18.4s,baz=121,slow=39
ZALV Zalesovo Beam 41.49 328*i*P **P 10 42 49.2 -0.1**
ZALV pmax pmax
comp=Z,41nm,0.8s
ZALV Zalesovo Beam 41.49 328 P **P 10 42 48.5 -0.7**
MDOK Medeo 41.76 310*e*P **P 10 42 52.7 +0.9**
baz=310
MDOK *e*S **S 10 49 10.9 +2.4**
baz=310
MDOK LR LR 11 00 31.7
comp=Z,510nm,16.0s,baz=310
MDOK Medeo 41.76 310*e*P **P 10 42 52.7 +0.9**
MDOK *e*S **S 10 49 10.9 +2.4**
MDOK MLR MLR
comp=Z,510nm,16.0s
KSH Kashi 41.78 304 P **P 10 42 56.0 +4.0**
KSH pP sP 10 42 58.8 -0.4
KSH S **S 10 49 13.0 +4.2**
KSH pmax pmax
comp=Z,39nm,1.3s
KSH pmax pmax
comp=Z,150nm,8.6s
KSH LR LR
comp=Z,830nm,13.3s
KSH LR LR
comp=Z,2μm,15.7s
KSH LR LR
comp=Z,1μm,13.1s
TNSS Tian-Shan 41.80 310*e*P **P 10 42 53.0 +0.5**
baz=310
TNSS Tian-Shan 41.80 310*e*P **P 10 42 52.9 +0.5**
AAA Alma-Ata 41.87 310*e*P **P 10 42 53.7 +1.0**
baz=310
AAA *e*S **S 10 49 12.5 +2.6**
baz=310
AAA LR LR 11 00 38.5
comp=Z,440nm,14.4s,baz=310
AAA Alma-Ata 41.87 310*e*P **P 10 42 53.6 +1.0**
AAA *e*S **S 10 49 12.5 +2.6**
AAA MLR MLR
comp=Z,440nm,14.0s
MTBS Maitube 42.19 310*e*P **P 10 42 56.1 +0.8**
baz=310
MTBS Maitube 42.19 310*e*P **P 10 42 56.0 +0.8**
MA2 Magadan 42.23 22 LR LR 11 01 31.6
comp=Z,760nm,19.9s,baz=215,slow=38
MA2 Magadan 42.23 22⇓*e*P **P 10 42 58.2 +3.0**
MA2 pmax pmax
comp=Z,43nm,1.7s
COEN Coen 42.32 148 P **P 10 42 55.7 -0.7**
COEN IAmb IAmb 10 43 01.1
comp=Z,22nm,0.8s
KUU Kurty 42.45 311*e*P **P 10 42 58.2 +0.9**
comp=Z,27nm,1.7s,baz=311
KUU LR LR 11 01 30.1
comp=Z,611nm,14.7s,baz=311
KUU Kurty 42.45 311*e*P **P 10 42 58.1 +0.9**
KUU pmax pmax
comp=Z,27nm,1.7s
KUU MLR MLR
comp=Z,611nm,15.0s
H11N1 WAKE ISLAND Hy 42.45 85 T T 11 28 10.3
baz=282,slow=75,SNR=625
H11N2 WAKE ISLAND Hy 42.46 85 T T 11 28 12.9
baz=282,slow=75,SNR=573
H11N3 WAKE ISLAND Hy 42.47 85 T T 11 28 11.6
baz=282,slow=75,SNR=440
H11S3 WAKE ISLAND Hy 42.54 87 T T 11 28 16.5
baz=284,slow=75,SNR=608
H11S1 WAKE ISLAND Hy 42.55 87 T T 11 28 17.1
baz=284,slow=75,SNR=532
H11S2 WAKE ISLAND Hy 42.56 87 T T 11 28 17.8
baz=284,slow=75,SNR=635
TKM2 Tokmak 2 42.74 309 P **P 10 43 00.2 +0.4**
KURK Kurchatov 43.25 321*c i*P **P 10 43 03.4 -0.2**
KURK pmax pmax
comp=Z,58nm,1.7s
KURK Kurchatov 43.25 321 P **P 10 43 04.2 +0.6**
KURK IAmb IAmb 10 43 08.9
comp=Z,24nm,0.8s
KURK Kurchatov 43.25 321 **PcP 10 44 51.2 -1.4**
KURBB Kurchatov Arra 43.27 321 P **P 10 43 04.5 +0.7**
comp=Z,15nm,0.8s,baz=116,slow=7.7,SNR=38
KURBB PcP **PcP 10 44 51.2 -1.4**
comp=Z,1.7nm,0.7s,baz=108,slow=2.9,SNR=3.1
NIL Nilore 43.39 295 P **P 10 43 06.7 +1.7**
NIL pmax pmax
comp=Z,37nm,1.0s
NIL Nilore 43.39 295 P **P 10 43 06.7 +1.7**
NIL IAmb IAmb 10 43 10.3
comp=Z,37nm,1.0s
AAK Ala-Archa 43.47 309 P **P 10 43 06.8 +1.1**
comp=Z,3.6nm,0.7s,baz=99,slow=11,SNR=7.4
SGDS Sogindy 43.55 310*e*P **P 10 43 06.9 +0.7**
comp=Z,11nm,1.7s,baz=310
SGDS Sogindy 43.55 310*e*P **P 10 43 06.8 +0.6**
SGDS pmax pmax
comp=Z,11nm,1.7s
PSA00 Pilbara Seismi 44.11 182 IAmb IAmb 10 43 14.2
comp=Z,34nm,1.0s
WB0 Warramunga Arr 44.17 162 IAmb IAmb 10 43 20.0
comp=Z,16nm,1.0s
WRAB Tennant Creek 44.31 162⇓*i*P **P 10 43 10.0 -2.4**
WRAB pmax pmax
comp=Z,13nm,0.9s
WRAB Tennant Creek 44.31 162 P **P 10 43 10.1 -2.4**
WRA Warramunga Arr 44.32 162 P **P 10 43 09.9 -2.6**
comp=Z,10nm,1.0s,baz=346,slow=8.8,SNR=81
WRA PcP **PP 10 44 54.9 -1.3**
comp=Z,5.0nm,0.9s,baz=340,slow=3.7,SNR=6.3
WRA ScP **ScP 10 48 43.2 -4.7**
comp=Z,0.9nm,0.8s,baz=338,slow=4.3,SNR=5.2
WRA Warramunga Arr 44.32 162*i*P **P 10 43 09.5 -3.0**
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 44.32 162 P **P 10 43 09.5 -3.0**
BTLS Baital 44.32 312*e*P **P 10 43 12.9 +0.5**
comp=Z,7.6nm,1.1s,baz=312
BTLS LR LR 11 01 42.2
comp=Z,190nm,15.4s,baz=312
BTLS Baital 44.32 312*e*P **P 10 43 12.8 +0.5**
BTLS pmax pmax
comp=Z,8.0nm,1.1s
BTLS MLR MLR
comp=Z,190nm,15.0s
WB2 Warramunga Arr 44.33 162 P **P 10 43 10.2 -2.3**
WB2 IAmb IAmb 10 43 21.3
comp=Z,13nm,0.9s
WR0 Warramunga Arr 44.39 162 IAmb IAmb 10 43 21.9
comp=Z,12nm,0.8s
POO Poona 44.48 274*e*P **P 10 43 14.4 +0.4**
POO IAmb IAmb 10 43 18.3
comp=Z,23nm,0.5s
POO Poona 44.48 274*e*P **P 10 43 13.0 -1.0**
SEY Seymchan 45.25 19⇓*e*P **P 10 43 22.7 +3.3**
GIRL Giralia 45.67 189 P **P 10 43 23.2 +0.1**
DZA Taraz 45.80 308*e*P **P 10 43 25.4 +1.2**
baz=309
DZA *e*S **S 10 50 09.8 +2.4**
baz=309
DZA LR LR 11 03 02.5
comp=Z,190nm,14.4s,baz=309
DZA Taraz 45.80 308*e*P **P 10 43 25.3 +1.1**
DZA *e*S **S 10 50 09.7 +2.4**
DZA MLR MLR
comp=Z,190nm,14.0s
KK31 Karatay Array 46.43 308*i*P **P 10 43 29.9 +0.8**
KK31 Karatay Array 46.43 308 IAmb IAmb 10 43 41.8
comp=Z,9.4nm,0.9s
KK31 **PcP 10 45 04.0 +0.3**
KKAR Karatay Array 46.43 308 P **P 10 43 29.1 0.0**
KKAR 10 45 03.6
KKAR Karatay Array 46.43 308 P **P 10 43 29.1 0.0**
KKAR PcP **PcP 10 45 03.6 -0.2**
KKAR Karatay Array 46.43 308 IAmb IAmb 10 43 41.8
comp=Z,9.4nm,0.9s
KKAR PcP **PcP 10 45 04.0 +0.2**
BRZS Berezniki 46.56 318*e*P **P 10 43 30.6 +0.6**
comp=Z,27nm,1.5s,baz=318
BRZS Berezniki 46.56 318*e*P **P 10 43 30.6 +0.6**
BRZS pmax pmax
comp=Z,27nm,1.5s
IUG Iuzhnay 46.64 307*e*P **P 10 43 31.7 +0.8**
comp=Z,19nm,1.0s,baz=308
IUG *e*S **S 10 50 21.4 +1.8**
baz=308
IUG LR LR 11 03 31.7
comp=Z,142nm,12.6s,baz=308
IUG Iuzhnay 46.64 307*e*P **P 10 43 31.7 +0.8**
IUG *e*S **S 10 50 21.3 +1.8**
IUG pmax pmax
comp=Z,19nm,1.0s
IUG MLR MLR
comp=Z,142nm,13.0s
KBL Kabul 46.89 297 P **P 10 43 34.1 +1.0**
KBL pmax pmax
comp=Z,25nm,1.1s
KBL Kabul 46.89 297 P **P 10 43 34.1 +1.0**
KBL IAmb IAmb 10 43 42.4
comp=Z,25nm,1.1s
ASAR Alice Springs 47.76 164 P **P 10 43 37.9 -1.7**
comp=Z,2.1nm,0.4s,baz=352,slow=14,SNR=58
ASAR PcP **PcP 10 45 07.7 -0.9**
comp=Z,5.7nm,0.9s,baz=3.2,slow=3.5,SNR=7.1
ASAR ScP **ScP 10 48 57.9 -4.3**
comp=Z,1.9nm,0.8s,baz=345,slow=4.6,SNR=10.0
ASAR Alice Springs 47.76 164 P **P 10 43 36.4 -3.2**
ASAR 10 45 07.1
ASAR Alice Springs 47.76 164 P **P 10 43 36.4 -3.2**
ASAR PcP **PcP 10 45 07.1 -1.5**
BVAR Borovoye Array 48.84 321 P **P 10 43 48.3 +0.7**
comp=Z,3.2nm,0.5s,baz=138,slow=12,SNR=17
BVAR PcP **PcP 10 45 11.5 -0.6**
comp=Z,5.5nm,0.6s,baz=150,slow=12,SNR=8.0
BVAR ScP **ScP 10 49 03.5 -2.9**
comp=Z,0.5nm,0.3s,baz=118,slow=11,SNR=5.0
BRVK Borovoye 48.91 321*c i*P **P 10 43 48.4 +0.2**
BRVK pmax pmax
comp=Z,38nm,1.3s
BRVK Borovoye 48.91 321 P **P 10 43 47.9 -0.3**
CTA Charters Tower 49.06 148 PcP **PcP 10 45 11.8 -1.5**
comp=Z,6.9nm,0.8s,baz=311,slow=4.6,SNR=6.1
CTAO Charters Tower 49.06 148 P **P 10 43 49.4 -0.3**
CTAO pmax pmax
comp=Z,16nm,0.9s
CTAO Charters Tower 49.06 148 P **P 10 43 49.4 -0.3**
CTAO IAmb IAmb 10 43 50.2
comp=Z,16nm,0.9s
NRIK Noril'sk 50.79 345 P **P 10 44 01.3 -0.8**
comp=Z,12nm,0.8s,baz=128,slow=7.4,SNR=6.9
MORW Morawa 51.80 186 P **P 10 44 09.0 -1.2**
MORW IAmb IAmb 10 44 13.9
comp=Z,18nm,0.9s
BILL Bilibino 52.96 19*e*P **P 10 44 21.5 +3.1**
BILL *e* 10 45 27.1
BILL pmax pmax
comp=Z,5.0nm,1.0s
FORT Forrest 53.64 173 P **P 10 44 22.2 -1.5**
AB31 Akbulak array 54.52 315*i*P **P 10 44 29.4 -0.7**
ABKAR Akbulak array 54.52 315 P **P 10 44 30.1 +0.1**
ABKAR Akbulak array 54.52 315 IAmb IAmb 10 44 35.4
comp=Z,20nm,0.9s
SVE Sverdlovsk 55.25 324*e*P **P 10 44 36.1 +0.8**
SVE pmax pmax
comp=Z,38nm,1.0s
SVE MLR MLR
comp=Z,952nm,16.0s
GEYT Alibeck 55.62 301 P **P 10 44 39.9 +1.5**
comp=Z,6.1nm,0.8s,baz=64,slow=3.4,SNR=9.6
GEYT Alibeck 55.62 301 P **P 10 44 40.4 +2.1**
AKTO Aktyubinsk 55.87 316 P **P 10 44 39.8 -0.1**
ARU Arti 56.31 324*c i*P **P 10 44 42.8 -0.1**
ARU 10 45 36.7
ARU 10 46 45.0
ARU S **S 10 52 36.2 +4.1**
ARU SS **SS 10 56 20.8 +2.1**
ARU pmax pmax
comp=Z,29nm,0.8s
ARU MLR MLR
comp=Z,587nm,15.0s
ARU Arti 56.31 324 P **P 10 44 43.0 +0.2**
STKA Stephens Creek 57.71 160 P **P 10 44 52.0 -1.0**
comp=Z,4.1nm,0.5s,baz=333,slow=7.3,SNR=16
STKA Stephens Creek 57.71 160 P **P 10 44 52.2 -0.8**
STKA pmax pmax

comp=Z,1.0nm,0.6s
STKA Stephens Creek 57.71 160 P P 10 44 52.2 -0.8
MAK Makhachkala 63.24 308 *e*P P 10 45 24.6 -6.2
MAK *e* 10 47 48.8
MAK *e*S S 10 53 52.7 -9.2
MAK pmax pmax
comp=Z,290nm,1.4s
MAK MLR MLR
comp=Z,1μm,17.0s
TOO Toolangi 64.19 159 P P 10 45 36.9 -0.1
TOO pmax pmax
comp=Z,12nm,0.7s
TOO Toolangi 64.19 159 P P 10 45 36.9 -0.1
TOO IAmb IAmb 10 45 39.0
comp=Z,12nm,0.7s
ZEI Tsey 65.89 308 *e*P **P 10 45 47.6 -0.8**
ZEI pmax pmax
comp=Z,31nm,1.4s
GOF Gofitskoye 66.14 311⇑*e*P **P 10 45 48.7 -1.1**
VRH Novokhopyorsk 66.17 317 *e*P **P 10 45 50.6 +0.8**
VRH pmax pmax
comp=Z,30nm,0.6s
KLMR Klimovskoe 66.42 328 *e*P **P 10 45 49.6 -1.6**
KLMR *e* 10 48 15.7
KLMR pmax pmax
comp=Z,29nm,1.3s
KLMR Klimovskoe 66.42 328 *e*P **P 10 45 49.7 -1.5**
KLMR AMP 10 46 05.3
comp=Z,29nm,1.3s
KLMR *e*PP **PP 10 48 15.7 -1.5**
KBZ Khabaz 66.46 309 P **P 10 45 52.4 +0.6**
comp=Z,19nm,0.9s,baz=109,slow=4.4,SNR=16
KBZ Khabaz 66.46 309*c e*P **P 10 45 51.7 -0.1**
KBZ pmax pmax
comp=Z,33nm,1.1s
KIV Kislovodsk 66.57 309 *e*P **P 10 45 53.6 +1.0**
KIV pmax pmax
comp=Z,113nm,1.1s
TTA Tatalina 66.66 30 P **P 10 45 52.9 +0.1**
TTA pmax pmax
comp=Z,4.0nm,0.6s
TTA Tatalina 66.66 30 P **P 10 45 52.9 +0.1**
TMCR Tamitsa 66.84 332 *e*P **P 10 45 53.2 -0.6**
TMCR pmax pmax
comp=Z,20nm,0.8s
SVW2 Sparrevohn 67.02 32 P **P 10 45 54.1 -1.0**
IMAR Indian Mountai 67.38 26 P **P 10 45 55.5 -1.7**
LPSR Galich'ya Gora 67.69 319 *e*P **P 10 45 58.8 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
VSR Storozhevoye 67.76 318 *e*P **P 10 45 59.2 -0.7**
VSR pmax pmax
comp=Z,20nm,1.0s
MOS Moscow 67.99 323 *e*P **P 10 45 59.4 -1.8**
APA Apatity 68.39 336⇓*i*P **P 10 46 08.1 +4.6**
APA pmax pmax
comp=Z,16nm,1.0s
APA MLR MLR
comp=Z,2μm,18.0s
PPLA Purkeypile 68.40 29 IAmb IAmb 10 46 11.0
comp=Z,10nm,1.0s
MSVF Nonsavu 68.53 121 P **P 10 46 06.7 +1.4**
MSVF pmax pmax
comp=Z,34nm,0.9s
MSVF Nonsavu 68.53 121 P **P 10 46 06.7 +1.4**
COLD Coldfoot 68.64 25 PcP 10 46 30.4 +0.4
OBN Obninsk 68.68 322 *e*P **P 10 46 04.2 -1.4**
OBN *e* 10 46 30.0
OBN *e* 10 48 33.8
OBN *e*PPP PPP 10 50 13.0
OBN pmax pmax
comp=Z,6.0nm,0.3s
BPAW Bear Paw Mtn. 68.76 28 IAmb IAmb 10 46 12.5
comp=Z,10nm,1.2s
KDAK Kodiak Island 68.97 35 P **P 10 46 07.9 +0.5**
KDAK pmax pmax
comp=Z,37nm,1.4s
KDAK Kodiak Island 68.97 35 P **P 10 46 07.9 +0.5**
MARD Mardin 69.31 303 P **P 10 46 09.4 -0.6**
MDM Murphy Dome 69.80 27 IAmb IAmb 10 46 25.4
comp=Z,10nm,1.0s
RND Reindeer 69.81 29 IAmb IAmb 10 46 19.5
comp=Z,16nm,0.9s
WRH Wood River Hil 69.95 27 P **P 10 46 14.9 +1.6**
COLA College 69.97 27⇑*e*P **P 10 46 16.5 +3.1**
COLA pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 70.40 27 P **P 10 46 14.4 -1.7**
comp=Z,0.9nm,0.5s,baz=269,slow=4.9,SNR=16
SCM Sheep Creek Mo 70.82 30 P **P 10 46 17.1 -1.7**
SCM pmax pmax
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 70.82 30 P **P 10 46 17.1 -1.7**
SCM IAmb IAmb 10 46 25.8
comp=Z,14nm,0.8s
ARCES ARCESS Array B 70.89 338 P **P 10 46 18.5 -0.4**
comp=Z,4.1nm,0.8s,baz=81,slow=5.7,SNR=2.1
RIDG Independent Ri 71.50 28 IAmb IAmb 10 46 28.7
comp=Z,23nm,1.4s
KLU Klutina 71.55 30 P **P 10 46 22.5 -0.7**
KLU IAmb IAmb 10 46 38.7
comp=Z,10nm,1.2s
GLB Gilahina Butte 72.54 30 IAmb IAmb 10 46 35.9
comp=Z,9.3nm,1.1s
FINES FINESS Array B 72.72 330 P **P 10 46 29.6 -0.5**
comp=Z,13nm,0.9s,baz=52,slow=5.6,SNR=29
FINES FINESS Array B 72.72 330 P **P 10 46 28.5 -1.6**
EGAK Eagle 72.78 26 IAmb IAmb 10 46 32.5
comp=Z,12nm,1.4s
MCARA McCarthy VSAT 72.92 30 IAmb IAmb 10 46 50.6
comp=Z,9.5nm,0.8s
VSU Vasula 73.22 327⇓*e*P **P 10 46 32.9 -0.2**
VSU pmax pmax
comp=Z,90nm,0.8s
ASF Jabal al Asfar 73.74 298 P **P 10 46 37.6 +0.8**
comp=Z,9.4nm,0.9s,baz=8.1,slow=7.1,SNR=5.1
CTGM Chitina Glacie 73.83 30 P **P 10 46 35.8 -1.1**
CTGM IAmb IAmb 10 46 46.6
comp=Z,22nm,1.5s
AKASG Malin Array Be 74.00 319 P **P 10 46 37.4 -0.5**
comp=Z,8.5nm,0.8s,baz=62,slow=6.5,SNR=19
AKASG Malin Array Be 74.00 319 *i* P **P 10 46 37.9 +0.1**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 74.00 319 P **P 10 46 37.8 -0.1**
AKBB Malin Array Si 74.00 319*c e*P **P 10 46 38.0 +0.2**
AKBB Malin Array Si 74.00 319 IAmb IAmb 10 46 41.6
comp=Z,10nm,0.9s
BRTR Keskin Array B 74.11 307 P **P 10 46 39.6 +0.7**
comp=Z,4.0nm,0.8s,baz=93,slow=4.9,SNR=11
BRTR Keskin Array B 74.11 307 P **P 10 46 38.1 -0.8**
BRTR Keskin Array B 74.11 307 P **P 10 46 38.1 -0.8**
MMAI Mount Meron Ar 74.70 300 P **P 10 46 43.3 +0.9**
comp=Z,7.8nm,0.9s,baz=60,slow=12,SNR=5.6
SORM Soroca 75.30 316 ⇑P **P 10 46 46.1 +0.7**
SORM Soroca 75.30 316 ⇑P **P 10 46 46.1 +0.7**
VRI Vrincioaia 77.07 314 ⇑P **P 10 46 56.6 +1.0**
VRI Vrincioaia 77.07 314 ⇑P **P 10 46 56.6 +1.0**
BIZ Bicaz 77.12 316 ⇑P **P 10 46 56.6 +0.7**
PLOR Plostina 77.13 314 ⇑P P 10 47 02.4 +6.4
PLOR Plostina 77.13 314 ⇑P P 10 47 02.4 +6.4
BURAR Bucovina Array 77.47 316 ⇓P **P 10 46 59.1 +1.2**
BURAR Bucovina Array 77.47 316 ⇓P **P 10 46 59.1 +1.2**
BURAR Bucovina Array 77.47 316 P **P 10 46 57.9 0.0**
MLR Muntele Rosu 77.72 314 P **P 10 46 59.2 -0.2**
comp=Z,3.2nm,0.5s,baz=30,slow=8.6,SNR=3.5
MLR Muntele Rosu 77.72 314 ⇑P **P 10 47 00.8 +1.4**
MLR Muntele Rosu 77.72 314 ⇑P **P 10 47 00.8 +1.4**
MLR Muntele Rosu 77.72 314 IAmb IAmb 10 47 05.0
comp=Z,10nm,0.9s
KWP Kalwaria Pacla 78.31 319 *e*P **P 10 47 02.7 +0.3**
KWP Kalwaria Pacla 78.31 319 P **P 10 47 02.0 -0.4**
KWP pmax pmax
comp=Z,22nm,0.8s
KWP Kalwaria Pacla 78.31 319 P **P 10 47 02.0 -0.4**
VOIR 78.33 314 ⇑P **P 10 47 04.8 +2.1**
VOIR 78.33 314 ⇑P **P 10 47 04.8 +2.1**
ARR Arges 78.62 314 ⇑P **P 10 47 02.3 -2.1**
KOLS Kolonicke sedl 78.83 318 *e*P **P 10 47 08.6 +3.3**
KOLS Kolonicke sedl 78.83 318 *e*P **P 10 47 08.6 +3.3**
HFS Hagfors 78.85 331 P **P 10 47 04.3 -0.9**
comp=Z,10nm,0.7s,baz=90,slow=4.4,SNR=8.2
NB2 NORSAR Subarra 79.52 332 P **P 10 47 07.3 -1.5**
comp=Z,13nm,1.0s,baz=62,slow=5.6
NOA NORSAR Array B 79.52 332 P **P 10 47 07.4 -1.5**
comp=Z,6.1nm,0.8s,baz=60,slow=5.4,SNR=15
NOA LR LR 11 25 40.1
comp=Z,828nm,19.4s,baz=220,slow=38
NC204 NORSAR Array S 79.60 333 IAmb IAmb 10 47 08.9
comp=Z,28nm,1.0s
OJC Ojcow 79.83 320 *e*P **P 10 47 10.9 +0.1**
OJC Ojcow 79.83 320 IAmb IAmb 10 47 15.8
comp=Z,15nm,0.7s
NIE Niedzica 79.85 319 *e*P **P 10 47 11.6 +0.7**
URZ Urewera 80.14 139 P **P 10 47 10.7 -1.7**
comp=Z,11nm,0.9s,baz=270,slow=6.1,SNR=2.1
URZ Urewera 80.14 139 IAmb IAmb 10 47 26.5
comp=Z,17nm,1.0s
BKZ Black Stump Fm 80.35 140 P **P 10 47 11.9 -1.7**
BKZ IAmb IAmb 10 47 14.9
comp=Z,24nm,1.1s
RPZ Rata Peaks 80.36 146 P **P 10 47 11.4 -2.1**
comp=Z,51nm,1.1s,baz=358,slow=2.6,SNR=9.0
RPZ Rata Peaks 80.36 146 P **P 10 47 13.0 -0.5**
MDVR Moldovita 80.76 315 ⇑P **P 10 47 16.2 +0.3**
VYHS Vyhne 81.10 319 *e*P **P 10 47 18.4 +0.8**
VYHS Vyhne 81.10 319 *e*P **P 10 47 18.4 +0.8**
KSP Ksiaz 81.61 322 *e*P **P 10 47 19.1 -1.1**
DPC Dobruska-Polom 81.81 321 *e*P **P 10 47 22.3 +1.0**
DPC Dobruska-Polom 81.81 321 *e*P **P 10 47 22.3 +1.0**
VRAC Vranov 82.10 320 P **P 10 47 22.2 -0.7**
comp=Z,3.6nm,0.6s,baz=91,slow=14,SNR=3.6
IDI Anoyia 82.14 305 P **P 10 47 24.6 +1.2**
comp=Z,3.4nm,0.6s,baz=318,slow=4.2,SNR=2.3
IDI Anoyia 82.14 305 ⇑P **P 10 47 26.0 +2.6**
IDI Anoyia 82.14 305 IAmb IAmb 10 47 33.7
comp=Z,8.6nm,1.0s
GOPC GO Pecny, Ondr 82.89 321 *e*P **P 10 47 27.5 +0.5**
GOPC GO Pecny, Ondr 82.89 321 *e*P **P 10 47 27.5 +0.5**
CLL Collm 83.25 323 *e*P **P 10 47 29.0 +0.2**
CLL *e*(sP) **sP 10 47 37.0 +0.8**
CLL Collm 83.25 323 *e*P **P 10 47 29.0 +0.2**
SUMG Summit 83.91 354 *i* P **P 10 47 30.0 -2.3**
SUMG Summit 83.91 354 P **P 10 47 31.9 -0.4**
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 83.91 354 P **P 10 47 31.9 -0.4**
SUMG IAmb IAmb 10 47 39.9
comp=Z,14nm,1.0s
KHC Kasperske Hory 83.94 321 *e*P **P 10 47 32.4 -0.1**
KHC Kasperske Hory 83.94 321⇓*e*P **P 10 47 32.6 +0.1**
KHC pmax pmax
comp=Z,14nm,1.7s
GEC2 GERESS Array S 84.01 321 IAmb IAmb 10 47 33.4
comp=Z,7.7nm,1.1s
GERES GERESS Array B 84.01 321 P **P 10 47 32.6 -0.3**
comp=Z,2.7nm,0.8s,baz=58,slow=3.8,SNR=17
GERES GERESS Array B 84.01 321 P **P 10 47 31.9 -1.0**
GERES GERESS Array B 84.01 321 P **P 10 47 31.9 -1.0**
YKA Yellowknife Ar 84.21 23 P **P 10 47 31.7 -1.7**
comp=Z,2.6nm,0.8s,baz=309,slow=4.0,SNR=4.9
KMBO Kilima Mbogo 84.97 267 P **P 10 47 37.5 -1.0**
comp=Z,1.6nm,0.5s,baz=52,slow=4.0,SNR=7.1
KMBO Kilima Mbogo 84.97 267 P **P 10 47 39.7 +1.2**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KMBO Kilima Mbogo 84.97 267 P **P 10 47 39.7 +1.2**
KMBO IAmb IAmb 10 47 40.6
comp=Z,7.7nm,1.1s
DAVOX Davos/Dischmat 87.26 320 P **P 10 47 47.9 -1.3**
comp=Z,1.6nm,0.5s,baz=21,slow=4.0,SNR=3.1
EKA Eskdalemuir Ar 89.01 332 P **P 10 47 57.2 +0.1**
comp=Z,1.1nm,0.7s,baz=55,slow=6.2,SNR=2.1
CASY Casey 89.16 184 P **P 10 47 56.4 -0.8**
CASY IAmb IAmb 10 48 02.8
comp=Z,5.7nm,1.1s
B08A Colville Reser 90.85 36 P **P 10 48 05.6 -0.3**
B08A IAmb IAmb 10 48 14.2
comp=Z,9.6nm,1.4s
NVAR Mina Array Bea 97.37 43 P **P 10 48 35.1 -1.1**
comp=Z,2.2nm,0.5s,baz=322,slow=5.7,SNR=2.3
SYO Syowa Base 108.14 202⇓*e*PKiKP **PKiKP 10 53 31.0 +1.6**
TORD Torodi Ar. Bea 110.95 295 PKiKP **PKiKP 10 53 34.8 -1.7**
comp=Z,1.5nm,0.9s,baz=82,slow=1.3,SNR=4.5
TORD PKKPbc **PKKPbc 11 04 30.2 -2.9**
comp=Z,1.1nm,0.6s,baz=230,slow=2.1,SNR=5.2
TORD PKKPab **PKKPab 11 04 43.1 -1.7**
comp=Z,4.6nm,0.9s,baz=262,slow=4.6,SNR=13
TORD Torodi Ar. Bea 110.95 295 PKKPbc 11 04 29.4 -3.7
TXAR Lajitas Array 112.48 42 PKiKP **PKiKP 10 53 37.5 -1.6**
comp=Z,0.3nm,0.4s,baz=180,slow=0.8,SNR=12
DBIC Dimbokro 119.79 293 PKP **PKPdf 10 53 51.3 -2.1**
comp=Z,2.8nm,0.6s,baz=3.3,slow=2.6,SNR=6.1
KIC Kosan Boka 119.85 292 *e*PKP1 **PKPdf 10 53 52.1 -1.4**
comp=Z,13nm,0.9s
TIC Toumodi 119.94 293 *e*PKP1 **PKPdf 10 53 53.1 -0.6**
LIC Lamto 120.16 292 *e*PKP1 **PKPdf 10 53 52.8 -1.3**
comp=Z,14nm,0.7s
SNAA Sanae 121.95 198 PKiKP **PKPdf 10 53 54.1 -1.8**
VNA2 Neumayer--Watz 123.60 198 PKiKP **PKPdf 10 53 57.7 -1.3**
baz=93,slow=2.0
VNA3 Neumayer Olymp 124.06 197 PKiKP **PKPdf 10 53 58.5 -1.4**
MOTC Monteria, Cord 144.50 30 *e*P **PKPab 10 54 35.8 -2.1**
SMLC San Martn de 145.18 27 *e*P **PKPbc 10 54 37.1 -3.2**
UREC San Jos de Ur 145.46 30 *e*P **PKPbc 10 54 38.2 -3.0**
SDV Santo Domingo 146.42 22 *e*P **PKPdf 10 54 42.8 -0.3**
SDV Santo Domingo 146.42 22 PKPdf 10 54 42.9 -0.3
CBOC Ciudad Bolivar 146.86 33 *e*P **PKPdf 10 54 43.4 -0.5**
PTBC PUERTO BERRIO 147.02 30 *e*P **PKPdf 10 54 43.4 -0.5**
PAMC Pamplona, Colo 147.07 26 *e*P **PKPdf 10 54 44.5 -0.1**
BARC Barichara 147.54 28 *e*P **PKPdf 10 54 45.8 +0.7**
GUY2C Guyana, Caldas 147.74 32 *e*P **PKPdf 10 54 46.6 +0.8**
SPBC San Pablo de B 147.98 30 *e*P **PKPdf 10 54 46.7 +1.0**
RUSC La Rusia 148.21 28 *e*P **PKPbc 10 54 48.4 -1.4**
YOTC Yotoco, Valle 148.29 35 *e*P **PKPbc 10 54 48.5 -1.0**
TOLC Tolima 148.31 33 *e*P **PKPdf 10 54 47.3 +0.8**
CHIC Chingaza 149.04 30 *e*P **PKPdf 10 54 47.4 -0.4**
PRAC Prado 149.28 33 *e*P **PKPdf 10 54 49.6 +1.9**
POPC Popayan, Colom 149.31 37 *e*P **PKPdf 10 54 45.7 -2.4**
BBAC Balboa, Cauca 149.41 39 *e*P **PKPdf 10 54 48.4 +0.2**
GO09 Cerro Castillo 149.64 163 PKPbc 10 54 51.7 0.0
BETC Betania 149.87 35 *e*P **PKPdf 10 54 46.4 -2.2**
PLCA Paso Flores 159.48 153 PKPab **PKPab 10 55 39.1 +0.2**
comp=Z,2.0nm,0.6s,baz=266,slow=1.2,SNR=7.1
LPAZ La Paz 169.00 56 PKP **PKPdf 10 55 09.4 -1.6**
comp=Z,6.6nm,1.2s,baz=10,slow=0.7,SNR=11
LPAZ La Paz 169.00 56 PKIKP **PKPdf 10 55 11.1 +0.1**
LPAZ La Paz 169.00 56 PKPdf 10 55 11.1 +0.1

JMA ***25*** *10:40:50.5±0.1, 22°.66N×121°.21E, h38km±3km, M3.1*
TAP ***25*** *10:40:53.3, 22°.79N×121°.26E, h18km, ML3.5, C*
ISC 25 10:40:53.1±0.8, 22°.76N±0°.02×121°.30E±0°.02, h18km±2km, n104, $_{a0}$**0°88/167, 6C-11D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TTN	**Taitung**	**0.14**	**268**	*i*P	**Pg**	**10 40 57.7**	**+0.4**
baz=249							
TTN				*i* S	**Sg**	**10 41 01.0**	**+0.9**
baz=249							
LDUT	**Ludao**	**0.18**	**118**	⇓*i*P	**Pg**	**10 40 59.0**	**+1.2**
baz=120							
LDUT				*i* S	**Sg**	**10 41 03.2**	**+2.3**
baz=120							
TWGBT	**Beinan**	**0.21**	**286**	⇑*i*P	**Pb**	**10 40 58.0**	**0.0**
baz=281							
TWGBT				*i* S	**Sg**	**10 41 02.4**	**+0.6**
baz=281							
EDH	**Donghe**	**0.21**	**2**	⇑*i*P	**Pb**	**10 40 58.4**	**+0.3**
baz=11							
EDH				*i* S	**Sb**	**10 41 01.7**	**+0.3**
baz=11							
LONT	**Longtian**	**0.21**	**314**	⇑*i*P	**Pb**	**10 40 58.1**	**0.0**
baz=318							
LONT				S	**Sg**	**10 41 02.8**	**+0.9**
baz=318							
TWG	**Pinlang**	**0.22**	**287**	⇑*i*P	**Pb**	**10 40 58.0**	**-0.2**
baz=281							
TWG				*i* S	**Sg**	**10 41 02.5**	**+0.5**
baz=281							
CHKT	**Chengkung**	**0.34**	**10**	⇓*i*P	**Pg**	**10 41 00.7**	**+0.2**
baz=29							
CHKT				S	**Sg**	**10 41 06.3**	**+0.8**
baz=29							
ECL	**Taimali**	**0.36**	**243**	⇓*i*P	**Pb**	**10 41 00.6**	**-0.4**
baz=233							
ECL				S	**Sb**	**10 41 06.0**	**-0.2**
baz=233							
FULB	**Fuli**	**0.44**	**360**	*e*P	**Pg**	**10 41 02.3**	**+0.1**
baz=352							
FULB				S	**Sg**	**10 41 08.2**	**0.0**
baz=352							
ELDTW	**Lidau**	**0.50**	**329**	⇓*i*P	**Pg**	**10 41 02.5**	**-0.8**
baz=333							
ELDTW				*e*S	**Sg**	**10 41 08.9**	**-1.3**
baz=333							
TAW	**Tawu**	**0.55**	**223**	*e*P	**Pg**	**10 41 04.0**	**-0.1**
baz=215							
TAW				*e*S	**Sb**	**10 41 11.8**	**+0.3**
baz=215							
EAST	**Anshuo**	**0.56**	**228**	⇑*i*P	**Pg**	**10 41 04.1**	**-0.2**
baz=230							
EAST				*e*S	**Sb**	**10 41 12.0**	**0.0**
baz=230							
EYUL	**Yuli**	**0.59**	**2**	*e*P	**Pb**	**10 41 05.0**	**+0.2**
baz=355							
EYUL				*e*S	**Sb**	**10 41 12.8**	**+0.1**
baz=355							
TWF1	**Yuli**	**0.59**	**360**	*e*P	**Pb**	**10 41 03.7**	**-1.2**
baz=353							
TWF1				*e*S	**Sb**	**10 41 13.4**	**+0.5**
baz=353							
TSMG	**Majia**	**0.60**	**265**	*e*P	**Pb**	**10 41 04.7**	**-0.4**
baz=264							
TSMG				*e*S	**Sb**	**10 41 11.6**	**-1.7**
baz=264							
SSD	**Sandimen**	**0.61**	**269**	⇓*i*P	**Pb**	**10 41 04.5**	**-0.7**
baz=268							
SSD				*e*S	**Sb**	**10 41 11.8**	**-1.7**
baz=268							
MASBT	**Mashibuluo**	**0.63**	**257**	⇓*i*P	**Pb**	**10 41 05.1**	**-0.5**
baz=244							
MASBT				*e*S	**Sb**	**10 41 12.7**	**-1.3**
baz=244							
YULB	**Yu-li**	**0.63**	**360**	*e*P	**Pb**	**10 41 04.3**	**-1.3**
baz=353							
YULB				*e*S	**Sb**	**10 41 14.1**	**+0.1**
baz=353							
STYT	**Tauyuan**	**0.64**	**309**	⇓*i*P	**Pb**	**10 41 05.2**	**-0.6**
baz=310							
STYT				*e*S	**Sb**	**10 41 13.0**	**-1.4**
baz=310							
SLGT	**Liugui**	**0.65**	**291**	⇓*i*P	**Pb**	**10 41 05.3**	**-0.5**
baz=293							
SLGT				*e*S	**Sb**	**10 41 13.7**	**-0.8**
baz=293							
SLIU	**Shizi**	**0.71**	**221**	*e*P	**Pb**	**10 41 06.2**	**-0.7**
baz=215							
SSPT	**Xinbi**	**0.73**	**248**	*i* P	**Pg**	**10 41 07.7**	**+0.2**
baz=238							
SSPT				*e*S	**Sn**	**10 41 18.2**	**-0.9**
baz=238							
SGST	**Jiashian**	**0.73**	**296**	P	**Pb**	**10 41 06.5**	**-0.8**
baz=296							
SGST				*e*S	**Sb**	**10 41 15.7**	**-1.4**
baz=296							
SCZT	**Fangliau**	**0.73**	**239**	⇓*i*P	**Pg**	**10 41 07.2**	**-0.4**
baz=232							
SCZT				*e*S	**Sb**	**10 41 16.6**	**-0.5**
baz=232							
HGSD	**Ruisui**	**0.74**	**9**	*e*P	**Pg**	**10 41 08.3**	**+0.6**
baz=24							
HGSD				*e*S	**Sn**	**10 41 19.6**	**+0.2**
baz=24							
EHY	**Hungye**	**0.74**	**2**	*e*P	**Pb**	**10 41 06.8**	**-0.8**
baz=5.0							
SGLT	**Jiouru**	**0.74**	**268**	*e*P	**Pn**	**10 41 08.3**	**-0.4**
baz=265							
SCST	**Cishan**	**0.75**	**280**	*e*P	**Pg**	**10 41 08.2**	**+0.3**
baz=281							
LAY	**Lan-yu**	**0.75**	**162**	*e*P	**Pg**	**10 41 08.0**	**+0.1**
baz=149							
LAY				*e*S	**Sn**	**10 41 18.8**	**-1.0**
baz=149							
YUS	**Yu-Shan**	**0.79**	**336**	*e*P	**Pb**	**10 41 07.8**	**-0.9**
baz=340							
WTP	**Ta-pu**	**0.80**	**308**	*i* P	**Pb**	**10 41 08.6**	**+0.1**
baz=308							
WTP				*e*S	**Sn**	**10 41 20.5**	**-0.4**
baz=308							
TWM1	**Shoushan**	**0.81**	**275**	*e*P	**Pg**	**10 41 09.0**	**0.0**
baz=273							
TWM1				*e*S	**Sn**	**10 41 22.8**	**+1.6**
baz=273							
TPUB	**Ta-pu**	**0.82**	**311**	⇓*i*P	**Pb**	**10 41 08.8**	**0.0**
baz=312							
TPUB				*e*S	**Sb**	**10 41 20.0**	**+0.5**
baz=312							
CHN1	**Nanshi**	**0.83**	**301**	⇓P	**Pb**	**10 41 09.2**	**+0.2**
baz=309							
CHN1				*e*S	**Sn**	**10 41 21.7**	**+0.1**
baz=309							
SNST	**Tainan City**	**0.87**	**302**	*e*P	**Pg**	**10 41 10.2**	**+0.1**
baz=302							
ALS	**Alishan**	**0.88**	**329**	*e*P	**Pb**	**10 41 09.6**	**-0.4**
baz=337							
ALS				*e*S	**Sn**	**10 41 23.0**	**-0.2**
baz=337							
CHN4	**Tsaushan**	**0.88**	**312**	*e*P	**Pb**	**10 41 09.8**	**0.0**
baz=313							
CHN4				*e*S	**Sb**	**10 41 21.6**	**+0.4**
baz=313							
SNJT	**Kaohsiung City**	**0.89**	**270**	*e*P	**Pn**	**10 41 12.2**	**+1.5**
baz=268							
TWK	**Hsinying**	**0.90**	**304**	*e*P	**Pb**	**10 41 10.1**	**-0.2**
baz=305							
TWK				*e*S	**Sn**	**10 41 24.6**	**+1.1**
baz=305							
HEN	**Hengchun**	**0.91**	**215**	*e*P	**Pb**	**10 41 09.5**	**-0.9**
baz=195							
EGFH	**Guangfu**	**0.91**	**7**	*e*P	**Pb**	**10 41 10.4**	**0.0**
baz=10.0							
CHN3	**Shinhua**	**0.92**	**290**	*e*P	**Pg**	**10 41 12.5**	**+1.5**
baz=290							
TWK1	**Hengchun**	**0.93**	**209**	*e*P	**Pb**	**10 41 10.1**	**-0.7**
baz=191							
TWKBT	**Hengchun**	**0.93**	**209**	*e*P	**Pb**	**10 41 09.6**	**-1.1**
baz=191							
WLCH	**Liuqiu**	**0.94**	**245**	*e*P	**Pg**	**10 41 14.7**	**+3.3**
baz=235							
TWP	**Hsiaoliuchiu**	**0.96**	**245**	*e*P	**Pg**	**10 41 12.9**	**+1.2**
baz=235							
VWDT	**VWDT**	**1.00**	**352**	*e*P	**Pb**	**10 41 11.4**	**-0.5**
baz=3.0							
VWDT				*e*S	**Sb**	**10 41 23.5**	**-1.3**
baz=3.0							
CHN5	**Tsauling**	**1.01**	**326**	*e*P	**Pb**	**10 41 12.2**	**+0.1**
baz=327							
CHN5				*e*S	**Sg**	**10 41 28.0**	**+1.8**
baz=327							
WHYT	**Xinyi Township**	**1.02**	**336**	*e*P	**Pb**	**10 41 12.2**	**-0.1**
baz=340							
WHYT				*e*S	**Sb**	**10 41 25.7**	**+0.3**
baz=340							
ESL	**Shilin**	**1.06**	**7**	*e*P	**Pb**	**10 41 12.1**	**-0.8**
baz=10.0							
ESL				*e*S	**Sb**	**10 41 24.4**	**-2.0**
baz=10.0							
SSLB	**Suanglung**	**1.07**	**343**	*e*P	**Pb**	**10 41 12.2**	**-0.9**
baz=355							
SSLB				*e*S	**Sg**	**10 41 28.5**	**+0.4**
baz=355							
CHY	**Chiayi**	**1.09**	**313**	*e*P	**Pb**	**10 41 13.9**	**+0.5**
baz=313							
CHY				*e*S	**Sg**	**10 41 30.1**	**+1.4**
baz=313							
SCLT	**Jiali**	**1.10**	**292**	*e*S	**Sg**	**10 41 30.9**	**+2.0**
baz=292							
ICHU	**Yijhu**	**1.11**	**303**	*e*P	**Pg**	**10 41 14.6**	**-0.2**
baz=302							
ICHU				*e*S	**Sg**	**10 41 31.4**	**+2.0**
baz=302							
CHN8	**Yiju**	**1.16**	**301**	*e*S	**Sg**	**10 41 32.6**	**+1.8**
baz=300							
WDLH	**Douliu**	**1.16**	**323**	*e*P	**Pn**	**10 41 14.5**	**0.0**
baz=313							
WDLH				*e*S	**Sg**	**10 41 31.2**	**+0.4**
baz=313							
SMLT	**Sun Moon Lake**	**1.18**	**342**	*e*P	**Pb**	**10 41 15.4**	**+0.4**
baz=351							
SMLT				*e*S	**Sn**	**10 41 31.2**	**+0.8**
baz=351							
WJS	**Zhushan**	**1.18**	**334**	*e*P	**Pb**	**10 41 15.5**	**+0.5**
baz=350							
WJS				*e*S	**Sg**	**10 41 32.6**	**+1.1**
baz=350							
TYC	**Yuchr**	**1.21**	**341**	P	**Pb**	**10 41 16.1**	**+0.6**
baz=355							

TYC				*e*S	**Sg**	**10 41 33.2**	**+0.8**
	baz=355						
WTK	**Tuku**	**1.25**	**318**	*e*P	**Pb**	**10 41 16.1**	**0.0**
	baz=318						
WTK				*e*S	**Sg**	**10 41 33.9**	**+0.3**
	baz=318						
WNT	**Mingjian**	**1.25**	**333**	*e*P	**Pb**	**10 41 16.6**	**+0.4**
	baz=333						
WNT				*e*S	**Sg**	**10 41 35.2**	**+1.5**
	baz=333						
CHGB	**Renai**	**1.30**	**355**	P	**Pn**	**10 41 16.3**	**-0.3**
	baz=8.0						
CHGB				*e*S	**Sn**	**10 41 32.0**	**-1.6**
	baz=8.0						
WSF	**Szhu**	**1.32**	**312**	*e*P	**Pb**	**10 41 17.4**	**0.0**
	baz=311						
WSF				*e*S	**Sg**	**10 41 35.5**	**-0.5**
	baz=311						
WHF	**Hehuan Shan**	**1.38**	**359**	*e*P	**Pn**	**10 41 16.8**	**-1.0**
	baz=13						
WHF				*e*S	**Sn**	**10 41 34.6**	**-1.3**
	baz=13						
NACB	**Ninganchiao**	**1.44**	**11**	*e*P	**Pn**	**10 41 17.7**	**-0.6**
	baz=11						
ETLH	**Xiulin Townshi**	**1.45**	**7**	*e*P	**Pb**	**10 41 19.5**	**-0.2**
	baz=20						
FUSS	**Fushou**	**1.48**	**358**	*e*P	**Pn**	**10 41 18.7**	**-0.4**
	baz=11						
FUSS				*e*S	**Sn**	**10 41 37.1**	**-1.0**
	baz=11						
TWT	**Tachien**	**1.49**	**356**	*e*S	**Sn**	**10 41 37.3**	**-1.0**
	baz=8.0						
TDCB	**Techi**	**1.49**	**355**	*e*P	**Pn**	**10 41 19.6**	**+0.5**
	baz=8.0						
TDCB				*e*S	**Sn**	**10 41 37.2**	**-1.1**
	baz=8.0						
TCU	**Taichung**	**1.50**	**338**	*e*P	**Pb**	**10 41 21.4**	**+1.0**
	baz=337						
TCU				*e*S	**Sg**	**10 41 41.1**	**-0.4**
	baz=337						
WHP	**Taichung City**	**1.55**	**348**	*e*P	**Pb**	**10 41 21.7**	**+0.4**
	baz=1.0						
WHP				*e*S	**Sb**	**10 41 42.0**	**+1.5**
	baz=1.0						
WDGT	**Dungji**	**1.59**	**289**	P	**Pn**	**10 41 20.2**	**-0.1**
	baz=287						
WDGT				*e*S	**Sn**	**10 41 40.5**	**+0.1**
	baz=287						
TWQ1	**Liyutan**	**1.65**	**343**	*e*P	**Pb**	**10 41 23.3**	**+0.2**
	baz=342						
TWQ1				*e*S	**Sg**	**10 41 46.2**	**-0.3**
	baz=342						
NNSB	**Datong**	**1.66**	**3**	*e*P	**Pn**	**10 41 21.4**	**-0.1**
	baz=16						
NNSB				*e*S	**Sn**	**10 41 41.3**	**-1.2**
	baz=16						
NNS	**Nan Shan**	**1.68**	**2**	*e*P	**Pn**	**10 41 21.6**	**0.0**
	baz=16						
WDJ	**Dajia District**	**1.69**	**339**	*e*S	**Sg**	**10 41 47.1**	**-0.7**
	baz=338						
NSY	**Sanyi**	**1.72**	**343**	*e*P	**Pb**	**10 41 24.3**	**0.0**
	baz=342						
NSY				*e*S	**Sg**	**10 41 47.9**	**-0.9**
	baz=342						
PHUB	**P'eng-hu**	**1.76**	**296**	*e*P	**Pn**	**10 41 21.0**	**-1.6**
	baz=295						
PTSB	**Yuanli**	**1.77**	**342**	*e*P	**Pb**	**10 41 25.4**	**+0.4**
	baz=341						
VCHM	**Qimei**	**1.78**	**285**	*e*P	**Pn**	**10 41 22.8**	**-0.2**
	baz=283						
VCHM				*e*S	**Sn**	**10 41 44.2**	**-0.9**
	baz=283						
PNG	**Penghu**	**1.79**	**297**	*e*P	**Pn**	**10 41 23.2**	**0.0**
	baz=297						
NDT	**Datong Townshi**	**1.85**	**6**	*e*P	**Pn**	**10 41 23.1**	**-0.8**
	baz=17						
NSTT	**Nanjuang**	**1.88**	**352**	*e*P	**Pb**	**10 41 26.9**	**-0.1**
	baz=3.0						
ENTT	**Nioudou**	**1.89**	**7**	*e*P	**Pn**	**10 41 24.4**	**-0.1**
	baz=19						
LIOB	**Emei**	**1.90**	**352**	*e*P	**Pn**	**10 41 25.6**	**+1.0**
	baz=3.0						
YHNB	**Yeheng**	**1.90**	**2**	*e*P	**Pn**	**10 41 23.9**	**-0.8**
	baz=16						
YHNB				*e*S	**Sn**	**10 41 46.8**	**-1.6**
	baz=16						
NSK	**Sanguang**	**1.91**	**2**	*e*P	**Pn**	**10 41 26.1**	**+1.2**
	baz=13						
NSK				*e*S	**Sn**	**10 41 47.7**	**-0.7**
	baz=13						
TWE	**Neicheng**	**1.98**	**10**	*e*P	**Pb**	**10 41 27.6**	**-1.1**
	baz=9.0						
NWLT	**Wulai**	**2.02**	**5**	*e*P	**Pn**	**10 41 26.8**	**+0.5**
	baz=16						
NTC	**Toucheng**	**2.14**	**13**	*e*P	**Pb**	**10 41 30.4**	**-1.0**
	baz=11						
TIPB	**Shuangxi**	**2.26**	**12**	*e*P	**Pn**	**10 41 31.1**	**+1.6**
	baz=10.0						
JYNG	**Yonagunijimaku**	**2.26**	**42**	P	**Pn**	**10 41 29.1**	**-0.5**
JYNG				*e*S	**Sn**	**10 41 58.6**	**+1.5**
YOJ	**Yonaguni jima**	**2.31**	**42**	P	**Pn**	**10 41 29.8**	**-0.5**
YOJ				S	**Sn**	**10 41 59.6**	**+1.4**
YM03	**YM03**	**2.42**	**5**	*e*P	**Pn**	**10 41 31.1**	**-0.8**
	baz=16						
IRIF	**Iriomote-Funau**	**2.73**	**54**	*e*S	**Sn**	**10 42 09.2**	**+0.7**
VWUC	**VWUC**	**2.79**	**323**	*e*P	**Pn**	**10 41 36.5**	**-0.4**
	baz=322						
JKRS	**Kuro-shima**	**2.89**	**59**	P	**Pn**	**10 41 37.3**	**-1.0**
JKRS				*e*S	**Sn**	**10 42 13.1**	**+0.5**
PTMZ	**Houxiangcun**	**3.02**	**319**	*e*P	**Pn**	**10 41 39.9**	**-0.2**
	baz=319						
JIJ	**Ishigaki jima**	**3.06**	**58**	*e*S	**Sn**	**10 42 17.2**	**+0.5**
PTTC	**Pingtan**	**3.06**	**333**	*e*P	**Pn**	**10 41 41.0**	**+0.4**
	baz=332						
JISG	**Ishigakijimahi**	**3.31**	**56**	P	**Pn**	**10 41 44.1**	**+0.1**
JISG				*e*S	**Sn**	**10 42 23.3**	**+0.5**
ZPLA	**Ao Xicun**	**3.46**	**290**	*e*P	**Pn**	**10 41 45.6**	**-0.5**
	baz=290						
MATB	**Ma-tsu**	**3.60**	**340**	*e*P	**Pn**	**10 41 47.7**	**-0.3**
	baz=338						
JTJ	**Tarama**	**3.64**	**58**	*e*S	**Sn**	**10 42 31.0**	**0.0**

RSNC 25 10:52:35.3±0.6, 2°.86N×74°.87W, h4km±3km, ML1.3, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAC	**Prado**	**0.85**	**359**[1]	*e*P	Pg	10 52 50.2	-1.4
PRAC				*e*S	Sg	10 53 01.6	-1.1
PRAC				*i*		10 53 01.9	
	comp=Z,3.2nm,0.1s						
ORTC	**Ortega, Tolima**	**1.11**	**340**	*e*P	Pg	10 52 54.6	-2.0
ORTC				*e*S	Sg	10 53 09.8	-1.1
ORTC				*i*		10 53 11.2	
	comp=Z,5.6nm,0.1s						
MACC	**Macarena, Meta**	**1.25**	**125**	*e*P	Pg	10 52 57.2	-2.0
MACC				*e*S	Sg	10 53 13.6	-1.8
MACC				*i*		10 53 14.3	
	comp=Z,4.5nm,0.3s						
FLOC	**Florencia**	**1.49**	**212**	*e*P	Pn	10 53 00.4	-2.5
FLOC				*e*S	Sn	10 53 21.1	-1.7
FLOC				*i*		10 53 25.0	
	comp=Z,2.7nm,0.2s						
TOLC	**Tolima**	**1.77**	**345**	*e*P	Pn	10 53 05.9	-1.1
TOLC				*e*S	Sn	10 53 29.2	-1.0
TOLC				*i*		10 53 29.9	
	comp=Z,6.7nm,0.3s						

BJI ***25*** *10:55:04.1±0.0, 18°.84N×145°.98E, h228km, mB4.8/33, mb4.5/43*
NEIC ***25*** *10:55:10.1±2.2, 18°.83N±0°.07×145°.44E±0°.08, h241km±5km, mb4.7/246, Error ellipse: s-maj=10.9km s-min=9.8km az=83.0*
UNK ***25*** *10:55:10.1, 18°.83N×145°.44E, h241km*
IDC ***25*** *10:55:10.5±0.9, 18°.85N×145°.47E, h248km±7km, mb4.3/37, mb1 4.3/41, mb1mx4.3/47, mbtmp4.8/41, Error ellipse: s-maj=10.0km s-min=5.6km az=91.0*
ISC 25 10:55:09.6±0.5, 18°.85N±0°.04×145°.49E±0°.05, h240km±4km, h240km:pP-P, n390, σ19/341, mb4.8/190, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.27**	**187**	P	**Pn**	**10 56 28.4**	**-0.1**
	40nm,0.3s,baz=338,slow=5.4,SNR=18						
GUMO				S	**S**	**10 57 25.9**	**-5.3**
	186nm,0.3s,baz=23,slow=23,SNR=12						
JCJ	**Chichijima**	**8.75**	**340**	P	**Pn**	**10 57 09.1**	**-3.4**
	36nm,0.3s,baz=102,slow=23,SNR=23						
JCJ				S	S	10 58 42.1	-9.4
	123nm,0.3s,baz=244,slow=3.0,SNR=9.1						
JMZ	**Mitsamidaito 2**	**14.91**	**300**	P	**Pn**	**10 58 30.6**	**+1.5**
JHJ2	**Mitsune**	**15.08**	**341**		**Pn**	**10 58 32.4**	**+1.3**
JHJ	**Hachijo jima 2**	**15.10**	**341**	P	**Pn**	**10 58 31.9**	**+0.5**
	23nm,0.3s,baz=102,slow=20,SNR=9.0						
JHJ				S	**S**	**11 01 13.4**	**-4.6**
	8.9nm,0.3s,baz=107,slow=20,SNR=0.9						
PATS	**Pohnpei**	**17.27**	**132**	P	**Pn**	**10 58 57.2**	**-0.1**
PATS					**S**	**11 02 08.5**	**+6.0**
JYT	**Yasato**	**17.93**	**346**	P	**P**	**10 59 02.8**	**+0.9**
INU	**Inuyama**	**18.07**	**337**	P	**P**	**10 59 04.5**	**+1.0**
JMN	**Monobe**	**18.08**	**327**	P	**P**	**10 59 04.8**	**+1.0**
JMN				IAmb	IAmb	10 59 22.7	
	comp=Z,48nm,1.0s						
JGF	**Kuroka**	**18.17**	**338**	P	**P**	**10 59 05.6**	**+1.0**
JWT	**Wachi**	**18.65**	**333**	P	**P**	**10 59 09.8**	**0.0**
JWT				IAmb	IAmb	10 59 11.0	
	comp=Z,63nm,1.5s						
MJAR	**Matsushiro Arr**	**18.75**	**341**	P	**P**	**10 59 10.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=164,slow=9.3,SNR=24						
MJAR				S	**S**	**11 02 24.5**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=168,slow=17,SNR=2.6						
MAJO	**Matsushiro**	**18.75**	**341**	P	**P**	**10 59 10.9**	**-0.1**
MAJO				IAmb	IAmb	10 59 24.6	
	comp=Z,29nm,0.7s						
MAJO					**S**	**11 02 36.9**	**+5.5**
MAT	**Matsushiro**	**18.75**	**341**	P	**P**	**10 59 10.4**	**-0.5**
MAT				S	**S**	**11 02 29.6**	**-1.8**
JNU	**Nakatsue**	**19.32**	**320**	P	**P**	**10 59 19.1**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=95,slow=6.1,SNR=8.0						
JNU	**Nakatsue**	**19.32**	**320**	P	**Pn**	**10 59 19.9**	**-1.3**
JNU				IAmb	IAmb	10 59 30.8	
	comp=Z,23nm,1.0s						
JMM	**Marumori**	**19.38**	**349**	P	**P**	**10 59 18.7**	**+1.1**
JHS	**Saijyo**	**19.47**	**328**	P	**P**	**10 59 18.6**	**-0.1**
JHS				IAmb	IAmb	10 59 32.2	
	comp=Z,14nm,0.7s						
JSD	**Sado**	**20.13**	**343**	P	**P**	**10 59 26.0**	**+0.4**
JAY	**Jayapura**	**21.75**	**193**	P	**P**	**10 59 42.8**	**+0.5**
	comp=Z,201nm,1.1s,baz=346,slow=4.5,SNR=60						
JAY	**Jayapura**	**21.75**	**193**	P	**P**	**10 59 42.2**	**-0.2**
	comp=Z,2μmcomp=Z,166nm,1.4s						
GENI	**Genyem**	**21.95**	**194**	P	**P**	**10 59 44.1**	**0.0**
	comp=Z,6μmcomp=Z,375nm,1.4s						
JTM	**Tenmabayashi**	**22.19**	**351**	P	**P**	**10 59 46.0**	**0.0**
SRPI	**Serui, Papua**	**22.51**	**205**	P	**P**	**10 59 51.0**	**+1.7**
	comp=Z,297nm,0.8s						
NACB	**Ninganchiao**	**22.84**	**288**	P	**P**	**10 59 53.5**	**+1.3**
YULB	**Yu-li**	**23.01**	**286**	P	**P**	**10 59 54.1**	**+0.3**
YULB				IAmb	IAmb	10 59 58.4	
	comp=Z,21nm,0.6s						
YHNB	**Yeheng**	**23.12**	**289**	P	**P**	**10 59 55.5**	**+0.6**
SSLB	**Suanglung**	**23.37**	**286**	P	**P**	**10 59 57.9**	**+0.8**
TPUB	**Ta-pu**	**23.61**	**285**	IAmb	IAmb	11 00 00.5	
	comp=Z,29nm,0.9s						
KRVT	**Keravat (AS076**	**23.90**	**164**	P	**P**	**11 00 01.4**	**-0.5**
	comp=Z,68nm,0.7s,baz=47,slow=17,SNR=7.5						
TGY	**Tagaytay City**	**24.01**	**262**	P	**P**	**11 00 04.4**	**+1.4**
	comp=Z,146nm,0.3s,baz=135,slow=5.4,SNR=5.3						
SIJI	**Sorong**	**24.07**	**217**	P	**P**	**11 00 03.0**	**-0.6**
	comp=Z,22nm,0.4s,baz=25,slow=12,SNR=8.4						
KSRS	**Korea Array**	**24.08**	**324**	P	**P**	**11 00 02.8**	**-0.5**
	comp=Z,13nm,1.1s,baz=151,slow=9.6,SNR=12						
KSRS				PcP	**PcP**	**11 03 38.5**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=130,slow=2.0,SNR=4.2						
KSRS				ScP	**ScP**	**11 06 53.0**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=103,slow=2.0,SNR=7.7						
KSAR	**Wonju Array Be**	**24.09**	**324**	P	**P**	**11 00 05.6**	**+2.2**
KS19	**Wonju Array Si**	**24.14**	**324**	P	**P**	**11 00 04.0**	**0.0**
KS19				IAmb	IAmb	11 00 07.0	
	comp=Z,16nm,0.9s						
FAKI	**Fak Fak**	**25.26**	**212**	P	**P**	**11 00 13.2**	**-1.0**
	comp=Z,72nm,0.7s						
JKA	**Kamikawa-asahi**	**25.30**	**355**	P	**P**	**11 00 14.7**	**+0.4**
JKA				IAmb	IAmb	11 00 17.7	
	comp=Z,30nm,0.8s						
ASAJ	**Asahikawa**	**25.30**	**355**	P	**P**	**11 00 15.6**	**+1.3**
	comp=Z,23nm,0.6s,baz=210,slow=9.7,SNR=19						
ASAJ				PcP	**PcP**	**11 03 40.9**	**+0.5**
	comp=Z,6.2nm,0.7s,baz=225,slow=5.7,SNR=1.8						
NJ2	**Nanjing**	**27.32**	**304**	*e*P	**P**	**11 00 32.5**	**0.0**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
USRK	**Ussuriysk Ar.**	**27.69**	**339**	P	**P**	**11 00 36.2**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=145,slow=8.4,SNR=8.5						
USRK				ScP	**ScP**	**11 07 02.2**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=132,slow=2.1,SNR=2.9						
PMG	**Port Moresby**	**28.13**	**177**	P	**P**	**11 00 39.0**	**-0.8**
	comp=Z,48nm,0.8s,baz=347,slow=4.3,SNR=8.8						
PMG	**Port Moresby**	**28.13**	**177**	P	**P**	**11 00 39.0**	**-0.8**
AAI	**Ambon**	**28.14**	**219**	P	**P**	**11 00 40.1**	**+0.2**
	comp=Z,99nm,0.9s						
SANI	**Sanana**	**28.27**	**225**	P	**P**	**11 00 39.9**	**-1.2**
	comp=Z,27nm,0.9s						
GTOI	**Gorontalo**	**28.54**	**233**	P	**P**	**11 00 43.8**	**+0.4**
	comp=Z,12nm,0.8s						
MYLDM	**Lahad Datu**	**29.63**	**246**	P	**P**	**11 00 53.9**	**+0.9**
LUWI	**Luwuk**	**29.82**	**231**	P	**P**	**11 00 54.5**	**-0.3**
	comp=Z,3μmcomp=Z,90nm,1.0s						
LUWI	**Luwuk**	**29.82**	**231**	P	**P**	**11 00 54.2**	**-0.6**
MPSI	**Mapaga**	**31.14**	**237**	P	**P**	**11 01 07.1**	**+0.8**
	comp=Z,459nmcomp=Z,53nm,0.8s						
KKM	**Kota Kinabalu**	**31.23**	**250**	P	**P**	**11 01 07.4**	**+0.2**
COEN	**Coen**	**32.68**	**184**	P	**P**	**11 01 19.8**	**+0.1**
BJI	**Beijing**	**32.89**	**316**	P	**P**	**11 01 22.0**	**+0.8**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SMKI	**Samarinda**	**33.75**	**239**	P	**P**	**11 01 29.5**	**+0.5**
	comp=Z,244nm,1.0s						
SPSI	**Sidrap Palu**	**33.99**	**231**	P	**P**	**11 01 31.6**	**+0.5**
	comp=Z,2μmcomp=Z,198nm,0.8s						
BNSI	**Bone**	**34.05**	**230**	P	**P**	**11 01 32.4**	**+0.9**
	comp=Z,2μmcomp=Z,199nm,1.0s						
BKSI	**Bulukumba**	**34.67**	**229**	P	**P**	**11 01 37.7**	**+0.8**
	comp=Z,821nmcomp=Z,72nm,0.7s						
KAPI	**Kappang**	**34.72**	**229**	P	**P**	**11 01 38.3**	**+1.0**
SOEI	**Soe**	**35.30**	**218**	P	**P**	**11 01 41.4**	**-1.0**
	comp=Z,1μmcomp=Z,100nm,0.6s						
SOEI	**Soe**	**35.30**	**218**	P	**P**	**11 01 41.4**	**-1.0**
PEA0B	**Petropavlovsk-**	**35.48**	**13**	P	**P**	**11 01 44.2**	**+0.8**
PEA0B				IAmb	IAmb	11 01 53.4	
	comp=Z,45nm,1.4s						
PETK	**Petropavlovsk-**	**35.48**	**13**	P	**P**	**11 01 44.7**	**+1.4**
	comp=Z,6.8nm,0.7s,baz=188,slow=8.2,SNR=13						
PETK				PcP	**PcP**	**11 04 06.7**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=138,slow=3.2,SNR=4.2						
PETK				ScP	**ScP**	**11 07 28.1**	**-1.9**
	comp=Z,3.7nm,0.8s,baz=151,slow=3.4,SNR=5.6						
PETK	**Petropavlovsk-**	**35.48**	**13**	P	**P**	**11 01 44.4**	**+1.1**
XAN	**Xi'an**	**35.85**	**302**	P	**P**	**11 01 46.3**	**-0.5**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MTKI	**Muara Teweh, K**	**35.92**	**240**	P	**P**	**11 01 48.4**	**+0.8**
	comp=Z,61nm,0.9s						
BATI	**Baumata**	**36.02**	**218**	P	**P**	**11 01 47.8**	**-0.6**
	comp=Z,76nm,0.8s						
EDFI	**Ende, Flores**	**36.10**	**223**	P	**P**	**11 01 49.0**	**-0.2**
	comp=Z,445nmcomp=Z,32nm,0.9s						
DLV	**T Lat**	**36.28**	**265**	IAmb	IAmb	11 01 53.7	
	comp=Z,45nm,1.0s						
KBKI	**Kotabaru**	**36.30**	**236**	P	**P**	**11 01 51.0**	**+0.3**
	comp=Z,19nm,0.6s						
HHC	**Hu-ho-hao-te**	**36.35**	**314**	*e*P	**P**	**11 01 51.0**	**0.0**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,78nm,6.4s						
SBUM	**Sibu**	**36.42**	**247**	P	**P**	**11 01 52.8**	**+1.0**
SBUM				IAmb	IAmb	11 01 54.2	
	comp=Z,34nm,0.9s						
GYA	**Guiyang**	**36.52**	**289**	*e*P	**P**	**11 01 54.3**	**+1.7**
GYA				PcP	**PcP**	**11 04 11.5**	**+0.6**
GYA				S	**S**	**11 07 19.5**	**+2.6**
GYA				sS	sS	11 08 42.8	+0.3
GYA				pmax	pmax		
	comp=Z,13nm,1.9s						
GYA				pmax	pmax		
	comp=Z,300nm,9.6s						
GYA				LR	LR		
	comp=Z,110nm,9.3s						
GYA				LR	LR		
	comp=Z,160nm,12.7s						
GYA				LR	LR		
	comp=Z,170nm,17.2s						
BBKI	**Banjar Baru**	**37.44**	**237**	P	**P**	**11 02 01.0**	**+0.6**
	comp=Z,25nm,0.9s						
BASI	**Baing, Sumba**	**37.92**	**222**	P	**P**	**11 02 03.0**	**-1.3**
	comp=Z,2μmcomp=Z,122nm,0.8s						
KNRA	**Kununurra**	**38.06**	**207**	P	**P**	**11 02 06.0**	**+0.6**
KSM	**Kuching**	**38.56**	**248**	P	**P**	**11 02 08.9**	**-0.9**
KSM				IAmb	IAmb	11 02 10.9	
	comp=Z,32nm,0.7s						
CTA	**Charters Tower**	**38.71**	**179**	P	**P**	**11 02 10.9**	**+0.1**
	comp=Z,20nm,0.7s,baz=0.9,slow=7.7,SNR=22						
CTAO	**Charters Tower**	**38.71**	**179**	P	**P**	**11 02 10.3**	**-0.4**
CTAO				IAmb	IAmb	11 02 13.7	
	comp=Z,27nm,0.9s						
PLAI	**Plampang**	**38.78**	**227**	P	**P**	**11 02 11.4**	**-0.1**
	comp=Z,2μmcomp=Z,118nm,0.6s						
SLVN	**Son La**	**39.06**	**281**	IAmb	IAmb	11 02 16.6	
	comp=Z,20nm,0.9s						
TWSI	**Taliwang, Sumb**	**39.34**	**228**	P	**P**	**11 02 16.2**	**+0.1**
	comp=Z,2μmcomp=Z,174nm,0.9s						
WB0	**Warramunga Arr**	**39.90**	**196**	P	**P**	**11 02 20.6**	**0.0**
WRAB	**Tennant Creek**	**40.07**	**196**	P	**P**	**11 02 22.6**	**+0.7**
WRA	**Warramunga Arr**	**40.08**	**196**	P	**P**	**11 02 22.7**	**+0.6**
	comp=Z,106nm,0.8s,baz=22,slow=8.7,SNR=360						
WRA				PcP	**PcP**	**11 04 21.5**	**-0.3**
	comp=Z,4.0nm,0.5s,baz=12,slow=3.8,SNR=2.9						
WRA				ScP	**ScP**	**11 07 46.9**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=16,slow=4.6,SNR=5.2						
WRA				S	**S**	**11 08 10.2**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=9.8,slow=21,SNR=3.9						
WRA	**Warramunga Arr**	**40.08**	**196**	P	**P**	**11 02 21.4**	**-0.6**
SANVU	**Saraoutou**	**40.23**	**146**	P	**P**	**11 02 23.3**	**0.0**
LZH	**Lanzhou**	**40.40**	**304**	*e*P	**P**	**11 02 26.3**	**+1.5**
LZH				pP	pP	11 03 12.0	-1.4
LZH				sP	sP	11 03 38.3	-1.9
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.1s						
BLJI	**Banyuglugur**	**41.08**	**233**	P	**P**	**11 02 31.6**	**+1.2**
	comp=Z,176nm,0.8s						
JAGI	**Jajag, Banyuwa**	**41.14**	**231**	P	**P**	**11 02 30.8**	**0.0**
	comp=Z,75nm,0.8s						
GRJI	**Gresik**	**41.41**	**235**	P	**P**	**11 02 33.8**	**+0.8**
	comp=Z,2μmcomp=Z,215nm,0.7s						
GMJI	**Gumukmas**	**41.54**	**232**	P	**P**	**11 02 34.7**	**+0.6**
	comp=Z,76nm,1.0s						
FITZ	**Fitzroy Crossi**	**41.58**	**209**	P	**P**	**11 02 35.2**	**+0.9**
PWJI	**Pagerwojo**	**42.62**	**234**	P	**P**	**11 02 42.8**	**0.0**
	comp=Z,179nm,0.8s						
SONM	**Songino Array**	**42.90**	**321**	P	**P**	**11 02 44.5**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=134,slow=10,SNR=11						
SONM				ScP	**ScP**	**11 07 56.8**	**-2.2**
	comp=Z,2.1nm,0.8s,baz=126,slow=2.9,SNR=8.2						
SONM	**Songino Array**	**42.90**	**321**	P	**P**	**11 02 44.4**	**-0.4**
TPI	**Tanjungpandan**	**42.97**	**244**	P	**P**	**11 02 46.5**	**+0.8**
	comp=Z,18μmcomp=Z,45nm,1.1s						
WOJI	**Wonogiri, Jawa**	**43.19**	**235**	P	**P**	**11 02 47.5**	**+0.2**
	comp=Z,45nm,1.2s						
AS31	**Alice Springs**	**43.75**	**195**	IAmb	IAmb	11 02 53.5	
	comp=Z,14nm,0.5s						
ASAR	**Alice Springs**	**43.75**	**195**	P	**P**	**11 02 52.4**	**+0.7**
	comp=Z,19nm,0.6s,baz=15,slow=6.5,SNR=320						
ASAR				PcP	**PcP**	**11 04 34.3**	**+0.3**
	comp=Z,5.8nm,0.9s,baz=29,slow=4.8,SNR=5.8						
ASAR				ScP	**ScP**	**11 08 02.2**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=18,slow=4.7,SNR=4.1						
ASAR				S	**S**	**11 09 04.0**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=19,slow=16,SNR=6.6						
ASAR	**Alice Springs**	**43.75**	**195**	P	**P**	**11 02 51.0**	**-0.7**
PPBI	**Pangkal Pinang**	**43.97**	**246**	P	**P**	**11 02 53.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**44.01**	**277**	P	**P**	**11 02 55.2**	**+1.4**
	comp=Z,11nm,0.8s,baz=67,slow=7.0,SNR=82						
CMAR				PcP	**PcP**	**11 04 35.7**	**+0.6**
	comp=Z,6.6nm,0.9s,baz=95,slow=1.7,SNR=9.5						
CMAR				ScP	**ScP**	**11 08 04.2**	**+0.3**
	comp=Z,3.8nm,1.1s,baz=107,slow=1.4,SNR=7.3						
CMAR	**Chiang Mai Arr**	**44.01**	**277**	P	**P**	**11 02 54.6**	**+0.7**
ADK	**Adak**	**44.30**	**33**	P	**P**	**11 02 57.1**	**+1.4**
ADK				IAmb	IAmb	11 02 58.0	
	comp=Z,36nm,0.8s						
GTA	**Gaotai**	**44.30**	**307**	P	**P**	**11 02 56.8**	**+0.7**
GTA				pP	pP	11 03 42.8	-2.8
GTA				sP	sP	11 04 10.0	-2.2
GTA				PcP	**PcP**	**11 04 36.8**	**+0.9**
GTA				ScP	**ScP**	**11 08 04.0**	**-0.9**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,98nm,5.5s						
GTA				LR	LR		
	comp=Z,340nm,16.0s						
GTA				LR	LR		
	comp=Z,210nm,16.4s						
GTA				LR	LR		
	comp=Z,230nm,16.0s						
KPJI	**Karang Pucung**	**44.46**	**238**	P	**P**	**11 02 57.6**	**+0.2**
	comp=Z,121nm,1.0s						
YAK	**Yakutsk**	**44.53**	**349**	P	**P**	**11 02 56.8**	**-0.5**
	comp=Z,8.6nm,0.4s,baz=157,slow=0.8,SNR=7.1						

DMN	Daman	55.71	291	eP	P	11 04 23.0	+1.0
CHGN	Chignik	55.87	34	P	P	11 04 22.9	+0.6
GKN	Gorkha	56.09	291	eP	P	11 04 25.2	+0.6
TOO	Toolangi	56.12	180	IAmb	IAmb	11 04 25.4	
	comp=Z,19nm,0.8s						
DANN	Dangsing	56.84	292	eP	P	11 04 31.0	+1.0
	comp=Z,64nm,0.5s						
KOLN	Koldanda	57.03	291	eP	P	11 04 31.5	+0.3
	comp=Z,22nm,0.8s						
CHIR	Chirikof Islan	57.22	35	P	P	11 04 32.7	+0.9
ZALV	Zalesovo Beam	57.77	322	P	P	11 04 34.6	-1.1
	comp=Z,4.5nm,0.6s,baz=102,slow=8.1,SNR=12						
ZALV				ScP	ScP	11 09 00.8	-1.6
	comp=Z,1.1nm,0.5s,baz=100,slow=4.4,SNR=3.7						
ZALV	Zalesovo Beam	57.77	322	P	P	11 04 34.4	-1.3
NWAO	Narrogin (SRO)	58.15	208	P	P	11 04 38.7	+0.2
NWAO				IAmb	IAmb	11 04 39.2	
	comp=Z,25nm,1.2s						
NWAO	Narrogin (SRO)	58.15	208	P	P	11 04 38.8	+0.3
NWAO				IAmb	IAmb	11 04 39.2	
	comp=Z,32nm,1.2s						
SII	Sitkinak Islan	58.19	34	P	P	11 04 39.8	+1.3
MK31	Makanchi Array	58.22	314	P	P	11 04 38.9	0.0
MKAR	Makanchi Array	58.22	314	P	P	11 04 38.9	-0.1
	comp=Z,8.5nm,0.8s,baz=90,slow=8.9,SNR=40						
MKAR				ScP	ScP	11 09 03.3	-1.3
	comp=Z,1.1nm,0.7s,baz=97,slow=3.9,SNR=3.6						
MKAR				PKP2bc		11 34 24.4	
	comp=Z,0.7nm,0.6s,baz=258,slow=5.7,SNR=3.6						
MKAR	Makanchi Array	58.22	314	P	P	11 04 38.0	-0.9
MAKZ	Makanchi	58.43	314	P	P	11 04 40.3	-0.1
MAKZ				IAmb	IAmb	11 04 42.0	
	comp=Z,12nm,0.9s						
OHAK	Old Harbor	58.83	34	P	P	11 04 43.7	+0.8
OHAK				IAmb	IAmb	11 04 48.6	
	comp=Z,30nm,1.3s						
TTA	Tatalina	59.20	27	P	P	11 04 46.7	+1.3
KDAK	Kodiak Island	59.34	33	P	P	11 04 47.3	+0.9
	comp=Z,5.7nm,0.6s,baz=213,slow=0.6,SNR=19						
KDAK	Kodiak Island	59.34	33	P	P	11 04 47.3	+0.9
KDAK				IAmb	IAmb	11 04 57.7	
	comp=Z,13nm,1.0s						
UZB	Uzynbulak	60.29	309	eP	P	11 04 52.8	-0.5
UZB				eP cP	PcP	11 05 35.7	-0.4
	baz=309						
UZB				eP P	pP	11 05 48.7	+2.6
	baz=309						
CNPM	China Poot	60.43	32	IAmb	IAmb	11 04 55.6	
	comp=Z,15nm,0.8s						
SATY	Saty	60.74	309	eP	P	11 04 56.1	-0.3
	comp=Z,5.3nm,1.2s,baz=309						
SATY				i pP	pP	11 05 52.0	+2.9
	baz=309						
CAPN	Captain Cook N	60.77	30	P	P	11 04 57.0	+1.0
	baz=256						
TDK	Taldyqorghan	60.79	312	eP	P	11 04 56.8	+0.3
	comp=Z,20nm,1.0s,baz=312						
KURK	Kurchatov	61.03	318	P	P	11 04 57.1	-0.8
KURK				IAmb	IAmb	11 04 59.0	
	comp=Z,22nm,1.1s						
KURBB	Kurchatov Arra	61.07	318	P	P	11 04 57.7	-0.5
	comp=Z,13nm,0.4s,baz=91,slow=7.5,SNR=90						
O22K	Cooper Landing	61.39	31	P	P	11 05 00.7	+0.6
	baz=257						
NRIK	Noril'sk	61.40	340	P	P	11 04 59.3	-0.8
	comp=Z,12nm,0.6s,baz=105,slow=9.4,SNR=13						
RC01	Rabbit Creek A	61.52	30	P	P	11 05 01.8	+0.8
	baz=257						
BPAW	Bear Paw Mtn.	61.70	27	IAmb	IAmb	11 05 05.1	
	comp=Z,10nm,0.7s						
MDOK	Medeo	61.74	309	eP	P	11 05 03.1	0.0
	baz=309						
MDOK				i pP	pP	11 05 58.1	+2.1
	baz=309						
TNSS	Tian-Shan	61.81	309	eP	P	11 05 03.5	-0.3
	baz=309						
AAA	Alma-Ata	61.83	309	eP	P	11 05 03.4	-0.2
	baz=309						
GHO	Glory Hole Cre	62.05	29	IAmb	IAmb	11 05 24.6	
	comp=Z,8.9nm,0.7s						
KNK	Knik Glacier	62.19	30	IAmb	IAmb	11 05 25.0	
	comp=Z,12nm,0.9s						
KUU	Kurty	62.25	310	eP	P	11 05 06.0	-0.3
	comp=Z,49nm,1.5s,baz=310						
SML	Sawmill	62.33	29	IAmb	IAmb	11 05 26.5	
	comp=Z,20nm,0.9s						
KSH	Kashi	62.62	305	P	P	11 05 12.0	+3.1
KSH				pP	pwP	11 06 08.5	+1.1
KSH				S	S	11 13 18.0	+0.2
KSH				pmax	pmax		
	comp=Z,16nm,1.1s						
KSH				pmax	pmax		
	comp=Z,370nm,11.3s						
NEA2	Nenana	62.64	26	P	P	11 05 08.3	-0.1
	baz=256,SNR=6.8						
SCM	Sheep Creek Mo	62.80	29	IAmb	IAmb	11 05 22.2	
	comp=Z,21nm,0.9s						
COLD	Coldfoot	62.89	23	P	P	11 05 10.8	+0.7
	baz=254						
TCOL	CIGO, UAF Yank	63.21	26	P	P	11 05 12.6	+0.5
	baz=257						
COLA	College	63.21	26	P	P	11 05 13.5	+1.3
KLU	Klutina	63.40	30	IAmb	IAmb	11 05 21.7	
	comp=Z,6.7nm,0.6s						
POKR	Poker Plat Res	63.44	26	P	P	11 05 13.5	-0.2
	baz=257						
HDA	Harding Lake	63.49	27	P	P	11 05 13.3	-0.7
	baz=258,SNR=6.8						
SGDS	Sogindy	63.50	310	eP	P	11 05 13.7	-0.9
	baz=310						
TOLK	Toolik Lake Re	63.52	22	P	P	11 05 14.7	+0.5
	baz=253						
TOLK	Toolik Lake Re	63.52	22	IAmb	IAmb	11 05 27.6	
	comp=Z,23nm,1.2s						
ILAR	Eielson Array	63.59	26	P	P	11 05 14.1	-0.6
	comp=Z,4.2nm,0.8s,baz=257,slow=5.0,SNR=48						
ILAR	Eielson Array	63.59	26	P	P	11 05 13.8	-0.8
BTLS	Baital	63.89	312	eP	P	11 05 16.2	-0.8
	comp=Z,6.4nm,1.2s,baz=312						
URZ	Urewera	64.10	153	P	P	11 05 18.1	-0.2
URZ				IAmb	IAmb	11 05 30.6	
	comp=Z,20nm,0.9s						
FYU	Fort Yukon	64.63	24	IAmb	IAmb	11 05 33.3	
	comp=Z,14nm,1.2s						
CRQM	Cirque	64.64	31	IAmb	IAmb	11 05 37.5	
	comp=Z,12nm,0.6s						
SCRK	Sand Creek	64.69	27	P	P	11 05 22.2	+0.2
	baz=261,SNR=6.7						
MCARA	McCarthy VSAT	64.77	30	IAmb	IAmb	11 05 39.7	
	comp=Z,10.0nm,0.8s						
BRZS	Berezniki	64.79	317	eP	P	11 05 22.3	-0.4
	comp=Z,7.7nm,1.0s,baz=317						
K27K	Chicken	65.53	27	P	P	11 05 27.7	+0.5
	baz=263						
DZA	Taraz	65.93	309	eP	P	11 05 30.0	-0.2
	baz=309						
PLWZ	Palliser	66.14	156	P	P	11 05 30.6	-0.7
KHZ	Kahutara	66.23	158	P	P	11 05 31.3	-0.5
BVAR	Borovoye Array	66.23	320	P	P	11 05 31.2	-0.7
	comp=Z,14nm,0.5s,baz=130,slow=14,SNR=48						
BRVK	Borovoye	66.30	320	P	P	11 05 31.9	-0.4
BRVK				IAmb	IAmb	11 05 33.7	
	comp=Z,28nm,0.9s						
KK31	Karatay Array	66.52	310	IAmb	IAmb	11 05 35.2	
	comp=Z,22nm,0.9s						
KKAR	Karatay Array	66.52	310	P	P	11 05 33.3	-0.6
KKAR	Karatay Array	66.52	310	IAmb	IAmb	11 05 35.2	
	comp=Z,22nm,0.9s						
RPZ	Rata Peaks	66.53	160	P	P	11 05 32.6	-1.1
IUG	Iuzhnay	66.95	309	eP	P	11 05 35.4	-1.4
	comp=Z,5.9nm,1.6s,baz=308						
GAR	Garm	67.04	305	IAmb	IAmb	11 05 38.1	
	comp=Z,20nm,0.7s						
HYT	Haines Junctio	67.40	31	IAmb	IAmb	11 05 48.7	
	comp=Z,11nm,0.9s						
EPYK	Eagle Plains	67.99	25	P	P	11 05 43.4	+0.6
	baz=267						
KBL	Kabul	68.62	300	P	P	11 05 47.4	-0.1
KBL				IAmb	IAmb	11 05 48.6	
	comp=Z,22nm,0.9s						
INK	Inuvik	69.31	23	P	P	11 05 51.0	+0.3
	comp=Z,5.5nm,0.8s,baz=203,slow=4.5,SNR=14						
DLBC	Dease Lake	71.27	34	P	P	11 06 04.2	+1.4
	comp=Z,4.9nm,0.8s,baz=276,slow=4.6,SNR=11						
C36M	Paulatuk	72.68	22	P	P	11 06 10.6	-0.2
	baz=277						
ABKAR	Abkulak array	73.09	317	P	P	11 06 12.8	-0.9
ABKAR	Abkulak array	73.09	317	P	P	11 06 12.9	-0.8
GEYT	Alibeck	76.65	306	P	P	11 06 34.6	+0.2
	comp=Z,8.3nm,0.9s,baz=96,slow=1.4,SNR=11						
GEYT	Alibeck	76.65	306	P	P	11 06 34.6	+0.2
D03D	Eldon	77.27	44	P	P	11 06 37.8	+0.3
	baz=284						
EUNU	Eureka	77.60	8	IAmb	IAmb	11 06 41.1	
	comp=Z,14nm,0.7s						
B05A	Bryant	77.74	43	P	P	11 06 40.4	+0.3
	baz=284						
J01E	Myrtle Point	77.76	48	P	P	11 06 40.7	+0.3
	baz=284						
E04D	Cinebar	77.86	45	P	P	11 06 41.0	+0.3
	baz=285						
YKA	Yellowknife Ar	77.94	28	P	P	11 06 41.5	+0.5
	comp=Z,3.8nm,0.6s,baz=290,slow=4.9,SNR=9.4						
I03D	Drain, OR	78.04	48	P	P	11 06 42.1	+0.2
	baz=285						
K02D	Willamette Mer	78.07	49	P	P	11 06 42.0	-0.2
	baz=285						
D05A	Enumclaw	78.08	44	IAmb	IAmb	11 06 45.7	
	comp=Z,23nm,0.9s						
F04A	Amboy	78.11	45	IAmb	IAmb	11 06 44.6	
	comp=Z,20nm,0.9s						
H04A	Detroit Lake	78.59	47	IAmb	IAmb	11 06 47.0	
	comp=Z,14nm,1.0s						
HUMO	Hull Mountain	78.59	49	IAmb	IAmb	11 06 47.6	
	comp=Z,15nm,1.1s						
I04A	Tendick Farm,	78.67	48	P	P	11 06 45.7	+0.3
	baz=285						
F05D	White Salmon	78.77	45	P	P	11 06 45.8	0.0
	baz=286						
LTY	Liberty	78.93	44	IAmb	IAmb	11 06 51.4	
	comp=Z,10nm,0.8s						
SPITS	Spitsbergen Ar	78.98	351	P	P	11 06 45.9	-0.5
	comp=Z,1.8nm,0.4s,baz=111,slow=6.5,SNR=8.4						
M02C	Callahan	78.99	50	P	P	11 06 47.0	-0.2
	baz=285						
YBH	Yreka Blue Hor	79.00	50	IAmb	IAmb	11 06 50.4	
	comp=Z,12nm,0.8s						
J04D	Umpqua Nationa	79.03	48	P	P	11 06 47.0	-0.6
	baz=286						
G05D	Wamic, OR	79.04	46	P	P	11 06 47.7	+0.4
	baz=286						
L04D	Klamath Falls	79.16	49	P	P	11 06 48.3	+0.1
	baz=286						
N02D	Trinity Center	79.21	50	P	P	11 06 48.9	+0.5
	baz=286						
I05D	Terrebonne, OR	79.27	47	P	P	11 06 49.2	+0.6
	baz=286						
RES	Resolute Bay	79.32	14	P	P	11 06 46.6	-1.6
	comp=Z,5.6nm,0.7s,baz=40,slow=3.8,SNR=1.9						
O02D	Mt. Diablo Mer	79.36	51	P	P	11 06 49.8	+0.6
	baz=286						
B08A	Colville Reser	79.49	42	IAmb	IAmb	11 06 51.6	
	comp=Z,11nm,0.8s						
M04C	Macdoel	79.61	49	P	P	11 06 51.5	+0.9
	baz=286						
J05D	Fort Rock, OR	79.63	48	P	P	11 06 51.4	+0.6
	baz=286						
E07A	Sunnyside	79.66	44	IAmb	IAmb	11 06 53.0	
	comp=Z,14nm,0.8s						
HAWA	Hanford	79.92	44	IAmb	IAmb	11 06 54.3	
	comp=Z,11nm,0.9s						
K05A	Summer Lake	80.03	48	IAmb	IAmb	11 06 55.5	
	comp=Z,27nm,0.9s						
O03E	Paynes Creek	80.05	51	P	P	11 06 53.2	+0.2
	baz=286						
D08A	Wollman Farm,	80.13	44	IAmb	IAmb	11 06 55.2	
	comp=Z,15nm,1.0s						
C09A	Chrisman Ranch	80.33	43	IAmb	IAmb	11 06 56.0	
	comp=Z,11nm,0.9s						
ORV	Oroville	80.48	52	IAmb	IAmb	11 06 57.0	
	comp=Z,9.5nm,0.8s						
NEW	Newport	80.93	42	P	P	11 06 58.0	+0.6
	comp=Z,7.1nm,0.8s,baz=304,slow=2.6,SNR=17						
NEW	Newport	80.93	42	P	P	11 06 57.7	+0.3
	baz=288						
NEW	Newport	80.93	42	IAmb	IAmb	11 06 59.3	
	comp=Z,10nm,0.9s						
AFDM	Forest Hills D	81.05	52	IAmb	IAmb	11 07 00.3	
	comp=Z,9.1nm,0.8s						
KLMR	Klimovskoe	81.23	332	eP	P	11 06 56.5	-2.1
KLMR					AMP	11 06 58.1	
	comp=Z,19nm,1.2s						
J08A	Circle Bar Ran	81.54	47	IAmb	IAmb	11 07 03.0	
	comp=Z,12nm,1.0s						
CMB	Columbia Colle	81.76	53	IAmb	IAmb	11 07 04.0	
	comp=Z,16nm,0.8s						
VCNR	Virginia City	81.93	51	IAmb	IAmb	11 07 06.1	
	comp=Z,11nm,0.8s						
WAKR	Walker	82.33	52	IAmb	IAmb	11 07 07.5	
	comp=Z,15nm,0.7s						
PAGB	Antelope Grade	82.56	55	P	P	11 07 07.2	+1.1
PAGB				IAmb	IAmb	11 07 08.6	
	comp=Z,13nm,0.8s						
PLID	Pearl Lake	82.68	45	P	P	11 07 06.5	-0.3
JTMT	Jette	82.90	42	IAmb	IAmb	11 07 14.9	
	comp=Z,15nm,1.3s						
RYN	Ryan	82.97	52	IAmb	IAmb	11 07 10.5	
	comp=Z,15nm,0.8s						
KVN	Kaiserville	83.15	51	IAmb	IAmb	11 07 11.3	
	comp=Z,13nm,0.8s						
PKM	Mcpherson Peak	83.16	56	P	P	11 07 10.1	+0.7
	baz=288,SNR=6.8						
NVAR	Mina Array Bea	83.20	52	P	P	11 07 10.9	+1.3
	comp=Z,19nm,0.7s,baz=266,slow=5.9,SNR=193						
NVAR	Mina Array Bea	83.20	52	P	P	11 07 10.1	+0.5
NVAR					pP	11 08 03.2	-2.9
NV11	Mina Array Sit	83.31	52	IAmb	IAmb	11 07 12.2	
	comp=Z,12nm,0.8s						
MFID	Camas Ranch	83.35	46	IAmb	IAmb	11 07 17.6	
	comp=Z,11nm,0.8s						
VES	Vestal, Richgr	83.42	55	P	P	11 07 10.4	-0.1
	baz=288,SNR=6.6						
TIN	Tinemaha, Big	83.69	53	P	P	11 07 12.8	+0.8
	baz=289						
ISA	Isabella, Lake	83.95	55	P	P	11 07 13.4	+0.1
	baz=289						
HLID	Hailey	84.27	46	P	P	11 07 15.3	+0.5
	baz=290						
EDW2	Edwards Air Fo	84.58	55	P	P	11 07 16.9	+0.5
	baz=289						
MPMC	Manual Prospec	84.58	54	P	P	11 07 17.2	+0.6
	baz=289,SNR=18						
ELK	Elko	84.67	49	IAmb	IAmb	11 07 19.1	
	comp=Z,10nm,1.0s						
FURC	Furnace Creek,	84.92	53	P	P	11 07 18.7	+0.7
	baz=290,SNR=9.6						
TPNV	Topopah Spring	85.22	53	P	P	11 07 20.5	+0.8
	baz=290,SNR=24						
TPNV	Topopah Spring	85.22	53	IAmb	IAmb	11 07 21.6	
	comp=Z,16nm,0.8s						
R11A	Troy Canyon, C	85.24	51	P	P	11 07 20.6	+0.8
	baz=290,SNR=8.6						
GSC	Goldstone, Bar	85.36	54	P	P	11 07 20.6	+0.3
	baz=290,SNR=7.1						
GSC	Goldstone, Bar	85.36	54	IAmb	IAmb	11 07 22.3	
	comp=Z,10nm,1.1s						
BOZ	Bozeman (W)	85.38	43	P	P	11 07 20.9	+0.6
	baz=292,SNR=9.1						
BOZ	Bozeman (W)	85.38	43	IAmb	IAmb	11 07 22.1	
	comp=Z,6.9nm,0.8s						
MURC	Murrieta	85.62	56	P	P	11 07 22.0	+0.4
	baz=290						
EGMT	Eagleton	85.63	41	P	P	11 07 21.8	+0.4
	baz=293						
HEC	Hector,Ludlow	85.88	55	P	P	11 07 23.2	+0.3
	baz=290						
KBZ	Khabaz	85.90	315	P	P	11 07 21.9	-0.7
	comp=Z,7.2nm,1.0s,baz=106,slow=4.5,SNR=6.2						
TUQ	Turquoise Moun	85.99	54	P	P	11 07 24.1	+0.6
	baz=290,SNR=7.3						
PFO	Pinyon Flats O	86.20	56	P	P	11 07 24.7	+0.1
	baz=290						
GMRC	Granite Mounta	86.42	55	P	P	11 07 26.3	+0.7
	baz=290,SNR=8.2						
BELC	Belle Mtn. Jos	86.42	55	P	P	11 07 25.9	+0.2
	baz=290,SNR=6.4						
MONP2	Monument Peak	86.47	57	P	P	11 07 26.1	+0.1
	baz=290						
H17A	Grant Village	86.53	44	P	P	11 07 27.8	+1.7
	baz=293,SNR=7.7						
H17A	Grant Village	86.53	44	IAmb	IAmb	11 07 29.9	
	comp=Z,7.8nm,0.9s						
FLWY	Flagg Ranch	86.57	45	IAmb	IAmb	11 07 29.0	
	comp=Z,11nm,0.8s						
DUG	Dugway, Tooele	86.59	49	P	P	11 07 27.1	+0.8
	baz=292,SNR=12						
DUG	Dugway, Tooele	86.59	49	IAmb	IAmb	11 07 28.4	
	comp=Z,20nm,1.3s						
FINES	FINESS Array B	86.66	335	P	P	11 07 24.3	-1.7
	comp=Z,9.1nm,0.4s,baz=66,slow=4.8,SNR=73						
FINES	FINESS Array B	86.66	335	P	P	11 07 23.8	-2.2
FINES					pP	11 08 21.9	-0.9
IKP	In-Ko-Pah, Jac	86.80	57	P	P	11 07 27.8	+0.4
	baz=290						
HWUT	Hardware Ranch	86.94	47	IAmb	IAmb	11 07 29.9	
	comp=Z,11nm,1.0s						
BC3	Big Chuckawall	86.97	56	P	P	11 07 29.0	+0.8
	baz=291,SNR=6.3						
IRM	Iron Mountain	87.03	55	P	P	11 07 29.1	+0.7
	baz=291,SNR=5.9						
FFC	Flin Flon	87.07	32	P	P	11 07 28.6	+0.5
FFC				IAmb	IAmb	11 07 29.6	
	comp=Z,24nm,1.0s						
W13A	Hualapai Mount	87.67	54	IAmb	IAmb	11 07 33.8	
	comp=Z,7.6nm,0.8s						
GLA	Glamis	87.67	56	P	P	11 07 31.8	+0.3
	baz=291						
GLA	Glamis	87.67	56	IAmb	IAmb	11 07 33.5	
	comp=Z,9.8nm,0.7s						
BW06	Boulder Array	87.86	45	P	P	11 07 32.6	+0.2
	baz=294						
PDAR	Pinedale Array	87.86	45	P	P	11 07 32.8	+0.3
	comp=Z,0.9nm,0.4s,baz=258,slow=1.3,SNR=15						
PDAR	Pinedale Array	87.86	45	P	P	11 07 32.4	0.0
LAO	LASA Array	88.37	41	P	P	11 07 35.2	+0.7
	baz=296						
LAO	LASA Array	88.37	41	IAmb	IAmb	11 07 36.4	
	comp=Z,16nm,1.2s						
CASY	Casey	88.84	193	P	P	11 07 36.5	+0.6
CASY				IAmb	IAmb	11 07 37.6	
	comp=Z,21nm,1.4s						
WUAZ	Wupatki	89.41	53	P	P	11 07 40.9	+1.1
	baz=293						
WUAZ	Wupatki	89.41	53	IAmb	IAmb	11 07 42.5	
	comp=Z,18nm,0.9s						
214A	Organ Pipe Nat	89.66	56	P	P	11 07 41.2	+0.4
	baz=292						
214A	Organ Pipe Nat	89.66	56	IAmb	IAmb	11 07 43.3	
	comp=Z,13nm,0.9s						
O20A	White River Ci	89.83	47	P	P	11 07 41.8	+0.1
	baz=295						
O20A	White River Ci	89.83	47	IAmb	IAmb	11 07 43.4	
	comp=Z,14nm,1.4s						
K22A	Casper	89.94	45	P	P	11 07 42.2	+0.1
	baz=296						
K22A	Casper	89.94	45	IAmb	IAmb	11 07 44.6	
	comp=Z,5.6nm,0.8s						
PV10	Paradox Valley	90.00	49	IAmb	IAmb	11 07 44.5	
	comp=Z,17nm,0.9s						
PV14	Lion Creek, Pa	90.01	49		pwP	11 08 42.9	-0.9
PV05	Paradox Valley	90.07	50	IAmb	IAmb	11 07 44.2	
	comp=Z,12nm,1.2s						
PV04	Paradox Valley	90.08	49	IAmb	IAmb	11 07 44.9	
	comp=Z,18nm,1.2s						
PV17	East Wray Mesa	90.09	49		pP	11 08 42.8	+2.5
PV16	Nyswonger Mesa	90.11	49	IAmb	IAmb	11 07 44.9	
	comp=Z,22nm,1.2s						
PV22	Blue Mesa, Par	90.11	49	IAmb	IAmb	11 07 46.0	
	comp=Z,8.4nm,1.2s						
PV18	Skein Mesa, Pa	90.14	49	IAmb	IAmb	11 07 44.9	
	comp=Z,16nm,1.1s						
PV03	Paradox Valley	90.18	49	IAmb	IAmb	11 07 45.1	
	comp=Z,8.7nm,0.7s						
PV12	Saucer Basin,	90.19	49	IAmb	IAmb	11 07 45.3	
	comp=Z,18nm,1.0s						
PV13	Radium Mtn., P	90.24	49	IAmb	IAmb	11 07 45.3	
	comp=Z,17nm,1.2s						
PV02	Paradox Valley	90.28	49	IAmb	IAmb	11 07 45.6	
	comp=Z,18nm,1.2s						
PV01	Paradox Valley	90.43	49	IAmb	IAmb	11 07 46.2	
	comp=Z,16nm,1.2s						
MVCO	Mesa Verde	90.86	50	P	P	11 07 47.0	+0.5
	baz=295						
MVCO	Mesa Verde	90.86	50	IAmb	IAmb	11 07 49.3	
	comp=Z,12nm,1.2s						
N23A	Red Feather La	91.09	46	P	P	11 07 48.0	+0.4
	baz=296						
TUC	Tucson	91.11	55	P	P	11 07 48.1	+0.5
	baz=293						
TUC	Tucson	91.11	55	P	P	11 07 49.2	+1.6
TUC				IAmb	IAmb	11 07 50.3	
	comp=Z,15nm,1.4s						
PHWY	Pilot Hill	91.24	45	IAmb	IAmb	11 07 50.2	
	comp=Z,10.0nm,1.2s						
MDND	Maddock	91.79	38	P	P	11 07 50.5	+0.2
	baz=301						
ISCO	Idaho Springs	91.80	47	P	P	11 07 51.4	+0.5
	baz=296						
ISCO	Idaho Springs	91.80	47	IAmb	IAmb	11 07 53.2	
	comp=Z,8.2nm,1.2s						
S22A	4UR Ranch, Cre	91.84	49	P	P	11 07 52.1	+0.9
	baz=296						
S22A	4UR Ranch, Cre	91.84	49	IAmb	IAmb	11 07 53.5	
	comp=Z,7.7nm,1.1s						
Q24A	Divide	92.50	47	P	P	11 07 54.7	+0.5
	baz=297						
ULM	Lac du Bonnet	92.58	34	P	P	11 07 53.2	-0.7
	comp=Z,2.7nm,0.7s,baz=358,slow=8.3,SNR=4.4						
SDCO	Great Sand Dun	92.79	49	P	P	11 07 56.0	+0.4
	baz=296						
ANMO	Albuquerque	93.32	51	P	P	11 07 58.5	+0.5
	baz=296						
ANMO	Albuquerque	93.32	51	P	P	11 07 59.3	+1.4
ANMO				IAmb	IAmb	11 08 00.7	
	comp=Z,7.6nm,1.2s						
ANMO					pwP	11 08 58.5	-0.7
121A	Cookes Peak, D	93.34	54	P	P	11 07 58.5	+0.5
	baz=295						
121A	Cookes Peak, D	93.34	54	IAmb	IAmb	11 08 00.9	
	comp=Z,14nm,1.2s						
AGMN	Agassiz Nation	93.67	36	P	P	11 07 58.8	-0.2
	baz=304						
BRTR	Keskin Array B	93.86	314	P	P	11 07 58.5	-1.7
	comp=Z,4.2nm,0.8s,baz=76,slow=5.2,SNR=12						
MNTX	Cornudas Mount	95.54	54	P	P	11 08 08.2	+0.3
	baz=296						
MNTX	Cornudas Mount	95.54	54		pwP	11 09 09.0	-0.3
VNDA	Vanda	96.65	176	P	P	11 08 11.4	-0.3
	comp=Z,1.1nm,0.8s,baz=314,slow=5.1,SNR=9.2						
AMTX	Amarillo	96.84	50	P	P	11 08 13.8	0.0
	baz=299						
TXAR	Lajitas Array	97.91	55	P	Pdif	11 08 19.4	+0.6
	comp=Z,0.3nm,0.6s,baz=269,slow=4.0,SNR=5.1						
TXAR				PKKPbc	PKK

VCA	Vinchina	147.73	114	*i* P	PKPbc	11 14 27.7	+0.9
LPAZ	La Paz	147.87	91	PKPbc	PKPdf	11 14 25.2	+0.5
	comp=Z,16nm,0.8s,baz=266,slow=4.0,SNR=29						
MRA	San Martin	148.92	122	*i* P	PKPbc	11 14 29.6	0.0
TCA	Tanti	150.16	120	*i* P	PKPbc	11 14 32.9	+0.2

IDC 25 11:08:27.7±1.5, 55°52S×26°80W, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.5/27, mbtmp3.6/2, Error ellipse: s-maj=121.4km s-min=37.8km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	47.11	183	P	P	11 17 00.6	-0.1
	0.2nm,0.5s,baz=196,slow=7.0,SNR=2.2						
TORD	Torodi Ar. Bea	72.48	29	P	P	11 19 56.0	0.0
	0.5nm,0.4s,baz=202,slow=6.4,SNR=6.1						
ILAR	Eielson Array	149.93	312	PKPbc	PKPbc	11 28 17.9	-0.4
	0.1nm,0.4s,baz=107,slow=2.2,SNR=2.5						

IDC 25 11:09:51.2±0.9, 55°53S×26°74W, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.9/27, mbtmp4.1/5, Error ellipse: s-maj=39.9km s-min=24.4km az=85.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	Mawson	40.42	144	P	P	11 17 30.5	0.0
	0.8nm,0.7s,baz=247,slow=15,SNR=2.1						
VNDA	Vanda	47.10	183	P	P	11 18 24.0	-0.1
	1.3nm,0.6s,baz=192,slow=6.8,SNR=15						
LPAZ	La Paz	50.29	304	P	P	11 18 50.2	+0.2
	2.1nm,0.8s,baz=162,slow=6.4,SNR=4.2						
DBIC	Dimbokro	64.59	24	P	P	11 20 29.8	-0.3
	2.7nm,0.8s,baz=229,slow=6.3,SNR=3.0						
TORD	Torodi Ar. Bea	72.48	29	P	P	11 21 19.7	+0.3
	1.5nm,0.4s,baz=200,slow=6.6,SNR=22						
ILAR	Eielson Array	149.96	312	PKPbc	PKPbc	11 29 41.1	-0.8
	1.4nm,0.8s,baz=130,slow=1.8,SNR=13						

*MOS **25** 11:12:00.1±0.8, 42°64N×143°42E, h104km, mb4.0/4, Error ellipse: s-maj=15.0km s-min=7.5km az=65.8*
*JMA **25** 11:12:01.6±0.1, 42°69N×143°37E, h90km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs130.00000°, δ14.00000°, λ-48.00000°. NP2: φs267.00000°, δ80.00000°, λ-99.00000°. Principal axes: T Plg34.0000°, Azm5.0000°; N Plg9.0000°, Azm269.0000°; P Plg54.0000°, Azm166.0000°; JMA Felt II J1.*
*NEIC **25** 11:12:01.5±1.9, 42°68N±0°05×143°4E±0°1, h103km±2km, mb4.3/8 Error ellipse: s-maj=12.7km s-min=7.6km az=94.0*
*SKHL **25** 11:12:01.1±0.2, 42°64N×143°39E, h103km±5km, mb4.9/6, msh6.0/4*
*IDC **25** 11:12:01.7±1.4, 42°70N×143°38E, h104km±10km, mb3.5/16, mb1 3.8/19, mb1mx3.7/48, mbtmp3.9/19, Error ellipse: s-maj=17.3km s-min=13.1km az=111.0*

ISC 25 11:12:00.8±0.6, 42°66N±0°04×143°43E±0°03, h95km±5km, n91, σ0°96/111, mb3.8/20, 4C-18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	Churui	0.07	229	⇓P	Pn	11 12 14.2	+0.1
JCH				*e*S	Sn	11 12 23.4	-0.5
JTHR	Tokachihiroo	0.38	195	⇑P	Pn	11 12 15.6	+0.4
JTHR				*e*S	Sn	11 12 25.9	0.0
JOB	Onbets	0.39	50	⇓P	Pn	11 12 16.0	+0.7
JOB				*e*S	Sn	11 12 26.7	+0.7
JNBK	Urakawa-nobuka	0.63	233	⇑P	Pn	11 12 17.9	+0.8
JNBK				*e*S	Sn	11 12 29.8	+0.6
ERM	Erimo	0.67	198	⇓*e*PN	Pn	11 12 18.4	+0.9
ERM	Erimo	0.67	198		Pn	11 12 19.0	+1.5
JEM	Erimo	0.67	198	P	Pn	11 12 18.3	+0.8
JAR	Ashorobuto	0.69	21	⇓P	Pn	11 12 17.9	+0.3
JAR				*e*S	Sn	11 12 30.2	0.0
JBT2	Biratori 2	0.79	279	⇓P	Pn	11 12 18.8	+0.2
JFR	Furan	0.80	310	⇓P	Pn	11 12 18.1	-0.6
JFR				*e*S	Sn	11 12 30.6	-1.5
JAK	Akkeshi	0.99	70	⇓P	Pn	11 12 21.0	+0.3
JAK				*e*S	Sn	11 12 35.9	+0.2
JIAM	Iburiatsuma	1.11	269	⇓P	Pn	11 12 24.2	+2.1
JAB	Ashibetsu	1.22	314	⇓P	Pn	11 12 23.6	+0.2
JKK2	Kamakawa 2	1.31	338	⇓P	Pn	11 12 24.5	0.0
JNK	Nakash	1.32	45	⇓P	Pn	11 12 24.6	0.0
JNK				*e*S	Sn	11 12 42.1	-0.5
JKHN	Kushirohamanak	1.34	71	⇓P	Pn	11 12 25.2	+0.4
JKHN				*e*S	Sn	11 12 43.2	+0.3
JMP	Maruseppu	1.35	358	⇓P	Pn	11 12 25.1	+0.1
JMP				*e*S	Sn	11 12 42.8	-0.4
JTKR	Abashiri--Toko	1.36	15	⇓P	Pn	11 12 25.2	+0.2
JTKR				*e*S	Sn	11 12 42.8	-0.5
JEW	Eniwo	1.47	278	⇓P	Pn	11 12 27.2	+0.8
JEW				*e*S	Sn	11 12 46.3	+0.5
JEW	Eniwo	1.47	278		Pn	11 12 27.1	+0.7
JKA	Kamikawa-asahi	1.58	338	*e*P	Pn	11 12 28.5	+0.8
JKA	Kamikawa-asahi	1.58	338	Pn	Pn	11 12 28.1	+0.4
JKA	Kamikawa-asahi	1.58	338		Sn	11 12 49.0	+0.8
ASAJ	Asahikawa	1.58	338	P	Pn	11 12 28.5	+0.7
ASAJ	36nm,0.3s,baz=187,slow=13,SNR=206			S	Sn	11 12 49.0	+0.8
	26nm,0.3s,baz=252,slow=20,SNR=12						
JHR	Hokuryu	1.65	312	⇓P	Pn	11 12 29.2	+0.5
JHR				*e*S	Sn	11 12 50.8	+0.9
NMR	Nemuro--Hokkai	1.83	66	*i* P	Pn	11 12 30.8	-0.1
NMR				*i* S	Sn	11 12 52.3	-1.6
NMR	Nemuro--Hokkai	1.83	66	⇓*i*PN	Pn	11 12 30.8	-0.1
NMR				*i* S	Sn	11 12 52.2	-1.6
GLVR	Golovnino	1.87	54	*i* P	Pn	11 12 32.1	+0.6
GLVR				*i* S	Sn	11 12 55.2	+0.4
GLVR	2μm,0.3s			A	A	11 12 57.0	
GLVR	760nm,0.3s			A	A	11 12 57.0	
GLVR	Golovnino	1.87	54	⇑*i*PN	Pn	11 12 32.1	+0.6
GLVR				*i* S	Sn	11 12 55.2	+0.4
GLVR	comp=E,755nm,0.2s			smax	smax		
GLVR	comp=N,2μm,0.3s			smax	smax		
RUSJ	Misakicho	1.96	42	*e*PN	Pn	11 12 33.7	+1.1
RUSJ				*i* S	Sn	11 13 00.7	+3.8
GRPR	Tuman	2.17	51	*i* P	Pn	11 12 36.0	+0.7
GRPR	comp=N,170nm,0.2s			AMB	AMB	11 12 38.0	
GRPR				*i* S	Sn	11 13 01.7	-0.1
GRPR	comp=N,2μm,0.3s			A	A	11 13 04.0	
GRPR	comp=N,2μm,0.3s			A	A	11 13 04.0	
GRPR	Tuman	2.17	51	⇑*i*PN	Pn	11 12 36.0	+0.7
GRPR				*i* S	Sn	11 13 01.7	-0.1
GRPR	comp=Z,173nm,0.2s			pmax	pmax		
GRPR	comp=N,2μm,0.3s			smax	smax		
GRPR	comp=E,2μm,0.3s			smax	smax		
YUK	Yuzh-Kuril'sk	2.25	51	*i* P	Pn	11 12 37.5	+1.1
YUK				AMB	AMB	11 12 38.0	
YUK	comp=E,310nm,0.3s			*i* S	Sn	11 13 03.9	+0.4
YUK				A	A	11 13 05.0	
YUK	comp=E,2μm,0.5s			A	A	11 13 05.0	
YUK	comp=E,2μm,0.5s						
YUK	Yuzh-Kuril'sk	2.25	51	*d*iPN	Pn	11 12 37.4	+1.1
YUK				*i* S	Sn	11 13 03.9	+0.4
YUK	comp=Z,313μm,0.2s			pmax	pmax		
YUK	comp=N,93μm,0.1s			pmax	pmax		
YUK	comp=N,2μm,0.5s			smax	smax		
YUK	comp=E,2μm,0.5s			smax	smax		
JTM	Tenmabayashi	2.57	224		Pn	11 12 40.5	-0.2
KUR	Kuril'sk	4.11	50	*e*P	Pn	11 13 03.8	+2.5
KUR	comp=E,60nm,0.6s			AMB	AMB	11 13 04.6	
KUR				*e*S	Sn	11 13 50.0	+1.7
KUR	comp=E,110nm,0.3s			A	A	11 13 55.0	
KUR	comp=E,130nm,0.3s			A	A	11 13 55.0	
KUR	Kuril'sk	4.11	50	*e*PN	Pn	11 13 02.9	+1.6
KUR				*e*S	Sn	11 13 50.3	+2.0
KUR	comp=Z,61nm,0.9s			pmax	pmax		
KUR	comp=N,69nm,0.4s			smax	smax		
KUR	comp=E,96nm,0.4s			smax	smax		
YSS	Yuzh-Sakhalins	4.32	354	*e*P	Pn	11 13 04.9	+0.7
YSS	comp=E,30nm,1.0s			AMB	AMB	11 13 06.0	
YSS				*e*S	Sn	11 13 52.7	-0.7
YSS	comp=E,30nm,1.0s			A	A	11 13 56.0	
YSS	comp=E,40nm,1.0s			A	A	11 13 56.0	
YSS	Yuzh-Sakhalins	4.32	354	*e*PN	Pn	11 13 04.9	+0.7
YSS				*e*S	Sn	11 13 52.7	-0.7
YSS	comp=Z,30nm,1.0s			pmax	pmax		
YSS	comp=N,30nm,1.0s			smax	smax		
YSS	comp=E,40nm,0.9s			smax	smax		
YSS	comp=Z,200nm,15.0s			MLR	MLR		
YSS	Yuzh-Sakhalins	4.32	354	Pn	Pn	11 13 04.9	+0.7
JMM	Marumori	5.19	204		Pn	11 13 15.3	-0.8
JSD	Sado	6.07	222	Pn	Pn	11 13 28.4	+0.3
UGL	Uglegorsk	6.49	352	*e*P	Pn	11 13 34.6	+1.0
UGL	comp=Z,30nm,0.6s			AMB	AMB	11 13 35.5	
JYT	Yasato	6.89	202	Pn	Pn	11 13 36.2	-2.9
MAJO	Matsushiro	7.32	215	PN	Pn	11 13 45.1	+0.1
MAJO	Matsushiro	7.32	215		Pn	11 13 45.1	+0.1
MJAR	Matsushiro Arr	7.32	215	P	Pn	11 13 45.0	0.0
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=11						
MJAR	Matsushiro Arr	7.32	215		Pn	11 13 44.2	-0.7
JGF	Kuroka	8.48	216	Pn	Pn	11 14 00.4	-0.4
PETK	Petropavlovsk-	14.15	37	P	Pn	11 15 15.3	-1.3
	comp=Z,0.3nm,0.3s,baz=193,slow=7.2,SNR=5.6						
JCJ	Chichijima	15.56	184	P	Pn	11 15 34.0	-0.8
	comp=Z,3.4nm,0.3s,baz=279,slow=22,SNR=5.9						
SONM	Songino Array	26.41	294	P	P	11 17 27.0	-1.4
	comp=Z,0.9nm,0.4s,baz=88,slow=9.1,SNR=4.1						
SONM	Songino Array	26.41	294	*e*P	P	11 17 30.6	+2.2
SONM	comp=Z,1.0nm,0.4s			pmax	pmax		
BILL	Bilibino	28.20	18	*e*P	P	11 17 44.3	+0.2
BILL	Bilibino	28.20	18	*e*P	P	11 17 44.3	+0.2
BILL				*e*		11 18 38.7	
BILL	comp=Z,3.0nm,1.0s			pmax	pmax		
H11N2	WAKE ISLAND Hy	30.23	132	T	T	11 49 43.4	
	baz=331						
H11N1	WAKE ISLAND Hy	30.24	132	T	T	11 49 43.9	
	baz=331						
H11N3	WAKE ISLAND Hy	30.25	132	T	T	11 49 42.2	
	baz=331						
ZALV	Zalesovo Beam	39.49	307	P	P	11 19 21.7	0.0
	comp=Z,2.0nm,0.5s,baz=73,slow=6.7,SNR=7.1						
IMAR	Indian Mountai	41.07	34	P	P	11 19 34.7	+0.1
MKAR	Makanchi Array	42.67	297	P	P	11 19 48.0	0.0
	comp=Z,0.5nm,0.5s,baz=75,slow=10,SNR=4.5						
MKAR	Makanchi Array	42.67	297	*e*P	P	11 19 48.1	+0.2
MKAR	Makanchi Array	42.67	297	*e*P	P	11 19 48.1	+0.2
MKAR	comp=Z,1.0nm,0.5s			pmax	pmax		
KURK	Kurchatov	43.88	304	P	P	11 19 57.6	+0.1
KURK				pmax	pmax		
KURK	comp=Z,4.0nm,0.9s						
KURK	Kurchatov	43.88	304	P	P	11 19 57.6	+0.1
KURK				IAmb	IAmb	11 19 59.8	
DHY	comp=Z,3.8nm,0.8s						
DHY	Denali Highway	43.91	38	P	P	11 19 57.6	-0.2
DHY				IAmb	IAmb	11 20 03.8	
ILAR	comp=Z,4.3nm,1.0s						
ILAR	Eielson Array	43.96	35	P	P	11 19 58.3	+0.3
	comp=Z,1.9nm,0.9s,baz=256,slow=5.4,SNR=22						
ILAR	Eielson Array	43.96	35	*e*P	P	11 19 58.5	+0.5
ILAR	comp=Z,2.0nm,0.5s			pmax	pmax		
CMAR	Chiang Mai Arr	44.60	251	P	P	11 20 04.8	+1.1
	comp=Z,0.4nm,0.6s,baz=42,slow=7.2,SNR=1.8						
BCAR	Beaver Creek A	46.43	37	P	P	11 20 18.2	+0.6
INK	Inuvik	48.70	29	P	P	11 20 35.1	+0.1
	comp=Z,1.4nm,0.3s,baz=292,slow=8.3,SNR=27						
INK	Inuvik	48.70	29	IAmb	IAmb	11 20 35.3	
	comp=Z,7.0nm,1.3s						
HYT	Haines Junctio	48.92	40	P	P	11 20 37.9	+1.0
ABKAR	Akbulak array	55.61	308	P	P	11 21 25.4	-1.0
ABKAR	Akbulak array	55.61	308	P	P	11 21 26.2	-0.2
ABKAR				IAmb	IAmb	11 21 29.0	
	comp=Z,2.8nm,1.2s						
YKA	Yellowknife Ar	58.20	32	P	P	11 21 45.5	+1.0
	comp=Z,1.2nm,0.6s,baz=307,slow=6.7,SNR=2.4						
ARCES	ARCESS Array B	59.30	339	P	P	11 21 51.3	-0.7
	comp=Z,3.9nm,0.8s,baz=51,slow=7.1,SNR=1.8						
WRA	Warramunga Arr	62.85	190	P	P	11 22 17.0	+0.5
	comp=Z,0.5nm,0.5s,baz=6.1,slow=7.1,SNR=3.3						
WRA	Warramunga Arr	62.85	190	P	P	11 22 17.0	+0.5
FINES	FINESS Array B	64.58	332	P	P	11 22 26.7	-0.7
	comp=Z,2.3nm,0.4s,baz=42,slow=8.3,SNR=15						
ASAR	Alice Springs	66.58	190	P	P	11 22 41.9	+1.2
	comp=Z,0.2nm,0.4s,baz=7.7,slow=6.3,SNR=1.8						
NB2	NORSAR Subarra	69.60	337	P	P	11 22 58.7	-0.6
	comp=Z,1.0nm,0.6s,baz=34,slow=6.5						
NOA	NORSAR Array B	69.60	337	P	P	11 22 58.3	-1.0
	comp=Z,0.5nm,0.7s,baz=54,slow=6.9,SNR=4.4						
NVAR	Mina Array Bea	70.45	56	P	P	11 23 04.3	-0.8
	comp=Z,0.3nm,0.8s,baz=317,slow=7.8,SNR=2.6						
AKASG	Malin Array Be	70.81	322	P	P	11 23 05.6	-1.1
	comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=4.1						
PDAR	Pinedale Array	72.67	48	P	P	11 23 18.8	+0.3
	comp=Z,0.2nm,0.5s,baz=290,slow=2.7,SNR=2.2						
CLL	Collm	76.98	331	*i* P	P	11 23 44.1	+1.4
	comp=Z,5.0nm,0.6s						
TXAR	Lajitas Array	85.50	54	P	P	11 24 27.1	-1.2
	comp=Z,0.4nm,0.8s,baz=298,slow=4.0,SNR=2.9						
H03N2	Juan Fernandez	145.70	89	T	T	14 14 49.1	
	baz=300,slow=77,SNR=4.6						
H03N3	Juan Fernandez	145.71	89	T	T	14 14 50.3	
	baz=300,slow=77,SNR=4.4						
H03N1	Juan Fernandez	145.71	89	T	T	14 14 48.0	
	baz=300,slow=77,SNR=4.8						

*IDC **25** 11:15:07.7±1.4, 8°03S×159°83E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/32, mbtmp4.0/6, ML3.7/1, Error ellipse: s-maj=32.5km s-min=14.8km az=83.0*

ISC 25 11:15:12.7±1.4, 8°1S±0°1×159°9E±0°2, h35km, n13, σ1°03/7, mb3.8/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.30	178	Pg	Pn	11 15 34.9	+0.5
	268nm,0.3s,baz=54,slow=12,SNR=117						
HNR	1μm,0.3s,baz=299,slow=19,SNR=28			Lg	Lg	11 15 51.8	
HNR	comp=Z,374nm,19.1s,baz=316,slow=54			LR	LR	11 16 22.5	
CTA	Charters Tower	17.77	227	P	P	11 19 18.9	+0.9
	0.2nm,0.3s,baz=45,slow=10.0,SNR=5.4						
H11S2	WAKE ISLAND Hy	27.29	14	T	T	11 49 29.4	
	baz=194,slow=76,SNR=2547						
H11S3	WAKE ISLAND Hy	27.29	14	T	T	11 49 29.5	
	baz=194,slow=76,SNR=1736						
H11S1	WAKE ISLAND Hy	27.30	14	T	T	11 49 29.7	
	baz=194,slow=76,SNR=1399						
WRA	Warramunga Arr	27.39	242	P	P	11 20 54.8	-0.3
	1.3nm,0.4s,baz=68,slow=9.0,SNR=43						
H11N1	WAKE ISLAND Hy	28.51	14	T	T	11 50 54.3	
	baz=194,slow=76,SNR=171						
H11N3	WAKE ISLAND Hy	28.52	14	T	T	11 50 55.0	
	baz=194,slow=76,SNR=192						
H11N2	WAKE ISLAND Hy	28.52	14	T	T	11 50 55.7	
	baz=194,slow=76,SNR=177						
STKA	Stephens Creek	29.13	213	P	P	11 21 09.9	-0.6
	1.0nm,0.5s,baz=41,slow=15,SNR=2.9						
ASAR	Alice Springs	29.30	235	P	P	11 21 10.9	-1.3
	0.6nm,0.4s,baz=61,slow=10,SNR=26						
CMAR	Chiang Mai Arr	65.66	294	P	P	11 25 55.0	+1.0
	0.6nm,0.4s,baz=91,slow=5.7,SNR=4.6						
ILAR	Eielson Array	82.69	20	P	P	11 27 32.1	-0.4
	0.5nm,0.7s,baz=246,slow=5.6,SNR=8.0						

*NEIC **25** 11:49:25.1±1.8, 37°63N±0°01×118°85W±0°02, h4km±3km, Error ellipse: s-maj=2.2km s-min=1.5km az=221.0*

NCEDC 25 11:49:24.4±2.3, 37°65N±0°02×118°85W±0°02, h6km±2km, Md3.0/86, Error ellipse: s-maj=2.4km s-min=1.7km az=192.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRNC	Doe Ridge	0.01	124		Pg	11 49 25.7	-0.1
MLAC	Mammoth, Mammo	0.02	145		Pg	11 49 27.1	+1.4
MCBM	Casa Benchmark	0.04	269		Pg	11 49 25.9	0.0
MLHM	Little Hot Cre	0.04	39		Pg	11 49 26.1	+0.1
MCSM	Casa Diablo Ho	0.05	282		Pg	11 49 26.0	0.0
MGPM	Gravel Pit	0.05	246		Pg	11 49 26.0	0.0
MCVM	Convict Lake	0.06	164		Pg	11 49 26.0	-0.1
MLCM	Laurel Creek C	0.06	238		Pg	11 49 26.2	0.0
MEMM	East Mammoth H	0.07	286		Pg	11 49 26.5	+0.1
MMLB	Mammoth Lakes	0.10	278		Pg	11 49 27.0	+0.2
LMCR	Lookout Mounta	0.11	317		Pg	11 49 27.4	+0.4
OMMB	Old Mammoth Mi	0.12	255		Sg	11 49 29.0	-0.1
OMMB	Old Mammoth Mi	0.12	255	Pg	Pg	11 49 27.1	0.0
MDYM	Dry Creek	0.13	276		Pg	11 49 27.5	+0.3
MLIM	Lincoln Peak	0.13	266		Pg	11 49 27.6	+0.3
MMPM	Mammoth Pass	0.15	256		Pg	11 49 27.6	+0.1
MMSM	Mammoth Summit	0.15	264		Pg	11 49 27.8	+0.3
ORC	Owens River	0.15	94		Pg	11 49 27.8	+0.2
MDCM	Deadman Creek	0.17	293		Pg	11 49 28.0	+0.1
MINS	Minaret Summit	0.17	273		Pg	11 49 27.9	+0.1
MINS					Sg	11 49 30.7	+0.5
MRDM	Red Cones	0.17	254		Pg	11 49 28.1	+0.1
MDPB	Devils Postpil	0.18	266		Pg	11 49 28.2	+0.1
MDPB					Sg	11 49 30.9	+0.2
MRCM	Red Rock Canyo	0.27	84		Pg	11 49 30.0	+0.2
SCHCA	Scheelite	0.31	156		Pg	11 49 30.5	0.0
MCDM	Chidago Canyon	0.34	107		Pg	11 49 31.4	+0.5
MTUM	Tungsten Hills	0.37	142		Pg	11 49 31.7	+0.1
MFBM	Five Bridges	0.40	123		Pg	11 49 32.6	+0.5
MLNR	Milner Canyon	0.41	97		Pg	11 49 32.6	+0.4
KCC	Kaiser Creek	0.49	229		Pg	11 49 33.7	-0.2
KCC					Sg	11 49 40.1	-0.1
BONR	Boundary Peak	0.53	54		Pg	11 49 34.7	0.0
POCCA	Poleta Canyon	0.53	122		Pg	11 49 34.7	0.0
LHV	Little Huntoon	0.66	24		Pg	11 49 37.4	+0.2
MMIM	Miami Mountain	0.75	253		Pg	11 49 38.4	-0.3
TIN	Tinemaha, Big	0.77	140		Pg	11 49 39.2	+0.1
NVAR	Mina Array Bea	0.89	29	Pg	Pg	11 49 40.9	-0.7
NV11	Mina Array Sit	0.96	35		Pg	11 49 42.3	-0.5
HELL	Mitchell Peak,	0.97	188		Pg	11 49 42.5	-0.6
WAKR	Walker	0.97	332		Pg	11 49 43.0	-0.1
MHDM	Hidden Dam	0.99	238		Pg	11 49 42.8	-0.5
RYN	Ryan	1.01	15		Pg	11 49 43.5	-0.4
MYLM	Yosemite Lake	1.28	259		Pn	11 49 48.1	-0.6
CMB	Columbia Colle	1.28	288	Pn	Pn	11 49 47.6	-1.2
MRHM	Rocky Hill	1.37	188		Pn	11 49 49.2	-0.8
YERR	Yerington	1.37	347		Pn	11 49 49.9	-0.4
BFC	Buffalo Canyon	1.38	335		Pg	11 49 51.2	+0.3
MCUB	Copperopolis B	1.44	284		Pn	11 49 50.8	-0.3
GNO	Genoa	1.51	329		Pb	11 49 53.0	+0.2
KVN	Kaiserville	1.52	23		Pb	11 49 52.8	-0.4
PNTR	Pine Nut	1.56	338		Pb	11 49 53.7	-0.1
PWMM	Westland Maint	1.63	222		Pn	11 49 54.1	+0.5
MNHB	New Hogan Dam	1.63	288		Pn	11 49 53.8	+0.2
EMB	Emerald Bay	1.65	324		Pb	11 49 55.7	+0.3
VCNR	Virginia City	1.76	339		Pb	11 49 57.1	-0.1
BRMM	Rolling Bench	1.77	243		Pb	11 49 57.0	-0.2
TAHR	Tahoe	1.82	326		Pb	11 49 58.7	+0.4
PARM	Anticline Ridg	1.84	221		Pb	11 49 58.0	-0.4
BMSM	Mercy Hot Spri	1.84	238		Pb	11 49 58.4	-0.1
PKEM	Kettleman Hill	1.88	213		Pb	11 49 58.9	-0.1
FMT	Funeral Mounta	1.93	121		Pn	11 49 58.5	+0.6
SFJWR	San Luis Fatjo	1.94	253		Pb	11 49 59.4	-0.8
ISA	Isabella, Lake	2.00	171		Pb	11 50 00.6	-0.6
BAVM	Antelope Valle	2.01	241		Pb	11 50 00.3	-1.0
PHRM	Hernandez Vall	2.02	232		Pn	11 50 00.2	+1.1
BEMM	Emmet	2.05	242		Pb	11 50 01.1	-0.9
CTM	Castle Mountai	2.09	215		Pb	11 50 01.6	-1.1
BEHM	Elkhorn Ranch	2.10	243		Pb	11 50 02.0	-0.8
PAHR	Pah Rah Range	2.10	349	Pn	Pb	11 50 03.3	+0.3
PAHR					Lg	11 50 32.8	
PSMM	Smith Mountain	2.10	222		Pb	11 50 01.7	-1.3
WOFM	Oak Flat	2.11	177		Pb	11 50 02.4	-0.7
AFDM	Forest Hills D	2.12	309		Pb	11 50 02.3	-0.9
PMPB	Monarch Peak	2.12	228		Pb	11 50 02.1	-1.1
LRV	Little Rabbit	2.12	236		Pb	11 50 02.3	-0.9
PSRM	Scobie Ranch	2.12	213		Pb	11 50 02.1	-1.2
HJSM	John Smith Roa	2.12	248		Pb	11 50 02.5	-0.8
PBWM	Bitterwater Cr	2.13	232		Pb	11 50 02.9	-0.5
BHRM	Hodges Ranch	2.13	245		Pb	11 50 02.9	-0.6
BLRM	Lewis Ranch	2.17	244		Pb	11 50 04.0	-0.1
PSTM	Stockdale Moun	2.17	218		Pn	11 50 02.3	+1.2
PKD	Bear Valley Ra	2.17	219		Pn	11 50 02.4	+1.3
PHPM	Hope Ranch	2.18	221		Pn	11 50 02.5	+1.3
TPNV	Topopah Spring	2.19	108	Pn	Pn	11 50 02.0	+0.5
PSNM	Stone Corral	2.19	213		Pn	11 50 02.6	+1.3
PVCM	Vineyard Canyo	2.19	219		Pn	11 50 02.7	+1.4
PHAM	Harlan Ranch	2.19	215		Pn	11 50 02.7	+1.3
THIS	South End of C	2.21	210		Pn	11 50 03.2	+1.5
PAGB	Antelope Grade	2.22	211		Pn	11 50 02.7	+1.0
PKLM	Kerr Lake	2.22	213		Pn	11 50 03.2	+1.5
SAO	San Andreas Ge	2.25	248		Pb	11 50 03.9	-1.6
PTRM	Twissleman Ran	2.27	209		Pn	11 50 04.0	+1.5
PPO	Portuguese Can	2.27	219		Pn	11 50 03.7	+1.3
TRAM	Private Proper	2.27	211		Pn	11 50 03.9	+1.4
PBPM	Bitterwater Pu	2.29	206		Pb	11 50 04.5	-1.6
FRP	Fremont Peak	2.29

SKR				AMB	AMB	11 51 04.9	
	700nm,2.0s						
SKR				AMB	AMB	11 51 05.1	
	650nm,0.7s						
SKR				*e*S	**S**	**11 51 55.3**	**-0.6**
SKR				A	A	11 51 56.0	
	120nm,0.5s						
SKR				A	A	11 51 56.0	
	90nm,0.5s						
SKR				A	A	11 51 57.0	
	150nm,1.5s						
SKR				A	A	11 51 57.0	
	200nm,1.5s						
SKR	**Severo-Kuril's**	**3.73**	**58**	‖*i*PN	**Pn**	**11 51 04.6**	**+0.3**
SKR				*e*S	**S**	**11 51 55.1**	**-0.8**
SKR				pmax	pmax		
	comp=Z,700nm,1.8s						
SKR				pmax	pmax		
	comp=Z,650nm,0.7s						
SKR				smax	smax		
	comp=N,120nm,0.7s						
SKR				smax	smax		
	comp=E,88nm,0.8s						
SKR				MLR	MLR		
	comp=Z,100nm,17.0s						
KUR	**Kuril'sk**	**4.24**	**213**	*i* P	**Pn**	**11 51 09.7**	**-0.1**
KUR				AMB	AMB	11 51 10.5	
	comp=Z,500nm,3.0s						
KUR				AMB	AMB	11 51 11.0	
	comp=Z,100nm,0.4s						
KUR				*i* S	**S**	**11 52 05.4**	**-0.6**
KUR				A	A	11 52 07.7	
	comp=Z,800nm,2.0s						
KUR				A	A	11 52 07.7	
	comp=Z,500nm,2.0s						
KUR				A	A	11 52 08.6	
	comp=Z,160nm,0.7s						
KUR				A	A	11 52 08.6	
	comp=Z,240nm,0.7s						
KUR	**Kuril'sk**	**4.24**	**213**	*i* P	**Pn**	**11 51 09.7**	**-0.1**
KUR				AMB	AMB	11 51 10.5	
	comp=Z,500nm,3.0s						
KUR				AMB	AMB	11 51 11.0	
	comp=Z,100nm,0.4s						
KUR				*i* S	**S**	**11 52 05.4**	**-0.6**
KUR				A	A	11 52 07.7	
	comp=Z,800nm,2.0s						
KUR				A	A	11 52 07.7	
	comp=Z,500nm,2.0s						
KUR				A	A	11 52 08.6	
	comp=Z,160nm,0.7s						
KUR				A	A	11 52 08.6	
	comp=Z,240nm,0.7s						
KUR	**Kuril'sk**	**4.24**	**213**	*d i*PN	**Pn**	**11 51 10.5**	**+0.7**
KUR				*e*S	**S**	**11 52 10.7**	**+4.7**
KUR				pmax	pmax		
	comp=Z,95nm,0.4s						
KUR				pmax	pmax		
	comp=N,19nm,0.5s						
KUR				pmax	pmax		
	comp=E,20nm,0.5s						
KUR				smax	smax		
	comp=N,149nm,0.5s						
KUR				smax	smax		
	comp=E,46nm,0.2s						
PAU	**Pauzhetka**	**4.51**	**52**	*e*P	**Pn**	**11 51 12.5**	**0.0**
PAU	**Pauzhetka**	**4.51**	**52**	*e*P	**Pn**	**11 51 12.5**	**0.0**
PAU				AMB	AMB	11 51 13.1	
	comp=E,1μm,0.7s						
PAU				*e*S	**S**	**11 52 10.5**	**-0.6**
PAU				A	A	11 52 12.7	
	comp=E,300nm,2.0s						
PAU				A	A	11 52 12.7	
	comp=E,300nm,2.0s						
PAU				A	A	11 52 16.1	
	comp=E,160nm,0.5s						
PAU				A	A	11 52 16.1	
	comp=E,210nm,0.5s						
PAU	**Pauzhetka**	**4.51**	**52**	*e*P	**Pn**	**11 51 12.5**	**0.0**
PAU				AMB	AMB	11 51 13.1	
	comp=E,1μm,0.7s						
PAU				*e*S	**S**	**11 52 10.5**	**-0.6**
PAU				A	A	11 52 12.7	
	comp=E,300nm,2.0s						
PAU				A	A	11 52 12.7	
	comp=E,300nm,2.0s						
PAU				A	A	11 52 16.1	
	comp=E,160nm,0.5s						
PAU				A	A	11 52 16.1	
	comp=E,210nm,0.5s						
PAU	**Pauzhetka**	**4.51**	**52**	PN	**Pn**	**11 51 12.5**	**0.0**
MIPR	**Malaya Ipel'ka**	**4.97**	**44**	*i* P	**Pn**	**11 51 18.3**	**+0.5**
MIPR	**Malaya Ipel'ka**	**4.97**	**44**	PN	**Pn**	**11 51 18.3**	**+0.5**
KDTR	**Khodutka, Kamc**	**5.36**	**54**	*e*P	**Pn**	**11 51 21.2**	**-0.9**
KDTR				*e*S	**S**	**11 52 22.5**	**-6.0**
KDTR	**Khodutka, Kamc**	**5.36**	**54**	PN	**Pn**	**11 51 21.2**	**-0.9**
KDTR				S	**S**	**11 52 22.5**	**-6.0**
ASAK	**Asacha**	**5.59**	**48**	*i* P	**Pn**	**11 51 24.9**	**+0.1**
ASAK	**Asacha**	**5.59**	**48**	PN	**Pn**	**11 51 24.9**	**+0.1**
APC	**Apacha**	**5.60**	**41**	*e*P	**Pn**	**11 51 24.9**	**+0.1**
APC	**Apacha**	**5.60**	**41**	PN	**Pn**	**11 51 24.9**	**+0.1**
GRL	**Gorelyy**	**5.77**	**47**	*e*P	**Pn**	**11 51 27.4**	**+0.4**
GRL	**Gorelyy**	**5.77**	**47**	PN	**Pn**	**11 51 27.4**	**+0.4**
MTVR	**Mutnovka**	**5.79**	**48**	*e*P	**Pn**	**11 51 27.3**	**+0.1**
MTVR	**Mutnovka**	**5.79**	**48**	PN	**Pn**	**11 51 27.3**	**+0.1**
TYV	**Tymovskoe**	**5.84**	**293**	*e*P	**Pn**	**11 51 28.7**	**+1.0**
TYV				AMB	AMB	11 51 28.9	
	comp=E,80nm,0.6s						
TYV				AMB	AMB	11 51 29.1	
	comp=E,300nm,3.0s						
TYV				*e*S	**S**	**11 52 39.2**	**+0.5**
TYV				A	A	11 52 42.4	
	comp=E,200nm,4.0s						
TYV				A	A	11 52 42.4	
	comp=E,500nm,4.0s						
TYV				A	A	11 52 42.6	
	comp=E,20nm,0.7s						
TYV				A	A	11 52 42.6	
	comp=E,10.0nm,0.7s						
TYV	**Tymovskoe**	**5.84**	**293**	*e*P	**Pn**	**11 51 28.7**	**+1.0**
TYV				AMB	AMB	11 51 28.9	
	comp=E,80nm,0.6s						
TYV				AMB	AMB	11 51 29.1	
	comp=E,300nm,3.0s						
TYV				*e*S	**S**	**11 52 39.2**	**+0.5**
TYV				A	A	11 52 42.4	
	comp=E,200nm,4.0s						
TYV				A	A	11 52 42.4	
	comp=E,500nm,4.0s						
TYV				A	A	11 52 42.6	
	comp=E,20nm,0.7s						
TYV				A	A	11 52 42.6	
	comp=E,10.0nm,0.7s						
TYV	**Tymovskoe**	**5.84**	**293**	*e*PN	**Pn**	**11 51 28.7**	**+1.0**
TYV				*e*S	**S**	**11 52 39.2**	**+0.5**
TYV				pmax	pmax		
	comp=Z,77nm,0.6s						
TYV				pmax	pmax		
	comp=Z,300nm,3.4s						
TYV				smax	smax		
	comp=E,14nm,0.8s						
TYV				smax	smax		
	comp=E,500nm,4.4s						
RUS	**Russkaya**	**5.92**	**50**	*e*P	**Pn**	**11 51 28.3**	**-0.3**
RUS				*e*S	**S**	**11 52 34.9**	**-5.5**
RUS	**Russkaya**	**5.92**	**50**	PN	**Pn**	**11 51 28.3**	**-0.3**
RUS				S	**S**	**11 52 34.9**	**-5.5**
YSS	**Yuzh-Sakhalins**	**5.93**	**255**	*i* P	**Pn**	**11 51 30.2**	**+1.3**
YSS				AMB	AMB	11 51 30.8	
	comp=E,30nm,0.7s						
YSS				*e*S	**S**	**11 52 40.5**	**-0.4**
YSS				A	A	11 52 45.5	
	comp=E,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.93**	**255**	*i* P	**Pn**	**11 51 30.2**	**+1.3**
YSS				AMB	AMB	11 51 30.8	
	comp=E,30nm,0.7s						
YSS				*e*S	**S**	**11 52 40.5**	**-0.4**
YSS				A	A	11 52 45.5	
	comp=E,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.93**	**255**	*b i*PN	**Pn**	**11 51 30.2**	**+1.3**
YSS				*e*S	**S**	**11 52 40.5**	**-0.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.93**	**255**	Pn	**Pn**	**11 51 30.0**	**+1.1**
PEA0B	**Petropavlovsk-**	**5.96**	**42**	*d i*PN	**Pn**	**11 51 28.9**	**-0.2**
PEA0B	**Petropavlovsk-**	**5.96**	**42**		**Pn**	**11 51 29.0**	**-0.2**
PETK	**Petropavlovsk-**	**5.96**	**42**	P	**Pn**	**11 51 29.2**	**+0.1**
	comp=Z,5.3nm,0.3s,baz=225,slow=7.4,SNR=139						
PETK	**Petropavlovsk-**	**5.96**	**42**		**Pn**	**11 51 28.6**	**-0.5**
UGL	**Uglegorsk**	**5.97**	**276**	*e*P	**Pn**	**11 51 30.5**	**+1.3**
UGL				AMB	AMB	11 51 31.5	
	comp=Z,80nm,0.8s						
UGL				*e*S	**S**	**11 52 40.3**	**-1.3**
UGL				A	A	11 52 48.0	
	comp=Z,30nm,0.5s						
UGL				A	A	11 52 48.0	
	comp=Z,30nm,0.5s						
UGL				A	A	11 52 49.0	
	comp=Z,500nm,6.0s						
UGL				A	A	11 52 49.0	
	comp=Z,500nm,6.0s						
UGL	**Uglegorsk**	**5.97**	**276**	*e*P	**Pn**	**11 51 30.5**	**+1.3**
UGL				AMB	AMB	11 51 31.5	
	comp=Z,80nm,0.8s						
UGL				*e*S	**S**	**11 52 40.3**	**-1.3**
UGL				A	A	11 52 48.0	
	comp=Z,30nm,0.5s						
UGL				A	A	11 52 48.0	
	comp=Z,30nm,0.5s						
UGL				A	A	11 52 49.0	
	comp=Z,500nm,6.0s						
UGL				A	A	11 52 49.0	
	comp=Z,500nm,6.0s						
UGL	**Uglegorsk**	**5.97**	**276**	*e*PN	**Pn**	**11 51 30.5**	**+1.3**
UGL				S	**S**	**11 52 37.8**	**-3.8**
UGL				pmax	pmax		
	comp=Z,76nm,0.8s						
UGL				smax	smax		
	comp=N,31nm,1.2s						
KRMR	**Karymshinskiy**	**5.97**	**45**	*e*P	**Pn**	**11 51 30.0**	**+0.8**
KRMR	**Karymshinskiy**	**5.97**	**45**	PN	**Pn**	**11 51 30.0**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**6.02**	**219**	*i* P	**Pn**	**11 51 29.6**	**-0.4**
YUK				AMB	AMB	11 51 31.0	
	comp=N,340nm,0.3s						
YUK				*i* S	**S**	**11 52 39.9**	**-3.0**
YUK				A	A	11 52 43.0	
	comp=N,1μm,2.0s						
YUK				A	A	11 52 43.0	
	comp=N,300nm,2.0s						
YUK				A	A	11 52 43.0	
	comp=N,190nm,0.6s						
YUK				A	A	11 52 43.0	
	comp=N,420nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.02**	**219**	*i* P	**Pn**	**11 51 29.6**	**-0.4**
YUK				AMB	AMB	11 51 31.0	
	comp=N,340nm,0.3s						
YUK				*i* S	**S**	**11 52 39.9**	**-3.0**
YUK				A	A	11 52 43.0	
	comp=N,1μm,2.0s						
YUK				A	A	11 52 43.0	
	comp=N,300nm,2.0s						
YUK				A	A	11 52 43.0	
	comp=N,190nm,0.6s						
YUK				A	A	11 52 43.0	
	comp=N,420nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.02**	**219**	*c i*PN	**Pn**	**11 51 29.6**	**-0.4**
YUK				*i* S	**S**	**11 52 39.6**	**-3.3**
YUK				pmax	pmax		
	comp=Z,344μm,0.3s						
YUK				pmax	pmax		
	comp=N,21μm,0.2s						
YUK				pmax	pmax		
	comp=E,37μm,0.2s						
YUK				smax	smax		
	comp=N,186nm,0.6s						
YUK				smax	smax		
	comp=E,417nm,0.5s						
YUK				smax	smax		
	comp=E,287nm,0.8s						
YUK				smax	smax		
	comp=N,1μm,1.3s						
GRPR	**Tuman**	**6.10**	**219**	*i* P	**Pn**	**11 51 30.5**	**-0.4**
GRPR				AMB	AMB	11 51 31.0	
	comp=N,450nm,0.4s						
GRPR				*i* S	**S**	**11 52 43.2**	**-1.3**
GRPR	**Tuman**	**6.10**	**219**	*i* P	**Pn**	**11 51 30.5**	**-0.4**
GRPR				AMB	AMB	11 51 31.0	
	comp=N,450nm,0.4s						
GRPR				*i* S	**S**	**11 52 43.2**	**-1.3**
GRPR	**Tuman**	**6.10**	**219**	‖*i*PN	**Pn**	**11 51 30.5**	**-0.4**
GRPR				*i* S	**S**	**11 52 43.2**	**-1.3**
GRPR				pmax	pmax		
	comp=Z,452nm,0.4s						
GRPR				pmax	pmax		
	comp=E,32nm,0.1s						
GRPR				pmax	pmax		
	comp=N,42nm,0.3s						
RUSJ	**Misakicho**	**6.23**	**223**	*e*PN	**Pn**	**11 51 32.7**	**+0.2**
PET	**Petropavlovsk**	**6.34**	**46**	*e*P	**Pn**	**11 51 34.4**	**+0.9**
PET	**Petropavlovsk**	**6.34**	**46**	*e*P	**Pn**	**11 51 33.3**	**-0.2**
PET				AMB	AMB	11 51 35.3	
	comp=N,300nm,0.5s						
PET				*e*S	**S**	**11 52 47.2**	**-2.2**
PET				A	A	11 52 50.0	
	comp=N,200nm,0.6s						
PET				A	A	11 52 50.0	
	comp=N,150nm,0.6s						
PET	**Petropavlovsk**	**6.34**	**46**	*e*P	**Pn**	**11 51 33.3**	**-0.2**
PET				AMB	AMB	11 51 35.3	
	comp=N,300nm,0.5s						
PET				*e*S	**S**	**11 52 47.2**	**-2.2**
PET				A	A	11 52 50.0	
	comp=N,200nm,0.6s						
PET				A	A	11 52 50.0	
	comp=N,150nm,0.6s						
PET	**Petropavlovsk**	**6.34**	**46**	*e*PN	**Pn**	**11 51 33.7**	**+0.2**
PET				*e*S	**S**	**11 52 46.2**	**-3.2**
PET				pmax	pmax		
	comp=Z,302nm,0.5s						
PET				smax	smax		
	comp=N,214nm,0.6s						
PET				smax	smax		
	comp=E,147nm,0.4s						
PET	**Petropavlovsk**	**6.34**	**46**		**Pn**	**11 51 33.4**	**-0.2**
DALK	**Dalny**	**6.39**	**46**	*e*P	**Pn**	**11 51 33.7**	**-0.4**
DALK				*e*S	**S**	**11 52 46.0**	**-4.5**
DALK	**Dalny**	**6.39**	**46**	PN	**Pn**	**11 51 33.7**	**-0.4**
DALK				S	**S**	**11 52 46.0**	**-4.5**
GLVR	**Golovnino**	**6.41**	**219**	*i* P	**Pn**	**11 51 35.0**	**+0.5**
GLVR				AMB	AMB	11 51 36.0	
	comp=E,280nm,0.3s						
GLVR				*i* S	**S**	**11 52 48.0**	**-3.2**
GLVR				A	A	11 52 58.0	
	comp=E,880nm,1.0s						
GLVR				A	A	11 52 58.0	
	comp=E,980nm,1.0s						
GLVR	**Golovnino**	**6.41**	**219**	*i* P	**Pn**	**11 51 35.0**	**+0.5**
GLVR				AMB	AMB	11 51 36.0	
	comp=E,280nm,0.3s						
GLVR				*i* S	**S**	**11 52 48.0**	**-3.2**
GLVR				A	A	11 52 58.0	
	comp=E,880nm,1.0s						
GLVR				A	A	11 52 58.0	
	comp=E,980nm,1.0s						
GLVR	**Golovnino**	**6.41**	**219**	*d i*PN	**Pn**	**11 51 35.0**	**+0.5**
GLVR				*i* S	**S**	**11 52 48.0**	**-3.2**
GLVR				pmax	pmax		
	comp=Z,282nm,0.3s						
GLVR				smax	smax		
	comp=N,877nm,1.1s						
GLVR				smax	smax		
	comp=E,976nm,1.1s						
JRA	**Rausu**	**6.42**	**222**	P	**Pn**	**11 51 34.0**	**-0.7**
GNL	**Ganaly**	**6.48**	**39**	*e*P	**Pn**	**11 51 35.0**	**-0.3**
GNL	**Ganaly**	**6.48**	**39**	PN	**Pn**	**11 51 35.0**	**-0.3**
KOK	**Koryaka**	**6.50**	**44**	*i* P	**Pn**	**11 51 36.5**	**+0.9**
KOK	**Koryaka**	**6.50**	**44**	*e*P	**Pn**	**11 51 36.5**	**+0.9**
KOK	**Koryaka**	**6.50**	**44**	*e*P	**Pn**	**11 51 36.5**	**+0.9**
KOK	**Koryaka**	**6.50**	**44**	PN	**Pn**	**11 51 36.5**	**+0.9**
AVH	**Avacha**	**6.53**	**44**	*e*P	**Pn**	**11 51 36.9**	**+1.0**
AVH	**Avacha**	**6.53**	**44**	PN	**Pn**	**11 51 36.9**	**+1.0**
UGLR	**Uglovaya**	**6.54**	**45**	*e*P	**Pn**	**11 51 36.8**	**+0.8**
UGLR				*e*S	**S**	**11 52 50.7**	**-3.2**
UGLR	**Uglovaya**	**6.54**	**45**	PN	**Pn**	**11 51 36.8**	**+0.8**
UGLR				S	**S**	**11 52 50.7**	**-3.2**
KRX	**Arik**	**6.55**	**43**	*i* P	**Pn**	**11 51 36.7**	**+0.5**
KRX	**Arik**	**6.55**	**43**	PN	**Pn**	**11 51 36.7**	**+0.5**
SDLR	**Sedlovina**	**6.61**	**45**	*i* P	**Pn**	**11 51 37.0**	**+0.2**
SDLR	**Sedlovina**	**6.61**	**45**	PN	**Pn**	**11 51 37.0**	**+0.2**
NEM2	**Nemuro 2**	**6.63**	**216**	P	**Pn**	**11 51 33.8**	**-3.3**
NEM2				*e*S	S	11 52 47.3	-8.6
NMR	**Nemuro--Hokkai**	**6.63**	**216**	*i* P	**Pn**	**11 51 34.5**	**-2.7**
NMR	**Nemuro--Hokkai**	**6.63**	**216**	*i* P	**Pn**	**11 51 34.5**	**-2.7**
NMR	**Nemuro--Hokkai**	**6.63**	**216**	‖*i*PN	**Pn**	**11 51 33.8**	**-3.4**
NLC	**Nalytchevo**	**6.76**	**47**	*e*P	**Pn**	**11 51 36.8**	**-1.7**
NLC				*e*S	**S**	**11 52 50.8**	**-7.7**
NLC	**Nalytchevo**	**6.76**	**47**	PN	**Pn**	**11 51 36.8**	**-1.7**
JNK	**Nakash**	**6.88**	**223**	P	**Pn**	**11 51 38.8**	**-1.3**
JTKR	**Abashiri--Toko**	**6.97**	**228**	P	**Pn**	**11 51 41.6**	**+0.4**
JTKR				*e*S	**S**	**11 53 02.7**	**-0.6**
OKH	**Okha**	**6.98**	**316**	*e*P	**Pn**	**11 51 42.9**	**+1.8**
OKH	**Okha**	**6.98**	**316**	*e*P	**Pn**	**11 51 42.9**	**+1.8**
SPN	**Mys Shipunski**	**7.05**	**49**	*e*P	**Pn**	**11 51 40.6**	**-1.4**
SPN				*e*S	S	11 52 55.9	-9.0
SPN	**Mys Shipunski**	**7.05**	**49**	PN	**Pn**	**11 51 40.6**	**-1.4**
JWK2	**Keihoku**	**7.21**	**244**	P	**Pn**	**11 51 46.7**	**+2.6**
JMP	**Maruseppu**	**7.22**	**231**	P	**Pn**	**11 51 45.1**	**+0.9**
KII	**Karymskiy**	**7.36**	**42**	*e*P	**Pn**	**11 51 46.1**	**+0.4**
KII	**Karymskiy**	**7.36**	**42**	PN	**Pn**	**11 51 46.1**	**+0.4**
JAK	**Akkeshi**	**7.36**	**220**	P	**Pn**	**11 51 42.8**	**-3.1**
JAK				*e*S	S	11 53 03.7	-8.3
JAR	**Ashorobuto**	**7.54**	**225**	P	**Pn**	**11 51 46.8**	**-1.2**
JKA	**Kamikawa-asahi**	**7.54**	**234**	*e*P	**Pn**	**11 51 49.6**	**+1.6**
JKA	**Kamikawa-asahi**	**7.54**	**234**	*e*P	**Pn**	**11 51 49.6**	**+1.6**
JKA	**Kamikawa-asahi**	**7.54**	**234**		**Pn**	**11 51 49.4**	**+1.3**
ASAJ	**Asahikawa**	**7.54**	**234**	P	**Pn**	**11 51 49.5**	**+1.5**
	comp=E,10nm,0.3s,baz=59,slow=11,SNR=98						
ASAJ	**Asahikawa**	**7.54**	**234**	P	**Pn**	**11 51 49.4**	**+1.3**
ASAJ				*e*S	**S**	**11 53 15.7**	**-0.3**
JKK2	**Kamakawa 2**	**7.63**	**232**	P	**Pn**	**11 51 49.5**	**+0.4**
JRBN	**Rebuntou**	**7.66**	**247**	P	**Pn**	**11 51 50.5**	**+1.1**
JSS	**Shosan**	**7.77**	**239**	P	**Pn**	**11 51 53.7**	**+2.9**
JOB	**Onbets**	**7.81**	**223**	P	**Pn**	**11 51 49.3**	**-2.0**
JOB				*e*S	**S**	**11 53 14.7**	**-7.2**
NKL	**Nikolayevsk**	**7.87**	**307**	*e*P	**Pn**	**11 51 52.6**	**+0.8**
NKL				AMB	AMB	11 51 53.4	
	comp=E,40nm,0.7s						
NKL	**Nikolayevsk**	**7.87**	**307**	*e*P	**Pn**	**11 51 52.6**	**+0.8**
NKL				AMB	AMB	11 51 53.4	
	comp=E,40nm,0.7s						
JFR	**Furan**	**8.21**	**229**	P	**Pn**	**11 51 55.5**	**-0.6**
JCH	**Churui**	**8.26**	**224**	P	**Pn**	**11 51 53.9**	**-2.8**
JCH				*e*S	S	11 53 23.3	-8.4
KZV	**Kizimen**	**8.45**	**39**	*e*P	**Pn**	**11 52 00.1**	**+1.1**
KZV				*e*S	**S**	**11 53 32.9**	**-3.1**
KZV	**Kizimen**	**8.45**	**39**	PN	**Pn**	**11 52 00.1**	**+1.1**
KZV				S	**S**	**11 53 32.9**	**-3.1**
ESO	**Esso**	**8.47**	**30**	*e*P	**P**	**11 52 00.0**	**-3.1**
ESO	**Esso**	**8.47**	**30**	PN	**P**	**11 52 00.0**	**-3.1**
TUMR	**Tumrok**	**8.51**	**37**	*e*P	**Pn**	**11 52 00.4**	**+0.7**
TUMR	**Tumrok**	**8.51**	**37**	PN	**Pn**	**11 52 00.4**	**+0.7**
TUMD	**Tumrok D**	**8.56**	**38**	*e*P	**Pn**	**11 52 00.6**	**+0.5**
JBT2	**Biratori 2**	**8.61**	**229**	P	**Pn**	**11 51 59.4**	**-1.5**
JNBK	**Urakawa-nobuka**	**8.80**	**225**	P	**Pn**	**11 51 59.2**	**-4.0**
JNBK				*e*S	S	11 53 32.8	-11
ERM	**Erimo**	**8.82**	**222**	*d i*PN	**Pn**	**11 52 03.6**	**+0.1**
ERM				pmax	pmax		
	comp=Z,513nm,2.8s						
ERM	**Erimo**	**8.82**	**222**		**Pn**	**11 52 03.1**	**-0.5**
JEM	**Erimo**	**8.82**	**222**	*e*S	S	11 53 34.8	-10
KMNR	**Kamenistaya**	**8.89**	**35**	*i* P	**P**	**11 52 06.2**	**-1.8**
KMNR	**Kamenistaya**	**8.89**	**35**	PN	**P**	**11 52 06.2**	**-1.8**
JEW	**Eniwo**	**9.03**	**232**		**Pn**	**11 52 05.6**	**-0.4**
KPT	**Kopyto**	**9.04**	**34**	*e*P	**P**	**11 52 07.7**	**-2.0**
KPT	**Kopyto**	**9.04**	**34**	PN	**P**	**11 52 07.7**	**-2.0**
KIRR	**Kirishev**	**9.08**	**35**	*e*P	**P**	**11 52 07.6**	**-2.5**
KIRR	**Kirishev**	**9.08**	**35**	PN	**P**	**11 52 07.6**	**-2.5**
LGNR	**Loginova**	**9.31**	**35**	*i* P	**P**	**11 52 11.1**	**-1.7**
LGNR	**Loginova**	**9.31**	**35**	PN	**P**	**11 52 11.1**	**-1.7**
CIRR	**Tsirk**	**9.35**	**35**	*e*P	**P**	**11 52 10.9**	**-2.3**
CIRR	**Tsirk**	**9.35**	**35**	PN	**P**	**11 52 10.9**	**-2.3**
KRSR	**Krestovskiy**	**9.36**	**34**	*e*P	**P**	**11 52 10.6**	**-2.6**
KRSR	**Krestovskiy**	**9.36**	**34**	PN	**P**	**11 52 10.6**	**-2.6**
JNB	**Noboribetsu**	**9.50**	**232**	P	**Pn**	**11 52 10.3**	**-1.5**
BDR	**Baidarnaya**	**9.86**	**34**	*e*P	**P**	**11 52 16.6**	**-2.1**
BDR	**Baidarnaya**	**9.86**	**34**	PN	**P**	**11 52 16.6**	**-2.1**
SRKR	**Sorokina**	**9.91**	**34**	*e*P	**Pn**	**11 52 16.8**	**+0.3**
SRKR	**Sorokina**	**9.91**	**34**	PN	**Pn**	**11 52 16.8**	**+0.3**
JSH	**Shimam**	**9.91**	**235**	P	**Pn**	**11 52 15.9**	**-0.8**
JKB	**Kayabe**	**9.93**	**229**	P	**Pn**	**11 52 13.9**	**-3.0**
JKB				*e*S	S	11 53 57.5	-12
SMKR	**Semkarok**	**9.97**	**35**	*e*P	**P**	**11 52 19.2**	**-0.7**
SMKR	**Semkarok**	**9.97**	**35**	PN	**P**	**11 52 19.2**	**-0.7**
JYM2	**Yakumo 2**	**10.10**	**232**	P	**Pn**	**11 52 17.1**	**-1.9**
KBTR	**Krutoberegovo**	**10.25**	**40**	*e*P	**Pn**	**11 52 19.3**	**-1.3**
KBTR	**Krutoberegovo**	**10.25**	**40**	PN	**Pn**	**11 52 19.3**	**-1.3**
JSR	**Shiriuchi**	**10.50**	**230**	P	**Pn**	**11 52 20.9**	**-3.0**
TEY	**Ternei**	**10.63**	**254**	*e*P	**P**	**11 52 26.6**	**-0.7**
TEY				AMB	AMB	11 52 27.2	
	comp=Z,70nm,0.7s						
TEY	**Ternei**	**10.63**	**254**	*e*P	**P**	**11 52 26.6**	**-0.7**
TEY				AMB	AMB	11 52 27.2	
	comp=Z,70nm,0.7s						
TEY	**Ternei**	**10.63**	**254**	⇑*e*PN	**P**	**11 52 26.3**	**-1.0**
TEY				pmax	pmax		
	comp=E,60nm,0.7s						
TEY				pmax	pmax		
	comp=Z,70nm,0.6s						
JTM	**Tenmabayashi**	**10.75**	**225**	P	**Pn**	**11 52 23.1**	**-3.8**
JTM				*e*S	S	11 54 14.1	-14
MA2	**Magadan**	**10.76**	**359**	P	**Pn**	**11 52 25.9**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=186,slow=8.9,SNR=9.8						
MA2	**Magadan**	**10.76**	**359**	⇑*e*PN	**Pn**	**11 52 25.7**	**-1.0**
MA2				pmax	pmax		
	comp=Z,61nm,2.1s						
JANG	**Nango**	**10.88**	**222**	P	Pn	11 52 24.3	-4.1
JANG				*e*S	S	11 54 16.9	-14
BKI	**Bering**	**11.14**	**50**	*e*P	**Pn**	**11 52 31.2**	**-0.1**
BKI				*e*S	S	11 54 25.3	-11
BKI	**Bering**	**11.14**	**50**	PN	**Pn**	**11 52 31.2**	**-0.1**
EKMR	**Ekimchan**	**12.21**	**297**	*e*P	**P**	**11 52 45.5**	**+0.7**
EKMR				AMB	AMB	11 52 48.8	
	comp=Z,30nm,0.8s						
EKMR	**Ekimchan**	**12.21**	**297**	*e*P	**P**	**11 52 45.5**	**+0.7**
EKMR				AMB	AMB	11 52 48.8	
	comp=Z,30nm,0.8s						
JMM	**Marumori**	**13.28**	**218**	P	**P**	**11 52 56.4**	**-0.3**
USA0B	**Ussuriysk Arra**	**13.96**	**258**	P	**P**	**11 53 02.9**	**-1.3**
USA0B	**Ussuriysk Arra**	**13.96**	**258**	P	**P**	**11 53 02.9**	**-1.3**
USRK	**Ussuriysk Ar.**	**13.96**	**258**	P	**Pn**	**11 53 04.1**	**-1.0**
	baz=64,slow=13,SNR=15						
USRK	**Ussuriysk Ar.**	**13.

BILL **Bilibino** 20.70 16 *eP* P 11 54 16.3 +0.5
BILL **Bilibino** 20.70 16 *eP* P 11 54 16.3 +0.5
BILL pmax pmax
comp=Z,5.0nm,0.4s
GSTR **Great Sitkin T** 21.04 69 P P 11 54 19.7 +0.6
JTU **Tsushima** 21.52 236 P P 11 54 22.6 -1.1
JNU **Nakatsue** 21.81 231 P P 11 54 27.5 +1.1
comp=Z,13nm,0.5s,baz=347,slow=3.3,SNR=16
ATKA **Atka Island** 22.18 68 P P 11 54 29.5 +0.1
ATKA IAmb IAmb 11 54 32.3
comp=Z,25nm,1.1s
BOD **Bodaibo** 23.64 306 *eP* P 11 54 40.9 -1.7
BOD pmax pmax
comp=Z,5.0nm,1.5s
TIXI **Tiksi** 25.08 344⇓*eP* P 11 54 54.6 -0.8
TIA **Tai'an** 27.81 256 P P 11 55 20.3 +0.2
TIA pmax pmax
comp=Z,11nm,0.9s
ULN **Ulaanbaatar** 29.00 285⇓*eP* P 11 55 29.5 -1.1
ULN pmax pmax
comp=Z,6.0nm,1.7s
SONM **Songino Array** 29.43 285 P P 11 55 33.6 -0.8
comp=Z,0.6nm,0.3s,baz=71,slow=9.6,SNR=6.5
SONM pP pP 11 56 36.8 +1.9
comp=Z,0.9nm,0.9s,baz=70,slow=10,SNR=2.5
SONM **Songino Array** 29.43 285 P P 11 55 31.5 -2.8
TLY **Talaya** 30.07 294 *eP* P 11 55 40.1 +0.3
TLY **Talaya** 30.07 294 *eP* P 11 55 40.1 +0.3
TLY **Talaya** 30.07 294 *ceP* P 11 55 40.1 +0.3
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY **Talaya** 30.07 294 P P 11 55 40.2 +0.5
TTA **Tatalina** 31.79 44 P P 11 55 55.5 +0.8
TTA pmax pmax
comp=Z,7.0nm,0.8s
TTA **Tatalina** 31.79 44 P P 11 55 55.5 +0.8
CHIR **Chirikof Islan** 32.57 57 P P 11 56 02.2 +0.9
IMAR **Indian Mountai** 32.91 38 P P 11 56 05.1 +0.8
PPLA **Purkeypile** 33.54 44 P P 11 56 12.4 +2.5
PPLA IAmb IAmb 11 56 13.1
comp=Z,23nm,1.4s
OHAK **Old Harbor** 33.59 54 P P 11 56 11.1 +0.9
OHAK IAmb IAmb 11 56 11.4
comp=Z,11nm,0.8s
KDAK **Kodiak Island** 33.87 53 P P 11 56 13.1 +0.5
comp=Z,5.6nm,0.5s,baz=265,slow=0.5,SNR=14
KDAK **Kodiak Island** 33.87 53 P P 11 56 12.9 +0.3
KDAK pmax pmax
comp=Z,29nm,1.4s
KDAK **Kodiak Island** 33.87 53 P P 11 56 12.9 +0.3
KDAK IAmb IAmb 11 56 16.6
comp=Z,29nm,1.4s
BPAW **Bear Paw Mtn.** 34.04 42 P P 11 56 15.3 +1.3
KTH **Kantishna Hill** 34.09 43 P P 11 56 16.2 +1.7
KTH IAmb IAmb 11 56 17.2
comp=Z,15nm,0.8s
CNPM **China Poot** 34.30 50 P P 11 56 17.2 +0.9
TRF **Thorofare Moun** 34.38 43 IAmb IAmb 11 56 19.1
comp=Z,12nm,1.0s
COLD **Coldfoot** 34.40 36 P P 11 56 18.2 +1.3
XAN **Xi'an** 34.44 260 P P 11 56 17.8 0.0
XAN pmax pmax
comp=Z,8.0nm,1.5s
BRLK **Bradley Lake** 34.45 49 P P 11 56 18.1 +0.6
BRLK IAmb IAmb 11 56 34.0
comp=Z,16nm,1.2s
TOLK **Toolik Lake Re** 34.71 34 P P 11 56 20.7 +1.0
MCK **McKinley** 34.97 42 IAmb IAmb 11 56 23.9
comp=Z,11nm,0.8s
RND **Reindeer** 35.02 43 P P 11 56 23.0 +0.6
RND pmax pmax
comp=Z,13nm,1.0s
RND **Reindeer** 35.02 43 P P 11 56 23.0 +0.6
RND IAmb IAmb 11 56 24.6
comp=Z,13nm,1.0s
TPUB **Ta-pu** 35.05 234 P P 11 56 23.7 +0.7
TPUB IAmb IAmb 11 56 24.6
comp=Z,18nm,0.9s
PMR **Palmer** 35.07 46 P P 11 56 23.0 +0.3
PMR pmax pmax
comp=Z,7.0nm,1.1s
PMR **Palmer** 35.07 46 P P 11 56 23.0 +0.3
SEW **Seward** 35.11 49 P P 11 56 24.4 +1.4
SEW IAmb IAmb 11 56 34.2
comp=Z,18nm,1.2s
GHO **Glory Hole Cre** 35.15 46 IAmb IAmb 11 56 25.4
comp=Z,10nm,0.5s
MDM **Murphy Dome** 35.20 40 P P 11 56 24.7 +0.9
WRH **Wood River Hil** 35.29 41 P P 11 56 25.9 +1.4
WRH IAmb IAmb 11 56 26.9
comp=Z,9.2nm,0.8s
COLA **College** 35.37 40 *c iP* P 11 56 26.6 +1.4
COLA pmax pmax
comp=Z,15nm,0.8s
COLA **College** 35.37 40 P P 11 56 26.9 +1.7
CCB **Clear Creek Bu** 35.40 41 P P 11 56 26.0 +0.5
CCB IAmb IAmb 11 56 27.5
comp=Z,13nm,1.4s
KNK **Knik Glacier** 35.41 46 P P 11 56 26.6 +0.9
DHY **Denali Highway** 35.72 43 P P 11 56 29.2 +0.8
DHY IAmb IAmb 11 56 30.1
comp=Z,11nm,0.6s
HDA **Harding Lake** 35.79 41 P P 11 56 29.1 +0.4
ILAR **Eielson Array** 35.79 40 P P 11 56 29.7 +1.0
comp=Z,6.2nm,0.9s,baz=271,slow=8.7,SNR=53
ILAR pP pP 11 57 33.3 +2.3
comp=Z,1.0nm,0.9s,baz=272,slow=11,SNR=2.8
ILAR PcP PcP 11 58 47.6 -0.7
comp=Z,0.3nm,0.5s,baz=279,slow=3.2,SNR=2.9
ILAR **Eielson Array** 35.79 40 P P 11 56 29.9 +1.2
SCM **Sheep Creek Mo** 35.89 45 P P 11 56 31.2 +1.4
SCM pmax pmax
comp=Z,28nm,1.1s
SCM **Sheep Creek Mo** 35.89 45 P P 11 56 31.2 +1.4
FYU **Fort Yukon** 36.36 37 P P 11 56 35.3 +1.8
FYU IAmb IAmb 11 56 35.9
comp=Z,9.2nm,0.7s
M24K **Tolsona, Glenn** 36.39 45 P P 11 56 35.6 +1.7
M24K IAmb IAmb 11 56 36.6
comp=Z,20nm,1.1s
FID **Port Fidalgo** 36.46 47 P P 11 56 35.3 +0.8
FID IAmb IAmb 11 56 35.8
comp=Z,19nm,1.2s
HIN **Hinchinbrook I** 36.52 48 P P 11 56 35.0 0.0
BMAR **Burnt Mountain** 36.57 36 P P 11 56 37.3 +1.9
KLU **Klutina** 36.61 46 IAmb IAmb 11 56 38.6
comp=Z,11nm,0.7s
RIDG **Independent Ri** 36.77 42 P P 11 56 37.6 +0.5
RIDG IAmb IAmb 11 56 38.5
comp=Z,22nm,1.4s
EYAK **Cordova Ski Ar** 36.85 47 P P 11 56 39.5 +1.8
EYAK IAmb IAmb 11 56 40.6
comp=Z,12nm,1.0s
DOT **Dot Lake** 37.13 42 P P 11 56 40.5 +0.4
GTA **Gaotai** 37.38 275 ⇑P P 11 56 43.0 +0.4
GTA pmax pmax
comp=Z,5.0nm,0.9s
MENT **Mentasta** 37.39 43 P P 11 56 43.8 +1.5
MENT IAmb IAmb 11 56 44.7
comp=Z,6.7nm,0.5s
RAGM **Ragged Mountai** 37.41 47 P P 11 56 44.6 +2.2
SUCK **Suckling Hills** 37.91 48 P P 11 56 49.0 +2.4
SUCK IAmb IAmb 11 57 00.6
comp=Z,28nm,1.2s
MCARA **McCarthy VSAT** 38.00 46 IAmb IAmb 11 56 58.0
comp=Z,7.8nm,0.6s
EGAK **Eagle** 38.23 40 P P 11 56 49.8 +0.8
EGAK IAmb IAmb 11 56 50.6
comp=Z,6.9nm,0.6s
BCAR **Beaver Creek A** 38.24 43 P P 11 56 50.9 +1.6
BALM **Baldy** 38.39 46 P P 11 56 52.6 +1.9
BALM IAmb IAmb 11 56 53.4
comp=Z,14nm,0.9s
ISLE **Juniper Island** 38.49 47 P P 11 56 52.9 +1.4
ISLE IAmb IAmb 11 56 53.7
comp=Z,9.3nm,0.6s
BARN **Barnard Glacie** 38.71 46 P P 11 56 55.3 +2.0
BARN IAmb IAmb 11 56 56.3
comp=Z,14nm,0.7s
YAH **Yahtse** 38.83 47 P P 11 56 56.5 +2.1
YAH IAmb IAmb 11 56 57.4
comp=Z,20nm,0.8s
CTGM **Chitina Glacie** 38.89 46 IAmb IAmb 11 56 57.6
comp=Z,18nm,0.8s
DAWY **Dawson** 39.10 41 P P 11 56 57.8 +1.4

EPYK **Eagle Plains** 39.77 37 P P 11 57 02.9 +1.0
ZALV **Zalesovo Beam** 40.32 303 P P 11 57 05.0 -1.4
comp=Z,1.8nm,0.5s,baz=76,slow=7.9,SNR=6.5
ZALV PcP PcP 11 59 02.7 0.0
comp=Z,1.9nm,0.3s,baz=96,slow=2.3,SNR=7.5
DGZ **Jazzator, Alta** 40.44 296 ⇓*iP* P 11 57 07.8 +0.1
DGZ pmax pmax
comp=Z,5.0nm,1.1s
INK **Inuvik** 40.63 34 P P 11 57 09.8 +1.1
comp=Z,2.4nm,0.3s,baz=287,slow=7.8,SNR=54
INK **Inuvik** 40.63 34 P P 11 57 09.6 +1.0
INK pmax pmax
comp=Z,6.0nm,1.1s
INK **Inuvik** 40.63 34 P P 11 57 09.6 +1.0
HYT **Haines Junctio** 40.73 45 P P 11 57 11.3 +1.5
GYA **Guiyang** 40.94 253 *eP* P 11 57 12.8 +0.9
GYA pmax pmax
comp=Z,12nm,0.6s
WHY **Whitehorse** 42.01 45 P P 11 57 22.3 +2.2
MK31 **Makanchi Array** 44.82 295 P P 11 57 41.6 -0.8
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 **Makanchi Array** 44.82 295 P P 11 57 41.6 -0.8
MKAR **Makanchi Array** 44.82 295 P P 11 57 41.6 -0.8
comp=Z,5.2nm,0.7s,baz=64,slow=7.8,SNR=40
MKAR PcP PcP 11 59 18.0 0.0
comp=Z,0.9nm,0.4s,baz=70,slow=4.4,SNR=9.2
MKAR ScP ScP 12 02 38.5 -0.2
comp=Z,0.4nm,0.7s,baz=49,slow=3.7,SNR=3.6
MKAR **Makanchi Array** 44.82 295 *eP* P 11 57 41.7 -0.7
MKAR **Makanchi Array** 44.82 295 *eP* P 11 57 41.7 -0.7
MKAR **Makanchi Array** 44.82 295 P P 11 57 41.7 -0.7
MKAR **Makanchi Array** 44.82 295 P P 11 57 41.7 -0.7
MAKZ **Makanchi** 45.00 295 P P 11 57 42.0 -1.8
KURK **Kurchatov** 45.11 301 *eP* P 11 57 43.8 -0.8
KURK **Kurchatov** 45.11 301 *eP* P 11 57 43.8 -0.8
KURK **Kurchatov** 45.11 301 ⇓*iP* P 11 57 43.8 -0.8
KURK pmax pmax
comp=Z,18nm,0.8s
DLBC **Dease Lake** 45.12 47 P P 11 57 47.1 +2.4
KURBB **Kurchatov Arra** 45.20 301 P P 11 57 43.0 -2.3
DIB **Dawson Inlet,** 46.12 54 P P 11 57 55.0 +2.6
BRVK **Borovoye** 48.55 307 *eP* P 11 58 10.0 -0.9
BRVK **Borovoye** 48.55 307 *eP* P 11 58 10.0 -0.9
BRVK **Borovoye** 48.55 307 *deP* P 11 58 10.0 -0.9
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK **Borovoye** 48.55 307 P P 11 58 10.4 -0.5
BRVK IAmb IAmb 11 58 11.1
comp=Z,8.5nm,0.6s
YKA **Yellowknife Ar** 50.06 37 P P 11 58 23.1 +1.0
comp=Z,3.6nm,0.8s,baz=305,slow=6.2,SNR=5.9
CHTO **Chiang Mai** 51.36 253 P P 11 58 32.7 +0.3
CHTO pmax pmax
comp=Z,5.0nm,0.5s
CHTO **Chiang Mai** 51.36 253 P P 11 58 32.7 +0.3
CHTO IAmb IAmb 11 58 33.2
comp=Z,5.2nm,0.5s
CMAR **Chiang Mai Arr** 51.63 253 P P 11 58 35.1 +0.8
comp=Z,1.4nm,0.5s,baz=30,slow=6.8,SNR=10
CMAR PcP pwP 11 59 44.4 +0.9
comp=Z,0.8nm,0.6s,baz=18,slow=3.5,SNR=6.1
CMAR **Chiang Mai Arr** 51.63 253 P P 11 58 34.5 +0.2
CMAR **Chiang Mai Arr** 51.63 253 P P 11 58 34.5 +0.2
KKAR **Karatay Array** 53.84 296 P P 11 58 48.4 -1.7
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR **Karatay Array** 53.84 296 P P 11 58 49.1 -1.0
KKAR **Karatay Array** 53.84 296 P P 11 58 48.4 -1.7
ABKAR **Akbulak array** 56.07 308 P P 11 59 04.5 -1.2
ABKAR **Akbulak array** 56.07 308 IAmb IAmb 11 59 05.9
comp=Z,5.0nm,0.6s
H04A **Detroit Lake** 56.41 59 P P 11 59 10.7 +2.4
H04A IAmb IAmb 11 59 12.1
comp=Z,20nm,1.1s
GAR **Garm** 56.44 293 IAmb IAmb 11 59 09.1
comp=Z,12nm,0.6s
HUMO **Hull Mountain** 57.25 61 P P 11 59 16.7 +2.5
HUMO IAmb IAmb 11 59 21.0
comp=Z,14nm,1.4s
CHGR **Chuyangaron** 57.36 293 P P 11 59 14.4 -0.7
KHMM **Horse Mountain** 57.88 63 P P 11 59 20.7 +2.0
KHMM IAmb IAmb 11 59 28.9
comp=Z,22nm,1.3s
YBH **Yreka Blue Hor** 57.94 62 P P 11 59 21.6 +2.6
YBH pmax pmax
comp=Z,3.0nm,0.7s
YBH **Yreka Blue Hor** 57.94 62 P P 11 59 21.6 +2.6
KMRM **Mail Ridge** 58.30 64 P P 11 59 24.4 +2.9
K05A **Summer Lake** 58.36 60 P P 11 59 24.7 +2.7
K05A IAmb IAmb 11 59 25.9
comp=Z,13nm,1.0s
JTMT **Jette** 58.79 52 P P 11 59 27.1 +2.3
MOD **Modoc Plateau** 59.22 60 IAmb IAmb 11 59 30.9
comp=Z,5.2nm,0.7s
MSO **Missoula** 59.56 53 P P 11 59 31.8 +1.7
MSO IAmb IAmb 11 59 32.6
comp=Z,6.8nm,0.8s
PLID **Pearl Lake** 59.58 55 IAmb IAmb 11 59 33.0
comp=Z,12nm,0.8s
HRY **Holter Researc** 60.73 52 P P 11 59 40.1 +2.1
LRM **Limekiln Ridge** 60.99 53 P P 11 59 41.7 +1.8
HLID **Hailey** 61.44 56 P P 11 59 45.2 +2.4
PNTR **Pine Nut** 61.45 62 IAmb IAmb 11 59 46.2
comp=Z,7.9nm,0.7s
FIA1 **FINESS Array S** 61.57 333 P P 11 59 43.2 +0.1
FINES **FINESS Array B** 61.57 333 P P 11 59 42.0 -1.1
comp=Z,1.8nm,0.3s,baz=41,slow=7.6,SNR=11
BOZ **Bozeman (W)** 61.58 52 IAmb IAmb 11 59 46.4
comp=Z,6.6nm,0.8s
CMB **Columbia Colle** 61.69 64 P P 11 59 45.9 +1.5
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB **Columbia Colle** 61.69 64 P P 11 59 45.9 +1.5
YERR **Yerington** 61.73 62 P P 11 59 46.4 +1.6
YERR IAmb IAmb 11 59 47.8
comp=Z,14nm,1.2s
WAKR **Walker** 61.94 63 IAmb IAmb 11 59 49.4
comp=Z,6.0nm,0.7s
KVN **Kaiserville** 62.35 62 P P 11 59 50.7 +1.8
KVN pmax pmax
comp=Z,8.0nm,0.7s
KVN **Kaiserville** 62.35 62 P P 11 59 50.7 +1.8
KVN IAmb IAmb 11 59 52.0
comp=Z,7.6nm,0.7s
YHB **Horse Butte** 62.37 53 P P 11 59 50.8 +1.8
RYN **Ryan** 62.39 62 P P 11 59 51.0 +1.9
RYN IAmb IAmb 11 59 52.1
comp=Z,4.9nm,0.7s
YHH **Holmes Hill** 62.53 53 P P 11 59 51.6 +1.5
NVAR **Mina Array Bea** 62.65 62 P P 11 59 53.0 +2.1
comp=Z,4.5nm,0.7s,baz=294,slow=7.0,SNR=27
NVAR **Mina Array Bea** 62.65 62 P P 11 59 52.9 +2.0
YNE **Yellowstone No** 62.82 52 P P 11 59 53.9 +1.9
ELK **Elko** 62.86 58 P P 11 59 54.5 +2.2
ELK pmax pmax
comp=Z,2.0nm,0.6s
ELK **Elko** 62.86 58 P P 11 59 54.5 +2.2
COEN **Coen** 62.91 189 P P 11 59 54.8 +2.3
COEN IAmb IAmb 12 00 09.8
comp=Z,9.9nm,1.2s
FXWY **Fox Creek** 63.21 54 P P 11 59 56.7 +2.1
DGMT **Dagmar** 63.33 46 P P 11 59 56.3 +1.4
TPAW **Teton Pass** 63.35 54 P P 11 59 57.6 +2.1
TPAW IAmb IAmb 11 59 59.1
comp=Z,5.6nm,0.8s
REDW **Red Top Meadow** 63.49 54 IAmb IAmb 11 59 59.9
comp=Z,12nm,1.4s
LAO **LASA Array** 63.59 49 P P 11 59 58.1 +1.4
LAO IAmb IAmb 11 59 59.1
comp=Z,6.6nm,0.8s
MTN **Manton Dam** 63.91 202 P P 12 00 00.4 +1.4
MTN IAmb IAmb 12 00 18.6
comp=Z,9.6nm,1.1s
SPUT **South Promonto** 64.03 56 P P 12 00 01.9 +2.1
R11A **Troy Canyon, C** 64.28 61 P P 12 00 02.5 +1.1
HWUT **Hardware Ranch** 64.31 56 P P 12 00 03.5 +1.9
HWUT IAmb IAmb 12 00 04.2
comp=Z,5.0nm,0.6s
DUG **Dugway, Tooele** 64.59 57 P P 12 00 05.1 +1.7
DUG pmax pmax
comp=Z,7.0nm,0.8s
DUG **Dugway, Tooele** 64.59 57 P P 12 00 05.1 +1.7
DUG IAmb IAmb 12 00 06.5
comp=Z,6.7nm,0.8s
BW06 **Boulder Array** 64.59 54 P P 12 00 04.5 +1.0
BW06 IAmb IAmb 12 00 06.0
comp=Z,5.7nm,1.0s
PD31 **Pinedale Array** 64.59 54 P P 12 00 04.6 +1.1
PD31 IAmb IAmb 12 00 05.9
comp=Z,5.6nm,1.1s
PDAR **Pinedale Array** 64.59 54 P P 12 00 05.0 +1.5
comp=Z,3.1nm,0.7s,baz=307,slow=1.8,SNR=27
PDAR pP pP 12 01 18.1 +4.3
comp=Z,0.6nm,0.7s,baz=321,slow=2.1,SNR=3.0
PDAR **Pinedale Array** 64.59 54 P P 12 00 05.2 +1.7
TPNV **Topopah Spring** 64.85 62 IAmb IAmb 12 00 07.9
comp=Z,6.1nm,0.7s
PRN **Pahroc Range** 65.23 61 P P 12 00 09.2 +1.7
PRN IAmb IAmb 12 00 10.1
comp=Z,3.6nm,0.6s
MPU **Maple Canyon** 65.37 57 P P 12 00 10.5 +2.1
NC405 **NORSAR Array S** 65.63 340 P P 12 00 09.8 +0.3
GSC **Goldstone, Bar** 65.65 64 IAmb IAmb 12 00 20.0
comp=Z,7.5nm,1.4s
NB2 **NORSAR Subarra** 65.81 340 P P 12 00 10.4 -0.3
comp=Z,1.2nm,0.6s,baz=27,slow=6.5
NOA **NORSAR Array B** 65.81 340 P P 12 00 10.8 +0.1
comp=Z,1.2nm,0.6s,baz=29,slow=6.6,SNR=7.6
TMUT **Trail Mountain** 66.10 57 P P 12 00 14.9 +1.6
MSU **Marysvale** 66.11 58 P P 12 00 15.2 +2.0
MSU **Marysvale** 66.11 58 P P 12 00 15.2 +2.0
RDMU **Red Mountain** 66.11 55 P P 12 00 15.0 +1.8
SRU **San Rafael Swe** 66.61 57 P P 12 00 17.7 +1.4
SRU pmax pmax
comp=Z,11nm,0.8s
SRU **San Rafael Swe** 66.61 57 P P 12 00 17.7 +1.4
PKCU **Pink Cliffs** 66.78 59 P P 12 00 19.6 +2.1
U15A **North Rim** 67.50 60 P P 12 00 23.7 +1.7
U15A IAmb IAmb 12 00 25.2
comp=Z,5.7nm,0.8s
PV21 **Cone Mtn., Par** 67.86 56 IAmb IAmb 12 00 26.7
comp=Z,7.5nm,0.7s
PV23 **Carpenter Ridg** 67.92 57 IAmb IAmb 12 00 27.7
comp=Z,9.2nm,1.0s
PV14 **Lion Creek, Pa** 67.96 57 P P 12 00 24.8 0.0
PV14 IAmb IAmb 12 00 27.3
comp=Z,6.3nm,0.8s
PV22 **Blue Mesa, Par** 67.98 56 IAmb IAmb 12 00 28.6
comp=Z,6.0nm,0.8s
PV04 **Paradox Valley** 68.02 57 P P 12 00 26.1 +1.1
PV04 IAmb IAmb 12 00 27.8
comp=Z,8.1nm,0.8s
PV20 **West Nyswonger** 68.02 57 IAmb IAmb 12 00 27.6
comp=Z,7.8nm,0.8s
PV19 **Morning Glory** 68.03 57 P P 12 00 26.9 +1.7
PV19 IAmb IAmb 12 00 27.7
comp=Z,7.8nm,0.9s
PV17 **East Wray Mesa** 68.06 57 P P 12 00 27.1 +1.7
PV16 **Nyswonger Mesa** 68.07 57 P P 12 00 26.8 +1.4
PV16 IAmb IAmb 12 00 28.0
comp=Z,9.1nm,1.1s
PV11 **David Mesa, Pa** 68.10 57 IAmb IAmb 12 00 28.8
comp=Z,8.8nm,0.9s
PV18 **Skein Mesa, Pa** 68.12 57 IAmb IAmb 12 00 28.3
comp=Z,7.7nm,1.0s
PV12 **Saucer Basin,** 68.12 57 IAmb IAmb 12 00 39.0
comp=Z,4.5nm,0.9s
PV03 **Paradox Valley** 68.14 57 IAmb IAmb 12 00 29.0
comp=Z,11nm,1.2s
B35A **Bob, Littlefor** 68.16 41 P P 12 00 25.6 +0.1
B35A IAmb IAmb 12 00 26.5
comp=Z,5.5nm,0.7s
PV13 **Radium Mtn., P** 68.23 57 P P 12 00 28.0 +1.5
KBZ **Khabaz** 68.45 312 P P 12 00 25.8 -1.5
comp=Z,1.2nm,0.4s,baz=65,slow=4.4,SNR=4.6
ESJX **Sierra Juarez** 68.45 66 P P 12 00 28.9 +1.1
AKASG **Malin Array Be** 69.06 325 P P 12 00 29.1 -1.8
comp=Z,2.5nm,0.6s,baz=36,slow=6.1,SNR=7.2
MVCO **Mesa Verde** 69.08 57 P P 12 00 33.1 +1.4
MVCO IAmb IAmb 12 00 34.2
comp=Z,6.4nm,0.8s
X16A **Lo Mia Camp, P** 69.41 61 IAmb IAmb 12 00 36.8
comp=Z,6.4nm,0.8s
EYMN **Ely** 69.43 40 P P 12 00 33.4 +0.1
S22A **4UR Ranch, Cre** 69.62 56 IAmb IAmb 12 00 38.1
comp=Z,4.2nm,0.9s
WB0 **Warramunga Arr** 69.91 197 P P 12 00 37.9 +1.5
WB0 IAmb IAmb 12 00 38.5
comp=Z,3.9nm,0.8s
WR0 **Warramunga Arr** 70.07 197 P P 12 00 38.3 +0.9
WR0 IAmb IAmb 12 00 39.3
comp=Z,7.2nm,1.1s
WRAB **Tennant Creek** 70.08 197⇓*eP* P 12 00 38.0 +0.6
WRAB pmax pmax
comp=Z,4.0nm,0.8s
WB2 **Warramunga Arr** 70.09 197 P P 12 00 37.5 0.0
WB2 IAmb IAmb 12 00 39.2
comp=Z,3.9nm,0.8s
WRA **Warramunga Arr** 70.09 197 P P 12 00 38.5 +1.0
comp=Z,3.2nm,0.8s,baz=12,slow=6.1,SNR=21
WRA **Warramunga Arr** 70.09 197 P P 12 00 37.5 0.0
WRA **Warramunga Arr** 70.09 197 P P 12 00 37.5 0.0
SOC **Sochi** 70.09 314 *eP* P 12 00 37.7 +0.3
SOC *e**PP pP 12 01 49.6 +0.5
SOC *e* 12 03 16.9
SOC *e*PPP PPP 12 05 07.4
SOC *e*S S 12 09 24.2 +2.9
SOC *e* 12 10 10.4
SOC *e*SSS SSS 12 17 14.8
FITZ **Fitzroy Crossi** 70.40 206 P P 12 00 40.8 +1.4
ANMO **Albuquerque** 71.86 58 ⇑*iP* P 12 00 50.2 +1.9
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO **Albuquerque** 71.86 58 P P 12 00 50.3 +1.9
BURAR **Bucovina Array** 73.10 325 P P 12 00 55.8 +0.5
AS31 **Alice Springs** 73.80 196 P P 12 01 01.4 +2.0
ASAR **Alice Springs** 73.80 196 P P 12 01 01.5 +2.1
comp=Z,1.5nm,0.4s,baz=8.8,slow=5.5,SNR=85
ASAR pP pwP 12 02 16.4 +0.3
comp=Z,0.5nm,0.9s,baz=9.0,slow=5.8,SNR=2.3
ASAR **Alice Springs** 73.80 196 P P 12 01 00.8 +1.5
AMTX **Amarillo** 74.53 55 IAmb IAmb 12 01 06.0
comp=Z,7.7nm,0.9s
MNTX **Cornudas Mount** 74.87 59 P P 12 01 07.3 +1.7
MNTX IAmb IAmb 12 01 08.2
comp=Z,4.3nm,0.8s
BRTR **Keskin Array B** 75.95 315 P P 12 01 11.4 -0.3
comp=Z,0.5nm,0.7s,baz=63,slow=8.6,SNR=4.2
TRQ **Mont Tremblant** 77.31 31 P P 12 01 18.4 -0.6
STU **Stuttgart** 77.36 335 P P 12 01 15.8 -3.4
STU pmax pmax
comp=Z,50nm,0.8s
STU **Stuttgart** 77.36 335 P P 12 01 15.8 -3.4
TXAR **Lajitas Array** 77.61 60 P P 12 01 22.9 +1.8
comp=Z,7.7nm,0.7s,baz=295,slow=4.5,SNR=86
TXAR **Lajitas Array** 77.61 60 P P 12 01 22.5 +1.4
TXAR **Lajitas Array** 77.61 60 P P 12 01 22.5 +1.4
X40A **Basin Creek Fa** 79.43 49 P P 12 01 29.4 -1.2
PLCA **Paso Flores** 149.65 90 PKPbc PKiKP 12 09 12.4 +0.5
comp=Z,5.0nm,0.7s,baz=282,slow=3.4,SNR=16

IDC 25 12:05:01.4±1.7, 2.025×139.32E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/32, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=18.9km s-min=15.1km az=167.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	1.47	109	Pg	Pn	12 05 29.2	0.0
	2.2nm,0.3s,baz=306,slow=18,SNR=18						
JAY				Lg	Lg	12 05 47.5	
	13nm,0.3s,baz=306,slow=23,SNR=13						
WRA	**Warramunga Arr**	18.46	195	P	P	12 09 19.4	+0.5
	0.1nm,0.3s,baz=16,slow=12,SNR=2.1						
WRA				S	Sn	12 12 47.4	+1.4
	0.0nm,0.3s,baz=43,slow=9.2,SNR=1.2						
ASAR	**Alice Springs**	22.15	193	P	P	12 09 58.5	-0.5
	0.3nm,0.5s,baz=24,slow=10,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	33.78	52	T	T	12 47 26.9	
	baz=235,slow=76						
H11S2	**WAKE ISLAND Hy**	33.79	52	T	T	12 47 30.2	
	baz=235,slow=76						
H11S1	**WAKE ISLAND Hy**	33.80	52	T	T	12 47 29.8	
	baz=235,slow=76						
H11N1	**WAKE ISLAND Hy**	34.63	50	T	T	12 48 33.2	
	baz=236,slow=74						
H11N2	**WAKE ISLAND Hy**	34.64	50	T	T	12 48 32.3	

baz=236,slow=74
H11N3 **WAKE ISLAND Hy** 34.65 50 T T 12 48 32.5
baz=236
MKAR **Makanchi Array** 69.62 322 P P 12 16 12.3 -0.4
0.2nm,0.5s,baz=119,slow=9.8,SNR=2.7

KRSC 25 12:22:10.3±1.8, 49°.55N×158°.58E, h30km±48km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.95**	**307**	*e*P	Pn	12 22 42.1	+0.8
SKR				*e*S	Sn	12 23 06.5	+1.8
PAU	**Pauzhetka**	**2.23**	**330**	*e*S	Sb	12 23 16.4	-0.6
KDTR	**Khodutka, Kamc**	**2.29**	**352**	*e*P	Pb	12 22 48.9	-2.0
KDTR				*e*S	Sb	12 23 16.7	-2.0
ASAK	**Asacha**	**2.87**	**352**	*e*P	Pb	12 22 57.8	-3.1
ASAK				*e*S	Sn	12 23 31.4	+3.7
RUS	**Russkaya**	**2.89**	**359**	P	Pn	12 22 56.0	+1.8
RUS				*e*S	Sn	12 23 29.7	+1.7
MTVR	**Mutnovka**	**2.95**	**355**	*e*S	Sb	12 23 34.5	-3.4
MIPR	**Malaya Ipel'ka**	**2.97**	**338**	P	Pn	12 22 58.7	+3.4
GRL	**Gorelyy**	**3.03**	**354**	*e*P	Pn	12 22 59.8	+3.6
GRL				*e*S	Sb	12 23 36.0	-4.1
KRMR	**Karymshinskiy**	**3.30**	**355**	*e*S	Sb	12 23 43.6	-4.2
PET	**Petropavlovsk**	**3.48**	**1**	*e*P	Pn	12 23 06.1	+3.7
PET				*e*S	Sn	12 23 46.9	+4.4
DALK	**Dalny**	**3.49**	**2**	*e*P	Pn	12 23 06.0	+3.5
DALK				*e*S	Sn	12 23 46.3	+3.5
SPN	**Mys Shipunski**	**3.67**	**14**	*e*P	Pn	12 23 08.6	+3.7
SPN				*e*S	Sn	12 23 51.5	+4.3
AVH	**Avacha**	**3.73**	**1**	*e*P	Pb	12 23 12.1	-3.3
SDLR	**Sedlovina**	**3.74**	**3**	*e*P	Pn	12 23 09.5	+3.4
KOK	**Koryaka**	**3.75**	**1**	*e*P	Pn	12 23 10.7	+4.5
KRX	**Arik**	**3.82**	**1**	*e*P	Pn	12 23 10.8	+3.7
KRX				*e*S	Sn	12 23 56.2	+5.1
GNL	**Ganaly**	**4.18**	**355**	*e*P	Pn	12 23 17.1	+5.1
TUMR	**Tumrok**	**5.83**	**9**	P	Pn	12 23 39.7	+5.0

*THE **25** 12:23:18.4, 39°.36N×18°.62E, h9km±1km, ML3.6/9, Error ellipse: s-maj=1.9km s-min=0.9km az=309.0*
*BEO **25** 12:23:19.3±1.7, 39°.10N×18°.77E, h26km±1km, ML3.6/3*
*PDG **25** 12:23:20.0±0.2, 39°.37N×18°.84E, h10km±1km, ML3.5/11, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0*
*ROM **25** 12:23:21.1±0.5, 39°.13N±0°.03×18°.71E±0°.05, h5km±4km, ML3.4/3, Error ellipse: s-maj=3.7km s-min=3.4km az=76.0, hypocenter*

ISC 25 12:23:20.4±1.1, 39°.31N±0°.03×18°.80E±0°.02, h11km±9km, n74, σ1936/109, 6C-5D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.87**	**62**	P	**Pg**	**12 23 36.0**	**-1.2**
KEK				S	**Sn**	**12 23 51.5**	**+0.2**
2μm,0.5s							
SRN	**Sarande**	**1.09**	**58**	P	**Pg**	**12 23 40.4**	**-1.0**
SRN				S	**Sn**	**12 23 57.9**	**+1.3**
1μm,0.3s							
IGT	**Igoumenitsa**	**1.21**	**79**	P	**Pn**	**12 23 42.0**	**-1.2**
IGT				S	**Sn**	**12 24 01.1**	**+1.5**
1μm,0.8s							
IGT	**Igoumenitsa**	**1.21**	**79**	*e*Pg	**Pn**	**12 23 42.8**	**-0.4**
IGT				*e*Sg	**Sg**	**12 23 59.4**	**+0.1**
LADO	**San Nicola del**	**1.41**	**270**	P	**Pg**	**12 23 47.1**	**-0.4**
LADO				S	**Sg**	**12 24 07.2**	**+1.3**
DRAG	**Dragano-Lefkad**	**1.52**	**114**	P	**Pn**	**12 23 47.2**	**-0.2**
DRAG				S	**Sg**	**12 24 09.8**	**+0.7**
4μm,0.5s							
LKD2	**Lefkada island**	**1.54**	**109**	P	**Pn**	**12 23 47.7**	**0.0**
LKD2				S	**Sb**	**12 24 09.6**	**+1.3**
1μm,0.5s							
PIPA	**Pietrapaola**	**1.55**	**277**	P	**Pg**	**12 23 48.8**	**-1.3**
PIPA				S	**Sg**	**12 24 09.7**	**-0.4**
PIPA				AML	AML		
comp=E,520μm,0.5s							
PIPA				AML	AML		
comp=N,568μm,1.0s							
PIPA				AML	AML		
comp=E,532μm,0.5s							
PIPA				AML	AML		
comp=N,498μm,0.9s							
PIPA				AML	AML		
comp=N,810μm,0.6s							
PIPA				AML	AML		
comp=E,1115μm,0.5s							
PIPA				AML	AML		
comp=N,837μm,0.7s							
PIPA				AML	AML		
comp=E,1170μm,0.6s							
TIP	**Timpagrande**	**1.59**	**266**	P	**Pb**	**12 23 48.9**	**-0.9**
TIP				S	**Sn**	**12 24 08.8**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.59**	**111**	P	**Pn**	**12 23 48.2**	**-0.2**
NYDR				S	**Sb**	**12 24 10.9**	**+1.0**
comp=E,1μm,0.5s							
EVGI	**Lefkada island**	**1.60**	**115**	P	**Pn**	**12 23 48.4**	**-0.2**
FSK	**Fiskardo**	**1.61**	**121**	P	**Pn**	**12 23 48.3**	**-0.5**
FSK				S	**Sb**	**12 24 11.8**	**+1.3**
comp=E,1μm,0.5s							
SERS	**Sersale**	**1.66**	**261**	P	**Pb**	**12 23 50.1**	**-1.0**
TAR1	**Taranto**	**1.69**	**317**	*e*Pn	**Pb**	**12 23 50.3**	**-1.1**
TAR1				Sn	**Sg**	**12 24 19.2**	**+4.6**
CGL1	**Ceglie Messapi**	**1.69**	**323**	*e*Pn	**Pb**	**12 23 50.0**	**-1.5**
CELI	**Celico**	**1.78**	**274**	P	**Pb**	**12 23 51.9**	**-1.1**
CELI				S	**Sb**	**12 24 14.2**	**-1.2**
CELI				AML	AML		
comp=E,379μm,0.8s							
CELI				AML	AML		
comp=N,384μm,0.7s							
CELI				AML	AML		
comp=N,1126μm,0.6s							
CELI				AML	AML		
comp=E,690μm,0.9s							
VLS	**Valsamata**	**1.80**	**128**	P	**Pn**	**12 23 51.0**	**-0.3**
VLS				S	**Sb**	**12 24 16.9**	**+1.1**
comp=E,1μm,0.8s							
GRI	**Girifalco**	**1.92**	**256**	P	**Pn**	**12 23 52.9**	**0.0**
GRI				S	**Sn**	**12 24 17.5**	**+0.5**
NOCI	**Noci**	**1.99**	**319**	P	**Pg**	**12 23 58.1**	**-0.5**
CAR1	**CAROLEI**	**2.01**	**269**	P	**Pb**	**12 23 55.9**	**-1.0**
CAR1				S	**Sn**	**12 24 19.5**	**+0.1**
CAR1				AML	AML		
comp=E,804μm,0.7s							
CAR1				AML	AML		
comp=N,417μm,0.8s							
PLAC	**Placanica**	**2.03**	**246**	P	**Pn**	**12 23 54.9**	**+0.3**
T0702	**Acquaformosa (**	**2.14**	**282**	P	**Pb**	**12 23 58.1**	**-1.1**
TIR	**Tirane**	**2.20**	**21**	*e*Pn	**Pn**	**12 23 57.3**	**+0.5**
TIR				*e*Sg	**Sg**	**12 24 35.1**	**+4.1**
CET2	**Cetraro**	**2.22**	**277**	P	**Pb**	**12 23 58.8**	**-1.7**
CET2				S	**Sb**	**12 24 27.0**	**-0.9**
CET2				AML	AML		
comp=E,586μm,0.9s							
CET2				AML	AML		
comp=N,425μm,0.7s							
CET2				AML	AML		
comp=N,858μm,0.7s							
CET2				AML	AML		
comp=E,688μm,0.8s							
BAI	**Bari**	**2.33**	**321**	⇑*i*Pn	Pg	12 24 08.4	+3.5
BAI				Sn	**Sg**	**12 24 40.9**	**+5.8**
JOPP	**Joppolo**	**2.38**	**254**	P	**Pn**	**12 23 59.7**	**+0.4**
JOPP				S	**Sn**	**12 24 28.8**	**+0.3**
RLS	**Riolos of Patr**	**2.43**	**120**	P	**Pn**	**12 24 00.8**	**+0.8**
FNA	**Florina**	**2.47**	**52**	*e*Pn	**Pn**	**12 24 00.9**	**+0.3**
FNA				*e*Sg	**Sg**	**12 24 43.3**	**+3.6**
MCEL	**Monticello**	**2.52**	**295**	AML	AML		
comp=N,462μm,0.8s							
MCEL				AML	AML		
comp=E,336μm,0.6s							
MCEL				AML	AML		
comp=N,486μm,0.8s							
MCEL				AML	AML		
comp=E,322μm,0.6s							
ANX	**Ano Chora**	**2.54**	**105**	P	**Pn**	**12 24 02.2**	**+0.7**
ANX				S	**Sn**	**12 24 34.5**	**+2.1**
EFP	**Efpalio**	**2.58**	**109**	P	**Pn**	**12 24 02.5**	**+0.5**
EFP				S	**Sn**	**12 24 35.8**	**+2.5**
comp=E,645nm,0.7s							
MRVN	**Minervino Murg**	**2.66**	**312**	P	**Pb**	**12 24 05.2**	**-2.8**
ULC	**Ulcinj**	**2.68**	**7**	*e*Pn	**Pn**	**12 24 03.7**	**+0.3**
ULC				*i* Sn	**Sn**	**12 24 36.5**	**+0.6**

ATN	**Antennamare**	**2.85**	**247**	P	**Pn**	**12 24 05.3**	**-0.6**
DRME	**Dracevica, Mon**	**2.89**	**6**	⇑*i*Pn	**Pn**	**12 24 06.5**	**+0.1**
DRME				*i* Sn	**Sn**	**12 24 41.9**	**+0.7**
DRME	**Dracevica, Mon**	**2.89**	**6**	*e*Pn	**Pn**	**12 24 05.8**	**-0.6**
KLV	**Kalavryta, Ach**	**2.91**	**115**	P	**Pn**	**12 24 07.5**	**+0.9**
BUM	**Brajici-Budva**	**2.99**	**1**	⇑*i*Pn	**Pn**	**12 24 07.8**	**0.0**
BUM				*i* Sn	**Sn**	**12 24 44.6**	**+0.9**
AIO	**Antillo**	**3.09**	**246**	P	**Pn**	**12 24 09.9**	**+0.7**
NOV	**Novara**	**3.14**	**247**	P	**Pn**	**12 24 10.4**	**+0.6**
NOV				S	**Sn**	**12 24 47.1**	**-0.2**
PDG	**Podgorica**	**3.14**	**6**	*e*Pn	**Pn**	**12 24 09.7**	**-0.1**
TTG	**Podgorica**	**3.14**	**6**	⇑*i*Pn	**Pn**	**12 24 10.2**	**+0.4**
TTG				*i* Sn	**Sn**	**12 24 47.8**	**+0.6**
HCY	**Herceg Novi**	**3.15**	**356**	*e*Pn	**Pn**	**12 24 09.9**	**0.0**
HCY				*i* Sn	**Sn**	**12 24 47.8**	**+0.4**
HCY	**Herceg Novi**	**3.15**	**356**	*e*Pn	**Pn**	**12 24 08.8**	**-1.1**
CEME	**Cevo**	**3.24**	**2**	⇓*i*Pn	**Pn**	**12 24 11.0**	**-0.2**
CEME				*i* Sn	**Sn**	**12 24 50.3**	**+0.5**
NKME	**Niksic**	**3.46**	**2**	⇓*i*Pn	**Pn**	**12 24 14.6**	**+0.4**
NKME				*i* Sn	**Sn**	**12 24 55.7**	**+0.5**
NKY	**Niksic**	**3.51**	**2**	⇓*i*Pn	**Pn**	**12 24 15.5**	**+0.6**
NKY				*i* Sn	**Sn**	**12 24 56.5**	**0.0**
STIP	**Stip**	**3.52**	**46**	*i* Pn	**Pb**	**12 24 18.6**	**-4.0**
KOME	**Kolasin**	**3.58**	**8**	⇓*i*Pn	**Pn**	**12 24 16.7**	**+0.8**
KOME				*i* Sn	**Sn**	**12 24 58.5**	**+0.2**
BRY	**Bratogost**	**3.60**	**357**	⇓*i*Pn	**Pn**	**12 24 16.3**	**+0.1**
BRY				*i* Sn	**Sn**	**12 24 58.8**	**0.0**
BRY	**Bratogost**	**3.60**	**357**	*e*Pn	**Pn**	**12 24 15.5**	**-0.7**
IVA	**Berane**	**3.66**	**13**	⇑*i*Pn	**Pn**	**12 24 17.2**	**+0.2**
IVA				*i* Sn	**Sn**	**12 25 00.6**	**+0.5**
UPM	**Unac-Piva**	**3.90**	**1**	⇑*i*Pn	**Pn**	**12 24 20.5**	**+0.2**
UPM				*i* Sn	**Sn**	**12 25 06.4**	**+0.3**
UPM	**Unac-Piva**	**3.90**	**1**	*e*Pn	**Pn**	**12 24 20.2**	**-0.1**
PLE	**Pljevlja**	**4.05**	**6**	*e*Pn	**Pn**	**12 24 22.3**	**0.0**
PLE				*i* Sn	**Sn**	**12 25 09.7**	**0.0**
SJES	**Sjenica**	**4.05**	**12**	*e*Pn	**Pn**	**12 24 22.6**	**+0.2**
SJES	**Sjenica**	**4.05**	**12**	*e*Pn	**Pn**	**12 24 23.7**	**+1.3**
VLY	**Voula,Athens**	**4.17**	**109**	P	**Pn**	**12 24 24.3**	**+0.3**
BARS	**Barje**	**4.18**	**32**	*e*Pn	**Pn**	**12 24 23.9**	**-0.2**
BARS	**Barje**	**4.18**	**32**	*e*Pn	**Pg**	**12 24 38.8**	**-1.7**
BOSS	**Bosilegrad**	**4.24**	**40**	*e*Pn	**Pn**	**12 24 24.8**	**0.0**
SELS	**Selova**	**4.28**	**23**	*e*Pn	**Pn**	**12 24 25.5**	**0.0**
RUDO	**Rudo**	**4.33**	**5**	*e*Pn	**Pn**	**12 24 21.6**	**-4.5**
BBLS	**Lazići**	**4.58**	**5**	*e*Pn	**Pn**	**12 24 29.9**	**+0.3**
BBLS	**Lazići**	**4.58**	**5**	*e*Pn	**Pn**	**12 24 28.8**	**-0.8**
GRUS	**Gruza**	**4.80**	**17**	*e*Pn	**Pn**	**12 24 31.5**	**-1.1**
BOVS	**Bovan**	**4.85**	**26**	*e*Pn	**Pn**	**12 24 32.9**	**-0.3**
DIVS	**Divibare**	**4.87**	**10**	*e*Pn	**Pn**	**12 24 33.8**	**+0.2**
DIVS	**Divibare**	**4.87**	**10**	*e*Pn	**Pn**	**12 24 31.7**	**-1.9**
ZAPS	**Zavoj**	**4.91**	**35**	*e*Pn	**Pn**	**12 24 33.6**	**-0.5**
ZAGS	**Zajecar**	**5.19**	**29**	*e*Pn	**Pn**	**12 24 37.5**	**-0.4**
BLY	**Banja Luka**	**5.57**	**348**	*e*Pn	**Pn**	**12 24 43.2**	**0.0**
CRES	**Cresnjev**	**6.97**	**340**	*e*Pn	**Pn**	**12 25 02.7**	**+0.4**
CEY	**Cerknica**	**7.20**	**335**	*e*Pn	**Pn**	**12 25 05.8**	**+0.3**

IDC 25 12:28:05.5±18.0, 22°.25S×175°.25W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/32, mbtmp4.0/5, MS3.7/1, Ms1 3.7/1, ms1mx3.0/26, Error ellipse: s-maj=332.3km s-min=148.1km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**24.23**	**205**	LR	LR	12 42 57.4	
comp=Z,162nm,20.0s,baz=292,slow=37							
CTA	**Charters Tower**	**35.90**	**266**	P	P	12 35 08.8	+1.1
2.4nm,0.4s,baz=98,slow=11,SNR=9.4							
STKA	**Stephens Creek**	**39.39**	**246**	P	P	12 35 36.4	-0.8
1.3nm,0.6s,baz=101,slow=6.8,SNR=3.5							
ASAR	**Alice Springs**	**46.64**	**258**	P	P	12 36 34.6	-1.4
0.6nm,0.5s,baz=97,slow=7.2,SNR=24							
WRA	**Warramunga Arr**	**46.91**	**263**	P	P	12 36 38.0	-0.2
1.1nm,0.3s,baz=96,slow=8.4,SNR=72							
FITZ	**Fitzroy Crossi**	**55.34**	**263**	P	P	12 37 42.4	+0.8
1.5nm,1.0s,baz=96,slow=24,SNR=6.8							

MAN 25 12:47:12.1, 14°.63N×121°.85E, h28km, mb3.9, ML2.7, MS2.3, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.13**	**40**	*e*P	Pn	12 47 18.7	+0.3
POLP				*e*S	Sb	12 47 24.3	+3.2
LQP	**Lukban**	**0.59**	**211**	⇑*i*P	Pn	12 47 30.7	+5.8
LQP				*i* S	Pn	12 47 30.7	+5.8
GQP	**Guinayangan**	**0.92**	**141**	⇓*e*P	Pb	12 47 31.7	+2.2
GQP				*e*S	Sn	12 47 45.6	+4.1
BALP	**Baler**	**1.14**	**347**	*e*P	Pb	12 47 32.9	-0.3
BOAC	**Boac**	**1.16**	**180**	*e*P	Pb	12 47 35.2	+1.6
BOAC				*e*S	Sb	12 47 54.0	+5.8
PGP	**Puerto Galera**	**1.42**	**218**	⇑*e*P	Pn	12 47 35.8	-0.2
PGP				*i* S	Sn	12 47 54.4	+0.6
SMPP	**San Manuel, Pa**	**1.89**	**323**	*e*P	Pn	12 47 42.5	-0.1
OTRP	**Odiongan**	**2.26**	**176**	*e*P	Pb	12 47 54.8	+2.6
OTRP				*e*S	Sb	12 48 17.9	-1.8

MAN 25 12:50:10.9, 14°.65N×121°.65E, h5km, mb4.4, ML3.2, MS3.0, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.29**	**74**	*e*P	Pg	12 50 17.5	+0.9
POLP				*e*S	Sb	12 50 22.6	-1.2
LQP	**Lukban**	**0.54**	**191**	⇑*i*P	Pg	12 50 21.4	0.0
LQP				*i* S	Sg	12 50 29.9	+1.4
TGY	**Tagaytay City**	**0.88**	**232**	⇑*i*P	Pn	12 50 30.8	+0.8
TGY				*i* S	Sb	12 50 41.1	+0.3
GQP	**Guinayangan**	**1.07**	**134**	⇓*e*P	Pg	12 50 30.2	-1.2
GQP				*e*S	Sg	12 50 45.5	+0.2
BALP	**Baler**	**1.09**	**356**	*e*P	Pg	12 50 31.2	-0.6
BALP				*e*S	Sb	12 50 47.2	+0.4
BALP	**Baler**	**1.09**	**356**	*e*S	Sn	12 50 47.7	-0.7
BOAC	**Boac**	**1.20**	**171**	*e*P	Pg	12 50 32.4	-1.4
BOAC				*e*S	Sn	12 50 52.0	+1.1
PGP	**Puerto Galera**	**1.32**	**211**	⇑*e*P	Pn	12 50 34.6	-1.6
PGP				*e*S	Sg	12 50 52.7	-0.8
SMPP	**San Manuel, Pa**	**1.76**	**328**	*e*P	Pn	12 50 41.0	-1.2
SMPP				*e*S	Sn	12 51 03.9	-1.1
BCP	**Baguio City**	**2.03**	**330**	⇑*i*P	Pn	12 50 47.1	+1.2
BCP				*i* S	Sb	12 51 14.2	+0.2
SJMP	**San Jose**	**2.23**	**193**	*e*P	Pn	12 50 49.5	+0.9
SJMP				*e*S	Sn	12 51 17.4	+0.8
CAUP	**Cauayan**	**2.29**	**4**	*e*P	Pn	12 50 50.5	+1.1
OTRP	**Odiongan**	**2.30**	**171**	*e*P	Pn	12 50 50.3	+0.8
OTRP				*e*S	Sn	12 51 19.6	+1.4
BOLP	**Bolinao**	**2.40**	**316**	*e*P	Pn	12 50 52.2	+1.2
PVCP	**Virac**	**2.64**	**113**	*e*P	Pn	12 50 54.6	+0.4
PVCP				*e*S	Sn	12 51 28.6	+1.9
APYP	**Conner**	**3.22**	**353**	*e*P	Pn	12 51 04.2	+2.0
APYP				*e*S	Sb	12 51 48.5	+0.2

INET 25 12:50:46.6, 9°.18N×82°.43W, h15km, ML3.8, Panama-Costa Rica border region

KRSC 25 12:52:15.9±2.0, 54°.88N×165°.56E, h30km±12km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.41**	**36**	*e*P	Pb	12 52 24.9	+0.1
BKI				*e*S	Sb	12 52 29.3	-1.6
KBTR	**Krutoberegovo**	**2.05**	**312**	*e*P	Pn	12 52 48.9	+0.7
SMKR	**Semkarok**	**2.88**	**308**	*e*P	Pn	12 53 02.3	+2.6
SMKR				*e*S	Sn	12 53 36.3	+3.1
ZLN	**Zelenaya**	**2.94**	**295**	*e*P	Pb	12 53 04.6	-3.0
BZGR	**Bezymyannyi-Gr**	**2.97**	**293**	*e*P	Pb	12 53 04.9	-3.2
BZGR				*e*S	Sb	12 53 39.8	-4.2
BDR	**Baidarnaya**	**2.99**	**306**	*e*P	Pn	12 53 04.2	+3.0
BDR				*e*S	Sn	12 53 39.7	+3.7
TUMD	**Tumrok D**	**2.99**	**278**	*e*P	Pb	12 53 05.2	-3.1
LGNR	**Loginova**	**3.02**	**296**	*e*P	Pb	12 53 06.0	-3.1
BZWR	**Bezymyannyi-We**	**3.08**	**293**	*e*P	Pb	12 53 06.8	-3.3
TUMR	**Tumrok**	**3.14**	**280**	*e*P	Pb	12 53 07.7	-3.3
KIRR	**Kirishev**	**3.16**	**292**	*e*P	Pb	12 53 08.2	-3.2
KMNR	**Kamenistaya**	**3.17**	**288**	*e*P	Pb	12 53 08.3	-3.1
KMNR				*e*S	Sb	12 53 46.9	-2.7
SRDR	**Sredinnyy**	**3.62**	**296**	*e*P	Pn	12 53 14.4	+4.6

SPN	**Mys Shipunski**	**3.72**	**244**	*e*P	Pn	12 53 15.3	+4.1
SPN				*e*S	Sn	12 53 56.1	+2.1
NLC	**Nalytchevo**	**4.04**	**248**	*e*S	Sn	12 54 05.0	+3.2
SDLR	**Sedlovina**	**4.25**	**251**	*e*P	Pn	12 53 23.8	+5.3
UGLR	**Uglovaya**	**4.31**	**250**	*e*P	Pb	12 53 25.3	-5.6
AVH	**Avacha**	**4.33**	**251**	*e*P	Pn	12 53 25.2	+5.6
AVH				*e*S	Sn	12 54 13.5	+4.4
KRX	**Arik**	**4.34**	**252**	*e*P	Pn	12 53 25.1	+5.3
KRX				*e*S	Sn	12 54 13.1	+3.7
KOK	**Koryaka**	**4.38**	**252**	*e*P	Pn	12 53 25.6	+5.3
DALK	**Dalny**	**4.42**	**248**	*e*P	Pn	12 53 25.9	+5.1
DALK				*e*S	Sn	12 54 13.4	+2.2
KRMR	**Karymshinskiy**	**4.85**	**248**	*e*P	Pn	12 53 33.2	+6.5
KRMR				*e*S	Sn	12 54 27.5	+5.7
RUS	**Russkaya**	**4.85**	**243**	*e*P	Pn	12 53 31.6	+4.9
ASAK	**Asacha**	**5.20**	**244**	*e*P	Pn	12 53 37.6	+6.1
ASAK				*e*S	Sn	12 54 35.2	+4.8
KDTR	**Khodutka, Kamc**	**5.43**	**239**	*e*P	Pn	12 53 39.2	+4.5
KDTR				*e*S	Sn	12 54 37.9	+1.8

*JMA **25** 13:01:43.6, 22°.72N×121°.07E, h42km, MS3.0*
*TAP **25** 13:01:45.7, 22°.77N×121°.26E, h20km, ML3.3, B*

ISC 25 13:01:46.1±0.9, 22°.75N±0°.02×121°.27E±0°.02, h18km±2km, n50, σ0960/72, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.11**	**272**	⇑*i*P	**Pg**	**13 01 50.5**	**+0.5**
baz=262							
TTN				S	**Sg**	**13 01 53.8**	**+1.2**
baz=262							
TWGBT	**Beinan**	**0.19**	**291**	P	**Pg**	**13 01 50.9**	**-0.1**
baz=287							
TWGBT				S	**Sg**	**13 01 55.1**	**+0.8**
baz=287							
TWG	**Pinlang**	**0.20**	**291**	*i* P	**Pb**	**13 01 50.9**	**+0.3**
baz=287							
TWG				S	**Sg**	**13 01 55.2**	**+0.8**
baz=287							
LDUT	**Ludao**	**0.20**	**112**	*i* P	**Pg**	**13 01 51.7**	**+0.6**
baz=115							
LONT	**Longtian**	**0.20**	**320**	*i* P	**Pb**	**13 01 50.9**	**0.0**
baz=319							
EDH	**Donghe**	**0.22**	**8**	P	**Pb**	**13 01 51.2**	**-0.2**
baz=11							
EDH				*e*S	**Sb**	**13 01 54.5**	**-0.2**
baz=11							
ECL	**Taimali**	**0.33**	**243**	P	**Pg**	**13 01 53.4**	**+0.2**
baz=238							
ECL				*e*S	**Sb**	**13 01 58.5**	**0.0**
baz=238							
CHKT	**Chengkung**	**0.36**	**14**	P	**Pg**	**13 01 53.8**	**0.0**
baz=17							
CHKT				S	**Sg**	**13 01 59.2**	**+0.3**
baz=17							
FULB	**Fuli**	**0.45**	**3**	P	**Pg**	**13 01 55.1**	**-0.2**
baz=4.0							
FULB				*e*S	**Sb**	**13 02 02.9**	**+1.0**
baz=4.0							
ELDTW	**Lidau**	**0.49**	**332**	*i* P	**Pg**	**13 01 55.3**	**-0.9**
baz=332							
EAST	**Anshuo**	**0.53**	**227**	*e*P	**Pb**	**13 01 55.2**	**-1.7**
baz=224							
EAST				S	**Sb**	**13 02 04.5**	**+0.3**
baz=224							
SSD	**Sandimen**	**0.59**	**270**	P	**Pb**	**13 01 57.4**	**-0.5**
baz=267							
SSD				*e*S	**Sb**	**13 02 05.0**	**-0.8**
baz=267							
EYUL	**Yuli**	**0.60**	**4**	*e*P	**Pg**	**13 01 58.3**	**+0.3**
baz=5.0							
TWF1	**Yuli**	**0.60**	**2**	P	**Pb**	**13 01 57.4**	**-0.6**
baz=4.0							
MASBT	**Mashibuluo**	**0.60**	**257**	P	**Pb**	**13 01 58.0**	**-0.1**
baz=255							
MASBT				*e*S	**Sg**	**13 02 06.9**	**+0.6**
baz=255							
YULB	**Yu-li**	**0.64**	**2**	P	**Pb**	**13 01 58.5**	**-0.3**
baz=3.0							
SLIU	**Shizi**	**0.69**	**219**	P	**Pb**	**13 01 59.4**	**-0.1**
baz=217							
SLIU				*e*S	**Sg**	**13 02 09.6**	**+0.8**
baz=217							
SCZT	**Fangliau**	**0.71**	**238**	P	**Pg**	**13 02 00.1**	**0.0**
baz=236							
SGST	**Jiashian**	**0.71**	**298**	P	**Pb**	**13 01 59.5**	**-0.5**
baz=297							
SGST				*e*S	**Sg**	**13 02 09.8**	**0.0**
baz=297							
SCST	**Cishan**	**0.73**	**281**	P	**Pb**	**13 01 58.8**	**-1.4**
baz=279							
HGSD	**Ruisui**	**0.75**	**11**	*i* P	**Pb**	**13 02 00.6**	**-0.1**
baz=11							
LAY	**Lan-yu**	**0.75**	**160**	*e*P	**Pb**	**13 02 00.4**	**-0.3**
baz=159							
WTP	**Ta-pu**	**0.78**	**309**	*e*P	**Pb**	**13 02 01.4**	**+0.2**
baz=309							
TPUB	**Ta-pu**	**0.81**	**313**	P	**Pb**	**13 02 01.7**	**+0.1**
baz=312							
CHN1	**Nanshi**	**0.81**	**302**	*e*P	**Pg**	**13 02 02.4**	**+0.4**
baz=301							
CHN4	**Tsaushan**	**0.86**	**314**	*e*P	**Pb**	**13 02 02.9**	**+0.3**
baz=313							
ALS	**Alishan**	**0.87**	**331**	P	**Pb**	**13 02 02.4**	**-0.5**
baz=330							
TWK

*NEIC **25** 13:26:10.4±2.8, 4°.0S±0°.1×143°.08E±0°.05, h101km±19km, mb4.3/15, Error ellipse: s-maj=18.6km s-min=6.8km az=191.0*

ISC 25 13:26:10.4±1.0, 3°.96S±0°.09×143°.16E±0°.08, h100km, n36, σ1°.67/37, mb3.9/9, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.84**	**300**	Pn	**Pn**	**13 26 51.1**	**-3.0**
	3.0nm,0.3s,baz=167,slow=9.9,SNR=17						
JAY				Sn	**Sn**	**13 27 25.1**	**-2.6**
	12nm,0.3s,baz=97,slow=12,SNR=5.4						
JAY				LR	LR	13 28 14.4	
	comp=Z,146nm,18.3s,baz=152,slow=49						
JAY	**Jayapura**	**2.84**	**300**	P	**Pn**	**13 26 52.4**	**-1.7**
GENI	**Genyem**	**3.28**	**294**	P	**Pn**	**13 26 59.7**	**-0.3**
MANU	**Manus Island**	**4.61**	**66**	Pn	**Pn**	**13 27 18.5**	**+0.6**
PMG	**Port Moresby**	**6.71**	**144**	Pn	**Pn**	**13 27 46.5**	**0.0**
	8.6nm,0.3s,baz=346,slow=5.6,SNR=23						
PMG				Sn	**Sn**	**13 28 59.1**	**-2.4**
	2.5nm,0.3s,baz=307,slow=20,SNR=1.0						
PMG	**Port Moresby**	**6.71**	**144**	Pn	**Pn**	**13 27 46.4**	**-0.1**
COEN	**Coen**	**9.94**	**180**	Pn	**Pn**	**13 28 31.8**	**+1.4**
FAKI	**Fak Fak**	**10.94**	**275**	Pn	**Pn**	**13 28 44.7**	**+0.7**
MTN	**Manton Dam**	**14.81**	**233**	Pn	**Pn**	**13 29 31.0**	**-3.9**
CTA	**Charters Tower**	**16.32**	**170**	Pn	**P**	**13 29 54.2**	**-0.7**
	0.2nm,0.3s,baz=328,slow=15,SNR=1.8						
WB0	**Warramunga Arr**	**17.89**	**208**		**P**	**13 30 10.8**	**-1.5**
WB0				IAmb	IAmb	13 30 12.7	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**17.99**	**207**		**P**	**13 30 12.4**	**-1.0**
WR0				IAmb	IAmb	13 30 17.5	
	comp=Z,15nm,0.6s						
WRAB	**Tennant Creek**	**18.05**	**208**	P	**P**	**13 30 13.3**	**-0.8**
WRAB				IAmb	IAmb	13 30 16.2	
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**18.06**	**208**		**P**	**13 30 12.4**	**-1.8**
WB2				IAmb	IAmb	13 30 15.5	
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**18.07**	**208**	P	**P**	**13 30 12.3**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=32,slow=13,SNR=47						
WRA				S	S	13 33 18.4	-18
	comp=Z,0.1nm,0.3s,baz=18,slow=24,SNR=3.3						
WRA	**Warramunga Arr**	**18.07**	**208**	P	**P**	**13 30 12.0**	**-2.2**
KNRA	**Kununurra**	**18.34**	**230**		**P**	**13 30 16.5**	**-0.7**
SOEI	**Soe**	**19.62**	**252**	P	**Pn**	**13 30 32.8**	**-0.8**
	comp=Z,66nm,0.9s						
SOEI	**Soe**	**19.62**	**252**		**Pn**	**13 30 33.5**	**0.0**
BATI	**Baumata**	**20.31**	**251**	P	**P**	**13 30 39.1**	**+0.4**
	comp=Z,4.3nm,0.3s,baz=146,slow=6.5,SNR=4.0						
BATI	**Baumata**	**20.31**	**251**	P	Pn	13 30 41.8	+0.2
	comp=Z,47nm,0.7s						
AS31	**Alice Springs**	**21.54**	**204**	P	**P**	**13 30 52.2**	**+0.5**
ASAR	**Alice Springs**	**21.54**	**204**	P	**P**	**13 30 51.9**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=32,slow=10,SNR=28						
ASAR				S	**S**	**13 34 47.8**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=15,slow=29,SNR=4.6						
ASAR	**Alice Springs**	**21.54**	**204**	P	**P**	**13 30 52.3**	**+0.5**
EDFI	**Ende, Flores**	**21.86**	**256**	P	**P**	**13 30 56.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**22.17**	**229**	P	**P**	**13 30 58.2**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=360,slow=6.6,SNR=24						
FITZ				S	**S**	**13 34 59.4**	**+2.9**
	comp=Z,1.2nm,0.5s,baz=180,slow=19,SNR=1.6						
FITZ	**Fitzroy Crossi**	**22.17**	**229**	P	**P**	**13 30 58.7**	**+0.2**
ARMA	**Armidale**	**27.51**	**164**	P	**P**	**13 31 49.3**	**+1.5**
ARMA				IAmb	IAmb	13 32 06.3	
	comp=Z,4.6nm,1.1s						
STKA	**Stephens Creek**	**27.81**	**183**	P	**P**	**13 31 49.8**	**-0.6**
BBOO	**Buckleboo**	**29.46**	**192**	P	**P**	**13 32 05.7**	**+0.7**
BBOO				IAmb	IAmb	13 32 14.6	
	comp=Z,5.4nm,1.1s						
FORT	**Forrest**	**30.25**	**206**	P	**P**	**13 32 11.3**	**-0.6**
FORT				IAmb	IAmb	13 32 21.1	
	comp=Z,9.4nm,0.9s						
GIRL	**Giralia**	**33.60**	**234**	P	**P**	**13 32 41.2**	**-0.3**
MORW	**Morawa**	**35.86**	**223**	P	**P**	**13 33 01.2**	**+0.4**
MORW				IAmb	IAmb	13 33 08.3	
	comp=Z,4.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**48.92**	**299**	P	**P**	**13 34 50.5**	**+3.7**
	comp=Z,0.5nm,0.7s,baz=116,slow=6.1,SNR=2.0						
MKAR	**Makanchi Array**	**73.51**	**321**	P	P	13 37 39.3	+6.9
	comp=Z,0.3nm,0.6s,baz=101,slow=7.5,SNR=2.7						
ILAR	**Eielson Array**	**85.14**	**24**	P	P	13 38 48.2	+13
	comp=Z,0.2nm,0.6s,baz=246,slow=3.8,SNR=2.7						

*IDC **25** 13:29:49.7±3.0, 17°.35N×145°.81E, h154km±29km, mb3.4/5, mb1 3.7/6, mb1mx3.3/35, mbtmp3.8/6, Error ellipse: s-maj=78.8km s-min=23.5km az=112.0*

*NEIC **25** 13:29:51.2±1.3, 17°.3N±0°.1×145°.5E±0°.2, h173km±11km, mb4.0/20, Error ellipse: s-maj=25.2km s-min=17.2km az=88.0*

ISC 25 13:29:49.6±0.8, 17°.46N±0°.09×145°.5E±0°.2, h150km, n33, σ0°.89/34, mb4.0/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.89**	**189**	P	**Pn**	**13 30 50.0**	**+1.5**
	5.3nm,0.3s,baz=24,slow=0.4,SNR=10						
GUMO				S	**Sn**	**13 31 33.0**	**-1.1**
	20nm,0.3s,baz=171,slow=22,SNR=7.3						
GUMO	**Guam**	**3.89**	**189**		**Pn**	**13 30 50.3**	**+1.9**
PATS	**Pohnpei**	**16.38**	**129**		**P**	**13 33 31.1**	**-0.1**
WRA	**Warramunga Arr**	**38.74**	**197**	P	**P**	**13 36 59.2**	**-0.3**
	0.5nm,0.4s,baz=28,slow=9.0,SNR=1.7						
WRA	**Warramunga Arr**	**38.74**	**197**	P	**P**	**13 36 57.1**	**-2.3**
ASAR	**Alice Springs**	**42.41**	**196**	P	**P**	**13 37 29.1**	**-0.4**
	0.2nm,0.5s,baz=21,slow=8.0,SNR=0.9						
MKAR	**Makanchi Array**	**59.17**	**314**	P	**P**	**13 39 34.9**	**+0.1**
SVW2	**Sparrevohn**	**60.01**	**29**	P	**P**	**13 39 40.7**	**+0.6**
SVW2				IAmb	IAmb	13 39 55.8	
	comp=Z,2.8nm,1.1s						
TTA	**Tatalina**	**60.45**	**27**	P	**P**	**13 39 43.7**	**+0.5**
IMAR	**Indian Mountai**	**62.43**	**24**	P	**P**	**13 39 57.1**	**+0.8**
BPAW	**Bear Paw Mtn.**	**62.96**	**26**	P	**P**	**13 40 00.3**	**+0.4**
BPAW				IAmb	IAmb	13 40 18.3	
	comp=Z,2.0nm,1.1s						
TRF	**Thorofare Moun**	**63.08**	**27**	P	**P**	**13 40 00.6**	**-0.3**
TRF				IAmb	IAmb	13 40 01.6	
	comp=Z,4.9nm,1.2s						
COLD	**Coldfoot**	**64.17**	**23**	P	**P**	**13 40 08.6**	**+0.8**
COLD				IAmb	IAmb	13 40 25.2	
	comp=Z,2.2nm,1.2s						
FID	**Port Fidalgo**	**64.22**	**30**	P	**P**	**13 40 07.9**	**-0.3**
MDM	**Murphy Dome**	**64.33**	**26**	P	**P**	**13 40 07.9**	**-1.1**
MDM				IAmb	IAmb	13 40 09.0	
	comp=Z,2.5nm,1.2s						
CCB	**Clear Creek Bu**	**64.44**	**26**	P	**P**	**13 40 09.2**	**-0.3**
EYAK	**Cordova Ski Ar**	**64.53**	**31**	P	**P**	**13 40 10.3**	**+0.1**
HDA	**Harding Lake**	**64.74**	**26**	P	**P**	**13 40 11.0**	**-0.5**
HDA				IAmb	IAmb	13 40 24.9	
	comp=Z,2.5nm,1.2s						
TOLK	**Toolik Lake Re**	**64.82**	**22**	P	**P**	**13 40 13.3**	**+1.3**
TOLK				IAmb	IAmb	13 40 18.6	
	comp=Z,2.8nm,1.1s						
IL31		**64.85**	**26**	P	**P**	**13 40 11.1**	**-1.1**
ILAR	**Eielson Array**	**64.85**	**26**	P	**P**	**13 40 11.2**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=253,slow=5.8,SNR=10.0						
ILAR	**Eielson Array**	**64.85**	**26**	P	**P**	**13 40 10.5**	**-1.7**
RIDG	**Independent Ri**	**65.51**	**27**	P	**P**	**13 40 16.2**	**-0.4**
RIDG				IAmb	IAmb	13 40 34.8	
	comp=Z,2.6nm,1.1s						
VRDI	**Verde Repeater**	**65.75**	**30**	P	**P**	**13 40 18.5**	**+0.2**
VRDI				IAmb	IAmb	13 40 33.8	
	comp=Z,3.7nm,1.1s						
DOT	**Dot Lake**	**65.84**	**27**	P	**P**	**13 40 18.9**	**+0.2**
BALM	**Baldy**	**66.26**	**30**	P	**P**	**13 40 21.8**	**+0.3**
BALM				IAmb	IAmb	13 40 22.7	
	comp=Z,4.0nm,1.0s						
BMAR	**Burnt Mountain**	**66.33**	**23**	P	**P**	**13 40 21.4**	**-0.4**
CTGM	**Chitina Glacie**	**66.74**	**31**	P	**P**	**13 40 24.1**	**-0.5**
CTGM				IAmb	IAmb	13 40 26.2	
	comp=Z,3.4nm,1.1s						
BCAR	**Beaver Creek A**	**66.77**	**28**	P	**P**	**13 40 24.2**	**-0.4**
PCA	**Pinnacle**	**67.19**	**32**	P	**P**	**13 40 26.9**	**-0.4**
EGAK	**Eagle**	**67.26**	**26**	P	**P**	**13 40 28.4**	**+0.8**
NVAR	**Mina Array Bea**	**84.07**	**52**	P	**P**	**13 42 03.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=274,slow=6.2,SNR=4.8						
NOA	**NORSAR Array B**	**93.66**	**340**	P	**P**	**13 42 48.5**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=54,slow=2.0,SNR=2.3						

IDC 25 13:49:45.1±32.0, 33°.24S×178°.09W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/22, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=575.3km s-min=57.1km az=91.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.35**	**217**	Pn	Pn	13 51 19.6	-0.3
	0.7nm,0.3s,baz=273,slow=5.2,SNR=10						
URZ				Sn	Sn	13 52 18.0	-15
	4.1nm,0.3s,baz=204,slow=18,SNR=12						
STKA	**Stephens Creek**	**33.87**	**261**	P	P	13 56 29.1	-0.3
	0.8nm,0.2s,baz=128,slow=18,SNR=2.2						
ASAR	**Alice Springs**	**42.96**	**270**	P	P	13 57 45.8	-0.3
	0.9nm,0.6s,baz=111,slow=7.6,SNR=28						
WRA	**Warramunga Arr**	**44.20**	**275**	P	P	13 57 56.4	+0.2
	0.8nm,0.3s,baz=116,slow=7.6,SNR=42						

RSNC 25 13:50:28.7±0.3, 12°.81N×81°.62W, h2km±8km, ML2.8, Mw3.5, 1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.61**	**24**	*i*P	Pg	13 50 40.0	-0.5
PRVC				*e*S	Sg	13 50 48.8	+0.3
PRVC				*i*		13 50 52.7	
	comp=Z,316nm,0.3s						
BCIP	**Isla Barro Col**	**4.02**	**154**	*e*P	Pn	13 51 30.0	-1.4
BCIP				*e*S	Sn	13 52 17.8	-1.4
BCIP				*i*		13 52 29.5	
	comp=Z,6.3nm,0.5s						
AZU	**Azuero**	**5.16**	**165**	*e*P	Pn	13 51 45.5	-1.6
AZU				*e*S	Sn	13 52 46.0	-1.2
AZU				*i*		13 52 56.6	
	comp=Z,14nm,0.6s						
CAPC	**Capurgana**	**5.90**	**134**	*e*S	Sn	13 53 03.7	-1.8
CAPC				*i*		13 53 06.5	
	comp=Z,5.0nm,0.5s						

*KRNET **25** 14:46:46.6±0.1, 41°.15N×80°.90E, mb2.7*
*SOME **25** 14:46:46.8, 42°.30N×80°.95E, h5km*

ISC 25 14:46:44.6±3.3, 42°.45N±0°.09×81°.4E±0°.1, h8km±12km, n9, σ2°.27/17, 10C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.60**	**297**	*e*P	**Pn**	**14 47 09.0**	**-4.4**
	2.3nm,0.2s						
SHLS				*e*S	Sn	14 47 25.0	-9.3
	5.7nm,0.3s						
UZB	**Uzynbulak**	**1.90**	**292**	*e*P	**Pn**	**14 47 18.1**	**+0.6**
	1.2nm,0.2s						
UZB				*e*S	**Sn**	**14 47 40.7**	**-0.9**
	3.8nm,0.3s						
DJR	**Jarkent**	**2.23**	**328**	*e*P	**Pg**	**14 47 28.0**	**+0.7**
	0.5nm,0.1s						
DJR				*e*S	**Sg**	**14 47 57.4**	**+1.3**
	1.1nm,0.3s						
PRZ	**Przheval'sk**	**2.23**	**272**	⇑*i*P	**Pg**	**14 47 27.9**	**+0.5**
	baz=6.0						
PRZ				⇑*i*S	**Sg**	**14 47 58.0**	**+1.7**
	baz=6.0						
SATY	**Saty**	**2.30**	**286**	*e*P	**Pb**	**14 47 25.3**	**-1.2**
	1.2nm,0.2s						
SATY				*e*S	**Sn**	**14 47 52.9**	**+1.4**
	4.5nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.78**	**256**	⇑*i*P	**Pn**	**14 47 29.4**	**-0.5**
	baz=85						
TARG				⇑*i*S	**Sn**	**14 48 00.8**	**-3.0**
	baz=85						
ANVS	**Anan'yevo**	**2.79**	**278**	⇑*i*P	**Pg**	**14 47 36.5**	**-1.5**
	baz=5.0						
ANVS				⇑*e*S	**Sg**	**14 48 12.9**	**-1.3**
	baz=5.0						
ULHL	**Ulahol**	**3.84**	**269**	⇑*i*P	**Pn**	**14 47 47.3**	**+3.1**
	baz=89						
ULHL				⇑*i*S	**Sn**	**14 48 31.0**	**+1.3**
	baz=89						
BOOM	**Boomskoye usch**	**4.05**	**272**	⇑*i*P	**Pn**	**14 47 49.9**	**+2.8**
	baz=92						
BOOM				⇑*i*S	**Sn**	**14 48 37.1**	**+2.3**
	baz=92						

IDC 25 15:03:18.5±25.0, 24°.33S×174°.39W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/32, mbtmp4.2/4, Error ellipse: s-maj=454.3km s-min=132.9km az=81.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.59**	**269**	P	P	15 10 27.5	+0.9
	2.5nm,0.4s,baz=92,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**39.33**	**249**	P	P	15 10 48.0	-1.6
	1.0nm,0.5s,baz=102,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**47.01**	**260**	P	P	15 11 51.9	0.0
	1.3nm,0.4s,baz=103,slow=8.2,SNR=60						
WRA	**Warramunga Arr**	**47.48**	**265**	P	P	15 11 55.5	0.0
	1.1nm,0.3s,baz=103,slow=7.8,SNR=34						

*IDC **25** 15:22:01.4±2.5, 20°.43S×69°.47W, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.5/18, mbtmp3.7/2, ML2.9/1, MS2.9/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=101.6km s-min=51.4km az=106.0*
*GUC **25** 15:22:06.0±0.8, 19°.43S×70°.49W, h37km±2km, ML3.8*

ISC 25 15:22:04.4±1.3, 19°.39S±0°.03×70°.50W±0°.06, h12km±9km, n27, σ1°.08/32, 2C-10D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.41**	**120**	*e*P	**Pb**	**15 22 14.9**	**+1.3**
PSGC				*i* S	**Sb**	**15 22 21.0**	**+1.2**
PB12	**IPOC Station P**	**0.79**	**12**	⇓*i*P	**Pb**	**15 22 21.3**	**+1.1**
PB12				*i* S	**Sb**	**15 22 32.3**	**+1.4**
PB11	**IPOC Station P**	**0.87**	**115**	⇑*i*P	**Pb**	**15 22 22.2**	**+0.7**
PB11				*i* S	**Sn**	**15 22 34.2**	**-1.2**
MNMC	**Minye Minye**	**0.89**	**73**	⇓*i*P	**Pn**	**15 22 23.2**	**+0.3**
MNMC				*i* S	**Sn**	**15 22 35.4**	**-0.6**
MNMC				IAML		15 22 36.1	
	comp=N,7μm,0.4s						
TA02	**Huaiquique**	**0.94**	**159**	*e*P	**Pg**	**15 22 22.9**	**+0.4**
TA02				*i* S	**Sg**	**15 22 34.6**	**-0.2**
AP01	**Chacalluta**	**1.03**	**8**	⇓*i*P	**Pg**	**15 22 24.9**	**+0.8**
AP01				*i* S	**Sb**	**15 22 38.8**	**+1.3**
TA01	**Diego Aracena**	**1.20**	**166**	⇓*i*P	**Pg**	**15 22 26.9**	**-0.6**
TA01				*i* S	**Sg**	**15 22 42.0**	**-1.2**
GO01	**Chusmiza**	**1.26**	**103**	⇑*i*P	**Pn**	**15 22 28.9**	**+0.7**
GO01				*i* S	**Sn**	**15 22 46.1**	**+0.7**
PATCX	**Punta Patache**	**1.46**	**167**	⇓*i*P	**Pn**	**15 22 30.8**	**+0.2**
PATCX				*i* S	**Sb**	**15 22 49.4**	**-0.6**
PB08	**IPOC Station P**	**1.47**	**121**	⇓*i*P	**Pb**	**15 22 31.8**	**-0.1**
PB08				*i* S	**Sn**	**15 22 50.8**	**+0.4**
PB01	**IPOC Station P**	**1.90**	**150**	⇓*i*P	**Pn**	**15 22 37.0**	**+0.3**
PB01				*i* S	**Sn**	**15 23 01.0**	**+0.5**
PB01				IAML		15 23 05.3	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**2.00**	**164**	⇓*i*P	**Pn**	**15 22 38.9**	**+0.9**
PB02				*i* S	**Sn**	**15 23 03.5**	**+0.5**
PB07	**IPOC Station P**	**2.39**	**166**	⇓*i*P	**Pn**	**15 22 44.4**	**+0.9**
PB07				*i* S	**Sn**	**15 23 13.6**	**+0.7**
PB07				IAML		15 23 23.8	
	comp=E,568nm,0.8s						
PB03	**IPOC Station P**	**2.73**	**165**	⇓*i*P	**Pn**	**15 22 49.0**	**+0.8**
PB03				*i* S	**Sn**	**15 23 22.1**	**+0.8**
PB03				IAML		15 23 33.5	
	comp=E,313nm,0.4s						
LPAZ	**La Paz**	**3.82**	**36**	Pn	**Pb**	**15 23 09.0**	**-3.2**
	comp=E,0.4nm,0.3s,baz=205,slow=4.4,SNR=23						
LPAZ				Sn	**Sg**	**15 24 07.1**	**-0.2**
	baz=84,slow=18,SNR=1.6						
LPAZ				LR	LR	15 24 47.0	
	comp=E,135nm,18.4s,baz=176,slow=38						
H03N1	**Juan Fernandez**	**15.88**	**207**	T	T	15 42 05.7	
	baz=32,slow=73,SNR=101						
H03N2	**Juan Fernandez**	**15.89**	**207**	T	T	15 42 06.6	
	baz=32,slow=73,SNR=86						
H03N3	**Juan Fernandez**	**15.90**	**207**	T	T	15 42 09.6	
	baz=32,slow=73,SNR=85						
TORD	**Torodi Ar. Bea**	**78.08**	**71**	P	P	15 33 59.5	-4.1
	comp=E,0.9nm,0.8s,baz=256,slow=5.2,SNR=4.5						
H11S2	**WAKE ISLAND Hyl**	**26.11**	**279**	T	T	18 00 08.3	
	baz=101,slow=75,SNR=119						
H11S1	**WAKE ISLAND Hyl**	**26.11**	**279**	T	T	18 00 06.5	
	baz=101,slow=75,SNR=164						
H11S3	**WAKE ISLAND Hyl**	**26.12**	**279**	T	T	18 00 09.3	
	baz=101,slow=75,SNR=141						
H11N3	**WAKE ISLAND Hyl**	**26.14**	**281**	T	T	18 00 10.5	
	baz=100,slow=75,SNR=23						
H11N2	**WAKE ISLAND Hyl**	**26.15**	**281**	T	T	18 00 11.1	
	baz=100,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hyl**	**26.15**	**281**	T	T	18 00 10.1	
	baz=100,slow=75,SNR=24						
WRA	**Warramunga Arr**	**133.95**	**213**	PKP	**PKPdf**	**15 41 20.6**	**-1.8**
	comp=E,0.3nm,0.9s,baz=132,slow=2.3,SNR=2.0						
MKAR	**Makanchi Array**	**144.75**	**33**	PKPbc	**PKPab**	**15 41 39.3**	**-0.7**
	comp=E,0.3nm,0.7s,baz=302,slow=2.6,SNR=2.8						

WEL 25 15:30:08.8, 43°.S±2°.×17°.2E±°, h11km±1km, M2.7/11, ML2.8/10, MLv2.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.06**	**156**	P	Pg	15 30 12.0	+0.9
MHCZ	**Mount Hutt**	**0.41**	**231**	P	Pb	15 30 18.3	+0.2
AMCZ	**Amberley**	**0.48**	**79**	P	Pb	15 30 19.4	+0.1
LTZ	**Lake Taylor**	**0.53**	**22**	P	Pg	15 30 18.4	-0.6
MQZ	**McQueen's Vall**	**0.64**	**133**	P	Pb	15 30 22.7	+0.7
WACZ	**Wakanui South**	**0.68**	**190**	P	Pn	15 30 24.1	-0.3
INZ	**Inchbonnie**	**0.69**	**323**	P	Pg	15 30 21.2	-0.9
GVZ	**Greta Valley S**	**0.81**	**68**	P	Pb	15 30 25.4	+0.5
RPZ	**Rata Peaks**	**0.82**	**237**	P	Pb	15 30 25.7	+0.5
AKCZ	**Akaroa Harbour**	**0.89**	**133**	P	Pn	15 30 27.2	-0.1
OKCZ	**Okains Bay**	**0.89**	**121**	P	Pn	15 30 27.1	-0.2
ARCZ	**Arundel**	**0.91**	**221**	P	Pn	15 30 27.5	0.0
WVZ	**Waitaha Valley**	**0.95**	**282**	P	Pg	15 30 26.8	-0.3
GCSZ	**Gaunt Creek Bo**	**1.23**	**267**	P	Pg	15 30 33.0	+0.7
DSZ	**Denniston Nort**	**1.53**	**354**	P	Pn	15 30 36.4	+0.3
FOZ	**Fox Glacier**	**1.62**	**260**	P	Pb	15 30 38.9	+0.3
THZ	**Tophouse**	**1.65**	**24**	P	Pn	15 30 38.0	+0.2
LBZ	**Lake Benmore**	**1.73**	**229**	P	Pg	15 30 42.1	+0.2
ODZ	**Otahua Downs**	**2.02**	**208**	P	Pn	15 30 43.4	+0.5

*JMA **25** 15:35:26.1±0.1, 22°.81N×121°.12E, h33km±1km, M3.0*
*TAP **25** 15:35:27.0, 22°.79N×121°.26E, h18km, ML3.0, B*

ISC 25 15:35:27.3±0.9, 22°.76N±0°.02×121°.31E±0°.02, h20km±1km, n89, σ1°.13/144, 3C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.15**	**267**	⇑*i*P	**Pb**	**15 35 31.5**	**-0.4**
	baz=248						
TTN				*i* S	**Sb**	**15 35 34.7**	**-0.4**
	baz=248						
LDUT	**Ludao**	**0.18**	**120**	⇓*i*P	**Pb**	**15 35 32.7**	**+0.5**
	baz=120						
LDUT				S	**Sb**	**15 35 36.8**	**+1.2**
	baz=120						
EDH	**Donghe**	**0.21**	**360**	P	**Pb**	**15 35 32.0**	**-0.7**
	baz=11						
EDH				S	**Sb**	**15 35 35.6**	**-0.7**
	baz=11						
TWGBT	**Beinan**	**0.21**	**285**	⇑*i*P	**Pb**	**15 35 31.7**	**-1.0**
	baz=282						
TWGBT				*i* S	**Sb**	**15 35 36.3**	**-0.1**
	baz=282						
LONT	**Longtian**	**0.22**	**312**	P	**Pb**	**15 35 31.7**	**-1.1**
	baz=319						
LONT				*e*S	**Sb**	**15 35 36.7**	**+0.3**
	baz=319						
TWG	**Pinlang**	**0.22**	**285**	⇑*i*P	**Pb**	**15 35 31.7**	**-1.1**
	baz=282						
TWG				S	**Sb**	**15 35 36.2**	**-0.4**
	baz=282						
CHKT	**Chengkung**	**0.34**	**9**	*e*P	**Pb**	**15 35 34.5**	**-0.1**
	baz=29						
CHKT				S	**Sb**	**15 35 40.0**	**+0.4**
	baz=29						
ECL	**Taimali**	**0.36**	**243**	⇓*i*P	**Pb**	**15 35 34.3**	**-0.7**
	baz=233						
ECL				S	**Sb**	**15 35 39.7**	**-0.6**
	baz=233						
FULB	**Fuli**	**0.43**	**359**	*e*P	**Pb**	**15 35 36.2**	**0.0**
	baz=352						
FULB				*e*S	**Sb**	**15 35 43.4**	**+1.0**
	baz=352						
ELDTW	**Lidau**	**0.50**	**328**	⇓*i*P	**Pb**	**15 35 36.1**	**-1.4**
	baz=333						
ELDTW				*e*S	**Sb**	**15 35 42.4**	**-2.0**
	baz=333						
TAW	**Tawu**	**0.55**	**223**	*e*P	**Pb**	**15 35 37.8**	**-0.5**
	baz=214						
TAW				*e*S	**Sb**	**15 35 45.4**	**-0.4**
	baz=214						
EAST	**Anshuo**	**0.57**	**228**	*e*P	**Pb**	**15 35 38.1**	**-0.5**
	baz=230						
EAST				*e*S	**Sb**	**15 35 44.8**	**-1.5**
	baz=230						
EYUL	**Yuli**	**0.58**	**1**	*e*P	**Pb**	**15 35 38.0**	**-0.9**
	baz=355						
EYUL				*e*S	**Sb**	**15 35 46.2**	**-0.5**
	baz=355						
TWF1	**Yuli**	**0.59**	**359**	P	**Pb**	**15 35 37.4**	**-1.6**
	baz=354						
TWF1				S	**Sb**	**15 35 45.5**	**-1.4**
	baz=354						
TSMG	**Majia**	**0.61**	**265**	*e*P	**Pb**	**15 35 38.0**	**-1.3**
	baz=264						
TSMG				*e*S	**Sb**	**15 35 45.7**	**-1.9**
	baz=264						
SSD	**Sandimen**	**0.62**	**269**	⇓*i*P	**Pb**	**15 35 38.3**

TPUB	**Ta-pu**	**0.82**	**311**	*e*P	**Pb**	**15 35 42.5**	**-0.4**
	baz=312						
TPUB				*e*S	**Sn**	**15 35 54.5**	**-0.8**
	baz=312						
CHN1	**Nanshi**	**0.83**	**301**	*e*P	**Pb**	**15 35 43.1**	**+0.1**
	baz=309						
CHN1				*e*S	**Sn**	**15 35 55.2**	**-0.4**
	baz=309						
SNST	**Tainan City**	**0.87**	**302**	*e*P	**Pb**	**15 35 43.7**	**0.0**
	baz=302						
SNST				*e*S	**Sn**	**15 35 56.7**	**+0.1**
	baz=302						
ALS	**Alishan**	**0.88**	**328** ⇓	*i*P	**Pb**	**15 35 43.2**	**-0.8**
	baz=331						
CHN4	**Tsaushan**	**0.88**	**312**	*i*P	**Pb**	**15 35 43.4**	**-0.4**
	baz=313						
CHN4				*e*S	**Sb**	**15 35 54.6**	**-0.6**
	baz=313						
SNJT	**Kaohsiung City**	**0.90**	**270**	*e*P	**Pn**	**15 35 45.8**	**+1.1**
	baz=267						
SNJT				*e*S	**Sn**	**15 35 59.6**	**+2.5**
	baz=267						
TWK	**Hsinying**	**0.90**	**304**	*e*P	**Pb**	**15 35 43.8**	**-0.6**
	baz=305						
TWK				*e*S	**Sn**	**15 35 57.6**	**+0.2**
	baz=305						
EGFH	**Guangfu**	**0.91**	**7**	*e*P	**Pb**	**15 35 43.8**	**-0.5**
	baz=358						
EGFH				*e*S	**Sb**	**15 35 54.4**	**-1.7**
	baz=358						
HEN	**Hengchun**	**0.92**	**215**	*e*P	**Pb**	**15 35 43.4**	**-1.2**
	baz=195						
CHN3	**Shinhua**	**0.92**	**290**	*e*P	**Pn**	**15 35 46.0**	**+1.0**
	baz=289						
CHN3				*e*S	**Sn**	**15 35 58.8**	**+1.1**
	baz=289						
TWKBT	**Hengchun**	**0.94**	**209**	*e*P	**Pb**	**15 35 43.7**	**-1.2**
	baz=190						
TWKBT				*e*S	**Sb**	**15 35 56.6**	**-0.2**
	baz=190						
TWK1	**Hengchun**	**0.94**	**210**	*e*P	**Pb**	**15 35 44.3**	**-0.5**
	baz=191						
WLCH	**Liuqiu**	**0.95**	**245**	*e*P	**Pn**	**15 35 46.6**	**+1.2**
	baz=235						
WLCH				*e*S	**Sn**	**15 36 00.3**	**+1.9**
	baz=235						
TWP	**Hsiaoliuchiu**	**0.96**	**245**	*e*P	**Pb**	**15 35 45.2**	**-0.1**
	baz=241						
VWDT	**VWDT**	**1.00**	**351**	*e*P	**Pn**	**15 35 44.6**	**-1.6**
	baz=355						
CHN5	**Tsauling**	**1.01**	**325**	*e*P	**Pn**	**15 35 45.8**	**-0.7**
	baz=327						
WHYT	**Xinyi Township**	**1.02**	**336**	*e*P	**Pn**	**15 35 45.8**	**-0.7**
	baz=338						
ESL	**Shilin**	**1.05**	**6**	*e*P	**Pn**	**15 35 46.3**	**-0.6**
	baz=9.0						
SSLB	**Suanglung**	**1.07**	**343**	*e*P	**Pn**	**15 35 46.0**	**-1.2**
	baz=337						
CHY	**Chiayi**	**1.09**	**312**	*e*P	**Pn**	**15 35 47.2**	**-0.2**
	baz=314						
ICHU	**Yijhu**	**1.12**	**302**	*e*P	**Pn**	**15 35 47.3**	**-0.5**
	baz=303						
WGK	**Gukeng**	**1.15**	**324**	*e*P	**Pb**	**15 35 48.7**	**+0.3**
	baz=324						
WGK				*e*S	**Sn**	**15 36 04.4**	**+1.1**
	baz=324						
WDLH	**Douliu**	**1.16**	**323**	*e*P	**Pb**	**15 35 49.0**	**+0.3**
	baz=323						
WDLH				*e*S	**Sb**	**15 36 06.3**	**+3.0**
	baz=323						
CHN8	**Yiju**	**1.16**	**300**	*e*S	**Sb**	**15 36 06.0**	**+2.7**
	baz=300						
WLGB	**Puzi**	**1.17**	**308**	*e*P	**Pn**	**15 35 48.4**	**-0.1**
	baz=308						
WLGB				*e*S	**Sb**	**15 36 05.4**	**+2.0**
	baz=308						
SMLT	**Sun Moon Lake**	**1.18**	**342**	*e*P	**Pn**	**15 35 48.8**	**0.0**
	baz=351						
SMLT				*e*S	**Sb**	**15 36 04.1**	**+0.2**
	baz=351						
WJS	**Zhushan**	**1.18**	**333**	*e*P	**Pb**	**15 35 49.0**	**0.0**
	baz=350						
WJS				*e*S	**Sb**	**15 36 05.9**	**+2.0**
	baz=350						
TYC	**Yuchr**	**1.21**	**340**	*e*P	**Pb**	**15 35 49.8**	**+0.3**
	baz=355						
TYC				*e*S	**Sb**	**15 36 07.0**	**+2.3**
	baz=355						
WNT	**Mingjian**	**1.25**	**333**	*e*P	**Pb**	**15 35 50.9**	**+0.7**
	baz=333						
WNT				*e*S	**Sb**	**15 36 07.9**	**+2.0**
	baz=333						
WTK	**Tuku**	**1.28**	**318**	*e*P	**Pn**	**15 35 49.7**	**+0.1**
	baz=317						
WTK				*e*S	**Sb**	**15 36 07.4**	**+1.6**
	baz=317						
CHGB	**Renai**	**1.30**	**355**	*e*P	**Pn**	**15 35 49.7**	**-0.7**
	baz=9.0						
CHGB				*e*S	**Sn**	**15 36 05.4**	**-2.0**
	baz=9.0						
WSF	**Szhu**	**1.32**	**311**	*e*P	**Pn**	**15 35 51.0**	**+0.3**
	baz=312						
WHF	**Hehuan Shan**	**1.38**	**358**	*e*P	**Pn**	**15 35 50.3**	**-1.4**
	baz=12						
NACB	**Ninganchiao**	**1.43**	**11**	*e*P	**Pn**	**15 35 50.5**	**-1.6**
	baz=11						
ETLH	**Xiulin Townshi**	**1.45**	**6**	*e*P	**Pn**	**15 35 52.1**	**-0.3**
	baz=20						
FUSS	**Fushou**	**1.48**	**358**	*e*P	**Pn**	**15 35 52.1**	**-0.9**
	baz=10.0						
WCHH	**Zhanghua**	**1.48**	**333**	*e*P	**Pn**	**15 35 53.1**	**+0.4**
	baz=317						
TWT	**Tachien**	**1.49**	**355**	*e*P	**Pn**	**15 35 52.6**	**-0.5**
	baz=8.0						
TDCB	**Techi**	**1.49**	**355**	*e*P	**Pn**	**15 35 52.7**	**-0.3**
	baz=8.0						
WHP	**Taichung City**	**1.54**	**348**	*e*P	**Pb**	**15 35 54.9**	**-0.3**
	baz=1.0						
WHP				*e*S	**Sb**	**15 36 16.5**	**+2.1**
	baz=1.0						
WDGT	**Dungji**	**1.59**	**288**	*e*P	**Pn**	**15 35 53.7**	**-0.6**
	baz=288						
TWQ1	**Liyutan**	**1.65**	**343**	*e*P	**Pb**	**15 35 56.3**	**-0.7**
	baz=342						
TWQ1				*e*S	**Sb**	**15 36 19.0**	**+1.5**
	baz=342						
NSY	**Sanyi**	**1.72**	**343**	*e*P	**Pb**	**15 35 57.8**	**-0.4**
	baz=345						
PNG	**Penghu**	**1.80**	**297**	*e*P	**Pn**	**15 35 56.2**	**-0.9**
	baz=297						
NSTT	**Nanjuang**	**1.88**	**352**	*e*P	**Pn**	**15 35 59.5**	**+1.1**
	baz=349						
NSTT				*e*S	**Sb**	**15 36 24.9**	**+0.9**
	baz=349						
LIOB	**Emei**	**1.89**	**352**	*e*P	**Pn**	**15 35 59.5**	**+1.0**
	baz=350						
LIOB				*e*S	**Sb**	**15 36 24.4**	**-0.1**
	baz=350						
JYNG	**Yonagunijimaku**	**2.26**	**42**	P	**Pn**	**15 36 04.0**	**+0.6**
JYNG				*e*S	**Sn**	**15 36 30.9**	**+0.2**
YOJ	**Yonaguni jima**	**2.30**	**42**	*e*P	**Pn**	**15 36 04.9**	**+0.8**
	baz=41						
HATJ	**Hateruma jima**	**2.63**	**60**	*e*S	**Sn**	**15 36 38.9**	**-1.1**
IRIF	**Iriomote-Funau**	**2.72**	**54**	P	**Pn**	**15 36 10.4**	**+0.6**
IRIF				S	**Sn**	**15 36 43.6**	**+1.4**
JKRS	**Kuro-shima**	**2.88**	**59**	P	**Pn**	**15 36 13.6**	**+1.5**
PTMZ	**Houxiangcun**	**3.02**	**319**	*e*P	**Pn**	**15 36 13.6**	**-0.3**
	baz=319						
JIJ	**Ishigaki jima**	**3.05**	**58**	P	**Pn**	**15 36 15.2**	**+0.8**
JIJ				S	**Sn**	**15 36 50.6**	**+0.2**
JISG	**Ishigakijimahi**	**3.30**	**56**	P	**Pn**	**15 36 18.1**	**+0.3**
JISG				*e*S	**Sn**	**15 36 55.3**	**-1.2**
ZPLA	**Ao Xicun**	**3.47**	**290**	*e*P	**Pn**	**15 36 20.3**	**+0.2**
	baz=291						
JTJ	**Tarama**	**3.63**	**58**	*e*S	**Sn**	**15 37 04.3**	**-0.3**
AXDP	**Jialang**	**3.72**	**306**	*e*P	**Pn**	**15 36 23.8**	**+0.2**
	baz=305						

TAP 25 15:35:46.5, 24°.34N×121°.78E, h7km, ML1.7, 2C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.09**	**340** ⇑	*i*P	Pg	15 35 49.0	+0.3
	baz=344						
ENA				*i*S	Sg	15 35 50.5	+0.3
	baz=344						
ENAH	**Nanao**	**0.11**	**16**	*i*P	Pg	15 35 49.2	+0.2
	baz=12						
ENAH				*i*S	Sg	15 35 51.1	+0.4
	baz=12						
NACB	**Ninganchiao**	**0.23**	**225**	*e*P	Pg	15 35 51.5	+0.3
	baz=214						
NACB				*e*S	Sg	15 35 54.8	+0.5
	baz=214						
TWC	**Suao**	**0.28**	**14**	*i*P	Pg	15 35 52.2	+0.2
	baz=11						
TWC				S	Sg	15 35 55.5	-0.1
	baz=11						
ETLH	**Xiulin Townshi**	**0.30**	**244**	P	Pg	15 35 52.8	+0.3
	baz=243						
ETLH				*e*S	Sg	15 35 57.4	+1.0
	baz=243						
ENTT	**Nioudou**	**0.35**	**327** ⇑	*i*P	Pg	15 35 54.2	+0.7
	baz=328						
ENTT				S	Sg	15 35 59.1	+0.9
	baz=328						
NDT	**Datong Townshi**	**0.35**	**318**	*i*P	Pg	15 35 54.3	+0.8
	baz=317						
NDT				S	Sb	15 35 59.8	-1.2
	baz=317						
NNSB	**Datong**	**0.37**	**284**	*e*P	Pg	15 35 54.2	+0.5
	baz=16						
NNSB	**Datong**	**0.37**	**284**	*e*P	Pg	15 35 54.2	+0.5
	baz=284						
NNSB				*e*S	Sg	15 35 58.8	+0.1
	baz=284						
NNSH	**Datong**	**0.37**	**284**	*e*P	Pg	15 35 54.4	+0.6
	baz=15						
NNSH	**Datong**	**0.37**	**284**	P	Pg	15 35 54.3	+0.5
	baz=284						
NNSH				*e*S	Sg	15 35 59.4	+0.7
	baz=284						
NNS	**Nan Shan**	**0.38**	**285**	*e*P	Pb	15 35 55.0	-0.7
	baz=16						
NNS	**Nan Shan**	**0.38**	**285**	P	Pg	15 35 54.6	+0.6
	baz=285						
NNS				*e*S	Sg	15 35 59.9	+0.8
	baz=285						
TWE	**Neicheng**	**0.39**	**345**	P	Pg	15 35 54.8	+0.6
	baz=347						
TWE				*e*S	Sg	15 36 00.6	+1.3
	baz=347						
YHNB	**Yeheng**	**0.49**	**312**	*e*P	Pb	15 35 57.0	-0.5
	baz=15						
YHNB	**Yeheng**	**0.49**	**312**	*e*P	Pb	15 35 57.0	-0.6
	baz=312						
NWLT	**Wulai**	**0.50**	**330**	*e*P	Pb	15 35 57.0	-0.7
	baz=330						
NWLT				*e*S	Sg	15 36 02.7	-0.1
	baz=330						
NSK	**Sanguang**	**0.51**	**311**	*e*P	Pg	15 35 57.0	+0.7
	baz=312						
NSK				*e*S	Sb	15 36 04.2	-1.2
	baz=312						
TIPB	**Shuangxi**	**0.63**	**4**	*e*P	Pb	15 35 59.5	-0.4
	baz=4.0						
TIPB				*e*S	Sg	15 36 07.0	+0.1
	baz=4.0						

WEL 25 15:40:33.2, 43°S±2°×17°2E±°, h6km±2km, M2.4/10, ML2.5/10, MLv2.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=122.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.14**	**157**	P	Pg	15 40 37.5	+1.4
MHCZ	**Mount Hutt**	**0.44**	**220**	P	Pb	15 40 43.8	+0.3
LTZ	**Lake Taylor**	**0.47**	**29**	P	Pb	15 40 43.9	0.0
AMCZ	**Amberley**	**0.50**	**88**	P	Pb	15 40 44.8	+0.4
INZ	**Inchbonnie**	**0.60**	**321**	P	Pb	15 40 46.6	+0.5
MQZ	**McQueen's Vall**	**0.72**	**136**	P	Pb	15 40 48.1	0.0
WACZ	**Wakanui South**	**0.75**	**187**	P	Pn	15 40 49.6	-0.7
GVZ	**Greta Valley S**	**0.82**	**74**	P	Pn	15 40 50.8	-0.5
RPZ	**Rata Peaks**	**0.84**	**232**	P	Pn	15 40 51.1	-0.5
WVZ	**Waitaha Valley**	**0.91**	**277**	P	Pn	15 40 52.3	-0.2
ARCZ	**Arundel**	**0.94**	**217**	P	Pn	15 40 52.9	-0.1
OKCZ	**Okains Bay**	**0.96**	**124**	P	Pn	15 40 53.1	-0.1
AKCZ	**Akaroa Harbour**	**0.96**	**135**	P	Pb	15 40 52.7	+0.4
DSZ	**Denniston Nort**	**1.45**	**355**	P	Pg	15 41 01.8	+0.8
THZ	**Tophouse**	**1.59**	**26**	P	Pb	15 41 03.2	+0.2
LBZ	**Lake Benmore**	**1.75**	**227**	P	Pg	15 41 08.2	+1.4
ODZ	**Otahua Downs**	**2.08**	**207**	P	Pg	15 41 13.5	+0.5

IDC ***25*** *15:42:15.2±1.2, 1°.87N×125°.57E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/44, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=101.4km s-min=18.4km az=69.0*
DJA ***25*** *15:42:24.9±2.1, 2°.N±4°×12°.6E±°, h23km±20km, M4.1/13, mB4.8/4, mb4.2/8, MLv4.0/13, Mw(mB)4.1/4*
NEIC ***25*** *15:42:25.1±2.1, 1°.99N±0°.07×126°.14E±0°.10, h88km±10km, mb4.2/16, Error ellipse: s-maj=15.3km s-min=8.3km az=67.0*
ISC 25 15:42:24.7±0.7, 1°.95N±0°.08×126°.09E±0°.09, h83km, n42, σ1°15/42, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.73**	**132**	P	**Pn**	**15 42 54.1**	**+0.9**
TNTI	**Ternate**	**1.73**	**132**		**Pn**	**15 42 53.7**	**+0.5**
KMSI	**Cibinong**	**2.51**	**237**	P	**Pn**	**15 43 02.7**	**-0.8**
GTOI	**Gorontalo**	**3.34**	**247**	P	**Pn**	**15 43 14.1**	**-0.6**
SANI	**Sanana**	**3.97**	**181**	P	**Pn**	**15 43 20.8**	**-2.5**
LUWI	**Luwuk**	**4.45**	**228**	P	**Pn**	**15 43 30.3**	**+0.5**
LUWI	**Luwuk**	**4.45**	**228**		**Pn**	**15 43 30.3**	**+0.5**
NLAI	**Namlea**	**5.25**	**169**	P	**Pn**	**15 43 39.9**	**-0.8**
	0.2nm1μm19nm,0.5s						
MSAI	**Masohi**	**5.98**	**152**	P	**Pn**	**15 43 53.2**	**+2.5**
	0.0nm8.0nm,0.5s						
MPSI	**Mapaga**	**6.39**	**256**	P	**Pn**	**15 43 56.1**	**-0.2**
	0.1nm13nm,0.7s						
FAKI	**Fak Fak**	**7.83**	**128**	Pn	**Pn**	**15 44 15.5**	**-0.5**
MYLDM	**Lahad Datu**	**8.22**	**293**		**Pn**	**15 44 23.4**	**+2.0**
BNSI	**Bone**	**8.69**	**223**	P	**Pn**	**15 44 27.2**	**-0.5**
	15nm,0.7s						
BKSI	**Bulukumba**	**9.36**	**220**	P	**Pn**	**15 44 37.6**	**+0.7**
	344nm14nm,1.1s						
KKM	**Kota Kinabalu**	**10.65**	**293**	Pn	**Pn**	**15 44 56.3**	**+1.7**
EDFI	**Ende, Flores**	**11.49**	**202**	P	**Pn**	**15 45 06.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**15.77**	**229**	Pn	**P**	**15 46 03.3**	**-1.1**
KNRA	**Kununurra**	**17.71**	**172**		**Pn**	**15 46 26.6**	**+0.6**
KNRA				IAmb	IAmb	15 46 31.7	
	comp=Z,40nm,1.8s						
FITZ	**Fitzroy Crossi**	**19.92**	**181**	P	**P**	**15 46 48.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=16,slow=5.8,SNR=7.0						
FITZ	**Fitzroy Crossi**	**19.92**	**181**	P	**P**	**15 46 49.1**	**-0.9**
TPUB	**Ta-pu**	**21.88**	**346**	P	**P**	**15 47 10.3**	**-0.6**
TPUB				IAmb	IAmb	15 47 27.6	
	comp=Z,53nm,1.8s						
WB0	**Warramunga Arr**	**23.07**	**160**	P	**P**	**15 47 23.4**	**0.0**
WB0				IAmb	IAmb	15 47 46.2	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**23.21**	**160**	P	**P**	**15 47 24.9**	**+0.2**
WRA	**Warramunga Arr**	**23.21**	**160**	P	**P**	**15 47 24.3**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=336,slow=11,SNR=58						
WRA				S	**S**	**15 51 28.9**	**-1.4**
	comp=Z,0.9nm,1.0s,baz=342,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**23.21**	**160**	P	**P**	**15 47 23.6**	**-1.2**
WB2	**Warramunga Arr**	**23.22**	**160**	P	**P**	**15 47 24.5**	**-0.4**
WB2				IAmb	IAmb	15 48 00.2	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**23.30**	**160**	P	**P**	**15 47 25.3**	**-0.3**
WR0				IAmb	IAmb	15 47 38.9	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**26.57**	**164**	P	**P**	**15 47 56.1**	**+0.9**
ASAR	**Alice Springs**	**26.57**	**164**	P	**P**	**15 47 56.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=337,slow=7.5,SNR=24						
ASAR				S	**S**	**15 52 23.5**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=337,slow=16,SNR=2.1						
ASAR	**Alice Springs**	**26.57**	**164**	P	**P**	**15 47 56.2**	**+1.0**
NWAO	**Narrogin (SRO)**	**35.68**	**193**	P	**P**	**15 49 15.1**	**0.0**
STKA	**Stephens Creek**	**36.72**	**158**	P	**P**	**15 49 25.6**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=339,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**36.72**	**158**	IAmb	IAmb	15 50 24.5	
	comp=Z,3.2nm,1.8s						
SONM	**Songino Array**	**48.78**	**342**	P	**P**	**15 51 01.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=152,slow=7.5,SNR=2.3						
SONM	**Songino Array**	**48.78**	**342**	IAmb	IAmb	15 51 09.3	
	comp=Z,1.9nm,1.6s						
TARG	**Taragay, Kyrgy**	**58.66**	**319**	P	**P**	**15 52 11.7**	**-2.3**
MK31	**Makanchi Array**	**58.66**	**326**	P	**P**	**15 52 13.8**	**+0.4**
MK31				IAmb	IAmb	15 53 25.6	
	comp=Z,4.8nm,1.6s						
MKAR	**Makanchi Array**	**58.66**	**326**	P	**P**	**15 52 12.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=120,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**58.66**	**326**	P	**P**	**15 52 13.6**	**+0.1**
MAKZ	**Makanchi**	**58.84**	**326**	P	**P**	**15 52 12.7**	**-2.0**
MAKZ				IAmb	IAmb	15 52 17.3	
	comp=Z,6.3nm,1.6s						
AB03	**Akbulak array**	**73.12**	**321**	P	**P**	**15 53 47.8**	**+1.5**
ABKAR	**Akbulak array**	**73.12**	**321**	P	**P**	**15 53 44.9**	**-1.3**

DDA ***25*** *15:45:31.9, 36°.48N×27°.08E, h22km±2km, ML2.0*
THE ***25*** *15:45:31.4, 36°.49N×27°.12E, h0km±1km, ML1.9/4, Error ellipse: s-maj=1.5km s-min=0.9km az=144.0*
ATH ***25*** *15:45:32.0, 36°.45N×27°.08E, h20km±4km, ML2.6/1, Error ellipse: s-maj=4.7km s-min=1.1km az=181.0*
ISC 25 15:45:32.0±1.0, 36°.49N±0°.03×27°.12E±0°.02, h16km±8km, n17, σ0°90/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.29**	**337**	P	**Pg**	**15 45 37.0**	**-1.2**
KOSK				S	**Sg**	**15 45 42.3**	**-0.1**
	248nm,0.4s						
DAT	**Datca**	**0.44**	**56**	P	**Pg**	**15 45 41.0**	**+0.1**
DAT				S	**Sg**	**15 45 47.9**	**+0.9**
DAT	**Datca**	**0.44**	**56**	*i*P	**Pg**	**15 45 40.5**	**-0.4**
DAT				*i*S	**Sg**	**15 45 47.2**	**+0.3**
DAT				IAML		15 45 48.0	
	comp=N,98nm,0.5s						
DAT				IAML		15 45 49.0	
	comp=E,94nm,0.2s						
BODT	**Bodrum**	**0.60**	**15**	P	**Pb**	**15 45 43.6**	**-0.5**
BODT				S	**Sg**	**15 45 53.2**	**+1.5**
ARG	**Arkhangelos**	**0.85**	**108**	P	**Pb**	**15 45 49.2**	**+0.7**
ARG				S	**Sg**	**15 46 01.1**	**+1.2**
KARP	**Karpathos**	**0.94**	**178**	P	**Pb**	**15 45 49.4**	**-0.5**
KARP				S	**Sg**	**15 46 03.4**	**+0.9**
KARP	**Karpathos**	**0.94**	**178**	P	**Pb**	**15 45 49.0**	**-0.9**
TURN	**Turunc**	**0.95**	**72**	*i*P	**Pb**	**15 45 49.6**	**-0.5**
TURN				*i*S	**Sb**	**15 46 02.3**	**-0.2**
TURN				IAML		15 46 06.0	
	comp=E,38nm,1.0s						
AMGA	**Amorgos Island**	**1.05**	**290**	P	**Pb**	**15 45 51.3**	**-0.5**
AMGA				S	**Sn**	**15 46 07.1**	**+0.7**
	comp=E,65nm,0.5s						
AMGA	**Amorgos Island**	**1.05**	**290**	P	**Pb**	**15 45 51.3**	**-0.5**
ANAF	**Anafi Island**	**1.09**	**264**	P	**Pn**	**15 45 52.3**	**-0.5**
ANAF				S	**Sg**	**15 46 08.9**	**+1.4**
	comp=E,298nm,0.4s						
ANAF	**Anafi Island**	**1.09**	**264**	P	**Pn**	**15 45 52.1**	**-0.7**
ANAF				S	**Sb**	**15 46 07.0**	**+0.3**
ANAF				AML	AML	15 46 10.3	
	comp=N,656μm,0.4s						
ANAF				AML	AML	15 46 12.0	
	comp=E,523μm,0.4s						
AYDN	**Tasoluk**	**1.32**	**27**	*i*P	**Pn**	**15 45 56.5**	**+0.6**
AYDN				*i*S	**Sn**	**15 46 12.9**	**-0.3**
APE	**Apeiranthos**	**1.40**	**295**	P	**Pn**	**15 45 58.1**	**+1.0**
APE				S	**Sg**	**15 46 17.9**	**+0.6**
	comp=E,30nm,0.4s						
APE	**Apeiranthos**	**1.40**	**295**	P	**Pn**	**15 45 58.0**	**+1.0**
IOSP	**Ios island**	**1.49**	**280**	P	**Pb**	**15 45 59.8**	**+0.4**
FETY	**Fethiye**	**1.59**	**84**	*i*P	**Pg**	**15 46 02.5**	**0.0**
FETY				*i*S	**Sn**	**15 46 17.6**	**-2.2**
FETY				IAML		15 46 25.0	
	comp=N,48nm,1.3s						

IDC ***25*** *16:35:16.4±0.5, 64°.55N×17°.63W, h0km, mb4.1/21, mb1 4.2/25, mb1mx4.1/45, mbtmp4.1/25, ML2.7/3, MS3.4/19, Ms1 3.4/19, ms1mx3.2/51, Error ellipse: s-maj=17.7km s-min=8.6km az=14.0*
REY ***25*** *16:35:16.6, 64°.68N×17°.47W, h6km*
MOS ***25*** *16:35:17.0±1.0, 64°.65N×17°.45W, h10km, mb4.8/22, Error ellipse: s-maj=10.8km s-min=6.2km az=110.1*
NEIC ***25*** *16:35:18.9±1.3, 64°.60N±0°.08×17°.4W±0°.1, h9km±4km, mb4.7/114, Error ellipse: s-maj=11.2km s-min=6.6km az=172.0*
BGR ***25*** *16:35:33.0±0.0, 64°.23N×14°.63W, h10km, mb4.4, Ms3.1*
ISC 25 16:35:18.5±0.3, 64°.65N±0°.02×17°.45W±0°.02, h10km, n342, σ1°26/348, mb4.6/135, MS3.4/24, 7C-8D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.13**	**280**	P	**Pg**	**16 35 19.2**	**-2.5**
	baz=269						
IVON				S	**Sg**	**16 35 20.8**	**-3.1**
	baz=269						
IDYN	**Dyngjuhals**	**0.15**	**14**	P	**Pg**	**16 35 19.5**	**-2.5**
	baz=21						
IDYN				S	**Sg**	**16 35 21.6**	**-2.7**
	baz=21						
IDJK	**Dyngjujokull**	**0.17**	**148**	P	**Pg**	**16 35 20.8**	**-1.6**
	baz=149						
IDJK				S	**Sg**	**16 35 24.1**	**-0.9**
	baz=149						
IURH	**Urdarhals**	**0.21**	**37**	P	**Pg**	**16 35 20.6**	**-2.4**
	baz=43						
IGRF	**Grimsfjall**	**0.26**	**162**	P	**Pg**	**16 35 22.0**	**-1.8**
	baz=162						
IKVE	**Kverkfjoll**	**0.33**	**85**	P	**Pg**	**16 35 23.1**	**-2.2**
	baz=89						
IBJK	**Bruarjokull**	**0.35**	**121**	P	**Pg**	**16 35 23.3**	**-2.3**
	baz=123						
IHUS	**Husbondi**	**0.37**	**194**	P	**Pg**	**16 35 24.0**	**-1.8**
	baz=192						
IVOT	**Vottur**	**0.40**	**163**	P	**Pg**	**16 35 24.4**	**-2.0**
	baz=163						
ISKR	**Skrokkalda**	**0.41**	**258**	P	**Pg**	**16 35 24.1**	**-2.5**
	baz=254						
IJOK	**Jokulheimar**	**0.47**	**225**	P	**Pg**	**16 35 25.4**	**-2.3**
	baz=222						
IKRE	**Kreppuhraun**	**0.48**	**73**	P	**Pg**	**16 35 25.2**	**-2.6**
	baz=76						
IKRE				S	**Sg**	**16 35 32.0**	**-2.1**
	baz=76						
IASK	**Askja**	**0.53**	**40**	P	**Pg**	**16 35 25.8**	**-3.0**
	baz=42						
IMKO	**Mokollar**	**0.58**	**55**	P	**Pg**	**16 35 26.9**	**-2.9**
	baz=57						
IMKO				S	**Sg**	**16 35 35.4**	**-2.0**
	baz=57						
IIEY	**Innrieyrar**	**0.63**	**208**	P	**Pg**	**16 35 28.0**	**-2.7**
	baz=206						
IIEY				S	**Sg**	**16 35 37.2**	**-1.8**
	baz=206						
ISVA	**Svartarkot

BORG Borgarnes 1.67 275 Pg **Pn 16 35 44.6 -3.2**
24nm,0.3s,baz=91,slow=7.9,SNR=40
BORG Lg Lg 16 36 07.3
20nm,0.3s,baz=86,slow=15,SNR=4.4
BORG Borgarnes 1.67 275 Pn **Pn 16 35 44.3 -3.5**
SCO Scoresbysund 6.11 346 *i* P **Pn 16 36 48.9 +0.2**
SCO *e*S **Sn 16 37 59.7 +1.3**
SCO Scoresbysund 6.11 346 *i* P **Pn 16 36 48.9 +0.2**
SCO *e*S **Sn 16 37 59.7 +1.3**
SCO Scoresbysund 6.11 346 Pn 16 36 46.9 -1.8
ANGG Ammassalik, Gr 8.55 286 Pn **Pn 16 37 22.3 +0.1**
SUMG Summit 10.97 325 P **Pn 16 37 56.7 +1.1**
SUMG Summit 10.97 325 Pn 16 37 56.7 +1.1
EKA Eskdalemuir Ar 11.73 136 Pn **Pn 16 38 05.1 -0.7**
baz=321,slow=13,SNR=20
ESK Eskdalemuir 11.73 136 P **Pn 16 38 04.9 -0.9**
ESK Eskdalemuir 11.73 136 Pn **Pn 16 38 04.9 -0.9**
DSB Dublin 12.76 148 Pn **Pn 16 38 18.6 -1.1**
NC204 NORSAR Array S 13.21 92 Pn **Pn 16 38 22.6 -3.3**
NBO00 NORSAR Array S 13.33 93 Pn 16 38 24.7 -2.9
NOA NORSAR Array B 13.51 92 Pn **Pn 16 38 27.3 -2.7**
0.0nm,0.3s,baz=299,slow=13,SNR=4.0
NC602 NORSAR Array S 13.80 93 Pn **Pn 16 38 34.3 +0.4**
HFS Hagfors 15.03 93 Pn **Pn 16 38 49.1 -1.5**
0.1nm,0.3s,baz=316,slow=8.1,SNR=1.6
BUG Bochum--Univer 18.43 124 *e*P **Pn 16 39 34.5 +0.8**
16nm,1.0s,baz=326,slow=11
CLZ Clausthal 19.25 119 *e*P **Pn 16 39 43.6 -0.1**
28nm,1.2s,baz=326,slow=11
GTTG Gottingen 19.33 120 *e*P **Pn 16 39 44.8 +0.1**
32nm,1.4s,baz=326,slow=11
FINES FINESS Array B 19.69 79 P **P 16 39 48.1 +0.7**
0.1nm,0.3s,baz=286,slow=10.0,SNR=3.0
FINES FINESS Array B 19.69 79 P **Pn 16 39 50.3 +1.5**
FINES FINESS Array B 19.69 79 Pn 16 39 50.3 +1.5
CLF Chambon-Foret 19.77 138 P **Pn 16 39 49.1 -0.8**
CLF IAmb IAmb 16 39 53.2
comp=Z,69nm,1.4s
UBBA Unterbreizbach 19.93 121 *e*P **Pn 16 39 51.8 0.0**
comp=Z,42nm,1.7s,baz=326,slow=11
MOX Moxa 20.68 119 *e*P **P 16 39 59.2 +0.9**
comp=Z,42nm,1.4s,baz=326,slow=11
MOX *e*L L 16 48 10.4
comp=Z,97nm,21.8s
CLL Collm 20.68 116 *i* P **P 16 39 58.7 +0.4**
comp=Z,35nm,1.3s
CLL *e*PPP PPP 16 40 21.0
CLL *e*(S) Sn 16 44 00.0 +6.4
CLL Collm 20.68 116 *i* P **P 16 39 58.7 +0.4**
CLL pmax pmax
comp=Z,35nm,1.3s
CLL Collm 20.68 116 *e*P **P 16 39 58.7 +0.4**
comp=Z,35nm,1.3s,baz=326,slow=11
CLL Collm 20.68 116 P **P 16 39 58.4 +0.1**
PLN Plauen 21.01 118 *e*P **P 16 40 02.7 +0.8**
comp=Z,42nm,1.4s,baz=326,slow=11
FBE Freiberg 21.12 116 *e*P **P 16 40 03.7 +0.7**
comp=Z,35nm,1.3s,baz=326,slow=11
ECH Echery 21.13 129 P **P 16 40 03.7 +0.5**
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 21.13 129 P **P 16 40 03.7 +0.5**
GUNZ Gunzen 21.17 118 *e*P **P 16 40 04.1 +0.4**
comp=Z,28nm,1.3s,baz=326,slow=11
TANN Tannenbergstha 21.18 118 *e*P **P 16 40 04.2 +0.4**
comp=Z,47nm,1.3s,baz=326,slow=11
WERN Wernitzgruen 21.25 118 *e*P **P 16 40 04.8 +0.2**
comp=Z,32nm,1.2s,baz=326,slow=11
GRA1 Grafenberg Arr 21.31 121 P **P 16 40 05.8 +0.7**
GRA1 IAmb IAmb 16 40 25.5
comp=Z,44nm,1.3s
GRF Grafenberg Arr 21.31 121 P **P 16 40 05.8 +0.7**
GRF pmax pmax
comp=Z,44nm,1.3s
GRF Grafenberg Arr 21.31 121 *e*P **P 16 40 05.7 +0.6**
comp=Z,21nm,1.1s,baz=326,slow=11
GRF *e*L L 16 48 09.8
comp=Z,77nm,20.3s
NKC Novy Kostel 21.32 118 *e*P **P 16 40 05.8 +0.5**
NKC Novy Kostel 21.32 118 *e*P **P 16 40 05.8 +0.5**
BRG Berggiesshubel 21.39 115 *i* P **P 16 40 06.4 +0.5**
comp=Z,33nm,1.2s
BRG *e* 16 40 17.8
comp=Z,44nm,1.4s
BRG S Sn 16 44 16.0 +5.4
comp=N,122nm,10.4s
comp=E,197nm,12.5s
comp=Z,177nm,15.4s
BRG Berggiesshubel 21.39 115 *i* P **P 16 40 06.4 +0.5**
BRG S Sn 16 44 16.0 +5.4
BRG pmax pmax
comp=Z,33nm,1.3s
BRG pmax pmax
comp=Z,44nm,1.5s
BRG MLR MLR
comp=N,122nm,10.4s
BRG MLR MLR
comp=E,197nm,12.5s
BRG MLR MLR
comp=Z,177nm,15.4s
BRG Berggiesshubel 21.39 115 *e*P **P 16 40 06.3 +0.5**
comp=Z,32nm,1.2s,baz=326,slow=11
MANZ Manzenberg 21.40 119 *e*P **P 16 40 06.4 +0.3**
comp=Z,18nm,1.4s,baz=326,slow=11
BFO Black Forest 21.42 127 P **P 16 40 06.0 -0.4**
BFO pmax pmax
comp=Z,52nm,1.8s
BFO Black Forest 21.42 127 *e*P **P 16 40 07.4 +1.1**
comp=Z,81nm,2.1s,baz=326,slow=11
BFO Black Forest 21.42 127 P **P 16 40 06.0 -0.4**
BFO IAmb IAmb 16 40 21.4
comp=Z,52nm,1.8s
VSU Vasula 21.55 86 *e*P **P 16 40 07.5 0.0**
VSU Vasula 21.55 86[1] *e*P **P 16 40 06.7 -0.8**
VSU pmax pmax
comp=Z,123nm,1.2s
ROTZ Rotzenmuhle 21.61 119 *e*P **P 16 40 08.9 +0.6**
comp=Z,21nm,1.6s,baz=326,slow=11
FRB Frobisher Bay 21.77 291 LR LR 16 48 17.0
comp=Z,98nm,19.0s,baz=48,slow=36
PABE Paberze 22.19 95 *e*P **P 16 40 14.8 +0.3**
PRU Pruhonice 22.32 116 *e*P **P 16 40 15.7 -0.3**
PRU Pruhonice 22.32 116 *e*P **P 16 40 15.7 -0.3**
KSP Ksiaz 22.34 112 *e*P **P 16 40 17.2 +1.1**
WET Wettzell 22.37 119 *e*P **P 16 40 17.2 +0.6**
comp=Z,28nm,1.5s,baz=326,slow=11
GOPC GO Pecny, Ondr 22.48 116 *e*P **P 16 40 19.4 +1.7**
GOPC GO Pecny, Ondr 22.48 116 *e*P **P 16 40 19.4 +1.7**
OSTC Ostas 22.53 113 *e*P **P 16 40 20.2 +2.0**
UBR Ueberruh 22.60 126 *e*P **P 16 40 19.9 +1.0**
comp=Z,34nm,1.4s,baz=326,slow=11
KHC Kasperske Hory 22.65 118 *e*P **P 16 40 19.7 +0.2**
KHC AMS AMS 16 52 30.0
comp=Z,200nm,13.1s
KHC Kasperske Hory 22.65 118 *d i*P **P 16 40 21.2 +1.7**
KHC pmax pmax
comp=Z,38nm,1.7s
KHC Kasperske Hory 22.65 118 P **P 16 40 19.6 +0.1**
DPC Dobruska-Polom 22.73 113 *e*P **P 16 40 21.6 +1.2**
DPC Dobruska-Polom 22.73 113 *e*P **P 16 40 21.6 +1.2**
SENIN Lac Senin/Sane 22.80 132 P **P 16 40 20.9 -0.4**
DAVA Damuels 22.86 126 *e*pP pP 16 40 23.8 -1.4
comp=Z,9.2nm,1.0s
SUW Suwalki 22.86 98 P **P 16 40 21.1 -0.5**
SUW pmax pmax
comp=Z,60nm,1.4s
SUW Suwalki 22.86 98 P **P 16 40 21.1 -0.5**
SSB Saint Sauveur 22.92 137 P **P 16 40 24.1 +1.7**
SSB pmax pmax
comp=Z,13nm,1.3s
SSB Saint Sauveur 22.92 137 P **P 16 40 24.1 +1.7**
GEC2 GERESS Array S 22.93 119 *e*P **P 16 40 24.0 +1.5**
comp=Z,21nm,1.5s,baz=326,slow=11
GEC2 GERESS Array S 22.93 119 P **P 16 40 23.5 +1.0**
GERES GERESS Array B 22.93 119 P **P 16 40 23.0 +0.5**
comp=Z,2.4nm,0.8s,baz=318,slow=7.7,SNR=13
GERES LR LR 16 49 39.8
comp=Z,111nm,21.1s,baz=292,slow=38
GERES GERESS Array B 22.93 119 P **P 16 40 22.3 -0.2**
GERES GERESS Array B 22.93 119 P **P 16 40 22.3 -0.2**
RETA Reutte 22.99 125 sP sP 16 40 29.1 +1.1
comp=Z,7.9nm,0.8s
ISAL Salakas 23.07 92 *e*P **P 16 40 24.2 +0.4**
MOTA Moosalm 23.23 125 *e*pP pP 16 40 28.0 -1.1
comp=Z,10nm,1.3s

IIGN Ignalina 23.26 93 *e*P **P 16 40 26.3 +0.6**
DAVOX Davos/Dischmat 23.29 127 P **P 16 40 26.6 +0.3**
comp=Z,12nm,1.3s,baz=346,slow=9.9,SNR=6.3
DAVOX LR LR 16 49 28.1
comp=Z,65nm,19.3s,baz=86,slow=37
TMCR Tamitsa 23.33 66 *e*P **P 16 40 27.3 +0.9**
TMCR pmax pmax
comp=Z,51nm,1.0s
SQTA Sankt Quirin 23.38 125 *e*P **P 16 40 27.8 +0.6**
comp=Z,5.8nm,0.7s
TUE Stuetta 23.38 128 P **P 16 40 27.8 +0.6**
TUE IAmb IAmb 16 40 40.4
comp=Z,22nm,1.4s
WATA Walderalm 23.41 124 *e*pP **P 16 40 29.1 +1.6**
comp=Z,11nm,1.3s
IDID Didziasalis 23.50 92 *e*P **P 16 40 28.3 +0.2**
FUORN Ofenpass-Fuorn 23.56 127 P **P 16 40 29.3 +0.2**
VRAC Vranov 23.67 114 P **P 16 40 29.0 -0.8**
comp=Z,2.2nm,0.4s,baz=309,slow=6.5,SNR=2.2
VRAC LR LR 16 49 13.5
comp=Z,87nm,21.9s,baz=334,slow=35
VRAC Vranov 23.67 114 *e*P **P 16 40 30.6 +0.7**
MORC Moravsky Berou 23.67 112 *e*P **P 16 40 30.5 +0.6**
MORC Moravsky Berou 23.67 112 P **P 16 40 30.8 +0.9**
MORC pmax pmax
comp=Z,35nm,1.7s
MORC Moravsky Berou 23.67 112 P **P 16 40 30.8 +0.9**
MORC IAmb IAmb 16 40 44.9
comp=Z,35nm,1.7s
EUNU Eureka 23.69 336 P **P 16 40 31.2 +1.3**
EUNU IAmb IAmb 16 40 44.5
comp=Z,52nm,1.6s
BNI Bardonecchia 23.77 134 P **P 16 40 30.6 -0.4**
BNI pmax pmax
comp=Z,47nm,1.8s
BNI Bardonecchia 23.77 134 P **P 16 40 30.6 -0.4**
BNI IAmb IAmb 16 40 55.1
comp=Z,47nm,1.8s
KRUC Moravsky 23.79 115 *e*P **P 16 40 31.2 +0.2**
NACGM Naroch 23.80 93 *e* **P 16 40 30.0 -1.0**
MOA Molln 23.96 119 *e*P **P 16 40 32.7 0.0**
comp=Z,7.9nm,1.3s
ABTA Abfaltersbach 24.25 123 pP pP 16 40 37.8 -1.2
comp=Z,12nm,1.3s
JAVC Velka Javorina 24.45 113 *e*P **P 16 40 38.5 +1.2**
CONA Conrad Observa 24.50 117 *e*P **P 16 40 38.4 +0.7**
comp=Z,7.6nm,1.0s
CTI Castel Tesino 24.54 125 P **P 16 40 39.1 +1.0**
CTI pmax pmax
comp=Z,41nm,1.6s
CTI Castel Tesino 24.54 125 P **P 16 40 39.1 +1.0**
CTI IAmb IAmb 16 40 51.0
comp=Z,41nm,1.6s
ZOU Zoufplan 24.58 123 P **P 16 40 38.9 +0.3**
ZOU IAmb IAmb 16 40 51.8
comp=Z,39nm,1.7s
CIMO Cimolais 24.59 124 P **P 16 40 39.6 +1.1**
CIMO IAmb IAmb 16 41 03.5
comp=Z,28nm,1.7s
SMOL Smolenice 24.64 114 *e*P **P 16 40 40.2 +1.3**
SMOL Smolenice 24.64 114 *e*P **P 16 40 40.2 +1.3**
MODS Modra-Piesok 24.69 115 *e*P **P 16 40 38.1 -1.3**
MODS Modra-Piesok 24.69 115 *e*P **P 16 40 38.1 -1.3**
STAL STALIGIAL 24.73 124 P **P 16 40 40.6 +0.8**
PRED Cave del Predi 24.89 122 P **P 16 40 41.7 +0.5**
PRED IAmb IAmb 16 40 50.8
comp=Z,21nm,1.4s
COI Coimbra 25.04 163 P **P 16 40 43.0 +0.4**
COI pmax pmax
comp=Z,107nm,1.7s
COI Coimbra 25.04 163 P **P 16 40 43.0 +0.4**
NIE Niedzica 25.06 109 *e*P **P 16 40 43.5 +0.8**
TEOL Teolo 25.14 126 P **P 16 40 44.2 +0.8**
TEOL IAmb IAmb 16 40 56.5
comp=Z,10nm,0.8s
VYHS Vyhne 25.21 112 *e*P **P 16 40 45.0 +1.0**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 25.21 112 *e*P **P 16 40 45.0 +1.0**
SOKA Soboth 25.23 120 *i* P **P 16 40 45.0 +0.7**
comp=Z,8.4nm,1.3s
MSSA Maissana 25.34 130 P **P 16 40 45.4 +0.1**
MSSA IAmb IAmb 16 41 17.9
comp=Z,43nm,1.6s
KLMR Klimovskoe 25.59 72 *e*P **P 16 40 45.6 -1.7**
comp=Z,31nm,1.5s
KLMR Klimovskoe 25.59 72 *e*P **P 16 40 46.4 -0.9**
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR Klimovskoe 25.59 72 *e*P **P 16 40 46.4 -0.9**
KLMR AMP 16 40 50.6
comp=Z,23nm,1.3s
VLC Villacollemand 25.76 129 P **P 16 40 48.7 -0.4**
VLC IAmb IAmb 16 41 02.5
comp=Z,15nm,1.1s
LSH Leshukonskoye 25.96 61 *e*P **P 16 40 48.4 -2.2**
comp=Z,49nm,1.5s
SCHQ Schefferville 26.06 271 P **P 16 40 50.2 -1.5**
comp=Z,7.2nm,0.9s,baz=32,slow=13,SNR=3.4
SCHQ LR LR 16 49 58.1
comp=Z,51nm,19.4s,baz=148,slow=34
SCHQ Schefferville 26.06 271 P **P 16 40 53.1 +1.4**
SCHQ IAmb IAmb 16 41 26.3
comp=Z,42nm,1.7s
PSZ Piszkesteto 26.09 112 P **P 16 40 53.1 +1.0**
PSZ pmax pmax
comp=Z,37nm,1.4s
PSZ Piszkesteto 26.09 112 P **P 16 40 53.1 +1.0**
PSZ IAmb IAmb 16 40 58.5
comp=Z,37nm,1.4s
ESBB Sonseca Array 26.23 156 P **P 16 40 53.7 +0.3**
ESDC Sonseca Array 26.23 156 P **P 16 40 51.4 -2.0**
comp=Z,2.8nm,0.9s,baz=346,slow=8.6,SNR=14
ESDC LR LR 16 50 53.2
comp=Z,51nm,19.6s,baz=325,slow=36
ESDC Sonseca Array 26.23 156 P **P 16 40 53.6 +0.2**
KOLS Kolonicke sedl 26.25 108 *e*P **P 16 40 53.7 +0.2**
KOLS pmax pmax
comp=Z,26nm,1.5s
KOLS Kolonicke sedl 26.25 108 *e*P **P 16 40 53.7 +0.2**
PAB San Pablo 26.29 157 P **P 16 40 54.8 +0.8**
PAB pmax pmax
comp=Z,11nm,1.2s
PAB San Pablo 26.29 157 P **P 16 40 54.8 +0.8**
LVV L'vov 26.29 104 *e*P **P 16 40 55.8 +2.0**
RES Resolute Bay 26.49 324 P **P 16 40 56.8 +1.4**
RES pmax pmax
comp=Z,11nm,1.1s
RES Resolute Bay 26.49 324 P **P 16 40 56.8 +1.4**
UZH Uzhgorod 26.50 108 *e*P **P 16 40 54.7 -0.9**
UZH *i* 16 40 57.7
UZH *i* 16 41 03.0
OSSC Osservatorio P 26.61 129 P **P 16 40 56.5 -0.2**
OSSC IAmb IAmb 16 41 01.0
comp=Z,14nm,1.0s
AKASG Malin Array Be 27.82 98 P **P 16 41 06.1 -1.4**
comp=Z,0.3nm,0.2s,baz=327,slow=10.0,SNR=2.2
AKBB Malin Array Si 27.82 98 *ce*P **P 16 41 09.5 +2.0**
AKBB Malin Array Si 27.82 98 P **P 16 41 07.8 +0.2**
OBN Obninsk 27.86 84 P **P 16 41 07.5 -0.3**
comp=Z,2.1nm,0.3s,baz=311,slow=23,SNR=3.2
OBN Obninsk 27.86 84 *e*P **P 16 41 08.0 +0.2**
OBN *e*PPP PPP 16 42 01.5
OBN pmax pmax
comp=Z,19nm,0.8s
BUR08 Bucovina Ar. S 28.47 106 P **P 16 41 11.9 -1.6**
BUR08 IAmb IAmb 16 41 33.6
comp=Z,24nm,1.9s
BURAR Bucovina Array 28.50 106 P **P 16 41 13.9 +0.1**
MLR Muntele Rosu 30.50 108 P **P 16 41 29.5 -2.1**
MLR pmax pmax
comp=Z,13nm,1.3s
MLR Muntele Rosu 30.50 108 P **P 16 41 29.5 -2.1**
MLR IAmb IAmb 16 41 37.3
comp=Z,12nm,1.3s
LPSR Galich'ya Gora 30.61 86 *e*P **P 16 41 31.7 -0.5**
LPSR pmax pmax
comp=Z,6.0nm,0.6s
KIRV Kirov 30.97 69[1] *e*P **P 16 41 35.2 -0.1**
VSR Storozhevoye 31.71 88 *e*P **P 16 41 42.1 +0.1**
VSR pmax pmax
comp=Z,20nm,1.6s
VRH Novokhopyorsk 32.82 85 *e*P **P 16 41 50.0 -1.7**
VRH pmax pmax
comp=Z,20nm,1.5s

PKME Peaks-Kenny Pk 34.22 261 P **P 16 42 04.8 +0.9**
ALN Alexandroupoli 34.37 112 P **P 16 42 05.1 -0.2**
ALN pmax pmax
comp=Z,16nm,1.5s
ALN Alexandroupoli 34.37 112 P **P 16 42 05.0 -0.2**
ALN IAmb IAmb 16 42 08.6
comp=Z,16nm,1.5s
ITM Ithomi 36.01 120 P **P 16 42 19.3 -0.2**
ITM IAmb IAmb 16 42 48.8
comp=Z,16nm,1.3s
ARU Arti 36.07 66 *d i*P **P 16 42 19.8 +0.1**
ARU 16 43 39.1
ARU S **S 16 48 00.3 +1.8**
ARU SS **SnSn 16 50 19.6 -3.2**
ARU pmax pmax
comp=Z,18nm,2.2s
ARU Arti 36.07 66 P **P 16 42 20.3 +0.5**
ARU IAmb IAmb 16 42 25.1
comp=Z,16nm,1.4s
NRIK Noril'sk 36.46 35 P **P 16 42 23.2 +0.3**
comp=Z,1.9nm,0.5s,baz=290,slow=6.0,SNR=4.7
SOC Sochi 37.84 96 *e*P **P 16 42 33.8 -1.2**
SOC *e* 16 43 59.9
SOC *e*PPP PPP 16 44 20.4
SOC *e*S **S 16 48 24.4 -1.3**
SOC *e*SS **SnSn 16 51 08.1 +2.1**
SOC *e*SSS SSS 16 51 28.7
SOC pmax pmax
comp=Z,36nm,0.8s
BR131 Keskin Array S 38.45 105 P **P 16 42 39.9 -0.4**
BR131 pmax pmax
comp=Z,9.0nm,1.6s
BR131 Keskin Array S 38.45 105 P **P 16 42 39.9 -0.4**
BRTR Keskin Array B 38.45 105 P **P 16 42 40.7 +0.4**
comp=Z,1.8nm,0.8s,baz=306,slow=4.4,SNR=7.1
BRTR Keskin Array B 38.45 105 P **P 16 42 39.9 -0.5**
J57A Williamstown 38.58 266 P **P 16 42 41.6 +0.5**
J57A IAmb IAmb 16 42 59.9
comp=Z,26nm,1.5s
IDI Anoyia 38.79 118 P **P 16 42 41.4 -1.7**
KIV Kislovodsk 38.82 92 *e*P **P 16 42 44.6 +1.3**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,103nm,16.0s
KBZ Khabaz 39.09 92 P **P 16 42 46.3 +0.9**
comp=Z,5.8nm,0.9s,baz=323,slow=10,SNR=5.3
KBZ LR LR 16 59 02.7
comp=Z,55nm,19.5s,baz=313,slow=36
KBZ Khabaz 39.09 92 *de*P **P 16 42 46.8 +1.4**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
YKA Yellowknife Ar 39.24 313 P **P 16 42 46.1 -0.3**
comp=Z,4.0nm,1.1s,baz=42,slow=8.4,SNR=2.7
YKA LR LR 16 58 42.4
comp=Z,58nm,18.9s,baz=0.0,slow=36
INK Inuvik 39.87 329 LR LR 17 00 15.0
comp=Z,39nm,18.3s,baz=42,slow=38
AKH Akhalkalaki 41.23 94 P **P 16 43 04.2 +0.7**
AKH pmax pmax
comp=Z,17nm,1.3s
AKH Akhalkalaki 41.23 94 P **P 16 43 04.2 +0.7**
AKH IAmb IAmb 16 43 08.0
comp=Z,17nm,1.3s
K50A Casco 41.94 271 P **P 16 43 09.1 +0.1**
K50A IAmb IAmb 16 43 13.5
comp=Z,13nm,0.7s
ABKAR Akbulak array 41.98 73 P **P 16 43 09.3 +0.1**
ABKAR Akbulak array 41.98 73 P **P 16 43 09.0 -0.2**
TIXI Tiksi 42.04 15 P **P 16 43 09.0 -0.5**
TIXI pmax pmax
comp=Z,63nm,1.1s
TIXI Tiksi 42.04 15 P **P 16 43 09.0 -0.5**
TOLK Toolik Lake Re 42.77 336 P **P 16 43 16.9 +1.3**
TOLK IAmb IAmb 16 43 18.3
comp=Z,24nm,1.2s
N53A Lisbon 42.78 268 P **P 16 43 16.7 +0.8**
H43A Windswept, Lux 42.78 277 P **P 16 43 15.8 0.0**
BMAR Burnt Mountain 42.92 333 P **P 16 43 18.4 +1.6**
BRVK Borovoye 43.12 62 *d i*P **P 16 43 18.3 -0.2**
BRVK pmax pmax
comp=Z,17nm,2.5s
BRVK Borovoye 43.12 62 P **P 16 43 19.3 +0.9**
AGMN Agassiz Nation 43.15 287 P **P 16 43 19.5 +0.7**
M50A Fremont 43.24 270 P **P 16 43 20.9 +1.3**
M50A IAmb IAmb 16 43 22.7
comp=Z,24nm,1.1s
O53A New Philadelph 43.40 268 P **P 16 43 21.3 +0.4**
O53A IAmb IAmb 16 43 23.1
comp=Z,30nm,1.4s
MARD Mardin 43.49 100 P **P 16 43 22.1 +0.3**
FYU Fort Yukon 43.80 333 P **P 16 43 25.7 +2.0**
R58B Mineral 43.88 263 P **P 16 43 25.7 +1.0**
P53A Whipple 44.11 267 P **P 16 43 28.0 +1.4**
N49A Columbus Grove 44.12 271 P **P 16 43 27.6 +1.0**
COLD Coldfoot 44.14 336 P **P 16 43 27.4 +0.8**
TAM Tamanrasset 44.48 149 P **P 16 43 30.0 +0.1**
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM Tamanrasset 44.48 149 P **P 16 43 30.0 +0.1**
EGAK Eagle 44.51 329 P **P 16 43 29.7 +0.2**
EGAK IAmb IAmb 16 43 30.9
comp=Z,10nm,1.3s
O49A Covington 44.80 270 P **P 16 43 31.9 -0.2**
O49A IAmb IAmb 16 43 33.7
comp=Z,15nm,1.1s
L42A Oliver, Polo 45.59 277 P **P 16 43 38.8 +0.4**
L42A IAmb IAmb 16 43 40.0
comp=Z,13nm,1.1s
IL31 45.71 332 P **P 16 43 40.0 +1.0**
IL31 IAmb IAmb 16 43 41.5
comp=Z,8.0nm,1.1s
IL31 PcP **PcP 16 45 16.5 -0.1**
ILAR Eielson Array 45.71 332 P **P 16 43 38.8 -0.2**
comp=Z,5.0nm,1.1s,baz=23,slow=5.9,SNR=21
ILAR PcP **PcP 16 45 16.0 -0.6**
comp=Z,1.9nm,0.9s,baz=2.8,slow=2.5,SNR=8.2
ILAR LR LR 17 04 46.6
comp=Z,36nm,18.8s,baz=41,slow=39
ILAR Eielson Array 45.71 332 P **P 16 43 39.4 +0.4**
ILAR 16 45 16.6
ILAR Eielson Array 45.71 332 P **P 16 43 39.4 +0.4**
ILAR PcP **PcP 16 45 16.6 0.0**
MDM Murphy Dome 45.81 333 P **P 16 43 41.1 +1.3**
MDM IAmb IAmb 16 43 42.4
comp=Z,11nm,1.1s
COLA College 45.81 333 *de*P **P 16 43 41.2 +1.4**
COLA pmax pmax
comp=Z,14nm,1.3s
COLA College 45.81 333 P **P 16 43 41.5 +1.7**
IMAR Indian Mountai 45.88 337 P **P 16 43 41.2 +0.9**
CCB Clear Creek Bu 46.00 333 P **P 16 43 41.9 +0.6**
HDA Harding Lake 46.04 332 P **P 16 43 42.8 +1.1**
HDA IAmb IAmb 16 43 43.9
comp=Z,10nm,1.3s
DOT Dot Lake 46.12 330 P **P 16 43 43.6 +1.3**
DOT IAmb IAmb 16 43 48.0
comp=Z,11nm,1.5s
BCAR Beaver Creek A 46.13 329 P **P 16 43 43.6 +1.1**
BCAR **PcP 16 45 18.5 +0.3**
RIDG Independent Ri 46.21 331 P **P 16 43 44.6 +1.6**
RIDG IAmb IAmb 16 43 45.8
comp=Z,12nm,1.3s
L40A Anamosa 46.21 278 P **P 16 43 43.9 +0.7**
R50A Paris 46.38 269 P **P 16 43 45.0 +0.4**
MENT Mentasta 46.67 330 P **P 16 43 47.4 +0.8**
MENT IAmb IAmb 16 44 06.5
comp=Z,15nm,1.5s
R49A Shelbyville 46.73 270 P **P 16 43 47.7 +0.3**
MCK McKinley 47.05 333 P **P 16 43 50.3 +0.8**
MCK pmax pmax
comp=Z,19nm,1.6s
MCK McKinley 47.05 333 P **P 16 43 50.3 +0.8**
BPAW Bear Paw Mtn. 47.11 334 P **P 16 43 50.8 +0.8**
BPAW IAmb IAmb 16 43 52.2
comp=Z,11nm,1.2s
BILL Bilibino 47.57 358 *e*P **P 16 43 53.6 +0.1**
BILL *e* 16 45 45.7
BILL *e*PPP PPP 16 46 29.5
BILL pmax pmax
comp=Z,3.0nm,0.4s
ZAA0 Zalesovo Array 47.63 51 P **P 16 43 54.2 0.0**
ZAA0 IAmb IAmb 16 43 55.7
comp=Z,11nm,1.5s

ZALV	Zalesovo Beam	47.63	51	P	P	16 43 54.1	0.0
	comp=Z,1.2nm,0.6s,baz=337,slow=9.6,SNR=7.8						
ZALV				PcP	PcP	16 45 23.7	+0.1
	comp=Z,0.8nm,0.7s,baz=325,slow=7.4,SNR=2.3						
ZALV	Zalesovo Beam	47.63	51	P	P	16 43 53.9	-0.3
KURK	Kurchatov	48.10	58	P	P	16 43 58.1	+0.2
KURK				pmax	pmax		
	comp=Z,15nm,1.1s						
KURK	Kurchatov	48.10	58	P	P	16 43 58.1	+0.2
TKL	Tuckaleechee C	48.35	267	LR	LR	17 02 29.9	
	comp=Z,24nm,21.7s,baz=356,slow=34						
SCM	Sheep Creek Mo	48.43	331	P	P	16 44 01.4	+1.0
SCM				pmax	pmax		
	comp=Z,43nm,1.9s						
SCM	Sheep Creek Mo	48.43	331	P	P	16 44 01.4	+1.0
T47A	Sharon Grove	48.66	271	P	P	16 44 03.2	+0.9
SML	Sawmill	48.66	331	P	P	16 44 02.7	+0.6
WAX	Waxell Ridge	48.68	327	P	P	16 44 03.8	+1.5
EGMT	Eagleton	48.90	297	P	P	16 44 05.0	+0.8
W50A	Signal Mountai	49.40	268	P	P	16 44 08.7	+0.6
GEYT	Alibeck	50.41	84	P	P	16 44 14.7	-1.0
	comp=Z,2.4nm,0.8s,baz=350,slow=7.6,SNR=4.7						
GEYT	Alibeck	50.41	84	P	P	16 44 16.7	+1.0
MGMO	Mountain Grove	50.74	275	P	P	16 44 17.9	-0.3
MGMO				IAmb	IAmb	16 44 23.3	
	comp=Z,26nm,1.9s						
S39A	Bolivar	50.74	276	P	P	16 44 17.5	-0.6
S39A				IAmb	IAmb	16 44 22.9	
	comp=Z,28nm,1.9s						
PLAL	Pickwick Lake	50.77	270	P	P	16 44 17.5	-0.9
PLAL				IAmb	IAmb	16 44 18.9	
	comp=Z,11nm,1.4s						
KK31	Karatay Array	51.26	70	P	P	16 44 23.0	+0.9
KK31				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KK31	Karatay Array	51.26	70	P	P	16 44 23.0	+0.9
KKAR	Karatay Array	51.26	70	P	P	16 44 22.7	+0.6
KKAR	Karatay Array	51.26	70	P	P	16 44 22.7	+0.6
KKAR	Karatay Array	51.26	70	P	P	16 44 22.6	+0.6
NEW	Newport	51.45	303	LR	LR	17 06 04.4	
	comp=Z,57nm,19.8s,baz=3.5,slow=36						
BOZ	Bozeman (W)	51.63	297	P	P	16 44 26.0	+1.0
BOZ				pmax	pmax		
	comp=Z,11nm,1.2s						
BOZ	Bozeman (W)	51.63	297	P	P	16 44 26.0	+1.0
BOZ				IAmb	IAmb	16 44 26.8	
	comp=Z,11nm,1.1s						
DGZ	Jazzator, Alta	52.07	53	*de*P	P	16 44 29.6	+1.4
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
H17A	Grant Village	52.23	295	P	P	16 44 30.8	+1.2
H17A				IAmb	IAmb	16 44 33.3	
	comp=Z,8.1nm,1.1s						
SEY	Seymchan	52.50	6	⇓*e*P	P	16 44 34.6	+3.6
MAKZ	Makanchi	52.59	59	P	P	16 44 31.8	-0.1
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MAKZ	Makanchi	52.59	59	P	P	16 44 31.8	-0.1
MK31	Makanchi Array	52.72	58	P	P	16 44 32.9	0.0
MK31				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	Makanchi Array	52.72	58	P	P	16 44 32.9	0.0
MKAR	Makanchi Array	52.72	58	P	P	16 44 32.8	-0.1
	comp=Z,2.6nm,0.9s,baz=318,slow=7.0,SNR=13						
MKAR	Makanchi Array	52.72	58	*ce*P	P	16 44 33.2	+0.3
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	52.72	58	P	P	16 44 32.6	-0.3
TOA0	Torodi Ar. Sit	53.12	156	P	P	16 44 35.2	-0.9
TORD	Torodi Ar. Bea	53.12	156	P	P	16 44 34.5	-1.6
	comp=Z,3.1nm,1.0s,baz=343,slow=8.3,SNR=10						
TORD	Torodi Ar. Bea	53.12	156	P	P	16 44 35.4	-0.7
BW06	Boulder Array	53.20	293	P	P	16 44 36.7	-0.1
BW06				IAmb	IAmb	16 44 37.6	
	comp=Z,7.9nm,1.1s						
PD31	Pinedale Array	53.20	293	P	P	16 44 36.8	0.0
PD31				IAmb	IAmb	16 44 37.7	
	comp=Z,7.1nm,1.1s						
PDAR	Pinedale Array	53.20	293	P	P	16 44 36.1	-0.7
	comp=Z,4.2nm,1.0s,baz=48,slow=6.6,SNR=6.7						
PDAR				LR	LR	17 06 19.5	
	comp=Z,56nm,20.6s,baz=5.5,slow=35						
BTK	Batken	53.95	72	P	P	16 44 42.5	+0.4
BTK				pmax	pmax		
	comp=Z,16nm,1.1s						
BTK	Batken	53.95	72	P	P	16 44 42.5	+0.4
CHGR	Chuyangaron	54.45	74	P	P	16 44 45.9	+0.1
GAR	Garm	54.63	73	P	P	16 44 48.2	+1.1
MOY	Mondy	54.66	42	*e*P	P	16 44 49.1	+2.0
MOY				pmax	pmax		
	comp=Z,27nm,2.1s						
TARG	Taragay, Kyrgy	55.32	65	P	P	16 44 52.9	+0.5
TARG				IAmb	IAmb	16 44 54.5	
	comp=Z,10nm,1.2s						
WMOK	Wichita Mounta	55.57	279	P	P	16 44 54.6	+0.8
WMOK						16 45 54.6	
WMOK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WMOK	Wichita Mounta	55.57	279	P	P	16 44 54.6	+0.8
WMOK				IAmb	IAmb	16 44 56.9	
	comp=Z,7.0nm,1.2s						
WMOK					PcP	16 45 54.6	+1.1
ZAK	Zakamensk	56.46	41	*e*P	P	16 45 00.3	+0.2
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KSH	Kashi	56.49	68	P	P	16 45 03.0	+2.5
KSH				S	S	16 52 53.5	+2.1
KSH				pmax	pmax		
	comp=Z,58nm,1.4s						
KSH				pmax	pmax		
	comp=Z,120nm,6.1s						
KSH				LR	LR		
	comp=N,100nm,7.7s						
KSH				LR	LR		
	comp=E,160nm,7.4s						
KSH				LR	LR		
	comp=Z,92nm,4.9s						
WMQ	Urumqi	57.22	56	*e*P	P	16 45 08.5	+2.9
TIC	Toumodi	58.58	165	*e*P	P	16 45 14.8	-0.4
ANMO	Albuquerque	58.61	286	⇑*e*P	P	16 45 16.6	+1.0
KIC	Kosan Boka	58.89	165	*e*P	P	16 45 16.7	-0.7
	comp=Z,14nm,1.1s						
LIC	Lamto	58.99	166	*e*P	P	16 45 17.5	-0.6
	comp=Z,36nm,1.2s						
R11A	Troy Canyon, C	59.35	295	P	P	16 45 21.2	+0.6
R11A				IAmb	IAmb	16 45 22.7	
	comp=Z,8.1nm,1.3s						
SONM	Songino Array	59.64	40	P	P	16 45 22.6	+0.2
	comp=Z,1.6nm,0.9s,baz=334,slow=6.1,SNR=9.0						
SONM				LR	LR	17 12 31.2	
	comp=Z,29nm,21.1s,baz=168,slow=37						
SONM	Songino Array	59.64	40	P	P	16 45 22.3	-0.1
JCT	Junction City	59.67	278	P	P	16 45 22.8	+0.1
JCT				pmax	pmax		
	comp=Z,11nm,1.1s						
JCT	Junction City	59.67	278	P	P	16 45 22.8	+0.1
JCT				IAmb	IAmb	16 45 24.1	
	comp=Z,11nm,1.1s						
KVN	Kaiserville	59.71	298	P	P	16 45 24.0	+0.9
KVN				pmax	pmax		
	comp=Z,14nm,1.5s						
KVN	Kaiserville	59.71	298	P	P	16 45 23.9	+0.9
KVN				IAmb	IAmb	16 45 24.7	
	comp=Z,14nm,1.5s						
ULN	Ulaanbaatar	59.80	40	⇓*e*P	P	16 45 24.1	+0.6
ULN				pmax	pmax		
	comp=Z,10.0nm,2.5s						
WUAZ	Wupatki	60.13	290	P	P	16 45 26.8	+0.8
WUAZ				IAmb	IAmb	16 45 27.8	
	comp=Z,11nm,1.2s						
NVAR	Mina Array Bea	60.33	297	P	P	16 45 27.0	-0.4
	comp=Z,0.3nm,0.6s,baz=57,slow=3.3,SNR=2.1						
NVAR				LR	LR	17 11 13.6	
	comp=Z,124nm,19.9s,baz=66,slow=36						
NIL	Nilore	60.44	74	P	P	16 45 28.5	+0.5
NIL				pmax	pmax		
	comp=Z,11nm,1.0s						
NIL	Nilore	60.44	74	P	P	16 45 28.4	+0.5
SHPR	Sheep Range	60.78	294	P	P	16 45 31.3	+0.8
SHPR				IAmb	IAmb	16 45 32.8	
	comp=Z,5.8nm,1.2s						
MNTX	Cornudas Mount	60.97	283	P	P	16 45 32.0	+0.4
X16A	Lo Mia Camp, P	61.11	290	P	P	16 45 32.2	-0.6
X16A				IAmb	IAmb	16 45 34.8	
	comp=Z,7.0nm,1.2s						
TX31	Lajitas Ar. Si	62.31	280	P	P	16 45 41.3	+0.5
TXAR	Lajitas Array	62.31	280	P	P	16 45 40.4	-0.3
	comp=Z,1.8nm,1.0s,baz=58,slow=4.7,SNR=8.3						
TXAR				LR	LR	17 11 59.7	
	comp=Z,41nm,21.6s,baz=0.0,slow=35						
TXAR	Lajitas Array	62.31	280	P	P	16 45 40.5	-0.3
TXAR						16 46 20.9	
TXAR	Lajitas Array	62.31	280	P	P	16 45 40.5	-0.3
TXAR				PcP	PcP	16 46 20.9	+0.4
TX32	Lajitas Array	62.31	280	P	P	16 45 40.7	0.0
PFO	Pinyon Flats O	63.83	293	LR	LR	17 13 46.3	
	comp=Z,60nm,18.4s,baz=316,slow=36						
GTA	Gaotai	65.30	49	⇑P	P	16 46 01.0	+0.7
GTA				pP	pP	16 46 05.3	+1.3
GTA				sP	sP	16 46 08.0	+2.6
GTA				PcP	PcP	16 46 31.8	-0.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,75nm,5.5s						
GTA				LR	LR		
	comp=N,51nm,16.0s						
GTA				LR	LR		
	comp=E,55nm,16.7s						
GTA				LR	LR		
	comp=Z,62nm,17.4s						
HHC	Hu-ho-hao-te	67.51	40	*e*P	P	16 46 13.8	-0.7
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC				pmax	pmax		
	comp=Z,65nm,5.9s						
LZH	Lanzhou	69.62	48	*e*P	P	16 46 29.0	+1.2
LZH				pP	sP	16 46 34.5	+1.6
LZH				sP	pP	16 46 38.0	+6.5
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
XAN	Xi'an	73.09	44	P	P	16 46 48.0	-0.6
XAN				pP	sP	16 46 59.0	+5.3
XAN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
XAN				LR	LR		
	comp=E,120nm,15.2s						
XAN				LR	LR		
	comp=Z,120nm,23.9s						
KSRS	Korea Array	74.65	28	LR	LR	17 23 17.8	
	comp=Z,17nm,18.4s,baz=220,slow=38						
NJ2	Nanjing	77.74	37	*e*P	P	16 47 15.0	-0.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	Guiyang	79.42	49	*e*P	P	16 47 25.5	+0.7
GYA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CMAR	Chiang Mai Arr	84.12	59	P	P	16 47 49.6	0.0
	comp=Z,1.6nm,0.9s,baz=322,slow=6.3,SNR=14						
CMAR				LR	LR	17 25 34.1	
	comp=Z,9.5nm,18.4s,baz=165,slow=36						
CMAR	Chiang Mai Arr	84.12	59	*ce*P	P	16 47 49.4	-0.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	Warramunga Arr	131.52	36	PKP	PKPdf	16 54 30.4	-0.6
	comp=Z,0.9nm,1.0s,baz=358,slow=3.5,SNR=4.3						
ASAR	Alice Springs	134.97	38	PKP	PKPdf	16 54 37.4	0.0
	comp=Z,0.7nm,0.9s,baz=336,slow=2.5,SNR=6.5						
STKA	Stephens Creek	144.72	32	PKP	PKPab	16 54 53.3	-0.2
	comp=Z,1.5nm,0.7s,baz=320,slow=7.5,SNR=4.9						

IDC 25 16:41:55.7±2.3, 54°22N×169°43E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.2/38, mbtmp3.2/3, ML2.3/1, Error ellipse: s-maj=93.9km s-min=32.9km az=164.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.06	266	Pn	Pn	16 43 40.5	+0.3
	0.2nm,0.3s,baz=78,slow=15,SNR=11						
PETK				Sn	Sn	16 44 55.4	-5.7
	0.1nm,0.3s,baz=73,slow=18,SNR=1.9						
ILAR	Eielson Array	24.03	47	P	P	16 47 12.2	+0.3
	0.2nm,0.5s,baz=255,slow=7.7,SNR=4.7						
H11N2	WAKE ISLAND Hy	34.48	184	T	T	17 25 07.0	
	baz=2.4,slow=76,SNR=45						
H11N3	WAKE ISLAND Hy	34.50	184	T	T	17 25 12.1	
	baz=2.4,slow=76,SNR=36						
H11N1	WAKE ISLAND Hy	34.50	184	T	T	17 25 12.1	
	baz=2.4,slow=76,SNR=38						
H11S1	WAKE ISLAND Hy	35.71	184	T	T	17 26 42.5	
	baz=2.5,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	35.72	184	T	T	17 26 43.6	
	baz=2.5,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	35.73	184	T	T	17 26 43.8	
	baz=2.5,slow=76,SNR=22						
TXAR	Lajitas Array	65.03	74	P	P	16 52 37.3	-0.3
	0.3nm,0.7s,baz=284,slow=4.5,SNR=4.6						

DJA 25 16:59:04.9±0.3, 9°S±5°×11°6E±°, h83km±4km, M4.1/12, mB4.7/3, mb4.2/6, MLv4.0/12, Mw(mB)3.9/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.64	76	P	Pn	16 59 22.1	+1.9
TWSI				S	Sn	16 59 34.7	+3.1
PLAI	Plampang	1.51	88	P	Pn	16 59 32.4	+1.9
JAGI	Jajag, Banyuwa	2.12	281	P	Pn	16 59 38.7	+0.3
ABJI	Asem Bagus	2.27	298	P	Pn	16 59 42.3	+1.8
BLJI	Banyuglugur	2.86	293	P	Pn	16 59 49.3	+0.8
GRJI	Gresik	4.22	297	P	Pn	17 00 08.2	+1.3
BASI	Baing, Sumba	4.47	108	P	Pn	17 00 11.9	+1.6
PWJI	Pagerwojo	4.48	281	P	Pn	17 00 09.8	-0.6
BKSI	Bulukumba	5.23	48	P	Pn	17 00 20.2	-0.4
	0.1nm26nm,0.6s						
EDFI	Ende, Flores	5.38	89	P	Pn	17 00 21.7	-1.1
	0.1nm586nm9.4nm,0.5s						
KBKI	Kotabaru	5.55	359	P	Pn	17 00 24.2	-0.9
	0.1nm346nm28nm,0.6s						
MMRI	Maumere	5.92	88	P	Pn	17 00 29.6	-0.5
	0.1nm22nm,0.5s						
CISI	Cisompet, Garu	8.45	278	P	Pn	17 01 05.5	+0.8
	2μm30nm,1.3s						
CGJI	Cibinong	10.70	281	P	Pn	17 01 34.4	-1.0
	30nm,1.7s						

IDC ***25*** *17:10:11.6±8.2, 28°.30S×177°.15W, h38km±53km, mb3.6/5, mb1 3.7/5, mb1mx3.5/35, mbtmp3.8/5, Error ellipse: s-maj=64.2km s-min=34.4km az=48.0*
NEIC ***25*** *17:10:13.8±1.4, 28°.39S±0°.07×177°.3W±0°.2, h54km±8km, mb4.6/13, Error ellipse: s-maj=22.9km s-min=7.9km az=109.0*

ISC 25 17:10:13.5±1.0, 28°.5S±0°.1×177°.2W±0°.2, h48km, n33, σ0s97/26, mb4.2/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.98	218	Pn	Pn	17 10 31.5	+0.6
	1μm,0.3s,baz=74,slow=3.3,SNR=52						
RAO				Sn	Sn	17 10 45.5	+1.8
	2μm,0.3s,baz=259,slow=23,SNR=21						
OUZ	Omahuta	10.29	227	Pn	Pn	17 12 45.7	+7.2
BKZ	Black Stump Fm	11.87	204	Pn	Pn	17 12 56.8	-3.2
STKA	Stephens Creek	35.61	254	P	P	17 17 07.1	+0.4
	0.9nm,0.5s,baz=99,slow=13,SNR=7.8						
STKA	Stephens Creek	35.61	254	P	P	17 17 07.6	+0.9
AS31	Alice Springs	43.92	265	P	P	17 18 15.5	-0.3
ASAR	Alice Springs	43.92	265	P	P	17 18 15.4	-0.4
	0.5nm,0.5s,baz=97,slow=7.0,SNR=23						
ASAR	Alice Springs	43.92	265	P	P	17 18 15.6	-0.3
WR0	Warramunga Arr	44.55	270	P	P	17 18 20.2	-0.7
WR0				IAmb	IAmb	17 18 37.9	
	comp=Z,26nm,2.0s						
WB2	Warramunga Arr	44.73	270	P	P	17 18 22.0	-0.3
WB2				IAmb	IAmb	17 19 39.4	
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	44.74	270	P	P	17 18 21.8	-0.6
	comp=Z,1.4nm,0.6s,baz=109,slow=7.9,SNR=19						
WRA	Warramunga Arr	44.74	270	P	P	17 18 21.8	-0.6
WB0	Warramunga Arr	44.75	270	P	P	17 18 22.3	-0.2
WB0				IAmb	IAmb	17 19 36.9	
	comp=Z,24nm,1.9s						
VNDA	Vanda	50.07	186	P	P	17 19 03.6	+0.7
	comp=Z,0.4nm,0.7s,baz=354,slow=6.8,SNR=2.4						
VNDA	Vanda	50.07	186	P	P	17 19 04.0	+1.1
VNDA				IAmb	IAmb	17 19 06.7	
	comp=Z,6.8nm,1.8s						
KNRA	Kununurra	51.27	272	P	P	17 19 12.2	-0.6
FITZ	Fitzroy Crossi	53.07	268	P	P	17 19 26.2	0.0
CASY	Casey	57.15	207	P	P	17 19 54.0	-0.9
CASY				IAmb	IAmb	17 20 07.0	
	comp=Z,17nm,1.9s						
QSPA	South Pole Qui	61.63	180	P	P	17 20 27.3	+1.3
MAW	Mawson	74.34	200	P	P	17 21 45.9	+0.4
	comp=Z,0.7nm,0.5s,baz=135,slow=9.8,SNR=2.0						
MAW	Mawson	74.34	200	P	P	17 21 45.8	+0.2
SNAA	Sanae	80.05	178	PKPdf	P	17 22 17.4	-0.2
SNAA	Sanae	80.05	178	P	P	17 22 17.8	+0.1
SNAA				IAmb	IAmb	17 23 04.9	
	comp=Z,12nm,1.8s						
VNA3	Neumayer Olymp	80.17	176	PKPdf	P	17 22 18.2	0.0
VNA2	Neumayer--Watz	80.61	177	PKPdf	P	17 22 21.0	+0.4
H03S2	Juan Fernandez	80.96	123	T	T	18 52 04.6	
	baz=240,slow=74,SNR=17						
H03S1	Juan Fernandez	80.97	124	T	T	18 52 04.1	
	baz=240,slow=74,SNR=16						
H03S3	Juan Fernandez	80.98	123	T	T	18 52 02.6	
	baz=240,slow=74,SNR=14						
H03N3	Juan Fernandez	81.14	123	T	T	18 52 22.9	
	baz=245,slow=72,SNR=6.9						
H03N2	Juan Fernandez	81.14	123	T	T	18 52 16.0	
	baz=245,slow=72,SNR=6.7						
H03N1	Juan Fernandez	81.16	123	T	T	18 52 14.4	
	baz=245,slow=72,SNR=5.9						
BALM	Baldy	93.60	16	P	P	17 23 23.9	-0.2
FINES	FINESS Array B	143.56	341	PKP	PKPbc	17 29 39.3	-0.4
	comp=Z,3.1nm,1.1s,baz=32,slow=6.6,SNR=4.0						

NEIC ***25*** *17:16:57.9±1.1, 18°.24N±0°.06×69°.16W±0°.06, h122km±5km, Error ellipse: s-maj=9.9km s-min=7.8km az=214.0*
IDC ***25*** *17:17:01.1±3.3, 18°.46N×68°.92W, h119km±32km, mb3.6/8, mb1 3.8/10, mb1mx3.5/45, mbtmp4.1/10, MS3.0/4, Ms1 3.0/4, ms1mx2.6/50, Error ellipse: s-maj=24.1km s-min=16.4km az=30.0*
OSPL ***25*** *17:17:04.7±4.1, 18°.49N×69°.00W, h106km±37km, ML4.0*

ISC 25 17:16:58.7±0.5, 18°.46N±0°.06×69°.09W±0°.04, h100km, n84, σ2s32/84, mb4.3/11, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.43	320		Pn	17 17 16.1	+2.0
PCDR	Punta Cana, DR	0.68	85	Pn	Pn	17 17 17.1	+1.2
PCDR	Punta Cana, DR	0.68	85	*e*S	Sn	17 17 31.6	+2.8
PCDR				IAML		17 17 34.2	
	comp=Z,3μm,0.5s						
SDD	Santo Domingo	0.78	270	Pn	Pn	17 17 19.8	+3.0
BANI	BANI	1.20	267		Pn	17 17 25.1	+3.6
SC01	Santiago de lo	1.83	302		Pn	17 17 31.0	+2.0
MPR	Mayaguez	1.87	97	Pn	Pn	17 17 30.7	+1.1
MPR	Mayaguez	1.87	97	*i* P	Pn	17 17 32.0	+2.4
MPR				*e*S	Sn	17 17 56.0	+2.9
AGPR	Aguadilla, PR	1.88	89		Pn	17 17 31.1	+1.4
AGPR	Aguadilla, PR	1.88	89	*i* P	Pn	17 17 32.0	+2.3
AGPR				*e*S	Sn	17 17 58.2	+4.8
AGPR				IAML		17 18 09.1	
	comp=Z,1μm,0.8s						
CRPR	Cabo Rojo, PR	1.94	103	Pn	Pn	17 17 31.2	+0.8
SDDR	Presa de Saban	2.15	284		Pn	17 17 33.2	0.0
SDDR	Presa de Saban	2.15	284	*i* P	Pn	17 17 37.8	+4.6
SDDR				*e*S	Sn	17 18 06.2	+6.5
SDDR				IAML		17 18 10.3	
	comp=Z,1μm,0.5s						
OBIP	Obispado Ponce	2.40	99	Pn	Pn	17 17 42.3	+5.8
ICMP	Isla Caja de M	2.50	103		Pn	17 17 38.5	+0.7
PAPH	Port-au-Prince	3.04	272		Pn	17 17 44.3	-0.7
PAPH	Port-au-Prince	3.04	272	*i* P	Pn	17 17 50.8	+5.7
PAPH				*e*S	Sn	17 18 25.5	+4.7
PAPH				IAML		17 18 38.6	
	comp=Z,136nm,0.7s						
HUMP	Col San Antoni	3.10	95		Pn	17 17 46.6	+0.9
LGNH	Logne	3.33	272	Pn	Pn	17 17 48.0	-1.0
GRTK	Grand Turk	3.60	328		Pn	17 17 52.3	-0.1
STVI	Saint Thomas	3.93	91		Pn	17 17 56.8	-0.2
CDVI	St. Croix	4.17	99	Pn	Pn	17 18 00.6	+0.4
GTBY	Guantanamo Bay	5.87	285	Pn	Pn	17 18 22.6	-0.6
GTBY	Guantanamo Bay	5.87	285	*e*S	Sn	17 19 27.7	-1.5
URIC	Uribia, Colomb	7.28	203	*e*P	Pn	17 18 43.9	+1.5
H05N1	Guadeloupe/Mar	7.96	104	P	Pn	17 18 55.1	+3.4
H05N1				S	Sn	17 20 20.4	+0.2
H05S1	Guadeloupe/Mar	8.88	116	P	Pn	17 19 10.4	+6.3
SVB	Belmont	9.13	123	Pn	Pn	17 19 05.9	-1.8
PCRV	Puerto La Cruz	9.29	152	P	Pn	17 19 11.6	+1.7
	comp=Z,2.6nm,0.3s,baz=315,slow=3.5,SNR=15						
PCRV				S	Sn	17 20 50.2	-2.5
	comp=Z,1.6nm,0.3s,baz=146,slow=20,SNR=2.4						
PLCV	Puerto La Cruz	9.32	152		Pn	17 19 11.6	+1.3
PLCV					Sn	17 20 50.2	-3.2
GRGR	Grenville	9.54	130	Pn	Pn	17 19 11.4	-1.8
SDV	Santo Domingo	9.63	189	P	Pn	17 19 18.1	+3.5
	comp=Z,22nm,0.3s,baz=28,slow=7.3,SNR=30						
SDV	Santo Domingo	9.63	189	*e*P	Pn	17 19 18.3	+3.7
SJCC	San Jacinto, C	10.35	216	*e*P	Pn	17 19 27.7	+3.4
SMLC	San Martn de	10.75	207	*e*P	Pn	17 19 29.6	0.0
TOSP	Speyside	10.91	130	Pn	Pn	17 19 30.0	-1.8
PAMC	Pamplona, Colo	11.59	198	*e*P	Pn	17 19 43.6	+2.1
BRRC	Barranca, Sant	12.14	202	*e*P	Pn	17 19 49.9	+1.5
ZARC	Zaragoza, Cauc	12.26	208	*e*P	Pn	17 19 51.6	+1.7
UREC	San Jos de Ur	12.35	211	*e*P	Pn	17 19 54.5	+3.4
BARC	Barichara	12.45	199	*e*P	Pn	17 19 54.4	+1.8
CAPC	Capurgana	12.63	221	*e*P	Pn	17 19 56.5	+1.6
PTBC	PUERTO BERRIO,	12.95	204	*e*P	Pn	17 20 01.5	+2.5
RUSC	La Rusia	13.08	198	*e*P	Pn	17 20 04.3	+3.1
DBBC	Dabeiba	13.31	212	*e*P	Pn	17 20 06.2	+2.3
PTAC	Punta Ardita,	14.08	218	*e*P	P	17 20 18.6	+0.2
CBOC	Ciudad Bolivar	14.22	209	*e*P	P	17 20 21.1	+1.1
ROSC	El Rosal	14.46	201	P	Pn	17 20 21.0	+1.9
	comp=Z,2.0nm,0.3s,baz=221,slow=19,SNR=1.7						
CHIC	Chingaza	14.47	199	*e*P	P	17 20 23.1	0.0
GUY2C	Guyana, Caldas	14.51	206	*e*P	P	17 20 23.

comp=Z,1.8nm,0.5s,baz=251,slow=7.8,SNR=5.7
DBIC Dimbokro 63.50 92 P **P 17 27 15.3 -3.5**
DBIC IAmb IAmb 17 27 34.0
comp=Z,8.1nm,1.2s
TOA0 Torodi Ar. Sit 67.95 83 P **P 17 27 45.0 -2.4**
TORD Torodi Ar. Bea 67.95 83 P **P 17 27 46.2 -1.2**
comp=Z,0.5nm,0.4s,baz=299,slow=6.9,SNR=4.4
TORD Torodi Ar. Bea 67.95 83 P **P 17 27 44.9 -2.5**
WRA Warramunga Arr 157.82 262 PKPab **PKPab 17 37 17.5 -0.2**
comp=Z,0.4nm,0.7s,baz=87,slow=3.9,SNR=6.0
ASAR Alice Springs 157.93 252 PKPab **PKPab 17 37 17.8 -0.2**
comp=Z,0.7nm,0.6s,baz=105,slow=4.6,SNR=15

IDC 25 17:29:18.6±4.8, 9°59.59S×156°.93E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/30, mbtmp3.4/3, Error ellipse: s-maj=132.2km s-min=37.7km az=117.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**242**	P	P	17 34 34.5	-1.9
0.6nm,0.8s,baz=67,slow=9.0,SNR=3.4							
ASAR	**Alice Springs**	**26.07**	**235**	P	P	17 34 54.9	+0.8
0.4nm,0.9s,baz=64,slow=9.3,SNR=6.3							
SONM	**Songino Array**	**72.54**	**327**	P	P	17 40 48.1	+0.5
0.6nm,0.7s,baz=141,slow=5.4,SNR=4.7							

TEH 25 17:41:14.7, 36°33N×56°37E, h15km, ML3.3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**1.21**	**321**	*e*Pg	Pn	17 41 36.4	-0.6
IKRD	**Kardeh**	**1.79**	**75**	*e*Pn	Pg	17 41 58.0	+9.0
IKRD				*e*		17 42 49.5	
IAKL	**Akhelmad**	**1.95**	**81**	*e*Pn	Pn	17 41 48.4	+0.9
IAKL				*e*		17 42 19.9	
IGLO	**Ghaloghah**	**2.05**	**276**	*e*Pn	Pb	17 41 51.3	-0.5
IPAY	**Payeh**	**2.13**	**86**	*e*Pn	Pb	17 41 51.8	-1.3
IPAY				*e*		17 42 24.8	
IEMG	**Emamgholi**	**2.13**	**59**	*e*Pn	Pb	17 41 52.2	-1.0
IEMG				*e*		17 42 26.4	
IANJ	**Anjilo**	**2.17**	**247**	*e*Pn	Pb	17 41 52.9	-0.9
IANJ				*e*		17 42 34.6	
IMOG	**Moghan**	**2.41**	**94**	*e*Pn	Pb	17 41 56.8	-1.2
IALA	**Alasht**	**2.89**	**266**	*e*Pn	Pb	17 42 04.1	-2.0
ILAS	**Lasjerd**	**2.92**	**252**	*e*	Sg	17 42 53.8	+5.1
IFIR	**Firoozkooh**	**3.01**	**258**	*e*		17 42 25.4	
IFIR				*e*Pn	Pn	17 42 03.8	+1.7
IMYA	**Miami**	**3.02**	**89**	*e*Pn	Pn	17 42 04.7	+2.6
IMYA				*e*		17 43 00.2	
IPRN	**Peran**	**3.25**	**270**	*e*Pn	Pn	17 42 08.1	+2.8
IDMV	**Damavand**	**3.59**	**259**	*e*Pn	Pn	17 42 13.1	+2.9
ANAR	**Anarak**	**3.81**	**215**	*e*Pn	Pn	17 42 14.8	+1.8
KRSH	**Karshahi**	**4.19**	**237**	*e*Pn	Pn	17 42 20.0	+1.8
ICHK	**Chekchek**	**4.38**	**202**	*e*Pn	Pn	17 42 22.5	+1.5
IKOO	**Kooshah**	**4.46**	**150**	*e*Pn	Pn	17 42 23.8	+1.7
IDAH	**Dahanechah**	**4.60**	**140**	*e*Pn	Pn	17 42 25.4	+1.4
QALM	**Alamut, Qazvin**	**4.62**	**273**	*e*Pn	Pn	17 42 27.4	+3.2
QAM	**Ghamsar**	**4.79**	**239**	*e*Pn	Pn	17 42 27.2	+0.8
IKLH	**Kolahrood**	**4.95**	**234**	*e*Pn	Pn	17 42 30.7	+1.9
IPIR	**Pirpir**	**5.80**	**233**	*e*Pn	Pn	17 42 43.8	+3.3

IDC 25 17:44:11.1±1.4, 42°.19N×73°.12E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/69, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=49.3km s-min=24.7km az=145.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**8.01**	**52**	Pn	Pn	17 46 09.2	+0.5
0.1nm,0.3s,baz=249,slow=12,SNR=4.1							
TORD	**Torodi Ar. Bea**	**67.56**	**268**	P	P	17 55 09.6	0.0
0.2nm,0.4s,baz=58,slow=6.9,SNR=1.7							
WRA	**Warramunga Arr**	**83.70**	**124**	P	P	17 56 42.3	+0.4
0.1nm,0.4s,baz=324,slow=4.9,SNR=7.0							
ASAR	**Alice Springs**	**86.24**	**127**	P	P	17 56 54.1	-0.5
0.2nm,0.6s,baz=311,slow=4.8,SNR=4.6							

BJI ***25*** *17:51:13.2±0.0, 61°.96N×151°.79W, h100km, mB5.9/72, mb5.8/88*
MOS ***25*** *17:51:15.8±0.9, 62°.00N×151°.96W, h100km, mb6.0/60, MS5.2/12, Error ellipse: s-maj=7.8km s-min=3.5km az=94.2*
NEIC ***25*** *17:51:17, 61°.97N×151°.84W, h102km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}0.63; $M_{\theta\theta}$-3.06; $M_{\phi\phi}$2.43; $M_{r\theta}$-0.25; $M_{r\phi}$-0.91; $M_{\theta\phi}$1.21; Fault plane solution: M_o3.19000×10^18^ NP1:ϕ_s38.80000°, δ71.41000°, λ18.28000°. NP2:ϕ_s302.79000°, δ72.70000°, λ160.49000°. Principal axes: T 3.1779, Plg26.0000°, Azm261.0000°; N 0.0326, Plg64.0000°, Azm83.0000°; P -3.2105, Plg1.0000°, Azm351.0000°;*
NEIC ***25*** *17:51:17.5±1.9, 61°.98N±0°.03×151°.85W±0°.07, h104km±1km Error ellipse: s-maj=5.7km s-min=4.9km az=134.0*
AEIC ***25*** *17:51:17±2.4, 61°.95N±0°.03×151°.82W±0°.07, h109km±3km, ML6.2, mb6.1/467(NEIC), Mwb6.3/62(NEIC), Mwc6.3(GCMT), Mwr6.3/90(NEIC), Mww6.2(NEIC), Error ellipse: s-maj=5.1km s-min=4.6km az=117.0*
ANF ***25*** *17:51:17.3±0.6, 61°.95N×151°.70W, h107km±9km, ML6.6/14, Error ellipse: s-maj=6.9km s-min=3.2km az=76.0*
UNK ***25*** *17:51:17.6, 61°.95N×151°.82W, h109km*
NEIC ***25*** *17:51:17, 61°.95N×151°.79W, h100km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}0.53; $M_{\theta\theta}$-3.03; $M_{\phi\phi}$2.50; $M_{r\theta}$-0.18; $M_{r\phi}$-0.25; $M_{\theta\phi}$0.99; Fault plane solution: M_o2.99000×10^18^ NP1:ϕ_s310.09000°, δ75.92000°, λ162.06000°. NP2:ϕ_s44.59000°, δ72.61000°, λ14.76000°. Principal axes: T 2.9244, Plg23.0000°, Azm267.0000°; N 0.1184, Plg67.0000°, Azm93.0000°; P -3.0428, Plg2.0000°, Azm358.0000°;*
IDC ***25*** *17:51:18.4±0.5, 62°.06N×152°.11W, h105km±3km, mb5.5/72, mb1 5.5/74, mb1mx5.5/78, mbtmp5.8/74, MS5.2/24, Ms1 5.2/24, ms1mx5.0/44 Error ellipse: s-maj=7.4km s-min=5.8km az=27.0*
BGR ***25*** *17:51:18.9±0.0, 63°.01N×151°.41W, h33km, mb6.2, mB_BB6.6*
GCMT ***25*** *17:51:22.0±0.1, 62°.00N×151°.78W, h109km, MW6.3/168, Moment Tensor Solution. s168,c414; s165,c626; Duration: 3≥4 Moment tensor: Scale 10^18^Nm; M_{rr}0.32±.01; $M_{\theta\theta}$-3.38±.01; $M_{\phi\phi}$3.07±.01; $M_{r\theta}$-0.32±.01; $M_{\theta\phi}$-0.03±.01; $M_{r\phi}$0.98±.01; Best double couple: M_o3.39600×10^18^ NP1:ϕ_s46.00000°, δ74.00000°, λ9.00000°. NP2:ϕ_s313.00000°, δ81.00000°, λ164.00000°. Principal axes: T 3.3830, Plg18.0000°, Azm269.0000°; N 0.0320, Plg71.0000°, Azm106.0000°; P -3.4080, Plg5.0000°, Azm0.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***25*** *17:51:22, 62°.02N×151°.80W, h112km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}0.27; $M_{\theta\theta}$-3.56; $M_{\phi\phi}$3.28; $M_{r\theta}$-0.30; $M_{\theta\phi}$0.14; $M_{r\phi}$1.00; Fault plane solution: M_o3.59000×10^18^ NP1:ϕ_s47.00000°, δ75.00000°, λ9.00000°. NP2:ϕ_s315.00000°, δ82.00000°, λ164.00000°. Principal axes: T 3.5846, Plg17.0000°, Azm270.0000°; N 0.0036, Plg72.0000°, Azm108.0000°; P -3.5882, Plg5.0000°, Azm2.0000°;*
NEIC ***25*** *17:51:23, 62°.16N×151°.79W, h110km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}0.34; $M_{\theta\theta}$-3.03; $M_{\phi\phi}$2.69; $M_{r\theta}$0.09; $M_{\theta\phi}$0.00; $M_{r\phi}$0.79; Fault plane solution: M_o2.99000×10^18^ NP1:ϕ_s314.00000°, δ77.00000°, λ169.00000°. NP2:ϕ_s46.00000°, δ79.00000°, λ13.00000°. Principal axes: T 2.9350, Plg17.0000°, Azm270.0000°; N 0.1015, Plg73.0000°, Azm85.0000°; P -3.0365, Plg2.0000°, Azm180.0000°;*
ISC 25 17:51:17.9±0.2, 61°.99N±0°.02×151°.92W±0°.02, h107km±1km, h107km:pP-P, n2094, σ1s67/2796, mb6.0/512, 49C-162D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.18**	**92**	**Pn**	**17 51 31.6**		**-1.3**
STLK	**Strandline Lak**	**0.49**	**175**	**Pn**	**17 51 33.1**		**-1.4**
SPCG	**Spurr Capps Gl**	**0.70**	**184**	**Pn**	**17 51 34.6**		**-1.5**
SPNN	**North Nagishla**	**0.72**	**211**	**Pn**	**17 51 35.5**		**-0.9**
SPNN				**Sn**	**17 51 50.0**		**-0.3**
SPCP	**Crater Peak Br**	**0.73**	**189**	**Pn**	**17 51 35.2**		**-1.2**
SPBG	**Spurr Blockage**	**0.76**	**197**	**Pn**	**17 51 35.6**		**-1.0**
SUA	**Susitna One**	**0.77**	**133**	**Pn**	**17 51 35.0**		**-1.7**
SUA	**Susitna One**	**0.77**	**133**	**Sn**	**17 51 49.8**		**-1.0**
SPCN	**Chakachatna No**	**0.78**	**190**	**Pn**	**17 51 35.5**		**-1.2**
SPCR	**Spurr Chakacha**	**0.80**	**190**	**Pn**	**17 51 35.5**		**-1.5**
SPCR				**Sn**	**17 51 51.1**		**-0.2**
CUT	**Chulitna**	**0.88**	**61**	P **Pn**	**17 51 36.7**		**-0.9**
baz=238,SNR=1000							
CUT				S **Sn**	**17 51 52.1**		**-0.3**
baz=238							
CUT	**Chulitna**	**0.88**	**61**	**Pn**	**17 51 36.7**		**-0.9**
CUT				**Sn**	**17 51 52.0**		**-0.3**
PPLA	**Purkeypile**	**0.92**	**352**	Pn **Pn**	**17 51 38.2**		**0.0**
PPLA	**Purkeypile**	**0.92**	**352**	**Sn**	**17 51 53.3**		**-0.2**
FIS	**Fire Island**	**1.17**	**135**	**Pn**	**17 51 40.8**		**+0.1**
CAPN	**Captain Cook N**	**1.28**	**163**	P **Pn**	**17 51 42.0**		**+0.1**
baz=345,SNR=1000							
CAPN	**Captain Cook N**	**1.28**	**163**	**Pn**	**17 51 42.0**		**+0.1**
RC01	**Rabbit Creek A**	**1.38**	**130**	P **Pn**	**17 51 41.7**		**-1.4**
baz=312,SNR=1000							
RC01				S **Sn**	**17 52 00.5**		**-1.7**
baz=312							
RC01	**Rabbit Creek A**	**1.38**	**130**	**Pn**	**17 51 41.4**		**-1.7**
RC01				**Sn**	**17 52 00.6**		**-1.5**
PMR	**Palmer**	**1.38**	**105**	P **Pn**	**17 51 40.6**		**-2.5**
PMR					17 52 00.5		
PMR	**Palmer**	**1.38**	**105**	**Pn**	**17 51 40.6**		**-2.5**
GHO	**Glory Hole Cre**	**1.43**	**97**	**Pn**	**17 51 41.8**		**-2.1**
GHO	**Glory Hole Cre**	**1.43**	**97**	**Sn**	**17 52 02.4**		**-1.0**
CAST	**Castle Rocks**	**1.44**	**357**	**Pn**	**17 51 43.1**		**-0.7**
DFR	**Drift River**	**1.45**	**195**	**Pn**	**17 51 43.2**		**-0.8**
HUR	**Hurricane**	**1.45**	**46**	**Pn**	**17 51 43.0**		**-0.9**
NCT	**North Crescent**	**1.51**	**199**	**Pn**	**17 51 43.7**		**-1.0**
RDWB	**Redoubt West**	**1.57**	**197**	**Pn**	**17 51 44.6**		**-0.9**
RSO	**Redoubt South**	**1.58**	**195**	**Pn**	**17 51 44.6**		**-1.1**
KTH	**Kantishna Hill**	**1.64**	**16**	**Pn**	**17 51 45.5**		**-0.8**
TRF	**Thorofare Moun**	**1.65**	**26**	**Pn**	**17 51 45.9**		**-0.6**
WAT7	**Susitna Watana**	**1.66**	**58**	**Pn**	**17 51 45.4**		**-1.2**
WAT7				**Sn**	**17 52 07.2**		**-1.2**
SLKM	**Skilak Lake**	**1.69**	**150**	**Pn**	**17 51 44.8**		**-2.1**
SML	**Sawmill**	**1.71**	**94**	**Pn**	**17 51 44.9**		**-2.2**
SML	**Sawmill**	**1.71**	**94**	**Sn**	**17 52 07.7**		**-1.6**
KNK	**Knik Glacier**	**1.75**	**108**	**Sn**	**17 52 08.4**		**-1.7**
KNK	**Knik Glacier**	**1.75**	**108**	**Pn**	**17 51 45.2**		**-2.4**
WAT1	**Susitna Watana**	**1.78**	**60**	**Pn**	**17 51 46.7**		**-1.3**
WAT1				**Sn**	**17 52 10.1**		**-0.9**
WAT2	**Susitna Watana**	**1.83**	**56**	**Pn**	**17 51 47.5**		**-1.2**
O22K	**Cooper Landing**	**1.84**	**144**	P **Pn**	**17 51 47.1**		**-1.6**
baz=326,SNR=1000							
O22K				S **Sn**	**17 52 10.1**		**-2.2**
baz=326							
O22K	**Cooper Landing**	**1.84**	**144**	**Pn**	**17 51 47.1**		**-1.6**
O22K				**Sn**	**17 52 10.1**		**-2.2**
CHUM	**Lake Minchumin**	**1.91**	**355**	**Pn**	**17 51 49.3**		**-0.3**
SVW2	**Sparrevohn**	**1.97**	**245**	**Pn**	**17 51 49.5**		**-0.9**
SVW2	**Sparrevohn**	**1.97**	**245**	**Sn**	**17 52 14.8**		**-0.3**
RND	**Reindeer**	**2.01**	**43**	P **Pn**	**17 51 49.6**		**-1.3**
RND	**Reindeer**	**2.01**	**43**	**Pn**	**17 51 49.6**		**-1.3**
WAT6	**Susitna Watana**	**2.04**	**71**	**Pn**	**17 51 49.6**		**-1.8**
WAT6				**Sn**	**17 52 15.1**		**-1.9**
IVE	**Iliamna Volcan**	**2.05**	**196**	**Pn**	**17 51 50.0**		**-1.5**
PWL	**Port Wells**	**2.06**	**122**	**Pn**	**17 51 48.8**		**-2.7**
PWL				**Sn**	**17 52 14.8**		**-2.4**
ILS	**Iliamna Low So**	**2.11**	**196**	**Pn**	**17 51 51.5**		**-0.8**
TT01	**Tatalina**	**2.12**	**298**	**Pn**	**17 51 51.8**		**-0.4**
TTA	**Tatalina**	**2.13**	**298**	P **Pn**	**17 51 51.8**		**-0.6**
TTA	**Tatalina**	**2.13**	**298**	**Pn**	**17 51 51.8**		**-0.6**
BPAW	**Bear Paw Mtn.**	**2.16**	**11**	**Pn**	**17 51 51.8**		**-1.1**
SCM	**Sheep Creek Mo**	**2.18**	**92**	P **Pn**	**17 51 50.8**		**-2.3**
SCM	**Sheep Creek Mo**	**2.18**	**92**	**Pn**	**17 51 50.8**		**-2.3**
MCK	**McKinley**	**2.22**	**37**	P **Pn**	**17 51 52.7**		**-0.9**
MCK	**McKinley**	**2.22**	**37**	**Pn**	**17 51 52.7**		**-0.9**
SEW	**Seward**	**2.24**	**147**	Pn **Pn**	**17 51 51.6**		**-2.2**
SEW	**Seward**	**2.24**	**147**	**Sn**	**17 52 17.3**		**-3.9**
BRLK	**Bradley Lake**	**2.29**	**167**	Pn **Pn**	**17 51 52.2**		**-2.3**
BRSE	**Bradley Lake S**	**2.33**	**165**	**Pn**	**17 51 52.6**		**-2.4**
HOM	**Homer**	**2.34**	**177**	P **Pn**	**17 51 53.8**		**-1.3**
baz=358,SNR=632							
HOM	**Homer**	**2.34**	**177**	**Pn**	**17 51 53.8**		**-1.3**
DHY	**Denali Highway**	**2.37**	**61**	**Pn**	**17 51 54.2**		**-1.5**
OPT	**Oil Point**	**2.43**	**196**	**Pn**	**17 51 55.5**		**-0.8**
BWN	**Browne**	**2.46**	**26**	**Pn**	**17 51 55.9**		**-0.8**
CNPM	**China Poot**	**2.49**	**172**	Pn **Pn**	**17 51 54.5**		**-2.6**
GLI	**Glacier Island**	**2.57**	**113**	Pn **Pn**	**17 51 54.9**		**-3.2**
GLI	**Glacier Island**	**2.57**	**113**	**Sn**	**17 52 26.0**		**-2.9**
M24K	**Tolsona, Glenn**	**2.71**	**85**	P **Pn**	**17 51 58.6**		**-1.3**
baz=269,SNR=1000							
M24K	**Tolsona, Glenn**	**2.71**	**85**	Pn **Pn**	**17 51 58.5**		**-1.5**
JPK	**Jack Peak**	**2.71**	**108**	**Pn**	**17 51 57.3**		**-2.7**
AUL	**Augustine Lava**	**2.72**	**197**	**Pn**	**17 51 59.5**		**-0.5**
AU22	**Augustine Moun**	**2.72**	**196**	**Pn**	**17 51 59.3**		**-0.8**
AUQ	**Augustine Qik'**	**2.74**	**196**	**Pn**	**17 51 59.6**		**-0.8**
VMT	**TAPS Tl Valdez**	**2.81**	**106**	**Pn**	**17 51 58.6**		**-2.6**
KLU	**Klutina**	**2.89**	**97**	**Pn**	**17 51 59.8**		**-2.7**
FID	**Port Fidalgo**	**2.90**	**113**	**Pn**	**17 51 58.6**		**-3.8**
NEA2	**Nenana**	**2.92**	**25**	P **Pn**	**17 52 01.4**		**-1.3**
baz=206,SNR=1000							
NEA2				S **Sn**	**17 52 35.0**		**-2.1**
baz=206							
NEA2	**Nenana**	**2.92**	**25**	**Pn**	**17 52 01.0**		**-1.6**
WRH	**Wood River Hil**	**3.04**	**33**	**Pn**	**17 52 02.6**		**-1.6**
PS11	**TAPS Pump St11**	**3.04**	**85**	**Pn**	**17 52 03.1**		**-1.2**
DIV	**Divide**	**3.06**	**104**	**Pn**	**17 52 01.7**		**-3.0**
HIN	**Hinchinbrook I**	**3.07**	**119**	Pn **Pn**	**17 52 01.8**		**-2.9**
HIN	**Hinchinbrook I**	**3.07**	**119**	**Sn**	**17 52 38.2**		**-2.6**
MLY	**Manley**	**3.10**	**9**	**Pn**	**17 52 04.5**		**-0.6**
PAX	**Paxson**	**3.15**	**69**	P **Pn**	**17 52 05.1**		**-0.8**
PAX	**Paxson**	**3.15**	**69**	**Pn**	**17 52 05.0**		**-0.8**
CCB	**Clear Creek Bu**	**3.25**	**33**	**Pn**	**17 52 05.3**		**-1.8**
PS12	**TAPS Pump St12**	**3.26**	**96**	**Pn**	**17 52 04.6**		**-2.7**
EYAK	**Cordova Ski Ar**	**3.31**	**113**	**Pn**	**17 52 04.2**		**-3.6**
HDA	**Harding Lake**	**3.31**	**41**	P **Pn**	**17 52 06.6**		**-1.3**
baz=224,SNR=1000							
HDA	**Harding Lake**	**3.31**	**41**	**Pn**	**17 52 06.3**		**-1.6**
MDM	**Murphy Dome**	**3.41**	**27**	**Pn**	**17 52 07.9**		**-1.4**
PS09	**TAPS Pump Stn9**	**3.42**	**53**	**Pn**	**17 52 09.0**		**-0.4**
TCOL	**CIGO, UAF Yank**	**3.42**	**30**	P **Pn**	**17 52 08.4**		**-1.0**
baz=213,SNR=1000							
TCOL	**CIGO, UAF Yank**	**3.42**	**30**	**Pn**	**17 52 08.2**		**-1.1**
I53US	**FAIRBANKS INFR**	**3.42**	**30**	P **Pn**	**17 52 06.3**		**-3.1**
baz=213,slow=21,SNR=1.7							
I53US				*i*	18 02 50.0		
baz=211,slow=326,SNR=1.4							
COLA	**College**	**3.43**	**30**	*d iP* **Pn**	**17 52 08.3**		**-1.1**
COLA	**College**	**3.43**	**30**	**Pn**	**17 52 08.1**		**-1.3**
PS08	**TAPS Pump Stn8**	**3.45**	**40**	**Pn**	**17 52 08.3**		**-1.4**
IL31		**3.60**	**37**	**Pn**	**17 52 10.0**		**-1.7**
ILAR	**Eielson Array**	**3.60**	**37**	P **Pn**	**17 52 10.1**		**-1.7**
550nm,0.3s,baz=222,slow=14,SNR=3107							
ILAR				S **Sn**	**17 52 50.1**		**-3.2**
1μm,0.3s,baz=199,slow=16,SNR=5.0							
ILAR				ScP **ScP**	**18 02 55.1**		**-0.3**
0.6nm,0.3s,baz=290,slow=2.1,SNR=4.1							
ILAR				PKiKP **PKiKP**	**18 07 35.4**		**-1.3**
0.4nm,0.3s,baz=308,slow=2.5,SNR=7.0							
ILAR				P3KPbc	18 30 38.4		
0.1nm,0.3s,baz=218,slow=2.3,SNR=5.9							
ILAR	**Eielson Array**	**3.60**	**37**	**Pn**	**17 52 09.6**		**-2.1**
BMRM	**Bremner River**	**3.65**	**103**	**Pn**	**17 52 09.5**		**-3.0**
RIDG	**Independent Ri**	**3.69**	**58**	**Pn**	**17 52 12.3**		**-0.7**
PS07	**TAPS Pump Stn7**	**3.71**	**24**	**Pn**	**17 52 12.2**		**-1.0**
POKR	**Poker Plat Res**	**3.73**	**31**	P **Pn**	**17 52 12.7**		**-0.8**
baz=214,SNR=1000							
POKR				S **Sn**	**17 52 54.5**		**-2.0**
baz=214							
POKR	**Poker Plat Res**	**3.73**	**31**	**Pn**	**17 52 12.3**		**-1.1**
GOAT	**Goat Mountain**	**3.75**	**109**	**Pn**	**17 52 11.5**		**-2.3**
Q23K	**Middleton Isla**	**3.75**	**131**	P **Pn**	**17 52 11.1**		**-2.6**
baz=316,SNR=193							
Q23K				S **Sn**	**17 52 53.5**		**-3.4**
baz=316							
Q23K	**Middleton Isla**	**3.75**	**131**	**Pn**	**17 52 11.2**		**-2.6**
MID	**Middleton Isla**	**3.75**	**131**	P **Pn**	**17 52 11.3**		**-2.5**
MID	**Middleton Isla**	**3.75**	**131**	Pn **Pn**	**17 52 11.3**		**-2.5**
KARR	**Katmai Rainbow**	**3.77**	**203**	**Pn**	**17 52 13.6**		**-0.5**
RAGM	**Ragged Mountai**	**3.85**	**111**	**Pn**	**17 52 12.1**		**-3.1**
KAWH	**Katmai**	**3.89**	**203**	**Pn**	**17 52 15.2**		**-0.5**
GLB	**Gilahina Butte**	**3.90**	**94**	**Pn**	**17 52 13.2**		**-2.6**
MENT	**Mentasta**	**3.92**	**72**	**Pn**	**17 52 14.4**		**-1.8**
DOT	**Dot Lake**	**3.97**	**62**	Pn **Pn**	**17 52 15.3**		**-1.4**
PS06	**TAPS Pump Stn6**	**4.00**	**13**	**Pn**	**17 52 16.6**		**-0.5**
KAKN	**Katmai Knife C**	**4.02**	**204**	**Pn**	**17 52 16.6**		**-0.9**
HMT	**Hamilton**	**4.06**	**111**	**Pn**	**17 52 14.7**		**-3.3**
KABU	**Katmai Buttres**	**4.09**	**206**	**Pn**	**17 52 17.8**		**-0.7**
IM03		**4.09**	**349**	**Pn**	**17 52 18.2**		**-0.1**
VRDI	**Verde Repeater**	**4.11**	**97**	**Pn**	**17 52 15.8**		**-3.0**
SCRK	**Sand Creek**	**4.13**	**58**	P **Pn**	**17 52 17.8**		**-1.2**
baz=244,SNR=1000							
SCRK				S **Sn**	**17 53 04.0**		**-2.4**
baz=244							
SCRK	**Sand Creek**	**4.13**	**58**	**Pn**	**17 52 17.4**		**-1.6**
KAIM	**Kayak Island**	**4.20**	**116**	**Pn**	**17 52 16.4**		**-3.4**
ANCK	**Angle Creek**	**4.20**	**207**	**Pn**	**17 52 19.4**		**-0.6**
KDAK	**Kodiak Island**	**4.23**	**185**	P **Pn**	**17 52 16.7**		**-3.5**
112nm,0.3s,baz=46,slow=9.7,SNR=306							
KDAK				S **Sn**	**17 53 05.3**		**-3.2**
1μm,0.3s,baz=346,slow=22,SNR=8.8							
KDAK	**Kodiak Island**	**4.23**	**185**	P **Pn**	**17 52 17.2**		**-3.0**
KDAK	**Kodiak Island**	**4.23**	**185**	**Pn**	**17 52 17.2**		**-3.0**
NICHA	**Nichawak Mount**	**4.24**	**111**	**Pn**	**17 52 17.5**		**-2.8**
MCARA	**McCarthy VSAT**	**4.28**	**94**	**Pn**	**17 52 18.6**		**-2.3**
BERG	**Berg Lake**	**4.28**	**108**	**Pn**	**17 52 17.8**		**-3.2**
CAHL	**Cahill**	**4.30**	**205**	**Pn**	**17 52 20.6**		**-0.6**
KJL	**Kejulik**	**4.35**	**207**	**Pn**	**17 52 21.5**		**-0.4**
SUCK	**Suckling Hills**	**4.40**	**112**	**Pn**	**17 52 19.0**		**-3.5**
CRQM	**Cirque**	**4.40**	**102**	**Pn**	**17 52 19.9**		**-2.8**
KHIT	**Khitrov Hills**	**4.47**	**106**	**Pn**	**17 52 20.5**		**-3.0**
GRIN	**Grindle Hills**	**4.50**	**109**	**Pn**	**17 52 21.8**		**-2.2**
TGL	**Tana Glacier**	**4.54**	**102**	**Pn**	**17 52 21.7**		**-2.8**
PTPK	**Patty Peak**	**4.59**	**96**	**Pn**	**17 52 22.9**		**-2.3**
WAX	**Waxell Ridge**	**4.64**	**105**	**Pn**	**17 52 22.9**		**-3.0**
BALM	**Baldy**	**4.68**	**98**	**Pn**	**17 52 23.5**		**-2.9**
KIAG	**Kiagna River**	**4.71**	**99**	**Pn**	**17 52 24.0**		**-2.8**
PLK5	**Peulik 5**	**4.71**	**214**	**Pn**	**17 52 27.2**		**+0.5**
SNH	**Sunshine Point**	**4.76**	**108**	**Pn**	**17 52 24.5**		**-3.0**
KULT	**Kultieth River**	**4.79**	**107**	**Pn**	**17 52 25.5**		**-2.3**
BC03		**4.82**	**73**	**Pn**	**17 52 26.6**		**-1.5**
PLK1	**Peulik 1**	**4.82**	**211**	**Pn**	**17 52 28.4**		**+0.2**
ISLE	**Juniper Island**	**4.82**	**102**	**Pn**	**17 52 25.4**		**-2.9**
BARK	**Barkley Ridge**	**4.83**	**105**	**Pn**	**17 52 25.8**		**-2.6**
OHAK	**Old Harbor**	**4.83**	**189**	Pn **Pn**	**17 52 24.9**		**-3.5**
PS05	**TAPS Pump Stn5**	**4.88**	**6**	**Pn**	**17 52 28.8**		**-0.1**
K27K	**Chicken**	**4.93**	**61**	P **Pn**	**17 52 28.1**		**-1.5**
baz=249							
K27K				S **Sn**	**17 53 23.1**		**-2.4**
baz=249							
K27K	**Chicken**	**4.93**	**61**	**Pn**	**17 52 28.3**		**-1.3**
CYK	**Cape Yakataga**	**4.97**	**108**	**Pn**	**17 52 28.1**		**-2.0**
BARN	**Barnard Glacie**	**5.00**	**96**	**Pn**	**17 52 28.2**		**-2.5**
GRNC	**Granite Creek**	**5.05**	**100**	**Pn**	**17 52 28.7**		**-2.8**
MESA	**MESA**	**5.17**	**106**	**Pn**	**17 52 30.6**		**-2.4**
CTGM	**Chitina Glacie**	**5.18**	**97**	**Pn**	**17 52 31.0**		**-2.1**
YAH	**Yahtse**	**5.18**	**104**	**Pn**	**17 52 30.8**		**-2.5**
BVCY	**Beaver Creek**	**5.19**	**80**	**Pn**	**17 52 32.0**		**-1.2**
YUK2	**White River**	**5.24**	**87**	**Pn**	**17 52 32.1**		**-1.9**
COLD	**Coldfoot**	**5.31**	**7**	P **Pn**	**17 52 34.7**		**-0.1**
baz=188,SNR=1000							
COLD				S **Sn**	**17 53 33.8**		**-0.9**
baz=188							
COLD	**Co

comp=Z,0.4nm,0.3s,baz=348,slow=0.9,SNR=5.7
BILL Bilibino 18.35 307 *c iP* **P 17 55 23.8 +0.1**
BILL pmax pmax
comp=Z,306nm,1.3s
BILL MLR MLR
comp=Z,5μm,16.0s
BILL Bilibino 18.35 307 P **P 17 55 24.1 +0.4**
AMKA Amchitka 18.87 249 P **P 17 55 30.0 +0.6**
SMY Shemya 20.30 258 P **P 17 55 43.9 -1.1**
SMY pmax pmax
comp=Z,684nm,0.9s
SMY Shemya 20.30 258 P **P 17 55 43.9 -1.1**
SMY IAmb IAmb 17 55 52.1
comp=Z,684nm,0.9s
PGC Sidney 20.76 117 P Pn 17 55 51.8 -1.5
PGC IAmb IAmb 17 56 30.2
comp=Z,2μm,1.2s
A04D Lummi Island 21.02 116 P **P 17 55 55.4 +2.7**
baz=320,SNR=75
A04D S **S 17 59 44.8 +4.2**
baz=320
NLWA Neilton Lookou 21.58 120 P **P 17 56 01.3 +2.6**
NLWA IAmb IAmb 17 56 37.8
comp=Z,1μm,1.1s
B05A Bryant 21.63 116 P **P 17 56 01.3 +2.0**
baz=320,SNR=98
B05A S **S 17 59 54.9 +2.6**
baz=320
B06A Marblemount 21.70 114 P **P 17 56 01.7 +1.8**
B06A IAmb IAmb 17 56 40.7
comp=Z,1μm,1.1s
D03D Eldon 21.79 118 P **P 17 56 03.2 +2.3**
baz=322,SNR=74
D03D S **S 17 59 57.0 +1.8**
baz=322
D04E Lakebay 22.20 118 P **P 17 56 07.5 +2.3**
baz=323,SNR=16
J28D J28D 22.24 128 P **P 17 56 06.7 +1.5**
J28D S **S 18 00 11.1 +8.7**
E03A Lebam 22.38 121 P **P 17 56 10.0 +2.9**
E03A IAmb IAmb 17 56 48.3
comp=Z,2μm,1.2s
C06D Leavenworth 22.41 115 P **P 17 56 09.6 +2.2**
baz=320,SNR=22
C06D S **S 18 00 06.7 +0.8**
baz=320
D05A Enumclaw 22.52 117 P **P 17 56 10.9 +2.4**
J27D J27D 22.71 127 P **P 17 56 17.1 +7.1**
J27D S **S 18 00 19.0 +9.1**
B08A Colville Reser 22.76 112 P **P 17 56 12.4 +1.5**
B08A IAmb IAmb 17 56 52.8
comp=Z,796nm,1.4s
E04D Cinebar 22.78 119 P **P 17 56 13.0 +1.9**
baz=323,SNR=51
J20D J20D 22.83 129 P **P 17 56 16.5 +5.3**
J20D S S 18 00 22.7 +11
LON Longmire 22.94 118 P **P 17 56 14.7 +1.9**
LON pmax pmax
comp=Z,891nm,1.2s
LON Longmire 22.94 118 P **P 17 56 14.7 +1.9**
LON IAmb IAmb 17 56 52.2
comp=Z,891nm,1.2s
F04D Rainier, OR 22.98 120 P **P 17 56 15.6 +2.6**
baz=324
LTY Liberty 23.02 115 P **P 17 56 13.8 +0.2**
LTY IAmb IAmb 17 56 51.5
comp=Z,1μm,1.3s
J19D J19D 23.30 128 P P 17 56 29.6 +14
J19D S S 18 00 30.9 +12
F04A Amboy 23.34 120 P **P 17 56 18.6 +2.1**
F04A IAmb IAmb 17 56 57.2
comp=Z,1μm,1.3s
RES Resolute Bay 23.35 34 P **P 17 56 16.1 0.0**
comp=Z,267nm,0.7s,baz=260,slow=12,SNR=112
RES S **S 18 00 20.1 -0.2**
comp=Z,70nm,1.0s,baz=333,slow=20,SNR=1.3
RES ScP **ScP 18 03 28.4 +1.3**
comp=Z,104nm,1.0s,baz=66,slow=1.5,SNR=4.6
RES Resolute Bay 23.35 34 P **P 17 56 15.9 -0.3**
RES IAmb IAmb 17 56 18.9
comp=Z,496nm,0.8s
G03D McMinnville, O 23.59 122 P **P 17 56 20.7 +2.0**
baz=326,SNR=13
C09A Chrisman Ranch 23.64 111 P **P 17 56 19.7 +0.5**
C09A IAmb IAmb 17 57 02.0
comp=Z,1μm,1.6s
F05D White Salmon 23.78 119 P **P 17 56 22.9 +2.5**
baz=324,SNR=40
NEW Newport 23.80 109 P **P 17 56 22.3 +1.6**
comp=Z,170nm,1.0s,baz=320,slow=8.0,SNR=90
NEW S **S 18 00 33.9 +5.6**
comp=Z,26nm,0.9s,baz=234,slow=9.1,SNR=2.1
NEW ScP **ScP 18 03 31.2 +2.3**
comp=Z,12nm,0.7s,baz=13,slow=1.9,SNR=3.8
NEW LR LR 18 04 56.5
comp=Z,7μm,19.0s,baz=296,slow=34
NEW Newport 23.80 109 P **P 17 56 22.0 +1.4**
baz=318,SNR=140
NEW Newport 23.80 109 P **P 17 56 21.4 +0.7**
NEW IAmb IAmb 17 57 01.8
comp=Z,751nm,1.1s
J11D J11D 23.81 129 P **P 17 56 26.3 +6.1**
J11D S Sn 18 00 45.3 -15
E07A Sunnyside 23.92 115 P **P 17 56 23.1 +1.5**
E07A IAmb IAmb 17 57 03.7
comp=Z,840nm,1.2s
D08A Wollman Farm, 23.93 113 P **P 17 56 22.4 +0.7**
D08A IAmb IAmb 17 56 48.5
comp=Z,1μm,1.3s
HAWA Hanford 24.19 115 P **P 17 56 25.4 +1.4**
G37D G37D 24.27 132 P P 17 56 34.5 +10
G37D S **S 18 00 37.6 +2.6**
I02D Swisshome 24.28 124 P **P 17 56 26.6 +1.6**
baz=327,SNR=10.0
E08A Dider Farm, El 24.31 114 P **P 17 56 25.9 +0.7**
G05D Wamic, OR 24.36 119 P **P 17 56 28.2 +2.5**
baz=324,SNR=50
H04D Lebanon 24.37 122 P **P 17 56 28.4 +2.6**
baz=326,SNR=30
F07A Phinny Hill Vi 24.41 116 P **P 17 56 27.4 +1.3**
F07A IAmb IAmb 17 57 14.6
comp=Z,506nm,0.9s
H04A Detroit Lake 24.46 121 P **P 17 56 28.1 +1.5**
H04A IAmb IAmb 17 56 55.0
comp=Z,1μm,1.4s
G29D G29D 24.52 133 P P 17 56 36.3 +10
G29D S S 18 01 06.8 +28
G36D G36D 24.56 131 P P 17 56 38.6 +12
G36D S S 18 00 51.9 +13
G35D G35D 24.66 130 P P 17 56 36.3 +8.4
G35D S S 18 00 54.1 +13
WALA Waterton Lakes 24.68 104 P **P 17 56 29.3 +0.6**
WALA IAmb IAmb 17 57 11.8
comp=Z,748nm,1.0s
I03D Drain, OR 24.82 124 P **P 17 56 32.1 +2.3**
baz=328,SNR=30
J01E Myrtle Point 25.05 126 P **P 17 56 34.8 +2.9**
baz=328,SNR=19
G22D G22D 25.08 134 P **P 17 56 36.8 +5.1**
G22D S S 18 01 05.2 +17
I05D Terrebonne, OR 25.09 121 P **P 17 56 34.6 +2.2**
baz=326,SNR=50
SEY Seymchan 25.10 297‖ *e*P **P 17 56 32.1 -0.1**
I04A Tendick Farm, 25.11 123 P **P 17 56 33.8 +1.3**
baz=327,SNR=55
G08A Pilot Rock 25.30 116 P **P 17 56 35.2 +0.9**
G08A IAmb IAmb 17 57 15.8
comp=Z,635nm,1.2s
G20D G20D 25.46 132 P P 17 56 46.8 +12
JTMT Jette 25.47 107 P **P 17 56 37.8 +1.9**
G21D G21D 25.55 133 P **P 17 56 42.5 +6.6**
G21D S S 18 01 11.2 +16
K02D Willamette Mer 25.55 126 P **P 17 56 38.6 +2.0**
baz=329,SNR=39
EUNU Eureka 25.56 22 P **P 17 56 38.1 +1.8**
EUNU IAmb IAmb 17 57 01.4
comp=Z,2μm,1.6s
J04D Umpqua Nationa 25.69 123 P **P 17 56 40.1 +2.1**
baz=327,SNR=54
PINE Pine Mountain 25.70 121 P **P 17 56 39.7 +1.6**
G13D G13D 25.72 135 P P 17 56 48.2 +11
G13D S **S 18 01 08.5 +11**
HUMO Hull Mountain 25.90 125 P **P 17 56 41.5 +1.8**
HUMO IAmb IAmb 17 57 21.4
comp=Z,962nm,1.4s

J05D Fort Rock, OR 26.00 122 P **P 17 56 43.0 +2.3**
baz=327,SNR=109
L02E Cave Junction 26.04 127 P **P 17 56 43.2 +2.4**
baz=329,SNR=12
MSO Missoula 26.31 108 P **P 17 56 45.1 +1.7**
baz=319,SNR=47
MSO Missoula 26.31 108 P **P 17 56 44.0 +0.6**
MSO IAmb IAmb 17 57 29.5
comp=Z,490nm,1.1s
K04D Chiloquin, OR 26.35 123 P **P 17 56 46.4 +2.5**
baz=328
BMO Blue Mountains 26.36 115 P **P 17 56 44.4 +0.5**
BMO pmax pmax
comp=Z,707nm,1.2s
BMO Blue Mountains 26.36 115 P **P 17 56 44.4 +0.5**
BMO IAmb IAmb 17 57 26.1
comp=Z,707nm,1.2s
L04D Klamath Falls 26.48 125 P **P 17 56 48.0 +2.9**
baz=328,SNR=36
G10D G10D 26.51 131 P P 17 56 55.4 +11
G10D S S 18 01 25.6 +15
FFC Flin Flon 26.58 83 P **P 17 56 46.4 +0.8**
FFC pmax pmax
comp=Z,794nm,1.3s
FFC Flin Flon 26.58 83 P **P 17 56 46.4 +0.8**
FFC IAmb IAmb 17 57 29.1
comp=Z,794nm,1.3s
K05A Summer Lake 26.61 122 P **P 17 56 47.6 +1.4**
K05A IAmb IAmb 17 57 30.4
comp=Z,862nm,1.2s
G04D G04D 26.64 133 P P 17 57 09.3 +24
PLID Pearl Lake 26.74 113 P **P 17 56 47.4 0.0**
PLID IAmb IAmb 17 57 44.9
comp=Z,411nm,1.1s
YBH Yreka Blue Hor 26.74 126 P **P 17 56 49.9 +2.6**
comp=Z,96nm,0.8s,baz=12,slow=4.7,SNR=134
YBH S **S 18 01 16.8 +1.8**
comp=Z,8.7nm,1.0s,baz=106,slow=12,SNR=1.3
YBH ScP **ScP 18 03 38.9 +1.4**
comp=Z,12nm,0.8s,baz=90,slow=1.2,SNR=5.3
YBH Yreka Blue Hor 26.74 126 P **P 17 56 49.4 +2.1**
YBH IAmb IAmb 17 57 27.2
comp=Z,476nm,1.2s
FS41D FS41D 26.96 130 S S 18 01 48.7 +31
M02C Callahan 26.98 126 P **P 17 56 52.3 +2.9**
baz=330,SNR=32
M04C Macdoel 27.03 124 P **P 17 56 52.4 +2.4**
baz=329,SNR=34
FS13D FS13D 27.04 130 S S 18 01 50.4 +32
MA2 Magadan 27.30 291 P **P 17 56 52.3 +0.2**
comp=Z,48nm,0.7s,baz=68,slow=12,SNR=23
MA2 S **S 18 01 23.1 -0.3**
comp=Z,14nm,0.9s,baz=8.6,slow=20,SNR=1.3
MA2 Magadan 27.30 291 *c iP* **P 17 56 52.0 -0.1**
MA2 pmax pmax
comp=Z,217nm,1.7s
MA2 Magadan 27.30 291 P **P 17 56 51.9 -0.1**
EGMT Eagleton 27.34 101 P **P 17 56 54.5 +1.9**
baz=316,SNR=112
EGMT Eagleton 27.34 101 P **P 17 56 53.2 +0.6**
EGMT IAmb IAmb 17 57 42.7
comp=Z,1μm,1.1s
PET Petropavlovsk 27.38 274 *c iP* **P 17 56 53.1 +0.4**
PET *e**PP **pP 17 57 18.2 +1.7**
PET *e*S **S 18 01 24.4 -0.2**
PET pmax pmax
comp=Z,3μm,10.6s
PET pmax pmax
comp=Z,3μm,11.4s
PET pmax pmax
comp=Z,257nm,0.8s
PET MLR MLR
comp=Z,2μm,19.0s
PET MLR MLR
comp=Z,2μm,20.0s
PET Petropavlovsk 27.38 274 P **P 17 56 53.1 +0.4**
N02D Trinity Center 27.40 127 P **P 17 56 56.3 +3.2**
baz=330,SNR=100
LRM Limekiln Ridge 27.74 107 P **P 17 56 56.6 +0.2**
PEA0B Petropavlovsk- 27.77 275 *c iP* **P 17 56 56.7 +0.4**
PEA0B Petropavlovsk- 27.77 275 P **P 17 56 56.8 +0.4**
PEA0B IAmb IAmb 17 57 45.4
comp=Z,425nm,1.3s
PETK Petropavlovsk- 27.77 275 P **P 17 56 55.8 -0.5**
comp=Z,82nm,0.8s,baz=73,slow=6.0,SNR=96
PETK ScP **ScP 18 03 38.7 -1.5**
comp=Z,12nm,1.1s,baz=90,slow=3.2,SNR=2.5
PETK PKiKP **PKiKP 18 07 44.8 -0.6**
comp=Z,3.9nm,0.5s,baz=69,slow=4.5,SNR=21
PETK LR LR 18 08 11.3
comp=Z,4μm,20.7s,baz=85,slow=37
PETK Petropavlovsk- 27.77 275 P **P 17 56 55.2 -1.1**
FCC Fort Churchill 27.95 70 P **P 17 56 58.5 +0.8**
FCC pmax pmax
comp=Z,984nm,1.4s
FCC Fort Churchill 27.95 70 P **P 17 56 58.5 +0.8**
FCC IAmb IAmb 17 57 00.9
comp=Z,984nm,1.4s
O02D Mt. Diablo Mer 28.06 128 P **P 17 57 02.5 +3.4**
baz=331,SNR=14
MFID Camas Ranch 28.15 115 P **P 17 57 00.6 +0.7**
MFID IAmb IAmb 17 57 42.1
comp=Z,465nm,1.2s
BOZ Bozeman (W) 28.29 107 P **P 17 57 03.0 +1.9**
baz=320,SNR=67
BOZ S **S 18 01 41.1 +1.7**
baz=320
O03E Paynes Creek 28.33 126 P **P 17 57 03.5 +2.0**
baz=330,SNR=71
O03E S **S 18 01 42.6 +2.6**
baz=330
HLID Hailey 28.64 113 P **P 17 57 06.1 +1.8**
baz=323,SNR=68
HLID S **S 18 01 48.4 +3.3**
baz=323
HLID Hailey 28.64 113 P **P 17 57 05.7 +1.3**
TULEG Thule 29.51 28 P **P 17 57 12.8 +1.4**
TULEG IAmb IAmb 17 58 01.4
comp=Z,328nm,1.0s
DGMT Dagmar 29.62 95 P **P 17 57 13.9 +1.1**
baz=315,SNR=14
H17A Grant Village 29.69 107 P **P 17 57 15.9 +2.2**
baz=321,SNR=37
RLMT Red Lodge 29.72 105 P **P 17 57 15.6 +1.6**
baz=320,SNR=247
RLMT S **S 18 02 05.5 +3.5**
baz=320
LAO LASA Array 29.95 99 P **P 17 57 18.3 +2.5**
baz=317,SNR=83
LAO LASA Array 29.95 99 P **P 17 57 16.5 +0.8**
LAO IAmb IAmb 17 57 56.4
comp=Z,818nm,1.2s
FXWY Fox Creek 30.08 109 P **P 17 57 18.3 +1.2**
FXWY IAmb IAmb 17 58 06.0
comp=Z,545nm,1.6s
SKR Severo-Kuril's 30.09 272 *c iP* **P 17 57 17.4 +0.6**
SKR *e**PP **pP 17 57 41.8 +1.0**
SKR *e*PPP PPP 17 58 25.1
SKR *e*S **S 18 02 05.0 -2.3**
SKR *e**SS **sS 18 02 47.6 -1.0**
SKR *e*SSS SSS 18 04 22.6
SKR pmax pmax
comp=Z,116nm,1.0s
SKR pmax pmax
comp=Z,1μm,18.1s
SKR pmax pmax
comp=Z,1μm,17.5s
SKR MLR MLR
comp=Z,1μm,14.0s
SKR MLR MLR
comp=Z,1μm,15.0s
TIXI Tiksi 30.22 322 P **P 17 57 17.5 -0.2**
TIXI pmax pmax
comp=Z,323nm,0.8s
TIXI Tiksi 30.22 322 P **P 17 57 17.5 -0.2**
TIXI IAmb IAmb 17 57 21.6
comp=Z,323nm,0.8s
ELK Elko 30.59 117 P **P 17 57 22.8 +1.2**
comp=Z,118nm,0.7s,baz=319,slow=9.9,SNR=197
ELK PcP **PcP 18 00 20.1 +2.7**
comp=Z,8.7nm,0.4s,baz=45,slow=1.2,SNR=5.8
ELK Elko 30.59 117 P **P 17 57 23.3 +1.7**
ELK pmax pmax
comp=Z,232nm,1.0s
ELK Elko 30.59 117 P **P 17 57 23.3 +1.7**
KVN Kaiserville 30.84 122 P **P 17 57 24.8 +1.0**

KVN pmax pmax
comp=Z,740nm,1.8s
KVN Kaiserville 30.84 122 P **P 17 57 24.8 +1.0**
KVN IAmb IAmb 17 58 08.3
comp=Z,740nm,1.8s
NVAR Mina Array Bea 31.30 123 P **P 17 57 29.2 +1.3**
comp=Z,74nm,0.7s,baz=316,slow=10.0,SNR=257
NVAR pP **pP 17 57 54.3 +2.8**
comp=Z,77nm,0.7s,baz=323,slow=9.7,SNR=5.8
NVAR PcP **PcP 18 00 22.3 +2.9**
comp=Z,33nm,0.6s,baz=276,slow=3.4,SNR=9.0
NVAR S **S 18 02 31.5 +4.7**
comp=Z,1.4nm,0.6s,baz=2.2,slow=25,SNR=1.3
NVAR ScP **ScP 18 03 54.3 +2.2**
comp=Z,13nm,0.8s,baz=292,slow=2.4,SNR=6.1
NVAR Mina Array Bea 31.30 123 P **P 17 57 29.0 +1.2**
NV11 Mina Array Sit 31.36 123 P **P 17 57 29.3 +1.1**
NV11 IAmb IAmb 17 58 11.7
comp=Z,402nm,1.2s
BW06 Boulder Array 31.43 108 P **P 17 57 31.2 +2.2**
baz=322,SNR=108
BW06 S **S 18 02 28.2 -0.5**
baz=322
PD31 Pinedale Array 31.43 108 P **P 17 57 29.6 +0.6**
PDAR Pinedale Array 31.43 108 P **P 17 57 30.3 +1.3**
comp=Z,28nm,0.4s,baz=322,slow=4.2,SNR=164
PDAR PcP **PcP 18 00 21.1 +1.4**
comp=Z,16nm,0.6s,baz=178,slow=1.5,SNR=6.0
PDAR S **S 18 02 29.5 +0.8**
comp=Z,1.7nm,0.7s,baz=39,slow=5.7,SNR=0.7
PDAR ScP **ScP 18 03 53.0 +0.5**
comp=Z,10nm,0.6s,baz=76,slow=0.3,SNR=12
PDAR P3KPbc 18 29 05.7
comp=Z,0.3nm,0.5s,baz=130,slow=8.4,SNR=2.5
PDAR Pinedale Array 31.43 108 P **P 17 57 29.6 +0.6**
MDPB Devils Postpil 31.69 125 P **P 17 57 32.2 +0.9**
MLAC Mammoth, Mammo 31.78 125 P **P 17 57 35.6 +3.5**
baz=331
DUG Dugway, Tooele 32.08 115 P **P 17 57 35.9 +1.3**
DUG pmax pmax
comp=Z,227nm,1.0s
DUG Dugway, Tooele 32.08 115 P **P 17 57 36.9 +2.3**
baz=326,SNR=86
DUG S **S 18 02 42.6 +3.9**
baz=326
DUG Dugway, Tooele 32.08 115 P **P 17 57 35.9 +1.3**
DUG IAmb IAmb 17 58 16.8
comp=Z,226nm,1.0s
CTU Camp Tracy 32.13 113 P **P 17 57 36.9 +1.8**
MDND Maddock 32.22 92 P **P 17 57 37.2 +1.6**
baz=316,SNR=72
ULM Lac du Bonnet 32.31 85 P **P 17 57 36.5 +0.3**
comp=Z,238nm,0.7s,baz=310,slow=8.8,SNR=174
ULM pP **pP 17 58 00.6 +0.6**
comp=Z,149nm,1.1s,baz=311,slow=8.4,SNR=3.4
ULM PcP **PcP 18 00 22.8 +1.2**
comp=Z,70nm,0.6s,baz=315,slow=3.6,SNR=5.4
ULM S **S 18 02 40.6 -1.2**
comp=Z,28nm,1.0s,baz=73,slow=22,SNR=1.5
ULM ScP **ScP 18 03 56.5 +1.5**
comp=Z,50nm,0.7s,baz=306,slow=3.9,SNR=7.3
ULM LR LR 18 11 08.9
comp=Z,6μm,18.1s,baz=312,slow=37
ULM P3KPbc 18 29 01.0
comp=Z,6.0nm,0.7s,baz=164,slow=2.4,SNR=5.4
ULM Lac du Bonnet 32.31 85 P **P 17 57 36.4 +0.1**
ULM IAmb IAmb 17 57 39.2
comp=Z,423nm,0.9s
ULM **pP 17 58 00.7 +0.6**
R11A Troy Canyon, C 32.46 120 P **P 17 57 40.8 +2.8**
baz=329,SNR=210
R11A S **S 18 02 47.5 +2.6**
baz=329
R11A Troy Canyon, C 32.46 120 P **P 17 57 39.0 +1.0**
R11A IAmb IAmb 17 58 21.0
comp=Z,384nm,1.2s
TIN Tinemaha, Big 32.52 124 P **P 17 57 41.9 +3.5**
baz=331,SNR=7.9
TIN S **S 18 02 49.9 +4.2**
baz=331
VOG Valley Oaks Go 32.72 127 P **P 17 57 42.7 +2.7**
baz=332
VOG S **S 18 02 51.2 +2.7**
baz=332
K22A Casper 32.89 105 P **P 17 57 43.9 +2.3**
baz=322,SNR=94
K22A S **S 18 02 54.1 +2.7**
baz=322
K22A Casper 32.89 105 P **P 17 57 41.9 +0.2**
K22A IAmb IAmb 17 58 24.0
comp=Z,491nm,1.2s
RSSD Black Hills 32.90 100 P **P 17 57 42.5 +0.7**
RSSD pmax pmax
comp=Z,330nm,1.0s
RSSD Black Hills 32.90 100 P **P 17 57 44.5 +2.7**
baz=320
RSSD S **S 18 02 54.1 +2.5**
baz=320
RSSD Black Hills 32.90 100 P **P 17 57 42.5 +0.7**
RSSD IAmb IAmb 17 58 22.3
comp=Z,330nm,1.0s
GRAC Grapevine Rang 32.91 123 P **P 17 57 44.6 +2.9**
baz=331
GRAC S **S 18 02 57.8 +6.2**
baz=331
VES Vestal, Richgr 33.26 127 P **P 17 57 47.6 +2.9**
baz=332,SNR=12
VES S **S 18 03 02.6 +5.9**
baz=332
RWWY Rawlins 33.34 107 P **P 17 57 45.8 +0.1**
SMMC Simmler 33.38 128 P **P 17 57 49.4 +3.5**
baz=333,SNR=33
SMMC S **S 18 03 05.1 +6.3**
baz=333
TPNV Topopah Spring 33.40 122 P **P 17 57 49.1 +3.0**
baz=330,SNR=37
TPNV S **S 18 03 04.7 +5.4**
baz=330
FURC Furnace Creek, 33.57 123 P **P 17 57 50.3 +2.9**
baz=331,SNR=14
FURC S **S 18 03 05.7 +4.2**
baz=331
ISA Isabella, Lake 33.65 126 P **P 17 57 49.4 +1.2**
ISA pmax pmax
comp=Z,128nm,0.9s
ISA Isabella, Lake 33.65 126 P **P 17 57 50.1 +1.9**
baz=332,SNR=70
ISA S **S 18 03 08.3 +5.3**
baz=332
ISA Isabella, Lake 33.65 126 P **P 17 57 49.4 +1.2**
AGMN Agassiz Nation 33.67 88 P **P 17 57 50.0 +1.8**
baz=315,SNR=111
AGMN S **S 18 03 03.8 +0.9**
baz=315
AGMN Agassiz Nation 33.67 88 P **P 17 57 49.7 +1.5**
AGMN IAmb IAmb 17 58 28.2
comp=Z,359nm,0.8s
MPMC Manual Prospec 33.68 124 P **P 17 57 51.5 +2.9**
baz=331,SNR=99
MPMC S **S 18 03 09.0 +5.3**
baz=331
PKM Mcpherson Peak 33.83 128 P **P 17 57 53.0 +3.1**
baz=333,SNR=78
PKM S **S 18 03 12.2 +6.1**
baz=333
SRU San Rafael Swe 33.96 113 P **P 17 57 52.2 +1.2**
SRU pmax pmax
comp=Z,317nm,0.8s
SRU San Rafael Swe 33.96 113 P **P 17 57 52.2 +1.2**
ARVC Arvin 33.98 127 P **P 17 57 53.0 +2.0**
baz=333
CCUT Cedar City 34.06 118 P **P 17 57 53.3 +1.4**
LRMC Laurel Mtn Rad 34.11 125 P **P 17 57 55.1 +2.8**
baz=332,SNR=6.5
LRMC S **S 18 03 15.5 +5.2**
baz=332
O20A White River Ci 34.13 109 P **P 17 57 54.5 +2.0**
baz=324,SNR=22
SBC Santa Barbara 34.26 129 P **P 17 57 55.6 +2.2**
baz=334
SBC S **S 18 03 18.6 +6.3**
baz=334
SHOC Shoshone, Teco 34.30 123 P **P 17 57 56.3 +2.6**
baz=331,SNR=13
SHOC S **S 18 03 19.3 +6.4**
baz=331
OSI Osito Audit: C 34.48 127 P **P 17 57 58.1 +2.7**

baz=333,SNR=6.9
OSI S **S** **18 03 21.4 +5.6**
baz=333
EDW2 Edwards Air Fo 34.52 126 P **P** **17 57 58.0 +2.3**
baz=332,SNR=27
EDW2 S **S** **18 03 21.7 +5.3**
baz=332
N23A Red Feather La 34.55 106 P **P** **17 57 58.0 +1.9**
baz=323,SNR=35
N23A S **S** **18 03 18.4 +1.2**
baz=323
GSC Goldstone, Bar 34.61 124 P **P** **17 57 59.6 +3.1**
baz=332,SNR=66
GSC S **S** **18 03 22.0 +4.1**
baz=332
B35A Bob, Littlefor 34.63 86 P **P** **17 57 56.6 +0.2**
B35A IAmb IAmb 17 58 00.5
comp=Z,291nm,0.8s
NOR Nord 34.65 10 *i* P **P** **17 57 57.2 +0.9**
comp=Z,151nm,1.0s
NOR Nord 34.65 10 *i* P **P** **17 57 57.2 +0.9**
NOR pmax pmax
comp=Z,150nm,1.0s
YAK Yakutsk 34.70 306 P **P** **17 57 56.5 -0.3**
comp=Z,386nm,0.8s,baz=59,slow=1.2,SNR=122
YAK S **S** **18 03 14.1 -4.4**
comp=Z,9.5nm,0.8s,baz=140,slow=10,SNR=1.9
YAK Yakutsk 34.70 306*c i*P **P** **17 57 56.4 -0.5**
YAK *e* 17 59 16.5
YAK *e* 18 00 29.2
YAK *e*S **S** **18 03 16.3 -2.2**
YAK *e*SS **SnSn** **18 05 35.8 -6.6**
YAK pmax pmax
comp=Z,705nm,1.0s
YAK pmax pmax
comp=N,110nm,0.9s
YAK pmax pmax
comp=Z,285nm,0.9s
YAK pmax pmax
comp=N,111nm,1.0s
YAK smax smax
comp=N,2μm,5.3s
YAK Yakutsk 34.70 306 P **P** **17 57 56.4 -0.5**
KNB Kanab 34.74 118 P **P** **17 57 59.2 +1.5**
KNB pmax pmax
comp=Z,640nm,1.3s
KNB Kanab 34.74 118 P **P** **17 57 59.2 +1.5**
TUQ Turquoise Moun 34.84 123 P **P** **17 58 01.7 +3.2**
baz=331,SNR=61
TUQ S **S** **18 03 27.1 +5.7**
baz=331
RRX Edison Barstow 34.91 125 P **P** **17 58 01.7 +2.7**
baz=332,SNR=16
RRX S **S** **18 03 26.4 +4.1**
baz=332
DECC Green Verdugo 34.95 127 P **P** **17 58 02.2 +2.9**
baz=333,SNR=5.6
DECC S **S** **18 03 25.0 +2.0**
baz=333
SUSD Miller 35.03 95 P **P** **17 58 02.3 +2.3**
baz=319,SNR=29
HEC Hector,Ludlow 35.21 124 P **P** **17 58 04.5 +2.9**
baz=332,SNR=34
HEC S **S** **18 03 32.1 +5.1**
baz=332
BFSC Mount Baldy Ra 35.22 126 P **P** **17 58 05.2 +3.4**
baz=333,SNR=31
BFSC S **S** **18 03 30.4 +3.2**
baz=333
F33A 5 Mile Ranch, 35.24 91 P **P** **17 58 02.1 +0.3**
PV04 Paradox Valley 35.26 112 P **P** **17 58 03.4 +1.2**
PV04 IAmb IAmb 17 58 31.0
comp=Z,532nm,1.3s
PV16 Nyswonger Mesa 35.33 112 P **P** **17 58 03.9 +1.1**
PV16 IAmb IAmb 17 58 32.3
comp=Z,360nm,1.1s
PV17 East Wray Mesa 35.33 112 P **P** **17 58 04.1 +1.2**
PV17 IAmb IAmb 17 58 43.2
comp=Z,384nm,0.9s
PV18 Skein Mesa, Pa 35.38 112 P **P** **17 58 04.0 +0.7**
PV18 IAmb IAmb 17 58 31.9
comp=Z,383nm,1.2s
PV03 Paradox Valley 35.40 112 P **P** **17 58 04.5 +1.0**
PV03 IAmb IAmb 17 58 33.0
comp=Z,352nm,1.2s
FMP Fort Macarthur 35.44 127 S **S** **18 03 33.7 +3.3**
baz=333
BBRC Big Bear Solar 35.48 125 P **P** **17 58 07.0 +2.9**
baz=332,SNR=6.7
BBRC S **S** **18 03 34.0 +2.5**
baz=332
PV15 Paradox Valley 35.49 111 P **P** **17 58 03.9 -0.4**
PV15 IAmb IAmb 17 58 33.5
comp=Z,223nm,0.8s
PV13 Radium Mtn., P 35.49 112 P **P** **17 58 05.1 +0.8**
PV13 IAmb IAmb 17 58 33.0
comp=Z,538nm,1.2s
GMRC Granite Mounta 35.51 123 P **P** **17 58 07.4 +3.1**
baz=331,SNR=72
GMRC S **S** **18 03 37.4 +5.6**
baz=331
ISCO Idaho Springs 35.58 107 P **P** **17 58 07.4 +2.3**
baz=324,SNR=31
ISCO S **S** **18 03 35.9 +2.8**
baz=324
NKL Nikolayevsk 35.61 287 *e*P **P** **17 58 03.5 -1.3**
NKL *e* 17 59 27.7
NKL *e*S **S** **18 03 36.6 +3.9**
NKL pmax pmax
comp=N,8.0nm,1.1s
NKL pmax pmax
comp=Z,470nm,0.7s
NKL pmax pmax
comp=Z,382nm,1.8s
CIS Catalina Islan 35.67 128 P **P** **17 58 07.8 +2.3**
baz=334,SNR=5.6
CIS S **S** **18 03 38.0 +3.9**
baz=334
NEE2 Needles Airpor 35.94 122 P **P** **17 58 09.7 +1.9**
baz=331
NEE2 S **S** **18 03 44.3 +6.2**
baz=331
MURC Murrieta 35.96 126 P **P** **17 58 09.9 +1.9**
baz=333
MURC S **S** **18 03 42.7 +4.2**
baz=333
EYMN Ely 35.98 84 P **P** **17 58 09.0 +1.0**
baz=316,SNR=286
EYMN S **S** **18 03 39.5 +1.0**
baz=316
EYMN Ely 35.98 84 P **P** **17 58 08.1 +0.1**
SCI2 San Clemente I 36.00 128 P **P** **17 58 10.1 +1.8**
baz=334
BELC Belle Mtn. Jos 36.07 124 P **P** **17 58 11.8 +2.7**
baz=332,SNR=82
BELC S **S** **18 03 43.1 +2.8**
baz=332
PFO Pinyon Flats O 36.23 125 P **P** **17 58 12.5 +2.1**
comp=Z,61nm,0.7s,baz=325,slow=6.0,SNR=64
PFO Pinyon Flats O 36.23 125 P **P** **17 58 12.9 +2.4**
PFO pmax pmax
comp=Z,388nm,1.5s
PFO Pinyon Flats O 36.23 125 P **P** **17 58 12.8 +2.4**
baz=332,SNR=39
PFO S **S** **18 03 46.3 +3.6**
baz=332
PFO Pinyon Flats O 36.23 125 P **P** **17 58 12.9 +2.4**
PFO IAmb IAmb 17 58 53.6
comp=Z,388nm,1.5s
TPFO Pinon Flats 36.24 125 P **P** **17 58 12.9 +2.4**
baz=332,SNR=33
TPFO S **S** **18 03 46.8 +4.0**
baz=332
TYV Tymovskoe 36.26 283 *e*P **P** **17 58 12.0 +1.6**
TYV *e*S **S** **18 03 46.5 +3.9**
TYV pmax pmax
comp=Z,176nm,0.7s
TYV pmax pmax
comp=Z,900nm,3.9s
TYV smax smax
comp=E,15nm,2.0s
TYV smax smax
comp=E,5μm,7.7s
IRM Iron Mountain 36.26 123 P **P** **17 58 13.8 +3.2**
baz=332,SNR=96
IRM S **S** **18 03 47.0 +3.9**
baz=332

MVCO Mesa Verde 36.43 112 P **P** **17 58 14.2 +2.0**
baz=327,SNR=48
MVCO S **S** **18 03 49.1 +3.2**
baz=327
Q24A Divide 36.47 107 P **P** **17 58 15.2 +2.6**
baz=325,SNR=39
Q24A S **S** **18 03 48.5 +1.8**
baz=325
F36A Milaca 36.53 89 P **P** **17 58 13.3 +0.5**
BC3 Big Chuckawall 36.58 124 P **P** **17 58 16.0 +2.6**
baz=332,SNR=40
BC3 S **S** **18 03 50.2 +2.1**
baz=332
109C Camp Elliot, M 36.62 126 P **P** **17 58 16.6 +2.9**
baz=333,SNR=7.5
109C S **S** **18 03 51.5 +3.0**
baz=333
WUAZ Wupatki 36.63 117 P **P** **17 58 16.8 +2.9**
baz=329,SNR=213
WUAZ S **S** **18 03 50.5 +1.6**
baz=329
WUAZ Wupatki 36.63 117 P **P** **17 58 14.1 +0.2**
ECSD EROS Data Cent 36.67 94 P **P** **17 58 15.8 +1.8**
baz=320,SNR=218
ECSD S **S** **18 03 46.8 -2.3**
baz=320
ECSD EROS Data Cent 36.67 94 P **P** **17 58 14.0 +0.1**
ECSD IAmb IAmb 17 58 17.1
comp=Z,542nm,1.3s
S22A 4UR Ranch, Cre 36.72 110 P **P** **17 58 17.5 +2.8**
baz=326,SNR=168
S22A S **S** **18 03 52.0 +1.6**
baz=326
S22A 4UR Ranch, Cre 36.72 110 P **P** **17 58 15.6 +0.8**
S22A IAmb IAmb 17 58 45.1
comp=Z,526nm,1.6s
MONP2 Monument Peak 36.88 126 P **P** **17 58 19.4 +3.3**
baz=333,SNR=56
MONP2 S **S** **18 03 53.7 +0.9**
baz=333
E38A The Farm, Brul 36.92 86 P **P** **17 58 16.2 +0.2**
E38A IAmb IAmb 17 58 57.8
comp=Z,439nm,1.1s
SWSC Sam W. Stewart 37.08 125 P **P** **17 58 19.5 +2.0**
baz=333,SNR=26
IKP In-Ko-Pah, Jac 37.22 125 P **P** **17 58 22.1 +3.3**
baz=333,SNR=36
IKP S **S** **18 04 02.0 +4.3**
baz=333
SDCO Great Sand Dun 37.31 109 P **P** **17 58 22.4 +2.6**
baz=326,SNR=173
SDCO S **S** **18 04 03.3 +3.9**
baz=326
SDCO Great Sand Dun 37.31 109 P **P** **17 58 20.8 +1.1**
SDCO IAmb IAmb 17 59 02.3
comp=Z,184nm,1.1s
SPMN Marine on St. 37.35 89 P **P** **17 58 22.0 +2.4**
baz=318,SNR=89
SPMN S **S** **18 03 58.5 -0.7**
baz=318
SPMN Marine on St. 37.35 89 P **P** **17 58 20.1 +0.4**
GLA Glamis 37.36 123 P **P** **17 58 22.9 +2.9**
baz=332,SNR=74
GLA S **S** **18 04 01.9 +2.1**
baz=332
KSCO Kaye Shedlock' 37.57 104 P **P** **17 58 24.3 +2.5**
baz=324,SNR=47
ILULI Ilulissat 37.64 35 *i* P **P** **17 58 22.7 +0.9**
comp=Z,454nm,1.6s
ILULI Ilulissat 37.64 35 *i* P **P** **17 58 22.7 +0.9**
ILULI pmax pmax
comp=Z,450nm,1.6s
ILULI Ilulissat 37.64 35 P **P** **17 58 22.6 +0.7**
ILULI IAmb IAmb 17 58 24.6
comp=Z,499nm,1.6s
W18A Petrified Fore 37.66 116 P **P** **17 58 25.6 +3.0**
baz=329,SNR=91
W18A S **S** **18 04 08.6 +4.1**
baz=329
BGNE Belgrade 37.74 98 P **P** **17 58 25.4 +2.3**
baz=322,SNR=49
BGNE S **S** **18 04 03.7 -1.6**
baz=322
KUR Kuril'sk 37.86 272 *e*P **P** **17 58 24.4 +0.5**
KUR *e**PP **pP** **17 58 50.9 +2.4**
KUR *e* 17 59 50.3
KUR *e* 18 00 33.5
KUR *i* S **S** **18 04 09.2 +2.2**
KUR pmax pmax
comp=Z,424nm,1.1s
KUR pmax pmax
comp=Z,2μm,7.6s
KUR pmax pmax
comp=N,1μm,9.3s
D41A Chassel 37.99 83 P **P** **17 58 25.9 +0.9**
L34A Svendsen Farm, 38.14 95 P **P** **17 58 26.9 +0.5**
T25A Trinidad 38.30 108 P **P** **17 58 30.5 +2.5**
baz=326,SNR=50
T25A S **S** **18 04 18.2 +4.0**
baz=326
SUMG Summit 38.38 26⇓ *i*P **P** **17 58 30.1 +1.6**
comp=N,734nm,0.9s
SUMG Summit 38.38 26⇓ *i*P **P** **17 58 30.1 +1.6**
SUMG pmax pmax
comp=Z,730nm,0.9s
SUMG Summit 38.38 26 P **P** **17 58 28.2 -0.2**
SUMG IAmb IAmb 17 58 30.7
comp=Z,366nm,1.0s
COWI Conover 38.43 85 P **P** **17 58 28.9 +0.2**
COWI IAmb IAmb 17 58 32.2
comp=Z,612nm,1.4s
DAG Danmarks Havn 38.44 16⇓ *i*P **P** **17 58 28.8 +0.4**
comp=Z,258nm,0.7s
DAG Danmarks Havn 38.44 16⇓ *i*P **P** **17 58 28.8 +0.4**
DAG pmax pmax
comp=Z,260nm,0.7s
G40A Rib Lake 38.54 86 P **P** **17 58 29.6 -0.1**
N33A J Bar K, Exete 38.59 98 P **P** **17 58 30.3 +0.1**
SPX San Pedro Mart 38.90 126 P **P** **17 58 35.0 +1.8**
KBS Kingsbay 38.99 5*d i*P **P** **17 58 34.9 +1.8**
KBS pmax pmax
comp=Z,502nm,2.5s
KBS Kingsbay 38.99 5 P **P** **17 58 33.9 +0.8**
KBS IAmb IAmb 17 58 36.8
comp=Z,831nm,1.9s
KBS Kingsbay 38.99 5 *e*P **P** **17 58 35.1 +2.0**
KBS IVmB_BB 17 58 35.5
comp=Z,5μm,3.5s
KBS *e*SS SS 18 07 23.6 +4.7
YSS Yuzh-Sakhalins 38.99 278⇑ *e*P **P** **17 58 32.8 -0.6**
YSS *e**PP **pP** **17 58 59.7 +1.6**
YSS *e* 18 00 06.8
YSS *e*S **S** **18 04 19.5 -4.5**
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=Z,3μm,8.4s
YSS pmax pmax
comp=N,1μm,6.9s
YSS smax smax
comp=N,3μm,6.0s
YSS smax smax
comp=E,5μm,6.5s
YSS MLR MLR
comp=Z,3μm,12.0s
YSS Yuzh-Sakhalins 38.99 278 P **P** **17 58 33.4 0.0**
CBKS Cedar Bluff 39.06 102 P **P** **17 58 36.6 +2.5**
baz=324,SNR=43
CBKS S **S** **18 04 24.5 -0.8**
baz=324
214A Organ Pipe Nat 39.13 122 P **P** **17 58 37.6 +2.8**
baz=332,SNR=40
214A S **S** **18 04 26.3 -0.1**
baz=332
214A Organ Pipe Nat 39.13 122 P **P** **17 58 37.2 +2.5**
214A IAmb IAmb 17 59 04.6
comp=Z,293nm,1.2s
GRNR Gornyy 39.17 287⇑ *i*P **P** **17 58 35.0 +0.2**
GRNR *e* 18 00 09.6
GRNR *e*S **S** **18 04 28.2 +1.6**
GRNR pmax pmax
comp=N,60nm,0.6s
GRNR pmax pmax
comp=Z,190nm,0.6s
GRNR smax smax
comp=E,5.0nm,0.7s

GRNR MLR MLR
comp=E,2μm,14.0s
GRNR MLR MLR
comp=N,1μm,13.0s
GRNR MLR MLR
comp=Z,3μm,15.0s
ANMO Albuquerque 39.22 112*c i*P **P** **17 58 38.5 +2.8**
ANMO pmax pmax
comp=Z,133nm,1.3s
ANMO Albuquerque 39.22 112 P **P** **17 58 38.1 +2.4**
baz=328
ANMO S **S** **18 04 30.9 +2.8**
baz=328
E43A Lone Tree Farm 39.23 83 P **P** **17 58 35.7 +0.4**
SFJD Kangerlussuaq 39.26 38⇓ *i*P **P** **17 58 37.2 +1.8**
comp=Z,30nm,0.9s
SFJD Kangerlussuaq 39.26 38⇓ *i*P **P** **17 58 37.2 +1.8**
SFJD pmax pmax
comp=Z,30nm,0.9s
SFJD Kangerlussuaq 39.26 38 P **P** **17 58 35.7 +0.3**
TUC Tucson 39.64 119 P **P** **17 58 41.6 +2.6**
baz=331
TUC S **S** **18 04 37.8 +3.6**
baz=331
SCIA State Center 39.67 92 P **P** **17 58 40.8 +1.7**
baz=321,SNR=13
SCIA S **S** **18 04 34.3 0.0**
baz=321
YUK Yuzh-Kuril'sk 39.71 273 *e*P P 17 58 33.1 -6.2
YUK *i* S S 18 04 25.5 -9.2
YUK pmax pmax
comp=Z,603nm,1.4s
YUK pmax pmax
comp=E,294nm,1.3s
YUK pmax pmax
comp=N,355nm,0.9s
Y22D IRIS PASSCAL I 39.76 113 P **P** **17 58 43.4 +3.3**
baz=329
Y22D S **S** **18 04 38.6 +2.6**
baz=329
SPA0 Spitsbergen Ar 39.89 4 P **P** **17 58 40.0 -0.6**
SPA0 IAmb IAmb 17 59 19.8
comp=Z,449nm,1.1s
SPA0 Spitsbergen Ar 39.89 4 *e*P **P** **17 58 39.9 -0.6**
SPITS Spitsbergen Ar 39.89 4 P **P** **17 58 39.6 -0.9**
comp=Z,48nm,0.4s,baz=72,slow=2.7,SNR=176
SPITS PcP **PcP** **18 00 43.5 -0.3**
comp=Z,71nm,0.6s,baz=134,slow=7.2,SNR=4.1
SPITS ScP **ScP** **18 04 22.7 +0.2**
comp=Z,38nm,1.0s,baz=116,slow=1.9,SNR=6.1
H43A Windswept, Lux 40.28 85 P **P** **17 58 44.3 +0.1**
KSU1 Kansas State U 40.29 98 P **P** **17 58 46.1 +1.9**
baz=323,SNR=91
KSU1 S **S** **18 04 42.7 -0.8**
baz=323
KSU1 Kansas State U 40.29 98 P **P** **17 58 44.8 +0.6**
JFWS Jewell Farm 40.30 89 P **P** **17 58 45.0 +0.7**
baz=320,SNR=9.6
JFWS S **S** **18 04 42.6 -1.0**
baz=320
E46A Sault Ste Mari 40.49 80 P **P** **17 58 45.8 0.0**
L40A Anamosa 40.49 91 P **P** **17 58 46.0 +0.1**
121A Cookes Peak, D 40.71 116 P **P** **17 58 51.4 +3.4**
baz=330,SNR=97
121A S **S** **18 04 51.1 +0.9**
baz=330
KIP Kipapa 40.75 189⇓ *e*P **P** **17 58 49.9 +1.7**
KIP pmax pmax
comp=Z,228nm,0.8s
G45A Suttons Bay 40.85 83 P **P** **17 58 49.5 +0.7**
HSPB Hornsund (broa 41.03 4 *e*P **P** **17 58 50.5 +0.6**
HSPB *ep*P **pP** **17 59 09.3 -5.3**
HSPB Hornsund (broa 41.03 4 *e*P **P** **17 58 50.5 +0.6**
MATQ Matagami 41.06 72 P **P** **17 58 50.5 0.0**
baz=316,SNR=74
MATQ S **S** **18 04 53.8 -1.0**
baz=316
ZEA Zeya 41.08 297 *e*P **P** **17 58 49.7 -0.9**
ZEA *e* 17 59 18.0
ZEA *e* 18 00 37.0
ZEA *e*S **S** **18 04 54.0 -0.9**
ZEA pmax pmax
comp=E,86nm,1.2s
ZEA pmax pmax
comp=Z,360nm,1.2s
ZEA pmax pmax
comp=Z,2μm,7.0s
ZEA pmax pmax
comp=Z,1μm,12.0s
ZEA pmax pmax
comp=N,900nm,16.0s
ZEA pmax pmax
comp=E,1μm,16.0s
ZEA smax smax
comp=E,4μm,11.0s
ZEA smax smax
comp=N,3μm,7.0s
ZEA MLR MLR
comp=Z,9μm,14.0s
ZEA MLR MLR
comp=E,5μm,15.0s
ZEA MLR MLR
comp=N,4μm,14.0s
JKA Kamikawa-asahi 41.18 276 P **P** **17 58 51.9 +0.4**
ASAJ Asahikawa 41.18 276 P **P** **17 58 51.1 -0.4**
comp=N,80nm,0.8s,baz=349,slow=3.1,SNR=22
ASAJ Asahikawa 41.18 276 P **P** **17 58 51.9 +0.4**
ASAJ pmax pmax
comp=Z,81nm,0.7s
L42A Oliver, Polo 41.27 89 P **P** **17 58 50.7 -1.6**
L42A IAmb IAmb 17 59 32.9
comp=Z,425nm,0.8s
P38A Dawn 41.31 95 P **P** **17 58 52.8 +0.2**
P38A IAmb IAmb 17 59 18.9
comp=Z,318nm,1.1s
K43A Burlington 41.36 87 P **P** **17 58 53.2 +0.2**
K43A IAmb IAmb 17 59 20.1
comp=Z,463nm,0.9s
AMTX Amarillo 41.40 107 P **P** **17 58 55.9 +2.4**
baz=327
AMTX S **S** **18 04 56.4 -3.9**
baz=327
GLMI Grayling 41.50 82 P **P** **17 58 55.2 +1.1**
baz=319,SNR=14
GLMI S **S** **18 04 59.6 -1.8**
baz=319
KAN13 South Haven SW 41.57 101 P **P** **17 58 54.8 0.0**
MSTX Muleshoe 41.67 109 P **P** **17 58 57.4 +1.7**
baz=328,SNR=80
MSTX S **S** **18 05 06.7 +2.4**
baz=328
MSTX Muleshoe 41.67 109 P **P** **17 58 56.5 +0.7**
MSTX IAmb IAmb 17 59 25.5
comp=Z,523nm,1.0s
N41A Harden Midland 41.72 92 P **P** **17 58 56.5 +0.5**
HOPEN Hopen 41.74 1 *e*P **P** **17 58 52.1 -3.5**
LSQQ Lebel-sur-Quev 41.87 72 P **P** **17 58 57.4 +0.3**
baz=317
LSQQ S **S** **18 05 05.0 -1.7**
baz=317
L44A Lake County Fo 41.97 88 P **P** **17 58 58.7 +0.8**
baz=321,SNR=26
L44A S **S** **18 05 07.6 -0.7**
baz=321
SCHQ Schefferville 42.06 59 P **P** **17 58 59.8 +1.2**
comp=Z,282nm,1.1s,baz=325,slow=8.0,SNR=67
SCHQ S **S** **18 05 07.8 -1.7**
comp=Z,26nm,1.0s,baz=71,slow=14,SNR=1.9
SCHQ LR LR 18 16 50.4
comp=Z,4μm,18.1s,baz=322,slow=36
SCHQ Schefferville 42.06 59 P **P** **17 58 58.8 +0.2**
P40A Paris 42.09 94 P **P** **17 58 59.0 +0.1**
T35A Sooner Cattle 42.09 100 P **P** **17 58 58.4 -0.6**
T35A IAmb IAmb 17 59 39.0
comp=Z,521nm,1.0s
POHA Pohakuloa 42.27 185 P **P** **17 59 01.5 +0.7**
HQIL Hanson Quary C 42.29 88 P **P** **17 59 01.2 +0.7**
VLDQ Val d'Or 42.35 73 P **P** **17 58 59.5 -1.4**
NRIK Noril'sk 42.35 333 P **P** **17 59 01.1 +0.4**
comp=Z,163nm,0.4s,baz=54,slow=7.0,SNR=176
NRIK S **S** **18 05 11.4 -2.0**
comp=Z,78nm,0.8s,baz=41,slow=4.6,SNR=3.6
NRIK LR LR 18 19 50.0
comp=Z,8.0nm,0.9s,baz=16,slow=16,SNR=1.5
NRIK PcP **PcP** **18 00 53.9 +1.9**
comp=Z,4μm,19.4s,baz=43,slow=40

CHGQ	**Chibougamau**	**42.41**	**69**	P	**P**	**17 59 01.3**	**-0.1**
	baz=317,SNR=56						
CHGQ				S	**S**	**18 05 11.9**	**-2.7**
	baz=317						
MNTX	**Cornudas Mount**	**42.45**	**114**	P	**P**	**17 59 04.9**	**+2.9**
	baz=330,SNR=143						
MNTX				S	**S**	**18 05 19.9**	**+4.2**
	baz=330						
MNTX	**Cornudas Mount**	**42.45**	**114**	P	**P**	**17 59 03.3**	**+1.2**
M44A	**Midewin, Midew**	**42.52**	**88**	P	**P**	**17 59 02.7**	**+0.3**
M44A				IAmb	IAmb	17 59 29.6	
	comp=Z,435nm,0.9s						
ERM	**Erimo**	**42.53**	**273**	*c iP*	**P**	**17 59 03.7**	**+1.2**
ERM				pmax	pmax		
	comp=Z,175nm,0.8s						
ERM	**Erimo**	**42.53**	**273**	P	**P**	**17 59 03.8**	**+1.3**
HDIL	**Hopedale**	**42.58**	**90**	P	**P**	**17 59 03.9**	**+1.0**
	baz=322,SNR=50						
HDIL				S	**S**	**18 05 15.4**	**-1.9**
	baz=322						
HDIL	**Hopedale**	**42.58**	**90**	P	**P**	**17 59 02.8**	**-0.1**
BCOK	**Bluff Creek, N**	**42.62**	**102**	P	**P**	**17 59 03.5**	**+0.2**
PUH	**Pauahi**	**42.63**	**185**	P	**P**	**17 59 04.2**	**+0.5**
JEW	**Eniwo**	**42.70**	**275**	P	**P**	**17 59 04.1**	**+0.3**
JEW				IAmb	IAmb	17 59 07.8	
	comp=Z,407nm,0.9s						
KHU	**Kahuku**	**42.78**	**185**	P	**P**	**17 59 05.6**	**+0.7**
KHU				pmax	pmax		
	comp=Z,1μm,1.1s						
KHU	**Kahuku**	**42.78**	**185**	P	**P**	**17 59 05.6**	**+0.7**
OK025	**Westminster Rd**	**42.80**	**102**	P	**P**	**17 59 05.2**	**+0.5**
OK025				IAmb	IAmb	17 59 44.8	
	comp=Z,465nm,0.9s						
WMOK	**Wichita Mounta**	**42.84**	**104**	P	**P**	**17 59 05.5**	**+0.4**
WMOK				pmax	pmax		
	comp=Z,360nm,1.1s						
WMOK	**Wichita Mounta**	**42.84**	**104**	P	**P**	**17 59 07.3**	**+2.2**
	baz=326,SNR=244						
WMOK				S	**S**	**18 05 22.1**	**+0.9**
	baz=326						
WMOK	**Wichita Mounta**	**42.84**	**104**	P	**P**	**17 59 05.5**	**+0.4**
WMOK				IAmb	IAmb	17 59 47.7	
	comp=Z,360nm,1.1s						
OKCSW	**OKLAHOMA CITY**	**42.90**	**102**	P	**P**	**17 59 08.0**	**+2.5**
S39A	**Bolivar**	**42.96**	**96**	P	**P**	**17 59 05.1**	**-0.9**
S39A				IAmb	IAmb	17 59 47.3	
	comp=Z,259nm,1.2s						
R40A	**Maddies Statio**	**42.97**	**95**	P	**P**	**17 59 05.5**	**-0.6**
R40A				IAmb	IAmb	17 59 08.7	
	comp=Z,529nm,1.4s						
I49A	**Point Hope**	**43.01**	**82**	P	**P**	**17 59 06.7**	**+0.4**
I49A				IAmb	IAmb	17 59 10.3	
	comp=Z,524nm,1.1s						
TUL1	**Leonard**	**43.25**	**100**	P	**P**	**17 59 09.5**	**+1.2**
TUL1				S	**S**	**18 05 27.0**	**-0.2**
	baz=325						
TUL1	**Leonard**	**43.25**	**100**	P	**P**	**17 59 08.8**	**+0.4**
TUL1				IAmb	IAmb	17 59 48.3	
	comp=Z,425nm,1.1s						
SCO	**Scoresbysund**	**43.25**	**22**	*i* P	**P**	**17 59 08.9**	**+0.9**
	comp=Z,140nm,1.0s						
SCO	**Scoresbysund**	**43.25**	**22**	*i* P	**P**	**17 59 08.9**	**+0.9**
SCO				pmax	pmax		
	comp=Z,140nm,1.0s						
TEY	**Ternei**	**43.28**	**281⇑**	*e*P	**P**	**17 59 08.2**	**-0.3**
TEY				pmax	pmax		
	comp=E,20nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,1.6s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
W35A	**Tecumseh**	**43.37**	**102**	P	**P**	**17 59 09.6**	**+0.2**
BOD	**Bodaibo**	**43.39**	**309**	*e*P	**P**	**17 59 08.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,227nm,1.1s						
U38A	**Gravette**	**43.47**	**99**	P	**P**	**17 59 09.9**	**-0.3**
U38A				IAmb	IAmb	17 59 51.8	
	comp=Z,532nm,1.2s						
BJO1	**Bjornoya**	**43.64**	**4**	*e*P	**P**	**17 59 11.2**	**+0.2**
BJO1				IVmBBB		17 59 13.8	
	comp=Z,4μm,2.3s						
BJO1				*e*S	**S**	**18 05 34.3**	**+2.3**
BJO1				IVMs_BB	IVMs_BB	18 14 38.2	
	comp=Z,5μm,5.1s						
CCM	**Cathedral Cave**	**43.64**	**94**	P	**P**	**17 59 12.0**	**+0.5**
CCM				pmax	pmax		
	comp=Z,151nm,0.9s						
CCM	**Cathedral Cave**	**43.64**	**94**	P	**P**	**17 59 11.8**	**+0.3**
	baz=323						
CCM				S	**S**	**18 05 31.2**	**-1.7**
	baz=323						
CCM	**Cathedral Cave**	**43.64**	**94**	P	**P**	**17 59 12.0**	**+0.5**
ALGO	**Algonquin Park**	**43.69**	**76**	P	**P**	**17 59 12.1**	**+0.3**
	baz=319,SNR=90						
ALGO				S	**S**	**18 05 32.7**	**-0.7**
	baz=319						
SFIN	**Lafayette**	**43.75**	**88**	P	**P**	**17 59 13.5**	**+1.2**
	baz=322,SNR=30						
SFIN				S	**S**	**18 05 32.9**	**-1.5**
	baz=322						
SFIN	**Lafayette**	**43.75**	**88**	P	**P**	**17 59 12.7**	**+0.3**
SFIN				IAmb	IAmb	17 59 39.7	
	comp=Z,597nm,1.3s						
L48A	**N Adams**	**43.79**	**85**	P	**P**	**17 59 12.9**	**+0.2**
HHAR	**Hobbs**	**43.81**	**98**	P	**P**	**17 59 12.2**	**-0.7**
ANGG	**Ammassalik, Gr**	**43.83**	**33**	P	**P**	**17 59 12.0**	**-0.6**
AAM	**Ann Arbor**	**43.88**	**84**	P	**P**	**17 59 14.4**	**+1.1**
	baz=321,SNR=8.8						
AAM				S	**S**	**18 05 35.4**	**-0.7**
	baz=321						
MGMO	**Mountain Grove**	**43.88**	**96**	P	**P**	**17 59 12.8**	**-0.7**
MGMO				IAmb	IAmb	17 59 52.7	
	comp=Z,635nm,1.1s						
I51A	**Listowel**	**43.95**	**80**	P	**P**	**17 59 15.3**	**+1.4**
	baz=320,SNR=102						
I51A				S	**S**	**18 05 36.7**	**-0.6**
	baz=320						
Q44A	**Meyer Farm, Va**	**44.01**	**91**	P	**P**	**17 59 14.3**	**-0.2**
Q44A				IAmb	IAmb	17 59 41.4	
	comp=Z,534nm,1.1s						
N47A	**Urbana**	**44.02**	**87**	P	**P**	**17 59 14.1**	**-0.5**
D55A	**Sainte-Anne-du**	**44.06**	**73**	P	**P**	**17 59 15.0**	**+0.3**
	baz=319,SNR=142						
D55A				S	**S**	**18 05 37.2**	**-1.5**
	baz=319						
SADO	**Sadowa**	**44.09**	**78**	P	**P**	**17 59 14.7**	**-0.2**
SADO				IAmb	IAmb	17 59 42.1	
	comp=Z,632nm,1.4s						
G54A	**Lake Saint Pet**	**44.09**	**77**	P	**P**	**17 59 15.4**	**+0.4**
	baz=319,SNR=52						
G54A				S	**S**	**18 05 38.2**	**-1.1**
	baz=319						
ABTX	**Abilene, Hawle**	**44.21**	**107**	P	**P**	**17 59 18.2**	**+2.0**
	baz=328,SNR=81						
ABTX				S	**S**	**18 05 40.8**	**-0.5**
	baz=328						
ABTX	**Abilene, Hawle**	**44.21**	**107**	P	**P**	**17 59 16.3**	**+0.2**
ABTX				IAmb	IAmb	17 59 20.4	
	comp=Z,686nm,1.5s						
E55A	**Montcerf-Lytto**	**44.22**	**74**	P	**P**	**17 59 16.4**	**+0.4**
	baz=319,SNR=38						
E55A				S	**S**	**18 05 39.9**	**-1.2**
	baz=319						
U40A	**Yellville**	**44.26**	**97**	P	**P**	**17 59 16.8**	**+0.4**
	baz=325,SNR=32						
U40A	**Yellville**	**44.26**	**97**	P	**P**	**17 59 15.7**	**-0.7**
U40A				IAmb	IAmb	18 01 02.1	
	comp=Z,184nm,0.6s						
P46A	**Rosedale**	**44.30**	**89**	P	**P**	**17 59 16.9**	**+0.1**
D56A	**ZEC Mazanza, M**	**44.36**	**72**	P	**P**	**17 59 17.3**	**+0.1**
	baz=319,SNR=127						
D56A				S	**S**	**18 05 41.0**	**-2.1**
	baz=319						
JTM	**Tenmabayashi**	**44.47**	**274**	P	**P**	**17 59 18.8**	**+0.8**
JTM				IAmb	IAmb	17 59 22.0	
	comp=Z,246nm,1.0s						
H53A	**Bobcaygeon**	**44.49**	**78**	P	**P**	**17 59 18.5**	**+0.3**
	baz=320,SNR=53						
H53A				S	**S**	**18 05 43.0**	**-2.1**
	baz=320						
X37A	**Clayton**	**44.53**	**101**	P	**P**	**17 59 19.2**	**+0.6**
X37A				IAmb	IAmb	17 59 59.0	
	comp=Z,332nm,0.9s						
T42A	**Van Buren**	**44.54**	**95**	P	**P**	**17 59 17.8**	**-0.8**
F55A	**Otter Lake**	**44.56**	**75**	P	**P**	**17 59 18.7**	**0.0**
	baz=319,SNR=25						
F55A				S	**S**	**18 05 44.2**	**-1.8**
	baz=319						
OLIL	**Olney**	**44.58**	**91**	P	**P**	**17 59 19.2**	**+0.2**
E56A	**St. Veronique**	**44.62**	**73**	P	**P**	**17 59 19.7**	**+0.5**
	baz=319,SNR=73						
E56A				S	**S**	**18 05 45.6**	**-1.3**
	baz=319						
N49A	**Columbus Grove**	**44.70**	**86**	P	**P**	**17 59 19.9**	**0.0**
N49A				IAmb	IAmb	17 59 47.1	
	comp=Z,394nm,1.0s						
W39A	**Magazine**	**44.77**	**99**	P	**P**	**17 59 21.4**	**+0.9**
	baz=325,SNR=60						
W39A				S	**S**	**18 05 48.1**	**-1.1**
	baz=325						
W39A	**Magazine**	**44.77**	**99**	P	**P**	**17 59 20.3**	**-0.2**
W39A				IAmb	IAmb	17 59 23.4	
	comp=Z,442nm,1.5s						
D57A	**Chemin Vers le**	**44.77**	**72**	P	**P**	**17 59 20.4**	**0.0**
	baz=319,SNR=86						
D57A				S	**S**	**18 05 46.8**	**-2.3**
	baz=319						
G55A	**Calabogie**	**44.83**	**76**	P	**P**	**17 59 21.3**	**+0.4**
	baz=320,SNR=40						
G55A				S	**S**	**18 05 48.0**	**-1.9**
	baz=320						
PLVO	**Plevna**	**44.83**	**76**	P	**P**	**17 59 21.6**	**+0.7**
PLVO				IAmb	IAmb	17 59 48.3	
	comp=Z,416nm,1.3s						
S44A	**Carbondale**	**44.87**	**93**	P	**P**	**17 59 21.2**	**0.0**
JMIC	**Jan Mayen**	**44.88**	**16**	P	**P**	**17 59 22.9**	**+1.9**
	comp=Z,95nm,0.6s,baz=5.7,slow=1.9,SNR=5.9						
JMIC	**Jan Mayen**	**44.88**	**16**	*e*P	**P**	**17 59 22.2**	**+1.2**
JMIC				*e*S	**S**	**18 05 51.1**	**+1.1**
FCAR	**Ozark Folk Cen**	**44.98**	**97**	P	**P**	**17 59 22.1**	**-0.1**
BLO	**Bloomington**	**44.98**	**89**	P	**P**	**17 59 21.6**	**-0.5**
BLO				pmax	pmax		
	comp=Z,258nm,0.9s						
BLO	**Bloomington**	**44.98**	**89**	P	**P**	**17 59 21.6**	**-0.5**
BLO				IAmb	IAmb	18 00 03.3	
	comp=Z,258nm,0.8s						
DELO	**Deloro Mine**	**44.98**	**77**	P	**P**	**17 59 22.4**	**+0.3**
DELO				IAmb	IAmb	17 59 49.6	
	comp=Z,363nm,1.1s						
LATQ	**La Tuque**	**44.99**	**71**	P	**P**	**17 59 22.3**	**+0.2**
	baz=319						
PBMO	**Poplar Bluff**	**45.05**	**95**	P	**P**	**17 59 22.0**	**-0.7**
TRQ	**Mont Tremblant**	**45.08**	**73**	P	**P**	**17 59 22.5**	**-0.4**
NRS	**Narsarsuaq**	**45.09**	**41**	*i* P	**P**	**17 59 24.2**	**+1.5**
	comp=Z,374nm,1.0s						
NRS	**Narsarsuaq**	**45.09**	**41**	*i* P	**P**	**17 59 24.2**	**+1.5**
NRS				pmax	pmax		
	comp=Z,370nm,1.0s						
E57A	**Chemin Saint G**	**45.12**	**73**	P	**P**	**17 59 23.3**	**+0.1**
	baz=319,SNR=94						
E57A				S	**S**	**18 05 52.6**	**-1.6**
	baz=319						
D58A	**Chemin du LacG**	**45.17**	**71**	P	**P**	**17 59 22.9**	**-0.6**
	baz=319,SNR=83						
D58A				S	**S**	**18 05 52.2**	**-2.5**
	baz=319						
I55A	**Frankford**	**45.18**	**77**	P	**P**	**17 59 24.1**	**+0.4**
	baz=320,SNR=29						
I55A				S	**S**	**18 05 54.0**	**-1.0**
	baz=320						
O49A	**Covington**	**45.21**	**86**	P	**P**	**17 59 23.2**	**-0.7**
TX31	**Lajitas Ar. Si**	**45.24**	**113**	P	**P**	**17 59 25.0**	**+0.6**
TX31				IAmb	IAmb	17 59 54.3	
	comp=Z,646nm,1.1s						
TX32	**Lajitas Array**	**45.24**	**113**	P	**P**	**17 59 25.3**	**+0.9**
TXAR	**Lajitas Array**	**45.24**	**113**	P	**P**	**17 59 25.4**	**+1.0**
	comp=Z,74nm,0.6s,baz=327,slow=6.5,SNR=328						
TXAR				PcP	**PcP**	**18 01 04.8**	**+2.2**
	comp=Z,25nm,0.7s,baz=74,slow=1.1,SNR=7.1						
TXAR				ScP	**ScP**	**18 04 46.2**	**+1.3**
	comp=Z,6.4nm,0.8s,baz=327,slow=2.1,SNR=3.6						
TXAR				PKiKP	**PKiKP**	**18 08 00.3**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=180,slow=1.7,SNR=6.3						
TXAR	**Lajitas Array**	**45.24**	**113**	P	**P**	**17 59 24.8**	**+0.4**
P48A	**Milroy**	**45.27**	**88**	P	**P**	**17 59 24.2**	**-0.2**
P48A				IAmb	IAmb	17 59 50.8	
	comp=Z,672nm,1.6s						
LCAR	**Lake Charles**	**45.29**	**96**	P	**P**	**17 59 23.9**	**-0.7**
M51A	**Elyria**	**45.32**	**83**	P	**P**	**17 59 24.8**	**0.0**
	baz=322,SNR=14						
M51A				S	**S**	**18 05 56.2**	**-0.9**
	baz=322						
F57A	**Harrington**	**45.33**	**74**	P	**P**	**17 59 24.7**	**-0.1**
	baz=320,SNR=8.5						
F57A				S	**S**	**18 05 55.6**	**-1.4**
	baz=320						
WHAR	**Wooly Hollow**	**45.39**	**98**	P	**P**	**17 59 26.0**	**+0.6**
MIAR	**Mount Ida**	**45.40**	**99**	P	**P**	**17 59 24.8**	**-0.7**
MIAR				pmax	pmax		
	comp=Z,322nm,1.1s						
MIAR	**Mount Ida**	**45.40**	**99**	P	**P**	**17 59 26.7**	**+1.2**
	baz=326,SNR=115						
MIAR				S	**S**	**18 05 57.1**	**-1.3**
	baz=326						
MIAR	**Mount Ida**	**45.40**	**99**	P	**P**	**17 59 24.8**	**-0.7**
MIAR				IAmb	IAmb	18 00 07.8	
	comp=Z,322nm,1.1s						
J54A	**Appleton**	**45.47**	**79**	P	**P**	**17 59 26.6**	**+0.7**
	baz=321,SNR=25						
J54A				S	**S**	**18 05 57.0**	**-2.1**
	baz=321						
W41B	**Gary Mavity, V**	**45.50**	**98**	P	**P**	**17 59 26.9**	**+0.6**
	baz=325,SNR=18						
W41B				S	**S**	**18 05 58.5**	**-1.3**
	baz=325						
W41B	**Gary Mavity, V**	**45.50**	**98**	P	**P**	**17 59 26.4**	**+0.1**
E58A	**La Victoria**	**45.54**	**72**	P	**P**	**17 59 26.5**	**0.0**
	baz=320,SNR=36						
E58A				S	**S**	**18 05 57.3**	**-2.8**
	baz=320						
P49A	**Miami Univ. Ec**	**45.54**	**87**	P	**P**	**17 59 26.1**	**-0.5**
	baz=322						
P49A				S	**S**	**18 05 58.7**	**-1.7**
	baz=322						
P49A	**Miami Univ. Ec**	**45.54**	**87**	P	**P**	**17 59 27.0**	**+0.4**
P49A				IAmb	IAmb	17 59 52.8	
	comp=Z,335nm,1.4s						
H56A	**Elgin**	**45.55**	**76**	P	**P**	**17 59 26.7**	**+0.2**
	baz=320,SNR=39						
H56A				S	**S**	**18 05 59.7**	**-0.6**
	baz=320						
M52A	**Chesterland**	**45.55**	**83**	P	**P**	**17 59 27.7**	**+1.1**
	baz=321,SNR=29						
M52A				S	**S**	**18 06 00.2**	**-0.1**
	baz=321						
M52A	**Chesterland**	**45.55**	**83**	P	**P**	**17 59 27.3**	**+0.7**
M52A				IAmb	IAmb	17 59 54.5	
	comp=Z,672nm,1.3s						
N51A	**Ashland**	**45.55**	**84**	P	**P**	**17 59 27.3**	**+0.6**
	baz=322,SNR=30						
N51A				S	**S**	**18 06 00.1**	**-0.4**
	baz=322						
N51A	**Ashland**	**45.55**	**84**	P	**P**	**17 59 27.1**	**+0.4**
N51A				IAmb	IAmb	17 59 54.0	
	comp=Z,614nm,1.1s						
F58A	**St-Lin Laurent**	**45.68**	**73**	P	**P**	**17 59 27.2**	**-0.3**
	baz=320						
D59A	**Saint-Raymond**	**45.70**	**70**	P	**P**	**17 59 27.6**	**-0.1**
	baz=320						
PECO	**Prince Edward**	**45.72**	**77**	P	**P**	**17 59 28.6**	**+0.8**
PECO				IAmb	IAmb	17 59 55.3	
	comp=Z,452nm,1.5s						
ERPA	**Erie**	**45.73**	**81**	P	**P**	**17 59 28.9**	**+0.8**
	baz=321,SNR=31						
ERPA				S	**S**	**18 06 01.2**	**-1.8**
	baz=321						
ERPA	**Erie**	**45.73**	**81**	P	**P**	**17 59 28.7**	**+0.6**
G57A	**Newington**	**45.73**	**74**	P	**P**	**17 59 27.7**	**-0.3**
	baz=320,SNR=35						
G57A				S	**S**	**18 06 00.7**	**-2.2**
	baz=320						
L53A	**Girard**	**45.73**	**81**	P	**P**	**17 59 29.2**	**+1.1**
	baz=321,SNR=37						
L53A				S	**S**	**18 06 01.5**	**-1.6**
	baz=321						
WHTX	**Lake Whitney,**	**45.74**	**105**	P	**P**	**17 59 30.1**	**+1.9**
	baz=328,SNR=57						
WHTX				S	**S**	**18 06 03.8**	**+0.5**
	baz=328						
WHTX	**Lake Whitney,**	**45.74**	**105**	P	**P**	**17 59 28.7**	**+0.5**
X40A	**Basin Creek Fa**	**45.79**	**99**	P	**P**	**17 59 29.5**	**+1.0**
	baz=326,SNR=26						
X40A				S	**S**	**18 06 04.1**	**+0.1**
	baz=326						
E59A	**St. Maurice**	**45.80**	**71**	P	**P**	**17 59 28.0**	**-0.5**
	baz=320						
E59A				S	**S**	**18 06 02.5**	**-1.3**
	baz=320						
ACSO	**Alum Creek Sta**	**45.81**	**85**	P	**P**	**17 59 29.0**	**+0.4**
	baz=322,SNR=33						
ACSO				S	**S**	**18 06 03.3**	**-0.9**
	baz=322						
ACSO	**Alum Creek Sta**	**45.81**	**85**	P	**P**	**17 59 28.3**	**-0.4**
ACSO				IAmb	IAmb	17 59 56.0	
	comp=Z,354nm,1.1s						
WCI	**Wyandotte Cave**	**45.84**	**90**	P	**P**	**17 59 28.6**	**-0.3**
	baz=323						
WCI				S	**S**	**18 06 02.6**	**-1.9**
	baz=323						
J55A	**Hilton**	**45.85**	**78**	P	**P**	**17 59 29.4**	**+0.5**
	baz=321,SNR=23						
J55A				S	**S**	**18 06 03.5**	**-1.1**
	baz=321						
J55A	**Hilton**	**45.85**	**78**	P	**P**	**17 59 28.5**	**-0.5**
J55A				IAmb	IAmb	17 59 56.5	
	comp=Z,813nm,1.6s						
M53A	**WI Miller and**	**45.94**	**82**	P	**P**	**17 59 30.2**	**+0.4**
	baz=322,SNR=82						
M53A				S	**S**	**18 06 05.2**	**-0.9**
	baz=322						
M53A	**WI Miller and**	**45.94**	**82**	P	**P**	**17 59 30.1**	**+0.4**
M53A				IAmb	IAmb	17 59 57.6	
	comp=Z,538nm,1.0s						
JCT	**Junction City**	**45.96**	**109**	P	**P**	**17 59 30.5**	**+0.5**
JCT				pmax	pmax		
	comp=Z,2μm,1.6s						
JCT	**Junction City**	**45.96**	**109**	P	**P**	**17 59 32.2**	**+2.2**
	baz=329,SNR=217						
JCT				S	**S**	**18 06 07.9**	**+1.4**
	baz=329						
JCT	**Junction City**	**45.96**	**109**	P	**P**	**17 59 30.5**	**+0.5**
K54A	**Basiliko Farm,**	**45.96**	**80**	P	**P**	**17 59 30.5**	**+0.7**
	baz=321,SNR=46						
K54A				S	**S**	**18 06 03.9**	**-2.4**
	baz=321						
L54A	**Sinclairville**	**45.96**	**80**	P	**P**	**17 59 30.4**	**+0.6**
	baz=321,SNR=49						
L54A				S	**S**	**18 06 05.1**	**-1.2**
	baz=321						
N52A	**McGinn's Farm,**	**45.96**	**84**	P	**P**	**17 59 29.9**	**+0.1**
	baz=322,SNR=17						
N52A				S	**S**	**18 06 05.1**	**-1.2**
	baz=322						
ALLY	**Alegheny Colle**	**46.03**	**82**	P	**P**	**17 59 31.0**	**+0.6**
H57A	**Richville**	**46.04**	**75**	P	**P**	**17 59 30.2**	**-0.2**
	baz=320,SNR=25						
H57A				S	**S**	**18 06 06.1**	**-1.2**
	baz=320						
USA0B	**Ussuriysk Arra**	**46.05**	**284**	P	**P**	**17 59 30.6**	**+0.1**
USA0B				pmax	pmax		
	comp=Z,208nm,1.6s						
USA0B	**Ussuriysk Arra**	**46.05**	**284**	P	**P**	**17 59 30.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**46.05**	**284**	P	**P**	**17 59 29.6**	**-0.9**
	comp=Z,51nm,0.7s,baz=50,slow=6.8,SNR=57						
USRK				LR	LR	18 20 38.0	
	comp=Z,2μm,19.4s,baz=33,slow=38						
USRK	**Ussuriysk Ar.**	**46.05**	**284**	P	**P**	**17 59 29.2**	**-1.3**
O51A	**Pataskala**	**46.05**	**85**	P	**P**	**17 59 31.1**	**+0.5**
	baz=322,SNR=45						
O51A				S	**S**	**18 06 06.3**	**-1.3**
	baz=322						
G58A	**Ormstown**	**46.12**	**74**	P	**P**	**17 59 30.5**	**-0.6**
	baz=320,SNR=41						
G58A				S	**S**	**18 06 07.0**	**-1.5**
	baz=320						
K55A	**Perry**	**46.15**	**79**	P	**P**	**17 59 31.8**	**+0.4**
	baz=321,SNR=29						
K55A				S	**S**	**18 06 07.5**	**-1.6**
	baz=321						
WVNY	**West Valley, N**	**46.15**	**80**	P	**P**	**17 59 31.7**	**+0.4**
F59A	**Saint Guilaume**	**46.16**	**72**	P	**P**	**17 59 31.8**	**+0.6**
	baz=320,SNR=13						
F59A				S	**S**	**18 06 06.8**	**-2.2**
	baz=320						
D60A	**Saint Jean D'O**	**46.17**	**70**	P	**P**	**17 59 31.8**	**+0.4**
	baz=320,SNR=25						
D60A				S	**S**	**18 06 07.8**	**-1.4**
	baz=320						
MMNY	**Mt. Morris Dam**	**46.22**	**79**	P	**P**	**17 59 31.8**	**0.0**
MMNY				IAmb	IAmb	17 59 59.3	
	comp=Z,436nm,1.3s						
D61A	**St Aubert, Com**	**46.28**	**69**	P	**P**	**17 59 32.5**	**+0.3**
	baz=320,SNR=35						
D61A				S	**S**	**18 06 09.1**	**-1.6**
	baz=320						
J56A	**Wolcott**	**46.29**	**77**	P	**P**	**17 59 32.3**	**0.0**
	baz=321,SNR=18						
J56A				S	**S**	**18 06 09.4**	**-1.4**
	baz=321						
J56A	**Wolcott**	**46.29**	**77**	P	**P**	**17 59 32.7**	**+0.4**
J56A				IAmb	IAmb	17 59 59.7	
	comp=Z,509nm,1.6s						
LONY	**Lake Ozonia**	**46.29**	**75**	P	**P**	**17 59 31.7**	**-0.8**
	baz=320						
LONY				S	**S**	**18 06 09.0**	**-2.0**
	baz=320						
LONY	**Lake Ozonia**	**46.29**	**75**	P	**P**	**17 59 31.6**	**-0.8**
LONY				IAmb	IAmb	17 59 59.3	
	comp=Z,271nm,1.0s						
R49A	**Shelbyville**	**46.32**	**89**	P	**P**	**17 59 32.3**	**-0.3**
I57A	**Carthage**	**46.33**	**76**	P	**P**	**17 59 33.2**	**+0.5**
	baz=321,SNR=27						
I57A				S	**S**	**18 06 09.0**	**-2.4**
	baz=321						
E60A	**Ste Agathe de**	**46.36**	**71**	P	**P**	**17 59 33.2**	**+0.3**
	baz=320,SNR=48						
E60A				S	**S**	**18 06 10.9**	**-1.0**
	baz=320						
M54A	**Oil Creek Stat**	**46.36**	**81**	P	**P**	**17 59 33.7**	**+0.7**
	baz=322,SNR=54						
M54A				S	**S**	**18 06 11.2**	**-0.8**
	baz=322						
M54A	**Oil Creek Stat**	**46.36**	**81**	P	**P**	**17 59 33.4**	**+0.4**
N53A	**Lisbon**	**46.36**	**83**	P	**P**	**17 59 33.4**	**+0.3**
	baz=322,SNR=58						
N53A				S	**S**	**18 06 11.3**	**-0.8**
	baz=322						
N53A	**Lisbon**	**46.36**	**83**	P	**P**	**17 59 33.3**	**+0.3**
N53A				IAmb	IAmb	18 00 00.7	
	comp=Z,636nm,1.1s						
P51A	**Williamsport**	**46.37**	**86**	P	**P**	**17 59 33.4**	**+0.4**
	baz=323,SNR=12						
P51A				S	**S**	**18 06 10.4**	**-1.7**
	baz=323						
L55A	**Hinsdale**	**46.41**	**80**	P	**P**	**17 59 33.8**	**+0.4**
	baz=321,SNR=88						
L55A				S	**S**	**18 06 11.8**	**-0.9**
	baz=321						
O52A	**Adamsville**	**46.44**	**84**	P	**P**	**17 59 33.8**	**+0.2**
	baz=322,SNR=31						
O52A				S	**S**	**18 06 11.4**	**-1.7**
	baz=322						
O52A	**Adamsville**	**46.44**	**84**	P	**P**	**17 59 33.4**	**-0.2**
O52A				IAmb	IAmb	18 00 00.8	
	comp=Z,572nm,1.2s						
F60A	**Warwick**	**46.44**	**71**	P	**P**	**17 59 33.6**	**0.0**
	baz=320,SNR=51						
F60A				S	**S**	**18 06 12.2**	**-0.8**
	baz=320						
K56A	**Middlesex**	**46.52**	**78**

baz=322,SNR=18
O53A S **S** **18 06 15.0 -0.9**
baz=322
H58A Gabriels 46.63 74 P **P** **17 59 35.1 0.0**
baz=321,SNR=32
H58A S **S** **18 06 13.5 -2.4**
baz=321
N54A Moraine State 46.64 82 P **P** **17 59 35.6 +0.5**
baz=322,SNR=62
N54A S **S** **18 06 16.2 +0.2**
baz=322
N54A Moraine State 46.64 82 P **P** **17 59 35.4 +0.3**
H59A Cadyville 46.68 74 P **P** **17 59 35.3 -0.1**
baz=321,SNR=43
H59A S **S** **18 06 14.3 -2.2**
baz=321
P52A Corning 46.68 85 P **P** **17 59 35.4 -0.1**
baz=322,SNR=22
P52A S **S** **18 06 14.0 -2.6**
baz=322
P52A Corning 46.68 85 P **P** **17 59 35.9 +0.4**
P52A IAmb IAmb 18 00 02.4
comp=Z,549nm,1.2s
X43A Marvell 46.68 97 P **P** **17 59 36.5 +1.0**
baz=326,SNR=5.8
435B Jarrell 46.70 106 P **P** **17 59 37.4 +1.7**
baz=328,SNR=21
435B S **S** **18 06 16.0 -1.1**
baz=328
R50A Paris 46.72 88 P **P** **17 59 36.1 +0.3**
R50A IAmb IAmb 18 00 03.0
comp=Z,574nm,1.4s
E61A Lac Etchemin 46.74 70 P **P** **17 59 36.1 +0.2**
baz=320,SNR=41
E61A S **S** **18 06 15.9 -1.4**
baz=320
WVT Waverly 46.80 93 P **P** **17 59 36.6 +0.2**
WVT pmax pmax
comp=Z,192nm,0.9s
WVT Waverly 46.80 93 P **P** **17 59 36.8 +0.3**
baz=324
WVT S **S** **18 06 18.1 -0.3**
baz=324
WVT Waverly 46.80 93 P **P** **17 59 36.6 +0.2**
WVT IAmb IAmb 18 00 20.1
comp=Z,192nm,0.9s
MOQ Mont Orford 46.81 72 P **P** **17 59 36.3 -0.2**
M55A Ridgway 46.81 81 P **P** **17 59 37.3 +0.8**
baz=322,SNR=68
M55A S **S** **18 06 17.3 -1.2**
baz=322
M55A Ridgway 46.81 81 P **P** **17 59 36.9 +0.4**
MDJ Mudanjiang 46.82 286 P **P** **17 59 36.0 -0.5**
MDJ sP sP 18 00 10.5 -3.4
MDJ PP **PP** **18 01 28.3 +0.8**
MDJ S **S** **18 06 16.3 -2.2**
MDJ sS sS 18 06 54.5 -7.2
MDJ ScS **ScS** **18 09 14.5 -5.1**
MDJ pmax pmax
comp=Z,92nm,1.2s
MDJ pmax pmax
comp=Z,2μm,6.0s
MDJ Mudanjiang 46.82 286 P **P** **17 59 35.9 -0.6**
Z41A Richland Creek 46.82 100 P **P** **17 59 36.8 +0.1**
baz=326,SNR=18
Z41A S **S** **18 06 18.9 +0.2**
baz=326
I58A Old Forge 46.83 76 P **P** **17 59 37.0 +0.4**
baz=321,SNR=28
I58A S **S** **18 06 16.2 -2.5**
baz=321
L56A Greenwood 46.85 79 P **P** **17 59 37.3 +0.5**
baz=322,SNR=60
L56A Greenwood 46.85 79 P **P** **17 59 36.9 0.0**
F61A St Evariste 46.87 71 P **P** **17 59 37.1 +0.3**
baz=320,SNR=28
F61A S **S** **18 06 18.5 -0.6**
baz=320
K57A Scipio Center 46.87 78 P **P** **17 59 36.7 -0.2**
baz=321,SNR=21
K57A S **S** **18 06 18.4 -0.9**
baz=321
D62A Allapoint, All 46.87 68 P **P** **17 59 36.9 +0.1**
baz=320,SNR=55
D62A S **S** **18 06 17.8 -1.3**
baz=320
D62A Allapoint, All 46.87 68 P **P** **17 59 37.0 +0.1**
D62A IAmb IAmb 18 00 16.8
comp=Z,226nm,0.8s
JMM Marumori 46.91 272 P **P** **17 59 37.5 +0.2**
JMM IAmb IAmb 17 59 42.0
comp=Z,159nm,0.7s
VLA Vladivostok 46.93 283 *c iP* **P** **17 59 37.6 +0.2**
VLA pmax pmax
comp=Z,161nm,0.8s
G60A Masonville 46.94 72 P **P** **17 59 36.8 -0.6**
baz=321,SNR=56
G60A S **S** **18 06 19.3 -0.9**
baz=321
J58A Remsen 46.94 76 P **P** **17 59 36.8 -0.7**
baz=321,SNR=22
J58A S **S** **18 06 19.2 -1.1**
baz=321
J58A Remsen 46.94 76 P **P** **17 59 37.0 -0.5**
J58A IAmb IAmb 18 00 04.9
comp=Z,402nm,1.1s
NCB Newcomb 46.95 75 P **P** **17 59 37.1 -0.5**
NCB IAmb IAmb 18 00 05.0
comp=Z,292nm,1.2s
E62A Clayton Lake 47.02 69 P **P** **17 59 37.4 -0.6**
baz=320,SNR=69
E62A S **S** **18 06 20.6 -0.7**
baz=320
E62A Clayton Lake 47.02 69 P **P** **17 59 38.1 0.0**
E62A IAmb IAmb 18 00 05.8
comp=Z,467nm,1.1s
M56A Emporium 47.07 80 P **P** **17 59 38.6 0.0**
baz=322,SNR=70
M56A S **S** **18 06 21.4 -0.8**
baz=322
M56A Emporium 47.07 80 P **P** **17 59 38.6 0.0**
O54A Avella 47.07 83 P **P** **17 59 38.8 +0.2**
baz=322,SNR=31
O54A S **S** **18 06 20.7 -1.4**
baz=322
O54A Avella 47.07 83 P **P** **17 59 38.5 -0.1**
O54A IAmb IAmb 18 00 06.0
comp=Z,548nm,1.1s
P53A Whipple 47.15 84 P **P** **17 59 39.0 -0.1**
baz=323,SNR=28
P53A S **S** **18 06 21.8 -1.4**
baz=323
P53A Whipple 47.15 84 P **P** **17 59 39.0 -0.1**
P53A IAmb IAmb 18 00 06.3
comp=Z,244nm,0.8s
Q52A Bidwell 47.15 86 P **P** **17 59 38.9 -0.2**
baz=323,SNR=37
Q52A S **S** **18 06 21.2 -2.1**
baz=323
G61A St-Isidore-de- 47.16 72 P **P** **17 59 38.7 -0.5**
baz=321,SNR=20
G61A S **S** **18 06 20.8 -2.5**
baz=321
H60A Morristown 47.19 73 P **P** **17 59 39.3 -0.1**
baz=321,SNR=20
H60A S **S** **18 06 21.1 -2.7**
baz=321
NATX Nacogdoches 47.21 103 P **P** **17 59 40.5 +0.8**
baz=327,SNR=22
NATX S **S** **18 06 24.1 -0.2**
baz=327
J59A Piesco 47.22 76 P **P** **17 59 39.2 -0.5**
baz=321,SNR=17
J59A S **S** **18 06 20.6 -3.6**
baz=321
J59A Piesco 47.22 76 P **P** **17 59 39.3 -0.4**
K58A Earlville 47.24 77 P **P** **17 59 39.9 0.0**
baz=321,SNR=17
K58A S **S** **18 06 22.4 -2.1**
baz=321
K58A Earlville 47.24 77 P **P** **17 59 40.1 +0.3**
K58A IAmb IAmb 18 00 07.4
comp=Z,340nm,1.4s
N55A Marion Center 47.25 81 P **P** **17 59 40.1 +0.2**
baz=322,SNR=106
N55A S **S** **18 06 23.7 -1.0**
baz=322
I59A Olmsteadville 47.25 75 P **P** **17 59 39.5 -0.4**
baz=321,SNR=33
I59A S **S** **18 06 22.2 -2.4**
baz=321
L57A Andrews Acres 47.28 79 P **P** **17 59 40.3 +0.1**
baz=322,SNR=84
L57A S **S** **18 06 25.1 -0.1**
baz=322
D63A Stockholm 47.32 68 P **P** **17 59 40.0 -0.4**
baz=320,SNR=40
D63A S **S** **18 06 24.3 -1.2**
baz=320
F62A Pittston Farm, 47.38 70 P **P** **17 59 41.1 +0.3**
baz=321,SNR=35
F62A S **S** **18 06 25.0 -1.4**
baz=321
F62A Pittston Farm, 47.38 70 P **P** **17 59 40.7 -0.2**
F62A IAmb IAmb 18 00 08.5
comp=Z,313nm,1.1s
U49A Red Boiling Sp 47.46 91 P **P** **17 59 41.7 +0.2**
N56A West Decatur 47.46 81 P **P** **17 59 41.7 +0.1**
baz=322,SNR=25
N56A S **S** **18 06 26.3 -1.5**
baz=322
I60A Shoreham 47.48 74 P **P** **17 59 41.4 -0.2**
baz=321,SNR=13
I60A S **S** **18 06 25.2 -2.6**
baz=321
P54A Burton 47.48 84 P **P** **17 59 42.1 +0.3**
baz=323,SNR=35
P54A S **S** **18 06 26.0 -2.0**
baz=323
T50A Nancy 47.49 89 P **P** **17 59 42.0 +0.2**
BINY Binghamton 47.53 78 P **P** **17 59 42.2 +0.1**
baz=322,SNR=28
BINY S **S** **18 06 27.2 -1.4**
baz=322
BINY Binghamton 47.53 78 P **P** **17 59 42.0 0.0**
BINY IAmb IAmb 18 00 09.7
comp=Z,359nm,0.9s
CLTN Cedars of Leba 47.54 91 P **P** **17 59 42.6 +0.4**
HIA Hailar 47.55 297 P **P** **17 59 42.1 0.0**
HIA pmax pmax
comp=Z,173nm,0.9s
HIA Hailar 47.55 297 P **P** **17 59 42.1 0.0**
HIA IAmb IAmb 17 59 46.6
comp=Z,173nm,0.9s
O55A Ligonier 47.55 82 P **P** **17 59 42.5 +0.2**
baz=322,SNR=33
O55A S **S** **18 06 27.7 -1.3**
baz=322
H61A Lyndonville 47.56 73 P **P** **17 59 42.4 +0.1**
baz=321,SNR=27
H61A S **S** **18 06 27.6 -1.4**
baz=321
Q53A Leroy 47.58 85 P **P** **17 59 42.4 -0.1**
baz=323,SNR=44
Q53A S **S** **18 06 27.7 -1.7**
baz=323
S51A Beattyville 47.58 88 P **P** **17 59 42.2 -0.3**
S51A IAmb IAmb 18 00 22.6
comp=Z,268nm,0.7s
V48A Smith Brothers 47.59 92 P **P** **17 59 42.9 +0.3**
K59A Cooperstown 47.60 76 P **P** **17 59 42.6 0.0**
baz=322,SNR=22
K59A S **S** **18 06 27.5 -2.1**
baz=322
HAMF Hammerfest 47.62 2 *eP* **P** **17 59 41.2 -1.1**
HAMF IVmBBB 17 59 42.1
comp=Z,2μm,1.8s
HAMF *eS* **S** **18 06 26.9 -2.2**
PLAL Pickwick Lake 47.62 94 P **P** **17 59 42.9 0.0**
PLAL IAmb IAmb 18 00 26.6
comp=Z,458nm,0.9s
PQI Presque Isle 47.64 68 P **P** **17 59 43.1 +0.2**
G62A West of Eustis 47.65 71 P **P** **17 59 43.0 +0.1**
baz=321,SNR=38
G62A S **S** **18 06 29.0 -1.3**
baz=321
G62A West of Eustis 47.65 71 P **P** **17 59 42.9 -0.1**
G62A IAmb IAmb 18 00 10.9
comp=Z,438nm,1.1s
E63A Oxbow 47.66 68 P **P** **17 59 42.5 -0.5**
baz=321,SNR=46
E63A S **S** **18 06 28.3 -2.0**
baz=321
E63A Oxbow 47.66 68 P **P** **17 59 42.4 -0.5**
E63A IAmb IAmb 18 00 22.2
comp=Z,270nm,0.9s
ACCN Adirondack Com 47.66 75 P **P** **17 59 43.2 +0.1**
ACCN IAmb IAmb 18 00 10.5
comp=Z,257nm,1.1s
M57A Sunshine Farm, 47.68 79 P **P** **17 59 43.1 -0.1**
baz=322,SNR=44
M57A S **S** **18 06 30.0 -0.7**
baz=322
M57A Sunshine Farm, 47.68 79 P **P** **17 59 43.1 -0.1**
L58A Harry Jones Me 47.71 78 P **P** **17 59 43.4 -0.1**
baz=322,SNR=30
L58A S **S** **18 06 30.9 -0.3**
baz=322
MCWV Mont Chateau 47.73 83 P **P** **17 59 43.9 +0.2**
baz=323,SNR=17
MCWV S **S** **18 06 30.7 -0.8**
baz=323
LBNH Lisbon 47.79 73 P **P** **17 59 44.8 +0.8**
LBNH pmax pmax
comp=Z,296nm,1.1s
LBNH Lisbon 47.79 73 P **P** **17 59 43.9 -0.1**
baz=321,SNR=18
LBNH S **S** **18 06 31.0 -1.2**
baz=321
LBNH Lisbon 47.79 73 P **P** **17 59 44.8 +0.8**
LBNH IAmb IAmb 18 00 11.7
comp=Z,296nm,1.1s
R53A Hurricane 47.80 86 P **P** **17 59 43.7 -0.5**
baz=323,SNR=27
R53A S **S** **18 06 31.5 -1.0**
baz=323
R53A Hurricane 47.80 86 P **P** **17 59 44.3 +0.1**
R53A IAmb IAmb 18 00 25.3
comp=Z,364nm,0.9s
Q54A Coxs Mills 47.81 84 P **P** **17 59 43.8 -0.4**
baz=323,SNR=32
Q54A S **S** **18 06 30.9 -1.7**
baz=323
Q54A Coxs Mills 47.81 84 P **P** **17 59 43.9 -0.4**
Q54A IAmb IAmb 18 00 11.5
comp=Z,270nm,0.9s
Y45A Yeager Farm, C 47.85 96 P **P** **17 59 45.2 +0.6**
O56A Blue Knob Stat 47.85 81 P **P** **17 59 44.8 +0.2**
baz=322,SNR=54
O56A S **S** **18 06 31.4 -1.9**
baz=322
O56A Blue Knob Stat 47.85 81 P **P** **17 59 44.1 -0.5**
O56A IAmb IAmb 18 00 12.2
comp=Z,543nm,1.1s
P55A Reedsville 47.86 83 P **P** **17 59 45.3 +0.6**
baz=323,SNR=40
P55A S **S** **18 06 32.9 -0.6**
baz=323
H62A Milan 47.88 72 P **P** **17 59 44.8 +0.1**
baz=321,SNR=32
H62A S **S** **18 06 31.7 -1.8**
baz=321
H62A Milan 47.88 72 P **P** **17 59 45.4 +0.7**
H62A IAmb IAmb 18 00 12.5
comp=Z,545nm,1.2s
SSPA Standing Stone 47.88 81 P **P** **17 59 44.6 -0.2**
baz=322
SSPA S **S** **18 06 32.3 -1.3**
baz=322
SSPA Standing Stone 47.88 81 P **P** **17 59 44.8 0.0**
J60A Lant Hill Farm 47.89 75 P **P** **17 59 45.0 +0.2**
baz=321,SNR=48
J60A S **S** **18 06 33.2 -0.5**
baz=321
I61A Oroboro, Fairl 47.90 73 P **P** **17 59 44.6 -0.2**
baz=321,SNR=24
I61A S **S** **18 06 33.7 -0.1**
baz=321
E64A Bridgewater 47.92 68 P **P** **17 59 44.4 -0.6**
baz=321,SNR=45
E64A S **S** **18 06 32.4 -1.6**
baz=321
N57A Milroy 47.94 80 P **P** **17 59 44.9 -0.3**
baz=322,SNR=35
N57A S **S** **18 06 34.3 -0.1**
baz=322
M58A Price's Panora 47.96 79 P **P** **17 59 45.1 -0.3**
baz=322,SNR=27
M58A S **S** **18 06 33.6 -1.2**
baz=322
L59A Walton 47.97 77 P **P** **17 59 45.1 -0.4**
baz=322,SNR=20
L59A S **S** **18 06 33.4 -1.5**
baz=322
L59A Walton 47.97 77 P **P** **17 59 45.3 -0.2**
L59A IAmb IAmb 18 00 13.2
comp=Z,374nm,1.1s
JSD Sado 47.97 274 P **P** **17 59 44.7 -0.8**
JSD IAmb IAmb 17 59 50.2
comp=Z,190nm,0.7s
833A Chaparral WMA, 47.98 110 P **P** **17 59 46.2 +0.5**
baz=330,SNR=29
833A S **S** **18 06 36.7 +1.4**
baz=330
BATG Bathurst New B 48.02 66 P **P** **17 59 45.7 -0.1**
BATG IAmb IAmb 18 00 28.8
comp=Z,335nm,1.2s
F64A Sherman 48.12 69 P **P** **17 59 46.2 -0.3**
baz=321,SNR=84
F64A S **S** **18 06 35.1 -1.7**
baz=321
F64A Sherman 48.12 69 P **P** **17 59 45.9 -0.7**
F64A IAmb IAmb 18 00 14.2
comp=Z,457nm,1.1s
G63A Kingsbury 48.14 70 P **P** **17 59 46.5 -0.3**
baz=321,SNR=26
G63A S **S** **18 06 36.9 -0.3**
baz=321
Q55A Buckhannon 48.15 84 P **P** **17 59 47.1 +0.2**
baz=323,SNR=21
Q55A S **S** **18 06 36.3 -1.3**
baz=323
K60A Five Rivers En 48.16 76 P **P** **17 59 46.4 -0.5**
baz=322
K60A S **S** **18 06 34.9 -2.6**
baz=322
PKME Peaks-Kenny Pk 48.17 70 P **P** **17 59 47.6 +0.7**
baz=321,SNR=40
PKME S **S** **18 06 36.2 -1.3**
baz=321
PKME Peaks-Kenny Pk 48.17 70 P **P** **17 59 46.6 -0.3**
PKME IAmb IAmb 18 00 15.2
comp=Z,381nm,1.0s
TRY Troy 48.18 75 P **P** **17 59 47.8 +0.8**
J61A Chester 48.20 74 P **P** **17 59 47.2 0.0**
baz=322,SNR=21
J61A S **S** **18 06 37.9 -0.2**
baz=322
S53A Williamson 48.24 86 P **P** **17 59 47.2 -0.4**
baz=324,SNR=15
S53A S **S** **18 06 38.4 -0.4**
baz=324
N58A Sunbury 48.26 79 P **P** **17 59 47.8 +0.1**
baz=322,SNR=38
N58A S **S** **18 06 38.9 0.0**
baz=322
N58A Sunbury 48.26 79 P **P** **17 59 47.5 -0.1**
M59A Waymart 48.30 78 P **P** **17 59 47.4 -0.6**
baz=322,SNR=21
M59A S **S** **18 06 37.3 -2.2**
baz=322
H63A New Sharon 48.31 71 P **P** **17 59 47.8 -0.2**
baz=321
H63A S **S** **18 06 38.5 -1.0**
baz=321
P56A Dayton Farm, R 48.33 82 P **P** **17 59 48.2 0.0**
baz=323,SNR=47
P56A S **S** **18 06 39.9 0.0**
baz=323
O57A Amberson 48.33 81 P **P** **17 59 48.2 0.0**
baz=323,SNR=78
O57A S **S** **18 06 40.1 +0.2**
baz=323
I62A Tamworth 48.34 73 P **P** **17 59 48.5 +0.3**
baz=322,SNR=7.8
I62A S **S** **18 06 40.3 +0.3**
baz=322
BORG Borgarnes 48.35 26 P **P** **17 59 49.4 +1.3**
comp=Z,207nm,0.9s,baz=339,slow=3.8,SNR=22
BORG Borgarnes 48.35 26 P **P** **17 59 50.4 +2.3**
BORG pmax pmax
comp=Z,403nm,1.1s
BORG Borgarnes 48.35 26 P **P** **17 59 50.4 +2.3**
BORG IAmb IAmb 17 59 50.8
comp=Z,403nm,1.1s
R54A Victor 48.38 85 P **P** **17 59 49.2 +0.6**
baz=323,SNR=29
R54A S **S** **18 06 38.2 -2.5**
baz=323
K61A Williamstown 48.41 75 P **P** **17 59 48.5 -0.3**
baz=322,SNR=16
K61A S **S** **18 06 39.7 -1.3**
baz=322
G64A Maxfield 48.42 70 P **P** **17 59 48.9 0.0**
baz=321,SNR=45
G64A S **S** **18 06 38.6 -2.4**
baz=321
SWET Sewanee 48.44 92 P **P** **17 59 49.2 0.0**
SWET IAmb IAmb 18 00 16.6
comp=Z,697nm,1.5s
TZTN Tazewell 48.49 89 P **P** **17 59 49.3 -0.2**
baz=324,SNR=28
TZTN S **S** **18 06 41.0 -1.2**
baz=324
TZTN Tazewell 48.49 89 P **P** **17 59 48.5 -1.0**
TZTN IAmb IAmb 18 00 30.1
comp=Z,299nm,0.8s
L60A Shokan 48.51 77 P **P** **17 59 49.3 -0.2**
baz=322,SNR=9.6
L60A S **S** **18 06 41.0 -1.4**
baz=322
TRO Tromso 48.51 4 *eP* **P** **17 59 49.7 +0.5**
TRO *eS* **S** **18 06 42.4 +0.7**
JYT Yasato 48.52 271 P **P** **17 59 49.4 -0.3**
JYT IAmb IAmb 17 59 53.9
comp=Z,130nm,0.7s
S54A Dingess, Beckl 48.53 86 P **P** **17 59 49.5 -0.4**
baz=324,SNR=20
S54A S **S** **18 06 41.1 -1.8**
baz=324
S54A Dingess, Beckl 48.53 86 P **P** **17 59 49.1 -0.7**
S54A IAmb IAmb 18 00 29.7
comp=Z,188nm,0.8s
Q56A Snyder Ridge, 48.53 83 P **P** **17 59 49.8 -0.1**
baz=323,SNR=25
Q56A S **S** **18 06 42.0 -0.9**
baz=323
Q56A Snyder Ridge, 48.53 83 P **P** **17 59 50.0 +0.2**
Q56A IAmb IAmb 18 00 18.9
comp=Z,383nm,1.2s
KEV Kevo 48.54 0 P **P** **17 59 48.8 -0.6**
KEV pmax pmax
comp=Z,167nm,0.9s
KEV Kevo 48.54 0 P **P** **17 59 48.8 -0.6**
KEV IAmb IAmb 17 59 51.9
comp=Z,167nm,0.9s
I63A Otisfield 48.54 72 P **P** **17 59 49.2 -0.6**
baz=322,SNR=28
I63A S **S** **18 06 40.3 -2.5**
baz=322
I63A Otisfield 48.54 72 P **P** **17 59 50.2 +0.4**
I63A IAmb IAmb 18 00 17.8
comp=Z,261nm,1.0s
T53A Wise 48.61 87 P **P** **17 59 50.5 -0.1**
baz=324,SNR=36
T53A S **S** **18 06 41.3 -2.8**
baz=324
J62A Henniker 48.63 74 P **P** **17 59 50.2 -0.3**
baz=322,SNR=15
J62A S **S** **18 06 42.4 -1.7**
baz=322
N59A State Game Lan 48.64 79 P **P** **17 59 50.4 -0.2**
baz=322,SNR=25
N59A S **S** **18 06 42.7 -1.6**
baz=322
N59A State Game Lan 48.64 79 P **P** **17 59 51.0 +0.4**
N59A IAmb IAmb 18 00 18.4
comp=Z,487nm,1.1s
L61A Hillsdale 1, H 48.65 76 P **P** **17 59 50.3 -0.3**
baz=322,SNR=26
L61A S **S** **18 06 43.2 -1.2**

	baz=322							
H64A	**Troy**	**48.69**	**71**	P	**P**	**17 59 50.9**	**0.0**
	baz=321,SNR=18							
H64A				S	**S**	**18 06 43.0**	**-1.9**
	baz=321							
R55A	**Marlinton**	**48.70**	**84**	P	**P**	**17 59 51.1**	**-0.1**
	baz=323,SNR=26							
R55A				S	**S**	**18 06 44.2**	**-1.2**
	baz=323							
V51A	**Loudon**	**48.71**	**90**	P	**P**	**17 59 50.8**	**-0.4**
O58A	**Lewisberry**	**48.73**	**80**	P	**P**	**17 59 51.3**	**0.0**
	baz=323,SNR=57							
O58A				S	**S**	**18 06 44.6**	**-1.0**
	baz=323							
P57A	**Homestead Farm**	**48.73**	**82**	P	**P**	**17 59 51.4**	**+0.1**
	baz=323,SNR=82							
P57A				S	**S**	**18 06 44.9**	**-0.7**
	baz=323							
P57A	**Homestead Farm**	**48.73**	**82**	P	**P**	**17 59 50.9**	**-0.4**
PAGS	**Pennsylvania G**	**48.74**	**80**	P	**P**	**17 59 51.3**	**0.0**
VBMS	**Vicksburg**	**48.75**	**98**	P	**P**	**17 59 52.1**	**+0.5**
	baz=327,SNR=22							
VBMS				S	**S**	**18 06 45.6**	**-0.4**
	baz=327							
M60A	**Port Jervis**	**48.84**	**77**	P	**P**	**17 59 52.6**	**+0.5**
	baz=322,SNR=27							
M60A				S	**S**	**18 06 45.6**	**-1.5**
	baz=322							
L61B	**Northampton**	**48.85**	**75**	P	**P**	**17 59 52.4**	**+0.2**
	baz=322							
L61B				S	**S**	**18 06 46.8**	**-0.3**
	baz=322							
K62A	**Royalston**	**48.88**	**74**	P	**P**	**17 59 52.9**	**+0.4**
	baz=322,SNR=18							
K62A				S	**S**	**18 06 46.4**	**-1.3**
	baz=322							
K62A	**Royalston**	**48.88**	**74**	P	**P**	**17 59 52.0**	**-0.4**
Q57A	**Strasburg**	**48.90**	**82**	P	**P**	**17 59 52.8**	**+0.1**
	baz=323,SNR=32							
Q57A				S	**S**	**18 06 47.1**	**-0.9**
	baz=323							
CPCT	**Cooper Cave**	**48.91**	**90**	P	**P**	**17 59 53.5**	**+0.7**
CPCT				IAmb	IAmb	18 00 20.4	
	comp=Z,236nm,0.9s						
J63A	**Strafford**	**48.92**	**73**	P	**P**	**17 59 52.8**	**+0.1**
	baz=322,SNR=10							
J63A				S	**S**	**18 06 46.4**	**-1.7**
	baz=322							
CHJN	**Chongjin**	**48.92**	**284**	P	**P**	**17 59 50.6**	**-2.1**
O59A	**Robesonia**	**48.92**	**79**	P	**P**	**17 59 52.8**	**0.0**
	baz=323							
O59A				S	**S**	**18 06 47.2**	**-1.1**
	baz=323							
S55A	**Lewisburg**	**48.93**	**85**	P	**P**	**17 59 52.7**	**-0.3**
	baz=324,SNR=26							
S55A				S	**S**	**18 06 46.7**	**-1.9**
	baz=324							
R56A	**Bull Pasture M**	**48.94**	**84**	P	**P**	**17 59 53.3**	**+0.3**
	baz=323,SNR=20							
R56A				S	**S**	**18 06 47.0**	**-1.8**
	baz=323							
G65A	**Princeton**	**48.98**	**69**	P	**P**	**17 59 53.4**	**+0.3**
	baz=322,SNR=57							
G65A				S	**S**	**18 06 47.5**	**-1.4**
	baz=322							
G65A	**Princeton**	**48.98**	**69**	P	**P**	**17 59 52.6**	**-0.6**
G65A				IAmb	IAmb	18 00 20.9	
	comp=Z,331nm,1.1s						
N60A	**Cedar Hill Far**	**48.98**	**78**	P	**P**	**17 59 53.4**	**+0.2**
	baz=322,SNR=22							
N60A				S	**S**	**18 06 47.4**	**-1.7**
	baz=322							
T54A	**Tazewell**	**49.00**	**86**	P	**P**	**17 59 54.0**	**+0.5**
	baz=324,SNR=22							
T54A				S	**S**	**18 06 48.6**	**-1.0**
	baz=324							
V52A	**Sevierville**	**49.03**	**89**	P	**P**	**17 59 53.6**	**0.0**
ODNJ	**Ogdensburg**	**49.04**	**78**	P	**P**	**17 59 53.5**	**-0.2**
KSCT	**Kent School, K**	**49.05**	**76**	P	**P**	**17 59 54.1**	**+0.4**
KSCT				IAmb	IAmb	18 00 21.4	
	comp=Z,285nm,1.0s						
P58A	**Pank, Wackersv**	**49.06**	**81**	P	**P**	**17 59 53.9**	**+0.1**
	baz=323,SNR=20							
P58A				S	**S**	**18 06 49.4**	**-0.7**
	baz=323							
I64A	**Boothbay**	**49.07**	**71**	P	**P**	**17 59 54.0**	**+0.2**
	baz=322,SNR=17							
I64A				S	**S**	**18 06 48.4**	**-1.7**
	baz=322							
LUPA	**Lehigh Univers**	**49.07**	**79**	P	**P**	**17 59 53.9**	**0.0**
H65A	**Eastbrook**	**49.08**	**70**	P	**P**	**17 59 54.0**	**+0.2**
	baz=322,SNR=34							
H65A				S	**S**	**18 06 47.6**	**-2.7**
	baz=322							
TKL	**Tuckaleechee C**	**49.10**	**89**	P	**P**	**17 59 54.2**	**0.0**
TKL				pmax	pmax		
	comp=Z,280nm,0.8s						
TKL	**Tuckaleechee C**	**49.10**	**89**	P	**P**	**17 59 54.2**	**0.0**
TKL				IAmb	IAmb	18 00 21.9	
	comp=Z,280nm,0.8s						
QUA2	**Belchertown**	**49.13**	**75**	P	**P**	**17 59 54.7**	**+0.3**
QUA2				IAmb	IAmb	18 00 21.8	
	comp=Z,290nm,1.1s						
FPAL	**Fort Paine**	**49.14**	**92**	P	**P**	**17 59 54.7**	**+0.1**
K63A	**Dunstable**	**49.18**	**74**	P	**P**	**17 59 54.5**	**-0.2**
	baz=322,SNR=19							
K63A				S	**S**	**18 06 49.6**	**-2.2**
	baz=322							
L62A	**Suffield**	**49.19**	**75**	P	**P**	**17 59 54.6**	**-0.1**
	baz=322							
MAJO	**Matsushiro**	**49.20**	**273⇑**	*e*P	**P**	**17 59 54.6**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,168nm,0.8s						
MAJO	**Matsushiro**	**49.20**	**273**	P	**P**	**17 59 54.5**	**-0.5**
MAJO				IAmb	IAmb	17 59 59.0	
	comp=Z,146nm,0.8s						
MAT	**Matsushiro**	**49.20**	**273**	P	**P**	**17 59 54.4**	**-0.6**
MAT				S	**S**	**18 06 55.6**	**+3.3**
MJAR	**Matsushiro Arr**	**49.20**	**273**	P	**P**	**17 59 55.9**	**+0.9**
	comp=Z,49nm,0.8s,baz=32,slow=6.3,SNR=66						
MJAR				pP	**pP**	**18 00 20.9**	**+0.3**
	comp=Z,13nm,1.1s,baz=92,slow=22,SNR=3.6						
MJAR	**Matsushiro Arr**	**49.20**	**273**	P	**P**	**17 59 54.7**	**-0.3**
MJAR					**pP**	**18 00 20.5**	**0.0**
M61A	**Granite Spring**	**49.25**	**77**	P	**P**	**17 59 55.2**	**0.0**
	baz=322,SNR=7.5							
M61A				S	**S**	**18 06 50.8**	**-2.0**
	baz=322							
O60A	**Telford**	**49.28**	**79**	P	**P**	**17 59 55.8**	**+0.4**
	baz=323,SNR=26							
O60A				S	**S**	**18 06 52.7**	**-0.5**
	baz=323							
HRV	**Adam Dziewonsk**	**49.31**	**74**	P	**P**	**17 59 55.8**	**+0.1**
	baz=322							
HRV				S	**S**	**18 06 52.2**	**-1.5**
	baz=322							
Q58A	**Fox Den Farm,**	**49.32**	**82**	P	**P**	**17 59 56.4**	**+0.7**
	baz=323,SNR=62							
Q58A				S	**S**	**18 06 53.0**	**-0.8**
	baz=323							
U54A	**Nelsons Funny**	**49.32**	**87**	P	**P**	**17 59 56.7**	**+0.7**
	baz=324,SNR=32							
U54A				S	**S**	**18 06 52.7**	**-1.4**
	baz=324							
U54A	**Nelsons Funny**	**49.32**	**87**	P	**P**	**17 59 55.7**	**-0.2**
Y49A	**Blount Mountai**	**49.33**	**93**	P	**P**	**17 59 56.0**	**+0.1**
T55A	**Pulaski**	**49.33**	**86**	P	**P**	**17 59 56.1**	**+0.1**
	baz=324,SNR=22							
T55A				S	**S**	**18 06 51.8**	**-2.3**
	baz=324							
GGN	**Saint George**	**49.37**	**68**	P	**P**	**17 59 55.8**	**-0.2**
P59A	**Jarrettsville**	**49.37**	**80**	P	**P**	**17 59 56.2**	**0.0**
	baz=323,SNR=28							
P59A				S	**S**	**18 06 53.6**	**-0.8**
	baz=323							
BRNJ	**Basking Ridge**	**49.38**	**78**	P	**P**	**17 59 55.1**	**-1.1**
EMMW	**East Machias**	**49.41**	**69**	P	**P**	**17 59 56.3**	**-0.1**
EMMW				IAmb	IAmb	18 00 24.2	
	comp=Z,348nm,1.0s						
H66A	**Whiting**	**49.42**	**69**	P	**P**	**17 59 56.6**	**+0.2**
	baz=322,SNR=34							
H66A				S	**S**	**18 06 52.9**	**-2.1**
	baz=322							
BLA	**Blacksburg**	**49.42**	**85**	P	**P**	**17 59 56.5**	**-0.2**
BLA				pmax	pmax		
	comp=Z,334nm,0.8s						
BLA	**Blacksburg**	**49.42**	**85**	P	**P**	**17 59 56.3**	**-0.4**
	baz=324,SNR=20							
BLA				S	**S**	**18 06 54.1**	**-1.3**
	baz=324							
BLA	**Blacksburg**	**49.42**	**85**	P	**P**	**17 59 56.5**	**-0.2**
PAL	**Palisades**	**49.43**	**77**	P	**P**	**17 59 56.3**	**-0.3**
	baz=323,SNR=9.0							
PAL				S	**S**	**18 06 53.3**	**-1.9**
	baz=323							
R57A	**Stanardsville**	**49.44**	**83**	P	**P**	**17 59 57.5**	**+0.8**
	baz=324,SNR=32							
R57A				S	**S**	**18 06 55.2**	**-0.4**
	baz=324							
N61A	**South Mountain**	**49.45**	**78**	P	**P**	**17 59 56.6**	**-0.1**
	baz=323,SNR=9.5							
N61A				S	**S**	**18 06 54.7**	**-0.9**
	baz=323							
S56A	**Natural Bridge**	**49.45**	**84**	P	**P**	**17 59 57.7**	**+0.9**
	baz=324,SNR=12							
S56A				S	**S**	**18 06 56.9**	**+1.1**
	baz=324							
X51A	**Calhoun**	**49.48**	**91**	P	**P**	**17 59 57.2**	**+0.2**
X51A				IAmb	IAmb	18 00 24.9	
	comp=Z,238nm,0.8s						
WUPA	**West Chester U**	**49.49**	**79**	P	**P**	**17 59 57.8**	**+0.7**
WUPA				IAmb	IAmb	18 00 25.0	
	comp=Z,179nm,0.9s						
WES	**Weston**	**49.52**	**74**	P	**P**	**17 59 57.0**	**-0.2**
WES				pmax	pmax		
	comp=Z,456nm,1.0s						
WES	**Weston**	**49.52**	**74**	P	**P**	**17 59 57.0**	**-0.2**
V53A	**Saluda**	**49.54**	**89**	P	**P**	**17 59 57.9**	**+0.3**
V53A				IAmb	IAmb	18 00 25.7	
	comp=Z,235nm,0.9s						
M62A	**Hamden**	**49.55**	**76**	P	**P**	**17 59 57.7**	**+0.2**
	baz=322,SNR=11							
M62A				S	**S**	**18 06 55.4**	**-1.5**
	baz=322							
WSPT	**Westport, CT**	**49.56**	**76**	P	**P**	**17 59 57.0**	**-0.5**
WSPT				IAmb	IAmb	18 00 24.9	
	comp=Z,338nm,0.9s						
P60A	**Greenville**	**49.58**	**79**	P	**P**	**17 59 58.1**	**+0.4**
	baz=323,SNR=11							
P60A				S	**S**	**18 06 55.9**	**-1.5**
	baz=323							
N2VI	**Vinje**	**49.60**	**7**	*e*P	**P**	**17 59 58.1**	**+0.6**
S57A	**Dark Hollow, R**	**49.67**	**84**	P	**P**	**17 59 59.1**	**+0.7**
	baz=324,SNR=19							
S57A				S	**S**	**18 06 58.5**	**-0.2**
	baz=324							
LMN	**Caledonia Moun**	**49.68**	**66**	P	**P**	**17 59 57.9**	**-0.5**
R58A	**Rapidan**	**49.68**	**83**	P	**P**	**17 59 58.8**	**+0.3**
	baz=324,SNR=22							
R58A				S	**S**	**18 06 59.3**	**+0.4**
	baz=324							
N62A	**Caumsett State**	**49.69**	**77**	P	**P**	**17 59 58.6**	**+0.1**
	baz=323							
N62A				S	**S**	**18 06 58.1**	**-0.8**
	baz=323							
U55A	**TA2, Sparta**	**49.70**	**86**	P	**P**	**17 59 59.1**	**+0.2**
	baz=324,SNR=48							
U55A				S	**S**	**18 06 58.6**	**-0.8**
	baz=324							
LRAL	**Lakeview Retre**	**49.73**	**94**	P	**P**	**17 59 58.9**	**0.0**
	baz=326,SNR=29							
LRAL				S	**S**	**18 06 58.7**	**-0.9**
	baz=326							
LRAL	**Lakeview Retre**	**49.73**	**94**	P	**P**	**17 59 59.2**	**+0.3**
LRAL				IAmb	IAmb	18 00 41.8	
	comp=Z,155nm,1.1s						
LOF	**Lofoten**	**49.75**	**7**	*e*P	**P**	**17 59 58.7**	**0.0**
LOF				*e*S	**S**	**18 07 00.3**	**+1.2**
T56A	**Rocky Mt**	**49.75**	**85**	P	**P**	**17 59 59.3**	**+0.2**
	baz=324,SNR=18							
T56A				S	**S**	**18 06 58.5**	**-1.5**
	baz=324							
L63A	**North Scituate**	**49.80**	**75**	P	**P**	**17 59 59.2**	**-0.2**
	baz=322,SNR=5.5							
L63A				S	**S**	**18 06 59.4**	**-1.0**
	baz=322							
O61A	**Allentown**	**49.85**	**78**	P	**P**	**17 59 59.7**	**-0.1**
	baz=323							
O61A				S	**S**	**18 06 59.8**	**-1.4**
	baz=323							
Q59A	**Harwood**	**49.86**	**81**	P	**P**	**17 59 59.9**	**0.0**
	baz=323							
Q59A				S	**S**	**18 07 01.3**	**0.0**
	baz=323							
V54A	**Nebo**	**49.86**	**88**	P	**P**	**18 00 00.8**	**+0.8**
	baz=325,SNR=38							
V54A				S	**S**	**18 06 59.2**	**-2.4**
	baz=325							
M63A	**Gales Ferry**	**49.96**	**75**	P	**P**	**18 00 00.7**	**+0.1**
	baz=323,SNR=14							
M63A				S	**S**	**18 07 00.8**	**-1.8**
	baz=323							
R58B	**Mineral**	**50.01**	**83**	P	**P**	**18 00 01.5**	**+0.4**
	baz=324,SNR=37							
R58B				S	**S**	**18 07 03.9**	**+0.4**
	baz=324							
N2IH	**Innhavet**	**50.04**	**6**	*e*P	**P**	**18 00 01.6**	**+0.8**
STEI	**Steigen**	**50.05**	**6**	*e*P	**P**	**18 00 00.1**	**-0.7**
DRLN	**Deer Lake**	**50.05**	**58**	P	**P**	**18 00 01.2**	**0.0**
DRLN				IAmb	IAmb	18 00 44.2	
	comp=Z,274nm,0.9s						
CBN	**Corbin Frederi**	**50.05**	**82**	P	**P**	**18 00 01.8**	**+0.4**
	baz=324,SNR=8.0							
CBN				S	**S**	**18 07 03.7**	**-0.3**
	baz=324							
P61A	**Hammonton**	**50.08**	**79**	P	**P**	**18 00 01.7**	**+0.2**
	baz=323							
L64A	**Middleborough**	**50.09**	**74**	P	**P**	**18 00 01.8**	**+0.2**
	baz=323,SNR=5.1							
L64A				S	**S**	**18 07 01.3**	**-3.1**
	baz=323							
Q60A	**Greensboro**	**50.13**	**80**	P	**P**	**18 00 02.7**	**+0.8**
	baz=323,SNR=5.6							
Q60A				S	**S**	**18 07 04.7**	**-0.3**
	baz=323							
U56A	**King**	**50.14**	**86**	P	**P**	**18 00 01.7**	**-0.3**
	baz=324,SNR=17							
U56A				S	**S**	**18 07 05.6**	**+0.3**
	baz=324							
T57A	**Hurt**	**50.14**	**85**	P	**P**	**18 00 02.1**	**+0.1**
	baz=324,SNR=18							
T57A				S	**S**	**18 07 04.2**	**-1.1**
	baz=324							
T57A	**Hurt**	**50.14**	**85**	P	**P**	**18 00 02.4**	**+0.4**
T57A				IAmb	IAmb	18 00 32.5	
	comp=Z,239nm,1.1s						
V55A	**Taylorsville**	**50.15**	**87**	P	**P**	**18 00 02.5**	**+0.4**
	baz=325,SNR=31							
V55A				S	**S**	**18 07 04.3**	**-1.2**
	baz=325							
V55A	**Taylorsville**	**50.15**	**87**	P	**P**	**18 00 02.2**	**+0.1**
V55A				IAmb	IAmb	18 00 43.9	
	comp=Z,256nm,0.8s						
N2VA	**Vr,y**	**50.16**	**8**	*e*P	**P**	**18 00 01.9**	**+0.2**
R59A	**King George, V**	**50.18**	**82**	P	**P**	**18 00 02.7**	**+0.5**
	baz=324,SNR=8.2							
R59A				S	**S**	**18 07 06.0**	**+0.3**
	baz=324							
S58A	**Poland Farm, P**	**50.21**	**83**	P	**P**	**18 00 03.6**	**+1.1**
	baz=324,SNR=18							
S58A				S	**S**	**18 07 06.3**	**+0.1**
	baz=324							
S58A	**Poland Farm, P**	**50.21**	**83**	P	**P**	**18 00 02.9**	**+0.3**
S58A				IAmb	IAmb	18 00 33.6	
	comp=Z,342nm,1.1s						
M64A	**Tiverton**	**50.23**	**75**	P	**P**	**18 00 02.7**	**+0.1**
	baz=323,SNR=5.6							
M64A				S	**S**	**18 07 04.9**	**-1.4**
	baz=323							
N2RO	**R st**	**50.27**	**8**	*e*P	**P**	**18 00 02.8**	**+0.2**
W54A	**Cherokee Point**	**50.31**	**89**	P	**P**	**18 00 04.3**	**+0.9**
	baz=325,SNR=24							
W54A				S	**S**	**18 07 07.0**	**-0.8**
	baz=325							
JGF	**Kuroka**	**50.37**	**273**	P	**P**	**18 00 04.0**	**+0.2**
JGF				IAmb	IAmb	18 00 07.7	
	comp=Z,208nm,0.8s						
R60A	**Leonardtown, M**	**50.37**	**81**	P	**P**	**18 00 03.9**	**+0.1**
	baz=324							
R60A				S	**S**	**18 07 06.6**	**-1.9**
	baz=324							
N2TV	**TWrnvik**	**50.40**	**6**	*e*P	**P**	**18 00 04.3**	**+0.7**
Y52A	**Lilburn**	**50.43**	**91**	P	**P**	**18 00 04.7**	**+0.4**
S59A	**Mechanicsville**	**50.45**	**82**	P	**P**	**18 00 05.1**	**+0.8**
	baz=324,SNR=5.3							
S59A				S	**S**	**18 07 08.3**	**-1.2**
	baz=324							
Q61A	**Milford**	**50.47**	**80**	P	**P**	**18 00 04.3**	**-0.1**
	baz=324							
Q61A				S	**S**	**18 07 09.1**	**-0.6**
	baz=324							
M65A	**Busby, Falmout**	**50.48**	**74**	P	**P**	**18 00 04.3**	**-0.2**
	baz=323							
M65A				S	**S**	**18 07 07.7**	**-2.1**
	baz=323							
V56A	**Mocksville**	**50.52**	**87**	P	**P**	**18 00 05.8**	**+0.8**
	baz=325,SNR=20							
V56A				S	**S**	**18 07 09.0**	**-1.7**
	baz=325							
T58A	**Grand View Acr**	**50.52**	**84**	P	**P**	**18 00 05.5**	**+0.6**
	baz=324,SNR=14							
T58A				S	**S**	**18 07 09.2**	**-1.4**
	baz=324							
NBB08	**Skaug oppvekst**	**50.55**	**7**	*e*P	**P**	**18 00 05.4**	**+0.7**
U57A	**Blanch**	**50.56**	**85**	P	**P**	**18 00 06.1**	**+0.8**
	baz=324,SNR=33							
U57A				S	**S**	**18 07 09.2**	**-1.9**
	baz=324							
FAUS	**Fauske**	**50.59**	**6**	*e*P	**P**	**18 00 05.5**	**+0.4**
FAUS				IVmB_BB		18 00 05.9	
	comp=Z,3μm,4.5s						
FAUS				*e*S	**S**	**18 07 09.3**	**-1.5**
N2ST	**Straumen**	**50.64**	**6**	*e*P	**P**	**18 00 05.5**	**+0.1**
X54A	**Belton**	**50.67**	**89**	P	**P**	**18 00 06.7**	**+0.6**
	baz=325,SNR=55							
X54A				S	**S**	**18 07 11.2**	**-1.4**
	baz=325							
KMSC	**Kings Mountain**	**50.67**	**88**	P	**P**	**18 00 06.7**	**+0.6**
	baz=325,SNR=22							
KMSC				S	**S**	**18 07 11.0**	**-1.7**
	baz=325							
APA	**Apatity**	**50.68**	**357⇑**	*i*P	**P**	**18 00 05.2**	**-0.5**
APA				*i* *PP	**sP**	**18 00 43.0**	**-0.1**
APA				*i*		18 01 20.0	
APA				*i*		18 03 03.0	
APA				*i* S	**S**	**18 07 10.0**	**-2.0**
APA				*i*		18 09 42.0	
APA				pmax	pmax		
	comp=Z,111nm,0.7s						
PAULI	**Pauline**	**50.71**	**88**	P	**P**	**18 00 06.6**	**+0.3**
INU	**Inuyama**	**50.73**	**273**	P	**P**	**18 00 05.9**	**-0.6**
S60A	**Water View**	**50.79**	**82**	P	**P**	**18 00 07.3**	**+0.4**
	baz=324							
S60A				S	**S**	**18 07 13.9**	**-0.3**
	baz=324							
V57A	**Coltrane Farms**	**50.80**	**86**	P	**P**	**18 00 07.8**	**+0.8**
	baz=325,SNR=10							
V57A				S	**S**	**18 07 13.1**	**-1.3**
	baz=325							
NBB05	**Inndyr**	**50.87**	**7**	*e*P	**P**	**18 00 06.3**	**-0.7**
NBB30	**Finnes**	**50.91**	**7**	*e*P	**P**	**18 00 07.5**	**+0.1**
T59A	**Double "B" Far**	**50.96**	**83**	P	**P**	**18 00 08.4**	**+0.2**
	baz=324,SNR=17							
T59A				S	**S**	**18 07 16.1**	**-0.5**
	baz=324							
T59A	**Double "B" Far**	**50.96**	**83**	P	**P**	**18 00 08.7**	**+0.5**
T59A				IAmb	IAmb	18 00 37.5	
	comp=Z,277nm,1.1s						
U58A	**Oxford**	**50.96**	**84**	P	**P**	**18 00 08.4**	**+0.2**
	baz=324,SNR=9.4							
U58A				S	**S**	**18 07 14.3**	**-2.4**
	baz=324							
HODGE	**Hodges**	**50.98**	**89**	P	**P**	**18 00 08.4**	**0.0**
W56A	**Indian Trail**	**51.03**	**87**	P	**P**	**18 00 09.5**	**+0.8**
	baz=325,SNR=23							
W56A				S	**S**	**18 07 17.4**	**-0.2**
	baz=325							
X55A	**Gracelyn & Ava**	**51.08**	**89**	P	**P**	**18 00 09.9**	**+0.8**
	baz=325,SNR=43							
X55A				S	**S**	**18 07 17.1**	**-1.2**
	baz=325							
GOGA	**Godfrey**	**51.08**	**91**	P	**P**	**18 00 10.0**	**+0.8**
GOGA				pmax	pmax		
	comp=Z,670nm,1.8s						
GOGA	**Godfrey**	**51.08**	**91**	P	**P**	**18 00 09.5**	**+0.3**
	baz=326,SNR=22							
GOGA				S	**S**	**18 07 17.2**	**-1.2**
	baz=326							
GOGA	**Godfrey**	**51.08**	**91**	P	**P**	**18 00 09.9**	**+0.8**
152A	**Waverly Hall**	**51.10**	**93**	P	**P**	**18 00 08.9**	**-0.4**
HAL	**Halifax**	**51.16**	**66**	P	**P**	**18 00 09.4**	**-0.2**
HAL				pmax	pmax		
	comp=Z,573nm,1.4s						
HAL	**Halifax**	**51.16**	**66**	P	**P**	**18 00 09.4**	**-0.2**
V58A	**Windy Hill, Pi**	**51.19**	**85**	P	**P**	**18 00 09.9**	**0.0**
	baz=325,SNR=13							
V58A				S	**S**	**18 07 18.3**	**-1.4**
	baz=325							
T60A	**Surry**	**51.21**	**82**	P	**P**	**18 00 09.4**	**-0.6**
	baz=324							
T60A				S	**S**	**18 07 20.1**	**0.0**
	baz=324							
BRAL	**Brewton**	**51.25**	**96**	P	**P**	**18 00 11.2**	**+0.8**
	baz=327,SNR=15							
BRAL				S	**S**	**18 07 20.2**	**-0.5**
	baz=327							
IRK	**Irkutsk**	**51.25**	**310**	*e*P	**P**	**18 00 09.6**	**-0.6**
IRK				pmax	pmax		
	comp=Z,231nm,3.0s						
S61A	**Accomac**	**51.27**	**81**	P	**P**	**18 00 10.6**	**+0.1**
	baz=324							
S61A				S	**S**	**18 07 20.9**	**+0.1**
	baz=324							
W57A	**Gilead**	**51.30**	**87**	P	**P**	**18 00 10.8**	**+0.1**
	baz=325,SNR=21							
W57A				S	**S**	**18 07 19.6**	**-1.6**
	baz=325							
W57A	**Gilead**	**51.30**	**87**	P	**P**	**18 00 10.5**	**-0.2**
NBB40	**Tonnes**	**51.33**	**8**	*e*P	**P**	**18 00 10.2**	**-0.3**
X56A	**White Oak**	**51.34**	**88**	P	**P**	**18 00 10.7**	**-0.4**
	baz=325,SNR=46							
X56A				S	**S**	**18 07 20.7**	**-1.2**
	baz=325							
KONS	**Konsvik**	**51.35**	**8**	*e*P	**P**	**18 00 11.0**	**+0.3**
U59A	**Littleton**	**51.35**	**84**	P	**P**	**18 00 11.3**	**+0.2**
	baz=324,SNR=16							
U59A				S	**S**	**18 07 21.2**	**-0.9**
	baz=324							
Y55A	**Saluda**	**51.41**	**89**	P	**P**	**18 00 11.7**	**+0.2**
	baz=326,SNR=43							
Y55A				S	**S**	**18 07 21.2**	**-1.6**
	baz=326							
GBN	**Guysborough**	**51.44**	**64**	P	**P**	**18 00 11.8**	**+0.2**
HHU	**Hamhung**	**51.46**	**284**	P	**P**	**18 00 11.9**	**+0.1**
HHU				pP	**pP**	**18 00 39.4**	**+1.8**
HHU				S	**S**	**18 07 25.7**	**+2.4**
HHU				SS	**sS**	**18 08 13.1**	**+5.8**
BIRD	**Birdtown, Kers**	**51.49**	**87**	P	**P**	**18 00 12.2**	**0.0**
BIRD				IAmb	IAmb	18 00 40.2	
	comp=Z,273nm,0.9s						
JWT	**Wachi**	**51.55**	**274**	P	**P**	**18 00 13.0**	**+0.4**
JWT				IAmb	IAmb	18 00 16.4	
	comp=Z,196nm,1.3s						
U60A	**Pendleton**	**51.55**	**83**	P	**P**	**18 00 12.7**	**+0.1**
	baz=324,SNR=9.2							
U60A				S	**S**	**18 07 24.7**	**0.0**
	baz=324							
V59A	**Middlesex**	**51.62**	**85**	P	**P**	**18 00 13.1**	**0.0**
	baz=325,SNR=17							
V59A				S	**S**	**18 07 23.9**	**-1.8**
	baz=325							
SNY	**Shenyang**	**51.72**	**289**	⇑P	**P**	**18 00 13.8**	**0.0**
SNY				pP	**pP**	**18 00 42.0**	**+2.5**
SNY				S	**S**	**18 07 25.5**	**-1.4**
SNY				pmax	pmax		
	comp=Z,96nm,1.1s						
SNY				pmax	pmax		
	comp=Z,1μm,5.8s						
SNY				LR	LR		
	comp=Z,2μm,24.0s						
SNY				LR	LR		
	comp=Z,3μm,16.2s						
SNY		

W58A S **S** **18 07 25.2 -2.5**
baz=325
Y56A Pelion 51.79 89 P **P** **18 00 14.4 0.0**
baz=326
Y56A S **S** **18 07 26.1 -2.0**
baz=326
X57A Johnson Farm, 51.81 87 P **P** **18 00 14.7 +0.1**
baz=325,SNR=9.5
X57A S **S** **18 07 27.2 -1.2**
baz=325
TLY Talaya 51.94 310 *c iP* **P** **18 00 15.9 +0.6**
TLY *eS* **S** **18 07 30.5 +0.7**
TLY *e* 18 09 53.3
TLY pmax pmax
comp=Z,365nm,1.5s
TLY MLR MLR
comp=Z,5μm,15.0s
TLY Talaya 51.94 310 P **P** **18 00 16.1 +0.8**
U61A Possum Corner 52.00 83 P **P** **18 00 16.4 +0.5**
baz=325,SNR=8.4
U61A S **S** **18 07 30.4 -0.5**
baz=325
W59A Clinton 52.01 85 P **P** **18 00 16.1 +0.1**
baz=325
W59A S **S** **18 07 30.7 -0.4**
baz=325
Y57A Sumter 52.04 88 P **P** **18 00 16.5 +0.2**
baz=326
Y57A S **S** **18 07 30.5 -0.9**
baz=326
V60A Jim Taylor Roa 52.08 84 P **P** **18 00 16.3 -0.3**
baz=325,SNR=10
V60A S **S** **18 07 31.2 -0.8**
baz=325
X58A Rowland 52.09 86 P **P** **18 00 16.8 +0.2**
baz=325,SNR=13
X58A S **S** **18 07 31.3 -0.8**
baz=325
WOSN Wonsan 52.12 284 P **P** **18 00 16.9 +0.1**
Z56A Williston 52.14 89 P **P** **18 00 17.3 +0.3**
baz=326,SNR=8.8
Z56A S **S** **18 07 31.5 -1.4**
baz=326
CNNC Cliffs of the 52.21 85 P **P** **18 00 17.7 +0.2**
baz=325
CNNC S **S** **18 07 33.1 -0.7**
baz=325
451A Vernon 52.33 95 P **P** **18 00 19.2 +0.8**
451A pP **pP** **18 00 41.2 -2.7**
V61A Roper 52.38 83 P **P** **18 00 19.0 +0.2**
baz=325,SNR=7.9
V61A S **S** **18 07 36.9 +0.8**
baz=325
X59A McDuffie Farm, 52.42 86 P **P** **18 00 19.7 +0.7**
baz=325,SNR=9.1
X59A S **S** **18 07 35.4 -1.3**
baz=325
W60A Pink Hill 52.45 85 P **P** **18 00 19.5 +0.3**
baz=325,SNR=7.2
W60A S **S** **18 07 37.6 +0.6**
baz=325
Y58A Scranton 52.47 87 S **S** **18 07 36.5 -0.9**
baz=326
Z57A Bowman 52.48 89 P **P** **18 00 19.3 -0.2**
baz=326,SNR=16
Z57A S **S** **18 07 36.6 -0.9**
baz=326
TIGA Tifton 52.66 92 P **P** **18 00 20.9 +0.1**
baz=327
TIGA S **S** **18 07 38.4 -1.5**
baz=327
W61A Ground Anchor 52.69 84 S **S** **18 07 39.2 -1.1**
baz=325
SUJ Sinuiju 52.70 287 P **P** **18 00 21.4 +0.4**
SUJ pP **pP** **18 00 50.1 +3.3**
SUJ S **S** **18 07 42.6 +2.3**
SUJ SS **sS** **18 08 29.8 +5.7**
X60A Albert Glenn T 52.72 85 P **P** **18 00 21.8 +0.6**
baz=325,SNR=7.3
X60A S **S** **18 07 40.1 -0.6**
baz=325
Y59A Loris 52.77 86 P **P** **18 00 22.4 +0.7**
baz=326,SNR=9.9
255A Hazlehurst 52.78 91 P **P** **18 00 21.6 -0.1**
157A Early Branch 52.85 89 P **P** **18 00 22.3 +0.1**
baz=326,SNR=12
JHS Saijyo 52.85 276 P **P** **18 00 22.1 -0.2**
JHS IAmb IAmb 18 00 25.5
comp=Z,138nm,0.9s
V62A Hyde County Ai 52.86 83 P **P** **18 00 22.2 0.0**
baz=325
Z58A St. Stephen 52.87 88 P **P** **18 00 22.9 +0.5**
baz=326,SNR=9.1
Z58A S **S** **18 07 42.7 -0.1**
baz=326
NHSC New Hope 52.89 88 P **P** **18 00 22.9 +0.4**
baz=326,SNR=14
NHSC S **S** **18 07 42.6 -0.4**
baz=326
MOY Mondy 52.90 312 *eP* **P** **18 00 23.6 +1.1**
MOY pmax pmax
comp=Z,321nm,2.2s
PYAG Pyongyang 52.97 285 P **P** **18 00 23.5 +0.5**
PYAG pP **pP** **18 00 50.9 +2.0**
PYAG S **S** **18 07 46.7 +2.7**
PYAG sS sS 18 08 16.3 -12
PYAG SS sS 18 08 35.8 +7.8
Y60A Bolivia 53.07 86 P **P** **18 00 24.6 +0.7**
baz=326
Y60A S **S** **18 07 44.8 -0.7**
baz=326
ZAK Zakamensk 53.13 309 *eP* **P** **18 00 24.5 +0.2**
ZAK pmax pmax
comp=Z,50nm,1.0s
ZAK pmax pmax
comp=Z,47nm,1.0s
158A Hollywood 53.18 88 P **P** **18 00 25.2 +0.5**
baz=326
158A S **S** **18 07 47.3 +0.2**
baz=326
Z59A Georgetown, SC 53.20 87 P **P** **18 00 25.3 +0.5**
baz=326
Z59A S **S** **18 07 47.4 +0.1**
baz=326
NSS Namsos 53.22 9 *eP* **P** **18 00 24.6 +0.1**
NSS *eS* **S** **18 07 38.8 -8.0**
KS19 Wonju Array Si 53.26 282 P **P** **18 00 25.9 +0.7**
KS19 IAmb IAmb 18 00 31.1
comp=Z,184nm,0.7s
KSRS Korea Array 53.27 282 P **P** **18 00 25.7 +0.4**
comp=Z,185nm,0.7s,baz=29,slow=6.9,SNR=201
KSRS LR LR 18 26 28.6
comp=Z,1μm,18.8s,baz=33,slow=40
KSAR Wonju Array Be 53.30 282 P **P** **18 00 25.4 -0.1**
KSAR Wonju Array Be 53.30 282 P **P** **18 00 25.4 -0.1**
553A Crawfordville 53.30 94 P **P** **18 00 26.6 +1.1**
553A pP **pP** **18 00 48.1 -3.0**
JMN Monobe 53.54 274 P **P** **18 00 27.2 -0.1**
ULN Ulaanbaatar 53.78 305 *c iP* **P** **18 00 29.6 +0.5**
ULN pmax pmax
comp=Z,230nm,1.0s
ULN Ulaanbaatar 53.78 305 P **P** **18 00 29.8 +0.7**
ULN IAmb IAmb 18 00 34.9
comp=Z,162nm,0.7s
HJU Haeju 53.80 284 P **P** **18 00 30.6 +1.4**
INCN Inchon 53.84 283 P **P** **18 00 29.3 -0.2**
INCN pmax pmax
comp=Z,141nm,0.7s
INCN Inchon 53.84 283 P **P** **18 00 29.3 -0.2**
INCN IAmb IAmb 18 00 33.8
comp=Z,141nm,0.7s
TMCR Tamitsa 53.94 355 *eP* **P** **18 00 29.1 -0.7**
TMCR *eS* **S** **18 07 57.5 +1.1**
TMCR pmax pmax
comp=Z,197nm,0.6s
SONM Songino Array 54.06 305 P **P** **18 00 32.2 +1.1**
comp=Z,286nm,0.8s,baz=41,slow=6.9,SNR=136
SONM S **S** **18 07 59.2 +0.4**
comp=Z,0.6nm,0.6s,baz=82,slow=40,SNR=1.9
SONM LR LR 18 23 22.5
comp=Z,5μm,20.8s,baz=32,slow=36
SONM PKPPKP P'P'df 18 30 32.7 -15
comp=Z,1.4nm,1.1s,baz=338,slow=1.6,SNR=4.1
SONM Songino Array 54.06 305 P **P** **18 00 30.9 -0.1**
SONM pmax pmax
comp=Z,228nm,0.9s

SONM Songino Array 54.06 305 P **P** **18 00 30.9 -0.1**
TBLU Trondheim 54.36 10 *eP* **P** **18 00 30.5 -2.3**
TBLU *eS* **S** **18 08 02.3 +0.2**
TJN Taejon 54.41 282 *cePP* **P** **18 00 33.9 +0.3**
MOL Molde 54.79 11 *eP* **P** **18 00 33.6 -2.3**
MOL IVmB_BB 18 00 36.9
comp=Z,2μm,2.1s
MOL *eS* **S** **18 08 06.8 -1.1**
DL2 Dalian 54.96 288 P **P** **18 00 37.5 0.0**
DL2 pP **pP** **18 01 05.5 +2.0**
DL2 sP **sP** **18 01 12.0 -3.4**
DL2 PP **PP** **18 02 45.0 +3.8**
DL2 S **S** **18 08 08.8 -2.0**
DL2 sS **sS** **18 08 56.0 +1.1**
DL2 SS **SS** **18 11 58.0 +2.9**
DL2 pmax pmax
comp=Z,210nm,0.8s
DL2 pmax pmax
comp=Z,1μm,5.5s
JTU Tsushima 54.98 279 P **P** **18 00 37.8 0.0**
JTU IAmb IAmb 18 00 41.9
comp=Z,186nm,0.9s
AKN Aaknes 55.12 12 *eP* **P** **18 00 38.9 +0.5**
AKN *eS* **S** **18 08 12.5 0.0**
JCJ Chichijima 55.16 263 P **P** **18 00 39.1 0.0**
JNU Nakatsue 55.45 276 P **P** **18 00 41.4 +0.3**
DOMB Dombas 55.45 11 *eP* **P** **18 00 40.7 -0.1**
DOMB IVmB_BB 18 00 41.3
comp=Z,2μm,3.3s
DOMB *eS* **S** **18 08 11.7 -5.2**
FOO Floro 55.49 13 *eP* **P** **18 00 40.9 0.0**
FOO *eS* **S** **18 08 17.7 +0.4**
PRGR Permogore 55.98 350 *eP* **P** **18 00 44.5 +0.1**
PRGR *e*PP* **pP** **18 01 11.0 +0.5**
PRGR *e* 18 01 39.2
PRGR *eS* **S** **18 08 24.4 +0.7**
SUE Sulen 55.99 13 *eP* **P** **18 00 44.8 +0.3**
SUE IVmB_BB 18 00 45.0
comp=Z,2μm,2.8s
SUE *eS* **S** **18 08 22.6 -1.3**
HYA Hoyanger 56.04 13 *eP* **P** **18 00 45.0 +0.2**
HYA *eS* **S** **18 08 25.4 +0.9**
ZAA0 Zalesovo Array 56.09 323 P **P** **18 00 44.8 -0.5**
ZAA0 IAmb IAmb 18 00 49.7
comp=Z,254nm,0.8s
ZALV Zalesovo Beam 56.09 323 P **P** **18 00 44.9 -0.4**
comp=Z,242nm,0.6s,baz=31,slow=6.8,SNR=138
ZALV LR LR 18 28 37.3
comp=Z,3μm,19.4s,baz=24,slow=40
ZALV PKPPKP 18 30 31.0
comp=Z,1.0nm,0.6s,baz=211,slow=1.7,SNR=5.0
LRW Lerwick 56.15 17‖ *eP* **P** **18 00 46.1 +0.4**
NC204 NORSAR Array S 56.35 10 P **P** **18 00 47.2 0.0**
BJI Beijing 56.44 293 P **P** **18 00 48.3 +0.2**
BJI PcP **PcP** **18 01 44.0 +0.3**
BJI S **S** **18 08 28.5 -1.9**
BJI ScS **ScS** **18 10 26.8 +0.4**
BJI SS **SS** **18 12 17.8 -0.6**
BJI pmax pmax
comp=Z,120nm,0.8s
BJI LR LR
comp=Z,3μm,16.2s
NC303 NORSAR Array S 56.45 10 P **P** **18 00 46.9 -0.9**
BJT Baijiatuau 56.46 293 P **P** **18 00 48.5 +0.2**
BJT pmax pmax
comp=Z,97nm,0.9s
BJT Baijiatuau 56.46 293 P **P** **18 00 48.5 +0.2**
NC405 NORSAR Array S 56.59 9 P **P** **18 00 47.7 -1.1**
NBO00 NORSAR Array S 56.59 10 P **P** **18 00 48.4 -0.5**
ASK Askoy 56.60 13 *eP* **P** **18 00 49.4 +0.5**
NB201 NORSAR Array S 56.62 10 P **P** **18 00 48.1 -1.0**
NB2 NORSAR Subarra 56.62 10 P **P** **18 00 47.8 -1.4**
comp=Z,262nm,1.4s,baz=352,slow=7.4
NB2 NORSAR Subarra 56.62 10 P **P** **18 00 47.8 -1.4**
baz=352,slow=7.4
NOA NORSAR Array B 56.62 10 P **P** **18 00 47.7 -1.4**
comp=Z,31nm,0.7s,baz=351,slow=7.1,SNR=151
NOA LR LR 18 23 36.6
comp=Z,1μm,21.5s,baz=335,slow=34
NOA PKPPKP 18 30 49.5
comp=Z,7.0nm,0.8s,baz=150,slow=2.3,SNR=12
BER Bergen 56.71 13 *eP* **P** **18 00 46.9 -2.8**
BER IVmB_BB 18 00 51.7
comp=Z,1μm,2.0s
BER *eS* **S** **18 08 31.8 -1.7**
SKAR Skarslia 56.72 11 IVmBBB 18 00 51.6
comp=Z,2μm,2.2s
SKAR *eP* **P** **18 00 51.8 +1.9**
SKAR *eS* **S** **18 08 34.4 +0.6**
SKAR IVMs_BB IVMs_BB 18 20 43.5
comp=Z,1μm,4.5s
NAO01 NORSAR Array S 56.79 10 P **P** **18 00 49.9 -0.4**
NAO01 IAmb IAmb 18 00 51.1
comp=Z,207nm,1.1s
NAO01 NORSAR Array S 56.79 10 *eP* **P** **18 00 50.0 -0.3**
FIA1 FINESS Array S 56.88 1 P **P** **18 00 50.0 -0.9**
FIA1 IAmb IAmb 18 00 52.0
comp=Z,196nm,0.9s
FINES FINESS Array B 56.88 1 P **P** **18 00 49.9 -1.0**
comp=Z,91nm,0.6s,baz=11,slow=4.3,SNR=160
FINES ScP **ScP** **18 05 34.4 +0.1**
comp=Z,41nm,0.9s,baz=38,slow=3.4,SNR=6.8
FINES PKPPKP 18 30 39.5
comp=Z,3.6nm,0.8s,baz=126,slow=3.3,SNR=4.0
NC602 NORSAR Array S 56.95 10 P **P** **18 00 51.5 +0.1**
NC602 NORSAR Array S 56.95 10 *eP* **P** **18 00 50.7 -0.7**
NC602 IVmB_BB 18 00 52.1
comp=Z,2μm,2.4s
NC602 *eS* **S** **18 08 35.9 -0.7**
NC602 IVMs_BB IVMs_BB 18 17 58.1
comp=Z,1μm,3.8s
JSU Suzuyama 56.99 276 P **P** **18 00 52.4 +0.3**
KLMR Klimovskoe 57.17 353 *eP* **P** **18 00 52.6 -0.3**
KLMR *e*PP* **pP** **18 01 20.0 +1.0**
KLMR *e*SP* **sP** **18 01 30.9 +0.1**
KLMR *eS* **S** **18 08 40.8 +1.3**
KLMR pmax pmax
comp=Z,245nm,0.6s
KLMR Klimovskoe 57.17 353 *eP* **P** **18 00 52.7 -0.2**
KLMR AMP 18 00 54.8
comp=Z,245nm,0.6s
KLMR *e*pP **pP** **18 01 20.0 +1.0**
KLMR *e*sP **sP** **18 01 31.0 +0.1**
KLMR *eS* **S** **18 08 40.9 +1.4**
KLMR *eS* **S** **18 08 40.9 +1.4**
LEWI Lewis, Hebride 57.17 21‖ *eP* **P** **18 00 53.3 +0.3**
LEWI IAmb IAmb 18 00 55.1
comp=Z,141nm,1.0s
ODD1 Odda 57.31 13 *eP* **P** **18 00 54.4 +0.4**
ODD1 *eS* **S** **18 08 38.0 -3.5**
MLA1 Latheron 57.59 19 *eP* **P** **18 00 56.1 +0.2**
OSL Oslo 57.67 10 *eP* **P** **18 00 56.4 0.0**
OSL *eS* **S** **18 08 44.4 -1.6**
HFS Hagfors 57.70 8 P **P** **18 00 55.9 -0.8**
comp=Z,50nm,0.4s,baz=46,slow=4.3,SNR=85
HHC Hu-ho-hao-te 57.74 297 *eP* **P** **18 00 59.0 +1.6**
HHC PP **PP** **18 03 10.0 +3.9**
HHC S **S** **18 08 47.8 0.0**
HHC SS **SS** **18 12 41.5 +2.4**
HHC pmax pmax
comp=Z,130nm,1.6s
HHC pmax pmax
comp=Z,1μm,7.6s
HHC LR LR
comp=Z,5μm,16.7s
HHC LR LR
comp=Z,5μm,14.5s
HHC LR LR
comp=Z,5μm,20.4s
BLS5 Blasjo 57.78 13 *eP* **P** **18 00 57.6 +0.4**
BLS5 IVmB_BB 18 01 01.1
comp=Z,2μm,3.0s
BLS5 *eS* **S** **18 08 47.5 -0.1**
KONO Kongsberg 57.86 11 *c iP* **P** **18 00 57.2 -0.6**
KONO pmax pmax
comp=Z,289nm,2.5s
KONO Kongsberg 57.86 11 P **P** **18 00 57.6 -0.1**
KONO IAmb IAmb 18 00 60.0
comp=Z,524nm,1.9s
KONO Kongsberg 57.86 11 *eP* **P** **18 00 57.8 0.0**
KONO *eS* **S** **18 08 47.8 -0.7**
KAC Achnashellach 58.05 20‖ *eP* **P** **18 00 59.5 +0.4**
KPL Plockton 58.15 21 *eP* **P** **18 00 59.9 +0.1**
KPL IAmb IAmb 18 01 02.5

comp=Z,121nm,1.0s
MCD Coleburn Disti 58.30 19‖ *eP* **P** **18 01 00.5 -0.4**
PUL Pulkovo 58.56 359 *eP* **P** **18 01 03.7 +1.1**
PUL Pulkovo 58.56 359 *d iP* **P** **18 01 03.7 +1.1**
PUL pmax pmax
comp=Z,390nm,0.7s
BTO Baotou 58.59 298 *eP* **P** **18 01 01.3 -2.0**
BTO LR LR
comp=Z,5365μm,13.8s
BTO LR LR
comp=Z,8666μm,15.7s
KIRV Kirov 58.63 347 P **P** **18 01 03.3 +0.2**
comp=Z,110nm,0.5s,baz=19,slow=2.5,SNR=60
SVE Sverdlovsk 58.83 340 *cePP* **P** **18 01 04.8 +0.2**
SVE *e* 18 04 45.1
SVE *eS* **S** **18 09 00.5 -0.7**
SVE *e* 18 10 37.6
SVE pmax pmax
comp=Z,460nm,1.1s
SVE pmax pmax
comp=Z,471nm,6.7s
SVE MLR MLR
comp=Z,4μm,20.0s
SNART Snartemo 58.92 13 *eP* **P** **18 01 05.4 +0.3**
SNART *eS* **S** **18 09 01.6 -0.7**
DGZ Jazzator, Alta 59.06 319 *c iP* **P** **18 01 07.1 +0.6**
DGZ pmax pmax
comp=Z,87nm,0.6s
DRUM Mains of Drumt 59.06 19‖ *eP* **P** **18 01 06.3 +0.2**
DRUM IAmb IAmb 18 01 08.2
comp=Z,274nm,1.0s
HOMB Homborsund 59.12 12 *eP* **P** **18 01 06.4 -0.1**
HOMB *eS* **S** **18 09 06.3 +1.5**
TIA Tai'an 59.20 290 P **P** **18 01 07.5 +0.1**
TIA S **S** **18 09 07.8 +1.3**
TIA pmax pmax
comp=Z,36nm,1.4s
TIA pmax pmax
comp=Z,970nm,10.8s
TIA LR LR
comp=Z,3μm,19.1s
TIA LR LR
comp=Z,3μm,20.6s
TIA LR LR
comp=Z,4μm,19.4s
LAWE Loch Awe, Argy 59.22 21‖ *eP* **P** **18 01 07.2 0.0**
LAWE IAmb IAmb 18 01 09.8
comp=Z,163nm,1.0s
INVG Invergeldie, C 59.28 20‖ *eP* **P** **18 01 07.6 -0.1**
INVG IAmb IAmb 18 01 10.5
comp=Z,69nm,0.7s
EAB Aberfoyle 59.46 20 *eP* **P** **18 01 08.9 0.0**
ARU Arti 59.54 341 P **P** **18 01 08.9 -0.5**
comp=Z,71nm,0.4s,baz=12,slow=5.4,SNR=284
ARU S **S** **18 09 06.1 -4.2**
comp=Z,1.1nm,0.6s,baz=195,slow=21,SNR=1.4
ARU Arti 59.54 341 *d iP* **P** **18 01 08.9 -0.5**
ARU *PP **pP** **18 01 37.5 +1.8**
ARU 18 01 50.0
ARU 18 03 21.0
ARU S **S** **18 09 08.8 -1.6**
ARU 18 10 44.9
ARU SSS SSS 18 15 38.0
ARU pmax pmax
comp=Z,527nm,1.4s
ARU MLR MLR
comp=Z,3μm,19.0s
ARU Arti 59.54 341 P **P** **18 01 08.7 -0.7**
PGBU Glenifferbraes 59.80 21‖ *eP* **P** **18 01 10.7 -0.5**
PGBU IAmb IAmb 18 01 14.4
comp=Z,98nm,0.8s
VSU Vasula 59.88 1 *eP* **P** **18 01 12.1 +0.4**
VSU Vasula 59.88 1 *deP* **P** **18 01 11.8 +0.1**
VSU pmax pmax
comp=Z,1μm,0.9s
EDI Edinburgh 59.90 20‖ *eP* **P** **18 01 12.0 +0.1**
EDI IAmb IAmb 18 01 13.9
comp=Z,140nm,1.2s
XMAS Kiritimati 59.94 186 P **P** **18 01 13.6 +1.0**
TIY Taiyuan 59.99 294 *eP* **P** **18 01 13.5 +0.6**
TIY S **S** **18 09 18.0 +1.1**
TIY pmax pmax
comp=Z,100nm,0.9s
TIY pmax pmax
comp=Z,1μm,8.1s
TIY LR LR
comp=Z,2μm,10.5s
TIY LR LR
comp=Z,3μm,13.4s
TIY LR LR
comp=Z,3μm,15.0s
ESY Stoneypath 60.00 19‖ *eP* **P** **18 01 12.5 -0.1**
TEIG Tepich 60.01 104 P **P** **18 01 13.5 +0.4**
TEIG IAmb IAmb 18 01 16.1
comp=Z,133nm,0.8s
EBL Broad Law 60.07 20‖ *eP* **P** **18 01 13.5 +0.4**
CLGH Cloghs, Cushen 60.22 22 *eP* **P** **18 01 14.0 -0.1**
EKA Eskdalemuir Ar 60.48 20 P **P** **18 01 15.9 +0.1**
comp=Z,56nm,0.6s,baz=333,slow=5.1,SNR=99
EKA Eskdalemuir Ar 60.48 20 P **P** **18 01 16.0 +0.1**
ESK Eskdalemuir 60.48 20‖ *eP* **P** **18 01 16.3 +0.4**
ESK IAmb IAmb 18 01 17.4
comp=Z,104nm,0.9s
ESK Eskdalemuir 60.48 20 P **P** **18 01 16.0 +0.1**
ESK pmax pmax
comp=Z,156nm,0.9s
ESK Eskdalemuir 60.48 20 P **P** **18 01 16.0 +0.1**
ESK IAmb IAmb 18 02 10.1
comp=Z,156nm,0.9s
BRVK Borovoye 60.55 332 *c iP* **P** **18 01 15.5 -0.9**
BRVK pmax pmax
comp=Z,605nm,2.2s
BRVK Borovoye 60.55 332 P **P** **18 01 16.0 -0.4**
BRVK IAmb IAmb 18 01 20.2
comp=Z,182nm,0.7s
BVAR Borovoye Array 60.55 332 P **P** **18 01 16.2 -0.3**
comp=Z,157nm,0.7s,baz=285,slow=11,SNR=208
SLIT Slitere, Latvi 60.63 4 *eP* **P** **18 01 17.3 +0.5**
KURK Kurchatov 60.68 326 *deP* **P** **18 01 16.3 -1.0**
KURK pmax pmax
comp=Z,177nm,0.8s
BBSR BB Station 60.72 76 P **P** **18 01 17.2 -0.6**
KURBB Kurchatov Arra 60.79 326 P **P** **18 01 17.5 -0.6**
comp=Z,31nm,0.5s,baz=26,slow=6.4,SNR=49
KURBB S **S** **18 09 22.4 -4.0**
comp=Z,4.5nm,1.0s,baz=30,slow=13,SNR=4.9
MUD Monsted U'grnd 60.97 12 *i P* **P** **18 01 19.8 +0.6**
comp=Z,99nm,1.0s
MUD Monsted U'grnd 60.97 12 *i P* **P** **18 01 19.8 +0.6**
MUD pmax pmax
comp=Z,99nm,1.0s
GMM Mts of Mourne 61.05 22‖ *eP* **P** **18 01 20.0 +0.2**
EDMD Edmundbyers 61.15 19‖ *eP* **P** **18 01 20.8 +0.4**
KESW Keswick, Cumbr 61.20 20‖ *eP* **P** **18 01 21.1 +0.4**
KESW IAmb IAmb 18 01 22.2
comp=Z,102nm,1.0s
IOMK Kirk Michael 61.27 21‖ *eP* **P** **18 01 21.3 +0.1**
WIM Isle of Man 61.36 21‖ *eP* **P** **18 01 22.0 +0.1**
SSE Sheshan 61.64 283 P **P** **18 01 25.5 +1.4**
SSE S **S** **18 09 36.5 -1.3**
SSE pmax pmax
comp=Z,34nm,0.8s
SSE pmax pmax
comp=Z,650nm,5.7s
SSE LR LR
comp=Z,1μm,18.8s
SSE LR LR
comp=Z,1μm,19.2s
GDLE Glaisdale, N Y 61.72 19 *eP* **P** **18 01 24.4 +0.1**
ZSN Zaisan 61.84 320 *i P* **P** **18 01 25.5 +0.3**
comp=Z,125nm,0.7s,baz=320
ZSN *i* S **S** **18 09 40.5 +0.5**
comp=Z,210nm,2.9s,baz=320
ZSN Zaisan 61.84 320 *i P* **P** **18 01 25.5 +0.3**
ZSN *i* S **S** **18 09 40.5 +0.5**
ZSN pmax pmax
comp=Z,125nm,0.7s
ZSN smax smax
comp=N,210nm,2.9s
NJ2 Nanjing 61.91 286⇑ *i P* **P** **18 01 25.3 -0.5**
NJ2 pP **pP** **18 01 53.3 +1.0**
NJ2 PP **PP** **18 03 45.8 +3.0**
NJ2 S **S** **18 09 41.8 +0.7**
NJ2 pmax pmax
comp=N,27nm,0.6s

NJ2				LR	LR		
	comp=N,3μm,21.3s						
NJ2				LR	LR		
	comp=N,4μm,16.1s						
NJ2				LR	LR		
	comp=N,3μm,17.9s						
DSB	**Dublin**	**61.92**	**23**	P	**P**	**18 01 24.0**	**-1.7**
COP	**Copenhagen**	**62.03**	**10**	⇓*iP*	**P**	**18 01 27.2**	**+1.0**
	comp=N,114nm,0.8s						
COP	**Copenhagen**	**62.03**	**10**	⇓*iP*	**P**	**18 01 27.2**	**+1.0**
COP				pmax	pmax		
	comp=Z,110nm,0.8s						
HPK	**Haverah Park**	**62.05**	**19**	⇓*eP*	**P**	**18 01 26.8**	**+0.4**
WPS	**Cemaes, Angles**	**62.11**	**21**	⇓*eP*	**P**	**18 01 26.8**	**0.0**
WPS				IAmb	IAmb	18 01 29.7	
	comp=Z,436nm,2.1s						
WME	**Myndd Eilian**	**62.15**	**21**	⇓*eP*	**P**	**18 01 27.1**	**0.0**
PBUR	**Paburge**	**62.23**	**4**	*eP*	**P**	**18 01 28.1**	**+0.4**
PBUR				*e*PP	**PP**	**18 03 44.1**	**-0.9**
WLF1	**Llynfaes**	**62.23**	**21**	⇓*eP*	**P**	**18 01 27.6**	**-0.1**
WLF1				IAmb	IAmb	18 01 28.9	
	comp=Z,120nm,1.1s						
YRC	**Rhoscolyn**	**62.24**	**21**	*eP*	**P**	**18 01 27.0**	**-0.7**
MOS	**Moscow**	**62.38**	**354**	*eP*	**P**	**18 01 28.2**	**-0.4**
MOS				*e**PP	**pP**	**18 01 56.1**	**+1.2**
MOS				*e*		18 02 07.2	
MOS				*e*		18 03 47.3	
MOS				*e*PPP	PPP	18 05 16.0	
MOS				*e*S	**S**	**18 09 46.9**	**+0.6**
MOS				*e*PS	**PnS**	**18 10 16.9**	**-0.7**
MOS				*e*		18 11 06.6	
MOS				*e*SS	**SS**	**18 13 53.4**	**+2.9**
MOS				*e*SSS	SSS	18 16 41.3	
MOS				pmax	pmax		
	comp=Z,644nm,1.5s						
MOS				pmax	pmax		
	comp=N,270nm,1.0s						
MOS				pmax	pmax		
	comp=Z,2μm,1.8s						
MOS				pmax	pmax		
	comp=N,900nm,1.6s						
MOS				smax	smax		
	comp=N,4μm,5.8s						
MOS				smax	smax		
	comp=E,4μm,4.7s						
LBWR	**Ladybower, Pea**	**62.57**	**20**	⇓*eP*	**P**	**18 01 30.2**	**+0.3**
LBWR				IAmb	IAmb	18 01 36.9	
	comp=Z,130nm,1.0s						
ISAL	**Salakas**	**62.77**	**1**	*eP*	**P**	**18 01 32.3**	**+1.1**
BSD	**Bornholm Skovb**	**62.78**	**8**	⇓*iP*	**P**	**18 01 31.9**	**+0.6**
	comp=Z,89nm,0.7s						
BSD	**Bornholm Skovb**	**62.78**	**8**	⇓*iP*	**P**	**18 01 31.9**	**+0.6**
BSD				pmax	pmax		
	comp=Z,89nm,0.7s						
STNC	**Stoke**	**62.79**	**20**	*eP*	**P**	**18 01 32.1**	**+0.7**
STNC				IAmb	IAmb	18 01 33.7	
	comp=Z,626nm,2.0s						
PABE	**Paberze**	**62.80**	**3**	*eP*	**P**	**18 01 32.2**	**+0.8**
BRZS	**Berezniki**	**62.86**	**329**	*i* P	**P**	**18 01 31.1**	**-0.9**
	comp=Z,351nm,2.2s,baz=329						
BRZS	**Berezniki**	**62.86**	**329**	*i* P	**P**	**18 01 31.0**	**-0.9**
BRZS				pmax	pmax		
	comp=Z,351nm,2.2s						
IIGN	**Ignalina**	**62.99**	**1**	*eP*	**P**	**18 01 33.7**	**+1.0**
IDID	**Didziasalis**	**63.03**	**1**	*eP*	**P**	**18 01 33.7**	**+0.7**
OBN	**Obninsk**	**63.05**	**355**	P	**P**	**18 01 34.1**	**+1.0**
	comp=Z,44nm,0.4s,baz=37,slow=1.0,SNR=58						
OBN				S	**S**	**18 09 53.4**	**-1.3**
	comp=Z,4.3nm,0.4s,baz=301,slow=23,SNR=3.6						
OBN	**Obninsk**	**63.05**	**355**	*e iP*	**P**	**18 01 33.3**	**+0.2**
OBN				*i*		18 02 01.2	
OBN				*i*		18 02 12.0	
OBN				*e*		18 03 54.4	
OBN				pmax	pmax		
	comp=Z,916nm,1.7s						
OBN	**Obninsk**	**63.05**	**355**	P	**P**	**18 01 32.8**	**-0.3**
MK31	**Makanchi Array**	**63.21**	**321**	P	**P**	**18 01 33.2**	**-1.1**
MKAR	**Makanchi Array**	**63.21**	**321**	P	**P**	**18 01 35.2**	**+0.9**
	comp=Z,111nm,0.6s,baz=46,slow=6.7,SNR=62						
MKAR				S	**S**	**18 09 58.7**	**+1.6**
	comp=Z,4.1nm,0.8s,baz=22,slow=14,SNR=4.9						
MKAR				PKPPKP		18 30 27.7	
	comp=Z,1.6nm,0.8s,baz=151,slow=2.8,SNR=4.8						
MKAR	**Makanchi Array**	**63.21**	**321**	P	**P**	**18 01 33.6**	**-0.7**
RGN	**Rugen**	**63.23**	**10**	*eP*	**P**	**18 01 35.4**	**+1.2**
RGN	**Rugen**	**63.23**	**10**	*eP*	**P**	**18 01 35.7**	**+1.5**
	comp=Z,259nm,0.9s,baz=352,slow=6.4						
HLM1	**Long Mynd**	**63.23**	**21**	⇓*eP*	**P**	**18 01 34.5**	**+0.1**
HLM1				IAmb	IAmb	18 01 36.8	
	comp=Z,189nm,1.4s						
CWF	**Charnwood Fore**	**63.27**	**20**	⇓*eP*	**P**	**18 01 35.0**	**+0.4**
CWF				IAmb	IAmb	18 01 35.7	
	comp=Z,358nm,2.0s						
MAKZ	**Makanchi**	**63.29**	**322**	P	**P**	**18 01 34.4**	**-0.4**
NACGM	**Naroch**	**63.45**	**1**	*eP*	**P**	**18 01 36.0**	**+0.3**
NACGM				*eP*	**P**	**18 01 36.0**	**+0.3**
NACGM				PM		18 01 37.0	
	comp=Z,0.5nm,1.0s						
NACGM				*e*pP	pP	18 01 52.0	-10
NACGM				*e*sP	**sP**	**18 02 13.0**	**-0.9**
NACGM				*e*PP	PP	18 03 37.0	-19
NACGM				*e*PPP	PPP	18 05 27.0	
NACGM				*e*S	**S**	**18 09 55.0**	**-4.7**
NACGM				*e*SS	**S**	**18 10 02.0**	**+2.3**
NACGM				*e*PS		18 10 37.0	
NACGM				*e*SS	**SS**	**18 14 04.0**	**-3.2**
NACGM				*e*SSS	SSS	18 16 48.0	
RSBS	**Rosebush, Pemb**	**63.45**	**22**	⇓*eP*	**P**	**18 01 36.2**	**+0.4**
BSEG	**Bad Segeberg**	**63.57**	**12**	*eP*	**P**	**18 01 37.8**	**+1.2**
	comp=Z,148nm,1.1s,baz=352,slow=6.4						
WACR	**West Acre**	**63.58**	**18**	⇓*eP*	**P**	**18 01 36.9**	**+0.2**
WACR				IAmb	IAmb	18 01 38.6	
	comp=Z,450nm,1.5s						
APG	**El Apazote**	**63.59**	**109**	S	**S**	**18 10 01.5**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=221,slow=21,SNR=1.7						
MCH1	**Michaelchurch**	**63.71**	**21**	⇓*eP*	**P**	**18 01 38.0**	**+0.5**
MCH1				IAmb	IAmb	18 01 40.3	
	comp=Z,166nm,1.2s						
GTA	**Gaotai**	**63.72**	**305**	⇑P	**P**	**18 01 38.3**	**+0.3**
GTA				PcP	**PcP**	**18 02 14.3**	**+1.2**
GTA				S	**S**	**18 10 03.0**	**-0.9**
GTA				SS	**SS**	**18 14 12.5**	**-0.1**
GTA				pmax	pmax		
	comp=Z,40nm,0.9s						
GTA				pmax	pmax		
	comp=Z,770nm,5.3s						
GTA				LR	LR		
	comp=Z,3μm,17.8s						
GTA				LR	LR		
	comp=Z,4μm,20.7s						
GTA				LR	LR		
	comp=Z,3μm,21.1s						
MICGM	**Minsk**	**63.85**	**0**	⇑*iP*	**P**	**18 01 39.0**	**+0.6**
MICGM				PM		18 01 40.0	
	comp=Z,1.4nm,1.0s						
MICGM				PM		18 01 41.0	
	comp=N,1.1nm,1.0s						
MICGM				*e*pP	**pP**	**18 02 07.0**	**+2.1**
MICGM				*e*PP	PP	18 04 16.0	+17
MICGM				*e*PPP	PPP	18 05 33.0	
MICGM				*e*S	S	18 09 48.0	-17
MICGM				*e*SS	SS	18 14 30.0	+16
MICGM				*e*SSS	SSS	18 17 26.0	
MICGM				*e*LR	LR	18 25 53.0	
MNK	**Minsk**	**63.85**	**0**	⇓*iP*	**P**	**18 01 39.0**	**+0.6**
MNK				*e**PP	**pP**	**18 02 07.0**	**+2.1**
MNK				*e*PPP	PPP	18 05 33.0	
MNK				pmax	pmax		
	comp=Z,1μm,1.0s						
MNK				pmax	pmax		
	comp=N,1μm,1.0s						
MONM	**Monmouth**	**63.90**	**21**	⇓*eP*	**P**	**18 01 39.2**	**+0.5**
MONM				IAmb	IAmb	18 01 40.8	
	comp=Z,1μm,2.3s						
STRD	**Stroud**	**64.07**	**20**	⇓*eP*	**P**	**18 01 40.4**	**+0.6**
STRD				IAmb	IAmb	18 01 43.3	
	comp=Z,273nm,1.2s						
OLDB	**Oldbury-Upon-S**	**64.11**	**21**	⇓*eP*	**P**	**18 01 40.4**	**+0.3**
OLDB				IAmb	IAmb	18 01 42.2	
	comp=Z,777nm,2.2s						
SUW	**Suwalki**	**64.28**	**3**	*eP*	**P**	**18 01 41.5**	**+0.4**
SUW				*e*S	**S**	**18 10 05.2**	**-4.8**
SUW	**Suwalki**	**64.28**	**3**	P	**P**	**18 01 40.0**	**-1.1**
SUW				pmax	pmax		
	comp=Z,264nm,0.9s						
SUW	**Suwalki**	**64.28**	**3**	P	**P**	**18 01 40.0**	**-1.1**
SUW				IAmb	IAmb	18 02 20.6	
	comp=Z,264nm,0.9s						
LCCY	**Blossom Villag**	**64.30**	**96**	P	**P**	**18 01 40.9**	**-0.8**
SWN1	**Swindon**	**64.38**	**20**	⇓*eP*	**P**	**18 01 42.8**	**+0.9**
SWN1				IAmb	IAmb	18 01 44.2	
	comp=Z,1μm,2.0s						
CBCY	**The Bluff, Cay**	**64.39**	**96**	P	**P**	**18 01 43.0**	**+0.6**
HTL	**Hartland**	**64.42**	**22**	⇓*eP*	**P**	**18 01 42.8**	**+0.6**
HTL				IAmb	IAmb	18 01 44.0	
	comp=Z,104nm,1.1s						
XAN	**Xi'an**	**64.61**	**295**	P	**P**	**18 01 43.0**	**-0.7**
XAN				pP	pP	18 02 03.5	-7.0
XAN				PP	**PP**	**18 04 05.5**	**-1.1**
XAN				S	**S**	**18 10 11.0**	**-3.8**
XAN				sS	sS	18 11 01.3	+1.1
XAN				ScS	**SKSac**	**18 11 26.8**	**-1.0**
XAN				SS	**SS**	**18 14 26.8**	**+0.3**
XAN				pmax	pmax		
	comp=Z,160nm,0.8s						
XAN				pmax	pmax		
	comp=Z,1μm,7.2s						
XAN				LR	LR		
	comp=Z,3μm,18.9s						
XAN				LR	LR		
	comp=Z,5μm,18.5s						
XAN				LR	LR		
	comp=Z,5μm,17.7s						
XAN	**Xi'an**	**64.61**	**295**	P	**P**	**18 01 43.0**	**-0.7**
XAN				pmax	pmax		
	comp=Z,93nm,0.7s						
XAN	**Xi'an**	**64.61**	**295**	P	**P**	**18 01 43.0**	**-0.7**
WOL	**Wolverton**	**64.67**	**20**	⇓*eP*	**P**	**18 01 44.2**	**+0.5**
WOL				IAmb	IAmb	18 01 45.7	
	comp=Z,4μm,2.9s						
GKP	**Gorka Klasztor**	**64.77**	**7**	*eP*	**P**	**18 01 45.3**	**+1.0**
GKP				*e*S	**S**	**18 10 10.0**	**-6.0**
IBBN	**Ibbenburen**	**64.92**	**14**	*eP*	**P**	**18 01 46.5**	**+1.2**
	comp=Z,151nm,0.9s,baz=352,slow=6.4						
NRDL	**Niedersach Rie**	**64.98**	**12**	*eP*	**P**	**18 01 46.8**	**+1.2**
	comp=Z,175nm,1.1s,baz=352,slow=6.4						
LZH	**Lanzhou**	**64.98**	**300**	*eP*	**P**	**18 01 46.8**	**+0.5**
LZH				PP	**PP**	**18 04 14.3**	**+4.3**
LZH				S	**S**	**18 10 18.8**	**-0.8**
LZH				pmax	pmax		
	comp=Z,340nm,1.0s						
LZH				pmax	pmax		
	comp=Z,1μm,4.5s						
LZH				LR	LR		
	comp=Z,3μm,12.8s						
LZH				LR	LR		
	comp=Z,4μm,16.6s						
LZH				LR	LR		
	comp=Z,3μm,17.1s						
DYA	**Yadsworthy**	**65.06**	**22**	⇓*eP*	**P**	**18 01 46.6**	**+0.3**
DYA				IAmb	IAmb	18 01 48.9	
	comp=Z,82nm,0.8s						
ELSH	**Elham, Standar**	**65.19**	**18**	*eP*	**P**	**18 01 47.3**	**+0.2**
ELSH				IAmb	IAmb	18 01 49.3	
	comp=Z,743nm,1.8s						
WHN	**Wuhan**	**65.21**	**289**	⇑P	**P**	**18 01 47.3**	**-0.3**
WHN				pP	**PcP**	**18 02 16.8**	**-2.4**
WHN				S	**S**	**18 10 23.0**	**+0.9**
WHN				sS	**sS**	**18 11 02.0**	**-5.6**
WHN				SS	**SS**	**18 14 35.5**	**-0.4**
WHN				pmax	pmax		
	comp=Z,42nm,0.8s						
WHN				pmax	pmax		
	comp=Z,2μm,11.2s						
WHN				LR	LR		
	comp=Z,4μm,15.4s						
WHN				LR	LR		
	comp=Z,4μm,16.0s						
WHN				LR	LR		
	comp=Z,5μm,19.0s						
RUE	**Ruedersdorf**	**65.32**	**10**	*eP*	**P**	**18 01 48.7**	**+0.8**
RUE				*e*PP	**PP**	**18 04 15.3**	**+3.2**
RUE	**Ruedersdorf**	**65.32**	**10**	*eP*	**P**	**18 01 49.1**	**+1.2**
	comp=Z,360nm,1.0s,baz=352,slow=6.4						
HMNX	**Herstmonceux**	**65.34**	**19**	⇓*eP*	**P**	**18 01 48.8**	**+0.7**
HMNX				IAmb	IAmb	18 01 49.9	
	comp=Z,158nm,1.0s						
ASSE	**Asse, Remlinge**	**65.39**	**12**	*eP*	**P**	**18 01 49.5**	**+1.1**
	comp=Z,167nm,1.3s,baz=352,slow=6.4						
AKTO	**Aktyubinsk**	**65.42**	**339**	P	**P**	**18 01 48.2**	**-0.4**
	comp=Z,79nm,0.4s,baz=26,slow=7.6,SNR=150						
LPSR	**Galich'ya Gora**	**65.44**	**353**	*eP*	**P**	**18 01 48.7**	**0.0**
LPSR				*e*		18 02 16.3	
LPSR				*e*S	**S**	**18 10 21.7**	**-2.5**
LPSR				*e*PS		18 11 04.5	
LPSR				pmax	pmax		
	comp=Z,280nm,0.7s						
LPSR				pmax	pmax		
	comp=Z,860nm,2.2s						
LPSR				smax	smax		
	comp=N,2μm,9.3s						
GUMO	**Guam**	**65.63**	**252**	P	**P**	**18 01 49.3**	**-1.2**
	comp=N,46nm,0.3s,baz=172,slow=3.8,SNR=11						
GUMO	**Guam**	**65.63**	**252**	P	**P**	**18 01 49.2**	**-1.2**
GUMO				IAmb	IAmb	18 03 41.3	
	comp=Z,323nm,1.2s						
CLZ	**Clausthal**	**65.65**	**12**	*eP*	**P**	**18 01 51.6**	**+1.4**
	comp=Z,212nm,0.8s,baz=352,slow=6.4						
BUG	**Bochum--Univer**	**65.71**	**14**	*eP*	**P**	**18 01 51.3**	**+0.9**
	comp=Z,148nm,1.0s,baz=352,slow=6.4						
GTTG	**Gottingen**	**65.90**	**12**	*eP*	**P**	**18 01 53.2**	**+1.5**
	comp=Z,272nm,1.0s,baz=352,slow=6.4						
TDK	**Taldyqorghan**	**65.96**	**323**	*eP*	**P**	**18 01 53.6**	**+1.4**
	comp=Z,203nm,0.7s,baz=323						
TDK	**Taldyqorghan**	**65.96**	**323**	*eP*	**P**	**18 01 53.6**	**+1.4**
TDK				pmax	pmax		
	comp=Z,203nm,0.7s						
UCC	**Uccle**	**65.98**	**16**	P	**P**	**18 01 52.7**	**+0.5**
UCC	**Uccle**	**65.98**	**16**	P	**P**	**18 01 52.2**	**0.0**
UCC				pmax	pmax		
	comp=Z,132nm,1.3s						
UCC	**Uccle**	**65.98**	**16**	P	**P**	**18 01 52.2**	**0.0**
BEBN	**Eben Emael**	**66.16**	**15**	P	**P**	**18 01 53.9**	**+0.6**
BEBN				PcP	**pP**	**18 02 20.7**	**+0.6**
BEBN				sP	**sP**	**18 02 30.2**	**-1.6**
AB31	**Akbulak array**	**66.22**	**338**	*i* P	**P**	**18 01 53.5**	**-0.3**
ABKAR	**Akbulak array**	**66.22**	**338**	P	**P**	**18 01 52.8**	**-1.0**
SNF	**Seneffe**	**66.26**	**16**	P	**P**	**18 01 54.3**	**+0.3**
SNF				PcP	**pP**	**18 02 21.3**	**+0.6**
KNTN	**Kanton**	**66.34**	**202**	P	**P**	**18 01 55.4**	**+0.5**
KNTN				IAmb	IAmb	18 02 23.6	
	comp=Z,621nm,1.5s						
VORR	**Voronezh**	**66.34**	**352**	*eP*	**P**	**18 01 53.0**	**-1.5**
VORR				pmax	pmax		
	comp=Z,400nm,1.6s						
BSTI	**Sart Tilman**	**66.35**	**15**	P	**P**	**18 01 55.5**	**+0.9**
BSTI				PcP	**pP**	**18 02 22.1**	**+0.8**
BEL	**Belsk**	**66.38**	**5**	*eP*	**P**	**18 01 55.5**	**+0.8**
BEL				*e*PP	**PP**	**18 04 20.3**	**-1.1**
BEL				*e*S	**S**	**18 10 34.0**	**-1.7**
MEM	**Membach**	**66.38**	**15**	P	**P**	**18 01 55.5**	**+0.7**
MEM				PcP	**pP**	**18 02 22.2**	**+0.7**
NEUB	**Neuenburg**	**66.41**	**11**	*eP*	**P**	**18 01 56.1**	**+1.1**
	comp=Z,246nm,1.0s,baz=352,slow=6.4						
CLL	**Collm**	**66.42**	**10**	*eP*	**P**	**18 01 54.0**	**-1.0**
	comp=Z,132nm,1.0s						
CLL				⇓*i*Pmax		18 01 55.6	
	comp=Z,132nm,1.0s						
CLL				*e*pP	**pP**	**18 02 22.0**	**+0.3**
CLL				*e*PP	**PP**	**18 04 21.0**	**-0.8**
CLL				*e*PPPP		18 06 42.0	
CLL				*e*S	**S**	**18 10 33.0**	**-3.2**
CLL				*e*		18 10 49.0	
CLL				*e*sS	**sS**	**18 11 22.0**	**+0.1**
CLL				*e*SKSac	**SKSac**	**18 11 39.0**	**-1.9**
CLL				*e*SS	**SS**	**18 14 55.0**	**+1.5**
CLL				*e*sSS		18 15 36.0	
CLL				*e*SSS	SSS	18 18 12.0	
CLL				*e*		18 20 18.0	
CLL				*e*PKPPKPd	**P'P'df**	**18 30 26.0**	**-2.6**
CLL				*e*pPKPPKPd		18 30 56.0	
CLL				*e*		18 32 17.0	
CLL	**Collm**	**66.42**	**10**	*eP*	**P**	**18 01 54.0**	**-1.0**
CLL				*e**PP	**pP**	**18 02 22.0**	**+0.3**
CLL				*e*S	**S**	**18 10 33.0**	**-3.2**
CLL				pmax	pmax		
	comp=Z,132nm,1.0s						
CLL	**Collm**	**66.42**	**10**	*eP*	**P**	**18 01 55.7**	**+0.7**
	comp=Z,132nm,0.9s,baz=352,slow=6.4						
CLL	**Collm**	**66.42**	**10**	P	**P**	**18 01 54.3**	**-0.7**
GTBY	**Guantanamo Bay**	**66.42**	**92**	P	**P**	**18 01 55.0**	**-0.4**
BTNL	**Ternell**	**66.42**	**15**	P	**P**	**18 01 55.8**	**+0.7**
BTNL				PcP	**pP**	**18 02 22.6**	**+0.7**
BCLA	**Clavier**	**66.48**	**16**	P	**P**	**18 01 55.5**	**+0.1**
BCLA				PcP	**pP**	**18 02 22.5**	**+0.4**
BGES	**Gesves**	**66.48**	**16**	P	**P**	**18 01 55.8**	**+0.3**
BMRD	**Maredsous**	**66.52**	**16**	P	**P**	**18 01 56.4**	**+0.7**
BMRD				PcP	**pP**	**18 02 23.2**	**+0.7**
JSA	**Saint Aubin**	**66.57**	**21**	⇓*eP*	**P**	**18 01 56.3**	**+0.4**
JSA				IAmb	IAmb	18 01 57.5	
	comp=Z,74nm,1.0s						
AHRW	**Bad Neuenahr-A**	**66.58**	**14**	*eP*	**P**	**18 01 57.2**	**+1.2**
	comp=Z,113nm,1.3s,baz=352,slow=6.4						
UBBA	**Unterbreizbach**	**66.62**	**12**	*eP*	**P**	**18 01 57.3**	**+1.1**
	comp=Z,330nm,1.8s,baz=352,slow=6.4						
BHOU	**Houvegnez**	**66.63**	**15**	P	**P**	**18 01 57.4**	**+0.9**
BHOU				PcP	**pP**	**18 02 23.0**	**-0.1**
BHOU				sP	**sP**	**18 02 32.5**	**-2.4**
VRH	**Novokhopyorsk**	**66.64**	**351**	*eP*	**P**	**18 01 56.4**	**0.0**
VRH				*e*		18 02 24.1	
VRH				*e*PPP	PPP	18 06 00.6	
VRH				*e*S	**S**	**18 10 34.6**	**-4.2**
VRH				*e*PS	**PnS**	**18 11 16.4**	**+1.2**
VRH				*e*SSS	SSS	18 17 53.2	
VRH				pmax	pmax		
	comp=Z,110nm,0.8s						
VRH				pmax	pmax		
	comp=Z,540nm,2.2s						
VRH				smax	smax		
	comp=E,850nm,7.4s						
DOU	**Dourbes**	**66.70**	**16**	P	**P**	**18 01 57.5**	**+0.7**
DOU				PcP	**pP**	**18 02 24.0**	**+0.4**
DOU				sP	**sP**	**18 02 32.8**	**-2.6**
RCHB	**Rochefort**	**66.73**	**16**	P	**P**	**18 01 57.4**	**+0.4**
RCHB				PcP	**pP**	**18 02 24.2**	**+0.5**
MTDJ	**Mount Denham**	**66.74**	**95**	P	**P**	**18 01 57.5**	**-0.1**
VSR	**Storozhevoye**	**66.80**	**352**	*eP*	**P**	**18 01 57.4**	**0.0**
VSR				*e*		18 02 25.6	
VSR				*e*S	**S**	**18 10 36.5**	**-4.3**
VSR				*e*PS		18 11 12.6	
VSR				pmax	pmax		
	comp=Z,290nm,0.9s						
VSR				pmax	pmax		
	comp=Z,960nm,2.2s						
VSR				smax	smax		
	comp=N,2μm,10.6s						
FBE	**Freiberg**	**66.83**	**10**	*eP*	**P**	**18 01 58.9**	**+1.3**
	comp=N,165nm,1.0s,baz=352,slow=6.4						
BRG	**Berggiesshubel**	**66.92**	**10**	*i P*	**P**	**18 01 58.6**	**+0.3**
	comp=N,154nm,1.0s						
BRG				pP	**pP**	**18 02 21.0**	**-4.0**
BRG				PP	**PP**	**18 04 21.0**	**-5.2**
BRG				S	**S**	**18 10 39.0**	**-3.3**
BRG				SS	**SS**	**18 15 03.0**	**+1.6**
BRG				*e*PKPPKP'		18 30 25.0	
	comp=N,27nm,1.4s						
BRG				*i*		18 30 52.2	
	comp=N,129nm,2.0s						
BRG	**Berggiesshubel**	**66.92**	**10**	*i* P	**P**	**18 01 58.6**	**+0.3**
BRG				*PP	**pP**	**18 02 21.0**	**-4.0**
BRG				S	**S**	**18 10 39.0**	**-3.3**
BRG				SS	**SS**	**18 15 03.0**	**+1.6**
BRG				pmax	pmax		
	comp=Z,154nm,1.0s						
BRG	**Berggiesshubel**	**66.92**	**10**	*eP*	**P**	**18 01 59.3**	**+1.0**
	comp=Z,155nm,1.0s,baz=352,slow=6.4						
MOX	**Moxa**	**66.95**	**11**	*eP*	**P**	**18 01 59.6**	**+1.1**
	comp=Z,188nm,0.8s,baz=352,slow=6.4						
YHNB	**Yeheng**	**67.01**	**279**	P	**P**	**18 01 59.0**	**-0.3**
VORD	**Divnogorie**	**67.04**	**352**	*eP*	**P**	**18 01 58.7**	**-0.2**
VORD				*e*		18 02 26.9	
VORD				*e*S	**S**	**18 10 38.4**	**-5.3**
VORD				*e*PS		18 11 25.5	
VORD				pmax	pmax		
	comp=Z,140nm,0.6s						
VORD				pmax	pmax		
	comp=Z,270nm,0.9s						
VORD				smax	smax		
	comp=N,130nm,4.5s						
BTLS	**Baital**	**67.11**	**326**	*eP*	**P**	**18 02 00.1**	**+0.5**
	comp=N,35nm,0.6s,baz=326						
BTLS	**Baital**	**67.11**	**326**	*eP*	**P**	**18 02 00.0**	**+0.5**
BTLS				pmax	pmax		
	comp=Z,35nm,0.6s						
KSP	**Ksiaz**	**67.13**	**8**	*eP*	**P**	**18 02 00.3**	**+0.7**
KSP				*e*S	**S**	**18 10 41.9**	**-2.8**
PLN	**Plauen**	**67.16**	**11**	*eP*	**P**	**18 02 00.9**	**+1.1**
	comp=Z,138nm,1.0s,baz=352,slow=6.4						
TANN	**Tannenbergstha**	**67.26**	**11**	*eP*	**P**	**18 02 01.7**	**+1.2**
	comp=Z,358nm,1.2s,baz=352,slow=6.4						
GUNZ	**Gunzen**	**67.30**	**11**	*eP*	**P**	**18 02 01.9**	**+1.2**
	comp=Z,129nm,1.1s,baz=352,slow=6.4						
PVCC	**Panska Ves**	**67.32**	**9**	*eP*	**P**	**18 02 01.5**	**+0.8**
PVCC				*e*sP	**sP**	**18 02 39.4**	**+0.2**
PVCC				*e*S	**S**	**18 10 43.4**	**-3.6**
PVCC	**Panska Ves**	**67.32**	**9**	*eP*	**P**	**18 02 01.5**	**+0.8**
PVCC				*e*		18 02 39.4	
PVCC				*e*S	**S**	**18 10 43.4**	**-3.6**
WLF	**Walferdange**	**67.33**	**15**	P	**P**	**18 02 01.5**	**+0.7**
WLF	**Walferdange**	**67.33**	**15**	P	**P**	**18 02 01.4**	**+0.6**
WLF				pmax	pmax		
	comp=Z,118nm,1.0s						
WLF	**Walferdange**	**67.33**	**15**	*eP*	**P**	**18 02 02.2**	**+1.4**
	comp=Z,153nm,1.1s,baz=352,slow=6.4						
WLF	**Walferdange**	**67.33**	**15**	P	**P**	**18 02 01.4**	**+0.6**
NACB	**Ninganchiao**	**67.33**	**279**	P	**P**	**18 02 00.9**	**-0.3**
SHLS	**Shalkode**	**67.35**	**322**	*eP*	**P**	**18 02 01.6**	**+0.4**
	comp=Z,87nm,0.7s,baz=321						
SHLS				*i* S	**S**	**18 10 47.8**	**-0.2**
	comp=Z,291nm,5.0s,baz=321						
SHLS	**Shalkode**	**67.35**	**322**	*eP*	**P**	**18 02 01.6**	**+0.4**
SHLS				*i* S	**S**	**18 10 47.7**	**-0.2**
SHLS				pmax	pmax		
	comp=Z,87nm,0.7s						
SHLS				smax	smax		
	comp=N,291nm,5.0s						
CHVC	**Chvalec**	**67.36**	**8**	*eP*	**P**	**18 02 01.0**	**-0.1**
WERN	**Wernitzgruen**	**67.38**	**11**	*eP*	**P**	**18 02 02.5**	**+1.4**
	comp=N,172nm,1.1s,baz=352,slow=6.4						
OSTC	**Ostas**	**67.41**	**8**	*eP*	**P**	**18 02 01.3**	**0.0**
OSTC				*e*S	**S**	**18 10 47.4**	**-0

AKASG				PKPPKP	P'P'df	18 30 18.4	-8.1
	comp=Z,4.0nm,0.8s,baz=176,slow=3.2,SNR=11						
AKASG				LR	LR	18 30 49.0	
	comp=Z,1μm,21.9s,baz=0.0,slow=35						
AKASG	**Malin Array Be**	**67.66**	**359**	P	**P**	**18 02 02.1**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,38nm,0.8s						
AKASG	**Malin Array Be**	**67.66**	**359**	P	**P**	**18 02 02.1**	**-0.8**
AKBB	**Malin Array Si**	**67.66**	**359**	*e*P	**P**	**18 02 02.4**	**-0.4**
AKBB	**Malin Array Si**	**67.66**	**359**	P	**P**	**18 02 01.7**	**-1.1**
AKBB				IAmb	IAmb	18 02 04.1	
	comp=Z,192nm,0.8s						
SATY	**Saty**	**67.74**	**322**	*e*P	**P**	**18 02 05.2**	**+1.5**
	baz=322						
SATY				*e*S	**S**	**18 10 54.1**	**+1.4**
	comp=Z,300nm,4.8s,baz=322						
SATY	**Saty**	**67.74**	**322**	*e*P	**P**	**18 02 05.2**	**+1.5**
SATY				*e*S	**S**	**18 10 54.0**	**+1.4**
SATY				smax	smax		
	comp=E,300nm,4.8s						
PRA	**Prague**	**67.76**	**9**	*e*P	**P**	**18 02 04.7**	**+1.2**
PRA				*e*S	**S**	**18 10 51.9**	**-0.5**
PRA	**Prague**	**67.76**	**9**	*e*P	**P**	**18 02 04.7**	**+1.2**
PRA				*e*S	**S**	**18 10 51.9**	**-0.5**
PRU	**Pruhonice**	**67.85**	**9**	*e*P	**P**	**18 02 04.4**	**+0.3**
PRU				*e*S	**S**	**18 10 53.5**	**+0.1**
PRU				AMS	AMS	18 26 30.0	
	comp=E,2μm,23.0s						
PRU				*e*PKPPKP	**P'P'df**	**18 30 20.7**	**-5.5**
PRU	**Pruhonice**	**67.85**	**9**	*e*P	**P**	**18 02 04.4**	**+0.3**
PRU				*e*S	**S**	**18 10 53.5**	**+0.1**
PRU				MLR	MLR		
	comp=Z,2μm,23.0s						
GRA1	**Grafenberg Arr**	**67.86**	**12**	P	**P**	**18 02 04.2**	**0.0**
GRA1				IAmb	IAmb	18 02 07.3	
	comp=Z,681nm,2.0s						
GRF	**Grafenberg Arr**	**67.86**	**12**	P	**P**	**18 02 04.2**	**0.0**
GRF				pmax	pmax		
	comp=Z,681nm,2.0s						
GRF	**Grafenberg Arr**	**67.86**	**12**	*e*P	**P**	**18 02 05.5**	**+1.3**
	comp=Z,136nm,1.0s,baz=352,slow=6.4						
GRF				*e*X		18 30 53.2	
	baz=164,slow=3.7						
ROTZ	**Rotzenmuhle**	**67.88**	**11**	*e*P	**P**	**18 02 05.6**	**+1.4**
	comp=Z,151nm,1.0s,baz=352,slow=6.4						
KRLC	**Kraliky**	**67.92**	**8**	*e*P	**P**	**18 02 04.4**	**-0.2**
KRLC				*e*x	x	18 02 48.9	
KRLC				*e*S	**S**	**18 10 54.6**	**+0.2**
KRLC	**Kraliky**	**67.92**	**8**	*e*P	**P**	**18 02 04.4**	**-0.2**
KRLC				*e*S	**S**	**18 10 54.6**	**+0.2**
GOPC	**GO Pecny, Ondr**	**67.94**	**9**	*e*P	**P**	**18 02 04.4**	**-0.3**
GOPC				*e*PKPPKP		18 30 23.4	
GOPC	**GO Pecny, Ondr**	**67.94**	**9**	*e*P	**P**	**18 02 04.4**	**-0.3**
SSLB	**Suanglung**	**67.96**	**279**	P	**P**	**18 02 04.5**	**-0.7**
BOAB	**BOACO BROADBAND**	**68.00**	**105**	P	**P**	**18 02 04.9**	**-0.6**
H07N1	**FLORES T-PHASE**	**68.02**	**46**	P	**P**	**18 02 04.5**	**-0.9**
H07N1	**FLORES T-PHASE**	**68.02**	**46**	*e*P	**P**	**18 02 05.7**	**+0.3**
AAA	**Alma-Ata**	**68.03**	**324**	*e*P	**P**	**18 02 07.0**	**+1.6**
	comp=Z,49nm,0.8s,baz=324						
AAA				*e*S	**S**	**18 10 57.2**	**+1.3**
	baz=324						
AAA	**Alma-Ata**	**68.03**	**324**	*e*P	**P**	**18 02 07.0**	**+1.6**
AAA				*e*S	**S**	**18 10 57.2**	**+1.3**
AAA				pmax	pmax		
	comp=Z,49nm,0.8s						
MDOK	**Medeo**	**68.03**	**323**	*e*P	**P**	**18 02 06.5**	**+0.9**
	baz=323						
MDOK				*e*S	**S**	**18 10 56.6**	**+0.4**
	baz=323						
MDOK	**Medeo**	**68.03**	**323**	*e*P	**P**	**18 02 06.4**	**+0.9**
MDOK				*e*S	**S**	**18 10 56.5**	**+0.4**
QZH	**Quanzhou**	**68.07**	**282**	⇑*i*P	**P**	**18 02 06.8**	**+1.0**
QZH				PP	**PP**	**18 04 40.0**	**+3.2**
QZH				S	**S**	**18 10 59.8**	**+3.1**
QZH				ScS	**SKiKP**	**18 11 49.8**	**-0.1**
QZH				SS	**SS**	**18 15 15.8**	**-4.5**
QZH				pmax	pmax		
	comp=Z,1μm,7.3s						
QZH				LR	LR		
	comp=Z,810nm,12.3s						
QZH				LR	LR		
	comp=Z,1μm,12.3s						
QZH				LR	LR		
	comp=Z,1μm,15.2s						
PBCC	**Pribram**	**68.11**	**10**	*e*P	**P**	**18 02 06.2**	**+0.5**
MTBS	**Maitube**	**68.24**	**324**	*e*P	**P**	**18 02 08.3**	**+1.6**
	baz=324						
MTBS	**Maitube**	**68.24**	**324**	*e*P	**P**	**18 02 08.3**	**+1.6**
OKC	**Ostrava-Krasne**	**68.24**	**7**	*e*P	**P**	**18 02 06.2**	**-0.3**
OKC	**Ostrava-Krasne**	**68.24**	**7**	*e*P	**P**	**18 02 06.2**	**-0.3**
MORC	**Moravsky Berou**	**68.27**	**7**	⇓P	**P**	**18 02 07.7**	**+1.0**
MORC	**Moravsky Berou**	**68.27**	**7**	*e*P	**P**	**18 02 06.5**	**-0.3**
MORC				*e*pP	**PcP**	**18 02 31.5**	**-0.2**
MORC				*e*S	**S**	**18 10 58.3**	**-0.2**
MORC	**Moravsky Berou**	**68.27**	**7**	P	**P**	**18 02 06.3**	**-0.5**
MORC				pmax	pmax		
	comp=Z,96nm,0.7s						
MORC	**Moravsky Berou**	**68.27**	**7**	P	**P**	**18 02 06.2**	**-0.5**
H07S1	**FLORES T-PHASE**	**68.28**	**46**	P	**P**	**18 02 08.0**	**+1.1**
	SNR=15						
H07S1	**FLORES T-PHASE**	**68.28**	**46**	*e*P	**P**	**18 02 07.4**	**+0.4**
H07S1	**FLORES T-PHASE**	**68.28**	**46**	*e*P	**P**	**18 02 07.9**	**+0.9**
CLF	**Chambon-Foret**	**68.40**	**18**	P	**P**	**18 02 07.4**	**-0.2**
CLF				IAmb	IAmb	18 02 43.2	
	comp=Z,231nm,1.0s						
SGDS	**Sogindy**	**68.43**	**325**	*e*P	**P**	**18 02 09.4**	**+1.5**
	comp=Z,55nm,1.4s,baz=325						
SGDS				*e*S	**S**	**18 11 02.5**	**+1.8**
	comp=Z,60nm,2.5s,baz=325						
SGDS	**Sogindy**	**68.43**	**325**	*e*P	**P**	**18 02 09.4**	**+1.5**
SGDS				*e*S	**S**	**18 11 02.5**	**+1.8**
SGDS				pmax	pmax		
	comp=Z,55nm,1.4s						
SGDS				smax	smax		
	comp=N,60nm,2.5s						
LVV	**L'vov**	**68.50**	**3**	*e*P	**P**	**18 02 09.0**	**+0.9**
LVV				*e*		18 02 39.1	
LVV				*e*		18 06 27.1	
LVV				*e*S	**S**	**18 11 01.8**	**+0.7**
LVV				*e*		18 11 39.1	
LVV				*e*		18 15 33.0	
TPUB	**Ta-pu**	**68.53**	**279**	P	**P**	**18 02 08.7**	**0.0**
WET	**Wettzell**	**68.55**	**11**	*e*P	**P**	**18 02 10.0**	**+1.5**
	comp=N,230nm,1.4s,baz=352,slow=6.4						
STU	**Stuttgart**	**68.56**	**13**	P	**P**	**18 02 08.9**	**+0.3**
STU				pmax	pmax		
	comp=Z,75nm,1.0s						
STU	**Stuttgart**	**68.56**	**13**	*e*P	**P**	**18 02 09.7**	**+1.1**
	comp=Z,137nm,1.4s,baz=352,slow=6.4						
STU	**Stuttgart**	**68.56**	**13**	P	**P**	**18 02 08.9**	**+0.3**
TREC	**Trest**	**68.61**	**9**	*e*P	**P**	**18 02 08.7**	**-0.2**
TREC	**Trest**	**68.61**	**9**	*e*P	**P**	**18 02 08.7**	**-0.2**
KHC	**Kasperske Hory**	**68.63**	**10**	*e*P	**P**	**18 02 09.3**	**+0.3**
KHC				*es*P	**sP**	**18 02 48.3**	**+0.7**
KHC				*e*S	**S**	**18 11 03.8**	**+1.0**
KHC				*e*PKPPKP	**P'P'df**	**18 30 19.0**	**-6.0**
KHC				*ex*	x	18 30 48.5	
KHC				AMS	AMS	18 32 10.0	
	comp=Z,2μm,16.9s						
KHC	**Kasperske Hory**	**68.63**	**10**	*e*P	**P**	**18 02 09.3**	**+0.3**
KHC				*e*		18 02 48.3	
KHC				*e*S	**S**	**18 11 03.8**	**+1.0**
KHC				MLR	MLR		
	comp=Z,2μm,16.9s						
KHC	**Kasperske Hory**	**68.63**	**10**	P	**P**	**18 02 09.0**	**0.0**
KWP	**Kalwaria Pacla**	**68.65**	**4**	*e*P	**P**	**18 02 10.0**	**+0.9**
KWP				*e*PP	**PP**	**18 04 37.8**	**-3.3**
ACON	**Acoyapa**	**68.65**	**105**	P	**P**	**18 02 09.3**	**-0.2**
ACON				IAmb	IAmb	18 02 38.1	
	comp=Z,267nm,1.5s						
VRAC	**Vranov**	**68.67**	**8**	P	**P**	**18 02 09.4**	**+0.1**
	comp=Z,121nm,0.9s,baz=355,slow=6.1,SNR=115						
VRAC				S	**S**	**18 11 05.7**	**+2.5**
	comp=Z,1.1nm,0.5s,baz=71,slow=23,SNR=5.5						
VRAC	**Vranov**	**68.67**	**8**	⇓P	**P**	**18 02 09.9**	**+0.6**
VRAC	**Vranov**	**68.67**	**8**	*e*P	**P**	**18 02 09.4**	**+0.1**
VRAC				*e*pP	**pP**	**18 02 36.7**	**+0.6**
VRAC				*e*S	**S**	**18 11 03.3**	**0.0**
VRAC				*e*		18 30 17.9	
TWG	**Pinlang**	**68.74**	**279**	P	**P**	**18 02 10.0**	**0.0**
NIE	**Niedzica**	**68.77**	**5**	*e*P	**P**	**18 02 11.2**	**+1.4**
NIE				*e*pP	PcP	18 02 25.7	-8.1
NIE				*e*PP	**PP**	**18 04 39.7**	**-2.5**
NIE				*e*S	**S**	**18 11 00.4**	**-4.1**
ECH	**Echery**	**68.88**	**15**	P	**P**	**18 02 09.9**	**-0.6**
ECH				pmax	pmax		
	comp=Z,71nm,0.9s						
ECH	**Echery**	**68.88**	**15**	P	**P**	**18 02 09.9**	**-0.6**
BFO	**Black Forest**	**68.90**	**14**	P	**P**	**18 02 10.8**	**+0.1**
BFO				pmax	pmax		
	comp=Z,80nm,1.1s						
BFO	**Black Forest**	**68.90**	**14**	*e*P	**P**	**18 02 11.7**	**+1.0**
	comp=Z,152nm,1.4s,baz=352,slow=6.4						
BFO	**Black Forest**	**68.90**	**14**	P	**P**	**18 02 10.8**	**+0.1**
KRUC	**Moravsky**	**68.91**	**8**	*e*P	**P**	**18 02 10.6**	**-0.1**
KRUC				*e*pP	**pP**	**18 02 37.9**	**+0.3**
KRUC				*e*S	**S**	**18 11 06.4**	**+0.4**
KRUC				*e*		18 30 16.6	
SC01	**Santiago de lo**	**68.92**	**88**	P	**P**	**18 02 09.9**	**-1.3**
GEC2	**GERESS Array S**	**68.92**	**10**	*e*P	**P**	**18 02 12.1**	**+1.2**
	comp=Z,120nm,1.1s,baz=352,slow=6.4						
GEC2	**GERESS Array S**	**68.92**	**10**	P	**P**	**18 02 11.0**	**+0.1**
GERES	**GERESS Array B**	**68.92**	**10**	P	**P**	**18 02 10.8**	**-0.2**
	comp=Z,34nm,0.7s,baz=358,slow=4.0,SNR=178						
GERES				S	**S**	**18 11 02.8**	**-3.6**
	comp=Z,0.7nm,0.8s,baz=169,slow=2.7,SNR=1.2						
GERES				PKPPKP		18 30 19.2	
	comp=Z,6.0nm,0.9s,baz=176,slow=3.7,SNR=17						
GERES				LR	LR	18 32 09.3	
	comp=Z,1μm,21.7s,baz=356,slow=36						
GERES	**GERESS Array B**	**68.92**	**10**	P	**P**	**18 02 10.2**	**-0.7**
LANS	**Liptovska Anna**	**69.00**	**6**	*e*P	**P**	**18 02 12.2**	**+0.9**
LANS				pmax	pmax		
	comp=Z,85nm,0.8s						
LANS	**Liptovska Anna**	**69.00**	**6**	*e*P	**P**	**18 02 12.2**	**+0.9**
SDDR	**Presa de Saban**	**69.04**	**89**	P	**P**	**18 02 12.3**	**+0.4**
SDDR				IAmb	IAmb	18 02 40.9	
	comp=Z,317nm,1.1s						
PRVC	**Isla de Provid**	**69.17**	**101**	*e*P	**P**	**18 02 14.1**	**+1.4**
JAVC	**Velka Javorina**	**69.19**	**7**	*e*P	**P**	**18 02 13.4**	**+0.9**
JAVC				*e*S	**S**	**18 11 11.9**	**+2.4**
JAVC				*e*		18 30 16.3	
AAK	**Ala-Archa**	**69.22**	**325**	P	**P**	**18 02 14.3**	**+1.4**
KOLS	**Kolonicke sedl**	**69.33**	**4**	*e*P	**P**	**18 02 12.7**	**-0.6**
KOLS				*e*S	**S**	**18 11 10.6**	**-0.4**
KOLS				pmax	pmax		
	comp=Z,110nm,0.8s						
KOLS	**Kolonicke sedl**	**69.33**	**4**	*e*P	**P**	**18 02 12.7**	**-0.6**
KOLS				*e*S	**S**	**18 11 10.6**	**-0.4**
FUR	**Furstenfeldbru**	**69.38**	**12**	*e*P	**P**	**18 02 14.8**	**+1.2**
	comp=Z,216nm,0.9s,baz=352,slow=6.4						
CD2	**Chengdu**	**69.50**	**297**	⇑*i*P	**P**	**18 02 14.5**	**-0.2**
CD2				PP	**PP**	**18 04 48.3**	**-0.8**
CD2				S	**S**	**18 11 12.5**	**-1.1**
CD2				sS	sS	18 11 57.5	-2.0
CD2				SKS	**SKSac**	**18 12 02.5**	**-2.5**
CD2				SS	**SS**	**18 15 41.5**	**-0.7**
CD2				pmax	pmax		
	comp=Z,250nm,0.7s						
CD2				pmax	pmax		
	comp=Z,1μm,8.6s						
CD2				LR	LR		
	comp=Z,10μm,41.2s						
CD2				LR	LR		
	comp=Z,10μm,42.6s						
CD2				LR	LR		
	comp=Z,4μm,18.0s						
SMOL	**Smolenice**	**69.52**	**8**	*e*P	**P**	**18 02 15.8**	**+1.3**
SMOL				*e*S	**S**	**18 11 12.9**	**-0.3**
SMOL				pmax	pmax		
	comp=Z,56nm,1.0s						
SMOL	**Smolenice**	**69.52**	**8**	*e*P	**P**	**18 02 15.8**	**+1.3**
SMOL				*e*S	**S**	**18 11 12.9**	**-0.3**
VYHS	**Vyhne**	**69.62**	**7**	*e*P	**P**	**18 02 14.9**	**-0.2**
VYHS				*e*S	**S**	**18 11 15.6**	**+1.2**
VYHS				pmax	pmax		
	comp=Z,151nm,1.0s						
VYHS	**Vyhne**	**69.62**	**7**	*e*P	**P**	**18 02 14.9**	**-0.2**
VYHS				*e*S	**S**	**18 11 15.6**	**+1.2**
SRBC	**Serra Branca**	**69.64**	**44**	*e*P	**P**	**18 02 15.8**	**+0.5**
	comp=Z,1μm,1.7s						
UZH	**Uzhgorod**	**69.64**	**4**	*d i*P	**P**	**18 02 15.0**	**-0.2**
UZH				*e**PP	**PcP**	**18 02 38.4**	**+1.0**
UZH				*i*		18 04 47.3	
UZH				*e*PPP	PPP	18 06 27.6	
UZH				*i* S	**S**	**18 11 11.2**	**-3.3**
UZH				*e*		18 11 54.3	
UZH				*i*		18 12 00.0	
MODS	**Modra-Piesok**	**69.65**	**8**	*e*P	**P**	**18 02 15.6**	**+0.3**
MODS				*e*S	**S**	**18 11 15.6**	**+0.8**
MODS				pmax	pmax		
	comp=Z,170nm,1.0s						
MODS	**Modra-Piesok**	**69.65**	**8**	*e*P	**P**	**18 02 15.6**	**+0.3**
MODS				*e*S	**S**	**18 11 15.6**	**+0.8**
PGRA	**Graciosa**	**69.66**	**44**	*e*P	**P**	**18 02 15.6**	**+0.1**
	comp=Z,614nm,1.4s						
PGRA	**Graciosa**	**69.66**	**44**	⇓*i*P	**P**	**18 02 16.7**	**+1.2**
	comp=Z,614nm,1.4s						
PGRA				A	A	18 02 20.2	
	comp=Z,617nm,1.1s						
UBR	**Ueberruh**	**69.74**	**13**	*e*P	**P**	**18 02 17.2**	**+1.2**
	comp=Z,136nm,1.0s,baz=352,slow=6.4						
PCED	**Cedros**	**69.79**	**44**	*e*P	**P**	**18 02 16.7**	**+0.4**
	comp=Z,460nm,1.8s						
DZA	**Taraz**	**69.81**	**328**	*e*P	**P**	**18 02 17.6**	**+1.2**
	baz=328						
DZA	**Taraz**	**69.81**	**328**	*e*P	**P**	**18 02 17.6**	**+1.2**
ZST	**Bratislava**	**69.82**	**8**	*e*P	**P**	**18 02 16.4**	**+0.1**
ZST				*e*S	**S**	**18 11 17.1**	**+0.4**
ZST				pmax	pmax		
	comp=Z,323nm,0.9s						
ZST	**Bratislava**	**69.82**	**8**	*e*P	**P**	**18 02 16.4**	**+0.1**
ZST				*e*S	**S**	**18 11 17.1**	**+0.4**
CALA	**Caldeira**	**69.83**	**44**	*e*P	**P**	**18 02 17.0**	**+0.4**
	comp=Z,724nm,1.9s						
ROSA	**Rosais**	**69.86**	**44**	P	**P**	**18 02 17.9**	**+1.2**
ROSA				IAmb	IAmb	18 02 19.1	
	comp=Z,190nm,1.0s						
ROSA	**Rosais**	**69.86**	**44**	*e*P	**P**	**18 02 17.2**	**+0.5**
	comp=Z,382nm,1.5s						
ROSA	**Rosais**	**69.86**	**44**	⇓*i*P	**P**	**18 02 18.4**	**+1.7**
	comp=Z,382nm,1.5s						
ROSA				A	A	18 02 21.7	
	comp=Z,367nm,1.3s						
RJOB	**Jochberg**	**69.94**	**11**	*e*P	**P**	**18 02 18.8**	**+1.6**
	baz=352,slow=6.4						
MOA	**Molln**	**69.95**	**10**	*i* P	**P**	**18 02 18.0**	**+0.8**
	comp=Z,71nm,1.0s,SNR=35						
PMAN	**Manadas**	**69.99**	**44**	*e*P	**P**	**18 02 17.7**	**+0.2**
	comp=Z,436nm,2.5s						
RETA	**Reutte**	**70.00**	**12**	*i* P	**P**	**18 02 18.5**	**+1.0**
	comp=Z,87nm,1.2s,SNR=29						
CONA	**Conrad Observa**	**70.00**	**9**	*i* P	**P**	**18 02 17.9**	**+0.3**
	comp=Z,148nm,0.9s,SNR=117						
PCAN	**Candelaria**	**70.01**	**44**	*e*P	**P**	**18 02 17.8**	**+0.1**
	comp=Z,274nm,1.8s						
PPNO	**Prainha do Nor**	**70.08**	**44**	*e*P	**P**	**18 02 18.3**	**+0.2**
	comp=Z,383nm,2.1s						
DAVA	**Damuels**	**70.10**	**13**	*i* P	**P**	**18 02 19.3**	**+1.1**
	comp=Z,42nm,0.9s,SNR=17						
DR12	**Loma Pena Alta**	**70.10**	**87**	P	**P**	**18 02 18.9**	**+0.4**
SDD	**Santo Domingo**	**70.14**	**88**	P	**P**	**18 02 18.2**	**-0.4**
MOTA	**Moosalm**	**70.17**	**12**	*i* P	**P**	**18 02 19.6**	**+0.9**
	comp=Z,200nm,1.6s,SNR=52						
WATA	**Walderalm**	**70.23**	**12**	*i* P	**P**	**18 02 19.4**	**+0.4**
	comp=Z,173nm,1.0s,SNR=66						
JTS	**Las Juntas de**	**70.23**	**106**	P	**P**	**18 02 19.5**	**+0.3**
	comp=Z,6.4nm,0.5s,baz=14,slow=8.3,SNR=7.7						
JTS	**Las Juntas de**	**70.23**	**106**	P	**P**	**18 02 18.8**	**-0.5**
SORM	**Soroca**	**70.23**	**360**	⇓P	**P**	**18 02 19.1**	**+0.4**
PSCM	**Serra do Cume**	**70.24**	**43**	*e*P	**P**	**18 02 19.5**	**+0.4**
	comp=Z,318nm,1.5s						
PSZ	**Piszkesteto**	**70.25**	**6**	⇓P	**P**	**18 02 19.6**	**+0.6**
PSZ	**Piszkesteto**	**70.25**	**6**	P	**P**	**18 02 19.2**	**+0.1**
PSZ				pmax	pmax		
	comp=Z,199nm,1.1s						
PSZ	**Piszkesteto**	**70.25**	**6**	P	**P**	**18 02 19.2**	**+0.1**
SQTA	**Sankt Quirin**	**70.30**	**12**	*i* P	**P**	**18 02 19.5**	**+0.1**
	comp=Z,216nm,1.0s,SNR=101						
FETA	**Feichten**	**70.45**	**13**	*i* P	**P**	**18 02 20.7**	**+0.3**
	comp=Z,126nm,1.0s,SNR=56						
KBA	**Koelnbreinsper**	**70.64**	**11**	*e*P	**P**	**18 02 22.5**	**+0.9**
	comp=Z,285nm,0.8s,SNR=37						
ARSA	**Arzberg**	**70.65**	**9**	*i* P	**P**	**18 02 22.4**	**+1.0**
	comp=Z,89nm,1.0s,SNR=28						
BUR08	**Bucovina Ar. S**	**70.70**	**2**	P	**P**	**18 02 21.3**	**-0.6**
SENIN	**Lac Senin/Sane**	**70.72**	**15**	P	**P**	**18 02 22.5**	**+0.4**
BURAR	**Bucovina Array**	**70.73**	**2**	⇓P	**P**	**18 02 21.8**	**-0.2**
BURAR	**Bucovina Array**	**70.73**	**2**	P	**P**	**18 02 21.5**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**70.80**	**13**	P	**P**	**18 02 23.0**	**+0.4**
PCDR	**Punta Cana, DR**	**70.81**	**87**	P	**P**	**18 02 21.3**	**-1.4**
IUG	**Iuzhnay**	**70.84**	**328**	*e*P	**P**	**18 02 24.1**	**+1.3**
	comp=Z,61nm,0.7s,baz=328						
IUG				*i* S	**S**	**18 11 30.2**	**+1.1**
	comp=Z,98nm,2.5s,baz=328						
IUG	**Iuzhnay**	**70.84**	**328**	*e*P	**P**	**18 02 24.1**	**+1.3**
IUG				*i* S	**S**	**18 11 30.1**	**+1.1**
IUG				pmax	pmax		
	comp=Z,61nm,0.7s						
IUG				smax	smax		
	comp=N,98nm,2.5s						
TUE	**Stuetta**	**70.85**	**14**	P	**P**	**18 02 23.1**	**+0.2**
TUE				IAmb	IAmb	18 02 27.4	
	comp=Z,209nm,1.0s						
ABTA	**Abfaltersbach**	**70.90**	**11**	*i* P	**P**	**18 02 23.9**	**+0.8**
	comp=Z,72nm,1.1s,SNR=34						
PRAR	**RASCA**	**70.99**	**1**	⇓P	**P**	**18 02 24.1**	**+0.6**
MYKA	**Terra Mystica**	**71.11**	**10**	*i* P	**P**	**18 02 24.3**	**0.0**
	comp=Z,67nm,0.8s,SNR=28						
ZOU	**Zoufplan**	**71.13**	**11**	P	**P**	**18 02 24.0**	**-0.6**
IAS	**Iasi**	**71.17**	**0**	⇓P	**P**	**18 02 25.0**	**+0.5**
SOKA	**Soboth**	**71.18**	**9**	*i* P	**P**	**18 02 25.1**	**+0.4**
	comp=Z,132nm,1.1s,SNR=46						
TAOE	**Nuku Hiva Isla**	**71.22**	**168**	*e*P	**P**	**18 02 24.7**	**-0.5**
	comp=Z,427nm,1.3s						
TAOE	**Nuku Hiva Isla**	**71.22**	**168**	P	**P**	**18 02 24.7**	**-0.5**
TAOE				IAmb	IAmb	18 02 56.3	
	comp=Z,306nm,1.3s						
PERS	**Pernice**	**71.23**	**9**	*i* P	**P**	**18 02 25.3**	**+0.3**
PERS				*e*PP	**PP**	**18 05 04.7**	**+1.3**
PERS				*e*S	**S**	**18 11 32.1**	**-1.1**
ARCR	**ARCALIA**	**71.24**	**3**	⇓P	**P**	**18 02 26.6**	**+1.6**
PRED	**Cave del Predi**	**71.29**	**11**	P	**P**	**18 02 24.7**	**-0.7**
OBKA	**Obir**	**71.31**	**10**	*i* P	**P**	**18 02 25.4**	**-0.2**
	comp=Z,340nm,0.8s,SNR=172						
CIMO	**Cimolais**	**71.32**	**11**	P	**P**	**18 02 25.0**	**-0.5**
KIS	**Kishinev**	**71.37**	**359**	⇓*i*P	**P**	**18 02 25.7**	**0.0**
	comp=Z,800nm,5.4s						
KIS				*e*pP	**pP**	**18 02 53.0**	**+0.3**
KIS	**Kishinev**	**71.37**	**359**	*d i*P	**P**	**18 02 26.7**	**+1.0**
KIS				*e**PP	**pP**	**18 02 53.0**	**+0.3**
KIS				*i* S	**S**	**18 11 33.0**	**-1.7**
KIS				pmax	pmax		
	comp=Z,800nm,5.4s						
KIS				smax	smax		
	comp=E,1μm,6.2s						
KIS				MLR	MLR		
	comp=Z,450nm,18.0s						
STAL	**STALIGIAL**	**71.40**	**11**	P	**P**	**18 02 25.6**	**-0.4**
BIZ	**Bicaz**	**71.42**	**1**	⇓P	**P**	**18 02 26.6**	**+0.6**
SSB	**Saint Sauveur**	**71.42**	**17**	P	**P**	**18 02 26.1**	**0.0**
SSB				pmax	pmax		
	comp=Z,75nm,1.2s						
SSB	**Saint Sauveur**	**71.42**	**17**	P	**P**	**18 02 26.1**	**0.0**
MILM	**Milestii Mici**	**71.44**	**359**	⇓P	**P**	**18 02 26.2**	**+0.1**
PSET	**Sete Cidades**	**71.49**	**42**	*e*P	**P**	**18 02 27.1**	**+0.5**
	comp=Z,705nm,1.1s						
PSET	**Sete Cidades**	**71.49**	**42**	⇓*i*P	**P**	**18 02 27.6**	**+1.0**
	comp=Z,705nm,1.1s						
PSET				A	A	18 02 34.9	
	comp=Z,806nm,2.2s						
KOGS	**Kog**	**71.50**	**9**	*i* P	**P**	**18 02 27.0**	**+0.5**
KOGS				*e*		18 03 07.6	
KOGS				*e*S	**S**	**18 11 37.1**	**+0.9**
KOGS				*e*		18 12 19.9	
CTI	**Castel Tesino**	**71.51**	**12**	P	**P**	**18 02 26.6**	**-0.1**
CTI				pmax	pmax		
	comp=Z,315nm,1.8s						
CTI	**Castel Tesino**	**71.51**	**12**	P	**P**	**18 02 26.6**	**-0.1**
BEHE	**Becsehely**	**71.51**	**8**	⇓*i*P	**P**	**18 02 30.6**	**+4.0**
CADS	**Cadrg**	**71.52**	**10**	*i* P	**P**	**18 02 26.4**	**-0.3**
	comp=Z,475nm,1.9s						
CADS				*e*		18 20 37.6	
PDA	**Ponta Delgada**	**71.58**	**42**	*e*P	**P**	**18 02 28.5**	**+1.4**
	comp=Z,891nm,1.6s						
PCALD	**Caldeiras da R**	**71.58**	**42**	*e*P	**P**	**18 02 27.7**	**+0.5**
	comp=Z,640nm,1.8s						
CJR	**Cluj-Napoca**	**71.59**	**3**	⇓P	**P**	**18 02 28.7**	**+1.6**
GRON	**Grota Negra**	**71.60**	**42**	*e*P	**P**	**18 02 28.1**	**+0.8**
	comp=Z,641nm,1.5s						
CMLA	**Cha da Macela**	**71.60**	**42**	*e*P	**P**	**18 02 28.0**	**+0.7**
	comp=Z,934nm,2.3s						
CMLA	**Cha da Macela**	**71.60**	**42**	⇓*i*P	**P**	**18 02 28.8**	**+1.5**
	comp=Z,934nm,2.3s						
CMLA				A	A	18 02 33.0	
	comp=Z,812nm,1.6s						
BART	**Pico Bartolome**	**71.70**	**42**	*e*P	**P**	**18 02 28.8**	**+0.8**
	comp=Z,712nm,1.4s						
**K

comp=Z,665nm,1.3s
PSMN A A 18 02 36.9
comp=Z,744nm,1.7s
VARL Varlezi 72.47 0 ⇓P P 18 02 33.5 +1.2
VRI Vrincioaia 72.49 1 ⇓P P 18 02 33.9 +1.4
MTP Monte Pirata 72.50 84 P P 18 02 33.2 +0.3
PLOR Plostina 72.51 1 ⇓P P 18 02 33.9 +1.3
ODBI Odobesti 72.60 1 ⇑P P 18 02 34.8 +1.8
PCAB Cabril 72.62 28 *eP* **P 18 02 34.6 +1.3**
comp=Z,294nm,1.9s
BZS Buzias 72.62 5 ⇓P P 18 02 34.1 +0.9
GOF Gofitskoye 72.63 349 *⇓iP* **P 18 02 34.4 +1.1**
GOF *eS* **S 18 11 49.8 +0.6**
GOF pmax pmax
comp=Z,344nm,0.8s
GOF smax smax
comp=E,65nm,1.1s
PETR Petresti 72.64 1 ⇓P P 18 02 34.9 +1.6
TUDR 72.77 0 ⇓P P 18 02 35.5 +1.4
PBRG Braganca 72.80 27 *eP* **P 18 02 35.9 +1.5**
comp=E,222nm,2.0s
PBRG Braganca 72.80 27 *e*PP PP 18 05 12.8 -4.2
BISRR Bisoca 72.81 1 ⇓P P 18 02 36.1 +1.7
BANR Banloc 72.84 5 ⇓P P 18 02 36.1 +1.7
LOT Lotru 72.86 3 ⇓P P 18 02 35.2 +0.4
MLR Muntele Rosu 72.86 2 P P 18 02 35.0 +0.1
comp=E,61nm,0.7s,baz=315,slow=1.2,SNR=72
MLR Muntele Rosu 72.86 2 ⇓P P 18 02 36.5 +1.7
MLR Muntele Rosu 72.86 2 P P 18 02 35.0 +0.1
MLR Muntele Rosu 72.86 2 P P 18 02 34.9 +0.1
MLR IAmb IAmb 18 02 38.1
comp=Z,735nm,1.9s
SCHL Schela 72.86 0 ⇓P P 18 02 36.1 +1.5
VOIR 72.90 2 ⇑P P 18 02 36.3 +1.3
NEHR Nehoiu 72.93 1 ⇓P P 18 02 36.3 +1.2
ARR Arges 72.96 3 ⇓P P 18 02 36.6 +1.3
GRER 72.98 1 ⇑P P 18 02 37.1 +1.8
MSSA Maissana 73.00 14 P P 18 02 35.1 -0.5
FRGS Fruska Gora 73.00 6 *⇓iP* **P 18 02 36.0 +0.5**
PVRL Vila Real 73.10 27 *eP* **P 18 02 37.7 +1.5**
comp=Z,354nm,1.6s
ZCCA Zocca 73.12 13 P P 18 02 37.4 +1.1
TLCR 73.18 359 ⇑P P 18 02 37.3 +0.8
CFR Carcaliu 73.19 360 ⇓P P 18 02 36.6 +0.1
VLC Villacollemand 73.25 13 P P 18 02 36.6 -0.4
BLY Banja Luka 73.25 8 *⇓iP* **P 18 02 37.5 +0.5**
ANN Anapa 73.30 353 *diP* **P 18 02 37.2 0.0**
ANN *e**PP **pP 18 03 04.1 -0.1**
ANN *e* 18 05 22.2
ANN *e*PPP PPP 18 07 06.9
ANN *eS* **S 18 11 55.4 -1.3**
ANN *e*SS **SS 18 16 40.1 +0.9**
ANN pmax pmax
comp=Z,260nm,2.1s
SIM Simferopol' 73.31 356 *diP* **P 18 02 37.4 +0.1**
SIM *i* 18 02 52.7
SIM *i **PP **sP 18 03 14.0 -1.8**
SIM pmax pmax
comp=Z,276nm,1.5s
MVO Moncorvo 73.36 27 *eP* **P 18 02 39.2 +1.5**
comp=Z,235nm,1.7s
MVO *eS* **S 18 11 58.3 +0.6**
HERR Herculane 73.39 4 ⇑P P 18 02 38.5 +0.7
PLAR PLOIESTI 73.44 2 ⇓P P 18 02 39.5 +1.5
PGOR Pogoanele 73.45 1 ⇓P P 18 02 39.6 +1.5
MDVR Moldovita 73.46 5 ⇓P P 18 02 39.1 +0.9
STFAR Stefanesti-Arg 73.47 2 ⇓P P 18 02 39.9 +1.6
BCIP Isla Barro Col 73.56 102 *eP* **P 18 02 41.9 +2.8**
BCIP Isla Barro Col 73.56 102 P P 18 02 38.9 -0.2
BCIP pmax pmax
comp=Z,752nm,1.6s
BCIP Isla Barro Col 73.56 102 P P 18 02 38.9 -0.2
BCIP IAmb IAmb 18 03 08.0
comp=Z,752nm,1.6s
TEKS Tekeris 73.59 6 *⇓iP* **P 18 02 39.7 +0.7**
PVIS Viseu 73.60 28 *eP* **P 18 02 40.6 +1.5**
comp=Z,259nm,1.5s
PVIS Viseu 73.60 28 *e*PP PP 18 05 24.1 +0.3
SRE Strehaia 73.63 4 ⇓P P 18 02 40.6 +1.5
HARR Harsova 73.68 0 ⇑P P 18 02 40.3 +0.9
KVAR Kislovodsk Arr 73.75 349 P P 18 02 41.0 +0.9
comp=Z,33nm,0.6s,baz=268,slow=23,SNR=16
AMRR Amara 73.75 1 ⇓P P 18 02 40.8 +1.0
KIV Kislovodsk 73.75 349 *iP* **P 18 02 40.8 +0.7**
SNR=44
KIV Kislovodsk 73.75 349 P P 18 02 39.9 -0.1
KIV Kislovodsk 73.75 349 *eP* **P 18 02 40.2 +0.2**
KIV *e**SP **sP 18 03 20.2 +1.4**
KIV *e* 18 05 25.9
KIV *eS* **S 18 12 02.2 0.0**
KIV *e*SS **SS 18 16 50.7 +4.2**
KIV pmax pmax
comp=Z,477nm,1.0s
KIV pmax pmax
comp=Z,1μm,4.1s
KIV Kislovodsk 73.75 349 P P 18 02 39.7 -0.3
HUMR Humele 73.81 2 ⇓P P 18 02 40.6 +0.4
TLBR Topalu 73.82 0 ⇓P P 18 02 41.1 +0.8
LEHL Lehliu 73.89 1 ⇓P P 18 02 41.5 +0.8
TIRR Tirgusor 73.91 360 ⇑P P 18 02 41.2 +0.4
TIRR Tirgusor 73.91 360 P P 18 02 40.4 -0.4
TIRR pmax pmax
comp=Z,2μm,1.9s
TIRR Tirgusor 73.91 360 P P 18 02 40.4 -0.4
TIRR Tirgusor 73.91 360 *eP* **P 18 02 41.7 +0.9**
KBZ Khabaz 73.96 349 P P 18 02 41.2 +0.1
comp=Z,80nm,0.9s,baz=355,slow=1.7,SNR=50
KBZ S **S 18 12 02.8 -1.4**
comp=Z,3.6nm,1.0s,baz=319,slow=18,SNR=1.7
KBZ LR LR 18 39 05.1
comp=Z,2μm,18.5s,baz=8.0,slow=39
KBZ Khabaz 73.96 349 *ceP* **P 18 02 42.0 +0.9**
KBZ pmax pmax
comp=Z,92nm,0.9s
OSSC Osservatorio P 73.97 13 P P 18 02 41.2 0.0
COI Coimbra 73.97 28 P P 18 02 41.9 +0.7
COI pmax pmax
comp=Z,985nm,1.9s
COI Coimbra 73.97 28 P P 18 02 41.9 +0.7
COI IAmb IAmb 18 02 45.4
comp=Z,985nm,1.9s
COI Coimbra 73.97 28 *eP* **P 18 02 42.8 +1.6**
comp=Z,576nm,1.8s
SABA Saba 74.00 83 *eP* **P 18 02 42.2 +0.5**
SABA Saba 74.00 83 P P 18 02 40.8 -0.9
CVDA Cernavoda 74.03 0 ⇓P P 18 02 42.9 +1.5
DIVS Divibare 74.07 6 *⇓iP* **P 18 02 40.7 -1.1**
DIVS Divibare 74.07 6 P P 18 02 41.2 -0.6
PCAS Casmilo, Conde 74.10 28 *eP* **P 18 02 43.6 +1.6**
comp=Z,554nm,1.8s
PCAS Casmilo, Conde 74.10 28 *e*PP PP 18 05 30.5 +2.5
SGRR Singureni 74.13 2 ⇓P P 18 02 42.2 +0.2
MFTR Murfatlar 74.19 360 ⇓P P 18 02 43.5 +1.1
GROC Groznyy 74.19 347 *eP* **P 18 02 43.4 +0.9**
GROC *e* 18 02 59.1
GROC *e**PP **pP 18 03 13.3 +3.7**
GROC *e**SP **sP 18 03 24.3 +3.1**
GROC *eS* **S 18 12 05.9 -0.9**
GROC S **ScS 18 12 46.8 +3.9**
GROC *e**SS **sS 18 12 56.7 +3.3**
GROC pmax pmax
comp=Z,56nm,1.0s
COPA Copaceanca 74.21 2 ⇑P P 18 02 42.6 +0.1
SEUS St. Eustatius 74.23 83 *eP* **P 18 02 39.1 -3.9**
MAK Makhachkala 74.23 345 *eP* **P 18 02 43.5 +0.8**
MAK *e**PP **pP 18 03 08.9 -0.9**
MAK *e**SP **sP 18 03 20.1 -1.3**
MAK *e* 18 05 29.4
MAK *e*PPP PPP 18 07 16.4
MAK *eS* **S 18 12 07.5 +0.2**
MAK *e**SS **sS 18 12 55.5 +1.7**
MAK *e*SS **SS 18 16 53.9 +0.4**
MAK pmax pmax
comp=Z,390nm,1.0s
MAK MLR MLR
comp=Z,2μm,16.0s
ICOR Ion Corvin 74.25 0 ⇓P P 18 02 44.1 +1.4
BBLS Lazići 74.27 7 *⇓iP* **P 18 02 44.0 +1.0**
EFOR EFORIE 74.28 360 ⇓P P 18 02 44.3 +1.4
MURB Monte Urbino 74.35 12 P P 18 02 43.4 -0.1
MURB IAmb IAmb 18 02 47.0
comp=Z,218nm,0.9s
SOC Sochi 74.36 351 *diP* **P 18 02 44.0 +0.5**

SOC *e**PP **pP 18 03 09.5 -1.0**
SOC *e**SP **sP 18 03 22.5 +0.4**
SOC *e*PPP PPP 18 07 15.7
SOC *i* S **S 18 12 06.2 -2.5**
SOC *e**SS **sS 18 12 56.9 +1.6**
SOC pmax pmax
comp=Z,55nm,0.6s
SMRC Santa Marta, M 74.43 96 *eP* **P 18 02 44.9 +0.7**
SKI Saint Kitts 74.48 82 *eP* **P 18 02 44.3 -0.2**
SKI Saint Kitts 74.48 82 P P 18 02 44.2 -0.3
SKI Saint Kitts 74.48 82 P P 18 02 44.2 -0.3
PCBR Castelo Branco 74.53 28 *eP* **P 18 02 45.5 +1.0**
comp=Z,307nm,1.7s
PCBR Castelo Branco 74.53 28 *e*PP PP 18 05 29.2 -2.4
PSBE So Bento 74.54 29 *eP* **P 18 02 47.0 +2.4**
comp=Z,358nm,2.1s
PSBE So Bento 74.54 29 *e*PP PP 18 05 35.1 +3.3
MANR Mangalia 74.55 360 ⇑P P 18 02 45.9 +1.4
ANWB Willy Bob 74.64 81 *eP* **P 18 02 44.7 -0.7**
ANWB Willy Bob 74.64 81 P P 18 02 44.3 -1.1
CASP Castiglione de 74.65 13 P P 18 02 44.7 -0.4
CASP IAmb IAmb 18 02 47.3
comp=Z,462nm,1.8s
PSN Preselentsi 74.68 360 *eP* **P 18 02 46.6 +1.3**
RAZG Razgrad 74.79 1 ⇑P P 18 02 46.3 +0.4
ZEI Tsey 74.80 348 *eP* **P 18 02 45.8 -0.5**
ZEI pmax pmax
comp=Z,140nm,1.6s
PLE Pljevlja 74.80 7 *⇓iP* **P 18 02 46.9 +0.8**
NRCA Norcia 74.83 11 P P 18 02 46.1 -0.2
SJES Sjenica 74.90 6 *⇓iP* **P 18 02 46.2 -0.5**
UPM Unac-Piva 74.90 7 *⇓iP* **P 18 02 46.5 -0.3**
UPM Unac-Piva 74.90 7 *eP* **P 18 02 46.2 -0.6**
LATE Laterza 74.92 12 P P 18 02 46.2 -0.5
PMRV Marv??o 74.94 28 *eP* **P 18 02 47.8 +0.9**
comp=Z,237nm,1.8s
PMRV Marv??o 74.94 28 *e*PP PP 18 05 27.7 -7.4
PMRV *eS* **S 18 12 12.6 -2.8**
UCM Universidad Co 74.95 24 *⇓iP* **P 18 02 47.1 +0.1**
UCM *i* S **S 18 12 15.8 +0.3**
PMAFR Mafra 74.97 29 *eP* **P 18 02 48.1 +1.1**
comp=Z,847nm,1.9s
KMI Kunming 74.99 295 *⇓eP* **P 18 02 47.5 -0.1**
KMI S **S 18 12 09.3 -7.4**
KMI pmax pmax
comp=Z,40nm,1.0s
KMI pmax pmax
comp=Z,720nm,9.0s
KMI LR LR
comp=Z,2μm,18.8s
KMI LR LR
comp=Z,3μm,17.2s
KMI LR LR
comp=Z,3μm,35.9s
URIC Uribia, Colomb 75.02 93 *eP* **P 18 02 48.8 +1.2**
CHVG Ch'k'valeri 75.03 349 ⇓P P 18 02 49.6 +2.2
SZH Strazhica 75.08 2 *eP* **P 18 02 47.9 +0.3**
SJCC San Jacinto, C 75.09 97 *eP* **P 18 02 49.1 +1.0**
PMTG Montargil 75.10 28 *eP* **P 18 02 48.6 +0.8**
comp=Z,284nm,2.0s
PMTG *e*pP **pP 18 03 14.4 -0.6**
PVL Pavlikeni 75.12 2 *eP* **P 18 02 48.9 +1.1**
BPA Boggy Peak 75.15 82 *eP* **P 18 02 47.9 -0.5**
PRD Provadia 75.16 1 *eP* **P 18 02 49.6 +1.6**
BRY Bratogost 75.18 7 *⇓iP* **P 18 02 48.6 +0.2**
BRY Bratogost 75.18 7 *⇓iP* **P 18 02 47.0 -1.4**
CAPC Capurgana 75.18 100 *eP* **P 18 02 48.2 -0.3**
ANBD Bethesda, Anti 75.19 82 *eP* **P 18 02 48.4 -0.1**
LIS Lisbon 75.22 29 *eP* **P 18 02 48.8 +0.3**
LIS AmB AmB 18 02 54.2
comp=Z,621nm,2.0s
LIS *eS* **S 18 12 19.6 +1.2**
LIS Lisbon 75.22 29 *eP* **P 18 02 48.8 +0.3**
LIS *eS* **S 18 12 19.6 +1.2**
LIS pmax pmax
comp=Z,621nm,2.0s
LIS Lisbon 75.22 29 *eP* **P 18 02 49.9 +1.4**
comp=Z,619nm,1.9s
MLYT Lee's Yard 75.27 82 *eP* **P 18 02 48.8 -0.2**
IVA Berane 75.28 6 *⇓iP* **P 18 02 49.4 +0.5**
KOME Kolasin 75.28 7 *⇓iP* **P 18 02 49.5 +0.6**
NKY Niksic 75.29 7 *⇓iP* **P 18 02 49.2 +0.2**
AQU L'Aquila 75.33 11 P P 18 02 49.6 +0.4
AQU pmax pmax
comp=Z,176nm,0.9s
AQU L'Aquila 75.33 11 *⇓iP* **P 18 02 50.0 +0.8**
AQU L'Aquila 75.33 11 P P 18 02 49.6 +0.4
AQU IAmb IAmb 18 04 01.6
comp=Z,176nm,0.9s
NKME Niksic 75.34 7 *⇓iP* **P 18 02 49.4 +0.2**
ESBB Sonseca Array 75.42 25 P P 18 02 49.9 +0.2
ESDC Sonseca Array 75.42 25 P P 18 02 49.9 +0.1
comp=Z,46nm,0.7s,baz=342,slow=5.6,SNR=174
ESDC S **S 18 12 19.0 -1.8**
comp=Z,0.4nm,0.6s,baz=330,slow=38,SNR=2.0
ESDC PKKPbc **PKKPbc 18 22 08.1 +2.7**
comp=Z,0.8nm,0.8s,baz=196,slow=0.5,SNR=4.5
ESDC PKPPKP 18 30 10.6
comp=Z,2.6nm,1.1s,baz=276,slow=0.5,SNR=7.5
ESDC Sonseca Array 75.42 25 P P 18 02 49.7 0.0
LCBC Los crdobas, 75.45 99 *eP* **P 18 02 51.3 +1.3**
PAB San Pablo 75.47 25 P P 18 02 49.6 -0.4
PAB pmax pmax
comp=Z,81nm,1.1s
PAB San Pablo 75.47 25 P P 18 02 49.6 -0.4
CEME Cevo 75.56 7 *⇓iP* **P 18 02 50.7 +0.3**
ARGC Ariguani, Magd 75.56 96 *eP* **P 18 02 51.3 +0.6**
PVY Plav 75.56 6 *⇓iP* **P 18 02 50.7 +0.2**
LSA Lhasa 75.61 307 P P 18 02 52.8 +1.4
LSA pmax pmax
comp=Z,480nm,0.9s
LSA LR LR
comp=Z,4μm,14.2s
LSA LR LR
comp=Z,16μm,15.7s
LSA Lhasa 75.61 307 P P 18 02 52.1 +0.7
LSA Lhasa 75.61 307 P P 18 02 52.3 +0.8
LSA Lhasa 75.61 307 P P 18 02 51.4 0.0
LSA pmax pmax
comp=Z,97nm,0.7s
LSA Lhasa 75.61 307 P P 18 02 51.4 0.0
HCY Herceg Novi 75.63 7 *⇓iP* **P 18 02 50.6 -0.2**
HCY Herceg Novi 75.63 7 *⇓iP* **P 18 02 50.4 -0.4**
VTS Vitosha 75.67 4 *eP* **P 18 02 51.3 +0.1**
PDG Podgorica 75.69 7 ⇓P P 18 02 51.5 +0.5
PDG Podgorica 75.69 7 *⇓iP* **P 18 02 51.3 +0.2**
PDG Podgorica 75.69 7 P P 18 02 50.2 -0.9
TTG Podgorica 75.69 7 *⇓iP* **P 18 02 51.4 +0.3**
INTR Introdacqua 75.72 11 P P 18 02 51.4 0.0
PGB Panagyurishte 75.77 3 *eP* **P 18 02 51.5 -0.1**
BUM Brajici-Budva 75.80 7 *⇓iP* **P 18 02 52.0 +0.2**
ABD La Joyeuse, An 75.81 82 *eP* **P 18 02 51.7 -0.5**
JMB Yambol 75.89 1 *eP* **P 18 02 52.8 +0.6**
DRME Dracevica, Mon 75.93 7 *⇓iP* **P 18 02 53.1 +0.6**
DRME Dracevica, Mon 75.93 7 *⇓iP* **P 18 02 53.0 +0.6**
PNCL Nicolau / Gran 75.94 29 *eP* **P 18 02 53.7 +1.1**
comp=Z,399nm,1.8s
CBE Ff, Capester 76.11 82 *eP* **P 18 02 53.4 -0.5**
SGRT San Giovanni R 76.13 9 P P 18 02 53.1 -0.7
ULC Ulcinj 76.16 7 *⇓iP* **P 18 02 53.9 +0.1**
PBEJ Beja 76.18 29 *eP* **P 18 02 55.0 +1.1**
comp=Z,158nm,2.0s
PBEJ Beja 76.18 29 *e*PP PP 18 05 43.3 -2.3
AKH Akhalkalaki 76.20 348 ⇑P P 18 02 55.7 +1.4
AKH Akhalkalaki 76.20 348 P P 18 02 54.3 +0.1
AKH pmax pmax
comp=Z,69nm,1.2s
AKH Akhalkalaki 76.20 348 P P 18 02 54.3 +0.1
PLD Plovdiv 76.22 3 *eP* **P 18 02 54.6 +0.5**
SKO Skopje 76.25 5 *iP* **P 18 02 55.5 +1.2**
TDBA Terre de Bas, 76.29 82 *eP* **P 18 02 55.1 +0.3**
DIM Dimitrovgrad 76.29 2 *eP* **P 18 02 55.9 +1.4**
TGY Tagaytay City 76.34 274 P P 18 02 55.8 +0.6
comp=Z,281nm,0.6s,baz=324,slow=4.7,SNR=11
BCA Borcka 76.34 350 ⇓P P 18 02 55.4 +0.6
MAGL Barre de l'ile 76.37 82 *eP* **P 18 02 55.2 -0.1**
KKB Krupnik 76.42 4 *eP* **P 18 02 55.9 +0.6**
PTEO Sao Teotonio 76.44 29 *eP* **P 18 02 56.6 +1.2**
comp=Z,380nm,1.9s
PTEO Sao Teotonio 76.44 29 *e*PP PP 18 05 50.3 +2.5
PCVE Castro Verde 76.52 29 *eP* **P 18 02 56.9 +1.0**
comp=Z,148nm,1.8s
PCVE *e*pP **pP 18 03 23.0 -0.1**

PCVE Castro Verde 76.52 29 *e*PP PP 18 05 49.5 +1.1
DIKM Dikmen 76.55 354 ⇓P P 18 02 57.5 +1.5
STIP Stip 76.56 5 *iP* **P 18 02 55.1 -0.9**
SMLC San Martn de 76.57 97 *eP* **P 18 02 56.8 +0.3**
RZN Rozhen 76.64 3 *eP* **P 18 02 57.5 +0.8**
MORF Marmelete 76.69 29 *eP* **P 18 02 57.2 +0.2**
MORF AMb AMB 18 03 01.6
comp=Z,364nm,1.8s
MORF *eS* **S 18 12 35.7 +1.0**
MORF Marmelete 76.69 29 *eP* **P 18 02 57.1 +0.2**
MORF *eS* **S 18 12 35.7 +1.0**
MORF pmax pmax
comp=Z,364nm,1.8s
MORF Marmelete 76.69 29 *eP* **P 18 02 58.3 +1.4**
comp=Z,369nm,1.8s
MORF *e*pP **pP 18 03 25.4 +1.2**
MORF Marmelete 76.69 29 *e*PP PP 18 05 49.4 -0.5
KDZ Kurdzhali 76.69 2 *eP* **P 18 02 57.9 +1.1**
MMB Musomiste 76.72 3 *eP* **P 18 02 57.9 +0.9**
DSLB Salisbury 76.75 82 *eP* **P 18 02 57.3 -0.1**
PAOL Paolisi 76.75 10 P P 18 02 56.9 -0.3
PMOR Pomariorio Ree 76.80 176 *eP* **P 18 02 57.0 -0.5**
comp=Z,291nm,1.3s
PMOR *e*pP **pP 18 03 23.4 -1.5**
comp=Z,206nm,1.1s
PMOR Pomariorio Ree 76.80 176 *eT* T 19 25 19.4
comp=Z,72nm,0.3s
TIR Tirane 76.80 6 ⇓P P 18 02 58.5 +1.1
TIR Tirane 76.80 6 P P 18 02 58.1 +0.7
TIR pmax pmax
comp=Z,126nm,0.9s
TIR Tirane 76.80 6 P P 18 02 58.1 +0.7
UREC San Jos de Ur 76.81 98 *eP* **P 18 02 57.6 -0.2**
PVAQ Vaqueiros 76.81 29 P P 18 02 57.5 0.0
PVAQ Vaqueiros 76.81 29 *eP* **P 18 02 58.9 +1.4**
comp=Z,315nm,1.4s
PVAQ Vaqueiros 76.81 29 *e*PP PP 18 05 51.8 +1.0
PVAQ *eS* **S 18 12 33.4 -2.5**
PFVI Vila Bisbo 76.81 30 P P 18 02 58.1 +0.6
PFVI Vila Bisbo 76.81 30 *eP* **P 18 02 58.5 +1.0**
comp=Z,341nm,2.0s
BAI Bari 76.86 9 *⇑iP* **P 18 02 58.7 +1.0**
MDN Morne-Daniel 76.86 82 *eP* **P 18 02 58.3 +0.2**
PBDV Barranco-do-Ve 76.91 29 *eP* **P 18 02 59.5 +1.4**
comp=Z,369nm,2.3s
PBDV *e*pP **pP 18 03 26.0 +0.5**
PBDV Barranco-do-Ve 76.91 29 *e*PP PP 18 05 47.3 -4.5
DLPL La Plaine 76.92 82 *eP* **P 18 02 59.0 +0.6**
VAY Valandovo 76.95 4 *iP* **P 18 02 59.3 +1.1**
VAH Vaihoa 77.04 176 *eP* **P 18 02 58.3 -0.5**
comp=Z,438nm,1.3s
VAH *e*pP **pP 18 03 24.8 -1.5**
comp=Z,365nm,1.0s
OHR Ohrid 77.08 6 *iP* **P 18 02 59.8 +0.7**
DBBC Dabeiba 77.13 99 *eP* **P 18 03 00.2 +0.5**
QIZ Qiongzhong 77.19 286 P P 18 02 59.8 -0.1
QIZ pP **pP 18 03 26.5 -0.9**
QIZ sP **sP 18 03 36.8 -2.2**
QIZ PP **PP 18 05 53.5 -1.2**
QIZ S **S 18 12 40.3 -0.2**
QIZ SS **SS 18 17 40.5 +0.8**
QIZ pmax pmax
comp=Z,15nm,0.9s
QIZ LR LR
comp=Z,2μm,18.6s
QIZ LR LR
comp=Z,2μm,16.7s
QIZ LR LR
comp=Z,2μm,40.7s
QIZ Qiongzhong 77.19 286 P P 18 02 59.7 -0.1
AFI Afiamalu 77.25 200 P P 18 02 59.8 -0.4
comp=Z,66nm,0.9s,baz=304,slow=2.5,SNR=4.6
AFI Afiamalu 77.25 200 P P 18 03 00.1 -0.1
AFI pmax pmax
comp=Z,159nm,1.2s
AFI Afiamalu 77.25 200 P P 18 03 00.1 -0.1
MATE Matera 77.30 9 ⇓P P 18 03 01.1 +0.9
ZARC Zaragoza, Cauc 77.35 98 *eP* **P 18 03 00.5 -0.3**
CGL1 Ceglie Messapi 77.35 8 *⇓iP* **P 18 03 01.2 +0.7**
OCAC Ocana 77.42 96 *eP* **P 18 03 01.6 +0.2**
FNA Florina 77.44 5 P P 18 03 00.5 -0.5
FNA pmax pmax
comp=Z,164nm,0.6s
FNA Florina 77.44 5 P P 18 03 00.5 -0.5
FNA IAmb IAmb 18 03 02.3
comp=Z,164nm,0.6s
ALN Alexandroupoli 77.45 2 P P 18 03 00.9 -0.1
ALN pmax pmax
comp=Z,194nm,0.7s
ALN Alexandroupoli 77.45 2 P P 18 03 00.9 -0.1
ALN IAmb IAmb 18 03 04.8
comp=Z,194nm,0.7s
TAR1 Taranto 77.46 8 *⇓iP* **P 18 03 01.6 +0.5**
FDF Fort de France 77.49 82 *eP* **P 18 03 01.4 -0.2**
FDF Fort de France 77.49 82 P P 18 03 00.9 -0.7
FDF pmax pmax
comp=Z,1μm,1.5s
FDF Fort de France 77.49 82 P P 18 03 00.9 -0.7
GEYT Alibeck 77.50 336 P P 18 03 02.3 +0.9
comp=Z,73nm,0.9s,baz=343,slow=4.6,SNR=42
GEYT LR LR 18 42 55.0
comp=Z,2μm,18.5s,baz=30,slow=40
GEYT Alibeck 77.50 336 P P 18 03 01.8 +0.4
GYA0 ALIBECK ARRAY 77.50 336 P P 18 03 01.6 +0.2
GYA0B ALIBECK ARRAY 77.50 336 P P 18 03 01.6 +0.2
ILAM Ilet Lapin Mar 77.58 82 *eP* **P 18 03 01.4 -0.6**
BIM Bigot 77.71 82 *eP* **P 18 03 03.2 +0.3**
VSL Villasalto 77.74 15 P P 18 03 02.4 -0.3
TOKA Tokat 77.81 353 P P 18 03 04.0 +0.8
SLVN Son La 77.82 292 P P 18 03 02.8 -0.7
SLVN IAmb IAmb 18 03 08.2
comp=Z,311nm,0.8s
MDUB Mudurnu 77.86 358 P P 18 03 04.6 +1.2
MPOM Morne Pois Mar 77.87 82 *eP* **P 18 03 02.5 -1.2**
H05S1 Guadeloupe/Mar 77.90 82 P P 18 03 03.2 -0.7
NIL Nilore 77.96 323 P P 18 03 03.6 -0.5
NIL Nilore 77.96 323 P P 18 03 03.5 -0.5
NIL pmax pmax
comp=Z,175nm,0.6s
NIL Nilore 77.96 323 P P 18 03 03.5 -0.5
NIL IAmb IAmb 18 03 08.3
comp=Z,175nm,0.6s
SCTE Santa Cesarea 77.99 8 P P 18 03 04.8 +0.8
SCTE IAmb IAmb 18 03 06.1
comp=Z,222nm,0.9s
CART Cartagena 78.02 23 *⇓iP* **P 18 03 04.0 -0.1**
CART *i* S **S 18 12 49.6 +0.8**
SFS San Fernando 78.04 28 *⇓iP* **P 18 03 04.6 +0.2**
SFS *i* S **S 18 12 51.3 +2.1**
ALJ Aljibe 78.10 27 *eP* P 18 03 14.2 +9.5
SDV Santo Domingo 78.11 93 P P 18 03 06.5 +1.2
comp=Z,72nm,0.6s,baz=342,slow=3.3,SNR=71
SDV S **S 18 12 49.3 -1.6**
comp=Z,4.1nm,0.3s,baz=94,slow=22,SNR=20
SDV Santo Domingo 78.11 93 *eP* **P 18 03 05.9 +0.6**
SDV Santo Domingo 78.11 93 P P 18 03 05.3 +0.1
SDV IAmb IAmb 18 03 35.4
comp=Z,670nm,1.3s
EMAL Malaga-Limoner 78.14 26 *⇓iP* **P 18 03 05.7 +0.8**
EMAL *i* S **S 18 12 50.1 -0.1**
LIT Litokhoron 78.16 4 P P 18 03 04.4 -0.6
LIT pmax pmax
comp=Z,194nm,0.7s
LIT Litokhoron 78.16 4 P P 18 03 04.4 -0.6
LIT IAmb IAmb 18 03 08.6
comp=Z,194nm,0.7s
CNIL Conil 78.17 28 *eP* **P 18 03 07.5 +2.4**
SLBI Saint Lucia, B 78.19 83 *eP* **P 18 03 05.0 -0.4**
BRRC Barranca, Sant 78.22 97 *eP* **P 18 03 05.6 0.0**
CBOC Ciudad Bolivar 78.24 100 *eP* **P 18 03 05.9 0.0**
KBL Kabul 78.28 326 P P 18 03 04.2 -1.8
SNR=28
KBL Kabul 78.28 326 P P 18 03 05.5 -0.5
KBL pmax pmax
comp=Z,76nm,0.9s
KBL Kabul 78.28 326 P P 18 03 05.5 -0.5
SLAC Saint Lucia, A 78.33 82 *eP* **P 18 03 06.4 +0.2**
PTBC PUERTO BERRIO, 78.37 98 *eP* **P 18 03 05.8 -0.6**
DHRM DHARAMSHALA 78.37 320 *eP* **P 18 03 06.8 +0.3**
DHRM IAmb IAmb 18 03 10.7
comp=Z,258nm,0.7s
MCLT Moule a Chique 78.47 83 *eP* **P 18 03 06.6 -0.5**
MCLT Moule a Chique 78.47 83 P P 18 03 06.7 -0.4

MCLT pP 18 03 33.9 -0.5
PAMC Pamplona, Colo 78.49 96 *e*P P 18 03 07.2 -0.5
BR131 Keskin Array S 78.54 356 P P 18 03 07.9 +0.6
SNR=46
BR131 Keskin Array S 78.54 356 P P 18 03 07.1 -0.1
BRTR Keskin Array B 78.54 356 P P 18 03 07.4 +0.1
comp=Z,38nm,0.9s,baz=5.7,slow=2.5,SNR=85
BRTR PKKPbc **PKKPbc** 18 22 00.6 +1.7
comp=Z,4.7nm,0.8s,baz=163,slow=4.7,SNR=10
BRTR PKP2ab 18 29 55.5
comp=Z,1.0nm,0.8s,baz=183,slow=2.4,SNR=4.1
BRTR Keskin Array B 78.54 356 P P 18 03 07.2 -0.1
KRVT Keravat (AS076 78.63 238 P P 18 03 07.2 -0.6
comp=Z,53nm,0.9s,baz=196,slow=11,SNR=7.6
PMOZ Porto Moniz, M 78.71 38 *e*P P 18 03 09.8 +1.6
comp=Z,346nm,1.7s
PMOZ *e*S S 18 12 59.5 +2.8
SVB Belmont 78.71 83 *e*P P 18 03 08.8 +0.4
SVB Belmont 78.71 83 P P 18 03 07.7 -0.6
SVB pP 18 03 35.1 -0.6
PMPST Porto Santo, M 78.71 37 *e*P P 18 03 09.3 +1.2
comp=Z,462nm,1.8s
PMPS Porto Santo 78.73 37 *e*P P 18 03 09.5 +1.3
comp=Z,400nm,2.2s
SVCV St. Vincent, C 78.76 83 *e*P P 18 03 08.3 -0.3
TIP Timpagrande 78.77 9 ||P P 18 03 08.9 +0.4
TIP Timpagrande 78.77 9 P P 18 03 08.2 -0.2
TIP IAmb IAmb 18 03 10.7
comp=Z,417nm,1.9s
CEU Ceuta 78.77 27 ||*i*P P 18 03 09.0 +0.6
CEU *i*S S 18 12 57.9 +0.9
PMAR Madeira 78.88 37 *e*P P 18 03 10.6 +1.3
comp=Z,552nm,1.9s
BARC Barichara 78.92 97 *e*P P 18 03 09.4 -0.4
SHL Shillong 79.04 304 *e*P P 18 03 09.6 -0.7
SHL IAmb IAmb 18 03 13.8
comp=Z,103nm,0.7s
SHL Shillong 79.04 304 P P 18 03 10.8 +0.6
SNR=41
GUY2C Guyana, Caldas 79.10 99 *e*P P 18 03 10.8 -0.3
BHK Bhakra 79.11 319 *e*x P 18 03 14.2 +3.8
BHK *e*x x 18 03 44.6
SMLA Simla 79.15 319 *e*P P 18 03 10.6 +0.1
TIAR Tiarei 79.30 178 *e*P P 18 03 10.9 -0.4
TIAR *e*pP **pP** 18 03 37.4 -1.5
comp=Z,102nm,1.0s
TIAR Tiarei 79.30 178 *e*T T 19 28 32.2
comp=Z,13nm,0.2s
PPT Papeete 79.31 178 P P 18 03 12.5 +1.2
comp=Z,122nm,0.9s,baz=164,slow=16,SNR=4.6
PPT LR LR 18 33 20.2
comp=Z,2μm,18.2s,baz=355,slow=32
GCMP Grenada, Carri 79.31 84 *e*P P 18 03 11.4 -0.2
PPT2 Papeete2 79.33 178 *e*P P 18 03 10.9 -0.6
comp=Z,182nm,1.3s
PPT2 *e*pP **pP** 18 03 37.7 -1.4
comp=Z,284nm,1.4s
PPT2 *e*S S 18 13 00.6 -2.5
comp=Z,3μm,27.8s
PPT2 Papeete2 79.33 178 *e*LR LR 18 27 55.4
comp=Z,5μm,24.8s,baz=354
SPBC San Pablo de B 79.33 98 *e*P P 18 03 11.4 -0.4
RREF El Recreo 79.39 100 *e*P P 18 03 08.9 -3.9
PAE Paea 79.40 178 *e*P P 18 03 11.3 -0.5
comp=Z,21nm,0.9s
PAE *e*pP **pP** 18 03 37.9 -1.5
comp=Z,24nm,0.9s
GRGR Grenville 79.52 84 *e*P P 18 03 13.1 +0.4
TVO Taravao 79.53 177 *e*P P 18 03 12.2 -0.4
comp=Z,60nm,1.0s
TVO *e*pP **pP** 18 03 38.7 -1.5
comp=Z,101nm,1.0s
RUSC La Rusia 79.58 97 *e*P P 18 03 13.9 +0.2
CEL Celeste 79.61 10 P P 18 03 11.6 -1.5
BOLV Bolvadin 79.62 358 P P 18 03 14.1 +1.0
BOLV IAmb IAmb 18 03 17.3
comp=Z,180nm,0.8s
DDI Dehra Dun 79.62 318 *e*P P 18 03 13.3 +0.1
DDI IAmb IAmb 18 03 17.3
comp=Z,200nm,0.8s
TOLC Tolima 79.68 100 *e*P P 18 03 14.5 +0.5
PVLZ Peæn de 79.69 26 ||*i*P P 18 03 11.7 -1.7
PVLZ *i*S S 18 13 02.9 -3.9
TAMC Tame, Arauca 79.71 96 *e*P P 18 03 13.9 +0.1
ANIL Santa Ana 79.73 100 *e*P P 18 03 15.7 +1.5
EBNR Beni Rached 79.73 22 P P 18 03 14.0 +0.3
YOTC Yotoco, Valle 79.73 101 *e*P P 18 03 13.9 -0.1
CORL Corleone 79.75 12 P P 18 03 14.3 +0.5
CORL IAmb IAmb 18 04 19.6
comp=Z,675nm,1.7s
PCRV Puerto La Cruz 79.82 88 P P 18 03 15.1 +0.7
comp=Z,18nm,0.5s,baz=244,slow=2.2,SNR=9.5
OKGL Djebel Kef Gue 79.82 22 P P 18 03 16.0 +1.8
ECHA Ech Chlef 79.84 22 P P 18 03 15.0 +0.8
PLCV Puerto La Cruz 79.85 88 P P 18 03 15.1 +0.6
MELI Melilla 79.86 25 ||*i*P P 18 03 12.6 -1.7
MELI *i*S S 18 13 05.8 -2.7
MANT Manisa 79.87 360 P P 18 03 14.5 -0.1
ROSC El Rosal 79.92 99 P P 18 03 17.4 +2.1
comp=Z,74nm,0.8s,baz=16,slow=3.3,SNR=31
ROSC LR LR 18 42 45.1
comp=Z,1μm,20.3s,baz=356,slow=39
ROSC El Rosal 79.92 99 *e*P P 18 03 16.4 +1.0
ROSC El Rosal 79.92 99 P P 18 03 16.6 +1.2
ROSC IAmb IAmb 18 03 45.9
comp=Z,672nm,1.4s
EANR 'Ain N'Sour 79.99 22 P P 18 03 16.0 +0.9
CLTB Caltabellotta 80.05 12 P P 18 03 14.8 -0.7
CLTB IAmb IAmb 18 03 18.3
comp=Z,121nm,0.6s
HRA Herat 80.07 332 P P 18 03 15.7 0.0
CAEH 'Ain El Ouahch 80.08 17 P P 18 03 16.2 +0.7
OJBR Djebel Berber 80.21 23 P P 18 03 15.0 -1.3
DAV Davao City (W) 80.28 267 P P 18 03 17.4 +0.6
comp=Z,290nm,0.6s,baz=59,slow=5.3,SNR=9.8
DAV Davao City (W) 80.28 267 P P 18 03 15.7 -1.1
DAV IAmb IAmb 18 03 21.5
comp=Z,338nm,0.8s
OTSS Djebel Tessala 80.29 24 P P 18 03 18.0 +1.2
ORTC Ortega, Tolima 80.31 100 *e*P P 18 03 16.6 -0.5
CMAH Djebel Manchou 80.31 17 P P 18 03 17.2 +0.3
OJGS Djebel Guires 80.36 22 P P 18 03 16.0 -1.1
HNR Honiara 80.36 228 P P 18 03 17.1 -0.1
comp=Z,114nm,0.9s,baz=145,slow=1.9,SNR=7.0
HNR Honiara 80.36 228 P P 18 03 16.9 -0.2
HNR IAmb IAmb 18 04 45.1
comp=Z,298nm,1.1s
ODJA Bouhanifia 80.36 23 P P 18 03 18.0 +0.9
CHIC Chingaza 80.38 98 *e*P P 18 03 14.6 -3.3
CKFL Kef-Lekhel 80.44 17 P P 18 03 18.0 +0.4
SET Setif 80.44 18 P P 18 03 19.0 +1.4
MARD Mardin 80.51 350 P P 18 03 18.5 +0.5
MARD IAmb IAmb 18 04 15.9
comp=Z,196nm,0.8s
RAFF Raffo Rosso 80.51 11 P P 18 03 17.5 -0.3
ISP Isparta 80.52 358 P P 18 03 18.0 0.0
ISP pmax pmax
comp=Z,643nm,1.7s
ISP Isparta 80.52 358 P P 18 03 18.0 0.0
ISP IAmb IAmb 18 03 55.3
comp=Z,643nm,1.7s
CASM Ain Smara 80.55 18 P P 18 03 18.8 +0.7
ETRT Tiaret 80.57 22 P P 18 03 18.0 -0.3
PRAC Prado 80.65 100 *e*P P 18 03 17.9 -0.9
TOSP Speyside 80.77 83 *e*P P 18 03 20.4 +1.0
TOSP Speyside 80.77 83 P P 18 03 19.8 +0.4
AVE Averroes 80.81 30 ||*i*P P 18 03 18.6 -0.9
AVE *i*S S 18 13 17.7 -0.8
POPC Popayan, Colom 80.85 102 *e*P P 18 03 19.5 -0.6
VILC Villavicencio, 80.86 98 *e*P P 18 03 18.9 -1.1
GAZ Gaziantep 80.91 353 P P 18 03 20.9 +0.8
TRN Trinidad (W) 80.93 85 *e*P P 18 03 19.4 -0.9
BBAC Balboa, Cauca 81.05 103 *e*P P 18 03 21.2 +0.1
ITM Ithomi 81.05 5 P P 18 03 20.0 -0.7
ITM IAmb IAmb 18 03 24.2
comp=Z,219nm,0.7s
IFR Ifrane 81.11 28 ||*i*P P 18 03 21.8 +0.5
IFR *i*S S 18 13 22.3 +0.2
PCON Cinco Dias 81.17 102 *e*P P 18 03 22.7 +0.5
BETC Betania 81.30 101 *e*P P 18 03 21.9 -0.4
NDI New Delhi 81.40 318 *e*P P 18 03 23.0 +0.3
KEST Kesra 81.45 15 P P 18 03 23.1 +0.2
comp=Z,71nm,0.5s,baz=261,slow=1.5,SNR=145
KEST pP **pP** 18 03 51.1 +0.6
comp=Z,179nm,0.9s,baz=287,slow=4.6,SNR=4.2
KEST S **S** 18 13 23.5 -1.7
comp=Z,2.7nm,0.9s,baz=298,slow=15,SNR=1.0
KEST PKPPKP **P'P'df** 18 30 03.1 +0.8
comp=Z,4.8nm,0.8s,baz=324,slow=5.9,SNR=5.5
KEST Kesra 81.45 15 P P 18 03 22.9 0.0
KEST IAmb IAmb 18 03 58.2
comp=Z,280nm,1.1s
PTGC Puerto Gaitan, 81.51 97 *e*P P 18 03 22.7 -0.7
ELL Elmali 81.60 359 P P 18 03 24.2 +0.5
ELL pmax pmax
comp=Z,203nm,0.9s
ELL Elmali 81.60 359 P P 18 03 24.2 +0.5
ELL IAmb IAmb 18 04 43.3
comp=Z,203nm,0.9s
GCUF Volcan Galeras 81.70 103 *e*P P 18 03 25.6 +0.6
GARC Garzon, Huila 81.71 101 *e*P P 18 03 24.8 +0.1
JAY Jayapura 81.78 249 P P 18 03 25.5 +0.7
comp=Z,78nm,0.9s,baz=339,slow=4.2,SNR=14
JAY S **S** 18 13 26.0 -3.0
comp=Z,8.1nm,1.0s,baz=140,slow=21,SNR=1.2
JAY LR LR 18 33 48.0
comp=Z,1μm,21.6s,baz=20,slow=31
JAY Jayapura 81.78 249 P P 18 03 22.4 -2.4
comp=Z,2μmcomp=Z,795nmcomp=Z,70nm,1.0s
PAC1 Pacto, Paraso 81.89 105 *e*P P 18 03 25.7 +0.2
CUSE Cuicocha Este 82.03 104 *e*P P 18 03 28.3 +1.6
OTAV Otavalo 82.07 105 *e*P P 18 03 27.6 +0.8
OTAV Otavalo 82.07 105 P P 18 03 27.6 +0.8
OTAV pmax pmax
comp=Z,535nm,1.8s
OTAV Otavalo 82.07 105 P P 18 03 27.6 +0.8
OTAV IAmb IAmb 18 03 57.7
comp=Z,535nm,1.8s
GENI Genyem 82.08 249 P P 18 03 25.3 -1.0
comp=Z,5μmcomp=Z,3μmcomp=Z,228nm,0.8s
AKAS Kas 82.12 359 P P 18 03 26.2 -0.2
FLOC Florencia 82.17 101 *e*P P 18 03 27.3 +0.4
CHTO Chiang Mai 82.19 295 P P 18 03 25.6 -1.3
CHTO Chiang Mai 82.19 295 P P 18 03 25.6 -1.3
UBPT Khong Chiam 82.45 288 P P 18 03 27.7 -0.6
CMAR Chiang Mai Arr 82.50 295 P P 18 03 27.9 -0.6
comp=Z,117nm,0.7s,baz=11,slow=5.8,SNR=102
CMAR PKKPbc **PKKPbc** 18 21 55.4 +5.5
comp=Z,2.3nm,0.8s,baz=226,slow=3.8,SNR=8.3
CMAR LR LR 18 42 08.5
comp=Z,970nm,20.0s,baz=63,slow=37
CMAR Chiang Mai Arr 82.50 295 P P 18 03 28.0 -0.6
CMAR Chiang Mai Arr 82.50 295 P P 18 03 27.7 -0.8
MACC Macarena, Meta 82.51 100 *e*P P 18 03 27.0 -1.6
PUAC Puerto Asis, P 82.66 103 *e*P P 18 03 29.8 +0.5
KARP Karpathos 82.81 1 P P 18 03 29.0 -1.0
KARP IAmb IAmb 18 03 37.5
comp=Z,118nm,0.6s
BOK Bokaro 82.92 309 *e*P P 18 03 31.0 +0.4
BOK IAmb IAmb 18 03 34.4
comp=Z,88nm,1.1s
IDI Anoyia 83.03 3 P P 18 03 29.9 -1.2
comp=Z,84nm,0.6s,baz=6.7,slow=7.8,SNR=6.0
IDI Anoyia 83.03 3 P P 18 03 29.8 -1.4
RAR Rarotonga 83.15 187 P P 18 03 31.4 -0.1
RAR pmax pmax
comp=Z,436nm,1.6s
RAR Rarotonga 83.15 187 P P 18 03 31.4 -0.1
RAR IAmb IAmb 18 04 02.3
comp=Z,436nm,1.6s
SRPI Serui, Papua 83.20 253 P P 18 03 33.2 +1.1
comp=Z,2μmcomp=Z,146nm,0.9s
CSS Mathiatis 83.30 356 P P 18 03 33.0 +0.6
SANVU Saraoutou 83.63 219 P P 18 03 33.6 -0.6
PTLC Puerto Leguiza 83.81 101 *e*P P 18 03 37.7 +2.4
DLV T Lat 84.02 284 P P 18 03 36.4 -0.1
SIJI Sorong 84.58 258 P P 18 03 38.8 -0.4
comp=Z,46nm,0.6s,baz=15,slow=6.7,SNR=28
TNTI Ternate 84.95 262 P P 18 03 40.5 -0.5
comp=Z,2μmcomp=Z,1μmcomp=Z,88nm,0.9s
TNTI Ternate 84.95 262 P P 18 03 41.0 0.0
TBI Tubuai 85.06 178 *e*S S 18 13 58.1 -3.2
comp=Z,3μm,29.0s
TBI *e*SS SS 18 19 34.7 -3.0
comp=Z,2μm,27.5s
TBI *e*LQ LQ 18 27 00.3
comp=Z,2μm,26.8s
TBI *e*LR LR 18 30 34.3
comp=Z,5μm,37.5s,baz=357
TBI Tubuai 85.06 178 *e*T T 19 35 44.1
comp=Z,30nm,0.3s
MMAI Mount Meron Ar 85.15 354 P P 18 03 42.9 +1.0
comp=Z,38nm,0.7s,baz=338,slow=6.3,SNR=29
PMG Port Moresby 85.22 240 P P 18 03 41.6 -0.6
comp=Z,36nm,0.9s,baz=17,slow=7.7,SNR=7.9
PMG LR LR 18 35 23.0
comp=Z,1μm,21.3s,baz=9.0,slow=31
PMG Port Moresby 85.22 240 P P 18 03 41.8 -0.5
PMG pmax pmax
comp=Z,128nm,1.3s
PMG Port Moresby 85.22 240 P P 18 03 41.8 -0.5
MYLDM Lahad Datu 85.27 272 P P 18 03 42.8 +0.2
KKM Kota Kinabalu 85.59 274 P P 18 03 45.3 +1.0
KKM IAmb IAmb 18 03 48.7
comp=Z,134nm,0.9s
ASF Jabal al Asfar 85.90 353 P P 18 03 47.3 +1.6
comp=Z,35nm,0.7s,baz=316,slow=2.4,SNR=38
FAKI Fak Fak 85.94 256 P P 18 03 45.4 -0.5
comp=Z,3μmcomp=Z,3μmcomp=Z,233nm,1.0s
FAKI Fak Fak 85.94 256 P P 18 03 45.7 -0.2
FAKI IAmb IAmb 18 03 49.0
comp=Z,197nm,1.0s
BHPL Bhopal 86.39 316 *e*P P 18 03 48.2 +0.1
BHPL IAmb IAmb 18 03 50.8
comp=Z,70nm,0.9s
BHPL *i*pP **pP** 18 04 16.0 -0.1
BHPL *e*x x 18 07 09.3
KMSI Cibinong 86.72 265 P P 18 03 48.6 -1.1
comp=Z,957nmcomp=Z,98nm,0.7s
GTOI Gorontalo 87.12 266 P P 18 03 49.0 -2.7
comp=Z,368nmcomp=Z,19nm,0.8s
NGP Nagpur 87.78 313 *e*P P 18 03 54.8 -0.1
MSAI Masohi 87.85 259 P P 18 03 59.2 +4.1
SANI Sanana 88.08 262 P P 18 03 54.9 -1.3
comp=Z,2μmcomp=Z,655nmcomp=Z,62nm,0.9s
CHLP Challavanipeta 88.43 308 *e*P P 18 03 58.4 +0.5
CHLP IVmB_BB 18 03 59.5
comp=Z,263nm,1.8s
EIL Elat 88.50 354 P P 18 03 59.3 +1.2
comp=Z,70nm,0.8s,baz=268,slow=9.4,SNR=5.6
NLAI Namlea 88.60 261 P P 18 03 59.2 +0.5
comp=Z,85nm,0.8s
ATAH Atahualpa 88.62 108 P P 18 04 01.4 +2.1
comp=Z,58nm,0.9s,baz=355,slow=3.9,SNR=19
LUWI Luwuk 88.70 265 P P 18 03 57.7 -1.5
comp=Z,3μmcomp=Z,1μmcomp=Z,78nm,0.9s
MPSI Mapaga 88.85 269 P P 18 03 59.4 -0.5
comp=Z,745nmcomp=Z,55nm,0.9s
SHME Shamm 89.42 335 *i*P P 18 04 02.7 +0.2
SNR=39
BANOM Banah 89.51 335 P P 18 04 03.3 +0.4
BANOM Banah 89.51 335 PcP **PcP** 18 04 04.7 +0.5
DGPR DIGLIPUR 89.76 298 IAmb IAmb 18 04 08.9
comp=Z,438nm,0.3s
DGPR *e*x P 18 04 04.4 +0.3
RPR Rampur 89.82 312 *e*P P 18 04 05.3 +0.9
RPR IVmBBB 18 04 06.4
comp=Z,162nm,1.8s
MDP Montagnes des 89.88 79 P P 18 04 05.4 +0.6
comp=Z,30nm,0.9s,baz=349,slow=6.3,SNR=17
MDP pP **pP** 18 04 33.2 +0.5
comp=Z,255nm,1.1s,baz=337,slow=6.1,SNR=24
MSFE Esma-Masafi 90.08 335 *i*P P 18 04 06.1 +0.4
SNR=7.6
DZM Mont Dzumac 90.12 218 *e*P P 18 04 05.2 -0.4
comp=Z,64nm,1.2s
DZM *e*pP **pP** 18 04 30.5 -3.4
comp=Z,64nm,1.5s
DZM *e*SKSac **SKSac** 18 14 25.2 -1.2
comp=Z,4μm,29.5s
DZM Mont Dzumac 90.12 218 *e*PS PS 18 16 07.3 -2.8
comp=Z,1μm,28.2s
DZM *e*SS SS 18 20 49.1 -2.6
comp=Z,3μm,36.5s
DZM *e*LQ LQ 18 29 05.1
comp=Z,6μm,35.5s
DZM *e*LR LR 18 32 52.3
comp=Z,6μm,25.4s
DZM Mont Dzumac 90.12 218 P P 18 04 05.9 +0.3
GGR Gangavaram 90.46 311 *e*P P 18 04 07.8 +0.3
GGR IVmB_BB 18 04 08.7
comp=Z,209nm,1.8s
UOSS Minazif 90.47 335 P P 18 04 07.4 0.0
UOSS Minazif 90.47 335 P P 18 04 07.5 +0.1
PVM Polavaram 90.48 310 *e*P P 18 04 07.9 +0.4
PVM IVmB_BB 18 04 10.0
comp=Z,256nm,1.0s
NAZ Nazwa, Dubai 90.54 335 *i*P P 18 04 07.8 0.0
SNR=15
HATD Hatta, Dubai 90.61 335 P P 18 04 08.1 0.0
SBUM Sibu 90.62 276 P P 18 04 07.4 -0.8
SBUM Sibu 90.62 276 P P 18 04 08.0 -0.1
COEN Coen 90.97 242 P P 18 04 08.9 -0.8
SOHO SOHO 91.19 334 P P 18 04 10.3 -0.4
PBA Port Blair 91.20 298 IAmb IAmb 18 04 15.8
comp=Z,109nm,1.0s
PBA *e*x P 18 04 12.3 +1.5
PBA Port Blair 91.20 298 P P 18 04 12.5 +1.6
PBA IAmb IAmb 18 04 18.9
comp=Z,176nm,0.9s
MYLAV Mylavaram 91.30 310 *e*P P 18 04 11.4 +0.1
MYLAV IVmBBB 18 04 14.1
comp=Z,229nm,1.1s
KDI Kendari 91.33 264 P P 18 04 11.7 +0.3
comp=Z,28μmcomp=Z,72nm,0.9s
CUPL Choutuppal 91.40 312 *e*P P 18 04 11.9 +0.1
HYBB Hyderabad (bro 91.41 313 *e*P P 18 04 12.7 +0.8
HYBB IVmBBB 18 04 15.3
comp=Z,206nm,1.1s
HYB Hyderabad 91.41 313 *i*P P 18 04 12.0 +0.1
HYB *e* 18 04 42.0
HYB *e*S S 18 14 56.0 -6.1
KLRI Killari 91.48 315 *e*P P 18 04 11.6 -0.6
KLRI IVmB_BB 18 04 15.1
comp=Z,467nm,0.7s
PTGA Pitinga 91.56 89 P P 18 04 12.8 +0.3
comp=Z,40nm,0.6s,baz=342,slow=5.8,SNR=56
PTGA pP **pP** 18 04 41.3 +0.9
comp=Z,215nm,0.9s,baz=347,slow=5.7,SNR=23
HOQ Hoqain 91.57 333 PcP **PcP** 18 04 14.4 +1.1
WSAR Wadi Sarin 91.61 332 P P 18 04 13.6 +0.9
comp=Z,18nm,0.7s,baz=359,slow=0.6,SNR=18
NJS Nagarjunasagar 91.95 312 *e*P P 18 04 14.8 +0.4
NJS IVmB_BB 18 04 16.4
comp=Z,270nm,2.0s
POO Poona 91.95 317 *e*P P 18 04 14.0 -0.4
POO *e*P **PcP** 18 04 15.3 +0.1
POO IAmb IAmb 18 04 17.3
comp=Z,42nm,0.7s
ARQ Araqi 91.97 334 PcP **PcP** 18 04 16.7 +1.6
SNR=8.8
MTKI Muara Teweh, K 92.33 272 P P 18 04 15.4 -0.7
comp=Z,1μmcomp=Z,35nm,0.8s
ADKI Addanki 92.37 311 *e*P P 18 04 16.7 +0.5
ADKI IVmB_BB 18 04 18.8
comp=Z,224nm,2.3s
KSM Kuching 92.37 278 P P 18 04 15.3 -1.0
KSM IAmb IAmb 18 04 20.3
comp=Z,91nm,0.9s
KSM Kuching 92.37 278 P P 18 04 17.0 +0.7
BSY Bisya 92.40 333 PcP **PcP** 18 04 18.7 +1.6
SNR=9.6
JLN Jalan Bani Buh 92.49 331 PcP **PcP** 18 04 19.0 +1.5
SNR=5.0
SRLM Srisailam 92.51 312 *e*P P 18 04 16.8 -0.1
SRLM IVmB_BB 18 04 18.9
comp=Z,137nm,1.1s
SPSI Sidrap Palu 92.68 267 P P 18 04 16.7 -0.9
comp=Z,31nm,0.9s
BNSI Bone 92.90 266 P P 18 04 18.4 -0.3
comp=Z,24nm,1.2s
STKI Sintang 93.06 276 P P 18 04 19.7 +0.3
comp=Z,52nm,0.9s
KULM Kulim 93.45 288 P P 18 04 21.8 +0.6
TAM Tamanrasset 93.60 21 P P 18 04 22.5 +0.4
TAM pmax pmax
comp=Z,69nm,1.7s
TAM Tamanrasset 93.60 21 P P 18 04 22.5 +0.4
KAPI Kappang 93.60 266 P P 18 04 21.3 -0.5
comp=Z,14nm,0.6s,baz=136,slow=1.3,SNR=7.4
KAPI Kappang 93.60 266 P P 18 04 21.4 -0.5
KAPI pmax pmax
comp=Z,72nm,1.6s
KAPI Kappang 93.60 266 P P 18 04 21.4 -0.5
NNA Nana 93.61 109 P P 18 04 22.9 +1.0
comp=Z,24nm,0.8s,baz=323,slow=5.8,SNR=6.0
NNA pP **pP** 18 04 50.1 +0.3
comp=Z,60nm,0.8s,baz=344,slow=4.1,SNR=7.4
NNA Nana 93.61 109 IAmb IAmb 18 04 51.8
comp=Z,132nm,1.1s
BKSI Bulukumba 93.70 266 P P 18 04 21.0 -1.3
comp=Z,2μmcomp=Z,465nmcomp=Z,46nm,0.9s
KBKI Kotabaru 93.79 270 P P 18 04 21.0 -1.8
comp=Z,333nmcomp=Z,42nm,0.8s
MHTO MHTO 93.94 332 PcP **PcP** 18 04 25.4 +1.5
SNR=8.2
IPM Ipoh 94.00 287 P P 18 04 23.8 0.0
IPM Ipoh 94.00 287 P P 18 04 24.0 +0.2
URV Uravakonda 94.15 313 *e*P P 18 04 24.0 -0.5
URV IVmB_BB 18 04 27.6
comp=Z,125nm,1.9s
SKHT Srikalahasti 94.40 310 *e*P P 18 04 25.7 +0.1
SKHT IVmBBB 18 04 28.2
comp=Z,146nm,0.9s
BBKI Banjar Baru 94.56 271 P P 18 04 25.9 -0.4
comp=Z,32nm,1.2s
GOA Goa 94.80 316 *e*P P 18 04 29.0 +1.5
GOA IAmb IAmb 18 04 29.9
comp=Z,36nm,0.9s
MYKOM Kota Tinggi 95.09 283 P P 18 04 30.0 +1.3
MTN Manton Dam 95.21 253 P P 18 04 28.4 -0.8
MTN IAmb IAmb 18 04 31.6
comp=Z,97nm,1.1s
CTA Charters Tower 95.25 236 P P 18 04 28.9 -0.3
comp=Z,33nm,1.1s,baz=33,slow=6.8,SNR=18
CTA LR LR 18 43 27.6
comp=Z,268nm,19.0s,baz=20,slow=33
CTAO Charters Tower 95.25 236 P P 18 04 29.2 -0.1
CTAO pmax pmax
comp=Z,41nm,1.0s
CTAO Charters Tower 95.25 236 P P 18 04 29.2 -0.1
MMRI Maumere 95.61 262 P P 18 04 30.1 -0.9
MMRI IAmb IAmb 18 04 34.6
comp=Z,31nm,0.7s
SOEI Soe 95.64 260 P P 18 04 29.8 -1.5
comp=Z,52nm,0.8s
SOEI Soe 95.64 260 P P 18 04 29.6 -1.7
SOEI IAmb IAmb 18 04 40.7
comp=Z,37nm,0.8s
EDFI Ende, Flores 95.96 263 P P 18 04 29.9 -2.9
comp=Z,20nm,1.4s
BATI Baumata 96.32 260 P P 18 04 33.2 -1.1
comp=Z,43nm,0.8s,baz=172,slow=1.5,SNR=7.2
BATI Baumata 96.32 260 P P 18 04 32.8 -1.5
comp=Z,30nm,0.7s
PSI Prapat 96.43 288 P P 18 04 35.4 +0.3
comp=Z,36nm,0.7s,baz=17,slow=2.0,SNR=21
PSI LR LR 18 51 41.0
comp=Z,746nm,18.4s,baz=86,slow=38
RPSI Rantau Prapat 96.52 288 P P 18 04 35.4 +0.1
SAML Samuel 97.23 95 P P 18 04 37.3 -1.1
SAML pmax pmax
comp=Z,177nm,1.4s
SAML Samuel 97.23 95 P P 18 04 37.3 -1.1
SHAO Shalim 97.31 334 P Pdif 18 04 40.5 +1.5
PLAI Plampang 97.87 266 P P 18 04 38.8 -2.5
comp=Z,41nm,0.9s
TWSI Taliwang, Sumb 98.21 267 P P 18 04 40.8 -2.0
comp=Z,17nm,1.0s
TMAB Tom-Au,PA,Br 98.56 79 *e*P P 18 04 36.4 -8.1
SDSI Sungai Dareh 98.60 284 P P 18 04 43.9 -0.7
comp=Z,11nm,1.1s
WB0 Warramunga Arr 99.88 247 Pdif **Pdif** 18 04 49.1 -0.9
WR0 Warramunga Arr 99.98 246 Pdif **Pdif** 18 04 49.4 -1.1
PWJI Pagerwojo 99.98 272 P **Pdif** 18 04 50.8 +0.1
comp=Z,43nm,1.3s
WRAB Tennant Creek 100.04 247↑ *e*P **Pdif** 18 04 49.7 -1.1
WRAB pmax pmax
comp=Z,17nm,1.0s
WB2 Warramunga Arr 100.05 247 Pdif **Pdif** 18 04 50.1 -0.8
WRA Warramunga Arr 100.05 247 P **Pdif** 18 04 50.0 -0.9
comp=Z,6.9nm,0.9s,baz=38,slow=5.5,SNR=39
WRA PKiKP **PKiKP** 18 09 17.2 -0.8
comp=Z,1.7nm,0.7s,baz=351,slow=1.6,SNR=10
WRA PKKPbc **PKKPbc** 18 21 07.2 +0.8
comp=Z,1.8nm,0.6s,baz=222,slow=2.6,SNR=17

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**100.05**	**247**	**P**	**Pdif**	**18 04 50.0**	**-0.9**
WRA	**Warramunga Arr**	**100.05**	**247**		**Pdif**	**18 04 47.9**	**-3.0**
PRPB	**Paraua pebas**	**101.10**	**82**	*eP*	**Pdif**	**18 04 47.1**	**-8.6**
LPAZ	**La Paz**	**101.34**	**103**	P	**Pdif**	**18 04 56.9**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=354,slow=4.0,SNR=16						
LPAZ				PP	**PP**	**18 09 11.6**	**+3.5**
	comp=Z,15nm,1.2s,baz=280,slow=3.6,SNR=4.0						
LPAZ	**La Paz**	**101.34**	**103**	Pdif	**Pdif**	**18 04 56.1**	**-1.3**
LPAZ	**La Paz**	**101.34**	**103**	*eP*	**Pdif**	**18 04 49.0**	**-8.4**
VILB	**Vilhena**	**102.13**	**95**	*eP*	**Pdif**	**18 04 52.6**	**-7.7**
TORD	**Torodi Ar. Bea**	**102.28**	**26**	P	**Pdif**	**18 05 00.1**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=342,slow=5.5,SNR=5.4						
TORD				PP	PP	18 08 58.7	-15
	comp=Z,2.6nm,0.6s,baz=337,slow=8.2,SNR=3.8						
TORD				PKKPbc	**PKKPbc**	**18 21 01.1**	**+1.7**
	comp=Z,7.0nm,0.7s,baz=149,slow=0.9,SNR=17						
TORD				SKKPbc	SKKPbc	18 24 31.5	+4.6
	comp=Z,1.1nm,0.5s,baz=163,slow=1.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**102.28**	**26**	Pdif	**Pdif**	**18 05 01.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**102.31**	**255**	P	**Pdif**	**18 05 00.5**	**-0.4**
	comp=Z,17nm,0.9s,baz=3.2,slow=2.5,SNR=18						
FITZ	**Fitzroy Crossi**	**102.31**	**255**	Pdif	**Pdif**	**18 05 00.7**	**-0.2**
CLDB	**Colider**	**102.39**	**90**	*eP*	**Pdif**	**18 04 54.2**	**-7.2**
ASAR	**Alice Springs**	**103.52**	**245**	Pdiff	**Pdif**	**18 05 04.7**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=22,slow=4.5,SNR=22						
ASAR				PKiKP	**PKiKP**	**18 09 24.4**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=53,slow=1.8,SNR=11						
ASAR				PKKPbc	**PKKPbc**	**18 20 58.1**	**+1.7**
	comp=Z,1.6nm,0.4s,baz=197,slow=2.2,SNR=21						
ASAR	**Alice Springs**	**103.52**	**245**	P	**Pdif**	**18 05 05.0**	**-1.3**
ASAR	**Alice Springs**	**103.52**	**245**	Pdif	**Pdif**	**18 05 05.0**	**-1.3**
SIV	**San Ignacio**	**104.36**	**97**	Pdiff	**Pdif**	**18 05 12.4**	**+2.3**
	comp=Z,1.4nm,0.4s,baz=308,slow=3.9,SNR=7.9						
SIV				PP	**PP**	**18 09 29.9**	**-0.1**
	comp=Z,18nm,1.0s,baz=331,slow=6.9,SNR=7.6						
PTLB	**Pontes e Lacer**	**104.80**	**95**	*eP*	**Pdif**	**18 05 03.4**	**-8.6**
TEND	**Ethiopian Broa**	**105.76**	**347**	*eP*	**PKiKP**	**18 09 28.9**	**+0.1**
DBIC	**Dimbokro**	**106.97**	**34**	PKiKP	**PKiKP**	**18 09 30.9**	**0.0**
	comp=Z,1.9nm,0.5s,baz=354,slow=2.5,SNR=5.8						
STKA	**Stephens Creek**	**107.64**	**235**	PKiKP	**PKiKP**	**18 09 32.3**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=109,slow=3.3,SNR=6.5						
STKA				PKKPbc	**PKKPbc**	**18 20 46.5**	**+2.4**
	comp=Z,3.2nm,0.7s,baz=146,slow=1.7,SNR=6.9						
SDBA	**SAO DESIDERIO**	**108.86**	**81**	*eP*	**Pdif**	**18 05 22.8**	**-7.4**
BDFB	**Brasilia**	**110.21**	**85**	PP	**PP**	**18 10 10.2**	**-2.6**
	comp=Z,9.4nm,1.0s,baz=347,slow=7.1,SNR=4.8						
BDFB				PKKP	**PKKPab**	**18 20 49.5**	**+0.8**
	comp=Z,5.2nm,0.7s,baz=111,slow=1.8,SNR=5.3						
JANB	**Januaria**	**111.44**	**82**	*eP*	**Pdif**	**18 05 33.8**	**-7.9**
IPMB	**Ipameri, GO**	**112.15**	**87**	*eP*	**Pdif**	**18 05 36.3**	**-8.5**
ITRB	**Iturama**	**112.62**	**89**	*eP*	**Pdif**	**18 05 39.7**	**-7.1**
FRTB	**Fartura**	**116.11**	**91**	*eP*	**Pdif**	**18 05 55.3**	**-6.9**
BO02	**Sierra Bellavi**	**116.16**	**115**	PKPdf	**PKiKP**	**18 09 48.8**	**+1.0**
BSFB	**Barra de Sao F**	**116.33**	**80**	*eP*	**Pdif**	**18 05 55.7**	**-7.5**
BI02	**San Fabin de**	**117.54**	**117**	PKPdf	**PKPdf**	**18 09 49.6**	**-0.8**
MBAR	**Mbarara**	**118.74**	**357**	PKIKP	**PKPdf**	**18 09 53.5**	**-0.1**
MBAR	**Mbarara**	**118.74**	**357**	PKPdf	**PKPdf**	**18 09 53.5**	**-0.1**
KMBO	**Kilima Mbogo**	**118.90**	**350**	PKP	**PKiKP**	**18 09 56.7**	**+2.6**
	comp=Z,33nm,0.7s,baz=20,slow=3.7,SNR=56						
KMBO				PKKPbc	**PKKPab**	**18 20 12.3**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=64,slow=24,SNR=3.7						
KMBO	**Kilima Mbogo**	**118.90**	**350**	*i* PKiKP	**PKiKP**	**18 09 55.2**	**+1.1**
	SNR=32						
KMBO	**Kilima Mbogo**	**118.90**	**350**	PKPdf	**PKPdf**	**18 09 53.8**	**-0.2**
LC01	**Cunco**	**119.18**	**118**	PKPdf	**PKiKP**	**18 09 53.6**	**+0.2**
PLCA	**Paso Flores**	**121.27**	**118**	PKP	**PKiKP**	**18 09 59.0**	**+1.5**
	comp=Z,21nm,0.6s,baz=316,slow=5.5,SNR=64						
PLCA				SKP	**SKPdf**	**18 13 23.6**	**+1.0**
	comp=Z,5.0nm,0.7s,baz=317,slow=2.9,SNR=3.8						
PLCA	**Paso Flores**	**121.27**	**118**	PKPdf	**PKiKP**	**18 09 58.7**	**+1.1**
LSZ	**Lusaka**	**133.35**	**360**	SKPbc	**SKPbc**	**18 13 39.5**	**0.0**
	comp=Z,37nm,0.8s,baz=27,slow=3.6,SNR=9.0						
LSZ				PKKP	**PKKPdf**	**18 20 12.8**	**+4.8**
	comp=Z,3.9nm,0.8s,baz=304,slow=7.6,SNR=4.0						
OPO	**Ambohidratompo**	**134.61**	**334**	PKP	**PKPdf**	**18 10 23.9**	**+0.3**
	comp=Z,31nm,0.8s,baz=312,slow=3.3,SNR=3.6						
OPO				SKPbc	**SKPbc**	**18 13 43.9**	**+0.3**
	comp=Z,25nm,1.1s,baz=328,slow=3.1,SNR=6.4						
TSUM	**Tsumeb**	**136.63**	**15**	PKPdf	**PKPdf**	**18 10 25.9**	**-1.4**
BLWY	**Bulawayo**	**138.19**	**359**	*i* P	PKPpre	18 10 20.0	
BLWY	**Bulawayo**	**138.19**	**359**	*i* P	PKPpre	18 10 20.0	
MATP	**Matopo**	**138.47**	**359**	SKPbc	**SKPbc**	**18 13 55.1**	**0.0**
	comp=Z,28nm,0.9s,baz=10,slow=3.6,SNR=6.9						
PMSA	**Palmer Station**	**142.09**	**136**	SKPbc	**SKPbc**	**18 14 03.2**	**+0.2**
	comp=Z,38nm,0.9s,baz=331,slow=1.8,SNR=7.2						
PMSA				PKhKP	**PKPdf**	**18 10 33.1**	**-2.5**
	comp=Z,30nm,0.7s,baz=314,slow=1.0,SNR=15						
PMSA	**Palmer Station**	**142.09**	**136**		**PKPdf**	**18 10 33.0**	**-2.6**
VNDA	**Vanda**	**142.13**	**195**	PKhKP	**PKPdf**	**18 10 30.4**	**-5.0**
	comp=Z,8.3nm,0.8s,baz=343,slow=3.6,SNR=40						
LBTB	**Lobatse**	**143.00**	**4**	SKPbc	**SKPbc**	**18 14 06.8**	**0.0**
	comp=Z,54nm,1.1s,baz=287,slow=4.8,SNR=3.4						
LBTB				PKhKP	PKPab	18 10 34.7	+0.6
	comp=Z,79nm,0.7s,baz=348,slow=3.0,SNR=34						
LBTB	**Lobatse**	**143.00**	**4**	*i* P	PKPab	18 10 33.6	-0.5
LBTB	**Lobatse**	**143.00**	**4**	*i* P	PKPab	18 10 32.5	-1.6
H09N1	**TRISTAN DA CUNI**	**144.75**	**64**	PKP	**PKPdf**	**18 10 41.4**	**+0.2**
	SNR=8.9						
H09W1	**TRISTAN DA CUNI**	**144.77**	**64**	PKP	PKPbc	18 10 40.7	+0.3
	SNR=9.6						
CASY	**Casey**	**146.23**	**226**	PKPdf	**PKPdf**	**18 10 43.4**	**+0.6**
BOSA	**Boshof**	**146.57**	**5**	PKPbc	**PKPbc**	**18 10 45.7**	**-0.8**
	comp=Z,214nm,0.7s,baz=4.7,slow=3.6,SNR=81						
BOSA	**Boshof**	**146.57**	**5**	*i* P	**PKPab**	**18 10 47.3**	**-0.4**
BOSA	**Boshof**	**146.57**	**5**	*i* P	**PKPab**	**18 10 47.8**	**+0.1**
SUR	**Sutherland**	**150.01**	**12**	*i* P	**PKPbc**	**18 10 54.5**	**-0.9**
SUR	**Sutherland**	**150.01**	**12**	*i* P	**PKPbc**	**18 10 54.5**	**-0.9**
QSPA	**South Pole Qui**	**151.79**	**180**	PKP	**PKPdf**	**18 10 49.1**	**-2.7**
	comp=Z,43nm,1.0s,baz=348,slow=1.1,SNR=38						
QSPA				PKPbc	**PKiKP**	**18 10 58.6**	**-0.1**
	comp=Z,310nm,0.7s,baz=26,slow=0.5,SNR=58						
QSPA	**South Pole Qui**	**151.79**	**180**	PKPdf	**PKPdf**	**18 10 50.0**	**-1.8**
QSPA					**PKiKP**	**18 10 58.6**	**-0.1**
VNA3	**Neumayer Olymp**	**162.72**	**138**	PKPdf	**PKPdf**	**18 11 02.0**	**-3.4**
VNA1	**Neumayer--Stat**	**163.31**	**137**	PKPdf	**PKPdf**	**18 11 03.0**	**-2.8**
VNA2	**Neumayer--Watz**	**163.52**	**138**	PKPdf	**PKPdf**	**18 11 03.0**	**-3.1**
MAW	**Mawson**	**164.33**	**234**	PKP	**PKPdf**	**18 11 07.9**	**+1.1**
	comp=Z,8.4nm,0.9s,baz=86,slow=4.6,SNR=6.9						
MAW				PKPab	**PKPab**	**18 12 02.3**	**+0.3**
	comp=Z,18nm,0.9s,baz=93,slow=7.3,SNR=5.6						
MAW	**Mawson**	**164.33**	**234**		**PKPdf**	**18 11 06.7**	**-0.1**
SNAA	**Sanae**	**164.66**	**142**	PKPdf	**PKPdf**	**18 11 03.0**	**-4.2**
SNAA	**Sanae**	**164.66**	**142**	PKP	**PKPdf**	**18 11 03.4**	**-3.7**
	comp=Z,6.1nm,0.8s,baz=201,slow=1.6,SNR=19						
SNAA				PKPab	**PKPab**	**18 12 03.6**	**+0.1**
	comp=Z,33nm,0.7s,baz=265,slow=5.6,SNR=21						
SNAA				PP	**PP**	**18 15 52.2**	**+1.3**
	comp=Z,13nm,1.3s,baz=263,slow=13,SNR=3.4						
SNAA	**Sanae**	**164.66**	**142**		**PKPdf**	**18 11 04.0**	**-3.2**
NVL	**N'lazarevskaya**	**169.09**	**151**	*e*PKP2	**PKPab**	**18 12 24.5**	**+1.6**
NVL				pmax	pmax		
	comp=Z,55nm,0.9s						
SYO	**Syowa Base**	**171.50**	**209**	⇑*i*PKPdf	**PKPdf**	**18 11 10.2**	**-1.6**
SYO	**Syowa Base**	**171.50**	**209**	⇑*i*sPKPdf	sPKPdf	18 11 50.3	-1.9
SYO	**Syowa Base**	**171.50**	**209**	⇑*i*X	**PKPab**	**18 12 30.6**	**-3.0**

WEL 25 17:51:46.9, 43°S±2°, 17°2E±°, h8km±1km, M2.4/9, ML2.5/9, MLv2.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=134.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.14**	**162**	P	Pg	17 51 51.2	+1.4
MHCZ	**Mount Hutt**	**0.45**	**222**	P	Pb	17 51 57.5	+0.4
LTZ	**Lake Taylor**	**0.47**	**27**	P	Pb	17 51 57.6	+0.2
INZ	**Inchbonnie**	**0.62**	**320**	P	Pb	17 52 00.4	+0.4
MQZ	**McQueen's Vall**	**0.71**	**136**	P	Pb	17 52 01.9	+0.4
WACZ	**Wakanui South**	**0.75**	**188**	P	Pn	17 52 03.4	-0.5
GVZ	**Greta Valley S**	**0.81**	**74**	P	Pn	17 52 04.6	0.0
RPZ	**Rata Peaks**	**0.85**	**232**	P	Pn	17 52 04.8	-0.4
WVZ	**Waitaha Valley**	**0.92**	**277**	P	Pn	17 52 06.0	-0.1
OKCZ	**Okains Bay**	**0.94**	**124**	P	Pn	17 52 06.7	+0.2
ARCZ	**Arundel**	**0.95**	**218**	P	Pn	17 52 06.7	+0.1
AKCZ	**Akaroa Harbour**	**0.95**	**135**	P	Pn	17 52 06.5	-0.1
DSZ	**Denniston Nort**	**1.46**	**355**	P	Pg	17 52 15.6	+0.7
THZ	**Tophouse**	**1.59**	**26**	P	Pg	17 52 18.1	+0.7
LBZ	**Lake Benmore**	**1.76**	**227**	P	Pg	17 52 21.3	+0.6
ODZ	**Otahua Downs**	**2.08**	**207**	P	Pg	17 52 27.3	+0.5
QRZ	**Quartz Range**	**2.41**	**10**	P	Pg	17 52 35.3	+2.3
TWVZ	**Taurewa**	**4.88**	**33**	P	Pn	17 53 04.0	+3.3
RAGZ	**Rawiri**	**6.25**	**43**	P	Pn	17 53 26.7	+7.3

KRNET ***25*** *17:59:17.8±0.1, 43°.18N×73°.99E, h23km, mb4.4*
NNC ***25*** *17:59:17.3±0.5, 43°.21N×73°.98E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=3.1km s-min=2.7km az=110.0*
SOME ***25*** *17:59:17.8, 43°.20N×74°.00E, h10km, MS3.1*
KNET ***25*** *17:59:17.9±0.5, 43°.17N×74°.01E, h18km±2km, ml3.9, Error ellipse: s-maj=3.5km s-min=1.7km az=147.0*
ISC 25 17:59:14.8±1.1, 43°.23N±0°.02×73°.95E±0°.02, h12km±9km, n77, σ1°.950/135, 41C-31D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.40**	**84**	⇑*i*P	**Pn**	**17 59 25.7**	**-0.9**
	baz=77						
USP				⇑*i*S	**Sb**	**17 59 31.1**	**+1.0**
	baz=77						
USP	**Ospenovka**	**0.40**	**84**	⇓P	**Pn**	**17 59 25.6**	**-0.9**
	561nm,0.1s,SNR=3310						
USP				⇓S	**Sb**	**17 59 31.5**	**+1.4**
	5μm,0.2s						
SGDS	**Sogindy**	**0.54**	**66**	P	**Pn**	**17 59 28.2**	**-0.2**
	550nm,0.2s						
SGDS				S	**Sb**	**17 59 35.7**	**+1.6**
	2μm,0.2s						
EKS2	**Erkin-Say**	**0.58**	**193**	⇓*i*P	**Pn**	**17 59 28.8**	**-0.3**
	baz=96						
EKS2				⇓*i*S	**Sn**	**17 59 36.8**	**-1.8**
	baz=96						
EKS2	**Erkin-Say**	**0.58**	**193**	P	**Pn**	**17 59 28.7**	**-0.3**
	717nm,0.2s,SNR=3321						
EKS2				⇑S	**Sn**	**17 59 36.7**	**-1.8**
	14μm,0.2s						
CHMS	**Chumysh**	**0.63**	**111**	⇓*i*P	**Pn**	**17 59 29.3**	**-0.3**
	baz=8.0						
CHMS				⇓*i*S	**Sb**	**17 59 37.3**	**+0.7**
	baz=8.0						
CHMS	**Chumysh**	**0.63**	**111**	⇓P	**Pn**	**17 59 29.3**	**-0.3**
	524nm,0.3s,SNR=405						
CHMS				⇑S	**Sb**	**17 59 37.7**	**+1.1**
	2μm,0.2s						
FRU1	**Bishkek**	**0.65**	**130**	⇑*i*P	**Pn**	**17 59 29.6**	**-0.4**
	baz=28						
FRU1				⇑*i*S	**Sb**	**17 59 37.8**	**+0.6**
	baz=28						
AAK	**Ala-Archa**	**0.71**	**146**	⇑*i*P	**Pn**	**17 59 30.8**	**-0.1**
	baz=45						
AAK				⇑*i*S	**Sn**	**17 59 40.0**	**-1.9**
	baz=45						
AAK	**Ala-Archa**	**0.71**	**146**	P	**Pn**	**17 59 31.1**	**+0.2**
	886nm,0.2s,SNR=1128						
AAK				⇓S	**Sn**	**17 59 40.9**	**-1.0**
	1μm,0.3s						
AAK	**Ala-Archa**	**0.71**	**146**	⇑P	**Pn**	**17 59 30.8**	**-0.1**
	534nm,0.3s						
AAK				⇑S	**Sn**	**17 59 40.9**	**-1.0**
	365nm,0.3s						
MRKS	**Merke**	**0.72**	**228**	⇑*e*P	**Pn**	**17 59 30.8**	**-0.1**
	baz=32						
MRKS				⇑*e*S	**Sn**	**17 59 40.4**	**-1.5**
	baz=32						
MRKS	**Merke**	**0.72**	**228**	⇑*e*P	**Pn**	**17 59 30.8**	**-0.1**
	150nm,0.1s						
MRKS				*e*S	**Sn**	**17 59 40.4**	**-1.5**
	2μm,0.1s						
MRKS	**Merke**	**0.72**	**228**	P	**Pn**	**17 59 30.9**	**-0.1**
	252nm,0.4s						
MRKS				S	**Sn**	**17 59 40.4**	**-1.5**
	3μm,0.2s						
KBK	**Karagaybulak**	**0.93**	**128**	⇑*i*P	**Pn**	**17 59 34.5**	**+0.6**
	baz=26						
KBK				⇑*i*S	**Sn**	**17 59 46.5**	**-0.7**
	baz=26						
KBK	**Karagaybulak**	**0.93**	**128**	⇓P	**Pn**	**17 59 35.0**	**+1.1**
	529nm,0.2s,SNR=746						
KBK				⇑S	**Sn**	**17 59 47.8**	**+0.6**
	2μm,0.2s						
UCH	**Uchtor**	**1.08**	**157**	⇑*i*P	**Pn**	**17 59 37.3**	**+1.0**
	baz=58						
UCH				⇑*i*S	**Sn**	**17 59 51.3**	**-0.1**
	baz=58						
UCH	**Uchtor**	**1.08**	**157**	⇓P	**Pn**	**17 59 37.7**	**+1.5**
	2μm,0.3s,SNR=3557						
UCH				⇑S	**Sn**	**17 59 52.1**	**+0.7**
	3μm,0.2s						
AML	**Almayashu**	**1.11**	**190**	⇑*i*P	**Pn**	**17 59 38.0**	**+1.4**
	baz=92						
AML				⇑*i*S	**Sn**	**17 59 52.6**	**+0.5**
	baz=92						
AML	**Almayashu**	**1.11**	**190**	P	**Pn**	**17 59 38.2**	**+1.6**
	243nm,0.2s,SNR=535						
AML				⇓S	**Sn**	**17 59 52.9**	**+0.9**
	5μm,0.7s						
TKM2	**Tokmak 2**	**1.25**	**104**	⇑*i*P	**Pg**	**17 59 39.9**	**+1.1**
	baz=2.0						
TKM2				⇑*i*S	**Sn**	**17 59 56.0**	**+0.9**
	baz=2.0						
TKM2	**Tokmak 2**	**1.25**	**104**	⇓P	**Pg**	**17 59 40.0**	**+1.1**
	203nm,0.2s,SNR=139						
TKM2				⇑S	**Sn**	**17 59 56.6**	**+1.6**
	2μm,0.2s						
TKM2	**Tokmak 2**	**1.25**	**104**	⇓P	**Pg**	**17 59 39.5**	**+0.7**
	58nm,0.4s						
TKM2				⇓S	**Sn**	**17 59 55.9**	**+0.9**
	1μm,0.4s						
ARLS	**Aral**	**1.40**	**168**	⇑*i*P	**Pg**	**17 59 42.2**	**+0.6**
	baz=69						
ARLS				⇑*i*S	**Sg**	**17 59 59.7**	**-0.1**
	baz=69						
KST	**Kastek**	**1.48**	**97**	⇓*e*P	**Pg**	**17 59 44.7**	**+1.4**
	baz=95						
KST				⇓*e*S	**Sg**	**18 00 03.9**	**+1.3**
	baz=95						
KST	**Kastek**	**1.48**	**97**	⇓*e*P	**Pg**	**17 59 44.7**	**+1.4**
	567nm,0.4s						
KST				*e*S	**Sg**	**18 00 03.9**	**+1.3**
	3μm,0.4s						
KST	**Kastek**	**1.48**	**97**	P	**Pg**	**17 59 45.0**	**+1.6**
	521nm,0.3s						
KST				S	**Sg**	**18 00 04.9**	**+2.2**
	3μm,0.4s						
KZA	**Kyzart**	**1.50**	**140**	⇓*i*P	**Pg**	**17 59 44.3**	**+0.7**
	baz=39						
KZA				⇓*i*S	**Sg**	**18 00 03.6**	**+0.5**
	baz=39						
KZA	**Kyzart**	**1.50**	**140**	P	**Pg**	**17 59 45.2**	**+1.5**
	1μm,0.2s,SNR=1562						
KZA				⇑S	**Sg**	**18 00 05.3**	**+2.2**
	2μm,0.2s						
BOOM	**Boomskoye usch**	**1.64**	**116**	⇑*i*P	**Pg**	**17 59 46.6**	**+0.3**
	baz=15						
BOOM				⇑*i*S	**Sg**	**18 00 07.6**	**0.0**
	baz=15						
BTLS	**Baital**	**1.81**	**2**	*e*P	**Pg**	**17 59 50.3**	**+0.7**
	201nm,0.3s						
BTLS				*e*S	**Sg**	**18 00 14.0**	**+0.9**
	2μm,0.3s						
BTLS	**Baital**	**1.81**	**2**	P	**Pg**	**17 59 50.5**	**+0.9**
	201nm,0.3s						
BTLS				S	**Sg**	**18 00 14.5**	**+1.4**
	2μm,0.3s						
MTBS	**Maitube**	**1.82**	**92**	⇑*e*P	**Pg**	**17 59 50.4**	**+0.7**
	baz=91						
MTBS				⇑*e*S	**Sg**	**18 00 13.3**	**0.0**
	baz=91						
MTBS	**Maitube**	**1.82**	**92**	⇑*e*P	**Pg**	**17 59 50.4**	**+0.7**
	201nm,0.4s						
MTBS				*e*S	**Sg**	**18 00 13.3**	**0.0**
	2μm,0.4s						
KUU	**Kurty**	**1.86**	**68**	*e*P	**Pg**	**17 59 51.3**	**+0.8**
	baz=67						
KUU				*e*S	**Sg**	**18 00 15.3**	**+0.7**
	baz=67						
KUU	**Kurty**	**1.86**	**68**	*e*P	**Pg**	**17 59 51.2**	**+0.8**
	1μm,0.2s						
KUU				*e*S	**Sg**	**18 00 15.2**	**+0.7**
	2μm,0.5s						
KUU	**Kurty**	**1.86**	**68**	P	**Pg**	**17 59 51.2**	**+0.8**
	1μm,0.2s						
KUU				S	**Sg**	**18 00 15.2**	**+0.7**
	2μm,0.5s						
ULHL	**Ulahol**	**1.95**	**119**	⇓*i*P	**Pg**	**17 59 51.4**	**-0.9**
	baz=19						
ULHL				⇓*i*S	**Sb**	**18 00 15.8**	**+0.9**
	baz=19						
ULHL	**Ulahol**	**1.95**	**119**	P	**Pg**	**17 59 52.7**	**+0.4**
	104nm,0.2s,SNR=262						
IZV	**Izvestkoviy**	**1.96**	**95**	Pg	**Pg**	**17 59 53.8**	**+1.4**
	388nm,0.5s						
IZV				Lg	Lg	18 00 19.6	
	2μm,0.4s						
KTBS	**Karatobe**	**2.05**	**75**	*e*P	**Pg**	**17 59 54.3**	**+0.2**
	203nm,0.4s						
KTBS				*e*S	**Sg**	**18 00 20.5**	**-0.1**
	2μm,0.5s						
KTBS	**Karatobe**	**2.05**	**75**	Pg	**Pg**	**17 59 54.3**	**+0.2**
	203nm,0.4s						
KTBS				Lg	Lg	18 00 20.5	
	2μm,0.5s						
AAA	**Alma-Ata**	**2.17**	**90**	*e*P	**Pg**	**17 59 58.0**	**+1.7**
	357nm,0.4s						
AAA				*e*S	**Sg**	**18 00 26.2**	**+1.8**
	1μm,0.4s						
AAA	**Alma-Ata**	**2.17**	**90**	Pg	**Pg**	**17 59 58.0**	**+1.7**
	494nm,0.5s						
AAA				Lg	Lg	18 00 26.5	
	998nm,0.3s						
TNSS	**Tian-Shan**	**2.20**	**94**	*e*P	**Pg**	**17 59 57.9**	**+0.8**
	562nm,0.4s						
TNSS				*e*S	**Sg**	**18 00 26.5**	**+0.8**
	1μm,0.4s						
TNSS	**Tian-Shan**	**2.20**	**94**	Pg	**Pg**	**17 59 57.9**	**+0.8**
	562nm,0.4s						
TNSS				Lg	Lg	18 00 26.5	
	1μm,0.4s						
KNDC	**Almaty**	**2.20**	**89**	⇓Pg	**Pg**	**17 59 59.1**	**+2.0**
	378nm,0.5s						
KNDC				⇑Lg	Lg	18 00 26.4	
	3μm,0.9s						
MDOK	**Medeo**	**2.27**	**91**	*e*P	**Pg**	**17 59 58.9**	**+0.6**
	108nm,0.3s						
MDOK				*e*S	**Sg**	**18 00 28.2**	**+0.5**
	1μm,0.4s						
MDOK	**Medeo**	**2.27**	**91**	Pg	**Pg**	**17 59 58.9**	**+0.6**
	363nm,0.5s						
MDOK				Lg	Lg	18 00 28.4	
	1μm,0.4s						
KOTS	**Kotyrbulak**	**2.31**	**89**	*e*P	**Pg**	**17 59 59.7**	**+0.6**
	677nm,0.2s						
KOTS				*e*S	**Sg**	**18 00 29.8**	**+0.7**
	955nm,0.5s						
KOTS	**Kotyrbulak**	**2.31**	**89**	Pg	**Pg**	**17 59 59.8**	**+0.6**
	696nm,0.3s						
KOTS				Lg	Lg	18 00 29.8	
	2μm,0.5s						
KK31	**Karatay Array**	**2.52**	**268**	⇓Pg	**Pg**	**18 00 04.8**	**+1.7**
	14nm,0.3s,baz=77,slow=16,SNR=6.3						
KK31				Lg	Lg	18 00 34.4	
	230nm,0.3s,baz=80,slow=32,SNR=26						
KDJ	**Kajisay**	**2.62**	**114**	⇑*i*P	**Pb**	**18 00 00.6**	**-1.3**
	baz=13						
KDJ				⇑*i*S	**Sb**	**18 00 31.8**	**-2.3**
	baz=13						
ANVS	**Anan'yevo**	**2.76**	**98**	⇑*i*P	**Pb**	**18 00 02.4**	**-1.9**
	baz=97						
ANVS				⇑*i*S	**Sn**	**18 00 34.9**	**+2.4**
	baz=97						
OHH	**Osh**	**2.84**	**198**	⇓*i*P	**Pb**	**18 00 03.6**	**-1.9**
	baz=99						
OHH				⇓*i*S	**Sb**	**18 00 37.1**	**-3.1**
	baz=99						
ARXS	**Arharly**	**2.98**	**69**	*e*P	**Pg**	**18 00 11.8**	**-0.1**
	322nm,0.3s						
ARXS				*e*S	**Sg**	**18 00 50.0**	**-0.5**
	880nm,0.4s						
ARXS	**Arharly**	**2.98**	**69**	Pg	**Pg**	**18 00 11.8**	**-0.1**
	322nm,0.3s						
ARXS				Lg	Lg	18 00 50.0	
	880nm,0.4s						
IUG	**Iuzhnay**	**3.08**	**251**	*e*P	**Pg**	**18 00 15.0**	**+1.1**
	114nm,0.2s						
IUG				*e*S	**Sg**	**18 00 54.3**	**+0.3**
	2μm,0.4s						
KURS	**Kuram**	**3.09**	**84**	*e*P	**Pg**	**18 00 13.0**	**-1.0**
	154nm,0.5s						
KURS				*e*S	**Sg**	**18 00 52.0**	**-2.0**
	276nm,0.4s						
TARG	**Taragay,

MSAI S **Sn** **18 08 24.4 +3.6**
BNDI Bandanaira 1.40 121 P **Pn** **18 08 22.2 +3.9**
NLAI Namlea 1.69 289 P **Pn** **18 08 24.5 +2.7**
SANI Sanana 3.21 303 P **Pn** **18 08 43.1 +1.3**
FAKI Fak Fak 3.65 76 P **Pn** **18 08 49.7 +2.0**
FAKI Fak Fak 3.65 76 **Pn** **18 08 49.8 +2.0**
FAKI Sn **Sn** **18 09 27.8 -2.1**
SIJI Sorong 3.88 42 Pn **Pn** **18 08 52.3 +1.6**
8.0nm,0.3s,baz=66,slow=7.0,SNR=121
SIJI Sn **Sn** **18 09 34.6 -0.8**
24nm,0.3s,baz=2.0,slow=23,SNR=15
TNTI Ternate 4.73 344 P **Pn** **18 09 04.2 +1.9**
TNTI Ternate 4.73 344 **Pn** **18 09 04.2 +1.9**
DAV Davao City (W) 11.23 344 LR LR 18 14 25.2
comp=Z,2µm,20.9s,baz=322,slow=36
WB0 Warramunga Arr 16.82 161 **Pn** **18 11 42.0 -0.8**
WB0 IAmb IAmb 18 12 01.0
comp=Z,10nm,1.2s
WRA Warramunga Arr 16.97 162 P **Pn** **18 11 43.7 -0.8**
comp=Z,0.5nm,0.3s,baz=335,slow=13,SNR=16
WRA Warramunga Arr 16.97 162 P **Pn** **18 11 43.2 -1.3**
WB2 Warramunga Arr 16.97 161 **Pn** **18 11 43.2 -1.3**
WR0 Warramunga Arr 17.05 161 P **Pn** **18 11 44.5 -1.0**
WR0 IAmb IAmb 18 12 11.8
comp=Z,13nm,1.4s
COEN Coen 17.49 126 **Pn** **18 11 50.5 -0.4**
COEN IAmb IAmb 18 12 09.1
comp=Z,11nm,1.3s
KSM Kuching 19.11 286 Pn **Pn** **18 12 10.0 -0.3**
KSM IAmb IAmb 18 12 10.6
comp=Z,6.3nm,0.7s
AS31 Alice Springs 20.39 166 P **P** **18 12 22.6 +0.4**
ASAR Alice Springs 20.39 166 P **P** **18 12 22.1 -0.1**
comp=Z,2.9nm,0.5s,baz=348,slow=12,SNR=26
ASAR Alice Springs 20.39 166 P **P** **18 12 22.8 +0.6**
BBOO Buckleboo 29.68 167 P **P** **18 13 48.5 -1.2**
JKA Kamikawa-asahi 49.30 13 P **P** **18 16 32.5 +0.5**
MK31 Makanchi Array 64.85 327 P **P** **18 18 21.1 -0.6**
MKAR Makanchi Array 64.85 327 P **P** **18 18 21.3 -0.4**
comp=Z,0.5nm,0.4s,baz=115,slow=8.2,SNR=9.9
MKAR Makanchi Array 64.85 327 P **P** **18 18 21.2 -0.5**
MAKZ Makanchi 65.03 327 P **P** **18 18 22.1 -0.8**
MAKZ IAmb IAmb 18 18 47.2
comp=Z,4.1nm,1.3s
KURK Kurchatov 69.12 329 P **P** **18 18 48.5 -0.1**
KURK IAmb IAmb 18 18 49.1
comp=Z,1.8nm,0.8s
ABKAR Abkulak array 79.21 322 P **P** **18 19 46.5 -0.8**
ABKAR Abkulak array 79.21 322 P **P** **18 19 46.6 -0.6**
ABKAR IAmb IAmb 18 19 55.0
comp=Z,5.2nm,1.4s
SVW2 Sparrevohn 86.44 28 P **P** **18 20 23.8 -0.7**

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*SJA **25** 18:14:34.2±0.4,41°.87S×75°.39W,h10km,ML4.4,MW4.4*
*IDC **25** 18:14:59.2±1.1,40°.63S×74°.04W,h0km,mb4.1/7,*
mb1 4.2/8,mb1mx4.0/26,mbtmp4.1/8,ML4.3/1,MS3.7/1,
Ms1 3.7/1,ms1mx3.3/19,Error ellipse: s-maj=27.2km
s-min=17.9km az=24.0
*NEIC **25** 18:15:04.6±1.6,40°.33S±0°.04×73°.8W±0°.2,h43km±8km,*
Error ellipse: s-maj=21.3km s-min=6.2km az=89.0
*GUC **25** 18:15:06.0±0.6,40°.42S×73°.71W,h63km±36km,ML3.9*
ISC 25 18:15:04.0±0.8,**40°.34S**±0°.05×**73°.95W**±0°.09,**h35**km,**n56,**
σ1§78/57,mb4.3/9,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LC01	**Cunco**	**2.15**	**49**	⇓*iP*	**Pn**	**18 15 38.3**	**+0.9**
LC01				*e*S	**Sn**	**18 16 03.4**	**+0.5**
LC01				IAML		18 16 14.9	
comp=E,1µm,0.4s							
LL01	**San Ignacio de**	**2.34**	**151**	*e*P	**Pn**	**18 15 40.1**	**+0.2**
LL01				*e*S	**Sn**	**18 16 05.5**	**-2.0**
LL01				IAML		18 16 08.2	
comp=N,2µm,0.5s							
LL01	**San Ignacio de**	**2.34**	**151**	Pn	**Pn**	**18 15 40.1**	**+0.2**
PLCA	**Paso Flores**	**2.62**	**100**	Pn	**Pn**	**18 15 44.1**	**+0.2**
comp=N,14nm,0.3s,baz=274,slow=12,SNR=138							
PLCA				Sn	**Sn**	**18 16 16.1**	**+1.6**
comp=N,31nm,0.3s,baz=346,slow=21,SNR=5.2							
PLCA				Lg	Lg	18 16 26.2	
comp=N,36nm,0.3s,baz=13,slow=13,SNR=7.2							
PLCA	**Paso Flores**	**2.62**	**100**	⇓*iP*	**Pn**	**18 15 43.6**	**-0.3**
PLCA				*e*S	**Sn**	**18 16 11.8**	**-2.7**
PLCA	**Paso Flores**	**2.62**	**100**		**Pn**	**18 15 43.8**	**-0.1**
LL02	**Futaleuf**	**3.25**	**152**	*e*P	**Pn**	**18 15 53.0**	**+0.5**
LL02				IAML		18 16 46.7	
comp=N,215nm,0.7s							
BI03	**Tigo**	**3.56**	**12**	⇑*iP*	**Pn**	**18 15 59.1**	**+2.3**
BI03				*i* S	**Sn**	**18 16 36.9**	**-0.8**
BI03	**Tigo**	**3.56**	**12**		**Pn**	**18 15 58.9**	**+2.1**
BI02	**San Fabin de**	**4.23**	**31**	*e*P	**Pn**	**18 16 07.8**	**+1.8**
BI02	**San Fabin de**	**4.23**	**31**		**Pn**	**18 16 07.2**	**+1.2**
GO05	**Huala**	**5.56**	**17**		**Pn**	**18 16 25.3**	**+1.1**
GO05	**Huala**	**5.56**	**17**	*e*P	**Pn**	**18 16 25.5**	**+1.3**
GO05				*e*S	Sn	18 17 46.9	+20
BO02	**Sierra Bellavi**	**6.08**	**25**		**Pn**	**18 16 32.5**	**+1.0**
RFA	**San Rafael**	**7.06**	**40**	*e*P	**Pn**	**18 16 46.2**	**+1.3**
RFA				IAML		18 19 57.0	
comp=Z,16nm,3.1s							
MT02	**Curacav**	**7.42**	**19**		**Pn**	**18 16 49.5**	**-0.2**
H03S1	**Juan Fernandez**	**7.60**	**327**	T	T	18 24 42.9	
baz=146,slow=75,SNR=114							
H03S2	**Juan Fernandez**	**7.61**	**327**	T	T	18 24 42.3	
baz=146,slow=75,SNR=114							
H03S3	**Juan Fernandez**	**7.61**	**327**	T	T	18 24 43.7	
baz=146,slow=75,SNR=96							
PEL	**Peldehue**	**7.64**	**21**		**Pn**	**18 16 52.3**	**-0.6**
PEL	**Peldehue**	**7.64**	**21**	*i* P	**Pn**	**18 16 52.9**	**0.0**
PEL				*i* S	**Sn**	**18 18 16.2**	**-2.1**
ROC1	**El Roble**	**7.72**	**19**		**Pn**	**18 16 54.1**	**+0.1**
ROC1	**El Roble**	**7.72**	**19**	*e*P	**Pn**	**18 16 54.0**	**-0.1**
ROC1				*i* S	**Sn**	**18 18 15.2**	**-5.1**
VA03	**San Esteban**	**8.04**	**21**		**Pn**	**18 16 58.0**	**-0.4**
AUSP	**Uspallata**	**8.90**	**26**	⇓*iP*	**Pn**	**18 17 11.9**	**+1.7**
RTLS	**Leoncito**	**9.32**	**25**	*i* P	**Pn**	**18 17 16.8**	**+0.8**
RTLS				*i* S	**Sn**	**18 18 57.2**	**-2.5**
RTLS				IAML		18 20 08.7	
comp=Z,5.8nm,3.1s							
CO02	**Combarbal**	**9.43**	**16**		**Pn**	**18 17 17.1**	**-0.3**
ZON	**Zonda**	**9.76**	**28**	Pn	**Pn**	**18 17 21.1**	**-0.8**
CO03	**El Pedregal**	**9.84**	**17**		**Pn**	**18 17 22.4**	**-0.7**
RTLL	**Cerro Villicun**	**10.03**	**28**	*i* P	**Pn**	**18 17 24.5**	**-1.1**
GO04	**Tololo Observa**	**10.46**	**15**	Pn	**Pn**	**18 17 31.7**	**-0.1**
CO01	**Juntas del Tor**	**10.81**	**18**	Pn	**Pn**	**18 17 36.5**	**+0.1**
LCO	**Las Campanas**	**11.61**	**14**	Pn	**Pn**	**18 17 47.0**	**-0.5**
ACLC	**CERRO LA CRUZ**	**12.30**	**30**	*e*P	**Pn**	**18 17 53.5**	**-3.3**
PB14	**IPOC Station P**	**15.95**	**12**	Pn	**Pn**	**18 18 44.9**	**-1.1**
PB14				IAmb	IAmb	18 19 02.5	
comp=Z,46nm,1.5s							
LVC	**Limon Verde**	**18.18**	**15**	P	**Pn**	**18 19 19.9**	**+5.9**
comp=Z,0.5nm,0.3s,baz=269,slow=4.4,SNR=5.1							
PB01	**IPOC Station P**	**19.61**	**13**	P	**P**	**18 19 28.0**	**-1.4**
MNMC	**Minye Minye**	**21.47**	**11**	P	**P**	**18 19 49.4**	**-0.3**
MNMC				IAmb	IAmb	18 19 58.1	
comp=Z,24nm,1.1s							
PB16	**IPOC Station P**	**22.26**	**11**	P	**P**	**18 19 57.2**	**-1.4**
PB16				IAmb	IAmb	18 20 08.6	
comp=Z,29nm,1.4s							
LPAZ	**La Paz**	**24.49**	**14**	P	**P**	**18 20 24.1**	**+3.5**
comp=Z,1.6nm,0.7s,baz=239,slow=12,SNR=4.5							
PMSA	**Palmer Station**	**25.14**	**170**	LR	LR	18 30 32.1	
comp=Z,192nm,20.2s,baz=83,slow=38							
SIV	**San Ignacio**	**26.72**	**28**	P	**P**	**18 20 43.5**	**+3.3**
comp=Z,1.7nm,0.8s,baz=235,slow=12,SNR=2.6							
SNAA	**Sanae**	**46.37**	**156**	P	**P**	**18 23 26.4**	**0.0**
comp=Z,1.6nm,0.6s,baz=243,slow=8.0,SNR=8.0							
SNAA	**Sanae**	**46.37**	**156**	P	**P**	**18 23 26.3**	**0.0**
SNAA				IAmb	IAmb	18 23 42.5	
comp=Z,5.7nm,1.1s							
RCBR	**Riachuelo**	**48.40**	**55**	P	**P**	**18 23 42.0**	**-0.8**
TXAR	**Lajitas Array**	**74.61**	**333**	P	**P**	**18 26 42.9**	**+3.4**
comp=Z,0.7nm,0.7s,baz=164,slow=9.9,SNR=7.7							
TXAR	**Lajitas Array**	**74.61**	**333**	P	**P**	**18 26 40.7**	**+1.2**
BOSA	**Boshof**	**78.48**	**118**	P	**P**	**18 27 01.1**	**-0.6**
comp=Z,3.6nm,0.7s,baz=245,slow=2.7,SNR=8.9							
BOSA	**Boshof**	**78.48**	**118**	P	**P**	**18 27 00.9**	**-0.8**
BOSA				IAmb	IAmb	18 27 01.7	
comp=Z,4.5nm,0.7s							
DBIC	**Dimbokro**	**78.67**	**71**	P	**P**	**18 27 02.4**	**-0.2**
comp=Z,2.3nm,0.5s,baz=216,slow=6.0,SNR=5.6							
DBIC	**Dimbokro**	**78.67**	**71**	P	**P**	**18 27 02.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**87.77**	**71**	P	**P**	**18 27 49.1**	**-0.5**
comp=Z,0.5nm,0.6s,baz=204,slow=2.3,SNR=2.1							
TORD	**Torodi Ar. Bea**	**87.77**	**71**	P	**P**	**18 27 48.2**	**-1.4**
H11S2	**WAKE ISLAND Hyd**	**123.97**	**266**	T	T	20 50 18.2	
baz=127,slow=75,SNR=46							
H11S1	**WAKE ISLAND Hyd**	**123.98**	**266**	T	T	20 50 19.4	
baz=127,slow=75,SNR=59							
H11S3	**WAKE ISLAND Hyd**	**123.98**	**266**	T	T	20 50 19.6	
baz=127,slow=75,SNR=41							

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*SNET **25** 18:39:50.5±2.0, 13°.24N×89°.24W,h14km±999km,ML2.6*
*GCG **25** 18:39:53.9±0.3, 13°.54N×89°.94W,h35km±999km,MD3.5*
ISC 25 18:39:51.3±3.9,**13°.4N**±0°.3×**89°.95W**±0°.07,**h66**km,**n11,**
σ0§49/13,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.56**	**34**	*e*P	**Pn**	**18 40 04.1**	**-0.5**
CEVE				IAML		18 40 16.6	
comp=Z,502nm,0.1s							
NUBE	**Las Nubes**	**0.56**	**17**	*e*P	**Pn**	**18 40 04.2**	**-0.4**
SBLS	**San Blas**	**0.57**	**34**	*e*P	**Pn**	**18 40 04.8**	**0.0**
SBLS				*e*S	**Sn**	**18 40 14.7**	**+0.2**
SNJE	**San Jose**	**0.60**	**33**	*e*P	**Pn**	**18 40 05.2**	**+0.1**
RTR	**El Retiro**	**0.61**	**29**	*e*P	**Pn**	**18 40 05.3**	**+0.2**
IXG	**Ixpaco**	**0.94**	**329**	*e*P	**Pn**	**18 40 09.2**	**+0.2**
IXG				*e*S	**Sn**	**18 40 20.9**	**-1.1**
MTO3	**Montecristo**	**1.18**	**29**	*e*P	**Pn**	**18 40 12.5**	**+0.4**
MTO3				*e*S	**Sn**	**18 40 27.8**	**+0.2**
PCG	**Pacaya**	**1.21**	**328**	*e*S	**Sn**	**18 40 28.2**	**-0.2**
FUG	**Fuego 3**	**1.39**	**321**	*e*P	**Pn**	**18 40 15.4**	**+0.6**
FUG				*e*S	**Sn**	**18 40 32.4**	**0.0**
RANC	**El Ranchito**	**1.61**	**87**	*e*P	Pn	18 40 08.8	-9.0
RANC				IAML		18 40 21.9	
comp=Z,106nm,0.5s							
VSM	**San Miguel**	**1.63**	**88**	*e*P	Pn	18 40 07.5	-11

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*MOS **25** 18:59:59.0±1.1,56°.09S×27°.73W,h117km,mb5.1/7,Error*
ellipse: s-maj=23.3km s-min=11.9km az=113.5
*BJI **25** 19:00:00.0±0.0,56°.10S×27°.60W,h129km,mB5.6/2*
*NEIC **25** 19:00:00.3±1.1,56°.05±0°.1×27°.60W±0°.04,h120km±4km,*
mb5.1/53,Error ellipse: s-maj=14.8km s-min=3.4km
az=181.0
*UNK **25** 19:00:00.3,56°.02S×27°.60W,h120km*
*IDC **25** 19:00:02.0±1.3,56°.04S×27°.52W,h131km±10km,mb4.5/16,*
mb1 4.6/18,mb1mx4.4/30,mbtmp4.9/18,Error ellipse:
s-maj=14.3km s-min=10.1km az=57.0
ISC 25 18:59:59.1±0.3,**56°.10S**±0°.06×**27°.62W**±0°.07,**h112**km,
n246,σ1§11/259,mb5.0/40,6C-7D,South Sandwich
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.40**	**286**	P	**Pn**	**19 01 17.4**	**+0.3**
HOPE	**Hope Point**	**5.40**	**286**		**Pn**	**19 01 17.4**	**+0.3**
VNA1	**Neumayer--Stat**	**16.84**	**158**	P	**P**	**19 03 47.9**	**0.0**
VNA1				x	**Pn**	**19 03 48.3**	**+0.7**
VNA3	**Neumayer Olymp**	**17.02**	**160**	P	**Pn**	**19 03 49.9**	**0.0**
VNA2	**Neumayer--Watz**	**17.24**	**157**	P	**Pn**	**19 03 52.5**	**0.0**
baz=315,slow=14							
EFI	**East Falkland**	**18.39**	**271**	⇑*e*P	**Pn**	**19 04 06.4**	**-0.1**
EFI				pmax	pmax		
comp=Z,172nm,2.5s							
EFI	**East Falkland**	**18.39**	**271**	P	**Pn**	**19 04 05.9**	**-0.6**
EFI				IAmb	IAmb	19 04 18.0	
comp=Z,125nm,1.4s							
SNAA	**Sanae**	**18.79**	**156**	P	**Pn**	**19 04 10.4**	**-0.7**
SNAA	**Sanae**	**18.79**	**156**	P	**Pn**	**19 04 10.5**	**-0.7**
comp=Z,27nm,0.3s,baz=306,slow=9.3,SNR=1559							
SNAA				S	**S**	**19 07 34.1**	**-2.9**
comp=Z,0.1nm,0.3s,baz=324,slow=21,SNR=1.8							
SNAA				ScP	**ScP**	**19 11 55.2**	**-1.2**
comp=Z,0.6nm,0.3s,baz=264,slow=1.7,SNR=28							
SNAA	**Sanae**	**18.79**	**156**	P	**Pn**	**19 04 10.4**	**-0.7**
PMSA	**Palmer Station**	**19.68**	**229**	P	**Pn**	**19 04 21.7**	**+0.2**
comp=Z,2.6nm,0.3s,baz=76,slow=5.6,SNR=15							
PMSA				ScP	**ScP**	**19 11 54.9**	**-3.4**
comp=Z,0.7nm,0.3s,baz=181,slow=2.0,SNR=4.4							
PMSA	**Palmer Station**	**19.68**	**229**	P	**Pn**	**19 04 21.5**	**+0.1**
BELA	**Belgrano 2**	**22.01**	**184**	P	**P**	**19 04 44.3**	**+0.6**
NVL	**N'lazarevskaya**	**22.35**	**146**	*e*P	**P**	**19 04 46.8**	**-0.6**
NVL				pmax	pmax		
comp=Z,11nm,0.6s							
GO09	**Cerro Castillo**	**26.55**	**261**	P	**P**	**19 05 25.5**	**-0.6**
PLTB	**Pedras Altas**	**30.35**	**312**	*e*P	**P**	**19 06 00.9**	**+0.8**
CNLB	**Canela**	**31.45**	**319**	*e*P	**P**	**19 06 10.6**	**+0.8**
CPSB	**Cacapava Do Su**	**31.48**	**314**	*e*P	**P**	**19 06 10.8**	**+0.8**
SYO	**Syowa Base**	**31.70**	**141**	⇓*e*P	**P**	**19 06 09.8**	**-1.7**
SYO	**Syowa Base**	**31.70**	**141**	⇓*e*pP	pP	19 06 34.1	-1.5
PLCA	**Paso Flores**	**31.77**	**281**	*e*P	**P**	**19 06 11.4**	**-1.2**
PLCA	**Paso Flores**	**31.77**	**281**	P	**P**	**19 06 11.4**	**-1.2**
PLCA	**Paso Flores**	**31.77**	**281**	*e*P	**P**	**19 06 11.7**	**-0.9**
ITAB	**Concordia**	**33.80**	**318**	*e*P	**P**	**19 06 30.9**	**+0.7**
QSPA	**South Pole Qui**	**34.15**	**180**	P	**P**	**19 06 34.8**	**+1.8**
comp=Z,36nm,0.5s,baz=263,slow=0.3,SNR=383							
QSPA				ScP	**ScP**	**19 12 39.1**	**-2.5**
comp=Z,2.9nm,0.6s,baz=252,slow=2.0,SNR=11							
QSPA	**South Pole Qui**	**34.15**	**180**	P	**P**	**19 06 34.9**	**+1.8**
TIJ01	**Guaruva-PR**	**34.46**	**324**	*e*P	**P**	**19 06 37.3**	**+1.3**
PET01	**Itanhaem-SP**	**34.88**	**328**	*e*P	**P**	**19 06 41.1**	**+1.5**
PARB	**Paraibuna**	**35.31**	**331**	*e*P	**P**	**19 06 44.5**	**+1.2**
MAN01	**Angra dos Reis**	**35.32**	**333**	*e*P	**P**	**19 06 44.4**	**+1.0**
SPB	**Sao Paulo**	**35.59**	**328**	P	**P**	**19 06 46.6**	**+1.0**
SPB				IAmb	IAmb	19 06 48.2	
comp=Z,22nm,0.7s							
SPB	**Sao Paulo**	**35.59**	**328**	*e*P	**P**	**19 06 46.9**	**+1.2**
VAS01	**Vassouras-RJ**	**35.75**	**334**	*e*P	**P**	**19 06 48.4**	**+1.4**
VAO	**Valinhos**	**36.01**	**329**	*e*P	**P**	**19 06 50.6**	**+1.3**
PTGB	**Pitanga**	**36.07**	**320**	*e*P	**P**	**19 06 50.0**	**+0.2**
FRTB	**Fartura**	**36.48**	**325**	*e*P	**P**	**19 06 54.4**	**+1.1**
FRTB				*e*S	S	19 12 42.5	+16
BSCB	**Bom Sucesso**	**37.31**	**333**	*e*P	**P**	**19 07 01.5**	**+1.1**
RIB01	**Linhares ES**	**37.97**	**340**	*e*P	**P**	**19 07 06.8**	**+1.0**
TRCB	**Terra Rica**	**38.03**	**321**	*e*P	**P**	**19 07 06.9**	**+0.5**
BB19B	**Bebedouro**	**38.30**	**327**	*e*P	**P**	**19 07 09.5**	**+0.9**
BSFB	**Barra de Sao F**	**38.52**	**340**	*e*P	**P**	**19 07 11.1**	**+0.6**
PCMB	**Pacaembu**	**38.66**	**323**	*e*P	**P**	**19 07 12.2**	**+0.6**
SJMB	**Sao Joao De Ma**	**38.72**	**339**	*e*P	**P**	**19 07 12.9**	**+0.8**
ITRB	**Iturama**	**40.14**	**326**	*e*P	**P**	**19 07 24.2**	**+0.2**
MAW	**Mawson**	**40.25**	**144**	P	**P**	**19 07 25.5**	**+1.2**
comp=Z,14nm,0.6s,baz=231,slow=8.1,SNR=48							
MAW				PcP	**PcP**	**19 09 26.5**	**+0.9**
comp=Z,3.4nm,0.6s,baz=217,slow=5.2,SNR=3.9							
MAW				ScP	**ScP**	**19 13 02.8**	**-1.4**
comp=Z,11nm,0.7s,baz=235,slow=5.6,SNR=29							
MAW	**Mawson**	**40.25**	**144**	P	**P**	**19 07 25.0**	**+0.7**
AC05	**El Transito**	**40.62**	**294**	P	**P**	**19 07 28.1**	**+0.1**
IPMB	**Ipameri, GO**	**41.12**	**329**	*e*P	**P**	**19 07 33.0**	**+1.0**
MC01	**Montes Claros**	**41.24**	**336**	*e*P	**P**	**19 07 32.6**	**-0.4**
JANB	**Januaria**	**42.92**	**336**	*e*P	**P**	**19 07 47.0**	**+0.4**
GDU01	**Guandu, BA**	**43.29**	**343**	*e*P	**P**	**19 07 50.3**	**+0.8**
BDFB	**Brasilia**	**43.29**	**331**	P	**P**	**19 07 50.9**	**+1.2**
comp=Z,8.3nm,0.6s,baz=152,slow=4.7,SNR=12							
BDFB	**Brasilia**	**43.29**	**331**	P	**P**	**19 07 50.2**	**+0.5**
ARAG	**Araguaiana, MT**	**44.35**	**326**	*e*P	**P**	**19 07 59.0**	**+0.9**
LVC	**Limon Verde**	**45.12**	**301**	P	**P**	**19 08 05.3**	**+0.8**
comp=Z,39nm,0.5s,baz=140,slow=2.8,SNR=9.8							
LVC	**Limon Verde**	**45.12**	**301**	P	**P**	**19 08 04.8**	**+0.2**
LVC				IAmb	IAmb	19 08 08.4	
comp=Z,42nm,0.7s							
LVC	**Limon Verde**	**45.12**	**301**	*e*P	**P**	**19 08 03.6**	**-0.9**
LVC				*e*pP	**P**	**19 08 07.5**	**+2.9**
PB10	**IPOC Station P**	**45.16**	**298**	P	**P**	**19 08 04.3**	**-0.1**
PB06	**IPOC Station P**	**45.36**	**300**	P	**P**	**19 08 06.0**	**-0.2**
SDBA	**SAO DESIDERIO**	**45.61**	**336**	*e*P	**P**	**19 08 08.7**	**+0.6**
PB04	**IPOC Station P**	**45.95**	**299**	P	**P**	**19 08 10.7**	**-0.2**
PB09	**IPOC Station P**	**45.97**	**301**	P	**P**	**19 08 12.2**	**+1.2**
PB09				IAmb	IAmb	19 08 12.7	
comp=Z,30nm,0.7s							
BOSA	**Boshof**	**46.22**	**76**	P	**P**	**19 08 12.7**	**-0.2**
comp=Z,2.0nm,0.8s,baz=219,slow=6.6,SNR=5.7							
BOSA	**Boshof**	**46.22**	**76**	P	**P**	**19 08 12.7**	**-0.2**
PB07	**IPOC Station P**	**46.34**	**300**	P	**P**	**19 08 14.2**	**+0.3**
VNDA	**Vanda**	**46.51**	**183**	P	**P**	**19 08 16.3**	**+1.9**
comp=Z,18nm,0.6s,baz=184,slow=6.7,SNR=153							
VNDA				ScP	**ScP**	**19 13 27.7**	**-1.8**
comp=Z,1.8nm,0.9s,baz=214,slow=3.2,SNR=5.5							
VNDA	**Vanda**	**46.51**	**183**	P	**P**	**19 08 16.2**	**+1.8**
VNDA				IAmb	IAmb	19 08 17.7	
comp=Z,20nm,0.6s							
PB01	**IPOC Station P**	**46.73**	**301**	P	**P**	**19 08 17.3**	**+0.4**
PEXB	**Peixe**	**46.74**	**332**	*e*P	**P**	**19 08 17.9**	**+1.0**
PTLB	**Pontes e Lacer**	**47.17**	**317**	*e*P	**P**	**19 08 20.1**	**-0.1**
PTLB				*e*pP	**P**	**19 08 24.0**	**+3.8**
PATCX	**Punta Patache**	**47.24**	**301**	P	**P**	**19 08 21.1**	**+0.3**
PATCX				IAmb	IAmb	19 08 22.0	
comp=Z,34nm,0.6s							
PB08	**IPOC Station P**	**47.34**	**302**	P	**P**	**19 08 22.8**	**+0.8**
PB08				IAmb	IAmb	19 08 23.9	
comp=Z,49nm,1.2s							
SIV	**San Ignacio**	**47.44**	**314**	P	**P**	**19 08 22.1**	**-0.3**
comp=Z,8.8nm,0.6s,baz=169,slow=7.3,SNR=26							
SIV				PcP	**PcP**	**19 09 51.0**	**0.0**
comp=Z,3.0nm,0.7s,baz=135,slow=2.9,SNR=2.4							
TA01	**Diego Aracena**	**47.47**	**301**	P	**P**	**19 08 22.3**	**-0.2**
TA01				IAmb	IAmb	19 08 28.0	
comp=Z,26nm,1.0s							
GO01	**Chusmiza**	**47.77**	**302**	P	**P**	**19 08 25.9**	**+0.5**
GO01				IAmb	IAmb	19 08 27.1	
comp=Z,44nm,0.8s							
PB11	**IPOC Station P**	**47.91**	**302**	P	**P**	**19 08 26.5**	**+0.4**
PB11				IAmb	IAmb	19 08 28.1	
comp=Z,42nm,0.8s							
H10S2	**ASCENSION HYDR**	**48.12**	**17**	T	T	20 01 20.1	
baz=189,slow=74,SNR=27							
H10S3	**ASCENSION HYDR**	**48.12**	**17**	T	T	20 01 20.4	
baz=31,slow=74,SNR=31							
PSGCX	**Pisagua**	**48.27**	**301**	P	**P**	**19 08 28.6**	**-0.2**
PSGCX				IAmb	IAmb	19 08 29.7	
comp=Z,26nm,0.6s							
MNMC	**Minye Minye**	**48.42**	**302**	P	**P**	**19 08 30.7**	**+0.6**
PB16	**IPOC Station P**	**49.06**	**303**	P	**P**	**19 08 35.6**	**+0.2**
PB16				IAmb	IAmb	19 08 36.7	
comp=Z,11nm,0.5s							
PB12	**IPOC Station P**	**49.21**	**302**	P	**P**	**19 08 35.9**	**-0.1**
PB12				IAmb	IAmb	19 08 47.3	
comp=Z,42nm,1.4s							
H10N1	**ASCENSION HYDR**	**49.24**	**17**	T	T	20 02 44.3	
baz=195							
H10N3	**ASCENSION HYDR**	**49.24**	**17**	T	T	20 02 44.7	
baz=195,slow=74,SNR=13							
H10N2	**ASCENSION HYDR**	**49.26**	**17**	T	T	20 02 45.4	
baz=195,slow=74,SNR=12							
LBTB	**Lobatse**	**49.26**	**74**	P	**P**	**19 08 36.5**	**+0.2**
comp=Z,7.0nm,0.8s,baz=183,slow=6.4,SNR=8.1							
LBTB	**Lobatse**	**49.26**	**74**	P	**P**	**19 08 36.2**	**-0.1**
SMTB	**Santa Maria do**	**49.67**	**334**	*e*P	**P**	**19 08 39.6**	**+0.2**
VILB	**Vilhena**	**49.85**	**317**	*e*P	**P**	**19 08 39.9**	**-0.9**
LPAZ	**La Paz**	**50.21**	**306**	P	**P**	**19 08 45.0**	**+0.8**
comp=Z,28nm,0.6s,baz=146,slow=3.5,SNR=41							
LPAZ				ScP	**ScP**	**19 13 44.4**	**-2.5**
comp=Z,1.4nm,0.8s,baz=142,slow=4.4,SNR=3.3							
LPAZ	**La Paz**	**50.21**	**306**	P	**P**	**19 08 44.6**	**+0.4**
LPAZ	**La Paz**	**50.21**	**306**	*e*P	**P**	**19 08 44.1**	**-0.1**
RCBR	**Riachuelo**	**50.57**	**349**	*e*P	**P**	**19 08 45.9**	**-0.3**
PRPB	**Parauapebas**	**52.82**	**332**	*e*P	**P**	**19 09 03.5**	**+0.6**
NPGB	**Novo Progresso**	**53.62**	**325**	*e*P	**P**	**19 09 08.8**	**0.0**
CASY	**Casey**	**53.94**	**160**	P	**P**	**19 09 11.8**	**+1.3**
CASY				IAmb	IAmb	19 09 13.0	
comp=Z,25nm,0.9s							
SAML	**Samuel**	**54.67**	**315**	P	**P**	**19 09 15.6**	**-0.8**
SAML				pmax	pmax		
comp=Z,24nm,1.0s							
SAML	**Samuel**	**54.67**	**315**	P	**P**	**19 09 15.6**	**-0.8**
SAML				IAmb	IAmb	19 09 17.1	
comp=Z,24nm,0.9s							
TMAB	**Tom-Au,PA,Br**	**56.05**	**335**	*e*P	**P**	**19 09 26.8**	**+0.5**
ITTB	**Itaituba**	**56.26**	**326**	*e*P	**P**	**19 09 27.9**	**+0.1**
NNA	**Nana**	**58.06**	**299**	P	**P**	**19 09 40.3**	**-0.2**
comp=Z,7.9nm,0.4s,baz

comp=Z,2.8nm,1.1s,baz=190,slow=6.3,SNR=7.8
ASAR PKKPbc **PKKPbc** **19 29 49.1 -0.8**
comp=Z,0.1nm,0.5s,baz=27,slow=3.1,SNR=4.3
ASAR Alice Springs 99.01 163 Pdif 19 13 26.6 -0.6
AS31 Alice Springs 99.01 163 Pdif 19 13 26.7 -0.5
WRA Warramunga Arr 102.73 163 P **Pdif 19 13 43.4 -0.3**
comp=Z,0.6nm,0.6s,baz=195,slow=4.3,SNR=6.0
WRA PP **PP 19 17 55.3 -2.2**
comp=Z,1.7nm,0.9s,baz=191,slow=6.0,SNR=4.7
WRA PKKPbc **PKKPbc** **19 29 41.2 +2.0**
comp=Z,0.2nm,0.3s,baz=357,slow=2.8,SNR=5.1
WRAB Tennant Creek 102.74 163⇓ *e*P **Pdif 19 13 40.7 -3.0**
WRAB pmax pmax
comp=Z,14nm,2.6s
KBZ Khabaz 115.79 49⇑ *i*PKIKP **PKPdf 19 18 26.2 -1.1**
KIV Kislovodsk 115.89 49 *e*PKIKP **PKiKP 19 18 27.6 -0.1**
KIV pmax pmax
comp=Z,14nm,1.0s
RWWY Rawlins 118.23 303 PKPdf 19 18 32.2 -0.3
YERR Yerington 122.09 293 PKPdf **PKPdf 19 18 39.3 -0.7**
FINES FINESS Array B 124.54 28 PKP **PKPdf 19 18 43.0 -0.6**
comp=Z,2.4nm,0.9s,baz=190,slow=1.2,SNR=6.3
FINES FINESS Array B 124.54 28 PKIKP **PKPdf 19 18 43.4 -0.2**
FINES FINESS Array B 124.54 28 PKPdf 19 18 43.4 -0.2
CMAR Chiang Mai Arr 125.27 111 PKP **PKPdf 19 18 46.3 -0.1**
comp=Z,1.5nm,0.7s,baz=238,slow=3.6,SNR=11
CMAR PP **PP 19 20 44.1 +6.4**
comp=Z,0.5nm,0.3s,baz=208,slow=8.1,SNR=4.0
CMAR Chiang Mai Arr 125.27 111 PKIKP **PKiKP 19 18 46.7 -0.1**
CMAR Chiang Mai Arr 125.27 111 PKiKP 19 18 46.7 -0.1
KKAR Karatay Array 128.46 68 PKIKP **PKPdf 19 18 51.6 -0.2**
KKAR Karatay Array 128.46 68 PKPdf **PKPdf 19 18 51.6 -0.2**
KSH Kashi 128.82 75 PKP **PKiKP 19 18 53.5 +0.1**
AAK Ala-Archa 130.22 71 PKP **PKiKP 19 18 55.7 -0.4**
comp=Z,1.4nm,0.5s,baz=190,slow=5.0,SNR=5.5
AAK SKPbc **SKPab** **19 22 06.6 -1.2**
comp=Z,0.7nm,0.4s,baz=203,slow=8.5,SNR=5.3
BRVK Borovoye 134.98 58⇓ *i*PKIKP **PKiKP 19 19 05.5 +0.3**
MKAR Makanchi Array 137.13 72 PKP **PKPdf 19 19 07.6 -0.3**
comp=Z,0.5nm,0.5s,baz=201,slow=1.8,SNR=6.4
MKAR SKPbc **SKPbc** **19 22 27.6 -2.9**
comp=Z,0.9nm,0.7s,baz=247,slow=2.6,SNR=7.8
MKAR Makanchi Array 137.13 72 SKPbc 19 22 27.5 -3.0
KURBB Kurchatov Arra 137.54 65 SKPbc **SKPbc** **19 22 28.7 -2.9**
comp=Z,0.3nm,0.3s,baz=234,slow=3.3,SNR=6.6
KURK Kurchatov 137.65 65⇑ *e*PKIKP **PKPdf 19 19 09.0 +0.3**
WMQ Urumqi 138.15 79 *e*PKP **PKiKP 19 19 11.3 -0.8**
DGZ Jazzator, Alta 141.63 71⇓ *e*PKHKP PKPpre 19 19 11.7
LZH Lanzhou 141.84 101 *e*PKP **PKiKP 19 19 18.5 -1.5**
LZH LR LR
comp=Z,280nm,14.4s
LZH LR LR
comp=Z,470nm,13.9s
LZH LR LR
comp=Z,330nm,14.8s
GTA Gaotai 141.96 93 PKP PKPdf 19 19 17.8 +0.7
GTA LR LR
comp=Z,53nm,20.0s
GTA LR LR
comp=Z,75nm,17.8s
GTA LR LR
comp=Z,110nm,19.3s
ZALV Zalesovo Beam 142.61 64 PKhKP PKPpre 19 19 13.3
comp=Z,0.9nm,0.3s,baz=239,slow=3.5,SNR=4.9
ZALV SKPbc **SKPbc** **19 22 41.8 -3.1**
comp=Z,1.4nm,0.8s,baz=212,slow=5.3,SNR=3.8
HYT Haines Junctio 144.63 307 PKPdf 19 19 21.1 0.0
INK Inuvik 145.69 321 PKPbc **PKPab** **19 19 23.6 -0.2**
comp=Z,13nm,0.7s,baz=62,slow=4.2,SNR=19
INK Inuvik 145.69 321 PKPdf **PKPab 19 19 23.3 -0.4**
YAH Yahtse 146.36 305 PKPdf **PKPab 19 19 26.1 -0.7**
CTGM Chitina Glacie 146.40 306 PKPdf **PKPab 19 19 26.2 -0.7**
BARN Barnard Glacie 146.59 306 PKPbc 19 19 26.2 -0.2
BALM Baldy 146.89 306 PKPdf **PKPbc 19 19 26.6 -0.5**
VRDI Verde Repeater 147.46 306 PKPbc 19 19 29.2 +0.5
HMT Hamilton 147.51 304 PKPbc 19 19 29.3 +0.6
EGAK Eagle 147.59 313 PKPdf **PKPbc 19 19 28.1 -0.6**
K27K Chicken 147.76 311 P **PKPbc 19 19 29.9 +0.7**
baz=107
MENT Mentasta 148.14 309 PKPdf **PKPbc 19 19 29.2 -1.1**
EYAK Cordova Ski Ar 148.28 304 PKiKP 19 19 31.6 -0.6
DOT Dot Lake 148.49 310 PKPbc 19 19 31.6 +0.5
SCRK Sand Creek 148.55 311 P **PKPbc 19 19 31.7 +0.3**
baz=106
KLU Klutina 148.67 306 PKiKP 19 19 32.4 -0.7
RIDG Independent Ri 148.85 310 PKiKP 19 19 32.7 -0.7
TIA Tai'an 149.00 115 PKPbc **PKPbc 19 19 33.3 0.0**
FYU Fort Yukon 149.66 315 PKiKP 19 19 35.0 +0.2
DHY Denali Highway 149.78 308 PKiKP 19 19 35.4 -0.1
KNK Knik Glacier 149.81 305 PKiKP 19 19 34.8 -0.6
SML Sawmill 149.86 306 PKPbc **PKiKP 19 19 35.2 -0.4**
HDA Harding Lake 149.91 311 P **PKiKP 19 19 35.1 -0.4**
baz=103
HDA Harding Lake 149.91 311 PKPbc 19 19 34.9 +0.2
IL31 149.97 312 PKPbc 19 19 34.7 +0.1
ILAR Eielson Array 149.97 312 PKPbc **PKPbc 19 19 34.8 0.0**
comp=Z,14nm,0.8s,baz=135,slow=1.9,SNR=98
ILAR Eielson Array 149.97 312 PKPbc 19 19 34.6 -0.2
O22K Cooper Landing 150.12 303 P **PKPab 19 19 40.4 -1.3**
baz=108
GHO Glory Hole Cre 150.12 305 PKiKP 19 19 35.9 -0.2
POKR Poker Plat Res 150.27 312 P **PKPab 19 19 42.8 +0.6**
baz=101
RC01 Rabbit Creek A 150.30 304 P **PKPab 19 19 43.0 +0.5**
baz=106
CCB Clear Creek Bu 150.33 311 PKPbc 19 19 35.1 -0.5
COLA College 150.39 312 *d i*PKIKP **PKPbc 19 19 35.3 -0.4**
TCOL CIGO, UAF Yank 150.40 312 P **PKPab 19 19 43.3 +0.6**
baz=101
WRH Wood River Hil 150.41 311 PKPbc 19 19 35.6 -0.1
BRLK Bradley Lake 150.45 301 PKPbc 19 19 36.2 +0.1
RND Reindeer 150.51 309 PKIKP **PKiKP 19 19 36.7 -0.1**
RND Reindeer 150.51 309 PKiKP 19 19 36.7 -0.1
CNPM China Poot 150.54 300 PKiKP 19 19 36.8 -0.2
MDM Murphy Dome 150.57 312 PKPbc 19 19 35.9 -0.3
ZAK Zakamensk 150.59 80 *e*PKIKP **PKPbc 19 19 36.7 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
MCK McKinley 150.62 309 PKIKP **PKiKP 19 19 36.8 -0.2**
MCK McKinley 150.62 309 PKiKP 19 19 36.8 -0.2
KDAK Kodiak Island 150.62 296 PKIKP **PKiKP 19 19 37.2 +0.1**
KDAK Kodiak Island 150.62 296 PKiKP 19 19 37.2 +0.1
NEA2 Nenana 150.85 311 P **PKPbc 19 19 36.8 -0.1**
baz=101
BWN Browne 150.94 310 PKiKP 19 19 37.5 -0.1
SONM Songino Array 150.97 87 PKPbc **PKPbc 19 19 37.8 -0.1**
comp=Z,14nm,0.6s,baz=221,slow=3.4,SNR=84
SONM Songino Array 150.97 87 PKIKP **PKPbc 19 19 37.6 -0.2**
SONM Songino Array 150.97 87 PKPbc 19 19 37.6 -0.2
TRF Thorofare Moun 151.15 308 PKiKP 19 19 37.9 -0.4
ULN Ulaanbaatar 151.36 87⇑ *e*PKIKP **PKPdf 19 19 35.3 +2.7**
SKT Skwentna 151.37 305 PKiKP 19 19 38.4 -0.2
BJI Beijing 151.39 109 PKPbc **PKPbc 19 19 38.8 0.0**
BJI pmax pmax
comp=Z,14nm,0.6s
TLY Talaya 151.43 78 PKPbc **PKiKP 19 19 38.8 -0.2**
comp=Z,2.7nm,0.4s,baz=210,slow=9.2,SNR=5.7
TLY Talaya 151.43 78⇓ *i*PKIKP **PKiKP 19 19 39.1 +0.1**
KTH Kantishna Hill 151.44 308 PKiKP 19 19 38.7 -0.1
TOLK Toolik Lake Re 151.56 319 P **PKiKP 19 19 38.9 0.0**
baz=93
TOLK Toolik Lake Re 151.56 319 PKiKP 19 19 38.9 0.0
BPAW Bear Paw Mtn. 151.58 310 PKPbc 19 19 38.5 -0.1
COLD Coldfoot 151.69 316 P **PKiKP 19 19 39.7 +0.6**
baz=95
COLD Coldfoot 151.69 316 PKiKP 19 19 39.7 +0.6
PPLA Purkeypile 151.87 307 PKiKP 19 19 39.7 -0.1
KSRS Korea Array 155.16 128 PKPab **PKPab 19 20 03.5 0.0**
comp=Z,1.1nm,0.8s,baz=207,slow=2.3,SNR=3.8
MJAR Matsushiro Arr 158.21 148 PKPab **PKPab 19 20 17.2 +0.5**
comp=Z,2.9nm,0.8s,baz=188,slow=5.5,SNR=5.5
USRK Ussuriysk Ar. 162.40 124 PKPab **PKPab 19 20 34.3 -0.6**
comp=Z,1.0nm,0.5s,baz=204,slow=3.4,SNR=2.5
BILL Bilibino 166.42 337 *e*PKIKP **PKPdf 19 19 50.0 +0.7**
BILL *e* 19 24 39.5
BILL pmax pmax
comp=Z,6.0nm,0.4s

SJA ***25*** *19:04:02.8±0.6, 31°.57S×71°.76W, h78km±8km, ML4.6, MW3.7*
NEIC ***25*** *19:04:05.0±1.5, 31°.59S±0°.05×71°.6W±0°.1, h54km±3km, Error ellipse: s-maj=13.0km s-min=6.1km az=105.0*

GUC ***25*** *19:04:05.9±0.6, 31°.60S×71°.44W, h53km±3km, ML4.4*
IDC ***25*** *19:04:05.8±0.7, 31°.58S×71°.25W, h54km±5km, mb3.8/5, mb1 3.8/9, mb1mx3.6/35, mbtmp3.9/9, Error ellipse: s-maj=32.6km s-min=16.5km az=95.0*
ISC 25 19:04:05.0±0.6, 31°.58S±0°.03×71°.64W±0°.04, h53km±5km, h53km:pP-P, n90, σ1°.62/118, mb4.5/5, 5C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.66**	**56**⇑	*i*P	**Pn**	**19 04 18.0**	**-0.5**
CO02				*i* S	**Sn**	**19 04 26.9**	**-1.4**
CO02				IAML		19 04 28.2	
comp=E,72μm,0.2s							
CO02	**Combarbal**	**0.66**	**56**		**Pn**	**19 04 17.6**	**-0.9**
CO03	**El Pedregal**	**1.10**	**48**⇑	*i*P	**Pn**	**19 04 24.0**	**-0.2**
CO03				*i* S	**Sn**	**19 04 37.7**	**-0.8**
CO03				IAML		19 04 39.9	
comp=N,18μm,0.6s							
CO03	**El Pedregal**	**1.10**	**48**		**Pn**	**19 04 23.8**	**-0.4**
VA01	**Torpederas**	**1.44**	**180**	*e*P	**Pn**	**19 04 30.2**	**+1.4**
VA01				*i* S	**Sn**	**19 04 48.7**	**+2.2**
VA01				IAML		19 04 53.3	
comp=E,7μm,0.7s							
VA01	**Torpederas**	**1.44**	**180**	Pn	**Pn**	**19 04 28.7**	**0.0**
ROCH	**El Roble**	**1.49**	**159**⇑	*i*P	**Pn**	**19 04 29.9**	**+0.3**
ROCH				*i* S	**Sn**	**19 04 48.7**	**+0.7**
ROCH				IAML		19 04 50.7	
comp=N,8μm,0.5s							
ROC1	**El Roble**	**1.49**	**159**		**Pn**	**19 04 29.4**	**-0.3**
VA03	**San Esteban**	**1.50**	**142**⇓	*i*P	**Pn**	**19 04 29.4**	**-0.3**
VA03				*i* S	**Sn**	**19 04 47.4**	**-0.7**
VA03				IAML		19 04 50.9	
comp=E,13μm,0.2s							
VA03	**San Esteban**	**1.50**	**142**		**Pn**	**19 04 29.1**	**-0.6**
GO04	**Tololo Observa**	**1.58**	**27**⇑	*e*P	**Pn**	**19 04 31.3**	**+0.5**
GO04				*i* S	**Sn**	**19 04 51.3**	**+1.0**
GO04				IAML		19 04 56.6	
comp=E,21μm,0.7s							
GO04	**Tololo Observa**	**1.58**	**27**		**Pn**	**19 04 30.7**	**-0.1**
MT02	**Curacav**	**1.73**	**166**⇑	*i*P	**Pn**	**19 04 32.6**	**-0.1**
MT02				*i* S	**Sn**	**19 04 54.9**	**+1.3**
MT02				IAML		19 04 58.7	
comp=E,2μm,0.5s							
MT02	**Curacav**	**1.73**	**166**	Pn	**Pn**	**19 04 32.5**	**-0.2**
PEL	**Peldehue**	**1.76**	**153**⇓	*i*P	**Pn**	**19 04 33.4**	**+0.3**
PEL				*i* S	**Sn**	**19 04 47.2**	**-7.2**
PEL	**Peldehue**	**1.76**	**153**	Pn	**Pn**	**19 04 33.0**	**-0.1**
MT05	**Renca**	**1.96**	**157**⇓	*i*P	**Pn**	**19 04 36.5**	**+0.6**
MT05				*i* S	**Sn**	**19 04 59.9**	**+0.5**
MT05				IAML		19 05 03.8	
comp=E,8μm,0.5s							
MT05	**Renca**	**1.96**	**157**		**Pn**	**19 04 36.4**	**+0.4**
CLCH	**Cerro Calan**	**2.04**	**153**⇓	*i*P	**Pn**	**19 04 37.5**	**+0.5**
CLCH				*e*S	**Sn**	**19 04 60.0**	**-1.3**
CLCH				IAML		19 05 18.4	
comp=E,6μm,0.6s							
CO01	**Juntas del Tor**	**2.08**	**40**⇓	*i*P	**Pn**	**19 04 38.5**	**+0.8**
CO01				*i* S	**Sn**	**19 05 03.1**	**+0.6**
CO01				IAML		19 05 04.3	
comp=N,5μm,0.4s							
CO01	**Juntas del Tor**	**2.08**	**40**		**Pn**	**19 04 38.5**	**+0.8**
FSR	**Penalolen**	**2.11**	**154**	*e*	**Sn**	**19 05 01.5**	**-1.6**
MT03	**Universidad Ad**	**2.13**	**154**	*e*P	**Pn**	**19 04 38.9**	**+0.6**
MT03				*i* S	**Sn**	**19 05 04.1**	**+0.4**
MT03				IAML		19 05 17.1	
comp=E,6μm,0.6s							
AROD	**Rodeo**	**2.33**	**53**	*i* P	**Pn**	**19 04 42.9**	**+1.7**
AROD				*i* Sg	**Sn**	**19 05 12.3**	**+3.4**
ZON	**Zonda**	**2.53**	**90**	Pn	**Pn**	**19 04 44.7**	**+1.0**
ZON	**Zonda**	**2.53**	**90**	*i* P	**Pn**	**19 04 44.6**	**+1.0**
LMEL	**Las Melosas**	**2.56**	**152**⇓	*e*P	**Pn**	**19 04 45.1**	**+0.9**
LMEL				*i* S	**Sn**	**19 05 14.0**	**-0.4**
LMEL				IAML		19 05 23.1	
comp=N,2μm,0.2s							
ACDV	**Cuesta del Vie**	**2.58**	**58**	*i* P	**Pn**	**19 04 46.0**	**+1.5**
RTLL	**Cerro Villicun**	**2.72**	**86**	*i* P	**Pn**	**19 04 47.4**	**+1.1**
RTLL				*i* Sg	**Sn**	**19 05 21.3**	**+3.4**
AC05	**El Transito**	**2.98**	**24**		**Pn**	**19 04 50.9**	**+1.0**
BO02	**Sierra Bellavi**	**3.28**	**168**	*e*P	**Pn**	**19 04 55.0**	**+1.0**
BO02				*i* S	**Sn**	**19 05 32.3**	**+0.4**
BO02	**Sierra Bellavi**	**3.28**	**168**	Pn	**Pn**	**19 04 54.6**	**+0.6**
AC04	**Llanos de Chal**	**3.40**	**8**	*e*P	**Pn**	**19 04 56.0**	**+0.5**
AC04				*e*S	**Sn**	**19 05 35.4**	**+0.8**
AC04				IAML		19 05 54.5	
comp=E,698nm,0.3s							
AC04	**Llanos de Chal**	**3.40**	**8**	Pn	**Pn**	**19 04 55.9**	**+0.3**
AGUA	**GUANDACOL**	**3.42**	**53**	*i* P	**Pn**	**19 04 56.9**	**+0.9**
GO05	**Huala**	**3.43**	**184**⇓	*i*P	**Pn**	**19 04 55.8**	**-0.2**
GO05				*i* S	**Sn**	**19 05 43.9**	**+8.5**
GO05				IAML		19 06 06.8	
comp=N,355nm,0.4s							
GO05	**Huala**	**3.43**	**184**		**Pn**	**19 04 55.8**	**-0.2**
GO05	**Huala**	**3.43**	**184**	*i* P	**Pn**	**19 04 55.6**	**-0.4**
VCA	**Vinchina**	**4.11**	**47**	*i* P	**Pn**	**19 05 05.9**	**+0.5**
VCA				*i* Sg	**Sn**	**19 05 54.7**	**+2.4**
VCA				IAML		19 06 04.1	
comp=Z,1μm,0.7s							
RFA	**San Rafael**	**4.15**	**141**	*i* P	**Pn**	**19 05 06.8**	**+1.0**
GO03	**Copiap**	**4.16**	**17**		**Pn**	**19 05 06.4**	**+0.4**
GO03	**Copiap**	**4.16**	**17**	*i* P	**Pn**	**19 05 06.0**	**0.0**
APLL	**PUNTA DE LOS L**	**4.54**	**76**	*i* P	**Pn**	**19 05 11.7**	**+0.4**
ACLC	**CERRO LA CRUZ**	**4.58**	**63**	*i* P	**Pn**	**19 05 12.6**	**+0.6**
BI02	**San Fabin de**	**5.08**	**177**	Pn	**Pn**	**19 05 19.2**	**+0.6**
MRA	**San Martin**	**5.10**	**101**	*i* P	**Pn**	**19 05 19.4**	**+0.4**
MRA				IAML		19 06 47.9	
comp=Z,222nm,0.5s							
BI03	**Tigo**	**5.38**	**192**		**Pn**	**19 05 21.7**	**-0.9**
AC01	**Pan de Azucar**	**5.49**	**10**	Pn	**Pn**	**19 05 24.2**	**0.0**
TCA	**Tanti**	**6.02**	**90**	*i* P	**Pn**	**19 05 32.1**	**+0.4**
H03N1	**Juan Fernandez**	**6.42**	**251**	P	**Pn**	**19 05 39.4**	**+2.7**
baz=82,slow=72,SNR=40							
H03N1				S	**Sn**	**19 06 47.9**	**-0.5**
baz=284,slow=74,SNR=3.6							
H03N1				T	T	19 12 23.4	
baz=80,slow=73,SNR=6008							
H03N3	**Juan Fernandez**	**6.43**	**251**	P	**Pn**	**19 05 39.1**	**+2.3**
baz=82,slow=72,SNR=58							
H03N3				S	**Sn**	**19 06 48.7**	**-0.1**
baz=284,slow=74,SNR=3.5							
H03N3				T	T	19 12 24.6	
baz=80,slow=73,SNR=8411							
H03N2	**Juan Fernandez**	**6.43**	**251**	P	**Pn**	**19 05 39.2**	**+2.4**
baz=82,slow=72,SNR=30							
H03N2				S	**Sn**	**19 06 48.5**	**-0.3**
baz=284,slow=74,SNR=3.3							
H03N2				T	T	19 12 24.2	
baz=80,slow=73,SNR=5264							
H03S3	**Juan Fernandez**	**6.52**	**248**	P	**Pn**	**19 05 39.6**	**+1.4**
baz=110,slow=76,SNR=7.1							
H03S3				S	**Sn**	**19 06 48.2**	**-2.9**
SNR=4.0							
H03S3				T	T	19 12 32.4	
baz=82,slow=75,SNR=58							
H03S1	**Juan Fernandez**	**6.53**	**248**	P	**Pn**	**19 05 39.1**	**+0.9**
baz=110,slow=76,SNR=6.8							
H03S1				S	**Sn**	**19 06 46.8**	**-4.3**
SNR=7.6							
H03S1				T	T	19 12 28.0	
baz=82,slow=75,SNR=40							
H03S2	**Juan Fernandez**	**6.54**	**248**	P	**Pn**	**19 05 39.2**	**+0.9**
baz=110,slow=76,SNR=7.8							
H03S2				S	**Sn**	**19 06 47.4**	**-4.1**
SNR=7.4							
H03S2				T	T	19 12 27.5	
baz=82,slow=75,SNR=58							
GO02	**Mina Guanaco**	**6.64**	**16**	Pn	**Pn**	**19 05 38.6**	**-1.8**
PB14	**IPOC Station P**	**7.01**	**9**	Pn	**Pn**	**19 05 44.9**	**-0.5**
AHML	**Horco Molle**	**7.29**	**51**	*i* P	**Pn**	**19 05 48.9**	**-0.1**
LC01	**Cunco**	**7.30**	**181**	Pn	**Pn**	**19 05 47.8**	**-1.3**
PLCA	**Paso Flores**	**9.18**	**175**	P	**Pn**	**19 06 15.4**	**+0.7**
comp=Z,0.3nm,0.3s,baz=347,slow=14,SNR=6.7							
LVC	**Limon Verde**	**9.26**	**16**	P	**Pn**	**19 06 17.5**	**+1.3**
comp=Z,0.7nm,0.3s,baz=164,slow=4.6,SNR=2.1							
LVC	**Limon Verde**	**9.26**	**16**		**Pn**	**19 06 15.8**	**-0.4**
LPAZ	**La Paz**	**15.55**	**13**	P	**Pn**	**19 07 42.6**	**+1.0**
comp=Z,0.2nm,0.3s,baz=195,slow=9.4,SNR=8.7							
LPAZ	**La Paz**	**15.55**	**13**	Pn	**Pn**	**19 07 42.8**	**+1.3**
SIV	**San Ignacio**	**18.26**	**34**	P	**P**	**19 08 13.4**	**-1.0**
comp=Z,0.3nm,0.3s,baz=215,slow=10,SNR=12							
SNAA	**Sanae**	**53.70**	**159**	P	**P**	**19 13 21.5**	**+0.3**
comp=Z,0.6nm,0.6s,baz=295,slow=13,SNR=1.7							
SNAA				pP	**pP**	**19 13 35.8**	**+0.4**
comp=Z,3.8nm,0.8s,baz=296,slow=6.2,SNR=8.4							
SNAA	**Sanae**	**53.70**	**159**	P	**P**	**19 13 21.3**	**+0.1**
SNAA					**pP**	**19 13 35.0**	**-0.4**
QSPA	**South Pole Qui**	**58.65**	**180**	P	**P**	**19 13 57.5**	**+0.8**
comp=Z,1.6nm,0.7s,baz=88,slow=3.0,SNR=3.8							
QSPA				pP	**pP**	**19 14 13.0**	**+2.0**
comp=Z,2.1nm,0.8s,baz=90,slow=2.2,SNR=3.3							
QSPA	**South Pole Qui**	**58.65**	**180**	P	**P**	**19 13 56.9**	**+0.2**
QSPA					**pP**	**19 14 12.0**	**+1.0**
QSPA				IAmb	IAmb	19 14 19.0	
comp=Z,5.2nm,1.1s							
TXAR	**Lajitas Array**	**67.80**	**330**	P	**P**	**19 14 59.5**	**+2.0**
comp=Z,0.7nm,0.7s,baz=156,slow=8.1,SNR=8.3							
TXAR	**Lajitas Array**	**67.80**	**330**	P	**P**	**19 14 58.8**	**+1.2**
DBIC	**Dimbokro**	**74.09**	**72**	P	**P**	**19 15 35.2**	**-0.8**
comp=Z,2.7nm,0.6s,baz=205,slow=9.4,SNR=7.0							
DBIC	**Dimbokro**	**74.09**	**72**	P	**P**	**19 15 35.0**	**-1.0**
DBIC				IAmb	IAmb	19 15 51.0	
comp=Z,9.1nm,1.2s							
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**19 16 23.3**	**-2.1**
comp=Z,1.5nm,0.7s,baz=268,slow=4.7,SNR=7.5							
TORD				pP	**pP**	**19 16 39.2**	**-1.3**
comp=Z,1.3nm,0.6s,baz=279,slow=5.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**19 16 23.6**	**-1.7**
WRA	**Warramunga Arr**	**123.03**	**209**	PKP	**PKPdf**	**19 22 56.0**	**-0.2**
comp=Z,0.4nm,0.5s,baz=160,slow=1.8,SNR=13							
WRA				pPKP	**pPKPdf**	**19 23 11.1**	**-0.6**
comp=Z,0.2nm,0.4s,baz=159,slow=1.7,SNR=2.2							
WRA	**Warramunga Arr**	**123.03**	**209**		**PKPdf**	**19 22 55.6**	**-0.6**
H11S2	**WAKE ISLAND Hyl**	**26.11**	**271**	T	T	21 42 06.8	
baz=117,slow=75,SNR=231							
H11S1	**WAKE ISLAND Hyl**	**26.12**	**271**	T	T	21 42 07.8	
baz=117,slow=75,SNR=170							
H11S3	**WAKE ISLAND Hyl**	**26.13**	**271**	T	T	21 42 08.0	
baz=117,slow=75,SNR=219							
H11N3	**WAKE ISLAND Hyl**	**26.46**	**272**	T	T	21 42 31.1	
baz=116,slow=75,SNR=91							
H11N1	**WAKE ISLAND Hyl**	**26.48**	**272**	T	T	21 42 32.0	
baz=116,slow=75,SNR=42							
H11N2	**WAKE ISLAND Hyl**	**26.48**	**272**	T	T	21 42 34.9	
baz=116,slow=75,SNR=186							
KURBB	**Kurchatov Arra**	**150.85**	**41**	PKPbc	**PKPbc**	**19 23 51.5**	**+0.2**
comp=Z,0.7nm,0.8s,baz=305,slow=3.4,SNR=4.8							
KURBB				pPKPbc	**pPKPbc**	**19 24 06.9**	**+0.1**
comp=Z,0.9nm,0.8s,baz=300,slow=2.8,SNR=3.3							
KURK	**Kurchatov**	**150.85**	**40**		**PKPbc**	**19 23 51.4**	**+0.2**
AAK	**Ala-Archa**	**151.00**	**58**	PKPbc	**PKPbc**	**19 23 50.7**	**-1.4**
comp=Z,0.5nm,0.3s,baz=232,slow=14,SNR=1.4							
ZALV	**Zalesovo Beam**	**151.99**	**30**	PKPbc	**PKiKP**	**19 23 54.3**	**+0.2**
comp=Z,1.3nm,0.5s,baz=302,slow=2.2,SNR=5.4							
ZALV				pPKPbc	**pPKPbc**	**19 24 09.8**	**+0.4**
comp=Z,2.4nm,0.5s,baz=296,slow=2.8,SNR=6.2							
ZALV	**Zalesovo Beam**	**151.99**	**30**		**PKiKP**	**19 23 53.9**	**-0.2**
MKAR	**Makanchi Array**	**154.88**	**45**	PKPab	**PKPab**	**19 24 15.9**	**+0.1**
comp=Z,0.4nm,0.6s,baz=305,slow=4.3,SNR=4.0							
MKAR	**Makanchi Array**	**154.88**	**45**	PKPdf	**PKPdf**	**19 23 49.8**	**-1.8**
MKAR					**PKPab**	**19 24 15.6**	**-0.2**

REY ***25*** *19:55:22.8, 64°.68N×17°.46W, h3km*
NEIC ***25*** *19:55:24.4±0.8, 64°.6N±0°.2×17°.9W±0°.2, h10km±2km, mb4.3/3, Error ellipse: s-maj=40.1km s-min=8.6km az=195.0*
IDC ***25*** *19:55:24.1±0.8, 64°.66N×17°.53W, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.5/48, mbtmp3.6/9, ML3.9/1, Error ellipse: s-maj=24.7km s-min=11.2km az=5.0*
ISC 25 19:55:24.1±0.6, 64°.70N±0°.02×17°.50W±0°.02, h10km, n49, σ2°.14/57, mb3.7/11, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.11**	**31**	P	**Pg**	**19 55 25.6**	**-1.4**
baz=20							
IDYN				S	**Sg**	**19 55 28.4**	**-0.6**
baz=20							
IVON	**Vonarskard**	**0.11**	**258**	P	**Pg**	**19 55 25.5**	**-1.4**
baz=268							
IVON				S	**Sg**	**19 55 28.3**	**-0.7**
baz=268							
IURH	**Urdarhals**	**0.19**	**50**	P	**Pg**	**19 55 26.9**	**-1.4**
baz=43							
IURH				S	**Sg**	**19 55 30.9**	**-0.2**
baz=43							
IDJK	**Dyngjujokull**	**0.22**	**150**	P	**Pg**	**19 55 27.0**	**-1.8**
baz=151							
IGRF	**Grimsfjall**	**0.31**	**161**	P	**Pg**	**19 55 28.3**	**-2.0**
baz=163							
IKVE	**Kverkfjoll**	**0.35**	**93**	P	**Pg**	**19 55 29.5**	**-1.7**
baz=90							
IBJK	**Bruarjokull**	**0.39**	**125**	P	**Pg**	**19 55 29.8**	**-2.2**
baz=124							
ISKR	**Skrokkalda**	**0.41**	**251**	P	**Pg**	**19 55 30.4**	**-1.7**
baz=254							
IHUS	**Husbondi**	**0.41**	**190**	P	**Pg**	**19 55 30.5**	**-1.6**
baz=193							
IVOT	**Vottur**	**0.45**	**162**	P	**Pg**	**19 55 30.9**	**-2.0**
baz=164							
IKRE	**Kreppuhraun**	**0.49**	**79**	P	**Pg**	**19 55 31.4**	**-2.2**
baz=77							
IKRE				S	**Sg**	**19 55 38.6**	**-1.4**
baz=77							
IJOK	**Jokulheimar**	**0.50**	**220**	P	**Pg**	**19 55 31.9**	**-1.8**
baz=223							
IJOK				S	**Sg**	**19 55 39.2**	**-1.1**
baz=223							
IASK	**Askja**	**0.51**	**45**	P	**Pg**	**19 55 32.2**	**-1.8**
baz=42

comp=Z,0.7nm,0.9s,baz=344,slow=11,SNR=5.2
BVAR Borovoye Array 43.18 62 P P 20 03 26.4 +1.8
comp=Z,0.9nm,0.8s,baz=287,slow=15,SNR=6.6
KURBB Kurchatov Arra 48.14 58 P P 20 04 05.0 +1.3
comp=Z,0.8nm,0.2s,baz=324,slow=7.3,SNR=8.0
MKAR Makanchi Array 52.71 58 P P 20 04 39.6 +1.2
comp=Z,0.8nm,0.9s,baz=324,slow=6.0,SNR=5.2
PDAR Pinedale Array 53.16 293 P P 20 04 43.4 +1.3
comp=Z,0.4nm,0.6s,baz=35,slow=5.4,SNR=3.9
PDAR Pinedale Array 53.16 293 P P 20 04 42.0 -0.1
TORD Torodi Ar. Bea 53.17 156 P P 20 04 42.0 0.0
comp=Z,1.0nm,1.0s,baz=345,slow=5.8,SNR=3.1
AAK Ala-Archa 53.25 67 P P 20 04 45.1 +2.5
comp=Z,0.5nm,0.3s,baz=359,slow=8.4,SNR=3.9
BTK Batken 53.95 72 P P 20 04 49.1 +1.4
BTK IAmb IAmb 20 04 51.5
comp=Z,4.8nm,1.1s
GAR Garm 54.64 73 P P 20 04 55.2 +2.4
CMAR Chiang Mai Arr 84.11 59 P P 20 07 57.1 +2.1
comp=Z,0.3nm,0.4s,baz=338,slow=5.4,SNR=4.0
CMAR Chiang Mai Arr 84.11 59 P P 20 07 56.1 +1.0

*KRNET **25** 20:24:32.8±0.1,41.°27N×69.°06E,mb2.7*
*SOME **25** 20:24:33.8,41.°25N×69.°25E,h5km*
*NNC **25** 20:24:35.6±3.4,41.°29N×69.°28E,h0km,mb3.2,mpv2.9,*
Error ellipse: s-maj=20.5km s-min=13.7km az=30.0
ISC 25 20:24:34.6±1.5,41.°29N±0.°04×69.°17E±0.°08,h9km±7km,
n14,σ1ˢ95/26,13C,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.10**	**68**	⇑*iP*	**Pg**	**20 24 37.2**	**0.0**
TAS	baz=72			⇑*iS*	**Sg**	**20 24 39.6**	**+0.6**
IUG	**Iuzhnay**	**1.08**	**37**	*eP*	**Pg**	**20 24 54.4**	**-0.8**
IUG	2.8nm,0.2s 20nm,0.2s			*eS*	**Sb**	**20 25 09.1**	**-0.6**
IUG	**Iuzhnay**	**1.08**	**37**	P	**Pg**	**20 24 54.5**	**-0.8**
IUG	13nm,0.2s 32nm,0.2s			S	**Sb**	**20 25 09.1**	**-0.6**
BTK	**Batken**	**1.76**	**134**	⇑*eP*	**Pn**	**20 25 05.6**	**+0.3**
BTK	baz=32 baz=32			⇑*iS*	**Sg**	**20 25 30.1**	**-1.0**
KK31	**Karatay Array**	**2.07**	**28**	⇑Pn	**Pb**	**20 25 12.0**	**-0.4**
KK31	0.4nm,0.2s,baz=213,slow=15,SNR=7.2 2.9nm,0.3s,baz=206,slow=31,SNR=18			Sn	**Sb**	**20 25 39.0**	**+0.7**
DZA	**Taraz**	**2.27**	**44**	*eP*	**Pb**	**20 25 16.0**	**+0.1**
DZA	44nm,0.1s 57nm,0.2s			*eS*	**Sg**	**20 25 45.9**	**-1.8**
CHGR	**Chuyangaron**	**2.63**	**180**	⇑*iP*	**Pn**	**20 25 17.1**	**-0.2**
CHGR	baz=78 baz=78			⇑*iS*	**Sn**	**20 25 49.3**	**-0.1**
OHH	**Osh**	**2.85**	**104**	⇑*iP*	**Pn**	**20 25 21.7**	**+1.4**
OHH	baz=4.0 baz=4.0			⇑*iS*	**Sb**	**20 25 57.0**	**-3.6**
MRKS	**Merke**	**3.36**	**63**	*eP*	**Pb**	**20 25 35.3**	**+0.9**
MRKS	1.9nm,0.3s 3.6nm,0.4s			*eS*	**Sg**	**20 26 19.7**	**-2.7**
MRKS	**Merke**	**3.36**	**63**	Pg	**Pb**	**20 25 35.3**	**+0.9**
MRKS	1.9nm,0.3s 3.6nm,0.4s			Lg	Lg	20 26 19.7	
AML	**Almayashu**	**3.49**	**75**	⇑*eP*	**Pn**	**20 25 30.6**	**+1.1**
AML	baz=75 baz=75			⇑*iS*	**Sn**	**20 26 12.7**	**+1.5**
ARLS	**Aral**	**3.91**	**80**	⇑*iP*	**Pn**	**20 25 36.3**	**+1.3**
ARLS	baz=80 baz=80			⇑*iS*	**Sn**	**20 26 22.6**	**+1.5**
KST	**Kastek**	**5.35**	**69**	*eP*	**Pb**	**20 26 11.7**	**+3.4**
KST	1.6nm,0.3s 2.6nm,0.6s			*eS*	**Sg**	**20 27 21.7**	**-4.6**
KST	**Kastek**	**5.35**	**69**	Pg	**Pb**	**20 26 11.7**	**+3.4**
KST				Lg	Lg	20 27 21.8	

*SNET **25** 20:27:33.5±1.1,13.°28N×90.°60W,h18km±5km,ML2.6*
*GCG **25** 20:27:35.4±0.3,13.°63N×90.°81W,h30km±3km,MD3.7*
ISC 25 20:27:32.4±3.3,13.°4N±0.°2×90.°8W±0.°1,h29km,n10,
σ0ˢ71/14,1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.81**	**22**	*eP*	**Pn**	**20 27 48.4**	**+0.4**
PCG	**Pacaya**	**0.98**	**9**	*eP*	**Pb**	**20 27 50.9**	**0.0**
PCG				*eS*	**Sn**	**20 28 02.9**	**-0.5**
FUG	**Fuego 3**	**1.02**	**355**	*eP*	**Pb**	**20 27 51.0**	**-0.6**
NUBE	**Las Nubes**	**1.06**	**63**	*eP*	**Pn**	**20 27 51.9**	**+0.4**
CEVE	**Cerro Verde**	**1.18**	**70**	⇓*iP*	**Pn**	**20 27 53.4**	**+0.3**
CEVE				*eS*	**Sn**	**20 28 09.2**	**+0.9**
SBLS	**San Blas**	**1.18**	**69**	*eP*	**Pn**	**20 27 53.8**	**+0.7**
RTR	**El Retiro**	**1.18**	**66**	*eP*	**Pb**	**20 27 54.0**	**-0.3**
NBG	**Las Nubes**	**1.23**	**19**	*eP*	**Pb**	**20 27 54.9**	**-0.3**
TACO	**Tacachico**	**1.47**	**68**	*eP*	**Pb**	**20 27 58.4**	**-0.7**
TACO				*eS*	**Sb**	**20 28 17.2**	**-0.2**
MTO3	**Montecristo**	**1.67**	**54**	*eP*	**Pb**	**20 28 01.2**	**-1.5**
MTO3				*eS*	**Sb**	**20 28 23.9**	**+0.6**

*IDC **25** 20:29:48.5±2.8,32.°54S×71.°22W,h0km,mb4.0/1,*
mb1 3.8/3,mb1mx3.7/16,mbtmp3.7/3,ML4.0/2,MS3.1/1,
Ms1 3.1/1,ms1mx2.8/20,Error ellipse: s-maj=128.7km
s-min=36.2km az=95.0
*SJA **25** 20:29:52.1±1.3,32.°79S×71.°84W,h52km±20km,ML3.7,*
MW4.0
*NEIC **25** 20:29:52.1±1.2,32.°66S±0.°04×71.°7W±0.°1,h30km±5km,*
Error ellipse: s-maj=14.0km s-min=6.5km az=90.0
*GUC **25** 20:29:52.0±0.7,32.°61S×71.°73W,h34km±4km,ML3.9*
ISC 25 20:29:51.0±1.2,32.°59S±0.°03×71.°79W±0.°05,h28km±9km,
n58,σ1ˢ35/73,1C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.45**	**165**	*eP*	**Pb**	**20 30 01.1**	**+0.5**
VA01				*iS*	**Sb**	**20 30 07.3**	**+0.2**
VA01				IAML		20 30 09.6	
VA01	**Torpederas**	**0.45**	**165**	Pn	**Pb**	**20 30 00.7**	**+0.1**
ROC1	**El Roble**	**0.76**	**121**		**Pn**	**20 30 04.9**	**-1.2**
ROC1	**El Roble**	**0.76**	**121**	*iP*	**Pn**	**20 30 05.6**	**-0.5**
ROC1				*eS*	**Sb**	**20 30 15.5**	**-0.4**
ROCH	**El Roble**	**0.76**	**121**	⇓*iP*	**Pn**	**20 30 05.6**	**-0.5**
ROCH				*iS*	**Sn**	**20 30 15.5**	**-1.3**
ROCH				IAML		20 30 16.6	
MT02	**Curacav**	**0.87**	**141**	⇓*iP*	**Pn**	**20 30 06.9**	**-0.4**
MT02				*iS*	**Sn**	**20 30 17.7**	**-1.4**
MT02	**Curacav**	**0.87**	**141**		**Pn**	**20 30 06.8**	**-0.6**
VA03	**San Esteban**	**1.06**	**100**	⇓*iP*	**Pn**	**20 30 09.9**	**-0.2**
VA03				*iS*	**Sb**	**20 30 23.9**	**-0.3**
VA03				IAML		20 30 25.7	
VA03	**San Esteban**	**1.06**	**100**		**Pn**	**20 30 09.7**	**-0.4**
PEL	**Peldehue**	**1.08**	**121**	*eP*	**Pn**	**20 30 10.4**	**0.0**
PEL				*iS*	**Sb**	**20 30 24.5**	**-0.4**
PEL				IAML		20 30 26.8	
PEL	**Peldehue**	**1.08**	**121**		**Pn**	**20 30 10.1**	**-0.3**
PEL	**Peldehue**	**1.08**	**121**	*iP*	**Pb**	**20 30 10.8**	**-0.4**
PEL				*eS*	**Sb**	**20 30 25.3**	**+0.4**
MT05	**Renca**	**1.19**	**133**	*eP*	**Pn**	**20 30 12.2**	**+0.4**
MT05				*iS*	**Sb**	**20 30 27.9**	**-0.2**
MT05				IAML		20 30 29.6	
MT05	**Renca**	**1.19**	**133**		**Pn**	**20 30 12.3**	**+0.4**
CLCH	**Cerro Calan**	**1.32**	**128**	⇓*iP*	**Pb**	**20 30 14.5**	**-0.8**
CLCH				*iS*	**Sb**	**20 30 31.3**	**-0.7**
CLCH				IAML		20 30 38.0	
FSR	**Penalolen**	**1.38**	**130**	*eP*	**Pn**	**20 30 15.2**	**+0.7**
FSR				*iS*	**Sb**	**20 30 33.4**	**-0.2**
MT03	**Universidad Ad**	**1.40**	**131**	⇓*iP*	**Pb**	**20 30 15.8**	**-0.9**
MT03				*iS*	**Sb**	**20 30 33.6**	**-0.6**
MT03				IAML		20 30 35.3	
CO02	**Combarbal**	**1.53**	**26**	*eP*	**Pb**	**20 30 18.7**	**-0.2**
CO02				*eS*	**Sb**	**20 30 38.5**	**+0.7**
CO02				IAML		20 30 44.8	
CO02	**Combarbal**	**1.53**	**26**		**Pb**	**20 30 18.6**	**-0.2**
LMEL	**Las Melosas**	**1.83**	**134**	⇑*iP*	**Pb**	**20 30 22.7**	**-1.2**
LMEL				*iS*	**Sb**	**20 30 45.6**	**-0.9**
LMEL				IAML		20 30 49.6	
CO03	**El Pedregal**	**1.98**	**29**	⇓*iP*	**Pn**	**20 30 25.0**	**+2.3**
CO03				*iS*	**Sb**	**20 30 49.9**	**-0.7**
CO03	**El Pedregal**	**1.98**	**29**		**Pn**	**20 30 24.9**	**+2.2**
AUSP	**Uspallata**	**2.06**	**81**	*iP*	**Pb**	**20 30 28.2**	**+0.3**
AUSP				*iSg*	**Sb**	**20 30 55.0**	**+1.8**
RTLS	**Leoncito**	**2.25**	**70**	*iP*	**Pb**	**20 30 31.2**	**0.0**
RTLS				*iSg*	**Sb**	**20 31 00.3**	**+1.6**
RTLS				IAML		20 31 03.8	
BO02	**Sierra Bellavi**	**2.36**	**159**		**Pn**	**20 30 28.9**	**+1.0**
GO05	**Huala**	**2.42**	**183**		**Pn**	**20 30 28.6**	**-0.2**
GO05	**Huala**	**2.42**	**183**	*iP*	**Pn**	**20 30 28.9**	**+0.1**
GO04	**Tololo Observa**	**2.55**	**20**	*eP*	**Pn**	**20 30 32.7**	**+2.0**
GO04				*iS*	**Sb**	**20 31 05.0**	**-2.2**
GO04	**Tololo Observa**	**2.55**	**20**		**Pn**	**20 30 33.0**	**+2.2**
ZON	**Zonda**	**2.83**	**69**		**Pn**	**20 30 35.0**	**+0.6**
ZON	**Zonda**	**2.83**	**69**	*iP*	**Pb**	**20 30 38.5**	**-2.5**
ZON				IAML		20 31 28.1	
RTCV	**Cerro Valdivia**	**2.84**	**76**	*iP*	**Pb**	**20 30 39.3**	**-1.9**
RTCV				IAML		20 31 28.3	
CO01	**Juntas del Tor**	**2.98**	**30**	*eP*	**Pn**	**20 30 39.5**	**+2.9**
CO01				IAML		20 31 29.9	
CO01	**Juntas del Tor**	**2.98**	**30**		**Pn**	**20 30 38.7**	**+2.1**
ACCO	**Cerro Coronel**	**3.06**	**50**	*iP*	**Pb**	**20 30 43.5**	**-1.4**
ACCO				IAML		20 31 30.8	
RTLL	**Cerro Villicun**	**3.08**	**67**	*iP*	**Pb**	**20 30 42.4**	**-2.7**
RTLL				IAML		20 31 32.6	
AROD	**Rodeo**	**3.12**	**40**	*iP*	**Pb**	**20 30 44.2**	**-1.7**
RFA	**San Rafael**	**3.52**	**129**	*iP*	**Pn**	**20 30 46.2**	**+2.3**
RFA				IAML		20 31 48.1	
LCO	**Las Campanas**	**3.68**	**15**		**Pn**	**20 30 48.2**	**+1.9**
AC05	**El Transito**	**3.96**	**20**	Pn	**Pn**	**20 30 51.5**	**+1.5**
BI02	**San Fabin de**	**4.09**	**174**	Pn	**Pn**	**20 30 51.1**	**-0.6**
AC04	**Llanos de Chal**	**4.41**	**8**	Pn	**Pn**	**20 30 57.0**	**+0.9**
MRA	**San Martin**	**5.13**	**90**	*iP*	**Pn**	**20 31 09.9**	**+3.8**
MRA				IAML		20 32 15.2	
GO03	**Copiap**	**5.15**	**16**	Pn	**Pn**	**20 31 07.6**	**+1.2**
GO03	**Copiap**	**5.15**	**16**	*iP*	Pn	20 31 11.3	+4.9
ACLC	**CERRO LA CRUZ**	**5.21**	**54**	*iP*	Pn	20 31 12.1	+4.9
ACLC				IAML		20 32 36.2	
TCA	**Tanti**	**6.24**	**80**	*iP*	**Pn**	**20 31 24.9**	**+3.6**
TCA				IAML		20 32 42.2	
LC01	**Cunco**	**6.30**	**181**	Pn	**Pn**	**20 31 21.5**	**-0.5**
GO02	**Mina Guanaco**	**7.64**	**15**	Pn	**Pn**	**20 31 40.9**	**+0.1**
PLCA	**Paso Flores**	**8.19**	**173**	Pn	**Pn**	**20 31 49.4**	**+1.3**
PLCA				LR	LR	20 35 06.0	
PLCA	**Paso Flores**	**8.19**	**173**	Pn	**Pn**	**20 31 48.1**	**0.0**
LPAZ	**La Paz**	**16.56**	**12**	Pn	**Pn**	**20 33 42.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P	**P**	**20 42 16.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P	**P**	**20 42 16.9**	**+0.2**
TORD				IAmb	IAmb	20 42 18.1	
ZALV	**Zalesovo Beam**	**152.91**	**31**	PKPbc	**PKiKP**	**20 49 46.0**	**+0.8**
ZALV	**Zalesovo Beam**	**152.91**	**31**		**PKiKP**	**20 49 45.8**	**+0.6**
MKAR	**Makanchi Array**	**155.66**	**47**	PKPab	**PKPab**	**20 50 08.6**	**+0.3**
MKAR	**Makanchi Array**	**155.66**	**47**		**PKPab**	**20 50 09.2**	**+0.9**

*IDC **25** 21:07:45.8±1.2,26.°43S×27.°56E,h0km,mb3.9/4,*
mb1 4.2/10,mb1mx3.8/42,mbtmp4.1/10,ML4.0/4,Error
ellipse: s-maj=18.2km s-min=13.8km az=110.0
*PRE **25** 21:07:45.1±1.2,26.°41S×27.°61E,h2km,ML3.1*
*BUL **25** 21:07:46.2±1.2,26.°53S×27.°78E,h10km,MD4.1*
*NEIC **25** 21:07:46.8±1.8,26.°36S±0.°05×27.°50E±0.°07,h5km±1km,*
mb4.2/6,Error ellipse: s-maj=10.9km s-min=8.6km
az=100.0
*EAF **25** 21:07:47.1±0.9,26.°55S×27.°77E,h10km,MD4.1*
ISC 25 21:07:46.2±0.9,26.°39S±0.°03×27.°56E±0.°03,h10km±6km,
n49,σ1ˢ87/80,mb4.1/6,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.12**	**254**	*eP*	**Pg**	**21 07 49.1**	**-0.2**
WDLM				*eS*	**Sg**	**21 07 51.1**	**-0.5**
WDLM				AML	AML	21 07 56.0	
PRYS	**Parys**	**0.56**	**198**	*eP*	**Pg**	**21 07 56.7**	**-0.5**
PRYS				*eS*	**Sg**	**21 08 03.9**	**-0.8**
PRYS				AML	AML	21 08 09.7	
ERPM	**east rand prop**	**0.62**	**86**	*eP*	**Pg**	**21 07 56.6**	**-1.7**
ERPM				*eS*	**Sg**	**21 08 05.2**	**-1.2**
ERPM				AML	AML	21 08 06.7	
KSR	**Koster**	**0.80**	**312**	*eP*	**Pg**	**21 08 01.4**	**-0.2**
KSR				*eS*	**Sb**	**21 08 13.3**	**+0.1**
KSR				AML	AML	21 08 16.9	
SWZ	**Schweizer**	**2.14**	**248**	*eP*	**Pn**	**21 08 22.8**	**+0.6**
SWZ				*eS*	**Sn**	**21 08 49.7**	**+0.9**
SWZ				AML	AML	21 08 54.1	
LBTB	**Lobatse**	**2.24**	**307**	Pn	**Pb**	**21 08 26.3**	**-0.4**
LBTB				Pg	**Pb**	**21 08 27.8**	**+1.0**
LBTB				Lg	Lg	21 08 57.0	
LBTB	**Lobatse**	**2.24**	**307**	*iP*	**Pb**	**21 08 26.4**	**-0.4**
LBTB				*iS*	**Sg**	**21 08 57.3**	**-0.8**
LBTB	**Lobatse**	**2.24**	**307**	*eP*	**Pn**	**21 08 24.8**	**+1.4**
LBTB				*eS*	**Sb**	**21 08 53.5**	**-1.1**
LBTB				AML	AML	21 08 57.7	
LBTB	**Lobatse**	**2.24**	**307**		**Pn**	**21 08 24.1**	**+0.7**
LBTB				Pg	**Pb**	**21 08 27.8**	**+1.0**
LBTB					**Sg**	**21 08 57.2**	**-0.9**
LBTB	**Lobatse**	**2.24**	**307**	*iP*	**Pb**	**21 08 26.4**	**-0.4**
LBTB				*iS*	**Sg**	**21 08 57.3**	**-0.8**
BOSA	**Boshof**	**3.01**	**222**	Pn	**Pn**	**21 08 34.9**	**+0.8**
BOSA				Pg	**Pb**	**21 08 40.2**	**+0.2**
BOSA				Sn	**Sn**	**21 09 09.4**	**-1.0**
BOSA				Lg	Lg	21 09 19.7	
BOSA	**Boshof**	**3.01**	**222**	*iP*	**Pn**	**21 08 35.0**	**+0.8**
BOSA				*iS*	**Sn**	**21 09 09.8**	**-0.6**
BOSA	**Boshof**	**3.01**	**222**	*eP*	**Pn**	**21 08 34.8**	**+0.7**
BOSA				*eS*	**Sn**	**21 09 11.8**	**+1.4**
BOSA				AML	AML	21 09 26.0	
BOSA	**Boshof**	**3.01**	**222**		**Pn**	**21 08 35.0**	**+0.9**
BOSA	**Boshof**	**3.01**	**222**	*iP*	**Pn**	**21 08 35.0**	**+0.9**
BOSA				*iS*	**Sn**	**21 09 09.8**	**-0.6**
MSNA	**Messina**	**4.61**	**30**	*eP*	**Pn**	**21 08 55.4**	**-0.6**
MSNA				*eS*	**Sn**	**21 09 45.6**	**-4.1**
MSNA				AML	AML	21 10 19.8	
UPI	**Upington**	**5.94**	**249**	*eP*	**Pn**	**21 09 14.9**	**+0.6**
UPI				*eS*	**Sn**	**21 10 20.7**	**-1.8**
UPI				AML	AML	21 10 51.6	
MATP	**Matopo**	**6.00**	**8**	Pn	**Pn**	**21 09 16.8**	**+1.6**
MATP				Sn	**Sn**	**21 10 23.8**	**-0.3**
MATP				Lg	Lg	21 10 51.0	
KEIM	**Keimoes**	**6.29**	**247**	*eP*	**Pn**	**21 09 19.8**	**+0.7**
KEIM				*eS*	**Sn**	**21 10 29.7**	**-1.4**
KEIM				AML	AML	21 11 04.9	
BLWY	**Bulawayo**	**6.29**	**9**	*iP*	**Pn**	**21 09 21.1**	**+1.8**
BLWY				*iS*	**Sn**	**21 10 30.0**	**-1.4**
BLWY	**Bulawayo**	**6.29**	**9**	*iP*	**Pn**	**21 09 21.1**	**+1.8**
BLWY				*iS*	**Sn**	**21 10 30.0**	**-1.4**
SOE	**Somerset East**	**6.54**	**195**	*eP*	**Pn**	**21 09 23.6**	**+1.1**
SOE				*eS*	**Sn**	**21 10 34.9**	**-2.3**
SOE				AML	AML	21 11 27.7	
GRAN	**Grantham**	**7.54**	**217**	*eP*	**Pn**	**21 09 37.2**	**+1.0**
GRAN				*eS*	**Sn**	**21 10 58.5**	**-3.3**
GRAN				AML	AML	21 11 10.2	
ROSN	**Rosenhof**	**8.12**	**198**	*eP*	**Pn**	**21 09 44.2**	**+0.1**
ROSN				*eS*	**Sn**	**21 11 12.9**	**-3.1**
ROSN				AML	AML	21 11 17.1	
SUR	**Sutherland**	**8.38**	**223**	Pn	**Pn**	**21 09 49.3**	**+1.4**
SUR				Sn	**Sn**	**21 11 18.4**	**-4.3**
SUR				Lg	Lg	21 12 06.2	
SUR	**Sutherland**	**8.38**	**223**	*iP*	**Pn**	**21 09 47.7**	**-0.2**
SUR				*iS*	**Sn**	**21 11 18.6**	**-4.2**
SUR	**Sutherland**	**8.38**	**223**		**Pn**	**21 09 49.8**	**+1.8**
SUR	**Sutherland**	**8.38**	**223**	*iP*	**Pn**	**21 09 47.7**	**-0.2**
SUR				*iS*	**Sn**	**21 11 18.6**	**-4.2**
CVNA	**Calvinia**	**8.51**	**232**	*eP*	**Pn**	**21 09 50.2**	**+0.6**
CVNA				*eS*	**Sn**	**21 11 22.2**	**-3.5**
CVNA				AML	AML	21 12 13.7	
LSZ	**Lusaka**	**11.07**	**3**	Pn	**Pn**	**21 10 25.1**	**+0.2**
LSZ				Sn	**Sn**	**21 12 25.2**	**-3.6**
LSZ				Lg	Lg	21 13 30.1	
TSUM	**Tsumeb**	**11.65**	**306**	Pn	**Pn**	**21 10 32.8**	**+0.1**
TSUM				Sn	**Sn**	**21 12 35.8**	**-7.2**
TSUM				Lg	Lg	21 13 47.9	
TSUM	**Tsumeb**	**11.65**	**306**	*iP*	**Pn**	**21 10 33.7**	**+1.0**
TSUM				*iS*	**Sn**	**21 12 41.5**	**-1.4**
TSUM	**Tsumeb**	**11.65**	**306**		**Pn**	**21 10 31.7**	**-1.0**
TSUM	**Tsumeb**	**11.65**	**306**	*iP*	**Pn**	**21 10 33.7**	**+1.0**
TSUM				*iS*	**Sn**	**21 12 41.5**	**-1.4**
TOA0	**Torodi Ar. Sit**	**46.66**	**324**	P	**P**	**21 16 16.7**	**+1.5**
TOA0				IAmb	IAmb	21 16 18.0	
TORD	**Torodi Ar. Bea**	**46.66**	**324**	P	**P**	**21 16 16.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**46.66**	**324**	IAmb	IAmb	21 16 16.8	
SNAA	**Sanae**	**48.38**	**192**	PKPdf	**P**	**21 16 29.6**	**+1.6**
SNAA	**Sanae**	**48.38**	**192**	P	**P**	**21 16 29.9**	**+2.0**
SNAA				IAmb	IAmb	21 16 32.6	
VNA1	**Neumayer--Stat**	**48.76**	**195**	PKPdf	**P**	**21 16 33.1**	**+2.3**
VNA2	**Neumayer--Watz**	**48.76**	**195**	PKPdf	**P**	**21 16 32.4**	**+1.6**
VNA3	**Neumayer Olymp**	**49.51**	**195**	PKPdf	**P**	**21 16 37.7**	**+1.2**
KOWA	**Kowa**	**50.93**	**319**	P	**P**	**21 16 49.6**	**+1.6**
HOPE	**Hope Point**	**53.96**	**221**	P	**P**	**21 17 08.2**	**-1.8**
ESDC	**Sonseca Array**	**72.00**	**335**	P	**P**	**21 19 10.9**	**+0.8**
ESDC	**Sonseca Array**	**72.00**	**335**	IAmb	IAmb	21 19 13.6	
KKAR	**Karatay Array**	**79.64**	**30**	P	**P**	**21 19 55.5**	**+1.8**
FINES	**FINESS Array B**	**87.53**	**359**	P	**P**	**21 20 35.8**	**+2.1**
MKAR	**Makanchi Array**	**88.02**	**34**	P	**P**	**21 20 38.0**	**+1.6**

IDC 25 21:08:12.7±1.8,12.°40N×94.°56E,h0km,mb3.4/5,
mb1 3.5/6,mb1mx3.3/50,mbtmp3.3/6,ML3.7/1,MS3.4/6,
Ms1 3.4/6,ms1mx3.0/37,Error ellipse: s-maj=68.9km
s-min=22.0km az=63.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.35**	**35**	Pn	Pn	21 10 01.6	+0.1
PSI	**Prapat**	**10.47**	**155**	LR	LR	21 14 33.3	
KAPI	**Kappang**	**30.44**	**123**	LR	LR	21 27 23.7	
MKAR	**Makanchi Array**	**35.81**	**346**	P	P	21 15 12.3	-1.5
KURBB	**Kurchatov Arra**	**40.30**	**344**	P	P	21 15 52.1	+0.5
ZALV	**Zalesovo Beam**	**42.16**	**351**	P	P	21 16 07.4	+0.6
ZALV				LR	LR	21 37 00.5	
WRA	**Warramunga Arr**	**50.66**	**129**	P	P	21 17 13.8	-0.4
ARU	**Arti**	**51.94**	**335**	LR	LR	21 41 26.5	
ASAR	**Alice Springs**	**52.59**	**133**	P	P	21 17 28.9	+0.3
AKASG	**Malin Array Be**	**64.92**	**320**	LR	LR	21 51 35.2	
ARCES	**ARCESS Array B**	**71.18**	**340**	LR	LR	21 55 36.7	

*NEIC **25** 21:17:38.1±1.7,5.°5S±0.°1×151.°2E±0.°2,h133km±14km,*
mb4.0/10,Error ellipse: s-maj=25.5km s-min=16.3km
az=132.0
*IDC **25** 21:17:46.4±1.1,5.°08S×150.°67E,h225km±18km,mb3.1/3,*
mb1 3.3/4,mb1mx3.0/33,mbtmp3.8/4,Error ellipse:
s-maj=65.1km s-min=23.3km az=129.0
ISC 25 21:17:45.4±0.9,5.°8S±0.°2×150.°5E±0.°2,h150km,n21,
σ1ˢ80/20,mb3.8/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.11**	**45**	P	**Pn**	**21 18 22.6**	**+0.7**
KRVT	14nm,0.3s,baz=137,slow=2.3,SNR=6.7 6.8nm,0.3s,baz=46,slow=23,SNR=1.8			S	**Sn**	**21 18 51.5**	**+1.6**
RABL	**Rabaul**	**2.29**	**45**	Pn	Pn	21 18 06.8	-17
PMG	**Port Moresby**	**4.89**	**223**	P	Pn	21 19 08.9	+12
PMG	**Port Moresby**	**4.89**	**223**	Pn	**Pn**	**21 18 58.4**	**+1.0**
COEN	**Coen**	**10.86**	**221**	Pn	**Pn**	**21 20 17.3**	**+0.4**
MTN	**Manton Dam**	**20.37**	**249**	P	**P**	**21 22 12.3**	**+1.8**
MTN				IAmb	IAmb	21 22 28.7	
WB0	**Warramunga Arr**	**20.95**	**227**	P	**P**	**21 22 18.0**	**+1.4**
WR0	**Warramunga Arr**	**20.96**	**226**	P	**P**	**21 22 18.2**	**+1.4**
WR0				IAmb	IAmb	21 22 23.6	
WB2	**Warramunga Arr**	**21.09**	**227**	P	**P**	**21 22 20.1**	**+1.9**
WB2				IAmb	IAmb	21 22 21.5	
WRA	**Warramunga Arr**	**21.10**	**227**	P	**P**	**21 22 19.9**	**+1.6**
WRA				S	**S**	**21 26 04.9**	**+0.2**
WRA	**Warramunga Arr**	**21.10**	**227**	P	**P**	**21 22 20.0**	**+1.7**
DZM	**Mont Dzumac**	**22.32**	**138**	P	P	21 22 22.3	-8.7
DZM				IAmb	IAmb	21 22 31.4	
KNRA	**Kununurra**	**23.50**	**244**	P	**P**	**21 22 43.2**	**+1.3**
KNRA				IAmb	IAmb	21 22 53.4	
AS31	**Alice Springs**	**23.90**	**220**	P	**P**	**21 22 46.5**	**+0.9**
ASAR	**Alice Springs**	**23.90**	**220**	P	**P**	**21 22 45.8**	**+0.2**
ASAR	**Alice Springs**	**23.90**	**220**	P	**P**	**21 22 46.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.19**	**241**	P	**P**	**21 23 14.3**	**-1.0**
STKA	**Stephens Creek**	**27.25**	**197**	P	**P**	**21 23 16.3**	**+0.7**
LUWI	**Luwuk**	**28.11**	**279**	P	**P**	**21 23 24.1**	**+0.6**

MORW	**Morawa**	**39.96 231**	P	**P**	**21 25 03.3**	**-2.1**
TORD	**Torodi Ar. Bea**	**148.44 286**	PKPbc	**PKPdf**	**21 37 06.6**	**-5.1**
	comp=Z,0.7nm,1.0s,baz=77,slow=6.4,SNR=2.8					

*NEIC **25** 21:28:42.2±2.3, 7.°04S±0.°08×126.°03E±0.°09, h483km±16km, mb4.3/14, Error ellipse: s-maj=16.3km s-min=5.2km az=134.0*
*DJA **25** 21:28:43.3±0.2, 7.°3S±3.°×12.°6E±.°, h504km±5km, M4.1/14, mb4.1/14, mB4.8/4, MLv4.0/10, Mw(mB)4.1/4, Mwp5.0/1*
*IDC **25** 21:28:43.8±3.1, 7.°05S×126.°27E, h489km±56km, mb3.2/1, mb1 3.6/6, mb1mx2.9/45, mbtmp4.5/6, Error ellipse: s-maj=95.0km s-min=26.0km az=117.0*
ISC 25 21:28:42.8±0.6, 7.°15S±0.°06×126.°05E±0.°07, h488km, n43, σ1§63/49, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.13**	**214**	P	**P**	**21 29 55.9**	**+2.0**
SOEI	**Soe**	**3.13**	**214**	P	**P**	**21 29 55.3**	**+1.4**
SOEI				S	**S**	**21 30 51.0**	**-0.7**
BATI	**Baumata**	**3.85**	**218**	P	**P**	**21 30 01.5**	**+2.3**
	31nm,0.3s,baz=101,slow=0.8,SNR=33						
BATI				S	**S**	**21 31 00.2**	**-1.2**
	6.3nm,0.3s,baz=165,slow=4.6,SNR=2.8						
BATI	**Baumata**	**3.85**	**218**	P	**P**	**21 30 00.6**	**+1.4**
NLAI	**Namlea**	**4.02**	**15**	P	**S**	**21 31 07.6**	**+3.7**
MMRI	**Maumere**	**4.05**	**248**	P	**P**	**21 30 00.6**	**-0.3**
EDFI	**Ende, Flores**	**4.60**	**249**	P	**P**	**21 30 06.0**	**+0.3**
MSAI	**Masohi**	**4.74**	**37**	P	**P**	**21 30 09.3**	**+2.4**
SAUI	**Saumlaki**	**5.28**	**99**	P	**P**	**21 30 10.6**	**-1.1**
LUWI	**Luwuk**	**6.89**	**332**	P	**P**	**21 30 28.7**	**+1.2**
	0.3nm3µm31nm,0.6s						
LUWI	**Luwuk**	**6.89**	**332**	P	**P**	**21 30 28.2**	**+0.7**
FAKI	**Fak Fak**	**7.47**	**56**	P	**P**	**21 30 33.4**	**-0.1**
	0.4nm2µm91nm,0.6s						
FAKI	**Fak Fak**	**7.47**	**56**	P	**P**	**21 30 33.5**	**-0.1**
MTN	**Manton Dam**	**7.56**	**139**	P	**P**	**21 30 34.7**	**+0.4**
SIJI	**Sorong**	**8.12**	**40**	P	**P**	**21 30 40.7**	**+0.4**
	19nm,0.3s,baz=209,slow=8.9,SNR=34						
SIJI				S	**S**	**21 32 13.4**	**-3.2**
	2.0nm,0.3s,baz=270,slow=20,SNR=2.6						
GTOI	**Gorontalo**	**8.30**	**338**	P	**P**	**21 30 44.7**	**+2.6**
	22nm,0.9s						
PLAI	**Plampang**	**8.36**	**258**	P	**P**	**21 30 41.5**	**-1.2**
	21nm,1.1s						
KNRA	**Kununurra**	**8.89**	**163**	P	**P**	**21 30 49.7**	**+1.5**
MPSI	**Mapaga**	**9.64**	**320**	P	**P**	**21 30 57.5**	**+1.2**
	6.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**10.89**	**182**	P	**P**	**21 31 11.3**	**+1.7**
	2.8nm,0.3s,baz=359,slow=8.6,SNR=170						
FITZ				S	**S**	**21 33 09.9**	**-0.5**
	0.2nm,0.3s,baz=180,slow=19,SNR=7.5						
FITZ	**Fitzroy Crossi**	**10.89**	**182**	P	**P**	**21 31 11.4**	**+1.9**
JAGI	**Jajag, Banyuwa**	**11.86**	**263**	P	**P**	**21 31 18.9**	**-1.1**
WB0	**Warramunga Arr**	**14.94**	**148**	P	**P**	**21 31 53.0**	**+0.5**
WB0				IAmb	IAmb	21 31 56.5	
	comp=Z,5.1nm,0.7s						
WRAB	**Tennant Creek**	**15.05**	**148**	P	**P**	**21 31 53.5**	**-0.3**
WRAB				IAmb	IAmb	21 32 11.7	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**15.05**	**148**	P	**P**	**21 31 54.3**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=340,slow=9.7,SNR=90						
WRA				S	**S**	**21 34 27.0**	**-4.5**
	baz=318,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**15.05**	**148**	P	**P**	**21 31 53.5**	**-0.3**
WB2	**Warramunga Arr**	**15.06**	**148**	P	**P**	**21 31 54.5**	**+0.7**
WB2				IAmb	IAmb	21 31 57.8	
	comp=Z,5.5nm,0.8s						
WR0	**Warramunga Arr**	**15.17**	**148**	P	**P**	**21 31 55.6**	**+0.5**
WR0				IAmb	IAmb	21 31 58.8	
	comp=Z,5.7nm,0.8s						
JAY	**Jayapura**	**15.31**	**73**	P	**P**	**21 31 58.7**	**+2.0**
	comp=Z,6.7nm,0.7s						
PSA00	**Pilbara Seismi**	**15.54**	**202**	P	**P**	**21 31 59.4**	**+0.5**
PSA00				IAmb	IAmb	21 32 12.9	
	comp=Z,14nm,1.1s						
KKM	**Kota Kinabalu**	**16.37**	**323**	P	**P**	**21 32 05.9**	**-1.9**
AS31	**Alice Springs**	**18.08**	**156**	P	**P**	**21 32 26.4**	**+1.8**
ASAR	**Alice Springs**	**18.08**	**156**	P	**P**	**21 32 26.0**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=342,slow=15,SNR=57						
ASAR				S	**S**	**21 35 25.4**	**-0.2**
	baz=345,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**18.08**	**156**	P	**P**	**21 32 26.9**	**+2.3**
CISI	**Cisompet, Garu**	**18.09**	**268**	P	**P**	**21 32 23.4**	**-1.4**
	comp=Z,79nm,0.8s						
CISI	**Cisompet, Garu**	**18.09**	**268**	P	**P**	**21 32 24.3**	**-0.5**
COEN	**Coen**	**18.14**	**113**	P	**P**	**21 32 25.6**	**+0.4**
COEN				IAmb	IAmb	21 32 27.9	
	comp=Z,11nm,1.1s						
CNJI	**Cibinong**	**18.77**	**268**	P	**P**	**21 32 29.0**	**-2.0**
BBOO	**Buckleboo**	**27.18**	**161**	P	**P**	**21 33 47.4**	**+1.1**
STKA	**Stephens Creek**	**28.56**	**152**	P	**P**	**21 33 59.6**	**+1.2**
	comp=Z,1.3nm,0.4s,baz=328,slow=6.6,SNR=9.4						
STKA	**Stephens Creek**	**28.56**	**152**	P	**P**	**21 33 59.8**	**+1.5**
TPUB	**Ta-pu**	**30.72**	**350**	P	**P**	**21 34 15.5**	**-1.6**
TPUB				IAmb	IAmb	21 34 28.5	
	comp=Z,5.6nm,0.9s						
PATS	**Pohnpei**	**35.06**	**67**	P	**P**	**21 34 53.1**	**-1.1**

*SFS **25** 21:31:30.0, 38.°48N×7.°87W, h3km, ML2.5, EVORA (PORTUGAL)*
*INMG **25** 21:31:31.5±2.3, 38.°44N×7.°87W, h15km±4km, ML2.5, Error ellipse: s-maj=3.1km s-min=1.8km az=91.0*
*MDD **25** 21:31:31.1±0.4, 38.°45N×7.°90W, h10km, mbLg2.6/26, Error ellipse: s-maj=3.8km s-min=3.3km az=72.0, PRXIMO*
*IGIL **25** 21:31:31.8, 38.°44N×7.°86W, h17km, ML2.6*
*CNRM **25** 21:31:34.9±1.3, 38.°24N×7.°98W, h11km±5km, Error ellipse: s-maj=8.5km s-min=4.5km az=140.0*
ISC 25 21:31:31.5±1.0, 38.°44N±0.°02×7.°92W±0.°02, h24km±11km, n61, σ1§86/111, 2C-2D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBEJ	**Beja**	**0.41**	**174**	*e*Pg	**Pb**	**21 31 39.4**	**-0.8**
PBEJ				*e*Sg	**Sb**	**21 31 45.0**	**-1.1**
PBEJ				A	A	21 31 45.5	
	258nm,0.2s						
PNCL	**Nicolau / Gran**	**0.58**	**236**	⇑*e*Pg	**Pb**	**21 31 43.2**	**+0.2**
PNCL				*e*Sg	**Sb**	**21 31 51.5**	**+0.6**
PNCL				A	A	21 31 53.6	
	55nm,0.2s						
PMTG	**Montargil**	**0.68**	**339**	⇓*e*Pg	**Pb**	**21 31 44.1**	**-0.6**
PMTG				*e*Sg	**Sb**	**21 31 53.2**	**-0.4**
PMTG				A	A	21 31 56.2	
	90nm,0.3s						
PBAR	**Barrancos**	**0.74**	**110**	*e*Pg	**Pb**	**21 31 44.8**	**-0.9**
PBAR				*e*Sg	**Sb**	**21 31 54.4**	**-1.0**
PBAR				A	A	21 31 55.2	
	99nm,0.1s						
PCVE	**Castro Verde**	**0.81**	**187**	*e*P	**Pn**	**21 31 47.0**	**-0.4**
PCVE				*e*S	**Sb**	**21 31 57.2**	**-0.2**
PCVE				A	A	21 31 57.9	
	124nm,0.4s						
EGRO	**El Granado**	**0.96**	**159**	Pg	**Pn**	**21 31 49.2**	**-0.4**
	6.4nm,0.1s,SNR=190						
EGRO				Lg	Lg	21 32 01.2	
	44nm,0.1s,SNR=17						
PVAQ	**Vaqueiros**	**1.04**	**171**	P	**Pb**	**21 31 51.3**	**+0.4**
PVAQ				S	**Sb**	**21 32 03.9**	**-0.2**
PVAQ	**Vaqueiros**	**1.04**	**171**	*e*P	**Pn**	**21 31 50.3**	**-0.3**
PVAQ				*e*S	**Sb**	**21 32 03.6**	**-0.5**
PVAQ				A	A	21 32 05.5	
	94nm,0.1s						
PMRV	**Marv??o**	**1.07**	**22**	*e*P	**Pn**	**21 31 50.5**	**-0.6**
PMRV				*e*S	**Sn**	**21 32 04.4**	**-0.8**
PMRV				A	A	21 32 04.7	
	83nm,0.2s						
PTEO	**Sao Teotonio**	**1.09**	**216**	*e*P	**Pn**	**21 31 51.0**	**-0.3**
PTEO				*e*S	**Sn**	**21 32 05.8**	**+0.1**
PTEO				A	A	21 32 09.0	
	56nm,0.3s						
PMAFR	**Mafra**	**1.19**	**296**	Pn	**Pn**	**21 31 52.5**	**-0.1**
	4.6nm,0.2s,SNR=7.9						
PMAFR				Pg	**Pb**	**21 31 53.8**	**+0.5**
	10nm,0.1s,SNR=15						
PMAFR				Lg	Lg	21 32 09.7	
	172nm,0.2s,SNR=25						
PMAFR	**Mafra**	**1.19**	**296**	*e*P	**Pn**	**21 31 52.5**	**-0.1**
PMAFR				*e*S	**Sn**	**21 32 09.1**	**+1.1**
PMAFR				A	A	21 32 10.9	
	164nm,0.3s						

EMIN	**Mina Concepcio**	**1.19**	**124**	⇓Pg	**Pn**	**21 31 52.0**	**-0.7**
	8.6nm,0.2s,SNR=18						
EMIN				Lg	Lg	21 32 07.5	
	20nm,0.1s,SNR=24						
PBDV	**Barranco-do-Ve**	**1.19**	**181**	*e*Pg	**Pb**	**21 31 53.2**	**-0.2**
PBDV				*e*Sg	**Sn**	**21 32 08.6**	**+0.5**
PBDV				A	A	21 32 13.5	
	74nm,0.6s						
MORF	**Marmelete**	**1.27**	**207**	*e*P	**Pn**	**21 31 53.3**	**-0.5**
MORF				*e*Sg	**Sb**	**21 32 10.9**	**+0.2**
MORF				AML	AML	21 32 12.8	
	comp=N,87nm,0.3s						
MORF	**Marmelete**	**1.27**	**207**	Pg	**Pn**	**21 31 53.3**	**-0.5**
MORF				Lg	Lg	21 32 10.9	
	comp=N,87nm,0.3s						
MORF	**Marmelete**	**1.27**	**207**	⇑*e*P	**Pn**	**21 31 53.3**	**-0.5**
MORF				*e*S	**Sb**	**21 32 10.9**	**+0.2**
MORF				A	A	21 32 13.9	
	comp=N,42nm,0.1s						
PSBE	**So Bento**	**1.27**	**328**	*e*P	**Pb**	**21 31 54.8**	**-0.1**
PSBE				*e*S	**Sb**	**21 32 13.1**	**+2.2**
PSBE				A	A	21 32 14.0	
	comp=N,23nm,0.4s						
PCBR	**Castelo Branco**	**1.44**	**14**	*e*P	**Pn**	**21 31 55.8**	**-0.4**
PCBR				*e*S	**Sb**	**21 32 15.1**	**-0.6**
PCBR				A	A	21 32 16.1	
	comp=N,31nm,0.1s						
PFVI	**Vila Bisbo**	**1.49**	**209**	Pn	**Pn**	**21 31 56.2**	**-0.6**
	comp=N,1.7nm,0.1s,SNR=7.9						
PFVI				Pg	**Pb**	**21 31 59.1**	**+0.7**
	comp=N,4.9nm,0.1s,SNR=14						
PFVI				Sn	**Sn**	**21 32 13.3**	**-2.1**
	comp=N,30nm,0.2s,SNR=13						
PFVI				Lg	Lg	21 32 17.2	
	comp=N,29nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.49**	**209**	P	**Pb**	**21 31 58.5**	**0.0**
PFVI				S	**Sb**	**21 32 17.8**	**+0.8**
PFVI	**Vila Bisbo**	**1.49**	**209**	*e*Pn	**Pn**	**21 31 56.3**	**-0.4**
PFVI				*e*Sg	**Sb**	**21 32 17.7**	**+0.8**
PFVI				A	A	21 32 20.1	
	comp=N,23nm,0.3s						
PCAS	**Casmilo, Conde**	**1.68**	**345**	*e*Pn	**Pn**	**21 31 59.3**	**-0.1**
PCAS	**Casmilo, Conde**	**1.68**	**345**	*e*Pg	**Pb**	**21 32 01.9**	**+0.2**
PCAS				*e*Sg	**Sb**	**21 32 23.5**	**+1.1**
PCAS				A	A	21 32 28.2	
	comp=N,17nm,0.9s						
COI	**Coimbra**	**1.81**	**348**	*e*Sg	**Sb**	**21 32 27.4**	**+1.2**
ECAB	**El Cabril**	**2.00**	**100**	Pn	**Pn**	**21 32 04.1**	**+0.2**
	comp=N,0.1nm,0.1s,SNR=30						
ECAB				Pg	**Pb**	**21 32 06.4**	**-0.9**
	comp=N,1.1nm,0.2s,SNR=16						
ECAB				Lg	Lg	21 32 31.2	
	comp=N,21nm,0.2s,SNR=21						
EPLA	**Plasencia**	**2.16**	**41**	Pn	**Pn**	**21 32 05.4**	**-0.7**
	comp=N,0.2nm,0.2s,SNR=12						
EPLA				Pg	**Pb**	**21 32 10.6**	**+0.6**
	comp=N,1.4nm,0.1s,SNR=14						
EPLA				Lg	Lg	21 32 36.2	
	comp=N,4.5nm,0.1s,SNR=5.0						
HORN	**Hornachuelos**	**2.18**	**105**	P	**Pb**	**21 32 11.1**	**+0.9**
HORN				S	**Sb**	**21 32 39.9**	**+3.2**
ESPR	**Espera**	**2.26**	**133**	Pn	**Pn**	**21 32 07.9**	**+0.5**
	comp=N,0.5nm,0.1s,SNR=4.7						
ESPR				Pg	**Pb**	**21 32 13.7**	**+2.0**
	comp=N,5.8nm,0.2s,SNR=22						
ESPR				Lg	Lg	21 32 44.4	
	comp=N,13nm,0.3s,SNR=5.0						
PVIS	**Viseu**	**2.28**	**0**	*e*Pg	**Pb**	**21 32 12.8**	**+0.8**
PVIS				*e*Sg	**Sb**	**21 32 40.9**	**+1.2**
PVIS				A	A	21 32 48.0	
	comp=N,19nm,0.6s						
EADA	**Adamuz**	**2.64**	**95**	Pn	**Pn**	**21 32 12.0**	**-0.7**
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				Pg	**Pb**	**21 32 18.3**	**+0.2**
	comp=N,1.3nm,0.3s,SNR=11						
EADA				Sn	**Sn**	**21 32 43.6**	**-0.4**
	comp=N,1.6nm,0.3s,SNR=7.9						
EADA				Lg	Lg	21 32 51.5	
	comp=N,5.4nm,0.1s,SNR=11						
MVO	**Moncorvo**	**2.81**	**14**	Pn	**Pn**	**21 32 15.2**	**+0.2**
	comp=N,1.1nm,0.1s,SNR=7.9						
MVO				Pg	**Pb**	**21 32 21.7**	**+0.7**
	comp=N,4.0nm,0.3s,SNR=8.1						
MVO				Sn	**Sn**	**21 32 46.2**	**-2.0**
	comp=N,0.8nm,0.2s,SNR=7.9						
MVO				Lg	Lg	21 32 57.5	
	comp=N,13nm,0.2s,SNR=8.7						
MVO	**Moncorvo**	**2.81**	**14**	*e*Pg	**Pb**	**21 32 21.6**	**+0.6**
MVO				*e*Sn	**Sn**	**21 32 46.3**	**-1.9**
MVO				*e*Sg	**Sb**	**21 32 58.5**	**+3.5**
MVO				A	A	21 33 04.0	
	comp=N,18nm,0.5s						
PVRL	**Vila Real**	**2.84**	**3**	*e*Sg	**Sb**	**21 32 58.7**	**+2.8**
PVRL				A	A	21 33 02.3	
	comp=N,12nm,0.2s						
PAB	**San Pablo**	**2.99**	**67**	Pn	**Pn**	**21 32 17.5**	**0.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
PAB				Pg	**Pb**	**21 32 25.1**	**+0.9**
	comp=N,0.6nm,0.1s,SNR=7.9						
PAB				Lg	Lg	21 33 02.7	
	comp=N,8.4nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**3.29**	**113**	Pn	**Pn**	**21 32 21.9**	**+0.1**
	comp=N,0.1nm,0.3s,SNR=7.9						
EGOR				Pg	**Pb**	**21 32 32.5**	**+3.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
EGOR				Sn	**Sn**	**21 32 59.0**	**-1.2**
	comp=N,0.3nm,0.6s,SNR=7.9						
EGOR				Lg	Lg	21 33 16.2	
	comp=N,6.3nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**3.32**	**67**	Pn	**Pn**	**21 32 21.4**	**-0.6**
	comp=N,0.2nm,0.1s,baz=250,slow=13,SNR=73						
ESDC				Pg	**Pb**	**21 32 31.2**	**+1.5**
	comp=N,1.0nm,0.2s,baz=262,slow=17,SNR=14						
ESDC				Sn	**Sn**	**21 32 58.1**	**-2.5**
	comp=N,3.2nm,0.5s,baz=252,slow=23,SNR=4.0						
ESDC				Lg	Lg	21 33 13.1	
	comp=N,6.2nm,0.2s,baz=255,slow=28,SNR=13						
ELOB	**Lobios**	**3.43**	**358**	Pn	**Pn**	**21 32 23.7**	**+0.2**
	comp=N,0.2nm,0.0s,SNR=7.9						
ELOB				Pb	**Pb**	**21 32 29.4**	**-2.2**
	SNR=4.0						
ELOB				Pg		21 32 35.5	
	comp=N,1.4nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**21 33 00.2**	**-3.2**
	comp=N,0.8nm,0.2s,SNR=4.9						
ELOB				Lg	Lg	21 33 18.0	
	comp=N,4.5nm,0.2s,SNR=6.1						
PBRG	**Braganca**	**3.48**	**15**	*e*Pg	**Pb**	**21 32 31.0**	**-1.5**
PBRG				*e*Sn	**Sn**	**21 33 02.5**	**-2.2**
PBRG				*e*Sg	**Sb**	**21 33 18.3**	**+3.9**
PBRG				A	A	21 33 31.6	
	comp=N,4.6nm,0.7s						
PGAV	**Gavieira, Arco**	**3.54**	**356**	*e*Pn	**Pn**	**21 32 24.6**	**-0.4**
PGAV				*e*Sn	**Sn**	**21 33 03.8**	**-2.3**
PGAV				*e*Sg	**Sb**	**21 33 21.9**	**+6.0**
PGAV				A	A	21 33 27.8	
	comp=N,5.6nm,0.8s						
ECAL	**Calabor**	**3.62**	**14**	Pn	**Pn**	**21 32 26.5**	**+0.4**
	comp=N,2.2nm,0.3s,SNR=7.9						
ECAL				Pb	**Pb**	**21 32 33.1**	**-1.7**
	SNR=12						
ECAL				Sn	**Sn**	**21 33 05.0**	**-3.1**
	comp=N,4.7nm,0.2s,SNR=7.9						
ECAL				Lg	Lg	21 33 23.8	
	comp=N,18nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**3.65**	**52**	Pn	**Pn**	**21 32 26.3**	**-0.4**
	comp=N,0.2nm,0.1s,SNR=7.9						
GUD				Pg	**Pb**	**21 32 38.0**	**+2.6**
	comp=N,0.9nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**21 33 06.0**	**-3.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
GUD				Lg	Lg	21 33 24.6	
	comp=N,2.6nm,0.2s,SNR=6.8						
ELGU	**Los Guajares,**	**3.75**	**113**	Pn	**Pn**	**21 32 28.1**	**+0.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
ELGU				Sn	**Sn**	**21 33 11.7**	**+0.4**
	comp=N,0.6nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	21 33 30.9	
	comp=N,7.7nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**3.75**	**108**	Lg	Lg	21 33 31.0	
	comp=N,4.6nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**3.76**	**351**	Pn	**Pn**	**21 32 27.9**	**0.0**
	comp=N,2.6nm,0.2s,SNR=7.9						
EZAM				Sn	**Sn**	**21 33 07.8**	**-3.6**
	comp=N,3.8nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.87**	**98**	Pn	**Pn**	**21 32 29.6**	**-0.1**
	comp=N,0.3nm,0.1s,SNR=7.9						

EQES				Sn	**Sn**	**21 33 13.1**	**-1.4**
	comp=N,0.2nm,0.1s,SNR=7.9						
EQES				Lg	Lg	21 33 32.4	
	comp=N,3.6nm,0.3s,SNR=6.2						
GORA	**Gorafe**	**3.97**	**102**	Lg	Lg	21 33 35.9	
	comp=N,7.9nm,0.2s,SNR=7.9						
UCM	**Universidad Co**	**4.08**	**61**	Pn	**Pn**	**21 32 31.7**	**-0.7**
UCM				Lg	Lg	21 33 37.5	
UCM	**Universidad Co**	**4.08**	**61**	*e*P	**Pn**	**21 32 31.7**	**-0.7**
UCM				*e*S	**Sb**	**21 33 37.5**	**+6.1**
SESP	**Santiago Espad**	**4.24**	**93**	Pn	**Pn**	**21 32 34.1**	**-0.6**
	comp=N,0.1nm,0.2s,SNR=7.9						
SESP				Pg	**Pb**	**21 32 47.9**	**+2.4**
	comp=N,1.6nm,0.4s,SNR=4.0						
SESP				Sn	**Sn**	**21 33 20.3**	**-3.3**
	comp=N,4.3nm,0.6s,SNR=7.9						
SESP				Lg	Lg	21 33 41.7	
	comp=N,13nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**4.24**	**93**	P	Pb	21 32 39.3	-6.1
SESP				S	**Sb**	**21 33 31.7**	**-4.5**
EBER	**Berja**	**4.28**	**110**	Pn	**Pn**	**21 32 35.1**	**-0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EBER				Lg	Lg	21 33 48.2	
	comp=N,4.0nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**4.58**	**350**	Pn	**Pn**	**21 32 38.9**	**-0.4**
	comp=N,0.6nm,0.3s,SNR=7.9						
EMAZ				Sn	**Sn**	**21 33 27.9**	**-3.8**
	comp=N,0.2nm,0.3s,SNR=7.9						
EMAZ				Lg	Lg	21 33 54.3	
	comp=N,0.6nm,0.1s,SNR=4.0						
EPON	**Pontenova**	**4.92**	**7**	Lg	Lg	21 34 06.2	
	comp=N,2.6nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**5.00**	**86**	Sn	**Sn**	**21 33 39.0**	**-3.1**
	comp=N,0.5nm,0.3s,SNR=5.2						
ETOB				Lg	Lg	21 34 08.1	
	comp=N,1.5nm,0.4s,SNR=5.9						
ZHG	**ZHG**	**5.09**	**168**	P	Pn	21 32 52.0	+5.7
ZHG				S	**Sn**	**21 33 48.1**	**+3.8**
ETOR	**Torete**	**5.11**	**60**	Pn	**Pn**	**21 32 45.5**	**-1.2**
	comp=N,1.7nm,0.3s,SNR=7.9						
ETOR				Sn	**Sn**	**21 33 39.7**	**-5.3**
	comp=N,0.0nm,0.5s,SNR=7.9						
ETOR				Lg	Lg	21 34 12.5	
	comp=N,3.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**5.28**	**22**	Lg	Lg	21 34 14.0	
	comp=N,0.2nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**5.30**	**94**	Lg	Lg	21 34 20.1	
	comp=N,1.7nm,0.3s,SNR=7.9						
ECHE	**Chera**	**5.53**	**76**	Lg	Lg	21 34 24.4	
	comp=N,1.4nm,0.2s,SNR=7.9						
MD31	**MD31**	**6.12**	**154**	P	**Pn**	**21 33 02.1**	**+1.5**
MD31				S	**Sn**	**21 34 12.6**	**+2.7**

LDG 25 21:33:05.1±2.0, 42.°81N×1.°17W, h2km, Md0.9/2, Error ellipse: s-maj=45.3km s-min=12.0km az=34.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EORO	**Oroz-Betelu**	**0.13**	**310**	Pn	Pg	21 33 08.1	+0.4
	0.2nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.31**	**353**	*e*Pg	Pg	21 33 10.6	-0.4
SJPF				*e*Sg	Sg	21 33 15.3	+0.3
	0.9nm,0.2s						
SJPF	**Ste Jean**	**0.31**	**353**	Pn	Pg	21 33 10.6	-0.4
ATE	**Arette**	**0.44**	**51**	Pn	Pb	21 33 14.7	-1.0
	0.1nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.46**	**79**	*e*Pg	Pg	21 33 14.1	+0.2
ETSF				*e*Sg	Sg	21 33 18.6	-1.3
	1.4nm,0.3s						
ETSF	**Etsaut**	**0.46**	**79**	Pn	Pg	21 33 14.1	+0.2

*IDC **25** 21:33:10.7±1.1, 8.°67S×111.°78E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/37, mbtmp3.6/7, Error ellipse: s-maj=58.8km s-min=17.7km az=45.0*
*DJA **25** 21:33:16.7±0.4, 9.°S±4.°×111.°1E±.°, h10km, M3.9/12, mb4.0/3, MLv3.8/12*
ISC 25 21:33:18.5±1.0, 9.°12S±0.°08×111.°42E±0.°05, h58km, n24, σ1§16/27, mb3.6/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.15**	**19**	P	**Pn**	**21 33 37.6**	**-0.9**
PWJI				S	**Sn**	**21 33 52.5**	**-0.9**
PWJI	**Pagerwojo**	**1.15**	**19**	P	**Pn**	**21 33 37.2**	**-1.3**
WOJI	**Wonogiri, Jawa**	**1.36**	**339**	P	**Pn**	**21 33 40.9**	**-0.4**
WOJI				S	**Sn**	**21 33 59.2**	**+0.8**
YOGI	**Yogyakarta**	**1.71**	**319**	P	**Pn**	**21 33 45.6**	**-0.4**
YOGI				S	**Sn**	**21 34 07.1**	**+0.3**
SMRI	**Semarang**	**2.27**	**335**	P	**Pn**	**21 33 54.4**	**+0.7**
SMRI	**Semarang**	**2.27**	**335**	P	**Pn**	**21 33 57.7**	**+4.0**
TBJI	**Tambak Boyo**	**2.33**	**11**	P	**Pn**	**21 33 54.3**	**-0.1**
GRJI	**Gresik**	**2.43**	**26**	P	**Pn**	**21 33 56.8**	**+1.0**
BLJI	**Banyuglugur**	**2.55**	**58**	P	**Pn**	**21 33 58.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**2.78**	**77**	P	**Pn**	**21 34 01.1**	**+0.6**
KPJI	**Karang Pucung

EGS		**0.29**	**21**	*e*P	**Pn**	**21 49 59.8**	**+1.1**
	baz=32						
EGS				*e*S	**Sn**	**21 50 07.4**	**+2.1**
	baz=32						
NWLT	**Wulai**	**0.35**	**306**	⇓P	**Pn**	**21 49 59.7**	**+0.5**
	baz=302						
NWLT				*i* S	**Sn**	**21 50 06.5**	**+0.2**
	baz=302						
TIPB	**Shuangxi**	**0.40**	**1**	⇓P	**Pn**	**21 50 00.7**	**+0.9**
	baz=357						
TIPB				S	**Sn**	**21 50 08.7**	**+1.5**
	baz=357						
YHNB	**Yeheng**	**0.41**	**284**	⇑P	**Pn**	**21 50 00.1**	**+0.2**
	baz=279						
YHNB				S	**Sn**	**21 50 07.4**	**0.0**
	baz=279						
YHNB	**Yeheng**	**0.41**	**284**	Pn	**Pn**	**21 50 00.2**	**+0.2**
YHNB				Sn	**Sn**	**21 50 08.1**	**+0.6**
NNSH	**Datong**	**0.42**	**250**	⇑*i*P	**Pn**	**21 50 00.3**	**+0.2**
	baz=247						
NNSH				S	**Sn**	**21 50 07.8**	**+0.2**
	baz=247						
NNSB	**Datong**	**0.42**	**250**	⇑*i*P	**Pn**	**21 50 00.2**	**+0.2**
	baz=246						
NNSB				*i* S	**Sn**	**21 50 07.6**	**0.0**
	baz=246						
NNS	**Nan Shan**	**0.42**	**252**	⇑*i*P	**Pn**	**21 50 00.4**	**+0.3**
	baz=248						
NNS				*i* S	**Sn**	**21 50 07.8**	**0.0**
	baz=248						
NSK	**Sanguang**	**0.43**	**284**	⇑P	**Pn**	**21 50 00.3**	**+0.2**
	baz=280						
NSK				S	**Sn**	**21 50 07.5**	**-0.3**
	baz=280						
NACB	**Ninganchiao**	**0.44**	**207**	P	**Pn**	**21 49 59.6**	**-0.6**
	baz=210						
NACB				S	**Sn**	**21 50 07.8**	**-0.1**
	baz=210						
NACB	**Ninganchiao**	**0.44**	**207**	Pn	**Pn**	**21 49 59.6**	**-0.6**
NACB				Sn	**Sn**	**21 50 08.7**	**+0.8**
TWA	**Mucha**	**0.46**	**333**	⇓*i*P	**Pn**	**21 50 00.9**	**+0.5**
	baz=346						
TWA				S	**Sn**	**21 50 09.0**	**+0.7**
	baz=346						
TWB1	**Santiao Chiao**	**0.46**	**20**	⇓*i*P	**Pn**	**21 50 01.1**	**+0.7**
	baz=24						
TWB1				S	**Sn**	**21 50 09.3**	**+1.0**
	baz=24						
ETLH	**Xiulin Townshi**	**0.47**	**220**	*e*P	**Pn**	**21 50 00.6**	**0.0**
	baz=224						
ETLH				S	**Sn**	**21 50 08.4**	**-0.2**
	baz=224						
NWF	**Wu-fen Shan**	**0.50**	**357**	⇓*i*P	**Pn**	**21 50 01.7**	**+0.7**
	baz=351						
NWF				*e*S	**Sn**	**21 50 10.4**	**+1.2**
	baz=351						
WFSB	**Wu-fen Shan**	**0.50**	**357**	⇓P	**Pn**	**21 50 01.7**	**+0.8**
	baz=352						
WFSB				*e*S	**Sn**	**21 50 10.4**	**+1.3**
	baz=352						
TATO	**Taipei**	**0.50**	**324**	⇓*i*P	**Pn**	**21 50 01.1**	**+0.2**
	baz=327						
TATO				*i* S	**Sn**	**21 50 09.3**	**+0.2**
	baz=327						
TATO	**Taipei**	**0.50**	**324**	Pn	**Pn**	**21 50 01.0**	**+0.2**
TATO				Sn	**Sn**	**21 50 09.6**	**+0.6**
TAP1	**Taipei**	**0.54**	**331**	⇓P	**Pn**	**21 50 01.6**	**+0.3**
	baz=323						
TAP1				S	**Sn**	**21 50 10.4**	**+0.7**
	baz=323						
TAP	**Taipei**	**0.55**	**329**	⇓P	**Pn**	**21 50 01.7**	**+0.3**
	baz=323						
TAP				S	**Sn**	**21 50 10.0**	**+0.1**
	baz=323						
FUSS	**Fushou**	**0.61**	**238**	*e*P	**Pn**	**21 50 02.7**	**+0.2**
	baz=233						
FUSS				S	**Sn**	**21 50 11.8**	**0.0**
	baz=233						
YM01	**YM01**	**0.61**	**339**	⇓P	**Pn**	**21 50 02.5**	**+0.2**
	baz=333						
YM10	**YM10**	**0.63**	**339**	⇓P	**Pn**	**21 50 02.6**	**+0.2**
	baz=340						
YM10				*e*S	**Sn**	**21 50 12.5**	**+0.6**
	baz=340						
YM11	**YM11**	**0.63**	**340**	*e*P	**Pn**	**21 50 02.9**	**+0.3**
	baz=342						
YM11				*e*S	**Sn**	**21 50 12.8**	**+0.8**
	baz=342						
YM05	**YM05**	**0.63**	**339**	⇓P	**Pn**	**21 50 02.7**	**+0.2**
	baz=341						
YM05				S	**Sn**	**21 50 12.4**	**+0.4**
	baz=341						
YM04	**YM04**	**0.63**	**337**	⇓*e*P	**Pn**	**21 50 02.6**	**+0.1**
	baz=338						
YM04				*e*S	**Sn**	**21 50 12.2**	**+0.3**
	baz=338						
TWS1	**Kuangyinshan**	**0.64**	**326**	⇓P	**Pn**	**21 50 03.0**	**+0.5**
	baz=327						
TWS1				S	**Sn**	**21 50 13.2**	**+1.2**
	baz=327						
NWRT	**Kuosheng**	**0.65**	**348**	P	**Pn**	**21 50 02.9**	**+0.3**
	baz=350						
NWRT				*e*S	**Sn**	**21 50 11.5**	**-0.6**
	baz=350						
YM08	**YM08**	**0.65**	**342**	⇓P	**Pn**	**21 50 02.6**	**0.0**
	baz=344						
YM08				S	**Sn**	**21 50 12.2**	**0.0**
	baz=344						
WHF	**Hehuan Shan**	**0.66**	**230**	*e*P	**Pn**	**21 50 03.2**	**0.0**
	baz=225						
WHF				*e*S	**Sn**	**21 50 12.8**	**-0.2**
	baz=225						
YM03	**YM03**	**0.66**	**338**	⇓P	**Pn**	**21 50 02.8**	**0.0**
	baz=339						
YM03				*e*S	**Sn**	**21 50 12.8**	**+0.3**
	baz=339						
TWT	**Tachien**	**0.66**	**242**	*e*P	**Pn**	**21 50 03.8**	**+0.8**
	baz=235						
TWT				*e*S	**Sn**	**21 50 13.5**	**+0.8**
	baz=235						
ANP	**Anpu**	**0.67**	**337**	⇓P	**Pn**	**21 50 03.0**	**-0.1**
	baz=339						
ANP				*e*S	**Sn**	**21 50 12.1**	**-0.7**
	baz=339						
TDCB	**Techi**	**0.68**	**242**	⇑P	**Pn**	**21 50 03.8**	**+0.6**
	baz=236						
TDCB				S	**Sn**	**21 50 13.4**	**+0.4**
	baz=236						
NTST	**Danshui**	**0.68**	**331**	P	**Pn**	**21 50 03.6**	**+0.6**
	baz=341						
NTST				*e*S	**Sn**	**21 50 13.8**	**+1.0**
	baz=341						
NCU	**National Centr**	**0.70**	**305**	P	**Pn**	**21 50 03.6**	**+0.4**
	baz=306						
NCU				*e*S	**Sn**	**21 50 14.2**	**+1.0**
	baz=306						
NCUH	**Zhongli**	**0.70**	**305**	P	**Pn**	**21 50 03.7**	**+0.5**
	baz=306						
NCUH				*e*S	**Sn**	**21 50 14.2**	**+1.0**
	baz=306						
TWY	**Chenhua**	**0.73**	**345**	⇓P	**Pn**	**21 50 04.4**	**+0.7**
	baz=346						
TWY				*e*S	**Sn**	**21 50 15.6**	**+1.6**
	baz=346						
LIOB	**Emei**	**0.73**	**276**	*e*P	**Pn**	**21 50 04.3**	**+0.6**
	baz=287						
LIOB				*e*S	**Sn**	**21 50 15.4**	**+1.4**
	baz=287						
NSTT	**Nanjuang**	**0.74**	**275**	P	**Pn**	**21 50 04.4**	**+0.5**
	baz=286						
NSTT				*e*S	**Sn**	**21 50 15.2**	**+0.9**
	baz=286						
CHGB	**Renai**	**0.77**	**229**	*e*P	**Pn**	**21 50 04.8**	**+0.4**
	baz=229						
CHGB				S	**Sn**	**21 50 15.7**	**+0.3**
	baz=229						
SBCB	**Hsinchu**	**0.79**	**287**	P	**Pn**	**21 50 04.9**	**+0.5**
	baz=297						
SBCB				S	**Sn**	**21 50 16.1**	**+0.8**
	baz=297						
HSN	**Hsinchu**	**0.80**	**287**	*e*P	**Pn**	**21 50 04.7**	**+0.1**
	baz=290						
HSN				*e*S	**Sn**	**21 50 16.2**	**+0.6**
	baz=290						
WHP	**Taichung City**	**0.84**	**250**	*e*P	**Pn**	**21 50 06.8**	**+1.5**
	baz=249						
WHP				*e*S	**Sn**	**21 50 18.5**	**+1.7**
	baz=249						
OWD	**Renai**	**0.84**	**224**	*e*P	**Pn**	**21 50 05.9**	**+0.6**
	baz=217						
NMLH	**Miaoli**	**0.93**	**268**	P	**Pn**	**21 50 07.3**	**+1.0**
	baz=269						
NMLH				*e*S	**Sn**	**21 50 20.7**	**+2.0**
	baz=269						
EGFH	**Guangfu**	**0.96**	**202**	*e*P	**Pn**	**21 50 05.8**	**-1.0**
	baz=207						
NSY	**Sanyi**	**0.97**	**261**	*e*P	**Pn**	**21 50 07.9**	**+1.0**
	baz=262						
NSY				*e*S	**Sn**	**21 50 21.9**	**+2.2**
	baz=262						
TWQ1	**Liyutan**	**0.97**	**257**	*e*P	**Pn**	**21 50 07.3**	**+0.4**
	baz=258						
TWQ1				*e*S	**Sn**	**21 50 21.3**	**+1.5**
	baz=258						
PTSB	**Yuanli**	**1.02**	**263**	*e*P	**Pn**	**21 50 08.4**	**+0.9**
	baz=264						
PTSB				*e*S	**Sn**	**21 50 23.6**	**+2.8**
	baz=264						
VWDT	**VWDT**	**1.02**	**217**	*e*P	**Pn**	**21 50 07.7**	**+0.3**
	baz=208						
VWDT				*e*S	**Sn**	**21 50 21.1**	**+0.3**
	baz=208						
JYNG	**Yonagunijimaku**	**1.04**	**96**	P	**Pn**	**21 50 08.0**	**+0.3**
JYNG				*e*S	**Sn**	**21 50 22.3**	**+1.1**
SMLT	**Sun Moon Lake**	**1.08**	**231**	*e*P	**Pn**	**21 50 09.3**	**+0.9**
	baz=223						
SMLT				*e*S	**Sn**	**21 50 23.9**	**+1.5**
	baz=223						
PCYT	**Pengchaiyu**	**1.08**	**12**	P	**Pn**	**21 50 08.9**	**+0.6**
	baz=14						
WDJ	**Dajia District**	**1.09**	**259**	*e*P	**Pn**	**21 50 09.5**	**+1.0**
	baz=259						
WDJ				*e*S	**Sn**	**21 50 26.1**	**+3.5**
	baz=259						
YOJ	**Yonaguni jima**	**1.09**	**95**	P	**Pn**	**21 50 09.0**	**+0.4**
	baz=85						
YOJ				*e*S	**Sn**	**21 50 23.2**	**+0.6**
	baz=85						
YOJ	**Yonaguni jima**	**1.09**	**95**	P	**Pn**	**21 50 08.9**	**+0.4**
YOJ				*e*S	**Sn**	**21 50 23.4**	**+0.8**
YOJ	**Yonaguni jima**	**1.09**	**95**	Pn	**Pn**	**21 50 08.7**	**+0.2**
TYC	**Yuchr**	**1.10**	**233**	*e*P	**Pn**	**21 50 09.7**	**+1.1**
	baz=227						
TYC				*e*S	**Sn**	**21 50 24.2**	**+1.6**
	baz=227						
SSLB	**Suanglung**	**1.11**	**225**	*e*P	**Pn**	**21 50 09.4**	**+0.7**
	baz=227						
SSLB				*e*S	**Sn**	**21 50 24.0**	**+1.1**
	baz=227						
SSLB	**Suanglung**	**1.11**	**225**	Pn	**Pn**	**21 50 09.2**	**+0.5**
SSLB				Sn	**Sn**	**21 50 24.1**	**+1.1**
TCU	**Taichung**	**1.12**	**248**	*e*P	**Pn**	**21 50 09.9**	**+1.1**
	baz=249						
TCU				*e*S	**Sn**	**21 50 25.4**	**+2.2**
	baz=249						
HGSD	**Ruisui**	**1.13**	**198**	*e*P	**Pn**	**21 50 08.7**	**-0.3**
	baz=207						
EHY	**Hungye**	**1.15**	**203**	*e*P	**Pn**	**21 50 07.8**	**-1.4**
	baz=201						
WHYT	**Xinyi Township**	**1.24**	**225**	*e*P	**Pn**	**21 50 12.1**	**+1.6**
	baz=227						
WHYT				*e*S	**Sn**	**21 50 29.4**	**+3.3**
	baz=227						
WJS	**Zhushan**	**1.24**	**233**	*e*P	**Pn**	**21 50 11.8**	**+1.3**
	baz=248						
WJS				*e*S	**Sn**	**21 50 29.2**	**+3.0**
	baz=248						
WNT	**Mingjian**	**1.24**	**237**	*e*P	**Pn**	**21 50 11.7**	**+1.2**
	baz=249						
WCHH	**Zhanghua**	**1.25**	**247**	*e*P	**Pn**	**21 50 11.9**	**+1.4**
	baz=248						
WCHH				*e*S	**Sn**	**21 50 26.9**	**+0.7**
	baz=248						
YULB	**Yu-li**	**1.26**	**202**	*e*P	**Pn**	**21 50 09.4**	**-1.4**
	baz=200						
YULB	**Yu-li**	**1.26**	**202**	Pn	**Pn**	**21 50 10.6**	**-0.3**
EYUL	**Yuli**	**1.30**	**201**	*e*P	**Pn**	**21 50 10.5**	**-0.8**
	baz=207						
TWF1	**Yuli**	**1.30**	**201**	*e*P	**Pn**	**21 50 09.9**	**-1.5**
	baz=199						
ALS	**Alishan**	**1.40**	**221**	*e*P	**Pn**	**21 50 14.3**	**+1.4**
	baz=233						
ALS				*e*S	**Sn**	**21 50 32.2**	**+1.8**
	baz=233						
CHN5	**Tsauling**	**1.42**	**227**	*e*P	**Pn**	**21 50 14.4**	**+1.4**
	baz=230						
CHN5				*e*S	**Sn**	**21 50 32.9**	**+2.3**
	baz=230						
WGK	**Gukeng**	**1.44**	**233**	*e*P	**Pn**	**21 50 14.6**	**+1.4**
	baz=244						
FULB	**Fuli**	**1.45**	**199**	*e*P	**Pn**	**21 50 12.9**	**-0.4**
	baz=206						
FULB				*e*S	**Sn**	**21 50 33.7**	**+2.5**
	baz=206						
WDLH	**Douliu**	**1.46**	**233**	*e*P	**Pn**	**21 50 14.2**	**+0.8**
	baz=247						
WDLH				*e*S	**Sn**	**21 50 33.7**	**+2.2**
	baz=247						
RLNB	**Erlin**	**1.49**	**243**	*e*P	**Pn**	**21 50 15.1**	**+1.3**
	baz=256						
RLNB				*e*S	**Sn**	**21 50 34.6**	**+2.4**
	baz=256						
CHKT	**Chengkung**	**1.52**	**196**	*e*P	**Pn**	**21 50 13.9**	**-0.3**
	baz=201						
CHKT				*e*S	**Sn**	**21 50 31.3**	**-1.6**
	baz=201						
ELDTW	**Lidau**	**1.56**	**208**	*e*P	**Pn**	**21 50 14.2**	**-0.7**
	baz=199						
ELDTW				*e*S	**Sn**	**21 50 34.2**	**+0.2**
	baz=199						
WTK	**Tuku**	**1.57**	**236**	*e*P	**Pn**	**21 50 15.8**	**+0.8**
	baz=237						
CHN2	**Minshiung**	**1.60**	**230**	*e*P	**Pn**	**21 50 16.9**	**+1.5**
	baz=244						
CHN2				*e*S	**Sn**	**21 50 40.1**	**+5.2**
	baz=244						
CHN4	**Tsaushan**	**1.65**	**223**	*e*P	**Pn**	**21 50 17.7**	**+1.7**
	baz=227						
CHN4				*e*S	**Sn**	**21 50 39.9**	**+3.8**
	baz=227						
EDH	**Donghe**	**1.66**	**196**	*e*P	**Pn**	**21 50 15.4**	**-0.8**
	baz=195						
EDH				*e*S	**Sn**	**21 50 35.7**	**-0.6**
	baz=195						
CHY	**Chiayi**	**1.66**	**230**	*e*P	**Pn**	**21 50 17.2**	**+1.0**
	baz=244						
CHY				*e*S	**Sn**	**21 50 37.9**	**+1.6**
	baz=244						
TPUB	**Ta-pu**	**1.67**	**221**	*e*P	**Pn**	**21 50 17.7**	**+1.4**
	baz=235						
TPUB				*e*S	**Sn**	**21 50 38.8**	**+2.3**
	baz=235						
TPUB	**Ta-pu**	**1.67**	**221**	Pn	**Pn**	**21 50 17.8**	**+1.6**
STYT	**Tauyuan**	**1.70**	**215**	*e*P	**Pn**	**21 50 17.8**	**+1.0**
	baz=207						
WTP	**Ta-pu**	**1.72**	**220**	*e*P	**Pn**	**21 50 18.0**	**+1.0**
	baz=234						
WTP				*e*S	**Sn**	**21 50 40.8**	**+2.9**
	baz=234						
WSF	**Szhu**	**1.73**	**238**	*e*P	**Pn**	**21 50 18.1**	**+1.1**
	baz=240						
WSF				*e*S	**Sn**	**21 50 39.5**	**+1.5**
	baz=240						
WLGB	**Puzi**	**1.76**	**232**	*e*S	**Sn**	**21 50 42.1**	**+3.3**
	baz=246						
IRIF	**Iriomote-Funau**	**1.76**	**97**	P	**Pn**	**21 50 17.6**	**+0.1**
IRIF				*e*S	**Sn**	**21 50 38.9**	**+0.1**
LONT	**Longtian**	**1.77**	**201**	*e*P	**Pn**	**21 50 16.2**	**-1.5**
	baz=190						
TWK	**Hsinying**	**1.78**	**223**	*e*P	**Pn**	**21 50 19.8**	**+1.9**
	baz=227						
TWK				*e*S	**Sn**	**21 50 42.8**	**+3.5**
	baz=227						
SNST	**Tainan City**	**1.81**	**222**	*e*P	**Pn**	**21 50 20.1**	**+1.9**
	baz=226						
SNST				*e*S	**Sn**	**21 50 43.7**	**+3.8**
	baz=226						
CHN1	**Nanshi**	**1.81**	**221**	*e*P	**Pn**	**21 50 19.8**	**+1.5**
	baz=225						
CHN1				*e*S	**Sn**	**21 50 42.9**	**+2.7**
	baz=225						
ICHU	**Yijhu**	**1.85**	**230**	*e*P	**Pn**	**21 50 21.1**	**+2.3**
	baz=233						
ICHU				*e*S	**Sn**	**21 50 42.5**	**+1.6**
	baz=233						
SGST	**Jiashian**	**1.86**	**218**	*e*P	**Pn**	**21 50 19.8**	**+0.8**
	baz=233						
SGST				*e*S	**Sn**	**21 50 43.6**	**+2.3**
	baz=233						
TWG	**Pinlang**	**1.87**	**201**	*e*P	**Pn**	**21 50 17.2**	**-1.8**
	baz=191						
TWG				*e*S	**Sn**	**21 50 38.9**	**-2.6**
	baz=191						
TWG	**Pinlang**	**1.87**	**201**	Pn	**Pn**	**21 50 17.3**	**-1.7**
TWGBT	**Beinan**	**1.87**	**201**	*e*P	**Pn**	**21 50 17.6**	**-1.5**
	baz=191						
TWGBT				*e*S	**Sn**	**21 50 39.0**	**-2.5**
	baz=191						
HATJ	**Hateruma jima**	**1.89**	**105**	P	**Pn**	**21 50 20.3**	**+1.0**
HATJ				*e*S	**Sn**	**21 50 43.1**	**+1.2**
SLGT	**Liugui**	**1.90**	**215**	*e*P	**Pn**	**21 50 21.5**	**+2.0**
	baz=207						
SLGT				*e*S	**Sn**	**21 50 45.6**	**+3.4**
	baz=207						
TTN	**Taitung**	**1.91**	**199**	*e*P	**Pn**	**21 50 20.1**	**+0.6**
	baz=197						
TTN				*e*S	**Sn**	**21 50 42.3**	**-0.1**
	baz=197						
LDUT	**Ludao**	**1.91**	**190**	*e*P	**Pn**	**21 50 18.4**	**-1.2**
	baz=178						
LDUT				*e*S	**Sn**	**21 50 40.7**	**-1.9**
	baz=178						
CHN3	**Shinhua**	**1.99**	**222**	*e*S	**Sn**	**21 50 50.4**	**+5.9**
	baz=226						
JKRS	**Kuro-shima**	**2.03**	**99**	P	**Pn**	**21 50 21.8**	**+0.6**
JKRS				*e*S	**Sn**	**21 50 46.5**	**+1.1**
SCLT	**Jiali**	**2.03**	**227**	*e*S	**Sn**	**21 50 47.6**	**+2.1**
	baz=232						
SCST	**Cishan**	**2.07**	**216**	*e*P	**Pn**	**21 50 21.7**	**0.0**
	baz=234						
SCST				*e*S	**Sn**	**21 50 48.6**	**+2.3**
	baz=234						
PTTC	**Pingtan**	**2.07**	**297**	*e*P	**Pn**	**21 50 21.2**	**-0.6**
	baz=295						
PTTC				*e*S	**Sn**	**21 50 44.5**	**-1.9**
	baz=295						
SSD	**Sandimen**	**2.12**	**211**	*e*P	**Pn**	**21 50 24.1**	**+1.7**
	baz=216						
SSD				*e*S	**Sn**	**21 50 49.8**	**+2.3**
	baz=216						
ECL	**Taimali**	**2.12**	**202**	*e*P	**Pn**	**21 50 21.4**	**-1.0**
	baz=192						
ECL				*e*S	**Sn**	**21 50 48.2**	**+0.7**
	baz=192						
JIJ	**Ishigaki jima**	**2.13**	**95**	P	**Pn**	**21 50 22.6**	**0.0**
JIJ				S	**Sn**	**21 50 48.0**	**+0.1**
TSMG	**Majia**	**2.14**	**210**	*e*P	**Pn**	**21 50 25.1**	**+2.3**
	baz=212						
TWM1	**Shoushan**	**2.16**	**217**	*e*P	**Pn**	**21 50 25.7**	**+2.7**
	baz=230						
VWUC	**VWUC**	**2.19**	**282**	*e*P	**Pn**	**21 50 22.8**	**-0.6**
	baz=280						
MASBT	**Mashibuluo**	**2.23**	**209**	*e*P	**Pn**	**21 50 25.2**	**+1.2**
	baz=215						
MASBT				*e*S	**Sn**	**21 50 52.1**	**+1.7**
	baz=215						
JISG	**Ishigakijimahi**	**2.27**	**89**	P	**Pn**	**21 50 24.9**	**+0.4**
JISG				S	**Sn**	**21 50 51.9**	**+0.5**
PNG	**Penghu**	**2.29**	**245**	*e*P	**Pn**	**21 50 23.8**	**-1.1**
	baz=247						
PNG				*e*S	**Sn**	**21 50 51.2**	**-0.7**
	baz=247						
PHUB	**P'eng-hu**	**2.30**	**243**	*e*P	**Pn**	**21 50 23.7**	**-1.2**
	baz=246						
PHUB				*e*S	**Sn**	**21 50 49.9**	**-2.3**
	baz=246						
MATB	**Ma-tsu**	**2.31**	**313**	*e*P	**Pn**	**21 50 24.4**	**-0.7**
	baz=310						
EAST	**Anshuo**	**2.35**	**202**	*e*P	**Pn**	**21 50 24.9**	**-0.7**
	baz=193						
TAW	**Tawu**	**2.36**	**201**	*e*P	**Pn**	**21 50 25.3**	**-0.4**
	baz=193						
TAW				*e*S	**Sn**	**21 50 53.4**	**0.0**
	baz=193						
WDGT	**Dungji**	**2.36**	**237**	*e*P	**Pn**	**21 50 24.8**	**-1.0**
	baz=239						
SSPT	**Xinbi**	**2.37**	**209**	*e*P	**Pn**	**21 50 28.3**	**+2.4**
	baz=212						
SCZT	**Fangliau**	**2.45**	**207**	*e*P	**Pn**	**21 50 27.9**	**+1.0**
	baz=194						
PTMZ	**Houxiangcun**	**2.49**	**281**	*e*P	**Pn**	**21 50 27.1**	**-0.4**
	baz=280						
SLIU	**Shizi**	**2.52**	**202**	*e*P	**Pn**	**21 50 27.9**	**0.0**
	baz=200						
LAY	**Lan-yu**	**2.53**	**186**	*e*P	**Pn**	**21 50 26.6**	**-1.6**
	baz=184						
WLCH	**Liuqiu**	**2.57**	**211**	*e*P	**Pn**	**21 50 31.0**	**+2.3**
	baz=228						
TWP	**Hsiaoliuchiu**	**2.58**	**211**	*e*P	**Pn**	**21 50 30.3**	**+1.4**
	baz=228						
JTJ	**Tarama**	**2.63**	**88**	P	**Pn**	**21 50 30.6**	**+1.2**
JTJ				*e*S	**Sn**	**21 51 01.4**	**+1.3**
LYJJ	**Jianjiangzhen**	**2.71**	**317**	*e*P	**Pn**	**21 50 29.8**	**-0.7**
	baz=314						
HEN	**Hengchun**	**2.74**	**201**	*e*P	**Pn**	**21 50 33.0**	**+2.1**
	baz=199						
HEN				*e*S	**Sn**	**21 51 06.7**	**+3.9**
	baz=199						
XPSS	**Dashiqiu**	**2.77**	**328**	*e*P	**Pn**	**21 50 30.7**	**-0.6**
	baz=325						
TWK1	**Hengchun**	**2.77**	**200**	*e*P	**Pn**	**21 50 32.2**	**+0.7**
	baz=193						
TWKBT	**Hengchun**	**2.77**	**200**	*e*P	**Pn**	**21 50 32.1**	**+0.7**
	baz=193						
TSEB	**Hengchuen, Pin**	**2.79**	**198**	*e*P	**Pn**	**21 50 31.9**	**+0.2**
	baz=192						
TSEB				*e*S	**Sn**	**21 51 03.5**	**-0.5**
	baz=192						
MHZQ	**Yeshan**	**2.94**	**302**	*e*P	**Pn**	**21 50 32.7**	**-1.1**
	baz=298						
JIRB	**Irabujima**	**3.07**	**84**	P	**Pn**	**21 50 37.0**	**+1.6**
JIRB				*e*S	**Sn**	**21 51 13.4**	**+2.5**
KNM	**Kinmen**	**3.08**	**268**	*e*P	**Pn**	**21 50 37.0**	**+1.3**
	baz=267						
KNMB	**Chin-men Tao**	**3.12**	**269**	*e*P	**Pn**	**21 50 35.6**	**-0.6**
	baz=268						
KNMB	**Chin-men Tao**	**3.12**	**269**	Pn	**Pn**	**21 50 35.4**	**-0.8**
JMJ	**Miyako jima 2**	**3.17**	**85**	*e*P	**Pn**	**21 50 39.2**	**+2.3**
	baz=87						
JMJ2	**Miyako jima3**	**3.20**	**86**	P	**Pn**	**21 50 38.2**	**+0.9**
JMJ2				*e*S	**Sn**	**21 51 16.1**	**+1.9**
AXDP	**Jialang**	**3.51**	**276**	*e*P	**Pn**	**21 50 41.1**	**-0.4**
	baz=274						
ZPLA	**Ao Xicun**	**3.76**	**261**	*e*P	**Pn**	**21 50 44.6**	**-0.4**
	baz=260						
ZZJH	**Jiuhuzhen**	**3.81**	**269**	*e*P	**Pn**	**21 50 45.0**	**-0.7**
	baz=268						
SSE	**Sheshan**	**6.53**	**355**	Pn	**Pn**	**21 51 22.0**	**-0.8**
MJAR	**Matsushiro Arr**	**18.45**	**46**	P	**Pn**	**21 54 01.5**	**0.0**
SONM	**Songino Array**	**26.24**	**336**	P	**P**	**21 55 19.7**	**0.0**
MK31	**Makanchi Array**	**38.47**	**315**	P	**P**	**21 57 06.1**	**-0.2**
MK31				IAmb	IAmb	21 58 11.6	
	comp=Z,2.0nm,1.2s						
MKAR	**Makanchi Array**	**38.47**	**315**	P	**P**	**21 57 06.3**	**-0.1**
MAKZ	**Makanchi**	**38.67**	**315**	P	**P**	**21 57 08.0**	**-0.1**
MAKZ				IAmb	IAmb	21 57 10.2	
	comp=Z,11nm,2.0s						
PETK	**Petropavlovsk-**	**39.23**	**34**	P	**P**	**21 57 13.4**	**+0.8**
ZALV	**Zalesovo Beam**	**40.24**	**327**	P	**P**	**21 57 19.7**	**-1.3**
MBWA	**Marble Bar**	**45.50**	**183**	P	**P**	**21 58 01.6**	**-2.2**

SNET ***25*** *21:58:16.8±1.4, 13°.23N×90°.43W, h19km±17km, ML1.9*
GCG ***25*** *21:58:19.2±0.4, 13°.36N×90°.31W, h47km±18km, MD3.5*
ISC 25 21:58:19.5±3.6, 13°.3N±0°.2×90°.4W±0°.1, h38km, n8,
σ0s89/10, Near coast of Guatemala

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

MLv3.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=165.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.61**	**294**	P	Pn	21 58 32.8	-0.1
WMGZ				S	Sn	21 58 41.6	-0.1
PUZ	**Puketiti**	**0.68**	**270**	P	Pn	21 58 33.6	-0.3
PUZ				S	Sb	21 58 42.6	-0.8
MXZ	**Matakaoa Point**	**0.82**	**308**	P	Pb	21 58 36.3	-0.2
CNGZ	**Carnagh Statio**	**0.83**	**240**	P	Pb	21 58 37.0	+0.4
TKGZ	**Te Karaka**	**1.07**	**249**	P	Pb	21 58 40.2	-0.4
TKGZ				S	Sb	21 58 54.5	+0.3
HAZ	**Te Kaha**	**1.10**	**286**	P	Pn	21 58 39.9	+0.2
HAZ				S	Sn	21 58 53.9	+0.1
RUGZ	**Raukumara Rang**	**1.15**	**275**	P	Pn	21 58 40.4	0.0
RUGZ				S	Sn	21 58 54.5	-0.5
RIGZ	**Rimuhau**	**1.24**	**239**	P	Pb	21 58 42.6	-0.9
RIGZ				S	Sb	21 58 58.7	-0.6
PRGZ	**Paritu Road**	**1.29**	**228**	P	Pb	21 58 43.4	-0.9
MHGZ	**Mahia Peninsul**	**1.44**	**221**	P	Pn	21 58 45.2	+0.8
KNZ	**Kokohu**	**1.48**	**230**	P	Pn	21 58 45.3	+0.5
KNZ				S	Sn	21 59 03.7	+0.6
SNGZ	**Shannon Statio**	**1.57**	**243**	P	Pn	21 58 47.0	+0.8
SNGZ				S	Sn	21 59 05.8	+0.5
URZ	**Urewera**	**1.60**	**263**	P	Pn	21 58 47.2	+0.8
WHRZ	**Whale Island**	**1.71**	**277**	P	Pn	21 58 49.0	+0.9
RTZ	**Ruatahuna**	**1.77**	**251**	P	Pn	21 58 50.6	+1.6
RTZ				S	Sn	21 59 12.3	+1.9
WHHZ	**Waihua**	**1.79**	**235**	P	Pn	21 58 50.5	+1.3
WHHZ				S	Sn	21 59 11.8	+1.0
RAHZ	**Arahi**	**1.81**	**241**	P	Pn	21 58 50.8	+1.3
MARZ	**Manawahe**	**1.93**	**272**	P	Pn	21 58 51.6	+0.4
MTHZ	**Maungataniwha**	**1.95**	**246**	P	Pn	21 58 52.7	+1.2
MTHZ				S	Sn	21 59 16.0	+1.1
OPRZ	**Ohinepanea**	**2.04**	**276**	P	Pn	21 58 52.8	+0.2
TARZ	**Mount Tarawera**	**2.07**	**265**	P	Pn	21 58 54.5	+1.4
MRHZ	**Matea Rd**	**2.26**	**249**	P	Pn	21 58 56.7	+1.3
BKZ	**Black Stump Fm**	**2.33**	**241**	P	Pn	21 58 57.6	+0.9
BKZ				S	Sn	21 59 24.5	+0.3
MCHZ	**McNeill Hill**	**2.34**	**233**	P	Pn	21 58 57.7	+1.0
MCHZ				S	Sn	21 59 25.2	+0.8
KWHZ	**Kaweka Forest**	**2.51**	**237**	P	Pn	21 58 60.0	+0.9
KWHZ				S	Sn	21 59 28.0	-0.5
KRHZ	**Kereru**	**2.66**	**233**	P	Pn	21 59 00.9	-0.3
KRHZ				S	Sn	21 59 32.3	0.0
ETVZ	**East Tongariro**	**2.88**	**247**	P	Pn	21 59 05.2	+1.0
TOZ	**Tahuroa Road**	**2.88**	**276**	P	Pn	21 59 04.6	+0.4
WPHZ	**Waipukurau**	**2.88**	**226**	P	Pn	21 59 04.6	+0.4
WPHZ				S	Sn	21 59 37.2	-0.6
PNHZ	**Pukenui**	**2.93**	**230**	P	Pn	21 59 04.9	0.0
MOVZ	**Moawhango**	**2.95**	**242**	P	Pn	21 59 06.2	+1.0
NGZ	**Ngauruhoe**	**2.97**	**247**	P	Pn	21 59 06.5	+1.0
KUZ	**Kuaotunu**	**3.01**	**295**	P	Pn	21 59 06.1	+0.2
WNVZ	**Wahianoa**	**3.03**	**244**	P	Pn	21 59 07.2	+0.9
TSZ	**Takapari Road**	**3.16**	**230**	P	Pn	21 59 07.4	-0.7
HIZ	**Hauiti**	**3.39**	**261**	P	Pn	21 59 12.8	+1.7
BFZ	**Birch Farm**	**3.43**	**220**	P	Pn	21 59 10.2	-1.5
GRZ	**Great Barrier**	**3.44**	**301**	P	Pn	21 59 12.8	+0.9
PRWZ	**Pori Road**	**3.48**	**224**	P	Pn	21 59 11.9	-0.5
MBAZ	**Motutapu North**	**3.60**	**290**	P	Pn	21 59 15.2	+1.1
MRZ	**Mangatainoka R**	**3.77**	**226**	P	Pn	21 59 15.4	-1.0
TMWZ	**Te Maipa**	**3.93**	**218**	P	Pn	21 59 16.9	-1.6
OGWZ	**Otaki Gorge**	**4.11**	**227**	P	Pn	21 59 19.8	-1.2
NEZ	**North Egmont**	**4.11**	**251**	P	Pn	21 59 24.0	+2.8
KHEZ	**Kahui Hut**	**4.18**	**251**	P	Pn	21 59 24.5	+2.4
WCZ	**Waipu Caves**	**4.38**	**298**	P	Pn	21 59 26.3	+1.6
OUZ	**Omahuta**	**5.28**	**301**	P	Pn	21 59 39.5	+2.4
CTZ	**Chatham Island**	**6.51**	**152**	P	Pn	21 59 57.2	+3.1

*IDC **25** 22:48:49.4±1.4, 2°.92N×95°.95E, h0km, mb4.1/7, mb1 4.2/9, mb1mx3.8/38, mbtmp4.1/9, ML3.3/2, MS3.1/2, Ms1 3.3/2, ms1mx2.7/29, Error ellipse: s-maj=43.2km s-min=16.4km az=47.0*

*DJA **25** 22:48:56.2±0.6, 3°N±3°×9°6E±°, h10km, M4.2/8, mb4.2/3, MLv4.1/8*

*NEIC **25** 22:48:57.4±1.5, 3°.00N±0°.06×96°.23E±0°.07, h64km±6km, mb4.5/67, Error ellipse: s-maj=11.1km s-min=8.3km az=66.0*

ISC 25 22:48:53.5±0.4, 2°.98N±0°.05×96°.15E±0°.05, h31km, n131, σ1$37/126, mb4.5/36, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.06**	**75**	P	**Pn**	**22 49 10.5**	**-1.8**
TPTI				S	**Sn**	**22 49 23.4**	**-2.6**
MLSI	**Meulaboh, Aceh**	**1.30**	**11**	P	**Pn**	**22 49 15.2**	**-0.4**
MLSI				S	**Sn**	**22 49 31.1**	**-0.9**
GSI	**Gunungsitoli**	**2.19**	**139**	Pn	**Pn**	**22 49 30.4**	**+2.6**
LHMI	**Lhok Sumawe**	**2.37**	**20**	P	**Pn**	**22 49 32.9**	**+2.6**
LHMI	**Lhok Sumawe**	**2.37**	**20**	Pn	**Pn**	**22 49 31.4**	**+1.1**
PSI	**Prapat**	**2.77**	**94**	Pn	**Pn**	**22 49 38.6**	**+2.6**
	5.8nm,0.3s,baz=7.6,slow=7.7,SNR=24						
PSI				Sn	**Sb**	**22 50 17.0**	**+0.9**
	18nm,0.3s,baz=358,slow=24,SNR=7.1						
RPSI	**Rantau Prapat**	**2.78**	**96**	Pn	**Pn**	**22 49 38.9**	**+3.0**
RPSI	**Rantau Prapat**	**2.78**	**96**		**Pn**	**22 49 38.6**	**+2.6**
RPSI					**Sb**	**22 50 17.0**	**+0.8**
MNSI	**Mandailing Nat**	**4.05**	**122**	P	**Pn**	**22 49 56.4**	**+3.0**
KULM	**Kulim**	**5.04**	**63**	Pn	**Pn**	**22 50 08.1**	**+1.1**
IPM	**Ipoh**	**5.09**	**73**	Pn	**Pn**	**22 50 09.7**	**+2.0**
SISI	**Saibi**	**5.19**	**145**	P	Pn	22 50 15.3	+6.3
	0.2nm25nm,1.1s						
BKNI	**Bangkinang**	**5.55**	**118**	Pn	**Pn**	**22 50 16.9**	**+2.9**
SRIT	**Nakonsritamara**	**6.55**	**31**	Pn	**Pn**	**22 50 31.0**	**+3.3**
MYKOM	**Kota Tinggi**	**7.78**	**99**	Pn	**Pn**	**22 50 46.3**	**+1.6**
DSRI	**Dabo**	**9.10**	**112**	P	**Pn**	**22 51 05.3**	**+2.6**
PBA	**Port Blair**	**9.26**	**339**	Pn	Pn	22 51 04.9	-0.1
MNAI	**Manna**	**9.97**	**137**	Pn	**Pn**	**22 51 12.0**	**-2.7**
UBPT	**Khong Chiam**	**15.29**	**36**	Pn	**Pn**	**22 52 29.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**15.62**	**10**	Pn	**Pn**	**22 52 32.8**	**+1.1**
	0.0nm,0.3s,baz=198,slow=11,SNR=8.5						
CMAR				LR	LR	22 58 12.3	
	comp=Z,52nm,19.4s,baz=190,slow=36						
CHTO	**Chiang Mai**	**15.97**	**10**	Pn	**Pn**	**22 52 36.0**	**-0.1**
SLVN	**Son La**	**19.74**	**22**	P	**P**	**22 53 21.4**	**+0.5**
KKM	**Kota Kinabalu**	**20.23**	**81**	P	**P**	**22 53 26.6**	**+0.3**
KKM				IAmb	IAmb	22 53 29.8	
	comp=Z,19nm,0.8s						
QIZ	**Qiongzhong**	**20.83**	**39**	P	**P**	**22 53 33.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**21.25**	**122**	P	**P**	**22 53 35.0**	**-2.2**
JAGI				IAmb	IAmb	22 53 49.5	
	comp=Z,29nm,1.1s						
MYLDM	**Lahad Datu**	**22.40**	**84**	P	**P**	**22 53 49.7**	**0.0**
MYLDM				IAmb	IAmb	22 53 52.3	
	comp=Z,15nm,0.8s						
SHL	**Shillong**	**22.83**	**350**	P	**P**	**22 53 53.0**	**-1.3**
KAPI	**Kappang**	**24.88**	**109**	P	**P**	**22 54 15.4**	**+1.7**
	comp=Z,2.9nm,0.3s,baz=164,slow=18,SNR=1.3						
KAPI	**Kappang**	**24.88**	**109**	P	**P**	**22 54 12.6**	**-1.2**
KAPI				IAmb	IAmb	22 54 22.8	
	comp=Z,9.4nm,0.8s						
H08S2	**Diego Garcia H**	**25.86**	**246**	T	T	23 20 40.8	
	baz=67,slow=76						
H08S3	**Diego Garcia H**	**25.86**	**246**	T	T	23 20 47.4	
	baz=67,slow=76						
H08S1	**Diego Garcia H**	**25.87**	**246**	T	T	23 20 51.4	
	baz=67,slow=76						
LSA	**Lhasa**	**27.00**	**350**	P	**P**	**22 54 33.6**	**+0.3**
MMRI	**Maumere**	**28.45**	**114**	P	**P**	**22 54 45.3**	**-0.6**
MMRI				IAmb	IAmb	22 54 50.3	
	comp=Z,25nm,1.1s						
FITZ	**Fitzroy Crossi**	**35.82**	**127**	P	**P**	**22 55 49.0**	**-1.4**
NWAO	**Narrogin (SRO)**	**40.91**	**152**	P	**P**	**22 56 33.1**	**0.0**
NWAO				IAmb	IAmb	22 56 35.8	
	comp=Z,11nm,1.1s						
NWAO	**Narrogin (SRO)**	**40.91**	**152**	P	**P**	**22 56 33.3**	**+0.2**
NWAO				IAmb	IAmb	22 56 35.9	
	comp=Z,9.3nm,1.1s						
H01W3	**Cape Leeuwin H**	**41.28**	**157**	T	T	23 40 15.3	
	baz=332,slow=76						
H01W2	**Cape Leeuwin H**	**41.29**	**157**	T	T	23 40 18.5	
	baz=332,slow=76						
H01W1	**Cape Leeuwin H**	**41.29**	**157**	T	T	23 40 19.7	
	baz=332,slow=76						
MSEY	**Mahe Island**	**41.34**	**260**	P	**P**	**22 56 36.6**	**-0.4**
TARG	**Taragay, Kyrgy**	**41.95**	**339**	P	**P**	**22 56 42.1**	**+0.2**
GAR	**Garm**	**42.88**	**330**	P	**P**	**22 56 49.9**	**+0.6**
GAR				IAmb	IAmb	22 56 59.7	
	comp=Z,9.1nm,1.0s						
CHGR	**Chuyangaron**	**43.21**	**329**	P	**P**	**22 56 53.1**	**+1.2**
CHGR				IAmb	IAmb	22 57 00.9	
	comp=Z,12nm,0.9s						
BTK	**Batken**	**43.46**	**331**	P	**P**	**22 56 55.4**	**+1.5**
BTK				IAmb	IAmb	22 57 12.4	
	comp=Z,4.4nm,0.9s						
WB0	**Warramunga Arr**	**43.83**	**123**	P	**P**	**22 56 57.3**	**+0.1**
WB0				IAmb	IAmb	22 56 59.7	
	comp=Z,6.8nm,0.8s						
WRA	**Warramunga Arr**	**43.87**	**123**	P	**P**	**22 56 58.8**	**+1.4**
	comp=Z,4.9nm,0.9s,baz=303,slow=8.9,SNR=29						
WRA	**Warramunga Arr**	**43.87**	**123**	P	**P**	**22 56 58.2**	**+0.8**
WB2	**Warramunga Arr**	**43.88**	**123**	P	**P**	**22 56 58.5**	**+1.0**
WB2				IAmb	IAmb	22 57 00.8	
	comp=Z,11nm,1.1s						
WC3	**Warramunga Arr**	**43.90**	**123**	P	**P**	**22 56 58.0**	**+0.3**
WC3				IAmb	IAmb	22 57 00.3	
	comp=Z,7.0nm,0.9s						
AAK	**Ala-Archa**	**43.97**	**337**	P	**P**	**22 56 59.2**	**+1.2**
WR0	**Warramunga Arr**	**44.04**	**123**	P	**P**	**22 56 59.0**	**+0.1**
WR0				IAmb	IAmb	22 57 01.6	
	comp=Z,8.1nm,0.8s						
KS19	**Wonju Array Si**	**45.02**	**36**	P	**P**	**22 57 06.5**	**+0.2**
MK31	**Makanchi Array**	**45.28**	**347**	P	**P**	**22 57 09.1**	**+0.8**
MKAR	**Makanchi Array**	**45.28**	**347**	P	**P**	**22 57 08.8**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=161,slow=8.6,SNR=15						
MKAR	**Makanchi Array**	**45.28**	**347**	P	**P**	**22 57 08.6**	**+0.3**
ASAR	**Alice Springs**	**45.30**	**128**	P	**P**	**22 57 10.2**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=312,slow=8.1,SNR=8.4						
ASAR	**Alice Springs**	**45.30**	**128**	P	**P**	**22 57 08.8**	**-0.1**
MAKZ	**Makanchi**	**45.36**	**346**	P	**P**	**22 57 09.4**	**+0.5**
MAKZ				IAmb	IAmb	22 57 18.8	
	comp=Z,2.2nm,0.5s						
SONM	**Songino Array**	**45.55**	**10**	P	**P**	**22 57 11.5**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=189,slow=9.4,SNR=17						
SONM	**Songino Array**	**45.55**	**10**	P	**P**	**22 57 10.6**	**+0.1**
ULN	**Ulaanbaatar**	**45.70**	**10**	P	**P**	**22 57 10.2**	**-1.5**
KK06	**Karatay Array**	**45.99**	**334**	P	**P**	**22 57 14.8**	**+0.8**
KK07	**Karatay Array**	**46.00**	**334**	P	**P**	**22 57 15.3**	**+1.2**
KK02	**Karatay Array**	**46.01**	**334**	P	**P**	**22 57 14.8**	**+0.7**
KK31	**Karatay Array**	**46.01**	**334**	P	**P**	**22 57 15.6**	**+1.5**
KKAR	**Karatay Array**	**46.01**	**334**	P	**P**	**22 57 15.2**	**+1.1**
KKAR	**Karatay Array**	**46.01**	**334**	P	**P**	**22 57 15.9**	**+1.8**
KKAR				IAmb	IAmb	22 57 17.0	
	comp=Z,2.4nm,0.9s						
KK01	**Karatay Array**	**46.01**	**334**	P	**P**	**22 57 15.5**	**+1.4**
KK03	**Karatay Array**	**46.01**	**334**	P	**P**	**22 57 15.1**	**+1.0**
KK05	**Karatay Array**	**46.01**	**334**	P	**P**	**22 57 15.7**	**+1.5**
KK04	**Karatay Array**	**46.02**	**334**	P	**P**	**22 57 15.9**	**+1.8**
KK08	**Karatay Array**	**46.02**	**334**	P	**P**	**22 57 14.2**	**0.0**
KK09	**Karatay Array**	**46.03**	**334**	P	**P**	**22 57 15.6**	**+1.4**
GYB1	**ALIBECK ARRAY**	**49.17**	**320**	P	**P**	**22 57 40.2**	**+1.4**
GYB1				IAmb	IAmb	22 57 49.8	
	comp=Z,6.8nm,0.7s						
GYA1	**ALIBECK ARRAY**	**49.18**	**320**	P	**P**	**22 57 40.7**	**+1.8**
GEYT	**Alibeck**	**49.19**	**320**	P	**P**	**22 57 39.5**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=152,slow=9.6,SNR=5.4						
GEYT	**Alibeck**	**49.19**	**320**	P	**P**	**22 57 40.6**	**+1.7**
GYA0	**ALIBECK ARRAY**	**49.19**	**320**	P	**P**	**22 57 40.3**	**+1.4**
GYA0				IAmb	IAmb	22 57 49.5	
	comp=Z,6.9nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**49.19**	**320**	P	**P**	**22 57 40.7**	**+1.8**
GYA0B				IAmb	IAmb	22 57 49.5	
	comp=Z,7.3nm,0.8s						
GYB5	**ALIBECK ARRAY**	**49.19**	**320**	P	**P**	**22 57 39.6**	**+0.7**
GYB5				IAmb	IAmb	22 57 49.4	
	comp=Z,6.1nm,0.8s						
GYA2	**ALIBECK ARRAY**	**49.19**	**320**	P	**P**	**22 57 41.2**	**+2.3**
GYA2				IAmb	IAmb	22 57 49.9	
	comp=Z,6.6nm,0.8s						
GYA3	**ALIBECK ARRAY**	**49.19**	**320**	P	**P**	**22 57 39.5**	**+0.6**
GYA3				IAmb	IAmb	22 57 49.5	
	comp=Z,7.5nm,0.8s						
GYB4	**ALIBECK ARRAY**	**49.20**	**320**	P	**P**	**22 57 41.7**	**+2.7**
GYB4				IAmb	IAmb	22 57 50.0	
	comp=Z,7.0nm,0.8s						
INU	**Inuyama**	**49.68**	**45**	P	**P**	**22 57 43.0**	**+0.3**
KURK	**Kurchatov**	**49.82**	**345**	P	**P**	**22 57 44.0**	**+0.6**
KURK				IAmb	IAmb	22 57 45.4	
	comp=Z,3.7nm,1.0s						
MJAR	**Matsushiro Arr**	**51.12**	**44**	P	**P**	**22 57 52.7**	**-0.9**
ZAA0	**Zalesovo Array**	**51.65**	**351**	P	**P**	**22 57 57.4**	**+0.2**
ZAA0				IAmb	IAmb	22 58 06.2	
	comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**51.65**	**351**	P	**P**	**22 57 57.5**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=180,slow=8.1,SNR=7.9						
ZALV	**Zalesovo Beam**	**51.65**	**351**	P	**P**	**22 57 57.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**51.82**	**32**	P	**P**	**22 57 58.4**	**-0.3**
JSD	**Sado**	**51.93**	**42**	P	**P**	**22 57 57.1**	**-2.4**
PMG	**Port Moresby**	**52.29**	**104**	P	**P**	**22 58 01.8**	**-0.8**
BRVK	**Borovoye**	**54.30**	**341**	P	**P**	**22 58 17.4**	**+0.6**
BRVK				IAmb	IAmb	22 58 26.0	
	comp=Z,4.1nm,0.9s						
FOMA	**Nahampoana Res**	**55.19**	**237**	P	**P**	**22 58 24.6**	**+0.9**
JTM	**Tenmabayashi**	**55.21**	**41**	P	**P**	**22 58 21.7**	**-1.9**
STKA	**Stephens Creek**	**55.32**	**133**	P	**P**	**22 58 24.4**	**-0.1**
AB07	**Akbulak array**	**55.44**	**332**	P	**P**	**22 58 25.6**	**+0.5**
AB06	**Akbulak array**	**55.45**	**332**	P	**P**	**22 58 25.0**	**-0.2**
AB08	**Akbulak array**	**55.46**	**332**	P	**P**	**22 58 25.4**	**+0.2**
AB03	**Akbulak array**	**55.46**	**332**	P	**P**	**22 58 25.4**	**+0.2**
AB01	**Akbulak array**	**55.46**	**332**	P	**P**	**22 58 25.9**	**+0.6**
AB31	**Akbulak array**	**55.46**	**332**	P	**P**	**22 58 23.8**	**-1.4**
AB31				IAmb	IAmb	22 58 35.1	
	comp=Z,4.4nm,1.1s						
ABKAR	**Akbulak array**	**55.46**	**332**	P	**P**	**22 58 25.6**	**+0.4**
ABKAR	**Akbulak array**	**55.46**	**332**	P	**P**	**22 58 26.0**	**+0.8**
ABKAR				IAmb	IAmb	22 58 35.1	
	comp=Z,4.4nm,1.1s						
AB02	**Akbulak array**	**55.46**	**332**	P	**P**	**22 58 25.7**	**+0.5**
AB04	**Akbulak array**	**55.47**	**332**	P	**P**	**22 58 25.6**	**+0.4**
AB05	**Akbulak array**	**55.48**	**332**	P	**P**	**22 58 25.8**	**+0.5**
AB09	**Akbulak array**	**55.48**	**332**	P	**P**	**22 58 25.8**	**+0.5**
AKH	**Akhalkalaki**	**60.68**	**317**	P	**P**	**22 59 03.0**	**+0.8**
MARD	**Mardin**	**61.08**	**311**	P	**P**	**22 59 04.5**	**-0.4**
MARD				IAmb	IAmb	22 59 22.1	
	comp=Z,4.3nm,0.9s						
KOPT	**Kop Dagi**	**62.24**	**314**	P	**P**	**22 59 12.0**	**-0.8**
BRTR	**Keskin Array B**	**67.15**	**312**	P	**P**	**22 59 45.0**	**+0.2**
MDUB	**Mudurnu**	**69.15**	**312**	P	**P**	**22 59 57.4**	**+0.1**
AKAS	**Kas**	**69.41**	**308**	P	**P**	**22 59 58.4**	**-0.5**
CASY	**Casey**	**69.87**	**174**	P	**P**	**23 00 01.9**	**+1.0**
WAKE	**Wake Island**	**70.62**	**71**	P	**P**	**23 00 05.1**	**-1.4**
PETK	**Petropavlovsk-**	**70.85**	**34**	P	**P**	**23 00 08.1**	**+0.8**
BURAR	**Bucovina Array**	**75.01**	**319**	P	**P**	**23 00 32.4**	**+0.2**
BUR08	**Bucovina Ar. S**	**75.02**	**319**	P	**P**	**23 00 32.5**	**+0.2**
BUR08				IAmb	IAmb	23 00 50.6	
	comp=Z,5.1nm,1.1s						
TARA	**Tarawa**	**76.72**	**89**	P	**P**	**23 00 41.7**	**-0.8**
PSZ	**Piszkesteto**	**78.59**	**318**	P	**P**	**23 00 53.2**	**+0.9**
PSZ				IAmb	IAmb	23 01 06.1	
	comp=Z,3.9nm,0.8s						
CMWZ	**Cape Campbell**	**83.09**	**132**	P	**P**	**23 01 16.3**	**-0.1**
PLWZ	**Palliser**	**83.83**	**132**	P	**P**	**23 01 18.0**	**-2.2**
CTI	**Castel Tesino**	**84.05**	**316**	P	**P**	**23 01 19.2**	**-2.2**
CTI				IAmb	IAmb	23 01 19.4	
	comp=Z,2.5nm,0.7s						
NC303	**NORSAR Array S**	**84.89**	**331**	P	**P**	**23 01 24.9**	**-0.3**
NB201	**NORSAR Array S**	**84.91**	**331**	P	**P**	**23 01 23.7**	**-1.7**
VSL	**Villasalto**	**85.63**	**309**	P	**P**	**23 01 26.6**	**-2.8**
BFO	**Black Forest**	**86.34**	**318**	P	**P**	**23 01 32.4**	**-0.4**
BFO				IAmb	IAmb	23 01 39.3	
	comp=Z,2.4nm,1.0s						
CART	**Cartagena**	**93.87**	**308**	P	**P**	**23 02 06.2**	**-2.1**
ESDC	**Sonseca Array**	**95.89**	**310**	LR	LR	23 47 34.1	
	comp=Z,13nm,20.8s,baz=95,slow=37						

AUST 25 23:01:04.9±0.8, 30°.48S×117°.79E, h10km±4km, Error ellipse: s-maj=4.4km s-min=3.6km az=24.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**0.94**	**262**	P	Pg	23 01 23.0	-0.1
	baz=1.0,SNR=36						
BLDU				S	Sg	23 01 34.6	-0.8
	baz=1.0,SNR=14						
BLDU	**Ballidu**	**0.94**	**262**	S	Sg	23 01 34.8	-0.6
	baz=0.9						
KLBR	**Kellerberrin**	**1.11**	**182**	P	Pn	23 01 27.4	+0.8
	baz=1.1						
KLBR				S	Sn	23 01 41.9	-0.1
	baz=1.1						
MUN	**Mundaring**	**2.02**	**222**	P	Pn	23 01 40.4	+1.3
	baz=2.0						
MUN				S	Sn	23 02 05.0	+0.5
	baz=2.0						
MORW	**Morawa**	**2.07**	**312**	P	Pn	23 01 39.7	-0.1
	baz=2.0,SNR=9.0						
MORW				S	Sn	23 02 05.3	-0.5
	baz=2.0						
MORW	**Morawa**	**2.07**	**312**	S	Sb	23 02 07.5	-1.1
	baz=2.1						
NWAO	**Narrogin (SRO)**	**2.49**	**191**	P	Pn	23 01 47.3	+1.7
	baz=2.6,SNR=4.7						
NWAO	**Narrogin (SRO)**	**2.49**	**191**	S	Sn	23 02 16.7	+0.7
	baz=2.5						
KMBL	**Kambalda**	**3.62**	**105**	P	Pn	23 02 01.6	+0.5
	baz=3.6						
KMBL				S	Sn	23 02 43.6	-0.4
	baz=3.6						
MEEK	**Meekatharra**	**3.90**	**11**	P	Pn	23 02 05.3	+0.3
	baz=3.8,SNR=4.3						
MEEK	**Meekatharra**	**3.90**	**11**	S	Sn	23 02 46.9	-3.9
	baz=3.9						
FORT	**Forrest**	**8.85**	**95**	P	Pn	23 03 12.2	-0.7
	baz=8.8						
FORT				S	Sn	23 04 47.4	-5.4
	baz=8.8						
LUWI	**Luwuk**	**29.66**	**10**	S	S	23 12 05.7	-0.9
	baz=30,SNR=5.7						

*NEIC **25** 23:42:54.2±2.5, 37°.67N±0°.03×118°.88W±0°.04, h14km±3km, Error ellipse: s-maj=4.7km s-min=4.4km az=153.0*

NCEDC 25 23:42:54.3±1.0, 37°.65N±0°.03×118°.85W±0°.02, h6km±3km, ML3.0/22, Error ellipse: s-maj=4.6km s-min=1.7km az=160.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRNC	**Doe Ridge**	**0.01**	**136**		Pg	23 42 55.7	-0.1
MLAC	**Mammoth, Mammo**	**0.02**	**152**		Pg	23 42 55.7	-0.1
MCBM	**Casa Benchmark**	**0.04**	**265**		Pg	23 42 56.0	0.0
MLHM	**Little Hot Cre**	**0.04**	**40**		Pg	23 42 56.1	+0.1
MCSM	**Casa Diablo Ho**	**0.05**	**279**		Pg	23 42 56.0	0.0
MGPM	**Gravel Pit**	**0.05**	**244**		Pg	23 42 56.1	0.0
MCVM	**Convict Lake**	**0.06**	**166**		Pg	23 42 56.1	-0.1
MLCM	**Laurel Creek C**	**0.06**	**236**		Pg	23 42 56.2	-0.1
MEMM	**East Mammoth H**	**0.07**	**284**		Pg	23 42 56.5	+0.1
MMLB	**Mammoth Lakes**	**0.10**	**276**		Pg	23 42 57.1	+0.2
OMMB	**Old Mammoth Mi**	**0.13**	**254**	Pg	Pg	23 42 57.1	0.0
OMMB				Sg	Sg	23 42 59.0	-0.1
MDYM	**Dry Creek**	**0.13**	**275**		Pg	23 42 57.5	+0.3
MLIM	**Lincoln Peak**	**0.14**	**265**		Pg	23 42 57.7	+0.4
MMSM	**Mammoth Summit**	**0.15**	**263**		Pg	23 42 57.8	+0.3
MMPM	**Mammoth Pass**	**0.15**	**255**		Pg	23 42 57.6	+0.1
ORC	**Owens River**	**0.15**	**95**		Pg	23 42 57.8	+0.2
MDCM	**Deadman Creek**	**0.17**	**292**		Pg	23 42 57.9	+0.1
MINS	**Minaret Summit**	**0.17**	**272**		Pg	23 42 58.0	+0.2
MRDM	**Red Cones**	**0.17**	**253**		Pg	23 42 58.1	+0.1
MDPB	**Devils Postpil**	**0.18**	**265**		Pg	23 42 58.2	+0.1
MDPB					Sg	23 43 00.9	+0.2
RCCR	**Rock Creek Can**	**0.19**	**148**		Pg	23 42 58.3	+0.1
MGNR	**McGee Canyon**	**0.20**	**36**		Pg	23 42 58.9	+0.4
BENR	**Benton**	**0.23**	**73**		Pg	23 42 59.1	+0.2
WMD		**0.27**	**141**		Pg	23 42 58.7	-0.8
MRCM	**Red Rock Canyo**	**0.27**	**84**		Pg	23 42 60.0	+0.2
SCHCA	**Scheelite**	**0.32**	**156**		Pg	23 43 00.5	0.0
MCDM	**Chidago Canyon**	**0.34**	**107**		Pg	23 43 01.4	+0.5
**

ORV	Oroville	2.82 313		Pb	23 43 44.4	-0.6
GSC	Goldstone, Bar	2.86 144		Pg	23 43 51.0	+1.9
PRN	Pahroc Range	3.03 93	Pn	Pn	23 43 42.9	0.0
SHPR	Sheep Range	3.16 110		Pg	23 43 53.6	-1.3
PSUT	Pine Spring	4.04 76	Pg	Pg	23 44 10.5	-1.2
ELK	Elko	4.17 41		Pb	23 44 08.4	+0.2

WEL 25 23:48:51.6±0.5,43°S±3°×17°3E±°,h4km±3km,M2.5/13, ML2.5/13,MLv2.5/13,Error ellipse: s-maj=0.0km s-min=0.0km az=85.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.28	203	P	Pg	23 48 56.9	-0.2
AMCZ	Amberley	0.29	337	P	Pg	23 48 57.9	+0.6
OKCZ	Okains Bay	0.33	146	P	Pg	23 48 58.2	+0.2
OKCZ				S	Sg	23 49 03.5	+1.1
AKCZ	Akaroa Harbour	0.43	170	P	Pg	23 49 00.0	+0.1
AKCZ				S	Sg	23 49 06.2	+0.6
GVZ	Greta Valley S	0.51	19	P	Pg	23 49 02.0	+0.6
GVZ				S	Sb	23 49 09.8	-1.1
OXZ	Oxford	0.57	282	P	Pg	23 49 02.6	0.0
OXZ				S	Sg	23 49 10.9	+0.8
LTZ	Lake Taylor	0.77	329	P	Pg	23 49 06.7	+0.3
WACZ	Wakanui South	0.86	234	P	Pg	23 49 08.5	+0.4
MHCZ	Mount Hutt	0.91	264	P	Pg	23 49 09.1	+0.1
KHZ	Kahutara	1.16	28	P	Pg	23 49 12.8	-1.1
INZ	Inchbonnie	1.23	305	P	Pg	23 49 14.8	-0.5
ARCZ	Arundel	1.28	247	P	Pg	23 49 14.4	-1.8
RPZ	Rata Peaks	1.30	258	P	Pg	23 49 14.8	-1.7
THZ	Tophouse	1.69	3	P	Pn	23 49 20.2	-1.8
ODZ	Otahua Downs	2.23	223	P	Pb	23 49 32.5	+0.1

*IDC **26** 00:13:01.9±5.4,36°.12N×70°.81E,h173km±55km,mb3.5/6, mb1 3.4/10,mb1mx3.1/56,mbtmp4.1/10,MS2.7/2, Ms1 2.6/2,ms1mx2.2/36,Error ellipse: s-maj=49.5km s-min=36.9km az=123.0*
*BJI **26** 00:13:03.7±0.0,36°.32N×70°.43E,h230km,mB4.5/4, mb4.0/5*
*NEIC **26** 00:13:05.4±2.5,36°.47N±0°.06×70°.77E±0°.10,h201km±3km, mb4.1/12,Error ellipse: s-maj=11.5km s-min=7.9km az=77.0*
*NNC **26** 00:13:08.3±4.9,36°.72N×70°.21E,h142km±98km,mb3.6, mpv4.5,Error ellipse: s-maj=81.0km s-min=28.7km az=66.0*

ISC 26 00:13:05.0±0.6,36°.45N±0°.05×70°.75E±0°.06,h200km,n62, σ1°78/73,mb3.9/10,3C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.36	217	Pn	Pn	00 13 48.3	+0.7
KBL				Sn	Sn	00 14 19.9	-0.7
CHGR	Chuyangaron	2.54	331	Pn	Pn	00 13 49.4	0.0
CHGR				Sn	Sn	00 14 21.0	-3.2
GAR	Garm	2.57	352	Pn	Pn	00 13 50.2	+0.4
GAR				Sn	Sn	00 14 23.6	-1.3
NIL	Nilore	3.46	143	Pn	Pn	00 14 02.7	+2.5
NIL				Sn	Sn	00 14 40.6	-2.9
BTK	Batken	3.61	1	Pn	Pn	00 14 02.9	+0.9
TAS	Tashkent	5.00	347	Pn	Pn	00 14 19.9	+0.6
THN	Thein Dam	5.73	133	eS	Sn	00 15 35.0	0.0
AML	Almayashu	6.12	21	P	Pn	00 14 34.5	+0.4
	SNR=214						
DHRM	DHARAMSHALA	6.21	131	eP	Pn	00 14 36.3	+1.0
DHRM				eS	Sn	00 15 45.6	-1.0
DHRM				IAML		00 15 48.3	
	comp=N,185nm,0.4s						
DHRM				IAML		00 15 49.7	
	comp=E,157nm,0.3s						
UCH	Uchtor	6.47	26	P	Pn	00 14 39.0	+0.3
	SNR=75						
KZA	Kyzart	6.62	30	P	Pn	00 14 40.7	+0.1
	SNR=18						
EKS2	Erkin-Say	6.63	20	P	Pn	00 14 41.2	+0.7
	SNR=34						
KK31	Karatay Array	6.65	359	⇑P	Pn	00 14 40.1	-0.5
	comp=E,17nm,0.4s,baz=191,slow=14,SNR=213						
KK31				⇑S	Sn	00 15 52.1	-4.4
	comp=E,7.3nm,0.3s,baz=188,slow=19,SNR=12						
KK31	Karatay Array	6.65	359	Pn	Pn	00 14 41.0	+0.4
KK31				Sn	Sn	00 15 52.8	-3.7
KKAR	Karatay Array	6.65	359	Pn	Pn	00 14 40.8	+0.2
KKAR				Sn	Sn	00 15 53.1	-3.3
KKAR	Karatay Array	6.65	359	Pn	Pn	00 14 40.7	+0.1
KKAR				Sn	Sn	00 15 52.7	-3.7
AAK	Ala-Archa	6.83	24	P	Pn	00 14 43.8	+0.8
	comp=E,8.5nm,0.3s,baz=188,slow=6.0,SNR=67						
AAK				S	Sn	00 15 59.5	-1.3
	comp=E,3.6nm,0.3s,baz=332,slow=22,SNR=19						
AAK	Ala-Archa	6.83	24	P	Pn	00 14 43.8	+0.8
	SNR=33						
KBK	Karagaybulak	7.00	26	P	Pn	00 14 46.3	+1.0
	SNR=27						
FRU1	Bishkek	7.03	24		Pn	00 14 46.6	+1.1
ULHL	Ulahol	7.19	35	P	Pn	00 14 48.1	+0.4
	SNR=5.3						
CHMS	Chumysh	7.23	24	P	Pn	00 14 48.5	+0.3
	SNR=19						
BOOM	Boomskoye usch	7.25	32	Pn	Pn	00 14 48.9	+0.4
USP	Ospenovka	7.40	22	P	Pn	00 14 50.1	-0.2
	SNR=15						
TKM2	Tokmak 2	7.47	29	P	Pn	00 14 52.1	+0.7
	SNR=79						
SMLA	Simla	7.53	133	eP	Pn	00 14 52.7	+0.6
SMLA				eS	Sn	00 16 14.1	-3.1
SMLA				IAML		00 16 15.6	
	comp=N,74nm,0.3s						
SMLA				IAML		00 16 15.9	
	comp=E,56nm,0.4s						
KDJ	Kajisay	7.55	39	Pn	Pn	00 14 52.5	0.0
TARG	Taragay, Kyrgy	7.61	44	Pn	Pn	00 14 53.2	-0.2
PRZ	Przheval'sk	8.45	42	Pn	Pn	00 15 05.5	+1.4
KUDL	Kundal	9.60	148	eS	Sn	00 16 58.8	-7.6
MAKZ	Makanchi	13.31	36	Pn	Pn	00 16 06.7	+0.4
MK31	Makanchi Array	13.45	36		Pn	00 16 09.0	+1.0
MKAR	Makanchi Array	13.45	36	P	Pn	00 16 08.9	+0.9
	comp=E,0.2nm,0.3s,baz=225,slow=17,SNR=17						
MKAR	Makanchi Array	13.45	36		Pn	00 16 09.5	+1.5
WMQ	Urumqi	14.89	55	eP	P	00 16 28.0	+1.4
AB31	Akbulak array	15.03	332	⇓P	P	00 16 28.9	+0.8
	comp=E,1.3nm,0.5s,baz=148,slow=13,SNR=26						
AB31				⇑S	S	00 19 10.3	-3.9
	comp=E,0.9nm,0.5s,baz=151,slow=23,SNR=3.1						
ABKAR	Akbulak array	15.03	332		Pn	00 16 27.4	0.0
KURK	Kurchatov	15.35	19		P	00 16 32.6	+1.1
BVAR	Borovoye Array	16.58	359	P	Pn	00 16 47.2	+1.2
	comp=E,1.2nm,0.3s,baz=182,slow=14,SNR=18						
BRVK	Borovoye	16.61	359	Pn	Pn	00 16 47.6	+1.2
AKTO	Aktyubinsk	16.73	331	P	Pn	00 16 48.1	+0.3
	comp=E,1.0nm,0.3s,baz=140,slow=10,SNR=17						
AKTO	Aktyubinsk	16.73	331	⇓P	P	00 16 47.2	+0.5
	comp=E,3.9nm,0.5s						
AKTO				⇓S	S	00 19 51.0	0.0
	comp=E,1.6nm,0.9s						
ZAA0	Zalesovo Array	20.05	25	P	P	00 17 24.0	+1.4
ZAA0				IAmb	IAmb	00 17 24.9	
	comp=Z,5.8nm,0.7s						
ZALV	Zalesovo Beam	20.05	25	P	P	00 17 24.2	+1.7
	comp=Z,5.7nm,0.3s,baz=218,slow=10,SNR=30						
ZALV	Zalesovo Beam	20.05	25	P	P	00 17 23.6	+1.0
ARU	Arti	21.62	341	P	P	00 17 41.7	+2.6
	comp=Z,0.4nm,0.3s,baz=149,slow=20,SNR=3.2						
ARU	Arti	21.62	341	P	P	00 17 40.0	+1.0
ARU				IAmb	IAmb	00 17 56.3	
	comp=Z,2.0nm,0.6s						
KBZ	Khabaz	22.45	297	LR	LR	00 27 56.2	
	comp=Z,21nm,18.9s,baz=66,slow=40						
OBN	Obninsk	29.85	320	LR	LR	00 31 52.6	
	comp=Z,11nm,20.3s,baz=356,slow=38						
ALN	Alexandroupoli	34.90	291	P	P	00 19 35.6	-1.8
ALN				IAmb	IAmb	00 19 37.3	
	comp=Z,6.0nm,1.4s						
FINES	FINESS Array B	37.41	326	P	P	00 20 00.2	+1.8
	comp=Z,2.5nm,1.0s,baz=127,slow=8.8,SNR=6.0						
FINES	FINESS Array B	37.41	326	P	P	00 19 59.4	+1.0
ITM	Ithomi	38.75	286	P	P	00 20 09.1	-0.8
HFS	Hagfors	42.98	322	P	P	00 20 46.4	+2.3
	comp=Z,1.4nm,0.6s,baz=98,slow=11,SNR=1.3						
NOA	NORSAR Array B	44.30	323	P	P	00 20 56.2	+1.5
	comp=Z,0.7nm,0.8s,baz=98,slow=8.0,SNR=3.5						
TOA0	Torodi Ar. Sit	65.51	269	P	P	00 23 27.1	-0.1
TOA0				IAmb	IAmb	00 23 36.8	
	comp=Z,4.9nm,1.3s						
TORD	Torodi Ar. Bea	65.51	269	P	P	00 23 27.2	0.0
	comp=Z,0.9nm,0.5s,baz=52,slow=6.0,SNR=12						
TORD	Torodi Ar. Bea	65.51	269	P	P	00 23 26.9	-0.3
KOWA	Kowa	69.37	273	P	P	00 23 51.1	-0.2
SCM	Sheep Creek Mo	77.32	17	P	P	00 24 37.6	+0.5
SCM				IAmb	IAmb	00 24 44.6	
	comp=Z,4.1nm,1.0s						
WB2	Warramunga Arr	82.14	122	P	P	00 25 03.5	0.0
WB2				IAmb	IAmb	00 25 15.0	
	comp=Z,3.5nm,1.1s						
BESE	Bessie Mountai	82.94	13	P	P	00 25 07.4	+0.2
BESE				IAmb	IAmb	00 25 27.0	
	comp=Z,5.9nm,1.3s						

*NEIC **26** 00:29:05.7±1.0,61°.79N±0°.04×151°.66W±0°.08,h95km±6km, Error ellipse: s-maj=6.7km s-min=4.9km az=150.0*
*UNK **26** 00:29:06.7,61°.77N×151°.63W,h92km*
*ANF **26** 00:29:06.1±0.6,61°.80N×151°.53W,h101km±6km,ML3.6/12, Error ellipse: s-maj=7.9km s-min=3.2km az=98.0*
*AEIC **26** 00:29:06.6±1.0,61°.77N±0°.05×151°.63W±0°.06,h93km±4km, ML3.2/106,Error ellipse: s-maj=6.9km s-min=3.7km az=161.0*

ISC 26 00:29:05.1±1.3,61°.78N±0°.03×151°.65W±0°.04, h102km±7km,n129,σ0°83/150,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.21	16		Pn	00 29 19.2	-0.4
SKT					Sn	00 29 29.3	-1.2
STLK	Strandline Lak	0.29	197		Pn	00 29 19.6	-0.4
SPCG	Spurr Capps Gl	0.52	200		Pn	00 29 21.1	-0.4
SPCG					Sn	00 29 32.3	-1.4
SUA	Susitna One	0.54	126		Pn	00 29 21.9	+0.4
SUA					Sn	00 29 33.5	-0.4
SPCP	Crater Peak Br	0.57	205		Pn	00 29 21.6	-0.3
SPCP					Sn	00 29 33.3	-1.0
SPCN	Chakachatna No	0.61	205		Pn	00 29 22.0	0.0
SPBG	Spurr Blockage	0.64	205		Pn	00 29 22.2	0.0
SPBG					Sn	00 29 34.9	-0.1
SPCR	Spurr Chakacha	0.64	205		Pn	00 29 22.0	-0.3
SPNN	North Nagishla	0.65	231		Pn	00 29 22.4	-0.1
SPNN					Sn	00 29 35.1	-0.4
CUT	Chulitna	0.91	45	P	Pn	00 29 25.2	+0.5
	baz=226,SNR=142						
CUT				S	Sn	00 29 39.9	+0.5
	baz=226						
CUT	Chulitna	0.91	45		Pn	00 29 25.2	+0.5
CUT					Sn	00 29 39.9	+0.5
FIS	Fire Island	0.94	132		Pn	00 29 26.3	+1.3
CAPN	Captain Cook N	1.04	166	P	Pn	00 29 27.8	+1.7
	baz=348						
CAPN	Captain Cook N	1.04	166		Pn	00 29 27.9	+1.8
PPLA	Purkeypile	1.15	348		Pn	00 29 27.7	+0.2
PPLA					Sn	00 29 44.0	-0.4
RC01	Rabbit Creek A	1.15	126	P	Pn	00 29 27.6	+0.2
	baz=308,SNR=204						
RC01				S	Sn	00 29 44.3	+0.1
	baz=308						
RC01	Rabbit Creek A	1.15	126		Pn	00 29 27.5	+0.2
RC01					Sn	00 29 44.5	+0.4
PMR	Palmer	1.22	98		Pn	00 29 27.7	-0.3
DFR	Drift River	1.29	203		Pn	00 29 29.3	+0.3
DFR					Sn	00 29 47.2	+0.1
GHO	Glory Hole Cre	1.30	89		Pn	00 29 29.1	+0.1
NCT	North Crescent	1.37	207		Pn	00 29 30.4	+0.5
RDWB	Redoubt West	1.42	205		Pn	00 29 31.0	+0.4
RDWB					Sn	00 29 49.2	-0.7
RSO	Redoubt South	1.43	203		Pn	00 29 31.2	+0.4
SLKM	Skilak Lake	1.45	151		Pn	00 29 30.5	-0.4
HUR	Hurricane	1.53	37		Pn	00 29 32.2	+0.4
KNK	Knik Glacier	1.57	102		Pn	00 29 32.3	-0.1
KNK					Sn	00 29 53.1	+0.1
SML	Sawmill	1.58	88		Pn	00 29 32.3	-0.2
O22K	Cooper Landing	1.60	143	P	Pn	00 29 33.1	+0.4
	baz=325,SNR=26						
O22K				S	Sn	00 29 53.2	-0.5
	baz=325						
CAST	Castle Rocks	1.66	353		Pn	00 29 33.7	+0.3
WAT7	Susitna Watana	1.68	50		Pn	00 29 34.2	+0.3
TRF	Thorofare Moun	1.79	20		Pn	00 29 35.9	+0.7
WAT1	Susitna Watana	1.79	53		Pn	00 29 35.5	+0.4
KTH	Kantishna Hill	1.81	10		Pn	00 29 36.1	+0.7
PWL	Port Wells	1.85	119		Pn	00 29 35.2	-0.6
WAT2	Susitna Watana	1.86	49		Pn	00 29 36.4	+0.4
IVE	Iliamna Volcan	1.89	201		Pn	00 29 36.6	+0.2
ILS	Iliamna Low So	1.95	201		Pn	00 29 37.9	+0.7
SEW	Seward	1.99	146		Pn	00 29 37.7	+0.1
WAT6	Susitna Watana	2.00	65		Pn	00 29 38.2	+0.2
SVW2	Sparrevohn	2.01	252		Pn	00 29 38.0	+0.1
SCM	Sheep Creek Mo	2.05	87		Pn	00 29 38.4	-0.1
BRLK	Bradley Lake	2.06	169		Pn	00 29 38.7	+0.2
RND	Reindeer	2.08	37		Pn	00 29 39.2	+0.3
BRSE	Bradley Lake S	2.09	167		Pn	00 29 38.7	-0.3
HOM	Homer	2.13	180	S	Sn	00 30 06.2	+0.7
	baz=0.3						
CHUM	Lake Minchumin	2.13	352		Pn	00 29 39.7	+0.3
CNPM	China Poot	2.27	175		Pn	00 29 40.9	-0.4
OPT	Oil Point	2.27	201		Pn	00 29 42.2	+0.9
MCK	McKinley	2.33	31		Pn	00 29 42.5	+0.6
TTA	Tataline	2.34	302		Pn	00 29 42.2	0.0
BPAW	Bear Paw Mtn.	2.35	7		Pn	00 29 42.3	+0.1
GLI	Glacier Island	2.38	110		Pn	00 29 41.5	-1.1
DHY	Denali Highway	2.38	55		Pn	00 29 43.1	+0.4
JPK	Jack Peak	2.54	104		Pn	00 29 44.2	-0.6
AU22	Augustine Moun	2.56	200		Pn	00 29 45.9	+0.9
AUL	Augustine Lava	2.56	201		Pn	00 29 46.0	+0.9
AUW	Augustine West	2.58	201		Pn	00 29 46.1	+0.9
AUQ	Augustine Qik'	2.58	200		Pn	00 29 46.5	+1.2
BWN	Browne	2.60	22		Pn	00 29 46.2	+0.7
M24K	Tolsona, Glenn	2.61	80	P	Pn	00 29 46.4	+0.7
	baz=265,SNR=33						
M24K				S	Sn	00 30 17.9	+1.0
	baz=265						
M24K	Tolsona, Glenn	2.61	80		Pn	00 29 46.5	+0.7
FID	Port Fidalgo	2.70	110		Pn	00 29 45.2	-1.7
KLU	Klutina	2.75	93		Pn	00 29 47.0	-0.5
HIN	Hinchinbrook I	2.86	117		Pn	00 29 47.7	-1.3
DIV	Divide	2.90	100		Pn	00 29 48.5	-1.1
NEA2	Nenana	3.06	21	P	Pn	00 29 51.4	-0.2
	baz=203,SNR=50						
NEA2				S	Sn	00 30 25.4	-2.1
	baz=203						
NEA2	Nenana	3.06	21		Pn	00 29 51.3	-0.2
PAX	Paxson	3.12	65		Pn	00 29 53.6	+1.1
WRH	Wood River Hil	3.15	29		Pn	00 29 52.8	0.0
CCB	Clear Creek Bu	3.37	29		Pn	00 29 55.6	0.0
HDA	Harding Lake	3.40	37	P	Pn	00 29 56.3	+0.2
	baz=221,SNR=79						
HDA	Harding Lake	3.40	37		Pn	00 29 56.3	+0.2
KAPH	Katmai Pasha	3.46	204		Pn	00 29 58.1	+1.0
BMRM	Bremner River	3.49	100		Pn	00 29 55.8	-1.6
Q23K	Middleton Isla	3.52	130	P	Pn	00 29 58.1	+0.4
	baz=314						
Q23K				S	Sn	00 30 37.9	-0.5
	baz=314						
Q23K	Middleton Isla	3.52	130		Pn	00 29 57.9	+0.2
MID	Middleton Isla	3.52	130		Pn	00 29 58.7	+0.9
PS08	TAPS Pump Stn8	3.54	36		Pn	00 29 58.2	+0.3
MDM	Murphy Dome	3.54	24		Pn	00 29 58.5	+0.4
TCOL	CIGO, UAF Yank	3.55	27	P	Pn	00 29 58.4	+0.3
	baz=210,SNR=7.9						
COLA	College	3.55	27	Pn	Pn	00 29 58.8	+0.7
KAHC	Katmai Hardscr	3.56	210		Pn	00 29 59.3	+0.9
GOAT	Goat Mountain	3.56	107		Pn	00 29 57.2	-1.2
RAGM	Ragged Mountai	3.67	109	Pn	Pn	00 29 58.9	-0.9
IL31		3.69	34		Pn	00 30 00.2	+0.1
ILAR	Eielson Array	3.69	34	Pn	Pn	00 29 58.9	-1.2
RIDG	Independent Ri	3.70	55		Pn	00 30 01.5	+1.3
GLB	Gilahina Butte	3.76	92		Pn	00 30 00.6	-0.5
POKR	Poker Plat Res	3.85	28	P	Pn	00 30 03.0	+0.8
	baz=211,SNR=12						
POKR	Poker Plat Res	3.85	28		Pn	00 30 03.0	+0.8
MENT	Mentasta	3.88	69		Pn	00 30 04.2	+1.6
KAKN	Katmai Knife C	3.89	208		Pn	00 30 03.6	+0.7
KABU	Katmai Buttres	3.96	209		Pn	00 30 04.9	+1.1
DOT	Dot Lake	3.97	58		Pn	00 30 04.3	+0.5
VRDI	Verde Repeater	3.97	94		Pn	00 30 02.9	-1.1
KAIM	Kayak Island	4.00	115	Pn	Pn	00 30 04.7	+0.6
KDAK	Kodiak Island	4.04	187		Pn	00 30 05.7	+1.0
KDAK	Kodiak Island	4.04	187	Pn	Pn	00 30 05.5	+0.7
SCRK	Sand Creek	4.14	54	P	Pn	00 30 06.6	+0.3
	baz=241,SNR=77						
SCRK				S	Sn	00 30 51.9	-1.8
	baz=241						
SCRK	Sand Creek	4.14	54		Pn	00 30 06.6	+0.3
SUCK	Suckling Hills	4.21	111	Pn	Pn	00 30 08.5	+1.5
CRQM	Cirque	4.24	100		Pn	00 30 07.8	+0.2
TGL	Tana Glacier	4.38	100		Pn	00 30 09.8	+0.3
PTPK	Patty Peak	4.45	94		Pn	00 30 10.5	+0.1
WAX	Waxell Ridge	4.47	103		Pn	00 30 10.0	-0.6
BALM	Baldy	4.54	95		Pn	00 30 11.1	-0.4
KIAG	Kiagna River	4.56	97		Pn	00 30 11.1	-0.8
KULT	Kultieth River	4.61	106		Pn	00 30 11.4	-1.1
OHAK	Old Harbor	4.65	191	Pn	Pn	00 30 13.0	+1.1
BARN	Barnard Glacie	4.85	94		Pn	00 30 16.3	+0.3
GRNC	Granite Creek	4.89	98		Pn	00 30 16.0	-0.5
K27K	Chicken	4.93	59	P	Pn	00 30 16.8	+0.1
	baz=247,SNR=9.9						
K27K	Chicken	4.93	59		Pn	00 30 17.0	+0.3
MESA	MESA	4.99	104		Pn	00 30 17.6	-0.1
YAH	Yahtse	5.02	102		Pn	00 30 17.7	-0.5
CTGM	Chitina Glacie	5.03	95		Pn	00 30 18.3	0.0
YUK2	White River	5.13	85		Pn	00 30 19.9	+0.3
SII	Sitkinak Islan	5.39	195	Pn	Pn	00 30 23.9	+0.8
COLD	Coldfoot	5.51	6	P	Pn	00 30 25.5	+0.9
	baz=187,SNR=8.5						
COLD				S	Sn	00 31 25.7	-0.8
	baz=187						
COLD	Coldfoot	5.51	6	Pn	Pn	00 30 25.8	+1.2
EGAK	Eagle	5.61	53	Pn	Pn	00 30 26.0	+0.1
BCPM	Bancas Point	6.15	102	Pn	Pn	00 30 34.2	+0.9
CHIR	Chirikof Islan	6.32	201	Pn	Pn	00 30 34.3	-1.3
CHGN	Chignik	6.50	215	Pn	Pn	00 30 38.8	+0.7
HYT	Haines Junctio	6.88	92		Pn	00 30 43.8	+0.4
TOLK	Toolik Lake Re	6.95	6	P	Pn	00 30 45.8	+1.7
	baz=188						
TOLK				S	Sn	00 32 01.8	+0.3
	baz=188						
TOLK	Toolik Lake Re	6.95	6	Pn	Pn	00 30 47.5	+3.4
SDPT	Sand Point	7.92	219	Pn	Pn	00 30 59.8	+2.5
WHY	Whitehorse	8.17	90	Pn	Pn	00 31 00.7	-0.1

*ANF **26** 00:30:09.8±0.5,37°.60N×118°.85W,h0km,ML3.2/11,Error ellipse: s-maj=4.6km s-min=2.6km az=112.0*
*NCEDC **26** 00:30:09.5±1.2,37°.65N±0°.03×118°.85W±0°.04,h7km±2km, ML3.2/25,ML2.9/5(REN),Error ellipse: s-maj=5.0km s-min=4.6km az=56.0*
*NEIC **26** 00:30:10.4±2.3,37°.64N±0°.03×118°.89W±0°.04,h3km±3km, Error ellipse: s-maj=5.1km s-min=4.3km az=63.0*

ISC 26 00:30:10.4±0.8,37°.64N±0°.02×118°.87W±0°.01,h6km±4km, n164,σ0°93/174,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCBM	Casa Benchmark	0.02	274		Pg	00 30 11.2	-0.6
MDRNC	Doe Ridge	0.03	101		Pg	00 30 10.9	-0.9
MLAC	Mammoth, Mammo	0.03	116	P	Pg	00 30 10.9	-0.9
	baz=329						
MLAC	Mammoth, Mammo	0.03	116		Pg	00 30 11.9	+0.1
MGPM	Gravel Pit	0.03	239		Pg	00 30 11.3	-0.5
MCSM	Casa Diablo Ho	0.03	292		Pg	00 30 11.3	-0.6
MLCM	Laurel Creek C	0.05	230		Pg	00 30 11.4	-0.6
MLHM	Little Hot Cre	0.06	50		Pg	00 30 11.3	-0.7
MCVM	Convict Lake	0.06	149		Pg	00 30 11.3	-0.9
MEMM	East Mammoth H	0.06	292		Pg	00 30 11.7	-0.4
MMLB	Mammoth Lakes	0.09	281		Pg	00 30 12.3	-0.3
MMLB					Sg	00 30 14.3	+0.2
OMMB	Old Mammoth Mi	0.11	254	Pg	Pg	00 30 12.3	-0.6
OMMB				Sg	Sg	00 30 14.1	-0.5
MDYM	Dry Creek	0.12	278		Pg	00 30 12.8	-0.2
MLIM	Lincoln Peak	0.12	267		Pg	00 30 12.9	-0.2
MMSM	Mammoth Summit	0.13	265		Pg	00 30 13.0	-0.3
MMPM	Mammoth Pass	0.13	256		Pg	00 30 12.8	-0.4
MDCM	Deadman Creek	0.15	296		Pg	00 30 13.2	-0.4
MINS	Minaret Summit	0.15	274		Pg	00 30 13.2	-0.4
MINS					Sg	00 30 15.6	-0.2
MRDM	Red Cones	0.16	253		Pg	00 30 13.3	-0.4
MDPB	Devils Postpil	0.17	266		Pg	00 30 13.4	-0.4
MDPB	Devils Postpil	0.17	266		Sg	00 30 16.1	-0.1
ORC	Owens River	0.17	92		Pg	00 30 13.0	-0.9
MGNR	McGee Canyon	0.22	39		Pg	00 30 14.1	-0.6
BENR	Benton	0.25	73		Pg	00 30 14.3	-1.0
WMD		0.27	138		Pg	00 30 14.8	-0.9
MRCM	Red Rock Canyo	0.29	84		Pg	00 30 15.2	-0.9
SCHCA	Scheelite	0.32	153		Pg	00 30 15.7	-1.0
MCDM	Chidago Canyon	0.35	106		Pg	00 30 16.6	-0.7
ANTCA	Antelope Range	0.36	41		Pg	00 30 16.7	-0.9
MTUM	Tungsten Hills	0.38	140		Pg	00 30 16.9	-0.9
BCKR	Birch Creek	0.40	82		Pg	00 30 17.2	-0.9
MFBM	Five Bridges	0.41	121		Pg	00 30 17.7	-0.6
MLNR	Milner Canyon	0.42	97		Pg	00 30

BBGB	Big Mountain B	2.04 239		Pn	00 30 46.3	+1.0
DONR	Donner Summit	2.05 327		Pb	00 30 47.7	-0.6
CTM	Castle Mountai	2.08 215		Pn	00 30 46.8	+0.9
BEHM	Elkhorn Ranch	2.08 243		Pn	00 30 47.4	+1.4
PSMM	Smith Mountain	2.09 222		Pn	00 30 46.7	+0.5
CMMM	Mount Mocho	2.10 266		Pn	00 30 47.1	+1.0
PAHR	Pah Rah Range	2.10 349		Pg	00 30 50.2	-0.4
PMPB	Monarch Peak	2.10 228		Pn	00 30 46.4	+0.1
AFDM	Forest Hills D	2.11 309		Pn	00 30 47.0	+0.8
LRV	Little Rabbit	2.11 235		Pn	00 30 47.0	+0.8
WOFM	Oak Flat	2.11 177		Pn	00 30 47.7	+1.3
HJSM	John Smith Roa	2.11 248		Pn	00 30 47.4	+1.1
IND	Independence	2.11 328		Pb	00 30 49.2	0.0
PSRM	Scobie Ranch	2.11 213		Pn	00 30 47.0	+0.6
PBWM	Bitterwater Cr	2.12 232		Pn	00 30 47.2	+0.8
HFEM	San Felipe	2.12 253		Pn	00 30 47.9	+1.4
GHS	Gilroy Hot Spr	2.12 256		Pn	00 30 47.8	+1.3
KBF	Kyburz Flat	2.14 331		Pb	00 30 49.9	+0.2
ARN	Arnold Ranch	2.14 263		Pn	00 30 47.8	+1.1
PEAR	Peavine Mounta	2.14 337		Pb	00 30 49.6	-0.1
BLRM	Lewis Ranch	2.15 244		Pb	00 30 49.5	-0.4
PSTM	Stockdale Moun	2.16 218		Pn	00 30 47.5	+0.6
PKD	Bear Valley Ra	2.16 219		Pn	00 30 47.5	+0.5
GHC	Gold Hill	2.17 214		Pn	00 30 47.3	+0.2
PHPM	Hope Ranch	2.17 221		Pn	00 30 47.5	+0.4
BPIM	Pinnacles	2.17 239		Pn	00 30 48.0	+0.9
CDC	Canada Road	2.17 254		Pn	00 30 48.6	+1.4
HSPM	Sheep	2.17 257		Pn	00 30 48.6	+1.4
PSNM	Stone Corral	2.18 212		Pn	00 30 47.6	+0.4
PVCM	Vineyard Canyo	2.18 218		Pn	00 30 47.7	+0.4
BCGM	Cienega Road	2.19 246		Pn	00 30 48.9	+1.5
TPNV	Topopah Spring	2.20 108	Pb	Pb	00 30 49.8	-0.9
	baz=289					
TPNV	Topopah Spring	2.20 108	Pg	Pb	00 30 49.8	-0.9
PAGB	Antelope Grade	2.21 211		Pn	00 30 47.6	0.0
PKLM	Kerr Lake	2.21 213		Pn	00 30 48.2	+0.6
BVYM	Vineyard	2.22 247		Pn	00 30 48.8	+1.0
MHC	Mount Hamilton	2.23 263		Pn	00 30 49.1	+1.1
LRC	Lone Oak Road	2.23 232		Pn	00 30 49.2	+1.2
SAO	San Andreas Ge	2.24 248	Pn	Pn	00 30 48.1	0.0
SAO	San Andreas Ge	2.24 248		Pn	00 30 49.0	+1.0
PPO	Portuguese Can	2.26 219		Pn	00 30 48.6	+0.2
TRAM	Private Proper	2.26 210		Pn	00 30 49.2	+0.8
FRP	Fremont Peak	2.27 248		Pn	00 30 49.1	+0.6
PBPM	Bitterwater Pu	2.28 206		Pn	00 30 49.5	+0.9
SCZ	Santa Cruz	2.28 244		Pn	00 30 49.3	+0.7
LOY	Loyalton	2.28 332		Pb	00 30 51.9	-0.2
BJCM	Johnson Can.	2.29 242		Pn	00 30 49.6	+0.8
HJGM	San Juan Grade	2.30 242		Pn	00 30 49.6	+0.5
BSMM	Soledad Missio	2.40 239		Pn	00 30 51.5	+1.1
PCCM	Crazy Canyon	2.41 231		Pn	00 30 51.5	+1.1
TSCN	Private Proper	2.41 210		Pn	00 30 51.5	+1.1
TEJ	El Tejon	2.41 177		Pb	00 30 52.7	-1.6
JHLM	Holstrom Ranch	2.42 258		Pn	00 30 51.5	+0.8
BPCNC	Pine Canyon	2.45 245		Pn	00 30 51.9	+0.9
CARC	Carrizo Plain	2.46 199		Pn	00 30 51.9	+0.8
JUMM	Mount Umunhum	2.46 260		Pn	00 30 52.5	+1.3
PANM	San Antonio Re	2.48 222		Pn	00 30 52.2	+0.8
HAST	Hastings Reser	2.48 241		Pn	00 30 52.1	+0.6
CRGC	Crocker Grade	2.49 196		Pn	00 30 52.7	+1.1
ARVC	Arvin	2.51 179	Sb	Sb	00 31 26.8	-0.3
	baz=360					
BCWM	Chews Ridge	2.54 239		Pn	00 30 52.9	+0.5
RAMR	Ramage Ranch	2.57 219		Pn	00 30 53.3	+0.7
PAPM	Alder Peak	2.64 230		Pn	00 30 54.3	+0.6
BAPM	Anderson Peak	2.66 237		Pn	00 30 54.7	+0.7
BLDC	Black Mountain	2.67 219		Pn	00 30 54.7	+0.7
PHCM	Hearst Castle	2.68 224		Pn	00 30 55.1	+0.9
R11A	Troy Canyon, C	2.69 74	Pb	Pb	00 30 57.9	-1.1
	baz=256					
R11A			Sb	Sb	00 31 34.2	+1.8
	baz=256					
R11A	Troy Canyon, C	2.69 74		Pn	00 30 55.9	+1.5
ORV	Oroville	2.81 314		Pn	00 30 55.1	-0.9
EDW2	Edwards Air Fo	2.84 165	Sb	Sb	00 31 37.6	+0.9
	baz=346					
PKM	Mcpherson Peak	2.85 196	P	Pn	00 30 57.2	+0.5
	baz=16					
PRN	Pahroc Range	3.04 93		Pb	00 31 06.8	+1.8
SHPR	Sheep Range	3.18 110		Pb	00 31 09.6	+2.3
PSUT	Pine Spring	4.05 76	Pg	Pb	00 31 24.9	+2.5
ELK	Elko	4.19 41	Pn	Pn	00 31 14.2	-0.9
CCUT	Cedar City	4.37 90	Pg	Pg	00 31 33.9	-0.3
MOD	Modoc Plateau	4.39 346	Pg	Pg	00 31 33.0	-1.6
LCMT	Little Creek M	4.53 96		Pg	00 31 36.9	-0.2
W13A	Hualapai Mount	4.75 121	Pg	Pg	00 31 39.5	-2.0

*DDA **26** 00:42:04.2, 41°.28N×45°.44E, h6km±2km, ML2.0*
*TIF **26** 00:42:05.7, 41°.26N×45°.43E, h7km±2km*
*NORS **26** 00:42:06.0±0.0, 41°.11N×45°.57E, h5km, MPVA3.2*
ISC 26 00:42:04.9±1.1, **41°.19N**±0°.03×**45°.45E**±0°.03, **h14**km±11km, **n25**, σ0°.95/48, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZRT	**Kazreti**	**0.82**	**284**	*i* P	**Pg**	**00 42 19.9**	**-0.9**
KZRT				*i* S	**Sg**	**00 42 31.2**	**-0.4**
KZRT	**Kazreti**	**0.82**	**284**	P	**Pn**	**00 42 21.8**	**-0.4**
KZRT				S	**Sn**	**00 42 33.2**	**-0.9**
LGD	**Lagodekhi**	**0.88**	**42**	P	**Pb**	**00 42 22.2**	**+0.2**
DMNI	**Dmanisi**	**0.96**	**279**	P	**Pn**	**00 42 24.5**	**+0.4**
DMNI				S	**Sn**	**00 42 37.8**	**+0.1**
TRLG	**Trialeti**	**1.08**	**290**	P	**Pn**	**00 42 25.9**	**+0.1**
TRLG				S	**Sn**	**00 42 40.5**	**-0.1**
EAK	**Akyaka**	**1.49**	**251**	*i* P	**Pg**	**00 42 33.8**	**+0.4**
EAK				*i* S	**Sg**	**00 42 53.8**	**+1.0**
EAK				IAML		00 43 00.0	
	comp=N,28nm,0.4s						
EAK				IAML		00 43 02.0	
	comp=E,16nm,0.4s						
AKH	**Akhalkalaki**	**1.49**	**279**	P	**Pg**	**00 42 34.2**	**+0.5**
AKH				S	**Sg**	**00 42 53.6**	**+0.6**
BKRG	**Bakuriani**	**1.56**	**292**	P	**Pg**	**00 42 34.4**	**-0.5**
BKRG				S	**Sg**	**00 42 56.1**	**+0.9**
PNSH	**Pansheti**	**1.58**	**337**	P	**Pg**	**00 42 34.7**	**-0.5**
PNSH				S	**Sg**	**00 42 55.6**	**-0.1**
BTLR	**Botlikh**	**1.58**	**21**	*e*Pg	**Pg**	**00 42 35.0**	**-0.3**
BTLR				*e*Sg	**Sg**	**00 42 55.5**	**-0.4**
IGDI	**IGDIR**	**1.68**	**219**	*i* P	**Pg**	**00 42 37.0**	**-0.2**
IGDI				*i* S	**Sg**	**00 42 58.8**	**-0.3**
IGDI				IAML		00 43 00.0	
	comp=E,25nm,0.5s						
IGDI				IAML		00 43 00.0	
	comp=N,14nm,0.4s						
AKT	**Akhty**	**1.74**	**80**	*e*Pg	**Pb**	**00 42 36.7**	**0.0**
AKT				*e*Sg	**Sg**	**00 42 59.9**	**-1.0**
DVE	**Vedeno**	**1.84**	**16**	*e*Pg	**Pg**	**00 42 40.8**	**+0.6**
DVE				*e*Sg	**Sg**	**00 43 05.2**	**+1.1**
LACR	**Lac**	**1.85**	**333**	*e*Pg	**Pg**	**00 42 39.3**	**-1.2**
LACR				*e*Sg	**Sg**	**00 43 05.8**	**+1.3**
KMGR	**Komgaron**	**1.92**	**347**	*e*Pg	**Pg**	**00 42 41.7**	**0.0**
KMGR				*e*Sg	**Sg**	**00 43 09.9**	**+3.2**
ZEI	**Tsey**	**1.98**	**325**	*e*Pg	**Pb**	**00 42 40.6**	**-0.2**
ZEI				*e*Sg	**Sg**	**00 43 07.5**	**-1.0**
GROC	**Groznyy**	**2.03**	**7**	*e*Pg	**Pg**	**00 42 43.3**	**-0.5**
GROC				*e*Sg	**Sg**	**00 43 11.7**	**+1.5**
ONI	**Oni**	**2.05**	**314**	P	**Pb**	**00 42 42.7**	**+0.7**
ONI				S	**Sg**	**00 43 10.8**	**0.0**
EPOS	**Posof**	**2.08**	**280**	*i* P	**Pb**	**00 42 42.6**	**+0.1**
EPOS				IAML		00 43 12.0	
	comp=N,11nm,0.4s						
DBC	**Dubki**	**2.10**	**29**	*e*Pg	**Pb**	**00 42 43.6**	**+0.8**
DBC				*e*Sg	**Sg**	**00 43 11.6**	**-0.8**
KORR	**Kora**	**2.16**	**332**	*e*Pn	**Pg**	**00 42 46.8**	**+0.5**
KORR				*e*Sn	**Sg**	**00 43 15.7**	**+1.3**
TKB	**Tkibuli**	**2.18**	**303**	P	**Pb**	**00 42 44.5**	**+0.4**
TKB				S	**Sg**	**00 43 13.2**	**-1.7**
DIGR	**Digorskoe uzhe**	**2.21**	**321**	*e*Pn	**Pg**	**00 42 46.1**	**-1.2**
DIGR				*e*Sn	**Sg**	**00 43 14.8**	**-1.1**
LSNR	**Lesken**	**2.41**	**330**	*e*Pn	**Pg**	**00 42 49.6**	**-1.6**
LSNR				*e*Sn	**Sg**	**00 43 21.1**	**-1.4**
DAGI	**Agillar**	**2.68**	**269**	*i* P	**Pg**	**00 42 56.9**	**+0.7**
DAGI				*i* S	**Sg**	**00 43 30.6**	**-0.3**

*NEIC **26** 00:44:47.1±3.8, 37°.66N±0°.03×118°.82W±0°.01, h1km±6km,*
Error ellipse: s-maj=4.7km s-min=1.2km az=169.0
NCEDC 26 00:44:47.3±4.6, **37°.65N**±0°.03×**118°.85W**±0°.01, **h6**km±3km,
ML3.0/5, **ML2.7**/7(REN), **Error ellipse: s-maj=4.8km**
s-min=1.4km az=167.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRNC	**Doe Ridge**	**0.01**	**126**		Pg	00 44 44.9	-4.0
MDRNC					Sg	00 44 48.8	-1.1
MLAC	**Mammoth, Mammo**	**0.02**	**147**		Pg	00 44 44.8	-4.0
MLAC					Sg	00 44 48.7	-1.2
MCBM	**Casa Benchmark**	**0.04**	**269**		Pg	00 44 45.1	-3.9
MCBM					Sg	00 44 48.9	-1.2
MLHM	**Little Hot Cre**	**0.04**	**39**		Pg	00 44 45.3	-3.7
MCSM	**Casa Diablo Ho**	**0.05**	**282**		Pg	00 44 45.2	-3.9
MCSM					Sg	00 44 49.0	-1.3
MGPM	**Gravel Pit**	**0.05**	**246**		Pg	00 44 45.2	-3.8
MCVM	**Convict Lake**	**0.06**	**164**		Pg	00 44 45.2	-4.0
MCVM					Sg	00 44 49.0	-1.5
MLCM	**Laurel Creek C**	**0.06**	**238**		Pg	00 44 45.3	-3.9
MLCM					Sg	00 44 49.2	-1.4
MEMM	**East Mammoth H**	**0.07**	**286**		Pg	00 44 45.8	-3.6
MEMM					Sg	00 44 49.5	-1.4
MMLB	**Mammoth Lakes**	**0.10**	**278**		Pg	00 44 46.2	-3.6
MMLB					Sg	00 44 50.0	-1.5
OMMB	**Old Mammoth Mi**	**0.12**	**255**		Pg	00 44 50.1	-0.1
OMMB					Sg	00 44 51.9	-0.2
MDYM	**Dry Creek**	**0.13**	**276**		Pg	00 44 46.6	-3.6
MDYM					Sg	00 44 50.5	-1.7
MLIM	**Lincoln Peak**	**0.14**	**266**		Pg	00 44 46.9	-3.4
MLIM					Sg	00 44 50.7	-1.7
MMSM	**Mammoth Summit**	**0.15**	**264**		Pg	00 44 46.9	-3.6
MMSM					Sg	00 44 50.8	-1.9
MMPM	**Mammoth Pass**	**0.15**	**256**		Pg	00 44 46.7	-3.8
MMPM					Sg	00 44 50.6	-2.1
ORC	**Owens River**	**0.15**	**94**		Pg	00 44 46.9	-3.6
ORC					Sg	00 44 50.8	-2.0
MDCM	**Deadman Creek**	**0.17**	**293**		Pg	00 44 47.1	-3.7
MDCM					Sg	00 44 51.0	-2.2
MINS	**Minaret Summit**	**0.17**	**273**		Pg	00 44 47.2	-3.7
MINS					Sg	00 44 51.0	-2.3
MRDM	**Red Cones**	**0.17**	**254**		Pg	00 44 47.2	-3.7
MRDM					Sg	00 44 51.1	-2.3
MDPB	**Devils Postpil**	**0.18**	**266**	Pg	Pg	00 44 51.2	+0.1
MDPB					Sg	00 44 53.8	+0.1
RCCR	**Rock Creek Can**	**0.19**	**148**		Pg	00 44 47.4	-3.8
MGNR	**McGee Canyon**	**0.21**	**36**		Pg	00 44 48.2	-3.4
MGNR					Sg	00 44 51.9	-2.4
BENR	**Benton**	**0.23**	**72**		Pg	00 44 48.2	-3.7
BENR					Sg	00 44 52.1	-2.9
WMD		**0.26**	**141**		Pg	00 44 52.6	+0.1
MRCM	**Red Rock Canyo**	**0.27**	**84**		Pg	00 44 52.9	+0.1
SCHCA	**Scheelite**	**0.31**	**156**		Pg	00 44 49.6	-3.9
SCHCA					Sg	00 44 53.5	-4.2
MCDM	**Chidago Canyon**	**0.34**	**107**		Pg	00 44 50.2	-3.7
MCDM					Sg	00 44 54.4	-4.0
ANTCA	**Antelope Range**	**0.35**	**39**		Pg	00 44 50.7	-3.6
ANTCA					Sg	00 44 54.5	-4.5
MTUM	**Tungsten Hills**	**0.37**	**142**		Pg	00 44 50.8	-3.7
MTUM					Sg	00 44 54.7	-4.8
BCKR	**Birch Creek**	**0.38**	**82**		Pg	00 44 55.1	+0.3
MFBM	**Five Bridges**	**0.40**	**123**		Pg	00 44 55.5	+0.4
MLNR	**Milner Canyon**	**0.40**	**97**		Pg	00 44 55.5	+0.3
LUL	**Lundy Lake**	**0.48**	**327**		Pg	00 44 56.8	+0.1
KCC	**Kaiser Creek**	**0.49**	**229**		Pg	00 44 52.8	-4.0
KCC					Sg	00 45 03.0	-0.3
BONR	**Boundary Peak**	**0.53**	**54**		Pg	00 44 53.9	-3.7
BONR					Sg	00 44 57.8	-6.8
POCCA	**Poleta Canyon**	**0.53**	**122**		Pg	00 44 53.8	-3.9
POCCA					Sg	00 44 57.6	-7.0
MMIM	**Miami Mountain**	**0.75**	**253**		Pg	00 44 57.6	-4.1
MMIM					Pb	00 45 01.4	-1.4
TIN	**Tinemaha, Big**	**0.77**	**140**		Pg	00 44 58.4	-3.7
TIN					Pb	00 45 02.2	-0.9
NVAR	**Mina Array Bea**	**0.89**	**29**		Pg	00 45 03.8	-0.7
FRI	**Friant**	**0.95**	**227**		Pg	00 45 04.8	-0.7
NV11	**Mina Array Sit**	**0.96**	**35**		Pg	00 45 05.5	-0.2
HELL	**Mitchell Peak,**	**0.97**	**188**		Pg	00 45 01.5	-4.5
HELL					Pb	00 45 05.4	-1.2
WAKR	**Walker**	**0.97**	**332**		Pg	00 45 05.8	-0.3
MHDM	**Hidden Dam**	**0.99**	**238**		Pg	00 45 01.9	-4.3
MHDM					Pb	00 45 05.7	-1.0
RYN	**Ryan**	**1.01**	**15**		Pg	00 45 06.6	-0.2
MYLM	**Yosemite Lake**	**1.28**	**259**		Pn	00 45 11.1	-0.5
CMB	**Columbia Colle**	**1.28**	**288**		Pn	00 45 10.7	-1.1
CMB	**Columbia Colle**	**1.28**	**288**		Pn	00 45 10.8	-1.0
MRHM	**Rocky Hill**	**1.37**	**188**		Pn	00 45 12.2	-0.8
YERR	**Yerington**	**1.37**	**347**		Pb	00 45 13.4	0.0
BFC	**Buffalo Canyon**	**1.38**	**335**		Pb	00 45 13.7	+0.1
MCUB	**Copperopolis B**	**1.44**	**284**		Pn	00 45 13.7	-0.2
SPG2	**Springville 2**	**1.44**	**177**		Pn	00 45 13.8	-0.2
KVN	**Kaiserville**	**1.52**	**23**		Pn	00 45 15.2	0.0
PNTR	**Pine Nut**	**1.56**	**338**		Pn	00 45 14.9	+0.2
MNHB	**New Hogan Dam**	**1.63**	**288**		Pn	00 45 16.7	+0.2
RUBR	**Rubicon Trail**	**1.74**	**324**		Pg	00 45 20.3	-0.3
VCNR	**Virginia City**	**1.76**	**339**		Pb	00 45 20.4	+0.3
BRMM	**Rolling Bench**	**1.77**	**243**		Pb	00 45 20.0	-0.2
VES	**Vestal, Richgr**	**1.81**	**186**		Pb	00 45 20.4	-0.5
TAHR	**Tahoe**	**1.82**	**326**		Pb	00 45 21.6	+0.4
PARM	**Anticline Ridg**	**1.84**	**221**		Pb	00 45 20.9	-0.4
BMSM	**Mercy Hot Spri**	**1.84**	**238**		Pb	00 45 21.4	0.0
AASM	**Arroyo Seco**	**1.95**	**294**		Pb	00 45 22.6	-0.6
ISA	**Isabella, Lake**	**2.00**	**171**	Pn	Pb	00 45 23.7	-0.4
BAVM	**Antelope Valle**	**2.01**	**241**		Pb	00 45 23.3	-0.9
BEMM	**Emmet**	**2.05**	**242**		Pb	00 45 24.1	-0.7
PAHR	**Pah Rah Range**	**2.10**	**349**	Pn	Pn	00 45 23.9	+0.8
WOFM	**Oak Flat**	**2.11**	**177**		Pb	00 45 25.5	-0.5
AFDM	**Forest Hills D**	**2.12**	**309**		Pn	00 45 24.5	+1.3
PMPB	**Monarch Peak**	**2.12**	**228**		Pn	00 45 24.1	+0.9
GHS	**Gilroy Hot Spr**	**2.14**	**256**		Pb	00 45 25.7	-0.8
TPNV	**Topopah Spring**	**2.19**	**108**	Pn	Pn	00 45 24.5	+0.2
HSPM	**Sheep**	**2.19**	**257**		Pb	00 45 26.4	-0.9
PAGB	**Antelope Grade**	**2.22**	**211**		Pn	00 45 25.7	+1.1
LRC	**Lone Oak Road**	**2.25**	**232**		Pb	00 45 26.6	-1.6
SAO	**San Andreas Ge**	**2.25**	**248**		Pn	00 45 26.7	+1.6
PCCM	**Crazy Canyon**	**2.42**	**231**		Pn	00 45 29.1	+1.7
R11A	**Troy Canyon, C**	**2.67**	**74**		Pb	00 45 35.8	+0.2
ORV	**Oroville**	**2.82**	**313**		Pb	00 45 37.5	-0.5
GSC	**Goldstone, Bar**	**2.86**	**144**	Pg	Pg	00 45 45.6	+3.5
PRN	**Pahroc Range**	**3.03**	**93**	Pg	Pg	00 45 44.9	-0.4
SHPR	**Sheep Range**	**3.16**	**110**		Pb	00 45 45.4	+1.4
PSUT	**Pine Spring**	**4.04**	**76**	Pg	Pg	00 46 03.0	-1.7
ELK	**Elko**	**4.18**	**41**		Pb	00 46 02.9	+1.6
LCSM	**College of the**	**4.66**	**325**		Pn	00 46 00.9	+2.7
KSMM	**Slide Mountain**	**4.87**	**303**		Pn	00 45 59.8	-1.3

ROM 26 00:50:05.4±0.1, **42°.403N**±0°.004×**13°.393E**±0°.006,
h11km, **ML1.4**/7, **Error ellipse: s-maj=0.5km**
s-min=0.4km az=81.0, hypocenter, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.05**	**172**	P	Pg	00 50 08.0	+0.4
AQU				S	Sg	00 50 09.5	+0.4
AQU				AML	AML		
	comp=E,258μm,0.9s						
AQU				AML	AML		
	comp=E,290μm,0.9s						
AQU				AML	AML		
	comp=N,360μm,1.1s						
AQU				AML	AML		
	comp=N,352μm,1.1s						
CAMP	**Campotosto**	**0.13**	**5**	P	Pg	00 50 09.3	+0.6
CAMP				S	Sg	00 50 11.7	+0.6
CAMP				AML	AML		
	comp=E,129μm,0.9s						
CAMP				AML	AML		
	comp=N,248μm,0.3s						
CAMP	**Campotosto**	**0.13**	**5**	P	Pg	00 50 09.2	+0.5
CAMP				S	Sg	00 50 11.7	+0.6
CAMP				AML	AML		
	comp=E,129μm,0.9s						
CAMP				AML	AML		
	comp=N,248μm,0.3s						
CAMP				AML	AML		
	comp=N,248μm,0.3s						
CAMP				AML	AML		
	comp=E,129μm,0.9s						
CAMP				AML	AML		
	comp=N,248μm,0.3s						
CAMP				AML	AML		
	comp=E,129μm,0.9s						
RM33	**Pellescritta (**	**0.17**	**309**	P	Pg	00 50 09.7	+0.5
RM33				S	Sg	00 50 12.6	+0.7
RM33				AML	AML		
	comp=E,136μm,0.3s						
RM33				AML	AML		
	comp=N,158μm,0.2s						
RM33	**Pellescritta (**	**0.17**	**309**	P	Pg	00 50 09.7	+0.5
RM33				S	Sg	00 50 12.5	+0.6
RM33				AML	AML		
	comp=E,136μm,0.3s						
RM33				AML	AML		
	comp=N,158μm,0.2s						
RM33				AML	AML		
	comp=E,136μm,0.3s						
RM33				AML	AML		
	comp=N,158μm,0.2s						
RM33				AML	AML		
	comp=N,158μm,0.2s						
RM33				AML	AML		
	comp=E,136μm,0.3s						
RM33				AML	AML		
	comp=N,158μm,0.2s						
RM33				AML	AML		
	comp=E,136μm,0.3s						
FAGN	**Fagnano**	**0.20**	**134**	P	Pg	00 50 10.1	+0.5
FAGN				AML	AML		
	comp=E,240μm,0.3s						
FAGN				AML	AML		
	comp=E,239μm,0.3s						
FAGN				AML	AML		
	comp=N,223μm,1.6s						
SMA1	**SAN MARTINO**	**0.23**	**349**	P	Pg	00 50 10.7	+0.5
SMA1				S	Sg	00 50 15.0	+1.4
SMA1	**SAN MARTINO**	**0.23**	**349**	P	Pg	00 50 11.0	+0.7
SMA1				S	Sg	00 50 14.8	+1.2
FIAM	**Fiamignano**	**0.24**	**237**	P	Pg	00 50 10.9	+0.4
FIAM				S	Sg	00 50 14.8	+0.8
TERO	**Teramo**	**0.27**	**35**	P	Pg	00 50 11.2	+0.3
TERO				S	Sg	00 50 15.4	+0.8
TERO				AML	AML		
	comp=N,32μm,1.1s						
TERO				AML	AML		
	comp=E,34μm,1.3s						
TERO	**Teramo**	**0.27**	**35**	S	Sg	00 50 15.5	+0.8
TERO				AML	AML		
	comp=E,34μm,1.3s						
TERO				AML	AML		
	comp=N,32μm,1.1s					

	comp=N,16600μm,0.4s						
PSB1	**Pescosannita**	**0.12**	**112**	P	Pg	00 50 39.1	0.0
PSB1				S	Sg	00 50 41.7	+0.3
PSB1				AML	AML		
	comp=E,4140μm,0.9s						
PSB1				AML	AML		
	comp=E,4200μm,0.9s						
PSB1				AML	AML		
	comp=N,4505μm,0.3s						
PSB1				AML	AML		
	comp=N,4605μm,0.3s						
SACR	**S. Croce Del S**	**0.13**	**13**	P	Pg	00 50 39.2	-0.2
SACR				S	Sb	00 50 42.6	-0.4
SACR				AML	AML		
	comp=E,4195μm,0.2s						
SACR				AML	AML		
	comp=E,4045μm,0.2s						
SACR				AML	AML		
	comp=N,4195μm,1.3s						
SACR				AML	AML		
	comp=N,4410μm,1.5s						
PAOL	**Paolisi**	**0.25**	**197**	P	Pg	00 50 41.2	+0.1
PAOL				S	Sb	00 50 45.6	-0.6
PAOL				AML	AML		
	comp=E,988μm,1.5s						
PAOL				AML	AML		
	comp=N,1350μm,0.3s						
PAOL				AML	AML		
	comp=E,1019μm,1.5s						
PAOL				AML	AML		
	comp=N,1238μm,0.3s						
MRB1	**Monte Rocchett**	**0.27**	**121**	P	Pg	00 50 41.9	+0.4
MRB1				AML	AML		
	comp=E,1515μm,0.9s						
MRB1				AML	AML		
	comp=N,1490μm,0.7s						
MRB1				AML	AML		
	comp=E,1500μm,0.9s						
MRB1				AML	AML		
	comp=N,1540μm,0.4s						
MRB1				AML	AML		
	comp=E,1510μm,0.9s						
MRB1				AML	AML		
	comp=N,1485μm,0.7s						
BSSO	**Busso**	**0.28**	**349**	P	Pg	00 50 41.7	0.0
BSSO				S	Sg	00 50 46.6	+0.7
GATE	**Gambatesa**	**0.31**	**37**	P	Pg	00 50 42.5	+0.4
VAGA	**Valle Agricola**	**0.36**	**295**	P	Pb	00 50 43.6	-0.3
VAGA				S	Sg	00 50 48.4	+0.4
BIOG	**Biogem**	**0.36**	**101**	P	Pb	00 50 43.8	-0.1
PIGN	**Pignataro Magg**	**0.37**	**260**	P	Pb	00 50 43.7	-0.4
MOCO	**Biccari - m.te**	**0.39**	**74**	P	Pg	00 50 43.8	+0.2
MOCO				S	Sb	00 50 50.0	-0.3
TRIV	**Trivento**	**0.51**	**350**	P	Pg	00 50 45.5	-0.2
TRIV				S	Sb	00 50 53.7	0.0
RNI2	**Rionero Sannit**	**0.58**	**319**	P	Pg	00 50 46.8	-0.4
RNI2				S	Sb	00 50 55.5	-0.4
INTR	**Introdacqua**	**0.94**	**323**	AML	AML		
	comp=E,128μm,1.0s						
INTR				AML	AML		
	comp=N,214μm,0.7s						
FAGN	**Fagnano**	**1.28**	**321**	AML	AML		
	comp=E,239μm,0.3s						
FAGN				AML	AML		
	comp=E,240μm,0.3s						
FAGN				AML	AML		
	comp=N,223μm,1.6s						
AQU	**L'Aquila**	**1.44**	**319**	AML	AML		
	comp=N,360μm,1.1s						
AQU				AML	AML		
	comp=E,258μm,0.9s						
AQU				AML	AML		
	comp=E,290μm,0.9s						
AQU				AML	AML		
	comp=N,352μm,1.1s						

IDC 26 01:19:19.5±1.2, 15°.18S×179°.04E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/32, mbtmp3.7/6, MS3.5/18, Ms1 3.5/18, ms1mx3.4/33, Error ellipse: s-maj=48.9km s-min=27.0km az=143.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.76**	**238**	*e*LR	LR	01 26 23.6	
	comp=Z,352nm,26.6s						
DZM	**Mont Dzumac**	**13.76**	**238**	LR	LR	01 27 12.7	
	comp=Z,327nm,19.8s,baz=42,slow=34						
RAO	**Raoul Island**	**14.28**	**169**	LR	LR	01 27 13.8	
	comp=Z,220nm,18.9s,baz=290,slow=33						
HNR	**Honiara**	**19.51**	**285**	LR	LR	01 30 29.0	
	comp=Z,138nm,19.3s,baz=358,slow=34						
RAR	**Rarotonga**	**20.99**	**110**	LR	LR	01 29 34.1	
	comp=Z,172nm,19.4s,baz=266,slow=29						
KRVT	**Keravat (AS076**	**28.69**	**289**	LR	LR	01 35 40.6	
	comp=Z,74nm,18.5s,baz=109,slow=34						
PPT2	**Papeete2**	**30.18**	**99**	*e*LR	LR	01 32 54.5	
	comp=Z,126nm,26.2s						
PPT	**Papeete**	**30.18**	**99**	LR	LR	01 34 27.6	
	comp=Z,24nm,20.2s,baz=358,slow=30						
TBI	**Tubuai**	**30.77**	**110**	*e*LR	LR	01 33 15.9	
	comp=Z,205nm,30.8s						
STKA	**Stephens Creek**	**37.91**	**237**	P	P	01 26 39.4	+0.6
	1.3nm,0.7s,baz=69,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**42.79**	**257**	P	P	01 27 18.0	-1.4
	0.8nm,1.1s,baz=89,slow=8.7,SNR=2.9						
ASAR	**Alice Springs**	**43.25**	**252**	P	P	01 27 23.6	+0.4
	1.7nm,0.6s,baz=83,slow=8.7,SNR=22						
ASAR				LR	LR	01 42 58.5	
	comp=Z,79nm,21.7s,baz=200,slow=33						
VNDA	**Vanda**	**62.96**	**184**	P	P	01 29 47.0	-0.5
	0.4nm,0.7s,baz=11,slow=8.4,SNR=4.1						
MJAR	**Matsushiro Arr**	**64.27**	**324**	LR	LR	01 53 37.4	
	comp=Z,24nm,22.0s,baz=180,slow=32						
PETK	**Petropavlovsk-**	**70.45**	**347**	LR	LR	02 01 57.1	
	comp=Z,14nm,18.0s,baz=72,slow=36						
KSRS	**Korea Array**	**71.05**	**319**	LR	LR	01 55 42.5	
	comp=Z,43nm,20.8s,baz=178,slow=31						
YBH	**Yreka Blue Hor**	**78.01**	**41**	LR	LR	01 57 53.9	
	comp=Z,56nm,19.0s,baz=264,slow=30						
PFO	**Pinyon Flats O**	**78.26**	**50**	LR	LR	01 58 28.6	
	comp=Z,39nm,18.9s,baz=235,slow=30						
H02S1	**DAWSON INLET T**	**79.80**	**27**	T	T	02 59 20.1	
	SNR=56						
BBB	**Bella Bella**	**81.14**	**30**	LR	LR	01 57 30.2	
	comp=Z,28nm,21.1s,baz=160,slow=28						
ELK	**Elko**	**82.39**	**44**	LR	LR	02 01 23.8	
	comp=Z,48nm,19.0s,baz=266,slow=31						
ILAR	**Eielson Array**	**83.82**	**14**	P	P	01 31 50.0	-0.4
	0.7nm,0.8s,baz=232,slow=6.3,SNR=5.5						
TXAR	**Lajitas Array**	**86.64**	**59**	P	P	01 32 06.3	+0.7
	0.3nm,0.8s,baz=211,slow=5.1,SNR=2.9						
TXAR				LR	LR	02 04 49.1	
	comp=Z,38nm,18.0s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**87.09**	**44**	LR	LR	02 05 15.4	
	comp=Z,29nm,19.0s,baz=316,slow=32						
PLCA	**Paso Flores**	**94.97**	**134**	LR	LR	02 11 00.3	
	comp=Z,15nm,18.9s,baz=164,slow=33						
ULM	**Lac du Bonnet**	**98.42**	**40**	LR	LR	02 10 23.8	
	comp=Z,41nm,19.1s,baz=30,slow=31						

*UPA **26** 02:34:21.2±2.0, 8°.95N×77°.21W, h11km±16km, MW3.7*
*RSNC **26** 02:34:24.3±2.3, 8°.66N×77°.21W, h24km±10km, ML2.3*
ISC 26 02:34:22.5±1.0, 8°.74N±0°.06×77°.20W±0°.03, h32km±7km, n21, σ1°.55/28, 3D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAP2	**Capurgana**	**0.18**	**240**	⇓*i*P	**Pb**	**02 34 28.6**	**-0.1**
CAP2				*i*S	**Sb**	**02 34 33.1**	**0.0**
CAPC	**Capurgana**	**0.18**	**235**	⇓*i*P	**Pb**	**02 34 28.7**	**-0.1**
CAPC				*e*S	**Sb**	**02 34 33.2**	**+0.1**
CAPC				*i*		02 34 33.7	
	comp=Z,570nm,0.1s						
UPD2	**Meteti**	**0.83**	**257**	*e*P	**Pn**	**02 34 38.7**	**+0.8**
UPD2				*e*S	**Sb**	**02 34 50.5**	**+1.2**
UPD2				*i*		02 34 53.0	
	comp=Z,179nm,0.2s						
UPD2	**Meteti**	**0.83**	**257**	⇓*i*P	**Pn**	**02 34 38.7**	**+0.8**
UPD2				*i*S	**Sb**	**02 34 50.5**	**+1.2**
LCBC	**Los crdobas,**	**0.83**	**82**	*e*P	**Pn**	**02 34 39.3**	**+1.3**
LCBC				*e*S	**Sn**	**02 34 52.0**	**+2.9**
LCBC				*i*		02 34 55.6	
	comp=Z,138nm,0.2s						
MOTC	**Monteria, Cord**	**1.52**	**88**	*e*P	**Pn**	**02 34 47.9**	**+0.4**
MOTC				*e*S	**Sn**	**02 35 06.3**	**+0.1**
MONA	**Monteria**	**1.52**	**89**	*i*P	**Pn**	**02 34 47.5**	**0.0**
CNTA3	**Canitas, Panam**	**1.73**	**286**	*e*P	**Pn**	**02 34 48.5**	**-1.9**
UREC	**San Jos de Ur**	**1.92**	**121**	*e*P	**Pn**	**02 34 52.9**	**-0.1**
UREC				*e*S	**Sn**	**02 35 13.1**	**-3.0**
UREC				*i*		02 35 16.9	
	comp=Z,15nm,0.4s						
CHPO	**Chepo, Panama**	**1.94**	**283**	*e*P	**Pn**	**02 34 51.1**	**-2.1**
CHPO				*e*S	**Sn**	**02 35 16.2**	**-0.3**
DBBC	**Dabeiba**	**1.97**	**150**	*e*P	**Pn**	**02 34 53.9**	**+0.1**
DBBC				*e*S	**Sn**	**02 35 18.5**	**+1.0**
DBBC				*i*		02 35 30.3	
	comp=Z,32nm,0.4s						
UPA	**Univ. de Panam**	**2.32**	**276**	*e*P	Pn	02 34 59.5	+1.1
FRIJ	**El Hiral**	**2.54**	**281**	*e*P	**Pn**	**02 35 00.8**	**-0.7**
ZARC	**Zaragoza, Cauc**	**2.63**	**118**	*e*P	**Pn**	**02 35 03.1**	**+0.3**
ZARC				*i*		02 35 03.5	
	comp=Z,33nm,0.3s						
ZARC				*e*S	**Sn**	**02 35 31.4**	**-2.3**
BCIP	**Isla Barro Col**	**2.64**	**279**	*e*P	Pn	02 35 04.5	+1.7
BCIP				*e*S	**Sn**	**02 35 35.7**	**+1.9**
BCIP				*i*		02 35 52.4	
	comp=Z,6.3nm,0.4s						
BCIP	**Isla Barro Col**	**2.64**	**279**	*e*P	Pn	02 35 04.0	+1.1
ZANG	**Zanguenga, Cho**	**2.64**	**275**	*e*P	Pn	02 35 04.4	+1.5
MLIR	**Monte Lirio**	**2.67**	**281**	*e*P	Pn	02 34 57.7	-5.5
CBOC	**Ciudad Bolivar**	**3.09**	**157**	*e*P	**Pn**	**02 35 11.4**	**+2.1**
CBOC				*e*S	**Sn**	**02 35 45.0**	**-0.2**
CBOC				*i*		02 35 53.4	
	comp=Z,2.7nm,0.8s						
CRIS3	**El Cristo, Coc**	**3.41**	**262**	*e*P	Pn	02 35 08.7	-4.8
PTBC	**PUERTO BERRIO,**	**3.49**	**129**	*e*P	**Pn**	**02 35 13.9**	**-0.7**
PTBC				*e*S	**Sn**	**02 35 51.6**	**-3.3**
PTBC				*i*		02 35 56.2	
	comp=Z,4.4nm,0.6s						

*NEIC **26** 02:47:47.5±1.9, 21°.2S±0°.3×178°.25W±0°.09, h577km±12km, mb4.0/4, Error ellipse: s-maj=36.6km s-min=12.6km az=182.0*
*IDC **26** 02:47:49.2±9.0, 20°.92S×178°.42W, h580km±82km, mb3.2/4, mb1 3.3/5, mb1mx3.0/23, mbtmp4.1/5, Error ellipse: s-maj=134.5km s-min=43.9km az=138.0*
ISC 26 02:47:48.1±1.0, 21°.1S±0°.3×178°.3W±0°.1, h579km, n15, σ0°.88/14, mb4.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.84**	**313**	P	**P**	**02 49 18.6**	**0.0**
NIUE	**Niue**	**8.10**	**77**	P	**P**	**02 49 48.4**	**+0.6**
DZM	**Mont Dzumac**	**14.25**	**263**	P	**P**	**02 50 51.4**	**+1.5**
	0.3nm,0.3s,baz=78,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**37.30**	**245**	P	**P**	**02 54 12.6**	**+0.5**
	1.2nm,0.6s,baz=90,slow=15,SNR=3.8						
STKA	**Stephens Creek**	**37.30**	**245**	P	**P**	**02 54 10.6**	**-1.5**
STKA				IAmb	IAmb	02 54 41.0	
	comp=Z,2.4nm,1.4s						
WR0	**Warramunga Arr**	**44.08**	**263**	P	**P**	**02 55 04.9**	**-1.2**
WR0				IAmb	IAmb	02 56 49.5	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**44.13**	**257**	P	**P**	**02 55 06.3**	**-0.2**
ASAR	**Alice Springs**	**44.14**	**257**	P	**P**	**02 55 06.7**	**+0.1**
	comp=Z,4.0nm,0.5s,baz=96,slow=7.6,SNR=59						
WRA	**Warramunga Arr**	**44.27**	**263**	P	**P**	**02 55 07.3**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=97,slow=7.7,SNR=74						
IL31		**88.97**	**13**	P	**P**	**02 59 40.7**	**-0.5**
ILAR	**Eielson Array**	**88.97**	**13**	P	**P**	**02 59 41.4**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=212,slow=5.1,SNR=4.6						
AKASG	**Malin Array Be**	**143.43**	**330**	PKP	PKPab	03 06 15.3	-0.4
	comp=Z,1.6nm,0.4s,baz=44,slow=4.3,SNR=9.8						
MMAI	**Mount Meron Ar**	**147.90**	**299**	PKPbc	**PKiKP**	**03 06 30.9**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=79,slow=8.6,SNR=4.2						
TIR	**Tirane**	**154.66**	**327**	PKPdf	**PKPdf**	**03 06 34.5**	**-0.7**
TIP	**Timpagrande**	**157.86**	**328**	PKPdf	**PKPdf**	**03 06 38.4**	**-1.0**

*KRNET **26** 02:50:56.7±0.1, 39°.11N×71°.33E, h14km, mb3.3*
*SOME **26** 02:50:56.6, 39°.28N×71°.58E, h10km*
*NNC **26** 02:51:11.6±7.2, 39°.83N×70°.86E, h13km±27km, mb3.6, mpv3.2, Error ellipse: s-maj=50.0km s-min=27.8km az=3.0*
ISC 26 02:50:55.7±1.1, 39°.24N±0°.05×71°.37E±0°.04, h10km, n23, σ2°.35/38, 19C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.85**	**254**	⇑*i*P	**Pb**	**02 51 12.1**	**-0.7**
	baz=63						
GAR				⇑*i*S	**Sg**	**02 51 23.0**	**-0.4**
	baz=63						
BTK	**Batken**	**0.92**	**333**	⇑*i*P	**Pn**	**02 51 16.7**	**+1.8**
	baz=38						
BTK				⇑*i*S	**Sn**	**02 51 30.9**	**+2.6**
	baz=38						
OHH	**Osh**	**1.68**	**40**	⇑*i*P	**Pg**	**02 51 30.1**	**+2.1**
	baz=38						
OHH				⇑*i*S	**Sg**	**02 51 55.1**	**+5.3**
	baz=38						
CHGR	**Chuyangaron**	**1.82**	**252**	⇑*i*P	**Pg**	**02 51 29.6**	**-1.1**
	baz=56						
CHGR				⇑*i*S	**Sg**	**02 51 53.3**	**-1.0**
	baz=56						
IUG	**Iuzhnay**	**3.08**	**341**	*e*P	**Pg**	**02 51 53.3**	**-1.4**
	28nm,0.3s						
IUG				*e*S	**Sg**	**02 52 34.3**	**-0.3**
	59nm,0.4s						
AML	**Almayashu**	**3.39**	**31**	⇑*e*P	**Pb**	**02 51 55.1**	**-1.0**
	baz=30						
AML				⇑*i*S	**Sb**	**02 52 37.4**	**0.0**
	baz=30						
AML	**Almayashu**	**3.39**	**31**	P	**Pb**	**02 51 56.8**	**+0.7**
	SNR=18						
ARLS	**Aral**	**3.45**	**40**	⇓*i*P	**Pb**	**02 51 55.8**	**-1.2**
	baz=39						
ARLS				⇓*i*S	**Sb**	**02 52 38.7**	**-0.4**
	baz=39						
MRKS	**Merke**	**3.77**	**21**	*e*P	**Pb**	**02 52 03.5**	**+1.0**
	7.2nm,0.4s						
MRKS				*e*S	**Sg**	**02 52 51.9**	**-5.0**
	15nm,0.4s						
UCH	**Uchtor**	**3.82**	**38**	⇓*i*P	**Pb**	**02 52 01.1**	**-2.4**
	baz=37						
UCH				⇓*i*S	**Sb**	**02 52 48.3**	**-1.7**
	baz=37						
UCH	**Uchtor**	**3.82**	**38**	P	**Pb**	**02 52 03.2**	**-0.3**
	SNR=14						
EKS2	**Erkin-Say**	**3.87**	**27**	⇑*i*P	**Pb**	**02 52 01.9**	**-2.3**
	baz=27						
EKS2				⇑*i*S	**Sb**	**02 52 49.4**	**-1.8**
	baz=27						
EKS2	**Erkin-Say**	**3.87**	**27**	P	**Pb**	**02 52 04.8**	**+0.6**
	SNR=5.1						
KK31	**Karatay Array**	**3.92**	**351**	⇑Pn	**Pb**	**02 52 03.2**	**-1.7**
	3.7nm,0.4s,baz=176,slow=13,SNR=62						
KK31				⇑Pg	**Pg**	**02 52 11.9**	**+1.2**
	6.3nm,0.7s,baz=169,slow=16,SNR=7.8						
KK31				⇑Lg	Lg	02 52 54.7	
	8.1nm,0.5s,baz=177,slow=23,SNR=6.3						
BRLS	**Borolday**	**3.96**	**343**	*e*P	**Pb**	**02 52 04.2**	**-1.4**
	5.4nm,0.5s						
BRLS				*e*S	**Sb**	**02 52 53.5**	**-0.1**
	9.0nm,0.3s						
KZA	**Kyzart**	**4.09**	**45**	⇑*i*P	**Pb**	**02 52 04.8**	**-3.3**
	baz=44						
KZA				⇑*i*S	**Sb**	**02 52 54.6**	**-3.1**
	baz=44						
KZA	**Kyzart**	**4.09**	**45**	P	**Pb**	**02 52 06.1**	**-2.0**
	SNR=7.8						
AAK	**Ala-Archa**	**4.14**	**34**	P	**Pb**	**02 52 07.3**	**-1.4**
	SNR=9.6						
KBK	**Karagaybulak**	**4.36**	**37**	P	**Pb**	**02 52 12.1**	**-0.4**
	SNR=5.6						
USP	**Ospenovka**	**4.66**	**29**	P	**Pb**	**02 52 14.2**	**-3.5**
	SNR=12						
KST	**Kastek**	**5.14**	**41**	*e*P	**Pb**	**02 52 28.7**	**+2.8**
	4.0nm,0.3s						
KST				*e*S	**Sg**	**02 53 34.7**	**-6.2**
	9.9nm,0.3s						
AB31	**Akbulak array**	**12.92**	**325**	⇑Pn	Pn	02 54 04.6	+5.3
	1.0nm,0.8s,baz=136,slow=13,SNR=7.9						
AB31				⇓Sn	**Sn**	**02 56 23.6**	**+0.4**
	0.3nm,0.3s,baz=146,slow=23,SNR=3.8						
AKTO	**Aktyubinsk**	**14.64**	**324**	⇓Pn	**Pn**	**02 54 24.9**	**+2.1**
	1.0nm,0.7s						
AKTO				⇑Sn	**Sn**	**02 57 03.2**	**-1.8**
	1.3nm,0.9s						

*IDC **26** 03:05:30.5±1.0, 38°.41N×22°.02E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.8/40, mbtmp3.8/13, ML3.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.3/49, Error ellipse: s-maj=20.6km s-min=18.4km az=30.0*
*ATH **26** 03:05:30.3, 38°.35N×21°.96E, h17km±1km, ML3.3/20, Error ellipse: s-maj=1.2km s-min=0.5km az=334.0*
*THE **26** 03:05:31.0, 38°.34N×21°.94E, h6km, ML3.3/14, Error ellipse: s-maj=0.8km s-min=0.4km az=300.0*
*BEO **26** 03:05:42.9±0.8, 39°.24N×22°.24E, h0km, ML2.8/2*
ISC 26 03:05:31.4±0.6, 38°.37N±0°.02×21°.99E±0°.02, h11km±2km, n124, σ1°.66/156, mb3.9/10, 11C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERG	**Sergoula**	**0.07**	**53**	P	**Pg**	**03 05 33.5**	**-0.2**
SERG				S	**Sg**	**03 05 35.4**	**-0.1**
	70μm,0.2s						
SERG	**Sergoula**	**0.07**	**53**	P	**Pg**	**03 05 33.5**	**-0.2**
SERG				S	**Sg**	**03 05 35.4**	**-0.1**
SERG				AML	AML	03 05 36.3	
SERG				AML	AML	03 05 36.4	
EFP	**Efpalio**	**0.08**	**311**	P	**Pb**	**03 05 33.0**	**-0.8**
EFP				S	**Sb**	**03 05 34.7**	**-1.0**
	125μm,0.4s						
EFP	**Efpalio**	**0.08**	**311**	P	**Pb**	**03 05 33.1**	**-0.8**
EFP				S	**Sb**	**03 05 34.9**	**-0.8**
EFP				AML	AML	03 05 35.1	
EFP				AML	AML	03 05 35.2	
ALIK	**Aliki, Aigiali**	**0.15**	**138**	P	**Pg**	**03 05 34.3**	**-0.5**
ALIK				S	**Sg**	**03 05 36.7**	**-0.4**
ANX	**Ano Chora**	**0.23**	**347**	P	**Pb**	**03 05 35.8**	**-1.8**
ANX				S	**Sb**	**03 05 39.3**	**-0.2**
	19μm,0.5s						
ANX	**Ano Chora**	**0.23**	**347**	P	**Pb**	**03 05 35.9**	**-1.8**
ANX				S	**Sg**	**03 05 39.8**	**+0.4**
ANX				AML	AML	03 05 40.3	
	comp=N,43829μm,0.5s						
ANX				AML	AML	03 05 42.3	
	comp=E,32498μm,0.5s						
KLV	**Kalavryta, Ach**	**0.35**	**158**	P	**Pg**	**03 05 37.5**	**-1.0**
KLV				S	**Sg**	**03 05 42.9**	**-0.2**
	comp=E,3μm,0.4s						
KLV	**Kalavryta, Ach**	**0.35**	**158**	P	**Pg**	**03 05 37.4**	**-1.0**
KLV				S	**Sg**	**03 05 42.6**	**-0.5**
KLV				AML	AML	03 05 43.9	
	comp=N,5562μm,0.5s						
KLV				AML	AML	03 05 44.5	
	comp=E,4928μm,0.4s						
DLFA	**Delphi**	**0.41**	**75**	P	**Pg**	**03 05 38.9**	**-0.6**
DLFA				S	**Sb**	**03 05 45.8**	**-1.3**
DLFA				AML	AML	03 05 51.3	
	comp=N,8141μm,0.6s						
DLFA				AML	AML	03 05 51.4	
	comp=E,7007μm,0.5s						
DSF	**Desfina**	**0.43**	**84**	P	**Pg**	**03 05 39.1**	**-0.7**
DSF				S	**Sb**	**03 05 46.2**	**-1.3**
DSF	**Desfina**	**0.43**	**84**	P	**Pg**	**03 05 39.2**	**-0.7**
DSF				S	**Sg**	**03 05 45.5**	**0.0**
DSF				AML	AML	03 05 48.0	
	comp=N,7228μm,0.4s						
DSF				AML	AML	03 05 52.6	
	comp=E,3751μm,0.3s						
AXS	**Araxos**	**0.51**	**250**	P	**Pg**	**03 05 40.2**	**-1.1**
AXS				S	**Sg**	**03 05 47.1**	**-1.0**
	comp=E,4μm,0.4s						
AXS	**Araxos**	**0.51**	**250**	P	**Pg**	**03 05 40.3**	**-1.1**
AXS				S	**Sg**	**03 05 46.8**	**-1.3**
AXS				AML	AML	03 05 48.0	
	comp=N,10718μm,0.4s						
AXS				AML	AML	03 05 50.0	
	comp=E,5890μm,0.3s						
GUR	**Goura**	**0.52**	**147**	P	**Pg**	**03 05 41.1**	**-0.4**
GUR				S	**Sg**	**03 05 47.7**	**-0.6**
GUR				AML	AML	03 05 50.0	
	comp=N,12099μm,0.3s						
GUR				AML	AML	03 05 51.8	
	comp=E,8170μm,0.4s						
EVR	**Evrytania**	**0.56**	**346**	P	**Pg**	**03 05 41.9**	**-0.5**
EVR				S	**Sb**	**03 05 51.1**	**-0.3**
	comp=E,4μm,0.6s						
EVR	**Evrytania**	**0.56**	**346**	P	**Pg**	**03 05 41.9**	**-0.5**
EVR				S	**Sb**	**03 05 50.4**	**-1.0**
EVR				AML	AML	03 05 54.7	
	comp=N,8060μm,0.7s						
EVR				AML	AML	03 05 57.0	
	comp=E,6961μm,0.5s						
AXAR	**Agios Charalam**	**0.66**	**53**	P	**Pg**	**03 05 43.5**	**-0.7**
AXAR				S	**Sn**	**03 05 54.9**	**-2.2**
	comp=E,6μm,0.7s						
AXAR	**Agios Charalam**	**0.66**	**53**	P	**Pg**	**03 05 43.8**	**-0.4**
AXAR				S	**Sn**	**03 05 54.2**	**-2.9**
AXAR				AML	AML	03 05 56.8	
	comp=E,10568μm,0.3s						
AXAR				AML	AML	03 05 58.0	
	comp=N,10668μm,0.3s						
VTN	**Vitineika**	**0.78**	**235**	P	**Pb**	**03 05 45.1**	**-1.8**
LKR	**Lokris**	**0.84**	**70**	P	**Pb**	**03 05 47.1**	**-1.0**
LKR				S	**Sn**	**03 05 59.9**	**-1.7**
LKR				AML	AML	03 06 04.2	
	comp=E,2822μm,0.2s						
LKR				AML	AML	03 06 04.2	
	comp=N,3427μm,0.3s						
LTK	**Loutraki**	**0.85**	**114**	P	**Pb**	**03 05 47.3**	**-0.8**
LTK	**Loutraki**	**0.85**	**114**	P	**Pb**	**03 05 47.1**	**-1.0**
LTK				S	**Sb**	**03 05 59.8**	**+0.2**
LTK				AML	AML	03 06 06.6	
	comp=E,2035μm,0.8s						
LTK				AML	AML	03 06 08.8	
	comp=N,1953μm,0.4s						
TRIP	**Tripoli**	**0.87**	**165**	P	**Pb**	**03 05 46.6**	**-2.0**
TRIP	**Tripoli**	**0.87**	**165**	P	**Pb**	**03 05 46.8**	**-1.7**
TRIP				S	**Sb**	**03 05 59.1**	**-1.2**
TRIP				AML	AML	03 06 07.2	
	comp=E,3824μm,0.5s						
TRIP				AML	AML	03 06 07.5	
	comp=N,3737μm,0.8s						
MGNA	**Meganis**	**0.98**	**287**	P	**Pb**	**03 05 48.6**	**-1.8**
VIL2	**Platees**	**1.02**	**99**	P	**Pn**	**03 05 51.4**	**-0.3**
VIL2				S	**Sn**	**03 06 06.1**	**+0.1**
VIL2				AML	AML	03 06 12.3	
	comp=E,3988μm,0.5s						
VIL2				AML	AML	03 06 13.4	
	comp=N,2840μm,0.6s						
VILL	**Villia**	**1.06**	**101**	P	**Pb**	**03 05 52.0**	**+0.2**
VILL				S	**Sg**	**03 06 07.1**	**+1.4**
	comp=N,2μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.07**	**289**	P	**Pb**	**03 05 50.2**	**-1.6**
EVGI	**Lefkada island**	**1.07**	**284**	P	**Pb**	**03 05 50.4**	**-1.6**
VLS	**Valsamata**	**1.12**	**260**	P	**Pn**	**03 05 50.8**	**-2.2**
VLS				S	**Sb**	**03 06 07.0**	**-0.2**
	comp=N,2μm,0.6s						
VLS	**Valsamata**	**1.12**	**

THL			AML	AML	03 06 13.6	
	comp=E,2212μm,1.0s					
THL			AML	AML	03 06 14.8	
	comp=N,913μm,0.6s					
KEF5	**Kardakata, Kep**	**1.20 266**	P	**Pn**	**03 05 52.0**	**-2.1**
KEF5			S	**Sb**	**03 06 08.4**	**-1.2**
KEF5			AML	AML	03 06 17.5	
	comp=E,6236μm,0.6s					
KEF5			AML	AML	03 06 21.3	
	comp=N,10206μm,0.5s					
ARGA	**Argostoli. Kep**	**1.20 261**	P	**Pn**	**03 05 52.5**	**-1.7**
ARGA			S	**Sb**	**03 06 08.6**	**-1.0**
VOL2	**Volos**	**1.25 37**	P	**Pg**	**03 05 55.9**	**+0.6**
VOL3	**Nea Ionia, Vol**	**1.25 36**	P	**Pn**	**03 05 51.3**	**-3.4**
LRSO	**Larissa Observ**	**1.34 14**	P	**Pg**	**03 05 56.7**	**-0.3**
NEO	**Neokhori**	**1.34 46**	P	**Pg**	**03 05 56.5**	**-0.7**
NEO	**Neokhori**	**1.34 46**	P	**Pg**	**03 05 56.1**	**-1.1**
KRND	**KRANIDI**	**1.35 137**	P	**Pn**	**03 05 55.4**	**-0.8**
KRND			S	**Sn**	**03 06 14.5**	**+0.4**
	comp=N,1μm,0.5s					
KRND	**KRANIDI**	**1.35 137**	P	**Pn**	**03 05 55.7**	**-0.4**
KRND			S	**Sn**	**03 06 13.7**	**-0.4**
KRND			AML	AML	03 06 20.8	
	comp=E,2334μm,0.5s					
KRND			AML	AML	03 06 20.8	
	comp=N,3061μm,0.6s					
XOR	**Xorichti**	**1.37 43**	P	**Pg**	**03 05 56.6**	**-1.1**
XOR	**Xorichti**	**1.37 43**	P	**Pg**	**03 05 56.5**	**-1.1**
ATHU	**Athens Univers**	**1.47 105**	P	**Pn**	**03 05 58.3**	**+0.4**
ATHU			S	**Sb**	**03 06 17.7**	**+0.2**
	comp=N,275nm,0.6s					
ATHU	**Athens Univers**	**1.47 105**	P	**Pn**	**03 05 58.2**	**+0.3**
PTL	**Penteli**	**1.51 102**	P	**Pn**	**03 05 58.7**	**+0.2**
PTL	**Penteli**	**1.51 102**	P	**Pn**	**03 05 58.8**	**+0.4**
VLY	**Voula,Athens**	**1.52 109**	P	**Pn**	**03 05 58.6**	**+0.1**
VLY	**Voula,Athens**	**1.52 109**	P	**Pn**	**03 05 58.9**	**+0.5**
DION	**Dionisos Attik**	**1.56 100**	P	**Pn**	**03 05 59.2**	**+0.1**
DION	**Dionisos Attik**	**1.56 100**	P	**Pn**	**03 05 59.6**	**+0.5**
KPRO	**Kipourio**	**1.65 343**	P	**Pn**	**03 05 59.6**	**-0.8**
KYMI	**Kymi, Euboea I**	**1.68 80**	P	**Pb**	**03 06 01.4**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.68 80**	P	**Pn**	**03 06 00.8**	**+0.1**
IGT	**Igoumenitsa**	**1.73 312**	*e*Pg	**Pg**	**03 06 09.0**	**+4.4**
IGT			*e*Sg	**Sg**	**03 06 31.6**	**+4.5**
IGT	**Igoumenitsa**	**1.73 312**	P	**Pb**	**03 06 02.4**	**-0.8**
LIT	**Litokhoron**	**1.77 13**	P	**Pb**	**03 06 02.3**	**-1.5**
VLI	**Veliai**	**1.81 155**	P	**Pn**	**03 06 02.7**	**+0.2**
KARY	**Karystos**	**1.96 99**	P	**Pn**	**03 06 04.9**	**+0.3**
KARY			S	**Sb**	**03 06 30.0**	**-1.5**
	comp=N,178nm,0.6s					
KARY	**Karystos**	**1.96 99**	P	**Pn**	**03 06 04.9**	**+0.3**
SERI	**Serifos**	**2.32 121**	P	**Pn**	**03 06 10.2**	**+0.7**
FNA	**Florina**	**2.46 349**	*e*Pg	**Pb**	**03 06 13.9**	**-1.7**
FNA			*e*Sg	**Sn**	**03 06 35.6**	**-5.9**
VAY	**Valandovo**	**2.98 8**	*e*Pn	**Pn**	**03 06 19.1**	**+0.5**
VAY	**Valandovo**	**2.98 8**	*i* Pn	**Pb**	**03 06 21.3**	**-3.2**
SRS	**Serrai**	**3.01 24**	*e*Pn	**Pn**	**03 06 19.3**	**+0.3**
APE	**Apeiranthos**	**3.10 114**	⇓P	**Pn**	**03 06 21.0**	**+0.7**
STIP	**Stip**	**3.32 3**	*i* Pn	**Pb**	**03 06 26.3**	**-4.1**
SANT	**Santorini**	**3.41 125**	⇑P	**Pb**	**03 06 31.4**	**-0.5**
MMB	**Musomiste**	**3.48 22**	*e*P	**Pn**	**03 06 27.0**	**+1.5**
KKB	**Krupnik**	**3.59 13**	*e*P	**Pb**	**03 06 31.2**	**-3.7**
IDI	**Anoyia**	**3.86 142**	Pn	**Pn**	**03 06 31.2**	**+0.5**
	comp=N,1.5nm,0.3s,baz=321,slow=16,SNR=20					
IDI			Sn	**Sn**	**03 07 17.0**	**+0.9**
	comp=N,2.3nm,0.3s,baz=305,slow=8.1,SNR=5.3					
IDI	**Anoyia**	**3.86 142**	⇑P	**Pn**	**03 06 32.8**	**+2.1**
RZN	**Rozhen**	**3.92 31**	*e*P	**Pn**	**03 06 34.6**	**+2.9**
BOSS	**Bosilegrad**	**4.14 5**	*e*Pn	**Pn**	**03 06 35.1**	**+0.6**
TIP	**Timpagrande**	**4.17 283**	⇑P	**Pn**	**03 06 36.6**	**+1.7**
VTS	**Vitosha**	**4.35 12**	*e*P	Pb	03 06 41.9	-6.0
BARS	**Barje**	**4.44 358**	*e*Pn	**Pn**	**03 06 40.4**	**+1.7**
PDG	**Podgorica**	**4.56 334**	*e*Pn	**Pn**	**03 06 43.0**	**+2.7**
PDG	**Podgorica**	**4.56 334**	⇑P	**Pn**	**03 06 43.2**	**+3.0**
SELS	**Selova**	**4.89 353**	*e*Pn	**Pn**	**03 06 45.9**	**+1.1**
ZAPS	**Zavoj**	**4.92 6**	*e*Pn	**Pn**	**03 06 46.4**	**+1.1**
SJES	**Sjenica**	**5.12 343**	*e*Pn	**Pn**	**03 06 50.3**	**+2.2**
ZAGS	**Zajecar**	**5.44 2**	*e*Pn	**Pn**	**03 06 52.4**	**0.0**
GRUS	**Gruza**	**5.59 351**	*e*Pn	**Pn**	**03 06 56.0**	**+1.5**
BBLS	**Lazići**	**5.83 341**	*e*Pn	**Pn**	**03 06 59.8**	**+2.1**
DIVS	**Divibare**	**5.92 346**	*e*Pn	**Pn**	**03 07 01.1**	**+2.1**
VAE	**Valguarnera**	**6.05 264**	Sn	**Sn**	**03 08 10.2**	**0.0**
	comp=N,0.7nm,0.3s,baz=186,slow=16,SNR=1.7					
HERR	**Herculane**	**6.51 3**	⇓P	Pn	03 06 59.3	-7.9
LOT	**Lotru**	**7.20 10**	⇑P	**Pn**	**03 07 12.6**	**-4.0**
ICOR	**Ion Corvin**	**7.22 35**	⇑P	**Pn**	**03 07 13.1**	**-3.7**
BZS	**Buzias**	**7.25 358**	⇓P	Pn	03 07 11.7	-5.5
VOIR		**7.42 17**	⇓P	**Pn**	**03 07 22.5**	**+2.9**
MLR	**Muntele Rosu**	**7.70 21**	Pn	Pn	03 07 28.1	+4.6
	comp=N,0.4nm,0.3s,baz=192,slow=11,SNR=3.4					
MLR	**Muntele Rosu**	**7.70 21**	⇑P	**Pn**	**03 07 25.5**	**+1.9**
SIRR	**Siria**	**7.89 358**	⇑P	**Pn**	**03 07 22.0**	**-4.1**
CFR	**Carcaliu**	**8.21 32**	⇑P	Pn	03 07 25.0	-5.3
PLOR	**Plostina**	**8.24 23**	⇑P	Pn	03 07 35.1	+4.3
VRI	**Vrincioaia**	**8.28 24**	⇑P	**Pn**	**03 07 31.0**	**-0.3**
BRTR	**Keskin Array B**	**9.17 78**	Pn	**Pn**	**03 07 47.1**	**+3.4**
	comp=N,0.1nm,0.3s,baz=266,slow=13,SNR=2.0					
VASR	**Vaslui**	**9.31 26**	⇓P	**Pn**	**03 07 40.8**	**-4.6**
GERES	**GERESS Array B**	**12.06 333**	LR	LR	03 14 21.6	
	comp=N,36nm,19.8s,baz=123,slow=44					
ESDC	**Sonseca Array**	**20.18 282**	P	**P**	**03 10 06.3**	**+0.3**
	comp=N,1.2nm,0.7s,baz=77,slow=9.9,SNR=13					
HFS	**Hagfors**	**22.41 349**	P	**P**	**03 10 30.8**	**+1.1**
	comp=N,1.5nm,0.5s,baz=158,slow=12,SNR=6.2					
FINES	**FINESS Array B**	**23.24 5**	P	**P**	**03 10 38.8**	**+0.5**
	comp=N,4.1nm,1.0s,baz=186,slow=7.5,SNR=4.0					
NB2	**NORSAR Subarra**	**23.67 347**	P	**P**	**03 10 42.6**	**-0.1**
	comp=Z,7.3nm,1.2s,baz=154,slow=10					
NOA	**NORSAR Array B**	**23.67 347**	P	**P**	**03 10 42.4**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=152,slow=9.6,SNR=6.3					
EKA	**Eskdalemuir Ar**	**23.95 323**	P	**P**	**03 10 45.8**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=122,slow=11,SNR=6.7					
TORD	**Torodi Ar. Bea**	**30.92 221**	P	**P**	**03 11 49.9**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=31,slow=8.6,SNR=6.4					
MKAR	**Makanchi Array**	**44.22 59**	P	**P**	**03 13 40.5**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=278,slow=7.2,SNR=14					
ZALV	**Zalesovo Beam**	**44.70 48**	P	**P**	**03 13 44.2**	**0.0**
	comp=Z,0.8nm,0.3s,baz=284,slow=7.6,SNR=1.8					
SONM	**Songino Array**	**59.44 51**	P	**P**	**03 15 35.3**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=302,slow=14,SNR=1.8					
BOSA	**Boshof**	**66.71 177**	LR	LR	03 50 45.3	
	comp=Z,32nm,19.4s,baz=52,slow=41					
ULM	**Lac du Bonnet**	**76.22 324**	P	**P**	**03 17 21.1**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=54,slow=12,SNR=2.9					
PDAR	**Pinedale Array**	**88.03 327**	P	**P**	**03 18 22.5**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=44,slow=2.9,SNR=2.4					

*IDC **26** 03:15:23.9±2.9, 24°.00N×145°.68E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/40, mbtmp3.7/7, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/35, Error ellipse: s-maj=104.7km s-min=22.6km az=74.0*

*NEIC **26** 03:15:27.9±1.7, 24°.10N±0°.06×145°.5E±0°.2, h20km±5km, mb4.0/7, Error ellipse: s-maj=22.6km s-min=8.1km az=78.0*

ISC 26 03:15:26.3±1.0, 24°.1N±0°.1×145°.4E±0°.2, h10km, n16, σ1$19/15, mb3.6/5, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.21**	**317**	Pn	**Pn**	**03 16 31.7**	**+1.2**
	8.1nm,0.3s,baz=292,slow=22,SNR=5.8						
JCJ				Sn	**Sn**	**03 17 17.5**	**-2.3**
	5.6nm,0.3s,baz=92,slow=21,SNR=1.6						
MJAR	**Matsushiro Arr**	**13.91**	**335**	Pn	**Pn**	**03 18 42.8**	**-0.8**
	0.1nm,0.3s,baz=164,slow=14,SNR=2.0						
KSRS	**Korea Array**	**20.07**	**316**	P	**P**	**03 20 00.3**	**+0.5**
	0.4nm,0.3s,baz=137,slow=12,SNR=2.1						
KSRS				LR	LR	03 27 16.7	
	comp=Z,30nm,19.9s,baz=220,slow=35						
WR0	**Warramunga Arr**	**45.01**	**195**	P	**P**	**03 23 42.1**	**0.0**
WRA	**Warramunga Arr**	**45.04**	**195**	P	**P**	**03 23 41.4**	**-1.0**
	0.3nm,0.4s,baz=18,slow=8.9,SNR=5.8						
AS31	**Alice Springs**	**48.73**	**194**	P	**P**	**03 24 09.8**	**-1.5**
AS31				IAmb	IAmb	03 24 27.8	
	comp=Z,2.1nm,1.4s						
ASAR	**Alice Springs**	**48.73**	**194**	P	**P**	**03 24 10.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=18,slow=9.8,SNR=4.1						
MKAR	**Makanchi Array**	**54.66**	**311**	P	**P**	**03 24 57.5**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=74,slow=11,SNR=3.5						
SML	**Sawmill**	**57.90**	**31**	P	**P**	**03 25 18.3**	**0.0**
COLD	**Coldfoot**	**58.19**	**24**	P	**P**	**03 25 19.3**	**-0.9**
M24K	**Tolsona, Glenn**	**58.95**	**31**	P	**P**	**03 25 25.6**	**0.0**
KK31	**Karatay Array**	**63.24**	**308**	P	**P**	**03 25 55.1**	**0.0**
KKAR	**Karatay Array**	**63.24**	**308**	P	**P**	**03 25 55.6**	**+0.5**
H02N1	**VAN INLET T-PH**	**66.42**	**40**	T	T	04 39 07.3	
	SNR=5.7						
H02S1	**DAWSON INLET T**	**66.47**	**41**	T	T	04 39 08.6	
FINES	**FINESS Array B**	**81.94**	**335**	P	**P**	**03 27 45.8**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=72,slow=4.5,SNR=1.9						

*IDC **26** 03:24:42.3±1.1, 34°.36S×73°.44W, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.8/31, mbtmp3.9/8, ML3.9/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/24, Error ellipse: s-maj=41.3km s-min=20.2km az=93.0*

*GUC **26** 03:24:45.1±0.7, 34°.60S×73°.50W, h30km±5km, ML3.7*

ISC 26 03:24:46.2±0.7, 34°.47S±0°.06×73°.66W±0°.04, h35km, n27, σ2$13/36, mb4.2/6, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.52**	**111**	⇓*i*P	**Pn**	**03 25 08.2**	**-2.8**
GO05				*i* S	**Sn**	**03 25 24.9**	**-4.6**
GO05				IAML		03 25 29.1	
	comp=N,2μm,0.2s						
BO02	**Sierra Bellavi**	**2.39**	**98**	⇓*i*P	**Pn**	**03 25 21.0**	**-2.0**
BO02				*i* S	**Sn**	**03 25 49.0**	**-2.1**
BI03	**Tigo**	**2.42**	**168**	⇓*i*P	**Pn**	**03 25 21.6**	**-1.7**
BI03				*e*S	**Sn**	**03 25 48.5**	**-3.2**
BI03				IAML		03 25 54.9	
	comp=N,1μm,0.3s						
LAJA	**Laja**	**2.91**	**165**	*e*P	**Pn**	**03 25 29.1**	**-0.9**
LAJA				*i* S	**Sn**	**03 26 00.8**	**-2.9**
BI02	**San Fabin de**	**2.92**	**139**	*e*P	**Pn**	**03 25 29.2**	**-1.1**
BI02				*i* S	**Sn**	**03 26 02.2**	**-2.0**
BI02				IAML		03 26 14.4	
	comp=N,271nm,0.4s						
LMEL	**Las Melosas**	**2.93**	**79**	*i* S	**Sn**	**03 26 03.1**	**-1.4**
H03S1	**Juan Fernandez**	**4.40**	**277**	Pn	**Pn**	**03 25 48.7**	**-1.5**
H03S1				Sn	**Sn**	**03 26 36.7**	**-3.4**
H03S1				T	T	03 30 28.1	
	baz=95,slow=72,SNR=19						
H03S3	**Juan Fernandez**	**4.40**	**277**	Pn	**Pn**	**03 25 49.0**	**-1.3**
H03S3				Sn	**Sn**	**03 26 36.9**	**-3.3**
H03S3				T	T	03 30 29.0	
	baz=95,slow=72,SNR=15						
H03S2	**Juan Fernandez**	**4.42**	**277**	Pn	**Pn**	**03 25 48.8**	**-1.7**
H03S2				Sn	**Sn**	**03 26 36.7**	**-3.8**
H03S2				T	T	03 30 26.9	
	baz=95,slow=72,SNR=31						
H03N1	**Juan Fernandez**	**4.49**	**282**	Pn	**Pn**	**03 25 51.2**	**-0.3**
	baz=316,slow=29,SNR=14						
H03N1				Sn	**Sn**	**03 26 40.3**	**-1.9**
H03N1				T	T	03 30 48.2	
	baz=88,slow=73						
H03N3	**Juan Fernandez**	**4.49**	**282**	Pn	**Pn**	**03 25 51.7**	**+0.1**
	baz=316,slow=29,SNR=12						
H03N3				Sn	**Sn**	**03 26 40.3**	**-2.2**
H03N3				T	T	03 30 52.4	
	baz=88,slow=73						
H03N2	**Juan Fernandez**	**4.50**	**282**	Pn	**Pn**	**03 25 51.7**	**0.0**
	baz=316,slow=29,SNR=11						
H03N2				Sn	**Sn**	**03 26 40.5**	**-2.2**
H03N2				T	T	03 30 55.3	
	baz=88,slow=73						
PLCA	**Paso Flores**	**6.72**	**159**	Pn	**Pn**	**03 26 22.9**	**+0.5**
	comp=N,1.1nm,0.3s,baz=328,slow=8.9,SNR=20						
LVC	**Limon Verde**	**12.53**	**21**	LR	LR	03 31 52.5	
	comp=N,41nm,19.1s,baz=217,slow=35						
LPAZ	**La Paz**	**18.78**	**17**	P	**P**	**03 29 01.8**	**-1.3**
	comp=N,0.1nm,0.3s,baz=198,slow=9.6,SNR=1.6						
SIV	**San Ignacio**	**21.60**	**35**	P	**P**	**03 29 32.1**	**-1.1**
	comp=N,1.5nm,0.7s,baz=204,slow=15,SNR=4.4						
NNA	**Nana**	**22.57**	**352**	LR	LR	03 36 19.7	
	comp=N,33nm,18.8s,baz=198,slow=31						
VNA3	**Neumayer Olymp**	**49.43**	**157**	P	**P**	**03 33 34.1**	**+1.8**
VNA1	**Neumayer--Stat**	**49.77**	**157**	P	**P**	**03 33 35.2**	**+0.4**
VNA2	**Neumayer--Watz**	**50.10**	**157**	P	**P**	**03 33 39.0**	**+1.7**
	baz=288,slow=8.7						
SNAA	**Sanae**	**51.66**	**158**	P	**P**	**03 33 50.1**	**+1.0**
SNAA	**Sanae**	**51.66**	**158**	P	**P**	**03 33 50.5**	**+1.4**
	comp=N,1.7nm,0.5s,baz=290,slow=9.1,SNR=18						
QSPA	**South Pole Qui**	**55.76**	**180**	P	**P**	**03 34 21.5**	**+2.1**
	comp=N,1.0nm,0.5s,baz=182,slow=1.5,SNR=8.3						
TXAR	**Lajitas Array**	**69.51**	**332**	P	**P**	**03 35 52.4**	**+1.1**
	comp=N,0.2nm,0.4s,baz=150,slow=9.2,SNR=4.6						
DBIC	**Dimbokro**	**76.60**	**72**	P	**P**	**03 36 33.9**	**+0.4**
	comp=N,2.2nm,0.6s,baz=233,slow=10,SNR=5.7						
TORD	**Torodi Ar. Bea**	**85.63**	**71**	P	**P**	**03 37 22.0**	**+0.5**
	comp=N,1.3nm,0.8s,baz=259,slow=5.2,SNR=6.5						
WRA	**Warramunga Arr**	**119.69**	**211**	PKP	**PKiKP**	**03 43 35.8**	**+2.7**
	comp=N,0.1nm,0.5s,baz=166,slow=1.7,SNR=1.6						

*ANF **26** 03:32:45.7±0.4, 37°.61N×118°.89W, h3km±2km, ML3.7/21, Error ellipse: s-maj=3.6km s-min=2.2km az=123.0*

*NCEDC **26** 03:32:45.8±1.9, 37°.65N±0°.02×118°.85W±0°.02, h6km±3km, Mwr3.5/3, Error ellipse: s-maj=2.4km s-min=1.9km az=168.0*

*NEIC **26** 03:32:45.8, 37°.65N×118°.85W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.61; $M_{\theta\theta}$=0.97; $M_{\phi\phi}$=-0.36; $M_{r\theta}$=-0.08; $M_{\theta\phi}$=-2.43; $M_{\phi r}$=0.08; Fault plane solution: M_0=2.58000×10^{14} NP1:φs262.35000°, δ88.29000°, λ178.96000°. NP2:φs352.39000°, δ88.96000°, λ1.71000°. Principal axes: T 2.8285, Plg2.0000°, Azm217.0000°; N -0.6155, Plg88.0000°, Azm24.0000°; P -2.2130, Plg0.0000°, Azm127.0000°;*

*NEIC **26** 03:32:46.7±1.5, 37°.66N±0°.01×118°.86W±0°.01, h3km±4km Error ellipse: s-maj=2.1km s-min=1.0km az=138.0*

ISC 26 03:32:46.0±0.8, 37°.65N±0°.02×118°.86W±0°.01, h7km±4km, n254, σ1$01/270, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRNC	**Doe Ridge**	**0.02**	**129**		**Pg**	**03 32 47.1**	**-0.5**
MLAC	**Mammoth, Mammo**	**0.03**	**141**	P	**Pg**	**03 32 47.2**	**-0.5**
	baz=332,SNR=1000						
MLAC				S	**Sg**	**03 32 48.5**	**-0.3**
	baz=332						
MLAC	**Mammoth, Mammo**	**0.03**	**141**		**Pg**	**03 32 48.4**	**+0.7**
MCBM	**Casa Benchmark**	**0.03**	**253**		**Pg**	**03 32 47.4**	**-0.3**
MCSM	**Casa Diablo Ho**	**0.04**	**272**		**Pg**	**03 32 47.4**	**-0.4**
MLHM	**Little Hot Cre**	**0.04**	**54**		**Pg**	**03 32 47.4**	**-0.3**
MGPM	**Gravel Pit**	**0.04**	**232**		**Pg**	**03 32 47.5**	**-0.3**
MLCM	**Laurel Creek C**	**0.06**	**227**		**Pg**	**03 32 47.6**	**-0.3**
MEMM	**East Mammoth H**	**0.07**	**281**		**Pg**	**03 32 47.8**	**-0.2**
MCVM	**Convict Lake**	**0.07**	**159**		**Pg**	**03 32 47.6**	**-0.5**
MMLB	**Mammoth Lakes**	**0.10**	**274**		**Pg**	**03 32 48.4**	**0.0**
LMCR	**Lookout Mounta**	**0.10**	**317**		**Pg**	**03 32 48.9**	**+0.3**
OMMB	**Old Mammoth Mi**	**0.12**	**250**		**Sg**	**03 32 50.5**	**-0.2**
OMMB	**Old Mammoth Mi**	**0.12**	**250**	Pg	**Pg**	**03 32 47.9**	**-0.9**
MDYM	**Dry Creek**	**0.12**	**272**		**Pg**	**03 32 48.9**	**+0.1**
MDYM					**Sg**	**03 32 51.1**	**+0.4**
MLIM	**Lincoln Peak**	**0.13**	**263**		**Pg**	**03 32 49.0**	**+0.1**
MMSM	**Mammoth Summit**	**0.14**	**261**		**Pg**	**03 32 49.1**	**0.0**
MMPM	**Mammoth Pass**	**0.14**	**252**		**Pg**	**03 32 49.0**	**-0.1**
MDCM	**Deadman Creek**	**0.15**	**291**		**Pg**	**03 32 49.2**	**-0.1**
MINS	**Minaret Summit**	**0.16**	**270**		**Pg**	**03 32 49.4**	**-0.1**
MINS					**Sg**	**03 32 51.8**	**0.0**
ORC	**Owens River**	**0.16**	**96**		**Pg**	**03 32 49.2**	**-0.2**
MRDM	**Red Cones**	**0.17**	**251**		**Pg**	**03 32 49.5**	**-0.1**
MDPB	**Devils Postpil**	**0.18**	**263**		**Pg**	**03 32 49.6**	**-0.1**
MDPB					**Sg**	**03 32 52.4**	**+0.2**
RCCR	**Rock Creek Can**	**0.20**	**147**		**Pg**	**03 32 49.8**	**-0.3**
BENR	**Benton**	**0.23**	**75**		**Pg**	**03 32 50.5**	**-0.3**
WMD		**0.28**	**141**		**Pg**	**03 32 51.2**	**-0.2**
MRCM	**Red Rock Canyo**	**0.28**	**86**		**Pg**	**03 32 51.4**	**-0.2**
SCHCA	**Scheelite**	**0.32**	**155**		**Pg**	**03 32 52.0**	**-0.4**
MCDM	**Chidago Canyon**	**0.35**	**108**		**Pg**	**03 32 52.9**	**0.0**
MTUM	**Tungsten Hills**	**0.38**	**142**		**Pg**	**03 32 53.2**	**-0.3**
BCKR	**Birch Creek**	**0.39**	**83**		**Pg**	**03 32 53.7**	**+0.1**
MFBM	**Five Bridges**	**0.41**	**123**		**Pg**	**03 32 54.0**	**0.0**
MLNR	**Milner Canyon**	**0.41**	**98**		**Pg**	**03 32 54.1**	**0.0**
LUL	**Lundy Lake**	**0.47**	**327**		**Pg**	**03 32 55.1**	**-0.1**
KCC	**Kaiser Creek**	**0.49**	**228**		**Pg**	**03 32 55.2**	**-0.4**
KCC					**Sg**	**03 33 01.6**	**-0.4**
BONR	**Boundary Peak**	**0.53**	**56**		**Pg**	**03 32 56.1**	**-0.2**
POCCA	**Poleta Canyon**	**0.55**	**122**		**Pg**	**03 32 56.1**	**-0.4**
LHV	**Little Huntoon**	**0.66**	**25**		**Pg**	**03 32 58.6**	**-0.1**
TIN	**Tinemaha, Big**	**0.78**	**140**	P	**Pg**	**03 33 00.7**	**-0.3**
	baz=321,SNR=89						
TIN				S	**Sg**	**03 33 11.6**	**+0.4**
	baz=321						
TIN	**Tinemaha, Big**	**0.78**	**140**		**Pg**	**03 33 00.8**	**-0.3**
TIN					**Sg**	**03 33 11.8**	**+0.6**
NVAR	**Mina Array Bea**	**0.89**	**29**		**Pg**	**03 33 02.1**	**-1.0**
FRI	**Friant**	**0.94**	**226**		**Pg**	**03 33 03.4**	**-0.8**
NV11	**Mina Array Sit**	**0.96**	**35**		**Pg**	**03 33 03.9**	**-0.5**
WAKR	**Walker**	**0.96**	**332**		**Pg**	**03 33 04.2**	**-0.4**
HELL	**Mitchell Peak,**	**0.98**	**188**		**Pg**	**03 33 04.0**	**-0.8**
RYN	**Ryan**	**1.01**	**15**		**Pg**	**03 33 05.1**	**-0.3**
CMB	**Columbia Colle**	**1.27**	**288**		**Pg**	**03 33 09.0**	**-1.3**
CMB	**Columbia Colle**	**1.27**	**288**	Pn	**Pg**	**03 33 08.8**	**-1.6**
MYLM	**Yosemite Lake**	**1.27**	**258**		**Pg**	**03 33 09.4**	**-0.9**
GRAC	**Grapevine Rang**	**1.36**	**118**	P	**Pn**	**03 33 11.6**	**+0.1**
	baz=300,SNR=46						
GRAC				S	**Sn**	**03 33 30.4**	**+0.6**
	baz=300						
YERR	**Yerington**	**1.36**	**347**		**Pn**	**03 33 11.4**	**-0.3**
BFC	**Buffalo Canyon**	**1.37**	**335**		**Pn**	**03 33 11.6**	**-0.2**
MRHM	**Rocky Hill**	**1.38**	**188**		**Pn**	**03 33 10.8**	**-0.9**
RCTC	**Rector, Farmer**	**1.38**	**193**		**Pn**	**03 33 11.2**	**-0.6**
VOG	**Valley Oaks Go**	**1.39**	**198**	P	**Pn**	**03 33 11.4**	**-0.5**
	baz=18,SNR=14						
VOG				S	**Sg**	**03 33 30.1**	**-0.7**
	baz=18						
MCUB	**Copperopolis B**	**1.43**	**284**		**Pn**	**03 33 11.8**	**-0.7**
SPG2	**Springville 2**	**1.45**	**177**		**Pn**	**03 33 12.4**	**-0.4**
GNO	**Genoa**	**1.50**	**329**		**Pb**	**03 33 14.1**	**-0.1**
KVN	**Kaiserville**	**1.52**	**23**		**Pb**	**03 33 13.1**	**-0.8**
PNTR	**Pine Nut**	**1.55**	**338**		**Pn**	**03 33 14.8**	**+0.5**
MNHB	**New Hogan Dam**	**1.62**	**288**		**Pn**	**03 33 15.1**	**0.0**
PWMM	**Westland Maint**	**1.63**	**222**		**Pb**	**03 33 16.2**	**-0.2**
EMB	**Emerald Bay**	**1.64**	**324**		**Pb**	**03 33 16.6**	**-0.2**
RUBR	**Rubicon Trail**	**1.73**	**324**		**Pb**	**03 33 18.2**	**-0.1**
VCNR	**Virginia City**	**1.75**	**340**		**Pb**	**03 33 17.9**	**-0.7**
BRMM	**Rolling Bench**	**1.77**	**243**		**Pb**	**03 33 18.5**	**-0.3**
TAHR	**Tahoe**	**1.81**	**326**		**Pb**	**03 33 19.5**	**-0.2**
VES	**Vestal, Richgr**	**1.82**	**186**	Pb	**Pb**	**03 33 18.7**	**-0.9**
	baz=5.8,SNR=115						
VES				Sb	**Sb**	**03 33 42.6**	**0.0**
	baz=5.8						
VES	**Vestal, Richgr**	**1.82**	**186**		**Pb**	**03 33 19.0**	**-0.6**
BMSM	**Mercy Hot Spri**	**1.84**	**238**		**Pb**	**03 33 19.2**	**-0.8**
PARM	**Anticline Ridg**	**1.84**	**221**		**Pb**	**03 33 19.4**	**-0.6**
WCHM	**Chimney Peak**	**1.88**	**160**		**Pb**	**03 33 20.1**	**-0.7**
PKEM	**Kettleman Hill**	**1.88**	**213**		**Pb**	**03 33 20.3**	**-0.4**
MPK	**Martis Peak**	**1.88**	**331**		**Pb**	**03 33 21.1**	**+0.2**
MPMC	**Manual Prospec**	**1.94**	**145**	P	**Pn**	**03 33 19.5**	**-0.1**
	baz=326,SNR=120						
MPMC				Sb	**Sg**	**03 33 47.1**	**-1.1**
	baz=326						
AASM	**Arroyo Seco**	**1.94**	**294**		**Pb**	**03

CRGC	**Crocker Grade**	**2.50**	**196**		**Pn**	**03 33 28.8**	**+1.4**
SMMC	**Simmler**	**2.51**	**202**	P	**Pn**	**03 33 26.7**	**-0.6**
	baz=21,SNR=25						
SMMC				Sb	**Sb**	**03 34 02.5**	**-0.1**
	baz=21						
SMMC	**Simmler**	**2.51**	**202**		**Pn**	**03 33 28.9**	**+1.6**
ARVC	**Arvin**	**2.52**	**179**	Pb	**Pb**	**03 33 30.8**	**-0.9**
	baz=360						
ARVC				Sb	**Sb**	**03 34 03.2**	**+0.3**
	baz=360						
ARVC	**Arvin**	**2.52**	**179**		**Pb**	**03 33 30.4**	**-1.2**
BGC	**Bolinger Road**	**2.54**	**275**		**Pb**	**03 33 30.0**	**-2.1**
CLCB	**Lake Chabot**	**2.54**	**273**		**Pn**	**03 33 29.5**	**+1.7**
BCWM	**Chews Ridge**	**2.55**	**239**		**Pn**	**03 33 29.2**	**+1.2**
RAMR	**Ramage Ranch**	**2.58**	**219**		**Pn**	**03 33 29.7**	**+1.4**
NADM	**Allendale**	**2.58**	**289**		**Pb**	**03 33 31.9**	**-0.8**
BRIB	**Briones**	**2.62**	**277**		**Pn**	**03 33 30.8**	**+2.0**
NLHM	**Lake Herman**	**2.64**	**281**		**Pn**	**03 33 31.0**	**+1.9**
JSFB	**Stanford Teles**	**2.65**	**266**		**Pn**	**03 33 31.3**	**+2.1**
NDHM	**Dunnigan Hills**	**2.65**	**296**		**Pb**	**03 33 33.6**	**-0.2**
BCH	**Branch Mountai**	**2.65**	**202**		**Pn**	**03 33 30.4**	**+1.0**
PAPM	**Alder Peak**	**2.66**	**230**		**Pn**	**03 33 30.6**	**+1.2**
OHCM	**Honcut**	**2.66**	**310**		**Pb**	**03 33 31.9**	**-2.1**
HMOM	**Monterey**	**2.66**	**248**		**Pn**	**03 33 30.4**	**+1.1**
JFP	**Foothills Park**	**2.67**	**265**		**Pn**	**03 33 30.8**	**+1.4**
BAPM	**Anderson Peak**	**2.67**	**237**		**Pn**	**03 33 30.7**	**+1.1**
JJRM	**Joaquin Road**	**2.67**	**264**		**Pn**	**03 33 31.0**	**+1.5**
R11A	**Troy Canyon, C**	**2.68**	**74**	Pb	**Pb**	**03 33 34.1**	**-0.3**
	baz=256,SNR=94						
R11A				Sb	**Sg**	**03 34 10.3**	**-1.8**
	baz=256						
R11A	**Troy Canyon, C**	**2.68**	**74**		**Pn**	**03 33 29.5**	**-0.2**
BLDC	**Black Mountain**	**2.68**	**219**		**Pn**	**03 33 30.9**	**+1.3**
BLDC	**Black Mountain**	**2.68**	**219**		**Pn**	**03 33 31.1**	**+1.4**
BKS	**Berkeley--Byer**	**2.69**	**276**		**Pn**	**03 33 31.3**	**+1.6**
BPOM	**Post Ranch**	**2.73**	**239**		**Pn**	**03 33 31.7**	**+1.4**
ARDC	**Alexander Ranc**	**2.77**	**219**		**Pn**	**03 33 32.3**	**+1.4**
ORV	**Oroville**	**2.81**	**313**		**Pn**	**03 33 31.7**	**+0.3**
EDW2	**Edwards Air Fo**	**2.85**	**166**	Pb	**Pb**	**03 33 37.0**	**-0.3**
	baz=346,SNR=30						
EDW2				Sb	**Sb**	**03 34 14.2**	**+1.7**
	baz=346						
PKM	**Mcpherson Peak**	**2.87**	**196**	P	**Pn**	**03 33 33.5**	**+1.2**
	baz=15,SNR=15						
GSC	**Goldstone, Bar**	**2.87**	**144**	Sg	**Sg**	**03 34 19.8**	**+1.6**
	baz=326						
GSC	**Goldstone, Bar**	**2.87**	**144**	Pn	**Pn**	**03 33 31.7**	**-0.6**
OSI	**Osito Audit: C**	**3.04**	**178**	Sb	**Sb**	**03 34 18.6**	**+0.9**
	baz=358						
PRN	**Pahroc Range**	**3.04**	**93**		**Pn**	**03 33 34.5**	**-0.2**
SHPR	**Sheep Range**	**3.17**	**110**		**Pn**	**03 33 35.4**	**-1.2**
TUQ	**Turquoise Moun**	**3.24**	**132**	Pb	**Pb**	**03 33 44.3**	**+0.4**
	baz=314						
GDXM	**Geysers**	**3.31**	**292**	Pn	**Pn**	**03 33 38.9**	**+0.5**
MWC	**Mount Wilson**	**3.48**	**169**		**Pn**	**03 33 40.4**	**-0.4**
O03E	**Paynes Creek**	**3.50**	**320**	P	**Pn**	**03 33 44.0**	**+3.1**
	baz=138,SNR=27						
PASC	**Pasadena Art C**	**3.52**	**171**	Pn	**Pn**	**03 33 41.4**	**+0.3**
GMRC	**Granite Mounta**	**3.86**	**137**	P	**Pn**	**03 33 45.6**	**-0.3**
	baz=319						
ICU	**Indian Springs**	**3.96**	**96**		**Pn**	**03 33 49.5**	**+2.1**
PSUT	**Pine Spring**	**4.04**	**76**		**Pn**	**03 33 49.6**	**+1.0**
WDC	**Whiskeytown Da**	**4.09**	**317**		**Pn**	**03 33 49.4**	**+0.3**
ELK	**Elko**	**4.18**	**41**	Pn	**Pn**	**03 33 49.9**	**-0.5**
CCUT	**Cedar City**	**4.37**	**90**		**Pn**	**03 33 52.5**	**-0.5**
MOD	**Modoc Plateau**	**4.39**	**346**	Pn	**Pn**	**03 33 54.2**	**+0.9**
PFO	**Pinyon Flats O**	**4.48**	**153**	P	**Pn**	**03 33 55.5**	**+1.0**
	baz=335						
PFO	**Pinyon Flats O**	**4.48**	**153**	Pn	**Pn**	**03 33 53.4**	**-1.1**
LCMT	**Little Creek M**	**4.52**	**96**	Pn	**Pn**	**03 33 54.1**	**-1.0**
SZCU	**Shurtz Canyon**	**4.58**	**89**	Pn	**Pn**	**03 33 56.2**	**+0.2**
W13A	**Hualapai Mount**	**4.75**	**121**	Pn	**Pn**	**03 33 58.1**	**-0.3**
KNB	**Kanab**	**4.85**	**96**		**Pn**	**03 33 59.4**	**-0.2**
TCRU	**Three Creeks R**	**5.14**	**77**	Pn	**Pn**	**03 34 03.2**	**-0.6**
PKCU	**Pink Cliffs**	**5.21**	**90**	Pn	**Pn**	**03 34 04.8**	**+0.1**
BAR	**Barrett**	**5.28**	**160**	Pn	**Pn**	**03 34 05.3**	**0.0**
MTPU	**Mount Pierson**	**5.30**	**84**	Pn	**Pn**	**03 34 08.3**	**+2.4**
MSU	**Marysvale**	**5.34**	**79**	Pn	**Pn**	**03 34 06.7**	**+0.2**
DUG	**Dugway, Tooele**	**5.35**	**60**	Pn	**Pn**	**03 34 07.1**	**+0.6**
U15A	**North Rim**	**5.39**	**101**	Pn	**Pn**	**03 34 07.9**	**+0.7**
BGU	**Big Grassy Mou**	**5.58**	**52**	Pn	**Pn**	**03 34 10.2**	**+0.5**
Y14A	**Wickenburg**	**6.03**	**126**	Pn	**Pn**	**03 34 16.1**	**+0.4**
MPU	**Maple Canyon**	**6.11**	**65**	Pn	**Pn**	**03 34 17.8**	**+0.8**
ESJX	**Sierra Juarez**	**6.12**	**156**	Pn	**Pn**	**03 34 18.4**	**+1.3**
ESJX					Lg	03 36 03.4	
TMUT	**Trail Mountain**	**6.22**	**72**	Pn	**Pn**	**03 34 18.3**	**-0.3**
WUAZ	**Wupatki**	**6.39**	**107**	Pn	**Pn**	**03 34 20.0**	**-0.7**
JLU	**Jordanelle**	**6.47**	**61**	Pn	**Pn**	**03 34 21.6**	**-0.3**
P17A	**Butcher Ranch,**	**6.62**	**72**	Pn	**Pn**	**03 34 25.2**	**+1.3**
SRU	**San Rafael Swe**	**6.71**	**75**	Pn	**Pn**	**03 34 25.9**	**+0.8**
HLID	**Hailey**	**6.80**	**28**	Pn	**Pn**	**03 34 26.8**	**+0.3**
HWUT	**Hardware Ranch**	**6.88**	**53**	Pn	**Pn**	**03 34 28.0**	**+0.6**

*ATH **26** 03:39:18.4, 38°.35N×21°.97E, h15km, ML3.3/26, Error ellipse: s-maj=0.8km s-min=0.6km az=285.0*
*IDC **26** 03:39:18.3±0.9, 38°.44N×22°.02E, h0km, mb3.9/11, mb1 3.9/13, mb1mx3.8/49, mbtmp3.8/13, ML3.0/2, MS2.6/5, Ms1 2.6/5, ms1mx2.4/36, Error ellipse: s-maj=20.3km s-min=18.3km az=131.0*
*THE **26** 03:39:19.1, 38°.33N×21°.93E, h2km±1km, ML3.4/14, Error ellipse: s-maj=1.0km s-min=0.3km az=295.0*
*BEO **26** 03:39:28.8±1.6, 38°.94N×22°.15E, h5km±8km, ML2.8/3*
ISC 26 03:39:19.0±0.7,**38°.35N**±0°.01×**21°.98E**±0°.02,**h10**km±3km,
n142,σ1§**52**/173,**mb4.0**/10,**4C-3D**,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERG	**Sergoula**	**0.09**	**42**	P	**Pg**	**03 39 21.8**	**+0.3**
SERG				S	**Sg**	**03 39 23.7**	**+0.5**
	70μm,0.3s						
SERG	**Sergoula**	**0.09**	**42**	P	**Pg**	**03 39 21.8**	**+0.3**
SERG				S	**Sg**	**03 39 23.7**	**+0.5**
SERG				AML	AML	03 39 24.7	
SERG				AML	AML	03 39 24.8	
EFP	**Efpalio**	**0.10**	**323**	P	**Pg**	**03 39 21.3**	**-0.3**
EFP				S	**Sg**	**03 39 22.6**	**-0.8**
	302μm,0.4s						
EFP	**Efpalio**	**0.10**	**323**	P	**Pg**	**03 39 21.4**	**-0.2**
EFP				S	**Sg**	**03 39 23.4**	**0.0**
EFP				AML	AML	03 39 23.5	
EFP				AML	AML	03 39 23.7	
LAKA	**Lakka**	**0.11**	**181**	P	**Pg**	**03 39 21.7**	**0.0**
LAKA				S	**Sg**	**03 39 24.1**	**+0.4**
ALIK	**Aliki, Aigiali**	**0.14**	**131**	P	**Pb**	**03 39 22.6**	**+0.5**
ALIK				S	**Sg**	**03 39 24.9**	**+0.7**
ANX	**Ano Chora**	**0.25**	**349**	P	**Pg**	**03 39 24.2**	**+0.1**
ANX				S	**Sg**	**03 39 27.8**	**+0.2**
	38μm,0.4s						
ANX	**Ano Chora**	**0.25**	**349**	P	**Pg**	**03 39 24.3**	**+0.1**
ANX				S	**Sg**	**03 39 26.6**	**-1.0**
ANX				AML	AML	03 39 28.7	
	comp=N,90571μm,0.4s						
ANX				AML	AML	03 39 29.0	
	comp=E,58828μm,0.4s						
KLV	**Kalavryta, Ach**	**0.33**	**156**	P	**Pg**	**03 39 25.6**	**0.0**
KLV				S	**Sg**	**03 39 30.4**	**+0.3**
KLV	**Kalavryta, Ach**	**0.33**	**156**	P	**Pg**	**03 39 25.7**	**0.0**
KLV				S	**Sg**	**03 39 29.7**	**-0.3**
KLV				AML	AML	03 39 32.0	
	comp=N,4401μm,0.4s						
KLV				AML	AML	03 39 32.7	
	comp=E,3921μm,0.4s						
DLFA	**Delphi**	**0.42**	**72**	P	**Pg**	**03 39 27.3**	**-0.1**
DLFA				S	**Sb**	**03 39 34.0**	**-1.2**
DLFA				AML	AML	03 39 37.3	
	comp=E,8234μm,0.8s						
DLFA				AML	AML	03 39 37.8	
	comp=N,9371μm,0.6s						
DSF	**Desfina**	**0.43**	**81**	P	**Pg**	**03 39 27.4**	**-0.1**
DSF				S	**Sb**	**03 39 34.9**	**-0.6**
	comp=N,4μm,0.4s						
DSF	**Desfina**	**0.43**	**81**	P	**Pg**	**03 39 27.4**	**-0.1**
DSF				S	**Sb**	**03 39 34.0**	**-1.5**
DSF				AML	AML	03 39 36.3	
	comp=N,10029μm,0.3s						
DSF				AML	AML	03 39 40.0	
	comp=E,5471μm,0.5s						
AXS	**Araxos**	**0.50**	**253**	P	**Pg**	**03 39 28.4**	**-0.3**
AXS				S	**Sg**	**03 39 34.7**	**-0.6**
	comp=E,4μm,0.4s						
AXS	**Araxos**	**0.50**	**253**	P	**Pg**	**03 39 28.4**	**-0.3**
AXS				S	**Sb**	**03 39 35.7**	**-1.6**
AXS				AML	AML	03 39 36.1	
	comp=N,10234μm,0.4s						
AXS				AML	AML	03 39 44.8	
	comp=E,6298μm,0.5s						
GUR	**Goura**	**0.50**	**145**	P	**Pg**	**03 39 28.3**	**-0.5**
GUR				S	**Sb**	**03 39 36.6**	**-0.8**
	comp=E,6μm,0.4s						
GUR	**Goura**	**0.50**	**145**	P	**Pg**	**03 39 28.5**	**-0.3**
GUR				S	**Sg**	**03 39 35.3**	**-0.1**
EVR	**Evrytania**	**0.58**	**347**	P	**Pg**	**03 39 30.0**	**-0.4**
EVR				S	**Sb**	**03 39 39.2**	**-0.7**
	comp=E,4μm,0.3s						
EVR	**Evrytania**	**0.58**	**347**	P	**Pg**	**03 39 30.1**	**-0.4**
EVR				S	**Sg**	**03 39 37.6**	**-0.5**
EVR				AML	AML	03 39 41.8	
	comp=N,8219μm,0.3s						
EVR				AML	AML	03 39 45.3	
	comp=E,9463μm,0.5s						
AXAR	**Agios Charalam**	**0.68**	**52**	P	**Pg**	**03 39 31.7**	**-0.4**
AXAR				S	**Sn**	**03 39 43.3**	**-2.1**
	comp=E,9μm,0.6s						
AXAR	**Agios Charalam**	**0.68**	**52**	P	**Pg**	**03 39 31.8**	**-0.4**
AXAR				AML	AML	03 39 45.9	
	comp=E,17372μm,0.3s						
AXAR				AML	AML	03 39 47.9	
	comp=N,16308μm,0.9s						
VTN	**Vitineika**	**0.76**	**236**	P	**Pn**	**03 39 34.1**	**-1.7**
LTK	**Loutraki**	**0.84**	**112**	P	**Pg**	**03 39 35.3**	**0.0**
LTK				S	**Sn**	**03 39 48.3**	**-1.2**
	comp=N,798nm,0.4s						
LTK	**Loutraki**	**0.84**	**112**	P	**Pg**	**03 39 35.2**	**0.0**
LTK				AML	AML	03 39 56.3	
	comp=E,1579μm,0.4s						
LTK				AML	AML	03 39 56.9	
	comp=N,1918μm,0.7s						
TRIP	**Tripoli**	**0.85**	**164**	P	**Pb**	**03 39 34.8**	**-1.2**
TRIP				S	**Sb**	**03 39 46.9**	**-0.6**
	comp=N,2μm,0.6s						
TRIP	**Tripoli**	**0.85**	**164**	P	**Pb**	**03 39 34.9**	**-1.1**
TRIP				S	**Sb**	**03 39 46.6**	**-0.9**
TRIP				AML	AML	03 39 55.6	
	comp=N,4357μm,0.6s						
TRIP				AML	AML	03 39 59.5	
	comp=E,3218μm,1.0s						
LKR	**Lokris**	**0.85**	**69**	P	**Pg**	**03 39 35.2**	**-0.3**
LKR	**Lokris**	**0.85**	**69**	P	**Pb**	**03 39 35.0**	**-1.0**
LKR				S	**Sg**	**03 39 46.8**	**+0.2**
LKR				AML	AML	03 39 52.1	
	comp=E,3734μm,0.2s						
LKR				AML	AML	03 39 53.1	
	comp=N,2539μm,0.3s						
MGNA	**Meganis**	**0.98**	**289**	P	**Pb**	**03 39 36.5**	**-1.7**
VIL2	**Platees**	**1.02**	**97**	P	**Pg**	**03 39 39.5**	**+0.8**
VIL2				S	**Sn**	**03 39 54.2**	**+0.3**
VIL2				AML	AML	03 39 59.7	
	comp=N,2496μm,0.5s						
VIL2				AML	AML	03 40 03.8	
	comp=E,4271μm,0.8s						
VILL	**Villia**	**1.06**	**100**	P	**Pg**	**03 39 39.2**	**-0.3**
VILL				S	**Sn**	**03 39 55.8**	**+0.8**
	comp=E,2μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.07**	**290**	P	**Pb**	**03 39 38.5**	**-1.2**
EVGI	**Lefkada island**	**1.07**	**285**	P	**Pb**	**03 39 38.3**	**-1.5**
EVGI	**Lefkada island**	**1.07**	**285**	P	**Pb**	**03 39 38.5**	**-1.3**
VLS	**Valsamata**	**1.11**	**262**	P	**Pb**	**03 39 38.9**	**-1.4**
VLS	**Valsamata**	**1.11**	**262**	P	**Pb**	**03 39 38.9**	**-1.4**
VLS				AML	AML	03 39 57.2	
	comp=E,2930μm,0.2s						
VLS				AML	AML	03 39 57.2	
	comp=N,4687μm,0.2s						
FSK	**Fiskardo**	**1.12**	**276**	P	**Pb**	**03 39 39.0**	**-1.5**
FSK				S	**Sn**	**03 39 55.2**	**-1.1**
	comp=N,1μm,0.7s						
FSK	**Fiskardo**	**1.12**	**276**	P	**Pb**	**03 39 39.0**	**-1.5**
VLMS	**Volimes, Zakyn**	**1.14**	**246**	P	**Pb**	**03 39 39.7**	**-1.2**
VLMS				AML	AML	03 39 58.9	
	comp=E,5969μm,0.4s						
VLMS				AML	AML	03 40 04.6	
	comp=N,7259μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.15**	**287**	P	**Pn**	**03 39 40.2**	**-1.1**
ITM	**Ithomi**	**1.17**	**182**	P	**Pn**	**03 39 40.2**	**-1.3**
ITM	**Ithomi**	**1.17**	**182**	P	**Pb**	**03 39 40.4**	**-1.0**
ITM				AML	AML	03 40 03.8	
	comp=E,1396μm,0.7s						
ITM				AML	AML	03 40 08.8	
	comp=N,2390μm,0.5s						
KEF5	**Kardakata, Kep**	**1.19**	**267**	P	**Pn**	**03 39 40.2**	**-1.6**
ARGA	**Argostoli. Kep**	**1.20**	**262**	P	**Pb**	**03 39 40.5**	**-1.3**
THL	**Klokotos Trika**	**1.22**	**1**	P	**Pg**	**03 39 41.9**	**-0.5**
THL				S	**Sg**	**03 39 59.9**	**+1.7**
	comp=N,1μm,0.7s						
THL	**Klokotos Trika**	**1.22**	**1**	P	**Pg**	**03 39 41.8**	**-0.5**
THL				S	**Sg**	**03 39 58.7**	**+0.5**
THL				AML	AML	03 40 03.2	
	comp=N,1407μm,0.6s						
THL				AML	AML	03 40 03.5	
	comp=E,2945μm,0.8s						
VOL3	**Nea Ionia, Vol**	**1.27**	**36**	P	**Pn**	**03 39 39.0**	**-3.8**
VOL2	**Volos**	**1.27**	**36**	P	**Pg**	**03 39 44.4**	**+1.1**
KRND	**KRANIDI**	**1.34**	**136**	P	**Pg**	**03 39 43.9**	**-0.8**
KRND	**KRANIDI**	**1.34**	**136**	P	**Pb**	**03 39 43.6**	**-0.6**
KRND				AML	AML	03 40 08.3	
	comp=N,2501μm,0.7s						
KRND				AML	AML	03 40 09.0	
	comp=E,2056μm,0.5s						
NEO	**Neokhori**	**1.36**	**45**	P	**Pg**	**03 39 44.6**	**-0.6**
NEO	**Neokhori**	**1.36**	**45**	P	**Pg**	**03 39 44.5**	**-0.7**
NEO				AML	AML	03 40 11.5	
	comp=E,1259μm,0.5s						
NEO				AML	AML	03 40 12.2	
	comp=N,1439μm,0.5s						
XOR	**Xorichti**	**1.39**	**43**	P	**Pb**	**03 39 44.7**	**-0.4**
XOR	**Xorichti**	**1.39**	**43**	P	**Pb**	**03 39 44.1**	**-1.0**
XOR				AML	AML	03 40 09.7	
	comp=N,1637μm,0.6s						
XOR				AML	AML	03 40 09.7	
	comp=E,1052μm,0.6s						
ATH	**Athens Observa**	**1.42**	**105**	P	**Pg**	**03 39 45.7**	**-0.5**
ATH	**Athens Observa**	**1.42**	**105**	P	**Pg**	**03 39 45.9**	**-0.4**
ATH				AML	AML	03 40 08.6	
	comp=N,1487μm,0.7s						
ATH				AML	AML	03 40 10.3	
	comp=E,1675μm,1.0s						
PYL	**PYLOS**	**1.46**	**188**	P	**Pb**	**03 39 45.6**	**-0.7**
ATHU	**Athens Univers**	**1.47**	**104**	P	**Pb**	**03 39 46.3**	**-0.2**
ATHU	**Athens Univers**	**1.47**	**104**	P	**Pg**	**03 39 46.4**	**-0.9**
PTL	**Penteli**	**1.51**	**101**	P	**Pg**	**03 39 47.2**	**-0.9**
PTL	**Penteli**	**1.51**	**101**	P	**Pb**	**03 39 47.0**	**-0.3**
PTL				AML	AML	03 40 11.2	
	comp=E,1035μm,0.6s						
PTL				AML	AML	03 40 11.5	
	comp=N,1408μm,0.5s						
VLY	**Voula,Athens**	**1.51**	**109**	P	**Pb**	**03 39 46.9**	**-0.3**
VLY				S	**Sg**	**03 40 08.0**	**+0.3**
	comp=N,320nm,0.8s						
VLY	**Voula,Athens**	**1.51**	**109**	P	**Pb**	**03 39 46.7**	**-0.6**
DION	**Dionisos Attik**	**1.56**	**99**	P	**Pb**	**03 39 47.7**	**-0.4**
DION	**Dionisos Attik**	**1.56**	**99**	P	**Pb**	**03 39 47.6**	**-0.4**
DION				S	**Sg**	**03 40 08.9**	**-0.3**
DION				AML	AML	03 40 12.0	
	comp=N,3365μm,0.4s						
DION				AML	AML	03 40 12.3	
	comp=E,3396μm,0.4s						
KPRO	**Kipourio**	**1.68**	**344**	P	**Pg**	**03 39 50.1**	**-1.1**
KYMI	**Kymi, Euboea I**	**1.69**	**80**	P	**Pb**	**03 39 49.1**	**-1.1**
KYMI	**Kymi, Euboea I**	**1.69**	**80**	P	**Pb**	**03 39 49.0**	**-1.1**
KYMI				AML	AML	03 40 22.8	
	comp=N,561μm,0.7s						
KYMI				AML	AML	03 40 31.3	
	comp=E,548μm,0.7s						
IGT	**Igoumenitsa**	**1.75**	**313**	*e*Pg	**Pg**	**03 39 56.1**	**+3.6**
IGT				*e*Sg	**Sg**	**03 40 17.7**	**+2.5**
IGT	**Igoumenitsa**	**1.75**	**313**	P	**Pb**	**03 39 50.7**	**-0.5**
LIT	**Litokhoron**	**1.79**	**13**	P	**Pb**	**03 39 50.2**	**-1.8**
LIT	**Litokhoron**	**1.79**	**13**	P	**Pb**	**03 39 50.2**	**-1.8**
VLI	**Veliai**	**1.80**	**155**	P	**Pb**	**03 39 51.1**	**-0.9**
VLI	**Veliai**	**1.80**	**155**	P	**Pb**	**03 39 51.3**	**-0.8**
VLI				AML	AML	03 40 26.1	
	comp=E,956μm,0.9s						
VLI				AML	AML	03 40 27.8	
	comp=N,964μm,0.8s						
KARY	**Karystos**	**1.96**	**99**	P	**Pb**	**03 39 53.3**	**-1.5**
KARY				AML	AML	03 40 21.1	
	comp=E,343μm,0.8s						
KARY				AML	AML	03 40 21.2	
	comp=N,372μm,0.6s						
KZN	**Kozani**	**1.96**	**355**	P	**Pb**	**03 39 54.0**	**-1.0**
PAIG	**Paliouri**	**2.06**	**39**	P	**Pn**	**03 39 53.9**	**+0.2**
SKY	**Skiros Island**	**2.08**	**74**	P	**Pb**	**03 39 54.9**	**-2.0**
KEK	**Kerkira**	**2.18**	**309**	P	**Pb**	**03 39 57.4**	**-1.1**
KTHA	**Kythira Island**	**2.26**	**157**	P	**Pb**	**03 39 58.1**	**-1.8**
SERI	**Serifos**	**2.31**	**120**	P	**Pb**	**03 39 58.2**	**-2.7**
SERI	**Serifos**	**2.31**	**120**	P	**Pn**	**03 39 57.7**	**+0.5**
PLG	**Polygyros**	**2.32**	**29**	P	**Pn**	**03 39 57.4**	**+0.1**
HORT	**Hortiatis**	**2.41**	**21**	P	**Pn**	**03 39 58.8**	**+0.2**
FNA	**Florina**	**2.48**	**349**	*e*Pn	**Pb**	**03 40 02.4**	**-1.3**
FNA				*e*Sg	**Sn**	**03 40 30.0**	**+0.1**
FNA	**Florina**	**2.48**	**349**	P	**Pb**	**03 40 01.3**	**-2.4**
SOH	**Sokhos**	**2.69**	**23**	P	**Pn**	**03 40 03.8**	**+1.3**
ANKY	**Antikythira Is**	**2.69**	**157**	P	**Pb**	**03 40 03.9**	**-3.4**
KNT	**Kendrikon**	**2.90**	**14**	P	**Pb**	**03 40 07.1**	**-3.8**
LIA	**Limnos Island**	**2.93**	**57**	P	**Pn**	**03 40 06.0**	**+0.2**
VAY	**Valandovo**	**3.00**	**8**	*e*Pn	**Pb**	**03 40 09.6**	**-3.0**
VAY	**Valandovo**	**3.00**	**8**	*i* Pn	**Pb**	**03 40 12.5**	**-0.1**
SRS	**Serrai**	**3.03**	**24**	*e*Pn	**Pn**	**03 40 08.5**	**+1.4**
SRS				*e*Sg	**Sb**	**03 40 46.0**	**-4.2**
IOSP	**Ios island**	**3.09**	**121**	P	**Pn**	**03 40 09.7**	**+1.8**
APE	**Apeiranthos**	**3.09**	**113**	P	**Pn**	**03 40 09.1**	**+1.1**
APE	**Apeiranthos**	**3.09**	**113**	P	**Pn**	**03 40 09.3**	**+1.3**
APE	**Apeiranthos**	**3.09**	**113**	⇓P	**Pn**	**03 40 09.9**	**+1.9**
CHOS	**Chios island**	**3.20**	**88**	P	**Pn**	**03 40 10.1**	**+0.6**
IMMV	**Iera Moni Meta**	**3.30**	**150**	P	**Pn**	**03 40 12.8**	**+2.0**
STIP	**Stip**	**3.35**	**3**	*i* Pn	**Pb**	**03 40 14.4**	**-4.1**
SANT	**Santorini**	**3.40**	**124**	⇓P	**Pb**	**03 40 18.3**	**-1.2**
TIR	**Tirane**	**3.41**	**332**	*e*Pn	**Pb**	**03 40 15.8**	**-3.8**
TIR	**Tirane**	**3.41**	**332**	⇑P	**Pg**	**03 40 25.1**	**+0.8**
VAM	**Vamos**	**3.43**	**148**	P	**Pb**	**03 40 15.4**	**-4.6**
AMGA	**Amorgos Island**	**3.46**	**115**	P	**Pn**	**03 40 14.0**	**+1.0**
MMB	**Musomiste**	**3.50**	**22**	*e*P	**Pn**	**03 40 15.1**	**+1.4**
KKB	**Krupnik**	**3.61**	**13**	*e*P	**Pb**	**03 40 19.4**	**-3.7**
IDI	**Anoyia**	**3.84**	**142**	Pn	**Pn**	**03 40 19.7**	**+1.4**
	comp=N,0.9nm,0.3s,baz=316,slow=17,SNR=13						
IDI				Sn	**Sn**	**03 41 04.3**	**+0.7**
	comp=N,2.5nm,0.3s,baz=48,slow=5.9,SNR=4.1						
IDI	**Anoyia**	**3.84**	**142**	P	**Pn**	**03 40 19.3**	**+1.0**
IDI	**Anoyia**	**3.84**	**142**	⇑P	**Pn**	**03 40 21.2**	**+2.8**
RZN	**Rozhen**	**3.94**	**31**	*e*P	**Pn**	**03 40 22.6**	**+2.8**
BOSS	**Bosilegrad**	**4.16**	**5**	*e*Pn	**Pn**	**03 40 24.8**	**+2.1**
TIP	**Timpagrande**	**4.17**	**283**	⇑P	**Pn**	**03 40 24.7**	**+1.9**
LAST	**Lasithi**	**4.24**	**138**	P	**Pn**	**03 40 25.3**	**+1.4**
LAST	**Lasithi**	**4.24**	**138**	P	**Pn**	**03 40 25.2**	**+1.3**
VTS	**Vitosha**	**4.37**	**12**	*e*P	**Pn**	**03 40 28.5**	**+2.8**
BARS	**Barje**	**4.46**	**358**	*e*Pn	**Pn**	**03 40 29.8**	**+3.0**
SELS	**Selova**	**4.91**	**353**	*e*Pn	**Pn**	**03 40 35.3**	**+2.3**
ZAPS	**Zavoj**	**4.95**	**6**	*e*Pn	**Pn**	**03 40 35.5**	**+2.0**
SJES	**Sjenica**	**5.14**	**343**	*e*Pn	**Pn**	**03 40 38.6**	**+2.4**
ZAGS	**Zajecar**	**5.46**	**2**	*e*Pn	**Pn**	**03 40 42.3**	**+1.8**
GRUS	**Gruza**	**5.62**	**351**	*e*Pn	**Pn**	**03 40 45.7**	**+3.1**
BBLS	**Lazići**	**5.85**	**341**	*e*Pn	**Pn**	**03 40 47.3**	**+1.4**
DIVS	**Divibare**	**5.94**	**346**	*e*Pn	**Pn**	**03 40 48.9**	**+1.8**
TRUS	**Trudelj**	**5.99**	**349**	*e*Pn	**Pn**	**03 40 49.6**	**+1.9**
VOIR		**7.44**	**17**	⇓P	**Pn**	**03 41 10.5**	**+2.7**
MLR	**Muntele Rosu**	**7.72**	**21**	⇑P	Pn	03 41 06.8	-4.9
BRTR	**Keskin Array B**	**9.18**	**78**	Pn	**Pn**	**03 41 35.0**	**+3.4**
	comp=N,0.2nm,0.3s,baz=265,slow=12,SNR=6.8						
BRTR				LR	LR	03 45 10.4	
	comp=N,16nm,19.8s,baz=142,slow=39						
VRAC	**Vranov**	**11.62**	**342**	LR	LR	03 48 04.0	
	comp=N,27nm,21.0s,baz=140,slow=46						
GERES	**GERESS Array B**	**12.08**	**333**	LR	LR	03 48 11.1	
	comp=N,33nm,21.6s,baz=114,slow=44						

IHVE	Hveravellir	0.89	283	P		Pg	03 42 40.8	-1.5
	baz=284						
IHVE				S		Sg	03 42 53.2	-0.7
	baz=284						
IFAG	Fagurholsmyri	0.90	154	P		Pg	03 42 40.4	-2.0
	baz=155						
IFAG				S		Sg	03 42 52.6	-1.3
	baz=155						
IADA	Aoalbol	0.90	67	P		Pg	03 42 40.3	-2.1
	baz=66						
IMEL	Melhnausar	0.96	22	P		Pg	03 42 41.9	-1.8
	baz=21						
ISNB	Snabyli	1.07	207	P		Pg	03 42 43.7	-1.9
	baz=209						
IKVO	Krokottuvotn	1.07	15	P		Pg	03 42 43.7	-1.9
	baz=13						
ISLY	Slysaalda	1.11	219	P		Pb	03 42 44.6	-2.0
	baz=221						
IGRS	Grimsstaoir	1.13	31	P		Pb	03 42 44.6	-2.3
	baz=30						
IGRS				S		Sb	03 43 00.4	-1.4
	baz=30						
IFED	Fedgar	1.15	236	P		Pb	03 42 45.7	-1.6
	baz=237						
IRJU	Rjupnafell	1.18	206	P		Pb	03 42 45.8	-2.1
	baz=207						
IMJO	Mjoaskard	1.20	232	P		Pb	03 42 46.1	-2.1
	baz=233						
ISKI	Skildingahlsh	1.21	10	P		Pn	03 42 46.1	-2.4
	baz=8.7						
ISKI				S		Sb	03 43 02.4	-1.8
	baz=8.7						
IGHA	Grjothals	1.22	17	P		Pn	03 42 45.9	-2.7
	baz=16						
IGRA	Granastaoir	1.24	359	P		Pn	03 42 46.5	-2.4
	baz=358						
IGRA				S		Sb	03 43 04.2	-0.8
	baz=358						
IHAU	Haukadalur	1.28	237	P		Pn	03 42 47.4	-2.0
	baz=238						
IGOD	Go??abunga	1.29	218	P		Pn	03 42 48.0	-1.7
	baz=220						
IDIM	Dimmadalss	1.31	11	P		Pn	03 42 47.6	-2.2
	baz=9.8						
IHLA	Hella	1.31	345	P		Pn	03 42 48.0	-1.9
	baz=344						
BORG	Borgarnes	1.63	274	Pg		Pn	03 42 52.6	-1.6
	7.3nm,0.3s,baz=99,slow=6.8,SNR=45						
BORG				Lg		Lg	03 43 15.3	
	14nm,0.3s,baz=48,slow=20,SNR=13						
EKA	Eskdalemuir Ar	11.78	136	Pn		Pn	03 45 14.3	+0.9
	baz=320,slow=13,SNR=6.6						
GERES	GERESS Array B	22.98	119	P		P	03 47 32.2	+2.2
	0.4nm,0.7s,baz=328,slow=7.2,SNR=4.0						
ESDC	Sonseca Array	26.27	156	P		P	03 48 04.2	+3.3
	0.8nm,0.9s,baz=352,slow=10.0,SNR=4.8						
BRTR	Keskin Array B	38.50	105	P		P	03 49 51.0	+3.2
	0.7nm,0.8s,baz=328,slow=9.2,SNR=4.3						
ILAR	Eielson Array	45.66	332	P		P	03 50 45.7	0.0
	0.6nm,1.0s,baz=27,slow=6.1,SNR=3.0						
PDAR	Pinedale Array	53.16	293	P		P	03 51 44.7	+1.2
	0.3nm,0.7s,baz=38,slow=6.0,SNR=2.8						
TORD	Torodi Ar. Bea	53.16	156	P		P	03 51 45.1	+1.6
	0.8nm,0.9s,baz=343,slow=9.2,SNR=3.9						

IDC 26 03:44:29.6±1.7, 3°24S×152°54E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/28, mbtmp3.4/3, Error ellipse: s-maj=56.9km s-min=15.1km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.18	206	Pg	Pg	03 44 52.5	+0.2
	64nm,0.3s,baz=25,slow=0.4,SNR=14						
KRVT				Lg	Lg	03 45 07.9	
	238nm,0.3s,baz=305,slow=24,SNR=26						
WRA	Warramunga Arr	24.31	226	P	P	03 49 49.4	+0.2
	1.4nm,0.9s,baz=52,slow=9.8,SNR=5.8						
ASAR	Alice Springs	27.15	220	P	P	03 50 15.1	+0.2
	0.1nm,0.4s,baz=47,slow=8.3,SNR=1.3						
ILAR	Eielson Array	80.82	22	P	P	03 56 44.7	-0.3
	0.4nm,0.7s,baz=231,slow=5.7,SNR=4.4						

*BJI **26** 03:55:29.3±0.0, 6°.60S×147°.51E, h10km, mB5.3/48, mb4.8/59, Ms5.0/46, Ms7 4.8/46*

*IDC **26** 03:55:33.0±0.4, 6°.43S×146°.86E, h0km, mb4.7/24, mb1 4.9/30, mb1mx4.8/38, mbtmp4.8/30, ML4.3/5, MS4.8/23, Ms1 4.8/23, ms1mx4.8/30, Error ellipse: s-maj=15.5km s-min=9.2km az=84.0*

*UNK **26** 03:55:34.8, 6°.43S×146°.75E, h10km*

*NEIC **26** 03:55:34.1±1.5, 6°.46S±0°.04×146°.78E±0°.07, h10km±1km, mb5.3/150, Error ellipse: s-maj=12.8km s-min=5.4km az=107.0*

*MOS **26** 03:55:35.3±0.9, 6°.45S×146°.73E, h26km, mb5.3/41, MS4.8/5, Error ellipse: s-maj=9.1km s-min=5.4km az=104.4*

*GCMT **26** 03:55:37.1±0.1, 6°.60S±0°.01×146°.88E±0°.01, h12km, MW5.3/127, Moment Tensor Solution. s112,c160; s127,c231; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr1.22±.01; Mθθ-0.42±.01; Mφφ-0.79±.02; Mrθ0.12±.04; Mφφ0.59±.01; Mφr-0.17±.04; Best double couple: M0=1.24400×10^17 NP1:φs=324.00000°, δ40.00000°, λ90.00000°. NP2:φs=144.00000°, δ50.00000°, λ90.00000°. Principal axes: T 1.2380, Plg85.0000°, Azm54.0000°; N 0.0160, Plg0.0000°, Azm324.0000°; P -1.2510, Plg5.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **26** 03:55:40.0±0.4, 7°S±2°×14°7E±°, h55km±4km, M5.1/36, mB5.6/30, mb5.0/36, MLv5.7/3, Mw(mB)5.0/30, Mwp5.4/8*

ISC 26 03:55:39.9±0.2, 6°61S±0°03×146°81E±0°04, h49km, n446, σ1§79/436, mb5.1/128, MS4.8/42, 11C-13D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.80	173	Pn	Pn	03 56 22.2	-0.1
	41nm,0.3s,baz=356,slow=7.6,SNR=25						
PMG				Sn	Sn	03 57 00.1	+5.2
	98nm,0.3s,baz=178,slow=12,SNR=6.0						
PMG				Lg	Lg	03 57 08.6	
	126nm,0.3s,baz=343,slow=13,SNR=6.9						
PMG	Port Moresby	2.80	173	*ce*P	Pn	03 56 21.5	-0.8
PMG	Port Moresby	2.80	173	Pn	Pn	03 56 21.9	-0.3
KRVT	Keravat (AS076	5.68	67	Pn	Pn	03 56 58.6	-3.2
	4.7nm,0.3s,baz=31,slow=18,SNR=2.3						
KRVT				Lg	Lg	03 58 19.9	
	4.0nm,0.3s,baz=343,slow=19,SNR=1.3						
RABL	Rabaul	5.85	66	Pn	Pn	03 57 01.3	-2.9
JAY	Jayapura	7.32	303	Pn	Pn	03 57 26.2	+1.9
	2.0nm,0.3s,baz=56,slow=2.4,SNR=17						
JAY				LR	LR	04 00 56.2	
	comp=Z,9μm,19.6s,baz=106,slow=44						
JAY	Jayapura	7.32	303	P	Pn	03 57 24.0	-0.3
	0.7nm4μm901nm56nm,1.1s						
JAY				S	Sn	03 58 47.5	+1.4
	0.7nm4μm901nm56nm,1.1s						
GENI	Genyem	7.73	301	P	Pn	03 57 29.8	-0.1
	3.3nm7μm8μm218nm,1.1s						
GENI				S	Sn	03 58 58.5	+2.4
	3.3nm7μm8μm218nm,1.1s						
COEN	Coen	8.13	206	P	Pn	03 57 35.5	0.0
	baz=7.9,SNR=29						
COEN				S	Sn	03 59 03.6	-2.4
	baz=7.9						
COEN	Coen	8.13	206	Pn	Pn	03 57 34.4	-1.1
MTSU	Mount Surprise	11.71	192	P	Pn	03 58 24.7	+0.3
	baz=12,SNR=18						
HNR	Honiara	13.31	103	P	Pn	03 58 44.8	-1.5
HNR	Honiara	13.31	103	Pn	Pn	03 58 44.8	-1.5
CTA	Charters Tower	13.41	182	Pn	Pn	03 58 49.0	+1.3
	1.1nm,0.3s,baz=4.4,slow=14,SNR=25						
CTA				LR	LR	04 03 57.8	
	comp=Z,4μm,19.1s,baz=7.5,slow=37						
CTA	Charters Tower	13.41	182	P	Pn	03 58 49.0	+1.3
CTAO	Charters Tower	13.41	182	P	Pn	03 58 47.1	-0.6
CTAO	Charters Tower	13.41	182	Pn	Pn	03 58 47.1	-0.6
FAKI	Fak Fak	14.96	283	P	Pn	03 59 07.4	-1.1
	4μm2μm81nm,1.3s						
FAKI	Fak Fak	14.96	283	Pn	Pn	03 59 04.6	-3.9
KDU	Kakadu	15.36	246	P	Pn	03 59 13.3	-0.3
	baz=15,SNR=37						
QIS	Mount Isa	15.53	206	P	Pn	03 59 16.7	+1.0
	baz=15,SNR=19						
SIJI	Sorong	16.52	290	Pn	Pn	03 59 26.9	-1.5
	0.6nm,0.3s,baz=85,slow=10,SNR=8.6						
SIJI				LR	LR	04 07 10.6	
	comp=Z,6μm,22.0s,baz=102,slow=42						
MTN	Manton Dam	16.64	247	P	Pn	03 59 29.6	-0.3
	baz=16,SNR=11						
MTN	Manton Dam	16.64	247		Pn	03 59 27.6	-2.3
PATS	Pohnpei	17.61	41	Pn	Pn	03 59 38.4	-3.6
WB0	Warramunga Arr	17.79	222		Pn	03 59 42.7	-1.5
WR0	Warramunga Arr	17.83	221	Pn	Pn	03 59 42.4	-2.2
WRAB	Tennant Creek	17.94	221	*ce*P	Pn	03 59 44.7	-1.3
WRAB				pmax	pmax		
	comp=Z,144nm,1.5s						
WRAB	Tennant Creek	17.94	221	Pn	Pn	03 59 43.5	-2.4
WRAB				IAmb	IAmb	04 00 04.1	
	comp=Z,327nm,1.8s						
WB2	Warramunga Arr	17.94	221	P	Pn	03 59 45.4	-0.6
	baz=18						
WB2	Warramunga Arr	17.94	221	Pn	Pn	03 59 43.9	-2.1
WB2				IAmb	IAmb	04 00 04.3	
	comp=Z,268nm,1.6s						
WRA	Warramunga Arr	17.95	221	P	Pn	03 59 45.9	-0.2
	comp=Z,0.7nm,0.3s,baz=44,slow=12,SNR=40						
WRA				S	S	04 03 08.9	-0.9
	comp=Z,0.1nm,0.3s,baz=39,slow=22,SNR=3.3						
WRA				LR	LR	04 07 11.7	
	comp=Z,8μm,20.7s,baz=45,slow=39						
WRA	Warramunga Arr	17.95	221	*i* P	Pn	03 59 45.9	-0.2
WRA				pmax	pmax		
	comp=Z,33nm,0.9s						
WRA	Warramunga Arr	17.95	221		Pn	03 59 44.8	-1.4
EIDS	Eidsvold	19.10	168	P	Pn	03 59 59.8	-0.1
	baz=19,SNR=7.1						
EIDS	Eidsvold	19.10	168		P	03 59 58.9	+0.2
KNRA	Kununurra	19.85	241	P	P	04 00 05.5	-1.5
	baz=20,SNR=8.0						
KNRA	Kununurra	19.85	241	P	P	04 00 05.7	-1.3
KNRA				IAmb	IAmb	04 00 14.1	
	comp=Z,238nm,1.1s						
RMQ	Roma	19.85	175	P	Pn	04 00 08.6	-0.3
	baz=20,SNR=36						
NLAI	Namlea	19.92	279	P	P	04 00 08.7	+1.0
	comp=Z,2μmcomp=Z,103nm,1.6s						
QLP	Quilpie	20.01	187	P	P	04 00 09.7	+1.0
	baz=20,SNR=18						
LBMI	Labuha	20.15	286	P	P	04 00 10.0	-0.3
	comp=Z,4μmcomp=Z,189nm,1.8s						
GUMO	Guam	20.16	355	P	P	04 00 08.1	-2.2
	comp=Z,3.0nm,0.3s,baz=164,slow=6.0,SNR=4.5						
GUMO				LR	LR	04 07 58.9	
	comp=Z,2μm,18.1s,baz=182,slow=37						
GUMO	Guam	20.16	355	P	P	04 00 05.3	-5.0
GUMO				pmax	pmax		
	comp=Z,306nm,1.1s						
GUMO	Guam	20.16	355	P	P	04 00 05.3	-5.0
TNTI	Ternate	20.74	290	P	P	04 00 17.2	+0.5
	comp=Z,2μmcomp=Z,4μmcomp=Z,193nm,1.6s						
TNTI	Ternate	20.74	290	P	P	04 00 13.4	-3.3
AS31	Alice Springs	21.01	215	P	P	04 00 20.6	+1.1
ASAR	Alice Springs	21.01	215	P	P	04 00 20.7	+1.1
	comp=Z,6.0nm,0.6s,baz=46,slow=9.6,SNR=22						
ASAR				S	Sn	04 04 19.4	+0.1
	comp=Z,2.6nm,1.0s,baz=51,slow=21,SNR=2.4						
ASAR				ScP	ScP	04 08 06.0	+7.7
	comp=Z,1.9nm,0.9s,baz=34,slow=2.3,SNR=3.3						
ASAR				LR	LR	04 09 16.0	
	comp=Z,6μm,18.1s,baz=38,slow=39						
ASAR	Alice Springs	21.01	215	P	P	04 00 19.1	-0.5
ASAR	Alice Springs	21.01	215	P	P	04 00 19.1	-0.5
SANI	Sanana	21.24	281	P	P	04 00 19.8	-2.3
	comp=Z,3μmcomp=Z,2μmcomp=Z,94nm,1.0s						
SANVU	Saraoutou	21.84	115	P	P	04 00 27.5	-1.0
SANVU				IAmb	IAmb	04 00 31.6	
	comp=Z,56nm,0.7s						
SOEI	Soe	22.53	261	P	P	04 00 36.8	+0.8
	comp=Z,3μmcomp=Z,85nm,1.3s						
SOEI	Soe	22.53	261	P	P	04 00 33.0	-3.1
BATI	Baumata	23.17	260	P	P	04 00 42.7	+0.2
	comp=Z,24nm,0.5s,baz=86,slow=14,SNR=1.8						
BATI				LR	LR	04 12 54.3	
	comp=Z,7μm,18.7s,baz=124,slow=45						
BATI	Baumata	23.17	260	P	P	04 00 42.4	-0.1
	comp=Z,2μmcomp=Z,56nm,0.8s						
FITZ	Fitzroy Crossi	23.59	239	P	P	04 00 45.2	-1.2
	comp=Z,32nm,0.9s,baz=0.6,slow=3.2,SNR=41						
FITZ				LR	LR	04 11 44.5	
	comp=Z,4μm,19.6s,baz=1.0,slow=41						
FITZ	Fitzroy Crossi	23.59	239	P	P	04 00 45.2	-1.2
	baz=23,SNR=48						
FITZ	Fitzroy Crossi	23.59	239	P	P	04 00 45.3	-1.2
FITZ				IAmb	IAmb	04 01 11.0	
	comp=Z,75nm,1.4s						
KMSI	Cibinong	23.87	287	P	P	04 00 49.5	+0.4
	comp=Z,4μmcomp=Z,326nm,1.1s						
ARMA	Armidale	24.11	170	P	P	04 00 52.2	+0.8
	baz=24,SNR=9.8						
ARMA	Armidale	24.11	170	P	P	04 00 50.4	-1.0
DZM	Mont Dzumac	24.41	131	*e*P	P	04 00 52.4	-1.7
	comp=Z,117nm,1.2s						
DZM				*e*S	S	04 05 11.1	+0.4
	comp=Z,788nm,23.4s						
DZM				*e*LR	LR	04 06 56.0	
	comp=Z,5μm,22.6s						
DZM	Mont Dzumac	24.41	131	P	P	04 00 54.6	+0.5
	comp=Z,9.6nm,0.6s,baz=244,slow=11,SNR=15						
DZM				LR	LR	04 09 10.8	
	comp=Z,3μm,21.3s,baz=313,slow=33						
DZM	Mont Dzumac	24.41	131	P	P	04 00 54.4	+0.3
DZM				IAmb	IAmb	04 01 03.0	
	comp=Z,80nm,1.3s						
LUWI	Luwuk	24.60	282	P	P	04 00 54.6	-1.2
CMSA	Cobar Meteorol	24.82	182	P	P	04 00 57.6	0.0
	baz=25,SNR=6.1						
EDFI	Ende, Flores	24.98	264	P	P	04 00 58.2	-1.2
	comp=Z,548nmcomp=Z,22nm,0.9s						
WRKA	Warakurna	25.49	222	P	P	04 01 03.1	-0.7
	baz=25,SNR=29						
STKA	Stephens Creek	25.61	190	P	P	04 01 05.1	+0.4
	comp=Z,18nm,0.8s,baz=356,slow=9.1,SNR=27						
STKA				LR	LR	04 12 15.7	
	comp=Z,4μm,18.6s,baz=7.7,slow=39						
STKA	Stephens Creek	25.61	190	P	P	04 01 05.3	+0.6
	baz=26,SNR=32						
STKA	Stephens Creek	25.61	190	P	P	04 01 04.6	-0.2
STKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STKA	Stephens Creek	25.61	190	P	P	04 01 04.6	-0.2
BASI	Baing, Sumba	26.19	260	P	P	04 01 09.2	-1.0
	comp=Z,93nm,1.0s						
BKSI	Bulukumba	26.57	271	P	P	04 01 14.4	+0.7
	comp=Z,1μmcomp=Z,32nm,1.2s						
MGCD	Mangrove Creek	26.77	172	P	P	04 01 18.2	+2.9
	baz=27,SNR=4.1						
KAPI	Kappang	26.96	272	P	P	04 01 18.0	+0.8
	comp=Z,2.9nm,0.3s,baz=15,slow=6.1,SNR=2.0						
KAPI				LR	LR	04 14 53.0	
	comp=Z,1μm,18.8s,baz=72,slow=43						
KAPI	Kappang	26.96	272	P	P	04 01 16.3	-0.9
KAPI				pmax	pmax		
	comp=Z,47nm,1.3s						
KAPI	Kappang	26.96	272	P	P	04 01 16.2	-0.9
YNG	Young	27.59	177	P	P	04 01 23.6	+0.9
	baz=28,SNR=8.4						
HTT	Hallett	27.67	194	P	P	04 01 23.9	+0.5
	baz=28,SNR=14						
MPSI	Mapaga	27.73	283	P	P	04 01 14.2	-10
BBOO	Buckleboo	27.92	200	P	P	04 01 25.7	+0.1
	baz=28,SNR=4.8						
BBOO	Buckleboo	27.92	200	P	P	04 01 25.6	-0.1
BBOO				IAmb	IAmb	04 01 49.8	
	comp=Z,65nm,1.6s						
FORT	Forrest	29.79	214	P	P	04 01 41.4	-0.8
SMKI	Samarinda	30.16	281	P	P	04 01 46.0	+0.3
	comp=Z,227nm,0.9s						
ARPS	Mount Arapiles	30.36	188	P	P	04 01 48.4	+1.2
	baz=30,SNR=9.9						
MYLDM	Lahad Datu	30.59	292	P	P	04 01 49.7	+0.3
TOO	Toolangi	30.84	182	P	P	04 01 53.3	+1.8
	baz=31,SNR=4.5						
TOO	Toolangi	30.84	182	P	P	04 01 52.2	+0.7
TOO				pmax	pmax		
	comp=Z,41nm,1.5s						
TOO	Toolangi	30.84	182	P	P	04 01 52.1	+0.7
TOO				IAmb	IAmb	04 02 16.9	
	comp=Z,41nm,1.5s						
SPMM	Sapulut	32.31	290	P	P	04 02 06.0	+1.3
MSVF	Nonsavu	32.42	113	*e*P	P	04 02 08.1	+2.4
MSVF				pmax	pmax		
	comp=Z,35nm,1.6s						
KKM	Kota Kinabalu	33.02	292	P	P	04 02 09.9	-1.0
KKM				IAmb	IAmb	04 02 18.0	
	comp=Z,46nm,1.2s						
MEEK	Meekatharra	33.42	230	P	P	04 02 13.8	-0.4
	baz=33,SNR=13						
SBUM	Sibu	35.68	284	P	P	04 02 33.5	-0.4
SBUM	Sibu	35.68	284	P	P	04 02 35.0	+1.1
MORW	Morawa	36.63	229	P	P	04 02 41.2	-0.6
	baz=36,SNR=3.9						
KSM	Kuching	37.31	281	P	P	04 02 46.8	-1.0
KSM	Kuching	37.31	281	P	P	04 02 49.0	+1.2
KPJI	Karang Pucung	37.60	267	P	P	04 02 50.2	0.0
NWAO	Narrogin (SRO)	37.95	222	P	P	04 02 55.2	+2.2
	comp=Z,6.7nm,0.7s,baz=55,slow=9.0,SNR=1.9						
NWAO				LR	LR	04 19 47.3	
	comp=Z,5μm,20.6s,baz=58,slow=38						
NWAO	Narrogin (SRO)	37.95	222	P	P	04 02 55.2	+2.2
NWAO				pmax	pmax		
	comp=Z,33nm,1.4s						
TWG	Pinlang	38.59	320	P	P	04 02 56.4	-2.1
TWG				IAmb	IAmb	04 03 03.2	
	comp=Z,124nm,1.4s						
CISI	Cisompet, Garu	38.70	266	P	P	04 02 58.7	-0.8
YULB	Yu-li	38.87	321	P	P	04 02 57.6	-3.2
LEM	Lembang	38.91	267	LR	LR	04 24 27.0	
	comp=Z,449nm,18.1s,baz=34,slow=44						
TPUB	Ta-pu	39.22	320	P	P	04 03 01.1	-2.7
NACB	Ninganchiao	39.26	322	P	P	04 03 02.7	-1.3
NACB				IAmb	IAmb	04 03 15.3	
	comp=Z,109nm,1.3s						
SSLB	Suanglung	39.37	321	P	P	04 03 01.5	-3.5
YHNB	Yeheng	39.76	322	P	P	04 03 07.7	-0.5
YHNB				IAmb	IAmb	04 03 21.3	
	comp=Z,58nm,1.0s						
JMN	Monobe	41.95	344	P	P	04 03 24.0	-2.1
JMN				IAmb	IAmb	04 03 32.6	
	comp=Z,88nm,1.2s						
THZ	Tophouse	41.98	151	P	P	04 03 26.8	+0.4
JNU	Nakatsue	42.31	340	P	P	04 03 27.2	-1.9
	comp=Z,20nm,0.8s,baz=111,slow=4.1,SNR=5.9						
JNU	Nakatsue	42.31	340	P	P	04 03 27.3	-1.7
JNU				IAmb	IAmb	04 03 36.7	
	comp=Z,157nm,1.7s						
RPZ	Rata Peaks	42.65	154	P	P	04 03 33.5	+1.8
	comp=Z,19nm,0.7s,baz=289,slow=3.4,SNR=13						
RPZ	Rata Peaks	42.65	154	P	P	04 03 32.4	+0.7
RPZ				IAmb	IAmb	04 04 05.2	
	comp=Z,56nm,1.4s						
MJAR	Matsushiro Arr	43.67	350	P	P	04 03 38.8	-1.3
	comp=Z,5.1nm,0.8s,baz=174,slow=8.0,SNR=11						
MJAR				LR	LR	04 21 16.5	
	comp=Z,424nm,18.9s,baz=165,slow=36						
MJAR	Matsushiro Arr	43.67	350	P	P	04 03 38.0	-2.0
MJAR				pmax	pmax		
	comp=Z,20nm,1.5s						
MJAR	Matsushiro Arr	43.67	350	P	P	04 03 38.0	-2.0
MAJO	Matsushiro	43.67	350	*e*P	P	04 03 38.3	-1.7
MAJO				pmax	pmax		
	comp=Z,55nm,1.4s						
MAJO	Matsushiro	43.67	350	P	P	04 03 37.8	-2.2
MAJO				IAmb	IAmb	04 03 49.7	
	comp=Z,74nm,1.4s						
MAT	Matsushiro	43.67	350	P	P	04 03 37.7	-2.3
MAT				S	S	04 10 10.0	+3.4
MYKOM	Kota Tinggi	43.68	280	P	P	04 03 40.2	-0.2
MYKOM				IAmb	IAmb	04 03 46.9	
	comp=Z,47nm,1.1s						
MYKOM	Kota Tinggi	43.68	280	P	P	04 03 42.0	+1.5
QIZ	Qiongzhong	44.45	306	P	P	04 03 46.0	-0.5
QIZ				PP	PP	04 05 31.3	+0.3
QIZ				S	S	04 10 17.0	-1.3
QIZ				SS	SS	04 13 36.0	-3.2
QIZ				pmax	pmax		
	comp=Z,16nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,250nm,4.8s						
QIZ				LR	LR		
	comp=Z,500nm,28.7s						
QIZ				LR	LR		
	comp=Z,370nm,22.1s						
QIZ				LR	LR		
	comp=Z,800nm,24.0s						
QIZ	Qiongzhong	44.45	306	IAmb	IAmb	04 03 49.0	
	comp=Z,48nm,1.3s						
BKNI	Bangkinang	46.19	277	P	P	04 03 59.9	-0.4
TJN	Taejon	46.49	338	*e*P	P	04 04 01.7	-0.6
NJ2	Nanjing	46.78	327	*e*P	P	04 04 04.3	-0.4
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
IPM	Ipoh	47.01	282	P	P	04 04 05.5	-1.3
IPM	Ipoh	47.01	282	P	P	04 04 07.0	+0.1
KSRS	Korea Array	47.25	339	P	P	04 04 07.0	-1.2
	comp=Z,12nm,0.8s,baz=157,slow=8.7,SNR=32						
KSRS				LR	LR	04 24 08.7	
	comp=Z,769nm,18.9s,baz=155,slow=36						
KSAR	Wonju Array Be	47.25	339	P	P	04 04 06.7	-1.6
KSAR	Wonju Array Be	47.25	339	P	P	04 04 06.7	-1.6
KS19	Wonju Array Si	47.31	339	P	P	04 04 07.5	-1.3
KULM	Kulim	47.56	283	P	P	04 04 10.1	-1.1
KULM	Kulim	47.56	283	P	P	04 04 12.0	+0.9
INCN	Inchon	47.74	338	P	P	04 04 11.2	-0.9
INCN				pmax	pmax		
	comp=Z,188nm,2.0s						
INCN	Inchon	47.74	338	P	P	04 04 11.2	-0.9
WHN	Wuhan	48.29	322	P	P	04 04 17.5	+1.1
WHN				S	S	04 11 16.0	+3.0
WHN				LR	LR		
	comp=Z,700nm,11.6s						
WHN				LR	LR		
	comp=Z,580nm,11.0s						
WHN				LR	LR		
	comp=Z,820nm,19.4s						
ERM	Erimo	48.50	356	*e*P	P	04 04 17.2	-0.7
ERM				pmax	pmax		
	comp=Z,193nm,1.4s						
RPSI	Rantau Prapat	48.69	279	P	P	04 04 19.1	-0.7
RPSI				IAmb	IAmb	04 04 25.5	
	comp=Z,40nm,1.1s						
PSI	Prapat	48.71	280	P	P	04 04 19.1	-1.0
PSI				pmax	pmax		
	comp=Z,40nm,1.1s						
GSI	Gunungsitoli	49.76	277	P	P	04 04 26.9	-1.2
GSI				IAmb	IAmb	04 04 42.4	
	comp=Z,24nm,0.9s						
SLVN	Son La	50.42	305	P	P	04 04 32.2	-0.8
JKA	Kamikawa-asahi	50.63	356	P	P	04 04 33.5	-0.6
ASAJ	Asahikawa	50.63	356	P	P	04 04 33.5	-0.6

comp=Z,5.3nm,0.5s,baz=173,slow=8.1,SNR=24
USRK LR LR 04 25 47.6
comp=Z,336nm,19.3s,baz=147,slow=35
USRK Ussuriysk Ar. 52.31 347 P P 04 04 45.3 -1.4
USRK Ussuriysk Ar. 52.31 347 P P 04 04 45.3 -1.4
KMI Kunming 53.22 308⇑ eP P 04 04 56.0 +2.0
KMI pP pP 04 04 58.5 -9.2
KMI sP sP 04 05 00.0 -13
KMI pmax pmax
comp=Z,19nm,1.3s
KMI LR LR
comp=Z,2μm,5.0s
KMI LR LR
comp=Z,660nm,5.9s
KMI LR LR
comp=Z,2μm,10.0s
KMI Kunming 53.22 308 P P 04 04 53.2 -0.8
KMI pmax pmax
comp=Z,42nm,1.4s
KMI Kunming 53.22 308 P P 04 04 53.2 -0.8
KMI IAmb IAmb 04 04 57.4
comp=Z,42nm,1.4s
MDJ Mudanjiang 53.30 345 P P 04 04 53.5 -0.4
MDJ pmax pmax
comp=Z,19nm,1.2s
MDJ pmax pmax
comp=Z,200nm,3.4s
MDJ LR LR
comp=Z,210nm,16.0s
MDJ LR LR
comp=Z,350nm,19.4s
MDJ LR LR
comp=Z,1μm,22.4s
MDJ Mudanjiang 53.30 345 P P 04 04 52.7 -1.2
MDJ IAmb IAmb 04 05 04.7
comp=Z,45nm,1.4s
CM31 Chiang Mai Arr 53.37 299 P P 04 04 53.5 -1.4
CMAR Chiang Mai Arr 53.37 299 P P 04 04 55.5 +0.6
comp=Z,10nm,0.9s,baz=118,slow=5.4,SNR=35
CMAR ScP **ScP 04 10 03.8 +8.0**
comp=Z,0.6nm,0.3s,baz=108,slow=2.9,SNR=1.4
CMAR Chiang Mai Arr 53.37 299 P P 04 04 54.5 -0.4
YSS Yuzh-Sakhalins 53.45 357⇑ eP P 04 04 53.0 -1.9
YSS e 04 06 51.6
YSS eS **S 04 12 20.4 -3.4**
YSS ePS **S 04 12 30.1 +6.3**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS Yuzh-Sakhalins 53.45 357 P P 04 04 54.0 -1.0
YSS IAmb IAmb 04 05 02.5
comp=Z,41nm,1.1s
CHTO Chiang Mai 53.51 299 P P 04 04 56.2 +0.2
CHTO pmax pmax
comp=Z,68nm,1.5s
CHTO Chiang Mai 53.51 299 P P 04 04 56.2 +0.2
CHTO IAmb IAmb 04 04 59.3
comp=Z,68nm,1.5s
CN2 Changchun 53.77 341 eP P 04 04 55.5 -1.9
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 LR LR
comp=Z,710nm,18.1s
CN2 LR LR
comp=Z,340nm,17.1s
CN2 LR LR
comp=Z,780nm,18.6s
XAN Xi'an 54.03 321 P P 04 05 02.8 +3.2
XAN pP pP 04 05 10.8 -2.5
XAN pmax pmax
comp=Z,26nm,1.2s
XAN Xi'an 54.03 321 P P 04 04 57.7 -1.8
XAN pmax pmax
comp=Z,35nm,1.2s
XAN Xi'an 54.03 321 P P 04 04 57.7 -1.8
XAN IAmb IAmb 04 05 06.0
comp=Z,34nm,1.2s
BJT Baijiatuau 54.33 331 P P 04 04 59.4 -2.1
BJT pmax pmax
comp=Z,79nm,1.8s
BJT Baijiatuau 54.33 331 P P 04 04 59.4 -2.1
BJT IAmb IAmb 04 05 03.7
comp=Z,78nm,1.8s
BJI Beijing 54.34 331 P P 04 05 00.3 -1.3
BJI S **S 04 12 38.5 +2.4**
BJI SS **SS 04 16 22.5 +3.4**
BJI pmax pmax
comp=Z,20nm,1.6s
BJI LR LR
comp=Z,500nm,20.0s
BJI LR LR
comp=Z,580nm,21.6s
CD2 Chengdu 55.56 315 P P 04 05 11.5 +0.8
CD2 S **S 04 12 54.3 +1.3**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,220nm,5.1s
CD2 LR LR
comp=Z,3μm,9.3s
HHC Hu-ho-hao-te 57.25 329 eP P 04 05 24.0 +1.4
HHC PP **PP 04 07 28.5 -1.8**
HHC S **S 04 13 17.5 +2.3**
HHC ScS **ScS 04 15 07.3 -0.7**
HHC pmax pmax
comp=Z,32nm,0.7s
HHC pmax pmax
comp=Z,86nm,6.9s
HHC LR LR
comp=Z,500nm,16.2s
HHC LR LR
comp=Z,500nm,15.3s
HHC LR LR
comp=Z,600nm,15.3s
TYV Tymovskoe 57.35 357 eP P 04 05 22.1 -0.8
TYV e 04 13 35.9
TYV pmax pmax
comp=Z,35nm,1.7s
SKR Severo-Kuril's 57.63 7 eP P 04 05 25.3 +0.4
SKR eS **S 04 13 26.0 +6.6**
SKR pmax pmax
comp=Z,76nm,1.2s
SKR pmax pmax
comp=Z,100nm,3.8s
SKR pmax pmax
comp=Z,300nm,4.0s
SKR MLR MLR
comp=Z,300nm,19.0s
SKR MLR MLR
comp=Z,500nm,19.0s
GRNR Gornyy 57.85 352⇑ iP P 04 05 27.2 +0.7
GRNR pmax pmax
comp=Z,10.0nm,1.3s
GRNR MLR MLR
comp=E,70nm,12.0s
GRNR MLR MLR
comp=N,190nm,18.0s
GRNR MLR MLR
comp=Z,280nm,20.0s
LZH Lanzhou 58.55 320 eP P 04 05 34.0 +2.1
LZH pP pP 04 05 38.0 -7.8
LZH sP sP 04 05 41.8 -10
LZH S **S 04 13 34.3 +1.9**
LZH sS pS 04 13 49.0 0.0
LZH pmax pmax
comp=Z,14nm,1.2s
LZH pmax pmax
comp=Z,200nm,5.4s
LZH LR LR
comp=Z,440nm,15.7s
LZH LR LR
comp=Z,580nm,14.6s
LZH LR LR
comp=Z,680nm,16.8s
PEA0B Petropavlovsk- 60.20 8 deP P 04 05 42.9 +0.2
PEA0B Petropavlovsk- 60.20 8 P P 04 05 41.0 -1.7
PETK Petropavlovsk- 60.20 8 P P 04 05 42.1 -0.6
comp=Z,12nm,0.5s,baz=161,slow=6.7,SNR=21
PETK LR LR 04 27 20.0
comp=Z,1μm,21.7s,baz=202,slow=32
PETK Petropavlovsk- 60.20 8 P P 04 05 41.3 -1.5
PETK Petropavlovsk- 60.20 8 P P 04 05 41.3 -1.5
PET Petropavlovsk 60.25 8 eP P 04 05 46.0 +3.0
PET eS S 04 14 02.4 +9.0
HIA Hailar 60.45 340 P P 04 05 42.7 -1.9
HIA pmax pmax
comp=Z,71nm,1.4s
HIA Hailar 60.45 340 P P 04 05 42.7 -1.9
SHL Shillong 62.19 303 P P 04 05 56.7 -0.3
SHL pmax pmax
comp=Z,142nm,1.9s
SHL Shillong 62.19 303 P P 04 05 56.6 -0.3
ZEA Zeya 62.34 347 eP P 04 05 56.9 -0.3
ZEA pmax pmax
comp=N,93nm,1.4s
ZEA pmax pmax
comp=Z,130nm,1.4s
PPT Papeete 62.91 106 LR LR 04 30 13.1
comp=Z,313nm,19.0s,baz=280,slow=33
PPT2 Papeete2 62.91 106 eS **S 04 14 34.0 +5.5**
comp=Z,582nm,25.5s
PPT2 eLQ LQ 04 22 06.7
comp=Z,592nm,27.2s
PPT2 eLR LR 04 24 48.4
comp=Z,1μm,25.5s,baz=263
GTA Gaotai 63.09 321 eP P 04 06 03.3 +0.7
GTA pP pP 04 06 08.5 -8.2
GTA sP sP 04 06 11.8 -11
GTA S **S 04 14 34.0 +3.8**
GTA sS pS 04 14 42.5 -4.8
GTA SS **SS 04 18 40.5 +3.6**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,140nm,7.6s
GTA LR LR
comp=Z,810nm,18.2s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,2μm,18.9s
TBI Tubuai 63.31 113 eS **S 04 14 37.4 +4.1**
comp=Z,402nm,30.8s
TBI Tubuai 63.31 113 eLR LR 04 24 53.1
comp=Z,760nm,38.5s
LSA Lhasa 64.45 307 P P 04 06 11.1 -1.1
LSA pmax pmax
comp=Z,13nm,1.0s
LSA Lhasa 64.45 307 P P 04 06 11.1 -1.1
LSA IAmb IAmb 04 06 21.5
comp=Z,13nm,1.0s
ULN Ulaanbaatar 64.55 332 deP **P 04 06 11.9 -0.2**
ULN pmax pmax
comp=Z,27nm,1.7s
ULN Ulaanbaatar 64.55 332 P P 04 06 11.1 -1.0
ULN IAmb IAmb 04 06 25.1
comp=Z,21nm,1.2s
CASY Casey 64.62 195 P P 04 06 11.9 -0.2
SONM Songino Array 64.84 331 P P 04 06 13.8 -0.2
comp=Z,5.2nm,1.0s,baz=142,slow=5.3,SNR=18
SONM Songino Array 64.84 331 P P 04 06 13.0 -1.0
SONM pmax pmax
comp=Z,17nm,1.4s
SONM Songino Array 64.84 331 P P 04 06 13.0 -1.0
CIT Chita 64.95 338 eP **P 04 06 14.2 -0.3**
CIT e 04 06 22.9
CIT e 04 06 46.6
MA2 Magadan 66.05 2 ceP **P 04 06 19.6 -1.8**
MA2 pmax pmax
comp=Z,84nm,1.7s
MA2 Magadan 66.05 2 P P 04 06 19.8 -1.6
TAPN Taplejung 66.32 304 eP **P 04 06 25.0 +0.8**
comp=Z,125nm,1.3s
ODAN Odare 66.41 303 eP **P 04 06 26.1 +1.4**
comp=Z,56nm,1.0s
RAMN Ramite 67.10 303 eP **P 04 06 30.7 +1.6**
comp=Z,9.4nm,0.6s
JIRN Jiri 67.69 303 eP **P 04 06 34.3 +1.3**
comp=Z,90nm,1.3s
GUN Gumba 68.04 303 eP **P 04 06 36.5 +1.4**
comp=Z,51nm,0.9s
ZAK Zakamensk 68.08 332 eP **P 04 06 33.0 -1.6**
ZAK pmax pmax
comp=Z,18nm,1.3s
PKI Pulchoki 68.31 303 eP **P 04 06 37.8 +1.0**
comp=Z,66nm,1.4s
PKIN Phulchoki 68.33 303 eP **P 04 06 37.8 +1.0**
comp=Z,50nm,1.3s
KKN Kakani 68.50 303 eP **P 04 06 39.2 +1.4**
DMN Daman 68.58 303 eP **P 04 06 39.8 +1.4**
comp=Z,73nm,1.0s
GKN Gorkha 69.10 303 eP **P 04 06 42.6 +1.1**
comp=Z,47nm,0.8s
SEY Seymchan 69.47 3⇓ eP **P 04 06 42.2 -0.6**
BOD Bodaibo 69.50 342 eP **P 04 06 42.1 -1.0**
BOD pmax pmax
comp=Z,32nm,1.7s
YAK Yakutsk 69.71 351 P P 04 06 43.4 -0.9
YAK pmax pmax
comp=Z,51nm,0.9s
YAK Yakutsk 69.71 351 P P 04 06 43.4 -0.9
KOLN Koldanda 69.89 303 eP **P 04 06 47.6 +1.1**
comp=Z,59nm,0.8s
DANN Dangsing 69.95 303 eP **P 04 06 47.7 +0.8**
comp=Z,32nm,0.7s
MOY Mondy 70.02 332 eP **P 04 06 48.7 +2.1**
MOY pmax pmax
comp=Z,42nm,2.1s
PYUN Piuthan 70.51 303 eP **P 04 06 51.3 +1.1**
comp=Z,60nm,0.8s
VNDA Vanda 71.32 177 P P 04 06 54.3 +0.3
comp=Z,5.4nm,0.8s,baz=323,slow=6.3,SNR=38
VNDA LR LR 04 36 12.0
comp=Z,422nm,18.2s,baz=355,slow=34
VNDA Vanda 71.32 177 P P 04 06 54.3 +0.3
VNDA pmax pmax
comp=Z,11nm,1.0s
VNDA Vanda 71.32 177 P P 04 06 54.3 +0.3
HYB Hyderabad 71.50 291 iP **P 04 06 56.0 -0.2**
TAOE Nuku Hiva Isla 72.31 97 eS **S 04 16 22.4 +0.9**
comp=Z,171nm,25.5s
TAOE eLQ LQ 04 25 57.7
comp=Z,3μm,36.2s
TAOE eLR LR 04 29 08.8
comp=Z,680nm,21.8s
WMQ Urumqi 73.13 320 eP **P 04 07 06.8 +1.3**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,110nm,3.6s
WMQ LR LR
comp=Z,1μm,18.5s
WMQ LR LR
comp=Z,850nm,13.5s
WMQ LR LR
comp=Z,940nm,29.3s
WMQ Urumqi 73.13 320 P P 04 07 05.4 0.0
WMQ pmax pmax
comp=Z,23nm,0.4s
WMQ Urumqi 73.13 320 P P 04 07 05.4 0.0
BILL Bilibino 75.74 7⇑ eP **P 04 07 20.7 +0.7**
BILL i 04 10 09.4
BILL ePPP PPP 04 11 56.9
BILL eS **S 04 17 02.0 +4.2**
BILL eSSS SSS 04 25 03.1
BILL pmax pmax
comp=Z,40nm,1.7s
BILL Bilibino 75.74 7 P P 04 07 18.9 -1.1
BILL IAmb IAmb 04 07 22.8
comp=Z,48nm,1.5s
DGZ Jazzator, Alta 76.02 325⇓ eP **P 04 07 21.5 -0.7**
DGZ pmax pmax
comp=Z,8.0nm,1.4s
MKAR Makanchi Array 77.84 321 P P 04 07 31.1 -1.3
comp=Z,8.1nm,1.1s,baz=107,slow=6.1,SNR=15
MKAR Makanchi Array 77.84 321 P P 04 07 30.6 -1.8
MAKZ Makanchi 78.05 321 P P 04 07 32.1 -1.4
MAKZ pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 78.05 321 P P 04 07 32.1 -1.4
SHLS Shalkode 78.34 316 eP **P 04 07 33.4 -2.0**
comp=Z,5.7nm,1.3s,baz=316
SHLS Shalkode 78.34 316 eP **P 04 07 33.3 -2.0**
SHLS pmax pmax
comp=Z,6.0nm,1.3s
UZB Uzynbulak 78.64 316 eP **P 04 07 36.2 -0.8**
comp=Z,4.0nm,1.6s,baz=316
UZB Uzynbulak 78.64 316 eP **P 04 07 36.2 -0.8**
UZB pmax pmax
comp=Z,4.0nm,1.6s
TARG Taragay, Kyrgy 79.01 315 P P 04 07 35.3 -4.2
SATY Saty 79.03 316 eP **P 04 07 38.6 -0.6**
baz=316
SATY Saty 79.03 316 eP **P 04 07 38.6 -0.6**
ZAA0 Zalesovo Array 79.42 328 P P 04 07 39.1 -1.7
ZALV Zalesovo Beam 79.42 328 P P 04 07 38.5 -2.3
comp=Z,2.8nm,0.4s,baz=116,slow=5.8,SNR=10
ZALV Zalesovo Beam 79.42 328 iP **P 04 07 39.4 -1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 79.42 328 P P 04 07 38.3 -2.5
KDJ Kajisay 79.58 315 P P 04 07 41.0 -1.2
KDJ pmax pmax
comp=Z,10.0nm,1.1s
KDJ Kajisay 79.58 315 P P 04 07 41.0 -1.2
KSH Kashi 79.64 312 P P 04 07 44.0 +1.4
KSH S **S 04 17 44.0 +2.6**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,170nm,4.9s
KSH LR LR
comp=Z,540nm,8.5s
KSH LR LR
comp=Z,950nm,12.1s
KSH LR LR
comp=Z,1μm,15.7s
TDK Taldyqorghan 79.70 318 eP **P 04 07 41.7 -0.9**
baz=318
TDK LR LR 04 43 39.6
comp=Z,2μm,19.4s,baz=318
TDK Taldyqorghan 79.70 318 eP **P 04 07 41.7 -0.9**
TDK MLR MLR
comp=Z,2μm,19.0s
MDOK Medeo 80.01 316 eP **P 04 07 43.7 -0.8**
baz=316
MDOK LR LR 04 43 27.2
comp=Z,672nm,19.9s,baz=316
MDOK Medeo 80.01 316 eP **P 04 07 43.7 -0.8**
MDOK MLR MLR
comp=Z,672nm,20.0s
TNSS Tian-Shan 80.03 316 eP **P 04 07 44.6 -0.4**
baz=316
TNSS Tian-Shan 80.03 316 eP **P 04 07 44.6 -0.4**
AAA Alma-Ata 80.11 316 eP **P 04 07 45.4 +0.4**
baz=316
AAA LR LR 04 43 00.1
comp=Z,674nm,15.9s,baz=316
AAA Alma-Ata 80.11 316 eP **P 04 07 45.3 +0.4**
AAA MLR MLR
comp=Z,674nm,16.0s
NIL Nilore 80.12 306 P P 04 07 43.9 -1.3
NIL pmax pmax
comp=Z,23nm,0.9s
NIL Nilore 80.12 306 P P 04 07 43.9 -1.3
NIL IAmb IAmb 04 07 51.6
comp=Z,23nm,0.8s
BOOM Boomskoye usch 80.57 315 P P 04 07 46.5 -1.0
BOOM pmax pmax
comp=Z,9.0nm,1.1s
BOOM Boomskoye usch 80.57 315 P P 04 07 46.5 -1.0
KUU Kurty 80.73 316 eP **P 04 07 47.1 -1.1**
comp=Z,7.5nm,1.2s,baz=316
KUU Kurty 80.73 316 eP **P 04 07 47.0 -1.1**
KUU pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 81.58 323⇓ eP **P 04 07 51.5 -1.0**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 81.58 323 P P 04 07 52.0 -0.5
MAW Mawson 81.62 203 P P 04 07 53.2 +0.9
comp=Z,2.0nm,0.8s,baz=94,slow=8.6,SNR=7.8
MAW LR LR 04 43 39.7
comp=Z,409nm,18.4s,baz=58,slow=35
MAW Mawson 81.62 203 P P 04 07 53.3 +0.9
MAW pmax pmax
comp=Z,1.0nm,0.9s
MAW Mawson 81.62 203 P P 04 07 53.3 +0.9
SGDS Sogindy 81.77 316 eP **P 04 07 52.7 -1.1**
baz=316
SGDS Sogindy 81.77 316 eP **P 04 07 52.7 -1.1**
CNPM China Poot 81.97 27 IAmb IAmb 04 07 55.2
comp=Z,39nm,1.3s
RDOG Red Dog Mine 82.38 17 IAmb IAmb 04 07 58.5
comp=Z,40nm,1.2s
BTLS Baital 82.64 317 eP **P 04 07 57.4 -0.9**
comp=Z,2.4nm,1.2s,baz=317
BTLS LR LR 04 44 44.1
comp=Z,332nm,16.5s,baz=317
BTLS Baital 82.64 317 eP **P 04 07 57.3 -0.9**
BTLS pmax pmax
comp=Z,2.0nm,1.2s
BTLS MLR MLR
comp=Z,332nm,17.0s
SKT Skwentna 83.00 25 IAmb IAmb 04 08 48.9
comp=Z,26nm,1.4s
SEW Seward 83.04 27 IAmb IAmb 04 08 01.1
comp=Z,38nm,1.4s
SUA Susitna One 83.08 25 P P 04 07 59.1 -1.1
SUA IAmb IAmb 04 08 52.2
comp=Z,10nm,0.7s
RC01 Rabbit Creek A 83.35 26 P P 04 08 01.2 -0.3
baz=244
QSPA South Pole Qui 83.36 180 P P 04 08 01.4 -0.4
QSPA IAmb IAmb 04 08 16.1
comp=Z,23nm,0.9s
KBL Kabul 83.73 306 P P 04 08 03.7 -0.6
KBL pmax pmax
comp=Z,6.0nm,0.7s
KBL Kabul 83.73 306 P P 04 08 03.7 -0.6
GAR Garm 83.73 310 P P 04 08 04.0 -0.1
GAR IAmb IAmb 04 08 18.5
comp=Z,16nm,1.1s
PMR Palmer 83.83 26 IAmb IAmb 04 08 04.8
comp=Z,22nm,1.2s
DZA Taraz 83.94 314 eP **P 04 08 04.0 -1.0**
baz=314
DZA LR LR 04 47 38.9
comp=Z,379nm,15.7s,baz=314
DZA Taraz 83.94 314 eP **P 04 08 04.0 -1.0**
DZA MLR MLR
comp=Z,379nm,16.0s
KTH Kantishna Hill 83.99 23 IAmb IAmb 04 08 05.2
comp=Z,25nm,1.2s
GHO Glory Hole Cre 84.00 26 IAmb IAmb 04 08 11.2
comp=Z,33nm,1.4s
TRF Thorofare Moun 84.19 24 IAmb IAmb 04 08 40.9
comp=Z,36nm,1.8s
BPAW Bear Paw Mtn. 84.22 23 IAmb IAmb 04 08 07.4
comp=Z,22nm,1.4s
HIN Hinchinbrook I 84.50 27 IAmb IAmb 04 08 08.8
comp=Z,38nm,1.4s
CHGR Chuyangaron 84.53 310 P P 04 08 07.3 -0.9
CHGR IAmb IAmb 04 08 17.4
comp=Z,16nm,0.7s
KKAR Karatay Array 84.58 314 P P 04 08 07.2 -1.0
KKAR Karatay Array 84.58 314 P P 04 08 07.2 -1.0
FID Port Fidalgo 84.65 27 IAmb IAmb 04 08 09.9
comp=Z,35nm,1.3s
RND Reindeer 84.75 24 IAmb IAmb 04 08 09.1
comp=Z,19nm,0.9s
BRZS Berezniki 84.95 321 eP **P 04 08 08.9 -1.1**
comp=Z,7.3nm,1.2s,baz=322
BRZS Berezniki 84.95 321 eP **P 04 08 08.8 -1.1**
BRZS pmax pmax
comp=Z,7.0nm,1.2s
NEA2 Nenana 85.19 23 P P 04 08 08.9 -1.8
baz=244
KLU Klutina 85.19 26 IAmb IAmb 04 08 12.6
comp=Z,24nm,1.2s
M24K Tolsona, Glenn 85.32 26 P P 04 08 10.7 -0.8
baz=247
WRH Wood River Hil 85.52 23 IAmb IAmb 04 08 12.7
comp=Z,24nm,1.1s
MDM Murphy Dome 85.67 23 IAmb IAmb 04 08 15.8
comp=Z,18nm,1.4s
CCB Clear Creek Bu 85.70 23 IAmb IAmb 04 08 13.5
comp=Z,21nm,1.0s
COLA College 85.78 23 ceP **P 04 08 11.5 -2.1**
COLA pmax pmax
comp=Z,23nm,1.2s
COLA College 85.78 23 P P 04 08 12.5 -1.1
NRIK Noril'sk 85.79 342 P P 04 08 12.6 -1.1
comp=Z,11nm,0.9s,baz=134,slow=9.1,SNR=8.5
NRIK Noril'sk 85.79 342 iP **P 04 08 12.7 -1.0**
NRIK pmax pmax
comp=Z,35nm,1.7s
COLD Coldfoot 85.97 20 P P 04 08 14.4 -0.2
baz=243

COLD	Coldfoot	85.97	20	IAmb	IAmb	04 08 16.1	
	comp=Z,16nm,1.0s						
GLB	Gilahina Butte	86.11	27	IAmb	IAmb	04 08 17.7	
	comp=Z,50nm,1.5s						
IL31		86.11	23	IAmb	IAmb	04 08 15.2	
	comp=Z,17nm,1.1s						
ILAR	Eielson Array	86.11	23	P	P	04 08 12.8	-2.6
	comp=Z,7.5nm,0.8s,baz=252,slow=5.0,SNR=83						
ILAR				LR	LR	04 42 48.4	
	comp=Z,436nm,21.7s,baz=292,slow=33						
ILAR	Eielson Array	86.11	23	P	P	04 08 12.9	-2.4
ILAR	Eielson Array	86.11	23	P	P	04 08 12.9	-2.4
CRQM	Cirque	86.17	28	IAmb	IAmb	04 08 17.6	
	comp=Z,38nm,1.3s						
VRDI	Verde Repeater	86.19	27	IAmb	IAmb	04 08 17.6	
	comp=Z,26nm,1.3s						
WAX	Waxell Ridge	86.19	28	IAmb	IAmb	04 08 18.6	
	comp=Z,55nm,1.7s						
MCARA	McCarthy VSAT	86.44	27	IAmb	IAmb	04 08 19.4	
	comp=Z,45nm,1.6s						
ISLE	Juniper Island	86.48	28	P	P	04 08 17.1	-0.4
ISLE				IAmb	IAmb	04 08 29.1	
	comp=Z,32nm,1.5s						
YAH	Yahtse	86.68	28	IAmb	IAmb	04 09 01.6	
	comp=Z,46nm,1.8s						
DOT	Dot Lake	86.81	25	IAmb	IAmb	04 08 20.2	
	comp=Z,27nm,1.1s						
TOLK	Toolik Lake Re	86.83	19	P	P	04 08 18.1	-0.7
	baz=243						
SCRK	Sand Creek	86.96	24	P	P	04 08 18.2	-1.5
	baz=248						
BRVK	Borovoye	87.22	324⇊	eP	P	04 08 21.6	+0.6
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BCPM	Bancas Point	87.55	29	P	P	04 08 21.6	-0.9
K27K	Chicken	87.77	25	P	P	04 08 23.0	-0.4
	baz=250						
HYT	Haines Junctio	88.82	28	P	P	04 08 29.1	+0.5
SKAG	Skagway	89.52	30	P	P	04 08 32.4	+0.7
SKAG				IAmb	IAmb	04 08 34.0	
	comp=Z,27nm,1.4s						
SYO	Syowa Base	89.96	200⇈	ePcP	PcP	04 08 35.4	+0.5
SYO	Syowa Base	89.96	200⇊	epP	P	04 08 37.0	+3.3
WHY	Whitehorse	90.02	29	IAmb	IAmb	04 08 41.6	
	comp=Z,20nm,1.5s						
INK	Inuvik	92.29	21	IAmb	IAmb	04 08 44.6	
	comp=Z,19nm,1.1s						
ABKAR	Akbulak array	92.91	319	P	P	04 08 46.0	-1.7
GEYT	Alibeck	92.98	308	P	P	04 08 49.2	+0.8
	comp=Z,0.9nm,0.3s,baz=65,slow=11,SNR=1.7						
N02D	Trinity Center	94.65	49	P	P	04 08 57.7	+1.7
	baz=266						
YBH	Yreka Blue Hor	94.71	49	P	P	04 08 56.9	+0.6
YBH				pmax	pmax		
	comp=Z,23nm,1.6s						
YBH	Yreka Blue Hor	94.71	49	P	P	04 08 56.9	+0.6
YBH				IAmb	IAmb	04 08 58.3	
	comp=Z,23nm,1.6s						
WDC	Whiskeytown Da	94.74	50	P	P	04 08 56.6	+0.2
WDC				pmax	pmax		
	comp=Z,17nm,1.5s						
WDC	Whiskeytown Da	94.74	50	P	P	04 08 56.6	+0.2
WDC				IAmb	IAmb	04 08 59.0	
	comp=Z,17nm,1.4s						
ORV	Oroville	95.46	51	IAmb	IAmb	04 09 02.4	
	comp=Z,12nm,1.4s						
BELA	Belgrano 2	95.64	180	P	P	04 08 60.0	+0.2
AFDM	Forest Hills D	95.83	52	P	P	04 09 01.4	-0.1
AFDM				IAmb	IAmb	04 09 03.8	
	comp=Z,11nm,1.3s						
NVAR	Mina Array Bea	97.89	52	P	Pdif	04 09 11.9	+0.8
	comp=Z,0.3nm,0.5s,baz=254,slow=5.5,SNR=5.9						
NVAR				LR	LR	04 51 22.5	
	comp=Z,564nm,18.1s,baz=276,slow=34						
NVAR	Mina Array Bea	97.89	52	P	P	04 09 10.6	-0.4
PFO	Pinyon Flats O	99.22	57⇈	eP	Pdif	04 09 17.5	+0.5
PFO				pmax	pmax		
	comp=Z,94nm,6.4s						
SNAA	Sanae	99.37	189⇊	eP	Pdif	04 09 18.0	+1.2
SNAA				pmax	pmax		
	comp=Z,9.0nm,1.8s						
YKA	Yellowknife Ar	99.80	28	P	Pdif	04 09 18.4	-0.3
	comp=Z,2.1nm,0.9s,baz=288,slow=5.1,SNR=4.4						
YKA				LR	LR	04 51 30.9	
	comp=Z,308nm,20.9s,baz=0.0,slow=34						
PDAR	Pinedale Array	104.47	48	Pdiff	Pdif	04 09 40.1	-0.1
	comp=Z,0.3nm,0.6s,baz=280,slow=5.4,SNR=3.0						
TXAR	Lajitas Array	110.22	61	PKiKP	PKiKP	04 14 07.8	+0.5
	comp=Z,0.3nm,0.8s,baz=274,slow=5.3,SNR=3.4						
ECSD	EROS Data Cent	113.64	45	P	PKiKP	04 14 12.2	-1.0
	baz=284						
WMOK	Wichita Mounta	113.77	55	P	PKiKP	04 14 14.1	+0.4
	baz=279						
HKT	Hockley	116.94	60⇈	ePKiKP	PKiKP	04 14 20.8	+1.0
U38A	Gravette	116.98	52		PKPdf	04 14 19.1	-0.7
W39A	Magazine	117.72	54	P	PKPdf	04 14 20.7	-0.5
	baz=282						
KONO	Kongsberg	117.95	337⇊	iPKiKP	PKPdf	04 14 20.2	-0.7
KONO				pmax	pmax		
	comp=Z,39nm,2.5s						
U40A	Yellville	118.20	52	P	PKPdf	04 14 21.2	-0.9
	baz=284						
U40A	Yellville	118.20	52	PKPdf	PKPdf	04 14 21.3	-0.9
W41B	Gary Mavity, V	118.95	53	P	PKPdf	04 14 22.1	-1.5
	baz=283						
LCAR	Lake Charles	119.60	52	PKPdf	PKiKP	04 14 24.9	0.0
KRLC	Kraliky	119.94	325	eSS	SS	04 32 59.2	+48
DPC	Dobruska-Polom	120.07	326	eSS	SS	04 32 52.1	+39
BRG	Berggiesshubel	121.11	327	e(P)	PKPdf	04 14 26.6	-0.7
	comp=Z,4.1nm,1.1s						
BRG	Berggiesshubel	121.11	327	ePKIKP	PKPdf	04 14 26.6	-0.7
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PRA	Prague	121.26	326	eSS	SS	04 33 03.0	+35
CLL	Collm	121.38	328	ePKPdf	PKPdf	04 14 25.0	-2.8
CLL				ePP	PP	04 15 59.0	0.0
CLL	Collm	121.38	328	ePKIKP	PKPdf	04 14 25.0	-2.8
PLCA	Paso Flores	121.72	147	PKP	PKiKP	04 14 29.2	+0.1
	comp=Z,0.6nm,0.6s,baz=196,slow=7.4,SNR=1.1						
WVT	Waverly	122.18	51	PKIKP	PKPdf	04 14 29.4	-0.4
WVT	Waverly	122.18	51		PKPdf	04 14 29.4	-0.4
KHC	Kasperske Hory	122.22	326	ePKP	PKiKP	04 14 34.0	+4.3
KHC	Kasperske Hory	122.22	326	eSS	SS	04 33 02.4	+22
KHC	Kasperske Hory	122.22	326	ePKIKP	PKiKP	04 14 34.0	+4.3
KHC				eSS	SS	04 33 02.4	+22
NKC	Novy Kostel	122.26	327	eSS	SS	04 33 07.3	+26
GERES	GERESS Array B	122.30	325	PKP	PKPdf	04 14 29.0	-0.8
	comp=Z,0.7nm,0.5s,baz=81,slow=2.1,SNR=8.1						
GERES	GERESS Array B	122.30	325	PKIKP	PKPdf	04 14 29.2	-0.6
GERES	GERESS Array B	122.30	325	PKPdf	PKPdf	04 14 29.2	-0.6
SOKA	Soboth	122.59	322	esPKiKP	PKiKP	04 14 34.7	+4.1
	comp=Z,0.6nm,0.4s						
LRAL	Lakeview Retre	123.70	55	P	PKPdf	04 14 32.1	-0.7
	baz=286						
ABTA	Abfaltersbach	124.06	324	i PKPdf	PKPdf	04 14 32.2	-1.0
	comp=Z,0.9nm,0.5s						
STAL	STALIGIAL	124.19	323		PKPdf	04 14 33.0	-0.5
CIMO	Cimolais	124.33	323		PKiKP	04 14 34.1	+0.2
SCHQ	Schefferville	124.87	23	PKP	PKiKP	04 14 34.9	+0.1
	comp=Z,5.3nm,0.9s,baz=218,slow=13,SNR=2.6						
FETA	Feichten	124.96	325	i PKiKP	PKPdf	04 14 34.6	-0.5
	comp=Z,1.4nm,0.7s						
Q52A	Bidwell	125.38	46	P	PKPdf	04 14 35.1	-0.8
	baz=293						
N53A	Lisbon	125.63	44	P	PKPdf	04 14 36.0	-0.3
	baz=296						
Q54A	Coxs Mills	126.39	46	P	PKPdf	04 14 37.5	-0.3
	baz=294						
W54A	Cherokee Point	126.87	51	P	PKiKP	04 14 39.5	+0.1
	baz=291						
R55A	Marlinton	127.19	46	P	PKPdf	04 14 39.2	-0.3
	baz=295						
GCUF	Volcan Galeras	135.65	95	eP	PKiKP	04 14 58.4	+0.1
BBAC	Balboa, Cauca	135.85	94	eP	PKPdf	04 14 53.4	-3.3
PUAC	Puerto Asis, P	136.31	96	eP	PKPdf	04 14 58.1	+0.8
POPC	Popayan, Colom	136.48	93	eP	PKPdf	04 14 53.8	-4.1
PCON	Cinco Dias	136.73	94	eP	PKiKP	04 14 59.7	-0.9
YOTC	Yotoco, Valle	136.96	91	eP	PKPdf	04 14 52.0	-6.7
LCBC	Los crdobas,	137.18	84	eP	PKiKP	04 15 02.8	+2.1
FLOC	Florencia	137.37	95	eP	PKPdf	04 14 55.1	-4.2
CBOC	Ciudad Bolivar	137.44	89	eP	PKPdf	04 14 58.0	-1.6
MOTC	Monteria, Cord	137.87	84	eP	PKPdf	04 14 50.7	-9.4
RREF	El Recreo	138.03	90	eP	PKPdf	04 14 58.1	-3.2
TOLC	Tolima	138.03	90	eP	PKPdf	04 15 00.3	-0.6
GUY2C	Guyana, Caldas	138.04	90	eP	PKPdf	04 14 55.4	-5.7
ORTC	Ortega, Tolima	138.05	91	eP	PKPdf	04 14 59.7	-0.9
SJCC	San Jacinto, C	138.34	83	eP	PKPdf	04 14 58.4	-2.6
PRAC	Prado	138.39	92	eP	PKPdf	04 14 57.3	-3.9
LPAZ	La Paz	138.61	124	PKP	PKPdf	04 15 01.9	-0.3
	comp=Z,2.7nm,0.8s,baz=272,slow=4.4,SNR=6.6						
LPAZ	La Paz	138.61	124	PKIKP	PKiKP	04 15 05.6	+1.2
LPAZ	La Paz	138.61	124	PKPdf	PKiKP	04 15 05.6	+1.2
ZARC	Zaragoza, Cauc	138.65	86	eP	PKPdf	04 14 59.4	-2.2
PTBC	PUERTO BERRIO	139.02	88	eP	PKPdf	04 14 59.6	-2.7
ROSC	El Rosal	139.05	90	PKP	PKPdf	04 15 02.9	+0.1
	comp=Z,8.6nm,0.5s,baz=13,slow=2.8,SNR=7.0						
ROSC	El Rosal	139.05	90	eP	PKPdf	04 15 00.6	-2.2
ROSC	El Rosal	139.05	90	PKPdf	PKPdf	04 15 01.9	-0.9
MACC	Macarena, Meta	139.24	94	eP	PKPdf	04 14 53.0	-10
VILC	Villavicencio,	139.61	91	eP	PKPdf	04 14 53.8	-10
CHIC	Chingaza	139.62	91	eP	PKPdf	04 14 52.3	-12
RUSC	La Rusia	140.35	89	eP	PKPdf	04 14 57.2	-8.1
SC01	Santiago de lo	141.38	67	PKPdf	PKPdf	04 15 03.0	-3.4
SDV	Santo Domingo	142.84	84	PKPdf	PKPdf	04 15 07.2	-2.2
SIV	San Ignacio	144.42	129	PKP	PKPdf	04 15 11.2	-0.7
	comp=Z,13nm,1.0s,baz=231,slow=6.7,SNR=13						
CRPR	Cabo Rojo, PR	145.05	68		PKPbc	04 15 11.2	-1.1
TOA0	Torodi Ar. Sit	145.05	283		PKPab	04 15 12.4	0.0
TORD	Torodi Ar. Bea	145.05	283	PKPbc	PKPbc	04 15 12.3	-0.1
	comp=Z,24nm,0.8s,baz=61,slow=3.9,SNR=101						
TORD	Torodi Ar. Bea	145.05	283		PKPbc	04 15 12.2	-0.2
MLPR	Magueyes Islan	145.12	68		PKPbc	04 15 11.4	-1.2
SAML	Samuel	146.35	117	PKP2	PKPdf	04 15 15.5	+0.3
SAML	Samuel	146.35	117		PKPdf	04 15 15.5	+0.3
CUPR	Culebra, Puert	146.65	67		PKPbc	04 15 17.3	+0.1
ROSA	Rosais	147.72	353	PKPbc	PKPab	04 15 22.1	+0.2
KOWA	Kowa	150.29	288		PKPbc	04 15 27.0	+0.2
KIC	Kosan Boka	151.73	271	ePKIKP	PKPbc	04 15 30.3	0.0
	comp=Z,96nm,1.5s						
DBIC	Dimbokro	151.85	272	PKPbc	PKPbc	04 15 30.4	-0.1
	comp=Z,15nm,0.9s,baz=111,slow=4.2,SNR=11						
DBIC	Dimbokro	151.85	272	PKIKP	PKiKP	04 15 30.8	-0.1
DBIC	Dimbokro	151.85	272		PKiKP	04 15 30.8	-0.1
LIC	Lamto	152.01	271	ePKIKP	PKPbc	04 15 30.8	-0.1
	comp=Z,60nm,1.2s						
TIC	Toumodi	152.02	272	ePKIKP	PKPbc	04 15 30.7	-0.2
PTGA	Pitinga	152.30	104	PKPbc	PKPbc	04 15 31.1	-0.5
	comp=Z,3.4nm,0.4s,baz=256,slow=3.6,SNR=9.6						
BDFB	Brasilia	153.46	147	PKPbc	PKPbc	04 15 34.1	0.0
	comp=Z,3.8nm,0.4s,baz=199,slow=4.1,SNR=5.5						
BDFB	Brasilia	153.46	147	PKIKP	PKPdf	04 15 26.5	0.0
BDFB						04 15 33.9	
BDFB						04 15 46.1	
BDFB	Brasilia	153.46	147	PKPdf	PKPdf	04 15 26.5	0.0
BDFB					PKPbc	04 15 33.9	-0.3
BDFB				PKPab	PKPab	04 15 46.1	-0.2

NIED **26** *03:55:45.3, 24.°04N×126.°05E, h88km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10^14Nm; Mrr-0.41; Mθθ3.30; Mφφ-2.88; Mrθ1.74; Mrφ2.15; Mθφ-0.68; Fault plane solution: M0 4.20000×10^14 NP1: φs297.00000°, δ88.00000°, λ-27.00000°. NP2: φs27.00000°, δ63.00000°, λ-178.00000°.*

JMA 26 03:55:45.3±0.2, 24.°04N×126.°05E, h88km±4km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.93	321	P	Pn	03 56 04.3	+0.3
JOGS				eS	Sn	03 56 18.2	+0.2
JMJ2	Miyako jima3	0.96	317	P	Pn	03 56 04.4	0.0
JMJ2				S	Sn	03 56 18.5	-0.2
JIRB	Irabujima	1.12	315	P	Pn	03 56 06.3	0.0
JIRB				S	Sn	03 56 22.2	+0.2
JIKM	Ikemajima	1.14	320	P	Pn	03 56 07.0	+0.5
JIKM				eS	Sn	03 56 24.1	+1.6
JTJ	Tarama	1.37	296	P	Pn	03 56 09.7	+0.4
JTJ				S	Sn	03 56 26.9	-0.5
JISG	Ishigakijimahi	1.68	289	P	Pn	03 56 13.8	+0.6
JISG				eS	Sn	03 56 35.2	+0.8
JIJ	Ishigaki jima	1.77	281	P	Pn	03 56 14.8	+0.4
JIJ				S	Sn	03 56 36.3	-0.3
JKRS	Kuro-shima	1.88	276	P	Pn	03 56 16.2	+0.4
JKRS				S	Sn	03 56 39.2	+0.2
HATJ	Hateruma jima	2.05	271	P	Pn	03 56 18.3	+0.2
HATJ				eS	Sn	03 56 43.5	+0.3
IRIF	Iriomote-Funau	2.14	278	P	Pn	03 56 19.8	+0.6
IRIF				eS	Sn	03 56 44.9	-0.3
JKE	Kume jima 2	2.37	16	P	Pn	03 56 22.6	+0.2
JKE				S	Sn	03 56 50.4	-0.3
JJT3	Tamagusuku3	2.62	37	P	Pn	03 56 26.3	+0.6
JJT3				S	Sn	03 56 56.5	-0.2
JAGN	Aguni-jima	2.76	23	P	Pn	03 56 28.3	+0.8
JAGN				eS	Sn	03 57 00.0	0.0
YOJ	Yonaguni jima	2.81	279	P	Pn	03 56 28.9	+0.8
YOJ				S	Sn	03 57 00.1	-1.0
JYNG	Yonagunijimaku	2.86	279	P	Pn	03 56 29.7	+0.8
JYNG				S	Sn	03 57 01.1	-1.4
JNTH	Nagotoyohara	3.05	35	P	Pn	03 56 31.8	+0.4
JNTH				eS	Sn	03 57 05.7	+0.6
JOW	Kunigami	3.43	35	P	Pn	03 56 37.5	+0.9
JOW				S	Sn	03 57 15.6	-0.7
JIH	Iheya	3.45	30	P	Pn	03 56 37.5	+0.7
JIH				eS	Sn	03 57 16.1	-0.5

SKO **26** *04:14:07.2, 41.°26N×20.°18E, h28km*

ATH 26 04:14:06.3, 41.°05N×20.°04E, h18km±3km, ML1.9/2, Error ellipse: s-maj=3.5km s-min=1.4km az=7.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.33	336	P	Pg	04 14 12.6	-0.7
TIR				S	Sb	04 14 18.9	+0.3
TIR				AML	AML	04 14 19.6	
	comp=N,614μm,0.4s						
TIR				AML	AML	04 14 19.7	
	comp=E,789μm,0.3s						
OHR	Ohrid	0.57	84	i Pg	Pg	04 14 17.7	-0.1
OHR				i Sg	Sb	04 14 26.7	+0.9
OHR				eLg	Lg	04 14 27.4	
	comp=E,21nm,0.5s						
OHR				eLg	Lg	04 14 27.6	
	comp=N,29nm,0.5s						
NEST	Nestorio	0.99	129	P	Pg	04 14 25.9	+0.2
FNA	Florina	1.04	104	P	Pb	04 14 25.6	-0.3
FNA				S	Sn	04 14 41.4	+1.0
FNA				AML	AML	04 14 46.8	
	comp=E,92μm,0.7s						
FNA				AML	AML	04 14 46.9	
	comp=N,98μm,0.3s						
FNA	Florina	1.04	104	PKIKP	Pn	04 14 26.1	-0.1
FNA	Florina	1.04	104		Pn	04 14 26.1	-0.1
KEK	Kerkira	1.35	188	P	Pb	04 14 31.7	+0.6
KEK				S	Sg	04 14 50.3	+0.4
KPRO	Kipourio	1.49	137	P	Pg	04 14 34.6	-0.4
IGT	Igoumenitsa	1.53	172	P	Pb	04 14 34.8	+0.6
IGT				S	Sg	04 14 56.2	+0.4
STIP	Stip	1.74	68	i Pg	Pg	04 14 39.1	-0.6
DBRK	Dubrovnik	2.15	319	ePn	Pn	04 14 42.6	+1.4
DBRK				Sn	Sn	04 15 08.3	+0.8
LSTV	Lastovo	2.91	307	Sn	Sn	04 15 24.4	-1.9
RICI	Ricice	3.26	319	Sn	Sn	04 15 34.4	-0.5
KJJV	Kijevo	3.99	319	ePn	Pn	04 15 07.4	+0.7
KJJV				Sn	Sn	04 15 51.8	-1.2
MORI	Morici	4.27	313	Sn	Sn	04 15 59.3	-0.4
DUGI	Dugi Otok	4.71	310	i Pn	Pn	04 15 17.1	+0.6
DUGI				Sn	Sn	04 16 09.3	-1.4

NEIC **26** *04:17:00.4±1.7, 37.°65N±0.°01×118.°85W±0.°02, h11km±2km, Error ellipse: s-maj=2.9km s-min=1.3km az=123.0*

NCEDC 26 04:17:00.5±0.9, 37.°65N±0.°02×118.°85W±0.°02, h6km±2km, Md3.0/46, Error ellipse: s-maj=2.7km s-min=2.2km az=94.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRNC	Doe Ridge	0.01	125		Pg	04 17 01.9	-0.1
MLAC	Mammoth, Mammo	0.02	145		Pg	04 17 03.1	+1.1
MCBM	Casa Benchmark	0.04	268		Pg	04 17 02.0	-0.1
MLHM	Little Hot Cre	0.04	40		Pg	04 17 02.2	+0.1
MCSM	Casa Diablo Ho	0.05	282		Pg	04 17 02.2	0.0
MGPM	Gravel Pit	0.05	246		Pg	04 17 02.2	0.0
MCVM	Convict Lake	0.06	164		Pg	04 17 02.2	-0.1
MLCM	Laurel Creek C	0.06	237		Pg	04 17 02.3	0.0
MEMM	East Mammoth H	0.07	286		Pg	04 17 02.6	+0.1
MMLB	Mammoth Lakes	0.10	278		Pg	04 17 03.2	+0.2
LMCR	Lookout Mounta	0.11	317		Pg	04 17 03.5	+0.4
OMMB	Old Mammoth Mi	0.12	255		Sg	04 17 05.1	-0.1
OMMB	Old Mammoth Mi	0.12	255	Pg	Pg	04 17 02.9	-0.4
MDYM	Dry Creek	0.13	276		Pg	04 17 03.8	+0.4
MLIM	Lincoln Peak	0.13	266		Pg	04 17 03.8	+0.4
MMSM	Mammoth Summit	0.14	264		Pg	04 17 03.9	+0.3
MMPM	Mammoth Pass	0.15	256		Pg	04 17 03.7	+0.1
MDCM	Deadman Creek	0.17	293		Pg	04 17 04.1	+0.1
MINS	Minaret Summit	0.17	273		Pg	04 17 04.2	+0.2
MRDM	Red Cones	0.17	254		Pg	04 17 04.2	+0.1
MDPB	Devils Postpil	0.18	266		Pg	04 17 04.4	+0.1
MDPB					Sg	04 17 07.1	+0.3
BENR	Benton	0.23	72		Pg	04 17 05.3	+0.2
MRCM	Red Rock Canyo	0.27	84		Pg	04 17 06.2	+0.2
SCHCA	Scheelite	0.31	156		Pg	04 17 06.7	0.0
MCDM	Chidago Canyon	0.34	107		Pg	04 17 07.6	+0.5
MTUM	Tungsten Hills	0.37	142		Pg	04 17 07.8	+0.1
MFBM	Five Bridges	0.40	123		Pg	04 17 08.7	+0.4
MLNR	Milner Canyon	0.41	97		Pg	04 17 08.7	+0.3
KCC	Kaiser Creek	0.49	229		Pg	04 17 09.8	-0.2
KCC					Sg	04 17 16.2	-0.2
POCCA	Poleta Canyon	0.53	122		Pg	04 17 10.8	0.0
LHV	Little Huntoon	0.66	24		Pg	04 17 13.5	+0.2
TIN	Tinemaha, Big	0.77	140		Pg	04 17 15.4	+0.1
NVAR	Mina Array Bea	0.89	29	Pg	Pg	04 17 16.6	-1.1
FRI	Friant	0.95	227		Pg	04 17 17.9	-0.7
NV11	Mina Array Sit	0.96	35		Pg	04 17 18.7	-0.2
HELL	Mitchell Peak,	0.97	188		Pg	04 17 18.6	-0.6
HELL					Sg	04 17 31.3	-0.6
WAKR	Walker	0.97	332		Pg	04 17 19.0	-0.3
RYN	Ryan	1.01	15		Pg	04 17 19.9	-0.1
MYLM	Yosemite Lake	1.28	259		Pn	04 17 24.2	-0.6
CMB	Columbia Colle	1.28	288		Pn	04 17 23.8	-1.2
CMB					Sg	04 17 40.5	-1.1
CMB	Columbia Colle	1.28	288	Pn	Pn	04 17 23.6	-1.4
MRHM	Rocky Hill	1.37	188		Pn	04 17 25.4	-0.8
YERR	Yerington	1.37	347		Pn	04 17 26.4	0.0
BFC	Buffalo Canyon	1.38	335		Pb	04 17 26.8	0.0
MCUB	Copperopolis B	1.44	284		Pn	04 17 26.9	-0.2
SPG2	Springville 2	1.44	177		Pn	04 17 27.0	-0.2
SPG2					Sb	04 17 45.4	-1.1
KVN	Kaiserville	1.52	23		Pn	04 17 28.7	+0.3
PNTR	Pine Nut	1.56	338		Pn	04 17 29.1	+0.2
EMB	Emerald Bay	1.65	324		Pb	04 17 31.5	0.0
RUBR	Rubicon Trail	1.74	324	Pn	Pn	04 17 31.7	+0.3
VCNR	Virginia City	1.76	339		Pn	04 17 32.6	+0.8
BRMM	Rolling Bench	1.77	243		Pb	04 17 33.1	-0.2
TAHR	Tahoe	1.82	326		Pb	04 17 34.8	+0.4
BMSM	Mercy Hot Spri	1.84	238		Pb	04 17 33.9	-0.7
PKEM	Kettleman Hill	1.88	213		Pb	04 17 35.1	0.0
MPK	Martis Peak	1.89	331		Pg	04 17 36.6	-0.2
AASM	Arroyo Seco	1.95	294		Pb	04 17 35.6	-0.8
ISA	Isabella, Lake	2.00	171		Pn	04 17 35.8	+0.9
BAVM	Antelope Valle	2.01	241		Pb	04 17 36.5	-0.9
BEMM	Emmet	2.05	242		Pb	04 17 37.3	-0.8
PAHR	Pah Rah Range	2.10	349	Pn	Pn	04 17 37.5	+1.2
WOFM	Oak Flat	2.11	177		Pb	04 17 38.6	-0.6
IND	Independence	2.11	328		Pb	04 17 38.3	-1.1
AFDM	Forest Hills D	2.12	309		Pn	04 17 37.1	+0.7
PMPB	Monarch Peak	2.12	228		Pn	04 17 36.9	+0.4
TPNV	Topopah Spring	2.19	108		Pn	04 17 37.4	-0.2
PAGB	Antelope Grade	2.22	211		Pn	04 17 37.8	0.0
SAO	San Andreas Ge	2.25	248	Pn	Pn	04 17 38.8	+0.5
PCCM	Crazy Canyon	2.42	231		Pn	04 17 42.5	+1.9
R11A	Troy Canyon, C	2.67	74	Pn	Pn	04 17 44.3	0.0
ORV	Oroville	2.82	313	Pn	Pn	04 17 46.0	0.0
OSI	Osito Audit: C	3.03	178	Pn	Pn	04 17 48.9	-0.1
PRN	Pahroc Range	3.03	93	Pn	Pn	04 17 47.9	-1.2
SHPR	Sheep Range	3.16	110	Pn	Pn	04 17 50.8	-0.1
PSUT	Pine Spring	4.04	76	Pn	Pn	04 18 02.8	-0.2
PSUT					LR	04 19 08.3	
ELK	Elko	4.18	41	Pn	Pn	04 18 05.0	0.0
CCUT	Cedar City	4.36	90	Pn	Pn	04 18 08.8	+1.3
CCUT					LR	04 19 19.1	
KNB	Kanab	4.84	96	Pn

YERR	Yerington	1.37 347		Pg	04 21 45.1	-0.8
MRHM	Rocky Hill	1.37 188		Pg	04 21 44.4	-1.5
RCTC	Rector, Farmer	1.38 193		Pn	04 21 44.8	-0.8
BFC	Buffalo Canyon	1.38 335		Pg	04 21 45.2	-0.9
VOG	Valley Oaks Go	1.39 198	P	Pn	04 21 45.2	-0.6
	baz=18					
VOG			S	Sg	04 22 04.0	-0.3
	baz=18					
MCUB	Copperopolis B	1.44 284		Pn	04 21 45.4	-1.1
SPG2	Springville 2	1.45 177		Pn	04 21 46.0	-0.7
GNO	Genoa	1.50 329		Pn	04 21 48.0	+0.4
KVN	Kaiserville	1.52 23		Pn	04 21 47.1	-0.8
PNTR	Pine Nut	1.55 338		Pn	04 21 48.5	+0.1
MNHB	New Hogan Dam	1.63 288		Pn	04 21 48.8	-0.4
PWMM	Westland Maint	1.63 222		Pn	04 21 49.9	+0.8
EMB	Emerald Bay	1.65 324		Pn	04 21 50.2	+0.6
RUBR	Rubicon Trail	1.73 324		Pn	04 21 51.8	+1.0
VCNR	Virginia City	1.76 339		Pn	04 21 51.7	+0.5
BRMM	Rolling Bench	1.77 243		Pn	04 21 52.1	+1.1
VES	Vestal, Richgr	1.81 186	P	Pn	04 21 52.5	+0.8
	baz=5.8					
VES			S	Sn	04 22 16.5	+1.4
	baz=5.8					
VES	Vestal, Richgr	1.81 186		Pn	04 21 52.6	+0.9
TAHR	Tahoe	1.82 326		Pn	04 21 53.3	+1.3
PARM	Anticline Ridg	1.84 221		Pn	04 21 53.1	+1.1
BMSM	Mercy Hot Spri	1.84 238		Pn	04 21 52.9	+0.8
WCHM	Chimney Peak	1.87 160		Pn	04 21 53.7	+1.0
PKEM	Kettleman Hill	1.88 213		Pn	04 21 53.9	+1.3
MPK	Martis Peak	1.89 331		Pb	04 21 54.8	-0.1
MPMC	Manual Prospec	1.93 145	Pb	Pn	04 21 55.1	+1.7
	baz=326					
SFJWR	San Luis Fatjo	1.94 253		Pn	04 21 54.3	+0.9
AASM	Arroyo Seco	1.94 294		Pn	04 21 54.4	+1.0
WNMM	Nine Mile Cany	1.96 157		Pn	04 21 55.2	+1.6
SLD	San Luis Dam	1.97 254		Pn	04 21 54.8	+0.9
CMPM	Mikes Peak	1.98 262		Pn	04 21 54.9	+0.8
ISA	Isabella, Lake	2.00 171	Pb	Pn	04 21 56.0	+1.7
	baz=352					
ISA			Sb	Sb	04 22 22.4	+0.3
	baz=352					
ISA	Isabella, Lake	2.00 171		Pn	04 21 56.1	+1.7
ISA	Isabella, Lake	2.00 171	Pn	Pn	04 21 55.6	+1.3
BAVM	Antelope Valle	2.01 241		Pn	04 21 55.2	+0.9
HPCM	Pacheco Lake	2.02 254		Pn	04 21 55.5	+1.0
PHRM	Hernandez Vall	2.02 232		Pn	04 21 55.3	+0.7
PACP	Pacheco Peak	2.04 253		Pn	04 21 56.0	+1.1
BEMM	Emmet	2.04 242		Pn	04 21 56.3	+1.4
VPK	Verdi Peak	2.05 333		Pn	04 21 57.0	+1.8
BBGB	Big Mountain B	2.05 239		Pn	04 21 56.4	+1.4
DONR	Donner Summit	2.05 326		Pn	04 21 56.9	+1.6
CTM	Castle Mountai	2.09 215		Pn	04 21 56.8	+1.3
BEHM	Elkhorn Ranch	2.10 243		Pn	04 21 56.8	+1.2
PAHR	Pah Rah Range	2.10 349		Pn	04 21 57.4	+1.6
PSMM	Smith Mountain	2.10 222		Pn	04 21 56.7	+0.9
CMMM	Mount Mocho	2.11 266		Pn	04 21 56.7	+0.8
BBNM	San Benito	2.11 238		Pb	04 21 59.0	+0.6
IND	Independence	2.11 328		Pb	04 21 58.7	0.0
WOFM	Oak Flat	2.11 177		Pn	04 21 57.6	+1.7
AFDM	Forest Hills D	2.11 309		Pn	04 21 56.9	+1.0
PMPB	Monarch Peak	2.12 228		Pn	04 21 56.8	+0.9
LRV	Little Rabbit	2.12 235		Pn	04 21 57.0	+1.1
HJSM	John Smith Roa	2.12 248		Pn	04 21 57.0	+1.1
PSRM	Scobie Ranch	2.12 213		Pn	04 21 57.0	+1.0
PBWM	Bitterwater Cr	2.13 232		Pn	04 21 57.0	+1.0
BHRM	Hodges Ranch	2.13 245		Pn	04 21 57.6	+1.6
HFEM	San Felipe	2.14 253		Pn	04 21 57.1	+1.0
GHS	Gilroy Hot Spr	2.14 256		Pn	04 21 57.4	+1.2
KBF	Kyburz Flat	2.14 331		Pb	04 21 58.7	-0.4
PEAR	Peavine Mounta	2.14 336		Pb	04 21 59.3	+0.1
ARN	Arnold Ranch	2.15 263		Pn	04 21 57.4	+1.0
PHFM	Heflinger Ranc	2.16 216		Pn	04 21 57.4	+1.0
PSTM	Stockdale Moun	2.17 218		Pn	04 21 57.4	+0.8
PKD	Bear Valley Ra	2.17 219		Pn	04 21 57.4	+0.7
BSLM	Silva Ranch	2.17 247		Pn	04 21 57.7	+1.1
GHC	Gold Hill	2.18 214		Pn	04 21 57.2	+0.5
PHPM	Hope Ranch	2.18 221		Pn	04 21 57.5	+0.8
BPIM	Pinnacles	2.18 239		Pn	04 21 58.1	+1.3
BABR	Babbit Peak	2.18 334		Pn	04 21 58.6	+1.5
HSPM	Sheep	2.19 257		Pn	04 21 58.2	+1.4
CDC	Canada Road	2.19 254		Pn	04 21 58.5	+1.7
PSNM	Stone Corral	2.19 212		Pn	04 21 57.5	+0.7
PVCM	Vineyard Canyo	2.19 219		Pn	04 21 57.6	+0.8
TPNV	Topopah Spring	2.19 108	P	Pn	04 21 57.0	0.0
	baz=290					
TPNV	Topopah Spring	2.19 108		Pn	04 21 56.1	-0.9
PHAM	Harlan Ranch	2.19 215		Pn	04 21 57.8	+0.9
BCGM	Cienega Road	2.20 246		Pn	04 21 58.1	+1.1
BJOM	Mount Johnson	2.21 243		Pn	04 21 58.6	+1.4
THIS	South End of C	2.21 210		Pn	04 21 58.3	+1.0
CBSNC	Byron Hot Spri	2.22 275		Pb	04 21 59.9	-0.4
PAGB	Antelope Grade	2.22 211		Pn	04 21 58.0	+0.7
PKLM	Kerr Lake	2.22 213		Pn	04 21 58.1	+0.9
PCMM	Cholame Hills	2.22 215		Pn	04 21 58.2	+0.8
CMLM	Mount Lewis	2.23 266		Pn	04 21 59.0	+1.5
BVYM	Vineyard	2.23 247		Pn	04 21 58.7	+1.2
MHC	Mount Hamilton	2.24 263		Pn	04 21 59.2	+1.6
LRC	Lone Oak Road	2.24 232		Pn	04 21 59.0	+1.4
SAO	San Andreas Ge	2.25 248		Pn	04 21 58.9	+1.2
SAO	San Andreas Ge	2.25 248	Pn	Pn	04 21 58.0	+0.3
CADM	Anderson Res.	2.26 258		Pn	04 21 59.8	+2.0
PTRM	Twissleman Ran	2.27 209		Pn	04 21 58.9	+0.9
PPO	Portuguese Can	2.27 219		Pn	04 21 58.9	+0.9
TRAM	Private Proper	2.27 211		Pn	04 21 59.1	+1.1
CCOB	Coe Ranch Numb	2.28 261		Pn	04 22 00.1	+2.0
LOY	Loyalton	2.28 332		Pb	04 22 01.1	-0.4
FRP	Fremont Peak	2.29 248		Pn	04 21 59.0	+0.8
PBPM	Bitterwater Pu	2.29 206		Pn	04 21 59.4	+1.1
SCZ	Santa Cruz	2.29 244		Pn	04 21 59.0	+0.8
HBTM	San Juan Bauti	2.29 251		Pn	04 21 59.8	+1.5
HLPM	Lions Peak	2.29 256		Pn	04 21 59.6	+1.3
PSAM	San Ardo	2.30 226		Pn	04 21 59.6	+1.3
WENL	Wente Vineyard	2.31 270		Pb	04 22 01.3	-0.5
BJCM	Johnson Can.	2.31 242		Pn	04 21 59.3	+0.8
TCHL	Shandon	2.32 213		Pn	04 22 00.0	+1.4
HJGM	San Juan Grade	2.33 249		Pn	04 21 59.4	+0.6
BSRM	Salinas Radio	2.34 246		Pn	04 21 59.5	+0.5
CMOB	Morgan Territo	2.34 275		Pn	04 22 00.2	+1.2
JLAB	Laurel Hill	2.35 259		Pn	04 22 00.3	+1.3
CBC	Chamberlain	2.35 253		Pn	04 22 00.4	+1.4
LRMC	Laurel Mtn Rad	2.36 156	Sb	Sb	04 22 33.7	+1.3
	baz=337					
CVLM	Vallecito	2.37 270		Pn	04 22 01.6	+2.3
HTUM	Tustin Road	2.37 251		Pn	04 22 00.0	+0.7
JSTM	Santa Teresa H	2.38 260		Pn	04 22 00.7	+1.2
HCOM	Corn Cob Canyo	2.40 252		Pn	04 22 01.6	+1.9
BDM	Black Diamond	2.41 278		Pb	04 22 02.5	-1.0
BSMM	Soledad Missio	2.42 239		Pn	04 22 01.1	+1.0
TEJ	El Tejon	2.42 177		Pb	04 22 02.8	-1.0
PCCM	Crazy Canyon	2.42 231		Pn	04 22 01.4	+1.4
TSCN	Private Proper	2.42 210		Pn	04 22 01.5	+1.4
AMC	Almaden	2.43 259		Pn	04 22 01.4	+1.2
HERM	Elkhorn Road	2.43 250		Pn	04 22 01.8	+1.6
JHLM	Holstrom Ranch	2.43 258		Pn	04 22 01.3	+1.0
BPCNC	Pine Canyon	2.46 245		Pn	04 22 01.6	+1.0
CARC	Carrizo Plain	2.47 199		Pn	04 22 01.8	+1.0
JUMM	Mount Umunhum	2.47 260		Pn	04 22 01.9	+1.0
PANM	San Antonio Re	2.49 222		Pn	04 22 02.2	+1.2
HAST	Hastings Reser	2.50 241		Pn	04 22 01.9	+0.8
CRGC	Crocker Grade	2.50 197		Pn	04 22 02.4	+1.1
SMMC	Simmler	2.50 202	P	Pn	04 22 02.1	+0.9
	baz=21					
SMMC	Simmler	2.50 202		Pn	04 22 02.2	+1.0
ARVC	Arvin	2.52 180	Pb	Pb	04 22 04.5	-0.9
	baz=360					
ARVC			Sb	Sb	04 22 37.3	+0.6
	baz=360					
ARVC	Arvin	2.52 180		Pb	04 22 04.0	-1.3
BGC	Bolinger Road	2.55 275		Pn	04 22 03.5	+1.7
BCWM	Chews Ridge	2.55 239		Pn	04 22 03.0	+1.0
JRGM	Rodeo Gulch Ro	2.55 257		Pn	04 22 02.6	+0.8
RAMR	Ramage Ranch	2.58 220		Pn	04 22 03.3	+1.0
NADM	Allendale	2.59 289		Pb	04 22 05.6	-1.0
BRIB	Briones	2.63 277		Pn	04 22 04.2	+1.3
BCH	Branch Mountai	2.65 202		Pn	04 22 04.3	+1.0
JSFB	Stanford Teles	2.65 266		Pn	04 22 04.5	+1.3
NDHM	Dunnigan Hills	2.66 296		Pb	04 22 06.5	-1.2
PAPM	Alder Peak	2.66 230		Pn	04 22 04.2	+0.9
HMOM	Monterey	2.66 248		Pn	04 22 04.5	+1.1
OHCM	Honcut	2.66 310		Pn	04 22 05.7	+2.4
JFP	Foothills Park	2.67 265		Pn	04 22 04.6	+1.1
BAPM	Anderson Peak	2.67 238		Pn	04 22 04.4	+0.8
R11A	Troy Canyon, C	2.67 74	Pb	Pb	04 22 07.8	-0.4
	baz=256					
R11A			Sb	Sb	04 22 44.0	+2.5
	baz=256					
R11A	Troy Canyon, C	2.67 74		Pn	04 22 03.5	-0.2
BLDC	Black Mountain	2.68 219		Pn	04 22 04.7	+1.1
BKS	Berkeley--Byer	2.69 276		Pn	04 22 05.2	+1.4
PHCM	Hearst Castle	2.69 224		Pn	04 22 05.1	+1.2
BMRR	Black Mountain	2.70 336		Pn	04 22 05.2	+1.1
BPOM	Post Ranch	2.73 240		Pn	04 22 05.3	+1.0
ORV	Oroville	2.81 313		Pn	04 22 05.7	+0.2
EDW2	Edwards Air Fo	2.85 166	Pb	Pb	04 22 11.0	0.0
	baz=346					
EDW2			Sb	Sb	04 22 47.9	+1.6
	baz=346					
PKM	Mcpherson Peak	2.86 196	P	Pn	04 22 07.2	+1.0
	baz=15					
GSC	Goldstone, Bar	2.87 144		Pn	04 22 06.6	+0.4
OSI	Osito Audit: C	3.03 178	Pn	Pn	04 22 06.7	-1.8
PRN	Pahroc Range	3.03 93		Pn	04 22 07.9	-0.7
SHPR	Sheep Range	3.17 110		Pn	04 22 10.3	-0.1
MCCM	Marconi Confer	3.22 280	Pn	Pn	04 22 11.1	+0.1
GDXM	Geysers	3.31 292	Pn	Pn	04 22 11.8	-0.6
MWC	Mount Wilson	3.48 169		Pn	04 22 14.4	-0.4
O03E	Paynes Creek	3.50 320	P	Pn	04 22 17.7	+2.7
	baz=138					
PASC	Pasadena Art C	3.51 171	Pn	Pn	04 22 14.3	-0.7
BFSC	Mount Baldy Ra	3.54 164	Sb	Sg	04 23 10.4	-2.9
	baz=345					
PSUT	Pine Spring	4.04 76		Pn	04 22 22.0	-0.5
WDC	Whiskeytown Da	4.10 317		Pn	04 22 23.9	+0.8
ELK	Elko	4.18 41		Pn	04 22 23.6	-0.8
CCUT	Cedar City	4.36 90		Pn	04 22 26.4	-0.5
MOD	Modoc Plateau	4.39 346	Pn	Pn	04 22 26.9	-0.4
PFO	Pinyon Flats O	4.47 153	Pn	Pn	04 22 28.8	+0.4
LCMT	Little Creek M	4.52 96	Pn	Pn	04 22 27.3	-1.7
SZCU	Shurtz Canyon	4.58 89	Pn	Pn	04 22 30.2	+0.3
W13A	Hualapai Mount	4.75 121	Pn	Pn	04 22 31.3	-1.0
KNB	Kanab	4.85 96		Pn	04 22 33.1	-0.5
109C	Camp Elliot, M	4.96 163	Pn	Pn	04 22 35.7	+0.8
TCRU	Three Creeks R	5.14 77	Pn	Pn	04 22 38.4	+0.7
PKCU	Pink Cliffs	5.20 90	Pn	Pn	04 22 39.0	+0.4
BAR	Barrett	5.27 160	Pn	Pn	04 22 39.7	+0.5
MTPU	Mount Pierson	5.29 84		Pn	04 22 39.2	-0.6
MSU	Marysvale	5.34 79	Pn	Pn	04 22 40.9	+0.5
DUG	Dugway, Tooele	5.35 60	Pn	Pn	04 22 41.3	+0.8
U15A	North Rim	5.39 101		Pn	04 22 40.8	-0.3
TKX	Tecate	5.39 159	Pn	Pn	04 22 41.9	+1.0
BGU	Big Grassy Mou	5.58 52		Pn	04 22 43.4	-0.2
J08A	Circle Bar Ran	5.71 3	Pn	Pn	04 22 45.7	+0.4
NLU	North Lily Min	5.77 64	Pn	Pn	04 22 46.3	0.0
HUMO	Hull Mountain	5.87 329		Pn	04 22 46.9	-0.6
Y14A	Wickenburg	6.02 126	Pn	Pn	04 22 49.3	-0.3
MPU	Maple Canyon	6.11 65	Pn	Pn	04 22 50.5	-0.5
Q16A	Castle Valley	6.17 76	Pn	Pn	04 22 53.6	+1.8
MFID	Camas Ranch	6.21 21		Pn	04 22 51.7	-0.4
TMUT	Trail Mountain	6.22 72	Pn	Pn	04 22 52.7	+0.2
HVU	Hansel Valley	6.24 47		Pn	04 22 52.3	-0.5
CTU	Camp Tracy	6.30 59	Pn	Pn	04 22 53.1	-0.5
PINE	Pine Mountain	6.34 346		Pn	04 22 55.1	+1.1
WUAZ	Wupatki	6.38 107		Pn	04 22 54.2	-0.4
113A	Mohawk Valley,	6.41 138	Pn	Pn	04 22 53.5	-1.2
I07A	Izee	6.45 356		Pn	04 22 54.3	-1.2
JLU	Jordanelle	6.47 61	Pn	Pn	04 22 55.1	-0.8
P17A	Butcher Ranch,	6.61 72	Pn	Pn	04 22 57.9	+0.1
SRU	San Rafael Swe	6.71 75	Pn	Pn	04 22 57.9	-1.2
TCUT	Toone Canyon	6.73 57	Pn	Pn	04 22 57.6	-1.8
HLID	Hailey	6.80 28	Pn	Pn	04 23 00.7	+0.3
X16A	Lo Mia Camp, P	6.81 116		Pn	04 23 00.9	+0.3
HWUT	Hardware Ranch	6.88 53	Pn	Pn	04 22 59.7	-1.8
PV14	Lion Creek, Pa	7.79 82	Pn	Pn	04 23 14.1	0.0
PV23	Carpenter Ridg	7.81 81	Pn	Pn	04 23 14.5	+0.2
PV16	Nyswonger Mesa	7.88 82	Pn	Pn	04 23 15.2	0.0
PV11	David Mesa, Pa	7.91 82	Pn	Pn	04 23 14.7	-1.0
MVCO	Mesa Verde	8.25 90	Pn	Pn	04 23 19.4	-1.0
REDW	Red Top Meadow	8.35 44	Pn	Pn	04 23 21.2	-0.5
MCMT	McKenzie Canyo	8.48 30	Pn	Pn	04 23 23.2	-0.3
LRM	Limekiln Ridge	9.46 28	Pn	Pn	04 23 35.7	-1.3

BJI ***26*** *04:21:20.5±0.0, 12°.21N×95°.25E, h24km, mB5.5/73, mb5.1/76, Ms5.6/90, Ms7 5.3/85*

IDC ***26*** *04:21:20.8±0.3, 12°.53N×95°.19E, h0km, mb4.7/40, mb1 4.8/42, mb1mx4.8/46, mbtmp4.7/42, ML4.0/2, MS4.9/30, Ms1 4.9/30, ms1mx4.8/39, Error ellipse: s-maj=12.5km s-min=8.2km az=46.0*

NDI ***26*** *04:21:21.1±3.8, 12°.25N×95°.45E, h15km±120km, mb5.4, mb5.4(NEIC)*

MOS ***26*** *04:21:23.7±1.0, 12°.51N×95°.22E, h31km, mb5.5/76, MS5.1/33, Error ellipse: s-maj=6.3km s-min=3.6km az=107.8*

NEIC ***26*** *04:21:24, 12°.21N×95°.03E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.18; $M_{\theta\theta}$1.58; $M_{\phi\phi}$0.61; $M_{r\theta}$0.95; $M_{r\phi}$1.51; $M_{\theta\phi}$0.20; Fault plane solution: $M_0$2.65000×10^{17} NP1:ϕ_s42.00000°, δ36.00000°, λ-109.00000°. NP2:ϕ_s245.00000°, δ56.00000°, λ-77.00000°. Principal axes: T 2.8357, Plg10.0000°, Azm325.0000°; N -0.4190, Plg11.0000°, Azm57.0000°; P -2.4167, Plg75.0000°, Azm194.0000°;*

DJA ***26*** *04:21:24.6±0.7, 13°N±1°×9°5E±°, h19km±5km, M5.4/87, mB5.8/60, mb5.3/87, MLv5.5/5, Mw(mB)5.4/60, Mwp5.5/7*

UNK ***26*** *04:21:24.7, 12°.50N×95°.23E, h24km*

GCMT ***26*** *04:21:24.1±0.1, 12°.36N±0°.01×95°.18E±0°.01, h12km, MW5.5/141, Moment Tensor Solution. s94,c154; s141,c304; Duration: 1ś3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.88±.03; $M_{\theta\theta}$1.17±.02; $M_{\phi\phi}$0.71±.02; $M_{r\theta}$0.54±.08; $M_{\theta\phi}$1.15±.02; $M_{r\phi}$0.19±.07; Best double couple: $M_0$2.08000×10^{17} NP1:ϕ_s44.00000°, δ38.00000°, λ-100.00000°. NP2:ϕ_s237.00000°, δ53.00000°, λ-82.00000°. Principal axes: T 2.1870, Plg8.0000°, Azm321.0000°; N -0.2060, Plg6.0000°, Azm52.0000°; P -1.9720, Plg80.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***26*** *04:21:24.1±1.4, 12°.52N±0°.06×95°.23E±0°.06, h20km±2km, mb5.4/203, Ms_20 5.2/353, Mwc5.5(GCMT) Error ellipse: s-maj=9.0km s-min=7.4km az=148.0*

BGR ***26*** *04:21:32.4±0.0, 13°.49N×95°.30E, h27km±3km, mb4.7*

KLM ***26*** *04:21:36.0, 12°.37N×95°.36E, h124km, mb5.4*

ISC 26 04:21:24.2±0.3, 12°.52N±0°.03×95°.17E±0°.03, h21km±4km, h19km:pP-P, n950, σ1ś61/837, mb5.3/263, MS5.1/248, 16C-62D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	2.28	287	eP	Pn	04 22 01.1	+0.5
PBA	Port Blair	2.52	250	eP	Pn	04 22 04.8	+0.9
PBA				ex	Pb	04 22 12.0	+3.3
PBA	Port Blair	2.52	250	Pn	Pn	04 22 04.5	+0.6
PBKT	Sadao Pong	6.91	54		Pn	04 23 03.9	-0.5
CM31	Chiang Mai Arr	6.94	31	P	Pn	04 23 05.7	+1.0
	SNR=15						
CM31	Chiang Mai Arr	6.94	31	Pn	Pn	04 23 04.3	-0.4
CMAR	Chiang Mai Arr	6.94	31	Pn	Pn	04 23 04.6	-0.1
	1.3nm,0.3s,baz=220,slow=14,SNR=58						
CHTO	Chiang Mai	7.24	30	P	Pn	04 23 08.3	-0.6
CHTO	Chiang Mai	7.24	30	Pn	Pn	04 23 08.2	-0.6
LHMI	Lhok Sumawe	7.45	166	P	Pn	04 23 12.8	+1.1
	3.6nm5μm262nm,1.1s						
LHMI	Lhok Sumawe	7.45	166	Pn	Pn	04 23 11.9	+0.2
MLSI	Meulaboh, Aceh	8.29	171	P	Pn	04 23 25.4	+2.2
	9μm753nm,1.2s						
KULM	Kulim	8.99	143	Pn	Pn	04 23 31.6	-1.3
KULM	Kulim	8.99	143	P	Pn	04 23 32.0	-0.9
TPTI		9.41	168	P	Pn	04 23 40.2	+1.6
	3μm114nm,1.4s						
IPM	Ipoh	9.86	144	Pn	Pn	04 23 42.1	-2.7
IPM	Ipoh	9.86	144	P	Pn	04 23 46.0	+1.1
PSI	Prapat	10.34	159	Pn	Pn	04 23 52.8	+1.3
	0.4nm,0.3s,baz=359,slow=11,SNR=22						
PSI				LR	LR	04 28 10.4	
	comp=Z,10μm,19.8s,baz=271,slow=39						
UBPT	Khong Chiam	10.37	73	Pn	Pn	04 23 50.9	-0.9
RPSI	Rantau Prapat	10.44	159	Pn	Pn	04 23 53.3	+0.5
RPSI	Rantau Prapat	10.44	159		Pn	04 23 52.8	0.0
SLVN	Son La	12.11	42	Pn	Pn	04 24 15.3	-0.3
CHLP	Challavanipeta	12.25	300	eP	Pn	04 24 17.1	-0.5
CHLP				IVmB_BB		04 24 35.7	
	comp=Z,2μm,2.4s						
CHLP				IVMs_BB	IVMs_BB	04 29 01.9	
	comp=Z,2μm,21.5s						
MNSI	Mandailing Nat	12.44	159	P	Pn	04 24 24.1	+4.0
VIS	Vishakhapatnam	12.55	296	eP	Pn	04 24 22.4	+0.8
VIS				IAmb	IAmb	04 24 30.7	
	comp=Z,1.7nm,1.3s						
DLV	T Lat	13.03	91	Pn	Pn	04 24 28.4	0.0
SHL	Shillong	13.35	347	eP	Pn	04 24 34.4	+1.7
SHL				IAmb	IAmb	04 24 46.0	
	comp=Z,88nm,1.2s						
SHL	Shillong	13.35	347	P	P	04 24 37.6	-4.6
	SNR=19						
SHL	Shillong	13.35	347	P	Pn	04 24 33.5	+0.8
SHL	Shillong	13.35	347	Pn	Pn	04 24 33.5	+0.8
BKNI	Bangkinang	13.44	154	P	Pn	04 24 35.6	+1.8
	comp=Z,485nm,1.4s						
BKNI	Bangkinang	13.44	154	Pn	Pn	04 24 34.3	+0.5
MYKOM	Kota Tinggi	13.70	140	Pn	Pn	04 24 36.2	-1.1
MYKOM	Kota Tinggi	13.70	140	P	Pn	04 24 38.0	+0.7
PVM	Polavaram	13.91	291	eP	Pn	04 24 41.4	+1.2
PVM				IVmBBB		04 24 54.6	
	comp=Z,1μm,1.3s						
PVM				IVMs_BB	IVMs_BB	04 28 56.7	
	comp=Z,1μm,25.5s						
BOK	Bokaro	14.26	323	eP	P	04 24 49.7	-2.4
BOK				IAmb	IAmb	04 24 57.9	
	comp=Z,87nm,0.9s						
KMI	Kunming	14.44	29⇓	eP	Pn	04 24 51.0	+3.4
KMI				pP	P	04 24 55.0	+0.7
KMI				sP		04 24 58.5	
KMI				S	Sn	04 27 31.8	+4.5
KMI				pmax	pmax		
	comp=Z,30nm,2.1s						
KMI				pmax	pmax		
	comp=Z,2μm,9.1s						
KMI				LR	LR		
	comp=Z,7μm,10.7s						
KMI				LR	LR		
	comp=Z,19μm,10.0s						
KMI				LR	LR		
	comp=Z,11μm,11.3s						
KMI	Kunming	14.44	29	P	Pn	04 24 46.5	-1.1
KMI	Kunming	14.44	29	Pn	Pn	04 24 46.5	-1.1
MDRS	Chennai	14.56	274	eP	Pn	04 24 50.1	+0.9
MDRS				IAmb	IAmb	04 24 58.9	
	comp=Z,42nm,0.8s						
MYLAV	Mylavaram	14.68	288	eP	Pn	04 24 51.0	+0.2
MYLAV				IVmBBB		04 25 14.3	
	comp=Z,843nm,1.5s						
MYLAV				IVMs_BB	IVMs_BB	04 29 32.5	
	comp=Z,1μm,22.2s						
SDSI	Sungai Dareh	14.73	155	P	Pn	04 24 51.4	-0.1
	comp=Z,2μmcomp=Z,75nm,1.4s						
ADKI	Addanki	15.10	284	eP	Pn	04 24 56.7	+0.3
ADKI				IVmB_BB		04 25 20.8	
	comp=Z,888nm,4.0s						
ADKI				IVMs_BB	IVMs_BB	04 30 07.2	
	comp=Z,1μm,27.1s						
SKHT	Srikalahasti	15.11	276	eP	Pn	04 24 57.2	+0.7
SKHT				IVmBBB		04 25 12.9	
	comp=Z,1μm,1.0s						
SKHT				IVMs_BB	IVMs_BB	04 29 55.0	
	comp=Z,1μm,20.0s						
PALK	Pallekele	15.17	251	P	Pn	04 24 59.0	+1.6
PALK				pmax	pmax		
	comp=Z,76nm,1.1s						
PALK	Pallekele	15.17	251	Pn	Pn	04 24 59.0	+1.6
GGR	Gangavaram	15.38	292	eP	Pn	04 25 00.0	-0.1
GGR				IVmB_BB		04 25 14.0	
	comp=Z,1μm,5.1s						
GGR				IVMs_BB	IVMs_BB	04 30 39.7	
	comp=Z,2μm,22.2s						
QIZ	Qiongzhong	15.53	64	P	Pn	04 25 02.0	-0.1
QIZ				pP	P	04 25 06.3	0.0
QIZ				S	Sn	04 27 48.8	-4.9
QIZ				pmax	pmax		
	comp=Z,1μm,5.4s						
QIZ				LR	LR		
	comp=Z,11μm,16.2s						
QIZ				LR	LR		
	comp=Z,10μm,10.3s						
QIZ				LR	LR		
	comp=Z,9μm,11.2s						
QIZ	Qiongzhong	15.53	64	Pn	Pn	04 25 01.6	-0.5
KRJI	Kerinci	15.80	156	P	P	04 25 13.6	+4.2
NJS	Nagarjunasagar	15.87	287	eP	Pn	04 25 07.0	+0.6
NJS				IVmBBB		04 25 15.3	
	comp=Z,1μm,3.0s						

KSI	**Kapahiang**	**17.68 155**	P	**P**	**04 25 32.5 +2.4**	
DMN	**Daman**	**17.73 329**	*e*P	**P**	**04 25 31.5 +0.7**	
	comp=Z,1μm,1.4s					
KKN	**Kakani**	**17.79 330**	*e*P	**P**	**04 25 31.7 +0.2**	
	comp=Z,837nm,1.3s					
PMBI	**Palembang**	**18.07 148**	P	P	04 25 44.8 +10	
PMBI	**Palembang**	**18.07 148**		**Pn**	**04 25 32.2 -1.8**	
LHSI	**Lahat**	**18.23 152**	P	**P**	**04 25 36.7 +0.5**	
	comp=Z,4μmcomp=Z,127nm,1.0s					
GKN	**Gorkha**	**18.29 329**	*e*P	**P**	**04 25 37.6 +0.7**	
	comp=Z,947nm,1.4s					
KSM	**Kuching**	**18.59 125**		**P**	**04 25 39.7 -0.5**	
KSM			IAmb	IAmb	04 25 48.1	
	comp=Z,276nm,1.5s					
KSM	**Kuching**	**18.59 125**	P	**Pn**	**04 25 42.0 +1.5**	
KOLN	**Koldanda**	**18.64 326**	*e*P	**Pn**	**04 25 42.1 +0.9**	
	comp=Z,1μm,1.5s					
KLRI	**Killari**	**18.74 289**	*e*P	**Pn**	**04 25 42.9 +0.5**	
KLRI			IVmB_BB		04 25 56.2	
	comp=Z,3μm,7.2s					
KLRI			IVMs_BB	IVMs_BB	04 32 29.6	
	comp=Z,2μm,25.6s					
DANN	**Dangsing**	**19.02 328**	*e*P	**Pn**	**04 25 46.2 +0.3**	
	comp=Z,771nm,1.0s					
MDSI	**Maura Dua**	**19.12 152**	P	**Pn**	**04 25 47.1 +0.3**	
	comp=Z,1μmcomp=Z,56nm,1.5s					
PYUN	**Piuthan**	**19.23 326**	*e*P	**Pn**	**04 25 48.6 +0.2**	
	comp=Z,2μm,1.7s					
LWLI	**Liwa**	**19.53 153**	P	Pn	04 26 01.0 +9.1	
KLSI		**19.56 150**	P	**P**	**04 25 49.8 -1.0**	
	comp=Z,869nmcomp=Z,58nm,1.4s					
TPI	**Tanjungpandan**	**19.60 140**	P	**Pn**	**04 25 52.5 -0.1**	
	comp=Z,3μmcomp=Z,61nm,1.1s					
SBUM	**Sibu**	**19.62 119**	P	**P**	**04 25 51.7 +0.2**	
SBUM			IAmb	IAmb	04 26 02.3	
	comp=Z,328nm,1.5s					
SBUM	**Sibu**	**19.62 119**	P	**Pn**	**04 25 54.0 +1.0**	
BHPL	**Bhopal**	**19.95 305**	*e*P	**Pn**	**04 25 58.5 +1.7**	
BHPL			IAmb	IAmb	04 26 03.7	
	comp=Z,180nm,1.1s					
CD2	**Chengdu**	**19.95 22**	⇓*i*P	**P**	**04 25 55.5 +0.5**	
CD2			S	**Sn**	**04 29 40.0 -0.7**	
CD2			sS	pS	04 29 51.8 -1.1	
CD2			ScP	**ScP**	**04 33 44.5 -2.2**	
CD2			PcS	**PcS**	**04 33 47.0 -2.0**	
CD2			pmax	pmax		
	comp=Z,150nm,0.8s					
CD2			pmax	pmax		
	comp=Z,2μm,4.9s					
CD2			LR	LR		
	comp=Z,10μm,9.6s					
CD2			LR	LR		
	comp=Z,12μm,10.8s					
CD2			LR	LR		
	comp=Z,11μm,11.6s					
GZH	**Guangzhou**	**20.23 56**	P	Pn	04 26 03.8 +3.8	
BLSI	**Bandar Lampung**	**20.39 150**	P	Pn	04 26 08.5 +6.5	
HKPS	**Hong Kong Po S**	**20.52 59**		**P**	**04 26 01.9 +0.6**	
GOA	**Goa**	**20.92 281**	*e*P	Pn	04 26 07.7 -0.4	
GOA			IAmb	IAmb	04 26 15.8	
	comp=Z,155nm,0.9s					
POO	**Poona**	**21.38 289**	*e*P	**P**	**04 26 12.2 +1.5**	
POO			*ex*	**P**	**04 26 13.0 +2.4**	
POO			IAmb	IAmb	04 26 23.8	
	comp=Z,186nm,0.7s					
POO			*ex*	S	04 30 19.0 +12	
SBJI	**Serang**	**21.48 149**	P	**P**	**04 26 13.8 +2.2**	
	comp=Z,9μmcomp=Z,848nm,1.2s					
CGJI	**Cibinong**	**21.69 151**	P	**P**	**04 26 15.2 +1.3**	
	comp=Z,3μmcomp=Z,86nm,1.6s					
KKM	**Kota Kinabalu**	**21.73 105**	P	**P**	**04 26 14.5 0.0**	
ENH	**Enshi**	**22.09 35**	P	**P**	**04 26 16.5 -1.6**	
PBKI	**Pangkalan Bun**	**22.30 132**	P	**P**	**04 26 23.5 +3.0**	
SPMM	**Sapulut**	**22.43 108**	P	**P**	**04 26 24.0 +2.1**	
LEM	**Lembang**	**22.86 147**	P	**P**	**04 26 28.0 +1.5**	
	comp=Z,82nm,0.9s,baz=10.0,slow=3.4,SNR=14					
LEM			LR	LR	04 36 02.9	
	comp=Z,7μm,18.1s,baz=300,slow=39					
JCJI	**Jatiwangi**	**22.94 145**	P	**P**	**04 26 31.0 +3.8**	
	comp=Z,11μmcomp=Z,331nm,0.7s					
NDI	**New Delhi**	**23.21 317**	*ex*	**P**	**04 26 31.0 +1.1**	
CISI	**Cisompet, Garu**	**23.57 147**	P	**P**	**04 26 36.2 +2.6**	
CISI	**Cisompet, Garu**	**23.57 147**	P	**P**	**04 26 33.6 0.0**	
CISI			IAmb	IAmb	04 26 36.4	
	comp=Z,241nm,1.5s					
CISI			IAMs_20	IAMs_20	04 36 25.6	
	comp=Z,8μm,18.0s					
MTKI	**Muara Teweh, K**	**23.71 123**	P	**P**	**04 26 35.3 +0.4**	
	comp=Z,3μmcomp=Z,104nm,1.9s					
AJM	**Ajmer**	**23.77 309**	⇑*i*x	**P**	**04 26 37.0 +1.6**	
DDI	**Dehra Dun**	**23.77 321**	*e*P	**P**	**04 26 37.0 +1.5**	
KPJI	**Karang Pucung**	**24.00 145**	P	**P**	**04 26 39.0 +1.4**	
	comp=Z,3μmcomp=Z,323nm,1.0s					
CMJI	**Cimerak**	**24.10 146**	P	**P**	**04 26 40.4 +1.8**	
	comp=Z,51nm,1.2s					
MYLDM	**Lahad Datu**	**24.16 105**	P	**P**	**04 26 40.0 +0.8**	
MYLDM			IAMs_20	IAMs_20	04 35 28.4	
	comp=Z,6μm,21.0s					
SMRI	**Semarang**	**24.66 141**	P	**P**	**04 26 45.5 +1.8**	
	comp=Z,17μmcomp=Z,750nm,1.2s					
SMRI	**Semarang**	**24.66 141**	P	**P**	**04 26 44.6 +0.8**	
LZH	**Lanzhou**	**24.74 17**	*e*P	**P**	**04 26 45.5 +1.1**	
LZH			pP	pP	04 26 49.8 -0.1	
LZH			pmax	pmax		
	comp=Z,120nm,1.1s					
LZH			pmax	pmax		
	comp=Z,2μm,4.3s					
LZH			LR	LR		
	comp=Z,8μm,14.2s					
LZH			LR	LR		
	comp=Z,7μm,14.6s					
LZH			LR	LR		
	comp=Z,10μm,15.6s					
XAN	**Xi'an**	**24.82 28**	P	**P**	**04 26 43.0 -2.1**	
XAN			pP	pwP	04 26 54.5 +0.3	
XAN			S	**S**	**04 31 04.3 -2.5**	
XAN			sS	pS	04 31 14.0 +1.1	
XAN			pmax	pmax		
	comp=Z,33nm,0.6s					
XAN			pmax	pmax		
	comp=Z,1μm,5.5s					
XAN			LR	LR		
	comp=Z,7μm,13.0s					
XAN			LR	LR		
	comp=Z,8μm,11.9s					
XAN			LR	LR		
	comp=Z,8μm,9.8s					
XAN	**Xi'an**	**24.82 28**	P	**P**	**04 26 44.2 -0.8**	
XAN			pmax	pmax		
	comp=Z,36nm,1.0s					
XAN			MLR	MLR		
	comp=Z,2μm,21.0s					
XAN	**Xi'an**	**24.82 28**	P	**P**	**04 26 44.2 -0.8**	
SMLA	**Simla**	**24.88 321**	*e*P	**P**	**04 26 45.6 +0.1**	
XMIS	**Christmas Isla**	**25.11 155**	P	**P**	**04 26 47.5 -0.3**	
TGY	**Tagaytay City**	**25.12 83**	P	**P**	**04 26 46.6 -1.4**	
	comp=Z,103nm,0.3s,baz=256,slow=17,SNR=1.3					
TGY			LR	LR	04 35 56.7	
	comp=Z,2μm,19.6s,baz=269,slow=35					
BBKI	**Banjar Baru**	**25.18 128**	P	**P**	**04 26 49.6 +1.2**	
	comp=Z,5μmcomp=Z,338nm,1.2s					
WHN	**Wuhan**	**25.23 42**	⇓P	**P**	**04 26 48.8 +0.1**	
WHN			pP	**pP**	**04 26 53.5 -0.7**	
WHN			LR	LR		
	comp=Z,5μm,6.7s					
WHN			LR	LR		
	comp=Z,20μm,11.1s					
WHN			LR	LR		
	comp=Z,21μm,11.0s					
QZH	**Quanzhou**	**25.34 57**	⇓*i*P	**P**	**04 26 50.3 +0.5**	
QZH			S	**S**	**04 31 18.0 +2.8**	
QZH			pmax	pmax		
	comp=Z,2μm,4.6s					
QZH			LR	LR		
	comp=Z,3μm,10.8s					
QZH			LR	LR		
	comp=Z,4μm,11.3s					
QZH			LR	LR		
	comp=Z,4μm,11.4s					
TBJI	**Tambak Boyo**	**25.37 138**	P	**P**	**04 26 51.9 +1.8**	
	comp=Z,7μmcomp=Z,464nm,1.1s					
SMKI	**Samarinda**	**25.38 119**	P	**P**	**04 26 50.6 +0.3**	
	comp=Z,6μmcomp=Z,92nm,0.4s					
BHK	**Bhakra**	**25.54 320**	*ex*	P	04 27 02.6 +11	
BKB	**Balikpapan**	**25.55 121**	P	**P**	**04 26 52.9 +1.1**	
	comp=Z,4μmcomp=Z,98nm,1.5s					
WOJI	**Wonogiri, Jawa**	**25.57 141**	P	**P**	**04 26 53.6 +1.6**	
	comp=Z,185nm,1.3s					
GRJI	**Gresik**	**25.86 137**	P	**P**	**04 26 56.2 +1.6**	
	comp=Z,79nm,1.0s					
KBKI	**Kotabaru**	**26.12 126**	P	**P**	**04 26 58.8 +1.9**	
	comp=Z,28nm,1.1s					
DHRM	**DHARAMSHALA**	**26.19 322**	*e*P	**P**	**04 26 57.3 -0.4**	
DHRM			IAmb	IAmb	04 27 05.7	
	comp=Z,110nm,0.9s					
PWJI	**Pagerwojo**	**26.26 140**	P	**P**	**04 26 57.1 -1.1**	
	comp=Z,2μmcomp=Z,104nm,1.1s					
TPUB	**Ta-pu**	**26.45 63**	P	**P**	**04 26 58.5 -1.5**	
TPUB			IAmb	IAmb	04 27 03.7	
	comp=Z,114nm,1.5s					
BHUJ	**Bhuj**	**26.48 297**	*e*P	**P**	**04 27 02.4 +2.2**	
BHUJ			IAmb	IAmb	04 27 14.9	
	comp=Z,207nm,1.4s					
TWG	**Pinlang**	**26.68 64**	IAMs_20	IAMs_20	04 38 57.2	
	comp=Z,6μm,18.0s					
SSLB	**Suanglung**	**26.89 62**	P	**P**	**04 27 04.5 +0.6**	
SSLB			IAmb	IAmb	04 27 16.3	
	comp=Z,111nm,1.5s					
KMMI	**Kalianget**	**26.96 135**	P	**P**	**04 27 04.7 +0.2**	
	comp=Z,193nm,1.2s					
GTA	**Gaotai**	**27.10 8**	⇓P	**P**	**04 27 07.0 +1.3**	
GTA			pP	pwP	04 27 14.5 -0.3	
GTA			sP	sP	04 27 18.0 +4.4	
GTA			PcP	**PcP**	**04 30 27.5 +1.1**	
GTA			S	**S**	**04 31 45.5 +2.5**	
GTA			sS	sS	04 31 58.5 +6.0	
GTA			PcS	**PcS**	**04 34 08.5 +0.5**	
GTA			pmax	pmax		
	comp=Z,57nm,1.5s					
GTA			pmax	pmax		
	comp=Z,840nm,7.6s					
GTA			LR	LR		
	comp=Z,2μm,11.3s					
GTA			LR	LR		
	comp=Z,4μm,11.3s					
GTA			LR	LR		
	comp=Z,3μm,14.2s					
BLJI	**Banyuglugur**	**27.21 137**	P	**P**	**04 27 09.0 +2.2**	
	comp=Z,130nm,1.2s					
MPSI	**Mapaga**	**27.35 114**	P	**P**	**04 27 08.6 +0.5**	
	comp=Z,2μmcomp=Z,40nm,2.4s					
ABJI	**Asem Bagus**	**27.68 136**	P	P	04 27 23.1 +12	
JAGI	**Jajag, Banyuwa**	**28.12 137**	P	**P**	**04 27 15.8 +0.9**	
	comp=Z,53nm,1.8s					
JAGI	**Jajag, Banyuwa**	**28.12 137**	IAMs_20	IAMs_20	04 38 45.8	
	comp=Z,5μm,21.0s					
NIL	**Nilore**	**29.02 320**	P	**P**	**04 27 23.1 +0.3**	
NIL			pmax	pmax		
	comp=Z,44nm,0.9s					
NIL	**Nilore**	**29.02 320**	P	**P**	**04 27 23.1 +0.3**	
NIL			IAmb	IAmb	04 27 34.9	
	comp=Z,44nm,0.9s					
NJ2	**Nanjing**	**29.18 44**	⇓*i*P	**P**	**04 27 24.5 +0.3**	
NJ2			pP	**pP**	**04 27 29.3 -0.4**	
NJ2			sP	**pwP**	**04 27 33.5 +0.2**	
NJ2			S	**S**	**04 32 16.0 +0.4**	
NJ2			sS	**sS**	**04 32 26.3 +1.5**	
NJ2			SS	**SnSn**	**04 33 47.3 +6.4**	
NJ2			pmax	pmax		
	comp=Z,52nm,0.8s					
NJ2			pmax	pmax		
	comp=Z,870nm,3.6s					
NJ2			LR	LR		
	comp=Z,3μm,12.3s					
NJ2			LR	LR		
	comp=Z,6μm,11.8s					
NJ2			LR	LR		
	comp=Z,7μm,11.3s					
SPSI	**Sidrap Palu**	**29.42 122**	P	**P**	**04 27 27.5 +1.0**	
	comp=Z,2μmcomp=Z,59nm,2.2s					
BNSI	**Bone**	**29.95 123**	P	**P**	**04 27 31.2 0.0**	
	comp=Z,1μmcomp=Z,51nm,1.9s					
KAPI	**Kappang**	**30.01 124**	P	**P**	**04 27 31.7 0.0**	
	comp=Z,5.7nm,0.9s,baz=306,slow=10,SNR=1.6					
KAPI			LR	LR	04 40 27.4	
	comp=Z,4μm,19.4s,baz=302,slow=38					
KAPI	**Kappang**	**30.01 124**	P	**P**	**04 27 31.4 -0.3**	
KAPI			pmax	pmax		
	comp=Z,16nm,1.1s					
KAPI	**Kappang**	**30.01 124**	P	**P**	**04 27 31.4 -0.3**	
GTOI	**Gorontalo**	**30.02 111**	P	**P**	**04 27 30.2 -1.7**	
	comp=Z,910nmcomp=Z,77nm,1.0s					
H08S3	**Diego Garcia H**	**30.15 230**	T	T	04 59 38.9	
	baz=48					
H08S2	**Diego Garcia H**	**30.15 230**	T	T	04 59 52.0	
	baz=48					
H08S1	**Diego Carcia H**	**30.16 230**	T	T	04 59 43.9	
	baz=48					
TWSI	**Taliwang, Sumb**	**30.19 133**	P	**P**	**04 27 35.3 +2.0**	
	comp=Z,20nm,1.2s					
SSE	**Sheshan**	**30.29 48**	P	**P**	**04 27 35.0 +0.9**	
SSE			S	**S**	**04 32 35.5 +2.4**	
SSE			pmax	pmax		
	comp=Z,18nm,1.2s					
SSE			pmax	pmax		
	comp=Z,430nm,4.6s					
SSE			LR	LR		
	comp=Z,2μm,11.2s					
SSE			LR	LR		
	comp=Z,410nm,5.4s					
DAV	**Davao City (W)**	**30.44 97**	P	**P**	**04 27 36.4 +0.8**	
	comp=Z,156nm,0.5s,baz=59,slow=4.3,SNR=4.6					
DAV	**Davao City (W)**	**30.44 97**	IAmb	IAmb	04 27 38.7	
	comp=Z,173nm,0.5s					
BKSI	**Bulukumba**	**30.48 124**	P	**P**	**04 27 35.7 -0.2**	
	comp=Z,1μmcomp=Z,41nm,1.1s					
LUWI	**Luwuk**	**30.53 114**	P	**P**	**04 27 36.9 +0.5**	
	comp=Z,5μmcomp=Z,274nm,1.2s					
LUWI	**Luwuk**	**30.53 114**	P	**P**	**04 27 35.6 -0.7**	
TIA	**Tai'an**	**30.78 36**	P	**P**	**04 27 39.0 +0.6**	
TIA			pmax	pmax		
	comp=Z,9.0nm,0.8s					
TIA			pmax	pmax		
	comp=Z,480nm,4.7s					
TIA			LR	LR		
	comp=Z,1μm,12.9s					
TIA			LR	LR		
	comp=Z,2μm,10.4s					
TIA			LR	LR		
	comp=Z,2μm,9.3s					
BTO	**Baotou**	**30.88 22**	P	**P**	**04 27 37.0 -2.3**	
BTO			S	**S**	**04 32 39.3 -3.0**	
PLAI	**Plampang**	**30.89 132**	P	**P**	**04 27 40.1 +0.6**	
	comp=Z,60nm,1.2s					
KMSI	**Cibinong**	**30.93 110**	P	**P**	**04 27 41.7 +1.8**	
	comp=Z,176nm,0.9s					
HHC	**Hu-ho-hao-te**	**31.68 24**	*e*P	**P**	**04 27 47.0 +0.6**	
HHC			PP	**PnPn**	**04 28 51.5 +1.0**	
HHC			S	**S**	**04 32 55.0 +0.1**	
HHC			ScS	**ScS**	**04 38 11.0 -7.4**	
HHC			pmax	pmax		
	comp=Z,17nm,0.9s					
HHC			pmax	pmax		
	comp=Z,320nm,4.4s					
HHC			LR	LR		
	comp=Z,5μm,14.5s					
HHC			LR	LR		
	comp=Z,5μm,14.5s					
HHC			LR	LR		
	comp=Z,5μm,14.9s					
KSH	**Kashi**	**31.80 331**	P	**P**	**04 27 49.3 +1.8**	
KSH			sP	pwP	04 27 58.5 +2.2	
KSH			S	**S**	**04 32 57.5 +0.7**	
KSH			SS	**SnSn**	**04 34 48.8 +3.9**	
KSH			pmax	pmax		
	comp=Z,17nm,1.2s					
KSH			pmax	pmax		
	comp=Z,590nm,5.6s					
KSH			LR	LR		
	comp=Z,1μm,13.4s					
KSH			LR	LR		
	comp=Z,2μm,13.2s					
KSH			LR	LR		
	comp=Z,2μm,17.6s					
WMQ	**Urumqi**	**31.85 350**	*e*P	**P**	**04 27 50.0 +2.2**	
WMQ			sP	pwP	04 28 02.3 +5.9	
WMQ			PP	**PP**	**04 28 51.3 -8.6**	
WMQ			S	**S**	**04 33 01.0 +3.6**	
WMQ			sS	sS	04 33 15.3 +8.2	
WMQ			pmax	pmax		
	comp=Z,23nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,370nm,3.6s					
WMQ			LR	LR		
	comp=Z,550nm,20.5s					
WMQ			LR	LR		
	comp=Z,1μm,12.5s					
WMQ			LR	LR		
	comp=Z,860nm,29.2s					
WMQ	**Urumqi**	**31.85 350**	P	**P**	**04 27 48.6 +0.8**	
WMQ			pmax	pmax		
	comp=Z,91nm,1.1s					
WMQ			MLR	MLR		
	comp=Z,1μm,18.0s					
WMQ	**Urumqi**	**31.85 350**	P	**P**	**04 27 48.6 +0.8**	
WMQ			IAmb	IAmb	04 28 06.2	
	comp=Z,91nm,1.1s					
KBL	**Kabul**	**32.30 317**	P	**P**	**04 27 52.7 +0.7**	
KBL			pmax	pmax		
	comp=Z,28nm,1.0s					
KBL			MLR	MLR		
	comp=Z,4μm,21.0s					
KBL	**Kabul**	**32.30 317**	P	**P**	**04 27 52.7 +0.7**	
KBL			IAMs_20	IAMs_20	04 41 21.0	
	comp=Z,4μm,21.0s					
BJT	**Baijiatuau**	**33.07 30**	P	**P**	**04 27 58.8 +0.4**	
BJT			pmax	pmax		
	comp=Z,20nm,1.5s					
BJT			MLR	MLR		
	comp=Z,2μm,20.0s					
BJT	**Baijiatuau**	**33.07 30**	P	**P**	**04 27 58.8 +0.4**	
BJI	**Beijing**	**33.09 30**	P	**P**	**04 27 59.3 +0.8**	
BJI			PcP	**PcP**	**04 30 42.3 +0.6**	
BJI			S	**S**	**04 33 21.3 +4.8**	
BJI			pmax	pmax		
	comp=Z,18nm,2.6s					
BJI			LR	LR		
	comp=Z,3μm,12.9s					
BJI			LR	LR		
	comp=Z,5μm,13.1s					
BJI			LR	LR		
	comp=Z,760nm,14.1s					
KDJ	**Kajisay**	**33.40 335**	P	**P**	**04 28 02.3 +0.8**	
KDJ			pmax	pmax		
	comp=Z,94nm,1.0s					
KDJ			MLR	MLR		
	comp=Z,4μm,21.0s					
KDJ	**Kajisay**	**33.40 335**	P	**P**	**04 28 02.3 +0.8**	
KDJ			IAMs_20	IAMs_20	04 43 31.5	
	comp=Z,4μm,21.0s					
SHLS	**Shalkode**	**33.42 339**	*i* P	**P**	**04 28 02.2 +0.6**	
	comp=Z,55nm,1.6s,baz=340					
SHLS			*e*S	**S**	**04 33 23.7 +1.8**	
	comp=Z,162nm,3.6s,baz=340					
SHLS	**Shalkode**	**33.42 339**	*i* P	**P**	**04 28 02.2 +0.6**	
SHLS			*e*S	**S**	**04 33 23.6 +1.8**	
SHLS			pmax	pmax		
	comp=Z,55nm,1.6s					
SHLS			smax	smax		
	comp=N,162nm,3.6s					
UZB	**Uzynbulak**	**33.57 338**	⇓*i*P	**P**	**04 28 04.4 +1.4**	
	comp=N,93nm,2.1s,baz=338					
UZB			*i* S	**S**	**04 33 27.8 +3.5**	
	comp=N,122nm,2.9s,baz=338					
UZB	**Uzynbulak**	**33.57 338**	*d*iP	**P**	**04 28 04.3 +1.4**	
UZB			*i* S	**S**	**04 33 27.7 +3.5**	
UZB			pmax	pmax		
	comp=Z,93nm,2.1s					
UZB			smax	smax		
	comp=E,121nm,2.9s					
SATY	**Saty**	**33.72 338**	⇓*i*P	**P**	**04 28 05.7 +1.5**	
	comp=E,142nm,2.5s,baz=338					
SATY			*e*S	**S**	**04 33 30.1 +3.6**	
	comp=E,102nm,2.5s,baz=338					
SATY	**Saty**	**33.72 338**	*d*iP	**P**	**04 28 05.6 +1.5**	
SATY			*e*S	**S**	**04 33 30.1 +3.6**	
SATY			pmax	pmax		
	comp=Z,143nm,2.5s					
SATY			smax	smax		
	comp=E,102nm,2.5s					
EDFI	**Ende, Flores**	**33.78 127**	P	**P**	**04 28 04.9 -0.1**	
	comp=E,526nmcomp=E,34nm,1.2s					
SANI	**Sanana**	**33.85 113**	P	**P**	**04 28 04.1 -1.5**	
	comp=E,993nmcomp=E,41nm,2.3s					
BASI	**Baing, Sumba**	**33.87 131**	P	**P**	**04 28 04.4 -1.2**	
	comp=E,126nm,1.1s					
ULHL	**Ulahol**	**33.89 334**	P	P	04 28 15.3 +9.5	
	SNR=8.6					
TNTI	**Ternate**	**33.99 108**	P	**P**	**04 28 05.7 -1.0**	
	comp=E,69nm,1.1s					
TNTI	**Ternate**	**33.99 108**	IAmb	IAmb	04 28 12.7	
	comp=Z,97nm,1.2s					
MMRI	**Maumere**	**34.13 127**	P	**P**	**04 28 07.1 -0.8**	
MMRI			IAmb	IAmb	04 28 15.4	
	comp=Z,46nm,0.7s					
KZA	**Kyzart**	**34.18 333**	P	**P**	**04 28 11.3 +2.8**	
	SNR=11					
BOOM	**Boomskoye usch**	**34.22 334**	P	**P**	**04 28 09.9 +1.3**	
BOOM			pmax	pmax		
	comp=Z,45nm,1.0s					
BOOM			MLR	MLR		
	comp=Z,3μm,22.0s					
BOOM	**Boomskoye usch**	**34.22 334**	P	**P**	**04 28 09.9 +1.3**	
BOOM			IAmb	IAmb	04 28 21.6	
	comp=Z,46nm,1.0s					
TNSS	**Tian-Shan**	**34.26 336**	*i* P	**P**	**04 28 10.4 +1.2**	
	baz=336					
TNSS	**Tian-Shan**	**34.26 336**	*i* P	**P**	**04 28 10.4 +1.2**	
MDOK	**Medeo**	**34.32 336**	*i* P	**P**	**04 28 11.1 +1.6**	
	baz=336					
MDOK			*i* S	**S**	**04 33 39.7 +3.7**	
	baz=336					
MDOK			LR	LR	04 41 49.9	
	baz=336					
MDOK	**Medeo**	**34.32 336**	*i* P	**P**	**04 28 11.1 +1.6**	
MDOK			*i* S	**S**	**04 33 39.7 +3.7**	
AAA	**Alma-Ata**	**34.41 336**	*i* P	**P**	**04 28 11.8 +1.6**	
	comp=Z,958nm,19.1s,baz=336					
AAA			*i* S	**S**	**04 33 40.9 +3.6**	
	baz=336					
AAA			LR	LR	04 42 44.3	
	baz=336					
AAA	**Alma-Ata**	**34.41 336**	*i* P	**P**	**04 28 11.8 +1.6**	
AAA			*i* S	**S**	**04 33 40.8 +3.6**	
AAA			pmax	pmax		
	comp=Z,958nm,19.1s					
MTBS	**Maitube**	**34.54 335**	*e*P	**P**	**04 28 12.6 +1.2**	
	baz=336					
MTBS	**Maitube**	**34.54 335**	*e*P	**P**	**04 28 12.5 +1.2**	
UCH	**Uchtor**	**34.63 333**	P	**P**	**04 28 15.2 +2.7**	
	SNR=6.9					
TKM2	**Tokmak 2**	**34.72 334**	P	**P**	**04 28 14.5 +1.5**	
	SNR=19					
KBK	**Karagaybulak**	**34.78 333**	P	**P**	**04 28 15.7 +2.2**	
	SNR=14					
BTK	**Batken**	**34.83 326**	IAMs_20	IAMs_20	04 43 49.8	
	comp=Z,4μm,22.0s					
AML	**Almayashu**	**34.93 332**	P	**P**	**04 28 16.6 +1.6**	
	SNR=15					
AAK	**Ala-Archa**	**34.96 333**	P	**P**	**04 28 18.2 +3.2**	
	SNR=15					
AAK	**Ala-Archa**	**34.96 333**	P	**P**	**04 28 16.4 +1.4**	
FRU1	**Bishkek**	**35.04 333**	IAMs_20	IAMs_20	04 44 14.2	
	comp=Z,6μm,21.0s					
CHMS	**Chumysh**	**35.14 334**	P	**P**	**04 28 17.6 +1.2**	
	SNR=9.5					
KUU	**Kurty**	**35.22 336**	*e*P	**P**	**04 28 17.7 +0.6**	
	comp=Z,181nm,1.9s,baz=336					
KUU			*i* S	**S**	**04 33 52.2 +2.8**	
	comp=Z,460nm,3.9s,baz=336					
KUU	**Kurty**	**35.22 336**	*e*P	**P**	**04 28 17.6 +0.6**	
KUU			*i* S	**S**	**04 33 52.2 +2.8**	
KUU			pmax	pmax		
	comp=Z,181nm,1.9s					
KUU			smax	smax		
	comp=E,460nm,3.9s					
DL2	**Dalian**	**35.23 37**	P	**P**	**04 28 17.8 +0.6**	
DL2			PP	**PnPn**	**04 29 36.0 +0.7**	
DL2			S	**S**	**04 33 54.0 +4.2**	
DL2			pmax	pmax		
	comp=E,35nm,1.0s					
DL2			pmax	pmax		
	comp=E,820nm,3.8s					
DL2			LR	LR		
	comp=E,5μm,10.2s					
DL2			LR	LR		
	comp=E,2μm,10.6s					
DL2			LR	LR		
	comp=E,4μm,10.3s					

EKS2	Erkin-Say	35.30	332	P	P	04 28 19.5 +1.5
	SNR=15					
JLN	Jalan Bani Buh	35.37	291	P	P	04 28 21.3 +2.7
JLN	SNR=33			P	P	04 28 21.3 +2.7
	SNR=33					
NLAI	Namlea	35.38	114	P	P	04 28 19.3 +0.6
	comp=E,2μmcomp=E,37nm,0.9s					
TDK	Taldyqorghan	35.40	339	*i* P	P	04 28 19.3 +0.6
	baz=339					
TDK				*e*S	S	04 33 55.2 +2.9
	baz=339					
TDK				LR	LR	04 43 15.8
	comp=E,2μm,19.2s,baz=339					
TDK	Taldyqorghan	35.40	339	*i* P	P	04 28 19.2 +0.6
TDK				*e*S	S	04 33 55.1 +2.9
TDK				MLR	MLR	
	comp=Z,2μm,19.0s					
USP	Ospenovka	35.47	334	P	P	04 28 20.7 +1.5
	SNR=22					
SGDS	Sogindy	35.56	334	⇓*i* P	P	04 28 20.8 +0.8
	comp=Z,94nm,2.3s,baz=334					
SGDS				*i* S	S	04 33 57.7 +2.9
	comp=Z,75nm,3.6s,baz=334					
SGDS	Sogindy	35.56	334*d*	*i* P	P	04 28 20.8 +0.8
SGDS				*i* S	S	04 33 57.6 +2.8
SGDS				pmax	pmax	
	comp=Z,94nm,2.3s					
SGDS				smax	smax	
	comp=N,75nm,3.6s					
MK31	Makanchi Array	35.85	345	*i* P	P	04 28 23.2 +0.7
MK31	Makanchi Array	35.85	345	IAmb	IAmb	04 28 38.9
	comp=Z,54nm,1.0s					
MKAR	Makanchi Array	35.85	345	P	P	04 28 23.3 +0.8
	comp=Z,7.5nm,0.7s,baz=153,slow=8.2,SNR=64					
MKAR				S	S	04 34 02.7 +3.5
	comp=Z,1.0nm,0.8s,baz=185,slow=13,SNR=2.4					
MKAR				LR	LR	04 47 26.8
	comp=Z,2μm,18.9s,baz=161,slow=44					
MKAR	Makanchi Array	35.85	345	P	P	04 28 22.6 +0.1
MKAR	Makanchi Array	35.85	345	P	P	04 28 22.6 +0.1
ZSN	Zaisan	35.88	348	⇓*i* P	P	04 28 24.2 +1.4
	comp=Z,245nm,3.6s,baz=348					
ZSN				*e*S	S	04 34 03.4 +3.8
	baz=348					
ZSN	Zaisan	35.88	348*d*	*i* P	P	04 28 24.1 +1.4
ZSN				*e*S	S	04 34 03.3 +3.8
ZSN				pmax	pmax	
	comp=Z,245nm,3.6s					
MAKZ	Makanchi	35.95	345	P	P	04 28 24.2 +1.0
MAKZ				pmax	pmax	
	comp=Z,44nm,0.9s					
MAKZ				MLR	MLR	
	comp=Z,2μm,22.0s					
MAKZ	Makanchi	35.95	345	P	P	04 28 24.2 +1.0
MAKZ				IAmb	IAmb	04 28 39.5
	comp=Z,44nm,0.8s					
BATI	Baumata	36.20	127	P	P	04 28 25.0 -0.8
	comp=Z,920nmcomp=Z,33nm,1.1s					
WSAR	Wadi Sarin	36.27	292	P	P	04 28 29.5 +3.2
	SNR=13					
SOEI	Soe	36.40	126	P	P	04 28 26.1 -1.5
	comp=Z,2μmcomp=Z,120nm,1.1s					
SOEI	Soe	36.40	126	P	P	04 28 25.2 -2.5
SOEI				IAMs_20	IAMs_20	04 45 02.2
	comp=Z,3μm,19.0s					
SONM	Songino Array	36.44	13	P	P	04 28 28.0 +0.4
	comp=Z,7.2nm,0.9s,baz=196,slow=9.6,SNR=31					
SONM				PcP	PcP	04 30 51.8 +0.3
	comp=Z,4.5nm,0.8s,baz=198,slow=3.3,SNR=5.2					
SONM				LR	LR	04 45 53.0
	comp=Z,2μm,18.6s,baz=193,slow=40					
SONM	Songino Array	36.44	13	P	P	04 28 27.5 -0.1
TAS	Tashkent	36.54	326	P	P	04 28 28.8 +0.4
TAS				pmax	pmax	
	comp=Z,130nm,1.1s					
TAS				MLR	MLR	
	comp=Z,4μm,22.0s					
TAS	Tashkent	36.54	326	P	P	04 28 28.8 +0.4
TAS				IAMs_20	IAMs_20	04 44 30.4
	comp=Z,4μm,22.0s					
JMDO	Jabal Madar	36.60	291	P	P	04 28 31.6 +2.4
	SNR=22					
JMDO				P	P	04 28 31.6 +2.4
	SNR=22					
ULN	Ulaanbaatar	36.62	13*d*	*i* P	P	04 28 29.3 +0.2
ULN				pmax	pmax	
	comp=Z,60nm,2.5s					
ULN	Ulaanbaatar	36.62	13	P	P	04 28 28.5 -0.6
ULN				IAmb	IAmb	04 28 38.9
	comp=Z,50nm,1.3s					
DZA	Taraz	36.63	330	*e*P	P	04 28 30.1 +0.8
	baz=330					
DZA	Taraz	36.63	330	*e*P	P	04 28 30.0 +0.8
IUG	Iuzhnay	36.74	328	*i* P	P	04 28 31.4 +1.1
	comp=Z,102nm,2.3s,baz=328					
IUG	Iuzhnay	36.74	328	*i* P	P	04 28 31.3 +1.1
IUG				pmax	pmax	
	comp=Z,102nm,2.3s					
SMDO	Samad	36.77	292	P	P	04 28 33.1 +2.4
	SNR=20					
SMDO				P	P	04 28 33.1 +2.4
	SNR=20					
BIDO	Bidbid	36.78	293	P	P	04 28 32.9 +2.2
	SNR=24					
BIDO				P	P	04 28 32.9 +2.2
	SNR=24					
DQM	DQM	36.81	287	P	P	04 28 33.0 +2.0
	SNR=7.9					
DQM				P	P	04 28 33.0 +2.0
	SNR=7.9					
HRA	Herat	36.97	312	P	P	04 28 32.5 +0.1
MSAI	Masohi	37.06	113	P	P	04 28 32.5 -0.6
	comp=Z,53nm,1.1s					
KK31	Karatay Array	37.19	330	*i* P	P	04 28 34.2 +0.3
KK31	Karatay Array	37.19	330	P	P	04 28 34.2 +0.3
KKAR	Karatay Array	37.19	330	P	P	04 28 34.4 +0.5
KKAR				pmax	pmax	
	comp=Z,21nm,1.1s					
KKAR	Karatay Array	37.19	330	P	P	04 28 34.4 +0.5
TJN	Taejon	37.43	45*d*	*i* P	P	04 28 35.8 -0.2
BSY	Bisya	37.49	291	P	P	04 28 39.1 +2.4
	SNR=45					
BSY				P	P	04 28 39.1 +2.4
	SNR=45					
HOQ	Hoqain	37.53	292	P	P	04 28 39.1 +2.0
	SNR=30					
HOQ				P	P	04 28 39.1 +2.0
	SNR=30					
DGZ	Jazzator, Alta	37.62	352*d*	*i* P	P	04 28 38.8 +1.2
DGZ				pmax	pmax	
	comp=Z,41nm,1.8s					
SUJ	Sinuiju	37.70	38	P	P	04 28 37.6 -0.6
SUJ				S	S	04 34 34.8 +7.4
PYAG	Pyongyang	37.85	40	P	P	04 28 39.1 -0.4
ARQ	Araqi	38.20	292	P	P	04 28 44.6 +1.9
	SNR=14					
ARQ				P	P	04 28 44.6 +1.9
	SNR=14					
SIJI	Sorong	38.21	108	P	P	04 28 41.7 -1.3
	comp=Z,19nm,0.7s,baz=313,slow=7.6,SNR=11					
SNY	Shenyang	38.28	35	⇓P	P	04 28 43.0 -0.1
SNY				S	S	04 34 41.5 +5.4
SNY				pmax	pmax	
	comp=Z,40nm,2.4s					
SNY				pmax	pmax	
	comp=Z,760nm,3.7s					
SNY				LR	LR	
	comp=Z,2μm,10.6s					
SNY				LR	LR	
	comp=Z,4μm,12.0s					
SNY				LR	LR	
	comp=Z,4μm,12.0s					
SOHO	SOHO	38.33	293	*i* P	P	04 28 44.4 +0.6
	SNR=16					
ZAK	Zakamensk	38.34	8	*e*P	P	04 28 43.4 -0.2
ZAK				*e*		04 30 56.5
ZAK				pmax	pmax	
	comp=Z,36nm,1.4s					
ZAK				pmax	pmax	
	comp=Z,14nm,1.6s					
KSAR	Wonju Array Be	38.34	44	P	P	04 28 42.6 -1.1
KSAR	Wonju Array Be	38.34	44	P	P	04 28 42.6 -1.1
KS19	Wonju Array Si	38.36	44	P	P	04 28 43.9 0.0
KSRS	Korea Array	38.38	44	P	P	04 28 43.4 -0.6
	comp=Z,4.8nm,0.8s,baz=241,slow=9.3,SNR=14					
BNDI	Bandanaira	38.45	114	P	P	04 28 44.4 -0.5
	comp=Z,345nm,0.7s					
JNU	Nakatsue	38.51	52	IAmb	IAmb	04 28 55.4
	comp=Z,100nm,1.1s					
UOSS	Minazif	38.78	294	P	P	04 28 48.9 +1.3
UOSS	Minazif	38.78	294	P	P	04 28 47.8 +0.3
UOSS				IAmb	IAmb	04 28 57.8
	comp=Z,95nm,1.5s					
HATD	Hatta, Dubai	38.82	294	*i* P	P	04 28 48.1 +0.2
	SNR=6.8					
HATD	Hatta, Dubai	38.82	294	P	P	04 28 50.0 +2.1
	SNR=10					
HATD				P	P	04 28 50.0 +2.1
	SNR=10					
ASHO	Ashiyiah	38.86	294	*i* P	P	04 28 48.9 +0.6
	SNR=9.5					
ASHO	Ashiyiah	38.86	294	P	P	04 28 50.0 +1.8
	SNR=9.4					
ASHO				P	P	04 28 50.0 +1.8
	SNR=9.4					
ALNE	Al Ain	39.02	293	*i* P	P	04 28 50.7 +1.1
	SNR=12					
NAZ	Nazwa, Dubai	39.27	294	P	P	04 28 52.9 +1.3
MOY	Mondy	39.33	6	*e*P	P	04 28 53.0 +1.1
MOY				pmax	pmax	
	comp=Z,103nm,2.2s					
HHU	Hamhung	39.47	40	P	P	04 28 52.4 -0.7
GIRL	Giralia	39.62	152	IAMs_20	IAMs_20	04 44 33.0
	comp=Z,4μm,21.0s					
TLY	Talaya	39.66	8	*e*P	P	04 28 56.0 +1.4
TLY				*e*		04 30 30.5
TLY				*e*S	S	04 34 52.0 -4.7
TLY				pmax	pmax	
	comp=Z,89nm,0.9s					
TLY				MLR	MLR	
	comp=Z,6μm,17.0s					
TLY	Talaya	39.66	8	P	P	04 28 54.1 -0.5
FAKI	Fak Fak	39.90	110	P	P	04 28 55.8 -1.2
	comp=Z,2μmcomp=Z,155nm,1.2s					
SOCY	Socotra	40.20	274	IAMs_20	IAMs_20	04 43 17.7
	comp=Z,3μm,21.0s					
WHFO	Wadi Hawf	40.24	283	P	P	04 29 01.5 +1.6
	SNR=6.3					
WHFO				P	P	04 29 01.5 +1.6
	SNR=6.3					
IRK	Irkutsk	40.30	9	*e*P	P	04 29 00.1 +0.3
IRK				pmax	pmax	
	comp=Z,179nm,2.6s					
KURBB	Kurchatov Arra	40.36	344	P	P	04 29 00.2 -0.2
KURK	Kurchatov	40.42	344*d*	*i* P	P	04 29 01.4 +0.6
KURK				pmax	pmax	
	comp=Z,102nm,1.7s					
KURK	Kurchatov	40.42	344	P	P	04 29 01.0 +0.2
KURK				IAmb	IAmb	04 29 17.2
	comp=Z,121nm,1.1s					
CN2	Changchun	40.61	34	*e*P	P	04 29 02.5 -0.1
CN2				pmax	pmax	
	comp=Z,30nm,0.8s					
ABTO	Aybut	40.68	282	P	P	04 29 05.0 +1.4
	SNR=13					
ABTO				P	P	04 29 05.0 +1.4
	SNR=13					
JMN	Monobe	41.06	53	P	P	04 29 06.0 -0.4
JMN				IAmb	IAmb	04 29 19.0
	comp=Z,67nm,0.9s					
ASHT	Ashkhabad	41.39	314	IAMs_20	IAMs_20	04 48 09.9
	comp=Z,3μm,20.0s					
GEYT	Alibeck	41.57	314	P	P	04 29 11.7 +1.1
	comp=Z,22nm,0.5s,baz=134,slow=8.5,SNR=30					
GEYT				LR	LR	04 48 35.4
	comp=Z,2μm,20.0s,baz=75,slow=39					
GEYT	Alibeck	41.57	314	P	P	04 29 11.2 +0.5
GYA0B	ALIBECK ARRAY	41.57	314	P	P	04 29 11.6 +0.9
GYA0B				IAmb	IAmb	04 29 20.3
	comp=Z,88nm,0.8s					
GYA0B				IAMs_20	IAMs_20	04 48 24.7
	comp=Z,2μm,20.0s					
PSA00	Pilbara Seismi	41.65	144	P	P	04 29 10.8 -0.6
BRZS	Berezniki	41.68	338	⇓*i* P	P	04 29 12.1 +0.8
	comp=Z,125nm,2.4s,baz=338					
BRZS	Berezniki	41.68	338*d*	*i* P	P	04 29 12.0 +0.8
BRZS				pmax	pmax	
	comp=Z,125nm,2.4s					
PSAC3	Pilbara Seismi	41.68	144	IAMs_20	IAMs_20	04 48 44.2
	comp=Z,3μm,21.0s					
HIA	Hailar	41.89	24	P	P	04 29 12.8 -0.2
HIA				pmax	pmax	
	comp=Z,52nm,1.3s					
HIA	Hailar	41.89	24	P	P	04 29 12.8 -0.2
CIT	Chita	42.10	17	*e*P	P	04 29 15.2 +0.5
CIT				*e*		04 30 57.7
CIT				pmax	pmax	
	comp=Z,96nm,3.4s					
ZAA0	Zalesovo Array	42.14	351	P	P	04 29 15.2 +0.3
ZAA0				IAmb	IAmb	04 29 31.1
	comp=Z,64nm,0.9s					
ZALV	Zalesovo Beam	42.14	351	P	P	04 29 15.5 +0.6
	comp=Z,21nm,0.7s,baz=177,slow=8.5,SNR=56					
ZALV				LR	LR	04 51 16.9
	comp=Z,1μm,18.4s,baz=166,slow=43					
ZALV	Zalesovo Beam	42.14	351	P	P	04 29 14.7 -0.2
ZALV	Zalesovo Beam	42.14	351	P	P	04 29 14.7 -0.2
FITZ	Fitzroy Crossi	42.77	135	P	P	04 29 19.5 -1.0
	baz=43,SNR=16					
FITZ	Fitzroy Crossi	42.77	135	IAMs_20	IAMs_20	04 47 15.2
	comp=Z,2μm,21.0s					
MDJ	Mudanjiang	43.45	36	P	P	04 29 25.1 -0.6
KNRA	Kununurra	43.47	129	P	P	04 29 25.2 -1.0
	baz=44,SNR=4.1					
KNRA	Kununurra	43.47	129	P	P	04 29 24.9 -1.3
KNRA				IAMs_20	IAMs_20	04 47 30.5
	comp=Z,2μm,20.0s					
MTN	Manton Dam	43.67	124	P	P	04 29 26.4 -1.4
VLA	Vladivostok	43.96	39*c*	*i* P	P	04 29 30.7 +0.9
VLA				pmax	pmax	
	comp=Z,105nm,2.2s					
JGF	Kuroka	44.40	51	IAmb	IAmb	04 29 41.8
	comp=Z,103nm,1.5s					
USRK	Ussuriysk Ar.	44.61	38	P	P	04 29 35.1 0.0
	comp=Z,2.7nm,0.6s,baz=252,slow=7.2,SNR=8.0					
USRK	Ussuriysk Ar.	44.61	38	P	P	04 29 34.7 -0.4
USRK	Ussuriysk Ar.	44.61	38	P	P	04 29 34.7 -0.4
BRVK	Borovoye	45.06	339*d*	*i* P	P	04 29 38.6 +0.1
BRVK				pmax	pmax	
	comp=Z,17nm,1.3s					
BRVK	Borovoye	45.06	339	P	P	04 29 38.6 +0.1
MEEK	Meekatharra	45.10	150	P	P	04 29 39.2 0.0
	baz=45,SNR=5.9					
MAJO	Matsushiro	45.38	51*d*	*i* P	P	04 29 41.1 -0.2
MAJO				pmax	pmax	
	comp=Z,146nm,2.0s					
MAJO	Matsushiro	45.38	51	P	P	04 29 39.9 -1.4
MAJO				IAmb	IAmb	04 29 50.3
	comp=Z,36nm,1.1s					
MAT	Matsushiro	45.38	51	P	P	04 29 40.1 -1.2
MAT				*e*S	S	04 36 20.0 -1.4
MJAR	Matsushiro Arr	45.38	51	P	P	04 29 40.5 -0.8
	comp=Z,12nm,0.9s,baz=259,slow=9.9,SNR=26					
MJAR				PcP	PcP	04 31 21.2 +0.6
	comp=Z,3.2nm,0.4s,baz=225,slow=2.4,SNR=5.5					
MJAR				LR	LR	04 49 54.9
	comp=Z,447nm,18.8s,baz=240,slow=38					
MJAR	Matsushiro Arr	45.38	51	P	P	04 29 40.7 -0.6
MJAR						04 31 21.2
MJAR				pmax	pmax	
	comp=Z,21nm,1.3s					
MJAR	Matsushiro Arr	45.38	51	P	P	04 29 40.7 -0.6
MORW	Morawa	45.99	154	P	P	04 29 46.4 +0.3
	baz=46,SNR=9.7					
AB31	Akbulak array	46.74	329	*i* P	P	04 29 52.3 +0.5
ABKAR	Akbulak array	46.74	329	P	P	04 29 51.4 -0.4
BOD	Bodaibo	47.43	14	*e*P	P	04 29 57.3 +0.3
BOD				pmax	pmax	
	comp=Z,80nm,1.8s					
JAY	Jayapura	47.62	105	P	P	04 29 57.1 -2.1
	comp=Z,4.6nm,0.9s,baz=268,slow=5.6,SNR=6.2					
BLDU	Ballidu	47.62	155	P	P	04 29 59.6 +0.7
	baz=48,SNR=4.8					
TEY	Ternei	47.86	39	⇓*e*P	P	04 29 59.8 -0.8
TEY				pmax	pmax	
	comp=N,10.0nm,1.6s					
TEY				pmax	pmax	
	comp=Z,10.0nm,2.0s					
TEY				pmax	pmax	
	comp=E,10.0nm,1.7s					
TEY				MLR	MLR	
	comp=Z,200nm,21.0s					
ZEA	Zeya	48.34	25	*e*P	P	04 30 04.5 +0.4
ZEA				*e*		04 31 25.0
ZEA				*e*S	S	04 37 06.0 +2.9
ZEA				pmax	pmax	
	comp=Z,36nm,1.2s					
ZEA				pmax	pmax	
	comp=Z,500nm,9.0s					
ZEA				pmax	pmax	
	comp=N,200nm,8.0s					
ZEA				pmax	pmax	
	comp=Z,500nm,8.0s					
ZEA				smax	smax	
	comp=E,400nm,10.0s					
ZEA				MLR	MLR	
	comp=Z,6μm,12.0s					
ZEA				MLR	MLR	
	comp=E,3μm,11.0s					
ZEA				MLR	MLR	
	comp=N,5μm,12.0s					
AKTO	Aktyubinsk	48.45	329	P	P	04 30 04.3 -0.8
DAMY	Dhamar	49.33	279	P	P	04 30 14.5 +1.9
	SNR=32					
DAMY	Dhamar	49.33	279	P	P	04 30 13.5 +0.8
DAMY				IAMs_20	IAMs_20	04 48 06.2
	comp=Z,2μm,20.0s					
WRKA	Warakurna	49.37	139	P	P	04 30 11.8 -0.7
	baz=50,SNR=11					
NWAO	Narrogin (SRO)	49.86	156	P	P	04 30 16.1 0.0
	comp=Z,68nm,0.9s,baz=330,slow=8.6,SNR=19					
NWAO	Narrogin (SRO)	49.86	156	P	P	04 30 16.1 +0.1
	baz=50,SNR=15					
NWAO	Narrogin (SRO)	49.86	156	P	P	04 30 16.1 +0.1
NWAO				pmax	pmax	
	comp=Z,226nm,1.2s					
NWAO	Narrogin (SRO)	49.86	156	P	P	04 30 16.1 +0.1
JEW	Eniwo	50.04	44	IAMs_20	IAMs_20	04 52 11.5
	comp=Z,2μm,20.0s					
WRA	Warramunga Arr	50.27	129	P	P	04 30 18.8 -0.6
	comp=Z,49nm,1.0s,baz=309,slow=8.4,SNR=96					
WRA				S	S	04 37 30.9 -0.1
	comp=Z,1.6nm,1.2s,baz=315,slow=14,SNR=8.0					
WRA				LR	LR	04 52 49.3
	comp=Z,1μm,20.4s,baz=300,slow=38					
WRA	Warramunga Arr	50.27	129	P	P	04 30 18.5 -0.9
WRA				pmax	pmax	
	comp=Z,4.0nm,1.1s					
WRA	Warramunga Arr	50.27	129	P	P	04 30 18.4 -0.9
WRAB	Tennant Creek	50.27	129*d*	*i* P	P	04 30 18.8 -0.6
WRAB				pmax	pmax	
	comp=Z,90nm,1.3s					
WRAB	Tennant Creek	50.27	129	P	P	04 30 18.6 -0.8
KMBL	Kambalda	50.61	150	P	P	04 30 22.1 +0.4
	baz=51,SNR=4.8					
GRNR	Gornyy	50.76	33	MLR	MLR	
	comp=E,470nm,17.0s					
GRNR				MLR	MLR	
	comp=N,950nm,12.0s					
GRNR				MLR	MLR	
	comp=Z,1μm,13.0s					
MAK	Makhachkala	51.02	316	*e*P	P	04 30 19.1 -5.7
MAK				*e*S	S	04 37 34.6 -6.4
MAK				*e*SS	SS	04 41 15.1 -1.0
MAK				pmax	pmax	
	comp=Z,210nm,0.9s					
ATD	Arta Tunnel	51.11	275	P	P	04 30 26.0 0.0
ATD				IAmb	IAmb	04 30 36.4
	comp=Z,54nm,1.3s					
ASAJ	Asahikawa	51.30	43	LR	LR	04 52 40.8
	comp=Z,875nm,19.8s,baz=230,slow=37					
JKA	Kamikawa-asahi	51.30	43	IAmb	IAmb	04 30 46.0
	comp=Z,62nm,1.3s					
JKA				IAMs_20	IAMs_20	04 55 55.0
	comp=Z,1μm,18.0s					
SVE	Sverdlovsk	51.53	337*c*	*e*P	P	04 30 29.1 +0.8
SVE				*e*S	S	04 37 50.4 +2.8
SVE				*e*		04 41 26.5
SVE				pmax	pmax	
	comp=Z,232nm,1.9s					
SVE				MLR	MLR	
	comp=Z,2μm,21.0s					
ARU	Arti	52.08	335*d*	*i* P	P	04 30 32.5 0.0
ARU						04 31 43.7
ARU				S	S	04 37 57.4 +2.2
ARU				SS	SS	04 41 35.2 +2.8
ARU				pmax	pmax	
	comp=Z,66nm,1.8s					
ARU				MLR	MLR	
	comp=Z,3μm,23.0s					
ARU	Arti	52.08	335	P	P	04 30 32.7 +0.2
ARU				IAMs_20	IAMs_20	04 54 30.9
	comp=Z,2μm,22.0s					
ASAR	Alice Springs	52.23	133	P	P	04 30 33.5 -0.6
	comp=Z,18nm,0.9s,baz=309,slow=6.9,SNR=98					
ASAR				LR	LR	04 55 00.1
	comp=Z,1μm,20.4s,baz=306,slow=39					
ASAR	Alice Springs	52.23	133	P	P	04 30 32.8 -1.3
ASAR	Alice Springs	52.23	133	P	P	04 30 32.8 -1.3
GROC	Groznyy	52.28	315	*e*P	P	04 30 34.8 +0.6
GROC				*e*		04 32 34.2
GROC				*e*S	S	04 37 59.2 +0.9
GROC				pmax	pmax	
	comp=Z,52nm,0.6s					
YSS	Yuzh-Sakhalins	52.55	40	⇓*e*P	P	04 30 36.5 +0.4
YSS				*e*		04 30 50.2
YSS				pmax	pmax	
	comp=Z,30nm,1.2s					
YSS	Yuzh-Sakhalins	52.55	40	P	P	04 30 36.0 -0.1
YSS				IAmb	IAmb	04 30 54.5
	comp=Z,84nm,1.5s					
GEVA	Gevas	52.79	309	IAMs_20	IAMs_20	04 55 19.9
	comp=Z,2μm,21.0s					
AKH	Akhalkalaki	53.32	313	P	P	04 30 43.2 +1.1
AKH				pmax	pmax	
	comp=Z,47nm,1.0s					
AKH				MLR	MLR	
	comp=Z,800nm,22.0s					
AKH	Akhalkalaki	53.32	313	P	P	04 30 43.2 +1.1
AKH				IAmb	IAmb	04 30 52.0
	comp=Z,47nm,1.0s					
FORT	Forrest	53.41	144	P	P	04 30 42.3 -0.3
ZEI	Tsey	53.45	314	*e*P	P	04 30 43.5 +0.4
ZEI				pmax	pmax	
	comp=Z,26nm,0.8s					
YUK	Yuzh-Kuril'sk	53.47	44	*e*P	P	04 30 40.1 -2.8
YUK				S	S	04 38 13.7 -0.7
YUK				pmax	pmax	
	comp=Z,783nm,1.1s					
YUK				pmax	pmax	
	comp=N,358nm,0.9s					
YUK				pmax	pmax	
	comp=E,405nm,1.0s					
TYV	Tymovskoe	54.22	35	*e*P	P	04 30 49.5 +1.2
TYV				*e*S	S	04 38 30.3 +5.9
TYV				pmax	pmax	
	comp=Z,11nm,1.4s					
TYV				pmax	pmax	
	comp=Z,500nm,2.5s					
TYV				smax	smax	
	comp=N,11nm,1.0s					
TYV				MLR	MLR	
	comp=Z,2μm,18.0s					
MARD	Mardin	54.32	307	IAmb	IAmb	04 30 57.7
	comp=Z,31nm,0.9s					
COEN	Coen	54.36	117	P	P	04 30 48.8 -1.0
COEN				IAmb	IAmb	04 30 49.6
	comp=Z,42nm,1.4s					
KBZ	Khabaz	54.44	315	P	P	04 30 50.3 +0.2
	comp=Z,1.4nm,0.7s,baz=95,slow=9.2,SNR=6.7					
KBZ	Khabaz	54.44	315*de*	P	P	04 30 49.9 -0.1
KBZ				pmax	pmax	
	comp=Z,20nm,1.1s					
QIS	Mount Isa	54.67	126	P	P	04 30 51.6 -0.5
	baz=55,SNR=12					
GOF	Gofitskoye	54.77	317	⇑*e*P	P	04 30 53.2 +0.7
GOF				pmax	pmax	
	comp=Z,63nm,0.8s					
KOPT	Kop Dagi	55.14	310	IAMs_20	IAMs_20	04 58 45.0
	comp=Z,1μm,22.0s					
KUR	Kuril'sk	55.21	43	*e*P	P	04 30 58.2 +2.6
KUR				*e*PPP	PPP	04 34 11.8
KUR				S	S	04 38 39.9 +1.9
KUR				MLR	MLR	
	comp=Z,1μm,16.0s					
YAK	Yakutsk	55.30	19	*e*P	P	04 30 54.8 -1.1
YAK				*e*PP	sP	04 31 03.5 -0.4

YAK			*e*			04 31 51.6	
YAK			*e*S		**S**	**04 38 38.7**	**+0.1**
YAK			*e*			04 40 45.3	
YAK			pmax		pmax		
	comp=Z,22nm,1.0s						
YAK			pmax		pmax		
	comp=N,8.0nm,1.4s						
YAK			pmax		pmax		
	comp=E,6.0nm,1.4s						
YAK			pmax		pmax		
	comp=Z,281nm,5.7s						
YAK			pmax		pmax		
	comp=N,101nm,4.4s						
YAK			pmax		pmax		
	comp=E,152nm,4.8s						
YAK			smax		smax		
	comp=E,259nm,5.3s						
YAK			smax		smax		
	comp=N,184nm,5.6s						
YAK			MLR		MLR		
	comp=Z,2μm,23.0s						
YAK			MLR		MLR		
	comp=N,928nm,18.0s						
YAK			MLR		MLR		
	comp=E,1μm,21.0s						
YAK	**Yakutsk**	**55.30 19**	IAMs_20		IAMs_20	04 57 56.7	
	comp=Z,1μm,18.0s						
FURI	**Furi**	**55.54 272**	P		**P**	**04 30 58.8**	**-0.1**
FURI	**Furi**	**55.54 272**	IAMs_20		IAMs_20	04 53 09.0	
	comp=Z,3μm,20.0s						
SOC	**Sochi**	**56.61 314**	*e*P		**P**	**04 31 02.4**	**-3.3**
SOC			*e*			04 33 10.4	
SOC			*e*PPP		PPP	04 34 25.4	
SOC			*e*S		**S**	**04 38 54.2**	**-2.5**
SOC			*e*SS		**SS**	**04 42 40.5**	**-3.8**
SOC			pmax		pmax		
	comp=Z,62nm,1.0s						
SOC			MLR		MLR		
	comp=Z,1μm,22.0s						
ASF	**Jabal al Asfar**	**56.66 300**	P		**P**	**04 31 06.3**	**0.0**
	comp=Z,3.1nm,0.8s,baz=106,slow=5.5						
NRIK	**Noril'sk**	**56.99 357**	P		**P**	**04 31 07.8**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=180,slow=5.8,SNR=7.8						
NRIK			LR		LR	04 59 03.1	
	comp=Z,644nm,18.5s,baz=182,slow=40						
NRIK	**Noril'sk**	**56.99 357**	*i* P		**P**	**04 31 07.7**	**-0.2**
NRIK			pmax		pmax		
	comp=Z,52nm,2.3s						
KIRV	**Kirov**	**57.29 334**	⇓*e*P		**P**	**04 31 10.3**	**+0.1**
VRH	**Novokhopyorsk**	**57.77 323**	*e*P		**P**	**04 31 13.1**	**-0.6**
VRH			pmax		pmax		
	comp=Z,60nm,0.8s						
MMAI	**Mount Meron Ar**	**58.00 301**	P		**P**	**04 31 14.5**	**-1.3**
	comp=Z,3.7nm,0.8s,baz=76,slow=13,SNR=1.5						
TOKA	**Tokat**	**58.21 310**	IAMs_20		IAMs_20	04 58 46.3	
	comp=Z,2μm,22.0s						
ANN	**Anapa**	**58.51 315**	*e*P		P	04 31 24.8	+5.8
ANN			*e*			04 32 03.2	
ANN			*e*PPP		PPP	04 35 01.9	
ANN			*e*S		S	04 39 32.0	+10
ANN			pmax		pmax		
	comp=Z,33nm,0.8s						
KRVT	**Keravat (AS076**	**58.91 103**	P		**P**	**04 31 22.1**	**-0.3**
	comp=Z,18nm,0.5s,baz=215,slow=18,SNR=1.1						
KMBO	**Kilima Mbogo**	**59.04 261**	P		**P**	**04 31 25.4**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=45,slow=12,SNR=7.5						
KMBO			LR		LR	04 53 13.2	
	comp=Z,595nm,22.0s,baz=78,slow=32						
KMBO	**Kilima Mbogo**	**59.04 261**	P		**P**	**04 31 24.2**	**+0.6**
KMBO	**Kilima Mbogo**	**59.04 261**	*i* P		**P**	**04 31 25.3**	**+1.8**
KMBO			pmax		pmax		
	comp=Z,2.0nm,0.6s						
KMBO	**Kilima Mbogo**	**59.04 261**	P		**P**	**04 31 24.5**	**+0.9**
VSR	**Storozhevoye**	**59.28 323**	*e*P		**P**	**04 31 23.5**	**-0.8**
VSR			pmax		pmax		
	comp=Z,80nm,1.9s						
BBOO	**Buckleboo**	**59.63 140**	P		**P**	**04 31 26.8**	**-0.1**
	baz=60,SNR=5.2						
BBOO	**Buckleboo**	**59.63 140**	P		**P**	**04 31 26.2**	**-0.8**
CTA	**Charters Tower**	**59.80 122**	P		**P**	**04 31 28.4**	**0.0**
	comp=Z,9.9nm,1.0s,baz=298,slow=9.0,SNR=11						
CTAO	**Charters Tower**	**59.80 122**	P		**P**	**04 31 28.3**	**0.0**
CTAO			pmax		pmax		
	comp=Z,40nm,1.3s						
CTAO	**Charters Tower**	**59.80 122**	P		**P**	**04 31 28.3**	**0.0**
CTAO			IAmb		IAmb	04 31 36.0	
	comp=Z,40nm,1.2s						
LPSR	**Galich'ya Gora**	**59.89 324**	*e*P		**P**	**04 31 27.9**	**-0.5**
LPSR			pmax		pmax		
	comp=Z,50nm,1.3s						
CSS	**Mathiatis**	**59.91 303**	IAMs_20		IAMs_20	05 00 43.6	
	comp=Z,2μm,21.0s						
FOMA	**Nahampoana Res**	**59.97 231**	IAMs_20		IAMs_20	04 52 31.1	
	comp=Z,1μm,22.0s						
BR131	**Keskin Array S**	**60.26 309**	P		**P**	**04 31 30.7**	**-0.7**
BR131			pmax		pmax		
	comp=Z,19nm,1.0s						
BR131	**Keskin Array S**	**60.26 309**	P		**P**	**04 31 30.7**	**-0.7**
BR131			IAmb		IAmb	04 31 38.9	
	comp=Z,19nm,0.9s						
BRTR	**Keskin Array B**	**60.26 309**	P		**P**	**04 31 30.1**	**-1.3**
	comp=Z,2.1nm,0.5s,baz=124,slow=7.6,SNR=11						
BRTR			LR		LR	05 01 14.2	
	comp=Z,1μm,20.5s,baz=102,slow=40						
BRTR	**Keskin Array B**	**60.26 309**	P		**P**	**04 31 29.9**	**-1.5**
ILGA	**Ilgaz**	**60.41 310**	P		**P**	**04 31 32.5**	**0.0**
ILGA			IAMs_20		IAMs_20	05 00 18.4	
	comp=Z,2μm,22.0s						
PRGR	**Permogore**	**60.54 335**	⇑*i*P		**P**	**04 31 32.8**	**+0.1**
PRGR			pmax		pmax		
	comp=Z,577nm,1.5s						
ANTO	**Ankara**	**60.92 309**	IAMs_20		IAMs_20	05 02 33.7	
	comp=Z,1μm,21.0s						
QLP	**Quilpie**	**61.50 130**	P		**P**	**04 31 40.8**	**+0.9**
	baz=62,SNR=11						
MOS	**Moscow**	**61.71 327**	*e*P		**P**	**04 31 39.3**	**-1.4**
MOS			*e*			04 31 51.0	
MOS			*e*S		**S**	**04 39 59.5**	**-2.8**
MOS			pmax		pmax		
	comp=Z,140nm,1.6s						
MOS			pmax		pmax		
	comp=Z,400nm,2.2s						
HTT	**Hallett**	**61.85 139**	P		**P**	**04 31 42.7**	**+0.6**
	baz=62,SNR=13						
OBN	**Obninsk**	**62.06 326**	*d i*P		**P**	**04 31 41.5**	**-1.6**
OBN			*e*			04 34 02.5	
OBN			*i* S		S	04 39 56.1	-11
OBN			pmax		pmax		
	comp=Z,121nm,1.7s						
OBN			MLR		MLR		
	comp=Z,2μm,19.0s						
OBN	**Obninsk**	**62.06 326**	P		**P**	**04 31 43.8**	**+0.7**
OBN			IAMs_20		IAMs_20	05 03 02.2	
	comp=Z,2μm,20.0s						
SKR	**Severo-Kuril's**	**62.11 39**	*e*P		**P**	**04 31 42.6**	**-0.9**
SKR			*e*S		**S**	**04 40 10.0**	**+2.5**
SKR			pmax		pmax		
	comp=Z,44nm,1.1s						
SKR			pmax		pmax		
	comp=Z,500nm,3.5s						
SKR			pmax		pmax		
	comp=Z,200nm,3.8s						
SKR			MLR		MLR		
	comp=Z,600nm,17.0s						
SKR			MLR		MLR		
	comp=Z,700nm,16.0s						
BOLV	**Bolvadin**	**62.20 307**	IAMs_20		IAMs_20	05 02 50.0	
	comp=Z,1μm,22.0s						
MA2	**Magadan**	**62.22 28**	*d i*P		**P**	**04 31 43.9**	**-0.2**
MA2			pmax		pmax		
	comp=Z,50nm,1.7s						
MA2	**Magadan**	**62.22 28**	P		**P**	**04 31 44.0**	**-0.1**
MA2			IAmb		IAmb	04 31 45.9	
	comp=Z,31nm,1.0s						
MA2			IAMs_20		IAMs_20	05 02 52.6	
	comp=Z,1μm,21.0s						
ISP	**Isparta**	**62.44 306**	P		**P**	**04 31 45.3**	**-0.9**
ISP			pmax		pmax		
	comp=Z,28nm,0.8s						
ISP			MLR		MLR		
	comp=Z,1μm,20.0s						
ISP	**Isparta**	**62.44 306**	P		**P**	**04 31 45.3**	**-0.9**
ISP			IAmb		IAmb	04 31 48.0	
	comp=Z,28nm,0.8s						
ISP	**Isparta**	**62.44 306**	IAMs_20		IAMs_20	05 02 15.8	
	comp=Z,1μm,20.0s						
TIXI	**Tiksi**	**62.51 11**	*d i*P		**P**	**04 31 44.9**	**-1.0**
TIXI			pmax		pmax		
	comp=Z,354nm,2.2s						
TIXI	**Tiksi**	**62.51 11**	P		**P**	**04 31 44.7**	**-1.1**
STKA	**Stephens Creek**	**62.65 136**	P		**P**	**04 31 47.4**	**0.0**
	comp=Z,24nm,0.9s,baz=315,slow=7.6,SNR=37						
STKA			LR		LR	05 00 18.7	
	comp=Z,2μm,20.1s,baz=300,slow=37						
STKA	**Stephens Creek**	**62.65 136**	P		**P**	**04 31 47.5**	**+0.1**
	baz=63,SNR=23						
STKA	**Stephens Creek**	**62.65 136**	P		**P**	**04 31 47.0**	**-0.4**
STKA			pmax		pmax		
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**62.65 136**	P		**P**	**04 31 47.0**	**-0.4**
KLMR	**Klimovskoe**	**62.77 333**	*e*P		**P**	**04 31 46.3**	**-1.5**
KLMR			pmax		pmax		
	comp=Z,97nm,1.4s						
KLMR	**Klimovskoe**	**62.77 333**	*e*P		**P**	**04 31 46.3**	**-1.5**
KLMR			AMP			04 32 04.4	
	comp=Z,97nm,1.4s						
KLMR			LQ		LQ	04 55 09.4	
KLMR			LQ		LQ	04 55 09.4	
KLMR			LR		LR	04 58 25.0	
PEA0B	**Petropavlovsk-**	**63.68 37**	IAMs_20		IAMs_20	05 03 14.4	
	comp=Z,1μm,21.0s						
PETK	**Petropavlovsk-**	**63.68 37**	P		**P**	**04 31 53.9**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=224,slow=10,SNR=1.6						
PURM	**Purcari**	**64.05 316**	⇓P		P	04 32 03.4	+6.9
PET	**Petropavlovsk**	**64.22 37**	IAMs_20		IAMs_20	05 04 15.5	
	comp=Z,1μm,18.0s						
SEY	**Seymchan**	**64.32 25**	*de*P		**P**	**04 31 57.1**	**-0.9**
TIRR	**Tirgusor**	**64.77 313**	⇓P		P	04 32 08.2	+6.9
TIRR	**Tirgusor**	**64.77 313**	P		**P**	**04 32 01.7**	**+0.5**
TIRR			pmax		pmax		
	comp=Z,65nm,1.1s						
TIRR			MLR		MLR		
	comp=Z,2μm,21.0s						
TIRR	**Tirgusor**	**64.77 313**	P		**P**	**04 32 01.7**	**+0.5**
TMCR	**Tamitsa**	**64.80 336**	*e*P		**P**	**04 31 59.4**	**-1.7**
TMCR			pmax		pmax		
	comp=Z,16nm,0.6s						
KIS	**Kishinev**	**64.84 316**	*e*P		**P**	**04 32 04.0**	**+2.3**
	comp=Z,200nm,8.0s						
KIS	**Kishinev**	**64.84 316**	*e*P		**P**	**04 32 04.0**	**+2.3**
KIS			*e*S		**S**	**04 40 46.0**	**+4.2**
KIS			pmax		pmax		
	comp=Z,210nm,8.0s						
RMQ	**Roma**	**64.91 127**	P		**P**	**04 32 04.2**	**+1.7**
	baz=65,SNR=5.9						
CFR	**Carcaliu**	**65.06 314**	⇑P		P	04 32 10.7	+7.6
HARR	**Harsova**	**65.14 314**	⇓P		P	04 32 11.7	+8.0
AKASG	**Malin Array Be**	**65.21 320**	P		**P**	**04 32 00.8**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=83,slow=4.8,SNR=19						
AKASG			LR		LR	05 04 21.1	
	comp=Z,1μm,21.1s,baz=105,slow=40						
AKASG	**Malin Array Be**	**65.21 320**	*i* P		**P**	**04 32 01.3**	**-2.7**
AKASG			pmax		pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**65.21 320**	P		**P**	**04 32 03.1**	**-0.9**
AKBB	**Malin Array Si**	**65.21 320**	*ce*P		**P**	**04 32 03.2**	**-0.8**
AKBB	**Malin Array Si**	**65.21 320**	P		**P**	**04 32 03.2**	**-0.8**
AKBB			IAmb		IAmb	04 32 11.8	
	comp=Z,44nm,1.4s						
AKBB			IAMs_20		IAMs_20	05 04 19.8	
	comp=Z,2μm,21.0s						
MBAR	**Mbarara**	**65.21 263**	P		**P**	**04 32 04.6**	**-0.3**
MBAR			pmax		pmax		
	comp=Z,25nm,1.5s						
MBAR	**Mbarara**	**65.21 263**	P		**P**	**04 32 04.6**	**-0.3**
CMSA	**Cobar Meteorol**	**65.29 133**	P		**P**	**04 32 05.3**	**+0.5**
	baz=65,SNR=9.6						
SORM	**Soroca**	**65.33 317**	⇓P		**P**	**04 32 04.2**	**-0.6**
SORM	**Soroca**	**65.33 317**	⇓P		**P**	**04 32 04.2**	**-0.6**
ARPS	**Mount Arapiles**	**65.81 140**	P		**P**	**04 32 09.2**	**+1.2**
	baz=66,SNR=6.2						
BISRR	**Bisoca**	**66.10 314**	⇓P		P	04 32 19.1	+9.2
VRI	**Vrincioaia**	**66.12 315**	⇓P		**P**	**04 32 10.3**	**+0.2**
VRI	**Vrincioaia**	**66.12 315**	⇓P		**P**	**04 32 10.3**	**+0.2**
ALN	**Alexandroupoli**	**66.16 309**	IAmb		IAmb	04 32 22.7	
	comp=Z,31nm,1.5s						
ISR	**Istrita**	**66.17 314**	⇑P		**P**	**04 32 14.8**	**+4.4**
PLOR	**Plostina**	**66.17 315**	⇓P		**P**	**04 32 11.0**	**+0.6**
PLOR	**Plostina**	**66.17 315**	⇓P		**P**	**04 32 11.0**	**+0.6**
EIDS	**Eidsvold**	**66.21 125**	P		**P**	**04 32 11.3**	**+0.4**
	baz=66,SNR=3.6						
EIDS	**Eidsvold**	**66.21 125**	P		**P**	**04 32 10.6**	**-0.3**
EIDS			IAmb		IAmb	04 32 19.1	
	comp=Z,45nm,1.3s						
EIDS			IAMs_20		IAMs_20	05 01 26.9	
	comp=Z,1μm,21.0s						
SANT	**Santorini**	**66.39 304**	P		**P**	**04 32 10.8**	**-1.2**
MLR	**Muntele Rosu**	**66.63 314**	P		**P**	**04 32 13.6**	**+0.2**
	comp=Z,8.3nm,0.9s,baz=62,slow=1.6,SNR=15						
MLR	**Muntele Rosu**	**66.63 314**	⇓P		**P**	**04 32 12.8**	**-0.6**
MLR	**Muntele Rosu**	**66.63 314**	⇓P		**P**	**04 32 12.8**	**-0.6**
MLR	**Muntele Rosu**	**66.63 314**	IAMs_20		IAMs_20	05 04 58.7	
	comp=Z,2μm,22.0s						
BIZ	**Bicaz**	**66.68 316**	⇓P		**P**	**04 32 13.3**	**-0.2**
MICGM	**Minsk**	**66.74 324**	⇓*e*P		**P**	**04 32 13.0**	**-0.8**
MICGM			PM			04 32 15.0	
	comp=Z,0.2nm,2.0s						
MNK	**Minsk**	**66.74 324**	⇓*e*P		**P**	**04 32 13.0**	**-0.8**
MNK			pmax		pmax		
	comp=Z,230nm,2.0s						
IDI	**Anoyia**	**66.83 303**	P		**P**	**04 32 14.0**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=63,slow=9.1,SNR=4.5						
IDI	**Anoyia**	**66.83 303**	IAmb		IAmb	04 32 22.5	
	comp=Z,22nm,1.0s						
VOIR		**67.25 314**	⇓P		P	04 32 25.0	+7.6
BURAR	**Bucovina Array**	**67.35 316**	⇑P		**P**	**04 32 17.0**	**-1.0**
BURAR	**Bucovina Array**	**67.35 316**	⇑P		**P**	**04 32 17.0**	**-1.0**
BURAR	**Bucovina Array**	**67.35 316**	P		**P**	**04 32 17.8**	**-0.2**
BUR08	**Bucovina Ar. S**	**67.37 317**	IAmb		IAmb	04 32 33.8	
	comp=Z,30nm,1.2s						
NACGM	**Naroch**	**67.45 324**	*e*		**P**	**04 32 17.0**	**-1.3**
NACGM			*e*LQ		LQ	05 00 20.0	
NACGM			*e*LR		LR	05 05 06.0	
IDID	**Didziasalis**	**67.55 325**	*e*P		**P**	**04 32 19.4**	**+0.5**
PGB	**Panagyurishte**	**67.67 311**	*e*P		**P**	**04 32 19.2**	**-0.8**
IIGN	**Ignalina**	**67.84 325**	*e*P		**P**	**04 32 19.9**	**-0.9**
APA	**Apatity**	**67.91 339**	⇑*i*P		**P**	**04 32 22.8**	**+1.9**
APA			*i*			04 32 41.0	
APA			pmax		pmax		
	comp=Z,10.0nm,1.1s						
APA			MLR		MLR		
	comp=Z,3μm,17.0s						
ISAL	**Salakas**	**67.94 325**	*e*P		**P**	**04 32 21.3**	**-0.1**
MMB	**Musomiste**	**67.94 310**	*e*P		**P**	**04 32 19.2**	**-2.5**
LOT	**Lotru**	**68.15 314**	⇓P		**P**	**04 32 21.9**	**-1.2**
VSU	**Vasula**	**68.17 328**	⇑*e*P		**P**	**04 32 23.4**	**+0.7**
VSU			pmax		pmax		
	comp=Z,184nm,1.6s						
VTS	**Vitosha**	**68.36 311**	*e*P		**P**	**04 32 22.6**	**-1.9**
LVV	**L'vov**	**68.37 319**	*e*P		**P**	**04 32 23.4**	**-0.8**
KKB	**Krupnik**	**68.44 310**	*e*P		**P**	**04 32 22.6**	**-2.2**
TOO	**Toolangi**	**68.61 139**	P		**P**	**04 32 27.3**	**+1.4**
	baz=69,SNR=13						
TOO	**Toolangi**	**68.61 139**	P		**P**	**04 32 26.0**	**+0.1**
TOO			pmax		pmax		
	comp=Z,102nm,1.3s						
TOO			MLR		MLR		
	comp=Z,3μm,21.0s						
TOO	**Toolangi**	**68.61 139**	P		**P**	**04 32 26.0**	**+0.1**
ARMA	**Armidale**	**69.05 130**	P		**P**	**04 32 30.7**	**+1.8**
	baz=69,SNR=4.1						
ARMA	**Armidale**	**69.05 130**	P		**P**	**04 32 29.4**	**+0.6**
HERR	**Herculane**	**69.07 313**	⇓P		**P**	**04 32 28.0**	**-0.6**
FINES	**FINESS Array B**	**69.13 331**	P		**P**	**04 32 28.0**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=104,slow=6.9,SNR=12						
FINES			LR		LR	05 06 14.2	
	comp=Z,2μm,20.8s,baz=104,slow=39						
FINES	**FINESS Array B**	**69.13 331**	P		**P**	**04 32 27.9**	**-0.7**
PABE	**Paberze**	**69.14 325**	*e*P		**P**	**04 32 29.0**	**+0.2**
KWP	**Kalwaria Pacla**	**69.21 318**	*e*P		**P**	**04 32 30.7**	**+1.3**
ITM	**Ithomi**	**69.24 305**	IAMs_20		IAMs_20	05 06 26.5	
	comp=Z,1μm,22.0s						
SUW	**Suwalki**	**69.39 323**	*e*P		**P**	**04 32 30.3**	**-0.1**
SUW	**Suwalki**	**69.39 323**	IAMs_20		IAMs_20	05 07 11.2	
	comp=Z,2μm,22.0s						
UZH	**Uzhgorod**	**69.40 317**	*de*P		**P**	**04 32 29.7**	**-0.9**
UZH			*e*			04 32 34.5	
UZH			*e*			04 32 51.0	
UZH			*e*PPP		PPP	04 36 45.0	
UZH			*e*S		**S**	**04 41 32.5**	**-4.1**
UZH			*e*PS		**PnS**	**04 41 59.7**	**-3.5**
UZH			*e*			04 42 20.0	
UZH			*e*SS		**SS**	**04 45 59.6**	**-4.1**
UZH			*e*SSS		SSS	04 49 11.4	
UZH			MLR		MLR		
	comp=N,130nm,20.0s						
UZH			MLR		MLR		
	comp=E,140nm,20.0s						
UZH			MLR		MLR		
	comp=Z,87nm,20.0s						
KOLS	**Kolonicke sedl**	**69.44 318**	*e*P		**P**	**04 32 30.4**	**-0.5**
KOLS			pmax		pmax		
	comp=Z,164nm,2.5s						
KOLS	**Kolonicke sedl**	**69.44 318**	*e*P		**P**	**04 32 30.4**	**-0.5**
MDVR	**Moldovita**	**69.56 313**	⇓P		**P**	**04 32 32.4**	**+0.6**
BZS	**Buzias**	**69.67 314**	⇑P		**P**	**04 32 33.7**	**+1.4**
BZS	**Buzias**	**69.67 314**	⇑P		**P**	**04 32 33.7**	**+1.4**
SIRR	**Siria**	**69.67 315**	⇓P		**P**	**04 32 32.5**	**+0.1**
CNB	**Canberra Magne**	**69.92 135**	P		**P**	**04 32 35.0**	**+0.9**
	baz=70,SNR=4.5						
CRVS	**Cervenica-Dubn**	**69.97 318**	*e*P		**P**	**04 32 34.2**	**+0.1**
CRVS			pmax		pmax		
	comp=Z,249nm,1.5s						
CRVS	**Cervenica-Dubn**	**69.97 318**	*e*P		**P**	**04 32 34.2**	**+0.1**
PBUR	**Paburge**	**70.35 325**	*e*P		**P**	**04 32 36.5**	**+0.2**
BEL	**Belsk**	**70.61 321**	*e*P		**P**	**04 32 39.3**	**+1.3**
NIE	**Niedzica**	**70.76 318**	*e*P		**P**	**04 32 39.9**	**+0.9**
TIR	**Tirane**	**70.84 310**	IAMs_20		IAMs_20	05 09 11.5	
	comp=Z,957nm,22.0s						
PSZ	**Piszkesteto**	**70.95 317**	⇓P		**P**	**04 32 40.0**	**-0.3**
PSZ	**Piszkesteto**	**70.95 317**	⇓P		**P**	**04 32 40.0**	**-0.3**
PSZ	**Piszkesteto**	**70.95 317**	IAmb		IAmb	04 32 47.2	
	comp=Z,65nm,1.4s						
ARCES	**ARCESS Array B**	**71.28 340**	LR		LR	05 08 02.7	
	comp=Z,2μm,19.0s,baz=115,slow=39						
BILL	**Bilibino**	**71.43 22**	*d i*P		**P**	**04 32 41.9**	**-0.8**
BILL			*e*			04 35 24.8	
BILL			pmax		pmax		
	comp=Z,42nm,2.5s						
BILL			MLR		MLR		
	comp=Z,1μm,17.0s						
BILL	**Bilibino**	**71.43 22**	P		**P**	**04 32 42.1**	**-0.5**
BILL			IAmb		IAmb	04 32 52.5	
	comp=Z,44nm,1.3s						
VYHS	**Vyhne**	**71.68 317**	*e*P		**P**	**04 32 44.2**	**-0.4**
VYHS			pmax		pmax		
	comp=Z,57nm,1.6s						
VYHS	**Vyhne**	**71.68 317**	*e*P		**P**	**04 32 44.2**	**-0.4**
LSZ	**Lusaka**	**71.81 249**	P		**P**	**04 32 46.1**	**+0.1**
LSZ			pmax		pmax		
	comp=Z,27nm,1.2s						
LSZ	**Lusaka**	**71.81 249**	P		**P**	**04 32 46.0**	**+0.1**
JAVC	**Velka Javorina**	**72.46 317**	*e*P		**P**	**04 32 49.6**	**+0.3**
MORC	**Moravsky Berou**	**72.57 318**	⇓P		**P**	**04 32 50.1**	**+0.2**
MORC	**Moravsky Berou**	**72.57 318**	*e*P		**P**	**04 32 49.9**	**0.0**
MORC	**Moravsky Berou**	**72.57 318**	⇓P		**P**	**04 32 50.1**	**+0.2**
SMOL	**Smolenice**	**72.62 317**	*e*P		**P**	**04 32 50.5**	**+0.3**
SMOL			pmax		pmax		
	comp=Z,13nm,1.3s						
SMOL	**Smolenice**	**72.62 317**	*e*P		**P**	**04 32 50.4**	**+0.3**
MODS	**Modra-Piesok**	**72.72 317**	*e*P		**P**	**04 32 50.1**	**-0.7**
MODS			pmax		pmax		
	comp=Z,140nm,2.0s						
MODS	**Modra-Piesok**	**72.72 317**	*e*P		**P**	**04 32 50.1**	**-0.7**
ZST	**Bratislava**	**72.83 317**	*e*P		**P**	**04 32 51.0**	**-0.5**
ZST			pmax		pmax		
	comp=Z,353nm,1.7s						
ZST	**Bratislava**	**72.83 317**	*e*P		**P**	**04 32 50.9**	**-0.5**
GKP	**Gorka Klasztor**	**72.86 322**	*e*P		**P**	**04 32 51.4**	**-0.1**
KRLC	**Kraliky**	**73.06 319**	*e*P		**P**	**04 32 53.1**	**+0.3**
KRLC			*ep*P		**sP**	**04 33 01.4**	**0.0**
KRLC			AMS		AMS	05 09 10.0	
	comp=Z,600nm,19.1s						
KRLC	**Kraliky**	**73.06 319**	*e*P		**P**	**04 32 53.1**	**+0.3**
KRLC			*e*			04 33 01.4	
KRLC			MLR		MLR		
	comp=Z,600nm,19.1s						
VRAC	**Vranov**	**73.18 318**	P		**P**	**04 32 52.3**	**-1.2**
	comp=Z,1.4nm,0.4s,baz=100,slow=6.5,SNR=9.0						
VRAC	**Vranov**	**73.18 318**	*e*P		**P**	**04 32 53.1**	**-0.4**
KRUC	**Moravsky**	**73.31 318**	*e*P		**P**	**04 32 53.8**	**-0.4**
DPC	**Dobruska-Polom**	**73.36 319**	*e*P		**P**	**04 32 54.9**	**+0.3**
DPC			*ep*P		**pP**	**04 33 01.8**	**+1.2**
DPC			AMS		AMS	05 08 50.0	
	comp=Z,900nm,17.4s						
DPC	**Dobruska-Polom**	**73.36 319**	*e*P		**P**	**04 32 54.9**	**+0.3**
DPC			*e*			04 33 01.8	
DPC			MLR		MLR		
	comp=Z,900nm,17.4s						
KSP	**Ksiaz**	**73.38 320**	*e*P		**P**	**04 32 55.0**	**+0.4**
KOGS	**Kog**	**73.42 315**	*i* P		**P**	**04 32 54.8**	**-0.1**
OSTC	**Ostas**	**73.43 319**	AMS		AMS	05 10 50.0	
	comp=Z,1μm,20.4s						
CHVC	**Chvalec**	**73.53 319**	*e*P		**P**	**04 32 55.8**	**+0.2**
CHVC			AMS		AMS	05 10 50.0	
	comp=Z,1μm,21.8s						
UPC	**Upice**	**73.56 319**	AMS		AMS	05 10 50.0	
	comp=Z,1μm,17.5s						
CONA	**Conrad Observa**	**73.67 316**	*i* P		**P**	**04 32 56.1**	**-0.4**
	comp=Z,39nm,1.7s,SNR=9.2						
TREC	**Trest**	**73.90 318**	AMS		AMS	05 11 10.0	
	comp=Z,700nm,22.3s						
ARSA	**Arzberg**	**73.91 316**	*i* P		**P**	**04 32 57.8**	**-0.1**
	comp=Z,52nm,2.0s,SNR=7.8						
CEL	**Celeste**	**73.99 306**	IAMs_20		IAMs_20	05 10 32.1	
	comp=Z,881nm,22.0s						
BOJS	**Bojanci**	**74.14 314**	*i* P		**P**	**04 32 58.7**	**-0.5**
SOKA	**Soboth**	**74.26 315**	*i* P		**P**	**04 33 00.0**	**+0.1**
	comp=Z,47nm,1.5s,SNR=14						
GOPC	**GO Pecny, Ondr**	**74.35 319**	*e*P		**P**

comp=Z,6.6nm,0.8s,baz=86,slow=5.7
GEC2 *e*pP **pP** **04 33 11.7 +0.9**
GEC2 GERESS Array S 75.09 317 IAmb IAmb 04 33 13.7
comp=Z,40nm,1.0s
GERES GERESS Array B 75.09 317 P **P** **04 33 04.6 -0.2**
comp=Z,5.7nm,0.6s,baz=86,slow=6.1,SNR=55
GERES LR LR 05 12 21.8
comp=Z,519nm,19.4s,baz=98,slow=41
GERES GERESS Array B 75.09 317 P **P** **04 33 03.6 -1.1**
GERES GERESS Array B 75.09 317 P **P** **04 33 03.6 -1.1**
KHC Kasperske Hory 75.16 318 *e*P **P** **04 33 04.4 -0.7**
KHC *e*pP **pP** **04 33 11.8 +0.7**
KHC AMS AMS 05 11 00.0
comp=Z,1μm,20.2s
KHC Kasperske Hory 75.16 318 *e*P **P** **04 33 04.4 -0.7**
KHC *e* 04 33 11.8
KHC MLR MLR
comp=Z,1μm,20.2s
CADS Cadrg 75.17 315 *e*P **P** **04 33 04.6 -0.6**
MYKA Terra Mystica 75.22 315 *i* P **P** **04 33 04.8 -0.7**
comp=Z,48nm,1.9s
LHI Lord Howe Isla 75.23 128 IAms_20 IAms_20 05 11 28.8
comp=Z,963nm,19.0s
FBE Freiberg 75.24 320 *e*P **P** **04 33 06.0 +0.5**
comp=Z,9.9nm,0.7s,baz=86,slow=5.7
FBE *e*pP **sP** **04 33 12.9 -1.1**
PRED Cave del Predi 75.28 315 IAmb IAmb 04 33 14.3
comp=Z,48nm,1.2s
CLL Collm 75.45 320⇓ *i*P **P** **04 33 06.4 -0.3**
CLL comp=Z,114nm,2.2s
i pP **pP** **04 33 12.7 0.0**
comp=Z,79nm,1.7s
CLL *e*S **S** **04 42 42.0 -3.8**
CLL *e*PS **PnS** **04 43 18.0 -4.9**
CLL *e*SSS SSS 04 50 54.0
CLL *e*SSSS 04 52 42.0
CLL Lm MLR 05 11 00.0
comp=N,600nm,22.0s
CLL Lm MLR 05 11 00.0
comp=E,800nm,21.1s
CLL Lm MLR 05 11 00.0
comp=Z,1μm,20.3s
CLL Collm 75.45 320⇓ *i*P **P** **04 33 06.4 -0.3**
CLL *i* 04 33 12.7
CLL pmax pmax
comp=Z,114nm,2.2s
CLL MLR MLR
comp=Z,1μm,20.3s
CLL Collm 75.45 320 *e*P **P** **04 33 06.8 +0.1**
baz=86,slow=5.7
CLL *e*pP **sP** **04 33 14.6 -0.6**
CLL Collm 75.45 320 IAmb IAmb 04 33 22.4
comp=Z,54nm,1.4s
CLL IAms_20 IAms_20 05 11 17.8
comp=Z,1μm,21.0s
WET Wettzell 75.62 318 *e*P **P** **04 33 07.7 0.0**
comp=Z,3.8nm,0.8s,baz=86,slow=5.7
WET *e*pP **sP** **04 33 15.6 -0.7**
ZOU Zoufplan 75.68 315 IAms_20 IAms_20 05 12 11.8
comp=Z,798nm,20.0s
NRCA Norcia 75.81 311 IAmb IAmb 04 33 25.9
comp=Z,40nm,1.4s
TANN Tannenbergstha 75.83 319 *e*P **P** **04 33 09.2 +0.2**
comp=Z,6.2nm,0.9s,baz=86,slow=5.7
TANN *e*pP **sP** **04 33 16.9 -0.6**
NKC Novy Kostel 75.85 319 AMS AMS 05 11 20.0
comp=Z,1μm,19.0s
WERN Wernitzgruen 75.89 319 *e*P **P** **04 33 09.4 +0.1**
comp=Z,2.6nm,0.8s,baz=86,slow=5.7
GUNZ Gunzen 75.92 319 *e*P **P** **04 33 09.6 +0.2**
baz=86,slow=5.7
WERD Werda 75.93 319 *e*P **P** **04 33 09.5 +0.1**
comp=Z,3.8nm,0.7s,baz=86,slow=5.7
WERD *e*pP **sP** **04 33 17.6 -0.4**
NC405 NORSAR Array S 75.98 330 P **P** **04 33 09.7 +0.2**
ABTA Abfaltersbach 75.98 315 *i* P **P** **04 33 08.6 -1.3**
comp=Z,27nm,1.3s
ROTZ Rotzenmuhle 76.02 318 *e*P **P** **04 33 10.5 +0.5**
comp=Z,3.7nm,0.8s,baz=86,slow=5.7
ROTZ *e*pP **sP** **04 33 18.5 -0.1**
CIMO Cimolais 76.06 315 IAmb IAmb 04 33 18.7
comp=Z,68nm,1.1s
MANZ Manzenberg 76.08 319 *e*P **P** **04 33 10.4 0.0**
baz=86,slow=5.7
MANZ *e*pP **sP** **04 33 18.8 -0.1**
NB2 NORSAR Subarra 76.22 330 P **P** **04 33 10.4 -0.5**
comp=Z,161nm,2.0s,baz=90,slow=5.9
NB2 NORSAR Subarra 76.22 330 P **P** **04 33 10.4 -0.5**
baz=90,slow=5.9
NOA NORSAR Array B 76.22 330 P **P** **04 33 11.7 +0.7**
comp=Z,2.5nm,0.9s,baz=87,slow=6.1,SNR=4.3
NOA LR LR 05 12 17.4
comp=Z,658nm,19.6s,baz=100,slow=40
MOX Moxa 76.36 319 *e*P **P** **04 33 12.4 +0.5**
baz=86,slow=5.7
SANVU Saraoutou 76.50 109 P **P** **04 33 12.8 -0.4**
SANVU IAmb IAmb 04 33 29.2
comp=Z,30nm,0.8s
WATA Walderalm 76.59 316 *e*P **P** **04 33 14.1 +0.7**
comp=Z,52nm,1.8s
CTI Castel Tesino 76.63 315 IAmb IAmb 04 33 29.3
comp=Z,52nm,1.1s
GRA1 Grafenberg Arr 76.67 318 P **P** **04 33 13.2 -0.5**
GRA1 IAmb IAmb 04 33 30.1
comp=Z,39nm,1.1s
GRA1 IAms_20 IAms_20 05 13 19.3
comp=Z,1μm,21.0s
GRF Grafenberg Arr 76.67 318 P **P** **04 33 13.2 -0.5**
GRF pmax pmax
comp=Z,39nm,1.1s
GRF Grafenberg Arr 76.67 318 *e*P **P** **04 33 14.6 +0.9**
baz=86,slow=5.7
SQTA Sankt Quirin 76.84 316 *i* P **P** **04 33 13.8 -1.0**
comp=Z,33nm,1.8s,SNR=8.3
MOTA Moosalm 76.91 316 *e*P **P** **04 33 14.0 -1.2**
comp=Z,46nm,1.2s,SNR=7.0
BSEG Bad Segeberg 76.97 323 *e*P **P** **04 33 15.5 +0.3**
baz=86,slow=5.7
CLZ Clausthal 77.07 321 *e*P **P** **04 33 16.4 +0.5**
comp=Z,7.7nm,0.8s,baz=86,slow=5.7
KONO Kongsberg 77.07 329 IAms_20 IAms_20 05 11 26.4
comp=Z,1μm,20.0s
RETA Reutte 77.13 316 *i* P **P** **04 33 15.8 -0.6**
comp=Z,22nm,0.9s,SNR=13
FETA Feichten 77.19 316 *e*P **P** **04 33 16.1 -0.7**
comp=Z,37nm,1.4s
NRDL Niedersach Rie 77.19 321 *e*P **P** **04 33 17.0 +0.6**
baz=86,slow=5.7
ZCCA Zocca 77.24 313 IAms_20 IAms_20 05 13 59.6
comp=Z,1μm,20.0s
GTTG Gottingen 77.34 320 *e*P **P** **04 33 18.1 +0.7**
comp=Z,9.0nm,0.7s,baz=86,slow=5.7
LBTB Lobatse 77.37 241 P **P** **04 33 18.7 +0.6**
LBTB pmax pmax
comp=Z,55nm,1.3s
LBTB Lobatse 77.37 241 P **P** **04 33 18.7 +0.6**
LBTB IAmb IAmb 04 33 33.9
comp=Z,55nm,1.3s
UBBA Unterbreizbach 77.37 320 *e*P **P** **04 33 18.4 +1.0**
baz=86,slow=5.7
MUD Monsted U'grnd 77.47 325 *i* P P 04 33 24.0 +6.0
comp=Z,72nm,1.3s
MUD Monsted U'grnd 77.47 325 *i* P P 04 33 24.0 +6.0
MUD pmax pmax
comp=Z,72nm,1.3s
FUORN Ofenpass-Fuorn 77.54 315 IAmb IAmb 04 33 30.8
comp=Z,56nm,1.4s
FUORN IAms_20 IAms_20 05 13 23.4
comp=Z,1μm,22.0s
UBR Ueberruh 77.55 316 *e*P **P** **04 33 19.7 +0.9**
baz=86,slow=5.7
VLC Villacollemand 77.68 313 IAms_20 IAms_20 05 14 22.3
comp=Z,725nm,20.0s
DAVA Damuels 77.74 316 *i* P **P** **04 33 19.4 -0.5**
comp=Z,21nm,0.8s,SNR=11
DAVOX Davos/Dischmat 77.79 316 P **P** **04 33 19.6 -0.6**
comp=Z,5.5nm,0.9s,baz=110,slow=8.7,SNR=10
DZM Mont Dzumac 77.86 116 *e*P **P** **04 33 20.6 -0.3**
comp=Z,64nm,1.6s
DZM Mont Dzumac 77.86 116 *e*LR LR 04 57 30.9
comp=Z,2μm,29.0s
DZM Mont Dzumac 77.86 116 LR LR 05 12 09.4
comp=Z,630nm,18.7s,baz=257,slow=39
DZM Mont Dzumac 77.86 116 P **P** **04 33 21.3 +0.4**
DZM IAmb IAmb 04 33 22.9
comp=Z,34nm,1.4s
DZM IAms_20 IAms_20 05 02 32.5
comp=Z,1μm,18.0s
STU Stuttgart 78.06 318 P **P** **04 33 21.0 -0.5**
STU pmax pmax
comp=Z,28nm,1.1s
STU Stuttgart 78.06 318 P **P** **04 33 21.0 -0.5**
STU IAmb IAmb 04 33 31.1
comp=Z,28nm,1.1s
STU IAms_20 IAms_20 05 14 08.1
comp=Z,986nm,20.0s
TUE Stuetta 78.18 315 IAmb IAmb 04 33 32.0
comp=Z,80nm,1.3s
TUE IAms_20 IAms_20 05 13 32.4
comp=Z,962nm,21.0s
IBBN Ibbenburen 78.64 321 *e*P **P** **04 33 25.1 +0.6**
comp=Z,6.2nm,0.7s,baz=86,slow=5.7
BFO Black Forest 78.68 317 P **P** **04 33 24.6 -0.3**
BFO pmax pmax
comp=Z,17nm,1.2s
BFO Black Forest 78.68 317 *e*P **P** **04 33 26.2 +1.3**
baz=86,slow=5.7
BFO Black Forest 78.68 317 P **P** **04 33 24.6 -0.3**
BFO IAms_20 IAms_20 05 14 37.4
comp=Z,957nm,18.0s
BOSA Boshof 78.91 237 P **P** **04 33 26.9 +0.3**
comp=Z,13nm,0.8s,baz=79,slow=6.7,SNR=19
BOSA Boshof 78.91 237 P **P** **04 33 26.6 -0.1**
BOSA pmax pmax
comp=Z,56nm,1.1s
BOSA Boshof 78.91 237 P **P** **04 33 26.6 -0.1**
BOSA IAmb IAmb 04 33 36.7
comp=Z,56nm,1.1s
BUG Bochum--Univer 79.03 320 *e*P **P** **04 33 27.2 +0.5**
comp=Z,8.3nm,0.8s,baz=86,slow=5.7
AHRW Bad Neuenahr-A 79.25 320 *e*P **P** **04 33 28.6 +0.6**
baz=86,slow=5.7
CASY Casey 79.40 174 P **P** **04 33 28.4 +0.2**
CASY IAmb IAmb 04 33 29.0
comp=Z,29nm,1.0s
KEST Kesra 79.45 304 P **P** **04 33 28.9 -0.6**
comp=Z,8.3nm,0.9s,baz=50,slow=20,SNR=8.7
KEST LR LR 05 14 49.1
comp=Z,542nm,19.6s,baz=9.0,slow=40
KEST Kesra 79.45 304 IAmb IAmb 04 33 38.2
comp=Z,33nm,1.0s
KEST IAms_20 IAms_20 05 13 05.9
comp=Z,745nm,21.0s
SENIN Lac Senin/Sane 79.60 315 IAms_20 IAms_20 05 14 27.0
comp=Z,1μm,21.0s
BTNL Ternell 79.84 320 P **P** **04 33 29.8 -1.5**
MEM Membach 79.92 320 P **P** **04 33 32.7 +1.1**
MEM pP **PcP** **04 33 38.7 -0.4**
WLF Walferdange 79.95 319 P **P** **04 33 32.1 +0.3**
comp=Z,49nm,2.1s
WLF Walferdange 79.95 319 *e*P **P** **04 33 32.4 +0.6**
comp=Z,4.2nm,0.8s,baz=86,slow=5.7
WLF Walferdange 79.95 319 IAmb IAmb 04 33 51.1
comp=Z,76nm,1.4s
WLF IAms_20 IAms_20 05 15 24.8
comp=Z,1μm,20.0s
BHOU Houvegnez 79.95 319 P **P** **04 33 29.9 -1.9**
BSTI Sart Tilman 80.20 320 P **P** **04 33 33.0 -0.2**
BNI Bardonecchia 80.20 314 IAmb IAmb 04 33 48.7
comp=Z,42nm,1.2s
BNI IAms_20 IAms_20 05 15 30.0
comp=Z,933nm,21.0s
GAMB Gambell 80.26 27 IAms_20 IAms_20 05 15 18.4
comp=Z,844nm,21.0s
BCLA Clavier 80.39 320 P **P** **04 33 34.1 0.0**
comp=Z,25nm,1.9s
RCHB Rochefort 80.47 319 P **P** **04 33 34.6 0.0**
BGES Gesves 80.53 320 P **P** **04 33 35.0 +0.1**
BMRD Maredsous 80.74 319 P **P** **04 33 34.3 -1.8**
BMRD pP **sP** **04 33 43.6 -0.6**
NOR Nord 80.82 352 *i* P **P** **04 33 35.0 -0.9**
comp=Z,23nm,1.1s
NOR Nord 80.82 352 *i* P **P** **04 33 35.0 -0.9**
NOR pmax pmax
comp=Z,23nm,1.1s
DOU Dourbes 80.88 319 P **P** **04 33 35.7 -1.1**
UCC Uccle 80.93 320 IAms_20 IAms_20 05 13 22.6
comp=Z,796nm,21.0s
SNF Seneffe 81.02 320 P **P** **04 33 37.6 +0.1**
SNF PcP **pP** **04 33 42.8 -0.8**
SSB Saint Sauveur 81.67 314 IAmb IAmb 04 33 49.7
comp=Z,27nm,1.1s
TSUM Tsumeb 82.64 249 P **P** **04 33 47.4 +0.6**
ANM Nome 82.83 25 IAms_20 IAms_20 05 14 08.3
comp=Z,704nm,20.0s
RDOG Red Dog Mine 82.89 22 IAms_20 IAms_20 05 12 45.0
comp=Z,1μm,19.0s
MAW Mawson 83.26 192 P **P** **04 33 49.7 +1.1**
comp=Z,30nm,1.3s,baz=0.7,slow=7.4,SNR=13
MAW LR LR 05 05 47.1
comp=Z,345nm,19.2s,baz=40,slow=32
MAW Mawson 83.26 192 P **P** **04 33 48.8 +0.1**
MAW pmax pmax
comp=Z,9.0nm,1.3s
MAW Mawson 83.26 192 P **P** **04 33 48.8 +0.1**
NIKH Nikolski High 83.69 37 IAms_20 IAms_20 05 08 38.5
comp=Z,1μm,20.0s
SUR Sutherland 83.80 235 P **P** **04 33 53.0 +0.4**
SUR IAmb IAmb 04 34 09.3
comp=Z,33nm,0.8s
A21K Barrow 83.94 18 IAms_20 IAms_20 05 15 15.7
comp=Z,1μm,21.0s
EKA Eskdalemuir Ar 84.50 325 P **P** **04 33 55.9 +0.4**
comp=Z,1.0nm,0.5s,baz=78,slow=6.6,SNR=2.5
TAM Tamanrasset 84.92 292 P **P** **04 33 59.0 +0.5**
TAM pmax pmax
comp=Z,67nm,1.4s
TAM MLR MLR
comp=Z,2μm,21.0s
TAM Tamanrasset 84.92 292 P **P** **04 33 59.0 +0.5**
TAM IAms_20 IAms_20 05 12 27.6
comp=Z,1μm,21.0s
TOLK Toolik Lake Re 87.27 19 P **P** **04 34 09.4 +0.4**
baz=298
TOLK Toolik Lake Re 87.27 19 IAmb IAmb 04 34 10.2
comp=Z,37nm,1.2s
TOLK IAms_20 IAms_20 05 18 49.5
comp=Z,1μm,21.0s
TTA Tatalina 87.29 26 IAms_20 IAms_20 05 18 09.2
comp=Z,665nm,19.0s
EUNU Eureka 87.58 0 IAmb IAmb 04 34 11.0
comp=Z,19nm,1.1s
COLD Coldfoot 87.71 21 P **P** **04 34 11.4 +0.3**
baz=297
COLD Coldfoot 87.71 21 IAmb IAmb 04 34 29.3
comp=Z,27nm,1.5s
COLD IAms_20 IAms_20 05 18 18.3
comp=Z,1μm,19.0s
SVW2 Sparrevohn 88.18 27 IAmb IAmb 04 34 14.7
comp=Z,18nm,1.3s
RPZ Rata Peaks 88.60 135 LR LR 05 13 25.0
comp=Z,956nm,21.9s,baz=262,slow=35
PPLA Purkeypile 88.90 25 IAmb IAmb 04 34 32.6
comp=Z,32nm,1.5s
PPLA IAms_20 IAms_20 05 18 10.8
comp=Z,660nm,21.0s
ES10 SONSECA Array 88.97 310 IAms_20 IAms_20 05 19 57.3
comp=Z,666nm,21.0s
ES11 SONSECA Array 88.98 310 IAms_20 IAms_20 05 20 01.7
comp=Z,650nm,21.0s
ES02 SONSECA Array 88.99 310 IAms_20 IAms_20 05 19 50.8
comp=Z,635nm,20.0s
ES18 SONSECA Array 88.99 310 IAms_20 IAms_20 05 19 47.8
comp=Z,698nm,21.0s
ES07 SONSECA Array 89.00 310 IAms_20 IAms_20 05 19 48.0
comp=Z,638nm,20.0s
ES01 SONSECA Array 89.00 310 IAms_20 IAms_20 05 19 52.1
comp=Z,657nm,20.0s
ES06 SONSECA Array 89.00 310 IAms_20 IAms_20 05 19 49.1
comp=Z,663nm,20.0s
ESBB Sonseca Array 89.01 310 IAmb IAmb 04 34 26.9
comp=Z,22nm,1.2s
ES17 SONSECA Array 89.01 310 IAms_20 IAms_20 05 20 02.3
comp=Z,742nm,20.0s
ESDC Sonseca Array 89.01 310 P **P** **04 34 17.7 -0.2**
comp=Z,2.1nm,1.0s,baz=69,slow=3.3,SNR=9.2
ESDC LR LR 05 19 54.5
comp=Z,502nm,19.7s,baz=20,slow=40
ESDC Sonseca Array 89.01 310 P **P** **04 34 17.6 -0.3**
ES13 SONSECA Array 89.02 310 IAms_20 IAms_20 05 20 01.6
comp=Z,671nm,21.0s
NEA2 Nenana 89.36 23 P **P** **04 34 18.7 -0.3**
baz=298
BWN Browne 89.41 23 IAms_20 IAms_20 05 17 40.2
comp=Z,742nm,22.0s
TRF Thorofare Moun 89.42 24 IAmb IAmb 04 34 32.1
comp=Z,11nm,0.8s
MDM Murphy Dome 89.50 22 IAmb IAmb 04 34 20.5
comp=Z,41nm,1.2s
MDM IAms_20 IAms_20 05 17 20.6
comp=Z,577nm,19.0s
SKT Skwentna 89.58 26 IAmb IAmb 04 34 20.3
comp=Z,29nm,1.0s
COLA College 89.68 22 *d* iP **P** **04 34 19.7 -0.7**
COLA pmax pmax
comp=Z,34nm,2.1s
COLA College 89.68 22 P **P** **04 34 18.4 -2.0**
COLA College 89.68 22 IAms_20 IAms_20 05 17 26.3
comp=Z,638nm,19.0s
POKR Poker Plat Res 89.72 22 P **P** **04 34 20.4 -0.3**
baz=300
FYU Fort Yukon 89.75 20 IAmb IAmb 04 34 22.4
comp=Z,33nm,1.4s
FYU IAms_20 IAms_20 05 17 21.0
comp=Z,922nm,20.0s
MCK McKinley 89.83 24 IAmb IAmb 04 34 21.7
comp=Z,32nm,1.1s
MCK IAms_20 IAms_20 05 20 14.2
comp=Z,661nm,21.0s
SUMG Summit 89.87 347 *i* P **P** **04 34 22.0 +0.3**
SUMG Summit 89.87 347 *i* P **P** **04 34 22.0 +0.3**
SUMG Summit 89.87 347 P **P** **04 34 22.0 +0.3**
SUMG IAmb IAmb 04 34 28.9
comp=Z,20nm,1.2s
RND Reindeer 90.01 24 IAmb IAmb 04 34 40.1
comp=Z,60nm,1.5s
RND IAms_20 IAms_20 05 18 12.2
comp=Z,704nm,22.0s
ILAR Eielson Array 90.09 22 P **P** **04 34 21.2 -1.2**
comp=Z,4.0nm,0.7s,baz=297,slow=4.4,SNR=46
ILAR PP **PP** **04 37 53.4 -1.8**
comp=Z,1.0nm,1.1s,baz=316,slow=5.0,SNR=3.2
ILAR PKKPbc **PKKPdf** **04 51 52.1 +2.1**
comp=Z,0.7nm,1.0s,baz=158,slow=3.5,SNR=4.5
ILAR LR LR 05 16 50.0
comp=Z,340nm,18.4s,baz=316,slow=37
SYO Syowa Base 90.11 197‖ *e*X **P** **04 34 21.0 -1.2**
SUA Susitna One 90.14 26 IAmb IAmb 04 34 23.2
comp=Z,52nm,1.4s
HDA Harding Lake 90.25 23 P **P** **04 34 21.7 -1.5**
baz=300
PBRG Braganca 90.44 313 *e*P pP 04 34 31.8 +1.1
comp=Z,41nm,1.5s
PBRG Braganca 90.44 313 *e*P pP 04 34 32.2 +1.5
comp=Z,41nm,1.5s
TOC2 Torodi Ar. Sit 90.49 284 IAms_20 IAms_20 05 13 45.7
comp=Z,880nm,22.0s
TOC3 Torodi Ar. Sit 90.49 283 IAms_20 IAms_20 05 13 45.8
comp=Z,871nm,22.0s
TOC1 Torodi Ar. Sit 90.50 284 IAms_20 IAms_20 05 18 22.1
comp=Z,808nm,20.0s
TOB3 Torodi Ar. Sit 90.51 283 IAms_20 IAms_20 05 13 46.2
comp=Z,809nm,22.0s
TOA2 Torodi Ar. Sit 90.51 283 IAms_20 IAms_20 05 13 57.3
comp=Z,882nm,22.0s
TOB1 Torodi Ar. Sit 90.51 284 IAms_20 IAms_20 05 13 57.4
comp=Z,855nm,22.0s
TOA0 Torodi Ar. Sit 90.51 283 P **P** **04 34 24.1 -1.2**
TOA0 IAmb IAmb 04 34 34.4
comp=Z,37nm,1.3s
TOA0 IAms_20 IAms_20 05 13 47.4
comp=Z,800nm,22.0s
TORD Torodi Ar. Bea 90.51 283 P **P** **04 34 25.2 -0.1**
comp=Z,2.6nm,0.8s,baz=76,slow=4.2,SNR=16
TORD PP **PP** **04 37 59.2 -1.0**
comp=Z,1.4nm,0.8s,baz=56,slow=5.7,SNR=3.4
TORD LR LR 05 14 09.1
comp=Z,722nm,21.9s,baz=115,slow=35
TORD Torodi Ar. Bea 90.51 283 P **P** **04 34 23.7 -1.6**
TOC4 Torodi Ar. Sit 90.52 283 IAms_20 IAms_20 05 13 46.5
comp=Z,775nm,21.0s
TOA3 Torodi Ar. Sit 90.52 283 IAms_20 IAms_20 05 13 46.5
comp=Z,782nm,22.0s
TOC7 Torodi Ar. Sit 90.53 284 IAms_20 IAms_20 05 13 46.7
comp=Z,764nm,21.0s
TOB4 Torodi Ar. Sit 90.53 283 IAms_20 IAms_20 05 13 47.8
comp=Z,753nm,21.0s
TOB5 Torodi Ar. Sit 90.53 284 IAms_20 IAms_20 05 13 47.7
comp=Z,818nm,22.0s
TOC5 Torodi Ar. Sit 90.54 283 IAms_20 IAms_20 05 14 11.0
comp=Z,954nm,22.0s
SII Sitkinak Islan 90.65 31 IAms_20 IAms_20 05 17 33.3
comp=Z,913nm,21.0s
RC01 Rabbit Creek A 90.75 26 P **P** **04 34 25.4 -0.1**
baz=298
DHY Denali Highway 90.76 24 IAms_20 IAms_20 05 20 60.0
comp=Z,710nm,20.0s
PMR Palmer 90.77 26 IAmb IAmb 04 34 26.1
comp=Z,25nm,1.0s
PMR IAms_20 IAms_20 05 19 36.3
comp=Z,510nm,19.0s
CNPM China Poot 90.80 28 IAmb IAmb 04 34 25.9
comp=Z,21nm,1.1s
OHAK Old Harbor 90.83 30 IAmb IAmb 04 34 26.4
comp=Z,19nm,0.9s
OHAK IAms_20 IAms_20 05 21 25.9
comp=Z,627nm,21.0s
MVO Moncorvo 90.84 312 *e*P sP 04 34 35.4 +0.8
comp=Z,69nm,1.6s
MVO Moncorvo 90.84 312 *e*SKSac **SKSac** **04 45 02.8 +5.3**
MVO Moncorvo 90.84 312 *e*LR LR 05 07 03.5
comp=Z,528nm,20.0s
BRLK Bradley Lake 90.85 28 IAmb IAmb 04 34 26.1
comp=Z,32nm,1.0s
BRLK IAms_20 IAms_20 05 20 45.5
comp=Z,670nm,18.0s
KDAK Kodiak Island 90.93 30 P **P** **04 34 25.8 -0.6**
KDAK pmax pmax
comp=Z,22nm,1.1s
KDAK MLR MLR
comp=Z,700nm,22.0s
KDAK Kodiak Island 90.93 30 P **P** **04 34 25.8 -0.6**
KDAK IAmb IAmb 04 34 27.0
comp=Z,22nm,1.1s
KDAK Kodiak Island 90.93 30 IAms_20 IAms_20 05 15 43.7
comp=Z,747nm,22.0s
O22K Cooper Landing 91.04 27 P **P** **04 34 26.5 -0.4**
baz=298
BKZ Black Stump Fm 91.20 130 IAms_20 IAms_20 05 14 37.5
comp=Z,1μm,22.0s
SEW Seward 91.34 27 IAmb IAmb 04 34 28.7
comp=Z,21nm,1.0s
SEW IAms_20 IAms_20 05 21 12.3
comp=Z,782nm,19.0s
RIDG Independent Ri 91.39 23 IAmb IAmb 04 34 28.8
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 91.40 25 IAms_20 IAms_20 05 20 20.9
comp=Z,585nm,19.0s
URZ Urewera 91.43 129 LR LR 05 20 01.5
comp=Z,1μm,18.2s,baz=280,slow=38
PGAV Gavieira, Arco 91.48 313 *e*P pP 04 34 34.2 -1.4
comp=Z,73nm,1.8s
PGAV Gavieira, Arco 91.48 313 *e*SKSac **SKSac** **04 45 07.0 +5.8**
PGAV Gavieira, Arco 91.48 313 *e*LR LR 05 06 02.9
comp=Z,423nm,18.0s
PCBR Castelo Branco 91.56 311 *e*P sP 04 34 38.4 +0.5
comp=Z,68nm,1.5s
SCRK Sand Creek 91.58 22 P **P** **04 34 29.4 -0.1**
baz=303
PVIS Viseu 91.60 312 *e*P sP 04 34 38.5 +0.4
comp=Z,65nm,1.7s
PMRV Marv??o 91.62 311 *e*P sP 04 34 38.9 +0.7
comp=Z,45nm,1.4s
PMRV Marv??o 91.62 311 *e*SKSac **SKSac** **04 45 05.6 +3.7**
PMRV Marv??o 91.62 311 *e*LR LR 05 09 36.2
comp=Z,339nm,20.0s
M24K Tolsona, Glenn 91.73 24 P **P** **04 34 31.0 +0.8**
baz=301
M24K Tolsona, Glenn 91.73 24 IAmb IAmb 04 34 41.6
comp=Z,42nm,1.5s
DOT Dot Lake 91.73 23 IAms_20 IAms_20 05 20 27.6
comp=Z,512nm,18.0s
GLI Glacier Island 91.98 26 IAms_20 IAms_20 05 18 55.2
comp=Z,718nm,19.0s
COI Coimbra 92.13 312 *e*SKSac **SKSac** **04 45 11.8 +7.1**
EGAK Eagle 92.15 21 IAms_20 IAms_20 05 19 40.5
comp=Z,749nm,22.0s
KLU Klutina 92.15 25 IAmb IAmb 04 34 46.1
comp=Z,23nm,1.3s
MXZ Matakaoa Point 92.18 128 IAms_20 IAms_20 05 15 03.5
comp=Z,1μm,22.0s
PCAS Casmilo, Conde 92.24 312 *e*P sP 04 34 41.7 +0.6

	comp=Z,34nm,1.6s							
K27K	**Chicken**	92.25	22	P	**P**	04 34 33.3	+0.9	
	baz=305							
MENT	**Mentasta**	92.25	23	IAmb	IAmb	04 34 43.9		
	comp=Z,17nm,0.9s							
INK	**Inuvik**	92.28	16	IAmb	IAmb	04 34 33.8		
	comp=Z,33nm,1.2s							
FID	**Port Fidalgo**	92.30	26	IAmb	IAmb	04 34 33.9		
	comp=Z,28nm,1.1s							
FID				IAMs_20	IAMs_20	05 19 03.8		
	comp=Z,832nm,18.0s							
PMTG	**Montargil**	92.35	311	*e*P	pP	04 34 41.8	+2.3	
	comp=Z,38nm,1.7s							
PMTG	**Montargil**	92.35	311	*e*SKSac	**SKSac**	04 45 13.1	+7.1	
PBEJ	**Beja**	92.40	310	*e*P	pP	04 34 41.5	+1.7	
	comp=Z,39nm,1.5s							
HIN	**Hinchinbrook I**	92.47	26	IAMs_20	IAMs_20	05 19 22.4		
	comp=Z,855nm,20.0s							
PVAQ	**Vaqueiros**	92.47	309	P	**P**	04 34 32.7	-1.3	
PVAQ				IAMs_20	IAMs_20	05 22 15.2		
	comp=Z,779nm,20.0s							
PVAQ	**Vaqueiros**	92.47	309	*e*P	pP	04 34 40.8	+0.7	
	comp=Z,71nm,1.6s							
PVAQ	**Vaqueiros**	92.47	309	*e*SKSac	**SKSac**	04 45 08.9	+2.2	
PVAQ	**Vaqueiros**	92.47	309	*e*LR	LR	05 07 08.7		
	comp=Z,645nm,20.0s							
PSBE	**So Bento**	92.63	311	*e*SKSac	**SKSac**	04 45 13.8	+6.2	
PCVE	**Castro Verde**	92.65	309	*e*P	sP	04 34 43.8	+0.8	
	comp=Z,34nm,1.8s							
PBDV	**Barranco-do-Ve**	92.69	309	*e*P	pP	04 34 42.1	+0.9	
	comp=Z,95nm,1.6s							
PBDV	**Barranco-do-Ve**	92.69	309	*e*SKSac	**SKSac**	04 45 15.3	+7.3	
EYAK	**Cordova Ski Ar**	92.72	26	IAMs_20	IAMs_20	05 20 35.7		
	comp=Z,1μm,19.0s							
PNCL	**Nicolau / Gran**	92.87	310	*e*P	sP	04 34 44.7	+0.7	
	comp=Z,31nm,2.2s							
PNCL	**Nicolau / Gran**	92.87	310	*e*SKSac	**SKSac**	04 45 13.5	+4.6	
GLB	**Gilahina Butte**	93.04	24	IAmb	IAmb	04 34 37.3		
	comp=Z,20nm,1.5s							
GLB				IAMs_20	IAMs_20	05 22 30.2		
	comp=Z,492nm,19.0s							
MORF	**Marmelete**	93.21	309	*e*P	**P**	04 34 37.1	-0.4	
MORF				*e*SKSac	**SKSac**	04 45 08.9	-2.1	
MORF				AMS	AMS	05 22 20.8		
	comp=Z,605nm,16.9s							
MORF	**Marmelete**	93.21	309	*e*P	**P**	04 34 37.1	-0.4	
MORF				*e*		04 45 08.8		
MORF	**Marmelete**	93.21	309	*e*P	**P**	04 34 36.6	-0.9	
	comp=Z,48nm,1.6s							
RAGM	**Ragged Mountai**	93.25	25	IAMs_20	IAMs_20	05 20 04.9		
	comp=Z,970nm,20.0s							
VRDI	**Verde Repeater**	93.30	24	IAMs_20	IAMs_20	05 21 23.1		
	comp=Z,534nm,18.0s							
RAO	**Raoul Island**	93.37	119	LR	LR	05 17 57.5		
	comp=Z,528nm,21.7s,baz=274,slow=36							
MCARA	**McCarthy VSAT**	93.39	24	IAMs_20	IAMs_20	05 20 05.4		
	comp=Z,547nm,20.0s							
PFVI	**Vila Bisbo**	93.40	309	*e*SKSac	**SKSac**	04 45 16.4	+4.5	
HMT	**Hamilton**	93.45	25	IAMs_20	IAMs_20	05 21 19.3		
	comp=Z,718nm,21.0s							
CRQM	**Cirque**	93.69	25	IAMs_20	IAMs_20	05 20 31.0		
	comp=Z,742nm,20.0s							
TGL	**Tana Glacier**	93.82	25	IAmb	IAmb	04 34 43.3		
	comp=Z,31nm,1.4s							
BALM	**Baldy**	93.85	24	IAmb	IAmb	04 34 54.0		
	comp=Z,18nm,1.4s							
BALM				IAMs_20	IAMs_20	05 22 53.8		
	comp=Z,525nm,19.0s							
BARN	**Barnard Glacie**	94.11	24	IAmb	IAmb	04 34 42.9		
	comp=Z,13nm,1.1s							
YAH	**Yahtse**	94.48	25	IAMs_20	IAMs_20	05 20 58.4		
	comp=Z,874nm,20.0s							
MESA	**MESA**	94.50	25	IAMs_20	IAMs_20	05 16 20.9		
	comp=Z,598nm,21.0s							
KOWA	**Kowa**	95.59	286	P	**P**	04 34 49.1	+0.4	
KOWA				IAmb	IAmb	04 34 58.5		
	comp=Z,25nm,1.1s							
KOWA				IAMs_20	IAMs_20	05 17 40.7		
	comp=Z,902nm,20.0s							
WHY	**Whitehorse**	96.97	22	IAmb	IAmb	04 34 56.2		
	comp=Z,17nm,1.4s							
WHY				IAMs_20	IAMs_20	05 21 55.2		
	comp=Z,820nm,19.0s							
VNDA	**Vanda**	97.24	168	P	Pdif	04 34 55.3	+0.3	
	comp=Z,1.0nm,0.9s,baz=330,slow=2.8,SNR=6.6							
VNDA	**Vanda**	97.24	168	P	**P**	04 34 54.2	-0.7	
VNDA				pmax	pmax			
	comp=Z,6.0nm,1.4s							
VNDA	**Vanda**	97.24	168	P	**P**	04 34 54.2	-0.7	
SKAG	**Skagway**	97.59	23	IAmb	IAmb	04 34 58.4		
	comp=Z,15nm,1.2s							
SKAG				IAMs_20	IAMs_20	05 22 59.5		
	comp=Z,615nm,22.0s							
DBIC	**Dimbokro**	98.28	279	PP	**PP**	04 38 59.0	-1.9	
	comp=Z,6.0nm,1.1s,baz=201,slow=10,SNR=3.3							
JIS	**Juneau Island**	98.74	24	IAMs_20	IAMs_20	05 24 42.9		
	comp=Z,769nm,18.0s							
PMOZ	**Porto Moniz, M**	101.34	307	*e*LR	LR	05 10 49.9		
	comp=Z,299nm,20.0s							
YKA	**Yellowknife Ar**	101.70	14	PP	**PP**	04 39 23.0	-1.9	
	comp=Z,1.9nm,1.0s,baz=339,slow=6.6,SNR=2.3							
SCHQ	**Schefferville**	111.21	349	IAMs_20	IAMs_20	05 31 08.8		
	comp=Z,874nm,21.0s							
J05D	**Fort Rock, OR**	115.27	29	P	**PKPdf**	04 40 05.7	+1.0	
	baz=320							
MSO	**Missoula**	115.42	22	P	**PKiKP**	04 40 04.2	-0.6	
	baz=329							
BMO	**Blue Mountains**	115.76	25	IAMs_20	IAMs_20	05 37 46.2		
	comp=Z,422nm,20.0s							
EGMT	**Eagleton**	115.78	18	IAMs_20	IAMs_20	05 36 09.4		
	comp=Z,515nm,21.0s							
N02D	**Trinity Center**	116.30	31	P	**PKPdf**	04 40 07.3	+0.6	
	baz=318							
MOD	**Modoc Plateau**	116.77	29	PKPdf	**PKPdf**	04 40 07.1	-0.5	
O03E	**Paynes Creek**	117.26	31	P	**PKPdf**	04 40 08.2	-0.3	
	baz=319							
BOZ	**Bozeman (W)**	117.30	21	P	**PKPdf**	04 40 08.5	0.0	
	baz=330							
PPT2	**Papeete2**	117.52	103	*e*LR	LR	05 15 52.4		
	comp=Z,615nm,24.0s							
TBI	**Tubuai**	118.00	110	*e*LR	LR	05 16 04.2		
	comp=Z,752nm,28.8s							
HLID	**Hailey**	118.00	24	P	**PKiKP**	04 40 10.4	+0.4	
	baz=327							
LOHW	**Long Hollow**	119.39	21		**PKPdf**	04 40 12.6	-0.1	
HAL	**Halifax**	119.94	343	IAMs_20	IAMs_20	05 31 17.2		
	comp=Z,685nm,20.0s							
NVAR	**Mina Array Bea**	120.43	30	PKP	**PKiKP**	04 40 15.4	+0.5	
	comp=Z,3.8nm,0.6s,baz=314,slow=2.0,SNR=31							
NVAR	**Mina Array Bea**	120.43	30	PKPdf	**PKPdf**	04 40 14.2	-0.7	
LHV	**Little Huntoon**	120.47	30		**PKiKP**	04 40 17.6	+3.0	
BW06	**Boulder Array**	120.50	21	P	**PKPdf**	04 40 14.1	-0.8	
	baz=332							
PDAR	**Pinedale Array**	120.50	21	PKP	**PKPdf**	04 40 14.1	-0.8	
	comp=Z,2.4nm,0.8s,baz=113,slow=0.9,SNR=22							
PDAR	**Pinedale Array**	120.50	21	PKPdf	**PKPdf**	04 40 13.9	-0.9	
RSSD	**Black Hills**	120.98	16	IAMs_20	IAMs_20	05 40 03.9		
	comp=Z,713nm,21.0s							
DUG	**Dugway, Tooele**	121.48	25	P	**PKiKP**	04 40 16.9	0.0	
	baz=328							
R11A	**Troy Canyon, C**	121.79	28	P	**PKiKP**	04 40 18.0	+0.4	
	baz=324							
F42A	**Maple Grove Fa**	121.92	3	IAMs_20	IAMs_20	05 42 27.7		
	comp=Z,644nm,22.0s							
G40A	**Rib Lake**	122.28	4	IAMs_20	IAMs_20	05 43 20.2		
	comp=Z,498nm,21.0s							
TPNV	**Topopah Spring**	122.60	30	P	**PKPdf**	04 40 19.1	+0.1	
	baz=323							
MPMC	**Manual Prospec**	122.69	31	P	**PKiKP**	04 40 20.0	+0.6	
	baz=321							
ARVC	**Arvin**	122.70	33	P	**PKiKP**	04 40 19.9	+0.7	
	baz=320							
G45A	**Suttons Bay**	122.71	1	IAMs_20	IAMs_20	05 41 28.6		
	comp=Z,736nm,21.0s							
ECSD	**EROS Data Cent**	123.00	10	P	**PKPdf**	04 40 19.2	-0.1	
	baz=346							
MSU	**Marysvale**	123.16	25	PKIKP	**PKiKP**	04 40 20.4	+0.1	
MSU	**Marysvale**	123.16	25	PKPdf	**PKiKP**	04 40 20.4	+0.1	
PHWY	**Pilot Hill**	123.16	18	IAMs_20	IAMs_20	05 39 59.7		
	comp=Z,444nm,21.0s							
O20A	**White River Ci**	123.28	21	P	**PKPdf**	04 40 20.2	-0.1	
	baz=332							
EDW2	**Edwards Air Fo**	123.33	33	P	**PKiKP**	04 40 21.1	+0.5	
	baz=320							
PECO	**Prince Edward**	123.37	353	IAMs_20	IAMs_20	05 36 40.3		
	comp=Z,644nm,21.0s							
GSC	**Goldstone, Bar**	123.62	31	P	**PKiKP**	04 40 21.4	+0.3	
	baz=322							
J57A	**Williamstown**	123.76	352	P	**PKPdf**	04 40 20.9	+0.1	
	baz=10							
I51A	**Listowel**	123.85	357	P	**PKiKP**	04 40 23.0	+1.8	
	baz=4.4							
KNB	**Kanab**	124.13	27	PKIKP	**PKiKP**	04 40 22.3	+0.1	
KNB	**Kanab**	124.13	27	PKPdf	**PKiKP**	04 40 22.3	+0.1	
MEDO	**Medina**	124.29	354	IAMs_20	IAMs_20	05 37 10.5		
	comp=Z,771nm,22.0s							
PV23	**Carenter Ridg**	124.48	23	IAMs_20	IAMs_20	05 38 28.8		
	comp=Z,630nm,20.0s							
PV14	**Lion Creek, Pa**	124.55	23	IAMs_20	IAMs_20	05 34 23.6		
	comp=Z,538nm,20.0s							
GMRC	**Granite Mounta**	124.61	31	P	**PKiKP**	04 40 24.2	+1.0	
	baz=323							
JFWS	**Jewell Farm**	124.62	5	IAMs_20	IAMs_20	05 42 35.0		
	comp=Z,683nm,21.0s							
PV07	**Paradox Valley**	124.63	23	IAMs_20	IAMs_20	05 43 23.7		
	comp=Z,480nm,21.0s							
PV18	**Skein Mesa, Pa**	124.70	23	IAMs_20	IAMs_20	05 43 44.6		
	comp=Z,598nm,20.0s							
PV01	**Paradox Valley**	124.93	23		**PKiKP**	04 40 24.0	+0.1	
TAOE	**Nuku Hiva Isla**	125.60	92	*e*LR	LR	05 19 29.8		
	comp=Z,599nm,30.7s							
TJX	**Tijuana**	125.65	34	IAMs_20	IAMs_20	05 34 56.7		
	comp=Z,601nm,19.0s							
MVCO	**Mesa Verde**	125.76	23	P	**PKiKP**	04 40 25.8	+0.2	
	baz=331							
CPBX	**Cerro Prieto**	126.65	32	IAMs_20	IAMs_20	05 22 31.0		
	comp=Z,720nm,20.0s							
W18A	**Petrified Fore**	127.07	26	P	**PKiKP**	04 40 28.5	+0.4	
	baz=329							
CBKS	**Cedar Bluff**	127.07	15	IAMs_20	IAMs_20	05 45 04.1		
	comp=Z,654nm,21.0s							
O56A	**Blue Knob Stat**	127.17	354	IAMs_20	IAMs_20	05 42 14.7		
	comp=Z,755nm,22.0s							
P60A	**Greenville**	127.25	351	IAMs_20	IAMs_20	05 40 55.0		
	comp=Z,701nm,20.0s							
T25A	**Trinidad**	127.29	20	P	**PKPdf**	04 40 28.2	+0.1	
	baz=336							
T25A	**Trinidad**	127.29	20	IAMs_20	IAMs_20	05 48 14.0		
	comp=Z,564nm,20.0s							
ANMO	**Albuquerque**	128.53	23	PKIKP	**PKiKP**	04 40 31.0	-0.1	
ANMO	**Albuquerque**	128.53	23	P	**PKiKP**	04 40 30.9	-0.1	
	baz=333							
ANMO	**Albuquerque**	128.53	23	PKPdf	**PKiKP**	04 40 31.0	-0.1	
Q44A	**Meyer Farm, Va**	128.70	4	IAMs_20	IAMs_20	05 38 17.6		
	comp=Z,531nm,20.0s							
TUC	**Tucson**	128.98	28	PKIKP	**PKiKP**	04 40 32.1	+0.2	
TUC	**Tucson**	128.98	28	P	**PKiKP**	04 40 32.1	+0.2	
	baz=327							
TUC	**Tucson**	128.98	28		**PKiKP**	04 40 32.1	+0.2	
R49A	**Shelbyville**	129.46	0	IAMs_20	IAMs_20	05 41 42.2		
	comp=Z,736nm,21.0s							
R50A	**Paris**	129.47	359	IAMs_20	IAMs_20	05 42 20.4		
	comp=Z,653nm,21.0s							
MSTX	**Muleshoe**	130.72	20	P	**PKPdf**	04 40 34.6	+0.1	
	baz=337							
MSTX	**Muleshoe**	130.72	20		**PKPdf**	04 40 34.6	+0.1	
OKCFA	**Oklahoma City**	130.86	14	IAMs_20	IAMs_20	05 46 08.2		
	comp=Z,567nm,21.0s							
LCAR	**Lake Charles**	131.31	7	IAMs_20	IAMs_20	05 45 49.1		
	comp=Z,630nm,19.0s							
V58A	**Windy Hill, Pi**	131.65	354	IAMs_20	IAMs_20	05 46 23.4		
	comp=Z,719nm,21.0s							
CPCT	**Cooper Cave**	132.30	360	PKPdf	**PKiKP**	04 40 37.9	-0.5	
CPCT				IAMs_20	IAMs_20	05 45 56.3		
	comp=Z,712nm,21.0s							
X40A	**Basin Creek Fa**	132.64	9	IAMs_20	IAMs_20	05 46 40.4		
	comp=Z,668nm,20.0s							
X58A	**Rowland**	132.90	354	IAMs_20	IAMs_20	05 43 05.5		
	comp=Z,694nm,22.0s							
ABTX	**Abilene, Hawle**	132.94	17	P	**PKiKP**	04 40 39.5	-0.3	
	baz=340							
Z47A	**Carrollton**	134.44	4	IAMs_20	IAMs_20	05 45 57.9		
	comp=Z,549nm,19.0s							
TXAR	**Lajitas Array**	134.59	23	PKhKP	PKPpre	04 40 27.5		
	comp=Z,0.3nm,0.8s,baz=17,slow=0.9,SNR=3.8							
TXAR				PKP	**PKPdf**	04 40 42.2	+0.2	
	comp=Z,1.7nm,0.6s,baz=208,slow=0.7,SNR=22							
TXAR				PP	**PP**	04 43 10.5	-2.9	
	comp=Z,1.2nm,1.1s,baz=318,slow=1.2,SNR=3.0							
TXAR	**Lajitas Array**	134.59	23	PKiKP	**PKPdf**	04 40 40.6	-1.3	
TXAR						04 43 10.5		
TXAR	**Lajitas Array**	134.59	23	PKPdf	**PKPdf**	04 40 40.6	-1.3	
JCT	**Junction City**	134.89	18	P	**PKPdf**	04 40 43.0	+0.6	
	baz=339							
152A	**Waverly Hall**	135.07	360	IAMs_20	IAMs_20	05 44 19.8		
	comp=Z,696nm,21.0s							
ZAIG	**Zacatecas**	140.86	26	PKPdf	**PKPdf**	04 40 51.1	-2.7	
SKI	**Saint Kitts**	143.18	323	IAMs_20	IAMs_20	05 48 56.0		
	comp=Z,532nm,21.0s							
BDFB	**Brasilia**	144.18	261	PKP	PKPbc	04 40 58.1	+0.4	
	comp=Z,15nm,0.9s,baz=86,slow=4.0,SNR=15							
BDFB	**Brasilia**	144.18	261	PKiKP	**PKPdf**	04 40 58.8	-0.8	
BDFB	**Brasilia**	144.18	261	PKPdf	**PKPdf**	04 40 58.8	-0.8	
MOIG	**Morelia**	144.18	27	PKPdf	**PKPab**	04 40 57.6	+0.2	
MLPR	**Magueyes Islan**	144.99	330		**PKPab**	04 40 59.9	-0.2	
UNM	**Universidad Na**	145.34	24	PKIKP	**PKPdf**	04 41 01.9	+0.1	
UNM	**Universidad Na**	145.34	24	PKPbc	**PKPdf**	04 41 01.9	+0.1	
SDDR	**Presa de Saban**	145.97	337	PKPbc	**PKPbc**	04 41 03.3	0.0	
GRGR	**Grenville**	146.41	316	IAMs_20	IAMs_20	05 28 55.7		
	comp=Z,318nm,21.0s							
TLIG	**Tlapa**	147.18	25		**PKPbc**	04 41 07.3	+0.3	
TEIG	**Tepich**	147.29	6		**PKPbc**	04 41 07.1	+0.1	
TEIG	**Tepich**	147.29	6	IAMs_20	IAMs_20	05 57 56.3		
	comp=Z,472nm,20.0s							
LL01	**San Ignacio de**	148.35	198		**PKPbc**	04 41 08.6	-0.6	
MTDJ	**Mount Denham**	148.62	347		**PKPbc**	04 41 10.7	0.0	
MTDJ				IAMs_20	IAMs_20	05 56 11.8		
	comp=Z,466nm,21.0s							
PLCA	**Paso Flores**	149.22	201	PKPbc	**PKPbc**	04 41 11.9	+0.3	
	comp=Z,14nm,0.8s,baz=321,slow=21,SNR=3.8							
PLCA	**Paso Flores**	149.22	201	PKP2	**PKiKP**	04 41 12.8	-0.1	
PLCA	**Paso Flores**	149.22	201	PKPbc	**PKiKP**	04 41 12.8	-0.1	
HUEH	**Huehuetenango**	151.57	14	IAMs_20	IAMs_20	06 01 57.4		
	comp=Z,492nm,21.0s							
ESQI	**Esquipulas**	152.73	10	IAMs_20	IAMs_20	05 59 58.5		
	comp=Z,562nm,21.0s							
BI02	**San Fabin de**	153.04	205	PKPdf	**PKPdf**	04 41 13.5	+0.1	
BI02				PKPbc	**PKiKP**	04 41 21.2	+0.3	
TGUH	**Tegucigalpa,Un**	153.49	5		**PKiKP**	04 41 23.2	+0.8	
TGUH				IAMs_20	IAMs_20	05 58 39.6		
	comp=Z,358nm,20.0s							
SNET	**Serv Nac Est T**	153.60	10	IAMs_20	IAMs_20	06 01 07.7		
	comp=Z,481nm,21.0s							
SDV	**Santo Domingo**	154.48	326	IAMs_20	IAMs_20	05 50 33.3		
	comp=Z,503nm,22.0s							
CRIN	**San Cristobal**	154.85	5	IAMs_20	IAMs_20	06 01 10.8		
	comp=Z,458nm,21.0s							
ESPN	**Las Esperanzas**	155.44	359	IAMs_20	IAMs_20	05 49 51.5		
	comp=Z,261nm,22.0s							
ACON	**Acoyapa**	155.67	1	IAMs_20	IAMs_20	05 52 53.5		
	comp=Z,446nm,21.0s							
SAML	**Samuel**	158.44	277	PKIKP	**PKPdf**	04 41 21.1	0.0	
SAML						04 41 56.1		
SAML	**Samuel**	158.44	277		**PKPdf**	04 41 21.1	0.0	
SAML					**PKPab**	04 41 56.1	+0.3	
AC05	**El Transito**	158.84	218	PKPdf	**PKPdf**	04 41 20.4	-1.0	
AC05				PKPab	**PKPab**	04 41 58.2	+1.0	
LCO	**Las Campanas**	158.97	217	PKP2	**PKPab**	04 41 58.1	+0.2	
LCO	**Las Campanas**	158.97	217		**PKPab**	04 41 58.1	+0.2	
ROSC	**El Rosal**	159.84	328	PKP	**PKPdf**	04 41 23.8	+0.6	
	comp=Z,4.2nm,0.4s,baz=291,slow=2.5,SNR=6.2							
ROSC				PKPab	**PKPab**	04 42 02.4	+0.3	
	comp=Z,3.4nm,0.4s,baz=115,slow=21,SNR=3.8							
LPAZ	**La Paz**	163.40	255	PKP	**PKPdf**	04 41 27.4	+0.3	
	comp=Z,1.5nm,0.8s,baz=107,slow=1.9,SNR=8.1							
LPAZ				PKPab	**PKPab**	04 42 17.5	-0.6	
	comp=Z,4.7nm,1.1s,baz=64,slow=6.7,SNR=6.2							
LPAZ	**La Paz**	163.40	255		**PKPdf**	04 41 27.4	+0.3	
LPAZ				PKPab	**PKPab**	04 42 17.9	-0.2	
OTAV	**Otavalo**	165.84	333	PKIKP	**PKPdf**	04 41 28.6	-0.6	
OTAV	**Otavalo**	165.84	333		**PKPdf**	04 41 28.6	-0.6	

NEIC ***26*** *04:21:28.6±1.0, 37°.63N±0°.04×118°.88W±0°.04, h4km±3km, Error ellipse: s-maj=6.8km s-min=3.8km az=141.0*
NCEDC 26 04:21:28.2±1.2, 37°.65N±0°.04×118°.86W±0°.03, h6km±1km, ML3.5, Error ellipse: s-maj=5.8km s-min=2.4km az=151.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAC	**Mammoth, Mammo**	0.03	138		Pg	04 21 29.6	-0.1
MCSM	**Casa Diablo Ho**	0.04	275		Pg	04 21 29.7	-0.1
MGPM	**Gravel Pit**	0.04	232		Pg	04 21 29.7	-0.2
OMMB	**Old Mammoth Mi**	0.12	251	Pg	Pg	04 21 29.9	-1.0
MDYM	**Dry Creek**	0.12	273		Pg	04 21 31.2	+0.3
MINS	**Minaret Summit**	0.16	271		Pg	04 21 31.9	+0.4
MDPB	**Devils Postpil**	0.17	264		Pg	04 21 32.0	+0.2
KCC	**Kaiser Creek**	0.49	228		Pg	04 21 37.5	-0.1
NVAR	**Mina Array Bea**	0.89	29	Pg	Pn	04 21 46.8	-0.6
NV11	**Mina Array Sit**	0.96	35	Pg	Pg	04 21 46.8	+0.2
WAKR	**Walker**	0.96	332	Pg	Pb	04 21 47.5	+0.1
CMB	**Columbia Colle**	1.27	288		Pg	04 21 53.4	+0.9
YERR	**Yerington**	1.36	347		Pn	04 21 53.9	0.0
MCCM	**Marconi Confer**	3.22	280		Pn	04 22 18.2	-0.9
GDXM	**Geysers**	3.31	292		Pn	04 22 17.3	-3.2
MWC	**Mount Wilson**	3.48	169	Pn	Pn	04 22 22.6	-0.5
PASC	**Pasadena Art C**	3.52	171	Pn	Pn	04 22 23.8	+0.5
HOPS	**Hopland Field**	3.57	293	Pn	Pn	04 22 24.8	+0.7
PSUT	**Pine Spring**	4.05	76	Pn	Pn	04 22 31.6	+0.8
ELK	**Elko**	4.18	41	Pn	Pn	04 22 33.6	+1.0
MOD	**Modoc Plateau**	4.39	346	Pn	Pn	04 22 37.0	+1.6

IDC ***26*** *04:33:31.7±0.7, 38°.42N×22°.05E, h0km, mb4.2/18, mb1 4.2/22, mb1mx4.1/35, mbtmp4.1/22, ML3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/33, Error ellipse: s-maj=15.8km s-min=15.1km az=146.0*
ATH ***26*** *04:33:32.0, 38°.35N×21°.96E, h16km±1km, ML3.8/24, Error ellipse: s-maj=1.0km s-min=0.6km az=312.0*
THE ***26*** *04:33:32.5, 38°.34N×21°.96E, h0km, ML3.8/22, Error ellipse: s-maj=0.9km s-min=0.3km az=257.0*
HLW ***26*** *04:33:35.2, 38°.43N×22°.77E, h25km±35km, Ml4.2*
NEIC ***26*** *04:33:35.3±2.0, 38°.30N±0°.04×22°.02E±0°.07, h24km±6km, Error ellipse: s-maj=7.5km s-min=6.1km az=81.0*
BEO ***26*** *04:33:39.9±2.0, 38°.79N×22°.17E, h5km±1km, ML3.5/2*
ISC 26 04:33:32.9±0.8, 38°.34N±0°.02×21°.97E±0°.01, h7km±4km, n227, σ1§15/270, mb4.3/21, 5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERG	**Sergoula**	0.10	44	P	**Pg**	04 33 35.1	-0.1
SERG				S	**Sg**	04 33 37.0	+0.1
	207μm,0.3s						
SERG	**Sergoula**	0.10	44	P	**Pg**	04 33 35.1	-0.1
SERG				S	**Sg**	04 33 37.2	+0.3
SERG				AML	AML	04 33 37.3	
SERG				AML	AML	04 33 38.3	
EFP	**Efpalio**	0.10	329	P	**Pg**	04 33 34.8	-0.4
EFP				S	**Sg**	04 33 36.6	-0.3
	304μm,0.4s						
EFP	**Efpalio**	0.10	329	P	**Pg**	04 33 34.6	-0.6
EFP				S	**Sg**	04 33 36.5	-0.3
EFP				AML	AML	04 33 37.0	
EFP				AML	AML	04 33 38.0	
ALIK	**Aliki, Aigiali**	0.14	126	P	**Pg**	04 33 36.0	+0.2
ALIK				S	**Sg**	04 33 38.1	+0.3
ANX	**Ano Chora**	0.25	351	P	**Pg**	04 33 37.5	-0.5
ANX				S	**Sg**	04 33 41.8	+0.4
	68μm,0.4s						
ANX	**Ano Chora**	0.25	351	P	**Pg**	04 33 37.6	-0.5
ANX				S	**Sg**	04 33 40.8	-0.7
ANX				AML	AML	04 33 42.1	
ANX				AML	AML	04 33 44.1	
KLV	**Kalavryta, Ach**	0.33	154	P	**Pg**	04 33 39.1	-0.3
KLV				S	**Sg**	04 33 43.7	-0.1
	10μm,0.3s						
KLV	**Kalavryta, Ach**	0.33	154	P	**Pg**	04 33 38.9	-0.5
KLV				S	**Sg**	04 33 44.6	+0.8
KLV		

FSK S Sg 04 34 09.3 +0.6
comp=N,3μm,0.9s
FSK Fiskardo 1.11 276 P Pg 04 33 53.0 -1.3
FSK AML AML 04 34 18.9
comp=N,4384μm,0.8s
FSK AML AML 04 34 21.0
comp=E,5974μm,0.7s
VLMS Volimes, Zakyn 1.13 246 P Pg 04 33 53.2 -1.4
VLMS S Sg 04 34 08.0 -1.3
VLMS AML AML 04 34 18.3
comp=N,13478μm,0.5s
VLMS AML AML 04 34 21.4
comp=E,7914μm,0.4s
DRAG Dragano-Lefkad 1.15 288 P Pg 04 33 53.6 -1.3
ITM Ithomi 1.16 182 Pg Pg 04 33 54.3 -0.9
KEF5 Kardakata, Kep 1.18 267 P Pg 04 33 54.0 -1.6
KEF5 S Sg 04 34 10.6 -0.3
THL Klokotos Trika 1.22 2 P Pg 04 33 55.2 -1.2
THL S Sb 04 34 13.1 +0.8
comp=E,2μm,0.8s
THL Klokotos Trika 1.22 2 P Pg 04 33 55.1 -1.3
VOL2 Volos 1.28 37 P Pn 04 33 57.9 +0.8
VOL3 Nea Ionia, Vol 1.28 36 P Pn 04 33 53.9 -3.3
KRND KRANIDI 1.34 135 P Pn 04 33 57.1 -0.9
KRND S Sg 04 34 17.6 +1.7
comp=E,5μm,0.7s
KRND KRANIDI 1.34 135 P Pn 04 33 57.2 -0.8
KRND S Sb 04 34 16.0 +0.4
KRND AML AML 04 34 21.7
comp=N,10014μm,0.6s
KRND AML AML 04 34 24.7
comp=E,10349μm,0.8s
NEO Neokhori 1.37 45 P Pn 04 33 58.2 -0.3
NEO S Sg 04 34 17.7 +0.6
comp=E,2μm,0.6s
NEO Neokhori 1.37 45 P Pn 04 33 58.1 -0.5
XOR Xorichti 1.40 43 P Pn 04 33 58.2 -0.6
XOR S Sb 04 34 18.0 +0.6
comp=E,2μm,0.6s
XOR Xorichti 1.40 43 P Pn 04 33 58.2 -0.6
XOR AML AML 04 34 24.4
comp=E,3160μm,0.6s
XOR AML AML 04 34 27.8
comp=N,5875μm,0.7s
ATH Athens Observa 1.43 104 P Pn 04 33 59.3 +0.1
ATH Athens Observa 1.43 104 P Pn 04 33 58.9 -0.3
ATH S Sb 04 34 18.6 +0.5
ATH AML AML 04 34 23.6
comp=E,7931μm,0.5s
ATH AML AML 04 34 26.2
comp=N,4096μm,0.6s
PYL PYLOS 1.46 187 P Pn 04 33 59.1 -0.5
PYL PYLOS 1.46 187 P Pn 04 33 58.9 -0.7
ATHU Athens Univers 1.48 104 P Pn 04 33 59.8 -0.1
ATHU Athens Univers 1.48 104 P Pn 04 33 59.9 0.0
ATHU AML AML 04 34 22.9
comp=N,3078μm,0.6s
ATHU AML AML 04 34 28.9
comp=E,1402μm,0.5s
VLY Voula,Athens 1.52 108 P Pn 04 34 00.3 -0.2
VLY S Sn 04 34 21.9 +1.4
comp=E,2μm,0.6s
VLY Voula,Athens 1.52 108 P Pn 04 34 00.4 0.0
PTL Penteli 1.52 101 P Pn 04 34 00.5 0.0
PTL S Sb 04 34 22.5 +1.6
comp=E,2μm,0.6s
PTL Penteli 1.52 101 P Pn 04 34 00.5 0.0
PTL AML AML 04 34 24.6
comp=E,5121μm,0.6s
PTL AML AML 04 34 26.9
comp=N,4588μm,0.6s
DION Dionisos Attik 1.57 99 P Pn 04 34 00.9 -0.3
DION S Sn 04 34 22.7 +1.0
comp=N,7μm,0.8s
DION Dionisos Attik 1.57 99 P Pn 04 34 01.1 0.0
DION S Sn 04 34 22.8 +1.1
DION AML AML 04 34 25.4
comp=N,14680μm,0.9s
DION AML AML 04 34 25.8
comp=E,12811μm,0.7s
KPRO Kipourio 1.68 344 P Pn 04 34 03.4 +0.7
ALNA Alonissos 1.69 61 P Pn 04 34 01.4 -1.4
KYMI Kymi, Euboea I 1.70 79 P Pn 04 34 02.5 -0.4
KYMI Kymi, Euboea I 1.70 79 P Pn 04 34 02.6 -0.4
KYMI AML AML 04 34 37.6
comp=N,3089μm,1.1s
KYMI AML AML 04 34 42.4
comp=E,2256μm,1.0s
IGT Igoumenitsa 1.75 313 *e*Pg Pg 04 34 08.4 +2.0
IGT *e*Sg Sg 04 34 31.4 +2.4
IGT Igoumenitsa 1.75 313 P Pn 04 34 04.5 +0.9
VLI Veliai 1.79 154 P Pn 04 34 04.7 +0.5
VLI S Sn 04 34 29.0 +1.8
comp=E,3μm,0.8s
VLI Veliai 1.79 154 P Pn 04 34 04.6 +0.3
VLI AML AML 04 34 35.0
comp=N,7251μm,0.8s
VLI AML AML 04 34 39.4
comp=E,8834μm,0.9s
LIT Litokhoron 1.80 13 P Pn 04 34 04.6 +0.2
LIT S Sb 04 34 29.3 +0.3
comp=E,1μm,0.6s
LIT Litokhoron 1.80 13 P Pn 04 34 04.6 +0.2
LIT Litokhoron 1.80 13 Pn Pn 04 34 03.9 -0.5
KARY Karystos 1.97 98 P Pn 04 34 06.7 0.0
KARY Karystos 1.97 98 P Pn 04 34 06.6 0.0
KZN Kozani 1.97 356 P Pn 04 34 07.4 +0.6
PAIG Paliouri 2.07 39 P Pn 04 34 07.3 -0.7
SKY Skiros Island 2.09 74 P Pn 04 34 09.6 +1.3
KEK Kerkira 2.18 310 P Pn 04 34 11.3 +1.8
NEST Nestorio 2.19 341 P Pn 04 34 11.6 +1.8
KTHA Kythira Island 2.26 157 P Pn 04 34 11.6 +1.0
SERI Serifos 2.32 120 P Pn 04 34 11.9 +0.4
SERI Serifos 2.32 120 P Pn 04 34 11.0 -0.5
PLG Polygyros 2.33 29 P Pn 04 34 11.0 -0.7
PLG Polygyros 2.33 29 P Pn 04 34 10.8 -0.9
HORT Hortiatis 2.42 21 P Pn 04 34 12.3 -0.6
HORT Hortiatis 2.42 21 P Pn 04 34 12.9 0.0
FNA Florina 2.48 350 *e*Pn Pn 04 34 14.6 +0.8
FNA *e*Sg Sn 04 34 45.6 +1.3
FNA Florina 2.48 350 P Pn 04 34 14.5 +0.8
FNA Florina 2.48 350 Pn Pn 04 34 15.5 +1.8
OUR Ouranopolis 2.53 37 P Pn 04 34 14.0 -0.4
OUR Ouranopolis 2.53 37 P Pn 04 34 13.9 -0.4
MHLO Agia Marina, M 2.54 130 P Pn 04 34 14.8 +0.3
ANKY Antikythira Is 2.69 156 P Pn 04 34 17.1 +0.5
ANKY Antikythira Is 2.69 156 P Pn 04 34 17.5 +0.9
SOH Sokhos 2.70 23 P Pn 04 34 17.2 +0.5
SOH Sokhos 2.70 23 P Pn 04 34 15.6 -1.1
KNT Kendrikon 2.91 14 P Pn 04 34 19.8 +0.3
KNT Kendrikon 2.91 14 P Pn 04 34 19.9 +0.3
OHR Ohrid 2.91 342 *i* Pn Pn 04 34 23.5 +3.9
LIA Limnos Island 2.94 57 P Pn 04 34 19.2 -0.9
VAY Valandovo 3.01 9 *e*Pn Pn 04 34 22.0 +1.1
VAY Valandovo 3.01 9 *i* Pn Pn 04 34 22.1 +1.1
SRS Serrai 3.04 24 *e*Pn Pn 04 34 21.9 +0.5
SRS Serrai 3.04 24 P Pn 04 34 19.7 -1.7
IOSP Ios island 3.09 120 P Pn 04 34 22.2 +0.1
APE Apeiranthos 3.10 113 P Pn 04 34 22.3 +0.1
APE Apeiranthos 3.10 113 ||P Pn 04 34 23.2 +1.0
THAS Thassos island 3.10 42 P Pn 04 34 21.2 -1.1
CHOS Chios island 3.21 88 P Pn 04 34 23.9 +0.1
CHOS Chios island 3.21 88 P Pn 04 34 23.9 +0.1
SCTE Santa Cesarea 3.22 304 Pn Pn 04 34 26.1 +2.2
IMMV Iera Moni Meta 3.30 150 P Pn 04 34 25.6 +0.6
STIP Stip 3.35 3 *i* Pn Pn 04 34 27.4 +1.8
SANT Santorini 3.41 124 ||P Pn 04 34 28.8 +2.4
SANT Santorini 3.41 124 Pn 04 34 26.5 0.0
TIR Tirane 3.41 332 *e*Pn Pn 04 34 29.8 +3.3
TIR Tirane 3.41 332 ||P Pg 04 34 38.2 -0.1
TIR Tirane 3.41 332 Pn Pn 04 34 28.3 +1.8
BOZC Bozcaada 3.51 63 P Pn 04 34 27.2 -0.7
MMB Musomiste 3.51 22 *e*P Pn 04 34 28.6 +0.7
GADA Gvkgeada 3.56 58 *e*P Pn 04 34 28.1 -0.5
KKB Krupnik 3.62 13 *e*P Pn 04 34 30.5 +1.1
URLA Izmir 3.64 88 *e*P Pn 04 34 30.6 +1.0
SKO Skopje 3.65 354 *e*Pn Pn 04 34 31.1 +1.3
EZN Ezine 3.70 65 *e*P Pn 04 34 30.6 +0.2
IDI Anoyia 3.84 142 Pn Pn 04 34 32.9 +0.4
comp=E,3.3nm,0.3s,baz=321,slow=15,SNR=17
IDI Sn Sn 04 35 20.3 +2.3
comp=E,6.6nm,0.3s,baz=335,slow=16,SNR=4.0
IDI Anoyia 3.84 142 ||P Pn 04 34 32.1 -0.4
IDI Anoyia 3.84 142 Pn 04 34 32.7 +0.2
RDO Rodhopi 3.92 43 *e*P Pn 04 34 33.8 +0.3
DKL Dikili 3.93 78 *e*P Pn 04 34 33.9 +0.3
BLCB Balcova 3.99 88 *e*P Pn 04 34 35.3 +0.9
ENEZ Enez 4.02 52 *e*P Pn 04 34 34.9 0.0
GELI Tayfur-Gelibol 4.05 58 *e*P Pn 04 34 34.9 -0.3
ALN Alexandroupoli 4.05 50 *e*P Pn 04 34 35.6 +0.3
ALN Alexandroupoli 4.05 50 Pn Pn 04 34 35.7 +0.5
TIP Timpagrande 4.16 283 Pn Pn 04 34 37.6 +0.8
BOSS Bosilegrad 4.17 5 *e*Pn Pn 04 34 38.0 +1.1
LPK Lapseki 4.23 60 *e*P Pn 04 34 37.8 +0.1
KDZ Kurdzhali 4.23 38 *e*P Pn 04 34 37.8 0.0
VTS Vitosha 4.38 12 *e*P Pn 04 34 43.0 +3.1
BARS Barje 4.47 359 *e*Pn Pn 04 34 41.5 +0.4
BARS Barje 4.47 359 *e*Pn Pg 04 34 59.0 +0.4
PDG Podgorica 4.58 334 *e*Pn Pn 04 34 44.3 +1.8
PDG Podgorica 4.58 334 ||P Pn 04 34 44.4 +1.9
PDG Podgorica 4.58 334 Pn Pn 04 34 43.6 +1.0
KRBG Karabiga-Canak 4.61 62 *e*P Pn 04 34 43.3 +0.4
AYDB Zeytinkoy-Aydi 4.68 93 *e*P Pn 04 34 45.3 +1.2
CEL Celeste 4.78 271 Pn Pn 04 34 47.7 +2.3
CEL Sn 04 35 44.2 +3.2
MRMT Marmara Adasi 4.90 61 *e*P Pn 04 34 46.8 -0.3
SELS Selova 4.92 353 *e*Pn Pn 04 34 48.3 +1.1
ZAPS Zavoj 4.95 6 *e*Pn Pn 04 34 49.1 +1.4
KARP Karpathos 5.01 122 Pn 04 34 49.5 +1.0
SJES Sjenica 5.14 344 *e*Pn Pn 04 34 51.6 +1.2
ZAGS Zajecar 5.47 2 *e*Pn Pn 04 34 55.6 +0.9
GRUS Gruza 5.62 351 *e*Pn Pn 04 34 58.8 +1.9
BBLS Lazići 5.85 341 *e*Pn Pn 04 35 00.8 +0.8
DIVS Divibare 5.94 346 *e*Pn Pn 04 35 02.4 +1.1
DIVS Divibare 5.94 346 Pn Pn 04 35 03.2 +1.8
TRUS Trudelj 5.99 349 *e*Pn Pn 04 35 03.0 +1.0
VAE Valgarnera 6.04 264 Sn Sn 04 36 16.2 +4.2
comp=E,1.9nm,0.3s,baz=267,slow=12,SNR=2.2
RAFF Raffo Rosso 6.13 262 Pn Pn 04 35 05.2 +1.4
PAOL Paolisi 6.31 298 Pn 04 35 07.5 +1.1
AKAS Kas 6.44 107 Pn Pn 04 35 07.8 -0.5
INTR Introdacqua 7.18 303 Pn Pn 04 35 20.1 +1.8
SLUM Salum 7.33 158 P Pn 04 35 20.1 -0.3
baz=163
SLUM AMP 04 36 00.0
baz=163
SLUM S Sn 04 36 35.3 -8.5
baz=163
MDUB Mudurnu 7.45 71 Pn 04 35 23.1 +1.0
AQU L'Aquila 7.67 304 Pn 04 35 26.4 +1.3
MLR Muntele Rosu 7.73 21 Pn Pn 04 35 29.3 +3.3
comp=E,0.4nm,0.3s,baz=170,slow=9.0,SNR=5.1
MLR Muntele Rosu 7.73 21 Pn 04 35 26.4 +0.4
NRCA Norcia 8.09 306 Pn 04 35 31.9 +1.1
MURB Monte Urbino 8.69 307 Pn Pn 04 35 41.3 +2.3
BR131 Keskin Array S 9.19 78 Pn Pn 04 35 46.3 +0.4
BRTR Keskin Array B 9.19 78 Pn Pn 04 35 48.5 +2.5
comp=E,0.7nm,0.3s,baz=236,slow=8.5,SNR=9.0
SWA2 9.53 161 P Pn 04 35 49.6 -0.9
baz=165
SWA2 AMP 04 37 00.0
baz=165
CTI Castel Tesino 10.85 318 Pn Pn 04 36 10.1 +1.4
WATA Walderalm 11.78 323 *i* Pn Pn 04 36 26.2 +4.8
comp=E,5.6nm,0.5s
GLL Jalalah 11.90 134 P Pn 04 36 19.8 -3.2
baz=137
MOTA Moosalm 12.01 322 *e*Pn Pn 04 36 32.0 +7.5
comp=E,5.8nm,0.8s
MOTA *e*Sn Sn 04 38 37.8 -1.0
comp=E,5.3nm,0.8s
GERES GERESS Array B 12.08 333 LR LR 04 42 01.8
comp=E,341nm,19.1s,baz=152,slow=42
AKASG Malin Array Be 13.39 20 Pn Pn 04 36 42.7 -0.4
comp=E,0.8nm,0.3s,baz=206,slow=12,SNR=2.3
ASF Jabal al Asfar 13.66 112 Pn Pn 04 36 45.8 -1.3
comp=E,0.2nm,0.3s,baz=0.0,slow=3.0,SNR=1.8
SUW Suwalki 15.70 3 Pn Pn 04 37 13.0 -1.3
ESDC Sonseca Array 20.18 282 P P 04 38 08.9 +1.0
comp=E,2.9nm,0.8s,baz=75,slow=10,SNR=13
ESDC Sonseca Array 20.18 282 P P 04 38 09.0 +1.0
HFS Hagfors 22.44 349 P P 04 38 30.9 -1.1
comp=E,5.7nm,0.6s,baz=152,slow=11,SNR=16
KONO Kongsberg 22.74 344 *e*P P 04 38 36.6 +1.3
FINES FINESS Array B 23.27 5 P P 04 38 39.3 -1.4
comp=E,3.1nm,0.9s,baz=155,slow=17,SNR=2.4
NC602 NORSAR Array S 23.36 347 P P 04 38 41.4 -0.2
NC602 NORSAR Array S 23.36 347 *e*P P 04 38 40.6 -1.0
NAO01 NORSAR Array S 23.58 346 P P 04 38 43.4 -0.5
NC405 NORSAR Array S 23.68 348 P P 04 38 43.6 -1.2
NB201 NORSAR Array S 23.69 343 P P 04 38 43.0 -2.0
NB2 NORSAR Subarra 23.70 347 P P 04 38 43.8 -1.3
comp=Z,16nm,1.2s,baz=159,slow=9.3
NB2 NORSAR Subarra 23.70 347 P P 04 38 43.8 -1.3
baz=159,slow=9.3
NOA NORSAR Array B 23.70 347 P P 04 38 44.0 -1.0
comp=Z,6.9nm,1.1s,baz=155,slow=10,SNR=16
NC303 NORSAR Array S 23.84 347 P P 04 38 46.1 -0.3
SKAR Skarslia 23.96 343 *e*P P 04 38 47.3 -0.3
EKA Eskdalemuir Ar 23.97 323 P P 04 38 47.2 -0.4
comp=Z,14nm,0.9s,baz=120,slow=10.0,SNR=16
NC204 NORSAR Array S 24.00 347 P P 04 38 47.9 -0.1
HYA Hoyanger 24.88 342 *e*P P 04 38 56.8 +0.8
DOMB Dombas 25.03 346 *e*P P 04 38 58.1 +0.8
ABKAR Akbulak array 29.21 56 P P 04 39 34.9 0.0
TOA0 Torodi Ar. Sit 30.89 221 P P 04 39 51.3 +1.2
TOA0 IAmb IAmb 04 39 51.5
comp=Z,3.7nm,0.8s
TORD Torodi Ar. Bea 30.89 221 P P 04 39 50.9 +0.8
comp=Z,3.1nm,0.7s,baz=30,slow=9.1,SNR=13
TORD Torodi Ar. Bea 30.89 221 P P 04 39 51.2 +1.2
KK31 Karatay Array 36.68 67 P P 04 40 40.7 +0.4
KKAR Karatay Array 36.68 67 P P 04 40 39.9 -0.4
DBIC Dimbokro 39.80 224 P P 04 41 07.0 +0.4
comp=Z,5.7nm,0.8s,baz=11,slow=7.4,SNR=5.2
DBIC Dimbokro 39.80 224 IAmb IAmb 04 41 11.1
comp=Z,30nm,1.6s
SPITS Spitsbergen Ar 40.01 358 P P 04 41 06.2 -1.7
comp=Z,2.0nm,0.5s,baz=134,slow=19,SNR=1.9
KURK Kurchatov 41.26 54 P P 04 41 18.8 +0.3
KDJ Kajisay 41.70 67 P P 04 41 22.9 +0.5
KDJ IAmb IAmb 04 41 27.8
comp=Z,4.5nm,0.9s
MK31 Makanchi Array 44.24 59 P P 04 41 42.2 -0.5
MK31 IAmb IAmb 04 41 47.8
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 44.24 59 P P 04 41 42.1 -0.7
comp=Z,2.2nm,0.5s,baz=276,slow=7.5,SNR=31
ZAA0 Zalesovo Array 44.73 48 P P 04 41 45.9 -0.6
ZAA0 IAmb IAmb 04 41 48.7
comp=Z,7.6nm,1.2s
ZALV Zalesovo Beam 44.73 48 P P 04 41 45.6 -0.9
comp=Z,1.8nm,0.4s,baz=274,slow=8.8,SNR=6.5
ZALV Zalesovo Beam 44.73 48 P P 04 41 45.5 -1.0
SCHQ Schefferville 59.11 318 P P 04 43 33.5 -0.2
comp=Z,3.6nm,0.8s,baz=24,slow=3.1,SNR=4.0
SONM Songino Array 59.47 51 P P 04 43 34.7 -1.7
comp=Z,1.3nm,0.8s,baz=284,slow=5.8,SNR=4.4
SONM Songino Array 59.47 51 IAmb IAmb 04 43 38.3
comp=Z,1.7nm,1.0s
YKA Yellowknife Ar 73.62 341 P P 04 45 05.9 -0.6
comp=Z,1.4nm,0.8s,baz=36,slow=6.4,SNR=4.4
ULM Lac du Bonnet 76.24 324 P P 04 45 22.4 +0.5
comp=Z,6.2nm,0.8s,baz=68,slow=6.7,SNR=6.6
ULM Lac du Bonnet 76.24 324 P P 04 45 22.5 +0.7
USRK Ussuriysk Ar. 76.37 44 P P 04 45 22.5 -0.2
comp=Z,1.5nm,0.8s,baz=251,slow=6.9,SNR=2.0
KSRS Korea Array 78.34 51 P P 04 45 32.1 -1.7
comp=Z,1.0nm,0.5s,baz=310,slow=6.6,SNR=2.6
PDAR Pinedale Array 88.05 327 P P 04 46 23.9 -0.4
comp=Z,0.6nm,0.7s,baz=41,slow=4.3,SNR=5.7
TXAR Lajitas Array 95.68 315 P P 04 47 00.8 +1.1
comp=Z,0.7nm,0.9s,baz=50,slow=3.8,SNR=5.4

WEL 26 04:43:32.5,39°S±2°×17°5E±°, h223km±3km, M3.4/46, MLv3.4/46, Error ellipse: s-maj=0.0km s-min=0.0km az=110.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.10**	**231**	P	Pn	04 44 00.8	-0.6
MHEZ	**Mangahewa**	**0.42**	**268**	P	Pn	04 44 02.1	+0.1
PKVZ	**Pokaka**	**0.44**	**121**	P	Pn	04 44 02.1	-0.1
PKVZ				S	S	04 44 23.4	-1.9
TWVZ	**Taurewa**	**0.45**	**91**	P	Pn	04 44 02.0	-0.3
TWVZ				S	S	04 44 23.7	-1.7
DREZ	**Durham Road**	**0.53**	**256**	P	Pn	04 44 02.1	-0.2
DREZ				S	S	04 44 24.4	-1.2
LREZ	**Lake Rotokare**	**0.53**	**221**	P	Pn	04 44 02.3	-0.1
HIZ	**Hauiti**	**0.55**	**360**	P	Pn	04 44 02.0	-0.5
HIZ				S	S	04 44 24.3	-1.5
WTVZ	**West Tongariro**	**0.57**	**96**	P	Pn	04 44 02.7	0.0
WTVZ				S	S	04 44 23.6	-2.6
FWVZ	**Far West T-bar**	**0.57**	**110**	P	Pn	04 44 02.7	-0.1
FWVZ				S	S	04 44 24.7	-1.8
MTVZ	**Mangateitei**	**0.57**	**124**	P	Pn	04 44 02.6	0.0
MTVZ				S	S	04 44 24.5	-1.7
DRZ	**Dome Shelter**	**0.59**	**112**	P	Pn	04 44 03.1	+0.1
DRZ				S	S	04 44 24.5	-2.2
NGZ	**Ngauruhoe**	**0.59**	**101**	P	Pn	04 44 02.8	0.0
NGZ				S	S	04 44 25.0	-1.4
KRVZ	**Karewarewa**	**0.61**	**93**	P	Pn	04 44 02.7	-0.1
KRVZ				S	S	04 44 24.5	-1.9
PREZ	**Palmer Road**	**0.61**	**242**	P	Pn	04 44 02.6	-0.1
PREZ				S	S	04 44 25.2	-1.1
NEZ	**North Egmont**	**0.63**	**250**	P	Pn	04 44 02.6	-0.2
NEZ				S	S	04 44 25.1	-1.4
WNVZ	**Wahianoa**	**0.63**	**115**	P	Pn	04 44 03.0	0.0
WNVZ				S	S	04 44 24.4	-2.3
OTVZ	**Oturere**	**0.64**	**100**	P	Pn	04 44 03.3	+0.4
OTVZ				S	S	04 44 25.1	-1.5
TUVZ	**Tukino**	**0.65**	**109**	P	Pn	04 44 03.2	+0.2
TUVZ				S	S	04 44 24.9	-1.9
KATZ	**Kakaramea**	**0.66**	**83**	P	Pn	04 44 02.9	-0.1
KATZ				S	S	04 44 25.5	-1.3
PKE	**Pukeiti**	**0.69**	**259**	P	Pn	04 44 02.7	-0.3
PKE				S	S	04 44 26.2	-0.7
WAZ	**Wanganui**	**0.70**	**172**	P	Pn	04 44 03.3	+0.3
WAZ				S	S	04 44 25.4	-1.6
RATZ	**Rangitukua**	**0.74**	**75**	P	Pn	04 44 03.3	0.0
WATZ	**Wairara**	**0.77**	**63**	P	Pn	04 44 03.6	+0.2
MOVZ	**Moawhango**	**0.78**	**117**	P	Pn	04 44 03.2	-0.3
RITZ	**Rihia Road**	**0.78**	**84**	P	Pn	04 44 03.7	+0.2
NBEZ	**Newall Road No**	**0.80**	**255**	P	Pn	04 44 03.3	-0.2
NMEZ	**Namu Road**	**0.84**	**245**	P	Pn	04 44 03.5	-0.2
TLZ	**Tolley Road**	**0.90**	**36**	P	Pn	04 44 04.0	-0.2
WHTZ	**Whakaora**	**0.94**	**66**	P	Pn	04 44 04.7	+0.3
KUTZ	**Kaahu Road**	**0.95**	**53**	P	Pn	04 44 04.7	+0.3
HATZ	**Hinemaiaia**	**0.98**	**80**	P	Pn	04 44 04.2	-0.3
BHHZ	**Black Hill Sta**	**1.03**	**115**	P	Pn	04 44 04.7	-0.2
WPRZ	**Whakapapatarin**	**1.15**	**62**	P	Pn	04 44 05.6	-0.1
OHWZ	**Ohakea**	**1.20**	**163**	P	Pn	04 44 06.3	+0.5
GRRZ	**Galatos Road**	**1.21**	**54**	P	Pn	04 44 06.3	+0.2
MRHZ	**Matea Rd**	**1.24**	**80**	P	Pn	04 44 05.8	-0.5
ALRZ	**Allen Road**	**1.26**	**67**	P	Pn	04 44 06.2	-0.2
KWHZ	**Kaweka Forest**	**1.27**	**107**	P	Pn	04 44 07.0	+0.5
BKZ	**Black Stump Fm**	**1.28**	**95**	P	Pn	04 44 06.4	-0.2
HRRZ	**Handcock Road**	**1.30**	**59**	P	Pn	04 44 06.8	+0.1
KRHZ	**Kereru**	**1.31**	**117**	P	Pn	04 44 06.9	+0.2
TSZ	**Takapari Road**	**1.31**	**140**	P	Pn	04 44 06.9	+0.1
HSRZ	**Hossack Road**	**1.32**	**56**	P	Pn	04 44 07.0	+0.1
PRRZ	**Plateau Road**	**1.32**	**65**	P	Pn	04 44 06.6	-0.3
PNHZ	**Pukenui**	**1.34**	**130**	P	Pn	04 44 07.1	+0.1
UTU	**Utuhina**	**1.37**	**50**	P	Pn	04 44 07.6	+0.3
NGRZ	**Ngongotaha**	**1.42**	**48**	P	Pn	04 44 07.9	+0.2
TOZ	**Tahuroa Road**	**1.42**	**21**	P	Pn	04 44 07.6	-0.1
MCHZ	**McNeill Hill**	**1.48**	**106**	P	Pn	04 44 09.0	+0.9
KMRZ	**Kaimai**	**1.48**	**35**	P	Pn	04 44 08.5	+0.3
RRRZ	**Republican Roa**	**1.48**	**61**	P	Pn	04 44 08.1	-0.1
POWZ	**Post Office Ro**	**1.50**	**152**	P	Pn	04 44 08.1	-0.2
KARZ	**Kaharoa**	**1.50**	**47**	P	Pn	04 44 08.5	+0.1
OMRZ	**Omania**	**1.52**	**52**	P	Pn	04 44 08.6	0.0
TARZ	**Mount Tarawera**	**1.53**	**58**	P	Pn	04 44 08.7	0.0
MTHZ	**Maungataniwha**	**1.56**	**83**	P	Pn	04 44 08.7	-0.1
WPHZ	**Waipukurau**	**1.58**	**130**	P	Pn	04 44 09.2	+0.3
DVHZ	**Dannevirke**	**1.60**	**141**	P	Pn	04 44 08.9	-0.2
MRZ	**Mangatainoka R**	**1.69**	**161**	P	Pn	04 44 09.3	-0.6
RTZ	**Ruatahuna**	**1.72**	**76**	P	Pn	04 44 09.9	-0.3
PRWZ	**Pori Road**	**1.72**	**150**	P	Pn	04 44 10.2	+0.1
KAHZ	**Kahuranaki**	**1.73**	**116**	P	Pn	04 44 10.9	+0.7
TGRZ	**Tauranga**	**1.73**	**40**	P	Pn	04 44 10.3	+0.1
RAHZ	**Arahi**	**1.74**	**86**	P	Pn	04 44 10.8	+0.4
OGWZ	**Otaki Gorge**	**1.77**	**172**	P	Pn	04 44 10.2	-0.4
MARZ	**Manawahe**	**1.78**	**54**	P	Pn	04 44 10.8	0.0
KIW	**Kapiti Island**	**1.80**	**179**	P	Pn	04 44 10.1	-0.8
OPRZ	**Ohinepanea**	**1.80**	**48**	P	Pn	04 44 10.9	0.0
PRHZ	**Porangahau**	**1.82**	**132**	P	Pn	04 44 11.4	+0.3
PXZ	**Pawanui**	**1.83**	**123**	P	Pn	04 44 11.4	+0.3
WHHZ	**Waihua**	**1.85**	**91**	P	Pn	04 44 11.8	+0.5
ANWZ	**Angora Road**	**1.87**	**139**	P	Pn	04 44 11.7	+0.2
DUWZ	**D'Urville Isla**	**1.88**	**202**	P	Pn	04 44 10.7	-0.9
TIWZ	**Tintock**	**1.89**	**158**	S	S	04 44 39.0	-4.2
HOWZ	**Holdsworth Sta**	**1.90**	**165**	P	Pn	04 44 11.0	-0.8
URZ	**Urewera**	**1.94**	**66**	P	Pn	04 44 11.4	-0.8
BFZ	**Birch Farm**	**1.94**	**147**	P	Pn	04 44 11.7	-0.4
SNGZ	**Shannon Statio**	**1.96**	**83**	P	Pn	04 44 12.6	+0.2
AWAZ	**Awhitu Peninsu**	**2.00**	**355**	P	Pn	04 44 13.1	+0.3
CAW	**Cannon Point**	**2.05**	**176**	P	Pn	04 44 12.4	-0.8
MYRZ	**Mayor Island**	**2.08**	**32**	P	Pn	04 44 14.1	+0.4
ETAZ	**East Tamaki Re**	**2.10**	**2**	P	Pn	04 44 13.2	-0.6
CPWZ	**Castlepoint**	**2.12**	**151**	P	Pn	04 44 13.9	0.0
WTAZ	**Waiatarua**	**2.14**	**354**	P	Pn	04 44 13.6	-0.6
TMWZ	**Te Maipa**	**2.19**	**159**	P	Pn	04 44 13.8	-0.8
KNZ	**Kokohu**	**2.19**	**90**	P	Pn	04 44 14.7	+0.1
TCW	**Tory Channel**	**2.19**	**192**	P	Pn	04 44 13.8	-0.8
WEL	**Wellington**	**2.22**	**182**	P	Pn	04 44 13.8	-1.0
MBAZ	**Motutapu North**	**2.29**	**1**	P	Pn	04 44 16.0	+0.3
RIGZ	**Rimuhau**	**2.29**	**82**	P	Pn	04 44 15.8	+0.1
BHW	**Baring Head**	**2.34**	**180**	P	Pn	04 44 14.9	-1.2
PRCZ	**Paritu Road**	**2.36**	**88**	P	Pn	04 44 16.8	+0.2
MSWZ	**Moikau Station**	**2.37**	**173**	P	Pn	04 44 15.3	-1.2
MHGZ	**Mahia Peninsul**	**2.37**	**93**	P	Pn	04 44 16.9	+0.4
KUZ	**Kuaotunu**	**2.41**	**17**	P	Pn	04 44 17.1	+0.2
TKGZ	**Te Karaka**	**2.42**	**76**	P	Pn	04 44 17.2	+0.2
TRWZ	**Traveller**	**2.42**	**165**	P	Pn	04 44 16.1	-0.9
NNZ	**Nelson**	**2.43**	**207**	P	Pn	04 44 15.6	-1.4
RUGZ	**Raukumara Rang**	**2.47**	**65**	P	Pn	04 44 16.3	-1.4
TUWZ	**Tuamarina**	**2.47**	**196**	P	Pn	04 44 16.3	-1.2
QRZ	**Quartz Range**	**2.51**	**225**	P	Pn	04 44 15.8	-2.2
PLWZ	**Palliser**	**2.52**	**173**	P	Pn	04 44 16.8	-1.3
TWGZ	**Tauwhareparae**	**2.60**	**71**	P	Pn	04 44 19.0	0.0
HAZ	**Te Kaha**	**2.64**	**61**	P	Pn	04 44 18.2	-1.2
CNGZ	**Carnagh Statio**	**2.68**	**79**	P	Pn	04 44 20.2	+0.4
CMWZ	**Cape Campbell**	**2.73**	**190**	P	Pn	04 44 19.6	-0.7
BSWZ	**Blackbirch Sta**	**2.75**	**195**	P	Pn	04 44 19.4	-1.1
PUZ	**Puketiti**	**2.84**	**71**	P	Pn	04 44 21.0	-0.6
WMGZ	**Waiomatatini S**	**3.06**	**67**	P	Pn	04 44 23.0	-0.5
THZ	**Tophouse**	**3.08**	**208**	P	Pn	04 44 22.4	-2.0
MXZ	**Matakaoa Point**	**3.10**	**62**	P	Pn	04 44 23.9	-0.6
KHZ	**Kahutara**	**3.50**	**196**	P	Pn	04 44 27.3	-1.7
DSZ	**Denniston Nort**	**3.55**	**220**	P	Pn	04 44 27.3	-2.5
GVZ	**Greta Valley S**	**4.14**	**199**	P	Pn	04 44 34.4	-2.4
LTZ	**Lake Taylor**	**4.20**	**207**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.66**	**264**	P	**Pn**	**04 52 18.2**	**+0.5**
OFUJ				S	**Sb**	**04 52 26.7**	**+0.5**
MIYJ	**Miyakonagasawa**	**0.68**	**309**	P	**Pn**	**04 52 18.5**	**+0.4**
MIYJ				S	**Sn**	**04 52 27.9**	**+0.2**
JKMT	**Kesennumamotoy**	**0.88**	**247**	P	**Pn**	**04 52 21.0**	**+0.3**
JKMT				S	**Sb**	**04 52 31.7**	**-0.7**
JTH	**Tanohata**	**0.93**	**328**	P	**Pb**	**04 52 22.4**	**+0.4**
JTH				S	**Sn**	**04 52 34.5**	**+0.7**
JOM	**Ohasama**	**0.99**	**289**	P	**Pb**	**04 52 23.0**	**-0.1**
JOM				S	**Sb**	**04 52 35.1**	**-0.7**
JMK	**Ichinoseki**	**1.02**	**259**	P	**Pb**	**04 52 23.2**	**-0.3**
JMK				*e*S	**Sb**	**04 52 35.6**	**-1.0**
JIO	**Ouri**	**1.14**	**233**	P	**Pn**	**04 52 24.7**	**+0.3**
JIO				S	**Sn**	**04 52 38.2**	**-0.8**
JKZ	**Kuzumaki**	**1.23**	**313**	P	**Pb**	**04 52 26.7**	**-0.4**
JKZ				*e*S	**Sn**	**04 52 41.9**	**+0.5**
JANG	**Nango**	**1.44**	**328**	P	**Pn**	**04 52 29.2**	**+0.7**
JRG	**Rokugo**	**1.47**	**280**	P	**Pn**	**04 52 29.7**	**+0.7**
JOU	**Okura**	**1.64**	**242**	P	**Pn**	**04 52 31.9**	**+0.6**
JOU				S	**Sn**	**04 52 52.2**	**+0.8**
JYK	**Kaneyama**	**1.69**	**263**	P	**Pn**	**04 52 32.8**	**+0.9**
MAT	**Matsushiro**	**4.29**	**234**	P	**Pn**	**04 53 10.1**	**+2.4**
MAT				*e*S	**Sn**	**04 53 57.3**	**+0.6**
MJAR	**Matsushiro Arr**	**4.29**	**234**	P	**Pn**	**04 53 10.2**	**+2.5**
	0.3nm,0.3s,baz=40,slow=11,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**28.58**	**126**	T	T	05 28 22.6	
	baz=318,slow=76,SNR=94						
H11N1	**WAKE ISLAND Hy**	**28.59**	**126**	T	T	05 28 27.8	
	baz=318,slow=76,SNR=80						
H11N3	**WAKE ISLAND Hy**	**28.60**	**126**	T	T	05 28 28.5	
	baz=318,slow=76,SNR=78						
H11S1	**WAKE ISLAND Hy**	**29.38**	**128**	T	T	05 29 24.7	
	baz=319,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.38**	**128**	T	T	05 29 27.4	
	baz=319,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**29.39**	**128**	T	T	05 29 30.2	
	baz=319,slow=76,SNR=26						
MKAR	**Makanchi Array**	**43.76**	**300**	P	**P**	**05 00 06.7**	**-0.5**
	0.5nm,0.7s,baz=87,slow=8.7,SNR=3.7						
ILAR	**Eielson Array**	**47.25**	**33**	P	**P**	**05 00 34.0**	**-0.4**
	0.4nm,0.7s,baz=270,slow=6.3,SNR=5.5						
WRA	**Warramunga Arr**	**59.28**	**189**	P	**P**	**05 02 02.1**	**-1.2**
	0.6nm,0.6s,baz=6.9,slow=6.9,SNR=7.7						
PDAR	**Pinedale Array**	**75.57**	**46**	P	**P**	**05 03 47.0**	**+0.5**
	0.5nm,0.9s,baz=338,slow=2.1,SNR=2.0						

*IDC **26** 05:04:38.9±0.6, 15°.32S×173°.86W, h0km, mb4.2/9, mb1 4.5/12, mb1mx4.3/29, mbtmp4.3/12, ML4.2/3, MS4.3/1, Ms1 4.4/1, ms1mx3.3/29, Error ellipse: s-maj=28.8km s-min=14.7km az=139.0*
*NEIC **26** 05:04:43.9±1.0, 15°.44S±0°.08×173°.74W±0°.03, h36km±8km, mb4.7/25, Error ellipse: s-maj=12.1km s-min=3.9km az=169.0*

ISC 26 05:04:43.6±0.5, 15°.43S±0°.07×173°.72W±0°.07, h35km, n62, σ0§83/56, mb4.6/22, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**51**	Pn	**Pn**	**05 05 21.3**	**+0.6**
	408nm,0.3s,baz=153,slow=4.5,SNR=166						
AFI				LR	LR	05 05 38.1	
	comp=Z,143nm,20.6s,baz=221,slow=24						
AFI				Sn	**Sn**	**05 05 45.5**	**-3.6**
	991nm,0.3s,baz=217,slow=20,SNR=33						
AFI	**Afiamalu**	**2.41**	**51**		**Pn**	**05 05 21.4**	**+0.7**
AFI				Sn	**Sn**	**05 05 49.2**	**+0.1**
NIUE	**Niue**	**5.12**	**136**	Pn	**Pn**	**05 05 58.5**	**+0.6**
MSVF	**Nonsavu**	**8.22**	**253**	Pn	**Pn**	**05 06 40.9**	**+0.4**
KNTN	**Kanton**	**12.73**	**9**	Pn	**Pn**	**05 07 42.6**	**+0.3**
RAR	**Rarotonga**	**14.43**	**116**	Pn	**Pn**	**05 08 05.1**	**-0.4**
	6.0nm,0.3s,baz=274,slow=4.9,SNR=6.8						
RAR				Sn	Sn	05 10 31.3	-13
	2.0nm,0.3s,baz=6.7,slow=17,SNR=2.5						
RAR	**Rarotonga**	**14.43**	**116**	Pn	**Pn**	**05 08 04.8**	**-0.6**
DZM	**Mont Dzumac**	**19.90**	**248**	P	**P**	**05 09 10.1**	**-2.3**
	0.2nm,0.3s,baz=78,slow=19,SNR=3.5						
DZM	**Mont Dzumac**	**19.90**	**248**	Pn	**Pn**	**05 09 14.1**	**-0.1**
OUZ	**Omahuta**	**22.75**	**208**	P	**P**	**05 09 43.5**	**+0.6**
URZ	**Urewera**	**24.14**	**198**	P	**P**	**05 09 57.9**	**+1.6**
	9.9nm,0.5s,baz=4.2,slow=6.8,SNR=11						
URZ	**Urewera**	**24.14**	**198**	P	**P**	**05 09 56.6**	**+0.3**
URZ				IAmb	IAmb	05 10 08.8	
	comp=Z,37nm,1.4s						
BKZ	**Black Stump Fm**	**25.16**	**198**	P	**P**	**05 10 05.7**	**0.0**
BKZ				IAmb	IAmb	05 10 12.9	
	comp=Z,24nm,1.3s						
QRZ	**Quartz Range**	**27.98**	**203**	P	**P**	**05 10 30.8**	**-0.2**
NNZ	**Nelson**	**28.02**	**201**	P	**P**	**05 10 31.4**	**0.0**
THZ	**Tophouse**	**28.67**	**201**	P	**P**	**05 10 37.7**	**+0.4**
THZ				IAmb	IAmb	05 10 41.5	
	comp=Z,29nm,1.3s						
KHZ	**Kahutara**	**29.04**	**200**	P	**P**	**05 10 40.5**	**0.0**
KHZ				IAmb	IAmb	05 10 41.1	
	comp=Z,19nm,1.1s						
LTZ	**Lake Taylor**	**29.79**	**201**	P	**P**	**05 10 46.4**	**-0.7**
MQZ	**McQueen's Vall**	**30.48**	**200**	P	**P**	**05 10 54.0**	**+0.8**
MQZ				IAmb	IAmb	05 10 57.3	
	comp=Z,26nm,1.3s						
MLZ	**Mavora Lakes**	**33.54**	**203**	P	**P**	**05 11 19.4**	**-0.6**
MLZ				IAmb	IAmb	05 11 35.8	
	comp=Z,42nm,1.5s						
DCZ	**Deep Cove**	**33.99**	**204**	P	**P**	**05 11 23.8**	**-0.2**
DCZ				IAmb	IAmb	05 11 33.3	
	comp=Z,17nm,1.1s						
WHZ	**Wether Hill Ro**	**34.04**	**203**	P	**P**	**05 11 24.3**	**-0.1**
WHZ				IAmb	IAmb	05 11 46.6	
	comp=Z,23nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**38.83**	**330**	T	T	05 53 07.5	
	baz=146,slow=75,SNR=93						
H11S3	**WAKE ISLAND Hy**	**38.85**	**330**	T	T	05 53 00.1	
	baz=146,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**38.85**	**330**	T	T	05 53 08.7	
	baz=146,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**39.79**	**331**	T	T	05 55 10.5	
	baz=145						
H11N1	**WAKE ISLAND Hy**	**39.79**	**331**	T	T	05 55 40.9	
	baz=145,SNR=12						
H11N2	**WAKE ISLAND Hy**	**39.81**	**331**	T	T	05 54 58.4	
	baz=145,SNR=2.3						
TOO	**Toolangi**	**42.21**	**231**	P	**P**	**05 12 32.7**	**-0.7**
TOO				IAmb	IAmb	05 12 37.1	
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**43.76**	**240**	P	**P**	**05 12 45.8**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=80,slow=8.7,SNR=7.5						
STKA	**Stephens Creek**	**43.76**	**240**	P	**P**	**05 12 45.7**	**-0.2**
BBOO	**Buckleboo**	**48.53**	**240**	P	**P**	**05 13 23.7**	**+0.2**
WR0	**Warramunga Arr**	**49.35**	**257**	P	**P**	**05 13 29.8**	**-0.2**
WR0				IAmb	IAmb	05 13 40.5	
	comp=Z,7.2nm,1.4s						
WB0	**Warramunga Arr**	**49.50**	**257**	P	**P**	**05 13 31.2**	**+0.1**
WB0				IAmb	IAmb	05 13 34.5	
	comp=Z,3.5nm,0.7s						
WB2	**Warramunga Arr**	**49.53**	**257**	P	**P**	**05 13 31.0**	**-0.4**
WB2				IAmb	IAmb	05 13 31.4	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**49.54**	**257**	P	**P**	**05 13 30.7**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=91,slow=6.8,SNR=23						
WRA				PcP	**PcP**	**05 14 52.9**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=86,slow=4.6,SNR=2.3						
WRA	**Warramunga Arr**	**49.54**	**257**	P	**P**	**05 13 30.8**	**-0.6**
AS31	**Alice Springs**	**49.81**	**252**	P	**P**	**05 13 33.6**	**+0.1**
ASAR	**Alice Springs**	**49.81**	**252**	P	**P**	**05 13 33.4**	**-0.1**
	comp=Z,9.7nm,0.7s,baz=85,slow=8.1,SNR=102						
ASAR	**Alice Springs**	**49.81**	**252**	P	**P**	**05 13 32.6**	**-0.8**
FORT	**Forrest**	**55.13**	**243**	P	**P**	**05 14 12.1**	**-0.7**
VNDA	**Vanda**	**63.31**	**186**	P	**P**	**05 15 09.9**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=7.7,slow=5.8,SNR=19						
VNDA	**Vanda**	**63.31**	**186**	P	**P**	**05 15 09.2**	**+0.6**
NVAR	**Mina Array Bea**	**74.56**	**42**	P	**P**	**05 16 20.8**	**+1.4**
	comp=Z,2.5nm,0.7s,baz=227,slow=9.8,SNR=14						
NVAR				LR	LR	05 41 22.6	
	comp=Z,199nm,20.0s,baz=348,slow=30						
QSPA	**South Pole Qui**	**74.61**	**180**	P	**P**	**05 16 19.7**	**+0.6**
QSPA				IAmb	IAmb	05 16 20.9	
	comp=Z,6.0nm,0.9s						
MOD	**Modoc Plateau**	**75.34**	**38**	P	**P**	**05 16 24.0**	**+0.3**
NJ2	**Nanjing**	**79.94**	**307**	*e*P	**P**	**05 16 50.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
TXAR	**Lajitas Array**	**80.89**	**56**	P	**P**	**05 16 55.4**	**+0.7**
	comp=Z,1.0nm,1.0s,baz=220,slow=6.0,SNR=6.9						
TXAR	**Lajitas Array**	**80.89**	**56**	P	**P**	**05 16 55.5**	**+0.9**
PDAR	**Pinedale Array**	**82.49**	**42**	P	**P**	**05 17 02.9**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=188,slow=2.5,SNR=9.0						
PDAR	**Pinedale Array**	**82.49**	**42**	P	**P**	**05 17 03.4**	**+0.3**
ILAR	**Eielson Array**	**82.54**	**11**	P	**P**	**05 17 02.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=234,slow=6.2,SNR=14						
ILAR	**Eielson Array**	**82.54**	**11**	P	**P**	**05 17 01.9**	**-0.5**
IMAR	**Indian Mountai**	**82.55**	**8**	P	**P**	**05 17 02.2**	**-0.2**
H03S2	**Juan Fernandez**	**85.44**	**124**	T	T	06 51 25.5	
	baz=255						
H03S1	**Juan Fernandez**	**85.45**	**124**	T	T	06 51 24.7	
	baz=255,SNR=2.6						
H03S3	**Juan Fernandez**	**85.46**	**124**	T	T	06 50 58.9	
	baz=255						
HHC	**Hu-ho-hao-te**	**88.82**	**313**	*e*P	**P**	**05 17 34.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,8.8s						
SYO	**Syowa Base**	**92.51**	**191**	*e*P	**P**	**05 17 49.6**	**-1.2**
VNA2	**Neumayr--Watz**	**93.34**	**176**	P	**P**	**05 17 54.7**	**0.0**
	baz=187,slow=2.7						
BRTR	**Keskin Array B**	**145.99**	**321**	PKPbc	**PKPab**	**05 24 20.8**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=94,slow=2.7,SNR=11						
GERES	**GERESS Array B**	**146.13**	**351**	PKPbc	**PKPab**	**05 24 20.8**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=35,slow=3.6,SNR=3.6						

*SKO **26** 05:13:47.3, 42°.64N×23°.23E, h25km*

BEO 26 05:14:01.5±0.5, 41°.90N×22°.75E, h0km, ML1.4/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.47**	**245**	*i* Pg	Pg	05 14 07.9	-2.6
STIP				*i* Sg	Sg	05 14 14.3	-2.3
VAY	**Valandovo**	**0.59**	**194**	*e*Pg	Pg	05 14 13.1	+0.3
VAY				*e*Sg	Sg	05 14 19.4	-1.0
VAY	**Valandovo**	**0.59**	**194**	*i* Pg	Pg	05 14 13.2	+0.4
VAY				*i* Sg	Sg	05 14 21.7	+1.3
VAY				*e*Lg	Lg	05 14 22.0	
	comp=E,9.5nm,0.3s						
VAY				*e*Lg	Lg	05 14 22.4	
	comp=N,11nm,0.4s						
BOSS	**Bosilegrad**	**0.63**	**341**	*e*Pg	Pg	05 14 12.6	-1.1
BOSS				*e*Sg	Sg	05 14 21.8	-0.1
BARS	**Barje**	**1.15**	**323**	*e*Pg	Pg	05 14 23.0	-0.6
BARS				*e*Sg	Sg	05 14 39.0	+0.4
ZAPS	**Zavoj**	**1.38**	**356**	*e*Pg	Pg	05 14 26.6	-1.4
ZAPS				*e*Sg	Sg	05 14 45.9	0.0
SELS	**Selova**	**1.79**	**318**	*e*Pg	Pn	05 14 32.8	-0.9
SELS				*e*Sg	Sn	05 14 57.5	+0.3

*IDC **26** 05:15:56.2±0.8, 7°.39S×156°.19E, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/33, mbtmp4.0/13, ML4.0/1, Error ellipse: s-maj=24.9km s-min=18.0km az=76.0*
*NEIC **26** 05:15:57.6±1.5, 7°.38S±0°.07×156°.11E±0°.08, h10km±1km, mb4.6/12, Error ellipse: s-maj=14.6km s-min=11.4km az=243.0*

ISC 26 05:16:02.2±0.5, 7°.39S±0°.09×156°.10E±0°.07, h44km, n41, σ1§21/39, mb4.3/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.32**	**118**	Pn	**Pn**	**05 17 05.6**	**+0.3**
	16nm,0.3s,baz=332,slow=8.0,SNR=2.0						
HNR				Sn	**Sn**	**05 17 58.9**	**+4.4**
	6.9nm,0.3s,baz=268,slow=17,SNR=1.5						
HNR	**Honiara**	**4.32**	**118**		**Pn**	**05 17 03.5**	**-1.9**
HNR					**Sn**	**05 17 53.7**	**-0.8**
RABL	**Rabaul**	**5.04**	**309**	Pn	**Pn**	**05 17 13.9**	**-1.4**
KRVT	**Keravat (AS076**	**5.08**	**307**	Pn	**Pn**	**05 17 14.8**	**-1.0**
	5.5nm,0.3s,baz=127,slow=20,SNR=1.9						
KRVT				Lg	Lg	05 18 39.3	
	11nm,0.3s,baz=342,slow=6.3,SNR=5.6						
SANVU	**Saraoutou**	**13.51**	**127**	Pn	**Pn**	**05 19 09.1**	**-2.3**
CTA	**Charters Tower**	**15.82**	**216**	Pn	**P**	**05 19 44.1**	**-1.1**
	0.4nm,0.3s,baz=40,slow=17,SNR=4.5						
CTAO	**Charters Tower**	**15.82**	**216**		**Pn**	**05 19 43.0**	**+1.0**
WR0	**Warramunga Arr**	**24.35**	**237**	P	**P**	**05 21 15.2**	**-1.0**
WB0	**Warramunga Arr**	**24.38**	**238**	P	**P**	**05 21 17.3**	**+0.8**
WB0				IAmb	IAmb	05 21 27.2	
	comp=Z,24nm,1.1s						
WRAB	**Tennant Creek**	**24.49**	**237**	P	**P**	**05 21 17.4**	**-0.2**
WRAB				IAmb	IAmb	05 21 28.2	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**24.50**	**237**	P	**P**	**05 21 19.1**	**+1.5**
WB2				IAmb	IAmb	05 21 28.3	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**24.51**	**237**	P	**P**	**05 21 18.9**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=63,slow=9.4,SNR=15						
WRA				PcP	**PcP**	**05 24 56.2**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=65,slow=2.6,SNR=4.6						
WRA	**Warramunga Arr**	**24.51**	**237**	P	**P**	**05 21 18.2**	**+0.6**
ASAR	**Alice Springs**	**26.75**	**230**	P	**P**	**05 21 38.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=65,slow=9.5,SNR=5.1						
ASAR				PcP	**PcP**	**05 25 01.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=88,slow=3.0,SNR=2.2						
ASAR	**Alice Springs**	**26.75**	**230**	P	**P**	**05 21 37.8**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**27.76**	**22**	T	T	05 50 04.0	
	baz=202						
H11S2	**WAKE ISLAND Hy**	**27.77**	**22**	T	T	05 50 15.2	
	baz=202						
H11S1	**WAKE ISLAND Hy**	**27.78**	**22**	T	T	05 50 08.1	
	baz=202						
STKA	**Stephens Creek**	**27.86**	**207**	P	**P**	**05 21 48.5**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=19,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**27.86**	**207**	P	**P**	**05 21 47.0**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**28.96**	**21**	T	T	05 51 32.0	
	baz=202,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**28.97**	**21**	T	T	05 51 34.1	
	baz=202,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**28.97**	**21**	T	T	05 51 48.1	
	baz=202,slow=76,SNR=7.1						
FITZ	**Fitzroy Crossi**	**31.50**	**247**	P	**P**	**05 22 20.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=18,slow=6.4,SNR=1.6						
FITZ	**Fitzroy Crossi**	**31.50**	**247**	P	**P**	**05 22 20.1**	**-0.1**
FITZ				IAmb	IAmb	05 22 31.8	
	comp=Z,6.9nm,1.1s						
LUWI	**Luwuk**	**33.81**	**279**	P	**P**	**05 22 39.7**	**-0.7**
KSRS	**Korea Array**	**51.80**	**331**	P	**P**	**05 25 07.0**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=142,slow=6.2,SNR=2.3						
CMAR	**Chiang Mai Arr**	**61.94**	**295**	P	**P**	**05 26 19.1**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=19,slow=4.4,SNR=1.3						
CMAR	**Chiang Mai Arr**	**61.94**	**295**	P	**P**	**05 26 18.2**	**+0.2**
ULN	**Ulaanbaatar**	**69.92**	**327**	P	**P**	**05 27 09.1**	**+0.2**
ULN				IAmb	IAmb	05 27 24.6	
	comp=Z,6.7nm,1.2s						
VNDA	**Vanda**	**70.16**	**179**	P	**P**	**05 27 10.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=340,slow=2.8,SNR=2.5						
SONM	**Songino Array**	**70.26**	**327**	P	**P**	**05 27 12.3**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=141,slow=7.0,SNR=5.7						
SONM	**Songino Array**	**70.26**	**327**	P	**P**	**05 27 11.2**	**+0.2**
GLI	**Glacier Island**	**81.13**	**24**	P	**P**	**05 28 11.4**	**-1.4**
GLI				IAmb	IAmb	05 28 26.5	
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**83.34**	**21**	P	**P**	**05 28 24.6**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=234,slow=4.7,SNR=2.3						
MKAR	**Makanchi Array**	**84.42**	**318**	P	**P**	**05 28 31.3**	**+1.1**
	comp=Z,8.1nm,0.7s,baz=102,slow=5.9,SNR=59						
MAW	**Mawson**	**84.45**	**203**	P	**P**	**05 28 30.5**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=95,slow=2.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**85.12**	**326**	P	**P**	**05 28 33.5**	**+0.1**
	comp=Z,4.4nm,0.6s,baz=112,slow=5.3,SNR=14						
ESDC	**Sonseca Array**	**143.21**	**334**	PKhKP	PKPpre	05 35 28.9	
	comp=Z,0.6nm,0.6s,baz=29,slow=2.3,SNR=4.4						
BDFB	**Brasilia**	**146.92**	**134**	PKP	**PKPdf**	**05 35 38.3**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=165,slow=5.2,SNR=4.5						
BDFB				PKPbc	**PKPbc**	**05 35 41.0**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=135,slow=8.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**154.18**	**285**	PKPbc	**PKPbc**	**05 35 58.2**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=104,slow=2.7,SNR=2.7						

*MOS **26** 05:31:25.7±0.6, 41°.62N×143°.20E, h49km, mb4.5/1, Error ellipse: s-maj=28.7km s-min=12.4km az=62.8*
*IDC **26** 05:31:26.2±13.0, 42°.50N×142°.99E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/33, mbtmp3.6/5, Error ellipse: s-maj=343.5km s-min=37.4km az=168.0*
*SKHL **26** 05:31:31.5±0.1, 42°.19N×143°.00E, h57km±2km, mb4.4/3*
*JMA **26** 05:31:33.2±0.1, 42°.35N×143°.11E, h50km±1km, M3.6*
JMA Felt I J1.

ISC 26 05:31:32.5±0.9, 42°.31N±0°.07×143°.10E±0°.04, h55km±7km, n28, σ1§15/33, mb3.5/5, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.15**	**97**	⇑P	**Pn**	**05 31 41.2**	**+0.1**
JTHR				*e*S	**Sn**	**05 31 47.2**	**0.0**
JNBK	**Urakawa-nobuka**	**0.26**	**264**	⇓P	**Pn**	**05 31 42.0**	**+0.3**
JNBK				*e*S	**Sn**	**05 31 49.3**	**+1.0**
JEM	**Erimo**	**0.30**	**171**	⇑P	**Pn**	**05 31 42.8**	**+0.8**
JCH	**Churui**	**0.36**	**33**	⇑P	**Pn**	**05 31 42.3**	**-0.3**
JCH				*e*S	**Sn**	**05 31 49.6**	**-0.3**
JSHD	**Hidakashinhida**	**0.48**	**282**	⇓P	**Pn**	**05 31 44.5**	**+0.7**
JBT2	**Biratori 2**	**0.71**	**311**	⇓P	**Pn**	**05 31 47.2**	**+0.6**
JOB	**Onbets**	**0.81**	**42**	⇑P	**Pn**	**05 31 48.4**	**+0.6**
JOB				*e*S	**Sn**	**05 32 00.0**	**+1.0**
JFR	**Furan**	**0.93**	**337**	P	**Pn**	**05 31 48.9**	**-0.5**
JFR				*e*S	**Sn**	**05 32 00.6**	**-1.3**
JAR	**Ashorobuto**	**1.10**	**26**	P	**Pn**	**05 31 51.6**	**-0.1**
JAR				*e*S	**Sn**	**05 32 05.4**	**-0.6**
JEW	**Eniwo**	**1.33**	**294**	P	**Pn**	**05 31 55.9**	**+1.2**
JAB	**Ashibetsu**	**1.35**	**332**	P	**Pn**	**05 31 56.1**	**+1.0**
JAK	**Akkeshi**	**1.37**	**59**	P	**Pn**	**05 31 55.0**	**-0.2**
NMR	**Nemuro--Hokkai**	**2.21**	**60**	*e*P	**Pn**	**05 32 05.6**	**-1.1**
NMR				*i* S	**Sn**	**05 32 31.2**	**-1.6**
GLVR	**Golovnino**	**2.28**	**50**	*e*P	**Pn**	**05 32 08.4**	**+0.7**
GLVR				*i* S	**Sn**	**05 32 35.7**	**+1.1**
GLVR				pmax	pmax		
	comp=N,50nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,107nm,0.1s						
GLVR				smax	smax		
	comp=N,870nm,0.2s						
GLVR				smax	smax		
	comp=E,490nm,0.2s						
RUSJ	**Misakicho**	**2.39**	**41**	*e*P	**Pn**	**05 32 10.9**	**+1.8**
RUSJ				*i* S	**Sn**	**05 32 40.8**	**+3.6**
GRPR	**Tuman**	**2.58**	**48**	*e*P	**Pn**	**05 32 12.1**	**+0.3**
GRPR				*i* S	**Sn**	**05 32 42.6**	**+0.6**
GRPR				pmax	pmax		
	comp=Z,33nm,0.1s						
GRPR				smax	smax		
	comp=N,233nm,0.2s						
GRPR				smax	smax		
	comp=E,253nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.66**	**49**	P	**Pn**	**05 32 13.9**	**+1.1**
YUK				S	**Sn**	**05 32 45.8**	**+2.0**
YUK				pmax	pmax		
	comp=N,28nm,0.1s						
YUK				pmax	pmax		
	comp=Z,136nm,0.1s						
YUK				smax	smax		
	comp=N,198nm,0.2s						
YUK				smax	smax		
	comp=E,404nm,0.2s						
SONM	**Songino Array**	**26.33**	**295**	P	**P**	**05 37 02.3**	**-0.9**
	comp=E,0.4nm,0.4s,baz=79,slow=7.5,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**30.19**	**131**	T	T	06 09 11.4	
	baz=324,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	06 09 10.8	
	baz=324,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	06 09 11.9	
	baz=324,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**31.06**	**133**	T	T	06 10 14.4	
	baz=325,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**31.07**	**133**	T	T	06 10 14.4	
	baz=325,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**31.08**	**133**	T	T	06 10 21.5	
	baz=325,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**39.51**	**308**	P	**P**	**05 38 57.3**	**-0.2**
	comp=E,0.7nm,0.3s,baz=99,slow=6.3,SNR=1.9						
MKAR	**Makanchi Array**	**42.62**	**298**	P	**P**	**05 39 23.0**	**-0.2**
	comp=E,0.6nm,0.6s,baz=88,slow=7.6,SNR=4.2						
ILAR	**Eielson Array**	**44.39**	**35**	P	**P**	**05 39 37.5**	**+0.3**
	comp=E,0.2nm,0.6s,baz=266,slow=5.3,SNR=2.4						
FINES	**FINESS Array B**	**64.77**	**332**	P	**P**	**05 42 03.8**	**-1.0**
	comp=E,0.5nm,0.4s,baz=42,slow=6.5,SNR=1.1						

*ANF **26** 05:46:23.9±0.4, 37°.62N×118°.92W, h4km±2km, ML3.4

VOG			S	Sb	05 47 07.7	-1.1
	baz=18					
MCUB	Copperopolis B	1.43 283		Pn	05 46 50.8	0.0
SPG2	Springville 2	1.46 177		Pn	05 46 51.1	0.0
GNO	Genoa	1.49 329		Pg	05 46 52.9	0.0
KVN	Kaiserville	1.51 23		Pb	05 46 52.5	-0.4
PNTR	Pine Nut	1.54 338		Pn	05 46 53.0	+0.5
MNHB	New Hogan Dam	1.62 288		Pn	05 46 53.9	+0.6
RUBR	Rubicon Trail	1.72 324		Pn	05 46 54.2	-0.8
VCNR	Virginia City	1.75 339		Pb	05 46 56.9	-0.1
BRMM	Rolling Bench	1.77 243		Pb	05 46 57.1	0.0
TAHR	Tahoe	1.81 326		Pb	05 46 58.4	+0.5
VES	Vestal, Richgr	1.82 186	Pb	Pb	05 46 57.4	-0.7
	baz=5.8					
VES			Sb	Sb	05 47 21.2	+0.2
	baz=5.8					
VES	Vestal, Richgr	1.82 186		Pb	05 46 57.8	-0.2
BMSM	Mercy Hot Spri	1.84 238		Pb	05 46 58.2	-0.2
PARM	Anticline Ridg	1.84 221		Pb	05 46 58.2	-0.2
MPK	Martis Peak	1.88 331		Pg	05 46 59.9	-0.5
WCHM	Chimney Peak	1.88 160		Pb	05 46 58.8	-0.4
PKEM	Kettleman Hill	1.88 213		Pb	05 46 58.9	-0.2
AASM	Arroyo Seco	1.94 294		Pb	05 46 59.5	-0.4
MPMC	Manual Prospec	1.94 145	Pb	Pb	05 47 00.1	0.0
	baz=326					
MPMC			Sb	Sg	05 47 26.1	-0.6
	baz=326					
SFJWR	San Luis Fatjo	1.94 252		Pb	05 46 59.5	-0.5
FURC	Furnace Creek,	1.99 126	Pb	Pb	05 47 01.4	+0.5
	baz=308					
FURC			Sg	Sg	05 47 30.5	+2.2
	baz=308					
BAVM	Antelope Valle	2.01 240		Pb	05 47 00.3	-0.8
HPCM	Pacheco Lake	2.02 253		Pb	05 47 00.5	-0.8
ISA	Isabella, Lake	2.02 171	Pb	Pb	05 47 01.0	-0.3
	baz=352					
ISA			Sb	Sb	05 47 27.6	+0.9
	baz=352					
ISA	Isabella, Lake	2.02 171	Pn	Pb	05 47 01.1	-0.3
VPK	Verdi Peak	2.04 333		Pg	05 47 02.9	-0.5
BEMM	Emmet	2.04 242		Pb	05 47 01.4	-0.5
BBGB	Big Mountain B	2.05 239		Pb	05 47 01.5	-0.5
PAHR	Pah Rah Range	2.09 349		Pn	05 46 59.2	-0.7
IND	Independence	2.10 328		Pb	05 47 03.5	+0.6
AFDM	Forest Hills D	2.10 308		Pn	05 47 00.1	0.0
HJSM	John Smith Roa	2.12 247		Pb	05 47 02.3	-0.8
PMPB	Monarch Peak	2.12 228		Pn	05 46 59.9	-0.3
WOFM	Oak Flat	2.12 177		Pb	05 47 02.8	-0.4
KBF	Kyburz Flat	2.13 331		Pb	05 47 04.3	+1.0
PEAR	Peavine Mounta	2.13 336		Pb	05 47 03.7	+0.3
BHRM	Hodges Ranch	2.13 245		Pb	05 47 03.1	-0.2
HFEM	San Felipe	2.13 252		Pb	05 47 03.0	-0.4
GHS	Gilroy Hot Spr	2.13 256		Pb	05 47 02.4	-1.0
PHPM	Hope Ranch	2.18 220		Pn	05 47 02.6	+1.4
TPNV	Topopah Spring	2.20 108	P	Pn	05 47 01.8	+0.3
	baz=290,SNR=77					
TPNV			Sb	Sg	05 47 35.2	+0.2
	baz=290					
TPNV	Topopah Spring	2.20 108	Pn	Pn	05 47 00.3	-1.2
PAGB	Antelope Grade	2.22 211		Pn	05 47 00.9	-0.7
LRC	Lone Oak Road	2.25 232		Pb	05 47 04.1	-1.1
SAO	San Andreas Ge	2.25 247		Pn	05 47 02.9	+0.8
LOY	Loyalton	2.27 332		Pb	05 47 06.7	+1.0
BJCM	Johnson Can.	2.31 242		Pn	05 47 04.5	+1.7
LRMC	Laurel Mtn Rad	2.37 156	Sb	Sg	05 47 39.1	-1.5
	baz=337					
WVA	Winnemucca Val	2.40 342		Pb	05 47 08.3	+0.2
PCCM	Crazy Canyon	2.42 230		Pn	05 47 06.4	+2.0
AMC	Almaden	2.43 259		Pn	05 47 00.4	-4.1
SMMC	Simmler	2.51 202	Pb	Pn	05 47 07.7	+2.0
	baz=21					
SMMC			Sb	Sb	05 47 41.2	+0.3
	baz=21					
ARVC	Arvin	2.53 179	Pb	Pb	05 47 09.5	-0.5
	baz=360					
ARVC			Sb	Sb	05 47 42.1	+0.8
	baz=360					
R11A	Troy Canyon, C	2.68 74	P	Pn	05 47 08.6	+0.5
	baz=256,SNR=70					
R11A			Sb	Sg	05 47 49.1	-1.3
	baz=256					
R11A	Troy Canyon, C	2.68 74		Pn	05 47 08.5	+0.5
BMRR	Black Mountain	2.69 336		Pb	05 47 11.9	-1.0
ORV	Oroville	2.80 313		Pn	05 47 10.2	+0.5
EDW2	Edwards Air Fo	2.86 166	Pb	Pb	05 47 15.9	+0.2
	baz=346					
EDW2			Sb	Sb	05 47 52.9	+1.9
	baz=346					
PKM	Mcpherson Peak	2.87 196	Pb	Pb	05 47 14.5	-1.5
	baz=15					
PKM			Sb	Sb	05 47 50.7	-0.6
	baz=15					
GSC	Goldstone, Bar	2.88 144		Pn	05 47 11.6	+0.9
OSI	Osito Audit: C	3.04 178	Sb	Sb	05 47 56.8	+0.7
	baz=358					
OSI	Osito Audit: C	3.04 178	Pn	Pn	05 47 13.1	+0.1
PRN	Pahroc Range	3.04 94		Pn	05 47 12.9	-0.1
SHPR	Sheep Range	3.17 110	Pn	Pn	05 47 13.9	-1.0
GDXM	Geysers	3.30 292		Pn	05 47 15.7	-0.9
MWC	Mount Wilson	3.49 169		Pn	05 47 18.5	-0.7
PSUT	Pine Spring	4.04 76		Pn	05 47 26.1	-0.8
WDC	Whiskeytown Da	4.09 317		Pn	05 47 27.0	-0.3
ELK	Elko	4.17 41	Pn	Pn	05 47 28.3	-0.4
CCUT	Cedar City	4.37 90		Pn	05 47 30.4	-1.0
MOD	Modoc Plateau	4.38 346		Pn	05 47 31.0	-0.5
LCMT	Little Creek M	4.52 96		Pn	05 47 32.2	-1.2
SZCU	Shurtz Canyon	4.58 89		Pn	05 47 33.5	-0.8
KNB	Kanab	4.86 96		Pn	05 47 37.6	-0.4

*TIR **26** 06:05:33.2, 40°.97N×20°.70E, h6km±2km, Md2.6*
*ATH **26** 06:05:33.9, 40°.98N×20°.76E, h17km±3km, ML2.5/6, Error ellipse: s-maj=4.3km s-min=1.5km az=150.0*
*THE **26** 06:05:34.2, 40°.96N×20°.71E, h0km±1km, ML2.4/7, Error ellipse: s-maj=1.9km s-min=0.5km az=267.0*
*BEO **26** 06:05:35.3±0.3, 40°.95N×20°.71E, h1km±2km, ML2.4/10*
*SKO **26** 06:05:35.0, 41°.03N×20°.85E, h16km*

ISC 26 06:05:34.5±0.9,**40°.95N**±0°.02×**20°.72E**±0°.02,**h9**km±8km, **n50**,σ0**s94**/87,**1C,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.17**	**211**	*i* Pg	**Pg**	**06 05 38.4**	**+0.2**
OHR				*i* Sg	**Sg**	**06 05 42.1**	**+1.5**
OHR				*e*Lg	Lg	06 05 42.5	
	comp=N,554nm,0.3s						
OHR				*e*Lg	Lg	06 05 42.5	
	comp=E,1μm,0.5s						
FNA	**Florina**	**0.53**	**109**	P	**Pg**	**06 05 44.5**	**-0.2**
FNA				S	**Sg**	**06 05 52.6**	**+0.9**
	comp=E,1μm,0.3s						
FNA	**Florina**	**0.53**	**109**	*e*Pg	**Pg**	**06 05 44.6**	**-0.2**
FNA				*e*Sg	**Sb**	**06 05 52.8**	**-0.9**
FNA	**Florina**	**0.53**	**109**	P	**Pg**	**06 05 44.6**	**-0.2**
FNA				S	**Sg**	**06 05 51.5**	**-0.2**
FNA				AML	AML	06 05 54.9	
	comp=E,1906μm,0.4s						
FNA				AML	AML	06 05 57.2	
	comp=N,2156μm,0.4s						
FNA	**Florina**	**0.53**	**109**	P	**Pg**	**06 05 44.6**	**-0.1**
	baz=110						
FNA				S	**Sg**	**06 05 52.7**	**+0.9**
	baz=110						
NEST	**Nestorio**	**0.59**	**155**	P	**Pg**	**06 05 45.2**	**-0.8**
NEST				S	**Sb**	**06 05 54.7**	**-0.9**
	comp=N,352nm,0.4s						
NEST	**Nestorio**	**0.59**	**155**	P	**Pg**	**06 05 45.4**	**-0.7**
NEST				S	**Sg**	**06 05 53.6**	**-0.3**
NEST				AML	AML	06 05 56.4	
	comp=E,803μm,0.2s						
NEST				AML	AML	06 05 56.7	
	comp=N,760μm,0.4s						
TIR	**Tirane**	**0.75**	**302**	P	**Pg**	**06 05 48.4**	**-0.6**
TIR	**Tirane**	**0.75**	**302**	*e*Pg	**Pg**	**06 05 48.2**	**-0.8**
TIR				*e*Sg	**Sg**	**06 05 57.8**	**-1.1**
TIR	**Tirane**	**0.75**	**302**	P	**Pg**	**06 05 47.8**	**-1.3**
	baz=301						
TIR				S	**Sb**	**06 05 59.8**	**-0.4**
	baz=301						
PHP	**Peshkopia**	**0.76**	**344**	P	**Pg**	**06 05 48.1**	**-1.1**
PHP				S	**Sg**	**06 05 59.5**	**+0.4**
PHP	**Peshkopia**	**0.76**	**344**	P	**Pg**	**06 05 47.7**	**-1.5**
	baz=345						
PHP				S	**Sg**	**06 05 58.9**	**-0.2**
	baz=345						
LSK	**Leskovik**	**0.81**	**186**	P	**Pg**	**06 05 49.6**	**-0.5**
LSK				S	**Sb**	**06 06 01.6**	**-0.2**
	comp=N,368nm,0.7s						
LSK	**Leskovik**	**0.81**	**186**	P	**Pg**	**06 05 49.6**	**-0.4**
	baz=186						
LSK				S	**Sb**	**06 06 01.7**	**-0.1**
	baz=186						
PENT	**Pentalofos**	**0.82**	**157**	P	**Pg**	**06 05 49.7**	**-0.6**
PENT				S	**Sb**	**06 06 02.6**	**+0.4**
	comp=N,208nm,0.6s						
PENT	**Pentalofos**	**0.82**	**157**	P	**Pg**	**06 05 49.7**	**-0.6**
PENT				S	**Sb**	**06 06 01.8**	**-0.4**
PENT				AML	AML	06 06 06.3	
	comp=N,403μm,0.4s						
PENT				AML	AML	06 06 06.4	
	comp=E,439μm,0.9s						
KZN	**Kozani**	**1.03**	**129**	P	**Pg**	**06 05 53.5**	**-0.8**
KZN				S	**Sn**	**06 06 09.1**	**-0.6**
	comp=E,265nm,0.4s						
KZN	**Kozani**	**1.03**	**129**	P	**Pg**	**06 05 53.3**	**-1.0**
KZN				S	**Sb**	**06 06 08.2**	**0.0**
KZN				AML	AML	06 06 13.3	
	comp=N,600μm,0.5s						
KZN				AML	AML	06 06 14.4	
	comp=E,452μm,0.6s						
KPRO	**Kipourio**	**1.11**	**153**	P	**Pg**	**06 05 54.8**	**-1.1**
KPRO				S	**Sn**	**06 06 12.0**	**+0.2**
	comp=E,210nm,0.4s						
KPRO	**Kipourio**	**1.11**	**153**	P	**Pg**	**06 05 54.7**	**-1.1**
KPRO				S	**Sb**	**06 06 10.6**	**0.0**
KPRO				AML	AML	06 06 18.1	
	comp=E,437μm,0.4s						
KPRO				AML	AML	06 06 20.8	
	comp=N,392μm,0.4s						
SKO	**Skopje**	**1.15**	**28**	*e*Pg	**Pn**	**06 05 57.8**	**+1.0**
SKO				*e*Sg	**Sn**	**06 06 12.7**	**0.0**
SKO	**Skopje**	**1.15**	**28**	*i* Pg	**Pb**	**06 05 55.1**	**-1.5**
SKO				*i* Sg	**Sb**	**06 06 12.1**	**+0.4**
KTI	**Kastanea**	**1.20**	**117**	P	**Pb**	**06 05 56.5**	**-1.0**
SRN	**Sarande**	**1.20**	**207**	P	**Pg**	**06 05 57.9**	**+0.3**
	baz=207						
SRN				S	**Sn**	**06 06 15.3**	**+1.4**
	baz=207						
PUK	**Puka**	**1.25**	**331**	P	**Pn**	**06 05 57.2**	**-1.0**
	baz=331						
PUK				S	**Sn**	**06 06 15.6**	**+0.3**
	baz=331						
STIP	**Stip**	**1.33**	**56**	*i* Pg	**Pg**	**06 06 01.9**	**+1.8**
KEK	**Kerkira**	**1.42**	**210**	P	**Pg**	**06 06 01.9**	**+0.1**
VAY	**Valandovo**	**1.45**	**75**	*e*Pg	**Pn**	**06 06 00.3**	**-0.5**
VAY				*e*Sg	**Sb**	**06 06 20.2**	**+0.1**
VAY	**Valandovo**	**1.45**	**75**	*i* Pg	**Pn**	**06 06 00.6**	**-0.3**
VAY				*i* Sg	**Sg**	**06 06 21.7**	**+0.6**
VAY				*e*Lg	Lg	06 06 21.7	
	comp=N,18nm,0.5s						
VAY				*e*Lg	Lg	06 06 22.5	
	comp=E,18nm,0.5s						
IGT	**Igoumenitsa**	**1.45**	**192**	*e*Pg	**Pb**	**06 06 01.8**	**+0.2**
IGT				*e*Sg	**Sg**	**06 06 22.0**	**+0.9**
IGT	**Igoumenitsa**	**1.45**	**192**	P	**Pn**	**06 06 01.3**	**+0.4**
IGT				S	**Sg**	**06 06 22.9**	**+1.8**
IGT				AML	AML	06 06 26.4	
	comp=E,230μm,0.7s						
IGT				AML	AML	06 06 26.8	
	comp=N,235μm,0.6s						
BCI	**Bajram Curri**	**1.49**	**341**	P	**Pn**	**06 06 02.1**	**+0.6**
	baz=342						
BCI				S	**Sg**	**06 06 22.9**	**+0.4**
	baz=342						
LIT	**Litokhoron**	**1.60**	**122**	P	**Pn**	**06 06 03.3**	**+0.3**
KNT	**Kendrikon**	**1.66**	**82**	P	**Pn**	**06 06 04.4**	**+0.6**
KNT				S	**Sg**	**06 06 27.5**	**-0.4**
	comp=N,42nm,0.6s						
KNT	**Kendrikon**	**1.66**	**82**	P	**Pn**	**06 06 04.1**	**+0.3**
THL	**Klokotos Trika**	**1.71**	**144**	P	**Pn**	**06 06 04.6**	**+0.2**
PDG	**Podgorica**	**1.84**	**324**	*e*Pn	**Pb**	**06 06 07.4**	**-0.8**
PDG				*e*Sg	**Sg**	**06 06 33.8**	**+0.3**
BOSS	**Bosilegrad**	**2.03**	**40**	*e*Pn	**Pn**	**06 06 09.5**	**+0.6**
BOSS				*e*Sg	**Sg**	**06 06 40.8**	**+1.1**
BARS	**Barje**	**2.03**	**23**	*e*Pn	**Pn**	**06 06 09.7**	**+0.8**
SELS	**Selova**	**2.28**	**7**	*e*Pn	**Pn**	**06 06 13.9**	**+1.5**
SJES	**Sjenica**	**2.37**	**347**	*e*Pn	**Pn**	**06 06 15.4**	**+1.7**
SJES				*e*Sg	**Sg**	**06 06 50.2**	**-0.5**
ZAPS	**Zavoj**	**2.72**	**31**	*e*Pn	**Pn**	**06 06 18.9**	**+0.5**
BBLS	**Lazići**	**3.07**	**342**	*e*Pn	**Pn**	**06 06 25.5**	**+2.3**
ZAGS	**Zajecar**	**3.07**	**21**	*e*Pn	**Pb**	**06 06 27.1**	**-2.2**
DIVS	**Divibare**	**3.19**	**351**	*e*Pn	**Pn**	**06 06 26.8**	**+1.9**
LSTV	**Lastovo**	**3.38**	**304**	*e*Pn	**Pn**	**06 06 27.7**	**+0.2**
LSTV				Sn	**Sn**	**06 07 07.5**	**-0.2**
RICI	**Ricice**	**3.68**	**315**	*e*Pn	**Pn**	**06 06 32.9**	**+1.4**
RICI				Sn	**Sn**	**06 07 17.2**	**+2.2**
KJIV	**Kijevo**	**4.41**	**315**	*e*Pn	**Pn**	**06 06 43.0**	**+1.4**
KJIV				Sn	**Sn**	**06 07 34.3**	**+1.2**
MORI	**Morici**	**4.71**	**310**	*e*Pn	**Pn**	**06 06 47.3**	**+1.6**
MORI				Sn	**Sn**	**06 07 40.8**	**+0.3**
DUGI	**Dugi Otok**	**5.17**	**308**	*e*Pn	**Pn**	**06 06 52.5**	**+0.5**
DUGI				Sn	**Sn**	**06 07 51.2**	**-0.6**

ROM 26 06:06:40.4±0.4,**41°.25N**±0°.01×**14°.66E**±0°.02,**h20**km±2km, **Md1.7**/4,**ML1.9**/4,**Error ellipse: s-maj=1.8km s-min=1.0km az=72.0,hypocenter,Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VITU	**Vitulano (BN)**	**0.07**	**196**	P	Pg	06 06 44.1	0.0
VITU				S	Sg	06 06 46.9	+0.3
VITU				AML	AML		
	comp=N,1084μm,0.3s						
VITU				AML	AML		
	comp=E,461μm,0.5s						
VITU				AML	AML		
	comp=E,910μm,0.4s						
VITU				AML	AML		
	comp=N,1163μm,0.3s						
VITU				END			
VITU				END			
PSB1	**Pescosannita**	**0.12**	**104**	P	Pg	06 06 44.3	-0.2
PSB1				S	Sg	06 06 47.5	+0.2
PSB1				AML	AML		
	comp=N,714μm,0.3s						
PSB1				AML	AML		
	comp=E,466μm,0.9s						
PSB1				AML	AML		
	comp=N,712μm,0.3s						
PSB1				AML	AML		
	comp=E,467μm,0.9s						
PSB1				END			
PSB1				END			
SACR	**S. Croce Del S**	**0.15**	**15**	P	Pg	06 06 44.4	-0.5
SACR				S	Sg	06 06 49.1	+1.1
SACR				AML	AML		
	comp=N,410μm,1.3s						
SACR				AML	AML		
	comp=N,440μm,1.3s						
SACR				AML	AML		
	comp=E,2740μm,1.6s						
SACR				AML	AML		
	comp=E,449μm,0.2s						
SACR				END			
PAOL	**Paolisi**	**0.23**	**197**	P	Pg	06 06 46.4	+0.4
MRB1	**Monte Rocchett**	**0.27**	**118**	P	Pg	06 06 46.6	0.0
MRB1				S	Sg	06 06 52.1	+1.2
BSSO	**Busso**	**0.30**	**351**	P	Pb	06 06 46.8	-0.2
BSSO				S	Sg	06 06 52.8	+1.1
BSSO				AML	AML		
	comp=N,59μm,0.3s						
BSSO				AML	AML		
	comp=E,82μm,0.7s						
BSSO				END			

*TEH **26** 06:40:43.2, 35°.45N×54°.51E, h9km, ML3.5*
*THR **26** 06:40:44.1±0.3, 35°.41N×54°.52E, h14km±5km, ML3.6*

ISC 26 06:40:45.6±1.0,**35°.48N**±0°.05×**54°.47E**±0°.03,**h10**km,**n41**, σ1**s14**/42,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**0.46**	**269**	*e*Pg	**Pg**	**06 40 53.5**	**-1.1**
ISHM	**Shahmirzad**	**1.02**	**289**	*e*		06 41 21.3	
ISHM				*e*Pg	**Pg**	**06 41 03.4**	**-1.8**
IGLO	**Ghaloghah**	**1.15**	**333**	*e*		06 41 30.2	
IGLO				*e*Pg	**Pb**	**06 41 05.5**	**-2.2**
ILAS	**Lasjerd**	**1.24**	**266**	*e*		06 41 32.6	
ILAS				*e*Pg	**Pn**	**06 41 08.1**	**-1.1**
IFIR	**Firoozkooh**	**1.41**	**277**	*e*Pg	**Pn**	**06 41 10.6**	**-1.0**
IFIR				*e*		06 41 37.5	
IALA	**Alasht**	**1.48**	**295**	*e*Pg	**Pn**	**06 41 12.1**	**-0.5**
IALA				*e*		06 41 35.4	
IPRN	**Peran**	**1.89**	**294**	*e*Pn	**Pn**	**06 41 18.7**	**+0.5**
IMND	**Minoodasht**	**1.93**	**23**	*e*Pn	**Pn**	**06 41 17.5**	**-1.0**
IDMV	**Damavand**	**1.99**	**274**	*e*Pn	**Pn**	**06 41 20.2**	**+0.6**
IDMV				*e*		06 41 55.8	
DAMV	**Damavand**	**2.04**	**275**	*e*Pn	**Pn**	**06 41 21.0**	**+0.7**
DAMV				*e*Sg	**Sn**	**06 41 49.9**	**+3.9**
DAMV	**Damavand**	**2.04**	**275**	*e*Pn	**Pn**	**06 41 21.0**	**+0.7**
IVRN	**Varamin**	**2.30**	**259**	*e*Pn	**Pn**	**06 41 24.4**	**+0.8**
IVRN				*e*		06 42 01.6	
TNSJ	**Nastanj**	**2.32**	**130**	*e*Pn	**Pn**	**06 41 22.5**	**-1.5**
ANAR	**Anarak**	**2.36**	**195**	*e*Pn	**Pn**	**06 41 23.6**	**-1.0**
KRSH	**Karshahi**	**2.44**	**233**	*e*Pn	**Pn**	**06 41 25.6**	**-0.1**
KRSH				*e*		06 42 15.9	
SBZV	**Sabzevar**	**2.71**	**69**	*e*Pn	**Pn**	**06 41 28.3**	**-1.1**
CHTH	**Charan**	**2.76**	**280**	*e*Pn	**Pn**	**06 41 30.9**	**+0.8**
CHTH	**Charan**	**2.76**	**280**	*e*Pn	**Pn**	**06 41 30.9**	**+0.8**
TABS	**Tabas**	**2.84**	**129**	*e*Pn	**Pn**	**06 41 30.1**	**-1.1**
TABS	**Tabas**	**2.84**	**129**	*e*Pn	**Pn**	**06 41 30.1**	**-1.1**
IQOM	**Qom**	**2.86**	**258**	*e*Pn	**Pn**	**06 41 31.6**	**+0.1**
TKDS	**Koohdasht(Taba**	**2.87**	**130**	*e*Pn	**Pn**	**06 41 30.3**	**-1.3**
TKDS				*e*		06 42 26.5	
THKV	**Tehran--Karaj**	**2.96**	**280**	*e*Pn	**Pn**	**06 41 33.4**	**+0.6**
THKV				IAML		06 42 24.1	
	comp=N,158nm,0.7s						
THKV	**Tehran--Karaj**	**2.96**	**280**	*e*Pn	**Pn**	**06 41 33.4**	**+0.6**
QAM	**Ghamsar**	**3.03**	**236**	*e*Pn	**Pn**	**06 41 33.2**	**-0.6**
TPRV	**Parvadeh(Tabas**	**3.05**	**142**	*e*Pn	**Pn**	**06 41 33.2**	**-0.9**
IZEF	**Zefreh**	**3.13**	**215**	*e*Pn	**Pn**	**06 41 34.7**	**-0.5**
BJRD	**Bojnurd**	**3.24**	**46**	*e*Pn	**Pn**	**06 41 37.0**	**+0.3**
BJRD	**Bojnurd**	**3.24**	**46**	*e*Pn	**Pn**	**06 41 37.0**	**+0.3**
ISFR	**Sfrayin**	**3.26**	**60**	*e*Pn	**Pn**	**06 41 36.9**	**-0.1**
ISFR				*e*		06 42 38.0	
IKRD	**Kardeh**	**3.52**	**67**	*e*Pn	**Pb**	**06 41 50.9**	**+2.7**
IAKL	**Akhelmad**	**3.65**	**71**	*e*Pn	**Pn**	**06 41 41.6**	**-0.8**
IRAZ	**Razeghan**	**3.71**	**270**	*e*Pn	**Pn**	**06 41 43.0**	**-0.2**
ASAO	**Ashtian**	**3.77**	**257**	*e*Pn	**Pn**	**06 41 44.4**	**+0.4**
ASAO	**Ashtian**	**3.77**	**257**	*e*Pn	**Pn**	**06 41 44.4**	**+0.4**
IPAY	**Payeh**	**3.80**	**74**	*e*Pn	**Pn**	**06 41 43.7**	**-0.7**
QABG	**Abgarm-Qazvin**	**3.99**	**275**	*e*Pn	**Pn**	**06 41 46.7**	**-0.4**
IRAM	**Ramesheh**	**4.05**	**206**	*e*Pn	**Pn**	**06 41 48.3**	**+0.4**
IPIR	**Pirpir**	**4.07**	**228**	*e*Pn	**Pn**	**06 41 48.2**	**0.0**
AFRZ	**Afriz**	**4.28**	**117**	*e*Pn	**Pn**	**06 41 50.6**	**-0.3**
IMYA	**Miami**	**4.65**	**78**	*e*Pn	**Pn**	**06 41 56.1**	**0.0**

JMA 26 06:55:09.9±0.1,**24°.58N**×**123°.64E,h62**km±1km,**M2.1, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.26**	**161**	P	Pn	06 55 19.9	0.0
IRIF				*e*S	Sn	06 55 27.5	+0.3
JKRS	**Kuro-shima**	**0.48**	**135**	P	Pn	06 55 22.1	+0.3
JKRS				S	Sn	06 55 30.6	+0.1
JIJ	**Ishigaki jima**	**0.51**	**115**	P	Pn	06 55 22.0	-0.1
JIJ				S	Sn	06 55 30.9	-0.1
HATJ	**Hateruma jima**	**0.54**	**164**	P	Pn	06 55 22.4	-0.1
HATJ				S	Sn	06 55 32.0	+0.4
YOJ	**Yonaguni jima**	**0.58**	**259**	P	Pn	06 55 23.0	+0.1
YOJ				S	Sn	06 55 32.2	-0.2
JISG	**Ishigakijimahi**	**0.61**	**89**	P	Pn	06 55 23.4	+0.2
JISG				S	Sn	06 55 33.3	+0.4
JYNG	**Yonagunijimaku**	**0.65**	**259**	P	Pn	06 55 23.7	+0.1
JYNG				*e*S	Sn	06 55 33.9	+0.2
JTJ	**Tarama**	**0.97**	**86**	P	Pn	06 55 28.1	+0.5
JTJ				S	Sn	06 55 41.1	+0.4
JIRB	**Irabujima**	**1.42**	**80**	P	Pn	06 55 34.1	+0.6
JIRB				*e*S	Sn	06 55 51.3	+0.1

TAP 26 06:56:07.5,24°.34N×121°.78E,h6km,**ML2.0,C,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.10**	**338**	*i* P	Pg	06 56 09.9	+0.3
	baz=342						
ENA				*e*S	Sg	06 56 11.6	+0.5
	baz=342						
ENAH	**Nanao**	**0.11**	**14**	P	Pg	06 56 10.1	+0.1
	baz=10.0						
ENAH				S	Sg	06 56 12.1	+0.5
	baz=10.0						
NACB	**Ninganchiao**	**0.24**	**226**	*i* P	Pg	06 56 12.3	+0.1
	baz=215						
NACB				S	Sg	06 56 15.9	+0.6
	baz=215						
TWC	**Suao**	**0.28**	**13**	P	Pg	06 56 13.3	+0.3
	baz=11						
TWC				*e*S	Sg	06 56 17.3	+0.7
	baz=11						
ETLH	**Xiulin Townshi**	**0.30**	**244**	*e*P	Pg	06 56 13.5	0.0
	baz=244						
ETLH				*e*S	Sg	06 56 18.4	+0.9
	baz=244						
ENTT	**Nioudou**	**0.36**	**327**	P	Pg	06 56 15.3	+0.8
	baz=328						
ENTT				*e*S	Sg	06 56 20.5	+1.3
	baz=328						
NDT	**Datong Townshi**	**0.36**	**317**	P	Pg	06 56 15.3	+0.8
	baz=317						
NDT				*e*S	Sg	06 56 20.7	+1.5
	baz=317						
NNSB	**Datong**	**0.37**	**284**	P	Pg	06 56 15.4	+0.6
	baz=284						
NNSB				S	Sg	06 56 20.4	+0.7
	baz=284						
NNSH	**Datong**	**0.37**	**284**	*e*P	Pg	06 56 15.1	+0.3
	baz=284						
NNSH				*e*S	Sg	06 56 20.4	+0.7
	baz=284						
NNS	**Nan Shan**	**0.38**	**285**	*e*S	Sg	06 56 20.9	+0.7
	baz=285						
YHNB	**Yeheng**	**0.49**	**312**	*e*P	Pg	06 56 17.7

OKSP	Okmok Steeple	1.33	325		Pn	07 02 46.8	-0.5
OKFG	Magazine Ridge	1.36	337		Pn	07 02 47.4	-0.1
OKFG					Sn	07 03 05.2	+0.9
NIKH	Nikolski High	1.38	306		Pn	07 02 47.6	-0.2
NIKH	Nikolski High	1.38	306		Sn	07 03 04.7	-0.1
MGOD	Makushin Gods	1.63	3		Pn	07 02 51.2	-0.1
MGOD					Sn	07 03 12.8	+1.7
MAPS	Pakushin South	1.64	2		Pn	07 02 51.6	+0.2
UNV	Unalaska Valle	1.71	10		Sn	07 03 13.6	+0.7
UNV	Unalaska Valle	1.71	10		Pn	07 02 51.9	-0.5
MSW	Makushin Switc	1.75	5		Pn	07 02 52.8	-0.3
AKUT	Akutan	2.10	20	Pn	Pn	07 02 57.2	-0.6
FALS	False Pass	3.44	37	Pn	Pn	07 03 16.7	+0.5
ATKA	Atka Island	4.42	273	Pn	Pn	07 03 28.2	-1.4
SDPT	Sand Point	5.02	48	Pn	Pn	07 03 37.4	-0.4
ADK	Adak	5.98	271	Pn	Pn	07 03 50.0	-0.9
KDAK	Kodiak Island	10.01	50	Pn	Pn	07 04 44.0	-2.2
	1.0nm,0.3s,baz=185,slow=4.3,SNR=30						
KDAK				Sn	Sn	07 06 30.1	-7.0
	0.1nm,0.3s,baz=38,slow=7.4,SNR=1.4						
ILAR	Eielson Array	16.33	32	Pn	Pn	07 06 09.4	-2.0
	0.1nm,0.3s,baz=225,slow=13,SNR=4.9						
INK	Inuvik	22.73	32	P	P	07 07 23.3	-0.3
	1.7nm,0.5s,baz=242,slow=8.8,SNR=16						
YKA	Yellowknife Ar	29.28	49	P	P	07 08 26.3	+2.6
	0.3nm,0.4s,baz=274,slow=8.0,SNR=4.1						
NVAR	Mina Array Bea	36.21	93	P	P	07 09 26.5	+1.9
	0.2nm,0.4s,baz=293,slow=12,SNR=2.1						
H11N2	WAKE ISLAND Hy	38.24	222	T	T	07 52 04.1	
	baz=24						
H11N3	WAKE ISLAND Hy	38.24	222	T	T	07 52 03.9	
	baz=24						
H11N1	WAKE ISLAND Hy	38.26	222	T	T	07 52 07.4	
	baz=24						
H11S1	WAKE ISLAND Hy	39.41	221	T	T	07 53 23.6	
	baz=23						
H11S2	WAKE ISLAND Hy	39.43	221	T	T	07 53 24.2	
	baz=23						
H11S3	WAKE ISLAND Hy	39.43	221	T	T	07 53 21.3	
	baz=23						
TXAR	Lajitas Array	51.30	91	P	P	07 11 26.6	+0.9
	0.3nm,0.7s,baz=310,slow=5.6,SNR=4.5						
ZALV	Zalesovo Beam	58.53	319	P	P	07 12 28.6	+11
	0.6nm,0.3s,baz=18,slow=6.2,SNR=1.7						

WEL 26 07:05:27.6±0.9, 34°S±16′×18°0W±2′6, h333km±15km, M4.3/17, mB4.6/3, MLv4.4/17, Mw(mB)3.8/3, Error ellipse: s-maj=0.0km s-min=0.0km az=119.5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.30	202	P	Pn	07 06 37.7	-1.0
MXZ				S	S	07 07 36.5	+0.5
WMGZ	Waiomatatini S	4.51	200	P	Pn	07 06 41.3	+0.3
WMGZ				S	S	07 07 39.8	-0.3
HAZ	Te Kaha	4.66	206	P	Pn	07 06 42.2	-0.3
HAZ				S	S	07 07 42.9	0.0
PUZ	Puketiti	4.79	200	P	Pn	07 06 44.6	+0.6
PUZ				S	S	07 07 45.8	+0.1
CNGZ	Carnagh Statio	5.19	199	P	Pn	07 06 49.3	+0.9
URZ	Urewera	5.35	208	P	Pn	07 06 49.9	-0.4
URZ				S	S	07 07 55.3	-1.8
RIGZ	Rimuhau	5.52	201	P	Pn	07 06 53.2	+0.9
RIGZ				S	S	07 08 00.6	-0.1
KNZ	Kokohu	5.84	201	P	Pn	07 06 56.3	+0.4
MHGZ	Mahia Peninsul	5.90	199	P	Pn	07 06 58.3	+1.7
MHGZ				S	S	07 08 09.4	+0.9
RAHZ	Arahi	5.94	205	P	Pn	07 06 57.3	+0.3
RAHZ				S	S	07 08 12.0	+2.6
MTHZ	Maungataniwha	5.97	207	P	Pn	07 06 57.6	+0.1
HIZ	Hauiti	6.62	220	P	Pn	07 07 07.9	+2.8
OTVZ	Oturere	6.72	213	P	Pn	07 07 07.0	+0.6
KAHZ	Kahuranaki	6.80	203	P	Pn	07 07 06.8	-0.3
KAHZ				S	S	07 08 30.3	+2.5
BHHZ	Black Hill Sta	6.83	209	P	Pn	07 07 07.4	0.0
BHHZ				S	S	07 08 30.1	+1.6
FWVZ	Far West T-bar	6.85	213	P	Pn	07 07 08.5	+0.5
TSZ	Takapari Road	7.36	207	P	Pn	07 07 13.5	-0.2
MRZ	Mangatainoka R	8.02	207	P	Pn	07 07 21.2	-0.4
MRZ				S	S	07 08 54.2	-0.3
HOWZ	Holdsworth Sta	8.25	206	P	Pn	07 07 24.1	-0.4
HOWZ				S	S	07 08 58.8	-0.8
OGWZ	Otaki Gorge	8.31	208	P	Pn	07 07 24.7	-0.4
OGWZ				S	S	07 09 03.0	+2.1
CAW	Cannon Point	8.60	208	P	Pn	07 07 28.2	-0.5
TCW	Tory Channel	9.01	211	P	Pn	07 07 32.8	-0.8
TUWZ	Tuamarina	9.33	211	P	Pn	07 07 35.2	-2.2
QRZ	Quartz Range	9.54	218	P	Pn	07 07 39.0	-0.9
THZ	Tophouse	10.06	214	P	Pn	07 07 46.2	-0.1

*IDC **26** 07:24:18.5±0.9, 54.°08S×136.°75W, h0km, mb3.8/7, mb1 4.1/7, mb1mx4.0/20, mbtmp3.8/7, MS4.1/15, Ms1 4.1/15, ms1mx4.0/23, Error ellipse: s-maj=35.3km s-min=24.2km az=155.0*

*NEIC **26** 07:24:19.4±1.0, 54.°4S±0.°2×136.°8W±0.°2, h10km±1km, mb4.6/15, Error ellipse: s-maj=27.3km s-min=20.9km az=338.0*

*GCMT **26** 07:24:24.4±0.3, 54.°63S±0.°02×136.°26W±0.°02, h14km±2km, MW4.9/87, Moment Tensor Solution. s21,c24; s87,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-0.24±.10; $M_{\theta\theta}$1.84±.13; $M_{\phi\phi}$-1.60±.10; $M_{r\theta}$-0.05±.21; $M_{\theta\phi}$1.72±.08; $M_{\phi r}$0.17±.18; Best double couple: $M_0$2.44000×10¹⁶ NP1:ϕ_s112.00000°, δ86.00000°, λ-3.00000°. NP2: ϕ_s203.00000°, δ87.00000°, λ-176.00000°. Principal axes: T 2.5530, Plg0.0000°, Azm337.0000°; N -0.2270, Plg85.0000°, Azm244.0000°; P -2.3280, Plg5.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 07:24:19.3±0.6, 54°2S±0.°1×136°9W±0.°1, h10km, n58, σ1§25/25, mb4.2/12, MS4.2/19, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	31.62	201	P	P	07 30 46.0	+4.2
	0.9nm,1.1s,baz=96,slow=1.4,SNR=4.2						
VNDA				LR	LR	07 40 11.6	
	comp=Z,204nm,22.0s,baz=86,slow=30						
VNDA	Vanda	31.62	201	P	P	07 30 40.5	-1.2
TBI	Tubuai	32.26	338	eLR	LR	07 39 09.7	
	comp=Z,1μm,28.2s,baz=153						
TBI	Tubuai	32.26	338	eT	T	08 04 48.1	
	51nm,0.3s						
RPN	Rapa Nui	33.78	48	P	P	07 31 01.8	+0.6
KHZ	Kahutara	34.33	269	P	P	07 31 06.7	+1.0
KHZ				IAmb	IAmb	07 31 28.8	
	comp=Z,34nm,1.4s						
ODZ	Otahua Downs	34.48	263	P	P	07 31 07.0	0.0
ODZ				IAmb	IAmb	07 31 19.6	
	comp=Z,36nm,1.4s						
WHZ	Wether Hill Ro	35.56	260	P	P	07 31 15.8	-0.5
QSPA	South Pole Qui	35.94	180	P	P	07 31 20.8	+1.3
	comp=Z,1.6nm,1.1s,baz=63,slow=16,SNR=6.2						
QSPA	South Pole Qui	35.94	180	P	P	07 31 18.3	-1.3
QSPA				IAmb	IAmb	07 31 39.1	
	comp=Z,7.9nm,1.4s						
TVO	Taravao	37.62	340	eT	T	08 11 31.3	
	comp=Z,2.1nm,0.3s						
TIAR	Tiarei	37.85	340	eT	T	08 11 48.0	
	comp=Z,1.8nm,0.2s						
PPT2	Papeete2	37.87	340	eS	S	07 37 23.9	-3.6
	comp=Z,77nm,26.2s						
PPT2				eLR	LR	07 41 58.2	
	comp=Z,986nm,25.8s,baz=176						
PPT	Papeete	37.89	340	LR	LR	07 43 43.3	
	comp=Z,322nm,19.6s,baz=146,slow=31						
H03S2	Juan Fernandez	44.92	87	T	T	08 20 17.9	
	baz=223,slow=74,SNR=50						
H03S1	Juan Fernandez	44.93	87	T	T	08 20 19.2	
	baz=223,slow=74,SNR=52						
H03S3	Juan Fernandez	44.94	87	T	T	08 20 18.5	
	baz=223,slow=74,SNR=44						
PLCA	Paso Flores	45.14	101	LR	LR	07 46 55.5	
	comp=Z,215nm,18.8s,baz=202,slow=30						
H03N3	Juan Fernandez	45.19	87	T	T	08 20 41.3	
	baz=226,slow=72						
H03N2	Juan Fernandez	45.20	87	T	T	08 20 41.5	
	baz=226,slow=72						
H03N1	Juan Fernandez	45.21	87	T	T	08 20 38.0	
	baz=226,slow=72						
TAOE	Nuku Hiva Isla	45.33	355	eLR	LR	07 45 18.8	
	comp=Z,556nm,25.3s						
SNAA	Sanae	50.30	163	P	P	07 33 14.1	-1.2
SNAA				IAmb	IAmb	07 33 31.5	
	comp=Z,4.6nm,1.4s						
DZM	Mont Dzumac	53.02	284	eLR	LR	07 49 25.0	
	comp=Z,246nm,22.3s						
MAW	Mawson	57.59	189	LR	LR	07 58 11.0	
	comp=Z,174nm,18.1s,baz=133,slow=35						
STKA	Stephens Creek	60.07	256	P	P	07 34 26.5	+0.2
	comp=Z,1.8nm,1.0s,baz=114,slow=10.0,SNR=2.2						
STKA				LR	LR	07 55 25.0	
	comp=Z,134nm,21.9s,baz=187,slow=31						
STKA	Stephens Creek	60.07	256	P	P	07 34 26.9	+0.6
STKA				IAmb	IAmb	07 34 43.0	
	comp=Z,3.4nm,1.5s						
LPAZ	La Paz	64.52	82	P	P	07 34 56.0	-1.0
	comp=Z,2.1nm,1.1s,baz=203,slow=6.4,SNR=4.8						
LPAZ	La Paz	64.52	82	P	P	07 34 57.2	+0.2
LPAZ				IAmb	IAmb	07 35 03.1	
	comp=Z,6.9nm,1.4s						
CTAO	Charters Tower	66.32	268	P	P	07 35 08.0	+0.1
CTAO				IAmb	IAmb	07 35 17.9	
	comp=Z,7.6nm,1.3s						
FORT	Forrest	68.44	247	P	P	07 35 21.5	+0.3
AS31	Alice Springs	70.71	256	P	P	07 35 36.5	+1.1
ASAR	Alice Springs	70.71	256	P	P	07 35 36.8	+1.4
	comp=Z,0.8nm,0.7s,baz=139,slow=6.8,SNR=6.0						
ASAR				LR	LR	08 02 38.8	
	comp=Z,188nm,19.4s,baz=156,slow=32						
ASAR	Alice Springs	70.71	256	P	P	07 35 36.0	+0.6
H01W1	Cape Leeuwin H	72.30	235	T	T	08 55 37.5	
	baz=144,slow=75,SNR=47						
H01W2	Cape Leeuwin H	72.31	235	T	T	08 55 37.7	
	baz=144,slow=75,SNR=57						
H01W3	Cape Leeuwin H	72.32	235	T	T	08 55 39.5	
	baz=144,slow=75,SNR=47						
SAML	Samuel	73.26	82	P	P	07 35 50.0	-0.7
WRA	Warramunga Arr	73.38	259	P	P	07 35 52.7	+1.3
	comp=Z,2.0nm,0.9s,baz=143,slow=5.2,SNR=10						
WRA				LR	LR	08 05 28.6	
	comp=Z,154nm,18.2s,baz=160,slow=34						
WRA	Warramunga Arr	73.38	259	P	P	07 35 53.0	+1.6
WRAB	Tennant Creek	73.38	259	P	P	07 35 50.9	-0.5
WRAB				IAmb	IAmb	07 35 58.2	
	comp=Z,7.5nm,0.9s						
ROSC	El Rosal	78.35	65	LR	LR	08 04 12.4	
	comp=Z,78nm,21.7s,baz=206,slow=31						
LPIG	La Paz	81.31	24	LR	LR	08 03 31.0	
	comp=Z,87nm,20.4s,baz=217,slow=29						
SDV	Santo Domingo	83.71	65	LR	LR	08 08 11.9	
	comp=Z,39nm,18.7s,baz=62,slow=32						
H11S2	WAKE ISLAND Hy	86.97	308	T	T	09 13 35.0	
	baz=148,slow=75,SNR=22						
H11S3	WAKE ISLAND Hy	86.98	308	T	T	09 13 35.7	
	baz=148,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	86.98	308	T	T	09 13 36.8	
	baz=148,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy	87.94	308	T	T	09 14 49.8	
	baz=135						
H11N1	WAKE ISLAND Hy	87.94	308	T	T	09 14 48.3	
	baz=135,SNR=3.8						
H11N2	WAKE ISLAND Hy	87.95	308	T	T	09 14 56.3	
	baz=135						
TXAR	Lajitas Array	88.03	29	P	P	07 37 11.1	+1.7
	comp=Z,0.4nm,0.9s,baz=163,slow=6.4,SNR=3.6						
PFO	Pinyon Flats O	89.25	17	LR	LR	08 08 44.0	
	comp=Z,128nm,19.8s,baz=208,slow=30						
NVAR	Mina Array Bea	93.67	15	LR	LR	08 11 40.7	
	comp=Z,108nm,18.4s,baz=197,slow=30						
GUMO	Guam	94.18	287	LR	LR	08 11 23.1	
	comp=Z,190nm,20.9s,baz=89,slow=30						
BOSA	Boshof	96.06	164	LR	LR	08 14 48.2	
	comp=Z,181nm,21.8s,baz=160,slow=32						
PDAR	Pinedale Array	99.41	20	LR	LR	08 14 16.0	
	comp=Z,87nm,20.2s,baz=178,slow=30						
TORD	Torodi Ar. Bea	127.71	125	PKP	PKiKP	07 43 26.0	+0.6
	comp=Z,1.0nm,1.0s,baz=198,slow=2.5,SNR=2.2						
ESDC	Sonseca Array	145.41	95	PKPbc	PKPab	07 43 57.1	+0.1
	comp=Z,1.5nm,0.9s,baz=221,slow=2.1,SNR=4.4						

NNC 26 07:39:57.7±10.0, 53°54N×89°82E, h16km±55km, mb3.6, mpv3.3, 9C-5D, Error ellipse: s-maj=63.7km s-min=55.3km az=69.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.00	280	⇑Pn	Pn	07 40 45.9	+1.4
	2.7nm,0.9s						
ZAA0				⇑Lg	Lg	07 41 35.3	
	16nm,0.8s						
KURK	Kurchatov	7.45	252	⇑Pn	Pn	07 41 43.7	-2.0
	4.3nm,1.0s						
KURK				⇑Sn	Sn	07 43 13.4	+3.6
	21nm,1.0s						
KURK				⇓Lg	Lg	07 43 56.5	
	28nm,0.8s						
KURBB	Kurchatov Arra	7.54	252	⇑Pn	Pn	07 41 45.1	-1.8
	8.5nm,1.0s						
KURBB				⇑Sn	Sn	07 43 13.0	+1.0
	51nm,0.8s						
KURBB				⇓Lg	Lg	07 43 58.7	
	98nm,1.1s						
MK31	Makanchi Array	8.30	219	⇑Pn	Pn	07 41 55.6	-1.8
	0.2nm,0.3s,baz=29,slow=12,SNR=36						
MK31				⇑Sn	Sn	07 43 33.3	+2.5
	5.4nm,1.0s,baz=48,slow=25,SNR=3.8						
MK31				⇓Lg	Lg	07 44 18.5	
	14nm,1.0s,baz=20,slow=28						
MAKZ	Makanchi	8.41	220	⇑Pn	Pn	07 41 55.6	-3.2
	1.4nm,0.7s						
MAKZ				⇓Sn	Sn	07 43 33.2	-0.2
	3.6nm,0.8s						
MAKZ				⇓Lg	Lg	07 44 26.3	
	12nm,1.1s						

*IDC **26** 07:51:17.8±0.6, 34.°24N×25.°12E, h0km, mb4.4/25, mb1 4.4/36, mb1mx4.3/56, mbtmp4.4/36, ML4.3/10, MS3.4/14, Ms1 3.4/14, ms1mx3.1/50, Error ellipse: s-maj=11.3km s-min=9.8km az=81.0*

*ISK **26** 07:51:18.2, 34.°11N×25.°09E, h7km, ML4.3/9*

*NIC **26** 07:51:18.4±0.0, 33.°81N×25.°05E, h15km±31km, Ml4.4/4*

*HLW **26** 07:51:19.3, 34.°42N×25.°08E, h10km±22km, Md3.5, Ml3.8*

*ATH **26** 07:51:19.7, 34.°19N×25.°03E, h22km±1km, ML3.9/10, Error ellipse: s-maj=3.2km s-min=1.3km az=357.0*

*NEIC **26** 07:51:19.8±1.3, 34.°16N±0.°06×25.°12E±0.°07, h14km±5km, Error ellipse: s-maj=9.4km s-min=7.6km az=49.0*

*MED_RC **26** 07:51:20.0±0.6, 34.°18N×25.°12E, h26km±1km, MW4.4/11, Moment Tensor Solution.Mantle waves: s11,c16; Duration: 1§0 Moment tensor: Scale 10¹⁵Nm; M_{rr}3.81±.87; $M_{\theta\theta}$-4.15±.50; $M_{\phi\phi}$0.34±.46; $M_{r\theta}$2.63±.45; $M_{\theta\phi}$-1.44±.49; $M_{\phi r}$-0.15±.51; Best double couple: $M_0$4.97000×10¹⁵ NP1:ϕ_s240.00000°, δ31.00000°, λ68.00000°. NP2:ϕ_s85.00000°, δ61.00000°, λ103.00000°. Principal axes: T 4.6800, Plg71.0000°, Azm24.0000°; N 0.5900, Plg11.0000°, Azm259.0000°; P -5.2600, Plg16.0000°, Azm166.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*MOS **26** 07:51:20.9±1.2, 34.°26N×25.°05E, h31km, mb4.8/19 Error ellipse: s-maj=8.3km s-min=4.5km az=71.0*

*THE **26** 07:51:20.5, 34.°24N×25.°04E, h0km±1km, ML3.9/7, Error ellipse: s-maj=2.2km s-min=0.6km az=166.0*

*GII **26** 07:51:27.2±0.0, 33.°90N×25.°90E, h10km, mb4.1/1, MD4.0/1*

*BEO **26** 07:52:00.0±0.9, 36.°78N×23.°98E, h15km, ML3.8/2*

ISC 26 07:51:19.8±0.9, 34°17N±0.°03×25°09E±0.°03, h14km±5km, n308, σ1§52/342, mb4.6/51, MS3.3/12, 12C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.88	345	P	Pg	07 51 35.9	-0.9
SIVA				S	Sb	07 51 48.9	+0.5
SIVA	Sivas	0.88	345	P	Pg	07 51 36.1	-0.7
SIVA				S	Sg	07 51 47.4	-0.9
SIVA				AML	AML	07 51 53.7	
	comp=N,58807μm,0.9s						
SIVA				AML	AML	07 51 55.0	
	comp=E,92547μm,0.7s						
TMBK	Timbaki Herakl	0.94	343	P	Pb	07 51 37.2	-0.7
TMBK				S	Sn	07 51 51.1	-0.7
	comp=E,7μm,0.9s						
FRMA	Ierapetra Chan	0.99	32	P	Pn	07 51 40.4	+1.1
LAST	Lasithi	1.04	18	P	Pb	07 51 39.1	-0.5
LAST				S	Sn	07 51 54.8	+0.4
	comp=E,5μm,1.1s						
LAST	Lasithi	1.04	18	P	Pb	07 51 39.2	-0.4
LAST				S	Sn	07 51 54.2	-0.2
LAST				AML	AML	07 51 59.9	
	comp=E,12440μm,1.1s						
LAST				AML	AML	07 52 04.6	
	comp=N,8783μm,1.1s						
GVD	Gavdhos	1.06	309	P	Pb	07 51 39.4	-0.7
GVD				S	Sg	07 51 54.3	0.0
	comp=N,15μm,0.3s						
GVD	Gavdhos	1.06	309	P	Pb	07 51 39.3	-0.8
GVD				S	Sb	07 51 53.2	-0.7
GVD				AML	AML	07 51 59.2	
	comp=E,35511μm,0.3s						
GVD				AML	AML	07 52 01.0	
	comp=N,22696μm,0.4s						
GVD	Gavdhos	1.06	309	PN	Pb	07 51 39.8	-0.3
GVD				SN	Sn	07 51 55.6	+0.6
GVDS	Gavdos	1.07	309	P	Pb	07 51 39.7	-0.4
GVDS				S	Sn	07 51 55.6	+0.6
	comp=N,8μm,0.4s						
GVDS	Gavdos	1.07	309	PN	Pb	07 51 39.9	-0.2
GVDS				SN	Sn	07 51 56.1	+1.1
IDI	Anoyia	1.12	351	Pg	Pb	07 51 39.5	-1.6
	comp=N,91nm,0.3s,baz=173,slow=16,SNR=211						
IDI				Lg	Lg	07 51 53.0	
	comp=N,406nm,0.3s,baz=162,slow=20,SNR=8.8						
IDI				LR	LR	07 52 08.4	
	comp=N,1μm,20.4s,baz=128,slow=47						
IDI	Anoyia	1.12	351	P	Pb	07 51 40.1	-1.0
IDI				S	Sg	07 51 56.1	-0.2
	comp=N,4μm,0.7s						
IDI	Anoyia	1.12	351	P	Pb	07 51 40.4	-0.7
IDI				S	Sb	07 51 55.7	0.0
IDI				AML	AML	07 52 01.6	
	comp=N,8231μm,0.7s						
IDI				AML	AML	07 52 05.2	
	comp=E,9403μm,0.5s						
IDI	Anoyia	1.12	351	PN	Pb	07 51 40.7	-0.4
IDI				SN	Sn	07 51 58.3	+1.7
IDI	Anoyia	1.12	351		Pb	07 51 41.0	-0.2
IDI				Sg	Sb	07 51 55.7	0.0
KSTL	Kastelli Herak	1.13	359	P	Pb	07 51 39.9	-1.2
KSTL				S	Sb	07 51 54.4	-1.3
IACM	Heraklion	1.13	359	P	Pn	07 51 41.1	-0.2
IACM				S	Sn	07 51 56.6	0.0
HRKL	Herakleio	1.14	0	PN	Pg	07 51 41.7	-0.1
NPS	Neapolis	1.17	21	P	Pn	07 51 41.3	-0.5
NPS	Neapolis	1.17	21	P	Pg	07 51 42.0	-0.3
NPS				AML	AML	07 52 08.4	
	comp=E,11477μm,0.8s						
NPS				AML	AML	07 52 14.1	
	comp=N,4779μm,0.8s						
PRNS	Prines Rethymn	1.29	338	P	Pn	07 51 43.4	0.0
STIA	Sitia Lasithi	1.31	38	P	Pg	07 51 44.7	-0.5
ZKR	Zakros	1.32	44	P	Pg	07 51 44.9	-0.4
ZKR	Zakros	1.32	44	P	Pg	07 51 44.9	-0.4
ZKR				S	Sg	07 52 04.6	+2.2
ZKR				AML	AML	07 52 15.7	
	comp=E,6763μm,1.1s						
ZKR				AML	AML	07 52 19.0	
	comp=N,3175μm,1.3s						
ZKR	Zakros	1.32	44	PN	Pb	07 51 44.5	+0.1
VAM	Vamos	1.44	329	P	Pn	07 51 45.5	+0.1
VAM	Vamos	1.44	329	P	Pn	07 51 45.3	-0.1
VAM				AML	AML	07 52 10.1	
	comp=E,8975μm,0.9s						
VAM				AML	AML	07 52 15.2	
	comp=N,8736μm,0.3s						
KNDR	Palaiochora Ch	1.57	313	PN	Pb	07 51 47.9	-0.8
IMMV	Iera Moni Meta	1.58	325	P	Pn	07 51 47.6	+0.2
IMMV				S	Sb	07 52 08.1	-0.5
	comp=N,5μm,0.7s						
IMMV	Iera Moni Meta	1.58	325	P	Pb	07 51 48.5	-0.3
IMMV				AML	AML	07 52 25.4	
	comp=E,11526μm,0.6s						
IMMV				AML	AML	07 52 26.0	
	comp=N,8164μm,0.9s						
IMMV	Iera Moni Meta	1.58	325	PN	Pb	07 51 48.0	-0.8
RODP	Rodopos	1.77	322	PN	Pn	07 51 50.6	+0.6
KARP	Karpathos	2.18	51	PN	Pn	07 51 56.5	+0.7
KARP	Karpathos	2.18	51	⇑P	Pb	07 51 58.8	-0.3
KARP				S	Sg	07 52 29.6	-0.5
KARP				AML	AML	07 52 49.0	
	comp=N,2.3nm,1.0s						
KARP				AML	AML	07 52 49.0	
	comp=N,2.3nm,1.0s						
KARP				AML	AML	07 52 49.2	
	comp=N,2.6nm,0.9s						
KARP				AML	AML	07 52 49.2	
	comp=N,2.6nm,0.9s						
KARP	Karpathos	2.18	51	Pn	Pn	07 51 56.1	+0.4
THR9	Santorini-Faro	2.19	6	P	Pn	07 51 57.3	+1.5
SAP1	Santorini-Akro	2.19	6	P	Pb	07 51 58.0	-1.3
SANT	Santorini	2.21	8	P	Pn	07 51 57.4	+1.2
SANT	Santorini	2.21	8	PN	Pn	07 51 57.4	+1.2
SANT	Santorini	2.21	8	Pn	Pn	07 51 57.7	+1.5
STAX	Taxiarchis Har	2.24	6	P	Pn	07 51 57.0	+0.5
ANKY	Antikythira Is	2.24	319	P	Pn	07 51 58.0	+1.5
THR3	Thira Island,	2.25	6	P	Pn	07 51 58.2	+1.6
ANAF	Anafi Island	2.25	14	P	Pn	07 51 58.0	+1.3
THR5	Thira Island,	2.25	5	P	Pn	07 51 57.9	+1.2
THR8	Santorini-Mono	2.25	8	P	Pn	07 51 57.7	+1.0
SAP3	Santorini-Thir	2.27	5	P	Pn	07 51 57.3	+0.4
IOSP	Ios island	2.55	4	P	Pn	07 52 01.6	+0.9
IOSP				S	Sn	07 52 32.5	+0.9
	comp=N,2μm,0.6s						
IOSP	Ios island	2.55	4	P	Pn	07 52 01.7	+0.9
IOSP				AML	AML	07 52 32.5	
	comp=N,4834μm,0.5s						
IOSP				AML	AML	07 52 33.4	
	comp=E,3867μm,0.7s						
MHLO	Agia Marina, M	2.57	348	P	Pn	07 52 01.8	+0.7
MHLO	Agia Marina, M	2.57	348	P	Pn	07 52 01.4	+0.3
MHLA	Plaka, Milos I	2.62	348	P	Pn	07 52 03.2	+1.4
KTHA	Kythira Island	2.66	322	P	Pn	07 52 03.8	+1.5
KTHA	Kythira Island	2.66	322	PN	Pn	07 52 03.4	+1.1
SLUM	Salum	2.67	178	P	Pn	07 52 04.0	+1.5
	baz=177						
SLUM	

AKMS AML AML 07 53 58.5
comp=E,0.7nm,0.8s
AKMS AML AML 07 54 01.2
comp=E,0.5nm,0.4s
NATA Nata 6.20 82 P Pn 07 52 51.3 +0.2
ALFC Alefka 6.26 79 P **Pn 07 52 51.9 +0.1**
ALFC AML AML 07 54 01.7
comp=E,0.4nm,0.7s
ALFC AML AML 07 54 07.0
comp=E,0.4nm,0.7s
SZAC Souni 6.46 83 P **Pn 07 52 54.9 +0.4**
SZAC AML AML 07 54 06.8
comp=E,0.7nm,1.1s
BOLV Bolvadin 6.54 44 Pn **Pn 07 52 56.5 +0.7**
IGT Igoumenitsa 6.57 326 *e*Pn **Pn 07 52 59.6 +3.6**
IGT *e*Sg **Sn 07 54 07.4 -3.4**
ASGA Asgata 6.76 83 P **Pn 07 52 59.7 +1.0**
CSS Mathiatis 6.84 81 Pn **Pn 07 53 00.6 +0.8**
CSS Mathiatis 6.84 81 ⇑P **Pn 07 53 00.1 +0.4**
CSS Mathiatis 6.84 81 Pn **Pn 07 52 60.0 +0.2**
CSS Sn **Sn 07 54 16.7 -0.7**
SRS Serrai 7.03 351 *e*Pn **Pn 07 53 06.7 +4.3**
MVOU Mavrovouni 7.09 81 ⇑P **Pn 07 53 03.9 +0.8**
KOT Kottamia 7.11 125 P **Pn 07 53 03.4 -0.1**
baz=126
FNA Florina 7.23 337 *e*Pn **Pn 07 53 06.7 +1.6**
FNA *e*Sg **Sn 07 54 21.3 -5.8**
FNA Florina 7.23 337 P **Pn 07 53 05.8 +0.6**
FNA Florina 7.23 337 Pn **Pn 07 53 05.8 +0.6**
GLL Jalalah 7.25 127 P **Pn 07 53 05.7 +0.2**
baz=128
MMB Musomiste 7.48 352 *e*P Pn 07 53 14.7 +6.1
HFRF Wahat Farafira 7.53 158 P **Pn 07 53 09.8 +0.6**
baz=158
KKB Krupnik 7.84 349 *e*P Pn 07 53 23.3 +10
SCTE Santa Cesarea 7.92 320 Pn **Pn 07 53 15.1 +0.7**
BR231 Keskin MP Arra 8.35 45 Pn **Pn 07 53 21.0 +0.4**
TIP Timpagrande 8.35 309 Pn 07 53 20.4 -0.2
ANTO Ankara 8.38 45 P **Pn 07 53 20.7 -0.2**
ANTO 07 54 56.2
ANTO Ankara 8.38 45 Pn **Pn 07 53 20.7 -0.2**
ANTO Sn **Sn 07 54 56.2 +0.9**
OFRI `Ofer 8.41 98 Pn **Pn 07 53 21.6 +0.2**
CEL Celeste 8.48 301 Pn **Pn 07 53 22.1 -0.2**
KZIT Kziot 8.50 110 Pn **Pn 07 53 22.6 0.0**
KZIT Sn **Sn 07 54 51.6 -6.7**
SLTI Sal'it 8.55 100 Pn **Pn 07 53 23.1 -0.2**
BOSS Bosilegrad 8.56 347 *e*Pn **Pn 07 53 24.3 +1.0**
AMAZ Amatzia 8.67 105 Pn **Pn 07 53 25.3 +0.4**
MMAI Mount Meron Ar 8.68 95 Pn **Pn 07 53 22.9 -2.2**
comp=E,3.5nm,0.3s,baz=274,slow=11,SNR=5.7
MMAI Sn **Sn 07 54 59.7 -3.0**
comp=E,2.6nm,0.3s,baz=315,slow=24,SNR=2.3
BR131 Keskin Array S 8.80 49 P **Pn 07 53 26.0 -0.8**
BR131 Keskin Array S 8.80 49 Pn **Pn 07 53 26.0 -0.8**
BRTR Keskin Array B 8.80 49 Pn **Pn 07 53 28.0 +1.2**
comp=E,0.2nm,0.3s,baz=231,slow=12,SNR=4.1
BRTR LR LR 07 57 50.0
comp=E,167nm,19.8s,baz=242,slow=45
BRTR Keskin Array B 8.80 49 Pn **Pn 07 53 25.1 -1.6**
MMLI Mount Malkishu 8.82 98 Pn **Pn 07 53 27.9 +1.0**
GEM Giv'at Ha'Em 8.86 93 Pn **Pn 07 53 26.8 -0.7**
GEM Sn **Sn 07 55 01.4 -5.7**
YTIR Yattir 8.89 106 Pn **Pn 07 53 27.9 -0.1**
YTIR Sn **Sn 07 55 02.7 -5.3**
HMDT Nahal Hemdat 8.95 99 Pn **Pn 07 53 29.1 +0.4**
HMDT Sn **Sn 07 55 03.4 -5.8**
BARS Barje 9.00 344 *e*Pn **Pn 07 53 31.2 +1.8**
DSI Dead Sea 9.03 104 Pn **Pn 07 53 28.9 -0.9**
KRMI Paran Flat 9.11 114 Pn **Pn 07 53 30.4 -0.5**
PRNI Paran 9.21 112 Pn **Pn 07 53 32.4 0.0**
PRNI Sn **Sn 07 55 10.2 -5.7**
RAFF Raffo Rosso 9.24 292 Pn 07 53 33.3 +0.6
GHAJ Ghor Haditha 9.27 105 Pn **Pn 07 53 33.7 +0.6**
VAE Valguarnera 9.28 294 Pn **Pn 07 53 34.6 +1.4**
comp=E,4.7nm,0.3s,baz=359,slow=12,SNR=2.0
VAE Sn **Sn 07 55 13.4 -4.1**
comp=E,5.6nm,0.3s,baz=61,slow=13,SNR=1.9
ZAPS Zavoj 9.29 349 *e*Pn **Pn 07 53 36.5 +3.2**
HRFI Mount Harif 9.39 113 Pn **Pn 07 53 34.6 -0.1**
MBRI Mt Berech 9.41 115 Pn **Pn 07 53 34.4 -0.7**
EIL Elat 9.50 116 Pn **Pn 07 53 35.7 -0.6**
comp=E,3.5nm,0.3s,baz=300,slow=13,SNR=28
EIL Sn **Sn 07 55 16.5 -6.4**
comp=E,0.9nm,0.3s,baz=40,slow=20,SNR=2.2
EIL Elat 9.50 116 Pn **Pn 07 53 35.7 -0.6**
SELS Selova 9.55 342 *e*Pn **Pn 07 53 37.3 +0.4**
ZAGS Zajecar 9.88 348 *e*Pn **Pn 07 53 43.2 +1.8**
SJES Sjenica 9.91 338 *e*Pn **Pn 07 53 43.0 +1.0**
ASF Jabal al Asfar 10.09 98 Pn **Pn 07 53 43.8 -0.6**
comp=E,0.4nm,0.3s,baz=232,slow=16,SNR=4.2
ASF Sn **Sn 07 55 31.7 -5.8**
comp=E,0.2nm,0.3s,baz=92,slow=16,SNR=2.0
CORL Corleone 10.24 295 Pn 07 53 47.0 +0.5
SGRT San Giovanni R 10.57 318 Pn **Pn 07 53 50.3 -0.6**
BBLS Lazići 10.64 337 *e*Pn **Pn 07 53 53.2 +1.3**
DIVS Divibare 10.67 340 *e*Pn **Pn 07 53 53.2 +0.9**
MLR Muntele Rosu 11.32 3 Pn **Pn 07 54 03.0 +1.7**
comp=E,0.3nm,0.3s,baz=159,slow=14,SNR=1.8
MLR Muntele Rosu 11.32 3 P **Pn 07 54 01.8 +0.5**
MLR Muntele Rosu 11.32 3 Pn 07 54 01.8 +0.5
NRCA Norcia 12.75 316 Pn **Pn 07 54 22.4 +1.7**
BURAR Bucovina Array 13.43 0 Pn **Pn 07 54 29.7 -0.3**
SOKA Soboth 14.64 332 *i* pP **P 07 54 56.1 +3.3**
comp=E,9.6nm,0.9s
SOC Sochi 14.74 46 *e*P Pn 07 54 38.2 -10
SOC *e*SS **Sn 07 57 37.6 +6.6**
SOC MLR MLR
comp=Z,150nm,14.0s
VYHS Vyhne 15.05 344 *e*P **P 07 54 58.6 +1.3**
STAL STALIGIAL 15.31 326 P **P 07 55 00.2 -0.1**
MODS Modra-Piesok 15.34 340 *e*P **P 07 55 05.6 +5.0**
ZOU Zoufplan 15.41 327 P **P 07 55 01.6 0.0**
ZOU IAmb IAmb 07 55 11.5
comp=Z,21nm,1.0s
CIMO Cimolais 15.48 325 P **P 07 55 01.8 -0.3**
CTI Castel Tesino 15.67 323 P **P 07 55 04.5 +0.1**
CTI pmax pmax
comp=Z,14nm,0.8s
CTI Castel Tesino 15.67 323 P **P 07 55 04.5 +0.1**
CTI IAmb IAmb 07 55 17.4
comp=Z,14nm,0.8s
ABTA Abfaltersbach 15.77 327 *i* P **P 07 55 06.4 +1.1**
comp=Z,7.3nm,0.5s
MOA Molln 15.90 332 *e*P **P 07 55 07.4 +0.6**
comp=Z,5.8nm,0.8s
AKH Akhalkalaki 16.22 58 P **P 07 55 10.2 -0.4**
AKH pmax pmax
comp=Z,35nm,1.5s
AKH Akhalkalaki 16.22 58 P **P 07 55 10.2 -0.4**
AKH IAmb IAmb 07 55 12.5
comp=Z,35nm,1.5s
VRAC Vranov 16.38 340 Pn **Pn 07 55 10.0 +0.7**
comp=Z,0.6nm,0.3s,baz=140,slow=11,SNR=3.1
VRAC LR LR 08 03 04.4
comp=Z,163nm,18.5s,baz=164,slow=43
WATA Walderalm 16.63 326 *i* P **P 07 55 18.2 +3.1**
comp=Z,21nm,1.0s
SQTA Sankt Quirin 16.72 325 *i* P **P 07 55 21.1 +5.1**
comp=Z,14nm,1.0s
FUORN Ofenpass-Fuorn 16.76 322 P **P 07 55 16.6 0.0**
FUORN IAmb IAmb 07 55 32.8
comp=Z,24nm,1.0s
KIV Kislovodsk 16.77 49 *e*P **P 07 55 16.3 -0.2**
KIV pmax pmax
comp=Z,88nm,1.1s
KIV MLR MLR
comp=Z,123nm,13.0s
KIV Kislovodsk 16.77 49 P **P 07 55 17.1 +0.7**
KIV IAmb IAmb 07 55 19.2
comp=Z,34nm,1.1s
KVAR Kislovodsk Arr 16.77 49 Pn **P 07 55 17.0 +0.5**
baz=253,slow=19,SNR=2.8
KVAR LR LR 08 04 08.4
comp=Z,99nm,18.4s,baz=85,slow=46
KBZ Khabaz 16.79 50 Pn **P 07 55 16.1 -0.4**
comp=Z,0.9nm,0.3s,baz=260,slow=9.8,SNR=31
KBZ Khabaz 16.79 50 *ce*P **P 07 55 15.8 -0.8**
KBZ pmax pmax
comp=Z,36nm,0.9s
AKASG Malin Array Be 16.79 9 Pn **Pn 07 55 12.1 -2.3**
comp=Z,2.1nm,0.3s,baz=200,slow=11,SNR=15
AKASG Sn **Sn 07 58 23.1 +2.5**
comp=Z,0.5nm,0.3s,baz=195,slow=22,SNR=8.5

AKASG Malin Array Be 16.79 9 P **Pn 07 55 14.7 +0.2**
AKBB Malin Array Si 16.79 9 *ce*P **Pn 07 55 14.6 +0.2**
AKBB Malin Array Si 16.79 9 P **Pn 07 55 14.4 0.0**
AKBB IAmb IAmb 07 55 24.6
comp=Z,14nm,0.7s
FETA Feichten 16.81 324 *i* P **P 07 55 18.5 +1.5**
comp=Z,16nm,1.0s
GEC2 GERESS Array S 16.93 333 P **P 07 55 17.9 -0.4**
GERES GERESS Array B 16.93 333 Pn **P 07 55 17.9 -0.4**
comp=Z,1.2nm,0.3s,baz=146,slow=12,SNR=41
GERES GERESS Array B 16.93 333 P **P 07 55 17.8 -0.5**
GERES GERESS Array B 16.93 333 P **P 07 55 17.8 -0.5**
ZEI Tsey 17.03 54 *e*P **P 07 55 19.1 -0.4**
ZEI pmax pmax
comp=Z,15nm,0.9s
DAVOX Davos/Dischmat 17.07 322 P **P 07 55 22.3 +2.4**
comp=Z,0.5nm,0.3s,baz=149,slow=15,SNR=4.2
DAVOX LR LR 08 03 52.4
comp=Z,82nm,19.7s,baz=120,slow=44
TUE Stuetta 17.14 320 P **P 07 55 22.1 +1.4**
KHC Kasperske Hory 17.21 334 *e*P **Pn 07 55 19.7 -0.1**
KHC Kasperske Hory 17.21 334 *ce*P **P 07 55 21.1 -0.2**
KHC pmax pmax
comp=Z,26nm,1.3s
KHC Kasperske Hory 17.21 334 P **P 07 55 21.3 0.0**
DPC Dobruska-Polom 17.40 341 *e*P **P 07 55 24.6 +1.2**
DPC Dobruska-Polom 17.40 341 *e*P **P 07 55 24.6 +1.2**
SENIN Lac Senin/Sane 18.19 317 P **P 07 55 33.6 +1.3**
GRA1 Grafenberg Arr 18.58 331 P **Pn 07 55 36.5 -0.1**
GRA1 IAmb IAmb 07 55 59.1
comp=Z,23nm,0.9s
GRF Grafenberg Arr 18.58 331 P **Pn 07 55 36.5 -0.1**
GRF pmax pmax
comp=Z,23nm,0.9s
DVE Vedeno 18.60 56 *i* P **Pn 07 55 38.7 +1.7**
DVE pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 18.89 324 P **P 07 55 39.8 +0.1**
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 18.89 324 P **P 07 55 39.8 +0.1**
CLL Collm 19.25 336 *i* (P) **P 07 55 43.9 +0.3**
CLL *es*P **pwP 07 55 50.0 -0.2**
CLL *e*S **Sn 07 59 18.0 -2.0**
CLL Collm 19.25 336 *i* P **P 07 55 43.9 +0.3**
ECH Echery 19.40 322 P **P 07 55 45.2 -0.2**
ECH pmax pmax
comp=Z,9.0nm,1.2s
ECH Echery 19.40 322 P **P 07 55 45.2 -0.2**
VORD Divnogorie 19.71 27 *e*P **Pn 07 55 49.5 -0.7**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 19.87 27 *e*P **P 07 55 50.5 +0.1**
VSR pmax pmax
comp=Z,9.0nm,0.6s
SUW Suwalki 19.88 357 P **P 07 55 50.6 +0.1**
SUW pmax pmax
comp=Z,66nm,1.0s
SUW Suwalki 19.88 357 P **P 07 55 50.6 +0.1**
TAM Tamanrasset 20.57 242 P Pn 07 56 00.5 -0.1
TAM pmax pmax
comp=Z,6.0nm,0.8s
TAM Tamanrasset 20.57 242 P Pn 07 56 00.5 -0.1
WLF Walferdange 20.84 324 P **P 07 56 01.5 +0.4**
WLF pmax pmax
comp=Z,20nm,0.9s
WLF Walferdange 20.84 324 P **P 07 56 01.5 +0.4**
WLF IAmb IAmb 07 56 17.2
comp=Z,20nm,0.9s
VRH Novokhopyorsk 20.87 30 *e*P **P 07 56 00.2 -1.1**
VRH pmax pmax
comp=Z,30nm,0.6s
OBN Obninsk 22.42 17 P **P 07 56 20.3 +2.5**
comp=Z,7.0nm,0.4s,baz=224,slow=16,SNR=4.7
OBN Obninsk 22.42 17 ⇑*e*P **P 07 56 18.8 +1.0**
OBN *e* 07 56 46.8
OBN pmax pmax
comp=Z,15nm,0.5s
OBN MLR MLR
comp=Z,73nm,15.0s
OBN Obninsk 22.42 17 P **P 07 56 17.8 -0.1**
ESBB Sonseca Array 23.81 292 P **P 07 56 33.4 +1.0**
ESDC Sonseca Array 23.81 292 P **P 07 56 32.0 -0.3**
comp=Z,2.9nm,0.8s,baz=82,slow=9.1,SNR=16
ESDC Sonseca Array 23.81 292 P **P 07 56 32.8 +0.5**
VSU Vasula 24.32 2 *i* P **P 07 56 37.7 +0.9**
VSU pmax pmax
comp=Z,43nm,1.1s
PBRG Braganca 26.11 296 *e*P **P 07 56 54.8 +1.5**
comp=Z,12nm,2.4s
MVO Moncorvo 26.27 295 *e*P **P 07 56 56.7 +2.0**
comp=Z,19nm,2.4s
PMRV Marv??o 26.45 291 *e*P **P 07 56 58.1 +1.8**
comp=Z,22nm,1.4s
PCBR Castelo Branco 26.53 292 *e*P **P 07 56 59.0 +2.0**
comp=Z,15nm,2.1s
GEYT Alibeck 26.88 72 P **P 07 57 00.2 -0.1**
comp=Z,1.3nm,0.4s,baz=224,slow=9.3,SNR=1.8
PBDV Barranco-do-Ve 26.92 286 *e*P **P 07 57 01.7 +1.1**
comp=Z,29nm,1.2s
HFS Hagfors 27.02 347 P **P 07 56 59.0 -2.3**
comp=Z,4.5nm,0.8s,baz=184,slow=13,SNR=2.8
HFS LR LR 08 09 21.2
comp=Z,58nm,18.3s,baz=157,slow=40
HFS Hagfors 27.02 347 P **P 07 56 59.0 -2.3**
HFS Hagfors 27.02 347 P **P 07 56 59.0 -2.3**
PGAV Gavieira, Arco 27.27 296 *e*P **P 07 57 04.6 +0.8**
FINES FINESS Array B 27.30 1 P **P 07 57 01.4 -2.3**
comp=Z,1.9nm,0.6s,baz=152,slow=7.3,SNR=2.3
FINES LR LR 08 09 43.6
comp=Z,50nm,18.6s,baz=202,slow=41
PFVI Vila Bisbo 27.64 286 *e*P **P 07 57 08.2 +1.2**
comp=Z,40nm,1.6s
ATD Arta Tunnel 27.76 140 LR LR 08 06 44.2
comp=Z,43nm,20.1s,baz=346,slow=33
NC602 NORSAR Array S 28.00 346 P **P 07 57 09.9 0.0**
NC602 IAmb IAmb 07 57 24.9
comp=Z,23nm,1.1s
NAO01 NORSAR Array S 28.23 345 P **P 07 57 11.8 -0.3**
KLMR Klimovskoe 28.28 15 *e*P **P 07 57 09.4 -3.1**
KLMR pmax pmax
comp=Z,17nm,1.2s
KLMR Klimovskoe 28.28 15 *e*P **P 07 57 09.5 -3.1**
KLMR AMP 07 57 28.5
comp=Z,17nm,1.2s
NB201 NORSAR Array S 28.33 346 P **P 07 57 13.4 +0.4**
NB2 NORSAR Subarra 28.34 346 P **P 07 57 11.3 -1.8**
comp=Z,16nm,1.7s,baz=156,slow=9.3
NOA NORSAR Array B 28.34 346 P **P 07 57 10.9 -2.1**
comp=Z,0.5nm,0.4s,baz=149,slow=9.5,SNR=3.6
NOA LR LR 08 10 28.7
comp=Z,58nm,20.3s,baz=155,slow=41
NBO00 NORSAR Array S 28.42 345 P **P 07 57 13.5 -0.3**
NC303 NORSAR Array S 28.48 346 P **P 07 57 13.7 -0.5**
UOSS Minazif 28.49 100 P **P 07 57 14.7 -0.1**
UOSS IAmb IAmb 07 57 42.3
comp=Z,24nm,1.2s
EKA Eskdalemuir Ar 28.82 326 P **P 07 57 16.3 -1.0**
comp=Z,0.6nm,0.4s,baz=70,slow=11,SNR=1.5
AKTO Aktyubinsk 28.97 46 P **P 07 57 17.2 -1.6**
comp=Z,1.2nm,0.3s,baz=228,slow=10,SNR=5.8
AKTO LR LR 08 10 48.7
comp=Z,43nm,18.9s,baz=258,slow=40
KIRV Kirov 29.31 26 P **P 07 57 20.5 -1.1**
comp=Z,14nm,0.5s,baz=333,slow=2.3,SNR=3.7
ABKAR Abkulak array 29.75 49 P **P 07 57 26.0 +0.3**
ABKAR Abkulak array 29.75 49 P **P 07 57 26.8 +1.1**
TOA0 Torodi Ar. Sit 29.82 231 P **P 07 57 26.9 +0.3**
TOA0 IAmb IAmb 07 57 29.5
comp=Z,6.6nm,0.7s
TORD Torodi Ar. Bea 29.82 231 P **P 07 57 26.9 +0.4**
comp=Z,5.6nm,0.5s,baz=32,slow=8.6,SNR=36
TORD LR LR 08 10 47.1
comp=Z,124nm,20.7s,baz=10.0,slow=39
TORD Torodi Ar. Bea 29.82 231 P **P 07 57 26.8 +0.2**
ARU Arti 31.88 35 P **P 07 57 43.2 -1.2**
baz=250,slow=15
ARU LR LR 08 12 05.2
comp=Z,65nm,18.0s,baz=140,slow=39
ARU Arti 31.88 35 *d i* P **P 07 57 43.8 -0.6**
ARU 07 58 44.5
ARU S **S 08 02 55.2 +0.6**
ARU SS **SnSn 08 04 41.3 -1.4**
ARU pmax pmax
comp=Z,16nm,1.6s

KOWA Kowa 32.79 240 P **P 07 57 54.5 +1.8**
comp=Z,1.6nm,0.6s,baz=40,slow=12,SNR=4.2
ARCES ARCESS Array B 35.41 0 LR LR 08 12 48.5
comp=Z,72nm,19.5s,baz=210,slow=36
KK31 Karatay Array 36.20 62 P **P 07 58 22.8 +0.7**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KK31 Karatay Array 36.20 62 P **P 07 58 22.8 +0.7**
KK31 IAmb IAmb 07 58 23.6
comp=Z,8.3nm,0.9s
KKAR Karatay Array 36.20 62 P **P 07 58 22.2 +0.1**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 36.20 62 P **P 07 58 23.0 +0.9**
KKAR IAmb IAmb 07 58 23.6
comp=Z,8.3nm,0.9s
KKAR Karatay Array 36.20 62 P **P 07 58 22.2 +0.1**
GAR Garm 36.34 69 P **P 07 58 22.7 -0.8**
GAR IAmb IAmb 07 58 27.3
comp=Z,9.7nm,1.1s
BRVK Borovoye 37.02 45 *ce*P **P 07 58 29.6 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 37.02 45 P **P 07 58 28.9 0.0**
BRVK IAmb IAmb 07 58 31.4
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 37.07 45 P **P 07 58 29.5 +0.1**
comp=Z,3.2nm,0.8s,baz=198,slow=9.3,SNR=13
DBIC Dimbokro 38.91 232 P **P 07 58 45.8 +0.6**
comp=Z,4.6nm,0.8s,baz=6.1,slow=7.7,SNR=3.9
DBIC LR LR 08 18 18.6
comp=Z,86nm,18.1s,baz=18,slow=42
DBIC Dimbokro 38.91 232 P **P 07 58 45.1 -0.2**
DBIC pmax pmax
comp=Z,17nm,1.3s
DBIC Dimbokro 38.91 232 P **P 07 58 45.1 -0.2**
DBIC IAmb IAmb 07 58 49.9
comp=Z,17nm,1.3s
TIC Toumodi 39.04 232 *e*P **P 07 58 47.8 +1.4**
KIC Kosan Boka 39.07 232 *e*P **P 07 58 47.8 +1.2**
comp=Z,3.8nm,0.6s
LIC Lamto 39.36 232 *e*P **P 07 58 49.2 +0.2**
comp=Z,8.4nm,0.6s
NIL Nilore 39.67 77 P **P 07 58 51.6 +0.1**
NIL pmax pmax
comp=Z,6.0nm,0.8s
NIL Nilore 39.67 77 P **P 07 58 51.5 +0.1**
NIL IAmb IAmb 07 58 53.5
comp=Z,5.9nm,0.8s
KDJ Kajisay 41.18 63 P **P 07 59 03.9 -0.2**
KDJ pmax pmax
comp=Z,8.0nm,0.9s
KDJ Kajisay 41.18 63 P **P 07 59 03.9 -0.2**
KDJ IAmb IAmb 07 59 08.4
comp=Z,8.4nm,0.9s
KURBB Kurchatov Arra 41.79 50 P **P 07 59 08.7 0.0**
comp=Z,7.7nm,0.7s,baz=279,slow=8.7,SNR=69
KURK Kurchatov 41.85 50 *ce*P **P 07 59 09.6 +0.4**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 41.85 50 P **P 07 59 09.4 +0.2**
KURK IAmb IAmb 07 59 10.3
comp=Z,9.4nm,0.8s
MK31 Makanchi Array 44.37 56 P **P 07 59 29.6 -0.1**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 44.37 56 P **P 07 59 29.6 -0.1**
MK31 IAmb IAmb 07 59 31.1
comp=Z,10nm,0.7s
MKAR Makanchi Array 44.37 56 P **P 07 59 30.2 +0.5**
comp=Z,11nm,0.6s,baz=276,slow=6.7,SNR=98
MKAR Makanchi Array 44.37 56 P **P 07 59 30.1 +0.4**
MKAR Makanchi Array 44.37 56 P **P 07 59 30.1 +0.4**
ZAA0 Zalesovo Array 45.73 45 P **P 07 59 40.0 -0.4**
ZALV Zalesovo Beam 45.73 45 P **P 07 59 39.9 -0.4**
comp=Z,7.7nm,0.5s,baz=268,slow=8.0,SNR=16
ZALV Zalesovo Beam 45.73 45 P **P 07 59 39.7 -0.6**
ZALV Zalesovo Beam 45.73 45 P **P 07 59 39.7 -0.6**
DGZ Jazzator, Alta 47.53 51 *i* P **P 07 59 55.2 +0.4**
DGZ pmax pmax
comp=Z,5.0nm,0.6s
WMQ Urumqi 48.55 59 *e*P **P 08 00 05.0 +2.4**
NRIK Noril'sk 48.80 25 P **P 08 00 03.9 -0.1**
comp=Z,5.9nm,0.8s,baz=235,slow=6.5,SNR=7.7
TLY Talaya 57.32 46 *i* P **P 08 01 09.2 +2.0**
TLY pmax pmax
comp=Z,6.0nm,1.0s
ZAK Zakamensk 57.44 48 *e*P **P 08 01 08.5 +0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
GTA Gaotai 58.48 61 *e*P **P 08 01 15.8 +0.1**
GTA pP sP 08 01 20.3 -0.4
GTA sP pwP 08 01 22.8 -0.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 60.16 50 P **P 08 01 27.2 +0.1**
comp=Z,5.5nm,0.8s,baz=287,slow=8.6,SNR=15
SONM Songino Array 60.16 50 P **P 08 01 26.9 -0.2**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 60.16 50 **P 08 01 26.9 -0.2**
ULN Ulaanbaatar 60.56 50 *ce*P **P 08 01 30.7 +0.8**
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 60.56 50 **P 08 01 30.3 +0.3**
BOD Bodaibo 61.27 38 *e*P **P 08 01 33.5 -0.8**
BOD pmax pmax
comp=Z,8.0nm,0.9s
BOSA Boshof 62.45 180 P **P 08 01 43.5 +0.9**
comp=Z,2.5nm,0.7s,baz=351,slow=6.9,SNR=4.1
BOSA Boshof 62.45 180 P **P 08 01 42.8 +0.1**
BOSA pmax pmax
comp=Z,8.0nm,1.2s
BOSA Boshof 62.45 180 P **P 08 01 42.8 +0.1**
BOSA IAmb IAmb 08 02 09.5
comp=Z,8.5nm,1.1s
SCHQ Schefferville 63.90 320 P **P 08 01 51.9 -0.1**
comp=Z,6.2nm,0.8s,baz=63,slow=3.7,SNR=8.7
SCHQ Schefferville 63.90 320 P **P 08 01 52.2 +0.2**
HHC Hu-ho-hao-te 66.23 56 *e*P **P 08 02 07.8 +0.3**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,91nm,6.8s
CMAR Chiang Mai Arr 66.74 83 P **P 08 02 11.3 +0.3**
comp=Z,1.6nm,0.3s,baz=291,slow=7.7,SNR=2.9
YAK Yakutsk 66.76 30 *i* P **P 08 02 12.3 +2.0**
D62A Allapoint, All 68.46 313 P **P 08 02 21.6 +0.3**
F64A Sherman 68.58 311 P **P 08 02 21.9 -0.2**
F64A IAmb IAmb 08 02 37.8
comp=Z,9.0nm,1.2s
BILL Bilibino 74.03 14 *ce*P **P 08 02 57.5 +2.8**
BILL *e* 08 05 37.8
BILL pmax pmax
comp=Z,6.0nm,0.4s
BILL MLR MLR
comp=Z,146nm,19.0s
USRK Ussuriysk Ar. 77.58 45 P **P 08 03 15.2 -0.2**
comp=Z,6.7nm,0.7s,baz=299,slow=4.1,SNR=19
YKA Yellowknife Ar 78.37 342 P **P 08 03 20.2 +0.7**
comp=Z,0.7nm,0.8s,baz=29,slow=5.8,SNR=1.7
KSRS Korea Array 78.93 52 P **P 08 03 23.0 +0.1**
comp=Z,3.4nm,0.8s,baz=295,slow=4.7,SNR=10.0
ILAR Eielson Array 81.18 357 P **P 08 03 34.9 +0.2**
comp=Z,0.4nm,0.8s,baz=358,slow=3.6,SNR=5.1
MJAR Matsushiro Arr 86.02 48 P **P 08 04 00.2 +0.1**
comp=Z,2.3nm,0.7s,baz=303,slow=6.8,SNR=2.9
PTGA Pitinga 86.31 267 LR LR 08 44 46.6
comp=Z,23nm,18.3s,baz=95,slow=37
WRA Warramunga Arr 116.53 97 PKP **PKPdf 08 10 03.2 -0.6**
comp=Z,0.2nm,0.7s,baz=319,slow=1.8,SNR=1.9
ASAR Alice Springs 117.92 101 PKP **PKPdf 08 10 05.7 -0.7**
comp=Z,0.1nm,0.5s,baz=281,slow=1.1,SNR=2.8

IDC 26 07:58:32.0±56.0, 17°20'S×178°76'E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/34, mbtmp4.0/3, Error ellipse: s-maj=1001.0km s-min=151.6km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.63**	**239**	P	P	08 05 41.0	+0.7
	1.2nm,0.6s,baz=79,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**42.11**	**259**	P	P	08 06 25.9	-0.4
	0.3nm,0.3s,baz=95,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**42.39**	**254**	P	P	08 06 28.2	-0.4

2.2nm,0.3s,baz=89,slow=7.9,SNR=52

*SOME **26** 08:00:33.8, 44.°50N×83.°95E, h10km*
*NNC **26** 08:00:34.8±1.5, 44.°35N×83.°94E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=11.8km s-min=4.6km az=121.0*
ISC 26 08:00:30.2±1.7, **44.°47N**±0.°06×**84.°01E**±0.°07, **h10**km, **n40**, σ0.°**82**/57, **4C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.62**	**333**	⇑Pn	**Pg**	**08 01 20.0**	**-0.3**
	4.6nm,0.5s,baz=145,slow=17,SNR=9.4						
MK31				Sn	**Sg**	**08 01 54.1**	**-0.2**
	19nm,0.5s,baz=146,slow=30,SNR=19						
MAKZ	**Makanchi**	**2.74**	**329**	Pn	**Pg**	**08 01 22.4**	**-0.2**
	5.7nm,0.6s						
MAKZ				Sn	**Sg**	**08 01 57.9**	**-0.2**
	30nm,0.7s						
KTMS	**Ketmen**	**2.83**	**250**	*e*P	**Pg**	**08 01 24.5**	**+0.1**
	1.4nm,0.3s						
KTMS				*e*S	**Sg**	**08 02 01.8**	**+0.7**
	64nm,0.3s						
KTMS	**Ketmen**	**2.83**	**250**	Pg	**Pg**	**08 01 24.5**	**+0.1**
	1.4nm,0.3s						
KTMS				Lg	Lg	08 02 01.8	
	64nm,0.3s						
DJR	**Jarkent**	**3.03**	**269**	*e*P	**Pg**	**08 01 28.8**	**+0.6**
	11nm,0.4s						
DJR				*e*S	**Sg**	**08 02 08.7**	**+1.3**
	23nm,0.4s						
DJR	**Jarkent**	**3.03**	**269**	Pg	**Pg**	**08 01 28.8**	**+0.6**
	11nm,0.4s						
DJR				Lg	Lg	08 02 08.7	
	23nm,0.4s						
ZSN	**Zaisan**	**3.04**	**11**	*e*P	**Pg**	**08 01 28.6**	**+0.1**
	15nm,0.4s						
ZSN				*e*S	**Sg**	**08 02 08.7**	**+0.9**
	34nm,0.7s						
ZSN	**Zaisan**	**3.04**	**11**	Pg	**Pg**	**08 01 28.6**	**+0.1**
	15nm,0.4s						
ZSN				Lg	Lg	08 02 08.7	
	34nm,0.7s						
KAPS	**Kapalarasan**	**3.41**	**285**	*e*P	**Pg**	**08 01 35.5**	**+0.1**
	4.7nm,0.5s						
KAPS				*e*S	**Sg**	**08 02 20.5**	**+0.9**
	13nm,0.4s						
KAPS	**Kapalarasan**	**3.41**	**285**	Pg	**Pg**	**08 01 35.5**	**+0.1**
	4.7nm,0.5s						
KAPS				Lg	Lg	08 02 20.5	
	13nm,0.4s						
PDGK	**Podgornoye**	**3.46**	**252**	Pg	**Pg**	**08 01 35.5**	**-1.0**
	4.2nm,0.3s						
PDGK				Lg	Lg	08 02 19.9	
	22nm,0.5s						
PDGK	**Podgornoye**	**3.46**	**252**	⇑Pg	**Pg**	**08 01 37.5**	**+1.1**
	3.7nm,0.3s						
PDGK				⇑Lg	Lg	08 02 20.3	
	38nm,0.6s						
SHLS	**Shalkode**	**3.54**	**250**	*e*P	**Pb**	**08 01 32.8**	**-0.2**
	16nm,0.3s						
SHLS				*e*S	**Sb**	**08 02 15.2**	**-0.9**
	189nm,0.5s						
SHLS	**Shalkode**	**3.54**	**250**	Pg	**Pb**	**08 01 32.8**	**-0.2**
	16nm,0.3s						
SHLS				Lg	Lg	08 02 15.2	
	189nm,0.5s						
UZB	**Uzynbulak**	**3.84**	**252**	*e*P	**Pg**	**08 01 43.4**	**-0.4**
	6.4nm,0.6s						
UZB				*e*S	**Sg**	**08 02 33.3**	**-0.3**
	18nm,0.4s						
UZB	**Uzynbulak**	**3.84**	**252**	Pg	**Pg**	**08 01 43.4**	**-0.4**
	6.4nm,0.6s						
UZB				Lg	Lg	08 02 33.3	
	18nm,0.4s						
TDK	**Taldyqorghan**	**4.03**	**280**	*e*P	**Pg**	**08 01 47.4**	**+0.1**
	47nm,0.4s						
TDK				*e*S	**Sg**	**08 02 40.3**	**+0.9**
	30nm,0.4s						
TDK	**Taldyqorghan**	**4.03**	**280**	Pg	**Pg**	**08 01 47.4**	**+0.1**
	47nm,0.4s						
TDK				Lg	Lg	08 02 40.3	
	30nm,0.4s						
MNBS	**Baschi**	**4.05**	**266**	*e*P	**Pg**	**08 01 46.9**	**-0.7**
	8.0nm,0.4s						
MNBS				*e*S	**Sg**	**08 02 39.6**	**-0.5**
	41nm,0.3s						
MNBS	**Baschi**	**4.05**	**266**	Pg	**Pg**	**08 01 46.9**	**-0.7**
	8.0nm,0.4s						
MNBS				Lg	Lg	08 02 39.6	
	41nm,0.3s						
SATY	**Saty**	**4.30**	**253**	*e*P	**Pg**	**08 01 52.1**	**-0.4**
	10nm,0.3s						
SATY				*e*S	**Sg**	**08 02 48.5**	**+0.4**
	28nm,0.4s						
SATY	**Saty**	**4.30**	**253**	Pg	**Pg**	**08 01 52.1**	**-0.4**
	10nm,0.3s						
SATY				Lg	Lg	08 02 48.5	
	28nm,0.4s						
KURS	**Kuram**	**4.33**	**259**	*e*P	**Pg**	**08 01 52.9**	**-0.1**
	6.9nm,0.8s						
KURS				*e*S	**Sg**	**08 02 49.7**	**+0.6**
	7.6nm,0.6s						
KURS	**Kuram**	**4.33**	**259**	Pg	**Pg**	**08 01 52.9**	**-0.1**
	6.9nm,0.8s						
KURS				Lg	Lg	08 02 49.7	
	7.6nm,0.6s						
ARXS	**Arharly**	**4.44**	**269**	*e*P	**Pg**	**08 01 54.1**	**-1.2**
	8.9nm,0.6s						
ARXS				*e*S	**Sg**	**08 02 52.1**	**-0.6**
	14nm,0.6s						
ARXS	**Arharly**	**4.44**	**269**	Pg	**Pg**	**08 01 54.1**	**-1.2**
	8.9nm,0.6s						
ARXS				Lg	Lg	08 02 52.1	
	14nm,0.6s						
KOTS	**Kotyrbulak**	**5.14**	**259**	*e*P	**Pg**	**08 02 07.5**	**-1.0**
	9.8nm,0.3s						
KOTS				*e*S	**Sg**	**08 03 14.6**	**-0.6**
	14nm,0.3s						
KOTS	**Kotyrbulak**	**5.14**	**259**	Pg	**Pg**	**08 02 07.5**	**-1.0**
	9.8nm,0.3s						
KOTS				Lg	Lg	08 03 14.6	
	14nm,0.3s						
MDOK	**Medeo**	**5.20**	**258**	*e*P	**Pg**	**08 02 09.2**	**-0.6**
	3.7nm,0.6s						
MDOK				*e*S	**Sg**	**08 03 18.4**	**+1.2**
	15nm,0.8s						
MDOK	**Medeo**	**5.20**	**258**	Pg	**Pg**	**08 02 09.2**	**-0.6**
	3.7nm,0.6s						
MDOK				Lg	Lg	08 03 18.4	
	15nm,0.8s						
TNSS	**Tian-Shan**	**5.31**	**257**	*e*P	**Pg**	**08 02 12.7**	**+0.8**
	2.6nm,0.4s						
TNSS				*e*S	**Sg**	**08 03 23.5**	**+2.8**
	3.2nm,0.3s						
TNSS	**Tian-Shan**	**5.31**	**257**	Pg	**Pg**	**08 02 12.7**	**+0.8**
	2.6nm,0.4s						
TNSS				Lg	Lg	08 03 23.5	
	3.2nm,0.3s						
KTBS	**Karatobe**	**5.33**	**264**	*e*P	**Pg**	**08 02 12.8**	**+0.5**
	3.4nm,0.7s						
KTBS				*e*S	**Sg**	**08 03 23.5**	**+2.2**
	16nm,0.5s						
KTBS	**Karatobe**	**5.33**	**264**	Pg	**Pg**	**08 02 12.8**	**+0.5**
	3.4nm,0.7s						
KTBS				Lg	Lg	08 03 23.5	
	16nm,0.5s						
IZV	**Izvestkoviy**	**5.55**	**258**	*e*P	**Pg**	**08 02 15.3**	**-1.0**
	4.8nm,0.5s						
IZV				*e*S	**Sg**	**08 03 28.0**	**-0.2**
	10nm,0.5s						
IZV	**Izvestkoviy**	**5.55**	**258**	Pg	**Pg**	**08 02 15.3**	**-1.0**
	4.8nm,0.5s						
IZV				Lg	Lg	08 03 28.0	
	10nm,0.5s						
KUU	**Kurty**	**5.55**	**267**	*e*P	**Pg**	**08 02 15.9**	**-0.5**
	1.1nm,0.3s						
KUU				*e*S	**Sg**	**08 03 28.9**	**+0.7**
	7.5nm,0.5s						
KUU	**Kurty**	**5.55**	**267**	Pg	**Pg**	**08 02 15.9**	**-0.5**
	1.1nm,0.3s						
KUU				Lg	Lg	08 03 28.9	
	7.5nm,0.5s						
KURBB	**Kurchatov Arra**	**7.18**	**331**	⇓Lg	Lg	08 04 26.1	
	21nm,0.7s						
KURK	**Kurchatov**	**7.23**	**332**	⇑Lg	Lg	08 04 26.4	
	16nm,0.8s						

*SJA **26** 08:02:26.9±0.7, 20.°00S×71.°11W, h26km±3km, ML4.3, MW4.4*
*IDC **26** 08:02:27.5±0.7, 19.°88S×70.°76W, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/37, mbtmp4.1/12, ML4.1/2, MS3.1/5, Ms1 3.2/5, ms1mx3.0/20, Error ellipse: s-maj=21.3km s-min=14.1km az=75.0*
*NEIC **26** 08:02:28.4, 20.°01S×71.°09W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}2.59; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-2.73; $M_{r\theta}$0.01; $M_{\theta\phi}$0.90; $M_{\phi r}$0.02; Fault plane solution: $M_0$2.81000×10^15^ NP1:ϕ_s344.53000°, δ45.20000°, λ90.72000°. NP2:ϕ_s163.51000°, δ44.81000°, λ89.28000°. Principal axes: T 2.5870, Plg90.0000°, Azm-37.0000°; N 0.4011, Plg1.0000°, Azm164.0000°; P -2.9881, Plg0.0000°, Azm74.0000°;*
*NEIC **26** 08:02:29.1±1.3, 20.°00S±0.°03×70.°99W±0.°06, h15km±3km, mb4.6/10, Mwr4.2/50, ML4.3(GUC) Error ellipse: s-maj=8.3km s-min=3.9km az=93.0*
*GUC **26** 08:02:30.4±0.7, 19.°96S×70.°96W, h44km±2km, ML4.3*
*VAO **26** 08:02:30.0±0.9, 19.°85S×71.°06W, h25km±7km, mb4.3*
ISC 26 08:02:30.1±0.5, **19.°97S**±0.°03×**70.°99W**±0.°05, **h21**km±4km, **n148**, σ1.°**37**/161, **mb4.5**/12, **MS3.5**/3, **9C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.86**	**110**	⇓*i*P	**Pn**	**08 02 45.7**	**-1.3**
TA02				*e*S	**Sn**	**08 02 57.0**	**-2.0**
TA02				IAML		08 02 58.7	
	comp=N,13μm,0.1s						
PSGC	**Pisagua**	**0.90**	**66**	*e*P	**Pn**	**08 02 46.0**	**-1.6**
PSGC				*i*S	**Sn**	**08 02 58.0**	**-2.0**
PSGCX	**Pisagua**	**0.90**	**66**		**Pn**	**08 02 46.3**	**-1.3**
PSGCX				Sg	**Sn**	**08 02 58.1**	**-1.9**
PSGCX	**Pisagua**	**0.90**	**66**	*e*P	**Pn**	**08 02 46.3**	**-1.3**
TA01	**Diego Aracena**	**0.96**	**128**	⇑*i*P	**Pn**	**08 02 47.4**	**-1.0**
TA01				*i*S	**Sn**	**08 03 00.1**	**-1.4**
TA01	**Diego Aracena**	**0.96**	**128**		**Pn**	**08 02 47.4**	**-1.0**
TA01				Sg	**Sn**	**08 02 59.9**	**-1.6**
PATCX	**Punta Patache**	**1.16**	**137**	⇑*i*P	**Pn**	**08 02 50.2**	**-0.8**
PATCX				*i*S	**Sn**	**08 03 05.1**	**-1.3**
PATCX				IAML		08 03 11.6	
	comp=N,6μm,0.5s						
PATCX	**Punta Patache**	**1.16**	**137**		**Pn**	**08 02 50.3**	**-0.8**
PATCX				Sn	**Sn**	**08 03 04.6**	**-1.7**
PATCX	**Punta Patache**	**1.16**	**137**	*e*P	**Pn**	**08 02 50.3**	**-0.8**
PB11	**IPOC Station P**	**1.28**	**81**	⇑*i*P	**Pn**	**08 02 52.3**	**-0.5**
PB11				*i*S	**Sn**	**08 03 09.2**	**-0.2**
PB11				IAML		08 03 11.9	
	comp=E,17μm,0.3s						
PB11	**IPOC Station P**	**1.28**	**81**	Pn	**Pn**	**08 02 52.5**	**-0.3**
PB11				Sn	**Sn**	**08 03 09.3**	**-0.1**
PB11	**IPOC Station P**	**1.28**	**81**	*e*P	**Pn**	**08 02 52.5**	**-0.3**
PB11				*e*S	**Sn**	**08 03 09.6**	**+0.2**
PB11				IAML		08 03 11.3	
	comp=Z,15μm,0.3s						
MNMC	**Minye Minye**	**1.56**	**58**	⇑*i*P	**Pn**	**08 02 57.0**	**+0.1**
MNMC				*i*S	**Sn**	**08 03 16.3**	**-0.3**
MNMC				IAML		08 03 26.1	
	comp=N,15μm,0.4s						
MNMC	**Minye Minye**	**1.56**	**58**		**Pn**	**08 02 56.8**	**0.0**
MNMC				Sn	**Sn**	**08 03 16.1**	**-0.5**
MNMCX	**Minye Minye**	**1.56**	**58**	*e*P	**Pn**	**08 02 57.1**	**+0.3**
AP01	**Chacalluta**	**1.71**	**21**	*e*P	**Pn**	**08 02 58.6**	**0.0**
AP01				*i*S	**Sn**	**08 03 19.0**	**-0.8**
AP01				IAML		08 03 37.7	
	comp=E,9μm,0.4s						
AP01	**Chacalluta**	**1.71**	**21**		**Pn**	**08 02 59.7**	**+1.1**
GO01	**Chusmiza**	**1.72**	**80**	⇑*i*P	**Pn**	**08 02 59.2**	**0.0**
GO01				*i*S	**Sn**	**08 03 22.0**	**+1.1**
GO01				IAML		08 03 25.0	
	comp=N,11μm,0.3s						
GO01	**Chusmiza**	**1.72**	**80**		**Pn**	**08 02 59.0**	**-0.2**
PB08	**IPOC Station P**	**1.74**	**96**	⇑*i*P	**Pn**	**08 02 59.3**	**-0.1**
PB08				*i*S	**Sn**	**08 03 21.6**	**+0.5**
PB08				IAML		08 03 29.8	
	comp=N,4μm,0.5s						
PB08	**IPOC Station P**	**1.74**	**96**		**Pn**	**08 02 59.6**	**+0.1**
PB08	**IPOC Station P**	**1.74**	**96**	*e*P	**Pn**	**08 02 59.5**	**+0.1**
PB08				*e*S	**Sn**	**08 03 22.9**	**+1.8**
PB08				IAML		08 03 24.5	
	comp=Z,3μm,0.6s						
PB01	**IPOC Station P**	**1.77**	**127**	⇑*i*P	**Pn**	**08 02 59.4**	**-0.2**
PB01				*i*S	**Sn**	**08 03 21.6**	**+0.1**
PB01				IAML		08 03 29.5	
	comp=E,4μm,0.3s						
PB01	**IPOC Station P**	**1.77**	**127**		**Pn**	**08 02 59.8**	**+0.3**
PB01	**IPOC Station P**	**1.77**	**127**	*e*P	**Pn**	**08 02 59.5**	**0.0**
PB01				*e*S	**Sn**	**08 03 23.2**	**+1.7**
PB01				IAML		08 03 28.9	
	comp=Z,2μm,0.4s						
PB07	**IPOC Station P**	**2.03**	**150**	⇑*i*P	**Pn**	**08 03 02.4**	**-0.8**
PB07				*i*S	**Sb**	**08 03 32.3**	**+1.1**
PB07				IAML		08 03 45.2	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**2.03**	**150**		**Pn**	**08 03 02.7**	**-0.6**
PB07	**IPOC Station P**	**2.03**	**150**	*e*P	**Pn**	**08 03 02.6**	**-0.6**
PB07				IAML		08 03 43.4	
	comp=Z,2μm,0.4s						
PB16	**IPOC Station P**	**2.15**	**41**	*e*P	**Pn**	**08 03 05.3**	**0.0**
PB16	**IPOC Station P**	**2.15**	**41**		**Pn**	**08 03 05.5**	**+0.3**
PB16	**IPOC Station P**	**2.15**	**41**	*e*P	**Pn**	**08 03 05.7**	**+0.5**
PB16				*e*S	**Sb**	**08 03 35.5**	**+0.4**
PB16				IAML		08 03 48.1	
	comp=Z,2μm,0.7s						
PB03	**IPOC Station P**	**2.37**	**151**	⇑*i*P	**Pn**	**08 03 07.1**	**-0.7**
PB03				*i*S	**Sn**	**08 03 34.0**	**-2.4**
PB03	**IPOC Station P**	**2.37**	**151**	*e*P	**Pn**	**08 03 07.2**	**-0.7**
PB03				IAML		08 03 56.5	
	comp=Z,1μm,0.9s						
PB09	**IPOC Station P**	**2.44**	**138**	*e*P	**Pn**	**08 03 09.6**	**+0.7**
PB09	**IPOC Station P**	**2.44**	**138**		**Pn**	**08 03 09.5**	**+0.5**
PB09	**IPOC Station P**	**2.44**	**138**	*e*P	**Pn**	**08 03 09.7**	**+0.8**
PB09				IAML		08 03 55.7	
	comp=Z,2μm,0.6s						
PB04	**IPOC Station P**	**2.48**	**162**		**Pn**	**08 03 08.0**	**-1.4**
PB04	**IPOC Station P**	**2.48**	**162**	*e*P	**Pn**	**08 03 08.3**	**-1.1**
PB04				IAML		08 03 57.6	
	comp=Z,1μm,0.5s						
PB05	**IPOC Station P**	**2.96**	**166**	*e*P	**Pn**	**08 03 14.5**	**-1.5**
PB05				IAML		08 04 16.8	
	comp=Z,538nm,0.5s						
PB06	**IPOC Station P**	**3.03**	**154**		**Pn**	**08 03 16.0**	**-0.9**
PB06	**IPOC Station P**	**3.03**	**154**	*e*P	**Pn**	**08 03 15.9**	**-0.9**
PB06				*e*S	**Sn**	**08 03 49.7**	**-3.0**
PB06				IAML		08 04 13.9	
	comp=Z,1μm,0.6s						
LVC	**Limon Verde**	**3.27**	**144**	Pn	**Pn**	**08 03 21.2**	**+0.9**
	comp=Z,19nm,0.3s,baz=310,slow=9.8,SNR=164						
LVC				Sn	**Sn**	**08 03 58.7**	**-0.1**
	comp=Z,66nm,0.3s,baz=90,slow=18,SNR=8.9						
LVC				Lg	Lg	08 04 08.9	
	comp=Z,82nm,0.3s,baz=85,slow=10,SNR=6.1						
LVC				LR	LR	08 04 10.7	
	comp=Z,79nm,19.7s,baz=318,slow=32						
LVC	**Limon Verde**	**3.27**	**144**		**Pn**	**08 03 20.9**	**+0.5**
LVC	**Limon Verde**	**3.27**	**144**	*e*P	**Pn**	**08 03 21.3**	**+0.9**
LVC				IAML		08 04 16.4	
	comp=Z,447nm,0.8s						
LVC	**Limon Verde**	**3.27**	**144**	*e*P	**Pn**	**08 03 21.4**	**+1.0**
PB15	**IPOC Station P**	**3.52**	**157**		**Pn**	**08 03 22.6**	**-1.1**
PB15	**IPOC Station P**	**3.52**	**157**	*e*P	**Pn**	**08 03 22.8**	**-0.9**
PB15				IAML		08 04 26.8	
	comp=Z,1μm,0.3s						
PB10	**IPOC Station P**	**3.55**	**173**	Pn	**Pn**	**08 03 22.4**	**-1.5**
PB10	**IPOC Station P**	**3.55**	**173**	*e*P	**Pn**	**08 03 22.5**	**-1.5**
LPAZ	**La Paz**	**4.56**	**37**	Pn	**Pn**	**08 03 41.5**	**+3.0**
	comp=Z,3.8nm,0.3s,baz=165,slow=2.3,SNR=31						
PB14	**IPOC Station P**	**4.66**	**173**		**Pn**	**08 03 38.0**	**-1.5**
PB14	**IPOC Station P**	**4.66**	**173**	*e*P	**Pn**	**08 03 38.0**	**-1.5**
PB14				IAML		08 05 16.5	
	comp=Z,163nm,0.6s						
GO02	**Mina Guanaco**	**5.33**	**166**	Pn	**Pn**	**08 03 48.1**	**-0.6**
YJA	**Yavi**	**5.57**	**114**	*e*P	Pn	08 03 56.9	+4.8
HJA	**Humahuaca**	**6.11**	**123**	*e*P	Pn	08 04 04.8	+5.2
AC01	**Pan de Azucar**	**6.16**	**177**	Pn	**Pn**	**08 03 59.3**	**-0.6**
AC04	**Llanos de Chal**	**8.20**	**180**	Pn	**Pn**	**08 04 26.4**	**-1.4**
LCO	**Las Campanas**	**9.00**	**178**	Pn	**Pn**	**08 04 38.6**	**-0.5**
NNA	**Nana**	**9.73**	**324**	LR	LR	08 07 28.4	
	comp=Z,38nm,21.2s,baz=156,slow=31						
GO04	**Tololo Observa**	**10.16**	**179**	Pn	**Pn**	**08 04 55.0**	**+0.1**
SIV	**San Ignacio**	**10.23**	**69**	Pn	**Pn**	**08 04 53.9**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=267,slow=10,SNR=43						
SIV				Sn	**Sn**	**08 06 48.0**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=284,slow=14,SNR=0.9						
ETMB	**Extrema**	**11.10**	**25**	*e*P	**Pn**	**08 05 06.3**	**-1.4**
PTLB	**Pontes e Lacer**	**12.16**	**70**	*e*P	**Pn**	**08 05 22.5**	**+0.3**
CZSB	**Cruzeiro do Su**	**12.28**	**352**	*e*P	**Pn**	**08 05 22.2**	**-1.6**
VILB	**Vilhena**	**12.48**	**58**	*e*P	**Pn**	**08 05 25.7**	**-0.9**
SAML	**Samuel**	**13.31**	**36**	Pn	**Pn**	**08 05 37.6**	**-0.3**
AQDB	**Aquidauana**	**14.37**	**95**	*e*P	**Pn**	**08 05 52.3**	**0.0**
H03N1	**Juan Fernandez**	**15.16**	**206**	T	T	08 21 49.2	
	baz=31						
H03N2	**Juan Fernandez**	**15.16**	**206**	T	T	08 21 47.3	
	baz=31						
H03N3	**Juan Fernandez**	**15.18**	**206**	T	T	08 21 50.1	
	baz=31						
TRCB	**Terra Rica**	**17.33**	**103**	*e*P	**Pn**	**08 06 32.0**	**+1.2**
PTGB	**Pitanga**	**18.13**	**109**	*e*P	**P**	**08 06 42.6**	**+1.6**
PCMB	**Pacaembu**	**18.52**	**98**	*e*P	**P**	**08 06 45.4**	**+0.1**
ITAB	**Concordia**	**18.72**	**116**	*e*P	**Pn**	**08 06 48.7**	**+0.8**
ARAG	**Araguaiana, MT**	**18.74**	**80**	*e*P	**P**	**08 06 48.4**	**+0.7**
ITRB	**Iturama**	**19.41**	**93**	*e*P	**P**	**08 06 54.8**	**-0.3**
ITRB				*e*S	**Sn**	**08 10 35.3**	**+1.6**
MACA	**Manacapuru-AM**	**19.50**	**32**	*e*P	**P**	**08 06 54.8**	**-1.3**
PLTB	**Pedras Altas**	**19.53**	**130**	*e*P	**P**	**08 06 55.2**	**-1.1**
NPGB	**Novo Progresso**	**19.88**	**52**	*e*P	**P**	**08 06 57.3**	**-2.9**
FRTB	**Fartura**	**20.20**	**103**	*e*P	**P**	**08 07 03.2**	**-0.4**
PTLC	**Puerto Leguiza**	**20.36**	**349**	*e*P	**P**	**08 06 59.3**	**-6.1**
CNLB	**Canela**	**20.51**	**121**	*e*P	**P**	**08 07 07.4**	**+0.4**
PLCA	**Paso Flores**	**20.70**	**179**	P	**P**	**08 07 10.2**	**+1.3**
	comp=Z,4.5nm,1.0s,baz=356,slow=11,SNR=5.1						
PLCA	**Paso Flores**	**20.70**	**179**	P	**P**	**08 07 08.7**	**-0.2**
PLCA	**Paso Flores**	**20.70**	**179**	*e*P	**P**	**08 07 10.3**	**+1.4**
BB19B	**Bebedouro**	**21.07**	**97**	*e*P	**P**	**08 07 12.3**	**-0.8**
OTAV	**Otavalo**	**21.37**	**339**	*e*P	**P**	**08 07 15.9**	**-0.9**
OTAV	**Otavalo**	**21.37**	**339**	*e*P	**P**	**08 07 14.5**	**-2.3**
IPMB	**Ipameri, GO**	**21.63**	**89**	*e*P	**P**	**08 07 18.5**	**-0.6**
CMBC	**Cumbal**	**21.84**	**341**	*e*P	**P**	**08 07 22.1**	**+0.4**
FLOC	**Florencia**	**21.90**	**347**	*e*P	**P**	**08 07 24.7**	**+2.7**
PTGA	**Pitinga**	**21.96**	**31**	P	**P**	**08 07 20.3**	**-2.3**
	comp=Z,6.2nm,0.3s,baz=209,slow=12,SNR=15						
GCUF	**Volcan Galeras**	**21.97**	**343**	*e*P	**P**	**08 07 27.3**	**+4.1**
BDFB	**Brasilia**	**22.29**	**83**	P	**P**	**08 07 25.7**	**-0.6**
	comp=Z,4.6nm,0.7s,baz=220,slow=15,SNR=3.8						
BDFB				LR	LR	08 17 33.8	
	comp=Z,135nm,20.8s,baz=342,slow=41						
BDFB	**Brasilia**	**22.29**	**83**	P	**P**	**08 07 25.6**	**-0.7**
GARC	**Garzon, Huila**	**22.46**	**348**	*e*P	**P**	**08 07 30.9**	**+2.6**
SOTA	**Rioblanco**	**22.65**	**345**	*e*P	**P**	**08 07 33.9**	**+3.4**
BBAC	**Balboa, Cauca**	**22.70**	**344**	*e*P	**P**	**08 07 33.9**	**+3.1**
PCON	**Cinco Dias**	**22.79**	**346**	*e*P	**P**	**08 07 35.8**	**+3.7**
POPC	**Popayan, Colom**	**23.06**	**345**	*e*P	**P**	**08 07 37.2**	**+2.7**
PRAC	**Prado**	**23.85**	**350**	*e*P	**P**	**08 07 41.1**	**-1.0**
PTGC	**Puerto Gaitan,**	**24.05**	**357**	*e*P	**P**	**08 07 42.7**	**-1.2**
ORTC	**Ortega, Tolima**	**24.10**	**350**	*e*P	**P**	**08 07 45.0**	**+0.5**
MALB	**Monte Alegre**	**24.32**	**44**	*e*P	**P**	**08 07 44.4**	**-2.1**
YOTC	**Yotoco, Valle**	**24.38**	**347**	*e*P	**P**	**08 07 49.0**	**+1.9**
BSCB	**Bom Sucesso**	**24.58**	**97**	*e*P	**P**	**08 07 49.0**	**+0.1**
CHIC	**Chingaza**	**24.59**	**353**	*e*P	**P**	**08 07 47.7**	**-1.7**
PRPB	**Paraupebas**	**24.73**	**59**	*e*P	**P**	**08 07 49.5**	**-0.8**
TOLC	**Tolima**	**24.77**	**350**	*e*P	**P**	**08 07 50.5**	**-0.4**
SMTB	**Santa Maria do**	**25.18**	**67**	*e*P	**P**	**08 07 54.6**	**+0.3**
MAN01	**Angra dos Reis**	**25.31**	**101**	*e*P	**P**	**08 07 55.4**	**-0.1**
GUY2C	**Guyana, Caldas**	**25.40**	**350**	*e*P	**P**	**08 07 55.9**	**-0.9**
RUSC	**La Rusia**	**25.78**	**355**	*e*P	**P**	**08 08 01.4**	**+1.2**
VAS01	**Vassouras-RJ**	**25.79**	**100**	*e*P	**P**	**08 08 00.1**	**+0.3**
MC01	**Montes Claros**	**25.87**	**87**	*e*P	**P**	**08 08 01.7**	**+1.1**
SDBA	**SAO DESIDERIO**	**26.13**	**77**	*e*P	**P**	**08 08 02.8**	**-0.3**
CBOC	**Ciudad Bolivar**	**26.14**	**349**	*e*P	**P**	**08 08 02.8**	**-0.7**
MCPB	**Macapa, AP**	**26.90**	**46**	*e*P	**P**	**08 08 08.6**	**-1.2**
MCPB				*e*S	**S**	**08 12 44.8**	**-0.9**
ZARC	**Zaragoza, Cauc**	**27.55**	**352**	*e*P	P	08 08 07.3	-8.4
SJMB	**Sao Joao De Ma**	**28.14**	**92**	*e*P	**P**	**08 08 21.4**	**+0.4**
BSFB	**Barra de Sao F**	**28.44**	**93**	*e*P	**P**	**08 08 23.0**	**-0.6**
DLPL	**La Plaine**	**36.37**	**16**	P	**P**	**08 09 32.7**	**-0.2**
SNET	**Serv Nac Est T**	**37.96**	**330**	P	**P**	**08 09 46.9**	**+0.4**
PDPR	**Patillas Dam,**	**38.07**	**8**	P	**P**	**08 09 46.6**	**-0.7**
PDPR				IAmb	IAmb	08 10 01.0	
	comp=Z,18nm,1.3s						
MTP	**Monte Pirata**	**38.21**	**8**	P	**P**	**08 09 48.2**	**-0.3**
MTP				IAmb	IAmb	08 10 06.9	
	comp=Z,20nm,1.4s						
TXAR	**Lajitas Array**	**58.27**	**326**	P	**P**	**08 12 23.8**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=153,slow=8.1,SNR=3.0						
SNAA	**Sanae**	**64.35**	**161**

comp=N,1648μm,0.6s
FNA Florina 0.53 110 P Pg 08 24 58.8 -0.5
baz=109
FNA S Sb 08 25 07.0 -0.6
baz=109
NEST Nestorio 0.60 156 P Pg 08 24 59.9 -0.8
NEST S Sb 08 25 09.9 +0.1
comp=N,438nm,0.6s
NEST Nestorio 0.60 156 P Pg 08 24 59.8 -0.9
NEST S Sg 08 25 08.4 -0.2
NEST AML AML 08 25 10.8
comp=E,982μm,0.2s
NEST AML AML 08 25 11.1
comp=N,743μm,0.4s
PHP Peshkopia 0.75 344 P Pg 08 25 02.4 -1.1
PHP S Sg 08 25 13.0 -0.4
PHP Peshkopia 0.75 344 P Pg 08 25 02.4 -1.1
baz=345
PHP S Sb 08 25 14.0 -0.2
baz=345
TIR Tirane 0.75 301 P Pg 08 25 02.6 -0.9
TIR S Sb 08 25 13.7 -0.5
comp=N,182nm,0.7s
TIR Tirane 0.75 301 *e*Pg **Pg 08 25 02.0 -1.5**
TIR *e*Sg **Sb 08 25 13.7 -0.5**
TIR Tirane 0.75 301 P Pg 08 25 02.7 -0.8
TIR Tirane 0.75 301 P Pg 08 25 02.5 -1.0
baz=301
TIR S Sb 08 25 13.7 -0.5
baz=301
LSK Leskovik 0.82 187 P Pg 08 25 03.9 -0.9
baz=187
LSK S Sb 08 25 15.8 -0.2
baz=187
PENT Pentalofos 0.83 157 P Pg 08 25 03.9 -1.1
PENT Pentalofos 0.83 157 P Pg 08 25 04.1 -0.9
PENT S Sb 08 25 16.5 +0.1
PENT AML AML 08 25 20.6
comp=E,522μm,0.4s
PENT AML AML 08 25 21.0
comp=N,508μm,0.5s
KZN Kozani 1.03 129 P Pb 08 25 07.7 -1.0
KZN S Sn 08 25 23.6 0.0
comp=N,315nm,0.6s
KZN Kozani 1.03 129 P Pb 08 25 07.7 -1.0
KZN S Sn 08 25 23.1 -0.5
KZN AML AML 08 25 27.5
comp=N,621μm,0.5s
KZN AML AML 08 25 28.7
comp=E,673μm,0.6s
KPRO Kipourio 1.12 154 P Pb 08 25 09.2 -1.0
KPRO Kipourio 1.12 154 P Pb 08 25 09.2 -1.0
KPRO S Sn 08 25 26.2 +0.4
KPRO AML AML 08 25 29.7
comp=E,420μm,0.6s
KPRO AML AML 08 25 30.6
comp=N,328μm,0.5s
SKO Skopje 1.14 28 *e*Pg **Pn 08 25 10.5 -0.2**
SKO Skopje 1.14 28 *i* Pg **Pg 08 25 11.8 +0.9**
SKO *i* Sg **Sn 08 25 26.3 0.0**
KTI Kastanea 1.20 118 P Pn 08 25 11.2 -0.4
SRN Sarande 1.21 207 P Pg 08 25 12.6 +0.3
SRN S Sg 08 25 30.4 +2.3
comp=N,120nm,0.8s
SRN Sarande 1.21 207 P Pg 08 25 12.3 0.0
baz=207
SRN S Sg 08 25 29.7 +1.6
baz=207
PUK Puka 1.25 330 P Pn 08 25 11.8 -0.4
baz=331
PUK S Sg 08 25 30.4 +1.2
baz=331
STIP Stip 1.32 56 *i* Pn **Pg 08 25 16.6 +2.3**
KEK Kerkira 1.44 210 P Pb 08 25 15.9 +0.3
KEK Kerkira 1.44 210 P Pg 08 25 16.0 -0.4
VAY Valandovo 1.44 75 *e*Pg **Pb 08 25 15.9 +0.3**
VAY *e*Sg **Sg 08 25 34.7 -0.6**
VAY Valandovo 1.44 75 *i* Pg **Pb 08 25 16.0 +0.3**
VAY *i* Sg **Sg 08 25 35.7 +0.4**
VAY *e*Lg Lg 08 25 37.3
comp=N,81nm,0.7s
VAY *e*Lg Lg 08 25 38.1
comp=E,70nm,0.8s
IGT Igoumenitsa 1.46 192 P Pb 08 25 15.5 -0.5
IGT Igoumenitsa 1.46 192 *e*Pg **Pg 08 25 16.9 -0.1**
IGT *e*Sg **Sg 08 25 38.0 +2.1**
IGT Igoumenitsa 1.46 192 P Pb 08 25 15.5 -0.5
IGT Igoumenitsa 1.46 192 P Pb 08 25 16.4 +0.4
baz=192
IGT S Sg 08 25 37.0 +1.1
baz=192
BCI Bajram Curri 1.49 341 P Pb 08 25 16.3 -0.2
baz=342
BCI S Sg 08 25 37.6 +0.8
baz=342
KNT Kendrikon 1.66 82 P Pb 08 25 18.6 -0.8
THL Klokotos Trika 1.71 144 P Pn 08 25 18.4 -0.1
PDG Podgorica 1.83 324 *e*Pn **Pb 08 25 21.6 -0.7**
PDG *e*Sg **Sg 08 25 47.9 0.0**
KKB Krupnik 1.99 62 *e*P **Pb 08 25 24.1 -1.0**
BOSS Bosilegrad 2.02 40 *e*Pg **Pn 08 25 23.8 +1.0**
BARS Barje 2.02 23 *e*Pn **Pn 08 25 23.8 +1.0**
BARS Barje 2.02 23 *e*Pn Pg 08 25 39.2 +11
SRS Serrai 2.17 85 *e*Pn **Pn 08 25 25.7 +0.8**
SELS Selova 2.27 7 *e*Pn **Pn 08 25 26.9 +0.6**
SJES Sjenica 2.36 347 *e*Pn **Pb 08 25 29.4 -2.1**
SJES *e*Sg **Sg 08 24 04.6 -0.3**
VTS Vitosha 2.50 48 *e*P **Pn 08 25 31.0 +1.5**
ANX Ano Chora 2.54 158 P Pb 08 25 32.2 -2.3
DBRK Dubrovnik 2.57 312 *e*Pn **Pn 08 25 31.8 +1.4**
DBRK Sn **Sb 08 26 04.0 -2.5**
ZAPS Zavoj 2.71 31 *e*Pn **Pn 08 25 33.0 +0.7**
BOVS Bovan 2.77 15 *e*Pn **Pn 08 25 33.6 +0.6**
ZAGS Zajecar 3.06 21 *e*Pn **Pn 08 25 37.7 +0.7**
BBLS Lazići 3.06 342 *e*Pn **Pn 08 25 38.9 +1.8**
LSTV Lastovo 3.38 303 *e*Pn **Pn 08 25 42.1 +0.7**
LSTV Sn **Sn 08 26 21.4 -0.1**
RICI Ricice 3.67 315 *e*Pn **Pn 08 25 47.3 +1.8**
RICI Sn **Sn 08 26 30.2 +1.5**
KIJV Kijevo 4.41 315 *e*Pn **Pn 08 25 56.8 +1.2**
KIJV Sn **Sn 08 26 48.2 +1.4**
MORI Morici 4.71 310 *e*Pn **Pn 08 26 00.8 +1.1**
MORI Sn **Sn 08 26 54.7 +0.4**
DUGI Dugi Otok 5.17 308 *e*Pn **Pn 08 26 06.6 +0.6**
DUGI Sn **Sn 08 27 06.1 +0.6**
NVLJ Novalja 5.61 312 *e*Pn **Pn 08 26 12.5 +0.4**
NVLJ Sn **Sn 08 27 15.8 -0.7**

MOS ***26*** *08:49:44.3±0.7, 41°.62N×142°.11E, h68km, mb4.6/12, Error ellipse: s-maj=8.4km s-min=6.9km az=98.7*
NIED ***26*** *08:49:45.1, 41°.58N×142°.06E, h65km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.27; Mθθ-0.30; Mφφ-0.97; Mrθ0.45; Mθφ-0.35; Mφr1.37; Fault plane solution: M₀1.88000×10¹⁵ NP1:φs19.00000°, δ70.00000°, λ88.00000°. NP2:φs206.00000°, δ20.00000°, λ96.00000°.*
JMA ***26*** *08:49:45.1±0.1, 41°.58N×142°.06E, h65km±2km, M4.0*
JMA Felt II J1.
NEIC ***26*** *08:49:45.8±1.3, 41°.60N±0°.05×142°.09E±0°.04, h67km±7km, mb4.5/17, Error ellipse: s-maj=7.1km s-min=3.9km az=190.0*
IDC ***26*** *08:49:46.8±0.7, 41°.58N×142°.05E, h74km±5km, mb3.8/19, mb1 3.9/23, mb1mx3.8/50, mbtmp4.1/23, MS3.1/7, Ms1 3.1/7, ms1mx2.8/45, Error ellipse: s-maj=13.4km s-min=9.2km az=114.0*

ISC 26 08:49:45.5±0.5, 41°.57N±0°.03×142°.10E±0°.03, h63km±4km, h62km: pP-P, n128, σ1§07/146, mb4.3/38, 8C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.65**	**242**	P	**Pn**	**08 49 59.2**	**-0.1**
JAHD				*e*S	**Sn**	**08 50 09.3**	**-0.1**
JARK	**Aomorirokkasho**	**0.79**	**225**	⇓P	**Pn**	**08 50 00.3**	**-0.7**
JARK				*e*S	**Sn**	**08 50 11.3**	**-1.0**
JOT	**Ohata**	**0.81**	**257**	⇓P	**Pn**	**08 50 00.6**	**-0.6**
JOT				*e*S	**Sn**	**08 50 12.1**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.86**	**34**	P	**Pn**	**08 50 01.4**	**-0.4**
JKB	**Kayabe**	**0.86**	**292**	⇓P	**Pn**	**08 50 00.9**	**-0.9**
JKB				*e*S	**Sn**	**08 50 13.1**	**-0.7**
JSHD	**Hidakashinhida**	**0.88**	**18**	P	**Pn**	**08 50 02.7**	**+0.6**
ERM	**Erimo**	**0.91**	**60**	P	**Pn**	**08 50 02.4**	**0.0**
ERM						08 50 15.3	
ERM	**Erimo**	**0.91**	**60**		**Pn**	**08 50 02.4**	**0.0**
ERM				Sn	**Sn**	**08 50 15.3**	**+0.5**
JEM	**Erimo**	**0.91**	**60**	⇑P	**Pn**	**08 50 02.2**	**-0.2**
JEM				*e*S	**Sn**	**08 50 15.4**	**+0.5**
JIAM	**Iburiatsuma**	**1.06**	**353**	⇓P	**Pn**	**08 50 04.8**	**+0.5**
JTM	**Tenmabayashi**	**1.11**	**225**	⇓P	**Pn**	**08 50 04.8**	**-0.2**
JTM				*e*S	**Sn**	**08 50 18.8**	**-0.7**
JTM	**Tenmabayashi**	**1.11**	**225**		**Pn**	**08 50 05.1**	**+0.1**
JNB	**Noboribetsu**	**1.19**	**319**	⇓P	**Pn**	**08 50 05.3**	**-0.8**
JNB				*e*S	**Sn**	**08 50 20.2**	**-1.4**
JBT2	**Biratori 2**	**1.22**	**9**	P	**Pn**	**08 50 06.9**	**+0.4**
JSR	**Shiriuchi**	**1.26**	**269**	⇓P	**Pn**	**08 50 06.7**	**-0.3**
JSR				*e*S	**Sn**	**08 50 22.8**	**-0.4**
JANG	**Nango**	**1.28**	**200**	P	**Pn**	**08 50 06.8**	**-0.5**
JANG				*e*S	**Sn**	**08 50 22.6**	**-1.0**
JEW	**Eniwo**	**1.35**	**339**	⇓P	**Pn**	**08 50 08.4**	**+0.1**
JEW				*e*S	**Sn**	**08 50 25.0**	**-0.4**
JEW	**Eniwo**	**1.35**	**339**		**Pn**	**08 50 08.4**	**+0.1**
JEW				Sn	**Sn**	**08 50 25.6**	**+0.2**
JCH	**Churui**	**1.40**	**42**	P	**Pn**	**08 50 09.7**	**+0.8**
JYM2	**Yakumo 2**	**1.40**	**293**	⇓P	**Pn**	**08 50 08.8**	**-0.1**
JOMM	**Oshimamatsumae**	**1.57**	**269**	⇓P	**Pn**	**08 50 10.7**	**-0.5**
JFR	**Furan**	**1.63**	**13**	P	**Pn**	**08 50 12.3**	**+0.3**
JOSM	**Okushiri--Mats**	**2.03**	**285**	P	**Pn**	**08 50 16.6**	**-0.7**
JOSM				*e*S	**Sn**	**08 50 40.6**	**-0.9**
JAR	**Ashorobuto**	**2.12**	**35**	P	**Pn**	**08 50 19.0**	**+0.4**
JAR				*e*S	**Sn**	**08 50 44.0**	**+0.2**
JSK	**Shakotan**	**2.15**	**326**	P	**Pn**	**08 50 19.0**	**+0.1**
JKA	**Kamikawa-asahi**	**2.57**	**8**	Pn	**Pn**	**08 50 24.9**	**+0.2**
JKA					**Sn**	**08 50 53.1**	**-1.6**
ASAJ	**Asahikawa**	**2.57**	**8**	P	**Pn**	**08 50 25.1**	**+0.4**
21nm,0.3s,baz=210,slow=11,SNR=33							
ASAJ				S	**Sn**	**08 50 56.9**	**+2.2**
9.0nm,0.3s,baz=315,slow=30,SNR=12							
NMR	**Nemuro--Hokkai**	**3.23**	**55**	⇑*i*P	**Pn**	**08 50 32.4**	**-1.3**
NMR				*i* S	**Sn**	**08 51 06.9**	**-4.0**
GLVR	**Golovnino**	**3.32**	**48**	*e*P	**Pn**	**08 50 35.2**	**+0.2**
GLVR				*i* S	**Sn**	**08 51 12.9**	**-0.3**
GLVR				pmax	pmax		
comp=Z,103nm,0.2s							
GLVR				pmax	pmax		
comp=E,47nm,0.1s							
GLVR				smax	smax		
comp=E,330nm,0.3s							
GLVR				smax	smax		
comp=N,249nm,0.2s							
GRPR	**Tuman**	**3.63**	**47**	*e*P	**Pn**	**08 50 39.6**	**+0.5**
GRPR				*i* S	**Sn**	**08 51 19.6**	**-1.0**
GRPR				pmax	pmax		
comp=Z,75nm,0.3s							
GRPR				pmax	pmax		
comp=E,58nm,0.2s							
GRPR				smax	smax		
comp=N,177nm,0.2s							
GRPR				smax	smax		
comp=E,157nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**3.70**	**47**	P	**Pn**	**08 50 40.1**	**0.0**
YUK				*i* S	**Sn**	**08 51 20.9**	**-1.6**
YUK				pmax	pmax		
comp=E,86nm,0.2s							
YUK				pmax	pmax		
comp=Z,281nm,0.2s							
YUK				pmax	pmax		
comp=N,130nm,0.1s							
YUK				smax	smax		
comp=N,409nm,0.6s							
YUK				smax	smax		
comp=E,378nm,0.5s							
JMM	**Marumori**	**3.84**	**196**	Pn	**Pn**	**08 50 43.3**	**+1.2**
JSD	**Sado**	**4.61**	**221**	Pn	**Pn**	**08 50 54.0**	**+1.5**
TEY	**Ternei**	**5.30**	**313**	⇑*e*P	**Pn**	**08 51 01.7**	**-0.3**
TEY				pmax	pmax		
comp=N,10.0nm,0.7s							
TEY				pmax	pmax		
comp=E,10.0nm,0.7s							
TEY				pmax	pmax		
comp=Z,10.0nm,0.7s							
JYT	**Yasato**	**5.54**	**196**	Pn	**Pn**	**08 51 07.0**	**+1.7**
MJB9	**Matsu-Tunnel**	**5.86**	**212**	Pn	**Pn**	**08 51 10.4**	**+0.5**
MAJO	**Matsushiro**	**5.87**	**212**	P	**Pn**	**08 51 11.1**	**+1.2**
MAJO	**Matsushiro**	**5.87**	**212**	Pn	**Pn**	**08 51 11.1**	**+1.2**
MJAR	**Matsushiro Arr**	**5.87**	**212**	P	**Pn**	**08 51 11.9**	**+2.0**
comp=Z,0.2nm,0.3s,baz=17,slow=16,SNR=7.3							
MJAR				LR	LR	08 53 48.2	
comp=Z,70nm,19.0s,baz=350,slow=41							
MJAR	**Matsushiro Arr**	**5.87**	**212**		**Pn**	**08 51 11.3**	**+1.5**
JGF	**Kuroka**	**7.03**	**213**	Pn	**Pn**	**08 51 25.1**	**-0.6**
USA0B	**Ussuriysk Arra**	**7.88**	**293**	P	**Pn**	**08 51 37.1**	**-0.2**
USA0B	**Ussuriysk Arra**	**7.88**	**293**	Pn	**Pn**	**08 51 37.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**7.88**	**293**	P	**Pn**	**08 51 38.0**	**+0.8**
baz=96,slow=13,SNR=13							
USRK	**Ussuriysk Ar.**	**7.88**	**293**	Pn	**Pn**	**08 51 37.5**	**+0.3**
JWT	**Wachi**	**8.19**	**222**	Pn	**Pn**	**08 51 43.6**	**+2.0**
JHS	**Saijyo**	**9.64**	**230**	Pn	**Pn**	**08 52 00.9**	**-0.5**
KSRS	**Korea Array**	**11.70**	**254**	P	**Pn**	**08 52 31.8**	**+2.3**
comp=Z,1.1nm,0.3s,baz=66,slow=13,SNR=11							
KSRS				S	**Sn**	**08 54 40.0**	**+1.7**
comp=Z,0.3nm,0.3s,baz=62,slow=11,SNR=1.6							
KSRS				LR	LR	08 56 21.3	
comp=Z,79nm,21.7s,baz=96,slow=34							
JNU	**Nakatsue**	**12.28**	**230**	LR	LR	08 56 49.4	
comp=Z,78nm,19.1s,baz=46,slow=34							
ZEA	**Zeya**	**15.71**	**326**	*e*P	**Pn**	**08 53 20.9**	**-1.8**
ZEA				pmax	pmax		
comp=Z,20nm,1.0s							
ULN	**Ulaanbaatar**	**25.53**	**296**	*ce*P	**P**	**08 55 07.8**	**-0.4**
ULN				pmax	pmax		
comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**25.97**	**296**	P	**P**	**08 55 12.6**	**+0.4**
comp=Z,1.7nm,0.5s,baz=85,slow=8.1,SNR=8.1							
SONM				LR	LR	09 06 08.6	
comp=Z,45nm,20.0s,baz=154,slow=38							
SONM	**Songino Array**	**25.97**	**296**	P	**P**	**08 55 11.5**	**-0.8**
TLY	**Talaya**	**27.98**	**304**	*i* P	**P**	**08 55 30.7**	**+0.7**
TLY				pmax	pmax		
comp=Z,8.0nm,1.0s							
ZAK	**Zakamensk**	**28.10**	**302**	*e*P	**P**	**08 55 27.1**	**-4.2**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**30.29**	**128**	T	T	09 28 25.8	
baz=321,slow=76,SNR=86							
H11N1	**WAKE ISLAND Hy**	**30.30**	**128**	T	T	09 28 25.0	
baz=321,slow=61,SNR=61							
H11N3	**WAKE ISLAND Hy**	**30.31**	**128**	T	T	09 28 26.7	
baz=321,slow=76,SNR=71							
H11S1	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	09 29 24.7	
baz=323,slow=76,SNR=55							
H11S3	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	09 29 25.1	
baz=323,slow=76,SNR=29							
H11S2	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	09 29 26.1	
baz=323,slow=76,SNR=30							
DGZ	**Jazzator, Alta**	**38.32**	**301**	*i* P	**P**	**08 57 00.0**	**-0.1**
DGZ				pmax	pmax		
comp=Z,6.0nm,1.0s							
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**08 57 08.0**	**-0.6**
comp=Z,3.0nm,0.4s,baz=82,slow=7.8,SNR=3.9							
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**08 57 08.6**	**-0.1**
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**08 57 08.6**	**-0.1**
MK31	**Makanchi Array**	**42.30**	**298**	P	**P**	**08 57 32.3**	**-0.6**
MK31				pmax	pmax		
comp=Z,4.0nm,1.1s							
MK31	**Makanchi Array**	**42.30**	**298**	P	**P**	**08 57 32.3**	**-0.6**
MKAR	**Makanchi Array**	**42.30**	**298**	P	**P**	**08 57 32.2**	**-0.7**
comp=Z,3.3nm,0.9s,baz=85,slow=7.9,SNR=9.8							
MKAR				PcP	**PcP**	**08 59 25.2**	**-0.3**
comp=Z,0.3nm,0.3s,baz=75,slow=5.3,SNR=4.1							
MKAR	**Makanchi Array**	**42.30**	**298**	*ce*P	**P**	**08 57 32.7**	**-0.2**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**42.30**	**298**	P	**P**	**08 57 32.0**	**-0.9**
MAKZ	**Makanchi**	**42.51**	**298**	P	**P**	**08 57 34.6**	**+0.1**
MAKZ				pmax	pmax		
comp=Z,5.0nm,1.0s							
MAKZ	**Makanchi**	**42.51**	**298**	P	**P**	**08 57 34.6**	**+0.1**
IMAR	**Indian Mountat**	**42.52**	**33**	P	**P**	**08 57 34.4**	**0.0**
CMAR	**Chiang Mai Arr**	**43.32**	**251**	P	**P**	**08 57 41.8**	**+0.5**
comp=Z,0.6nm,0.3s,baz=49,slow=8.5,SNR=1.8							
KDAK	**Kodiak Island**	**43.44**	**45**	P	**P**	**08 57 42.1**	**+0.3**
comp=Z,3.2nm,0.8s,baz=297,slow=4.5,SNR=2.6							
KURK	**Kurchatov**	**43.67**	**305**	P	**P**	**08 57 44.0**	**+0.2**
KURK				*PP	**pP**	**08 58 00.3**	**+0.9**
KURK	**Kurchatov**	**43.67**	**305**	P	**P**	**08 57 44.0**	**+0.2**
KURK				IAmb	IAmb	08 57 48.4	
comp=Z,6.6nm,1.0s							
KURBB	**Kurchatov Arra**	**43.75**	**304**	P	**P**	**08 57 44.0**	**-0.5**
comp=Z,3.6nm,0.5s,baz=79,slow=8.7,SNR=20							
KURBB				pP	**pP**	**08 58 00.3**	**+0.3**
comp=Z,1.3nm,0.5s,baz=77,slow=9.0,SNR=3.6							
ILAR	**Eielson Array**	**45.42**	**35**	P	**P**	**08 57 57.0**	**-0.6**
comp=Z,2.4nm,0.8s,baz=267,slow=6.3,SNR=25							
ILAR				pP	**pP**	**08 58 16.0**	**+2.8**
comp=Z,0.8nm,0.9s,baz=275,slow=7.6,SNR=3.3							
TARG	**Taragay, Kyrgy**	**47.00**	**293**	P	**P**	**08 58 10.5**	**-0.4**
BCAR	**Beaver Creek A**	**47.89**	**37**	P	**P**	**08 58 15.8**	**-1.2**
BOOM	**Boomskoye usch**	**47.99**	**294**	P	**P**	**08 58 18.5**	**+0.3**
BOOM				pmax	pmax		
comp=Z,4.0nm,0.9s							
BOOM	**Boomskoye usch**	**47.99**	**294**	P	**P**	**08 58 18.5**	**+0.3**
BOOM				IAmb	IAmb	08 58 19.5	
comp=Z,4.0nm,0.8s							
BVAR	**Borovoye Array**	**48.01**	**309**	P	**P**	**08 58 18.3**	**+0.3**
comp=Z,2.3nm,0.4s,baz=122,slow=4.4,SNR=19							
BRVK	**Borovoye**	**48.06**	**310**	*ce*P	**P**	**08 58 19.7**	**+1.4**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.3s							
BRVK	**Borovoye**	**48.06**	**310**	P	**P**	**08 58 18.3**	**0.0**
BRVK				IAmb	IAmb	08 58 20.4	
comp=Z,4.5nm,1.1s							
INK	**Inuvik**	**50.13**	**29**	P	**P**	**08 58 34.6**	**+0.8**
comp=Z,1.6nm,0.5s,baz=281,slow=6.7,SNR=12							
INK	**Inuvik**	**50.13**	**29**	P	**P**	**08 58 33.6**	**-0.3**
KK31	**Karatay Array**	**51.41**	**297**	P	**P**	**08 58 43.8**	**-0.2**
KK31				pmax	pmax		
comp=Z,6.0nm,1.4s							
KK31	**Karatay Array**	**51.41**	**297**	P	**P**	**08 58 43.8**	**-0.2**
KK31				IAmb	IAmb	08 58 44.4	
comp=Z,6.0nm,1.4s							
KKAR	**Karatay Array**	**51.41**	**297**	P	**P**	**08 58 43.3**	**-0.7**
KKAR	**Karatay Array**	**51.41**	**297**	P	**P**	**08 58 43.3**	**-0.7**
ARU	**Arti**	**53.37**	**317**	*c i* P	**P**	**08 58 58.0**	**-0.2**
ARU				S	**S**	**09 06 29.4**	**+4.1**
ARU				SS	**SS**	**09 10 05.6**	**+0.3**
ARU				pmax	pmax		
comp=Z,8.0nm,1.4s							
ABKAR	**Akbulak array**	**55.49**	**308**	P	**P**	**08 59 13.4**	**-0.3**
ABKAR				IAmb	IAmb	08 59 23.2	
comp=Z,3.2nm,0.8s							
ABKAR	**Akbulak array**	**55.49**	**308**	P	**P**	**08 59 12.9**	**-0.8**
AKTO	**Aktyubinsk**	**56.10**	**310**	P	**P**	**08 59 19.0**	**+0.9**
comp=Z,1.2nm,0.5s,baz=60,slow=11,SNR=5.3							
AKTO	**Aktyubinsk**	**56.10**	**310**	P	**P**	**08 59 19.0**	**+0.9**
KBS	**Kingsbay**	**56.28**	**350**	*i* P	**P**	**08 59 19.6**	**+0.6**
KBS				pmax	pmax		
comp=Z,14nm,1.1s							
KIRV	**Kirov**	**56.99**	**321**	*i* P	**P**	**08 59 24.8**	**+0.6**
RES	**Resolute Bay**	**58.08**	**15**	P	**P**	**08 59 31.2**	**-0.4**
RES				pmax	pmax		
comp=Z,14nm,1.1s							
RES	**Resolute Bay**	**58.08**	**15**	P	**P**	**08 59 31.2**	**-0.4**
WB0	**Warramunga Arr**	**61.45**	**188**	P	**P**	**08 59 53.8**	**-1.5**
WB0				IAmb	IAmb	08 59 58.8	
comp=Z,6.4nm,1.4s							
WR0	**Warramunga Arr**	**61.62**	**188**	P	**P**	**08 59 55.9**	**-0.6**
WR0				IAmb	IAmb	08 59 58.3	
comp=Z,5.2nm,1.3s							
WB2	**Warramunga Arr**	**61.62**	**188**	P	**P**	**08 59 56.0**	**-0.6**
WB2				IAmb	IAmb	08 59 57.1	
comp=Z,6.0nm,1.2s							
WRA	**Warramunga Arr**	**61.62**	**188**	P	**P**	**08 59 55.6**	**-0.9**
comp=Z,1.7nm,0.8s,baz=6.0,slow=7.1,SNR=16							
WRA	**Warramunga Arr**	**61.62**	**188**	P	**P**	**08 59 56.0**	**-0.6**
WRA	**Warramunga Arr**	**61.62**	**188**	P	**P**	**08 59 56.0**	**-0.6**
GEYT	**Alibeck**	**62.17**	**297**	P	**P**	**08 59 59.2**	**-1.1**
comp=Z,1.4nm,0.4s,baz=8.5,slow=11,SNR=2.2							
GEYT	**Alibeck**	**62.17**	**297**	P	**P**	**08 59 59.5**	**-0.8**
FIA1	**FINESS Array S**	**65.06**	**332**	P	**P**	**09 00 18.3**	**-0.6**
FINES	**FINESS Array B**	**65.06**	**332**	P	**P**	**09 00 18.3**	**-0.5**
comp=Z,6.7nm,0.9s,baz=43,slow=7.8,SNR=18							
FINES				pP	**pP**	**09 00 37.9**	**+2.6**
comp=Z,1.2nm,0.5s,baz=60,slow=7.5,SNR=1.5							
FINES				LR	LR	09 34 06.8	
comp=Z,15nm,18.3s,baz=196,slow=41							
FINES	**FINESS Array B**	**65.06**	**332**	*i* P	**P**	**09 00 18.7**	**-0.1**
FINES				pmax	pmax		
comp=Z,3.0nm,0.5s							
ASAR	**Alice Springs**	**65.35**	**188**	P	**P**	**09 00 21.2**	**+0.1**
comp=Z,0.8nm,0.8s,baz=9.5,slow=7.5,SNR=6.7							
KIV	**Kislovodsk**	**68.37**	**310**	*e*P	**P**	**09 00 40.3**	**0.0**
KIV				pmax	pmax		
comp=Z,27nm,1.1s							
NB2	**NORSAR Subarra**	**70.22**	**337**	P	**P**	**09 00 51.0**	**-0.4**
comp=Z,0.5nm,0.4s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**70.22**	**337**	P	**P**	**09 00 51.1**	**-0.2**
comp=Z,0.4nm,0.5s,baz=36,slow=6.3,SNR=3.6							
NOA				LR	LR	09 34 19.8	
comp=Z,14nm,21.7s,baz=285,slow=38							
AKASG	**Malin Array Be**	**71.05**	**322**	P	**P**	**09 00 56.5**	**-0.1**
comp=Z,1.1nm,0.4s,baz=46,slow=6.1,SNR=6.6							
AKBB	**Malin Array Si**	**71.05**	**322**	*ce*P	**P**	**09 00 56.7**	**+0.1**
NVAR	**Mina Array Bea**	**71.88**	**55**	P	**P**	**09 01 02.0**	**-0.1**
comp=Z,0.2nm,0.5s,baz=295,slow=8.8,SNR=2.3							
NVAR				pP	**PcP**	**09 01 22.4**	**+1.8**
comp=Z,0.1nm,0.3s,baz=266,slow=32,SNR=3.2							
PDAR	**Pinedale Array**	**74.13**	**47**	P	**P**	**09 01 15.9**	**+0.5**
comp=Z,0.2nm,0.5s,baz=320,slow=6.1,SNR=2.4							
PDAR				pP	**sP**	**09 01 36.1**	**-2.7**
comp=Z,0.3nm,0.6s,baz=270,slow=0.6,SNR=2.9							
BRTR	**Keskin Array B**	**76.26**	**311**	P	**P**	**09 01 28.2**	**+0.7**
comp=Z,0.3nm,0.3s,baz=113,slow=3.3,SNR=2.4							
CLL	**Collm**	**77.43**	**330**	*e*P	**P**	**09 01 32.0**	**-1.7**
CLL	**Collm**	**77.43**	**330**	*e*P	**P**	**09 01 32.0**	**-1.7**
TXAR	**Lajitas Array**	**86.94**	**53**	pP	pP	09 02 45.0	+4.0
comp=Z,0.3nm,0.7s,baz=280,slow=3.7,SNR=3.6							
ESDC	**Sonseca Array**	**93.44**	**334**	LR	LR	09 48 43.2	
comp=Z,22nm,19.7s,baz=90,slow=38							
H03N2	**Juan Fernandez**	**146.71**	**89**	T	T	11 54 15.0	
baz=299,slow=76,SNR=4.2							
H03N3	**Juan Fernandez**	**146.72**	**89**	T	T	11 54 14.5	
baz=299,slow=76,SNR=5.3							
H03N1	**Juan Fernandez**	**146.72**	**89**	T	T	11 54 15.5	
baz=299,slow=76,SNR=4.3							

BUC 26 08:59:22.4±0.5, 46°.13N×23°.26E, h8km±3km, ml1.5/5, 10C-16D, Error ellipse: s-maj=4.5km s-min=2.5km az=173.0, Romania

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

KARG SG Sb 09 19 24.1 -0.1
AKK2 Akkuyu-Mersin 0.40 312 PG Pb 09 19 18.8 -0.2
AKK1 Akkuyu-Mersin 0.41 312 PG Pb 09 19 18.9 -0.3
AKKU Akkuyu-Mersin 0.41 315 PG Pb 09 19 19.0 -0.2
IKL Isikli 0.41 334 PG Pg 09 19 18.9 +0.3
IKL SG Sb 09 19 25.3 0.0
GULN MERSIN_Gulnar 0.43 316 *i* P Pg 09 19 19.1 +0.1
GULN *i* S Sb 09 19 26.0 +0.1
GULN IAML 09 19 28.0
comp=E,24nm,0.1s
GULN IAML 09 19 30.0
comp=N,19nm,0.5s
KIZK Mersin 0.64 17 *i* P Pg 09 19 22.9 +0.1
KIZK *i* S Sn 09 19 33.5 -1.2
KIZK IAML 09 19 40.0
comp=N,27nm,0.9s
KIZK IAML 09 19 45.0
comp=E,24nm,1.5s
TEKE Tekeli-Mersin 0.70 293 PG Pb 09 19 24.4 +0.2
KERG Konya-Eregli 1.55 6 *i* P Pg 09 19 39.6 -0.6
KERG *i* S Sg 09 20 01.8 +1.5
KERG IAML 09 20 06.0
comp=E,9.4nm,0.5s
GULE Gulek 1.57 26 *i* P Pg 09 19 42.7 +2.1
GULE *i* S Sg 09 20 05.8 +4.8
GULE IAML 09 20 06.0
comp=N,22nm,2.0s
GULE IAML 09 20 11.0
comp=E,24nm,1.1s

DDA 26 09:19:32.3, 37.60N×31.26E, h7km±5km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAGO	**Egridir - ISPA**	**0.54**	**316**	*i* P	Pg	09 19 42.1	-0.7
BAGO				*i* S	Sb	09 19 51.6	-0.5
BAGO				IAML		09 19 52.0	
	comp=N,8.2nm,0.4s						
BAGO				IAML		09 19 53.0	
	comp=E,10nm,0.3s						
DOGA	**KONYA_Doganhis**	**0.60**	**33**	*i* P	Pg	09 19 43.6	-0.4
DOGA				*i* S	Sg	09 19 52.8	+1.0
DOGA				IAML		09 19 55.0	
	comp=E,20nm,0.6s						
DOGA				IAML		09 19 56.0	
	comp=N,18nm,0.4s						
KEPZ	**Antalya-Kepez**	**0.75**	**158**	*i* P	Pg	09 19 43.2	-3.5
KEPZ				*i* S	Sb	09 19 58.2	+0.1
KEPZ				IAML		09 20 46.0	
	comp=N,17nm,1.8s						
KEPZ				IAML		09 20 46.0	
	comp=E,13nm,1.9s						
KEPZ	**Antalya-Kepez**	**0.75**	**158**	*i* P	Pg	09 19 43.1	-3.6
KEPZ				*i* S	Sb	09 19 58.1	0.0
KEPZ				IAML		09 20 10.0	
	comp=N,23nm,1.1s						
KEPZ				IAML		09 20 10.0	
	comp=E,14nm,0.8s						
KONT	**Konya--Tatoy**	**0.94**	**68**	*i* P	Pg	09 19 49.1	-1.2
KONT				*i* S	Sn	09 20 06.0	+0.4
KONT				IAML		09 20 17.0	
	comp=E,26nm,1.0s						
KONT				IAML		09 20 57.0	
	comp=N,15nm,1.6s						
KDHN	**Kadinhani**	**1.14**	**36**	*i* P	Pg	09 19 53.3	-0.9
KDHN				*i* S	Sn	09 20 11.0	+0.2
KDHN				IAML		09 20 15.0	
	comp=N,4.5nm,0.3s						
KDHN				IAML		09 20 16.0	
	comp=E,6.5nm,0.3s						

*IDC **26** 09:21:00.1±0.6, 14.33N×144.25E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/43, mbtmp4.1/14, MS3.4/9, Ms1 3.4/9, ms1mx3.1/38, Error ellipse: s-maj=24.0km s-min=11.2km az=67.0*
*NEIC **26** 09:21:02.9±1.6, 14.27N±0.04×144.17E±0.09, h23km±5km, mb4.6/18, Error ellipse: s-maj=12.2km s-min=6.1km az=78.0*

ISC 26 09:21:04.8±0.5, 14.28N±0.08×144.2E±0.1, h35km, n51, σ0.84/43, mb4.3/22, MS3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.95**	**137**		**Pn**	**09 21 20.6**	**-1.0**
	306nm,0.3s,baz=281,slow=3.1,SNR=159						
GUMO				Sn	**Sn**	**09 21 34.5**	**+0.5**
	231nm,0.3s,baz=158,slow=20,SNR=8.6						
GUMO	**Guam**	**0.95**	**137**		**Pn**	**09 21 20.5**	**-1.1**
GUMO				Sn	**Sn**	**09 21 34.2**	**+0.2**
DAV	**Davao City (W)**	**19.64**	**251**	LR	LR	09 31 12.2	
	comp=Z,71nm,20.6s,baz=114,slow=31						
H11S3	**WAKE ISLAND Hy**	**21.97**	**76**	T	T	09 48 55.5	
	baz=262,slow=75,SNR=61						
H11S1	**WAKE ISLAND Hy**	**21.98**	**76**	T	T	09 48 57.0	
	baz=262,slow=75,SNR=45						
H11S2	**WAKE ISLAND Hy**	**21.99**	**76**	T	T	09 48 57.3	
	baz=262,slow=75,SNR=54						
JNU	**Nakatsue**	**22.33**	**329**	P	**P**	**09 26 00.0**	**+0.4**
	5.2nm,0.7s,baz=126,slow=8.7,SNR=2.0						
JNU	**Nakatsue**	**22.33**	**329**	P	**P**	**09 25 57.8**	**-1.8**
JNU				IAmb	IAmb	09 26 08.4	
	comp=Z,28nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**22.35**	**73**	T	T	09 49 24.8	
	baz=259,slow=75,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**22.36**	**73**	T	T	09 49 28.7	
	baz=259,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**22.37**	**73**	T	T	09 49 27.0	
	baz=259,slow=75,SNR=7.2						
TGY	**Tagaytay City**	**22.55**	**272**	LR	LR	09 32 39.7	
	comp=Z,63nm,20.0s,baz=188,slow=31						
MJAR	**Matsushiro Arr**	**22.81**	**347**	P	**P**	**09 26 04.5**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=167,slow=8.3,SNR=12						
MJAR				LR	LR	09 34 18.8	
	comp=Z,55nm,18.1s,baz=170,slow=35						
MJAR	**Matsushiro Arr**	**22.81**	**347**	P	**P**	**09 26 05.0**	**+0.3**
MAJO	**Matsushiro**	**22.81**	**347**	P	**P**	**09 26 04.8**	**+0.2**
MAJO				IAmb	IAmb	09 26 12.8	
	comp=Z,14nm,1.1s						
MAT	**Matsushiro**	**22.81**	**347**	P	**P**	**09 26 05.1**	**+0.4**
KSRS	**Korea Array**	**27.25**	**331**	P	**P**	**09 26 44.8**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=148,slow=9.5,SNR=15						
KSRS				LR	LR	09 37 13.0	
	comp=Z,39nm,18.6s,baz=135,slow=36						
USRK	**Ussuriysk Ar.**	**31.59**	**343**	P	**P**	**09 27 24.6**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=148,slow=8.5,SNR=2.8						
KNRA	**Kununurra**	**33.45**	**208**	P	**P**	**09 27 40.0**	**-0.7**
KNRA				IAmb	IAmb	09 27 44.9	
	comp=Z,15nm,1.2s						
WB0	**Warramunga Arr**	**35.19**	**196**	P	**P**	**09 27 56.1**	**+0.4**
WB0				IAmb	IAmb	09 27 56.9	
	comp=Z,7.9nm,0.7s						
WR0	**Warramunga Arr**	**35.33**	**196**	P	**P**	**09 27 57.6**	**+0.7**
WR0				IAmb	IAmb	09 27 58.2	
	comp=Z,6.1nm,0.9s						
WRAB	**Tennant Creek**	**35.35**	**196**	P	**P**	**09 27 56.5**	**-0.7**
WB2	**Warramunga Arr**	**35.36**	**196**	P	**P**	**09 27 57.8**	**+0.5**
WRA	**Warramunga Arr**	**35.37**	**196**	P	**P**	**09 27 57.8**	**+0.5**
	comp=Z,9.8nm,0.8s,baz=6.4,slow=9.6,SNR=112						
WRA				PcP	**PcP**	**09 30 28.8**	**+1.7**
	comp=Z,0.5nm,1.0s,baz=20,slow=3.2,SNR=2.0						
WRA	**Warramunga Arr**	**35.37**	**196**	P	**P**	**09 27 56.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**37.02**	**210**	P	**P**	**09 28 10.0**	**-1.4**
ASAR	**Alice Springs**	**39.04**	**195**	P	**P**	**09 28 28.9**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=18,slow=13,SNR=18						
ASAR	**Alice Springs**	**39.04**	**195**	P	**P**	**09 28 27.0**	**-1.4**
PSA00	**Pilbara Seismi**	**42.91**	**214**	P	**P**	**09 29 00.6**	**+0.2**
PSA00				IAmb	IAmb	09 29 02.0	
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.54**	**282**	P	**P**	**09 29 06.5**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=83,slow=6.6,SNR=9.8						
CMAR				LR	LR	09 47 10.3	
	comp=Z,69nm,19.2s,baz=220,slow=36						
CMAR	**Chiang Mai Arr**	**43.54**	**282**	P	**P**	**09 29 05.5**	**-0.1**
SONM	**Songino Array**	**45.79**	**325**	P	**P**	**09 29 23.6**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=144,slow=9.6,SNR=6.6						
SONM				LR	LR	09 48 05.9	
	comp=Z,55nm,20.0s,baz=186,slow=36						
SONM	**Songino Array**	**45.79**	**325**	P	**P**	**09 29 23.2**	**-0.1**
STKA	**Stephens Creek**	**45.96**	**183**	P	**P**	**09 29 24.8**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=352,slow=7.4,SNR=10.0						
STKA	**Stephens Creek**	**45.96**	**183**		**P**	**09 29 24.1**	**-0.4**
BBOO	**Buckleboo**	**47.47**	**189**	P	**P**	**09 29 36.1**	**-0.3**
BBOO				IAmb	IAmb	09 29 38.0	
	comp=Z,12nm,1.1s						
TOO	**Toolangi**	**51.59**	**179**	P	**P**	**09 30 08.3**	**+0.5**
TOO				IAmb	IAmb	09 30 10.8	
	comp=Z,16nm,1.3s						
OUZ	**Omahuta**	**56.58**	**151**	P	**P**	**09 30 43.5**	**-0.6**
MK31	**Makanchi Array**	**60.54**	**316**	P	**P**	**09 31 10.0**	**-1.8**
MKAR	**Makanchi Array**	**60.54**	**316**	P	**P**	**09 31 12.1**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=90,slow=8.5,SNR=7.7						
MKAR	**Makanchi Array**	**60.54**	**316**	P	**P**	**09 31 10.4**	**-1.4**
ZALV	**Zalesovo Beam**	**60.69**	**324**	LR	LR	09 57 35.6	
	comp=Z,29nm,19.8s,baz=136,slow=36						
MAKZ	**Makanchi**	**60.76**	**316**	P	**P**	**09 31 13.1**	**-0.2**
MAKZ				IAmb	IAmb	09 31 14.3	
	comp=Z,2.2nm,0.8s						
NRIK	**Noril'sk**	**65.27**	**341**	P	**P**	**09 31 41.7**	**-1.0**
	comp=Z,3.9nm,0.7s,baz=135,slow=4.3,SNR=4.0						
ILAR	**Eielson Array**	**68.22**	**26**	P	**P**	**09 32 01.2**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=260,slow=5.5,SNR=1.8						
PPT	**Papeete**	**72.58**	**114**	LR	LR	09 55 18.7	
	comp=Z,39nm,21.9s,baz=300,slow=28						
NVAR	**Mina Array Bea**	**87.00**	**51**	P	**P**	**09 33 47.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=263,slow=6.3,SNR=2.7						
VNDA	**Vanda**	**92.20**	**176**	P	**P**	**09 34 11.8**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=338,slow=0.9,SNR=4.9						
AKASG	**Malin Array Be**	**94.08**	**325**	LR	LR	10 18 52.2	
	comp=Z,21nm,18.6s,baz=50,slow=37						
TORD	**Torodi Ar. Bea**	**133.94**	**305**	PKP	**PKiKP**	**09 40 20.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=29,slow=3.3,SNR=2.6						
LPAZ	**La Paz**	**148.77**	**98**	PKPbc	**PKiKP**	**09 40 52.2**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=297,slow=3.1,SNR=14						

WEL 26 10:02:23.7±1.2, 36.5S±7.7×17.8E±1.5, h5km, M3.4/12, ML3.6/12, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=96.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.62**	**182**	P	Pn	10 02 49.7	-3.3
MXZ				S	Sn	10 03 09.8	-4.5
WMGZ	**Waiomatatini S**	**1.88**	**179**	P	Pn	10 02 55.1	-1.4
WMGZ				S	Sb	10 03 23.1	+0.9
HAZ	**Te Kaha**	**1.88**	**195**	P	Pn	10 02 55.1	-1.3
HAZ				S	Sn	10 03 18.4	-2.1
RUGZ	**Raukumara Rang**	**2.10**	**196**	P	Pn	10 02 58.1	-1.6
RUGZ				S	Sn	10 03 25.3	-1.0
PUZ	**Puketiti**	**2.13**	**183**	P	Pn	10 02 59.5	-0.5
PUZ				S	Sb	10 03 30.1	+0.5
TWGZ	**Tauwhareparae**	**2.26**	**188**	P	Pn	10 03 02.8	+1.1
TWGZ				S	Sg	10 03 35.6	-0.7
URZ	**Urewera**	**2.53**	**203**	P	Pn	10 03 03.5	-2.0
URZ				S	Sn	10 03 33.4	-3.3
TKGZ	**Te Karaka**	**2.53**	**190**	P	Pn	10 03 06.4	+0.9
CNGZ	**Carnagh Statio**	**2.54**	**183**	P	Pn	10 03 06.6	+0.9
RIGZ	**Rimuhau**	**2.81**	**190**	P	Pn	10 03 09.4	+0.1
RIGZ				S	Sn	10 03 46.0	+2.5
RTZ	**Ruatahuna**	**2.90**	**202**	P	Pn	10 03 11.5	+0.8
RTZ				S	Sn	10 03 43.2	-2.7
SNGZ	**Shannon Statio**	**2.96**	**196**	P	Pn	10 03 12.3	+0.9
SNGZ				S	Sb	10 03 50.9	-2.5
RAHZ	**Arahi**	**3.15**	**199**	P	Pn	10 03 15.0	+1.0
RAHZ				S	Sb	10 03 55.8	-3.1
MTHZ	**Maungataniwha**	**3.16**	**203**	P	Pn	10 03 15.9	+1.8
MRHZ	**Matea Rd**	**3.29**	**208**	P	Pn	10 03 16.3	+0.3
NMHZ	**Naumai**	**3.39**	**201**	P	Pn	10 03 18.6	+1.2
NMHZ				S	Sn	10 04 01.5	+3.4
BKZ	**Black Stump Fm**	**3.56**	**205**	P	Pn	10 03 20.0	+0.4
MCHZ	**McNeill Hill**	**3.75**	**201**	P	Pn	10 03 22.6	+0.4
WTVZ	**West Tongariro**	**3.87**	**214**	P	Pn	10 03 26.8	+2.7
TWVZ	**Taurewa**	**3.91**	**216**	P	Pn	10 03 26.8	+2.2
TWVZ				S	Sn	10 03 55.7	-1.5
BHHZ	**Black Hill Sta**	**4.00**	**207**	P	Pn	10 03 26.1	+0.4
KRHZ	**Kereru**	**4.03**	**203**	P	Pn	10 03 26.2	+0.1
KRHZ				S	Sn	10 04 13.7	-0.1
KAHZ	**Kahuranaki**	**4.03**	**197**	P	Pn	10 03 25.0	-1.2
KAHZ				S	Sn	10 04 14.3	+0.6
MOVZ	**Moawhango**	**4.04**	**210**	P	Pn	10 03 24.9	-1.4
BFZ	**Birch Farm**	**5.03**	**199**	S	Sn	10 04 35.1	-3.2

*IDC **26** 10:07:23.2±3.3, 17.76S×178.14W, h615km±43km, mb2.9/7, mb1 3.2/7, mb1mx2.9/25, mbtmp3.8/7, Error ellipse: s-maj=42.4km s-min=19.2km az=158.0*
*NEIC **26** 10:07:24.4±1.3, 18.05S±0.03×178.0W±0.2, h636km±9km, mb4.3/13, Error ellipse: s-maj=21.6km s-min=4.8km az=92.0*

ISC 26 10:07:25.2±0.6, 18.0S±0.1×178.0W±0.1, h650km, n30, σ0.83/32, mb3.6/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.77**	**274**	P	**P**	**10 08 51.5**	**-1.5**
AFI	**Afiamalu**	**7.25**	**56**	P	**P**	**10 09 18.2**	**-1.6**
RAO	**Raoul Island**	**11.17**	**180**	P	**P**	**10 09 56.3**	**+0.3**
	148nm,0.3s,baz=32,slow=22,SNR=6.8						
RAO	**Raoul Island**	**11.17**	**180**	P	**P**	**10 09 56.0**	**0.0**
OUZ	**Omahuta**	**18.68**	**202**	P	**P**	**10 11 05.5**	**+0.8**
OUZ				IAmb	IAmb	10 11 08.1	
	comp=Z,15nm,1.2s						
THZ	**Tophouse**	**24.90**	**196**	P	**P**	**10 11 59.0**	**-1.0**
LTZ	**Lake Taylor**	**26.02**	**196**	P	**P**	**10 12 08.6**	**-1.2**
COEN	**Coen**	**37.50**	**270**	P	**P**	**10 13 47.8**	**+0.9**
WR0	**Warramunga Arr**	**44.80**	**260**	P	**P**	**10 14 44.2**	**+0.1**
WB0	**Warramunga Arr**	**44.96**	**260**	P	**P**	**10 14 45.3**	**0.0**
WB0				IAmb	IAmb	10 14 59.1	
	comp=Z,28nm,1.9s						
WRA	**Warramunga Arr**	**44.99**	**260**	P	**P**	**10 14 45.1**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=96,slow=7.4,SNR=38						
WRA				PcP	**PcP**	**10 16 12.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=90,slow=3.7,SNR=10.0						
AS31	**Alice Springs**	**45.13**	**254**	P	**P**	**10 14 46.6**	**-0.1**
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**10 14 46.5**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=89,slow=7.7,SNR=28						
ASAR				PcP	**PcP**	**10 16 13.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=102,slow=4.2,SNR=13						
FITZ	**Fitzroy Crossi**	**53.39**	**261**	P	**P**	**10 15 47.8**	**+0.8**
PETK	**Petropavlovsk-**	**73.90**	**345**	P	**P**	**10 17 55.1**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=118,slow=11,SNR=1.5						
NVAR	**Mina Array Bea**	**79.24**	**44**	P	**P**	**10 18 26.1**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=224,slow=7.5,SNR=2.1						
PMR	**Palmer**	**82.63**	**13**	P	**P**	**10 18 41.9**	**0.0**
PMR				IAmb	IAmb	10 19 54.0	
	comp=Z,9.2nm,1.5s						
GLB	**Gilahina Butte**	**83.78**	**16**	P	**P**	**10 18 49.0**	**+1.3**
GLB				IAmb	IAmb	10 19 20.5	
	comp=Z,19nm,1.9s						
BALM	**Baldy**	**83.83**	**17**	P	**P**	**10 18 49.0**	**+1.0**
BALM				IAmb	IAmb	10 21 34.4	
	comp=Z,24nm,2.0s						
TRF	**Thorofare Moun**	**84.05**	**12**	P	**P**	**10 18 49.2**	**+0.1**
TRF				IAmb	IAmb	10 21 46.7	
	comp=Z,19nm,1.8s						
TXAR	**Lajitas Array**	**85.73**	**57**	P	**P**	**10 18 58.7**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=227,slow=6.0,SNR=7.3						
TXAR	**Lajitas Array**	**85.73**	**57**	P	**P**	**10 18 59.0**	**+1.1**
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**10 18 57.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=219,slow=4.9,SNR=12						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**10 18 58.4**	**+0.5**
PDAR	**Pinedale Array**	**87.17**	**43**	P	**P**	**10 19 05.3**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=210,slow=5.2,SNR=1.9						
PDAR	**Pinedale Array**	**87.17**	**43**	P	**P**	**10 19 06.0**	**+1.4**
BRTR	**Keskin Array B**	**145.15**	**315**	PKP	**PKPbc**	**10 25 51.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=100,slow=3.4,SNR=3.0						
CLL	**Collm**	**145.67**	**348**	*i* PKPbc	**PKPab**	**10 25 54.0**	**-0.9**
GERES	**GERESS Array B**	**147.83**	**345**	PKPbc	**PKPbc**	**10 25 59.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=43,slow=4.4,SNR=2.4						
DAVOX	**Davos/Dischmat**	**150.60**	**349**	PKPbc	**PKiKP**	**10 26 06.3**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=131,slow=9.8,SNR=3.6						

*IDC **26** 10:21:41.7±1.4, 19.93S×178.92W, h663km±17km, mb3.5/18, mb1 3.7/20, mb1mx3.6/34, mbtmp4.6/20, Error ellipse: s-maj=15.2km s-min=11.1km az=117.0*
*NEIC **26** 10:21:41.2±1.8, 19.92S±0.08×178.9W±0.1, h659km±4km, mb4.6/81, Error ellipse: s-maj=15.4km s-min=11.4km az=101.0*

ISC 26 10:21:41.7±0.4, 19.98S±0.06×178.89W±0.07, h665km, n144, σ1.29/151, mb4.5/52, 3C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.66**	**307**	P	**P**	**10 23 12.5**	**+2.5**
AFI	**Afiamalu**	**9.10**	**49**	P	**P**	**10 23 53.5**	**+0.2**
	21nm,0.3s,baz=58,slow=7.0,SNR=23						
AFI				S	**S**	**10 25 36.9**	**-4.2**
	1.7nm,0.3s,baz=194,slow=22,SNR=2.1						
FUNA	**Funafuti**	**11.54**	**350**	P	**P**	**10 24 14.6**	**-1.6**
DZM	**Mont Dzumac**	**13.86**	**259**	P	**P**	**10 24 37.7**	**+0.5**
	3.0nm,0.3s,baz=133,slow=23,SNR=40						
DZM	**Mont Dzumac**	**13.86**	**259**	P	**P**	**10 24 38.9**	**+1.7**
SANVU	**Saraoutou**	**14.00**	**287**	P	**P**	**10 24 39.6**	**+1.1**
OUZ	**Omahuta**	**16.57**	**202**	P	**P**	**10 25 05.5**	**+3.8**
OUZ				IAmb	IAmb	10 25 06.2	
	comp=Z,21nm,0.6s						
MXZ	**Matakaoa Point**	**17.69**	**187**	P	**P**	**10 25 13.1**	**+1.3**
MXZ				IAmb	IAmb	10 25 45.5	
	comp=Z,107nm,1.4s						
KNTN	**Kanton**	**18.48**	**23**	P	**P**	**10 25 19.8**	**+0.5**
URZ	**Urewera**	**18.54**	**190**	P	**P**	**10 25 17.7**	**-1.8**
	comp=Z,2.8nm,0.3s,baz=266,slow=2.6,SNR=16						
URZ				S	**S**	**10 28 08.1**	**-7.3**
	comp=Z,0.6nm,0.3s,baz=167,slow=15,SNR=3.3						
URZ	**Urewera**	**18.54**	**190**	P	**P**	**10 25 18.0**	**-1.5**
URZ				IAmb	IAmb	10 25 45.0	
	comp=Z,28nm,1.2s						
HIZ	**Hauiti**	**19.25**	**195**	P	**P**	**10 25 26.9**	**+1.0**
HIZ				IAmb	IAmb	10 25 49.5	
	comp=Z,100nm,1.5s						
BKZ	**Black Stump Fm**	**19.53**	**191**	P	**P**	**10 25 26.8**	**-1.6**
BKZ				IAmb	IAmb	10 25 42.4	
	comp=Z,45nm,1.7s						
MSWZ	**Moikau Station**	**21.94**	**192**	P	**P**	**10 25 49.3**	**-0.5**
SNZO	**South Karori**	**21.95**	**193**	P	**P**	**10 25 50.6**	**+0.7**
BHW	**Baring Head**	**22.01**	**193**	P	**P**	**10 25 48.5**	**-1.9**
QRZ	**Quartz Range**	**22.03**	**198**	P	**P**	**10 25 51.9**	**+1.2**
PLWZ	**Palliser**	**22.09**	**192**	P	**P**	**10 25 50.9**	**-0.2**
NNZ	**Nelson**	**22.17**	**196**	P	**P**	**10 25 53.1**	**+1.3**
TUWZ	**Tuamarina**	**22.23**	**194**	P	**P**	**10 25 52.0**	**-0.4**
BSWZ	**Blackbirch Sta**	**22.52**	**194**	P	**P**	**10 25 56.0**	**+1.1**
TARA	**Tarawa**	**22.68**	**338**	P	**P**	**10 25 56.3**	**-0.4**
THZ	**Tophouse**	**22.80**	**196**	P	**P**	**10 25 57.4**	**-0.1**
THZ				IAmb	IAmb	10 26 12.3	
	comp=Z,56nm,1.4s						
KHZ	**Kahutara**	**23.26**	**194**	P	**P**	**10 26 00.6**	**-0.9**
KHZ				IAmb	IAmb	10 26 18.5	
	comp=Z,50nm,1.6s						
OXZ	**Oxford**	**24.49**	**196**	P	**P**	**10 26 11.6**	**-0.7**
OXZ				IAmb	IAmb	10 26 13.4	
	comp=Z,39nm,1.1s						
MQZ	**McQueen's Vall**	**24.69**	**195**	P	**P**	**10 26 12.2**	**-1.8**
RPZ	**Rata Peaks**	**25.12**	**197**	P	**P**	**10 26 17.7**	**-0.1**
	comp=Z,5.2nm,0.4s,baz=318,slow=2.1,SNR=8.6						
RPZ	**Rata Peaks**	**25.12**	**197**	P	**P**	**10 26 17.4**	**-0.4**
RPZ				IAmb	IAmb	10 26 44.1	
	comp=Z,53nm,1.4s						
FOZ	**Fox Glacier**	**25.32**	**199**	P	**P**	**10 26 19.6**	**0.0**
FOZ				IAmb	IAmb	10 26 22.2	
	comp=Z,29nm,0.8s						
LBZ	**Lake Benmore**	**25.98**	**198**	P	**P**	**10 26 24.9**	**-0.5**
LBZ				IAmb	IAmb	10 26 49.4	
	comp=Z,35nm,1.3s						
ODZ	**Otahua Downs**	**26.46**	**197**	P	**P**	**10 26 29.3**	**-0.1**
WKZ	**Wanaka**	**26.73**	**199**	P	**P**	**10 26 31.7**	**-0.2**
MLZ	**Mavora Lakes**	**27.50**	**200**	P	**P**	**10 26 39.9**	**+1.3**
PPTF	**Pamatai, Papee**	**27.85**	**90**	P	**P**	**10 26 43.2**	**+1.2**
DCZ	**Deep Cove**	**27.91**	**201**	P	**P**	**10 26 43.0**	**+1.0**
DCZ				IAmb	IAmb	10 26 58.2	
	comp=Z,33nm,1.2s						
WHZ	**Wether Hill Ro**	**28.02**	**200**	P	**P**	**10 26 44.2**	**+1.1**
WHZ				IAmb	IAmb	10 26 45.3	
	comp=Z,29nm,1.0s						
EIDS	**Eidsvold**	**28.19**	**253**	P	**P**	**10 26 44.9**	**0.0**
EIDS				IAmb	IAmb	10 26 45.7	
	comp=Z,10nm,0.7s						
ARMA	**Armidale**	**28.55**	**243**	P	**P**	**10 26 49.3**	**+1.3**
ARMA				IAmb	IAmb	10 26 50.1	
	comp=Z,20nm,0.6s						
CTA	**Charters Tower**	**32.72**	**264**	P	**P**	**10 27 23.8**	**+0.4**
	comp=Z,28nm,0.3s,baz=92,slow=10,SNR=22						
CTAO	**Charters Tower**	**32.72**	**264**	P	**P**	**10 27 23.9**	**+0.6**
PATS	**Pohnpei**	**34.84**	**318**	P	**P**	**10 27 41.8**	**+0.9**
TOO	**Toolangi**	**35.54**	**233**	P	**P**	**10 27 47.6**	**+1.2**
COEN	**Coen**	**36.72**	**273**	P	**P**	**10 27 57.0**	**+0.6**
COEN				IAmb	IAmb	10 27 57.5	
	comp=Z,15nm,0.6s						
STKA	**Stephens Creek**	**37.27**	**243**	P	**P**	**10 28 01.1**	**+0.5**
	comp=Z,12nm,0.5s,baz=91,slow=10.0,SNR=71						
STKA	**Stephens Creek**	**37.27**	**243**	P	**P**	**10 28 01.5**	**+0.9**
WAKE	**Wake Island**	**41.52**	**339**	P	**P**	**10 28 33.9**	**-0.5**
BBOO	**Buckleboo**	**42.04**	**243**	P	**P**	**10 28 38.5**	**+0.2**
BBOO				IAmb	IAmb	10 28 39.4	
	comp=Z,29nm,0.7s						
WR0	**Warramunga Arr**	**43.66**	**262**	P	**P**	**10 28 50.5**	**-0.5**
WR0				IAmb	IAmb	10 28 51.9	
	comp=Z,14nm,1.1s						
WB0	**War

comp=Z,12nm,0.7s,baz=224,slow=5.4,SNR=18

SSLB	**Suanglung**	**73.00**	**304**	P	**P**	**10 32 05.4**	**-1.3**
SSLB				IAmb	IAmb	10 32 07.4	
comp=Z,9.1nm,0.7s							
PEA0B	**Petropavlovsk-**	**75.56**	**346**	P	**P**	**10 32 20.4**	**0.0**
PETK	**Petropavlovsk-**	**75.56**	**346**	P	**P**	**10 32 19.9**	**-0.5**
comp=Z,6.1nm,0.7s,baz=108,slow=8.4,SNR=10							
PETK	**Petropavlovsk-**	**75.56**	**346**	P	**P**	**10 32 20.3**	**0.0**
KSRS	**Korea Array**	**75.95**	**319**	P	**P**	**10 32 23.2**	**+0.4**
comp=Z,2.0nm,0.6s,baz=131,slow=6.2,SNR=8.6							
KSAR	**Wonju Array Be**	**75.97**	**319**	P	**P**	**10 32 23.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**78.07**	**326**	P	**P**	**10 32 34.8**	**+0.7**
comp=Z,3.8nm,0.7s,baz=106,slow=3.5,SNR=8.6							
USRK	**Ussuriysk Ar.**	**78.07**	**326**	P	**P**	**10 32 35.1**	**+1.0**
NJ2	**Nanjing**	**78.91**	**310**	*e*P	**P**	**10 32 40.3**	**+1.5**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.5s							
OHAK	**Old Harbor**	**79.84**	**14**	P	**P**	**10 32 43.5**	**+0.4**
BELA	**Belgrano 2**	**80.17**	**173**	P	**P**	**10 32 44.8**	**+0.1**
YBH	**Yreka Blue Hor**	**80.41**	**39**	P	**P**	**10 32 48.1**	**+1.6**
comp=Z,0.6nm,0.6s,baz=196,slow=7.4,SNR=1.4							
KDAK	**Kodiak Island**	**80.51**	**14**	P	**P**	**10 32 46.2**	**-0.3**
comp=Z,2.2nm,0.7s,baz=149,slow=3.7,SNR=6.2							
KDAK	**Kodiak Island**	**80.51**	**14**	P	**P**	**10 32 46.8**	**+0.2**
KDAK				IAmb	IAmb	10 33 24.7	
comp=Z,15nm,1.6s							
MAW	**Mawson**	**81.77**	**200**	P	**P**	**10 32 53.0**	**+0.1**
comp=Z,1.3nm,0.5s,baz=91,slow=2.3,SNR=6.3							
MAW	**Mawson**	**81.77**	**200**	P	**P**	**10 32 53.7**	**+0.8**
MOD	**Modoc Plateau**	**81.95**	**40**	P	**P**	**10 32 54.9**	**+0.4**
K05A	**Summer Lake**	**82.09**	**39**	P	**P**	**10 32 55.4**	**+0.3**
K05A				IAmb	IAmb	10 33 23.3	
comp=Z,27nm,1.7s							
CNPM	**China Poot**	**82.39**	**14**	P	**P**	**10 32 56.3**	**+0.2**
CNPM				IAmb	IAmb	10 33 19.4	
comp=Z,25nm,1.6s							
H04A	**Detroit Lake**	**82.51**	**37**	P	**P**	**10 32 57.6**	**+0.5**
H04A				IAmb	IAmb	10 33 14.0	
comp=Z,24nm,1.6s							
BRLK	**Bradley Lake**	**82.69**	**14**	P	**P**	**10 32 57.5**	**0.0**
SVW2	**Sparrevohn**	**82.95**	**11**	P	**P**	**10 32 58.5**	**-0.3**
GLI	**Glacier Island**	**84.56**	**15**	P	**P**	**10 33 07.0**	**+0.3**
GLI				IAmb	IAmb	10 33 07.2	
comp=Z,5.7nm,0.7s							
EYAK	**Cordova Ski Ar**	**84.61**	**16**	P	**P**	**10 33 06.6**	**-0.3**
PMR	**Palmer**	**84.71**	**14**	P	**P**	**10 33 07.1**	**-0.3**
GHO	**Glory Hole Cre**	**84.92**	**14**	P	**P**	**10 33 08.4**	**-0.1**
TRF	**Thorofare Moun**	**86.12**	**12**	P	**P**	**10 33 13.6**	**-0.7**
RND	**Reindeer**	**86.38**	**13**	P	**P**	**10 33 14.6**	**-0.7**
RND				IAmb	IAmb	10 33 15.8	
comp=Z,5.6nm,0.7s							
TXAR	**Lajitas Array**	**87.48**	**58**	P	**P**	**10 33 21.7**	**+0.3**
comp=Z,0.8nm,0.9s,baz=219,slow=5.6,SNR=7.8							
TXAR	**Lajitas Array**	**87.48**	**58**	P	**P**	**10 33 20.0**	**-1.4**
HDA	**Harding Lake**	**87.67**	**13**	P	**P**	**10 33 20.5**	**-0.8**
HDA				IAmb	IAmb	10 33 21.4	
comp=Z,4.6nm,0.6s							
CCB	**Clear Creek Bu**	**87.70**	**13**	P	**P**	**10 33 20.7**	**-0.7**
CCB				IAmb	IAmb	10 33 21.2	
comp=Z,5.0nm,0.7s							
BCAR	**Beaver Creek A**	**87.75**	**16**	P	**P**	**10 33 21.7**	**-0.1**
IMAR	**Indian Mountai**	**87.79**	**10**	P	**P**	**10 33 21.9**	**+0.1**
MDM	**Murphy Dome**	**87.88**	**13**	P	**P**	**10 33 21.5**	**-0.8**
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**	**10 33 21.9**	**-1.0**
comp=Z,1.5nm,0.7s,baz=222,slow=5.8,SNR=22							
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**	**10 33 22.2**	**-0.6**
HHC	**Hu-ho-hao-te**	**88.40**	**315**	*e*P	**P**	**10 33 26.3**	**+0.9**
HHC				pmax	pmax		
comp=Z,25nm,0.7s							
HHC				pmax	pmax		
comp=Z,94nm,5.2s							
SNAA	**Sanae**	**88.55**	**179**	P	**P**	**10 33 25.1**	**-0.4**
VNA3	**Neumayer Olymp**	**88.71**	**177**	P	**P**	**10 33 26.1**	**-0.2**
VNA2	**Neumayer--Watz**	**89.14**	**177**	P	**P**	**10 33 28.1**	**-0.1**
baz=178,slow=3.8							
CMAR	**Chiang Mai Arr**	**89.16**	**290**	P	**P**	**10 33 29.1**	**-0.2**
comp=Z,0.7nm,0.4s,baz=125,slow=2.6,SNR=8.7							
CMAR	**Chiang Mai Arr**	**89.16**	**290**	P	**P**	**10 33 29.4**	**+0.1**
PDAR	**Pinedale Array**	**89.16**	**44**	P	**P**	**10 33 28.8**	**-0.2**
comp=Z,0.2nm,0.6s,baz=180,slow=1.6,SNR=2.2							
PDAR	**Pinedale Array**	**89.16**	**44**	P	**P**	**10 33 27.8**	**-1.2**
VNA1	**Neumayer--Stat**	**89.37**	**177**	P	**P**	**10 33 29.8**	**+0.6**
AKASG	**Malin Array Be**	**142.16**	**331**	PKhKP	PKPpre	10 39 55.3	
comp=Z,4.2nm,0.4s,baz=42,slow=4.4,SNR=14							
BRTR	**Keskin Array B**	**145.88**	**312**	PKPbc	**PKPdf**	**10 40 08.0**	**+0.9**
comp=Z,1.1nm,0.5s,baz=161,slow=3.2,SNR=3.8							
BRTR	**Keskin Array B**	**145.88**	**312**		**PKPbc**	**10 40 08.7**	**-0.5**
BUR08	**Bucovina Ar. S**	**146.19**	**330**		**PKiKP**	**10 40 11.0**	**-1.0**
KOLS	**Kolonicke sedl**	**146.49**	**334**	*e*PKP	**PKiKP**	**10 40 12.5**	**+0.1**
CRVS	**Cervenica-Dubn**	**146.84**	**335**	*e*PKP	**PKPab**	**10 40 15.1**	**+0.2**
CLL	**Collm**	**147.37**	**346**	⇓*i*PKPbc	**PKPbc**	**10 40 12.2**	**-0.4**
comp=Z,6.0nm,0.6s							
CLL				⇑*i*PKPab	**PKPab**	**10 40 16.5**	**-0.4**
VYHS	**Vyhne**	**148.17**	**337**	*e*PKP	**PKPbc**	**10 40 14.6**	**-0.1**
VYHS				*e*		10 40 20.8	
GOPC	**GO Pecny, Ondr**	**148.21**	**343**	⇑*e*PKP	**PKPbc**	**10 40 14.9**	**+0.1**
KHC	**Kasperske Hory**	**149.25**	**344**	⇑*e*PKP	**PKPbc**	**10 40 17.4**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**10 40 24.6**	**-0.2**
GERES	**GERESS Array B**	**149.48**	**344**	PKPbc	**PKPbc**	**10 40 17.2**	**-0.8**
comp=Z,1.2nm,0.7s,baz=60,slow=5.8,SNR=6.4							
GERES	**GERESS Array B**	**149.48**	**344**		**PKPbc**	**10 40 17.3**	**-0.7**
ESDC	**Sonseca Array**	**159.89**	**11**	PKPab	**PKPab**	**10 41 09.9**	**-1.0**
comp=Z,0.7nm,0.5s,baz=343,slow=4.6,SNR=5.0							
ESDC	**Sonseca Array**	**159.89**	**11**		**PKPab**	**10 41 10.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**173.18**	**185**	PKPab	**PKPab**	**10 42 10.1**	**+0.1**
comp=Z,0.3nm,0.8s,baz=177,slow=5.5,SNR=1.6							
TORD	**Torodi Ar. Bea**	**173.18**	**185**		**PKPab**	**10 42 09.8**	**-0.1**

BER 26 11:03:00.6±0.9, 59°.81N×10°.27E, h0km, ML0.5, 1D, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONO	**Kongsberg**	**0.38**	**245**	⇓*e*P	Pg	11 03 07.0	-0.8
KONO				IAML		11 03 12.7	
comp=Z,1.8nm,0.1s							
KONO				*e*S	Sg	11 03 12.8	+0.1
NAO01	**NORSAR Array S**	**1.08**	**16**	*e*P	Pg	11 03 20.4	-0.9
NAO01				*e*S	Sg	11 03 34.5	-0.9
NC602	**NORSAR Array S**	**1.12**	**34**	*e*P	Pg	11 03 20.6	-1.6
NC602				*e*S	Sg	11 03 35.3	-1.4
NBO00	**NORSAR Array S**	**1.25**	**11**	*e*P	Pg	11 03 22.6	-2.0
SKAR	**Skarslia**	**1.31**	**313**	*e*P	Pg	11 03 23.3	-2.5
SKAR				*e*S	Sg	11 03 41.6	-1.2
NB201	**NORSAR Array S**	**1.34**	**22**	*e*P	Pg	11 03 24.3	-2.0
NB201				*e*S	Sg	11 03 42.6	-1.1
NB201				IAML		11 03 44.7	
comp=Z,3.5nm,0.4s							
NC204	**NORSAR Array S**	**1.49**	**9**	*e*P	Pn	11 03 27.0	-1.7
NC204				*e*S	Sg	11 03 46.0	-2.4
NC204				IAML		11 03 48.1	
comp=Z,1.0nm,0.1s							
NC303	**NORSAR Array S**	**1.52**	**20**	*e*P	Pn	11 03 27.5	-1.6
NC303				*e*S	Sg	11 03 48.2	-1.2

HEL 26 11:03:12.9±0.2, 60°.24N×23°.49E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.45**	**92**	PG	Pg	11 03 20.9	-0.7
baz=271							
MEF				SG	Sg	11 03 26.8	-0.7
RAF	**Rauma**	**1.16**	**314**	PG	Pg	11 03 33.6	-1.5
RAF				MSG		11 03 48.2	
comp=Z,1.4nm,0.2s							
FIA0	**FINESS Array S**	**1.75**	**45**	PG	Pn	11 03 44.1	-0.4
baz=222							
FIA0				SN	Sn	11 04 07.9	+0.4
VJF	**Virojoki**	**2.04**	**80**	PG	Pn	11 03 49.6	+1.1
baz=265							
VJF				MSG		11 04 13.5	
comp=Z,2.4nm,0.2s							
KEF	**Keuruu**	**2.05**	**18**	MSG		11 04 13.8	
comp=Z,1.8nm,0.2s							
KEF				SG	Sb	11 04 16.5	-0.5
KAF	**Kangasniemi**	**2.33**	**35**	SG	Sb	11 04 23.6	-1.3
SUF	**Sumiainen**	**2.80**	**26**	MSG		11 04 35.3	
comp=Z,0.6nm,0.2s							
SUF				SB	Sb	11 04 36.7	-1.8

BJI ***26*** *11:44:32.0±0.0, 23°.91N×121°.57E, h13km, mB4.1/3, mb4.3/10, ML4.1/5*
JMA ***26*** *11:44:34.1, 23°.86N×121°.50E, h26km±1km, M4.3*
NEIC ***26*** *11:44:34.4±2.0, 23°.85N±0°.03×121°.48E±0°.04, h31km±6km, Error ellipse: s-maj=5.1km s-min=4.5km az=102.0*
TAP ***26*** *11:44:34.6, 23°.90N×121°.50E, h31km, ML4.4, C*
NIED ***26*** *11:44:34.1, 23°.86N×121°.50E, h26km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^14Nm; Mrr0.99; Mθθ7.51; Mφφ-8.50; Mrθ4.09; Mθφ-3.50; Mrφ0.28; Fault plane solution: M0 9.67000×10^14 NP1:φs55.00000°, δ78.00000°, λ158.00000°. NP2:φs149.00000°, δ68.00000°, λ13.00000°.*
ASIES ***26*** *11:44:35.7, 23°.92N×121°.50E, h23km, MW3.8*
IDC ***26*** *11:44:40.8±6.0, 23°.85N×121°.65E, h94km±57km, mb3.4/8, mb1 3.6/9, mb1mx3.4/44, mbtmp3.8/9, ML4.0/1, MS3.2/8, Ms1 3.3/8, ms1mx3.0/32, Error ellipse: s-maj=28.1km s-min=16.7km az=76.0*

ISC 26 11:44:34.6±0.7, 23°.90N±0°.01×121°.53E±0°.02, h28km±4km, n199, σ1$05/310, mb3.9/13, MS3.2/7, 39C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**40**	⇑*i*P	**Pb**	**11 44 40.7**	**+1.1**
baz=56							
HWA				*e*S	**Sb**	**11 44 45.0**	**+1.9**
baz=56							
ESL	**Shilin**	**0.12**	**228**	⇑*i*P	**Pb**	**11 44 39.9**	**+0.1**
baz=209							
ESL				*e*S	**Sb**	**11 44 43.1**	**-0.1**
baz=209							
TWD	**Chiawan**	**0.19**	**18**	⇑*i*P	**Pb**	**11 44 40.8**	**+0.4**
baz=23							
TWD				*i* S	**Sb**	**11 44 44.9**	**+0.5**
baz=23							
EGFH	**Guangfu**	**0.25**	**203**	⇑*i*P	**Pb**	**11 44 41.0**	**-0.1**
baz=201							
EGFH				*e*S	**Sb**	**11 44 45.3**	**-0.3**
baz=201							
NACB	**Ninganchiao**	**0.28**	**12**	⇑*i*P	**Pb**	**11 44 41.5**	**-0.1**
baz=18							
NACB				S	**Sb**	**11 44 46.3**	**-0.1**
baz=18							
NACB	**Ninganchiao**	**0.28**	**12**	Pg	**Pb**	**11 44 41.1**	**-0.5**
ETLH	**Xiulin Townshi**	**0.31**	**352**	⇑*i*P	**Pb**	**11 44 42.1**	**0.0**
baz=358							
ETLH				S	**Sb**	**11 44 47.0**	**-0.2**
baz=358							
OWD	**Renai**	**0.33**	**280**	⇓*i*P	**Pb**	**11 44 42.4**	**0.0**
baz=284							
OWD				S	**Sb**	**11 44 47.2**	**-0.5**
baz=284							
WHF	**Hehuan Shan**	**0.35**	**315**	⇓*i*P	**Pb**	**11 44 42.6**	**-0.3**
baz=315							
WHF				S	**Sb**	**11 44 48.0**	**-0.5**
baz=315							
CHGB	**Renai**	**0.37**	**296**	⇓*i*P	**Pb**	**11 44 42.9**	**-0.1**
baz=302							
CHGB				*e*S	**Sb**	**11 44 47.9**	**-0.8**
baz=302							
VWDT	**VWDT**	**0.39**	**248**	⇑*i*P	**Pb**	**11 44 43.4**	**+0.3**
baz=241							
VWDT				*i* S	**Sb**	**11 44 48.9**	**+0.1**
baz=241							
HGSD	**Ruisui**	**0.41**	**194**	⇑*i*P	**Pb**	**11 44 43.7**	**+0.1**
baz=199							
EHY	**Hungye**	**0.43**	**206**	⇑*i*P	**Pb**	**11 44 43.0**	**-0.9**
baz=201							
EHY				*e*S	**Sb**	**11 44 49.5**	**-0.7**
baz=201							
FUSS	**Fushou**	**0.44**	**323**	⇓*i*P	**Pb**	**11 44 44.2**	**+0.1**
baz=332							
FUSS				*i* S	**Sb**	**11 44 49.9**	**-0.7**
baz=332							
TWT	**Tachien**	**0.48**	**318**	⇓*i*P	**Pb**	**11 44 45.0**	**+0.2**
baz=315							
TWT				S	**Sb**	**11 44 51.1**	**-0.6**
baz=315							
TDCB	**Techi**	**0.49**	**316**	⇓*i*P	**Pb**	**11 44 45.0**	**+0.1**
baz=315							
TDCB				S	**Sb**	**11 44 51.2**	**-0.7**
baz=315							
SSLB	**Suanglung**	**0.54**	**258**	⇓*i*P	**Pb**	**11 44 45.3**	**-0.3**
baz=260							
SSLB				*e*S	**Sb**	**11 44 51.0**	**-2.1**
baz=260							
SSLB	**Suanglung**	**0.54**	**258**		**Pb**	**11 44 45.3**	**-0.3**
SSLB					**Sb**	**11 44 51.6**	**-1.5**
NNSB	**Datong**	**0.55**	**346**	⇑*i*P	**Pb**	**11 44 45.7**	**-0.1**
baz=354							
NNSB				S	**Sb**	**11 44 52.7**	**-0.7**
baz=354							
NNSH	**Datong**	**0.55**	**346**	P	**Pb**	**11 44 45.7**	**-0.1**
baz=354							
NNSH				*e*S	**Sb**	**11 44 52.5**	**-0.9**
baz=354							
YULB	**Yu-li**	**0.55**	**203**	⇑*i*P	**Pb**	**11 44 44.4**	**-1.3**
baz=200							
YULB				S	**Sb**	**11 44 53.6**	**+0.4**
baz=200							
YULB	**Yu-li**	**0.55**	**203**		**Pb**	**11 44 44.3**	**-1.3**
NNS	**Nan Shan**	**0.56**	**345**	*i* P	**Pb**	**11 44 45.9**	**-0.1**
baz=354							
NNS				S	**Sb**	**11 44 53.1**	**-0.7**
baz=354							
ENA	**Nanau**	**0.56**	**20**	⇑*i*P	**Pb**	**11 44 45.6**	**-0.4**
baz=24							
ENA				*e*S	**Sb**	**11 44 53.4**	**-0.3**
baz=24							
SMLT	**Sun Moon Lake**	**0.58**	**269**	⇓*i*P	**Pb**	**11 44 46.0**	**-0.3**
baz=268							
SMLT				*i* S	**Sb**	**11 44 53.8**	**-0.4**
baz=268							
EYUL	**Yuli**	**0.58**	**200**	⇑*i*P	**Pb**	**11 44 45.2**	**-1.1**
baz=203							
EYUL				*e*S	**Sb**	**11 44 54.3**	**+0.1**
baz=203							
TWF1	**Yuli**	**0.58**	**202**	⇑*i*P	**Pb**	**11 44 45.0**	**-1.3**
baz=198							
ENAH	**Nanao**	**0.61**	**25**	⇑*i*P	**Pb**	**11 44 46.3**	**-0.4**
baz=20							
ENAH				*e*S	**Sb**	**11 44 54.4**	**-0.5**
baz=20							
WHYT	**Xinyi Township**	**0.65**	**252**	P	**Pb**	**11 44 47.5**	**+0.1**
baz=250							
WHYT				S	**Sb**	**11 44 56.2**	**-0.1**
baz=250							
WHP	**Taichung City**	**0.66**	**305**	⇓*i*P	**Pb**	**11 44 47.4**	**-0.2**
baz=311							
WHP				S	**Sb**	**11 44 56.4**	**0.0**
baz=311							
YUS	**Yu-Shan**	**0.67**	**233**	P	**Pb**	**11 44 47.9**	**-0.1**
baz=237							
NDT	**Datong Townshi**	**0.70**	**359**	⇑*i*P	**Pb**	**11 44 48.1**	**-0.2**
baz=6.0							
NDT				S	**Sb**	**11 44 56.8**	**-0.9**
baz=6.0							
FULB	**Fuli**	**0.73**	**198**	⇑*i*P	**Pb**	**11 44 47.8**	**-0.9**
baz=204							
FULB				*e*S	**Sb**	**11 44 58.7**	**+0.3**
baz=204							
ENTT	**Nioudou**	**0.74**	**2**	⇑*i*P	**Pb**	**11 44 48.6**	**-0.3**
baz=6.0							
ENTT				*e*S	**Sb**	**11 44 58.4**	**-0.3**
baz=6.0							
WJS	**Zhushan**	**0.74**	**264**	⇓*i*P	**Pb**	**11 44 49.3**	**+0.4**
baz=263							
WJS				S	**Sb**	**11 44 59.2**	**+0.6**
baz=263							
TWC	**Suao**	**0.77**	**22**	⇑*i*P	**Pb**	**11 44 48.8**	**-0.5**
baz=20							
TWC				*e*S	**Sb**	**11 44 59.2**	**-0.2**
baz=20							
ALS	**Alishan**	**0.77**	**240**	⇑*i*P	**Pb**	**11 44 49.6**	**0.0**
baz=230							
ALS				*e*S	**Sb**	**11 44 59.9**	**0.0**
baz=230							
WNT	**Mingjian**	**0.78**	**269**	*i* P	**Pn**	**11 44 49.9**	**+0.2**
baz=268							
WNT				S	**Sb**	**11 45 00.5**	**+0.8**
baz=268							
YHNB	**Yeheng**	**0.78**	**350**	⇑*i*P	**Pb**	**11 44 49.6**	**-0.2**
baz=1.0							
YHNB				S	**Sb**	**11 44 59.4**	**-0.6**
baz=1.0							
YHNB	**Yeheng**	**0.78**	**350**		**Pb**	**11 44 49.5**	**-0.2**
YHNB				Sn	**Sb**	**11 44 59.3**	**-0.7**

NSK	**Sanguang**	**0.79**	**348**	⇑*i*P	**Pn**	**11 44 49.8**	**-0.3**
baz=352							
NSK				S	**Sb**	**11 44 59.6**	**-0.6**
baz=352							
CHKT	**Chengkung**	**0.81**	**191**	P	**Pn**	**11 44 49.2**	**-1.0**
baz=187							
CHKT				*e*S	**Sb**	**11 45 00.9**	**+0.3**
baz=187							
TCU	**Taichung**	**0.82**	**288**	P	**Pn**	**11 44 50.9**	**+0.6**
baz=288							
TCU				S	**Sn**	**11 45 04.2**	**+2.6**
baz=288							
TWQ1	**Liyutan**	**0.83**	**303**	⇓*i*P	**Pn**	**11 44 50.9**	**+0.5**
baz=304							
TWQ1				S	**Sb**	**11 45 01.6**	**+0.4**
baz=304							
TWE	**Neicheng**	**0.83**	**8**	⇑*i*P	**Pn**	**11 44 49.9**	**-0.6**
baz=20							
CHN5	**Tsauling**	**0.84**	**249**	P	**Pn**	**11 44 50.9**	**+0.2**
baz=247							
CHN5				*e*S	**Sb**	**11 45 02.2**	**+0.6**
baz=247							
ELDTW	**Lidau**	**0.85**	**214**	*i* P	**Pn**	**11 44 49.4**	**-1.5**
baz=203							
ELDTW				*e*S	**Sb**	**11 45 02.1**	**+0.2**
baz=203							
NSY	**Sanyi**	**0.87**	**306**	⇓P	**Pn**	**11 44 52.1**	**+1.0**
baz=308							
NSY				*e*S	**Sb**	**11 45 02.8**	**+0.3**
baz=308							
NSTT	**Nanjuang**	**0.88**	**327**	P	**Pn**	**11 44 51.8**	**+0.6**
baz=329							
NSTT				*e*S	**Sb**	**11 45 02.1**	**-0.5**
baz=329							
NWLT	**Wulai**	**0.88**	**358**	⇓*i*P	**Pn**	**11 44 51.1**	**-0.1**
baz=8.0							
NWLT				*e*S	**Sb**	**11 45 00.6**	**-2.0**
baz=8.0							
LIOB	**Emei**	**0.88**	**328**	P	**Pn**	**11 44 52.1**	**+0.9**
baz=330							
LIOB				*e*S	**Sb**	**11 45 02.5**	**-0.3**
baz=330							
ILA	**Ilan**	**0.89**	**13**	*e*P	**Pn**	**11 44 50.8**	**-0.5**
baz=15							
WCHH	**Zhanghua**	**0.91**	**282**	⇓P	**Pn**	**11 44 52.1**	**+0.5**
baz=281							
WCHH				*e*S	**Sb**	**11 45 05.7**	**+2.2**
baz=281							
WGK	**Gukeng**	**0.91**	**257**	*e*P	**Pn**	**11 44 52.1**	**+0.5**
baz=255							
WGK				*e*S	**Sb**	**11 45 05.5**	**+1.9**
baz=255							
NMLH	**Miaoli**	**0.93**	**313**	P	**Pn**	**11 44 52.6**	**+0.8**
baz=315							
NMLH				*e*S	**Sn**	**11 45 04.4**	**+0.1**
baz=315							
WDJ	**Dajia District**	**0.93**	**299**	*i* P	**Pn**	**11 44 52.6**	**+0.8**
baz=300							
WDJ				*e*S	**Sn**	**11 45 05.0**	**+0.7**
baz=300							
PTSB	**Yuanli**	**0.93**	**306**	*e*P	**Pn**	**11 44 52.6**	**+0.7**
baz=307							
PTSB				*e*S	**Sn**	**11 45 04.8**	**+0.4**
baz=307							
WDLH	**Douliu**	**0.93**	**257**	*e*P	**Pn**	**11 44 52.5**	**+0.6**
baz=256							
WDLH				*e*S	**Sn**	**11 45 04.8**	**+0.4**
baz=256							
EDH	**Donghe**	**0.94**	**193**	⇑*i*P	**Pn**	**11 44 50.8**	**-1.2**
baz=189							
EDH				*e*S	**Sn**	**11 45 04.5**	**-0.1**
baz=189							
NTC	**Toucheng**	**0.99**	**16**	*e*P	**Pn**	**11 44 52.2**	**-0.5**
baz=18							
NTC				*e*S	**Sn**	**11 45 05.9**	**+0.1**
baz=18							
EGS		**1.01**	**21**	*e*P	**Pn**	**11 44 53.1**	**+0.1**
baz=23							
CHN4	**Tsaushan**	**1.02**	**238**	P	**Pn**	**11 44 53.9**	**+0.9**
baz=244							
CHN4				*e*S	**Sb**	**11 45 08.4**	**+1.8**
baz=244							
TPUB	**Ta-pu**	**1.02**	**235**	⇑*i*P	**Pn**	**11 44 53.8**	**+0.7**
baz=225							
TPUB				S	**Sn**	**11 45 07.3**	**+0.8**
baz=225							
STYT	**Tauyuan**	**1.02**	**224**	⇑*i*P	**Pn**	**11 44 53.3**	**+0.2**
baz=217							
STYT				*e*S	**Sn**	**11 45 06.8**	**+0.2**
baz=217							
SBCB	**Hsinchu**	**1.02**	**331**	*e*P	**Pn**	**11 44 54.3**	**+1.2**
baz=319							
SBCB				S	**Sb**	**11 45 08.2**	**+1.5**
baz=319							
HSN	**Hsinchu**	**1.04**	**330**	*e*P	**Pn**	**11 44 54.6**	**+1.3**
baz=321							
HSN				*e*S	**Sb**	**11 45 09.2**	**+2.1**
baz=321							
LONT	**Longtian**	**1.05**	**201**	*e*P	**Pn**	**11 44 51.9**	**-1.7**
baz=186							
WTP	**Ta-pu**	**1.06**	**233**	⇑*i*P	**Pn**	**11 44 54.5**	**+0.7**
baz=229							
WTP				*e*S	**Sn**	**11 45 08.9**	**+1.3**
baz=229							
WTK	**Tuku**	**1.07**	**259**	P	**Pn**	**11 44 54.3**	**+0.5**
baz=258							
WTK				*e*S	**Sb**	**11 45 09.7**	**+1.7**
baz=258							
RLNB	**Erlin**	**1.07**	**270**	⇓*i*P	**Pn**	**11 44 54.4**	**+0.6**
baz=269							
RLNB				*e*S	**Sb**	**11 45 09.4**	**+1.2**
baz=269							
TATO	**Taipei**	**1.07**	**358**	⇑*i*P	**Pn**	**11 44 54.2**	**+0.4**
baz=11							
TATO				*e*S	**Sn**	**11 45 07.7**	**-0.2**
baz=11							
TATO	**Taipei**	**1.07**	**358**		**Pn**	**11 44 54.3**	**+0.4**
TATO				Sn	**Sn**	**11 45 07.7**	**-0.2**
TWA	**Mucha**	**1.08**	**2**	⇑*i*P	**Pn**	**11 44 54.3**	**+0.4**
baz=16							
TWA				*e*S	**Sn**	**11 45 08.0**	**0.0**
baz=16							
CHY	**Chiayi**	**1.09**	**249**	*e*P	**Pn**	**11 44 54.8**	**+0.7**
baz=247							
CHY				*e*S	**

	baz=13								
SGST	Jiashian	1.19	227	⇑	iP		Pn	11 44 55.7	+0.3
	baz=217								
SGST					eS		Sn	11 45 11.9	+1.2
	baz=217								
TTN	Taitung	1.19	197		eP		Pn	11 44 53.8	-1.6
	baz=182								
WFSB	Wu-fen Shan	1.19	11		P		Pn	11 44 55.9	+0.4
	baz=13								
WFSB					eS		Sb	11 45 13.0	+1.4
	baz=13								
WMLT	Mailiao	1.20	266		eP		Pn	11 44 56.3	+0.7
	baz=265								
WMLT					eS		Sb	11 45 12.6	+0.8
	baz=265								
TWS1	Kuangyinshan	1.20	355		eP		Pn	11 44 56.3	+0.7
	baz=14								
TWS1					eS		Sb	11 45 13.4	+1.5
	baz=14								
WLGB	Puzi	1.20	250		eP		Pn	11 44 56.2	+0.6
	baz=248								
WLGB					eS		Sb	11 45 13.1	+1.2
	baz=248								
SLGT	Liugui	1.21	222	⇑	iP		Pn	11 44 56.7	+1.0
	baz=219								
SLGT					eS		Sb	11 45 13.4	+1.2
	baz=219								
LDUT	Ludao	1.22	183		eP		Pn	11 44 54.3	-1.5
	baz=170								
LDUT					eS		Sn	11 45 09.2	-2.2
	baz=170								
WSF	Szhu	1.23	258		P		Pn	11 44 56.7	+0.8
	baz=257								
WSF					eS		Sb	11 45 14.1	+1.5
	baz=257								
YM01	YM01	1.24	2	⇑	iP		Pn	11 44 56.2	0.0
	baz=4.0								
YM01					eS		Sn	11 45 12.1	0.0
	baz=4.0								
YM04	YM04	1.25	0	⇑	iP		Pn	11 44 56.4	+0.1
	baz=14								
YM04					eS		Sn	11 45 13.5	+1.3
	baz=14								
YM10	YM10	1.25	1	⇓	iP		Pn	11 44 56.5	+0.2
	baz=3.0								
YM10					eS		Sn	11 45 13.5	+1.2
	baz=3.0								
YM05	YM05	1.26	1	⇑	iP		Pn	11 44 56.4	-0.1
	baz=4.0								
YM05					eS		Sn	11 45 13.1	+0.6
	baz=4.0								
NTST	Danshui	1.26	357	⇑	P		Pn	11 44 56.8	+0.4
	baz=15								
NTST					eS		Sn	11 45 14.0	+1.5
	baz=15								
YM11	YM11	1.26	2		eP		Pn	11 44 56.4	-0.1
	baz=2.0								
ICHU	Yijhu	1.27	245		P		Pn	11 44 57.5	+1.0
	baz=243								
ICHU					eS		Sb	11 45 14.5	+0.7
	baz=243								
YM03	YM03	1.28	0	⇑	iP		Pn	11 44 56.5	-0.2
	baz=13								
YM03					eS		Sb	11 45 14.8	+0.7
	baz=13								
ANP	Anpu	1.28	360		P		Pn	11 44 56.6	-0.2
	baz=12								
ANP					eS		Sn	11 45 14.1	+1.0
	baz=12								
YM08	YM08	1.29	2		P		Pn	11 44 56.4	-0.4
	baz=2.0								
NWRT	Kuosheng	1.30	5		eP		Pn	11 44 57.0	0.0
	baz=20								
CHN8	Yiju	1.33	246		eP		Pn	11 44 58.5	+1.1
	baz=243								
CHN8					eS		Sb	11 45 16.4	+0.9
	baz=243								
CHN3	Shinhua	1.35	233		eP		Pb	11 45 00.0	+0.9
	baz=244								
CHN3					eS		Sb	11 45 18.9	+2.9
	baz=244								
TWY	Chenhua	1.37	3		P		Pn	11 44 58.4	+0.5
	baz=5.0								
TWY					eS		Sn	11 45 16.1	+0.9
	baz=5.0								
SCST	Cishan	1.39	224	⇑	eP		Pn	11 44 58.2	+0.1
	baz=221								
ECL	Taimali	1.40	202		eP		Pn	11 44 57.5	-0.8
	baz=187								
ECL					eS		Sn	11 45 16.1	+0.3
	baz=187								
JYNG	Yonagunijimaku	1.40	67		P		Pn	11 44 59.1	+0.8
JYNG					S		Sn	11 45 17.3	+1.4
SSD	Sandimen	1.41	216		P		Pn	11 44 59.0	+0.5
	baz=197								
SSD					eS		Sn	11 45 17.6	+1.4
	baz=197								
SCLT	Jiali	1.42	240		eP		Pn	11 44 59.8	+1.2
	baz=236								
SCLT					S		Sb	11 45 19.1	+0.9
	baz=236								
TSMG	Majia	1.44	215		eP		Pn	11 45 00.4	+1.5
	baz=196								
TSMG					eS		Sb	11 45 19.6	+1.0
	baz=196								
YOJ	Yonaguni jima	1.46	67		P		Pn	11 44 59.9	+0.7
	baz=68								
YOJ					eS		Sn	11 45 18.7	+1.3
	baz=68								
YOJ	Yonaguni jima	1.46	67		P		Pn	11 45 00.0	+0.8
YOJ					S		Sn	11 45 18.7	+1.3
YOJ	Yonaguni jima	1.46	67				Pn	11 45 00.3	+1.1
YOJ						Sn	Sn	11 45 18.2	+0.8
TAI1	Yung-k'ang	1.47	235		eP		Pn	11 44 59.5	+0.2
	baz=230								
TAI1					eS		Sb	11 45 20.3	+0.8
	baz=230								
TWM1	Shoushan	1.48	224		eP		Pb	11 45 02.3	+0.9
	baz=221								
SGLT	Jiouru	1.51	220		eP		Pb	11 45 02.3	+0.3
	baz=196								
SGLT					eS		Sb	11 45 21.9	+1.3
	baz=196								
MASBT	Mashibuluo	1.52	213		eP		Pn	11 45 00.0	0.0
	baz=206								
MASBT					eS		Sn	11 45 21.2	+2.3
	baz=206								
SNJT	Kaohsiung City	1.58	224		eP		Pn	11 45 02.5	+1.7
	baz=221								
EAST	Anshuo	1.63	203		eP		Pn	11 45 00.2	-1.3
	baz=192								
TAW	Tawu	1.64	201		eP		Pn	11 45 02.5	+0.9
	baz=191								
SSPT	Xinbi	1.66	212		eP		Pn	11 45 03.4	+1.5
	baz=209								
SCZT	Fangliau	1.73	209		eP		Pn	11 45 03.1	+0.2
	baz=187								
SCZT					eS		Sn	11 45 24.9	+0.8
	baz=187								
PCYT	Pengchaiyu	1.79	16		eP		Pn	11 45 03.5	-0.3
	baz=16								
SLIU	Shizi	1.80	202		eP		Pn	11 45 05.1	+1.3
	baz=189								
WDGT	Dungji	1.83	250		eP		Pn	11 45 04.8	+0.6
	baz=248								
WDGT					eS		Sn	11 45 27.3	+0.8
	baz=248								
PHUB	P'eng-hu	1.84	258		eP		Pn	11 45 04.7	+0.4
	baz=257								
PHUB					eS		Sn	11 45 27.4	+0.7
	baz=257								
PNG	Penghu	1.84	260		P		Pn	11 45 04.7	+0.3
	baz=259								
PNG					eS		Sn	11 45 27.6	+0.8
	baz=259								
LAY	Lan-yu	1.85	179		eP		Pn	11 45 03.2	-1.3
	baz=170								
WLCH	Liuqiu	1.87	215		eP		Pn	11 45 07.7	+2.9
	baz=227								
TWP	Hsiaoliuchiu	1.88	215		eP		Pn	11 45 06.4	+1.5
	baz=227								
HEN	Hengchun	2.02	201		eP		Pn	11 45 09.1	+2.2
	baz=185								
VCHM	Qimei	2.05	251		eP		Pn	11 45 07.8	+0.6
	baz=250								
IRIF	Iriomote-Funau	2.06	77		P		Pn	11 45 08.3	+1.0
IRIF					S		Sn	11 45 33.5	+1.5
TWK1	Hengchun	2.06	199		eP		Pn	11 45 08.1	+0.8
	baz=186								
TWKBT	Hengchun	2.06	199		eP		Pn	11 45 07.3	-0.1
	baz=186								
HATJ	Hateruma jima	2.08	85		P		Pn	11 45 08.7	+1.0
HATJ					S		Sn	11 45 33.8	+1.0
VWUC	VWUC	2.19	300		eP		Pn	11 45 08.1	-1.0
	baz=301								
PTTC	Pingtan	2.26	315		eP		Pn	11 45 09.8	-0.3
	baz=317								
JKRS	Kuro-shima	2.29	81		P		Pn	11 45 11.9	+1.4
JKRS					S		Sn	11 45 40.3	+2.5
JIJ	Ishigaki jima	2.43	78		P		Pn	11 45 13.2	+0.7
JIJ					S		Sn	11 45 41.8	+0.5
PTMZ	Houxiangcun	2.48	298		eP		Pn	11 45 12.4	-0.7
	baz=299								
JISG	Ishigakijimahi	2.63	74		P		Pn	11 45 16.1	+0.9
JISG					S		Sn	11 45 46.1	-0.1
MATB	Ma-tsu	2.67	328		eP		Pn	11 45 14.6	-1.1
	baz=329								
QZH	Quanzhou	2.88	292		Pn		Pn	11 45 18.5	-0.1
QZH					Sn		Sn	11 45 49.5	-2.8
QZH					smax		smax		
	comp=N,520nm,0.3s								
QZH					smax		smax		
	comp=E,210nm,0.2s								
KNM	Kinmen	2.88	281		eP		Pn	11 45 19.9	+1.3
	baz=280								
KNMB	Chin-men Tao	2.93	282		eP		Pn	11 45 18.8	-0.5
	baz=282								
KNMB	Chin-men Tao	2.93	282				Pn	11 45 18.8	-0.5
JTJ	Tarama	2.99	75		P		Pn	11 45 21.2	+1.1
JTJ					S		Sn	11 45 55.7	+0.7
LYJJ	Jianjiangzhen	3.09	329		eP		Pn	11 45 21.1	-0.4
	baz=332								
MHZQ	Yeshan	3.16	315		eP		Pn	11 45 22.0	-0.5
	baz=318								
XPSS	Dashiqiu	3.25	338		eP		Pn	11 45 23.2	-0.6
	baz=339								
AXDP	Jialang	3.40	288		eP		Pn	11 45 25.3	-0.5
	baz=288								
JIRB	Irabujima	3.45	74		P		Pn	11 45 27.4	+1.0
JIRB					S		Sn	11 46 07.4	+1.0
ZPLA	Ao Xicun	3.46	271		eP		Pn	11 45 26.6	0.0
	baz=271								
JIKM	Ikemajima	3.54	72		P		Pn	11 45 29.3	+1.6
JIKM					S		Sn	11 46 10.0	+1.4
JMJ	Miyako jima 2	3.55	74		eP		Pn	11 45 29.2	+1.4
	baz=77								
JMJ2	Miyako jima3	3.56	76		P		Pn	11 45 29.4	+1.4
JMJ2					S		Sn	11 46 11.0	+1.7
ZZJH	Jiuhuzhen	3.61	280		eP		Pn	11 45 28.3	-0.4
	baz=279								
JOGS	Gusukube	3.64	76		P		Pn	11 45 30.9	+1.8
JOGS					S		Sn	11 46 13.3	+2.2
KSRS	Korea Array	14.58	21		P		P	11 48 04.2	-1.0
	0.7nm,0.3s,baz=201,slow=12,SNR=25								
KSRS					LR		LR	11 54 34.4	
	comp=Z,73nm,19.8s,baz=209,slow=41								
JHS	Saijyo	14.96	40		Pn		Pn	11 48 04.6	+0.4
CHTO	Chiang Mai	21.63	261		P		P	11 49 22.5	-0.3
CMAR	Chiang Mai Arr	21.74	260		P		P	11 49 26.7	+2.7
	0.6nm,0.5s,baz=60,slow=8.2,SNR=8.1								
CMAR					LR		LR	11 58 47.7	
	comp=Z,18nm,20.1s,baz=175,slow=39								
CMAR	Chiang Mai Arr	21.74	260		P		P	11 49 21.6	-2.3
GUMO	Guam	24.32	111		LR		LR	11 58 00.1	
	comp=Z,35nm,20.6s,baz=114,slow=33								
SONM	Songino Array	26.75	337		P		P	11 50 11.3	-0.7
	0.9nm,0.5s,baz=143,slow=8.3,SNR=3.6								
SONM					LR		LR	12 01 59.1	
	comp=Z,95nm,18.0s,baz=172,slow=39								
WMQ	Urumqi	34.08	314		eP		P	11 51 19.5	+2.7
MTN	Manton Dam	37.70	165		P		P	11 51 47.0	-0.9
MK31	Makanchi Array	38.76	316		P		P	11 51 57.0	+0.3
MK31					IAmb		IAmb	11 51 59.4	
	comp=Z,2.6nm,1.0s								
MKAR	Makanchi Array	38.76	316		P		P	11 51 56.9	+0.2
	comp=Z,2.8nm,1.0s,baz=104,slow=8.8,SNR=9.2								
MKAR					PcP		PcP	11 54 07.3	-0.5
	comp=Z,0.5nm,0.9s,baz=99,slow=3.1,SNR=2.4								
MAKZ	Makanchi	38.97	316		P		P	11 51 59.0	+0.6
MAKZ					IAmb		IAmb	11 52 00.9	
	comp=Z,2.3nm,0.8s								
PETK	Petropavlovsk-	39.93	34		LR		LR	12 09 18.3	
	comp=Z,35nm,19.9s,baz=211,slow=37								
ZALV	Zalesovo Beam	40.66	327		P		P	11 52 11.5	-0.7
	comp=Z,1.0nm,0.5s,baz=113,slow=8.8,SNR=4.9								
ZALV					LR		LR	12 10 40.0	
	comp=Z,31nm,20.6s,baz=120,slow=38								
ZALV	Zalesovo Beam	40.66	327		P		P	11 52 10.2	-2.0
KDJ	Kajisay	40.88	307		P		P	11 52 12.3	-2.3
KDJ					IAmb		IAmb	11 52 17.7	
	comp=Z,2.6nm,1.1s								
H11N1	WAKE ISLAND Hy	42.19	87		T		T	12 37 27.9	
	baz=283,slow=74,SNR=41								
H11N2	WAKE ISLAND Hy	42.19	87		T		T	12 37 29.9	
	baz=283,slow=74,SNR=49								
H11N3	WAKE ISLAND Hy	42.20	87		T		T	12 37 34.8	
	baz=283,slow=74,SNR=57								
H11S3	WAKE ISLAND Hy	42.31	88		T		T	12 37 36.9	
	baz=284,slow=75,SNR=71								
H11S1	WAKE ISLAND Hy	42.32	88		T		T	12 37 37.5	
	baz=284,slow=75,SNR=46								
H11S2	WAKE ISLAND Hy	42.33	88		T		T	12 37 41.1	
	baz=284,slow=75,SNR=51								
WRA	Warramunga Arr	45.33	163		P		P	11 52 48.5	-1.9
	comp=Z,0.6nm,0.6s,baz=345,slow=8.7,SNR=9.1								
WC3	Warramunga Arr	45.35	163		P		P	11 52 49.6	-1.0
WR0	Warramunga Arr	45.40	163		P		P	11 52 50.7	-0.2
WR0					IAmb		IAmb	11 53 16.2	
	comp=Z,13nm,1.6s								
AS31	Alice Springs	48.78	165		P		P	11 53 16.1	-1.2
AS31					IAmb		IAmb	11 53 41.4	
	comp=Z,1.7nm,1.5s								
ASAR	Alice Springs	48.78	165		P		P	11 53 15.6	-1.7
	comp=Z,0.3nm,0.7s,baz=340,slow=6.9,SNR=8.4								
ASAR					LR		LR	12 15 51.3	
	comp=Z,118nm,18.2s,baz=312,slow=38								
ASAR	Alice Springs	48.78	165		P		P	11 53 17.6	+0.3
AB07	Akbulak array	53.86	314		P		P	11 53 54.6	-0.6
ABKAR	Akbulak array	53.87	314		P		P	11 53 54.5	-0.7
ILAR	Eielson Array	69.32	27		P		P	11 55 37.9	-1.4
	comp=Z,0.3nm,0.6s,baz=267,slow=5.3,SNR=7.8								
NOA	NORSAR Array B	78.63	332		LR		LR	12 32 52.9	
	comp=Z,24nm,20.8s,baz=300,slow=37								
CLL	Collm	82.47	323		eP		P	11 56 58.0	+3.5
YKA	Yellowknife Ar	83.11	23		P		P	11 56 56.6	-0.9
	comp=Z,0.9nm,0.7s,baz=318,slow=6.0,SNR=3.9								

IDC 26 11:50:37.3±2.8, 6°.66S×129°.81E, h135km±38km, mb3.4/1, mb1 3.2/5, mb1mx3.0/32, mbtmp3.6/5, Error ellipse: s-maj=68.0km s-min=21.0km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	5.93	14	P	Pn	11 52 03.1	+0.2
	1.5nm,0.3s,baz=180,slow=2.0,SNR=20						
SIJI				S	Sn	11 53 05.4	-4.4
	1.0nm,0.3s,baz=252,slow=23,SNR=1.7						
FITZ	Fitzroy Crossi	12.08	199	P	Pn	11 53 24.9	-0.2
	0.3nm,0.3s,baz=358,slow=11,SNR=16						
FITZ				S	Sn	11 55 32.6	-5.8
	0.3nm,0.3s,baz=180,slow=16,SNR=1.6						
WRA	Warramunga Arr	13.92	162	P	Pn	11 53 48.1	-0.8
	0.2nm,0.3s,baz=346,slow=12,SNR=11						
WRA				S	Sn	11 56 15.6	-7.3
	0.3nm,0.3s,baz=333,slow=22,SNR=6.0						
ASAR	Alice Springs	17.37	167	P	Pn	11 54 31.6	+0.1
	0.1nm,0.3s,baz=348,slow=9.4,SNR=8.8						
ASAR				S	S	11 57 37.9	-7.1
	0.0nm,0.3s,baz=347,slow=28,SNR=1.5						
MKAR	Makanchi Array	67.83	327	P	P	12 01 20.9	0.0
	0.5nm,0.4s,baz=119,slow=8.1,SNR=3.6						

*KRNET **26** 12:04:48.8±0.1, 40°.90N×69°.54E, mb3.2*
*SOME **26** 12:04:48.1, 40°.97N×69°.68E, h15km*
*NNC **26** 12:04:50.2±2.7, 40°.89N×69°.85E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=20.0km s-min=13.0km az=47.0*

ISC 26 12:04:51.3±1.4, 40°.99N±0°.04×69°.31E±0°.05, h22km±13km, n27, σ1°.76/45, 25C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAS	Tashkent	0.33	358	⇑ iP		Pb	12 04 57.9	-0.7
	baz=37						
TAS				⇑ iS		Sn	12 05 05.0	-2.0
	baz=37						
IUG	luzhnay	1.27	25	eP		Pn	12 05 13.9	+0.1
	118nm,0.3s						
IUG				eS		Sb	12 05 33.1	+2.5
	204nm,0.4s						
IUG	luzhnay	1.27	25	P		Pn	12 05 14.0	+0.1
	257nm,0.2s						
IUG				S		Sb	12 05 33.1	+2.5
	204nm,0.4s						
BTK	Batken	1.48	129	⇓ iP		Pn	12 05 13.5	-3.1
	baz=30						
BTK				⇓ iS		Sn	12 05 31.2	-4.2
	baz=30						
BRLS	Borolday	2.07	11	eP		Pn	12 05 23.0	-1.8
	21nm,0.3s						
BRLS				eS		Sn	12 05 48.7	-1.2
	91nm,0.4s						
BRLS	Borolday	2.07	11	Pg		Pn	12 05 23.0	-1.8
	21nm,0.3s						
BRLS				Lg		Lg	12 05 48.7	
	91nm,0.4s						
GAR	Garm	2.13	158	⇑ iP		Pn	12 05 25.9	+0.2
	baz=62						
GAR				⇑ iS		Sn	12 05 52.8	+1.2
	baz=62						
KK31	Karatay Array	2.29	23	⇑ Pn		Pb	12 05 30.0	-1.9
	5.0nm,0.3s,baz=202,slow=14,SNR=85						
KK31				⇑ Lg		Lg	12 05 59.8	
	14nm,0.3s,baz=204,slow=27,SNR=15						
CHGR	Chuyangaron	2.33	183	⇑ iP		Pn	12 05 29.6	+1.2
	baz=88						
CHGR				⇑ iS		Sn	12 05 59.4	+2.9
	baz=88						
OHH	Osh	2.68	99	⇑ iP		Pn	12 05 32.6	-0.5
	baz=98						
OHH				⇑ iS		Sn	12 06 05.5	+0.5
	baz=98						
MRKS	Merke	3.41	58	eP		Pn	12 05 46.7	+3.6
	7.1nm,0.5s						
MRKS				eS		Sb	12 06 29.2	-2.8
	17nm,0.5s						
MRKS	Merke	3.41	58	Pg		Pn	12 05 46.7	+3.6
	7.1nm,0.5s						
MRKS				Lg		Lg	12 06 29.2	
	17nm,0.5s						
AML	Almayashu	3.48	69	⇑ iP		Pn	12 05 45.2	+0.8
	baz=67						
AML				⇑ iS		Sn	12 06 26.3	+1.2
	baz=67						
EKS2	Erkin-Say	3.73	62	⇑ iP		Pn	12 05 48.6	+1.0
	baz=60						
EKS2				⇑ iS		Sn	12 06 32.3	+1.3
	baz=60						
ARLS	Aral	3.87	75	⇑ iP		Pn	12 05 50.2	+0.7
	baz=73						
ARLS				⇑ iS		Sn	12 06 34.6	+0.2
	baz=73						
UCH	Uchtor	4.09	71	⇑ iP		Pn	12 05 53.3	+0.4
	baz=69						
UCH				⇑ iS		Sn	12 06 40.5	+0.2
	baz=69						
AAK	Ala-Archa	4.21	65	⇑ iP		Pn	12 05 55.3	+1.1
	baz=63						
AAK				⇑ iS		Sn	12 06 43.6	+0.8
	baz=63						
AAK	Ala-Archa	4.21	65	⇓ Pg		Pb	12 06 01.3	-3.4
	2.9nm,0.3s						
AAK				⇓ Lg		Lg	12 06 53.2	
	3.2nm,0.5s						
USP	Ospenovka	4.48	58	⇑ iP		Pn	12 05 59.2	+1.4
	baz=56						
USP				⇑ iS		Sn	12 06 50.1	+0.8
	baz=56						
KBK	Karagaybulak	4.53	67	⇓ iP		Pn	12 05 59.5	+0.9
	baz=65						
KBK				⇓ iS		Sn	12 06 51.0	+0.3
	baz=65						
KZA	Kyzart	4.59	74	⇓ iP		Pn	12 06 00.1	+0.4
	baz=73						
KZA				⇓ iS		Sn	12 06 52.3	-0.2
	baz=73						
SGDS	Sogindy	4.65	56	Pg		Pb	12 06 11.4	-0.8
	5.1nm,0.4s						
SGDS				Lg		Lg	12 07 06.9	
	5.6nm,0.5s						
TKM2	Tokmak 2	5.07	66	⇑ iP		Pn	12 06 07.2	+1.1
	baz=64						
TKM2				⇑ iS		Sn	12 07 03.9	-0.1
	baz=64						
TKM2	Tokmak 2	5.07	66	⇑ Pg		Pb	12 06 15.8	-3.5
	1.7nm,0.5s						
TKM2				⇓ Lg		Lg	12 07 20.9	
	3.1nm,0.5s						
BOOM	Boomskoye usch	5.18	71	⇓ iP		Pn	12 06 08.5	+0.9
	baz=70						
BOOM				⇓ iS		Sn	12 07 06.3	-0.5
	baz=70						
BTLS	Baital	5.33	39	eP		Pb	12 06 22.8	-0.9
	1.6nm,0.6s						
BTLS				eS		Sb	12 07 30.5	+3.3
	4.7nm,0.5s						
KST	Kastek	5.36	65	eP		Pb	12 06 21.2	-3.1
	2.2nm,0.4s						
KST				eS		Sb	12 07 27.9	-0.3
	5.6nm,0.6s						

*IDC **26** 12:09:15.8±1.7, 61°.66N×152°.04W, h91km±21km, mb3.8/6, mb1 3.9/11, mb1mx3.5/45, mbtmp4.1/11, MS3.3/1, Ms1 3.3/1, ms1mx2.4/37, Error ellipse: s-maj=27.4km s-min=12.9km az=107.0*
*NEIC **26** 12:09:17.3±1.1, 61°.69N±0°.03×151°.81W±0°.08, h103km±4km, Error ellipse: s-maj=5.2km s-min=4.2km az=96.0*
*UNK **26** 12:09:18.6, 61°.69N×151°.77W, h98km*
*AEIC **26** 12:09:18.5±1.1, 61°.68N±0°.04×151°.79W±0°.07, h99km±4km, ML3.6/90, Error ellipse: s-maj=5.5km s-min=4.3km az=146.0*
*ANF **26** 12:09:18.0±0.7, 61°.72N×151°.67W, h106km±8km, ML4.0/13, ML4.0/13, Error ellipse: s-maj=8.1km s-min=4.2km az=95.0*

ISC 26 12:09:17.3±0.7, 61°.69N±0°.03×151°.77W±0°.04, h108km±5km, n142, σ0°.78/163, mb4.3/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STLK	Strandline Lak	0.20	189		Pn	12 09 31.9	-0.7
SKT	Skwentna	0.31	21		Pn	12 09 32.3	-0.6
SKT					Sn	12 09 43.2	-1.4
SPCG	Spurr Capps Gl	0.42	197		Pn	12 09 33.0	-0.6
SPCG					Sn	12 09 44.2	-1.6
SPCP	Crater Peak Br	0.47	204		Pn	12 09 33.4	-0.5
SPCP					Sn	12 09 45.1	-1.2
SPCN	Chakachatna No	0.51	203		Pn	12 09 33.6	-0.4
SPBG	Spurr Blockage	0.52	214		Pn	12 09 33.8	-0.4
SPBG					Sn	12 09 46.2	-0.7
SPU	Mount Spurr	0.53	195	Pn	Pn	12 09 33.5	-0.7
SPCR	Spurr Chakacha	0.54	203		Pn	12 09 33.6	-0.7
SPCR					Sn	12 09 45.5	-1.5
SUA	Susitna One	0.54	115		Pn	12 09 34.6	+0.2
SUA					Sn	12 09 46.7	-0.4
SPNN	North Nagishla	0.55	234		Pn	12 09 34.0	-0.5
SPNN					Sn	12 09 46.4	-1.0
FIS	Fire Island	0.93	126		Pn	12 09 38.5	+1.0
CAP

PPLA					Sn	12 09 58.3	-0.4
PMR	**Palmer**	1.26	93		Pn	12 09 40.7	-0.4
PMR					Sn	12 09 58.4	-0.7
NCT	**North Crescent**	1.27	207		Pn	12 09 41.6	+0.2
NCT					Sn	12 09 59.4	-0.1
RDWB	**Redoubt West**	1.32	204		Pn	12 09 42.2	+0.2
RSO	**Redoubt South**	1.33	202		Pn	12 09 42.1	0.0
GHO	**Glory Hole Cre**	1.35	85		Pn	12 09 42.1	-0.2
SLKM	**Skilak Lake**	1.41	147		Pn	12 09 42.5	-0.4
O22K	**Cooper Landing**	1.57	140	P	Pn	12 09 45.3	+0.6
	baz=322,SNR=61						
O22K				S	Sn	12 10 04.9	-0.8
	baz=322						
O22K	**Cooper Landing**	1.57	140		Pn	12 09 45.1	+0.3
KNK	**Knik Glacier**	1.61	99		Pn	12 09 45.1	-0.2
HUR	**Hurricane**	1.63	37		Pn	12 09 45.7	+0.2
SML	**Sawmill**	1.64	85		Pn	12 09 45.5	-0.2
CAST	**Castle Rocks**	1.74	355		Pn	12 09 46.8	-0.1
WAT7	**Susitna Watana**	1.78	49		Pn	12 09 47.7	+0.2
IVE	**Iliamna Volcan**	1.79	201		Pn	12 09 47.6	-0.1
PWL	**Port Wells**	1.86	115		Pn	12 09 47.9	-0.5
WAT1	**Susitna Watana**	1.89	51		Pn	12 09 49.0	+0.2
TRF	**Thorofare Moun**	1.89	21		Pn	12 09 49.3	+0.4
KTH	**Kantishna Hill**	1.91	11		Pn	12 09 49.3	+0.3
SVW2	**Sparrevohn**	1.93	254		Pn	12 09 49.0	-0.3
SEW	**Seward**	1.96	144		Pn	12 09 49.1	-0.4
WAT2	**Susitna Watana**	1.96	48		Pn	12 09 49.9	+0.2
BRLK	**Bradley Lake**	1.98	167		Pn	12 09 49.8	-0.3
BRSE	**Bradley Lake S**	2.02	165		Pn	12 09 50.0	-0.5
HOM	**Homer**	2.04	178	P	Pn	12 09 51.2	+0.5
	baz=358						
HOM				S	Sn	12 10 17.2	+1.0
	baz=358						
WAT6	**Susitna Watana**	2.09	63		Pn	12 09 51.5	0.0
SCM	**Sheep Creek Mo**	2.12	84		Pn	12 09 51.5	-0.2
RND	**Reindeer**	2.19	37		Pn	12 09 52.5	-0.1
CNPM	**China Poot**	2.19	173		Pn	12 09 52.3	-0.4
TTA	**Tatalina**	2.34	304		Pn	12 09 54.2	-0.4
GLI	**Glacier Island**	2.40	108		Pn	12 09 54.1	-1.2
MCK	**McKinley**	2.43	31		Pn	12 09 55.9	+0.2
BPAW	**Bear Paw Mtn.**	2.44	8		Pn	12 09 56.6	-0.3
DHY	**Denali Highway**	2.47	54		Pn	12 09 56.6	+0.2
M24K	**Tolsona, Glenn**	2.68	79	P	Pn	12 09 59.5	+0.5
	baz=264,SNR=187						
M24K				S	Sn	12 10 31.9	+0.9
	baz=264						
M24K	**Tolsona, Glenn**	2.68	79		Pn	12 09 59.7	+0.7
BWN	**Browne**	2.70	22		Pn	12 09 59.6	+0.4
FID	**Port Fidalgo**	2.73	108		Pn	12 09 58.0	-1.7
KLU	**Klutina**	2.80	92		Pn	12 10 00.0	-0.6
HIN	**Hinchinbrook I**	2.87	115		Pn	12 10 00.4	-1.1
DIV	**Divide**	2.94	98		Pn	12 10 01.6	-0.9
PS11	**TAPS Pump St11**	3.00	80		Pn	12 10 04.2	+1.0
EYAK	**Cordova Ski Ar**	3.14	109		Pn	12 10 04.3	-0.7
NEA2	**Nenana**	3.16	22	P	Pn	12 10 04.9	-0.3
	baz=204,SNR=40						
NEA2				S	Sn	12 10 39.2	-3.0
	baz=204						
NEA2	**Nenana**	3.16	22		Pn	12 10 05.0	-0.3
PAX	**Paxson**	3.20	64		Pn	12 10 06.9	+0.9
WRH	**Wood River Hil**	3.25	29		Pn	12 10 06.3	-0.2
CCB	**Clear Creek Bu**	3.47	29		Pn	12 10 08.9	-0.4
HDA	**Harding Lake**	3.50	37	P	Pn	12 10 09.6	-0.2
	baz=227,SNR=208						
HDA	**Harding Lake**	3.50	37		Pn	12 10 09.7	-0.1
Q23K	**Middleton Isla**	3.51	128	P	Pn	12 10 10.0	+0.1
	baz=313						
Q23K				S	Sn	12 10 49.1	-1.5
	baz=313						
Q23K	**Middleton Isla**	3.51	128	Pn	Pn	12 10 10.5	+0.5
MID	**Middleton Isla**	3.51	128	Pn	Pn	12 10 10.4	+0.5
BMRM	**Bremner River**	3.53	99		Pn	12 10 09.1	-1.2
GOAT	**Goat Mountain**	3.59	105		Pn	12 10 10.2	-1.0
PS08	**TAPS Pump Stn8**	3.64	36		Pn	12 10 11.7	+0.1
MDM	**Murphy Dome**	3.65	24		Pn	12 10 11.7	-0.1
TCOL	**CIGO, UAF Yank**	3.65	27	P	Pn	12 10 11.6	-0.2
	baz=211,SNR=47						
TCOL	**CIGO, UAF Yank**	3.65	27		Pn	12 10 12.1	+0.3
COLA	**College**	3.65	27		Pn	12 10 11.8	0.0
RAGM	**Ragged Mountai**	3.69	108	Pn	Pn	12 10 12.3	-0.1
KAKN	**Katmai Knife C**	3.79	207		Pn	12 10 14.4	+0.6
RIDG	**Independent Ri**	3.79	54	Pn	Pn	12 10 14.6	+0.9
IL31		3.80	33		Pn	12 10 13.5	-0.2
ILAR	**Eielson Array**	3.80	33	P	Pn	12 10 13.6	-0.2
	15nm,0.3s,baz=221,slow=15,SNR=330						
ILAR				S	Sn	12 10 47.5	-10
	5.3nm,0.3s,baz=221,slow=21,SNR=5.9						
ILAR	**Eielson Array**	3.80	33		Pn	12 10 13.4	-0.4
GLB	**Gilahina Butte**	3.81	90		Pn	12 10 13.6	-0.5
HMT	**Hamilton**	3.90	107		Pn	12 10 15.8	+0.6
KDAK	**Kodiak Island**	3.95	186	P	Pn	12 10 14.5	-1.3
	1.3nm,0.3s,baz=49,slow=9.2,SNR=86						
KDAK				S	Sn	12 10 58.1	-3.0
	4.9nm,0.3s,baz=146,slow=21,SNR=9.0						
KDAK	**Kodiak Island**	3.95	186	Pn	Pn	12 10 15.6	-0.2
POKR	**Poker Plat Res**	3.95	28	P	Pn	12 10 15.4	-0.4
	baz=212,SNR=20						
MENT	**Mentasta**	3.96	68		Pn	12 10 16.1	+0.1
VRDI	**Verde Repeater**	4.02	93		Pn	12 10 16.0	-1.0
DOT	**Dot Lake**	4.06	58		Pn	12 10 17.6	+0.3
NICHA	**Nichawak Mount**	4.07	108		Pn	12 10 16.3	-1.2
MCARA	**McCarthy VSAT**	4.20	90		Pn	12 10 19.6	+0.4
SCRK	**Sand Creek**	4.24	54	P	Pn	12 10 20.1	+0.2
	baz=241,SNR=108						
SCRK	**Sand Creek**	4.24	54		Pn	12 10 20.0	+0.2
CRQM	**Cirque**	4.28	99		Pn	12 10 20.2	-0.2
KHIT	**Khitrov Hills**	4.32	103		Pn	12 10 20.6	-0.4
IMAR	**Indian Mountai**	4.40	349		Pn	12 10 21.8	-0.1
TGL	**Tana Glacier**	4.42	98		Pn	12 10 21.9	-0.4
WAX	**Waxell Ridge**	4.51	102		Pn	12 10 24.8	+1.4
OHAK	**Old Harbor**	4.55	190		Pn	12 10 22.3	-1.7
BALM	**Baldy**	4.58	94		Pn	12 10 23.9	-0.5
ISLE	**Juniper Island**	4.70	99		Pn	12 10 25.7	-0.4
BCAR	**Beaver Creek A**	4.85	69		Pn	12 10 27.8	-0.2
BARN	**Barnard Glacie**	4.90	93		Pn	12 10 29.2	+0.4
K27K	**Chicken**	5.02	58	P	Pn	12 10 30.2	0.0
	baz=246						
MESA	**MESA**	5.02	103	Pn	Pn	12 10 30.8	+0.3
YAH	**Yahtse**	5.05	101		Pn	12 10 30.1	-0.9
CTGM	**Chitina Glacie**	5.08	94		Pn	12 10 31.9	+0.7
SII	**Sitkinak Islan**	5.30	195	Pn	Pn	12 10 34.5	+0.4
COLD	**Coldfoot**	5.60	6	P	Pn	12 10 39.0	+1.0
	baz=188,SNR=5.4						
COLD				S	Sn	12 11 39.5	-1.5
	baz=188						
COLD	**Coldfoot**	5.60	6	Pn	Pn	12 10 39.0	+1.0
FYU	**Fort Yukon**	5.66	27	Pn	Pn	12 10 39.6	+0.7
EGAK	**Eagle**	5.70	53	Pn	Pn	12 10 39.7	+0.2
PCA	**Pinnacle**	5.84	101		Pn	12 10 42.2	+0.8
BCPM	**Bancas Point**	6.18	101	Pn	Pn	12 10 46.8	+0.8
CHGN	**Chignik**	6.40	215	Pn	Pn	12 10 49.9	+0.9
BMAR	**Burnt Mountain**	6.53	25	Pn	Pn	12 10 50.8	+0.1
HYT	**Haines Junctio**	6.93	91	Pn	Pn	12 10 56.6	+0.3
TOLK	**Toolik Lake Re**	7.04	7	S	Sn	12 12 16.4	+0.4
	baz=189						
TOLK	**Toolik Lake Re**	7.04	7	Pn	Pn	12 10 59.2	+1.6
EPYK	**Eagle Plains**	8.09	48		Pn	12 11 12.1	+0.3
WHY	**Whitehorse**	8.22	90		Pn	12 11 13.7	-0.1
SKAG	**Skagway**	8.39	98		Pn	12 11 16.7	+0.8
BESE	**Bessie Mountai**	8.99	103	Pn	Pn	12 11 24.5	+0.4
JIS	**Juneau Island**	9.35	104	Pn	Pn	12 11 29.9	+1.0
SIT	**Sitka**	9.58	112	Pn	Pn	12 11 32.2	+0.2
INK	**Inuvik**	10.14	41	P	Pn	12 11 39.5	0.0
	1.2nm,0.3s,baz=217,slow=17,SNR=31						
INK	**Inuvik**	10.14	41	Pn	Pn	12 11 39.9	+0.4
DLBC	**Dease Lake**	11.32	97	P	Pn	12 11 55.9	+0.2
	0.2nm,0.3s,baz=37,slow=26,SNR=2.2						
DLBC	**Dease Lake**	11.32	97		Pn	12 11 56.5	+0.8
YKA	**Yellowknife Ar**	17.26	71	P	Pn	12 13 12.2	+1.0
	0.2nm,0.3s,baz=284,slow=11,SNR=8.1						
NRIK	**Noril'sk**	42.65	333	P	P	12 17 02.8	+0.4
	2.9nm,0.5s,baz=99,slow=5.6,SNR=4.2						
TLY	**Talaya**	52.18	310	LR	LR	12 41 39.8	
	comp=Z,30nm,18.5s,baz=184,slow=37						
SONM	**Songino Array**	54.29	306	P	P	12 18 32.2	+0.2
	2.0nm,0.6s,baz=34,slow=7.9,SNR=9.4						
ZALV	**Zalesovo Beam**	56.36	324	P	P	12 18 45.6	-1.1
	1.5nm,0.6s,baz=28,slow=4.8,SNR=5.4						
FINES	**FINESS Array B**	57.17	1	P	P	12 18 52.2	0.0
	2.7nm,0.8s,baz=353,slow=9.6,SNR=5.2						
MKAR	**Makanchi Array**	63.48	322	P	P	12 19 34.6	-0.8
	0.2nm,0.3s,baz=39,slow=7.8,SNR=3.9						
AKASG	**Malin Array Be**	67.95	359	P	P	12 20 04.2	+0.2
	1.5nm,0.4s,baz=5.5,slow=6.3,SNR=2.7						
QSPA	**South Pole Qui**	151.50	180	PKPbc	PKiKP	12 28 57.6	+0.2
	1.9nm,0.5s,baz=74,slow=7.4,SNR=20						
QSPA	**South Pole Qui**	151.50	180		PKiKP	12 28 57.9	+0.6

*SOME **26** 12:10:06.6, 44°.67N×82°.07E, h5km*
*NNC **26** 12:10:08.8±0.6, 44°.70N×82°.10E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=7.1km s-min=2.2km az=123.0

ISC 26 12:10:07.4±1.5, 44°.67N±0°.04×82°.06E±0°.06, h18km±16km, n29, σ1°.66/46, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	1.66	259	*e*P	Pg	12 10 39.6	+0.3
	13nm,0.3s						
DJR				*e*S	Sg	12 11 04.0	+3.0
	13nm,0.5s						
DJR	**Jarkent**	1.66	259	P	Pg	12 10 39.6	+0.3
	13nm,0.3s						
DJR				S	Sg	12 11 03.9	+3.0
	13nm,0.5s						
KTMS	**Ketmen**	1.74	226	*e*P	Pg	12 10 40.8	0.0
	25nm,0.1s						
KTMS				*e*S	Sg	12 11 06.0	+2.6
	55nm,0.4s						
KTMS	**Ketmen**	1.74	226	Pg	Pg	12 10 40.8	0.0
	25nm,0.1s						
KTMS				Lg	Lg	12 11 06.1	
	55nm,0.4s						
KAPS	**Kapalarasan**	2.01	289	*e*P	Pg	12 10 45.2	-0.9
	4.6nm,0.2s						
KAPS				*e*S	Sg	12 11 13.4	+1.2
	19nm,0.3s						
KAPS	**Kapalarasan**	2.01	289	Pg	Pg	12 10 45.2	-0.9
	4.6nm,0.2s						
KAPS				Lg	Lg	12 11 13.4	
	19nm,0.3s						
MK31	**Makanchi Array**	2.13	4	⇓Pn	Pb	12 10 45.5	0.0
	18nm,0.3s,baz=181,slow=14,SNR=409						
MK31				⇑Sn	Sb	12 11 13.2	+1.6
	9.2nm,0.3s,baz=187,slow=26,SNR=12						
MAKZ	**Makanchi**	2.14	358	⇓Pn	Pb	12 10 45.2	-0.4
	13nm,0.5s						
MAKZ				⇑Sn	Sb	12 11 13.5	+1.7
	23nm,0.5s						
PDGK	**Podgornoye**	2.29	235	⇑Pn	Pb	12 10 48.2	0.0
	3.8nm,0.5s						
PDGK				⇓Sn	Sg	12 11 19.8	-1.2
	13nm,0.5s						
SHLS	**Shalkode**	2.41	232	*e*P	Pb	12 10 48.8	-1.5
	22nm,0.2s						
SHLS				*e*S	Sb	12 11 19.0	-0.8
	77nm,0.4s						
SHLS	**Shalkode**	2.41	232	Pg	Pb	12 10 48.8	-1.5
	22nm,0.2s						
SHLS				Lg	Lg	12 11 19.0	
	77nm,0.4s						
TDK	**Taldyqorghan**	2.62	279	*e*P	Pg	12 10 56.1	-1.5
	56nm,0.3s						
TDK				*e*S	Sg	12 11 31.5	-0.1
	98nm,0.3s						
TDK	**Taldyqorghan**	2.62	279	Pg	Pg	12 10 56.1	-1.5
	56nm,0.3s						
TDK				Lg	Lg	12 11 31.5	
	98nm,0.3s						
UZB	**Uzynbulak**	2.67	236	*e*P	Pb	12 10 55.2	+0.5
	8.4nm,0.3s						
UZB				*e*S	Sb	12 11 29.6	+2.3
	15nm,0.3s						
UZB	**Uzynbulak**	2.67	236	Pg	Pg	12 10 57.8	-0.8
	4.0nm,0.3s						
UZB				Lg	Lg	12 11 33.3	
	15nm,0.3s						
MNBS	**Baschi**	2.69	259	*e*P	Pg	12 10 57.7	-1.2
	9.2nm,0.3s						
MNBS				*e*S	Sg	12 11 34.1	+0.3
	39nm,0.3s						
MNBS	**Baschi**	2.69	259	Pg	Pg	12 10 57.7	-1.2
	9.2nm,0.3s						
MNBS				Lg	Lg	12 11 34.1	
	39nm,0.3s						
ARXS	**Arharly**	3.06	263	*e*P	Pb	12 11 02.8	+1.3
	6.4nm,0.3s						
ARXS				*e*S	Sg	12 11 42.9	-2.9
	27nm,0.3s						
ARXS	**Arharly**	3.06	263	Pg	Pg	12 11 05.2	-1.0
	6.4nm,0.3s						
ARXS				Lg	Lg	12 11 45.5	
	27nm,0.3s						
SATY	**Saty**	3.10	240	*e*P	Pb	12 11 03.8	+1.8
	2.2nm,0.3s						
SATY				*e*S	Sg	12 11 44.8	-2.0
	28nm,0.4s						
SATY	**Saty**	3.10	240	Pg	Pg	12 11 05.2	-1.6
	4.9nm,0.3s						
SATY				Lg	Lg	12 11 45.5	
	28nm,0.4s						
ZSN	**Zaisan**	3.40	34	*e*P	Pb	12 11 06.5	-0.6
	3.6nm,0.3s						
ZSN				*e*S	Sb	12 11 49.5	+1.5
	10.0nm,0.3s						
ZSN	**Zaisan**	3.40	34	Pg	Pb	12 11 06.5	-0.6
	3.6nm,0.3s						
ZSN				Lg	Lg	12 11 49.5	
	10.0nm,0.3s						
MDOK	**Medeo**	3.92	249	*e*P	Pg	12 11 20.8	-1.7
	5.0nm,0.4s						
MDOK				*e*S	Sg	12 12 14.5	+1.2
	5.5nm,0.4s						
MDOK	**Medeo**	3.92	249	Pg	Pg	12 11 20.8	-1.7
	5.0nm,0.4s						
MDOK				Lg	Lg	12 12 14.5	
	5.5nm,0.4s						
TNSS	**Tian-Shan**	4.04	248	*e*P	Pg	12 11 23.1	-1.7
	2.9nm,0.4s						
TNSS				*e*S	Sg	12 12 18.5	+1.3
	2.1nm,0.4s						
TNSS	**Tian-Shan**	4.04	248	Pg	Pg	12 11 23.1	-1.7
	2.9nm,0.4s						
TNSS				Lg	Lg	12 12 18.5	
	2.1nm,0.4s						
KUU	**Kurty**	4.18	261	*e*P	Pg	12 11 24.1	-3.3
	1.8nm,0.2s						
KUU				*e*S	Sg	12 12 19.5	-2.1
	10nm,0.3s						
KUU	**Kurty**	4.18	261	Pg	Pg	12 11 25.1	-2.4
	1.8nm,0.4s						
KUU				Lg	Lg	12 12 22.6	
	9.1nm,0.6s						

*KRNET **26** 12:44:28.3±0.1, 41°.21N×69°.63E, mb2.7*
*SOME **26** 12:44:30.9, 40°.85N×70°.17E, h10km*
*NNC **26** 12:44:31.9±2.9, 40°.84N×70°.34E, h8km±15km, mb3.1,*
mpv3.0, Error ellipse: s-maj=23.4km s-min=17.1km
az=11.0

ISC 26 12:44:33.1±1.0, 41°.06N±0°.03×69°.94E±0°.05, h10km, n16, σ2°.41/29, 8C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	1.09	3	*e*P	Pn	12 44 56.5	+1.9
	12nm,0.1s						
IUG				*e*S	Sn	12 45 15.1	+5.3
	75nm,0.4s						
IUG	**Iuzhnay**	1.09	3	P	Pn	12 44 56.5	+1.9
	12nm,0.1s						
IUG				S	Sn	12 45 15.1	+5.3
	75nm,0.4s						
BTK	**Batken**	1.20	146	⇑*i*P	Pg	12 44 56.1	-0.1
	baz=41						
BTK				⇑*i*S	Sn	12 45 16.5	+4.1
	baz=41						
BRLS	**Borolday**	1.97	358	*e*P	Pn	12 45 05.8	-0.8
	9.6nm,0.4s						
BRLS				*e*S	Sn	12 45 31.0	-0.5
	8.6nm,0.3s						
BRLS	**Borolday**	1.97	358	P	Pn	12 45 05.3	-1.3
	9.6nm,0.4s						
BRLS				S	Sn	12 45 30.1	-1.3
	8.6nm,0.3s						
GAR	**Garm**	2.08	172	⇓*e*P	Pb	12 45 09.2	-1.7
	baz=66						
GAR				⇓*i*S	Sg	12 45 39.4	-0.4
	baz=66						
KK31	**Karatay Array**	2.09	12	⇑Pn	Pb	12 45 10.6	-0.5
	1.2nm,0.4s,baz=194,slow=16,SNR=16						
KK31				⇓Sn	Sg	12 45 39.4	-0.8
	2.5nm,0.4s,baz=190,slow=25,SNR=6.2						
OHH	**Osh**	2.22	103	⇓*i*P	Pb	12 45 12.1	-1.3
	baz=5.0						
OHH				⇓*i*S	Sg	12 45 44.2	-0.3
	baz=5.0						
MRKS	**Merke**	2.98	54	*e*P	Pb	12 45 24.6	-1.6
	4.3nm,0.6s						
MRKS				*e*S	Sb	12 46 03.1	+0.4
	4.8nm,0.5s						
MRKS	**Merke**	2.98	54	Pg	Pb	12 45 24.6	-1.6
	4.3nm,0.6s						
MRKS				Lg	Lg	12 46 03.1	
	4.8nm,0.5s						
AML	**Almayashu**	3.01	68	⇑*i*P	Pn	12 45 22.0	+0.8
	baz=72						
AML				⇑*i*S	Sb	12 46 01.2	-2.8
	baz=72						
EKS2	**Erkin-Say**	3.28	60	⇑*i*P	Pn	12 45 25.0	+0.3
	baz=64						
EKS2				⇑*i*S	Sn	12 46 06.6	+2.7
	baz=64						
ARLS	**Aral**	3.39	75	⇓*i*P	Pn	12 45 27.4	+1.2
	baz=78						
ARLS				⇓*i*S	Sb	12 46 10.8	-3.9
	baz=78						
UCH	**Uchtor**	3.62	70	⇓*i*P	Pn	12 45 31.1	+1.5
	baz=73						
UCH				⇓*i*S	Sn	12 46 16.4	+3.8
	baz=73						
AAK	**Ala-Archa**	3.75	64	⇓Pg	Pb	12 45 36.7	-2.8
	1.8nm,0.8s						
AAK				⇓Lg	Lg	12 46 22.2	
	1.4nm,0.7s						
TKM2	**Tokmak 2**	4.61	64	⇓Pg	Pb	12 45 53.7	-0.4
	1.3nm,0.7s						
TKM2				⇑Lg	Lg	12 46 52.4	
	1.2nm,0.7s						

IDC 26 13:03:29.9±33.0, 20°.02S×177°.57W, h389km±287km, mb3.4/4, mb1 3.5/4, mb1mx3.0/31, mbtmp4.2/4, Error ellipse: s-maj=196.3km s-min=68.1km az=93.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	35.63	282	P	P	13 09 52.8	-0.1
	8.5nm,0.8s,baz=121,slow=2.2,SNR=3.8						
STKA	**Stephens Creek**	38.36	244	P	P	13 10 14.9	-0.5
	0.7nm,0.5s,baz=79,slow=7.2,SNR=2.9						
ASAR	**Alice Springs**	45.02	256	P	P	13 11 08.8	-0.1
	1.2nm,0.5s,baz=93,slow=8.0,SNR=46						
ASAR				PcP	PcP	13 12 41.7	-0.6
	0.2nm,0.6s,baz=91,slow=3.9,SNR=4.9						
WRA	**Warramunga Arr**	45.07	261	P	P	13 11 09.2	0.0
	0.6nm,0.3s,baz=97,slow=7.5,SNR=62						
AKASG	**Malin Array Be**	142.79	332	PKP	PKPdf	13 22 17.0	-0.4
	1.7nm,0.5s,baz=46,slow=3.9,SNR=5.4						

*SSNC **26** 13:09:11.3±1.3, 20°.05N×76°.30W, h3km±10km, MD2.9,*
ML2.5, MW2.9
*JSN **26** 13:09:12.9±0.6, 19°.82N×76°.29W, h30km±999km, MD3.9*

ISC 26 13:09:09.4±1.6, 20°.03N±0°.05×76°.40W±0°.04, h23km±17km, n11, σ1°.08/18, 1C-4D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	0.57	274	*e*P	Pn	13 09 23.1	+1.0
LMGC				*e*S	Sn	13 09 31.8	+1.1
LMGC				IAML		13 09 32.9	
	comp=E,1μm,0.1s						
LMGC				IAML		13 09 33.2	
	comp=N,2μm,0.1s						
RCC	**Rio Carpintero**	0.67	93	*e*P	Pb	13 09 21.9	-0.5
RCC				*e*S	Sb	13 09 29.8	-1.4
RCC				IAML		13 09 30.0	
	comp=N,288nm,0.1s						
RCC				IAML		13 09 30.2	
	comp=E,148nm,0.1s						
GTMO	**Guantanamo**	1.19	87	*e*P	Pb	13 09 31.8	+0.6
GTMO				*e*S	Sb	13 09 47.4	+1.3
GTMO				IAML		13 09 49.0	
	comp=N,179nm,0.2s						
GTMO				IAML		13 09 49.5	
	comp=E,109nm,0.2s						
MOAC	**Moa**	1.49	65	*e*P	Pn	13 09 34.2	-0.6
MOAC				*e*S	Sn	13 09 52.2	-1.4
MOAC				IAML		13 09 56.7	
	comp=E,12nm,0.3s						
MOAC				IAML		13 09 57.6	
	comp=N,30nm,0.2s						
CCCC	**Cccc**	1.73	313	*e*P	Pn	13 09 37.9	-0.2
CCCC				*e*S	Sn	13 09 58.1	-1.3
CCCC				IAML		13 10 00.6	
	comp=N,24nm,0.3s						
CCCC				IAML		13 10 00.6	
	comp=E,38nm,0.2s						
BNJ	**Bonny Gate**	1.77	197	⇓*i*P	Pn	13 09 38.8	+0.1
BBJ	**Bamboo Saint A**	1.83	207	⇓*i*P	Pn	13 09 39.6	+0.1
STH	**Stony Hill**	1.98	191	⇓*i*P	Pn	13 09 41.1	-0.4
MASC	**Masc**	2.05	85	*e*P	Pn	13 09 43.8	+1.3
MASC				*e*S	Sn	13 10 08.5	+1.2
MASC				IAML		13 10 12.8	
	comp=N,15nm,0.1s						
MASC				IAML		13 10 13.1	
	comp=E,15nm,0.3s						
MTDJ	**Mount Denham**	2.09	211	⇑*i*P	Pn	13 09 43.5	+0.4
MTDJ				*i*S	Sn	13 10 07.0	-1.4
PCJ	**Portland

*ANF **26** 13:27:39.6±0.4, 36°.24N×96°.92W, h6km±3km, ML4.1/10, Error ellipse: s-maj=4.5km s-min=1.9km az=7.0*

ISC 26 13:27:39.4±0.8, 36°.29N±0°.03×96°.96W±0°.02, h10km, n53, σ1§09/57, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.24**	**120**	Pg	**Pg**	**13 27 44.0**	**-0.3**
OK029	**Liberty Lake**	**0.63**	**219**		**Pg**	**13 27 51.0**	**-0.7**
OK029				Sg	**Sg**	**13 27 59.8**	**-0.2**
OK005	**Luther M Schoo**	**0.66**	**196**		**Pg**	**13 27 51.8**	**-0.4**
ADOK	**Arcadia Dam**	**0.72**	**208**		**Pn**	**13 27 56.5**	**+0.9**
T35A	**Sooner Cattle**	**0.72**	**30**		**Pg**	**13 27 52.4**	**-1.0**
OK025	**Westminster Rd**	**0.77**	**203**		**Pg**	**13 27 53.4**	**-0.9**
BCOK	**Bluff Creek, N**	**0.82**	**220**		**Pg**	**13 27 54.3**	**-0.9**
KAN13	**South Haven SW**	**0.83**	**330**		**Pg**	**13 27 54.1**	**-1.4**
CROK	**Carrier**	**0.85**	**285**		**Pg**	**13 27 54.6**	**-1.2**
OKCFA	**Oklahoma City**	**0.96**	**205**		**Pg**	**13 27 56.6**	**-1.2**
OKCSW	**OKLAHOMA CITY**	**0.96**	**204**		**Pg**	**13 27 56.7**	**-1.2**
TUL1	**Leonard**	**1.02**	**111**	P	**Pg**	**13 27 58.0**	**-1.0**
	baz=292						
TUL1				S	**Sg**	**13 28 11.7**	**-0.7**
	baz=292						
TUL1	**Leonard**	**1.02**	**111**		**Pg**	**13 27 57.9**	**-1.2**
FNO	**Franklin**	**1.09**	**199**		**Pg**	**13 27 59.3**	**-1.1**
W35A	**Tecumseh**	**1.14**	**176**		**Pb**	**13 27 59.6**	**-1.5**
KAN10	**Anthony SW Sta**	**1.23**	**313**		**Pn**	**13 28 01.5**	**-1.3**
KAN12	**Harper NE Stat**	**1.30**	**321**		**Pn**	**13 28 02.8**	**-0.9**
U32A	**Winter Ranch,**	**1.65**	**274**		**Pn**	**13 28 08.3**	**-0.2**
U38A	**Gravette**	**2.09**	**85**		**Pn**	**13 28 15.5**	**+1.0**
X37A	**Clayton**	**2.14**	**142**		**Pn**	**13 28 15.2**	**0.0**
WMOK	**Wichita Mounta**	**2.14**	**224**	P	**Pn**	**13 28 15.7**	**+0.5**
	baz=43						
WMOK				S	**Sb**	**13 28 44.1**	**-0.9**
	baz=43						
WMOK	**Wichita Mounta**	**2.14**	**224**		**Pn**	**13 28 15.7**	**+0.5**
HHAR	**Hobbs**	**2.44**	**89**		**Pn**	**13 28 20.1**	**+0.7**
R32A	**Long Quarter,**	**2.54**	**327**		**Pn**	**13 28 22.3**	**+1.5**
W39A	**Magazine**	**2.81**	**112**	Sb	**Sb**	**13 29 04.6**	**+0.5**
	baz=294						
W39A	**Magazine**	**2.81**	**112**		**Pn**	**13 28 25.1**	**+0.7**
KSU1	**Kansas State U**	**2.82**	**6**		**Pn**	**13 28 25.0**	**+0.4**
Z35A	**Perchaven, San**	**2.96**	**185**		**Pn**	**13 28 26.9**	**+0.5**
S39A	**Bolivar**	**3.23**	**63**		**Pn**	**13 28 30.9**	**+0.7**
MIAR	**Mount Ida**	**3.27**	**121**	P	**Pn**	**13 28 30.9**	**+0.1**
	baz=303						
MIAR	**Mount Ida**	**3.27**	**121**		**Pn**	**13 28 30.8**	**+0.1**
U40A	**Yellville**	**3.32**	**88**	P	**Pn**	**13 28 32.0**	**+0.5**
	baz=270						
U40A	**Yellville**	**3.32**	**88**		**Pn**	**13 28 31.9**	**+0.5**
CBKS	**Cedar Bluff**	**3.35**	**320**	Pb	**Pb**	**13 28 40.2**	**+1.3**
	baz=138						
X40A	**Basin Creek Fa**	**3.82**	**117**		**Pn**	**13 28 39.3**	**+0.9**
MGMO	**Mountain Grove**	**3.87**	**76**		**Pn**	**13 28 40.1**	**+1.2**
WHAR	**Wooly Hollow**	**3.93**	**103**	Pn	**Pn**	**13 28 41.4**	**+1.6**
FCAR	**Ozark Folk Cen**	**3.94**	**94**		**Pn**	**13 28 41.6**	**+1.7**
W41B	**Gary Mavity, V**	**3.99**	**105**	Pb	**Pb**	**13 28 49.8**	**-0.1**
	baz=288						
W41B				S	**Sn**	**13 29 28.0**	**+0.4**
	baz=288						
W41B	**Gary Mavity, V**	**3.99**	**105**		**Pn**	**13 28 41.8**	**+1.1**
UALR	**University of**	**4.06**	**110**		**Pn**	**13 28 42.9**	**+1.3**
AMTX	**Amarillo**	**4.09**	**251**	Sb	**Sb**	**13 29 45.1**	**+3.9**
	baz=68						
AMTX	**Amarillo**	**4.09**	**251**		**Pn**	**13 28 42.4**	**+0.3**
R40A	**Maddies Statio**	**4.24**	**61**		**Pn**	**13 28 44.6**	**+0.5**
P38A	**Dawn**	**4.29**	**38**		**Pn**	**13 28 44.4**	**-0.4**
WHTX	**Lake Whitney,**	**4.31**	**186**		**Pn**	**13 28 44.7**	**-0.3**
Z41A	**Richland Creek**	**4.57**	**130**	S	**Sn**	**13 29 41.3**	**-0.4**
	baz=313						
N35A	**Tabor**	**4.68**	**12**		**Pn**	**13 28 48.5**	**-1.6**
T42A	**Van Buren**	**4.78**	**79**		**Pn**	**13 28 52.0**	**+0.6**
P40A	**Paris**	**5.06**	**49**		**Pn**	**13 28 55.8**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.25**	**303**	P	**Pn**	**13 28 59.7**	**+1.6**
	baz=120						
T25A	**Trinidad**	**6.04**	**280**	P	**Pn**	**13 29 10.8**	**+1.7**
	baz=96						
T25A	**Trinidad**	**6.04**	**280**		**Pn**	**13 29 09.0**	**0.0**

*TEH **26** 13:38:38.9, 37°.28N×57°.43E, h8km, ML3.6*
*THR **26** 13:38:38.9±0.3, 37°.28N×57°.47E, h14km±3km, ML3.5*
*IDC **26** 13:38:38.7±1.6, 37°.33N×57°.22E, h0km, mb3.3/5, mb1 3.7/8, mb1mx3.5/46, mbtmp3.5/8, ML3.7/3, Error ellipse: s-maj=24.7km s-min=12.6km az=160.0*

ISC 26 13:38:39.8±0.6, 37°.39N±0°.03×57°.52E±0°.03, h14km, n46, σ1§81/47, mb3.5/3, 3C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.32**	**344**	*e*Pg	**Pg**	**13 38 47.5**	**+1.1**
BJRD	**Bojnurd**	**0.32**	**344**	*e*Pg	**Pg**	**13 38 47.5**	**+1.1**
ISFR	**Sfrayin**	**0.51**	**131**	*e*Pg	**Pg**	**13 38 49.7**	**-0.3**
ISFR				*e*		13 39 07.7	
GEYT	**Alibeck**	**0.72**	**42**	Pg	**Pn**	**13 38 55.8**	**+0.2**
	28nm,0.3s,baz=217,slow=17,SNR=175						
GEYT				Lg	Lg	13 39 09.6	
	105nm,0.3s,baz=221,slow=38,SNR=24						
GEYT				LR	LR	13 39 30.7	
	comp=Z,170nm,20.0s,baz=145,slow=56						
IEMG	**Emamgholi**	**0.91**	**88**	*e*Pg	**Pb**	**13 38 58.2**	**+0.7**
IEMG				*e*		13 39 20.1	
SBZV	**Sabzevar**	**1.01**	**176**	*e*Pg	**Pb**	**13 38 56.5**	**-2.6**
IKRD	**Kardeh**	**1.01**	**127**	*e*Pg	**Sg**	**13 39 12.1**	**-0.4**
IKRD				*e*		13 39 47.0	
IAKL	**Akhelmad**	**1.27**	**128**	*e*Pg	**Pn**	**13 39 03.0**	**-0.4**
IAKL				*e*		13 39 30.7	
IPAY	**Payeh**	**1.51**	**128**	*e*Pg	**Pb**	**13 39 07.6**	**-0.2**
IMND	**Minoodasht**	**1.69**	**266**	*e*Pn	**Pb**	**13 39 09.1**	**-1.5**
IMOG	**Moghan**	**1.95**	**131**	*e*Pn	**Pb**	**13 39 15.0**	**-0.2**
IGLO	**Ghaloghah**	**3.08**	**254**	*e*Pn	**Pn**	**13 39 28.8**	**+0.5**
IGLO				*e*		13 40 22.2	
IANJ	**Anjilo**	**3.48**	**238**	*e*Pn	**Pn**	**13 39 34.5**	**+0.7**
IANJ				*e*		13 40 32.9	
TNSJ	**Nastanj**	**3.50**	**192**	*e*Pn	**Pn**	**13 39 34.5**	**+0.6**
TNSJ				*e*		13 40 37.2	
ISHM	**Shahmirzad**	**3.75**	**246**	*e*	**Sg**	**13 40 43.1**	**+2.8**
TABS	**Tabas**	**3.75**	**185**	*e*Pn	**Pn**	**13 39 36.8**	**-0.5**
TABS				*e*Sg	**Sb**	**13 40 31.8**	**+0.6**
TABS	**Tabas**	**3.75**	**185**	*e*Pn	**Pn**	**13 39 36.8**	**-0.5**
TKDS	**Koohdasht(Taba**	**3.79**	**185**	*e*Pn	**Pn**	**13 39 38.4**	**+0.6**
TKDS				*e*		13 39 54.0	
IALA	**Alasht**	**4.00**	**252**	*e*Pn	**Pn**	**13 39 42.1**	**+1.1**
IALA				*e*		13 40 52.9	
AFRZ	**Afriz**	**4.14**	**162**	*e*Pn	**Pn**	**13 39 44.4**	**+1.6**
IPRN	**Peran**	**4.31**	**256**	*e*Pn	**Pn**	**13 39 46.0**	**+0.9**
TPRV	**Parvadeh(Tabas**	**4.41**	**189**	*e*Pn	**Pn**	**13 39 47.4**	**+1.0**
TPRV				*e*		13 41 13.9	
ITEG	**Tejag**	**4.60**	**167**	*e*Pn	**Pn**	**13 39 48.8**	**-0.3**
IDMV	**Damavand**	**4.78**	**249**	*e*Pn	**Pn**	**13 39 53.1**	**+1.5**
IKOO	**Kooshah**	**5.11**	**166**	*e*Pn	**Pn**	**13 39 57.1**	**+1.0**
CHTH	**Charan**	**5.35**	**256**	*e*Pn	**Pn**	**13 39 59.9**	**+0.5**
CHTH	**Charan**	**5.35**	**256**	*e*Pn	**Pn**	**13 39 59.9**	**+0.5**
THKV	**Tehran--Karaj**	**5.54**	**257**	IAML		13 41 43.5	
	comp=N,17nm,0.6s						
YZKH	**Yazd**	**5.54**	**207**	*e*Pn	**Pn**	**13 40 01.6**	**-0.4**
YZKH	**Yazd**	**5.54**	**207**	*e*Pn	**Pn**	**13 40 01.6**	**-0.4**
KRSH	**Karshahi**	**5.55**	**234**	*e*Pn	**Pn**	**13 40 02.3**	**+0.1**
BSRN	**Basiran**	**5.58**	**166**	*e*Pn	**Pn**	**13 40 02.4**	**-0.1**
BSRN	**Basiran**	**5.58**	**166**	*e*Pn	**Pn**	**13 40 02.4**	**-0.1**
QAM	**Ghamsar**	**6.14**	**236**	*e*Pn	**Pn**	**13 40 10.1**	**-0.1**
IKLH	**Kolahrood**	**6.33**	**232**	*e*Pn	**Pn**	**13 40 12.9**	**0.0**
QSDN	**Sirdan**	**6.74**	**265**	*e*Pn	**Pn**	**13 40 19.1**	**+0.6**
AB31	**Akbulak array**	**11.99**	**8**	⇓Pn	**Pn**	**13 41 30.3**	**+0.1**
	comp=N,0.4nm,0.5s,baz=191,slow=13,SNR=11						
AB31				⇑Sn	**Sn**	**13 43 40.9**	**-2.7**
	comp=N,2.0nm,0.7s,baz=200,slow=20,SNR=4.2						
KBZ	**Khabaz**	**12.78**	**304**	Pn	**Pn**	**13 41 38.2**	**-2.8**
	comp=N,0.3nm,0.3s,baz=131,slow=3.5,SNR=3.9						
KBZ				Sn	Sn	13 43 52.2	-11
	comp=N,0.2nm,0.3s,baz=265,slow=20,SNR=1.5						
AKTO	**Aktyubinsk**	**13.04**	**1**	Pn	**Pn**	**13 41 46.3**	**+1.7**
	comp=N,0.4nm,0.3s,baz=184,slow=13,SNR=6.2						
AKTO				Sn	**Sn**	**13 44 02.4**	**-7.0**
	comp=N,0.1nm,0.3s,baz=48,slow=8.9,SNR=1.9						
AKTO	**Aktyubinsk**	**13.04**	**1**	⇑Pn	**Pn**	**13 41 45.7**	**+1.1**
	comp=N,4.0nm,0.8s						
AKTO				⇑Sn	**Sn**	**13 44 04.0**	**-5.5**
	comp=N,2.6nm,0.7s						
BVAR	**Borovoye Array**	**18.02**	**26**	P	**P**	**13 42 51.1**	**+0.9**
	comp=N,0.3nm,0.3s,baz=197,slow=20,SNR=5.4						
KURBB	**Kurchatov Arra**	**19.99**	**42**	P	Pn	13 43 15.8	+2.3
	comp=N,0.2nm,0.3s,baz=212,slow=16,SNR=2.7						
MKAR	**Makanchi Array**	**20.57**	**55**	P	Pn	13 43 22.8	+2.4
	comp=N,0.6nm,0.6s,baz=243,slow=13,SNR=6.8						
AKASG	**Malin Array Be**	**24.12**	**312**	P	**P**	**13 43 55.8**	**+0.8**
	comp=N,0.4nm,0.4s,baz=110,slow=8.0,SNR=1.7						
ZALV	**Zalesovo Beam**	**25.03**	**40**	P	**P**	**13 44 05.3**	**+2.1**
	comp=N,0.5nm,0.4s,baz=257,slow=9.7,SNR=2.4						
CMAR	**Chiang Mai Arr**	**40.79**	**106**	P	**P**	**13 46 23.6**	**+2.7**
	comp=N,0.6nm,0.3s,baz=300,slow=8.9,SNR=5.2						

IDC 26 13:42:08.4±1.6, 17°.19S×177°.61W, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/25, mbtmp4.0/6, Error ellipse: s-maj=108.7km s-min=21.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.65**	**241**	P	P	13 49 42.0	-0.3
	1.3nm,0.7s,baz=54,slow=7.2,SNR=4.7						
WRA	**Warramunga Arr**	**45.52**	**259**	P	P	13 50 30.4	+0.3
	1.1nm,0.4s,baz=98,slow=7.0,SNR=70						
ASAR	**Alice Springs**	**45.73**	**254**	P	P	13 50 31.4	-0.3
	2.9nm,0.6s,baz=90,slow=8.4,SNR=33						
NVAR	**Mina Array Bea**	**78.38**	**44**	P	P	13 54 12.6	+1.4
	0.3nm,0.5s,baz=224,slow=8.3,SNR=3.8						
TXAR	**Lajitas Array**	**84.96**	**57**	P	P	13 54 45.5	-0.6
	0.7nm,0.8s,baz=223,slow=5.1,SNR=8.6						
ILAR	**Eielson Array**	**85.02**	**13**	P	P	13 54 44.7	-0.7
	0.3nm,0.4s,baz=217,slow=4.9,SNR=6.7						

WEL 26 13:43:54.6, 38°S±4°, 17°7E±°, h163km±10km, M2.3/31, MLv2.3/31, Error ellipse: s-maj=0.0km s-min=0.0km az=29.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.16**	**340**	P	Pn	13 44 16.1	-0.4
RRRZ	**Republican Roa**	**0.36**	**194**	P	Pn	13 44 17.0	0.0
TGRZ	**Tauranga**	**0.39**	**313**	P	Pn	13 44 17.0	-0.1
URZ	**Urewera**	**0.47**	**125**	P	Pn	13 44 16.9	-0.4
WPRZ	**Whakapapatarin**	**0.64**	**214**	P	Pn	13 44 18.5	+0.3
RTZ	**Ruatahuna**	**0.68**	**156**	P	Pn	13 44 18.6	+0.1
RUGZ	**Raukumara Rang**	**0.83**	**88**	P	Pn	13 44 18.5	-1.0
MRHZ	**Matea Rd**	**0.85**	**191**	P	Pn	13 44 19.8	+0.2
TLZ	**Tolley Road**	**0.92**	**248**	P	Pn	13 44 20.5	+0.4
HAZ	**Te Kaha**	**0.95**	**76**	P	Pn	13 44 19.5	-0.7
RAHZ	**Arahi**	**0.99**	**159**	P	Pn	13 44 20.2	-0.4
TKGZ	**Te Karaka**	**1.06**	**115**	P	Pn	13 44 21.5	+0.4
RATZ	**Rangitukua**	**1.10**	**217**	P	Pn	13 44 21.8	+0.3
NMHZ	**Naumai**	**1.11**	**173**	P	Pn	13 44 22.8	+1.1
RIGZ	**Rimuhau**	**1.15**	**129**	P	Pn	13 44 22.6	+0.8
BKZ	**Black Stump Fm**	**1.18**	**185**	P	Pn	13 44 22.2	0.0
ARHZ	**Aropaoanui**	**1.30**	**167**	P	Pn	13 44 24.1	+0.9
TMVZ	**Te Maari**	**1.33**	**212**	P	Pn	13 44 24.0	+0.4
ETVZ	**East Tongariro**	**1.35**	**212**	P	Pn	13 44 24.2	+0.4
PRGZ	**Paritu Road**	**1.36**	**134**	P	Pn	13 44 24.3	+0.5
WTVZ	**West Tongariro**	**1.38**	**216**	P	Pn	13 44 24.6	+0.4
NGZ	**Ngauruhoe**	**1.43**	**214**	P	Pn	13 44 25.3	+0.6
KUZ	**Kuaotunu**	**1.44**	**330**	P	Pn	13 44 24.4	-0.1
MCHZ	**McNeill Hill**	**1.45**	**178**	P	Pn	13 44 25.5	+0.9
FWVZ	**Far West T-bar**	**1.51**	**213**	P	Pn	13 44 26.0	+0.5
MHGZ	**Mahia Peninsul**	**1.54**	**139**	P	Pn	13 44 26.4	+0.9
WNVZ	**Wahianoa**	**1.56**	**211**	P	Pn	13 44 25.9	0.0
BHHZ	**Black Hill Sta**	**1.56**	**196**	P	Pn	13 44 25.8	0.0
KRHZ	**Kereru**	**1.66**	**187**	P	Pn	13 44 27.1	+0.3
WIAZ	**Waiheke Island**	**1.69**	**315**	P	Pn	13 44 27.3	+0.2
ETAZ	**East Tamaki Re**	**1.70**	**307**	P	Pn	13 44 28.0	+0.8
KAHZ	**Kahuranaki**	**1.81**	**174**	P	Pn	13 44 29.0	+0.6
AWAZ	**Awhitu Peninsu**	**1.83**	**300**	P	Pn	13 44 28.7	+0.1
MBAZ	**Motutapu North**	**1.84**	**311**	P	Pn	13 44 29.3	+0.6
PNHZ	**Pukenui**	**1.95**	**190**	P	Pn	13 44 29.9	-0.1
PXZ	**Pawanui**	**2.04**	**175**	P	Pn	13 44 31.1	+0.2
TSZ	**Takapari Road**	**2.13**	**194**	P	Pn	13 44 31.7	-0.2
PRHZ	**Porangahau**	**2.27**	**180**	P	Pn	13 44 33.4	-0.2
BFZ	**Birch Farm**	**2.70**	**186**	P	Pn	13 44 38.1	-0.7
MRZ	**Mangatainoka R**	**2.78**	**197**	P	Pn	13 44 38.8	-1.0
OGWZ	**Otaki Gorge**	**3.04**	**201**	P	Pn	13 44 41.8	-1.1
TCW	**Tory Channel**	**3.69**	**209**	P	Pn	13 44 49.0	-2.1
TUWZ	**Tuamarina**	**4.01**	**210**	P	Pn	13 44 51.9	-3.3
KHZ	**Kahutara**	**5.01**	**207**	P	Pn	13 45 05.7	-2.6

IDC 26 13:46:31.3±3.0, 31°.40S×177°.91W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/22, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=72.8km s-min=46.1km az=125.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.97**	**210**	Pn	Pn	13 48 28.0	-0.3
	0.5nm,0.3s,baz=360,slow=16,SNR=1.9						
URZ				Sn	Sn	13 49 51.4	-7.8
	0.7nm,0.3s,baz=278,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**43.14**	**268**	P	P	13 54 33.5	-0.3
	0.3nm,0.4s,baz=107,slow=7.4,SNR=5.8						
WRA	**Warramunga Arr**	**44.22**	**273**	P	P	13 54 42.5	0.0
	0.9nm,0.4s,baz=111,slow=8.0,SNR=35						
FINES	**FINESS Array B**	**146.11**	**339**	PKPbc	PKPdf	14 06 11.8	+0.1
	7.0nm,1.1s,baz=72,slow=6.2,SNR=8.5						

TAP 26 13:54:51.6, 24°.38N×120°.93E, h13km, ML1.5, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHP	**Taichung City**	**0.10**	**172**	P	Pg	13 54 55.2	+0.5
	baz=172						
WHP				S	Sg	13 54 57.3	+0.5
	baz=172						
TWQ1	**Liyutan**	**0.15**	**259**	*i* P	Pg	13 54 55.4	+0.2
	baz=258						
TWQ1				*i* S	Sg	13 54 58.2	+0.4
	baz=258						
NSY	**Sanyi**	**0.16**	**284**	P	Pg	13 54 55.7	+0.3
	baz=284						
NSY				S	Sb	13 54 59.0	-0.7
	baz=284						
NMLH	**Miaoli**	**0.20**	**322**	*e*P	Pb	13 54 56.8	-0.4
	baz=321						
NMLH				*e*S	Sb	13 55 00.6	-0.4
	baz=321						
TDCB	**Techi**	**0.24**	**120**	*i* P	Pb	13 54 58.0	+0.1
	baz=120						
TDCB				*i* S	Sb	13 55 01.6	-0.5
	baz=120						
TWT	**Tachien**	**0.26**	**119**	*e*S	Sb	13 55 01.9	-0.6
	baz=120						
NSTT	**Nanjuang**	**0.26**	**14**	P	Pb	13 54 58.1	-0.1
	baz=15						
NSTT				S	Sb	13 55 02.2	-0.4
	baz=15						
LIOB	**Emei**	**0.28**	**16**	*e*P	Pb	13 54 58.5	0.0
	baz=15						
LIOB				S	Sb	13 55 02.9	-0.3
	baz=15						
FUSS	**Fushou**	**0.31**	**114**	*e*P	Pb	13 54 59.5	+0.3
	baz=114						
FUSS				*e*S	Sb	13 55 04.1	-0.2
	baz=114						
FUSS	**Fushou**	**0.31**	**114**	*e*P	Pb	13 54 59.5	+0.3
	baz=301						
FUSS				*e*S	Sb	13 55 04.1	-0.2
	baz=301						
WHF	**Hehuan Shan**	**0.38**	**127**	*e*P	Pg	13 54 59.7	+0.2
	baz=255						
WHF				*e*S	Sg	13 55 02.8	-1.9
	baz=255						
CHGB	**Renai**	**0.39**	**145**	*e*P	Pb	13 55 00.1	-0.3
	baz=144						
NNS	**Nan Shan**	**0.41**	**81**	*e*P	Pb	13 55 00.8	+0.1
	baz=81						
NNS				*e*S	Sb	13 55 06.9	0.0
	baz=81						
NNS	**Nan Shan**	**0.41**	**81**	*e*S	Sb	13 55 06.6	-0.3
	baz=359						
NNSB	**Datong**	**0.41**	**83**	*e*P	Pb	13 55 00.6	-0.3
	baz=82						
YHNB	**Yeheng**	**0.50**	**54**	*e*P	Pb	13 55 02.3	0.0
	baz=54						
YHNB				*e*S	Sb	13 55 10.2	+0.6
	baz=54						

TAP 26 13:54:55.1, 24°.17N×121°.38E, h21km±1km, ML2.0, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.10**	**68**	*e*S	Sb	13 55 02.8	+0.6
	baz=67						
NACB	**Ninganchiao**	**0.19**	**89**	*e*P	Pb	13 55 00.7	-0.4
	baz=88						
NACB				*e*S	Sb	13 55 04.3	-0.9
	baz=88						
TWD	**Chiawan**	**0.21**	**115**	*i* P	Pb	13 55 01.3	+0.3
	baz=113						
TWD				*e*S	Sb	13 55 04.8	-0.4
	baz=113						
CHGB	**Renai**	**0.22**	**240**	*e*P	Pb	13 55 01.0	-0.4
	baz=240						
CHGB				*e*S	Sb	13 55 05.5	-0.2
	baz=240						
CHGB	**Renai**	**0.22**	**240**	*e*S	Sb	13 55 05.9	+0.2
	baz=144						
NNSB	**Datong**	**0.26**	**0**	*e*P	Pb	13 55 01.8	+0.3
NNSB				*e*S	Sb	13 55 06.7	+0.8
NNSB	**Datong**	**0.26**	**0**	*e*S	Sb	13 55 06.8	+0.9
	baz=82						
NNSH	**Datong**	**0.26**	**0**	*e*S	Sb	13 55 06.6	+0.7
	baz=82						
NNSH	**Datong**	**0.26**	**0**	*e*P	Pb	13 55 01.5	0.0
NNSH				*e*S	Sb	13 55 06.6	+0.7
ESL	**Shilin**	**0.36**	**172**	*e*S	Sn	13 55 10.4	-1.1
	baz=171						

JMA 26 14:39:00.1, 26°.90N×130°.09E, h51km, M2.8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.34**	**311**	P	Pn	14 39 23.2	+0.7
JTK				*e*S	Sn	14 39 39.0	-0.3
JOKE	**Okinoerabujima**	**1.43**	**289**	P	Pn	14 39 24.4	+0.7
JOKE				*e*S	Sn	14 39 41.7	+0.3
JKDJ	**Kitadaitoujima**	**1.44**	**131**	P	Pn	14 39 24.4	+0.6
JKDJ				*e*S	Sn	14 39 42.2	+0.7
JYRO	**Yoronjima**	**1.47**	**275**	P	Pn	14 39 24.8	+0.6
JYRO				*e*S	Sn	14 39 42.0	-0.3
JMZ	**Minamidaito 2**	**1.48**	**136**	P	Pn	14 39 24.8	+0.5
JMZ				S	Sn	14 39 42.3	-0.2
JAMN	**Amaminishikomi**	**1.56**	**329**	P	Pn	14 39 25.9	+0.4
JAMN				*e*S	Sn	14 39 44.5	-0.1
JAM	**Amami Oshima**	**1.57**	**344**	P	Pn	14 39 26.2	+0.7
JAM				*e*S	Sn	14 39 44.8	+0.1
JOW	**Kunigami**	**1.62**	**268**	P	Pn	14 39 27.0	+0.7
JOW				*e*S	Sn	14 39 45.7	-0.4
JNTH	**Nagotoyohara**	**1.89**	**259**	P	Pn	14 39 30.3	+0.4
JIH	**Iheya**	**1.90**	**275**	P	Pn	14 39 30.9	+0.8
JIH				*e*S	Sn	14 39 53.4	+0.6
JJT3	**Tamagusuku3**	**2.20**	**250**	P	Pn	14 39 35.3	+1.1
JJT3				*e*S	Sn	14 40 00.6	+0.4
JAGN	**Aguni-jima**	**2.56**	**264**	P	Pn	14 39 39.9	+0.7
JAGN				*e*S	Sn	14 40 09.2	0.0
JKE	**Kume jima 2**	**3.01**	**260**	P	Pn	14 39 45.7	+0.4
JKE				*e*S	Sn	14 40 20.0	-0.2
JYAK	**Yakushimahirau**	**3.35**	**6**	P	Pn	14 39 50.7	+0.8
JYAK				*e*S	Sn	14 40 27.1	-1.3
JMTN	**Minamitane**	**3.56**	**11**	*e*S	Sn	14 40 33.3	-0.3
JTN	**Tanegashima 3**	**3.82**	**12**	*e*S	Sn	14 40 39.3	-0.8

IDC 26 14:41:44.5±1.4, 20°.25N×144°.40E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/46, mbtmp3.5/6, Error ellipse: s-maj=52.4km s-min=22.7km az=84.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.35**	**324**	P	P	14 46 44.8	+0.7
	1.2nm,0.8s,baz=146,slow=9.0,SNR=5.3						
WRA	**Warramunga Arr**	**41.14**	**194**	P	P	14 49 31.0	+0.3
	0.3nm,0.7s,baz=14,slow=8.8,SNR=6.9						
ASAR	**Alice Springs**	**44.83**	**194**	P	P	14 49 60.0	-0.6
	0.1nm,0.7s,baz=13,slow=10,SNR=1.8						
ZALV	**Zalesovo Beam**	**56.05**	**322**	P	P	14 51 25.2	+0.1
	0.6nm,0.3s,baz=101,slow=5.1,SNR=6.0						
MKAR	**Makanchi Array**	**56.51**	**313**	P	P	14 51 27.9	-0.8
	0.4nm,0.8s,baz=98,slow=8.9,SNR=3.7						
ILAR

*TIR **26** 14:50:34.4, 38°.39N×21°.57E, h5km±2km, Md3.7*
*THE **26** 14:50:35.9, 38°.34N×21°.77E, h6km±1km, ML3.4/16, Error ellipse: s-maj=1.5km s-min=0.4km az=10.0*
*ATH **26** 14:50:35.1, 38°.35N×21°.78E, h19km±1km, ML3.3/21, Error ellipse: s-maj=1.1km s-min=0.6km az=294.0*
*BEO **26** 14:50:43.8±0.8, 38°.86N×21°.92E, h0km, ML2.9/2*

ISC 26 14:50:35.8±0.8, 38°.35N±0°.02×21°.77E±0°.01, h12km±5km, n114, σ1§30/157, mb3.9/7, 3C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.13**	**55**	P	**Pg**	**14 50 38.8**	**-0.4**
EFP				S	**Sg**	**14 50 41.3**	**-0.2**
66μm,0.2s							
EFP	**Efpalio**	**0.13**	**55**	P	**Pg**	**14 50 38.8**	**-0.4**
EFP				AML	AML	14 50 41.6	
EFP				S	**Sg**	**14 50 41.6**	**+0.1**
EFP				AML	AML	14 50 42.6	
comp=N,56712μm,0.2s							
LAKA	**Lakka**	**0.20**	**123**	P	**Pg**	**14 50 39.8**	**-0.4**
LAKA				S	**Sg**	**14 50 43.2**	**0.0**
SERG	**Sergoula**	**0.24**	**74**	P	**Pg**	**14 50 40.6**	**-0.2**
SERG				S	**Sg**	**14 50 44.6**	**+0.3**
comp=N,25μm,0.3s							
SERG	**Sergoula**	**0.24**	**74**	P	**Pg**	**14 50 40.6**	**-0.2**
SERG				S	**Sg**	**14 50 44.6**	**+0.3**
SERG				AML	AML	14 50 44.8	
comp=N,53438μm,0.3s							
SERG				AML	AML	14 50 45.5	
comp=E,46210μm,0.3s							
ANX	**Ano Chora**	**0.27**	**27**	P	**Pg**	**14 50 41.3**	**-0.2**
ANX				S	**Sg**	**14 50 45.3**	**-0.1**
comp=E,15μm,0.4s							
ANX	**Ano Chora**	**0.27**	**27**	P	**Pg**	**14 50 41.3**	**-0.2**
ANX				S	**Sg**	**14 50 46.0**	**+0.6**
ANX				AML	AML	14 50 46.1	
comp=E,31792μm,0.4s							
ANX				AML	AML	14 50 46.9	
comp=N,30800μm,0.4s							
ALIK	**Aliki, Aigiali**	**0.29**	**108**	P	**Pg**	**14 50 41.5**	**-0.2**
ALIK				S	**Sg**	**14 50 46.2**	**+0.6**
AXS	**Araxos**	**0.34**	**243**	P	**Pg**	**14 50 42.1**	**-0.6**
AXS				S	**Sg**	**14 50 48.2**	**+0.9**
comp=N,4μm,0.2s							
AXS	**Araxos**	**0.34**	**243**	P	**Pg**	**14 50 42.3**	**-0.5**
AXS				S	**Sg**	**14 50 48.2**	**+0.9**
AXS				AML	AML	14 50 48.4	
comp=E,6172μm,0.2s							
AXS				AML	AML	14 50 50.4	
comp=N,8665μm,0.3s							
RLS	**Riolos of Patr**	**0.38**	**219**	P	**Pg**	**14 50 43.1**	**-0.2**
RLS				S	**Sg**	**14 50 49.3**	**+0.9**
comp=N,8μm,0.4s							
RLS	**Riolos of Patr**	**0.38**	**219**	P	**Pg**	**14 50 43.1**	**-0.2**
RLS				S	**Sg**	**14 50 49.2**	**+0.9**
RLS				AML	AML	14 50 49.6	
comp=N,17818μm,0.4s							
RLS				AML	AML	14 50 50.6	
comp=E,14298μm,0.4s							
KLV	**Kalavryta, Ach**	**0.43**	**135**	P	**Pg**	**14 50 43.7**	**-0.7**
KLV				S	**Sg**	**14 50 49.8**	**-0.3**
comp=E,2μm,0.3s							
KLV	**Kalavryta, Ach**	**0.43**	**135**	P	**Pg**	**14 50 43.7**	**-0.7**
KLV				S	**Sg**	**14 50 50.0**	**-0.1**
KLV				AML	AML	14 50 50.9	
comp=E,3736μm,0.3s							
KLV				AML	AML	14 50 52.9	
comp=N,4447μm,0.3s							
AST1	**Astakos**	**0.56**	**290**	P	**Pg**	**14 50 46.3**	**-0.5**
AST1				S	**Sb**	**14 50 55.4**	**-0.2**
comp=N,7μm,0.2s							
EVR	**Evrytania**	**0.57**	**3**	P	**Pg**	**14 50 46.4**	**-0.6**
EVR				S	**Sb**	**14 50 56.1**	**+0.3**
comp=N,4μm,0.5s							
EVR	**Evrytania**	**0.57**	**3**	P	**Pg**	**14 50 46.4**	**-0.6**
EVR				AML	AML	14 50 59.5	
comp=E,9561μm,0.4s							
EVR				AML	AML	14 51 00.7	
comp=N,7387μm,0.5s							
DLFA	**Delphi**	**0.59**	**77**	P	**Pg**	**14 50 46.3**	**-1.0**
DLFA				S	**Sg**	**14 50 55.4**	**+0.3**
DLFA				AML	AML	14 50 57.2	
comp=N,4290μm,0.3s							
DLFA				AML	AML	14 50 58.0	
comp=E,4920μm,0.3s							
DSF	**Desfina**	**0.60**	**84**	P	**Pg**	**14 50 46.5**	**-1.1**
DSF				S	**Sg**	**14 50 56.0**	**+0.5**
comp=E,4μm,0.2s							
DSF	**Desfina**	**0.60**	**84**	P	**Pg**	**14 50 46.5**	**-1.1**
DSF				S	**Sg**	**14 50 55.4**	**-0.1**
DSF				AML	AML	14 51 00.8	
comp=E,3774μm,0.2s							
DSF				AML	AML	14 51 02.6	
comp=N,11346μm,0.3s							
GUR	**Goura**	**0.61**	**132**	P	**Pg**	**14 50 46.8**	**-1.0**
GUR				S	**Sg**	**14 50 56.3**	**+0.4**
comp=N,5μm,0.3s							
GUR	**Goura**	**0.61**	**132**	P	**Pg**	**14 50 46.9**	**-1.0**
GUR				S	**Sg**	**14 50 55.7**	**-0.3**
GUR				AML	AML	14 50 58.2	
comp=E,8215μm,0.3s							
GUR				AML	AML	14 50 58.3	
comp=N,10105μm,0.3s							
VTN	**Vitineika**	**0.63**	**227**	P	**Pg**	**14 50 48.6**	**+0.5**
AXAR	**Agios Charalam**	**0.81**	**59**	P	**Pg**	**14 50 50.5**	**-1.1**
AXAR				S	**Sb**	**14 51 03.4**	**+0.5**
comp=N,6μm,0.3s							
AXAR	**Agios Charalam**	**0.81**	**59**	P	**Pg**	**14 50 50.5**	**-1.1**
AXAR				S	**Sb**	**14 51 02.6**	**-0.2**
AXAR				AML	AML	14 51 04.6	
comp=E,10170μm,0.4s							
AXAR				AML	AML	14 51 04.9	
comp=N,14558μm,0.4s							
MGNA	**Meganis**	**0.82**	**292**	P	**Pg**	**14 50 51.1**	**-0.6**
MGNA				AML	AML	14 51 07.7	
comp=E,1918μm,0.5s							
MGNA				AML	AML	14 51 07.7	
comp=N,2954μm,0.4s							
EVGI	**Lefkada island**	**0.91**	**288**	P	**Pg**	**14 50 52.2**	**-1.2**
EVGI	**Lefkada island**	**0.91**	**288**	P	**Pg**	**14 50 52.2**	**-1.2**
NYDR	**Nydri-Lefkada**	**0.91**	**294**	P	**Pg**	**14 50 52.4**	**-1.0**
TRIP	**Tripoli**	**0.91**	**154**	P	**Pg**	**14 50 52.3**	**-1.1**
TRIP				S	**Sb**	**14 51 06.5**	**+0.8**
comp=N,1μm,0.5s							
TRIP	**Tripoli**	**0.91**	**154**	P	**Pg**	**14 50 52.3**	**-1.1**
TRIP				S	**Sg**	**14 51 05.1**	**-0.3**
TRIP				AML	AML	14 51 09.5	
comp=N,2884μm,0.4s							
TRIP				AML	AML	14 51 10.1	
comp=E,2995μm,0.6s							
VLS	**Valsamata**	**0.94**	**260**	P	**Pb**	**14 50 52.8**	**-1.3**
VLS				S	**Sn**	**14 51 07.7**	**-0.5**
comp=E,2μm,0.3s							
VLS	**Valsamata**	**0.94**	**260**	P	**Pb**	**14 50 52.8**	**-1.3**
VLS				S	**Sb**	**14 51 07.4**	**+0.9**
VLS				AML	AML	14 51 09.2	
comp=N,4085μm,0.3s							
VLS				AML	AML	14 51 09.2	
comp=E,2660μm,0.2s							
FSK	**Fiskardo**	**0.95**	**277**	P	**Pb**	**14 50 53.2**	**-1.0**
FSK				S	**Sn**	**14 51 08.6**	**+0.2**
comp=E,942nm,0.2s							
FSK	**Fiskardo**	**0.95**	**277**	P	**Pb**	**14 50 53.3**	**-1.0**
FSK				S	**Sn**	**14 51 08.0**	**-0.5**
FSK				AML	AML	14 51 09.7	
comp=E,2396μm,0.2s							
FSK				AML	AML	14 51 11.5	
comp=N,1382μm,0.2s							
VLMS	**Volimes, Zakyn**	**0.99**	**242**	P	**Pb**	**14 50 54.2**	**-0.7**
VLMS				S	**Sn**	**14 51 09.0**	**-0.4**
VLMS				AML	AML	14 51 11.4	
comp=E,5574μm,0.2s							
VLMS				AML	AML	14 51 13.9	
comp=N,11168μm,0.2s							
DRAG	**Dragano-Lefkad**	**0.99**	**290**	P	**Pb**	**14 50 53.8**	**-1.1**
LTK	**Loutraki**	**1.00**	**109**	P	**Pb**	**14 50 54.4**	**-0.7**
LTK				S	**Sn**	**14 51 09.2**	**-0.5**
comp=N,2μm,0.5s							
LTK	**Loutraki**	**1.00**	**109**	P	**Pb**	**14 50 54.4**	**-0.7**
LTK				S	**Sg**	**14 51 08.3**	**+0.1**
LTK				AML	AML	14 51 11.3	
comp=E,3557μm,0.6s							
LTK				AML	AML	14 51 14.0	
comp=N,2591μm,0.6s							
LKR	**Lokris**	**1.01**	**72**	P	**Pb**	**14 50 53.9**	**-1.4**
LKR	**Lokris**	**1.01**	**72**	P	**Pb**	**14 50 53.7**	**-1.6**
LKR				S	**Sg**	**14 51 08.8**	**+0.2**
LKR				AML	AML	14 51 13.9	
comp=E,2471μm,0.3s							
LKR				AML	AML	14 51 14.5	
comp=N,3234μm,0.5s							
KRI1	**kERI**	**1.02**	**228**	P	**Pb**	**14 50 54.5**	**-0.8**
ARGA	**Argostoli. Kep**	**1.03**	**261**	P	**Pb**	**14 50 54.4**	**-1.1**
KEF4	**Livadi, Kephal**	**1.06**	**265**	P	**Pb**	**14 50 54.9**	**-1.1**
VLX	**Vlachokerasia**	**1.09**	**153**	P	**Pb**	**14 50 55.7**	**-1.0**
VLX	**Vlachokerasia**	**1.09**	**153**	P	**Pb**	**14 50 55.7**	**-1.0**
ITM	**Ithomi**	**1.18**	**174**	P	**Pn**	**14 50 57.8**	**-0.3**
VIL2	**Platees**	**1.19**	**96**	P	**Pg**	**14 50 59.1**	**+0.4**
VIL2				AML	AML	14 51 20.1	
comp=N,3292μm,0.6s							
VIL2				AML	AML	14 51 20.3	
comp=E,4513μm,0.9s							
THL	**Klokotos Trika**	**1.23**	**9**	P	**Pb**	**14 50 59.1**	**+0.2**
THL	**Klokotos Trika**	**1.23**	**9**	P	**Pb**	**14 50 59.2**	**+0.2**
THL				S	**Sg**	**14 51 16.0**	**+0.6**
THL				AML	AML	14 51 20.1	
comp=N,1094μm,0.5s							
THL				AML	AML	14 51 21.3	
comp=E,1780μm,0.8s							
VILL	**Villia**	**1.23**	**98**	P	**Pb**	**14 50 59.0**	**0.0**
VOL3	**Nea Ionia, Vol**	**1.37**	**41**	P	**Pn**	**14 50 58.4**	**-2.3**
VOL2	**Volos**	**1.37**	**42**	P	**Pg**	**14 51 02.7**	**+0.5**
PYL	**PYLOS**	**1.45**	**181**	P	**Pn**	**14 51 02.3**	**+0.4**
PYL	**PYLOS**	**1.45**	**181**	P	**Pn**	**14 51 01.9**	**0.0**
KRND	**KRANIDI**	**1.46**	**131**	P	**Pb**	**14 51 03.0**	**+0.1**
XOR	**Xorichti**	**1.51**	**47**	P	**Pn**	**14 51 03.0**	**+0.3**
XOR	**Xorichti**	**1.51**	**47**	P	**Pn**	**14 51 02.8**	**+0.1**
IGT	**Igoumenitsa**	**1.63**	**317**	*e*Pg	**Pg**	**14 51 07.9**	**+0.9**
IGT				*e*Sg	**Sg**	**14 51 29.0**	**+0.9**
IGT	**Igoumenitsa**	**1.63**	**317**	P	**Pn**	**14 51 03.4**	**-0.9**
baz=321							
IGT				S	**Sn**	**14 51 25.2**	**+0.1**
baz=321							
KPRO	**Kipourio**	**1.63**	**349**	P	**Pg**	**14 51 06.9**	**-0.3**
ATHU	**Athens Univers**	**1.64**	**103**	P	**Pn**	**14 51 04.8**	**+0.4**
ATHU				S	**Sb**	**14 51 26.8**	**+0.3**
ATHU				AML	AML	14 51 27.4	
comp=N,1447μm,0.4s							
ATHU				AML	AML	14 51 31.9	
comp=E,423μm,0.6s							
VLY	**Voula,Athens**	**1.68**	**107**	P	**Pn**	**14 51 05.3**	**+0.4**
VLY	**Voula,Athens**	**1.68**	**107**	P	**Pn**	**14 51 05.4**	**+0.4**
PTL	**Penteli**	**1.68**	**100**	P	**Pn**	**14 51 05.5**	**+0.5**
PTL	**Penteli**	**1.68**	**100**	P	**Pn**	**14 51 05.7**	**+0.6**
DION	**Dionisos Attik**	**1.73**	**98**	P	**Pn**	**14 51 06.5**	**+0.8**
DION				S	**Sn**	**14 51 27.9**	**+0.2**
comp=E,1μm,0.5s							
DION	**Dionisos Attik**	**1.73**	**98**	P	**Pn**	**14 51 06.0**	**+0.3**
LIT	**Litokhoron**	**1.84**	**18**	P	**Pn**	**14 51 08.0**	**+0.8**
KYMI	**Kymi, Euboea I**	**1.85**	**81**	P	**Pn**	**14 51 07.6**	**+0.3**
KZN	**Kozani**	**1.95**	**0**	P	**Pb**	**14 51 11.1**	**-0.3**
LSK	**Leskovik**	**2.01**	**334**	P	**Pn**	**14 51 10.7**	**+1.0**
baz=338							
LSK				S	**Sb**	**14 51 38.2**	**+0.8**
baz=338							
KEK	**Kerkira**	**2.05**	**312**	P	**Pb**	**14 51 11.7**	**-1.3**
SRN	**Sarande**	**2.05**	**319**	P	**Pn**	**14 51 11.1**	**+1.0**
baz=322							
SRN				S	**Sb**	**14 51 38.3**	**-0.2**
baz=322							
KARY	**Karystos**	**2.13**	**98**	P	**Pn**	**14 51 12.0**	**+0.9**
PAIG	**Paliouri**	**2.17**	**43**	P	**Pn**	**14 51 11.5**	**-0.2**
FNA	**Florina**	**2.45**	**353**	*e*Pg	**Pb**	**14 51 18.5**	**-1.3**
FNA				*e*Sg	**Sn**	**14 51 45.9**	**+0.4**
FNA	**Florina**	**2.45**	**353**	P	**Pb**	**14 51 18.1**	**-1.7**
baz=357							
FNA				S	**Sb**	**14 51 50.8**	**+0.8**
baz=357							
OHR	**Ohrid**	**2.86**	**345**	*i* Pn	**Pb**	**14 51 26.3**	**-0.4**
VAY	**Valandovo**	**3.03**	**12**	*e*Pn	**Pn**	**14 51 26.5**	**+2.9**
VAY	**Valandovo**	**3.03**	**12**	*i* Pn	**Pb**	**14 51 27.8**	**-1.9**
SRS	**Serrai**	**3.10**	**26**	*e*Pn	**Pn**	**14 51 27.1**	**+2.5**
APE	**Apeiranthos**	**3.25**	**112**	⇓P	**Pn**	**14 51 27.9**	**+1.3**
TIR	**Tirane**	**3.33**	**335**	*e*Pn	**Pb**	**14 51 32.7**	**-2.1**
STIP	**Stip**	**3.36**	**5**	*i* Pn	**Pn**	**14 51 31.4**	**+3.4**
PHP	**Peshkopia**	**3.48**	**343**	P	**Pn**	**14 51 32.9**	**+3.0**
baz=346							
PHP				S	**Sb**	**14 52 16.9**	**-2.8**
baz=346							
IDI	**Anoyia**	**3.95**	**140**	Pn	**Pn**	**14 51 39.0**	**+2.7**
comp=E,1.0nm,0.3s,baz=52,slow=15,SNR=2.1							
IDI				Sn	**Sn**	**14 52 20.4**	**-2.2**
comp=E,1.7nm,0.3s,baz=44,slow=21,SNR=1.8							
IDI	**Anoyia**	**3.95**	**140**	⇓P	**Pn**	**14 51 39.4**	**+3.1**
PUK	**Puka**	**3.96**	**339**	P	**Pn**	**14 51 39.8**	**+3.4**
baz=342							
PUK				S	**Sb**	**14 52 28.7**	**-4.6**
baz=342							
BOSS	**Bosilegrad**	**4.18**	**7**	*e*Pn	**Pn**	**14 51 41.4**	**+2.0**
BARS	**Barje**	**4.46**	**0**	*e*Pn	**Pn**	**14 51 45.9**	**+2.6**
SELS	**Selova**	**4.89**	**354**	*e*Pn	**Pn**	**14 51 51.1**	**+2.0**
ZAPS	**Zavoj**	**4.96**	**7**	*e*Pn	**Pn**	**14 51 51.6**	**+1.4**
BOVS	**Bovan**	**5.28**	**360**	*e*Pn	**Pn**	**14 51 56.4**	**+1.9**
ZAGS	**Zajecar**	**5.47**	**4**	*e*Pn	**Pn**	**14 51 58.5**	**+1.4**
GRUS	**Gruza**	**5.59**	**352**	*e*Pn	**Pn**	**14 52 01.0**	**+2.3**
BBLS	**Lazići**	**5.79**	**343**	*e*Pn	**Pn**	**14 52 03.6**	**+2.0**
DIVS	**Divibare**	**5.90**	**347**	*e*Pn	**Pn**	**14 52 04.8**	**+1.8**
TRUS	**Trudelj**	**5.96**	**351**	*e*Pn	**Pn**	**14 52 06.1**	**+2.3**
VOIR		**7.49**	**18**	⇑P	**Pn**	**14 52 27.4**	**+2.4**
MLR	**Muntele Rosu**	**7.79**	**22**	Pn	**Pn**	**14 52 31.5**	**+2.5**
comp=E,0.5nm,0.3s,baz=158,slow=3.5,SNR=2.5							
MLR	**Muntele Rosu**	**7.79**	**22**	⇓P	**Pn**	**14 52 33.7**	**+4.7**
PLOR	**Plostina**	**8.33**	**24**	⇑P	Pn	14 52 42.3	+6.0
VRI	**Vrincioaia**	**8.37**	**25**	⇑P	Pn	14 52 43.0	+6.2
BRTR	**Keskin Array B**	**9.34**	**78**	Pn	**Pn**	**14 52 52.4**	**+2.0**
comp=E,0.4nm,0.3s,baz=260,slow=14,SNR=4.3							
VYHS	**Vyhne**	**10.36**	**349**	*e*PN	**Pn**	**14 53 06.0**	**+1.8**
ESDC	**Sonseca Array**	**20.02**	**282**	P	**P**	**14 55 08.3**	**-0.2**
comp=E,0.1nm,0.3s,baz=84,slow=12,SNR=2.2							
HFS	**Hagfors**	**22.40**	**349**	P	**P**	**14 55 33.5**	**-0.4**
comp=E,5.3nm,1.0s,baz=182,slow=14,SNR=4.7							
FINES	**FINESS Array B**	**23.27**	**5**	P	**P**	**14 55 41.6**	**-1.4**
comp=E,3.2nm,1.0s,baz=204,slow=4.2,SNR=3.8							
NOA	**NORSAR Array B**	**23.66**	**347**	P	**P**	**14 55 46.2**	**-0.6**
comp=E,1.2nm,0.9s,baz=158,slow=9.9,SNR=1.2							
TORD	**Torodi Ar. Bea**	**30.79**	**221**	P	**P**	**14 56 51.1**	**-0.2**
comp=E,0.8nm,0.6s,baz=30,slow=9.2,SNR=4.8							
DBIC	**Dimbokro**	**39.69**	**224**	P	**P**	**14 58 08.2**	**+0.2**
comp=E,2.7nm,1.0s,baz=173,slow=5.9,SNR=1.5							
MKAR	**Makanchi Array**	**44.38**	**59**	P	**P**	**14 58 46.4**	**+0.4**
comp=E,2.5nm,0.5s,baz=276,slow=7.4,SNR=38							
ZALV	**Zalesovo Beam**	**44.85**	**48**	P	**P**	**14 58 49.6**	**0.0**
comp=E,1.9nm,0.4s,baz=274,slow=8.4,SNR=9.6							

*NEIC **26** 15:00:25.8±2.0, 19°.16S±0°.05×69°.51W±0°.08, h114km±4km, Error ellipse: s-maj=11.7km s-min=7.1km az=81.0*
*GUC **26** 15:00:26.7±0.7, 19°.17S×69°.43W, h109km±2km, ML4.0*
*IDC **26** 15:00:27.1±1.8, 19°.20S×69°.16W, h121km±16km, mb4.0/3, mb1 3.9/6, mb1mx3.5/35, mbtmp4.2/6, Error ellipse: s-maj=39.6km s-min=13.0km az=102.0*
*VAO **26** 15:00:29.1±0.5, 19°.14S×69°.05W, h110km±5km, mb4.1*

ISC 26 15:00:26.1±0.6, 19°.16S±0°.03×69°.41W±0°.06, h110km±4km, n79, σ1§59/90, mb4.2/3, 5C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.18**	**279**	⇓*i*P	**Pn**	**15 00 41.8**	**0.0**
MNMC				*i* S	**Sn**	**15 00 53.8**	**+0.2**
MNMC				IAML		15 00 54.8	
comp=E,26μm,0.3s							
MNMC	**Minye Minye**	**0.18**	**279**		**Pn**	**15 00 41.7**	**0.0**
GO01	**Chusmiza**	**0.54**	**158**	⇓*i*P	Pn	15 00 44.3	+0.5
GO01				*i* S	**Sn**	**15 00 57.9**	**+0.7**
GO01				AMP		15 00 58.5	
comp=N,10μm,0.1s							
GO01	**Chusmiza**	**0.54**	**158**		Pn	15 00 44.1	+0.2
PB11	**IPOC Station P**	**0.64**	**201**	⇑*i*P	**Pn**	**15 00 44.1**	**0.0**
PB11				*i* S	**Sn**	**15 00 57.7**	**-0.1**
PB11				IAML		15 00 58.2	
comp=E,14μm,0.3s							
PB11	**IPOC Station P**	**0.64**	**201**		**Pn**	**15 00 44.2**	**0.0**
PSGC	**Pisagua**	**0.80**	**237**	⇑*i*P	**Pn**	**15 00 44.9**	**-0.6**
PSGC				*i* S	**Sn**	**15 00 59.1**	**-1.0**
PSGC				IAML		15 01 00.0	
comp=N,6μm,0.3s							
PSGCX	**Pisagua**	**0.80**	**237**		**Pn**	**15 00 45.0**	**-0.5**
PB16	**IPOC Station P**	**0.83**	**353**	⇑*i*P	**Pn**	**15 00 47.0**	**+0.7**
PB16				*i* S	**Sn**	**15 01 02.1**	**+0.7**
PB16				IAML		15 01 04.1	
comp=N,3μm,0.3s							
PB16	**IPOC Station P**	**0.83**	**353**		**Pn**	**15 00 46.9**	**+0.7**
PB08	**IPOC Station P**	**1.00**	**166**	⇓*i*P	**Pn**	**15 00 48.4**	**+0.6**
PB08				*i* S	**Sn**	**15 01 04.9**	**+0.8**
PB08				IAML		15 01 06.8	
comp=E,3μm,0.2s							
PB12	**IPOC Station P**	**1.03**	**302**	⇑*i*P	**Pn**	**15 00 47.2**	**-0.5**
PB12				*i* S	**Sn**	**15 01 03.2**	**-0.8**
PB12				IAML		15 01 04.0	
comp=N,3μm,0.4s							
PB12	**IPOC Station P**	**1.03**	**302**		**Pn**	**15 00 47.0**	**-0.7**
AP01	**Chacalluta**	**1.18**	**311**	*e*P	**Pn**	**15 00 48.8**	**-0.4**
AP01				*i* S	**Sn**	**15 01 06.8**	**0.0**
AP01				IAML		15 01 07.7	
comp=N,5μm,0.2s							
AP01	**Chacalluta**	**1.18**	**311**		**Pn**	**15 00 49.1**	**-0.2**
TA02	**Huaiquique**	**1.30**	**212**	*e*P	**Pn**	**15 00 50.2**	**-0.4**
TA02				*i* S	**Sn**	**15 01 08.3**	**-0.7**
TA02				IAML		15 01 14.1	
comp=N,5μm,0.1s							
TA01	**Diego Aracena**	**1.58**	**207**	⇑*e*P	**Pn**	**15 00 52.8**	**-1.0**
TA01				*i* S	**Sn**	**15 01 13.2**	**-1.7**
TA01				IAML		15 01 18.5	
comp=E,1μm,0.4s							
TA01	**Diego Aracena**	**1.58**	**207**		**Pn**	**15 00 53.1**	**-0.8**
PATCX	**Punta Patache**	**1.79**	**203**	*e*P	**Pn**	**15 00 56.1**	**-0.5**
PATCX				*i* S	**Sn**	**15 01 18.6**	**-1.3**
PATCX				IAML		15 01 21.8	
comp=E,2μm,0.8s							
PATCX	**Punta Patache**	**1.79**	**203**		**Pn**	**15 00 56.1**	**-0.5**
PB01	**IPOC Station P**	**1.88**	**182**	*e*P	**Pn**	**15 00 57.8**	**+0.2**
PB01				*i* S	**Sn**	**15 01 21.4**	**-0.3**
PB01				IAML		15 01 23.6	
comp=E,2μm,0.2s							
PB01	**IPOC Station P**	**1.88**	**182**		**Pn**	**15 00 57.5**	**-0.1**
PB02	**IPOC Station P**	**2.20**	**192**	*e*P	**Pn**	**15 01 01.7**	**-0.1**
PB02				IAML		15 01 39.1	
comp=E,1μm,0.3s							
PB07	**IPOC Station P**	**2.59**	**190**	*e*P	**Pn**	**15 01 06.8**	**-0.1**
PB07				IAML		15 01 46.3	
comp=N,475nm,0.4s							
PB07	**IPOC Station P**	**2.59**	**190**		**Pn**	**15 01 07.4**	**+0.5**
PB09	**IPOC Station P**	**2.63**	**177**	*e*P	**Pn**	**15 01 08.0**	**+0.6**
PB09				*i* S	**Sn**	**15 01 34.3**	**-4.8**
PB09				IAML		15 01 46.3	
comp=E,407nm,0.6s							
PB09	**IPOC Station P**	**2.63**	**177**		**Pn**	**15 01 08.8**	**+1.4**
PB03	**IPOC Station P**	**2.89**	**186**	*e*P	**Pn**	**15 01 11.1**	**+0.2**
LPAZ	**La Paz**	**3.10**	**23**	P	**Pn**	**15 01 16.1**	**+2.0**
comp=E,2.4nm,0.3s,baz=186,slow=3.2,SNR=43							
LPAZ				S	**Sn**	**15 01 45.0**	**-5.9**
comp=E,1.1nm,0.3s,baz=235,slow=8.3,SNR=4.9							
LPAZ	**La Paz**	**3.10**	**23**	*e*P	Pn	15 01 16.4	+2.2
PB04	**IPOC Station P**	**3.23**	**192**	*e*P	**Pn**	**15 01 15.3**	**-0.1**
LVC	**Limon Verde**	**3.46**	**172**	P	**Pn**	**15 01 20.4**	**+1.8**
comp=E,6.8nm,0.3s,baz=13,slow=6.5,SNR=21							
LVC				S	**Sn**	**15 01 58.9**	**-0.3**
comp=E,54nm,0.3s,baz=82,slow=22,SNR=25							
LVC	**Limon Verde**	**3.46**	**172**		**Pn**	**15 01 19.7**	**+1.0**
LVC	**Limon Verde**	**3.46**	**172**	*e*P	**Pn**	**15 01 20.0**	**+1.4**
PB06	**IPOC Station P**	**3.53**	**182**	*e*P	**Pn**	**15 01 19.2**	**-0.1**
PB06				IAML		15 02 10.1	
comp=E,258nm,0.4s							
PB06	**IPOC Station P**	**3.53**	**182**		**Pn**	**15 01 19.0**	**-0.4**
PB05	**IPOC Station P**	**3.75**	**191**	*e*P	**Pn**	**15 01 21.3**	**-0.9**
PB15	**IPOC Station P**	**4.03**	**181**		**Pn**	**15 01 25.9**	**-0.2**
GO02	**Mina Guanaco**	**5.98**	**182**	Pn	**Pn**	**15 01 51.0**	**-1.5**
AC01	**Pan de Azucar**	**7.04**	**189**	Pn	**Pn**	**15 02 03.3**	**-3.3**
SIV	**San Ignacio**	**8.55**	**70**	P	**Pn**	**15 02 24.8**	**-2.4**
comp=E,1.5nm,0.3s,baz=265,slow=11,SNR=18							
ETMB	**Extrema**	**9.79**	**19**	*e*P	**Pn**	**15 02 44.1**	**+0.2**
PTLB	**Pontes e Lacer**	**10.48**	**71**	*e*P	**Pn**	**15 02 50.2**	**-3.0**
VILB	**Vilhena**	**10.79**	**56**	*e*P	**Pn**	**15 02 56.3**	**-1.2**
SAML	**Samuel**	**11.81**	**32**	*e*P	**Pn**	**15 03 11.4**	**+0.3**
CLDB	**Colider**	**15.51**	**60**	*e*P	**Pn**	**15 03 58.3**	**-0.5**
BO02	**Sierra Bellavi**	**15.62**	**184**	Pn	**Pn**	**15 03 59.2**	**-1.1**
BO02				IAmb	IAmb	15 04 13.3	
comp=Z,5.7nm,1.1s							
TRCB	**Terra Rica**	**16.08**	**106**	*e*P	**Pn**	**15 04 05.3**	**-0.7**
PTGB	**Pitanga**	**17.01**	**112**	*e*P	**P**	**15 04 17.9**	**+0.4**
ARAG	**Araguaiana, MT**	**17.14**	**81**	*e*P	**Pn**	**15 04 17.7**	**-1.3**
PCMB	**Pacaembu**	**17.19**	**101**	*e*P

WHRZ	**Whale Island**	**0.56 95**	P	**Pn**	**15 05 49.9**	**+1.0**
HRRZ	**Handcock Road**	**0.58 178**	P	**Pn**	**15 05 49.6**	**+0.7**
TOZ	**Tahuroa Road**	**0.61 277**	P	**Pn**	**15 05 49.2**	**+0.2**
TOZ			S	**S**	**15 06 11.9**	**-1.2**
PRRZ	**Plateau Road**	**0.69 172**	P	**Pn**	**15 05 49.9**	**+0.5**
WPRZ	**Whakapapatarin**	**0.71 186**	P	**Pn**	**15 05 50.1**	**+0.7**
ALRZ	**Allen Road**	**0.75 175**	P	**Pn**	**15 05 50.3**	**+0.6**
KUTZ	**Kaahu Road**	**0.76 207**	P	**Pn**	**15 05 50.4**	**+0.8**
TLZ	**Tolley Road**	**0.77 228**	P	**Pn**	**15 05 50.4**	**+0.6**
URZ	**Urewera**	**0.81 124**	P	**Pn**	**15 05 49.7**	**-0.1**
	109nm,0.3s,baz=263,slow=3.3,SNR=854					
URZ			S	**S**	**15 06 11.9**	**-2.7**
	146nm,0.3s,baz=178,slow=22,SNR=41					
URZ	**Urewera**	**0.81 124**	P	**Pn**	**15 05 49.7**	**-0.1**
URZ			S	**S**	**15 06 12.2**	**-2.5**
WHTZ	**Whakaora**	**0.89 196**	P	**Pn**	**15 05 51.5**	**+1.2**
RTZ	**Ruatahuna**	**0.98 145**	P	**Pn**	**15 05 51.3**	**+0.4**
RTZ			S	**S**	**15 06 14.9**	**-1.7**
WATZ	**Wairara**	**0.99 205**	P	**Pn**	**15 05 52.0**	**+1.1**
MRHZ	**Matea Rd**	**1.03 173**	P	**Pn**	**15 05 51.6**	**+0.5**
MRHZ			S	**S**	**15 06 15.3**	**-1.9**
HATZ	**Hinemaiaia**	**1.09 187**	P	**Pn**	**15 05 51.9**	**+0.4**
RATZ	**Rangitukua**	**1.12 200**	P	**Pn**	**15 05 52.6**	**+0.8**
RUGZ	**Raukumara Rang**	**1.13 98**	P	**Pn**	**15 05 51.6**	**-0.3**
RUGZ			S	**S**	**15 06 14.3**	**-3.9**
MTHZ	**Maungataniwha**	**1.14 157**	S	**S**	**15 06 16.9**	**-1.4**
KUZ	**Kuaotunu**	**1.15 338**	P	**Pn**	**15 05 51.5**	**-0.5**
HAZ	**Te Kaha**	**1.20 88**	S	**S**	**15 06 16.3**	**-2.5**
RITZ	**Rihia Road**	**1.21 195**	P	**Pn**	**15 05 53.5**	**+1.2**
KATZ	**Kakaramea**	**1.25 201**	P	**Pn**	**15 05 53.9**	**+1.2**
RAHZ	**Arahi**	**1.28 150**	P	**Pn**	**15 05 54.0**	**+1.2**
RAHZ			S	**S**	**15 06 19.9**	**-0.1**
SNGZ	**Shannon Statio**	**1.29 139**	P	**Pn**	**15 05 53.9**	**+1.1**
SNGZ			S	**S**	**15 06 19.1**	**-0.9**
HIZ	**Hauiti**	**1.31 237**	P	**Pn**	**15 05 53.7**	**+0.7**
NMHZ	**Naumai**	**1.35 162**	P	**Pn**	**15 05 54.9**	**+1.5**
NMHZ			S	**S**	**15 06 21.1**	**0.0**
WIAZ	**Waiheke Island**	**1.36 318**	P	**Pn**	**15 05 53.4**	**-0.1**
BKZ	**Black Stump Fm**	**1.36 173**	P	**Pn**	**15 05 53.9**	**+0.5**
BKZ			S	**S**	**15 06 18.7**	**-2.5**
ETAZ	**East Tamaki Re**	**1.37 308**	P	**Pn**	**15 05 53.4**	**0.0**
KRVZ	**Karewarewa**	**1.37 201**	P	**Pn**	**15 05 54.4**	**+0.8**
TKGZ	**Te Karaka**	**1.40 117**	P	**Pn**	**15 05 54.5**	**+0.9**
TWGZ	**Tauwhareparae**	**1.40 106**	P	**Pn**	**15 05 54.6**	**+0.8**
TWGZ			S	**S**	**15 06 20.3**	**-1.3**
WTVZ	**West Tongariro**	**1.41 202**	P	**Pn**	**15 05 54.8**	**+0.9**
TWVZ	**Taurewa**	**1.42 207**	P	**Pn**	**15 05 54.7**	**+0.8**
OTVZ	**Oturere**	**1.43 199**	P	**Pn**	**15 05 55.2**	**+1.1**
NGZ	**Ngauruhoe**	**1.46 201**	P	**Pn**	**15 05 55.2**	**+0.9**
WHHZ	**Waihua**	**1.48 149**	P	**Pn**	**15 05 55.6**	**+1.3**
RIGZ	**Rimuhau**	**1.48 128**	P	**Pn**	**15 05 55.6**	**+1.2**
RIGZ			S	**S**	**15 06 22.4**	**-0.2**
AWAZ	**Awhitu Peninsu**	**1.49 300**	P	**Pn**	**15 05 54.4**	**0.0**
EPAZ	**Eden Park BICE**	**1.53 307**	P	**Pn**	**15 05 54.7**	**0.0**
TUVZ	**Tukino**	**1.53 198**	P	**Pn**	**15 05 55.8**	**+0.9**
TUVZ			S	**S**	**15 06 23.5**	**-0.1**
FWVZ	**Far West T-bar**	**1.55 201**	P	**Pn**	**15 05 55.7**	**+0.6**
HBAZ	**Herne Bay Bore**	**1.55 308**	P	**Pn**	**15 05 54.9**	**0.0**
ARHZ	**Aropaoanui**	**1.56 159**	P	**Pn**	**15 05 56.4**	**+1.5**
PUZ	**Puketiti**	**1.60 100**	P	**Pn**	**15 05 55.5**	**+0.2**
PUZ			S	**S**	**15 06 22.2**	**-2.1**
WNVZ	**Wahianoa**	**1.60 199**	P	**Pn**	**15 05 56.2**	**+0.7**
WTAZ	**Waiatarua**	**1.61 303**	P	**Pn**	**15 05 55.6**	**+0.2**
KWHZ	**Kaweka Forest**	**1.62 176**	P	**Pn**	**15 05 56.6**	**+1.2**
KNZ	**Kokohu**	**1.64 138**	P	**Pn**	**15 05 56.8**	**+1.2**
MXZ	**Matakaoa Point**	**1.64 82**	P	**Pn**	**15 05 56.0**	**+0.4**
PKVZ	**Pokaka**	**1.64 206**	P	**Pn**	**15 05 56.6**	**+0.9**
MOVZ	**Moawhango**	**1.64 194**	P	**Pn**	**15 05 56.1**	**+0.4**
ABAZ	**Army Bay**	**1.66 316**	P	**Pn**	**15 05 56.2**	**+0.3**
MCHZ	**McNeill Hill**	**1.67 168**	P	**Pn**	**15 05 57.4**	**+1.6**
CNGZ	**Carnagh Statio**	**1.67 114**	P	**Pn**	**15 05 57.5**	**+1.7**
BHHZ	**Black Hill Sta**	**1.68 185**	P	**Pn**	**15 05 56.5**	**+0.5**
GRZ	**Great Barrier**	**1.69 337**	P	**Pn**	**15 05 55.8**	**-0.3**
PRGZ	**Paritu Road**	**1.69 132**	P	**Pn**	**15 05 57.1**	**+1.1**
MTVZ	**Mangateitei**	**1.69 201**	P	**Pn**	**15 05 57.0**	**+0.9**
RVAZ	**Riverhead Bore**	**1.70 307**	P	**Pn**	**15 05 56.0**	**-0.1**
WMGZ	**Waiomatatini S**	**1.70 91**	P	**Pn**	**15 05 56.7**	**+0.5**
VRZ	**Vera Road**	**1.77 222**	P	**Pn**	**15 05 58.2**	**+1.5**
KRHZ	**Kereru**	**1.83 177**	P	**Pn**	**15 05 58.2**	**+0.9**
MHGZ	**Mahia Peninsul**	**1.86 137**	P	**Pn**	**15 05 58.9**	**+1.4**
MHEZ	**Mangahewa**	**1.98 230**	P	**Pn**	**15 06 01.0**	**+2.3**
KAHZ	**Kahuranaki**	**2.04 167**	P	**Pn**	**15 06 00.5**	**+1.3**
PNHZ	**Pukenui**	**2.10 181**	P	**Pn**	**15 06 00.6**	**+0.8**
WAZ	**Wanganui**	**2.18 207**	P	**Pn**	**15 06 01.3**	**+0.7**
LREZ	**Lake Rotokare**	**2.20 221**	P	**Pn**	**15 06 02.4**	**+1.6**
NEZ	**North Egmont**	**2.24 229**	P	**Pn**	**15 06 03.5**	**+2.2**
PREZ	**Palmer Road**	**2.25 227**	P	**Pn**	**15 06 03.2**	**+1.9**
WPHZ	**Waipukurau**	**2.25 177**	P	**Pn**	**15 06 02.1**	**+0.8**
PKE	**Pukeiti**	**2.26 232**	P	**Pn**	**15 06 03.3**	**+1.9**
PXZ	**Pawanui**	**2.27 168**	P	**Pn**	**15 06 02.3**	**+0.9**
KHEZ	**Kahui Hut**	**2.30 229**	P	**Pn**	**15 06 04.0**	**+2.1**
NBEZ	**Newall Road No**	**2.38 232**	P	**Pn**	**15 06 04.8**	**+2.2**
WCZ	**Waipu Caves**	**2.42 320**	P	**Pn**	**15 06 03.4**	**+0.3**
PRHZ	**Porangahau**	**2.47 173**	P	**Pn**	**15 06 04.4**	**+0.8**
DVHZ	**Dannevirke**	**2.49 182**	P	**Pn**	**15 06 04.2**	**+0.5**
OHWZ	**Ohakea**	**2.50 197**	P	**Pn**	**15 06 04.7**	**+0.9**
POWZ	**Post Office Ro**	**2.61 188**	P	**Pn**	**15 06 05.0**	**0.0**
ANWZ	**Angora Road**	**2.65 177**	P	**Pn**	**15 06 06.4**	**+0.9**
PRWZ	**Pori Road**	**2.75 185**	P	**Pn**	**15 06 07.2**	**+0.6**
BFZ	**Birch Farm**	**2.87 180**	P	**Pn**	**15 06 08.2**	**+0.5**
MRZ	**Mangatainoka R**	**2.90 190**	P	**Pn**	**15 06 08.1**	**0.0**
TIWZ	**Tintock**	**2.98 186**	P	**Pn**	**15 06 09.5**	**+0.4**
CPWZ	**Castlepoint**	**3.10 181**	P	**Pn**	**15 06 11.1**	**+0.8**
OGWZ	**Otaki Gorge**	**3.12 195**	P	**Pn**	**15 06 10.7**	**0.0**
HOWZ	**Holdsworth Sta**	**3.14 190**	P	**Pn**	**15 06 10.5**	**-0.3**
KIW	**Kapiti Island**	**3.22 199**	P	**Pn**	**15 06 11.2**	**-0.6**
TMWZ	**Te Maipa**	**3.30 185**	P	**Pn**	**15 06 12.6**	**-0.2**
OUZ	**Omahuta**	**3.36 319**	P	**Pn**	**15 06 13.8**	**+0.3**
CAW	**Cannon Point**	**3.42 195**	P	**Pn**	**15 06 13.7**	**-0.4**
DUWZ	**D'Urville Isla**	**3.50 211**	P	**Pn**	**15 06 14.2**	**-0.8**
TRWZ	**Traveller**	**3.61 187**	P	**Pn**	**15 06 16.0**	**-0.3**
PAWZ	**Paruwai Farm**	**3.62 190**	P	**Pn**	**15 06 16.0**	**-0.5**
WEL	**Wellington**	**3.66 198**	P	**Pn**	**15 06 16.4**	**-0.4**
MSWZ	**Moikau Station**	**3.69 192**	P	**Pn**	**15 06 16.4**	**-0.8**
TCW	**Tory Channel**	**3.73 204**	P	**Pn**	**15 06 17.0**	**-0.7**
BHW	**Baring Head**	**3.75 196**	P	**Pn**	**15 06 17.2**	**-0.8**
PLWZ	**Palliser**	**3.83 191**	P	**Pn**	**15 06 18.1**	**-0.9**
TUWZ	**Tuamarina**	**4.03 206**	P	**Pn**	**15 06 20.5**	**-0.9**
NNZ	**Nelson**	**4.07 212**	P	**Pn**	**15 06 20.7**	**-1.0**
QRZ	**Quartz Range**	**4.18 223**	P	**Pn**	**15 06 21.8**	**-1.3**
CMWZ	**Cape Campbell**	**4.24 201**	P	**Pn**	**15 06 23.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**4.31 205**	P	**Pn**	**15 06 24.0**	**-0.8**
THZ	**Tophouse**	**4.72 212**	P	**Pn**	**15 06 29.0**	**-0.8**
KHZ	**Kahutara**	**5.05 204**	P	**Pn**	**15 06 33.0**	**-0.8**
DSZ	**Denniston Nort**	**5.22 220**	P	**Pn**	**15 06 34.2**	**-1.8**
GVZ	**Greta Valley S**	**5.71 205**	P	**Pn**	**15 06 41.1**	**-1.0**
LTZ	**Lake Taylor**	**5.83 210**	P	**Pn**	**15 06 42.5**	**-1.2**
AMCZ	**Amberley**	**6.03 206**	P	**Pn**	**15 06 45.4**	**-0.7**
INZ	**Inchbonnie**	**6.14 215**	P	**Pn**	**15 06 46.5**	**-1.0**
OXZ	**Oxford**	**6.38 209**	P	**Pn**	**15 06 48.7**	**-1.8**
MQZ	**McQueen's Vall**	**6.50 204**	P	**Pn**	**15 06 49.9**	**-2.1**
AKCZ	**Akaroa Harbour**	**6.57 202**	P	**Pn**	**15 06 51.7**	**-1.2**
MHCZ	**Mount Hutt**	**6.74 211**	P	**Pn**	**15 06 53.7**	**-1.5**
WACZ	**Wakanui South**	**6.98 207**	P	**Pn**	**15 06 56.8**	**-1.4**
RPZ	**Rata Peaks**	**7.10 212**	P	**Pn**	**15 06 58.4**	**-1.4**
	0.4nm,0.3s,baz=192,slow=3.3,SNR=21					
RPZ			S	S	15 08 13.9	-7.1
	5.1nm,0.3s,baz=20,slow=20,SNR=23					
RPZ	**Rata Peaks**	**7.10 212**	P	**Pn**	**15 06 58.4**	**-1.4**
ARCZ	**Arundel**	**7.24 211**	P	**Pn**	**15 07 00.0**	**-1.6**
FOZ	**Fox Glacier**	**7.53 219**	P	**Pn**	**15 07 04.0**	**-1.2**
ODZ	**Otahua Downs**	**8.37 208**	P	**Pn**	**15 07 15.3**	**-0.6**
JCZ	**Jackson Bay**	**8.43 220**	P	**Pn**	**15 07 16.1**	**-0.8**
ASAR	**Alice Springs**	**38.71 279**	P	**P**	**15 12 22.9**	**+2.7**
	1.3nm,0.5s,baz=120,slow=7.1,SNR=73					
VNDA	**Vanda**	**40.29 185**	P	P	15 12 41.6	+9.1
	0.2nm,0.6s,baz=344,slow=5.4,SNR=1.8					
WRA	**Warramunga Arr**	**40.41 284**	P	**P**	**15 12 35.9**	**+1.6**
	0.8nm,0.5s,baz=120,slow=8.4,SNR=23					

NNC 26 15:23:06.0±6.7, 36°.95N×71°.78E, h0km, mb3.6, mpv3.2, 7C, Error ellipse: s-maj=50.3km s-min=39.2km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.05**	**19**	⇑Pn	Pn	15 24 34.2	-2.7
	3.4nm,1.0s						
AAK				⇑Sn	Sn	15 25 47.9	+1.0
	7.2nm,1.1s						
KK31	**Karatay Array**	**6.22**	**351**	⇑Pn	Pn	15 24 39.2	+0.1
	1.2nm,0.6s,baz=167,slow=12,SNR=11						
KK31				⇑Sn	Sn	15 25 51.4	+0.5
	3.8nm,0.8s,baz=172,slow=23						
KK31				⇑Lg	Lg	15 26 21.7	
	7.7nm,0.8s,baz=168,slow=30						
TKM2	**Tokmak 2**	**6.64**	**25**	⇑Pn	Pn	15 24 46.9	+1.9
	0.8nm,0.6s						
TKM2				⇑Sn	Sn	15 26 04.8	+3.3
	1.9nm,0.8s						

*IDC **26** 15:35:27.0±1.0, 37°.20N×136°.87E, h0km, mb3.5/6, mb1 3.8/9, mb1mx3.6/55, mbtmp3.5/9, ML3.3/2, MS2.9/3, Ms1 2.9/3, ms1mx2.6/53, Error ellipse: s-maj=28.9km s-min=12.5km az=29.0*

*NIED **26** 15:35:27.2, 37°.24N×136°.68E, h8km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}1.74; $M_{\theta\theta}$3.28; $M_{\phi\phi}$-5.02; $M_{r\theta}$3.75; $M_{\theta\phi}$-4.47; $M_{\phi r}$-1.01; Fault plane solution: $M_0$7.36000×10^14 NP1:φs64.00000°, δ71.00000°, λ152.00000°. NP2:φs164.00000°, δ64.00000°, λ21.00000°.*

*JMA **26** 15:35:27.2, 37°.24N×136°.68E, h8km, M4.1 Broadband fault plane solution: P waves. NP1:φs71.00000°, δ47.00000°, λ-172.00000°. NP2:φs335.00000°, δ84.00000°, λ-43.00000°. Principal axes: T Plg24.0000°, Azm31.0000°; N Plg46.0000°, Azm149.0000°; P Plg34.0000°, Azm284.0000°;*

JMA Felt III J1.

*NEIC **26** 15:35:30.5±1.9, 37°.20N±0°.06×136°.78E±0°.07, h50km±12km, mb4.3/6 Error ellipse: s-maj=10.1km s-min=7.2km az=137.0*

ISC 26 15:35:27.1±1.3, 37°.20N±0°.03×136°.76E±0°.04, h7km±9km, n45, σ1§61/51, mb3.6/7, 4C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.28**	**177**	⇑P	**Pb**	**15 35 33.8**	**-0.6**
JJH				S	**Sb**	**15 35 38.6**	**-0.6**
JSZ	**Suzu**	**0.54**	**63**	⇑P	**Pb**	**15 35 38.4**	**-0.5**
JSZ				S	**Sb**	**15 35 46.4**	**-0.4**
JHG	**Hegura jima**	**0.66**	**11**	⇑P	**Pg**	**15 35 39.5**	**-0.3**
JHG				S	**Sg**	**15 35 48.6**	**+0.2**
JTT	**Ttatey**	**0.75**	**142**	⇓P	**Pb**	**15 35 42.8**	**+0.3**
JTT				S	**Sn**	**15 35 54.5**	**-1.2**
JKG	**Kaga**	**0.98**	**201**	⇑P	**Pg**	**15 35 46.0**	**0.0**
JKG				S	**Sb**	**15 35 59.8**	**+0.2**
MJB9	**Matsu-Tunnel**	**1.33**	**119**	Pn	**Pb**	**15 35 52.2**	**-0.1**
MAJO	**Matsushiro**	**1.33**	**119**		**Pg**	**15 35 52.6**	**-0.1**
MAT	**Matsushiro**	**1.33**	**119**	P	**Pn**	**15 35 51.8**	**-0.3**
MAT				S	**Sn**	**15 36 11.4**	**+1.3**
MJAR	**Matsushiro Arr**	**1.33**	**119**	Pg	**Pg**	**15 35 53.1**	**+0.4**
	10nm,0.3s,baz=290,slow=18,SNR=225						
MJAR				Lg	Lg	15 36 07.9	
	7.2nm,0.3s,baz=312,slow=17,SNR=6.9						
JSD	**Sado**	**1.45**	**54**	Pn	**Pn**	**15 35 53.0**	**-0.8**
JGF	**Kuroka**	**1.67**	**163**	Pn	**Pb**	**15 35 57.6**	**-0.5**
INU	**Inuyama**	**1.86**	**174**		**Pn**	**15 35 59.5**	**+0.2**
JWT	**Wachi**	**2.21**	**210**		**Pn**	**15 36 04.1**	**0.0**
JMM	**Marumori**	**3.27**	**77**	Pn	**Pn**	**15 36 20.0**	**+1.2**
JHS	**Saijyo**	**3.68**	**234**	Pn	**Pn**	**15 36 24.5**	**+0.1**
JMN	**Monobe**	**4.19**	**215**	Pn	**Pn**	**15 36 34.8**	**+3.4**
JTM	**Tenmabayashi**	**4.91**	**42**	Pn	**Pn**	**15 36 43.2**	**+2.0**
JNU	**Nakatsue**	**6.31**	**232**	Pn	**Pn**	**15 37 00.8**	**+0.3**
	0.7nm,0.3s,baz=25,slow=6.0,SNR=8.9						
JNU				LR	LR	15 39 28.6	
	comp=Z,112nm,18.3s,baz=259,slow=38						
JNU	**Nakatsue**	**6.31**	**232**		**Pn**	**15 37 01.6**	**+1.1**
JTU	**Tsushima**	**6.55**	**248**	Pn	**Pn**	**15 37 05.5**	**+1.7**
JEW	**Eniwo**	**6.68**	**31**	Pn	**Pn**	**15 37 05.5**	**-0.2**
ERM	**Erimo**	**6.89**	**44**	Pn	**Pn**	**15 37 12.2**	**+3.7**
KSRS	**Korea Array**	**7.05**	**275**	Pn	**Pn**	**15 37 11.2**	**+0.6**
	0.4nm,0.3s,baz=96,slow=14,SNR=10						
KSRS				LR	LR	15 39 19.6	
	comp=Z,82nm,19.5s,baz=133,slow=32						
KSAR	**Wonju Array Be**	**7.08**	**275**	Pn	**Pn**	**15 37 11.4**	**+0.4**
KS19	**Wonju Array Si**	**7.09**	**275**	Pn	**Pn**	**15 37 11.7**	**+0.5**
JSU	**Suzuyama**	**7.71**	**224**	Pn	**Pn**	**15 37 21.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**7.87**	**334**	Pn	**Pn**	**15 37 22.9**	**+1.0**
	baz=235,slow=44,SNR=2.4						
INCN	**Inchon**	**8.07**	**275**	Pn	**Pn**	**15 37 25.2**	**+0.4**
ASAJ	**Asahikawa**	**8.21**	**31**	Pn	**Pn**	**15 37 30.4**	**+3.8**
	1.5nm,0.3s,baz=225,slow=17,SNR=15						
ASAJ				LR	LR	15 40 37.3	
	comp=Z,77nm,21.2s,baz=186,slow=38						
JKA	**Kamikawa-asahi**	**8.21**	**31**		**Pn**	**15 37 29.5**	**+3.0**
YSS	**Yuzh-Sakhalins**	**10.71**	**23**	Pn	**Pn**	**15 38 00.3**	**-0.6**
BJT	**Baijiatuao**	**16.34**	**286**	Pn	**Pn**	**15 39 14.9**	**-2.0**
BJT				IAmb	IAmb	15 39 20.9	
	comp=Z,6.6nm,0.4s						
HIA	**Hailar**	**17.25**	**320**	Pn	**Pn**	**15 39 27.2**	**-1.1**
YOJ	**Yonaguni jima**	**17.31**	**227**		**Pn**	**15 39 29.5**	**+0.3**
YOJ				IAmb	IAmb	15 39 29.7	
	comp=Z,28nm,1.0s						
TPUB	**Ta-pu**	**19.61**	**230**	P	**P**	**15 39 52.8**	**-3.3**
TPUB				IAmb	IAmb	15 39 55.2	
	comp=Z,13nm,1.1s						
PET	**Petropavlovsk**	**21.98**	**37**	P	**P**	**15 40 17.2**	**-4.2**
SONM	**Songino Array**	**24.63**	**305**	P	**P**	**15 40 51.4**	**+3.2**
	comp=Z,1.3nm,0.7s,baz=103,slow=9.2,SNR=4.7						
KIWB	**Kanaga Island**	**35.34**	**51**	P	**P**	**15 42 21.4**	**-1.4**
KKM	**Kota Kinabalu**	**36.24**	**216**		**P**	**15 42 31.0**	**0.0**
KKM				IAmb	IAmb	15 42 44.8	
	comp=Z,6.5nm,0.9s						
MKAR	**Makanchi Array**	**40.87**	**301**	P	**P**	**15 43 11.4**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=76,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**40.87**	**301**	P	**P**	**15 43 10.9**	**+1.3**
ILAR	**Eielson Array**	**51.34**	**32**	P	**P**	**15 44 31.0**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=286,slow=7.4,SNR=2.8						
NVAR	**Mina Array Bea**	**77.82**	**51**	P	**P**	**15 47 26.7**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=311,slow=5.8,SNR=3.0						
PDAR	**Pinedale Array**	**80.15**	**43**	P	**P**	**15 47 39.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=282,slow=6.3,SNR=2.7						
TXAR	**Lajitas Array**	**92.90**	**50**	P	**P**	**15 48 41.2**	**0.0**
	comp=Z,0.2nm,0.8s,baz=297,slow=4.0,SNR=3.7						

*IDC **26** 15:37:41.7±5.5, 11°.20N×126°.00E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.7/51, mbtmp4.1/6, MS3.6/2, Ms1 3.6/2, ms1mx2.7/56, Error ellipse: s-maj=119.8km s-min=63.9km az=154.0*

*MAN **26** 15:37:44.9, 11°.23N×126°.06E, h11km, mb4.9, ML3.8, MS3.8*

*NEIC **26** 15:37:45.6±2.8, 11°.0N±0°.1×126°.0E±0°.2, h35km±2km, mb4.2/8, Error ellipse: s-maj=35.9km s-min=18.1km az=112.0*

ISC 26 15:37:43.0±2.4, 11°.29N±0°.04×126°.13E±0°.08, h11km±14km, n39, σ1§46/39, mb4.2/11, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.74**	**294**	*eP*	**Pb**	**15 37 58.5**	**+0.5**
BESP				*eS*	**Sb**	**15 38 08.2**	**+0.1**
OCLP	**Ormoc**	**1.51**	**261**	*eP*	**Pn**	**15 38 11.1**	**+1.1**
OCLP				*eS*	**Sb**	**15 38 31.2**	**+0.9**
MSLP	**Maasin**	**1.70**	**227**	*eP*	**Pn**	**15 38 13.2**	**+0.6**
MSLP				*eS*	**Sn**	**15 38 33.0**	**-1.4**
CNP	**Cataman**	**1.88**	**310**	*eP*	**Pn**	**15 38 16.6**	**+1.5**
CNP				*eS*	**Sg**	**15 38 42.0**	**-1.3**
LLP	**Lapu-Lapu**	**2.33**	**246**	*eP*	**Pn**	**15 38 22.5**	**+1.0**
LLP				*eS*	**Sn**	**15 38 50.6**	**+0.5**
TBP	**Tagbilaran**	**2.74**	**235**	⇓*eP*	**Pb**	**15 38 34.6**	**+2.5**
PVCP	**Virac**	**2.99**	**320**	*eP*	**Pn**	**15 38 31.4**	**+1.0**
PVCP				*eS*	**Sg**	**15 39 17.8**	**-1.4**
CGP	**Cagayan de Oro**	**3.15**	**207**	⇑*eP*	**Pb**	**15 38 38.4**	**-0.8**
CGP				*eS*	**Sn**	**15 39 11.3**	**+0.9**
GUIM	**Jordan**	**3.54**	**260**	*eP*	**Pn**	**15 38 39.4**	**+1.5**
BUKP	**Musuan**	**3.55**	**197**	*eP*	**Pn**	**15 38 40.1**	**+1.9**
BUKP				*eS*	**Sb**	**15 39 27.7**	**-1.5**
CNOP	**Candoni, Negro**	**3.73**	**247**	*eP*	**Pn**	**15 38 41.9**	**+1.3**
CNOP				*eS*	**Sn**	**15 39 22.5**	**-2.0**
OTRP	**Odiongan**	**4.16**	**285**	*eP*	**Pn**	**15 38 48.4**	**+1.9**
DAV	**Davao City (W)**	**4.23**	**187**	LR	LR	15 40 55.4	
	comp=Z,222nm,19.3s,baz=326,slow=47						
MATI	**Mati**	**4.32**	**178**	*eP*	**Pn**	**15 38 51.8**	**+3.0**
CUYO	**Cuyo Island**	**5.04**	**265**	*eP*	**Pn**	**15 39 00.5**	**+1.9**
CAUP	**Cauayan**	**7.00**	**324**	*eP*	**Pn**	**15 39 26.8**	**+1.3**
KULM	**Kulim**	**25.89**	**259**	P	**P**	**15 43 12.4**	**-3.0**
KULM				IAmb	IAmb	15 43 17.5	
	comp=Z,7.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.20**	**288**	P	**P**	**15 43 26.3**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=100,slow=6.1,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**39.78**	**75**	T	T	16 28 21.6	
	SNR=10						
H11S1	**WAKE ISLAND Hy**	**39.79**	**75**	T	T	16 28 12.1	
	SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**39.79**	**75**	T	T	16 28 15.3	
	SNR=13						
SONM	**Songino Array**	**40.02**	**339**	P	**P**	**15 45 17.9**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=148,slow=8.6,SNR=3.1						
SONM	**Songino Array**	**40.02**	**339**	IAmb	IAmb	15 45 21.2	
	comp=Z,1.4nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**40.08**	**73**	T	T	16 28 40.7	
	baz=265,slow=74,SNR=36						
H11N2	**WAKE ISLAND Hy**	**40.09**	**73**	T	T	16 28 31.6	
	baz=265,slow=74,SNR=32						
H11N3	**WAKE ISLAND Hy**	**40.10**	**73**	T	T	16 28 42.1	
	baz=265,slow=74,SNR=36						
MK31	**Makanchi Array**	**51.13**	**322**	P	**P**	**15 46 47.4**	**+1.3**
MKAR	**Makanchi Array**	**51.13**	**322**	P	**P**	**15 46 47.2**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=118,slow=7.2,SNR=20						
MAKZ	**Makanchi**	**51.33**	**322**	P	**P**	**15 46 47.8**	**+0.3**
MAKZ				IAmb	IAmb	15 46 49.4	
	comp=Z,1.5nm,0.5s						
BOOM	**Boomskoye usch**	**53.45**	**315**	P	**P**	**15 47 02.5**	**-1.0**
BOOM				IAmb	IAmb	15 47 06.4	
	comp=Z,1.0nm,0.7s						
ZAA0	**Zalesovo Array**	**53.67**	**331**	P	**P**	**15 47 06.2**	**+1.5**
ZAA0				IAmb	IAmb	15 47 06.7	
	comp=Z,2.4nm,0.9s						
ZALV	**Zalesovo Beam**	**53.67**	**331**	P	**P**	**15 47 05.0**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=139,slow=8.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**53.67**	**331**	P	**P**	**15 47 05.0**	**+0.3**
KURK	**Kurchatov**	**55.15**	**325**	P	**P**	**15 47 16.7**	**+1.2**
ABKAR	**Akbulak array**	**66.02**	**319**	P	**P**	**15 48 28.4**	**-1.3**
ABKAR				IAmb	IAmb	15 48 30.9	
	comp=Z,2.2nm,1.0s						
ARCES	**ARCESS Array B**	**83.19**	**340**	P	**P**	**15 50 10.6**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=72,slow=4.0,SNR=1.3						
FINES	**FINESS Array B**	**84.93**	**332**	P	**P**	**15 50 18.1**	**0.0**
	comp=Z,5.9nm,1.0s,baz=66,slow=4.8,SNR=9.7						
FINES	**FINESS Array B**	**84.93**	**332**	P	**P**	**15 50 18.2**	**+0.2**
VAE	**Valguarnera**	**99.84**	**311**	LR	LR	16 43 40.0	
	comp=Z,65nm,18.5s,baz=63,slow=40						

*AU

baz=23,SNR=7.3
STKA Stephens Creek 22.65 125 P P 15 43 21.2 +0.6
COEN Coen 23.14 78 P P 15 43 28.2 +2.4
COEN IAmb IAmb 15 43 32.6
comp=Z,22nm,1.2s
CTA Charters Tower 24.77 94 P P 15 43 44.0 +2.6
comp=Z,5.7nm,0.9s,baz=264,slow=12,SNR=9.1
CTAO Charters Tower 24.77 94 P P 15 43 42.1 +0.7
CTAO IAmb IAmb 15 43 59.1
comp=Z,7.8nm,0.8s
CMAR Chiang Mai Arr 43.61 331 P P 15 46 24.3 +0.4
comp=Z,0.4nm,0.7s,baz=160,slow=5.8,SNR=2.6
VNDA Vanda 60.80 170 P P 15 48 32.9 +1.8
comp=Z,1.1nm,0.7s,baz=308,slow=7.4,SNR=16
VNDA Vanda 60.80 170 P P 15 48 32.9 +1.8
VNDA IAmb IAmb 15 48 42.2
comp=Z,1.0nm,0.8s
SONM Songino Array 68.85 350 P P 15 49 25.0 +1.0
comp=Z,1.1nm,0.7s,baz=166,slow=6.3,SNR=5.2
QSPA South Pole Qui 69.80 180 P P 15 49 31.9 +2.2
comp=Z,3.7nm,1.0s,baz=301,slow=0.8,SNR=14
QSPA South Pole Qui 69.80 180 P P 15 49 31.9 +2.2
QSPA IAmb IAmb 15 49 33.0
comp=Z,4.2nm,0.9s
MKAR Makanchi Array 74.86 334 P P 15 50 00.4 +0.4
comp=Z,0.7nm,0.5s,baz=153,slow=6.3,SNR=13
MKAR Makanchi Array 74.86 334 P P 15 50 00.0 0.0
VNA2 Neumayer--Watz 82.05 195 P P 15 50 41.9 +2.5
baz=121,slow=5.4
VNA3 Neumayer Olymp 82.39 195 P P 15 50 43.2 +2.1
VNA1 Neumayer--Stat 82.45 195 P P 15 50 43.8 +2.4

IDC 26 15:59:28.9±2.0, 5°98S×145°92E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.2/33, mbtmp3.2/4, ML2.4/2, Error ellipse: s-maj=49.6km s-min=29.3km az=99.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**160**	Pn	Pn	16 00 27.0	+0.9
	3.6nm,0.3s,baz=337,slow=7.7,SNR=48						
PMG				Sn	Sn	16 01 09.3	-0.3
	1.0nm,0.3s,baz=224,slow=21,SNR=1.5						
WRA	**Warramunga Arr**	**17.87**	**218**	P	P	16 03 40.2	+0.4
	0.1nm,0.3s,baz=42,slow=11,SNR=1.4						
ASAR	**Alice Springs**	**21.04**	**212**	P	P	16 04 13.2	-1.4
	0.2nm,0.4s,baz=40,slow=9.9,SNR=9.6						
ILAR	**Eielson Array**	**85.89**	**23**	P	P	16 12 10.8	+0.5
	0.1nm,0.4s,baz=248,slow=3.8,SNR=1.4						

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*IDC **26** 16:15:56.2±0.4, 13°.68N×124°.38E, h0km, mb4.7/33, mb1 4.8/33, mb1mx4.6/53, mbtmp4.7/33, MS4.0/24, Ms1 4.0/24, ms1mx3.8/54, Error ellipse: s-maj=17.5km s-min=9.1km az=70.0*
*MAN **26** 16:15:58.6, 13°.95N×124°.53E, h12km, mb5.7, ML4.7, MS5.0*
MAN Intensity III - Virac Catanduanes; Intensity II - Caramoan Catanduanes PIVS 2014 0926192147.67 17.606 120.823 18 113.5 4.6 3.4 0.87 .021 .023 2.69.
*MOS **26** 16:16:00.0±0.9, 13°.70N×124°.44E, h38km, mb5.3/42, Error ellipse: s-maj=9.5km s-min=4.5km az=119.5*
*BJI **26** 16:16:02.0±0.0, 13°.65N×124°.48E, h62km, mB4.9/50, mb4.7/75, Ms4.4/59, Ms7 4.2/54*
*GCMT **26** 16:16:03.1±0.3, 13°.96N±0°.02×124°.54E±0°.02, h38km±1km, MW5.0/59, Moment Tensor Solution. s52,c59; s59,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.16±.16; $M_{\theta\theta}$-0.79±.10; $M_{\phi\phi}$-2.37±.10; $M_{r\theta}$-0.83±.11; $M_{\theta\phi}$1.26±.06; $M_{\phi r}$1.82±.11; Best double couple: $M_0$3.70000×10^{16} NP1:ϕ_s149.00000°, δ29.00000°, λ86.00000°. NP2: ϕ_s333.00000°, δ61.00000°, λ92.00000°. Principal axes: T 3.7490, Plg74.0000°, Azm249.0000°; N -0.0970, Plg2.0000°, Azm152.0000°; P -3.6510, Plg16.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **26** 16:16:03.1±2.0, 13°.71N±0°.08×124°.45E±0°.08, h48km±6km, mb5.0/58 Error ellipse: s-maj=12.2km s-min=10.4km az=58.0*
*DJA **26** 16:16:05.7±0.5, 14°N±3°×12°4E±°, h66km±5km, M4.8/45, mb5.0/45, mB5.2/18, Mw(mB)4.6/18, Mwp5.7/4*
*KLM **26** 16:16:10.0, 14°.00N×124°.31E, h90km, mb4.9*
ISC 26 16:16:02.1±0.4, 13°82N±0°.03×124°44E±0°.04, h37km±1km, h38km:pP-P, n364, σ1§76/374, mb5.0/123, MS4.0/35, 36C-19D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.35**	**231**	*e*P	**Pn**	**16 16 09.0**	**-1.6**
PVCP				*e*S	**Sn**	**16 16 14.3**	**-3.0**
CNP	**Cataman**	**1.32**	**170**	*e*P	**Pn**	**16 16 24.8**	**+0.8**
CNP				*e*S	**Sn**	**16 16 43.7**	**+3.4**
GQP	**Guinayangan**	**1.93**	**273**	⇑*e*P	**Pn**	**16 16 33.8**	**+1.4**
GQP				*e*S	**Sn**	**16 16 49.3**	**-6.2**
BESP	**Borongan**	**2.41**	**156**	*e*P	**Pn**	**16 16 40.1**	**+1.1**
BOAC	**Boac**	**2.54**	**262**	*e*P	**Pn**	**16 16 42.5**	**+1.7**
BOAC				*e*S	**Sn**	**16 17 15.5**	**+4.9**
POLP	**Polilio Island**	**2.58**	**291**	*e*P	**Pn**	**16 16 42.4**	**+1.1**
POLP				*e*S	**Sn**	**16 17 15.4**	**+3.9**
OCLP	**Ormoc**	**2.76**	**176**	*e*P	**Pn**	**16 16 46.2**	**+2.5**
OTRP	**Odiongan**	**2.76**	**239**	*e*P	**Pn**	**16 16 44.6**	**+0.8**
LQP	**Lukban**	**2.83**	**276**	⇑*i*P	**Pn**	**16 16 46.2**	**+1.3**
LQP				*i* S	Sn	16 17 26.9	+9.1
BALP	**Baler**	**3.36**	**305**	*e*P	**Pn**	**16 16 49.9**	**-2.1**
BALP				*e*S	**Sn**	**16 17 28.5**	**-2.3**
PGP	**Puerto Galera**	**3.40**	**265**	⇑*e*P	**Pn**	**16 16 53.5**	**+0.8**
PGP				*e*S	**Sn**	**16 17 35.8**	**+4.0**
TGY	**Tagaytay City**	**3.41**	**275**	Pn	**Pn**	**16 16 53.9**	**+1.1**
	388nm,0.3s,baz=73,slow=1.2,SNR=95						
TGY				Sn	**Sn**	**16 17 38.0**	**+6.0**
	148nm,0.3s,baz=308,slow=16,SNR=1.0						
TGY				LR	LR	16 18 36.8	
	comp=Z,5μm,20.3s,baz=54,slow=48						
TGY	**Tagaytay City**	**3.41**	**275**	⇑*e*P	**Pn**	**16 16 55.3**	**+2.5**
TGY				*e*S	**Sn**	**16 17 36.9**	**+4.9**
LLP	**Lapu-Lapu**	**3.51**	**188**	⇓*e*P	**Pn**	**16 16 55.2**	**+1.0**
LLP				*e*S	**Sn**	**16 17 36.9**	**+2.5**
GUIM	**Jordan**	**3.65**	**210**	*e*P	**Pn**	**16 16 57.4**	**+1.3**
MSLP	**Maasin**	**3.69**	**173**	*e*P	**Pn**	**16 16 58.3**	**+1.8**
JAP	**San Jose, Anti**	**3.90**	**219**	⇓*e*P	**Pn**	**16 17 02.5**	**+2.9**
CAUP	**Cauayan**	**4.00**	**321**	*e*P	**Pn**	**16 16 59.9**	**-1.0**
CAUP				*e*S	**Sn**	**16 17 43.8**	**-2.7**
LUBP	**Lubang**	**4.07**	**269**	*e*P	**Pn**	**16 17 03.5**	**+1.6**
TBP	**Tagbilaran**	**4.14**	**188**	⇓*i*P	Pn	16 17 09.3	+6.5
TBP				*e*S	**Sn**	**16 17 56.1**	**+6.1**
SMPP	**San Manuel, Pa**	**4.31**	**303**	*e*P	**Pn**	**16 17 03.9**	**-1.2**
SMPP				*e*S	**Sn**	**16 17 53.4**	**-0.7**
CNOP	**Candoni, Negro**	**4.34**	**204**	*e*P	**Pn**	**16 17 07.3**	**+1.8**
CUYO	**Cuyo Island**	**4.46**	**229**	*e*P	**Pn**	**16 17 08.2**	**+1.1**
BUSP	**Coron**	**4.51**	**247**	*e*P	**Pn**	**16 17 09.6**	**+1.8**
CVP	**Callao Caves**	**4.61**	**327**	⇓*e*P	**Pn**	**16 17 08.4**	**-0.8**
CVP				*i* S	**Sn**	**16 18 01.8**	**+0.3**
SGCP	**Mt. Cagua**	**4.96**	**333**	*e*P	**Pn**	**16 17 13.5**	**-0.6**
SGCP				*e*S	**Sn**	**16 18 06.6**	**-3.6**
BOLP	**Bolinao**	**5.06**	**301**	*e*P	**Pn**	**16 17 15.1**	**-0.3**
APYP	**Conner**	**5.06**	**323**	*e*P	**Pn**	**16 17 17.1**	**+1.7**
APYP				*e*S	**Sn**	**16 18 11.8**	**-0.8**
ABRA	**Dolores**	**5.23**	**317**	*e*P	**Pn**	**16 17 18.3**	**+0.5**
ABRA				*e*S	**Sn**	**16 18 14.9**	**-2.0**
CGP	**Cagayan de Oro**	**5.34**	**177**	⇓*e*P	**Pn**	**16 17 19.9**	**+0.7**
ENPP	**El Nido**	**5.54**	**243**	*e*P	**Pn**	**16 17 24.1**	**+2.1**
BUKP	**Musuan**	**5.94**	**174**	*e*P	**Pn**	**16 17 29.8**	**+2.3**
PAGZ	**Pagadian**	**6.02**	**190**	*e*P	**Pn**	**16 17 28.9**	**+0.2**
DAV	**Davao City (W)**	**6.80**	**170**	LR	LR	16 20 56.9	
	comp=Z,4μm,18.3s,baz=356,slow=45						
YULB	**Yu-li**	**9.97**	**343**		**Pn**	**16 18 24.0**	**+1.0**
SSLB	**Suanglung**	**10.45**	**342**	Pn	**Pn**	**16 18 29.4**	**0.0**
YOJ	**Yonaguni jima**	**10.67**	**353**	P	**Pn**	**16 18 33.5**	**+1.1**
YOJ	**Yonaguni jima**	**10.67**	**353**	Pn	**Pn**	**16 18 33.5**	**+1.1**
YHNB	**Yeheng**	**11.17**	**345**	Pn	**Pn**	**16 18 42.1**	**+2.7**
KMSI	**Cibinong**	**13.17**	**182**	P	P	16 19 28.3	+12
GTOI	**Gorontalo**	**13.18**	**186**	P	**Pn**	**16 19 05.7**	**-1.0**
	427nm24nm,0.9s						
JMZ	**Minamidaito 2**	**13.53**	**27**	Pn	**Pn**	**16 19 09.2**	**-2.3**
MPSI	**Mapaga**	**14.13**	**199**	P	P	16 19 39.5	+13
QIZ	**Qiongzhong**	**14.92**	**292**	P	**Pn**	**16 19 30.0**	**-0.5**
QIZ				S	**Sn**	**16 22 15.5**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
QIZ				LR	LR		
	comp=N,440nm,17.7s						
QIZ				LR	LR		
	comp=E,810nm,17.5s						
QIZ				LR	LR		
	comp=Z,1μm,22.1s						
SANI	**Sanana**	**15.84**	**174**	P	**Pn**	**16 19 42.0**	**-0.5**
	24nm,0.8s						
SMKI	**Samarinda**	**15.88**	**207**	P	P	16 19 57.9	+12
SIJI	**Sorong**	**16.09**	**155**	Pn	**Pn**	**16 19 45.2**	**-0.4**
	1.2nm,0.3s,baz=357,slow=13,SNR=4.7						
SIJI				LR	LR	16 25 07.4	
	comp=Z,279nm,21.8s,baz=14,slow=34						
SBUM	**Sibu**	**16.53**	**228**		**P**	**16 19 53.5**	**-0.1**
SBUM	**Sibu**	**16.53**	**228**	P	**P**	**16 19 53.0**	**-0.6**
NLAI	**Namlea**	**17.15**	**171**	P	P	16 20 12.6	+12
MTKI	**Muara Teweh, K**	**17.45**	**214**	P	**P**	**16 20 05.0**	**+1.3**
	2μm74nm,0.9s						
MSAI	**Masohi**	**17.63**	**165**	P	P	16 20 19.0	+13
SPSI	**Sidrap Palu**	**18.27**	**195**	P	**P**	**16 20 12.0**	**-0.7**
	40nm,0.7s						
FAKI	**Fak Fak**	**18.35**	**154**	P	**P**	**16 20 12.1**	**-1.5**
KSM	**Kuching**	**18.59**	**230**	P	**Pn**	**16 20 16.7**	**-0.1**
KSM	**Kuching**	**18.59**	**230**	P	**Pn**	**16 20 17.0**	**+0.2**
BNSI	**Bone**	**18.60**	**194**	P	**P**	**16 20 16.4**	**0.0**
	1μm65nm,1.1s						
STKI	**Sintang**	**18.75**	**224**	P	Pn	16 20 34.8	+16
NJ2	**Nanjing**	**18.86**	**345**	*e*P	**Pn**	**16 20 21.0**	**+1.2**
NJ2				S	**S**	**16 23 53.5**	**+2.0**
NJ2				sS	**sS**	**16 24 08.8**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
NJ2				LR	LR		
	comp=N,400nm,15.1s						
NJ2				LR	LR		
	comp=E,340nm,14.2s						
NJ2				LR	LR		
	comp=Z,380nm,12.8s						
KBKI	**Kotabaru**	**18.88**	**206**	P	Pn	16 20 28.4	+8.1
WHN	**Wuhan**	**19.07**	**332**	⇓P	**Pn**	**16 20 25.0**	**+2.6**
WHN				S	**S**	**16 23 58.3**	**+2.6**
WHN				pmax	pmax		
	comp=Z,28nm,0.6s						
WHN				LR	LR		
	comp=N,850nm,14.8s						
WHN				LR	LR		
	comp=E,800nm,14.6s						
WHN				LR	LR		
	comp=Z,930nm,16.8s						
KAPI	**Kappang**	**19.28**	**194**	P	**P**	**16 20 23.8**	**0.0**
	2.0nm,0.3s,baz=72,slow=7.5,SNR=3.6						
KAPI				LR	LR	16 28 07.8	
	comp=Z,545nm,20.5s,baz=24,slow=38						
SRPI	**Serui, Papua**	**19.49**	**142**	P	**Pn**	**16 20 30.7**	**+3.1**
	64nm,0.6s						
BKSI	**Bulukumba**	**19.49**	**193**	P	**P**	**16 20 24.5**	**-1.6**
	33nm,0.9s						
BBKI	**Banjar Baru**	**19.63**	**210**	P	**P**	**16 20 27.4**	**-0.3**
	46nm,1.5s						
GUMO	**Guam**	**19.85**	**88**	LR	LR	16 27 59.4	
	comp=Z,514nm,18.6s,baz=271,slow=36						
JNU	**Nakatsue**	**20.09**	**16**	LR	LR	16 27 56.6	
	comp=Z,318nm,21.8s,baz=192,slow=36						
GYA	**Guiyang**	**20.86**	**310**	⇓P	Pn	16 20 42.8	-0.9
GYA				PP	**PnPn**	**16 21 00.8**	**+0.6**
GYA				S	**S**	**16 24 23.3**	**-8.6**
GYA				pmax	pmax		
	comp=Z,29nm,1.3s						
GYA				LR	LR		
	comp=N,530nm,14.8s						
GYA				LR	LR		
	comp=E,450nm,17.3s						
GYA				LR	LR		
	comp=Z,700nm,19.1s						
SLVN	**Son La**	**20.93**	**294**	P	**P**	**16 20 42.6**	**+0.7**
JCJ	**Chichijima**	**21.20**	**49**	LR	LR	16 27 41.6	
	comp=Z,453nm,19.4s,baz=99,slow=33						
ENH	**Enshi**	**21.41**	**322**	P	**P**	**16 20 46.8**	**-0.1**
ENH				IAmb	IAmb	16 21 02.4	
	comp=Z,126nm,1.2s						
JMN	**Monobe**	**21.60**	**22**	P	**P**	**16 20 51.1**	**+2.3**
JMN				IAmb	IAmb	16 21 00.9	
	comp=Z,64nm,0.9s						
MMRI	**Maumere**	**22.42**	**186**	P	**P**	**16 20 57.5**	**-0.2**
	comp=Z,1μmcomp=Z,80nm,0.7s						
MMRI	**Maumere**	**22.42**	**186**	P	**P**	**16 20 57.5**	**-0.2**
MMRI				IAmb	IAmb	16 21 00.9	
	comp=Z,54nm,0.6s						
JHS	**Saijyo**	**22.50**	**19**	P	**P**	**16 21 00.1**	**+1.6**
JHS				IAmb	IAmb	16 21 09.5	
	comp=Z,76nm,1.4s						
GENI	**Genyem**	**22.57**	**135**	P	**P**	**16 21 01.0**	**+1.6**
	comp=Z,42nm,0.7s						
EDFI	**Ende, Flores**	**22.59**	**187**	P	**P**	**16 20 59.2**	**-0.5**
	comp=Z,26nm,0.8s						
JAY	**Jayapura**	**22.88**	**134**	P	**P**	**16 21 02.6**	**-0.1**
	comp=Z,8.8nm,0.9s,baz=222,slow=7.3,SNR=5.3						
JAY				LR	LR	16 29 15.3	
	comp=Z,291nm,19.1s,baz=342,slow=35						
JAY	**Jayapura**	**22.88**	**134**	P	**P**	**16 21 03.7**	**+0.9**
	comp=Z,9.0nm,0.9s						
KMMI	**Kalianget**	**23.19**	**207**	P	**P**	**16 21 07.3**	**+1.5**
	comp=Z,3μmcomp=Z,222nm,1.0s						
TIA	**Tai'an**	**23.24**	**345**	P	**P**	**16 21 06.8**	**+0.6**
TIA				PP	**PnPn**	**16 21 40.3**	**+7.6**
TIA				pmax	pmax		
	comp=Z,12nm,0.7s						
TIA				pmax	pmax		
	comp=Z,140nm,3.5s						
TIA				LR	LR		
	comp=Z,250nm,15.7s						
TIA				LR	LR		
	comp=Z,350nm,12.8s						
KMI	**Kunming**	**23.30**	**302**	⇓*e*P	**P**	**16 21 08.8**	**+1.7**
KMI				pP	sP	16 21 21.5	-0.1
KMI				sP	pP	16 21 27.0	+10
KMI				S	**S**	**16 25 13.5**	**-3.9**
KMI				pmax	pmax		
	comp=Z,45nm,1.0s						
KMI				pmax	pmax		
	comp=Z,240nm,7.6s						
KMI				LR	LR		
	comp=Z,440nm,17.5s						
KMI				LR	LR		
	comp=Z,590nm,18.3s						
KMI				LR	LR		
	comp=Z,790nm,18.3s						
TPI	**Tanjungpandan**	**23.41**	**227**	P	**P**	**16 21 07.2**	**-0.8**
	comp=Z,30nm,0.8s						
SOEI	**Soe**	**23.42**	**180**	P	**P**	**16 21 05.6**	**-2.6**
	comp=Z,65nm,0.9s						
SOEI	**Soe**	**23.42**	**180**	P	**P**	**16 21 05.6**	**-2.6**
SOEI				IAmb	IAmb	16 21 16.0	
	comp=Z,32nm,0.7s						
PLAI	**Plampang**	**23.45**	**197**	P	**P**	**16 21 08.3**	**0.0**
	comp=Z,2μmcomp=Z,197nm,0.9s						
JWT	**Wachi**	**23.55**	**23**	P	**P**	**16 21 09.6**	**+0.5**
JWT				IAmb	IAmb	16 21 24.4	
	comp=Z,48nm,1.0s						
MYKOM	**Kota Tinggi**	**23.61**	**241**	P	**P**	**16 21 08.7**	**-1.2**
TWSI	**Taliwang, Sumb**	**23.63**	**199**	P	**P**	**16 21 09.7**	**-0.4**
	comp=Z,62nm,0.8s						
WSI	**Waingapu**	**23.69**	**190**	P	**P**	**16 21 09.7**	**-0.9**
	comp=Z,680μmcomp=Z,758nm,1.2s						
WSI				pP	**pP**	**16 21 22.6**	**+1.8**
	comp=Z,680μmcomp=Z,758nm,1.2s						
KSRS	**Korea Array**	**23.74**	**7**	P	**P**	**16 21 11.8**	**+0.9**
	comp=Z,4.1nm,1.0s,baz=180,slow=10,SNR=4.2						
KSRS				LR	LR	16 30 30.1	
	comp=Z,426nm,19.1s,baz=192,slow=37						
JHJ	**Hachijo jima 2**	**23.76**	**33**	LR	LR	16 28 27.2	
	comp=Z,550nm,19.9s,baz=250,slow=31						
BATI	**Baumata**	**23.88**	**182**	P	**P**	**16 21 09.8**	**-2.7**
	comp=Z,109nm,0.6s,baz=3.2,slow=1.4,SNR=24						
BATI	**Baumata**	**23.88**	**182**	P	**P**	**16 21 10.0**	**-2.5**
	comp=Z,850nmcomp=Z,76nm,0.7s						
PPBI	**Pangkal Pinang**	**24.11**	**230**	P	P	16 21 27.9	+13
INU	**Inuyama**	**24.25**	**26**	P	**P**	**16 21 15.8**	**+0.1**
INU				IAmb	IAmb	16 21 25.4	
	comp=Z,44nm,0.9s						
DSRI	**Dabo**	**24.26**	**236**	P	P	16 21 26.1	+10
JAGI	**Jajag, Banyuwa**	**24.38**	**205**	P	P	16 21 30.5	+13
XAN	**Xi'an**	**24.56**	**328**	P	**P**	**16 21 18.9**	**+0.3**
XAN				pmax	pmax		
	comp=Z,101nm,0.9s						
XAN	**Xi'an**	**24.56**	**328**	P	**P**	**16 21 18.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**24.91**	**284**	P	**P**	**16 21 21.1**	**-0.7**
	comp=Z,20nm,0.8s,baz=97,slow=7.7,SNR=32						
CMAR				PcP	**PcP**	**16 24 57.9**	**+0.8**
	comp=Z,2.8nm,1.0s,baz=65,slow=0.6,SNR=6.4						
CMAR				LR	LR	16 31 39.1	
	comp=Z,502nm,19.6s,baz=134,slow=38						
KULM	**Kulim**	**24.92**	**252**	P	**P**	**16 21 19.7**	**-2.3**
KULM				IAmb	IAmb	16 21 34.8	
	comp=Z,45nm,1.2s						
KULM	**Kulim**	**24.92**	**252**	P	P	16 21 31.0	+9.0
CHTO	**Chiang Mai**	**24.95**	**285**	P	**P**	**16 21 21.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**24.95**	**285**	P	**P**	**16 21 21.8**	**-0.5**
PWJI	**Pagerwojo**	**25.06**	**211**	P	**P**	**16 21 22.7**	**-0.5**
	comp=Z,77nm,1.0s						
WOJI	**Wonogiri, Jawa**	**25.35**	**213**	P	**P**	**16 21 26.0**	**+0.1**
	comp=Z,38nm,1.0s						
CD2	**Chengdu**	**25.52**	**315**	P	**P**	**16 21 27.3**	**0.0**
CD2				S	**S**	**16 25 51.0**	**-1.5**
CD2				sS	sS	16 26 15.0	+7.9
CD2				pmax	pmax		
	comp=Z,110nm,1.1s						
CD2				pmax	pmax		
	comp=Z,270nm,8.2s						
CD2				LR	LR		
	comp=Z,790nm,22.8s						
CD2				LR	LR		
	comp=Z,840nm,16.7s						
CD2				LR	LR		
	comp=Z,1μm,17.1s						
MAT	**Matsushiro**	**25.77**	**26**	P	**P**	**16 21 28.0**	**-1.5**
MAT				*e*S	**S**	**16 25 56.0**	**-0.3**
MJAR	**Matsushiro Arr**	**25.77**	**26**	P	**P**	**16 21 28.5**	**-1.0**
	comp=Z,2.6nm,0.9s,baz=188,slow=8.4,SNR=5.0						
MJAR				LR	LR	16 30 24.5	
	comp=Z,444nm,19.3s,baz=210,slow=34						
MJAR	**Matsushiro Arr**	**25.77**	**26**	P	**P**	**16 21 29.1**	**-0.4**
BJI	**Beijing**	**27.11**	**346**	P	**P**	**16 21 42.3**	**+0.8**
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
LHSI	**Lahat**	**27.16**	**231**	P	P	16 21 59.8	+18
MTN	**Manton Dam**	**27.31**	**166**	P	**P**	**16 21 41.6**	**-1.9**
PSI	**Prapat**	**27.48**	**249**	P	**P**	**16 21 43.4**	**-1.9**
	comp=Z,6.6nm,0.3s,baz=16,slow=2.5,SNR=5.4						
PSI				PcP	**PcP**	**16 25 02.6**	**-0.7**
	comp=Z,4.9nm,0.6s,baz=87,slow=22,SNR=5.5						
PSI				LR	LR	16 32 22.2	
	comp=Z,1μm,21.2s,baz=89,slow=36						
RPSI	**Rantau Prapat**	**27.52**	**249**	P	**P**	**16 21 43.4**	**-2.1**
RPSI					**PcP**	**16 25 02.6**	**-0.6**
MNSI	**Mandailing Nat**	**27.79**	**244**	P	P	16 22 06.7	+19
JMM	**Marumori**	**28.02**	**28**	P	**P**	**16 21 49.2**	**-0.5**
JMM				IAmb	IAmb	16 22 08.2	
	comp=Z,32nm,1.1s						
LZH	**Lanzhou**	**28.86**	**324**	*e*P	**P**	**16 21 59.5**	**+2.0**
LZH				pP	sP	16 22 12.5	+0.2
LZH				sP	pP	16 22 19.8	+12
LZH				*e*PP	**PP**	**16 22 57.0**	**-6.0**
LZH				pmax	pmax		
	comp=Z,36nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.3s						
LZH				LR	LR		
	comp=Z,370nm,13.0s						
LZH				LR	LR		
	comp=Z,270nm,11.9s						
LZH				LR	LR		
	comp=Z,420nm,13.4s						
HHC	**Hu-ho-hao-te**	**29.18**	**340**	*e*P	**P**	**16 22 02.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,7.6s						
HHC				LR	LR		
	comp=Z,240nm,14.5s						
HHC				LR	LR		
	comp=Z,320nm,14.2s						
HHC				LR	LR		
	comp=Z,230nm,15.1s						
KNRA	**Kununurra**	**29.62**	**172**	P	**P**	**16 22 01.8**	**-2.2**
KNRA				IAmb	IAmb	16 22 03.0	
	comp=Z,26nm,1.0s						
USA0B	**Ussuriysk Arra**	**30.96**	**11**	P	**P**	**16 22 17.1**	**+1.4**
USA0B				pmax	pmax		
	comp=Z,26nm,0.8s						
USA0B	**Ussuriysk Arra**	**30.96**	**11**	P	**P**	**16 22 17.1**	**+1.4**
USA0B				IAmb	IAmb	16 22 25.2	
	comp=Z,26nm,0.8s						
USRK	**Ussuriysk Ar.**	**30.96**	**11**	P	**P**	**16 22 16.4**	**+0.7**
	comp=Z,6.4nm,0.8s,baz=195,slow=8.0,SNR=8.1						
USRK				LR	LR	16 34 04.8	
	comp=Z,200nm,19.8s,baz=199,slow=35						
USRK	**Ussuriysk Ar.**	**30.96**	**11**	P	**P**	**16 22 17.6**	**+1.9**
FITZ	**Fitzroy Crossi**	**31.74**	**178**	P	**P**	**16 22 19.7**	**-3.0**
	comp=Z,14nm,0.8s,baz=360,slow=8.9,SNR=6.9						
FITZ	**Fitzroy Crossi**	**31.74**	**178**	P	**P**	**16 22 19.9**	**-2.8**
PMG	**Port Moresby**	**32.27**	**134**	*ce*P	**P**	**16 22 23.7**	**-3.8**
PMG				pmax	pmax		
	comp=Z,25nm,1.7s						
KRVT	**Keravat (AS076**	**32.77**	**121**	LR	LR	16 33 14.3	
	comp=Z,392nm,20.9s,baz=280,slow=32						
COEN	**Coen**	**33.26**	**145**	P	**P**	**16 22 34.3**	**-1.9**
GTA	**Gaotai**	**33.46**	**324**	⇑P	**P**	**16 22 39.0**	**+1.1**
GTA				pP	sP	16 22 53.0	+0.2
GTA				sP	pP	16 23 01.0	+13
GTA				PcP	**PcP**	**16 25 19.3**	**+0.7**
GTA				S	**S**	**16 27 59.3**	**+2.1**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,71nm,7.1s						
GTA				LR	LR		
	comp=Z,190nm,17.4s						
GTA				LR	LR		
	comp=Z,180nm,17.8s						
GTA				LR	LR		
	comp=Z,240nm,17.1s						
ASAJ	**Asahikawa**	**33.95**	**24**	LR	LR	16 34 30.0	
	comp=Z,93nm,19.7s,baz=206,slow=33						
LSA	**Lhasa**	**34.56**	**303**	P	**P**	**16 22 49.0**	**+1.1**
LSA	**Lhasa**	**34.56**	**303**	P	**P**	**16 22 48.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,51nm,1.0s						
LSA	**Lhasa**	**34.56**	**303**	P	**P**	**16 22 48

SONM	Songino Array	37.09	340	P	P	16 23 08.6	-0.4
SONM				pmax	pmax		
	comp=Z,14nm,1.0s						
SONM	Songino Array	37.09	340	P	P	16 23 08.6	-0.4
RAMN	Ramite	37.64	296	eP	P	16 23 14.2	+0.1
	comp=Z,91nm,0.9s						
JIRN	Jiri	38.16	297	eP	P	16 23 18.5	-0.1
	comp=Z,121nm,0.8s						
AS31	Alice Springs	38.39	166	P	P	16 23 19.5	-0.6
AS31				IAmb	IAmb	16 23 20.1	
	comp=Z,13nm,0.5s						
ASAR	Alice Springs	38.39	166	P	P	16 23 18.6	-1.5
	comp=Z,26nm,0.6s,baz=340,slow=6.9,SNR=836						
ASAR				PcP	PcP	16 25 32.8	-0.5
	comp=Z,3.0nm,0.8s,baz=358,slow=1.5,SNR=4.3						
ASAR				S	S	16 29 08.9	-3.7
	comp=Z,2.7nm,0.9s,baz=357,slow=23,SNR=10						
ASAR				LR	LR	16 39 21.6	
	comp=Z,131nm,21.4s,baz=338,slow=37						
ASAR	Alice Springs	38.39	166	P	P	16 23 19.3	-0.7
ASAR					PcP	16 25 31.6	-1.6
PKI	Pulchoki	38.81	297	eP	P	16 23 23.3	-0.8
	comp=Z,70nm,0.8s						
PKIN	Phulchoki	38.83	297	eP	P	16 23 23.3	-0.8
	comp=Z,39nm,0.6s						
DMN	Daman	39.08	297	eP	P	16 23 25.7	-0.5
	comp=Z,84nm,1.1s						
GKN	Gorkha	39.58	297	eP	P	16 23 29.4	-0.8
	comp=Z,90nm,1.0s						
ZEA	Zeya	39.89	3	eP	P	16 23 32.1	-0.1
ZEA				pmax	pmax		
	comp=Z,14nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,300nm,17.0s						
CTA	Charters Tower	39.95	147	P	P	16 23 32.3	-0.9
	comp=Z,4.3nm,0.8s,baz=330,slow=12,SNR=9.1						
CTAO	Charters Tower	39.95	147	P	P	16 23 32.5	-0.7
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	Charters Tower	39.95	147	P	P	16 23 32.5	-0.7
ZAK	Zakamensk	40.33	339	eP	P	16 23 36.0	-0.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DANN	Dangsing	40.41	298	eP	P	16 23 36.7	-0.6
	comp=Z,122nm,0.9s						
KOLN	Koldanda	40.42	297	eP	P	16 23 36.8	-0.5
	comp=Z,77nm,0.9s						
H11S3	WAKE ISLAND Hy	40.78	78	T	T	17 07 01.4	
	baz=270,slow=75,SNR=1163						
H11S1	WAKE ISLAND Hy	40.79	78	T	T	17 07 05.1	
	baz=270,slow=75,SNR=867						
H11S2	WAKE ISLAND Hy	40.80	78	T	T	17 07 04.7	
	baz=270,slow=75,SNR=1183						
H11N1	WAKE ISLAND Hy	40.99	76	T	T	17 07 17.5	
	baz=268,slow=75,SNR=5453						
H11N2	WAKE ISLAND Hy	41.00	76	T	T	17 07 23.4	
	baz=268,slow=75,SNR=2050						
H11N3	WAKE ISLAND Hy	41.01	76	T	T	17 07 18.8	
	baz=268,slow=75,SNR=3642						
PYUN	Piuthan	41.02	297	eP	P	16 23 42.0	-0.2
	comp=Z,178nm,1.0s						
TLY	Talaya	41.31	340	P	P	16 23 44.4	+0.4
	comp=Z,5.6nm,0.7s,baz=312,slow=1.9,SNR=5.5						
TLY	Talaya	41.31	340	eP	P	16 23 45.8	+1.8
TLY				pmax	pmax		
	comp=Z,32nm,1.5s						
MOY	Mondy	42.20	338	eP	P	16 23 52.5	+1.0
MOY				pmax	pmax		
	comp=Z,24nm,1.5s						
WMQ	Urumqi	43.34	321	eP	P	16 24 03.0	+2.2
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.1s						
WMQ				LR	LR		
	comp=Z,350nm,29.0s						
WMQ				LR	LR		
	comp=Z,570nm,29.2s						
WMQ				LR	LR		
	comp=Z,120nm,29.5s						
MORW	Morawa	43.40	191	P	P	16 23 59.2	-2.0
MORW				IAmb	IAmb	16 24 00.4	
	comp=Z,25nm,0.9s						
HYB	Hyderabad	44.26	281	i P	P	16 24 08.0	-0.4
HYB				e		16 24 19.0	
FORT	Forrest	44.48	176	P	P	16 24 07.2	-2.7
FORT				IAmb	IAmb	16 24 08.7	
	comp=Z,28nm,0.8s						
BOD	Bodaibo	44.62	352	eP	P	16 24 10.6	-0.1
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s						
EIDS	Eidsvold	46.82	146	P	P	16 24 27.8	-0.7
EIDS				IAmb	IAmb	16 24 29.0	
	comp=Z,15nm,0.8s						
DGZ	Jazzator, Alta	46.83	328	c iP	P	16 24 29.6	+1.1
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZSN	Zaisan	46.96	324	eP	P	16 24 30.1	+0.8
	baz=324						
ZSN	Zaisan	46.96	324	eP	P	16 24 30.1	+0.8
NWAO	Narrogin (SRO)	46.99	188	P	P	16 24 28.0	-1.7
NWAO				pmax	pmax		
	comp=Z,56nm,1.3s						
NWAO	Narrogin (SRO)	46.99	188	P	P	16 24 28.0	-1.7
PEA0B	Petropavlovsk-	47.23	27	ceP	P	16 24 32.5	+1.1
PETK	Petropavlovsk-	47.23	27	P	P	16 24 33.0	+1.7
	comp=Z,12nm,0.9s,baz=180,slow=3.0,SNR=7.4						
PETK				LR	LR	16 44 01.1	
	comp=Z,118nm,19.6s,baz=240,slow=36						
PETK	Petropavlovsk-	47.23	27	P	P	16 24 33.0	+1.7
PET	Petropavlovsk	47.59	27	eP	P	16 24 36.5	+2.4
PET				eS	S	16 31 34.8	+7.9
PET				pmax	pmax		
	comp=Z,99nm,1.1s						
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
BBOO	Buckleboo	47.68	167	P	P	16 24 34.1	-1.0
MK31	Makanchi Array	48.14	322	P	P	16 24 39.3	+0.7
MK31				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MK31	Makanchi Array	48.14	322	P	P	16 24 39.3	+0.7
MKAR	Makanchi Array	48.14	322	P	P	16 24 39.5	+1.0
	comp=Z,8.9nm,0.8s,baz=117,slow=9.0,SNR=92						
MKAR	Makanchi Array	48.14	322	P	P	16 24 39.7	+1.1
YAK	Yakutsk	48.29	3	eP	P	16 24 38.7	-0.7
YAK				e*PP	pP	16 24 46.9	-3.2
YAK				e		16 26 10.2	
YAK				eS	S	16 31 33.8	-2.7
YAK				e*SS	sS	16 31 51.3	-3.1
YAK				e		16 34 19.8	
YAK				eSS	SS	16 35 08.9	+2.7
YAK				pmax	pmax		
	comp=Z,19nm,1.4s						
YAK				pmax	pmax		
	comp=N,12nm,1.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,133nm,4.5s						
YAK				pmax	pmax		
	comp=N,59nm,3.0s						
YAK				pmax	pmax		
	comp=E,42nm,2.2s						
YAK				smax	smax		
	comp=N,53nm,2.8s						
YAK				smax	smax		
	comp=E,66nm,3.0s						
STKA	Stephens Creek	48.32	160	P	P	16 24 39.3	-0.8
	comp=E,10nm,0.9s,baz=343,slow=7.4,SNR=16						
STKA				LR	LR	16 50 23.0	
	comp=E,99nm,19.5s,baz=3.7,slow=43						
STKA	Stephens Creek	48.32	160	P	P	16 24 39.6	-0.4
MAKZ	Makanchi	48.33	322	P	P	16 24 40.1	0.0
MAKZ	Makanchi	48.33	322	P	P	16 24 40.6	+0.6
MAKZ				IAmb	IAmb	16 24 42.4	
	comp=Z,33nm,1.5s						
SHLS	Shalkode	48.34	316⇑	iP	P	16 24 39.4	-1.0
	comp=Z,26nm,1.2s,baz=316						
SHLS	Shalkode	48.34	316	c iP	P	16 24 39.3	-1.0
SHLS				pmax	pmax		
	comp=Z,26nm,1.2s						
UZB	Uzynbulak	48.64	316⇑	iP	P	16 24 43.8	+1.1
	comp=Z,23nm,1.6s,baz=316						
UZB	Uzynbulak	48.64	316	c iP	P	16 24 43.7	+1.1
UZB				pmax	pmax		
	comp=Z,23nm,1.6s						
SATY	Saty	49.02	316⇑	iP	P	16 24 46.9	+1.3
	comp=Z,12nm,1.3s,baz=316						
SATY	Saty	49.02	316	c iP	P	16 24 46.8	+1.3
SATY				pmax	pmax		
	comp=Z,12nm,1.3s						
KSH	Kashi	49.56	310	P	P	16 24 52.5	+2.8
KSH				S	S	16 31 55.3	-0.1
KSH				pmax	pmax		
	comp=Z,39nm,0.6s						
KSH				pmax	pmax		
	comp=Z,190nm,4.8s						
KSH				LR	LR		
	comp=Z,260nm,6.4s						
KSH				LR	LR		
	comp=Z,250nm,6.0s						
KSH				LR	LR		
	comp=Z,610nm,19.0s						
TDK	Taldyqorghan	49.78	318	eP	P	16 24 52.5	+1.3
	comp=Z,23nm,1.1s,baz=318						
TDK	Taldyqorghan	49.78	318	eP	P	16 24 52.4	+1.3
TDK				pmax	pmax		
	comp=Z,23nm,1.1s						
MDOK	Medeo	49.98	315	i P	P	16 24 54.3	+1.4
	baz=315						
MDOK	Medeo	49.98	315	i P	P	16 24 54.3	+1.4
TNSS	Tian-Shan	50.01	315⇑	iP	P	16 24 55.1	+1.7
	baz=315						
TNSS	Tian-Shan	50.01	315	c iP	P	16 24 55.1	+1.7
AAA	Alma-Ata	50.09	315	eP	P	16 24 54.9	+1.3
	comp=Z,20nm,0.9s,baz=315						
AAA	Alma-Ata	50.09	315	eP	P	16 24 54.9	+1.3
AAA				pmax	pmax		
	comp=Z,20nm,0.9s						
ULHL	Ulahol	50.22	314	P	P	16 24 56.3	+1.5
	SNR=27						
MTBS	Maitube	50.40	315	eP	P	16 24 57.0	+1.1
	baz=315						
MTBS	Maitube	50.40	315	eP	P	16 24 57.0	+1.1
ZAA0	Zalesovo Array	50.67	331	IAmb	IAmb	16 24 59.0	
	comp=Z,10nm,0.8s						
ZALV	Zalesovo Beam	50.67	331	P	P	16 24 58.1	+0.4
	comp=Z,9.9nm,0.7s,baz=118,slow=7.5,SNR=37						
ZALV				LR	LR	16 47 15.6	
	comp=Z,142nm,19.4s,baz=135,slow=37						
ZALV	Zalesovo Beam	50.67	331	P	P	16 24 58.3	+0.6
KUU	Kurty	50.73	316⇑	iP	P	16 24 59.7	+1.3
	comp=Z,95nm,1.3s,baz=316						
KUU	Kurty	50.73	316	c iP	P	16 24 59.6	+1.3
KUU				pmax	pmax		
	comp=Z,95nm,1.3s						
KZA	Kyzart	50.86	313	P	P	16 25 01.9	+2.0
	SNR=18						
TKM2	Tokmak 2	50.90	315	P	P	16 25 01.3	+1.4
	SNR=13						
ARMA	Armidale	51.18	150	P	P	16 25 02.0	0.0
ARMA				IAmb	IAmb	16 25 06.3	
	comp=Z,17nm,0.8s						
KBK	Karagaybulak	51.26	314	P	P	16 25 04.3	+1.7
	SNR=12						
UCH	Uchtor	51.43	313	P	P	16 25 06.1	+1.9
	SNR=60						
CHMS	Chumysh	51.51	314	P	P	16 25 05.3	+1.1
	SNR=18						
AAK	Ala-Archa	51.57	314	P	P	16 25 06.4	+1.5
	SNR=5.9						
AAK	Ala-Archa	51.57	314	ceP	P	16 25 06.0	+1.1
AAK				pmax	pmax		
	comp=Z,53nm,1.7s						
SGDS	Sogindy	51.74	315	eP	P	16 25 06.8	+0.7
	baz=315						
SGDS	Sogindy	51.74	315	eP	P	16 25 06.7	+0.7
USP	Ospenovka	51.77	315	P	P	16 25 07.3	+1.1
	SNR=24						
AML	Almayashu	51.98	313	P	P	16 25 09.9	+1.7
	SNR=19						
EKS2	Erkin-Say	52.08	314	P	P	16 25 10.0	+1.3
	SNR=22						
KURK	Kurchatov	52.15	325	ceP	P	16 25 09.8	+1.0
KURK				pmax	pmax		
	comp=Z,101nm,1.3s						
KURK	Kurchatov	52.15	325	P	P	16 25 09.9	+1.1
KURBB	Kurchatov Arra	52.15	325	P	P	16 25 09.6	+0.7
	comp=Z,37nm,0.9s,baz=122,slow=7.7,SNR=258						
BTLS	Baital	52.66	317⇑	iP	P	16 25 13.7	+0.9
	comp=Z,13nm,0.9s,baz=316						
BTLS	Baital	52.66	317	c iP	P	16 25 13.6	+0.9
BTLS				pmax	pmax		
	comp=Z,13nm,0.9s						
BTK	Batken	53.53	310	P	P	16 25 20.0	+0.6
BTK				pmax	pmax		
	comp=Z,37nm,1.5s						
BTK	Batken	53.53	310	P	P	16 25 20.0	+0.6
GAR	Garm	53.67	308	P	P	16 25 20.6	+0.1
DZA	Taraz	53.87	313	eP	P	16 25 22.9	+1.1
	comp=Z,15nm,0.8s,baz=313						
DZA	Taraz	53.87	313	eP	P	16 25 22.8	+1.1
DZA				pmax	pmax		
	comp=Z,15nm,0.8s						
KBL	Kabul	53.88	303	P	P	16 25 22.7	+0.5
KBL				pmax	pmax		
	comp=Z,21nm,0.8s						
KBL	Kabul	53.88	303	P	P	16 25 22.7	+0.5
DZM	Mont Dzumac	54.49	130	eLR	LR	16 41 12.0	
	comp=Z,218nm,27.4s						
KK31	Karatay Array	54.51	313	i P	P	16 25 27.1	+0.7
KKAR	Karatay Array	54.51	313	P	P	16 25 27.3	+0.9
KKAR				pmax	pmax		
	comp=Z,24nm,0.9s						
KKAR	Karatay Array	54.51	313	P	P	16 25 27.7	+1.3
KKAR	Karatay Array	54.51	313	P	P	16 25 27.2	+0.9
IUG	Iuzhnay	54.61	312⇑	iP	P	16 25 28.4	+1.1
	comp=Z,19nm,0.9s,baz=312						
IUG	Iuzhnay	54.61	312	c iP	P	16 25 28.3	+1.1
IUG				pmax	pmax		
	comp=Z,19nm,0.9s						
TOO	Toolangi	54.82	160	P	P	16 25 28.2	-0.4
TOO				pmax	pmax		
	comp=Z,21nm,1.2s						
TOO	Toolangi	54.82	160	P	P	16 25 28.1	-0.4
TOO				IAmb	IAmb	16 25 29.7	
	comp=Z,21nm,1.2s						
BRZS	Berezniki	55.29	322	i P	P	16 25 33.1	+1.2
	comp=Z,36nm,0.8s,baz=322						
BRZS	Berezniki	55.29	322	i P	P	16 25 33.1	+1.2
BRZS				pmax	pmax		
	comp=Z,36nm,0.8s						
BVAR	Borovoye Array	57.75	325	P	P	16 25 50.1	+0.9
	comp=Z,21nm,0.8s,baz=145,slow=16,SNR=84						
BRVK	Borovoye	57.82	325	ceP	P	16 25 50.8	+1.0
BRVK				pmax	pmax		
	comp=Z,77nm,0.8s						
BRVK	Borovoye	57.82	325	P	P	16 25 51.3	+1.6
TIXI	Tiksi	57.87	2	i P	P	16 25 49.2	-0.6
TIXI				pmax	pmax		
	comp=Z,64nm,1.0s						
NRIK	Noril'sk	60.15	346	P	P	16 26 06.4	+0.7
	comp=Z,12nm,0.9s,baz=116,slow=6.0,SNR=9.9						
BILL	Bilibino	60.52	17	deP	P	16 26 10.5	+2.3
BILL				eS	S	16 34 29.2	+8.2
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GEYT	Alibeck	63.01	306	P	P	16 26 25.9	+0.3
	comp=Z,15nm,0.8s,baz=144,slow=3.3,SNR=27						
GEYT	Alibeck	63.01	306	P	P	16 26 25.2	-0.4
GYA0B	ALIBECK ARRAY	63.01	306	P	P	16 26 23.7	-1.9
AB31	Akbulak array	63.04	318	i P	P	16 26 25.4	-0.1
ABKAR	Akbulak array	63.04	318	P	P	16 26 25.6	+0.1
ABKAR				IAmb	IAmb	16 26 27.0	
	comp=Z,14nm,0.8s						
ABKAR	Akbulak array	63.04	318	P	P	16 26 26.0	+0.5
SVE	Sverdlovsk	64.27	327	eP	P	16 26 34.4	+0.9
SVE				pmax	pmax		
	comp=Z,91nm,0.9s						
AKTO	Aktyubinsk	64.47	319	P	P	16 26 34.9	0.0
ARU	Arti	65.30	326	c iP	P	16 26 40.3	+0.1
ARU				S	S	16 35 21.6	+0.4
ARU				pmax	pmax		
	comp=Z,45nm,0.7s						
ARU	Arti	65.30	326	P	P	16 26 39.8	-0.4
KIRV	Kirov	70.51	328	i P	P	16 27 13.3	+0.5
RPZ	Rata Peaks	71.31	146	P	P	16 27 18.0	0.0
	comp=Z,13nm,0.7s,baz=248,slow=3.5,SNR=7.3						
RPZ	Rata Peaks	71.31	146	P	P	16 27 17.7	-0.3
RPZ				IAmb	IAmb	16 27 19.4	
	comp=Z,18nm,0.8s						
GROC	Groznyy	72.43	311	eP	P	16 27 25.1	+0.3
GROC				e*PP	sP	16 27 40.3	-0.1
GROC				e		16 27 42.7	
GROC				pmax	pmax		
	comp=Z,59nm,1.4s						
PRGR	Permogore	72.63	331	eP	P	16 27 25.2	-0.4
PRGR				e		16 27 33.2	
ZEI	Tsey	73.84	311	eP	P	16 27 33.1	-0.4
ZEI				pmax	pmax		
	comp=Z,31nm,0.9s						
IMAR	Indian Mountai	74.15	25	P	P	16 27 35.0	+0.5
AKH	Akhalkalaki	74.25	309	⇓P	P	16 27 37.6	+1.8
KBZ	Khabaz	74.51	312	P	P	16 27 37.5	+0.5
	comp=Z,17nm,0.9s,baz=113,slow=5.1,SNR=27						
KBZ	Khabaz	74.51	312	ceP	P	16 27 37.3	+0.3
KBZ				pmax	pmax		
	comp=Z,32nm,1.0s						
KIV	Kislovodsk	74.64	312	eP	P	16 27 37.8	-0.1
KIV				pmax	pmax		
	comp=Z,145nm,1.0s						
KIV				MLR	MLR		
	comp=Z,387nm,18.0s						
KIV	Kislovodsk	74.64	312	P	P	16 27 38.6	+0.6
VRH	Novokhopyorsk	74.81	320	eP	P	16 27 37.6	-1.0
VRH				pmax	pmax		
	comp=Z,40nm,0.8s						
COLD	Coldfoot	75.57	24	P	P	16 27 44.7	+1.9
KLMR	Klimovskoe	75.58	330	eP	P	16 27 41.6	-1.2
KLMR				pmax	pmax		
	comp=Z,66nm,1.5s						
KLMR	Klimovskoe	75.58	330	eP	P	16 27 41.7	-1.1
KLMR				AMP		16 27 44.0	
	comp=Z,66nm,1.5s						
TRF	Thorofare Moun	75.64	28	P	P	16 27 44.5	+1.1
TRF				IAmb	IAmb	16 27 55.1	
	comp=Z,21nm,1.1s						
TMCR	Tamitsa	76.11	333	eP	P	16 27 44.5	-1.3
TMCR				pmax	pmax		
	comp=Z,57nm,1.5s						
VORD	Divnogorie	76.36	320	eP	P	16 27 46.5	-1.0
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	Storozhevoye	76.41	320	eP	P	16 27 47.6	-0.2
VSR				pmax	pmax		
	comp=Z,60nm,1.8s						
LPSR	Galich'ya Gora	76.44	321	eP	P	16 27 47.0	-0.9
LPSR				pmax	pmax		
	comp=Z,40nm,1.0s						
MOS	Moscow	76.92	325	eP	P	16 27 49.1	-1.5
MOS				pmax	pmax		
	comp=Z,45nm,1.2s						
ILAR	Eielson Array	77.05	26	P	P	16 27 51.0	-0.1
	comp=Z,0.9nm,0.8s,baz=247,slow=5.4,SNR=7.4						
OBN	Obninsk	77.58	324	⇓iP	P	16 27 54.5	+0.2
OBN				e		16 30 54.2	
OBN				pmax	pmax		
	comp=Z,25nm,1.1s						
BMAR	Burnt Mountain	77.73	23	P	P	16 27 57.0	+2.0
ANN	Anapa	78.30	313	eP	P	16 27 57.5	-1.0
ANN				pmax	pmax		
	comp=Z,51nm,1.0s						
BRTR	Keskin Array B	81.91	309	P	P	16 28 17.2	-1.1
	comp=Z,3.5nm,0.7s,baz=93,slow=4.8,SNR=12						
BRTR	Keskin Array B	81.91	309	i P	P	16 28 18.1	-0.2
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	Keskin Array B	81.91	309	P	P	16 28 18.1	-0.2
FINES	FINESS Array B	81.93	331	P	P	16 28 17.0	-0.8
	comp=Z,7.4nm,0.8s,baz=115,slow=8.6,SNR=9.1						
FINES	FINESS Array B	81.93	331	i P	P	16 28 18.0	+0.3
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FINES	FINESS Array B	81.93	331	P	P	16 28 17.1	-0.6
VSU	Vasula	82.33	328	eP	P	16 28 19.8	0.0
VSU	Vasula	82.33	328	i P	P	16 28 20.1	+0.2
VSU				pmax	pmax		
	comp=Z,77nm,0.9s						
AKASG	Malin Array Be	82.70	320	P	P	16 28 21.2	-0.7
	comp=Z,5.9nm,0.8s,baz=64,slow=4.9,SNR=16						
IDID	Didziasalis	83.09	325	eP	P	16 28 24.7	+0.8
ISAL	Salakas	83.36	326	eP	P	16 28 26.0	+0.7
IIGN	Ignalina	83.36	325	eP	P	16 28 26.2	+0.9
SORM	Soroca	83.84	318	⇓P	P	16 28 27.6	-0.3
PABE	Paberze	84.56	326	eP	P	16 28 31.9	+0.5
TIRR	Tirgusor	84.68	314	⇓P	P	16 28 32.5	+0.2
CFR	Carcaliu	84.70	315	⇓P	P	16 28 32.3	0.0
HARR	Harsova	84.96	315	⇑P	P	16 28 34.4	+0.7
PRAR	RASCA	85.42	318	⇓P	P	16 28 36.2	+0.2
VRI	Vrincioaia	85.48	316	⇓P	P	16 28 36.8	+0.4
PLOR	Plostina	85.54	316	⇑P	P	16 28 37.2	+0.6
BISRR	Bisoca	85.58	316	⇓P	P	16 28 38.3	+1.4
BIZ	Bicaz	85.62	317	⇑P	P	16 28 38.2	+1.3
NEHR	Nehoiu	85.89	316	⇓P	P	16 28 39.2	+0.9
BURAR	Bucovina Array	86.02	318	⇑P	P	16 28 39.7	+0.7
BURAR	Bucovina Array	86.02	318	P	P	16 28 39.6	+0.6
OZUR		86.06	316	⇑P	P	16 28 39.3	+0.2
MLR	Muntele Rosu	86.11	316	⇑P	P	16 28 40.3	+0.7
ARR	Arges	87.03	316	⇓P	P	16 28 44.7	+0.7
KOLS	Kolonicke sedl	87.51	320	eP	P	16 28 44.9	-1.3
KOLS	Kolonicke sedl	87.51	320	eP	P	16 28 44.9	-1.3
KMBO	Kilima Mbogo	87.53	268	P	P	16 28 48.3	+1.1
	comp=Z,5.3nm,1.0s,baz=40,slow=5.3,SNR=9.1						
KMBO				LR	LR	17 07 17.8	
	comp=Z,103nm,18.5s,baz=90,slow=35						
UZH	Uzhgorod	87.59	320	c iP	P	16 28 47.0	+0.5
UZH				e		16 28 54.8	
SIRR	Siria	88.74	317	⇑P	P	16 28 52.0	-0.1
NB2	NORSAR Subarra	88.80	333	P	P	16 28 51.0	-1.1
	comp=Z,4.9nm,1.1s,baz=67,slow=4.8						
NOA	NORSAR Array B	88.80	333	P	P	16 28 50.9	-1.1
	comp=Z,1.5nm,1.0s,baz=49,slow=1.8,SNR=4.4						
VYHS	Vyhne	89.80	320	eP	P	16 28 57.4	+0.4
VYHS	Vyhne	89.80	320	eP	P	16 28 57.4	+0.4
PPT	Papeete	90.36	108	LR	LR	17 01 57.1	
	comp=Z,111nm,19.7s,baz=330,slow=30						
PPT2	Papeete2	90.37	108	eLR	LR	16 57 45.0	
	comp=Z,241nm,25.8s						
YKA	Yellowknife Ar	91.25	23	P	P	16 29 03.8	+0.4
	comp=Z,1.5nm,1.0s,baz=300,slow=4.9,SNR=2.3						
BRG	Berggiesshubel	91.82	324	eP	P	16 29 06.2	-0.1
	comp=Z,4.3nm,0.9s						
BRG	Berggiesshubel	91.82	324	eP	P	16 29 06.2	-0.1
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TBI	Tubuai	91.88	113	eLR	LR	16 58 32.2	
	comp=Z,206nm,32.5s						
CLL	Collm	92.18	324	eP	P	16 29 07.0	-0.9
CLL	Collm	92.18	324	eP	P	16 29 07.0	-0.9
MAW	Mawson	92.41	200	P	P	16 29 07.6	-0.9
	comp=Z,2.4nm,0.6s,baz=76,slow=9.2,SNR=3.9						
GROS	Grobnik	92.66	319	eP	P	16 29 10.3	-0.1
GERES	GERESS Array B	92.81	322	P	P	16 29 10.4	-0.6
	comp=Z,0.2nm,0.4s,baz=253,slow=1.4,SNR=5.3						
LEGS	Legarje	92.98	319	i P	P	16 29 11.9	+0.1
LJU	Ljubljana	93.44	319	i P	P	16 29 14.0	0.0
VNDA	Vanda	93.66	172	P	P	16 29 12.8	-1.2
	comp=Z,4.4nm,0.8s,baz=317,slow=5.8,SNR=35						
VNDA				LR	LR	17 10 57.4	
	comp=Z,55nm,20.6s,baz=324,slow=35						
VNDA	Vanda	93.66	172	P	P	16 29 13.6	-0.5
VNDA	

az=217.0

ISC 26 16:22:02.1±0.6, **4°60S**±0°08×**151°32E**±0°08, **h250**km, **n38**, σ0**88**/43, **mb4.2**/17, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.76**	**68**	P	**Pn**	**16 22 35.1**	**-0.8**
	54nm,0.3s,baz=236,slow=1.0,SNR=130						
KRVT				S	**S**	**16 23 00.7**	**-1.8**
	16nm,0.3s,baz=205,slow=19,SNR=10						
RABL	**Rabaul**	**0.93**	**64**		**Pn**	**16 22 36.3**	**-0.5**
MANU	**Manus Island**	**4.69**	**303**	Pn	**Pn**	**16 23 14.9**	**+0.7**
PMG	**Port Moresby**	**6.32**	**221**	P	**Pn**	**16 23 32.8**	**-1.4**
	1.3nm,0.3s,baz=12,slow=10.0,SNR=2.2						
PMG				S	**S**	**16 24 47.7**	**-0.2**
	0.6nm,0.3s,baz=244,slow=18,SNR=3.0						
PMG	**Port Moresby**	**6.32**	**221**		**Pn**	**16 23 32.9**	**-1.3**
JAY	**Jayapura**	**10.80**	**281**	P	**Pn**	**16 24 31.1**	**+0.3**
	1.9nm,0.3s,baz=143,slow=7.1,SNR=11						
COEN	**Coen**	**12.29**	**220**	P	**P**	**16 24 51.7**	**-0.3**
CTA	**Charters Tower**	**16.17**	**197**	P	**Pn**	**16 25 36.8**	**+0.5**
	0.4nm,0.3s,baz=21,slow=13,SNR=12						
CTAO	**Charters Tower**	**16.17**	**197**	Pn	**Pn**	**16 25 37.4**	**+1.1**
SIJI	**Sorong**	**20.37**	**280**	P	**P**	**16 26 21.3**	**+1.0**
	8.9nm,0.8s,baz=215,slow=10,SNR=3.6						
MTN	**Manton Dam**	**21.56**	**246**	P	**P**	**16 26 32.4**	**+0.2**
MTN				IAmb	IAmb	16 26 39.4	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**22.35**	**226**	P	**P**	**16 26 39.9**	**+0.5**
WR0	**Warramunga Arr**	**22.37**	**226**	P	**P**	**16 26 40.2**	**+0.7**
WRAB	**Tennant Creek**	**22.49**	**226**	P	**P**	**16 26 41.5**	**+0.9**
WB2	**Warramunga Arr**	**22.49**	**226**	P	**P**	**16 26 41.5**	**+0.8**
WRA	**Warramunga Arr**	**22.50**	**226**	P	**P**	**16 26 41.4**	**+0.6**
	comp=Z,33nm,0.4s,baz=50,slow=9.5,SNR=206						
WRA				S	**S**	**16 30 27.6**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=48,slow=16,SNR=4.7						
WRA				ScP	**ScP**	**16 33 40.1**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=49,slow=2.7,SNR=9.0						
WRA	**Warramunga Arr**	**22.50**	**226**	P	**P**	**16 26 40.7**	**-0.1**
DZM	**Mont Dzumac**	**22.72**	**141**	P	**P**	**16 26 44.0**	**+1.1**
	comp=Z,5.1nm,0.5s,baz=261,slow=5.7,SNR=16						
DZM	**Mont Dzumac**	**22.72**	**141**	P	**P**	**16 26 44.1**	**+1.2**
DZM				IAmb	IAmb	16 26 46.4	
	comp=Z,7.1nm,0.9s						
KNRA	**Kununurra**	**24.75**	**242**	P	**P**	**16 27 00.7**	**-0.6**
KNRA				IAmb	IAmb	16 27 05.9	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**25.33**	**220**	P	**P**	**16 27 07.0**	**+0.6**
AS31				IAmb	IAmb	16 27 08.2	
	comp=Z,4.2nm,0.3s						
ASAR	**Alice Springs**	**25.33**	**220**	P	**P**	**16 27 06.7**	**+0.2**
	comp=Z,3.4nm,0.3s,baz=49,slow=8.2,SNR=36						
ASAR				ScP	**ScP**	**16 33 48.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=38,slow=2.8,SNR=7.4						
ASAR	**Alice Springs**	**25.33**	**220**	P	**P**	**16 27 07.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**28.47**	**240**	P	**P**	**16 27 34.2**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=1.8,slow=3.3,SNR=24						
FITZ	**Fitzroy Crossi**	**28.47**	**240**	P	**P**	**16 27 34.1**	**-0.3**
STKA	**Stephens Creek**	**28.63**	**197**	P	**P**	**16 27 36.1**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=20,slow=15,SNR=3.0						
STKA	**Stephens Creek**	**28.63**	**197**	P	**P**	**16 27 35.4**	**-0.3**
BBOO	**Buckleboo**	**31.48**	**205**	P	**P**	**16 28 00.4**	**-0.3**
BBOO				IAmb	IAmb	16 28 01.4	
	comp=Z,6.0nm,0.8s						
FORT	**Forrest**	**34.03**	**217**	P	**P**	**16 28 22.7**	**-0.1**
FORT				IAmb	IAmb	16 28 23.3	
	comp=Z,12nm,0.6s						
PSA00	**Pilbara Seismi**	**34.87**	**238**	P	**P**	**16 28 28.8**	**-1.4**
PSA00				IAmb	IAmb	16 28 48.6	
	comp=Z,6.5nm,1.0s						
BKZ	**Black Stump Fm**	**41.28**	**150**	P	**P**	**16 29 24.4**	**+1.1**
MORW	**Morawa**	**41.34**	**230**	P	**P**	**16 29 23.3**	**-0.5**
MORW				IAmb	IAmb	16 29 24.0	
	comp=Z,9.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**56.46**	**296**	P	**P**	**16 31 20.4**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=132,slow=4.3,SNR=5.1						
PETK	**Petropavlovsk-**	**57.74**	**5**	P	**P**	**16 31 26.9**	**0.0**
	comp=Z,4.6nm,1.0s,baz=86,slow=2.1,SNR=2.2						
MKAR	**Makanchi Array**	**79.21**	**319**	P	**P**	**16 33 39.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=109,slow=5.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**80.17**	**327**	P	**P**	**16 33 44.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=344,slow=36,SNR=1.9						
ILAR	**Eielson Array**	**82.53**	**22**	P	**P**	**16 33 55.2**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=265,slow=4.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.84**	**288**	PKPbc	**PKPbc**	**16 41 19.6**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=106,slow=2.8,SNR=4.5						

*TEH **26** 16:32:18.4, 37°67N×48°52E, h8km, ML3.4*
*THR **26** 16:32:18.7±0.4, 37°66N×48°47E, h15km±3km, ML3.6*

ISC 26 16:32:19.2±0.8, **37°71N**±0°03×**48°44E**±0°03, **h10**km, **n40**, σ1§**10**/44, **Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRB	**Sarab**	**0.62**	**281**	*e*Pg	**Pg**	**16 32 31.6**	**+0.3**
ASTR	**Astara**	**0.90**	**18**	*e*Pg	**Pg**	**16 32 35.5**	**-1.0**
LKRN	**Lenkeran, Azer**	**1.04**	**15**	*e*Pg	**Pg**	**16 32 38.4**	**-0.8**
ZNJK	**Zanjan**	**1.05**	**169**	*e*Pg	**Pg**	**16 32 37.6**	**-1.9**
ZNJK				*e*Sg	**Sg**	**16 32 51.4**	**-1.9**
ZNJK	**Zanjan**	**1.05**	**169**	*e*Pg	**Pg**	**16 32 37.6**	**-1.9**
IHSH	**Hashtrud**	**1.10**	**303**	*e*Pg	**Pg**	**16 32 38.6**	**-1.9**
IHSH				*e*Sg	**Sg**	**16 32 53.4**	**-1.4**
GRMI	**Germi**	**1.18**	**339**	*e*Pg	**Pb**	**16 32 41.7**	**-0.1**
GRMI				*e*Sg	**Sn**	**16 32 58.6**	**+0.5**
GRMI	**Germi**	**1.18**	**339**	*e*Pg	**Pb**	**16 32 41.7**	**-0.1**
YRD	**Yardimli**	**1.22**	**353**	*e*Pg	**Pb**	**16 32 41.9**	**-0.6**
IHRS	**Heris**	**1.26**	**299**	*e*Pg	**Pn**	**16 32 43.0**	**-0.1**
IHRS				*e*		16 32 48.3	
IHRS				*e*Sg	**Sn**	**16 33 01.6**	**+1.4**
QSDN	**Sirdan**	**1.34**	**154**	*e*	**Sg**	**16 33 03.1**	**+0.8**
AHAR	**Ahar**	**1.34**	**306**	*e*Pg	**Pn**	**16 32 45.1**	**+0.9**
AHAR				*e*		16 33 11.0	
GLBA	**Clilabad**	**1.53**	**359**	*e*Pg	**Pb**	**16 32 48.1**	**+0.4**
ITBZ	**Tabriz**	**1.88**	**287**	*e*Pn	**Pn**	**16 32 52.7**	**+1.1**
IAZR	**Azarshahr**	**1.95**	**270**	*e*Pn	**Pb**	**16 32 55.6**	**+0.6**
IAZR				*e*		16 33 27.6	
QRD	**Qoradiz**	**1.96**	**334**	*e*Pn	**Pb**	**16 32 55.3**	**+0.3**
BLQ	**Beylaqan**	**2.12**	**341**	*e*Pn	**Pb**	**16 32 57.6**	**-0.2**
QALM	**Alamut, Qazvin**	**2.18**	**125**	*e*Pn	**Pn**	**16 32 55.3**	**-0.5**
QALM				*e*		16 33 30.0	
QABG	**Abgarm-Qazvin**	**2.20**	**155**	*e*Pn	**Pn**	**16 32 56.1**	**+0.1**
QABG				*e*		16 33 29.2	
ORD	**Ordubad**	**2.27**	**303**	*e*Pn	**Pb**	**16 33 00.1**	**-0.3**
MAHB	**Mahabad**	**2.37**	**248**	*e*		16 33 05.7	
MAHB				*e*Pg	**Pb**	**16 33 03.0**	**+0.9**
IMRD	**Marand**	**2.38**	**296**	*e*Pn	**Pn**	**16 33 00.0**	**+1.6**
IMRD				*e*		16 33 41.0	
HSRG	**Sareghieh**	**2.46**	**183**	*e*Pn	**Pn**	**16 33 01.4**	**+1.7**
HSRG				*e*		16 33 38.1	
THKV	**Tehran--Karaj**	**2.65**	**132**	*e*Pn	**Pn**	**16 33 02.1**	**-0.1**
THKV				IAML		16 33 40.7	
	comp=N,222nm,0.5s						
THKV	**Tehran--Karaj**	**2.65**	**132**	*e*Pn	**Pn**	**16 33 02.1**	**-0.1**
SNGE	**Sanandaj**	**2.75**	**199**	*e*Pn	**Pn**	**16 33 03.9**	**+0.3**
SNGE	**Sanandaj**	**2.75**	**199**	*e*Pn	**Pn**	**16 33 03.9**	**+0.3**
CHTH	**Charan**	**2.81**	**129**	*e*Pn	**Pn**	**16 33 04.7**	**+0.3**
CHTH	**Charan**	**2.81**	**129**	*e*Pn	**Pn**	**16 33 04.7**	**+0.3**
SBZ	**Shahbuz**	**2.82**	**308**	*e*Pn	**Pb**	**16 33 08.4**	**-1.4**
HAGD	**Aghdareh**	**2.94**	**169**	*e*Pn	**Pn**	**16 33 07.3**	**+1.1**
IHSB	**Hasanabad**	**3.22**	**134**	*e*	**Pg**	**16 33 20.9**	**0.0**
ASAO	**Ashtian**	**3.41**	**157**	*e*Pn	**Pn**	**16 33 12.7**	**+0.1**
ASAO	**Ashtian**	**3.41**	**157**	*e*Pn	**Pn**	**16 33 12.7**	**+0.1**
IDMV	**Damavand**	**3.59**	**125**	*e*Pn	**Pn**	**16 33 17.1**	**+1.9**
IFIR	**Firoozkooh**	**4.04**	**119**	*e*Pn	**Pn**	**16 33 22.8**	**+1.5**
QAM	**Ghamsar**	**4.63**	**147**	*e*Pn	**Pn**	**16 33 30.6**	**+1.1**
KRSH	**Karshahi**	**4.79**	**140**	*e*Pn	**Pn**	**16 33 33.2**	**+1.6**
IANJ	**Anjilo**	**4.94**	**115**	*e*Pn	**Pn**	**16 33 35.5**	**+1.7**
IZEF	**Zefreh**	**5.76**	**145**	*e*Pn	**Pn**	**16 33 46.8**	**+1.8**

*IDC **26** 16:41:19.9±2.7, 8°96S×117°90E, h38km±19km, mb3.6/6, mb1 3.9/9, mb1mx3.5/43, mbtmp3.9/9, ML4.2/4, Error ellipse: s-maj=36.4km s-min=12.8km az=56.0*
*DJA **26** 16:41:19.4±0.4, 9°S±4°×11°8E±°, h11km±3km, M4.5/15, mb4.7/6, MLv4.4/15*
*NEIC **26** 16:41:21.2±2.0, 8°91S±0°07×117°86E±0°07, h58km±11km, mb4.2/12, Error ellipse: s-maj=11.3km s-min=9.3km az=148.0*

ISC 26 16:41:15.6±0.6, **9°06S**±0°05×**117°76E**±0°05, **h10**km, **n46**, σ1§**95**/50, **mb4.2**/9, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.23**	**3**	P	**Pn**	**16 41 23.9**	**+3.5**
PLAI				S	**Sb**	**16 41 27.2**	**+3.6**
TWSI	**Taliwang, Sumb**	**0.93**	**290**	P	Pn	16 41 37.5	+2.8
TWSI				S	**Sn**	**16 41 50.8**	**+2.7**
WSI	**Waingapu**	**2.57**	**104**	P	**Pn**	**16 41 59.9**	**+2.5**
JAGI	**Jajag, Banyuwa**	**3.62**	**279**	P	**Pb**	**16 42 16.7**	**-3.0**
JAGI	**Jajag, Banyuwa**	**3.62**	**279**	Pn	**Pb**	**16 42 16.9**	**-2.8**
EDFI	**Ende, Flores**	**3.89**	**86**	P	**Pn**	**16 42 16.7**	**+1.1**
BLJI	**Banyuglugur**	**4.33**	**287**	P	**Pb**	**16 42 27.9**	**-3.9**
BKSI	**Bulukumba**	**4.39**	**32**	P	**Pn**	**16 42 23.3**	**+0.9**
MMRI	**Maumere**	**4.44**	**85**	P	**Pn**	**16 42 25.3**	**+2.2**
MMRI	**Maumere**	**4.44**	**85**	Pn	**Pn**	**16 42 25.2**	**+2.2**
KAPI	**Kappang**	**4.48**	**26**	Pn	**Pn**	**16 42 24.8**	**+1.2**
	17nm,0.3s,baz=165,slow=4.2,SNR=15						
KAPI				Sn	**Sn**	**16 43 13.2**	**-2.5**
	28nm,0.3s,baz=308,slow=17,SNR=12						
KAPI	**Kappang**	**4.48**	**26**		**Pn**	**16 42 24.4**	**+0.8**
BNSI	**Bone**	**5.18**	**27**	P	**Pn**	**16 42 35.8**	**+2.6**
SPSI	**Sidrap Palu**	**5.44**	**22**	P	**Pn**	**16 42 38.2**	**+1.4**
	0.2nm18nm,0.4s						
GRJI	**Gresik**	**5.65**	**292**	P	Pn	16 42 44.1	+4.4
	0.3nm66nm,0.7s						
BATI	**Baumata**	**5.93**	**102**	Pn	**Pn**	**16 42 44.0**	**+0.5**
	20nm,0.3s,baz=303,slow=0.7,SNR=40						
BATI				Sn	**Sn**	**16 43 49.9**	**-1.8**
	9.8nm,0.3s,baz=288,slow=23,SNR=3.8						
BATI	**Baumata**	**5.93**	**102**	P	**Pn**	**16 42 46.2**	**+2.6**
	0.2nm45nm,0.8s						
PWJI	**Pagerwojo**	**5.98**	**279**	P	Pb	16 42 51.7	-8.3
	0.3nm73nm,0.6s						
SOEI	**Soe**	**6.46**	**97**	P	**Pn**	**16 42 53.3**	**+2.4**
SOEI	**Soe**	**6.46**	**97**	Pn	**Pn**	**16 42 53.6**	**+2.7**
FITZ	**Fitzroy Crossi**	**11.80**	**140**	Pn	**Pn**	**16 44 03.5**	**-0.5**
	0.4nm,0.3s,baz=25,slow=8.1,SNR=22						
FITZ				Sn	Sn	16 46 07.3	-8.7
	0.9nm,0.3s,baz=180,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**11.80**	**140**		**Pn**	**16 44 05.7**	**+1.6**
KNRA	**Kununurra**	**12.59**	**123**		**Pn**	**16 44 14.7**	**-0.3**
MTN	**Manton Dam**	**13.65**	**107**	Pn	**Pn**	**16 44 28.5**	**-1.0**
FAKI	**Fak Fak**	**15.64**	**68**	Pn	**Pn**	**16 44 55.8**	**-0.5**
FAKI				IAmb	IAmb	16 45 02.5	
	comp=Z,19nm,0.9s						
WB0	**Warramunga Arr**	**19.29**	**125**	P	**P**	**16 45 41.0**	**+0.2**
WB0				IAmb	IAmb	16 45 50.3	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**19.33**	**126**	P	**P**	**16 45 41.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=302,slow=12,SNR=64						
WRA				S	Sn	16 49 04.9	-14
	comp=Z,0.1nm,0.3s,baz=301,slow=24,SNR=2.2						
WRA				ScP	**ScP**	**16 53 37.1**	**-2.9**
	comp=Z,0.0nm,0.3s,baz=325,slow=2.1,SNR=4.6						
WRA	**Warramunga Arr**	**19.33**	**126**	P	**P**	**16 45 41.4**	**+0.1**
WB2	**Warramunga Arr**	**19.34**	**126**	P	**P**	**16 45 42.2**	**+0.8**
WB2				IAmb	IAmb	16 45 48.5	
	comp=Z,8.5nm,1.4s						
WR0	**Warramunga Arr**	**19.50**	**126**	P	**P**	**16 45 43.9**	**+0.7**
WR0				IAmb	IAmb	16 45 51.6	
	comp=Z,7.5nm,0.6s						
AS31	**Alice Springs**	**21.20**	**135**	P	**P**	**16 46 02.2**	**+0.7**
ASAR	**Alice Springs**	**21.20**	**135**	P	**P**	**16 46 02.6**	**+1.1**
	comp=Z,8.4nm,0.7s,baz=309,slow=9.8,SNR=62						
ASAR				S	**S**	**16 49 55.2**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=320,slow=26,SNR=3.7						
ASAR				ScP	**ScP**	**16 53 41.5**	**-2.9**
	comp=Z,0.6nm,0.8s,baz=341,slow=2.8,SNR=5.7						
ASAR	**Alice Springs**	**21.20**	**135**	P	**P**	**16 46 02.9**	**+1.4**
FORT	**Forrest**	**23.65**	**157**	P	**P**	**16 46 29.2**	**+2.0**
FORT				IAmb	IAmb	16 46 36.5	
	comp=Z,15nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.76**	**181**	P	**P**	**16 46 30.1**	**+1.8**
COEN	**Coen**	**25.36**	**103**	P	**P**	**16 46 43.0**	**-0.2**
COEN				IAmb	IAmb	16 46 53.6	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**29.07**	**147**	P	**P**	**16 47 16.6**	**+0.3**
BBOO				IAmb	IAmb	16 47 27.3	
	comp=Z,9.7nm,1.2s						
STKA	**Stephens Creek**	**31.70**	**139**	P	**P**	**16 47 41.2**	**+1.7**
	comp=Z,2.1nm,0.5s,baz=316,slow=9.7,SNR=12						
STKA	**Stephens Creek**	**31.70**	**139**	P	**P**	**16 47 41.1**	**+1.5**
TOO	**Toolangi**	**37.85**	**143**	P	**P**	**16 48 33.9**	**+1.2**
SONM	**Songino Array**	**57.53**	**351**	P	**P**	**16 51 03.8**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=160,slow=4.7,SNR=2.4						
MKAR	**Makanchi Array**	**63.96**	**334**	P	**P**	**16 51 48.5**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=157,slow=6.2,SNR=7.5						
MKAR	**Makanchi Array**	**63.96**	**334**	P	**P**	**16 51 48.0**	**-1.0**
ZALV	**Zalesovo Beam**	**68.67**	**340**	P	**P**	**16 52 18.9**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=152,slow=5.4,SNR=2.3						
ZALV	**Zalesovo Beam**	**68.67**	**340**	P	**P**	**16 52 16.6**	**-2.4**
VNDA	**Vanda**	**72.12**	**171**	P	**P**	**16 52 41.1**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=312,slow=6.6,SNR=1.5						

*REY **26** 16:49:28.8, 64°67N×17°45W, h4km*
*IDC **26** 16:49:28.9±0.4, 64°60N×17°58W, h0km, mb4.4/26, mb1 4.5/32, mb1mx4.4/48, mbtmp4.4/32, ML3.2/5, MS4.2/38, Ms1 4.2/38, ms1mx4.1/45, Error ellipse: s-maj=14.2km s-min=7.6km az=14.0*
*MOS **26** 16:49:29.1±0.8, 64°63N×17°52W, h10km, mb5.0/46, MS4.5/20, Error ellipse: s-maj=9.1km s-min=5.9km az=90.3*
*BJI **26** 16:49:29.8±0.0, 65°21N×17°15W, h4km, mB5.3/34, mb4.8/41, Ms4.8/23, Ms7 4.6/24*
*IEPN **26** 16:49:30.0, 64°85N×17°71W, h10km*
*NEIC **26** 16:49:30.7±1.9, 64°56N±0°08×17°5W±0°1, h11km±4km, mb4.9/63, Error ellipse: s-maj=11.9km s-min=8.9km az=189.0*
*UNK **26** 16:49:30.0, 64°52N×17°31W, h7km*
*GCMT **26** 16:49:34.3±0.1, 64°58N±0°01×17°21W±0°02, h12km, MW5.0/135, Moment Tensor Solution. s76,c98; s135,c217; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.13±.07; Mθθ1.94±.08; Mφφ3.20±.07; Mrθ-1.50±.23; Mθφ-1.01±.05; Mφr-1.41±.22; Best double couple: M0 4.75700×10^16 NP1:φs138.00000°, δ43.00000°, λ-113.00000°. NP2:φs348.00000°, δ51.00000°, λ-70.00000°. Principal axes: T 3.7950, Plg4.0000°, Azm64.0000°; N 1.9330, Plg15.0000°, Azm155.0000°; P -5.7180, Plg74.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **26** 16:49:37.7±5.2, 64°78N×17°68W, h48km±90km, Hypocentre not reviewed by the ISC*
*BGR **26** 16:49:58.3±0.0, 63°94N×11°79W, h10km, mb4.3, Ms4.0*

ISC 26 16:49:30.7±0.2, **64°68N**±0°02×**17°47W**±0°02, **h10**km, **n607**, σ1§**62**/609, **mb4.8**/137, **MS4.3**/59, **20C-17D, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.12**	**23**	P	**Pg**	**16 49 31.7**	**-2.0**
	baz=16						
IVON	**Vonarskard**	**0.12**	**265**	P	**Pg**	**16 49 31.6**	**-2.1**
	baz=272						
IURH	**Urdarhals**	**0.20**	**45**	P	**Pg**	**16 49 33.0**	**-1.9**
	baz=40						
IDJK	**Dyngjujokull**	**0.21**	**150**	P	**Pg**	**16 49 32.8**	**-2.4**
	baz=151						
IGRF	**Grimsfjall**	**0.29**	**162**	P	**Pg**	**16 49 34.4**	**-2.3**
	baz=164						
IKVE	**Kverkfjoll**	**0.34**	**90**	P	**Pg**	**16 49 35.3**	**-2.3**
	baz=88						
IBJK	**Bruarjokull**	**0.38**	**124**	P	**Pg**	**16 49 35.4**	**-2.8**
	baz=124						
IHUS	**Husbondi**	**0.40**	**192**	P	**Pg**	**16 49 36.3**	**-2.3**
	baz=194						
ISKR	**Skrokkalda**	**0.41**	**253**	P	**Pg**	**16 49 36.5**	**-2.3**
	baz=255						
IVOT	**Vottur**	**0.43**	**163**	P	**Pg**	**16 49 36.7**	**-2.5**
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**77**	P	**Pg**	**16 49 37.3**	**-2.7**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**222**	P	**Pg**	**16 49 37.9**	**-2.4**
	baz=224						
IASK	**Askja**	**0.51**	**43**	P	**Pg**	**16 49 38.1**	**-2.6**
	baz=41						
IMKO	**Mokollar**	**0.57**	**58**	P	**Pg**	**16 49 39.1**	**-2.6**
	baz=56						
IMKO				S	**Sg**	**16 49 47.7**	**-1.5**
	baz=56						
IIEY	**Innrieyrar**	**0.65**	**206**	P	**Pg**	**16 49 40.3**	**-3.1**
	baz=207						
ISVA	**Svartarkot**	**0.66**	**8**	P	**Pg**	**16 49 40.9**	**-2.7**
	baz=6.9						
IKSK	**Karasker**	**0.68**	**140**	P	**Pg**	**16 49 40.1**	**-3.7**
	baz=140						
IKAL	**Kalfafell**	**0.74**	**187**	P	**Pg**	**16 49 41.9**	**-3.2**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**80**	P	**Pg**	**16 49 42.0**	**-3.4**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**16 49 43.1**	**-3.1**
	baz=233						
IADA	**Aoalbol**	**0.88**	**67**	P	**Pg**	**16 49 44.0**	**-3.7**
	baz=66						
IFAG	**Fagurholsmyri**	**0.89**	**156**	P	**Pg**	**16 49 44.2**	**-3.6**
	baz=156						
IHVE	**Hveravellir**	**0.92**	**283**	P	**Pg**	**16 49 44.7**	**-3.6**
	baz=283						
IMEL	**Melhnausar**	**0.95**	**21**	P	**Pg**	**16 49 45.6**	**-3.5**
	baz=20						
IKVO	**Krokottuvotn**	**1.06**	**13**	P	**Pg**	**16 49 47.4**	**-3.8**
	baz=13						
ISNB	**Snabyli**	**1.08**	**209**	P	**Pg**	**16 49 47.6**	**-3.8**
	baz=209						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**16 49 48.3**	**-3.8**
	baz=29						
ISLY	**Slysaalda**	**1.12**	**221**	P	**Pb**	**16 49 48.5**	**-3.7**
	baz=221						
IFED	**Fedgar**	**1.17**	**237**	P	**Pb**	**16 49 49.6**	**-3.4**
	baz=238						
IRJU	**Rjupnafell**	**1.19**	**207**	P	**Pb**	**16 49 49.7**	**-3.7**
	baz=208						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pn**	**16 49 49.8**	**-3.8**
	baz=8.2						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pn**	**16 49 49.7**	**-4.1**
	baz=15						
IMJO	**Mjoaskard**	**1.22**	**233**	P	**Pn**	**16 49 50.5**	**-3.4**
	baz=234						
IGRA	**Granastaoir**	**1.24**	**358**	P	**Pn**	**16 49 50.2**	**-3.9**
	baz=358						
IGYG	**Gygjarholskot**	**1.25**	**252**	P	**Pn**	**16 49 50.4**	**-3.9**
	baz=253						
IDIM	**Dimmadalss**	**1.30**	**10**	P	**Pn**	**16 49 51.3**	**-3.7**
	baz=9.2						
IGOD	**Go??abunga**	**1.31**	**219**	P	**Pn**	**16 49 51.9**	**-3.2**
	baz=220						
IHVO	**Lagu-Hvolar**	**1.31**	**208**	P	**Pn**	**16 49 51.5**	**-3.6**
	baz=209						
ISAU	**Saurbar**	**1.46**	**243**	P	**Pn**	**16 49 53.2**	**-3.8**
	baz=244						
IMID	**Miomork**	**1.48**	**227**	P	**Pn**	**16 49 54.2**	**-3.1**
	baz=228						
BORG	**Borgarnes**	**1.66**	**274**	Pg	**Pn**	**16 49 56.8**	**-3.0**
	72nm,0.3s,baz=98,slow=9.7,SNR=120						
BORG				Lg	Lg	16 50 19.4	
	67nm,0.3s,baz=55,slow=5.3,SNR=5.7						
BORG	**Borgarnes**	**1.66**	**274**	P	**Pn**	**16 49 57.2**	**-2.6**
BORG	**Borgarnes**	**1.66**	**274**		**Pn**	**16 49 57.2**	**-2.6**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**16 51 00.1**	**-0.3**
SCO	**Scoresbysund**	**6.07**	**346**	P	**Pn**	**16 51 01.3**	**+0.9**
SCO	**Scoresbysund**	**6.07**	**346**		**Pn**	**16 51 01.2**	**+0.9**
ANGG	**Ammassalik, Gr**	**8.54**	**285**	Pn	**Pn**	**16 51 32.6**	**-1.5**
SUMG	**Summit**	**10.94**	**325**	*i* P	Pn	16 52 12.5	+5.2
SUMG	**Summit**	**10.94**	**325**	*i* P	Pn	16 52 12.5	+5.2
EKB10	**Eskdalemuir Ar**	**11.73**	**136**	Pn	**Pn**	**16 52 17.8**	**-0.2**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**16 52 15.8**	**-2.5**
	baz=324,slow=13,SNR=25						
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**	**16 52 17.9**	**-0.5**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**16 52 17.9**	**-0.5**
NC204	**NORSAR Array S**	**13.22**	**92**		**Pn**	**16 52 35.4**	**-2.8**
NOA	**NORSAR Array B**	**13.52**	**92**	Pn	**Pn**	**16 52 39.8**	**-2.6**
	0.0nm,0.3s,baz=245,slow=13,SNR=4.3						
NOA				LR	LR	16 57 51.5	
	comp=Z,988nm,19.5s,baz=300,slow=37						
SFJD	**Kangerlussuaq**	**13.67**	**295**	Pn	**Pn**	**16 52 43.9**	**-0.

comp=Z,53nm,1.2s
GUNZ Gunzen 21.20 118 *e*P **P 16 54 16.5 +0.4**
comp=Z,31nm,1.2s,baz=328,slow=11
TANN Tannenbergstha 21.21 118 *e*P **P 16 54 16.2 0.0**
comp=Z,33nm,1.0s,baz=328,slow=11
WERN Wernitzgruen 21.28 118 *e*P **P 16 54 17.4 +0.4**
comp=Z,38nm,1.1s,baz=328,slow=11
GRF Grafenberg Arr 21.33 121 *e*P **P 16 54 18.2 +0.6**
baz=328,slow=11
GRF *e*L L 17 03 29.7
comp=Z,791nm,20.2s
NKC Novy Kostel 21.35 118 *e*P **P 16 54 17.7 0.0**
NKC AMS AMS 17 06 40.0
comp=Z,2μm,9.1s
NKC Novy Kostel 21.35 118 *e*P **P 16 54 17.7 0.0**
NKC MLR MLR
comp=Z,2μm,9.1s
STU Stuttgart 21.37 125 *e*P **P 16 54 18.6 +0.7**
comp=Z,26nm,0.9s,baz=328,slow=11
BRG Berggiesshubel 21.41 115 *i*P **P 16 54 18.7 +0.4**
comp=Z,66nm,1.4s
BRG *i* 16 54 26.8
comp=Z,103nm,1.4s
BRG S Sn 16 58 27.0 +3.6
comp=N,1μm,15.5s
comp=E,2μm,14.5s
comp=Z,1μm,14.9s
BRG Berggiesshubel 21.41 115 *i*P **P 16 54 18.7 +0.4**
BRG *i* 16 54 26.8
BRG S Sn 16 58 27.0 +3.6
BRG pmax pmax
comp=Z,66nm,1.4s
BRG pmax pmax
comp=Z,103nm,1.4s
BRG MLR MLR
comp=N,1μm,15.5s
BRG MLR MLR
comp=E,2μm,14.5s
BRG MLR MLR
comp=Z,1μm,14.9s
BRG Berggiesshubel 21.41 115 *e*P **P 16 54 17.1 -1.3**
comp=Z,22nm,0.9s,baz=328,slow=11
MANZ Manzenberg 21.42 119 *e*P **P 16 54 18.7 +0.2**
comp=Z,7.8nm,1.0s,baz=328,slow=11
BFO Black Forest 21.45 127 *e*P **P 16 54 19.1 +0.2**
comp=Z,20nm,1.0s,baz=328,slow=11
VSU Vasula 21.55 86 *e*P **P 16 54 20.2 +0.4**
VSU Vasula 21.55 86 *i*P **P 16 54 21.6 +1.8**
VSU pmax pmax
comp=Z,136nm,0.9s
ROTZ Rotzenmuhle 21.64 119 *e*P **P 16 54 20.9 +0.1**
comp=Z,32nm,1.4s,baz=328,slow=11
FRB Frobisher Bay 21.75 291 LR LR 17 02 10.8
comp=Z,938nm,18.9s,baz=66,slow=35
SLVR Solovky 22.05 65 *e*P **P 16 54 22.3 -2.8**
comp=Z,62nm,1.2s
PABE Paberze 22.20 95 *e*P **P 16 54 27.5 +0.7**
PRA Prague 22.24 116 AMS AMS 17 07 00.0
comp=Z,900nm,10.4s
PRU Pruhonice 22.35 116 *e*P **P 16 54 28.2 -0.2**
PRU *e*S Sn 16 58 39.4 -6.4
PRU AMS AMS 17 08 20.0
comp=Z,2μm,9.3s
PRU Pruhonice 22.35 116 *e*P **P 16 54 28.2 -0.2**
PRU MLR MLR
comp=Z,2μm,9.3s
KSP Ksiaz 22.36 112 *e*P **P 16 54 28.9 +0.3**
PBCC Pribram 22.38 117 *e*P **P 16 54 30.7 +1.9**
WET Wettzell 22.40 119 *e*P **P 16 54 29.4 +0.4**
comp=Z,13nm,1.1s,baz=328,slow=11
GOPC GO Pecny, Ondr 22.50 116 *e*P **P 16 54 30.7 +0.6**
GOPC *e*S Sn 16 58 42.4 -7.2
GOPC AMS AMS 17 07 40.0
comp=Z,2μm,8.6s
GOPC GO Pecny, Ondr 22.50 116 *e*P **P 16 54 30.7 +0.6**
GOPC MLR MLR
comp=Z,2μm,8.6s
UPC Upice 22.51 113 *e*P **P 16 54 30.3 +0.1**
UPC *e*S Sn 16 58 43.0 -6.8
UPC AMS AMS 17 08 00.0
comp=Z,2μm,12.8s
UPC Upice 22.51 113 *e*P **P 16 54 30.3 +0.1**
UPC MLR MLR
comp=Z,2μm,12.8s
OSTC Ostas 22.55 113 *e*P **P 16 54 31.1 +0.5**
UBR Ueberruh 22.62 126 *e*P **P 16 54 32.3 +0.8**
comp=Z,15nm,0.9s,baz=328,slow=11
KHC Kasperske Hory 22.67 118 *e*P **P 16 54 31.8 -0.2**
KHC *e*S Sn 16 58 45.5 -8.2
KHC AMS AMS 17 06 40.0
comp=Z,2μm,10.0s
KHC Kasperske Hory 22.67 118 *ce*P **P 16 54 32.1 +0.1**
KHC pmax pmax
comp=Z,70nm,1.7s
KHC Kasperske Hory 22.67 118 P **P 16 54 31.4 -0.5**
KHC IAmb IAmb 16 54 45.7
comp=Z,43nm,1.2s
DPC Dobruska-Polom 22.76 113 *e*P **P 16 54 33.1 +0.3**
DPC *e*S Sn 16 58 48.3 -7.4
DPC AMS AMS 17 08 00.0
comp=Z,1μm,12.6s
DPC Dobruska-Polom 22.76 113 *e*P **P 16 54 33.1 +0.3**
DPC MLR MLR
comp=Z,1μm,12.6s
SUW Suwalki 22.88 98 *e*P **P 16 54 34.0 +0.1**
DAVA Damuels 22.88 126 *e*P **P 16 54 34.6 +0.3**
comp=Z,42nm,1.2s,SNR=7.1
GEC2 GERESS Array S 22.95 119 *e*P **P 16 54 35.2 +0.3**
comp=Z,13nm,1.1s,baz=328,slow=11
GERES GERESS Array B 22.95 119 P **P 16 54 34.5 -0.4**
comp=Z,6.2nm,1.0s,baz=327,slow=7.0,SNR=24
RETA Reutte 23.02 125 *e*P **P 16 54 36.0 +0.4**
comp=Z,34nm,1.3s
ZFI Zemlya Franca- 23.05 22 *e*S **S 16 58 45.0 -1.0**
ISAL Salakas 23.08 93 *e*P **P 16 54 36.9 +0.8**
KRLC Kraliky 23.16 113 *e*P **P 16 54 37.2 +0.2**
KRLC *e*S **S 16 58 52.7 +4.4**
KRLC AMS AMS 17 08 30.0
comp=Z,2μm,11.4s
KRLC Kraliky 23.16 113 *e*P **P 16 54 37.2 +0.2**
KRLC *e*S **S 16 58 52.7 +4.4**
KRLC MLR MLR
comp=Z,2μm,11.4s
MOTA Moosalm 23.26 125 *e*P **P 16 54 38.5 +0.3**
comp=Z,43nm,1.4s,SNR=8.5
IIGN Ignalina 23.27 93 *e*P **P 16 54 39.0 +1.0**
TREC Trest 23.27 116 *e*S Sn 16 58 58.0 -10
TREC AMS AMS 17 08 20.0
comp=Z,2μm,8.6s
DAVOX Davos/Dischmat 23.32 127 P **P 16 54 39.1 +0.3**
comp=Z,6.4nm,0.9s,baz=319,slow=9.5,SNR=9.4
DAVOX LR LR 17 03 49.1
comp=Z,289nm,18.0s,baz=330,slow=37
TMCR Tamitsa 23.33 66 *e*P **P 16 54 38.5 -0.1**
TMCR Tamitsa 23.33 66 *e*P **P 16 54 38.4 -0.1**
TMCR pmax pmax
comp=Z,73nm,1.2s
PGAV Gavieira, Arco 23.36 162 *e*P **P 16 54 39.6 +0.4**
comp=Z,50nm,1.6s
PGAV *e*S Sn 16 59 01.2 -9.2
PGAV *e*LR LR 17 01 44.7
comp=Z,849nm,16.0s
SQTA Sankt Quirin 23.40 125 *ep*P pP 16 54 40.0 -3.0
comp=Z,25nm,1.2s,SNR=8.3
FETA Feichten 23.41 126 *e*P **P 16 54 39.7 0.0**
comp=Z,52nm,2.0s
BEL Belsk 23.44 105 *e*P **P 16 54 42.6 +2.9**
WATA Walderalm 23.44 124 *ep*P pP 16 54 40.5 -2.9
comp=Z,22nm,1.1s,SNR=8.4
IDID Didziasalis 23.52 92 *e*P **P 16 54 41.2 +0.8**
EUNU Eureka 23.66 336 P **P 16 54 43.2 +1.4**
EUNU IAmb IAmb 16 55 02.1
comp=Z,64nm,1.4s
VRAC Vranov 23.69 114 P **P 16 54 42.6 +0.3**
comp=Z,4.0nm,0.7s,baz=326,slow=11,SNR=9.7
VRAC LR LR 17 04 47.0
comp=Z,1μm,18.4s,baz=332,slow=39
VRAC Vranov 23.69 114 *e*P **P 16 54 42.8 +0.5**
VRAC *e*S **S 16 59 05.1 +8.2**
MORC Moravsky Berou 23.69 112 ⇓P **P 16 54 43.1 +0.7**
MORC Moravsky Berou 23.69 112 *e*P **P 16 54 42.5 +0.2**
MORC *e*S **S 16 59 04.1 +7.1**
PBRG Braganca 23.73 160 *e*P **P 16 54 42.1 -0.7**
comp=Z,50nm,2.2s
BNI Bardonecchia 23.80 134 P **P 16 54 42.7 -0.8**
BNI pmax pmax
comp=Z,47nm,1.5s
BNI Bardonecchia 23.80 134 P **P 16 54 42.7 -0.8**
BNI IAmb IAmb 16 54 53.8
comp=Z,47nm,1.5s
KRUC Moravsky 23.81 115 *e*P **P 16 54 43.3 -0.1**
KRUC *e*S Sn 16 59 10.1 -11
OJC Ojcow 24.26 109 *e*P **P 16 54 45.7 -1.8**
ABTA Abfaltersbach 24.27 123 *ep*P pP 16 54 48.7 -2.7
comp=Z,39nm,1.2s
KBA Koelnbreinsper 24.29 122 *e*P **P 16 54 48.8 +0.6**
comp=Z,24nm,1.4s
MVO Moncorvo 24.32 161 *e*P **P 16 54 50.5 +2.2**
comp=Z,57nm,2.1s
MVO *e*S S 16 59 16.8 +10
MVO *e*LR LR 17 01 36.0
comp=Z,642nm,16.0s
JAVC Velka Javorina 24.48 113 *e*P **P 16 54 50.7 +1.0**
JAVC *e*S S 16 59 28.9 +19
CONA Conrad Observa 24.53 117 *e*P **P 16 54 50.3 +0.2**
comp=Z,21nm,1.1s,SNR=7.1
MICGM Minsk 24.55 93 *e*P P 16 54 39.0 -11
MNK Minsk 24.55 93 *e*P P 16 54 39.0 -11
CTI Castel Tesino 24.57 125 P **P 16 54 49.9 -0.7**
CTI pmax pmax
comp=Z,19nm,0.9s
CTI Castel Tesino 24.57 125 P **P 16 54 49.9 -0.7**
CIMO Cimolais 24.62 124 P **P 16 54 51.0 +0.1**
PVIS Viseu 24.64 162 *e*P **P 16 54 52.8 +1.6**
comp=Z,47nm,1.5s
MODS Modra-Piesok 24.71 115 *e*P **P 16 54 52.3 +0.5**
MODS pmax pmax
comp=Z,91nm,1.9s
MODS Modra-Piesok 24.71 115 *e*P **P 16 54 52.3 +0.5**
MYKA Terra Mystica 24.78 122 *e*P **P 16 54 53.5 +1.1**
comp=Z,30nm,1.8s
LANS Liptovska Anna 24.96 111 *e*P **P 16 54 55.2 +1.2**
LANS pmax pmax
comp=Z,14nm,0.9s
LANS Liptovska Anna 24.96 111 *e*P **P 16 54 55.2 +1.2**
ARSA Arzberg 24.96 118 *e*P **P 16 54 54.9 +0.9**
comp=Z,12nm,1.1s
ROBS Robic 25.06 123 *e*P **P 16 54 55.0 +0.1**
NIE Niedzica 25.08 109 *e*P **P 16 54 55.3 +0.2**
OBKA Obir 25.22 121 *ep*P pP 16 54 57.9 -2.1
comp=Z,16nm,1.1s
PCAS Casmilo, Conde 25.22 164 *e*P **P 16 54 57.3 +0.9**
comp=Z,73nm,1.5s
VYHS Vyhne 25.23 112 *e*P **P 16 54 57.0 +0.6**
VYHS pmax pmax
comp=Z,34nm,1.3s
VYHS Vyhne 25.23 112 *e*P **P 16 54 57.0 +0.6**
SOKA Soboth 25.25 120 *e*P **P 16 54 57.1 +0.4**
comp=Z,16nm,1.2s,SNR=6.8
PERS Pernice 25.32 120 *e*P **P 16 54 57.7 +0.4**
PCBR Castelo Branco 25.56 162 *e*P **P 16 55 01.6 +2.2**
comp=Z,30nm,1.4s
KLMR Klimovskoe 25.59 72 *e*P **P 16 54 58.5 -1.0**
comp=Z,85nm,1.3s
KLMR *e*S **S 16 59 26.9 -0.1**
KLMR Klimovskoe 25.59 72 *e*P **P 16 54 58.5 -1.0**
KLMR *e* 16 58 29.9
KLMR pmax pmax
comp=Z,85nm,1.3s
KLMR Klimovskoe 25.59 72 *e*P **P 16 54 58.5 -1.0**
KLMR AMP 16 55 02.2
comp=Z,85nm,1.3s
KLMR *e*PcP **PcP 16 58 30.0 +0.1**
KLMR LQ LQ 17 01 46.5
KLMR LQ LQ 17 01 46.5
KLMR LR LR 17 02 44.0
LJU Ljubljana 25.61 121 *e*P **P 16 55 00.2 +0.4**
KWP Kalwaria Pacla 25.90 106 *e*P **P 16 55 03.7 +1.2**
LSH Leshukonskoye 25.95 61 *e*P **P 16 55 01.1 -1.6**
comp=Z,60nm,1.2s
LSH *e*S **S 16 59 31.3 -1.3**
PMRV Marv??o 25.98 162 *e*P **P 16 55 04.8 +1.6**
comp=Z,43nm,1.6s
PMRV *e*S S 16 59 45.4 +12
PMRV *e*LR LR 17 02 51.2
comp=Z,708nm,20.0s
SCHQ Schefferville 26.05 271 P **P 16 55 03.1 -0.7**
comp=Z,13nm,0.8s,baz=52,slow=9.2,SNR=9.6
SCHQ LR LR 17 04 13.8
comp=Z,696nm,18.3s,baz=43,slow=34
SCHQ Schefferville 26.05 271 P **P 16 55 05.2 +1.4**
SCHQ IAmb IAmb 16 55 06.2
comp=Z,19nm,0.9s
PSZ Piszkesteto 26.11 112 ⇑P **P 16 55 04.7 +0.2**
PMTG Montargil 26.22 164 *e*P **P 16 55 06.5 +1.1**
comp=Z,38nm,1.7s
ESDC Sonseca Array 26.26 156 P **P 16 55 05.4 -0.5**
comp=Z,5.4nm,1.0s,baz=348,slow=9.0,SNR=22
ESDC LR LR 17 05 08.5
comp=Z,360nm,18.9s,baz=335,slow=36
ESDC Sonseca Array 26.26 156 P **P 16 55 04.7 -1.2**
KOLS Kolonicke sedl 26.27 108 *e*P **P 16 55 05.6 -0.2**
KOLS pmax pmax
comp=Z,40nm,1.3s
KOLS Kolonicke sedl 26.27 108 *e*P **P 16 55 05.6 -0.2**
LVV L'vov 26.31 104 *e*P **P 16 55 06.7 +0.5**
LVV *e* 16 55 56.2
LVV *e*S **S 16 59 36.8 -1.8**
LVV *e* 17 00 46.3
LVV *e* 17 01 10.2
LVV pmax pmax
comp=Z,100nm,1.4s
LVV smax smax
comp=E,3μm,7.2s
LVV smax smax
comp=N,3μm,7.0s
LVV MLR MLR
comp=E,1μm,12.0s
LVV MLR MLR
comp=N,900nm,13.0s
LVV MLR MLR
comp=Z,1μm,13.0s
UZH Uzhgorod 26.52 108 *e*P **P 16 55 07.6 -0.4**
UZH *i* 16 55 12.9
UZH *e* 16 55 51.2
UZH *e*PPP PPP 16 56 07.0
UZH *e* 16 58 35.6
UZH *e*S **S 16 59 36.8 -5.0**
UZH *e*SSS SSS 17 01 07.5
UZH MLR MLR
comp=N,310nm,13.0s
UZH MLR MLR
comp=E,290nm,13.0s
PBEJ Beja 27.30 163 *e*P **P 16 55 17.4 +2.3**
comp=E,18nm,1.7s
PRGR Permogore 27.61 67 *e*P **P 16 55 15.2 -2.5**
PCVE Castro Verde 27.66 164 *ep*P **pP 16 55 21.7 -0.3**
PCVE A A 16 55 27.7
comp=E,22nm,1.4s
AKASG Malin Array Be 27.83 98 P **P 16 55 18.7 -1.1**
comp=E,6.5nm,1.0s,baz=324,slow=9.5,SNR=13
OBN Obninsk 27.87 84 P **P 16 55 19.8 -0.3**
comp=E,3.3nm,0.4s,baz=346,slow=3.9,SNR=6.2
OBN LR LR 17 06 07.8
comp=E,123nm,21.6s,baz=330,slow=36
OBN Obninsk 27.87 84 ⇑*e*P **P 16 55 19.8 -0.3**
OBN *e* 16 56 15.6
OBN *i*S **S 17 00 04.3 +1.3**
OBN pmax pmax
comp=Z,96nm,1.7s
OBN MLR MLR
comp=Z,663nm,14.0s
MOS Moscow 27.91 82 *e*P **P 16 55 20.4 0.0**
MOS *e*S **S 17 00 07.0 +3.4**
MOS *e*SS **SnSn 17 01 23.8 +7.0**
MOS MLR MLR
comp=Z,400nm,16.0s
PVAQ Vaqueiros 27.93 163 A A 16 55 39.5
comp=Z,20nm,2.1s
PVAQ *ep*P **P 16 55 23.9 +3.1**
PVAQ *e*S S 17 00 18.2 +14
PVAQ *e*LR LR 17 03 48.8
comp=Z,568nm,16.0s
PFVI Vila Bisbo 28.07 165 *e*P **P 16 55 23.6 +1.6**
comp=Z,37nm,1.9s
MDVR Moldovita 29.41 114 ⇑P **P 16 55 34.6 +0.7**
BIZ Bicaz 29.42 106 ⇑P **P 16 55 34.9 +0.9**
HERR Herculane 29.60 113 ⇓P **P 16 55 36.1 +0.5**
VRI Vrincioaia 30.54 107 ⇓P **P 16 55 44.0 +0.1**
LPSR Galich'ya Gora 30.62 86 *e*P **P 16 55 42.5 -2.0**
LPSR pmax pmax
comp=Z,30nm,1.4s
KIRV Kirov 30.96 69 *i*P **P 16 55 47.9 +0.4**
MATE Matera 31.07 124 ⇓P **P 16 55 48.9 +0.3**
CFR Carcaliu 31.68 106 ⇓P **P 16 55 53.8 -0.1**
VSR Storozhevoye 31.72 88 *e*P **P 16 55 53.2 -1.0**
VSR pmax pmax
comp=Z,30nm,1.2s
PMOZ Porto Moniz, M 31.89 180 *e*S **S 17 01 07.8 +1.2**
PMOZ *e*LR LR 17 05 11.9
comp=Z,370nm,16.0s
VORD Divnogorie 31.96 88 *e*P **P 16 55 54.4 -1.9**
VORD pmax pmax
comp=Z,20nm,0.6s
E64A Bridgewater 32.68 261 P **P 16 56 02.3 -0.4**
baz=38
CHGQ Chibougamau 32.80 271 P **P 16 56 03.1 -0.7**
baz=42
VRH Novokhopyorsk 32.83 85 *e*P **P 16 56 03.4 -0.5**
VRH pmax pmax
comp=Z,60nm,1.6s
KEST Kesra 33.16 138 P **P 16 56 07.0 -0.2**
comp=Z,4.4nm,1.1s,baz=331,slow=6.5,SNR=6.1
KEST LR LR 17 08 18.2
comp=Z,382nm,18.9s,baz=359,slow=34
E62A Clayton Lake 33.24 263 P **P 16 56 07.4 -0.2**
baz=38
G64A Maxfield 34.00 260 P **P 16 56 14.3 +0.1**
baz=37
F62A Pittston Farm, 34.00 262 P **P 16 56 14.8 +0.6**
baz=38
PKME Peaks-Kenny Pk 34.22 261 P **P 16 56 15.8 -0.3**
baz=37
E60A Ste Agathe de 34.26 264 P **P 16 56 16.9 +0.4**
baz=38
D58A Chemin du LacG 34.31 266 P **P 16 56 16.7 -0.2**
baz=39
MATQ Matagami 34.31 274 P **P 16 56 16.6 -0.3**
baz=42
F61A St Evariste 34.38 263 P **P 16 56 17.3 -0.2**
baz=38
LSQQ Lebel-sur-Quev 34.56 272 P **P 16 56 19.3 +0.2**
baz=41
F60A Warwick 34.79 264 P **P 16 56 21.4 +0.3**
baz=38
D57A Chemin Vers le 34.80 267 P **P 16 56 21.1 -0.1**
baz=39,SNR=5.6
D56A ZEC Mazanza, M 35.15 268 P **P 16 56 24.4 +0.2**
baz=39
F59A Saint Guilaume 35.24 265 P **P 16 56 24.5 -0.4**
baz=38
E57A Chemin Saint G 35.38 267 P **P 16 56 25.9 -0.3**
baz=38
D55A Sainte-Anne-du 35.48 269 P **P 16 56 26.9 -0.1**
baz=39
H62A Milan 35.56 262 P **P 16 56 27.7 0.0**
baz=37
G60A Masonville 35.65 264 P **P 16 56 28.4 0.0**
baz=37
E56A St. Veronique 35.66 268 P **P 16 56 28.4 -0.1**
baz=39
I63A Otisfield 35.74 261 P **P 16 56 29.4 +0.2**
baz=36
ANN Anapa 35.90 97 *e*P **P 16 56 32.3 +1.7**
ANN *e*S **S 17 02 14.9 +6.6**
ANN pmax pmax
comp=Z,11nm,0.6s
ANN MLR MLR
comp=N,344nm,17.0s
ANN MLR MLR
comp=Z,1μm,15.0s
H61A Lyndonville 35.92 263 P **P 16 56 30.5 -0.3**
baz=37
G59A Clarenceville 36.02 264 P **P 16 56 31.5 -0.1**
baz=37
ARU Arti 36.06 66 *d i*P **P 16 56 32.0 +0.1**
ARU S **S 17 02 13.6 +3.0**
ARU SS **SnSn 17 04 32.0 -2.9**
ARU pmax pmax
comp=Z,26nm,1.9s
ARU MLR MLR
comp=Z,1μm,21.0s
NRIK Noril'sk 36.44 35 P **P 16 56 35.6 +0.7**
comp=Z,11nm,1.1s,baz=303,slow=3.8,SNR=7.5
NRIK LR LR 17 11 55.8
comp=Z,192nm,21.9s,baz=15,slow=37
H59A Cadyville 36.59 264 P **P 16 56 36.5 0.0**
baz=37
SVE Sverdlovsk 36.59 64 *e*P **P 16 56 36.6 +0.2**
SVE *e*S **S 17 02 24.9 +6.2**
SVE pmax pmax
comp=Z,19nm,1.3s
G57A Newington 36.78 266 P **P 16 56 38.0 -0.1**
baz=38
H58A Gabriels 36.98 265 P **P 16 56 39.6 -0.3**
baz=37
LONY Lake Ozonia 36.99 265 P **P 16 56 40.0 +0.1**
baz=37
G55A Calabogie 37.40 268 P **P 16 56 43.5 +0.1**
baz=38
ALGO Algonquin Park 37.42 270 P **P 16 56 43.5 0.0**
baz=38
H57A Richville 37.46 266 P **P 16 56 44.5 +0.6**
baz=37
J60A Lant Hill Farm 37.60 263 P **P 16 56 45.6 +0.4**
baz=36
H56A Elgin 37.73 267 P **P 16 56 47.0 +0.9**
baz=37
SOC Sochi 37.86 96 *c i*P **P 16 56 48.8 +1.5**
SOC *e* 16 58 10.9
SOC *e*S **S 17 02 42.2 +4.1**
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,606nm,15.0s
G54A Lake Saint Pet 37.88 269 P **P 16 56 47.9 +0.4**
baz=38
I57A Carthage 38.00 266 P **P 16 56 49.0 +0.5**
baz=37
GOF Gofitskoye 38.10 91 ⇑*e*P **P 16 56 50.1 +0.8**
GOF pmax pmax
comp=Z,78nm,0.8s
J58A Remsen 38.30 265 P **P 16 56 51.7 +0.6**
baz=36
BRTR Keskin Array B 38.47 105 P **P 16 56 52.8 +0.1**
comp=Z,5.0nm,0.9s,baz=327,slow=8.8,SNR=12
BRTR LR LR 17 13 17.1
comp=Z,118nm,19.2s,baz=323,slow=37
K59A Cooperstown 38.59 264 P **P 16 56 54.2 +0.6**
baz=36
H53A Bobcaygeon 38.74 269 P **P 16 56 55.3 +0.6**
baz=37
SADO Sadowa 38.83 270 P **P 16 56 55.1 -0.3**
comp=Z,9.9nm,1.1s,baz=50,slow=12,SNR=5.9
KIV Kislovodsk 38.83 92 *e*P **P 16 56 56.3 +0.7**
KIV *e* 16 58 26.2
KIV *e*S **S 17 02 54.7 +1.6**
KIV pmax pmax
comp=Z,45nm,1.1s
KIV pmax pmax
comp=Z,130nm,3.9s
KIV MLR MLR
comp=Z,1μm,16.0s
J56A Wolcott 39.05 266 P **P 16 56 58.3 +1.1**
baz=36
KBZ Khabaz 39.10 92 P **P 16 56 57.9 +0.2**
comp=Z,12nm,1.0s,baz=316,slow=8.2,SNR=12
KBZ LR LR 17 13 25.5
comp=Z,631nm,19.8s,baz=327,slow=37
KBZ Khabaz 39.10 92 *ce*P **P 16 56 58.2 +0.5**
KBZ pmax pmax
comp=Z,26nm,1.3s
YKA Yellowknife Ar 39.21 313 P **P 16 56 57.7 -0.7**
comp=Z,4.4nm,0.9s,baz=40,slow=9.3,SNR=11
YKA PcP **PcP 16 59 07.6 +0.4**
comp=Z,0.4nm,0.5s,baz=43,slow=22,SNR=2.7
YKA LR LR 17 12 47.3
comp=Z,351nm,19.3s,baz=0.0,slow=36
M61A Granite Spring 39.33 261 P **P 16 56 59.5 -0.2**
baz=34
K57A Scipio Center 39.34 265 P **P 16 56 59.8 0.0**
baz=36
K56A Middlesex 39.72 266 P **P 16 57 02.9 0.0**
baz=36
K55A Perry 40.01 267 P **P 16 57 05.1 -0.3**
baz=36
L57A Andrews Acres 40.08 265 P **P 16 57 04.6 -1.3**
baz=35

L56A Greenwood 40.27 266 P P 16 57 06.8 -0.8
baz=35
ZEI Tsey 40.30 92 eP P 16 57 07.8 -0.1
ZEI pmax pmax
comp=Z,13nm,1.1s
FFC Flin Flon 40.60 297 P P 16 57 11.0 +1.0
FFC pmax pmax
comp=Z,30nm,1.5s
FFC Flin Flon 40.60 297 P P 16 57 11.0 +1.0
FFC IAmb IAmb 16 57 15.8
comp=Z,30nm,1.4s
L55A Hinsdale 40.61 267 P P 16 57 10.7 +0.4
baz=35
M57A Sunshine Farm, 40.74 265 P P 16 57 12.3 +0.9
baz=35
GROC Groznyy 40.77 90 eP P 16 57 11.8 +0.2
GROC e 16 58 47.0
GROC e 16 59 17.3
GROC eS S 17 03 17.5 -4.5
GROC pmax pmax
comp=Z,51nm,1.1s
E43A Lone Tree Farm 40.92 278 P P 16 57 10.8 -2.0
L54A Sinclairville 40.95 268 P P 16 57 13.6 +0.5
baz=36
N58A Sunbury 40.98 264 P P 16 57 14.2 +0.9
baz=34
D41A Chassel 41.05 280 P P 16 57 13.1 -0.8
D41A IAmb IAmb 16 57 20.9
comp=Z,43nm,1.4s
M56A Emporium 41.08 266 P P 16 57 14.0 -0.2
baz=35
AKH Akhalkalaki 41.25 94 ⇓P P 16 57 18.0 +2.3
M55A Ridgway 41.34 266 P P 16 57 16.6 +0.3
baz=35
EYMN Ely 41.59 283 P P 16 57 19.2 +0.9
baz=39
EYMN Ely 41.59 283 P P 16 57 18.1 -0.2
ULM Lac du Bonnet 41.61 289 LR LR 17 13 51.9
comp=Z,478nm,18.1s,baz=64,slow=35
ULM Lac du Bonnet 41.61 289 P P 16 57 19.8 +1.4
ULM pmax pmax
comp=Z,12nm,1.3s
ULM Lac du Bonnet 41.61 289 P P 16 57 19.8 +1.4
SSPA Standing Stone 41.65 265 P P 16 57 20.1 +1.2
baz=34
O58A Lewisberry 41.66 263 P P 16 57 19.0 0.0
baz=34
M54A Oil Creek Stat 41.69 267 P P 16 57 19.5 +0.3
baz=35,SNR=6.1
M54A Oil Creek Stat 41.69 267 P P 16 57 18.6 -0.7
M54A IAmb IAmb 16 57 25.5
comp=Z,49nm,1.4s
MAK Makhachkala 41.70 89 eP P 16 57 15.8 -3.4
MAK eS S 17 03 31.2 -4.5
MAK eSS SS 17 06 40.2 -0.6
MAK pmax pmax
comp=Z,213nm,1.4s
MAK MLR MLR
comp=Z,961nm,17.0s
P59A Jarrettsville 41.88 263 P P 16 57 22.7 +2.0
baz=34
O57A Amberson 41.89 264 P P 16 57 21.7 +0.9
baz=34
ABKAR Akbulak array 41.98 73 P P 16 57 21.1 -0.3
N55A Marion Center 42.00 266 P P 16 57 23.1 +1.3
baz=34
TIXI Tiksi 42.01 15ceP P 16 57 22.9 +1.5
TIXI pmax pmax
comp=Z,101nm,1.1s
TIXI Tiksi 42.01 15 P P 16 57 22.1 +0.7
TIXI IAmb IAmb 16 57 24.5
comp=Z,19nm,1.0s
COWI Conover 42.05 280 P P 16 57 21.5 -0.6
M53A Wl Miller and 42.18 268 P P 16 57 23.5 +0.3
baz=35
O56A Blue Knob Stat 42.24 265 P P 16 57 24.5 +0.8
baz=34
N54A Moraine State 42.28 267 P P 16 57 24.8 +0.8
baz=35
M52A Chesterland 42.39 269 P P 16 57 25.1 +0.2
baz=35
P57A Homestead Farm 42.66 264 P P 16 57 28.1 +1.1
baz=34
TOLK Toolik Lake Re 42.74 336 P P 16 57 29.1 +1.6
baz=28,SNR=10.0
TOLK Toolik Lake Re 42.74 336 P P 16 57 29.0 +1.5
TOLK IAmb IAmb 16 57 35.9
comp=Z,50nm,1.2s
N53A Lisbon 42.77 268 P P 16 57 28.9 +0.9
baz=35
BMAR Burnt Mountain 42.88 333 P P 16 57 30.6 +1.9
M51A Elyria 42.92 269 P P 16 57 30.1 +0.9
baz=35
P56A Dayton Farm, R 42.99 265 P P 16 57 30.1 +0.3
baz=34
BRVK Borovoye 43.11 62ceP P 16 57 31.5 +0.9
BRVK pmax pmax
comp=Z,22nm,1.7s
BRVK Borovoye 43.11 62 P P 16 57 29.8 -0.8
AGMN Agassiz Nation 43.13 287 P P 16 57 31.0 +0.2
baz=38
N52A McGinn's Farm, 43.13 268 P P 16 57 31.2 +0.3
baz=35
Q57A Strasburg 43.20 264 P P 16 57 32.2 +0.7
baz=33
N51A Ashland 43.34 269 P P 16 57 33.2 +0.6
baz=35
O53A New Philadelph 43.39 268 P P 16 57 31.9 -1.1
baz=34
P55A Reedsville 43.41 266 P P 16 57 33.8 +0.6
baz=34
MARD Mardin 43.50 100 P P 16 57 33.8 -0.3
MARD IAmb IAmb 16 57 48.7
comp=Z,20nm,0.9s
O52A Adamsville 43.77 268 P P 16 57 36.6 +0.5
baz=34
R57A Stanardsville 43.87 263 P P 16 57 38.1 +1.2
baz=33
R58B Mineral 43.87 263 P P 16 57 37.5 +0.7
baz=33
O51A Pataskala 44.08 269 P P 16 57 39.7 +1.1
baz=34
P53A Whipple 44.10 267 P P 16 57 39.5 +0.8
baz=34
COLD Coldfoot 44.11 336 P P 16 57 39.6 +1.1
baz=27,SNR=8.3
R56A Bull Pasture M 44.15 264 P P 16 57 40.0 +0.8
baz=33
Q54A Coxs Mills 44.28 266 P P 16 57 40.6 +0.4
baz=34
P52A Corning 44.30 268 P P 16 57 40.5 +0.2
baz=34
EGAK Eagle 44.47 329 P P 16 57 40.9 -0.5
EGAK IAmb IAmb 16 57 47.7
comp=Z,19nm,1.3s
TAM Tamanrasset 44.52 149 P P 16 57 42.0 -0.4
TAM pmax pmax
comp=Z,19nm,1.5s
TAM Tamanrasset 44.52 149 P P 16 57 42.0 -0.4
T59A Double "B" Far 44.57 262 P P 16 57 40.7 -1.7
baz=32
Q53A Leroy 44.68 267 P P 16 57 44.3 +0.9
baz=34
P51A Williamsport 44.82 269 P P 16 57 45.0 +0.5
baz=34
R54A Victor 45.02 266 P P 16 57 45.7 -0.4
baz=33
S55A Lewisburg 45.15 265 P P 16 57 47.5 +0.4
baz=33
T57A Hurt 45.27 263 P P 16 57 48.7 +0.6
baz=32
POKR Poker Plat Res 45.48 333 P P 16 57 50.8 +1.4
baz=28
S54A Dingess, Beckl 45.48 266 P P 16 57 48.8 -1.0
baz=33
U58A Oxford 45.48 262 P P 16 57 49.8 +0.1
baz=32
P49A Miami Univ. Ec 45.49 270 P P 16 57 50.1 +0.3
baz=34
BLA Blacksburg 45.59 264 P P 16 57 51.1 +0.5
baz=32
IL31 45.68 332 P P 16 57 52.0 +1.1
IL31 IAmb IAmb 16 57 59.0
comp=Z,25nm,1.2s
ILAR Eielson Array 45.68 332 P P 16 57 52.1 +1.2
comp=Z,8.3nm,1.1s,baz=23,slow=5.9,SNR=41
ILAR PcP PcP 16 59 28.9 +0.2
comp=Z,3.5nm,1.0s,baz=350,slow=2.5,SNR=9.2
ILAR LR LR 17 19 01.7
comp=Z,81nm,18.1s,baz=50,slow=39
ILAR Eielson Array 45.68 332 P P 16 57 52.4 +1.5
U57A Blanch 45.78 263 P P 16 57 52.7 +0.5
baz=32
SFIN Lafayette 45.81 273 P P 16 57 52.4 +0.1
baz=34
T55A Pulaski 45.82 265 P P 16 57 52.1 -0.4
baz=32
IMAR Indian Mountai 45.85 337 P P 16 57 54.1 +1.8
V59A Middlesex 45.88 261 P P 16 57 53.9 +1.0
baz=32
HDA Harding Lake 46.01 332 P P 16 57 54.7 +1.0
baz=28,SNR=8.5
BCAR Beaver Creek A 46.10 329 P P 16 57 56.0 +1.6
T54A Tazewell 46.21 265 P P 16 57 56.4 +0.8
baz=32
NEA2 Nenana 46.26 333 P P 16 57 56.6 +1.0
baz=26
U55A TA2, Sparta 46.46 265 P P 16 57 58.2 +0.7
baz=32
BRZS Berezniki 46.47 63 eP P 16 57 56.9 -0.5
comp=Z,8.6nm,1.1s,baz=63
BRZS Berezniki 46.47 63 eP P 16 57 56.9 -0.5
BRZS pmax pmax
comp=Z,9.0nm,1.1s
HDIL Hopedale 46.61 275 P P 16 57 59.6 +1.0
baz=34
T53A Wise 46.69 266 P P 16 57 60.0 +0.6
baz=32
V56A Mocksville 46.81 264 P P 16 58 01.1 +0.9
baz=32
DLBC Dease Lake 47.07 318 P P 16 58 02.4 +0.3
comp=Z,2.1nm,0.7s,baz=37,slow=3.8,SNR=4.3
DLBC LR LR 17 16 52.6
comp=Z,254nm,18.4s,baz=326,slow=35
BPAW Bear Paw Mtn. 47.07 334 P P 16 58 03.2 +1.3
V55A Taylorsville 47.08 264 P P 16 58 02.9 +0.5
baz=32
W57A Gilead 47.15 263 P P 16 58 03.5 +0.7
baz=32
W56A Indian Trail 47.42 263 P P 16 58 05.3 +0.3
baz=32
V54A Nebo 47.46 265 P P 16 58 06.2 +0.9
baz=32
BILL Bilibino 47.53 358⇑eP P 16 58 06.3 +0.8
BILL e 16 59 54.8
BILL iS S 17 04 58.3 -1.5
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL MLR MLR
comp=Z,125nm,15.0s
ZALV Zalesovo Beam 47.61 51 P P 16 58 06.3 +0.1
comp=Z,2.2nm,0.6s,baz=330,slow=8.6,SNR=16
ZALV PcP PcP 16 59 35.5 -0.1
comp=Z,0.7nm,0.3s,baz=259,slow=1.5,SNR=4.9
ZALV LR LR 17 20 40.2
comp=Z,159nm,18.7s,baz=317,slow=39
ZALV Zalesovo Beam 47.61 51 P P 16 58 05.4 -0.8
KMSC Kings Mountain 47.73 264 P P 16 58 07.7 +0.3
baz=32
MCARA McCarthy VSAT 47.86 328 P P 16 58 07.9 -0.1
MCARA IAmb IAmb 16 58 22.0
comp=Z,15nm,1.4s
M24K Tolsona, Glenn 47.91 330 P P 16 58 09.7 +1.1
baz=27
KURK Kurchatov 48.09 58ceP P 16 58 09.7 -0.3
KURK pmax pmax
comp=Z,28nm,1.7s
KURK Kurchatov 48.09 58 P P 16 58 10.2 +0.2
KURK IAmb IAmb 16 58 11.2
comp=Z,16nm,1.1s
W54A Cherokee Point 48.15 265 P P 16 58 10.9 +0.3
baz=32
X56A White Oak 48.16 263 P P 16 58 11.4 +0.7
baz=31
TKL Tuckaleechee C 48.34 266 P P 16 58 12.7 +0.6
comp=Z,7.6nm,1.1s,baz=102,slow=8.8,SNR=2.9
PPLA Purkeypile 48.39 334 P P 16 58 13.2 +0.9
X55A Gracelyn & Ava 48.43 264 P P 16 58 13.5 +0.7
baz=31
LAO LASA Array 48.60 293 P P 16 58 14.7 +0.6
baz=35
LAO LASA Array 48.60 293 P P 16 58 14.3 +0.3
GHO Glory Hole Cre 48.78 332 P P 16 58 16.6 +1.3
GHO IAmb IAmb 16 58 23.8
comp=Z,24nm,1.3s
EGMT Eagleton 48.88 297 P P 16 58 17.1 +0.9
baz=35,SNR=15
EGMT Eagleton 48.88 297 P P 16 58 16.3 +0.1
Z57A Bowman 49.04 262 P P 16 58 17.8 +0.3
baz=31
RC01 Rabbit Creek A 49.57 332 P P 16 58 22.1 +0.9
baz=25
WVT Waverly 49.68 271 P P 16 58 21.5 -0.9
baz=32
RSSD Black Hills 49.84 290 P P 16 58 23.5 -0.3
baz=34
GEYT Alibeck 50.41 84 P P 16 58 27.9 -0.1
comp=Z,1.9nm,0.5s,baz=287,slow=6.0,SNR=7.7
GEYT LR LR 17 22 42.8
comp=Z,281nm,18.3s,baz=350,slow=40
BTLS Baital 51.05 66 eP P 16 58 33.6 +1.0
comp=Z,7.2nm,1.5s,baz=66
BTLS Baital 51.05 66 eP P 16 58 33.6 +1.0
BTLS pmax pmax
comp=Z,7.0nm,1.5s
RLMT Red Lodge 51.09 295 P P 16 58 33.3 +0.1
baz=34,SNR=15
YAK Yakutsk 51.25 19⇑iP P 16 58 34.0 +0.1
YAK pmax pmax
comp=Z,18nm,1.7s
NEW Newport 51.42 303 LR LR 17 20 21.6
comp=Z,373nm,18.6s,baz=30,slow=36
MSO Missoula 51.45 299 P P 16 58 36.2 +0.4
baz=33
BOZ Bozeman (W) 51.61 297 P P 16 58 37.1 +0.1
baz=33,SNR=21
U40A Yellville 51.65 275 P P 16 58 37.8 +0.5
baz=32
DZA Taraz 51.77 69 eP P 16 58 38.7 +0.6
comp=Z,12nm,1.2s,baz=69
DZA Taraz 51.77 69 eP P 16 58 38.7 +0.6
DZA pmax pmax
comp=Z,12nm,1.2s
BBB Bella Bella 51.82 313 LR LR 17 18 15.6
comp=Z,26nm,21.1s,baz=38,slow=33
IUG Iuzhnay 51.87 71 eP P 16 58 40.0 +1.0
comp=Z,13nm,1.0s,baz=71
IUG Iuzhnay 51.87 71 eP P 16 58 39.9 +1.0
IUG pmax pmax
comp=Z,13nm,1.0s
DGZ Jazzator, Alta 52.06 53 iP P 16 58 41.1 +0.8
DGZ pmax pmax
comp=Z,17nm,1.3s
K22A Casper 52.07 291 P P 16 58 40.4 -0.1
baz=33
H17A Grant Village 52.21 295 P P 16 58 43.9 +2.3
baz=33
W41B Gary Mavity, V 52.39 274 P P 16 58 42.1 -0.6
baz=32
SEY Seymchan 52.47 6 iP P 16 58 45.2 +2.3
CBKS Cedar Bluff 52.50 283 P P 16 58 43.3 -0.3
baz=32
MAKZ Makanchi 52.58 59 P P 16 58 44.6 +0.6
MAKZ pmax pmax
comp=Z,17nm,1.4s
MAKZ Makanchi 52.58 59 P P 16 58 44.6 +0.6
MAKZ IAmb IAmb 16 58 46.2
comp=Z,17nm,1.4s
SGDS Sogindy 52.61 66⇓iP P 16 58 45.1 +0.7
comp=Z,8.8nm,1.3s,baz=66
SGDS Sogindy 52.61 66diP P 16 58 45.1 +0.7
SGDS pmax pmax
comp=Z,9.0nm,1.3s
MKAR Makanchi Array 52.71 58 P P 16 58 45.0 +0.1
comp=Z,5.8nm,1.1s,baz=322,slow=4.9,SNR=28
MKAR LR LR 17 20 21.0
comp=Z,146nm,18.7s,baz=312,slow=35
MKAR Makanchi Array 52.71 58 P P 16 58 43.9 -1.1
USP Ospenovka 52.72 67 P P 16 58 45.7 +0.6
SNR=8.9
TDK Taldyqorghan 52.77 62 eP P 16 58 46.5 +1.0
comp=Z,12nm,1.1s,baz=62
TDK Taldyqorghan 52.77 62 eP P 16 58 46.5 +1.0
TDK pmax pmax
comp=Z,12nm,1.1s
KUU Kurty 52.91 65⇓iP P 16 58 46.9 +0.3
comp=Z,12nm,1.4s,baz=65
KUU Kurty 52.91 65diP P 16 58 46.8 +0.3
KUU pmax pmax
comp=Z,12nm,1.4s
EKS2 Erkin-Say 52.94 68 P P 16 58 48.8 +1.9
SNR=26
W39A Magazine 53.03 275 P P 16 58 47.5 0.0
baz=32
CHMS Chumysh 53.04 67 P P 16 58 47.7 +0.2
SNR=5.5
ZSN Zaisan 53.08 56 eP P 16 58 48.0 +0.3
comp=Z,4.6nm,1.1s,baz=56
ZSN Zaisan 53.08 56 eP P 16 58 48.0 +0.3
ZSN pmax pmax
comp=Z,5.0nm,1.1s
TOA0 Torodi Ar. Sit 53.15 156 P P 16 58 45.1 -3.4
TORD Torodi Ar. Bea 53.15 156 P P 16 58 47.8 -0.7
comp=Z,6.5nm,1.1s,baz=342,slow=8.8,SNR=18
TORD Torodi Ar. Bea 53.15 156 P P 16 58 45.2 -3.4
BW06 Boulder Array 53.18 293 P P 16 58 49.3 +0.5
baz=32,SNR=23
BW06 Boulder Array 53.18 293 P P 16 58 49.2 +0.4
PD31 Pinedale Array 53.18 293 P P 16 58 48.8 0.0
PD31 IAmb IAmb 16 58 55.0
comp=Z,28nm,1.2s
PDAR Pinedale Array 53.18 293 P P 16 58 48.5 -0.3
comp=Z,7.5nm,0.9s,baz=54,slow=7.5,SNR=40
PDAR LR LR 17 21 08.0
comp=Z,581nm,18.6s,baz=36,slow=36
PDAR Pinedale Array 53.18 293 P P 16 58 48.8 0.0
X40A Basin Creek Fa 53.23 274 P P 16 58 49.1 +0.2
baz=31
AAK Ala-Archa 53.24 67 P P 16 58 50.7 +1.5
SNR=9.9
AAK Ala-Archa 53.24 67ceP P 16 58 49.9 +0.7
AAK pmax pmax
comp=Z,75nm,1.7s
N23A Red Feather La 53.31 289 P P 16 58 50.3 +0.5
baz=32,SNR=16
AML Almayashu 53.35 68 P P 16 58 52.0 +1.7
SNR=9.6
TKM2 Tokmak 2 53.44 66 P P 16 58 51.9 +1.2
SNR=13
MIAR Mount Ida 53.50 275 P P 16 58 51.2 +0.3
baz=31
MTBS Maitube 53.59 65 eP P 16 58 52.8 +1.1
baz=65
MTBS Maitube 53.59 65 eP P 16 58 52.7 +1.1
UCH Uchtor 53.60 67 P P 16 58 54.4 +2.3
SNR=13
AAA Alma-Ata 53.71 65 eP P 16 58 53.0 +0.5
comp=Z,5.2nm,0.5s,baz=65
AAA LR LR 17 20 37.6
comp=Z,512nm,16.0s,baz=65
AAA Alma-Ata 53.71 65 eP P 16 58 52.9 +0.5
AAA pmax pmax
comp=Z,5.0nm,0.5s
AAA MLR MLR
comp=Z,512nm,16.0s
MDOK Medeo 53.80 65 eP P 16 58 54.3 +1.1
baz=65
MDOK LR LR 17 20 38.5
comp=Z,469nm,17.6s,baz=65
MDOK Medeo 53.80 65 eP P 16 58 54.3 +1.1
MDOK MLR MLR
comp=Z,469nm,18.0s
TNSS Tian-Shan 53.87 65 eP P 16 58 54.1 +0.1
baz=65
TNSS Tian-Shan 53.87 65 eP P 16 58 54.9 +0.9
ISCO Idaho Springs 54.10 288 P P 16 58 55.8 +0.1
baz=32
ULHL Ulahol 54.26 66 P P 16 58 58.2 +1.4
SNR=5.9
HLID Hailey 54.39 297 P P 16 58 58.2 +0.6
baz=32,SNR=5.5
SATY Saty 54.41 64⇓iP P 16 58 58.4 +0.7
comp=Z,16nm,1.7s,baz=64
SATY Saty 54.41 64diP P 16 58 58.4 +0.7
SATY pmax pmax
comp=Z,16nm,1.7s
UZB Uzynbulak 54.58 63 eP P 16 58 59.7 +0.8
comp=Z,9.6nm,1.6s,baz=63
UZB Uzynbulak 54.58 63 eP P 16 58 59.7 +0.8
UZB pmax pmax
comp=Z,10.0nm,1.6s
MOY Mondy 54.64 42 eP P 16 59 00.6 +1.4
MOY pmax pmax
comp=Z,56nm,1.8s
SHLS Shalkode 54.74 63⇓iP P 16 59 02.4 +2.3
comp=Z,14nm,1.2s,baz=62
SHLS Shalkode 54.74 63diP P 16 59 02.3 +2.3
SHLS pmax pmax
comp=Z,14nm,1.2s
O20A White River Ci 54.88 290 P P 16 59 01.9 +0.6
baz=32
TLY Talaya 55.38 40 iP P 16 59 06.3 +1.9
TLY pmax pmax
comp=Z,6.0nm,1.2s
WMOK Wichita Mounta 55.55 279 P P 16 59 06.2 +0.3
baz=31,SNR=7.7
SDCO Great Sand Dun 55.80 287 P P 16 59 07.8 -0.2
baz=31,SNR=6.4
T25A Trinidad 55.87 285 P P 16 59 09.4 +1.0
baz=31
S22A 4UR Ranch, Cre 56.34 288 P P 16 59 11.9 0.0
baz=31
ZAK Zakamensk 56.44 41 eP P 16 59 12.4 +0.3
ZAK pmax pmax
comp=Z,11nm,1.3s
KSH Kashi 56.48 68 P P 16 59 15.5 +2.9
KSH S S 17 07 06.0 +2.4
KSH pmax pmax
comp=Z,21nm,1.1s
KSH pmax pmax
comp=Z,430nm,7.7s
KSH LR LR
comp=Z,410nm,9.6s
KSH LR LR
comp=Z,380nm,12.2s
KSH LR LR
comp=Z,300nm,10.5s
DUG Dugway, Tooele 56.65 294 P P 16 59 15.0 +1.2
baz=31
PV14 Lion Creek, Pa 56.70 290 P P 16 59 14.5 +0.2
PV14 IAmb IAmb 16 59 15.7
comp=Z,11nm,1.0s
Q16A Castle Valley 57.10 292 P P 16 59 18.2 +1.1
J05D Fort Rock, OR 57.17 302 P P 16 59 18.3 +0.8
baz=30
WMQ Urumqi 57.21 56 eP P 16 59 20.3 +2.6
WMQ pmax pmax
comp=Z,10.0nm,0.6s
WMQ pmax pmax
comp=Z,270nm,6.3s
WMQ LR LR
comp=Z,180nm,23.7s
WMQ LR LR
comp=Z,480nm,22.1s
MVCO Mesa Verde 57.48 289 P P 16 59 20.4 +0.5
baz=31
ABTX Abilene, Hawle 57.73 279 P P 16 59 21.4 0.0
baz=30
L04D Klamath Falls 58.49 303 P P 16 59 27.9 +1.2
baz=29
ANMO Albuquerque 58.59 286ceP P 16 59 28.8 +1.2
ANMO pmax pmax
comp=Z,14nm,1.7s
ANMO Albuquerque 58.59 286 P P 16 59 29.1 +1.4
baz=30
DBIC Dimbokro 58.60 165 P P 16 59 26.2 -1.3
comp=Z,9.3nm,0.9s,baz=322,slow=9.1,SNR=7.4
DBIC LR LR 17 25 15.7
comp=Z,200nm,18.1s,baz=1.5,slow=37
TIC Toumodi 58.61 165 eP P 16 59 26.7 -1.0
ZEA Zeya 58.82 24 eP P 16 59 29.3 +0.6
ZEA eS S 17 07 50.0 +16
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA pmax pmax
comp=Z,300nm,8.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
KIC Kosan Boka 58.92 165 eP P 16 59 29.1 -0.7
comp=Z,42nm,1.3s
LIC Lamto 59.02 166 eP P 16 59 29.7 -0.8

comp=Z,87nm,1.6s
YBH Yreka Blue Hor 59.06 303 LR LR 17 26 25.7
comp=Z,208nm,19.2s,baz=24,slow=38
R11A Troy Canyon, C 59.33 295 P **P 16 59 32.9 +0.2**
baz=30,SNR=12
SONM Songino Array 59.62 40 P **P 16 59 35.2 +0.7**
comp=Z,4.0nm,1.1s,baz=320,slow=6.6,SNR=11
SONM LR LR 17 28 00.6
comp=Z,144nm,19.4s,baz=319,slow=39
SONM Songino Array 59.62 40 P **P 16 59 34.8 +0.3**
JCT Junction City 59.66 278 P **P 16 59 35.7 +0.8**
baz=30
N02D Trinity Center 59.72 302 P **P 16 59 35.8 +0.6**
baz=29
ULN Ulaanbaatar 59.77 40 *ce*P **P 16 59 36.5 +0.9**
ULN pmax pmax
comp=Z,13nm,1.7s
ULN Ulaanbaatar 59.77 40 P **P 16 59 35.6 0.0**
ULN IAmb IAmb 16 59 37.0
comp=Z,12nm,1.3s
WUAZ Wupatki 60.11 290 P **P 16 59 38.5 +0.4**
baz=30,SNR=12
WUAZ Wupatki 60.11 290 P **P 16 59 38.0 -0.1**
YERR Yerington 60.17 298 P **P 16 59 39.3 +0.8**
NVAR Mina Array Bea 60.30 297 P **P 16 59 38.9 -0.5**
comp=Z,0.5nm,0.4s,baz=76,slow=6.3,SNR=5.3
NVAR LR LR 17 25 29.9
comp=Z,808nm,18.1s,baz=32,slow=36
NIL Nilore 60.44 74 P **P 16 59 39.7 -0.4**
NIL pmax pmax
comp=Z,34nm,1.2s
NIL Nilore 60.44 74 P **P 16 59 39.7 -0.4**
SHPR Sheep Range 60.76 294 P **P 16 59 42.9 +0.3**
SHPR IAmb IAmb 16 59 51.2
comp=Z,22nm,1.5s
TPNV Topopah Spring 60.80 295 P **P 16 59 44.9 +2.1**
TPNV pmax pmax
comp=Z,9.0nm,1.3s
TPNV Topopah Spring 60.80 295 P **P 16 59 44.9 +2.1**
TPNV IAmb IAmb 16 59 54.6
comp=Z,9.4nm,1.2s
MNTX Cornudas Mount 60.96 283 P **P 16 59 43.7 0.0**
baz=30
X16A Lo Mia Camp, P 61.09 290 P **P 16 59 45.8 +1.0**
121A Cookes Peak, D 61.23 286 P **P 16 59 46.2 +0.5**
baz=29
833A Chaparral WMA, 61.35 276 P **P 16 59 47.3 +0.9**
baz=29
MPMC Manual Prospec 62.06 295 P **P 16 59 52.9 +1.5**
baz=29
TX31 Lajitas Ar. Si 62.29 280 P **P 16 59 53.0 +0.1**
TXAR Lajitas Array 62.29 280 P **P 16 59 52.4 -0.4**
comp=Z,3.0nm,1.0s,baz=46,slow=3.6,SNR=17
TXAR LR LR 17 26 26.1
comp=Z,632nm,19.5s,baz=0.0,slow=36
TXAR Lajitas Array 62.29 280 P **P 16 59 52.9 0.0**
TXAR Lajitas Array 62.29 280 P **P 16 59 52.9 0.0**
GMRC Granite Mounta 62.46 293 P **P 16 59 54.9 +1.0**
baz=29
PETK Petropavlovsk- 62.48 3 P **P 16 59 53.6 -0.1**
PETK Petropavlovsk- 62.48 3 P **P 16 59 53.6 -0.1**
PET Petropavlovsk 62.59 3 *e*P P 17 00 00.1 +5.8
PET *e*S S 17 08 29.2 +7.5
PET pmax pmax
comp=Z,100nm,12.2s
TUC Tucson 62.66 288 P **P 16 59 56.3 +1.0**
TUC pmax pmax
comp=Z,9.0nm,1.1s
TUC Tucson 62.66 288 P **P 16 59 56.3 +1.0**
TUC IAmb IAmb 17 00 02.2
comp=Z,9.1nm,1.1s
HEC Hector,Ludlow 62.69 294 P **P 16 59 55.2 -0.2**
baz=29
ISA Isabella, Lake 62.79 296 P **P 16 59 57.2 +1.1**
baz=28
IRM Iron Mountain 62.81 292 P **P 16 59 57.1 +0.9**
baz=29
BELC Belle Mtn. Jos 63.28 293 P **P 17 00 00.6 +1.2**
baz=28,SNR=5.8
EDW2 Edwards Air Fo 63.29 295 P **P 16 59 59.6 +0.2**
baz=28
BC3 Big Chuckawall 63.37 292 P **P 17 00 00.4 +0.5**
baz=28
BFSC Mount Baldy Ra 63.73 295 P **P 17 00 03.5 +1.1**
baz=28
214A Organ Pipe Nat 63.80 289 P **P 17 00 05.7 +2.9**
baz=28
PFO Pinyon Flats O 63.81 293 P **P 17 00 04.1 +1.2**
baz=28
MONP2 Monument Peak 64.42 293 P **P 17 00 07.5 +0.4**
baz=28
GTA Gaotai 65.28 49 ⇓P **P 17 00 12.5 +0.1**
GTA pP sP 17 00 16.8 -0.7
GTA sP pP 17 00 19.5 +3.4
GTA S **S 17 08 56.8 +1.0**
GTA sS sS 17 09 05.3 +3.3
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,290nm,6.4s
GTA LR LR
comp=Z,270nm,16.4s
GTA LR LR
comp=Z,230nm,17.8s
GTA LR LR
comp=Z,300nm,18.2s
HSIG 65.61 286 P **P 17 00 14.1 -0.5**
SPX San Pedro Mart 65.68 291 P **P 17 00 16.0 +0.7**
SDV Santo Domingo 66.84 239 P **P 17 00 22.3 -0.5**
SDV Santo Domingo 66.84 239 *e*P **P 17 00 23.8 +1.0**
HHC Hu-ho-hao-te 67.49 40 *e*P **P 17 00 28.3 +1.7**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,290nm,7.7s
HHC LR LR
comp=Z,200nm,15.3s
HHC LR LR
comp=Z,230nm,16.2s
HHC LR LR
comp=Z,220nm,15.3s
ZAIG Zacatecas 67.58 276 P **P 17 00 29.1 +1.5**
ZAIG IAmb IAmb 17 00 34.7
comp=Z,14nm,1.3s
YSS Yuzh-Sakhalins 67.63 15 *e*P **P 17 00 24.3 -2.9**
YSS *e* 17 03 00.0
YSS *e*S S 17 09 14.0 -10
YSS pmax pmax
comp=Z,300nm,6.5s
YSS MLR MLR
comp=Z,100nm,14.0s
LZH Lanzhou 69.61 48 *e*P **P 17 00 41.0 +1.1**
LZH pP sP 17 00 47.3 +2.3
LZH sP pP 17 00 50.3 +6.7
LZH pmax pmax
comp=Z,21nm,1.0s
MCPB Macapa, AP 69.61 217 *e*P **P 17 00 41.0 +1.1**
NBMO Morrinhos-CE 69.84 204 *e*P **P 17 00 43.4 +2.1**
ROSB Rosrio 70.22 208 *e*P **P 17 00 44.6 +1.0**
TLIG Tlapa 70.47 270 P **P 17 00 46.0 +0.6**
TLIG IAmb IAmb 17 00 51.0
comp=Z,17nm,1.2s
TMAB Tom-Au,PA,Br 70.57 213 *e*P **P 17 00 46.9 +1.1**
LSA Lhasa 71.00 61 P **P 17 00 50.2 +1.3**
LSA pmax pmax
comp=Z,10.0nm,1.2s
LSA Lhasa 71.00 61 P **P 17 00 50.2 +1.3**
LSA IAmb IAmb 17 00 52.0
comp=Z,9.9nm,1.2s
MALB Monte Alegre 71.63 219 *e*P **P 17 00 53.3 +1.1**
RCBR Riachuelo 71.65 199 *e*P **P 17 00 53.8 +1.4**
ROSC El Rosal 71.94 241 LR LR 17 31 12.8
comp=Z,83nm,19.1s,baz=81,slow=35
ROSC El Rosal 71.94 241 P **P 17 00 54.8 +0.3**
XAN Xi'an 73.07 44 P **P 17 01 00.2 -0.5**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN Xi'an 73.07 44 P **P 17 01 00.2 -0.5**
CD2 Chengdu 74.34 50 P **P 17 01 07.0 -1.2**
CD2 S **S 17 10 41.8 -0.4**
CD2 sS sS 17 10 47.5 -1.0
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,270nm,7.3s
CD2 LR LR
comp=Z,310nm,15.7s
CD2 LR LR
comp=Z,410nm,13.1s
CD2 LR LR
comp=Z,300nm,16.4s
ITTB Itaituba 74.43 220 *e*P **P 17 01 09.4 +0.6**
KSRS Korea Array 74.63 28 LR LR 17 36 54.2
comp=Z,95nm,18.1s,baz=300,slow=38
KSAR Wonju Array Be 74.63 28 P **P 17 01 10.4 +0.6**
KSAR Wonju Array Be 74.63 28 P **P 17 01 10.4 +0.6**
PRPB Parauapebas 74.65 213 *e*P **P 17 01 11.5 +1.5**
MACA Manacapuru-AM 74.72 225 *e*P **P 17 01 12.3 +1.8**
SHL Shillong 75.00 62 P **P 17 01 11.8 -0.5**
SHL pmax pmax
comp=Z,23nm,1.3s
SHL Shillong 75.00 62 P **P 17 01 11.8 -0.5**
SHL IAmb IAmb 17 01 13.7
comp=Z,23nm,1.3s
KMBO Kilima Mbogo 76.67 123 LR LR 17 38 26.7
comp=Z,95nm,18.0s,baz=93,slow=38
SMTB Santa Maria do 76.74 211 *e*P **P 17 01 23.1 +1.1**
ENH Enshi 76.75 45 P **P 17 01 22.3 +0.3**
ENH IAmb IAmb 17 01 23.9
comp=Z,26nm,1.4s
NPGB Novo Progresso 76.89 219 *e*P **P 17 01 23.6 +0.8**
MJAR Matsushiro Arr 77.31 20 LR LR 17 36 04.1
comp=Z,72nm,18.8s,baz=355,slow=36
NJ2 Nanjing 77.72 37 *e*P **P 17 01 27.0 -0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
OTAV Otavalo 77.74 243 P **P 17 01 28.0 -0.2**
OTAV pmax pmax
comp=Z,16nm,1.4s
OTAV Otavalo 77.74 243 P **P 17 01 28.0 -0.2**
OTAV IAmb IAmb 17 01 40.0
comp=Z,16nm,1.4s
OTAV Otavalo 77.74 243 *e*P **P 17 01 28.5 +0.3**
NBCP Cabaceiras do 78.79 202 *e*P **P 17 01 34.5 +1.2**
GYA Guiyang 79.41 49 ⇑P **P 17 01 37.3 +0.4**
GYA PP **PP 17 04 41.0 +4.6**
GYA S **S 17 11 39.0 +1.2**
GYA pmax pmax
comp=Z,9.0nm,1.2s
GYA pmax pmax
comp=Z,200nm,6.2s
GYA LR LR
comp=Z,140nm,17.9s
GYA LR LR
comp=Z,230nm,18.0s
SAML Samuel 80.96 226 P **P 17 01 43.4 -1.7**
SAML pmax pmax
comp=Z,6.0nm,1.2s
SAML Samuel 80.96 226 P **P 17 01 43.4 -1.7**
SAML Samuel 80.96 226 *e*P **P 17 01 44.6 -0.5**
JANB Januaria 82.09 206 *e*P **P 17 01 52.2 +1.1**
ETMB Extrema 82.73 228 *e*P **P 17 01 54.6 +0.1**
CZSB Cruzeiro do Su 82.97 235 *e*P **P 17 01 56.8 +1.0**
SLVN Son La 83.23 53 P **P 17 01 56.9 -0.3**
BDFB Brasilia 83.40 210 LR LR 17 33 25.7
comp=Z,132nm,19.9s,baz=15,slow=32
CHTO Chiang Mai 83.79 59 P **P 17 01 59.9 -0.1**
CHTO pmax pmax
comp=Z,9.0nm,1.2s
CHTO Chiang Mai 83.79 59 P **P 17 01 59.9 -0.1**
CHTO IAmb IAmb 17 02 01.0
comp=Z,9.0nm,1.1s
VILB Vilhena 83.87 222 *e*P **P 17 02 01.8 +1.5**
CMAR Chiang Mai Arr 84.11 59 P **P 17 02 01.5 -0.2**
comp=Z,4.2nm,1.1s,baz=318,slow=6.0,SNR=9.2
CMAR LR LR 17 41 51.8
comp=Z,127nm,19.0s,baz=252,slow=37
CMAR Chiang Mai Arr 84.11 59 P **P 17 02 01.1 -0.6**
IPMB Ipameri, GO 85.72 209 *e*P **P 17 02 10.0 +0.4**
PTLB Pontes e Lacer 85.94 220 *e*P **P 17 02 11.6 +1.0**
LPAZ La Paz 89.42 228 LR LR 17 40 55.6
comp=Z,56nm,18.6s,baz=10.0,slow=35
LPAZ La Paz 89.42 228 *e*P **P 17 02 28.7 +0.6**
PET01 Itanhaem-SP 91.65 207 *e*P **P 17 02 39.4 +1.8**
BOSA Boshof 98.77 143 LR LR 17 50 03.9
comp=Z,218nm,19.8s,baz=1.5,slow=37
WRA Warramunga Arr 131.50 36 PKP **PKiKP 17 08 42.2 -1.8**
comp=Z,1.1nm,1.1s,baz=348,slow=10,SNR=6.7
ASAR Alice Springs 134.94 38 PKP **PKiKP 17 08 49.0 -2.0**
comp=Z,1.3nm,0.9s,baz=340,slow=2.0,SNR=9.6
ASAR Alice Springs 134.94 38 PKIKP **PKiKP 17 08 49.0 -2.0**
STKA Stephens Creek 144.70 32 PKP **PKPdf 17 09 04.8 -2.1**
comp=Z,2.2nm,0.7s,baz=337,slow=6.6,SNR=5.0

IDC ***26*** *17:22:33.6±9.5, 15°.69S×172°.67W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/28, mbtmp4.0/4, Error ellipse: s-maj=199.8km s-min=154.9km az=126.0*
NEIC ***26*** *17:22:39.9±0.3, 15°.05±0°.2×173°.1W±0°.1, h33km±7km, mb4.4/10, Error ellipse: s-maj=29.0km s-min=14.7km az=158.0*
ISC 26 17:22:39.4±1.5, 15°.05±0°.2×173°.1W±0°.2, h29km, n16, σ0ˢ75/14, mb4.5/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUNA	**Funafuti**	**9.87**	**310**	Pn	**Pn**	**17 24 59.2**	**-0.2**
DZM	**Mont Dzumac**	**20.58**	**247**	P	**P**	**17 27 15.9**	**-0.4**
2.5nm,0.7s,baz=174,slow=21,SNR=2.0							
DZM	**Mont Dzumac**	**20.58**	**247**	P	**P**	**17 27 15.8**	**-0.5**
DZM				IAmb	IAmb	17 27 36.8	
comp=Z,14nm,1.3s							
STKA	**Stephens Creek**	**44.46**	**240**	P	**P**	**17 30 48.4**	**+0.2**
comp=Z,0.8nm,0.5s,baz=74,slow=7.5,SNR=3.6							
STKA	**Stephens Creek**	**44.46**	**240**	IAmb	IAmb	17 30 53.5	
comp=Z,1.5nm,1.4s							
BBOO	**Buckleboo**	**49.23**	**240**	P	**P**	**17 31 25.1**	**-0.4**
WR0	**Warramunga Arr**	**49.99**	**256**	P	**P**	**17 31 31.9**	**+0.5**
WR0				IAmb	IAmb	17 31 55.2	
comp=Z,9.9nm,1.6s							
WB0	**Warramunga Arr**	**50.14**	**257**	P	**P**	**17 31 32.8**	**+0.2**
WB0				IAmb	IAmb	17 32 02.4	
comp=Z,4.2nm,1.1s							
WB2	**Warramunga Arr**	**50.17**	**256**	P	**P**	**17 31 32.9**	**+0.2**
WB2				IAmb	IAmb	17 31 43.8	
comp=Z,10nm,1.6s							
WRA	**Warramunga Arr**	**50.18**	**256**	P	**P**	**17 31 32.9**	**0.0**
comp=Z,0.4nm,0.4s,baz=97,slow=7.0,SNR=25							
WRA	**Warramunga Arr**	**50.18**	**256**	IAmb	IAmb	17 31 36.4	
comp=Z,0.1nm,1.1s							
AS31	**Alice Springs**	**50.47**	**252**	P	**P**	**17 31 35.1**	**0.0**
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**17 31 35.2**	**+0.2**
comp=Z,3.6nm,0.5s,baz=88,slow=8.0,SNR=107							
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**17 31 34.7**	**-0.4**
KNRA	**Kununurra**	**55.87**	**261**	P	**P**	**17 32 17.1**	**+2.3**
LCMT	**Little Creek M**	**76.47**	**45**	P	**P**	**17 34 26.7**	**-0.1**

STR ***26*** *17:38:13.3±0.6, 45°N±3°.1°0E±°, h10km, MLv3.5/12, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/a|pes_taup-2.11 preliminary*
BGR ***26*** *17:38:13.9±0.7, 44°.52N×9°.85E, h10km, ML3.6/6, Error ellipse: s-maj=11.1km s-min=7.8km az=43.0*
GEN ***26*** *17:38:14.0, 44°.74N×9°.84E, h49km±6km, Ml3.0*
LDG ***26*** *17:38:15.0±0.1, 44°.70N×9°.88E, h10km, Md3.4/1, Ml3.5/38, Error ellipse: s-maj=2.9km s-min=2.0km az=43.0*
ROM ***26*** *17:38:15.3±0.1, 44°.662N±0°.005×9°.886E±0°.006, h26km, ML3.0/54, Error ellipse: s-maj=0.6km s-min=0.4km az=51.0, hypocenter*
PRU ***26*** *17:38:16.4±0.0, 44°.82N×9°.94E, h10km*
ISC 26 17:38:15.4±0.9, 44°.69N±0°.02×9°.85E±0°.02, h28km±6km, n172, σ1ˢ79/238, 1C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM	**Graiana**	**0.26**	**142**	P	**Pb**	**17 38 20.8**	**-1.4**
GRAM				S	**Sb**	**17 38 25.4**	**-1.4**
GRAM	**Graiana**	**0.26**	**142**	P	**Pb**	**17 38 20.8**	**-1.4**
GRAM				S	**Sb**	**17 38 25.8**	**-1.0**
GRAM				AML	AML		
comp=N,9775μm,1.0s							
GRAM				AML	AML		
comp=E,6795μm,0.9s							
BOB	**Bobbio (Coli)**	**0.29**	**285**	P	**Pb**	**17 38 22.9**	**+0.1**
BOB				S	**Sn**	**17 38 29.0**	**-0.4**
BOB				AML	AML		
comp=E,5005μm,1.5s							
BOB				AML	AML		
comp=E,4820μm,1.5s							
BOB				AML	AML		
comp=N,5075μm,0.7s							
BOB				AML	AML		
comp=N,5580μm,0.7s							
BOB				AML	AML		
comp=N,5080μm,0.7s							
BOB				AML	AML		
comp=E,4825μm,1.5s							
PRMA	**PARMA**	**0.34**	**78**	P	**Pb**	**17 38 22.9**	**-0.4**
PRMA				S	**Sn**	**17 38 30.0**	**-0.4**
PRMA				AML	AML		
comp=N,8830μm,0.8s							
PRMA				AML	AML		
comp=E,8145μm,0.8s							
NEVI	**Neviano degli**	**0.35**	**108**	P	**Pb**	**17 38 23.2**	**-0.3**
GORR	**Gorreto**	**0.40**	**258**	P	**Pb**	**17 38 24.4**	**+0.1**
GORR				S	**Sb**	**17 38 31.3**	**+1.0**
GORR	**Gorreto**	**0.40**	**258**	P	**Pb**	**17 38 24.4**	**+0.1**
GORR				S	**Sb**	**17 38 31.3**	**+1.0**
GORR				AML	AML		
comp=E,2450μm,0.5s							
GORR				AML	AML		
comp=N,4105μm,0.4s							
MSSA	**Maissana**	**0.44**	**212**	P	**Pb**	**17 38 24.6**	**-0.3**
MSSA				S	**Sb**	**17 38 31.5**	**+0.1**
MSSA				AML	AML		
comp=N,2885μm,0.4s							
MSSA				AML	AML		
comp=E,1665μm,0.7s							
ERBM	**Eremo**	**0.49**	**124**	P	**Pb**	**17 38 24.9**	**-0.7**
ERBM				S	**Sb**	**17 38 32.5**	**-0.1**
ERBM				AML	AML		
comp=E,1405μm,1.5s							
ERBM				AML	AML		
comp=N,1540μm,1.4s							
ERBM				AML	AML		
comp=E,1400μm,1.5s							
FIVI	**Fivizzano**	**0.50**	**156**	P	**Pb**	**17 38 25.1**	**-0.6**
EQUI	**Equi**	**0.57**	**157**	P	**Pb**	**17 38 25.6**	**-1.4**
EQUI				S	**Sb**	**17 38 34.7**	**-0.1**
EQUI	**Equi**	**0.57**	**157**	P	**Pb**	**17 38 25.9**	**-1.0**
EQUI				S	**Sb**	**17 38 33.8**	**-1.0**
EQUI				AML	AML		
comp=E,432μm,1.4s							
EQUI				AML	AML		
comp=N,566μm,1.0s							
PLMA	**Palmaria, Port**	**0.64**	**180**	P	**Pb**	**17 38 27.5**	**-0.6**
PLMA				S	**Sb**	**17 38 36.2**	**-0.5**
PLMA				AML	AML		
comp=N,1122μm,0.7s							
PLMA				AML	AML		
comp=N,1122μm,0.7s							
PLMA				AML	AML		
comp=E,882μm,0.7s							
SARO	**Sassorosso**	**0.65**	**142**	P	**Pb**	**17 38 27.1**	**-1.2**
SARO				S	**Sb**	**17 38 36.7**	**-0.3**
SARO	**Sassorosso**	**0.65**	**142**	P	**Pb**	**17 38 27.1**	**-1.2**
SARO				S	**Sb**	**17 38 36.5**	**-0.4**
SARO				AML	AML		
comp=E,357μm,0.9s							
SARO				AML	AML		
comp=N,492μm,0.4s							
VLC	**Villacollemand**	**0.66**	**144**	P	**Pb**	**17 38 27.5**	**-1.0**
VLC				S	**Sb**	**17 38 36.9**	**-0.4**
VLC				AML	AML		
comp=E,461μm,1.6s							
VLC				AML	AML		
comp=N,492μm,1.6s							
VLC				AML	AML		
comp=E,480μm,1.6s							
VLC				AML	AML		
comp=N,540μm,1.6s							
VLC				AML	AML		
comp=E,462μm,1.6s							
CARD	**Cardoso**	**0.81**	**145**	P	**Pb**	**17 38 30.0**	**-0.9**
CARD				AML	AML		
comp=E,620μm,1.4s							
CARD				AML	AML		
comp=N,652μm,1.0s							
CARD				AML	AML		
comp=E,620μm,1.4s							
BDI	**Bagni Di Lucca**	**0.83**	**139**	P	**Pb**	**17 38 30.3**	**-1.0**
ZCCA	**Zocca**	**0.88**	**112**	AML	AML		
comp=E,531μm,1.4s							
ZCCA				AML	AML		
comp=E,532μm,1.4s							
ZCCA				AML	AML		
comp=N,536μm,0.8s							
ZCCA				AML	AML		
comp=N,536μm,0.8s							
ZCCA				AML	AML		
comp=E,536μm,1.4s							
ZCCA				AML	AML		
comp=N,572μm,0.9s							
MILN	**Milano**	**0.90**	**331**	AML	AML		
MILN				AML	AML		
MAIM	**Mastiano**	**0.91**	**149**	P	**Pb**	**17 38 31.9**	**-0.6**
MAIM				S	**Sb**	**17 38 44.4**	**+0.2**
MAIM	**Mastiano**	**0.91**	**149**	P	**Pb**	**17 38 31.9**	**-0.6**
MAIM				S	**Sb**	**17 38 43.9**	**-0.4**
MAIM				AML	AML		
comp=E,410μm,1.6s							
MAIM				AML	AML		
comp=N,464μm,0.9s							
BOTT	**Botticino**	**0.92**	**21**	P	**Pn**	**17 38 32.6**	**+0.2**
PCP	**Piancastagn**	**0.94**	**261**	P	**Pn**	**17 38 33.8**	**+1.0**
PCP				AML	AML		
comp=E,834μm,0.6s							
PCP				AML	AML		
comp=N,802μm,0.4s							
CAPR	**Capriolo**	**0.95**	**4**	AML	AML		
comp=E,767μm,0.8s							
CAPR				AML	AML		
comp=N,908μm,0.8s							
CAPR				AML	AML		
comp=N,907μm,0.8s							
MERA	**Merate**	**1.03**	**343**	P	**Pn**	**17 38 36.4**	**+2.4**
SALO	**Salr**	**1.04**	**27**	P	**Pn**	**17 38 34.7**	**+0.5**
SALO				AML	AML		
comp=E,861μm,0.7s							
SALO				AML	AML		
comp=N,1690μm,0.7s							
SALO				AML	AML		
comp=N,1670μm,0.7s							
SALO				AML	AML		
comp=E,898μm,0.4s							
MTCR	**Monte La Croce**	**1.06**	**128**	P	**Pb**	**17 38 34.7**	**-0.5**
MTCR				AML	AML		
comp=E,558μm,0.7s							
MTCR				AML	AML		
comp=N,831μm,0.7s							
ROTM	**Rocchetta Tana**	**1.07**	**279**	AML	AML		
comp=N,5775μm,0.5s							
ROTM				AML	AML		
comp=E,4600μm,0.6s							
PII	**Pisa**	**1.09**	**153**	P	**Pn**	**17 38 34.9**	**+0.2**
PII				AML	AML		
comp=E,858μm,0.8s							
PII				AML	AML		
comp=N,565μm,0.8s							
QLNO	**Quiliano**	**1.13**	**252**	P	**Pb**	**17 38 36.4**	**0.0**
QLNO				AML	AML		
comp=N,634μm,0.5s							
QLNO				AML	AML		
comp=E,658μm,0.6s							
GARGN	**Gargnano BS**	**1.15**	**30**	⇑*e*Pg	**Pn**	**17 38 36.1**	**+0.3**
GARGN				*e*Sg	**Sn**	**17 38 52.3**	**+1.6**
FINB	**Finale Ligure**	**1.21**	**245**	P	**Pb**	**17 38 37.3**	**-0.3**
FINB				AML	AML		
comp=N,524μm,0.4s							
FINB				AML	AML		
comp=E,646μm,0.3s							
MAGA	**Magasa**	**1.22**	**27**	P	**Pn**	**17 38 36.6**	**-0.1**
MAGA				AML	AML		
comp=E,2125μm,0.7s							
MAGA				AML	AML		
comp=N,1270μm,0.3s							
SEI	**Scarperia**	**1.26**	**120**	AML	AML		
comp=N,882μm,0.6s							
SEI				AML	AML		
comp=E,350μm,0.9s							
GROG	**Isola di Gorgo**	**1.27**	**178**	AML	AML		
comp=E,368μm,0.7s							
GROG				AML	AML		
comp=N,280μm,0.6s							

MARN Marana (Italy) 1.35 45‖ *e*Pg Pn 17 38 38.2 -0.2
MARN *e*Sg Sb 17 38 57.9 +0.8
MUGIO Muggio 1.35 336 P Pn 17 38 39.5 +0.9
MUGIO AML AML
comp=E,539μm,0.9s
MUGIO AML AML
comp=N,744μm,0.9s
MUGIO AML AML
comp=E,539μm,0.9s
RORO Rocca Rossa 1.40 246 P Pn 17 38 40.0 +0.9
RORO AML AML
comp=E,394μm,0.5s
RORO AML AML
comp=N,396μm,1.2s
MABI Malga Bissina 1.44 19 P Pn 17 38 40.2 +0.4
MABI AML AML
comp=N,269μm,1.1s
MABI AML AML
comp=E,340μm,0.6s
TEOL Teolo 1.46 62 *e*Pg Pn 17 38 40.1 +0.3
TEOL *e*Sg Sb 17 39 00.6 +0.6
GBOS Grotte di Boss 1.50 253 P Pn 17 38 41.7 +1.2
GBOS AML AML
comp=E,204μm,0.7s
GBOS AML AML
comp=N,270μm,0.5s
DOSS Dosso del Somm 1.52 38‖ *e*Pg Pn 17 38 40.7 -0.2
DOSS *e*Sg Sb 17 39 02.2 +0.3
MGRO Montegrosso 1.60 247 P Pn 17 38 43.1 +1.2
MGRO AML AML
comp=E,760μm,0.6s
MGRO AML AML
comp=E,760μm,0.6s
MGRO AML AML
comp=N,404μm,0.5s
IMI Imperia 1.60 242 P Pn 17 38 42.8 +0.8
IMI AML AML
comp=E,713μm,1.2s
IMI AML AML
comp=N,1070μm,1.0s
TRAV Traversella 1.70 300 P Pn 17 38 44.1 +0.9
TRAV AML AML
comp=N,655μm,0.5s
TRAV AML AML
comp=E,584μm,0.4s
PANI Panarotta 1.72 37 *e*Pg Pn 17 38 43.7 +0.1
PANI *e*Sg Sb 17 39 08.1 +0.5
SAOF Saorge 1.79 248 Pn Pn 17 38 45.8 +1.4
SAOF Sn Sb 17 39 09.2 -0.3
SAOF Saorge 1.79 248 P Pn 17 38 46.1 +1.7
SAOF Saorge 1.79 248 AML AML
comp=E,322μm,0.4s
SAOF AML AML
comp=N,282μm,0.5s
ENR Entracque 1.80 256 P Pn 17 38 46.1 +1.5
ENR AML AML
comp=N,365μm,0.6s
ENR AML AML
comp=E,444μm,0.4s
TUE Stuetta 1.81 349 P Pb 17 38 46.7 -1.4
TUE AML AML
comp=E,508μm,0.5s
TUE AML AML
comp=N,500μm,0.5s
TUE AML AML
comp=E,400μm,0.5s
TUE AML AML
comp=N,364μm,0.5s
CGRP Cima Grappa 1.82 49 *e*Pn Pn 17 38 44.9 -0.2
CGRP *e*Sn Sb 17 39 11.8 +1.2
BHB Bricherasio 1.84 276 P Pb 17 38 47.5 -1.0
BHB AML AML
comp=N,335μm,0.7s
BHB AML AML
comp=E,362μm,0.6s
CIRO Champorcher 1.85 300 P Pn 17 38 46.0 +0.5
CIRO AML AML
comp=E,297μm,0.9s
CIRO AML AML
comp=N,320μm,1.4s
CTI Castel Tesino 1.86 43 P Pn 17 38 45.4 -0.1
CTI AML AML
comp=E,322μm,1.5s
CTI AML AML
comp=N,430μm,0.7s
RSP Reno Superiore 1.89 285 P Pn 17 38 46.2 +0.3
RSP AML AML
comp=E,281μm,0.9s
RSP AML AML
comp=N,218μm,1.0s
MMK Mattmark 1.90 316 P Pn 17 38 47.4 +1.3
MMK AML AML
comp=N,398μm,1.4s
MMK AML AML
comp=E,357μm,0.4s
TURF col de Turini 1.90 249 Pn Pn 17 38 47.7 +1.6
TURF Sn Sb 17 39 12.0 -0.9
SBF Sospel 1.92 245 *e*P Pn 17 38 48.1 +1.8
SBF *e*Sg Sb 17 39 16.1 +2.8
comp=E,195nm,0.4s
FUSIO Fusio 1.95 335 P Pn 17 38 47.8 +1.0
FUSIO AML AML
comp=E,417μm,0.3s
FUSIO AML AML
comp=N,270μm,0.3s
FUORN Ofenpass-Fuorn 1.95 8 P Pn 17 38 48.3 +1.4
FUORN AML AML
comp=E,198μm,0.8s
FUORN AML AML
comp=N,182μm,0.6s
PZZ Stroppo 1.96 266 P Pn 17 38 48.9 +2.0
PZZ AML AML
comp=E,518μm,0.4s
PZZ AML AML
comp=N,485μm,0.5s
ESCA l'Escarene 1.97 245 Pn Pn 17 38 48.8 +1.8
ESCA Sn Sb 17 39 14.7 -0.1
MOSI Grossmontoni 1.99 14 P Pb 17 38 49.4 -1.6
MOSI AML AML
comp=N,695μm,0.5s
MOSI AML AML
comp=E,419μm,0.4s
CASP Castiglione de 2.04 158 P Pn 17 38 48.4 +0.5
CASP AML AML
comp=E,126μm,0.7s
CASP AML AML
comp=N,113μm,0.3s
CAFI Castiglion Fio 2.05 131 P Pn 17 38 50.0 +2.0
CAFI AML AML
comp=E,75μm,0.5s
CAFI AML AML
comp=N,79μm,1.2s
VARN Col Varnada, M 2.06 50 *e*Pn Pn 17 38 48.7 +0.5
VARN *e*Sn Sb 17 39 15.2 -2.1
ISO Isola 2.07 257 Pn Pb 17 38 50.7 -1.6
LSD Lago del Serru 2.07 293 P Pn 17 38 48.9 +0.4
LSD AML AML
comp=E,156μm,1.4s
LSD AML AML
comp=N,170μm,0.5s
DAVOX Davos/Dischmat 2.09 1 P Pn 17 38 50.8 +2.1
DAVOX AML AML
comp=E,144μm,0.8s
DAVOX AML AML
comp=N,232μm,0.4s
FAU Forcella Aurin 2.15 44 *e*Pn Pn 17 38 50.0 +0.5
SURF Saint Ours 2.18 265 Pn Pb 17 38 52.6 -1.6
RRL Rocca Remolon 2.19 277 P Pn 17 38 52.0 +1.9
RRL AML AML
comp=E,152μm,0.6s
RRL AML AML
comp=N,182μm,0.7s
MBDF Montbardon 2.19 272 *e*P Pn 17 38 51.8 +1.7
MBDF *e*Sn Sn 17 39 16.5 +0.1
comp=N,104nm,0.4s
REMY Saint-Rhmy-en 2.22 302 P Pn 17 38 51.8 +1.2
REMY AML AML
comp=N,730μm,0.6s
REMY AML AML
comp=E,488μm,0.6s
PGF Pioggiola 2.23 196 *e*Pn Pn 17 38 51.0 +0.4
PGF *e*Sn Sn 17 39 16.6 -0.6
comp=E,13nm,0.4s
PGF Pioggiola 2.23 196 P Pn 17 38 50.7 +0.1
PGF AML AML
comp=N,50μm,1.2s
PGF AML AML
comp=E,44μm,0.6s
NARO Abbazia di Nar 2.25 118 AML AML
comp=N,64μm,1.6s
NARO AML AML
comp=E,53μm,1.4s
PIEI Pieia 2.26 120 AML AML
comp=E,57μm,0.7s
PIEI AML AML
comp=N,36μm,1.2s
EILF Villa Eilenroc 2.27 241 Pn Pn 17 38 52.6 +1.7
EILF Sn Sn 17 39 17.8 0.0
ABSI Aberstueckl 2.28 26 AML AML
comp=E,284μm,0.6s
ABSI AML AML
comp=N,294μm,0.8s
CALF Calern 2.30 247 Pn Pn 17 38 53.8 +2.2
OGMO Fort Saint-Gob 2.30 284 Pn Pn 17 38 53.6 +2.1
LPG La Plagne 2.33 291 *e*Pn Pn 17 38 53.0 +0.8
LPG La Plagne 2.33 291 *e*P Pn 17 38 54.3 +2.1
LPG *e*Sn Sn 17 39 20.6 +0.5
comp=N,90nm,0.5s
LPL La Plagne 2.35 292 *e*P Pn 17 38 54.6 +2.2
LPL *e*Sn Sn 17 39 21.2 +0.8
comp=N,258nm,0.5s
OGAG Argentiere 2.37 265 Pn Pb 17 38 56.8 -0.8
PLONS Plons/SG 2.38 352 *e*Pn Pn 17 38 55.1 +2.5
PLONS Plons/SG 2.38 352 AML AML
comp=N,148μm,1.2s
PLONS AML AML
comp=E,218μm,0.7s
BNALP Bannalp 2.40 336 AML AML
comp=E,186μm,0.4s
BNALP AML AML
comp=N,183μm,1.5s
FETA Feichten 2.41 15 Pn Pn 17 38 55.1 +2.0
comp=N,12nm,0.4s,SNR=8.6
FETA Sn Sb 17 39 25.8 -1.7
comp=N,12nm,0.4s
RSL Roselend 2.48 295 Pn Pb 17 38 57.3 -2.2
FRF La Foret Royal 2.57 245 *e*P Pn 17 38 56.8 +1.7
FRF *e*Sn Sn 17 39 25.1 -0.3
comp=N,58nm,0.4s
DAVA Damuels 2.59 1 *e*Pn Pn 17 38 58.3 +2.6
DAVA Damuels 2.59 1 Pn Pn 17 38 58.3 +2.6
comp=N,31nm,0.4s,SNR=47
DAVA Sn Sb 17 39 30.2 -2.6
comp=N,61nm,0.3s
SMPL Sampolo 2.63 189 Pn Pn 17 38 57.3 +1.3
SQTA Sankt Quirin 2.70 20 Pn Pn 17 38 59.9 +2.8
comp=N,3.7nm,0.2s,SNR=12
SQTA Sn Sb 17 39 32.9 -3.0
comp=N,18nm,0.3s
OBER Oberstdorf 2.73 6 *e*Pn Pn 17 39 00.2 +2.7
RISI Rein 2.74 34 AML AML
comp=N,268μm,0.4s
RISI AML AML
comp=E,343μm,0.5s
LMR La Mourre 2.76 242 *e*Pn Pn 17 38 58.3 +0.5
LMR *e*Sn Sn 17 39 30.6 +0.4
comp=E,109nm,0.4s
ABTA Abfaltersbach 2.78 41 *e*Pn Pn 17 38 59.7 +1.6
comp=E,3.3nm,0.3s,SNR=5.3
ABTA *e*Sn Sn 17 39 34.3 +3.6
comp=E,9.4nm,0.4s
MOTA Moosalm 2.79 18 *e*Pn Pn 17 39 00.7 +2.4
comp=E,7.6nm,0.3s,SNR=8.2
MOTA Sn Sn 17 39 33.9 +2.7
comp=E,13nm,0.3s
WILA Wila 2.80 347 *e*Pn Pn 17 39 00.2 +1.8
WILA *e*Sn Sn 17 39 33.9 +2.7
ORIF Oris-en-Rattie 2.83 276 *e*P Pn 17 39 02.0 +3.2
ORIF *e*Sn Sn 17 39 32.0 -0.1
comp=E,98nm,0.4s
ORIF Oris-en-Rattie 2.83 276 Pn Pn 17 39 02.3 +3.5
ORIF Oris-en-Rattie 2.83 276 AML AML
comp=E,126μm,0.5s
ORIF AML AML
comp=N,200μm,0.8s
RETA Reutte 2.87 13 *e*Pn Pn 17 39 01.8 +2.5
comp=N,3.7nm,0.2s,SNR=9.1
RETA *e*Sn Sn 17 39 35.2 +2.3
comp=N,9.2nm,0.2s
WATA Walderalm 2.91 24 Pn Pn 17 39 02.1 +2.2
comp=N,2.6nm,0.2s
WATA Sn Sn 17 39 37.6 +3.7
comp=N,41nm,0.6s
CSP1 Cessapalombo 2.91 122 AML AML
comp=E,161μm,1.6s
CSP1 AML AML
comp=N,530μm,1.6s
SABO M.te Sabotino 2.94 63 AML AML
comp=N,168μm,0.8s
SABO AML AML
comp=E,162μm,0.9s
UBR Ueberruh 3.00 3 *e*Pn Pn 17 39 03.1 +2.0
UBR *e*Sn Sn 17 39 39.1 +3.1
BALST Balsthal 3.04 331 *e*Pn Pn 17 39 03.5 +1.8
BALST *e*Sn Sn 17 39 38.1 +1.0
OGSM Saint Maurice 3.08 289 Pn Pn 17 39 05.0 +2.9
OGSM Sn Sn 17 39 41.0 +3.1
SULZ Cheisacher 3.08 338 *e*Pn Pn 17 39 03.5 +1.3
SULZ *e*Sn Sn 17 39 40.2 +2.0
WALHA Wallhausen, DE 3.10 351 *e*Pn Pn 17 39 03.7 +1.2
WALHA *e*Sn Sn 17 39 40.7 +2.2
ARTF Artigues 3.11 251 Pn Pn 17 39 04.7 +2.1
SMRF Simiane la Rot 3.15 258 *e*P Pn 17 39 06.1 +3.0
SMRF *e*Sn Sn 17 39 38.9 -0.8
comp=E,24nm,0.4s
JAVS Javornik 3.21 67 *e*Pn Pn 17 39 03.7 -0.3
JAVS *e*Sn Sn 17 39 40.6 -0.8
comp=Z,10.0nm,0.4s
SLE Schleitheim 3.21 343 *e*Pn Pn 17 39 04.9 +0.9
SLE *e*Sn Sn 17 39 43.2 +1.9
CABF La Chapelle 3.26 307 *e*P Pn 17 39 07.6 +2.9
CABF *e*Sn Sn 17 39 42.1 -0.5
comp=Z,36nm,0.5s
EMING Emmingen-Lipti 3.28 348 *e*Pn Pn 17 39 05.8 +0.9
EMING *e*Sn Sn 17 39 44.1 +1.2
BERGE Lenzkirch (DE) 3.38 341 *e*Pn Pn 17 39 07.1 +0.7
BERGE *e*Sn Sn 17 39 44.8 -0.8
CHMF Charmoille 3.39 320 Pn Pn 17 39 08.5 +2.1
KBA Koelnbreinsper 3.42 44 *e*Pn Pn 17 39 08.3 +1.4
comp=Z,3.1nm,0.3s
KBA *e*Sn Sn 17 39 48.5 +1.9
comp=Z,2.4nm,0.2s
KIZ Kirchzarten 3.53 338 Pn Pn 17 39 09.0 +0.7
MOF Molkenrain 3.68 330 Pn Pn 17 39 12.0 +1.6
VIVF Saint-Julien-l 3.69 274 *e*P Pn 17 39 13.5 +3.0
VIVF *e*Sn Sn 17 39 53.0 -0.1
comp=Z,36nm,0.5s
HINF Hinteralfeld 3.75 327 *e*P Pn 17 39 12.8 +1.4
HINF *e*Sn Sn 17 39 53.9 -0.8
comp=Z,128nm,0.5s
OBKA Obir 3.77 60 *e*Pn Pn 17 39 13.2 +1.5
comp=Z,0.7nm,0.2s
OBKA *e*Sn Sn 17 39 59.0 +3.9
comp=Z,6.0nm,0.4s
BFO Black Forest 3.79 344 *e*Pn Pn 17 39 12.4 +0.5
BFO *e*Sn Sn 17 39 54.5 -1.0
OPP Oppenau 3.97 344 Pn Pn 17 39 15.0 +0.6
ECH Echery 3.98 333 *e*Pn Pn 17 39 15.7 +1.1
ECH *e*Sn Sn 17 39 59.5 -0.9
ECH Echery 3.98 333 Pn Pn 17 39 15.7 +1.1
WLS Welschbruch 4.10 336 Pn Pn 17 39 17.3 +1.1
HAU Haudompre 4.10 325 *e*P Pn 17 39 18.1 +1.8
HAU *e*Sn Sn 17 40 02.4 -0.9
comp=Z,243nm,0.4s
CDF Champ du Feu 4.12 335 *e*Pn Pn 17 39 17.2 +0.6
CDF *e*Sn Sn 17 40 02.9 -0.9
comp=Z,59nm,0.5s
LASF Ste Croix 4.34 264 *e*P Pn 17 39 21.9 +2.4
LASF *e*Sn Sn 17 40 08.1 -1.0
comp=Z,15nm,0.4s
MOA Molln 4.40 43 *e*Pn Pn 17 39 21.1 +0.8
comp=Z,1.4nm,0.2s
MOA *e*Sn Sn 17 40 14.0 +3.3
comp=Z,4.2nm,0.3s
THEF They Montfort 4.43 324 Pn Pn 17 39 22.8 +2.1
ARSA Arzberg 4.71 55 *i* Pn Pn 17 39 25.3 +0.7
comp=Z,2.2nm,0.3s
LBL Lubilhac 4.71 279 Pn Pn 17 39 26.9 +2.2
PAGF Fort de Pagny 4.79 325 *e*P Pn 17 39 28.0 +2.3
baz=145
PAGF *e*Sn Sn 17 40 19.7 -0.6
comp=Z,75nm,0.6s
SFTF Sexfontaines 4.83 318 *e*P Pn 17 39 28.5 +2.2
baz=137
SFTF *e*Sn Sn 17 40 21.2 -0.1
comp=Z,26nm,0.5s
LOR Lormes 4.90 304 *e*P Pn 17 39 29.4 +2.2
baz=124
LOR *e*Sn Sn 17 40 22.4 -0.6
comp=Z,66nm,0.3s
GEC2 GERESS Array S 4.93 31 *e*Pn Pn 17 39 27.3 -0.3
GEC2 *e*Sn Sn 17 40 20.9 -2.8
AVF Avril sur Loir 5.01 297 *e*P Pn 17 39 31.2 +2.6
AVF *e*Sn Sn 17 40 24.5 -1.0
comp=Z,12nm,0.4s
SSF Saint Saulge 5.02 300 *e*Pn Pn 17 39 28.7 -0.1
SSF *e*Sn Sn 17 40 24.3 -1.6
comp=Z,45nm,0.5s
MEZF Maizieres J'vi 5.04 321 *e*P Pn 17 39 31.4 +2.3
baz=141
MEZF *e*Sn Sn 17 40 25.9 -0.5
comp=Z,30nm,0.6s
KHC Kasperske Hory 5.12 29 *e*PN Pn 17 39 30.7 +0.4
KHC *e*SG Sb 17 40 59.5 +14
BGF Bois d'Agland 5.25 293 *e*P Pn 17 39 34.9 +2.9
BGF *e*Sn Sn 17 40 31.4 -0.2
comp=Z,62nm,0.6s
CONA Conrad Observa 5.28 50 *i* Pn Pn 17 39 33.0 +0.6
comp=Z,0.7nm,0.2s
CONA *e*Sn Sn 17 40 32.9 +0.6
comp=Z,2.6nm,0.4s
ABH Alteburg 5.42 344 *e*Pn Pn 17 39 35.1 +0.8
ABH *e*Sn Sn 17 40 34.7 -1.0
ABH Alteburg 5.42 344 Pn Pn 17 39 35.3 +1.0
CAF Calviac 5.54 275 *e*P Pn 17 39 39.3 +3.3
CAF *e*Sn Sn 17 40 36.2 -2.6
comp=Z,2.4nm,0.2s
TCF Toulx Ste Croi 5.60 289 *e*P Pn 17 39 39.1 +2.3
TCF *e*Sn Sn 17 40 38.3 -1.9
comp=Z,25nm,0.4s
HYF Humbligny 5.64 300 *e*Sn Sn 17 40 41.4 +0.2
MTLF Montolieu 5.66 259 *e*P Pn 17 39 41.8 +4.1
MTLF *e*Sn Sn 17 40 39.2 -2.5
comp=Z,7.6nm,0.5s
RJF Les Rejaudoux 5.94 279 *e*P Pn 17 39 45.6 +4.2
RJF *e*Sn Sn 17 40 45.9 -2.6
comp=Z,8.4nm,0.5s
MODS Modra-Piesok 6.31 52 *e*PN Pn 17 39 45.3 -1.2
GIVF Givet 6.39 330 *e*Pn Pn 17 39 47.3 -0.4
GIVF *e*Sn Sn 17 40 57.2 -2.5
comp=Z,2.6nm,0.2s
BAIF Baives 6.59 327 *e*Pn Pn 17 39 50.0 -0.4
BAIF *e*Sn Sn 17 41 02.5 -2.0
comp=Z,5.2nm,0.5s
CLL Collm 6.95 17 *e*Pn Pn 17 39 50.0 -5.3
CLL *e*Sg Sb 17 41 53.0 +15
EPF Esparros 7.07 260 *e*P Pn 17 40 01.0 +4.0
MFF Saint Martin d 7.26 289 *e*P Pn 17 40 04.3 +4.8
MFF *e*Sn Sn 17 41 18.2 -2.7
comp=Z,1.8nm,0.3s
VYHS Vyhne 7.27 55 *e*PN Pn 17 40 01.6 +1.9
ETSF Etsaut 7.74 260 *e*P Pn 17 40 11.3 +5.1
LDF La Druitiere 7.89 303 *e*Pn Pn 17 40 08.1 -0.1
LDF *e*Sn Sn 17 41 32.8 -3.7
comp=Z,2.3nm,0.4s
SJPF Ste Jean 8.15 263 *e*P Pn 17 40 15.7 +3.9
GRR Gorron 8.25 300 *e*P Pn 17 40 16.6 +3.5
GRR *e*Sn Sn 17 41 42.2 -3.1
comp=Z,1.9nm,0.3s
SGMF Saint Gilles 9.27 297 *e*P Pn 17 40 31.6 +4.5
SGMF *e*Sn Sn 17 42 06.2 -4.1
comp=Z,1.3nm,0.2s
ROSF Rostrenen 9.75 297 *e*Sn Sn 17 42 17.4 -4.7
comp=Z,1.7nm,0.4s

IDC 26 17:50:17.4±2.4, 22°.04N×144°.07E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/47, mbtmp3.6/4, Error ellipse: s-maj=72.5km s-min=31.8km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**42.38**	**274**	P	P	17 58 12.8	-0.9
	0.2nm,0.5s,baz=87,slow=5.9,SNR=5.1						
WRA	**Warramunga Arr**	**42.80**	**194**	P	P	17 58 17.2	+0.2
	0.3nm,0.4s,baz=17,slow=9.4,SNR=13						
MKAR	**Makanchi Array**	**55.08**	**312**	P	P	17 59 52.3	+1.2
	0.2nm,0.6s,baz=102,slow=6.1,SNR=2.3						
FINES	**FINESS Array B**	**83.23**	**335**	P	P	18 02 44.8	-0.6
	4.8nm,1.0s,baz=74,slow=6.8,SNR=4.5						

*IDC **26** 17:54:43.4±1.4, 3°.46S×152°.61E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/38, mbtmp3.5/6, ML1.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/31, Error ellipse: s-maj=45.2km s-min=19.2km az=117.0*

ISC 26 17:54:48.6±1.3, 3°.5S±0°.2×152°.6E±0°.3, h35km, n8, σ1s24/8, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.02**	**214**	Pn	Pn	17 55 04.8	-1.7
	74nm,0.3s,baz=41,slow=2.2,SNR=148						
KRVT				Sn	Sn	17 55 20.6	+0.9
	145nm,0.3s,baz=75,slow=7.4,SNR=7.8						
PMG	**Port Moresby**	**8.01**	**222**	Pn	Pn	17 56 42.8	+0.2
	0.5nm,0.3s,baz=331,slow=21,SNR=1.1						
GUMO	**Guam**	**18.59**	**336**	LR	LR	18 07 12.2	
	comp=Z,27nm,18.2s,baz=285,slow=40						
WRA	**Warramunga Arr**	**24.21**	**226**	P	**P**	**18 00 00.7**	**-1.5**
	2.1nm,1.0s,baz=52,slow=9.3,SNR=8.1						
ASAR	**Alice Springs**	**27.02**	**220**	P	**P**	**18 00 28.8**	**+1.1**
	0.1nm,0.4s,baz=53,slow=9.0,SNR=1.3						
CMAR	**Chiang Mai Arr**	**57.13**	**294**	P	**P**	**18 04 32.4**	**+0.2**
	0.9nm,0.9s,baz=115,slow=5.3,SNR=6.9						
VNDA	**Vanda**	**74.18**	**178**	P	**P**	**18 06 21.8**	**+0.6**
	0.3nm,0.6s,baz=0.9,slow=4.0,SNR=2.0						
ILAR	**Eielson Array**	**80.99**	**22**	P	**P**	**18 06 59.4**	**0.0**
	0.5nm,0.8s,baz=234,slow=5.6,SNR=4.4						

*SNET **26** 17:57:30.5±0.9, 13°.15N×89°.11W, h61km±11km, ML3.6*
*UCR **26** 17:57:30.5±0.9, 13°.15N×89°.11W, h62km±11km, ML3.6*

ISC 26 17:57:30.9±1.9, 13°.1N±0°.1×89°.11W±0°.07, h60km±17km, n50, σ0s49/64, 12C-14D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.49**	**6** ‖	*i*P	**Pn**	**17 57 42.4**	**-0.7**
LFRS	**El Faro**	**0.49**	**6** ‖	*i*P	**Pn**	**17 57 42.4**	**-0.7**
COEG	**Centro de Oper**	**0.54**	**25** ‖	*i*P	**Pn**	**17 57 42.8**	**-0.6**
COEG				*e*S	**Sn**	**17 57 52.5**	**0.0**
COEG				IAML		17 57 59.6	
	comp=Z,2μm,0.3s						
COEG	**Centro de Oper**	**0.54**	**25** ‖	*i*P	**Pn**	**17 57 42.8**	**-0.6**
COEG				*e*S	**Sn**	**17 57 52.5**	**0.0**
COEG				IAML		17 57 59.6	
	comp=Z,2μm,0.3s						
ALJI	**Alcalda de J**	**0.56**	**69**	*i* P	**Pn**	**17 57 43.4**	**-0.2**
ALJI				IAML		17 57 43.9	
	comp=Z,4μm,0.2s						
ALJI	**Alcalda de J**	**0.56**	**69**	*i* P	**Pn**	**17 57 43.4**	**-0.2**
ALJI				IAML		17 57 43.9	
	comp=Z,4μm,0.2s						
SNET	**Serv Nac Est T**	**0.57**	**348**	*e*P	**Pn**	**17 57 43.4**	**-0.4**
SNET				*e*S	**Sn**	**17 57 53.1**	**0.0**
SNET				IAML		17 57 55.7	
	comp=Z,3μm,0.2s						
SNET	**Serv Nac Est T**	**0.57**	**348**	*e*P	**Pn**	**17 57 43.4**	**-0.4**
SNET				*e*S	**Sn**	**17 57 53.1**	**0.0**
SNET				IAML		17 57 55.7	
	comp=Z,3μm,0.2s						
OPAM	**Oficina de Pla**	**0.59**	**352** ‖	*e*P	**Pn**	**17 57 43.8**	**-0.2**
OPAM	**Oficina de Pla**	**0.59**	**352** ‖	*e*P	**Pn**	**17 57 43.8**	**-0.2**
UEES	**Universidad Ev**	**0.60**	**348**	*i* P	**Pn**	**17 57 43.9**	**-0.2**
UEES	**Universidad Ev**	**0.60**	**348**	*i* P	**Pn**	**17 57 43.9**	**-0.2**
PAVA	**Las Pavas**	**0.61**	**16** ‖	*e*P	**Pn**	**17 57 43.8**	**-0.4**
PAVA	**Las Pavas**	**0.61**	**16** ‖	*e*P	**Pn**	**17 57 43.8**	**-0.4**
LBRS	**Las Brisas**	**0.61**	**6** ‖	*i*P	**Pn**	**17 57 44.1**	**-0.2**
LBRS	**Las Brisas**	**0.61**	**6** ‖	*i*P	**Pn**	**17 57 44.1**	**-0.2**
LFU	**La Fuente**	**0.62**	**360**	*e*P	**Pn**	**17 57 44.1**	**-0.2**
LFU	**La Fuente**	**0.62**	**360**	*e*P	**Pn**	**17 57 44.1**	**-0.2**
BOQS	**Boqueron**	**0.62**	**345** ‖	*e*P	**Pn**	**17 57 44.4**	**-0.1**
BOQS				*e*S	**Sn**	**17 57 55.1**	**+0.6**
BOQS	**Boqueron**	**0.62**	**345** ‖	*e*P	**Pn**	**17 57 44.4**	**-0.1**

BOQS eS Sn 17 57 55.1 +0.6
TECA Tecapa 0.70 58 eP Pn 17 57 44.9 -0.4
TECA Tecapa 0.70 58 eP Pn 17 57 44.9 -0.4
CEDA San Andres 0.72 338 ||i P Pn 17 57 45.3 -0.3
CEDA IAML 17 58 04.5
comp=Z,3μm,0.3s
CEDA San Andres 0.72 338 ||i P Pn 17 57 45.3 -0.3
CEDA IAML 17 58 04.5
comp=Z,3μm,0.3s
PACA Pacayal 0.84 66 eP Pn 17 57 47.1 +0.1
PACA Pacayal 0.84 66 eP Pn 17 57 47.1 +0.1
LCY Lacayo 0.85 70 i P Pn 17 57 47.2 0.0
LCY Lacayo 0.85 70 i P Pn 17 57 47.2 0.0
JUCU Jucuarjn 0.85 81 eP Pn 17 57 46.3 -0.8
JUCU eS Sn 17 57 59.6 +0.5
JUCU Jucuarjn 0.85 81 eP Pn 17 57 46.3 -0.8
JUCU eS Sn 17 57 59.6 +0.5
CEVE Cerro Verde 0.85 324 eP Pn 17 57 46.7 -0.7
CEVE Cerro Verde 0.85 324 eP Pn 17 57 46.7 -0.7
SBLS San Blas 0.86 325 eP Pn 17 57 47.1 -0.4
SBLS eS Sn 17 58 00.8 +1.2
SBLS San Blas 0.86 325 eP Pn 17 57 47.1 -0.4
SBLS eS Sn 17 58 00.8 +1.2
TACO Tacachico 0.87 344 eP Pn 17 57 46.6 -0.8
TACO Tacachico 0.87 344 eP Pn 17 57 46.6 -0.8
SNJE San Jose 0.88 327 eP Pn 17 57 47.3 -0.4
SNJE San Jose 0.88 327 eP Pn 17 57 47.3 -0.4
BLLM Bellamira 0.91 70 eP Pn 17 57 47.6 -0.2
BLLM Bellamira 0.91 70 eP Pn 17 57 47.6 -0.2
RTR El Retiro 0.92 326⇑ eP Pn 17 57 48.1 -0.1
RTR El Retiro 0.92 326⇑ eP Pn 17 57 48.1 -0.1
NUBE Las Nubes 1.01 320⇑ i P Pn 17 57 48.7 -0.5
NUBE eS Sn 17 58 03.1 +0.3
NUBE IAML 17 58 04.4
comp=Z,522nm,0.2s
NUBE Las Nubes 1.01 320⇑ i P Pn 17 57 48.7 -0.5
NUBE eS Sn 17 58 03.1 +0.3
NUBE IAML 17 58 04.4
comp=Z,522nm,0.2s
LCND La Caada 1.20 81⇑ i P Pn 17 57 51.4 -0.3
LCND eS Sn 17 58 07.7 +0.6
LCND IAML 17 58 10.3
comp=Z,1μm,0.4s
LCND La Caada 1.20 81⇑ i P Pn 17 57 51.4 -0.3
LCND eS Sn 17 58 07.7 +0.6
LCND IAML 17 58 10.3
comp=Z,1μm,0.4s
CNCH Conchagua 1.25 83||i eP Pn 17 57 52.0 -0.5
CNCH Conchagua 1.25 83||i eP Pn 17 57 52.0 -0.5
MTO3 Montecristo 1.29 349||i P Pn 17 57 52.4 -0.6
MTO3 Montecristo 1.29 349||i P Pn 17 57 52.4 -0.6

*IDC **26** 18:09:10.0±8.2,21°.07S×173°.58W, h0km, mb4.2/5, mb1 4.3/6, mb1mx3.9/30, mbtmp4.1/6, ML3.3/1, Error ellipse: s-maj=160.1km s-min=134.8km az=35.0*
*NEIC **26** 18:09:21.0±2.1,22°.3S±0°.3×174°.7W±0°.2, h10km±2km, mb4.6/17, Error ellipse: s-maj=53.9km s-min=5.5km az=145.0*

ISC 26 18:09:17.3±1.2,21°.9S±0°.4×174°.2W±0°.2, h10km, n24, σ1§25/22, mb4.5/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.88**	**55**	Pn	**Pb**	**18 10 42.8**	**-0.1**
DZM	**Mont Dzumac**	**17.98**	**266**	P	**P**	**18 13 30.4**	**+2.2**
0.1nm,0.3s,baz=256,slow=19,SNR=1.2							
DZM	**Mont Dzumac**	**17.98**	**266**	P	**Pn**	**18 13 25.6**	**-2.0**
EIDS	**Eidsvold**	**31.96**	**257**	P	**P**	**18 15 42.7**	**-1.0**
EIDS				IAmb	IAmb	18 15 52.9	
comp=Z,10nm,1.4s							
CTA	**Charters Tower**	**36.93**	**265**	P	**P**	**18 16 26.6**	**-0.1**
comp=Z,4.6nm,0.4s,baz=92,slow=11,SNR=26							
CTAO	**Charters Tower**	**36.93**	**265**	P	**P**	**18 16 26.7**	**0.0**
CTAO				IAmb	IAmb	18 16 26.9	
comp=Z,6.0nm,0.5s							
TOO	**Toolangi**	**38.03**	**237**	P	**P**	**18 16 37.6**	**+1.7**
TOO				IAmb	IAmb	18 16 47.4	
comp=Z,13nm,1.4s							
STKA	**Stephens Creek**	**40.44**	**246**	P	**P**	**18 16 55.7**	**-0.4**
comp=Z,1.9nm,0.5s,baz=84,slow=11,SNR=4.8							
STKA	**Stephens Creek**	**40.44**	**246**	IAmb	IAmb	18 16 55.9	
comp=Z,2.4nm,1.6s							
COEN	**Coen**	**41.24**	**274**	P	**P**	**18 17 04.7**	**+1.8**
BBOO	**Buckleboo**	**45.16**	**245**	P	**P**	**18 17 33.5**	**-0.9**
AS31	**Alice Springs**	**47.69**	**257**	P	**P**	**18 17 53.1**	**-1.4**
ASAR	**Alice Springs**	**47.69**	**257**	P	**P**	**18 17 53.3**	**-1.2**
comp=Z,2.0nm,0.7s,baz=96,slow=6.9,SNR=45							
WR0	**Warramunga Arr**	**47.77**	**262**	P	**P**	**18 17 53.8**	**-1.2**
WR0				IAmb	IAmb	18 18 12.0	
comp=Z,8.0nm,1.4s							
WB0	**Warramunga Arr**	**47.94**	**263**	P	**P**	**18 17 55.1**	**-1.3**
WB0				IAmb	IAmb	18 17 56.1	
comp=Z,2.6nm,0.7s							
WB2	**Warramunga Arr**	**47.94**	**262**	P	**P**	**18 17 55.2**	**-1.2**
WB2				IAmb	IAmb	18 17 55.9	
comp=Z,4.5nm,0.9s							
WRAB	**Tennant Creek**	**47.95**	**262**	P	**P**	**18 17 55.2**	**-1.2**
WRAB				IAmb	IAmb	18 17 55.9	
comp=Z,2.6nm,0.8s							
WRA	**Warramunga Arr**	**47.95**	**262**	P	**P**	**18 17 55.2**	**-1.3**
comp=Z,1.4nm,0.3s,baz=92,slow=8.4,SNR=98							
WRA	**Warramunga Arr**	**47.95**	**262**	IAmb	IAmb	18 17 55.8	
comp=Z,0.2nm,0.7s							
FORT	**Forrest**	**52.04**	**247**	P	**P**	**18 18 26.6**	**-0.8**
MTN	**Manton Dam**	**52.75**	**270**	P	**P**	**18 18 33.0**	**+0.1**
MTN				IAmb	IAmb	18 18 42.6	
comp=Z,19nm,1.2s							
KNRA	**Kununurra**	**54.13**	**266**	P	**P**	**18 18 43.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**56.38**	**262**	P	**P**	**18 18 59.9**	**+0.6**
comp=Z,0.8nm,0.4s,baz=180,slow=19,SNR=12							
MORW	**Morawa**	**62.60**	**248**	P	**P**	**18 19 41.9**	**-0.2**

IDC 26 18:24:08.2±2.2,1°.52N×127°.07E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/44, mbtmp3.5/3, Error ellipse: s-maj=177.0km s-min=25.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.49**	**162**	P	P	18 29 09.2	-0.3
1.0nm,0.5s,baz=341,slow=11,SNR=16							
ASAR	**Alice Springs**	**25.90**	**166**	P	P	18 29 42.4	+0.2
0.7nm,0.4s,baz=346,slow=11,SNR=20							
MKAR	**Makanchi Array**	**59.56**	**326**	P	P	18 34 13.6	-0.1
0.4nm,0.6s,baz=117,slow=7.7,SNR=5.4							

*IDC **26** 18:27:25.5±1.2,54°.89S×158°.26E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/32, mbtmp3.8/7, ML3.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.5/19, Error ellipse: s-maj=37.1km s-min=20.5km az=81.0*
*NEIC **26** 18:27:29.0±2.4,54°.75S±0°.10×158°.7E±0°.2, h25km±6km, mb4.1/7, Error ellipse: s-maj=18.7km s-min=10.7km az=129.0*

ISC 26 18:27:26.9±0.8,54°.79S±0°.09×158°.50E±0°.09, h10km, n28, σ1§14/20, mb3.9/6, MS3.6/4, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.40**	**43**		**Pg**	**18 27 33.7**	**-1.0**
MCQ				Sg	**Sg**	**18 27 40.9**	**+1.0**
WHZ	**Wether Hill Ro**	**10.75**	**38**	Pn	**Pn**	**18 29 59.6**	**-1.2**
MLZ	**Mavora Lakes**	**11.27**	**37**	Pn	**Pn**	**18 30 07.0**	**-0.9**
WKZ	**Wanaka**	**12.05**	**38**	Pn	**Pn**	**18 30 19.8**	**+1.1**
RPZ	**Rata Peaks**	**13.76**	**42**	Pn	**Pn**	**18 30 43.3**	**+1.3**
0.6nm,0.3s,baz=201,slow=22,SNR=1.7							
RPZ				LR	LR	18 35 11.5	
comp=Z,280nm,18.5s,baz=242,slow=34							
TAU	**Tasmania Unive**	**13.96**	**324**	Pn	**Pn**	**18 30 43.2**	**-1.4**
MQZ	**McQueen's Vall**	**14.41**	**45**	Pn	**Pn**	**18 30 48.4**	**-2.3**
TOO	**Toolangi**	**19.38**	**327**	P	**Pn**	**18 31 54.2**	**+0.4**
TOO				IAmb	IAmb	18 31 56.9	
comp=Z,20nm,1.4s							
URZ	**Urewera**	**20.81**	**45**	P	**P**	**18 32 09.3**	**+1.1**
comp=Z,3.0nm,0.6s,baz=223,slow=9.5,SNR=1.8							
URZ				LR	LR	18 39 38.5	
comp=Z,204nm,20.2s,baz=215,slow=35							
URZ	**Urewera**	**20.81**	**45**	IAmb	IAmb	18 32 20.4	
comp=Z,20nm,1.5s							
VNDA	**Vanda**	**22.86**	**178**	P	**P**	**18 32 28.1**	**-1.8**
comp=Z,3.0nm,1.3s,baz=344,slow=9.8,SNR=5.8							
VNDA				LR	LR	18 39 11.4	
comp=Z,86nm,19.8s,baz=6.5,slow=31							
VNDA	**Vanda**	**22.86**	**178**	P	**P**	**18 32 30.1**	**+0.3**
VNDA				IAmb	IAmb	18 32 46.0	
comp=Z,6.7nm,1.4s							
STKA	**Stephens Creek**	**25.86**	**325**	P	**P**	**18 32 59.3**	**+0.8**
comp=Z,0.6nm,0.5s,baz=164,slow=7.4,SNR=3.2							
QSPA	**South Pole Qui**	**35.32**	**180**	P	**P**	**18 34 22.3**	**+0.4**
comp=Z,1.0nm,0.9s,baz=4.3,slow=6.8,SNR=2.3							
QSPA	**South Pole Qui**	**35.32**	**180**	P	**P**	**18 34 22.8**	**+0.9**
QSPA				IAmb	IAmb	18 34 48.6	
comp=Z,4.9nm,1.6s							
CTA	**Charters Tower**	**35.87**	**340**	P	**P**	**18 34 27.4**	**+0.6**
comp=Z,1.4nm,0.6s,baz=207,slow=11,SNR=2.3							
CTAO	**Charters Tower**	**35.87**	**340**	P	**P**	**18 34 28.0**	**+1.1**
ASAR	**Alice Springs**	**36.08**	**320**	P	**P**	**18 34 28.3**	**-0.4**
comp=Z,1.6nm,0.6s,baz=161,slow=8.6,SNR=40							
ASAR	**Alice Springs**	**36.08**	**320**	P	**P**	**18 34 28.5**	**-0.2**
AS31	**Alice Springs**	**36.08**	**320**	P	**P**	**18 34 28.6**	**-0.1**
AS31				IAmb	IAmb	18 34 29.1	
comp=Z,2.8nm,1.4s							
H01W1	**Cape Leeuwin H**	**36.42**	**285**	T	T	19 13 07.4	
baz=137,slow=75							
H01W2	**Cape Leeuwin H**	**36.42**	**285**	T	T	19 13 07.9	
baz=137,slow=75							
H01W3	**Cape Leeuwin H**	**36.44**	**285**	T	T	19 13 09.3	
baz=137,slow=75							
WRA	**Warramunga Arr**	**39.33**	**323**	LR	LR	18 49 10.1	
comp=Z,277nm,21.0s,baz=0.0,slow=33							
MAW	**Mawson**	**43.01**	**214**	LR	LR	18 53 00.6	
comp=Z,83nm,18.7s,baz=300,slow=36							
H03S2	**Juan Fernandez**	**78.91**	**134**	T	T	20 06 36.2	
baz=208,slow=74,SNR=5418							
H03S1	**Juan Fernandez**	**78.92**	**134**	T	T	20 06 37.5	
baz=208,slow=74,SNR=5105							
H03S3	**Juan Fernandez**	**78.93**	**134**	T	T	20 06 36.9	
baz=208,slow=74,SNR=5401							

*MOS **26** 18:29:07.9±1.1,4°.01N×126°.52E, h36km, mb5.2/27, MS4.5/5, Error ellipse: s-maj=9.3km s-min=4.6km az=113.1*
*KLM **26** 18:29:09.0,4°.24N×127°.00E, h32km, mb5.0*
*IDC **26** 18:29:11.0±1.4,3°.97N×126°.55E, h48km±13km, mb4.4/40, mb1 4.5/44, mb1mx4.4/59, mbtmp4.7/44, ML4.8/3, MS4.3/31, Ms1 4.3/31, ms1mx4.2/46, Error ellipse: s-maj=13.9km s-min=7.2km az=70.0*
*NEIC **26** 18:29:11.3±2.7,4°.00N±0°.05×126°.70E±0°.07, h55km±3km, mb5.1/126, Error ellipse: s-maj=10.5km s-min=7.0km az=76.0*
*BJI **26** 18:29:12.0±0.0,4°.14N×126°.65E, h62km, mB5.0/51, mb4.7/71, Ms4.6/64, Ms7 4.4/64*
*GCMT **26** 18:29:12.3±0.2,4°.07N±0°.01×126°.48E±0°.02, h53km±1km, MW5.1/104, Moment Tensor Solution. s67,c101; s104,c153; Duration: 0 Moment tensor: Scale 1016Nm; M_{rr}-3.52±.16; $M_{\theta\theta}$-0.07±.12; $M_{\phi\phi}$3.60±.13; $M_{r\theta}$-0.10±.09; $M_{r\phi}$1.24±.11; $M_{\theta\phi}$3.80±.14; Best double couple: $M_0$5.35000×10^16 NP1:ϕ_s32.00000°, δ25.00000°, λ-64.00000°. NP2:ϕ_s183.00000°, δ68.00000°, λ-101.00000°. Principal axes: T 5.4660, Plg22.0000°, Azm282.0000°; N -0.2230, Plg11.0000°, Azm188.0000°; P -5.2350, Plg65.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **26** 18:29:13.3±0.3,4°N±2°×12°7E±°, h65km±3km, M4.8/65, mb5.0/65, mB5.3/29, MLv5.2/13, Mw(mB)4.7/29, Mwp5.1/3*

ISC 26 18:29:10.9±0.5,3°.94N±0°.03×126°.62E±0°.04, h50km±4km, n429, σ1§85/438, mb5.0/146, MS4.3/49, 15C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.34**	**337**	eP	**Pn**	**18 29 46.7**	**-0.2**
DDMP				eS	**Sn**	**18 30 15.3**	**+0.9**
MATI	**Mati**	**3.01**	**353**	eP	**Pn**	**18 29 57.7**	**+1.5**
MATI				eS	Sn	18 30 47.6	+17
TNTI	**Ternate**	**3.23**	**167**	P	**Pn**	**18 30 00.0**	**+0.8**
TNTI				S	**Sn**	**18 30 35.6**	**-0.8**
TNTI	**Ternate**	**3.23**	**167**	Pn	**Pn**	**18 29 58.9**	**-0.3**
DAV	**Davao City (W)**	**3.28**	**342**	P	**Pn**	**18 30 01.0**	**+1.2**
91nm,0.3s,baz=89,slow=2.5,SNR=8.4							
DAV				S	**Sn**	**18 30 43.4**	**+5.8**
197nm,0.3s,baz=163,slow=21,SNR=4.9							
DAV				LR	LR	18 31 35.1	
comp=Z,6μm,19.9s,baz=190,slow=45							
DAV	**Davao City (W)**	**3.28**	**342**		**Pn**	**18 30 00.6**	**+0.8**
SKMP	**Bagumbayan, Su**	**3.30**	**321**	eP	**Pn**	**18 30 01.9**	**+1.9**
SKMP				eS	**Sn**	**18 30 39.7**	**+1.6**
KCP	**Kidapawan**	**3.41**	**333**⇑	eP	**Pn**	**18 30 05.1**	**+3.5**
KCP				i S	Sn	18 30 51.6	+11
BUKP	**Musuan**	**4.21**	**338**	eP	**Pn**	**18 30 14.7**	**+2.1**
BUKP				eS	Sn	18 31 11.0	+10
KMSI	**Cibinong**	**4.26**	**218**	P	**Pn**	**18 30 15.5**	**+2.3**
GTOI	**Gorontalo**	**4.88**	**228**	P	**Pn**	**18 30 22.9**	**+1.2**
CGP	**Cagayan de Oro**	**4.88**	**337**||i	eP	**Pn**	**18 30 25.6**	**+3.8**
PAGZ	**Pagadian**	**5.05**	**320**	eP	**Pn**	**18 30 25.6**	**+1.5**
ZCP	**Zamboanga City**	**5.42**	**303**||i	P	**Pn**	**18 30 29.4**	**+0.3**
ZCP				i S	**Sn**	**18 31 28.9**	**-1.3**
SANI	**Sanana**	**5.98**	**186**	P	**Pn**	**18 30 35.5**	**-1.4**
0.7nm3μm110nm,0.8s							
LUWI	**Luwuk**	**6.27**	**218**	P	**Pn**	**18 30 43.9**	**+3.1**
4.3nm10μm1μm,1.0s							
LUWI	**Luwuk**	**6.27**	**218**	Pn	**Pn**	**18 30 45.1**	**+4.3**
MSLP	**Maasin**	**6.40**	**344**	eP	**Pn**	**18 30 44.0**	**+1.3**
SIJI	**Sorong**	**6.66**	**136**	P	**Pn**	**18 30 48.2**	**+2.0**
28nm,0.3s,baz=288,slow=23,SNR=51							
SIJI				S	**Sn**	**18 32 02.6**	**+1.7**
15nm,0.3s,baz=49,slow=19,SNR=5.9							
SIJI				LR	LR	18 33 39.7	
comp=Z,3μm,21.9s,baz=340,slow=40							
LLP	**Lapu-Lapu**	**6.86**	**338**	eP	**Pn**	**18 30 51.3**	**+2.3**
LLP				eS	Sn	18 32 24.9	+19
CNOP	**Candoni, Negro**	**7.06**	**326**	eP	**Pn**	**18 30 53.1**	**+1.4**
NLAI	**Namlea**	**7.14**	**176**	P	**Pn**	**18 30 52.8**	**-0.1**
1.0nm3μm102nm,0.7s							
OCLP	**Ormoc**	**7.34**	**344**	eP	**Pn**	**18 30 57.1**	**+1.5**
MPSI	**Mapaga**	**7.61**	**242**	P	**Pn**	**18 31 00.4**	**+1.1**
0.6nm3μm1μm118nm,0.8s							
BESP	**Borongan**	**7.70**	**351**	eP	**Pn**	**18 30 58.2**	**-2.3**
GUIM	**Jordan**	**7.76**	**329**	eP	**Pn**	**18 31 03.5**	**+2.3**
MYLDM	**Lahad Datu**	**8.19**	**279**	Pn	**Pn**	**18 31 10.2**	**+3.0**
JAP	**San Jose, Anti**	**8.20**	**326**⇑	eP	**Pn**	**18 31 10.8**	**+3.4**
KDI	**Kendari**	**8.80**	**207**	P	**Pn**	**18 31 16.3**	**+0.7**
26μm69nm,1.0s							
CUYO	**Cuyo Island**	**8.83**	**321**	eP	**Pn**	**18 31 18.1**	**+2.0**
OTRP	**Odiongan**	**9.53**	**332**	eP	**Pn**	**18 31 29.0**	**+3.5**
PVCP	**Virac**	**9.90**	**346**	eP	Pn	18 31 37.5	+6.9
PVCP				eS	Sn	18 33 35.5	+15
BATP	**Bataraza**	**10.01**	**299**	eP	**Pn**	**18 31 34.3**	**+2.2**
ENPP	**El Nido**	**10.15**	**316**	eP	**Pn**	**18 31 29.8**	**-4.3**
SPMM	**Sapulut**	**10.16**	**275**	P	**Pn**	**18 31 38.0**	**+3.8**
BUSP	**Coron**	**10.23**	**322**	eP	**Pn**	**18 31 36.8**	**+1.7**
SPSI	**Sidrap Palu**	**10.42**	**221**	P	**Pn**	**18 31 35.4**	**-2.3**
1μm82nm,0.9s							
BNSI	**Bone**	**10.54**	**218**	P	Pn	18 31 44.3	+5.0
67nm,0.8s							
KKM	**Kota Kinabalu**	**10.58**	**282**	Pn	**Pn**	**18 31 43.0**	**+2.9**
BKB	**Balikpapan**	**11.01**	**242**	Pn	**Pn**	**18 31 48.7**	**+2.9**
PGP	**Puerto Galera**	**11.03**	**330**⇑	eP	**Pn**	**18 31 49.2**	**+3.1**
SRPI	**Serui, Papua**	**11.21**	**121**	P	**Pn**	**18 31 51.7**	**+3.1**
2μm118nm,1.5s							
KAPI	**Kappang**	**11.23**	**218**	P	**Pn**	**18 31 52.3**	**+3.4**
0.2nm,0.3s,baz=252,slow=17,SNR=1.4							
KAPI				LR	LR	18 36 43.5	
comp=Z,3μm,19.4s,baz=28,slow=40							
KAPI	**Kappang**	**11.23**	**218**	P	**Pn**	**18 31 53.0**	**+4.1**
KAPI	**Kappang**	**11.23**	**218**		**Pn**	**18 31 53.0**	**+4.1**
BKSI	**Bulukumba**	**11.26**	**215**	P	**Pn**	**18 31 53.8**	**+4.6**
28nm,0.8s							
LQP	**Lukban**	**11.29**	**334**	eP	Pn	18 31 58.2	+8.4
TGY	**Tagaytay City**	**11.55**	**331**	P	Pn	18 31 59.5	+6.2
56nm,0.3s,baz=131,slow=22,SNR=4.2							
MTKI	**Muara Teweh, K**	**12.68**	**248**	P	**Pn**	**18 32 10.8**	**+2.1**
1μm53nm,0.5s							
SAUI	**Saumlaki**	**12.73**	**158**	Pn	**Pn**	**18 32 06.7**	**-2.6**
SMPP	**San Manuel, Pa**	**13.47**	**335**	eP	**P**	**18 32 24.3**	**-3.1**
EDFI	**Ende, Flores**	**13.53**	**201**	P	**Pn**	**18 32 23.1**	**+2.7**
51nm,0.8s							
CAUP	**Cauayan**	**13.76**	**340**	eP	**Pn**	**18 32 24.4**	**+1.0**
SOEI	**Soe**	**13.80**	**190**	P	**P**	**18 32 29.8**	**-1.4**
BBKI	**Banjar Baru**	**13.88**	**238**	P	**P**	**18 32 30.0**	**-2.0**
2μm87nm,1.5s							
BATI	**Baumata**	**14.36**	**192**	P	**Pn**	**18 32 32.1**	**+0.7**
3.1nm,0.3s,baz=336,slow=3.8,SNR=5.0							
BATI	**Baumata**	**14.36**	**192**	P	**Pn**	**18 32 33.0**	**+1.5**
784nm56nm,0.9s							
SBUM	**Sibu**	**14.46**	**265**	Pn	**Pn**	**18 32 35.4**	**+2.6**
SBUM	**Sibu**	**14.46**	**265**	P	**P**	**18 32 37.0**	**-1.4**
ABRA	**Dolores**	**14.81**	**337**	eP	**P**	**18 32 41.8**	**-0.4**
APYP	**Conner**	**14.81**	**340**	eP	**P**	**18 32 41.9**	**-0.3**
PLAI	**Plampang**	**15.45**	**215**	P	**Pn**	**18 32 46.0**	**+0.3**
120nm,0.9s							
JAY	**Jayapura**	**15.46**	**114**	P	**Pn**	**18 32 47.5**	**+1.5**
baz=281,slow=11,SNR=7.3							
JAY				LR	LR	18 37 57.6	
comp=Z,2μm,21.6s,baz=296,slow=34							
JAY	**Jayapura**	**15.46**	**114**	P	**Pn**	**18 32 46.6**	**+0.6**
419nm32nm,0.8s							
TWSI	**Taliwang, Sumb**	**15.90**	**218**	P	**Pn**	**18 32 52.4**	**+0.9**
47nm,0.8s							
PBKI	**Pangkalan Bun**	**16.34**	**246**	P	P	18 33 06.8	+7.5
KSM	**Kuching**	**16.48**	**262**	P	**P**	**18 33 02.4**	**+1.6**
KSM	**Kuching**	**16.48**	**262**	P	**P**	**18 33 04.0**	**+3.2**
MTN	**Manton Dam**	**17.26**	**165**	P	**Pn**	**18 33 05.7**	**-2.9**
baz=17,SNR=94							
MTN	**Manton Dam**	**17.26**	**165**	Pn	**Pn**	**18 33 05.9**	**-2.7**
KDU	**Kakadu**	**17.51**	**161**	P	**Pn**	**18 33 08.5**	**-3.1**
baz=18,SNR=47							
JAGI	**Jajag, Banyuwa**	**17.51**	**225**	P	P	18 33 20.4	+8.2
JAGI	**Jajag, Banyuwa**	**17.51**	**225**		**P**	**18 33 14.1**	**+1.8**
JAGI				IAmb	IAmb	18 33 38.7	
comp=Z,118nm,1.2s							
PWJI	**Pagerwojo**	**18.96**	**231**	P	**P**	**18 33 26.7**	**-1.6**
comp=Z,43nm,0.7s							
SMRI	**Semarang**	**19.49**	**236**		**Pn**	**18 33 37.4**	**+1.7**
SMRI				IAmb	IAmb	18 34 02.2	
comp=Z,242nm,1.6s							
TWG	**Pinlang**	**19.53**	**345**	P	**P**	**18 33 31.1**	**-3.2**
TWG				IAmb	IAmb	18 33 33.8	
comp=Z,38nm,0.5s							
KNRA	**Kununurra**	**19.60**	**174**	P	**P**	**18 33 34.6**	**-0.6**
baz=20,SNR=78							
KNRA	**Kununurra**	**19.60**	**174**	P	**P**	**18 33 34.6**	**-0.6**
KNRA				IAmb	IAmb	18 33 38.4	
comp=Z,67nm,0.6s							
DLV	**T Lat**	**19.63**	**295**	P	**Pn**	**18 33 37.1**	**-0.3**
DLV				IAmb	IAmb	18 33 41.6	
comp=Z,135nm,1.1s							
YULB	**Yu-li**	**20.01**	**346**	P	**P**	**18 33 36.9**	**-2.8**
TPI	**Tanjungpandan**	**20.09**	**251**	P	**P**	**18 33 41.1**	**+0.5**
comp=Z,43nm,1.0s							
TPUB	**Ta-pu**	**20.10**	**344**	P	**P**	**18 33 39.0**	**-1.6**
TPUB				IAmb	IAmb	18 33 57.2	
comp=Z,67nm,0.9s							
GUMO	**Guam**	**20.41**	**61**	LR	LR	18 40 26.7	
comp=Z,1μm,21.3s,baz=230,slow=33							
GUMO	**Guam**	**20.41**	**61**	P	**P**	**18 33 40.3**	**-3.7**
GUMO				pmax	pmax		
comp=Z,756nm,1.8s							
GUMO	**Guam**	**20.41**	**61**	P	**P**	**18 33 40.3**	**-3.7**
SSLB	**Suanglung**	**20.48**	**345**	P	**P**	**18 33 42.8**	**-1.9**
YOJ	**Yonaguni jima**	**20.70**	**351**	P	**P**	**18 33 47.4**	**+0.3**
YOJ				pmax	pmax		
comp=Z,54nm,1.0s							
YOJ	**Yonaguni jima**	**20.70**	**351**		**P**	**18 33 47.4**	**+0.3**
KPJI	**Karang Pucung**	**20.91**	**238**	P	**P**	**18 33 50.3**	**+0.9**
comp=Z,65nm,0.9s							
YHNB	**Yeheng**	**21.22**	**347**	P	**P**	**18 33 51.8**	**-0.9**
YHNB				IAmb	IAmb	18 34 17.2	
comp=Z,102nm,1.4s							
PPBI	**Pangkal Pinang**	**21.35**	**254**	P	**P**	**18 33 55.4**	**+1.2**
comp=Z,1μmcomp=Z,35nm,0.4s							
LEM	**Lembang**	**21.78**	**241**	P	**P**	**18 33 59.8**	**+0.9**
comp=Z,40nm,0.7s,baz=63,slow=8.5,SNR=11							
LEM				LR	LR	18 43 30.5	
comp=Z,1μm,20.1s,baz=38,slow=40							
HKPS	**Hong Kong Po S**	**21.88**	**328**	P	**P**	**18 33 58.2**	**-1.6**
KNMB	**Chin-men Tao**	**21.90**	**340**	P	**P**	**18 34 00.6**	**+0.7**
KNMB				IAmb	IAmb	18 34 17.3	
comp=Z,61nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.92**	**183**	P	**P**	**18 34 00.3**	**+0.1**
comp=Z,30nm,0.7s,baz=359,slow=7.6,SNR=37							
FITZ				S	**S**	**18 37 53.2**	**-6.4**
comp=Z,2.5nm,0.7s,baz=360,slow=6.0,SNR=1.1							
FITZ	**Fitzroy Crossi**	**21.92**	**183**	P	**P**	**18 33 59.1**	**-1.1**
baz=22,SNR=55							
FITZ	**Fitzroy Crossi**	**21.92**	**183**	P	**P**	**18 33 59.7**	**-0.5**
CISI	**Cisompet, Garu**	**21.97**	**239**	P	**P**	**18 34 02.3**	**+1.5**
CISI				IAmb	IAmb	18 34 49.7	
comp=Z,74nm,1.0s							
JMZ	**Minamidaito 2**	**22.20**	**11**	P	**P**	**18 34 02.8**	**-0.4**
QIZ	**Qiongzhong**	**22.22**	**314**	P	**P**	**18 34 04.0**	**+0.5**
QIZ				pP	**pwP**	**18 34 18.3**	**+0.3**
QIZ				pmax	pmax		
comp=Z,7.0nm,1.0s							
QIZ				pmax	pmax		
comp=Z,110nm,5.5s							
QIZ				LR	LR		
comp=Z,680nm,14.1s							
QIZ				LR	LR		
comp=Z,520nm,18.8s							
QIZ				LR	LR		
comp=Z,860nm,26.0s							
**QIZ

KRVT	**Keravat (AS076**	**26.67 108**	P	**P**	**18 34 45.3**	**-0.2**
	comp=Z,10nm,0.7s,baz=197,slow=22,SNR=1.8					
KRVT			LR	LR	18 43 24.2	
	comp=Z,2μm,20.1s,baz=295,slow=32					
RABL	**Rabaul**	**26.77 107**	P	**P**	**18 34 41.2**	**-5.1**
RABL			IAmb	IAmb	18 35 25.5	
	comp=Z,23nm,0.7s					
MNSI	**Mandailing Nat**	**27.20 264**	P	P	18 34 57.7	+7.5
JCJ	**Chichijima**	**27.41 31**	LR	LR	18 43 41.3	
	comp=Z,413nm,21.4s,baz=4.5,slow=32					
QIS	**Mount Isa**	**27.48 153**	P	**P**	**18 34 53.4**	**+0.8**
	baz=28,SNR=20					
PSI	**Prapat**	**27.67 269**	P	**P**	**18 34 52.9**	**-1.7**
	comp=Z,3.1nm,0.4s,baz=155,slow=14,SNR=2.1					
PSI			LR	LR	18 47 45.7	
	comp=Z,940nm,20.6s,baz=90,slow=40					
RPSI	**Rantau Prapat**	**27.68 268**	P	**P**	**18 34 54.3**	**-0.3**
RPSI			IAmb	IAmb	18 35 33.8	
	comp=Z,88nm,1.9s					
RPSI	**Rantau Prapat**	**27.68 268**	P	**P**	**18 34 52.9**	**-1.6**
MTSU	**Mount Surprise**	**28.02 142**	P	**P**	**18 34 57.9**	**+0.3**
	baz=28,SNR=13					
SLVN	**Son La**	**28.04 310**	P	**P**	**18 34 57.3**	**-0.4**
AS31	**Alice Springs**	**28.34 166**	P	**P**	**18 34 60.0**	**-0.4**
ASAR	**Alice Springs**	**28.34 166**	P	**P**	**18 35 00.5**	**+0.1**
	comp=Z,6.8nm,0.7s,baz=340,slow=6.5,SNR=121					
ASAR			PcP	**PcP**	**18 38 12.6**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=355,slow=2.3,SNR=1.6					
ASAR			S	**S**	**18 39 45.7**	**+2.0**
	comp=Z,1.9nm,1.0s,baz=346,slow=22,SNR=2.5					
ASAR	**Alice Springs**	**28.34 166**	P	**P**	**18 34 59.4**	**-0.9**
WRKA	**Warakurna**	**28.85 177**	P	**P**	**18 35 04.8**	**-0.1**
	baz=29,SNR=23					
WHN	**Wuhan**	**28.89 338**	P	**P**	**18 35 05.8**	**+0.7**
WHN			S	**S**	**18 39 51.3**	**-0.8**
WHN			LR	LR		
	comp=Z,2μm,20.8s					
WHN			LR	LR		
	comp=Z,2μm,19.9s					
WHN			LR	LR		
	comp=Z,2μm,22.6s					
NJ2	**Nanjing**	**28.90 346**	*e*P	**P**	**18 35 09.3**	**+4.1**
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
NJ2			LR	LR		
	comp=Z,460nm,21.7s					
NJ2			LR	LR		
	comp=Z,680nm,21.7s					
NJ2			LR	LR		
	comp=Z,680nm,22.7s					
GIRL	**Giralia**	**29.06 204**	P	**P**	**18 35 07.5**	**+0.8**
GSI	**Gunungsitoli**	**29.13 266**	P	**P**	**18 35 09.0**	**+1.5**
GSI			IAmb	IAmb	18 35 11.8	
	comp=Z,45nm,1.0s					
JNU	**Nakatsue**	**29.30 7**	P	**P**	**18 35 08.8**	**0.0**
	comp=Z,24nm,1.2s,baz=149,slow=12,SNR=2.5					
JNU	**Nakatsue**	**29.30 7**	P	**P**	**18 35 08.4**	**-0.4**
JNU			IAmb	IAmb	18 35 09.8	
	comp=Z,82nm,1.5s					
GYA	**Guiyang**	**29.44 321**	*e*P	**P**	**18 35 13.3**	**+3.1**
GYA			PcP	**PcP**	**18 38 20.5**	**+5.3**
GYA			S	**S**	**18 39 58.3**	**-2.9**
GYA			pmax	pmax		
	comp=Z,6.0nm,0.8s					
GYA			pmax	pmax		
	comp=Z,66nm,4.7s					
GYA			LR	LR		
	comp=Z,480nm,15.8s					
GYA			LR	LR		
	comp=Z,300nm,21.4s					
GYA			LR	LR		
	comp=Z,630nm,16.6s					
JMN	**Monobe**	**30.40 12**	P	**P**	**18 35 19.4**	**+0.9**
JMN			IAmb	IAmb	18 36 01.2	
	comp=Z,41nm,1.1s					
JTU	**Tsushima**	**30.54 5**	P	**P**	**18 35 18.0**	**-1.6**
CM31	**Chiang Mai Arr**	**30.68 300**	P	**P**	**18 35 21.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.68 300**	P	**P**	**18 35 21.4**	**+0.2**
	comp=Z,7.6nm,1.0s,baz=120,slow=7.0,SNR=30					
CMAR			ScP	**ScP**	**18 41 57.2**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=158,slow=2.0,SNR=8.0					
CMAR			LR	LR	18 47 07.7	
	comp=Z,400nm,21.7s,baz=168,slow=35					
CMAR	**Chiang Mai Arr**	**30.68 300**	*ce*P	**P**	**18 35 23.2**	**+2.1**
CMAR			pmax	pmax		
	comp=Z,11nm,0.9s					
CMAR	**Chiang Mai Arr**	**30.68 300**	P	**P**	**18 35 21.0**	**-0.1**
CMAR				**ScP**	**18 41 56.2**	**-0.9**
CTA	**Charters Tower**	**30.69 142**	P	**P**	**18 35 22.3**	**+1.1**
	comp=Z,12nm,0.8s,baz=324,slow=12,SNR=24					
CTAO	**Charters Tower**	**30.69 142**	P	**P**	**18 35 21.7**	**+0.5**
CTAO			pmax	pmax		
	comp=Z,17nm,0.9s					
CTAO	**Charters Tower**	**30.69 142**	P	**P**	**18 35 21.7**	**+0.5**
ENH	**Enshi**	**30.80 330**	P	**P**	**18 35 20.7**	**-1.3**
CHTO	**Chiang Mai**	**30.82 301**	P	**P**	**18 35 22.0**	**-0.4**
CHTO			pmax	pmax		
	comp=Z,17nm,0.7s					
CHTO	**Chiang Mai**	**30.82 301**	P	**P**	**18 35 22.0**	**-0.4**
KMI	**Kunming**	**31.16 315⇑**	*e*P	**P**	**18 35 27.8**	**+2.3**
KMI			pP	sP	18 35 45.0	+1.6
KMI			sP	pwP	18 35 50.5	+10
KMI			pmax	pmax		
	comp=Z,9.0nm,1.2s					
KMI			LR	LR		
	comp=Z,190nm,18.5s					
KMI			LR	LR		
	comp=Z,340nm,15.2s					
KMI			LR	LR		
	comp=Z,890nm,27.3s					
MEEK	**Meekatharra**	**31.37 194**	P	**P**	**18 35 27.1**	**0.0**
	baz=32,SNR=20					
JHS	**Saijyo**	**31.49 10**	P	**P**	**18 35 30.2**	**+2.2**
JHS			IAmb	IAmb	18 36 24.2	
	comp=Z,118nm,2.0s					
JWT	**Wachi**	**32.23 14**	P	**P**	**18 35 35.1**	**+0.6**
TJN	**Taejon**	**32.29 1**	*ce*P	**P**	**18 35 35.4**	**+0.4**
INU	**Inuyama**	**32.70 16**	P	**P**	**18 35 36.9**	**-1.8**
INU			IAmb	IAmb	18 36 07.1	
	comp=Z,38nm,1.3s					
TIA	**Tai'an**	**33.29 346**	P	**P**	**18 35 43.8**	**0.0**
TIA			S	**S**	**18 41 03.0**	**+2.2**
TIA			pmax	pmax		
	comp=Z,9.0nm,0.8s					
TIA			pmax	pmax		
	comp=Z,82nm,3.5s					
TIA			LR	LR		
	comp=Z,400nm,23.5s					
TIA			LR	LR		
	comp=Z,540nm,14.2s					
TIA			LR	LR		
	comp=Z,550nm,19.2s					
KSAR	**Wonju Array Be**	**33.37 2**	P	**P**	**18 35 44.6**	**+0.2**
KSAR	**Wonju Array Be**	**33.37 2**	P	**P**	**18 35 44.6**	**+0.2**
KSRS	**Korea Array**	**33.38 2**	P	**P**	**18 35 45.5**	**+0.9**
	comp=Z,4.8nm,0.5s,baz=183,slow=9.6,SNR=28					
KSRS			PcP	**PcP**	**18 38 25.1**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=192,slow=2.5,SNR=4.6					
KS19	**Wonju Array Si**	**33.42 2**	P	**P**	**18 35 43.0**	**-1.9**
MAT	**Matsushiro**	**34.16 17**	P	**P**	**18 35 48.5**	**-2.9**
MAT			*e*S	**S**	**18 41 08.4**	**-5.9**
MJAR	**Matsushiro Arr**	**34.16 17**	P	**P**	**18 35 50.6**	**-0.7**
	comp=Z,3.8nm,1.0s,baz=188,slow=7.6,SNR=7.9					
MJAR			PcP	**PcP**	**18 38 27.7**	**0.0**
	comp=Z,1.2nm,0.5s,baz=208,slow=2.9,SNR=1.9					
XAN	**Xi'an**	**34.18 333**	P	**P**	**18 35 49.4**	**-2.3**
XAN			pmax	pmax		
	comp=Z,28nm,0.7s					
XAN	**Xi'an**	**34.18 333**	P	**P**	**18 35 49.4**	**-2.3**
XAN			IAmb	IAmb	18 36 12.3	
	comp=Z,28nm,0.7s					
MORW	**Morawa**	**34.35 197**	P	**P**	**18 35 53.4**	**+0.3**
	baz=34,SNR=7.0					
PBA	**Port Blair**	**34.40 285**	P	P	18 35 56.4	+2.6
PBA			IAmb	IAmb	18 36 28.2	
	comp=Z,38nm,1.0s					
CD2	**Chengdu**	**34.41 324**	*e*P	**P**	**18 35 54.0**	**+0.3**
CD2			LR	LR		
	comp=Z,1μm,21.1s					
CD2			LR	LR		
	comp=Z,1μm,19.6s					
CD2			LR	LR		
	comp=Z,2μm,17.7s					
FORT	**Forrest**	**34.55 178**	P	**P**	**18 35 54.6**	**-0.2**
	baz=35,SNR=14					
FORT	**Forrest**	**34.55 178**	P	**P**	**18 35 54.2**	**-0.5**
QLP	**Quilpie**	**34.80 152**	P	**P**	**18 35 57.2**	**+0.2**
	baz=35,SNR=10.0					
KMBL	**Kambalda**	**35.40 187**	P	**P**	**18 36 02.0**	**-0.1**
	baz=36,SNR=15					
JSD	**Sado**	**35.57 16**	P	**P**	**18 36 01.4**	**-2.1**
BLDU	**Ballidu**	**35.64 195**	P	**P**	**18 36 04.4**	**+0.2**
	baz=36,SNR=8.2					
TIY	**Taiyuan**	**36.04 341**	*e*P	**P**	**18 36 11.0**	**+3.4**
TIY			pmax	pmax		
	comp=Z,19nm,0.7s					
JMM	**Marumori**	**36.17 19**	P	**P**	**18 36 09.3**	**+0.6**
RMQ	**Roma**	**37.06 146**	P	**P**	**18 36 17.2**	**+0.8**
	baz=37,SNR=9.2					
BJT	**Baijiatuau**	**37.14 347**	IAmb	IAmb	18 36 21.7	
	comp=Z,47nm,1.1s					
BJI	**Beijing**	**37.16 347**	P	**P**	**18 36 17.0**	**0.0**
BJI			S	**S**	**18 41 57.3**	**-2.9**
BJI			pmax	pmax		
	comp=Z,26nm,0.8s					
BJI			LR	LR		
	comp=Z,190nm,20.4s					
BJI			LR	LR		
	comp=Z,360nm,20.0s					
BJI			LR	LR		
	comp=Z,570nm,29.4s					
EIDS	**Eidsvold**	**37.58 142**	P	**P**	**18 36 21.2**	**+0.4**
	baz=38,SNR=12					
EIDS	**Eidsvold**	**37.58 142**	P	**P**	**18 36 20.2**	**-0.6**
BBOO	**Buckleboo**	**37.63 167**	P	**P**	**18 36 21.3**	**+0.3**
	baz=38,SNR=51					
BBOO	**Buckleboo**	**37.63 167**	P	**P**	**18 36 20.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**37.73 193**	P	**P**	**18 36 22.1**	**+0.1**
	comp=Z,16nm,0.9s,baz=26,slow=8.2,SNR=9.9					
NWAO	**Narrogin (SRO)**	**37.73 193**	P	**P**	**18 36 22.3**	**+0.4**
	baz=38,SNR=8.7					
NWAO	**Narrogin (SRO)**	**37.73 193**	IAmb	IAmb	18 36 24.5	
	comp=Z,56nm,1.4s					
LZH	**Lanzhou**	**38.27 330**	*e*P	**P**	**18 36 29.0**	**+2.3**
LZH			pP	pwP	18 36 43.0	+0.4
LZH			sP	sP	18 36 51.0	+6.5
LZH			S	**S**	**18 42 19.0**	**+1.5**
LZH			SS	**SnSn**	**18 44 54.3**	**-12**
LZH			pmax	pmax		
	comp=Z,28nm,1.2s					
LZH			pmax	pmax		
	comp=Z,110nm,4.9s					
LZH			LR	LR		
	comp=Z,690nm,15.7s					
LZH			LR	LR		
	comp=Z,670nm,14.1s					
LZH			LR	LR		
	comp=Z,560nm,16.9s					
STKA	**Stephens Creek**	**38.36 159**	P	**P**	**18 36 28.0**	**+0.7**
	comp=Z,51nm,0.7s,baz=332,slow=8.4,SNR=109					
STKA			LR	LR	18 53 21.7	
	comp=Z,296nm,20.8s,baz=339,slow=38					
STKA	**Stephens Creek**	**38.36 159**	P	**P**	**18 36 27.9**	**+0.6**
	baz=38,SNR=72					
STKA	**Stephens Creek**	**38.36 159**	P	**P**	**18 36 27.1**	**-0.2**
HTT	**Hallett**	**38.95 164**	P	**P**	**18 36 33.0**	**+0.7**
	baz=39,SNR=11					
HHC	**Hu-ho-hao-te**	**39.17 342**	*e*P	**P**	**18 36 34.5**	**+0.4**
HHC			S	**S**	**18 42 27.8**	**-3.0**
HHC			SS	**SS**	**18 45 16.0**	**-9.3**
HHC			pmax	pmax		
	comp=Z,15nm,0.6s					
HHC			pmax	pmax		
	comp=Z,120nm,4.9s					
HHC			LR	LR		
	comp=Z,680nm,17.9s					
HHC			LR	LR		
	comp=Z,500nm,17.7s					
HHC			LR	LR		
	comp=Z,810nm,18.2s					
SHL	**Shillong**	**39.67 306**	P	**P**	**18 36 37.6**	**-1.0**
SHL			pmax	pmax		
	comp=Z,52nm,0.7s					
SHL	**Shillong**	**39.67 306**	P	**P**	**18 36 37.6**	**-1.0**
CMSA	**Cobar Meteorol**	**39.68 154**	P	**P**	**18 36 39.3**	**+1.0**
	baz=40,SNR=20					
USA0B	**Ussuriysk Arra**	**40.38 6**	P	**P**	**18 36 42.5**	**-1.4**
USA0B			pmax	pmax		
	comp=Z,17nm,1.0s					
USA0B	**Ussuriysk Arra**	**40.38 6**	P	**P**	**18 36 42.5**	**-1.4**
USRK	**Ussuriysk Ar.**	**40.38 6**	P	**P**	**18 36 43.2**	**-0.7**
	comp=Z,9.3nm,0.9s,baz=195,slow=8.0,SNR=13					
USRK	**Ussuriysk Ar.**	**40.38 6**	P	**P**	**18 36 42.9**	**-1.0**
MDJ	**Mudanjiang**	**40.60 3**	P	**P**	**18 36 47.0**	**+1.3**
MDJ			S	**S**	**18 42 55.0**	**+3.2**
MDJ			pmax	pmax		
	comp=Z,48nm,1.0s					
MDJ			LR	LR		
	comp=Z,370nm,19.8s					
MDJ			LR	LR		
	comp=Z,170nm,16.6s					
MDJ			LR	LR		
	comp=Z,520nm,23.4s					
MDJ	**Mudanjiang**	**40.60 3**	IAmb	IAmb	18 36 48.1	
	comp=Z,41nm,0.9s					
JEW	**Eniwo**	**40.92 17**	P	**P**	**18 36 47.3**	**-1.2**
ARMA	**Armidale**	**41.70 147**	P	**P**	**18 36 56.6**	**+1.5**
	baz=42,SNR=39					
ARMA	**Armidale**	**41.70 147**	P	**P**	**18 36 55.9**	**+0.8**
TEY	**Ternei**	**41.86 11⇑**	*e*P	**P**	**18 36 56.8**	**+0.7**
TEY			pmax	pmax		
	comp=N,10.0nm,0.9s					
TEY			pmax	pmax		
	comp=Z,40nm,0.9s					
TEY			pmax	pmax		
	comp=E,10.0nm,0.9s					
ASAJ	**Asahikawa**	**42.42 17**	P	**P**	**18 37 00.8**	**0.0**
	comp=E,8.9nm,0.7s,baz=238,slow=10,SNR=13					
ASAJ			LR	LR	18 55 51.5	
	comp=E,308nm,20.0s,baz=192,slow=38					
GTA	**Gaotai**	**42.87 329**	*e*P	**P**	**18 37 04.0**	**-0.6**
GTA			pP	pwP	18 37 19.3	-1.4
GTA			sP	sP	18 37 26.5	+4.1
GTA			ScP	**ScP**	**18 42 42.3**	**+0.3**
GTA			ScS	**ScS**	**18 47 00.0**	**-1.4**
GTA			pmax	pmax		
	comp=E,3.0nm,0.9s					
GTA			pmax	pmax		
	comp=E,120nm,8.4s					
GTA			LR	LR		
	comp=E,460nm,20.7s					
GTA			LR	LR		
	comp=E,740nm,20.4s					
GTA			LR	LR		
	comp=E,870nm,20.7s					
ARPS	**Mount Arapiles**	**42.92 162**	P	**P**	**18 37 05.9**	**+1.1**
	baz=43,SNR=20					
YNG	**Young**	**43.22 153**	P	**P**	**18 37 07.7**	**+0.3**
	baz=43,SNR=7.5					
YUK	**Yuzh-Kuril'sk**	**43.40 20**	*e*P	P	18 37 00.5	-8.1
YUK			*e*		18 38 45.4	
YUK			MLR	MLR		
	comp=Z,262nm,14.0s					
TAPN	**Taplejung**	**43.81 306**	*e*P	**P**	**18 37 13.0**	**+0.4**
	comp=Z,23nm,0.7s					
ODAN	**Odare**	**43.86 305**	*e*P	**P**	**18 37 13.9**	**+1.0**
	comp=Z,35nm,0.7s					
CNB	**Canberra Magne**	**44.50 153**	P	**P**	**18 37 17.6**	**0.0**
	baz=44,SNR=5.3					
RAMN	**Ramite**	**44.54 305**	*e*P	**P**	**18 37 19.6**	**+1.2**
	comp=Z,10nm,0.5s					
TOO	**Toolangi**	**44.87 159**	P	**P**	**18 37 21.7**	**+1.2**
	baz=45,SNR=6.0					
TOO	**Toolangi**	**44.87 159**	P	**P**	**18 37 20.8**	**+0.3**
TOO			pmax	pmax		
	comp=Z,87nm,1.8s					
TOO	**Toolangi**	**44.87 159**	P	**P**	**18 37 20.8**	**+0.3**
TOO			IAmb	IAmb	18 37 23.7	
	comp=Z,87nm,1.8s					
YSS	**Yuzh-Sakhalins**	**45.07 16**	*e*P	**P**	**18 37 21.6**	**-0.3**
YSS			*e*		18 44 01.0	
YSS			*e*		18 47 17.0	
YSS			pmax	pmax		
	comp=Z,30nm,1.2s					
YSS	**Yuzh-Sakhalins**	**45.07 16**	P	**P**	**18 37 21.4**	**-0.5**
YSS			IAmb	IAmb	18 37 23.8	
	comp=Z,35nm,1.2s					
JIRN	**Jiri**	**45.16 306**	*e*P	**P**	**18 37 22.8**	**-0.7**
	comp=Z,18nm,0.4s					
HIA	**Hailar**	**45.54 354**	IAmb	IAmb	18 37 41.9	
	comp=Z,39nm,1.1s					
PKI	**Pulchoki**	**45.76 305**	*e*P	**P**	**18 37 27.6**	**-0.6**
	comp=Z,15nm,0.9s					
PKIN	**Phulchoki**	**45.77 305**	*e*P	**P**	**18 37 27.7**	**-0.5**
KKN	**Kakani**	**45.95 305**	*e*P	**P**	**18 37 28.4**	**-1.1**
	comp=Z,11nm,0.2s					
DMN	**Daman**	**46.02 305**	*e*P	**P**	**18 37 30.1**	**0.0**
	comp=Z,22nm,0.7s					
GKN	**Gorkha**	**46.56 305**	*e*P	**P**	**18 37 32.6**	**-1.6**
	comp=Z,12nm,0.6s					
DZM	**Mont Dzumac**	**46.74 125**	*e*P	**P**	**18 37 36.7**	**+1.1**
	comp=Z,100nm,1.9s					
DZM	**Mont Dzumac**	**46.74 125**	*e*LR	LR	18 50 48.5	
	comp=Z,466nm,25.2s					
DZM	**Mont Dzumac**	**46.74 125**	P	**P**	**18 37 36.3**	**+0.7**
DZM			IAmb	IAmb	18 37 38.5	
	comp=Z,23nm,0.8s					
ULN	**Ulaanbaatar**	**46.89 342**	*ce*P	**P**	**18 37 35.5**	**-1.0**
ULN			pmax	pmax		
	comp=Z,19nm,1.3s					
ULN	**Ulaanbaatar**	**46.89 342**	P	**P**	**18 37 36.0**	**-0.5**
ULN			IAmb	IAmb	18 38 04.8	
	comp=Z,56nm,1.5s					
SONM	**Songino Array**	**47.07 341**	P	**P**	**18 37 37.6**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=161,slow=8.2,SNR=27					
SONM			LR	LR	19 00 13.5	
	comp=Z,344nm,20.7s,baz=157,slow=40					
SONM	**Songino Array**	**47.07 341**	P	**P**	**18 37 36.7**	**-1.1**
KOLN	**Koldanda**	**47.32 305**	*e*P	**P**	**18 37 39.4**	**-0.8**
	comp=Z,29nm,0.5s					
GRNR	**Gornyy**	**47.39 8⇓**	*i*P	**P**	**18 37 41.4**	**+1.3**
GRNR			pmax	pmax		
	comp=Z,9.0nm,1.1s					
DANN	**Dangsing**	**47.41 305**	*e*P	**P**	**18 37 39.8**	**-1.2**
	comp=Z,51nm,0.6s					
PYUN	**Piuthan**	**47.94 305**	*e*P	**P**	**18 37 43.9**	**-1.2**
	comp=Z,26nm,0.5s					
TYV	**Tymovskoe**	**48.67 13**	*e*P	**P**	**18 37 52.6**	**+2.6**
TYV			pmax	pmax		
	comp=Z,6.0nm,0.6s					
TYV			pmax	pmax		
	comp=Z,100nm,2.8s					
HYB	**Hyderabad**	**48.95 290**	*i*P	**P**	**18 37 54.0**	**+1.3**
CIT	**Chita**	**49.14 349**	*e*P	P	18 37 47.0	-6.7
CIT			*e*		18 38 05.7	
CIT			pmax	pmax		
	comp=Z,47nm,1.5s					
ZEA	**Zeya**	**49.65 0**	*e*P	**P**	**18 37 56.0**	**-1.4**
ZEA			pmax	pmax		
	comp=Z,17nm,1.0s					
ZEA			MLR	MLR		
	comp=Z,400nm,16.0s					
ZEA			MLR	MLR		
	comp=E,200nm,15.0s					
ZAK	**Zakamensk**	**50.29 341**	*e*P	**P**	**18 38 03.4**	**+0.9**
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.3s					
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.1s					
TLY	**Talaya**	**51.30 342**	*e*P	**P**	**18 38 11.6**	**+1.6**
TLY			*e*S	S	18 45 35.7	+10
TLY			pmax	pmax		
	comp=Z,50nm,1.3s					
TLY			MLR	MLR		
	comp=Z,1μm,24.0s					
TLY	**Talaya**	**51.30 342**	P	**P**	**18 38 08.2**	**-1.8**
TLY			IAmb	IAmb	18 38 40.5	
	comp=Z,13nm,1.0s					
MOY	**Mondy**	**52.15 340**	*e*P	**P**	**18 38 18.5**	**+2.1**
MOY			pmax	pmax		
	comp=Z,32nm,1.9s					
WMQ	**Urumqi**	**52.49 325**	*e*P	**P**	**18 38 20.8**	**+1.7**
WMQ			pmax	pmax		
	comp=Z,8.0nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,97nm,5.7s					
WMQ			LR	LR		
	comp=Z,320nm,24.1s					
WMQ			LR	LR		
	comp=Z,370nm,21.1s					
WMQ			LR	LR		
	comp=Z,340nm,21.1s					
BOD	**Bodaibo**	**54.65 352**	*e*P	**P**	**18 38 35.4**	**+0.9**
BOD			pmax	pmax		
	comp=Z,34nm,1.4s					
PEA0B	**Petropavlovsk-**	**55.28 22**	*i*P	**P**	**18 38 37.9**	**-1.2**
PETK	**Petropavlovsk-**	**55.28 22**	P	**P**	**18 38 39.6**	**+0.5**
	comp=Z,10nm,0.7s,baz=181,slow=2.4,SNR=40					
PETK			LR	LR	19 05 11.6	
	comp=Z,99nm,18.8s,baz=239,slow=39					
PETK	**Petropavlovsk-**	**55.28 22**	P	**P**	**18 38 38.8**	**-0.4**
PET	**Petropavlovsk**	**55.58 23**	*e*P	**P**	**18 38 42.4**	**+1.1**
PET			*e*S	**S**	**18 46 29.9**	**+6.6**
PET			pmax	pmax		
	comp=Z,91nm,1.4s					
PET			MLR	MLR		
	comp=Z,300nm,18.0s					
DGZ	**Jazzator, Alta**	**56.36 330**	*i*P	**P**	**18 38 46.5**	**-0.7**
DGZ			pmax	pmax		
	comp=Z,8.0nm,1.6s					
SHLS	**Shalkode**	**57.12 320**	*e*P	**P**	**18 38 51.7**	**-1.0**
	comp=Z,20nm,1.9s,baz=320					
SHLS			*e*S	**S**	**18 46 42.0**	**-2.4**
	baz=320					
SHLS	**Shalkode**	**57.12 320**	*e*P	**P**	**18 38 51.6**	**-1.0**
SHLS			*e*S	**S**	**18 46 41.9**	**-2.4**
SHLS			pmax	pmax		
	comp=Z,20nm,1.9s					
MK31	**Makanchi Array**	**57.33 325**	P	**P**	**18 38 52.7**	**-1.2**
MK31			pmax	pmax		
	comp=Z,11nm,1.0s					
MK31	**Makanchi Array**	**57.33 325**	P	**P**	**18 38 52.7**	**-1.2**
MKAR	**Makanchi Array**	**57.33 325**	P	**P**	**18 38 53.3**	**-0.6**
	comp=Z,4.1nm,0.4s,baz=120,slow=7.6,SNR=82					
MKAR			ScP	**ScP**	**18 43 42.9**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=102,slow=4.5,SNR=5.0					
MKAR			LR	LR	19 05 08.5	
	comp=Z,629nm,19.3s,baz=108,slow=38					
MKAR	**Makanchi Array**	**57.33 325**	P	**P**	**18 38 52.5**	**-1.4**
MKAR				**ScP**	**18 43 45.3**	**+1.8**
UZB	**Uzynbulak**	**57.40 320**	*e*P	**P**	**18 38 55.3**	**+0.7**
	baz=320					
UZB	**Uzynbulak**	**57.40 320**	*e*P	**P**	**18 38 55.3**	**+0.7**
MAKZ	**Makanchi**	**57.51 325**	P	**P**	**18 38 54.3**	**-0.9**
MAKZ			pmax	pmax		
	comp=Z,18nm,1.0s					
MAKZ	**Makanchi**	**57.51 325**	P	**P**	**18 38 54.3**	**-0.9**
MAKZ			IAmb	IAmb	18 39 30.0	
	comp=Z,18nm,1.0s					
TARG	**Taragay, Kyrgy**	**57.52 318**	P	**P**	**18 38 55.0**	**-0.9**
NIL	**Nilore**	**57.71 308**	P	**P**	**18 38 56.1**	**-0.8**
NIL			pmax	pmax		
	comp=Z,20nm,0.9s					
NIL	**Nilore**	**57.71 308**	P	**P**	**18 38 56.1**	**-0.8**
NIL			IAmb	IAmb	18 39 22.2	
	comp=Z,20nm,0.9s					
SATY	**Saty**	**57.75 320**	*e*P	**P**	**18 38 57.3**	**+0.2**
	comp=Z,15nm,1.6s,baz=320					
SATY	**Saty**	**57.75 320**	*e*P	**P**	**18 38 57.2**	**+0.2**
SATY			pmax	pmax		
	comp=Z,15nm,1.6s					
KSH	**Kashi**	**57.82 315**	P	P	18 39 05.0	+7.3
KSH			S	**S**	**18 46 59.5**	**+5.8**
KSH			pmax	pmax		
	comp=Z,20nm,1.0s					
KSH			pmax	pmax		
	comp=Z,230nm,6.3s					
KSH			LR	LR		
	comp=Z,330nm,8.0s					
KSH			LR	LR		
	comp=Z,250nm,7.6s					
KSH			LR	LR		
	comp=Z,230nm,6.3s					
YAK	**Yakutsk**	**58.01 2**	*e*P	**P**	**18 38 58.2**	**-0.1**
YAK			*e**PP	**pP**	**18 39 10.0**	**-1.9**
YAK			*e*		18 41 07.2	
YAK			*e*S	**S**	**18 46 52.9**	**-2.1**
YAK			*e**SS	**sS**	**18 47 16.2**	**-0.3**
YAK			*e*		18 48 35.8	
YAK			*e*SSS	SSS	18 53 10.4	
YAK			pmax	pmax		
	comp=Z,26nm,1.1s					
YAK			pmax	pmax		
	comp=N,14nm,1.5s					
YAK			pmax	pmax		
	comp=E,6.0nm,1.6s					
YAK			pmax	pmax		
	comp=Z,183nm,4.3s					

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YAK                                     pmax    pmax
        comp=N,206nm,5.1s
YAK                                     pmax    pmax
        comp=E,123nm,4.3s
YAK                                     smax    smax
        comp=N,146nm,3.7s
YAK                                     smax    smax
        comp=E,128nm,3.0s
YAK     Yakutsk         58.01   2       P       P       18 38 56.7 -1.6
KDJ     Kajisay         58.12 318       P       P       18 38 59.3 -0.5
KDJ                                     pmax    pmax
        comp=Z,11nm,1.0s
KDJ     Kajisay         58.12 318       P       P       18 38 59.3 -0.5
KDJ                                     IAmb    IAmb    18 39 25.0
        comp=Z,11nm,0.9s
MDOK    Medeo           58.68 319       eP      P       18 39 04.2 +0.6
        baz=319
MDOK    Medeo           58.68 319       eP      P       18 39 04.2 +0.6
TNSS    Tian-Shan       58.69 319       eP      P       18 39 04.4 +0.5
        baz=319
TNSS    Tian-Shan       58.69 319       eP      P       18 39 04.4 +0.5
TDK     Taldyqorghan    58.69 322       eP      P       18 39 04.1 +0.6
        baz=322
TDK     Taldyqorghan    58.69 322       eP      P       18 39 04.0 +0.6
BOOM    Boomskoye usch  59.10 318       P       P       18 39 05.9 -0.7
BOOM                                    pmax    pmax
        comp=Z,10.0nm,1.1s
BOOM    Boomskoye usch  59.10 318       P       P       18 39 05.9 -0.7
KUU     Kurty           59.47 320       eP      P       18 39 09.1 +0.2
        baz=320
KUU     Kurty           59.47 320       eP      P       18 39 09.1 +0.2
AAK     Ala-Archa       60.13 318       ceP     P       18 39 14.2 +0.5
AAK                                     pmax    pmax
        comp=Z,24nm,1.7s
ZAA0    Zalesovo Array  60.35 333       P       P       18 39 13.2 -1.5
ZALV    Zalesovo Beam   60.35 333       P       P       18 39 13.3 -1.4
        comp=Z,2.0nm,0.5s,baz=110,slow=8.1,SNR=9.8
ZALV                                    LR      LR      19 07 53.2
        comp=Z,226nm,19.2s,baz=132,slow=38
ZALV    Zalesovo Beam   60.35 333       P       P       18 39 12.2 -2.6
SGDS    Sogindy         60.39 319       eP      P       18 39 15.6 +0.3
        baz=319
SGDS    Sogindy         60.39 319       eP      P       18 39 15.5 +0.3
KURBB   Kurchatov Arra  61.51 327       P       P       18 39 21.8 -0.8
        comp=Z,6.2nm,0.7s,baz=126,slow=6.2,SNR=4.2
KURBB   Kurchatov Arra  61.51 327       P       P       18 39 20.8 -1.8
KURK    Kurchatov       61.51 327       ceP     P       18 39 21.9 -0.7
KURK                                    pmax    pmax
        comp=Z,15nm,1.0s
KURK    Kurchatov       61.51 327       P       P       18 39 21.5 -1.1
BTK     Batken          61.70 314       P       P       18 39 24.2 -0.1
BTK                                     pmax    pmax
        comp=Z,13nm,1.1s
BTK     Batken          61.70 314       P       P       18 39 24.2 -0.1
BTK                                     IAmb    IAmb    18 39 39.8
        comp=Z,13nm,1.1s
GAR     Garm            61.70 313       P       P       18 39 23.7 -0.6
SEY     Seymchan        61.85  13       i P     P       18 39 25.3 +0.6
RPZ     Rata Peaks      61.99 145       P       P       18 39 26.6 +0.6
        comp=Z,14nm,0.8s,baz=70,slow=4.9,SNR=6.3
RPZ     Rata Peaks      61.99 145       IAmb    IAmb    18 39 45.3
        comp=Z,26nm,1.0s
CHGR    Chuyangaron     62.45 312       P       P       18 39 28.9 -0.5
CHGR                                    IAmb    IAmb    18 39 59.3
        comp=Z,19nm,0.9s
RAO     Raoul Island    62.54 126       LR      LR      19 04 35.2
        comp=Z,154nm,20.2s,baz=350,slow=34
URZ     Urewera         62.77 137       P       P       18 39 31.8 +0.5
        comp=Z,6.4nm,0.9s,baz=268,slow=14,SNR=2.5
URZ                                     LR      LR      19 07 59.9
        comp=Z,430nm,18.9s,baz=334,slow=37
IUG     Iuzhnay         62.99 316       eP      P       18 39 33.2 +0.3
        comp=Z,13nm,1.5s,baz=316
IUG     Iuzhnay         62.99 316       eP      P       18 39 33.2 +0.3
IUG                                     pmax    pmax
        comp=Z,13nm,1.5s
KK31    Karatay Array   63.01 317       i P     P       18 39 32.1 -0.8
KK31    Karatay Array   63.01 317       P       P       18 39 32.0 -0.8
KK31                                    IAmb    IAmb    18 40 00.8
        comp=Z,16nm,1.2s
KKAR    Karatay Array   63.01 317       P       P       18 39 31.9 -1.0
KKAR                                    pmax    pmax
        comp=Z,16nm,1.2s
KKAR    Karatay Array   63.01 317       P       P       18 39 31.9 -1.0
KKAR    Karatay Array   63.01 317       P       P       18 39 32.3 -0.5
KKAR                                    IAmb    IAmb    18 40 00.8
        comp=Z,16nm,1.2s
BRZS    Berezniki       64.46 325       eP      P       18 39 42.7 +0.4
        baz=325
BRZS    Berezniki       64.46 325       eP      P       18 39 42.6 +0.4
BVAR    Borovoye Array  67.09 327       P       P       18 39 59.6 +0.5
        comp=Z,4.2nm,0.7s,baz=142,slow=17,SNR=28
BRVK    Borovoye        67.16 327       ceP     P       18 39 59.5 -0.1
BRVK                                    pmax    pmax
        comp=Z,15nm,1.0s
BRVK    Borovoye        67.16 327       P       P       18 39 59.3 -0.3
TIXI    Tiksi           67.64   1       i P     P       18 39 59.8 -2.4
TIXI                                    pmax    pmax
        comp=Z,39nm,1.4s
BILL    Bilibino        69.38  15⇑      eP      P       18 40 13.5 +0.3
BILL                                    e*PP    PcP     18 40 41.8 +5.5
BILL                                    e       ePPP    18 42 47.6
BILL                                    ePPP    PPP     18 44 31.7
BILL                                    eS      S       18 49 19.4 +3.2
BILL                                    pmax    pmax
        comp=Z,20nm,2.0s
NRIK    Noril'sk        70.20 346       P       P       18 40 18.5 +0.3
        comp=Z,12nm,0.6s,baz=125,slow=6.2,SNR=12
NRIK                                    LR      LR      19 12 56.4
        comp=Z,453nm,22.0s,baz=190,slow=37
GEYT    Alibeck         70.68 309       P       P       18 40 22.1 +0.3
        comp=Z,2.3nm,0.7s,baz=176,slow=4.5,SNR=6.2
GEYT    Alibeck         70.68 309       P       P       18 40 22.2 +0.3
CASY    Casey           71.01 187       P       P       18 40 20.6 -2.5
CASY                                    IAmb    IAmb    18 40 38.2
        comp=Z,21nm,0.6s
AB31    Akbulak array   71.92 321       i P     P       18 40 27.9 -1.1
ABKAR   Akbulak array   71.92 321       P       P       18 40 27.4 -1.7
AKTO    Aktyubinsk      73.43 322       P       P       18 40 37.5 -0.5
        comp=Z,5.9nm,0.6s,baz=100,slow=9.6,SNR=19
SVE     Sverdlovsk      73.73 328       eP      P       18 40 39.7 +0.1
SVE                                     pmax    pmax
        comp=Z,25nm,1.1s
ARU     Arti            74.70 328       P       P       18 40 44.1 -1.1
        comp=Z,2.2nm,0.5s,baz=63,slow=4.3,SNR=9.7
ARU     Arti            74.70 328       c i P   P       18 40 44.4 -0.9
ARU                                     *PP     pwP     18 41 00.7 -0.3
ARU                                                     18 43 33.0
ARU                                     S       S       18 50 19.4 +1.7
ARU                                     SS      SS      18 55 03.2 -2.7
ARU                                     pmax    pmax
        comp=Z,17nm,1.3s
ARU     Arti            74.70 328       P       P       18 40 44.1 -1.1
KIRV    Kirov           79.99 329       P       P       18 41 14.2 -0.6
        comp=Z,8.8nm,0.5s,baz=196,slow=20,SNR=6.1
SVW2    Sparrevohn      80.67  29       P       P       18 41 18.6 +0.2
SVW2                                    IAmb    IAmb    18 42 01.3
        comp=Z,22nm,1.3s
TTA     Tatalina        80.76  27       P       P       18 41 19.4 +0.4
TTA                                     pmax    pmax
        comp=Z,36nm,1.6s
TTA     Tatalina        80.76  27       P       P       18 41 19.4 +0.4
TTA                                     IAmb    IAmb    18 41 23.1
        comp=Z,36nm,1.6s
ZEI     Tsey            82.00 312       eP      P       18 41 27.5 +1.4
ZEI                                     pmax    pmax
        comp=Z,11nm,1.3s
IMAR    Indian Mountai  82.20  24       P       P       18 41 27.6 +1.2
AKH     Akhalkalaki     82.26 311       P       P       18 41 28.2 +0.7
AKH                                     pmax    pmax
        comp=Z,7.0nm,0.8s
AKH     Akhalkalaki     82.26 311       P       P       18 41 28.2 +0.7
PRGR    Permogore       82.27 332       eP      P       18 41 24.3 -2.5
PPLA    Purkeypile      82.49  27       P       P       18 41 28.5 +0.3
SKT     Skwentna        82.71  28       P       P       18 41 29.1 -0.1
SKT                                     IAmb    IAmb    18 41 32.0
        comp=Z,30nm,1.3s
KBZ     Khabaz          82.76 313       LR      LR      19 24 14.2
        comp=Z,165nm,18.1s,baz=75,slow=40
KIV     Kislovodsk      82.92 314       eP      P       18 41 30.1 -0.6
KIV                                     pmax    pmax
        comp=Z,14nm,1.1s
KIV                                     MLR     MLR
        comp=Z,424nm,19.0s
SUA     Susitna One     83.03  29       P       P       18 41 29.5 -1.5
SUA                                     IAmb    IAmb    18 41 51.6
        comp=Z,31nm,1.0s
KTH     Kantishna Hill  83.13  27       P       P       18 41 31.8 +0.4
KTH                                     IAmb    IAmb    18 41 33.9
        comp=Z,51nm,1.6s
TRF     Thorofare Moun  83.40  27       P       P       18 41 33.2 +0.3
TRF                                     IAmb    IAmb    18 41 51.9
        comp=Z,28nm,1.2s
VNDA    Vanda           83.64 173       P       P       18 41 34.2 +0.6
        comp=Z,4.6nm,0.8s,baz=318,slow=6.3,SNR=51
VNDA                                    LR      LR      19 18 28.4
        comp=Z,78nm,21.9s,baz=341,slow=35
VNDA    Vanda           83.64 173       P       P       18 41 33.9 +0.3
VRH     Novokhopyorsk   83.75 321       eP      P       18 41 33.4 -1.3
VRH                                     pmax    pmax
        comp=Z,10.0nm,0.6s
PMR     Palmer          83.81  29       P       P       18 41 35.2 +0.4
PMR                                     pmax    pmax
        comp=Z,14nm,1.0s
PMR     Palmer          83.81  29       P       P       18 41 35.2 +0.4
PMR                                     IAmb    IAmb    18 41 36.2
        comp=Z,14nm,1.0s
MAW     Mawson          83.91 200       P       P       18 41 35.8 +0.6
        comp=Z,2.5nm,0.7s,baz=48,slow=6.5,SNR=4.1
MAW     Mawson          83.91 200       P       P       18 41 35.7 +0.6
GHO     Glory Hole Cre  83.92  28       P       P       18 41 35.7 +0.2
GHO                                     IAmb    IAmb    18 41 52.7
        comp=Z,18nm,1.1s
MCK     McKinley        84.03  26       P       P       18 41 36.3 +0.4
MCK                                     pmax    pmax
        comp=Z,119nm,2.0s
MCK     McKinley        84.03  26       P       P       18 41 36.3 +0.4
RND     Reindeer        84.04  27       P       P       18 41 36.2 +0.1
RND                                     pmax    pmax
        comp=Z,22nm,1.2s
RND     Reindeer        84.04  27       P       P       18 41 36.2 +0.1
RND                                     IAmb    IAmb    18 41 55.5
        comp=Z,22nm,1.2s
KNK     Knik Glacier    84.13  29       P       P       18 41 36.9 +0.4
KNK                                     IAmb    IAmb    18 41 54.1
        comp=Z,34nm,1.2s
SML     Sawmill         84.21  28       P       P       18 41 37.3 +0.4
MDM     Murphy Dome     84.40  25       P       P       18 41 38.1 +0.3
WRH     Wood River Hil  84.43  26       P       P       18 41 38.4 +0.5
WRH                                     IAmb    IAmb    18 41 39.8
        comp=Z,32nm,1.5s
CCB     Clear Creek Bu  84.56  26       P       P       18 41 39.0 +0.5
CCB                                     IAmb    IAmb    18 41 58.0
        comp=Z,28nm,1.5s
GLI     Glacier Island  84.77  29       P       P       18 41 40.7 +1.0
GLI                                     IAmb    IAmb    18 41 41.5
        comp=Z,15nm,0.7s
ILAR    Eielson Array   84.96  25       P       P       18 41 41.3 +0.7
        comp=Z,1.1nm,0.5s,baz=245,slow=5.3,SNR=12
ILAR                                    LR      LR      19 18 04.4
        comp=Z,55nm,21.6s,baz=260,slow=34
ILAR    Eielson Array   84.96  25       P       P       18 41 40.1 -0.5
FID     Port Fidalgo    85.07  29       IAmb    IAmb    18 41 58.8
        comp=Z,15nm,0.9s
KLMR    Klimovskoe      85.17 331       eP      P       18 41 40.7 -0.9
KLMR                                    pmax    pmax
        comp=Z,76nm,1.5s
KLMR    Klimovskoe      85.17 331       eP      P       18 41 40.8 -0.9
KLMR                                    AMP             18 41 56.3
        comp=Z,76nm,1.5s
M24K    Tolsona, Glenn  85.23  28       P       P       18 41 43.5 +1.4
PPT     Papeete         85.28 108       LR      LR      19 14 47.0
        comp=Z,88nm,20.0s,baz=302,slow=32
PPT2    Papeete2        85.28 108       eLR     LR      19 08 38.8
        comp=Z,430nm,25.8s
VORD    Divnogorie      85.28 321       eP      P       18 41 40.2 -2.3
VORD                                    pmax    pmax
        comp=Z,10.0nm,1.1s
VSR     Storozhevoye    85.36 321       eP      P       18 41 41.5 -1.3
VSR                                     pmax    pmax
        comp=Z,30nm,2.2s
LPSR    Galich'ya Gora  85.50 322       eP      P       18 41 42.5 -1.0
LPSR                                    pmax    pmax
        comp=Z,10.0nm,0.9s
TMCR    Tamitsa         85.87 334       eP      P       18 41 44.0 -1.1
TMCR                                    pmax    pmax
        comp=Z,33nm,1.1s
BMAR    Burnt Mountain  85.93  23       P       P       18 41 45.0 -0.4
TBI     Tubuai          85.97 114       eLR     LR      19 08 57.1
        comp=Z,445nm,28.8s
MOS     Moscow          86.21 325       eP      P       18 41 45.3 -1.6
MOS                                     e               18 41 58.8
GLB     Gilahina Butte  86.36  29       IAmb    IAmb    18 42 08.9
        comp=Z,14nm,1.1s
VRDI    Verde Repeater  86.54  29       IAmb    IAmb    18 42 03.5
        comp=Z,9.9nm,1.1s
OBN     Obninsk         86.83 325       P       P       18 41 50.5 +0.5
        comp=Z,2.2nm,0.4s,baz=69,slow=6.9,SNR=6.7
OBN     Obninsk         86.83 325       deP     P       18 41 50.1 +0.1
OBN                                     e               18 45 09.2
OBN                                     ePPP    PPP     18 47 09.9
OBN                                     eS      S       18 52 11.9  -12
OBN                                     pmax    pmax
        comp=Z,99nm,2.5s
OBN     Obninsk         86.83 325       P       P       18 41 50.3 +0.3
BCAR    Beaver Creek A  87.24  27       P       P       18 41 50.6 -1.4
ASF     Jabal al Asfar  87.70 302       P       P       18 41 55.3 +0.5
        comp=Z,1.9nm,0.6s,baz=14,slow=4.2,SNR=2.9
MMAI    Mount Meron Ar  88.90 303       P       P       18 42 01.1 +0.6
        comp=Z,1.0nm,0.6s,baz=78,slow=9.0,SNR=1.9
KMBO    Kilima Mbogo    89.45 269       P       P       18 42 05.2 +1.5
        comp=Z,0.7nm,0.2s,baz=64,slow=6.2,SNR=3.8
KMBO                                    LR      LR      19 20 10.6
        comp=Z,103nm,19.1s,baz=94,slow=34
KMBO    Kilima Mbogo    89.45 269       IAmb    IAmb    18 42 23.4
        comp=Z,16nm,1.7s
BRTR    Keskin Array B  89.81 310       P       P       18 42 03.8 -0.9
        comp=Z,0.7nm,0.4s,baz=144,slow=3.4,SNR=2.7
ARCES   ARCESS Array B  90.22 340       P       P       18 42 05.5 -0.3
        comp=Z,1.6nm,0.4s,baz=83,slow=7.4,SNR=2.7
ARCES                                   LR      LR      19 26 10.5
        comp=Z,119nm,21.9s,baz=85,slow=38
FINES   FINESS Array B  91.60 332       P       P       18 42 11.5 -0.9
        comp=Z,1.8nm,0.4s,baz=343,slow=2.0,SNR=16
FINES                                   LR      LR      19 25 59.9
        comp=Z,383nm,18.1s,baz=59,slow=37
AKASG   Malin Array Be  91.67 321       P       P       18 42 11.8 -1.1
        comp=Z,1.2nm,0.5s,baz=67,slow=4.7,SNR=6.7
AKASG                                   LR      LR      19 25 51.6
        comp=Z,145nm,20.9s,baz=15,slow=37
SYO     Syowa Base      92.58 201⇓      eP      P       18 42 16.2 -0.4
SYO     Syowa Base      92.58 201⇓      ePcP    PcP     18 42 18.0 +0.7
TAOE    Nuku Hiva Isla  93.78  99       eLR     LR      19 12 29.2
        comp=Z,355nm,23.0s
QSPA    South Pole Qui  93.84 180       P       P       18 42 23.1 +0.3
QSPA                                    IAmb    IAmb    18 42 59.4
        comp=Z,13nm,1.2s
MLR     Muntele Rosu    94.68 316       LR      LR      19 30 47.5
        comp=Z,262nm,18.3s,baz=90,slow=39
BURAR   Bucovina Array  94.78 318       P       P       18 42 26.9 -0.5
UZH     Uzhgorod        96.47 320       eP      P       18 42 34.9 -0.1
UZH                                     e               18 42 44.8
IDI     Anoyia          97.28 306       LR      LR      19 34 03.1
        comp=Z,76nm,18.1s,baz=142,slow=40
NB2     NORSAR Subarra  98.55 334       P       P       18 42 42.8 -1.4
        comp=Z,1.8nm,0.7s,baz=66,slow=4.6
NB2     NORSAR Subarra  98.55 334       P       P       18 42 42.8 -1.4
        baz=66,slow=4.6
NOA     NORSAR Array B  98.55 334       P       P       18 42 42.3 -1.8
        comp=Z,1.6nm,0.7s,baz=66,slow=4.5,SNR=5.0
NOA                                     LR      LR      19 32 07.1
        comp=Z,202nm,19.4s,baz=75,slow=38
BRG     Berggiesshubel  101.01 323      eP      Pdif    18 42 55.9 +0.6
        comp=Z,6.3nm,1.0s
BRG                                     e               18 43 08.0
        comp=Z,3.3nm,0.9s
BRG     Berggiesshubel  101.01 323      eP      Pdif    18 42 55.9 +0.6
BRG                                     pmax    pmax
        comp=Z,6.0nm,1.0s
BRG                                     pmax    pmax
        comp=Z,3.0nm,0.9s
CLL     Collm           101.41 324      ePP     PP      18 47 08.0 +1.3
CLL                                     LmV             19 31 00.0
        comp=Z,300nm,18.5s
GERES   GERESS Array B  101.86 322      P       Pdif    18 42 58.3 -0.9
        comp=Z,0.3nm,0.4s,baz=104,slow=5.6,SNR=4.3
TXAR    Lajitas Array   121.56  52      PKP     PKiKP   18 48 01.2 +1.2
        comp=Z,0.6nm,0.6s,baz=266,slow=1.0,SNR=5.2
TORD    Torodi Ar. Bea  122.75 288      PKP     PKPdf   18 48 02.2 -0.2
        comp=Z,0.5nm,0.4s,baz=103,slow=1.8,SNR=4.8
U40A    Yellville       125.55  39      PKPdf   PKPdf   18 48 07.0 -0.3
PLCA    Paso Flores     140.24 159      PKP     PKPdf   18 48 35.9 +1.1
        comp=Z,3.1nm,1.1s,baz=254,slow=7.4,SNR=3.1
CBCY    The Bluff, Cay  144.99  47                      PKPdf   18 48 44.6 +0.9
JTS     Las Juntas de   145.52  66      PKPbc   PKPab   18 48 46.5 +1.4
        baz=335,slow=6.6
CO02    Combarbal       148.20 151                      PKPbc   18 48 52.1 -0.1
LPAZ    La Paz          161.01 131      PKP     PKPdf   18 49 09.2 +1.7
        comp=Z,0.8nm,0.5s,baz=266,slow=1.3,SNR=4.4
LPAZ    La Paz          161.01 131      PKiKP   PKPdf   18 49 07.5 -0.1
LPAZ    La Paz          161.01 131                      PKPdf   18 49 07.5 -0.1
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*IDC **26** 18:45:01.5±2.4,3˚.90N×126˚.46E,h44km±23km,mb3.7/15,*
mb1 3.9/17,mb1mx3.7/51,mbtmp4.0/17,ML4.0/2,Error
ellipse: s-maj=28.2km s-min=11.7km az=69.0
*NEIC **26** 18:45:04.8±2.8,3˚.87N±0˚.06×126˚.67E±0˚.09,h75km±7km,*
mb4.4/30,Error ellipse: s-maj=13.8km s-min=7.8km
az=65.0
*DJA **26** 18:45:04.1±0.6,4˚N±6˚×12˚7E±˚,h76km±7km,M4.2/13,*
mb4.2/13,mB5.9/1,MLv4.1/10,Mw(mB)5.5/1

ISC 26 18:45:01.8±0.4,3˚.93N±0˚.05×126˚.72E±0˚.06,h45km,n74,
σ1§91/78,mb4.2/25,1C,Talaud Islands

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Code    Station Name    Δ°      AZ°     Phase ID        Time    Res
                                        Op      ISC     h m s   ISC
DDMP    Don Marcelino,          2.38 335        eS      Sn      18 46 14.4 +8.1
DDMP    Don Marcelino,          2.38 335        eP      Pn      18 45 38.0 -0.3
MATI    Mati                    3.03 351        eP      Pn      18 45 48.4 +1.1
MATI                                            eS      Sn      18 46 18.7 -3.7
TNTI    Ternate                 3.20 168        P       Pn      18 45 51.8 +2.2
TNTI    Ternate                 3.20 168                Pn      18 45 51.8 +2.2
DAV     Davao City (W)          3.32 340        S       Sn      18 46 35.4 +5.9
        49nm,0.3s,baz=241,slow=19,SNR=2.0
DAV     Davao City (W)          3.32 340        Pn      Pn      18 45 56.1 +4.9
SKMP    Bagumbayan, Su          3.36 320        eP      Pn      18 45 52.9 +1.1
SKMP                                            eS      Sn      18 46 31.2 +0.7
KCP     Kidapawan               3.46 332⇑       eP      Pn      18 45 56.6 +3.3
BUKP    Musuan                  4.25 337        eP      Pn      18 46 05.7 +1.6
BUKP                                            eS      Sn      18 46 54.0 +1.4
KMSI    Cibinong                4.31 219        P       Pn      18 46 06.6 +1.8
GTOI    Gorontalo               4.94 229        P       Pn      18 46 14.7 +1.2
SANI    Sanana                  5.98 187        P       Pn      18 46 26.5 -1.3
        0.1nm14nm,0.6s
LUWI    Luwuk                   6.32 219        P       Pn      18 46 35.7 +3.3
        0.3nm90nm,0.9s
LUWI    Luwuk                   6.32 219        Pn      Pn      18 46 37.6 +5.2
SIJI    Sorong                  6.59 136        P       Pn      18 46 39.7 +3.5
        2.3nm,0.3s,baz=322,slow=19,SNR=9.3
SIJI                                            S       Sn      18 47 52.8 +2.8
        1.4nm,0.3s,baz=335,slow=22,SNR=6.7
NLAI    Namlea                  7.13 177        P       Pn      18 46 44.9 +1.3
        0.1nm17nm,0.7s
MYLDM   Lahad Datu              8.28 279                Pn      18 47 02.2 +2.8
KKM     Kota Kinabalu           10.67 282       Pn      Pn      18 47 33.2 +1.0
SOEI    Soe                     13.81 190       Pn      Pn      18 48 18.1 +3.0
SBUM    Sibu                    14.55 265       P       P       18 48 29.7 -0.9
WSI     Waingapu                14.95 205       P       P       18 48 44.7 +10
JAY     Jayapura                15.38 114       P       P       18 48 38.9 -0.9
        0.7nm,0.3s,baz=193,slow=11,SNR=2.1
JAY     Jayapura                15.38 114       P       Pn      18 48 35.0 -0.9
        5.3nm,1.0s
MTN     Manton Dam              17.23 165                Pn      18 48 56.9 -2.4
MTN                                             IAmb    IAmb    18 49 01.5
        comp=Z,11nm,0.8s
KNRA    Kununurra               19.59 174       P       P       18 49 26.1 -0.1
KNRA                                            IAmb    IAmb    18 49 34.7
        comp=Z,12nm,0.8s
YULB    Yu-li                   20.05 345       P       P       18 49 28.8 -2.4
YULB                                            IAmb    IAmb    18 50 05.3
        comp=Z,23nm,1.4s
TPUB    Ta-pu                   20.14 344       P       P       18 49 30.6 -1.7
TPUB                                            IAmb    IAmb    18 49 33.6
        comp=Z,39nm,1.3s
SSLB    Suanglung               20.51 345       P       P       18 49 34.8 -1.5
FITZ    Fitzroy Crossi          21.91 183       P       P       18 49 50.8 -0.6
        comp=Z,6.7nm,0.6s,baz=0.8,slow=7.0,SNR=14
FITZ    Fitzroy Crossi          21.91 183       P       P       18 49 51.1 -0.3
CISI    Cisompet, Garu          22.04 239       P       P       18 49 50.6 -2.3
UBPT    Khong Chiam             23.76 300               P       18 50 11.1 +0.8
UBPT                                            IAmb    IAmb    18 50 14.6
        comp=Z,8.1nm,0.9s
PMG     Port Moresby            24.30 123       P       P       18 50 17.0 +1.7
PMG                                             IAmb    IAmb    18 50 39.8
        comp=Z,24nm,1.1s
WB0     Warramunga Arr          24.73 162       P       P       18 50 18.9 -0.2
WB0                                             IAmb    IAmb    18 50 43.5
        comp=Z,8.8nm,1.1s
WRAB    Tennant Creek           24.87 163       P       P       18 50 20.3 -0.1
WRA     Warramunga Arr          24.88 163       P       P       18 50 20.4 -0.1
        comp=Z,3.1nm,0.6s,baz=342,slow=11,SNR=46
WRA                                             PcP     PcP     18 53 55.8 +0.1
        comp=Z,0.2nm,0.6s,baz=324,slow=2.6,SNR=1.5
WRA     Warramunga Arr          24.88 163       P       P       18 50 19.9 -0.5
WB2     Warramunga Arr          24.88 163       P       P       18 50 19.8 -0.7
WR0     Warramunga Arr          24.95 162       P       P       18 50 21.1  0.0
WR0                                             IAmb    IAmb    18 50 30.9
        comp=Z,5.5nm,0.7s
PSA00   Pilbara Seismi          26.22 195       P       P       18 50 32.8 +0.2
PSA00                                           IAmb    IAmb    18 50 34.3
        comp=Z,12nm,0.7s
ASAR    Alice Springs           28.31 166       P       P       18 50 51.2 -0.1
        comp=Z,1.0nm,0.5s,baz=343,slow=6.8,SNR=32
ASAR                                            PcP     PcP     18 54 03.2 -0.6
        comp=Z,0.4nm,0.6s,baz=355,slow=2.0,SNR=3.2
CMAR    Chiang Mai Arr          30.76 300       P       P       18 51 11.2 -1.9
        comp=Z,0.5nm,0.7s,baz=115,slow=6.8,SNR=5.8
CMAR    Chiang Mai Arr          30.76 300       P       P       18 51 12.7 -0.5
CHTO    Chiang Mai              30.91 301       P       P       18 51 16.1 +1.6
KSRS    Korea Array             33.38   2       P       P       18 51 34.8 -1.1
        comp=Z,0.5nm,0.5s,baz=182,slow=10,SNR=2.6
KSRS                                            PcP     PcP     18 54 17.5 +0.7
        comp=Z,0.4nm,0.6s,baz=202,slow=2.3,SNR=1.8
FORT    Forrest                 34.54 178       P       P       18 51 44.9 -1.1
EIDS    Eidsvold                37.52 142       P       P       18 52 12.8 +1.2
EIDS                                            IAmb    IAmb    18 52 13.3
        comp=Z,5.7nm,0.8s
BBOO    Buckleboo               37.60 167       P       P       18 52 12.7 +0.5
NWAO    Narrogin (SRO)          37.74 193       P       P       18 52 13.4  0.0
STKA    Stephens Creek          38.32 159       P       P       18 52 19.2 +0.9
        comp=Z,6.6nm,0.7s,baz=332,slow=9.0,SNR=17
STKA    Stephens Creek          38.32 159       P       P       18 52 18.8 +0.6
SHL     Shillong                39.75 306       P       P       18 52 28.9 -1.6
ARMA    Armidale                41.64 147       P       P       18 52 48.0 +2.0
ARMA                                            IAmb    IAmb    18 52 58.7
        comp=Z,12nm,1.2s
YSS     Yuzh-Sakhalins          45.05  16       P       P       18 53 13.5 +0.4
DZM     Mont Dzumac             46.66 125       P       P       18 53 27.3 +0.9
SONM    Songino Array           47.11 341       P       P       18 53 28.6 -0.9
        comp=Z,0.7nm,0.7s,baz=150,slow=7.4,SNR=5.3
SONM    Songino Array           47.11 341       IAmb    IAmb    18 53 30.2
        comp=Z,0.7nm,0.8s
PETK    Petropavlovsk-          55.25  22       P       P       18 54 31.1 +0.7
        comp=Z,2.4nm,0.8s,baz=159,slow=4.6,SNR=6.2
MK31    Makanchi Array          57.38 325       P       P       18 54 44.6 -1.1
MKAR    Makanchi Array          57.38 325       P       P       18 54 44.7 -1.0
        comp=Z,1.0nm,0.6s,baz=119,slow=7.7,SNR=12
MKAR                                            ScP     ScP     18 59 34.0 -1.6
        comp=Z,0.4nm,0.6s,baz=90,slow=4.3,SNR=3.7
MAKZ    Makanchi                57.57 325       P       P       18 54 46.3 -0.7
MAKZ                                            IAmb    IAmb    18 54 48.6
        comp=Z,3.5nm,1.4s
ZALV    Zalesovo Beam           60.41 333       P       P       18 55 04.2 -2.3
        comp=Z,0.4nm,0.3s,baz=139,slow=9.5,SNR=2.9
ZALV    Zalesovo Beam           60.41 333       P       P       18 55 04.9 -1.5
KURBB   Kurchatov Arra          61.56 327       P       P       18 55 12.6 -1.8
        comp=Z,1.2nm,0.6s,baz=128,slow=6.6,SNR=9.4
KURK    Kurchatov               61.57 327       P       P       18 55 12.6 -1.8
KURK    Kurchatov               61.57 327       IAmb    IAmb    18 55 15.1
        comp=Z,4.2nm,0.8s
BTK     Batken                  61.77 314       P       P       18 55 16.2 +0.1
BTK                                             IAmb    IAmb    18 55 41.2
        comp=Z,3.0nm,1.1s
BVAR    Borovoye Array          67.15 327       P       P       18 55 51.7 +0.8
        comp=Z,0.3nm,0.4s,baz=352,slow=30,SNR=2.3
NRIK    Noril'sk                70.23 346       P       P       18 56 10.4 +0.6
        comp=Z,4.2nm,0.8s,baz=92,slow=9.9,SNR=2.6
ABKAR   Akbulak array           71.99 321       P       P       18 56 18.9 -1.9
VNDA    Vanda                   83.62 173       P       P       18 57 24.6 -0.4
        comp=Z,0.6nm,0.5s,baz=317,slow=7.6,SNR=12
ILAR    Eielson Array           84.93  25       P       P       18 57 32.8 +0.9
        comp=Z,0.3nm,0.6s,baz=248,slow=5.7,SNR=1.9
TORD    Torodi Ar. Bea          122.84 288      PKP     PKPdf   19 03 53.1 -0.9
        comp=Z,0.2nm,0.4s,baz=118,slow=0.4,SNR=1.6
TORD                                            PKKPbc  PKKPbc  19 13 46.5 +0.2
```

comp=Z,2.1nm,1.0s,baz=282,slow=1.3,SNR=6.4

*IDC **26** 18:53:08.2±1.8, 11°.67N×89°.34W, h0km, mb3.9/4, mb1 4.2/8, mb1mx3.9/46, mbtmp4.0/8, ML3.6/4, MS3.1/5, Ms1 3.1/5, ms1mx2.9/39, Error ellipse: s-maj=47.2km s-min=23.5km az=42.0*
*INET **26** 18:53:10.9, 11°.81N×89°.25W, h15km, ML4.4*
*SNET **26** 18:53:12.7±1.2, 11°.87N×89°.20W, h35km±59km, ML4.1*
*UCR **26** 18:53:12.8±1.1, 11°.87N×89°.20W, h35km±999km, ML3.9, mb4.4(NEIC)*
*GCG **26** 18:53:14.0±1.0, 11°.77N×89°.53W, h37km±999km, MD4.3*
*NEIC **26** 18:53:16.0±2.7, 11°.92N±0°.08×89°.10W±0°.07, h48km±8km, mb4.4/35, Error ellipse: s-maj=14.3km s-min=7.3km az=215.0*
ISC 26 18:53:14.1±2.8, 11°.88N±0°.06×89°.13W±0°.05, h32km±20km, n119, σ1§21/134, mb4.3/22, 6C-10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.54**	**21**	*i* P	**Pn**	**18 53 37.9**	**-1.5**
ALJI				*eS*	**Sn**	**18 53 58.7**	**+0.4**
ALJI	**Alcalda de J**	**1.54**	**21**	*i* P	**Pn**	**18 53 37.9**	**-1.5**
ALJI				*eS*	**Sn**	**18 53 58.7**	**+0.4**
JUCU	**Jucuarın**	**1.61**	**32**	⇓*e*P	**Pn**	**18 53 39.3**	**-1.2**
JUCU				*eS*	**Sn**	**18 54 01.4**	**+1.1**
JUCU				IAML		18 54 04.7	
	comp=Z,2μm,0.3s						
JUCU	**Jucuarın**	**1.61**	**32**	⇓*e*P	**Pn**	**18 53 39.3**	**-1.2**
JUCU				*eS*	**Sn**	**18 54 01.4**	**+1.1**
JUCU				IAML		18 54 04.7	
	comp=Z,2μm,0.3s						
COEB	**Comit de Eme**	**1.71**	**20**	*e*P	**Pn**	**18 53 40.9**	**-1.0**
COEB				IAML		18 54 09.0	
	comp=Z,2μm,0.3s						
COEB	**Comit de Eme**	**1.71**	**20**	*e*P	**Pn**	**18 53 40.9**	**-1.0**
COEB				IAML		18 54 09.0	
	comp=Z,2μm,0.3s						
TECA	**Tecapa**	**1.72**	**21**	⇓*e*P	**Pn**	**18 53 40.8**	**-1.2**
TECA	**Tecapa**	**1.72**	**21**	⇓*e*P	**Pn**	**18 53 40.8**	**-1.2**
LFRS	**El Faro**	**1.74**	**2**	⇑*e*P	**Pn**	**18 53 40.6**	**-1.6**
LFRS	**El Faro**	**1.74**	**2**	⇑*e*P	**Pn**	**18 53 40.6**	**-1.6**
LCY	**Lacayo**	**1.74**	**28**	*e*P	**Pn**	**18 53 41.3**	**-0.9**
LCY	**Lacayo**	**1.74**	**28**	*e*P	**Pn**	**18 53 41.3**	**-0.9**
COEG	**Centro de Oper**	**1.75**	**8**	*e*P	**Pn**	**18 53 41.1**	**-1.2**
COEG				IAML		18 54 12.0	
	comp=Z,2μm,0.3s						
COEG	**Centro de Oper**	**1.75**	**8**	*e*P	**Pn**	**18 53 41.1**	**-1.2**
COEG				IAML		18 54 12.0	
	comp=Z,2μm,0.3s						
VSM	**San Miguel**	**1.75**	**28**	⇓*i*P	**Pn**	**18 53 41.9**	**-0.7**
VSM	**San Miguel**	**1.75**	**28**	⇓*i*P	**Pn**	**18 53 41.9**	**-0.7**
PACA	**Pacayal**	**1.77**	**26**	*e*P	**Pn**	**18 53 42.0**	**-0.7**
PACA	**Pacayal**	**1.77**	**26**	*e*P	**Pn**	**18 53 42.0**	**-0.7**
BLLM	**Bellamira**	**1.78**	**29**	*e*P	**Pn**	**18 53 41.7**	**-1.1**
BLLM	**Bellamira**	**1.78**	**29**	*e*P	**Pn**	**18 53 41.7**	**-1.1**
SNET	**Serv Nac Est T**	**1.80**	**357**	*e*P	**Pn**	**18 53 41.8**	**-1.3**
SNET				*eS*	**Sn**	**18 54 03.7**	**-1.2**
SNET				IAML		18 54 06.9	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**1.80**	**357**	*e*P	**Pn**	**18 53 41.8**	**-1.3**
SNET				*eS*	**Sn**	**18 54 03.7**	**-1.2**
SNET				IAML		18 54 06.9	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**1.80**	**357**		**Pn**	**18 53 42.1**	**-1.0**
PAVA	**Las Pavas**	**1.83**	**6**	*e*P	**Pn**	**18 53 42.4**	**-1.2**
PAVA	**Las Pavas**	**1.83**	**6**	*e*P	**Pn**	**18 53 42.4**	**-1.2**
LBRS	**Las Brisas**	**1.85**	**2**	*e*P	**Pn**	**18 53 42.7**	**-1.1**
LBRS	**Las Brisas**	**1.85**	**2**	*e*P	**Pn**	**18 53 42.7**	**-1.1**
BOQS	**Boqueron**	**1.85**	**355**	*e*P	**Pn**	**18 53 42.9**	**-1.0**
BOQS	**Boqueron**	**1.85**	**355**	*e*P	**Pn**	**18 53 42.9**	**-1.0**
LFU	**La Fuente**	**1.86**	**0**	*e*P	**Pn**	**18 53 42.9**	**-1.0**
LFU	**La Fuente**	**1.86**	**0**	*e*P	**Pn**	**18 53 42.9**	**-1.0**
LCND	**La Caada**	**1.86**	**40**	*e*P	**Pn**	**18 53 42.6**	**-1.3**
LCND				⇓*e*		18 53 42.6	
LCND				IAML		18 54 13.7	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**1.86**	**40**	*e*P	**Pn**	**18 53 42.6**	**-1.3**
LCND				⇓*e*		18 53 42.6	
LCND				IAML		18 54 13.7	
	comp=Z,1μm,0.3s						
CNCH	**Conchagua**	**1.88**	**42**	*e*P	**Pn**	**18 53 43.0**	**-1.2**
CNCH	**Conchagua**	**1.88**	**42**	*e*P	**Pn**	**18 53 43.0**	**-1.2**
CEDA	**San Andres**	**1.93**	**352**	*e*P	**Pn**	**18 53 43.5**	**-1.3**
CEDA	**San Andres**	**1.93**	**352**	*e*P	**Pn**	**18 53 43.5**	**-1.3**
CEVE	**Cerro Verde**	**2.00**	**346**	*e*P	**Pn**	**18 53 44.1**	**-1.8**
CEVE	**Cerro Verde**	**2.00**	**346**	*e*P	**Pn**	**18 53 44.1**	**-1.8**
SBLS	**San Blas**	**2.01**	**346**	*e*P	**Pn**	**18 53 45.1**	**-1.0**
SBLS				*eS*	**Sn**	**18 54 09.4**	**-0.9**
SBLS	**San Blas**	**2.01**	**346**	*e*P	**Pn**	**18 53 45.1**	**-1.0**
SBLS				*eS*	**Sn**	**18 54 09.4**	**-0.9**
FAGO	**Alcalda de S**	**2.06**	**29**	⇓*e*P	**Pn**	**18 53 46.1**	**-0.5**
FAGO	**Alcalda de S**	**2.06**	**29**	⇓*e*P	**Pn**	**18 53 46.1**	**-0.5**
RTR	**El Retiro**	**2.07**	**346**	*e*P	**Pn**	**18 53 46.0**	**-0.9**
RTR	**El Retiro**	**2.07**	**346**	*e*P	**Pn**	**18 53 46.0**	**-0.9**
TACO	**Tacachico**	**2.09**	**354**	⇑*e*P	**Pn**	**18 53 46.1**	**-1.0**
TACO	**Tacachico**	**2.09**	**354**	⇑*e*P	**Pn**	**18 53 46.1**	**-1.0**
NUBE	**Las Nubes**	**2.11**	**342**	⇑*e*P	**Pn**	**18 53 45.7**	**-1.7**
NUBE				IAML		18 54 14.7	
	comp=Z,2μm,0.4s						
NUBE	**Las Nubes**	**2.11**	**342**	⇑*e*P	**Pn**	**18 53 45.7**	**-1.7**
NUBE				IAML		18 54 14.7	
	comp=Z,2μm,0.4s						
CRIN	**San Cristobal**	**2.19**	**68**		**Pn**	**18 53 47.5**	**-0.9**
CRIN				Sn	**Sb**	**18 54 19.0**	**-0.9**
MTO3	**Montecristo**	**2.52**	**355**	*e*P	**Pn**	**18 53 52.4**	**-0.7**
MTO3	**Montecristo**	**2.52**	**355**	*e*P	**Pn**	**18 53 52.4**	**-0.7**
MTO3	**Montecristo**	**2.52**	**355**		**Pn**	**18 53 52.6**	**-0.5**
MTO3				Sn	**Sn**	**18 54 22.8**	**0.0**
IXG	**Ixpaco**	**2.62**	**331**	*e*P	**Pn**	**18 53 53.2**	**-1.2**
ESQI	**Esquipulas**	**2.67**	**356**	*e*P	**Pn**	**18 53 54.9**	**-0.2**
ESQI	**Esquipulas**	**2.67**	**356**		**Pn**	**18 53 55.1**	**0.0**
ESQI				Sn	**Sn**	**18 54 27.3**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.82**	**40**		**Pn**	**18 53 57.1**	**-0.1**
NBG	**Las Nubes**	**2.94**	**336**	*e*P	**Pn**	**18 53 59.7**	**+0.7**
NBG				*eS*	**Sn**	**18 54 34.4**	**+1.0**
FUG	**Fuego 3**	**3.05**	**327**	*e*P	**Pn**	**18 53 59.5**	**-0.9**
FUG				*eS*	**Sn**	**18 54 34.2**	**-1.8**
MRL	**Marmol**	**3.23**	**350**	*e*P	**Pn**	**18 54 03.8**	**+1.0**
MATN	**Matagalpa**	**3.30**	**71**		**Pn**	**18 54 02.8**	**-0.9**
APG	**El Apazote**	**3.37**	**337**	Pn	**Pn**	**18 54 04.4**	**-0.4**
	comp=Z,6.0nm,0.3s,baz=158,slow=9.5,SNR=25						
APG				LR	**Sn**	**18 54 43.1**	**-0.8**
	comp=Z,14nm,0.3s,baz=220,slow=19,SNR=19						
APG				LR	LR	18 54 48.8	
	comp=Z,133nm,21.8s,baz=139,slow=29						
RTAL	**Retalhuleu**	**3.63**	**317**	Pn	**Pn**	**18 54 08.6**	**+0.4**
ACON	**Acoyapa**	**3.87**	**88**		**Pn**	**18 54 10.9**	**-0.5**
ACON				Sn	**Sn**	**18 54 54.9**	**-1.0**
HUEH	**Huehuetenango**	**4.13**	**326**	Pn	**Pn**	**18 54 16.5**	**+1.3**
JTS	**Las Juntas de**	**4.39**	**111**	Pn	**Pn**	**18 54 18.6**	**-0.1**
	comp=Z,6.2nm,0.3s,baz=19,slow=18,SNR=22						
JTS				Sn	**Sn**	**18 55 08.9**	**+0.1**
	comp=Z,11nm,0.3s,baz=312,slow=22,SNR=8.0						
JTS				LR	LR	18 55 20.6	
	comp=Z,77nm,18.4s,baz=12,slow=29						
JTS	**Las Juntas de**	**4.39**	**111**		**Pn**	**18 54 18.3**	**-0.4**
JTS				Sn	**Sn**	**18 55 08.4**	**-0.3**
ESPN	**Las Esperanzas**	**4.73**	**86**	Pn	**Pn**	**18 54 23.1**	**-0.2**
PETF	**Flores**	**5.06**	**352**	Pn	**Pn**	**18 54 29.5**	**+1.6**
CCIG	**Comitan**	**5.26**	**327**	Pn	**Pn**	**18 54 29.3**	**-1.5**
HDC	**Heredia**	**5.26**	**110**	Pn	**Pn**	**18 54 32.6**	**+1.9**
TEIG	**Tepich**	**8.34**	**6**	Pn	**Pn**	**18 55 14.1**	**+1.2**
	comp=Z,3.3nm,0.3s,baz=282,slow=1.2,SNR=10						
TEIG				LR	LR	18 58 46.5	
	comp=Z,219nm,18.7s,baz=308,slow=40						
TEIG	**Tepich**	**8.34**	**6**		**Pn**	**18 55 13.5**	**+0.6**
SDV	**Santo Domingo**	**18.43**	**98**	P	**P**	**18 57 27.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=212,slow=4.5,SNR=5.5						
SDV	**Santo Domingo**	**18.43**	**98**	P	**P**	**18 57 27.4**	**0.0**
WHTX	**Lake Whitney,**	**21.44**	**340**	P	**P**	**18 58 00.1**	**+0.4**
WHTX				IAmb	IAmb	18 58 03.2	
	comp=Z,16nm,1.1s						
ATAH	**Atahualpa**	**21.70**	**150**	LR	LR	19 05 26.3	
	comp=Z,104nm,19.4s,baz=336,slow=34						
Y49A	**Blount Mountai**	**22.02**	**6**	P	**P**	**18 58 05.5**	**-0.5**
Y49A				IAmb	IAmb	18 58 27.3	
	comp=Z,16nm,1.3s						
TX31	**Lajitas Ar. Si**	**22.02**	**324**	P	**P**	**18 58 06.3**	**+0.1**
TX31				IAmb	IAmb	18 58 21.3	
	comp=Z,15nm,1.6s						
TX32	**Lajitas Array**	**22.02**	**324**	P	**P**	**18 58 06.5**	**+0.4**
TXAR	**Lajitas Array**	**22.02**	**324**	P	**P**	**18 58 06.4**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=145,slow=9.7,SNR=7.6						
TXAR	**Lajitas Array**	**22.02**	**324**	P	**P**	**18 58 05.9**	**-0.3**
GOGA	**Godfrey**	**22.05**	**13**	P	**P**	**18 58 06.9**	**+0.6**
GOGA				IAmb	IAmb	18 58 14.4	
	comp=Z,23nm,1.6s						
FPAL	**Fort Paine**	**22.79**	**8**	P	**P**	**18 58 15.5**	**+1.4**
FPAL				IAmb	IAmb	18 58 18.6	
	comp=Z,19nm,1.4s						
MIAR	**Mount Ida**	**22.93**	**351**	P	**P**	**18 58 16.1**	**+0.5**
MIAR				IAmb	IAmb	18 58 19.6	
	comp=Z,30nm,1.5s						
UALR	**University of**	**22.98**	**353**	P	**P**	**18 58 17.3**	**+1.2**
PDPR	**Patillas Dam,**	**23.13**	**72**	P	**P**	**18 58 17.6**	**-0.2**
X37A	**Clayton**	**23.31**	**347**	P	**P**	**18 58 21.3**	**+1.8**
X37A				IAmb	IAmb	18 58 25.0	
	comp=Z,14nm,1.4s						
W41B	**Gary Mavity, V**	**23.36**	**354**	P	**P**	**18 58 21.9**	**+1.9**
W41B				IAmb	IAmb	18 58 24.9	
	comp=Z,24nm,1.4s						
WHAR	**Wooly Hollow**	**23.48**	**353**	P	**P**	**18 58 24.3**	**+3.1**
WHAR				IAmb	IAmb	18 58 25.9	
	comp=Z,17nm,1.2s						
MTP	**Monte Pirata**	**23.58**	**72**	P	**P**	**18 58 19.9**	**-2.3**
MTP				IAmb	IAmb	18 58 23.4	
	comp=Z,19nm,1.2s						
W39A	**Magazine**	**23.60**	**350**	P	**P**	**18 58 22.6**	**+0.4**
W39A				IAmb	IAmb	18 58 44.3	
	comp=Z,31nm,1.6s						
HBAR	**Harrisburg**	**23.61**	**357**	P	**P**	**18 58 24.7**	**+2.3**
BG3	**Lake Jocassee**	**23.69**	**13**	P	**P**	**18 58 25.4**	**+2.3**
BG3				IAmb	IAmb	18 58 26.7	
	comp=Z,20nm,1.5s						
V48A	**Smith Brothers**	**23.85**	**5**	P	**P**	**18 58 24.7**	**+0.1**
GNAR	**Gosnell**	**24.00**	**358**	P	**P**	**18 58 25.8**	**-0.1**
FCAR	**Ozark Folk Cen**	**24.06**	**354**	P	**P**	**18 58 26.7**	**+0.1**
TKL	**Tuckaleechee C**	**24.17**	**11**	P	**P**	**18 58 28.8**	**+1.2**
	comp=Z,6.9nm,1.1s,baz=203,slow=13,SNR=3.4						
TKL				LR	LR	19 07 04.7	
	comp=Z,63nm,21.4s,baz=230,slow=34						
TKL	**Tuckaleechee C**	**24.17**	**11**	IAmb	IAmb	18 58 32.6	
	comp=Z,27nm,1.5s						
STVI	**Saint Thomas**	**24.19**	**72**	P	**P**	**18 58 27.5**	**-0.5**
WMOK	**Wichita Mounta**	**24.39**	**340**	P	**P**	**18 58 29.8**	**+0.1**
WMOK				IAmb	IAmb	18 58 33.9	
	comp=Z,14nm,1.4s						
FNO	**Franklin**	**24.46**	**343**	P	**P**	**18 58 31.4**	**+1.1**
U40A	**Yellville**	**24.60**	**353**	P	**P**	**18 58 32.3**	**+0.8**
U40A				IAmb	IAmb	18 58 35.7	
	comp=Z,8.5nm,1.1s						
T42A	**Van Buren**	**25.11**	**356**	P	**P**	**18 58 36.8**	**+0.7**
T42A				IAmb	IAmb	18 58 40.8	
	comp=Z,22nm,1.6s						
QUOK	**Quay**	**25.14**	**345**	P	**P**	**18 58 37.1**	**+0.7**
MGMO	**Mountain Grove**	**25.33**	**354**	P	**P**	**18 58 38.9**	**+0.8**
MGMO				IAmb	IAmb	18 58 43.5	
	comp=Z,16nm,1.0s						
S39A	**Bolivar**	**25.98**	**352**	P	**P**	**18 58 43.8**	**-0.3**
CCM	**Cathedral Cave**	**26.14**	**356**	P	**P**	**18 58 45.9**	**+0.4**
P40A	**Paris**	**27.66**	**355**	P	**P**	**18 58 59.4**	**+0.3**
P40A				IAmb	IAmb	18 59 05.1	
	comp=Z,7.5nm,1.1s						
REDW	**Red Top Meadow**	**36.57**	**333**	P	**P**	**19 00 20.9**	**+3.4**
REDW				IAmb	IAmb	19 00 25.1	
	comp=Z,4.8nm,1.1s						
LOHW	**Long Hollow**	**36.66**	**334**	P	**P**	**19 00 22.2**	**+4.0**
TPAW	**Teton Pass**	**36.72**	**333**	P	**P**	**19 00 22.1**	**+3.4**
NVAR	**Mina Array Bea**	**37.08**	**321**	P	**P**	**19 00 21.4**	**-0.4**
ULM	**Lac du Bonnet**	**38.66**	**353**	P	**P**	**19 00 33.7**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=180,slow=6.1,SNR=4.3						
ILAR	**Eielson Array**	**65.89**	**337**	P	**P**	**19 03 55.7**	**-0.9**
	comp=Z,1.4nm,1.1s,baz=171,slow=4.9,SNR=8.6						
ILAR	**Eielson Array**	**65.89**	**337**	P	**P**	**19 03 54.8**	**-1.7**
BMAR	**Burnt Mountain**	**66.24**	**340**	P	**P**	**19 03 58.8**	**-0.1**
WRA	**Warramunga Arr**	**137.54**	**253**	PKP	**PKPdf**	**19 12 34.4**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=87,slow=1.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**148.82**	**345**	PKPbc	**PKPbc**	**19 12 58.8**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=332,slow=3.2,SNR=8.6						

*REY **26** 18:54:55.9, 64°.67N×17°.46W, h4km*
*IDC **26** 18:54:56.1±0.9, 64°.55N×17°.64W, h0km, mb3.5/8, mb1 3.9/9, mb1mx3.6/43, mbtmp3.6/9, ML4.0/1, MS4.1/2, Ms1 4.1/2, ms1mx2.9/42, Error ellipse: s-maj=27.4km s-min=11.7km az=16.0*
*NEIC **26** 18:54:56.9±1.7, 64°.57N±0°.09×17°.65W±0°.09, h7km±4km, mb4.2/4, Error ellipse: s-maj=13.1km s-min=5.3km az=168.0*
ISC 26 18:54:56.5±0.6, 64°.68N±0°.02×17°.48W±0°.02, h10km, n55, σ1§69/59, mb3.8/10, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.12**	**23**	P	**Pg**	**18 54 58.8**	**-0.7**
	baz=18						
IDYN				S	**Sg**	**18 55 01.5**	**0.0**
	baz=18						
IVON	**Vonarskard**	**0.12**	**267**	P	**Pg**	**18 54 58.6**	**-0.8**
	baz=273						
IURH	**Urdarhals**	**0.20**	**45**	P	**Pg**	**18 55 00.1**	**-0.6**
	baz=41						
IDJK	**Dyngjujokull**	**0.20**	**149**	P	**Pg**	**18 54 59.9**	**-0.9**
	baz=149						
IGRF	**Grimsfjall**	**0.29**	**162**	P	**Pg**	**18 55 01.2**	**-1.1**
	baz=162						
IKVE	**Kverkfjoll**	**0.34**	**90**	P	**Pg**	**18 55 02.5**	**-0.9**
	baz=88						
IKVE				S	**Sg**	**18 55 07.4**	**-0.5**
	baz=88						
IBJK	**Bruarjokull**	**0.38**	**124**	P	**Pg**	**18 55 02.6**	**-1.3**
	baz=123						
IHUS	**Husbondi**	**0.39**	**192**	P	**Pg**	**18 55 03.3**	**-1.0**
	baz=193						
ISKR	**Skrokkalda**	**0.41**	**253**	P	**Pg**	**18 55 03.5**	**-1.0**
	baz=255						
IVOT	**Vottur**	**0.43**	**163**	P	**Pg**	**18 55 03.8**	**-1.1**
	baz=163						
IKRE	**Kreppuhraun**	**0.48**	**77**	P	**Pg**	**18 55 04.6**	**-1.2**
	baz=75						
IJOK	**Jokulheimar**	**0.49**	**222**	P	**Pg**	**18 55 04.7**	**-1.3**
	baz=223						
IASK	**Askja**	**0.51**	**43**	P	**Pg**	**18 55 05.3**	**-1.2**
	baz=42						
IMKO	**Mokollar**	**0.57**	**58**	P	**Pg**	**18 55 06.4**	**-1.2**
	baz=56						
IMKO				S	**Sg**	**18 55 15.2**	**+0.1**
	baz=56						
IIEY	**Innrieyrar**	**0.65**	**206**	P	**Pg**	**18 55 07.4**	**-1.6**
	baz=207						
ISVA	**Svartarkot**	**0.67**	**8**	P	**Pg**	**18 55 08.0**	**-1.4**
	baz=7.4						
ISVA				S	**Sg**	**18 55 17.7**	**-0.4**
	baz=7.4						
IKSK	**Karasker**	**0.68**	**140**	P	**Pg**	**18 55 07.4**	**-2.1**
	baz=139						
IKAL	**Kalfafell**	**0.74**	**187**	P	**Pg**	**18 55 09.0**	**-1.7**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**79**	P	**Pg**	**18 55 09.2**	**-1.9**
	baz=78						
IVSH				S	**Sg**	**18 55 19.8**	**-1.3**
	baz=78						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**18 55 10.1**	**-1.7**
	baz=233						
IADA	**Aoalbol**	**0.88**	**66**	P	**Pg**	**18 55 11.2**	**-2.2**
	baz=66						
IFAG	**Fagurholsmyri**	**0.88**	**156**	P	**Pg**	**18 55 11.1**	**-2.3**
	baz=156						
IHVE	**Hveravellir**	**0.92**	**283**	P	**Pg**	**18 55 11.8**	**-2.3**
	baz=284						
IMEL	**Melhnausar**	**0.96**	**21**	P	**Pg**	**18 55 12.7**	**-2.1**
	baz=20						
IKVO	**Krokottuvotn**	**1.07**	**13**	P	**Pg**	**18 55 14.5**	**-2.4**
	baz=13						
ISNB	**Snabyli**	**1.07**	**209**	P	**Pg**	**18 55 14.5**	**-2.5**
	baz=209						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**18 55 15.5**	**-2.4**
	baz=30						
IGRS				S	**Sb**	**18 55 31.7**	**-0.8**
	baz=30						
ISLY	**Slysaalda**	**1.12**	**221**	P	**Pb**	**18 55 15.6**	**-2.2**
	baz=221						
IFED	**Fedgar**	**1.17**	**237**	P	**Pb**	**18 55 16.6**	**-2.0**
	baz=237						
IRJU	**Rjupnafell**	**1.19**	**207**	P	**Pb**	**18 55 16.7**	**-2.4**
	baz=207						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pn**	**18 55 16.9**	**-2.5**
	baz=8.4						
IMJO	**Mjoaskard**	**1.22**	**233**	P	**Pb**	**18 55 17.4**	**-2.2**
	baz=234						
IGHA	**Grjothals**	**1.22**	**16**	P	**Pn**	**18 55 17.0**	**-2.6**
	baz=16						
IGRA	**Granastaoir**	**1.24**	**358**	P	**Pn**	**18 55 17.2**	**-2.6**
	baz=358						
IGRA				S	**Sb**	**18 55 34.6**	**-1.5**
	baz=358						
IHAU	**Haukadalur**	**1.30**	**238**	P	**Pn**	**18 55 18.6**	**-2.0**
	baz=238						
IGOD	**Go??abunga**	**1.30**	**219**	P	**Pn**	**18 55 19.1**	**-1.7**
	baz=220						
IDIM	**Dimmadalss**	**1.31**	**10**	P	**Pn**	**18 55 18.3**	**-2.4**
	baz=9.5						
BORG	**Borgarnes**	**1.66**	**274**	Pg	**Pn**	**18 55 24.0**	**-1.5**
	18nm,0.3s,baz=98,slow=7.8,SNR=31						
BORG				Lg	Lg	18 55 47.3	
	10nm,0.3s,baz=26,slow=21,SNR=13						
SCO	**Scoresbysund**	**6.08**	**346**	Pn	**Pn**	**18 56 25.1**	**-1.1**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**18 57 43.6**	**-0.5**
	baz=321,slow=13,SNR=7.8						
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**18 57 43.9**	**-0.2**
CLL	**Collm**	**20.70**	**116**	*eP*	Pn	18 59 39.0	+0.2
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**19 00 02.3**	**+1.7**
	0.3nm,0.5s,baz=328,slow=9.2,SNR=2.1						
ESDC	**Sonseca Array**	**26.26**	**156**	P	**P**	**19 00 32.4**	**+0.8**
	0.5nm,0.7s,baz=335,slow=9.3,SNR=2.8						
ESDC	**Sonseca Array**	**26.26**	**156**	IAmb	IAmb	19 00 41.5	
	comp=Z,6.6nm,1.3s						
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**	**19 03 18.9**	**+2.2**
	comp=Z,1.2nm,1.1s,baz=14,slow=5.8,SNR=7.3						
IMAR	**Indian Mountai**	**45.85**	**337**	P	**P**	**19 03 20.9**	**+2.8**
KURK	**Kurchatov**	**48.10**	**58**	P	**P**	**19 03 37.4**	**+1.7**
KURK				IAmb	IAmb	19 04 11.0	
	comp=Z,8.8nm,1.6s						
MK31	**Makanchi Array**	**52.71**	**58**	P	**P**	**19 04 12.1**	**+1.3**
MK31				IAmb	IAmb	19 04 14.0	
	comp=Z,1.8nm,1.3s						
MKAR	**Makanchi Array**	**52.71**	**58**	P	**P**	**19 04 12.7**	**+1.9**
	comp=Z,0.9nm,1.0s,baz=331,slow=5.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**19 04 14.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=337,slow=8.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**53.15**	**156**	IAmb	IAmb	19 04 22.8	
	comp=Z,1.5nm,1.3s						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**19 04 15.8**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=45,slow=4.4,SNR=5.5						
PDAR				LR	LR	19 27 16.4	
	comp=Z,141nm,18.2s,baz=314,slow=36						
TXAR	**Lajitas Array**	**62.29**	**280**	P	**P**	**19 05 19.4**	**+0.9**
	comp=Z,0.6nm,1.0s,baz=52,slow=5.8,SNR=3.3						
TXAR				LR	LR	19 30 39.8	
	comp=Z,178nm,21.1s,baz=0.0,slow=34						
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P	**P**	**19 07 29.0**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=306,slow=7.1,SNR=5.2						

*ISK **26** 19:26:20.5, 34°.03N×25°.15E, h5km, ML4.0/23*
*IDC **26** 19:26:22.2±0.6, 34°.20N×25°.10E, h0km, mb4.3/21, mb1 4.3/33, mb1mx4.2/58, mbtmp4.2/33, ML4.2/11, MS3.7/3, Ms1 3.7/3, ms1mx3.0/42, Error ellipse: s-maj=12.3km s-min=11.4km az=171.0*
*ATH **26** 19:26:23.9, 34°.17N×25°.04E, h24km±1km, ML3.8/8, Error ellipse: s-maj=3.3km s-min=1.2km az=349.0*
*MOS **26** 19:26:24.0±1.0, 34°.20N×25°.04E, h25km, mb4.6/11, Error ellipse: s-maj=6.6km s-min=4.0km az=83.6*
*NEIC **26** 19:26:24.1±1.7, 34°.17N±0°.06×25°.03E±0°.07, h14km±3km, mb4.4/62, ML3.8(THE), Error ellipse: s-maj=9.2km s-min=7.7km az=221.0*
*THE **26** 19:26:24.8, 34°.22N×25°.08E, h0km±1km, ML3.8/7, Error ellipse: s-maj=2.7km s-min=0.8km az=177.0*
*HLW **26** 19:26:25.4, 34°.16N×25°.24E, h11km±13km, Md4.1, Ml4.2*
*NIC **26** 19:26:26.4±0.0, 34°.04N×25°.11E, h30km±31km, Ml4.3/3*
*DDA **26** 19:26:30.1, 34°.67N×25°.57E, h18km±2km, MW4.1*
*GII **26** 19:26:31.0±0.0, 33°.99N×25°.56E, h30km, mb4.1/3, MD3.9/3*
*BEO **26** 19:26:59.8±0.9, 36°.59N×23°.90E, h10km, ML3.7/2*
**ISC 26 19:26:25.8±0.9, 34°.18N±0°.03×25°.09E±0°.03, h

comp=E,7219µm,1.1s
KNDR Palaiochora Ch 1.56 313 P Pb 19 26 53.0 -1.1
KNDR Palaiochora Ch 1.56 313 PN Pn 19 26 52.2 +0.4
IMMV Iera Moni Meta 1.57 325 P Pn 19 26 52.4 +0.5
IMMV Iera Moni Meta 1.57 325 P Pn 19 26 52.4 +0.5
IMMV AML AML 19 27 26.0
comp=E,4508µm,1.1s
IMMV AML AML 19 27 34.0
comp=N,5299µm,1.0s
IMMV Iera Moni Meta 1.57 325 PN Pn 19 26 52.2 +0.3
RODP Rodopos 1.76 322 PN Pn 19 26 54.8 +0.3
KARP Karpathos 2.19 51 P Pn 19 27 02.4 +2.1
KARP Karpathos 2.19 51 PN Pn 19 26 59.0 -1.4
KARP Karpathos 2.19 51 ⇑P Pn 19 27 02.5 +2.1
KARP S Sb 19 27 30.2 -1.2
KARP AML AML 19 27 46.7
comp=N,2.0nm,0.9s
KARP AML AML 19 27 46.7
comp=N,2.0nm,0.9s
KARP Karpathos 2.19 51 Pb 19 27 02.9 -1.8
SANT Santorini 2.21 8 P Pn 19 27 01.6 +0.9
SANT Santorini 2.21 8 ⇓P Pn 19 27 01.5 +0.7
SANT Santorini 2.21 8 PN Pn 19 27 00.9 +0.1
SANT Santorini 2.21 8 *i* P **Pn 19 27 01.3 +0.5**
SANT *i* S **Sn 19 27 25.6 -1.6**
SANT Santorini 2.21 8 Pn 19 27 01.4 +0.7
SANT Sn **Sn 19 27 28.1 +0.9**
ANKY Antikythira Is 2.23 320 P Pn 19 27 01.7 +0.7
ANKY Antikythira Is 2.23 320 P Pn 19 27 00.8 -0.2
THT2 Imerovigli 2.27 7 PN Pn 19 27 01.9 +0.4
IOSP Ios island 2.55 4 P Pn 19 27 05.9 +0.6
IOSP Ios island 2.55 4 P Pn 19 27 06.2 +0.9
MHLO Agia Marina, M 2.57 348 P Pn 19 27 06.3 +0.7
MHLO Agia Marina, M 2.57 348 P Pn 19 27 05.8 +0.1
MHLA Plaka, Milos I 2.62 348 P Pn 19 27 06.8 +0.5
KTHA Kythira Island 2.66 322 P Pn 19 27 08.3 +1.4
KTHA Kythira Island 2.66 322 P Pn 19 27 08.2 +1.4
KTHA Kythira Island 2.66 322 PN Pn 19 27 07.3 +0.5
SLUM Salum 2.68 178 P Pn 19 27 08.4 +1.3
baz=181
SLUM AMP 19 27 00.0
baz=181
SLUM S **Sn 19 27 38.1 -0.5**
baz=181
AMGA Amorgos Island 2.73 14 P Pn 19 27 08.8 +0.9
AMGA Amorgos Island 2.73 14 P Pn 19 27 08.5 +0.7
APE Apeiranthos 2.91 7 P Pn 19 27 10.9 +0.5
APE Apeiranthos 2.91 7 P Pn 19 27 10.9 +0.5
APE Apeiranthos 2.91 7 ⇑P Pn 19 27 10.3 0.0
APE ⇑S **Sn 19 27 44.9 +0.4**
APE Apeiranthos 2.91 7 PN Pn 19 27 10.7 +0.3
APE Apeiranthos 2.91 7 *i* P **Pn 19 27 11.4 +1.0**
APE *i* S **Sn 19 27 42.0 -2.5**
APE Apeiranthos 2.91 7 ⇑P Pn 19 27 10.3 0.0
KOSK Kos Island 3.00 30 PN Pn 19 27 11.9 +0.4
SERI Serifos 3.02 351 P Pn 19 27 12.2 +0.4
VLI Veliai 3.08 326 P Pn 19 27 13.1 +0.4
VLI Veliai 3.08 326 P Pn 19 27 13.1 +0.4
ARG Arkhangelos 3.22 50 P Pn 19 27 16.7 +2.2
ARG Arkhangelos 3.22 50 PN Pn 19 27 14.3 -0.2
ARG Arkhangelos 3.22 50 ⇑P Pn 19 27 16.7 +2.2
ARG S **Sn 19 27 55.4 +3.5**
DAT Datca 3.26 38 PN Pn 19 27 14.9 -0.3
DATC Datca-Mugla 3.33 38 PN Pn 19 27 16.1 +0.1
MATC Matruh 3.35 147 P Pn 19 27 16.0 -0.3
baz=148
MATC S **Sn 19 27 53.5 -1.7**
baz=148
MATC AMP 19 28 00.0
baz=148
BODT Bodrum 3.40 32 PN Pn 19 27 17.7 +0.6
TURN Turunc 3.66 44 PN Pn 19 27 20.9 +0.4
TURN Turunc 3.66 44 *i* P **Pn 19 27 21.0 +0.4**
TURN *i* S **Sn 19 27 57.7 -5.0**
TURN IAML 19 28 04.0
comp=N,69nm,1.0s
TURN IAML 19 28 13.0
comp=E,68nm,0.5s
SMG Samos 3.80 21 P Pn 19 27 23.6 +1.0
MLSB Milas 3.81 34 PN Pn 19 27 23.0 +0.4
VLY Voula,Athens 3.82 344 P Pn 19 27 23.1 +0.4
VLX Vlachokerasia 3.87 326 P Pn 19 27 26.0 +2.3
KARY Karystos 3.88 352 P Pn 19 27 24.5 +0.8
DALY Dalyan (Mula) 3.93 47 PN Pn 19 27 24.7 +0.5
ATHU Athens Univers 3.93 345 P Pn 19 27 24.7 +0.4
YER Yerkesik 3.94 40 P Pn 19 27 26.1 +1.6
YER Yerkesik 3.94 40 PN Pn 19 27 24.4 -0.1
ITM Ithomi 3.95 320 PN Pn 19 27 24.9 +0.3
ITM Ithomi 3.95 320 Pn Pn 19 27 24.6 0.0
ITM Sn **Sn 19 28 09.3 -0.8**
PTL Penteli 3.99 346 P Pn 19 27 25.6 +0.4
DION Dionisos Attik 4.00 347 P Pn 19 27 25.8 +0.4
DION Dionisos Attik 4.00 347 P Pn 19 27 26.0 +0.6
TRIP Tripoli 4.05 326 P Pn 19 27 27.7 +1.6
FETY Fethiye 4.08 52 PN Pn 19 27 26.4 -0.1
DGB zmir 4.13 20 *i* P **Pn 19 27 25.4 -1.7**
AYDN Tasoluk 4.15 32 *i* P **Pn 19 27 29.4 +2.0**
KSL Kastellorizon 4.18 61 ⇑P Pn 19 27 28.9 +1.2
KSL S **Sn 19 28 18.2 +2.6**
KSL AML AML 19 28 23.4
comp=E,0.5nm,0.5s
KSL AML AML 19 28 23.4
comp=E,0.5nm,0.5s
LTK Loutraki 4.21 337 P Pn 19 27 27.9 -0.2
AKAS Kas 4.23 60 PN Pn 19 27 28.6 0.0
AKAS Kas 4.23 60 *i* P **Pn 19 27 28.1 -0.5**
AKAS *i* S **Sn 19 28 12.1 -5.1**
AKAS IAML 19 28 25.0
comp=E,67nm,0.6s
AKAS Kas 4.23 60 Pn 19 27 29.0 +0.5
CHOS Chios island 4.28 10 PN Pn 19 27 30.2 +1.1
VIL2 Platees 4.29 340 P Pn 19 27 28.6 -0.7
URLA Izmir 4.35 16 PN Pn 19 27 31.2 +1.1
GUR Goura 4.36 330 P Pn 19 27 30.9 +0.6
AYDB Zeytinkoy-Aydi 4.40 30 PN Pn 19 27 31.7 +0.9
BLCB Balcova 4.49 20 PN Pn 19 27 32.7 +0.7
KYMI Kymi, Euboea I 4.52 350 P Pn 19 27 32.8 +0.4
TAVA DENIZLI_Tavas 4.52 42 *i* P **Pn 19 27 34.1 +1.6**
TAVA *i* S **Sn 19 28 19.8 -4.5**
TAVA IAML 19 28 31.0
comp=N,26nm,0.5s
TAVA IAML 19 28 36.0
comp=E,46nm,0.5s
KLV Kalavryta, Ach 4.53 329 P Pn 19 27 32.7 0.0
ELL Elmali 4.70 56 PN Pn 19 27 34.8 -0.2
ELL Elmali 4.70 56 P Pn 19 27 36.6 +1.6
ELL Elmali 4.70 56 P Pn 19 27 37.0 +2.0
ELL S **Sn 19 28 30.6 +1.9**
ELL Elmali 4.70 56 Pn Pn 19 27 36.6 +1.6
GOLH Golhisar 4.75 49 *i* P **Pn 19 27 37.6 +1.9**
GOLH *i* S **Sn 19 28 28.6 -1.4**
GOLH IAML 19 28 54.0
comp=N,91nm,0.7s
LKR Lokris 4.77 340 P Pn 19 27 36.5 +0.6
SWA2 4.93 176 P Pn 19 27 39.0 +0.9
baz=177
SWA2 AMP 19 28 00.0
baz=177
SWA2 S **Sn 19 28 32.8 -1.3**
baz=177
AXAR Agios Charalam 4.98 338 P Pn 19 27 39.0 +0.2
ZEDA zmir-Bergama 5.04 18 *i* P **Pn 19 27 40.4 +0.8**
OSC1 CSNet OBS 1 5.20 96 P Pn 19 27 41.7 0.0
OSC1 S **Sn 19 28 41.6 +0.9**
KULA Kula-Manisa 5.20 33 PN Pn 19 27 42.6 +0.7
ANTB Antalya 5.29 57 PN Pn 19 27 43.3 +0.3
BASM Basmaki-Afyon 5.49 46 PN Pn 19 27 45.8 0.0
USAK Uak-Merkez 5.53 34 *i* P **Pn 19 27 46.1 -0.2**
BAYC CANAKKALE_Bayr 5.68 11 *i* P **Pn 19 27 49.1 +0.7**
ISP Isparta 5.71 49 P Pn 19 27 49.6 +0.7
ISP Isparta 5.71 49 Pn Pn 19 27 49.6 +0.7
BALY Balya 5.91 19 *i* P **Pn 19 27 50.2 -1.4**
OSC2 CSNet OBS 4 6.09 98 P Pn 19 27 54.9 +0.9
SHUT Suhut-Afyon 6.21 44 PN Pn 19 27 56.6 +0.9
NATA Nata 6.21 82 P Pn 19 27 55.8 +0.1
GAZI Gazipasa 6.26 69 PN Pn 19 27 55.9 -0.5
LIT Litokhoron 6.27 341 P Pn 19 27 55.8 -0.7
LIT Litokhoron 6.27 341 Pn Pn 19 27 55.8 -0.7
SEYD Seydisehir-KON 6.36 58 PN Pn 19 27 58.1 +0.2
SZAC Souni 6.46 83 ⇑P Pn 19 27 59.5 +0.3
SZAC AML AML 19 29 13.1
comp=N,0.6nm,0.7s
SZAC AML AML 19 29 17.4
comp=N,0.8nm,1.0s
LEF Lefka 6.50 79 PN Pn 19 27 58.8 -0.8
HMYD Mayadein 6.53 130 P Pn 19 28 00.4 +0.4
baz=131
BOLV Bolvadin 6.55 44 Pn Pn 19 28 01.4 +0.9
IGT Igoumenitsa 6.56 326 *e*Pn **Pn 19 28 02.0 +1.5**
IGT *e*Sg **Sn 19 29 09.5 -5.0**
ALN Alexandroupoli 6.75 6 P Pn 19 28 04.6 +1.5
ALN Alexandroupoli 6.75 6 Pn Pn 19 28 04.6 +1.5
ASGA Asgata 6.77 83 P Pn 19 28 04.0 +0.7
CSS Mathiatis 6.85 81 PN Pn 19 28 03.5 -0.9
CSS Mathiatis 6.85 81 Pn Pn 19 28 04.2 -0.2
CSS Mathiatis 6.85 81 Pn Pn 19 28 03.8 -0.6
KONT Konya--Tatoy 6.99 55 PN Pn 19 28 06.6 +0.2
MVOU Mavrovouni 7.10 81 ⇑P Pn 19 28 08.6 +0.7
KOT Kottamia 7.12 125 P Pn 19 28 08.4 +0.2
baz=125
KOT AMP 19 29 00.0
baz=125
LADK Ladik-KONYA 7.12 54 PN Pn 19 28 08.4 +0.1
HSAF As Saff 7.13 128 P Pn 19 28 08.7 +0.4
baz=128
AKKU Akkuyu-Mersin 7.21 72 PN Pn 19 28 09.4 0.0
FNA Florina 7.22 337 *e*Pn **Pn 19 28 10.1 +0.5**
FNA *e*Sg **Sn 19 29 26.3 -4.5**
FNA Florina 7.22 337 Pn Pn 19 28 09.3 -0.3
FNA **Sn 19 29 27.6 -3.1**
GLL Jalalah 7.26 127 P Pn 19 28 10.3 +0.1
baz=128
KRMN Karaman 7.29 63 PN Pn 19 28 10.9 +0.2
IKL Isikli 7.33 71 PN Pn 19 28 10.8 -0.3
HFRF Wahat Farafira 7.53 158 P Pn 19 28 13.9 +0.1
baz=158
EREN Erenkoy 7.59 77 PN Pn 19 28 14.2 -0.4
NBNS Bani Suef 7.67 135 P Pn 19 28 15.8 +0.2
baz=135
NBNS AMP 19 29 00.0
baz=135
CHBY Cihanbeyli 7.68 53 PN Pn 19 28 15.8 -0.1
KIZK Mersin 7.75 70 PN Pn 19 28 16.7 -0.1
SUZ Suez 7.87 121 P Pn 19 28 18.2 -0.2
baz=121
SCTE Santa Cesarea 7.91 320 Pn Pn 19 28 18.8 -0.2
MERS Mersin 8.15 68 PN Pn 19 28 21.3 -1.0
TAMRE El Minia 8.18 141 P Pn 19 28 23.1 +0.4
baz=141
TIP Timpagrande 8.35 309 ⇓P Pn 19 28 24.0 -1.0
TIP Timpagrande 8.35 309 Pn Pn 19 28 24.4 -0.6
ANTO Ankara 8.38 45 P Pn 19 28 25.8 +0.3
ANTO Ankara 8.38 45 Pn Pn 19 28 25.8 +0.3
OFRI `Ofer 8.42 98 Pn Pn 19 28 25.7 -0.4
CEL Celeste 8.47 301 Pn Pn 19 28 26.3 -0.4
KZIT Kziot 8.51 110 Pn Pn 19 28 26.3 -0.9
KZIT Sn **Sn 19 29 56.2 -6.1**
BOSS Bosilegrad 8.56 347 *e*Pn **Pn 19 28 28.7 +0.9**
SLTI Sal'it 8.56 100 Pn Pn 19 28 26.7 -1.2
KARA Karaisali 8.67 66 PN Pn 19 28 28.9 -0.5
AMAZ Amatzia 8.68 105 Pn Pn 19 28 28.9 -0.7
MMA0B Mount Meron ar 8.68 95 Pn Pn 19 28 28.5 -1.2
MMAI Mount Meron Ar 8.68 95 Pn Pn 19 28 29.4 -0.3
comp=N,6.3nm,0.3s,baz=281,slow=11,SNR=23
MMAI Sn **Sn 19 30 04.0 -2.7**
comp=N,3.9nm,0.3s,baz=266,slow=20,SNR=4.9
CMRD Camardi-Nigde 8.75 64 PN Pn 19 28 29.9 -0.8
BR131 Keskin Array S 8.80 49 P Pn 19 28 31.5 +0.1
BR131 Keskin Array S 8.80 49 Pn Pn 19 28 31.5 +0.1
BRTR Keskin Array B 8.80 49 Pn Pn 19 28 31.9 +0.6
comp=N,0.3nm,0.3s,baz=217,slow=14,SNR=4.1
BRTR Keskin Array B 8.80 49 P Pn 19 28 32.0 +0.6
BRTR Keskin Array B 8.80 49 Pn Pn 19 28 34.5 +3.2
MMLI Mount Malkishu 8.82 98 Pn Pn 19 28 31.5 -0.1
GRB Gharib 8.84 130 P Pn 19 28 32.4 +0.6
baz=130
GEM Giv'at Ha'Em 8.87 93 Pn Pn 19 28 32.3 +0.2
YTIR Yattir 8.90 106 Pn Pn 19 28 32.2 -0.5
YTIR Sn **Sn 19 30 07.1 -4.9**
NATI Neve Ativ 8.92 93 Pn Pn 19 28 32.7 -0.1
HMDT Nahal Hemdat 8.95 99 Pn Pn 19 28 32.9 -0.4
UJAP Al Uja 8.99 101 Pn Pn 19 28 33.3 -0.4
BARS Barje 9.00 344 *e*Pn **Pn 19 28 33.7 -0.2**
DSI Dead Sea 9.04 104 Pn Pn 19 28 33.7 -0.8
PRNI Paran 9.22 112 Pn Pn 19 28 36.7 -0.3
RAFF Raffo Rosso 9.24 292 Pn 19 28 36.5 -0.7
ZFRI Zfri 9.27 110 Pn Pn 19 28 36.3 -1.3
ZFRI Sn **Sn 19 30 14.9 -6.0**
VAE Valguarnera 9.27 294 Pn Pn 19 28 38.9 +1.1
comp=N,1.4nm,0.3s,baz=107,slow=19,SNR=4.1
VAE Sn **Sn 19 30 18.0 -3.1**
comp=N,1.6nm,0.3s,baz=114,slow=20,SNR=1.6
GHAJ Ghor Haditha 9.28 105 Pn Pn 19 28 37.8 0.0
ZAPS Zavoj 9.28 349 *e*Pn **Pn 19 28 38.9 +1.1**
HRFI Mount Harif 9.39 113 Pn Pn 19 28 38.9 -0.5
MBRI Mt Berech 9.42 115 Pn Pn 19 28 39.1 -0.7
PDG Podgorica 9.43 333 Pn Pn 19 28 37.4 -2.4
EIL Elat 9.51 116 Pn Pn 19 28 40.5 -0.4
comp=N,3.1nm,0.3s,baz=260,slow=14,SNR=26
EIL Sn **Sn 19 30 20.3 -6.6**
comp=N,1.8nm,0.3s,baz=84,slow=20,SNR=4.7
EIL Elat 9.51 116 Pn Pn 19 28 39.9 -1.0
AQBJ Aqaba 9.55 115 Pn Pn 19 28 40.8 -0.8
SJES Sjenica 9.91 338 *e*Pn **Pn 19 28 44.2 -2.3**
ASF Jabal al Asfar 10.10 98 Pn Pn 19 28 48.9 -0.2
comp=N,0.5nm,0.3s,baz=245,slow=10,SNR=7.6
ASF Sn **Sn 19 30 36.6 -4.9**
comp=N,0.4nm,0.3s,baz=139,slow=20,SNR=2.5
CLTB Caltabellotta 10.21 293 Pn Pn 19 28 48.4 -2.3
CORL Corleone 10.24 295 Pn Pn 19 28 51.3 +0.3
SGRT San Giovanni R 10.56 318 Pn Pn 19 28 54.0 -1.4
BBLS Lazići 10.63 337 *e*Pn **Pn 19 28 54.9 -1.5**
DIVS Divibare 10.67 340 *e*Pn **Pn 19 28 55.9 -0.9**
DIVS Divibare 10.67 340 Pn Pn 19 28 56.1 -0.8
LOT Lotru 11.30 355 ⇑P Pn 19 29 04.9 -0.6
MLR Muntele Rosu 11.32 3 ⇑P Pn 19 29 05.5 -0.3
MLR Muntele Rosu 11.32 3 ⇑P Pn 19 29 05.5 -0.3
BZS Buzias 11.73 348 ⇑P Pn 19 29 10.4 -0.9
BZS Buzias 11.73 348 ⇑P Pn 19 29 10.4 -0.9
VRI Vrincioaia 11.74 6 ⇑P Pn 19 29 12.3 +0.8
VRI Vrincioaia 11.74 6 ⇑P Pn 19 29 12.3 +0.8
NRCA Norcia 12.74 316 Pn Pn 19 29 25.4 +0.1
KEST Kesra 13.01 281 Pn Pn 19 29 29.5 +0.6
comp=N,0.1nm,0.3s,baz=93,slow=18,SNR=1.3
KEST Kesra 13.01 281 Pn Pn 19 29 27.2 -1.7
SOKA Soboth 14.63 332 *i* P **P 19 29 56.9 -0.1**
comp=N,1.2nm,0.4s
OBKA Obir 14.69 330 *e*P **P 19 29 56.0 -1.7**
comp=N,3.2nm,0.6s
ARSA Arzberg 14.92 334 *e*P **P 19 30 00.1 -0.1**
comp=N,6.1nm,0.6s
VYHS Vyhne 15.05 344 *e*P **P 19 30 01.4 -0.2**
VYHS Vyhne 15.05 344 *e*P **P 19 30 01.4 -0.2**
PRED Cave del Predi 15.06 328 P P 19 30 00.9 -0.8
MODS Modra-Piesok 15.34 340 *e*P **P 19 30 04.6 -0.2**
MODS Modra-Piesok 15.34 340 *e*P **P 19 30 04.6 -0.2**
ZOU Zoufplan 15.41 327 P P 19 30 06.5 +0.7
ZOU IAmb IAmb 19 30 07.0
comp=Z,20nm,0.6s
CIMO Cimolais 15.47 325 P P 19 30 06.4 +0.1
KBA Koelnbreinsper 15.65 329 *e*P **P 19 30 08.9 +0.5**
comp=Z,6.3nm,0.6s
CTI Castel Tesino 15.67 323 P P 19 30 08.6 0.0
CTI pmax pmax
comp=Z,11nm,0.7s
CTI Castel Tesino 15.67 323 P 19 30 08.6 0.0
CTI IAmb IAmb 19 30 09.6
comp=Z,11nm,0.7s
ABTA Abfaltersbach 15.76 327 *e*P **P 19 30 10.5 +1.0**
comp=Z,15nm,0.5s,SNR=10
MOA Molln 15.89 332 *i* P **P 19 30 11.5 +0.6**
comp=Z,9.6nm,0.8s
SALO Salr 15.96 320 P P 19 30 10.9 -0.8
SALO IAmb IAmb 19 30 27.7
comp=Z,13nm,0.8s
KRUC Moravsky 16.21 339 *e*P **P 19 30 14.7 +0.2**
AKH Akhalkalaki 16.23 58 ⇑P Pn 19 30 12.9 +0.9
AKH Akhalkalaki 16.23 58 P Pn 19 30 12.8 +0.9
AKH pmax pmax
comp=Z,8.0nm,1.0s
AKH Akhalkalaki 16.23 58 Pn 19 30 12.8 +0.8
VRAC Vranov 16.38 340 Pn Pn 19 30 14.6 +0.9
comp=Z,0.4nm,0.3s,baz=134,slow=10,SNR=10
VRAC Vranov 16.38 340 ⇑P Pn 19 30 13.3 -0.4
VRAC Vranov 16.38 340 *e*P **P 19 30 15.5 -0.8**
VRAC Vranov 16.38 340 ⇑P Pn 19 30 13.3 -0.4
MORC Moravsky Berou 16.55 343 ⇑P Pn 19 30 15.4 -0.5
MORC Moravsky Berou 16.55 343 *e*P **Pn 19 30 17.1 +1.2**
MORC Moravsky Berou 16.55 343 ⇑P Pn 19 30 15.4 -0.5
MORC Moravsky Berou 16.55 343 P Pn 19 30 16.8 +0.9
WATA Walderalm 16.63 326 *e*Pn **Pn 19 30 16.5 -0.5**
comp=Z,6.7nm,0.6s
SHA1 Shidzhatmaz 16.64 50 *i* P **P 19 30 19.8 +0.3**
SQTA Sankt Quirin 16.71 325 *e*Pn **P 19 30 19.4 -0.7**
comp=Z,4.7nm,0.7s,SNR=4.5
FUORN Ofenpass-Fuorn 16.76 322 P P 19 30 20.4 -0.3
FUORN IAmb IAmb 19 30 23.9
comp=Z,11nm,0.7s
KIV Kislovodsk 16.77 49 ⇑P P 19 30 21.4 +0.7
KIV Kislovodsk 16.77 49 *e*P **P 19 30 21.8 +1.1**
KIV pmax pmax
comp=Z,49nm,0.9s
KIV Kislovodsk 16.77 49 P P 19 30 22.0 +1.3
KIV IAmb IAmb 19 30 23.6
comp=Z,15nm,0.7s
KVAR Kislovodsk Arr 16.77 49 Pn **P 19 30 21.4 +0.5**
baz=286,slow=14,SNR=5.8
AKASG Malin Array Be 16.79 9 Pn **Pn 19 30 18.2 -0.6**
comp=Z,2.1nm,0.3s,baz=198,slow=11,SNR=8.9
AKASG Sn **Sn 19 33 27.4 +3.0**
comp=Z,0.1nm,0.3s,baz=195,slow=22,SNR=8.1
KBZ Khabaz 16.79 50 Pn **P 19 30 20.8 -0.1**
comp=Z,0.6nm,0.3s,baz=259,slow=7.5,SNR=31
KBZ Khabaz 16.79 50*ce*P **P 19 30 20.1 -0.8**
KBZ pmax pmax
comp=Z,27nm,0.9s
FETA Feichten 16.80 324 Pn **P 19 30 20.7 -0.5**
comp=Z,3.9nm,0.6s,SNR=8.3
MOTA Moosalm 16.85 325 *e*Pn **Pn 19 30 19.9 +0.1**
comp=Z,3.7nm,0.7s
GEC2 GERESS Array S 16.93 333 P P 19 30 22.7 +0.2
GEC2 IAmb IAmb 19 30 23.6
comp=Z,14nm,0.7s
GERES GERESS Array B 16.93 333 Pn **Pn 19 30 21.5 +0.8**
comp=Z,2.1nm,0.3s,baz=146,slow=11,SNR=98
GERES GERESS Array B 16.93 333 P P 19 30 21.9 -0.6
KRLC Kraliky 17.02 341 *e*P **P 19 30 23.7 +0.2**
KRLC Kraliky 17.02 341 *e*P **P 19 30 23.7 +0.2**
ZEI Tsey 17.03 54 *e*P **P 19 30 23.2 -0.6**
ZEI pmax pmax
comp=Z,17nm,0.9s
DAVOX Davos/Dischmat 17.06 322 P Pn 19 30 22.8 +0.3
comp=Z,0.2nm,0.3s,baz=129,slow=14,SNR=4.6
DAVOX S **Sn 19 33 23.6 -7.8**
comp=Z,0.2nm,0.3s,baz=339,slow=19,SNR=2.3
RETA Reutte 17.12 325 *i* Pn **Pn 19 30 23.2 +0.1**
comp=Z,5.7nm,0.4s
TUE Stuetta 17.13 320 P Pn 19 30 24.1 +0.7
KHC Kasperske Hory 17.21 334 *e*P **Pn 19 30 23.8 -0.4**
KHC *e*pP **P 19 30 26.5 +1.0**
KHC Kasperske Hory 17.21 334*ce*P **Pn 19 30 24.4 +0.2**
KHC pmax pmax
comp=Z,21nm,1.3s
KHC Kasperske Hory 17.21 334 Pn 19 30 24.2 0.0
DPC Dobruska-Polom 17.39 341 *e*P **P 19 30 27.7 +0.1**
DPC Dobruska-Polom 17.39 341 *e*P **P 19 30 27.7 +0.1**
DAVA Damuels 17.40 323 *i* Pn **Pn 19 30 26.1 -0.6**
comp=Z,8.7nm,0.9s
GOPC GO Pecny, Ondr 17.46 337 *e*P **P 19 30 28.3 0.0**
GOPC GO Pecny, Ondr 17.46 337 *e*P **P 19 30 28.3 0.0**
BNI Bardonecchia 17.82 313 P Pn 19 30 31.7 -0.2
BNI pmax pmax
comp=Z,8.0nm,1.4s
BNI Bardonecchia 17.82 313 Pn 19 30 31.7 -0.2
SENIN Lac Senin/Sane 18.18 317 P P 19 30 37.4 +0.9
NKC Novy Kostel 18.53 334 *e*P **Pn 19 30 41.0 +0.6**
NKC Novy Kostel 18.53 334 *e*P **Pn 19 30 41.0 +0.6**
BRG Berggiesshubel 18.56 337 *e*P **P 19 30 40.4 0.0**
comp=Z,4.7nm,0.5s
BRG Berggiesshubel 18.56 337 *e*P **P 19 30 40.4 0.0**
BRG pmax pmax
comp=Z,5.0nm,0.5s
GRA1 Grafenberg Arr 18.57 331 P P 19 30 39.7 -0.8
GRA1 IAmb IAmb 19 30 43.3
comp=Z,26nm,1.1s
GRF Grafenberg Arr 18.57 331 P P 19 30 39.7 -0.8
GRF pmax pmax
comp=Z,26nm,1.1s
BFO Black Forest 18.88 324 P P 19 30 42.5 -1.4
BFO pmax pmax
comp=Z,10.0nm,1.1s
BFO Black Forest 18.88 324 P P 19 30 42.5 -1.4
CLL Collm 19.24 336 *e*P **Pn 19 30 49.0 +0.1**
CLL *e*sP **pP 19 30 55.0 +0.4**
CLL Collm 19.24 336 *e*P **Pn 19 30 49.0 +0.1**
CLL Collm 19.24 336 P P 19 30 47.6 -0.2
CLL IAmb IAmb 19 31 04.1
comp=Z,14nm,1.3s
SSB Saint Sauveur 19.25 311 P P 19 30 47.1 -0.9
SSB pmax pmax
comp=Z,9.0nm,1.6s
SSB Saint Sauveur 19.25 311 P P 19 30 47.1 -0.9
ECH Echery 19.39 322 P Pn 19 30 50.6 -0.2
ECH pmax pmax
comp=Z,13nm,1.4s
ECH Echery 19.39 322 Pn **Pn 19 30 50.6 -0.2**
MAK Makhachkala 19.56 57 *e*P **P 19 30 47.4 -3.9**
MAK *e*S **S 19 34 27.8 -2.8**
MAK pmax pmax
comp=Z,156nm,1.0s
MAK MLR MLR
comp=Z,110nm,12.0s
VSR Storozhevoye 19.87 27 *e*P **Pn 19 30 56.3 -0.1**
VSR *e*S **S 19 34 29.6 -7.2**
VSR pmax pmax
comp=Z,5.0nm,0.6s
VSR smax smax
comp=E,70nm,2.8s
SUW Suwalki 19.88 357 P P 19 30 54.3 -0.4
SUW pmax pmax
comp=Z,54nm,1.1s
SUW Suwalki 19.88 357 P P 19 30 54.3 -0.4
TAM Tamanrasset 20.56 242 P P 19 31 03.5 +0.9
TAM pmax pmax
comp=Z,6.0nm,1.1s
TAM Tamanrasset 20.56 242 P P 19 31 03.5 +0.9
WLF Walferdange 20.84 324 P Pn 19 31 09.2 +1.4
WLF Walferdange 20.84 324 P Pn 19 31 07.2 -0.6
WLF pmax pmax
comp=Z,18nm,0.9s
WLF Walferdange 20.84 324 Pn 19 31 07.2 -0.6
WLF IAmb IAmb 19 31 09.9
comp=Z,18nm,0.9s
VRH Novokhopyorsk 20.87 30 *e*P **P 19 31 04.9 -0.6**
VRH *e*S **S 19 34 52.4 -4.3**
VRH pmax pmax
comp=Z,20nm,0.6s
VRH smax smax
comp=E,30nm,0.8s
LPSR Galich'ya Gora 20.92 24 *e*P **P 19 31 02.9 -3.1**
LPSR *e*S **S 19 34 56.2 -1.4**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
LPSR smax smax
comp=N,60nm,1.2s
BTNL Ternell 21.46 326 PnPn **PnPn 19 31 32.4 -0.1**
MEM Membach 21.54 325 P P 19 31 13.0 +0.3
DOU Dourbes 21.89 323 P P 19 31 17.9 +1.4
CLF Chambon-Foret 21.97 316 P P 19 31 18.0 +0.6
CLF IAmb IAmb 19 31 19.4
comp=Z,46nm,1.6s
RGN Rugen 21.98 341 P P 19 31 19.4 +2.0
OBN Obninsk 22.41 17 *e*P **P 19 31 22.2 +0.2**
OBN *e* 19 31 49.2
OBN *e*S **S 19 35 25.8 -0.7**
OBN pmax pmax
comp=Z,44nm,2.5s
OBN MLR MLR
comp=Z,153nm,14.0s
ESBB Sonseca Array 23.80 292 P P 19 31 35.8 -0.6
ESBB IAmb IAmb 19 31 38.2
comp=Z,6.0nm,0.9s
ESDC Sonseca Array 23.81 292 P P 19 31 36.4 0.0
comp=Z,4.4nm,0.8s,baz=81,slow=9.2,SNR=30
ESDC Sonseca Array 23.81 292 P P 19 31 35.6 -0.8
PBRG Braganca 26.11 296 *e*P **P 19 31 56.9 -0.5**
MVO Moncorvo 26.26 295 *e*P **P 19 32 00.4 +1.6**
PMRV Marv??o 26.44 291 *e*P **P 19 32 00.3 -0.1**
PCBR Castelo Branco 26.52 292 *e*P **P 19 32 01.5 +0.5**

PVAQ	**Vaqueiros**	**26.73**	**286**	P	**P**	**19 32 01.9**	**-1.1**
PVAQ				IAmb	IAmb	19 32 30.3	
comp=Z,7.7nm,1.0s							
PVAQ	**Vaqueiros**	**26.73**	**286**	*e*P	**P**	**19 32 02.8**	**-0.2**
PVIS	**Viseu**	**26.88**	**294**	*e*P	**P**	**19 32 04.8**	**+0.5**
GEYT	**Alibeck**	**26.89**	**72**	P	**P**	**19 32 04.9**	**+0.5**
comp=Z,1.8nm,0.8s,baz=289,slow=9.0,SNR=2.8							
GEYT	**Alibeck**	**26.89**	**72**		**P**	**19 32 06.4**	**+2.0**
PBDV	**Barranco-do-Ve**	**26.91**	**286**	*e*P	**P**	**19 32 05.0**	**+0.4**
PCVE	**Castro Verde**	**26.97**	**287**	*e*P	**P**	**19 32 04.5**	**-0.7**
HFS	**Hagfors**	**27.02**	**347**	P	**P**	**19 32 04.9**	**-0.4**
comp=Z,1.3nm,0.4s,baz=163,slow=11,SNR=6.1							
COI	**Coimbra**	**27.25**	**293**	P	**P**	**19 32 07.6**	**0.0**
COI				pmax	pmax		
comp=Z,25nm,1.3s							
COI	**Coimbra**	**27.25**	**293**	P	**P**	**19 32 07.6**	**0.0**
PGAV	**Gavieira, Arco**	**27.26**	**296**	*e*P	**P**	**19 32 06.3**	**-1.5**
FINES	**FINESS Array B**	**27.29**	**1**	P	**P**	**19 32 07.2**	**-0.5**
comp=Z,2.1nm,0.7s,baz=171,slow=9.4,SNR=7.2							
PTEO	**Sao Teotonio**	**27.52**	**287**	*e*P	**P**	**19 32 10.7**	**+0.6**
PFVI	**Vila Bisbo**	**27.63**	**286**	P	**P**	**19 32 10.9**	**-0.2**
NC602	**NORSAR Array S**	**27.99**	**346**	P	**P**	**19 32 13.2**	**-0.8**
NAO01	**NORSAR Array S**	**28.23**	**345**	P	**P**	**19 32 15.6**	**-0.5**
NB201	**NORSAR Array S**	**28.33**	**346**	P	**P**	**19 32 15.8**	**-1.3**
NB2	**NORSAR Subarra**	**28.34**	**346**	P	**P**	**19 32 15.8**	**-1.3**
comp=Z,3.8nm,1.2s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**28.34**	**346**	P	**P**	**19 32 16.9**	**-0.2**
comp=Z,0.7nm,0.6s,baz=164,slow=7.6,SNR=2.4							
NBO00	**NORSAR Array S**	**28.42**	**345**	P	**P**	**19 32 17.2**	**-0.6**
UOSS	**Minazif**	**28.50**	**100**	P	**P**	**19 32 20.3**	**+1.4**
NC204	**NORSAR Array S**	**28.64**	**346**	P	**P**	**19 32 20.1**	**+0.3**
EKA	**Eskdalemuir Ar**	**28.81**	**326**	P	**P**	**19 32 21.2**	**-0.1**
comp=Z,2.7nm,0.8s,baz=123,slow=9.8,SNR=6.3							
ESK	**Eskdalemuir**	**28.83**	**326**	P	**P**	**19 32 20.1**	**-1.4**
ESK				pmax	pmax		
comp=Z,15nm,1.0s							
ESK	**Eskdalemuir**	**28.83**	**326**	P	**P**	**19 32 20.1**	**-1.4**
AKTO	**Aktyubinsk**	**28.97**	**46**	P	**P**	**19 32 23.0**	**+0.1**
comp=Z,1.5nm,0.7s,baz=252,slow=10,SNR=6.2							
AKTO	**Aktyubinsk**	**28.97**	**46**	P	**P**	**19 32 23.0**	**+0.1**
KIRV	**Kirov**	**29.31**	**26**	P	**P**	**19 32 25.0**	**-0.7**
comp=Z,8.1nm,0.8s,baz=270,slow=10,SNR=4.8							
DSB	**Dublin**	**29.32**	**320**	P	**P**	**19 32 26.4**	**+0.5**
DSB				IAmb	IAmb	19 32 40.0	
comp=Z,10nm,0.9s							
ABKAR	**Akbulak array**	**29.75**	**49**	P	**P**	**19 32 29.7**	**-0.1**
ABKAR	**Akbulak array**	**29.75**	**49**	P	**P**	**19 32 29.7**	**-0.1**
ABKAR				IAmb	IAmb	19 32 48.1	
comp=Z,5.1nm,1.5s							
TOA0	**Torodi Ar. Sit**	**29.82**	**231**	P	**P**	**19 32 31.4**	**+0.8**
TOA0				IAmb	IAmb	19 32 34.0	
comp=Z,6.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**29.82**	**231**	P	**P**	**19 32 31.6**	**+0.9**
comp=Z,5.6nm,0.4s,baz=32,slow=8.3,SNR=60							
TORD	**Torodi Ar. Bea**	**29.82**	**231**	P	**P**	**19 32 31.1**	**+0.5**
HRA	**Herat**	**30.59**	**79**	P	**P**	**19 32 38.1**	**+0.4**
ARU	**Arti**	**31.89**	**35***d*	*i*P	**P**	**19 32 49.7**	**+1.2**
ARU						19 33 53.7	
ARU				S	**S**	**19 38 03.3**	**+5.9**
ARU				SS	**SnSn**	**19 39 47.7**	**+1.1**
ARU				pmax	pmax		
comp=Z,8.0nm,1.1s							
ARU	**Arti**	**31.89**	**35**	P	**P**	**19 32 47.8**	**-0.7**
ARU				IAmb	IAmb	19 32 50.6	
comp=Z,6.0nm,0.9s							
KOWA	**Kowa**	**32.78**	**240**	P	**P**	**19 32 57.3**	**+0.5**
comp=Z,2.0nm,0.8s,baz=43,slow=11,SNR=4.4							
KOWA	**Kowa**	**32.78**	**240**	P	**P**	**19 32 57.1**	**+0.3**
KOWA				IAmb	IAmb	19 32 59.1	
comp=Z,6.9nm,1.1s							
ARCES	**ARCESS Array B**	**35.41**	**0**	P	**P**	**19 33 18.8**	**-0.2**
comp=Z,1.1nm,0.4s,baz=174,slow=9.0,SNR=2.4							
KK31	**Karatay Array**	**36.21**	**62**	P	**P**	**19 33 26.4**	**+0.2**
KK31				pmax	pmax		
comp=Z,5.0nm,0.8s							
KK31	**Karatay Array**	**36.21**	**62**	P	**P**	**19 33 26.4**	**+0.2**
KK31				IAmb	IAmb	19 33 28.4	
comp=Z,5.2nm,0.8s							
KKAR	**Karatay Array**	**36.21**	**62**	P	**P**	**19 33 26.4**	**+0.2**
KKAR				pmax	pmax		
comp=Z,5.0nm,0.8s							
KKAR	**Karatay Array**	**36.21**	**62**	P	**P**	**19 33 26.7**	**+0.5**
KKAR				IAmb	IAmb	19 33 28.4	
comp=Z,5.2nm,0.8s							
KKAR	**Karatay Array**	**36.21**	**62**	P	**P**	**19 33 26.4**	**+0.2**
GAR	**Garm**	**36.35**	**69**	P	**P**	**19 33 26.8**	**-0.8**
GAR				IAmb	IAmb	19 33 31.6	
comp=Z,10nm,1.3s							
BRVK	**Borovoye**	**37.02**	**45***ce*P		**P**	**19 33 34.6**	**+1.7**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.0s							
DBIC	**Dimbokro**	**38.91**	**232**	P	**P**	**19 33 50.0**	**+0.7**
comp=Z,1.4nm,0.4s,baz=32,slow=7.0,SNR=9.9							
DBIC	**Dimbokro**	**38.91**	**232**	IAmb	IAmb	19 33 55.9	
comp=Z,25nm,1.6s							
TIC	**Toumodi**	**39.04**	**232**	*e*P	**P**	**19 33 51.3**	**+0.9**
KIC	**Kosan Boka**	**39.07**	**232**	*e*P	**P**	**19 33 51.0**	**+0.4**
comp=Z,18nm,0.9s							
AAK	**Ala-Archa**	**39.16**	**63***ce*P		**P**	**19 33 51.7**	**+0.4**
AAK				pmax	pmax		
comp=Z,10.0nm,0.8s							
LIC	**Lamto**	**39.36**	**232**	*e*P	**P**	**19 33 54.2**	**+1.2**
comp=Z,2.3nm,0.4s							
NIL	**Nilore**	**39.68**	**77**	P	**P**	**19 33 56.8**	**+1.2**
NIL				pmax	pmax		
comp=Z,8.0nm,1.2s							
NIL	**Nilore**	**39.68**	**77**	P	**P**	**19 33 56.8**	**+1.2**
NIL				IAmb	IAmb	19 33 59.6	
comp=Z,8.2nm,1.1s							
BOOM	**Boomskoye usch**	**40.23**	**63**	P	**P**	**19 34 01.7**	**+1.4**
BOOM				pmax	pmax		
comp=Z,2.0nm,1.0s							
BOOM	**Boomskoye usch**	**40.23**	**63**	P	**P**	**19 34 01.7**	**+1.4**
KDJ	**Kajisay**	**41.19**	**63**	P	**P**	**19 34 09.8**	**+1.6**
KDJ				pmax	pmax		
comp=Z,7.0nm,0.9s							
KDJ	**Kajisay**	**41.19**	**63**	P	**P**	**19 34 09.8**	**+1.6**
KDJ				IAmb	IAmb	19 34 11.9	
comp=Z,6.9nm,0.8s							
TARG	**Taragay, Kyrgy**	**41.70**	**64**	P	**P**	**19 34 12.4**	**-0.3**
TARG				IAmb	IAmb	19 34 14.5	
comp=Z,4.1nm,1.1s							
KURK	**Kurchatov**	**41.85**	**50***ce*P		**P**	**19 34 13.8**	**+0.5**
KURK				pmax	pmax		
comp=Z,6.0nm,0.7s							
KURK	**Kurchatov**	**41.85**	**50**	P	**P**	**19 34 13.5**	**+0.2**
KURK				IAmb	IAmb	19 34 15.5	
comp=Z,6.4nm,0.7s							
MAKZ	**Makanchi**	**44.16**	**56**	P	**P**	**19 34 32.6**	**+0.6**
MAKZ				pmax	pmax		
comp=Z,5.0nm,0.8s							
MAKZ	**Makanchi**	**44.16**	**56**	P	**P**	**19 34 32.6**	**+0.6**
MAKZ				IAmb	IAmb	19 34 33.7	
comp=Z,4.8nm,0.8s							
MK31	**Makanchi Array**	**44.37**	**56**	P	**P**	**19 34 34.2**	**+0.4**
MK31				pmax	pmax		
comp=Z,8.0nm,0.7s							
MK31	**Makanchi Array**	**44.37**	**56**	P	**P**	**19 34 34.2**	**+0.4**
MKAR	**Makanchi Array**	**44.37**	**56**	P	**P**	**19 34 34.5**	**+0.7**
comp=Z,9.6nm,0.6s,baz=277,slow=6.5,SNR=101							
MKAR	**Makanchi Array**	**44.37**	**56**	P	**P**	**19 34 34.2**	**+0.4**
MKAR	**Makanchi Array**	**44.37**	**56**	P	**P**	**19 34 34.2**	**+0.4**
KBS	**Kingsbay**	**45.20**	**356**	P	**P**	**19 34 40.1**	**+0.3**
KBS				pmax	pmax		
comp=Z,20nm,1.2s							
KBS	**Kingsbay**	**45.20**	**356**	P	**P**	**19 34 40.1**	**+0.3**
ZAA0	**Zalesovo Array**	**45.73**	**45**	P	**P**	**19 34 44.0**	**-0.4**
ZAA0				IAmb	IAmb	19 34 45.1	
comp=Z,5.3nm,0.7s							
ZALV	**Zalesovo Beam**	**45.73**	**45**	P	**P**	**19 34 44.5**	**+0.1**
comp=Z,4.7nm,0.4s,baz=269,slow=8.6,SNR=28							
ZALV				LR	LR	19 56 52.2	
comp=Z,46nm,18.1s,baz=252,slow=40							
ZALV	**Zalesovo Beam**	**45.73**	**45**	P	**P**	**19 34 44.2**	**-0.2**
ZALV	**Zalesovo Beam**	**45.73**	**45**	P	**P**	**19 34 44.2**	**-0.2**
DGZ	**Jazzator, Alta**	**47.54**	**51**	*i*P	**P**	**19 34 59.3**	**+0.5**
DGZ				pmax	pmax		
comp=Z,5.0nm,0.7s							
WMQ	**Urumqi**	**48.56**	**59**	*e*P	**P**	**19 35 08.8**	**+2.1**
WMQ				pmax	pmax		
comp=Z,6.0nm,0.9s							
WMQ				pmax	pmax		
comp=Z,150nm,5.3s							
WMQ				LR	LR		
comp=N,190nm,29.2s							
WMQ				LR	LR		
comp=E,240nm,28.3s							
WMQ				LR	LR		
comp=Z,52nm,14.9s							
NRIK	**Noril'sk**	**48.80**	**25**	P	**P**	**19 35 09.1**	**+1.0**
comp=Z,4.8nm,0.6s,baz=271,slow=7.4,SNR=2.1							
TLY	**Talaya**	**57.32**	**46**	*i*P	**P**	**19 36 13.7**	**+2.6**
TLY				pmax	pmax		
comp=Z,3.0nm,0.7s							
ZAK	**Zakamensk**	**57.44**	**48**	*e*P	**P**	**19 36 12.6**	**+0.5**
ZAK				pmax	pmax		
comp=Z,4.0nm,0.9s							
GTA	**Gaotai**	**58.48**	**61**	⇑P	**P**	**19 36 20.5**	**+0.9**
GTA				pP	sP	19 36 30.3	+0.1
GTA				sP	pwP	19 36 33.5	+2.1
GTA				PcP	**PcP**	**19 37 15.3**	**+5.3**
GTA				S	**S**	**19 44 18.8**	**-2.7**
GTA	**Gaotai**	**58.48**	**61**	SS	SS	19 48 15.5	+1.8
GTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,140nm,8.2s							
GTA				LR	LR		
comp=N,160nm,16.0s							
GTA				LR	LR		
comp=E,100nm,17.5s							
GTA				LR	LR		
comp=Z,120nm,16.4s							
EUNU	**Eureka**	**60.15**	**349**	P	**P**	**19 36 30.6**	**+0.2**
EUNU				IAmb	IAmb	19 36 46.6	
comp=Z,3.7nm,1.1s							
SONM	**Songino Array**	**60.16**	**50**	P	**P**	**19 36 32.2**	**+1.2**
comp=Z,3.9nm,0.8s,baz=285,slow=8.3,SNR=26							
SONM	**Songino Array**	**60.16**	**50**	P	**P**	**19 36 32.3**	**+1.2**
ULN	**Ulaanbaatar**	**60.57**	**50***ce*P		**P**	**19 36 34.3**	**+0.4**
ULN				pmax	pmax		
comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**60.57**	**50**	P	**P**	**19 36 35.0**	**+1.0**
ULN				IAmb	IAmb	19 36 35.8	
comp=Z,5.3nm,0.9s							
BOSA	**Boshof**	**62.45**	**180**	P	**P**	**19 36 47.1**	**+0.5**
BOSA				pmax	pmax		
comp=Z,7.0nm,1.2s							
BOSA	**Boshof**	**62.45**	**180**	P	**P**	**19 36 47.1**	**+0.5**
SCHQ	**Schefferville**	**63.90**	**320**	P	**P**	**19 36 56.5**	**+0.6**
comp=Z,3.6nm,0.7s,baz=85,slow=9.5,SNR=3.4							
SCHQ	**Schefferville**	**63.90**	**320**	P	**P**	**19 36 55.8**	**-0.1**
GBN	**Guysborough**	**64.44**	**309**	P	**P**	**19 37 00.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**66.24**	**56**	*e*P	**P**	**19 37 10.5**	**-1.0**
HHC				pmax	pmax		
comp=Z,29nm,0.7s							
HHC				pmax	pmax		
comp=Z,130nm,7.1s							
HHC				LR	LR		
comp=N,250nm,12.8s							
HHC				LR	LR		
comp=E,260nm,13.6s							
HHC				LR	LR		
comp=Z,210nm,13.6s							
CMAR	**Chiang Mai Arr**	**66.75**	**83**	P	**P**	**19 37 15.6**	**+0.7**
comp=Z,0.5nm,0.6s,baz=304,slow=9.2,SNR=6.5							
CMAR				LR	LR	20 13 57.9	
comp=Z,52nm,18.3s,baz=180,slow=43							
USRK	**Ussuriysk Ar.**	**77.58**	**45**	P	**P**	**19 38 19.9**	**+0.6**
comp=Z,3.3nm,0.7s,baz=312,slow=4.9,SNR=9.1							
USRK	**Ussuriysk Ar.**	**77.58**	**45**	P	**P**	**19 38 19.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**77.58**	**45**	P	**P**	**19 38 19.6**	**+0.3**
KSRS	**Korea Array**	**78.93**	**52**	P	**P**	**19 38 27.5**	**+0.6**
comp=Z,1.7nm,0.7s,baz=311,slow=4.3,SNR=6.9							
ILAR	**Eielson Array**	**81.18**	**357**	P	**P**	**19 38 39.3**	**+0.8**
comp=Z,0.4nm,0.9s,baz=350,slow=4.7,SNR=2.5							
TGY	**Tagaytay City**	**86.94**	**75**	LR	LR	20 23 14.4	
comp=Z,49nm,21.3s,baz=92,slow=39							

*SNET **26** 19:33:41.7±1.0, 13°.57N×90°.87W, h20km±4km, ML2.9*
*GCG **26** 19:33:43.7±0.6, 13°.72N×90°.98W, h12km±999km, MD3.7*
ISC 26 19:33:40.5±3.2, 13°.6N±0°.1×90°.9W±0°.2, h11km±19km, n10, σ0°53/18, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.78**	**37**	*e*P	**Pb**	**19 33 57.0**	**+0.9**
FUG	**Fuego 3**	**0.90**	**5**	*e*P	**Pg**	**19 33 58.1**	**+0.3**
FUG				*e*S	**Sg**	**19 34 08.7**	**-0.9**
NBG	**Las Nubes**	**1.17**	**28**	*e*P	**Pb**	**19 34 03.3**	**+0.4**
NBG				*e*S	**Sn**	**19 34 19.1**	**-0.1**
RTR	**El Retiro**	**1.29**	**74**	*e*P	**Pn**	**19 34 04.8**	**+0.2**
CEVE	**Cerro Verde**	**1.29**	**77**	*e*P	**Pn**	**19 34 04.0**	**-0.7**
CEVE				*e*S	**Sb**	**19 34 21.9**	**+0.3**
CEVE				IAML		19 34 23.5	
comp=Z,755nm,0.2s							
SBLS	**San Blas**	**1.29**	**77**	*e*P	**Pn**	**19 34 04.6**	**-0.1**
SBLS				*e*S	**Sb**	**19 34 21.6**	**0.0**
SNJE	**San Jose**	**1.32**	**76**	*e*P	**Pn**	**19 34 04.6**	**-0.4**
SNJE				*e*S	**Sb**	**19 34 22.3**	**0.0**
TACO	**Tacachico**	**1.58**	**74**	*e*P	**Pn**	**19 34 07.5**	**-0.9**
TACO				*e*S	**Sn**	**19 34 28.8**	**-0.1**
MTO3	**Montecristo**	**1.73**	**61**	*e*P	**Pn**	**19 34 10.4**	**-0.3**
MTO3				*e*S	**Sn**	**19 34 33.0**	**0.0**
MTO3				IAML		19 34 36.5	
comp=Z,32nm,0.4s							
LFRS	**El Faro**	**1.81**	**87**	*e*P	**Pn**	**19 34 11.2**	**-0.5**
LFRS				*e*S	**Sn**	**19 34 34.6**	**-0.1**

*IDC **26** 19:33:45.2±1.4, 34°.14N×25°.17E, h0km, mb3.7/4,*
mb1 3.7/7, mb1mx3.5/49, mbtmp3.6/7, ML3.7/3, Error
ellipse: s-maj=24.7km s-min=13.5km az=69.0
*ATH **26** 19:33:46.5, 34°.19N×25°.07E, h23km±3km, ML2.7/7, Error*
ellipse: s-maj=4.6km s-min=1.8km az=355.0
*THE **26** 19:33:47.0, 34°.19N×25°.09E, h0km±3km, ML2.7/5, Error*
ellipse: s-maj=5.4km s-min=1.3km az=166.0
ISC 26 19:33:45.9±1.8, 34°.14N±0°.07×25°.11E±0°.04, h4km±11km, n26, σ0°49/34, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.91**	**344**	P	**Pg**	**19 34 03.0**	**-0.2**
SIVA				S	**Sb**	**19 34 17.3**	**+0.8**
2μm,0.6s							
SIVA	**Sivas**	**0.91**	**344**	P	**Pg**	**19 34 03.1**	**-0.1**
SIVA				S	**Sg**	**19 34 15.1**	**+0.1**
SIVA				AML	AML	19 34 20.6	
comp=N,3362μm,0.7s							
SIVA				AML	AML	19 34 22.4	
comp=E,3392μm,0.8s							
TMBK	**Timbaki Herakl**	**0.97**	**343**	P	**Pg**	**19 34 04.7**	**+0.3**
TMBK				S	**Sb**	**19 34 19.3**	**+1.0**
comp=E,448nm,0.6s							
LAST	**Lasithi**	**1.06**	**17**	P	**Pg**	**19 34 06.2**	**0.0**
LAST				S	**Sb**	**19 34 21.9**	**+0.9**
comp=E,255nm,0.5s							
LAST	**Lasithi**	**1.06**	**17**	P	**Pg**	**19 34 06.0**	**-0.2**
LAST				AML	AML	19 34 22.2	
comp=E,464μm,0.5s							
LAST				AML	AML	19 34 30.6	
comp=N,580μm,0.6s							
GVD	**Gavdhos**	**1.09**	**310**	P	**Pg**	**19 34 06.7**	**-0.1**
GVD				S	**Sn**	**19 34 23.3**	**-0.1**
comp=N,552nm,0.5s							
GVD	**Gavdhos**	**1.09**	**310**	P	**Pg**	**19 34 06.7**	**-0.1**
GVD				S	**Sg**	**19 34 20.8**	**-0.2**
GVD				AML	AML	19 34 27.5	
comp=E,1294μm,0.5s							
GVD				AML	AML	19 34 31.9	
comp=N,1126μm,0.4s							
GVDS	**Gavdos**	**1.09**	**310**	P	**Pg**	**19 34 07.1**	**+0.3**
IDI	**Anoyia**	**1.16**	**351**	Pg	**Pg**	**19 34 07.5**	**-0.6**
comp=N,7.2nm,0.3s,baz=174,slow=18,SNR=32							
IDI				Lg	Lg	19 34 24.1	
comp=N,25nm,0.3s,baz=190,slow=23,SNR=13							
IDI	**Anoyia**	**1.16**	**351**	P	**Pg**	**19 34 07.3**	**-0.8**
IDI				S	**Sb**	**19 34 23.4**	**-0.4**
comp=N,208nm,0.5s							
IDI	**Anoyia**	**1.16**	**351**	P	**Pg**	**19 34 07.2**	**-0.8**
IDI				S	**Sb**	**19 34 23.4**	**-0.4**
IDI				AML	AML	19 34 27.3	
comp=E,461μm,0.6s							
IDI				AML	AML	19 34 33.9	
comp=N,374μm,0.4s							
NPS	**Neapolis**	**1.19**	**20**	P	**Pb**	**19 34 09.3**	**+0.3**
NPS	**Neapolis**	**1.19**	**20**	P	**Pg**	**19 34 08.7**	**0.0**
NPS				AML	AML	19 34 27.3	
comp=E,473μm,0.4s							
NPS				AML	AML	19 34 38.5	
comp=N,374μm,0.8s							
ZKR	**Zakros**	**1.33**	**43**	P	**Pg**	**19 34 11.7**	**+0.3**
ZKR	**Zakros**	**1.33**	**43**	P	**Pg**	**19 34 11.7**	**+0.3**
ZKR				AML	AML	19 34 41.1	
comp=N,172μm,0.6s							
ZKR				AML	AML	19 34 43.2	
comp=E,537μm,0.6s							
VAM	**Vamos**	**1.47**	**330**	P	**Pn**	**19 34 12.8**	**-0.3**
VAM	**Vamos**	**1.47**	**330**	P	**Pn**	**19 34 12.7**	**-0.3**
VAM				AML	AML	19 34 42.0	
comp=N,506μm,0.3s							
VAM				AML	AML	19 34 46.9	
comp=E,688μm,0.7s							
IMMV	**Iera Moni Meta**	**1.61**	**325**	P	**Pn**	**19 34 15.2**	**+0.2**
IMMV	**Iera Moni Meta**	**1.61**	**325**	P	**Pn**	**19 34 15.1**	**+0.1**
MMAI	**Mount Meron Ar**	**8.66**	**95**	Pn	**Pn**	**19 35 51.3**	**-0.7**
comp=E,0.4nm,0.3s,baz=275,slow=12,SNR=2.0							
EIL	**Elat**	**9.48**	**115**	Pn	**Pn**	**19 36 02.7**	**-0.4**
comp=E,0.5nm,0.3s,baz=298,slow=19,SNR=8.3							
GERES	**GERESS Array B**	**16.96**	**333**	Pn	**Pn**	**19 37 44.6**	**+0.6**
comp=E,0.2nm,0.3s,baz=145,slow=12,SNR=9.2							
TORD	**Torodi Ar. Bea**	**29.81**	**231**	P	**P**	**19 39 54.6**	**+0.6**
comp=E,0.4nm,0.4s,baz=36,slow=8.7,SNR=4.7							
MKAR	**Makanchi Array**	**44.37**	**56**	P	**P**	**19 41 57.0**	**-0.3**
comp=E,0.7nm,0.6s,baz=283,slow=6.2,SNR=7.1							
ZALV	**Zalesovo Beam**	**45.74**	**45**	P	**P**	**19 42 07.1**	**-0.9**
comp=E,0.7nm,0.5s,baz=280,slow=8.6,SNR=3.7							
SONM	**Songino Array**	**60.16**	**50**	P	**P**	**19 43 54.7**	**0.0**
comp=E,0.4nm,0.6s,baz=289,slow=9.0,SNR=2.4							

IDC 26 19:41:27.9±2.5, 10°.19S×160°.90E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/32, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=49.7km s-min=22.9km az=61.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.21**	**309**	Pn	Pn	19 41 52.7	+0.7
330nm,0.3s,baz=146,slow=3.0,SNR=97							
HNR				LR	LR	19 42 06.0	
comp=Z,71nm,19.3s,baz=152,slow=32							
HNR				Sn	Sn	19 42 10.3	+1.2
852nm,0.3s,baz=10,slow=24,SNR=30							
DZM	**Mont Dzumac**	**12.96**	**156**	Pn	Pn	19 44 35.7	+2.1
0.2nm,0.3s,baz=17,slow=13,SNR=22							
WRA	**Warramunga Arr**	**27.38**	**246**	P	P	19 47 15.4	+0.1
0.3nm,0.4s,baz=76,slow=8.9,SNR=6.3							
ASAR	**Alice Springs**	**29.03**	**239**	P	P	19 47 29.3	-0.7
0.2nm,0.6s,baz=63,slow=10,SNR=5.5							
SONM	**Songino Array**	**75.21**	**325**	P	P	19 53 12.0	-0.6
0.4nm,0.5s,baz=125,slow=5.0,SNR=2.8							

*TEH **26** 20:01:01.3, 34°.40N×45°.50E, h10km, ML2.9*
*ISN **26** 20:01:01.1±0.4, 34°.40N×45°.43E, h15km±2km, ML2.5*
ISC 26 20:01:01.5±1.6, 34°.44N±0°.08×45°.45E±0°.07, h18km, n10, σ0°77/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.82**	**71**	*e*Pg	**Pb**	**20 01 16.4**	**-1.0**
IDHR				*e*Sg	**Sg**	**20 01 28.6**	**+0.1**
IDHR				*e*		20 01 29.6	
IGHG	**Ghaleghazi**	**0.94**	**96**	*e*Pg	**Pb**	**20 01 18.7**	**-0.7**
IVIS	**Veis**	**1.16**	**85**	*e*Pg	**Pn**	**20 01 22.8**	**-0.2**
IVIS				*e*		20 01 41.3	
KCHF	**Cheshme Sefid,**	**1.33**	**97**	*e*	**Pg**	**20 01 27.5**	**+0.3**
ILIN	**Lien**	**1.34**	**69**	*e*Pg	**Pb**	**20 01 26.9**	**+0.6**
IBDR	**Badra**	**1.39**	**163**	*e*Pg	**Pb**	**20 01 26.0**	**-0.9**
IBDR				*e*Sg	**Sb**	**20 01 44.0**	**-0.2**
IBDR				AML	AML	20 01 56.5	
comp=E,102nm,0.5s							
IBDR				AML	AML	20 02 02.4	
comp=N,69nm,0.5s							
KER	**Kermanshah**	**1.40**	**92**	*e*Pg	**Pg**	**20 01 27.9**	**-0.6**
KER				*e*		20 01 28.7	
BHD	**Baghdad**	**1.47**	**218**	*e*Pn	**Pb**	**20 01 28.0**	**-0.2**
BHD				*e*Sn	**Sg**	**20 01 48.0**	**-0.9**
IKOM	**Komasi**	**1.73**	**98**	*e*Pg	**Pb**	**20 01 33.0**	**+0.1**
IKOM				*e*		20 02 01.7	
NSR	**Nassriya**	**3.47**	**170**	*e*Pn	**Pn**	**20 01 56.0**	**+1.4**
NSR				*e*Sn	**Sn**	**20 02 36.0**	**+0.8**

*IDC **26** 20:06:17.5±1.4, 5°.50S×153°.11E, h0km, mb3.7/7,*
mb1 3.9/8, mb1mx3.7/35, mbtmp3.7/8, ML1.4/1, MS2.8/1,
Ms1 2.8/1, ms1mx2.5/28, Error ellipse: s-maj=32.9km
s-min=21.0km az=101.0
ISC 26 20:06:23.2±1.3, 5°.55S±0°.08×153°.0E±0°.1, h37km, n11, σ1°01/12, mb3.8/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.58**	**321**	Pn	**Pn**	**20 06 47.2**	**-1.5**
169nm,0.3s,baz=125,slow=0.5,SNR=128							
KRVT				Sn	**Sn**	**20 07 09.7**	**+1.8**
212nm,0.3s,baz=320,slow=17,SNR=9.0							
KRVT				LR	LR	20 07 28.1	
comp=Z,338nm,20.6s,baz=283,slow=44			

AML Almayashu 2.47 331 P Pb 20 14 07.9 -1.1
SNR=9.7
BOOM Boomskoye usch 2.56 11⇑*iP* Pb 20 14 09.0 -1.5
baz=11
BOOM ⇑*iS* Sb 20 14 43.1 +1.0
baz=11
KDJ Kajisay 2.59 33⇑*iP* Pb 20 14 09.3 -1.6
baz=32
KDJ ⇑*iS* Sb 20 14 42.9 +0.1
baz=32
TARG Taragay, Kyrgy 2.59 47⇑*iP* Pb 20 14 08.9 -2.3
baz=45
TARG ⇑*iS* Sb 20 14 43.0 -0.3
baz=45
KBK Karagaybulak 2.69 355 P Pb 20 14 11.9 -0.8
SNR=19
AAK Ala-Archa 2.73 348⇑*iP* Pb 20 14 10.9 -2.4
baz=48
AAK ⇑*iS* Sb 20 14 46.8 -0.1
baz=48
AAK Ala-Archa 2.73 348 P Pb 20 14 12.4 -0.9
SNR=12
AAK Ala-Archa 2.73 348 ⇓Pn Pb 20 14 11.5 -1.8
5.8nm,0.5s
AAK ⇓Lg Lg 20 14 48.1
9.8nm,0.7s
EKS2 Erkin-Say 2.92 338⇓*eP* Pb 20 14 13.6 -2.9
baz=39
EKS2 ⇓*iS* Sb 20 14 50.9 -1.3
baz=39
TKM2 Tokmak 2 2.95 4 P Pb 20 14 15.0 -2.2
SNR=6.1
TKM2 Tokmak 2 2.95 4 ⇓Pn Pn 20 14 13.2 +1.8
5.6nm,0.3s
TKM2 ⇑Lg Lg 20 14 53.9
9.7nm,0.5s
CHMS Chumysh 3.05 353 P Pb 20 14 16.3 -2.4
SNR=8.0
KST Kastek 3.11 9 *eP* Pg 20 14 22.9 -0.9
8.6nm,0.3s
KST *eS* Sg 20 15 05.1 +1.0
28nm,0.8s
KST Kastek 3.11 9 Pg Pg 20 14 22.9 -0.9
8.6nm,0.3s
KST Lg Lg 20 15 05.1
28nm,0.8s
MRKS Merke 3.17 331 *eP* Pg 20 14 25.5 +0.4
4.0nm,0.3s
MRKS *eS* Sg 20 15 09.0 +2.8
5.0nm,0.4s
MRKS Merke 3.17 331 Pg Pg 20 14 25.5 +0.4
4.0nm,0.3s
MRKS Lg Lg 20 15 09.0
5.0nm,0.4s
IZV Izvestkoviy 3.22 18 *eP* Pg 20 14 25.0 -1.0
6.2nm,0.6s
IZV *eS* Sg 20 15 08.7 +1.0
20nm,0.6s
IZV Izvestkoviy 3.22 18 Pg Pg 20 14 24.1 -1.9
7.2nm,0.5s
IZV Lg Lg 20 15 06.8
20nm,0.6s
MTBS Maitube 3.27 15 *eP* Pg 20 14 26.2 -0.8
4.2nm,0.3s
MTBS *eS* Sg 20 15 10.7 +1.4
14nm,0.3s
MTBS Maitube 3.27 15 Pg Pg 20 14 26.2 -0.8
4.2nm,0.3s
MTBS Lg Lg 20 15 10.7
14nm,0.3s
DGS Degeres 3.29 6 *eP* Pg 20 14 26.6 -0.6
2.2nm,0.4s
DGS *eS* Sg 20 15 11.1 +1.3
15nm,0.5s
DGS Degeres 3.29 6 Pg Pg 20 14 26.6 -0.6
2.2nm,0.4s
DGS Lg Lg 20 15 11.1
15nm,0.5s
TNSS Tian-Shan 3.31 22 *eP* Pg 20 14 26.0 -1.7
5.3nm,0.3s
TNSS *eS* Sg 20 15 10.2 -0.3
9.5nm,0.7s
TNSS Tian-Shan 3.31 22 Pg Pg 20 14 26.0 -1.7
5.3nm,0.3s
TNSS Lg Lg 20 15 10.2
9.5nm,0.7s
ANVS Anan'yevo 3.33 32⇑*iP* Pn 20 14 19.1 +2.5
baz=31
ANVS ⇑*iS* Sb 20 15 01.1 -3.1
baz=31
USP Ospenovka 3.34 350 P Sg 20 15 14.1 +2.5
SNR=6.0
BTK Batken 3.43 273⇑*iP* Pn 20 14 18.7 +0.8
baz=75
BTK ⇑*iS* Sn 20 15 00.4 +1.7
baz=75
MDOK Medeo 3.45 22 *eP* Pg 20 14 29.1 -1.3
3.1nm,0.5s
MDOK *eS* Sg 20 15 15.7 +0.6
14nm,0.8s
MDOK Medeo 3.45 22 Pg Pg 20 14 29.1 -1.3
3.1nm,0.5s
MDOK Lg Lg 20 15 15.7
14nm,0.8s
SGDS Sogindy 3.51 352 Pg Pg 20 14 30.8 -0.7
2.7nm,0.4s
SGDS Lg Lg 20 15 18.4
6.7nm,0.4s
KOTS Kotyrbulak 3.53 22 *eP* Pg 20 14 30.1 -2.0
5.0nm,0.4s
KOTS *eS* Sg 20 15 17.1 -0.7
80nm,0.6s
KOTS Kotyrbulak 3.53 22 Pg Pg 20 14 30.1 -2.0
5.0nm,0.4s
KOTS Lg Lg 20 15 17.1
80nm,0.6s
SATY Saty 3.87 36 *eP* Pg 20 14 36.4 -2.1
1.3nm,0.2s
SATY *eS* Sg 20 15 28.3 -0.4
7.2nm,0.4s
SATY Saty 3.87 36 Pg Pg 20 14 36.4 -2.1
1.3nm,0.2s
SATY Lg Lg 20 15 28.3
7.2nm,0.4s
KTBS Karatobe 3.88 15 *eP* Pg 20 14 35.9 -2.7
3.0nm,0.5s
KTBS *eS* Sg 20 15 27.2 -1.7
25nm,0.7s
KTBS Karatobe 3.88 15 Pg Pg 20 14 35.9 -2.7
3.0nm,0.5s
KTBS Lg Lg 20 15 27.2
25nm,0.7s
KUU Kurty 4.00 11 *eP* Pg 20 14 38.9 -1.9
1.3nm,0.2s
KUU *eS* Sg 20 15 32.5 -0.1
17nm,0.6s
KUU Kurty 4.00 11 Pg Pg 20 14 38.9 -1.9
1.3nm,0.2s
KUU Lg Lg 20 15 32.5
17nm,0.6s
UZB Uzynbulak 4.23 40 *eP* Pg 20 14 43.1 -2.3
0.7nm,0.2s
UZB *eS* Sg 20 15 39.5 -0.7
3.2nm,0.7s
UZB Uzynbulak 4.23 40 Pg Pg 20 14 43.1 -2.3
0.7nm,0.2s
UZB Lg Lg 20 15 39.5
3.2nm,0.7s
SHLS Shalkode 4.46 43 *eP* Pg 20 14 51.0 +1.1
2.6nm,0.5s
SHLS *eS* Sg 20 15 53.0 +5.3
5.8nm,0.7s
SHLS Shalkode 4.46 43 Pg Pg 20 14 51.0 +1.1
2.6nm,0.5s
SHLS Lg Lg 20 15 53.0
5.8nm,0.7s
IUG Iuzhnay 4.53 300 *eP* Pg 20 14 48.2 -2.8
0.9nm,0.4s
IUG *eS* Sg 20 15 48.1 -1.5
9.8nm,0.8s
PDGK Podgornoye 4.60 42 Pg Pg 20 14 49.4 -3.0
1.1nm,0.6s
PDGK Lg Lg 20 15 50.3
2.4nm,0.6s
PDGK Podgornoye 4.60 42 ⇑Pg Pb 20 14 48.1 +2.9
2.6nm,0.8s
PDGK ⇑Lg Lg 20 15 49.1
4.6nm,0.9s

MNBS Baschi 4.71 28 *eP* Pg 20 14 51.4 -3.2
2.9nm,0.7s
MNBS *eS* Sg 20 15 53.6 -2.0
5.3nm,0.6s
MNBS Baschi 4.71 28 Pg Pg 20 14 51.4 -3.2
2.9nm,0.7s
MNBS Lg Lg 20 15 53.6
5.3nm,0.6s
KK31 Karatay Array 4.75 313 ⇑Pg Pb 20 14 50.6 +2.8
0.2nm,0.3s,baz=142,slow=14,SNR=5.4
KK31 ⇑Lg Lg 20 15 56.4
0.7nm,0.4s,baz=131,slow=30,SNR=3.5

IDC 26 20:19:33.0±3.1, 6°.14S×146°.87E, h0km, mb2.8/1, mb1 3.3/3, mb1mx3.2/29, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=73.7km s-min=42.0km az=92.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.26**	**175**	Pn	Pn	20 20 26.5	+1.1
2.0nm,0.3s,baz=354,slow=16,SNR=2.6							
PMG				Sn	Sn	20 20 58.8	-6.1
4.8nm,0.3s,baz=201,slow=14,SNR=2.4							
WRA	**Warramunga Arr**	**18.35**	**220**	P	Pn	20 23 47.4	-1.7
0.0nm,0.3s,baz=44,slow=11,SNR=4.2							
ASAR	**Alice Springs**	**21.43**	**214**	P	P	20 24 22.7	-0.2
0.4nm,0.8s,baz=46,slow=8.5,SNR=5.8							
TORD	**Torodi Ar. Bea**	**145.00**	**284**	PKPbc	PKPab	20 39 12.2	-0.4
0.8nm,0.7s,baz=93,slow=3.4,SNR=4.6							

*IDC **26** 20:31:57.7±1.2, 6°.30S×146°.89E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.6/28, mbtmp3.5/8, ML3.2/1, Error ellipse: s-maj=36.6km s-min=21.5km az=95.0*

ISC 26 20:32:04.6±1.1, 6°.4S±0°.1×146°.8E±0°.2, h49km, n12, σ1§47/12, mb3.5/6, 1C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.01**	**174**	Pn	**Pn**	**20 32 47.9**	**-2.1**
4.0nm,0.3s,baz=19,slow=8.0,SNR=7.4							
PMG				Sn	**Sn**	**20 33 25.7**	**+0.9**
4.7nm,0.3s,baz=200,slow=21,SNR=3.6							
WRA	**Warramunga Arr**	**18.12**	**221**	P	**Pn**	**20 36 11.9**	**-1.0**
0.1nm,0.3s,baz=46,slow=12,SNR=6.0							
ASAR	**Alice Springs**	**21.19**	**215**	P	**P**	**20 36 46.9**	**+0.6**
0.9nm,0.7s,baz=51,slow=8.5,SNR=11							
FITZ	**Fitzroy Crossi**	**23.71**	**239**	P	**P**	**20 37 11.5**	**-0.8**
1.4nm,0.8s,baz=344,slow=7.5,SNR=6.7							
STKA	**Stephens Creek**	**25.82**	**190**	P	**P**	**20 37 31.7**	**+0.3**
0.9nm,0.7s,baz=23,slow=13,SNR=1.5							
CMAR	**Chiang Mai Arr**	**53.27**	**299**	P	**P**	**20 41 18.9**	**0.0**
0.4nm,0.6s,baz=119,slow=5.8,SNR=2.0							
VNDA	**Vanda**	**71.53**	**177**	P	**P**	**20 43 20.9**	**+0.9**
0.3nm,0.6s,baz=352,slow=5.0,SNR=2.0							
ILAR	**Eielson Array**	**85.91**	**23**	P	**P**	**20 44 38.0**	**-1.0**
0.4nm,0.5s,baz=251,slow=5.3,SNR=7.7							
SYO	**Syowa Base**	**90.17**	**200**	‖*eP*	**P**	**20 45 00.0**	**+0.7**
SYO	**Syowa Base**	**90.17**	**200**	‖*iP*	**P**	**20 45 02.5**	**+3.2**
SYO	**Syowa Base**	**90.17**	**200**	‖*eP*	P	20 45 07.1	+7.8
TORD	**Torodi Ar. Bea**	**145.01**	**284**	PKPbc	**PKPdf**	**20 51 37.7**	**+0.1**
1.7nm,0.7s,baz=66,slow=3.2,SNR=11							

*IDC **26** 20:34:09.9±0.5, 6°.46S×146°.83E, h0km, mb4.8/20, mb1 4.9/25, mb1mx4.9/31, mbtmp4.8/25, ML4.4/4, MS4.3/26, Ms1 4.3/26, ms1mx4.3/29, Error ellipse: s-maj=16.1km s-min=9.9km az=92.0*

*BJI **26** 20:34:13.8±0.0, 6°.27S×147°.36E, h52km, mB5.3/45, mb4.8/68, Ms4.6/38, Ms7 4.4/38*

*MOS **26** 20:34:13.4±0.9, 6°.51S×146°.76E, h38km, mb5.2/18, Error ellipse: s-maj=9.5km s-min=5.6km az=107.6*

*GCMT **26** 20:34:15.0±0.2, 6°.58S±0°.01×146°.89E±0°.01, h12km, MW5.1/120, Moment Tensor Solution. s66,c92; s120,c198; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.59±.09; $M_{\theta\theta}$-2.07±.09; $M_{\phi\phi}$-3.51±.10; $M_{r\theta}$0.83±.28; $M_{\theta\phi}$2.48±.07; $M_{\phi r}$-0.92±.29; Best double couple: M_o5.61900×10^{16} NP1:ϕ_s324.00000°, δ39.00000°, λ92.00000°. NP2:ϕ_s142.00000°, δ51.00000°, λ89.00000°. Principal axes: T 5.7290, Plg84.0000°, Azm43.0000°; N -0.2100, Plg1.0000°, Azm143.0000°; P -5.5090, Plg6.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **26** 20:34:16.0±1.7, 6°.52S±0°.06×146°.79E±0°.06, h48km±4km, mb5.3/168 Error ellipse: s-maj=9.0km s-min=8.0km az=54.0*

*UNK **26** 20:34:16.3, 6°.53S×146°.81E, h52km*

*DJA **26** 20:34:18.2±0.4, 7°.5±3°×147°.7E±°, h63km±4km, M5.0/55, mB5.4/37, mb5.0/55, MLv5.4/4, Mw(mB)4.9/37, Mwp5.1/5*

ISC 26 20:34:16.4±0.2, 6°.58S±0°.04×146°.79E±0°.04, h49km, n427, σ1§47/404, mb5.2/150, MS4.4/38, 12C-3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.83**	**173**	Pn	**Pn**	**20 34 59.1**	**-0.1**
62nm,0.3s,baz=360,slow=11,SNR=17							
PMG				Sn	**Sn**	**20 35 36.8**	**+4.7**
87nm,0.3s,baz=2.4,slow=10,SNR=5.1							
KRVT	**Keravat (AS076**	**5.68**	**67**	Pn	**Pn**	**20 35 36.4**	**-1.9**
31nm,0.3s,baz=254,slow=16,SNR=40							
KRVT				Sn	**Sn**	**20 36 45.2**	**+2.9**
baz=23,slow=21,SNR=1.0							
KRVT				LR	LR	20 37 47.2	
comp=Z,7μm,19.8s,baz=218,slow=39							
RABL	**Rabaul**	**5.86**	**66**	Pn	**Pn**	**20 35 39.4**	**-1.3**
JAY	**Jayapura**	**7.28**	**303**	Pn	**Pn**	**20 36 00.5**	**+0.2**
2.1nm,0.3s,baz=126,slow=11,SNR=15							
JAY				Sn	**Sn**	**20 37 19.9**	**-1.8**
baz=6.7,slow=20,SNR=1.1							
JAY				LR	LR	20 39 32.2	
comp=Z,3μm,19.0s,baz=110,slow=44							
JAY	**Jayapura**	**7.28**	**303**	P	**Pn**	**20 36 02.6**	**+2.3**
0.4nm849nm43nm,1.4s							
GENI	**Genyem**	**7.69**	**301**	P	**Pn**	**20 36 07.2**	**+1.3**
2.6nm3μm3μm158nm,1.0s							
COEN	**Coen**	**8.15**	**206**	Pn	**Pn**	**20 36 12.5**	**+0.4**
SRPI	**Serui, Papua**	**11.51**	**294**	P	Pn	20 37 09.5	+11
HNR	**Honiara**	**13.34**	**103**	Pn	**Pn**	**20 37 23.1**	**0.0**
baz=239,slow=21,SNR=14							
HNR	**Honiara**	**13.34**	**103**	P	**Pn**	**20 37 22.9**	**-0.2**
HNR	**Honiara**	**13.34**	**103**	Pn	**Pn**	**20 37 22.9**	**-0.2**
CTA	**Charters Tower**	**13.44**	**182**	Pn	**Pn**	**20 37 25.7**	**+1.2**
1.2nm,0.3s,baz=3.1,slow=14,SNR=26							
CTA				LR	LR	20 42 36.0	
comp=Z,2μm,19.2s,baz=4.5,slow=37							
CTAO	**Charters Tower**	**13.44**	**182**	P	**Pn**	**20 37 26.4**	**+1.8**
CTAO	**Charters Tower**	**13.44**	**182**	Pn	**Pn**	**20 37 26.4**	**+1.8**
FAKI	**Fak Fak**	**14.94**	**283**	P	**P**	**20 37 49.7**	**+0.5**
SAUI	**Saumlaki**	**15.43**	**264**		**P**	**20 37 53.1**	**-1.5**
SIJI	**Sorong**	**16.49**	**289**	Pn	**Pn**	**20 38 03.6**	**-0.9**
1.0nm,0.3s,baz=78,slow=8.7,SNR=20							
SIJI				LR	LR	20 45 46.9	
comp=Z,2μm,21.7s,baz=105,slow=42							
MTN	**Manton Dam**	**16.63**	**247**	Pn	**Pn**	**20 38 05.9**	**-0.4**
MTN				IAmb	IAmb	20 38 09.0	
comp=Z,349nm,1.9s							
PATS	**Pohnpei**	**17.60**	**41**		**P**	**20 38 19.4**	**+0.6**
WB0	**Warramunga Arr**	**17.80**	**221**	P	**Pn**	**20 38 20.7**	**0.0**
WR0	**Warramunga Arr**	**17.84**	**221**	P	**Pn**	**20 38 21.0**	**-0.2**
WRAB	**Tennant Creek**	**17.95**	**221**	*ceP*	**Pn**	**20 38 21.8**	**-0.7**
WRAB				pmax	pmax		
comp=Z,84nm,1.7s							
WRAB	**Tennant Creek**	**17.95**	**221**	P	**Pn**	**20 38 22.5**	**0.0**
WB2	**Warramunga Arr**	**17.95**	**221**	P	**Pn**	**20 38 22.7**	**+0.1**
WRA	**Warramunga Arr**	**17.96**	**221**	P	**P**	**20 38 23.1**	**+0.4**
comp=Z,1.1nm,0.3s,baz=47,slow=12,SNR=64							
WRA				S	**Sn**	**20 41 37.3**	**-5.0**
comp=Z,0.2nm,0.3s,baz=38,slow=23,SNR=2.4							
WRA				LR	LR	20 45 48.8	
comp=Z,2μm,20.9s,baz=40,slow=39							
WRA				ScP	**ScP**	**20 46 36.1**	**+8.3**
comp=Z,0.0nm,0.3s,baz=44,slow=2.6,SNR=5.0							
WRA	**Warramunga Arr**	**17.96**	**221**	P	**Pn**	**20 38 21.2**	**-1.5**
WRA						20 41 37.3	
WRA				pmax	pmax		
comp=Z,1.0nm,0.9s							
WRA	**Warramunga Arr**	**17.96**	**221**	P	**Pn**	**20 38 21.2**	**-1.5**
MSAI	**Masohi**	**18.08**	**279**	P	Pn	20 38 37.5	+13

EIDS	**Eidsvold**	**19.13**	**168**		**Pn**	**20 38 36.4**	**-0.4**
KNRA	**Kununurra**	**19.85**	**241**	P	**P**	**20 38 42.6**	**-0.8**
KNRA				IAmb	IAmb	20 38 56.6	
comp=Z,170nm,0.9s							
NLAI	**Namlea**	**19.89**	**279**	P	**Pn**	**20 38 46.9**	**+1.0**
comp=Z,2μmcomp=Z,91nm,1.2s							
GUMO	**Guam**	**20.13**	**355**	P	**P**	**20 38 46.0**	**-0.4**
comp=Z,30nm,0.4s,baz=174,slow=12,SNR=4.5							
GUMO				LR	LR	20 46 07.4	
comp=Z,591nm,18.3s,baz=178,slow=36							
GUMO	**Guam**	**20.13**	**355**	P	**P**	**20 38 46.0**	**-0.4**
GUMO				pmax	pmax		
comp=Z,662nm,1.5s							
GUMO	**Guam**	**20.13**	**355**	IAmb	IAmb	20 38 51.9	
comp=Z,662nm,1.4s							
TNTI	**Ternate**	**20.71**	**290**	P	Pn	20 38 54.8	-0.8
comp=Z,1μmcomp=Z,3μmcomp=Z,136nm,1.6s							
TNTI	**Ternate**	**20.71**	**290**		**P**	**20 38 54.2**	**+1.3**
AS31	**Alice Springs**	**21.02**	**215**	P	**P**	**20 38 55.8**	**-0.3**
ASAR	**Alice Springs**	**21.03**	**215**	P	**P**	**20 38 57.9**	**+1.7**
comp=Z,36nm,0.9s,baz=40,slow=11,SNR=59							
ASAR				S	Sn	20 42 52.4	-3.7
comp=Z,2.7nm,0.9s,baz=34,slow=23,SNR=3.3							
ASAR				ScP	**ScP**	**20 46 43.6**	**+8.8**
comp=Z,1.0nm,0.8s,baz=15,slow=3.8,SNR=2.6							
ASAR				LR	LR	20 47 44.3	
comp=Z,2μm,21.5s,baz=36,slow=38							
ASAR	**Alice Springs**	**21.03**	**215**	P	**P**	**20 38 56.1**	**-0.1**
SANI	**Sanana**	**21.22**	**281**	P	**P**	**20 39 01.4**	**+3.1**
comp=Z,2μmcomp=Z,2μmcomp=Z,96nm,0.7s							
SANVU	**Saraoutou**	**21.87**	**115**	P	**P**	**20 39 05.2**	**-0.1**
SANVU				IAmb	IAmb	20 39 06.0	
comp=Z,53nm,0.7s							
SOEI	**Soe**	**22.51**	**260**	P	P	20 39 24.4	+12
SOEI	**Soe**	**22.51**	**260**	P	**P**	**20 39 13.8**	**+1.5**
SOEI				IAmb	IAmb	20 40 02.9	
comp=Z,140nm,1.1s							
BATI	**Baumata**	**23.15**	**259**	P	**P**	**20 39 19.8**	**+1.0**
comp=Z,28nm,0.6s,baz=142,slow=2.5,SNR=9.8							
BATI				LR	LR	20 51 31.5	
comp=Z,3μm,18.6s,baz=121,slow=45							
BATI	**Baumata**	**23.15**	**259**	P	**P**	**20 39 21.1**	**+2.3**
comp=Z,1μmcomp=Z,67nm,1.2s							
FITZ	**Fitzroy Crossi**	**23.59**	**239**	P	**P**	**20 39 21.1**	**-1.8**
comp=Z,40nm,0.8s,baz=0.2,slow=6.2,SNR=51							
FITZ				LR	LR	20 50 21.4	
comp=Z,1μm,18.2s,baz=271,slow=41							
FITZ	**Fitzroy Crossi**	**23.59**	**239**	P	**P**	**20 39 21.5**	**-1.4**
KMSI	**Cibinong**	**23.84**	**286**	P	**P**	**20 39 26.0**	**+0.7**
comp=Z,3μmcomp=Z,241nm,0.6s							
ARMA	**Armidale**	**24.15**	**170**	P	**P**	**20 39 28.3**	**+0.2**
MMRI	**Maumere**	**24.42**	**264**	P	**P**	**20 39 30.1**	**-0.5**
comp=Z,1μmcomp=Z,74nm,1.0s							
MMRI	**Maumere**	**24.42**	**264**	P	**P**	**20 39 29.9**	**-0.7**
MMRI				IAmb	IAmb	20 39 44.3	
comp=Z,52nm,0.6s							
DZM	**Mont Dzumac**	**24.44**	**131**	*eP*	**P**	**20 39 30.4**	**-0.5**
comp=Z,199nm,1.6s							
DZM				*eS*	**S**	**20 43 44.9**	**-2.9**
comp=Z,340nm,23.1s							
DZM				*eLR*	LR	20 45 37.2	
comp=Z,2μm,22.8s							
DZM	**Mont Dzumac**	**24.44**	**131**	P	**P**	**20 39 31.0**	**+0.1**
comp=Z,14nm,0.7s,baz=320,slow=8.7,SNR=32							
DZM				LR	LR	20 47 47.5	
comp=Z,909nm,21.4s,baz=303,slow=33							
DZM	**Mont Dzumac**	**24.44**	**131**	P	**P**	**20 39 30.2**	**-0.7**
DZM				IAmb	IAmb	20 39 34.1	
comp=Z,156nm,1.6s							
LUWI	**Luwuk**	**24.58**	**282**	P	**P**	**20 39 34.4**	**+2.4**
comp=Z,4μmcomp=Z,260nm,1.0s							
LUWI	**Luwuk**	**24.58**	**282**	P	**P**	**20 39 32.2**	**+0.2**
GTOI	**Gorontalo**	**24.79**	**286**	P	**P**	**20 39 35.9**	**+2.0**
comp=Z,2μmcomp=Z,125nm,0.7s							
EDFI	**Ende, Flores**	**24.96**	**263**	P	**P**	**20 39 35.4**	**-0.3**
comp=Z,18nm,0.7s							
DAV	**Davao City (W)**	**25.13**	**302**	LR	LR	20 50 38.0	
comp=Z,221nm,18.1s,baz=156,slow=39							
DAV	**Davao City (W)**	**25.13**	**302**	P	**P**	**20 39 36.5**	**-0.5**
STKA	**Stephens Creek**	**25.63**	**190**	P	**P**	**20 39 42.7**	**+1.2**
comp=Z,14nm,0.7s,baz=355,slow=9.8,SNR=38							
STKA				LR	LR	20 50 53.8	
comp=Z,1μm,18.1s,baz=8.7,slow=39							
STKA	**Stephens Creek**	**25.63**	**190**	P	**P**	**20 39 41.2**	**-0.2**
STKA				pmax	pmax		
comp=Z,4.0nm,0.9s							
STKA	**Stephens Creek**	**25.63**	**190**	P	**P**	**20 39 41.2**	**-0.2**
KAPI	**Kappang**	**26.94**	**272**	P	**P**	**20 39 58.4**	**+4.9**
comp=Z,7.2nm,0.3s,baz=64,slow=14,SNR=5.3							
KAPI				LR	LR	20 52 24.2	
comp=Z,258nm,21.2s,baz=58,slow=41							
KAPI	**Kappang**	**26.94**	**272**	P	**P**	**20 39 58.4**	**+4.9**
KAPI				pmax	pmax		
comp=Z,109nm,1.8s							
KAPI	**Kappang**	**26.94**	**272**	IAmb	IAmb	20 40 22.8	
comp=Z,109nm,1.8s							
MPSI	**Mapaga**	**27.70**	**283**	P	**P**	**20 40 01.2**	**+1.0**
comp=Z,572nmcomp=Z,21nm,1.1s							
BBOO	**Buckleboo**	**27.95**	**200**	P	**P**	**20 40 02.6**	**+0.4**
FORT	**Forrest**	**29.80**	**214**	P	**P**	**20 40 18.6**	**-0.2**
PSA00	**Pilbara Seismi**	**30.00**	**237**	P	**P**	**20 40 20.7**	**0.0**
PSA00	**Pilbara Seismi**	**30.00**	**237**	P	**P**	**20 40 20.9**	**+0.3**
PSA00				IAmb	IAmb	20 40 36.7	
comp=Z,8.8nm,0.8s							
MYLDM	**Lahad Datu**	**30.56**	**292**	P	**P**	**20 40 25.2**	**-0.4**
MYLDM				IAmb	IAmb	20 40 48.9	
comp=Z,61nm,1.2s							
TOO	**Toolangi**	**30.87**	**182**	P	**P**	**20 40 28.1**	**-0.1**
TOO				pmax	pmax		
comp=Z,14nm,0.9s							
TOO	**Toolangi**	**30.87**	**182**	P	**P**	**20 40 28.1**	**-0.1**
WAKE	**Wake Island**	**32.30**	**37**	P	**P**	**20 40 40.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**32.40**	**265**	P	**P**	**20 40 42.1**	**+0.2**
MSVF	**Nonsavu**	**32.45**	**113**	P	**P**	**20 40 42.2**	**-0.2**
MSVF				pmax	pmax		
comp=Z,85nm,1.9s							
MSVF	**Nonsavu**	**32.45**	**113**	P	**P**	**20 40 42.2**	**-0.2**
MSVF				IAmb	IAmb	20 40 46.0	
comp=Z,85nm,1.9s							
KKM	**Kota Kinabalu**	**32.99**	**292**	P	**P**	**20 40 45.6**	**-1.5**
KKM				IAmb	IAmb	20 40 49.1	
comp=Z,86nm,1.6s							
JCJ	**Chichijima**	**33.77**	**353**	P	**P**	**20 40 54.6**	**+1.1**
GIRL	**Giralia**	**35.20**	**240**	P	**P**	**20 41 06.7**	**+0.7**
JMZ	**Minamidaito 2**	**35.58**	**335**	P	**P**	**20 41 10.3**	**+1.1**
SBUM	**Sibu**	**35.65**	**283**	P	**P**	**20 41 11.0**	**+0.9**
SBUM				IAmb	IAmb	20 41 13.6	
comp=Z,56nm,1.8s							
SBUM	**Sibu**	**35.65**	**283**	P	**P**	**20 41 11.0**	**+0.9**
MORW	**Morawa**	**36.63**	**229**	P	**P**	**20 41 17.5**	**-0.8**
MORW				IAmb	IAmb	20 41 44.0	
comp=Z,35nm,1.2s							
KSM	**Kuching**	**37.28**	**281**	P	**P**	**20 41 23.7**	**-0.3**
KSM	**Kuching**	**37.28**	**281**	P	**P**	**20 41 25.0**	**+1.0**
OUZ	**Omahuta**	**37.69**	**143**	P	**P**	**20 41 29.3**	**+2.2**
OUZ				IAmb	IAmb	20 41 53.2	
comp=Z,38nm,1.6s							
NWAO	**Narrogin (SRO)**	**37.96**	**222**	P	**P**	**20 41 27.7**	**-1.8**
NWAO				pmax	pmax		
comp=Z,133nm,1.8s							
NWAO	**Narrogin (SRO)**	**37.96**	**222**	P	**P**	**20 41 27.7**	**-1.8**
NWAO				IAmb	IAmb	20 41 37.9	
comp=Z,106nm,1.8s							
NWAO	**Narrogin (SRO)**	**37.96**	**222**	P	**P**	**20 41 28.0**	**-1.5**
NWAO				IAmb	IAmb	20 41 37.9	
comp=Z,133nm,1.8s							
YULB	**Yu-li**	**38.83**	**321**	P	**P**	**20 41 36.6**	**-0.2**
TPUB	**Ta-pu**	**39.18**	**320**	P	**P**	**20 41 39.1**	**-0.8**
TPUB				IAmb	IAmb	20 41 48.1	
comp=Z,26nm,0.7s							
NACB	**Ninganchiao**	**39.22**	**322**	P	**P**	**20 41 37.9**	**-2.2**
SSLB	**Suanglung**	**39.33**	**321**	P	**P**	**20 41 41.0**	**-0.1**
YHNB	**Yeheng**	**39.72**	**322**	P	**P**	**20 41 42.0**	**-2.3**
YHNB				IAmb	IAmb	20 42 12.7	
comp=Z,48nm,1.0s							
TATO	**Taipei**	**39.88**	**323**	P	**P**	**20 41 44.5**	**-1.0**
JHJ2	**Mitsune**	**40.02**	**351**	P	**P**	**20 41 47.3**	**+0.7**
PPBI	**Pangkal Pinang**	**40.76**	**274**	P	**P**	**20 41 53.8**	**+0.7**
comp=Z,689nmcomp=Z,24nm,0.8s							
XMIS	**Christmas Isla**	**40.84**	**262**	P	**P**	**20 41 53.4**	**-0.3**
JSU	**Suzuyama**	**40.96**	**339**	P	**P**	**20 41 53.0**	**-1.4**
QRZ	**Quartz Range**	**41.13**	**150**	P	**P**	**20 41 56.6**	**+0.9**
QRZ				IAmb	IAmb	20 42 21.4	
comp=Z,158nm,1.7s							
KNTN	**Kanton**	**41.52**	**87**	P	**P**	**20

URZ	**Urewera**	**41.82 143**	P	**P**	**20 42 02.6 +1.2**
	comp=Z,4.1nm,0.6s,baz=280,slow=6.1,SNR=2.1				
URZ			LR	LR	20 58 08.0
	comp=Z,654nm,21.2s,baz=0.5,slow=34				
URZ	**Urewera**	**41.82 143**	P	**P**	**20 41 59.1 -2.3**
NNZ	**Nelson**	**41.85 150**	P	**P**	**20 42 00.4 -1.2**
NNZ			IAmb	IAmb	20 42 18.9
	comp=Z,96nm,1.5s				
JMN	**Monobe**	**41.91 344**	P	**P**	**20 42 00.1 -2.2**
JMN			IAmb	IAmb	20 42 29.4
	comp=Z,49nm,1.1s				
FOZ	**Fox Glacier**	**42.01 155**	P	**P**	**20 42 04.9 +2.0**
FOZ			IAmb	IAmb	20 42 35.9
	comp=Z,84nm,1.6s				
THZ	**Tophouse**	**42.02 151**	P	**P**	**20 42 03.5 +0.4**
THZ			IAmb	IAmb	20 42 15.8
	comp=Z,36nm,0.9s				
BKZ	**Black Stump Fm**	**42.06 145**	P	**P**	**20 42 03.9 +0.4**
MXZ	**Matakaoa Point**	**42.09 142**	P	**P**	**20 42 02.6 -1.1**
MXZ			IAmb	IAmb	20 42 11.0
	comp=Z,67nm,1.1s				
JNU	**Nakatsue**	**42.27 340**	P	**P**	**20 42 03.7 -1.5**
JNU			IAmb	IAmb	20 42 06.5
	comp=Z,62nm,1.0s				
TUWZ	**Tuamarina**	**42.29 149**	P	**P**	**20 42 05.8 +0.6**
DLV	**T Lat**	**42.30 296**	P	**P**	**20 42 05.3 -0.6**
MDSI	**Maura Dua**	**42.45 271**	P	**P**	**20 42 05.8 -1.2**
	comp=Z,14nm,1.6s				
BSWZ	**Blackbirch Sta**	**42.47 150**	P	**P**	**20 42 07.0 +0.3**
LTZ	**Lake Taylor**	**42.50 152**	P	**P**	**20 42 07.7 +0.7**
LTZ			IAmb	IAmb	20 43 29.5
	comp=Z,80nm,1.7s				
DSRI	**Dabo**	**42.54 276**	P	**P**	**20 42 08.2 +0.5**
	comp=Z,17nm,0.8s				
SNZO	**South Karori**	**42.59 149**	P	**P**	**20 42 08.8 +1.1**
SNZO			IAmb	IAmb	20 43 23.8
	comp=Z,115nm,1.2s				
RPZ	**Rata Peaks**	**42.68 154**	P	**P**	**20 42 09.3 +0.9**
RPZ			IAmb	IAmb	20 42 20.9
	comp=Z,32nm,0.9s				
BHW	**Baring Head**	**42.75 149**	P	**P**	**20 42 09.7 +0.8**
OXZ	**Oxford**	**42.82 153**	P	**P**	**20 42 10.2 +0.7**
OXZ			IAmb	IAmb	20 42 33.9
	comp=Z,111nm,1.8s				
KHZ	**Kahutara**	**42.83 151**	P	**P**	**20 42 09.6 +0.1**
KHZ			IAmb	IAmb	20 42 50.4
	comp=Z,104nm,1.6s				
MLZ	**Mavora Lakes**	**42.85 158**	P	**P**	**20 42 11.0 +1.2**
MLZ			IAmb	IAmb	20 43 07.2
	comp=Z,124nm,1.8s				
MSWZ	**Moikau Station**	**42.95 148**	P	**P**	**20 42 10.4 -0.2**
BFZ	**Birch Farm**	**42.97 147**	P	**P**	**20 42 11.9 +1.1**
BFZ			IAmb	IAmb	20 42 46.4
	comp=Z,59nm,1.0s				
JYT	**Yasato**	**43.03 352**	P	**P**	**20 42 11.9 +0.7**
JYT			IAmb	IAmb	20 42 19.3
	comp=Z,92nm,1.3s				
PLWZ	**Palliser**	**43.07 148**	P	**P**	**20 42 08.7 -2.9**
WHZ	**Wether Hill Ro**	**43.24 158**	P	**P**	**20 42 10.8 -2.0**
JHS	**Saijyo**	**43.32 344**	P	**P**	**20 42 10.7 -2.9**
JHS			IAmb	IAmb	20 42 20.7
	comp=Z,36nm,1.0s				
MJAR	**Matsushiro Arr**	**43.64 350**	P	**P**	**20 42 14.8 -1.3**
	comp=Z,5.6nm,0.8s,baz=176,slow=8.1,SNR=4.9				
MJAR			LR	LR	21 00 00.7
	comp=Z,111nm,19.0s,baz=155,slow=36				
MJAR	**Matsushiro Arr**	**43.64 350**	P	**P**	**20 42 14.9 -1.3**
MJAR			pmax	pmax	
	comp=Z,38nm,2.0s				
MJAR	**Matsushiro Arr**	**43.64 350**	IAmb	IAmb	20 42 16.9
	comp=Z,38nm,1.9s				
MAJO	**Matsushiro**	**43.64 350**	*i* P	**P**	**20 42 16.9 +0.7**
MAJO			pmax	pmax	
	comp=Z,10.0nm,0.6s				
MAT	**Matsushiro**	**43.64 350**	P	**P**	**20 42 14.3 -1.9**
MYKOM	**Kota Tinggi**	**43.66 280**	IAmb	IAmb	20 42 19.9
	comp=Z,60nm,1.5s				
MYKOM	**Kota Tinggi**	**43.66 280**	P	**P**	**20 42 18.0 +1.3**
JTU	**Tsushima**	**44.06 339**	P	**P**	**20 42 18.2 -1.3**
JTU			IAmb	IAmb	20 43 52.9
	comp=Z,133nm,1.4s				
QIZ	**Qiongzhong**	**44.41 306**	P	**P**	**20 42 22.8 +0.1**
QIZ			pP	**pP**	**20 42 34.8 -1.2**
QIZ			S	**S**	**20 48 56.8 +2.5**
QIZ			sS	**sS**	**20 49 15.5 -1.2**
QIZ			pmax	pmax	
	comp=Z,20nm,1.3s				
QIZ			LR	LR	
	comp=Z,220nm,14.7s				
QIZ			LR	LR	
	comp=Z,160nm,20.8s				
QIZ			LR	LR	
	comp=Z,300nm,22.6s				
QIZ	**Qiongzhong**	**44.41 306**	P	**P**	**20 42 22.9 +0.2**
SDSI	**Sungai Dareh**	**45.59 275**	P	**P**	**20 42 32.1 0.0**
	comp=Z,20nm,1.1s				
UBPT	**Khong Chiam**	**46.34 298**	P	**P**	**20 42 37.9 -0.1**
UBPT			IAmb	IAmb	20 42 40.4
	comp=Z,78nm,1.6s				
TJN	**Taejon**	**46.45 338**	*ce*P	**P**	**20 42 40.8 +2.3**
IPM	**Ipoh**	**46.98 282**	P	**P**	**20 42 44.0 +0.9**
KSRS	**Korea Array**	**47.21 339**	P	**P**	**20 42 44.0 -0.5**
	comp=Z,15nm,0.7s,baz=156,slow=8.9,SNR=61				
KSRS			LR	LR	21 02 45.1
	comp=Z,263nm,18.7s,baz=160,slow=36				
KSAR	**Wonju Array Be**	**47.22 339**	P	**P**	**20 42 43.7 -0.8**
KSAR	**Wonju Array Be**	**47.22 339**	P	**P**	**20 42 43.7 -0.8**
KS19	**Wonju Array Si**	**47.28 339**	P	**P**	**20 42 43.9 -1.1**
JTM	**Tenmabayashi**	**47.42 354**	IAmb	IAmb	20 42 50.7
	comp=Z,51nm,1.0s				
KULM	**Kulim**	**47.54 283**	P	**P**	**20 42 47.3 -0.1**
KULM			IAmb	IAmb	20 42 51.0
	comp=Z,82nm,1.6s				
KULM	**Kulim**	**47.54 283**	P	**P**	**20 42 48.0 +0.6**
MNSI	**Mandailing Nat**	**47.68 277**	P	**P**	**20 42 46.6 -1.9**
	comp=Z,26nm,0.5s				
INCN	**Inchon**	**47.70 338**	P	**P**	**20 42 47.6 -0.7**
INCN			pmax	pmax	
	comp=Z,30nm,0.7s				
INCN	**Inchon**	**47.70 338**	P	**P**	**20 42 47.6 -0.7**
INCN			IAmb	IAmb	20 42 49.4
	comp=Z,30nm,0.7s				
WHN	**Wuhan**	**48.25 322**	⇓P	**P**	**20 42 53.5 +0.9**
WHN			pmax	pmax	
	comp=Z,210nm,2.2s				
RPSI	**Rantau Prapat**	**48.66 279**	P	**P**	**20 42 55.8 -0.3**
RPSI			IAmb	IAmb	20 43 04.1
	comp=Z,46nm,1.2s				
PSI	**Prapat**	**48.68 280**	P	**P**	**20 42 55.8 -0.6**
PSI			pmax	pmax	
	comp=Z,46nm,1.2s				
SLVN	**Son La**	**50.39 305**	P	**P**	**20 43 10.6 +1.4**
SLVN			IAmb	IAmb	20 43 12.1
	comp=Z,71nm,1.9s				
TPTI		**50.48 280**	P	**P**	**20 43 07.7 -2.2**
	comp=Z,569nmcomp=Z,28nm,1.1s				
TIA	**Tai'an**	**50.86 329**	P	**P**	**20 43 10.8 -1.6**
TIA			pmax	pmax	
	comp=Z,5.0nm,0.9s				
TIA			pmax	pmax	
	comp=Z,200nm,3.5s				
TIA			LR	LR	
	comp=Z,170nm,12.1s				
TIA			LR	LR	
	comp=Z,100nm,8.8s				
TIA			LR	LR	
	comp=Z,170nm,12.8s				
GYA	**Guiyang**	**50.91 312**	*e*P	**P**	**20 43 15.3 +2.2**
GYA			pmax	pmax	
	comp=Z,11nm,1.5s				
GYA			pmax	pmax	
	comp=Z,210nm,5.7s				
GYA			LR	LR	
	comp=Z,140nm,13.9s				
GYA			LR	LR	
	comp=Z,170nm,16.8s				
GYA			LR	LR	
	comp=Z,180nm,17.4s				
LHMI	**Lhok Sumawe**	**51.11 282**	P	P	20 43 26.6 +12
ENH	**Enshi**	**51.20 318**	IAmb	IAmb	20 43 18.4
	comp=Z,64nm,1.8s				
MLSI	**Meulaboh, Aceh**	**51.44 281**	P	**P**	**20 43 16.8 -0.3**
	comp=Z,116nm,1.1s				
USRK	**Ussuriysk Ar.**	**52.28 347**	P	**P**	**20 43 22.6 -0.2**
	comp=Z,10.0nm,0.5s,baz=164,slow=7.4,SNR=44				
USRK			LR	LR	21 05 15.2
	comp=Z,83nm,19.4s,baz=149,slow=36				
USRK	**Ussuriysk Ar.**	**52.28 347**	P	**P**	**20 43 22.0 -0.8**
USRK	**Ussuriysk Ar.**	**52.28 347**	P	**P**	**20 43 22.0 -0.8**
SNY	**Shenyang**	**52.64 338**	⇓P	**P**	**20 43 25.0 -0.5**
SNY			pmax	pmax	
	comp=Z,24nm,1.8s				
KMI	**Kunming**	**53.18 308**	⇓*e*P	**P**	**20 43 31.8 +1.6**
KMI			pP	pP	20 43 46.0 +2.2
KMI			sP	sP	20 43 51.0 +1.5
KMI			pmax	pmax	
	comp=Z,18nm,2.0s				
KMI			LR	LR	
	comp=Z,230nm,18.7s				
KMI			LR	LR	
	comp=Z,110nm,8.1s				
KMI			LR	LR	
	comp=Z,310nm,23.4s				
MDJ	**Mudanjiang**	**53.26 345**	P	**P**	**20 43 29.4 -0.6**
MDJ			IAmb	IAmb	20 43 30.1
	comp=Z,14nm,0.7s				
CMAR	**Chiang Mai Arr**	**53.34 299**	P	**P**	**20 43 32.6 +1.5**
	comp=Z,9.5nm,0.6s,baz=121,slow=6.0,SNR=66				
CMAR			LR	LR	21 05 09.0
	comp=Z,128nm,21.7s,baz=172,slow=35				
YSS	**Yuzh-Sakhalins**	**53.42 357**	*e*P	**P**	**20 43 30.8 -0.3**
YSS			pmax	pmax	
	comp=Z,20nm,1.2s				
YSS			MLR	MLR	
	comp=Z,300nm,17.0s				
CHTO	**Chiang Mai**	**53.48 299**	P	**P**	**20 43 33.0 +0.8**
CHTO			pmax	pmax	
	comp=Z,91nm,1.8s				
CHTO	**Chiang Mai**	**53.48 299**	P	**P**	**20 43 33.0 +0.8**
CN2	**Changchun**	**53.73 341**	*e*P	**P**	**20 43 32.5 -1.1**
CN2			pmax	pmax	
	comp=Z,10.0nm,1.1s				
XAN	**Xi'an**	**53.99 321**	P	**P**	**20 43 35.0 -0.7**
XAN			pmax	pmax	
	comp=Z,49nm,1.5s				
XAN	**Xi'an**	**53.99 321**	P	**P**	**20 43 35.0 -0.7**
XAN			IAmb	IAmb	20 43 41.7
	comp=Z,49nm,1.5s				
BJT	**Baijiatuau**	**54.29 331**	IAmb	IAmb	20 43 39.4
	comp=Z,65nm,1.6s				
BJI	**Beijing**	**54.30 331**	P	**P**	**20 43 37.0 -0.8**
BJI			pmax	pmax	
	comp=Z,22nm,1.7s				
CD2	**Chengdu**	**55.52 315**	P	**P**	**20 43 48.3 +1.4**
CD2			S	**S**	**20 51 29.0 0.0**
CD2			sS	sS	20 51 53.5 +1.1
CD2			SS	**SS**	**20 55 17.0 +2.3**
CD2			pmax	pmax	
	comp=Z,20nm,0.5s				
CD2			pmax	pmax	
	comp=Z,210nm,5.7s				
CD2			LR	LR	
	comp=Z,210nm,13.7s				
CD2			LR	LR	
	comp=Z,350nm,17.3s				
CD2			LR	LR	
	comp=Z,360nm,15.7s				
HHC	**Hu-ho-hao-te**	**57.21 329**	*e*P	**P**	**20 44 00.3 +1.5**
HHC			pmax	pmax	
	comp=Z,23nm,0.7s				
HHC			pmax	pmax	
	comp=Z,110nm,5.0s				
HHC			LR	LR	
	comp=Z,170nm,16.2s				
HHC			LR	LR	
	comp=Z,190nm,15.9s				
HHC			LR	LR	
	comp=Z,280nm,15.3s				
TYV	**Tymovskoe**	**57.32 357**	*e*P	**P**	**20 43 59.3 +0.1**
TYV			pmax	pmax	
	comp=Z,16nm,0.6s				
TYV			pmax	pmax	
	comp=Z,200nm,3.4s				
BTO	**Baotou**	**57.85 327**	*e*P	**P**	**20 44 01.3 -2.0**
LZH	**Lanzhou**	**58.51 320**	*e*P	P	20 44 13.8 +5.7
LZH			pP	sP	20 44 26.8 -0.6
LZH			pmax	pmax	
	comp=Z,23nm,1.2s				
LZH			pmax	pmax	
	comp=Z,100nm,5.4s				
LZH			LR	LR	
	comp=Z,230nm,13.3s				
LZH			LR	LR	
	comp=Z,260nm,14.4s				
LZH			LR	LR	
	comp=Z,300nm,15.2s				
PEA0B	**Petropavlovsk-**	**60.17 8**	*ce*P	**P**	**20 44 18.8 -0.2**
PEA0B	**Petropavlovsk-**	**60.17 8**	P	**P**	**20 44 19.4 +0.4**
PETK	**Petropavlovsk-**	**60.17 8**	P	**P**	**20 44 19.4 +0.3**
	comp=Z,22nm,0.5s,baz=156,slow=6.0,SNR=67				
PETK			LR	LR	21 05 44.3
	comp=Z,379nm,22.0s,baz=237,slow=32				
PETK	**Petropavlovsk-**	**60.17 8**	P	**P**	**20 44 18.9 -0.1**
PETK	**Petropavlovsk-**	**60.17 8**	P	**P**	**20 44 18.9 -0.1**
PET	**Petropavlovsk**	**60.22 8**	*e*P	**P**	**20 44 19.6 +0.3**
PET			*e*S	**S**	**20 52 36.5 +7.0**
PET			MLR	MLR	
	comp=Z,400nm,16.0s				
SHL	**Shillong**	**62.15 303**	P	**P**	**20 44 33.6 +0.4**
SHL			pmax	pmax	
	comp=Z,24nm,0.9s				
SHL	**Shillong**	**62.15 303**	P	**P**	**20 44 33.6 +0.4**
SHL			IAmb	IAmb	20 44 36.2
	comp=Z,24nm,0.9s				
ZEA	**Zeya**	**62.31 347**	*e*P	**P**	**20 44 33.1 -0.3**
ZEA			pmax	pmax	
	comp=N,74nm,1.4s				
ZEA			pmax	pmax	
	comp=Z,110nm,1.4s				
ZEA			MLR	MLR	
	comp=Z,300nm,14.0s				
PPT2	**Papeete2**	**62.94 106**	*e*LR	LR	21 03 23.3
	comp=Z,419nm,25.0s				
GTA	**Gaotai**	**63.05 321**	⇑P	**P**	**20 44 38.8 0.0**
GTA			S	**S**	**20 53 10.3 +4.2**
GTA			pmax	pmax	
	comp=Z,2.0nm,0.8s				
GTA			pmax	pmax	
	comp=Z,83nm,8.4s				
GTA			LR	LR	
	comp=Z,180nm,17.8s				
GTA			LR	LR	
	comp=Z,190nm,19.3s				
GTA			LR	LR	
	comp=Z,200nm,17.8s				
TBI	**Tubuai**	**63.34 113**	*e*LR	LR	21 03 37.9
	comp=Z,314nm,39.8s				
ULN	**Ulaanbaatar**	**64.51 332**	*ce*P	**P**	**20 44 48.6 +0.3**
ULN			pmax	pmax	
	comp=Z,26nm,1.7s				
ULN	**Ulaanbaatar**	**64.51 332**	P	**P**	**20 44 49.2 +0.9**
CASY	**Casey**	**64.65 195**	P	**P**	**20 44 48.8 +0.1**
CASY			IAmb	IAmb	20 46 06.4
	comp=Z,53nm,2.0s				
SONM	**Songino Array**	**64.80 331**	P	**P**	**20 44 50.1 -0.1**
	comp=Z,2.8nm,0.6s,baz=143,slow=7.3,SNR=16				
SONM			LR	LR	21 13 13.6
	comp=Z,229nm,19.0s,baz=136,slow=36				
SONM	**Songino Array**	**64.80 331**	P	**P**	**20 44 49.2 -1.0**
SONM			pmax	pmax	
	comp=Z,26nm,1.7s				
SONM	**Songino Array**	**64.80 331**	P	**P**	**20 44 49.2 -1.0**
CIT	**Chita**	**64.91 338**	*e*P	**P**	**20 44 50.4 -0.3**
CIT			*e*		20 45 05.9
CIT			*e*		20 45 19.0
CIT			pmax	pmax	
	comp=Z,126nm,1.9s				
MA2	**Magadan**	**66.02 2**	*ce*P	**P**	**20 44 58.2 +0.6**
MA2			pmax	pmax	
	comp=Z,113nm,1.7s				
MA2	**Magadan**	**66.02 2**	P	**P**	**20 44 57.1 -0.5**
TAPN	**Taplejung**	**66.29 304**	*e*P	**P**	**20 45 00.7 +0.3**
ODAN	**Odare**	**66.38 303**	*e*P	**P**	**20 45 01.4 +0.5**
RAMN	**Ramite**	**67.07 303**	*e*P	**P**	**20 45 05.7 +0.4**
	comp=Z,12nm,0.5s				
JIRN	**Jiri**	**67.66 303**	*e*P	**P**	**20 45 10.3 +1.1**
ZAK	**Zakamensk**	**68.04 332**	*e*P	**P**	**20 45 11.2 +0.4**
ZAK			pmax	pmax	
	comp=Z,12nm,1.2s				
ZAK			pmax	pmax	
	comp=Z,6.0nm,1.1s				
PKI	**Pulchoki**	**68.28 303**	*e*P	**P**	**20 45 14.0 +0.9**
	comp=Z,99nm,1.7s				
PKIN	**Phulchoki**	**68.29 303**	*e*P	**P**	**20 45 13.7 +0.6**
	comp=Z,114nm,1.8s				
DMN	**Daman**	**68.54 303**	*e*P	**P**	**20 45 15.0 +0.4**
	comp=Z,47nm,0.9s				
GKN	**Gorkha**	**69.07 303**	*e*P	**P**	**20 45 17.8 0.0**
	comp=Z,22nm,0.6s				
SEY	**Seymchan**	**69.44 3**	*i* P	**P**	**20 45 20.5 +1.4**
BOD	**Bodaibo**	**69.46 342**	*e*P	**P**	**20 45 19.4 +0.1**
BOD			pmax	pmax	
	comp=Z,35nm,1.6s				
YAK	**Yakutsk**	**69.68 351**	*e*P	**P**	**20 45 19.0 -1.5**
YAK			*e**PP	**pP**	**20 45 33.0 -2.1**
YAK			*e*		20 45 41.6
YAK			*e*S	**S**	**20 54 24.6 -0.7**
YAK			*e**SS	**sS**	**20 54 51.5 +1.8**
YAK			*e*		20 55 15.6
YAK			*e*SS	**SS**	**20 58 52.9 -1.6**
YAK			pmax	pmax	
	comp=Z,42nm,1.8s				
YAK			pmax	pmax	
	comp=N,24nm,1.7s				
YAK			pmax	pmax	
	comp=E,10.0nm,1.6s				
YAK			pmax	pmax	
	comp=Z,137nm,3.7s				
YAK			pmax	pmax	
	comp=N,128nm,3.3s				
YAK			pmax	pmax	
	comp=E,139nm,3.8s				
YAK			smax	smax	
	comp=N,221nm,4.5s				
YAK			smax	smax	
	comp=E,67nm,2.8s				
YAK	**Yakutsk**	**69.68 351**	P	**P**	**20 45 19.5 -1.1**
YAK			IAmb	IAmb	20 45 23.1
	comp=Z,46nm,1.0s				
KOLN	**Koldanda**	**69.86 303**	*e*P	**P**	**20 45 23.7 +1.0**
	comp=Z,19nm,0.6s				
DANN	**Dangsing**	**69.91 303**	*e*P	**P**	**20 45 23.7 +0.6**
	comp=Z,27nm,0.7s				
MOY	**Mondy**	**69.98 332**	*e*P	**P**	**20 45 23.4 +0.6**
MOY			pmax	pmax	
	comp=Z,46nm,2.1s				
PYUN	**Piuthan**	**70.47 303**	*e*P	**P**	**20 45 27.1 +0.6**
	comp=Z,29nm,0.5s				
VNDA	**Vanda**	**71.35 177**	P	**P**	**20 45 31.6 +1.0**
	comp=Z,7.9nm,0.7s,baz=331,slow=7.0,SNR=88				
HYB	**Hyderabad**	**71.47 291**	*i* P	**P**	**20 45 32.0 -0.4**
TAOE	**Nuku Hiva Isla**	**72.34 97**	*e*LR	LR	21 07 47.6
	comp=Z,251nm,22.7s				
WMQ	**Urumqi**	**73.09 320**	*e*P	**P**	**20 45 41.8 +0.1**
WMQ			PcP	**PcP**	**20 45 59.5 +1.3**
WMQ			pmax	pmax	
	comp=Z,12nm,0.7s				
WMQ			pmax	pmax	
	comp=Z,140nm,4.7s				
WMQ			LR	LR	
	comp=Z,150nm,29.2s				
WMQ			LR	LR	
	comp=Z,510nm,29.2s				
BILL	**Bilibino**	**75.71 7**	*c i*P	**P**	**20 45 56.1 -0.2**
BILL			*e*		20 48 49.2
BILL			*e*SS	SS	21 00 21.9 -4.6
BILL			pmax	pmax	
	comp=Z,35nm,1.3s				
DGZ	**Jazzator, Alta**	**75.98 325**	*i* P	**P**	**20 45 57.9 -0.5**
DGZ			pmax	pmax	
	comp=Z,13nm,1.8s				
MKAR	**Makanchi Array**	**77.81 321**	P	**P**	**20 46 08.4 -0.2**
	comp=Z,3.1nm,0.6s,baz=98,slow=7.4,SNR=29				
MKAR	**Makanchi Array**	**77.81 321**	P	**P**	**20 46 07.8 -0.8**
MKAR	**Makanchi Array**	**77.81 321**	P	**P**	**20 46 07.8 -0.8**
MAKZ	**Makanchi**	**78.01 321**	P	**P**	**20 46 08.7 -1.0**
MAKZ			pmax	pmax	
	comp=Z,29nm,1.6s				
MAKZ	**Makanchi**	**78.01 321**	P	**P**	**20 46 08.7 -1.0**
MAKZ			IAmb	IAmb	20 46 13.8
	comp=Z,28nm,1.6s				
SHLS	**Shalkode**	**78.30 316**	*e*P	**P**	**20 46 09.2 -2.4**
	baz=317				
SHLS			*e*S	**S**	**20 55 59.8 -3.6**
	baz=317				
SHLS	**Shalkode**	**78.30 316**	*e*P	**P**	**20 46 09.2 -2.4**
SHLS			*e*S	**S**	**20 55 59.8 -3.6**
UZB	**Uzynbulak**	**78.60 316**	*e*P	**P**	**20 46 12.4 -0.9**
	baz=316				
UZB	**Uzynbulak**	**78.60 316**	*e*P	**P**	**20 46 12.4 -0.9**
PRZ	**Przheval'sk**	**78.81 315**	P	**P**	**20 46 15.0 +0.6**
PRZ			pmax	pmax	
	comp=Z,26nm,1.2s				
PRZ	**Przheval'sk**	**78.81 315**	P	**P**	**20 46 15.0 +0.6**
PRZ			IAmb	IAmb	20 46 20.0
	comp=Z,26nm,1.2s				
TIXI	**Tiksi**	**78.96 354**	*i* P	**P**	**20 46 16.0 +1.6**
TIXI			pmax	pmax	
	comp=Z,33nm,1.0s				
SATY	**Saty**	**79.00 316**	*e*P	**P**	**20 46 14.6 -0.8**
	baz=316				
SATY	**Saty**	**79.00 316**	*e*P	**P**	**20 46 14.6 -0.8**
ZAA0	**Zalesovo Array**	**79.39 328**	P	**P**	**20 46 15.5 -1.5**
ZALV	**Zalesovo Beam**	**79.39 328**	P	**P**	**20 46 15.8 -1.3**
	comp=Z,6.5nm,0.5s,baz=110,slow=5.9,SNR=30				
ZALV	**Zalesovo Beam**	**79.39 328**	P	**P**	**20 46 15.0 -2.1**
ZALV	**Zalesovo Beam**	**79.39 328**	P	**P**	**20 46 15.0 -2.1**
KSH	**Kashi**	**79.60 312**	P	**P**	**20 46 22.0 +3.2**
KSH			S	**S**	**20 56 21.0 +3.6**
KSH			pmax	pmax	
	comp=Z,11nm,1.4s				
KSH			pmax	pmax	
	comp=Z,230nm,4.7s				
KSH			LR	LR	
	comp=Z,290nm,6.6s				
KSH			LR	LR	
	comp=Z,340nm,6.1s				
KSH			LR	LR	
	comp=Z,140nm,10.5s				
TDK	**Taldyqorghan**	**79.66 318**	*e*P	**P**	**20 46 18.6 -0.2**
	comp=Z,6.0nm,0.7s,baz=318				
TDK	**Taldyqorghan**	**79.66 318**	*e*P	**P**	**20 46 18.6 -0.2**
TDK			pmax	pmax	
	comp=Z,6.0nm,0.7s				
MDOK	**Medeo**	**79.97 316**	*e*P	**P**	**20 46 20.4 -0.4**
	baz=316				
MDOK	**Medeo**	**79.97 316**	*e*P	**P**	**20 46 20.3 -0.4**
TNSS	**Tian-Shan**	**80.00 316**	*e*P	**P**	**20 46 20.6 -0.6**
	baz=316				
TNSS	**Tian-Shan**	**80.00 316**	*e*P	**P**	**20 46 20.6 -0.6**
NIL	**Nilore**	**80.09 306**	P	**P**	**20 46 21.6 +0.2**
NIL			pmax	pmax	
	comp=Z,27nm,0.7s				
NIL	**Nilore**	**80.09 306**	P	**P**	**20 46 21.6 +0.2**
NIL			IAmb	IAmb	20 46 26.1
	comp=Z,27nm,0.7s				
BOOM	**Boomskoye usch**	**80.53 315**	P	**P**	**20 46 23.6 -0.2**
BOOM			pmax	pmax	
	comp=Z,7.0nm,0.6s				
BOOM	**Boomskoye usch**	**80.53 315**	P	**P**	**20 46 23.6 -0.2**
KUU	**Kurty**	**80.69 316**	*e*P	**P**	**20 46 23.6 -0.9**
	comp=Z,4.8nm,0.7s,baz=316				
KUU	**Kurty**	**80.69 316**	*e*P	**P**	**20 46 23.5 -0.9**
KUU			pmax	pmax	
	comp=Z,5.0nm,0.7s				
SVW2	**Sparrevohn**	**80.86 25**	P	**P**	**20 46 25.2 +0.3**
SVW2			IAmb	IAmb	20 46 25.8
	comp=Z,47nm,1.8s				
KURK	**Kurchatov**	**81.54 323**	*ce*P	**P**	**20 46 27.7 -1.0**
KURK			pmax	pmax	
	comp=Z,10.0nm,1.7s				
KURK	**Kurchatov**	**81.54 323**	P	**P**	**20 46 27.6 -1.2**
AAK	**Ala-Archa**	**81.59 315**	*ce*P	**P**	**20 46 29.7 +0.3**
AAK			pmax	pmax	
	comp=Z,21nm,1.3s				
MAW	**Mawson**	**81.64 203**	P	**P**	**20 46 29.0 +0.1**
	comp=Z,1.3nm,0.5s,baz=143,slow=5.1,SNR=2.7				
MAW	**Mawson**	**81.64 203**	P	**P**	**20 46 29.0 +0.1**
MAW			pmax	pmax	
	comp=Z,4.0nm,1.4s				
SGDS	**Sogindy**	**81.74 316**	*e*P	**P**	**20 46 29.3 -0.8**
	baz=316				
SGDS	**Sogindy**	**81.74 316**	*e*P	**P**	**20 46 29.2 -0.8**
CNPM	**China Poot**	**81.95 27**	P	**P**	**20 46 30.1 -0.6**
CNPM			IAmb	IAmb	20 46 31.8
	comp=Z,64nm,1.5s				
RDOG	**Red Dog Mine**	**82.35 17**	IAmb	IAmb	20 46 35.3

comp=Z,60nm,1.4s
BTLS Baital 82.60 317 *e*P **P 20 46 33.5 -0.9**
baz=317
BTLS Baital 82.60 317 *e*P **P 20 46 33.5 -0.9**
PPLA Purkeypile 83.15 24 IAmb IAmb 20 46 37.7
comp=Z,54nm,1.8s
RC01 Rabbit Creek A 83.33 26 P **P 20 46 36.8 -1.0**
baz=244
QSPA South Pole Qui 83.39 180 P **P 20 46 38.3 0.0**
QSPA IAmb IAmb 20 46 44.8
comp=Z,15nm,0.8s
KBL Kabul 83.69 306 P **P 20 46 40.5 -0.1**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 83.69 306 P **P 20 46 40.5 -0.1**
DZA Taraz 83.90 314 *e*P **P 20 46 40.8 -0.5**
baz=314
DZA Taraz 83.90 314 *e*P **P 20 46 40.7 -0.5**
KTH Kantishna Hill 83.97 23 P **P 20 46 39.7 -1.4**
GHO Glory Hole Cre 83.98 26 IAmb IAmb 20 46 50.7
comp=Z,30nm,1.4s
KNK Knik Glacier 84.03 26 P **P 20 46 40.9 -0.6**
KNK IAmb IAmb 20 46 43.2
comp=Z,61nm,1.8s
IMAR Indian Mountai 84.10 21 P **P 20 46 40.7 -1.0**
SML Sawmill 84.25 26 P **P 20 46 41.7 -0.9**
CHGR Chuyangaron 84.50 310 P **P 20 46 43.7 -0.7**
CHGR IAmb IAmb 20 46 49.6
comp=Z,15nm,0.8s
KKAR Karatay Array 84.54 314 P **P 20 46 43.8 -0.7**
KKAR pmax pmax
comp=Z,7.0nm,1.1s
KKAR Karatay Array 84.54 314 P **P 20 46 43.8 -0.7**
IUG luzhnay 84.65 313 *e*P **P 20 46 44.4 -0.8**
baz=313
IUG luzhnay 84.65 313 *e*P **P 20 46 44.3 -0.8**
SCM Sheep Creek Mo 84.70 26 IAmb IAmb 20 46 49.5
comp=Z,62nm,1.8s
RND Reindeer 84.73 24 P **P 20 46 43.3 -1.7**
RND pmax pmax
comp=Z,13nm,0.8s
RND Reindeer 84.73 24 P **P 20 46 43.3 -1.7**
RND IAmb IAmb 20 46 45.0
comp=Z,13nm,0.8s
MCK McKinley 84.84 24 IAmb IAmb 20 46 52.1
comp=Z,12nm,0.8s
BRZS Berezniki 84.91 321 *e*P **P 20 46 45.1 -1.1**
baz=322
BRZS Berezniki 84.91 321 *e*P **P 20 46 45.0 -1.1**
NEA2 Nenana 85.17 23 P **P 20 46 45.4 -1.7**
baz=244
KLU Klutina 85.17 26 P **P 20 46 46.9 -0.4**
DHY Denali Highway 85.19 25 IAmb IAmb 20 46 50.1
comp=Z,64nm,1.8s
M24K Tolsona, Glenn 85.31 26 P **P 20 46 47.5 -0.4**
baz=247
M24K Tolsona, Glenn 85.31 26 IAmb IAmb 20 46 50.2
comp=Z,20nm,0.8s
RAGM Ragged Mountai 85.31 28 P **P 20 46 47.1 -0.9**
HMT Hamilton 85.48 28 IAmb IAmb 20 46 49.9
comp=Z,58nm,1.8s
WRH Wood River Hil 85.50 23 P **P 20 46 46.6 -2.1**
WRH IAmb IAmb 20 46 55.7
comp=Z,14nm,1.0s
MDM Murphy Dome 85.65 23 IAmb IAmb 20 46 50.3
comp=Z,45nm,1.8s
CCB Clear Creek Bu 85.68 23 IAmb IAmb 20 46 50.2
comp=Z,20nm,1.0s
NRIK Noril'sk 85.76 342 P **P 20 46 49.7 -0.2**
comp=Z,6.4nm,0.5s,baz=130,slow=3.1,SNR=8.7
NRIK LR LR 21 26 08.2
comp=Z,95nm,18.4s,baz=216,slow=36
NRIK Noril'sk 85.76 342⇑ *e*P **P 20 46 49.5 -0.4**
NRIK pmax pmax
comp=Z,31nm,1.4s
COLA College 85.76 23 P **P 20 46 48.2 -1.8**
COLA pmax pmax
comp=Z,17nm,0.6s
COLA College 85.76 23 P **P 20 46 48.2 -1.8**
COLA IAmb IAmb 20 46 50.7
comp=Z,17nm,0.6s
HDA Harding Lake 85.92 23 P **P 20 46 49.1 -1.7**
baz=246
HDA Harding Lake 85.92 23 P **P 20 46 49.0 -1.8**
COLD Coldfoot 85.95 20 P **P 20 46 51.2 +0.3**
baz=242
COLD Coldfoot 85.95 20 IAmb IAmb 20 46 53.5
comp=Z,25nm,1.2s
POKR Poker Plat Res 86.02 23 P **P 20 46 49.9 -1.4**
baz=245
GLB Gilahina Butte 86.09 27 P **P 20 46 51.4 -0.5**
IL31 86.09 23 IAmb IAmb 20 46 52.0
comp=Z,14nm,0.7s
ILAR Eielson Array 86.09 23 P **P 20 46 50.0 -1.7**
comp=Z,12nm,0.6s,baz=251,slow=4.9,SNR=164
ILAR LR LR 21 19 32.6
comp=Z,168nm,22.0s,baz=258,slow=32
ILAR Eielson Array 86.09 23 P **P 20 46 49.3 -2.4**
ILAR Eielson Array 86.09 23 P **P 20 46 49.3 -2.4**
CRQM Cirque 86.15 28 P **P 20 46 51.8 -0.6**
CRQM IAmb IAmb 20 46 57.2
comp=Z,39nm,1.4s
WAX Waxell Ridge 86.18 28 P **P 20 46 51.6 -0.7**
WAX IAmb IAmb 20 46 54.6
comp=Z,20nm,1.1s
TGL Tana Glacier 86.29 28 IAmb IAmb 20 46 57.9
comp=Z,38nm,1.4s
MCARA McCarthy VSAT 86.42 27 P **P 20 46 53.4 0.0**
MCARA IAmb IAmb 20 47 29.4
comp=Z,29nm,1.5s
BALM Baldy 86.61 27 P **P 20 46 53.8 -0.7**
BALM IAmb IAmb 20 46 56.6
comp=Z,32nm,1.4s
DOT Dot Lake 86.79 25 P **P 20 46 54.4 -0.8**
DOT IAmb IAmb 20 48 39.3
comp=Z,13nm,1.0s
TOLK Toolik Lake Re 86.81 19 P **P 20 46 54.8 -0.4**
baz=243
TOLK Toolik Lake Re 86.81 19 IAmb IAmb 20 46 57.7
comp=Z,35nm,1.6s
SCRK Sand Creek 86.94 24 P **P 20 46 55.3 -0.7**
baz=248
CTGM Chitina Glacie 87.05 28 P **P 20 46 56.5 -0.2**
CTGM IAmb IAmb 20 46 59.0
comp=Z,17nm,1.0s
BCAR Beaver Creek A 87.55 26 P **P 20 46 57.0 -1.9**
K27K Chicken 87.75 25 P **P 20 47 00.0 +0.3**
baz=250
BMAR Burnt Mountain 88.01 21 P **P 20 47 00.7 -0.3**
HRA Herat 89.19 305 P **P 20 47 07.5 0.0**
HRA IAmb IAmb 20 47 09.0
comp=Z,34nm,1.7s
SYO Syowa Base 89.98 200⇑ *e*PcP **PcP 20 47 12.5 +1.1**
EPYK Eagle Plains 90.61 23 P **P 20 47 12.8 -0.4**
baz=255
ABKAR Akbulak array 92.87 319 P **P 20 47 21.9 -2.1**
GEYT Alibeck 92.95 308 P **P 20 47 24.6 -0.1**
comp=Z,1.4nm,0.7s,baz=18,slow=5.0,SNR=2.9
GEYT Alibeck 92.95 308 IAmb IAmb 20 47 30.1
comp=Z,7.9nm,1.7s
AKTO Aktyubinsk 94.23 320 LR LR 21 32 56.5
comp=Z,61nm,18.1s,baz=95,slow=37
ARU Arti 94.45 326 LR LR 21 32 07.4
comp=Z,141nm,18.5s,baz=102,slow=37
ARU Arti 94.45 326 *i* P **P 20 47 29.0 -2.1**
ARU pmax pmax
comp=Z,4.0nm,1.6s
ORV Oroville 95.46 51 P **P 20 47 36.5 +0.4**
ORV pmax pmax
comp=Z,13nm,1.7s
ORV Oroville 95.46 51 P **P 20 47 36.5 +0.4**
ORV IAmb IAmb 20 47 39.9
comp=Z,13nm,1.6s
BELA Belgrano 2 95.67 180 P **P 20 47 35.5 -0.8**
I07A Izee 97.19 46 P Pdif 20 47 44.5 +0.4
I07A IAmb IAmb 20 47 47.4
comp=Z,15nm,1.7s
B08A Colville Reser 97.45 42 P **P 20 47 43.9 -1.1**
B08A IAmb IAmb 20 47 46.4
comp=Z,18nm,1.8s
NVAR Mina Array Bea 97.89 52 P **P 20 47 47.2 -0.2**
comp=Z,0.9nm,0.7s,baz=255,slow=7.0,SNR=2.8
NVAR LR LR 21 29 49.9
comp=Z,172nm,18.0s,baz=274,slow=34
KIRV Kirov 99.42 328 LR LR 21 31 57.4
comp=Z,191nm,20.9s,baz=95,slow=35

VNA2 Neumayer--Watz 100.75 188 P **Pdif 20 47 59.2 -0.1**
baz=150,slow=3.5
VNA3 Neumayer Olymp 100.78 188 P **Pdif 20 47 58.9 -0.5**
APA Apatity 104.86 339⇑ *i*P **Pdif 20 48 22.6 +5.1**
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,1μm,18.0s
ECSD EROS Data Cent 113.63 45 P **PKiKP 20 52 49.2 -0.5**
baz=284
P38A Dawn 116.89 49 PKPdf 20 52 55.3 -0.7
KOLS Kolonicke sedl 117.18 322 *e*PKIKP **PKiKP 20 52 56.5 +0.2**
KOLS Kolonicke sedl 117.18 322 *e*PKP **PKiKP 20 52 56.5 +0.2**
S39A Bolivar 117.52 51 PKPdf 20 52 56.4 -0.9
W39A Magazine 117.72 54 P **PKiKP 20 52 57.8 +0.1**
baz=282
U40A Yellville 118.20 52 P **PKPdf 20 52 57.7 -1.0**
baz=284
LANS Liptovska Anna 118.77 323 *e*PKIKP **PKiKP 20 53 01.3 +1.9**
LANS Liptovska Anna 118.77 323 *e*PKP **PKiKP 20 53 01.3 +1.9**
CCM Cathedral Cave 119.02 50 PKIKP **PKPdf 20 52 59.4 -0.7**
CCM Cathedral Cave 119.02 50 P **PKPdf 20 52 59.5 -0.6**
baz=286
CCM Cathedral Cave 119.02 50 PKPdf 20 52 59.4 -0.7
VYHS Vyhne 119.43 323 *e*PKIKP **PKiKP 20 53 03.1 +2.4**
VYHS Vyhne 119.43 323 *e*PKP **PKiKP 20 53 03.1 +2.4**
CLL Collm 121.34 328 *e*PKIKP **PKPdf 20 52 59.0 -5.2**
CONA Conrad Observa 121.46 323 *e*PKiKP **PKPdf 20 53 04.6 0.0**
comp=Z,2.3nm,0.7s
PLCA Paso Flores 121.76 147 PKP **PKiKP 20 53 06.5 +0.8**
comp=Z,1.8nm,0.6s,baz=189,slow=2.7,SNR=8.5
GEC2 GERESS Array S 122.26 325 PKiKP 20 53 06.6 +0.3
GERES GERESS Array B 122.26 325 PKP **PKiKP 20 53 06.3 0.0**
comp=Z,2.2nm,0.5s,baz=74,slow=2.0,SNR=23
GERES GERESS Array B 122.26 325 PKIKP **PKPdf 20 53 05.9 -0.3**
GERES GERESS Array B 122.26 325 PKPdf **PKPdf 20 53 05.9 -0.3**
MOA Molln 122.44 324 *e*PKiKP **PKiKP 20 53 06.6 0.0**
comp=Z,1.4nm,0.6s
SOKA Soboth 122.55 322 *i* PKiKP **PKiKP 20 53 07.0 +0.1**
comp=Z,3.9nm,1.3s
KBA Koelnbreinsper 123.36 324 *e*PKiKP **PKPdf 20 53 08.1 -0.4**
comp=Z,3.2nm,0.6s
MYKA Terra Mystica 123.41 323 *e*PKiKP **PKPdf 20 53 08.3 -0.1**
comp=Z,2.8nm,0.7s
ABTA Abfaltersbach 124.02 324 *e*PKiKP **PKPdf 20 53 09.5 -0.1**
comp=Z,2.9nm,0.6s
STAL STALIGIAL 124.16 323 PKPdf 20 53 09.8 0.0
WATA Walderalm 124.26 325 *e*PKiKP **PKPdf 20 53 09.8 -0.3**
comp=Z,11nm,1.4s
MOTA Moosalm 124.53 325 *i* PKiKP **PKPdf 20 53 10.0 -0.6**
comp=Z,3.1nm,0.5s
SQTA Sankt Quirin 124.54 325 *i* PKiKP **PKPdf 20 53 10.0 -0.6**
comp=Z,4.2nm,0.8s
RETA Reutte 124.65 325 *i* PKiKP **PKPdf 20 53 10.3 -0.5**
comp=Z,3.1nm,0.8s
O51A Pataskala 124.66 45 P **PKiKP 20 53 11.1 -0.1**
baz=294
S51A Beattyville 124.90 48 PKPdf 20 53 10.7 -0.8
FETA Feichten 124.92 325 *i* PKiKP **PKPdf 20 53 11.2 -0.2**
comp=Z,3.9nm,1.0s
DAVA Damuels 125.26 325 *i* PKiKP **PKiKP 20 53 12.7 +0.3**
comp=Z,4.0nm,0.6s
BCLA Clavier 125.78 331 PKiKP **PKiKP 20 53 13.7 +0.6**
OTAV Otavalo 134.43 96 *e*P PKPpre 20 53 17.8
MNMC Minye Minye 135.98 126 PKPpre 20 53 23.4
PCON Cinco Dias 136.75 94 *e*P **PKiKP 20 53 36.7 -0.3**
YOTC Yotoco, Valle 136.98 91 *e*P **PKPdf 20 53 35.9 +0.8**
RREF El Recreo 138.05 90 *e*P PKPpre 20 53 28.5
TOLC Tolima 138.06 90 *e*P **PKPdf 20 53 34.9 -2.5**
GUY2C Guyana, Caldas 138.06 89 *e*P PKPpre 20 53 28.6
ORTC Ortega, Tolima 138.07 91 *e*P **PKPdf 20 53 36.3 -0.8**
PRAC Prado 138.41 92 *e*P **PKPdf 20 53 37.2 -0.5**
LPAZ La Paz 138.65 124 PKhKP PKPpre 20 53 33.7
comp=Z,1.6nm,0.6s,baz=284,slow=3.3,SNR=7.6
ROSC El Rosal 139.07 90 PKhKP PKPpre 20 53 35.9
comp=Z,9.7nm,0.5s,baz=16,slow=6.6,SNR=1.7
MACC Macarena, Meta 139.26 94 *e*P PKPpre 20 53 32.7
SMLC San Martn de 139.46 84 *e*P PKPpre 20 53 33.3
URIC Uribia, Colomb 141.40 80 *e*P PKPpre 20 53 35.2
SDV Santo Domingo 142.86 84 PKPdf 20 53 42.4 -3.5
TOA0 Torodi Ar. Sit 145.02 283 PKPdf 20 53 49.3 -0.1
TORD Torodi Ar. Bea 145.02 283 PKPbc **PKPdf 20 53 49.6 +0.2**
comp=Z,51nm,0.7s,baz=80,slow=3.6,SNR=198
TORD Torodi Ar. Bea 145.02 283 PKPab 20 53 49.0 +0.2
CRPR Cabo Rojo, PR 145.06 68 PKPbc 20 53 47.5 -1.3
MLPR Magueyes Islan 145.13 68 PKPbc 20 53 47.9 -1.1
OBIP Obispado Ponce 145.51 68 PKPdf 20 53 48.6 -1.5
SAML Samuel 146.38 117 PKP2 **PKPbc 20 53 52.5 -0.5**
SAML Samuel 146.38 117 PKPbc 20 53 52.5 -0.5
MTP Monte Pirata 146.46 67 PKPbc 20 53 52.8 -0.3
CDVI St. Croix 147.28 67 PKPbc 20 53 54.4 -1.1
KOWA Kowa 150.26 288 PKPbc 20 54 03.4 +0.2
CXM Morne La Croix 151.37 71 *e*P **PKiKP 20 54 06.7 +0.3**
BAMF Morne Balai 151.38 71 *e*P **PKiKP 20 54 06.6 +0.2**
FDF Fort de France 151.40 71 *e*P **PKiKP 20 54 06.4 +0.1**
FDF Fort de France 151.40 71 PKIKP **PKPbc 20 54 05.7 -0.2**
FDF Fort de France 151.40 71 PKPbc 20 54 05.7 -0.2
ZAM Aeronautique 151.55 72 *e*P **PKiKP 20 54 07.2 +0.6**
SVB Belmont 151.61 74 PKPbc 20 54 05.5 -0.9
KIC Kosan Boka 151.71 271 *e*PKIKP **PKiKP 20 54 07.4 +0.3**
comp=Z,52nm,1.1s
DBIC Dimbokro 151.83 272 PKPbc **PKiKP 20 54 07.7 +0.4**
comp=Z,17nm,0.7s,baz=72,slow=2.4,SNR=29
DBIC Dimbokro 151.83 272 PKIKP **PKiKP 20 54 07.2 -0.1**
DBIC Dimbokro 151.83 272 PKiKP 20 54 07.2 -0.1
LIC Lamto 151.99 271 *e*PKIKP **PKiKP 20 54 07.9 +0.3**
comp=Z,71nm,0.7s
TIC Toumodi 152.00 272 *e*PKIKP **PKiKP 20 54 07.9 +0.2**
TOSP Speyside 152.62 78 PKiKP 20 54 10.7 +1.8
BDFB Brasilia 153.50 147 PKPbc **PKiKP 20 54 11.3 +0.5**
comp=Z,6.8nm,0.4s,baz=248,slow=1.4,SNR=11

ISK ***26*** *20:46:05.5,38.°66N×43.°17E,h2km,ML3.5/28*
NSSP ***26*** *20:46:05.4,38.°67N×43.°17E,h10km,Ms3.3*
TEH ***26*** *20:46:06.1,38.°67N×43.°19E,h18km,ML3.5*
DDA ***26*** *20:46:06.1,38.°66N×43.°15E,h7km±2km,ML3.5*
ISC 26 20:46:07.0±0.9,38.°68N±0.°02×43.°17E±0.°02,h14km±7km,
n82,σ1°13/98,4C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**116**	PG	**Pg**	**20 46 11.3**	**-0.1**
VANB				SG	**Sg**	**20 46 15.6**	**+1.2**
VANB	**Van**	**0.19**	**116**	*e*Pg	**Pg**	**20 46 11.3**	**-0.1**
TVAN	**Van**	**0.23**	**129**	*i* P	**Pg**	**20 46 11.2**	**-1.0**
TVAN				IAML		20 46 15.0	
	comp=N,27μm,0.3s						
TVAN				IAML		20 46 15.0	
	comp=E,20μm,0.6s						
TVAN				*i* S	**Sg**	**20 46 15.3**	**-0.5**
TVAN	**Van**	**0.23**	**129**	*e*Pg	**Pg**	**20 46 11.2**	**-1.0**
ERCV	**ERCIS-VAN**	**0.36**	**21**	PG	**Pg**	**20 46 13.8**	**-0.7**
ERCV				SG	**Sb**	**20 46 20.3**	**-0.7**
ERCV	**ERCIS-VAN**	**0.36**	**21**	*e*Pn	**Pg**	**20 46 13.8**	**-0.7**
GEVA	**Gevas**	**0.38**	**194**	*i* P	**Pg**	**20 46 13.9**	**-0.7**
GEVA	**Gevas**	**0.38**	**194**	*e*Pn	**Pg**	**20 46 13.9**	**-0.7**
AKDM	**Akdamar-Van**	**0.38**	**204**	PG	**Pg**	**20 46 13.6**	**-1.1**
AKDM	**Akdamar-Van**	**0.38**	**204**	*e*Pn	**Pg**	**20 46 13.8**	**-0.9**
VMUR	**Van-Muradiye**	**0.44**	**45**	*i* P	**Pg**	**20 46 15.5**	**-0.4**
VMUR				*i* S	**Sb**	**20 46 22.8**	**-0.4**
VMUR				IAML		20 46 23.0	
	comp=E,7μm,0.6s						
VMUR				IAML		20 46 24.0	
	comp=N,4μm,0.2s						
VMUR	**Van-Muradiye**	**0.44**	**45**	*e*Pn	**Pg**	**20 46 15.4**	**-0.4**
MLAZ	**Malazgirt-MUS**	**0.67**	**314**	PG	**Pg**	**20 46 19.7**	**-0.4**
MLAZ	**Malazgirt-MUS**	**0.67**	**314**	*e*Pn	**Pg**	**20 46 19.6**	**-0.5**
CLDR	**Caldiran**	**0.74**	**51**	PG	**Pg**	**20 46 20.7**	**-0.8**
CLDR				SG	**Sb**	**20 46 32.1**	**+0.2**
CLDR	**Caldiran**	**0.74**	**51**	*i* P	**Pg**	**20 46 20.4**	**-1.1**
CLDR				*i* S	**Sb**	**20 46 32.1**	**+0.2**
CLDR				IAML		20 46 33.0	
	comp=N,1μm,0.4s						
CLDR				IAML		20 46 33.0	
	comp=E,2μm,0.4s						
CLDR	**Caldiran**	**0.74**	**51**	*e*Pn	**Pg**	**20 46 20.2**	**-1.3**
TUTA	**Tutak**	**0.78**	**339**	*i* P	**Pg**	**20 46 21.4**	**-0.8**
TUTA	**Tutak**	**0.78**	**339**	*e*Pg	**Pg**	**20 46 21.3**	**-0.8**
BLIS	**Bitlis-Merkez**	**0.87**	**253**	*i* P	**Pg**	**20 46 23.0**	**-0.9**
BLIS				*i* S	**Sb**	**20 46 35.1**	**-0.4**
BLIS				IAML		20 46 37.0	
	comp=E,2μm,0.7s						
BLIS				IAML		20 46 37.0	
	comp=N,2μm,0.3s						
BLIS	**Bitlis-Merkez**	**0.87**	**253**	*e*Pg	**Pg**	**20 46 23.0**	**-0.9**
BASK	**Baskale_VAN**	**0.90**	**133**	*i* P	**Pg**	**20 46 22.8**	**-1.8**
BASK	**Baskale_VAN**	**0.90**	**133**	*e*Pn	**Pg**	**20 46 22.7**	**-1.8**
GURO	**Guroymak-BITLI**	**0.90**	**262**	PG	**Pb**	**20 46 23.7**	**-0.8**
GURO				SG	**Sb**	**20 46 36.7**	**+0.3**
GURO	**Guroymak-BITLI**	**0.90**	**262**	*e*Pg	**Pg**	**20 46 23.3**	**-1.2**
AGRB	**Hanur-Agry**	**0.91**	**351**	PG	**Pg**	**20 46 23.3**	**-1.3**
AGRB	**Hanur-Agry**	**0.91**	**351**	*e*Pn	**Pg**	**20 46 23.2**	**-1.3**
DYDN	**Diyadin**	**0.95**	**25**	*i* P	**Pg**	**20 46 24.3**	**-1.2**
DYDN	**Diyadin**	**0.95**	**25**	*e*Pn	**Pg**	**20 46 24.2**	**-1.2**
EKAR	**Karacoban**	**1.04**	**304**	*i* P	**Pn**	**20 46 27.7**	**+0.4**
EKAR	**Karacoban**	**1.04**	**304**	*e*Pg	**Pn**	**20 46 27.7**	**+0.4**
HAKT	**HAKKARI**	**1.20**	**159**	*i* P	**Pb**	**20 46 27.7**	**-1.8**
SRTM	**Siirt_Merkez**	**1.20**	**236**	*i* P	**Pg**	**20 46 29.6**	**-0.5**
EATA	**Eleskirt**	**1.30**	**336**	*i* P	**Pn**	**20 46 30.9**	**-0.1**
EATA				*i* S	**Sn**	**20 46 48.6**	**+0.4**
EATA				IAML		20 46 52.0	
	comp=N,496nm,0.7s						
EATA	**Eleskirt**	**1.30**	**336**	*e*Pg	**Pn**	**20 46 30.8**	**-0.1**
MUSM	**Mu-Merkez**	**1.30**	**273**	*i* P	**Pb**	**20 46 30.7**	**-0.6**
MUSM				*i* S	**Sb**	**20 46 47.6**	**-0.2**
MUSM	**Mu-Merkez**	**1.30**	**273**	*e*Pg	**Pb**	**20 46 30.6**	**-0.6**
SIRT	**Sirnak**	**1.31**	**206**	PN	**Pg**	**20 46 31.2**	**-1.0**
SIRT	**Sirnak**	**1.31**	**206**	*e*Pg	**Pg**	**20 46 31.1**	**-1.1**
SIRN	**Sirnak**	**1.32**	**207**	*i* P	**Pg**	**20 46 31.4**	**-1.0**
IGDI	**IGDIR**	**1.38**	**30**	*i* P	**Pb**	**20 46 32.0**	**-0.6**
IGDI				*i* S	**Sg**	**20 46 52.8**	**+1.2**
IGDI				IAML		20 46 56.0	
	comp=N,270nm,0.7s						
YOVA	**Hakkari_Yksek**	**1.40**	**141**	*i* P	**Pn**	**20 46 31.9**	**-0.4**
VRTB	**Varto-Mus**	**1.42**	**290**	PN	**Pg**	**20 46 33.5**	**-0.9**
VRTB	**Varto-Mus**	**1.42**	**290**	*i* P	**Pg**	**20 46 34.3**	**0.0**
CUKT	**Cukurca**	**1.47**	**166**	PN	**Pb**	**20 46 33.4**	**-0.7**
CUKT	**Cukurca**	**1.47**	**166**	*i* P	**Pb**	**20 46 33.5**	**-0.7**
VNNZ	**Vanand**	**1.51**	**19**⇑ *i*P		**Pg**	**20 46 35.0**	**-1.0**
VNNZ				⇑ *i*S	**Sg**	**20 46 55.7**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.54**	**32**	PN	**Pb**	**20 46 35.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.64**	**252**	PN	**Pb**	**20 46 36.3**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.64**	**252**	*i* P	**Pg**	**20 46 37.8**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**1.66**	**322**	PN	**Pb**	**20 46 36.8**	**-0.7**
BTMN	**Batman**	**1.69**	**243**	*i* P	**Pg**	**20 46 38.5**	**-0.9**
BTMN				*i* S	**Sg**	**20 47 01.4**	**0.0**
BTMN				IAML		20 47 04.0	
	comp=N,912nm,0.6s						
NRKZ	**NAREK**	**1.75**	**41**	*i* P	**Pb**	**20 46 38.3**	**-0.7**
NRKZ				*i* S	**Sb**	**20 47 01.8**	**+0.9**
ARUZ	**Aruch**	**1.75**	**24**⇑ *i*P		**Pb**	**20 46 38.7**	**-0.3**
ARUZ				⇑ *i*S	**Sg**	**20 47 02.6**	**-0.9**
KARO	**Karliova-Bingo**	**1.77**	**292**	PN	**Pb**	**20 46 38.6**	**-0.7**
KARS	**Kars**	**1.95**	**358**	PN	**Pb**	**20 46 40.9**	**-1.4**
BNGB	**Bingl**	**1.97**	**280**	PN	**Pb**	**20 46 41.3**	**-1.4**
IMRD	**Marand**	**1.98**	**88**	*e*Pn	**Pn**	**20 46 41.0**	**+0.8**
IMRD				*e*		20 47 13.8	
SENK	**Senkaya-Erzuru**	**1.99**	**342**	PN	**Pb**	**20 46 41.5**	**-1.5**
KAPZ	**Kaputan**	**2.02**	**35**	*i* P	**Pb**	**20 46 42.8**	**-0.8**
KAPZ				*i* S	**Sb**	**20 47 09.6**	**+0.9**
EAK	**Akyaka**	**2.03**	**9**	*i* P	**Pg**	**20 46 45.3**	**-0.7**
EMRE	**Erzurum,Aziziy**	**2.17**	**309**	*i* P	**Pg**	**20 46 47.4**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.18**	**291**	PN	**Pn**	**20 46 44.2**	**+1.2**
HANI	**Diyarbakir_Han**	**2.19**	**264**	*i* P	**Pb**	**20 46 46.7**	**+0.3**
ITBZ	**Tabriz**	**2.38**	**100**	*e*Pn	**Pn**	**20 46 46.4**	**+0.7**
KRIK	**Erzurum-spir**	**2.40**	**314**	*i* P	**Pg**	**20 46 51.0**	**-2.0**
IAZR	**Azarshahr**	**2.43**	**113**	*e*Pn	**Pb**	**20 46 48.7**	**-1.8**
IAZR				*e*		20 46 57.0	
MAZI	**Mazidag**	**2.47**	**241**	PN	**Pn**	**20 46 47.8**	**+0.9**
AKH	**Akhalkalaki**	**2.74**	**5**	PN	**Pn**	**20 46 52.3**	**+1.6**
MAHB	**Mahabad**	**2.77**	**133**	*e*Pn	**Pn**	**20 46 52.6**	**+1.6**
ERZN	**Erzincan**	**2.83**	**290**	PN	**Pn**	**20 46 53.2**	**+1.3**
BAYT	**Aydintepe-Bayb**	**2.90**	**307**	PN	**Pn**	**20 46 54.7**	**+1.8**
PTK	**Pertek**	**2.96**	**275**	PN	**Pn**	**20 46 54.9**	**+1.1**
BCA	**Borcka**	**3.01**	**337**	PN	**Pn**	**20 46 56.3**	**+2.1**
SVRC	**Sivrice-ELAZID**	**3.05**	**266**	PN	**Pn**	**20 46 56.3**	**+1.4**
IHRS	**Heris**	**3.06**	**96**	*e*Pn	**Pn**	**20 46 56.8**	**+1.7**
IHRS				*e*		20 47 09.6	
ISRB	**Sarab**	**3.64**	**102**	*e*Pn	**Pn**	**20 47 05.0**	**+1.9**
URFA	**Urfa**	**3.65**	**252**	PN	**Pn**	**20 47 04.7**	**+1.6**
MALT	**Malatya**	**3.74**	**266**	PN	**Pn**	**20 47 06.2**	**+1.8**
ARPR	**Arapgir-MALATY**	**3.80**	**278**	PN	**Pn**	**20 47 07.1**	**+1.9**
IDHR	**Dehrash**	**4.74**	**146**	*e*Pn	**Pn**	**20 47 20.7**	**+2.6**
IGHG	**Ghaleghazi**	**5.13**	**147**	*e*Pn	**Pn**	**20 47 26.9**	**+3.3**
IGHG				*e*		20 49 11.6	

IDC 26 21:13:47.6±2.3,6.°34N×125.°99E,h0km,mb3.5/4,
mb1 3.7/4,mb1mx3.4/55,mbtmp3.5/4,Error ellipse:
s-maj=111.3km s-min=23.8km az=58.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.38**	**163**	P	P	21 19 34.7	-0.1
	0.4nm,0.9s,baz=343,slow=8.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**28.98**	**297**	P	P	21 19 49.1	-0.1
	0.7nm,0.7s,baz=121,slow=7.0,SNR=7.5						
ASAR	**Alice Springs**	**30.81**	**166**	P	P	21 20 05.3	0.0
	0.1nm,0.3s,baz=340,slow=8.4,SNR=5.4						
MKAR	**Makanchi Array**	**55.01**	**325**	P	P	21 23 21.0	+0.1
	0.1nm,0.5s,baz=130,slow=8.3,SNR=4.1						

KRNET ***26*** *21:20:46.1±0.1,40.°18N×72.°21E,h14km,mb3.8*
SOME ***26*** *21:20:47.6,40.°15N×72.°18E,h20km*
NNC ***26*** *21:20:50.7±2.0,40.°32N×72.°36E,h10km±11km,mb3.8,*
mpv3.5,Error ellipse: s-maj=15.6km s-min=6.2km az=4.0
ISC 26 21:20:50.0±1.2,40.°09N±0.°04×72.°10E±0.°03,h23km±13km,
n70,σ1°64/107,31C-23D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.68**	**50**⇓ *i*P		Pb	21 20 56.7	-6.6
OHH				⇓ *i*S	**Sb**	**21 21 04.9**	**-7.4**
BTK	**Batken**	**0.98**	**268**⇑ *i*P		**Pb**	**21 21 06.7**	**-1.7**
BTK				⇑ *i*S	**Sn**	**21 21 21.7**	**-0.1**
GAR	**Garm**	**1.76**	**232**⇑ *i*P		**Pb**	**21 21 20.9**	**-0.7**
GAR				⇑ *i*S	**Sb**	**21 21 46.6**	**+3.3**
AML	**Almayashu**	**2.37**	**30**⇑ *i*P		**Pn**	**21 21 26.8**	**-1.1**
AML				⇑ *i*S	**Sn**	**21 21 56.7**	**+0.3**
AML	**Almayashu**	**2.37**	**30** P		**Pn**	**21 21 27.2**	**-0.7**
ARLS	**Aral**	**2.44**	**43**⇑ *i*P		**Pn**	**21 21 27.9**	**-0.8**
ARLS				⇑ *i*S	**Sn**	**21 21 57.9**	**0.0**
TAS	**Tashkent**	**2.46**	**301**⇓ *i*P		**Pn**	**21 21 30.0**	**+1.2**
TAS				⇓ *i*S	**Sb**	**21 22 01.8**	**-1.7**
IUG	**luzhnay**	**2.58**	**323** *e*P		**Pb**	**21 21 35.2**	**-0.4**
	35nm,0.3s						
IUG				*e*S	**Sb**	**21 22 09.7**	**+2.8**
	322nm,0.5s						
IUG	**luzhnay**	**2.58**	**323** Pg		**Pb**	**21 21 35.3**	**-0.4**
	35nm,0.3s						
IUG				Lg	Lg	21

DZA *e*S **Sb** **21 22 16.9 +2.0**
342nm,0.2s
DZA Taraz 2.86 349 Pg **Pb** **21 21 39.6 -0.7**
10nm,0.1s
DZA Lg Lg 21 22 16.9
342nm,0.2s
EKS2 Erkin-Say 2.86 26⇑*i*P **Pn** **21 21 33.7 -0.7**
baz=25
EKS2 ⇑*i*S **Sn** **21 22 08.1 -0.1**
baz=25
EKS2 Erkin-Say 2.86 26 P **Pn** **21 21 34.5 +0.1**
SNR=22
KZA Kyzart 3.10 49⇑*i*P **Pn** **21 21 37.0 -1.0**
baz=50
KZA ⇑*i*S **Sn** **21 22 13.8 -0.7**
baz=50
KZA Kyzart 3.10 49 P **Pn** **21 21 38.3 +0.3**
SNR=5.3
AAK Ala-Archa 3.12 35⇑*e*P **Pn** **21 21 36.8 -1.2**
baz=34
AAK ⇑*i*S **Sn** **21 22 14.3 -0.3**
baz=34
AAK Ala-Archa 3.12 35 P **Pn** **21 21 37.8 -0.2**
SNR=24
AAK Ala-Archa 3.12 35⇓Pg **Pn** **21 21 37.9 -0.2**
15nm,0.4s
AAK ⇑Lg Lg 21 22 17.1
62nm,0.6s
KK31 Karatay Array 3.24 339⇑Pn **Pn** **21 21 39.8 +0.4**
1.3nm,0.3s,baz=186,slow=35,SNR=77
KK31 ⇑Pg **Pb** **21 21 46.9 +0.1**
3.7nm,0.3s,baz=164,slow=18,SNR=24
KK31 ⇑Lg Lg 21 22 27.1
9.5nm,0.3s,baz=154,slow=29,SNR=6.1
FRU1 Bishkek 3.32 34⇑*i*P **Pn** **21 21 39.8 -0.8**
baz=34
FRU1 ⇑*i*S **Sn** **21 22 18.7 -0.7**
baz=34
KBK Karagaybulak 3.34 39⇓*i*P **Pn** **21 21 40.1 -1.0**
baz=39
KBK ⇓*i*S **Sn** **21 22 19.2 -0.9**
baz=39
KBK Karagaybulak 3.34 39 P **Pn** **21 21 41.7 +0.6**
SNR=11
BRLS Borolday 3.39 331 *e*P **Pb** **21 21 47.6 -1.8**
11nm,0.4s
BRLS *e*S **Sb** **21 22 30.9 +0.6**
70nm,0.3s
BRLS Borolday 3.39 331 Pg **Pb** **21 21 47.7 -1.8**
11nm,0.4s
BRLS Lg Lg 21 22 30.9
70nm,0.3s
CHMS Chumysh 3.52 34⇓*i*P **Pn** **21 21 42.6 -0.8**
baz=33
CHMS ⇓*i*S **Sn** **21 22 23.6 -0.8**
baz=33
CHMS Chumysh 3.52 34 P **Pn** **21 21 43.5 +0.1**
SNR=12
USP Ospenovka 3.65 29⇑*i*P **Pn** **21 21 44.2 -0.9**
baz=28
USP ⇑*i*S **Sn** **21 22 26.6 -0.9**
baz=28
USP Ospenovka 3.65 29 P **Pn** **21 21 44.9 -0.2**
SNR=17
BOOM Boomskoye usch 3.76 49⇓*i*P **Pn** **21 21 45.8 -1.0**
baz=49
BOOM ⇓*i*S **Sn** **21 22 29.1 -1.3**
baz=49
ULHL Ulahol 3.80 54⇓*i*P **Pn** **21 21 46.6 -0.7**
baz=55
ULHL ⇓*i*S **Sn** **21 22 30.5 -0.9**
baz=55
SGDS Sogindy 3.85 29 Pg **Pb** **21 21 56.1 -1.3**
15nm,0.5s
SGDS Lg Lg 21 22 44.8
38nm,0.7s
TKM2 Tokmak 2 3.86 42⇑*i*P **Pn** **21 21 47.4 -0.8**
baz=42
TKM2 ⇑*i*S **Sn** **21 22 31.7 -1.2**
baz=42
TKM2 Tokmak 2 3.86 42 P **Pn** **21 21 48.0 -0.2**
SNR=9.9
TKM2 Tokmak 2 3.86 42⇑Pn **Pn** **21 21 47.5 -0.7**
2.8nm,0.5s
TKM2 ⇑Pg **Pb** **21 21 57.4 -0.1**
14nm,0.5s
TKM2 ⇑Lg Lg 21 22 44.4
15nm,0.6s
KST Kastek 4.14 43 *e*P **Pb** **21 22 00.7 -1.5**
6.2nm,0.4s
KST *e*S **Sb** **21 22 52.6 +0.9**
21nm,0.6s
KST Kastek 4.14 43 Pg **Pb** **21 22 00.7 -1.5**
6.2nm,0.4s
KST Lg Lg 21 22 52.6
21nm,0.6s
DGS Degeres 4.18 40 *e*P **Pb** **21 22 01.2 -1.7**
5.5nm,0.6s
DGS *e*S **Sb** **21 22 54.1 +1.0**
31nm,0.5s
DGS Degeres 4.18 40 Pg **Pb** **21 22 01.2 -1.7**
5.5nm,0.6s
DGS Lg Lg 21 22 54.1
31nm,0.5s
KDJ Kajisay 4.35 60⇓*i*P **Pn** **21 21 54.0 -0.9**
baz=61
KDJ ⇓*i*S **Sn** **21 22 43.9 -1.0**
baz=61
MTBS Maitube 4.45 46 *e*P **Pb** **21 22 06.3 -1.1**
4.8nm,0.2s
MTBS *e*S **Sb** **21 23 03.2 +2.6**
18nm,0.4s
MTBS Maitube 4.45 46 Pg **Pb** **21 22 06.3 -1.1**
4.8nm,0.2s
MTBS Lg Lg 21 23 03.2
18nm,0.4s
IZV Izvestkoviy 4.49 48 *e*P **Pb** **21 22 08.4 +0.2**
2.5nm,0.6s
IZV *e*S **Sb** **21 23 06.2 +4.3**
29nm,0.6s
IZV Izvestkoviy 4.49 48 Pg **Pb** **21 22 08.4 +0.2**
2.5nm,0.6s
IZV Lg Lg 21 23 06.2
29nm,0.6s
TNSS Tian-Shan 4.68 49 *e*P **Pb** **21 22 10.7 -0.9**
2.6nm,0.5s
TNSS *e*S **Sb** **21 23 09.9 +2.3**
12nm,0.9s
TNSS Tian-Shan 4.68 49 Pg **Pb** **21 22 10.7 -0.9**
2.6nm,0.5s
TNSS Lg Lg 21 23 10.0
12nm,0.9s
MDOK Medeo 4.81 49 *e*P **Pb** **21 22 13.2 -0.6**
4.9nm,0.5s
MDOK *e*S **Sb** **21 23 14.1 +2.8**
15nm,1.0s
MDOK Medeo 4.81 49 Pg **Pb** **21 22 13.2 -0.6**
4.9nm,0.5s
MDOK Lg Lg 21 23 14.1
15nm,1.0s
KOTS Kotyrbulak 4.89 48 *e*P **Pb** **21 22 14.7 -0.5**
6.2nm,0.4s
KOTS *e*S **Sb** **21 23 16.9 +3.2**
66nm,1.0s
KOTS Kotyrbulak 4.89 48 Pg **Pb** **21 22 14.7 -0.5**
6.2nm,0.4s
KOTS Lg Lg 21 23 16.9
66nm,1.0s
KUU Kurty 4.94 38 *e*P **Pb** **21 22 15.3 -0.5**
4.4nm,1.0s
KUU *e*S **Sb** **21 23 17.7 +2.9**
14nm,0.8s
KUU Kurty 4.94 38 Pg **Pb** **21 22 15.3 -0.5**
4.4nm,1.0s
KUU Lg Lg 21 23 17.7
14nm,0.8s
ANVS Anan'yevo 4.97 55⇑*i*P **Pn** **21 22 02.7 -0.8**
baz=56
ANVS ⇑*i*S **Sn** **21 22 58.8 -1.6**
baz=56
KTBS Karatobe 4.98 42 *e*P **Pb** **21 22 14.7 -1.8**
1.5nm,0.5s
KTBS *e*S **Sb** **21 23 16.6 +0.7**
34nm,0.6s
KTBS Karatobe 4.98 42 Pg **Pb** **21 22 14.7 -1.8**
1.5nm,0.5s
KTBS Lg Lg 21 23 16.6
34nm,0.6s

BTLS Baital 5.15 16 *e*P **Pb** **21 22 18.9 -0.5**
1.0nm,0.2s
BTLS *e*S **Sb** **21 23 24.4 +3.6**
12nm,0.6s
BTLS Baital 5.15 16 Pg **Pb** **21 22 18.9 -0.5**
1.0nm,0.2s
BTLS Lg Lg 21 23 24.4
12nm,0.6s
SATY Saty 5.58 56 *e*P **Pb** **21 22 27.2 +0.4**
4.9nm,0.8s
SATY *e*S **Sb** **21 23 38.2 +4.8**
24nm,0.9s
SATY Saty 5.58 56 Pg **Pb** **21 22 27.2 +0.4**
4.9nm,0.8s
SATY Lg Lg 21 23 38.2
24nm,0.9s
UZB Uzynbulak 6.02 57 Pg **Pb** **21 22 36.4 +2.1**
2.5nm,0.5s
UZB Lg Lg 21 23 54.0
9.1nm,0.6s
MNBS Baschi 6.15 48 Pg Pb 21 22 40.7 +4.2
3.0nm,0.8s
MNBS Lg Lg 21 24 01.2
14nm,0.6s
PDGK Podgornoye 6.41 57⇑Pg **Pb** **21 22 42.8 +1.9**
3.6nm,0.9s
PDGK ⇓Lg Lg 21 24 04.5
10nm,0.8s
DJR Jarkent 7.11 51 Pg **Pb** **21 22 54.6 +1.8**
0.7nm,0.2s
DJR Lg Lg 21 24 25.4
4.5nm,0.9s
KAPS Kapalarasan 7.45 43 Pg **Pb** **21 22 59.3 +0.8**
0.9nm,0.5s
KAPS Lg Lg 21 24 34.0
5.1nm,0.9s
AB31 Akbulak array 12.59 321⇑Pn **Pn** **21 23 48.5 +0.9**
0.3nm,0.3s,baz=129,slow=14,SNR=17
AB31 ⇓Sn **Sn** **21 26 06.0 -0.9**
1.1nm,0.6s,baz=132,slow=23,SNR=4.2
AKTO Aktyubinsk 14.30 321⇓Pn **Pn** **21 24 13.1 +2.1**
2.4nm,1.1s
AKTO ⇓Sn **Sn** **21 26 47.9 -1.0**
2.5nm,0.7s

IDC 26 21:22:56.1±1.8, 4°.15N×127°.03E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/49, mbtmp3.5/5, Error ellipse: s-maj=112.0km s-min=24.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.14**	**184**	P	P	21 27 55.1	+1.4
	0.6nm,0.4s,baz=0.1,slow=9.5,SNR=1.6						
WRA	**Warramunga Arr**	**24.99**	**164**	P	P	21 28 21.6	-0.3
	0.7nm,0.7s,baz=340,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**28.44**	**167**	P	P	21 28 52.0	-0.9
	0.2nm,0.4s,baz=342,slow=7.8,SNR=4.1						
STKA	**Stephens Creek**	**38.41**	**160**	P	P	21 30 19.4	-0.1
	2.0nm,0.8s,baz=340,slow=8.4,SNR=4.5						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	21 32 46.6	+0.1
	0.2nm,0.4s,baz=111,slow=7.1,SNR=6.3						

*DJA **26** 22:11:46.4±0.6, 4°.S±3°.×10°.2E±°, h25km±5km, M4.5/18, mB5.6/2, mb4.7/7, MLv4.4/18, Mw(mB)5.1/2*
*NEIC **26** 22:11:47.7±0.6, 3°.92S±0°.08×102°.5E±0°.1, h58km±6km, mb4.2/19, Error ellipse: s-maj=19.5km s-min=5.4km az=59.0*
*IDC **26** 22:11:48.4±3.7, 3°.97S×102°.42E, h62km±31km, mb3.8/8, mb1 4.0/10, mb1mx3.6/40, mbtmp4.1/10, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/32, Error ellipse: s-maj=61.3km s-min=13.5km az=55.0*

ISC 26 22:11:47.6±0.7, 4°.06S±0°.08×102°.32E±0°.10, h65km, n69, σ1§24/64, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.48**	**34**	P	**Pn**	**22 11 59.8**	**-0.1**
MNAI	**Manna**	**0.70**	**116**	P	**Pn**	**22 12 01.5**	**-0.7**
MNAI				S	**Sn**	**22 12 12.9**	**-0.1**
MNAI	**Manna**	**0.70**	**116**	Pn	**Pn**	**22 12 01.4**	**-0.9**
LHSI	**Lahat**	**1.22**	**79**	P	**Pn**	**22 12 10.0**	**+1.2**
MDSI	**Maura Dua**	**1.90**	**103**	P	**Pn**	**22 12 18.6**	**+0.8**
LWLI	**Liwa**	**1.98**	**119**	P	**Pn**	**22 12 19.3**	**+0.3**
KRJI	**Kerinci**	**2.13**	**336**	P	**Pn**	**22 12 22.2**	**+1.1**
KLSI		**2.48**	**105**	P	**Pn**	**22 12 27.4**	**+1.6**
PMBI	**Palembang**	**2.69**	**65**	Pn	**Pn**	**22 12 25.6**	**-3.0**
BLSI	**Bandar Lampung**	**3.19**	**114**	P	**Pn**	**22 12 36.2**	**+0.7**
SDSI	**Sungai Dareh**	**3.23**	**344**	P	**Pn**	**22 12 37.7**	**+1.8**
DSRI	**Dabo**	**4.21**	**32**	P	**Pn**	**22 12 52.9**	**+3.6**
CGJI	**Cibinong**	**4.21**	**127**	P	**Pn**	**22 12 49.3**	**-0.1**
SISI	**Saibi**	**4.21**	**310**	P	**Pn**	**22 12 49.5**	**+0.1**
BKNI	**Bangkinang**	**4.54**	**344**	P	**Pn**	**22 12 55.8**	**+1.9**
BKNI	**Bangkinang**	**4.54**	**344**	Pn	**Pn**	**22 12 52.1**	**-1.8**
DBJI	**Dramaga**	**5.06**	**120**	P	**Pn**	**22 13 02.8**	**+1.8**
	0.3nm4µm26nm,0.5s						
MNSI	**Mandailing Nat**	**5.54**	**330**	P	**Pn**	**22 13 08.9**	**+1.3**
	0.2nm46nm,0.5s						
LEM	**Lembang**	**5.95**	**118**	P	**Pn**	**22 13 14.4**	**+1.1**
	3.6nm,0.3s,baz=319,slow=23,SNR=1.9						
CISI	**Cisompet, Garu**	**6.48**	**123**	Pn	**Pn**	**22 13 20.1**	**-0.4**
GSI	**Gunungsitoli**	**7.13**	**318**	P	**Pn**	**22 13 28.7**	**-0.6**
GSI	**Gunungsitoli**	**7.13**	**318**	Pn	**Pn**	**22 13 28.8**	**-0.6**
RPSI	**Rantau Prapat**	**7.52**	**333**	Pn	**Pn**	**22 13 34.5**	**-0.1**
RPSI	**Rantau Prapat**	**7.52**	**333**		**Pn**	**22 13 34.7**	**+0.1**
PSI	**Prapat**	**7.61**	**333**	P	**Pn**	**22 13 34.7**	**-1.3**
	1.1nm,0.3s,baz=181,slow=5.4,SNR=4.0						
MLSI	**Meulaboh, Aceh**	**10.16**	**324**	P	**Pn**	**22 14 10.1**	**-0.8**
	106nm,0.5s						
LHMI	**Lhok Sumawe**	**10.67**	**330**	Pn	**Pn**	**22 14 16.3**	**-1.5**
JAGI	**Jajag, Banyuwa**	**12.55**	**111**	Pn	**Pn**	**22 14 42.0**	**-1.5**
PBA	**Port Blair**	**18.29**	**329**		P	22 15 56.9	+0.6
UBPT	**Khong Chiam**	**19.46**	**9**	P	**P**	**22 16 07.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**22.62**	**352**	P	**P**	**22 16 43.1**	**-0.1**
	0.6nm,0.4s,baz=183,slow=9.2,SNR=7.3						
PSA00	**Pilbara Seismi**	**24.34**	**137**	P	**P**	**22 16 59.8**	**+0.2**
PSA00				IAmb	IAmb	22 17 10.2	
	comp=Z,8.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.75**	**123**	P	**P**	**22 17 21.8**	**+0.3**
	comp=Z,3.6nm,0.5s,baz=2.1,slow=4.6,SNR=12						
FITZ	**Fitzroy Crossi**	**26.75**	**123**	P	**P**	**22 17 21.7**	**+0.3**
FITZ				IAmb	IAmb	22 17 22.8	
	comp=Z,5.2nm,0.8s						
H08S2	**Diego Garcia H**	**29.88**	**262**	T	T	22 47 40.2	
	baz=84,slow=75,SNR=8.9						
H08S3	**Diego Garcia H**	**29.89**	**262**	T	T	22 48 01.6	
	baz=84,slow=75,SNR=8.2						
H08S1	**Diego Carcia H**	**29.90**	**262**	T	T	22 47 49.7	
	baz=338,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**32.57**	**162**	T	T	22 52 09.0	
	baz=338,slow=76,SNR=39						
H01W2	**Cape Leeuwin H**	**32.59**	**162**	T	T	22 52 07.6	
	baz=338,slow=76,SNR=51						
H01W1	**Cape Leeuwin H**	**32.59**	**162**	T	T	22 52 11.7	
	baz=338,slow=76,SNR=46						
WB0	**Warramunga Arr**	**34.95**	**119**	P	**P**	**22 18 34.1**	**+0.4**
WB0				IAmb	IAmb	22 18 46.9	
	comp=Z,3.4nm,0.7s						
WRA	**Warramunga Arr**	**34.97**	**119**	P	**P**	**22 18 34.1**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=309,slow=9.7,SNR=49						
WRA				PcP	**PcP**	**22 21 05.8**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=305,slow=2.0,SNR=4.6						
WRA	**Warramunga Arr**	**34.97**	**119**	P	**P**	**22 18 34.2**	**+0.3**
WB2	**Warramunga Arr**	**34.98**	**119**	P	**P**	**22 18 34.3**	**+0.4**
WR0	**Warramunga Arr**	**35.15**	**119**	P	**P**	**22 18 36.0**	**+0.5**
WR0				IAmb	IAmb	22 18 37.7	
	comp=Z,4.0nm,0.8s						
FORT	**Forrest**	**35.99**	**141**	P	**P**	**22 18 44.5**	**+2.0**
AS31	**Alice Springs**	**36.18**	**126**	P	**P**	**22 18 44.6**	**+0.4**
ASAR	**Alice Springs**	**36.18**	**126**	P	**P**	**22 18 44.7**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=299,slow=8.2,SNR=29						
ASAR				PcP	**PcP**	**22 21 09.6**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=306,slow=2.3,SNR=4.0						
ASAR	**Alice Springs**	**36.18**	**126**	P	**P**	**22 18 44.9**	**+0.6**
COEN	**Coen**	**41.47**	**106**	P	**P**	**22 19 27.9**	**-0.7**
COEN				IAmb	IAmb	22 19 43.5	
	comp=Z,3.8nm,0.9s						
BBOO	**Buckleboo**	**42.57**	**136**	P	**P**	**22 19 37.9**	**+0.6**
BBOO				IAmb	IAmb	22 19 39.3	
	comp=Z,4.4nm,0.9s						
HHC	**Hu-ho-hao-te**	**45.48**	**10**	*e*P	**P**	**22 19 56.0**	**-4.6**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,75nm,5.7s						
CTAO	**Charters Tower**	**45.64**	**114**	P	**P**	**22 20 02.4**	**+0.3**
CTAO				IAmb	IAmb	22 20 03.6	
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**46.06**	**132**	P	**P**	**22 20 06.4**	**+1.2**
	comp=Z,7.5nm,0.6s,baz=309,slow=8.2,SNR=26						
STKA	**Stephens Creek**	**46.06**	**132**	P	**P**	**22 20 06.4**	**+1.2**
STKA				IAmb	IAmb	22 20 07.3	
	comp=Z,1.8nm,0.6s						
WMQ	**Urumqi**	**49.45**	**346**	*e*P	**P**	**22 20 33.0**	**+1.7**
KDJ	**Kajisay**	**51.33**	**336**	P	**P**	**22 20 45.9**	**+0.2**
MK31	**Makanchi Array**	**53.64**	**343**	P	**P**	**22 21 02.5**	**0.0**
MKAR	**Makanchi Array**	**53.64**	**343**	P	**P**	**22 21 03.2**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=152,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**53.64**	**343**	P	**P**	**22 21 02.7**	**+0.2**
OPO	**Ambohidratompo**	**55.72**	**250**	LR	LR	22 41 39.5	
	comp=Z,18nm,19.7s,baz=96,slow=32						
KURK	**Kurchatov**	**58.24**	**343**	P	**P**	**22 21 35.4**	**+0.2**
KURK				IAmb	IAmb	22 21 49.2	
	comp=Z,2.1nm,0.8s						
ZAA0	**Zalesovo Array**	**59.62**	**348**	P	**P**	**22 21 44.4**	**-0.3**
ZALV	**Zalesovo Beam**	**59.62**	**348**	P	**P**	**22 21 45.4**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=165,slow=7.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**59.62**	**348**	P	**P**	**22 21 45.2**	**+0.5**
ABKAR	**Akbulak array**	**64.55**	**331**	P	**P**	**22 22 17.8**	**0.0**
ABKAR	**Akbulak array**	**64.55**	**331**	P	**P**	**22 22 18.4**	**+0.6**
ABKAR				IAmb	IAmb	22 22 32.5	
	comp=Z,1.7nm,0.8s						
VNDA	**Vanda**	**79.71**	**169**	P	**P**	**22 23 49.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=312,slow=5.1,SNR=5.0						
TXAR	**Lajitas Array**	**144.81**	**42**	PKP	**PKPdf**	**22 31 18.7**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=328,slow=0.8,SNR=21						

MAN 26 22:14:32.7, 6°.83N×124°.97E, h24km, mb4.1, ML2.9, MS2.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.22**	**33**⇑*i*P	Pb		22 14 35.9	-2.6
SKMP	**Bagumbayan, Su**	**0.52**	**235**	*e*P	Pb	22 14 44.0	+0.7
SKMP				*e*S	Sn	22 14 54.1	+1.3
DDMP	**Don Marcelino,**	**1.03**	**134**	*e*P	Pn	22 14 50.8	-0.8
DDMP				*e*S	Sn	22 15 05.6	+0.4
BUKP	**Musuan**	**1.05**	**5**	*e*P	Pn	22 14 51.4	-0.6
BUKP				*e*S	Sn	22 15 06.0	+0.1
CGP	**Cagayan de Oro**	**1.64**	**350**⇓*e*P	Pb		22 15 02.6	+0.3
CGP				*e*S	Sb	22 15 25.5	+2.9
APYP	**Conner**	**11.56**	**342**	*e*P	Pn	22 17 14.0	-2.3
SGCP	**Mt. Cagua**	**11.70**	**346**	*e*P	Pn	22 17 21.5	+3.3

*CNRM **26** 22:24:05.6±0.7, 36°.54N×7°.01W, h0km, Error ellipse: s-maj=7.7km s-min=5.7km az=66.0*
*LDG **26** 22:24:09.9±0.3, 37°.00N×6°.79W, h37km, Ml3.0/3, Error ellipse: s-maj=7.1km s-min=4.7km az=19.0*
*IGIL **26** 22:24:09.8, 36°.75N×6°.89W, h25km, ML3.1*
*INMG **26** 22:24:10.8±2.1, 36°.77N×6°.90W, h31km±9km, ML2.9, Error ellipse: s-maj=3.7km s-min=2.6km az=32.0*
*SFS **26** 22:24:10.0, 36°.70N×6°.80W, h37km, ML3.0, GOLFO DE CADIZ*
*MDD **26** 22:24:10.3±0.5, 36°.79N×6°.90W, h45km±16km, Error ellipse: s-maj=5.6km s-min=3.5km az=31.0, PRXIMO*

ISC 26 22:24:06.1±1.0, 36°.68N±0°.02×6°.94W±0°.02, h15km±8km, n103, σ1§61/148, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFS	**San Fernando**	**0.63**	**110**	P	Pn	22 24 29.3	+8.8
SFS				S	**Sn**	**22 24 32.9**	**+2.8**
SFS	**San Fernando**	**0.63**	**110**	*e*P	Pn	22 24 29.3	+8.8
SFS				*i* S	**Sn**	**22 24 32.9**	**+2.8**
CNIL	**Conil**	**0.78**	**113**	P	**Pn**	**22 24 24.2**	**+1.8**
CNIL				S	**Sg**	**22 24 28.0**	**-3.5**
CNIL	**Conil**	**0.78**	**113**	*e*P	**Pn**	**22 24 24.2**	**+1.8**
CNIL				*e*S	**Sg**	**22 24 28.0**	**-3.5**
ESPR	**Espera**	**0.89**	**78**⇑P	**Pg**		**22 24 24.8**	**+1.4**
	37nm,0.1s,SNR=18						
ESPR				S	**Sg**	**22 24 35.8**	**+0.8**
	1µm,0.3s,SNR=5.0						
PVAQ	**Vaqueiros**	**0.95**	**319**	P	**Pg**	**22 24 25.6**	**+1.0**
	SNR=384						
PVAQ				S	**Sg**	**22 24 38.2**	**+1.1**
PVAQ	**Vaqueiros**	**0.95**	**319**⇓*i*P	**Pb**		**22 24 26.1**	**+1.8**
PVAQ				*e*S	**Sg**	**22 24 37.6**	**+0.6**
PVAQ				A	A	22 24 38.0	
	476nm,0.2s						
EGRO	**El Granado**	**0.95**	**333**⇓P	**Pg**		**22 24 25.9**	**+1.3**
	51nm,0.1s,SNR=18						
EGRO				S	**Sg**	**22 24 37.2**	**+0.1**
	294nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**0.97**	**305**⇓*i*P	**Pb**		**22 24 26.6**	**+2.0**
PBDV				*e*S	**Sg**	**22 24 38.8**	**+1.1**
PBDV				A	A	22 24 40.9	
	88nm,0.5s						
EMIN	**Mina Concepcio**	**1.10**	**11**⇓P	**Pg**		**22 24 27.1**	**-0.3**
	27nm,0.1s,SNR=18						
EMIN				S	**Sg**	**22 24 39.4**	**-2.5**
	57nm,0.1s,SNR=29						
PCVE	**Castro Verde**	**1.29**	**317**⇓*i*P	**Pg**		**22 24 30.7**	**-0.3**
PCVE				*e*S	**Sg**	**22 24 45.8**	**-2.1**
PCVE				A	A	22 24 48.6	
	48nm,0.3s						
ECEU	**Ceuta**	**1.49**	**121**⇓P	**Pb**		**22 24 34.2**	**+0.9**
	6.4nm,0.1s,SNR=18						
CEU	**Ceuta**	**1.49**	**121**	P	**Pb**	**22 24 34.6**	**+1.2**
CEU				S	**Sn**	**22 24 53.6**	**+2.2**
CEU	**Ceuta**	**1.49**	**121**	*e*P	**Pb**	**22 24 34.6**	**+1.2**
CEU				*e*S	**Sn**	**22 24 53.6**	**+2.2**
PBAR	**Barrancos**	**1.49**	**357**⇑*e*Pn	**Pn**		**22 24 32.9**	**+0.6**
PBAR				*e*Sn	**Sn**	**22 24 49.3**	**-2.2**
PBAR				A	A	22 24 51.1	
	71nm,0.1s						
MORF	**Marmelete**	**1.50**	**295**	*e*P	**Pn**	**22 24 33.9**	**+1.3**
MORF				*e*S	**Sg**	**22 24 51.5**	**-3.2**
MORF				AML	AML	22 24 52.5	
	comp=E,203nm,0.2s						
MORF	**Marmelete**	**1.50**	**295**	P	**Pn**	**22 24 33.9**	**+1.3**
MORF				S	**Sg**	**22 24 51.5**	**-3.2**
	comp=E,203nm,0.2s						
MORF	**Marmelete**	**1.50**	**295**⇓*e*Pn	**Pn**		**22 24 33.9**	**+1.3**
MORF				*e*Sn	**Sg**	**22 24 51.7**	**-3.0**
MORF				A	A	22 24 52.5	
	comp=E,122nm,0.1s						
PBEJ	**Beja**	**1.53**	**331**	*e*Pn	**Pn**	**22 24 33.7**	**+0.8**
PBEJ				*e*Sn	**Sn**	**22 24 50.9**	**-1.6**
PBEJ				A	A	22 24 51.5	
	comp=E,51nm,0.1s						
PFVI	**Vila Bisbo**	**1.58**	**287**⇓P	**Pn**		**22 24 35.0**	**+1.5**
	comp=E,4.6nm,0.2s,SNR=18						
PFVI				S	**Sn**	**22 24 53.2**	**-0.5**
	comp=E,74nm,0.1s,SNR=7.8						
PFVI	**Vila Bisbo**	**1.58**	**287**	P	**Pn**	**22 24 35.0**	**+1.5**
	SNR=22						
PFVI				S	**Sg**	**22 24 57.2**	**+0.2**
PFVI	**Vila Bisbo**	**1.58**	**287**	*e*Pn	**Pn**	**22 24 35.0**	**+1.5**
PFVI				*e*Sn	**Sn**	**22 24 53.1**	**-0.5**
PFVI				A	A	22 24 57.4	
	comp=E,45nm,0.1s						
SMIR	**Smir Dam**	**1.61**	**128**	P	**Pg**	**22 24 36.0**	**-1.0**
SMIR				S	**Sg**	**22 24 56.1**	**-1.8**
PTEO	**Sao Teotonio**	**1.67**	**302**	*e*Pn	**Pn**	**22 24 36.5**	**+1.8**
PTEO				*e*Sn	**Sn**	**22 24 55.7**	**-0.1**
PTEO				A	A	22 24 57.4	
	comp=E,36nm,0.6s						
HORN	**Hornachuelos**	**1.77**	**49**	P	**Pg**	**22 24 42.1**	**+1.9**
HORN				S	**Sn**	**22 25 03.6**	**+5.1**
ECAB	**El Cabril**	**1.84**	**41**⇓P	**Pn**		**22 24 36.9**	**-0.3**
	comp=E,0.7nm,0.1s,SNR=18						
ECAB				S	Sn	22 24 56.1	-4.1
	comp=E,89nm,0.1s,SNR=8.4						
PNCL	**Nicolau / Gran**	**1.91**	**319**⇓*e*Pn	**Pn**		**22 24 39.2**	**+1.2**
PNCL				*e*Sn	**Sn**	**22 25 00.1**	**-1.6**
PNCL				A	A	22 25 01.7	
	comp=E,58nm,0.1s						
RSA	**Sarsar**	**2.01**	**153**	P	**Pb**	**22 24 41.4**	**-1.0**
RSA				S	**Sb**	**22 25 05.2**	**-2.0**
CHEFC	**Chefchaouen**	**2.04**	**140**	P	**Pb**	**22 24 42.7**	**-0.1**
CHEFC				S	**Sn**	**22 25 06.0**	**+0.9**
EGOR	**Sierra Gorda,**	**2.31**	**79**	P	**Pn**	**22 24 45.5**	**+1.9**
	comp=E,0.1nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**22 25 09.6**	**-2.2**
	comp=E,12nm,0.3s,SNR=7.9						

EADA Adamuz 2.39 51 P **Pn** **22 24 45.1 +0.3**
comp=E,0.6nm,0.2s,SNR=7.9
EADA S Sn 22 25 09.5 -4.3
comp=E,12nm,0.1s,SNR=7.9
PMTG Montargil 2.59 337 ||*i*Pn **Pn** **22 24 48.1 +0.7**
PMTG *e*Sn **Sn** **22 25 15.8 -2.8**
PMTG A A 22 25 18.3
comp=E,50nm,0.4s
PVLZ Peæn de 2.62 124 P **Pn** **22 24 48.4 +0.6**
PVLZ S **Sn** **22 25 18.2 -1.1**
PVLZ Peæn de 2.62 124 *e*P **Pn** **22 24 48.4 +0.6**
PVLZ *e*S **Sn** **22 25 18.2 -1.1**
ELGU Los Guajares, 2.67 85 P **Pn** **22 24 49.9 +1.3**
comp=E,0.8nm,0.1s,SNR=7.9
ELGU S Sn 22 25 14.5 -6.1
comp=E,7.3nm,0.2s,SNR=7.9
PMRV Marv??o 2.76 353||*e*Pn **Pn** **22 24 50.4 +0.6**
PMRV *e*Sn Sn 22 25 19.2 -3.7
PMRV A A 22 25 21.3
comp=E,29nm,0.3s
EQUE Quentar 2.85 78 P **Pn** **22 24 53.0 +1.9**
comp=E,0.3nm,0.1s,SNR=7.9
EQUE S **Sn** **22 25 22.3 -2.9**
comp=E,1.1nm,0.1s,SNR=7.9
SICH Sidi Chahed 2.90 152 S **Sn** **22 25 27.0 +0.9**
PMAFR Mafra 2.93 321 P **Pn** **22 24 53.5 +1.4**
comp=E,3.2nm,0.2s,SNR=11
PMAFR S **Sn** **22 25 24.4 -2.6**
comp=E,78nm,0.2s,SNR=7.9
PMAFR Mafra 2.93 321 *e*Pn **Pn** **22 24 53.6 +1.4**
PMAFR *e*Sn **Sn** **22 25 25.7 -1.3**
PMAFR A A 22 25 27.8
comp=E,58nm,0.2s
PCBR Castelo Branco 3.18 352||*e*Pn **Pn** **22 24 56.2 +0.7**
PCBR *e*Sn Sn 22 25 29.1 -4.1
PCBR A A 22 25 31.4
comp=E,32nm,0.2s
PSBE So Bento 3.18 333||*e*Pn **Pn** **22 24 57.7 +2.1**
PSBE *e*Sn **Sn** **22 25 31.0 -2.3**
PSBE A A 22 25 37.3
comp=E,15nm,0.5s
EBER Berja 3.26 85 P **Pn** **22 24 58.3 +1.5**
comp=E,0.6nm,0.2s,SNR=7.9
EBER S **Sn** **22 25 33.7 -1.6**
comp=E,7.4nm,0.3s,SNR=7.9
EQES Quesada 3.28 69 P **Pn** **22 24 57.7 +0.7**
comp=E,0.2nm,0.1s,SNR=7.9
EQES S **Sn** **22 25 32.9 -3.0**
comp=E,3.5nm,0.1s,SNR=7.9
AVE Averroes 3.40 187 S **Sn** **22 25 39.0 +0.4**
AVE Averroes 3.40 187 *e*P **Pn** **22 25 00.5 +2.0**
AVE *e*S **Sn** **22 25 37.6 -1.0**
EPLA Plasencia 3.44 11 P **Pn** **22 24 59.4 +0.2**
comp=E,4.8nm,0.1s,SNR=61
EPLA S Sn 22 25 35.5 -4.2
comp=E,26nm,0.2s,SNR=24
IFR Ifrane 3.49 154 *e*P **Pn** **22 25 00.3 +0.4**
IFR *e*S **Sn** **22 25 37.8 -3.3**
PCAS Casmilo, Conde 3.58 340 *e*Pn **Pn** **22 25 01.9 +0.9**
PCAS *e*Sn **Sn** **22 25 40.3 -2.7**
PCAS A A 22 25 41.7
comp=E,10nm,0.2s
COI Coimbra 3.70 342 *e*Sn **Sn** **22 25 43.5 -2.6**
SESP Santiago Espad 3.78 66 P **Pn** **22 25 04.2 +0.3**
comp=E,0.3nm,0.1s,SNR=7.9
SESP S Sn 22 25 43.7 -4.5
comp=E,7.1nm,0.1s,SNR=7.9
SESP Santiago Espad 3.78 66 P **Pn** **22 25 03.6 -0.4**
ESDC Sonseca Array 3.80 37 P **Pn** **22 25 04.4 +0.3**
comp=E,1.8nm,0.1s,baz=223,slow=13,SNR=11
ESDC S Sn 22 25 43.2 -5.3
comp=E,3.8nm,0.2s,baz=221,slow=23,SNR=4.2
CZD Col de Zad 3.96 156 P **Pn** **22 25 08.8 +2.2**
CZD S **Sn** **22 25 55.7 +2.8**
PVIS Viseu 4.09 350 *e*Pn **Pn** **22 25 08.8 +0.6**
PVIS *e*Sn Sn 22 25 51.4 -4.4
PVIS A A 22 25 54.1
comp=E,25nm,0.5s
MD31 MD31 4.21 154 P **Pn** **22 25 10.7 +1.0**
MD31 S **Sn** **22 25 56.4 -2.3**
JBK JBK 4.27 122 P **Pn** **22 25 10.7 +0.1**
JBK S **Sn** **22 25 58.9 -1.3**
SRHM Skhour des Reh 4.28 191 P **Pn** **22 25 13.8 +3.1**
SRHM S **Sn** **22 26 01.2 +0.9**
MVO Moncorvo 4.47 359 P **Pn** **22 25 14.0 +0.6**
comp=E,3.4nm,0.1s,SNR=22
MVO S Sn 22 25 59.4 -5.8
comp=E,38nm,0.1s,SNR=16
MVO Moncorvo 4.47 359 *e*Pn **Pn** **22 25 13.9 +0.5**
MVO *e*Sn Sn 22 26 00.5 -4.7
MVO A A 22 26 03.0
comp=E,29nm,0.2s
GUD Guadarrama 4.51 28 P **Pn** **22 25 15.5 +1.5**
comp=E,2.9nm,0.2s,SNR=26
GUD S Sn 22 26 02.0 -4.2
comp=E,2.0nm,0.1s,SNR=7.1
PVRL Vila Real 4.62 353 *e*Pn **Pn** **22 25 16.0 +0.6**
PVRL *e*Sn Sn 22 26 03.9 -5.0
PVRL A A 22 26 06.9
comp=E,29nm,0.3s
UCM Universidad Co 4.64 38 P **Pn** **22 25 16.5 +0.9**
UCM S Sn 22 26 04.1 -5.0
UCM Universidad Co 4.64 38 *e*P **Pn** **22 25 16.5 +0.9**
UCM *e*S Sn 22 26 04.1 -5.0
EMUR La Murta 4.69 74 S **Sn** **22 26 06.6 -3.8**
comp=E,0.9nm,0.2s,SNR=7.9
ETOB Tobarra 4.70 64 P **Pn** **22 25 16.0 -0.5**
comp=E,0.8nm,0.1s,SNR=18
ETOB S Sn 22 26 06.4 -4.5
comp=E,5.4nm,0.1s,SNR=6.8
PCAB Cabril 5.09 351 *e*Pn **Pn** **22 25 22.4 +0.6**
PCAB *e*Sn Sn 22 26 15.6 -4.7
PCAB A A 22 26 18.6
comp=E,14nm,0.2s
PBRG Braganca 5.12 2 *e*Pn **Pn** **22 25 22.5 +0.3**
PBRG *e*Sn Sn 22 26 15.2 -5.8
PBRG A A 22 26 18.8
comp=E,7.9nm,0.1s
ELOB Lobios 5.25 351 P **Pn** **22 25 24.4 +0.3**
comp=E,3.1nm,0.1s,SNR=23
ELOB S Sn 22 26 18.6 -5.8
comp=E,20nm,0.1s,SNR=5.0
ECAL Calabor 5.25 2 P **Pn** **22 25 24.6 +0.5**
comp=E,3.6nm,0.1s,SNR=32
ECAL S Sn 22 26 18.8 -5.6
comp=E,7.4nm,0.2s
PGAV Gavieira, Arco 5.38 349 *e*Pn **Pn** **22 25 26.2 +0.4**
PGAV *e*Sn Sn 22 26 22.0 -5.4
PGAV A A 22 26 28.4
comp=E,6.9nm,0.6s
EAH EAH 5.48 204 P **Pn** **22 25 26.7 -0.4**
SNR=5.0
EAH P **Pn** **22 25 26.8 -0.4**
EAH S **Sn** **22 26 30.7 +0.8**
OUK Oukaimeden 5.52 188 P **Pn** **22 25 29.6 +1.6**
OUK S **Sn** **22 26 28.9 -2.4**
ECHE Chera 5.53 57 P **Pn** **22 25 27.8 -0.1**
comp=E,0.3nm,0.1s,SNR=7.9
ECHE S Sn 22 26 25.7 -5.4
comp=E,3.3nm,0.3s,SNR=7.9
ETOR Torete 5.62 41 P **Pn** **22 25 29.8 +0.6**
comp=E,11nm,0.1s,SNR=22
ETOR S Sn 22 26 26.6 -6.9
comp=E,14nm,0.2s
EZAM Zamans 5.62 347 P **Pn** **22 25 29.7 +0.6**
comp=E,4.1nm,0.1s,SNR=7.9
EZAM S Sn 22 26 27.0 -6.4
comp=E,5.9nm,0.3s,SNR=7.9
EBEN2 Beniarda presa 5.71 68 P **Pn** **22 25 31.4 +1.1**
comp=E,0.4nm,0.1s,SNR=7.9
EBEN2 S Sn 22 26 28.9 -6.7
comp=E,2.5nm,0.2s,SNR=7.9
OUZM OUZ 5.76 178 P **Pn** **22 25 33.3 +2.2**
TZRR Tazzarine 5.99 169 P **Pn** **22 25 36.1 +1.9**
SNR=6.0
TZRR P **Pn** **22 25 36.2 +1.9**
TZRR S **Sn** **22 26 43.4 +0.7**
TTIG Tnine Tigouga, 6.25 192 P **Pn** **22 25 36.2 -1.6**
EMOS Mosqueruela 6.26 52 P **Pn** **22 25 38.7 +0.6**
comp=E,0.6nm,0.3s,SNR=7.9
EMOS S Sn 22 26 42.1 -7.2
comp=E,2.3nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.45 347 P **Pn** **22 25 40.9 +0.4**
comp=E,1.2nm,0.1s,SNR=7.9
EMAZ S Sn 22 26 46.7 -7.1
comp=E,2.2nm,0.1s,SNR=7.9
EPON Pontenova 6.64 359 P **Pn** **22 25 43.6 +0.5**
comp=E,1.0nm,0.3s,SNR=7.9
EPON S Sn 22 26 51.3 -7.0
comp=E,1.0nm,0.2s,SNR=7.9
EARI Arriondas 6.74 11 P **Pn** **22 25 45.0 +0.5**
comp=E,0.2nm,0.1s,SNR=7.9
EARI S Sn 22 26 53.9 -7.1
comp=E,0.6nm,0.1s,SNR=7.9
ELAN Lanestosa 7.07 21 P **Pn** **22 25 49.4 +0.4**
comp=E,0.2nm,0.1s,SNR=7.9
ELAN S Sn 22 27 02.5 -6.6
comp=E,1.0nm,0.1s,SNR=7.9
ERTA Horta de San J 7.10 51 P **Pn** **22 25 50.6 +1.2**
comp=E,0.9nm,0.4s,SNR=7.9
ERTA S Sn 22 27 04.3 -5.5
comp=E,1.4nm,0.4s,SNR=7.9
EORO Oroz-Betelu 7.56 33 P **Pn** **22 25 57.1 +1.3**
comp=E,0.3nm,0.1s,SNR=7.0
EORO S Sn 22 27 13.1 -8.1
comp=E,2.6nm,0.4s,SNR=7.9
EALK Alkurruntz 7.75 31 P **Pn** **22 25 59.0 +0.7**
comp=E,0.8nm,0.2s,SNR=7.3
EALK S Sn 22 27 17.2 -8.5
comp=E,7.3nm,0.3s,SNR=7.9
SJPF Ste Jean 7.78 33 *e*P **Pn** **22 25 59.3 +0.6**
SJPF *e*Sn Sn 22 27 13.2 -13
comp=E,1.0nm,0.2s
SJPF Ste Jean 7.78 33 P **Pn** **22 25 59.3 +0.6**
SJPF S Sn 22 27 13.2 -13
comp=E,0.0nm,0.2s
ETSF Etsaut 7.91 36 *e*P **Pn** **22 26 01.1 +0.5**
ETSF *e*Sn Sn 22 27 16.7 -13
comp=E,0.8nm,0.2s
ETSF Etsaut 7.91 36 P **Pn** **22 26 01.1 +0.5**
ETSF S Sn 22 27 16.7 -13
comp=E,0.4nm,0.2s
ATE Arette 7.99 35 P **Pn** **22 26 02.0 +0.4**
comp=E,0.2nm,0.1s,SNR=7.9
ATE S Sn 22 27 25.2 -6.5
comp=E,1.7nm,0.4s,SNR=7.9
EPF Esparros 8.45 39 *e*Pn Pn 22 26 04.1 -3.9
EPF *e*Sn Sn 22 27 29.5 -14
comp=E,1.1nm,0.2s
EPF Esparros 8.45 39 P Pn 22 26 04.1 -3.9
EPF S Sn 22 27 29.5 -14
comp=E,0.6nm,0.2s
RJF Les Rejaudoux 10.72 34 *e*P **Pn** **22 26 38.1 -0.9**
RJF Les Rejaudoux 10.72 34 P **Pn** **22 26 38.1 -0.9**
MFF Saint Martin d 11.13 25 *e*P **Pn** **22 26 45.0 +0.4**
MFF Saint Martin d 11.13 25 P **Pn** **22 26 45.0 +0.4**
QUIF Quistinic 11.57 13 *e*P **Pn** **22 26 51.4 +0.9**
QUIF Quistinic 11.57 13 P **Pn** **22 26 51.4 +0.9**
SGMF Saint Gilles 12.00 14 *e*P **Pn** **22 26 57.1 +0.6**
SGMF Saint Gilles 12.00 14 P **Pn** **22 26 57.1 +0.6**

*NEIC **26** 22:57:32.4±2.8, 17.0N±0.1×46.9W±0.1, h10km±1km, mb4.7/23, Error ellipse: s-maj=19.9km s-min=16.6km az=177.0*
*IDC **26** 22:57:32.6±0.9, 16.74N×46.63W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.7/43, mbtmp3.9/8, ML3.5/1, MS3.3/9, Ms1 3.3/9, ms1mx3.1/38, Error ellipse: s-maj=29.3km s-min=22.4km az=140.0*

ISC 26 22:57:32.6±0.6, **16.99N**±0.10×**46.88W**±0.08, **h10**km, **n45**, σ1.9**62**/33, **mb4.6**/17, **MS3.3**/8, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**12.82**	**254**	Pn	**Pn**		**23 00 33.3**	**-1.8**
MDP	**Montagnes des**	**13.09**	**206**	Pn	**Pn**		**23 00 38.7**	**-0.1**
	0.3nm,0.3s,baz=14,slow=16,SNR=5.6							
MDP				LR	LR		23 04 50.0	
	comp=Z,20nm,19.3s,baz=55,slow=34							
H05S1	**Guadeloupe/Mar**	**13.67**	**261**	T	T		23 15 01.4	
	SNR=5.9							
SVB	**Belmont**	**14.35**	**257**	Pn	**Pn**		**23 00 56.8**	**+0.8**
SABA	**Saba**	**15.63**	**275**		**Pn**		**23 01 15.9**	**+2.8**
STVI	**Saint Thomas**	**17.27**	**277**	Pn	**Pn**		**23 01 31.1**	**-3.0**
PTGA	**Pitinga**	**21.83**	**217**	P	**P**		**23 02 25.6**	**+0.3**
	2.4nm,0.3s,baz=17,slow=14,SNR=2.4							
PTGA				LR	LR		23 09 54.8	
	comp=Z,111nm,20.7s,baz=16,slow=34							
BBSR	**BB Station**	**22.23**	**317**	P	**P**		**23 02 29.6**	**+0.2**
BBSR				IAmb	IAmb		23 02 42.4	
	comp=Z,24nm,1.1s							
RCBR	**Riachuelo**	**25.14**	**153**	LR	LR		23 10 22.4	
	comp=Z,68nm,18.3s,baz=347,slow=31							
MTDJ	**Mount Denham**	**29.23**	**277**	P	**P**		**23 03 35.6**	**+0.7**
MTDJ				IAmb	IAmb		23 03 50.3	
	comp=Z,39nm,1.3s							
ROSC	**El Rosal**	**29.47**	**249**	LR	LR		23 17 40.8	
	comp=Z,69nm,18.4s,baz=60,slow=41							
MACI	**Morro de la Ar**	**30.11**	**63**	P	**P**		**23 03 42.1**	**-0.7**
CBCY	**The Bluff, Cay**	**31.29**	**280**	P	**P**		**23 03 51.8**	**-1.2**
LMN	**Caledonia Moun**	**32.43**	**336**	P	**P**		**23 04 01.5**	**-1.3**
LMN				IAmb	IAmb		23 04 05.4	
	comp=Z,20nm,1.4s							
KMSC	**Kings Mountain**	**35.60**	**307**	P	**P**		**23 04 30.4**	**0.0**
KMSC				IAmb	IAmb		23 04 32.0	
	comp=Z,16nm,1.3s							
SIV	**San Ignacio**	**35.63**	**204**	LR	LR		23 18 06.8	
	comp=Z,32nm,20.1s,baz=116,slow=35							
MCWV	**Mont Chateau**	**36.45**	**315**	P	**P**		**23 04 35.1**	**-2.6**
MCWV				IAmb	IAmb		23 04 35.5	
	comp=Z,17nm,1.5s							
S51A	**Beattyville**	**38.23**	**310**	P	**P**		**23 04 52.4**	**-0.4**
S51A				IAmb	IAmb		23 04 55.1	
	comp=Z,30nm,1.5s							
250A	**Grady**	**38.59**	**300**	P	**P**		**23 04 55.9**	**0.0**
250A				IAmb	IAmb		23 04 59.2	
	comp=Z,11nm,0.6s							
LPAZ	**La Paz**	**39.14**	**213**	P	**P**		**23 05 03.0**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=17,slow=6.0,SNR=4.1							
LPAZ				LR	LR		23 20 18.7	
	comp=Z,40nm,19.4s,baz=40,slow=35							
LPAZ	**La Paz**	**39.14**	**213**	P	**P**		**23 05 01.3**	**0.0**
H10N3	**ASCENSION HYDR**	**40.42**	**125**	T	T		23 47 36.3	
	baz=307,slow=75,SNR=60							
H10N2	**ASCENSION HYDR**	**40.43**	**125**	T	T		23 47 35.8	
	baz=307,slow=75,SNR=53							
H10N1	**ASCENSION HYDR**	**40.44**	**125**	T	T		23 47 37.8	
	baz=307,slow=75,SNR=65							
H10S3	**ASCENSION HYDR**	**40.98**	**127**	T	T		23 48 21.5	
	baz=305,slow=74,SNR=25							
H10S2	**ASCENSION HYDR**	**41.00**	**127**	T	T		23 48 22.8	
	baz=275,slow=74,SNR=11							
NNA	**Nana**	**41.30**	**228**	LR	LR		23 22 25.9	
	comp=Z,42nm,18.7s,baz=18,slow=36							
DBIC	**Dimbokro**	**42.31**	**99**	P	**P**		**23 05 25.8**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=287,slow=14,SNR=1.7							
DBIC				LR	LR		23 19 45.2	
	comp=Z,56nm,20.3s,baz=280,slow=32							
DBIC	**Dimbokro**	**42.31**	**99**	IAmb	IAmb		23 05 41.3	
	comp=Z,18nm,1.4s							
M44A	**Midewin, Midew**	**42.83**	**313**	P	**P**		**23 05 30.6**	**-0.2**
M44A				IAmb	IAmb		23 05 37.3	
	comp=Z,16nm,1.1s							
FCAR	**Ozark Folk Cen**	**44.22**	**304**	P	**P**		**23 05 42.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**46.97**	**88**	P	**P**		**23 06 02.9**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=290,slow=7.0,SNR=3.7							
TORD				LR	LR		23 22 20.6	
	comp=Z,102nm,21.3s,baz=335,slow=32							
TORD	**Torodi Ar. Bea**	**46.97**	**88**	IAmb	IAmb		23 06 05.8	
	comp=Z,1.2nm,1.1s							
T35A	**Sooner Cattle**	**47.90**	**305**	P	**P**		**23 06 09.3**	**-1.9**
T35A				IAmb	IAmb		23 06 11.8	
	comp=Z,4.7nm,0.8s							
KEST	**Kesra**	**53.02**	**58**	P	**P**		**23 06 50.2**	**+0.3**
KEST				IAmb	IAmb		23 06 52.0	
	comp=Z,7.6nm,1.1s							
VSL	**Villasalto**	**53.47**	**53**	P	**P**		**23 06 53.5**	**+0.4**
ISCO	**Idaho Springs**	**55.40**	**307**	P	**P**		**23 07 06.9**	**-0.7**
PDAR	**Pinedale Array**	**58.67**	**310**	P	**P**		**23 07 33.5**	**+2.9**
	comp=Z,0.5nm,0.5s,baz=93,slow=9.9,SNR=1.1							
PDAR	**Pinedale Array**	**58.67**	**310**	P	**P**		**23 07 30.3**	**-0.3**
ELK	**Elko**	**62.81**	**307**	P	**P**		**23 08 00.2**	**+1.3**
AKASG	**Malin Array Be**	**68.27**	**42**	P	**P**		**23 08 36.6**	**+3.0**
	comp=Z,0.4nm,0.4s,baz=287,slow=6.5,SNR=4.5							
DOT	**Dot Lake**	**78.08**	**333**	P	**P**		**23 09 29.8**	**-1.6**
ILAR	**Eielson Array**	**78.98**	**335**	P	**P**		**23 09 40.0**	**+3.7**
	comp=Z,1.5nm,0.9s,baz=74,slow=4.9,SNR=9.5							
ILAR	**Eielson Array**	**78.98**	**335**	P	**P**		**23 09 37.9**	**+1.5**
HMT	**Hamilton**	**79.00**	**330**	P	**P**		**23 09 37.3**	**+0.7**

*IDC **26** 22:59:50.6±3.4, 14.64S×167.51E, h123km±27km, mb4.0/7, mb1 4.1/9, mb1mx3.7/38, mbtmp4.5/9, Error ellipse: s-maj=34.7km s-min=17.1km az=45.0*
*NEIC **26** 22:59:51.9±1.5, 14.78S±0.1×167.4E±0.1, h130km±3km, mb4.3/16, Error ellipse: s-maj=17.8km s-min=15.2km az=77.0*

ISC 26 22:59:51.7±0.8, **14.78S**±0.08×**167.42E**±0.09, **h129**km, **n39**, σ1.9**50**/39, **mb4.3**/10, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.69**	**197**		**Pn**		**23 00 12.5**	**+0.6**
SANVU					Sn		**23 00 27.9**	**+0.7**
DZM	**Mont Dzumac**	**7.31**	**187**	P	**Pn**		**23 01 36.3**	**+0.4**
	5.9nm,0.3s,baz=23,slow=13,SNR=86							
DZM				S	**Sn**		**23 02 53.3**	**-4.2**
	2.5nm,0.3s,baz=332,slow=24,SNR=2.4							
DZM	**Mont Dzumac**	**7.31**	**187**		**Pn**		**23 01 36.3**	**+0.4**
DZM					**Sn**		**23 02 58.9**	**+1.4**
HNR	**Honiara**	**9.03**	**305**	P	**Pn**		**23 01 57.9**	**-1.2**
	baz=125,slow=16,SNR=1.1							
HNR				S	**Sn**		**23 03 39.5**	**+0.3**
	5.9nm,0.3s,baz=277,slow=17,SNR=1.2							
EIDS	**Eidsvold**	**18.59**	**233**	P	**P**		**23 03 59.0**	**0.0**
EIDS				IAmb	IAmb		23 04 02.4	
	comp=Z,11nm,0.7s							
RAO	**Raoul Island**	**19.77**	**139**	P	**P**		**23 04 09.9**	**-1.9**
CTA	**Charters Tower**	**20.86**	**252**	P	Pn		23 04 25.5	-2.0
	comp=Z,6.0nm,0.8s,baz=79,slow=13,SNR=12							
CTAO	**Charters Tower**	**20.86**	**252**	P	**P**		**23 04 24.3**	**+0.7**
CTAO				IAmb	IAmb		23 04 26.4	
	comp=Z,8.5nm,0.8s							
OUZ	**Omahuta**	**21.10**	**166**	P	**P**		**23 04 27.1**	**+1.2**
OUZ				IAmb	IAmb		23 04 29.6	
	comp=Z,14nm,0.9s							
NIUE	**Niue**	**22.09**	**104**	P	**P**		**23 04 34.7**	**-1.9**
TOZ	**Tahuroa Road**	**23.96**	**164**	P	**P**		**23 04 56.8**	**+2.8**
HAZ	**Te Kaha**	**24.66**	**160**	P	**P**		**23 05 02.5**	**+2.1**
URZ	**Urewera**	**24.91**	**162**	P	**P**		**23 05 03.1**	**+0.5**
	comp=Z,4.0nm,0.4s,baz=329,slow=5.9,SNR=8.2							
URZ	**Urewera**	**24.91**	**162**	P	**P**		**23 05 03.8**	**+1.2**
URZ	**Urewera**	**24.91**	**162**	IAmb	IAmb		23 05 07.1	
	comp=Z,5.4nm,0.6s							
ETVZ	**East Tongariro**	**25.34**	**165**	P	**P**		**23 05 10.1**	**+3.4**
OTVZ	**Oturere**	**25.35**	**165**	P	**P**		**23 05 09.2**	**+2.3**
CNGZ	**Carnagh Statio**	**25.46**	**160**	P	**P**		**23 05 08.9**	**+1.2**
BKZ	**Black Stump Fm**	**25.57**	**163**	P	**P**		**23 05 07.1**	**-1.6**
BKZ	**Black Stump Fm**	**25.57**	**163**	P	**P**		**23 05 09.6**	**+0.8**
BKZ				IAmb	IAmb		23 05 10.8	
	comp=Z,11nm,0.5s							
BHHZ	**Black Hill Sta**	**25.76**	**164**	P	**P**		**23 05 11.5**	**+1.0**
KWHZ	**Kaweka Forest**	**25.79**	**164**	P	**P**		**23 05 11.7**	**+0.9**
KAHZ	**Kahuranaki**	**26.26**	**163**	P	**P**		**23 05 15.4**	**+0.4**
RPZ	**Rata Peaks**	**29.00**	**175**	P	**P**		**23 05 40.4**	**+1.1**
	comp=Z,7.7nm,0.8s,baz=27,slow=6.8,SNR=3.9							
RPZ	**Rata Peaks**	**29.00**	**175**	IAmb	IAmb		23 05 40.8	
	comp=Z,10nm,0.9s							
STKA	**Stephens Creek**	**29.07**	**230**	P	**P**		**23 05 41.5**	**+1.5**
	comp=Z,5.3nm,0.5s,baz=51,slow=8.7,SNR=20							
STKA	**Stephens Creek**	**29.07**	**230**	P	**P**		**23 05 40.6**	**+0.6**
WRA	**Warramunga Arr**	**31.95**	**256**	P	**P**		**23 06 05.3**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=84,slow=9.1,SNR=10							
WRA	**Warramunga Arr**	**31.95**	**256**	IAmb	IAmb		23 06 10.2	
	comp=Z,0.1nm,1.1s							
AS31	**Alice Springs**	**32.79**	**249**	P	**P**		**23 06 12.0**	**-0.9**
ASAR	**Alice Springs**	**32.79**	**249**	P	**P**		**23 06 12.7**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=76,slow=8.8,SNR=31							
BBOO	**Buckleboo**	**33.66**	**232**	P	**P**		**23 06 19.0**	**-1.3**
BBOO				IAmb	IAmb		23 06 21.9	
	comp=Z,12nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.15**	**259**	P	**P**		**23 07 14.0**	**-1.4**
FITZ				IAmb	IAmb		23 07 16.7	
	comp=Z,2.0nm,0.6s							
VNDA	**Vanda**	**62.81**	**181**	P	**P**		**23 10 04.1**	**+1.0**
QSPA	**South Pole Qui**	**75.25**	**180**	P	**P**		**23 11 20.5**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=286,slow=1.0							
QSPA	**South Pole Qui**	**75.25**	**180**	P	**P**		**23 11 20.8**	**+0.6**
QSPA				IAmb	IAmb		23 11 21.2	
	comp=Z,3.3nm,0.8s							
FYU	**Fort Yukon**	**88.30**	**17**	P	**P**		**23 12 29.2**	**+1.1**
ARCES	**ARCESS Array B**	**120.34**	**345**	PKP	**PKPdf**		**23 18 26.4**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=38,slow=4.6,SNR=1.5							
TORD	**Torodi Ar. Bea**	**166.05**	**265**	PKP	**PKPdf**		**23 19 42.6**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=125,slow=2.2,SNR=2.5							

*IDC **26** 23:16:44.9±0.9, 16.74N×46.57W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/43, mbtmp3.9/9, ML3.5/1, MS3.4/13, Ms1 3.4/13, ms1mx3.2/37, Error ellipse: s-maj=25.8km s-min=20.7km az=147.0*
*NEIC **26** 23:16:46.8±0.9, 16.7N±0.1×46.5W±0.1, h10km±1km, mb4.5/36, Error ellipse: s-maj=25.1km s-min=19.5km az=137.0*

ISC 26 23:16:47.1±0.7, **16.7N**±0.1×**46.5W**±0.1, **h13**km, **n58**, σ0.9**59**/42, **mb4.5**/19, **MS3.3**/13, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.97**	**208**	Pn	**Pn**		**23 19 51.1**	**-0.1**
	0.2nm,0.3s,baz=28,slow=14,SNR=6.8							
H05N1	**Guadeloupe/Mar**	**13.98**	**271**	T	T		23 34 10.9	
PTGA	**Pitinga**	**21.80**	**219**	P	**P**		**23 21 38.6**	**-0.5**
	1.9nm,0.6s,baz=32,slow=14,SNR=4.2							
PTGA				LR	LR		23 29 18.3	
	comp=Z,117nm,19.8s,baz=30,slow=34							
RCBR	**Riachuelo**	**24.67**	**154**	LR	LR		23 29 25.4	
	comp=Z,65nm,19.0s,baz=342,slow=31							
SDV	**Santo Domingo**	**24.76**	**255**	LR	LR		23 33 11.2	
	comp=Z,46nm,19.7s,baz=88,slow=40							
ROSC	**El Rosal**	**29.71**	**250**	LR	LR		23 37 04.2	
	comp=Z,50nm,18.5s,baz=29,slow=41							
LPAZ	**La Paz**	**39.08**	**214**	P	**P**		**23 24 15.0**	**+0.1**
	1.1nm,0.7s,baz=18,slow=9.5,SNR=4.3							
LPAZ				LR	LR		23 38 26.0	
	comp=Z,30nm,21.4s,baz=41,slow=33							
LPAZ	**La Paz**	**39.08**	**214**	IAmb	IAmb		23 24 23.3	
	comp=Z,3.6nm,1.2s							
H10N3	**ASCENSION HYDR**	**39.92**	**125**	T	T		00 06 36.7	
	baz=307,slow=74,SNR=50							
H10N2	**ASCENSION HYDR**	**39.92**	**125**	T	T		00 06 37.1	
	baz=307,slow=74,SNR=41							
H10N1	**ASCENSION HYDR**	**39.94**	**125**	T	T		00 06 38.2	
	baz=307,slow=74,SNR=53							
H10S3	**ASCENSION HYDR**	**40.48**	**127**	T	T		00 07 34.3	
	baz=305,slow=74,SNR=21							
H10S2	**ASCENSION HYDR**	**40.50**	**127**	T	T		00 07 35.6	
	baz=275,slow=74,SNR=9.5							
KOWA	**Kowa**	**40.91**	**87**	P	**P**		**23 24 29.9**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=275,slow=11,SNR=4.8							
SCHQ	**Schefferville**	**41.20**	**342**	LR	LR		23 37 23.4	
	comp=Z,46nm,20.7s,baz=338,slow=30							
DBIC	**Dimbokro**	**41.88**	**99**	LR	LR		23 38 15.0	
	comp=Z,62nm,21.0s,baz=270,slow=31							
ESDC	**Sonseca Array**	**43.41**	**49**	P	**P**		**23 24 48.6**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=254,slow=9.2,SNR=2.6							
ESDC				LR	LR		23 39 36.3	
	comp=Z,41nm,19.4s,baz=315,slow=32							
S39A	**B

PDAR			LR	LR	23 51 36.6	
	comp=Z,30nm,18.9s,baz=126,slow=35					
PDAR	**Pinedale Array**	**59.17 310**	P	**P**	**23 26 47.4**	**-0.7**
BW06	**Boulder Array**	**59.17 310**	P	**P**	**23 26 48.0**	**-0.1**
BW06			IAmb	IAmb	23 26 49.0	
	comp=Z,3.7nm,1.1s					
RLMT	**Red Lodge**	**59.23 313**	P	**P**	**23 26 48.4**	**-0.1**
RLMT			IAmb	IAmb	23 26 50.0	
	comp=Z,6.3nm,1.1s					
GCMT	**Greycliff**	**59.59 314**	P	**P**	**23 26 50.4**	**-0.5**
SRU	**San Rafael Swe**	**59.64 306**	P	**P**	**23 26 51.3**	**0.0**
YNE	**Yellowstone No**	**59.74 313**	P	**P**	**23 26 51.8**	**-0.2**
P17A	**Butcher Ranch,**	**59.82 306**	P	**P**	**23 26 53.0**	**+0.4**
EGMT	**Eagleton**	**59.96 316**	P	**P**	**23 26 54.0**	**+0.7**
LOHW	**Long Hollow**	**60.02 311**	P	**P**	**23 26 53.5**	**-0.5**
LOHW			IAmb	IAmb	23 26 54.9	
	comp=Z,4.5nm,1.0s					
FLWY	**Flagg Ranch**	**60.13 312**	P	**P**	**23 26 55.2**	**+0.6**
WUAZ	**Wupatki**	**60.22 302**	P	**P**	**23 26 55.7**	**+0.3**
WUAZ			IAmb	IAmb	23 26 57.3	
	comp=Z,3.9nm,0.9s					
YPP	**Pitchstone Pla**	**60.22 312**	P	**P**	**23 26 53.9**	**-1.5**
TPAW	**Teton Pass**	**60.26 311**	P	**P**	**23 26 54.8**	**-0.8**
IMW	**Indian Meadow**	**60.28 311**	P	**P**	**23 26 55.3**	**-0.5**
AHID	**Auburn Hatcher**	**60.31 310**	P	**P**	**23 26 56.0**	**+0.1**
YHH	**Holmes Hill**	**60.31 312**	P	**P**	**23 26 56.0**	**0.0**
FXWY	**Fox Creek**	**60.33 311**	P	**P**	**23 26 56.3**	**+0.2**
FXWY			IAmb	IAmb	23 26 59.7	
	comp=Z,4.9nm,1.4s					
YHB	**Horse Butte**	**60.55 312**	P	**P**	**23 26 57.6**	**+0.1**
YHL	**Hebgen Lake**	**60.55 312**	P	**P**	**23 26 57.8**	**+0.1**
HWUT	**Hardware Ranch**	**60.57 309**	P	**P**	**23 26 57.5**	**-0.2**
U15A	**North Rim**	**60.97 303**	P	**P**	**23 26 60.0**	**-0.7**
U15A			IAmb	IAmb	23 27 05.3	
	comp=Z,3.0nm,0.9s					
CCUT	**Cedar City**	**61.83 304**	P	**P**	**23 27 06.9**	**+0.5**
ELK	**Elko**	**63.31 308**	P	**P**	**23 27 16.8**	**+0.6**
ELK			IAmb	IAmb	23 27 17.7	
	comp=Z,4.7nm,1.1s					
NEW	**Newport**	**64.89 316**	P	**P**	**23 27 26.6**	**+0.4**
NEW			IAmb	IAmb	23 27 29.2	
	comp=Z,3.4nm,0.8s					
INK	**Inuvik**	**73.57 337**	P	**P**	**23 28 18.8**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=64,slow=4.1,SNR=3.7					
INK	**Inuvik**	**73.57 337**	IAmb	IAmb	23 28 27.6	
	comp=Z,8.6nm,1.4s					
MMAI	**Mount Meron Ar**	**74.45 60**	LR	LR	00 02 58.7	
	comp=Z,13nm,18.3s,baz=350,slow=37					
EIL	**Elat**	**74.66 63**	LR	LR	00 02 34.2	
	comp=Z,42nm,18.3s,baz=276,slow=37					
ILAR	**Eielson Array**	**79.44 335**	P	**P**	**23 28 53.2**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=74,slow=4.9,SNR=24					
ILAR	**Eielson Array**	**79.44 335**	P	**P**	**23 28 53.1**	**+0.2**

*JMA **26** 23:23:18.4±0.3, 33°.27N×141°.24E, h86km±5km, M3.2*
*IDC **26** 23:23:22.9±4.3, 33°.04N×140°.55E, h92km±17km, mb3.0/2, mb1 3.1/3, mb1mx3.0/48, mbtmp3.2/3, Error ellipse: s-maj=118.6km s-min=16.2km az=75.0*
ISC 26 23:23:18.8±1.8, **33°.20N**±0°.08×**141°.3E**±0°.1, **h75**km±15km, **n13**, σ0**71**/21, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.22**	**266**	P	**Pn**	**23 23 40.4**	**+0.2**
JHJ2				S	**Sn**	**23 23 57.2**	**+0.9**
JHJ	**Hachijo jima 2**	**1.25**	**267**	P	**Pn**	**23 23 39.8**	**-0.8**
	51nm,0.3s,baz=323,slow=20,SNR=15						
BSO1	**Boso 1**	**1.47**	**351**	P	**Pn**	**23 23 43.0**	**0.0**
BSO1				S	**Sn**	**23 24 01.7**	**+0.3**
JMKN	**Mikurajimanish**	**1.56**	**297**	P	**Pn**	**23 23 44.6**	**-0.1**
JMKN				eS	**Sn**	**23 24 04.6**	**+0.3**
BSO3	**Boso 3**	**1.72**	**339**	P	**Pn**	**23 23 46.5**	**-0.1**
BSO3				S	**Sn**	**23 24 07.5**	**-0.1**
JOD2	**Odawara 2**	**2.74**	**319**	P	**Pn**	**23 24 00.2**	**-0.3**
JOD2				eS	**Sn**	**23 24 30.7**	**-1.9**
JYN	**Shimob**	**3.21**	**316**	P	**Pn**	**23 24 08.0**	**+1.0**
JYN				eS	**Sn**	**23 24 44.6**	**+0.4**
JRY	**Ryogami san**	**3.42**	**326**	P	**Pn**	**23 24 10.2**	**+0.4**
JAG	**Ashikaga**	**3.55**	**336**	P	**Pn**	**23 24 11.8**	**+0.3**
MJAR	**Matsushiro Arr**	**4.18**	**324**	P	**Pn**	**23 24 20.5**	**+0.4**
	0.3nm,0.3s,baz=166,slow=13,SNR=8.8						
MJAR				S	**Sn**	**23 25 06.8**	**-0.9**
	0.2nm,0.3s,baz=93,slow=33,SNR=5.4						
MAT	**Matsushiro**	**4.18**	**324**	P	**Pn**	**23 24 20.6**	**+0.5**
MAT				eS	**Sn**	**23 25 07.2**	**-0.5**
MKAR	**Makanchi Array**	**46.14**	**305**	P	**P**	**23 31 36.2**	**+0.4**
	0.3nm,0.6s,baz=87,slow=9.2,SNR=1.0						
WRA	**Warramunga Arr**	**53.25**	**188**	P	**P**	**23 32 29.5**	**-0.4**
	0.2nm,0.5s,baz=6.0,slow=7.6,SNR=5.0						

*IDC **26** 23:32:41.5±3.2, 10°.51S×161°.46E, h52km±28km, mb3.5/3, mb1 3.8/4, mb1mx3.4/33, mbtmp3.8/4, ML3.2/2, Error ellipse: s-maj=39.9km s-min=19.2km az=52.0*
ISC 26 23:32:41.8±1.1, **10°.6S**±0°.1×**161°.4E**±0°.2, **h61**km, **n12**, σ1**64**/8, **mb3.8**/3, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.86**	**308**	P	**Pn**	**23 33 09.6**	**-1.8**
	50nm,0.3s,baz=201,slow=9.7,SNR=11						
HNR				S	**Sn**	**23 33 33.3**	**-0.5**
	65nm,0.3s,baz=182,slow=17,SNR=6.5						
DZM	**Mont Dzumac**	**12.39**	**158**	P	**Pn**	**23 35 36.7**	**+1.2**
	0.3nm,0.3s,baz=297,slow=9.0,SNR=8.2						
DZM				S	**Sn**	**23 37 49.4**	**-2.6**
	0.1nm,0.3s,baz=170,slow=15,SNR=2.3						
PMG	**Port Moresby**	**14.10**	**274**	P	**Pn**	**23 35 59.6**	**+0.9**
	2.8nm,0.3s,baz=67,slow=7.7,SNR=7.1						
WRA	**Warramunga Arr**	**27.70**	**247**	P	**P**	**23 38 25.3**	**+0.7**
	0.3nm,0.5s,baz=77,slow=9.3,SNR=2.7						
H11S2	**WAKE ISLAND Hy**	**29.36**	**10**	T	T	00 10 00.7	
	baz=189						
H11S3	**WAKE ISLAND Hy**	**29.36**	**10**	T	T	00 10 00.4	
	baz=189						
H11S1	**WAKE ISLAND Hy**	**29.37**	**10**	T	T	00 09 55.7	
	baz=189						
H11N1	**WAKE ISLAND Hy**	**30.59**	**10**	T	T	00 11 28.7	
	baz=188						
H11N3	**WAKE ISLAND Hy**	**30.59**	**10**	T	T	00 11 29.8	
	baz=188						
H11N2	**WAKE ISLAND Hy**	**30.60**	**10**	T	T	00 11 30.5	
	baz=188						
SONM	**Songino Array**	**75.83**	**325**	P	**P**	**23 44 22.2**	**+0.6**
	0.9nm,0.6s,baz=141,slow=5.0,SNR=2.5						
ILAR	**Eielson Array**	**84.47**	**20**	P	**P**	**23 45 07.8**	**+0.2**
	0.4nm,0.4s,baz=237,slow=4.8,SNR=5.6						

*NEIC **26** 23:37:51.4±1.0, 18°.38N±0°.04×67°.32W±0°.03, h25km±6km, Error ellipse: s-maj=6.4km s-min=4.5km az=191.0*
*RSPR **26** 23:37:52.4, 18°.36N×67°.33W, h14km±1km, MD3.4/18*
ISC 26 23:37:51.7±1.0, **18°.37N**±0°.03×**67°.31W**±0°.02, **h19**km±2km, **n69**, σ0**85**/82, **12C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.21**	**64**	P *eP*	**Pg**	**23 37 57.2**	**+0.3**
AGPR	**Aguadilla, PR**	**0.21**	**64**	*eS*	**Sg**	**23 38 01.5**	**+1.0**
AGPR	**Aguadilla, PR**	**0.21**	**64**		**Pg**	**23 37 57.2**	**+0.3**
AGPR					**Sg**	**23 38 01.4**	**+1.0**
MPR	**Mayaguez**	**0.23**	**135**	P *eP*	**Pg**	**23 37 57.8**	**+0.6**
MPR	**Mayaguez**	**0.23**	**135**	Pg	**Pg**	**23 37 57.7**	**+0.6**
LSP	**Las Mesas**	**0.29**	**132**	P *eP*	**Pb**	**23 37 58.8**	**+0.5**
LSP	**Las Mesas**	**0.29**	**132**	*eS*	**Sg**	**23 38 03.0**	**+0.5**
LSP	**Las Mesas**	**0.29**	**132**		**Pb**	**23 37 58.8**	**+0.5**
LSP					**Sg**	**23 38 03.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**0.41**	**152**	P *eP*	**Pg**	**23 38 00.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.41**	**152**	*eS*	**Sg**	**23 38 06.3**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.41**	**152**		**Pg**	**23 38 00.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.41**	**152**		**Sb**	**23 38 06.5**	**+0.1**
MLPR	**Magueyes Islan**	**0.48**	**148**	P *eP*	**Pg**	**23 38 01.2**	**-0.2**
MLPR	**Magueyes Islan**	**0.48**	**148**	*eS*	**Sg**	**23 38 08.2**	**+0.3**
MLPR	**Magueyes Islan**	**0.48**	**148**		**Pg**	**23 38 01.2**	**-0.2**
MLPR					**Sg**	**23 38 08.2**	**+0.3**
AOPR	**Arecibo Observ**	**0.53**	**93**	P *eP*	**Pb**	**23 38 02.0**	**-0.3**
AOPR	**Arecibo Observ**	**0.53**	**93**	*eS*	**Sb**	**23 38 09.9**	**+0.2**
AOPR	**Arecibo Observ**	**0.53**	**93**		**Pb**	**23 38 02.0**	**-0.3**
AOPR	**Arecibo Observ**	**0.53**	**93**		**Sb**	**23 38 09.7**	**0.0**
GBPR	**Guanica, Bosqu**	**0.57**	**134**	P *eP*	**Pb**	**23 38 02.8**	**-0.2**
GBPR	**Guanica, Bosqu**	**0.57**	**134**	*eS*	**Sb**	**23 38 11.1**	**+0.4**
GBPR	**Guanica, Bosqu**	**0.57**	**134**		**Pb**	**23 38 02.8**	**-0.2**
GBPR					**Sb**	**23 38 11.1**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.57**	**102**		**Pb**	**23 38 02.7**	**-0.4**
UUPR					**Sb**	**23 38 11.0**	**+0.2**
OBIP	**Obispado Ponce**	**0.75**	**116**	P *eP*	**Pb**	**23 38 04.7**	**-1.4**
OBIP	**Obispado Ponce**	**0.75**	**116**	*eS*	**Sb**	**23 38 15.1**	**-0.9**
OBIP	**Obispado Ponce**	**0.75**	**116**		**Sb**	**23 38 15.1**	**-0.9**
OBIP	**Obispado Ponce**	**0.75**	**116**		**Pb**	**23 38 04.5**	**-1.6**
EMPR	**Esperanza - Ma**	**0.75**	**82**	P *eP*	**Pb**	**23 38 06.0**	**-0.2**
EMPR	**Esperanza - Ma**	**0.75**	**82**	*eS*	**Sb**	**23 38 16.7**	**+0.7**
EMPR	**Esperanza - Ma**	**0.75**	**82**		**Pb**	**23 38 06.0**	**-0.2**
EMPR					**Sg**	**23 38 17.3**	**+0.9**
CELP	**Cerrillos**	**0.76**	**113**	P *eP*	**Pb**	**23 38 06.0**	**-0.3**
CELP	**Cerrillos**	**0.76**	**113**	*eS*	**Sb**	**23 38 16.4**	**+0.2**
CELP	**Cerrillos**	**0.76**	**113**		**Pb**	**23 38 06.0**	**-0.3**
CELP					**Sb**	**23 38 16.4**	**+0.2**
ICMP	**Isla Caja de M**	**0.89**	**123**	P *eP*	**Pb**	**23 38 08.0**	**-0.5**
ICMP	**Isla Caja de M**	**0.89**	**123**	*eS*	**Sg**	**23 38 21.2**	**+0.4**
ICMP	**Isla Caja de M**	**0.89**	**123**		**Pb**	**23 38 08.0**	**-0.5**
ICMP	**Isla Caja de M**	**0.89**	**123**		**Sg**	**23 38 21.2**	**+0.4**
PCDR	**Punta Cana, DR**	**1.02**	**278**	P *eP*	**Pb**	**23 38 08.7**	**-2.1**
PCDR	**Punta Cana, DR**	**1.02**	**278**	*eS*	**Sn**	**23 38 24.7**	**-0.3**
PCDR	**Punta Cana, DR**	**1.02**	**278**		**Pb**	**23 38 08.7**	**-2.1**
PCDR					**Sn**	**23 38 24.7**	**-0.3**
GCPR	**Guaynabo City**	**1.17**	**93**	P *eP*	**Pn**	**23 38 12.0**	**-1.0**
GCPR	**Guaynabo City**	**1.17**	**93**	*eS*	**Sb**	**23 38 28.1**	**0.0**
GCPR	**Guaynabo City**	**1.17**	**93**		**Sb**	**23 38 28.1**	**0.0**
GCPR	**Guaynabo City**	**1.17**	**93**		**Pn**	**23 38 11.9**	**-1.1**
IGPR	**InterUniversit**	**1.22**	**109**	P *eP*	**Pn**	**23 38 13.0**	**-0.7**
IGPR	**InterUniversit**	**1.22**	**109**	*eS*	**Sb**	**23 38 28.7**	**-0.8**
IGPR	**InterUniversit**	**1.22**	**109**		**Pn**	**23 38 13.2**	**-0.5**
PDPR	**Patillas Dam,**	**1.28**	**106**	P *eP*	**Pn**	**23 38 14.0**	**-0.5**
PDPR	**Patillas Dam,**	**1.28**	**106**	*eS*	**Sn**	**23 38 30.9**	**-0.2**
PDPR	**Patillas Dam,**	**1.28**	**106**		**Pn**	**23 38 13.9**	**-0.7**
PDPR					**Sn**	**23 38 31.2**	**0.0**
CBYP	**Canovanas**	**1.39**	**94**	P *eP*	**Pn**	**23 38 15.4**	**-0.7**
CBYP	**Canovanas**	**1.39**	**94**	*eS*	**Sb**	**23 38 34.8**	**+0.4**
CBYP	**Canovanas**	**1.39**	**94**		**Pn**	**23 38 15.3**	**-0.8**
CBYP					**Sb**	**23 38 35.0**	**+0.6**
HUMP	**Col San Antoni**	**1.41**	**99**	P *eP*	**Pn**	**23 38 15.7**	**-0.6**
HUMP	**Col San Antoni**	**1.41**	**99**	*eS*	**Sn**	**23 38 33.9**	**-0.5**
HUMP	**Col San Antoni**	**1.41**	**99**		**Pn**	**23 38 15.9**	**-0.5**
HUMP					**Sn**	**23 38 34.6**	**+0.2**
MTP	**Monte Pirata**	**1.69**	**99**	P *eP*	**Pn**	**23 38 20.3**	**0.0**
MTP	**Monte Pirata**	**1.69**	**99**	*eS*	**Sb**	**23 38 43.0**	**-0.3**
MTP	**Monte Pirata**	**1.69**	**99**		**Pn**	**23 38 20.2**	**-0.1**
MTP					**Sb**	**23 38 43.2**	**0.0**
CUPR	**Culebra, Puert**	**1.93**	**92**	P *eP*	**Pn**	**23 38 22.5**	**-1.0**
CUPR	**Culebra, Puert**	**1.93**	**92**	*eS*	**Sn**	**23 38 47.9**	**+0.7**
CUPR	**Culebra, Puert**	**1.93**	**92**		**Pn**	**23 38 22.5**	**-1.0**
CUPR					**Sn**	**23 38 47.9**	**+0.7**
DR12	**Loma Pena Alta**	**2.00**	**282**		**Pn**	**23 38 23.1**	**-1.6**
STVI	**Saint Thomas**	**2.24**	**90**		**Pn**	**23 38 26.7**	**-1.1**
SDD	**Santo Domingo**	**2.47**	**272**	Pn	**Pn**	**23 38 32.4**	**+1.4**
CDVI	**St. Croix**	**2.50**	**104**		**Pb**	**23 38 34.3**	**-1.7**
BANI	**BANI**	**2.89**	**271**	Pn	**Pn**	**23 38 38.2**	**+1.3**
SC01	**Santiago de lo**	**3.40**	**289**		**Pn**	**23 38 45.4**	**+1.7**
SDDR	**Presa de Saban**	**3.82**	**280**	Pn	**Pn**	**23 38 52.9**	**+3.3**

*IDC **26** 23:38:06.3±1.1, 36°.76N×16°.61E, h0km, mb3.8/6, mb1 4.1/17, mb1mx3.9/43, mbtmp4.0/17, ML3.9/11, MS3.3/1, Ms1 3.3/1, ms1mx2.5/41, Error ellipse: s-maj=19.4km s-min=15.4km az=176.0*
*NEIC **26** 23:38:09.5±1.9, 36°.80N±0°.06×16°.52E±0°.06, h17km±6km, mb4.1/8, ML4.0(THE), Error ellipse: s-maj=9.7km s-min=6.5km az=159.0*
*ROM **26** 23:38:11.5±0.0, 36°.83N×16°.48E, h43km, ML4.1, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.04; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$0.48; $M_{r\theta}$-0.51; $M_{\theta\phi}$-1.34; $M_{\phi r}$-0.07; Fault plane solution: $M_0$1.50772×10^{15} NP1: ϕ_s8.00000°, δ71.00000°, λ-6.00000°. NP2:ϕ_s100.00000°, δ85.00000°, λ-161.00000°. hypocenter*
*MED_RC **26** 23:38:11.0±0.6, 36°.78N×16°.50E, h40km, MW4.2/8, Moment Tensor Solution.Mantle waves: s8,c12; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.27±.60; $M_{\theta\theta}$0.27±.36; $M_{\phi\phi}$0.00±.43; $M_{r\theta}$-0.58±.15; $M_{\theta\phi}$-2.07±.18; $M_{\phi r}$0.69±.31; Best double couple: $M_0$2.22000×10^{15} NP1:ϕ_s267.00000°, δ75.00000°, λ170.00000°. NP2: ϕ_s359.00000°, δ80.00000°, λ16.00000°. Principal axes: T 2.5000, Plg18.0000°, Azm224.0000°; N -0.5500, Plg72.0000°, Azm30.0000°; P -1.9500, Plg4.0000°, Azm132.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **26** 23:38:13.4, 36°.99N×16°.74E, h20km±26km, ML4.0/9 Error ellipse: s-maj=31.2km s-min=2.1km az=241.0*
*PDG **26** 23:38:16.7±0.2, 37°.51N×16°.92E, h16km±1km, ML4.5/14, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0*
*GII **26** 23:38:24.3±0.4, 36°.55N×18°.03E, h40km, mb4.6/3, MD4.4/3*
*BEO **26** 23:38:37.2±0.5, 38°.80N×17°.67E, h10km, ML3.6/7*
ISC 26 23:38:08.7±0.5, **36°.92N**±0°.03×**16°.48E**±0°.03, **h18**km, **n378**, σ2°**48**/407, **mb3.9**/10, **6C-10D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGST	**Augusta-Monte**	**1.06**	**289**	P	**Pb**	**23 38 28.8**	**+0.2**
HAVL	**Avola**	**1.09**	**273**	P	**Pb**	**23 38 29.2**	**+0.2**
HAVL				S	**Sb**	**23 38 42.7**	**-0.2**
HAVL				AML	AML		
	comp=N,25300μm,0.3s						
HAVL				AML	AML		
	comp=E,21550μm,0.3s						
HAVL				AML	AML		
	comp=N,25300μm,0.3s						
MPAZ	**Palizzi**	**1.10**	**340**	P	**Pg**	**23 38 31.9**	**+1.9**
MPAZ				S	**Sg**	**23 38 46.9**	**+2.4**
MPAZ				AML	AML		
	comp=N,9430μm,0.3s						
MPAZ				AML	AML		
	comp=E,4570μm,0.8s						
HAGA	**Augusta**	**1.12**	**289**	P	**Pn**	**23 38 29.7**	**+0.2**
HAGA				AML	AML		
	comp=N,3335μm,0.4s						
HAGA				AML	AML		
	comp=E,3075μm,0.4s						
HAGA				AML	AML		
	comp=N,3340μm,0.4s						
HPAC	**Pachino**	**1.12**	**259**	P	**Pb**	**23 38 30.1**	**+0.5**
HPAC				S	**Sb**	**23 38 44.1**	**+0.2**
HPAC				AML	AML		
	comp=N,11805μm,0.6s						
HPAC				AML	AML		
	comp=E,10160μm,0.8s						
SSY	**Sortino**	**1.15**	**282**	P	**Pn**	**23 38 30.3**	**+0.2**
SSY				S	**Sb**	**23 38 45.0**	**+0.2**
SSY				AML	AML		
	comp=N,17500μm,0.5s						
SSY				AML	AML		
	comp=E,9345μm,1.0s						
SOI	**Samo**	**1.20**	**344**	P	**Pg**	**23 38 33.6**	**+1.6**
SOI				AML	AML		
	comp=N,2585μm,0.9s						
SOI				AML	AML		
	comp=E,2040μm,0.3s						
MTTG	**Motta San Giov**	**1.25**	**330**	P	**Pg**	**23 38 33.8**	**+0.9**
MEU	**Monte Lauro**	**1.26**	**279**	P	**Pg**	**23 38 32.8**	**-0.2**
MEU				S	**Sg**	**23 38 50.1**	**+0.6**
MEU				AML	AML		
	comp=E,29300μm,0.2s						
MEU				AML	AML		
	comp=E,29300μm,0.2s						
MEU				AML	AML		
	comp=N,39850μm,0.2s						
MEU				AML	AML		
	comp=N,39850μm,0.2s						
GMB	**Gambarie**	**1.35**	**338**	P	**Pg**	**23 38 35.4**	**+0.5**
GMB				AML	AML		
	comp=E,22700μm,0.2s						
GMB				AML	AML		
	comp=N,22500μm,0.2s						
GMB				AML	AML		
	comp=E,22700μm,0.2s						
HLNI	**Lentini**	**1.36**	**289**	P	**Pn**	**23 38 33.2**	**+0.4**
HLNI				S	**Sn**	**23 38 49.8**	**-0.5**
HLNI				AML	AML		
	comp=N,6325μm,0.5s						
HLNI				AML	AML		
	comp=E,4875μm,1.0s						
HMDC	**Modica**	**1.36**	**272**	P	**Pn**	**23 38 33.2**	**+0.3**
HMDC				S	**Sn**	**23 38 49.9**	**-0.6**
HMDC				AML	AML		
	comp=N,24150μm,0.8s						
HMDC				AML	AML		
	comp=N,24150μm,0.8s						
HMDC				AML	AML		
	comp=E,23650μm,1.3s						
CEL	**Celeste**	**1.42**	**341**	P	**Pg**	**23 38 36.7**	**+0.6**
CEL				AML	AML		
	comp=E,5630μm,1.0s						
CEL				AML	AML		
	comp=N,2110μm,0.8s						
CEL				AML	AML		
	comp=E,6720μm,1.0s						
CEL				AML	AML		
	comp=N,2580μm,0.8s						
CEL				AML	AML		
	comp=N,2115μm,0.8s						
CEL	**Celeste**	**1.42**	**341**		**Pg**	**23 38 37.0**	**+0.9**
CEL				Sn	**Sg**	**23 38 55.6**	**+0.9**
MSCL	**Scilla**	**1.42**	**337**	P	**Pg**	**23 38 36.7**	**+0.5**
MSCL				AML	AML		
	comp=E,6150μm,0.8s						
MSCL				AML	AML		
	comp=E,6145μm,0.8s						
MSCL				AML	AML		
	comp=N,5310μm,0.5s						
ESLN	**Serra La Nave**	**1.43**	**303**	P	**Pb**	**23 38 35.0**	**0.0**
ESLN				AML	AML		
	comp=N,1985μm,0.5s						
ESLN				AML	AML		
	comp=E,2420μm,0.8s						
AIO	**Antillo**	**1.45**	**317**	P	**Pb**	**23 38 35.9**	**+0.7**
ESML	**S. M. di Licod**	**1.46**	**299**	P	**Pb**	**23 38 35.4**	**+0.1**
ESML				AML	AML		
	comp=E,4345μm,0.5s						
ESML				AML	AML		
	comp=N,2745μm,0.5s						
ATN	**Antennamare**	**1.48**	**327**	P	**Pg**	**23 38 37.3**	**0.0**
MCSR	**Castroreale**	**1.51**	**320**	P	**Pb**	**23 38 37.0**	**+0.8**
MCSR				AML	AML		
	comp=N,5220μm,0.3s						
MCSR				AML	AML		
	comp=E,5400μm,0.3s						
EMSG	**Monte Spagnolo**	**1.52**	**307**	P	**Pb**	**23 38 36.5**	**0.0**
EMSG				AML	AML		
	comp=N,4240μm,0.5s						
EMSG				AML	AML		
	comp=E,3445μm,0.6s						
MPNC	**Port Mandanici**	**1.52**	**324**	P	**Pg**	**23 38 37.4**	**-0.7**
MPNC				AML	AML		
	comp=E,4515μm,1.0s						
MPNC				AML	AML		
	comp=N,5155μm,0.9s						
PLAC	**Placanica**	**1.53**	**359**	P	**Pg**	**23 38 38.8**	**+0.6**
PLAC				AML	AML		
	comp=N,2965μm,0.5s						
PLAC				AML	AML		
	comp=N,1895μm,0.7s						
PLAC				AML	AML		
	comp=E,2020μm,0.7s						
PLAC				AML	AML		
	comp=E,2830μm,0.5s						
MSRU	**Castanea**	**1.55**	**330**	P	**Pg**	**23 38 38.3**	**-0.3**
MSRU				S	**Sg**	**23 38 58.5**	**-0.3**
MSRU				AML	AML		
	comp=E,4910μm,0.4s						
MSRU				AML	AML		
	comp=N,2920μm,0.6s						
EPZF	**Pizzo Felice**	**1.58**	**305**	P	**Pb**	**23 38 37.9**	**+0.4**
EPZF				AML	AML		
	comp=N,3925μm,0.3s						
EPZF				AML	AML		
	comp=E,3375μm,1.1s						
MILZ	**Milazzo**	**1.68**	**324**	P	**Pb**	**23 38 39.6**	**+0.6**
MILZ				S	**Sb**	**23 39 00.4**	**+0.6**
MILZ				AML	AML		
	comp=E,3765μm,0.4s						
MILZ				AML	AML		
	comp=N,2815μm,0.6s						
GALF	**Gagliano Caste**	**1.72**	**298**	P	**Pb**	**23 38 39.8**	**0.0**
GALF				AML	AML		
	comp=E,1525μm,0.6s						
GALF				AML	AML		
	comp=N,1530μm,0.4s						
RAFF	**Raffo Rosso**	**1.72**	**281**	P	**Pb**	**23 38 39.2**	**-0.7**
RAFF				AML	AML		
	comp=E,5320μm,1.1s						
RAFF				AML	AML		
	comp=N,6055μm,0.8s						
RAFF				AML	AML		
	comp=E,5315μm,1.1s						
RAFF	**Raffo Rosso**	**1.72**	**281**	Pn	**Pb**	**23 38 39.2**	**-0.7**
CAGR	**Agira**	**1.73**	**295**	P	**Pb**	**23 38 40.2**	**+0.2**
CAGR				AML	AML		
	comp=N,2360μm,0.9s						
CAGR				AML	AML		
	comp=E,2610μm,0.6s						
VAE	**Valguarnera**	**1.75**	**289**	Pn	**Pb**	**23 38 41.0**	**+0.8**
	comp=E,59nm,0.3s,baz=142,slow=12,SNR=255						
VAE				Sn	**Sg**	**23 39 04.1**	**-1.0**
	comp=E,73nm,0.3s,baz=104,slow=13,SNR=7.1						
VAE	**Valguarnera**	**1.75**	**289**		**Pb**	**23 38 41.0**	**+0.8**
VAE					**Sg**	**23 39 04.1**	**-1.0**
MNO	**Monte Soro**	**1.75**	**306**	P	**Pb**	**23 38 40.9**	**+0.5**
MNO				AML	AML		
	comp=E,3240μm,0.5s						
MNO				AML	AML		
	comp=N,2625μm,0.6s						
MNO				AML	AML		
	comp=N,2630μm,0.6s						
JOPP	**Joppolo**	**1.75**	**344**	P	**Pg**	**23 38 41.8**	**-0.6**
JOPP				AML	AML		
	comp=E,1825μm,0.8s						
JOPP				AML	AML		
	comp=N,2030μm,0.4s						
MSFR	**San Fratello**	**1.87**

GIB	Gibilmanna	2.23	299	P	Pb	23 38 47.4	-1.1
GIB				AML	AML		
	comp=N,1375µm,0.6s						
GIB				AML	AML		
	comp=E,1385µm,0.9s						
IFIL	Filicudi I Eol	2.24	318	P	Pb	23 38 47.2	-1.4
IFIL				AML	AML		
	comp=N,1930µm,1.5s						
IFIL				AML	AML		
	comp=E,6825µm,0.2s						
TIP	Timpagrande	2.27	5	P	Pb	23 38 48.7	-0.5
TIP				AML	AML		
	comp=E,561µm,0.6s						
TIP				AML	AML		
	comp=N,927µm,1.3s						
TIP				AML	AML		
	comp=E,666µm,0.6s						
TIP				AML	AML		
	comp=N,718µm,0.4s						
TIP	Timpagrande	2.27	5	Pn	Pb	23 38 48.4	-0.7
FAVR	Favara	2.28	280	P	Pb	23 38 47.8	-1.5
FAVR				AML	AML		
	comp=E,2225µm,0.5s						
FAVR				AML	AML		
	comp=N,2730µm,0.6s						
ALJA	Alia	2.33	292	P	Pb	23 38 49.2	-1.0
ALJA				AML	AML		
	comp=E,799µm,0.9s						
ALJA				AML	AML		
	comp=N,716µm,0.8s						
IACL	Alicudi	2.33	314	P	Pn	23 38 48.1	+1.9
IACL				AML	AML		
	comp=E,958µm,0.7s						
IACL				AML	AML		
	comp=N,846µm,1.4s						
CAR1	CAROLEI	2.34	355	P	Pb	23 38 50.2	-0.2
CAR1				AML	AML		
	comp=N,3885µm,0.7s						
CAR1				AML	AML		
	comp=E,4310µm,0.9s						
CAR1				AML	AML		
	comp=N,3110µm,0.7s						
CAR1				AML	AML		
	comp=E,3745µm,0.7s						
LADO	San Nicola del	2.39	9	P	Pb	23 38 50.7	-0.6
LADO				AML	AML		
	comp=N,52µm,1.6s						
LADO				AML	AML		
	comp=E,63µm,0.4s						
CELI	Celico	2.48	0	P	Pb	23 38 52.4	-0.4
CELI				AML	AML		
	comp=N,1965µm,0.9s						
CELI				AML	AML		
	comp=E,2020µm,0.7s						
PIPA	Pietrapaola	2.58	6	P	Pb	23 38 53.4	-1.0
PIPA				AML	AML		
	comp=E,1505µm,0.6s						
PIPA				AML	AML		
	comp=E,1535µm,0.6s						
PIPA				AML	AML		
	comp=N,960µm,0.7s						
PIPA				AML	AML		
	comp=N,928µm,1.3s						
SOLUN	Solunto	2.62	297	P	Pn	23 38 52.2	+2.1
SOLUN				AML	AML		
	comp=N,306µm,0.8s						
SOLUN				AML	AML		
	comp=E,400µm,0.6s						
CET2	Cetraro	2.64	351	P	Pb	23 38 53.9	-1.6
CET2				AML	AML		
	comp=N,4135µm,0.8s						
CET2				AML	AML		
	comp=E,2415µm,0.7s						
CLTB	Caltabellotta	2.69	285		Pn	23 38 52.9	+1.7
CORL	Corleone	2.71	292	P	Pn	23 38 54.3	+2.8
CORL				AML	AML		
	comp=N,1235µm,0.6s						
CORL				AML	AML		
	comp=E,1239µm,1.0s						
CORL	Corleone	2.71	292	Pn	Pn	23 38 54.3	+2.8
TDS	Terranova Siba	2.74	358	P	Pb	23 38 56.0	-1.2
TDS				AML	AML		
	comp=E,500µm,0.5s						
TDS				AML	AML		
	comp=N,525µm,0.7s						
MPG	Monte Pellegri	2.78	298	P	Pn	23 38 54.5	+2.2
MPG				AML	AML		
	comp=E,360µm,1.0s						
MPG				AML	AML		
	comp=N,264µm,0.8s						
SALB	San Lorenzo Be	2.96	358	AML	AML		
	comp=N,496µm,0.9s						
SALB				AML	AML		
	comp=E,867µm,0.7s						
MMN	Mormanno	2.99	353	AML	AML		
	comp=E,684µm,0.9s						
MMN				AML	AML		
	comp=N,948µm,0.2s						
ORI	Oriolo Calabro	3.14	360	AML	AML		
	comp=N,2185µm,1.0s						
ORI				AML	AML		
	comp=E,1945µm,0.3s						
BULG	Bulgheria - Ca	3.27	345	P	Pn	23 39 02.6	+3.4
BULG				AML	AML		
	comp=E,989µm,0.3s						
BULG				AML	AML		
	comp=E,1035µm,0.3s						
BULG				AML	AML		
	comp=N,2435µm,1.0s						
BULG				AML	AML		
	comp=N,2335µm,1.0s						
SCHR	S. Chirico Rap	3.29	355	AML	AML		
	comp=E,468µm,0.5s						
SCHR				AML	AML		
	comp=N,416µm,0.6s						
SIRI	Monte Sirino -	3.29	352	P	Pn	23 39 02.7	+3.2
SIRI				AML	AML		
	comp=E,1100µm,1.5s						
SIRI				AML	AML		
	comp=N,788µm,0.6s						
SIRI				AML	AML		
	comp=E,1135µm,1.5s						
SIRI				AML	AML		
	comp=N,809µm,0.6s						
MGR	Morigerati	3.30	347	P	Pn	23 39 02.6	+3.2
MGR				AML	AML		
	comp=E,924µm,1.4s						
MGR				AML	AML		
	comp=N,841µm,1.4s						
MTSN	Montesano sull	3.39	350	AML	AML		
	comp=E,556µm,0.8s						
MTSN				AML	AML		
	comp=N,686µm,0.5s						
CRAC	Craco	3.44	359	AML	AML		
	comp=N,1980µm,0.3s						
CRAC				AML	AML		
	comp=E,2070µm,0.2s						
MCEL	Monticello	3.44	351	AML	AML		
	comp=E,500µm,0.8s						
MCEL				AML	AML		
	comp=N,519µm,0.8s						
VLS	Valsamata	3.50	68	P	Pn	23 39 03.2	+1.0
VLS				S	Sn	23 39 42.2	-0.9
	comp=N,1µm,0.2s						
VLS	Valsamata	3.50	68	P	Pn	23 39 03.2	+1.0
VLS				AML	AML		
	comp=N,511µm,0.7s						
VLS				AML	AML		
	comp=E,473µm,0.9s						
SCTE	Santa Cesarea	3.51	26	P	Pn	23 39 03.9	+1.6
SCTE				AML	AML		
	comp=N,1300µm,0.7s						
SCTE				AML	AML		
	comp=E,1190µm,0.7s						
SCTE	Santa Cesarea	3.51	26	Pn	Pn	23 39 04.0	+1.6
CMPR	Campora	3.52	345	P	Pn	23 39 05.8	+3.3
CMPR				AML	AML		
	comp=E,662µm,1.3s						
CMPR				AML	AML		
	comp=N,802µm,0.6s						
SLCN	Sala Consilina	3.53	349	AML	AML		
	comp=E,1010µm,0.8s						
SLCN				AML	AML		
	comp=N,929µm,0.6s						
FSK	Fiskardo	3.58	63	P	Pn	23 39 05.1	+1.8
FSK				S	Sn	23 39 43.9	-1.3
	comp=N,2µm,0.3s						
TAR1	Taranto	3.66	10	*e*Pn	Pn	23 39 06.1	+1.7
TAR1				(Sn)	Sn	23 39 46.1	-0.9
MIGL	Miglionico	3.68	359	P	Pn	23 39 08.1	+3.4
MIGL				AML	AML		
	comp=E,1635µm,1.3s						
MIGL				AML	AML		
	comp=N,1695µm,0.6s						
CDRU	Civita di Ruta	3.68	346	P	Pn	23 39 08.4	+3.5
CDRU				AML	AML		
	comp=E,488µm,1.3s						
CDRU				AML	AML		
	comp=N,234µm,0.2s						
DRAG	Dragano-Lefkad	3.69	60	P	Pn	23 39 07.0	+2.2
DRAG				S	Sn	23 39 46.9	-0.9
	comp=N,2µm,0.2s						
EVGI	Lefkada island	3.72	62	P	Pn	23 39 07.3	+2.1
EVGI				S	Sn	23 39 48.3	-0.2
	comp=N,598nm,0.2s						
MATE	Matera	3.73	3	P	Pn	23 39 07.8	+2.4
MATE				AML	AML		
	comp=E,1152µm,0.3s						
MATE				AML	AML		
	comp=N,781µm,0.2s						
NYDR	Nydri-Lefkada	3.79	60	P	Pn	23 39 08.1	+1.9
CGL1	Ceglie Messapi	3.81	11	*e*Pn	Pn	23 39 08.5	+2.0
MESG	Mesagne	3.82	16	P	Pn	23 39 08.1	+1.5
MESG				AML	AML		
	comp=E,1140µm,0.3s						
MESG				AML	AML		
	comp=N,1875µm,0.5s						
KEK	Kerkira	3.82	42	P	Pn	23 39 07.5	+0.9
KEK				S	Sn	23 39 50.4	-0.6
	comp=N,452nm,0.2s						
KEK	Kerkira	3.82	42	P	Pn	23 39 07.4	+0.9
KEK				AML	AML		
	comp=E,132µm,0.1s						
KEK				AML	AML		
	comp=N,110µm,0.2s						
ACER	Acerenza	3.89	354	AML	AML		
	comp=N,778µm,0.6s						
ACER				AML	AML		
	comp=N,732µm,0.5s						
ACER				AML	AML		
	comp=E,826µm,1.0s						
ACER				AML	AML		
	comp=E,806µm,1.0s						
NOCI	Noci	3.89	7	P	Pn	23 39 09.5	+1.8
MRLC	Muro Lucano	3.91	349	AML	AML		
	comp=E,318µm,0.3s						
MRLC				AML	AML		
	comp=N,396µm,1.3s						
AMUR	Altamura	3.98	1	AML	AML		
	comp=E,1910µm,0.8s						
AMUR				AML	AML		
	comp=N,1315µm,0.2s						
IGT	Igoumenitsa	4.00	48	P	Pn	23 39 10.4	+1.3
IGT				S	Sn	23 39 55.2	-0.3
	comp=N,330nm,0.2s						
IGT	Igoumenitsa	4.00	48	*e*Pn	Pn	23 39 11.1	+2.0
IGT				*e*Sg	Sn	23 39 48.2	-7.3
PALZ	Palazzo San Ge	4.04	354	P	Pn	23 39 13.2	+3.5
PALZ				AML	AML		
	comp=N,631µm,1.1s						
PALZ				AML	AML		
	comp=E,638µm,1.4s						
SRN	Sarande	4.05	42	P	Pn	23 39 10.5	+0.8
SRN	Sarande	4.05	42	P	Pn	23 39 10.7	+0.9
SRN				AML	AML		
	comp=E,230µm,1.4s						
SRN				AML	AML		
	comp=N,252µm,0.3s						
AXS	Araxos	4.09	70	P	Pn	23 39 12.2	+1.9
AXS				S	Sn	23 39 57.6	-0.1
	comp=N,268nm,0.4s						
RLS	Riolos of Patr	4.12	72	P	Pn	23 39 12.8	+2.0
RLS				S	Sn	23 39 59.0	+0.5
	comp=N,295nm,0.4s						
SNAL	S. Angelo Dei	4.12	346	P	Pn	23 39 15.5	+4.6
SNAL				AML	AML		
	comp=E,391µm,0.6s						
SNAL				AML	AML		
	comp=N,441µm,0.6s						
MRVN	Minervino Murg	4.14	357	P	Pn	23 39 13.8	+2.7
MRVN				AML	AML		
	comp=N,558µm,1.5s						
MRVN				AML	AML		
	comp=E,636µm,0.5s						
BAI	Bari	4.19	4	*e*Pn	Pn	23 39 14.0	+2.3
PYL	PYLOS	4.21	89	P	Pn	23 39 12.8	+0.8
CAFE	Carife	4.22	347	P	Pn	23 39 17.1	+4.9
CAFE				AML	AML		
	comp=E,323µm,0.4s						
CAFE				AML	AML		
	comp=N,203µm,1.6s						
VLO	Vlora	4.26	33	P	Pn	23 39 15.2	+2.6
VLO	Vlora	4.26	33	P	Pn	23 39 14.8	+2.2
VLO				AML	AML		
	comp=E,1220µm,0.2s						
VLO				AML	AML		
	comp=N,1110µm,0.5s						
ITM	Ithomi	4.36	85	P	Pn	23 39 15.6	+1.4
ITM	Ithomi	4.36	85	P	Pn	23 39 14.9	+0.8
ITM	Ithomi	4.36	85	P	Pn	23 39 15.5	+1.4
ITM				AML	AML		
	comp=N,141µm,0.7s						
ITM				AML	AML		
	comp=E,120µm,0.4s						
ITM	Ithomi	4.36	85		Pn	23 39 15.5	+1.4
MRB1	Monte Rocchett	4.36	345	AML	AML		
	comp=N,370µm,0.7s						
MRB1				AML	AML		
	comp=E,327µm,0.5s						
PAOL	Paolisi	4.37	341		Pn	23 39 18.1	+3.9
EFP	Efpalio	4.56	69	P	Pn	23 39 19.0	+2.3
EFP				S	Sn	23 40 09.6	+0.4
	comp=E,500nm,0.3s						
ANX	Ano Chora	4.62	67	P	Pn	23 39 20.1	+2.4
PIGN	Pignataro Magg	4.64	338	P	Pn	23 39 22.2	+4.4
PIGN				AML	AML		
	comp=N,148µm,1.2s						
PIGN				AML	AML		
	comp=E,105µm,0.7s						
KLV	Kalavryta, Ach	4.64	74	P	Pn	23 39 20.6	+2.6
KLV	Kalavryta, Ach	4.64	74	P	Pn	23 39 20.7	+2.7
KLV				AML	AML		
	comp=E,258µm,1.2s						
KLV				AML	AML		
	comp=N,262µm,1.2s						
MODR	Mondragone	4.68	335	P	Pn	23 39 22.5	+4.0
MODR				AML	AML		
	comp=N,72µm,0.3s						
MODR				AML	AML		
	comp=E,73µm,1.6s						
MSAG	Monte S. Angel	4.81	355	P	Pn	23 39 22.9	+2.6
MSAG				AML	AML		
	comp=E,468µm,0.5s						
MSAG				AML	AML		
	comp=N,761µm,0.2s						
VAGA	Valle Agricola	4.82	339	P	Pn	23 39 24.8	+4.4
VAGA				AML	AML		
	comp=E,124µm,1.5s						
VAGA				AML	AML		
	comp=N,172µm,0.5s						
BSSO	Busso	4.85	343	AML	AML		
	comp=E,69µm,0.7s						
BSSO				AML	AML		
	comp=N,80µm,0.9s						
SGRT	San Giovanni R	4.86	353	Pn	Pn	23 39 23.2	+2.1
KPRO	Kipourio	4.88	50	P	Pn	23 39 24.0	+2.7
DSF	Desfina	5.02	71	P	Pn	23 39 24.7	+1.5
MIDA	Miranda	5.03	341	AML	AML		
	comp=N,157µm,1.2s						
MIDA				AML	AML		
	comp=E,168µm,1.2s						
CERA	Filignano	5.05	338	AML	AML		
	comp=N,168µm,0.8s						
CERA				AML	AML		
	comp=E,234µm,0.7s						
TRIV	Trivento	5.07	343	AML	AML		
	comp=E,186µm,1.0s						
TRIV				AML	AML		
	comp=N,166µm,0.9s						
THL	Klokotos Trika	5.09	57	P	Pn	23 39 27.1	+3.0
THL	Klokotos Trika	5.09	57	P	Pn	23 39 27.1	+3.0
THL				AML	AML		
	comp=E,114µm,0.2s						
THL				AML	AML		
	comp=N,93µm,0.6s						
TIR	Tirane	5.14	30	*e*Pn	Pn	23 39 26.6	+1.8
TIR				*e*Sg	Sn	23 40 14.6	-9.1
TIR	Tirane	5.14	30	AML	AML		
	comp=N,334µm,0.9s						
TIR				AML	AML		
	comp=E,388µm,0.3s						
TIR	Tirane	5.14	30	Pn	Pn	23 39 26.7	+1.9
KTHA	Kythira Island	5.33	95	P	Pn	23 39 28.7	+1.2
KTHA	Kythira Island	5.33	95	P	Pn	23 39 28.7	+1.2
KRND	KRANIDI	5.34	83	P	Pn	23 39 29.2	+1.6
KZN	Kozani	5.35	49	P	Pn	23 39 30.0	+2.3
OHR	Ohrid	5.37	37	*i* Pn	Pn	23 39 30.6	+2.7
LRSO	Larissa Observ	5.40	58	P	Pn	23 39 30.9	+2.6
FNA	Florina	5.43	43	*e*Pn	Pn	23 39 31.2	+2.4
FNA				*e*Sg	Sn	23 40 29.6	-1.2
FNA	Florina	5.43	43	P	Pn	23 39 30.9	+2.1
FNA	Florina	5.43	43	Pn	Pn	23 39 30.9	+2.1
INTR	Introdacqua	5.46	339		Pn	23 39 33.2	+4.0
ULC	Ulcinj	5.47	22	*e*Pn	Pn	23 39 29.5	+0.1
ULC				*i* Sn	Sn	23 40 24.8	-7.1
DRME	Dracevica, Mon	5.66	21	*e*Pn	Pn	23 39 32.5	+0.6
DRME				*i* Sn	Sn	23 40 29.5	-6.9
DRME	Dracevica, Mon	5.66	21	*e*Pn	Pn	23 39 32.5	+0.6
LIT	Litokhoron	5.68	54	P	Pn	23 39 34.2	+2.0
LIT	Litokhoron	5.68	54	Pn	Pn	23 39 34.2	+2.0
BUM	Brajici-Budva	5.69	18	‖ *i*Pn	Pn	23 39 33.0	+0.6
BUM				*i* Sn	Sn	23 40 30.5	-6.7
HCY	Herceg Novi	5.74	15	*e*Pn	Pn	23 39 33.7	+0.8
HCY				*i* Sn	Sn	23 40 31.8	-6.5
HCY	Herceg Novi	5.74	15	*e*Pn	Pn	23 39 33.1	+0.2
PUK	Puka	5.76	26	P	Pn	23 39 34.5	+1.2
NEO	Neokhori	5.82	64	P	Pn	23 39 36.8	+2.6
XOR	Xorichti	5.82	63	P	Pn	23 39 36.4	+2.2
KEST	Kesra	5.88	261	Pn	Pn	23 39 36.0	+0.9
	comp=E,0.6nm,0.3s,baz=83,slow=3.3,SNR=32						
KEST				Sn	Sn	23 40 39.8	-2.3
	comp=E,1.9nm,0.3s,baz=27,slow=16,SNR=7.6						
KEST	Kesra	5.88	261		Pn	23 39 35.3	+0.2
VLY	Voula,Athens	5.89	79	P	Pn	23 39 36.3	+1.1
PDG	Podgorica	5.91	20	*e*Pn	Pn	23 39 35.8	+0.6
PDG				*e*Sg	Sn	23 40 37.0	-5.4
PDG	Podgorica	5.91	20	*e*Pn	Pn	23 39 35.2	0.0
PDG	Podgorica	5.91	20		Pn	23 39 36.0	+0.8
TTG	Podgorica	5.91	20	‖ *i*Pn	Pn	23 39 35.8	+0.6
TTG				*i* Sn	Sn	23 40 35.7	-6.7
CEME	Cevo	5.93	18	*e*Pn	Pn	23 39 36.3	+0.7
CEME				*i* Sn	Sn	23 40 35.7	-7.4
AQU	L'Aquila	5.93	337	*e*Pn	Pn	23 39 40.9	+5.3
AQU	L'Aquila	5.93	337	Pn	Pn	23 39 38.6	+3.0
RODP	Rodopos	6.03	101	*e*P	Pn	23 39 37.1	0.0
DION	Dionisos Attik	6.04	77	P	Pn	23 39 38.2	+1.1
KNDR	Palaiochora Ch	6.07	104	*e*P	Pn	23 39 36.9	-0.6
NKME	Niksic	6.14	17	‖ *i*Pn	Pn	23 39 39.2	+0.6
NKME				*i* Sn	Sn	23 40 41.6	-6.8
VSL	Villasalto	6.16	297	Pn	Pn	23 39 40.1	+1.3
VSL					Sn	23 40 49.0	+0.2
BRY	Bratogost	6.18	14	*e*Pn	Pn	23 39 39.8	+0.6
BRY				*i* Sn	Sn	23 40 42.6	-6.9
BRY	Bratogost	6.18	14	*e*Pn	Pn	23 39 40.2	+1.0
NKY	Niksic	6.20	17	*e*Pn	Pn	23 39 40.0	+0.6
NKY				*i* Sn	Sn	23 40 42.7	-7.1
IMMV	Iera Moni Meta	6.24	101	*e*P	Pn	23 39 39.3	-0.5
PVY	Plav	6.27	24	*e*Pn	Pn	23 39 41.2	+0.8
PVY				*i* Sn	Sn	23 40 43.9	-7.7
SKO	Skopje	6.34	36	*e*Pn	Pn	23 39 42.3	+1.1
SKO	Skopje	6.34	36	*i* Pn	Pn	23 39 43.5	+2.2
HORT	Hortiatis	6.34	53	*e*P	Pn	23 39 42.4	+1.1
KOME	Kolasin	6.37	21	‖ *i*Pn	Pn	23 39 42.3	+0.6
KOME				*i* Sn	Sn	23 40 46.7	-7.3
PLG	Polygyros	6.45	56	P	Pn	23 39 44.3	+1.5
NRCA	Norcia	6.45	337		Pn	23 39 47.1	+4.2
VAY	Valandovo	6.46	45	*e*Pn	Pn	23 39 44.4	+1.5
VAY	Valandovo	6.46	45	*i* Pn	Pn	23 39 45.0	+2.1
IVA	Berane	6.50	23	‖ *i*Pn	Pn	23 39 44.0	+0.5
IVA				*i* Sn	Sn	23 40 49.7	-7.5
STIP	Stip	6.50	41	*i* Pn	Pn	23 39 47.0	+3.5
GVD	Gavdhos	6.51	106	*e*P	Pn	23 39 43.2	-0.4
GVDS	Gavdos	6.51	106	*e*P	Pn	23 39 43.1	-0.5
UPM	Unac-Piva	6.55	16	*e*Pn	Pn	23 39 45.0	+0.8
UPM				*i* Sn	Sn	23 40 51.5	-7.0
UPM	Unac-Piva	6.55	16	*e*Pn	Pn	23 39 45.3	+1.1
KNT	Kendrikon	6.55	48	*e*P	Pn	23 39 45.2	+1.1
PLE	Pljevlja	6.78	18	*e*Pn	Pn	23 39 47.9	+0.5
PLE				*i* Sn	Sn	23 40 56.4	-7.8
OUR	Ouranopolis	6.79	58	P	Pn	23 39 49.2	+1.9
OUR	Ouranopolis	6.79	58	*e*P	Pn	23 39 49.3	+1.9
SJES	Sjenica	6.88	22	*e*Pn	Pn	23 39 50.1	+1.4
SJES				*e*Sg	Sn	23 41 07.5	+1.0
SJES	Sjenica	6.88	22	*e*Pn	Pn	23 39 50.8	+2.1
SRS	Serrai	6.94	51	*e*Pn	Pn	23 39 49.4	-0.1
IDI	Anoyia	7.00	101	Pn	Pn	23 39 49.6	-0.7
	comp=E,3.6nm,0.3s,baz=316,slow=12,SNR=49						
IDI				Sn	Sn	23 41 04.2	-5.3
	comp=E,15nm,0.3s,baz=21,slow=22,SNR=11						
IDI	Anoyia	7.00	101	*e*P	Pn	23 39 49.9	-0.4
IDI	Anoyia	7.00	101	Pn	Pn	23 39 51.3	+1.0
RUDO	Rudo	7.05	17	*e*Pn	Pn	23 39 51.8	+0.9
KKB	Krupnik	7.11	44	*e*P	Pn	23 39 51.5	-0.3
KKB				*e*S	Sn	23 41 09.2	-2.9
HRKL	Herakleio	7.16	100	*e*P	Pn	23 39 53.0	+0.5
BARS	Barje	7.18	33	*e*Pn	Pn	23 39 53.5	+0.8
THT2	Imerovigli	7.20	91	*e*P	Pn	23 39 52.9	-0.2
SELS	Selova	7.23	28	*e*Pn	Pn	23 39 54.1	+0.7
SANT	Santorini	7.24	92	*e*P	Pn	23 39 53.6	0.0
SANT	Santorini	7.24	92	Pn	Pn	23 39 54.1	+0.5
BOSS	Bosilegrad	7.24	38	*e*Pn	Pn	23 39 54.0	+0.4
APE	Apeiranthos	7.24	86	*e*P	Pn	23 39 53.9	+0.2
BBLS	Lazići	7.29	17	*e*Pn	Pn	23 39 55.9	+1.6
BBLS	Lazići	7.29	17	*e*Pn	Pn	23 39 55.6	+1.3
MMB	Musomiste	7.30	48	*e*P	Pn	23 39 55.2	+0.7
HAPS	Han Pijesak,Bl	7.40	14	*e*Pn	Pn	23 39 56.6	+0.7
DIVS	Divibare	7.65	19	*e*Pn	Pn	23 39 59.5	+0.2
DIVS	Divibare	7.65	19	*e*Pn	Pn	23 39 59.7	+0.4
DIVS	Divibare	7.65	19	Pn	Pn	23 39 60.0	+0.6
GRUS	Gruza	7.67	24	*e*Pn	Pn	23 40 00.2	+0.7
VTS	Vitosha	7.71	40	*e*P	Pn	23 40 01.0	+0.8
OSSC	Osservatorio P	7.72	330		Pn	23 40 03.4	+3.2
CHOS	Chios island	7.73	76	*e*P	Pn	23 40 01.0	+0.6
SIGR	SIGRI	7.74	70	*e*P	Pn	23 40 01.4	+1.0
BOVS	Bovan	7.80	29	*e*Pn	Pn	23 40 02.4	+1.1
BLY	Banja Luka	7.84	4	*e*Pn	Pn	23 40 04.4	+2.6
TRUS	Trudelj	7.88	21	*e*Pn	Pn	23 40 03.3	+0.9
ZAPS	Zavoj	7.90	35	*e*Pn	Pn	23 40 04.8	+2.1
TEKS	Tekeris	7.96	16	*e*Pn	Pn	23 40 05.8	+2.2
TEKS	Tekeris	7.96	16	*e*Pn	Pn	23 40 03.5	-0.1
GADA	Gvkgeada	8.07	63	*e*P	Pn	23 40 05.2	+0.3
ZKR	Zakros	8.09	100	*e*P	Pn	23 40 04.8	-0.5
URLA	Izmir	8.15	77	*e*P	Pn	23 40 06.3	+0.2
ZAGS	Zajecar	8.16	31	*e*Pn	Pn	23 40 06.6	+0.3
SVIS	Svilajnac	8.17	25	*e*Pn	Pn	23 40 07.1	+0.7
RDO	Rodhopi	8.21	56	*e*P	Pn	23 40 07.7	+0.8
KDZ	Kurdzhali	8.38	53	*e*P	Pn	23 40 09.1	-0.2
ALN	Alexandroupoli	8.45	59	*e*P	Pn	23 40 10.7	+0.6
ALN	Alexandroupoli	8.45	59	Pn	Pn	23 40 12.0	+1.9
ENEZ	Enez	8.45	60	*e*P	Pn	23 40 11.1	+0.9
KUBS	Kucevo	8.46	26	*e*Pn	Pn	23 40 09.7	-0.6
BLCB	Balcova	8.50	77	*e*P	Pn	23 40 11.3	+0.4
ZCCA	Zocca	8.52	332		Pn	23 40 15.4	+4.2
GELI	Tayfur-Gelibol	8.55	63	*e*P	Pn	23 40 11.4	-0.2
VLC	Villacollemand	8.59	329	Pn	Pn	23 40 14.9	+2.8
FRGS	Fruska Gora	8.61	16	*e*Pn	Pn	23 40 12.3	0.0
FRGS	Fruska Gora	8.61	16	*e*Pn	Pn	23 40 12.3	0.0
BOJS	Bojanci	8.63	354	*e*Pn	Pn	23 40 16.0	+3.3
BODT	Bodrum	8.66	86	*e*P	Pn	23 40 13.4	+0.2
ERIK	Erikli-Kesan	8.68	61	*e*P	Pn	23 40 13.9	+0.6
KARP	Karpathos	8.73	96	*e*P	Pn	23 40 13.3	-0.9
KARP	Karpathos	8.73	96	Pn	Pn	23 40 14.1	-0.1
LPK	Lapseki	8.75	64	*e*P	Pn	23 40 14.8	+0.5
DAT	Datca	8.90	88	*e*P	Pn	23 40 16.2	-0.3
CRES	Cresnjev	8.93	355	*e*Pn	Pn	23 40 18.6	+1.8
UKOP	Uzunkopru-Edir	8.95	59	*e*P	Pn	23 40 17.3	+0.3
CEY	Cerknica	8.95

LJU	Ljubljana	9.23	351	*e*Pn	Pn	23 40 23.9	+2.9
EDRB	Edirne	9.34	55	*e*P	Pn	23 40 22.5	+0.1
BALB	Balikesir	9.36	70	*e*P	Pn	23 40 22.8	+0.1
ARG	Arkhangelos	9.39	91	*e*P	Pn	23 40 22.3	-0.8
TURN	Turunc	9.43	87	*e*P	Pn	23 40 23.2	-0.4
YER	Yerkesik	9.44	85	*e*P	Pn	23 40 23.5	-0.3
BZS	Buzias	9.51	22	*e*Pn	Pn	23 40 25.1	+0.4
BZS	Buzias	9.51	22	⇓P	Pn	23 40 26.4	+1.7
KOGS	Kog	9.52	359	*e*Pn	Pn	23 40 27.2	+2.3
BEHE	Becsehely	9.55	1	*e*Pn	Pn	23 40 29.9	+4.7
OBKA	Obir	9.69	352	*e*Pn	Pn	23 40 30.7	+3.4
	comp=E,1.9nm,0.2s,SNR=7.9						
OBKA				*e*Sn	Sn	23 42 13.6	-2.1
	comp=E,4.1nm,0.3s						
DALY	Dalyan (Mula)	9.75	87	*e*P	Pn	23 40 27.8	-0.3
PRED	Cave del Predi	9.76	348	Pn	Pn	23 40 30.9	+2.6
SALO	Salr	9.78	335	Pn	Pn	23 40 32.4	+4.0
SOKA	Soboth	9.81	354	*e*Pn	Pn	23 40 31.3	+2.4
	comp=E,2.0nm,0.3s						
SOKA				*e*Sn	Sn	23 42 13.4	-5.3
	comp=E,1.7nm,0.4s						
CTI	Castel Tesino	9.81	340	Pn	Pn	23 40 31.2	+2.2
CIMO	Cimolais	9.86	343	Pn	Pn	23 40 32.0	+2.5
HUMR	Humele	9.96	38	⇓P	Pn	23 40 33.1	+2.2
ZOU	Zoufplan	9.98	346	Pn	Pn	23 40 34.0	+2.6
FETY	Fethiye	10.11	88	*e*P	Pn	23 40 32.1	-0.9
ABTA	Abfaltersbach	10.26	344	*e*Pn	Pn	23 40 37.8	+2.7
	comp=E,3.8nm,0.6s						
ABTA				Sn	Sn	23 42 28.0	-1.6
	comp=E,3.6nm,0.6s						
ARSA	Arzberg	10.35	356	Pn	Pn	23 40 38.8	+2.6
	comp=E,2.9nm,0.2s,SNR=5.2						
ARSA				*i* Sn	Sn	23 42 27.6	-4.1
	comp=E,3.0nm,0.6s						
ARR	Arges	10.44	33	⇓P	Pn	23 40 39.8	+2.4
TVSB	Tavsanli	10.52	72	*e*P	Pn	23 40 38.2	-0.5
AKAS	Kas	10.58	90	*e*P	Pn	23 40 38.3	-1.2
AKAS	Kas	10.58	90	Pn	Pn	23 40 40.6	+1.1
VOIR		10.68	34	⇑P	Pn	23 40 43.9	+3.2
FUORN	Ofenpass-Fuorn	10.74	336	Pn	Pn	23 40 45.3	+3.5
ELL	Elmali	10.76	87	Pn	Pn	23 40 43.5	+1.5
TUE	Stuetta	10.93	333	Pn	Pn	23 40 47.5	+3.2
BNI	Bardonecchia	10.99	321	Pn	Pn	23 40 48.5	+3.3
DAVOX	Davos/Dischmat	11.01	336	Pn	Pn	23 40 49.6	+4.2
	comp=E,0.2nm,0.3s,baz=162,slow=19,SNR=6.8						
SQTA	Sankt Quirin	11.01	341	*i* Pn	Pn	23 40 50.2	+4.8
	comp=E,2.0nm,0.5s						
CONA	Conrad Observa	11.01	358	*e*Pn	Pn	23 40 47.9	+2.5
	comp=E,2.1nm,0.4s,SNR=5.8						
CONA				*e*Sn	Sn	23 42 41.5	-6.6
	comp=E,0.9nm,0.3s						
WATA	Walderalm	11.03	342	*e*Pn	Pn	23 40 50.5	+4.9
	comp=E,0.8nm,0.3s						
MLR	Muntele Rosu	11.13	37	Pn	Pn	23 40 50.0	+2.9
	comp=E,0.7nm,0.3s,baz=155,slow=13,SNR=6.4						
MLR	Muntele Rosu	11.13	37	⇑P	Pn	23 40 52.1	+5.1
MLR	Muntele Rosu	11.13	37	Pn	Pn	23 40 49.8	+2.7
MOTA	Moosalm	11.15	341	Pn	Pn	23 40 51.7	+4.3
	comp=E,7.3nm,0.9s,SNR=11						
MOTA				*e*Sn	Sn	23 42 54.7	+3.0
	comp=E,3.3nm,0.8s						
DOPR	Dopca	11.23	34	⇑P	Pn	23 40 52.6	+4.3
NEHR	Nehoiu	11.26	38	⇓P	Pn	23 40 51.9	+3.2
PSZ	Piszkesteto	11.28	12	Pn	Pn	23 40 50.1	+1.2
RETA	Reutte	11.38	340	*e*Pn	Pn	23 40 54.7	+4.4
	comp=E,0.6nm,0.3s						
DAVA	Damuels	11.46	337	*e*Pn	Pn	23 40 57.6	+6.1
	comp=E,1.9nm,0.6s						
MODS	Modra-Piesok	11.46	3	*e*PN	Pn	23 40 52.8	+1.3
MODS	Modra-Piesok	11.46	3	*e*SN	Sn	23 42 53.4	-5.6
OZUR		11.51	34	⇓P	Pn	23 40 54.5	+2.4
SENIN	Lac Senin/Sane	11.66	327	Pn	Pn	23 40 58.0	+3.6
VYHS	Vyhne	11.70	8	*e*PN	Pn	23 40 56.7	+2.0
VYHS	Vyhne	11.70	8	*e*SN	Sn	23 42 58.1	-6.6
PLOR	Plostina	11.73	37	⇓P	Pn	23 40 59.4	+4.2
VRI	Vrincioaia	11.78	37	⇓P	Pn	23 41 00.0	+4.2
JAVC	Velka Javorina	11.97	4	*e*PN	Pn	23 41 01.2	+2.8
MDUB	Mudurnu	12.03	68	Pn	Pn	23 41 00.7	+1.4
GEC2	GERESS Array S	12.09	351	Pn	Pn	23 41 02.7	+2.6
GERES	GERESS Array B	12.09	351	Pn	Pn	23 41 02.6	+2.4
	comp=E,0.2nm,0.3s,baz=168,slow=13,SNR=11						
GERES				Sn	Sn	23 43 07.2	-7.4
	comp=E,0.3nm,0.3s,baz=162,slow=23,SNR=5.6						
GERES	GERESS Array B	12.09	351	Pn	Pn	23 41 02.2	+2.0
KRUC	Moravsky	12.14	360	*e*PN	Pn	23 41 03.1	+2.4
KRUC	Moravsky	12.14	360	*e*SN	Sn	23 43 11.0	-4.5
VRAC	Vranov	12.38	0	*e*PN	Pn	23 41 05.9	+1.9
KHC	Kasperske Hory	12.39	351	*e*PN	Pn	23 41 06.8	+2.7
KHC	Kasperske Hory	12.39	351	Pn	Pn	23 41 07.1	+2.9
BURAR	Bucovina Array	12.48	28	Pn	Pn	23 41 08.5	+3.1
BUR08	Bucovina Ar. S	12.50	28	Pn	Pn	23 41 08.2	+2.5
MORC	Moravsky Berou	12.88	3	⇑P	Pn	23 41 14.2	+3.4
MORC	Moravsky Berou	12.88	3	*e*PN	Pn	23 41 13.2	+2.4
MORC	Moravsky Berou	12.88	3	Pn	Pn	23 41 13.4	+2.6
BFO	Black Forest	12.88	335	Pn	Pn	23 41 13.9	+3.1
BRTR	Keskin Array B	13.76	73	Pn	Pn	23 41 24.3	+1.3
	comp=E,0.2nm,0.3s,baz=259,slow=11,SNR=4.1						
BRTR	Keskin Array B	13.76	73	Pn	Pn	23 41 22.1	-0.9
CSS	Mathiatis	13.79	93	Pn	Pn	23 41 20.2	-3.1
SLTI	Sal'it	15.98	102	Pn	Pn	23 41 49.1	-3.4
MMA0B	Mount Meron ar	15.99	99	Pn	Pn	23 41 50.7	-2.1
MMAI	Mount Meron Ar	15.99	99	Pn	Pn	23 41 49.1	-3.7
	comp=E,1.8nm,0.3s,baz=293,slow=12,SNR=24						
MMAI				Sn	Sn	23 44 34.1	-16
	comp=E,3.2nm,0.3s,baz=306,slow=28,SNR=4.1						
KZIT	Kziot	16.03	107	Pn	Pn	23 41 48.7	-4.5
AMAZ	Amatzia	16.16	104	Pn	Pn	23 41 52.1	-2.8
AMAZ				Sn	Sn	23 44 35.7	-18
NATI	Neve Ativ	16.17	97	Pn	Pn	23 41 51.8	-3.2
ESBB	Sonseca Array	16.29	286	Pn	Pn	23 41 56.7	+0.2
ESBB				IAmb	IAmb	23 41 59.5	
	comp=Z,6.7nm,1.4s						
ESDC	Sonseca Array	16.29	286	Pn	P	23 42 00.0	+0.6
	comp=Z,0.1nm,0.3s,baz=94,slow=11,SNR=7.9						
ESDC	Sonseca Array	16.29	286		Pn	23 41 57.1	+0.6
HMDT	Nahal Hemdat	16.35	101	Pn	Pn	23 41 55.1	-2.2
HMDT				Sn	Sn	23 44 41.0	-17
SHMJ	Saham	16.37	99	Pn	Pn	23 41 54.8	-2.8
YTIR	Yattir	16.38	104	Pn	Pn	23 41 54.6	-3.2
YTIR				Sn	Sn	23 44 40.5	-19
UJAP	Al Uja	16.42	102	Pn	Pn	23 41 55.2	-2.9
DSI	Dead Sea	16.50	103	Pn	Pn	23 41 56.2	-3.1
AKASG	Malin Array Be	16.53	30	Pn	P	23 42 01.8	-0.2
	comp=Z,1.4nm,0.3s,baz=220,slow=10,SNR=24						
AKBB	Malin Array Si	16.53	30	Pn	P	23 42 00.7	-1.3
AKBB				IAmb	IAmb	23 42 04.7	
	comp=Z,9.2nm,0.8s						
KRMI	Paran Flat	16.64	109	Pn	Pn	23 41 58.2	-2.9
PRNI	Paran	16.75	108	Pn	Pn	23 41 59.6	-2.8
GHAJ	Ghor Haditha	16.76	104	Pn	Pn	23 42 00.4	-2.1
ZFRI	Zfri	16.79	107	Pn	Pn	23 41 59.6	-3.2
HRFI	Mount Harif	16.92	109	Pn	Pn	23 42 01.9	-2.7
MBRI	Mt Berech	16.94	109	Pn	Pn	23 42 02.2	-2.7
TAM	Tamanrasset	16.97	217	Pn	Pn	23 42 04.9	-0.4
EIL	Elat	17.03	110	Pn	Pn	23 42 03.6	-2.4
	comp=Z,1.1nm,0.3s,baz=309,slow=2.4,SNR=33						
EIL				Sn	Sn	23 44 59.2	-16
	comp=Z,1.1nm,0.3s,baz=8.1,slow=13,SNR=6.2						
EIL	Elat	17.03	110	Pn	Pn	23 42 03.3	-2.7
EIL	Elat	17.03	110		Pn	23 42 03.6	-2.4
AQBJ	Aqaba	17.08	109	Pn	Pn	23 42 04.1	-2.4
ASF	Jabal al Asfar	17.46	100	P	Pn	23 42 09.4	-2.0
	comp=Z,0.2nm,0.3s,baz=265,slow=16,SNR=2.1						
ASF				S	Sn	23 45 12.5	-13
	comp=Z,0.3nm,0.3s,baz=85,slow=18,SNR=2.6						
ASF	Jabal al Asfar	17.46	100	P	Pn	23 42 09.4	-2.0
ASF					Sn	23 45 12.5	-13
SUW	Suwalki	17.71	13	Pn	P	23 42 14.8	-0.2
SUW				IAmb	IAmb	23 42 28.0	
	comp=Z,50nm,1.4s						
KIV	Kislovodsk	21.09	62	P	P	23 42 53.2	+1.1
KIV				IAmb	IAmb	23 42 56.0	
	comp=Z,12nm,1.2s						
KBZ	Khabaz	21.20	63	P	P	23 42 54.2	+1.0
	comp=Z,3.1nm,0.9s,baz=257,slow=6.4,SNR=4.4						
KBZ	Khabaz	21.20	63	P	P	23 42 54.2	+1.0
EKA	Eskdalemuir Ar	22.76	330	P	P	23 43 07.7	-2.2
	comp=Z,1.2nm,0.8s,baz=143,slow=11,SNR=2.8						
EKA	Eskdalemuir Ar	22.76	330	P	P	23 43 07.7	-2.2
HFS	Hagfors	23.30	356	P	P	23 43 15.9	+0.6
	comp=Z,2.4nm,0.6s,baz=146,slow=13,SNR=4.2						
HFS	Hagfors	23.30	356	P	P	23 43 15.9	+0.6
NC303	NORSAR Array S	24.54	354	P	P	23 43 28.0	+0.9
FINES	FINESS Array B	25.28	11	P	P	23 43 35.5	+1.9
	comp=Z,6.3nm,1.0s,baz=183,slow=7.6,SNR=6.9						
FINES	FINESS Array B	25.28	11	P	P	23 43 35.3	+1.6
TORD	Torodi Ar. Bea	27.13	213	P	P	23 43 50.1	-0.7
	comp=Z,1.4nm,1.0s,baz=18,slow=9.8,SNR=5.1						
TORD				LR	LR	23 55 50.6	
	comp=Z,60nm,18.1s,baz=345,slow=39						
MKAR	Makanchi Array	48.68	57	P	P	23 46 52.7	+0.9
	comp=Z,0.3nm,0.7s,baz=272,slow=9.2,SNR=1.9						
MKAR	Makanchi Array	48.68	57	P	P	23 46 52.7	+0.9
ZAA0	Zalesovo Array	48.91	47	P	P	23 46 54.5	+1.2
ZAA0				IAmb	IAmb	23 47 00.3	
	comp=Z,2.1nm,1.1s						
ZALV	Zalesovo Beam	48.91	47	P	P	23 46 53.6	+0.3
	comp=Z,0.7nm,0.7s,baz=280,slow=10.0,SNR=2.2						
ZALV	Zalesovo Beam	48.91	47	P	P	23 46 54.1	+0.8
WMQ	Urumqi	53.16	59	*e*P	P	23 47 28.8	+3.2
HHC	Hu-ho-hao-te	70.38	53	*e*P	P	23 49 24.5	+2.8
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						

IDC 26 23:45:12.6±2.3, 1°43N×126°97E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/39, mbtmp3.4/3, Error ellipse: s-maj=172.6km s-min=28.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.44	162	P	P	23 50 13.6	+0.3
	1.0nm,0.5s,baz=340,slow=11,SNR=19						
ASAR	Alice Springs	25.84	165	P	P	23 50 45.8	-0.3
	0.2nm,0.4s,baz=344,slow=11,SNR=2.5						
MKAR	Makanchi Array	59.57	326	P	P	23 55 18.2	0.0
	0.2nm,0.5s,baz=106,slow=6.8,SNR=1.9						

BJI 27 00:30:44.3±0.0, 27°70N×119°95E, h10km, ML4.1/9, 1C, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	3.00	204	*e*Pn	Pn	00 31 33.5	+1.5
QZH				Pg	Pg	00 31 40.3	-1.6
QZH				Sn	Sn	00 32 02.3	-5.7
QZH				Sg	Sb	00 32 17.3	+2.7
QZH				smax	smax		
	comp=N,590nm,0.6s						
QZH				smax	smax		
	comp=E,820nm,0.6s						
NJ2	Nanjing	4.44	348	⇑Pn	Pn	00 31 51.5	-0.2
NJ2				Pg	Pg	00 32 06.0	-3.4
NJ2				Sn	Sn	00 32 41.0	-2.4
NJ2				Sg	Sg	00 33 03.5	-3.4
NJ2				smax	smax		
	comp=N,330nm,0.6s						
NJ2				smax	smax		
	comp=E,190nm,0.6s						
WHN	Wuhan	5.66	301	Pn	Pn	00 32 06.8	-1.7
WHN				Sn	Sn	00 33 07.8	-5.7
WMQ	Urumqi	30.48	310	*e*P	P	00 37 00.0	+2.6

WEL 27 01:34:29.9, 41°S±4°×17°3E±1°0, h210km±13km, M2.7/19, MLv2.7/19, Error ellipse: s-maj=0.0km s-min=0.0km az=93.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.25	354	P	Pn	01 34 57.8	+0.2
NNZ	Nelson	0.63	103	P	Pn	01 34 58.7	+0.1
THZ	Tophouse	0.73	160	P	Pn	01 34 59.1	-0.1
DSZ	Denniston Nort	0.88	220	P	Pn	01 34 59.6	-0.4
DUWZ	D'Urville Isla	1.06	76	P	Pn	01 35 01.7	+0.5
TUWZ	Tuamarina	1.10	109	P	Pn	01 34 59.5	-1.8
BSWZ	Blackbirch Sta	1.18	123	P	Pn	01 35 02.1	+0.2
TCW	Tory Channel	1.30	97	P	Pn	01 35 03.1	+0.3
KHZ	Kahutara	1.52	152	P	Pn	01 35 04.5	-0.1
LTZ	Lake Taylor	1.72	187	P	Pn	01 35 06.3	-0.2
KIW	Kapiti Island	1.79	84	P	Pn	01 35 07.5	+0.4
INZ	Inchbonnie	1.85	207	P	Pn	01 35 07.3	-0.3
CAW	Cannon Point	1.89	92	P	Pn	01 35 08.3	+0.3
GVZ	Greta Valley S	1.92	170	P	Pn	01 35 08.1	-0.3
NMEZ	Namu Road	1.94	32	P	Pn	01 35 06.0	-2.6
OGWZ	Otaki Gorge	1.99	83	P	Pn	01 35 09.6	+0.5
PLWZ	Palliser	2.08	105	P	Pn	01 35 10.1	0.0
HOWZ	Holdsworth Sta	2.24	86	P	Pn	01 35 12.0	+0.3
MRZ	Mangatainoka R	2.32	81	P	Pn	01 35 12.7	+0.1
TMWZ	Te Maipa	2.51	92	P	Pn	01 35 15.2	+0.6
MQZ	McQueen's Vall	2.63	179	P	Pn	01 35 14.5	-1.2
BFZ	Birch Farm	2.82	83	P	Pn	01 35 18.5	+0.5
BHHZ	Black Hill Sta	3.11	61	P	Pn	01 35 21.3	-0.1
KRHZ	Kereru	3.24	65	P	Pn	01 35 23.1	+0.2
KAHZ	Kahuranaki	3.53	70	P	Pn	01 35 27.0	+0.6

IDC 27 01:34:58.3±3.6, 24°00S×66°32W, h181km±36km, mb3.4/1, mb1 3.3/4, mb1mx3.1/18, mbtmp3.8/4, MS3.0/1, Ms1 2.9/1, ms1mx2.6/10, Error ellipse: s-maj=38.8km s-min=29.2km az=106.0

ISC 27 01:34:59.3±1.1, 24°0S±0°1×66°4W±0°2, h195km, n6, σ0°92/7, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.80	348	P	Pn	01 36 51.5	+0.9
	0.8nm,0.3s,baz=142,slow=9.2,SNR=27						
LPAZ				S	Sn	01 38 17.7	-1.2
	0.1nm,0.3s,baz=225,slow=15,SNR=2.4						
PLCA	Paso Flores	17.09	191	P	P	01 38 45.0	-0.4
	0.1nm,0.3s,baz=13,slow=14,SNR=4.0						
BDFB	Brasilia	19.16	68	P	P	01 39 07.8	-0.4
	0.1nm,0.3s,baz=210,slow=20,SNR=2.1						
BDFB				LR	LR	01 47 27.9	
	comp=Z,46nm,19.9s,baz=157,slow=39						
TORD	Torodi Ar. Bea	76.04	69	P	P	01 46 25.7	+0.1
	0.6nm,0.5s,baz=259,slow=5.4,SNR=16						
WRA	Warramunga Arr	131.91	207	PKP	PKPdf	01 53 49.8	-0.3
	0.1nm,0.3s,baz=174,slow=1.8,SNR=1.2						
MKAR	Makanchi Array	146.14	40	PKPbc	PKPbc	01 54 17.2	+0.8
	0.5nm,0.5s,baz=330,slow=2.4,SNR=4.9						

JMA 27 01:55:52.5±0.1, 24°93N×122°45E, h38km, M2.4
TAP 27 01:55:52.5, 24°95N×122°39E, h17km, ML2.8, C

ISC 27 01:55:52.1±1.1, 24°93N±0°04×122°43E±0°03, h26km±11km, n41, σ0°50/74, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.41	281	*e*P	Pb	01 56 00.5	-0.3
	baz=280						
TWB1				S	Sb	01 56 06.0	-0.8
	baz=280						
EGS		0.46	260	*e*P	Pb	01 56 01.7	+0.1
	baz=249						
NTC	Toucheng	0.55	262	S	Sb	01 56 11.4	+0.7
	baz=269						
TIPB	Shuangxi	0.55	275	P	Pb	01 56 03.5	+0.3
	baz=272						
TIPB				S	Sb	01 56 10.5	-0.2
	baz=272						
NWF	Wu-fen Shan	0.61	284	*e*P	Pn	01 56 04.6	-0.5
	baz=282						
NWF				S	Sb	01 56 13.0	+0.6
	baz=282						
WFSB	Wu-fen Shan	0.61	284	P	Pn	01 56 04.6	-0.4
	baz=282						
WFSB				S	Sb	01 56 12.5	+0.2
	baz=282						
TWC	Suao	0.62	239	P	Pb	01 56 04.0	-0.3
	baz=219						
TWC				*e*S	Sb	01 56 13.0	+0.4
	baz=219						
JYNG	Yonagunijimaku	0.67	135	P	Pb	01 56 05.2	+0.1
YOJ	Yonaguni jima	0.70	131	P	Pn	01 56 06.7	+0.3
	baz=120						
YOJ				*e*S	Sn	01 56 15.9	-0.4
	baz=120						
YOJ	Yonaguni jima	0.70	131	P	Pb	01 56 05.7	0.0
YOJ				*e*S	Sb	01 56 15.3	+0.3
TWE	Neicheng	0.72	254	P	Pb	01 56 06.0	-0.1
	baz=241						
TWE				*e*S	Sb	01 56 16.1	+0.4
	baz=241						
ENAH	Nanao	0.74	230	*e*P	Pb	01 56 06.2	-0.1
	baz=226						
ENAH				*e*S	Sb	01 56 16.2	+0.1
	baz=226						
NWRT	Kuosheng	0.75	291	*e*S	Sn	01 56 17.1	-0.5
	baz=291						
PCYT	Pengchaiyu	0.77	335	*e*P	Pn	01 56 07.3	0.0
	baz=321						
TWA	Mucha	0.77	274	*e*P	Pn	01 56 07.3	0.0
	baz=272						
TWA				*e*S	Sn	01 56 17.5	-0.6
	baz=272						
ENA	Nanau	0.80	232	P	Pn	01 56 07.3	-0.5
	baz=227						
ENA				S	Sb	01 56 17.6	-0.2
	baz=227						
YM08	YM08	0.81	289	*e*P	Pb	01 56 07.8	+0.3
	baz=288						
YM08				*e*S	Sb	01 56 18.0	0.0
	baz=288						
YM01	YM01	0.81	286	*e*P	Pb	01 56 07.9	+0.4
	baz=284						
YM01				*e*S	Sn	01 56 18.6	-0.5
	baz=284						
YM11	YM11	0.81	287	*e*S	Sn	01 56 18.8	-0.5
	baz=286						
YM05	YM05	0.82	287	*e*P	Pb	01 56 08.2	+0.5
	baz=285						
YM05				*e*S	Sn	01 56 19.0	-0.4
	baz=285						
YM10	YM10	0.82	286	*e*P	Pb	01 56 08.3	+0.6
	baz=285						
YM10				*e*S	Sn	01 56 19.2	-0.3
	baz=285						
TWY	Chenhua	0.83	295	*e*P	Pb	01 56 08.3	+0.5
	baz=294						
TWY				*e*S	Sn	01 56 19.4	-0.1
	baz=294						
ENTT	Nioudou	0.84	250	P	Pb	01 56 08.4	+0.4
	baz=247						
ENTT				S	Sn	01 56 19.8	0.0
	baz=247						
YM04	YM04	0.84	286	*e*P	Pb	01 56 08.3	+0.2
	baz=272						
YM04				S	Sn	01 56 19.4	-0.5
	baz=272						
NWLT	Wulai	0.86	260	*e*P	Pn	01 56 08.1	-0.5
	baz=257						
NWLT				*e*S	Sn	01 56 19.9	-0.3
	baz=257						
NDT	Datong Townshi	0.90	249	*e*P	Pb	01 56 09.2	+0.2
	baz=246						
NDT				S	Sn	01 56 21.0	-0.2
	baz=246						
YHNB	Yeheng	0.99	255	*e*P	Pn	01 56 10.4	-0.1
	baz=267						
YHNB				*e*S	Sn	01 56 23.2	-0.5
	baz=267						
NSK	Sanguang	1.01	256	P	Pb	01 56 10.9	0.0
	baz=267						
NSK				S	Sn	01 56 23.7	-0.4
	baz=267						
NACB	Ninganchiao	1.07	226	*e*P	Pb	01 56 11.9	-0.1
	baz=222						
NACB				*e*S	Sn	01 56 25.2	-0.2
	baz=222						
NNSB	Datong	1.08	243	P	Pb	01 56 12.1	0.0
	baz=226						
NNSB				*e*S	Sb	01 56 26.1	+0.3
	baz=226						
NNSH	Datong	1.08	243	P	Pb	01 56 12.2	+0.1
	baz=226						
NNSH				S	Sb	01 56 26.1	+0.3
	baz=226						
NNS	Nan Shan	1.08	243	*e*P	Pb	01 56 12.8	+0.7
	baz=226						
NNS				S	Sb	01 56 26.0	+0.1
	baz=226						
ETLH	Xiulin Townshi	1.12	230	*e*P	Pb	01 56 13.6	+0.7
	baz=227						
ETLH				*e*S	Sb	01 56 28.0	+0.8
	baz=227						
TWD	Chiawan	1.14	222	*e*P	Pb	01 56 13.3	+0.3
	baz=227						
TWD				*e*S	Sb	01 56 28.1	+0.6
	baz=227						
FUSS	Fushou	1.28	238	*e*P	Pb	01 56 16.1	+0.5
	baz=235						
FUSS				*e*S	Sb	01 56 33.0	+1.3
	baz=235						
LIOB	Emei	1.32	258	*e*S	Sb	01 56 33.4	+0.7
	baz=255						
WHF	Hehuan Shan	1.32	234	*e*P	Pb	01 56 16.8	+0.4
	baz=230						
WHF				*e*S	Sb	01 56 34.5	+1.4
	baz=230						
CHGB	Renai	1.44	233	*e*P	Pb	01 56 18.6	+0.3
	baz=230						
CHGB				*e*S	Sb	01 56 36.6	+0.3
	baz=230						
WHP	Taichung City	1.50	245	P	Pb	01 56 20.4	+1.1
	baz=229						
WHP				*e*S	Sb	01 56 38.6	+0.7
	baz=229						
VWDT	VWDT	1.66	225	*e*P	Pb	01 56 21.7	-0.2
	baz=205						
VWDT				*e*S	Sb	01 56 42.8	+0.3
	baz=205						
HGSD	Ruisui	1.70	213	*e*P	Pb	01 56 21.5	-1.2
	baz=196						

REY 27 02:00:14.0, 64°69N×17°50W, h4km
MOS 27 02:00:14.6±0.9, 64°64N×17°69W, h10km, mb4.9/53, Error ellipse: s-maj=8.9km s-min=5.9km az=98.7
IDC 27 02:00:15.1±0.5, 64°59N×17°66W, h0km, mb4.2/23, mb1 4.3/27, mb1mx4.1/64, mbtmp4.2/27, ML3.6/3, MS3.5/9, Ms1 3.5/9, ms1mx3.2/42, Error ellipse: s-maj=15.7km s-min=8.7km az=13.0
*NEIC 27 02:00:16.3±1.8, 64°59N±0°08×17°8W±0°1, h10km±1km, mb4.8/101, Error ellip

BORG Lg Lg 02 01 05.7
28nm,0.3s,baz=221,slow=23,SNR=7.1
BORG Borgarnes 1.61 275 P **Pn 02 00 41.7 -3.4**
BORG Borgarnes 1.61 275 **Pn 02 00 41.7 -3.4**
SCO Scoresbysund 6.09 346 *i* P **Pn 02 01 46.4 0.0**
SCO *e*S **Sn 02 02 59.4 +3.2**
SCO Scoresbysund 6.09 346 *i* P **Pn 02 01 46.4 0.0**
SCO *e*S **Sn 02 02 59.4 +3.2**
SCO Scoresbysund 6.09 346 **Pn 02 01 46.3 0.0**
EKA Eskdalemuir Ar 11.77 136 Pn **Pn 02 03 02.9 -1.5**
baz=317,slow=13,SNR=14
ESK Eskdalemuir 11.77 136 P **Pn 02 03 03.4 -1.0**
ESK Eskdalemuir 11.77 136 Pn **Pn 02 03 03.4 -1.0**
DSB Dublin 12.79 148 Pn **Pn 02 03 19.1 +0.9**
NC204 NORSAR Array S 13.26 92 Pn **Pn 02 03 25.3 +0.6**
NOA NORSAR Array B 13.57 92 Pn **Pn 02 03 25.1 -3.7**
0.0nm,0.3s,baz=299,slow=13,SNR=2.8
HFS Hagfors 15.08 93 Pn **Pn 02 03 49.4 +0.1**
0.0nm,0.3s,baz=281,slow=23,SNR=2.0
NOR Nord 17.04 0 *i* P **Pn 02 04 15.2 +0.7**
NOR Nord 17.04 0 *i* P **Pn 02 04 15.2 +0.7**
ARCES ARCESS Array B 17.15 55 P **P 02 04 17.5 -0.1**
0.0nm,0.3s,baz=273,slow=15,SNR=2.7
BSEG Bad Segeberg 17.66 114 *e*P **Pn 02 04 20.6 -1.7**
14nm,1.1s,baz=328,slow=11
IBBN Ibbenburen 17.95 122 *e*P **P 02 04 28.8 +2.3**
baz=328,slow=11
UCC Uccle 18.02 130 P **Pn 02 04 25.0 -1.8**
UCC pmax pmax
comp=Z,20nm,1.1s
UCC Uccle 18.02 130 Pn **Pn 02 04 25.0 -1.8**
BUG Bochum--Univer 18.48 124 *e*P **Pn 02 04 33.8 +1.3**
comp=Z,11nm,1.0s,baz=328,slow=11
BMRD Maredsous 18.58 130 P **Pn 02 04 34.2 +0.6**
BSTI Sart Tilman 18.61 128 P **P 02 04 30.7 -3.1**
BGES Gesves 18.61 129 P **Pn 02 04 34.5 +0.4**
BGES pP **sP 02 04 37.4 -0.1**
BCLA Clavier 18.66 129 P **Pn 02 04 35.2 +0.6**
NRDL Niedersach Rie 18.68 118 *e*P **P 02 04 34.1 -0.4**
comp=Z,26nm,1.2s,baz=328,slow=11
DOU Dourbes 18.70 131 P **Pn 02 04 35.9 +0.7**
DOU pP **sP 02 04 38.0 -0.5**
MEM Membach 18.73 127 P **Pn 02 04 36.2 +0.7**
BTNL Ternell 18.79 127 P **Pn 02 04 37.0 +0.7**
BHOU Houvegnez 18.95 128 P **Pn 02 04 39.1 +0.9**
BHOU PnPn **PnPn 02 04 52.2 +1.9**
AHRW Bad Neuenahr-A 19.16 126 *e*P **Pn 02 04 42.0 +1.3**
comp=Z,24nm,1.1s,baz=328,slow=11
ASSE Asse, Remlinge 19.19 117 *e*P **Pn 02 04 40.7 -0.2**
comp=Z,9.0nm,1.1s,baz=328,slow=11
CLZ Clausthal 19.30 118 *e*P **Pn 02 04 42.1 -0.4**
comp=Z,26nm,1.1s,baz=328,slow=11
WLF Walferdange 19.59 129 P **P 02 04 45.1 +0.6**
WLF Walferdange 19.59 129 P **P 02 04 43.0 -1.5**
WLF pmax pmax
comp=Z,58nm,1.8s
WLF Walferdange 19.59 129 *e*P **Pn 02 04 45.5 -0.3**
comp=Z,14nm,1.2s,baz=328,slow=11
WLF Walferdange 19.59 129 P **P 02 04 43.0 -1.5**
FINES FINESS Array B 19.74 79 P **Pn 02 04 48.5 +0.9**
comp=Z,0.2nm,0.3s,baz=304,slow=13,SNR=6.5
FINES LR LR 02 11 18.5
comp=Z,152nm,19.4s,baz=267,slow=34
FINES FINESS Array B 19.74 79 P **Pn 02 04 46.9 -0.6**
FINES FINESS Array B 19.74 79 P **Pn 02 04 46.9 -0.6**
CLF Chambon-Foret 19.81 138 P **P 02 04 45.4 -1.5**
CLF IAmb IAmb 02 04 51.2
comp=Z,91nm,1.4s
UBBA Unterbreizbach 19.98 121 *e*P **P 02 04 49.3 +0.6**
baz=328,slow=11
NEUB Neuenburg 20.34 117 *e*P **P 02 04 52.3 -0.4**
comp=Z,25nm,1.0s,baz=328,slow=11
MOX Moxa 20.73 119 *e*P **P 02 04 57.2 +0.2**
comp=Z,65nm,1.4s,baz=328,slow=11
CLL Collm 20.73 116 *i* P **P 02 04 57.0 +0.1**
comp=Z,77nm,1.6s
CLL *e* 02 05 07.0
CLL *e*PPP PPP 02 05 22.0
CLL Collm 20.73 116 *i* P **P 02 04 57.0 +0.1**
CLL pmax pmax
comp=Z,77nm,1.6s
CLL Collm 20.73 116 *e*P **P 02 04 56.1 -0.9**
comp=Z,18nm,1.1s,baz=328,slow=11
CLL Collm 20.73 116 P **P 02 04 57.0 +0.1**
CLL IAmb IAmb 02 05 00.4
comp=Z,55nm,1.4s
GKP Gorka Klasztor 20.94 106 *e*P Pn 02 05 02.6 +0.8
WERD Werda 21.15 118 *e*P **P 02 05 01.5 0.0**
comp=Z,11nm,1.1s,baz=328,slow=11
ECH Echery 21.17 129 P **P 02 05 01.7 -0.1**
ECH pmax pmax
comp=Z,35nm,1.4s
ECH Echery 21.17 129 P **P 02 05 01.7 -0.1**
GUNZ Gunzen 21.23 118 *e*P **P 02 05 02.3 -0.1**
comp=Z,18nm,1.1s,baz=328,slow=11
TANN Tannenbergstha 21.23 118 *e*P **P 02 05 02.4 0.0**
comp=Z,37nm,1.1s,baz=328,slow=11
WERN Wernitzgruen 21.30 118 *e*P **P 02 05 03.6 +0.4**
comp=Z,29nm,1.1s,baz=328,slow=11
GRA1 Grafenberg Arr 21.36 121 P **P 02 05 04.3 +0.6**
GRA1 IAmb IAmb 02 05 20.9
comp=Z,66nm,1.4s
GRF Grafenberg Arr 21.36 121 P **P 02 05 04.3 +0.6**
GRF pmax pmax
comp=Z,66nm,1.4s
GRF Grafenberg Arr 21.36 121 *e*P **P 02 05 04.0 +0.3**
comp=Z,22nm,1.1s,baz=328,slow=11
NKC Novy Kostel 21.37 118 *e*P **P 02 05 04.3 +0.4**
NKC Novy Kostel 21.37 118 *e*P **P 02 05 04.3 +0.4**
STU Stuttgart 21.39 125 P **P 02 05 04.5 +0.4**
STU pmax pmax
comp=Z,32nm,1.0s
STU Stuttgart 21.39 125 P **P 02 05 04.5 +0.4**
STU IAmb IAmb 02 05 18.8
comp=Z,32nm,1.0s
BRG Berggiesshubel 21.44 115 *i* P **P 02 05 04.4 -0.2**
comp=Z,61nm,1.4s
BRG *i* 02 05 12.3
comp=Z,60nm,1.5s
BRG Berggiesshubel 21.44 115 SG Sn 02 09 12.9 +2.8
comp=Z,6.3nm,0.6s
BRG Berggiesshubel 21.44 115 *i* P **P 02 05 04.4 -0.2**
BRG *i* 02 05 12.3
BRG 02 09 12.9
BRG pmax pmax
comp=Z,61nm,1.4s
BRG pmax pmax
comp=Z,60nm,1.5s
BRG Berggiesshubel 21.44 115 *e*P **P 02 05 02.7 -1.8**
comp=Z,24nm,1.1s,baz=328,slow=11
BFO Black Forest 21.47 127 P **P 02 05 05.7 +0.7**
BFO pmax pmax
comp=Z,26nm,1.2s
BFO Black Forest 21.47 127 *e*P **P 02 05 05.1 +0.1**
comp=Z,9.9nm,0.9s,baz=328,slow=11
BFO Black Forest 21.47 127 P **P 02 05 05.7 +0.7**
VSU Vasula 21.60 86 *e*P **P 02 05 05.9 -0.3**
VSU Vasula 21.60 86 *i* P **P 02 05 05.9 -0.3**
VSU pmax pmax
comp=Z,52nm,0.9s
ROTZ Rotzenmuhle 21.66 119 *e*P **P 02 05 07.0 0.0**
comp=Z,13nm,1.2s,baz=328,slow=11
FRB Frobisher Bay 21.72 291 LR LR 02 13 02.1
comp=Z,151nm,18.6s,baz=28,slow=35
PABE Paberze 22.24 95 *e*P **P 02 05 13.1 0.0**
PRU Pruhonice 22.37 116 *e*P **P 02 05 15.2 +0.6**
PRU Pruhonice 22.37 116 *e*P **P 02 05 15.2 +0.6**
KSP Ksiaz 22.39 112 *e*P **P 02 05 14.6 -0.2**
PBCC Pribram 22.41 117 *e*P **P 02 05 16.5 +1.5**
WET Wettzell 22.42 119 *e*P **P 02 05 15.5 +0.3**
comp=Z,8.7nm,1.1s,baz=328,slow=11
CHVC Chvalec 22.49 113 *e*P **P 02 05 15.6 -0.3**
GOPC GO Pecny, Ondr 22.53 115 *e*P **P 02 05 16.9 +0.6**
GOPC *e*pP **sP 02 05 24.4 +4.4**
GOPC GO Pecny, Ondr 22.53 115 *e*P **P 02 05 16.9 +0.6**
GOPC *e* 02 05 24.4
UBR Ueberruh 22.64 125 *e*P **P 02 05 17.9 +0.3**
comp=Z,11nm,1.0s,baz=328,slow=11
KHC Kasperske Hory 22.70 118 *e*P **P 02 05 18.0 -0.1**
KHC Kasperske Hory 22.70 118 *ce*P **P 02 05 18.5 +0.4**
KHC pmax pmax
comp=Z,54nm,1.7s
KHC Kasperske Hory 22.70 118 P **P 02 05 18.2 0.0**
DPC Dobruska-Polom 22.79 113 *e*P **P 02 05 17.9 -1.2**
DPC *e*pP **sP 02 05 25.3 +2.6**
DPC Dobruska-Polom 22.79 113 *e*P **P 02 05 17.9 -1.2**
DPC *e* 02 05 25.3
SENIN Lac Senin/Sane 22.84 131 P **P 02 05 19.2 -0.6**
SENIN IAmb IAmb 02 05 29.6
comp=Z,47nm,1.7s
DAVA Damuels 22.90 126 *e*P **P 02 05 20.6 +0.2**
comp=Z,14nm,1.2s
SUW Suwalki 22.91 98 *e*P **P 02 05 19.2 -1.1**
SSB Saint Sauveur 22.96 137 P **P 02 05 21.6 +0.7**
SSB pmax pmax
comp=Z,62nm,1.8s
SSB Saint Sauveur 22.96 137 P **P 02 05 21.6 +0.7**
SSB IAmb IAmb 02 05 29.8
comp=Z,62nm,1.8s
GEC2 GERESS Array S 22.98 119 *e*P **P 02 05 20.4 -0.8**
baz=328,slow=11
GEC2 GERESS Array S 22.98 119 P **P 02 05 21.6 +0.5**
GEC2 IAmb IAmb 02 05 30.7
comp=Z,34nm,1.3s
GERES GERESS Array B 22.98 119 P **P 02 05 21.5 +0.4**
comp=Z,8.7nm,1.2s,baz=324,slow=8.3,SNR=18
GERES LR LR 02 14 12.9
comp=Z,170nm,18.2s,baz=326,slow=36
GERES GERESS Array B 22.98 119 P **P 02 05 21.0 -0.1**
GERES GERESS Array B 22.98 119 P **P 02 05 21.0 -0.1**
RETA Reutte 23.04 125 *e*P **P 02 05 20.2 -1.6**
comp=Z,28nm,2.5s,SNR=5.5
ISAL Salakas 23.12 92 *e*P **P 02 05 22.6 +0.2**
MOTA Moosalm 23.28 124 *ep*P **P 02 05 25.7 +1.4**
comp=Z,26nm,2.3s
TREC Trest 23.30 115 *e*P **P 02 05 24.2 -0.1**
TREC Trest 23.30 115 *e*P **P 02 05 24.2 -0.1**
IIGN Ignalina 23.31 93 *e*P **P 02 05 24.3 -0.1**
DAVOX Davos/Dischmat 23.34 127 P **P 02 05 25.0 +0.1**
comp=Z,4.8nm,0.9s,baz=332,slow=10,SNR=9.2
DAVOX LR LR 02 14 48.9
comp=Z,165nm,19.5s,baz=358,slow=38
DAVOX Davos/Dischmat 23.34 127 P **P 02 05 25.0 +0.1**
TUE Stuetta 23.42 128 P **P 02 05 26.6 +0.8**
TUE IAmb IAmb 02 06 03.5
comp=Z,44nm,1.6s
SQTA Sankt Quirin 23.43 124 *e*P **P 02 05 26.0 +0.3**
comp=Z,22nm,1.7s,SNR=5.2
FETA Feichten 23.43 125 *e*P **P 02 05 25.9 +0.1**
comp=Z,18nm,1.5s
WATA Walderalm 23.46 124 *e*P **P 02 05 26.5 +0.4**
comp=Z,20nm,1.3s
BEL Belsk 23.47 105 *e*P **P 02 05 27.1 +1.1**
IDID Didziasalis 23.56 92 *e*P **P 02 05 26.1 -0.7**
FUORN Ofenpass-Fuorn 23.61 127 P **P 02 05 28.1 +0.4**
EUNU Eureka 23.67 336 P **P 02 05 27.9 +0.2**
VRAC Vranov 23.72 114 P **P 02 05 28.9 +0.4**
comp=Z,7.7nm,1.2s,baz=325,slow=10.0,SNR=10
VRAC LR LR 02 14 23.8
comp=Z,146nm,18.7s,baz=330,slow=36
VRAC Vranov 23.72 114 *e*P **P 02 05 28.1 -0.4**
MORC Moravsky Berou 23.72 112 *e*P **P 02 05 28.0 -0.6**
MORC Moravsky Berou 23.72 112 P **P 02 05 29.2 +0.7**
MORC pmax pmax
comp=Z,79nm,1.8s
MORC Moravsky Berou 23.72 112 P **P 02 05 29.2 +0.7**
BNI Bardonecchia 23.82 134 P **P 02 05 30.2 +0.6**
BNI pmax pmax
comp=Z,80nm,1.8s
BNI Bardonecchia 23.82 134 P **P 02 05 30.2 +0.6**
KRUC Moravsky 23.84 115 *e*P **P 02 05 29.2 -0.4**
MOA Molln 24.01 119 *e*P **P 02 05 31.2 -0.2**
comp=Z,9.0nm,1.4s
ABTA Abfaltersbach 24.30 123 *ep*P **P 02 05 35.9 +1.9**
comp=Z,18nm,1.4s
MVO Moncorvo 24.31 160 *e*P **P 02 05 35.5 +1.4**
comp=Z,48nm,1.6s
JAVC Velka Javorina 24.50 113 *e*P **P 02 05 36.6 +0.7**
CONA Conrad Observa 24.55 117 *i* P **P 02 05 36.5 +0.1**
comp=Z,6.8nm,0.9s
SALO Salr 24.57 127 P **P 02 05 37.4 +0.9**
CTI Castel Tesino 24.59 125 P **P 02 05 37.7 +1.0**
CTI pmax pmax
comp=Z,53nm,1.6s
CTI Castel Tesino 24.59 125 P **P 02 05 37.7 +1.0**
CTI IAmb IAmb 02 05 47.3
comp=Z,53nm,1.6s
ZOU Zoufplan 24.62 123 P **P 02 05 37.4 +0.3**
ZOU IAmb IAmb 02 05 42.8
comp=Z,58nm,1.7s
PVIS Viseu 24.63 162 *e*P **P 02 05 38.7 +1.7**
comp=Z,36nm,2.8s
CIMO Cimolais 24.64 124 P **P 02 05 37.6 +0.5**
SMOL Smolenice 24.69 114 *e*P **P 02 05 38.2 +0.8**
SMOL pmax pmax
comp=Z,22nm,1.7s
SMOL Smolenice 24.69 114 *e*P **P 02 05 38.2 +0.8**
MODS Modra-Piesok 24.74 114 *e*P **P 02 05 36.9 -1.0**
MODS pmax pmax
comp=Z,33nm,1.3s
MODS Modra-Piesok 24.74 114 *e*P **P 02 05 36.8 -1.1**
MYKA Terra Mystica 24.80 122 *ep*P **P 02 05 40.4 +1.8**
comp=Z,7.7nm,1.1s
ZST Bratislava 24.82 115 *e*P **P 02 05 39.4 +0.8**
ZST Bratislava 24.82 115 *e*P **P 02 05 39.4 +0.8**
PRED Cave del Predi 24.94 122 IAmb IAmb 02 05 59.0
comp=Z,27nm,1.5s
ARSA Arzberg 24.99 118 *e*P **P 02 05 40.0 -0.2**
comp=Z,13nm,1.6s
LANS Liptovska Anna 24.99 111 *e*P **P 02 05 40.4 +0.2**
LANS pmax pmax
comp=Z,5.0nm,1.1s
LANS Liptovska Anna 24.99 111 *e*P **P 02 05 40.4 +0.2**
COI Coimbra 25.06 163 P **P 02 05 40.4 -0.5**
COI pmax pmax
comp=Z,51nm,1.4s
COI Coimbra 25.06 163 P **P 02 05 40.4 -0.5**
PCAS Casmilo, Conde 25.21 163 *e*P **P 02 05 43.6 +1.4**
comp=Z,43nm,1.6s
OBKA Obir 25.24 121 *e*P **P 02 05 42.0 -0.5**
comp=Z,13nm,1.6s
VYHS Vyhne 25.26 112 *e*P **P 02 05 42.9 +0.3**
VYHS pmax pmax
comp=Z,41nm,1.6s
VYHS Vyhne 25.26 112 *e*P **P 02 05 42.9 +0.3**
SOKA Soboth 25.28 120 *e*P **P 02 05 42.9 0.0**
comp=Z,15nm,1.6s
PCBR Castelo Branco 25.55 162 *e*P **P 02 05 47.7 +2.5**
comp=Z,29nm,1.7s
KLMR Klimovskoe 25.64 72 *e*P **P 02 05 44.4 -1.5**
comp=Z,31nm,1.3s
KLMR Klimovskoe 25.64 72 *e*P **P 02 05 44.3 -1.5**
KLMR *e* 02 09 15.5
KLMR pmax pmax
comp=Z,31nm,1.3s
KLMR Klimovskoe 25.64 72 *e*P **P 02 05 44.4 -1.5**
KLMR AMP 02 05 48.1
comp=Z,31nm,1.3s
KLMR *e*PcP **PcP 02 09 15.5 -0.5**
SRO2 Moca 25.68 114 *e*P **P 02 05 45.8 -0.5**
SRO2 Moca 25.68 114 *e*P **P 02 05 45.8 -0.5**
KWP Kalwaria Pacla 25.94 106 *e*P **P 02 05 50.4 +1.6**
PMRV Marv??o 25.96 162 *e*P **P 02 05 51.8 +2.7**
comp=Z,35nm,1.8s
LSH Leshukonskoye 26.00 60 *e*P **P 02 05 46.1 -3.0**
comp=Z,48nm,1.6s
SCHQ Schefferville 26.01 271 P **P 02 05 49.7 +0.3**
comp=Z,10nm,0.9s,baz=71,slow=6.7,SNR=4.7
PSZ Piszkesteto 26.14 112 ⇑P **P 02 05 51.5 +0.8**
PSZ Piszkesteto 26.14 112 P **P 02 05 51.2 +0.5**
PSZ pmax pmax
comp=Z,96nm,1.8s
PSZ Piszkesteto 26.14 112 P **P 02 05 51.2 +0.5**
ESDC Sonseca Array 26.26 156 P **P 02 05 52.0 +0.2**
comp=Z,2.8nm,0.9s,baz=348,slow=9.6,SNR=18
ESDC LR LR 02 17 09.0
comp=Z,75nm,18.2s,baz=340,slow=39
ESDC Sonseca Array 26.26 156 P **P 02 05 52.4 +0.6**
KOLS Kolonicke sedl 26.30 108 *e*P **P 02 05 52.0 -0.1**
KOLS pmax pmax
comp=Z,42nm,1.5s
KOLS Kolonicke sedl 26.30 108 *e*P **P 02 05 51.9 -0.1**
LVV L'vov 26.34 104 *e*P **P 02 05 54.1 +1.7**
RES Resolute Bay 26.46 324 LR LR 02 14 37.2
comp=Z,74nm,21.8s,baz=97,slow=32
UZH Uzhgorod 26.55 108 *e*P **P 02 05 54.6 +0.4**
UZH *e* 02 06 02.8
OSSC Osservatorio P 26.66 129 IAmb IAmb 02 06 00.9
comp=Z,32nm,1.3s
AKASG Malin Array Be 27.87 97 P **P 02 06 04.9 -1.2**
comp=Z,1.2nm,0.7s,baz=325,slow=9.6,SNR=8.5
AKASG Malin Array Be 27.87 97 *i* P **P 02 06 04.5 -1.6**
AKBB Malin Array Si 27.87 97 *ce*P **P 02 06 07.1 +1.0**
AKBB Malin Array Si 27.87 97 IAmb IAmb 02 06 36.7
comp=Z,18nm,1.3s
OBN Obninsk 27.92 84 ⇓*i* P **P 02 06 06.5 +0.1**
OBN *e* 02 06 50.3
OBN *e*S **S 02 10 50.5 +0.5**
OBN *e*SS **SnSn 02 12 08.3 +5.3**
OBN pmax pmax
comp=Z,39nm,1.7s
OBN MLR MLR
comp=Z,194nm,18.0s
OBN Obninsk 27.92 84 P **P 02 06 04.8 -1.6**
BURAR Bucovina Array 28.55 106 ⇑P P 02 06 17.4 +5.0
BURAR Bucovina Array 28.55 106 P **P 02 06 12.7 +0.3**
SORM Soroca 29.45 102 ⇑P **P 02 06 19.9 -0.3**
BIZ Bicaz 29.46 106 ⇑P **P 02 06 21.9 +1.6**
ARR Arges 30.12 109 ⇑P **P 02 06 27.3 +1.0**
VOIR 30.24 109 ⇑P **P 02 06 30.0 +2.7**
MLR Muntele Rosu 30.56 108 ⇓P **P 02 06 31.3 +1.2**
VRI Vrincioaia 30.58 106 ⇑P **P 02 06 32.5 +2.3**
LPSR Galich'ya Gora 30.66 86 *e*P **P 02 06 29.1 -1.7**
LPSR pmax pmax
comp=Z,20nm,1.8s
KIRV Kirov 31.02 69 P **P 02 06 33.5 -0.3**
comp=Z,9.4nm,0.6s,baz=353,slow=10,SNR=4.2
CFR Carcaliu 31.72 106 ⇑P **P 02 06 39.0 -1.1**
VSR Storozhevoye 31.77 87 *e*P **P 02 06 45.2 +4.6**
VSR pmax pmax
comp=Z,4.0nm,0.6s
VORD Divnogorie 32.00 88 *e*P **P 02 06 44.0 +1.4**
VORD pmax pmax
comp=Z,30nm,2.0s
VRH Novokhopyorsk 32.87 85 *e*P **P 02 06 49.6 -0.7**
VRH pmax pmax
comp=Z,30nm,1.5s
KEST Kesra 33.17 138 P **P 02 06 52.7 -0.4**
comp=Z,5.1nm,1.1s,baz=234,slow=13,SNR=3.2
KEST Kesra 33.17 138 IAmb IAmb 02 06 57.2
comp=Z,16nm,1.3s
ARU Arti 36.12 66 P **P 02 07 18.5 +0.3**
comp=Z,0.5nm,0.3s,baz=300,slow=9.0,SNR=3.9
ARU Arti 36.12 66 *c i* P **P 02 07 18.2 -0.1**
ARU S **S 02 13 02.5 +4.9**
ARU pmax pmax
comp=Z,28nm,2.6s
ARU Arti 36.12 66 IAmb IAmb 02 07 27.5
comp=Z,58nm,2.0s
NRIK Noril'sk 36.48 35 ⇑*e*P **P 02 07 20.9 -0.4**
NRIK pmax pmax
comp=Z,13nm,1.3s
SVE Sverdlovsk 36.65 64 *e*P **P 02 07 22.8 0.0**
BRTR Keskin Array B 38.51 105 P **P 02 07 40.0 +1.1**
comp=Z,2.6nm,1.0s,baz=268,slow=15,SNR=10
BRTR Keskin Array B 38.51 105 P **P 02 07 38.1 -0.8**
KIV Kislovodsk 38.87 92 *e*P **P 02 07 42.4 +0.5**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV Kislovodsk 38.87 92 P **P 02 07 42.1 +0.2**
KBZ Khabaz 39.15 92 P **P 02 07 45.1 +1.1**
comp=Z,9.3nm,1.0s,baz=304,slow=16,SNR=9.5
KBZ LR LR 02 23 25.7
comp=Z,83nm,21.6s,baz=339,slow=36
KBZ Khabaz 39.15 92 *ce*P **P 02 07 44.9 +0.9**
KBZ pmax pmax
comp=Z,21nm,1.2s
YKA Yellowknife Ar 39.20 313 P **P 02 07 44.6 +0.4**
comp=Z,1.8nm,0.9s,baz=41,slow=8.8,SNR=5.2
J55A Hilton 39.42 267 P **P 02 07 44.8 -1.6**
AKTO Aktyubinsk 40.32 73 P **P 02 07 53.2 -0.5**
comp=Z,6.4nm,1.1s,baz=338,slow=7.5,SNR=7.5
ZEI Tsey 40.34 92 *e*P **P 02 07 54.4 +0.2**
ZEI pmax pmax
comp=Z,19nm,2.1s
GROC Groznyy 40.82 90 *e*P **P 02 07 59.3 +1.4**
GROC *e* 02 09 55.8
GROC pmax pmax
comp=Z,27nm,1.2s
KOPT Kop Dagi 41.16 98 P **P 02 08 04.0 +2.9**
KOPT IAmb IAmb 02 08 07.1
comp=Z,32nm,1.5s
AKH Akhalkalaki 41.29 94 P **P 02 08 02.9 +0.8**
AKH pmax pmax
comp=Z,24nm,1.2s
AKH Akhalkalaki 41.29 94 P **P 02 08 02.9 +0.8**
AKH IAmb IAmb 02 08 06.7
comp=Z,24nm,1.2s
EYMN Ely 41.55 283 P **P 02 08 03.6 -0.3**
ABKAR Akbulak array 42.02 73 P **P 02 08 07.3 -0.5**
TIXI Tiksi 42.05 15 *ce*P **P 02 08 08.6 +0.9**
TIXI pmax pmax
comp=Z,58nm,1.1s
TIXI Tiksi 42.05 15 P **P 02 08 07.6 -0.1**
GAZ Gaziantep 42.16 104 P **P 02 08 09.6 +0.5**
GAZ IAmb IAmb 02 09 35.4
comp=Z,7.5nm,0.5s
G40A Rib Lake 43.12 280 P **P 02 08 15.4 -1.4**
G40A IAmb IAmb 02 08 22.6
comp=Z,28nm,1.6s
BRVK Borovoye 43.16 62 *ce*P **P 02 08 17.1 +0.1**
BRVK pmax pmax
comp=Z,25nm,2.5s
BRVK Borovoye 43.16 62 P **P 02 08 17.6 +0.6**
BVAR Borovoye Array 43.23 62 P **P 02 08 17.9 +0.4**
comp=Z,3.7nm,0.9s,baz=224,slow=4.1,SNR=16
MARD Mardin 43.54 100 P **P 02 08 21.4 +1.0**
MARD IAmb IAmb 02 08 25.3
comp=Z,24nm,1.2s
N49A Columbus Grove 44.07 271 IAmb IAmb 02 08 26.7
comp=Z,21nm,1.1s
TAM Tamanrasset 44.52 149 P **P 02 08 27.7 -0.6**
TAM pmax pmax
comp=Z,9.0nm,1.5s
TAM Tamanrasset 44.52 149 P **P 02 08 27.7 -0.6**
O49A Covington 44.74 270 P **P 02 08 29.3 -0.5**
O49A IAmb IAmb 02 08 31.8
comp=Z,19nm,1.1s
ILAR Eielson Array 45.68 332 P **P 02 08 38.0 +1.1**
comp=Z,4.1nm,1.1s,baz=23,slow=6.3,SNR=19
ILAR PcP **PcP 02 10 14.8 +0.1**
comp=Z,1.9nm,1.0s,baz=350,slow=3.2,SNR=8.6
ILAR Eielson Array 45.68 332 P **P 02 08 36.9 0.0**
ILAR 02 10 12.9
ILAR Eielson Array 45.68 332 P **P 02 08 36.9 0.0**
ILAR **PcP 02 10 12.9 -1.8**
IMAR Indian Mountai 45.85 337 P **P 02 08 39.1 +0.8**
HDA Harding Lake 46.01 332 IAmb IAmb 02 08 45.0
comp=Z,26nm,1.7s
BCAR Beaver Creek A 46.10 328 P **P 02 08 41.8 +1.5**
BCAR **PcP 02 10 15.6 -0.7**
MCK McKinley 47.02 333 P **P 02 08 48.0 +0.5**
MCK pmax pmax
comp=Z,36nm,1.8s
MCK McKinley 47.02 333 P **P 02 08 48.0 +0.5**
BPAW Bear Paw Mtn. 47.08 334 P **P 02 08 48.5 +0.5**
BILL Bilibino 47.56 358 *e*P **P 02 08 51.5 -0.1**
BILL *e* 02 10 22.6
BILL *e*S **S 02 15 43.0 -3.4**
BILL *e*SS **SS 02 19 07.8 -5.6**
BILL pmax pmax
comp=Z,6.0nm,1.0s
ZAA0 Zalesovo Array 47.66 51 P **P 02 08 52.9 +0.3**
ZALV Zalesovo Beam 47.66 51 P **P 02 08 52.5 -0.1**
comp=Z,0.7nm,0.3s,baz=333,slow=9.0,SNR=4.7
ZALV Zalesovo Beam 47.66 51 *i* P **P 02 08 53.0 +0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 48.15 58 *ce*P **P 02 08 55.2 -1.2**
KURK pmax pmax
comp=Z,13nm,1.3s
KURK Kurchatov 48.15 58 P **P 02 08 55.5 -0.9**
KURK IAmb IAmb 02 08 57.0
comp=Z,8.3nm,0.8s
W50A Signal Mountai 49.34 268 IAmb IAmb 02 09 08.9
comp=Z,17nm,1.1s
GEYT Alibeck 50.46 84 P **P 02 09 15.0 +0.8**
comp=Z,2.2nm,0.7s,baz=306,slow=13,SNR=6.5
GEYT Alibeck 50.46 84 P **P 02 09 15.1 +0.8**
GYA0B ALIBECK ARRAY 50.46 84 P **P 02 09 15.0 +0.7**
GYA0B IAmb IAmb 02 09 18.6
comp=Z,12nm,1.4s
S39A Bolivar 50.68 276 IAmb IAmb 02 09 26.5
comp=Z,8.8nm,0.8s
RLMT Red Lodge 51.06 295 IAmb IAmb 02 09 27.1

comp=Z,29nm,1.6s
BTLS Baital 51.10 66 *e*P **P 02 09 19.0 0.0**
comp=Z,5.4nm,1.7s,baz=66
BTLS *e*S **S 02 16 37.6 +1.0**
baz=66
BTLS Baital 51.10 66 *e*P **P 02 09 18.9 0.0**
BTLS *e*S **S 02 16 37.6 +1.0**
BTLS pmax pmax
comp=Z,5.0nm,1.7s
YAK Yakutsk 51.29 19 *i* P **P 02 09 20.9 +0.8**
KK31 Karatay Array 51.31 70 IAmb IAmb 02 09 22.3
comp=Z,20nm,1.8s
KKAR Karatay Array 51.31 70 P **P 02 09 20.9 +0.3**
KKAR Karatay Array 51.31 70 P **P 02 09 20.9 +0.3**
LRM Limekiln Ridge 51.71 297 P **P 02 09 23.2 -0.6**
DZA Taraz 51.82 69 *e*P **P 02 09 24.9 +0.5**
baz=69
DZA Taraz 51.82 69 *e*P **P 02 09 24.9 +0.5**
IUG luzhnay 51.91 71 *e*P **P 02 09 25.2 0.0**
baz=71
IUG luzhnay 51.91 71 *e*P **P 02 09 25.2 0.0**
DGZ Jazzator, Alta 52.11 53 *i* P **P 02 09 27.2 +0.5**
DGZ pmax pmax
comp=Z,17nm,1.6s
FLWY Flagg Ranch 52.49 295 IAmb IAmb 02 09 36.2
comp=Z,18nm,1.4s
SEY Seymchan 52.50 6 *i* P **P 02 09 29.6 +0.5**
MAKZ Makanchi 52.63 58 P **P 02 09 30.8 +0.4**
MAKZ pmax pmax
comp=Z,29nm,1.8s
MAKZ Makanchi 52.63 58 P **P 02 09 30.8 +0.4**
MAKZ IAmb IAmb 02 09 34.2
comp=Z,29nm,1.8s
SGDS Sogindy 52.66 66 *e*P **P 02 09 30.6 -0.2**
comp=Z,5.5nm,1.4s,baz=66
SGDS Sogindy 52.66 66 *e*P **P 02 09 30.5 -0.2**
SGDS pmax pmax
comp=Z,5.0nm,1.4s
MKAR Makanchi Array 52.76 58 P **P 02 09 31.3 -0.1**
comp=Z,2.4nm,0.9s,baz=314,slow=6.3,SNR=10
MKAR Makanchi Array 52.76 58 P **P 02 09 31.0 -0.3**
MKAR Makanchi Array 52.76 58 P **P 02 09 31.0 -0.3**
TDK Taldyqorghan 52.82 62 *e*P **P 02 09 31.4 -0.5**
baz=62
TDK Taldyqorghan 52.82 62 *e*P **P 02 09 31.3 -0.5**
KUU Kurty 52.96 65 *e*P **P 02 09 32.4 -0.5**
comp=Z,11nm,1.4s,baz=65
KUU Kurty 52.96 65 *e*P **P 02 09 32.3 -0.5**
KUU pmax pmax
comp=Z,11nm,1.4s
TPAW Teton Pass 53.09 295 P **P 02 09 32.9 -1.2**
TPAW IAmb IAmb 02 09 36.7
comp=Z,12nm,1.3s
ZSN Zaisan 53.13 56 *e*P **P 02 09 33.5 -0.5**
baz=56
ZSN Zaisan 53.13 56 *e*P **P 02 09 33.5 -0.5**
TOA0 Torodi Ar. Sit 53.15 156 P **P 02 09 33.0 -1.4**
TORD Torodi Ar. Bea 53.15 156 P **P 02 09 33.7 -0.8**
comp=Z,4.6nm,1.1s,baz=336,slow=9.1,SNR=14
TORD Torodi Ar. Bea 53.15 156 P **P 02 09 33.7 -0.8**
PDAR Pinedale Array 53.15 293 P **P 02 09 34.9 +0.3**
comp=Z,3.2nm,0.9s,baz=57,slow=5.5,SNR=19
BW06 Boulder Array 53.15 293 IAmb IAmb 02 09 35.7
comp=Z,11nm,1.1s
FRU1 Bishkek 53.20 67 P **P 02 09 36.6 +1.9**
FRU1 pmax pmax
comp=Z,17nm,0.5s
FRU1 Bishkek 53.20 67 P **P 02 09 36.6 +1.9**
AAK Ala-Archa 53.29 67 *ce*P **P 02 09 35.8 +0.3**
AAK pmax pmax
comp=Z,98nm,2.5s
MIAR Mount Ida 53.45 274 P **P 02 09 35.0 -1.6**
MIAR pmax pmax
comp=Z,34nm,1.6s
MIAR Mount Ida 53.45 274 P **P 02 09 35.0 -1.6**
MTBS Maitube 53.64 65 *e*P **P 02 09 37.6 -0.3**
baz=65
MTBS Maitube 53.64 65 *e*P **P 02 09 37.6 -0.3**
MDOK Medeo 53.85 65 *e*P **P 02 09 39.4 -0.2**
baz=64
MDOK Medeo 53.85 65 *e*P **P 02 09 39.3 -0.2**
TNSS Tian-Shan 53.92 65 *e*P **P 02 09 40.6 +0.2**
baz=65
TNSS Tian-Shan 53.92 65 *e*P **P 02 09 40.6 +0.2**
BOOM Boomskoye usch 53.99 66 P **P 02 09 42.0 +1.4**
BOOM pmax pmax
comp=Z,20nm,1.5s
BOOM Boomskoye usch 53.99 66 P **P 02 09 42.0 +1.4**
BOOM IAmb IAmb 02 09 45.4
comp=Z,20nm,1.4s
SATY Saty 54.47 64 *e*P **P 02 09 43.9 -0.2**
comp=Z,4.3nm,1.2s,baz=64
SATY Saty 54.47 64 *e*P **P 02 09 43.8 -0.2**
SATY pmax pmax
comp=Z,4.0nm,1.2s
CHGR Chuyangaron 54.50 74 P **P 02 09 44.8 +0.6**
UZB Uzynbulak 54.63 63 *e*P **P 02 09 45.0 -0.3**
comp=Z,4.1nm,1.2s,baz=63
UZB Uzynbulak 54.63 63 *e*P **P 02 09 44.9 -0.3**
UZB pmax pmax
comp=Z,4.0nm,1.2s
GAR Garm 54.68 73 P **P 02 09 45.8 +0.2**
MOY Mondy 54.69 42 *e*P **P 02 09 46.7 +1.2**
MOY pmax pmax
comp=Z,56nm,2.2s
KDJ Kajisay 54.78 65 IAmb IAmb 02 09 50.8
comp=Z,18nm,1.5s
SHLS Shalkode 54.79 63 *e*P **P 02 09 47.5 +1.2**
comp=Z,9.4nm,1.4s,baz=62
SHLS Shalkode 54.79 63 *e*P **P 02 09 47.5 +1.2**
SHLS pmax pmax
comp=Z,9.0nm,1.4s
HWUT Hardware Ranch 54.92 294 P **P 02 09 47.9 +0.4**
HRA Herat 55.22 82 P **P 02 09 51.2 +1.5**
TARG Taragay, Kyrgy 55.37 65 IAmb IAmb 02 09 56.5
comp=Z,19nm,1.4s
TLY Talaya 55.43 40 *i* P **P 02 09 51.4 +0.7**
TLY pmax pmax
comp=Z,5.0nm,1.1s
ZAK Zakamensk 56.49 41 *e*P **P 02 09 58.5 +0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
KSH Kashi 56.53 68 P **P 02 10 01.3 +2.4**
KSH S **S 02 17 52.0 +1.5**
KSH pmax pmax
comp=Z,17nm,1.2s
KSH pmax pmax
comp=Z,180nm,7.0s
KSH LR LR
comp=N,240nm,9.1s
KSH LR LR
comp=E,340nm,9.2s
KSH LR LR
comp=Z,350nm,9.8s
WMQ Urumqi 57.27 56 *e*P **P 02 10 07.0 +3.0**
WMQ pmax pmax
comp=Z,5.0nm,0.7s
WMQ pmax pmax
comp=Z,73nm,4.1s
WMQ LR LR
comp=N,220nm,29.1s
WMQ LR LR
comp=E,580nm,28.8s
WMQ LR LR
comp=Z,31nm,24.9s
KBL Kabul 57.97 76 P **P 02 10 09.7 +0.5**
KBL pmax pmax
comp=Z,4.0nm,1.0s
KBL Kabul 57.97 76 P **P 02 10 09.7 +0.5**
DBIC Dimbokro 58.59 165 P **P 02 10 12.1 -1.3**
comp=Z,3.5nm,0.8s,baz=338,slow=7.1,SNR=3.4
TIC Toumodi 58.59 165 *e*P **P 02 10 12.6 -0.9**
KIC Kosan Boka 58.91 165 *e*P **P 02 10 14.8 -0.9**
comp=Z,22nm,1.1s
LIC Lamto 59.01 165 *e*P **P 02 10 15.6 -0.8**
comp=Z,51nm,1.3s
JCT Junction City 59.62 277 P **P 02 10 20.3 -0.2**
JCT pmax pmax
comp=Z,17nm,1.2s
JCT Junction City 59.62 277 P **P 02 10 20.3 -0.2**
SONM Songino Array 59.67 40 P **P 02 10 21.3 +0.5**
comp=Z,1.0nm,0.7s,baz=354,slow=6.0,SNR=5.3
SONM Songino Array 59.67 40 P **P 02 10 20.8 0.0**
SONM pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 59.67 40 P **P 02 10 20.8 0.0**

ULN Ulaanbaatar 59.82 40 *ce*P **P 02 10 21.2 -0.7**
ULN pmax pmax
comp=Z,19nm,2.5s
ULN Ulaanbaatar 59.82 40 P **P 02 10 22.1 +0.2**
ULN IAmb IAmb 02 10 30.9
comp=Z,18nm,1.9s
NIL Nilore 60.48 73 P **P 02 10 26.6 +0.2**
NIL pmax pmax
comp=Z,29nm,1.4s
NIL Nilore 60.48 73 P **P 02 10 26.6 +0.2**
GTA Gaotai 65.33 49 *e*P **P 02 10 59.5 +0.8**
GTA pP sP 02 11 04.8 +2.1
GTA sP pP 02 11 08.3 +6.9
GTA Gaotai 65.33 49 SS SS 02 23 55.0 +0.4
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,130nm,7.3s
GTA LR LR
comp=N,180nm,20.4s
GTA LR LR
comp=E,200nm,16.7s
GTA LR LR
comp=Z,120nm,18.5s
HHC Hu-ho-hao-te 67.54 40 *e*P **P 02 11 13.3 +0.5**
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,180nm,6.8s
LZH Lanzhou 69.66 47 *e*P **P 02 11 26.0 -0.2**
LZH pP pP 02 11 29.3 +0.4
LZH sP sP 02 11 30.8 +0.6
LZH *e*PP **PP 02 14 02.0 +2.4**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,120nm,6.2s
LZH LR LR
comp=N,370nm,15.2s
LZH LR LR
comp=E,370nm,15.0s
LZH LR LR
comp=Z,520nm,17.6s
LSA Lhasa 71.05 61 P **P 02 11 36.4 +1.2**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 71.05 61 P **P 02 11 36.4 +1.2**
LSA IAmb IAmb 02 12 52.1
comp=Z,5.9nm,0.8s
XAN Xi'an 73.12 44 P **P 02 11 47.9 +0.9**
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN Xi'an 73.12 44 P **P 02 11 47.9 +0.9**
XAN IAmb IAmb 02 11 49.5
comp=Z,9.5nm,1.2s
INCN Inchon 74.38 29 P **P 02 11 55.6 +1.3**
INCN pmax pmax
comp=Z,23nm,0.4s
INCN Inchon 74.38 29 P **P 02 11 55.6 +1.3**
CD2 Chengdu 74.39 50 P **P 02 11 55.3 +0.8**
CD2 pmax pmax
comp=Z,20nm,1.0s
KSRS Korea Array 74.67 28 LR LR 02 46 15.0
comp=Z,17nm,18.4s,baz=5.0,slow=37
ENH Enshi 76.80 45 P **P 02 12 08.8 +0.5**
NJ2 Nanjing 77.77 37 *e*P **P 02 12 12.8 -0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
CHTO Chiang Mai 83.84 58 P **P 02 12 45.9 -0.4**
CHTO pmax pmax
comp=Z,15nm,1.6s
CHTO Chiang Mai 83.84 58 P **P 02 12 45.9 -0.4**
CMAR Chiang Mai Arr 84.17 59 P **P 02 12 47.2 -0.7**
comp=Z,0.6nm,0.3s,baz=319,slow=6.2,SNR=7.8
CMAR Chiang Mai Arr 84.17 59 P **P 02 12 47.1 -0.8**
CMAR Chiang Mai Arr 84.17 59 P **P 02 12 47.1 -0.8**
ASAR Alice Springs 134.99 38 PKP **PKPdf 02 19 35.4 -0.1**
comp=Z,0.8nm,1.0s,baz=318,slow=1.2,SNR=4.9
STKA Stephens Creek 144.75 32 PKP **PKPab 02 19 51.2 -0.6**
comp=Z,2.0nm,0.8s,baz=5.0,slow=20,SNR=3.0

NEIC ***27*** *02:06:29.9±2.0, 32°.36N±0°.02×115°.22W±0°.03, h20km±6km, Error ellipse: s-maj=3.6km s-min=3.1km az=128.0*
SCEDC ***27*** *02:06:30.8, 32°.38N×115°.25W, h23km*
ANF ***27*** *02:06:30.7±0.4, 32°.44N×115°.25W, h28km±2km, ML3.9/15, Error ellipse: s-maj=3.9km s-min=2.4km az=0.0*
PAS ***27*** *02:06:30.8±1.8, 32°.38N±0°.02×115°.25W±0°.01, h23km±6km, ML3.9/103, ML3.7(ECX), Error ellipse: s-maj=3.2km s-min=1.0km az=148.0*
ECX ***27*** *02:06:31.2±1.1, 32°.40N×115°.25W, h2km±5km, MD3.7, ML3.9, Fault plane solution: NP1:φ±138.33000°, δ90.00000°, λ30.00000°.*
MEX ***27*** *02:06:31.8±0.9, 32°.42N×115°.18W, h10km, MD3.9*
ISC 27 02:06:29.7±0.8, 32°.38N±0°.02×115°.26W±0°.02, h16km±4km, n157, σ0.99/192, 9C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.06**	**317**		**Pg**	**02 06 34.5**	**+1.7**
CPBX	**Cerro Prieto**	**0.06**	**317**	⇑*e*P	**Pg**	**02 06 32.4**	**-0.4**
CPBX				IAML		02 06 36.7	
	comp=E,798μm,0.8s						
CPBX				⇑*e*		02 06 36.7	
CPBX				⇑*e*		02 06 39.8	
CPBX				IAML		02 06 39.8	
	comp=N,456μm,0.7s						
MBIG	**Mexicali**	**0.06**	**60**	*e*P	**Pg**	**02 06 31.9**	**-0.8**
MBIG				*e*P		02 06 32.2	
MBIG				*i* S	**Sg**	**02 06 34.2**	**-0.6**
MBIG	**Mexicali**	**0.06**	**60**	⇑*i*P	**Pg**	**02 06 32.0**	**-0.8**
MBIG				*e*S	**Sg**	**02 06 34.1**	**-0.7**
CTLX	**Tlaxcala, TLX**	**0.14**	**45**	⇑*e*P	**Pb**	**02 06 34.2**	**+0.3**
CTLX				*e*S	**Sb**	**02 06 38.0**	**+1.3**
GUVIX	**Guadalupe Vict**	**0.17**	**116**		**Pb**	**02 06 35.1**	**+0.6**
GUVIX					**Sb**	**02 06 39.1**	**+1.4**
GUVIX	**Guadalupe Vict**	**0.17**	**116**	⇑*e*P	**Pb**	**02 06 35.1**	**+0.6**
GUVIX				*e*S	**Sb**	**02 06 39.2**	**+1.4**
UABX	**UABC, Campus M**	**0.30**	**329**		**Pb**	**02 06 37.0**	**+0.3**
UABX					**Sb**	**02 06 42.3**	**+1.0**
UABX	**UABC, Campus M**	**0.30**	**329**	*e*P	**Pb**	**02 06 37.5**	**+0.8**
EMSC	**East Mesa**	**0.43**	**33**		**Pb**	**02 06 39.4**	**+0.5**
DREC	**Desert Rsrch C**	**0.46**	**340**		**Pb**	**02 06 40.2**	**+0.8**
DREC	**Desert Rsrch C**	**0.46**	**340**	*e*P	**Pb**	**02 06 40.3**	**+0.9**
SGL	**Mount Signal**	**0.48**	**305**		**Pg**	**02 06 39.8**	**+0.5**
SGL					**Sg**	**02 06 46.5**	**+0.7**
SGL	**Mount Signal**	**0.48**	**305**	⇑*i*P	**Pg**	**02 06 39.8**	**+0.5**
SGL				*i* S	**Sg**	**02 06 46.5**	**+0.7**
COA	**Coachella**	**0.50**	**13**		**Pb**	**02 06 40.5**	**+0.4**
COA					**Sb**	**02 06 47.5**	**+0.3**
COA	**Coachella**	**0.50**	**13**	⇓*i*P	**Pb**	**02 06 40.5**	**+0.4**
SNR	**Schaffner Ranc**	**0.51**	**343**		**Pb**	**02 06 40.9**	**+0.7**
WESC	**Westside Schoo**	**0.55**	**314**		**Pg**	**02 06 41.1**	**+0.4**
COK2	**Cook Ranch 2**	**0.62**	**320**		**Pg**	**02 06 42.2**	**+0.3**
COK2					**Sb**	**02 06 52.3**	**+1.7**
COK2	**Cook Ranch 2**	**0.62**	**320**	*e*P	**Pg**	**02 06 42.2**	**+0.3**
YUH	**Yuha Desert**	**0.62**	**296**		**Pg**	**02 06 42.3**	**+0.3**
YUH					**Sb**	**02 06 51.1**	**+0.4**
RUN	**Ruthven**	**0.64**	**22**		**Pg**	**02 06 42.3**	**0.0**
RUN					**Sg**	**02 06 51.4**	**+0.6**
ESJX	**Sierra Juarez**	**0.69**	**238**		**Pb**	**02 06 44.4**	**+0.9**
ESJX					**Sb**	**02 06 53.7**	**+0.8**
WEMD	**Westmorland, C**	**0.71**	**338**		**Pg**	**02 06 43.6**	**-0.1**
SWSC	**Sam W. Stewart**	**0.73**	**321**	P	**Pg**	**02 06 43.7**	**-0.2**
	baz=140,SNR=77						
SWSC				S	**Sg**	**02 06 53.7**	**+0.1**
	baz=140						
SWSC	**Sam W. Stewart**	**0.73**	**321**		**Pg**	**02 06 43.7**	**-0.2**
SWSC					**Sg**	**02 06 53.0**	**-0.6**
SWSC	**Sam W. Stewart**	**0.73**	**321**	⇓*e*P	**Pg**	**02 06 43.8**	**-0.2**
RMX	**La Rumorosa**	**0.73**	**288**		**Pg**	**02 06 43.8**	**-0.3**
RMX	**La Rumorosa**	**0.73**	**288**		**Sg**	**02 06 53.1**	**-0.6**
SUP	**Superstition M**	**0.75**	**321**		**Pg**	**02 06 44.1**	**-0.2**
SUP					**Sb**	**02 06 54.8**	**+0.5**
GLA	**Glamis**	**0.76**	**28**	P	**Pg**	**02 06 44.3**	**-0.4**
	baz=208,SNR=544						
GLA				S	**Sg**	**02 06 55.0**	**+0.2**
	baz=208						
GLA	**Glamis**	**0.76**	**28**		**Pg**	**02 06 44.3**	**-0.4**
GLA	**Glamis**	**0.76**	**28**		**Sg**	**02 06 55.0**	**+0.2**
GLA	**Glamis**	**0.76**	**28**	⇓*e*P	**Pg**	**02 06 44.3**	**-0.4**

IKP In-Ko-Pah, Jac 0.77 291 P **Pb 02 06 45.1 +0.3**
baz=110,SNR=316
IKP S **Sb 02 06 55.8 +0.8**
baz=110
IKP In-Ko-Pah, Jac 0.77 291 **Pb 02 06 45.1 +0.3**
IKP **Sb 02 06 55.6 +0.6**
IKP In-Ko-Pah, Jac 0.77 291 ⇑*e*P **Pb 02 06 45.1 +0.3**
CRR Carrizo Plain 0.79 310 **Pb 02 06 45.0 0.0**
CRR **Sb 02 06 56.6 +1.2**
CRR Carrizo Plain 0.79 310 ⇑*i*P **Pb 02 06 44.0 -1.0**
SJX San Joaquin 0.85 224 ⇓*e*P **Pb 02 06 44.5 -1.7**
SJX IAML 02 06 55.1
comp=E,2μm,0.2s
ERRC Elmore Ranch 0.88 327 **Pb 02 06 46.4 -0.2**
ERRC **Sb 02 06 58.2 +0.2**
ECBX El Chinero 0.92 169 ⇓*e*P **Pb 02 06 47.3 0.0**
CBKC Canebrake 0.99 302 **Pb 02 06 48.3 -0.1**
FRK Frink 1.07 343 **Pb 02 06 48.4 -1.5**
VTX Valle De La Tr 1.08 205 *e*P **Pg 02 06 50.6 -0.1**
VTX IAML 02 07 25.3
comp=E,2μm,0.4s
VTX ⇓*e* 02 07 25.3
SALN Salton City 1.09 326 **Sb 02 07 04.2 +0.1**
MONP2 Monument Peak 1.11 298 P **Pb 02 06 50.2 -0.4**
baz=117,SNR=348
MONP2 S **Sb 02 07 05.5 +0.6**
baz=117
MONP2 Monument Peak 1.11 298 **Pb 02 06 50.2 -0.4**
MONP2 Monument Peak 1.11 298 ⇓*e*P **Pb 02 06 50.4 -0.3**
TKX Tecate 1.16 280 Pn **Pn 02 06 50.9 -0.4**
TKX Tecate 1.16 280 *e*P **Pb 02 06 52.0 +0.6**
SLH Sleepy Hollow 1.17 314 **Sb 02 07 06.0 -0.4**
TJIG Tijuana 1.20 273 *e*P **Pb 02 06 52.4 +0.3**
TJIG *e*S **Sb 02 07 07.4 0.0**
BAR Barrett 1.23 285 **Pn 02 06 52.2 -0.1**
BAR Barrett 1.23 285 **Sg 02 07 09.4 -0.2**
BAR Barrett 1.23 285 **Pb 02 06 53.2 +0.5**
BC3 Big Chuckawall 1.28 353 P **Pn 02 06 52.1 -1.0**
baz=172,SNR=131
BC3 S **Sb 02 07 07.6 -2.4**
baz=172
BC3 Big Chuckawall 1.28 353 **Pn 02 06 52.2 -1.0**
CCX Cicese 1.30 247 **Pb 02 06 54.3 +0.5**
CCX Cicese 1.30 247 *e*P **Pg 02 06 54.7 0.0**
113A Mohawk Valley, 1.32 72 Pn **Pn 02 06 52.9 -0.5**
BORC Borrego Spring 1.32 313 **Pn 02 06 52.4 -1.1**
BORC **Sn 02 07 09.2 -1.6**
SPIG San Pedro Mart 1.34 188 *e*P **Pn 02 06 54.5 +0.4**
SPX San Pedro Mart 1.35 188 *e*P **Pn 02 06 53.1 -1.1**
SPX San Pedro Mart 1.35 188 **Pn 02 06 53.3 -0.9**
SPX San Pedro Mart 1.35 188 ⇓*e*P **Pn 02 06 53.3 -0.9**
HAY Hayfield 1.37 345 **Pn 02 06 53.1 -1.2**
SFX San Felipe 1.38 165 **Pn 02 06 53.7 -0.6**
CTW Cottonwood Mou 1.40 338 **Pg 02 06 57.9 +1.3**
MATG Mataguay Scout 1.43 305 **Pn 02 06 54.8 -0.3**
MATG **Sn 02 07 13.1 -0.5**
OLP Otay Lakes Par 1.43 280 **Pn 02 06 55.7 +0.7**
SDRC San Diego Road 1.47 285 **Pg 02 06 57.8 -0.2**
SDRC **Sn 02 07 14.2 -0.1**
TJX Tijuana 1.52 275 **Pn 02 06 57.0 +0.7**
DPP Dos Picos Cty 1.55 294 **Pn 02 06 56.2 -0.4**
HWB Hans Werner Br 1.57 295 **Pn 02 06 57.1 +0.1**
PMD Palm Desert 1.58 324 **Sn 02 07 15.8 -1.3**
FRD Ford Ranch, An 1.59 315 **Pn 02 06 56.4 -0.8**
FRD Ford Ranch, An 1.59 315 **Pn 02 06 56.4 -0.8**
FRD **Sn 02 07 16.5 -1.0**
XPFO Pion Flat 1.59 321 **Pn 02 06 56.3 -1.0**
PFO Pinyon Flats O 1.59 321 P **Pn 02 06 56.3 -1.1**
baz=140,SNR=57
PFO S **Sn 02 07 16.4 -1.3**
baz=140
PFO Pinyon Flats O 1.59 321 Pn **Pn 02 06 56.2 -1.1**
PFO Pinyon Flats O 1.59 321 **Pn 02 06 56.3 -1.1**
BZNA Buzz No.'s Pla 1.62 314 **Sn 02 07 17.7 -0.8**
SNDA J Saunders Pla 1.63 316 **Pn 02 06 57.2 -0.7**
SNDA **Sn 02 07 17.0 -1.7**
109C Camp Elliot, M 1.64 289 P **Pn 02 06 58.2 +0.3**
baz=107,SNR=71
109C S **Sn 02 07 17.4 -1.2**
baz=107
109C Camp Elliot, M 1.64 289 Pn **Pn 02 06 57.9 0.0**
CPE Camp Elliot 1.64 289 **Pb 02 07 00.5 +1.0**
DNR Dunn Ranch,Anz 1.65 316 **Pn 02 06 57.7 -0.5**
CRY Cary Ranch 1.72 314 **Sn 02 07 20.5 -0.2**
PIX Pinacate 1.73 118 **Pn 02 06 56.8 -2.4**
PIX Pinacate 1.73 118 **Pn 02 06 59.9 +0.7**
BELC Belle Mtn. Jos 1.73 339 P **Pn 02 06 58.8 -0.6**
baz=158,SNR=33
IRM Iron Mountain 1.78 3 P **Pn 02 06 59.5 -0.4**
baz=183,SNR=59
MURC Murrieta 2.03 307 P **Pn 02 07 03.2 -0.1**
baz=126,SNR=16
214A Organ Pipe Nat 2.12 101 P **Pn 02 07 03.8 -0.7**
baz=282,SNR=51
214A Organ Pipe Nat 2.12 101 *e*P **Pn 02 07 03.5 -1.0**
214A Organ Pipe Nat 2.12 101 **Pn 02 07 04.0 -0.5**
GMRC Granite Mounta 2.42 352 **Pn 02 07 08.5 -0.4**
baz=172,SNR=22
GMRC **Pb 02 07 13.2 +0.2**
baz=172
NEE2 Needles Airpor 2.44 12 **Pg 02 07 15.7 -0.9**
Y14A Wickenburg 2.45 50 Pn **Pn 02 07 09.3 +0.3**
CIS Catalina Islan 2.84 292 Sb **Sb 02 07 57.3 +2.6**
baz=110
W13A Hualapai Mount 2.95 22 Pn **Pn 02 07 17.0 +0.9**
MWC Mount Wilson 2.98 309 Pn **Pn 02 07 16.9 +0.4**
PASC Pasadena Art C 3.04 307 Pn **Pn 02 07 18.2 +1.1**
PASC **Pg 02 07 27.3 -0.7**
GSC Goldstone, Bar 3.19 337 Pn **Pn 02 07 19.7 +0.4**
OSI Osito Audit: C 3.66 309 Pn **Pn 02 07 26.2 +0.5**
OSI **Pg 02 07 37.9 -1.8**
X16A Lo Mia Camp, P 3.79 56 Pn **Pn 02 07 28.3 +0.7**
X16A Pb 02 07 28.6 -7.7
TUC Tucson 3.79 90 P **Pn 02 07 27.3 -0.2**
baz=272
TUC Sb **Sb 02 08 26.3 +4.4**
baz=272
TUC Tucson 3.79 90 **Pn 02 07 27.5 0.0**
SHPR Sheep Range 4.12 1 Pn **Pn 02 07 33.2 +1.0**
ISA Isabella, Lake 4.23 322 **Pn 02 07 34.3 +0.7**
WUAZ Wupatki 4.50 45 P **Pn 02 07 39.5 +2.2**
baz=227,SNR=12
WUAZ Wupatki 4.50 45 Pn **Pn 02 07 37.5 +0.2**
TPNV Topopah Spring 4.63 350 Pn **Pn 02 07 39.5 +0.3**
U15A North Rim 4.73 30 **Pn 02 07 41.0 +0.4**
LCMT Little Creek M 4.91 19 **Pn 02 07 44.0 +1.0**
HSIG 5.00 131 **Sn 02 08 37.5 -4.0**
KNB Kanab 5.04 23 **Pn 02 07 45.9 +1.0**
W18A Petrified Fore 5.35 58 Pn **Pn 02 07 49.3 +0.2**
CCUT Cedar City 5.39 16 **Pn 02 07 50.1 +0.4**
SZCU Shurtz Canyon 5.50 18 **Pn 02 07 51.9 +0.7**
PKCU Pink Cliffs 5.60 25 Pn **Pn 02 07 54.1 +1.4**
R11A Troy Canyon, C 5.96 358 Pn **Pn 02 07 58.8 +1.3**
PMPB Monarch Peak 5.97 311 Pn **Pn 02 07 59.1 +1.5**
OMMB Old Mammoth Mi 6.06 331 Pn **Pn 02 07 59.4 +0.5**
MDPB Devils Postpil 6.11 330 Pn **Pn 02 07 59.3 -0.2**
MTPU Mount Pierson 6.19 23 Pn **Pn 02 08 00.3 -0.5**
PSUT Pine Spring 6.25 10 Pn **Pn 02 08 01.9 +0.5**
121A Cookes Peak, D 6.32 87 P **Pn 02 08 03.8 +1.4**
baz=271,SNR=10
121A Cookes Peak, D 6.32 87 Pn **Pn 02 08 02.9 +0.5**
LENM Lemitar 7.16 73 Pn **Pn 02 08 13.2 -0.8**
Q16A Castle Valley 7.32 26 Pn **Pn 02 08 16.1 -0.1**
MVCO Mesa Verde 7.36 47 P **Pn 02 08 20.2 +3.5**
baz=231,SNR=9.1
MVCO Mesa Verde 7.36 47 Pn **Pn 02 08 16.8 +0.1**
BNM Barren Site 7.44 74 Pn **Pn 02 08 17.7 -0.1**
ANMO Albuquerque 7.77 68 P **Pn 02 08 25.5 +3.1**
baz=253
ANMO Albuquerque 7.77 68 **Pn 02 08 22.8 +0.4**
PV17 East Wray Mesa 7.82 39 Pn **Pn 02 08 22.9 -0.1**
PV19 Morning Glory 7.83 39 Pn **Pn 02 08 23.6 +0.4**
P17A Butcher Ranch, 7.97 26 Pn **Pn 02 08 25.0 0.0**
NLU North Lily Min 7.99 18 Pn **Pn 02 08 24.7 -0.6**
AFDM Forest Hills D 8.04 326 Pn **Pn 02 08 25.5 -0.3**
PAHR Pah Rah Range 8.04 337 Pn **Pn 02 08 25.9 -0.1**
MNTX Cornudas Mount 8.41 92 Pn **Pn 02 08 30.8 -0.2**
JLU Jordanelle 8.76 19 Pn **Pn 02 08 35.9 -0.1**
RDMU Red Mountain 9.37 28 Pn **Pn 02 08 44.7 +0.4**
O20A White River Ci 9.59 34 Pn **Pn 02 08 47.0 -0.3**
SDCO Great Sand Dun 9.62 53 Pn **Pn 02 08 47.9 +0.1**
T25A Trinidad 10.11 59 Pn **Pn 02 08 53.5 -0.9**

TX31	Lajitas Ar. Si	10.41	104	Pn	Pn	02 08 57.8	-0.7
TX32	Lajitas Array	10.41	104	Pn	Pn	02 08 58.5	0.0
TXAR	Lajitas Array	10.41	104	Pn	Pn	02 08 58.5	0.0
ISCO	Idaho Springs	10.75	44	Pn	Pn	02 09 04.9	+1.6
HLID	Hailey	11.19	3	Pn	Pn	02 09 10.1	+1.0
H17A	Grant Village	12.54	16		Pn	02 09 30.1	+2.3
YHL	Hebgen Lake	12.85	13		Pn	02 09 33.4	+1.4
DLMT	Dillon	13.13	8		Pn	02 09 34.5	-1.1

NEIC ***27*** *02:06:48.0±2.2, 32°.34N×0°.04×115°.29W±0°.03, h14km±7km, Error ellipse: s-maj=6.1km s-min=2.8km az=192.0*

PAS 27 02:06:48.3±2.5, 32°.37N±0°.04×115°.24W±0°.04, h20km±2km, ML3.8/13, Error ellipse: s-maj=8.1km s-min=4.8km az=39.0, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.07	315		Pb	02 06 49.5	-2.6
GUVIX	Guadalupe Vict	0.15	114		Pb	02 06 52.2	-0.6
GUVIX					Sb	02 06 56.1	+0.2
EMSC	East Mesa	0.43	30		Sb	02 07 03.7	+0.5
DREC	Desert Rsrch C	0.47	338		Pb	02 06 57.6	-0.3
DREC					Sb	02 07 04.4	0.0
SGL	Mount Signal	0.50	305		Pb	02 06 57.2	-1.2
WESC	Westside Schoo	0.57	314		Sb	02 07 08.0	+0.7
COK2	Cook Ranch 2	0.63	320		Pb	02 06 59.4	-1.3
COK2					Sb	02 07 09.1	-0.1
YUH	Yuha Desert	0.64	296		Pb	02 06 59.8	-1.1
YUH					Sb	02 07 08.4	-0.9
ESJX	Sierra Juarez	0.70	239		Pb	02 07 01.8	-0.2
SWSC	Sam W. Stewart	0.74	321		Sb	02 07 11.0	-1.3
IKP	In-Ko-Pah, Jac	0.79	291		Sb	02 07 12.9	-0.7
TKX	Tecate	1.17	280		Sb	02 07 24.4	-0.2
BAR	Barrett	1.25	285		Sn	02 07 26.9	0.0
CCX	Cicese	1.31	248		Sb	02 07 29.1	+0.7
SPX	San Pedro Mart	1.34	188		Sb	02 07 30.1	+0.4
OLP	Otay Lakes Par	1.45	280		Sb	02 07 32.5	0.0
SDRC	San Diego Road	1.48	285		Sb	02 07 33.2	-0.4
HWB	Hans Werner Br	1.59	295		Sb	02 07 36.9	+0.1
CPE	Camp Elliot	1.66	289		Sb	02 07 38.9	+0.4
NV11	Mina Array Sit	6.50	339	Pn	Pn	02 08 22.6	-0.4
NVAR	Mina Array Bea	6.54	338	Pn	Pn	02 08 23.4	-0.2
MSU	Marysvale	6.62	21	Pn	Pn	02 08 22.2	-2.5
TCRU	Three Creeks R	6.63	19	Pn	Pn	02 08 23.3	-1.5
RYN	Ryan	6.80	336	Pn	Pn	02 08 26.8	-0.2
CMB	Columbia Colle	7.05	325	Pn	Pn	02 08 30.3	-0.1
KVN	Kaiserville	7.06	342	Pn	Pn	02 08 29.7	-1.0
YERR	Yerington	7.36	335	Pn	Pn	02 08 35.9	+1.1
PNTR	Pine Nut	7.58	333	Pn	Pn	02 08 37.7	-0.2
TMUT	Trail Mountain	7.65	24	Pn	Pn	02 08 37.8	-1.1
SRU	San Rafael Swe	7.74	28	Pn	Pn	02 08 39.1	-1.0
PV13	Radium Mtn., P	7.81	40	Pn	Pn	02 08 41.7	+0.8
PV10	Paradox Valley	7.85	38		Pn	02 08 39.4	-2.2
PV14	Lion Creek, Pa	7.85	39	Pn	Pn	02 08 41.6	0.0
PV03	Paradox Valley	7.86	40	Pn	Pn	02 08 42.0	+0.3
PV20	West Nyswonger	7.86	39	Pn	Pn	02 08 41.5	-0.2
PV02	Paradox Valley	7.89	41	Pn	Pn	02 08 44.1	+2.0
PV01	Paradox Valley	7.93	42	Pn	Pn	02 08 43.7	+1.0
PV04	Paradox Valley	7.93	39	Pn	Pn	02 08 43.2	+0.6
PAHR	Pah Rah Range	8.05	337	Pn	Pn	02 08 45.5	+1.2

ISC 27 02:07:24.7±0.8, 50°.11N±0°.04×19°.13E±0°.02, h0km, n39, σ0°71/41, 4C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.44	76	*e*P	Pg	02 07 32.9	-0.3
OJC	Ojcow	0.44	76	*e*Pg	Pg	02 07 32.5	-0.6
OJC				*e*Sg	Sg	02 07 38.5	-0.3
OKC	Ostrava-Krasne	0.69	247	*e*PG	Pg	02 07 38.7	+0.8
LANS	Liptovska Anna	0.99	167	*e*LG	Lg	02 08 01.3	
LANS	Liptovska Anna	0.99	167	*e*PG	Pg	02 07 43.7	+0.2
LANS	Liptovska Anna	0.99	167	*e*SG	Sb	02 07 57.6	-0.6
NIE	Niedzica	1.03	132	*e*P	Pg	02 07 44.9	+0.6
NIE	Niedzica	1.03	132	*e*Sg	Sg	02 07 58.3	+0.6
NIE	Niedzica	1.03	132	*e*Pg	Pg	02 07 44.2	-0.1
MORC	Moravsky Berou	1.08	253	⇑P	Pg	02 07 45.4	0.0
MORC	Moravsky Berou	1.08	253	⇑S	Sb	02 08 00.8	-0.2
MORC	Moravsky Berou	1.08	253	*e*PG	Pg	02 07 45.3	0.0
MORC				*e*SG	Sg	02 07 58.6	-0.7
KRLC	Kraliky	1.51	270	*e*SG	Sg	02 08 13.1	-0.2
	comp=Z,24nm,0.6s						
KRLC	Kraliky	1.51	270	*e*PG	Pn	02 07 52.0	-1.1
JAVC	Velka Javorina	1.57	218	*e*PN	Pn	02 07 53.9	0.0
VYHS	Vyhne	1.63	187	*e*SN	Sn	02 08 15.5	-0.8
VYHS	Vyhne	1.63	187	*e*PN	Pn	02 07 53.8	-0.8
DPC	Dobruska-Polom	1.82	279	*e*SG	Sn	02 08 21.4	+0.3
	comp=Z,21nm,0.5s						
DPC	Dobruska-Polom	1.82	279	*e*PG	Pn	02 07 57.1	-0.2
VRAC	Vranov	1.83	245	⇓P	Pn	02 07 56.7	-0.7
VRAC	Vranov	1.83	245	⇑S	Sn	02 08 21.9	+0.6
VRAC	Vranov	1.83	245	*e*SG	Sb	02 08 22.2	-0.4
VRAC	Vranov	1.83	245	*e*PN	Pn	02 07 56.9	-0.5
OSTC	Ostas	1.92	285	*e*SG	Sb	02 08 25.2	+0.1
	comp=Z,21nm,0.9s						
OSTC	Ostas	1.92	285	*e*PG	Pn	02 07 58.1	-0.6
KSP	Ksiaz	1.96	293	*e*Sg	Sg	02 08 27.5	0.0
KSP	Ksiaz	1.96	293	*e*Pg	Pb	02 08 01.5	+0.3
CHVC	Chvalec	2.03	285	*e*SG	Sb	02 08 29.1	+0.9
CHVC	Chvalec	2.03	285	*e*PG	Pn	02 08 00.1	0.0
UPC	Upice	2.04	282	*e*SG	Sb	02 08 28.1	-0.4
	comp=Z,10nm,0.6s						
KRUC	Moravsky	2.07	241	*e*SG	Sb	02 08 29.7	+0.4
KRUC	Moravsky	2.07	241	*e*PN	Pn	02 08 00.5	-0.1
PSZ	Piszkesteto	2.25	167	⇓P	Pn	02 08 04.5	+1.3
PSZ	Piszkesteto	2.25	167	⇑S	Sn	02 08 32.3	+0.6
PRU	Pruhonice	2.96	269	*e*SG	Sg	02 08 58.1	-1.7
KHC	Kasperske Hory	3.74	257	*e*SG	Sg	02 09 22.9	-1.9
KHC	Kasperske Hory	3.74	257	*e*PN	Pn	02 08 23.3	-0.4
CLL	Collm	4.08	289	*e*Pg	Pg	02 08 44.0	+1.3
CLL				*e*Sg	Sg	02 09 36.0	+0.5
BURAR	Bucovina Array	4.73	120	⇓P	Pn	02 08 37.3	0.0

ANF ***27*** *02:23:38.5±0.8, 32°.36N×115°.24W, h16km±6km, ML3.1/12, Error ellipse: s-maj=3.5km s-min=2.2km az=0.0*

SCEDC ***27*** *02:23:40.4, 32°.39N×115°.25W, h0km*

NEIC ***27*** *02:23:40.5±1.8, 32°.40N±0°.02×115°.27W±0°.02, h13km±5km, Error ellipse: s-maj=4.1km s-min=0.9km az=150.0*

MEX ***27*** *02:23:40.2±0.9, 32°.47N×115°.12W, h5km±5km, MD3.9*

PAS ***27*** *02:23:40.4±1.6, 32°.40N±0°.02×115°.25W±0°.02, h9km±4km, ML3.1/66, Error ellipse: s-maj=3.9km s-min=2.3km az=142.0*

ECX ***27*** *02:23:40.8±0.9, 32°.41N×115°.26W, h1km±4km, MD3.1, ML3.2*

ISC 27 02:23:39.9±0.8, 32°.38N±0°.02×115°.27W±0°.02, h9km±5km, n115, σ1°07/134, 3C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.05	323		Pg	02 23 41.9	+0.3
CPBX	Cerro Prieto	0.05	323	⇑*i*P	Pg	02 23 42.0	+0.3
CPBX				⇓*e*		02 23 46.5	
CPBX				IAML		02 23 46.5	
	comp=N,212μm,0.4s						
MBIG	Mexicali	0.07	68	*e*P	Pg	02 23 41.2	-0.7
MBIG				*e*P		02 23 42.2	
MBIG				*i*S	Sg	02 23 43.6	+0.3
MBIG	Mexicali	0.07	68	*e*P	Pg	02 23 41.2	-0.7
CTLX	Tlaxcala, TLX	0.14	50	⇑*i*P	Pg	02 23 43.6	+0.6
GUVIX	Guadalupe Vict	0.18	115		Pg	02 23 46.3	+2.6
GUVIX	Guadalupe Vict	0.18	115	*e*P	Pg	02 23 44.6	+0.9
UABX	UABC, Campus M	0.29	330		Pb	02 23 47.0	-0.2
UABX	UABC, Campus M	0.29	330	*e*P	Pg	02 23 46.7	+1.1
EMSC	East Mesa	0.43	34		Pg	02 23 48.6	+0.4
EMSC					Sb	02 23 55.8	-0.4
EMSC	East Mesa	0.43	34	*e*P	Pg	02 23 48.7	+0.4
DREC	Desert Rsrch C	0.45	341		Pg	02 23 49.2	+0.6
SGL	Mount Signal	0.47	305		Pg	02 23 49.1	+0.2
COA	Coachella	0.50	15		Pg	02 23 49.9	+0.4
COA					Sb	02 23 58.2	+0.1
COA	Coachella	0.50	15	⇓*i*P	Pg	02 23 49.9	+0.4
SNR	Schaffner Ranc	0.50	344		Pg	02 23 50.2	+0.7
WESC	Westside Schoo	0.54	314		Pg	02 23 50.8	+0.4
WESC	Westside Schoo	0.54	314	*e*P	Pg	02 23 50.7	+0.4
COK2	Cook Ranch 2	0.61	321		Pg	02 23 51.7	+0.1
COK2					Sb	02 24 01.6	+0.4
COK2	Cook Ranch 2	0.61	321	⇓*i*P	Pg	02 23 52.0	+0.4
YUH	Yuha Desert	0.61	296		Pg	02 23 51.7	0.0
YUH					Sg	02 24 00.5	+0.8
RUN	Ruthven	0.64	23		Pg	02 23 51.7	-0.6
RUN					Sg	02 24 00.6	0.0
ESJX	Sierra Juarez	0.69	237		Pg	02 23 53.9	+0.7
ESJX					Sg	02 24 03.7	+1.5
RMX	La Rumorosa	0.72	288		Pg	02 23 53.3	-0.4
RMX	La Rumorosa	0.72	288	*e*P	Pg	02 23 53.1	-0.6
RMX				*e*S	Sg	02 24 02.3	-0.8
SWSC	Sam W. Stewart	0.72	322	P	Pg	02 23 53.0	-0.7
	baz=140,SNR=29						
SWSC				S	Sg	02 24 03.5	+0.4
	baz=140						
SWSC	Sam W. Stewart	0.72	322	*e*P	Pg	02 23 53.0	-0.7
IKP	In-Ko-Pah, Jac	0.76	291	P	Pg	02 23 54.5	0.0
	baz=110,SNR=130						
IKP				S	Sg	02 24 04.9	+0.6
	baz=110						
IKP	In-Ko-Pah, Jac	0.76	291		Pg	02 23 54.5	0.0
IKP					Sg	02 24 05.6	+1.3
IKP	In-Ko-Pah, Jac	0.76	291	⇓*i*P	Pg	02 23 54.5	0.0
GLA	Glamis	0.77	29	P	Pg	02 23 53.6	-1.0
	baz=208,SNR=70						
GLA				S	Sg	02 24 04.5	-0.2
	baz=208						
GLA	Glamis	0.77	29		Pg	02 23 53.7	-1.0
GLA	Glamis	0.77	29		Sg	02 24 04.3	-0.4
CRR	Carrizo Plain	0.78	311		Pg	02 23 54.3	-0.5
CRR	Carrizo Plain	0.78	311	⇑*i*P	Pg	02 23 54.7	-0.1
SJX	San Joaquin	0.85	224	*e*P	Pg	02 23 54.1	-2.1
SJX				*e*S	Sg	02 24 03.8	-3.5
ERRC	Elmore Ranch	0.87	328		Pg	02 23 55.8	-0.7
ECBX	El Chinero	0.93	168	*e*P	Pg	02 23 57.8	+0.2
ECBX				*e*S	Sb	02 24 11.3	+0.8
VTX	Valle De La Tr	1.08	204	IAML		02 24 17.8	
	comp=E,686nm,0.1s						
VTX				*e*		02 24 17.8	
VTX				IAML		02 24 17.9	
	comp=N,400nm,0.1s						
MONP2	Monument Peak	1.10	298	P	Pg	02 23 59.5	-1.4
MONP2				S	Sg	02 24 15.2	-0.1
	baz=117						
MONP2	Monument Peak	1.10	298		Pg	02 23 59.6	-1.4
MONP2	Monument Peak	1.10	298	*e*P	Pg	02 23 59.5	-1.4
TKX	Tecate	1.15	280		Pb	02 24 01.1	-0.8
TJIG	Tijuana	1.19	273	*e*P	Pb	02 24 01.7	-0.9
TJIG				*e*S	Sb	02 24 18.0	-0.1
TJIG	Tijuana	1.19	273	*e*P	Pb	02 24 01.5	-1.0
BAR	Barrett	1.22	284		Pn	02 24 01.6	-1.5
BAR	Barrett	1.22	284		Sb	02 24 19.5	+0.5
BAR	Barrett	1.22	284		Pn	02 24 02.5	-0.6
BAR	Barrett	1.22	284	*e*P	Pn	02 24 02.2	-1.0
BC3	Big Chuckawall	1.28	353	P	Pn	02 24 01.6	-2.4
	baz=172,SNR=37						
CCX	Cicese	1.29	247		Pn	02 24 04.2	+0.1
CCX					Pb	02 24 04.4	+0.1
CCX	Cicese	1.29	247		Sb	02 24 22.3	+1.4
113A	Mohawk Valley,	1.33	73		Pn	02 24 02.3	-2.3
SPIG	San Pedro Mart	1.34	187	*e*P	Pn	02 24 04.2	-0.9
SPIG				*e*S	Sb	02 24 21.8	-1.1
SPX	San Pedro Mart	1.35	187		Pn	02 24 03.1	-2.1
SFX	San Felipe	1.39	165		Pn	02 24 05.0	-0.4
SDRC	San Diego Road	1.45	284		Pn	02 24 06.8	+0.5
SDRC					Sn	02 24 25.8	+0.2
SDRC	San Diego Road	1.45	284	⇓*e*	Pg	02 24 12.1	+4.3
SDRC				IAML		02 24 12.1	
	comp=E,170nm,0.6s						
TJX	Tijuana	1.51	275		Pn	02 24 07.1	0.0
DPP	Dos Picos Cty	1.54	294		Sb	02 24 28.8	+0.7
FRD	Ford Ranch, An	1.58	315		Pn	02 24 05.8	-2.4
PFO	Pinyon Flats O	1.58	321	P	Pn	02 24 05.7	-2.5
	baz=140,SNR=23						
PFO	Pinyon Flats O	1.58	321	Pn	Pn	02 24 05.6	-2.6
109C	Camp Elliot, M	1.63	289	P	Pn	02 24 07.6	-1.1
	baz=107,SNR=23						
109C				Sb	Sn	02 24 30.8	+1.0
	baz=107						
109C	Camp Elliot, M	1.63	289	Pn	Pn	02 24 08.9	+0.1
CPE	Camp Elliot	1.63	289		Pn	02 24 10.0	+1.3
BELC	Belle Mtn. Jos	1.73	340	Pb	Pg	02 24 12.7	-0.2
	baz=159,SNR=18						
PIX	Pinacate	1.74	118		Pn	02 24 10.4	+0.2
IRM	Iron Mountain	1.77	3	Sb	Sg	02 24 35.8	-1.1
	baz=183						
MURC	Murrieta	2.02	307	P	Pn	02 24 13.0	-1.2
	baz=126						
214A	Organ Pipe Nat	2.13	101	P	Pn	02 24 13.0	-2.6
	baz=282,SNR=14						
214A	Organ Pipe Nat	2.13	101	Pn	Pn	02 24 13.4	-2.2
GMRC	Granite Mounta	2.42	352	P	Pn	02 24 18.3	-1.4
	baz=172,SNR=24						
Y14A	Wickenburg	2.45	50	Pn	Pn	02 24 20.8	+0.6
W13A	Hualapai Mount	2.95	23	Pn	Pn	02 24 27.5	+0.5
MWC	Mount Wilson	2.97	309		Pn	02 24 26.3	-1.0
CHFC	Chilao Flat St	3.02	311		Pb	02 24 34.3	+0.5
GSC	Goldstone, Bar	3.18	337	Pn	Pn	02 24 30.4	+0.3
OSI	Osito Audit: C	3.64	309	Pn	Pn	02 24 36.5	0.0
X16A	Lo Mia Camp, P	3.79	57	Pn	Pn	02 24 38.5	-0.2
TUC	Tucson	3.80	90	Pn	Pn	02 24 39.3	+0.7
SHPR	Sheep Range	4.11	1	Pn	Pn	02 24 43.1	+0.1
ISA	Isabella, Lake	4.22	322	Pn	Pn	02 24 45.3	+0.9
WUAZ	Wupatki	4.50	45	Pn	Pn	02 24 49.4	+1.0
TPNV	Topopah Spring	4.63	350	Pn	Pn	02 24 50.8	+0.6
U15A	North Rim	4.73	31		Pn	02 24 52.3	+0.7
LCMT	Little Creek M	4.91	19		Pn	02 24 53.8	-0.2
PRN	Pahroc Range	5.02	2	Pn	Pn	02 24 55.3	-0.2
KNB	Kanab	5.04	23		Pn	02 24 56.7	+0.8
W18A	Petrified Fore	5.36	58	Pn	Pn	02 25 00.2	0.0
CCUT	Cedar City	5.39	16	Pn	Pn	02 25 00.4	-0.3
SZCU	Shurtz Canyon	5.50	18	Pn	Pn	02 25 03.2	+1.0
PKCU	Pink Cliffs	5.61	25	Pn	Pn	02 25 04.1	+0.4
R11A	Troy Canyon, C	5.96	358	Pn	Pn	02 25 08.8	+0.3
MTPU	Mount Pierson	6.19	23	Pn	Pn	02 25 13.1	+1.4
PSUT	Pine Spring	6.25	10	Pn	Pn	02 25 11.9	-0.5
121A	Cookes Peak, D	6.33	87	Pn	Pn	02 25 13.6	0.0
NVAR	Mina Array Bea	6.52	339	Pn	Pn	02 25 16.6	+0.4
MSU	Marysvale	6.62	22	Pn	Pn	02 25 17.0	-0.6
TCRU	Three Creeks R	6.63	20	Pn	Pn	02 25 18.6	+1.0
MVCO	Mesa Verde	7.36	47	Pn	Pn	02 25 27.9	+0.2
PV13	Radium Mtn., P	7.81	41	Pn	Pn	02 25 35.1	+1.2
PV17	East Wray Mesa	7.82	39	Pn	Pn	02 25 33.5	-0.6
PV18	Skein Mesa, Pa	7.83	40	Pn	Pn	02 25 34.3	+0.2
PV19	Morning Glory	7.83	39	Pn	Pn	02 25 34.6	+0.5
PV14	Lion Creek, Pa	7.86	39	Pn	Pn	02 25 34.0	-0.6
PV20	West Nyswonger	7.86	39	Pn	Pn	02 25 34.3	-0.3
PV03	Paradox Valley	7.87	40	Pn	Pn	02 25 35.3	+0.7
PV16	Nyswonger Mesa	7.87	39	Pn	Pn	02 25 35.4	+0.7
PV11	David Mesa, Pa	7.88	40	Pn	Pn	02 25 35.6	+0.7
PV02	Paradox Valley	7.89	41	Pn	Pn	02 25 35.5	+0.4
PV23	Carpenter Ridg	7.92	38	Pn	Pn	02 25 35.1	-0.4
PV04	Paradox Valley	7.94	39	Pn	Pn	02 25 36.8	+1.2
PV12	Saucer Basin,	7.94	40	Pn	Pn	02 25 36.8	+1.2
PV07	Paradox Valley	8.11	40	Pn	Pn	02 25 38.2	+0.3

RSNC 27 02:26:07.9±0.9, 2°.72N×75°.02W, h4km±5km, ML2.1, 2C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GARC	Garzon, Huila	0.71	221	*e*P	Pg	02 26 20.9	-0.6
GARC				*e*S	Sg	02 26 30.7	-0.1
GARC				*i*		02 26 32.1	
	comp=Z,134nm,0.2s						
MARP	Paez Belalcaza	0.94	277	*e*P	Pg	02 26 24.6	-1.3
MARP				*e*S	Sg	02 26 36.7	-1.4
MARP				*i*		02 26 40.7	
	comp=Z,22nm,0.1s						
PRAC	Prado	0.99	8	⇑*e*P	Pg	02 26 25.6	-1.4
PRAC				*e*S	Sg	02 26 38.5	-1.5
PRAC				*i*		02 26 43.5	
	comp=Z,16nm,0.2s						
ORTC	Ortega, Tolima	1.20	349	⇑*i*P	Pg	02 26 28.9	-2.0
ORTC				*e*S	Sg	02 26 45.1	-1.4
ORTC				*i*		02 26 46.3	
	comp=Z,32nm,0.1s						
FLOC	Florencia	1.30	209	*e*P	Pg	02 26 30.9	-1.9
FLOC				*e*S	Sg	02 26 47.4	-2.2
FLOC				*i*		02 26 49.7	
	comp=Z,90nm,0.1s						
MACC	Macarena, Meta	1.31	116	*e*P	Pn	02 26 30.8	-2.2
MACC				*e*S	Sg	02 26 47.7	-2.3
MACC				*i*		02 26 50.8	
	comp=Z,21nm,0.4s						
PCON	Cinco Dias	1.43	254	*e*P	Pn	02 26 33.5	-1.6
PCON				*e*S	Sg	02 26 53.0	-0.9
PCON				*i*		02 26 54.4	
	comp=Z,33nm,0.4s						
ANIL	Santa Ana	1.80	348	*e*P	Pn	02 26 38.1	-1.9
ANIL				*e*S	Sn	02 27 02.3	-1.1
TOLC	Tolima	1.87	351	*e*P	Pn	02 26 39.7	-1.3
TOLC				*e*S	Sn	02 27 04.6	-0.8
TOLC				*i*		02 27 06.0	
	comp=Z,23nm,0.4s						
VILC	Villavicencio,	1.91	44	*e*P	Pn	02 26 42.2	+0.8
VILC				*e*S	Sb	02 27 08.0	+0.2
VILC				*i*		02 27 10.4	
	comp=Z,29nm,0.4s						
CHIC	Chingaza	2.29	34	*e*P	Pn	02 26 46.3	-0.6
CHIC				*e*S	Sn	02 27 17.1	+1.4
CHIC				*i*		02 27 25.5	
	comp=Z,6.0nm,0.4s						

RSNC 27 02:27:41.1±0.8, 5°.29N×73°.76W, h147km±6km, ML1.8, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	San Pablo de B	0.48	319	*e*P	Pn	02 28 02.2	+0.1
SPBC				*e*S	Sn	02 28 18.2	+0.1
SPBC				*i*		02 28 19.2	
	comp=Z,19nm,0.2s						
CHIC	Chingaza	0.66	178	*e*P	Pn	02 28 03.1	-0.4
CHIC				*e*S	Sn	02 28 19.8	-0.8
RUSC	La Rusia	0.90	48	*e*P	Pn	02 28 05.5	+0.2
RUSC				*e*S	Sn	02 28 24.3	+0.5
RUSC				*i*		02 28 25.3	
	comp=Z,4.4nm,0.3s						
RUSC	La Rusia	0.90	48	*e*P	Pn	02 28 04.6	-0.7
RUSC				*e*S	Sn	02 28 23.9	+0.2
RUSC				*i*		02 28 25.3	
	comp=Z,4.4nm,0.3s						
BARC	Barichara	1.42	24	*e*P	Pn	02 28 09.8	0.0
BARC				*i*		02 28 35.6	
	comp=Z,8.9nm,0.2s						
PTBC	PUERTO BERRIO,	1.43	331	*e*P	Pn	02 28 08.9	-0.8
PTBC				*e*S	Sn	02 28 29.6	-2.1
PTBC				*i*		02 28 34.3	
	comp=Z,4.2nm,0.3s						
PTBC	PUERTO BERRIO,	1.43	331	*e*P	Pn	02 28 08.9	-0.8
PTBC				*e*S	Sn	02 28 30.3	-1.3
PTBC				*i*		02 28 45.8	
	comp=Z,4.5nm,0.4s						
GUY2C	Guyana, Caldas	1.60	268	*e*S	Sn	02 28 35.6	-0.1
TOLC	Tolima	1.71	246	*e*P	Pn	02 28 12.8	-0.3
TOLC				*e*S	Sn	02 28 37.4	-0.1
TOLC				*i*		02 28 39.7	
	comp=Z,13nm,0.7s						
BRRC	Barranca, Sant	1.81	1	*e*P	Pn	02 28 13.4	-0.4
BRRC				*e*S	Sn	02 28 38.4	-0.7
BRRC				*i*		02 29 13.0	
	comp=Z,10.0nm,0.3s						
MOTC	Monteria, Cord	3.95	331	*e*P	Pn	02 28 38.4	-2.3
MOTC				*e*S	Sn	02 29 24.7	-2.3
MOTC				*i*		02 29 26.1	
	comp=Z,0.8nm,0.3s						

NEIC ***27*** *02:48:59.8±1.6, 4°.68S±0°.07×102°.07E±0°.07, h42km±3km, mb4.4/24, Error ellipse: s-maj=10.3km s-min=9.0km az=213.0*

DJA ***27*** *02:49:02.0±0.7, 5°.S±4°.×10°.2E±°, h23km±8km, M4.8/13, mB5.4/2, mb5.0/4, MLv4.7/13, Mw(mB)4.9/2*

IDC ***27*** *02:49:07.4±2.4, 4°.46S×102°.35E, h102km±19km, mb4.1/21, mb1 4.1/22, mb1mx4.0/38, mbtmp4.4/22, MS3.4/4, Ms1 3.5/4, ms1mx3.0/37, Error ellipse: s-maj=26.2km s-min=8.8km az=47.0*

ISC 27 02:49:00.6±0.5, 4°.72S±0°.07×102°.17E±0°.07, h50km, n105, σ1°15/100, mb4.5/32, MS3.4/5, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.86	66	P	Pn	02 49 16.2	-0.2
MNAI	Manna	0.86	66	Pn	Pn	02 49 16.4	0.0
KSI	Kapahiang	1.14	22	P	Pn	02 49 19.7	-0.6
LHSI	Lahat	1.61	57	P	Pn	02 49 27.5	+0.8
LWLI	Liwa	1.90	99	P	Pn	02 49 32.0	+1.3
MDSI	Maura Dua	2.01	83	P	Pn	02 49 33.3	+1.2
KLSI		2.55	89	P	Pn	02 49 41.3	+1.8
KRJI	Kerinci	2.71	345	P	Pn	02 49 43.5	+1.8
BLSI	Bandar Lampung	3.13	102	P

WRA S **S** **03 01 10.7 -3.2**
comp=Z,1.0nm,0.9s,baz=293,slow=16,SNR=5.2
TAPN Taplejung 34.81 337 *eP* **P** **02 55 47.9 +0.8**
comp=Z,32nm,0.6s
RAMN Ramite 34.90 335 *eP* **P** **02 55 49.0 +1.2**
comp=Z,11nm,0.4s
JIRN Jiri 35.70 335 *eP* **P** **02 55 55.7 +0.9**
comp=Z,42nm,0.4s
ASAR Alice Springs 35.92 125 P **P** **02 55 57.8 +1.3**
comp=Z,0.9nm,0.5s,baz=302,slow=7.7,SNR=12
ASAR PcP **PcP** **02 58 23.9 +1.1**
comp=Z,0.5nm,0.6s,baz=304,slow=2.6,SNR=4.6
ASAR S **S** **03 01 30.4 -1.1**
comp=Z,1.2nm,1.0s,baz=291,slow=15,SNR=6.0
AS31 Alice Springs 35.92 125 P **P** **02 55 57.8 +1.4**
PKI Pulchoki 35.95 334 *eP* **P** **02 55 57.4 +0.5**
comp=Z,5.4nm,0.3s
PKIN Phulchoki 35.96 334 *eP* **P** **02 55 57.9 +0.9**
comp=Z,5.6nm,0.4s
GUN Gumba 36.05 335 *eP* **P** **02 55 58.7 +0.9**
comp=Z,51nm,0.5s
KKN Kakani 36.20 334 *eP* **P** **02 55 59.3 +0.4**
comp=Z,9.5nm,0.3s
KOLN Koldanda 36.94 332 *eP* **P** **02 56 06.0 +0.8**
comp=Z,18nm,0.8s
DANN Dangsing 37.36 333 *eP* **P** **02 56 09.6 +0.7**
comp=Z,40nm,0.5s
PYUN Piuthan 37.51 332 *eP* **P** **02 56 11.0 +1.0**
comp=Z,14nm,0.4s
NJ2 Nanjing 39.87 22 *eP* **P** **02 56 31.3 +1.8**
NJ2 pmax pmax
comp=Z,12nm,0.5s
LZH Lanzhou 40.62 2 *eP* **P** **02 56 37.5 +1.6**
LZH pP pP 02 56 50.5 +1.5
LZH sP sP 02 56 55.8 +1.0
LZH *e*PP **PnPn** **02 58 15.8 +1.2**
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,65nm,5.6s
LZH LR LR
comp=N,190nm,13.6s
LZH LR LR
comp=E,200nm,13.4s
LZH LR LR
comp=Z,370nm,16.7s
GTA Gaotai 43.96 357 *eP* **P** **02 57 04.3 +1.3**
GTA pP pP 02 57 08.0 -8.1
GTA sP sP 02 57 10.8 -11
GTA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 45.74 131 P **P** **02 57 18.8 +1.7**
comp=Z,1.6nm,0.6s,baz=315,slow=9.0,SNR=7.4
STKA LR LR 03 19 23.3
comp=Z,25nm,18.5s,baz=34,slow=40
HHC Hu-ho-hao-te 46.16 10 *eP* **P** **02 57 21.0 +0.6**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,100nm,6.9s
NIL Nilore 46.95 326 P **P** **02 57 26.0 -0.7**
KSAR Wonju Array Be 48.30 28 P **P** **02 57 36.5 -0.4**
KSRS Korea Array 48.33 28 P **P** **02 57 36.2 -1.0**
comp=Z,3.6nm,0.6s,baz=226,slow=7.4,SNR=10
KS19 Wonju Array Si 48.34 27 P **P** **02 57 36.4 -1.0**
WMQ Urumqi 50.05 346 *eP* **P** **02 57 51.8 +1.4**
KDJ Kajisay 51.88 336 P **P** **02 58 04.6 +0.3**
SONM Songino Array 52.46 4 P **P** **02 58 08.6 +0.2**
comp=Z,8.2nm,0.8s,baz=180,slow=9.0,SNR=18
SONM PcP **PcP** **02 59 18.7 +0.1**
comp=Z,1.7nm,0.4s,baz=164,slow=3.6,SNR=2.4
SONM Songino Array 52.46 4 P **P** **02 58 07.9 -0.6**
ULN Ulaanbaatar 52.54 4 P **P** **02 58 08.2 -0.9**
ULN IAmb IAmb 02 58 10.9
comp=Z,5.9nm,1.1s
BOOM Boomskoye usch 52.68 336 P **P** **02 58 10.6 +0.4**
BOOM IAmb IAmb 02 58 11.2
comp=Z,4.2nm,0.8s
MJAR Matsushiro Arr 53.09 36 P **P** **02 58 10.9 -2.3**
comp=Z,0.6nm,0.3s,baz=212,slow=7.4,SNR=2.1
MK31 Makanchi Array 54.23 343 P **P** **02 58 20.9 -0.3**
MKAR Makanchi Array 54.23 343 P **P** **02 58 20.9 -0.4**
comp=Z,11nm,0.7s,baz=149,slow=8.1,SNR=76
MKAR Makanchi Array 54.23 343 P **P** **02 58 20.5 -0.8**
MAKZ Makanchi 54.33 343 P **P** **02 58 21.2 -0.8**
MAKZ IAmb IAmb 02 58 37.5
comp=Z,3.7nm,0.8s
KKAR Karatay Array 55.55 332 P **P** **02 58 30.0 -0.9**
USRK Ussuriysk Ar. 55.59 26 P **P** **02 58 30.3 -0.8**
comp=Z,6.4nm,0.4s,baz=213,slow=4.5,SNR=14
USRK Ussuriysk Ar. 55.59 26 P **P** **02 58 30.0 -1.1**
KURBB Kurchatov Arra 58.77 343 P **P** **02 58 52.9 -0.5**
comp=Z,4.2nm,0.7s,baz=159,slow=6.6,SNR=29
KURK Kurchatov 58.82 343 P **P** **02 58 52.4 -1.4**
GEYT Alibeck 58.91 320 P **P** **02 58 54.8 0.0**
comp=Z,1.9nm,0.8s,baz=141,slow=5.7,SNR=4.0
ZAA0 Zalesovo Array 60.24 348 P **P** **02 59 03.1 -0.4**
ZALV Zalesovo Beam 60.24 348 P **P** **02 59 02.8 -0.7**
comp=Z,8.9nm,0.4s,baz=171,slow=4.4,SNR=31
ZALV Zalesovo Beam 60.24 348 P **P** **02 59 02.7 -0.8**
BRVK Borovoye 63.54 339 P **P** **02 59 24.8 -0.9**
ABKAR Akbulak array 65.05 331 P **P** **02 59 35.3 -0.4**
ARU Arti 70.55 336 P **P** **03 00 10.1 -0.1**
MARD Mardin 70.66 312 P **P** **03 00 11.8 +0.3**
KBZ Khabaz 71.77 319 P **P** **03 00 18.3 +0.5**
comp=Z,2.8nm,0.8s,baz=128,slow=7.6,SNR=5.3
MATP Matopo 73.07 250 LR LR 03 27 02.9
comp=Z,36nm,18.4s,baz=126,slow=31
PETK Petropavlovsk- 74.05 31 P **P** **03 00 30.0 -1.1**
comp=Z,2.7nm,0.7s,baz=198,slow=4.1,SNR=2.1
NRIK Noril'sk 74.58 355 P **P** **03 00 32.6 -1.3**
comp=Z,1.8nm,0.3s,baz=121,slow=5.7,SNR=4.5
BRTR Keskin Array B 76.75 312 P **P** **03 00 47.7 +0.6**
comp=Z,2.1nm,0.6s,baz=139,slow=6.4,SNR=6.3
BRTR Keskin Array B 76.75 312 P **P** **03 00 47.5 +0.4**
KLMR Klimovskoe 81.21 334 *eP* **P** **03 01 08.9 -1.9**
KLMR AMP 03 01 12.1
comp=Z,28nm,1.4s
BURAR Bucovina Array 84.72 319 P **P** **03 01 30.1 +0.6**
KOLS Kolonicke sedl 86.91 319 *eP* **P** **03 01 41.2 +1.0**
FINES FINESS Array B 87.51 332 P **P** **03 01 42.9 +0.1**
comp=Z,7.0nm,1.1s,baz=134,slow=6.0,SNR=6.0
ARCES ARCESS Array B 89.75 340 P **P** **03 01 53.3 +0.1**
comp=Z,1.5nm,0.5s,baz=91,slow=4.1,SNR=2.2
GERES GERESS Array B 92.51 319 P **P** **03 02 07.1 +0.5**
comp=Z,0.5nm,0.9s,baz=99,slow=3.2,SNR=2.2
TXAR Lajitas Array 145.40 42 PKPbc **PKPab** **03 08 34.6 +0.6**
comp=Z,4.6nm,0.5s,baz=302,slow=0.8,SNR=103
TXAR Lajitas Array 145.40 42 PKPdf **PKPab** **03 08 34.3 +0.3**

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*IDC **27** 03:40:16.4±1.0, 49°.73S×125°.84E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4. 1/22, mbtmp4.2/7, ML1.8/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/21, Error ellipse: s-maj=55.3km s-min=16.9km az=99.0*

ISC 27 03:40:17.8±0.9, 49°.7S±0°.1×125°.9E±0°.3, h10km, n18, σ0 43/12, mb4.1/6, MS3.5/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.14**	**326**	T	T	04 01 56.7	
	baz=151,slow=74,SNR=128						
H01W2	**Cape Leeuwin H**	**17.15**	**325**	T	T	04 01 57.4	
	baz=151,slow=74,SNR=123						
H01W3	**Cape Leeuwin H**	**17.16**	**326**	T	T	04 01 57.9	
	baz=151,slow=74,SNR=147						
NWAO	**Narrogin (SRO)**	**17.98**	**336**	P	**P**	**03 44 28.6**	**+0.3**
	0.2nm,0.3s,baz=170,slow=12,SNR=2.3						
NWAO				LR	LR	03 49 54.0	
	comp=Z,198nm,19.7s,baz=168,slow=32						
STKA	**Stephens Creek**	**21.38**	**39**	P	**P**	**03 45 05.7**	**+0.4**
	0.9nm,0.6s,baz=180,slow=14,SNR=3.0						
STKA				LR	LR	03 51 45.6	
	comp=Z,153nm,20.5s,baz=207,slow=32						
ASAR	**Alice Springs**	**26.78**	**17**	P	**P**	**03 45 57.7**	**-0.1**
	1.8nm,0.6s,baz=192,slow=8.5,SNR=8.7						
ASAR				LR	LR	03 55 41.3	
	comp=Z,106nm,21.0s,baz=197,slow=34						
WRA	**Warramunga Arr**	**30.49**	**16**	P	**P**	**03 46 30.3**	**-0.6**
	1.2nm,1.1s,baz=192,slow=8.2,SNR=3.9						
WRA				LR	LR	03 57 44.8	
	comp=Z,124nm,20.1s,baz=195,slow=34						
VNDA	**Vanda**	**31.03**	**166**	P	**P**	**03 46 35.1**	**0.0**
	6.1nm,0.9s,baz=309,slow=9.1,SNR=24						
VNDA				LR	LR	03 58 22.4	
	comp=Z,224nm,18.7s,baz=344,slow=35						
QSPA	**South Pole Qui**	**40.38**	**180**	P	**P**	**03 47 55.8**	**+0.2**
	7.7nm,1.0s,baz=344,slow=5.2,SNR=10						
SNAA	**Sanae**	**53.59**	**198**	P	**P**	**03 49 38.4**	**-0.1**
SNAA	**Sanae**	**53.59**	**198**	P	**P**	**03 49 38.7**	**+0.2**
	5.3nm,0.9s,baz=138,slow=9.3,SNR=13						
VNA2	**Neumayer--Watz**	**55.07**	**197**	P	**P**	**03 49 49.3**	**+0.1**
	baz=141,slow=9.7						
VNA3	**Neumayer Olymp**	**55.23**	**196**	P	**P**	**03 49 49.3**	**-1.0**
VNA1	**Neumayer--Stat**	**55.47**	**197**	P	**P**	**03 49 52.1**	**+0.1**
H08S2	**Diego Garcia H**	**61.03**	**295**	T	T	04 56 42.9	
	baz=146,slow=75						
H08S1	**Diego Carcia H**	**61.04**	**295**	T	T	04 56 43.6	
	baz=146						
H08S3	**Diego Garcia H**	**61.05**	**295**	T	T	04 56 45.4	
	baz=146,slow=75						
YKA	**Yellowknife Ar**	**145.34**	**45**	PKPbc	**PKPbc**	**03 59 54.4**	**0.0**
	1.9nm,0.8s,baz=272,slow=3.0,SNR=3.9						

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*BJI **27** 03:53:06.5±0.0, 62°.00N×149°.90W, h52km, mB5.1/46, mb5.1/59, Ms5.0/25, Ms7 4.7/21*
*MOS **27** 03:53:09.0±0.9, 62°.10N×150°.03W, h60km, mb5.4/65, Error ellipse: s-maj=10.0km s-min=4.1km az=95.8*
*GCMT **27** 03:53:10.8±0.3, 62°.05N±0°.03×149°.74W±0°.04, h64km±1km, MW4.9/80, Moment Tensor Solution. s60,c76; s80,c98; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.42±.12; Mθθ-0.79±.12; Mφφ3.22±.09; Mrθ-0.02±.08; Mφφ-0.14±.09; Mφr-0.33±.08; Best double couple: M0 2.84100×10^16 NP1:φs177.00000°, δ42.00000°, λ-92.00000°. NP2: φs359.00000°, δ48.00000°, λ-89.00000°. Principal axes: T 3.2440, Plg3.0000°, Azm88.0000°; N -0.7960, Plg1.0000°, Azm178.0000°; P -2.4390, Plg87.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 03:53:10.6±1.8, 62°.02N±0°.03×149°.84W±0°.02, h54km±3km Error ellipse: s-maj=4.4km s-min=1.4km az=194.0*
*UNK **27** 03:53:11.8, 62°.02N×149°.82W, h45km*
*AEIC **27** 03:53:11.8±2.6, 62°.02N±0°.04×149°.82W±0°.07, h45km±4km, ML4.9/170, mb5.0/388(NEIC), Mwr4.9/100(NEIC), Mww4.9(NEIC), Error ellipse: s-maj=5.5km s-min=4.0km az=147.0*
*IDC **27** 03:53:12.0±1.9, 62°.13N×150°.07W, h70km±16km, mb4.5/29, mb1 4.6/32, mb1mx4.6/40, mbtmp4.8/32, MS3.9/32, Ms1 3.9/32, ms1mx3.9/42, Error ellipse: s-maj=12.4km s-min=8.6km az=36.0*
*ANF **27** 03:53:11.3±0.3, 62°.02N×149°.82W, h42km±11km, ML5.4/14, Error ellipse: s-maj=6.8km s-min=2.4km az=96.0*
*NEIC **27** 03:53:11, 62°.00N×149°.85W, h56km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr-2.42; Mθθ0.06; Mφφ2.37; Mrθ-0.05; Mθφ-0.27; Mφr-0.24; Fault plane solution: M0 2.42000×10^16 NP1:φs171.56000°, δ42.32000°, λ-92.71000°. NP2:φs355.22000°, δ47.74000°, λ-87.54000°. Principal axes: T 2.4096, Plg3.0000°, Azm83.0000°; N 0.0281, Plg2.0000°, Azm174.0000°; P -2.4376, Plg87.0000°, Azm297.0000°;*
*NEIC **27** 03:53:12, 62°.02N×149°.88W, h50km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr-2.63; Mθθ0.13; Mφφ2.50; Mrθ-0.10; Mθφ-0.47; Mφr-0.44; Fault plane solution: M0 2.65000×10^16 NP1:φs165.00000°, δ41.00000°, λ-95.00000°. NP2:φs353.00000°, δ50.00000°, λ-84.00000°. Principal axes: T 2.6260, Plg5.0000°, Azm79.0000°; N 0.0502, Plg4.0000°, Azm170.0000°; P -2.6762, Plg84.0000°, Azm300.0000°;*
*BGR **27** 03:53:12.1±0.0, 62°.11N×149°.61W, h33km, mb5.0*

ISC 27 03:53:09.9±0.4, 62°.03N±0°.02×149°.89W±0°.02, h53km±3km, n1036, σ1 912/970, mb5.0/287, MS4.0/38, 40C-14D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.41**	**335**	P	**Pn**	**03 53 21.2**	**+0.8**
	baz=152,SNR=1000						
CUT				S	**Sn**	**03 53 29.6**	**+1.7**
	baz=152						
CUT	**Chulitna**	**0.41**	**335**		**Pn**	**03 53 21.2**	**+0.8**
CUT					**Sn**	**03 53 29.7**	**+1.7**
GHO	**Glory Hole Cre**	**0.53**	**119**		**Pn**	**03 53 21.9**	**+0.2**
GHO	**Glory Hole Cre**	**0.53**	**119**	Sn	**Sn**	**03 53 30.4**	**+0.2**
PMR	**Palmer**	**0.57**	**141**	P	**Pn**	**03 53 21.8**	**-0.3**
PMR						03 53 31.4	
PMR	**Palmer**	**0.57**	**141**		**Pn**	**03 53 21.8**	**-0.3**
PMR					**Sn**	**03 53 31.4**	**+0.4**
SUA	**Susitna One**	**0.70**	**216**		**Pn**	**03 53 24.3**	**+0.4**
SUA	**Susitna One**	**0.70**	**216**		**Sn**	**03 53 35.8**	**+1.7**
SML	**Sawmill**	**0.77**	**106**		**Pn**	**03 53 25.0**	**+0.3**
SKT	**Skwentna**	**0.78**	**267**		**Pn**	**03 53 25.3**	**+0.5**
SKT					**Sn**	**03 53 37.0**	**+1.4**
FIS	**Fire Island**	**0.91**	**190**		**Pn**	**03 53 27.5**	**+1.1**
KNK	**Knik Glacier**	**0.92**	**132**		**Pn**	**03 53 27.0**	**+0.3**
KNK					**Sn**	**03 53 40.2**	**+1.2**
WAT7	**Susitna Watana**	**0.94**	**31**		**Pn**	**03 53 27.6**	**+0.6**
WAT7					**Sn**	**03 53 40.7**	**+1.2**
RC01	**Rabbit Creek A**	**0.95**	**176**	P	**Pn**	**03 53 27.2**	**+0.2**
	baz=358,SNR=1000						
RC01				S	**Sn**	**03 53 40.3**	**+0.7**
	baz=358						
RC01	**Rabbit Creek A**	**0.95**	**176**		**Pn**	**03 53 27.2**	**+0.2**
RC01					**Sn**	**03 53 40.6**	**+1.0**
HUR	**Hurricane**	**0.96**	**7**		**Pn**	**03 53 28.4**	**+1.2**
WAT1	**Susitna Watana**	**1.01**	**37**		**Pn**	**03 53 28.5**	**+0.6**
WAT1					**Sn**	**03 53 42.5**	**+1.3**
STLK	**Strandline Lak**	**1.07**	**241**		**Pn**	**03 53 29.3**	**+0.7**
WAT2	**Susitna Watana**	**1.11**	**32**		**Pn**	**03 53 30.0**	**+0.7**
WAT6	**Susitna Watana**	**1.14**	**60**		**Pn**	**03 53 30.3**	**+0.6**
WAT6					**Sn**	**03 53 45.4**	**+0.9**
SCM	**Sheep Creek Mo**	**1.23**	**98**	P	**Pn**	**03 53 31.6**	**+0.8**
SCM	**Sheep Creek Mo**	**1.23**	**98**		**Pn**	**03 53 31.6**	**+0.8**
SPCG	**Spurr Capps Gl**	**1.26**	**235**		**Pn**	**03 53 32.3**	**+1.0**
SPCG					**Sn**	**03 53 49.8**	**+2.6**
SPCP	**Crater Peak Br**	**1.33**	**236**		**Pn**	**03 53 32.9**	**+0.7**
SPCN	**Chakachatna No**	**1.36**	**235**		**Pn**	**03 53 34.0**	**+1.4**
PPLA	**Purkeypile**	**1.38**	**310**		**Pn**	**03 53 34.1**	**+1.2**
SPCR	**Spurr Chakacha**	**1.39**	**234**		**Pn**	**03 53 34.4**	**+1.4**
PWL	**Port Wells**	**1.39**	**147**		**Pn**	**03 53 33.5**	**+0.5**
PWL					**Sn**	**03 53 51.8**	**+1.5**
CAPN	**Captain Cook N**	**1.41**	**206**	P	**Pn**	**03 53 35.5**	**+2.4**
	baz=26,SNR=62						
CAPN	**Captain Cook N**	**1.41**	**206**		**Pn**	**03 53 35.5**	**+2.4**
SPBG	**Spurr Blockage**	**1.42**	**238**		**Pn**	**03 53 34.9**	**+1.6**
TRF	**Thorofare Moun**	**1.44**	**353**		**Pn**	**03 53 35.1**	**+1.4**
RND	**Reindeer**	**1.46**	**19**	P	**Pn**	**03 53 35.2**	**+1.2**
RND	**Reindeer**	**1.46**	**19**		**Pn**	**03 53 35.1**	**+1.2**
SPNN	**North Nagishla**	**1.50**	**245**		**Pn**	**03 53 35.5**	**+1.0**
SLKM	**Skilak Lake**	**1.54**	**186**		**Pn**	**03 53 35.5**	**+0.5**
O22K	**Cooper Landing**	**1.56**	**177**	P	**Pn**	**03 53 35.5**	**+0.3**
	baz=358						
O22K				S	**Sn**	**03 53 56.2**	**+2.0**
	baz=358						
DHY	**Denali Highway**	**1.56**	**47**		**Pn**	**03 53 36.1**	**+0.7**
KTH	**Kantishna Hill**	**1.60**	**343**		**Pn**	**03 53 37.5**	**+1.7**
CAST	**Castle Rocks**	**1.72**	**325**		**Pn**	**03 53 38.9**	**+1.4**
M24K	**Tolsona, Glenn**	**1.75**	**86**	P	**Pn**	**03 53 39.5**	**+1.6**
	baz=269,SNR=1000						
M24K				S	**Sn**	**03 54 01.8**	**+2.8**
	baz=269						
M24K	**Tolsona, Glenn**	**1.75**	**86**		**Pn**	**03 53 39.1**	**+1.3**
MCK	**McKinley**	**1.76**	**14**	P	**Pn**	**03 53 40.0**	**+2.0**
MCK	**McKinley**	**1.76**	**14**		**Pn**	**03 53 40.0**	**+2.0**
GLI	**Glacier Island**	**1.77**	**130**		**Pn**	**03 53 38.7**	**+0.6**
VMT	**TAPS TI Valdez**	**1.94**	**118**		**Pn**	**03 53 40.9**	**+0.5**
SEW	**Seward**	**1.95**	**174**	Pn	**Pn**	**03 53 41.9**	**+1.4**
KLU	**Klutina**	**1.96**	**104**		**Pn**	**03 53 41.3**	**+0.5**
DFR	**Drift River**	**1.98**	**224**		**Pn**	**03 53 42.6**	**+1.6**
PS11	**TAPS Pump St11**	**2.08**	**87**		**Pn**	**03 53 44.1**	**+1.8**
NCT	**North Crescent**	**2.08**	**226**		**Pn**	**03 53 43.8**	**+1.3**
FID	**Port Fidalgo**	**2.08**	**127**		**Pn**	**03 53 42.4**	**0.0**
RSO	**Redoubt South**	**2.10**	**223**		**Pn**	**03 53 43.9**	**+1.1**
RDSO	**Redoubt South**	**2.10**	**222**		**Pn**	**03 53 44.0**	**+1.3**
RDWB	**Redoubt West**	**2.11**	**224**		**Pn**	**03 53 44.1**	**+1.2**
BPAW	**Bear Paw Mtn.**	**2.13**	**347**		**Pn**	**03 53 44.2**	**+1.2**
BWN	**Browne**	**2.16**	**5**		**Pn**	**03 53 45.2**	**+1.8**
CHUM	**Lake Minchumin**	**2.16**	**330**		**Pn**	**03 53 45.2**	**+1.8**
DIV	**Divide**	**2.17**	**113**		**Pn**	**03 53 43.7**	**+0.1**
HIN	**Hinchinbrook I**	**2.32**	**134**		**Pn**	**03 53 45.7**	**+0.1**
PS12	**TAPS Pump St12**	**2.32**	**102**		**Pn**	**03 53 46.0**	**+0.3**
BRLK	**Bradley Lake**	**2.33**	**193**	Pn	**Pn**	**03 53 47.4**	**+1.6**
BRSE	**Bradley Lake S**	**2.34**	**191**		**Pn**	**03 53 46.5**	**+0.6**
EYAK	**Cordova Ski Ar**	**2.49**	**125**		**Pn**	**03 53 48.0**	**+0.1**
IVE	**Iliamna Volcan**	**2.53**	**218**		**Pn**	**03 53 49.7**	**+1.1**
HOM	**Homer**	**2.53**	**201**	P	**Pn**	**03 53 50.1**	**+1.6**
	baz=20,SNR=63						
WRH	**Wood River Hil**	**2.58**	**18**		**Pn**	**03 53 50.4**	**+1.2**
ILS	**Iliamna Low So**	**2.60**	**218**		**Pn**	**03 53 51.0**	**+1.5**
NEA2	**Nenana**	**2.60**	**8**	P	**Pn**	**03 53 50.5**	**+1.1**
	baz=188,SNR=1000						
NEA2				S	**Sn**	**03 54 20.3**	**+0.7**
	baz=188						
NEA2	**Nenana**	**2.60**	**8**		**Pn**	**03 53 50.5**	**+1.1**
CNPM	**China Poot**	**2.60**	**195**	Pn	**Pn**	**03 53 51.2**	**+1.7**
HDA	**Harding Lake**	**2.73**	**28**	P	**Pn**	**03 53 52.6**	**+1.4**
	baz=210,SNR=699						
HDA				S	**Sn**	**03 54 24.2**	**+1.2**
	baz=210						
HDA				S	**Sn**	**03 54 24.2**	**+1.2**
	baz=210						
HDA	**Harding Lake**	**2.73**	**28**		**Pn**	**03 53 52.6**	**+1.4**
BMRM	**Bremner River**	**2.75**	**111**		**Pn**	**03 53 51.6**	**+0.1**
CCB	**Clear Creek Bu**	**2.79**	**19**		**Pn**	**03 53 53.0**	**+1.0**
PS08	**TAPS Pump Stn8**	**2.88**	**27**		**Pn**	**03 53 54.5**	**+1.3**
SVW2	**Sparrevohn**	**2.88**	**254**		**Pn**	**03 53 54.4**	**+1.1**
GOAT	**Goat Mountain**	**2.88**	**118**		**Pn**	**03 53 54.0**	**+0.6**
OPT	**Oil Point**	**2.90**	**216**		**Pn**	**03 53 55.2**	**+1.7**
GLB	**Gilahina Butte**	**2.95**	**99**		**Pn**	**03 53 54.9**	**+0.6**
TT01	**Tatalina**	**2.98**	**290**		**Pn**	**03 53 55.8**	**+1.1**
TTA	**Tatalina**	**2.98**	**290**	P	**Pn**	**03 53 55.9**	**+1.2**
TTA	**Tatalina**	**2.98**	**290**		**Pn**	**03 53 55.9**	**+1.2**
TCOL	**CIGO, UAF Yank**	**2.99**	**17**	P	**Pn**	**03 53 56.3**	**+1.5**
	baz=198,SNR=592						
TCOL				S	**Sn**	**03 54 30.1**	**+0.7**
	baz=198						
TCOL	**CIGO, UAF Yank**	**2.99**	**17**		**Pn**	**03 53 56.3**	**+1.5**
COLA	**College**	**3.00**	**17**	*c iP*	**Pn**	**03 53 56.1**	**+1.3**
COLA	**College**	**3.00**	**17**		**Pn**	**03 53 55.9**	**+1.1**
I53US	**FAIRBANKS INFR**	**3.00**	**17**	P	**Pn**	**03 53 56.1**	**+1.3**
	baz=203,slow=30,SNR=1.9						
I53US				S	**Sn**	**03 54 30.0**	**+0.6**
	baz=261,slow=345,SNR=3.9						
MENT	**Mentasta**	**3.00**	**70**		**Pn**	**03 53 58.0**	**+3.0**
MDM	**Murphy Dome**	**3.03**	**13**		**Pn**	**03 53 56.8**	**+1.5**
MLY	**Manley**	**3.04**	**353**		**Pn**	**03 53 56.9**	**+1.5**
IL31		**3.06**	**25**		**Pn**	**03 53 56.9**	**+1.2**
ILAR	**Eielson Array**	**3.06**	**25**	P	**Pn**	**03 53 56.9**	**+1.1**
	85nm,0.3s,baz=207,slow=14,SNR=3721						
ILAR				S	**Sn**	**03 54 33.3**	**+2.2**
	283nm,0.3s,baz=210,slow=22,SNR=14						
ILAR				LR	LR	03 55 28.3	
	comp=Z,1μm,19.8s,baz=302,slow=45						
ILAR	**Eielson Array**	**3.06**	**25**	Pn	**Pn**	**03 53 56.0**	**+0.3**
DOT	**Dot Lake**	**3.12**	**56**	Pn	**Pn**	**03 53 58.9**	**+2.3**
Q23K	**Middleton Isla**	**3.14**	**145**	P	**Pn**	**03 53 57.2**	**+0.5**
	baz=328						
Q23K	**Middleton Isla**	**3.14**	**145**		**Pn**	**03 53 58.1**	**+1.4**
MID	**Middleton Isla**	**3.14**	**145**	P	**Pn**	**03 53 57.1**	**+1.1**
MID	**Middleton Isla**	**3.14**	**145**		**Pn**	**03 53 57.9**	**+1.1**
AU22	**Augustine Moun**	**3.17**	**214**		**Pn**	**03 53 59.9**	**+2.7**
VRDI	**Verde Repeater**	**3.18**	**102**		**Pn**	**03 53 57.8**	**+0.3**
AUL	**Augustine Lava**	**3.18**	**215**		**Pn**	**03 53 59.6**	**+2.2**
AUP	**Augustine Pinn**	**3.19**	**215**	P	**Pn**	**03 53 59.7**	**+2.1**
AUP	**Augustine Pinn**	**3.19**	**215**		**Pn**	**03 53 59.7**	**+2.1**
AUQ	**Augustine Qik'**	**3.20**	**214**		**Pn**	**03 53 59.9**	**+2.2**
AUCH	**Augustine Cone**	**3.20**	**215**		**Pn**	**03 54 00.0**	**+2.3**
HMT	**Hamilton**	**3.21**	**120**		**Pn**	**03 53 58.4**	**+0.5**
POKR	**Poker Plat Res**	**3.29**	**18**	P	**Pn**	**03 54 00.4**	**+1.6**
	baz=200,SNR=383						
POKR				S	**Sn**	**03 54 37.5**	**+0.9**
	baz=200						
POKR	**Poker Plat Res**	**3.29**	**18**		**Pn**	**03 54 00.4**	**+1.6**
SCRK	**Sand Creek**	**3.32**	**51**	P	**Pn**	**03 54 00.4**	**+0.9**
	baz=236,SNR=684						
SCRK	**Sand Creek**	**3.32**	**51**		**Pn**	**03 54 00.4**	**+0.9**
MCARA	**McCarthy VSAT**	**3.33**	**98**		**Pn**	**03 54 00.0**	**+0.6**
PS07	**TAPS Pump Stn7**	**3.37**	**12**		**Pn**	**03 54 01.7**	**+1.8**
NICHA	**Nichawak Mount**	**3.39**	**119**		**Pn**	**03 54 00.5**	**+0.2**
KAIM	**Kayak Island**	**3.40**	**126**		**Pn**	**03 54 01.5**	**+1.1**
BERG	**Berg Lake**	**3.41**	**116**		**Pn**	**03 54 01.2**	**+0.6**
CRQM	**Cirque**	**3.49**	**109**		**Pn**	**03 54 03.7**	**+1.9**
SUCK	**Suckling Hills**	**3.56**	**121**		**Pn**	**03 54 02.9**	**+0.2**
KHIT	**Khitrov Hills**	**3.58**	**113**		**Pn**	**03 54 04.3**	**+1.4**
TGL	**Tana Glacier**	**3.63**	**108**		**Pn**	**03 54 03.8**	**+0.2**
GRIN	**Grindle Hills**	**3.63**	**116**		**Pn**	**03 54 04.5**	**+0.9**
PTPK	**Patty Peak**	**3.65**	**100**		**Pn**	**03 54 04.5**	**+0.6**
BALM	**Baldy**	**3.75**	**102**		**Pn**	**03 54 05.5**	**+0.3**
WAX	**Waxell Ridge**	**3.75**	**112**		**Pn**	**03 54 06.3**	**+1.1**
KIAG	**Kiagna River**	**3.78**	**104**		**Pn**	**03 54 05.7**	**0.0**
PS06	**TAPS Pump Stn6**	**3.84**	**1**		**Pn**	**03 54 08.0**	**+1.7**
BC03		**3.89**	**71**		**Pn**	**03 54 07.8**	**+0.8**
BCAR	**Beaver Creek A**	**3.89**	**71**		**Pn**	**03 54 06.6**	**-0.6**
SNH	**Sunshine Point**	**3.89**	**115**		**Pn**	**03 54 08.7**	**+1.5**
KULT	**Kultieth River**	**3.91**	**114**		**Pn**	**03 54 08.5**	**+1.1**
ISLE	**Juniper Island**	**3.91**	**108**		**Pn**	**03 54 07.5**	**0.0**
BARK	**Barkley Ridge**	**3.93**	**111**		**Pn**	**03 54 08.6**	**+0.8**
BARN	**Barnard Glacie**	**4.06**	**100**		**Pn**	**03 54 09.8**	**+0.3**
K27K	**Chicken**	**4.08**	**57**	P	**Pn**	**03 54 10.4**	**+0.7**
	baz=244						
K27K				S	**Sn**	**03 54 59.5

ANM Nome 7.42 297 Pn **Pn 03 54 56.4 +1.0**
SKAG Skagway 7.58 103 **Pn 03 54 58.3 +0.7**
RDOG Red Dog Mine 8.16 323 **Pn 03 55 07.3 +1.8**
BESE Bessie Mountai 8.22 108 **Pn 03 55 06.5 0.0**
JIS Juneau Island 8.59 109 **Pn 03 55 11.5 +0.1**
SDPT Sand Point 8.67 224 **Pn 03 55 14.4 +1.9**
SIT Sitka 8.91 118 P **Pn 03 55 15.1 -0.7**
SIT Sitka 8.91 118 **Pn 03 55 15.1 -0.7**
INK Inuvik 9.30 40 P **Pn 03 55 22.1 +1.1**
6.2nm,0.3s,baz=231,slow=15,SNR=189
INK S **Sn 03 57 05.9 +2.0**
15nm,0.3s,baz=86,slow=15,SNR=8.8
INK LR LR 03 59 16.5
comp=Z,1µm,18.4s,baz=216,slow=39
GAMB Gambell 10.09 290 Pn **Pn 03 55 32.6 +0.8**
DLBC Dease Lake 10.49 101 P **Pn 03 55 37.2 -0.3**
2.7nm,0.3s,baz=296,slow=12,SNR=46
DLBC LR LR 04 00 00.7
comp=Z,2µm,21.2s,baz=304,slow=39
DLBC Dease Lake 10.49 101 **Pn 03 55 37.0 -0.6**
WRAK Wrangell Islan 10.58 114 **Pn 03 55 38.5 -0.1**
UNV Unalaska Valle 12.02 234 **Pn 03 56 00.1 +1.9**
C36M Paulatuk 12.81 44 P **Pn 03 56 09.7 +0.7**
baz=248,SNR=28
C36M S **Sn 03 58 26.0 -3.7**
baz=248
C36M Paulatuk 12.81 44 Pn **Pn 03 56 09.5 +0.5**
DIB Dawson Inlet, 12.82 126 **Pn 03 56 09.5 +0.4**
A36M Sachs Harbour 13.72 33 P **Pn 03 56 23.3 +2.0**
baz=236
A36M Sachs Harbour 13.72 33 Pn **Pn 03 56 22.2 +0.8**
BBB Bella Bella 15.32 120 P **P 03 56 48.0 +1.8**
0.4nm,0.3s,baz=321,slow=6.1,SNR=9.2
BBB Bella Bella 15.32 120 Pn **Pn 03 56 41.0 -1.4**
BBB IAmb IAmb 03 57 09.7
comp=Z,80nm,1.0s
YKA Yellowknife Ar 16.31 73 P **Pn 03 56 55.0 +0.1**
comp=Z,1.2nm,0.3s,baz=287,slow=9.7,SNR=21
YKA PcP **PcP 04 01 45.3 +0.1**
comp=Z,0.1nm,0.3s,baz=326,slow=1.0,SNR=4.1
YKA LR LR 04 03 57.1
comp=Z,248nm,18.9s,baz=0.0,slow=39
ATKA Atka Island 16.36 244 Pn **P 03 56 57.3 -0.4**
GSTR Great Sitkin T 17.24 247 Pn **P 03 57 07.6 0.0**
ADAG Mount Adagdak 17.55 247 P **P 03 57 10.8 -0.2**
ADK Adak 17.66 247 P **Pn 03 57 10.9 -0.8**
ADK pmax pmax
comp=Z,154nm,1.0s
ADK Adak 17.66 247 Pn **Pn 03 57 10.9 -0.8**
ADK IAmb IAmb 03 57 33.3
comp=Z,154nm,0.9s
KIMD Kanaga Island 17.98 248 P **Pn 03 57 15.8 +0.1**
BILL Bilibino 19.09 307 *eP* **P 03 57 26.7 -1.0**
BILL *e*S **Sn 04 01 02.3 +0.7**
BILL pmax pmax
comp=Z,6.0nm,0.6s
BILL MLR MLR
comp=Z,317nm,22.0s
BILL Bilibino 19.09 307 **PcP 04 01 50.4 +0.7**
AMKA Amchitka 19.79 252 P **P 03 57 35.4 0.0**
PGC Sidney 19.94 120 **Pn 03 57 41.4 +2.2**
PGC IAmb IAmb 03 58 02.3
comp=Z,67nm,1.1s
NLWA Neilton Lookou 20.78 123 P **P 03 57 45.8 -0.5**
NLWA IAmb IAmb 03 58 21.8
comp=Z,63nm,1.2s
B05A Bryant 20.80 119 P Pn 03 57 49.8 +0.5
baz=322,SNR=7.7
B06A Marblemount 20.86 117 P **P 03 57 47.9 +0.9**
D05A Enumclaw 21.70 120 P **P 03 57 57.0 +0.9**
B08A Colville Reser 21.89 115 P **P 03 57 59.6 +1.4**
E04D Cinebar 21.98 122 P **P 03 58 02.1 +3.0**
baz=325
LTY Liberty 22.19 118 IAmb IAmb 03 58 24.1
comp=Z,70nm,1.5s
RES Resolute Bay 22.77 34 P **P 03 58 06.6 -0.6**
comp=Z,6.7nm,0.5s,baz=258,slow=13,SNR=16
RES LR LR 04 07 43.8
comp=Z,272nm,18.5s,baz=268,slow=38
RES Resolute Bay 22.77 34 P **P 03 58 08.7 +1.5**
RES pmax pmax
comp=Z,43nm,0.9s
RES Resolute Bay 22.77 34 P **P 03 58 08.7 +1.5**
RES IAmb IAmb 03 58 30.0
comp=Z,43nm,0.8s
NEW Newport 22.92 112 P **P 03 58 11.1 +1.9**
comp=Z,5.9nm,0.8s,baz=322,slow=8.1,SNR=16
NEW LR LR 04 07 59.4
comp=Z,593nm,18.8s,baz=318,slow=38
NEW Newport 22.92 112 P **P 03 58 10.9 +1.8**
baz=319,SNR=13
NEW Newport 22.92 112 IAmb IAmb 03 58 35.3
comp=Z,56nm,1.1s
F05D White Salmon 22.97 122 P **P 03 58 11.9 +2.3**
baz=325
G05D Wamic, OR 23.56 122 P **P 03 58 17.4 +2.1**
baz=326
F07A Phinny Hill Vi 23.59 119 IAmb IAmb 03 58 51.3
comp=Z,86nm,1.6s
H04D Lebanon 23.60 125 P **P 03 58 17.8 +2.1**
baz=328
H04A Detroit Lake 23.68 124 IAmb IAmb 03 58 38.2
comp=Z,45nm,1.1s
WALA Waterton Lakes 23.77 106 IAmb IAmb 03 58 47.3
comp=Z,40nm,1.1s
I03D Drain, OR 24.07 127 P **P 03 58 22.3 +2.4**
baz=329
I05D Terrebonne, OR 24.30 124 P **P 03 58 24.0 +1.8**
baz=327,SNR=5.6
I04A Tendick Farm, 24.34 126 P **P 03 58 24.3 +1.8**
baz=328,SNR=8.9
F10A Beach Ranch, E 24.65 116 P **P 03 58 25.7 +0.3**
F10A **PcP 04 02 01.8 +0.5**
K02D Willamette Mer 24.82 129 P **P 03 58 29.3 +2.4**
baz=330
J04D Umpqua Nationa 24.93 126 P **P 03 58 30.4 +2.4**
baz=329,SNR=6.9
HUMO Hull Mountain 25.16 128 P **P 03 58 31.5 +1.6**
HUMO IAmb IAmb 03 58 48.2
comp=Z,60nm,1.6s
HUMO PcP **PcP 04 02 03.5 +1.1**
EUNU Eureka 25.17 21 P **P 03 58 31.0 +1.4**
EUNU IAmb IAmb 03 59 01.4
comp=Z,38nm,1.0s
J05D Fort Rock, OR 25.23 125 P **P 03 58 33.0 +2.3**
baz=328,SNR=8.8
L02E Cave Junction 25.31 130 P **P 03 58 34.1 +2.8**
baz=331
MSO Missoula 25.42 110 P **P 03 58 33.2 +0.9**
baz=320,SNR=8.0
FFC Flin Flon 25.62 85 P **P 03 58 34.5 +0.6**
FFC pmax pmax
comp=Z,18nm,0.9s
FFC Flin Flon 25.62 85 P **P 03 58 34.5 +0.6**
L04D Klamath Falls 25.74 128 P **P 03 58 37.4 +2.2**
baz=330
SEY Seymchan 25.93 298 *i* P **P 03 58 36.6 0.0**
YBH Yreka Blue Hor 26.01 129 P **P 03 58 39.7 +2.0**
comp=Z,5.2nm,0.9s,baz=9.7,slow=2.7,SNR=11
YBH Yreka Blue Hor 26.01 129 P **P 03 58 39.3 +1.7**
M02C Callahan 26.25 129 P **P 03 58 42.8 +3.0**
baz=331
J08A Circle Bar Ran 26.26 121 P **P 03 58 40.0 0.0**
J08A PcP **PcP 04 02 05.9 +0.9**
M04C Macdoel 26.29 127 P **P 03 58 42.5 +2.3**
baz=330
EGMT Eagleton 26.41 103 P **P 03 58 42.3 +1.0**
baz=317,SNR=7.2
EGMT Eagleton 26.41 103 IAmb IAmb 03 58 44.4
comp=Z,43nm,0.9s
N02D Trinity Center 26.67 130 P **P 03 58 46.3 +2.7**
baz=331,SNR=8.8
MOD Modoc Plateau 26.77 125 P **P 03 58 45.0 +0.5**
MOD PcP **PcP 04 02 07.3 +1.0**
KMRM Mail Ridge 26.98 132 P **P 03 58 49.0 +2.6**
KMRM IAmb IAmb 03 59 04.4
comp=Z,32nm,1.0s
FCC Fort Churchill 27.03 72 P **P 03 58 47.8 +1.3**
FCC pmax pmax
comp=Z,45nm,0.9s
FCC Fort Churchill 27.03 72 P **P 03 58 47.8 +1.3**
FCC IAmb IAmb 03 59 02.3
comp=Z,45nm,0.8s
DLMT Dillon 27.14 111 **PcP 04 02 08.3 +1.2**
BOZ Bozeman (W) 27.39 109 P **P 03 58 51.6 +1.5**
baz=321,SNR=9.1

O03E Paynes Creek 27.60 129 P **P 03 58 53.5 +1.6**
baz=332,SNR=6.6
BCYI Bear Canyon 27.62 113 P **P 03 58 52.8 +0.5**
HLID Hailey 27.79 115 P **P 03 58 55.0 +1.3**
baz=324
HLID Hailey 27.79 115 P **P 03 58 54.2 +0.5**
HLID PcP **PcP 04 02 09.7 +0.9**
DGMT Dagmar 28.67 97 P **P 03 59 02.4 +1.0**
PETK Petropavlovsk- 28.72 276 P **P 03 59 00.7 -1.0**
comp=Z,5.0nm,0.9s,baz=67,slow=14,SNR=4.6
PETK LR LR 04 11 26.5
comp=Z,169nm,19.5s,baz=61,slow=38
LKWY Lake 28.74 109 IAmb IAmb 03 59 21.4
comp=Z,43nm,1.4s
H17A Grant Village 28.80 109 P **P 03 59 05.6 +2.8**
baz=322
RLMT Red Lodge 28.82 107 P **P 03 59 04.7 +1.8**
baz=320,SNR=34
FLWY Flagg Ranch 28.99 110 IAmb IAmb 03 59 49.0
comp=Z,86nm,1.8s
PAHR Pah Rah Range 29.01 126 P **P 03 59 05.6 +0.9**
PAHR **PcP 04 02 12.4 +0.7**
LAO LASA Array 29.02 102 P **P 03 59 06.1 +1.6**
baz=318,SNR=5.2
LAO LASA Array 29.02 102 IAmb IAmb 03 59 22.4
comp=Z,61nm,1.4s
AFDM Forest Hills D 29.08 129 P **P 03 59 06.6 +1.5**
AFDM **PcP 04 02 12.4 +0.6**
FXWY Fox Creek 29.19 111 P **P 03 59 07.8 +1.4**
FXWY PcP **PcP 04 02 13.0 +0.7**
VCNR Virginia City 29.27 127 P **P 03 59 07.1 +0.1**
VCNR **PcP 04 02 13.8 +1.3**
TPAW Teton Pass 29.34 111 IAmb IAmb 03 59 38.9
comp=Z,26nm,1.1s
PNTR Pine Nut 29.47 127 P **P 03 59 08.9 +0.1**
PNTR IAmb IAmb 03 59 25.9
comp=Z,22nm,1.0s
PNTR PcP **PcP 04 02 14.4 +1.3**
ELK Elko 29.77 120 P **P 03 59 13.1 +1.7**
comp=Z,4.9nm,0.8s,baz=317,slow=6.3,SNR=21
ELK PcP **PcP 04 02 14.4 +0.6**
comp=Z,2.2nm,0.9s,baz=63,slow=7.1,SNR=2.6
HVU Hansel Valley 29.94 115 P **P 03 59 14.7 +1.9**
HVU pmax pmax
comp=Z,17nm,0.9s
HVU Hansel Valley 29.94 115 P **P 03 59 14.7 +1.9**
BW06 Boulder Array 30.54 110 P **P 03 59 19.7 +1.6**
baz=323,SNR=8.8
NVAR Mina Array Bea 30.54 126 P **P 03 59 20.4 +2.2**
comp=Z,6.4nm,0.7s,baz=310,slow=8.7,SNR=31
NVAR PcP **PcP 04 02 16.9 +1.1**
comp=Z,5.5nm,0.7s,baz=294,slow=2.3,SNR=11
NVAR LR LR 04 10 21.5
comp=Z,198nm,20.2s,baz=278,slow=34
NVAR Mina Array Bea 30.54 126 P **P 03 59 19.0 +0.8**
NVAR PcP **PcP 04 02 16.3 +0.5**
PDAR Pinedale Array 30.54 110 P **P 03 59 19.8 +1.6**
comp=Z,3.6nm,0.7s,baz=320,slow=4.7,SNR=26
PDAR PcP **PcP 04 02 15.4 -0.3**
comp=Z,1.9nm,0.5s,baz=120,slow=1.5,SNR=7.5
PDAR LR LR 04 12 33.3
comp=Z,333nm,20.0s,baz=339,slow=38
NV11 Mina Array Sit 30.59 126 IAmb IAmb 03 59 36.0
comp=Z,22nm,0.9s
HWUT Hardware Ranch 30.60 114 P **P 03 59 19.1 +0.5**
HWUT **PcP 04 02 16.2 +0.3**
TIXI Tiksi 30.77 322 *i* P **P 03 59 19.8 +0.2**
TIXI pmax pmax
comp=Z,35nm,1.1s
OMMB Old Mammoth Mi 30.99 128 IAmb IAmb 03 59 40.0
comp=Z,23nm,1.1s
SKR Severo-Kuril's 31.05 274 *eP* **P 03 59 23.8 +1.5**
SKR pmax pmax
comp=Z,300nm,3.7s
DUG Dugway, Tooele 31.23 117 P **P 03 59 26.0 +1.7**
baz=327,SNR=8.2
MDND Maddock 31.27 93 P **P 03 59 25.8 +1.5**
baz=316
ULM Lac du Bonnet 31.35 87 P **P 03 59 25.9 +0.9**
comp=Z,4.2nm,0.7s,baz=309,slow=9.9,SNR=4.8
ULM PcP **PcP 04 02 17.0 -0.4**
comp=Z,8.6nm,0.6s,baz=308,slow=2.9,SNR=6.9
ULM LR LR 04 12 29.8
comp=Z,385nm,18.6s,baz=294,slow=37
ULM Lac du Bonnet 31.35 87 IAmb IAmb 03 59 49.8
comp=Z,39nm,1.4s
R11A Troy Canyon, C 31.67 122 P **P 03 59 29.6 +1.5**
baz=330,SNR=13
R11A Troy Canyon, C 31.67 122 P **P 03 59 28.9 +0.9**
R11A PcP **PcP 04 02 19.8 +1.0**
RSSD Black Hills 31.97 103 P **P 03 59 31.6 +0.9**
RSSD 04 02 20.4
RSSD pmax pmax
comp=Z,24nm,0.8s
RSSD Black Hills 31.97 103 P **P 03 59 32.5 +1.7**
baz=320
RSSD Black Hills 31.97 103 P **P 03 59 31.6 +0.9**
RSSD IAmb IAmb 03 59 34.1
comp=Z,24nm,0.8s
RSSD PcP **PcP 04 02 20.4 +0.8**
K22A Casper 31.98 107 P **P 03 59 32.2 +1.4**
baz=322,SNR=12
K22A Casper 31.98 107 IAmb IAmb 03 59 47.5
comp=Z,40nm,1.1s
PSUT Pine Spring 32.20 120 P **P 03 59 34.4 +1.6**
PSUT PcP **PcP 04 02 20.9 +0.6**
RWWY Rawlins 32.44 109 IAmb IAmb 03 59 51.2
comp=Z,23nm,1.1s
VES Vestal, Richgr 32.53 129 P **P 03 59 37.0 +1.6**
baz=333
TPNV Topopah Spring 32.62 125 P **P 03 59 37.9 +1.5**
baz=331,SNR=5.9
SMMC Simmler 32.67 131 P **P 03 59 39.2 +2.4**
baz=334
PRN Pahroc Range 32.69 123 P **P 03 59 38.2 +1.1**
PRN **PcP 04 02 22.6 +1.1**
AGMN Agassiz Nation 32.71 89 P **P 03 59 37.8 +0.9**
baz=315,SNR=9.7
AGMN Agassiz Nation 32.71 89 IAmb IAmb 04 00 02.1
comp=Z,22nm,1.1s
FURC Furnace Creek, 32.80 126 P **P 03 59 40.6 +2.7**
baz=332
ISA Isabella, Lake 32.91 129 P **P 03 59 40.0 +1.1**
baz=333
ISA Isabella, Lake 32.91 129 IAmb IAmb 03 59 55.8
comp=Z,19nm,1.0s
MSU Marysvale 32.91 118 P **P 03 59 40.4 +1.3**
MSU 04 02 23.8
MSU Marysvale 32.91 118 P **P 03 59 40.4 +1.3**
MSU **PcP 04 02 23.8 +1.6**
MPMC Manual Prospec 32.93 127 P **P 03 59 40.6 +1.4**
baz=332,SNR=7.2
PKM Mcpherson Peak 33.12 131 P **P 03 59 42.7 +1.8**
baz=334
O20A White River Ci 33.25 112 P **P 03 59 43.4 +1.5**
baz=325
N23A Red Feather La 33.65 108 P **P 03 59 46.7 +1.2**
baz=324
B35A Bob, Littlefor 33.67 88 IAmb IAmb 04 00 10.1
comp=Z,23nm,1.1s
GSC Goldstone, Bar 33.85 127 P **P 03 59 48.9 +1.8**
baz=333,SNR=6.4
GSC Goldstone, Bar 33.85 127 IAmb IAmb 04 00 04.6
comp=Z,28nm,1.0s
PV21 Cone Mtn., Par 34.23 114 IAmb IAmb 04 00 28.9
comp=Z,14nm,0.9s
F33A 5 Mile Ranch, 34.29 93 IAmb IAmb 04 00 15.4
comp=Z,22nm,1.0s
NOR Nord 34.43 11 *i* P **P 03 59 51.4 -0.1**
comp=Z,25nm,1.3s
NOR Nord 34.43 11 *i* P **P 03 59 51.4 -0.1**
NOR pmax pmax
comp=Z,25nm,1.3s
BFSC Mount Baldy Ra 34.48 129 P **P 03 59 54.8 +2.2**
baz=334
PV02 Paradox Valley 34.63 114 IAmb IAmb 04 00 10.9
comp=Z,38nm,1.5s
U15A North Rim 34.65 120 P **P 03 59 55.5 +1.3**
U15A **PcP 04 02 28.2 +0.9**
ISCO Idaho Springs 34.68 109 P **P 03 59 55.4 +0.9**
baz=325
GMRC Granite Mounta 34.75 126 P **P 03 59 56.9 +2.0**
baz=332,SNR=6.7
PV01 Paradox Valley 34.76 114 IAmb IAmb 04 00 11.8
comp=Z,21nm,1.0s
EYMN Ely 35.02 86 P **P 03 59 57.7 +0.7**

baz=316,SNR=6.1
BELC Belle Mtn. Jos 35.31 127 P **P 04 00 01.6 +1.8**
baz=333
YAK Yakutsk 35.44 307 *eP* **P 04 00 00.0 -0.4**
YAK pmax pmax
comp=Z,42nm,0.8s
YAK pmax pmax
comp=E,17nm,1.4s
YAK pmax pmax
comp=N,7.0nm,1.1s
PFO Pinyon Flats O 35.49 128 P **P 04 00 02.2 +1.0**
PFO pmax pmax
comp=Z,18nm,1.0s
PFO Pinyon Flats O 35.49 128 P **P 04 00 02.2 +1.0**
baz=334
PFO Pinyon Flats O 35.49 128 P **P 04 00 02.2 +1.0**
PFO IAmb IAmb 04 00 18.1
comp=Z,18nm,0.9s
TPFO Pinon Flats 35.49 128 P **P 04 00 02.5 +1.2**
baz=334
IRM Iron Mountain 35.50 126 P **P 04 00 03.3 +2.0**
baz=333
MVCO Mesa Verde 35.57 115 P **P 04 00 03.4 +1.3**
baz=328,SNR=5.6
MVCO Mesa Verde 35.57 115 IAmb IAmb 04 00 18.5
comp=Z,11nm,0.8s
Q24A Divide 35.57 109 P **P 04 00 03.8 +1.7**
baz=325
Q24A Divide 35.57 109 IAmb IAmb 04 00 19.3
comp=Z,15nm,1.1s
ECSD EROS Data Cent 35.72 96 P **P 04 00 03.5 +0.5**
baz=320,SNR=14
ECSD EROS Data Cent 35.72 96 IAmb IAmb 04 00 19.7
comp=Z,15nm,0.9s
WUAZ Wupatki 35.81 120 P **P 04 00 06.0 +2.0**
baz=330,SNR=5.8
S22A 4UR Ranch, Cre 35.84 112 P **P 04 00 06.5 +2.0**
baz=327,SNR=13
MONP2 Monument Peak 36.14 128 P **P 04 00 09.1 +2.1**
baz=334
SPMN Marine on St. 36.39 90 P **P 04 00 09.9 +1.2**
baz=318
SDCO Great Sand Dun 36.42 111 P **P 04 00 10.9 +1.5**
baz=326,SNR=7.5
SDCO Great Sand Dun 36.42 111 IAmb IAmb 04 00 26.8
comp=Z,21nm,1.4s
Y14A Wickenburg 36.53 123 IAmb IAmb 04 00 27.5
comp=Z,17nm,0.9s
KSCO Kaye Shedlock' 36.66 107 P **P 04 00 13.2 +1.9**
baz=325
KSCO Kaye Shedlock' 36.66 107 IAmb IAmb 04 00 28.4
comp=Z,24nm,0.8s
X16A Lo Mia Camp, P 36.73 121 IAmb IAmb 04 00 29.5
comp=Z,16nm,0.9s
BGNE Belgrade 36.80 100 P **P 04 00 13.0 +0.7**
baz=322
COWI Conover 37.47 86 IAmb IAmb 04 00 42.9
comp=Z,25nm,1.1s
G40A Rib Lake 37.58 88 IAmb IAmb 04 00 44.0
comp=Z,28nm,0.9s
SUMG Summit 37.91 27 *i* P **P 04 00 22.0 +0.3**
comp=Z,51nm,0.9s
SUMG Summit 37.91 27 P **P 04 00 22.2 +0.5**
SUMG pmax pmax
comp=Z,110nm,1.8s
SUMG Summit 37.91 27 P **P 04 00 22.2 +0.5**
DAG Danmarks Havn 38.13 16 *i* P **P 04 00 22.0 -1.1**
comp=Z,28nm,0.9s
DAG Danmarks Havn 38.13 16 *i* P **P 04 00 22.0 -1.1**
DAG pmax pmax
comp=Z,28nm,0.9s
E43A Lone Tree Farm 38.27 84 IAmb IAmb 04 00 50.8
comp=Z,22nm,1.0s
ANMO Albuquerque 38.36 114 *ceP* **P 04 00 23.8 -1.9**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 38.36 114 P **P 04 00 27.3 +1.5**
baz=329
ANMO Albuquerque 38.36 114 P **P 04 00 26.1 +0.4**
SFJD Kangerlussuaq 38.64 38 *i* P **P 04 00 28.0 +0.6**
SFJD Kangerlussuaq 38.64 38 *i* P **P 04 00 28.0 +0.6**
SCIA State Center 38.72 94 P **P 04 00 30.3 +1.9**
baz=321
SCIA State Center 38.72 94 IAmb IAmb 04 00 45.6
comp=Z,40nm,1.2s
TUC Tucson 38.84 122 P **P 04 00 31.4 +1.7**
TUC pmax pmax
comp=Z,15nm,1.1s
TUC Tucson 38.84 122 P **P 04 00 31.3 +1.7**
baz=332
TUC Tucson 38.84 122 P **P 04 00 31.4 +1.7**
H43A Windswept, Lux 39.33 87 IAmb IAmb 04 00 59.3
comp=Z,28nm,0.9s
JFWS Jewell Farm 39.34 91 P **P 04 00 33.7 +0.1**
baz=320,SNR=12
JFWS Jewell Farm 39.34 91 IAmb IAmb 04 00 57.4
comp=Z,18nm,0.8s
KSU1 Kansas State U 39.35 100 P **P 04 00 34.5 +0.8**
baz=324,SNR=7.8
121A Cookes Peak, D 39.87 118 P **P 04 00 40.5 +2.1**
baz=331,SNR=5.8
121A Cookes Peak, D 39.87 118 IAmb IAmb 04 00 55.9
comp=Z,16nm,0.8s
YSS Yuzh-Sakhalins 39.93 280 *eP* **P 04 00 38.3 -0.1**
YSS pmax pmax
comp=Z,200nm,2.7s
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,300nm,15.0s
MATQ Matagami 40.14 73 P **P 04 00 40.1 0.0**
baz=316
P38A Dawn 40.37 97 IAmb IAmb 04 00 58.1
comp=Z,34nm,1.1s
U32A Winter Ranch, 40.46 105 IAmb IAmb 04 01 08.6
comp=Z,32nm,0.8s
AMTX Amarillo 40.50 109 P **P 04 00 44.9 +1.5**
baz=327
AMTX Amarillo 40.50 109 IAmb IAmb 04 01 00.4
comp=Z,35nm,1.4s
GLMI Grayling 40.54 84 P **P 04 00 44.2 +0.6**
baz=319
MSTX Muleshoe 40.79 111 P **P 04 00 47.0 +1.1**
baz=328,SNR=26
LSQQ Lebel-sur-Quev 40.94 74 P **P 04 00 46.7 -0.1**
baz=317
P40A Paris 41.14 96 IAmb IAmb 04 01 04.2
comp=Z,33nm,1.1s
SCHQ Schefferville 41.21 61 P **P 04 00 49.8 +0.9**
comp=Z,2.3nm,0.7s,baz=309,slow=12,SNR=2.0
SCHQ LR LR 04 18 26.6
comp=Z,219nm,19.8s,baz=356,slow=37
VLDQ Val d'Or 41.42 75 P **P 04 00 49.6 -1.0**
VLDQ IAmb IAmb 04 01 04.8
comp=Z,24nm,0.9s
CHGQ Chibougamau 41.49 71 P **P 04 00 50.8 -0.5**
baz=316
MNTX Cornudas Mount 41.60 116 P **P 04 00 54.0 +1.6**
baz=330,SNR=8.1
HDIL Hopedale 41.62 92 P **P 04 00 52.7 +0.3**
baz=322,SNR=7.4
HDIL Hopedale 41.62 92 IAmb IAmb 04 01 09.7
comp=Z,34nm,0.7s
OK029 Liberty Lake 41.65 104 IAmb IAmb 04 01 08.9
comp=Z,43nm,1.0s
OK025 Westminster Rd 41.88 104 IAmb IAmb 04 01 10.8
comp=Z,41nm,0.9s
ZEA Zeya 41.91 298 *eP* **P 04 00 54.0 -0.6**
ZEA pmax pmax
comp=Z,14nm,1.2s
WMOK Wichita Mounta 41.92 106 P **P 04 00 55.8 +0.8**
baz=327,SNR=11
JKA Kamikawa-asahi 42.13 277 IAmb IAmb 04 01 59.7
comp=Z,34nm,1.5s
ASAJ Asahikawa 42.13 277 P **P 04 00 55.6 -0.9**
comp=Z,5.4nm,0.6s,baz=1.6,slow=2.3,SNR=3.7
ASAJ LR LR 04 19 49.7
comp=Z,109nm,18.7s,baz=18,slow=38
TUL1 Leonard 42.32 102 P **P 04 00 58.5 +0.3**
baz=326,SNR=5.5
TUL1 Leonard 42.32 102 IAmb IAmb 04 01 14.2
comp=Z,28nm,0.9s
U38A Gravette 42.53 101 IAmb IAmb 04 01 15.2
comp=Z,34nm,0.8s
CCM Cathedral Cave 42.69 96 P **P 04 01 01.0 -0.2**
CCM pmax pmax
comp=Z,25nm,1.4s
CCM Cathedral Cave 42.69 96 P **P 04 01 00.7 -0.5**

baz=324
CCM Cathedral Cave 42.69 96 P P 04 01 01.0 -0.2
NRIK Noril'sk 42.74 334 P P 04 01 01.0 -0.2
comp=Z,22nm,0.7s,baz=57,slow=6.7,SNR=16
NRIK PcP **PcP 04 02 52.2 +0.5**
comp=Z,8.5nm,0.5s,baz=62,slow=4.1,SNR=4.0
NRIK LR LR 04 21 09.8
comp=Z,151nm,19.4s,baz=20,slow=39
ALGO Algonquin Park 42.75 78 P P 04 01 02.6 +1.1
baz=319
SFIN Lafayette 42.80 90 P P 04 01 01.9 0.0
baz=322
L48A N Adams 42.83 87 IAmb IAmb 04 01 28.5
comp=Z,23nm,0.8s
KHU Kahuku 42.93 188 P P 04 01 04.1 +0.5
KHU pmax pmax
comp=Z,124nm,1.0s
KHU Kahuku 42.93 188 P P 04 01 04.1 +0.5
I51A Listowel 43.00 82 P P 04 01 04.7 +1.1
baz=320
Q44A Meyer Farm, Va 43.06 93 IAmb IAmb 04 01 04.8
comp=Z,19nm,0.7s
N47A Urbana 43.06 89 IAmb IAmb 04 01 29.8
comp=Z,22nm,0.8s
D55A Sainte-Anne-du 43.13 75 P P 04 01 05.0 +0.4
baz=318,SNR=7.3
E55A Montcerf-Lytto 43.28 76 P P 04 01 06.4 +0.5
baz=319
ABTX Abilene, Hawle 43.31 109 P P 04 01 06.7 +0.4
baz=328
ABTX Abilene, Hawle 43.31 109 IAmb IAmb 04 01 23.3
comp=Z,34nm,1.3s
U40A Yellville 43.31 99 P P 04 01 05.8 -0.4
baz=325,SNR=6.0
U40A Yellville 43.31 99 IAmb IAmb 04 01 21.8
comp=Z,36nm,1.5s
P46A Rosedale 43.34 91 IAmb IAmb 04 01 27.5
comp=Z,21nm,0.8s
D56A ZEC Mazanza, M 43.43 74 P P 04 01 07.1 0.0
baz=319,SNR=11
H53A Bobcaygeon 43.55 79 P P 04 01 08.0 0.0
baz=320
X37A Clayton 43.60 103 IAmb IAmb 04 01 25.0
comp=Z,41nm,1.2s
F55A Otter Lake 43.62 76 P P 04 01 08.6 0.0
baz=319
OLIL Olney 43.63 93 IAmb IAmb 04 01 24.6
comp=Z,36nm,1.1s
E56A St. Veronique 43.68 75 P P 04 01 08.9 -0.2
baz=319
W39A Magazine 43.83 101 P P 04 01 10.4 0.0
baz=326
W39A Magazine 43.83 101 IAmb IAmb 04 01 26.1
comp=Z,27nm,1.1s
D57A Chemin Vers le 43.85 73 P P 04 01 10.5 +0.1
baz=319,SNR=8.5
G55A Calabogie 43.89 77 P P 04 01 10.9 +0.2
baz=320
S44A Carbondale 43.91 95 IAmb IAmb 04 01 26.8
comp=Z,37nm,1.1s
LATQ La Tuque 44.07 72 P P 04 01 12.1 -0.1
baz=319
BOD Bodaibo 44.10 310 *e*P **P 04 01 11.4 -0.9**
BOD pmax pmax
comp=Z,43nm,1.2s
E57A Chemin Saint G 44.19 74 P P 04 01 13.1 -0.1
baz=319
D58A Chemin du LacG 44.24 73 P P 04 01 13.1 -0.4
baz=319,SNR=8.6
LCAR Lake Charles 44.34 98 P P 04 01 14.1 -0.4
LCAR **PcP 04 02 57.1 -0.6**
LCAR IAmb IAmb 04 02 58.1
comp=Z,17nm,0.9s
TX31 Lajitas Ar. Si 44.38 116 IAmb IAmb 04 01 32.3
comp=Z,41nm,1.1s
TXAR Lajitas Array 44.38 116 P P 04 01 16.6 +1.5
comp=Z,3.7nm,0.7s,baz=332,slow=6.3,SNR=51
TXAR PcP **PcP 04 02 58.0 -0.1**
comp=Z,0.9nm,0.5s,baz=56,slow=1.5,SNR=5.7
TXAR LR LR 04 21 46.1
comp=Z,220nm,21.3s,baz=0.0,slow=38
TXAR Lajitas Array 44.38 116 P P 04 01 16.2 +1.2
USIN University of 44.45 93 IAmb IAmb 04 01 16.1
comp=Z,25nm,0.7s
MIAR Mount Ida 44.47 101 P P 04 01 15.7 +0.2
baz=326,SNR=6.8
MIAR Mount Ida 44.47 101 IAmb IAmb 04 01 31.4
comp=Z,26nm,1.1s
PARMO Parma 44.51 96 IAmb IAmb 04 01 32.4
comp=Z,28nm,0.7s
W41B Gary Mavity, V 44.56 100 P P 04 01 16.5 +0.2
baz=326
H56A Elgin 44.60 77 P P 04 01 16.5 0.0
baz=320
ERPA Erie 44.78 83 P P 04 01 18.9 +1.0
baz=321
L53A Girard 44.78 83 P P 04 01 18.6 +0.6
baz=321
WHTX Lake Whitney, 44.83 107 P P 04 01 18.9 +0.5
baz=328
WHTX Lake Whitney, 44.83 107 IAmb IAmb 04 01 34.7
comp=Z,32nm,1.2s
ACSO Alum Creek Sta 44.85 87 P P 04 01 18.8 +0.3
baz=322
ACSO Alum Creek Sta 44.85 87 IAmb IAmb 04 01 44.5
comp=Z,17nm,0.8s
WCI Wyandotte Cave 44.88 91 P P 04 01 18.2 -0.5
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave 44.88 91 P P 04 01 19.0 +0.3
baz=323
WCI Wyandotte Cave 44.88 91 P P 04 01 18.2 -0.5
WCI IAmb IAmb 04 03 00.2
comp=Z,14nm,0.8s
J55A Hilton 44.90 80 P P 04 01 18.9 0.0
baz=321
M53A WI Miller and 44.99 84 P P 04 01 20.2 +0.6
baz=322
M53A WI Miller and 44.99 84 IAmb IAmb 04 01 45.9
comp=Z,24nm,0.9s
L54A Sinclairville 45.00 82 P P 04 01 20.1 +0.4
baz=321,SNR=5.9
K54A Basiliko Farm, 45.00 81 P P 04 01 20.2 +0.4
baz=321
JCT Junction City 45.07 111 P P 04 01 21.5 +1.1
baz=329,SNR=22
O51A Pataskala 45.09 87 P P 04 01 20.2 -0.2
baz=322
G58A Ormstown 45.19 75 P P 04 01 20.7 -0.4
baz=320
K55A Perry 45.20 81 P P 04 01 20.9 -0.4
baz=321
WVNY West Valley, N 45.20 81 IAmb IAmb 04 01 48.5
comp=Z,31nm,0.9s
P51A Williamsport 45.41 88 P P 04 01 22.7 -0.2
baz=323
M54A Oil Creek Stat 45.41 83 P P 04 01 23.0 +0.1
baz=322
M54A Oil Creek Stat 45.41 83 IAmb IAmb 04 01 48.5
comp=Z,16nm,0.8s
N53A Lisbon 45.41 85 P P 04 01 23.3 +0.4
baz=322
E60A Ste Agathe de 45.44 72 P P 04 01 23.1 +0.1
baz=320
L55A Hinsdale 45.45 81 P P 04 01 23.5 +0.2
baz=321,SNR=7.3
O52A Adamsville 45.48 86 P P 04 01 23.2 -0.3
baz=322
T47A Sharon Grove 45.49 93 IAmb IAmb 04 01 25.4
comp=Z,16nm,0.7s
F60A Warwick 45.52 73 P P 04 01 23.7 0.0
baz=320
K56A Middlesex 45.57 80 P P 04 01 24.5 +0.3
baz=321
Q51A Peebles 45.63 88 IAmb IAmb 04 02 06.0
comp=Z,13nm,0.8s
G59A Clarenceville 45.64 75 P P 04 01 24.5 -0.1
baz=320
N54A Moraine State 45.68 84 P P 04 01 25.2 +0.1
baz=322
N54A Moraine State 45.68 84 IAmb IAmb 04 01 50.8
comp=Z,18nm,0.9s
X43A Marvell 45.74 99 P P 04 01 25.6 +0.1
baz=326
H59A Cadyville 45.74 75 P P 04 01 25.2 -0.3
baz=320
WVT Waverly 45.85 95 P P 04 01 26.8 +0.4
WVT pmax pmax
comp=Z,9.0nm,0.7s
WVT Waverly 45.85 95 P P 04 01 26.7 +0.4
baz=325
WVT Waverly 45.85 95 P P 04 01 26.8 +0.4
M55A Ridgway 45.86 82 P P 04 01 26.9 +0.5
baz=322
M55A Ridgway 45.86 82 IAmb IAmb 04 01 52.3
comp=Z,29nm,0.9s
I58A Old Forge 45.89 77 P P 04 01 27.3 +0.6
baz=321
L56A Greenwood 45.90 81 P P 04 01 27.2 +0.4
baz=321
L56A Greenwood 45.90 81 IAmb IAmb 04 01 53.5
comp=Z,27nm,1.0s
F61A St Evariste 45.94 72 P P 04 01 27.4 +0.3
baz=320
D62A Allapoint, All 45.96 70 P P 04 01 27.0 -0.2
baz=320
D62A Allapoint, All 45.96 70 IAmb IAmb 04 01 42.9
comp=Z,12nm,0.9s
J58A Remsen 46.00 78 P P 04 01 27.9 +0.3
baz=321
G60A Masonville 46.01 74 P P 04 01 27.6 0.0
baz=320
E62A Clayton Lake 46.10 71 P P 04 01 28.4 0.0
baz=320
E62A Clayton Lake 46.10 71 IAmb IAmb 04 01 56.8
comp=Z,27nm,1.2s
O54A Avella 46.11 85 P P 04 01 28.5 +0.1
baz=322
O54A Avella 46.11 85 IAmb IAmb 04 01 54.4
comp=Z,25nm,0.8s
M56A Emporium 46.12 82 P P 04 01 28.8 +0.3
baz=322,SNR=6.3
M56A Emporium 46.12 82 IAmb IAmb 04 01 30.4
comp=Z,19nm,0.8s
P53A Whipple 46.19 86 P P 04 01 28.4 -0.6
baz=323
P53A Whipple 46.19 86 IAmb IAmb 04 02 02.4
comp=Z,17nm,0.9s
Q52A Bidwell 46.19 87 P P 04 01 28.7 -0.4
baz=323
H60A Morristown 46.26 75 P P 04 01 28.1 -1.4
baz=321
N55A Marion Center 46.30 83 P P 04 01 30.4 +0.5
baz=322,SNR=8.2
I59A Olmsteadville 46.31 76 P P 04 01 30.2 +0.2
baz=321
L57A Andrews Acres 46.34 80 P P 04 01 31.3 +1.0
baz=322
D63A Stockholm 46.41 69 P P 04 01 30.8 +0.1
baz=320
OXF Oxford 46.43 97 P P 04 01 31.7 +0.7
baz=326,SNR=7.9
F62A Pittston Farm, 46.46 72 P P 04 01 31.2 +0.1
baz=320
F62A Pittston Farm, 46.46 72 IAmb IAmb 04 01 46.6
comp=Z,14nm,0.9s
N56A West Decatur 46.51 82 P P 04 01 32.4 +0.8
baz=322
P54A Burton 46.52 85 P P 04 01 31.7 -0.1
baz=323
T50A Nancy 46.54 91 IAmb IAmb 04 01 33.0
comp=Z,29nm,0.9s
BINY Binghamton 46.58 79 P P 04 01 32.4 +0.3
baz=322
CLTN Cedars of Leba 46.59 93 IAmb IAmb 04 01 33.7
comp=Z,17nm,0.8s
O55A Ligonier 46.60 84 P P 04 01 32.5 +0.2
baz=322
Q53A Leroy 46.62 87 P P 04 01 32.6 +0.1
baz=323
H61A Lyndonville 46.63 74 P P 04 01 32.3 -0.2
baz=321
V48A Smith Brothers 46.64 94 IAmb IAmb 04 01 48.9
comp=Z,21nm,1.1s
PLAL Pickwick Lake 46.67 96 IAmb IAmb 04 01 49.6
comp=Z,28nm,0.9s
M57A Sunshine Farm, 46.73 81 P P 04 01 34.6 +1.4
baz=322
G62A West of Eustis 46.73 73 P P 04 01 33.4 +0.2
baz=321
E63A Oxbow 46.74 70 P P 04 01 32.1 -1.3
baz=320
E63A Oxbow 46.74 70 P P 04 01 33.2 -0.1
L58A Harry Jones Me 46.76 79 P P 04 01 34.6 +1.0
baz=322
MCWV Mont Chateau 46.78 85 P P 04 01 33.4 -0.3
baz=323
Q54A Coxs Mills 46.85 86 P P 04 01 34.1 -0.2
baz=323
Q54A Coxs Mills 46.85 86 IAmb IAmb 04 03 06.9
comp=Z,16nm,0.8s
O56A Blue Knob Stat 46.90 83 P P 04 01 34.6 0.0
baz=322
O56A Blue Knob Stat 46.90 83 IAmb IAmb 04 02 00.1
comp=Z,22nm,1.0s
P55A Reedsville 46.91 85 P P 04 01 34.9 +0.1
baz=323
SSPA Standing Stone 46.92 82 P P 04 01 34.9 +0.1
baz=322
H62A Milan 46.95 74 P P 04 01 35.1 +0.1
baz=321
J60A Lant Hill Farm 46.95 76 P P 04 01 34.8 -0.1
baz=321
USRK Ussuriysk Ar. 46.96 286 P P 04 01 33.4 -1.7
comp=Z,3.5nm,0.8s,baz=63,slow=10,SNR=7.4
USRK LR LR 04 23 45.5
comp=Z,118nm,19.4s,baz=21,slow=39
USRK Ussuriysk Ar. 46.96 286 P P 04 01 35.8 +0.7
USRK Ussuriysk Ar. 46.96 286 P P 04 01 35.8 +0.7
I61A Oroboro, Fairl 46.97 75 P P 04 01 35.5 +0.4
baz=321
N57A Milroy 46.98 82 P P 04 01 36.4 +1.1
baz=322
M58A Price's Panora 47.01 80 P P 04 01 35.5 0.0
baz=322
E64A Bridgewater 47.01 70 P P 04 01 35.0 -0.4
baz=320
Q55A Buckhannon 47.20 85 P P 04 01 37.8 +0.8
baz=323
F64A Sherman 47.21 70 P P 04 01 37.1 +0.1
baz=321,SNR=6.7
F64A Sherman 47.21 70 IAmb IAmb 04 01 52.3
comp=Z,22nm,0.8s
PKME Peaks-Kenny Pk 47.25 72 P P 04 01 37.3 0.0
baz=321
HKT Hockley 47.29 107 P P 04 01 38.6 +0.9
HKT pmax pmax
comp=Z,37nm,1.5s
HKT Hockley 47.29 107 P P 04 01 38.6 +0.9
HKT IAmb IAmb 04 01 55.8
comp=Z,37nm,1.5s
N58A Sunbury 47.31 81 P P 04 01 37.9 +0.1
baz=322
N58A Sunbury 47.31 81 IAmb IAmb 04 02 04.9
comp=Z,23nm,1.0s
P56A Dayton Farm, R 47.37 84 P P 04 01 37.2 -1.1
baz=323
O57A Amberson 47.38 82 P P 04 01 38.9 +0.5
baz=322,SNR=8.1
SWET Sewanee 47.49 94 IAmb IAmb 04 01 39.8
comp=Z,13nm,0.6s
G64A Maxfield 47.50 71 P P 04 01 39.0 -0.2
baz=321
TZTN Tazewell 47.53 90 P P 04 01 39.8 +0.2
baz=324,SNR=5.2
TZTN Tazewell 47.53 90 IAmb IAmb 04 01 40.8
comp=Z,12nm,0.8s
S54A Dingess, Beckl 47.57 87 P P 04 01 39.5 -0.4
baz=324
S54A Dingess, Beckl 47.57 87 IAmb IAmb 04 01 40.6
comp=Z,19nm,1.1s
X48A Hartselle 47.59 95 IAmb IAmb 04 01 40.8
comp=Z,16nm,0.7s
I63A Otisfield 47.61 74 P P 04 01 40.6 +0.5
baz=321
T53A Wise 47.65 89 P P 04 01 40.7 +0.1
baz=324
N59A State Game Lan 47.69 80 P P 04 01 40.9 +0.1
baz=322
L61A Hillsdale 1, H 47.71 77 P P 04 01 41.5 +0.6
baz=322
MDJ Mudanjiang 47.72 288 P P 04 01 40.8 -0.1
MDJ pmax pmax
comp=Z,13nm,0.8s
MDJ pmax pmax
comp=Z,270nm,3.9s
V51A Loudon 47.75 92 IAmb IAmb 04 01 42.0
comp=Z,15nm,0.6s
P57A Homestead Farm 47.78 83 P P 04 01 42.0 +0.5
baz=323,SNR=6.7
P57A Homestead Farm 47.78 83 IAmb IAmb 04 02 07.2
comp=Z,21nm,0.9s
O58A Lewisberry 47.78 82 P P 04 01 41.9 +0.4
baz=323,SNR=7.3
PAGS Pennsylvania G 47.79 82 IAmb IAmb 04 01 42.6
comp=Z,27nm,1.3s
W50A Signal Mountai 47.79 93 IAmb IAmb 04 01 57.7
comp=Z,28nm,1.2s
VBMS Vicksburg 47.81 100 P P 04 01 42.8 +1.0
baz=327
M60A Port Jervis 47.90 79 P P 04 01 43.0 +0.7
baz=322
Q57A Strasburg 47.95 84 P P 04 01 43.4 +0.7
baz=323
O59A Robesonia 47.97 81 P P 04 01 43.8 +0.9
baz=323
S55A Lewisburg 47.98 87 P P 04 01 43.1 +0.1
baz=324
N60A Cedar Hill Far 48.03 80 P P 04 01 44.1 +0.7
baz=322
G65A Princeton 48.07 70 P P 04 01 43.5 -0.1
baz=321
ODNJ Ogdensburg 48.10 79 IAmb IAmb 04 01 45.1
comp=Z,11nm,0.8s
P58A Pank, Wackersv 48.10 83 P P 04 01 44.1 +0.1
baz=323
LUPA Lehigh Univers 48.12 80 IAmb IAmb 04 01 46.2
comp=Z,17nm,0.7s
TKL Tuckaleechee C 48.14 91 IAmb IAmb 04 01 45.2
comp=Z,13nm,0.7s
H65A Eastbrook 48.16 71 P P 04 01 43.9 -0.5
baz=321
O60A Telford 48.33 80 P P 04 01 46.0 +0.3
baz=323
Q58A Fox Den Farm, 48.36 83 P P 04 01 46.4 +0.5
baz=323,SNR=6.7
U54A Nelsons Funny 48.36 89 P P 04 01 46.5 +0.4
baz=324,SNR=5.9
U54A Nelsons Funny 48.36 89 IAmb IAmb 04 01 47.3
comp=Z,16nm,0.7s
P59A Jarrettsville 48.41 82 P P 04 01 47.2 +0.9
baz=323
BLA Blacksburg 48.47 87 P P 04 01 47.0 +0.2
baz=324
BLA Blacksburg 48.47 87 IAmb IAmb 04 02 04.9
comp=Z,19nm,0.8s
R57A Stanardsville 48.48 85 P P 04 01 47.3 +0.4
baz=324
H66A Whiting 48.51 71 P P 04 01 47.0 0.0
baz=321
W52A Murphy 48.53 92 IAmb IAmb 04 01 48.1
comp=Z,13nm,0.8s
V53A Saluda 48.59 90 IAmb IAmb 04 01 51.1
comp=Z,12nm,0.8s
ARCES ARCESS Array B 48.68 2 P P 04 01 46.7 -1.4
comp=Z,14nm,0.7s,baz=2.9,slow=7.3,SNR=13
ARCES PcP **PcP 04 03 12.2 -0.2**
comp=Z,33nm,0.8s,baz=352,slow=3.6,SNR=14
ARCES LR LR 04 23 29.3
comp=Z,100nm,18.7s,baz=270,slow=37
U55A TA2, Sparta 48.74 88 P P 04 01 49.5 +0.5
baz=324,SNR=7.4
LMN Caledonia Moun 48.78 68 P P 04 01 49.3 +0.3
LMN IAmb IAmb 04 02 04.3
comp=Z,16nm,0.8s
LRAL Lakeview Retre 48.78 96 P P 04 01 49.2 0.0
baz=326,SNR=6.3
V54A Nebo 48.91 90 P P 04 01 50.4 +0.2
baz=325
R58B Mineral 49.05 84 P P 04 01 52.4 +1.1
baz=324
BG3 Lake Jocassee 49.08 91 IAmb IAmb 04 03 15.2
comp=Z,11nm,0.7s
CBN Corbin Frederi 49.10 84 P P 04 01 53.5 +1.9
baz=324
U56A King 49.18 88 P P 04 01 52.7 +0.4
baz=324
U56A King 49.18 88 IAmb IAmb 04 02 08.8
comp=Z,13nm,0.8s
R59A King George, V 49.22 84 P P 04 01 53.7 +1.2
baz=324
W54A Cherokee Point 49.36 90 P P 04 01 54.1 +0.4
baz=325
S59A Mechanicsville 49.49 84 P P 04 01 55.2 +0.6
baz=324
V56A Mocksville 49.56 88 P P 04 01 54.9 -0.3
baz=325
T58A Grand View Acr 49.57 86 P P 04 01 54.9 -0.2
baz=324
U57A Blanch 49.60 87 P P 04 01 55.9 +0.4
baz=324
X54A Belton 49.71 91 P P 04 01 56.9 +0.6
baz=325,SNR=6.2
PAULI Pauline 49.75 90 IAmb IAmb 04 01 57.5
comp=Z,11nm,0.7s
HODGE Hodges 50.02 91 IAmb IAmb 04 01 59.7
comp=Z,17nm,0.7s
X55A Gracelyn & Ava 50.12 90 P P 04 01 59.3 -0.1
baz=325,SNR=6.0
GOGA Godfrey 50.13 93 P P 04 01 59.4 -0.1
baz=326
152A Waverly Hall 50.15 94 IAmb IAmb 04 02 22.3
comp=Z,21nm,0.9s
MAJO Matsushiro 50.15 274 P P 04 01 59.9 +0.2
MAJO pmax pmax
comp=Z,21nm,0.8s
MAJO Matsushiro 50.15 274 P P 04 01 59.9 +0.2
MAT Matsushiro 50.15 274 P P 04 01 59.6 -0.1
MAT *e*S **S 04 09 09.6 +2.3**
MJAR Matsushiro Arr 50.15 274 P P 04 01 59.5 -0.2
comp=Z,10nm,1.0s,baz=14,slow=7.6,SNR=22
MJAR PcP **PcP 04 03 18.1 -0.2**
comp=Z,2.7nm,0.8s,baz=61,slow=3.0,SNR=4.5
MJAR Matsushiro Arr 50.15 274 P P 04 01 59.9 +0.2
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 50.15 274 P P 04 01 59.9 +0.2
CN2 Changchun 50.21 290 ⇓*i*P **P 04 01 59.3 -0.7**
CN2 *e*pP pP 04 02 13.5 -0.7
CN2 pmax pmax
comp=Z,60nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
HAL Halifax 50.26 68 IAmb IAmb 04 02 15.7
comp=Z,12nm,0.7s
W57A Gilead 50.34 88 P P 04 02 00.9 -0.2
baz=325
X56A White Oak 50.39 90 P P 04 02 01.7 +0.3
baz=325,SNR=6.8
JSC Jenkinsville 50.45 90 IAmb IAmb 04 02 02.9
comp=Z,8.9nm,0.7s
Y55A Saluda 50.45 91 P P 04 02 02.2 +0.3
baz=326,SNR=7.7
BIRD Birdtown, Kers 50.53 89 IAmb IAmb 04 02 18.5
comp=Z,23nm,1.0s
ZAIG Zacatecas 50.63 119 P P 04 02 04.1 +0.4
W58A Raeford 50.80 88 P P 04 02 05.0 +0.5
baz=325
X57A Johnson Farm, 50.85 89 P P 04 02 05.3 +0.3
baz=325
Y57A Sumter 51.08 90 P P 04 02 07.2 +0.6
baz=326
Z56A Williston 51.19 91 P P 04 02 07.7 +0.2
baz=326
JGF Kuroka 51.32 274 P P 04 02 08.7 +0.2
TIGA Tifton 51.70 94 P P 04 02 11.1 -0.3
baz=327
Y59A Loris 51.82 88 P P 04 02 12.9 +0.8
baz=326
TLY Talaya 52.63 311 LR LR 04 27 24.9
comp=Z,143nm,18.8s,baz=30,slow=39
TLY Talaya 52.63 311 *d i*P **P 04 02 18.2 +0.2**
TLY pmax pmax
comp=Z,14nm,1.0s
TLY Talaya 52.63 311 P P 04 02 18.5 +0.4
MOY Mondy 53.57 313 *e*P **P 04 02 26.0 +0.9**
MOY pmax pmax
comp=Z,44nm,1.4s
JHS Saijyo 53.80 278 P P 04 02 26.2 -0.6
ZAK Zakamensk 53.84 311 *e*P **P 04 02 27.1 +0.1**
ZAK pmax pmax
comp=Z,13nm,0.9s
TMCR Tamitsa 53.98 356 *e*P **P 04 02 25.9 -1.7**

TMCR pmax pmax
comp=Z,42nm,0.6s
KS19 Wonju Array Si 54.18 284 IAmb IAmb 04 02 31.1
comp=Z,20nm,1.0s
KSRS Korea Array 54.20 284 P **P 04 02 30.1 +0.4**
comp=Z,10nm,0.8s,baz=28,slow=6.8,SNR=35
KSAR Wonju Array Be 54.22 284 P **P 04 02 29.7 -0.1**
KSAR Wonju Array Be 54.22 284 P **P 04 02 29.7 -0.1**
ULN Ulaanbaatar 54.53 306 *ce*P **P 04 02 31.0 -1.1**
ULN pmax pmax
comp=Z,27nm,0.9s
ULN Ulaanbaatar 54.53 306 P **P 04 02 31.9 -0.2**
SONM Songino Array 54.80 307 P **P 04 02 34.9 +0.8**
comp=Z,36nm,0.7s,baz=34,slow=7.3,SNR=88
SONM LR LR 04 27 28.8
comp=Z,194nm,19.4s,baz=28,slow=38
SONM Songino Array 54.80 307 P **P 04 02 34.2 +0.1**
TJN Taejon 55.33 283 *ce*P **P 04 02 37.7 -0.2**
PRGR Permogore 56.09 351 ⇓*i*P **P 04 02 43.0 +0.1**
PRGR *e* 04 03 38.3
NB2 NORSAR Subarra 56.40 11 P **P 04 02 43.4 -1.8**
comp=Z,5.4nm,0.8s,baz=349,slow=7.4
NOA NORSAR Array B 56.40 11 P **P 04 02 44.1 -1.1**
comp=Z,7.1nm,1.0s,baz=350,slow=7.1,SNR=7.1
NOA PcP **PcP 04 03 41.4 -0.3**
comp=Z,6.2nm,0.8s,baz=352,slow=4.6,SNR=8.4
NOA LR LR 04 27 04.1
comp=Z,55nm,19.8s,baz=305,slow=36
ZAA0 Zalesovo Array 56.61 325 P **P 04 02 45.8 -0.9**
ZALV Zalesovo Beam 56.61 325 P **P 04 02 45.8 -1.0**
comp=Z,34nm,0.7s,baz=26,slow=6.8,SNR=74
ZALV LR LR 04 28 44.2
comp=Z,78nm,18.2s,baz=127,slow=38
ZALV Zalesovo Beam 56.61 325 P **P 04 02 45.2 -1.5**
FINES FINESS Array B 56.81 2 P **P 04 02 47.1 -0.9**
comp=Z,16nm,0.8s,baz=359,slow=7.2,SNR=23
FINES FINESS Array B 56.81 2 P **P 04 02 47.2 -0.8**
KLMR Klimovskoe 57.23 355 *eP* **P 04 02 48.6 -2.4**
KLMR *e* 04 03 41.1
KLMR pmax pmax
comp=Z,58nm,0.6s
KLMR Klimovskoe 57.23 355 *eP* **P 04 02 48.7 -2.3**
KLMR AMP 04 02 51.4
comp=Z,58nm,0.6s
KLMR *e*PcP **PcP 04 03 41.1 -3.7**
HHC Hu-ho-hao-te 58.57 298 *eP* **P 04 03 03.8 +2.9**
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,200nm,8.0s
HHC LR LR
comp=Z,320nm,12.8s
HHC LR LR
comp=Z,260nm,12.8s
HHC LR LR
comp=Z,380nm,14.5s
KIRV Kirov 58.79 348⇑*eP* **P 04 03 01.3 -0.6**
TEIG Tepich 59.10 106 P **P 04 03 04.3 -0.2**
SVE Sverdlovsk 59.11 341⇑*eP* **P 04 03 03.8 -0.4**
SVE pmax pmax
comp=Z,68nm,0.9s
DGZ Jazzator, Alta 59.64 321 *d i*P **P 04 03 08.0 -0.2**
DGZ pmax pmax
comp=Z,60nm,1.8s
ARU Arti 59.80 342 *d i*P **P 04 03 08.2 -0.8**
ARU S **S 04 11 16.4 +0.6**
ARU SS **SS 04 15 09.2 -2.2**
ARU pmax pmax
comp=Z,48nm,0.7s
ARU Arti 59.80 342 P **P 04 03 08.1 -0.8**
VSU Vasula 59.81 2 *eP* **P 04 03 08.5 -0.5**
VSU Vasula 59.81 2 *eP* **P 04 03 08.7 -0.3**
VSU pmax pmax
comp=Z,104nm,0.8s
ESK Eskdalemuir 60.10 21 P **P 04 03 10.8 -0.3**
ESK pmax pmax
comp=Z,28nm,0.9s
ESK Eskdalemuir 60.10 21 P **P 04 03 10.8 -0.3**
SLIT Slitere, Latvi 60.52 5 *eP* **P 04 03 12.2 -1.6**
BRVK Borovoye 60.94 334 *ce*P **P 04 03 15.9 -0.9**
BRVK pmax pmax
comp=Z,40nm,1.0s
BRVK Borovoye 60.94 334 P **P 04 03 15.7 -1.1**
KURK Kurchatov 61.17 327 *ce*P **P 04 03 17.2 -1.2**
KURK pmax pmax
comp=Z,29nm,0.7s
KURK Kurchatov 61.17 327 P **P 04 03 17.2 -1.2**
ZSN Zaisan 62.42 321 ⇓*i*P **P 04 03 26.8 -0.1**
comp=Z,18nm,0.6s,baz=321
ZSN Zaisan 62.42 321 *d i*P **P 04 03 26.7 -0.1**
ZSN pmax pmax
comp=Z,18nm,0.6s
MOS Moscow 62.42 355 *eP* **P 04 03 25.5 -1.2**
MOS *e* 04 03 46.3
MOS pmax pmax
comp=Z,74nm,0.8s
ISAL Salakas 62.69 3 *eP* **P 04 03 28.8 +0.3**
PABE Paberze 62.70 4 *eP* **P 04 03 28.2 -0.3**
NJ2 Nanjing 62.81 287⇑*iP* **P 04 03 29.5 -0.1**
NJ2 pP **pP 04 03 42.5 -1.8**
NJ2 sP **sP 04 03 49.8 -0.5**
NJ2 S **S 04 11 54.8 +0.2**
NJ2 pmax pmax
comp=Z,28nm,0.9s
NJ2 pmax pmax
comp=Z,92nm,4.0s
NJ2 LR LR
comp=Z,380nm,10.7s
NJ2 LR LR
comp=Z,610nm,14.6s
IIGN Ignalina 62.92 2 *eP* **P 04 03 29.4 -0.6**
IDID Didziasalis 62.96 2 *eP* **P 04 03 30.2 -0.1**
OBN Obninsk 63.08 356 *ce*P **P 04 03 30.6 -0.5**
OBN pmax pmax
comp=Z,78nm,1.0s
OBN Obninsk 63.08 356 P **P 04 03 30.4 -0.7**
ESQI Esquipulas 63.59 110 P **P 04 03 34.9 -0.2**
MTO3 Montecristo 63.72 110 IAmb IAmb 04 03 52.2
comp=Z,23nm,1.4s
MK31 Makanchi Array 63.76 323 *i* P **P 04 03 33.7 -2.1**
MK31 Makanchi Array 63.76 323 IAmb IAmb 04 03 35.2
comp=Z,14nm,0.8s
MKAR Makanchi Array 63.76 323 P **P 04 03 34.6 -1.1**
comp=Z,17nm,0.5s,baz=46,slow=6.7,SNR=130
MKAR LR LR 04 32 58.6
comp=Z,109nm,18.6s,baz=14,slow=38
MKAR Makanchi Array 63.76 323 P **P 04 03 34.3 -1.5**
MAKZ Makanchi 63.83 323 P **P 04 03 35.0 -1.3**
MAKZ pmax pmax
comp=Z,26nm,0.6s
MAKZ Makanchi 63.83 323 P **P 04 03 35.0 -1.3**
GTA Gaotai 64.47 306 ⇑P **P 04 03 41.0 +0.3**
GTA pP pP 04 03 54.3 -1.1
GTA sP sP 04 04 00.0 -1.4
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,77nm,6.2s
GTA LR LR
comp=Z,190nm,18.9s
GTA LR LR
comp=Z,190nm,21.8s
GTA LR LR
comp=Z,230nm,21.1s
IBBN Ibbenburen 64.63 15 *eP* **P 04 03 41.5 +0.1**
comp=Z,16nm,0.6s,baz=351,slow=6.5
NRDL Niedersach Rie 64.72 13 *eP* **P 04 03 41.9 0.0**
comp=Z,5.0nm,0.7s,baz=351,slow=6.5
WMQ Urumqi 64.81 318 *eP* **P 04 03 47.5 +4.7**
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,70nm,4.9s
WMQ LR LR
comp=Z,420nm,29.3s
WMQ LR LR
comp=Z,550nm,29.0s
TGUH Tegucigalpa,Un 64.96 108 P **P 04 03 43.9 -0.2**
CLZ Clausthal 65.39 13 *eP* **P 04 03 46.4 +0.1**
comp=Z,14nm,0.6s,baz=351,slow=6.5
BUG Bochum--Univer 65.42 15 *eP* **P 04 03 46.2 -0.3**
comp=Z,15nm,0.6s,baz=351,slow=6.5
LPSR Galich'ya Gora 65.50 354 *eP* **P 04 03 45.3 -1.6**
LPSR pmax pmax
comp=Z,50nm,0.9s
GTTG Gottingen 65.64 14 *eP* **P 04 03 48.1 +0.2**
comp=Z,5.0nm,0.6s,baz=351,slow=6.5
LZH Lanzhou 65.78 302 *eP* **P 04 03 49.3 0.0**
LZH pP pP 04 04 01.5 -2.5
LZH sP sP 04 04 06.0 -4.0
LZH *e*PP **PP 04 06 16.5 +2.5**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,130nm,6.5s
LZH LR LR
comp=Z,370nm,16.0s
LZH LR LR
comp=Z,380nm,16.3s
LZH LR LR
comp=Z,530nm,18.1s
MTDJ Mount Denham 65.80 97 P **P 04 03 50.0 +0.6**
SNF Seneffe 65.93 18 P **P 04 03 49.5 -0.2**
BSTI Sart Tilman 66.04 17 P **P 04 03 50.4 -0.1**
MEM Membach 66.08 17 P **P 04 03 50.6 -0.1**
WHN Wuhan 66.10 290 ⇑P **P 04 03 50.8 -0.3**
WHN S S 04 12 25.0 -10
WHN pmax pmax
comp=Z,78nm,1.3s
WHN LR LR
comp=Z,810nm,12.0s
WHN LR LR
comp=Z,740nm,8.9s
WHN LR LR
comp=Z,1μm,12.4s
BCLA Clavier 66.16 17 P **P 04 03 50.7 -0.6**
NEUB Neuenburg 66.17 12 *eP* **P 04 03 51.4 +0.1**
comp=Z,11nm,0.6s,baz=351,slow=6.5
BGES Gesves 66.17 17 P **P 04 03 50.5 -0.8**
CLL Collm 66.19 12 *i* P **P 04 03 50.4 -1.0**
comp=Z,12nm,1.0s
CLL *i* sP **sP 04 04 12.0 -0.3**
CLL *e* 04 04 20.0
CLL Collm 66.19 12 *i* P **P 04 03 50.4 -1.0**
CLL *i* 04 04 12.0
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 66.19 12 *eP* **P 04 03 50.9 -0.5**
baz=351,slow=6.5
CLL Collm 66.19 12 IAmb IAmb 04 03 52.0
comp=Z,38nm,1.7s
BMRD Maredsous 66.20 17 P **P 04 03 51.1 -0.5**
AHRW Bad Neuenahr-A 66.28 16 *eP* **P 04 03 52.0 0.0**
comp=Z,3.2nm,0.8s,baz=351,slow=6.5
UBBA Unterbreizbach 66.36 14 *eP* **P 04 03 52.3 -0.1**
comp=Z,6.9nm,0.6s,baz=351,slow=6.5
DOU Dourbes 66.38 18 P **P 04 03 53.2 +0.6**
RCHB Rochefort 66.41 17 P **P 04 03 52.1 -0.7**
TDK Taldygorghan 66.48 325 *eP* **P 04 03 53.2 -0.2**
comp=Z,65nm,0.5s,baz=324
TDK Taldyqorghan 66.48 325 *eP* **P 04 03 53.2 -0.2**
TDK pmax pmax
comp=Z,65nm,0.5s
AB31 Akbulak array 66.53 339 P **P 04 03 52.4 -1.2**
ABKAR Akbulak array 66.53 339 P **P 04 03 52.7 -0.9**
FBE Freiberg 66.61 11 *eP* **P 04 03 54.4 +0.3**
baz=351,slow=6.5
BRG Berggiesshubel 66.71 11 *eP* **P 04 03 54.3 -0.4**
comp=Z,6.8nm,0.8s
BRG Berggiesshubel 66.71 11 *eP* **P 04 03 54.3 -0.4**
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 66.71 11 *eP* **P 04 03 54.6 -0.2**
comp=Z,4.3nm,0.7s,baz=351,slow=6.5
MOX Moxa 66.71 13 *eP* **P 04 03 54.8 0.0**
comp=Z,15nm,0.6s,baz=351,slow=6.5
VRH Novokhopyorsk 66.73 352 *eP* **P 04 03 53.3 -1.6**
VRH pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 66.87 354 *eP* **P 04 03 54.2 -1.5**
VSR pmax pmax
comp=Z,50nm,1.2s
KSP Ksiaz 66.94 9 *eP* **P 04 03 54.5 -1.6**
WLF Walferdange 67.02 17 P **P 04 03 57.8 +1.1**
WLF Walferdange 67.02 17 *eP* **P 04 03 57.2 +0.4**
baz=351,slow=6.5
TANN Tannenbergstha 67.02 12 *eP* **P 04 03 56.5 -0.3**
baz=351,slow=6.5
GUNZ Gunzen 67.06 12 *eP* **P 04 03 56.9 -0.2**
baz=351,slow=6.5
PVCC Panska Ves 67.11 11 *eP* **P 04 03 57.3 0.0**
PVCC *es*P **PcP 04 04 22.4 -2.7**
PVCC Panska Ves 67.11 11 *eP* **P 04 03 57.3 0.0**
PVCC *e* 04 04 22.4
VORD Divnogorie 67.11 354 *eP* **P 04 03 54.5 -2.8**
VORD pmax pmax
comp=Z,50nm,1.4s
WERN Wernitzgruen 67.14 12 *eP* **P 04 03 57.5 0.0**
comp=Z,7.9nm,0.6s,baz=351,slow=6.5
CHVC Chvalec 67.17 10 *eP* **P 04 03 57.6 -0.1**
NKC Novy Kostel 67.20 12 *eP* **P 04 03 57.9 0.0**
NKC Novy Kostel 67.20 12 *eP* **P 04 03 57.9 0.0**
OSTC Ostas 67.21 10 *eP* **P 04 03 58.0 0.0**
UPC Upice 67.25 10 *eP* **P 04 03 57.9 -0.3**
UPC Upice 67.25 10 *eP* **P 04 03 57.9 -0.3**
MANZ Manzenberg 67.41 12 *eP* **P 04 03 59.0 -0.2**
baz=351,slow=6.5
DPC Dobruska-Polom 67.43 10 *eP* **P 04 03 59.6 +0.2**
DPC Dobruska-Polom 67.43 10 *eP* **P 04 03 59.6 +0.2**
BTLS Baital 67.59 328 ⇓*i*P **P 04 03 59.6 -0.8**
comp=Z,14nm,0.7s,baz=328
BTLS Baital 67.59 328 *d i*P **P 04 03 59.6 -0.8**
BTLS pmax pmax
comp=Z,14nm,0.7s
GRA1 Grafenberg Arr 67.61 13 IAmb IAmb 04 04 47.9
comp=Z,12nm,1.0s
GRF Grafenberg Arr 67.61 13 *eP* **P 04 04 00.7 +0.3**
comp=Z,5.7nm,0.6s,baz=351,slow=6.5
AKASG Malin Array Be 67.61 1 P **P 04 03 59.5 -1.0**
comp=Z,20nm,0.6s,baz=3.2,slow=6.4,SNR=74
AKASG LR LR 04 34 32.5
comp=Z,46nm,20.1s,baz=325,slow=37
AKBB Malin Array Si 67.61 1 *ce*P **P 04 03 59.7 -0.7**
ROTZ Rotzenmuhle 67.64 12 *eP* **P 04 04 00.7 +0.1**
comp=Z,4.5nm,0.7s,baz=351,slow=6.5
PRU Pruhonice 67.64 11 *eP* **P 04 04 00.7 +0.1**
PRU Pruhonice 67.64 11 *eP* **P 04 04 00.7 +0.1**
PDGK Podgornoye 67.73 323 P **P 04 03 59.7 -1.8**
GOPC GO Pecny, Ondr 67.73 11 *eP* **P 04 04 01.4 +0.1**
GOPC GO Pecny, Ondr 67.73 11 *eP* **P 04 04 01.4 +0.1**
KRLC Kraliky 67.74 9 *eP* **P 04 04 01.4 +0.1**
KRLC Kraliky 67.74 9 *eP* **P 04 04 01.4 +0.1**
OJC Ojcow 67.79 7 IAmb IAmb 04 04 45.0
comp=Z,12nm,1.0s
PBCC Pribram 67.89 11 *eP* **P 04 04 02.0 -0.2**
SHLS Shalkode 67.89 323 *eP* **P 04 04 01.7 -0.9**
comp=Z,38nm,0.5s,baz=323
SHLS Shalkode 67.89 323 *eP* **P 04 04 01.6 -0.9**
SHLS pmax pmax
comp=Z,38nm,0.5s
UZB Uzynbulak 68.03 324 *eP* **P 04 04 02.8 -0.6**
comp=Z,14nm,1.0s,baz=323
UZB Uzynbulak 68.03 324 *eP* **P 04 04 02.8 -0.6**
UZB pmax pmax
comp=Z,14nm,1.0s
MORC Moravsky Berou 68.09 9 ⇑P **P 04 04 03.2 -0.4**
MORC Moravsky Berou 68.09 9 *eP* **P 04 04 03.2 -0.4**
MORC Moravsky Berou 68.09 9 IAmb IAmb 04 04 04.4
comp=Z,23nm,1.4s
NACB Ninganchiao 68.27 281 P **P 04 04 05.2 +0.2**
NACB IAmb IAmb 04 04 13.4
comp=Z,25nm,1.0s
SATY Saty 68.28 324 ⇓*i*P **P 04 04 04.5 -0.5**
comp=Z,33nm,2.8s,baz=324
SATY Saty 68.28 324 *d i*P **P 04 04 04.5 -0.5**
SATY pmax pmax
comp=Z,33nm,2.8s
WET Wettzell 68.32 12 *eP* **P 04 04 05.0 0.0**
baz=351,slow=6.5
LVV L'vov 68.39 4 *eP* **P 04 04 05.8 +0.4**
KHC Kasperske Hory 68.40 12 *eP* **P 04 04 05.7 +0.2**
KHC Kasperske Hory 68.40 12 *ce*P **P 04 04 06.0 +0.5**
KHC pmax pmax
comp=Z,36nm,1.3s
TREC Trest 68.41 10 *eP* **P 04 04 05.1 -0.4**
TREC Trest 68.41 10 *eP* **P 04 04 05.1 -0.4**
VRAC Vranov 68.48 9 ⇑P **P 04 04 05.9 -0.1**
VRAC Vranov 68.48 9 *eP* **P 04 04 05.8 -0.1**
KWP Kalwaria Pacla 68.53 5 *eP* **P 04 04 06.5 +0.2**
AAA Alma-Ata 68.55 325 *eP* **P 04 04 05.9 -0.7**
comp=Z,13nm,0.7s,baz=325
AAA Alma-Ata 68.55 325 *eP* **P 04 04 05.8 -0.7**
AAA pmax pmax
comp=Z,13nm,0.7s
MDOK Medeo 68.56 325 *i* P **P 04 04 06.0 -0.7**
baz=325
MDOK Medeo 68.56 325 *i* P **P 04 04 06.0 -0.7**
BFO Black Forest 68.61 15 P **P 04 04 06.9 +0.1**
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 68.61 15 *eP* **P 04 04 06.8 0.0**
baz=351,slow=6.5
BFO Black Forest 68.61 15 P **P 04 04 06.9 +0.1**
NIE Niedzica 68.62 7 *eP* **P 04 04 07.6 +0.8**
GEC2 GERESS Array S 68.69 12 *eP* **P 04 04 07.2 -0.2**
baz=351,slow=6.5
GEC2 GERESS Array S 68.69 12 IAmb IAmb 04 04 08.5
comp=Z,43nm,2.0s
GERES GERESS Array B 68.69 12 P **P 04 04 07.2 -0.2**
comp=Z,2.7nm,0.5s,baz=357,slow=6.0,SNR=34
GERES LR LR 04 35 54.6
comp=Z,45nm,18.2s,baz=342,slow=37
GERES GERESS Array B 68.69 12 P **P 04 04 06.5 -0.9**
TNSS Tian-Shan 68.70 325 *eP* **P 04 04 07.0 -1.0**
baz=325
TNSS Tian-Shan 68.70 325 *eP* **P 04 04 06.9 -1.0**
KRUC Moravsky 68.71 10 *eP* **P 04 04 07.0 -0.4**
MTBS Maitube 68.75 325 *eP* **P 04 04 07.5 -0.4**
baz=325
MTBS Maitube 68.75 325 *eP* **P 04 04 07.4 -0.4**
LANS Liptovska Anna 68.84 7 *eP* **P 04 04 09.0 +0.8**
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 68.84 7 *eP* **P 04 04 09.0 +0.8**
SGDS Sogindy 68.93 327 *i* P **P 04 04 08.4 -0.5**
comp=Z,26nm,1.2s,baz=327
SGDS Sogindy 68.93 327 *i* P **P 04 04 08.4 -0.5**
SGDS pmax pmax
comp=Z,26nm,1.2s
JAVC Velka Javorina 69.01 9 *eP* **P 04 04 10.1 +0.8**
FUR Furstenfeldbru 69.12 13 *eP* **P 04 04 10.1 +0.1**
comp=Z,16nm,0.6s,baz=351,slow=6.5
USP Ospenovka 69.13 327 P **P 04 04 09.7 -0.4**
SNR=22
TKM2 Tokmak 2 69.17 326 P **P 04 04 10.3 -0.3**
SNR=27
KOLS Kolonicke sedl 69.21 6 *eP* **P 04 04 09.6 -0.9**
KOLS pmax pmax
comp=Z,20nm,1.3s
KOLS Kolonicke sedl 69.21 6 *eP* **P 04 04 09.6 -0.9**
CHMS Chumysh 69.32 327 P **P 04 04 11.3 0.0**
SNR=24
SMOL Smolenice 69.34 9 *eP* **P 04 04 11.8 +0.5**
SMOL pmax pmax
comp=Z,8.0nm,1.2s
SMOL Smolenice 69.34 9 *eP* **P 04 04 11.8 +0.5**
VYHS Vyhne 69.45 8 *eP* **P 04 04 11.9 -0.1**
VYHS pmax pmax
comp=Z,25nm,1.3s
VYHS Vyhne 69.45 8 *eP* **P 04 04 11.9 -0.1**
MODS Modra-Piesok 69.47 9 *eP* **P 04 04 11.5 -0.6**
MODS pmax pmax
comp=Z,32nm,1.3s
MODS Modra-Piesok 69.47 9 *eP* **P 04 04 11.5 -0.6**
UBR Ueberruh 69.47 14 *eP* **P 04 04 12.3 +0.1**
comp=Z,5.3nm,0.7s,baz=351,slow=6.5
BOOM Boomskoye usch 69.48 325 P **P 04 04 12.3 -0.2**
BOOM pmax pmax
comp=Z,25nm,0.7s
BOOM Boomskoye usch 69.48 325 P **P 04 04 12.2 -0.2**
KDJ Kajisay 69.48 324 P **P 04 04 12.0 -0.5**
KDJ pmax pmax
comp=Z,37nm,0.7s
KDJ Kajisay 69.48 324 P **P 04 04 12.0 -0.5**
UZH Uzhgorod 69.51 6 *eP* **P 04 04 11.6 -0.7**
UZH *e* 04 04 32.0
UZH *e* 04 04 38.0
KBK Karagaybulak 69.59 326 P **P 04 04 13.2 0.0**
SNR=12
ULHL Ulahol 69.63 325 P **P 04 04 13.0 -0.5**
SNR=11
ZST Bratislava 69.63 9 *eP* **P 04 04 12.2 -0.9**
ZST pmax pmax
comp=Z,66nm,1.3s
ZST Bratislava 69.63 9 *eP* **P 04 04 12.2 -0.9**
TARG Taragay, Kyrgy 69.68 324 IAmb IAmb 04 04 15.5
comp=Z,17nm,0.7s
AAK Ala-Archa 69.72 327 P **P 04 04 13.7 -0.2**
SNR=29
AAK Ala-Archa 69.72 327 *i* P **P 04 04 13.7 -0.2**
AAK pmax pmax
comp=Z,104nm,0.7s
RETA Reutte 69.73 14 *eP* **P 04 04 13.9 0.0**
comp=Z,12nm,1.5s
MOA Molln 69.73 11 *eP* **P 04 04 13.8 +0.1**
comp=Z,14nm,1.6s
CONA Conrad Observa 69.80 10 *eP* **P 04 04 14.4 +0.1**
comp=Z,20nm,1.3s,SNR=7.5
DAVA Damuels 69.83 15 *i* P **P 04 04 14.7 +0.2**
comp=Z,4.6nm,0.8s
EKS2 Erkin-Say 69.89 327 P **P 04 04 14.9 0.0**
SNR=91
MOTA Moosalm 69.91 14 *eP* **P 04 04 14.9 -0.1**
comp=Z,17nm,1.3s,SNR=5.7
WATA Walderalm 69.97 13 *eP* **P 04 04 15.4 +0.1**
comp=Z,21nm,1.3s
SQTA Sankt Quirin 70.05 14 *eP* **P 04 04 16.0 +0.2**
comp=Z,15nm,0.8s,SNR=12
KZA Kyzart 70.05 326 P **P 04 04 16.2 -0.1**
SNR=17
PSZ Piszkesteto 70.09 7 ⇑P **P 04 04 16.7 +0.7**
PSZ Piszkesteto 70.09 7 P **P 04 04 16.2 +0.2**
PSZ pmax pmax
comp=Z,31nm,1.1s
PSZ Piszkesteto 70.09 7 P **P 04 04 16.2 +0.2**
PSZ IAmb IAmb 04 04 17.5
comp=Z,30nm,1.1s
UCH Uchtor 70.10 326 P **P 04 04 16.5 -0.2**
SNR=9.7
SORM Soroca 70.17 1 ⇑P **P 04 04 15.8 -0.6**
FETA Feichten 70.19 14 *eP* **P 04 04 17.1 +0.4**
comp=Z,17nm,1.6s,SNR=5.8
KK31 Karatay Array 70.28 330 *i* P **P 04 04 16.5 -0.7**
KK31 Karatay Array 70.28 330 IAmb IAmb 04 04 17.3
comp=Z,22nm,0.8s
KKAR Karatay Array 70.28 330 P **P 04 04 16.2 -1.0**
KKAR Karatay Array 70.28 330 P **P 04 04 16.1 -1.0**
DZA Taraz 70.28 329 *eP* **P 04 04 16.9 -0.4**
comp=Z,10nm,0.6s,baz=329
DZA Taraz 70.28 329 *eP* **P 04 04 16.8 -0.4**
DZA pmax pmax
comp=Z,11nm,0.6s
CD2 Chengdu 70.33 299 P **P 04 04 17.3 -0.4**
CD2 S **S 04 13 23.0 -2.7**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,210nm,12.0s
CD2 LR LR
comp=Z,700nm,13.3s
CD2 LR LR
comp=Z,850nm,12.8s
CD2 LR LR
comp=Z,610nm,11.4s
AML Almayashu 70.40 327 P **P 04 04 18.6 +0.2**
SNR=62
KBA Koelnbreinsper 70.41 12 *i* P **P 04 04 18.5 +0.4**
comp=Z,19nm,0.6s
SENIN Lac Senin/Sane 70.41 17 P **P 04 04 17.2 -1.0**
SENIN IAmb IAmb 04 04 19.6
comp=Z,35nm,1.6s
ARSA Arzberg 70.44 10 *eP* **P 04 04 18.2 +0.1**
comp=Z,7.6nm,1.1s
FUORN Ofenpass-Fuorn 70.53 14 IAmb IAmb 04 04 20.7
comp=Z,42nm,1.6s
BURAR Bucovina Array 70.63 4 ⇑P **P 04 04 19.3 0.0**
BURAR Bucovina Array 70.63 4 P **P 04 04 18.4 -0.9**
ABTA Abfaltersbach 70.65 13 *eP* **P 04 04 19.1 -0.3**
comp=Z,13nm,2.0s
MYKA Terra Mystica 70.88 12 *eP* **P 04 04 20.9 0.0**
comp=Z,6.4nm,0.6s
ZOU Zoufplan 70.89 12 IAmb IAmb 04 04 21.6
comp=Z,11nm,0.6s
SOKA Soboth 70.97 11 *eP* **P 04 04 22.4 +1.0**
comp=Z,20nm,1.8s,SNR=7.6
SSB Saint Sauveur 71.08 19 IAmb IAmb 04 04 22.9

comp=Z,30nm,1.7s
OBKA Obir 71.09 11 *e*P **P 04 04 22.2 0.0**
comp=Z,20nm,0.6s,SNR=11
CADS Cadrg 71.29 12 *i* P **P 04 04 22.3 -1.0**
KOGS Kog 71.30 10 *i* P **P 04 04 23.0 -0.2**
BIZ Bicaz 71.33 3 ⇑P **P 04 04 23.8 +0.3**
MILM Milestii Mici 71.40 1 ⇓P **P 04 04 23.0 -0.8**
BNI Bardonecchia 71.61 17 IAmb IAmb 04 04 27.4
comp=Z,32nm,1.4s
PGAV Gavieira, Arco 71.83 29 *e*P **P 04 04 27.2 +0.6**
comp=Z,39nm,1.3s
TEOL Teolo 71.93 14 IAmb IAmb 04 04 46.5
comp=Z,18nm,0.8s
PCAB Cabril 72.12 29 *e*P **P 04 04 28.9 +0.5**
comp=Z,32nm,1.6s
OZUR 72.17 3 ⇑P **P 04 04 28.9 +0.4**
KSH Kashi 72.25 324 P **P 04 04 32.0 +2.8**
KSH pP PcP 04 04 47.0 -0.1
KSH S **S 04 13 53.0 +5.2**
KSH pmax pmax
comp=Z,37nm,0.8s
KSH pmax pmax
comp=Z,290nm,5.5s
KSH LR LR
comp=Z,270nm,5.8s
KSH LR LR
comp=Z,280nm,6.1s
KSH LR LR
comp=Z,300nm,8.2s
TAS Tashkent 72.25 330 P **P 04 04 28.3 -0.8**
TAS pmax pmax
comp=Z,62nm,0.4s
TAS Tashkent 72.25 330 P **P 04 04 28.3 -0.8**
DOPR Dopca 72.28 3 ⇑P **P 04 04 29.8 +0.5**
PBRG Braganca 72.32 28 *e*P **P 04 04 30.0 +0.4**
comp=Z,21nm,1.6s
VRI Vrincioaia 72.42 2 ⇑P **P 04 04 30.0 0.0**
PLOR Plostina 72.43 3 ⇑P **P 04 04 30.4 +0.2**
BZS Buzias 72.48 6 ⇑P **P 04 04 30.5 +0.1**
PVRL Vila Real 72.61 29 *e*P **P 04 04 31.7 +0.4**
comp=Z,37nm,1.6s
MSSA Maissana 72.71 15 IAmb IAmb 04 04 56.0
comp=Z,14nm,1.1s
MLR Muntele Rosu 72.78 3 ⇑P **P 04 04 32.6 +0.3**
VOIR 72.81 4 ⇓P **P 04 04 31.4 -1.0**
ARR Arges 72.86 4 ⇑P **P 04 04 33.0 +0.3**
MVO Moncorvo 72.87 28 *e*P **P 04 04 33.3 +0.5**
comp=Z,25nm,1.5s
GYA Guiyang 72.99 294 ⇑P **P 04 04 33.5 -0.3**
GYA sP sP 04 04 53.5 -1.2
GYA S **S 04 13 50.0 -6.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA LR LR
comp=Z,220nm,14.4s
GYA LR LR
comp=Z,600nm,11.5s
GYA LR LR
comp=Z,510nm,11.1s
PVIS Viseu 73.10 29 *e*P **P 04 04 34.6 +0.4**
comp=Z,23nm,1.6s
TLCR 73.13 1 ⇑P **P 04 04 33.6 -0.5**
CFR Carcaliu 73.13 1 ⇑P **P 04 04 34.0 -0.2**
MDVR Moldovita 73.32 6 ⇑P **P 04 04 35.1 -0.3**
PCAS Casmilo, Conde 73.59 30 *e*P **P 04 04 37.4 +0.4**
comp=Z,51nm,1.3s
KIV Kislovodsk 73.88 351 ⇑P **P 04 04 39.1 +0.3**
KIV Kislovodsk 73.88 351 *e*P **P 04 04 38.5 -0.3**
KIV pmax pmax
comp=Z,190nm,1.0s
KIV Kislovodsk 73.88 351 P **P 04 04 38.8 0.0**
PCBR Castelo Branco 74.03 29 *e*P **P 04 04 39.7 +0.1**
comp=Z,25nm,1.6s
KBZ Khabaz 74.09 350 P **P 04 04 39.9 +0.1**
comp=Z,34nm,0.8s,baz=342,slow=4.7,SNR=54
KBZ LR LR 04 41 05.7
comp=Z,43nm,18.3s,baz=16,slow=39
KBZ Khabaz 74.09 350*ce*P **P 04 04 39.9 +0.1**
KBZ pmax pmax
comp=Z,36nm,0.9s
SHA1 Shidzhatmaz 74.10 351 *i* P **P 04 04 40.0 -0.2**
MURB Monte Urbino 74.10 13 IAmb IAmb 04 04 41.7
comp=Z,18nm,0.8s
PMRV Marv??o 74.44 29 *e*P **P 04 04 41.7 -0.3**
PMAFR Mafra 74.44 31 *e*P **P 04 04 42.2 +0.2**
comp=Z,128nm,1.2s
SOC Sochi 74.45 353 *e*P **P 04 04 40.9 -1.1**
SOC *e* 04 07 23.7
SOC *e*PPP PPP 04 09 11.5
SOC *e*S **S 04 14 13.6 +1.3**
SOC *e*SS **SS 04 18 59.9 +1.7**
SOC pmax pmax
comp=Z,23nm,0.7s
PMTG Montargil 74.59 30 *e*P **P 04 04 42.8 0.0**
comp=Z,21nm,1.2s
CHGR Chuyangaron 74.81 329 P **P 04 04 43.8 -0.5**
MOTC Monteria, Cord 74.91 100 *e*P P 04 04 39.5 -5.4
ZEI Tsey 74.94 350 *e*P **P 04 04 44.0 -1.1**
ZEI pmax pmax
comp=Z,17nm,1.1s
ESBB Sonseca Array 74.96 27 IAmb IAmb 04 05 01.9
comp=Z,24nm,0.8s
ESDC Sonseca Array 74.97 27 P **P 04 04 45.5 +0.4**
comp=Z,18nm,1.0s,baz=341,slow=5.7,SNR=80
ESDC LR LR 04 41 10.7
comp=Z,46nm,18.1s,baz=345,slow=38
ESDC Sonseca Array 74.97 27 P **P 04 04 45.3 +0.2**
PNCL Nicolau / Gran 75.43 31 *e*P **P 04 04 48.0 +0.3**
comp=Z,41nm,1.0s
PDG Podgorica 75.52 8 ⇑P **P 04 04 47.8 -0.3**
PDG Podgorica 75.52 8 IAmb IAmb 04 04 48.4
comp=Z,22nm,0.9s
SMLC San Martn de 75.63 98 *e*P **P 04 04 48.3 -0.8**
PBEJ Beja 75.67 30 *e*P **P 04 04 49.4 +0.3**
comp=Z,16nm,1.7s
KMI Kunming 75.83 297⇑*e*P **P 04 04 49.8 -0.7**
KMI pP PcP 04 05 02.5 -0.4
KMI sP sP 04 05 09.5 -1.9
KMI pmax pmax
comp=Z,11nm,0.6s
KMI pmax pmax
comp=Z,120nm,8.6s
KMI LR LR
comp=Z,650nm,14.9s
KMI LR LR
comp=Z,400nm,13.6s
KMI LR LR
comp=Z,230nm,11.5s
PTEO Sao Teotonio 75.92 31 *e*P **P 04 04 50.4 -0.1**
comp=Z,40nm,1.5s
PCVE Castro Verde 76.00 30 *e*P **P 04 04 51.5 +0.5**
comp=Z,22nm,1.9s
SKO Skopje 76.11 7 *i* P **P 04 04 51.4 -0.2**
MORF Marmelete 76.17 31 *e*P **P 04 04 52.2 +0.2**
comp=Z,32nm,1.6s
PFVI Vila Bisbo 76.29 31 *e*P **P 04 04 52.9 +0.3**
PVAQ Vaqueiros 76.30 30 *e*P **P 04 04 53.2 +0.6**
comp=Z,34nm,1.2s
AKH Akhalkalaki 76.34 350 ⇑P **P 04 04 53.0 -0.1**
LSA Lhasa 76.34 308 P **P 04 04 54.6 +1.0**
LSA pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 76.34 308 P **P 04 04 54.6 +1.0**
LSA IAmb IAmb 04 04 55.6
comp=Z,21nm,0.8s
PBDV Barranco-do-Ve 76.40 30 *e*P **P 04 04 54.0 +0.7**
comp=Z,30nm,0.9s
ZARC Zaragoza, Cauc 76.41 100 *e*P **P 04 04 51.8 -1.7**
STIP Stip 76.42 6 *i* P **P 04 04 52.5 -0.8**
BCA Borcka 76.45 351 ⇑P **P 04 04 52.8 -0.8**
DIKM Dikmen 76.58 356 ⇑P **P 04 04 54.9 +0.7**
KTUT Trabzon 77.03 353 ⇑P **P 04 04 57.0 +0.2**
SDV Santo Domingo 77.16 95 P **P 04 04 58.0 -0.1**
SDV IAmb IAmb 04 04 58.9
comp=Z,17nm,0.8s
SDV Santo Domingo 77.16 95 *e*P **P 04 04 57.7 -0.3**
BRRC Barranca, Sant 77.28 99 *e*P **P 04 04 57.6 -0.9**
TGY Tagaytay City 77.28 276 P **P 04 04 58.0 -0.5**
comp=Z,119nm,0.3s,baz=147,slow=6.6,SNR=3.8
PTBC PUERTO BERRIO, 77.43 100 *e*P **P 04 04 58.9 -0.4**
GEYT Alibeck 77.84 338 P **P 04 05 01.3 0.0**
comp=Z,119nm,0.6s,baz=298,slow=3.1,SNR=1.1
GEYT LR LR 04 45 18.8
comp=Z,95nm,18.2s,baz=300,slow=40
GYA0B ALIBECK ARRAY 77.84 338 P **P 04 05 01.0 -0.4**
GYA0B IAmb IAmb 04 05 02.7
comp=Z,30nm,1.2s
TOKA Tokat 77.86 355 IAmb IAmb 04 05 03.9
comp=Z,18nm,0.8s
BARC Barichara 77.98 99 *e*P **P 04 05 02.7 +0.1**
QIZ Qiongzhong 78.09 288 S **S 04 14 58.3 +5.4**
QIZ LR LR
comp=N,390nm,15.1s
QIZ LR LR
comp=E,410nm,13.5s
QIZ LR LR
comp=Z,320nm,10.8s
PMAR Madeira 78.25 39 *e*P **P 04 05 04.8 +0.9**
comp=Z,45nm,1.1s
SPBC San Pablo de B 78.39 100 *e*P **P 04 05 02.8 -2.0**
NIL Nilore 78.50 324 P **P 04 05 04.3 -0.7**
NIL pmax pmax
comp=Z,84nm,1.3s
NIL Nilore 78.50 324 P **P 04 05 04.3 -0.7**
BR131 Keskin Array S 78.55 357 IAmb IAmb 04 05 06.2
comp=Z,16nm,1.0s
BRTR Keskin Array B 78.55 357 P **P 04 05 05.0 -0.4**
comp=Z,18nm,1.0s,baz=5.2,slow=2.7,SNR=31
BRTR LR LR 04 42 28.6
comp=Z,18nm,20.3s,baz=2.5,slow=38
BRTR Keskin Array B 78.55 357 P **P 04 05 04.9 -0.5**
RUSC La Rusia 78.64 99 *e*P **P 04 05 05.3 -1.3**
SLVN Son La 78.68 294 P **P 04 05 05.9 -0.4**
TOLC Tolima 78.75 102 *e*P **P 04 05 06.9 -0.1**
KBL Kabul 78.75 328 P **P 04 05 05.3 -1.4**
KBL pmax pmax
comp=Z,18nm,0.9s
KBL Kabul 78.75 328 P **P 04 05 05.3 -1.4**
KBL IAmb IAmb 04 05 05.8
comp=Z,18nm,0.9s
ROSC El Rosal 78.99 101 P **P 04 05 08.2 -0.2**
comp=Z,8.2nm,0.5s,baz=171,slow=19,SNR=5.8
ROSC LR LR 04 42 42.5
comp=Z,66nm,19.9s,baz=38,slow=38
ROSC El Rosal 78.99 101 IAmb IAmb 04 05 10.1
comp=Z,11nm,0.8s
RSA Sasar 79.15 29 P **P 04 05 10.0 +1.4**
SNR=8.2
PPT Papeete 79.33 180 LR LR 04 33 23.5
comp=Z,131nm,19.6s,baz=126,slow=30
TAPN Taplejung 79.73 310 *e*P **P 04 05 12.2 0.0**
comp=Z,178nm,0.5s
SHL Shillong 79.80 306 P **P 04 05 11.8 -0.7**
SHL pmax pmax
comp=Z,27nm,0.7s
SHL Shillong 79.80 306 P **P 04 05 11.8 -0.7**
MANT Manisa 79.82 1 P **P 04 05 11.8 -0.6**
GUN Gumba 79.87 312 *e*P **P 04 05 13.0 0.0**
comp=Z,116nm,0.8s
JIRN Jiri 79.99 312 *e*P **P 04 05 14.0 +0.3**
comp=Z,327nm,0.7s
KKN Kakani 80.19 312 *e*P **P 04 05 14.8 +0.2**
comp=Z,65nm,0.5s
DANN Dangsing 80.19 314 *e*P **P 04 05 14.8 +0.1**
comp=Z,236nm,0.7s
GKN Gorkha 80.21 313 *e*P **P 04 05 14.5 -0.2**
comp=Z,88nm,0.4s
ODAN Odare 80.29 310 *e*P **P 04 05 15.3 +0.1**
comp=Z,83nm,0.8s
PKIN Phulchoki 80.34 312 *e*P **P 04 05 15.2 -0.3**
comp=Z,41nm,0.5s
PKI Pulchoki 80.34 312 *e*P **P 04 05 15.2 -0.4**
comp=Z,35nm,0.5s
DMN Daman 80.41 313 *e*P **P 04 05 16.0 +0.1**
comp=Z,77nm,0.5s
HRA Herat 80.47 334 IAmb IAmb 04 05 17.2
comp=Z,18nm,0.9s
RAMN Ramite 80.49 311 *e*P **P 04 05 16.0 -0.3**
comp=Z,70nm,0.5s
PYUN Piuthan 80.69 314 *e*P **P 04 05 16.9 -0.3**
comp=Z,169nm,0.9s
KOLN Koldanda 80.78 314 *e*P **P 04 05 17.4 -0.4**
comp=Z,89nm,0.8s
ITM Ithomi 80.91 7 P **P 04 05 17.1 -0.9**
GAZ Gaziantep 80.97 354 IAmb IAmb 04 05 19.9
comp=Z,19nm,0.8s
CZD Col de Zad 81.10 29 P **P 04 05 21.0 +1.5**
SNR=19
KEST Kesra 81.14 17 P **P 04 05 19.5 +0.1**
comp=Z,15nm,0.7s,baz=278,slow=0.6,SNR=27
KEST Kesra 81.14 17 IAmb IAmb 04 05 20.5
comp=Z,22nm,0.8s
OTAV Otavalo 81.16 106 P **P 04 05 20.2 +0.1**
OTAV pmax pmax
comp=Z,17nm,1.0s
OTAV Otavalo 81.16 106 P **P 04 05 20.2 +0.1**
OTAV IAmb IAmb 04 08 22.8
comp=Z,17nm,0.9s
OTAV Otavalo 81.16 106 *e*P **P 04 05 18.1 -2.0**
GOLM Goulmima 82.40 30 P **P 04 05 28.0 +1.8**
SNR=10
JAY Jayapura 82.69 251 LR LR 04 40 32.4
comp=Z,63nm,18.1s,baz=350,slow=34
JAY Jayapura 82.69 251 P **P 04 05 26.2 -1.5**
comp=Z,11nm,0.9s
JAY pP **pP 04 05 41.6 -1.2**
comp=Z,11nm,0.9s
ARF Arif 82.83 29 P **P 04 05 30.0 +1.7**
SNR=6.3
CHTO Chiang Mai 83.03 297 P **P 04 05 28.5 -0.9**
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO Chiang Mai 83.03 297 P **P 04 05 28.5 -0.9**
CHTO IAmb IAmb 04 05 29.2
comp=Z,14nm,1.1s
CSS Mathiatis 83.31 357 IAmb IAmb 04 05 41.6
comp=Z,20nm,0.9s
UBPT Khong Chiam 83.34 290 IAmb IAmb 04 05 31.2
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 83.34 297 P **P 04 05 30.4 -0.6**
comp=Z,19nm,0.9s,baz=4.9,slow=5.9,SNR=95
CMAR LR LR 04 43 53.1
comp=Z,58nm,18.5s,baz=50,slow=36
CMAR Chiang Mai Arr 83.34 297*ce*P **P 04 05 30.3 -0.7**
CMAR pmax pmax
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 83.34 297 P **P 04 05 29.9 -1.2**
MSVF Nonsavu 83.47 211 P **P 04 05 32.2 +0.7**
MSVF pmax pmax
comp=Z,22nm,1.0s
MSVF Nonsavu 83.47 211 P **P 04 05 32.2 +0.7**
MSVF IAmb IAmb 04 05 33.6
comp=Z,22nm,1.0s
ZGR Zagora 83.76 31 P **P 04 05 34.0 +0.8**
SNR=5.9
CZSB Cruzeiro do Su 90.81 105 *e*P **P 04 06 06.1 -1.1**
SBUM Sibu 91.56 278 P **P 04 06 11.1 +0.3**
SBUM IAmb IAmb 04 06 11.7
comp=Z,7.0nm,0.9s
MACA Manacapuru-AM 92.39 92 *e*P **P 04 06 13.6 -1.0**
KSM Kuching 93.31 279 P **P 04 06 18.1 -0.7**
MCPB Macapa, AP 94.00 83 *e*P **P 04 06 21.1 -0.9**
MALB Monte Alegre 94.27 86 *e*P **P 04 06 22.5 -0.7**
ETMB Extrema 95.63 100 *e*P **P 04 06 27.2 -2.2**
ITTB Itaituba 95.78 88 *e*P **P 04 06 28.9 -1.3**
SAML Samuel 96.29 97 P **P 04 06 31.1 -1.3**
SAML pmax pmax
comp=Z,3.0nm,0.8s
SAML Samuel 96.29 97 P **P 04 06 31.1 -1.3**
SAML IAmb IAmb 04 06 34.1
comp=Z,2.9nm,0.8s
SAML Samuel 96.29 97 *e*P **P 04 06 30.8 -1.6**
PSI Prapat 97.32 290 P **P 04 06 36.4 -0.9**
PSI pmax pmax
comp=Z,9.0nm,1.0s
RPSI Rantau Prapat 97.41 290 P **P 04 06 36.4 -1.2**
TMAB Tom-Au,PA,Br 97.61 81 *e*P **P 04 06 37.9 -0.6**
NPGB Novo Progresso 98.30 89 *e*P **P 04 06 40.5 -1.1**
WRA Warramunga Arr 100.95 248 P **Pdif 04 06 51.3 -1.8**
comp=Z,1.0nm,1.0s,baz=32,slow=5.8,SNR=4.1
TORD Torodi Ar. Bea 101.80 28 P **Pdif 04 06 58.5 +1.3**
comp=Z,0.3nm,0.7s,baz=332,slow=6.2,SNR=2.0
ASAR Alice Springs 104.42 247 PKiKP **PKiKP 04 11 23.3 -1.2**
comp=Z,0.5nm,0.8s,baz=59,slow=3.6,SNR=4.7
STKA Stephens Creek 108.46 237 PKiKP **PKiKP 04 11 30.9 -0.8**
comp=Z,2.3nm,1.0s,baz=7.5,slow=4.8,SNR=3.7
KMBO Kilima Mbogo 119.01 352 PKP **PKiKP 04 11 53.6 +0.8**
comp=Z,2.7nm,0.6s,baz=354,slow=4.2,SNR=8.2
KMBO Kilima Mbogo 119.01 352 PKPdf **PKiKP 04 11 52.9 +0.1**
PLCA Paso Flores 120.46 120 PKP **PKPdf 04 11 53.9 -0.6**
comp=Z,2.8nm,0.7s,baz=288,slow=2.5,SNR=12
TSUM Tsumeb 136.32 17 **PKPdf 04 12 24.4 -0.9**
VNDA Vanda 142.42 195 PKP **PKPdf 04 12 34.9 +0.4**
comp=Z,1.1nm,0.8s,baz=345,slow=1.2,SNR=5.7
LBTB Lobatse 142.87 7 PKiKP **PKPdf 04 12 35.0 -2.0**
LBTB Lobatse 142.87 7 **PKPdf 04 12 35.0 -2.0**
BOSA Boshof 146.43 8 PKPbc **PKPbc 04 12 43.9 -0.5**
comp=Z,71nm,0.8s,baz=354,slow=3.3,SNR=70
BOSA Boshof 146.43 8 PKP2 **PKPbc 04 12 44.0 -0.5**
VNA3 Neumayer Olymp 162.12 138 PKPab **PKPab 04 13 50.0 -0.5**
VNA1 Neumayer--Stat 162.68 136 PKPab **PKPab 04 13 52.4 -0.5**
VNA2 Neumayer--Watz 162.91 137 PKPab **PKPab 04 13 53.5 -0.5**
SNAA Sanae 164.10 141 PKPab **PKPab 04 13 58.4 -0.9**

ISK ***27*** *04:05:30.7, 42.36N×40.95E, h10km, ML2.6/6*
TIF ***27*** *04:05:31.1, 42.38N×40.96E, h28km±3km*
DDA ***27*** *04:05:31.2, 42.30N×41.16E, h7km±7km, ML2.1*
MOS ***27*** *04:05:32.1±0.0, 42.50N×41.04E, h10km, MPVA3.1*

ISC 27 04:05:30.8±1.3,**42.38N**±0.03×**41.02E**±0.04,**h13km**±11km,
n21, σ1**9**00/36,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVG	**Ch'k'valeri**	**0.85**	**67**	P	**Pg**	**04 05 47.4**	**+0.1**
CHVG				S	**Sb**	**04 06 00.1**	**+1.3**
BCA	**Borcka**	**1.04**	**154**	PG	**Pn**	**04 05 51.1**	**+0.1**
BCA				SG	**Sn**	**04 06 06.1**	**+0.7**
DBOC	**Borcka**	**1.15**	**155**	*i* P	**Pb**	**04 05 52.2**	**-0.2**
DBOC				*i* S	**Sn**	**04 06 08.9**	**+0.9**
DBOC				IAML		04 06 09.0	
comp=E,53nm,0.5s							
ARXR	**Arkhyz**	**1.19**	**9**	*e*Pg	**Pb**	**04 05 52.8**	**-0.5**
ARXR				*e*Sg	**Sb**	**04 06 07.6**	**-1.0**
CHOM	**Cayeli-Rize**	**1.30**	**189**	PN	**Pn**	**04 05 55.0**	**+0.4**
CHOM				SN	**Sg**	**04 06 12.9**	**+0.2**
RPOR	**Krasnaya Polya**	**1.43**	**337**	*i* Pg	**Pn**	**04 05 57.1**	**+0.7**
RPOR				*i* Sg	**Sb**	**04 06 15.9**	**+0.6**
DBAD	**Bademkaya**	**1.46**	**160**	*i* P	**Pn**	**04 05 55.3**	**-1.5**
DBAD				*i* S	**Sn**	**04 06 11.7**	**-4.1**
DBAD				IAML		04 06 18.0	
comp=N,34nm,0.4s							
DBAD				IAML		04 06 18.0	
comp=E,27nm,0.3s							
TKB	**Tkibuli**	**1.46**	**91**	P	**Pb**	**04 05 58.2**	**+0.4**
TKB				S	**Sg**	**04 06 17.5**	**-0.4**
DAGI	**Agillar**	**1.47**	**153**	*i* P	**Pb**	**04 05 57.9**	**0.0**
DAGI				*i* S	**Sn**	**04 06 15.8**	**-0.3**
EPOS	**Posof**	**1.55**	**124**	*i* P	**Pn**	**04 05 57.4**	**-0.7**
DDEM	**Demirkent**	**1.59**	**160**	*i* P	**Pn**	**04 05 58.9**	**+0.3**
DDEM				*i* S	**Sn**	**04 06 19.2**	**+0.1**
DDEM				IAML		04 06 23.0	
comp=E,32nm,0.3s							
DDEM				IAML		04 06 25.0	
comp=N,39nm,0.5s							
KTUT	**Trabzon**	**1.68**	**214**	PN	**Pn**	**04 06 00.2**	**+0.4**
GUZR	**Guzeripl'**	**1.74**	**338**	*i* Pg	**Pb**	**04 06 02.9**	**+0.3**
GUZR				*e*Sg	**Sb**	**04 06 24.5**	**+0.1**
SHA1	**Shidzhatmaz**	**1.81**	**41**	*i* Pg	**Pb**	**04 06 04.2**	**+0.4**
SHA1				*i* Sg	**Sb**	**04 06 27.3**	**+0.8**
ONI	**Oni**	**1.81**	**83**	*i* Pg	**Pb**	**04 06 03.6**	**-0.2**
ONI				*e*Sg	**Sg**	**04 06 27.9**	**-1.1**
ONI	**Oni**	**1.81**	**83**	P	**Pb**	**04 06 03.5**	**-0.2**
ONI				S	**Sb**	**04 06 27.6**	**+1.2**
BKRG	**Bakuriani**	**1.96**	**108**	P	**Pb**	**04 06 06.9**	**+0.5**
BKRG				S	**Sg**	**04 06 33.9**	**0.0**
KIV	**Kislovodsk**	**1.99**	**37**	PN	**Pb**	**04 06 06.2**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.08**	**151**	PN	**Pn**	**04 06 06.5**	**+1.0**
BAYT	**Aydıntepe-Bayb**	**2.10**	**199**	PN	**Pn**	**04 06 06.4**	**+0.7**
ESPY	**Espiye-Giresun**	**2.26**	**230**	PN	**Pn**	**04 06 07.3**	**-0.5**

IDC ***27*** *04:10:34.6±0.8, 3.42S×152.75E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/38, mbtmp4.0/8, MS3.7/14, Ms1 3.8/14, ms1mx3.6/35, Error ellipse: s-maj=31.8km s-min=15.1km az=114.0*
GCMT ***27*** *04:10:42.0±0.4, 3.20S±0.03×152.51E±0.03, h15km, MW4.9/74, Moment Tensor Solution. s12,c16; s74,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.21±.14; Mθθ 1.83±.10; Mφφ=-1.61±.10; Mrθ 1.28±.35; Mφφ 0.47±.10; Mφr 1.67±.42; Best double couple: M0 2.76500×10^16 NP1:*φs*=126.00000°, δ=40.00000°, λ=-4.00000°. NP2: φs=219.00000°, δ=87.00000°, λ=-130.00000°. Principal axes: T 2.7830, Plg30.0000°, Azm341.0000°; N -0.0310, Plg40.0000°, Azm222.0000°; P -2.7470, Plg35.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
DJA ***27*** *04:10:48.5±2.1, 4.5S±9.15°2E±1.4, h98km±14km, M4.7/14, mb4.5/14, mB5.3/3, MLv4.9/1, Mw(mB)4.7/3*
NEIC ***27*** *04:12:13.1±2.3, 8.7S±0.2×145.54E±0.06, h15km±6km, mb4.2/11, Error ellipse: s-maj=24.1km s-min=7.9km az=192.0*

ISC 27 04:10:39.9±0.8,**3.45S**±0.10×**152.8E**±0.1,**h35**km,**n34,**
σ1**9**87/22,**mb4.2**/14,**MS3.7**/11,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.13**	**221**	Pn	**Pn**	**04 10 57.9**	**-1.4**
223nm,0.3s,baz=54,slow=2.2,SNR=32							
KRVT				Sn	**Sn**	**04 11 13.6**	**-0.1**
652nm,0.3s,baz=119,slow=21,SNR=33							
KRVT				LR	LR	04 11 24.6	
comp=Z,832nm,21.4s,baz=16,slow=44							
PMG	**Port Moresby**	**8.13**	**223**	LR	LR	04 15 29.1	
comp=Z,538nm,21.2s,baz=207,slow=36							
PMG	**Port Moresby**	**8.13**	**223**	Pn	Pn	04 12 42.5	+6.8
HNR	**Honiara**	**9.27**	**130**	LR	LR	04 16 52.0	
comp=Z,1μm,19.0s,baz=306,slow=40							
JAY	**Jayapura**	**12.09**	**274**	LR	LR	04 17 48.4	
comp=Z,616nm,19.0s,baz=40,slow=36							
JAY	**Jayapura**	**12.09**	**274**	P	**Pn**	**04 13 32.8**	**+2.9**
7.5nm,1.2s							
CTA	**Charters Tower**	**17.72**	**201**	P	**P**	**04 14 45.9**	**+1.2**
0.4nm,0.3s,baz=7.5,slow=13,SNR=9.1							
GUMO	**Guam**	**18.66**	**335**	LR	LR	04 22 52.9	
comp=Z,60nm,18.4s,baz=118,slow=40							
DZM	**Mont Dzumac**	**22.77**	**146**	*e*P	**P**	**04 15 41.0**	**+1.4**
6.2nm,0.7s							
DZM				*e*LR	LR	04 20 58.3	
comp=Z,609nm,24.3s							
WB0	**Warramunga Arr**	**24.19**	**226**	Pn	**P**	**04 15 51.1**	**-2.2**
WB0				IAmb	IAmb	04 16 05.5	
comp=Z,21nm,1.1s							
WR0	**Warramunga Arr**	**24.20**	**226**	Pn	**P**	**04 15 50.7**	**-2.8**
WR0				IAmb	IAmb	04 16 05.1	
comp=Z,15nm,0.9s							
WRAB	**Tennant Creek**	**24.32**	**226**	Pn	**P**	**04 15 53.5**	**-1.0**
WB2	**Warramunga Arr**	**24.33**	**226**	Pn	**P**	**04 15 53.2**	**-1.5**
WRA	**Warramunga Arr**	**24.34**	**226**	P	**P**	**04 15 53.6**	**-1.1**
comp=Z,4.6nm,0.7s,baz=52,slow=9.8,SNR=42							
WRA				LR	LR	04 25 19.5	
comp=Z,116nm,18.2s,baz=350,slow=36							
WRA	**Warramunga Arr**	**24.34**	**226**	Pn	**P**	**04 15 52.0**	**-2.7**
KNRA	**Kununurra**	**26.57**	**241**	Pn	**P**	**04 16 18.9**	**+3.9**
KNRA				IAmb	IAmb	04 16 37.1	
comp=Z,12nm,0.7s							
AS31	**Alice Springs**	**27.14**	**221**	P	P	04 16 30.8	+11
ASAR	**Alice Springs**	**27.14**	**221**	P	**P**	**04 16 19.2**	**-0.9**
comp=Z,0.5nm,0.5s,baz=53,slow=8.8,SNR=7.3							
ASAR				LR	LR	04 27 34.4	
comp=Z,106nm,18.6s,baz=42,slow=38							
ASAR	**Alice Springs**	**27.14**	**221**	P	P	04 16 29.0	+8.9
STKA	**Stephens Creek**	**30.17**	**199**	LR	LR	04 28 50.1	
comp=Z,134nm,19.3s,baz=14,slow=36							
FITZ	**Fitzroy Crossi**	**30.30**	**239**	LR	LR	04 29 59.1	
comp=Z,165nm,20.2s,baz=90,slow=38							
FITZ	**Fitzroy Crossi**	**30.30**	**239**	P	P	04 17 01.5	+13
FITZ				IAmb	IAmb	04 17 18.5	
comp=Z,8.9nm,1.2s							
KAPI	**Kappang**	**32.97**	**266**	LR	LR	04 31 23.3	
comp=Z,140nm,20.3s,baz=82,slow=38							
MPSI	**Mapaga**	**33.08**	**276**	P	**P**	**04 17 10.5**	**-2.2**
comp=Z,10.0nm,0.6s							
LEM	**Lembang**	**45.09**	**264**	LR	LR	04 40 01.3	
comp=Z,176nm,18.1s,baz=145,slow=39							
PETK	**Petropavlovsk-**	**56.50**	**4**	P	**P**	**04 20 18.2**	**-0.3**
comp=Z,1.4nm,0.4s,baz=166,slow=6.1,SNR=7.2							
PETK				LR	LR	04 40 00.8	
comp=Z,65nm,20.4s,baz=233,slow=31							
CMAR	**Chiang Mai Arr**	**57.30**	**294**	P	**P**	**04 20 25.2**	**+0.5**
comp=Z,0.8nm,0.3s,baz=111,slow=5.0,SNR=5.8							

VNDA	**Vanda**	**74.17**	**178**	P	**P**	**04 22 14.4**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=328,slow=7.2,SNR=14						
MKAR	**Makanchi Array**	**79.30**	**319**	P	**P**	**04 22 42.4**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=92,slow=7.2,SNR=3.2						
MKAR				LR	LR	04 58 24.9	
	comp=Z,52nm,19.6s,baz=94,slow=36						
ILAR	**Eielson Array**	**80.93**	**22**	P	**P**	**04 22 49.5**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=248,slow=4.7,SNR=17						
ILAR				LR	LR	04 54 10.6	
	comp=Z,50nm,19.7s,baz=281,slow=32						
KURBB	**Kurchatov Arra**	**82.73**	**322**	P	**P**	**04 23 00.9**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=111,slow=4.1,SNR=3.8						
PDAR	**Pinedale Array**	**97.96**	**47**	LR	LR	05 04 47.3	
	comp=Z,54nm,18.3s,baz=304,slow=33						
TORD	**Torodi Ar. Bea**	**149.85**	**290**	PKPbc	**PKPbc**	**04 30 26.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=60,slow=1.6,SNR=3.3						
BDFB	**Brasilia**	**152.01**	**133**	PKPbc	**PKPbc**	**04 30 32.4**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=27,slow=6.0,SNR=5.9						

*IDC **27** 04:18:45.9±0.7, 18°.95N×120°.35E, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.0/44, mbtmp4.1/17, ML3.9/2, MS3.9/3, Ms1 3.9/3, ms1mx3.2/38, Error ellipse: s-maj=22.5km s-min=13.4km az=80.0*
*NEIC **27** 04:18:48.2±1.6, 18°.95N±0°.09×120°.28E±0°.10, h18km±5km, mb4.5/21, Error ellipse: s-maj=14.6km s-min=11.7km az=124.0*

ISC 27 04:18:49.8±0.5, 19°.01N±0°.04×120°.30E±0°.08, h28km, n53, σ1♀05/47, mb4.4/20, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.94**	**132**	⇓*eP*	**Pb**	**04 19 22.6**	**-1.9**
BCP	**Baguio City**	**2.59**	**173**	⇑*eP*	**Pn**	**04 19 30.4**	**+0.4**
BCP				*i*S	**Sn**	04 20 01.2	+0.5
TWG	**Pinlang**	**3.87**	**11**		**Pn**	**04 19 45.7**	**-1.7**
TPUB	**Ta-pu**	**4.29**	**4**		**Pn**	**04 19 52.6**	**-0.7**
YULB	**Yu-li**	**4.46**	**12**	Pn	**Pn**	**04 19 54.7**	**-0.9**
SSLB	**Suanglung**	**4.80**	**7**	Pn	**Pn**	**04 19 59.2**	**-1.1**
TGY	**Tagaytay City**	**4.91**	**173**	LR	LR	04 22 27.4	
	comp=Z,758nm,18.7s,baz=42,slow=46						
LQP	**Lukban**	**5.01**	**166**	*eP*	**Pb**	**04 20 15.9**	**-1.0**
NACB	**Ninganchiao**	**5.28**	**13**	Pn	**Pn**	**04 20 06.6**	**-0.3**
YHNB	**Yeheng**	**5.72**	**10**	Pn	**Pn**	**04 20 13.7**	**+0.7**
QIZ	**Qiongzhong**	**9.89**	**272**		**Pn**	**04 21 08.7**	**-1.5**
DAV	**Davao City (W)**	**12.93**	**156**	LR	LR	04 27 54.3	
	comp=Z,274nm,19.2s,baz=88,slow=43						
ENH	**Enshi**	**14.90**	**321**	Pn	**Pn**	**04 22 17.9**	**-0.8**
SLVN	**Son La**	**15.57**	**281**	Pn	**Pn**	**04 22 25.6**	**-1.9**
JNU	**Nakatsue**	**16.95**	**32**	Pn	**Pn**	**04 22 45.4**	**+0.3**
	0.3nm,0.3s,baz=237,slow=10,SNR=2.9						
JNU	**Nakatsue**	**16.95**	**32**	IAmb	IAmb	04 23 03.0	
	comp=Z,46nm,1.2s						
KMI	**Kunming**	**17.37**	**294**	Pn	**Pn**	**04 22 49.7**	**-0.8**
KMI				IAmb	IAmb	04 23 11.3	
	comp=Z,13nm,0.4s						
XAN	**Xi'an**	**18.08**	**328**	Pn	**Pn**	**04 22 57.1**	**-2.0**
KSAR	**Wonju Array Be**	**19.53**	**18**	P	**Pn**	**04 23 15.5**	**-1.0**
KSRS	**Korea Array**	**19.55**	**18**	P	**P**	**04 23 15.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=202,slow=12,SNR=18						
KS19	**Wonju Array Si**	**19.58**	**18**	P	**P**	**04 23 15.7**	**+0.1**
KS19				IAmb	IAmb	04 23 26.5	
	comp=Z,81nm,1.9s						
KSM	**Kuching**	**19.99**	**210**	P	**P**	**04 23 19.0**	**-1.2**
KSM				IAmb	IAmb	04 23 27.0	
	comp=Z,28nm,1.5s						
CMAR	**Chiang Mai Arr**	**20.23**	**272**	P	Pn	04 23 24.4	-0.6
	comp=Z,1.0nm,0.3s,baz=78,slow=8.5,SNR=4.5						
BJT	**Baijiatuau**	**21.24**	**351**	P	**P**	**04 23 34.5**	**+0.9**
INU	**Inuyama**	**22.00**	**39**	P	**P**	**04 23 42.0**	**+0.3**
MJAR	**Matsushiro Arr**	**23.52**	**38**	P	**P**	**04 23 58.1**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=264,slow=9.9,SNR=4.7						
USRK	**Ussuriysk Ar.**	**26.96**	**19**	P	**P**	**04 24 30.1**	**+1.2**
	comp=Z,4.5nm,0.7s,baz=218,slow=7.0,SNR=10						
FITZ	**Fitzroy Crossi**	**37.24**	**172**	P	**P**	**04 25 58.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=357,slow=5.0,SNR=3.8						
FITZ	**Fitzroy Crossi**	**37.24**	**172**	IAmb	IAmb	04 26 31.5	
	comp=Z,8.5nm,1.4s						
WRA	**Warramunga Arr**	**41.08**	**160**	P	**P**	**04 26 30.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=342,slow=9.0,SNR=9.7						
MK31	**Makanchi Array**	**41.63**	**320**	P	**P**	**04 26 36.9**	**+1.3**
MKAR	**Makanchi Array**	**41.63**	**320**	P	**P**	**04 26 36.6**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=118,slow=9.7,SNR=13						
MKAR	**Makanchi Array**	**41.63**	**320**	P	**P**	**04 26 36.4**	**+0.8**
ZAA0	**Zalesovo Array**	**44.23**	**331**	P	**P**	**04 26 57.5**	**+1.0**
ZAA0				IAmb	IAmb	04 26 58.4	
	comp=Z,4.9nm,0.8s						
ZALV	**Zalesovo Beam**	**44.23**	**331**	P	**P**	**04 26 56.9**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=123,slow=7.6,SNR=14						
ZALV	**Zalesovo Beam**	**44.23**	**331**	P	**P**	**04 26 55.0**	**-1.5**
NIL	**Nilore**	**44.25**	**299**	P	**P**	**04 26 58.8**	**+1.8**
NIL				IAmb	IAmb	04 26 58.9	
	comp=Z,7.7nm,0.8s						
ASAR	**Alice Springs**	**44.44**	**162**	P	**P**	**04 26 58.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=342,slow=7.0,SNR=17						
PETK	**Petropavlovsk-**	**44.65**	**31**	P	**P**	**04 27 00.6**	**+0.7**
	comp=Z,5.3nm,0.8s,baz=214,slow=4.9,SNR=4.3						
KURK	**Kurchatov**	**45.64**	**324**	P	**P**	**04 27 08.3**	**+0.5**
KURK				IAmb	IAmb	04 27 10.3	
	comp=Z,4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**45.65**	**324**	P	**P**	**04 27 08.0**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=123,slow=7.8,SNR=24						
KK31	**Karatay Array**	**48.10**	**311**	P	**P**	**04 27 28.5**	**+1.3**
KK31				IAmb	IAmb	04 27 30.1	
	comp=Z,4.4nm,0.9s						
KKAR	**Karatay Array**	**48.10**	**311**	P	**P**	**04 27 28.0**	**+0.8**
KKAR	**Karatay Array**	**48.10**	**311**	IAmb	IAmb	04 27 30.1	
	comp=Z,4.4nm,0.9s						
NRIK	**Noril'sk**	**54.19**	**346**	P	**P**	**04 28 13.8**	**+1.3**
	comp=Z,1.5nm,0.4s,baz=112,slow=7.6,SNR=3.9						
STKA	**Stephens Creek**	**54.56**	**158**	P	**P**	**04 28 16.6**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=354,slow=9.2,SNR=3.0						
STKA	**Stephens Creek**	**54.56**	**158**	IAmb	IAmb	04 28 25.7	
	comp=Z,3.9nm,1.6s						
ABKAR	**Akbulak array**	**56.55**	**317**	P	**P**	**04 28 30.0**	**+0.2**
ABKAR					**sP**	**04 28 38.8**	**-2.0**
ABKAR	**Akbulak array**	**56.55**	**317**	IAmb	IAmb	04 28 32.5	
	comp=Z,3.8nm,1.0s						
ILAR	**Eielson Array**	**74.18**	**26**	P	**P**	**04 30 23.9**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=284,slow=4.8,SNR=6.8						
FINES	**FINESS Array B**	**75.50**	**330**	P	**P**	**04 30 31.7**	**+0.4**
	comp=Z,9.2nm,1.1s,baz=59,slow=8.3,SNR=3.5						
FINES				LR	LR	05 05 52.9	
	comp=Z,163nm,19.1s,baz=322,slow=37						
BCAR	**Beaver Creek A**	**76.77**	**28**	P	**P**	**04 30 38.8**	**+0.2**
YKA	**Yellowknife Ar**	**88.05**	**22**	P	**P**	**04 31 37.3**	**0.0**
	comp=Z,2.2nm,0.9s,baz=321,slow=4.3,SNR=5.3						

IDC 27 04:24:44.7±9.4, 19°.31N×121°.10E, h126km±98km, mb3.2/5, mb1 3.3/6, mb1mx3.1/37, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=33.9km s-min=17.9km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**19.04**	**17**	P	P	04 28 56.8	-0.2
	0.3nm,0.3s,baz=202,slow=11,SNR=2.9						
CMAR	**Chiang Mai Arr**	**20.98**	**271**	P	P	04 29 18.2	+0.1
	1.0nm,0.3s,baz=93,slow=7.4,SNR=4.3						
WRA	**Warramunga Arr**	**41.11**	**161**	P	P	04 32 15.9	-0.6
	0.2nm,0.4s,baz=342,slow=9.0,SNR=7.0						
MKAR	**Makanchi Array**	**41.88**	**320**	P	P	04 32 22.0	-0.6
	0.4nm,0.7s,baz=113,slow=8.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**44.34**	**330**	P	P	04 32 42.3	+0.1
	0.4nm,0.3s,baz=115,slow=10.0,SNR=2.3						
ASAR	**Alice Springs**	**44.50**	**163**	P	P	04 32 44.0	+0.2
	0.7nm,0.6s,baz=343,slow=7.2,SNR=13						

IDC 27 04:59:44.3±3.1, 22°.90S×179°.47W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/26, mbtmp4.0/4, Error ellipse: s-maj=296.9km s-min=32.9km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.69**	**259**	P	P	05 07 43.4	+0.2
	1.2nm,0.5s,baz=96,slow=7.2,SNR=8.0						
WRA	**Warramunga Arr**	**42.97**	**265**	P	P	05 07 45.6	+0.1
	2.0nm,0.3s,baz=102,slow=8.3,SNR=14						
FITZ	**Fitzroy Crossi**	**51.40**	**265**	P	P	05 08 50.6	-0.7
	1.1nm,0.5s,baz=175,slow=0.6,SNR=3.3						
TXAR	**Lajitas Array**	**89.49**	**58**	P	P	05 12 43.8	0.0
	0.3nm,0.7s,baz=205,slow=5.5,SNR=5.0						

*MAN **27** 05:01:13.6, 5°.61N×123°.64E, h588km, mb5.2, ML4.2, MS4.3*
*NEIC **27** 05:01:18.4±1.4, 6°.27N±0°.07×124°.0E±0°.1, h519km±10km, mb4.7/24, Error ellipse: s-maj=16.0km s-min=9.0km az=103.0*
*DJA **27** 05:01:20.3±0.5, 6°N±5°×12°4E°, h545km±5km, M4.4/24, mb4.5/24, mB4.8/8, MLv4.8/7, Mw(mB)4.0/8*
*IDC **27** 05:01:21.7±1.4, 6°.16N×123°.95E, h558km±18km, mb3.4/9, mb1 3.6/12, mb1mx3.2/40, mbtmp4.5/12, Error ellipse: s-maj=20.9km s-min=11.3km az=69.0*

ISC 27 05:01:20.5±0.4, 6°.16N±0°.05×123°.90E±0°.08, h550km, n83, σ1♀64/93, mb4.5/23, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.73**	**61**	*eP*	**P**	**05 02 24.8**	**-1.5**
KCP	**Kidapawan**	**1.45**	**54**	⇑*eP*	**P**	**05 02 29.0**	**+0.8**
DDMP	**Don Marcelino,**	**1.80**	**92**	*eP*	**P**	**05 02 28.1**	**-1.3**
DDMP				*e*S	**S**	**05 03 22.8**	**-2.5**
DAV	**Davao City (W)**	**1.90**	**61**	P	**P**	**05 02 25.2**	**-4.6**
BUKP	**Musuan**	**2.06**	**34**	*eP*	**P**	**05 02 30.8**	**+0.3**
MATI	**Mati**	**2.47**	**71**	*eP*	**P**	**05 02 31.4**	**-1.1**
MSLP	**Maasin**	**4.06**	**13**	*eP*	**P**	**05 02 43.8**	**+0.9**
MYLDM	**Lahad Datu**	**5.46**	**260**	P	**P**	**05 02 50.9**	**-3.4**
KMSI	**Cibinong**	**5.55**	**179**	P	**P**	**05 02 56.0**	**+0.9**
	0.9nm158nm,1.0s						
GTOI	**Gorontalo**	**5.56**	**189**	P	**P**	**05 02 54.7**	**-0.5**
	0.1nm418nm19nm,0.6s						
TNTI	**Ternate**	**6.37**	**147**	P	**P**	**05 03 02.8**	**+0.2**
	0.5nm2μm64nm,0.5s						
TNTI	**Ternate**	**6.37**	**147**	P	**P**	**05 02 59.8**	**-2.9**
TNTI					**S**	**05 04 24.8**	**-1.2**
MPSI	**Mapaga**	**7.03**	**215**	P	**P**	**05 03 10.1**	**+1.3**
	0.1nm15nm,1.0s						
LUWI	**Luwuk**	**7.24**	**189**	P	**P**	**05 03 07.2**	**-3.7**
LUWI				S	**S**	**05 04 40.5**	**-0.7**
KKM	**Kota Kinabalu**	**7.64**	**270**	P	**P**	**05 03 12.7**	**-2.2**
LBMI	**Labuha**	**7.65**	**152**	P	**P**	**05 03 15.8**	**+0.9**
	1.6nm5μm297nm,0.5s						
SANI	**Sanana**	**8.42**	**166**	P	**P**	**05 03 20.5**	**-1.9**
	4μm269nm,0.7s						
NLAI	**Namlea**	**9.87**	**161**	P	**P**	**05 03 39.5**	**+2.4**
	3μm216nm,0.6s						
SIJI	**Sorong**	**10.14**	**133**	P	**P**	**05 03 41.5**	**+1.5**
	5.5nm,0.3s,baz=298,slow=10,SNR=6.0						
BKB	**Balikpapan**	**10.16**	**224**	P	**P**	**05 03 38.3**	**-1.9**
BKB				S	**S**	**05 05 31.2**	**-3.7**
AAI	**Ambon**	**10.68**	**156**	P	**P**	**05 03 46.7**	**+1.2**
	142nm,0.5s						
MSAI	**Masohi**	**10.69**	**152**	P	**P**	**05 03 47.8**	**+2.2**
	56nm,0.8s						
BOLP	**Bolinao**	**10.88**	**339**	*eP*	**P**	**05 03 45.6**	**-1.9**
APYP	**Conner**	**11.92**	**348**	*eP*	**P**	**05 03 56.0**	**-2.1**
SBUM	**Sibu**	**12.21**	**253**	P	**P**	**05 04 00.3**	**-1.0**
KSM	**Kuching**	**14.34**	**252**	P	**P**	**05 04 23.7**	**+0.4**
SOEI	**Soe**	**15.81**	**179**	P	**P**	**05 04 39.0**	**+0.5**
	46nm,0.7s						
SOEI	**Soe**	**15.81**	**179**	P	**P**	**05 04 38.6**	**+0.1**
SOEI				S	**S**	**05 07 22.2**	**+1.9**
PLAI	**Plampang**	**16.09**	**202**	P	**P**	**05 04 42.9**	**+1.9**
	52nm,1.5s						
BATI	**Baumata**	**16.26**	**181**	P	**P**	**05 04 43.3**	**+0.7**
	7.9nm,0.3s,baz=64,slow=0.7,SNR=6.1						
BATI	**Baumata**	**16.26**	**181**	P	**P**	**05 04 43.1**	**+0.5**
	58nm,0.9s						
TWSI	**Taiwang, Sumb**	**16.37**	**205**	P	**P**	**05 04 43.9**	**+0.3**
	34nm,1.2s						
TWG	**Pinlang**	**16.79**	**351**	P	**P**	**05 04 46.1**	**-1.2**
YULB	**Yu-li**	**17.32**	**352**	P	**P**	**05 04 50.1**	**-2.0**
YULB				IAmb	IAmb	05 04 51.8	
	comp=Z,19nm,0.6s						
TPUB	**Ta-pu**	**17.33**	**350**	P	**P**	**05 04 51.0**	**-1.3**
JAGI	**Jajag, Banyuwa**	**17.48**	**214**	P	**P**	**05 04 55.7**	**+1.9**
	comp=Z,36nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.48**	**214**	P	**P**	**05 04 55.0**	**+1.3**
SSLB	**Suanglung**	**17.76**	**351**	P	**P**	**05 04 54.8**	**-1.3**
SSLB				IAmb	IAmb	05 04 58.8	
	comp=Z,28nm,0.7s						
YHNB	**Yeheng**	**18.57**	**353**	P	**P**	**05 05 02.7**	**-0.9**
QIZ	**Qiongzhong**	**18.74**	**314**	P	**P**	**05 05 06.5**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,16nm,0.9s						
QIZ	**Qiongzhong**	**18.74**	**314**	P	**P**	**05 05 03.1**	**-2.1**
QIZ				IAmb	IAmb	05 05 08.2	
	comp=Z,14nm,0.8s						
JAY	**Jayapura**	**18.86**	**117**	P	**P**	**05 05 07.2**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=239,slow=19,SNR=4.7						
MTN	**Manton Dam**	**20.20**	**159**	P	**P**	**05 05 18.3**	**-0.2**
MTN				IAmb	IAmb	05 05 25.0	
	comp=Z,16nm,0.6s						
KNRA	**Kununurra**	**22.22**	**168**	P	**P**	**05 05 36.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**24.16**	**176**	P	**P**	**05 05 54.4**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=2.1,slow=6.1,SNR=13						
FITZ	**Fitzroy Crossi**	**24.16**	**176**	P	**P**	**05 05 54.0**	**+0.1**
PSI	**Prapat**	**25.12**	**263**	P	**P**	**05 06 03.6**	**+0.9**
	comp=Z,6.0nm,0.5s,baz=172,slow=1.0,SNR=8.6						
RPSI	**Rantau Prapat**	**25.13**	**263**	P	**P**	**05 06 03.6**	**+1.0**
NJ2	**Nanjing**	**26.19**	**350**	⇓P	**P**	**05 06 12.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.23**	**299**	ScP	**ScP**	**05 12 11.3**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=334,slow=4.0,SNR=11						
ENH	**Enshi**	**27.55**	**332**	P	**P**	**05 06 21.5**	**-2.2**
ENH				IAmb	IAmb	05 06 25.9	
	comp=Z,17nm,0.7s						
KMI	**Kunming**	**27.68**	**315**	⇓*eP*	**P**	**05 06 29.3**	**+4.1**
KMI				sP	sP	05 09 03.8	+4.7
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,50nm,3.8s						
WB0	**Warramunga Arr**	**27.75**	**158**	P	**P**	**05 06 25.7**	**+0.1**
WB0				IAmb	IAmb	05 06 26.0	
	comp=Z,9.0nm,0.7s						
WRAB	**Tennant Creek**	**27.89**	**159**	P	**P**	**05 06 26.7**	**-0.1**
WRAB				IAmb	IAmb	05 06 27.3	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**27.90**	**159**	P	**P**	**05 06 26.7**	**-0.1**
	comp=Z,7.5nm,0.4s,baz=334,slow=10,SNR=144						
WRA				S	**S**	**05 10 29.1**	**-3.2**
	comp=Z,1.1nm,0.8s,baz=331,slow=16,SNR=4.8						
WRA	**Warramunga Arr**	**27.90**	**159**	P	**P**	**05 06 26.5**	**-0.4**
WB2	**Warramunga Arr**	**27.90**	**159**	P	**P**	**05 06 27.0**	**+0.1**
WB2				IAmb	IAmb	05 06 27.4	
	comp=Z,13nm,0.5s						
WR0	**Warramunga Arr**	**27.99**	**158**	P	**P**	**05 06 27.5**	**-0.1**
WR0				IAmb	IAmb	05 06 28.2	
	comp=Z,17nm,1.4s						
XAN	**Xi'an**	**31.02**	**335**	P	**P**	**05 06 54.8**	**+1.1**
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
XAN	**Xi'an**	**31.02**	**335**	P	**P**	**05 06 51.3**	**-2.5**
XAN				IAmb	IAmb	05 06 55.3	
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**31.21**	**162**	P	**P**	**05 06 55.7**	**+0.2**
ASAR	**Alice Springs**	**31.21**	**162**	P	**P**	**05 06 56.2**	**+0.7**
	comp=Z,5.8nm,0.5s,baz=343,slow=7.3,SNR=138						
ASAR				PcP	**PcP**	**05 09 33.5**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=349,slow=2.6,SNR=5.5						
ASAR				S	**S**	**05 11 21.9**	**-1.5**
	comp=Z,6.6nm,0.8s,baz=353,slow=24,SNR=28						
ASAR				ScP	**ScP**	**05 12 23.7**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=331,slow=3.0,SNR=4.1						
ASAR	**Alice Springs**	**31.21**	**162**	P	**P**	**05 06 56.4**	**+0.9**
MJAR	**Matsushiro Arr**	**32.96**	**21**	P	**P**	**05 07 09.3**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=190,slow=9.3,SNR=6.2						
MJAR	**Matsushiro Arr**	**32.96**	**21**	P	**P**	**05 07 08.5**	**-1.6**
BJI	**Beijing**	**34.44**	**349**	P	**P**	**05 07 23.0**	**+0.5**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LZH	**Lanzhou**	**35.01**	**331**	⇑P	**P**	**05 07 29.5**	**+1.9**
LZH				pP	pP	05 09 03.3	+2.4
LZH				PP	**PP**	**05 09 06.8**	**-4.1**
LZH				sP	sP	05 10 03.5	-0.7
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,96nm,5.4s						
HHC	**Hu-ho-hao-te**	**36.26**	**344**	*eP*	**P**	**05 07 36.3**	**-1.5**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.5s						
CN2	**Changchun**	**37.52**	**2**	*eP*	**P**	**05 07 48.8**	**+0.9**
GTA	**Gaotai**	**39.59**	**330**	⇑P	**P**	**05 08 06.5**	**+1.6**
GTA				pP	pP	05 09 44.8	+3.7
GTA				sP	sP	05 10 44.0	+0.8
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,74nm,6.7s						
GTA				LR	LR		
	comp=N,160nm,17.1s						
GTA				LR	LR		
	comp=E,170nm,15.6s						
GTA				LR	LR		
	comp=Z,170nm,16.0s						
STKA	**Stephens Creek**	**41.42**	**157**	P	**P**	**05 08 20.7**	**+1.3**
	comp=Z,3.2nm,0.7s,baz=325,slow=8.9,SNR=5.4						
STKA	**Stephens Creek**	**41.42**	**157**	P	**P**	**05 08 19.0**	**-0.4**
SONM	**Songino Array**	**44.14**	**343**	P	**P**	**05 08 42.0**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=161,slow=8.6,SNR=8.1						
SONM	**Songino Array**	**44.14**	**343**	P	**P**	**05 08 40.6**	**0.0**
WMQ	**Urumqi**	**49.14**	**326**	*eP*	**P**	**05 09 20.3**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.5s						
WMQ				LR	LR		
	comp=N,140nm,29.2s						
WMQ				LR	LR		
	comp=E,390nm,29.2s						
WMQ				LR	LR		
	comp=Z,24nm,17.7s						
MKAR	**Makanchi Array**	**53.97**	**326**	P	**P**	**05 09 54.4**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=119,slow=8.7,SNR=4.8						
MKAR				ScP	**ScP**	**05 13 54.1**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=137,slow=4.8,SNR=3.5						
KURK	**Kurchatov**	**58.20**	**328**	P	**P**	**05 10 22.3**	**+0.2**
ABKAR	**Akbulak array**	**68.50**	**321**	P	**P**	**05 11 28.6**	**+0.5**
CASY	**Casey**	**72.91**	**186**	P	**P**	**05 11 54.5**	**+0.8**
CASY				IAmb	IAmb	05 12 20.0	
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**86.19**	**172**	P	**P**	**05 13 03.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=337,slow=6.4,SNR=1.9						
SYO	**Syowa Base**	**93.66**	**201**	⇓*eP*	P	05 13 45.8	+7.8
TORD	**Torodi Ar. Bea**	**119.48**	**289**	PKP	**PKPdf**	**05 19 08.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=76,slow=1.7,SNR=6.6						
PLCA	**Paso Flores**	**143.22**	**162**	PKP	**PKPdf**	**05 19 52.5**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=297,slow=2.3,SNR=3.7						

*KRNET **27** 05:16:49.4±0.1, 42°.84N×78°.52E, h14km, mb2.7*
*NNC **27** 05:16:49.7±0.7, 42°.87N×78°.54E, h0km, mb3.1, mpv3.1, Error ellipse: s-maj=6.3km s-min=2.0km az=170.0*
*SOME **27** 05:16:50.0, 42°.85N×78°.52E, h15km*

ISC 27 05:16:49.3±1.1, 42°.84N±0°.02×78°.49E±0°.02, h2km±10km, n56, σ1♀27/107, 18C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.23**	**344**	⇓*eP*	**Pg**	**05 16 54.2**	**+0.4**
	43nm,0.1s						
SATY				*e*S	**Sg**	**05 16 57.2**	**+0.3**
	567nm,0.1s						
SATY	**Saty**	**0.23**	**344**	P	**Pg**	**05 16 54.2**	**+0.4**
	43nm,0.1s						
SATY				S	**Sg**	**05 16 57.2**	**+0.3**
	567nm,0.1s						
PRZ	**Przheval'sk**	**0.36**	**191**	⇑*iP*	**Pg**	**05 16 56.7**	**+0.5**
	baz=92						
PRZ				⇑*i*S	**Sg**	**05 17 01.4**	**+0.5**
	baz=92						
UZB	**Uzynbulak**	**0.50**	**51**	⇑*eP*	**Pg**	**05 16 58.7**	**-0.2**
	baz=50						
UZB				⇑*e*S	**Sg**	**05 17 05.1**	**-0.2**
	baz=50						
UZB	**Uzynbulak**	**0.50**	**51**	⇑*eP*	**Pg**	**05 16 58.7**	**-0.2**
	6.7nm,0.1s						
UZB				*e*S	**Sg**	**05 17 05.1**	**-0.2**
	59nm,0.1s						
UZB	**Uzynbulak**	**0.50**	**51**	P	**Pg**	**05 16 58.7**	**-0.2**
	11nm,0.1s						
UZB				S	**Sg**	**05 17 05.1**	**-0.2**
	82nm,0.2s						
ANVS	**Anan'yevo**	**0.61**	**265**	⇓*iP*	**Pg**	**05 17 01.8**	**+0.8**
	baz=66						
ANVS				⇓*i*S	**Sg**	**05 17 10.1**	**+1.2**
	baz=66						
KURS	**Kuram**	**0.69**	**

	3.9nm,0.1s						
IZV				eS	Sg	05 17 34.6	+0.5
	7.8nm,0.1s						
IZV	**Izvestkoviy**	**1.40**	**279**	P	**Pb**	**05 17 15.8**	**-0.4**
	3.9nm,0.1s						
IZV				S	**Sb**	**05 17 33.8**	**-0.6**
	8.5nm,0.2s						
ARXS	**Arharly**	**1.46**	**341**	eP	**Pb**	**05 17 16.6**	**-0.6**
	16nm,0.2s						
ARXS				eS	**Sb**	**05 17 35.7**	**-0.5**
	6.4nm,0.2s						
ARXS	**Arharly**	**1.46**	**341**	P	**Pb**	**05 17 16.6**	**-0.6**
	16nm,0.2s						
ARXS				S	**Sb**	**05 17 35.4**	**-0.9**
	6.4nm,0.2s						
KTMS	**Ketmen**	**1.49**	**65**	eP	**Pg**	**05 17 17.3**	**-0.6**
	baz=65						
KTMS				eS	**Sg**	**05 17 36.7**	**-0.5**
	baz=65						
KTMS	**Ketmen**	**1.49**	**65**	eP	**Pg**	**05 17 17.3**	**-0.6**
	2.8nm,0.1s						
KTMS				eS	**Sg**	**05 17 36.7**	**-0.5**
	10.0nm,0.2s						
KTMS	**Ketmen**	**1.49**	**65**	P	**Pb**	**05 17 17.1**	**-0.7**
	2.8nm,0.1s						
KTMS				S	**Sg**	**05 17 36.1**	**-1.1**
	10.0nm,0.2s						
MTBS	**Maitube**	**1.54**	**282**	P	**Pg**	**05 17 21.2**	**+2.4**
	3.3nm,0.1s						
MTBS				S	**Sg**	**05 17 43.1**	**+4.2**
	14nm,0.3s						
KTBS	**Karatobe**	**1.59**	**304**	eP	**Pg**	**05 17 19.5**	**-0.2**
	baz=4.0						
KTBS				eS	**Sg**	**05 17 40.5**	**+0.3**
	baz=4.0						
KTBS	**Karatobe**	**1.59**	**304**	eP	**Pg**	**05 17 19.5**	**-0.2**
	2.7nm,0.1s						
KTBS				eS	**Sg**	**05 17 40.5**	**+0.3**
	29nm,0.6s						
KTBS	**Karatobe**	**1.59**	**304**	P	**Pb**	**05 17 19.4**	**0.0**
	2.7nm,0.1s						
KTBS				S	**Sg**	**05 17 40.2**	**-0.1**
	29nm,0.6s						
ULHL	**Ulahol**	**1.77**	**251**	⇓iP	**Pb**	**05 17 22.5**	**0.0**
	baz=51						
ULHL				⇓iS	**Sg**	**05 17 46.4**	**+0.4**
	baz=51						
DJR	**Jarkent**	**1.77**	**32**	eP	**Pb**	**05 17 22.1**	**-0.4**
	3.2nm,0.1s						
DJR				eS	**Sg**	**05 17 44.9**	**-1.3**
	26nm,0.3s						
DJR	**Jarkent**	**1.77**	**32**	P	**Pb**	**05 17 22.1**	**-0.4**
	3.2nm,0.1s						
DJR				S	**Sg**	**05 17 44.7**	**-1.4**
	26nm,0.3s						
KST	**Kastek**	**1.87**	**277**	eP	**Pb**	**05 17 24.2**	**0.0**
	baz=77						
KST				eS	**Sg**	**05 17 48.9**	**-0.5**
	baz=77						
KST	**Kastek**	**1.87**	**277**	eP	**Pb**	**05 17 24.2**	**0.0**
	4.3nm,0.3s						
KST				eS	**Sg**	**05 17 48.8**	**-0.5**
	3.8nm,0.3s						
KST	**Kastek**	**1.87**	**277**	P	**Pb**	**05 17 24.2**	**0.0**
	4.3nm,0.3s						
KST				S	**Sb**	**05 17 48.3**	**+0.2**
	3.8nm,0.3s						
KUU	**Kurty**	**1.89**	**305**	eP	**Pb**	**05 17 24.8**	**+0.2**
	7.8nm,0.2s						
KUU				eS	**Sg**	**05 17 49.7**	**-0.4**
	19nm,0.2s						
KUU	**Kurty**	**1.89**	**305**	P	**Pb**	**05 17 24.6**	**0.0**
	7.8nm,0.2s						
KUU				S	**Sb**	**05 17 49.0**	**+0.4**
	19nm,0.2s						
BOOM	**Boomskoye usch**	**1.91**	**260**	⇑iP	**Pb**	**05 17 24.5**	**-0.5**
	baz=61						
BOOM				⇑iS	**Sg**	**05 17 50.3**	**-0.5**
	baz=61						
DGS	**Degeres**	**2.04**	**282**	eP	**Pb**	**05 17 27.5**	**+0.5**
	3.1nm,0.3s						
DGS				eS	**Sg**	**05 17 54.3**	**-0.3**
	24nm,0.5s						
DGS	**Degeres**	**2.04**	**282**	Pg	**Pg**	**05 17 28.2**	**-0.2**
	3.1nm,0.3s						
DGS				Lg	Lg	05 17 55.1	
	24nm,0.5s						
TKM2	**Tokmak 2**	**2.13**	**273**	⇑Pg	**Pb**	**05 17 26.8**	**-1.9**
	3.2nm,0.7s						
TKM2				⇓Lg	Lg	05 17 58.5	
	5.4nm,0.4s						
KZA	**Kyzart**	**2.52**	**254**	⇑eP	**Pb**	**05 17 33.9**	**-1.5**
	baz=54						
KZA				⇑iS	**Sb**	**05 18 05.4**	**-1.6**
	baz=54						
KAPS	**Kapalarasan**	**2.53**	**14**	eP	**Pb**	**05 17 34.9**	**-0.5**
	1.6nm,0.3s						
KAPS				eS	**Sb**	**05 18 07.4**	**+0.5**
	6.9nm,0.2s						
KAPS	**Kapalarasan**	**2.53**	**14**	Pg	**Pb**	**05 17 34.9**	**-0.5**
	2.1nm,0.3s						
KAPS				Lg	Lg	05 18 06.7	
	6.9nm,0.2s						
SGDS	**Sogindy**	**2.89**	**284**	Pg	**Pg**	**05 17 45.0**	**+0.3**
	2.1nm,0.4s						
SGDS				Lg	Lg	05 18 24.4	
	2.0nm,0.2s						
AAK	**Ala-Archa**	**2.95**	**268**	⇓Pg	**Pb**	**05 17 43.3**	**+0.6**
	2.3nm,0.9s						
AAK				⇓Lg	Lg	05 18 22.8	
	2.9nm,0.7s						
UCH	**Uchtor**	**3.00**	**260**	⇑iP	**Pn**	**05 17 39.9**	**+1.6**
	baz=60						
UCH				⇑iS	**Sn**	**05 18 16.2**	**+1.1**
	baz=60						

*ATH **27** 05:36:20.7, 34.°80N×24.°85E, h40km±2km, ML2.5/5, Error ellipse: s-maj=3.9km s-min=1.9km az=350.0*
*THE **27** 05:36:21.8, 34.°76N×24.°84E, h26km, ML2.5/6, Error ellipse: s-maj=1.5km s-min=0.7km az=342.0*
ISC 27 05:36:21.4±1.5,**34.°79N**±0.°07×**24.°85E**±0.°04,**h31**km±7km, **n18**,σ0°34/28,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.23**	**351**	P	**Pb**	**05 36 27.9**	**-0.4**
SIVA				S	**Sb**	**05 36 33.2**	**+0.4**
	1μm,0.2s						
SIVA	**Sivas**	**0.23**	**351**	P	**Pb**	**05 36 27.8**	**-0.4**
SIVA				S	**Sb**	**05 36 33.4**	**+0.5**
SIVA				AML	AML	05 36 34.4	
	comp=E,3360μm,0.2s						
SIVA				AML	AML	05 36 35.1	
	comp=N,2093μm,0.2s						
TMBK	**Timbaki Herakl**	**0.30**	**346**	P	**Pb**	**05 36 28.9**	**-0.1**
TMBK				S	**Sn**	**05 36 34.6**	**-0.4**
	comp=N,488nm,0.3s						
IDI	**Anoyia**	**0.50**	**3**	P	**Pb**	**05 36 31.6**	**-0.5**
IDI				S	**Sn**	**05 36 40.6**	**+0.4**
	comp=N,255nm,0.5s						
IDI	**Anoyia**	**0.50**	**3**	P	**Pb**	**05 36 31.7**	**-0.3**
IDI				S	**Sn**	**05 36 40.3**	**+0.1**
IDI				AML	AML	05 36 42.5	
	comp=E,682μm,0.3s						
IDI				AML	AML	05 36 48.3	
	comp=N,519μm,0.4s						
GVDS	**Gavdos**	**0.63**	**276**	P	**Pb**	**05 36 33.9**	**-0.2**
GVDS				S	**Sn**	**05 36 43.1**	**-0.1**
	comp=N,702nm,0.4s						
GVD	**Gavdhos**	**0.63**	**275**	P	**Pb**	**05 36 33.9**	**-0.2**
GVD				S	**Sn**	**05 36 43.0**	**-0.3**
	comp=N,1μm,0.3s						
GVD	**Gavdhos**	**0.63**	**275**	P	**Pb**	**05 36 33.9**	**-0.2**
GVD				S	**Sn**	**05 36 43.9**	**+0.7**
GVD				AML	AML	05 36 48.4	
	comp=E,2428μm,0.4s						
GVD				AML	AML	05 36 48.6	
	comp=N,2420μm,0.3s						
LAST	**Lasithi**	**0.64**	**54**	P	**Pn**	**05 36 34.2**	**-0.2**
LAST	**Lasithi**	**0.64**	**54**	P	**Pn**	**05 36 34.2**	**-0.2**
LAST				AML	AML	05 36 47.1	
	comp=N,508μm,0.5s						
LAST				AML	AML	05 36 47.2	
	comp=E,464μm,0.9s						
PRNS	**Prines Rethymn**	**0.65**	**334**	P	**Pb**	**05 36 34.4**	**+0.1**
NPS	**Neapolis**	**0.79**	**52**	P	**Pb**	**05 36 36.9**	**+0.2**
VAM	**Vamos**	**0.82**	**319**	P	**Pn**	**05 36 36.5**	**-0.3**
VAM				S	**Sb**	**05 36 48.0**	**0.0**
	comp=E,370nm,0.3s						
VAM	**Vamos**	**0.82**	**319**	P	**Pb**	**05 36 36.9**	**-0.4**
VAM				S	**Sb**	**05 36 48.6**	**+0.6**
VAM				AML	AML	05 36 51.8	
	comp=N,677μm,0.4s						
VAM				AML	AML	05 36 52.0	
	comp=E,860μm,0.4s						
IMMV	**Iera Moni Meta**	**0.98**	**314**	P	**Pn**	**05 36 39.2**	**+0.1**
IMMV	**Iera Moni Meta**	**0.98**	**314**	P	**Pb**	**05 36 39.9**	**-0.1**
ANAF	**Anafi Island**	**1.74**	**25**	P	**Pn**	**05 36 49.3**	**-0.2**
KTHA	**Kythira Island**	**2.07**	**316**	P	**Pn**	**05 36 54.1**	**0.0**

*PRE **27** 06:17:38.5±0.7, 28.°31S×23.°45E, h5km, ML1.7*
*IDC **27** 06:17:43.5±5.9, 28.°36S×23.°62E, h0km, Error ellipse: s-maj=38.2km s-min=28.0km az=101.0*
ISC 27 06:17:38.5±1.7,**28.°29S**±0.°05×**23.°47E**±0.°04,**h3**km±12km, **n13**,σ1°77/21,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I47ZA	**BOSHOF INFRASO**	**1.58**	**102**	i		06 25 40.0	
	baz=278,slow=327,SNR=1.6						
BOSA	**Boshof**	**1.60**	**102**	Pg	**Pg**	**06 18 10.4**	**+1.2**
	1.2nm,0.3s,baz=284,slow=16,SNR=65						
BOSA				Lg	Lg	06 18 30.4	
	3.3nm,0.3s,baz=208,slow=17,SNR=24						
BOSA				Rg	Rg	06 18 39.0	
	26nm,0.9s,baz=231,slow=2.0,SNR=13						
BOSA	**Boshof**	**1.60**	**102**	iP	**Pg**	**06 18 10.6**	**+1.4**
BOSA				iS	**Sn**	**06 18 28.0**	**-1.2**
BOSA	**Boshof**	**1.60**	**102**	eP	**Pn**	**06 18 08.0**	**+0.1**
BOSA				eS	**Sb**	**06 18 29.6**	**+0.1**
BOSA				AML	AML	06 18 33.2	
	comp=Z,15nm,0.6s						
BOSA	**Boshof**	**1.60**	**102**	iP	**Pg**	**06 18 10.6**	**+1.4**
BOSA				iS	**Sn**	**06 18 28.0**	**-1.2**
UPI	**Upington**	**1.96**	**267**	eP	**Pn**	**06 18 13.1**	**+0.3**
UPI				eS	**Sn**	**06 18 37.0**	**-1.0**
UPI				AML	AML	06 18 46.2	
	comp=Z,3.4nm,0.2s						
SWZ	**Schweizer**	**1.98**	**57**	eP	**Pn**	**06 18 13.4**	**+0.2**
SWZ				eS	**Sn**	**06 18 39.5**	**+0.8**
SWZ				AML	AML	06 18 44.5	
	comp=Z,14nm,0.4s						
HVD	**Gariep Dam**	**2.90**	**143**	eP	**Pn**	**06 18 26.4**	**+0.6**
HVD				eS	**Sn**	**06 19 00.6**	**-0.7**
HVD				AML	AML	06 19 16.7	
	comp=Z,5.1nm,0.8s						
PRYS	**Parys**	**3.71**	**69**	eP	**Pn**	**06 18 37.8**	**+0.9**
PRYS				eS	**Sn**	**06 19 20.2**	**-1.0**
PRYS				AML	AML	06 19 48.3	
	comp=Z,5.5nm,0.5s						
LBTB	**Lobatse**	**3.78**	**31**	iP	**Pn**	**06 18 41.1**	**+3.3**
LBTB				iS	**Sg**	**06 19 36.9**	**-3.0**
LBTB	**Lobatse**	**3.78**	**31**	eP	**Pn**	**06 18 38.4**	**+0.5**
LBTB				eS	**Sn**	**06 19 22.1**	**-0.8**
LBTB				AML	AML	06 19 44.3	
	comp=Z,2.8nm,0.4s						
LBTB	**Lobatse**	**3.78**	**31**	iP	**Pn**	**06 18 41.1**	**+3.3**
LBTB				iS	**Sg**	**06 19 36.9**	**-3.0**
I35NA	**TSUMEB INFRASO**	**10.54**	**328**	i		07 22 40.0	
	baz=151,slow=317,SNR=1.5						

*NEIC **27** 06:43:54.2±1.1, 23.°98N±0.°05×122.°77E±0.°06, h43km±9km, mb4.5/6, Error ellipse: s-maj=10.7km s-min=3.8km az=134.0*
*JMA **27** 06:43:54.4±0.2, 24.°00N×122.°64E, h22km±3km, M3.5*
*TAP **27** 06:43:54.7, 24.°04N×122.°69E, h35km, ML4.1, C*
*NIED **27** 06:43:54.5, 24.°00N×122.°64E, h22km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}3.89; $M_{\theta\theta}$-3.32; $M_{\phi\phi}$-0.57; $M_{r\theta}$2.65; $M_{\theta\phi}$-0.79; $M_{\phi r}$2.04; Fault plane solution: $M_0$4.98000×10^{14} NP1:ϕ_s61.00000°, δ66.00000°, λ80.00000°. NP2:ϕ_s265.00000°, δ26.00000°, λ112.00000°.*
*IDC **27** 06:44:05.2±11.0, 24.°12N×122.°58E, h128km±115km, mb3.3/4, mb1 3.5/5, mb1mx3.1/32, mbtmp3.8/5, ML4.0/1, MS2.8/2, Ms1 2.9/2, ms1mx2.6/21 Error ellipse: s-maj=99.2km s-min=20.4km az=66.0*
ISC 27 06:43:54.1±0.9,**23.°98N**±0.°02×**122.°64E**±0.°02,**h32**km±7km, **n141**,σ1°39/254,**mb4.2**/8,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.54**	**30**	P	**Pb**	**06 44 04.9**	**-0.4**
JYNG				S	**Sb**	**06 44 12.1**	**-0.9**
YOJ	**Yonaguni jima**	**0.58**	**35**	iP	**Pb**	**06 44 05.6**	**-0.5**
	baz=40						
YOJ				iS	**Sb**	**06 44 13.4**	**-0.8**
	baz=40						
YOJ	**Yonaguni jima**	**0.58**	**35**	P	**Pb**	**06 44 05.6**	**-0.5**
YOJ				eS	**Sb**	**06 44 13.3**	**-0.8**
YOJ	**Yonaguni jima**	**0.58**	**35**		**Pb**	**06 44 05.5**	**-0.5**
YOJ					**Sb**	**06 44 13.1**	**-1.0**
ENAH	**Nanao**	**0.89**	**302**	eP	**Pn**	**06 44 11.3**	**+0.8**
	baz=296						
ENAH				eS	**Sn**	**06 44 24.3**	**+2.0**
	baz=296						
ENA	**Nanau**	**0.94**	**299**	eP	**Pb**	**06 44 11.8**	**0.0**
	baz=293						
ENA				eS	**Sn**	**06 44 25.5**	**+2.1**
	baz=293						
TWC	**Suao**	**0.96**	**311**	P	**Pb**	**06 44 11.9**	**-0.3**
	baz=306						
TWC				S	**Sb**	**06 44 24.5**	**-0.1**
	baz=306						
TWD	**Chiawan**	**0.96**	**276**	eP	**Pb**	**06 44 11.9**	**-0.4**
	baz=272						
TWD				eS	**Sb**	**06 44 24.7**	**0.0**
	baz=272						
NACB	**Ninganchiao**	**0.98**	**282**	P	**Pb**	**06 44 12.2**	**-0.3**
	baz=264						
NACB				eS	**Sn**	**06 44 26.3**	**+1.9**
	baz=264						
NACB	**Ninganchiao**	**0.98**	**282**		**Pb**	**06 44 12.3**	**-0.3**
NACB					**Sn**	**06 44 26.4**	**+2.0**
IRIF	**Iriomote-Funau**	**1.05**	**70**	P	**Pn**	**06 44 13.6**	**+0.9**
IRIF				eS	**Sb**	**06 44 27.6**	**+0.3**
HATJ	**Hateruma jima**	**1.06**	**86**	P	**Pn**	**06 44 14.2**	**+1.4**
HATJ				S	**Sn**	**06 44 28.8**	**+2.3**
EGS		**1.08**	**323**	eP	**Pn**	**06 44 13.5**	**+0.5**
	baz=331						
EGS				eS	**Sb**	**06 44 27.6**	**-0.4**
	baz=331						
ETLH	**Xiulin Townshi**	**1.09**	**282**	P	**Pn**	**06 44 14.1**	**+0.9**
	baz=267						
ETLH				S	**Sn**	**06 44 29.6**	**+2.4**
	baz=267						
ESL	**Shilin**	**1.12**	**262**	eP	**Pn**	**06 44 14.4**	**+0.8**
	baz=250						
ESL				eS	**Sb**	**06 44 28.4**	**-0.8**
	baz=250						
ILA	**Ilan**	**1.13**	**314**	eP	**Pn**	**06 44 14.5**	**+0.7**
	baz=310						
ILA				eS	**Sn**	**06 44 32.3**	**+4.1**
	baz=310						
NTC	**Toucheng**	**1.14**	**320**	eP	**Pn**	**06 44 14.6**	**+0.6**
	baz=328						
NTC				eS	**Sb**	**06 44 29.2**	**-0.7**
	baz=328						
TWE	**Neicheng**	**1.16**	**310**	P	**Pb**	**06 44 15.4**	**-0.2**
	baz=306						
TWE				eS	**Sn**	**06 44 32.2**	**+3.4**
	baz=306						
ENTT	**Nioudou**	**1.18**	**304**	eP	**Pb**	**06 44 16.0**	**0.0**
	baz=300						
ENTT				eS	**Sn**	**06 44 33.1**	**+3.6**
	baz=300						
TWB1	**Santiao Chiao**	**1.19**	**330**	P	**Pn**	**06 44 14.7**	**+0.2**
	baz=326						
TWB1				S	**Sn**	**06 44 30.7**	**+1.2**
	baz=326						
NDT	**Datong Townshi**	**1.20**	**301**	eP	**Pb**	**06 44 16.7**	**+0.4**
	baz=284						
NDT				eS	**Sn**	**06 44 33.4**	**+3.4**
	baz=284						
HGSD	**Ruisui**	**1.22**	**247**	eP	**Pn**	**06 44 15.7**	**+0.7**
	baz=244						
HGSD				eS	**Sn**	**06 44 31.1**	**+0.8**
	baz=244						
NNSB	**Datong**	**1.23**	**291**	P	**Pn**	**06 44 16.4**	**+1.1**
	baz=287						
NNSB				eS	**Sb**	**06 44 32.7**	**+0.1**
	baz=287						
NNSH	**Datong**	**1.23**	**291**	eP	**Pn**	**06 44 16.3**	**+1.0**
	baz=287						
NNSH				eS	**Sb**	**06 44 35.6**	**+3.0**
	baz=287						
TIPB	**Shuangxi**	**1.24**	**323**	eP	**Pn**	**06 44 15.9**	**+0.6**
	baz=331						
TIPB				eS	**Sb**	**06 44 33.0**	**+0.5**
	baz=331						
NNS	**Nan Shan**	**1.25**	**292**	eP	**Pn**	**06 44 16.6**	**+1.1**
	baz=288						
NNS				eS	**Sb**	**06 44 34.4**	**+1.4**
	baz=288						
WHF	**Hehuan Shan**	**1.27**	**278**	eP	**Pn**	**06 44 17.0**	**+0.9**
	baz=274						
WHF				eS	**Sn**	**06 44 32.7**	**+0.5**
	baz=274						
JKRS	**Kuro-shima**	**1.27**	**78**	P	**Pb**	**06 44 17.5**	**0.0**
JKRS				S	**Sb**	**06 44 34.5**	**+0.9**
EHY	**Hungye**	**1.30**	**249**	P	**Pn**	**06 44 17.1**	**+1.1**
	baz=246						
EHY				S	**Sn**	**06 44 33.9**	**+1.5**
	baz=246						
FUSS	**Fushou**	**1.31**	**282**	eP	**Pb**	**06 44 17.9**	**-0.3**
	baz=278						
FUSS				eS	**Sb**	**06 44 36.1**	**+1.3**
	baz=278						
NWLT	**Wulai**	**1.31**	**308**	eP	**Pb**	**06 44 17.8**	**-0.3**
	baz=316						
NWLT				eS	**Sb**	**06 44 35.1**	**+0.5**
	baz=316						
NWF	**Wu-fen Shan**	**1.34**	**324**	eP	**Pn**	**06 44 17.4**	**+0.7**
	baz=321						
NWF				eS	**Sn**	**06 44 33.0**	**-0.5**
	baz=321						
WFSB	**Wu-fen Shan**	**1.34**	**324**	P	**Pn**	**06 44 17.3**	**+0.7**
	baz=320						
WFSB				eS	**Sn**	**06 44 34.6**	**+1.2**
	baz=320						
YHNB	**Yeheng**	**1.34**	**301**	eP	**Pn**	**06 44 18.3**	**+1.5**
	baz=297						
YHNB				eS	**Sb**	**06 44 36.0**	**+0.2**
	baz=297						
YHNB	**Yeheng**	**1.34**	**301**		**Pn**	**06 44 18.1**	**+1.3**
YHNB				Sn	**Sb**	**06 44 35.9**	**+0.1**
CHGB	**Renai**	**1.35**	**274**	P	**Pn**	**06 44 18.2**	**+1.3**
	baz=270						
CHGB				eS	**Sn**	**06 44 34.7**	**+0.9**
	baz=270						
NSK	**Sanguang**	**1.36**	**301**	eP	**Pn**	**06 44 18.4**	**+1.4**
	baz=297						
NSK				eS	**Sb**	**06 44 37.2**	**+1.0**
	baz=297						
YULB	**Yu-li**	**1.37**	**245**	P	**Pn**	**06 44 18.3**	**+1.3**
	baz=232						
YULB				S	**Sn**	**06 44 35.6**	**+1.7**
	baz=232						
YULB	**Yu-li**	**1.37**	**245**		**Pn**	**06 44 18.3**	**+1.3**
YULB				Sn	**Sn**	**06 44 35.7**	**+1.7**
EYUL	**Yuli**	**1.37**	**243**	eP	**Pb**	**06 44 19.2**	**+0.1**
	baz=241						
EYUL				eS	**Sb**	**06 44 36.9**	**+0.6**
	baz=241						
TWT	**Tachien**	**1.37**	**282**	eP	**Pb**	**06 44 19.3**	**+0.1**
	baz=266						
TWT				eS	**Sb**	**06 44 38.0**	**+1.5**
	baz=266						
TDCB	**Techi**	**1.38**	**282**	eP	**Pn**	**06 44 18.9**	**+1.6**
	baz=267						
TDCB				eS	**Sn**	**06 44 35.8**	**+1.2**
	baz=267						
TWF1	**Yuli**	**1.38**	**243**	P	**Pn**	**06 44 18.4**	**+1.2**
	baz=232						
TWF1				eS	**Sn**	**06 44 36.3**	**+1.9**
	baz=232						
TWA	**Mucha**	**1.39**	**316**	eP	**Pb**	**06 44 18.8**	**-0.6**
	baz=312						
TWA				eS	**Sb**	**06 44 39.0**	**+2.2**
	baz=312						
JIJ	**Ishigaki jima**	**1.42**	**74**	P	**Pn**	**06 44 18.9**	**+1.2**
JIJ				eS	**Sn**	**06 44 36.9**	**+1.6**
TATO	**Taipei**	**1.45**	**313**	eP	**Pb**	**06 44 20.2**	**-0.2**
	baz=324						
TATO				eS	**Sb**	**06 44 39.1**	**+0.6**
	baz=324						
TATO	**Taipei**	**1.45**	**313**		**Pb**	**06 44 19.9**	**-0.6**
FULB	**Fuli**	**1.46**	**238**	eP	**Pn**	**06 44 19.1**	**+0.8**
	baz=226						
FULB				eS	**Sn**	**06 44 37.6**	**+1.2**
	baz=226						
CHKT	**Chengkung**	**1.47**	**233**	eP	**Pn**	**06 44 19.4**	**+1.1**
	baz=222						
CHKT				eS	**Sn**	**06 44 36.1**	**-0.3**
	baz=222						
TAP1	**Taipei**	**1.47**	**316**	eP	**Pb**	**06 44 20.7**	**-0.1**
	baz=312						
TAP1				eS	**Sb**	**06 44 38.7**	**-0.4**
	baz=312						
YM05	**YM05**	**1.53**	**320**	eP	**Pn**	**06 44 20.4**	**+1.1**
	baz=316						
SSLB	**Suanglung**	**1.56**	**263**	eP	**Pn**	**06 44 21.4**	**+1.7**
	baz=261						
SSLB				eS	**Sn**	**06 44 39.0**	**+0.2**
	baz=261						
SSLB	**Suanglung**	**1.56**	**263**		**Pn**	**06 44 21.3**	**+1.7**
TWS1	**Kuangyinshan**	**1.58**	**315**	eP	**Pb**	**06 44 22.1**	**-0.6**
	baz=325						
TWS1				eS	**Sb**	**06 44 43.8**	**+1.5**
	baz=325						
WHP	**Taichung City**	**1.58**	**281**	eP	**Pb**	**06 44 22.1**	**-0.7**
	baz=268						
WHP				eS	**Sb**	**06 44 44.0**	**+1.6**
	baz=268						
EDH	**Donghe**	**1.59**	**231**	eP	**Pn**	**06 44 21.0**	**+1.0**
	baz=221						
EDH				eS	**Sn**	**06 44 39.6**	**+0.2**
	baz=221						
SMLT	**Sun Moon Lake**	**1.60**	**267**	eP	**Pn**	**06 44 22.2**	**+1.9**
	baz=264						
SMLT				eS	**Sn**	**06 44 40.4**	**+0.5**
	baz=264						
TWY	**Chenhua**	**1.60**	**324**	eP	**Pn**	**06 44 21.4**	**+1.2**
	baz=321						
TWY				eS	**Sb**	**06 44 42.8**	**-0.1**
	baz=321						
NTST	**Danshui**	**1.60**	**318**	eP	**Pn**	**06 44 22.1**	**+1.8**
	baz=314						
NTST				eS	**Sb**	**06 44 43.1**	**+0.1**
	baz=314						
LIOB	**Emei**	**1.63**	**294**	eP	**Pb**	**06 44 23.1**	**-0.4**
	baz=291						
LIOB				eS	**Sb**	**06 44 44.7**	**+1.0**
	baz=291						
NSTT	**Nanjuang**	**1.63**	**294**	eP	**Pb**	**06 44 23.1**	**-0.5**
	baz=290						
NSTT				eS	**Sb**	**06 44 43.4**	**-0.4**
	baz=290						
JISG	**Ishigakijimahi**	**1.64**	**68**	P	**Pn**	**06 44 21.5**	**+0.8**
JISG				eS	**Sn**	**06 44 42.4**	**+1.7**
TYC	**Yuchr**	**1.64**	**268**	eP	**Pn**	**06 44 22.7**	**+2.0**
	baz=265						
TYC				eS	**Sn**	**06 44 42.1**	**+1.4**
	baz=265						
NCUH	**Zhongli**	**1.65**	**307**	eP	**Pb**	**06 44 25.2**	**+1.2**
	baz=304						
NCUH				eS	**Sb**	**06 44 46.4**	**+2.0**
	baz=304						
ELDTW	**Lidau**	**1.69**	**243**	iP	**Pn**	**06 44 22.5**	**+1.0**
	baz=240						
ELDTW				S	**Sn**	**06 44 42.9**	**+0.8**
	baz=240						
LDUT	**Ludao**	**1.69**	**220**	eP	**Pn**	**06 44 22.1**	**+0.7**
	baz=218						
LDUT				eS	**Sn**	**06 44 41.7**	**-0.3**
	baz=218						
SBCB	**Hsinchu**	**1.71**	**298**	eP	**Pb**	**06 44 25.8**	**+0.8**
	baz=295						
SBCB				eS	**Sb**	**06 44 48.0**	**+1.9**
	baz=295						
PCYT	**Pengchaiyu**	**1.72**	**343**	eP	**Pn**	**06 44 22.3**	**+0.4**
	baz=340						
PCYT				eS	**Sn**	**06 44 43.1**	**+0.3**
	baz=340						
TWQ1	**Liyutan**	**1.75**	**282**	eP	**Pb**	**06 44 25.1**	**-0.5**

TWQ1				eS	Sb	06 44 46.9	-0.3
	baz=279						
ALS	**Alishan**	**1.75**	**255**	eP	Pb	06 44 25.0	-0.8
	baz=252						
ALS				eS	Sn	06 44 46.5	+2.6
	baz=252						
LONT	**Longtian**	**1.75**	**233**	eP	Pn	06 44 23.6	+1.3
	baz=224						
LONT				eS	Sn	06 44 45.4	+1.8
	baz=224						
WJS	**Zhushan**	**1.76**	**265**	eP	Pb	06 44 26.5	+0.7
	baz=263						
WJS				eS	Sb	06 44 50.3	+2.8
	baz=263						
NSY	**Sanyi**	**1.77**	**285**	eP	Pb	06 44 25.4	-0.6
	baz=282						
NSY				eS	Sb	06 44 48.5	+0.7
	baz=282						
NMLH	**Miaoli**	**1.78**	**289**	eP	Pb	06 44 25.9	-0.2
	baz=285						
NMLH				eS	Sb	06 44 49.2	+1.2
	baz=285						
WNT	**Mingjian**	**1.80**	**267**	eP	Pb	06 44 26.5	+0.1
	baz=265						
WNT				eS	Sb	06 44 49.0	+0.5
	baz=265						
TCU	**Taichung**	**1.81**	**276**	eP	Pb	06 44 25.8	-0.8
	baz=273						
TCU				eS	Sb	06 44 49.5	+0.7
	baz=273						
TTN	**Taitung**	**1.84**	**229**	eP	Pn	06 44 24.8	+1.4
	baz=218						
TTN				eS	Sb	06 44 49.1	-0.6
	baz=218						
CHN5	**Tsauling**	**1.84**	**258**	eP	Pb	06 44 26.8	-0.4
	baz=247						
CHN5				eS	Sb	06 44 50.9	+1.0
	baz=247						
TWGBT	**Beinan**	**1.84**	**231**	P	Pn	06 44 24.7	+1.1
	baz=222						
TWGBT				S	Sn	06 44 46.3	+0.5
	baz=222						
TWG	**Pinlang**	**1.85**	**232**	P	Pn	06 44 24.5	+0.9
	baz=222						
TWG				S	Sn	06 44 47.0	+1.1
	baz=222						
TWG	**Pinlang**	**1.85**	**232**		Pn	06 44 24.6	+0.9
WDJ	**Dajia District**	**1.87**	**282**	eP	Pb	06 44 26.9	-0.7
	baz=279						
WDJ				eS	Sb	06 44 50.7	+0.2
	baz=279						
WCHH	**Zhanghua**	**1.91**	**273**	eP	Pb	06 44 28.0	-0.3
	baz=271						
WCHH				eS	Sb	06 44 52.8	+1.1
	baz=271						
WGK	**Gukeng**	**1.93**	**262**	eP	Pb	06 44 29.1	+0.5
	baz=259						
WGK				eS	Sb	06 44 54.2	+1.9
	baz=259						
WDLH	**Douliu**	**1.95**	**262**	eP	Pb	06 44 28.9	-0.1
	baz=259						
WDLH				eS	Sb	06 44 54.2	+1.3
	baz=259						
TPUB	**Ta-pu**	**1.97**	**250**	eP	Pb	06 44 28.6	-0.7
	baz=238						
TPUB				eS	Sb	06 44 53.2	-0.3
	baz=238						
TPUB	**Ta-pu**	**1.97**	**250**		Pb	06 44 28.3	-1.0
CHN4	**Tsaushan**	**1.98**	**252**	P	Pb	06 44 29.1	-0.5
	baz=250						
CHN4				S	Sb	06 44 54.1	+0.2
	baz=250						
JTJ	**Tarama**	**1.99**	**70**	P	Pn	06 44 28.0	+2.5
WTP	**Ta-pu**	**2.00**	**249**	eP	Pb	06 44 29.1	-0.8
	baz=238						
WTP				eS	Sb	06 44 54.2	-0.3
	baz=238						
ECL	**Taimali**	**2.08**	**229**	eP	Pn	06 44 27.4	+0.7
	baz=238						
ECL				eS	Sn	06 44 51.8	+0.2
	baz=238						
SLGT	**Liugui**	**2.08**	**242**	eP	Pb	06 44 30.1	-1.1
	baz=234						
SLGT				eS	Sb	06 44 57.4	+0.7
	baz=234						
WTK	**Tuku**	**2.09**	**262**	eP	Pb	06 44 30.5	-0.8
	baz=260						
WTK				eS	Sb	06 44 57.2	+0.4
	baz=260						
CHY	**Chiayi**	**2.09**	**257**	eP	Pb	06 44 32.1	+0.7
	baz=255						
CHY				eS	Sb	06 44 56.2	-0.7
	baz=255						
RLNB	**Erlin**	**2.09**	**268**	eP	Pb	06 44 30.4	-1.0
	baz=278						
RLNB				eS	Sb	06 44 56.9	-0.1
	baz=278						
SGST	**Jiashian**	**2.09**	**245**	eP	Pb	06 44 30.3	-1.1
	baz=235						
SGST				S	Sb	06 44 56.4	-0.6
	baz=235						
CHN1	**Nanshi**	**2.10**	**248**	eP	Pb	06 44 30.9	-0.6
	baz=246						
CHN1				eS	Sb	06 44 57.2	+0.1
	baz=246						
TWK	**Hsinying**	**2.10**	**251**	P	Pb	06 44 30.8	-0.8
	baz=248						
TWK				S	Sb	06 44 56.7	-0.6
	baz=248						
LAY	**Lan-yu**	**2.18**	**208**	eP	Pn	06 44 28.4	+0.2
	baz=206						
LAY				S	Sn	06 44 53.9	-0.2
	baz=206						
SSD	**Sandimen**	**2.22**	**237**	eP	Pb	06 44 32.6	-1.0
	baz=231						
SSD				eS	Sn	06 44 58.5	+3.5
	baz=231						
TSMG	**Majia**	**2.23**	**236**	eP	Pb	06 44 32.9	-0.9
	baz=229						
TSMG				eS	Sb	06 45 00.1	-1.0
	baz=229						
ICHU	**Yijhu**	**2.25**	**255**	eP	Pb	06 44 32.9	-1.3
	baz=252						
ICHU				eS	Sb	06 44 59.8	-1.8
	baz=252						
SCST	**Cishan**	**2.26**	**242**	eP	Pn	06 44 31.7	+2.5
	baz=229						
SCST				eS	Sb	06 45 02.3	+0.6
	baz=229						
TAW	**Tawu**	**2.28**	**225**	eP	Pn	06 44 32.2	+2.6
	baz=233						
TAW				eS	Sn	06 44 57.9	+1.4
	baz=233						
EAST	**Anshuo**	**2.29**	**226**	P	Pn	06 44 31.0	+1.3
	baz=235						
MASBT	**Mashibuluo**	**2.30**	**234**	eP	Pn	06 44 31.9	+2.1
	baz=227						
MASBT				eS	Sb	06 45 03.0	+0.2
	baz=227						
CHN8	**Yiju**	**2.32**	**255**	eP	Pb	06 44 35.6	+0.3
	baz=252						
CHN8				eS	Sb	06 45 02.2	-1.3
	baz=252						
SSPT	**Xinbi**	**2.42**	**232**	eP	Pb	06 44 36.0	-1.0
	baz=225						
SSPT				eS	Sb	06 45 05.4	-1.0
	baz=225						
SLIU	**Shizi**	**2.44**	**224**	eP	Pn	06 44 33.7	+1.9
	baz=230						
SLIU				eS	Sn	06 45 02.4	+1.8
	baz=230						
SCZT	**Fangliau**	**2.46**	**230**	eP	Pb	06 44 35.7	-1.9
	baz=221						
SCZT				eS	Sn	06 45 02.3	+1.4
	baz=221						
JMJ	**Miyako jima 2**	**2.55**	**70**	eP	Pn	06 44 36.6	+3.3
	baz=75						
JMJ				eS	Sn	06 45 07.5	+4.1
	baz=75						
TSEB	**Hengchuen, Pin**	**2.62**	**218**	eP	Pn	06 44 37.6	+3.4
	baz=225						
TSEB				eS	Sn	06 45 09.2	+4.2
	baz=225						
HEN	**Hengchun**	**2.64**	**222**	eP	Pb	06 44 39.2	-1.5
	baz=220						
HEN				eS	Sn	06 45 07.9	+2.6
	baz=220						
TWKBT	**Hengchun**	**2.64**	**220**	eP	Pn	06 44 36.5	+2.0
	baz=218						
TWKBT				eS	Sn	06 45 08.8	+3.3
	baz=218						
TWK1	**Hengchun**	**2.64**	**220**	eP	Pn	06 44 36.9	+2.4
	baz=218						
TWK1				eS	Sn	06 45 07.7	+2.2
	baz=218						
TWP	**Hsiaoliuchiu**	**2.66**	**233**	eP	Pb	06 44 39.9	-1.1
	baz=245						
TWP				eS	Sb	06 45 15.5	+2.3
	baz=245						
WDGT	**Dungji**	**2.83**	**256**	eP	Pn	06 44 39.8	+2.7
	baz=254						
WDGT				eS	Sn	06 45 12.7	+2.6
	baz=254						
PHUB	**P'eng-hu**	**2.85**	**261**	eP	Pn	06 44 39.4	+1.9
	baz=274						
PHUB				eS	Sn	06 45 10.4	-0.3
	baz=274						
PNG	**Penghu**	**2.86**	**262**	eP	Pn	06 44 39.7	+2.2
	baz=275						
PNG				eS	Sn	06 45 13.3	+2.5
	baz=275						
PTTC	**Pingtan**	**3.02**	**301**	eP	Pn	06 44 38.9	-0.8
	baz=299						
PTTC				eS	Sn	06 45 13.2	-1.6
	baz=299						
PTMZ	**Houxiangcun**	**3.38**	**289**	eP	Pn	06 44 45.7	+1.0
	baz=287						
PTMZ				eS	Sn	06 45 23.7	0.0
	baz=287						
XPSS	**Dashiqiu**	**3.68**	**323**	eP	Pn	06 44 49.3	+0.5
	baz=320						
KNMB	**Chin-men Tao**	**3.92**	**278**	eP	Pn	06 44 53.0	+0.9
	baz=276						
KNMB				eS	Sn	06 45 36.8	-0.1
	baz=276						
AXDP	**Jialang**	**4.36**	**283**	eP	Pn	06 44 59.5	+1.4
	baz=271						
JNU	**Nakatsue**	**11.63**	**37**	LR	LR	06 51 06.0	
	comp=Z,59nm,18.7s,baz=352,slow=36						
KSRS	**Korea Array**	**14.17**	**17**	P	**P**	**06 47 18.6**	**-1.0**
	0.8nm,0.3s,baz=198,slow=12,SNR=18						
CM31	**Chiang Mai Arr**	**22.75**	**261**	P	**P**	**06 48 53.9**	**0.0**
CMAR	**Chiang Mai Arr**	**22.75**	**261**	LR	LR	06 59 20.8	
	comp=Z,15nm,18.1s,baz=180,slow=40						
CMAR	**Chiang Mai Arr**	**22.75**	**261**	P	**P**	**06 48 54.7**	**+0.9**
MKAR	**Makanchi Array**	**39.41**	**316**	P	**P**	**06 51 21.2**	**+0.2**
	0.4nm,0.5s,baz=103,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**39.41**	**316**	P	**P**	**06 51 20.9**	**-0.1**
TARG	**Taragay, Kyrgy**	**41.11**	**307**	P	**P**	**06 51 35.5**	**-0.1**
TARG				IAmb	IAmb	06 51 44.3	
	comp=Z,2.5nm,0.7s						
WB0	**Warramunga Arr**	**44.97**	**164**	P	**P**	**06 52 06.0**	**-0.5**
WB0				IAmb	IAmb	06 52 45.0	
	comp=Z,13nm,1.6s						
WRA	**Warramunga Arr**	**45.12**	**164**	P	**P**	**06 52 09.4**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=347,slow=9.0,SNR=5.7						
WB2	**Warramunga Arr**	**45.12**	**164**	P	**P**	**06 52 06.8**	**-0.9**
WB2				IAmb	IAmb	06 52 07.4	
	comp=Z,17nm,1.6s						
KBL	**Kabul**	**47.45**	**296**	P	**P**	**06 52 24.7**	**-1.6**
KBL				IAmb	IAmb	06 52 31.8	
	comp=Z,4.0nm,0.6s						
ASAR	**Alice Springs**	**48.61**	**166**	P	**P**	**06 52 37.8**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=347,slow=6.7,SNR=5.4						
ASAR	**Alice Springs**	**48.61**	**166**	P	**P**	**06 52 32.4**	**-2.5**
CTGM	**Chitina Glacie**	**72.18**	**31**	P	**P**	**06 55 14.1**	**-1.8**
FINES	**FINESS Array B**	**72.29**	**330**	P	**P**	**06 55 15.5**	**-0.7**
	comp=Z,3.6nm,1.1s,baz=81,slow=8.6,SNR=4.1						
FINES	**FINESS Array B**	**72.29**	**330**	P	**P**	**06 55 14.8**	**-1.4**

JMA 27 07:16:54.9, 35°.94N×136°.33E, h7km±1km, M2.8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.34**	**0**	P	Pg	07 17 01.9	+0.4
JKG				S	Sg	07 17 06.8	+0.9
JYTA	**Yamagatataniai**	**0.48**	**136**	P	Pg	07 17 04.1	0.0
JYTA				S	Sg	07 17 10.5	+0.1
JICN	**Ichinomiyachia**	**0.76**	**147**	P	Pg	07 17 09.8	+0.3
JICN				S	Sg	07 17 19.7	+0.3
JWT	**Wachi**	**1.00**	**229**	P	Pg	07 17 13.7	-0.4
JKY	**Yasaka**	**1.04**	**253**	P	Pg	07 17 14.5	-0.4
JKY				S	Sg	07 17 28.3	-0.2
MAT	**Matsushiro**	**1.63**	**68**	P	Pn	07 17 23.9	-0.2
MAT				S	Sg	07 17 47.6	+0.2

GCG ***27*** *08:02:43.5±0.4, 14°.08N×90°.85W, h325km±164km, MD4.0*
SNET ***27*** *08:03:00.6±1.1, 14°.49N×90°.56W, h171km±7km, ML3.0*
ISC 27 08:02:57.9±3.5, 14°.2N±0°.2×90°.63W±0°.09, h208km±22km, n14, σ1s88/22, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.18**	**6**	eP	**Pn**	**08 03 26.1**	**+0.6**
IXG	**Ixpaco**	**0.18**	**103**	eP	**Pn**	**08 03 24.7**	**-0.7**
IXG	**Ixpaco**	**0.18**	**103**	eP	**Pn**	**08 03 25.9**	**+0.5**
FUG	**Fuego 3**	**0.31**	**318**	eP	**Pn**	**08 03 25.8**	**+0.2**
FUG				eS	**S**	**08 03 53.1**	**+5.8**
NBG	**Las Nubes**	**0.46**	**36**	eP	**Pn**	**08 03 27.2**	**+1.0**
NUBE	**Las Nubes**	**0.88**	**111**	iP	**Pn**	**08 03 28.0**	**+0.1**
NUBE				eS	**S**	**08 03 48.8**	**-2.3**
CEVE	**Cerro Verde**	**1.05**	**111**	eP	**Pn**	**08 03 28.7**	**-0.4**
CEVE				eS	**S**	**08 03 51.8**	**-1.3**
CEVE				IAML		08 03 57.0	
	comp=Z,187nm,0.2s						
RTAL	**Retalhuleu**	**1.08**	**287**	eP	**Pn**	**08 03 28.9**	**-0.1**
RTAL				eS	**S**	**08 03 50.0**	**-3.0**
MTO3	**Montecristo**	**1.24**	**81**	iP	**Pn**	**08 03 30.2**	**-0.3**
MTO3				eS	**S**	**08 03 52.5**	**-2.9**
MRL	**Marmol**	**1.26**	**47**	eP	**Pn**	**08 03 30.8**	**+0.2**
LBRS	**Las Brisas**	**1.61**	**107**	eP	**Pn**	**08 03 34.3**	**+0.9**
LFRS	**El Faro**	**1.63**	**111**	eP	**Pn**	**08 03 34.4**	**+0.8**
LFRS				eS	**S**	**08 04 01.5**	**+0.5**
PAVA	**Las Pavas**	**1.71**	**107**	eP	**Pn**	**08 03 35.3**	**+0.9**
PAVA				IAML		08 03 36.0	
	comp=Z,53nm,0.4s						
PAVA				eS	**S**	**08 04 02.4**	**+0.1**
COEG	**Centro de Oper**	**1.80**	**109**	eP	**Pn**	**08 03 35.5**	**+0.4**
COEG				eS	**S**	**08 04 04.1**	**+0.5**

REY ***27*** *08:11:05.0, 64°.67N×17°.45W, h2km*
IDC ***27*** *08:11:05.6±0.7, 64°.67N×17°.69W, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/51, mbtmp3.8/12, ML4.6/1, MS3.1/1, Ms1 3.2/1, ms1mx2.6/45, Error ellipse: s-maj=20.4km s-min=13.3km az=16.0*
NEIC ***27*** *08:11:05.9±1.1, 64°.61N±0°.07×17°.6W±0°.1, h5km±4km, mb4.4/32, Error ellipse: s-maj=11.8km s-min=6.3km az=217.0*
ISC 27 08:11:06.1±0.4, 64°.67N±0°.02×17°.47W±0°.02, h10km, n120, σ1s73/139, mb4.2/25, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**270**	P	**Pg**	**08 11 08.0**	**-1.2**
	baz=273						
IVON				S	**Sg**	**08 11 10.7**	**-0.6**
	baz=273						
IDYN	**Dyngjuhals**	**0.13**	**21**	P	**Pg**	**08 11 08.2**	**-1.1**
	baz=15						
IDYN				S	**Sg**	**08 11 10.8**	**-0.6**
	baz=15						
IDJK	**Dyngjujokull**	**0.20**	**149**	P	**Pg**	**08 11 09.0**	**-1.3**
	baz=151						
IURH	**Urdarhals**	**0.20**	**43**	P	**Pg**	**08 11 09.4**	**-1.0**
	baz=40						
IGRF	**Grimsfjall**	**0.28**	**162**	P	**Pg**	**08 11 10.7**	**-1.2**
	baz=164						
IKVE	**Kverkfjoll**	**0.34**	**89**	P	**Pg**	**08 11 11.7**	**-1.3**
	baz=88						
IBJK	**Bruarjokull**	**0.37**	**123**	P	**Pg**	**08 11 11.9**	**-1.6**
	baz=123						
IHUS	**Husbondi**	**0.39**	**192**	P	**Pg**	**08 11 12.7**	**-1.1**
	baz=194						
ISKR	**Skrokkalda**	**0.41**	**254**	P	**Pg**	**08 11 12.8**	**-1.3**
	baz=256						
ISKR				S	**Sb**	**08 11 19.7**	**-2.1**
	baz=256						
IVOT	**Vottur**	**0.42**	**163**	P	**Pg**	**08 11 13.2**	**-1.3**
	baz=164						
THOR	**Thorvaldshraun**	**0.43**	**52**	P	**Pg**	**08 11 13.2**	**-1.4**
	baz=50						
THOR				S	**Sg**	**08 11 19.6**	**-0.7**
	baz=50						
IKRE	**Kreppuhraun**	**0.48**	**76**	P	**Pg**	**08 11 13.8**	**-1.7**
	baz=75						
IJOK	**Jokulheimar**	**0.49**	**223**	P	**Pg**	**08 11 14.1**	**-1.5**
	baz=224						
IASK	**Askja**	**0.52**	**42**	P	**Pg**	**08 11 14.6**	**-1.6**
	baz=41						
IASK				S	**Sg**	**08 11 21.7**	**-1.3**
	baz=41						
IMKO	**Mokollar**	**0.57**	**57**	P	**Pg**	**08 11 15.6**	**-1.6**
	baz=56						
IMKO				S	**Sg**	**08 11 24.2**	**-0.6**
	baz=56						
IIEY	**Innrieyrar**	**0.65**	**206**	P	**Pg**	**08 11 16.8**	**-1.8**
	baz=208						
IIEY				S	**Sg**	**08 11 26.1**	**-1.0**
	baz=208						
IKSK	**Karasker**	**0.67**	**139**	P	**Pg**	**08 11 16.7**	**-2.5**
	baz=140						
ISVA	**Svartarkot**	**0.67**	**8**	P	**Pg**	**08 11 17.3**	**-1.9**
	baz=6.8						
ISVA				S	**Sg**	**08 11 27.1**	**-0.8**
	baz=6.8						
IKAL	**Kalfafell**	**0.73**	**187**	P	**Pg**	**08 11 18.4**	**-1.8**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**79**	P	**Pg**	**08 11 18.4**	**-2.4**
	baz=78						
IVSH				S	**Sg**	**08 11 28.9**	**-1.8**
	baz=78						
IVAT	**Vatnsfell**	**0.80**	**233**	P	**Pg**	**08 11 20.0**	**-1.4**
	baz=234						
IFAG	**Fagurholsmyri**	**0.88**	**156**	P	**Pg**	**08 11 20.6**	**-2.3**
	baz=156						
IADA	**Aoalbol**	**0.88**	**66**	P	**Pg**	**08 11 20.4**	**-2.6**
	baz=65						
IADA				S	**Sg**	**08 11 32.6**	**-1.9**
	baz=65						
IHVE	**Hveravellir**	**0.92**	**283**	P	**Pg**	**08 11 21.2**	**-2.6**
	baz=284						
IHVE				S	**Sg**	**08 11 34.2**	**-1.5**
	baz=284						
IMEL	**Melhnausar**	**0.96**	**21**	P	**Pg**	**08 11 22.1**	**-2.6**
	baz=20						
IMEL				S	**Sg**	**08 11 35.6**	**-1.6**
	baz=20						
ISNB	**Snabyli**	**1.07**	**209**	P	**Pg**	**08 11 24.1**	**-2.6**
	baz=210						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**08 11 24.9**	**-2.8**
	baz=29						
IGRS				S	**Sg**	**08 11 40.7**	**-1.6**
	baz=29						
IRJU	**Rjupnafell**	**1.18**	**207**	P	**Pb**	**08 11 25.9**	**-2.7**
	baz=208						
IMJO	**Mjoaskard**	**1.21**	**233**	P	**Pb**	**08 11 26.5**	**-2.6**
	baz=234						
ISKI	**Skildingahlsh**	**1.22**	**9**	P	**Pn**	**08 11 26.3**	**-2.9**
	baz=8.1						
ISKI				S	**Sb**	**08 11 42.8**	**-2.1**
	baz=8.1						
IGHA	**Grjothals**	**1.22**	**16**	P	**Pn**	**08 11 26.2**	**-3.1**
	baz=15						
IGRA	**Granastaoir**	**1.25**	**358**	P	**Pn**	**08 11 26.6**	**-3.0**
	baz=358						
IGYG	**Gygjarholskot**	**1.25**	**253**	P	**Pn**	**08 11 26.7**	**-2.9**
	baz=253						
IHAU	**Haukadalur**	**1.30**	**238**	P	**Pn**	**08 11 27.7**	**-2.5**
	baz=239						
IGOD	**Go??abunga**	**1.30**	**219**	P	**Pn**	**08 11 28.4**	**-2.0**
	baz=220						
IHVO	**Lagu-Hvolar**	**1.30**	**208**	P	**Pn**	**08 11 28.1**	**-2.2**
	baz=209						
IDIM	**Dimmadalss**	**1.31**	**10**	P	**Pn**	**08 11 27.7**	**-2.8**
	baz=9.2						
IHLA	**Hella**	**1.33**	**344**	P	**Pn**	**08 11 28.3**	**-2.5**
	baz=343						
IHLA				S	**Sb**	**08 11 46.7**	**-1.6**
	baz=343						
IALF	**Alftagrof**	**1.41**	**213**	P	**Pn**	**08 11 29.6**	**-2.1**
	baz=214						
IHED	**Heoinshofoi**	**1.42**	**3**	P	**Pn**	**08 11 29.2**	**-2.7**
	baz=2.2						
IHED				S	**Sn**	**08 11 48.8**	**-1.7**
	baz=2.2						
IESK	**Eystri-Skogar**	**1.44**	**218**	P	**Pn**	**08 11 30.2**	**-2.0**
	baz=218						
ISAU	**Saurbar**	**1.45**	**243**	P	**Pn**	**08 11 29.8**	**-2.6**
	baz=244						
IBRE	**Brettingsstaoi**	**1.47**	**353**	P	**Pn**	**08 11 30.2**	**-2.4**
	baz=353						
IMID	**Miomork**	**1.47**	**227**	P	**Pn**	**08 11 31.0**	**-1.6**
	baz=228						
IGIL	**Gilhagi**	**1.49**	**18**	P	**Pn**	**08 11 30.1**	**-2.7**
	baz=17						
IASM	**Asmuli**	**1.61**	**240**	P	**Pn**	**08 11 33.0**	**-1.5**
	baz=240						
BORG	**Borgarnes**	**1.66**	**274**	Pn	**Pn**	**08 11 33.1**	**-2.1**
	34nm,0.3s,baz=99,slow=10.0,SNR=73						
BORG				Sn	**Sg**	**08 11 57.0**	**-2.3**
	23nm,0.3s,baz=60,slow=18,SNR=10						
BORG	**Borgarnes**	**1.66**	**274**		**Pn**	**08 11 33.3**	**-1.9**
IASB	**`sbjarnarst**	**1.66**	**274**	P	**Pn**	**08 11 33.0**	**-2.2**
	baz=275						
IKRO	**Krokur**	**1.69**	**252**	P	**Pn**	**08 11 33.5**	**-2.1**
	baz=252						
ISOL	**Solvholt**	**1.69**	**245**	P	**Pn**	**08 11 33.7**	**-1.9**
	baz=246						
IHEI	**Heioarbar**	**1.70**	**255**	P	**Pn**	**08 11 33.9**	**-1.9**
	baz=256						
IHRN	**Hraun**	**1.82**	**324**	P	**Pn**	**08 11 35.5**	**-2.0**
	baz=324						
IHRN				S	**Sb**	**08 12 00.0**	**-2.2**
	baz=324						
IBJA	**Bjarnastaoir**	**1.82**	**248**	P	**Pn**	**08 11 35.8**	**-1.6**
	baz=248						
ISAN	**Sandskeio**	**1.89**	**253**	P	**Pn**	**08 11 36.7**	**-1.6**
	baz=253						
IGRI	**Grimsey**	**1.89**	**353**	P	**Pn**	**08 11 36.4**	**-2.0**
	baz=353						
IKUD	**Kuludalsa**	**1.94**	**261**	P	**Pn**	**08 11 37.3**	**-1.7**
	baz=262						
IKAS	**Kald??rsel**	**2.02**	**253**	P	**Pn**	**08 11 38.7**	**-1.4**
	baz=253						
SCO	**Scoresbysund**	**6.08**	**346**	iP	**Pn**	**08 12 36.9**	**+1.0**
SCO				eS	**Sn**	**08 13 50.7**	**+5.3**
SCO	**Scoresbysund**	**6.08**	**346**		**Pn**	**08 12 36.9**	**+1.0**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**08 13 53.4**	**-0.2**
	baz=322,slow=13,SNR=28						
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**08 13 53.8**	**+0.1**
CLL	**Collm**	**20.70**	**116**	iP	Pn	08 15 47.9	-0.5
CLL				e		08 15 55.0	
CLL				ePP	**PnPn**	**08 16 02.0**	**-1.7**
ECH	**Echery**	**21.15**	**129**	P	**P**	**08 15 50.0**	**-1.0**
BRG	**Berggiesshubel**	**21.41**	**115**	eP	**P**	**08 15 54.6**	**+0.9**
	15nm,1.4s						
BRG				e		08 16 03.0	
	19nm,1.6s						
BFO	**Black Forest**	**21.44**	**127**		**P**	**08 15 53.9**	**-0.3**
BFO				IAmb	IAmb	08 16 06.1	
	comp=Z,18nm,1.5s						
KHC	**Kasperske Hory**	**22.67**	**118**	eP	**P**	**08 16 09.2**	**+1.9**
KHC	**Kasperske Hory**	**22.67**	**118**	P	**P**	**08 16 08.3**	**+1.0**
DPC	**Dobruska-Polom**	**22.75**	**113**	eP	**P**	**08 16 10.5**	**+2.3**
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**08 16 12.5**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=334,slow=8.9,SNR=7.5						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**08 16 10.8**	**+0.5**
DAVOX	**Davos/Dischmat**	**23.31**	**127**	P	**P**	**08 16 16.3**	**+2.2**
	comp=Z,1.4nm,0.6s,baz=313,slow=11,SNR=3.9						
MORC	**Moravsky Berou**	**23.69**	**112**	P	**P**	**08 16 18.7**	**+1.0**
MORC				IAmb	IAmb	08 16 35.8	
	comp=Z,9.9nm,1.5s						
CTI	**Castel Tesino**	**24.56**	**125**	P	**P**	**08 16 26.9**	**+1.0**
CTI				IAmb	IAmb	08 16 45.2	
	comp=Z,12nm,1.4s						
CIMO	**Cimolais**	**24.61**	**124**	P	**P**	**08 16 28.1**	**+1.8**
PSZ	**Piszkesteto**	**26.11**	**112**	P	**P**	**08 16 41.2**	**+1.3**
PSZ				IAmb	IAmb	08 16 55.5	
	comp=Z,10nm,1.3

comp=Z,9.2nm,1.3s
N58A Sunbury 40.98 264 P P 08 18 49.8 +1.1
ABKAR Akbulak array 41.98 73 P P 08 18 57.4 +0.6
ABKAR Akbulak array 41.98 73 P P 08 18 57.8 +1.0
B35A Bob, Littlefor 42.20 285 P P 08 18 58.7 +0.1
BMAR Burnt Mountain 42.89 333 P P 08 19 05.0 +0.9
BVAR Borovoye Array 43.18 62 P P 08 19 08.5 +1.9
comp=Z,2.4nm,0.9s,baz=212,slow=4.5,SNR=7.1
ILAR Eielson Array 45.69 332 P P 08 19 26.4 -0.1
comp=Z,1.2nm,1.0s,baz=24,slow=8.2,SNR=9.0
ILAR Eielson Array 45.69 332 P P 08 19 27.1 +0.7
IMAR Indian Mountai 45.86 337 P P 08 19 29.4 +1.7
BCAR Beaver Creek A 46.11 329 P P 08 19 30.2 +0.3
ZALV Zalesovo Beam 47.62 51 P P 08 19 43.5 +1.8
comp=Z,0.4nm,0.3s,baz=322,slow=11,SNR=3.5
ZALV Zalesovo Beam 47.62 51 P P 08 19 43.0 +1.3
KURK Kurchatov 48.10 58 P P 08 19 46.5 +1.0
KURBB Kurchatov Arra 48.14 58 P P 08 19 47.0 +1.2
comp=Z,2.8nm,0.9s,baz=324,slow=7.4,SNR=18
KK31 Karatay Array 51.26 70 P P 08 20 10.9 +1.2
KK31 IAmb IAmb 08 20 18.5
comp=Z,4.3nm,1.1s
KKAR Karatay Array 51.26 70 P P 08 20 10.9 +1.2
KKAR Karatay Array 51.26 70 P P 08 20 10.5 +0.8
KKAR IAmb IAmb 08 20 18.5
comp=Z,4.3nm,1.1s
BOZ Bozeman (W) 51.62 297 P P 08 20 12.1 -0.4
MK31 Makanchi Array 52.71 58 P P 08 20 21.6 +1.1
MKAR Makanchi Array 52.71 58 P P 08 20 21.5 +1.1
comp=Z,1.2nm,0.9s,baz=317,slow=7.0,SNR=7.4
MKAR Makanchi Array 52.71 58 P P 08 20 21.3 +0.9
TORD Torodi Ar. Bea 53.14 156 P P 08 20 24.4 +0.6
comp=Z,1.2nm,0.8s,baz=352,slow=8.5,SNR=6.0
TORD Torodi Ar. Bea 53.14 156 P P 08 20 23.7 -0.2
BW06 Boulder Array 53.19 293 P P 08 20 24.6 +0.4
BW06 IAmb IAmb 08 20 31.6
comp=Z,3.2nm,1.0s
PD31 Pinedale Array 53.19 293 P P 08 20 24.4 +0.1
PDAR Pinedale Array 53.19 293 P P 08 20 25.1 +0.9
comp=Z,1.4nm,0.8s,baz=59,slow=6.4,SNR=14
PDAR Pinedale Array 53.19 293 P P 08 20 24.4 +0.1
GAR Garm 54.64 73 P P 08 20 36.2 +1.5
HWUT Hardware Ranch 54.96 294 P P 08 20 39.2 +2.0
HWUT IAmb IAmb 08 20 44.3
comp=Z,6.8nm,1.3s
RDMU Red Mountain 55.05 292 P P 08 20 38.2 +0.3
Z38A Mt. Pleasant 55.20 275 P P 08 20 38.6 -0.1
PV21 Cone Mtn., Par 56.52 290 P P 08 20 49.7 +1.2
PV23 Carpenter Ridg 56.63 290 P P 08 20 49.3 0.0
PV23 IAmb IAmb 08 20 52.2
comp=Z,4.2nm,0.8s
PV14 Lion Creek, Pa 56.70 290 P P 08 20 50.5 +0.7
PV14 IAmb IAmb 08 20 52.0
comp=Z,3.7nm,0.9s
PV01 Paradox Valley 56.73 289 P P 08 20 49.9 0.0
PV01 IAmb IAmb 08 20 52.5
comp=Z,5.7nm,1.3s
PV02 Paradox Valley 56.73 290 P P 08 20 50.9 +1.0
PV02 IAmb IAmb 08 20 52.5
comp=Z,4.6nm,0.9s
PV13 Radium Mtn., P 56.81 290 P P 08 20 50.3 -0.2
MSU Marysvale 57.85 293 P P 08 20 59.3 +1.5
DBIC Dimbokro 58.59 165 P P 08 21 02.9 0.0
SZCU Shurtz Canyon 59.00 293 P P 08 21 07.1 +1.3
TXAR Lajitas Array 62.29 280 P P 08 21 29.6 +1.4
comp=Z,0.7nm,0.9s,baz=67,slow=4.2,SNR=6.8

*GCG **27** 08:14:09.2±0.3, 13°.27N×89°.54W, h11km, MD3.9*
*UCR **27** 08:14:10.3±0.8, 13°.23N×89°.60W, h46km±10km, ML3.5*
*SNET **27** 08:14:10.3±1.0, 13°.23N×89°.60W, h44km±12km, ML3.5*
ISC 27 08:14:11.1±1.6, 13°.23N±0°.09×89°.59W±0°.05, h42km±23km, n71, σ0°55/111, 17D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITCA	**Escuela Especi**	**0.53**	**34**	*eP*	**Pn**	**08 14 22.0**	**-0.5**
ITCA				*eS*	**Sn**	**08 14 31.2**	**+0.6**
ITCA	**Escuela Especi**	**0.53**	**34**	*eP*	**Pn**	**08 14 22.0**	**-0.5**
ITCA				*eS*	**Sn**	**08 14 31.2**	**+0.6**
SNET	**Serv Nac Est T**	**0.57**	**37**	*eP*	**Pn**	**08 14 22.5**	**-0.4**
SNET				IAML		08 14 23.6	
comp=Z,2μm,0.2s							
SNET				*eS*	**Sn**	**08 14 31.9**	**+0.5**
SNET	**Serv Nac Est T**	**0.57**	**37**	*eP*	**Pn**	**08 14 22.5**	**-0.4**
SNET				IAML		08 14 23.6	
comp=Z,2μm,0.2s							
SNET				*eS*	**Sn**	**08 14 31.9**	**+0.5**
BOQS	**Boqueron**	**0.58**	**31**	*eP*	**Pn**	**08 14 23.0**	**-0.3**
BOQS				*eS*	**Sn**	**08 14 32.5**	**+0.5**
BOQS	**Boqueron**	**0.58**	**31**	*eP*	**Pn**	**08 14 23.0**	**-0.3**
BOQS				*eS*	**Sn**	**08 14 32.5**	**+0.5**
SEMO	**Seminario San**	**0.59**	**37**	*eP*	**Pn**	**08 14 22.4**	**-0.8**
SEMO				*eS*	**Sn**	**08 14 32.6**	**+0.8**
UEES	**Universidad Ev**	**0.59**	**35**	*eP*	**Pn**	**08 14 22.9**	**-0.3**
UEES				*eS*	**Sn**	**08 14 32.3**	**+0.4**
UEES	**Universidad Ev**	**0.59**	**35**	*eP*	**Pn**	**08 14 22.9**	**-0.3**
UEES				*eS*	**Sn**	**08 14 32.3**	**+0.4**
CEDA	**San Andres**	**0.60**	**18**	*eP*	**Pn**	**08 14 22.8**	**-0.5**
CEDA				*eS*	**Sn**	**08 14 32.6**	**+0.6**
CEDA				IAML		08 14 37.5	
comp=Z,1μm,0.3s							
CEDA	**San Andres**	**0.60**	**18**	*eP*	**Pn**	**08 14 22.8**	**-0.5**
CEDA				*eS*	**Sn**	**08 14 32.6**	**+0.6**
CEDA				IAML		08 14 37.5	
comp=Z,1μm,0.3s							
UTEC	**Universidad Te**	**0.60**	**39**	*eP*	**Pn**	**08 14 22.9**	**-0.5**
UTEC				*eS*	**Sn**	**08 14 32.5**	**+0.5**
UTEC	**Universidad Te**	**0.60**	**39**	*eP*	**Pn**	**08 14 22.9**	**-0.5**
UTEC				*eS*	**Sn**	**08 14 32.5**	**+0.5**
SBLS	**San Blas**	**0.61**	**357**	*eP*	**Pn**	**08 14 22.9**	**-0.7**
SBLS	**San Blas**	**0.61**	**357**	*eP*	**Pn**	**08 14 22.9**	**-0.7**
OPAM	**Oficina de Pla**	**0.61**	**38**	*eP*	**Pn**	**08 14 23.2**	**-0.3**
OPAM				IAML		08 14 23.6	
comp=Z,1μm,0.3s							
OPAM				*eS*	**Sn**	**08 14 33.1**	**+0.8**
OPAM	**Oficina de Pla**	**0.61**	**38**	*eP*	**Pn**	**08 14 23.2**	**-0.3**
OPAM				IAML		08 14 23.6	
comp=Z,1μm,0.3s							
OPAM				*eS*	**Sn**	**08 14 33.1**	**+0.8**
UESS	**Universidad de**	**0.61**	**38**	*eP*	**Pn**	**08 14 23.2**	**-0.3**
UESS	**Universidad de**	**0.61**	**38**	*eP*	**Pn**	**08 14 23.2**	**-0.3**
SNJE	**San Jose**	**0.64**	**358**	*eP*	**Pn**	**08 14 23.2**	**-0.8**
SNJE				*eS*	**Sn**	**08 14 33.2**	**+0.1**
SNJE	**San Jose**	**0.64**	**358**	*eP*	**Pn**	**08 14 23.2**	**-0.8**
SNJE				*eS*	**Sn**	**08 14 33.2**	**+0.1**
UDBS	**Universidad Do**	**0.64**	**41**	*eP*	**Pn**	**08 14 23.5**	**-0.4**
UDBS	**Universidad Do**	**0.64**	**41**	*eP*	**Pn**	**08 14 23.5**	**-0.4**
LFRS	**El Faro**	**0.64**	**52**	*eP*	**Pn**	**08 14 23.4**	**-0.5**
LFRS	**El Faro**	**0.64**	**52**	*eP*	**Pn**	**08 14 23.4**	**-0.5**
AEIL	**Aeropuerto Ilo**	**0.65**	**44**	*eP*	**Pn**	**08 14 24.0**	**0.0**
AEIL	**Aeropuerto Ilo**	**0.65**	**44**	*eP*	**Pn**	**08 14 24.0**	**0.0**
RTR	**El Retiro**	**0.67**	**355**	*eP*	**Pn**	**08 14 23.7**	**-0.6**
RTR	**El Retiro**	**0.67**	**355**	*eP*	**Pn**	**08 14 23.7**	**-0.6**
LFU	**La Fuente**	**0.69**	**42**	*eP*	**Pn**	**08 14 24.5**	**0.0**
LFU	**La Fuente**	**0.69**	**42**	*eP*	**Pn**	**08 14 24.5**	**0.0**
NUBE	**Las Nubes**	**0.69**	**344**	*eS*	**Sn**	**08 14 33.8**	**-0.7**
NUBE				IAML		08 14 35.5	
comp=Z,2μm,0.2s							
NUBE	**Las Nubes**	**0.69**	**344**	*eS*	**Sn**	**08 14 33.8**	**-0.7**
NUBE				IAML		08 14 35.5	
comp=Z,2μm,0.2s							
LBRS	**Las Brisas**	**0.73**	**46**	*eP*	**Pn**	**08 14 25.0**	**-0.2**
LBRS	**Las Brisas**	**0.73**	**46**	*eP*	**Pn**	**08 14 25.0**	**-0.2**
UNIC	**Universidad Ca**	**0.75**	**3**	*eP*	**Pn**	**08 14 24.9**	**-0.5**
UNIC				*eS*	**Sn**	**08 14 36.3**	**+0.7**
UNIC	**Universidad Ca**	**0.75**	**3**	*eP*	**Pn**	**08 14 24.9**	**-0.5**
UNIC				*eS*	**Sn**	**08 14 36.3**	**+0.7**
TACO	**Tacachico**	**0.77**	**17**	*eP*	**Pn**	**08 14 25.0**	**-0.6**
TACO				IAML		08 14 25.6	
comp=Z,809nm,0.2s							
TACO				*eS*	**Sn**	**08 14 36.7**	**+0.7**
TACO	**Tacachico**	**0.77**	**17**	*eP*	**Pn**	**08 14 25.0**	**-0.6**
TACO				IAML		08 14 25.6	
comp=Z,809nm,0.2s							
TACO				*eS*	**Sn**	**08 14 36.7**	**+0.7**
COEG	**Centro de Oper**	**0.79**	**60**	*ipP*	**Pn**	**08 14 25.5**	**-0.4**
COEG				*eS*	**Sn**	**08 14 37.0**	**+0.4**
COEG	**Centro de Oper**	**0.79**	**60**	*ipP*	**Pn**	**08 14 25.5**	**-0.4**
COEG				*eS*	**Sn**	**08 14 37.0**	**+0.4**
PAVA	**Las Pavas**	**0.79**	**53**	*eP*	**Pn**	**08 14 26.0**	**0.0**
PAVA				*eS*	**Sn**	**08 14 37.6**	**+0.9**
PAVA	**Las Pavas**	**0.79**	**53**	*eP*	**Pn**	**08 14 26.0**	**0.0**
PAVA				*eS*	**Sn**	**08 14 37.6**	**+0.9**
ALJI	**Alcalda de J**	**0.99**	**84**	*eP*	**Pn**	**08 14 27.8**	**-0.8**
ALJI				*eS*	**Sn**	**08 14 41.2**	**-0.2**
ALJI	**Alcalda de J**	**0.99**	**84**	*eP*	**Pn**	**08 14 27.8**	**-0.8**
ALJI				*eS*	**Sn**	**08 14 41.2**	**-0.2**
TECA	**Tecapa**	**1.09**	**76**	*eP*	**Pn**	**08 14 29.4**	**-0.7**
TECA				*eS*	**Sn**	**08 14 44.5**	**+0.4**
TECA	**Tecapa**	**1.09**	**76**	*eP*	**Pn**	**08 14 29.4**	**-0.7**
TECA				*eS*	**Sn**	**08 14 44.5**	**+0.4**
LLGN	**La Laguna**	**1.12**	**34**	*eP*	**Pn**	**08 14 29.5**	**-0.9**
LLGN	**La Laguna**	**1.12**	**34**	*eP*	**Pn**	**08 14 29.5**	**-0.9**
MTO3	**Montecristo**	**1.18**	**11**	*ipP*	**Pn**	**08 14 30.6**	**-0.8**
MTO3	**Montecristo**	**1.18**	**11**	*ipP*	**Pn**	**08 14 30.6**	**-0.8**
IXG	**Ixpaco**	**1.25**	**318**	*eP*	**Pn**	**08 14 32.1**	**-0.2**
LCY	**Lacayo**	**1.27**	**81**	*eP*	**Pn**	**08 14 32.3**	**-0.3**
LCY				*eS*	**Sn**	**08 14 49.2**	**+0.7**
LCY	**Lacayo**	**1.27**	**81**	*eP*	**Pn**	**08 14 32.3**	**-0.3**
LCY				*eS*	**Sn**	**08 14 49.2**	**+0.7**
RANC	**El Ranchito**	**1.28**	**81**	*eP*	**Pn**	**08 14 32.2**	**-0.5**
RANC				*eS*	**Sn**	**08 14 49.9**	**+1.1**
RANC	**El Ranchito**	**1.28**	**81**	*eP*	**Pn**	**08 14 32.2**	**-0.5**
RANC				*eS*	**Sn**	**08 14 49.9**	**+1.1**
VSM	**San Miguel**	**1.29**	**81**	*eP*	**Pn**	**08 14 32.7**	**-0.3**
VSM				*eS*	**Sn**	**08 14 49.6**	**+0.4**
VSM	**San Miguel**	**1.29**	**81**	*eP*	**Pn**	**08 14 32.7**	**-0.3**
VSM				*eS*	**Sn**	**08 14 49.6**	**+0.4**
BLLM	**Bellamira**	**1.33**	**81**	*eP*	**Pn**	**08 14 33.1**	**-0.2**
BLLM				*eS*	**Sn**	**08 14 50.1**	**+0.3**
BLLM	**Bellamira**	**1.33**	**81**	*eP*	**Pn**	**08 14 33.1**	**-0.2**
BLLM				*eS*	**Sn**	**08 14 50.1**	**+0.3**
ESQI	**Esquipulas**	**1.34**	**10**	*ipP*	**Pn**	**08 14 33.1**	**-0.4**
FAGO	**Alcalda de S**	**1.51**	**72**	*ipP*	**Pn**	**08 14 35.0**	**-0.8**
FAGO	**Alcalda de S**	**1.51**	**72**	*ipP*	**Pn**	**08 14 35.0**	**-0.8**
NBG	**Las Nubes**	**1.54**	**331**	*eP*	**Pn**	**08 14 36.8**	**+0.5**
LCND	**La Caada**	**1.65**	**87**	*eP*	**Pn**	**08 14 37.4**	**-0.3**
LCND				*eS*	**Sn**	**08 14 58.0**	**+0.3**
LCND				IAML		08 15 03.2	
comp=Z,543nm,0.3s							
LCND	**La Caada**	**1.65**	**87**	*eP*	**Pn**	**08 14 37.4**	**-0.3**
LCND				*eS*	**Sn**	**08 14 58.0**	**+0.3**
LCND				*eS*		08 14 58.8	
LCND				IAML		08 15 03.2	
comp=Z,543nm,0.3s							
CNCH	**Conchagua**	**1.71**	**88**	*eP*	**Pn**	**08 14 38.0**	**-0.5**
CNCH				IAML		08 15 05.8	
comp=Z,849nm,0.2s							
CNCH	**Conchagua**	**1.71**	**88**	*eP*	**Pn**	**08 14 38.0**	**-0.5**
CNCH				IAML		08 15 05.8	
comp=Z,849nm,0.2s							
FUG	**Fuego 3**	**1.72**	**315**	*eP*	**Pn**	**08 14 39.3**	**+0.6**
FUG				*eS*	**Sn**	**08 14 59.8**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.39**	**70**	*eP*	**Pn**	**08 14 47.3**	**-0.7**
TGUH	**Tegucigalpa,Un**	**2.39**	**70**	*eP*	**Pn**	**08 14 47.3**	**-0.7**

*NEIC **27** 08:26:41.1±1.3, 15°.28S±0°.07×173°.18W±0°.08, h10km±2km, mb4.7/5, Error ellipse: s-maj=14.8km s-min=9.4km az=314.0*
*IDC **27** 08:26:46.2±5.1, 14°.81S×173°.19W, h58km±68km, mb3.7/4, mb1 3.8/4, mb1mx3.4/32, mbtmp3.9/4, Error ellipse: s-maj=44.8km s-min=36.2km az=22.0*
ISC 27 08:26:42.7±0.6, 15°.16S±0°.06×173°.09W±0°.07, h29km, n24, σ1°53/21, mb4.3/6, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.77**	**46**	P	**Pb**	**08 27 14.1**	**-0.6**
83nm,0.3s,baz=199,slow=3.6,SNR=81							
AFI				LR	LR	08 27 18.8	
comp=Z,105nm,21.1s,baz=273,slow=20							
AFI				S	**Sn**	**08 27 32.7**	**-0.5**
328nm,0.3s,baz=238,slow=21,SNR=30							
AFI	**Afiamalu**	**1.77**	**46**		**Pb**	**08 27 14.1**	**-0.6**
AFI					**Sb**	**08 27 35.2**	**-1.3**
NIUE	**Niue**	**4.93**	**143**	Pn	**Pn**	**08 27 55.2**	**+0.2**
NIUE				Sn	**Sn**	**08 28 51.2**	**+0.1**
FUNA	**Funafuti**	**10.02**	**310**	Pn	**Pn**	**08 29 05.7**	**+0.8**
KNTN	**Kanton**	**12.38**	**6**	Pn	**Pn**	**08 29 39.3**	**+2.2**
RAR	**Rarotonga**	**14.01**	**117**	Pn	**Pn**	**08 30 00.4**	**+1.0**
DZM	**Mont Dzumac**	**20.57**	**247**	P	**P**	**08 31 19.2**	**-0.3**
URZ	**Urewera**	**24.59**	**199**	P	**P**	**08 32 02.6**	**+2.3**
4.0nm,0.4s,baz=33,slow=4.5,SNR=7.6							
URZ	**Urewera**	**24.59**	**199**	P	**P**	**08 32 01.3**	**+0.9**
URZ				IAmb	IAmb	08 32 07.6	
comp=Z,14nm,1.1s							
QRZ	**Quartz Range**	**28.47**	**203**	P	**P**	**08 32 35.0**	**-0.3**
TUWZ	**Tuamarina**	**28.49**	**201**	P	**P**	**08 32 34.4**	**-1.1**
OXZ	**Oxford**	**30.83**	**201**	P	**P**	**08 32 55.0**	**-1.2**
OXZ				IAmb	IAmb	08 33 04.3	
comp=Z,56nm,1.4s							
H11S2	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	09 14 49.3	
baz=146,slow=76,SNR=42							
H11S3	**WAKE ISLAND Hy**	**38.92**	**329**	T	T	09 14 55.0	
baz=146,slow=76,SNR=9.9							
H11S1	**WAKE ISLAND Hy**	**38.93**	**329**	T	T	09 14 53.5	
baz=146,slow=76,SNR=6.8							
H11N3	**WAKE ISLAND Hy**	**39.85**	**330**	T	T	09 16 02.1	
baz=140,slow=75,SNR=6.8							
H11N1	**WAKE ISLAND Hy**	**39.86**	**330**	T	T	09 16 02.9	
baz=140							
H11N2	**WAKE ISLAND Hy**	**39.87**	**330**	T	T	09 16 02.9	
baz=140,slow=75,SNR=6.7							
COEN	**Coen**	**42.30**	**266**	P	**P**	**08 34 33.0**	**-1.3**
COEN				IAmb	IAmb	08 35 00.0	
comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**50.19**	**257**	P	**P**	**08 35 36.5**	**+0.2**
comp=Z,0.4nm,0.5s,baz=91,slow=6.7,SNR=12							
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**08 35 38.5**	**0.0**
comp=Z,1.2nm,0.6s,baz=88,slow=8.2,SNR=23							
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**08 35 37.8**	**-0.7**
VNDA	**Vanda**	**63.65**	**186**	P	**P**	**08 37 13.8**	**+3.0**
comp=Z,0.9nm,0.9s,baz=12,slow=8.3,SNR=7.5							
SYO	**Syowa Base**	**92.90**	**191**	*eX*	**P**	**08 39 49.0**	**-3.6**

*AEIC **27** 08:30:15.5±1.5, 64°.65N±0°.02×149°.70W±0°.07, h18km±6km, ML3.0/68, Error ellipse: s-maj=4.2km s-min=2.4km az=111.0*
*NEIC **27** 08:30:15.3±1.3, 64°.66N±0°.01×149°.71W±0°.06, h19km±7km, Error ellipse: s-maj=3.6km s-min=2.0km az=105.0*
*UNK **27** 08:30:15.5, 64°.65N×149°.70W, h18km*
*ANF **27** 08:30:16.6±0.7, 64°.70N×149°.55W, h16km±3km, ML3.5/9, Error ellipse: s-maj=5.4km s-min=4.6km az=37.0*
ISC 27 08:30:13.4±1.3, 64°.63N±0°.02×149°.65W±0°.02, h4km±11km, n72, σ1°01/95, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEA2	**Nenana**	**0.25**	**99**	P	**Pb**	**08 30 21.8**	**+1.3**
baz=282,SNR=1000							
NEA2				S	**Sb**	**08 30 25.8**	**+0.7**
baz=282							
NEA2	**Nenana**	**0.25**	**99**		**Pb**	**08 30 21.7**	**+1.3**
NEA2					**Sb**	**08 30 25.9**	**+0.7**
BWN	**Browne**	**0.47**	**170**		**Pn**	**08 30 25.9**	**-0.9**
BWN				Sg	**Sb**	**08 30 32.3**	**+0.9**
MLY	**Manley**	**0.61**	**311**		**Pb**	**08 30 27.2**	**+0.5**
MDM	**Murphy Dome**	**0.69**	**61**		**Pb**	**08 30 28.8**	**+0.8**
MDM					**Sb**	**08 30 38.2**	**+0.4**
WRH	**Wood River Hil**	**0.69**	**103**		**Pn**	**08 30 29.3**	**-0.6**
WRH				Sg	**Sb**	**08 30 38.4**	**+0.6**
BPAW	**Bear Paw Mtn.**	**0.79**	**228**		**Pb**	**08 30 30.5**	**+0.9**
BPAW					**Sb**	**08 30 40.4**	**-0.3**
CCB	**Clear Creek Bu**	**0.79**	**88**		**Pn**	**08 30 30.8**	**-0.4**
CCB					**Sb**	**08 30 41.8**	**+1.1**
TCOL	**CIGO, UAF Yank**	**0.80**	**72**	P	**Pn**	**08 30 30.9**	**-0.5**
baz=255,SNR=317							
TCOL				S	**Sn**	**08 30 42.4**	**-1.4**
baz=255							
TCOL	**CIGO, UAF Yank**	**0.80**	**72**		**Pn**	**08 30 30.9**	**-0.5**
TCOL					**Sn**	**08 30 42.6**	**-1.1**
COLA	**College**	**0.81**	**72**		**Pn**	**08 30 30.8**	**-0.6**
COLA					**Sb**	**08 30 42.0**	**+0.8**
PS07	**TAPS Pump Stn7**	**0.90**	**40**		**Pn**	**08 30 32.4**	**-0.3**
PS07					**Sn**	**08 30 44.7**	**-1.4**
MCK	**McKinley**	**0.95**	**161**		**Pn**	**08 30 33.4**	**-0.1**
MCK					**Sb**	**08 30 46.5**	**+1.1**
POKR	**Poker Plat Res**	**1.06**	**62**	P	**Pb**	**08 30 34.4**	**+0.2**
baz=245,SNR=84							
POKR				S	**Sb**	**08 30 49.2**	**+0.6**
baz=245							
POKR	**Poker Plat Res**	**1.06**	**62**		**Pb**	**08 30 34.5**	**+0.2**
POKR					**Sn**	**08 30 49.4**	**-0.9**
HDA	**Harding Lake**	**1.19**	**100**	P	**Pb**	**08 30 36.7**	**+0.3**
baz=283,SNR=92							
HDA				S	**Sb**	**08 30 52.9**	**+0.8**
baz=283							
HDA				S	**Sb**	**08 30 52.9**	**+0.8**
baz=283							
HDA	**Harding Lake**	**1.19**	**100**		**Pb**	**08 30 36.8**	**+0.3**
HDA					**Sb**	**08 30 52.9**	**+0.8**
IL31		**1.20**	**82**		**Pg**	**08 30 36.1**	**-0.1**
ILAR	**Eielson Array**	**1.20**	**82**	Pn	**Pn**	**08 30 37.6**	**+0.9**
KTH	**Kantishna Hill**	**1.22**	**208**		**Pg**	**08 30 37.0**	**+0.3**
TRF	**Thorofare Moun**	**1.22**	**194**		**Pn**	**08 30 38.0**	**+0.8**
PS08	**TAPS Pump Stn8**	**1.22**	**93**		**Pg**	**08 30 36.5**	**-0.3**
PS06	**TAPS Pump Stn6**	**1.23**	**358**		**Pn**	**08 30 37.2**	**0.0**
RND	**Reindeer**	**1.28**	**164**		**Pg**	**08 30 39.1**	**+1.3**
CAST	**Castle Rocks**	**1.62**	**222**		**Pn**	**08 30 42.4**	**-0.3**
WAT2	**Susitna Watana**	**1.74**	**164**		**Pb**	**08 30 45.7**	**-0.2**
WAT7	**Susitna Watana**	**1.84**	**168**		**Pb**	**08 30 47.5**	**-0.1**
DHY	**Denali Highway**	**1.86**	**146**		**Pb**	**08 30 47.5**	**-0.4**
WAT1	**Susitna Watana**	**1.87**	**164**		**Pb**	**08 30 48.0**	**-0.1**
PPLA	**Purkeypile**	**2.08**	**214**		**Pn**	**08 30 48.8**	**-0.2**
IM03		**2.19**	**310**		**Pn**	**08 30 50.2**	**-0.3**
IMAR	**Indian Mountai**	**2.19**	**310**		**Pn**	**08 30 51.4**	**+0.9**
WAT6	**Susitna Watana**	**2.23**	**157**		**Pn**	**08 30 51.8**	**+0.7**
PS05	**TAPS Pump Stn5**	**2.23**	**350**		**Pn**	**08 30 51.6**	**+0.6**
CUT	**Chulitna**	**2.25**	**187**		**Pn**	**08 30 53.0**	**+1.8**
RIDG	**Independent Ri**	**2.29**	**111**		**Pb**	**08 30 53.8**	**-1.3**
SCRK	**Sand Creek**	**2.55**	**102**	Pb	**Pg**	**08 31 02.8**	**+0.5**
baz=288,SNR=18							
SCRK				Sb	**Sg**	**08 31 34.8**	**-0.5**
baz=288							
SCRK	**Sand Creek**	**2.55**	**102**		**Pn**	**08 30 55.9**	**+0.3**
COLD	**Coldfoot**	**2.62**	**355**	P	**Pn**	**08 30 56.3**	**-0.1**
baz=175,SNR=21							
COLD				Sb	**Sg**	**08 31 36.2**	**-1.1**
baz=175							
COLD	**Coldfoot**	**2.62**	**355**		**Pn**	**08 30 56.9**	**+0.6**
FYU	**Fort Yukon**	**2.67**	**41**	Pn	**Pn**	**08 30 58.6**	**+1.6**
SKT	**Skwentna**	**2.79**	**199**		**Pn**	**08 30 59.8**	**+1.0**
GHO	**Glory Hole Cre**	**2.89**	**173**		**Pn**	**08 31 00.6**	**+0.4**
SML	**Sawmill**	**2.90**	**168**		**Pn**	**08 31 03.0**	**+2.8**
M24K	**Tolsona, Glenn**	**2.98**	**147**	Pn	**Pb**	**08 31 05.1**	**-1.8**
baz=330,SNR=7.5							
M24K				Pb	**Pg**	**08 31 10.7**	**+0.3**
baz=330							
M24K				Sb	**Sg**	**08 31 49.4**	**+0.4**
baz=330							
M24K	**Tolsona, Glenn**	**2.98**	**147**	Pn	**Pn**	**08 31 02.1**	**+0.8**
SCM	**Sheep Creek Mo**	**3.00**	**158**		**Pb**	**08 31 05.4**	**-1.9**
PMR	**Palmer**	**3.06**	**175**		**Pn**	**08 31 02.9**	**+0.5**
KNK	**Knik Glacier**	**3.28**	**170**		**Pn**	**08 31 08.2**	**+2.8**
STLK	**Strandline Lak**	**3.30**	**199**		**Pn**	**08 31 05.8**	**+0.1**
TTA	**Tatalina**	**3.30**	**242**		**Pn**	**08 31 04.6**	**-1.2**
TT01	**Tatalina**	**3.32**	**241**		**Pn**	**08 31 04.8**	**-1.1**
K27K	**Chicken**	**3.35**	**97**	P	**Pn**	**08 31 07.1**	**+0.7**
baz=284							
K27K				Sb	**Sg**	**08 31 58.7**	**-2.1**
baz=284							
K27K	**Chicken**	**3.35**	**97**		**Pn**	**08 31 07.0**	**+0.7**
BM03	**Burnt Mountain**	**3.47**	**34**		**Pn**	**08 31 07.6**	**-0.5**
BMAR	**Burnt Mountain**	**3.49**	**34**	Pn	**Pn**	**08 31 08.2**	**-0.1**
RC01	**Rabbit Creek A**	**3.56**	**181**		**Pn**	**08 31 09.4**	**+0.2**
SPNN	**North Nagishla**	**3.56**	**204**		**Pn**	**08 31 09.0**	**-0.4**
KLU	**Klutina**	**3.58**	**150**	Pn	**Pn**	**08 31 11.5**	**+1.9**
SPU	**Mount Spurr**	**3.63**	**199**	Pn	**Pn**	**08 31 10.5**	**+0.2**
EGAK	**Eagle**	**3.65**	**84**		**Pn**	**08 31 10.5**	**0.0**
BC03		**3.82**	**111**		**Pn**	**08 31 12.3**	**-0.4**
BCAR	**Beaver Creek A**	**3.82**	**111**		**Pn**	**08 31 12.2**	**-0.7**
PWL	**Port Wells**	**3.83**	**170**		**Pn**	**08 31 14.0**	**+0.9**
GLI	**Glacier Island**	**3.94**	**162**		**Pn**	**08 31 16.5**	**+1.9**
TOLK	**Toolik Lake Re**	**4.03**	**0**	P	**Pn**	**08 31 17.3**	**+1.6**
baz=181,SNR=11							
TOLK				S	**Sn**	**08 32 03.9**	**+0.6**
baz=181							
TOLK	**Toolik Lake Re**	**4.03**	**0**		**Pn**	**08 31 16.8**	**+1.1**
SLKM	**Skilak Lake**	**4.15**	**184**		**Pn**	**08 31 16.4**	**-0.9**
FID	**Port Fidalgo**	**4

NEST	Nestorio	0.37	207	P	Pg	08 42 10.8	-0.6
NEST				S	Sg	08 42 16.6	+0.3
NEST				AML	AML	08 42 17.4	
	comp=N,7135μm,0.2s						
NEST				AML	AML	08 42 17.5	
	comp=E,10201μm,0.3s						
OHR	Ohrid	0.51	316⇑	*i* Pg	Pg	08 42 13.1	-1.0
OHR				*i* Sg	Sg	08 42 21.2	+0.3
OHR				*e*Lg	Lg	08 42 21.7	
	comp=E,448nm,0.3s						
PENT	Pentalofos	0.56	190	P	Pg	08 42 14.5	-0.4
PENT				AML	AML	08 42 27.6	
	comp=N,1657μm,0.1s						
PENT				AML	AML	08 42 28.1	
	comp=E,1839μm,0.4s						
KZN	Kozani	0.58	139	P	Pg	08 42 15.2	-0.2
KZN				S	Sg	08 42 23.6	+0.6
	comp=E,1μm,0.4s						
KZN	Kozani	0.58	139	P	Pg	08 42 15.3	-0.2
KZN				S	Sg	08 42 23.7	+0.6
KZN				AML	AML	08 42 26.1	
	comp=N,2785μm,0.6s						
KZN				AML	AML	08 42 27.3	
	comp=E,3837μm,0.4s						
LSK	Leskovik	0.78	221	P	Pg	08 42 18.0	-1.2
	baz=216						
LSK				S	Sb	08 42 31.6	+0.9
	baz=216						
KPRO	Kipourio	0.79	175	P	Pg	08 42 18.1	-1.3
KPRO				S	Sg	08 42 29.9	+0.2
	comp=E,1μm,0.2s						
KPRO	Kipourio	0.79	175	P	Pg	08 42 18.3	-1.1
KPRO				AML	AML	08 42 35.3	
	comp=N,2069μm,0.2s						
KPRO				AML	AML	08 42 38.0	
	comp=E,1791μm,0.5s						
PHP	Peshkopia	1.13	327	P	Pb	08 42 23.3	-2.6
PHP	Peshkopia	1.13	327	P	Pb	08 42 23.6	-2.3
	baz=327						
PHP				S	Sb	08 42 40.5	-0.2
	baz=327						
LIT	Litokhoron	1.13	124	P	Pb	08 42 24.8	-1.1
LIT	Litokhoron	1.13	124	P	Pb	08 42 24.8	-1.1
LIT				AML	AML	08 42 46.3	
	comp=E,750μm,0.3s						
LIT				AML	AML	08 42 49.5	
	comp=N,601μm,0.2s						
VAY	Valandovo	1.14	59	*e*Pg	Pb	08 42 25.1	-1.0
VAY				*e*Sg	Sn	08 42 40.9	-1.2
VAY	Valandovo	1.14	59⇓	*i* Pg	Pb	08 42 25.5	-0.6
VAY				*i* Sg	Sn	08 42 41.4	-0.7
VAY				*e*Lg	Lg	08 42 44.3	
	comp=E,45nm,0.5s						
STIP	Stip	1.18	36	*i* Pg	Pg	08 42 28.6	+1.8
STIP				*i* Sg	Sg	08 42 48.3	+6.3
STIP				*e*Lg	Lg	08 42 50.4	
	comp=E,24nm,0.3s						
TIR	Tirane	1.22	300	*e*Pg	Pn	08 42 27.1	-0.3
TIR				*e*Sg	Sb	08 42 42.7	-0.6
SKO	Skopje	1.23	6	*e*Pg	Pn	08 42 26.6	-1.0
SKO				*e*Sg	Sb	08 42 43.4	-0.3
SKO	Skopje	1.23	6	*i* Pg	Pg	08 42 28.0	+0.1
SKO				*i* Sg	Sn	08 42 44.1	-0.3
SKO				*e*Lg	Lg	08 42 44.3	
	comp=E,4.5nm,0.3s						
SRN	Sarande	1.30	229	P	Pb	08 42 28.9	+0.2
	baz=226						
SRN				S	Sg	08 42 49.7	+3.7
	baz=226						
KNT	Kendrikon	1.30	71	P	Pb	08 42 28.6	-0.2
THL	Klokotos Trika	1.31	154	P	Pn	08 42 27.3	-1.3
THL	Klokotos Trika	1.31	154	P	Pn	08 42 27.7	-0.9
THL				AML	AML	08 42 52.0	
	comp=N,378μm,0.5s						
THL				AML	AML	08 42 52.8	
	comp=E,273μm,0.5s						
HORT	Hortiatis	1.40	95	P	Pn	08 42 29.4	-0.5
IGT	Igoumenitsa	1.41	211	P	Pn	08 42 28.0	-2.0
IGT	Igoumenitsa	1.41	211	*e*Pg	Pg	08 42 34.0	+2.9
IGT				*e*Sg	Sg	08 42 53.4	+4.0
IGT	Igoumenitsa	1.41	211	P	Pb	08 42 30.5	-0.1
IGT				AML	AML	08 42 55.3	
	comp=N,445μm,0.4s						
IGT				AML	AML	08 42 56.6	
	comp=E,381μm,0.7s						
IGT	Igoumenitsa	1.41	211	P	Pb	08 42 30.8	+0.2
	baz=209						
IGT				S	Sg	08 42 54.0	+4.6
	baz=209						
KEK	Kerkira	1.53	228	P	Pb	08 42 32.9	+0.2
SOH	Sokhos	1.58	86	P	Pb	08 42 32.8	-0.9
PUK	Puka	1.66	322	P	Pn	08 42 33.5	0.0
	baz=322						
PUK				S	Sg	08 42 57.9	+0.3
	baz=322						
BOSS	Bosilegrad	1.97	27	*e*Pn	Pn	08 42 38.1	+0.3
SELS	Selova	2.48	357	*e*Pn	Pn	08 42 44.0	-0.7
SJES	Sjenica	2.70	339	*e*Pn	Pn	08 42 48.3	+0.5
ZAPS	Zavoj	2.73	21	*e*Pn	Pn	08 42 47.8	-0.4
BOVS	Bovan	2.91	6	*e*Pn	Pn	08 42 50.3	-0.3
ZAGS	Zajecar	3.15	13	*e*Pn	Pn	08 42 53.5	-0.4
GRUS	Gruza	3.17	353	*e*Pn	Pn	08 42 54.4	+0.2
BBLS	Lazići	3.41	337	*e*Pn	Pn	08 42 58.6	+1.0
DIVS	Divibare	3.48	345	*e*Pn	Pn	08 42 57.8	-0.8
TRUS	Trudelj	3.54	350	*e*Pn	Pn	08 42 59.4	+0.1

IDC ***27*** *08:44:01.1±0.7, 37°.27S×94°.43W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/27, mbtmp4.2/10, MS4.5/23, Ms1 4.5/23, ms1mx4.4/24, Error ellipse: s-maj=26.5km s-min=17.5km az=97.0*

NEIC ***27*** *08:44:04.3±1.5, 37°.3S±0°.1×94°.1W±0°.2, h10km±1km, mb4.9/152, Error ellipse: s-maj=22.7km s-min=17.9km az=281.0*

GCMT ***27*** *08:44:05.3±0.1, 37°.31S±0°.01×94°.71W±0°.01, h15km, MW5.4/139, Moment Tensor Solution. s123,c214; s139,c267; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.10±.02; $M_{\theta\theta}$=0.01±.02; $M_{\phi\phi}$=0.09±.02; $M_{r\theta}$=0.24±.05; $M_{\theta\phi}$=-1.43±.02; $M_{\phi r}$=-0.43±.05; Best double couple: M_0=1.50300×10^{17} NP1:ϕ_s=90.00000°, δ=75.00000°, λ=173.00000°. NP2:ϕ_s=182.00000°, δ=83.00000°, λ=15.00000°. Principal axes: T 1.6140, Plg=16.0000°, Azm=46.0000°; N -0.2210, Plg=73.0000°, Azm=205.0000°; P -1.3920, Plg=6.0000°, Azm=315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 08:44:03.9±0.5, 37°.30S±0°.08×94°.30W±0°.09, h10km, n254, σ1**38**/229**, mb4.8**/76**, MS4.5**/25**, 1C-1D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.98**	**79**	T	T	09 00 41.0	
	baz=250,slow=74,SNR=1219						
H03S1	**Juan Fernandez**	**13.00**	**79**	T	T	09 00 42.7	
	baz=250,slow=74,SNR=1212						
H03S3	**Juan Fernandez**	**13.00**	**79**	T	T	09 00 43.2	
	baz=250,slow=74,SNR=1861						
H03N2	**Juan Fernandez**	**13.12**	**78**	Pn	**Pn**	**08 47 08.8**	**-1.2**
H03N2				T	T	09 00 51.5	
	baz=249,slow=70,SNR=500						
H03N3	**Juan Fernandez**	**13.12**	**78**	Pn	**Pn**	**08 47 09.0**	**-1.0**
H03N3				T	T	09 00 47.4	
	baz=249,slow=70,SNR=238						
VA04	**Juan Fernndez**	**13.13**	**78**	Pn	**Pn**	**08 47 08.8**	**-1.6**
H03N1	**Juan Fernandez**	**13.13**	**78**	Pn	**Pn**	**08 47 08.8**	**-1.4**
H03N1				T	T	09 00 50.9	
	baz=249,slow=70,SNR=278						
RPN	**Rapa Nui**	**16.25**	**304**	LR	LR	08 51 41.9	
	comp=Z,539nm,20.6s,baz=126,slow=28						
LL01	**San Ignacio de**	**17.54**	**114**	P	**P**	**08 48 09.8**	**+0.3**
LC01	**Cunco**	**17.72**	**102**	P	**P**	**08 48 16.9**	**+5.4**
PLCA	**Paso Flores**	**18.76**	**108**	P	**Pn**	**08 48 27.7**	**+4.2**
	0.1nm,0.3s,baz=278,slow=14,SNR=8.1						
PLCA				LR	LR	08 53 55.0	
	comp=Z,1μm,19.3s,baz=274,slow=32						
PLCA	**Paso Flores**	**18.76**	**108**	P	**P**	**08 48 22.9**	**-0.2**
PLCA	**Paso Flores**	**18.76**	**108**	*e*P	**Pn**	**08 48 26.4**	**+2.9**
MT05	**Renca**	**19.60**	**86**	P	**P**	**08 48 28.8**	**-3.5**
MT05				IAmb	IAmb	08 48 56.6	
	comp=Z,98nm,1.4s						
CO02	**Combarbal**	**20.17**	**79**	P	**P**	**08 48 38.0**	**-0.7**
CO02				IAmb	IAmb	08 48 45.9	
	comp=Z,51nm,1.1s						
CO03	**El Pedregal**	**20.57**	**79**	P	**P**	**08 48 42.9**	**0.0**
GO04	**Tololo Observa**	**20.77**	**77**	P	**P**	**08 48 45.0**	**-0.3**
GO04				IAmb	IAmb	08 48 51.5	
	comp=Z,57nm,1.0s						
GO09	**Cerro Castillo**	**20.92**	**139**	P	Pn	08 48 48.0	-1.0
AUSP	**Uspallata**	**21.06**	**84**	*e*P	**P**	**08 48 50.5**	**+2.0**
ARCO	**CERRO ARCO**	**21.21**	**85**	*i* P	**P**	**08 48 52.3**	**+2.4**
AAGR	**Agrelo**	**21.21**	**86**	*e*P	**P**	**08 48 51.8**	**+1.9**
RTLS	**Leoncito**	**21.29**	**82**	*i* P	**P**	**08 48 53.0**	**+2.1**
AVIZ	**Vizcacheras**	**21.34**	**87**	*i* P	**P**	**08 48 53.4**	**+2.2**
ASAL	**Salagasta**	**21.37**	**85**	*i* P	**P**	**08 48 53.8**	**+2.2**
CO01	**Juntas del Tor**	**21.40**	**77**	P	**P**	**08 48 53.2**	**+1.1**
AC04	**Llanos de Chal**	**21.49**	**72**	P	**P**	**08 48 53.3**	**+0.5**
AC05	**El Transito**	**21.79**	**74**	P	**P**	**08 48 55.3**	**-0.9**
AC05				IAmb	IAmb	08 49 20.4	
	comp=Z,48nm,1.1s						
RTCV	**Cerro Valdivia**	**21.86**	**83**	*i* P	**P**	**08 48 57.9**	**+1.1**
ZON	**Zonda**	**21.87**	**82**	P	**P**	**08 48 56.3**	**-0.6**
ACCO	**Cerro Coronel**	**21.94**	**80**	*i* P	**P**	**08 48 59.6**	**+1.6**
ACDV	**Cuesta del Vie**	**22.08**	**79**	*i* P	**P**	**08 49 06.0**	**+6.8**
GO03	**Copiap**	**22.44**	**71**	P	**P**	**08 49 03.9**	**+0.8**
GO03				IAmb	IAmb	08 49 05.9	
	comp=Z,62nm,1.4s						
AGUA	**GUANDACOL**	**22.87**	**78**	*i* P	**P**	**08 49 09.7**	**+2.1**
PB14	**IPOC Station P**	**24.00**	**65**	P	**P**	**08 49 17.0**	**-2.1**
PB14				IAmb	IAmb	08 49 21.7	
	comp=Z,31nm,1.1s						
ACLC	**CERRO LA CRUZ**	**24.09**	**79**	*i* P	**P**	**08 49 21.1**	**+1.2**
GO02	**Mina Guanaco**	**24.27**	**67**	P	**P**	**08 49 20.4**	**-1.3**
GO02				IAmb	IAmb	08 49 27.3	
	comp=Z,34nm,1.1s						
LVC	**Limon Verde**	**26.32**	**63**	LR	LR	08 57 41.0	
	comp=Z,549nm,19.1s,baz=238,slow=31						
LVC	**Limon Verde**	**26.32**	**63**	*e*P	**P**	**08 49 37.6**	**-2.7**
NNA	**Nana**	**29.67**	**36**	LR	LR	08 58 56.5	
	comp=Z,2μm,20.6s,baz=224,slow=30						
LPAZ	**La Paz**	**31.18**	**55**	P	**P**	**08 50 23.3**	**-0.6**
	comp=Z,16nm,1.0s,baz=213,slow=7.9,SNR=30						
LPAZ	**La Paz**	**31.18**	**55**	P	**P**	**08 50 24.2**	**+0.2**
LPAZ				IAmb	IAmb	08 50 27.4	
	comp=Z,17nm,0.9s						
LPAZ	**La Paz**	**31.18**	**55**	*e*P	**P**	**08 50 21.9**	**-2.1**
PMSA	**Palmer Station**	**32.82**	**157**	P	**P**	**08 50 36.3**	**-0.9**
PMSA				IAmb	IAmb	08 50 37.5	
	comp=Z,16nm,1.1s						
ATAH	**Atahualpa**	**33.33**	**30**	LR	LR	09 00 58.6	
	comp=Z,2μm,20.3s,baz=222,slow=30						
PLTB	**Pedras Altas**	**33.79**	**93**	*e*P	**P**	**08 50 47.7**	**+1.7**
CZSB	**Cruzeiro do Su**	**35.37**	**39**	*e*P	**P**	**08 50 57.0**	**-2.8**
SIV	**San Ignacio**	**36.22**	**63**	P	**P**	**08 51 06.4**	**-0.7**
	comp=Z,3.0nm,1.0s,baz=244,slow=10,SNR=7.0						
SIV				LR	LR	09 04 42.4	
	comp=Z,395nm,18.7s,baz=256,slow=34						
ETMB	**Extrema**	**37.29**	**50**	*e*P	**P**	**08 51 15.0**	**-1.2**
AQDB	**Aquidauana**	**37.42**	**74**	*e*P	**P**	**08 51 16.8**	**-0.5**
PTLB	**Pontes e Lacer**	**37.96**	**65**	*e*P	**P**	**08 51 20.8**	**-1.1**
TRCB	**Terra Rica**	**38.54**	**80**	*e*P	**P**	**08 51 26.6**	**-0.2**
VILB	**Vilhena**	**38.91**	**60**	*e*P	**P**	**08 51 29.0**	**-0.9**
SAML	**Samuel**	**39.85**	**53**	P	**P**	**08 51 37.9**	**+0.2**
SAML	**Samuel**	**39.85**	**53**	*e*P	**P**	**08 51 35.6**	**-2.1**
OTAV	**Otavalo**	**40.12**	**25**	*e*P	**P**	**08 51 35.8**	**-4.6**
TIJ01	**Guaruva-PR**	**40.15**	**86**	*e*P	**P**	**08 51 40.8**	**+0.5**
PCMB	**Pacaembu**	**40.24**	**79**	*e*P	**P**	**08 51 40.9**	**-0.1**
PET01	**Itanhaem-SP**	**42.02**	**86**	*e*P	**P**	**08 51 56.7**	**+1.1**
SPB	**Sao Paulo**	**42.24**	**85**	*e*P	**P**	**08 51 58.2**	**+0.8**
ARAG	**Araguaiana, MT**	**43.22**	**72**	*e*P	**P**	**08 52 04.5**	**-0.9**
CLDB	**Colider**	**43.44**	**63**	*e*P	**P**	**08 52 05.4**	**-1.8**
IPMB	**Ipameri, GO**	**44.64**	**77**	*e*P	**P**	**08 52 17.6**	**+0.8**
MAN01	**Angra dos Reis**	**45.36**	**86**	*e*P	**P**	**08 52 23.9**	**+1.4**
ROSC	**El Rosal**	**45.87**	**28**	LR	LR	09 09 44.9	
	comp=Z,1μm,18.3s,baz=224,slow=34						
ROSC	**El Rosal**	**45.87**	**28**	P	**P**	**08 52 29.3**	**+2.3**
MACA	**Manacapuru-AM**	**45.88**	**50**	*e*P	**P**	**08 52 25.3**	**-1.4**
VAS01	**Vassouras-RJ**	**46.08**	**86**	*e*P	**P**	**08 52 29.5**	**+1.3**
BDFB	**Brasilia**	**46.16**	**75**	P	**P**	**08 52 28.6**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=213,slow=5.7,SNR=5.0						
BDFB				LR	LR	09 10 34.9	
	comp=Z,649nm,21.9s,baz=239,slow=34						
BDFB	**Brasilia**	**46.16**	**75**	P	**P**	**08 52 28.2**	**-0.8**
NPGB	**Novo Progresso**	**46.44**	**59**	*e*P	**P**	**08 52 29.2**	**-1.9**
BELA	**Belgrano 2**	**47.56**	**166**	P	**P**	**08 52 38.9**	**-0.1**
ITTB	**Itaituba**	**48.13**	**57**	*e*P	**P**	**08 52 42.9**	**-1.4**
JTS	**Las Juntas de**	**48.14**	**12**	LR	LR	09 07 50.8	
	comp=Z,1μm,20.8s,baz=256,slow=30						
PTGA	**Pitinga**	**48.23**	**49**	LR	LR	09 10 42.7	
	comp=Z,998nm,20.7s,baz=218,slow=33						
TBI	**Tubuai**	**48.97**	**270**	*e*S	S	08 59 40.5	-14
	comp=Z,747nm,26.5s						
TBI				*e*LQ	LQ	09 04 24.0	
	comp=Z,822nm,27.2s						
TBI				*e*LR	LR	09 06 16.9	
	comp=Z,730nm,29.8s						
JANB	**Januaria**	**49.38**	**77**	*e*P	**P**	**08 52 53.8**	**-0.1**
SJMB	**Sao Joao De Ma**	**49.76**	**83**	*e*P	**P**	**08 52 57.7**	**+1.0**
BSFB	**Barra de Sao F**	**49.96**	**84**	*e*P	**P**	**08 52 59.0**	**+0.8**
RIB01	**Linhares ES**	**50.05**	**84**	*e*P	**P**	**08 53 00.7**	**+1.7**
TAOE	**Nuku Hiva Isla**	**50.12**	**292**	*e*LR	LR	09 07 03.9	
	comp=Z,824nm,29.3s						
SDBA	**SAO DESIDERIO**	**50.52**	**74**	*e*P	**P**	**08 53 02.5**	**0.0**
SMTB	**Santa Maria do**	**50.75**	**68**	*e*P	**P**	**08 53 03.6**	**-0.7**
PRPB	**Parauapebas**	**50.94**	**64**	*e*P	**P**	**08 53 04.3**	**-1.4**
SDV	**Santo Domingo**	**51.01**	**31**	*e*P	**P**	**08 53 03.8**	**-2.5**
PPT2	**Papeete2**	**52.08**	**276**	*e*LR	LR	09 07 52.9	
	comp=Z,1μm,24.5s						
PPT	**Papeete**	**52.10**	**276**	LR	LR	09 09 00.1	
	comp=Z,422nm,19.9s,baz=126,slow=29						
QSPA	**South Pole Qui**	**52.92**	**180**	P	**P**	**08 53 18.4**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=159,slow=3.3,SNR=7.6						
QSPA	**South Pole Qui**	**52.92**	**180**	P	**P**	**08 53 20.1**	**+0.1**
VNA3	**Neumayer Olymp**	**53.48**	**156**	P	**P**	**08 53 21.8**	**-2.1**
MCPB	**Macapa, AP**	**53.55**	**57**	*e*P	**P**	**08 53 23.8**	**-1.3**
VNA1	**Neumayer--Stat**	**54.04**	**156**	P	**P**	**08 53 25.2**	**-2.7**
VNA2	**Neumayer--Watz**	**54.27**	**156**	P	**P**	**08 53 27.6**	**-2.1**
	baz=276,slow=7.5						
SNAA	**Sanae**	**55.53**	**157**	P	**P**	**08 53 38.3**	**-0.5**
SNAA	**Sanae**	**55.53**	**157**	P	**P**	**08 53 38.3**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=245,slow=5.4,SNR=6.3						
SNAA	**Sanae**	**55.53**	**157**	P	**P**	**08 53 38.6**	**-0.2**
SNAA				IAmb	IAmb	08 53 45.6	
	comp=Z,9.4nm,1.0s						
VNDA	**Vanda**	**56.81**	**195**	P	**P**	**08 53 46.2**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=124,slow=7.3,SNR=7.3						
VNDA				LR	LR	09 13 07.5	
	comp=Z,504nm,20.3s,baz=113,slow=31						
VNDA	**Vanda**	**56.81**	**195**	P	**P**	**08 53 49.0**	**+1.2**
MDP	**Montagnes des**	**57.30**	**52**	LR	LR	09 16 04.1	
	comp=Z,793nm,21.5s,baz=222,slow=34						
ZAIG	**Zacatecas**	**60.25**	**351**	P	**P**	**08 54 14.9**	**+2.2**
ZAIG				IAmb	IAmb	08 54 22.8	
	comp=Z,15nm,1.4s						
PDPR	**Patillas Dam,**	**61.13**	**31**	P	**P**	**08 54 20.4**	**+2.0**
TX31	**Lajitas Ar. Si**	**66.86**	**351**	P	**P**	**08 54 57.0**	**+1.0**
TX32	**Lajitas Array**	**66.86**	**351**	P	**P**	**08 54 57.5**	**+1.4**
TX32				IAmb	IAmb	08 55 20.1	
	comp=Z,8.3nm,1.2s						
TXAR	**Lajitas Array**	**66.86**	**351**	P	**P**	**08 54 53.8**	**-2.2**
	comp=Z,2.2nm,0.9s,baz=170,slow=7.6,SNR=14						
TXAR				LR	LR	09 19 12.8	
	comp=Z,293nm,19.0s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**66.86**	**351**	P	**P**	**08 54 57.2**	**+1.1**
JCT	**Junction City**	**67.62**	**355**	P	**P**	**08 55 01.4**	**+0.6**
JCT				IAmb	IAmb	08 55 03.4	
	comp=Z,6.9nm,0.9s						
342A	**Flagon Creek P**	**68.34**	**2**	P	**P**	**08 55 06.3**	**+1.1**
SYO	**Syowa Base**	**68.68**	**164⇑**	*e*P	**P**	**08 55 05.6**	**-1.4**
SYO	**Syowa Base**	**68.68**	**164⇓**	*e*sP	sP	08 55 10.0	0.0
237A	**Washetta, Mont**	**68.95**	**359**	P	**P**	**08 55 10.3**	**+1.3**
WHTX	**Lake Whitney,**	**68.99**	**357**	P	**P**	**08 55 11.2**	**+1.9**
MNTX	**Cornudas Mount**	**69.42**	**350**	P	**P**	**08 55 13.2**	**+1.2**
143A	**Socs Landing,**	**69.69**	**3**	P	**P**	**08 55 14.7**	**+1.1**
ABTX	**Abilene, Hawle**	**69.74**	**355**	P	**P**	**08 55 14.4**	**+0.5**
ABTX				IAmb	IAmb	08 55 31.9	
	comp=Z,7.1nm,1.1s						
146A	**Union**	**69.75**	**5**	P	**P**	**08 55 14.9**	**+1.0**
GDL2	**Guadalupe Moun**	**69.78**	**351**	P	**P**	**08 55 15.1**	**+0.8**
152A	**Waverly Hall**	**70.18**	**9**	P	**P**	**08 55 17.7**	**+1.1**
LRAL	**Lakeview Retre**	**70.30**	**7**	P	**P**	**08 55 18.2**	**+0.9**
LRAL				IAmb	IAmb	08 55 20.4	
	comp=Z,13nm,1.2s						
Z35A	**Perchaven, San**	**70.32**	**357**	P	**P**	**08 55 18.2**	**+0.8**
Z35A				IAmb	IAmb	08 55 20.6	
	comp=Z,12nm,1.2s						
Z47A	**Carrollton**	**70.38**	**6**	P	**P**	**08 55 19.5**	**+1.7**
WLAR	**White Oak Lake**	**70.63**	**1**	P	**P**	**08 55 20.4**	**+1.1**
WLAR				IAmb	IAmb	08 55 34.8	
	comp=Z,11nm,1.0s						
Z51A	**Franklin**	**70.77**	**8**	P	**P**	**08 55 21.1**	**+0.9**
CCAR	**Cane Creek**	**70.89**	**2**	P	**P**	**08 55 21.9**	**+1.0**
MSTX	**Muleshoe**	**71.34**	**353**	P	**P**	**08 55 24.6**	**+0.8**
MSTX				IAmb	IAmb	08 55 27.7	
	comp=Z,13nm,1.1s						
Y52A	**Lilburn**	**71.44**	**9**	P	**P**	**08 55 25.3**	**+1.1**
MIAR	**Mount Ida**	**71.48**	**1**	P	**P**	**08 55 25.7**	**+1.3**
MIAR				IAmb	IAmb	08 55 28.5	
	comp=Z,8.7nm,1.1s						
X48A	**Hartselle**	**71.70**	**6**	P	**P**	**08 55 26.7**	**+0.9**
X48A				IAmb	IAmb	08 55 28.5	
	comp=Z,12nm,1.1s						
WMOK	**Wichita Mounta**	**71.79**	**356**	P	**P**	**08 55 27.1**	**+0.7**
X51A	**Calhoun**	**72.04**	**8**	P	**P**	**08 55 28.6**	**+0.8**
LENM	**Lemitar**	**72.07**	**349**	P	**P**	**08 55 29.5**	**+1.2**
W39A	**Magazine**	**72.13**	**0**	P	**P**	**08 55 29.3**	**+0.9**
W39A				IAmb	IAmb	08 55 46.0	
	comp=Z,10nm,1.1s						
W41B	**Gary Mavity, V**	**72.13**	**2**	P	**P**	**08 55 29.3**	**+0.9**
AMTX	**Amarillo**	**72.14**	**354**	P	**P**	**08 55 29.0**	**+0.4**
AMTX				IAmb	IAmb	08 55 47.9	
	comp=Z,13nm,1.1s						
PLAL	**Pickwick Lake**	**72.15**	**5**	P	**P**	**08 55 29.3**	**+0.9**
PLAL				IAmb	IAmb	08 55 45.6	
	comp=Z,9.6nm,1.2s						
FNO	**Franklin**	**72.25**	**357**	P	**P**	**08 55 29.6**	**+0.5**
WHAR	**Wooly Hollow**	**72.25**	**2**	P	**P**	**08 55 30.0**	**+0.9**
SWET	**Sewanee**	**72.56**	**7**	P	**P**	**08 55 30.9**	**-0.1**
W52A	**Murphy**	**72.67**	**9**	P	**P**	**08 55 32.4**	**+0.8**
W52A				IAmb	IAmb	08 55 34.8	
	comp=Z,12nm,1.1s						
PAULI	**Pauline**	**72.69**	**11**	P	**P**	**08 55 32.0**	**+0.3**
BG3	**Lake Jocassee**	**72.70**	**10**	P	**P**	**08 55 31.9**	**+0.1**
ANMO	**Albuquerque**	**72.76**	**350**	P	**P**	**08 55 32.2**	**-0.2**
TUL1	**Leonard**	**72.85**	**359**	P	**P**	**08 55 33.1**	**+0.5**
TUL1				IAmb	IAmb	08 55 36.2	
	comp=Z,13nm,1.2s						
CPCT	**Cooper Cave**	**72.95**	**8**	P	**P**	**08 55 33.1**	**-0.1**
CPCT				IAmb	IAmb	08 55 35.6	
	comp=Z,10nm,0.9s						
V48A	**Smith Brothers**	**73.00**	**6**	P	**P**	**08 55 33.7**	**+0.2**
V48A				IAmb	IAmb	08 55 35.5	
	comp=Z,13nm,1.2s						
GNAR	**Gosnell**	**73.00**	**4**	P	**P**	**08 55 35.9**	**+2.4**
LCAR	**Lake Charles**	**73.06**	**3**	P	**P**	**08 55 35.4**	**+1.5**
LCAR				IAmb	IAmb	08 55 36.8	
	comp=Z,12nm,0.9s						
KMSC	**Kings Mountain**	**73.07**	**11**	P	**P**	**08 55 35.5**	**+1.5**
X16A	**Lo Mia Camp, P**	**73.11**	**345**	P	**P**	**08 55 37.0**	**+2.5**
QUOK	**Quay**	**73.13**	**358**	P	**P**	**08 55 35.9**	**+1.6**
QUOK				IAmb	IAmb	08 55 37.5	
	comp=Z,13nm,1.1s						
HHAR	**Hobbs**	**73.21**	**0**	P	**P**	**08 55 34.8**	**0.0**
HHAR				IAmb	IAmb	08 55 38.0	
	comp=Z,7.7nm,1.1s						
V51A	**Loudon**	**73.32**	**8**	P	**P**	**08 55 36.1**	**+0.7**
U38A	**Gravette**	**73.37**	**360**	P	**P**	**08 55 36.7**	**+1.0**
U38A				IAmb	IAmb	08 55 39.0	
	comp=Z,13nm,1.1s						
V53A	**Saluda**	**73.38**	**10**	P	**P**	**08 55 35.9**	**+0.1**
V53A				IAmb	IAmb	08 55 39.4	
	comp=Z,14nm,1.0s						
PBMO	**Poplar Bluff**	**73.79**	**3**	P	**P**	**08 55 38.6**	**+0.4**
PBMO				IAmb	IAmb	08 55 40.1	
	comp=Z,10nm,1.1s						
U49A	**Red Boiling Sp**	**73.86**	**7**	P	**P**	**08 55 39.1**	**+0.5**
U49A				IAmb	IAmb	08 55 41.7	
	comp=Z,16nm,1.1s						
MAW	**Mawson**	**74.00**	**171**	P	**P**	**08 55 38.3**	**-0.9**
	comp=Z,5.2nm,1.0s,baz=202,slow=5.4,SNR=4.0						
MAW				LR	LR	09 26 05.1	
	comp=Z,251nm,20.2s,baz=225,slow=34						
MAW	**Mawson**	**74.00**	**171**	P	**P**	**08 55 38.4**	**-0.7**
KAN13	**South Haven SW**	**74.00**	**357**	P	**P**	**08 55 41.7**	**+2.3**

NVAR LR LR 09 23 36.7
comp=Z,131nm,19.8s,baz=276,slow=30
NVAR Mina Array Bea 78.54 341 P **P 08 56 07.3 +1.8**
N23A Red Feather La 78.55 351 P **P 08 56 06.6 +1.1**
N53A Lisbon 78.70 10 P **P 08 56 07.0 +1.0**
N53A IAmb IAmb 08 56 09.8
comp=Z,19nm,1.4s
RDMU Red Mountain 78.75 348 P **P 08 56 07.1 +0.6**
L48A N Adams 79.38 7 P **P 08 56 09.7 0.0**
L48A IAmb IAmb 08 56 12.9
comp=Z,14nm,1.1s
RWWY Rawlins 79.49 350 P **P 08 56 10.0 -0.6**
RWWY IAmb IAmb 08 56 29.9
comp=Z,11nm,1.1s
K31A O'Neill 79.65 357 P **P 08 56 12.0 +0.8**
ELK Elko 80.00 344 P **P 08 56 13.6 +0.1**
K22A Casper 80.35 351 P **P 08 56 16.4 +1.2**
K22A IAmb IAmb 08 56 34.4
comp=Z,11nm,1.1s
WVNY West Valley, N 80.61 12 P **P 08 56 15.8 -0.5**
WVNY IAmb IAmb 08 56 18.5
comp=Z,19nm,1.3s
ECSD EROS Data Cent 80.68 358 P **P 08 56 16.1 -0.6**
BW06 Boulder Array 80.89 349 P **P 08 56 17.6 -0.6**
PD31 Pinedale Array 80.89 349 P **P 08 56 18.2 +0.1**
PDAR Pinedale Array 80.89 349 P **P 08 56 16.0 -2.2**
comp=Z,4.9nm,1.0s,baz=168,slow=6.1,SNR=17
PDAR LR LR 09 27 11.1
comp=Z,146nm,18.9s,baz=160,slow=32
PDAR Pinedale Array 80.89 349 P **P 08 56 18.3 +0.1**
I37A Lemond, Waseca 80.94 1 P **P 08 56 18.9 +0.8**
I37A IAmb IAmb 08 56 21.9
comp=Z,14nm,1.0s
I42A Draeger Farm, 80.96 4 P **P 08 56 18.5 +0.3**
I42A IAmb IAmb 08 56 20.2
comp=Z,12nm,1.3s
RSSD Black Hills 81.52 353 P **P 08 56 21.4 -0.1**
REDW Red Top Meadow 81.68 348 P **P 08 56 22.0 -0.4**
REDW IAmb IAmb 08 56 27.0
comp=Z,10nm,1.2s
SNOW Snow King Moun 81.76 348 P **P 08 56 22.6 -0.2**
TPAW Teton Pass 81.82 348 P **P 08 56 23.4 +0.3**
TPAW IAmb IAmb 08 56 27.8
comp=Z,16nm,1.4s
LOHW Long Hollow 81.88 348 P **P 08 56 23.7 +0.4**
FXWY Fox Creek 81.98 348 P **P 08 56 24.2 +0.3**
SPMN Marine on St. 82.16 1 P **P 08 56 24.8 +0.4**
SPMN IAmb IAmb 08 56 27.1
comp=Z,14nm,1.3s
IMW Indian Meadow 82.22 348 P **P 08 56 25.0 -0.2**
IMW IAmb IAmb 08 56 29.7
comp=Z,12nm,1.4s
MOD Modoc Plateau 82.32 341 P **P 08 56 25.9 +0.3**
FLWY Flagg Ranch 82.36 348 P **P 08 56 25.9 +0.1**
FLWY IAmb IAmb 08 56 30.2
comp=Z,6.3nm,0.9s
HLID Hailey 82.53 345 P **P 08 56 27.1 +0.4**
BCYI Bear Canyon 83.05 346 P **P 08 56 30.7 +1.2**
YHH Holmes Hill 83.07 348 P **P 08 56 31.3 +1.7**
RLMT Red Lodge 83.15 349 P **P 08 56 29.8 -0.2**
RLMT IAmb IAmb 08 56 58.6
comp=Z,5.7nm,1.1s
YNE Yellowstone No 83.15 349 P **P 08 56 30.2 +0.2**
J08A Circle Bar Ran 83.23 342 P **P 08 56 30.7 +0.4**
K05A Summer Lake 83.25 341 P **P 08 56 31.2 +0.7**
DZM Mont Dzumac 83.89 247 *e*LR LR 09 22 36.2
comp=Z,1μm,29.8s
I07A Izee 84.16 342 P **P 08 56 35.1 +0.1**
PINE Pine Mountain 84.26 341 P **P 08 56 36.1 +0.5**
LRM Limekiln Ridge 84.34 347 P **P 08 56 37.0 +0.9**
G08A Pilot Rock 85.17 343 P **P 08 56 39.7 -0.4**
F07A Phinny Hill Vi 85.97 342 P **P 08 56 45.2 +1.3**
F07A IAmb IAmb 08 57 00.9
comp=Z,14nm,1.3s
HAWA Hanford 86.34 343 P **P 08 56 47.2 +1.5**
HAWA IAmb IAmb 08 56 58.8
comp=Z,8.6nm,1.1s
ULM Lac du Bonnet 87.18 359 LR LR 09 32 52.5
comp=Z,261nm,19.7s,baz=130,slow=34
BOSA Boshof 93.35 130 LR LR 09 32 51.6
comp=Z,245nm,21.7s,baz=224,slow=31
DBIC Dimbokro 93.55 84 LR LR 09 35 01.5
comp=Z,134nm,21.8s,baz=212,slow=33
STKA Stephens Creek 93.63 225 LR LR 09 30 46.8
comp=Z,200nm,21.0s,baz=172,slow=30
SCHQ Schefferville 94.75 16 LR LR 09 37 57.2
comp=Z,144nm,20.1s,baz=230,slow=34
HNR Honiara 96.62 253 LR LR 09 32 01.4
comp=Z,193nm,21.8s,baz=140,slow=30
H01W1 Cape Leeuwin H 103.46 204 T T 10 54 17.4
baz=154,slow=76,SNR=36
H01W2 Cape Leeuwin H 103.46 204 T T 10 54 18.7
baz=154,slow=76,SNR=37
H01W3 Cape Leeuwin H 103.47 204 T T 10 54 20.6
baz=154,slow=76,SNR=46
CLL Collm 128.21 50 *e*PKPdf **PKiKP 09 03 14.0 +3.6**
CLL *e*PP **PP 09 05 13.0 -1.4**
CLL LmV 09 48 00.0
comp=Z,300nm,21.4s
KSRS Korea Array 146.65 283 PKPbc **PKPdf 09 03 44.7 +0.7**
comp=Z,2.3nm,1.1s,baz=101,slow=6.2,SNR=4.6
LZH Lanzhou 165.39 271 *e*PKP **PKPdf 09 04 08.8 +0.1**
LZH pPKP sPKPdf 09 04 12.0 +0.1
LZH sPKP 09 04 13.5
LZH PKP **sPKPab 09 05 09.8 -0.1**
LZH LR LR
comp=N,130nm,18.0s
LZH LR LR
comp=E,140nm,18.1s
LZH LR LR
comp=Z,170nm,20.3s
GTA Gaotai 168.72 285 *e*PKP **PKPdf 09 04 11.8 +0.7**
WMQ Urumqi 173.31 348 *e*P **PKPdf 09 04 14.5 +1.3**
WMQ pmax pmax
comp=Z,10.0nm,0.8s
WMQ pmax pmax
comp=Z,47nm,5.7s
WMQ LR LR
comp=N,290nm,28.9s
WMQ LR LR
comp=E,490nm,29.3s
WMQ LR LR
comp=Z,8.0nm,21.3s

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*NEIC **27** 08:48:29.6±1.1, 36°.00S±0°.04×71°.55W±0°.06, h105km±5km, Error ellipse: s-maj=7.6km s-min=5.3km az=69.0*
*GUC **27** 08:48:29.7±0.7, 36°.00S×71°.55W, h105km±4km, ML4.4*
ISC 27 08:48:29.2±0.8, 35°.98S±0°.03×71°.57W±0°.05, h106km±7km, n38, σ0s80/61, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI02	**San Fabin de**	**0.72**	**161**	*e*P	**Pn**	**08 48 47.4**	**-0.2**
BI02				*i* S	**Sn**	**08 49 00.6**	**-0.8**
BI02	**San Fabin de**	**0.72**	**161**		**Pn**	**08 48 47.7**	**+0.1**
BI02				Sn	**Sn**	**08 49 00.7**	**-0.6**
GO05	**Huala**	**1.01**	**343**	*e*P	**Pn**	**08 48 50.9**	**+0.6**
GO05				*i* S	**Sn**	**08 49 06.3**	**+0.2**
GO05				IAML		08 49 07.5	
comp=N,5μm,0.4s							
GO05	**Huala**	**1.01**	**343**		**Pn**	**08 48 51.1**	**+0.8**
GO05					**Sn**	**08 49 06.2**	**0.0**
BO02	**Sierra Bellavi**	**1.35**	**29**	*e*P	**Pn**	**08 48 54.9**	**+0.8**
BO02				*i* S	**Sn**	**08 49 13.5**	**+0.6**
BO02	**Sierra Bellavi**	**1.35**	**29**		**Pn**	**08 48 55.0**	**+0.8**
BO02				Sn	**Sn**	**08 49 13.9**	**+0.9**
BI03	**Tigo**	**1.46**	**233**	*e*P	**Pn**	**08 48 55.5**	**+0.2**
BI03				*i* S	**Sn**	**08 49 15.1**	**0.0**
BI03				IAML		08 49 17.9	
comp=N,11μm,0.4s							
BI03	**Tigo**	**1.46**	**233**		**Pn**	**08 48 55.8**	**+0.5**
BI03				Sn	**Sn**	**08 49 15.4**	**+0.3**
LAJA	**Laja**	**1.59**	**215**	*e*P	**Pn**	**08 48 57.0**	**0.0**
LAJA				*i* S	**Sn**	**08 49 17.3**	**-0.7**
LMEL	**Las Melosas**	**2.40**	**28**	*e*P	**Pn**	**08 49 08.3**	**+0.8**
LMEL				*i* S	**Sn**	**08 49 37.5**	**+0.8**
LMEL				IAML		08 49 41.2	
comp=N,2μm,0.1s							
MT05	**Renca**	**2.67**	**15**	*e*P	**Pn**	**08 49 11.5**	**+0.7**
MT05				*i* S	**Sn**	**08 49 43.0**	**+0.2**
MT05				IAML		08 49 45.8	
comp=E,2μm,0.2s							
MT05	**Renca**	**2.67**	**15**		**Pn**	**08 49 11.6**	**+0.7**
MT05				Sn	**Sn**	**08 49 43.6**	**+0.8**
CLCH	**Cerro Calan**	**2.71**	**19**	*e*P	**Pn**	**08 49 12.1**	**+0.7**
MT02	**Curacav**	**2.74**	**8**	*e*P	**Pn**	**08 49 11.8**	**0.0**
MT02				*i* S	**Sn**	**08 49 43.8**	**-0.5**
MT02				IAML		08 49 45.4	
comp=N,588nm,0.3s							
MT02	**Curacav**	**2.74**	**8**		**Pn**	**08 49 11.7**	**0.0**
MT02				Sn	**Sn**	**08 49 43.8**	**-0.5**
PEL	**Peldehue**	**2.92**	**15**	*e*P	**Pn**	**08 49 14.7**	**+0.5**
PEL				*i* S	**Sn**	**08 49 48.6**	**-0.2**
PEL				IAML		08 49 51.6	
comp=N,908nm,0.2s							
PEL	**Peldehue**	**2.92**	**15**		**Pn**	**08 49 14.6**	**+0.4**
PEL				Sn	**Sn**	**08 49 49.5**	**+0.8**
LC01	**Cunco**	**2.92**	**185**		**Pn**	**08 49 14.7**	**+0.6**
LC01				Sn	**Sn**	**08 49 49.6**	**+0.9**
VA01	**Torpederas**	**2.95**	**359**	*e*P	**Pn**	**08 49 14.7**	**+0.3**
VA01				*i* S	**Sn**	**08 49 46.7**	**-2.6**
VA01				IAML		08 49 55.1	
comp=E,693nm,0.1s							
VA01	**Torpederas**	**2.95**	**359**		**Pn**	**08 49 14.7**	**+0.3**
VA01				Sn	**Sn**	**08 49 47.6**	**-1.6**
ROC1	**El Roble**	**3.03**	**9**		**Pn**	**08 49 16.1**	**+0.3**
ROC1				Sn	**Sn**	**08 49 51.8**	**+0.2**
ROCH	**El Roble**	**3.04**	**9**	*e*P	**Pn**	**08 49 16.1**	**+0.2**
ROCH				*i* S	**Sn**	**08 49 51.5**	**-0.2**
ROCH				IAML		08 49 54.9	
comp=N,919nm,0.3s							
VA03	**San Esteban**	**3.32**	**15**	*e*P	**Pn**	**08 49 19.7**	**+0.3**
VA03				*i* S	**Sn**	**08 49 58.8**	**+0.6**
VA03				IAML		08 50 02.9	
comp=E,1μm,0.2s							
VA03	**San Esteban**	**3.32**	**15**		**Pn**	**08 49 19.8**	**+0.3**
CO02	**Combarbal**	**4.79**	**6**	Pn	**Pn**	**08 49 40.5**	**+1.2**
PLCA	**Paso Flores**	**4.81**	**171**		**Pn**	**08 49 39.1**	**-0.4**
ZON	**Zonda**	**5.03**	**29**	Pn	**Pn**	**08 49 42.7**	**+0.2**
CO03	**El Pedregal**	**5.18**	**8**		**Pn**	**08 49 45.2**	**+0.6**
GO04	**Tololo Observa**	**5.83**	**7**	Pn	**Pn**	**08 49 53.2**	**-0.2**
CO01	**Juntas del Tor**	**6.11**	**12**	Pn	**Pn**	**08 49 58.5**	**+1.1**
VA04	**Juan Fernndez**	**6.41**	**289**	*e*P	**Pn**	**08 50 02.6**	**+1.5**
VA04				*i* S	**Sn**	**08 51 12.3**	**-0.6**
VA04	**Juan Fernndez**	**6.41**	**289**		**Pn**	**08 50 02.7**	**+1.5**
AC05	**El Transito**	**7.21**	**9**	Pn	**Pn**	**08 50 11.6**	**-0.5**
AC04	**Llanos de Chal**	**7.76**	**3**	Pn	**Pn**	**08 50 19.2**	**-0.3**
MNMC	**Minye Minye**	**16.87**	**6**	P	**Pn**	**08 52 18.2**	**-1.0**
MNMC				IAmb	IAmb	08 52 44.0	
comp=Z,10.0nm,1.1s							
SAML	**Samuel**	**27.97**	**18**	P	**P**	**08 54 08.1**	**-1.8**
SNAA	**Sanae**	**49.61**	**157**	P	**P**	**08 57 09.9**	**+0.6**
SNAA				IAmb	IAmb	08 57 21.6	
comp=Z,2.5nm,1.2s							
QSPA	**South Pole Qui**	**54.26**	**180**	P	**P**	**08 57 44.8**	**+0.8**

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*VAO **27** 08:54:47.2±0.6, 15°.08S×72°.70W, h10km, mb4.4*
*NEIC **27** 08:54:48.0±1.2, 15°.51S±0°.08×73°.5W±0°.1, h78km±9km, mb4.2/13, Error ellipse: s-maj=16.2km s-min=7.8km az=55.0*
*IDC **27** 08:54:47.3±1.9, 15°.15S×73°.11W, h72km±22km, mb3.6/3, mb1 4.0/7, mb1mx3.7/27, mbtmp4.1/7, Error ellipse: s-maj=26.6km s-min=14.4km az=46.0*
ISC 27 08:54:48.8±0.5, 15°.43S±0°.06×73°.33W±0°.08, h100km, n61, σ1s71/64, mb4.0/5, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.09**	**136**		**Pn**	**08 55 49.3**	**+0.1**
PB16	**IPOC Station P**	**4.66**	**129**		**Pn**	**08 55 58.2**	**+0.8**
PB16				Sn	**Sn**	**08 56 50.4**	**-0.3**
NNA	**Nana**	**4.84**	**315**	P	**Pn**	**08 55 58.2**	**-1.2**
24nm,0.3s,baz=141,slow=12,SNR=18							
NNA				S	**Sn**	**08 56 51.0**	**-3.3**
36nm,0.3s,baz=220,slow=16,SNR=5.6							
NNA	**Nana**	**4.84**	**315**	Pn	**Pn**	**08 55 58.1**	**-1.3**
NNA				Sn	**Sn**	**08 56 52.3**	**-2.0**
LPAZ	**La Paz**	**5.08**	**100**	P	**Pn**	**08 56 04.0**	**+0.9**
6.8nm,0.3s,baz=271,slow=9.0,SNR=141							
LPAZ	**La Paz**	**5.08**	**100**	Pn	**Pn**	**08 56 04.3**	**+1.2**
MNMC	**Minye Minye**	**5.12**	**136**		**Pn**	**08 56 02.9**	**-0.6**
MNMC				Sn	**Sn**	**08 57 01.2**	**-0.4**
PSGCX	**Pisagua**	**5.15**	**144**	Pn	**Pn**	**08 56 02.4**	**-1.2**
PSGCX				Sn	**Sn**	**08 57 00.3**	**-1.6**
PB11	**IPOC Station P**	**5.55**	**141**	Pn	**Pn**	**08 56 08.1**	**-1.1**
GO01	**Chusmiza**	**5.77**	**137**		**Pn**	**08 56 12.1**	**-0.4**
TA01	**Diego Aracena**	**5.92**	**150**		**Pn**	**08 56 12.8**	**-1.1**
PB08	**IPOC Station P**	**6.14**	**140**		**Pn**	**08 56 17.2**	**-0.2**
PB08				Sn	**Sn**	**08 57 25.1**	**-1.4**
PATCX	**Punta Patache**	**6.15**	**151**		**Pn**	**08 56 16.3**	**-1.0**
PB01	**IPOC Station P**	**6.67**	**147**		**Pn**	**08 56 23.1**	**-1.2**
PB01				Sn	**Sn**	**08 57 38.9**	**+0.1**
PB07	**IPOC Station P**	**7.06**	**153**		**Pn**	**08 56 28.5**	**-1.2**
PB09	**IPOC Station P**	**7.42**	**149**		**Pn**	**08 56 34.7**	**+0.1**
PB04	**IPOC Station P**	**7.49**	**157**		**Pn**	**08 56 34.4**	**-1.2**
CZSB	**Cruzeiro do Su**	**7.68**	**5**	*e*P	Pn	08 56 33.8	-4.3
PB06	**IPOC Station P**	**8.06**	**154**		**Pn**	**08 56 41.9**	**-1.3**
LVC	**Limon Verde**	**8.27**	**150**	P	**Pn**	**08 56 46.2**	**-0.2**
27nm,0.3s,baz=335,slow=12,SNR=316							
LVC				S	**Sn**	**08 58 17.3**	**-1.0**
2.3nm,0.3s,baz=82,slow=22,SNR=2.9							
LVC	**Limon Verde**	**8.27**	**150**	Pn	**Pn**	**08 56 46.3**	**0.0**
LVC	**Limon Verde**	**8.27**	**150**	*e*P	**Pn**	**08 56 46.4**	**+0.1**
PB10	**IPOC Station P**	**8.45**	**162**	Pn	**Pn**	**08 56 47.1**	**-1.4**
PB15	**IPOC Station P**	**8.55**	**155**		**Pn**	**08 56 49.1**	**-0.8**
PB14	**IPOC Station P**	**9.55**	**164**	Pn	**Pn**	**08 57 02.0**	**-1.6**
ATAH	**Atahualpa**	**9.63**	**328**	P	**Pn**	**08 57 02.7**	**-2.2**
0.4nm,0.3s,baz=146,slow=7.3,SNR=4.3							
GO02	**Mina Guanaco**	**10.29**	**161**	Pn	**Pn**	**08 57 13.7**	**-0.1**
AC01	**Pan de Azucar**	**10.96**	**167**	Pn	**Pn**	**08 57 21.3**	**-1.3**
SIV	**San Ignacio**	**11.82**	**94**	P	**Pn**	**08 57 30.4**	**-3.8**
0.8nm,0.3s,baz=290,slow=10,SNR=17							
SAML	**Samuel**	**11.82**	**58**	*e*P	Pn	08 57 26.6	-7.6
AC04	**Llanos de Chal**	**12.88**	**171**	Pn	**Pn**	**08 57 46.8**	**-1.3**
VILB	**Vilhena**	**12.97**	**81**	*e*P	Pn	08 57 43.7	-5.7
AC05	**El Transito**	**13.63**	**169**	Pn	**Pn**	**08 57 57.9**	**-0.2**
CO01	**Juntas del Tor**	**14.78**	**169**	Pn	**P**	**08 58 14.2**	**-2.1**
GO04	**Tololo Observa**	**14.85**	**171**		**P**	**08 58 15.4**	**-1.8**
CO03	**El Pedregal**	**15.52**	**171**		**P**	**08 58 23.8**	**-0.7**
OTAV	**Otavalo**	**16.37**	**342**		**P**	**08 58 35.9**	**+1.6**
OTAV	**Otavalo**	**16.37**	**342**	*e*P	**P**	**08 58 36.9**	**+2.6**
MACA	**Manacapuru-AM**	**17.43**	**47**	*e*P	**P**	**08 58 40.9**	**-4.7**
VA03	**San Esteban**	**17.44**	**172**		**Pn**	**08 58 45.5**	**-0.3**
VA03				IAmb	IAmb	08 58 59.9	
comp=Z,20nm,1.2s							
AQDB	**Aquidauana**	**17.50**	**109**	*e*P	**P**	**08 58 46.1**	**-0.3**
ROC1	**El Roble**	**17.59**	**174**		**Pn**	**08 58 47.8**	**0.0**
CLDB	**Colider**	**17.66**	**77**	*e*P	**P**	**08 58 45.3**	**-2.8**
MT02	**Curacav**	**17.86**	**174**	P	**Pn**	**08 58 51.9**	**+1.1**
MT02				IAmb	IAmb	08 58 56.2	
comp=Z,26nm,1.4s							
BO02	**Sierra Bellavi**	**19.41**	**174**		**Pn**	**08 59 07.3**	**-2.0**
BO02				IAmb	IAmb	08 59 13.9	
comp=Z,6.6nm,0.7s							
PTGA	**Pitinga**	**19.68**	**43**	P	**P**	**08 59 07.8**	**-2.4**
comp=Z,2.7nm,0.3s,baz=220,slow=15,SNR=38							
TRCB	**Terra Rica**	**20.87**	**114**	*e*P	Pn	08 59 25.6	-0.8
BI02	**San Fabin de**	**21.22**	**175**	P	**P**	**08 59 25.4**	**-1.3**
BI02				IAmb	IAmb	08 59 35.2	
comp=Z,14nm,0.9s							
LC01	**Cunco**	**23.41**	**177**	P	**P**	**08 59 49.6**	**+0.7**
LC01				IAmb	IAmb	08 59 52.6	
comp=Z,11nm,0.8s							
PLTB	**Pedras Altas**	**24.24**	**136**	*e*P	P	09 00 03.5	+7.0
SDV	**Santo Domingo**	**24.31**	**6**	P	**P**	**08 59 59.3**	**+1.9**
PLCA	**Paso Flores**	**25.32**	**175**	P	**P**	**09 00 10.3**	**+4.0**
comp=Z,4.5nm,1.0s,baz=346,slow=9.7,SNR=7.7							
PLCA	**Paso Flores**	**25.32**	**175**	P	**P**	**09 00 08.1**	**+1.8**
PLCA				IAmb	IAmb	09 00 10.2	
comp=Z,11nm,1.4s							
MCPB	**Macapa, AP**	**25.80**	**56**	*e*P	**P**	**09 00 12.4**	**+1.6**
OBIP	**Obispado Ponce**	**33.92**	**12**	P	**P**	**09 01 25.9**	**+3.5**
TXAR	**Lajitas Array**	**53.28**	**327**	P	**P**	**09 03 58.6**	**+1.0**
comp=Z,0.7nm,0.8s,baz=155,slow=8.7,SNR=6.3							
TXAR	**Lajitas Array**	**53.28**	**327**	P	**P**	**09 03 58.0**	**+0.4**
SNAA	**Sanae**	**69.34**	**161**	P	**P**	**09 05 47.0**	**+1.7**
QSPA	**South Pole Qui**	**74.72**	**180**	P	**P**	**09 06 20.1**	**+2.5**
TORD	**Torodi Ar. Bea**	**79.46**	**73**	P	**P**	**09 06 43.7**	**-1.1**
comp=Z,0.5nm,0.5s,baz=270,slow=4.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**79.46**	**73**	P	**P**	**09 06 46.5**	**+1.6**

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*IDC **27** 08:55:30.7±2.3, 4°.31N×95°.48E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/39, mbtmp3.8/7, ML3.7/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/39, Error ellipse: s-maj=80.9km s-min=19.7km az=62.0*
*DJA **27** 08:55:33.8±1.5, 5°N±5°×9°6E±1°3, h10km, M4.4/8, mb4.7/2, MLv4.3/8*
*NEIC **27** 08:55:41.4±1.1, 4°.94N±0°.06×96°.52E±0°.04, h60km±8km, mb4.1/15, Error ellipse: s-maj=9.8km s-min=3.4km az=206.0*
ISC 27 08:55:37.0±0.7, 4°.83N±0°.04×96°.24E±0°.07, h29km, n39, σ1s65/39, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.58**	**163**	P	**Pb**	**08 55 46.5**	**-2.3**
LHMI	**Lhok Sumawe**	**0.81**	**61**	P	**Pb**	**08 55 53.0**	**+0.4**
LHMI	**Lhok Sumawe**	**0.81**	**61**		**Pb**	**08 55 53.0**	**+0.4**
LHMI				Sn	**Sb**	**08 56 02.6**	**-0.7**
TPTI		**1.82**	**149**	P	**Pn**	**08 56 06.7**	**+0.2**
TPTI				S	**Sb**	**08 56 31.6**	**-0.6**
PSI	**Prapat**	**3.36**	**127**	Pn	**Pn**	**08 56 30.5**	**+2.8**
5.0nm,0.3s,baz=359,slow=11,SNR=36							
PSI				LR	LR	08 58 13.9	
comp=Z,389nm,20.9s,baz=269,slow=43							
RPSI	**Rantau Prapat**	**3.42**	**128**		**Pn**	**08 56 31.0**	**+2.5**
RPSI				Sn	**Sn**	**08 57 08.9**	**+0.9**
RPSI	**Rantau Prapat**	**3.42**	**128**		**Pn**	**08 56 30.5**	**+2.1**
GSI	**Gunungsitoli**	**3.75**	**159**	P	**Pn**	**08 56 33.1**	**+0.1**
GSI	**Gunungsitoli**	**3.75**	**159**		**Pn**	**08 56 35.2**	**+2.2**
GSI				Sn	**Sn**	**08 57 20.4**	**+4.2**
kULM	**Kulim**	**4.42**	**84**		**Pn**	**08 56 41.9**	**-0.3**
IPM	**Ipoh**	**4.79**	**94**		**Pn**	**08 56 47.8**	**+0.5**
MNSI	**Mandailing Nat**	**5.22**	**140**	P	**Pn**	**08 56 52.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**13.80**	**11**	Pn	**P**	**08 58 55.7**	**-3.3**
baz=215,slow=14,SNR=2.5							
CMAR				LR	LR	09 04 44.5	
comp=Z,99nm,18.9s,baz=218,slow=38							
KSM	**Kuching**	**14.44**	**103**	Pn	**Pn**	**08 59 00.4**	**+0.8**
SBUM	**Sibu**	**16.13**	**98**	Pn	**Pn**	**08 59 20.9**	**-0.9**
SLVN	**Son La**	**18.02**	**24**	P	**Pn**	**08 59 45.2**	**-0.3**
QIZ	**Qiongzhong**	**19.38**	**42**	P	**P**	**08 59 59.7**	**-1.0**
QIZ				IAmb	IAmb	09 00 04.3	
comp=Z,10nm,1.3s							
SHL	**Shillong**	**21.04**	**349**	P	**P**	**09 00 18.6**	**-0.3**
SHL				IAmb	IAmb	09 00 24.4	
comp=Z,16nm,0.7s							
KAPI	**Kappang**	**25.44**	**112**	LR	LR	09 11 47.6	
comp=Z,129nm,19.8s,baz=292,slow=38							
H08S2	**Diego Garcia H**	**26.73**	**243**	T	T	09 28 10.2	
baz=62,slow=75,SNR=732							
H08S3	**Diego Garcia H**	**26.73**	**243**	T	T	09 28 10.2	
baz=62,slow=75,SNR=529							
H08S1	**Diego Garcia H**	**26.75**	**243**	T	T	09 28 11.5	
baz=62,slow=75,SNR=411							
TNTI	**Ternate**	**31.35**	**96**	P	**P**	**09 01 53.2**	**-2.2**
XAN	**Xi'an**	**31.36**	**21**	P	**P**	**09 01 54.4**	**-1.0**
XAN				IAmb	IAmb	09 02 01.5	
comp=Z,4.4nm,0.7s							
NIL	**Nilore**	**35.77**	**326**	P	**P**	**09 02 35.4**	**+1.7**
GAR	**Garm**	**41.34**	**329**	P	**P**	**09 03 22.3**	**+1.7**
GAR				IAmb	IAmb	09 03 41.0	
comp=Z,4.6nm,0.7s							
MK31	**Makanchi Array**	**43.51**	**346**	P	**P**	**09 03 39.3**	**+1.3**
MKAR	**Makanchi Array**	**43.51**	**346**	P	**P**	**09 03 37.8**	**-0.1**
comp=Z,0.3nm,0.5s,baz=144,slow=9.5,SNR=3.7							
MKAR	**Makanchi Array**	**43.51**	**346**	P	**P**	**09 03 39.7**	**+1.8**
SONM	**Songino Array**	**43.73**	**10**	P	**P**	**09 03 43.8**	**+4.0**
comp=Z,0.8nm,0.6s,baz=180,slow=5.8,SNR=3.1							
SONM	**Songino Array**	**43.73**	**10**	P	**P**	**09 03 39.4**	**-0.4**
WRA	**Warramunga Arr**	**44.82**	**125**	P	**P**	**09 03 48.6**	**-0.2**
comp=Z,1.0nm,0.6s,baz=301,slow=9.3,SNR=13							
WRA	**Warramunga Arr**	**44.82**	**125**	P	**P**	**09 03 48.1**	**-0.8**
WRAB	**Tennant Creek**	**44.82**	**125**	P	**P**	**09 03 47.7**	**-1.1**
WRAB				IAmb	IAmb	09 04 07.4	
comp=Z,5.6nm,1.1s							
AS31	**Alice Springs**	**46.38**	**129**	P	**P**	**09 04 01.1**	**-0.1**
AS31				IAmb	IAmb	09 04 20.5	
comp=Z,1.6nm,1.2s							
ASAR	**Alice Springs**	**46.38**	**129**	P	**P**	**09 04 01.0**	**-0.2**
comp=Z,1.6nm,0.7s,baz=299,slow=8.1,SNR=27							
ASAR	**Alice Springs**	**46.38**	**129**	P	**P**	**09 04 00.7**	**-0.6**
STKA	**Stephens Creek**	**56.51**	**133**	P	**P**	**09 05 17.4**	**+0.5**
comp=Z,1.6nm,0.7s,baz=294,slow=7.8,SNR=4.6							
STKA	**Stephens Creek**	**56.51**	**133**	P	**P**	**09 05 16.7**	**-0.2**
STKA				IAmb	IAmb	09 05 33.7	
comp=Z,1.5nm,1.3s							

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*JMA **27** 08:56:34.9±0.2, 36°.57N×143°.80E, h57km, M3.7*
*IDC **27** 08:56:41.1±11.0, 35°.16N×142°.81E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/32, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=296.2km s-min=40.1km az=46.0*
ISC 27 08:56:35.7±1.6, 36°.57N±0°.07×143°.8E±0°.1, h35km, n26, σ0s68/25, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.49**	**283**	P	**Pn**	**08 57 13.8**	**+0.1**
ONAJ				*e*S	**Sn**	**08 57 42.4**	**-0.5**
JFK	**Kawauchi**	**2.50**	**289**	P	**Pn**	**08 57 13.8**	**0.0**
JFK				*e*S	**Sn**	**08 57 42.4**	**-0.7**
CHOJ	**Chosi**	**2.56**	**251**	P	**Pn**	**08 57 14.9**	**+0.3**
JHYU	**Hitachinakayam**	**2.62**	**266**	P	**Pn**	**08 57 15.9**	**+0.4**
JHYU				*e*S	**Sn**	**08 57 45.4**	**-0.7**
JHO	**Hitachi**	**2.63**	**272**	P	**Pn**	**08 57 15.5**	**0.0**
JFT	**Otama**	**2.95**	**290**	P	**Pn**	**08 57 20.8**	**+0.8**
BSO1	**Boso 1**	**3.01**	**231**	P	**Pn**	**08 57 20.3**	**0.0**
JMK	**Ichinoseki**	**3.15**	**320**	P	**Pn**	**08 57 23.0**	**+0.2**
JOM	**Ohasama**	**3.52**	**326**	P	**Pn**	**08 57 27.9**	**0.0**
JAG	**Ashikaga**	**3.53**	**269**	P	**Pn**	**08 57 28.5**	**+0.5**
JYK	**Kaneyama**	**3.62**	**311**

2.6nm,0.2s,SNR=7.9
PMAFR S **Sn** **09 02 04.4 +0.6**
18nm,0.2s,SNR=7.9
PMAFR Mafra 3.41 49 *e*S **Sn** **09 02 04.6 +0.9**
PMAFR A A 09 02 06.0
19nm,0.2s
PNCL Nicolau / Gran 3.50 66 *e*P **Pn** **09 01 28.6 +2.9**
PNCL *e*S **Sn** **09 02 06.0 +0.1**
PNCL A A 09 02 06.6
4.5nm,0.3s
PCVE Castro Verde 3.74 75 *e*S **Sn** **09 02 11.2 -0.5**
PCVE A A 09 02 13.9
3.4nm,0.2s
PBDV Barranco-do-Ve 3.76 81 *e*P **Pn** **09 01 32.1 +2.8**
PBDV *e*S **Sn** **09 02 12.8 +0.4**
PBDV A A 09 02 21.3
2.5nm,0.3s
PVAQ Vaqueiros 3.95 79 P **Pn** **09 01 33.6 +1.7**
PVAQ Vaqueiros 3.95 79 *e*P **Pn** **09 01 34.0 +2.1**
PVAQ *e*S **Sn** **09 02 16.4 -0.6**
PVAQ A A 09 02 19.6
2.6nm,0.1s
PSBE So Bento 4.06 46 *e*P **Pn** **09 01 36.7 +3.3**
PSBE *e*S **Sn** **09 02 21.4 +1.7**
PMTG Montargil 4.15 55 *e*P **Pn** **09 01 36.1 +1.5**
PMTG *e*S **Sn** **09 02 21.5 -0.4**
PMTG A A 09 02 26.4
2.8nm,0.1s
EGRO El Granado 4.15 78 P **Pn** **09 01 35.8 +1.2**
0.7nm,0.3s,SNR=7.9
EGRO S **Sn** **09 02 20.2 -1.8**
1.3nm,0.2s,SNR=7.9
PCAS Casmilo, Conde 4.59 43 *e*P **Pn** **09 01 42.8 +2.1**
PCAS *e*S **Sn** **09 02 32.8 -0.1**
EMIN Mina Concepcio 4.83 76 P **Pn** **09 01 45.6 +1.6**
0.3nm,0.2s,SNR=7.9
EMIN S **Sn** **09 02 36.5 -2.2**
0.3nm,0.3s,SNR=7.9
PMRV Marv??o 4.89 56 *e*P **Pn** **09 01 46.5 +1.7**
PMRV *e*S **Sn** **09 02 38.8 -1.3**
PMRV A A 09 02 42.2
1.6nm,0.1s
ESPR Espera 5.41 87 P **Pn** **09 01 52.8 +0.9**
0.8nm,0.1s,SNR=7.9
PMOZ Porto Moniz, M 5.46 225 P Pn 09 01 47.0 -5.7
ECAB El Cabril 5.86 75 P **Pn** **09 01 58.9 +0.8**
0.3nm,0.2s,SNR=7.9
ECAB S **Sn** **09 03 01.4 -2.6**
3.9nm,0.2s,SNR=7.9
EZAM Zamans 6.16 28 P **Pn** **09 02 04.1 +1.8**
0.8nm,0.1s,SNR=4.0
EZAM S **Sn** **09 03 07.8 -3.7**
1.2nm,0.3s,SNR=7.9
MVO Moncorvo 6.17 43 P **Pn** **09 02 03.7 +1.2**
0.6nm,0.2s,SNR=7.9
MVO S **Sn** **09 03 09.1 -2.7**
0.2nm,0.2s,SNR=7.9
ELOB Lobios 6.19 33 P **Pn** **09 02 04.4 +1.7**
0.3nm,0.1s,SNR=7.9
ELOB S **Sn** **09 03 10.0 -2.2**
0.3nm,0.1s,SNR=7.9
EADA Adamuz 6.53 75 P **Pn** **09 02 09.1 +1.8**
0.4nm,0.2s,SNR=7.9
EADA S **Sn** **09 03 17.7 -2.8**
0.5nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.77 23 P **Pn** **09 02 11.7 +1.0**
0.5nm,0.1s,SNR=7.9
EMAZ S **Sn** **09 03 22.2 -4.3**
1.5nm,0.2s,SNR=7.9
OUK Oukaimeden 6.79 143 P **Pn** **09 02 09.1 -2.2**
ECAL Calabor 6.88 39 P **Pn** **09 02 13.0 +0.9**
0.7nm,0.2s,SNR=7.9
ECAL S **Sn** **09 03 25.2 -3.9**
0.5nm,0.4s,SNR=7.9
MD31 MD31 7.53 119 P **Pn** **09 02 19.5 -1.5**

JMA 27 09:01:42.9±0.1, 30°.91N×130°.37E, h135km±1km, M2.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.47**	**199**	P	Pn	09 02 02.6	+0.2
JKC				*e*S	Sn	09 02 17.5	+0.4
JTSR	**Tashiro 2**	**0.54**	**62**	P	Pn	09 02 02.7	-0.1
JTSR				S	Sn	09 02 17.7	-0.1
JTN	**Tanegashima 3**	**0.58**	**116**	P	Pn	09 02 03.2	+0.2
JTN				*e*S	Sn	09 02 18.5	+0.3
JSU	**Suzuyama**	**0.60**	**7**	P	Pn	09 02 03.3	+0.2
JSU				*e*S	Sn	09 02 19.1	+0.5
JYAK	**Yakushimahirau**	**0.68**	**170**	P	Pn	09 02 03.6	-0.1
JYAK				*e*S	Sn	09 02 19.4	0.0
JMTN	**Minamitane**	**0.69**	**138**	P	Pn	09 02 03.9	+0.2
JMTN				*e*S	Sn	09 02 20.2	+0.8
JSJ	**Shimokoshiki**	**0.95**	**324**	P	Pn	09 02 05.3	-0.5
JSJ				*e*S	Sn	09 02 22.9	-0.3
JNAR	**Kushima--Naru**	**0.99**	**51**	P	Pn	09 02 06.6	+0.5
JNAR				*e*S	Sn	09 02 24.3	+0.5
JNN	**Nakanoshima**	**1.15**	**202**	P	Pn	09 02 07.8	+0.1
JNN				*e*S	Sn	09 02 26.7	+0.2
JTZ	**Takazaki**	**1.16**	**32**	P	Pn	09 02 08.0	+0.2
JTZ				S	Sn	09 02 26.9	+0.1
JZO	**Okuchi**	**1.24**	**9**	*e*S	Sn	09 02 28.7	+0.4

TIR 27 09:03:26.9, 41°.22N×19°.90E, h28km±3km, Md2.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.13**	**350**	P	Pb	09 03 32.5	+0.2
	baz=350						
TIR				S	Sb	09 03 36.5	+0.6
	baz=350						
PHP	**Peshkopia**	**0.62**	**41**	P	Pb	09 03 39.6	+0.2
	baz=40						
PHP				S	Sn	09 03 49.3	+0.3
	baz=40						
PUK	**Puka**	**0.83**	**360**	P	Pn	09 03 43.2	+0.5
	baz=0.0						
PUK				S	Sn	09 03 56.2	+2.1
	baz=0.0						

NEIC ***27*** *09:04:06.9±1.0, 6°.8S±0°.1×125°.2E±0°.2, h522km±14km, mb4.1/9, Error ellipse: s-maj=26.8km s-min=15.7km az=52.0*
IDC ***27*** *09:04:09.2±10.0, 6°.64S×125°.68E, h554km±158km, mb3.1/2, mb1 3.3/4, mb1mx2.8/25, mbtmp4.1/4, Error ellipse: s-maj=162.9km s-min=47.6km az=63.0*
ISC 27 09:04:08.2±1.2, 7°.0S±0°.1×125°.1E±0°.1, h550km, n23, σ1§44/25, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.88**	**197**	P	**P**	**09 05 19.2**	**-3.5**
SOEI				S	**S**	**09 06 20.5**	**-2.7**
SAUI	**Saumlaki**	**6.21**	**100**	P	**P**	**09 05 45.6**	**-3.2**
MTN	**Manton Dam**	**8.31**	**135**	P	**P**	**09 06 07.9**	**-1.1**
MTN				S	**S**	**09 07 48.0**	**-0.1**
KNRA	**Kununurra**	**9.35**	**158**	P	**P**	**09 06 19.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.06**	**177**	P	**P**	**09 06 37.4**	**+0.4**
PSAC2	**Pilbara Seismi**	**15.35**	**199**	P	**P**	**09 07 22.4**	**+1.2**
PSAB3	**Pilbara Seismi**	**15.39**	**199**	P	**P**	**09 07 23.2**	**+1.5**
WB0	**Warramunga Arr**	**15.58**	**146**	P	**P**	**09 07 23.1**	**-0.5**
WB0				IAmb	IAmb	09 07 25.2	
	comp=Z,3.1nm,0.7s						
WRAB	**Tennant Creek**	**15.69**	**146**	P	**P**	**09 07 24.9**	**+0.2**
WRAB				IAmb	IAmb	09 07 51.2	
	comp=Z,3.9nm,1.0s						
WRA	**Warramunga Arr**	**15.69**	**146**	P	**P**	**09 07 24.3**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=325,slow=10,SNR=50						
WRA	**Warramunga Arr**	**15.69**	**146**	P	**P**	**09 07 24.7**	**0.0**
WB2	**Warramunga Arr**	**15.69**	**146**	P	**P**	**09 07 24.6**	**-0.2**
WB2				IAmb	IAmb	09 07 48.6	
	comp=Z,8.8nm,1.4s						
WC3	**Warramunga Arr**	**15.72**	**146**	P	**P**	**09 07 25.0**	**-0.1**
WR0	**Warramunga Arr**	**15.81**	**146**	P	**P**	**09 07 25.8**	**-0.2**
WR0				IAmb	IAmb	09 07 27.1	
	comp=Z,8.7nm,1.1s						
AS31	**Alice Springs**	**18.61**	**154**	P	**P**	**09 07 53.0**	**+1.3**
ASAR	**Alice Springs**	**18.61**	**154**	P	**P**	**09 07 52.9**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=338,slow=11,SNR=62						
ASAR	**Alice Springs**	**18.61**	**154**	P	**P**	**09 07 53.5**	**+1.7**
COEN	**Coen**	**19.05**	**113**	P	**P**	**09 07 56.3**	**+0.4**
BBOO	**Buckleboo**	**27.64**	**160**	P	**P**	**09 09 13.1**	**+0.9**
STKA	**Stephens Creek**	**29.15**	**150**	P	**P**	**09 09 26.5**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=328,slow=9.2,SNR=19						
STKA	**Stephens Creek**	**29.15**	**150**	P	**P**	**09 09 26.6**	**+1.2**
MKAR	**Makanchi Array**	**65.64**	**329**	P	**P**	**09 13 58.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=131,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**65.64**	**329**	P	**P**	**09 13 58.7**	**+0.4**

ATH 27 09:04:55.5, 36°.61N×25°.58E, h17km±5km, ML1.7/1, Error ellipse: s-maj=5.3km s-min=1.2km az=167.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAP3	**Santorini-Thir**	**0.25**	**228**	P	Pg	09 05 01.2	+0.1
SAP3				S	Sg	09 05 05.0	0.0
IOSP	**Ios island**	**0.26**	**297**	P	Pg	09 05 01.4	+0.1
IOSP				S	Sg	09 05 05.2	0.0
IOSP				AML	AML	09 05 06.0	
	comp=N,559μm,0.2s						
IOSP				AML	AML	09 05 06.1	
	comp=E,354μm,0.3s						
THR6	**Thira Island,**	**0.29**	**210**	P	Pb	09 05 02.4	+0.1
ANAF	**Anafi Island**	**0.29**	**148**	P	Pg	09 05 01.9	0.0
ANAF				S	Sg	09 05 06.1	-0.1
AMGA	**Amorgos Island**	**0.34**	**48**	P	Pg	09 05 02.6	0.0
AMGA				S	Sg	09 05 07.4	-0.1
APE	**Apeiranthos**	**0.46**	**355**	P	Pg	09 05 05.0	+0.1
APE				S	Sb	09 05 12.0	0.0
SERI	**Serifos**	**1.04**	**303**	P	Pb	09 05 14.9	-0.2

IDC ***27*** *09:18:59.2±2.0, 14°.41S×33°.03E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/28, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=55.4km s-min=45.3km az=137.0*
LSZ ***27*** *09:19:01.3±0.3, 13°.64S×34°.12E, h10km, MD3.8, ML3.4*
ISC 27 09:18:59.1±0.9, 14°.61S±0°.07×32°.58E±0°.07, h10km, n9, σ1§83/12, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZOMB	**Zomba**	**2.78**	**106**	*i* P	**Pn**	**09 19 42.8**	**-1.0**
ZOMB				S	**Sn**	**09 20 17.4**	**0.0**
ZOMB	**Zomba**	**2.78**	**106**	*i* P	**Pn**	**09 19 42.8**	**-1.0**
ZOMB				S	**Sn**	**09 20 17.4**	**0.0**
VWZMW	**Thunduwike**	**3.55**	**16**	*i* P	**Pg**	**09 20 08.8**	**+1.5**
VWZMW				S	Sg	09 21 13.4	+20
KSMZ	**Kasama**	**4.61**	**343**	*i* P	**Pn**	**09 20 09.3**	**+0.2**
KSMZ				*i*		09 20 09.4	
	baz=141,slow=5.3						
KSMZ				AMP		09 20 09.6	
	comp=Z,105nm,0.1s						
KSMZ				*i* S	**Sn**	**09 20 58.9**	**-3.9**
KMBO	**Kilima Mbogo**	**14.17**	**19**	Lg	Lg	09 26 10.3	
	comp=Z,0.2nm,0.3s,baz=246,slow=20,SNR=4.4						
BOSA	**Boshof**	**15.50**	**205**	Pn	**P**	**09 22 43.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=33,slow=14,SNR=6.5						
BOSA				Sn	**Sn**	**09 25 29.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=108,slow=7.7,SNR=3.2						
BOSA				Lg	Lg	09 27 10.7	
	comp=Z,0.4nm,0.3s,baz=153,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**41.19**	**311**	P	**P**	**09 26 46.8**	**+2.6**
	comp=Z,0.3nm,0.4s,baz=127,slow=7.5,SNR=7.3						
MKAR	**Makanchi Array**	**75.64**	**33**	P	**P**	**09 30 43.4**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=224,slow=6.8,SNR=4.4						
NVAR	**Mina Array Bea**	**145.03**	**318**	PKPbc	**PKiKP**	**09 38 39.9**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=52,slow=5.0,SNR=4.3						

WEL ***27*** *09:22:50.7±0.9, 33°S±7°×17°8W±2°1, h33km, M4.9/13, mB5.4/7, ML5.0/13, MLv4.9/13, Mw(mB)4.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=108.0*
NEIC ***27*** *09:22:53.9±1.0, 32°.55S±0°.06×179°.5W±0°.2, h58km±8km, mb4.3/9, Error ellipse: s-maj=25.0km s-min=1.6km az=111.0*
IDC ***27*** *09:22:54.0±2.6, 32°.50S×179°.46W, h60km±25km, mb3.4/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.7/3, ML4.6/2, Error ellipse: s-maj=30.2km s-min=19.6km az=116.0*
ISC 27 09:22:51.8±0.7, 32°.58S±0°.07×179°.3W±0°.1, h35km, n107, σ2§12/113, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.52**	**20**	P	**Pn**	**09 23 46.0**	**+2.0**
GLKZ				S	**Sn**	**09 24 26.1**	**+1.7**
RAO	**Raoul Island**	**3.53**	**20**	P	**Pn**	**09 23 46.6**	**+2.5**
	46nm,0.3s,baz=222,slow=12,SNR=3.8						
RAO	**Raoul Island**	**3.53**	**20**		**Pn**	**09 23 46.6**	**+2.5**
RAO				Sn	**Sn**	**09 24 26.7**	**+2.0**
RIZ	**Raoul Island**	**3.54**	**20**	P	**Pn**	**09 23 46.7**	**+2.5**
MXZ	**Matakaoa Point**	**5.33**	**201**	P	**Pn**	**09 24 09.2**	**+0.3**
MXZ				S	**Sn**	**09 25 10.3**	**+1.2**
MXZ	**Matakaoa Point**	**5.33**	**201**	Pn	**Pn**	**09 24 10.4**	**+1.5**
MXZ				Sn	**Sn**	**09 25 09.5**	**+0.4**
WMGZ	**Waiomatatini S**	**5.54**	**199**	P	**Pn**	**09 24 13.4**	**+1.6**
WMGZ				S	**Sn**	**09 25 18.7**	**+4.4**
GRZ	**Great Barrier**	**5.66**	**228**	P	Pn	09 24 20.1	+6.8
HAZ	**Te Kaha**	**5.68**	**204**	P	**Pn**	**09 24 15.7**	**+2.0**
PUZ	**Puketiti**	**5.82**	**199**	P	**Pn**	**09 24 16.4**	**+0.7**
PUZ				S	**Sn**	**09 25 21.0**	**-0.2**
KUZ	**Kuaotunu**	**5.83**	**223**	P	Pn	09 24 24.7	+9.1
RUGZ	**Raukumara Rang**	**5.91**	**204**	P	**Pn**	**09 24 18.5**	**+1.6**
TWGZ	**Tauwhareparae**	**6.00**	**201**	P	**Pn**	**09 24 19.2**	**+1.0**
TWGZ				S	**Sn**	**09 25 29.3**	**+3.7**
TKGZ	**Te Karaka**	**6.28**	**201**	P	**Pn**	**09 24 22.4**	**+0.5**
URZ	**Urewera**	**6.37**	**206**	P	**Pn**	**09 24 24.4**	**+1.3**
	13nm,0.3s,baz=274,slow=3.8,SNR=66						
URZ				S	**Sn**	**09 25 37.8**	**+3.3**
	7.3nm,0.3s,baz=150,slow=22,SNR=6.5						
URZ	**Urewera**	**6.37**	**206**	P	**Pn**	**09 24 24.2**	**+1.2**
URZ				S	**Sn**	**09 25 36.0**	**+1.5**
URZ	**Urewera**	**6.37**	**206**		**Pn**	**09 24 24.7**	**+1.6**
PRGZ	**Paritu Road**	**6.72**	**199**	P	**Pn**	**09 24 27.3**	**-0.7**
KNZ	**Kokohu**	**6.87**	**200**	P	**Pn**	**09 24 26.5**	**-3.5**
KNZ				S	**Sn**	**09 25 42.9**	**-4.1**
MHGZ	**Mahia Peninsul**	**6.93**	**198**	P	**Pn**	**09 24 30.7**	**-0.1**
MHGZ				S	**Sn**	**09 25 46.2**	**-2.2**
ALRZ	**Allen Road**	**6.93**	**209**	P	**Pn**	**09 24 31.6**	**+0.7**
WPRZ	**Whakapapatarin**	**6.97**	**211**	P	**Pn**	**09 24 34.0**	**+2.6**
MTHZ	**Maungataniwha**	**6.99**	**205**	P	**Pn**	**09 24 33.3**	**+1.6**
MTHZ				S	**Sn**	**09 25 50.6**	**+0.6**
KUTZ	**Kaahu Road**	**7.10**	**213**	P	Pn	09 24 37.9	+4.7
TLZ	**Tolley Road**	**7.10**	**215**	P	Pn	09 24 38.8	+5.5
MRHZ	**Matea Rd**	**7.13**	**208**	P	**Pn**	**09 24 34.7**	**+1.0**
MRHZ				S	**Sn**	**09 25 53.0**	**-0.6**
NMHZ	**Naumai**	**7.22**	**205**	P	**Pn**	**09 24 34.3**	**-0.6**
NMHZ				S	**Sn**	**09 25 56.3**	**+0.6**
ARHZ	**Aropaoanui**	**7.30**	**203**	P	**Pn**	**09 24 36.3**	**+0.4**
ARHZ				S	**Sn**	**09 25 57.4**	**-0.2**
WATZ	**Wairara**	**7.32**	**212**	P	Pn	09 24 40.7	+4.6
BKZ	**Black Stump Fm**	**7.39**	**206**	P	**Pn**	**09 24 37.0**	**-0.3**
BKZ				S	**Sn**	**09 25 59.0**	**-1.0**
BKZ	**Black Stump Fm**	**7.39**	**206**		**Pn**	**09 24 37.7**	**+0.5**
RATZ	**Rangitukua**	**7.43**	**211**	P	**Pn**	**09 24 41.9**	**+4.1**
RITZ	**Rihia Road**	**7.49**	**210**	P	**Pn**	**09 24 42.2**	**+3.7**
KATZ	**Kakaramea**	**7.55**	**211**	P	Pn	09 24 43.9	+4.3
MCHZ	**McNeill Hill**	**7.57**	**204**	P	**Pn**	**09 24 39.5**	**-0.1**
MCHZ				S	**Sn**	**09 26 03.1**	**-1.0**
HIZ	**Hauiti**	**7.58**	**217**	P	Pn	09 24 45.3	+5.6
KWHZ	**Kaweka Forest**	**7.65**	**206**	P	**Pn**	**09 24 39.7**	**-1.0**
KWHZ				S	**Sn**	**09 26 04.5**	**-1.7**
KRVZ	**Karewarewa**	**7.68**	**211**	P	**Pn**	**09 24 44.5**	**+3.3**
WTVZ	**West Tongariro**	**7.72**	**211**	P	**Pn**	**09 24 44.3**	**+2.5**
OTVZ	**Oturere**	**7.72**	**210**	P	**Pn**	**09 24 43.2**	**+1.4**
NGZ	**Ngauruhoe**	**7.76**	**211**	P	**Pn**	**09 24 45.5**	**+3.1**
KAHZ	**Kahuranaki**	**7.83**	**202**	P	**Pn**	**09 24 42.3**	**-0.8**
KAHZ				S	**Sn**	**09 26 09.6**	**-0.8**
BHHZ	**Black Hill Sta**	**7.84**	**207**	P	**Pn**	**09 24 42.8**	**-0.5**
BHHZ				S	**Sn**	**09 26 10.1**	**-0.7**
FWVZ	**Far West T-bar**	**7.85**	**211**	P	**Pn**	**09 24 46.2**	**+2.6**
KRHZ	**Kereru**	**7.86**	**205**	P	**Pn**	**09 24 42.6**	**-1.0**
KRHZ				S	**Sn**	**09 26 09.2**	**-2.1**
WNVZ	**Wahianoa**	**7.89**	**210**	P	**Pn**	**09 24 46.1**	**+2.0**
MOVZ	**Moawhango**	**7.89**	**209**	P	**Pn**	**09 24 45.4**	**+1.3**
MOVZ				S	**Sn**	**09 26 08.5**	**-3.6**
PXZ	**Pawanui**	**8.04**	**201**	P	**Pn**	**09 24 46.7**	**+0.7**
PXZ				S	**Sn**	**09 26 12.2**	**-3.6**
VRZ	**Vera Road**	**8.10**	**215**	P	Pn	09 24 51.4	+4.5
PNHZ	**Pukenui**	**8.16**	**205**	P	**Pn**	**09 24 46.6**	**-1.1**
PNHZ				S	**Sn**	**09 26 14.4**	**-4.3**
WPHZ	**Waipukurau**	**8.21**	**203**	P	**Pn**	**09 24 47.6**	**-0.8**
PRHZ	**Porangahau**	**8.33**	**202**	P	**Pn**	**09 24 48.1**	**-2.0**
TSZ	**Takapari Road**	**8.37**	**206**	P	**Pn**	**09 24 48.8**	**-1.9**
WAZ	**Wanganui**	**8.51**	**211**	P	**Pn**	**09 24 54.4**	**+1.9**
DVHZ	**Dannevirke**	**8.51**	**204**	P	**Pn**	**09 24 51.5**	**-1.1**
POWZ	**Post Office Ro**	**8.74**	**205**	P	**Pn**	**09 24 55.2**	**-0.4**
PRWZ	**Pori Road**	**8.81**	**204**	P	**Pn**	**09 24 56.4**	**-0.2**
BFZ	**Birch Farm**	**8.83**	**203**	P	**Pn**	**09 24 55.2**	**-1.7**
TIWZ	**Tintock**	**9.04**	**204**	P	**Pn**	**09 24 58.9**	**-0.8**
MRZ	**Mangatainoka R**	**9.04**	**205**	P	**Pn**	**09 24 57.0**	**-2.8**
CPWZ	**Castlepoint**	**9.05**	**202**	P	**Pn**	**09 24 59.6**	**-0.3**
HOWZ	**Holdsworth Sta**	**9.27**	**205**	P	**Pn**	**09 25 00.5**	**-2.5**
OGWZ	**Otaki Gorge**	**9.33**	**207**	P	**Pn**	**09 25 02.2**	**-1.5**
TMWZ	**Te Maipa**	**9.33**	**203**	P	**Pn**	**09 25 00.4**	**-3.3**
KIW	**Kapiti Island**	**9.47**	**208**	P	**Pn**	**09 25 03.1**	**-2.5**
CAW	**Cannon Point**	**9.62**	**206**	P	**Pn**	**09 25 04.7**	**-3.1**
TRWZ	**Traveller**	**9.66**	**203**	P	**Pn**	**09 25 06.1**	**-2.1**
MSWZ	**Moikau Station**	**9.82**	**205**	P	**Pn**	**09 25 07.8**	**-2.8**
DUWZ	**D'Urville Isla**	**9.83**	**212**	P	**Pn**	**09 25 09.2**	**-1.4**
BHW	**Baring Head**	**9.96**	**206**	P	**Pn**	**09 25 10.0**	**-2.3**
PLWZ	**Palliser**	**9.96**	**204**	P	**Pn**	**09 25 09.5**	**-2.9**
TCW	**Tory Channel**	**10.02**	**209**	P	**Pn**	**09 25 10.7**	**-2.5**
TUWZ	**Tuamarina**	**10.34**	**209**	P	**Pn**	**09 25 14.7**	**-2.8**
BSWZ	**Blackbirch Sta**	**10.61**	**209**	P	**Pn**	**09 25 19.3**	**-1.9**
THZ	**Tophouse**	**11.06**	**212**	P	**Pn**	**09 25 24.7**	**-2.8**
KHZ	**Kahutara**	**11.33**	**208**	P	**Pn**	**09 25 28.0**	**-3.1**
GVZ	**Greta Valley S**	**11.99**	**208**	P	**Pn**	**09 25 36.5**	**-3.7**
INZ	**Inchbonnie**	**12.48**	**213**	P	**Pn**	**09 25 44.4**	**-2.5**
MQZ	**McQueen's Vall**	**12.77**	**207**	P	Pn	09 25 45.3	-5.4
MHCZ	**Mount Hutt**	**13.07**	**211**	P	**Pn**	**09 25 50.6**	**-4.3**
WACZ	**Wakanui South**	**13.29**	**209**	P	Pn	09 25 53.3	-4.6
RPZ	**Rata Peaks**	**13.44**	**211**	P	**Pn**	**09 25 55.4**	**-4.5**
ARCZ	**Arundel**	**13.57**	**211**	P	Pn	09 25 56.6	-5.1
ODZ	**Otahua Downs**	**14.68**	**209**	P	Pn	09 26 11.5	-5.3
ASAR	**Alice Springs**	**41.92**	**270**	P	**P**	**09 30 38.9**	**-0.4**
	0.3nm,0.4s,baz=107,slow=7.5,SNR=7.7						
ASAR	**Alice Springs**	**41.92**	**270**	P	**P**	**09 30 35.2**	**-4.0**
WR0	**Warramunga Arr**	**42.93**	**275**	P	**P**	**09 30 46.2**	**-1.3**
WC3	**Warramunga Arr**	**43.08**	**275**	P	**P**	**09 30 47.3**	**-1.3**
WB2	**Warramunga Arr**	**43.10**	**275**	P	**P**	**09 30 47.7**	**-1.1**
WB2				IAmb	IAmb	09 31 12.5	
	comp=Z,9.9nm,1.5s						
WRAB	**Tennant Creek**	**43.10**	**275**	P	**P**	**09 30 47.9**	**-0.9**
WRAB				IAmb	IAmb	09 30 54.1	
	comp=Z,8.1nm,1.4s						
WRA	**Warramunga Arr**	**43.11**	**275**	P	**P**	**09 30 46.9**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=113,slow=8.1,SNR=9.2						
WRA	**Warramunga Arr**	**43.11**	**275**	P	**P**	**09 30 47.6**	**-1.2**
WB0	**Warramunga Arr**	**43.14**	**275**	P	**P**	**09 30 47.7**	**-1.5**
WB0				IAmb	IAmb	09 31 09.9	
	comp=Z,7.3nm,1.4s						
KNRA	**Kununurra**	**49.79**	**277**	P	**P**	**09 31 39.5**	**-1.9**
PSAB2	**Pilbara Seismi**	**54.62**	**265**	P	**P**	**09 32 15.3**	**-1.9**
QSPA	**South Pole Qui**	**57.53**	**180**	P	**P**	**09 32 38.5**	**+1.0**
SNAA	**Sanae**	**76.01**	**179**	P	**P**	**09 34 35.0**	**0.0**
H03S2	**Juan Fernandez**	**80.20**	**124**	T	T	11 03 33.0
	baz=236,slow=74,SNR=16					
H03S1	**Juan Fernandez**	**80.21**	**124**	T	T	11 03 34.2
	baz=236,slow=74,SNR=15					
H03S3	**Juan Fernandez**	**80.22**	**124**	T	T	11 03 33.1
	baz=236,slow=74,SNR=18					
H03N3	**Juan Fernandez**	**80.40**	**123**	T	T	11 03 42.8
	baz=240,slow=72,SNR=22					
H03N2	**Juan Fernandez**	**80.41**	**123**	T	T	11 03 37.8
	baz=240,slow=72,SNR=11					
H03N1	**Juan Fernandez**	**80.42**	**123**	T	T	11 03 43.3
	baz=240,slow=72,SNR=21					
PLCA	**Paso Flores**	**81.84**	**133**	P	**P**	**09 35 07.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=246,slow=6.8,SNR=4.1						
PLCA	**Paso Flores**	**81.84**	**133**	P	**P**	**09 35 07.5**	**-0.1**
PLCA				IAmb	IAmb	09 35 23.6	
	comp=Z,3.5nm,1.2s						
FINES	**FINESS Array B**	**146.77**	**338**	PKPbc	**PKPdf**	**09 42 27.1**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=21,slow=5.1,SNR=7.2						
FINES	**FINESS Array B**	**146.77**	**338**		**PKPdf**	**09 42 27.6**	**0.0**

IDC 27 09:44:53.4±1.6, 6°.29S×147°.44E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, ML1.1/1, Error ellipse: s-maj=68.5km s-min=27.1km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.10**	**185**	Pn	Pn	09 45 43.2	-0.4
	1.9nm,0.3s,baz=285,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**18.60**	**222**	P	P	09 49 06.3	-6.1
	0.0nm,0.3s,baz=45,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**21.63**	**216**	P	P	09 49 45.7	+0.3
	0.7nm,0.8s,baz=34,slow=14,SNR=6.3						
MKAR	**Makanchi Array**	**78.00**	**320**	P	P	09 56 53.7	0.0
	0.2nm,0.6s,baz=126,slow=7.3,SNR=2.5						
ILAR	**Eielson Array**	**85.58**	**23**	P	P	09 57 33.4	+0.1
	0.3nm,0.7s,baz=243,slow=6.0,SNR=3.6						

WEL 27 11:22:50.5, 38°S±2°×17°6E±°, h167km±5km, M2.4/39, MLv2.4/39, Error ellipse: s-maj=0.0km s-min=0.0km az=43.2, North Island

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

WHHZ			S	Sn	11 23 40.0	-0.6
MCHZ	**McNeill Hill**	**1.22 153**	P	Pn	11 23 19.5	+0.7
MCHZ			S	Sn	11 23 40.6	-0.1
KRHZ	**Kereru**	**1.32 166**	P	Pn	11 23 19.8	+0.1
KRHZ			S	Sn	11 23 41.2	-1.1
RUGZ	**Raukumara Rang**	**1.40 74**	P	Pn	11 23 19.4	-1.2
RUGZ			S	Sn	11 23 40.7	-3.0
RIGZ	**Rimuhau**	**1.45 104**	P	Pn	11 23 21.0	+0.1
RIGZ			S	Sn	11 23 43.1	-1.3
TKGZ	**Te Karaka**	**1.48 94**	P	Pn	11 23 21.6	+0.5
KNZ	**Kokohu**	**1.49 117**	P	Pn	11 23 21.3	0.0
HAZ	**Te Kaha**	**1.55 68**	P	Pn	11 23 21.0	-1.0
PNHZ	**Pukenui**	**1.56 173**	P	Pn	11 23 21.7	-0.3
WAZ	**Wanganui**	**1.59 209**	P	Pn	11 23 22.3	0.0
TWGZ	**Tauwhareparae**	**1.59 84**	P	Pn	11 23 22.7	+0.3
KAHZ	**Kahuranaki**	**1.60 154**	P	Pn	11 23 22.7	+0.3
PRGZ	**Paritu Road**	**1.60 111**	P	Pn	11 23 22.5	0.0
DREZ	**Durham Road**	**1.61 239**	P	Pn	11 23 23.2	+0.7
KUZ	**Kuaotunu**	**1.62 353**	P	Pn	11 23 22.6	-0.1
ETAZ	**East Tamaki Re**	**1.63 329**	P	Pn	11 23 22.8	0.0
TSZ	**Takapari Road**	**1.69 180**	P	Pn	11 23 23.1	-0.3
MHGZ	**Mahia Peninsul**	**1.71 118**	P	Pn	11 23 23.8	+0.3
NEZ	**North Egmont**	**1.72 238**	P	Pn	11 23 24.5	+0.7
WPHZ	**Waipukurau**	**1.74 168**	P	Pn	11 23 23.6	-0.3
CNGZ	**Carnagh Statio**	**1.76 95**	P	Pn	11 23 24.5	+0.4
MBAZ	**Motutapu North**	**1.80 331**	P	Pn	11 23 24.7	+0.1
PXZ	**Pawanui**	**1.81 158**	P	Pn	11 23 24.4	-0.1
PUZ	**Puketiti**	**1.82 82**	P	Pn	11 23 24.2	-0.6
OHWZ	**Ohakea**	**1.91 195**	P	Pn	11 23 25.7	0.0
DVHZ	**Dannevirke**	**1.94 176**	P	Pn	11 23 25.3	-0.7
PRHZ	**Porangahau**	**1.97 165**	P	Pn	11 23 26.1	-0.3
WMGZ	**Waiomatatini S**	**2.00 75**	P	Pn	11 23 26.3	-0.4
MXZ	**Matakaoa Point**	**2.01 67**	P	Pn	11 23 26.6	-0.2
POWZ	**Post Office Ro**	**2.03 184**	P	Pn	11 23 26.3	-0.8
GRZ	**Great Barrier**	**2.15 349**	P	Pn	11 23 28.5	+0.1
PRWZ	**Pori Road**	**2.19 180**	P	Pn	11 23 28.3	-0.6
MRZ	**Mangatainoka R**	**2.32 187**	P	Pn	11 23 29.1	-1.2
BFZ	**Birch Farm**	**2.33 175**	P	Pn	11 23 29.4	-1.0
OGWZ	**Otaki Gorge**	**2.53 194**	P	Pn	11 23 31.5	-1.2
CPWZ	**Castlepoint**	**2.55 176**	P	Pn	11 23 32.3	-0.7
HOWZ	**Holdsworth Sta**	**2.56 188**	P	Pn	11 23 31.6	-1.5
KIW	**Kapiti Island**	**2.63 198**	P	Pn	11 23 32.3	-1.7
TMWZ	**Te Maipa**	**2.74 181**	P	Pn	11 23 33.8	-1.6
CAW	**Cannon Point**	**2.83 194**	P	Pn	11 23 34.7	-1.8
DUWZ	**D'Urville Isla**	**2.91 212**	P	Pn	11 23 35.6	-1.8
TRWZ	**Traveller**	**3.04 184**	P	Pn	11 23 37.3	-1.8
WEL	**Wellington**	**3.06 197**	P	Pn	11 23 37.2	-2.1
MSWZ	**Moikau Station**	**3.10 190**	P	Pn	11 23 37.7	-2.1
TCW	**Tory Channel**	**3.13 204**	P	Pn	11 23 38.2	-2.0
BHW	**Baring Head**	**3.16 195**	P	Pn	11 23 38.0	-2.4
PLWZ	**Palliser**	**3.25 195**	P	Pn	11 23 39.3	-2.4
TUWZ	**Tuamarina**	**3.44 206**	P	Pn	11 23 41.7	-2.3
NNZ	**Nelson**	**3.48 214**	P	Pn	11 23 42.1	-2.5
QRZ	**Quartz Range**	**3.62 226**	P	Pn	11 23 43.6	-2.8
BSWZ	**Blackbirch Sta**	**3.71 205**	P	Pn	11 23 45.4	-2.1
THZ	**Tophouse**	**4.13 214**	P	Pn	11 23 50.0	-2.9
KHZ	**Kahutara**	**4.46 204**	P	Pn	11 23 54.5	-2.5
GVZ	**Greta Valley S**	**5.11 205**	P	Pn	11 24 02.4	-3.3
LTZ	**Lake Taylor**	**5.24 211**	P	Pn	11 24 03.9	-3.4
OXZ	**Oxford**	**5.79 210**	P	Pn	11 24 10.3	-4.2
MQZ	**McQueen's Vall**	**5.90 204**	P	Pn	11 24 11.4	-4.5
MHCZ	**Mount Hutt**	**6.15 211**	P	Pn	11 24 15.5	-3.7
ARCZ	**Arundel**	**6.65 211**	P	Pn	11 24 22.0	-3.9
ODZ	**Otahua Downs**	**7.77 209**	P	Pn	11 24 36.8	-3.9

OMAN 27 11:29:02.1±0.9, 18°.46N×60°.18E, h2km, mb5.1/2, ml4.0/10, Error ellipse: s-maj=82.0km s-min=12.9km az=226.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM** SNR=7.3	**2.90**	**301**	P	Pn	11 29 49.3	0.0
DQM				S	Sn	11 30 23.9	-0.8
MHTO	**MHTO** SNR=21	**3.27**	**321**	P	Pn	11 29 53.9	-0.5
MHTO				S	Sn	11 30 32.1	-1.8
JLN	**Jalan Bani Buh** SNR=29	**3.75**	**349**	P	Pn	11 29 60.0	-1.0
JLN				S	Sn	11 30 48.0	+2.3
WBK	**Wadi Bani Khal** SNR=78	**4.29**	**345**	P	Pn	11 30 08.2	-0.2
SHAO	**Shalim** SNR=18	**4.35**	**265**	P	Pn	11 30 08.8	-0.6
SHAO				S	Sn	11 30 57.7	-3.0
JMDO	**Jabal Madar** SNR=64	**4.35**	**334**	P	Pn	11 30 09.8	+0.5
JMDO				S	Sn	11 30 59.7	-1.1
WSAR	**Wadi Sarin**	**4.97**	**343**	P	Pn	11 30 17.6	-0.3
SMDO	**Samad** SNR=51	**4.99**	**337**	P	Pn	11 30 18.3	0.0
DMTO	**DMTO** SNR=12	**5.03**	**262**	P	Pn	11 30 18.3	-0.4
BSY	**Bisya** SNR=14	**5.10**	**327**	P	Pn	11 30 19.7	+0.1
BIDO	**Bidbid** SNR=9.0	**5.39**	**339**	P	Pn	11 30 24.2	+0.6
ARQ	**Araqi** SNR=11	**5.94**	**325**	P	Pn	11 30 31.4	+0.3
WHFO	**Wadi Hawf** SNR=8.2	**6.12**	**266**	P	Pn	11 30 33.4	-0.2

IDC 27 11:32:27.8±7.5, 19°.49S×173°.54E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, MS3.6/2, Ms1 3.6/2, ms1mx3.1/17, Error ellipse: s-maj=334.8km s-min=38.4km az=148.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete** comp=Z,89nm,18.1s,baz=128,slow=34	**34.98**	**93**	LR	LR	11 52 04.8	
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=96,slow=8.5,SNR=2.5	**36.85**	**263**	P	P	11 39 38.4	+0.2
ASAR	**Alice Springs** 0.3nm,0.7s,baz=79,slow=9.5,SNR=5.7	**37.01**	**256**	P	P	11 39 39.1	-0.4
SIJI	**Sorong** comp=Z,58nm,18.3s,baz=238,slow=38	**45.33**	**289**	LR	LR	12 01 07.2	
ILAR	**Eielson Array** 0.7nm,0.9s,baz=231,slow=5.1,SNR=4.8	**89.32**	**16**	P	P	11 45 25.6	-0.1

*NEIC **27** 11:53:47.0±1.1, 4°.7S±0°.2×104°.18E±0°.09, h98km±7km, mb4.4/13, Error ellipse: s-maj=27.8km s-min=4.5km az=206.0*
*DJA **27** 11:53:49.1±0.4, 5°.5±5°.5×10°.4E±°, h65km±8km, M4.1/12, mB6.0/1, MLv4.1/12, Mw(mB)5.6/1*
*IDC **27** 11:53:51.6±2.5, 4°.76S×104°.26E, h134km±20km, mb3.7/9, mb1 3.9/10, mb1mx3.5/61, mbtmp4.1/10, Error ellipse: s-maj=40.6km s-min=11.9km az=50.0*
ISC 27 11:53:46.8±0.6, 5°.08S±0°.08×103°.91E±0°.06, h100km, n55, σ1§54/53, mb4.3/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.16**	**69**	P	**Pn**	**11 54 00.6**	**-0.4**
MDSI	**Maura Dua**	**0.65**	**25**	P	**Pn**	**11 54 04.1**	**+0.4**
MDSI				S	**Sn**	**11 54 16.2**	**-0.2**
KLSI		**0.91**	**65**	P	**Pn**	**11 54 06.9**	**+0.7**
MNAI	**Manna**	**1.18**	**307**	P	**Pn**	**11 54 10.2**	**+0.9**
MNAI	**Manna**	**1.18**	**307**		**Pn**	**11 54 10.2**	**+0.9**
MNAI				Sn	**Sn**	**11 54 28.0**	**+1.8**
LHSI	**Lahat**	**1.30**	**343**	P	**Pn**	**11 54 12.2**	**+1.6**
BLSI	**Bandar Lampung**	**1.37**	**102**	P	**Pn**	**11 54 11.9**	**+0.5**
KSI	**Kapahiang**	**1.93**	**317**	P	**Pn**	**11 54 20.3**	**+1.8**
PMBI	**Palembang**	**2.30**	**22**	P	**Pn**	**11 54 25.4**	**+2.1**
CGJI	**Cibinong**	**2.34**	**131**	P	**Pn**	**11 54 24.3**	**+0.4**
TNG	**Tangerang**	**2.94**	**112**	P	**Pn**	**11 54 33.1**	**+1.4**
DBJI	**Dramaga**	**3.19**	**118**	P	**Pn**	**11 54 36.2**	**+1.1**
KRJI	**Kerinci**	**3.84**	**320**	P	**Pn**	**11 54 47.1**	**+3.2**
LEM	**Lembang** 3.3nm,0.3s,baz=346,slow=13,SNR=6.3	**4.08**	**115**	P	**Pn**	**11 54 50.1**	**+2.8**
CISI	**Cisompet, Garu**	**4.60**	**123**	Pn	**Pn**	**11 54 52.0**	**-2.2**
CISI					**Sn**	**11 55 44.7**	**-1.8**
RGRI	**Rengat**	**4.95**	**341**	P	**Pn**	**11 55 00.9**	**+2.0**
GSI	**Gunungsitoli**	**8.95**	**315**		**Pn**	**11 55 50.7**	**-2.6**
GSI				Sn	**Sn**	**11 57 27.8**	**-4.7**
JAGI	**Jajag, Banyuwa**	**10.72**	**109**	Pn	**Pn**	**11 56 17.4**	**+0.1**
GIRL	**Giralia**	**20.12**	**151**	P	Pn	11 58 20.3	+4.7
CMAR	**Chiang Mai Arr**	**23.89**	**348**	P	**P**	**11 58 51.4**	**0.0**
	0.5nm,0.3s,baz=183,slow=8.0,SNR=4.9						
CMAR	**Chiang Mai Arr**	**23.89**	**348**	P	**P**	**11 58 49.5**	**-1.9**
FITZ	**Fitzroy Crossi**	**24.87**	**123**	P	**P**	**11 59 03.3**	**+2.9**
KNRA	**Kununurra**	**26.59**	**115**	P	**P**	**11 59 15.2**	**-0.7**
KNRA	comp=Z,15nm,1.4s			IAmb	IAmb	11 59 17.3	
MTN	**Manton Dam**	**27.96**	**108**	P	**P**	**11 59 28.5**	**+0.3**
MTN	comp=Z,15nm,1.1s			IAmb	IAmb	11 59 48.0	
H01W3	**Cape Leeuwin H** baz=340,slow=76,SNR=4.9	**31.14**	**164**	T	T	12 33 30.2	
H01W2	**Cape Leeuwin H** baz=340,slow=76,SNR=4.8	**31.15**	**164**	T	T	12 33 31.1	
H01W1	**Cape Leeuwin H** baz=340,slow=76,SNR=5.1	**31.15**	**164**	T	T	12 33 31.3	
H08S2	**Diego Garcia H** baz=87,slow=75,SNR=14	**31.32**	**264**	T	T	12 32 45.0	
H08S3	**Diego Garcia H** baz=87,slow=75,SNR=12	**31.33**	**264**	T	T	12 32 44.2	
H08S1	**Diego Garcia H** baz=87,slow=75,SNR=10	**31.34**	**264**	T	T	12 32 46.7	
WB0	**Warramunga Arr**	**33.07**	**119**	P	**P**	**12 00 13.4**	**+0.2**
WB0	comp=Z,6.8nm,1.2s			IAmb	IAmb	12 00 26.1	
WRA	**Warramunga Arr** comp=Z,2.1nm,0.7s,baz=300,slow=9.1,SNR=40	**33.09**	**119**	P	**P**	**12 00 13.3**	**-0.1**
WRA	comp=Z,0.3nm,0.4s,baz=304,slow=2.1,SNR=5.7			PcP	**PcP**	**12 02 55.3**	**+0.5**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.8s	**33.09**	**119**	IAmb	IAmb	12 00 14.5	
WRAB	**Tennant Creek**	**33.10**	**119**	P	**P**	**12 00 13.6**	**+0.2**
WRAB	comp=Z,6.2nm,0.8s			IAmb	IAmb	12 00 14.7	
WB2	**Warramunga Arr**	**33.10**	**119**	P	**P**	**12 00 13.6**	**+0.1**
WB2	comp=Z,5.9nm,0.8s			IAmb	IAmb	12 00 14.6	
WR0	**Warramunga Arr**	**33.27**	**119**	P	**P**	**12 00 14.9**	**0.0**
WR0	comp=Z,4.0nm,1.1s			IAmb	IAmb	12 00 15.3	
ASAR	**Alice Springs** comp=Z,2.1nm,0.7s,baz=299,slow=8.0,SNR=40	**34.30**	**126**	P	**P**	**12 00 24.3**	**+0.4**
ASAR	comp=Z,0.5nm,0.5s,baz=310,slow=2.4,SNR=10			PcP	**PcP**	**12 02 58.9**	**+0.7**
ASAR	comp=Z,0.9nm,0.9s,baz=297,slow=15,SNR=5.8			S	**S**	**12 05 41.6**	**-2.5**
AS31	**Alice Springs**	**34.30**	**126**	P	**P**	**12 00 24.5**	**+0.6**
BBOO	**Buckleboo**	**40.75**	**137**	P	**P**	**12 01 16.5**	**-1.6**
CTA	**Charters Tower** comp=Z,5.1nm,0.7s,baz=283,slow=8.2,SNR=8.3	**43.78**	**114**	P	**P**	**12 01 43.8**	**+0.8**
CTAO	**Charters Tower**	**43.78**	**114**	P	**P**	**12 01 43.8**	**+0.8**
STKA	**Stephens Creek** comp=Z,5.0nm,0.5s,baz=310,slow=7.7,SNR=17	**44.21**	**132**	P	**P**	**12 01 47.3**	**+1.2**
STKA	**Stephens Creek**	**44.21**	**132**	P	**P**	**12 01 47.3**	**+1.2**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=156,slow=7.5,SNR=6.6	**55.08**	**342**	P	**P**	**12 03 08.3**	**-0.1**
MKAR	**Makanchi Array**	**55.08**	**342**	P	**P**	**12 03 07.6**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.4s,baz=108,slow=9.3,SNR=3.6	**60.95**	**347**	P	**P**	**12 03 47.9**	**-1.3**
ZALV	**Zalesovo Beam**	**60.95**	**347**	P	**P**	**12 03 47.6**	**-1.6**
VNDA	**Vanda** comp=Z,0.9nm,0.8s,baz=321,slow=8.1,SNR=4.5	**78.42**	**169**	P	**P**	**12 05 38.0**	**+2.0**
FINES	**FINESS Array B** comp=Z,4.0nm,1.0s,baz=149,slow=7.8,SNR=5.7	**88.63**	**332**	P	**P**	**12 06 28.6**	**+0.1**
FINES	**FINESS Array B**	**88.63**	**332**	P	**P**	**12 06 28.4**	**-0.1**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.5s,baz=250,slow=0.8,SNR=13	**144.47**	**44**	PKP	**PKPab**	**12 13 11.2**	**+0.4**
TXAR	**Lajitas Array**	**144.47**	**44**	PKPbc		12 13 11.8	+0.7
BDFB	**Brasilia** comp=Z,1.8nm,0.3s,baz=152,slow=8.9,SNR=3.4	**145.41**	**233**	PKPbc	**PKPab**	**12 13 15.9**	**+1.3**
TKL	**Tuckaleechee C** comp=Z,2.1nm,0.5s,baz=333,slow=4.5,SNR=4.9	**148.75**	**12**	PKPbc	**PKPbc**	**12 13 21.8**	**-1.3**
TKL	**Tuckaleechee C**	**148.75**	**12**	PKPdf	**PKPdf**	**12 13 18.9**	**-0.3**

*IDC **27** 12:14:48.5±1.0, 35°.95N×97°.55W, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.5/46, mbtmp3.5/4, ML3.9/3, Error ellipse: s-maj=17.5km s-min=12.4km az=159.0*
*UNK **27** 12:14:49.2, 35°.84N×97°.44W, h5km*
*NEIC **27** 12:14:49.2, 35°.84N×97°.44W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.34; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-1.45; $M_{r\theta}$-0.47; $M_{\theta\phi}$0.41; $M_{\phi r}$-0.75; Fault plane solution: $M_0$1.64000×10^{14} NP1:ϕ_s212.46000°, δ83.03000°, λ144.57000°. NP2:ϕ_s307.40000°, δ54.87000°, λ8.53000°. Principal axes: T 1.5074, Plg30.0000°, Azm164.0000°; N 0.2354, Plg54.0000°, Azm23.0000°; P -1.7428, Plg19.0000°, Azm265.0000°;*
*TUL **27** 12:14:49.1±1.0, 35°.82N±0°.04×97°.43W±0°.04, h5km±6km, ML3.3, Mwr3.4/43(NEIC) Error ellipse: s-maj=5.3km s-min=4.8km az=211.0*
*NEIC **27** 12:14:49.2±0.8, 35°.85N±0°.02×97°.43W±0°.06, h5km±2km, Error ellipse: s-maj=8.3km s-min=3.0km az=73.0*
*ANF **27** 12:14:50.8±1.1, 35°.79N×97°.43W, h17km±8km, ML4.5/15, Error ellipse: s-maj=3.3km s-min=2.3km az=174.0*
ISC 27 12:14:49.2±0.9, 35°.84N±0°.02×97°.43W±0°.02, h8km±6km, n98, σ1§35/122, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.05**	**204**		**Pg**	**12 14 50.3**	**-0.7**
ADOK	**Arcadia Dam**	**0.19**	**165**		**Pg**	**12 14 57.3**	**+4.1**
BCOK	**Bluff Creek, N**	**0.23**	**218**		**Pg**	**12 14 53.7**	**-0.2**
BCOK				Sg	**Sg**	**12 14 57.1**	**0.0**
OK009	**Oakdale Elemen**	**0.26**	**179**		**Pg**	**12 14 54.2**	**-0.2**
OK025	**Westminster Rd**	**0.27**	**164**		**Pg**	**12 14 54.4**	**-0.2**
OK025				Sg	**Sg**	**12 14 58.3**	**+0.1**
OK001	**Jones High Sch**	**0.30**	**158**	Pg	**Pg**	**12 14 55.1**	**-0.1**
OK001				Sg	**Sg**	**12 14 59.3**	**+0.1**
OKCFA	**Oklahoma City**	**0.42**	**182**		**Pg**	**12 14 57.2**	**-0.3**
OKCFA				Sg	**Sg**	**12 15 03.1**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.43**	**181**		**Pg**	**12 14 57.4**	**-0.3**
FNO	**Franklin**	**0.58**	**178**		**Pg**	**12 15 00.5**	**0.0**
QUOK	**Quay**	**0.67**	**60**		**Pg**	**12 15 02.5**	**+0.3**
OK011	**Prague**	**0.70**	**120**	Pg	**Pg**	**12 15 02.6**	**-0.2**
CROK	**Carrier**	**0.80**	**326**		**Pg**	**12 15 04.8**	**+0.2**
W35A	**Tecumseh**	**0.82**	**146**		**Pg**	**12 15 04.2**	**-0.8**
KAN13	**South Haven SW**	**1.17**	**358**		**Pg**	**12 15 11.6**	**-0.1**
T35A	**Sooner Cattle**	**1.30**	**34**	Pn	**Pn**	**12 15 13.6**	**-0.2**
TUL1	**Leonard** baz=267,SNR=243	**1.33**	**87**	P	**Pn**	**12 15 13.2**	**-0.9**
TUL1				S	**Sg**	**12 15 31.3**	**-0.8**
TUL1	**Leonard**	**1.33**	**87**		**Pn**	**12 15 13.2**	**-0.9**
U32A	**Winter Ranch,**	**1.38**	**293**		**Pn**	**12 15 14.6**	**-0.2**
KAN10	**Anthony SW Sta**	**1.39**	**338**		**Pn**	**12 15 15.0**	**+0.1**
KAN12	**Harper NE Stat**	**1.52**	**343**		**Pb**	**12 15 17.5**	**-0.2**
WMOK	**Wichita Mounta** baz=44,SNR=387	**1.56**	**226**	P	**Pn**	**12 15 17.1**	**-0.2**
WMOK				S	**Sn**	**12 15 37.5**	**-0.1**
WMOK	**Wichita Mounta**	**1.56**	**226**		**Pn**	**12 15 17.2**	**0.0**
X37A	**Clayton**	**2.10**	**126**		**Pn**	**12 15 25.1**	**+0.5**
Z35A	**Perchaven, San**	**2.51**	**177**	Pn	**Pn**	**12 15 30.8**	**+0.5**
U38A	**Gravette**	**2.54**	**75**		**Pn**	**12 15 32.3**	**+1.6**
R32A	**Long Quarter,**	**2.77**	**339**		**Pn**	**12 15 34.6**	**+0.6**
HHAR	**Hobbs**	**2.86**	**80**		**Pn**	**12 15 35.5**	**+0.4**
W39A	**Magazine** baz=283,SNR=66	**3.04**	**101**	P	**Pn**	**12 15 38.3**	**+0.7**
W39A	**Magazine**	**3.04**	**101**		**Pn**	**12 15 37.9**	**+0.2**
Z38A	**Mt. Pleasant**	**3.27**	**141**		**Pn**	**12 15 40.8**	**+0.1**
KSU1	**Kansas State U** baz=192	**3.32**	**11**	Pb	**Pb**	**12 15 50.3**	**+2.0**
KSU1				Sb	**Sg**	**12 16 33.4**	**-2.5**
MIAR	**Mount Ida** baz=293,SNR=78	**3.41**	**111**	P	**Pn**	**12 15 43.6**	**+1.0**
MIAR				S	**Sn**	**12 16 24.9**	**+1.6**
MIAR	**Mount Ida**	**3.41**	**111**		**Pn**	**12 15 42.9**	**+0.3**
CBKS	**Cedar Bluff** baz=148,SNR=5.2	**3.49**	**329**	Pn	**Pn**	**12 15 45.3**	**+1.4**
CBKS				Pb	**Pb**	**12 15 53.3**	**+2.1**
CBKS				Sb	**Sg**	**12 16 39.1**	**-2.3**
CBKS	**Cedar Bluff**	**3.49**	**329**	Pn	**Pn**	**12 15 45.0**	**+1.2**
AMTX	**Amarillo** baz=73	**3.60**	**256**	Pn	**Pn**	**12 15 46.8**	**+1.4**
AMTX				Pb	**Pb**	**12 15 52.5**	**-0.7**
AMTX				Sb	**Sb**	**12 16 41.1**	**+4.0**
AMTX	**Amarillo** baz=73	**3.60**	**256**	Pn	**Pn**	**12 15 46.3**	**+0.9**
ABTX	**Abilene, Hawle** baz=29,SNR=42	**3.69**	**210**	P	**Pn**	**12 15 46.6**	**0.0**
ABTX	**Abilene, Hawle**	**3.69**	**210**	Pn	**Pn**	**12 15 46.7**	**0.0**
U40A	**Yellville** baz=263,SNR=76	**3.74**	**81**	Pn	**Pn**	**12 15 48.3**	**+1.0**
U40A	baz=263			Pb	**Pb**	**12 15 56.9**	**+1.3**
U40A	baz=263			Sb	**Sg**	**12 16 46.0**	**-3.4**
U40A	**Yellville**	**3.74**	**81**	Pn	**Pn**	**12 15 48.1**	**+0.8**
S39A	**Bolivar**	**3.78**	**60**		**Pn**	**12 15 48.7**	**+0.9**
WHTX	**Lake Whitney,** baz=0.2,SNR=13	**3.84**	**180**	Pn	**Pn**	**12 15 48.5**	**-0.1**
WHTX	baz=0.2			Pb	**Pb**	**12 15 55.8**	**-1.4**
WHTX	baz=0.2			Sb	**Sb**	**12 16 44.8**	**+0.9**
WHTX	**Lake Whitney,**	**3.84**	**180**	Pn	**Pn**	**12 15 48.5**	**-0.1**
X40A	**Basin Creek Fa** baz=291,SNR=7.3	**4.00**	**108**	P	**Pn**	**12 15 51.6**	**+0.8**
X40A	baz=291			Sb	**Sg**	**12 16 54.0**	**-3.7**
X40A	**Basin Creek Fa**	**4.00**	**108**		**Pn**	**12 15 51.6**	**+0.8**
237A	**Washetta, Mont**	**4.06**	**160**	Pn	**Pn**	**12 15 51.6**	**0.0**
WLAR	**White Oak Lake**	**4.15**	**120**	Pn	**Pn**	**12 15 52.7**	**-0.2**
WHAR	**Wooly Hollow**	**4.23**	**96**	Pn	**Pn**	**12 15 54.3**	**+0.4**
W41B	**Gary Mavity, V** baz=280,SNR=17	**4.28**	**97**	Pn	**Pn**	**12 15 55.4**	**+0.8**
W41B	baz=280			Pb	**Pb**	**12 16 05.3**	**+0.6**
W41B	baz=280			Sb	**Sg**	**12 17 02.0**	**-4.7**
W41B	**Gary Mavity, V**	**4.28**	**97**		**Pn**	**12 15 55.0**	**+0.4**
UALR	**University of**	**4.29**	**103**	Pn	**Pn**	**12 15 55.1**	**+0.3**
FCAR	**Ozark Folk Cen**	**4.31**	**88**	Pn	**Pn**	**12 15 55.9**	**+0.9**
MGMO	**Mountain Grove**	**4.36**	**71**	Pn	**Pn**	**12 15 56.6**	**+0.9**
Z41A	**Richland Creek**	**4.61**	**123**	Pn	**Pn**	**12 15 59.4**	**+0.3**
MSTX	**Muleshoe** baz=65	**4.77**	**249**	Pn	**Pn**	**12 16 02.0**	**+0.5**
MSTX	baz=65			Pb	**Pb**	**12 16 13.6**	**+0.5**
MSTX	baz=65			Sb	**Sg**	**12 17 17.7**	**-4.7**
MSTX	**Muleshoe**	**4.77**	**249**		**Pn**	**12 16 01.3**	**-0.1**
R40A	**Maddies Statio**	**4.80**	**58**		**Pn**	**12 16 02.3**	**+0.6**
P38A	**Dawn**	**4.88**	**38**	Pn	**Pn**	**12 16 03.5**	**+0.7**
N33A	**J Bar K, Exete**	**4.89**	**360**	Pn	**Pn**	**12 16 03.5**	**+0.5**
CCAR	**Cane Creek**	**5.03**	**111**	Pn	**Pn**	**12 16 05.0**	**+0.1**
435B	**Jarrell** baz=1.4	**5.05**	**182**	P	**Pn**	**12 16 05.3**	**+0.2**
435B	baz=1.4			Sn	**Sn**	**12 17 02.9**	**-0.8**
435B	baz=1.4			Sb	**Sb**	**12 17 22.9**	**+4.3**
435B	**Jarrell**	**5.05**	**182**	Pn	**Pn**	**12 16 05.1**	**0.0**
LCAR	**Lake Charles**	**5.10**	**86**	Pn	**Pn**	**12 16 05.9**	**0.0**
N35A	**Tabor**	**5.21**	**15**	Pn	**Pn**	**12 16 07.6**	**+0.3**
KSCO	**Kaye Shedlock'** baz=126	**5.21**	**309**	P	**Pn**	**12 16 09.0**	**+1.5**
KSCO	**Kaye Shedlock'**	**5.21**	**309**	Pn	**Pn**	**12 16 08.1**	**+0.6**
T42A	**Van Buren**	**5.25**	**75**	Pn	**Pn**	**12 16 08.9**	**+1.0**
CCM	**Cathedral Cave**	**5.42**	**64**	Pn	**Pn**	**12 16 10.5**	**+0.2**
BGNE	**Belgrade**	**5.59**	**354**	Pn	**Pn**	**12 16 13.3**	**+0.7**
JCT	**Junction City**	**5.70**	**201**	Pn	**Pn**	**12 16 14.3**	**0.0**
T25A	**Trinidad** baz=101,SNR=15	**5.77**	**285**	P	**Pn**	**12 16 15.5**	**+0.2**
T25A	**Trinidad**	**5.77**	**285**	Pn	**Pn**	**12 16 15.5**	**+0.2**
143A	**Socs Landing,**	**5.89**	**120**	Pn	**Pn**	**12 16 16.2**	**-0.5**
N38A	**Joes South For**	**5.94**	**32**		**Pn**	**12 16 16.7**	**-0.8**
OXF	**Oxford** baz=284,SNR=5.2	**6.70**	**99**	P	**Pn**	**12 16 28.4**	**+0.5**
OXF	**Oxford**	**6.70**	**99**	Pn	**Pn**	**12 16 28.0**	**+0.1**
SDCO	**Great Sand Dun** baz=104,SNR=69	**6.75**	**289**	P	**Pn**	**12 16 30.0**	**+1.2**
SDCO	**Great Sand Dun**	**6.75**	**289**		**Pn**	**12 16 28.9**	**+0.1**
Y45A	**Yeager Farm, C**	**6.78**	**105**	Pn	**Pn**	**12 16 29.3**	**+0.4**
S44A	**Carbondale**	**6.82**	**72**		**Pn**	**12 16 30.3**	**+0.8**
Q24A	**Divide** baz=115,SNR=7.1	**6.89**	**299**	P	**Pn**	**12 16 31.4**	**+0.7**
Q24A	**Divide**	**6.89**	**299**		**Pn**	**12 16 30.9**	**+0.1**
P43A	**Skaggs, Pawnee**	**7.33**	**56**		**Pn**	**12 16 36.5**	**+0.1**
ISCO	**Idaho Springs** baz=119,SNR=10	**7.59**	**304**	P	**Pn**	**12 16 40.7**	**+0.4**
ISCO	**Idaho Springs**	**7.59**	**304**	Pn	**Pn**	**12 16 40.4**	**+0.1**
833A	**Chaparral WMA,** baz=12	**7.68**	**193**	S	**Sn**	**12 18 04.9**	**-3.6**
MNTX	**Cornudas Mount** baz=56,SNR=7.5	**7.80**	**240**	P	**Pn**	**12 16 43.0**	**0.0**
MNTX	**Cornudas Mount**	**7.80**	**240**	Pn	**Pn**	**12 16 42.9**	**-0.2**
ECSD	**EROS Data Cent

LAST	**Lasithi**	**0.54**	**51**	P	**Pb**	**12 24 42.8**	**-0.1**
LAST				S	**Sb**	**12 24 50.8**	**+0.2**
	comp=N,1μm,0.4s						
LAST	**Lasithi**	**0.54**	**51**	P	**Pb**	**12 24 42.8**	**-0.1**
LAST				S	**Sb**	**12 24 50.7**	**0.0**
LAST				AML	AML	12 24 52.9	
	comp=N,2331μm,0.3s						
LAST				AML	AML	12 24 53.5	
	comp=E,2906μm,0.4s						
FRMA	**Ierapetra Chan**	**0.66**	**73**	P	**Pn**	**12 24 46.3**	**-0.2**
PRNS	**Prines Rethymn**	**0.67**	**325**	P	**Pg**	**12 24 44.6**	**0.0**
PRNS				S	**Sn**	**12 24 55.5**	**-1.3**
NPS	**Neapolis**	**0.69**	**50**	P	**Pb**	**12 24 44.7**	**-0.7**
NPS	**Neapolis**	**0.69**	**50**	P	**Pb**	**12 24 44.8**	**-0.6**
NPS				S	**Sb**	**12 24 55.2**	**+0.4**
NPS				AML	AML	12 24 58.0	
	comp=N,2252μm,0.4s						
NPS				AML	AML	12 24 59.0	
	comp=E,2833μm,0.3s						
GVDS	**Gavdos**	**0.72**	**272**	P	**Pb**	**12 24 45.4**	**-0.5**
GVDS				S	**Sn**	**12 24 57.0**	**-1.2**
	comp=E,3μm,0.4s						
GVD	**Gavdhos**	**0.72**	**272**	P	**Pg**	**12 24 45.9**	**+0.3**
GVD				S	**Sg**	**12 24 56.1**	**+0.9**
	comp=E,3μm,0.5s						
GVD	**Gavdhos**	**0.72**	**272**	P	**Pb**	**12 24 45.4**	**-0.5**
GVD				S	**Sg**	**12 24 55.7**	**+0.5**
GVD				AML	AML	12 25 05.6	
	comp=E,6666μm,0.4s						
GVD				AML	AML	12 25 08.4	
	comp=N,4497μm,0.4s						
VAM	**Vamos**	**0.86**	**313**	P	**Pb**	**12 24 47.5**	**-0.8**
VAM	**Vamos**	**0.86**	**313**	P	**Pb**	**12 24 47.8**	**-0.5**
VAM				S	**Sn**	**12 25 00.5**	**-1.1**
VAM				AML	AML	12 25 12.6	
	comp=E,3272μm,0.5s						
VAM				AML	AML	12 25 14.0	
	comp=N,2301μm,0.4s						
IMMV	**Iera Moni Meta**	**1.03**	**309**	P	**Pb**	**12 24 50.5**	**-0.7**
IMMV	**Iera Moni Meta**	**1.03**	**309**	P	**Pb**	**12 24 50.6**	**-0.7**
IMMV				S	**Sn**	**12 25 05.7**	**-0.2**
IMMV				AML	AML	12 25 15.0	
	comp=N,1940μm,0.8s						
IMMV				AML	AML	12 25 15.2	
	comp=E,2494μm,0.8s						
ZKR	**Zakros**	**1.07**	**74**	P	**Pg**	**12 24 52.2**	**0.0**
ZKR				S	**Sg**	**12 25 07.0**	**+0.8**
ZKR				AML	AML	12 25 11.4	
	comp=N,969μm,0.4s						
ZKR				AML	AML	12 25 13.1	
	comp=E,1885μm,0.4s						
KNDR	**Palaiochora Ch**	**1.13**	**292**	P	**Pb**	**12 24 52.6**	**-0.3**
SANT	**Santorini**	**1.60**	**14**	P	**Pb**	**12 25 01.5**	**+0.5**
SANT				S	**Sg**	**12 25 23.6**	**+0.5**
SANT				AML	AML	12 25 26.6	
	comp=E,2362μm,0.5s						
SANT				AML	AML	12 25 29.6	
	comp=N,657μm,0.6s						
SAP3	**Santorini-Thir**	**1.64**	**11**	P	**Pb**	**12 25 02.0**	**+0.3**
ANAF	**Anafi Island**	**1.67**	**23**	P	**Pb**	**12 25 02.3**	**+0.2**
ANAF				S	**Sg**	**12 25 24.8**	**-0.6**
ANAF				AML	AML	12 25 30.5	
	comp=N,4387μm,0.4s						
ANAF				AML	AML	12 25 31.2	
	comp=E,2685μm,0.3s						
ANKY	**Antikythira Is**	**1.72**	**308**	P	**Pg**	**12 25 03.8**	**-0.7**
IOSP	**Ios island**	**1.92**	**8**	P	**Pb**	**12 25 05.7**	**-0.7**
MHLO	**Agia Marina, M**	**1.92**	**346**	P	**Pb**	**12 25 06.1**	**-0.3**
KARP	**Karpathos**	**1.94**	**67**	P	**Pg**	**12 25 08.2**	**-0.6**
KTHA	**Kythira Island**	**2.11**	**313**	P	**Pb**	**12 25 09.2**	**-0.5**
AMGA	**Amorgos Island**	**2.15**	**20**	P	**Pb**	**12 25 09.3**	**-0.9**
APE	**Apeiranthos**	**2.29**	**11**	P	**Pb**	**12 25 10.8**	**-1.9**
SERI	**Serifos**	**2.37**	**351**	P	**Pb**	**12 25 12.2**	**-1.9**
VLI	**Veliai**	**2.51**	**320**	P	**Pb**	**12 25 14.3**	**-2.2**
SLUM	**Salum**	**3.32**	**176**	P	**Pn**	**12 25 22.4**	**-0.7**
	baz=175						
SLUM				AMP		12 26 00.0	
	baz=175						
SLUM				S	**Sn**	**12 26 01.5**	**-0.9**
	baz=175						
SWA2		**5.57**	**176**	P	**Pn**	**12 25 52.9**	**-1.1**
	baz=175						
SWA2				AMP		12 26 00.0	
	baz=175						
GLL	**Jalalah**	**7.74**	**131**	P	**Pn**	**12 26 22.8**	**-1.1**
	baz=132						
RSH		**8.31**	**115**	P	**Pn**	**12 26 29.8**	**-1.8**
	baz=116						
KEST	**Kesra**	**12.80**	**279**	LR	LR	12 33 23.4	
	comp=E,48nm,20.1s,baz=288,slow=42						
AKASG	**Malin Array Be**	**16.17**	**10**	Pn	**P**	**12 28 20.4**	**-1.1**
	comp=E,0.8nm,0.3s,baz=202,slow=10,SNR=3.9						
GERES	**GERESS Array B**	**16.31**	**333**	Pn	**P**	**12 28 23.1**	**0.0**
	comp=E,0.2nm,0.3s,baz=154,slow=13,SNR=7.1						
ESDC	**Sonseca Array**	**23.48**	**290**	P	**P**	**12 29 46.7**	**+5.8**
	comp=E,0.3nm,0.7s,baz=94,slow=9.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**30.15**	**230**	P	**P**	**12 30 41.5**	**+0.3**
	comp=E,0.3nm,0.6s,baz=38,slow=9.1,SNR=2.7						
MKAR	**Makanchi Array**	**44.10**	**56**	P	**P**	**12 32 39.4**	**+0.1**
	comp=E,0.2nm,0.5s,baz=270,slow=9.3,SNR=3.8						

*TUL **27** 12:29:20.1±1.2, 35°.83N±0°.02×97°.43W±0°.05, h4km±7km, ML3.1, Error ellipse: s-maj=6.0km s-min=2.0km az=75.0*
*NEIC **27** 12:29:20.4±0.9, 35°.84N±0°.01×97°.43W±0°.04, h5km±2km, Error ellipse: s-maj=5.9km s-min=3.1km az=263.0*
*UNK **27** 12:29:20.4, 35°.83N×97°.43W, h5km*
*ANF **27** 12:29:22.0±1.4, 35°.79N×97°.42W, h20km±13km, ML4.2/10, Error ellipse: s-maj=7.1km s-min=4.3km az=158.0*

ISC 27 12:29:20.5±0.9, 35°.83N±0°.02×97°.43W±0°.03, h8km±7km, n57, σ0°.73/66, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.04**	**205**		**Pg**	**12 29 21.6**	**-0.5**
BCOK	**Bluff Creek, N**	**0.23**	**219**		**Pg**	**12 29 24.8**	**-0.2**
BCOK				Sg	**Sg**	**12 29 28.4**	**+0.4**
OK009	**Oakdale Elemen**	**0.25**	**178**		**Pg**	**12 29 25.2**	**-0.2**
OK009				Sg	**Sg**	**12 29 28.9**	**+0.1**
OK025	**Westminster Rd**	**0.26**	**163**		**Pg**	**12 29 25.5**	**-0.2**
OK025				Sg	**Sg**	**12 29 29.6**	**+0.4**
OK001	**Jones High Sch**	**0.29**	**156**	Pg	**Pg**	**12 29 26.1**	**-0.2**
OK001				Sg	**Sg**	**12 29 30.5**	**+0.2**
OKCFA	**Oklahoma City**	**0.42**	**182**		**Pg**	**12 29 28.2**	**-0.4**
OKCFA				Sg	**Sg**	**12 29 34.2**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.43**	**180**		**Pg**	**12 29 28.4**	**-0.3**
FNO	**Franklin**	**0.57**	**177**		**Pg**	**12 29 31.6**	**0.0**
FNO				Sg	**Sg**	**12 29 39.7**	**+0.6**
QUOK	**Quay**	**0.68**	**60**		**Pg**	**12 29 33.4**	**-0.2**
OK011	**Prague**	**0.70**	**119**	Pg	**Pg**	**12 29 33.8**	**-0.2**
CROK	**Carrier**	**0.81**	**327**		**Pg**	**12 29 35.8**	**-0.1**
W35A	**Tecumseh**	**0.82**	**146**		**Pg**	**12 29 35.2**	**-0.9**
KAN13	**South Haven SW**	**1.18**	**358**		**Pg**	**12 29 42.6**	**-0.5**
T35A	**Sooner Cattle**	**1.31**	**34**	Pn	**Pn**	**12 29 44.6**	**-0.5**
TUL1	**Leonard**	**1.34**	**86**	P	**Pn**	**12 29 44.2**	**-1.2**
	baz=267						
TUL1				S	**Sg**	**12 30 02.6**	**-0.8**
	baz=267						
TUL1	**Leonard**	**1.34**	**86**		**Pn**	**12 29 44.2**	**-1.2**
U32A	**Winter Ranch,**	**1.38**	**294**		**Pn**	**12 29 45.6**	**-0.4**
KAN10	**Anthony SW Sta**	**1.39**	**338**		**Pn**	**12 29 46.1**	**-0.2**
KAN12	**Harper NE Stat**	**1.53**	**343**		**Pn**	**12 29 48.5**	**+0.4**
WMOK	**Wichita Mounta**	**1.55**	**226**	P	**Pn**	**12 29 48.1**	**-0.3**
	baz=45						
WMOK				S	**Sn**	**12 30 08.8**	**0.0**
	baz=45						
WMOK	**Wichita Mounta**	**1.55**	**226**	Pn	**Pn**	**12 29 48.5**	**+0.1**
X37A	**Clayton**	**2.10**	**126**		**Pn**	**12 29 56.3**	**+0.5**
Z35A	**Perchaven, San**	**2.50**	**177**		**Pn**	**12 30 01.9**	**+0.4**
U38A	**Gravette**	**2.54**	**75**		**Pn**	**12 30 02.6**	**+0.6**
W39A	**Magazine**	**3.04**	**101**	P	**Pn**	**12 30 09.4**	**+0.5**
	baz=283						
W39A	**Magazine**	**3.04**	**101**		**Pn**	**12 30 09.4**	**+0.5**
KSU1	**Kansas State U**	**3.33**	**11**	Pb	**Pb**	**12 30 21.4**	**+1.6**
	baz=192						
MIAR	**Mount Ida**	**3.41**	**111**	P	**Pn**	**12 30 15.0**	**+1.1**
	baz=293						
MIAR	**Mount Ida**	**3.41**	**111**		**Pn**	**12 30 15.0**	**+1.1**
CBKS	**Cedar Bluff**	**3.50**	**329**	Pb	**Pb**	**12 30 24.1**	**+1.4**
	baz=148						
CBKS				Sb	**Sg**	**12 31 10.7**	**-2.1**
	baz=148						
AMTX	**Amarillo**	**3.60**	**256**	Pb	**Pb**	**12 30 23.6**	**-0.8**
	baz=73						
AMTX	**Amarillo**	**3.60**	**256**		**Pn**	**12 30 17.9**	**+1.3**
ABTX	**Abilene, Hawle**	**3.69**	**210**	P	**Pn**	**12 30 17.6**	**-0.1**
	baz=29						
ABTX	**Abilene, Hawle**	**3.69**	**210**	Pn	**Pn**	**12 30 17.6**	**-0.1**
U40A	**Yellville**	**3.75**	**81**		**Pn**	**12 30 19.5**	**+1.0**
S39A	**Bolivar**	**3.79**	**59**		**Pn**	**12 30 20.7**	**+1.6**
WHTX	**Lake Whitney,**	**3.83**	**180**	Pn	**Pn**	**12 30 19.6**	**-0.1**
X40A	**Basin Creek Fa**	**4.00**	**108**		**Pn**	**12 30 21.8**	**-0.2**
237A	**Washetta, Mont**	**4.05**	**160**	Pn	**Pn**	**12 30 22.1**	**-0.7**
WHAR	**Wooly Hollow**	**4.23**	**96**	Pn	**Pn**	**12 30 26.0**	**+0.8**
W41B	**Gary Mavity, V**	**4.28**	**97**	P	**Pn**	**12 30 26.2**	**+0.3**
	baz=280						
W41B	**Gary Mavity, V**	**4.28**	**97**		**Pn**	**12 30 26.3**	**+0.4**
UALR	**University of**	**4.29**	**103**	Pn	**Pn**	**12 30 26.9**	**+0.8**
FCAR	**Ozark Folk Cen**	**4.31**	**88**		**Pn**	**12 30 26.8**	**+0.4**
Z41A	**Richland Creek**	**4.61**	**123**	S	**Sn**	**12 31 22.9**	**-1.1**
	baz=305						
MSTX	**Muleshoe**	**4.76**	**249**	Pn	**Pn**	**12 30 32.2**	**-0.4**
R40A	**Maddies Statio**	**4.80**	**58**	Pn	**Pn**	**12 30 33.4**	**+0.3**
N33A	**J Bar K, Exete**	**4.90**	**360**	Pn	**Pn**	**12 30 34.3**	**-0.1**
LCAR	**Lake Charles**	**5.10**	**86**	Pn	**Pn**	**12 30 37.4**	**+0.2**
N35A	**Tabor**	**5.21**	**15**	Pn	**Pn**	**12 30 38.2**	**-0.5**
JCT	**Junction City**	**5.70**	**201**	Pn	**Pn**	**12 30 45.9**	**+0.5**
T25A	**Trinidad**	**5.77**	**285**	P	**Pn**	**12 30 47.1**	**+0.5**
	baz=101						
T25A	**Trinidad**	**5.77**	**285**	Pn	**Pn**	**12 30 46.5**	**-0.1**
SDCO	**Great Sand Dun**	**6.75**	**289**	P	**Pn**	**12 31 01.3**	**+1.2**
	baz=104						
SDCO	**Great Sand Dun**	**6.75**	**289**		**Pn**	**12 31 00.9**	**+0.8**
MNTX	**Cornudas Mount**	**7.80**	**240**	Pn	**Pn**	**12 31 14.2**	**0.0**
ECSD	**EROS Data Cent**	**7.92**	**4**	Pn	**Pn**	**12 31 14.7**	**-1.2**

IDC 27 12:44:49.1±5.5, 0°.38S×101°.43E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/35, mbtmp3.5/4, Error ellipse: s-maj=289.2km s-min=23.3km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	**Cape Leeuwin H**	**36.32**	**162**	T	T	13 29 44.4	
	baz=335,slow=76,SNR=5.6						
H01W2	**Cape Leeuwin H**	**36.33**	**162**	T	T	13 29 34.0	
	baz=335,slow=76,SNR=4.7						
H01W1	**Cape Leeuwin H**	**36.34**	**162**	T	T	13 29 35.1	
	baz=335,slow=76,SNR=5.0						
WRA	**Warramunga Arr**	**37.63**	**123**	P	P	12 52 06.3	+0.2
	0.3nm,0.8s,baz=303,slow=9.1,SNR=9.9						
ASAR	**Alice Springs**	**39.09**	**129**	P	P	12 52 17.9	-0.5
	0.3nm,0.5s,baz=300,slow=8.2,SNR=5.4						
MKAR	**Makanchi Array**	**49.89**	**343**	P	P	12 53 43.5	-0.9
	0.3nm,0.6s,baz=139,slow=8.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**55.87**	**348**	P	P	12 54 28.8	+0.5
	0.4nm,0.3s,baz=144,slow=12,SNR=3.7						
TXAR	**Lajitas Array**	**142.56**	**38**	PKhKP	PKPpre	13 04 20.9	
	0.2nm,0.4s,baz=177,slow=1.1,SNR=7.6						

*NEIC **27** 13:31:03.4±2.0, 23°.30S±0°.09×174°.1W±0°.1, h22km±7km, mb4.4/7, Error ellipse: s-maj=19.5km s-min=12.0km az=112.0*
*IDC **27** 13:31:07.5±2.8, 22°.70S×174°.96W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/27, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=184.7km s-min=32.0km az=159.0*

ISC 27 13:31:07.5±1.3, 23°.4S±0°.1×174°.8W±0°.2, h10km, n18, σ1°.36/15, mb4.2/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.29**	**47**	Pn	Pn	13 32 27.1	-13
RAO	**Raoul Island**	**6.44**	**205**	Pn	**Pn**	**13 32 42.5**	**+0.1**
MSVF	**Nonsavu**	**8.75**	**309**		**Pn**	**13 33 14.5**	**+0.3**
AFI	**Afiamalu**	**9.89**	**17**	Pn	Pn	13 33 21.0	-8.8
HNR	**Honiara**	**27.85**	**296**	LR	LR	13 46 43.6	
	comp=Z,50nm,19.7s,baz=177,slow=34						
ARMA	**Armidale**	**30.64**	**250**	P	**P**	**13 37 22.8**	**+0.6**
ARMA				IAmb	IAmb	13 37 29.8	
	comp=Z,13nm,1.4s						
EIDS	**Eidsvold**	**31.07**	**259**	P	**P**	**13 37 23.4**	**-2.5**
EIDS				IAmb	IAmb	13 37 35.3	
	comp=Z,4.5nm,1.1s						
AS31	**Alice Springs**	**46.79**	**259**	P	**P**	**13 39 36.3**	**-1.3**
ASAR	**Alice Springs**	**46.79**	**259**	P	**P**	**13 39 38.9**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=89,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**46.79**	**259**	P	**P**	**13 39 35.6**	**-2.0**
WB2	**Warramunga Arr**	**47.17**	**264**	P	**P**	**13 39 41.1**	**+0.6**
WB2				IAmb	IAmb	13 39 46.6	
	comp=Z,8.2nm,1.4s						
WB0	**Warramunga Arr**	**47.17**	**264**	P	**P**	**13 39 41.3**	**+0.8**
WB0				IAmb	IAmb	13 39 51.2	
	comp=Z,3.3nm,1.4s						
WRA	**Warramunga Arr**	**47.18**	**264**	P	**P**	**13 39 41.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=97,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**47.18**	**264**	P	**P**	**13 39 41.8**	**+1.2**
MTN	**Manton Dam**	**52.17**	**272**	P	**P**	**13 40 17.3**	**-1.4**
TXAR	**Lajitas Array**	**86.19**	**56**	P	**P**	**13 43 49.2**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=203,slow=6.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**93.85**	**288**	P	**P**	**13 44 27.3**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=143,slow=1.8,SNR=5.9						
AKASG	**Malin Array Be**	**146.98**	**332**	PKPbc	**PKPbc**	**13 50 49.2**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=38,slow=4.2,SNR=4.6						

*ASRS **27** 13:43:16.9±0.2, 51°.N±1°×8°.7E±°, h10km, MLh3.7/18, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **27** 13:43:21.1±1.5, 50°.69N×86°.90E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=16.1km s-min=5.2km az=100.0*
*SOME **27** 13:43:25.0, 50°.52N×83°.63E, h0km*

ISC 27 13:43:17.2±1.1, 50°.60N±0°.03×87°.35E±0°.03, h6km±10km, n15, σ1°.35/28, 8C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.30**	**161**	Pg	**Pg**	**13 43 23.4**	**+0.3**
CHBI				Sg	**Sg**	**13 43 27.4**	**+0.4**
ULGR	**Ulagan, Altay**	**0.39**	**86**	Pg	**Pb**	**13 43 25.6**	**-1.0**
ULGR				Sg	**Sg**	**13 43 31.0**	**+1.1**
TUNR	**Tungur**	**0.79**	**237**	Pg	**Pb**	**13 43 32.3**	**-1.1**
TUNR				Sg	**Sg**	**13 43 42.0**	**-0.5**
CUR	**Chagan-Uzun**	**0.81**	**127**	Pg	**Pg**	**13 43 32.6**	**-0.1**
CUR				Sg	**Sg**	**13 43 43.3**	**0.0**
DGZ	**Jazzator, Alta**	**0.90**	**177**	Pg	**Pg**	**13 43 34.1**	**-0.3**
DGZ				Sg	**Sg**	**13 43 44.9**	**-1.2**
ARTR	**Artybash**	**1.21**	**358**	Pg	**Pg**	**13 43 40.5**	**+0.2**
ARTR				Sg	**Sn**	**13 43 57.2**	**-0.2**
UKR	**Ust'-Kan**	**1.67**	**283**	Pn	**Pb**	**13 43 47.7**	**-0.8**
UKR				Pg	**Pg**	**13 43 49.4**	**+0.1**
UKR				Sg	**Sg**	**13 44 12.2**	**+1.3**
TEL	**Teeli**	**1.86**	**76**	Pg	**Pg**	**13 43 52.2**	**-0.6**
TEL				Sg	**Sg**	**13 44 18.2**	**+1.4**
TASR	**Tashtagol**	**2.19**	**8**	Pg	**Pg**	**13 43 58.3**	**-1.0**
TASR				Sg	**Sg**	**13 44 27.5**	**-0.1**
ZSN	**Zaisan**	**3.55**	**208**	*e*P	**Pb**	**13 44 21.9**	**+1.5**
	15nm,0.5s						
ZSN				*e*S	**Sb**	**13 45 00.0**	**-3.7**
	27nm,0.4s						
ZAA0	**Zalesovo Array**	**3.70**	**336**	⇑Pn	**Pn**	**13 44 16.2**	**+1.3**
	0.5nm,0.5s						
ZAA0				⇑Sn	**Sn**	**13 44 59.8**	**+0.9**
	1.0nm,0.4s						
ZAA0				⇑Lg	Lg	13 45 13.9	
MK31	**Makanchi Array**	**5.07**	**223**	⇑Pn	Pn	13 44 37.7	+3.9
	3.0nm,0.5s,baz=49,slow=12,SNR=75						
MK31				⇑Sn	**Sn**	**13 45 35.2**	**+2.6**
	3.8nm,0.5s						
MK31				⇑Lg	Lg	13 45 57.8	
	9.2nm,0.6s,baz=47,slow=29,SNR=5.2						
MAKZ	**Makanchi**	**5.20**	**225**	⇓Pn	Pn	13 44 39.5	+4.0
	4.7nm,0.7s						
MAKZ				⇓Sn	**Sn**	**13 45 37.9**	**+2.1**
	6.7nm,0.5s						
MAKZ				⇓Lg	Lg	13 46 01.9	
	12nm,0.7s						
KURK	**Kurchatov**	**5.56**	**275**	⇓Pn	**Pn**	**13 44 41.6**	**+1.2**
	4.2nm,1.1s						
KURK				⇑Sn	**Sn**	**13 45 43.4**	**-1.2**
	1.3nm,0.3s						
KURK				⇑Lg	Lg	13 46 08.7	
	13nm,0.6s						
KAPS	**Kapalarasan**	**7.55**	**228**	*e*P	Pn	13 45 15.6	+7.8
	2.2nm,0.5s						
KAPS				*e*S	**Sn**	**13 46 33.0**	**-0.8**
	6.6nm,0.6s						

WEL 27 14:11:30.2, 38°.S±3°×17°.7E±°, h137km±4km, M2.8/31, ML3.1/7, MLv2.8/31, Error ellipse: s-maj=0.0km s-min=0.0km az=147.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.48**	**248**	P	Pn	14 11 50.1	+0.2
HAZ	**Te Kaha**	**0.54**	**100**	P	Pn	14 11 50.1	-0.1
HAZ				S	Sn	14 12 05.0	-0.4
RUGZ	**Raukumara Rang**	**0.54**	**125**	P	Pn	14 11 49.8	-0.6
RUGZ				S	Sn	14 12 05.0	-0.8
URZ	**Urewera**	**0.60**	**181**	P	Pn	14 11 50.6	0.0
URZ				S	Sn	14 12 06.4	+0.2
TGRZ	**Tauranga**	**0.68**	**264**	P	Pn	14 11 51.6	+0.4
KARZ	**Kaharoa**	**0.78**	**242**	P	Pn	14 11 52.3	+0.4
RRRZ	**Republican Roa**	**0.83**	**215**	P	Pn	14 11 53.9	+1.6
TWGZ	**Tauwhareparae**	**0.85**	**127**	P	Pn	14 11 53.2	+0.6
TWGZ				S	Sn	14 12 11.1	+1.5
HSRZ	**Hossack Road**	**0.95**	**227**	P	Pn	14 11 53.8	+0.5
MXZ	**Matakaoa Point**	**0.95**	**84**	P	Pn	14 11 53.4	+0.2
KMRZ	**Kaimai**	**0.95**	**259**	P	Pn	14 11 53.9	+0.5
RTZ	**Ruatahuna**	**0.96**	**186**	P	Pn	14 11 53.5	+0.1
RTZ				S	Sn	14 12 11.5	+0.2
TKGZ	**Te Karaka**	**0.97**	**144**	P	Pn	14 11 53.6	+0.2
HRRZ	**Handcock Road**	**0.98**	**222**	P	Pn	14 11 53.5	-0.2
PUZ	**Puketiti**	**0.99**	**115**	P	Pn	14 11 53.8	+0.1
WMGZ	**Waiomatatini S**	**1.04**	**99**	P	Pn	14 11 54.4	+0.3
SNGZ	**Shannon Statio**	**1.13**	**171**	P	Pn	14 11 55.4	+0.4
WPRZ	**Whakapapatarin**	**1.14**	**221**	P	Pn	14 11 55.9	+0.8
RIGZ	**Rimuhau**	**1.16**	**154**	P	Pn	14 11 55.9	+0.6
CNGZ	**Carnagh Statio**	**1.19**	**134**	P	Pn	14 11 56.3	+0.8
MTHZ	**Maungataniwha**	**1.21**	**190**	P	Pn	14 11 56.3	+0.5
RAHZ	**Arahi**	**1.25**	**181**	P	Pn	14 11 57.4	+1.2
TOZ	**Tahuroa Road**	**1.28**	**266**	P	Pn	14 11 57.2	+0.8
MRHZ	**Matea Rd**	**1.29**	**205**	P	Pn	14 11 56.6	0.0
KUTZ	**Kaahu Road**	**1.31**	**231**	P	Pn	14 11 57.7	+0.9
PRGZ	**Paritu Road**	**1.40**	**155**	P	Pn	14 11 58.1	+0.5
TLZ	**Tolley Road**	**1.42**	**241**	P	Pn	14 11 58.7	+0.8
WHHZ	**Waihua**	**1.42**	**176**	P	Pn	14 11 58.2	+0.4
KNZ	**Kokohu**	**1.43**	**162**	P	Pn	14 11 58.1	+0.2
KUZ	**Kuaotunu**	**1.44**	**309**	P	Pn	14 11 58.2	+0.1
NMHZ	**Naumai**	**1.45**	**190**	P	Pn	14 11 59.0	+0.7
HATZ	**Hinemaiaia**	**1.47**	**213**	P	Pn	14 11 58.6	+0.1
BKZ	**Black Stump Fm**	**1.58**	**198**	P	Pn	14 11 59.3	-0.4
ARHZ	**Aropaoanui**	**1.60**	**183**	P	Pn	14 12 00.3	+0.4
MHGZ	**Mahia Peninsul**	**1.61**	**158**	P	Pn	14 12 00.5	+0.4
RITZ	**Rihia Road**	**1.65**	**217**	P	Pn	14 12 00.9	+0.5
KATZ	**Kakaramea**	**1.72**	**220**	P	Pn	14 12 02.5	+1.0
MCHZ	**McNeill Hill**	**1.81**	**190**	P	Pn	14 12 02.4	+0.1
TMVZ	**Te Maari**	**1.83**	**217**	P	Pn	14 12 02.7	+0.1
ETVZ	**East Tongariro**	**1.84**	**217**	P	Pn	14 12 02.8	0.0
KWHZ	**Kaweka Forest**	**1.84**	**197**	P	Pn	14 12 02.4	-0.3
ETAZ	**East Tamaki Re**	**1.88**	**291**	P	Pn	14 12 04.1	+1.0
OTVZ	**Oturere**	**1.89**	**217**	P	Pn	14 12 03.4	+0.1
GRZ	**Great Barrier**	**1.94**	**316**	P	Pn	14 12 04.0	+0.3
HIZ	**Hauiti**	**1.98**	**244**	P	Pn	14 12 05.0	+0.8
MBAZ	**Motutapu North**	**1.98**	**296**	P	Pn	14 12 05.3	+1.0
BHHZ	**Black Hill Sta**	**2.00**	**204**	P	Pn	14 12 04.0	-0.6
FWVZ	**Far West T-bar**	**2.01**	**217**	P	Pn	14 12 04.7	-0.2
MOVZ	**Moawhango**	**2.04**	**211**	P	Pn	14 12 04.3	-0.9
WNVZ	**Wahianoa**	**2.05**	**215**	P	Pn	14 12 04.8	-0.4
EPAZ	**Eden Park BICE**	**2.05**	**292**	P	Pn	14 12 05.6	+0.5
AWAZ	**Awhitu Peninsu**	**2.06**	**286**	P	Pn	14 12 06.1	+0.9
KRHZ	**Kereru**	**2.06**	**196**	P	Pn	14 12 04.6	-0.7
HBAZ	**Herne Bay Bore**	**2.07**	**292**	P	Pn	14 12 06.4	+1.0
KAHZ	**Kahuranaki**	**2.14**	**185**	P	Pn	14 12 05.9	-0.3
WTAZ	**Waiatarua**	**2.16**	**289**	P	Pn	14 12 07.5	+1.0
RVAZ	**Riverhead Bore**	**2.21**	**293**	P	Pn	14 12 06.1	-1.0
PNHZ	**Pukenui**	**2.36**	**197**	P	Pn	14 12 08.1	-0.9
VRZ	**Vera Road**	**2.36**	**231**	P	Pn	14 12

σ0°84′32, **mb3.9**/14, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**11.04**	**347**	Pn	**Pn**	**14 31 45.5**	**-0.1**
MJAR	**Matsushiro Arr**	**14.70**	**345**	P	**Pn**	**14 32 33.2**	**+0.7**
0.1nm,0.3s,baz=162,slow=11,SNR=10							
MJAR	**Matsushiro Arr**	**14.70**	**345**	P	**Pn**	**14 32 33.3**	**+0.8**
MAJO	**Matsushiro**	**14.70**	**345**		**Pn**	**14 32 32.9**	**+0.4**
JHS	**Saijyo**	**15.20**	**328**	P	**P**	**14 32 42.0**	**+1.6**
JMM	**Marumori**	**15.56**	**354**		**Pn**	**14 32 42.6**	**-0.5**
JSD	**Sado**	**16.12**	**347**		**Pn**	**14 32 49.9**	**-0.1**
JSD				IAmb	IAmb	14 32 57.4	
comp=Z,10nm,1.0s							
KSRS	**Korea Array**	**19.80**	**323**	P	**P**	**14 33 31.7**	**+1.1**
comp=Z,0.4nm,0.3s,baz=141,slow=11,SNR=4.1							
WR0	**Warramunga Arr**	**42.84**	**192**	P	**P**	**14 36 55.5**	**+0.2**
WRAB	**Tennant Creek**	**42.85**	**192**	P	**P**	**14 36 54.8**	**-0.6**
WRAB				IAmb	IAmb	14 36 58.0	
comp=Z,4.2nm,0.5s							
WB2	**Warramunga Arr**	**42.86**	**192**	P	**P**	**14 36 55.7**	**+0.3**
WB2				IAmb	IAmb	14 37 00.0	
comp=Z,3.3nm,1.1s							
WRA	**Warramunga Arr**	**42.86**	**192**	P	**P**	**14 36 55.8**	**+0.4**
comp=Z,2.0nm,0.4s,baz=7.4,slow=8.7,SNR=65							
WRA				PcP	**PcP**	**14 38 43.8**	**0.0**
comp=Z,0.6nm,0.6s,baz=4.7,slow=3.4,SNR=6.3							
FITZ	**Fitzroy Crossi**	**43.59**	**204**	P	**P**	**14 37 02.3**	**+1.0**
comp=Z,1.7nm,0.6s,baz=351,slow=9.0,SNR=16							
KULM	**Kulim**	**44.15**	**254**	P	**P**	**14 37 04.5**	**-1.4**
KULM				IAmb	IAmb	14 37 07.3	
comp=Z,3.3nm,1.0s							
AS31	**Alice Springs**	**46.57**	**191**	P	**P**	**14 37 25.5**	**+0.7**
ASAR	**Alice Springs**	**46.57**	**191**	P	**P**	**14 37 24.8**	**0.0**
comp=Z,0.5nm,0.3s,baz=12,slow=6.6,SNR=24							
ASAR	**Alice Springs**	**46.57**	**191**	P	**P**	**14 37 25.5**	**+0.7**
STKA	**Stephens Creek**	**53.94**	**181**	P	**P**	**14 38 21.3**	**+1.2**
comp=Z,2.3nm,0.5s,baz=11,slow=6.8,SNR=12							
STKA	**Stephens Creek**	**53.94**	**181**	P	**P**	**14 38 20.0**	**-0.1**
MKAR	**Makanchi Array**	**54.02**	**312**	P	**P**	**14 38 22.0**	**+1.3**
comp=Z,0.2nm,0.4s,baz=86,slow=8.6,SNR=4.8							
MKAR				PcP	**PcP**	**14 39 23.6**	**-0.1**
comp=Z,0.4nm,0.5s,baz=78,slow=4.3,SNR=6.8							
MKAR	**Makanchi Array**	**54.02**	**312**	P	**P**	**14 38 19.8**	**-0.8**
KURK	**Kurchatov**	**56.78**	**317**	P	**P**	**14 38 40.3**	**+0.1**
KURK				IAmb	IAmb	14 38 49.8	
comp=Z,2.0nm,1.1s							
ILAR	**Eielson Array**	**61.59**	**27**	P	**P**	**14 39 12.3**	**-0.9**
comp=Z,0.4nm,0.6s,baz=277,slow=7.2,SNR=4.3							
ILAR	**Eielson Array**	**61.59**	**27**	P	**P**	**14 39 11.4**	**-1.7**
INK	**Inuvik**	**67.09**	**24**	P	**P**	**14 39 49.0**	**+0.2**
comp=Z,2.4nm,0.9s,baz=305,slow=5.6,SNR=3.5							
YKA	**Yellowknife Ar**	**76.02**	**28**	P	**P**	**14 40 42.3**	**0.0**
comp=Z,1.4nm,0.6s,baz=298,slow=6.0,SNR=7.5							
FINES	**FINESS Array B**	**82.45**	**334**	P	**P**	**14 41 15.7**	**-1.5**
comp=Z,1.2nm,0.5s,baz=72,slow=3.7,SNR=6.9							
NVAR	**Mina Array Bea**	**82.98**	**51**	P	**P**	**14 41 21.5**	**+0.8**
comp=Z,1.3nm,0.7s,baz=277,slow=6.1,SNR=5.8							
PLCA	**Paso Flores**	**146.42**	**131**	PKPbc	**PKPbc**	**14 48 35.6**	**+0.1**
comp=Z,2.5nm,0.9s,baz=222,slow=5.7,SNR=4.2							
LPAZ	**La Paz**	**150.19**	**84**	PKPbc	**PKPbc**	**14 48 46.6**	**-0.1**
comp=Z,1.2nm,0.5s,baz=294,slow=3.7,SNR=4.2							

*NEIC **27** 14:32:07.2±3.0, 73°.30N±0°.09×6°.7W±0°.3, h10km±1km, mb4.3/11, Error ellipse: s-maj=16.0km s-min=10.7km az=330.0*
*IDC **27** 14:32:07.4±0.9, 73°.14N×7°.17W, h0km, mb3.9/7, mb1 4.3/8, mb1mx3.7/64, mbtmp3.9/8, ML3.6/1, MS3.3/11, Ms1 3.3/11, ms1mx3.0/39, Error ellipse: s-maj=29.8km s-min=17.8km az=56.0*
*BER **27** 14:32:10.2±2.7, 73°.35N×7°.11W, h29km±29km, ML2.9*
*DNK **27** 14:32:10.7±4.4, 73°.42N×7°.16W, h55km±55km, ML3.6, Hypocentre not reviewed by the ISC*

ISC 27 14:32:06.8±0.5, **73°.35N**±0°.05×**7°.11W**±0°.05, **h10**km, **n68**, σ2°**73**/68, **mb4.2**/13, **MS3.3**/6, **2D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.42**	**191**	Pn	**Pn**	**14 32 45.6**	**-0.7**
baz=162,slow=17,SNR=6.4							
JMIC				Sn	**Sn**	**14 33 11.4**	**-4.5**
baz=256,slow=23,SNR=5.8							
JMIC	**Jan Mayen**	**2.42**	**191**	*e*P	**Pn**	**14 32 45.6**	**-0.7**
JMIC				*e*S	**Sn**	**14 33 11.5**	**-4.3**
DBG	**Daneborg**	**3.79**	**291**	*i* P	**Pn**	**14 33 05.6**	**+0.5**
DBG				*i* S	**Sn**	**14 33 46.8**	**-2.8**
DBG				IAML		14 33 49.2	
comp=Z,33nm,0.4s							
DAG	**Danmarks Havn**	**4.54**	**324**	||*i*P	**Pn**	**14 33 15.2**	**-0.2**
DAG				*i* S	**Sn**	**14 34 03.0**	**-5.1**
DAG	**Danmarks Havn**	**4.54**	**324**	||*i*P	**Pn**	**14 33 15.2**	**-0.2**
DAG				*i* S	**Sn**	**14 34 03.1**	**-5.1**
DAG				IAML		14 34 04.7	
comp=Z,240nm,0.3s							
SCO	**Scoresbysund**	**5.44**	**245**	*i* P	**Pn**	**14 33 28.6**	**+0.9**
SCO				*i* S	**Sn**	**14 34 24.1**	**-6.0**
SCO	**Scoresbysund**	**5.44**	**245**	Pn	**Pn**	**14 33 28.6**	**+0.9**
SCO				Sn	**Sn**	**14 34 24.7**	**-5.5**
SCO	**Scoresbysund**	**5.44**	**245**	*i* P	**Pn**	**14 33 28.7**	**+0.9**
SCO				*i* S	**Sn**	**14 34 24.2**	**-6.0**
SCO				IAML		14 34 29.8	
comp=Z,32nm,0.4s							
HSPB	**Hornsund (broa**	**6.82**	**47**	*e*P	**Pn**	**14 33 44.7**	**-2.0**
KBS	**Kingsbay**	**7.18**	**30**	Pn	**Pn**	**14 33 49.4**	**-2.2**
KBS				Sn	Sn	14 35 03.8	-9.1
KBS	**Kingsbay**	**7.18**	**30**	*e*P	**Pn**	**14 33 49.4**	**-2.2**
KBS				*e*S	Sn	14 35 02.7	-10
KBS				IAML		14 35 08.1	
comp=Z,19nm,0.1s							
SPA0	**Spitsbergen Ar**	**7.48**	**39**	Pn	**Pn**	**14 33 54.9**	**-0.8**
SPA0	**Spitsbergen Ar**	**7.48**	**39**	*e*P	**Pn**	**14 33 54.9**	**-0.8**
SPA0				*e*S	**Sn**	**14 35 13.8**	**-6.6**
SPA0				IAML		14 35 25.3	
comp=Z,5.4nm,0.9s							
SPITS	**Spitsbergen Ar**	**7.48**	**39**	Pn	**Pn**	**14 33 54.9**	**-0.8**
baz=210,slow=16,SNR=482							
SPITS				LR	LR	14 36 15.2	
comp=Z,270nm,19.8s,baz=230,slow=32							
NOR	**Nord**	**8.53**	**351**	*i* P	**Pn**	**14 34 09.0**	**-1.0**
NOR	**Nord**	**8.53**	**351**	*i* P	**Pn**	**14 34 08.5**	**-1.5**
NOR				IAML		14 35 44.8	
comp=Z,15nm,0.3s							
TRO	**Tromso**	**9.02**	**101**	*e*P	**Pn**	**14 34 15.4**	**-1.4**
SUMG	**Summit**	**9.16**	**280**	*i* P	**Pn**	**14 34 21.0**	**+1.9**
SUMG				*i*		14 36 00.6	
SUMG	**Summit**	**9.16**	**280**	Pn	**Pn**	**14 34 21.1**	**+2.0**
SUMG	**Summit**	**9.16**	**280**	*i* P	**Pn**	**14 34 21.0**	**+1.9**
SUMG				*i*		14 36 00.6	
SUMG				IAML		14 36 17.8	
comp=Z,8.2nm,0.4s							
HAMF	**Hammerfest**	**9.83**	**91**	*e*P	**Pn**	**14 34 26.0**	**-1.8**
BORG	**Borgarnes**	**9.99**	**217**	LR	LR	14 37 25.0	
comp=Z,194nm,19.1s,baz=7.6,slow=32							
BORG	**Borgarnes**	**9.99**	**217**	Pn	**Pn**	**14 34 29.4**	**-0.6**
ARCES	**ARCESS Array B**	**10.96**	**94**	LR	LR	14 38 06.4	
comp=Z,124nm,19.4s,baz=245,slow=33							
KEV	**Kevo**	**11.26**	**92**	Pn	**Pn**	**14 34 47.9**	**+0.4**
NOA	**NORSAR Array B**	**14.15**	**141**	LR	LR	14 40 18.1	
comp=Z,148nm,18.3s,baz=5.0,slow=35							
HFS	**Hagfors**	**15.45**	**138**	Pn	**P**	**14 35 49.2**	**+0.2**
comp=Z,0.3nm,0.3s,baz=282,slow=7.4,SNR=5.2							
TULEG	**Thule**	**15.65**	**310**	Pn	**Pn**	**14 35 42.8**	**-4.2**
TULEG	**Thule**	**15.65**	**310**	*e*P	**Pn**	**14 35 43.9**	**-3.0**
TULEG				*e*		14 38 26.3	
TULEG				IAML		14 38 33.1	
comp=Z,5.5nm,0.3s							
SFJD	**Kangerlussuaq**	**15.71**	**268**	LR	LR	14 41 33.6	
comp=Z,133nm,18.8s,baz=36,slow=36							
EUNU	**Eureka**	**17.77**	**326**	Pn	**Pn**	**14 36 09.8**	**-4.0**
EKA	**Eskdalemuir Ar**	**18.17**	**173**	P	**P**	**14 36 20.8**	**+1.8**
baz=0.3,slow=14,SNR=5.7							
KLMR	**Klimovskoe**	**21.27**	**101**	*e*	**P**	**14 36 51.6**	**-1.2**
KLMR				AMP		14 36 54.7	
comp=Z,17nm,1.1s							
CLL	**Collm**	**23.75**	**148**	*e*P	**P**	**14 37 19.0**	**+0.2**
NKC	**Novy Kostel**	**24.71**	**149**	*e*P	**P**	**14 37 30.1**	**+2.4**
OSTC	**Ostas**	**25.00**	**143**	*e*P	**P**	**14 37 31.5**	**+1.2**
DPC	**Dobruska-Polom**	**25.22**	**143**	*e*P	**P**	**14 37 33.5**	**+1.2**
PRU	**Pruhonice**	**25.27**	**146**	*e*P	**P**	**14 37 35.2**	**+2.5**
GOPC	**GO Pecny, Ondr**	**25.38**	**146**	*e*P	**P**	**14 37 35.5**	**+1.7**
PBCC	**Pribram**	**25.48**	**147**	*e*P	**P**	**14 37 37.8**	**+3.2**
KHC	**Kasperske Hory**	**25.95**	**148**	*e*P	**P**	**14 37 42.4**	**+3.4**
ECH	**Echery**	**26.01**	**158**	P	**P**	**14 37 40.4**	**+0.9**
ECH				IAmb	IAmb	14 37 44.0	
comp=Z,8.5nm,1.1s							
BFO	**Black Forest**	**26.03**	**156**	P	**P**	**14 37 39.0**	**-0.7**
BFO				IAmb	IAmb	14 37 42.3	
comp=Z,7.8nm,1.0s							
GERES	**GERESS Array B**	**26.25**	**148**	P	**P**	**14 37 43.3**	**+1.6**
comp=Z,4.7nm,1.0s,baz=352,slow=6.1,SNR=20							
GERES				LR	LR	14 46 48.9	
comp=Z,77nm,18.0s,baz=352,slow=34							
GERES	**GERESS Array B**	**26.25**	**148**	P	**P**	**14 37 40.0**	**-1.8**
DAVOX	**Davos/Dischmat**	**27.74**	**154**	LR	LR	14 48 47.1	
comp=Z,46nm,19.7s,baz=150,slow=36							
SCHQ	**Schefferville**	**30.11**	**265**	LR	LR	14 49 54.0	
comp=Z,69nm,18.8s,baz=306,slow=36							
YKA	**Yellowknife Ar**	**36.11**	**311**	LR	LR	14 53 57.2	
comp=Z,10nm,20.9s,baz=0.0,slow=36							
ABKAR	**Akbulak array**	**37.15**	**93**	P	**P**	**14 39 16.0**	**-1.2**
ILAR	**Eielson Array**	**39.57**	**334**	P	P	14 39 42.5	+5.1
comp=Z,2.1nm,1.0s,baz=3.3,slow=7.1,SNR=12							
ILAR	**Eielson Array**	**39.57**	**334**	P	**P**	**14 39 41.4**	**+4.0**
HDA	**Harding Lake**	**39.93**	**334**	P	**P**	**14 39 45.0**	**+4.6**
HDA				IAmb	IAmb	14 39 52.8	
comp=Z,6.0nm,0.8s							
DOT	**Dot Lake**	**40.28**	**332**	P	**P**	**14 39 46.0**	**+2.7**
DOT				IAmb	IAmb	14 39 52.1	
comp=Z,6.8nm,1.1s							
BCAR	**Beaver Creek A**	**40.52**	**330**	P	**P**	**14 39 49.2**	**+3.9**
MKAR	**Makanchi Array**	**45.75**	**74**	P	**P**	**14 40 29.3**	**+1.6**
comp=Z,0.6nm,0.8s,baz=352,slow=7.6,SNR=5.5							
EGMT	**Eagleton**	**48.13**	**298**	P	**P**	**14 40 49.4**	**+2.9**
BW06	**Boulder Array**	**52.98**	**296**	P	**P**	**14 41 24.6**	**+1.3**
BW06				IAmb	IAmb	14 41 26.5	
comp=Z,3.9nm,1.0s							
PDAR	**Pinedale Array**	**52.98**	**296**	P	**P**	**14 41 25.5**	**+2.2**
comp=Z,1.7nm,0.8s,baz=46,slow=6.4,SNR=13							
PDAR	**Pinedale Array**	**52.98**	**296**	P	**P**	**14 41 24.5**	**+1.2**
HLID	**Hailey**	**53.47**	**300**	P	**P**	**14 41 28.4**	**+1.6**
R11A	**Troy Canyon, C**	**58.68**	**299**	P	**P**	**14 42 07.0**	**+2.9**
R11A				IAmb	IAmb	14 42 07.6	
comp=Z,2.2nm,0.9s							
NVAR	**Mina Array Bea**	**59.28**	**302**	P	**P**	**14 42 11.4**	**+3.1**
comp=Z,0.7nm,0.6s,baz=39,slow=4.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**60.40**	**170**	P	**P**	**14 42 16.7**	**+0.7**
comp=Z,3.8nm,0.8s,baz=352,slow=7.4,SNR=20							
TORD				LR	LR	15 07 49.0	
comp=Z,31nm,19.2s,baz=5.0,slow=36							
TORD	**Torodi Ar. Bea**	**60.40**	**170**	P	**P**	**14 42 16.8**	**+0.9**
TXAR	**Lajitas Array**	**64.03**	**285**	P	**P**	**14 42 41.6**	**+1.3**
comp=Z,0.6nm,0.9s,baz=40,slow=4.9,SNR=5.3							
DBIC	**Dimbokro**	**66.64**	**178**	LR	LR	15 10 46.2	
comp=Z,33nm,19.8s,baz=20,slow=35							
SNAA	**Sanae**	**144.83**	**178**	PKP	**PKPdf**	**14 51 42.3**	**+0.6**
comp=Z,2.8nm,0.8s,baz=347,slow=5.6,SNR=11							
SNAA	**Sanae**	**144.83**	**178**		**PKPdf**	**14 51 42.8**	**+1.0**

*UNK **27** 14:39:23.4, 6°.39S×104°.47E, h42km*
*BJI **27** 14:39:24.2±0.0, 6°.40S×104°.50E, h54km, mB5.0/37, mb4.8/56, Ms4.5/19, Ms7 4.3/19*
*NEIC **27** 14:39:24.8±1.8, 6°.22S±0°.06×104°.62E±0°.06, h44km±5km, mb4.9/72, Error ellipse: s-maj=10.3km s-min=7.9km az=46.0*
*DJA **27** 14:39:26.4±0.3, 6°.S±3°×10°.4E±°, h58km±2km, M4.8/34, mb4.8/34, mB5.3/19, MLv5.1/24, Mw(mB)4.8/19*
*IDC **27** 14:39:27.4±2.1, 5°.97S×104°.79E, h58km±18km, mb4.7/29, mb1 4.7/32, mb1mx4.5/49, mbtmp4.9/32, ML4.5/3, MS3.8/24, Ms1 3.8/24, ms1mx3.7/33, Error ellipse: s-maj=16.9km s-min=9.2km az=49.0*
*GCMT **27** 14:39:27.8±0.4, 6°.62S±0°.03×104°.83E±0°.03, h54km±1km, MW4.9/59, Moment Tensor Solution. s41,c50; s59,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.26±.15; $M_{\theta\theta}$-2.13±.10; $M_{\phi\phi}$-0.13±.12; $M_{r\theta}$0.62±.07; $M_{r\phi}$1.11±.07; $M_{\theta\phi}$-0.56±.08; Best double couple: $M_0$2.58300×10^{16} NP1:ϕ_s287.00000°, δ37.00000°, λ78.00000°. NP2: ϕ_s121.00000°, δ54.00000°, λ98.00000°. Principal axes: T 2.4160, Plg79.0000°, Azm63.0000°; N 0.3310, Plg7.0000°, Azm296.0000°; P -2.7490, Plg9.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **27** 14:39:29.0, 6°.23S×104°.71E, h75km, mb4.9*

ISC 27 14:39:26.7±0.7, **6°.24S**±0°.05×**104°.62E**±0°.05, **h59**km±6km, **n460**, σ1°**22**/453, **mb4.9**/77, **MS3.9**/29, **11C-20D, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**1.07**	**35**	P	**Pn**	**14 39 46.1**	**+0.5**
CGJI	**Cibinong**	**1.12**	**109**	P	**Pn**	**14 39 45.0**	**-1.3**
LWLI	**Liwa**	**1.34**	**335**	P	**Pn**	**14 39 51.5**	**+2.2**
KLSI		**1.55**	**4**	P	**Pn**	**14 39 53.2**	**+1.2**
MDSI	**Maura Dua**	**1.80**	**346**	P	**Pn**	**14 39 56.9**	**+1.5**
TNG	**Tangerang**	**2.01**	**88**	P	**Pn**	**14 39 59.3**	**+1.0**
SKJI	**Sukabumi**	**2.06**	**112**	P	**Pn**	**14 39 59.3**	**+0.3**
DBJI	**Dramaga**	**2.14**	**98**	P	**Pn**	**14 40 00.2**	**+0.2**
CBJI	**Citeko**	**2.22**	**95**	P	**Pn**	**14 40 03.6**	**+2.5**
MNAI	**Manna**	**2.50**	**318**	P	**Pn**	**14 40 06.4**	**+1.4**
MNAI	**Manna**	**2.50**	**318**	Pn	**Pn**	**14 40 06.6**	**+1.6**
CNJI	**Cibinong**	**2.71**	**113**	P	**Pn**	**14 40 06.7**	**-1.1**
LEM	**Lembang**	**3.03**	**101**	P	**Pn**	**14 40 13.7**	**+1.3**
89nm,0.3s,baz=194,slow=15,SNR=71							
LEM				LR	LR	14 41 25.3	
comp=Z,1μm,21.2s,baz=323,slow=40							
LEM	**Lembang**	**3.03**	**101**	P	**Pn**	**14 40 14.6**	**+2.2**
KSI	**Kapahiang**	**3.27**	**322**	P	**Pn**	**14 40 18.0**	**+2.4**
PMBI	**Palembang**	**3.30**	**3**	P	**Pn**	**14 40 18.5**	**+2.6**
CISI	**Cisompet, Garu**	**3.43**	**113**	P	**Pn**	**14 40 17.7**	**0.0**
CISI	**Cisompet, Garu**	**3.43**	**113**	Pn	**Pn**	**14 40 16.9**	**-0.8**
CISI				Sn	**Sn**	**14 40 55.6**	**-1.6**
JCJI	**Jatiwangi**	**3.63**	**94**	P	Pn	14 40 30.1	+10
CMJI	**Cimerak**	**4.09**	**112**	P	**Pn**	**14 40 27.1**	**+0.3**
PPBI	**Pangkal Pinang**	**4.33**	**20**	P	**Pn**	**14 40 31.6**	**+1.6**
XMIS	**Christmas Isla**	**4.33**	**166**	Pn	Pn	14 40 24.3	-5.8
XMIS				Sn	Sn	14 41 09.4	-10
KPJI	**Karang Pucung**	**4.41**	**104**	P	**Pn**	**14 40 33.2**	**+2.0**
TPI	**Tanjungpandan**	**4.60**	**41**	P	**Pn**	**14 40 34.3**	**+0.6**
KRJI	**Kerinci**	**5.19**	**322**	P	**Pn**	**14 40 43.4**	**+1.5**
7.7nm11μm772nm,1.1s							
SDSI	**Sungai Dareh**	**6.16**	**329**	P	**Pn**	**14 40 57.0**	**+1.8**
0.4nm76nm,0.8s							
RGRI	**Rengat**	**6.29**	**339**	P	**Pn**	**14 40 59.6**	**+2.8**
5.5nm70μm237nm,0.4s							
PWJI	**Pagerwojo**	**7.34**	**104**	P	**Pn**	**14 41 13.3**	**+2.0**
0.7nm82nm,0.7s							
SISI	**Saibi**	**7.37**	**311**	P	**Pn**	**14 41 12.2**	**+0.5**
0.6nm98nm,0.6s							
GRJI	**Gresik**	**7.83**	**95**	P	**Pn**	**14 41 21.4**	**+3.3**
0.7nm2μm181nm,0.6s							
MYKOM	**Kota Tinggi**	**8.02**	**354**	P	**Pn**	**14 41 24.0**	**+3.4**
MNSI	**Mandailing Nat**	**8.62**	**324**	P	**Pn**	**14 41 29.8**	**+1.0**
57nm,0.5s							
STKI	**Sintang**	**9.28**	**48**	P	Pn	14 41 47.5	+10
KSM	**Kuching**	**9.54**	**37**	Pn	**Pn**	**14 41 42.5**	**+1.1**
KSM	**Kuching**	**9.54**	**37**	P	**Pn**	**14 41 43.0**	**+1.6**
ABJI	**Asem Bagus**	**9.66**	**100**	P	**Pn**	**14 41 45.8**	**+2.7**
5μm588nm,0.9s							
COCO	**West Island**	**9.69**	**232**		**Pn**	**14 41 43.1**	**-0.4**
JAGI	**Jajag, Banyuwa**	**9.71**	**104**	P	**Pn**	**14 41 43.9**	**+0.2**
4μm334nm,0.9s							
JAGI	**Jajag, Banyuwa**	**9.71**	**104**	Pn	**Pn**	**14 41 44.1**	**+0.4**
GSI	**Gunungsitoli**	**10.28**	**317**	Pn	**Pn**	**14 41 49.4**	**-2.2**
RPSI	**Rantau Prapat**	**10.55**	**327**		**Pn**	**14 41 55.9**	**+0.7**
PSI	**Prapat**	**10.63**	**327**	P	**Pn**	**14 41 55.9**	**-0.6**
1.9nm,0.3s,baz=172,slow=4.7,SNR=4.8							
PSI				LR	LR	14 46 39.1	
comp=Z,474nm,21.9s,baz=91,slow=42							
IPM	**Ipoh**	**11.24**	**341**	Pn	**Pn**	**14 42 05.1**	**+0.4**
IPM	**Ipoh**	**11.24**	**341**	P	**Pn**	**14 42 06.0**	**+1.3**
SBUM	**Sibu**	**11.49**	**42**	P	**Pn**	**14 42 11.0**	**+2.9**
MTKI	**Muara Teweh, K**	**11.52**	**63**	P	Pn	14 42 14.7	+6.1
15nm,0.5s							
KULM	**Kulim**	**12.12**	**341**		**Pn**	**14 42 16.1**	**-0.7**
KULM	**Kulim**	**12.12**	**341**	P	**Pn**	**14 42 20.0**	**+3.3**
PLAI	**Plampang**	**13.29**	**102**	P	**Pn**	**14 42 29.8**	**-2.9**
70nm,0.8s							
KAPI	**Kappang**	**15.11**	**86**	P	**Pn**	**14 42 55.7**	**-1.1**
2.4nm,0.3s,baz=171,slow=3.3,SNR=5.0							
KAPI				LR	LR	14 49 20.9	
comp=Z,413nm,20.4s,baz=258,slow=40							
KAPI	**Kappang**	**15.11**	**86**		**Pn**	**14 42 55.6**	**-1.1**
BKSI	**Bulukumba**	**15.45**	**87**	P	**P**	**14 43 03.2**	**-1.3**
1μm119nm,0.9s							
BNSI	**Bone**	**15.53**	**84**	P	**P**	**14 43 04.1**	**-1.3**
71nm,0.9s							
SPMM	**Sapulut**	**16.07**	**48**	P	**Pn**	**14 43 07.0**	**-2.0**
MPSI	**Mapaga**	**16.59**	**67**	P	**P**	**14 43 18.4**	**+1.2**
487nm35nm,0.8s							
KKM	**Kota Kinabalu**	**16.82**	**44**	P	**P**	**14 43 19.8**	**-0.1**
EDFI	**Ende, Flores**	**17.10**	**99**	P	**Pn**	**14 43 21.4**	**-0.7**
34nm,0.7s							
MMRI	**Maumere**	**17.63**	**99**	P	**Pn**	**14 43 28.5**	**+0.1**
MMRI				IAmb	IAmb	14 43 29.6	
comp=Z,109nm,0.7s							
DLV	**T Lat**	**18.47**	**12**		**Pn**	**14 43 38.7**	**-0.1**
GIRL	**Giralia**	**18.76**	**151**	P	**Pn**	**14 43 41.7**	**-0.3**
baz=19,SNR=11							
GIRL	**Giralia**	**18.76**	**151**		**Pn**	**14 43 41.9**	**-0.2**
GIRL				IAmb	IAmb	14 43 51.6	
comp=Z,170nm,1.2s							
LUWI	**Luwuk**	**18.83**	**75**	P	**Pn**	**14 43 43.6**	**+0.6**
comp=Z,1μmcomp=Z,114nm,0.9s							
LUWI	**Luwuk**	**18.83**	**75**		**Pn**	**14 43 43.7**	**+0.7**
LUWI				IAmb	IAmb	14 43 50.3	
comp=Z,95nm,0.9s							
BATI	**Baumata**	**19.25**	**103**	P	**P**	**14 43 47.3**	**+0.7**
comp=Z,64nm,0.3s,baz=328,slow=2.6,SNR=59							
BATI	**Baumata**	**19.25**	**103**	P	**Pn**	**14 43 48.2**	**+0.2**
comp=Z,2μmcomp=Z,201nm,0.8s							
GTOI	**Gorontalo**	**19.59**	**70**	P	**P**	**14 43 50.9**	**+0.7**
comp=Z,468nmcomp=Z,46nm,0.8s							
SOEI	**Soe**	**19.76**	**101**	P	**P**	**14 43 51.9**	**-0.3**
comp=Z,3μmcomp=Z,244nm,0.7s							
SOEI	**Soe**	**19.76**	**101**	P	**P**	**14 43 52.1**	**-0.2**
PSA00	**Pilbara Seismi**	**21.19**	**137**	P	**P**	**14 44 07.7**	**+0.2**
PSA00				IAmb	IAmb	14 44 09.7	
comp=Z,32nm,1.0s							
SANI	**Sanana**	**21.71**	**80**	P	**P**	**14 44 15.1**	**+2.0**
comp=Z,39nm,1.0s							
PBKT	**Sadao Pong**	**22.95**	**351**	P	**P**	**14 44 24.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.65**	**122**	P	**P**	**14 44 32.8**	**-0.1**
comp=Z,7.6nm,0.6s,baz=359,slow=4.1,SNR=37							
FITZ				LR	LR	14 54 30.5	
comp=Z,119nm,18.6s,baz=274,slow=38							
FITZ	**Fitzroy Crossi**	**23.65**	**122**	P	**P**	**14 44 32.5**	**-0.4**
baz=24,SNR=13							
FITZ	**Fitzroy Crossi**	**23.65**	**122**	P	**P**	**14 44 33.0**	**+0.1**
TNTI	**Ternate**	**23.75**	**74**	P	**P**	**14 44 33.2**	**-0.7**
TNTI				IAmb	IAmb	14 44 35.3	
comp=Z,49nm,0.9s							
DAV	**Davao City (W)**	**24.74**	**58**	LR	LR	14 55 39.9	
comp=Z,180nm,22.0s,baz=250,slow=40							
CM31	**Chiang Mai Arr**	**25.18**	**347**	P	**P**	**14 44 45.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**25.18**	**347**	P	**P**	**14 44 44.3**	**-2.5**
comp=Z,4.1nm,0.5s,baz=180,slow=8.9,SNR=31							
CMAR				PcP	**PcP**	**14 48 20.8**	**+1.2**
comp=Z,1.6nm,0.8s,baz=194,slow=3.1,SNR=6.0							
CMAR				LR	LR	14 55 59.7	
comp=Z,184nm,18.3s,baz=193,slow=40							
CMAR	**Chiang Mai Arr**	**25.18**	**347**	P	**P**	**14 44 44.2**	**-2.6**
CMAR					**PcP**	**14 48 20.7**	**+1.1**
KNRA	**Kununurra**	**25.46**	**114**	P	**P**	**14 44 48.5**	**-1.0**
baz=26,SNR=79							

LSA Lhasa 38.01 341 *i* P **P 14 46 39.2 -0.7**
SNR=11
LSA Lhasa 38.01 341 P **P 14 46 39.1 -0.7**
JIRN Jiri 38.12 333 *eP* P **14 46 39.5 -1.2**
comp=Z,86nm,0.7s
PKI Pulchoki 38.41 332 *eP* P **14 46 41.4 -1.6**
comp=Z,12nm,0.4s
PKIN Phulchoki 38.42 332 *eP* P **14 46 41.2 -1.8**
comp=Z,16nm,0.4s
DMN Daman 38.58 332 *eP* **P 14 46 42.9 -1.5**
KKN Kakani 38.65 332 *eP* **P 14 46 43.3 -1.7**
comp=Z,37nm,0.7s
COEN Coen 38.68 104 P **P 14 46 44.2 -0.9**
baz=39,SNR=22
COEN Coen 38.68 104 P **P 14 46 44.3 -0.8**
COEN IAmb IAmb 14 46 44.9
comp=Z,22nm,0.8s
POO Poona 39.08 310 *eP* **P 14 46 48.0 -0.4**
GKN Gorkha 39.13 331 *eP* **P 14 46 47.6 -1.3**
BBOO Buckleboo 39.41 136 P **P 14 46 49.8 -1.2**
KOLN Koldanda 39.45 330 *eP* **P 14 46 50.3 -1.3**
comp=Z,65nm,0.7s
DANN Dangsing 39.85 331 *eP* **P 14 46 53.6 -1.4**
comp=Z,89nm,0.7s
PYUN Piuthan 40.02 330 *eP* **P 14 46 55.2 -1.2**
comp=Z,53nm,0.4s
XAN Xi'an 40.27 6 P **P 14 46 56.3 -1.8**
XAN pmax pmax
comp=Z,11nm,0.7s
NJ2 Nanjing 40.43 19 *eP* **P 14 47 00.8 +1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MTSU Mount Surprise 40.46 111 P **P 14 46 60.0 0.0**
baz=41,SNR=55
HTT Hallett 41.75 135 P **P 14 47 11.8 +1.4**
baz=42,SNR=3.1
LZH Lanzhou 42.11 359 *eP* **P 14 47 13.0 -0.3**
LZH pP pP 14 47 24.0 -4.4
LZH sP sP 14 47 29.3 -5.9
LZH *e*PP **PP 14 48 55.3 +3.4**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.4s
LZH LR LR
comp=Z,380nm,14.2s
LZH LR LR
comp=Z,380nm,14.0s
LZH LR LR
comp=Z,530nm,16.6s
PMG Port Moresby 42.24 97 P **P 14 47 13.7 -0.8**
PMG IAmb IAmb 14 47 15.4
comp=Z,40nm,0.9s
CTA Charters Tower 42.67 113 P **P 14 47 18.5 +0.5**
comp=Z,8.0nm,0.8s,baz=277,slow=10,SNR=14
CTAO Charters Tower 42.67 113 P **P 14 47 18.3 +0.3**
CTAO IAmb IAmb 14 47 24.1
comp=Z,14nm,0.9s
QLP Quilpie 42.78 123 P **P 14 47 20.2 +1.4**
baz=43,SNR=7.7
STKA Stephens Creek 42.90 131 P **P 14 47 21.0 +1.2**
comp=Z,55nm,0.8s,baz=307,slow=9.8,SNR=3.3
STKA LR LR 15 05 31.2
comp=Z,122nm,20.7s,baz=276,slow=36
STKA Stephens Creek 42.90 131 P **P 14 47 20.5 +0.8**
baz=43,SNR=95
STKA Stephens Creek 42.90 131 P **P 14 47 20.8 +1.1**
TIA Tai'an 43.83 15 P **P 14 47 26.3 -0.8**
TIA pmax pmax
comp=Z,11nm,0.6s
GTA Gaotai 45.64 355 ⇓P **P 14 47 41.0 -0.6**
GTA pP pP 14 47 53.0 -3.8
GTA sP sP 14 47 58.5 -5.1
GTA PcP **PcP 14 49 19.3 +0.3**
GTA sS sS 14 54 42.5 -3.4
GTA SS **SS 14 57 40.0 -5.5**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,8.5s
GTA LR LR
comp=Z,190nm,18.5s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,180nm,19.6s
CMSA Cobar Meteorol 45.88 129 P **P 14 47 44.7 +1.2**
baz=46,SNR=41
JNU Nakatsue 46.41 31 P **P 14 47 45.5 -2.1**
JNU IAmb IAmb 14 47 48.1
comp=Z,27nm,1.3s
RMQ Roma 46.58 121 P **P 14 47 50.5 +1.5**
baz=47,SNR=4.9
BJI Beijing 47.27 12 P **P 14 47 54.3 +0.2**
BJI pmax pmax
comp=Z,11nm,0.7s
HHC Hu-ho-hao-te 47.29 7 *eP* **P 14 47 55.0 +0.5**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,87nm,5.4s
HHC LR LR
comp=Z,330nm,14.5s
HHC LR LR
comp=Z,210nm,14.5s
HHC LR LR
comp=Z,260nm,14.5s
EIDS Eidsvold 48.27 119 P **P 14 48 03.1 +0.8**
baz=48,SNR=4.8
EIDS Eidsvold 48.27 119 P **P 14 48 02.1 -0.2**
EIDS IAmb IAmb 14 48 03.6
comp=Z,13nm,1.2s
TOO Toolangi 48.48 136 P **P 14 48 04.3 +0.6**
baz=49,SNR=7.0
TOO Toolangi 48.48 136 P **P 14 48 04.0 +0.3**
TOO IAmb IAmb 14 48 06.9
comp=Z,5.3nm,0.7s
KSAR Wonju Array Be 48.58 25 P **P 14 48 03.8 -0.6**
KSRS Korea Array 48.61 25 P **P 14 48 04.1 -0.4**
comp=Z,4.1nm,0.6s,baz=222,slow=7.5,SNR=36
KSRS PcP **PcP 14 49 29.2 -0.2**
comp=Z,2.3nm,0.8s,baz=214,slow=3.9,SNR=6.1
KSRS LR LR 15 08 50.3
comp=Z,47nm,18.4s,baz=248,slow=36
KS19 Wonju Array Si 48.62 25 P **P 14 48 03.4 -1.3**
KS19 IAmb IAmb 14 48 05.7
comp=Z,6.7nm,0.7s
YNG Young 49.09 131 P **P 14 48 10.0 +1.6**
baz=49,SNR=8.0
NIL Nilore 49.57 325 P **P 14 48 09.6 -2.5**
JWT Wachi 50.46 33 P **P 14 48 17.4 -1.3**
JWT IAmb IAmb 14 48 18.3
comp=Z,18nm,0.8s
WMQ Urumqi 52.13 345 *eP* **P 14 48 31.3 +0.2**
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,170nm,5.7s
WMQ LR LR
comp=Z,77nm,29.5s
WMQ LR LR
comp=Z,260nm,29.2s
KBL Kabul 52.66 323 P **P 14 48 34.9 -0.6**
KSH Kashi 52.67 332 P **P 14 48 33.8 -1.5**
KSH S **S 14 55 57.8 -1.0**
KSH ScS **ScS 14 58 19.0 -1.1**
KSH pmax pmax
comp=Z,31nm,0.6s
KSH pmax pmax
comp=Z,160nm,5.2s
KSH LR LR
comp=Z,270nm,6.5s
KSH LR LR
comp=Z,210nm,6.3s
KSH LR LR
comp=Z,180nm,8.0s
MAJO Matsushiro 52.92 34 P **P 14 48 34.3 -2.8**
MAJO IAmb IAmb 14 48 45.1
comp=Z,19nm,1.4s
MAT Matsushiro 52.92 34 P **P 14 48 34.2 -2.9**
MAT *e*S **S 14 56 09.2 +7.1**
MJAR Matsushiro Arr 52.92 34 P **P 14 48 34.4 -2.7**
comp=Z,8.1nm,0.6s,baz=206,slow=7.8,SNR=33
MJAR PcP **PcP 14 49 45.7 +0.2**
comp=Z,5.4nm,0.8s,baz=181,slow=4.4,SNR=8.7
MJAR LR LR 15 11 14.0
comp=Z,46nm,19.7s,baz=205,slow=36
MJAR Matsushiro Arr 52.92 34 P **P 14 48 34.8 -2.3**
MJAR **PcP 14 49 46.0 +0.6**
CN2 Changchun 53.25 19 *eP* **P 14 48 37.8 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
TARG Taragay, Kyrgy 53.67 335 P **P 14 48 41.9 -1.0**
TARG IAmb IAmb 14 48 50.1
comp=Z,8.1nm,0.8s
JYT Yasato 53.82 36 P **P 14 48 40.0 -3.6**
SONM Songino Array 53.87 1 P **P 14 48 43.5 -0.5**
comp=Z,4.5nm,0.4s,baz=180,slow=8.9,SNR=14
SONM PcP **PcP 14 49 48.6 -0.3**
comp=Z,6.7nm,0.7s,baz=181,slow=3.2,SNR=7.7
SONM LR LR 15 12 17.9
comp=Z,101nm,18.7s,baz=22,slow=37
SONM Songino Array 53.87 1 P **P 14 48 43.4 -0.5**
SONM **PcP 14 49 49.2 +0.2**
ULN Ulaanbaatar 53.92 2 P **P 14 48 43.0 -1.3**
ULN IAmb IAmb 14 48 45.8
comp=Z,5.9nm,0.6s
JSD Sado 54.04 33 P **P 14 48 43.5 -1.6**
SHLS Shalkode 54.21 337 *eP* **P 14 48 45.1 -1.4**
comp=Z,22nm,0.6s,baz=338
KDJ Kajisay 54.26 335 P **P 14 48 46.8 -0.2**
UZB Uzynbulak 54.37 337 *i* P **P 14 48 47.1 -0.6**
comp=Z,9.6nm,0.5s,baz=337
SATY Saty 54.53 337 *i* P **P 14 48 48.4 -0.5**
comp=Z,8.1nm,0.6s,baz=336
KZA Kyzart 55.05 334 P **P 14 48 52.7 -0.3**
SNR=6.6
BOOM Boomskoye usch 55.08 334 P **P 14 48 52.2 -0.8**
BOOM IAmb IAmb 14 48 53.0
comp=Z,10nm,0.7s
GAR Garm 55.10 328 P **P 14 48 51.8 -1.3**
TNSS Tian-Shan 55.11 335 ⇓*i*P **P 14 48 52.9 -0.5**
baz=335
MDOK Medeo 55.17 336 *i* P **P 14 48 53.3 -0.2**
baz=336
JMM Marumori 55.31 35 P **P 14 48 52.9 -1.5**
MTBS Maitube 55.40 335 *i* P **P 14 48 54.4 -0.7**
baz=335
CHGR Chuyangaron 55.48 327 P **P 14 48 54.2 -1.6**
UCH Uchtor 55.50 333 P **P 14 48 56.1 -0.1**
SNR=7.0
TKM2 Tokmak 2 55.58 334 P **P 14 48 55.4 -1.2**
SNR=53
BTK Batken 55.61 329 P **P 14 48 55.7 -1.0**
KBK Karagaybulak 55.65 334 P **P 14 48 56.6 -0.4**
SNR=8.7
SOHO SOHO 55.75 305 P **P 14 48 59.1 +1.3**
AML Almayashu 55.80 332 P **P 14 48 57.8 -0.5**
SNR=5.1
AAK Ala-Archa 55.84 333 P **P 14 48 58.3 0.0**
SNR=6.9
AAK Ala-Archa 55.84 333 *i* P **P 14 48 57.9 -0.4**
SNR=9.3
USRK Ussuriysk Ar. 55.95 24 P **P 14 48 57.5 -1.3**
comp=Z,13nm,0.6s,baz=207,slow=4.4,SNR=31
USRK Ussuriysk Ar. 55.95 24 P **P 14 48 58.4 -0.5**
KUU Kurty 56.06 336 *eP* **P 14 48 58.4 -1.3**
comp=Z,22nm,0.5s,baz=336
EKS2 Erkin-Say 56.17 333 P **P 14 49 00.6 -0.1**
SNR=6.4
TDK Taldyqorghan 56.18 338 *eP* **P 14 48 59.7 -0.8**
comp=Z,15nm,0.6s,baz=338
ZSN Zaisan 56.24 344 *eP* **P 14 49 01.0 +0.1**
comp=Z,8.8nm,0.6s,baz=344
USP Ospenovka 56.34 334 P **P 14 49 00.7 -1.0**
SNR=14
ALNE Al Ain 56.36 304 P **P 14 49 04.2 +2.0**
UOSS Minazif 56.38 305 P **P 14 49 03.5 +1.2**
ASHO Ashiyiah 56.38 305 P **P 14 49 04.1 +1.6**
HATD Hatta, Dubai 56.39 305 P **P 14 49 04.3 +1.9**
MKAR Makanchi Array 56.41 342 P **P 14 49 00.5 -1.6**
comp=Z,19nm,0.6s,baz=152,slow=8.7,SNR=177
MKAR LR LR 15 15 30.5
comp=Z,85nm,18.0s,baz=158,slow=38
MKAR Makanchi Array 56.41 342 P **P 14 49 01.1 -1.1**
SGDS Sogindy 56.43 334 *eP* **P 14 49 01.6 -0.8**
comp=Z,13nm,1.4s,baz=334
MDH Madha 56.47 306 P **P 14 49 02.8 -0.2**
MAKZ Makanchi 56.52 342 P **P 14 49 00.9 -2.0**
MSFE Esma-Masafi 56.60 306 P **P 14 49 05.6 +1.6**
BANOM Banah 56.75 306 P **P 14 49 06.1 +1.1**
NAZ Nazwa, Dubai 56.84 305 *i* P **P 14 49 07.0 +1.3**
SNR=6.4
IUG Iuzhnay 57.56 330 ⇓*i*P **P 14 49 10.1 -0.4**
comp=Z,13nm,0.7s,baz=330
BTLS Baital 57.95 335 *eP* **P 14 49 11.6 -1.5**
comp=Z,4.5nm,0.7s,baz=335
KK31 Karatay Array 58.04 331 P **P 14 49 12.1 -1.7**
KK31 IAmb IAmb 14 49 13.7
comp=Z,6.2nm,0.7s
KKAR Karatay Array 58.04 331 P **P 14 49 12.2 -1.6**
KKAR IAmb IAmb 14 49 13.7
comp=Z,6.2nm,0.7s
KKAR Karatay Array 58.04 331 P **P 14 49 12.5 -1.2**
KURK Kurchatov 61.01 341 P **P 14 49 33.0 -1.0**
KURK IAmb IAmb 14 49 34.0
comp=Z,12nm,0.8s
GEYT Alibeck 61.64 319 P **P 14 49 38.4 -0.2**
comp=Z,22nm,0.7s,baz=157,slow=5.8,SNR=35
GEYT Alibeck 61.64 319 P **P 14 49 38.4 -0.2**
GYA0B ALIBECK ARRAY 61.64 319 P **P 14 49 38.5 -0.1**
ZAA0 Zalesovo Array 62.24 347 P **P 14 49 40.5 -1.7**
ZALV Zalesovo Beam 62.24 347 P **P 14 49 40.5 -1.7**
comp=Z,23nm,0.3s,baz=154,slow=6.2,SNR=134
ZALV LR LR 15 18 37.4
comp=Z,162nm,19.5s,baz=161,slow=38
ZALV Zalesovo Beam 62.24 347 P **P 14 49 40.9 -1.3**
YSS Yuzh-Sakhalins 62.81 28 P **P 14 49 45.2 -0.9**
BRVK Borovoye 65.84 338 P **P 14 50 05.3 -0.5**
KMBO Kilima Mbogo 67.38 271 LR LR 15 14 37.0
comp=Z,85nm,21.4s,baz=93,slow=31
MAW Mawson 67.42 196 LR LR 15 14 19.7
comp=Z,116nm,19.7s,baz=50,slow=31
ABKAR Akbulak array 67.57 330 P **P 14 50 16.9 0.0**
ABKAR Akbulak array 67.57 330 P **P 14 50 16.7 -0.3**
AKTO Aktyubinsk 69.28 330 P **P 14 50 26.8 -0.8**
comp=Z,20nm,0.8s,baz=129,slow=7.8,SNR=46
YAK Yakutsk 70.77 12 P **P 14 50 35.0 -1.5**
BKZ Black Stump Fm 72.03 129 P **P 14 50 45.2 +0.4**
BKZ IAmb IAmb 14 50 46.1
comp=Z,20nm,0.9s
ARU Arti 72.94 335 P **P 14 50 49.2 -0.4**
comp=Z,11nm,0.5s,baz=137,slow=3.2,SNR=51
ARU Arti 72.94 335 P **P 14 50 49.5 -0.1**
AKH Akhalkalaki 73.15 317 ⇓P **P 14 50 53.1 +1.6**
PETK Petropavlovsk- 74.11 30 P **P 14 50 55.4 -1.2**
comp=Z,8.2nm,0.7s,baz=203,slow=5.3,SNR=15
PETK LR LR 15 25 35.5
comp=Z,42nm,18.2s,baz=240,slow=38
BCA Borcka 74.45 316 ⇑P **P 14 50 59.7 +0.8**
BATM Batumi 74.46 316 ⇑P **P 14 50 59.4 +0.4**
KBZ Khabaz 74.52 319 P **P 14 50 59.7 +0.6**
comp=Z,14nm,0.8s,baz=119,slow=4.7,SNR=24
PET Petropavlovsk 74.54 30 P **P 14 50 58.2 -0.8**
KIV Kislovodsk 74.75 319 ⇓P **P 14 51 02.2 +1.5**
KIV Kislovodsk 74.75 319 P **P 14 51 01.2 +0.6**
ASF Jabal al Asfar 74.79 306 P **P 14 51 02.8 +1.6**
comp=Z,18nm,0.8s,baz=53,slow=3.5,SNR=28
MA2 Magadan 75.08 22 P **P 14 51 01.2 -0.9**
comp=Z,12nm,0.7s,baz=190,slow=4.5,SNR=5.8
MA2 Magadan 75.08 22 P **P 14 51 01.1 -0.9**
MA2 IAmb IAmb 14 51 02.2
comp=Z,20nm,0.9s
SYO Syowa Base 75.41 200 ⇑*eP* **P 14 51 04.6 +0.8**
SYO Syowa Base 75.41 200 ⇓*ep*P pP 14 51 18.0 -1.7
EIL Eilat 75.68 303 P **P 14 51 07.5 +1.3**
comp=Z,19nm,0.7s,baz=131,slow=0.7,SNR=21
MMAI Mount Meron Ar 76.25 306 P **P 14 51 11.0 +1.6**
comp=Z,16nm,0.7s,baz=93,slow=7.6,SNR=26
NRIK Noril'sk 76.33 354 P **P 14 51 08.1 -1.0**
comp=Z,11nm,0.3s,baz=143,slow=2.4,SNR=37
NRIK LR LR 15 26 33.7
comp=Z,76nm,18.4s,baz=216,slow=37
VNDA Vanda 77.14 169 P **P 14 51 15.1 +1.5**
comp=Z,0.7nm,0.8s,baz=293,slow=7.9,SNR=4.3
VNDA LR LR 15 21 04.8
comp=Z,65nm,18.2s,baz=345,slow=32
VNDA Vanda 77.14 169 P **P 14 51 14.7 +1.1**
BOSA Boshof 77.72 242 LR LR 15 19 05.7
comp=Z,58nm,21.3s,baz=106,slow=30
KIRV Kirov 78.16 334 P **P 14 51 19.8 +0.3**
comp=Z,25nm,0.5s,baz=104,slow=3.2,SNR=12
LEF Lefka 78.84 307 ⇓P **P 14 51 24.9 +1.2**
BR131 Keskin Array S 79.57 312 P **P 14 51 28.1 +0.2**
BR131 IAmb IAmb 14 51 28.6
comp=Z,13nm,0.7s
BRTR Keskin Array B 79.57 312 P **P 14 51 27.3 -0.5**
comp=Z,14nm,0.7s,baz=136,slow=7.1,SNR=43
BRTR LR LR 15 27 59.4
comp=Z,27nm,20.1s,baz=96,slow=37
BRTR Keskin Array B 79.57 312 P **P 14 51 28.0 +0.2**
OBN Obninsk 82.82 328 P **P 14 51 44.3 -0.1**
comp=Z,5.5nm,0.3s,baz=137,slow=11,SNR=4.1
KLMR Klimovskoe 83.65 333 *eP* **P 14 51 47.4 -1.2**
KLMR AMP 14 51 51.8
comp=Z,28nm,1.2s
QSPA South Pole Qui 83.74 180 P **P 14 51 50.5 +1.2**
comp=Z,1.8nm,0.9s,baz=132,slow=3.5,SNR=7.9
QSPA South Pole Qui 83.74 180 P **P 14 51 49.7 +0.3**
MILM Milestii Mici 84.93 318 ⇓P **P 14 51 56.1 +0.7**
CFR Carcaliu 84.95 316 ⇓P **P 14 51 56.7 +1.1**
TSUM Tsumeb 85.19 251 P **P 14 51 56.4 -1.2**
TSUM IAmb IAmb 14 51 56.6
comp=Z,7.8nm,1.2s
SORM Soroca 85.54 319 ⇓P **P 14 51 59.0 +0.5**
AKASG Malin Array Be 85.64 322 P **P 14 51 58.3 -0.6**
comp=Z,2.6nm,0.6s,baz=85,slow=4.7,SNR=12
VRI Vrincioaia 86.08 317 ⇓P **P 14 52 02.9 +1.6**
PLOR Plostina 86.13 317 ⇑P **P 14 52 03.4 +1.9**
MLR Muntele Rosu 86.53 316 ⇓P **P 14 52 05.0 +1.3**
BIZ Bicaz 86.74 318 ⇑P **P 14 52 05.4 +1.0**
DOPR Dopca 87.01 317 ⇓P **P 14 52 06.2 +0.4**
VOIR 87.14 316 ⇑P **P 14 52 06.8 +0.3**
ARR Arges 87.41 316 ⇑P **P 14 52 08.5 +0.7**
BURAR Bucovina Array 87.47 318 ⇑P **P 14 52 09.7 +1.6**
BURAR Bucovina Array 87.47 318 P **P 14 52 09.4 +1.3**
BUR08 Bucovina Ar. S 87.49 318 P **P 14 52 09.9 +1.7**
BUR08 IAmb IAmb 14 52 10.7
comp=Z,11nm,0.8s
ARCR ARCALIA 87.94 318 ⇑P **P 14 52 12.0 +1.7**
LVZ Lovozero 88.35 339 P **P 14 52 10.0 -1.7**
DEV Deva 88.70 316 ⇓P **P 14 52 15.4 +1.6**
HERR Herculane 88.86 315 ⇓P **P 14 52 16.0 +1.3**
MDVR Moldovita 89.34 315 ⇓P **P 14 52 18.3 +1.4**
BZS Buzias 89.54 316 ⇓P **P 14 52 18.9 +1.1**
SIRR Siria 89.62 316 ⇓P **P 14 52 19.6 +1.4**
KOLS Kolonicke sedl 89.65 319 *eP* **P 14 52 18.0 -0.3**
FIA1 FINESS Array S 89.99 332 P **P 14 52 19.0 -0.5**
FINES FINESS Array B 89.99 332 P **P 14 52 19.5 0.0**
comp=Z,3.5nm,0.4s,baz=114,slow=5.4,SNR=24
FINES FINESS Array B 89.99 332 P **P 14 52 19.8 +0.3**
CRVS Cervenica-Dubn 90.17 319 *eP* **P 14 52 20.6 -0.1**
PDG Podgorica 90.75 312 ⇓P **P 14 52 24.4 +0.9**
PSZ Piszkesteto 91.06 318 ⇑P **P 14 52 24.5 -0.5**
MORC Moravsky Berou 92.83 320 ⇑P **P 14 52 32.8 -0.2**
GERES GERESS Array B 95.26 318 P **P 14 52 44.4 +0.1**
comp=Z,1.0nm,0.8s,baz=98,slow=4.0,SNR=6.8
GERES LR LR 15 42 51.9
comp=Z,38nm,18.1s,baz=7.5,slow=40
NOA NORSAR Array B 97.07 331 LR LR 15 44 29.8
comp=Z,31nm,18.8s,baz=5.0,slow=40
ILAR Eielson Array 103.46 25 PKKPbc PKKPbc 15 09 15.6 -1.1
comp=Z,0.3nm,0.7s,baz=110,slow=1.5,SNR=6.0
ESDC Sonseca Array 108.25 310 PP **PP 14 58 12.9 -0.1**
comp=Z,0.8nm,0.8s,baz=74,slow=6.8,SNR=5.2
YKA Yellowknife Ar 116.95 19 PKP **PKPdf 14 58 04.5 -0.1**
comp=Z,0.9nm,0.7s,baz=354,slow=4.1,SNR=4.2
I04A Tendick Farm, 124.41 40 P **PKiKP 14 58 20.1 +0.2**
baz=298
L04D Klamath Falls 125.22 42 P **PKiKP 14 58 21.7 +0.1**
baz=297
J05D Fort Rock, OR 125.41 40 P **PKiKP 14 58 22.6 +0.7**
baz=299
NVAR Mina Array Bea 129.69 44 PKP **PKiKP 14 58 31.6 +0.8**
comp=Z,0.8nm,0.6s,baz=317,slow=1.6,SNR=6.7
BOZ Bozeman (W) 129.78 33 P **PKiKP 14 58 30.9 +0.2**
baz=310
MPMC Manual Prospec 131.37 46 P **PKiKP 14 58 34.7 +0.5**
baz=297
R11A Troy Canyon, C 131.58 43 P **PKiKP 14 58 35.1 +0.6**
baz=301
PDAR Pinedale Array 132.74 34 PKP **PKiKP 14 58 36.7 -0.1**
comp=Z,0.5nm,0.6s,baz=326,slow=0.5,SNR=4.7
ULM Lac du Bonnet 132.89 18 PKP **PKiKP 14 58 36.2 -0.4**
comp=Z,3.8nm,0.8s,baz=214,slow=2.8,SNR=4.2
O20A White River Ci 135.20 36 P **PKiKP 14 58 41.4 -0.4**
baz=310
ECSD EROS Data Cent 138.25 23 P **PKPdf 14 58 46.3 +0.6**
baz=328
T25A Trinidad 139.43 37 P **PKiKP 14 58 51.6 +1.0**
baz=312
I51A Listowel 142.26 7 P **PKPdf 14 58 48.0 -4.9**
baz=351
J57A Williamstown 142.98 1 P **PKPdf 14 58 50.6 -3.6**
baz=359
K55A Perry 143.59 3 P PKPab 14 58 51.7 0.0
baz=356
K62A Royalston 143.62 356 P PKPbc 14 58 52.5 -0.2
baz=5.5
K56A Middlesex 143.65 2 P PKPab 14 58 52.0 0.0
baz=357
K54A Basiliko Farm, 143.66 4 P PKPab 14 58 51.8 -0.2
baz=355
L54A Sinclairville 143.99 5 P PKPab 14 58 53.5 +0.2
baz=354
ERPA Erie 144.04 6 P **PKPab 14 58 53.7 +0.1**
baz=352
L55A Hinsdale 144.11 4 P **PKPab 14 58 53.5 -0.3**
baz=355
L61A Hillsdale 1, H 144.16 358 P **PKPab 14 58 54.1 +0.2**
baz=3.4
L53A Girard 144.18 6 P **PKPab 14 58 54.0 0.0**
baz=352
BINY Binghamton 144.19 1 P **PKPab 14 58 54.2 +0.1**
baz=359,SNR=5.2
L59A Walton 144.20 360 P **PKPab 14 58 54.1 -0.1**
baz=0.8
L56A Greenwood 144.20 3 P **PKPab 14 58 54.0 -0.2**
baz=357
L64A Middleborough 144.23 354 P **PKPab 14 58 54.0 -0.1**
baz=8.0
L58A Harry Jones Me 144.35 1 P PKPbc 14 58 54.9 -0.1
baz=359,SNR=12
WMOK Wichita Mounta 144.36 34 P **PKPab 14 58 54.9 0.0**
baz=318
L57A Andrews Acres 144.37 2 P **PKPab 14 58 54.6 -0.2**
baz=358,SNR=9.0
QUOK Quay 144.37 30 PKPbc 14 58 55.5 +0.2
L63A North Scituate 144.37 355 P **PKPab 14 58 54.5 -0.2**
baz=6.7
SFIN Lafayette 144.42 15 P PKPbc 14 58 55.4 +0.2
baz=340,SNR=6.1
M52A Chesterland 144.45 8 P **PKPab 14 58 54.9 -0.1**
baz=350
M51A Elyria 144.54 9 P **PKPab 14 58 54.6 -0.7**
baz=349
KSCT Kent School, K 144.63 358 PKPdf PKPbc 14 58 55.8 0.0
M53A WI Miller and 144.64 7 P **PKPab 14 58 55.2 -0.6**
baz=351
M54A Oil Creek Stat 144.68 6 P **PKPab 14 58 55.6 -0.4**
baz=353,SNR=18
TX32 Lajitas Array 144.79 46 PKPdf **PKPdf 14 58 58.1 +0.2**
TXAR Lajitas Array 144.79 46 PKP PKPbc 14 58 57.4 +0.4
comp=Z,24nm,0.7s,baz=285,slow=1.4,SNR=285
M55A Ridgway 144.79 4 P **PKPab 14 58 56.0 -0.4**
baz=354,SNR=13
M56A Emporium 144.82 4 P **PKPab 14 58 56.0 -0.4**
baz=355,SNR=10.0
M59A Waymart 144.85 0 P **PKPab 14 58 56.2 -0.3**
baz=0.2,SNR=8.0
M63A Gales Ferry 144.86 356 P PKPbc 14 58 56.8 +0.2
baz=6.0
M62A Hamden 144.88 357 P **PKPab 14 58 56.0 -0.6**
baz=4.6
N51A Ashland 144.91 9 P **PKPab 14 58 56.3 -0.5**
baz=348,SNR=11
M58A Price's Panora 145.01 1 P **PKPbc 14 58 57.0 -0.2**
baz=358,SNR=30
M57A Sunshine Farm, 145.02 2 P **PKPbc 14 58 57.0 -0.1**
baz=357,SNR=16
TUL1 Leonard 145.03 30 P **PKPbc 14 58 57.3 -0.1**
baz=323
M61A Granite Spring 145.05 358 P **PKPbc 14 58 56.6 -0.6**
baz=3.1
M60A Port Jervis 145.06 359 P **PKPbc 14 58 56.9 -0.3**
baz=1.6,SNR=12
N52A McGinn's Farm, 145.12 8 P **PKPbc 14 58 57.2 -0.3**
baz=349,SNR=14

N54A	Moraine State	145.19	6	P	PKPbc	14 58 57.3	-0.4
	baz=352,SNR=8.5						
CCM	Cathedral Cave	145.21	22	P	PKPbc	14 58 57.4	-0.5
	baz=332						
CCM	Cathedral Cave	145.21	22		PKPbc	14 58 57.5	-0.3
N53A	Lisbon	145.24	7	P	PKPbc	14 58 57.5	-0.4
	baz=351,SNR=13						
BDFB	Brasilia	145.25	231	PKPbc	PKPdf	14 59 00.9	+1.9
	comp=Z,5.0nm,0.5s,baz=152,slow=4.7,SNR=11						
PAL	Palisades	145.36	358	P	PKPbc	14 58 58.1	-0.1
	baz=2.8,SNR=10						
PAL	Palisades	145.36	358		PKPbc	14 58 58.2	0.0
ABTX	Abilene, Hawle	145.36	38	P	PKPab	14 58 59.1	+0.3
	baz=314,SNR=17						
N56A	West Decatur	145.38	4	P	PKPbc	14 58 57.9	-0.5
	baz=355,SNR=8.7						
N62A	Caumsett State	145.42	357	P	PKPbc	14 58 57.9	-0.5
	baz=3.6						
N55A	Marion Center	145.46	5	P	PKPdf	14 58 58.2	-0.3
	baz=354,SNR=16						
N59A	State Game Lan	145.47	1	P	PKPbc	14 58 58.7	+0.1
	baz=360,SNR=26						
ACSO	Alum Creek Sta	145.48	10	P	PKPdf	14 58 58.4	-0.2
	baz=347,SNR=23						
N60A	Cedar Hill Far	145.52	360	P	PKPdf	14 58 58.4	-0.2
	baz=0.8,SNR=6.5						
N58A	Sunbury	145.53	2	P	PKPdf	14 58 58.4	-0.2
	baz=358,SNR=39						
N57A	Milroy	145.58	3	P	PKPdf	14 58 58.6	-0.1
	baz=356,SNR=20						
O51A	Pataskala	145.62	10	P	PKPdf	14 58 58.8	0.0
	baz=348,SNR=27						
N61A	South Mountain	145.63	359	P	PKPbc	14 58 59.2	+0.1
	baz=2.2,SNR=7.0						
SSPA	Standing Stone	145.68	3	P	PKPdf	14 58 59.0	0.0
	baz=356						
SSPA	Standing Stone	145.68	3	PKPdf	PKPbc	14 58 59.2	-0.1
O53A	New Philadelph	145.74	8	P	PKPdf	14 58 59.1	+0.1
	baz=350,SNR=10.0						
O52A	Adamsville	145.78	9	P	PKPdf	14 58 59.1	-0.1
	baz=349,SNR=11						
P49A	Miami Univ. Ec	145.80	13	P	PKPdf	14 58 59.2	0.0
	baz=344,SNR=12						
O54A	Avella	145.91	7	P	PKPbc	14 58 59.8	-0.2
	baz=351,SNR=12						
O55A	Ligonier	146.00	5	P	PKPdf	14 58 59.7	+0.2
	baz=353,SNR=5.8						
O56A	Blue Knob Stat	146.00	4	P	PKPbc	14 59 00.1	-0.2
	baz=355,SNR=21						
U40A	Yellville	146.02	26	P	PKPdf	14 58 60.0	+0.3
	baz=328						
O59A	Robesonia	146.07	1	P	PKPbc	14 59 00.1	-0.4
	baz=359,SNR=17						
O60A	Telford	146.07	0	P	PKPdf	14 58 60.0	+0.4
	baz=0.2,SNR=6.3						
O57A	Amberson	146.12	3	P	PKPbc	14 59 00.3	-0.4
	baz=356,SNR=6.5						
P51A	Williamsport	146.19	11	P	PKPdf	14 59 00.2	+0.4
	baz=346						
P52A	Corning	146.20	9	P	PKPdf	14 59 00.2	+0.4
	baz=348,SNR=7.2						
O58A	Lewisberry	146.24	2	P	PKPbc	14 59 00.7	-0.3
	baz=358,SNR=11						
P53A	Whipple	146.46	8	P	PKPbc	14 59 01.5	-0.2
	baz=349,SNR=7.5						
P54A	Burton	146.47	7	P	PKPbc	14 59 01.7	0.0
	baz=351,SNR=9.9						
MCWV	Mont Chateau	146.49	6	P	PKPbc	14 59 01.7	0.0
	baz=352,SNR=6.8						
W39A	Magazine	146.57	28	P	PKPbc	14 59 01.6	-0.5
	baz=326						
P60A	Greenville	146.58	0	P	PKPbc	14 59 01.7	-0.2
	baz=360,SNR=9.3						
P55A	Reedsville	146.64	6	P	PKPbc	14 59 02.0	-0.2
	baz=352,SNR=5.6						
WCI	Wyandotte Cave	146.65	16	P	PKPbc	14 59 02.1	-0.2
	baz=340						
P61A	Hammonton	146.71	359	P	PKPbc	14 59 02.5	+0.2
	baz=1.3						
JCT	Junction City	146.72	41	P	PKPbc	14 59 02.1	-0.6
	baz=312						
JCT	Junction City	146.72	41		PKPab	14 59 03.8	-0.2
P56A	Dayton Farm, R	146.74	5	P	PKPbc	14 59 02.4	-0.1
	baz=354,SNR=14						
P59A	Jarrettsville	146.77	1	P	PKPbc	14 59 02.5	0.0
	baz=358,SNR=7.9						
P57A	Homestead Farm	146.82	4	P	PKPbc	14 59 02.6	-0.1
	baz=356,SNR=16						
Q52A	Bidwell	146.84	10	P	PKPbc	14 59 02.1	-0.7
	baz=348,SNR=12						
P58A	Pank, Wackersv	146.86	3	P	PKPbc	14 59 02.7	-0.1
	baz=357,SNR=9.1						
Q54A	Coxs Mills	147.03	8	P	PKPbc	14 59 02.9	-0.4
	baz=350,SNR=13						
Q53A	Leroy	147.06	9	P	PKPbc	14 59 03.2	-0.2
	baz=349,SNR=11						
WHTX	Lake Whitney,	147.11	36	P	PKPbc	14 59 04.5	+0.7
	baz=317,SNR=8.6						
Q55A	Buckhannon	147.12	7	P	PKPbc	14 59 03.4	-0.2
	baz=352,SNR=10						
Q56A	Snyder Ridge,	147.17	5	P	PKPbc	14 59 03.5	-0.3
	baz=353,SNR=8.3						
MIAR	Mount Ida	147.20	28	P	PKPbc	14 59 04.0	+0.1
	baz=325						
Q57A	Strasburg	147.24	4	P	PKPbc	14 59 03.7	-0.2
	baz=355,SNR=7.5						
Q58A	Fox Den Farm,	147.38	3	P	PKPbc	14 59 04.0	-0.2
	baz=356,SNR=6.4						
R53A	Hurricane	147.50	10	P	PKPbc	14 59 04.5	-0.1
	baz=348,SNR=9.3						
R56A	Bull Pasture M	147.77	6	P	PKPbc	14 59 05.4	-0.1
	baz=353,SNR=6.0						
R54A	Victor	147.80	8	P	PKPbc	14 59 05.0	-0.5
	baz=350						
R55A	Marlinton	147.82	7	P	PKPbc	14 59 05.3	-0.3
	baz=351						
R57A	Stanardsville	147.96	5	P	PKPbc	14 59 06.1	+0.2
	baz=354,SNR=5.9						
R58A	Rapidan	148.00	4	P	PKPbc	14 59 06.0	0.0
	baz=355,SNR=8.9						
S53A	Williamson	148.11	10	P	PKPbc	14 59 06.1	-0.2
	baz=348						
S54A	Dingess, Beckl	148.13	9	P	PKPbc	14 59 06.0	-0.4
	baz=349						
WVT	Waverly	148.14	19	P	PKPbc	14 59 06.5	+0.1
	baz=336						
WVT	Waverly	148.14	19		PKPbc	14 59 06.5	+0.1
R59A	King George, V	148.15	3	P	PKPbc	14 59 06.4	0.0
	baz=357						
S55A	Lewisburg	148.27	8	P	PKPbc	14 59 06.0	-0.8
	baz=351						
R58B	Mineral	148.34	4	P	PKPbc	14 59 06.8	-0.1
	baz=356,SNR=5.2						
S57A	Dark Hollow, R	148.46	5	P	PKPbc	14 59 07.2	0.0
	baz=354,SNR=5.3						
S56A	Natural Bridge	148.48	6	P	PKPbc	14 59 06.9	-0.4
	baz=352						
S59A	Mechanicsville	148.58	3	P	PKPbc	14 59 07.6	+0.2
	baz=357						
S58A	Poland Farm, P	148.68	4	P	PKPbc	14 59 07.9	+0.1
	baz=355						
T53A	Wise	148.71	11	P	PKPbc	14 59 07.9	-0.1
	baz=346						
T54A	Tazewell	148.81	10	P	PKPbc	14 59 07.9	-0.3
	baz=348						
BLA	Blacksburg	148.83	8	P	PKPbc	14 59 07.8	-0.5
	baz=351						
T55A	Pulaski	148.88	8	P	PKPbc	14 59 08.0	-0.3
	baz=350,SNR=7.0						
TZTN	Tazewell	148.93	13	P	PKPbc	14 59 08.4	-0.1
	baz=344						
OXF	Oxford	149.02	23	P	PKPbc	14 59 08.3	-0.4
	baz=332						
T56A	Rocky Mt	149.06	7	P	PKPbc	14 59 08.4	-0.4
	baz=351,SNR=10						
T57A	Hurt	149.18	6	P	PKPbc	14 59 09.0	-0.1
	baz=353						
U54A	Nelsons Funny	149.29	10	P	PKPbc	14 59 08.9	-0.6
	baz=348						
T58A	Grand View Acr	149.31	5	P	PKPbc	14 59 09.6	+0.2
	baz=354,SNR=6.8						
T59A	Double "B" Far	149.35	3	P	PKPbc	14 59 09.6	+0.1
	baz=356,SNR=10						
U55A	TA2, Sparta	149.44	9	P	PKPbc	14 59 09.6	-0.3
	baz=349,SNR=9.2						
U56A	King	149.69	8	P	PKPbc	14 59 10.1	-0.2
	baz=350						
U57A	Blanch	149.74	6	P	PKPbc	14 59 10.3	-0.1
	baz=352,SNR=6.9						
U58A	Oxford	149.85	5	P	PKPbc	14 59 10.9	+0.2
	baz=354,SNR=7.6						
U60A	Pendleton	149.87	3	P	PKiKP	14 59 11.3	-0.4
	baz=357						
U59A	Littleton	149.95	4	P	PKPbc	14 59 11.2	+0.2
	baz=356						
V54A	Nebo	149.99	11	P	PKPbc	14 59 11.0	-0.2
	baz=347,SNR=5.8						
V55A	Taylorsville	150.05	10	P	PKPbc	14 59 11.1	-0.2
	baz=349						
V56A	Mocksville	150.20	8	P	PKPbc	14 59 11.5	-0.1
	baz=350,SNR=6.2						
V57A	Coltrane Farms	150.22	7	P	PKPbc	14 59 11.5	-0.2
	baz=352						
V58A	Windy Hill, Pi	150.39	6	P	PKPbc	14 59 12.1	+0.1
	baz=353						
V59A	Middlesex	150.50	5	P	PKPbc	14 59 12.5	+0.2
	baz=354						
V60A	Jim Taylor Roa	150.57	3	P	PKiKP	14 59 13.2	0.0
	baz=356						
W54A	Cherokee Point	150.62	11	P	PKPbc	14 59 12.5	-0.1
	baz=346,SNR=6.3						
KMSC	Kings Mountain	150.72	10	P	PKPbc	14 59 12.6	-0.3
	baz=348,SNR=6.6						
W56A	Indian Trail	150.85	9	P	PKPbc	14 59 12.8	-0.4
	baz=350						
W57A	Gilead	150.92	8	P	PKPbc	14 59 13.2	-0.1
	baz=351						
X54A	Belton	151.10	12	P	PKPbc	14 59 14.0	+0.3
	baz=346,SNR=11						
LRAL	Lakeview Retre	151.23	21	P	PKPbc	14 59 13.9	-0.2
	baz=336						
W60A	Pink Hill	151.25	4	P	PKPbc	14 59 13.5	-0.6
	baz=356						
X55A	Gracelyn & Ava	151.32	11	P	PKPbc	14 59 14.3	0.0
	baz=347,SNR=7.1						
X56A	White Oak	151.41	10	P	PKPbc	14 59 14.2	-0.3
	baz=348						
Y55A	Saluda	151.79	11	P	PKPbc	14 59 15.5	+0.1
	baz=347						
GOGA	Godfrey	151.94	14	P	PKiKP	14 59 16.0	-0.1
	baz=343						
Y57A	Sumter	151.97	9	P	PKiKP	14 59 16.1	0.0
	baz=350						
Z57A	Bowman	152.63	10	P	PKPbc	14 59 17.2	0.0
	baz=349						
LPAZ	La Paz	156.49	198	PKP	PKPdf	14 59 18.5	+1.6
	comp=Z,1.9nm,0.8s,baz=144,slow=3.4,SNR=6.1						
LPAZ				PKPab	PKPab	14 59 47.6	+2.2
	comp=Z,1.2nm,0.6s,baz=102,slow=1.2,SNR=3.7						

NEIC ***27*** *14:45:53.1±1.1, 33°.37N±0°.02×87°.22W±0°.05, h0km±2km, mb_Lg2.9/102, Error ellipse: s-maj=7.2km s-min=3.0km az=260.0*

IDC ***27*** *14:45:57.8±2.3, 33°.94N×87°.24W, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/37, mbtmp3.1/4, ML3.9/2, Error ellipse: s-maj=56.8km s-min=10.0km az=159.0*

ISC 27 14:45:52.6±0.7, 33°.38N±0°.04×87°.22W±0°.03, h0km, n78, σ0§84/51, Alabama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRAL	Lakeview Retre	0.39	151		Pg	14 46 00.5	+0.4
LRAL				Sg	Sb	14 46 09.2	+0.3
Z47A	Carrollton	0.73	256		Pg	14 46 07.1	+0.4
Z47A				Sg	Sb	14 46 17.9	-1.0
Y49A	Blount Mountai	0.83	54		Pg	14 46 08.5	+0.1
X48A	Hartselle	1.08	8		Pg	14 46 12.5	-0.9
250A	Grady	1.61	150		Pn	14 46 22.6	+0.3
146A	Union	1.71	245		Pb	14 46 24.6	-0.3
Z51A	Franklin	1.71	91		Pn	14 46 24.2	+0.5
PLAL	Pickwick Lake	1.75	336		Pn	14 46 24.1	-0.2
PLAL				Sn	Sn	14 46 47.9	+0.6
FPAL	Fort Paine	1.77	49		Pn	14 46 24.4	-0.2
SWET	Sewanee	2.12	30		Pn	14 46 30.1	+0.7
SWET				IAmb_Lg		14 47 01.6	
	comp=Z,53nm,0.7s						
OXF	Oxford	2.14	302		Pn	14 46 30.8	+1.2
OXF				IAmb_Lg		14 47 06.9	
	comp=Z,72nm,0.9s						
152A	Waverly Hall	2.22	108		Pb	14 46 32.4	-1.1
152A				IAmb_Lg		14 47 07.4	
	comp=Z,36nm,0.8s						
X51A	Calhoun	2.29	58	Pn	Pn	14 46 32.7	+1.0
V48A	Smith Brothers	2.38	8	Pn	Pn	14 46 34.2	+1.3
W50A	Signal Mountai	2.41	40	Pn	Pn	14 46 34.4	+1.1
W50A				IAmb_Lg		14 47 15.6	
	comp=Z,53nm,0.7s						
W45A	Hickory Valley	2.41	318	Pn	Pn	14 46 34.9	+1.6
Y52A	Lilburn	2.68	79	Pn	Pn	14 46 38.1	+1.1
Y52A				IAmb_Lg		14 47 23.9	
	comp=Z,29nm,0.8s						
346A	Big Creek Wild	2.75	224	Pn	Pn	14 46 37.2	-0.7
346A				IAmb_Lg		14 47 23.3	
	comp=Z,28nm,0.8s						
WVT	Waverly	2.79	350		Pn	14 46 39.0	+0.5
WVT				IAmb_Lg		14 47 21.4	
	comp=Z,42nm,0.8s						
CPCT	Cooper Cave	3.04	46		Pn	14 46 42.9	+0.9
CPCT				IAmb_Lg		14 47 32.2	
	comp=Z,28nm,0.7s						
GOGA	Godfrey	3.14	88	Pn	Pn	14 46 43.9	+0.6
GOGA				IAmb_Lg		14 47 38.3	
	comp=Z,32nm,0.9s						
W52A	Murphy	3.22	57	Pn	Pn	14 46 45.4	+0.9
W52A				IAmb_Lg		14 47 33.8	
	comp=Z,35nm,0.9s						
U49A	Red Boiling Sp	3.34	20	Pn	Pn	14 46 46.6	+0.4
U49A				IAmb_Lg		14 47 40.3	
	comp=Z,26nm,1.0s						
V51A	Loudon	3.38	44	Pn	Pn	14 46 47.5	+0.8
154A	Montrose	3.54	101	IAmb_Lg		14 47 49.0	
	comp=Z,29nm,0.8s						
T47A	Sharon Grove	3.60	1	Pn	Pn	14 46 50.2	+0.5
T47A				IAmb_Lg		14 47 50.5	
	comp=Z,37nm,0.8s						
TKL	Tuckaleechee C	3.64	50	Pn	Pn	14 46 50.5	+0.2
	comp=Z,0.7nm,0.3s,baz=219,slow=13,SNR=6.7						
TKL				Sn	Sn	14 47 33.6	-0.3
	comp=Z,4.0nm,0.3s,baz=343,slow=15,SNR=9.0						
TKL				Lg	Lg	14 47 42.1	
	comp=Z,4.3nm,0.3s,baz=144,slow=12,SNR=8.4						
TKL	Tuckaleechee C	3.64	50		Pn	14 46 50.5	+0.2
TKL				IAmb_Lg		14 47 51.9	
	comp=Z,22nm,0.8s						
V52A	Sevierville	3.87	50	Pn	Pn	14 46 53.4	0.0
V52A				IAmb_Lg		14 47 58.1	
	comp=Z,38nm,1.1s						
BG3	Lake Jocassee	3.90	64	Pn	Pn	14 46 55.0	+1.1
T50A	Nancy	4.12	28	Pn	Pn	14 46 57.1	+0.2
T50A				IAmb_Lg		14 48 09.4	
	comp=Z,35nm,0.7s						
LCAR	Lake Charles	4.21	311	Pn	Pn	14 46 58.2	+0.2
255A	Hazlehurst	4.25	109	Pn	Pn	14 46 59.0	+0.4
PBMO	Poplar Bluff	4.29	323	Pn	Pn	14 46 59.1	-0.1
V53A	Saluda	4.30	57	Pn	Pn	14 46 59.5	+0.2
TZTN	Tazewell	4.37	43	Pn	Pn	14 47 00.8	+0.6
TZTN				IAmb_Lg		14 48 20.8	
	comp=Z,33nm,0.8s						
UALR	University of	4.47	290	IAmb_Lg		14 48 21.2	
	comp=Z,20nm,0.7s						
USIN	University of	4.59	356	IAmb_Lg		14 48 28.1	
	comp=Z,31nm,0.8s						
WHAR	Wooly Hollow	4.61	296	Pn	Pn	14 47 03.9	+0.4
S44A	Carbondale	4.62	340	IAmb_Lg		14 48 17.5	
	comp=Z,20nm,0.8s						
PAULI	Pauline	4.71	71	IAmb_Lg		14 48 19.1	
	comp=Z,16nm,0.9s						
FCAR	Ozark Folk Cen	4.76	303	Pn	Pn	14 47 05.7	+0.1
X40A	Basin Creek Fa	4.80	285	Pn	Pn	14 47 06.3	+0.2
WLAR	White Oak Lake	4.93	275	Pn	Pn	14 47 08.2	+0.2
JSC	Jenkinsville	5.04	78	IAmb_Lg		14 48 33.5	
	comp=Z,19nm,1.2s						
R49A	Shelbyville	5.18	18	IAmb_Lg		14 48 34.2	
	comp=Z,18nm,0.8s						
OLIL	Olney	5.39	353	IAmb_Lg		14 48 58.9	
	comp=Z,15nm,0.8s						
MIAR	Mount Ida	5.41	284	Pn	Pn	14 47 15.2	+0.6
U54A	Nelsons Funny	5.43	53	Pn	Pn	14 47 14.6	-0.3
V55A	Taylorsville	5.53	62	IAmb_Lg		14 48 52.8	
	comp=Z,21nm,0.8s						
Q44A	Meyer Farm, Va	5.70	346	IAmb_Lg		14 49 03.2	
	comp=Z,17nm,0.9s						
Y57A	Sumter	5.73	82	IAmb_Lg		14 48 53.9	
	comp=Z,18nm,0.7s						
W39A	Magazine	5.73	290	Pn	Pn	14 47 19.6	+0.6
BIRD	Birdtown, Kers	5.75	75	IAmb_Lg		14 49 06.5	
	comp=Z,13nm,0.8s						
SLM	Saint Louis	5.79	336	IAmb_Lg		14 48 59.4	
	comp=Z,22nm,0.8s						
BLO	Bloomington	5.81	5	IAmb_Lg		14 49 09.5	
	comp=Z,18nm,0.7s						
P46A	Rosedale	6.23	0	IAmb_Lg		14 49 20.7	
	comp=Z,20nm,1.0s						
W57A	Gilead	6.24	72	Pn	Pn	14 47 25.6	-0.3
P49A	Miami Univ. Ec	6.47	17	IAmb_Lg		14 49 18.3	
	comp=Z,17nm,0.8s						
P43A	Skaggs, Pawnee	6.52	344	IAmb_Lg		14 49 36.2	
	comp=Z,21nm,1.1s						
S54A	Dingess, Beckl	6.53	46	IAmb_Lg		14 49 23.9	
	comp=Z,17nm,0.8s						
SFIN	Lafayette	6.99	1	Pn	Pn	14 47 36.7	+0.4
SFIN				IAmb_Lg		14 49 39.2	
	comp=Z,14nm,0.8s						
O49A	Covington	7.18	18	IAmb_Lg		14 49 50.9	
	comp=Z,18nm,0.7s						
HDIL	Hopedale	7.36	348	IAmb_Lg		14 50 05.8	
	comp=Z,16nm,0.7s						
T57A	Hurt	7.45	59	IAmb_Lg		14 49 44.4	
	comp=Z,13nm,0.8s						
P52A	Corning	7.47	32	IAmb_Lg		14 49 47.2	
	comp=Z,12nm,0.8s						
R55A	Marlinton	7.56	48	IAmb_Lg		14 50 07.6	
	comp=Z,13nm,0.8s						
N47A	Urbana	7.59	9	IAmb_Lg		14 49 57.8	
	comp=Z,15nm,1.0s						
ACSO	Alum Creek Sta	7.64	25	IAmb_Lg		14 50 04.1	
	comp=Z,12nm,0.8s						
N49A	Columbus Grove	7.91	17	IAmb_Lg		14 50 08.3	
	comp=Z,16nm,0.9s						
S57A	Dark Hollow, R	8.03	55	IAmb_Lg		14 50 19.8	
	comp=Z,12nm,1.0s						
P38A	Dawn	8.04	323	IAmb_Lg		14 50 13.3	
	comp=Z,8.5nm,0.7s						
L46A	Eue Claire	8.65	5	IAmb_Lg		14 50 37.1	
	comp=Z,14nm,0.8s						
L48A	N Adams	8.83	14	IAmb_Lg		14 50 45.8	
	comp=Z,12nm,0.7s						
JFWS	Jewell Farm	9.81	347	IAmb_Lg		14 51 10.1	
	comp=Z,8.5nm,0.8s						
TXAR	Lajitas Array	14.62	258	Pn	P	14 49 25.3	-2.2
	comp=Z,0.0nm,0.3s,baz=79,slow=15,SNR=2.4						
PDAR	Pinedale Array	19.88	305	Pn	Pn	14 50 30.0	+2.8
	comp=Z,0.1nm,0.3s,baz=109,slow=18,SNR=2.2						
ILAR	Eielson Array	47.48	330	P	P	14 54 29.6	+0.7
	comp=Z,0.5nm,0.7s,baz=101,slow=6.1,SNR=6.0						

IDC ***27*** *14:50:25.4±1.7, 48°.49N×154°.92E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/31, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=61.7km s-min=33.9km az=112.0*

KRSC ***27*** *14:50:31.5±2.0, 48°.86N×156°.05E, h16km±30km, ML4.0*

ISC 27 14:50:30.4±1.2, 48°.7N±0°.1×155°.2E±0°.2, h43km, n31, σ1§78/26, mb3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.09	16	eP	Pn	14 51 02.4	-0.5
SKR				eS	Sn	14 51 26.7	-1.0
ALID	Alaid	2.21	5	eP	Pn	14 51 05.0	+0.3
PAU	Pauzhetka	2.98	19	eP	Pn	14 51 16.8	+1.7
PAU				eS	Sn	14 51 50.0	+0.5
KDTR	Khodutka, Kamc	3.63	29	eP	Pn	14 51 23.9	-0.1
KDTR				eS	Sn	14 52 02.7	-2.9
ASAK	Asacha	4.09	24	eP	Pn	14 51 32.1	+1.7
MTVR	Mutnovka	4.25	25	eP	Pn	14 51 34.2	+1.5
MTVR				eS	Sn	14 52 20.4	-0.7
GRL	Gorelyy	4.29	24	eP	Pn	14 51 35.0	+1.9
RUS	Russkaya	4.31	28	eS	Sn	14 52 20.7	-1.5
PETK	Petropavlovsk-	4.71	18	Pn	Pn	14 51 40.7	+1.9
	0.5nm,0.3s,baz=181,slow=11,SNR=14						
PET	Petropavlovsk	4.87	25	eS	Sn	14 52 33.8	-2.2
DALK	Dalny	4.90	26	eP	Pn	14 51 42.5	+1.1
DALK				eS	Sn	14 52 36.4	-0.4
UGLR	Uglovaya	5.08	25	eP	Pn	14 51 49.0	+5.0
KOK	Koryaka	5.10	24	eP	Pn	14 51 46.6	+2.3
AVH	Avacha	5.10	24	eP	Pn	14 51 47.6	+3.3
SMAR	Somma	5.12	25	eP	Pn	14 51 46.7	+2.0
KRER	Koryakskii	5.14	24	eP	Pn	14 51 47.9	+2.9
KRX	Arik	5.16	23	eP	Pn	14 51 46.9	+1.7
SPN	Mys Shipunski	5.37	33	eP	Pn	14 51 48.7	+0.8
TUMR	Tumrok	7.28	23	eP	Pn	14 52 16.6	+2.4
H11N2	WAKE ISLAND Hy	30.37	158	T	T	15 28 36.2	
	baz=344						
H11N1	WAKE ISLAND Hy	30.39	158	T	T	15 28 33.3	
	baz=344,slow=74,SNR=17						
H11N3	WAKE ISLAND Hy	30.39	158	T	T	15 28 33.4	
	baz=344,slow=74,SNR=11						
H11S1	WAKE ISLAND Hy	31.50	159	T	T	15 30 02.3	
	baz=348,slow=76,SNR=123						
H11S3	WAKE ISLAND Hy	31.51	159	T	T	15 30 01.7	
	baz=348						
H11S2	WAKE ISLAND Hy	31.52	159	T	T	15 29 55.8	
	baz=348,slow=76,SNR=103						
CMAR	Chiang Mai Arr	54.21	257	P	P	14 59 51.0	-0.8
	0.7nm,0.7s,baz=34,slow=8.0,SNR=8.0						
WRA	Warramunga Arr	70.81	201	P	P	15 01 41.9	-0.5
	0.2nm,0.5s,baz=18,slow=7.3,SNR=4.6						
ASAR	Alice Springs	74.50	200	P	P	15 02 04.6	+0.3
	0.4nm,1.0s,baz=11,slow=5.6,SNR=4.4						
H03N2	Juan Fernandez	137.32	90	T	T	17 43 01.7	
	baz=310,slow=77,SNR=5.1						
H03N1	Juan Fernandez	137.34	90	T	T	17 43 03.9	
	baz=310,slow=77,SNR=6.2						
H03N3	Juan Fernandez	137.34	90	T	T	17 42 55.8	
	baz=310,slow=77,SNR=5.9						

IDC 27 15:00:01.3±1.6, 10°.86S×161°.83E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.4/4, Error ellipse: s-maj=53.7km s-min=33.1km az=136.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.96	248	P	P	15 05 54.1	+0.2
	0.2nm,0.5s,baz=77,slow=9.2,SNR=3.2

LHMI	Lhok Sumawe	2.84	88	P	Pn	15 16 25.5	+0.3
LHMI	Lhok Sumawe	2.84	88	Pn	Pn	15 16 25.3	+0.1
TPTI		3.58	121	P	Pn	15 16 34.6	-0.8
PKDT	Phuket	5.03	57	P	Pn	15 16 55.6	+0.2
GSI	Gunungsitoli	5.13	137	Pn	Pn	15 16 55.4	-1.4
PSI	Prapat	5.33	115	Pn	Pn	15 17 00.1	+0.5
	14nm,0.3s,baz=353,slow=8.0,SNR=31						
PSI				LR	LR	15 19 26.9	
	comp=Z,759nm,18.5s,baz=270,slow=43						
RPSI	Rantau Prapat	5.38	116	Pn	Pn	15 17 00.2	+0.1
RPSI	Rantau Prapat	5.38	116		Pn	15 17 00.1	0.0
KRAB	Krabi	5.93	58	P	Pn	15 17 09.2	+1.5
SURT	Suratani	6.03	50	P	Pn	15 17 09.7	+0.7
TRTT	Trang	6.18	64	P	Pn	15 17 10.9	-0.3
SRIT	Nakonsritamara	6.47	57	P	Pn	15 17 15.5	+0.5
KULM	Kulim	6.53	88	Pn	Pn	15 17 15.6	-0.3
PBSI	Pulau Batu	6.62	141	P	Pn	15 17 17.2	+0.1
	0.6nm160nm,1.1s						
IPM	Ipoh	6.93	95	Pn	Pn	15 17 20.6	-0.8
MNSI	Mandailing Nat	6.95	128	P	Pn	15 17 21.4	-0.3
SDSI	Sungai Dareh	9.47	129	P	Pn	15 17 55.8	-0.5
	12nm,0.6s						
PATY	Pattaya	10.24	40	P	Pn	15 18 07.7	+0.9
MYKOM	Kota Tinggi	10.28	108	P	Pn	15 18 07.0	-0.3
CHAI	Chaiyaphum	13.22	35	P	Pn	15 18 49.9	+2.2
SUKH	Sukhothai	13.43	23	P	P	15 18 59.1	+0.1
PHIT	Phitsanulok	13.50	27	P	Pn	15 18 53.1	+1.6
MHMT	Maesarieng	13.51	16	P	Pn	15 18 50.5	-1.1
MDSI	Maura Dua	13.87	133	P	Pn	15 18 55.8	-0.6
	14nm,0.7s						
CM05	Chiang Mai Arr	14.03	19	P	Pn	15 19 00.0	+1.3
UTTA	Uttaradit	14.05	26	P	P	15 19 02.4	-3.5
KHON	Khomkaen	14.06	37	P	P	15 19 05.9	0.0
CM31	Chiang Mai Arr	14.08	19		P	15 19 03.0	-3.2
CMAR	Chiang Mai Arr	14.08	19	Pn	Pn	15 19 00.2	+0.8
	1.0nm,0.3s,baz=210,slow=14,SNR=25						
CMAR				LR	LR	15 23 30.7	
	comp=Z,157nm,21.7s,baz=246,slow=34						
CMAR				ScP	ScP	15 27 49.5	+1.4
	baz=197,slow=1.9,SNR=4.2						
CMAR	Chiang Mai Arr	14.08	19		P	15 19 03.4	-2.8
KLSI		14.41	132	P	Pn	15 19 01.0	-2.8
	8.5nm,1.0s						
CHTO	Chiang Mai	14.41	19	Pn	P	15 19 07.6	-2.3
CMMT	Chiang Mai	14.41	19	P	Pn	15 19 06.8	+3.0
PHRA	Phrae	14.59	24	P	P	15 19 10.5	-1.4
UBPT	Khong Chiam	15.07	47	P	Pn	15 19 12.9	+0.4
UBPT	Khong Chiam	15.07	47		P	15 19 16.4	-0.7
UBPT				IAmb	IAmb	15 19 18.2	
	comp=Z,26nm,0.7s						
PAYA	Payao	15.24	21	P	P	15 19 18.8	-0.3
NONG	Nongkai	15.62	34	P	Pn	15 19 19.1	-0.6
KSM	Kuching	16.58	102	P	Pn	15 19 31.9	0.0
SBUM	Sibu	18.27	98	P	Pn	15 19 54.0	+1.1
SLVN	Son La	18.72	30	P	Pn	15 19 58.3	0.0
HYB	Hyderabad	19.52	310	*i* P	Pn	15 20 09.5	+1.5
SHL	Shillong	20.45	354	P	P	15 20 14.1	-2.5
QIZ	Qiongzhong	20.67	47	P	P	15 20 18.8	0.0
QIZ				S	S	15 24 09.3	+1.7
QIZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
QIZ				LR	LR		
	comp=Z,220nm,14.1s						
QIZ				LR	LR		
	comp=Z,220nm,13.5s						
QIZ				LR	LR		
	comp=Z,250nm,18.1s						
QIZ	Qiongzhong	20.67	47	P	P	15 20 17.5	-1.3
KMI	Kunming	21.55	22⇓	*i* P	P	15 20 24.5	-4.1
KMI				S	S	15 24 15.5	-10
KMI				sS	sS	15 24 39.0	-2.3
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,150nm,5.5s						
KMI				LR	LR		
	comp=Z,160nm,10.5s						
KMI				LR	LR		
	comp=Z,220nm,15.0s						
KMI				LR	LR		
	comp=Z,180nm,12.9s						
MTKI	Muara Teweh, K	21.63	106	P	P	15 20 31.2	+2.0
	comp=Z,3μmcomp=Z,17nm,0.5s						
SPMM	Sapulut	22.29	90	P	P	15 20 42.0	+5.6
BBKI	Banjar Baru	22.40	112	P	P	15 20 37.7	+0.1
	comp=Z,55nm,0.7s						
ODAN	Odare	22.55	344	*e*P	P	15 20 40.3	+1.0
	comp=Z,29nm,0.6s						
RAMN	Ramite	22.86	343	*e*P	P	15 20 42.1	-0.5
	comp=Z,27nm,0.5s						
TAPN	Taplejung	22.94	345	*e*P	P	15 20 44.2	+0.8
	comp=Z,65nm,0.7s						
JIRN	Jiri	23.65	342	*e*P	P	15 20 51.1	+0.6
	comp=Z,76nm,0.9s						
PKI	Pulchoki	23.82	341	*e*P	P	15 20 51.6	-0.4
	comp=Z,20nm,0.5s						
PKIN	Phulchoki	23.83	341	*e*P	P	15 20 51.7	-0.3
	comp=Z,26nm,0.6s						
DMN	Daman	23.95	340	*e*P	P	15 20 53.4	+0.2
	comp=Z,33nm,0.6s						
MYLDM	Lahad Datu	24.30	89	P	P	15 20 56.0	-0.2
MYLDM				IAmb	IAmb	15 21 12.3	
	comp=Z,19nm,0.8s						
GYA	Guiyang	24.39	28	⇑P	P	15 20 56.8	-0.2
GYA				pP	pwP	15 21 10.5	+0.7
GYA				PP	PnPn	15 21 33.0	+4.2
GYA				S	S	15 25 11.0	-3.1
GYA				pmax	pmax		
	comp=Z,78nm,0.8s						
GYA				LR	LR		
	comp=Z,240nm,20.1s						
GKN	Gorkha	24.48	339	*e*P	P	15 20 58.4	+0.5
	comp=Z,55nm,0.5s						
LSA	Lhasa	24.61	354	P	P	15 20 59.2	-0.2
LSA				IAmb	IAmb	15 21 02.6	
	comp=Z,18nm,0.6s						
KOLN	Koldanda	24.65	337	*e*P	P	15 21 00.3	+0.8
	comp=Z,92nm,0.7s						
H08S2	Diego Garcia H	25.01	240	T	T	15 47 00.1	
	baz=60,slow=75,SNR=1347						
H08S3	Diego Garcia H	25.01	240	T	T	15 46 58.2	
	baz=60,slow=75,SNR=1349						
H08S1	Diego Carcia H	25.02	240	T	T	15 47 00.7	
	baz=60,slow=75,SNR=1457						
DANN	Dangsing	25.11	338	*e*P	P	15 21 04.3	+0.6
	comp=Z,167nm,0.6s						
PYUN	Piuthan	25.18	336	*e*P	P	15 21 05.1	+0.8
	comp=Z,62nm,0.5s						
MPSI	Mapaga	26.20	100	P	P	15 21 12.6	-0.8
	comp=Z,21nm,0.9s						
CD2	Chengdu	27.22	18	P	P	15 21 23.5	+1.0
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				LR	LR		
	comp=Z,220nm,16.7s						
CD2				LR	LR		
	comp=Z,340nm,15.7s						
KAPI	Kappang	27.52	111	P	P	15 21 25.3	-0.1
	comp=Z,10nm,0.4s,baz=292,slow=10,SNR=4.1						
KAPI	Kappang	27.52	111	P	P	15 21 25.6	+0.2
KAPI				IAmb	IAmb	15 21 25.8	
	comp=Z,13nm,0.8s						
BKSI	Bulukumba	27.98	111	P	P	15 21 31.3	+1.9
	comp=Z,479nmcomp=Z,46nm,0.6s						
ENH	Enshi	28.93	28	P	P	15 21 36.1	-1.6
ENH				IAmb	IAmb	15 21 36.9	
	comp=Z,20nm,0.6s						
LUWI	Luwuk	29.29	101	P	P	15 21 41.7	+0.6
WHN	Wuhan	31.68	35	⇓P	P	15 22 02.0	0.0
WHN				S	S	15 27 12.0	+3.2
WHN				pmax	pmax		
	comp=Z,30nm,0.8s						
WHN				LR	LR		
	comp=Z,570nm,10.1s						
XAN	Xi'an	31.90	24	P	P	15 22 02.3	-1.7
XAN				pmax	pmax		
	comp=Z,58nm,0.7s						
XAN	Xi'an	31.90	24	P	P	15 22 02.5	-1.5
YULB	Yu-li	31.90	53	P	P	15 22 04.9	+0.8
YULB				IAmb	IAmb	15 22 12.4	
	comp=Z,17nm,1.5s						
LZH	Lanzhou	32.10	15	*e*P	P	15 22 05.0	-0.9
LZH				pP	pwP	15 22 18.5	+1.6
LZH				sP	sP	15 22 25.0	+3.3
LZH				*e*PP	PnPn	15 23 08.5	-4.0
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,5.2s						
LZH				LR	LR		
	comp=Z,380nm,13.0s						
LZH				LR	LR		
	comp=Z,390nm,13.2s						
LZH				LR	LR		
	comp=Z,540nm,16.5s						
NIL	Nilore	34.38	328	P	P	15 22 25.4	-0.2
GTA	Gaotai	34.53	8	⇑P	P	15 22 26.3	-0.7
GTA				pP	sP	15 22 39.5	-3.4
GTA				sP	pP	15 22 47.8	+10
GTA				PcP	PcP	15 25 02.8	+1.5
GTA				sS	sS	15 28 16.3	+4.9
GTA				pmax	pmax		
	comp=Z,17nm,0.7s						
GTA				pmax	pmax		
	comp=Z,100nm,7.6s						
GTA				LR	LR		
	comp=Z,140nm,17.1s						
GTA				LR	LR		
	comp=Z,140nm,16.4s						
GTA				LR	LR		
	comp=Z,160nm,18.2s						
NJ2	Nanjing	35.43	38	⇑P	P	15 22 34.3	-0.3
NJ2				pP	sP	15 22 49.3	-1.2
NJ2				sP	pwP	15 22 55.3	+10
NJ2				pmax	pmax		
	comp=Z,24nm,0.8s						
FITZ	Fitzroy Crossi	38.73	127	P	P	15 23 01.9	-0.9
	comp=Z,6.5nm,0.6s,baz=359,slow=4.0,SNR=28						
FITZ				PcP	PcP	15 25 15.1	+1.0
	comp=Z,3.7nm,0.8s,baz=5.4,slow=11,SNR=3.3						
HHC	Hu-ho-hao-te	38.88	21	*e*P	P	15 23 04.8	+0.9
HHC				S	S	15 29 03.5	+4.2
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,5.0s						
HHC				LR	LR		
	comp=Z,180nm,12.8s						
HHC				LR	LR		
	comp=Z,240nm,12.8s						
HHC				LR	LR		
	comp=Z,220nm,13.2s						
FAKI	Fak Fak	38.94	101	P	P	15 23 03.7	-1.0
FAKI				IAmb	IAmb	15 23 17.7	
	comp=Z,14nm,0.7s						
WMQ	Urumqi	38.96	353	*e*P	P	15 23 06.8	+2.3
TARG	Taragay, Kyrgy	39.26	341	P	P	15 23 07.0	-0.4
TARG				IAmb	IAmb	15 23 10.3	
	comp=Z,7.4nm,0.8s						
TARG					PcP	15 25 17.4	+1.5
KDJ	Kajisay	39.82	340	P	P	15 23 13.1	+1.2
KDJ				IAmb	IAmb	15 23 15.8	
	comp=Z,9.3nm,0.7s						
SHLS	Shalkode	40.04	343	*e*P	P	15 23 13.6	0.0
	comp=Z,3.9nm,0.6s,baz=344						
KNRA	Kununurra	40.06	122	P	P	15 23 12.4	-1.5
KNRA				IAmb	IAmb	15 23 19.2	
	comp=Z,26nm,1.4s						
BJI	Beijing	40.06	27	P	P	15 23 14.5	+0.9
BJI				pmax	pmax		
	comp=Z,15nm,0.7s						
UZB	Uzynbulak	40.16	343	*e*P	P	15 23 15.5	+0.9
	comp=Z,2.6nm,0.5s,baz=343						
SATY	Saty	40.26	342	*e*P	P	15 23 16.3	+0.8
	comp=Z,0.9nm,0.1s,baz=342						
CHGR	Chuyangaron	40.34	329	P	P	15 23 15.3	-0.8
CHGR				IAmb	IAmb	15 23 16.6	
	comp=Z,12nm,0.7s						
BOOM	Boomskoye usch	40.57	339	P	P	15 23 16.9	-1.2
TNSS	Tian-Shan	40.71	341	*e*P	P	15 23 19.8	+0.4
	baz=341						
MDOK	Medeo	40.79	341	*e*P	P	15 23 20.5	+0.7
	baz=341						
MTN	Manton Dam	40.89	116	P	P	15 23 19.3	-1.5
MTN				IAmb	IAmb	15 23 24.3	
	comp=Z,14nm,1.1s						
KUU	Kurty	41.67	341	*e*P	P	15 23 26.8	-0.1
	baz=341						
TDK	Taldyqorghan	42.04	343	*e*P	P	15 23 30.9	+1.0
	baz=343						
IUG	Iuzhnay	42.65	333	*e*P	P	15 23 35.9	+0.8
	comp=Z,4.1nm,0.7s,baz=333						
MK31	Makanchi Array	42.76	348	P	P	15 23 36.3	+0.6
MK31				IAmb	IAmb	15 23 37.2	
	comp=Z,9.3nm,0.7s						
MKAR	Makanchi Array	42.76	348	P	P	15 23 36.2	+0.5
	comp=Z,11nm,0.6s,baz=167,slow=8.2,SNR=130						
MKAR				PcP	PcP	15 25 27.8	+1.1
	comp=Z,1.7nm,0.6s,baz=154,slow=2.9,SNR=4.3						
MKAR	Makanchi Array	42.76	348	P	P	15 23 35.5	-0.2
MAKZ	Makanchi	42.84	348	P	P	15 23 36.9	+0.6
MAKZ				IAmb	IAmb	15 23 37.7	
	comp=Z,11nm,0.8s						
ZSN	Zaisan	42.92	351	*e*P	P	15 23 38.0	+1.0
	comp=Z,4.9nm,0.8s,baz=351						
KKAR	Karatay Array	43.21	335	P	P	15 23 40.6	+1.2
KKAR					PcP	15 25 29.8	+1.5
BTLS	Baital	43.46	339	*e*P	P	15 23 41.6	+0.2
	baz=339						
SONM	Songino Array	43.85	12	P	P	15 23 43.9	-0.8
	comp=Z,9.7nm,0.7s,baz=191,slow=8.7,SNR=26						
SONM				PcP	PcP	15 25 31.2	+0.7
	comp=Z,3.0nm,0.7s,baz=195,slow=4.0,SNR=4.5						
SONM	Songino Array	43.85	12	P	P	15 23 44.3	-0.4
SONM					PcP	15 25 31.5	+1.1
ULN	Ulaanbaatar	44.02	13	P	P	15 23 45.1	-1.0
ULN				IAmb	IAmb	15 23 45.9	
	comp=Z,8.2nm,0.7s						
H01W3	Cape Leeuwin H	44.03	156	T	T	16 11 23.7	
	baz=331,slow=76,SNR=8.8						
H01W2	Cape Leeuwin H	44.05	156	T	T	16 11 17.2	
	baz=331,slow=76,SNR=6.7						
H01W1	Cape Leeuwin H	44.05	156	T	T	16 11 30.2	
	baz=331,slow=76,SNR=5.1						
KSRS	Korea Array	44.59	39	P	P	15 23 49.5	-1.0
	comp=Z,1.3nm,0.7s,baz=234,slow=8.1,SNR=7.1						
KSRS				LR	LR	15 43 50.6	
	comp=Z,97nm,19.0s,baz=230,slow=38						
GEYT	Alibeck	46.25	320	P	P	15 24 05.7	+1.9
	comp=Z,7.4nm,0.6s,baz=159,slow=9.2,SNR=16						
GEYT	Alibeck	46.25	320	P	P	15 24 05.4	+1.7
WRA	Warramunga Arr	46.74	123	P	P	15 24 07.6	-0.2
	comp=Z,8.7nm,0.6s,baz=302,slow=9.2,SNR=178						
WRAB	Tennant Creek	46.75	123	P	P	15 24 08.0	+0.1
KURK	Kurchatov	47.27	347	P	P	15 24 12.5	+1.1
KURK				IAmb	IAmb	15 24 25.8	
	comp=Z,11nm,0.8s						
CN2	Changchun	47.39	31	*e*P	P	15 24 19.5	+7.0
AS31	Alice Springs	48.22	128	P	P	15 24 19.2	-0.1
ASAR	Alice Springs	48.22	128	P	P	15 24 19.2	-0.1
	comp=Z,4.1nm,0.6s,baz=302,slow=8.0,SNR=103						
ZAA0	Zalesovo Array	49.27	353	P	P	15 24 27.5	+0.7
ZALV	Zalesovo Beam	49.27	353	P	P	15 24 27.4	+0.5
	comp=Z,10nm,0.5s,baz=188,slow=6.9,SNR=50						
ZALV				LR	LR	15 46 19.6	
	comp=Z,41nm,21.3s,baz=194,slow=37						
ZALV	Zalesovo Beam	49.27	353	P	P	15 24 27.5	+0.7
MDJ	Mudanjiang	50.12	33	P	P	15 24 32.8	-0.7
MDJ				pmax	pmax		
	comp=Z,13nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.9s						
MJB9	Matsu-Tunnel	51.06	46	P	P	15 24 38.4	-2.4
MAT	Matsushiro	51.06	46	P	P	15 24 40.8	0.0
MJAR	Matsushiro Arr	51.06	46	P	P	15 24 40.5	-0.3
	comp=Z,1.8nm,0.6s,baz=228,slow=4.4,SNR=12						
MJAR				PcP	PcP	15 25 56.2	-0.1
	comp=Z,1.7nm,0.6s,baz=220,slow=2.2,SNR=5.0						
MJAR	Matsushiro Arr	51.06	46	IAmb	IAmb	15 24 41.3	
	comp=Z,1.7nm,0.9s						
USRK	Usuriysk Ar.	51.18	35	P	P	15 24 41.4	-0.1
	comp=Z,1.9nm,0.5s,baz=246,slow=10,SNR=4.8						
USRK				LR	LR	15 48 39.0	
	comp=Z,110nm,18.5s,baz=219,slow=39						
BRVK	Borovoye	51.64	342	P	P	15 24 43.9	-0.9
BRVK				IAmb	IAmb	15 24 45.9	
	comp=Z,7.1nm,0.6s						
OPO	Ambohidratompo	51.87	242	LR	LR	15 45 07.4	
	comp=Z,63nm,18.2s,baz=130,slow=34						
ABKAR	Akbulak array	52.63	332	P	P	15 24 52.8	+0.6
ABKAR				IAmb	IAmb	15 25 10.8	
	comp=Z,6.7nm,0.8s						
STKA	Stephens Creek	58.26	132	P	P	15 25 33.4	+0.4
	comp=Z,2.7nm,0.7s,baz=329,slow=11,SNR=6.8						
STKA				LR	LR	15 53 58.7	
	comp=Z,55nm,18.1s,baz=23,slow=40						
STKA	Stephens Creek	58.26	132	P	P	15 25 32.2	-0.8
RABL	Rabaul	58.73	98	P	P	15 25 33.5	-3.1
KBZ	Khabaz	59.11	319	P	P	15 25 39.5	+0.8
	comp=Z,3.1nm,0.8s,baz=171,slow=6.0,SNR=8.0						
EIL	Elat	60.78	301	LR	LR	15 52 35.4	
	comp=Z,105nm,18.2s,baz=104,slow=36						
YAK	Yakutsk	62.61	18	P	P	15 26 01.2	-0.9
BR131	Keskin Array S	64.21	312	P	P	15 26 12.6	-0.7
BR131				IAmb	IAmb	15 26 14.7	
	comp=Z,4.5nm,0.7s						
BRTR	Keskin Array B	64.21	312	P	P	15 26 13.9	+0.5
	comp=Z,5.1nm,0.6s,baz=130,slow=6.9,SNR=13						
BRTR	Keskin Array B	64.21	312	P	P	15 26 14.1	+0.7
NRIK	Noril'sk	64.28	357	P	P	15 26 12.9	-0.2
	comp=Z,5.3nm,0.6s,baz=154,slow=6.7,SNR=6.8						
KLMR	Klimovskoe	68.91	335	*e*P	P	15 26 39.3	-3.5
KLMR				AMP		15 26 43.2	
	comp=Z,11nm,0.8s						
MA2	Magadan	69.22	27	P	P	15 26 42.4	-2.3
MA2				IAmb	IAmb	15 26 44.9	
	comp=Z,14nm,0.7s						
TIXI	Tiksi	69.93	11	P	P	15 26 47.7	-1.1
SORM	Soroca	70.14	320	⇑P	P	15 26 50.8	+0.3
PETK	Petropavlovsk-	70.27	35	P	P	15 26 49.9	-1.5
	comp=Z,1.9nm,1.0s,baz=289,slow=4.5,SNR=4.8						
AKASG	Malin Array Be	70.29	322	P	P	15 26 51.1	-0.4
	comp=Z,3.1nm,0.5s,baz=90,slow=4.9,SNR=10						
VRI	Vrincioaia	70.66	317	⇑P	P	15 26 55.5	+1.6
PLOR	Plostina	70.71	317	⇑P	P	15 26 55.9	+1.6
SECR		70.94	316	⇑P	P	15 26 57.9	+2.4
MLR	Muntele Rosu	71.12	316	⇑P	P	15 26 58.9	+2.1
DOPR	Dopca	71.60	317	⇑P	P	15 27 05.2	+5.6
VOIR		71.72	316	⇑P	P	15 27 01.3	+0.9
ARR	Arges	72.00	316	⇑P	P	15 27 02.4	+0.3
BURAR	Bucovina Array	72.06	318	⇑P	P	15 27 03.9	+1.5
BURAR	Bucovina Array	72.06	318	P	P	15 27 03.6	+1.1
BOSA	Boshof	74.10	238	P	P	15 27 17.8	+3.0
	comp=Z,5.3nm,0.9s,baz=315,slow=2.7,SNR=3.6						
BOSA				LR	LR	15 55 59.4	
	comp=Z,44nm,19.5s,baz=56,slow=32						
KOLS	Kolonicke sedl	74.25	319	*e*P	P	15 27 16.2	+1.0
FIA1	FINESS Array S	75.12	333	P	P	15 27 20.3	+0.4
FINES	FINESS Array B	75.12	333	P	P	15 27 20.3	+0.4
	comp=Z,7.6nm,0.6s,baz=97,slow=5.6,SNR=54						
VYHS	Vyhne	76.43	319	*e*P	P	15 27 28.9	+1.2
MODS	Modra-Piesok	77.44	318	*e*P	P	15 27 34.2	+0.7
ARCES	ARCESS Array B	77.83	340	LR	LR	16 03 22.1	
	comp=Z,56nm,19.1s,baz=260,slow=37						
KRLC	Kraliky	77.96	320	*e*P	P	15 27 37.8	+1.5
DPC	Dobruska-Polom	78.28	320	*e*P	P	15 27 40.2	+2.1
SOKA	Soboth	78.80	316	*e*P	P	15 27 42.7	+1.6
	comp=Z,5.3nm,0.7s,SNR=4.5						
GOPC	GO Pecny, Ondr	79.22	320	*e*P	P	15 27 44.4	+1.1
PBCC	Pribram	79.72	319	*e*P	P	15 27 47.5	+1.6
PRED	Cave del Predi	79.79	316	P	P	15 27 47.2	+0.7
BRG	Berggiesshubel	79.84	321	*e*P	P	15 27 47.7	+1.2
	comp=Z,5.5nm,0.9s						
GEC2	GERESS Array S	79.85	319	P	P	15 27 46.7	-0.1
GEC2				IAmb	IAmb	15 27 49.2	
	comp=Z,5.9nm,0.8s						
GERES	GERESS Array B	79.85	319	P	P	15 27 48.2	+1.4
	comp=Z,3.1nm,0.7s,baz=102,slow=5.0,SNR=33						
GERES	GERESS Array B	79.85	319	P	P	15 27 47.8	+1.0
KHC	Kasperske Hory	79.95	319	*e*P	P	15 27 48.1	+0.8
CLL	Collm	80.46	321	*e*P	P	15 27 51.0	+1.1
CIMO	Cimolais	80.56	316	P	P	15 27 50.9	+0.3
WATA	Walderalm	81.20	317	*e*P	P	15 27 55.1	+1.0
	comp=Z,3.0nm,0.7s						
SQTA	Sankt Quirin	81.44	317	*e*P	P	15 27 55.7	+0.3
	comp=Z,5.5nm,0.6s,SNR=4.5						
MOTA	Moosalm	81.52	317	*e*P	P	15 27 56.1	+0.3
	comp=Z,2.9nm,0.6s						
RETA	Reutte	81.75	317	*e*P	P	15 27 57.8	+0.8
	comp=Z,4.4nm,0.5s						
FETA	Feichten	81.76	317	*e*P	P	15 27 57.9	+0.7
	comp=Z,3.3nm,0.8s,SNR=4.6						
NB2	NORSAR Subarra	82.10	331	P	P	15 27 58.7	+0.2
	comp=Z,1.2nm,0.6s,baz=98,slow=4.8						
NOA	NORSAR Array B	82.10	331	P	P	15 27 58.6	+0.2
	comp=Z,1.3nm,0.7s,baz=99,slow=5.4,SNR=4.9						
NOA				LR	LR	16 09 08.5	
	comp=Z,22nm,18.2s,baz=5.0,slow=39						
DAVA	Damuels	82.35	317	*e*P	P	15 28 00.8	+0.6
	comp=Z,7.3nm,1.2s						
SYO	Syowa Base	82.77	197⇑	*e*P	P	15 28 03.4	+1.8
SENIN	Lac Senin/Sane	84.12	316	P	P	15 28 10.8	+1.3
SENIN				IAmb	IAmb	15 28 13.1	
	comp=Z,4.8nm,0.8s						
NVAR	Mina Array Bea	127.28	32	PKP	PKiKP	15 34 44.0	+0.2
	comp=Z,0.6nm,0.7s,baz=271,slow=1.8,SNR=5.3						
PDAR	Pinedale Array	127.73	22	PKP	PKPdf	15 34 44.3	+0.3
	comp=Z,0.6nm,0.7s,baz=0,slow=1.5,SNR=5.7						
TXAR	Lajitas Array	141.73	25	PKhKP	PKPpre	15 35 04.5	
	comp=Z,0.3nm,0.5s,baz=337,slow=0.2,SNR=6.6						
TXAR	Lajitas Array	141.73	25		PKPdf	15 35 04.9	-5.4

VIE ***27*** *15:31:46.5±0.8, 51°.49N×16°.16E, h0km, mb2.2/3, ml2.6/4,*
Error ellipse: s-maj=9.6km s-min=5.0km az=54.0° 74 km
NW of Wroclaw Suspected Mining induced.
PRU ***27*** *15:31:46.8±0.0, 51°.52N×16°.09E, h0km*
ISC 27 15:31:45.9±1.3, 51°.51N±0°.06×16°.11E±0°.03, h0km, n21,
σ0s 64/45, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	170	*i* Pg	Pb	15 31 59.7	-0.8
KSP				*e*Sg	Sb	15 32 09.3	-1.1
CHVC	Chvalec	0.92	182	*e*PG	Pb	15 32 04.5	-0.3
CHVC				*e*SG	Sb	15 32 17.1	-0.5
	comp=Z

	comp=Z,0.9nm,0.2s							
MOA				Sg		Sg	15 33 50.2	+0.6
	comp=Z,6.7nm,0.6s							
ARSA	**Arzberg**	**4.28**	**185**	Sg		**Sg**	**15 34 03.3**	**+0.1**
	comp=Z,2.6nm,0.4s							

IDC 27 15:49:38.0±1.9, 2.75N×127.44E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, Error ellipse: s-maj=130.6km s-min=24.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.54**	**164**	P	P	15 54 49.9	-0.3
	0.7nm,0.4s,baz=344,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.00**	**167**	P	P	15 55 21.6	-0.2
	0.2nm,0.5s,baz=346,slow=7.5,SNR=9.4						
STKA	**Stephens Creek**	**36.97**	**160**	P	P	15 56 49.6	+0.4
	3.8nm,1.2s,baz=333,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**58.76**	**325**	P	P	15 59 38.0	0.0
	0.3nm,0.5s,baz=126,slow=7.0,SNR=4.7						

*JMA **27** 16:22:11.3±0.1, 23.31N×121.34E, h43km±2km, M2.6*
*TAP **27** 16:22:12.7, 23.31N×121.39E, h39km, ML3.0, C*
ISC 27 16:22:12.8±0.9, 23.29N±0.02×121.45E±0.02, h34km±4km, n118, σ0.95/208, 10C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYUL	**Yuli**	**0.13**	**298**	P	**Pb**	**16 22 19.1**	**+0.2**
	baz=300						
EYUL				S	**Sb**	**16 22 23.1**	**+0.1**
	baz=300						
TWF1	**Yuli**	**0.15**	**296**	P	**Pb**	**16 22 19.1**	**0.0**
	baz=298						
TWF1				S	**Sb**	**16 22 22.8**	**-0.5**
	baz=298						
FULB	**Fuli**	**0.16**	**238**	⇑*i*P	**Pb**	**16 22 19.9**	**+0.7**
	baz=229						
FULB				*i* S	**Sb**	**16 22 25.3**	**+1.8**
	baz=229						
YULB	**Yu-li**	**0.17**	**308**	⇓*i*P	**Pn**	**16 22 19.1**	**+1.3**
	baz=315						
YULB				S	**Sb**	**16 22 23.3**	**-0.4**
	baz=315						
CHKT	**Chengkung**	**0.20**	**202**	P	**Pb**	**16 22 20.1**	**+0.6**
	baz=174						
CHKT				*e*S	**Sb**	**16 22 25.8**	**+1.9**
	baz=174						
HGSD	**Ruisui**	**0.21**	**355**	*i* P	**Pb**	**16 22 20.2**	**+0.6**
	baz=17						
HGSD				S	**Sb**	**16 22 25.6**	**+1.5**
	baz=17						
EHY	**Hungye**	**0.25**	**333**	⇑*i*P	**Pn**	**16 22 19.7**	**0.0**
	baz=337						
EHY				S	**Sn**	**16 22 24.3**	**+1.3**
	baz=337						
EDH	**Donghe**	**0.34**	**203**	⇑P	**Pb**	**16 22 21.2**	**+0.2**
	baz=192						
EDH				S	**Sb**	**16 22 27.4**	**+0.7**
	baz=192						
EGFH	**Guangfu**	**0.38**	**358**	P	**Pb**	**16 22 21.3**	**-0.5**
	baz=360						
EGFH				*e*S	**Sn**	**16 22 26.9**	**-1.2**
	baz=360						
ELDTW	**Lidau**	**0.41**	**256**	*i* P	**Pb**	**16 22 21.6**	**-0.6**
	baz=248						
ELDTW				*e*S	**Sb**	**16 22 27.3**	**-1.2**
	baz=248						
LONT	**Longtian**	**0.48**	**218**	⇑*i*P	**Pb**	**16 22 22.3**	**-0.7**
	baz=204						
LONT				S	**Sb**	**16 22 29.4**	**-0.7**
	baz=204						
YUS	**Yu-Shan**	**0.50**	**294**	P	**Pb**	**16 22 23.4**	**-0.4**
	baz=294						
YUS				*e*S	**Sb**	**16 22 32.0**	**+0.7**
	baz=294						
ESL	**Shilin**	**0.53**	**359**	⇑*i*P	**Pn**	**16 22 22.7**	**-1.3**
	baz=11						
ESL				*e*S	**Sn**	**16 22 29.4**	**-2.3**
	baz=11						
VWDT	**VWDT**	**0.54**	**329**	⇑*i*P	**Pn**	**16 22 24.0**	**-0.2**
	baz=336						
VWDT				S	**Sn**	**16 22 31.1**	**-1.0**
	baz=336						
TWGBT	**Beinan**	**0.57**	**216**	⇑*i*P	**Pn**	**16 22 23.3**	**-1.3**
	baz=202						
TWGBT				*i* S	**Sn**	**16 22 31.0**	**-1.9**
	baz=202						
TWG	**Pinlang**	**0.58**	**217**	⇑*i*P	**Pn**	**16 22 23.3**	**-1.3**
	baz=202						
TWG				*i* S	**Sn**	**16 22 31.1**	**-1.8**
	baz=202						
TTN	**Taitung**	**0.60**	**208**	P	**Pn**	**16 22 24.6**	**-0.2**
	baz=200						
TTN				S	**Sb**	**16 22 34.3**	**+1.0**
	baz=200						
LDUT	**Ludao**	**0.61**	**178**	*i* P	**Pn**	**16 22 24.6**	**-0.4**
	baz=172						
LDUT				*e*S	**Sn**	**16 22 33.7**	**0.0**
	baz=172						
ALS	**Alishan**	**0.63**	**291**	⇓*i*P	**Pn**	**16 22 25.5**	**-0.1**
	baz=291						
ALS				*i* S	**Sn**	**16 22 34.6**	**-0.1**
	baz=291						
STYT	**Tauyuan**	**0.64**	**259**	*i* P	**Pn**	**16 22 25.3**	**-0.3**
	baz=252						
STYT				S	**Sn**	**16 22 34.3**	**-0.4**
	baz=252						
SSLB	**Suanglung**	**0.67**	**318**	*i* P	**Pn**	**16 22 25.7**	**-0.3**
	baz=325						
SSLB				S	**Sn**	**16 22 34.2**	**-1.2**
	baz=325						
WHYT	**Xinyi Township**	**0.68**	**307**	P	**Pn**	**16 22 26.3**	**+0.2**
	baz=313						
WHYT				S	**Sn**	**16 22 35.7**	**+0.1**
	baz=313						
HWA	**Hwalien**	**0.70**	**12**	*e*P	**Pn**	**16 22 25.9**	**-0.5**
	baz=10.0						
OWD	**Renai**	**0.71**	**340**	*e*P	**Pn**	**16 22 26.1**	**-0.5**
	baz=344						
TPUB	**Ta-pu**	**0.75**	**271**	⇓*i*P	**Pn**	**16 22 27.2**	**+0.1**
	baz=269						
TPUB				S	**Sn**	**16 22 37.7**	**+0.4**
	baz=269						
WTP	**Ta-pu**	**0.77**	**267**	⇓*i*P	**Pn**	**16 22 27.3**	**0.0**
	baz=264						
WTP				S	**Sb**	**16 22 38.4**	**+0.4**
	baz=264						
CHN5	**Tsauling**	**0.77**	**294**	*i* P	**Pn**	**16 22 27.7**	**+0.3**
	baz=294						
CHN5				S	**Sn**	**16 22 37.8**	**-0.1**
	baz=294						
SMLT	**Sun Moon Lake**	**0.78**	**320**	*i* P	**Pn**	**16 22 27.6**	**0.0**
	baz=325						
SMLT				S	**Sn**	**16 22 37.8**	**-0.3**
	baz=325						
CHN4	**Tsaushan**	**0.79**	**275**	⇓*i*P	**Pn**	**16 22 27.9**	**+0.4**
	baz=273						
CHN4				*e*S	**Sb**	**16 22 39.6**	**+1.1**
	baz=273						
SLGT	**Liugui**	**0.79**	**249**	P	**Pn**	**16 22 28.0**	**+0.4**
	baz=245						
SLGT				S	**Sn**	**16 22 38.7**	**+0.5**
	baz=245						
TWD	**Chiawan**	**0.80**	**10**	*e*P	**Pn**	**16 22 26.8**	**-1.0**
	baz=5.0						
TWD				*e*S	**Sn**	**16 22 36.8**	**-1.8**
	baz=5.0						
CHGB	**Renai**	**0.81**	**342**	⇑*i*P	**Pn**	**16 22 27.8**	**-0.3**
	baz=355						
CHGB				*e*S	**Sn**	**16 22 37.7**	**-1.3**
	baz=355						
SGST	**Jiashian**	**0.82**	**256**	*e*P	**Pn**	**16 22 27.4**	**-0.6**
	baz=253						
SGST				*e*S	**Sn**	**16 22 39.2**	**+0.2**
	baz=253						
TYC	**Yuchr**	**0.82**	**319**	P	**Pn**	**16 22 28.2**	**+0.2**
	baz=328						
TYC				S	**Sn**	**16 22 39.2**	**+0.3**
	baz=328						
ECL	**Taimali**	**0.82**	**214**	P	**Pn**	**16 22 26.2**	**-1.8**
	baz=202						
ECL				*e*S	**Sn**	**16 22 36.3**	**-2.7**
	baz=202						
WJS	**Zhushan**	**0.85**	**309**	P	**Pn**	**16 22 28.6**	**+0.2**
	baz=311						
WJS				*e*S	**Sb**	**16 22 40.5**	**+0.2**
	baz=311						
CHN1	**Nanshi**	**0.85**	**263**	P	**Pn**	**16 22 28.9**	**+0.4**
	baz=270						
CHN1				*e*S	**Sb**	**16 22 40.9**	**+0.6**
	baz=270						
WHF	**Hehuan Shan**	**0.87**	**349**	⇑*i*P	**Pn**	**16 22 28.3**	**-0.8**
	baz=1.0						
WHF				*e*S	**Sn**	**16 22 38.6**	**-2.3**
	baz=1.0						
SNST	**Tainan City**	**0.87**	**266**	P	**Pn**	**16 22 29.4**	**+0.7**
	baz=263						
SNST				*e*S	**Sb**	**16 22 41.9**	**+0.9**
	baz=263						
TWK	**Hsinying**	**0.88**	**269**	P	**Pn**	**16 22 29.1**	**+0.2**
	baz=267						
TWK				*e*S	**Sn**	**16 22 41.4**	**+0.9**
	baz=267						
NACB	**Ninganchiao**	**0.90**	**9**	*i* P	**Pn**	**16 22 27.6**	**-1.4**
	baz=13						
NACB				*e*S	**Sn**	**16 22 38.1**	**-2.7**
	baz=13						
WGK	**Gukeng**	**0.90**	**296**	P	**Pn**	**16 22 29.6**	**+0.5**
	baz=307						
WGK				S	**Sb**	**16 22 42.8**	**+1.0**
	baz=307						
WNT	**Mingjian**	**0.91**	**310**	P	**Pn**	**16 22 29.8**	**+0.4**
	baz=312						
WNT				S	**Sn**	**16 22 42.1**	**+0.8**
	baz=312						
ETLH	**Xiulin Townshi**	**0.92**	**2**	P	**Pn**	**16 22 28.3**	**-1.2**
	baz=16						
ETLH				S	**Sn**	**16 22 39.0**	**-2.5**
	baz=16						
SSD	**Sandimen**	**0.92**	**235**	P	**Pn**	**16 22 29.2**	**-0.2**
	baz=229						
SSD				*e*S	**Sb**	**16 22 42.5**	**+0.1**
	baz=229						
WDLH	**Douliu**	**0.93**	**296**	*i* P	**Pn**	**16 22 30.2**	**+0.8**
	baz=306						
WDLH				S	**Sb**	**16 22 42.5**	**+0.1**
	baz=306						
TSMG	**Majia**	**0.94**	**232**	P	**Pn**	**16 22 29.3**	**-0.3**
	baz=227						
TSMG				*e*S	**Sb**	**16 22 43.0**	**+0.2**
	baz=227						
CHY	**Chiayi**	**0.96**	**283**	P	**Pn**	**16 22 30.4**	**+0.5**
	baz=282						
CHY				*e*S	**Sn**	**16 22 43.4**	**+0.9**
	baz=282						
SCST	**Cishan**	**0.96**	**246**	*e*P	**Pn**	**16 22 30.6**	**+0.7**
	baz=242						
FUSS	**Fushou**	**0.98**	**349**	P	**Pn**	**16 22 30.2**	**-0.2**
	baz=359						
FUSS				*e*S	**Sn**	**16 22 41.8**	**-1.4**
	baz=359						
TWT	**Tachien**	**0.99**	**346**	*i* P	**Pn**	**16 22 30.7**	**+0.1**
	baz=348						
TWT				S	**Sn**	**16 22 42.6**	**-1.0**
	baz=348						
TDCB	**Techi**	**1.00**	**345**	*i* P	**Pn**	**16 22 30.8**	**+0.1**
	baz=353						
TDCB				S	**Sn**	**16 22 42.6**	**-1.0**
	baz=353						
MASBT	**Mashibuluo**	**1.00**	**228**	*i* P	**Pn**	**16 22 30.2**	**-0.3**
	baz=220						
MASBT				S	**Sb**	**16 22 44.9**	**+0.1**
	baz=220						
CHN3	**Shinhua**	**1.01**	**258**	*e*P	**Pn**	**16 22 31.1**	**+0.5**
	baz=267						
CHN3				*e*S	**Sb**	**16 22 47.5**	**+2.5**
	baz=267						
SGLT	**Jiouru**	**1.04**	**238**	*e*P	**Pb**	**16 22 34.2**	**+1.9**
	baz=233						
SGLT				*e*S	**Sb**	**16 22 48.9**	**+3.2**
	baz=233						
TWM1	**Shoushan**	**1.05**	**244**	*e*P	**Pb**	**16 22 33.2**	**+0.7**
	baz=240						
TWM1				*e*S	**Sb**	**16 22 46.7**	**+0.8**
	baz=240						
WTK	**Tuku**	**1.05**	**293**	P	**Pn**	**16 22 31.5**	**+0.3**
	baz=293						
WTK				*e*S	**Sn**	**16 22 44.7**	**+0.1**
	baz=293						
EAST	**Anshuo**	**1.05**	**212**	*i* P	**Pn**	**16 22 29.9**	**-1.3**
	baz=203						
EAST				*e*S	**Sn**	**16 22 43.4**	**-1.4**
	baz=203						
TAW	**Tawu**	**1.05**	**209**	P	**Pn**	**16 22 30.0**	**-1.2**
	baz=195						
TAW				*e*S	**Sn**	**16 22 42.4**	**-2.3**
	baz=195						
WLGB	**Puzi**	**1.07**	**281**	*e*P	**Pn**	**16 22 31.0**	**-0.5**
	baz=280						
WLGB				*e*S	**Sn**	**16 22 45.6**	**+0.4**
	baz=280						
ICHU	**Yijhu**	**1.07**	**274**	P	**Pn**	**16 22 32.1**	**+0.6**
	baz=273						
ICHU				*e*S	**Sn**	**16 22 46.4**	**+1.2**
	baz=273						
WHP	**Taichung City**	**1.09**	**335**	P	**Pb**	**16 22 33.1**	**-0.2**
	baz=344						
WHP				*e*S	**Sn**	**16 22 46.3**	**+0.5**
	baz=344						
WCHH	**Zhanghua**	**1.13**	**314**	*e*P	**Pn**	**16 22 32.7**	**+0.3**
	baz=316						
WCHH				*e*S	**Sb**	**16 22 48.0**	**-0.4**
	baz=316						
CHN8	**Yiju**	**1.14**	**273**	P	**Pn**	**16 22 31.8**	**-0.5**
	baz=272						
CHN8				*e*S	**Sb**	**16 22 48.5**	**0.0**
	baz=272						
SSPT	**Xinbi**	**1.14**	**226**	*e*P	**Pn**	**16 22 33.3**	**+1.0**
	baz=218						
NNSB	**Datong**	**1.14**	**357**	P	**Pn**	**16 22 32.1**	**-0.4**
	baz=6.0						
NNSB				*e*S	**Sn**	**16 22 45.7**	**-1.4**
	baz=6.0						
NNSH	**Datong**	**1.14**	**357**	P	**Pn**	**16 22 32.2**	**-0.4**
	baz=8.0						
NNSH				*e*S	**Sn**	**16 22 45.5**	**-1.6**
	baz=8.0						
SNJT	**Kaohsiung City**	**1.15**	**243**	*e*P	**Pb**	**16 22 35.6**	**+1.3**
	baz=238						
SNJT				*e*S	**Sb**	**16 22 49.2**	**+0.3**
	baz=238						
NNS	**Nan Shan**	**1.15**	**357**	P	**Pn**	**16 22 32.3**	**-0.4**
	baz=10.0						
NNS				*e*S	**Sn**	**16 22 46.3**	**-1.1**
	baz=10.0						
SCLT	**Jiali**	**1.16**	**265**	*e*S	**Sb**	**16 22 49.9**	**+0.9**
	baz=263						
RLNB	**Erlin**	**1.16**	**301**	P	**Pn**	**16 22 33.3**	**+0.6**
	baz=302						
RLNB				*e*S	**Sn**	**16 22 48.7**	**+1.3**
	baz=302						
ENA	**Nanau**	**1.17**	**13**	P	**Pn**	**16 22 31.8**	**-1.0**
	baz=10.0						
WSF	**Szhu**	**1.18**	**288**	*e*P	**Pn**	**16 22 33.1**	**+0.2**
	baz=288						
SCZT	**Fangliau**	**1.19**	**220**	P	**Pn**	**16 22 33.1**	**0.0**
	baz=202						
SCZT				*e*S	**Sb**	**16 22 50.0**	**+0.1**
	baz=202						
ENAH	**Nanao**	**1.21**	**16**	*e*P	**Pn**	**16 22 33.5**	**+0.2**
	baz=11						
SLIU	**Shizi**	**1.22**	**209**	*e*P	**Pn**	**16 22 32.6**	**-1.0**
	baz=196						
TWQ1	**Liyutan**	**1.22**	**330**	P	**Pb**	**16 22 35.1**	**-0.4**
	baz=333						
TWQ1				*e*S	**Sb**	**16 22 51.8**	**+0.8**
	baz=333						
LAY	**Lan-yu**	**1.24**	**175**	P	**Pn**	**16 22 33.4**	**-0.5**
	baz=163						
LAY				*e*S	**Sn**	**16 22 48.8**	**-0.7**
	baz=163						
NSY	**Sanyi**	**1.29**	**331**	*e*P	**Pn**	**16 22 35.2**	**+0.7**
	baz=334						
NSY				*e*S	**Sb**	**16 22 53.7**	**+0.9**
	baz=334						
WDJ	**Dajia District**	**1.29**	**325**	*e*P	**Pb**	**16 22 36.3**	**-0.2**
	baz=328						
WDJ				*e*S	**Sb**	**16 22 53.4**	**+0.5**
	baz=328						
NDT	**Datong Townshi**	**1.31**	**3**	*e*P	**Pn**	**16 22 34.4**	**-0.5**
	baz=15						
PTSB	**Yuanli**	**1.34**	**330**	*e*P	**Pn**	**16 22 35.2**	**0.0**
	baz=333						
PTSB				*e*S	**Sb**	**16 22 53.5**	**-0.8**
	baz=333						
ENTT	**Nioudou**	**1.35**	**5**	*e*P	**Pn**	**16 22 34.5**	**-0.9**
	baz=17						
ENTT				*e*S	**Sn**	**16 22 51.9**	**-0.3**
	baz=17						
TWC	**Suao**	**1.37**	**16**	*e*P	**Pn**	**16 22 34.4**	**-1.2**
	baz=12						
YHNB	**Yeheng**	**1.38**	**357**	*e*P	**Pn**	**16 22 35.9**	**+0.1**
	baz=11						
YHNB				*e*S	**Sn**	**16 22 52.5**	**-0.4**
	baz=11						
NMLH	**Miaoli**	**1.38**	**334**	*e*P	**Pn**	**16 22 36.5**	**+0.8**
	baz=338						
NMLH				*e*S	**Sn**	**16 22 54.1**	**+1.2**
	baz=338						
NSK	**Sanguang**	**1.39**	**357**	*e*P	**Pn**	**16 22 36.0**	**+0.1**
	baz=11						
NSK				*e*S	**Sn**	**16 22 52.4**	**-0.7**
	baz=11						
NSTT	**Nanjuang**	**1.40**	**343**	P	**Pn**	**16 22 37.1**	**+1.0**
	baz=346						
NSTT				*e*S	**Sn**	**16 22 54.0**	**+0.7**
	baz=346						
LIOB	**Emei**	**1.41**	**344**	*e*P	**Pn**	**16 22 37.3**	**+1.1**
	baz=347						
LIOB				*e*S	**Sn**	**16 22 54.6**	**+1.0**
	baz=347						
TWE	**Neicheng**	**1.44**	**8**	P	**Pn**	**16 22 36.2**	**-0.3**
	baz=11						
TWE				*e*S	**Sn**	**16 22 53.7**	**-0.7**
	baz=11						
TWK1	**Hengchun**	**1.46**	**204**	*e*P	**Pn**	**16 22 36.9**	**+0.1**
	baz=187						
TWKBT	**Hengchun**	**1.46**	**204**	*e*P	**Pn**	**16 22 36.7**	**-0.1**
	baz=187						
NWLT	**Wulai**	**1.49**	**2**	*e*P	**Pn**	**16 22 37.5**	**+0.3**
	baz=18						
WDGT	**Dungji**	**1.64**	**269**	P	**Pn**	**16 22 38.8**	**-0.5**
	baz=268						
WDGT				*e*S	**Sn**	**16 22 58.0**	**-1.3**
	baz=268						
TWA	**Mucha**	**1.69**	**4**	*e*P	**Pn**	**16 22 40.5**	**+0.5**
	baz=21						
TIPB	**Shuangxi**	**1.71**	**12**	*e*P	**Pn**	**16 22 40.3**	**0.0**
	baz=14						
TIPB				*e*S	**Sn**	**16 23 00.3**	**-0.8**
	baz=14						
PHUB	**P'eng-hu**	**1.74**	**278**	*e*P	**Pn**	**16 22 40.2**	**-0.4**
	baz=277						
PHUB				*e*S	**Sn**	**16 22 59.3**	**-2.2**
	baz=277						
PNG	**Penghu**	**1.76**	**280**	*e*P	**Pn**	**16 22 40.7**	**-0.3**
	baz=279						
PNG				*e*S	**Sn**	**16 23 01.1**	**-1.1**
	baz=279						
TWB1	**Santiao Chiao**	**1.79**	**16**	*e*P	**Pn**	**16 22 41.1**	**-0.2**
	baz=13						
JYNG	**Yonagunijimaku**	**1.80**	**49**	P	**Pn**	**16 22 42.8**	**+1.3**
JYNG				*e*S	**Sn**	**16 23 04.2**	**+1.1**
NWF	**Wu-fen Shan**	**1.80**	**10**	*e*P	**Pn**	**16 22 41.9**	**+0.3**
	baz=14						
WFSB	**Wu-fen Shan**	**1.80**	**10**	*e*P	**Pn**	**16 22 41.6**	**+0.1**
	baz=14						
YOJ	**Yonaguni jima**	**1.85**	**50**	*e*P	**Pn**	**16 22 43.3**	**+1.1**
	baz=53						
YOJ				*e*S	**Sn**	**16 23 05.0**	**+0.5**
	baz=53						
YOJ	**Yonaguni jima**	**1.85**	**50**	P	**Pn**	**16 22 43.5**	**+1.3**
YOJ				S	**Sn**	**16 23 05.3**	**+0.9**
YM01	**YM01**	**1.86**	**3**	*e*P	**Pn**	**16 22 42.4**	**0.0**
	baz=21						
YM04	**YM04**	**1.86**	**3**	*e*P	**Pn**	**16 22 41.8**	**-0.6**
	baz=20						
YM10	**YM10**	**1.86**	**3**	*e*P	**Pn**	**16 22 42.5**	**0.0**
	baz=21						
YM05	**YM05**	**1.87**	**3**	*e*P	**Pn**	**16 22 42.6**	**0.0**
	baz=21						
ANP	**Anpu**	**1.89**	**2**	*e*P	**Pn**	**16 22 42.5**	**-0.4**
	baz=20						
HATJ	**Hateruma jima**	**2.30**	**70**	P	**Pn**	**16 22 48.6**	**+0.3**
IRIF	**Iriomote-Funau**	**2.34**	**63**	P	**Pn**	**16 22 50.1**	**+1.2**
VWUC	**VWUC**	**2.49**	**313**	*e*P	**Pn**	**16 22 49.3**	**-1.7**
	baz=317						
JKRS	**Kuro-shima**	**2.53**	**68**	P	**Pn**	**16 22 52.6**	**+1.0**
JKRS				*e*S	**Sn**	**16 23 22.9**	**+1.6**
JIJ	**Ishigaki jima**	**2.69**	**66**	P	**Pn**	**16 22 54.2**	**+0.4**
JIJ				*e*S	**Sn**	**16 23 25.1**	**-0.2**
JISG	**Ishigakijimahi**	**2.92**	**63**	P	**Pn**	**16 22 57.6**	**+0.6**
JISG				*e*S	**Sn**	**16 23 31.1**	**+0.2**
JTJ	**Tarama**	**3.27**	**65**	P	**Pn**	**16 23 02.8**	**+1.1**
JTJ				*e*S	**Sn**	**16 23 40.1**	**+0.6**
ZPLA	**Ao Xicun**	**3.45**	**281**	*e*P	**Pn**	**16 23 03.7**	**-0.5**
	baz=282						
AXDP	**Jialang**	**3.56**	**298**	*e*P	**Pn**	**16 23 05.1**	**-0.5**
	baz=300						

*IDC **27** 16:22:35.5±0.5, 35.86N×73.07E, h0km, mb4.3/20, mb1 4.5/26, mb1mx4.2/54, mbtmp4.4/26, ML4.4/5, MS3.7/18, Ms1 3.7/18, ms1mx3.4/36, Error ellipse: s-maj=15.0km s-min=11.4km az=45.0*
*MOS **27** 16:22:38.7±1.0, 35.89N×73.24E, h25km, mb4.6/14, Error ellipse: s-maj=8.3km s-min=4.0km az=82.3*
*BJI **27** 16:22:39.9±0.0, 35.99N×73.15E, h35km, mB4.7/33, mb4.6/43, ML4.7/2, Ms4.2/21, Ms7 4.0/14*
*NNC **27** 16:22:40.1±3.9, 36.11N×72.79E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=35.5km s-min=19.5km az=150.0*
*NEIC **27** 16:22:41.8±2.1, 35.91N±0.06×73.07E±0.09, h42km±6km, mb4.7/38, Error ellipse: s-maj=10.3km s-min=8.2km az=73.0*
ISC 27 16:22:40.1±0.3, 35.89N±0.03×73.14E±0.03, h26km, n237, σ2.12/255, mb4.6/53, MS3.7/17, 17C-12D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**2.23**	**178**	PN	**Pb**	**16 23 17.3**	**-2.4**
NIL						16 23 51.4	
NIL	**Nilore**	**2.23**	**178**		**Pb**	**16 23 17.3**	**-2.4**
NIL				Sn	**Sb**	**16 23 51.4**	**+4.5**
CEP	**Cherat**	**2.29**	**207**	P	**Pb**	**16 23 19.4**	**-1.4**
CEP				S	**Sb**	**16 23 53.0**	**+4.2**
THW	**Thamme Wali**	**3.29**	**201**	P	**Pb**	**16 23 33.5**	**-4.3**
THTRI	**Thathri**	**3.50**	**141**	*e*P	**Pn**	**16 23 35.5**	**+2.6**
KBL	**Kabul**	**3.61**	**249**	PN	**Pn**	**16 23 37.6**	**+3.1**
KBL	**Kabul**	**3.61**	**249**		**Pn**	**16 23 37.6**	**+3.1**
GANDO	**Gandoh**	**3.65**	**140**	*e*P	**Pn**	**16 23 37.6**	**+2.5**
GAR	**Garm**	**3.83**	**325**		**Pn**	**16 23 39.4**	**+1.9**
THN	**Thein Dam**	**4.05**	**147**	⇓*i*P	**Pn**	**16 23 45.0**	**+4.6**
THN				*e*S	**Sb**	**16 24 39.5**	**+0.2**
CHGR	**Chuyangaron**	**4.21**	**312**		**Pn**	**16 23 43.8**	**+1.1**
KSH	**Kashi**	**4.26**	**31**	Pn	**Pn**	**16 23 42.5**	**-0.9**
KSH				Sn	**Sn**	**16 24 28.5**	**-3.9**
KSH				pmax	pmax		
	comp=Z,990nm,0.8s						
KSH				smax	smax		
	comp=N,710nm,0.9s						
KSH				smax	smax		
	comp=E,730nm,0.8s						
DHRM	**DHARAMSHALA**	**4.48**	**143**	*e*P	**Pn**	**16 23 49.9**	**+3.5**
DHRM				*e*x	**Pn**	**16 23 49.9**	**+3.5**
DHRM				*e*S	**Sn**	**16 24 43.0**	**+5.2**
DHRM				IAML		16 24 46.0	
	comp=N,1μm,0.6s						
DHRM				IAML		16 24 46.6	
	comp=E,2μm,0.6s						
BTK	**Batken**	**4.55**	**337**	PN	**Pn**	**16 23 50.3**	**+3.0**
BTK	**Batken**	**4.55**	**337**	Pn	**Pn**	**16 23 50.3**	**+3.0**
BHK	**Bhakra**	**5.23**	**148**	*e*P	Pn	16 24 01.4	+4.8
BHK				*e*S	**Sn**	**16 25 02.8**	**+6.8**
SMLA	**Simla**	**5.82**	**144**	*e*P	**Pn**	**16 24 06.9**	**+2.3**
SMLA				*e*S	**Sn**	**16 25 12.7**	**+2.3**
SMLA				IAML		16 25 47.0	
	comp=N,754nm,0.0s						
SMLA				IAML		16 25 48.1	
	comp=E,1μm,0.5s						
AML	**Almayashu**	**6.25**	**4**	P	**Pn**	**16 24 13.1**	**+2.1**
	SNR=12						
KZA	**Kyzart**	**6.40**	**14**	P	**Pn**	**16 24 15.0**	**+2.0**
	SNR=13						
UCH	**Uchtor**	**6.42**	**9**	P	**Pn**	**16 24 15.4**	**+2.0**
	SNR=103						
IUG	**Iuzhnay**	**6.70**	**340**	*e*P	**Pn**	**16 24 18.1**

comp=E,4.5nm,0.4s,baz=339
IUG eS Sn 16 25 35.6 +3.1
baz=339
IUG Iuzhnay 6.70 340 ePN Pn 16 24 18.1 +1.2
IUG eS Sn 16 25 35.5 +3.1
IUG pmax pmax
comp=Z,5.0nm,0.4s
EKS2 Erkin-Say 6.79 4 P Pn 16 24 20.3 +2.2
SNR=110
AAK Ala-Archa 6.82 8 P Pn 16 24 20.8 +2.2
SNR=40
AAK Ala-Archa 6.82 8 ⇓P Pn 16 24 20.5 +1.9
comp=Z,54nm,0.9s
AAK S Sn 16 25 37.3 +1.8
comp=Z,48nm,0.8s
AAK Ala-Archa 6.82 8c iPN Pn 16 24 20.9 +2.3
AAK pmax pmax
comp=Z,87nm,0.7s
TARG Taragay, Kyrgy 6.88 31 Pn Pn 16 24 21.0 +1.5
KBK Karagaybulak 6.91 11 P Pn 16 24 21.8 +2.1
SNR=21
DDI Dehra Dun 6.91 142 eP Pn 16 24 21.6 +1.9
DDI eS Sn 16 25 38.2 +0.6
BOOM Boomskoye usch 6.95 17 PN Pn 16 24 22.4 +2.1
BOOM Boomskoye usch 6.95 17 Pn Pn 16 24 22.4 +2.1
KDJ Kajisay 6.98 26 PN Pn 16 24 24.2 +3.4
KDJ Kajisay 6.98 26 Pn Pn 16 24 24.2 +3.4
DZA Taraz 7.14 349 eP Pn 16 24 24.8 +2.0
baz=349
DZA eS Sn 16 25 46.8 +3.8
baz=349
DZA LR LR 16 26 43.1
comp=Z,46nm,8.4s,baz=349
DZA Taraz 7.14 349 ePN Pn 16 24 24.7 +2.0
DZA eS Sn 16 25 46.8 +3.8
DZA MLR MLR
comp=Z,46nm,8.0s
CHMS Chumysh 7.21 9 P Pn 16 24 25.7 +1.9
SNR=14
TKM2 Tokmak 2 7.28 14 P Pn 16 24 26.9 +2.0
SNR=34
TKM2 Tokmak 2 7.28 14 ⇑P Pn 16 24 27.0 +2.1
comp=Z,24nm,0.9s
TKM2 ⇓S Sn 16 25 47.2 +0.4
comp=Z,29nm,0.7s
USP Ospenovka 7.45 8 P Pn 16 24 28.8 +1.8
SNR=21
KK31 Karatay Array 7.49 345 ⇑P Pn 16 24 28.0 +0.5
comp=Z,13nm,0.4s,baz=167,slow=13,SNR=262
KK31 ⇓S Sn 16 25 52.2 +0.6
comp=Z,12nm,0.3s,baz=171,slow=23,SNR=4.7
KK31 Karatay Array 7.49 345 P Pn 16 24 28.1 +0.5
KK31 Karatay Array 7.49 345 Pn Pn 16 24 28.1 +0.5
KKAR Karatay Array 7.49 345 P Pn 16 24 27.7 +0.1
KKAR Karatay Array 7.49 345 Pn Pn 16 24 27.7 +0.1
KKAR Karatay Array 7.49 345 Pn Pn 16 24 28.0 +0.4
SGDS Sogindy 7.64 8 eP Pn 16 24 31.6 +1.8
baz=7.7
SGDS Sogindy 7.64 8 eP Pn 16 24 31.6 +1.8
TNSS Tian-Shan 7.72 21 eP Pn 16 24 32.5 +1.3
baz=21
TNSS Tian-Shan 7.72 21 eP Pn 16 24 32.5 +1.3
PRZ Przheval'sk 7.75 30 P Pn 16 24 35.1 +3.8
PRZ Przheval'sk 7.75 30 Pn Pn 16 24 35.1 +3.8
MDOK Medeo 7.87 21 eP Pn 16 24 34.4 +1.4
baz=21
MDOK Medeo 7.87 21 eP Pn 16 24 34.3 +1.4
AAA Alma-Ata 7.87 21 eP Pn 16 24 34.0 +1.1
baz=20
AAA Alma-Ata 7.87 21 eP Pn 16 24 34.0 +1.1
NDI New Delhi 7.97 153 eP Pn 16 24 37.0 +2.8
NDI ex x 16 26 05.0
SATY Saty 8.24 28 eP Pn 16 24 39.1 +1.1
baz=28
SATY LR LR 16 27 12.8
comp=Z,64nm,10.2s,baz=28
SATY Saty 8.24 28 eP Pn 16 24 39.1 +1.1
SATY MLR MLR
comp=Z,64nm,10.0s
SONA Sohna 8.31 155 eP Pn 16 24 41.9 +3.0
SONA ex Sn 16 26 09.9 -2.1
KUU Kurty 8.37 16 eP Pn 16 24 40.9 +1.2
comp=Z,8.1nm,0.7s,baz=16
KUU Kurty 8.37 16 eP Pn 16 24 40.8 +1.2
KUU pmax pmax
comp=Z,8.0nm,0.7s
UZB Uzynbulak 8.56 30 eP Pn 16 24 43.2 +0.8
comp=Z,4.4nm,0.9s,baz=30
UZB Uzynbulak 8.56 30 eP Pn 16 24 43.1 +0.8
UZB pmax pmax
comp=Z,4.0nm,0.9s
SHLS Shalkode 8.75 32 eP Pn 16 24 47.8 +2.8
baz=33
SHLS LR LR 16 27 38.1
comp=Z,45nm,7.0s,baz=33
SHLS Shalkode 8.75 32 eP Pn 16 24 47.8 +2.8
SHLS MLR MLR
comp=Z,45nm,7.0s
PDGK Podgornoye 8.90 31 ⇑P Pn 16 24 48.6 +1.6
comp=Z,32nm,0.8s
PDGK ⇑S Sn 16 26 29.6 +3.1
comp=Z,60nm,0.8s
BTLS Baital 9.17 4 eP Pn 16 24 52.3 +1.6
baz=3.7
BTLS LR LR 16 27 37.1
comp=Z,48nm,8.4s,baz=3.7
BTLS Baital 9.17 4 eP Pn 16 24 52.2 +1.6
BTLS MLR MLR
comp=Z,48nm,8.0s
PYUN Piuthan 11.40 130 eP Pn 16 25 19.3 -2.2
comp=Z,193nm,0.4s
DANN Dangsing 11.72 127 eP Pn 16 25 24.6 -1.3
comp=Z,111nm,0.4s
KOLN Koldanda 12.02 129 eP Pn 16 25 27.7 -2.2
comp=Z,81nm,0.5s
GEYT Alibeck 12.20 284 Pn Pn 16 25 30.0 -2.1
comp=Z,2.9nm,0.3s,baz=106,slow=11,SNR=17
GEYT Sn Sn 16 27 44.7 -2.5
comp=Z,1.7nm,0.3s,baz=99,slow=18,SNR=4.8
GEYT LR LR 16 31 00.8
comp=Z,187nm,21.5s,baz=35,slow=42
GEYT Alibeck 12.20 284 Pn Pn 16 25 29.8 -2.3
GYA0B ALIBECK ARRAY 12.20 284 ⇓P Pn 16 25 30.3 -1.9
GYA0B ⇑S Sn 16 27 44.7 -2.5
GYA0B ALIBECK ARRAY 12.20 284 Pn Pn 16 25 30.3 -1.9
GKN Gorkha 12.53 126 eP Pn 16 25 34.0 -2.8
comp=Z,160nm,0.7s
MAKZ Makanchi 12.76 29 P Pn 16 25 39.9 +0.1
MAKZ Makanchi 12.76 29 Pn Pn 16 25 39.9 +0.1
MK31 Makanchi Array 12.88 29 P Pn 16 25 42.0 +0.7
MK31 Makanchi Array 12.88 29 Pn Pn 16 25 42.0 +0.7
MKAR Makanchi Array 12.88 29 Pn Pn 16 25 41.1 -0.3
comp=Z,0.4nm,0.3s,baz=212,slow=11,SNR=23
MKAR LR LR 16 31 06.3
comp=Z,451nm,20.4s,baz=210,slow=40
MKAR Makanchi Array 12.88 29ceP Pn 16 25 41.9 +0.6
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 12.88 29 Pn Pn 16 25 41.6 +0.3
BHUJ Bhuj 12.95 194 eP Pn 16 25 39.2 -3.2
KKN Kakani 13.09 125 eP Pn 16 25 41.1 -3.5
DMN Daman 13.10 126 eP Pn 16 25 42.1 -2.6
comp=Z,90nm,0.6s
BHPL Bhopal 13.14 162 ex Pn 16 25 43.7 -1.4
BHPL ex Sn 16 28 05.5 -4.9
PKIN Phulchoki 13.31 125 eP Pn 16 25 44.2 -3.4
comp=Z,50nm,0.4s
PKI Pulchoki 13.32 125 eP Pn 16 25 44.4 -3.4
comp=Z,103nm,0.7s
WMQ Urumqi 13.69 50 eP Pn 16 25 54.5 +2.0
WMQ pP P 16 26 03.0 +2.0
WMQ S Sn 16 28 18.5 -5.3
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,66nm,5.7s
WMQ LR LR
comp=Z,510nm,6.1s
WMQ LR LR
comp=Z,120nm,7.3s
JIRN Jiri 13.79 123 eP Pn 16 25 50.5 -3.8
comp=Z,189nm,0.3s
ZSN Zaisan 14.48 33 eP Pn 16 26 03.8 +0.5
baz=33
ZSN Zaisan 14.48 33 eP Pn 16 26 03.7 +0.5
RAMN Ramite 14.53 124 eP Pn 16 26 00.0 -4.2
comp=Z,50nm,0.4s
TAPN Taplejung 15.04 120 eP Pn 16 26 06.2 -4.9
comp=Z,46nm,0.4s
ODAN Odare 15.12 123 eP Pn 16 26 07.2 -5.0
comp=Z,92nm,0.6s
KURBB Kurchatov Arra 15.24 13 Pn Pn 16 26 09.9 -3.4
comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=18
KURK Kurchatov 15.34 13⇑eP Pn 16 26 14.1 -0.6
KURK pmax pmax
comp=Z,15nm,1.3s
KURK Kurchatov 15.34 13 Pn Pn 16 26 12.8 -1.9
KURK IAmb IAmb 16 26 23.1
comp=Z,47nm,1.1s
BOK Bokaro 16.34 134 ex Pn 16 26 22.7 -5.0
LSA Lhasa 16.34 107 P Pn 16 26 25.9 -2.3
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 16.34 107 Pn Pn 16 26 25.9 -2.3
AB31 Akbulak array 16.49 328 ⇑P Pn 16 26 27.3 -2.2
comp=Z,2.6nm,0.4s,baz=158,slow=10,SNR=118
AB31 ⇓S Sn 16 29 27.7 -3.9
comp=Z,4.9nm,0.6s
ABKAR Akbulak array 16.49 328 Pn Pn 16 26 26.8 -2.6
BVAR Borovoye Array 17.25 354 Pn Pn 16 26 35.8 -3.2
comp=Z,1.9nm,0.3s,baz=182,slow=12,SNR=24
BRVK Borovoye 17.29 354⇑eP Pn 16 26 39.7 +0.3
BRVK pmax pmax
comp=Z,27nm,1.7s
BRVK Borovoye 17.29 354 Pn Pn 16 26 37.7 -1.8
DGZ Jazzator, Alta 17.30 33⇓eP Pn 16 26 40.0 +0.2
DGZ pmax pmax
comp=Z,34nm,0.8s
POO Poona 17.30 178 eP Pn 16 26 39.0 -0.9
RPR Rampur 17.81 161 eP P 16 26 48.3 +1.6
KLRI Killari 18.01 169 eP P 16 26 49.4 +0.5
AKTO Aktyubinsk 18.20 328 P Pn 16 26 50.0 -0.7
comp=Z,4.6nm,0.3s,baz=134,slow=11,SNR=31
AKTO LR LR 16 34 35.4
comp=Z,138nm,18.8s,baz=139,slow=40
HYBB Hyderabad (bro 19.01 164 eP Pn 16 27 01.1 +0.3
HYB Hyderabad 19.01 164 i P Pn 16 27 01.0 +0.2
HYB e 16 30 21.0
HYB eS S 16 30 35.0 +0.7
SHL Shillong 19.09 117 ex P 16 26 56.8 -4.1
CUPL Choutuppal 19.22 163 eP Pn 16 27 04.7 +1.5
ZAA0 Zalesovo Array 19.82 21 P P 16 27 07.3 -1.2
ZAA0 IAmb IAmb 16 27 12.6
comp=Z,44nm,0.8s
ZALV Zalesovo Beam 19.82 21 P P 16 27 07.1 -1.3
comp=Z,3.9nm,0.3s,baz=225,slow=13,SNR=61
ZALV S S 16 30 49.4 -0.8
comp=Z,0.1nm,0.3s,baz=209,slow=18,SNR=6.0
ZALV LR LR 16 35 12.5
comp=Z,170nm,22.0s,baz=194,slow=38
CHLP Challavanipeta 19.82 148 eP Pn 16 27 09.7 -0.7
NJS Nagarjunasagar 20.02 162 eP P 16 27 10.2 -0.8
PVM Polavaram 20.04 156 eP Pn 16 27 12.5 -0.4
MYLAV Mylavaram 20.19 159 eP Pn 16 27 14.0 -0.8
SRLM Srisailam 20.36 164 eP Pn 16 27 16.9 0.0
ADKI Addanki 20.87 161 eP P 16 27 20.8 +0.7
URV Uravakonda 21.18 169 eP P 16 27 25.6 +2.1
GTA Gaotai 21.39 73 ⇑P P 16 27 26.5 +0.7
GTA pP sP 16 27 36.5 -1.6
GTA sP pP 16 27 41.0 +7.0
GTA S S 16 31 15.8 -6.1
GTA SS SnSn 16 31 47.0 +1.8
GTA pmax pmax
comp=Z,26nm,0.9s
GTA pmax pmax
comp=Z,140nm,6.5s
GTA LR LR
comp=Z,220nm,13.8s
GTA LR LR
comp=Z,210nm,14.2s
SVE Sverdlovsk 22.58 342 eP P 16 27 38.0 -0.3
ARU Arti 22.80 339 P P 16 27 39.0 -1.6
comp=Z,2.8nm,0.3s,baz=151,slow=10,SNR=12
ARU LR LR 16 37 01.4
comp=Z,239nm,20.1s,baz=142,slow=38
ARU Arti 22.80 339d iP P 16 27 40.8 +0.2
ARU S S 16 31 52.5 +4.5
ARU SS SnSn 16 32 21.9 +2.4
ARU pmax pmax
comp=Z,11nm,0.8s
ARU Arti 22.80 339 P P 16 27 38.6 -2.0
SKHT Srikalahasti 22.83 163 eP P 16 27 41.6 +0.4
ZEI Tsey 23.56 296 eP P 16 27 50.0 +1.4
ZEI pmax pmax
comp=Z,12nm,1.4s
KBZ Khabaz 24.42 298 LR LR 16 39 55.2
comp=Z,105nm,18.5s,baz=78,slow=43
KBZ Khabaz 24.42 298⇑eP P 16 27 57.5 +1.2
KBZ pmax pmax
comp=Z,9.0nm,1.3s
KVAR Kislovodsk Arr 24.60 298 LR LR 16 38 43.9
comp=Z,86nm,18.9s,baz=20,slow=39
KIV Kislovodsk 24.60 298 eP P 16 27 59.6 +1.4
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,126nm,15.0s
LZH Lanzhou 24.80 80 eP P 16 27 59.5 -0.6
LZH pP pP 16 28 09.5 +0.6
LZH sP sP 16 28 15.0 +2.4
LZH ePP PnPn 16 28 37.5 +4.8
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,86nm,4.8s
LZH LR LR
comp=Z,320nm,12.6s
LZH LR LR
comp=Z,340nm,12.3s
LZH LR LR
comp=Z,480nm,15.2s
MOY Mondy 25.35 43 eP P 16 28 07.2 +2.3
MOY pmax pmax
comp=Z,44nm,1.4s
ZAK Zakamensk 26.12 47 eP P 16 28 11.9 +0.1
ZAK pmax pmax
comp=Z,10.0nm,0.8s
TLY Talaya 26.84 44 LR LR 16 38 49.4
comp=Z,63nm,22.0s,baz=248,slow=36
SONM Songino Array 27.28 54 P P 16 28 23.0 +0.6
comp=Z,4.6nm,0.5s,baz=252,slow=9.5,SNR=11
SONM Songino Array 27.28 54 P P 16 28 23.2 +0.8
KIRV Kirov 27.56 333 P P 16 28 24.9 +0.4
comp=Z,11nm,0.7s,baz=104,slow=7.9,SNR=4.5
KIRV LR LR 16 41 00.1
comp=Z,116nm,19.4s,baz=136,slow=40
KMI Kunming 27.57 105⇓eP P 16 28 28.5 +3.2
KMI pP pP 16 28 31.0 -3.2
KMI sP sP 16 28 35.0 -2.9
KMI pmax pmax
comp=Z,16nm,0.5s
KMI pmax pmax
comp=Z,100nm,4.9s
ULN Ulaanbaatar 27.72 54⇑eP P 16 28 28.2 +1.8
ULN pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 28.41 120 P P 16 28 31.6 -1.0
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 28.41 120 P P 16 28 31.6 -1.0
CM31 Chiang Mai Arr 28.65 120 P P 16 28 34.6 -0.1
CMAR Chiang Mai Arr 28.65 120 P P 16 28 34.1 -0.6
comp=Z,2.8nm,0.7s,baz=307,slow=9.1,SNR=26
CMAR Chiang Mai Arr 28.65 120ceP P 16 28 35.2 +0.5
CMAR pmax pmax
comp=Z,3.0nm,0.8s
GYA Guiyang 30.06 99 eP P 16 28 50.0 +2.7
GYA pmax pmax
comp=Z,4.0nm,1.1s
HHC Hu-ho-hao-te 30.36 69 eP P 16 28 51.3 +1.5
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.1s
ENH Enshi 30.85 90 P P 16 28 54.7 +0.5
ENH IAmb IAmb 16 29 01.3
comp=Z,8.6nm,0.7s
NRIK Noril'sk 34.44 9 LR LR 16 45 12.5
comp=Z,145nm,18.7s,baz=197,slow=39
NRIK Noril'sk 34.44 9⇓eP P 16 29 26.6 +1.6
NRIK pmax pmax
comp=Z,9.0nm,1.3s
AKASG Malin Array Be 34.67 309 P P 16 29 26.4 -0.9
comp=Z,2.4nm,0.5s,baz=81,slow=6.9,SNR=7.5
AKASG Malin Array Be 34.67 309ceP P 16 29 28.0 +0.7
AKASG pmax pmax
comp=Z,2.0nm,0.5s
WHN Wuhan 34.70 87 P P 16 29 28.8 +1.0
BOD Bodaibo 34.75 38 eP P 16 29 27.3 -0.6
BOD pmax pmax
comp=Z,5.0nm,0.8s
UBPT Khong Chiam 35.41 117 P P 16 29 31.8 -2.1
UBPT IAmb IAmb 16 29 34.0
comp=Z,8.2nm,0.7s
NJ2 Nanjing 37.84 82 eP P 16 29 54.0 -0.6
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 38.96 326 P P 16 30 02.8 -0.8
comp=Z,3.9nm,0.8s,baz=119,slow=8.8,SNR=12
FINES LR LR 16 47 44.4
comp=Z,193nm,18.7s,slow=39
FINES FINESS Array B 38.96 326 P P 16 30 02.5 -1.1
FINES FINESS Array B 38.96 326 P P 16 30 02.5 -1.1
CN2 Changchun 40.36 62 eP P 16 30 15.5 0.0
IPM Ipoh 40.46 134 P P 16 30 16.4 -0.3
IPM IAmb IAmb 16 30 17.4
comp=Z,8.3nm,0.7s
PSI Prapat 40.65 138 P P 16 30 17.6 -0.7
comp=Z,2.6nm,0.3s,baz=98,slow=24,SNR=7.7
RPSI Rantau Prapat 40.74 138 P P 16 30 17.6 -1.3
GSI Gunungsitoli 41.21 141 P P 16 30 23.9 +1.2
ARCES ARCESS Array B 42.37 337 LR LR 16 49 51.3
comp=Z,220nm,18.4s,baz=125,slow=39
MNSI Mandailing Nat 42.69 139 P P 16 30 38.1 +3.3
KSRS Korea Array 43.45 71 P P 16 30 39.8 -1.0
comp=Z,1.0nm,0.7s,baz=282,slow=6.1,SNR=4.5
KSRS PcP PcP 16 32 28.8 +0.1
comp=Z,1.3nm,0.9s,baz=283,slow=3.1,SNR=4.3
YAK Yakutsk 43.47 35 eP P 16 30 39.9 -0.7
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK Yakutsk 43.47 35 P P 16 30 39.5 -1.1
KHC Kasperske Hory 44.74 306 eP P 16 30 52.0 +0.9
KHC ex x 16 31 28.0
KHC Kasperske Hory 44.74 306 eP P 16 30 52.0 +0.9
NB2 NORSAR Subarra 45.91 323 P P 16 31 00.4 +0.2
comp=Z,0.7nm,0.5s,baz=94,slow=7.9
NOA NORSAR Array B 45.91 323 P P 16 31 00.6 +0.4
comp=Z,0.3nm,0.3s,baz=96,slow=7.7,SNR=6.6
NOA LR LR 16 52 13.3
comp=Z,72nm,19.1s,baz=345,slow=39
KSI Kapahiang 48.03 139 P P 16 31 24.2 +6.9
MAT Matsushiro 51.56 69 P P 16 31 42.9 -1.1
MJAR Matsushiro Arr 51.57 69 P P 16 31 43.5 -0.5
comp=Z,1.2nm,0.6s,baz=297,slow=9.0,SNR=4.9
MBAR Mbarara 53.59 237ceP P 16 32 02.3 +3.0
MBAR pmax pmax
comp=Z,4.0nm,0.7s
MA2 Magadan 53.78 38 LR LR 16 55 58.1
comp=Z,66nm,19.2s,baz=257,slow=37
SEY Seymchan 53.97 34⇓eP P 16 32 02.4 +1.1
MPSI Mapaga 55.96 118 P P 16 32 20.5 +4.2
PETK Petropavlovsk- 59.20 44 P P 16 32 38.1 -0.5
comp=Z,2.1nm,0.6s,baz=284,slow=3.8,SNR=11
PETK LR LR 17 00 11.3
comp=Z,50nm,21.6s,baz=241,slow=38
PETK Petropavlovsk- 59.20 44 P P 16 32 38.0 -0.7
PETK Petropavlovsk- 59.20 44 P P 16 32 38.0 -0.7
ESDC Sonseca Array 59.27 299 P P 16 32 38.1 -1.3
comp=Z,0.4nm,0.6s,baz=58,slow=7.5,SNR=5.2
SOEI Soe 66.17 123 P P 16 33 38.2 +13
TORD Torodi Ar. Bea 67.44 270 P P 16 33 31.2 -2.6
comp=Z,0.9nm,0.4s,baz=50,slow=5.9,SNR=20
TORD Torodi Ar. Bea 67.44 270 P P 16 33 30.8 -2.9
TOLK Toolik Lake Re 71.07 15 P P 16 33 55.5 0.0
COLD Coldfoot 72.08 16 P P 16 34 01.5 -0.1
COLD IAmb IAmb 16 34 03.8
comp=Z,7.2nm,0.7s
IMAR Indian Mountai 72.22 18 P P 16 34 01.7 -0.7
PSA00 Pilbara Seismi 72.24 135 P P 16 34 02.0 -1.1
BMAR Burnt Mountain 73.12 14 P P 16 34 07.4 -0.4
FITZ Fitzroy Crossi 73.14 128 P P 16 34 09.1 +0.6
comp=Z,3.9nm,0.7s,baz=359,slow=5.0,SNR=12
FITZ Fitzroy Crossi 73.14 128 P P 16 34 09.1 +0.6
FITZ IAmb IAmb 16 34 13.7
comp=Z,10nm,1.2s
KNRA Kununurra 73.44 124 P P 16 34 11.2 +0.9
INK Inuvik 74.22 10 P P 16 34 15.7 +1.6
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 74.22 10 P P 16 34 15.7 +1.6
INK IAmb IAmb 16 34 17.0
comp=Z,4.8nm,0.6s
MDM Murphy Dome 74.41 17 P P 16 34 15.2 -0.1
MDM IAmb IAmb 16 34 18.6
comp=Z,4.6nm,0.5s
BPAW Bear Paw Mtn. 74.44 19 P P 16 34 16.6 +1.1
BPAW IAmb IAmb 16 34 17.6
comp=Z,7.0nm,0.6s
COLA College 74.57 17ceP P 16 34 16.3 +0.1
COLA pmax pmax
comp=Z,8.0nm,0.7s
CCB Clear Creek Bu 74.77 17 P P 16 34 16.8 -0.6
WRH Wood River Hil 74.85 17 P P 16 34 16.8 -1.1
IL31 74.89 17 P P 16 34 17.8 -0.2
IL31 IAmb IAmb 16 34 20.5
comp=Z,4.6nm,0.7s
ILAR Eielson Array 74.89 17 P P 16 34 16.9 -1.1
comp=Z,3.2nm,0.6s,baz=298,slow=5.5,SNR=30
ILAR Eielson Array 74.89 17 P P 16 34 17.0 -1.1
KTH Kantishna Hill 74.90 19 P P 16 34 17.8 -0.5
KTH IAmb IAmb 16 34 20.9
comp=Z,11nm,0.8s
PPLA Purkeypile 75.09 20 P P 16 34 19.3 -0.1
TRF Thorofare Moun 75.15 19 P P 16 34 20.1 +0.3
TRF IAmb IAmb 16 34 24.2
comp=Z,6.3nm,0.7s
HDA Harding Lake 75.18 17 P P 16 34 18.4 -1.4
HDA IAmb IAmb 16 34 21.8
comp=Z,5.0nm,0.6s
DHY Denali Highway 76.20 18 P P 16 34 25.0 -0.8
DOT Dot Lake 76.49 16 P P 16 34 27.0 -0.3
DOT IAmb IAmb 16 34 29.6
comp=Z,5.3nm,0.6s
M24K Tolsona, Glenn 77.32 18 P P 16 34 32.6 +0.5
BCAR Beaver Creek A 77.50 15 P P 16 34 33.3 +0.2
KLU Klutina 77.91 18 P P 16 34 36.1 +0.7
KLU IAmb IAmb 16 34 42.6
comp=Z,19nm,1.4s
BOSA Boshof 78.42 222 P P 16 34 38.6 0.0
comp=Z,2.4nm,0.5s,baz=26,slow=6.8,SNR=11
BOSA Boshof 78.42 222 P P 16 34 37.7 -0.9
BOSA pmax pmax
comp=Z,14nm,1.5s
BOSA Boshof 78.42 222 P P 16 34 37.7 -0.9
BOSA IAmb IAmb 16 34 51.9
comp=Z,14nm,1.5s
WRA Warramunga Arr 80.20 123 P P 16 34 48.5 +0.1
comp=Z,2.6nm,0.6s,baz=324,slow=5.1,SNR=44
WRA PKKPbc PKKPbc 16 53 33.1 +1.7
comp=Z,0.1nm,0.4s,baz=128,slow=1.8,SNR=5.9
WRAB Tennant Creek 80.20 123⇓eP P 16 34 48.6 +0.2
WRAB pmax pmax
comp=Z,20nm,2.5s
WRAB Tennant Creek 80.20 123 P P 16 34 48.4 0.0
WRAB IAmb IAmb 16 34 48.9
comp=Z,14nm,1.4s
HYT Haines Junctio 80.42 15 P P 16 34 50.0 +0.8
HYT IAmb IAmb 16 34 52.5
comp=Z,10nm,0.6s
YKA Yellowknife Ar 81.76 4 P P 16 34 57.1 +1.0
comp=Z,1.9nm,0.5s,baz=352,slow=5.8,SNR=20
YKA LR LR 17 15 08.7
comp=Z,39nm,18.6s,baz=0.0,slow=39
AS31 Alice Springs 82.49 126 P P 16 34 59.9 -0.6
ASAR Alice Springs 82.49 126 P P 16 35 00.4 -0.1
comp=Z,1.8nm,0.6s,baz=310,slow=5.1,SNR=53
ASAR Alice Springs 82.49 126 P P 16 35 00.7 +0.2
SCHQ Schefferville 83.33 338 LR LR 17 11 52.3
comp=Z,77nm,18.8s,baz=342,slow=36
CTA Charters Tower 88.72 116 P P 16 35 31.5 +0.1
comp=Z,6.1nm,0.9s,baz=290,slow=5.8,SNR=7.9
CTAO Charters Tower 88.72 116 P P 16 35 31.0 -0.5
CTAO pmax pmax

comp=Z,9.0nm,1.1s
CTAO Charters Tower 88.72 116 P P 16 35 31.0 -0.5
ULM Lac du Bonnet 93.69 353 LR LR 17 20 31.3
comp=Z,52nm,20.4s,baz=286,slow=37
TXAR Lajitas Array 115.06 357 PKP **PKiKP 16 41 18.9 -0.3**
comp=Z,1.2nm,1.2s,baz=146,slow=2.4,SNR=3.7
PLCA Paso Flores 151.24 249 PKPbc **PKPbc 16 42 30.8 -0.2**
comp=Z,1.8nm,0.7s,baz=333,slow=2.3,SNR=4.0

*NEIC **27** 16:24:02.8±0.8, 3°.4S±0°.1×145°.0E±0°.2, h30km±13km, mb4.1/7, Error ellipse: s-maj=28.1km s-min=13.1km az=123.0*
*IDC **27** 16:24:02.3±1.2, 3°.72S×144°.89E, h0km, mb3.9/6, mb1 4.2/8, mb1mx3.8/39, mbtmp4.0/8, ML3.9/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/29, Error ellipse: s-maj=34.1km s-min=19.2km az=89.0*
ISC 27 16:24:04.2±0.8, 3°.55S±0°.07×145°.1E±0°.1, h22km, n22, σ1§84/21, mb3.9/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.72**	**57**	Pn	**Pn**	**16 24 43.4**	**-3.2**
PMG	**Port Moresby**	**6.17**	**161**	Pn	**Pn**	**16 25 34.5**	**+0.5**
	2.4nm,0.3s,baz=21,slow=13,SNR=8.9						
PMG				Sn	**Sn**	**16 26 43.2**	**-0.7**
	3.0nm,0.3s,baz=144,slow=23,SNR=7.7						
PMG				LR	LR	16 28 14.0	
	comp=Z,342nm,18.8s,baz=352,slow=41						
PMG	**Port Moresby**	**6.17**	**161**		**Pn**	**16 25 33.7**	**-0.3**
KRVT	**Keravat (AS076**	**6.96**	**96**	LR	LR	16 27 52.6	
	comp=Z,137nm,21.8s,baz=278,slow=32						
RABL	**Rabaul**	**7.08**	**95**	Pn	**Pn**	**16 25 47.9**	**+1.2**
HNR	**Honiara**	**15.86**	**112**	LR	LR	16 33 00.3	
	comp=Z,47nm,19.1s,baz=214,slow=34						
WB0	**Warramunga Arr**	**19.20**	**212**	P	**P**	**16 28 25.3**	**-1.5**
WB0				IAmb	IAmb	16 28 27.7	
	comp=Z,14nm,1.2s						
WR0	**Warramunga Arr**	**19.29**	**211**	P	**P**	**16 28 26.1**	**-1.6**
WRAB	**Tennant Creek**	**19.36**	**212**	P	**P**	**16 28 27.1**	**-1.5**
WRAB				IAmb	IAmb	16 28 28.6	
	comp=Z,11nm,0.9s						
WB2	**Warramunga Arr**	**19.37**	**212**	P	**P**	**16 28 26.1**	**-2.5**
WB2				IAmb	IAmb	16 28 29.3	
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**19.38**	**212**	P	**P**	**16 28 27.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=35,slow=10,SNR=52						
WRA				LR	LR	16 37 14.5	
	comp=Z,152nm,19.4s,baz=355,slow=41						
KNRA	**Kununurra**	**20.09**	**232**	P	**P**	**16 28 34.0**	**-2.5**
AS31	**Alice Springs**	**22.73**	**207**	P	**P**	**16 29 03.4**	**-1.6**
ASAR	**Alice Springs**	**22.73**	**207**	P	**P**	**16 29 03.6**	**-1.4**
	comp=Z,4.5nm,0.8s,baz=37,slow=8.8,SNR=34						
ASAR	**Alice Springs**	**22.73**	**207**	P	**P**	**16 29 03.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**23.92**	**231**	P	**P**	**16 29 15.1**	**-1.7**
	comp=Z,5.7nm,0.7s,baz=0.0,slow=6.5,SNR=19						
FITZ	**Fitzroy Crossi**	**23.92**	**231**	P	**P**	**16 29 14.9**	**-1.9**
FITZ				IAmb	IAmb	16 29 15.4	
	comp=Z,6.5nm,0.8s						
STKA	**Stephens Creek**	**28.37**	**186**	P	**P**	**16 29 57.1**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=343,slow=15,SNR=3.0						
STKA				LR	LR	16 42 19.2	
	comp=Z,69nm,19.0s,baz=23,slow=39						
STKA	**Stephens Creek**	**28.37**	**186**	P	**P**	**16 29 56.0**	**-0.9**
STKA				IAmb	IAmb	16 30 15.6	
	comp=Z,1.9nm,1.5s						
CMAR	**Chiang Mai Arr**	**50.44**	**297**	P	**P**	**16 33 00.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=127,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**74.41**	**321**	P	**P**	**16 35 43.7**	**+3.0**
	comp=Z,0.7nm,0.9s,baz=116,slow=5.0,SNR=3.9						
ILAR	**Eielson Array**	**84.00**	**24**	P	**P**	**16 36 34.7**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=233,slow=5.5,SNR=4.5						

*PRE **27** 17:47:33.3±1.4, 26°.46S×27°.40E, h2km, ML2.7*
*BUL **27** 17:47:34.7±1.0, 26°.50S×27°.66E, h10km, MD4.1*
*EAF **27** 17:47:36.8±1.2, 26°.47S×27°.59E, h10km, MD4.0*
ISC 27 17:47:33.9±0.9, 26°.43S±0°.03×27°.47E±0°.03, h12km±7km, n18, σ1§87/36, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.15**	**56**	*e*P	**Pg**	**17 47 38.0**	**+0.4**
KLOF				*e*S	**Sg**	**17 47 40.8**	**+0.7**
KLOF				AML	AML	17 47 41.4	
	comp=Z,4μm,0.3s						
PRYS	**Parys**	**0.50**	**192**	*e*P	**Pg**	**17 47 42.9**	**-0.9**
PRYS				*e*S	**Sg**	**17 47 48.6**	**-1.9**
PRYS				AML	AML	17 47 53.6	
	comp=Z,232nm,0.4s						
ERPM	**east rand prop**	**0.69**	**83**	*e*P	**Pn**	**17 47 47.6**	**-2.2**
ERPM				*e*S	**Sn**	**17 47 58.6**	**-2.1**
ERPM				AML	AML	17 47 58.6	
	comp=Z,121nm,0.2s						
KSR	**Koster**	**0.78**	**318**	*e*P	**Pg**	**17 47 47.5**	**-1.5**
KSR				*e*S	**Sg**	**17 47 57.4**	**-1.8**
KSR				AML	AML	17 47 59.8	
	comp=Z,474nm,0.2s						
SWZ	**Schweizer**	**2.06**	**248**	*e*P	**Pn**	**17 48 08.6**	**+0.1**
SWZ				*e*S	**Sn**	**17 48 34.2**	**+0.1**
SWZ				AML	AML	17 48 39.9	
	comp=Z,150nm,0.3s						
LBTB	**Lobatse**	**2.21**	**309**	*i* P	**Pb**	**17 48 13.5**	**-0.3**
LBTB				*i* S	**Sb**	**17 48 42.6**	**+1.4**
LBTB	**Lobatse**	**2.21**	**309**	*e*P	**Pn**	**17 48 11.8**	**+1.3**
LBTB				*e*S	**Sn**	**17 48 39.7**	**+1.9**
LBTB				AML	AML	17 48 43.3	
	comp=Z,283nm,0.2s						
LBTB	**Lobatse**	**2.21**	**309**	*i* P	**Pb**	**17 48 13.5**	**-0.3**
LBTB				*i* S	**Sb**	**17 48 42.6**	**+1.4**
BOSA	**Boshof**	**2.93**	**222**	*i* P	**Pn**	**17 48 21.9**	**+1.4**
BOSA				*i* S	**Sn**	**17 48 58.8**	**+3.0**
BOSA	**Boshof**	**2.93**	**222**	*e*P	**Pn**	**17 48 21.2**	**+0.6**
BOSA				*e*S	**Sn**	**17 48 54.7**	**-1.1**
BOSA				AML	AML	17 49 05.5	
	comp=Z,28nm,0.2s						
BOSA	**Boshof**	**2.93**	**222**	*i* P	**Pn**	**17 48 21.9**	**+1.4**
BOSA				*i* S	**Sn**	**17 48 58.8**	**+3.0**
POGA	**Pongola**	**3.89**	**104**	*e*P	**Pn**	**17 48 36.2**	**+2.7**
POGA				*e*S	**Sn**	**17 49 20.6**	**+1.3**
POGA				AML	AML	17 49 41.3	
	comp=Z,24nm,0.4s						
MOPA	**Mopani**	**4.59**	**52**	*e*P	**Pn**	**17 48 44.7**	**+1.4**
MOPA				*e*S	**Sn**	**17 49 38.2**	**+1.6**
MOPA				AML	AML	17 49 56.5	
	comp=Z,12nm,0.4s						
KEIM	**Keimoes**	**6.20**	**247**	*e*P	**Pn**	**17 49 05.1**	**-0.3**
KEIM				*e*S	**Sn**	**17 50 12.9**	**-3.5**
KEIM				AML	AML	17 50 52.3	
	comp=Z,13nm,0.4s						
BLWY	**Bulawayo**	**6.35**	**10**	*i* P	**Pn**	**17 49 09.8**	**+2.2**
BLWY				*i* S	**Sn**	**17 50 18.8**	**-1.4**
BLWY	**Bulawayo**	**6.35**	**10**	*i* P	**Pn**	**17 49 09.8**	**+2.2**
BLWY				*i* S	**Sn**	**17 50 18.8**	**-1.4**
SUR	**Sutherland**	**8.30**	**223**	*i* P	**Pn**	**17 49 36.0**	**+1.6**
SUR				*i* S	**Sn**	**17 51 05.4**	**-2.7**
SUR	**Sutherland**	**8.30**	**223**	*i* P	**Pn**	**17 49 36.0**	**+1.6**
SUR				*i* S	**Sn**	**17 51 05.4**	**-2.7**

MEX 27 17:59:47.6±0.4, 27°.96N×111°.67W, h10km, MD4.1, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.71**	**95**	*e*P	Pg	17 59 59.7	-1.6
GUYB				*e*S	Sg	18 00 08.8	-1.7
HSIG		**1.23**	**31**	*i* P	Pn	18 00 06.4	-4.4
HSIG				*i* S	Sb	18 00 22.5	-4.4
CGIG		**4.02**	**53**	*i* P	Pn	18 00 46.4	-3.0
CGIG				*i* S	Sn	18 01 32.3	-4.3

*ISK **27** 18:22:49.6, 35°.83N×30°.94E, h9km, ML3.2/18*
*DDA **27** 18:22:51.7, 36°.04N×31°.08E, h28km±1km, ML3.0*
*NIC **27** 18:22:53.2±0.0, 35°.89N×30°.86E, h37km±32km, Ml3.4/3*
*HLW **27** 18:22:53.5, 35°.78N×30°.80E, h32km±35km, Ml3.5*
ISC 27 18:22:52.8±1.1, 35°.89N±0°.04×30°.93E±0°.03, h42km±34km, n73, σ1§77/100, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.64**	**312**	*i* P	**Pn**	**18 23 05.0**	**-0.5**
AKUM				*i* S	**Sn**	**18 23 15.4**	**+0.9**
AKUM				IAML		18 23 18.0	
	comp=N,648nm,0.7s						
AKUM				IAML		18 23 19.0	
	comp=E,730nm,0.6s						
ANTB	**Antalya**	**1.03**	**348**	PN	**Pn**	**18 23 11.6**	**+0.9**
ALAN	**Alanya-ANTALYA**	**1.11**	**53**	PN	**Pn**	**18 23 11.0**	**-0.9**
AKAS	**Kas**	**1.12**	**288**	PN	**Pn**	**18 23 12.3**	**+0.1**
AKAS				SN	**Sn**	**18 23 28.8**	**+2.3**
AKAS	**Kas**	**1.12**	**288**	*i* P	**Pn**	**18 23 14.4**	**+2.3**
AKAS				*i* S	**Sn**	**18 23 27.3**	**+0.8**
KEPZ	**Antalya-Kepez**	**1.15**	**28**	*i* P	**Pn**	**18 23 10.8**	**-1.6**
KEPZ				*i* S	**Sn**	**18 23 23.8**	**-3.1**
GAZI	**Gazipasa**	**1.18**	**73**	*i* P	**Pn**	**18 23 11.2**	**-1.6**
GAZI				*i* S	**Sn**	**18 23 25.0**	**-2.6**
GAZI				IAML		18 23 28.0	
	comp=E,700nm,0.3s						
GAZI				IAML		18 23 29.0	
	comp=N,744nm,0.5s						
ELL	**Elmali**	**1.19**	**316**	PN	**Pn**	**18 23 13.6**	**+0.5**
ELL	**Elmali**	**1.19**	**316**	P	**Pn**	**18 23 13.5**	**+0.5**
AKMS	**Akamas**	**1.44**	**127**	P	**Pn**	**18 23 17.0**	**+0.6**
AKMS				AML	AML	18 23 43.1	
	comp=N,1.3nm,0.5s						
AKMS				AML	AML	18 23 43.6	
	comp=N,1.8nm,0.6s						
ALFC	**Alefka**	**1.55**	**118**	P	**Pn**	**18 23 18.8**	**+0.9**
ALFC				S	**Sn**	**18 23 39.7**	**+2.9**
ALFC				AML	AML	18 23 41.9	
	comp=N,1.1nm,0.5s						
ALFC				AML	AML	18 23 41.9	
	comp=N,1.1nm,0.5s						
ALFC				AML	AML	18 23 46.5	
	comp=N,1.6nm,0.4s						
ALFC				AML	AML	18 23 46.5	
	comp=N,1.6nm,0.4s						
BCK	**Bucak**	**1.59**	**350**	PN	**Pn**	**18 23 19.5**	**+1.0**
FETY	**Fethiye**	**1.67**	**297**	*i* P	Pn	18 23 14.4	-5.1
FETY				*i* S	**Sn**	**18 23 39.4**	**-0.3**
SEYD	**Seydisehir-KON**	**1.68**	**26**	PN	**Pn**	**18 23 20.1**	**+0.3**
GOLH	**Golhisar**	**1.74**	**321**	*i* P	**Pn**	**18 23 21.9**	**+1.3**
GOLH				*i* S	**Sn**	**18 23 46.3**	**+4.8**
GOLH				IAML		18 23 59.0	
	comp=N,132nm,1.5s						
NATA	**Nata**	**1.74**	**129**	P	**Pn**	**18 23 21.8**	**+1.2**
AKDN	**Akdeniz- Kıbrı**	**1.77**	**109**	PN	**Pn**	**18 23 21.4**	**+0.6**
LEF	**Lefka**	**1.78**	**115**	PN	**Pn**	**18 23 20.3**	**-0.7**
LEF	**Lefka**	**1.78**	**115**	*i* P	**Pn**	**18 23 20.0**	**-1.0**
LEF				*i* S	**Sn**	**18 23 41.1**	**-1.3**
LEF				IAML		18 23 51.0	
	comp=N,147nm,1.2s						
LEF				IAML		18 23 52.0	
	comp=E,127nm,0.6s						
TEKE	**Tekeli-Mersin**	**1.79**	**81**	PN	**Pn**	**18 23 20.9**	**-0.3**
BERE	**Bereket-Mersin**	**1.91**	**76**	PN	**Pn**	**18 23 23.2**	**+0.2**
BRDR	**BURDUR-Merkez**	**1.93**	**339**	*i* P	**Pn**	**18 23 25.7**	**+2.5**
BRDR				*i* S	**Sn**	**18 23 48.6**	**+2.3**
ISP	**Isparta**	**1.95**	**351**	PN	**Pn**	**18 23 26.2**	**+2.7**
SZAC	**Souni**	**1.96**	**125**	P	**Pn**	**18 23 25.1**	**+1.5**
SZAC				AML	AML	18 23 58.2	
	comp=E,1.1nm,1.0s						
SZAC				AML	AML	18 23 59.2	
	comp=E,1.0nm,0.7s						
DALY	**Dalyan (Mula)**	**2.06**	**297**	PN	**Pn**	**18 23 25.3**	**+0.5**
DALY	**Dalyan (Mula)**	**2.06**	**297**	*i* P	**Pn**	**18 23 25.4**	**+0.6**
DALY				*i* S	**Sn**	**18 23 48.7**	**-0.5**
OREN	**Orenkoy-Mersin**	**2.08**	**81**	PN	**Pn**	**18 23 25.5**	**+0.4**
BAGO	**Egridir - ISPA**	**2.10**	**357**	*i* P	**Pn**	**18 23 26.8**	**+1.3**
BAGO				*i* S	**Sn**	**18 23 51.2**	**+0.8**
TEVE	**Tevekalti-Mers**	**2.11**	**74**	PN	**Pn**	**18 23 26.7**	**+1.1**
AKK1	**Akkuyu-Mersin**	**2.13**	**82**	PN	**Pn**	**18 23 25.9**	**0.0**
AKK2	**Akkuyu-Mersin**	**2.14**	**83**	PN	**Pn**	**18 23 26.5**	**+0.6**
GULN	**MERSIN_Gulnar**	**2.14**	**81**	*i* P	**Pn**	**18 23 26.2**	**+0.3**
GULN				*i* S	**Sn**	**18 23 50.2**	**-1.1**
GULN				IAML		18 23 54.0	
	comp=E,130nm,0.9s						
BASM	**Basmaki-Afyon**	**2.14**	**341**	PN	**Pn**	**18 23 27.7**	**+1.6**
AKKU	**Akkuyu-Mersin**	**2.14**	**82**	PN	**Pn**	**18 23 26.9**	**+0.9**
ATHAL	**Athalassa**	**2.15**	**110**	S	**Sn**	**18 23 53.9**	**+2.4**
ASGA	**Asgata**	**2.19**	**120**	P	**Pn**	**18 23 28.4**	**+1.7**
KMER	**Konya-Meram**	**2.20**	**31**	*i* P	**Pn**	**18 23 27.8**	**+0.9**
KMER				*i* S	**Sn**	**18 23 53.0**	**0.0**
KMER				IAML		18 23 57.0	
	comp=E,91nm,0.4s						
TISA	**Tisan-Mersin**	**2.25**	**82**	PN	**Pn**	**18 23 28.4**	**+1.0**
TAVA	**DENIZLI_Tavas**	**2.26**	**315**	*i* P	**Pn**	**18 23 28.4**	**+0.7**
TAVA				*i* S	**Sn**	**18 23 54.8**	**+0.4**
IKL	**Isikli**	**2.26**	**80**	PN	**Pn**	**18 23 28.8**	**+1.2**
DOGA	**KONYA_Doganhis**	**2.29**	**15**	*i* P	**Pn**	**18 23 29.1**	**+0.9**
DOGA				*i* S	**Sn**	**18 23 56.2**	**+1.1**
DOGA				IAML		18 24 00.0	
	comp=N,111nm,0.5s						
DOGA				IAML		18 24 03.0	
	comp=E,90nm,0.5s						
ARG	**Arkhangelos**	**2.29**	**279**	PN	**Pn**	**18 23 28.2**	**+0.1**
ARG	**Arkhangelos**	**2.29**	**279**	P	**Pn**	**18 23 28.2**	**+0.1**
ARG				S	**Sn**	**18 23 54.7**	**-0.4**
TURN	**Turunc**	**2.34**	**293**	PN	**Pn**	**18 23 29.6**	**+0.9**
TURN	**Turunc**	**2.34**	**293**	*i* P	**Pn**	**18 23 29.4**	**+0.7**
TURN				*i* S	**Sn**	**18 23 54.7**	**-1.5**
KONT	**Konya--Tatoy**	**2.35**	**29**	PN	**Pn**	**18 23 30.2**	**+1.3**
KONT	**Konya--Tatoy**	**2.35**	**29**	*i* P	**Pn**	**18 23 29.9**	**+1.0**
KONT				*i* S	**Sn**	**18 23 58.8**	**+2.2**
OSC1	**CSNet OBS 1**	**2.40**	**173**	P	**Pn**	**18 23 29.9**	**+0.3**
OSC1				S	**Sn**	**18 23 59.9**	**+2.1**
KZIL	**AFYON_Kizioren**	**2.44**	**345**	*i* P	**Pn**	**18 23 30.8**	**+0.5**
KZIL				*i* S	**Sn**	**18 23 58.3**	**-0.7**
YER	**Yerkesik**	**2.47**	**301**	PN	**Pn**	**18 23 31.9**	**+1.4**
LADK	**Ladik-KONYA**	**2.58**	**26**	PN	**Pn**	**18 23 33.6**	**+1.5**
KDHN	**Kadinhani**	**2.79**	**20**	*i* P	**Pn**	**18 23 35.6**	**+0.6**
KDHN				*i* S	**Sn**	**18 24 07.1**	**-0.4**
MLSB	**Milas**	**2.90**	**300**	PN	**Pn**	**18 23 38.3**	**+1.9**
OSC2	**CSNet OBS 4**	**3.02**	**158**	P	**Pn**	**18 23 39.6**	**+1.6**
OSC2				S	**Sn**	**18 24 15.4**	**+2.4**
KIZT	**Kizilcal**	**3.08**	**14**	PN	**Pn**	**18 23 40.6**	**+1.6**
KARP	**Karpathos**	**3.08**	**265**	P	**Pn**	**18 23 39.7**	**+0.7**
KARP				S	**Sn**	**18 24 14.6**	**0.0**
BODT	**Bodrum**	**3.14**	**293**	PN	**Pn**	**18 23 40.9**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**3.18**	**311**	PN	**Pn**	**18 23 41.9**	**+1.5**
USAK	**Uak-Merkez**	**3.20**	**332**	*i* P	**Pn**	**18 23 40.5**	**-0.2**
USAK				*i* S	**Sn**	**18 24 14.8**	**-2.8**
GDZ	**Gediz**	**3.39**	**341**	*i* P	**Pn**	**18 23 43.8**	**+0.5**
GDZ				*i* S	**Sn**	**18 24 15.4**	**-7.0**
MATC	**Matruh**	**5.48**	**215**	P	**Pn**	**18 24 11.7**	**-0.2**
	baz=215						
KOT	**Kottamia**	**6.00**	**172**	P	**Pn**	**18 24 19.3**	**+0.3**
	baz=171						
KOT				AMP		18 25 00.0	
	baz=171						
HHAG	**Hagoal**	**6.00**	**170**	P	**Pn**	**18 24 19.2**	**+0.1**
	baz=169						
HHAG				AMP		18 25 00.0	
	baz=169						
HMYD	**Mayadein**	**6.08**	**181**	P	**Pn**	**18 24 20.3**	**+0.1**
	baz=181						
SUZ	**Suez**	**6.24**	**165**	P	**Pn**	**18 24 22.0**	**-0.4**
	baz=163						
HSAF	**As Saff**	**6.28**	**175**	P	**Pn**	**18 24 22.6**	**-0.3**
	baz=173						
GLL	**Jalalah**	**6.33**	**174**	P	**Pn**	**18 24 23.5**	**-0.1**
	baz=172						
SLUM	**Salum**	**6.48**	**229**	P	**Pn**	**18 24 25.2**	**-0.4**
	baz=230						
SLUM				AMP		18 25 00.0	
	baz=230						
SLUM				S	**Sn**	**18 25 31.3**	**-6.8**
	baz=230						
ZAF	**Zafarana**	**6.73**	**168**	P	**Pn**	**18 24 29.0**	**-0.1**
	baz=166						
ZAF				AMP		18 25 00.0	
	baz=166						
NBNS	**Bani Suef**	**7.25**	**177**	P	**Pn**	**18 24 36.3**	**0.0**
	baz=176						
NBNS				AMP		18 25 00.0	
	baz=176						
NBNS				S	**Sn**	**18 25 51.4**	**-6.0**
	baz=176						
SWA2		**8.08**	**216**	P	**Pn**	**18 24 46.9**	**-0.6**
	baz=217						
TAMRE	**El Minia**	**8.19**	**180**	P	**Pn**	**18 24 49.1**	**+0.1**
	baz=179						
HFRF	**Wahat Farafira**	**9.00**	**195**	P	**Pn**	**18 24 59.2**	**-0.9**
	baz=195						

*TAP **27** 18:25:57.9, 25°.55N×122°.22E, h264km, ML3.1, D*
*JMA **27** 18:26:00.2±0.2, 25°.30N×122°.16E, h241km±3km, M3.0*
ISC 27 18:26:00.5±2.6, 25°.4N±0°.1×122°.23E±0°.05, h243km±14km, n62, σ0§64/90, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42**	**212**	*e*P	**Pn**	**18 26 32.4**	**+0.1**
	baz=189						
TWB1				*e*S	**S**	**18 26 57.5**	**+0.3**
	baz=189						
TIPB	**Shuangxi**	**0.54**	**223**	*e*P	**Pn**	**18 26 33.8**	**+1.1**
	baz=221						
NTC	**Toucheng**	**0.63**	**215**	*e*P	**Pn**	**18 26 33.4**	**+0.5**
	baz=198						
YM10	**YM10**	**0.64**	**251**	*e*P	**Pn**	**18 26 32.2**	**-0.9**
	baz=235						
TWA	**Mucha**	**0.70**	**237**	*e*P	**Pn**	**18 26 33.3**	**0.0**
	baz=219						
TWE	**Neicheng**	**0.82**	**219**	P	**Pn**	**18 26 34.0**	**+0.2**
	baz=210						
TWE				S	**S**	**18 27 01.2**	**+1.3**
	baz=210						
TWC	**Suao**	**0.83**	**205**	*e*P	**Pn**	**18 26 34.7**	**+0.8**
	baz=194						
NWLT	**Wulai**	**0.89**	**228**	*e*P	**Pn**	**18 26 33.8**	**-0.4**
	baz=219						
NWLT				*e*S	**S**	**18 26 59.9**	**-0.6**
	baz=219						
ENTT	**Nioudou**	**0.94**	**220**	P	**Pn**	**18 26 34.4**	**0.0**
	baz=221						
ENTT				*e*S	**S**	**18 27 00.9**	**-0.2**
	baz=221						
ENAH	**Nanao**	**0.99**	**203**	*e*P	**Pn**	**18 26 35.0**	**+0.3**
	baz=193						
ENAH				*e*S	**S**	**18 27 01.9**	**+0.3**
	baz=193						
NDT	**Datong Townshi**	**1.00**	**221**	P	**Pn**	**18 26 34.7**	**-0.1**
	baz=223						
NDT				*e*S	**S**	**18 27 02.0**	**+0.3**
	baz=223						
YHNB	**Yeheng**	**1.04**	**228**	P	**Pn**	**18 26 34.5**	**-0.6**
	baz=227						
YHNB				S	**S**	**18 27 01.1**	**-1.2**
	baz=227						
NSK	**Sanguang**	**1.05**	**229**	P	**Pn**	**18 26 34.5**	**-0.6**
	baz=228						
NSK				S	**S**	**18 27 01.6**	**-0.7**
	baz=228						
JYNG	**Yonagunijimaku**	**1.12**	**145**	P	**Pn**	**18 26 35.1**	**-0.4**
JYNG				*e*S	**S**	**18 27 02.4**	**-0.5**
YOJ	**Yonaguni jima**	**1.15**	**142**	P	**Pn**	**18 26 35.5**	**-0.2**
	baz=154						
YOJ				S	**S**	**18 27 03.7**	**+0.5**
	baz=154						
NNS	**Nan Shan**	**1.21**	**220**	P	**Pn**	**18 26 36.1**	**-0.1**
	baz=211						
NNSB	**Datong**	**1.21**	**220**	P	**Pn**	**18 26 36.0**	**-0.2**
	baz=213						
NNSB				S	**S**	**18 27 04.3**	**+0.1**
	baz=213						
NNSH	**Datong**	**1.21**	**220**	P	**Pn**	**18 26 35.9**	**-0.3**
	baz=214						
NNSH				*e*S	**S**	**18 27 03.4**	**-0.8**
	baz=214						
LIOB	**Emei**	**1.32**	**237**	*e*P	**Pn**	**18 26 36.8**	**0.0**
	baz=226						
NACB	**Ninganchiao**	**1.32**	**206**	P	**Pn**	**18 26 36.0**	**-0.8**
	baz=202						
NACB				*e*S	**S**	**18 27 04.9**	**-0.4**
	baz=202						
NSTT	**Nanjuang**	**1.34**	**237**	*e*P	**Pn**	**18 26 36.7**	**-0.2**
	baz=227						
NSTT				*e*S	**S**	**18 27 05.3**	**-0.2**
	baz=227						
ETLH	**Xiulin Townshi**	**1.34**	**211**	P	**Pn**	**18 26 37.3**	**+0.2**
	baz=212						
ETLH				*e*S	**S**	**18 27 05.8**	**0.0**
	baz=212						
FUSS	**Fushou**	**1.43**	**219**	P	**Pn**	**18 26 38.1**	**+0.2**
	baz=210						
FUSS				*e*S	**S**	**18 27 07.3**	**0.0**
	baz=210						
TWT	**Tachien**	**1.47**	**221**	*e*P	**Pn**	**18 26 38.4**	**+0.3**
	baz=219						
TWT				*e*S	**S**	**18 27 09.2**	**+1.7**
	baz=219						
TDCB	**Techi**	**1.48**	**221**	P	**Pn**	**18 26 38.1**	**0.0**
	baz=219						
TDCB				*e*S	**S**	**18 27 08.9**	**+1.2**
	baz=219						
WHF	**Hehuan Shan**	**1.50**	**216**	P	**Pn**	**18 26 38.8**	**+0.1**
	baz=209						
WHF				S	**S**	**18 27 09.3**	**+0.7**
	baz=209						
WHP	**Taichung City**	**1.59**	**227**	*e*P	**Pn**	**18 26 38.8**	**-0.1**
	baz=215						
CHGB	**Renai**	**1.62**	**217**	P	**Pn**	**18 26 39.5**	**+0.1**
	baz=211						
CHGB				S	**S**	**18 27 11.7**	**+1.8**
	baz=211						
IRIF	**Iriomote-Funau**	**1.71**	**127**	P	**Pn**	**18 26 39.7**	**-0.1**
IRIF				S	**S**	**18 27 09.9**	**-0.7**
EGFH	**Guangfu**	**1.84**	**204**	*e*P	**Pn**	**18 26 40.1**	**-0.9**
	baz=204						
VWDT	**VWDT**	**1.89**	**212**	*e*P	**Pn**	**18 26 42.0**	**+0.6**
	baz=203						
SMLT	**Sun Moon Lake**	**1.91**	**220**	*e*P	**Pn**	**18 26 41.5**	**-0.3**
	baz=220						
HATJ	**Hateruma jima**	**1.94**	**132**	S	**S**	**18 27 13.9**	**-0.3**
SSLB	**Suanglung**	**1.96**	**217**	*e*P	**Pn**	**18 26 41.6**	**-0.4**
	baz=216						
JKRS	**Kuro-shima**	**1.97**	**125**	P	**Pn**	**18 26 42.5**	**+0.4**
JKRS				S	**S**	**18 27 14.6**	**-0.1**
JIJ	**Ishigaki jima**	**2.00**	**120**	P	**Pn**	**18 26 42.3**	**-0.1**
JIJ				S	**S**	**18 27 13.9**	**-1.4**
HGSD	**Ruisui**	**2.01**	**202**	*e*P	**Pn**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAST	**Anshuo**	3.23	203	*e*P	Pn	18 26 55.6	+0.4
	baz=205						

IDC ***27*** *18:39:29.8±0.8, 27°.57N×65°.99E, h0km, mb4.0/16, mb1 4.1/17, mb1mx3.9/42, mbtmp4.0/17, ML4.0/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/36, Error ellipse: s-maj=18.4km s-min=15.6km az=16.0*
MOS ***27*** *18:39:33.9±1.4, 27°.73N×66°.15E, h30km, mb4.2/9, Error ellipse: s-maj=8.5km s-min=5.0km az=78.6*
NEIC ***27*** *18:39:34.5±2.4, 27°.66N±0°.08×66°.03E±0°.08, h30km±5km, mb4.5/42, Error ellipse: s-maj=12.7km s-min=9.1km az=152.0*
ISC 27 18:39:33.5±0.4**, 27°.55N**±0°.05×**66°.03E**±0°.04**, h25**km**, n172,** σ2°**08**/183**, mb4.3**/49**, MS3.3**/5**, 6C-7D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	5.39	142	*e*P	Pn	18 40 52.7	+0.3
BHUJ				*e*S	Sn	18 41 55.9	+2.3
BHUJ				IAML		18 41 58.5	
	comp=E,174nm,0.6s						
BHUJ				IAML		18 41 58.9	
	comp=N,112nm,0.9s						
THW	**Thamme Wali**	7.19	42	⇑P	Pn	18 41 15.0	-2.2
KBL	**Kabul**	7.43	20	P	Pn	18 41 18.9	-1.7
KBL	**Kabul**	7.43	20		Pn	18 41 18.9	-1.7
HRA	**Herat**	7.55	335	Pn	Pn	18 41 22.3	+0.1
AJM	**Ajmer**	7.76	96	*e*P	Pn	18 41 25.0	+0.1
AJM				*i* S	Sn	18 42 45.0	-7.0
WSAR	**Wadi Sarin**	7.95	239	Pn	Pn	18 41 27.4	-0.1
	comp=N,1.9nm,0.3s,baz=85,slow=3.9,SNR=14						
WSAR				Sn	Sn	18 42 51.9	-4.8
	comp=N,2.7nm,0.3s,baz=266,slow=22,SNR=4.3						
WSAR				LR	LR	18 44 52.5	
	comp=N,91nm,21.2s,baz=82,slow=41						
WSAR	**Wadi Sarin**	7.95	239	P	Pn	18 41 28.4	+0.8
	SNR=12						
WSAR				S	Sn	18 42 50.9	-5.8
CEP	**Cherat**	8.04	38	P	Pn	18 41 27.3	-1.6
JLN	**Jalan Bani Buh**	8.06	230	P	Pn	18 41 29.1	0.0
	SNR=16						
JLN				S	Sn	18 42 55.3	-4.2
WBK	**Wadi Bani Khal**	8.07	234	P	Pn	18 41 29.7	+0.5
	SNR=12						
WBK				S	Sn	18 42 56.2	-3.5
BIDO	**Bidbid**	8.19	242	S	Sn	18 42 58.2	-4.3
NIL	**Nilore**	8.70	44	P	Pn	18 41 36.6	-1.2
NIL	**Nilore**	8.70	44	Pn	Pn	18 41 36.6	-1.2
HOQ	**Hoqain**	8.81	245	P	Pn	18 41 40.4	+1.1
	SNR=7.1						
BANOM	**Banah**	8.85	262	*i* P	Pn	18 41 40.6	+0.7
	SNR=12						
BANOM	**Banah**	8.85	262	P	Pn	18 41 41.0	+1.1
	SNR=19						
BANOM				P	Pn	18 41 41.0	+1.1
	SNR=19						
SHME	**Shamm**	8.96	263	*i* P	Pn	18 41 42.7	+1.3
	SNR=12						
MDH	**Madha**	9.01	258	P	Pn	18 41 41.9	-0.1
MDH	**Madha**	9.01	258	P	Pn	18 41 42.3	+0.3
MSFE	**Esma-Masafi**	9.11	258	P	Pn	18 41 43.5	0.0
UOSS	**Minazif**	9.19	256	P	Pn	18 41 43.8	-0.8
UOSS	**Minazif**	9.19	256	P	Pn	18 41 44.7	+0.1
UOSS				P	Pn	18 41 44.7	+0.1
UOSS	**Minazif**	9.19	256		Pn	18 41 44.5	0.0
SOHO	**SOHO**	9.20	250	*i* P	Pn	18 41 43.9	-0.8
	SNR=12						
SOHO	**SOHO**	9.20	250	P	Pn	18 41 44.9	+0.2
HATD	**Hatta, Dubai**	9.29	255	P	Pn	18 41 45.6	-0.4
ASHO	**Ashiyiah**	9.40	255	*i* P	Pn	18 41 48.7	+1.2
	SNR=6.5						
NAZ	**Nazwa, Dubai**	9.65	257	P	Pn	18 41 52.5	+1.7
THN	**Thein Dam**	9.71	58	*e*P	Pn	18 41 53.5	+2.0
THN				*ex*	x	18 43 53.5	
SONA	**Sohna**	9.80	83	*e*P	Pn	18 41 51.8	-1.1
SONA				*ex*	x	18 43 39.2	
BHK	**Bhakra**	9.84	64	*ex*	Sn	18 43 50.8	+7.7
NDI	**New Delhi**	9.94	81	*e*P	Pn	18 41 50.7	-4.1
NDI				*e*S	Sn	18 43 40.3	-5.4
DHRM	**DHARAMSHALA**	10.07	60	*e*P	Pn	18 41 55.7	-1.1
DHRM				*e*S	Sn	18 43 44.8	-4.2
DHRM				IAML		18 43 53.8	
	comp=N,207nm,0.5s						
DHRM				IAML		18 43 56.7	
	comp=E,215nm,0.5s						
SMLA	**Simla**	10.35	67	*e*P	Pn	18 41 59.7	-0.7
SMLA				*ex*	x	18 43 41.1	
SMLA				IAML		18 43 59.5	
	comp=N,76nm,1.0s						
SMLA				IAML		18 43 59.5	
	comp=E,74nm,0.6s						
BHPL	**Bhopal**	11.16	110	*e*P	Pn	18 42 11.3	-0.3
CHGR	**Chuyangaron**	11.38	13		Pn	18 42 12.8	-1.8
POO	**Poona**	11.50	140	*ex*	Sn	18 44 40.0	+16
GAR	**Garm**	11.97	16	Pn	Pn	18 42 19.2	-3.4
GEYT	**Alibeck**	12.30	329	Pn	Pn	18 42 27.0	-0.1
GYA0B	**ALIBECK ARRAY**	12.30	329	Pn	Pn	18 42 27.0	-0.1
BTK	**Batken**	13.09	16	P	Pn	18 42 37.1	-0.9
BTK	**Batken**	13.09	16	Pn	Pn	18 42 37.1	-0.9
NGP	**Nagpur**	13.46	115	*e*P	Pn	18 42 44.1	+1.1
TAS	**Tashkent**	14.00	10	P	Pn	18 42 48.9	-1.4
TAS	**Tashkent**	14.00	10	Pn	Pn	18 42 48.9	-1.4
PYUN	**Piuthan**	15.02	84	*e*P	Pn	18 43 00.7	-3.7
	comp=E,76nm,0.6s						
KOLN	**Koldanda**	15.57	85	*e*P	Pn	18 43 07.3	-4.4
	comp=E,31nm,0.6s						
DANN	**Dangsing**	15.69	83	*e*P	Pn	18 43 09.6	-3.7
	comp=E,58nm,0.6s						
KK31	**Karatay Array**	15.94	12	P	Pn	18 43 13.0	-3.1
KK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KK31	**Karatay Array**	15.94	12	Pn	Pn	18 43 13.0	-3.1
KKAR	**Karatay Array**	15.94	12	P	Pn	18 43 13.9	-2.2
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	15.94	12	Pn	Pn	18 43 13.8	-2.3
KKAR	**Karatay Array**	15.94	12	Pn	Pn	18 43 13.9	-2.2
GKN	**Gorkha**	16.48	84	*e*P	Pn	18 43 19.6	-3.6
	comp=Z,38nm,0.6s						
AAK	**Ala-Archa**	16.55	22	⇓*e*P	Pn	18 43 21.6	-2.5
AAK				pmax	pmax		
	comp=Z,26nm,1.6s						
FRU1	**Bishkek**	16.75	22	P	Pn	18 43 24.9	-1.6
FRU1				pmax	pmax		
	comp=Z,11nm,1.0s						
FRU1	**Bishkek**	16.75	22	Pn	Pn	18 43 24.9	-1.6
DMN	**Daman**	16.92	85	*e*P	Pn	18 43 24.3	-4.6
	comp=Z,50nm,0.9s						
BOOM	**Boomskoye usch**	16.95	26	P	Pn	18 43 26.1	-3.0
BOOM				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOOM	**Boomskoye usch**	16.95	26	Pn	Pn	18 43 26.1	-3.0
KKN	**Kakani**	17.06	85	*e*P	Pn	18 43 26.5	-4.1
	comp=Z,41nm,0.8s						
TARG	**Taragay, Kyrgy**	17.12	31		Pn	18 43 27.2	-4.3
KDJ	**Kajisay**	17.16	29	P	Pn	18 43 28.6	-3.2
KDJ	**Kajisay**	17.16	29		Pn	18 43 28.6	-3.2
PKIN	**Phulchoki**	17.18	85	*e*P	Pn	18 43 27.5	-4.6
	comp=Z,42nm,0.8s						
PKI	**Pulchoki**	17.19	85	*e*P	Pn	18 43 27.7	-4.6
	comp=Z,37nm,0.7s						
JIRN	**Jiri**	17.87	85	*e*P	Pn	18 43 36.7	-4.2
	comp=Z,287nm,1.0s						
PRZ	**Przheval'sk**	17.99	31	P	Pn	18 43 41.5	-0.5
PRZ				pmax	pmax		
	comp=Z,12nm,0.9s						
PRZ	**Przheval'sk**	17.99	31	P	Pn	18 43 41.5	-0.5
RAMN	**Ramite**	18.30	87	*e*P	Pn	18 43 42.4	-3.6
	comp=Z,30nm,0.6s						
ODAN	**Odare**	19.01	87	*e*P	P	18 43 51.5	-2.3
	comp=Z,57nm,0.7s						
TAPN	**Taplejung**	19.24	86	*e*P	P	18 43 55.0	-1.4
	comp=Z,31nm,0.8s						
GNBR	**Gunib**	21.45	319	⇓*e*P	P	18 44 22.8	+2.8
LSA	**Lhasa**	22.14	78	*i* P	P	18 44 29.5	+1.5
	SNR=19						
LSA	**Lhasa**	22.14	78	P	P	18 44 29.1	+1.1
LSA				pmax	pmax		
	comp=Z,21nm,0.9s						
LSA	**Lhasa**	22.14	78	P	P	18 44 29.1	+1.1
LSA				IAmb	IAmb	18 44 31.0	
	comp=Z,21nm,0.9s						
ABKAR	**Akbulak array**	22.18	349	P	P	18 44 26.9	-0.7
ABKAR	**Akbulak array**	22.18	349	P	P	18 44 27.4	-0.1
ABKAR				IAmb	IAmb	18 44 30.9	
	comp=Z,12nm,0.9s						
DVE	**Vedeno**	22.29	319	*d* iP	P	18 44 31.0	+2.0
GROC	**Groznyy**	22.63	319	*e*P	P	18 44 34.5	+2.0
GROC				*e*		18 44 56.8	
GROC				*e*		18 48 24.9	
GROC				pmax	pmax		
	comp=Z,42nm,0.9s						
MAKZ	**Makanchi**	22.96	29	P	P	18 44 35.2	-0.8
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAKZ	**Makanchi**	22.96	29	P	P	18 44 35.2	-0.8
MAKZ				IAmb	IAmb	18 44 40.4	
	comp=Z,7.7nm,0.7s						
AKH	**Akhalkalaki**	23.07	313	P	P	18 44 38.0	+0.6
AKH				pmax	pmax		
	comp=Z,21nm,1.2s						
AKH	**Akhalkalaki**	23.07	313	P	P	18 44 38.0	+0.6
AKH				IAmb	IAmb	18 44 41.0	
	comp=Z,21nm,1.2s						
MK31	**Makanchi Array**	23.09	29	P	P	18 44 37.6	+0.3
MK31				pmax	pmax		
	comp=Z,16nm,1.6s						
MK31	**Makanchi Array**	23.09	29	P	P	18 44 37.6	+0.3
MK31				IAmb	IAmb	18 44 44.0	
	comp=Z,16nm,1.6s						
MKAR	**Makanchi Array**	23.09	29	P	P	18 44 36.0	-1.2
	comp=Z,2.3nm,0.5s,baz=211,slow=11,SNR=22						
MKAR				LR	LR	18 55 16.9	
	comp=Z,112nm,20.0s,baz=216,slow=41						
MKAR	**Makanchi Array**	23.09	29	P	P	18 44 36.4	-0.9
SHL	**Shillong**	23.20	89	P	P	18 44 38.4	-0.4
SHL				pmax	pmax		
	comp=Z,38nm,1.3s						
SHL	**Shillong**	23.20	89	P	P	18 44 38.4	-0.4
SHL				IAmb	IAmb	18 44 41.3	
	comp=Z,38nm,1.3s						
MARD	**Mardin**	23.37	301	P	P	18 44 39.2	-1.2
MARD				IAmb	IAmb	18 44 43.3	
	comp=Z,8.1nm,0.9s						
ZEI	**Tsey**	23.53	316	*e*P	P	18 44 42.2	+0.3
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTO	**Aktyubinsk**	23.66	347	P	P	18 44 42.8	-0.1
	comp=Z,8.8nm,0.7s,baz=165,slow=6.8,SNR=32						
AKTO				LR	LR	18 55 16.1	
	comp=Z,76nm,21.7s,baz=157,slow=40						
WMQ	**Urumqi**	23.84	41	P	P	18 44 45.5	+0.8
WMQ				pmax	pmax		
	comp=Z,25nm,1.2s						
WMQ	**Urumqi**	23.84	41	P	P	18 44 45.5	+0.8
WMQ				IAmb	IAmb	18 44 47.2	
	comp=Z,25nm,1.2s						
KBZ	**Khabaz**	24.66	317	⇑*e*P	P	18 44 53.4	+1.3
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SHA1	**Shidzhatmaz**	24.81	317	*i* P	P	18 44 56.3	+2.5
KIV	**Kislovodsk**	24.91	317	*e*P	P	18 44 55.9	+1.3
KIV				pmax	pmax		
	comp=Z,25nm,1.0s						
KIV	**Kislovodsk**	24.91	317	P	P	18 44 54.4	-0.2
KIV				IAmb	IAmb	18 45 04.4	
	comp=Z,16nm,1.3s						
KURBB	**Kurchatov Arra**	24.93	19	P	P	18 44 54.3	-0.2
	comp=Z,2.7nm,0.6s,baz=211,slow=8.7,SNR=18						
KURK	**Kurchatov**	25.04	19	*ce*P	P	18 44 55.5	0.0
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KURK	**Kurchatov**	25.04	19	P	P	18 44 55.2	-0.3
BVAR	**Borovoye Array**	25.65	6	P	P	18 45 01.0	-0.1
	comp=Z,1.9nm,0.6s,baz=170,slow=18,SNR=13						
BVAR	**Borovoye Array**	25.65	6	P	P	18 45 01.0	-0.1
BRVK	**Borovoye**	25.68	6	⇓*e*P	P	18 45 02.8	+1.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	25.68	6	P	P	18 45 00.9	-0.4
BRVK				IAmb	IAmb	18 45 03.4	
	comp=Z,5.4nm,0.8s						
DGZ	**Jazzator, Alta**	27.54	31	⇑*i* P	P	18 45 19.6	+1.2
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ANN	**Anapa**	28.59	315	*e*P	P	18 45 25.3	-2.2
ANN				pmax	pmax		
	comp=Z,702nm,4.4s						
ARU	**Arti**	29.35	352	P	P	18 45 35.3	+1.1
	comp=Z,0.8nm,0.6s,baz=199,slow=8.8,SNR=4.6						
ARU				LR	LR	18 58 27.7	
	comp=Z,117nm,19.3s,baz=214,slow=39						
ARU	**Arti**	29.35	352	*d* iP	P	18 45 35.5	+1.3
ARU						18 46 25.5	
ARU				S	S	18 50 28.9	+2.8
ARU				SS	SnSn	18 51 54.7	+1.5
ARU				pmax	pmax		
	comp=Z,15nm,2.7s						
ARU	**Arti**	29.35	352	P	P	18 45 34.7	+0.5
ARU				IAmb	IAmb	18 45 51.3	
	comp=Z,11nm,1.4s						
ZAA0	**Zalesovo Array**	29.78	23	P	P	18 45 37.7	-0.3
ZAA0				IAmb	IAmb	18 46 12.5	
	comp=Z,3.7nm,0.9s						
ZALV	**Zalesovo Beam**	29.78	23	P	P	18 45 38.2	+0.2
	comp=Z,1.1nm,0.5s,baz=236,slow=12,SNR=7.1						
ZALV				LR	LR	18 58 45.0	
	comp=Z,54nm,20.5s,baz=270,slow=39						
ZALV	**Zalesovo Beam**	29.78	23	P	P	18 45 36.1	-1.9
ZALV	**Zalesovo Beam**	29.78	23	P	P	18 45 36.1	-1.9
GTA	**Gaotai**	30.39	58	*e*P	P	18 45 45.0	+1.2
GTA				pP	pP	18 45 48.5	-3.1
GTA				sP	sP	18 45 51.8	-3.1
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	31.41	99	P	P	18 45 53.7	+0.9
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.4s						
CHTO	**Chiang Mai**	31.41	99	P	P	18 45 53.7	+0.9
CHTO				IAmb	IAmb	18 45 58.4	
	comp=Z,5.8nm,1.4s						
CM31	**Chiang Mai Arr**	31.54	100	P	P	18 45 54.4	+0.4
CMAR	**Chiang Mai Arr**	31.54	100	P	P	18 45 55.2	+1.3
	comp=Z,0.7nm,0.5s,baz=289,slow=11,SNR=5.5						
CMAR	**Chiang Mai Arr**	31.54	100	P	P	18 45 54.0	0.0
KIRV	**Kirov**	33.12	344	⇓*e*P	P	18 46 07.7	+0.4
AKASG	**Malin Array Be**	36.18	320	P	P	18 46 32.7	-1.2
	comp=Z,2.1nm,0.8s,baz=111,slow=7.3,SNR=4.9						
AKASG	**Malin Array Be**	36.18	320	P	P	18 46 32.7	-1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,1.3s						
AKBB	**Malin Array Si**	36.18	320	*ce*P	P	18 46 34.5	+0.6
XAN	**Xi'an**	37.20	69	P	P	18 46 41.5	-1.4
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN	**Xi'an**	37.20	69	P	P	18 46 41.5	-1.4
XAN				IAmb	IAmb	18 46 47.2	
	comp=Z,4.3nm,0.7s						
SONM	**Songino Array**	37.27	46	P	P	18 46 44.6	+1.2
	comp=Z,1.4nm,0.7s,baz=232,slow=9.2,SNR=5.0						
SONM	**Songino Array**	37.27	46	P	P	18 46 43.9	+0.5
SONM				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	37.27	46	P	P	18 46 43.9	+0.5
BURAR	**Bucovina Array**	37.49	313	P	P	18 46 45.0	-0.2
BUR08	**Bucovina Ar. S**	37.51	313	P	P	18 46 45.7	+0.3
BUR08				IAmb	IAmb	18 46 57.0	
	comp=Z,4.9nm,1.1s						
ULN	**Ulaanbaatar**	37.70	46	⇓*e*P	P	18 46 48.0	+0.9
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KLMR	**Klimovskoe**	37.80	339	*e*P	P	18 46 46.4	-1.1
KLMR				pmax	pmax		
	comp=Z,23nm,1.5s						
KLMR	**Klimovskoe**	37.80	339	*e*P	P	18 46 46.4	-1.1
KLMR				AMP		18 46 50.8	
	comp=Z,23nm,1.5s						
WHN	**Wuhan**	42.10	74	P	P	18 47 24.5	+0.9
WHN				pmax	pmax		
	comp=Z,42nm,1.3s						
FINES	**FINESS Array B**	43.07	333	P	P	18 47 30.5	-0.5
	comp=Z,3.1nm,0.9s,baz=137,slow=12,SNR=6.7						
CORL	**Corleone**	45.02	297	P	P	18 47 49.3	+2.1
GERES	**GERESS Array B**	45.26	313	P	P	18 47 48.2	-0.8
	comp=Z,0.4nm,0.7s,baz=63,slow=9.3,SNR=3.5						
GERES				LR	LR	19 12 21.0	
	comp=Z,50nm,18.2s,baz=343,slow=44						
GERES	**GERESS Array B**	45.26	313	P	P	18 47 47.7	-1.3
GERES	**GERESS Array B**	45.26	313	P	P	18 47 47.7	-1.3
TUE	**Stuetta**	47.97	309	P	P	18 48 08.4	-2.0
TUE				IAmb	IAmb	18 48 25.1	
	comp=Z,12nm,1.6s						
BNI	**Bardonecchia**	49.81	307	P	P	18 48 23.3	-1.1
BNI				pmax	pmax		
	comp=Z,11nm,1.5s						
BNI	**Bardonecchia**	49.81	307	P	P	18 48 23.3	-1.1
BNI				IAmb	IAmb	18 48 25.0	
	comp=Z,11nm,1.5s						
KS19	**Wonju Array Si**	52.25	62	P	P	18 48 43.3	+0.5
KS19				IAmb	IAmb	18 48 52.0	
	comp=Z,21nm,1.6s						
KSAR	**Wonju Array Be**	52.27	63	P	P	18 48 43.1	+0.2
KSAR	**Wonju Array Be**	52.27	63	P	P	18 48 43.1	+0.2
KSRS	**Korea Array**	52.30	63	P	P	18 48 42.8	-0.3
	comp=Z,3.2nm,0.7s,baz=270,slow=7.7,SNR=22						
YAK	**Yakutsk**	53.73	32	P	P	18 48 52.9	-0.3
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
YAK	**Yakutsk**	53.73	32	P	P	18 48 52.9	-0.3
TIXI	**Tiksi**	55.61	20	⇑*e*P	P	18 49 09.1	+2.4
TIXI				pmax	pmax		
	comp=Z,34nm,1.2s						
JMN	**Monobe**	57.77	66	P	P	18 49 22.6	-0.2
ESDC	**Sonseca Array**	58.20	301	P	P	18 49 25.3	-0.4
	comp=Z,0.9nm,0.9s,baz=104,slow=8.1,SNR=5.0						
ESDC	**Sonseca Array**	58.20	301	P	P	18 49 26.6	+0.9
JWT	**Wachi**	58.64	64	P	P	18 49 29.6	+0.9
TOA0	**Torodi Ar. Sit**	61.41	270	P	P	18 49 48.6	+0.6
TOA0				IAmb	IAmb	18 49 51.1	
	comp=Z,4.5nm,0.9s						
TORD	**Torodi Ar. Bea**	61.41	270	P	P	18 49 48.4	+0.3
	comp=Z,2.9nm,0.6s,baz=61,slow=5.2,SNR=17						
TORD	**Torodi Ar. Bea**	61.41	270	P	P	18 49 48.5	+0.4
LBTB	**Lobatse**	65.19	220	P	P	18 50 15.5	+2.6
LBTB				pmax	pmax		
	comp=Z,17nm,1.3s						
LBTB	**Lobatse**	65.19	220	P	P	18 50 15.5	+2.6
MMRI	**Maumere**	65.19	115	P	P	18 50 13.7	+0.6
BOSA	**Boshof**	68.16	218	P	P	18 50 35.7	+3.8
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOSA	**Boshof**	68.16	218	P	P	18 50 35.7	+3.8
PET	**Petropavlovsk**	70.00	40	P	P	18 50 44.1	+1.3
PET				pmax	pmax		
	comp=Z,57nm,1.2s						
PET	**Petropavlovsk**	70.00	40	P	P	18 50 44.1	+1.3
DBIC	**Dimbokro**	70.01	267	P	P	18 50 43.0	-0.5
DBIC				pmax	pmax		
	comp=Z,25nm,1.6s						
DBIC	**Dimbokro**	70.01	267	P	P	18 50 43.0	-0.5
FITZ	**Fitzroy Crossi**	73.43	121	P	P	18 51 05.6	+1.6
FITZ				IAmb	IAmb	18 51 28.4	
	comp=Z,9.6nm,1.4s						
KNRA	**Kununurra**	74.44	117	P	P	18 51 10.9	+1.0
WRA	**Warramunga Arr**	81.22	118	P	P	18 51 47.8	+0.1
	comp=Z,1.7nm,1.0s,baz=319,slow=4.7,SNR=15						
ASAR	**Alice Springs**	82.94	121	P	P	18 51 56.6	0.0
	comp=Z,1.5nm,0.8s,baz=310,slow=5.2,SNR=18						

IDC ***27*** *18:56:36.5±1.3, 5°.37S×153°.03E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=31.5km s-min=22.2km az=97.0*
NEIC ***27*** *18:56:38.5±1.3, 5°.41S±0°.09×153°.03E±0°.10, h15km±5km, mb4.4/6, Error ellipse: s-maj=15.5km s-min=10.6km az=124.0*
ISC 27 18:56:41.7±0.9**, 5°.42S**±0°.07×**153°.0E**±0°.1**, h37**km**, n17,** σ0°**86**/19**, mb3.8**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	1.46	319	Pn	Pn	18 57 04.4	-1.1
	181nm,0.3s,baz=182,slow=1.8,SNR=476						
KRVT				Sn	Sn	18 57 24.2	+0.8
	116nm,0.3s,baz=358,slow=22,SNR=12						
RABL	**Rabaul**	1.47	326		Pn	18 57 04.8	-0.9
PMG	**Port Moresby**	7.01	235	Pn	Pn	18 58 22.1	+0.3
PMG					Sn	18 59 39.1	-1.2
WB0	**Warramunga Arr**	23.04	230	P	P	19 01 45.6	+1.7
WR0	**Warramunga Arr**	23.04	230	P	P	19 01 43.6	-0.3
WR0				IAmb	IAmb	19 01 44.2	
	comp=Z,12nm,1.6s						
WRAB	**Tennant Creek**	23.17	230	P	P	19 01 45.2	0.0
WB2	**Warramunga Arr**	23.18	230	P	P	19 01 44.0	-1.3
WRA	**Warramunga Arr**	23.18	230	P	P	19 01 45.5	+0.1
	comp=Z,0.6nm,0.6s,baz=52,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	25.83	223	P	P	19 02 10.5	+0.7
	comp=Z,0.8nm,0.8s,baz=58,slow=9.1,SNR=6.7						
KNRA	**Kununurra**	25.87	245	P	P	19 02 10.9	+0.6
KNRA				IAmb	IAmb	19 02 21.6	
	comp=Z,21nm,1.6s						
FITZ	**Fitzroy Crossi**	29.53	242	P	P	19 02 43.1	+0.1
FITZ				IAmb	IAmb	19 03 16.8	
	comp=Z,8.9nm,1.2s						
RAR	**Rarotonga**	48.36	114	P	P	19 05 19.5	-0.7
PET	**Petropavlovsk**	58.42	4	P	P	19 06 34.5	+1.1
PETK	**Petropavlovsk-**	58.44	3	P	P	19 06 34.0	+0.4
	comp=Z,0.7nm,0.5s,baz=180,slow=7.9,SNR=8.3						
MKAR	**Mak

comp=Z,11nm,0.3s,baz=122,slow=18,SNR=7.1
ROSC Sn **Sn** **19 33 04.6 +0.4**
comp=Z,16nm,0.3s,baz=131,slow=17,SNR=3.4
ROSC El Rosal 3.06 288 *eP* **Pn** **19 32 27.4 +0.7**
SPBC San Pablo de B 3.19 304 *eP* **Pn** **19 32 28.6 +0.4**
SPBC *eS* **Sb** **19 33 14.3 +0.4**
SPBC *i* 19 33 20.1
comp=Z,134nm,0.4s
PRAC Prado 3.48 267 *eP* **Pn** **19 32 34.1 +1.9**
PRAC *eS* **Sb** **19 33 23.7 +1.5**
PRAC *i* 19 33 39.6
comp=Z,90nm,0.4s
PAMC Pamplona, Colo 3.67 339 *eP* **Pn** **19 32 36.0 +0.9**
PAMC *eS* **Sn** **19 33 17.2 -2.1**
PAMC *i* 19 33 37.2
comp=Z,109nm,0.3s
GUY2C Guyana, Caldas 4.17 289 *eP* **Pn** **19 32 43.2 +1.2**
GUY2C *eS* **Sn** **19 33 29.6 -2.1**
GUY2C *i* 19 33 36.0
comp=Z,42nm,0.6s
GARC Garzon, Huila 4.42 248 *eP* **Pn** **19 32 46.1 +0.8**
GARC *eS* **Sb** **19 33 47.5 -1.9**
GARC *i* 19 33 54.9
comp=Z,216nm,0.2s
SDV Santo Domingo 5.03 9 Pg **Pg** **19 33 13.2 -0.2**
comp=Z,8.0nm,0.3s,baz=344,slow=22,SNR=9.0
SDV Lg Lg 19 34 17.8
comp=Z,14nm,0.3s,baz=266,slow=21,SNR=7.6
SDV LR LR 19 35 00.2
comp=Z,49nm,19.8s,baz=283,slow=39
SIV San Ignacio 22.23 153 LR LR 19 45 42.4
comp=Z,48nm,18.0s,baz=109,slow=38
TXAR Lajitas Array 39.70 313 P **P** **19 39 10.7 -0.3**
comp=Z,0.2nm,0.5s,baz=130,slow=8.9,SNR=4.3
TORD Torodi Ar. Bea 72.67 78 P **P** **19 43 06.3 -0.7**
comp=Z,0.7nm,1.1s,baz=274,slow=6.8,SNR=2.9
ASAR Alice Springs 148.64 229 PKPbc **PKPdf** **19 51 24.0 +1.0**
comp=Z,0.3nm,0.6s,baz=127,slow=3.9,SNR=6.4
WRA Warramunga Arr 150.26 235 PKPbc **PKPbc** **19 51 28.7 -2.1**

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*BGR **27** 19:31:45.5±0.0, 65.°43N×17.°05W, h10km, mb4.2*
*REY **27** 19:31:46.1, 64.°69N×17.°51W, h7km*
*MOS **27** 19:31:46.2±1.0, 64.°61N×17.°64W, h9km, mb4.8/27, Error ellipse: s-maj=10.1km s-min=6.0km az=111.7*
*IDC **27** 19:31:46.9±0.5, 64.°59N×17.°65W, h0km, mb4.0/18, mb1 4.3/21, mb1mx4.1/45, mbtmp4.0/21, ML2.8/2, MS3.8/38, Ms1 3.8/38, ms1mx3.7/46, Error ellipse: s-maj=19.2km s-min=10.2km az=21.0*
*NEIC **27** 19:31:47.6±0.9, 64.°63N±0.°08×17.°6W±0.°1, h8km±4km, mb4.8/105, Error ellipse: s-maj=11.6km s-min=7.9km az=188.0*
*DNK **27** 19:31:50.7±3.3, 64.°82N×18.°19W, h0km±286km, Hypocentre not reviewed by the ISC*
*GCMT **27** 19:31:50.6±0.3, 64.°61N±0.°02×17.°25W±0.°07, h18km±1km, MW4.8/101, Moment Tensor Solution. s24,c25; s101,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.05±.12; $M_{\theta\theta}$1.40±.08; $M_{\phi\phi}$0.64±.07; $M_{r\theta}$0.09±.17; $M_{\theta\phi}$-0.02±.04; $M_{\phi r}$-0.01±.20; Best double couple: $M_0$1.72800×10^{16} NP1:ϕ_s91.00000°, δ43.00000°, λ-90.00000°. NP2:ϕ_s272.00000°, δ47.00000°, λ-90.00000°. Principal axes: T 1.4030, Plg2.0000°, Azm2.0000°; N 0.6430, Plg0.0000°, Azm92.0000°; P -2.0520, Plg88.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 19:31:48.0±0.3, 64.°68N±0.°02×17.°52W±0.°02, h10km, n395, σ1$51/379, **mb4.6**/130, **MS3.8**/38, **10C-4D, Iceland**

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard** baz=262	**0.10**	**267**	P	**Pg**	**19 31 48.4**	**-2.3**
IDYN	**Dyngjuhals** baz=31	**0.13**	**31**	P	**Pg**	**19 31 48.8**	**-2.3**
IDJK	**Dyngjujokull** baz=147	**0.21**	**145**	P	**Pg**	**19 31 50.9**	**-1.6**
IURH	**Urdarhals** baz=49	**0.21**	**48**	P	**Pg**	**19 31 50.4**	**-2.2**
IGRF	**Grimsfjall** baz=159	**0.29**	**158**	P	**Pg**	**19 31 51.9**	**-2.1**
IKVE	**Kverkfjoll** baz=91	**0.36**	**90**	P	**Pg**	**19 31 53.0**	**-2.3**
IHUS	**Husbondi** baz=189	**0.39**	**189**	P	**Pg**	**19 31 53.5**	**-2.1**
ISKR	**Skrokkalda** baz=252	**0.39**	**253**	P	**Pg**	**19 31 53.4**	**-2.3**
IBJK	**Bruarjokull** baz=123	**0.39**	**122**	P	**Pg**	**19 31 53.0**	**-2.8**
IVOT	**Vottur** baz=161	**0.43**	**160**	P	**Pg**	**19 31 53.8**	**-2.7**
THOR	**Thorvaldshraun** baz=55	**0.44**	**54**	P	**Pg**	**19 31 54.0**	**-2.6**
THOR	baz=55			S	**Sg**	**19 31 59.9**	**-2.6**
IJOK	**Jokulheimar** baz=220	**0.47**	**220**	P	**Pg**	**19 31 54.8**	**-2.4**
IKRE	**Kreppuhraun** baz=78	**0.50**	**77**	P	**Pg**	**19 31 54.6**	**-3.1**
IASK	**Askja** baz=45	**0.53**	**44**	P	**Pg**	**19 31 55.4**	**-2.9**
IMKO	**Mokollar** baz=59	**0.59**	**59**	P	**Pg**	**19 31 56.4**	**-3.0**
IIEY	**Innrieyrar** baz=204	**0.64**	**204**	P	**Pg**	**19 31 57.4**	**-2.9**
ISVA	**Svartarkot** baz=9.5	**0.67**	**10**	P	**Pg**	**19 31 58.0**	**-3.0**
IKAL	**Kalfafell** baz=186	**0.74**	**186**	P	**Pg**	**19 31 59.0**	**-3.1**
IVAT	**Vatnsfell** baz=231	**0.78**	**231**	P	**Pg**	**19 32 00.2**	**-2.8**
IVSH	**V-Sauoahnukur** baz=80	**0.78**	**80**	P	**Pg**	**19 31 59.3**	**-3.7**
IFAG	**Fagurholsmyri** baz=155	**0.89**	**154**	P	**Pg**	**19 32 01.3**	**-3.8**
IHVE	**Hveravellir** baz=283	**0.90**	**283**	P	**Pg**	**19 32 01.7**	**-3.6**
IADA	**Aoalbol** baz=67	**0.90**	**67**	P	**Pg**	**19 32 01.3**	**-4.0**
IMEL	**Melhnausar** baz=22	**0.97**	**22**	P	**Pg**	**19 32 02.7**	**-3.9**
ISNB	**Snabyli** baz=208	**1.06**	**208**	P	**Pg**	**19 32 04.7**	**-3.7**
IKVO	**Krokottuvotn** baz=14	**1.07**	**14**	P	**Pg**	**19 32 04.6**	**-4.1**
IGRS	**Grimsstaoir** baz=31	**1.13**	**31**	P	**Pb**	**19 32 05.5**	**-4.1**
IFED	**Fedgar** baz=236	**1.15**	**236**	P	**Pb**	**19 32 06.7**	**-3.2**
IRJU	**Rjupnafell** baz=206	**1.18**	**206**	P	**Pb**	**19 32 06.9**	**-3.5**
IMJO	**Mjoaskard** baz=232	**1.20**	**232**	P	**Pb**	**19 32 07.3**	**-3.4**
ISKI	**Skildingahlsh** baz=9.6	**1.22**	**10**	P	**Pb**	**19 32 06.9**	**-4.1**
IGHA	**Grjothals** baz=17	**1.23**	**17**	P	**Pn**	**19 32 07.1**	**-4.0**
IGYG	**Gygjarholskot** baz=252	**1.23**	**252**	P	**Pn**	**19 32 07.8**	**-3.5**
IGRA	**Granastaoir** baz=359	**1.25**	**359**	P	**Pn**	**19 32 07.5**	**-3.9**
IGRA	baz=359			S	**Sb**	**19 32 25.4**	**-2.2**
IHAU	**Haukadalur** baz=237	**1.28**	**237**	P	**Pn**	**19 32 08.5**	**-3.4**
BORG	**Borgarnes** 38nm,0.3s,baz=95,slow=7.9,SNR=73	**1.64**	**274**	Pn	**Pn**	**19 32 14.1**	**-2.6**
BORG	30nm,0.3s,baz=35,slow=17,SNR=4.3			Sn	**Sb**	**19 32 36.9**	**-1.9**
BORG	**Borgarnes**	**1.64**	**274**	Pn	**Pn**	**19 32 13.1**	**-3.7**
BORG				Sn	**Sb**	**19 32 37.1**	**-1.7**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**19 33 18.0**	**+0.4**
SCO				*eS*	**Sn**	**19 34 28.0**	**+1.0**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**19 33 18.0**	**+0.4**
SCO				*eS*	**Sn**	**19 34 28.0**	**+1.0**
SCO	**Scoresbysund**	**6.07**	**346**	Pn	**Pn**	**19 33 17.8**	**+0.2**
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**19 34 25.2**	**+0.7**
SUMG	**Summit**	**10.93**	**325**	*eP*	**Pn**	**19 34 25.2**	**+0.7**
SUMG	**Summit**	**10.93**	**325**	Pn	**Pn**	**19 34 24.4**	**0.0**
EKA	**Eskdalemuir Ar** baz=322,slow=13,SNR=33	**11.77**	**136**	Pn	**Pn**	**19 34 34.9**	**-0.9**
ESK	**Eskdalemuir**	**11.78**	**136**	P	**Pn**	**19 34 35.2**	**-0.6**
ESK	**Eskdalemuir**	**11.78**	**136**		**Pn**	**19 34 35.2**	**-0.6**
NC204	**NORSAR Array S**	**13.24**	**92**	Pn	**Pn**	**19 34 53.5**	**-2.3**
NBO00	**NORSAR Array S**	**13.36**	**93**	Pn	**Pn**	**19 34 55.4**	**-2.0**
NOA	**NORSAR Array B** 0.0nm,0.3s,baz=300,slow=13,SNR=3.2	**13.54**	**92**	Pn	**Pn**	**19 34 56.9**	**-3.1**
NOA	comp=Z,158nm,20.1s,baz=295,slow=40			LR	LR	19 40 46.6	
SFJD	**Kangerlussuaq** comp=Z,966nm,19.0s,baz=84,slow=36	**13.65**	**295**	LR	LR	19 39 52.9	
HFS	**Hagfors** 0.1nm,0.3s,baz=275,slow=15,SNR=2.6	**15.06**	**93**	Pn	**Pn**	**19 35 18.2**	**-2.3**
HFS	comp=Z,336nm,21.1s,baz=316,slow=36			LR	LR	19 40 58.7	
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**19 35 48.6**	**+1.2**
NOR	**Nord**	**17.02**	**0**	*eP*	**P**	**19 35 48.6**	**+1.2**
ARCES	**ARCESS Array B** comp=Z,469nm,21.3s,baz=275,slow=33	**17.12**	**55**	LR	LR	19 41 11.2	
UCC	**Uccle**	**18.02**	**130**	P	**Pn**	**19 35 55.9**	**-2.3**
UCC	comp=Z,22nm,1.3s			pmax	pmax		
UCC	**Uccle**	**18.02**	**130**	Pn	**Pn**	**19 35 55.9**	**-2.3**
SNF	**Seneffe**	**18.24**	**131**	P	**P**	**19 36 01.0**	**-0.1**
BMRD	**Maredsous**	**18.57**	**130**	P	**Pn**	**19 36 04.9**	**-0.1**
BGES	**Gesves**	**18.61**	**130**	P	**Pn**	**19 36 05.5**	**+0.1**
BCLA	**Clavier**	**18.65**	**129**	P	**Pn**	**19 36 06.0**	**+0.1**
NRDL	**Niedersach Rie** comp=Z,18nm,1.2s,baz=328,slow=11	**18.67**	**118**	*eP*	**Pn**	**19 36 05.6**	**-0.5**
DOU	**Dourbes**	**18.70**	**131**	P	**Pn**	**19 36 07.0**	**+0.5**
MEM	**Membach**	**18.73**	**128**	P	**Pn**	**19 36 07.2**	**+0.3**
BHOU	**Houvegnez**	**18.94**	**128**	P	**Pn**	**19 36 09.6**	**+0.1**
AHRW	**Bad Neuenahr-A** comp=Z,26nm,1.1s,baz=328,slow=11	**19.15**	**126**	*eP*	**Pn**	**19 36 14.2**	**+2.2**
ASSE	**Asse, Remlinge** baz=328,slow=11	**19.18**	**118**	*eP*	**Pn**	**19 36 12.7**	**+0.5**
CLZ	**Clausthal** baz=328,slow=11	**19.29**	**119**	*eP*	**Pn**	**19 36 13.7**	**0.0**
GTTG	**Gottingen** comp=Z,33nm,1.3s,baz=328,slow=11	**19.37**	**120**	*eP*	**Pn**	**19 36 15.3**	**+0.7**
WLF	**Walferdange**	**19.58**	**129**	P	**Pn**	**19 36 16.5**	**-0.7**
WLF	**Walferdange**	**19.58**	**129**	P	**Pn**	**19 36 14.9**	**-2.3**
WLF	comp=Z,42nm,1.6s			pmax	pmax		
WLF	**Walferdange** comp=Z,3.2nm,0.8s,baz=328,slow=11	**19.58**	**129**	*eP*	**Pn**	**19 36 17.9**	**+0.7**
WLF	**Walferdange**	**19.58**	**129**		**Pn**	**19 36 14.8**	**-2.3**
FIA1	**FINESS Array S**	**19.71**	**79**	P	**P**	**19 36 15.5**	**-1.6**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=251,slow=13,SNR=3.6	**19.71**	**79**	P	**Pn**	**19 36 18.3**	**-0.3**
FINES	comp=Z,179nm,18.4s,slow=38			LR	LR	19 44 26.5	
FINES	**FINESS Array B**	**19.71**	**79**	P	**Pn**	**19 36 16.0**	**-2.6**
CLF	**Chambon-Foret**	**19.81**	**138**	P	**Pn**	**19 36 17.6**	**-2.3**
CLF	comp=Z,88nm,1.5s			IAmb	IAmb	19 36 23.2	
UBBA	**Unterbreizbach** baz=328,slow=11	**19.97**	**121**	*eP*	**Pn**	**19 36 21.8**	**+0.2**
NEUB	**Neuenburg** baz=328,slow=11	**20.33**	**118**	*eP*	Pn	19 36 25.2	-0.7
MOX	**Moxa** comp=Z,14nm,1.1s,baz=328,slow=11	**20.72**	**119**	*eP*	Pn	19 36 29.0	-1.5
CLL	**Collm** comp=Z,44nm,1.4s	**20.72**	**116**	*i* P	Pn	19 36 28.6	-1.9
CLL				*i* PP	**PnPn**	**19 36 42.9**	**-3.0**
CLL				*e*PPP	PPP	19 36 54.0	
CLL	**Collm**	**20.72**	**116**	*i* P	Pn	19 36 28.6	-1.9
CLL	comp=Z,44nm,1.4s			pmax	pmax		
CLL	**Collm** comp=Z,20nm,1.2s,baz=328,slow=11	**20.72**	**116**	*eP*	Pn	19 36 28.5	-2.0
CLL	**Collm**	**20.72**	**116**	P	Pn	19 36 27.6	-3.0
CLL	comp=Z,44nm,1.4s			IAmb	IAmb	19 36 31.2	
GKP	**Gorka Klasztor**	**20.93**	**107**	*eP*	Pn	19 36 36.2	+3.3
FBE	**Freiberg** baz=328,slow=11	**21.16**	**116**	*eP*	**P**	**19 36 33.8**	**+0.9**
ECH	**Echery**	**21.17**	**129**	P	**P**	**19 36 33.2**	**+0.1**
ECH	comp=Z,42nm,1.6s			pmax	pmax		
ECH	**Echery**	**21.17**	**129**	P	**P**	**19 36 33.2**	**+0.1**
GUNZ	**Gunzen** comp=Z,7.7nm,1.0s,baz=328,slow=11	**21.21**	**118**	*eP*	**P**	**19 36 34.1**	**+0.5**
TANN	**Tannenbergstha** comp=Z,37nm,1.3s,baz=328,slow=11	**21.22**	**118**	*eP*	**P**	**19 36 34.0**	**+0.3**
WERN	**Wernitzgruen** comp=Z,22nm,1.2s,baz=328,slow=11	**21.29**	**118**	*eP*	**P**	**19 36 35.0**	**+0.6**
GRA1	**Grafenberg Arr**	**21.35**	**121**	P	**P**	**19 36 34.9**	**-0.1**
GRA1	comp=Z,45nm,1.3s			IAmb	IAmb	19 36 48.9	
GRF	**Grafenberg Arr**	**21.35**	**121**	P	**P**	**19 36 34.9**	**-0.1**
GRF	comp=Z,45nm,1.3s			pmax	pmax		
GRF	**Grafenberg Arr** comp=Z,8.6nm,0.9s,baz=328,slow=11	**21.35**	**121**	*eP*	**P**	**19 36 35.9**	**+0.9**
NKC	**Novy Kostel**	**21.36**	**118**	*eP*	**P**	**19 36 35.4**	**+0.2**
NKC	**Novy Kostel**	**21.36**	**118**	*eP*	**P**	**19 36 35.4**	**+0.2**
STU	**Stuttgart**	**21.39**	**125**	P	**P**	**19 36 35.4**	**0.0**
STU	comp=Z,112nm,1.7s			pmax	pmax		
STU	**Stuttgart** comp=Z,14nm,0.9s,baz=328,slow=11	**21.39**	**125**	*eP*	**P**	**19 36 36.8**	**+1.4**
STU	**Stuttgart**	**21.39**	**125**	P	**P**	**19 36 35.4**	**0.0**
BRG	**Berggiesshubel** comp=Z,52nm,1.6s	**21.43**	**115**	*eP*	**P**	**19 36 36.5**	**+0.7**
BRG				S	Sn	19 40 44.0	+3.0
BRG	**Berggiesshubel**	**21.43**	**115**	*eP*	**P**	**19 36 36.5**	**+0.7**
BRG				S	Sn	19 40 44.0	+3.0
BRG	comp=Z,52nm,1.6s			pmax	pmax		
BRG	**Berggiesshubel** comp=Z,11nm,1.0s,baz=328,slow=11	**21.43**	**115**	*eP*	**P**	**19 36 35.9**	**+0.1**
MANZ	**Manzenberg** baz=328,slow=11	**21.44**	**119**	*eP*	**P**	**19 36 36.1**	**+0.1**
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**19 36 36.3**	**0.0**
BFO	comp=Z,39nm,1.3s			pmax	pmax		
BFO	**Black Forest** comp=Z,9.4nm,1.0s,baz=328,slow=11	**21.46**	**127**	*eP*	**P**	**19 36 37.0**	**+0.8**
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**19 36 36.3**	**0.0**
BFO	comp=Z,39nm,1.3s			IAmb	IAmb	19 36 55.3	
VSU	**Vasula**	**21.58**	**86**	*eP*	**P**	**19 36 37.2**	**-0.1**
VSU	**Vasula**	**21.58**	**86**	*eP*	**P**	**19 36 39.6**	**+2.3**
VSU	comp=Z,59nm,1.0s			pmax	pmax		
ROTZ	**Rotzenmuhle** baz=328,slow=11	**21.65**	**119**	*eP*	**P**	**19 36 39.6**	**+1.4**
FRB	**Frobisher Bay** comp=Z,455nm,21.2s,baz=65,slow=35	**21.73**	**291**	LR	LR	19 44 36.5	
PABE	**Paberze**	**22.22**	**95**	*eP*	**P**	**19 36 45.0**	**+0.7**
PRU	**Pruhonice**	**22.36**	**116**	*eP*	**P**	**19 36 47.0**	**+1.1**
PRU	**Pruhonice**	**22.36**	**116**	*eP*	**P**	**19 36 47.0**	**+1.1**
KSP	**Ksiaz**	**22.38**	**112**	*eP*	**P**	**19 36 47.1**	**+1.1**
WET	**Wettzell** comp=Z,6.1nm,1.1s,baz=328,slow=11	**22.41**	**119**	*eP*	**P**	**19 36 48.4**	**+2.0**
CHVC	**Chvalec**	**22.48**	**113**	*eP*	**P**	**19 36 47.7**	**+0.5**
GOPC	**GO Pecny, Ondr**	**22.52**	**116**	*eP*	**P**	**19 36 48.1**	**+0.6**
GOPC	**GO Pecny, Ondr**	**22.52**	**116**	*eP*	**P**	**19 36 48.1**	**+0.6**
OSTC	**Ostas**	**22.57**	**113**	*eP*	**P**	**19 36 48.6**	**+0.5**
UBR	**Ueberruh** comp=Z,5.9nm,0.9s,baz=328,slow=11	**22.64**	**125**	*eP*	**P**	**19 36 49.9**	**+1.1**
KHC	**Kasperske Hory**	**22.69**	**118**	*eP*	**P**	**19 36 49.6**	**+0.2**
KHC	**Kasperske Hory** comp=Z,40nm,1.7s	**22.69**	**118**	*eP*	**P**	**19 36 50.2**	**+0.8**
KHC				pmax	pmax		
KHC	**Kasperske Hory**	**22.69**	**118**	P	**P**	**19 36 49.3**	**-0.1**
DPC	**Dobruska-Polom**	**22.77**	**113**	*eP*	**P**	**19 36 50.7**	**+0.4**
DPC	**Dobruska-Polom**	**22.77**	**113**	*eP*	**P**	**19 36 50.7**	**+0.4**
SENIN	**Lac Senin/Sane**	**22.84**	**131**	P	**P**	**19 36 51.0**	**-0.2**
SENIN	comp=Z,44nm,1.7s			IAmb	IAmb	19 37 00.7	
SUW	**Suwalki**	**22.90**	**98**	P	**P**	**19 36 51.3**	**-0.1**
SUW	comp=Z,38nm,1.1s			pmax	pmax		
SUW	**Suwalki**	**22.90**	**98**	P	**P**	**19 36 51.3**	**-0.1**
SUW	comp=Z,38nm,1.1s			IAmb	IAmb	19 37 04.2	
DAVA	**Damuels** comp=Z,16nm,1.1s	**22.90**	**126**	*eP*	**P**	**19 36 54.5**	**+2.8**
SSB	**Saint Sauveur**	**22.97**	**137**	P	**P**	**19 36 52.3**	**0.0**
SSB	comp=Z,22nm,1.3s			pmax	pmax		
SSB	**Saint Sauveur**	**22.97**	**137**	P	**P**	**19 36 52.3**	**0.0**
GEC2	**GERESS Array S** baz=328,slow=11	**22.97**	**119**	*eP*	**P**	**19 36 53.0**	**+0.7**
GEC2	**GERESS Array S**	**22.97**	**119**	P	**P**	**19 36 52.0**	**-0.4**
GEC2	comp=Z,52nm,1.5s			IAmb	IAmb	19 37 01.5	
GERES	**GERESS Array B** comp=Z,3.4nm,1.0s,baz=330,slow=7.7,SNR=15	**22.97**	**119**	P	**P**	**19 36 52.7**	**+0.3**
GERES	comp=Z,356nm,21.9s,baz=326,slow=37			LR	LR	19 46 01.1	
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**19 36 52.5**	**+0.1**
GERES	**GERESS Array B**	**22.97**	**119**	P	**P**	**19 36 52.5**	**+0.1**
RETA	**Reutte** comp=Z,18nm,1.7s	**23.03**	**125**	*epP*	**P**	**19 36 54.8**	**+1.8**
ISAL	**Salakas**	**23.10**	**92**	*eP*	**P**	**19 36 53.7**	**+0.2**
MOTA	**Moosalm** comp=Z,27nm,1.4s	**23.28**	**124**	*epP*	**P**	**19 36 57.6**	**+2.0**
TREC	**Trest**	**23.29**	**116**	*eP*	**P**	**19 36 56.7**	**+1.2**
TREC	**Trest**	**23.29**	**116**	*eP*	**P**	**19 36 56.7**	**+1.2**
IIGN	**Ignalina**	**23.29**	**93**	*eP*	**P**	**19 36 56.5**	**+1.1**
DAVOX	**Davos/Dischmat** comp=Z,2.7nm,0.7s,baz=330,slow=11,SNR=7.0	**23.33**	**127**	P	**P**	**19 36 57.1**	**+0.9**
DAVOX	comp=Z,228nm,19.2s,baz=329,slow=40			LR	LR	19 47 09.1	
TMCR	**Tamitsa**	**23.35**	**66**	*eP*	**P**	**19 36 56.3**	**+0.3**
TMCR	comp=Z,78nm,1.5s			pmax	pmax		
PGAV	**Gavieira, Arco** comp=Z,36nm,1.8s	**23.37**	**162**	A	A	19 37 15.0	
PGAV				*eS*	Sn	19 41 21.5	-6.2
SQTA	**Sankt Quirin** comp=Z,23nm,1.2s,SNR=7.5	**23.42**	**124**	pP	**P**	**19 36 58.0**	**+1.0**
TUE	**Stuetta**	**23.42**	**128**	P	**P**	**19 36 57.4**	**+0.3**
TUE	comp=Z,24nm,1.2s			IAmb	IAmb	19 37 11.7	
FETA	**Feichten** comp=Z,29nm,1.7s	**23.42**	**125**	*es*P	**P**	**19 36 59.4**	**+2.3**
WATA	**Walderalm** comp=Z,14nm,1.2s,SNR=8.3	**23.45**	**124**	*ep*P	**P**	**19 36 58.7**	**+1.3**
BEL	**Belsk**	**23.45**	**105**	*eP*	**P**	**19 36 59.9**	**+2.8**
IDID	**Didziasalis**	**23.54**	**92**	*eP*	**P**	**19 36 58.5**	**+0.6**
FUORN	**Ofenpass-Fuorn**	**23.61**	**127**	P	**P**	**19 36 58.9**	**-0.1**
FUORN	comp=Z,43nm,1.8s			IAmb	IAmb	19 37 13.5	
PCAB	**Cabril**	**23.65**	**162**	*eP*	**P**	**19 37 00.2**	**+1.0**
EUNU	**Eureka**	**23.66**	**336**	P	**P**	**19 37 00.1**	**+1.1**
VRAC	**Vranov** comp=Z,3.7nm,0.9s,baz=313,slow=11,SNR=8.0	**23.71**	**114**	P	**P**	**19 37 01.1**	**+1.4**
VRAC	comp=Z,336nm,22.0s,baz=330,slow=35			LR	LR	19 45 44.2	
VRAC	**Vranov**	**23.71**	**114**	*eP*	**P**	**19 36 59.9**	**+0.2**
MORC	**Moravsky Berou**	**23.71**	**112**	*eP*	**P**	**19 36 59.8**	**0.0**
MORC	**Moravsky Berou**	**23.71**	**112**	P	**P**	**19 36 59.3**	**-0.4**
MORC	comp=Z,38nm,1.5s			pmax	pmax		
MORC	**Moravsky Berou**	**23.71**	**112**	P	**P**	**19 36 59.3**	**-0.4**
MORC	comp=Z,38nm,1.5s			IAmb	IAmb	19 37 17.9	
PBRG	**Braganca** comp=Z,25nm,2.1s	**23.74**	**160**	A	A	19 37 15.5	
BNI	**Bardonecchia**	**23.81**	**134**	P	**P**	**19 37 00.9**	**0.0**
BNI	comp=Z,32nm,1.6s			pmax	pmax		
BNI	**Bardonecchia**	**23.81**	**134**	P	**P**	**19 37 00.9**	**0.0**
BNI	comp=Z,32nm,1.6s			IAmb	IAmb	19 37 11.4	
KRUC	**Moravsky**	**23.83**	**115**	*eP*	**P**	**19 37 00.7**	**-0.1**
NACGM	**Naroch**	**23.83**	**93**	*e*	**P**	**19 37 01.0**	**+0.2**
MOA	**Molln** comp=Z,26nm,1.5s	**24.00**	**119**	*i* pP	**P**	**19 37 04.1**	**+1.6**
OJC	**Ojcow**	**24.27**	**109**	*eP*	**P**	**19 37 05.1**	**+0.1**
OJC	**Ojcow**	**24.27**	**109**	P	**P**	**19 37 04.7**	**-0.3**
OJC	comp=Z,41nm,1.7s			pmax	pmax		
OJC	**Ojcow**	**24.27**	**109**	P	**P**	**19 37 04.7**	**-0.3**
OJC	comp=Z,41nm,1.7s			IAmb	IAmb	19 37 21.3	
ABTA	**Abfaltersbach** comp=Z,8.6nm,1.2s	**24.29**	**123**	*es*P	**P**	**19 37 08.1**	**+2.8**
KBA	**Koelnbreinsper** comp=Z,3.4nm,0.7s	**24.31**	**122**	*es*P	**P**	**19 37 08.5**	**+3.0**
MVO	**Moncorvo** comp=Z,42nm,1.6s	**24.32**	**160**	*eP*	**P**	**19 37 05.6**	**0.0**
MVO				*e*LR	LR	19 40 55.5	
MVO				*eS*	S	19 41 34.2	+10
JAVC	**Velka Javorina**	**24.49**	**113**	*eP*	**P**	**19 37 08.2**	**+1.1**
CONA	**Conrad Observa** comp=Z,6.4nm,1.0s	**24.55**	**117**	*i* P	**P**	**19 37 08.5**	**+0.9**
SALO	**Salr**	**24.57**	**127**	P	**P**	**19 37 07.6**	**-0.1**
SALO	comp=Z,56nm,1.8s			IAmb	IAmb	19 37 21.1	
MICGM	**Minsk**	**24.57**	**93**	*e*	P	19 37 21.0	+13
MNK	**Minsk**	**24.57**	**93**	*eP*	P	19 37 21.0	+13
CTI	**Castel Tesino**	**24.58**	**125**	P	**P**	**19 37 08.3**	**+0.3**
CTI	comp=Z,66nm,1.7s			pmax	pmax		
CTI	**Castel Tesino**	**24.58**	**125**	P	**P**	**19 37 08.3**	**+0.3**
ZOU	**Zoufplan**	**24.62**	**123**	P	**P**	**19 37 08.8**	**+0.4**
ZOU	comp=Z,46nm,1.6s			IAmb	IAmb	19 37 17.1	
SMOL	**Smolenice**	**24.68**	**114**	*eP*	**P**	**19 37 10.0**	**+1.3**
SMOL	comp=Z,18nm,1.6s			pmax	pmax		
SMOL	**Smolenice**	**24.68**	**114**	*eP*	**P**	**19 37 10.0**	**+1.3**
MODS	**Modra-Piesok**	**24.73**	**115**	*eP*	**P**	**19 37 10.6**	**+1.4**
MODS	comp=Z,51nm,1.8s			pmax	pmax		
MODS	**Modra-Piesok**	**24.73**	**115**	*eP*	**P**	**19 37 10.6**	**+1.4**
MYKA	**Terra Mystica** comp=Z,16nm,1.5s	**24.80**	**122**	*es*P	**P**	**19 37 13.6**	**+3.7**
ZST	**Bratislava**	**24.81**	**115**	*eP*	**P**	**19 37 11.8**	**+2.0**
ZST	**Bratislava**	**24.81**	**115**	*eP*	**P**	**19 37 11.8**	**+2.0**
PRED	**Cave del Predi**	**24.93**	**122**	P	**P**	**19 37 11.2**	**+0.1**
ARSA	**Arzberg** comp=Z,5.3nm,1.1s	**24.98**	**118**	*eP*	**P**	**19 37 12.7**	**+1.3**
LANS	**Liptovska Anna**	**24.98**	**111**	*eP*	**P**	**19 37 12.8**	**+1.4**
LANS	comp=Z,4.0nm,0.9s			pmax	pmax		
LANS	**Liptovska Anna**	**24.98**	**111**	*eP*	**P**	**19 37 12.8**	**+1.4**
COI	**Coimbra**	**25.08**	**163**	P	**P**	**19 37 11.6**	**-0.7**
COI	comp=Z,34nm,1.3s			pmax	pmax		
COI	**Coimbra**	**25.08**	**163**	P	**P**	**19 37 11.6**	**-0.7**
COI	comp=Z,34nm,1.3s			IAmb	IAmb	19 37 24.2	
NIE	**Niedzica**	**25.10**	**109**	*eP*	**P**	**19 37 13.9**	**+1.4**
PCAS	**Casmilo, Conde** comp=Z,39nm,1.8s	**25.22**	**164**	*eP*	**P**	**19 37 14.5**	**+0.9**
OBKA	**Obir** comp=Z,12nm,1.4s	**25.23**	**121**	*ep*P	**P**	**19 37 15.7**	**+1.8**
VYHS	**Vyhne**	**25.25**	**112**	*eP*	**P**	**19 37 14.7**	**+0.9**
VYHS	comp=Z,25nm,1.5s			pmax	pmax		
VYHS	**Vyhne**	**25.25**	**112**	*eP*	**P**	**19 37 14.7**	**+0.9**
**SOKA

ESBB IAmb IAmb 19 37 32.9
comp=Z,24nm,1.8s
ESDC Sonseca Array 26.27 156 P **P 19 37 23.5 +0.3**
comp=Z,2.3nm,0.8s,baz=350,slow=8.9,SNR=18
ESDC LR LR 19 47 34.9
comp=Z,116nm,18.1s,baz=45,slow=36
ESDC Sonseca Array 26.27 156 P **P 19 37 22.6 -0.6**
KOLS Kolonicke sedl 26.29 108 *e*P **P 19 37 23.9 +0.6**
KOLS pmax pmax
comp=Z,91nm,2.2s
KOLS Kolonicke sedl 26.29 108 *e*P **P 19 37 23.9 +0.6**
LVV L'vov 26.33 104 *e*P **P 19 37 24.9 +1.3**
RES Resolute Bay 26.45 324 LR LR 19 47 55.8
comp=Z,251nm,18.2s,baz=50,slow=37
UZH Uzhgorod 26.53 108 *e*P **P 19 37 26.2 +0.8**
UZH *e* 19 37 32.8
AKASG Malin Array Be 27.85 98 P **P 19 37 37.0 -0.3**
comp=Z,2.1nm,0.8s,baz=322,slow=9.6,SNR=6.4
AKASG LR LR 19 48 36.8
comp=Z,208nm,21.2s,baz=330,slow=36
AKASG Malin Array Be 27.85 98*ce*P **P 19 37 37.5 +0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 27.85 98 P **P 19 37 36.4 -0.8**
AKBB Malin Array Si 27.85 98 P **P 19 37 36.7 -0.6**
AKBB pmax pmax
comp=Z,13nm,1.3s
AKBB Malin Array Si 27.85 98 P **P 19 37 36.7 -0.6**
OBN Obninsk 27.89 84 LR LR 19 49 10.8
comp=Z,44nm,19.3s,baz=352,slow=37
OBN Obninsk 27.89 84⇑*e*P **P 19 37 38.9 +1.4**
OBN *e* 19 38 24.5
OBN *e*S S 19 42 30.6 +10
OBN pmax pmax
comp=Z,39nm,1.7s
OBN MLR MLR
comp=Z,190nm,16.0s
OBN Obninsk 27.89 84 P **P 19 37 37.6 +0.1**
PVAQ Vaqueiros 27.93 163 *e*S S 19 42 40.7 +19
PVAQ *e*LQ LQ 19 44 06.8
LPSR Galich'ya Gora 30.64 86 *e*P **P 19 38 01.9 0.0**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
KIRV Kirov 30.99 69⇑*i*P **P 19 38 05.4 +0.5**
VSR Storozhevoye 31.74 88 *e*P **P 19 38 11.6 -0.1**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 31.98 88 *e*P **P 19 38 11.5 -2.3**
VORD pmax pmax
comp=Z,30nm,1.5s
VRH Novokhopyorsk 32.85 85 *e*P **P 19 38 22.0 +0.6**
VRH pmax pmax
comp=Z,20nm,1.6s
KEST Kesra 33.17 138 LR LR 19 51 20.2
comp=Z,161nm,18.5s,baz=248,slow=35
MOQ Mont Orford 35.42 264 P **P 19 38 42.4 -1.4**
ARU Arti 36.09 66 P **P 19 38 49.4 +0.1**
ARU 19 40 06.6
ARU S **S 19 44 33.1 +4.9**
ARU SS **SS 19 46 59.1 -5.9**
ARU Arti 36.09 66 P **P 19 38 49.9 +0.5**
NRIK Noril'sk 36.45 35 P **P 19 38 54.0 +1.7**
comp=Z,2.0nm,0.4s,baz=326,slow=6.6,SNR=4.0
NRIK LR LR 19 55 08.6
comp=Z,67nm,18.2s,baz=6.0,slow=38
SOC Sochi 37.88 96 *e*P **P 19 39 04.2 -0.5**
SOC *e* 19 40 34.4
SOC *e*PPP PPP 19 40 55.7
SOC *e*S **S 19 44 55.5 -0.2**
SOC *e*SS **SS 19 47 38.9 -2.7**
SOC *e*SSS SSS 19 48 02.0
SOC pmax pmax
comp=Z,5.0nm,0.4s
SOC MLR MLR
comp=Z,206nm,15.0s
BRTR Keskin Array B 38.49 105 P **P 19 39 11.2 +1.1**
comp=Z,1.6nm,0.7s,baz=305,slow=10,SNR=3.9
BRTR LR LR 19 56 04.5
comp=Z,40nm,18.3s,baz=300,slow=38
BRTR Keskin Array B 38.49 105 P **P 19 39 10.7 +0.6**
BRTR Keskin Array B 38.49 105 P **P 19 39 10.7 +0.6**
KIV Kislovodsk 38.85 92 *e*P **P 19 39 13.2 +0.2**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,328nm,16.0s
KIV Kislovodsk 38.85 92 P **P 19 39 12.9 -0.1**
J56A Wolcott 39.02 266 P **P 19 39 14.4 +0.1**
KBZ Khabaz 39.13 92 P **P 19 39 16.4 +1.3**
comp=Z,5.8nm,0.9s,baz=327,slow=12,SNR=8.0
KBZ LR LR 19 56 54.9
comp=Z,36nm,18.4s,baz=326,slow=38
KBZ Khabaz 39.13 92⇑*e*P **P 19 39 17.3 +2.2**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
YKA Yellowknife Ar 39.20 313 P **P 19 39 16.0 +0.5**
comp=Z,1.8nm,1.0s,baz=40,slow=8.8,SNR=5.8
YKA LR LR 19 55 14.5
comp=Z,200nm,19.0s,baz=0.0,slow=36
ZEI Tsey 40.32 92 *e*P **P 19 39 26.5 +1.1**
ZEI pmax pmax
comp=Z,10.0nm,1.6s
WVNY West Valley, N 40.48 267 P **P 19 39 26.0 -0.5**
WVNY IAmb IAmb 19 39 32.9
comp=Z,14nm,0.9s
E43A Lone Tree Farm 40.90 278 P **P 19 39 29.7 -0.2**
AKH Akhalkalaki 41.27 94 P **P 19 39 33.1 -0.1**
AKH pmax pmax
comp=Z,20nm,1.5s
AKH Akhalkalaki 41.27 94 P **P 19 39 33.1 -0.1**
AKH IAmb IAmb 19 39 37.5
comp=Z,20nm,1.5s
ERPA Erie 41.31 268 P **P 19 39 33.5 +0.2**
ERPA IAmb IAmb 19 39 35.7
comp=Z,14nm,0.7s
ULM Lac du Bonnet 41.59 289 LR LR 19 55 30.0
comp=Z,163nm,20.6s,baz=44,slow=34
M54A Oil Creek Stat 41.67 267 P **P 19 39 36.8 +0.5**
M54A IAmb IAmb 19 39 43.8
comp=Z,21nm,1.1s
ABKAR Akbulak array 42.00 73 P **P 19 39 38.8 -0.1**
ABKAR Akbulak array 42.00 73 P **P 19 39 38.7 -0.2**
ABKAR IAmb IAmb 19 39 40.7
comp=Z,9.1nm,1.4s
TIXI Tiksi 42.02 15*ce*P **P 19 39 40.7 +1.9**
TIXI pmax pmax
comp=Z,133nm,2.5s
TIXI Tiksi 42.02 15 P **P 19 39 39.5 +0.8**
BRVK Borovoye 43.13 62⇑*e*P **P 19 39 48.6 +0.6**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 43.13 62 P **P 19 39 47.9 -0.1**
G40A Rib Lake 43.14 280 P **P 19 39 47.9 -0.3**
G40A IAmb IAmb 19 39 55.4
comp=Z,21nm,1.5s
MARD Mardin 43.52 100 P **P 19 39 51.7 +0.2**
FYU Fort Yukon 43.76 333 P **P 19 39 53.5 +0.6**
P53A Whipple 44.08 267 P **P 19 39 55.0 -0.9**
N49A Columbus Grove 44.09 271 P **P 19 39 56.6 +0.7**
TAM Tamanrasset 44.53 149 P **P 19 39 59.6 -0.1**
TAM pmax pmax
comp=Z,16nm,1.7s
TAM Tamanrasset 44.53 149 P **P 19 39 59.6 -0.1**
TAM IAmb IAmb 19 40 15.8
comp=Z,16nm,1.7s
O49A Covington 44.76 270 P **P 19 40 01.2 -0.1**
IL31 45.67 332 P **P 19 40 08.6 +0.4**
IL31 IAmb IAmb 19 40 11.4
comp=Z,18nm,1.5s
ILAR Eielson Array 45.67 332 P **P 19 40 09.8 +1.7**
comp=Z,4.0nm,1.1s,baz=24,slow=5.6,SNR=16
ILAR PcP **PcP 19 41 46.4 +0.5**
comp=Z,1.3nm,0.9s,baz=345,slow=1.6,SNR=7.2
ILAR LR LR 20 01 26.7
comp=Z,125nm,18.4s,baz=30,slow=39
ILAR Eielson Array 45.67 332 P **P 19 40 09.1 +0.9**
ILAR Eielson Array 45.67 332 P **P 19 40 09.1 +0.9**
COLA College 45.77 333 *i*P **P 19 40 11.6 +2.7**
IMAR Indian Mountai 45.84 337 P **P 19 40 10.5 +0.9**
BCAR Beaver Creek A 46.09 329 P **P 19 40 13.2 +1.6**
WCI Wyandotte Cave 47.24 271 P **P 19 40 20.8 0.0**
WCI pmax pmax
comp=Z,11nm,1.0s
WCI Wyandotte Cave 47.24 271 P **P 19 40 20.8 0.0**
WCI IAmb IAmb 19 40 24.9
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 47.63 51 P **P 19 40 24.2 +0.5**
ZALV Zalesovo Beam 47.63 51 P **P 19 40 24.3 +0.7**
comp=Z,1.1nm,0.6s,baz=341,slow=8.0,SNR=5.7
ZALV LR LR 20 03 07.3
comp=Z,48nm,19.1s,baz=314,slow=39
ZALV Zalesovo Beam 47.63 51 P **P 19 40 24.1 +0.4**
KURK Kurchatov 48.12 58⇓*e*P **P 19 40 27.8 +0.4**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 48.12 58 P **P 19 40 27.2 -0.2**
KURK IAmb IAmb 19 40 28.9
comp=Z,9.7nm,1.0s
EGMT Eagleton 48.86 297 P **P 19 40 33.4 +0.1**
RSSD Black Hills 49.82 290 P **P 19 40 40.6 -0.3**
RSSD pmax pmax
comp=Z,9.0nm,1.5s
RSSD Black Hills 49.82 290 P **P 19 40 40.6 -0.3**
GEYT Alibeck 50.43 84 P **P 19 40 46.3 +1.0**
comp=Z,1.5nm,0.7s,baz=301,slow=10,SNR=4.3
GEYT LR LR 20 04 31.0
comp=Z,96nm,19.1s,baz=190,slow=39
GEYT Alibeck 50.43 84 P **P 19 40 45.5 +0.1**
GYA0B ALIBECK ARRAY 50.43 84 P **P 19 40 45.4 0.0**
GYA0B IAmb IAmb 19 41 00.0
comp=Z,16nm,1.6s
GCMT Greycliff 50.67 295 P **P 19 40 47.9 +0.7**
Z51A Franklin 50.91 266 P **P 19 40 48.4 -0.6**
Z51A IAmb IAmb 19 40 53.1
comp=Z,22nm,1.5s
KOWA Kowa 50.98 163 P **P 19 40 49.5 -0.2**
KOWA IAmb IAmb 19 40 51.4
comp=Z,13nm,1.4s
RLMT Red Lodge 51.07 295 P **P 19 40 51.2 +0.9**
RLMT IAmb IAmb 19 40 59.1
comp=Z,14nm,1.2s
KK31 Karatay Array 51.28 70 P **P 19 40 52.3 +0.6**
KK31 pmax pmax
comp=Z,7.0nm,1.2s
KK31 Karatay Array 51.28 70 P **P 19 40 52.3 +0.6**
KKAR Karatay Array 51.28 70 P **P 19 40 52.5 +0.8**
KKAR pmax pmax
comp=Z,7.0nm,1.2s
KKAR Karatay Array 51.28 70 P **P 19 40 52.5 +0.8**
YMP Mirror Lake Pl 51.74 295 P **P 19 40 55.0 -0.4**
K22A Casper 52.05 291 P **P 19 40 57.2 -0.4**
K22A IAmb IAmb 19 41 03.5
comp=Z,6.0nm,0.8s
DGZ Jazzator, Alta 52.08 53⇓*e*P **P 19 40 59.4 +1.7**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
QLMT Earthquake Lak 52.16 296 P **P 19 40 58.3 -0.1**
MAKZ Makanchi 52.60 59 P **P 19 41 01.1 -0.4**
MAKZ pmax pmax
comp=Z,14nm,1.5s
MAKZ Makanchi 52.60 59 P **P 19 41 01.1 -0.4**
MAKZ IAmb IAmb 19 41 05.8
comp=Z,14nm,1.4s
MKAR Makanchi Array 52.73 58 P **P 19 41 02.3 -0.1**
comp=Z,2.4nm,0.9s,baz=330,slow=7.0,SNR=7.0
MKAR Makanchi Array 52.73 58*ce*P **P 19 41 02.7 +0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 52.73 58 P **P 19 41 02.6 +0.2**
TPAW Teton Pass 53.10 295 P **P 19 41 06.0 +0.5**
TPAW IAmb IAmb 19 41 13.5
comp=Z,10nm,1.4s
TOA0 Torodi Ar. Sit 53.16 156 P **P 19 41 04.7 -1.1**
TORD Torodi Ar. Bea 53.16 156 P **P 19 41 05.0 -0.8**
comp=Z,3.6nm,1.1s,baz=341,slow=7.9,SNR=11
TORD LR LR 20 04 45.4
comp=Z,44nm,18.6s,baz=350,slow=37
TORD Torodi Ar. Bea 53.16 156 P **P 19 41 05.1 -0.8**
PD31 Pinedale Array 53.16 293 P **P 19 41 05.7 -0.3**
PDAR Pinedale Array 53.16 293 P **P 19 41 05.9 0.0**
comp=Z,3.3nm,0.9s,baz=57,slow=6.3,SNR=22
PDAR LR LR 20 03 23.5
comp=Z,176nm,19.4s,baz=31,slow=36
PDAR Pinedale Array 53.16 293 P **P 19 41 06.1 +0.2**
AAK Ala-Archa 53.26 67⇓*e*P **P 19 41 08.3 +1.7**
AAK pmax pmax
comp=Z,26nm,1.3s
N23A Red Feather La 53.29 289 P **P 19 41 07.6 +0.6**
BOOM Boomskoye usch 53.96 66 P **P 19 41 12.0 +0.3**
BOOM pmax pmax
comp=Z,15nm,1.6s
BOOM Boomskoye usch 53.96 66 P **P 19 41 12.0 +0.3**
BOOM IAmb IAmb 19 41 31.4
comp=Z,15nm,1.6s
BTK Batken 53.97 72 P **P 19 41 12.4 +0.7**
BTK pmax pmax
comp=Z,14nm,1.1s
BTK Batken 53.97 72 P **P 19 41 12.4 +0.7**
BTK IAmb IAmb 19 41 15.9
comp=Z,14nm,1.1s
BMO Blue Mountains 54.37 300 P **P 19 41 14.6 +0.1**
BMO pmax pmax
comp=Z,14nm,1.7s
BMO Blue Mountains 54.37 300 P **P 19 41 14.6 +0.1**
BMO IAmb IAmb 19 41 28.4
comp=Z,14nm,1.7s
MOY Mondy 54.66 42 *e*P **P 19 41 18.8 +2.2**
MOY pmax pmax
comp=Z,29nm,1.5s
HWUT Hardware Ranch 54.94 294 P **P 19 41 19.1 +0.2**
HRA Herat 55.20 82 P **P 19 41 20.3 -0.5**
HRA IAmb IAmb 19 41 35.4
comp=Z,15nm,1.8s
TCUT Toone Canyon 55.29 294 P **P 19 41 21.4 -0.1**
TARG Taragay, Kyrgy 55.34 65 P **P 19 41 22.2 +0.2**
S22A 4UR Ranch, Cre 56.33 288 P **P 19 41 29.0 0.0**
ZAK Zakamensk 56.46 41 *e*P **P 19 41 30.2 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
MTP Monte Pirata 56.48 238 P **P 19 41 29.8 0.0**
KSH Kashi 56.50 68 P P 19 41 33.8 +3.8
KSH S **S 19 49 24.8 +3.7**
KSH Kashi 56.50 68 SS **SS 19 53 12.5 +4.8**
KSH pmax pmax
comp=Z,23nm,1.4s
KSH pmax pmax
comp=Z,140nm,6.0s
KSH LR LR
comp=N,310nm,6.8s
KSH LR LR
comp=E,330nm,5.9s
KSH LR LR
comp=Z,290nm,6.5s
PV03 Paradox Valley 56.71 290 P **P 19 41 32.0 +0.4**
PV03 IAmb IAmb 19 41 38.9
comp=Z,9.8nm,1.1s
WMQ Urumqi 57.23 56 *e*P P 19 41 38.8 +3.7
WMQ Urumqi 57.23 56 P **P 19 41 35.8 +0.7**
WMQ pmax pmax
comp=Z,21nm,0.4s
WMQ Urumqi 57.23 56 P **P 19 41 35.8 +0.7**
KBL Kabul 57.94 76 P **P 19 41 40.3 -0.1**
KBL pmax pmax
comp=Z,13nm,1.8s
KBL Kabul 57.94 76 P **P 19 41 40.2 -0.1**
KBL IAmb IAmb 19 41 42.8
comp=Z,13nm,1.8s
PSUT Pine Spring 58.47 294 P **P 19 41 44.0 0.0**
ANMO Albuquerque 58.58 286 P **P 19 41 45.1 +0.3**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 58.58 286 P **P 19 41 45.1 +0.3**
TIC Toumodi 58.61 165 *e*P **P 19 41 44.5 -0.4**
KIC Kosan Boka 58.92 165 *e*P **P 19 41 46.8 -0.3**
comp=Z,27nm,1.3s
LIC Lamto 59.02 165 *e*P **P 19 41 46.2 -1.6**
comp=Z,36nm,1.1s
JCT Junction City 59.63 277 P **P 19 41 52.2 +0.2**
JCT pmax pmax
comp=Z,10.0nm,1.0s
JCT Junction City 59.63 277 P **P 19 41 52.2 +0.2**
JCT IAmb IAmb 19 41 54.2
comp=Z,9.8nm,1.0s
SONM Songino Array 59.64 40 LR LR 20 09 50.1
comp=Z,98nm,19.3s,baz=334,slow=38
SONM Songino Array 59.64 40 P **P 19 41 51.9 0.0**
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 59.64 40 P **P 19 41 51.9 0.0**
KVN Kaiserville 59.67 298 P **P 19 41 52.6 +0.3**
KVN pmax pmax
comp=Z,19nm,1.7s
KVN Kaiserville 59.67 298 P **P 19 41 52.6 +0.3**
U15A North Rim 59.67 291 P **P 19 41 52.1 -0.3**
U15A IAmb IAmb 19 41 59.4
comp=Z,12nm,1.6s
ULN Ulaanbaatar 59.79 40⇑*e*P **P 19 41 54.5 +1.5**
ULN pmax pmax
comp=Z,4.0nm,1.3s
ULN Ulaanbaatar 59.79 40 P **P 19 41 53.4 +0.4**
ULN IAmb IAmb 19 42 04.2
comp=Z,14nm,1.7s
NVAR Mina Array Bea 60.29 297 P **P 19 41 58.3 +1.7**
comp=Z,0.1nm,0.3s,baz=43,slow=2.6,SNR=4.2
NVAR LR LR 20 07 45.4
comp=Z,346nm,19.9s,baz=27,slow=36
NVAR Mina Array Bea 60.29 297 P **P 19 41 56.4 -0.2**
NIL Nilore 60.46 73 P **P 19 41 57.8 +0.2**
NIL pmax pmax
comp=Z,13nm,1.1s
NIL Nilore 60.46 73 P **P 19 41 57.8 +0.2**
SHPR Sheep Range 60.74 294 P **P 19 41 60.0 +0.3**
SHPR IAmb IAmb 19 42 10.8
comp=Z,6.5nm,1.2s
MNTX Cornudas Mount 60.94 283 P **P 19 42 01.0 +0.2**
X16A Lo Mia Camp, P 61.08 290 P **P 19 42 02.7 +0.7**
X16A IAmb IAmb 19 42 09.3
comp=Z,6.4nm,1.1s
TXAR Lajitas Array 62.27 280 P **P 19 42 10.7 +0.7**
comp=Z,1.4nm,0.9s,baz=46,slow=5.4,SNR=10
TXAR PcP **PcP 19 42 50.4 +0.7**
comp=Z,1.6nm,1.1s,baz=73,slow=4.2,SNR=4.3
TXAR LR LR 20 08 41.3
comp=Z,148nm,19.9s,baz=0.0,slow=36
TXAR Lajitas Array 62.27 280 P **P 19 42 10.1 +0.1**
TEIG Tepich 63.68 262 LR LR 20 10 25.6
comp=Z,48nm,18.1s,baz=140,slow=36
PFO Pinyon Flats O 63.79 293 LR LR 20 09 24.7
comp=Z,222nm,20.5s,baz=27,slow=35
GTA Gaotai 65.30 49⇑P **P 19 42 31.0 +1.2**
GTA pP sP 19 42 35.3 +0.4
GTA sP pP 19 42 38.5 +5.0
GTA S **S 19 51 15.0 +1.7**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,170nm,8.2s
GTA LR LR
comp=N,110nm,14.9s
GTA LR LR
comp=E,110nm,16.4s
GTA LR LR
comp=Z,130nm,14.9s
HSIG 65.59 286 P **P 19 42 32.0 +0.3**
HSIG IAmb IAmb 19 42 36.4
comp=Z,9.9nm,1.1s
SDV Santo Domingo 66.82 239 P **P 19 42 40.2 +0.3**
HHC Hu-ho-hao-te 67.51 40 *e*P **P 19 42 46.3 +2.4**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,180nm,6.0s
HHC LR LR
comp=N,210nm,13.1s
HHC LR LR
comp=E,340nm,13.0s
HHC LR LR
comp=Z,130nm,12.8s
APG El Apazote 69.26 261 LR LR 20 12 06.1
comp=Z,52nm,19.5s,baz=82,slow=35
LZH Lanzhou 69.63 48 *e*P **P 19 42 58.5 +1.2**
LZH pP sP 19 43 01.0 -1.4
LZH sP pP 19 43 03.3 +2.3
LZH *e*PP **PP 19 45 34.8 +4.2**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,93nm,7.9s
LZH LR LR
comp=N,300nm,16.5s
LZH LR LR
comp=E,310nm,16.2s
LZH LR LR
comp=Z,470nm,18.1s
LPIG La Paz 69.67 283 LR LR 20 13 45.0
comp=Z,85nm,20.0s,baz=64,slow=36
LSA Lhasa 71.02 61 P **P 19 43 05.4 -0.8**
LSA pmax pmax
comp=Z,7.0nm,1.4s
LSA Lhasa 71.02 61 P **P 19 43 05.4 -0.8**
JTS Las Juntas de 71.17 254 LR LR 20 12 34.3
comp=Z,41nm,18.4s,baz=18,slow=34
ROSC El Rosal 71.92 241 LR LR 20 13 35.9
comp=Z,43nm,19.0s,baz=248,slow=35
ROSC El Rosal 71.92 241 P **P 19 43 11.7 0.0**
XAN Xi'an 73.09 44 P **P 19 43 17.9 -0.2**
XAN pmax pmax
comp=Z,10.0nm,1.5s
XAN Xi'an 73.09 44 P **P 19 43 17.9 -0.2**
XAN IAmb IAmb 19 43 19.7
comp=Z,9.6nm,1.5s
KSRS Korea Array 74.64 28 LR LR 20 17 39.9
comp=Z,31nm,19.8s,baz=347,slow=37
SHL Shillong 75.02 62 P **P 19 43 29.5 -0.2**
SHL pmax pmax
comp=Z,5.0nm,1.1s
SHL Shillong 75.02 62 P **P 19 43 29.5 -0.2**
ENH Enshi 76.77 45 P **P 19 43 40.1 +0.7**
ENH IAmb IAmb 19 43 46.1
comp=Z,16nm,1.4s
NJ2 Nanjing 77.73 37 *e*P **P 19 43 46.0 +1.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
JNU Nakatsue 79.42 27 LR LR 20 21 47.8
comp=Z,76nm,18.1s,baz=316,slow=38
CHTO Chiang Mai 83.81 59 P **P 19 44 17.5 +0.1**
CHTO pmax pmax
comp=Z,13nm,1.6s
CHTO Chiang Mai 83.81 59 P **P 19 44 17.5 +0.1**
CHTO IAmb IAmb 19 44 35.5
comp=Z,13nm,1.6s
CMAR Chiang Mai Arr 84.14 59 P **P 19 44 19.4 +0.3**
comp=Z,1.3nm,0.9s,baz=321,slow=6.8,SNR=10
CMAR LR LR 20 23 36.5
comp=Z,42nm,18.6s,baz=338,slow=37
CMAR Chiang Mai Arr 84.14 59 P **P 19 44 19.2 +0.2**
CMAR Chiang Mai Arr 84.14 59 P **P 19 44 19.2 +0.2**
LPAZ La Paz 89.40 228 LR LR 20 22 48.0
comp=Z,17nm,18.7s,baz=321,slow=34
BOSA Boshof 98.78 143 LR LR 20 33 52.9
comp=Z,53nm,18.8s,baz=354,slow=38
ASAR Alice Springs 134.96 38 PKP **PKiKP 19 51 07.4 -0.8**
comp=Z,0.8nm,0.9s,baz=348,slow=3.9,SNR=4.8

JMA ***27*** *20:05:32.2±0.1,23°.54N×121°.45E,h42km,M2.3*
TAP ***27*** *20:05:33.1,23°.54N×121°.47E,h40km,ML2.8,C*
ISC 27 20:05:33.2±0.9,23°.55N±0°.02×121°.52E±0°.02,h33km±3km,
n88,σ0s90/145,7C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.10**	**238**	⇑*i*P	**Pb**	**20 05 40.2**	**+1.3**
HGSD	baz=237			*e*S	**Sb**	**20 05 45.3**	**+2.4**
EGFH	**Guangfu**	**0.15**	**326**	⇓*i*P	**Pb**	**20 05 39.6**	**+0.3**
EGFH	baz=333			*e*S	**Sb**	**20 05 43.7**	**+0.2**
EHY	**Hungye**	**0.18**	**257**	⇓*i*P	**Pb**	**20 05 39.6**	**0.0**
EHY	baz=254			*e*S	**Sb**	**20 05 43.7**	**-0.3**
YULB	**Yu-li**	**0.25**	**233**	⇑*i*P	**Pb**	**20 05 40.3**	**-0.1**
YULB	baz=232			*e*S	**Sb**	**20 05 44.9**	**-0.4**
EYUL	**Yuli**	**0.27**	**223**	⇑*i*P	**Pb**	**20 05 40.7**	**+0.2**
EYUL	baz=224			*e*S	**Sn**	**20 05 46.3**	**+0.9**
ESL	**Shilin**	**0.28**	**344**	⇓*i*P	**Pb**	**20 05 40.5**	**-0.2**
ESL	baz=354			*e*S	**Sb**	**20 05 45.3**	**-0.4**

	baz=354							
TWF1	Yuli	0.28	226	⇑iP		Pb	20 05 40.6	-0.1
	baz=227							
TWF1				S		Sb	20 05 45.6	-0.2
	baz=227							
VWDT	VWDT	0.40	301	⇓iP		Pb	20 05 42.6	+0.3
	baz=305							
VWDT				eS		Sb	20 05 48.5	-0.1
	baz=305							
FULB	Fuli	0.40	211	⇑P		Pb	20 05 42.6	+0.2
	baz=213							
FULB				eS		Sn	20 05 49.8	+0.6
	baz=213							
HWA	Hwalien	0.44	11	eP		Pn	20 05 43.5	+0.4
	baz=7.0							
HWA				eS		Sn	20 05 50.7	+0.7
	baz=7.0							
CHKT	Chengkung	0.47	197	P		Pb	20 05 43.3	0.0
	baz=181							
CHKT				eS		Sn	20 05 51.5	+0.8
	baz=181							
OWD	Renai	0.51	322	eP		Pb	20 05 43.9	-0.2
	baz=330							
OWD				eS		Sb	20 05 50.8	-0.8
	baz=330							
YUS	Yu-Shan	0.52	264	P		Pb	20 05 44.4	-0.1
	baz=266							
YUS				eS		Sn	20 05 53.3	+0.5
	baz=266							
TWD	Chiawan	0.54	8	eP		Pb	20 05 43.9	-0.4
	baz=4.0							
TWD				eS		Sb	20 05 51.3	-0.7
	baz=4.0							
SSLB	Suanglung	0.57	295	⇓iP		Pb	20 05 44.6	-0.3
	baz=297							
SSLB				eS		Sb	20 05 52.1	-0.8
	baz=297							
ELDTW	Lidau	0.58	232	⇑iP		Pb	20 05 44.4	-0.8
	baz=226							
ELDTW				eS		Sb	20 05 52.0	-1.4
	baz=226							
CHGB	Renai	0.60	328	⇓iP		Pb	20 05 45.5	-0.1
	baz=339							
CHGB				S		Sb	20 05 53.1	-0.9
	baz=339							
EDH	Donghe	0.60	199	eP		Pb	20 05 44.8	-0.7
	baz=195							
EDH				eS		Sn	20 05 55.0	+0.9
	baz=195							
WHYT	Xinyi Township	0.63	284	eP		Pb	20 05 46.1	+0.2
	baz=285							
NACB	Ninganchiao	0.63	6	eP		Pb	20 05 44.7	-1.1
	baz=10.0							
NACB				eS		Sb	20 05 52.4	-2.1
	baz=10.0							
WHF	Hehuan Shan	0.64	339	iP		Pb	20 05 45.7	-0.6
	baz=350							
WHF				eS		Sb	20 05 54.0	-1.3
	baz=350							
ALS	Alishan	0.66	267	⇓iP		Pb	20 05 46.6	+0.1
	baz=274							
ALS				eS		Sb	20 05 55.7	+0.1
	baz=274							
ETLH	Xiulin Townshi	0.66	357	⇑P		Pn	20 05 45.4	-0.9
	baz=1.0							
ETLH				eS		Sb	20 05 53.5	-2.0
	baz=1.0							
SMLT	Sun Moon Lake	0.66	301	⇓iP		Pb	20 05 46.3	-0.1
	baz=303							
SMLT				eS		Sb	20 05 55.2	-0.3
	baz=303							
LONT	Longtian	0.73	209	P		Pn	20 05 45.8	-1.4
	baz=198							
FUSS	Fushou	0.74	340	eP		Pn	20 05 47.6	0.0
	baz=348							
FUSS				eS		Sb	20 05 57.1	-0.8
	baz=348							
TWT	Tachien	0.77	336	P		Pn	20 05 48.3	+0.3
	baz=342							
TWT				eS		Sb	20 05 57.4	-1.2
	baz=342							
CHN5	Tsauling	0.77	274	P		Pb	20 05 48.6	+0.3
	baz=274							
CHN5				eS		Sb	20 05 59.4	+0.8
	baz=274							
WJS	Zhushan	0.77	291	eP		Pn	20 05 48.5	+0.6
	baz=292							
WJS				eS		Sb	20 05 59.4	+0.9
	baz=292							
TDCB	Techi	0.78	335	P		Pn	20 05 48.3	+0.3
	baz=342							
TDCB				eS		Sn	20 05 57.7	-0.9
	baz=342							
TWGBT	Beinan	0.83	209	eP		Pn	20 05 47.0	-1.6
	baz=196							
TWGBT				eS		Sn	20 05 56.7	-2.9
	baz=196							
TWG	Pinlang	0.83	210	eP		Pn	20 05 47.0	-1.6
	baz=196							
TWG				eS		Sn	20 05 56.7	-3.0
	baz=196							
WNT	Mingjian	0.83	293	eP		Pb	20 05 49.5	+0.2
	baz=284							
WNT				eS		Sb	20 06 00.8	+0.7
	baz=284							
TPUB	Ta-pu	0.85	253	eP		Pn	20 05 49.6	+0.7
	baz=253							
TPUB				eS		Sn	20 06 00.9	+0.6
	baz=253							
LDUT	Ludao	0.87	183	P		Pn	20 05 48.2	-0.9
	baz=189							
LDUT				eS		Sn	20 05 59.6	-1.0
	baz=189							
WTP	Ta-pu	0.88	250	P		Pn	20 05 50.2	+0.8
	baz=249							
WTP				eS		Sb	20 06 01.9	+0.3
	baz=249							
NNSB	Datong	0.89	352	eP		Pn	20 05 49.2	-0.3
	baz=3.0							
NNSB				eS		Sn	20 06 00.1	-1.2
	baz=3.0							
NNSH	Datong	0.89	352	eP		Pn	20 05 49.3	-0.2
	baz=2.0							
NNSH				eS		Sn	20 06 00.1	-1.1
	baz=2.0							
WGK	Gukeng	0.89	279	P		Pn	20 05 50.1	+0.8
	baz=280							
WGK				eS		Sb	20 06 02.4	+0.7
	baz=280							
WHP	Taichung City	0.90	324	eP		Pb	20 05 50.8	+0.4
	baz=329							
WHP				eS		Sn	20 06 01.8	+0.3
	baz=329							
NNS	Nan Shan	0.90	352	eP		Pn	20 05 49.5	-0.2
	baz=3.0							
NNS				eS		Sn	20 05 59.9	-1.7
	baz=3.0							
ENA	Nanau	0.90	13	eP		Pn	20 05 48.9	-0.7
	baz=7.0							
WDLH	Douliu	0.91	279	eP		Pn	20 05 50.6	+0.9
	baz=280							
WDLH				eS		Sb	20 06 02.9	+0.5
	baz=280							
ENAH	Nanao	0.94	17	eP		Pn	20 05 50.6	+0.6
	baz=8.0							
SLGT	Liugui	0.97	236	eP		Pn	20 05 51.2	+0.7
	baz=234							
SLGT				eS		Sb	20 06 04.5	+0.3
	baz=234							
SGST	Jiashian	0.98	242	eP		Pn	20 05 50.2	-0.4
	baz=240							
SGST				eS		Sb	20 06 04.6	+0.3
	baz=240							
TCU	Taichung	0.98	308	eP		Pb	20 05 51.8	+0.2
	baz=310							
CHN1	Nanshi	0.98	249	eP		Pb	20 05 51.9	+0.2
	baz=260							
CHN1				eS		Sb	20 06 04.7	+0.4
	baz=260							
TWK	Hsinying	0.99	254	eP		Pn	20 05 51.7	+1.0
	baz=253							
TWK				eS		Sb	20 06 05.0	+0.4
	baz=253							
SNST	Tainan City	0.99	251	eP		Pb	20 05 52.1	+0.2
	baz=250							
SNST				eS		Sb	20 06 05.5	+0.8
	baz=250							
WCHH	Zhanghua	1.03	301	eP		Pb	20 05 52.8	+0.3
	baz=302							
WCHH				eS		Sb	20 06 06.3	+0.6
	baz=302							
WTK	Tuku	1.04	278	eP		Pb	20 05 52.8	0.0
	baz=278							
TWQ1	Liyutan	1.05	320	eP		Pb	20 05 53.2	+0.3
	baz=322							
TWQ1				eS		Sb	20 06 07.4	+1.1
	baz=322							
NDT	Datong Townshi	1.05	360	eP		Pn	20 05 51.5	-0.2
	baz=9.0							
ECL	Taimali	1.08	209	eP		Pn	20 05 50.5	-1.5
	baz=199							
ENTT	Nioudou	1.09	2	eP		Pn	20 05 52.0	-0.2
	baz=15							
RLNB	Erlin	1.12	288	eP		Pn	20 05 53.5	+1.0
	baz=289							
WLGB	Puzi	1.12	267	eP		Pn	20 05 52.9	+0.3
	baz=266							
YHNB	Yeheng	1.12	353	P		Pn	20 05 53.0	+0.3
	baz=6.0							
YHNB				eS		Sn	20 06 06.5	-0.6
	baz=6.0							
WDJ	Dajia District	1.13	315	eP		Pb	20 05 54.4	+0.2
	baz=317							
NSK	Sanguang	1.13	353	eP		Pn	20 05 53.4	+0.5
	baz=5.0							
NSK				eS		Sn	20 06 07.1	-0.2
	baz=5.0							
SSD	Sandimen	1.14	226	eP		Pn	20 05 52.8	-0.1
	baz=223							
SCST	Cishan	1.15	235	eP		Pn	20 05 52.7	-0.3
	baz=247							
SCST				eS		Sb	20 06 09.1	0.0
	baz=247							
TSMG	Majia	1.16	224	eP		Pn	20 05 53.9	+0.7
	baz=222							
TWE	Neicheng	1.18	7	P		Pn	20 05 53.3	0.0
	baz=10.0							
TWE				eS		Sn	20 06 07.4	-0.8
	baz=10.0							
NSTT	Nanjuang	1.18	336	eP		Pn	20 05 54.6	+1.2
	baz=339							
NSTT				eS		Sn	20 06 09.1	+0.8
	baz=339							
LIOB	Emei	1.19	337	eP		Pn	20 05 54.9	+1.4
	baz=340							
NMLH	Miaoli	1.19	326	eP		Pn	20 05 54.7	+1.2
	baz=328							
NWLT	Wulai	1.23	359	eP		Pn	20 05 53.8	-0.3
	baz=13							
MASBT	Mashibuluo	1.24	221	eP		Pn	20 05 54.0	-0.2
	baz=219							
TWM1	Shoushan	1.24	235	eP		Pb	20 05 57.6	+1.5
	baz=248							
EAST	Anshuo	1.31	208	eP		Pn	20 05 54.1	-1.2
	baz=201							
SCZT	Fangliau	1.43	215	eP		Pn	20 05 56.5	-0.4
	baz=213							
TIPB	Shuangxi	1.45	11	eP		Pn	20 05 57.7	+0.6
	baz=13							
SLIU	Shizi	1.48	207	eP		Pn	20 05 57.8	+0.3
	baz=202							
LAY	Lan-yu	1.50	179	eP		Pn	20 05 56.6	-1.3
	baz=176							
JYNG	Yonagunijimaku	1.59	55	P		Pn	20 06 00.4	+1.4
JYNG				S		Sn	20 06 19.8	+1.5
YM10	YM10	1.60	1	eP		Pn	20 05 58.5	-0.8
	baz=3.0							
YM05	YM05	1.61	2	eP		Pn	20 05 59.5	+0.1
	baz=3.0							
YOJ	Yonaguni jima	1.64	56	eP		Pn	20 06 00.2	+0.4
	baz=57							
YOJ	Yonaguni jima	1.64	56	P		Pn	20 06 01.0	+1.3
YOJ				S		Sn	20 06 21.1	+1.4
IRIF	Iriomote-Funau	2.17	68	P		Pn	20 06 08.5	+1.5
IRIF				S		Sn	20 06 34.2	+1.4
VWUC	VWUC	2.37	308	eP		Pn	20 06 09.7	-0.1
	baz=310							
JKRS	Kuro-shima	2.38	73	S		Sn	20 06 39.4	+1.4
PTTC	Pingtan	2.51	321	eP		Pn	20 06 11.1	-0.6
	baz=323							
JIJ	Ishigaki jima	2.54	71	P		Pn	20 06 13.7	+1.7
JIJ				S		Sn	20 06 42.9	+1.1
PTMZ	Houxiangcun	2.65	305	eP		Pn	20 06 13.3	-0.3
	baz=307							
JISG	Ishigakijimahi	2.75	67	P		Pn	20 06 16.2	+1.2
JISG				eS		Sn	20 06 47.5	+0.3

*NEIC **27** 20:05:58.0±1.8, 17°.56N±0°.06×94°.57W±0°.08, h162km±8km, Error ellipse: s-maj=12.9km s-min=7.3km az=58.0*
*IDC **27** 20:06:00.0±2.3, 17°.78N×94°.33W, h157km±22km, mb3.5/9, mb1 3.6/12, mb1mx3.5/32, mbtmp3.9/12, Error ellipse: s-maj=31.1km s-min=15.9km az=55.0*
*MEX **27** 20:06:00.6±0.6, 17°.34N×94°.65W, h160km±5km, MD4.1*
ISC 27 20:05:57.4±0.6, 17°.54N±0°.06×94°.61W±0°.05, h150km, n63, σ1§16/68, mb3.6/10, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.51	210	eP	Pn	20 06 21.3	+2.5
CMIG				eS	Sn	20 06 37.1	+2.0
TGIG		1.61	118	eP	Pn	20 06 30.4	+2.2
TGIG				eS	Sn	20 06 53.6	+1.8
VHO	Vista Hermosa	2.08	257	eP	Pn	20 06 35.6	+2.0
VHO				iS	Sn	20 07 02.2	+0.8
HUIG	Huatulco	2.27	219	eP	Pn	20 06 35.8	+0.1
HUIG				iS	Sn	20 07 03.7	-1.5
CCIG	Comitan	2.68	117	Pn	Pn	20 06 41.9	+1.1
PEIG	Puerto Escondi	2.87	238	eP	Pn	20 06 42.6	-0.6
HUEH	Huehuetenango	3.71	126	Pn	Pn	20 06 53.2	-0.9
TLIG	Tlapa	3.77	271	Pn	Pn	20 06 55.8	+1.0
RTAL	Retalhuleu	4.10	136	Pn	Pn	20 06 59.2	+0.2
PETF	Flores	4.58	97	Pn	Pn	20 07 05.4	+0.2
APG	El Apazote	4.71	122	P	Pn	20 07 08.9	+1.6
	2.6nm,0.3s,baz=319,slow=17,SNR=4.5						
APG				S	Sn	20 08 02.1	+0.5
	7.8nm,0.3s,baz=21,slow=20,SNR=5.4						
MTO3	Montecristo	5.94	121	Pn	Pn	20 07 22.7	-0.8
TEIG	Tepich	6.57	65	P	Pn	20 07 30.7	-0.9
	2.6nm,0.3s,baz=278,slow=2.1,SNR=16						
TEIG	Tepich	6.57	65	Pn	Pn	20 07 31.0	-0.6
MOIG	Morelia	6.59	290	Pn	Pn	20 07 34.4	+2.2
JTS	Las Juntas de	11.82	126	Pn	Pn	20 08 42.8	+1.4
TXAR	Lajitas Array	14.38	326	P	P	20 09 16.5	-0.2
	0.0nm,0.3s,baz=154,slow=15,SNR=3.7						
TXAR	Lajitas Array	14.38	326		P	20 09 16.4	-0.3
WHTX	Lake Whitney,	14.62	350	Pn	Pn	20 09 16.7	-0.3
Z38A	Mt. Pleasant	15.66	359	P	Pn	20 09 29.0	-0.9
ABTX	Abilene, Hawle	15.69	344	P	P	20 09 31.0	-0.3
Z41A	Richland Creek	15.74	6	P	Pn	20 09 30.8	-0.1
MIAR	Mount Ida	16.96	3	P	Pn	20 09 45.5	-0.2
X37A	Clayton	17.00	358	P	Pn	20 09 46.0	-0.2
X37A				IAmb	IAmb	20 09 49.5	
	comp=Z,15nm,1.1s						
UALR	University of	17.29	6	P	Pn	20 09 49.1	-0.5
W39A	Magazine	17.60	2	Pn	Pn	20 09 53.1	-0.3
W35A	Tecumseh	17.66	354	P	Pn	20 09 53.7	-0.4
W41B	Gary Mavity, V	17.69	6	P	P	20 09 53.7	+0.5
W41B				IAmb	IAmb	20 09 55.9	
	comp=Z,16nm,1.1s						
TUL1	Leonard	18.33	357	P	P	20 10 00.2	0.0
TUL1				IAmb	IAmb	20 10 03.9	
	comp=Z,14nm,0.9s						
FCAR	Ozark Folk Cen	18.41	6	P	P	20 10 01.3	+0.2
FCAR				IAmb	IAmb	20 10 02.9	
	comp=Z,18nm,0.8s						
QUOK	Quay	18.66	355	P	P	20 10 03.7	0.0
QUOK				IAmb	IAmb	20 10 04.4	
	comp=Z,17nm,0.7s						
HHAR	Hobbs	18.68	2	P	P	20 10 03.9	-0.1
HHAR				IAmb	IAmb	20 10 07.6	
	comp=Z,9.0nm,0.8s						
LCAR	Lake Charles	18.71	9	P	P	20 10 04.0	-0.3
U40A	Yellville	18.81	4	P	P	20 10 05.9	+0.5
U40A				IAmb	IAmb	20 10 06.8	
	comp=Z,21nm,0.8s						
Y52A	Lilburn	18.81	28		P	20 10 04.8	-0.7
Y52A				IAmb	IAmb	20 10 06.0	
	comp=Z,18nm,0.8s						
SWET	Sewanee	19.23	22	P	P	20 10 09.5	-0.6
SWET				IAmb	IAmb	20 10 09.8	
	comp=Z,8.0nm,0.6s						
T35A	Sooner Cattle	19.38	355	P	P	20 10 11.2	-0.3
T35A				IAmb	IAmb	20 10 12.8	
	comp=Z,19nm,0.9s						
W50A	Signal Mountai	19.45	23	P	P	20 10 11.5	-0.8
W50A				IAmb	IAmb	20 10 12.2	
	comp=Z,13nm,0.9s						
PBMO	Poplar Bluff	19.52	10	P	P	20 10 12.0	-1.1
PBMO				IAmb	IAmb	20 10 13.6	
	comp=Z,12nm,0.9s						
MGMO	Mountain Grove	19.65	6	P	P	20 10 14.5	0.0
MGMO				IAmb	IAmb	20 10 19.7	
	comp=Z,11nm,1.2s						
T42A	Van Buren	19.67	8	P	P	20 10 14.5	-0.2
T42A				IAmb	IAmb	20 10 15.1	
	comp=Z,11nm,0.9s						
W52A	Murphy	19.91	27	P	P	20 10 16.1	-1.2
W52A				IAmb	IAmb	20 10 17.6	
	comp=Z,14nm,0.8s						
S39A	Bolivar	20.11	3	P	P	20 10 18.4	-1.1
TKL	Tuckaleechee C	20.46	26	P	P	20 10 23.1	-0.1
	comp=Z,9.9nm,0.8s,baz=187,slow=15,SNR=5.5						
T47A	Sharon Grove	20.48	17	P	P	20 10 23.0	-0.4
CCM	Cathedral Cave	20.66	8	P	P	20 10 24.3	-0.9
R40A	Maddies Statio	20.78	5	P	P	20 10 26.3	-0.3
SLM	Saint Louis	21.37	9	P	P	20 10 30.9	-1.9
P40A	Paris	22.03	5	P	P	20 10 38.2	-1.6
P40A				IAmb	IAmb	20 10 39.9	
	comp=Z,17nm,1.1s						
N41A	Harden Midland	23.32	7	P	P	20 10 50.5	-1.4
NVAR	Mina Array Bea	29.36	320	P	P	20 11 49.0	+2.5
	comp=Z,1.0nm,0.8s,baz=140,slow=8.9,SNR=6.0						
SADO	Sadowa	30.10	22	P	P	20 11 50.5	-2.1
	comp=Z,1.3nm,0.4s,baz=236,slow=13,SNR=3.1						
AGMN	Ágassiz Nation	30.70	358	P	P	20 11 56.6	-1.2
ULM	Lac du Bonnet	32.65	358	P	P	20 12 13.7	-1.2
	comp=Z,3.6nm,0.8s,baz=186,slow=10,SNR=3.5						
G65A	Princeton	35.65	33	P	P	20 12 39.0	-1.8
LPAZ	La Paz	42.55	141	P	P	20 13 41.9	+2.7
	comp=Z,0.6nm,0.4s,baz=306,slow=8.7,SNR=3.5						
LPAZ	La Paz	42.55	141	P	P	20 13 39.2	0.0
PB16	IPOC Station P	43.36	144	P	P	20 13 43.9	-1.8
PB16				IAmb	IAmb	20 14 00.5	
	comp=Z,9.0nm,1.3s						
GO01	Chusmiza	44.61	145	P	P	20 13 53.9	-1.6
YKA	Yellowknife Ar	47.04	347	P	P	20 14 13.6	+0.2
	comp=Z,1.0nm,0.8s,baz=145,slow=7.6,SNR=4.2						
ILAR	Eielson Array	58.62	337	P	P	20 15 38.6	+0.3
	comp=Z,0.3nm,0.5s,baz=138,slow=5.3,SNR=5.0						
ESDC	Sonseca Array	79.51	52	P	P	20 17 47.7	0.0
	comp=Z,0.2nm,0.5s,baz=285,slow=5.7,SNR=4.2						
NOA	NORSAR Array B	82.24	28	P	P	20 18 02.4	+0.6
	comp=Z,0.8nm,0.7s,baz=295,slow=5.4,SNR=4.0						

WEL 27 20:08:16.5, 44°.S±10°×17°.2E±3°.6, h50km±29km, M2.5/6, ML2.7/6, MLv2.5/6, Error ellipse: s-maj=0.1km s-min=0.0km az=98.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.19	60	P	Pn	20 08 25.5	+0.8
AKCZ	Akaroa Harbour	0.36	101	P	Pn	20 08 31.1	+4.9
WACZ	Wakanui South	0.45	252	P	Pn	20 08 28.2	+1.1
OXZ	Oxford	0.55	329	P	Pn	20 08 24.8	-3.6
AMCZ	Amberley	0.65	15	P	Pn	20 08 29.9	+0.3
MHCZ	Mount Hutt	0.68	293	P	Pn	20 08 28.6	-1.4
ARCZ	Arundel	0.91	261	P	Pn	20 08 35.2	+2.2
GVZ	Greta Valley S	0.95	28	P	Pn	20 08 36.0	+2.5
RPZ	Rata Peaks	1.00	275	P	Pn	20 08 35.5	+1.4
LTZ	Lake Taylor	1.03	354	P	Pn	20 08 34.8	+0.2
INZ	Inchbonnie	1.29	326	P	Pn	20 08 39.5	+1.3
ODZ	Otahua Downs	1.78	225	P	Pn	20 08 52.9	+8.2

*IDC **27** 20:11:59.2±1.1, 31°.14N×103°.55E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/32, mbtmp3.7/6, MS3.3/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=44.1km s-min=19.1km az=53.0*
*BJI **27** 20:12:00.0±0.0, 31°.30N×103°.44E, h17km, ML3.9/18, Ms3.5/7, Ms7 3.5/4*
ISC 27 20:11:59.9±0.7, 31°.31N±0°.04×103°.54E±0°.07, h13km, n16, σ3§10/21, mb3.7/6, 2C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.43	155	⇑iPg	Pg	20 12 08.5	-0.1
CD2				Sg	Sb	20 12 15.8	-0.1
CD2				smax	smax		
	comp=N,9μm,0.9s						
CD2				smax	smax		
	comp=E,16μm,0.6s						
LZH	Lanzhou	4.78	3	ePg	Pg	20 13 29.5	-1.9
LZH				Sg	Sg	20 14 31.5	-1.8
LZH				smax	smax		
	comp=N,56nm,1.0s						
LZH				smax	smax		
	comp=E,93nm,1.0s						
LZH				LR	LR		
	comp=N,660nm,6.5s						
XAN	Xi'an	5.29	58	Pn	Pn	20 13 20.5	+1.8
XAN				Pg	Pg	20 13 37.5	-3.8
XAN				Sn	Sn	20 14 25.3	+5.7
XAN				Sg	Sg	20 14 48.5	-1.3
XAN				smax	smax		
	comp=N,220nm,0.6s						
XAN				smax	smax		
	comp=E,190nm,0.6s						
GYA	Guiyang	5.55	150	⇑Pg	Pg	20 13 41.8	-4.4
GYA				Sn	Sn	20 14 29.5	+3.4
GYA				Sg	Sg	20 14 53.0	-5.1
GYA				smax	smax		
	comp=N,100nm,0.9s						
GYA				smax	smax		
	comp=E,90nm,0.8s						
GYA				LR	LR		
	comp=N,280nm,6.3s						
GYA				LR	LR		
	comp=Z,260nm,7.4s						
KMI	Kunming	6.20	187	ePn	Pn	20 13 35.5	+4.1
GTA	Gaotai	8.64	340	eP	Pg	20 14 42.5	-2.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,44nm,6.9s						
GTA				LR	LR		
	comp=N,91nm,16.4s						
GTA				LR	LR		
	comp=E,120nm,15.6s						
GTA				LR	LR		
	comp=Z,120nm,16.7s						
CMAR	Chiang Mai Arr	13.45	199	Pn	P	20 15 16.6	-3.3
	comp=Z,0.1nm,0.3s,baz=11,slow=12,SNR=3.7						
WMQ	Urumqi	17.68	319	eP	P	20 16 06.8	0.0
KSRS	Korea Array	21.01	66	P	P	20 16 44.6	+1.5
	comp=Z,1.9nm,0.7s,baz=262,slow=10,SNR=11						
MKAR	Makanchi Array	22.51	319	P	P	20 17 01.4	+2.1
	comp=Z,1.4nm,0.8s,baz=140,slow=9.4,SNR=6.8						
ZALV	Zalesovo Beam	26.33	335	P	P	20 17 38.3	+3.0
	comp=Z,0.6nm,0.4s,baz=130,slow=5.8,SNR=3.6						
KURBB	Kurchatov Arra	26.79	323	P	P	20 17 41.8	+2.3
	comp=Z,0.8nm,0.5s,baz=131,slow=9.0,SNR=6.5						
PSI	Prapat	28.68	190	LR	LR	20 30 19.8	
	comp=Z,148nm,21.5s,baz=271,slow=38						
BRTR	Keskin Array B	56.22	299	LR	LR	20 49 10.2	
	comp=Z,12nm,21.7s,baz=44,slow=40						
WRA	Warramunga Arr	58.91	146	P	P	20 21 59.1	+0.3
	comp=Z,0.6nm,0.6s,baz=339,slow=7.6,SNR=12						
ASAR	Alice Springs	61.91	148	P	P	20 22 19.9	+0.5
	comp=Z,0.5nm,0.8s,baz=341,slow=6.7,SNR=4.1						

*VAO **27** 20:45:01.4±1.0, 24°.29S×67°.61W, h243km±8km, mb4.3*
*SJA **27** 20:45:01.7±0.7, 24°.01S×67°.10W, h196km±6km, ML4.0, MW4.0*
*NEIC **27** 20:45:02.0±1.4, 24°.07S±0°.06×67°.1W±0°.1, h190km±2km, Error ellipse: s-maj=15.0km s-min=9.3km az=96.0*
*IDC **27** 20:45:02.5±1.9, 24°.00S×67°.04W, h184km±20km, mb3.7/1, mb1 3.7/6, mb1mx3.4/25, mbtmp4.2/6, MS2.1/1, Ms1 2.1/1, ms1mx1.9/23, Error ellipse: s-maj=29.9km s-min=18.8km az=142.0*
*GUC **27** 20:45:03.5±0.7, 24°.04S×67°.33W, h215km±10km, ML4.3*
**ISC 27 20:45:01.9±0.6, 24°.07S±

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.63**	**114**	*eP*	**Pn**	**20 45 37.0**	**+0.9**
SLA				*eS*	**Sn**	**20 46 03.2**	**+0.5**
HJA	**Humahuaca**	**1.81**	**62**	*eP*	**Pn**	**20 45 38.7**	**+0.6**
HJA				*eS*	**Sn**	**20 46 06.1**	**0.0**
LVC	**Limon Verde**	**2.18**	**312**	P	**Pn**	**20 45 43.3**	**+1.4**
	37nm,0.3s,baz=142,slow=6.8,SNR=967						
LVC				LR	LR	20 46 01.2	
	comp=Z,48nm,20.5s,baz=110,slow=27						
LVC				S	**Sn**	**20 46 13.3**	**+0.3**
	65nm,0.3s,baz=211,slow=23,SNR=29						
LVC	**Limon Verde**	**2.18**	**312**		**Pn**	**20 45 43.1**	**+1.1**
LVC				Sn	**Sn**	**20 46 13.4**	**+0.4**
LVC	**Limon Verde**	**2.18**	**312**	*eP*	**Pn**	**20 45 43.3**	**+1.4**
LVC				*eS*	**Sn**	**20 46 14.5**	**+1.4**
LVC	**Limon Verde**	**2.18**	**312**	*eP*	**Pn**	**20 45 43.4**	**+1.4**
PB15	**IPOC Station P**	**2.30**	**291**	*eP*	**Pn**	**20 45 44.4**	**+1.3**
PB15				*i S*	**Sn**	**20 46 15.7**	**+0.5**
PB15	**IPOC Station P**	**2.30**	**291**		**Pn**	**20 45 44.3**	**+1.3**
PB15				Sn	**Sn**	**20 46 15.4**	**+0.3**
PB15	**IPOC Station P**	**2.30**	**291**	*eP*	**Pn**	**20 45 44.6**	**+1.5**
PB15				*eS*	**Sn**	**20 46 15.9**	**+0.8**
YJA	**Yavi**	**2.41**	**39**	*eP*	**Pn**	**20 45 45.3**	**+0.7**
YJA				*eS*	**Sn**	**20 46 17.2**	**-0.7**
GO02	**Mina Guanaco**	**2.48**	**243⇑**	*iP*	**Pn**	**20 45 46.3**	**+1.1**
GO02				*i S*	**Sn**	**20 46 19.5**	**+0.6**
GO02				IAML		20 46 20.6	
	comp=N,1μm,0.6s						
GO02	**Mina Guanaco**	**2.48**	**243**		**Pn**	**20 45 46.4**	**+1.1**
GO02				Sn	**Sn**	**20 46 19.3**	**+0.4**
PB06	**IPOC Station P**	**2.61**	**301⇑**	*iP*	**Pn**	**20 45 47.8**	**+1.2**
PB06				*i S*	**Sn**	**20 46 21.0**	**-0.4**
PB06				IAML		20 46 22.9	
	comp=N,802nm,0.1s						
PB06	**IPOC Station P**	**2.61**	**301**		**Pn**	**20 45 47.8**	**+1.2**
PB06				Sn	**Sn**	**20 46 21.0**	**-0.4**
PB06	**IPOC Station P**	**2.61**	**301**	*eP*	**Pn**	**20 45 47.8**	**+1.2**
PB06				*eS*	**Sn**	**20 46 21.4**	**+0.1**
PB06				IAML		20 46 24.8	
	comp=Z,403nm,0.1s						
PB09	**IPOC Station P**	**2.97**	**319⇑**	*iP*	**Pn**	**20 45 52.3**	**+1.4**
PB09				*eS*	**Sn**	**20 46 29.2**	**+0.1**
PB09				IAML		20 46 31.1	
	comp=N,432nm,0.6s						
PB09	**IPOC Station P**	**2.97**	**319**		**Pn**	**20 45 51.6**	**+0.7**
PB09				Sn	**Sn**	**20 46 29.5**	**+0.4**
PB09	**IPOC Station P**	**2.97**	**319**	*eP*	**Pn**	**20 45 52.3**	**+1.4**
PB09				*eS*	**Sn**	**20 46 29.2**	**+0.1**
PB09				IAML		20 46 30.5	
	comp=Z,426nm,0.6s						
PB14	**IPOC Station P**	**3.02**	**259⇑**	*iP*	**Pn**	**20 45 52.2**	**+0.6**
PB14	**IPOC Station P**	**3.02**	**259**		**Pn**	**20 45 51.9**	**+0.3**
PB14	**IPOC Station P**	**3.02**	**259**	*eP*	**Pn**	**20 45 52.2**	**+0.6**
PB14				*eS*	**Sn**	**20 46 30.8**	**+0.5**
PB14				IAML		20 46 31.4	
	comp=Z,230nm,0.5s						
PB05	**IPOC Station P**	**3.06**	**293⇑**	*iP*	**Pn**	**20 45 52.4**	**+0.6**
PB05				*i S*	**Sn**	**20 46 29.1**	**-1.7**
PB05				IAML		20 46 33.2	
	comp=E,265nm,0.1s						
PB05	**IPOC Station P**	**3.06**	**293**	*eP*	**Pn**	**20 45 52.6**	**+0.7**
PB05				*eS*	**Sn**	**20 46 30.4**	**-0.4**
PB03	**IPOC Station P**	**3.13**	**309⇑**	*iP*	**Pn**	**20 45 53.5**	**+0.7**
PB03				*i S*	**Sn**	**20 46 31.3**	**-1.2**
PB03				IAML		20 46 33.1	
	comp=N,726nm,0.2s						
PB03	**IPOC Station P**	**3.13**	**309**	*eP*	**Pn**	**20 45 53.5**	**+0.7**
PB03				*eS*	**Sn**	**20 46 31.6**	**-0.9**
PB03				IAML		20 46 33.0	
	comp=Z,608nm,0.2s						
AHML	**Horco Molle**	**3.16**	**149**	*eP*	**Pn**	**20 45 53.2**	**+0.2**
AHML				*eS*	**Sn**	**20 46 31.9**	**-1.1**
PB10	**IPOC Station P**	**3.17**	**279**	*eP*	**Pn**	**20 45 53.4**	**+0.4**
PB10				*i S*	**Sn**	**20 46 31.8**	**-1.2**
PB10				IAML		20 46 36.8	
	comp=E,178nm,0.3s						
PB10	**IPOC Station P**	**3.17**	**279**		**Pn**	**20 45 53.9**	**+0.8**
PB10	**IPOC Station P**	**3.17**	**279**	*eP*	**Pn**	**20 45 54.1**	**+1.0**
PB10				*eS*	**Sn**	**20 46 33.0**	**-0.1**
PB10				IAML		20 46 34.5	
	comp=Z,144nm,0.4s						
PB04	**IPOC Station P**	**3.26**	**301⇑**	*iP*	**Pn**	**20 45 55.0**	**+0.6**
PB04				*i S*	**Sn**	**20 46 33.6**	**-1.6**
PB04	**IPOC Station P**	**3.26**	**301**		**Pn**	**20 45 54.7**	**+0.4**
PB04	**IPOC Station P**	**3.26**	**301**	*eP*	**Pn**	**20 45 55.2**	**+0.9**
PB04				*eS*	**Sn**	**20 46 34.9**	**-0.4**
PB04				IAML		20 46 38.8	
	comp=Z,425nm,0.4s						
PB07	**IPOC Station P**	**3.44**	**312⇑**	*iP*	**Pn**	**20 45 57.0**	**+0.6**
PB07				*i S*	**Sn**	**20 46 37.2**	**-2.1**
PB07	**IPOC Station P**	**3.44**	**312**		**Pn**	**20 45 57.1**	**+0.6**
PB07	**IPOC Station P**	**3.44**	**312**	*eP*	**Pn**	**20 45 57.1**	**+0.6**
PB07				*eS*	**Sn**	**20 46 37.8**	**-1.4**
PB07				IAML		20 46 38.9	
	comp=Z,408nm,0.4s						
PB01	**IPOC Station P**	**3.71**	**324**	*eP*	**Pn**	**20 46 00.0**	**+0.2**
PB01				*i S*	**Sn**	**20 46 43.6**	**-1.5**
PB01	**IPOC Station P**	**3.71**	**324**		**Pn**	**20 46 00.3**	**+0.5**
PB02	**IPOC Station P**	**3.73**	**317**	*eP*	**Pn**	**20 46 00.2**	**+0.1**
PB02				*i S*	**Sn**	**20 46 43.4**	**-2.3**
AC01	**Pan de Azucar**	**3.75**	**236**	*eP*	**Pn**	**20 45 59.8**	**-0.4**
AC01				*i S*	**Sn**	**20 46 43.8**	**-2.1**
AC01	**Pan de Azucar**	**3.75**	**236**	Pn	**Pn**	**20 45 59.9**	**-0.3**
PATCX	**Punta Patache**	**4.26**	**319**		**Pn**	**20 46 07.0**	**+0.2**
PB08	**IPOC Station P**	**4.33**	**334**	*eP*	**Pn**	**20 46 08.7**	**+0.8**
PB08				*i S*	**Sn**	**20 46 58.8**	**-0.8**
PB08	**IPOC Station P**	**4.33**	**334**		**Pn**	**20 46 08.6**	**+0.6**
TA01	**Diego Aracena**	**4.48**	**321**	*eP*	**Pn**	**20 46 09.1**	**-0.3**
TA01				*i S*	**Sn**	**20 46 59.3**	**-3.1**
TA01	**Diego Aracena**	**4.48**	**321**	Pn	**Pn**	**20 46 09.7**	**+0.3**
GO03	**Copiap**	**4.48**	**218**	*eP*	**Pn**	**20 46 08.6**	**-0.7**
GO03				*i S*	**Sn**	**20 47 00.7**	**-1.8**
GO03	**Copiap**	**4.48**	**218**		**Pn**	**20 46 08.7**	**-0.7**
GO03	**Copiap**	**4.48**	**218**	*eP*	**Pn**	**20 46 09.3**	**-0.1**
GO03				*eS*	**Sn**	**20 47 00.4**	**-2.2**
GO01	**Chusmiza**	**4.77**	**336**	*eP*	**Pn**	**20 46 14.0**	**+0.3**
GO01				*i S*	**Sn**	**20 47 08.9**	**-1.1**
GO01	**Chusmiza**	**4.77**	**336**		**Pn**	**20 46 14.0**	**+0.3**
PB11	**IPOC Station P**	**4.88**	**331**	*eP*	**Pn**	**20 46 14.0**	**-0.7**
PB11				*i S*	**Sn**	**20 47 09.2**	**-2.7**
PB11	**IPOC Station P**	**4.88**	**331**	Pn	**Pn**	**20 46 13.8**	**-0.9**
PSGC	**Pisagua**	**5.24**	**328**	*eP*	**Pn**	**20 46 17.5**	**-1.8**
PSGC				*i S*	**Sn**	**20 47 16.2**	**-4.0**
PSGCX	**Pisagua**	**5.24**	**328**	Pn	**Pn**	**20 46 18.5**	**-0.8**
ACLC	**CERRO LA CRUZ**	**5.34**	**178**	*eP*	**Pn**	**20 46 20.7**	**+0.1**
ACLC				*eS*	**Sn**	**20 47 19.6**	**-3.0**
MNMC	**Minye Minye**	**5.42**	**335**		**Pn**	**20 46 21.2**	**-0.5**
AC05	**El Transito**	**5.51**	**210**	Pn	**Pn**	**20 46 22.0**	**-0.8**
PB16	**IPOC Station P**	**6.12**	**338**	Pn	**Pn**	**20 46 30.7**	**-0.4**
APLL	**PUNTA DE LOS L**	**6.33**	**175**	*eP*	**Pn**	**20 46 32.6**	**-0.7**
APLL				*eS*	**Sn**	**20 47 40.2**	**-5.4**
APLL				IAML		20 47 41.4	
	comp=Z,35nm,2.9s						
ACCO	**Cerro Coronel**	**6.71**	**194**	*eS*	**Sn**	**20 47 52.4**	**-2.7**
ACCO				IAML		20 48 17.7	
	comp=Z,14nm,4.3s						
GO04	**Tololo Observa**	**6.90**	**207**	Pn	**Pn**	**20 46 39.1**	**-1.8**
CO03	**El Pedregal**	**7.44**	**204**	Pn	**Pn**	**20 46 46.7**	**-1.2**
LPAZ	**La Paz**	**7.80**	**353**	P	**Pn**	**20 46 54.2**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=162,slow=8.9,SNR=19						
LPAZ				S	**Sn**	**20 48 20.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=88,slow=23,SNR=3.7						
LPAZ	**La Paz**	**7.80**	**353**	Pn	**Pn**	**20 46 52.8**	**-0.3**
LPAZ	**La Paz**	**7.80**	**353**	*eP*	**Pn**	**20 46 54.9**	**+1.7**
CO02	**Combarbal**	**7.89**	**205**	Pn	**Pn**	**20 46 52.8**	**-0.9**
VA03	**San Esteban**	**9.17**	**198**	Pn	**Pn**	**20 47 11.3**	**+0.9**
MT02	**Curacav**	**9.80**	**200**	Pn	**Pn**	**20 47 18.0**	**-0.7**
SIV	**San Ignacio**	**9.86**	**36**	P	**Pn**	**20 47 18.8**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=248,slow=7.8,SNR=28						
BO02	**Sierra Bellavi**	**11.14**	**196**	Pn	**Pn**	**20 47 37.3**	**+1.2**
PTLB	**Pontes e Lacer**	**11.41**	**43**	*eP*	**P**	**20 47 43.9**	**-1.8**
BI02	**San Fabin de**	**13.05**	**195**		**Pn**	**20 48 01.0**	**+0.7**
TRCB	**Terra Rica**	**13.38**	**87**	*eP*	**P**	**20 48 07.9**	**+0.3**
PTGB	**Pitanga**	**13.76**	**96**	*eP*	**P**	**20 48 13.2**	**+1.4**
PCMB	**Pacaembu**	**14.85**	**84**	*eP*	**P**	**20 48 25.1**	**+1.2**
LC01	**Cunco**	**15.32**	**194**		**Pn**	**20 48 26.8**	**-1.5**
FRTB	**Fartura**	**16.12**	**91**	*eP*	**Pn**	**20 48 38.7**	**+0.4**
ITRB	**Iturama**	**16.17**	**78**	*eP*	**Pn**	**20 48 40.1**	**+1.2**
PLCA	**Paso Flores**	**16.86**	**189**	P	**Pn**	**20 48 47.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=34,slow=18,SNR=5.5						
PLCA	**Paso Flores**	**16.86**	**189**	P	**P**	**20 48 46.3**	**+0.4**
PLCA				IAmb	IAmb	20 48 55.0	
	comp=Z,4.2nm,0.8s						
CLDB	**Colider**	**17.00**	**41**	*eP*	**P**	**20 48 47.4**	**-0.2**
VAO	**Valinhos**	**18.54**	**91**	*eP*	**P**	**20 49 04.0**	**-0.4**
IPMB	**Ipameri, GO**	**18.68**	**75**	*eP*	**P**	**20 49 05.9**	**0.0**
LL01	**San Ignacio de**	**18.78**	**192**	P	**P**	**20 49 06.5**	**-0.1**
BDFB	**Brasília**	**19.84**	**69**	P	**P**	**20 49 18.4**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=241,slow=11,SNR=41						
BDFB	**Brasília**	**19.84**	**69**	P	**P**	**20 49 18.4**	**-0.1**
PEXB	**Peixe**	**21.47**	**60**	*eP*	**P**	**20 49 34.8**	**-1.0**
MACA	**Manacapuru-AM**	**21.70**	**18**	*eP*	**P**	**20 49 38.0**	**-0.1**
JANB	**Januaria**	**23.28**	**72**	*eP*	**P**	**20 49 52.1**	**-0.8**
SMTB	**Santa Maria do**	**24.04**	**54**	*eP*	**P**	**20 49 58.7**	**-1.1**
SDBA	**SAO DESIDERIO**	**24.06**	**65**	*eP*	**P**	**20 49 59.2**	**-0.7**
GDU01	**Guandu, BA**	**27.99**	**73**	*eP*	**P**	**20 50 34.0**	**-1.2**
SNAA	**Sanae**	**59.33**	**161**	P	**P**	**20 54 44.3**	**+0.8**
JCT	**Junction City**	**62.63**	**328**	P	**P**	**20 55 06.5**	**+0.3**
QSPA	**South Pole Qui**	**66.14**	**180**	P	**P**	**20 55 30.6**	**+1.9**
QSPA				IAmb	IAmb	20 55 31.6	
	comp=Z,1.7nm,0.6s						
DBIC	**Dimbokro**	**67.95**	**72**	P	**P**	**20 55 41.1**	**+0.4**
DBIC				IAmb	IAmb	20 55 54.7	
	comp=Z,4.8nm,1.0s						
KOWA	**Kowa**	**72.59**	**65**	P	**P**	**20 56 08.6**	**-0.3**
TOA0	**Torodi Ar. Sit**	**76.72**	**69**	P	**P**	**20 56 32.4**	**-0.2**
TOA0				IAmb	IAmb	20 56 33.9	
	comp=Z,1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.72**	**69**	P	**P**	**20 56 32.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=257,slow=5.1,SNR=14						
TORD	**Torodi Ar. Bea**	**76.72**	**69**	P	**P**	**20 56 31.7**	**-0.9**
BOSA	**Boshof**	**80.82**	**117**	P	**P**	**20 56 54.5**	**-0.5**
BOSA				IAmb	IAmb	20 57 14.1	
	comp=Z,4.5nm,1.1s						
LBTB	**Lobatse**	**82.48**	**114**	P	**P**	**20 57 03.9**	**+0.1**
LBTB				IAmb	IAmb	20 57 22.6	
	comp=Z,3.3nm,1.0s						
ASAR	**Alice Springs**	**128.34**	**205**	PKP	**PKiKP**	**21 03 48.1**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=138,slow=1.4,SNR=6.6						
WRA	**Warramunga Arr**	**131.50**	**207**	PKP	**PKiKP**	**21 03 54.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=163,slow=1.8,SNR=12						
MKAR	**Makanchi Array**	**146.66**	**39**	PKPbc	**PKPab**	**21 04 21.2**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=303,slow=3.4,SNR=4.1						
MKAR	**Makanchi Array**	**146.66**	**39**		**PKPdf**	**21 04 19.1**	**-0.1**

IDC 27 21:04:42.5±17.0, 7°.88S×153°.30E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/33, mbtmp3.7/3, Error ellipse: s-maj=278.3km s-min=95.1km az=24.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.93**	**235**	P	P	21 09 38.0	+0.2
	2.4nm,1.1s,baz=62,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**24.33**	**228**	P	P	21 10 01.9	-0.4
	0.5nm,0.8s,baz=59,slow=10,SNR=6.6						
STKA	**Stephens Creek**	**26.24**	**203**	P	P	21 10 19.7	+0.2
	2.7nm,0.6s,baz=27,slow=8.6,SNR=5.8						

*PGC **27** 21:05:38.9±0.4, 52°.70N×132°.31W, h23km, ML4.5/19, Mw4.7, 69km southwest of Sandspit, Bc Haida Gwaii Region*

*OTT **27** 21:05:38±3.1, 52°.70N±0°.06×132°.31W±0°.10, h23km±1km, Mwr4.7, mb4.6/216(NEIC), Error ellipse: s-maj=12.5km s-min=6.1km az=223.0*

*IDC **27** 21:05:38.9±1.9, 52°.70N×132°.30W, h7km±10km, mb4.5/20, mb1 4.5/28, mb1mx4.4/45, mbtmp4.4/28, ML4.1/8, MS3.9/30, Ms1 3.9/30, ms1mx3.8/36, Error ellipse: s-maj=15.7km s-min=7.2km az=40.0*

*NEIC **27** 21:05:40.6±2.2, 52°.80N±0°.04×132°.3W±0°.1, h10km±1km, Error ellipse: s-maj=12.4km s-min=4.9km az=246.0*

*NEIC **27** 21:05:40.9, 52°.70N×132°.31W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.95; $M_{\theta\theta}$-1.17; $M_{\phi\phi}$-0.05; $M_{r\theta}$-0.82; $M_{\theta\phi}$0.65; $M_{\phi r}$0.08; Fault plane solution: $M_0$1.50000×10^{16} NP1:ϕ_s281.00000°, δ63.00000°, λ75.00000°. NP2:ϕ_s132.00000°, δ31.00000°, λ117.00000°. Principal axes: T 1.3345, Plg68.0000°, Azm161.0000°; N 0.2701, Plg13.0000°, Azm288.0000°; P -1.6046, Plg17.0000°, Azm22.0000°;*

*BJI **27** 21:05:40.1±0.0, 53°.38N×132°.97W, h5km, mB5.2/18, mb4.8/25, Ms4.7/3, Ms7 4.5/4*

*UNK **27** 21:05:40.9, 52°.81N×132°.22W, h10km*

ISC 27 21:05:40.6±0.9, 52°.78N±0°.04×132°.18W±0°.04, h17km±5km, n579, σ1§63/554, mb4.6/104, MS3.9/25, 8C-2D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HG1B	**Mitchell Dam**	**0.16**	**12**	P	**Pg**	**21 05 44.7**	**0.0**
HG1B				S	**Sb**	**21 05 48.3**	**+0.2**
BNB	**Barry Inlet**	**0.33**	**128**	P	**Pg**	**21 05 46.8**	**-0.8**
BNB				S	**Sg**	**21 05 51.9**	**-0.5**
MOBC	**Moresby Island**	**0.39**	**20**	P	**Pg**	**21 05 48.6**	**0.0**
DIB	**Dawson Inlet,**	**0.46**	**337**	P	**Pg**	**21 05 49.0**	**-0.8**
DIB				S	**Sg**	**21 05 55.7**	**-0.3**
DIB	**Dawson Inlet,**	**0.46**	**337**		**Pg**	**21 05 49.0**	**-0.8**
DIB				Sg	**Sg**	**21 05 55.4**	**-0.6**
H02S1	**DAWSON INLET T**	**0.46**	**337**	Pg	**Pg**	**21 05 49.0**	**-0.8**
H02S1				Lg	Lg	21 05 55.7	
H02S1	**DAWSON INLET T**	**0.46**	**337**		**Pg**	**21 05 49.0**	**-0.8**
H02N1	**VAN INLET T-PH**	**0.52**	**335**	Pg	**Pg**	**21 05 50.0**	**-0.9**
H02N1				Lg	Lg	21 05 57.5	
H02N1	**VAN INLET T-PH**	**0.52**	**335**		**Pg**	**21 05 50.0**	**-0.9**
VIB	**Van Inlet**	**0.52**	**335**	P	**Pg**	**21 05 50.2**	**-0.8**
VIB				S	**Sg**	**21 05 57.1**	**-0.9**
HG4B	**Hotspring**	**0.78**	**129**	P	**Pb**	**21 05 53.8**	**-1.9**
HG4B				S	**Sb**	**21 06 04.0**	**-1.9**
BNAB	**Bonilla**	**1.17**	**52**	P	**Pn**	**21 06 01.0**	**-1.2**
BNAB				S	**Sn**	**21 06 18.0**	**+0.2**
MASB	**Masset**	**1.24**	**4**	P	**Pn**	**21 06 02.7**	**-0.4**
NDB	**Naden**	**1.26**	**339**	P	**Pn**	**21 06 01.7**	**-1.8**
NDB				S	**Sb**	**21 06 17.6**	**-2.3**
BNKB	**Banks Island**	**1.48**	**67**	Pn	**Pn**	**21 06 05.0**	**-1.6**
BNKB				S	**Sb**	**21 06 26.7**	**+0.5**
GRNB	**Grenville Isla**	**1.71**	**50**	Pn	**Pn**	**21 06 08.5**	**-1.1**
RUBB	**Prince Rupert**	**1.93**	**36**	P	**Pn**	**21 06 11.8**	**-0.8**
HWKB	**Hawksbury Isla**	**2.00**	**65**	Pn	**Pn**	**21 06 12.2**	**-1.4**
BUTB	**Butedale**	**2.27**	**81**	Pn	**Pn**	**21 06 15.6**	**-1.8**
KITB	**Kitimat**	**2.49**	**57**	Pn	**Pn**	**21 06 19.5**	**-0.8**
BBB	**Bella Bella**	**2.56**	**102**	Pn	**Pn**	**21 06 19.3**	**-1.9**
	29nm,0.3s,baz=276,slow=9.6,SNR=590						
BBB				Sn	**Sn**	**21 06 49.9**	**-2.1**
	217nm,0.3s,baz=146,slow=18,SNR=9.9						
BBB				Lg	Lg	21 06 58.2	
	549nm,0.3s,baz=7.5,slow=22,SNR=26						
BBB				LR	LR	21 07 21.4	
	comp=Z,2μm,20.4s,baz=302,slow=39						
BBB	**Bella Bella**	**2.56**	**102**	P	**Pn**	**21 06 19.4**	**-1.9**
BBB	**Bella Bella**	**2.56**	**102**	Pn	**Pn**	**21 06 19.5**	**-1.8**
BBB					**Sn**	**21 06 51.9**	**-0.1**
HOLB	**Holberg**	**3.31**	**129**	Pn	**Pn**	**21 06 28.0**	**-3.6**
PHC	**Port Hardy**	**3.61**	**123**	P	**Pn**	**21 06 32.2**	**-3.5**
WRAK	**Wrangell Islan**	**3.65**	**359**		**Pn**	**21 06 36.4**	**+0.2**
BPBC	**Brooks Peninsu**	**3.81**	**132**	P	**Pn**	**21 06 36.5**	**-2.1**
MAYB	**Maynard**	**3.93**	**125**	P	**Pn**	**21 06 37.2**	**-3.1**
TLCB	**Telegraph Cove**	**4.01**	**122**	Pn	**Pn**	**21 06 38.4**	**-2.8**
FHRB	**Fair Harbour**	**4.18**	**129**	Pn	**Pn**	**21 06 41.8**	**-1.8**
EDB	**Eliza Dome**	**4.31**	**131**	P	**Pn**	**21 06 43.6**	**-1.7**
WOSB	**Woss**	**4.38**	**125**	P	**Pn**	**21 06 44.0**	**-2.4**
NCRB	**Newcastle Ridg**	**4.50**	**120**	P	**Pn**	**21 06 46.1**	**-2.0**
SIT	**Sitka**	**4.65**	**338**	Pn	**Pn**	**21 06 48.0**	**-2.0**
GDR	**Gold River**	**4.89**	**125**	P	**Pn**	**21 06 51.9**	**-1.4**
UBRB	**Upper Baezaeko**	**4.91**	**85**	Pn	**Pn**	**21 06 54.7**	**+1.0**
FSB	**Fort Saint Jam**	**4.97**	**67**	Pn	**Pn**	**21 06 53.6**	**-0.9**
CBB	**Campbell River**	**5.08**	**120**	P	**Pn**	**21 06 54.5**	**-1.4**
NC89	**ODP889**	**5.33**	**138**	Pn	**Pn**	**21 06 59.7**	**+0.5**
BTB	**Buttle Lake**	**5.35**	**126**	P	**Pn**	**21 06 57.7**	**-2.0**
TOFB	**Tofino**	**5.38**	**130**	Pn	**Pn**	**21 06 58.7**	**-1.3**
JIS	**Juneau Island**	**5.65**	**348**		**Pn**	**21 07 04.3**	**+0.7**
OZB	**Mount Ozzard**	**5.71**	**129**	P	**Pn**	**21 07 04.8**	**+0.2**
TXB	**Texada**	**5.76**	**119**	P	**Pn**	**21 07 04.4**	**-0.9**
DLBC	**Dease Lake**	**5.80**	**11**	Pn	**Pn**	**21 07 08.4**	**+2.6**
	9.2nm,0.3s,baz=195,slow=13,SNR=75						
DLBC				Lg	Lg	21 08 39.9	
	12nm,0.3s,baz=289,slow=23,SNR=7.5						
DLBC	**Dease Lake**	**5.80**	**11**	Pn	**Pn**	**21 07 08.5**	**+2.7**
DLBC	**Dease Lake**	**5.80**	**11**	Pn	**Pn**	**21 07 07.5**	**+1.7**
BFSB	**Bamfield**	**5.96**	**129**	Pn	**Pn**	**21 07 08.4**	**+0.4**
BESE	**Bessie Mountai**	**6.00**	**347**	Pn	**Pn**	**21 07 08.5**	**-0.1**
MGB	**Mount Grey**	**6.07**	**126**	Pn	**Pn**	**21 07 08.2**	**-1.4**
SHB	**Sechelt**	**6.12**	**118**	P	**Pn**	**21 07 11.2**	**+0.9**
WSLR	**Whistler**	**6.37**	**111**	P	**Pn**	**21 07 15.1**	**+1.4**
WPB	**Watts Point**	**6.45**	**115**	Pn	**Pn**	**21 07 15.5**	**+0.8**
PFB	**Port Renfrew**	**6.48**	**128**	Pn	**Pn**	**21 07 16.0**	**+0.8**
BIB	**Bowen Island**	**6.53**	**118**	Pn	**Pn**	**21 07 16.4**	**+0.6**
OCP	**Olym-Cheeka Pk**	**6.58**	**130**	Pn	**Pn**	**21 07 17.0**	**+0.4**
GOBB	**Galiano Island**	**6.70**	**122**	Pn	**Pn**	**21 07 18.4**	**+0.3**
BMBC	**Bull Mountain**	**6.71**	**57**	Pn	**Pn**	**21 07 19.4**	**+1.0**
BMBC				Sg	**Sg**	**21 09 09.5**	**-6.4**
LLLB	**Lillooet**	**6.76**	**105**	P	**Pn**	**21 07 19.7**	**+0.6**
B010	**North Saanich**	**6.92**	**123**	Pn	**Pn**	**21 07 21.7**	**+0.6**
PGC	**Sidney**	**6.92**	**123**	Pn	**Pn**	**21 07 22.0**	**+1.0**
PGC	**Sidney**	**6.92**	**123**		**Pn**	**21 07 22.9**	**+1.8**
B011	**North Saanich**	**6.92**	**123**	Pn	**Pn**	**21 07 22.1**	**+1.0**
SKAG	**Skagway**	**6.92**	**347**		**Pn**	**21 07 22.2**	**+1.0**
STW	**Striped Peak**	**7.14**	**127**	Pn	**Pn**	**21 07 24.5**	**+0.3**
NBC5	**NorthernBC 5**	**7.22**	**45**	P	**Pn**	**21 07 26.1**	**+0.7**
A04D	**Lummi Island**	**7.26**	**120**	P	**Pn**	**21 07 28.0**	**+2.2**
	baz=308						
OSD	**Olympics--Snow**	**7.36**	**129**	Pn	**Pn**	**21 07 27.1**	**-0.2**
MBW	**Mount Baker**	**7.65**	**117**	Pn	**Pn**	**21 07 31.8**	**+0.5**
CMW	**Cultus Mountai**	**7.75**	**120**	Pn	**Pn**	**21 07 34.0**	**+1.3**
HDW	**Hoodsport**	**7.79**	**128**	Pn	**Pn**	**21 07 33.7**	**+0.5**
D03D	**Eldon**	**7.85**	**128**	P	**Pn**	**21 07 35.8**	**+1.8**
	baz=316						
B05A	**Bryant**	**7.86**	**121**	P	**Pn**	**21 07 35.1**	**+1.1**
	baz=309,SNR=10						
BLBC	**Blue River**	**7.95**	**90**	P	**Pn**	**21 07 36.3**	**+0.7**
JCW	**Jim Creek**	**7.99**	**121**	P	**Pn**	**21 07 37.0**	**+1.2**
FNBB	**Fort Nelson**	**8.00**	**36**	P	**Pn**	**21 07 36.7**	**+0.6**
FNBB				Sg	Sb	21 09 52.6	+19
WHY	**Whitehorse**	**8.04**	**350**	P	**Pn**	**21 07 36.9**	**+0.4**
WHY	**Whitehorse**	**8.04**	**350**	Pn	**Pn**	**21 07 37.0**	**+0.4**
BCPM	**Bancas Point**	**8.29**	**333**	Pn	**Pn**	**21 07 41.7**	**+1.8**
E03A	**Lebam**	**8.38**	**135**	P	**Pn**	**21 07 43.2**	**+2.1**
MNB	**Mounoet Dainar**	**8.45**	**88**	P	**Pn**	**21 07 43.8**	**+1.5**
MNB				Sg	Sb	21 10 09.4	+23
HYT	**Haines Junctio**	**8.57**	**342**	P	**Pn**	**21 07 44.4**	**+0.5**
HYT	**Haines Junctio**	**8.57**	**342**		**Pn**	**21 07 44.5**	**+0.5**
PCA	**Pinnacle**	**8.58**	**332**	P	**Pn**	**21 07 44.5**	**+0.4**
PCA	**Pinnacle**	**8.58**	**332**		**Pn**	**21 07 44.4**	**+0.4**
D05A	**Enumcl

HDA Harding Lake 13.92 333 P Pn 21 08 59.0 +2.2
baz=140
HDA Harding Lake 13.92 333 Pn 21 08 59.1 +2.3
MCK McKinley 14.02 328 Pn 21 09 00.7 +2.4
IL18 Eielson Array 14.14 334 Pn Pn 21 08 59.4 -0.5
IL31 14.18 334 P Pn 21 09 02.8 +2.5
ILAR Eielson Array 14.18 334 Pn Pn 21 09 00.1 -0.3
0.1nm,0.3s,baz=155,slow=12,SNR=8.3
ILAR Lg Lg 21 13 11.8
0.0nm,0.3s,baz=110,slow=28,SNR=4.7
ILAR LR LR 21 14 23.1
comp=Z,528nm,20.2s,baz=154,slow=37
ILAR Eielson Array 14.18 334 Pn 21 09 03.3 +2.8
TRF Thorofare Moun 14.28 326 Pn 21 09 03.7 +1.7
WRH Wood River Hil 14.29 331 Pn 21 09 04.9 +2.9
CCB Clear Creek Bu 14.34 332 Pn 21 09 05.8 +3.2
MFID Camas Ranch 14.37 124 Pn 21 09 06.5 +3.3
O03E Paynes Creek 14.37 146 P P 21 09 11.9 +1.8
baz=334,SNR=7.2
HRY Holter Researc 14.47 107 P Pn 21 09 06.6 +2.0
KTH Kantishna Hill 14.57 325 Pn 21 09 06.8 +1.1
LRM Limekiln Ridge 14.61 111 Pn 21 09 08.6 +1.9
PPLA Purkeypile 14.63 322 P Pn 21 09 08.0 +1.3
NEA2 Nenana 14.67 330 P P 21 09 10.9 -2.4
baz=136
MDM Murphy Dome 14.70 332 Pn 21 09 09.8 +2.4
DLMT Dillon 14.80 112 Pn 21 09 10.7 +1.6
BPAW Bear Paw Mtn. 14.94 327 Pn 21 09 11.8 +1.0
HLID Hailey 14.98 121 P Pn 21 09 14.0 +2.3
baz=314,SNR=8.6
HLID Hailey 14.98 121 Pn 21 09 13.7 +2.1
MCMT McKenzie Canyo 14.99 114 Pn 21 09 14.2 +2.4
BCYI Bear Canyon 15.01 117 P 21 09 15.0 -2.5
EGMT Eagleton 15.05 99 P Pn 21 09 14.0 +1.6
baz=297,SNR=10
EGMT Eagleton 15.05 99 Pn 21 09 13.8 +1.4
EGMT IAmb IAmb 21 09 30.9
comp=Z,42nm,1.1s
ORV Oroville 15.13 147 P P 21 09 16.9 -1.7
ORV IAmb IAmb 21 09 29.1
comp=Z,30nm,1.3s
SVW2 Sparrevohn 15.17 312 Pn 21 09 14.6 +0.7
BOZ Bozeman (W) 15.21 110 P Pn 21 09 15.9 +1.3
baz=306,SNR=9.8
BOZ Bozeman (W) 15.21 110 P Pn 21 09 16.1 +1.6
FYU Fort Yukon 15.26 340 Pn 21 09 17.4 +2.4
FYU IAmb IAmb 21 09 29.3
comp=Z,65nm,1.3s
GDXM Geysers 15.41 151 Pn 21 09 19.5 +2.2
CHGN Chignik 15.58 293 Pn 21 09 18.2 -1.1
INK Inuvik 15.59 358 Pn P 21 09 21.7 -1.8
comp=Z,0.3nm,0.3s,baz=146,slow=12,SNR=9.1
INK LR LR 21 15 16.8
comp=Z,413nm,19.7s,baz=174,slow=37
INK Inuvik 15.59 358 Pn 21 09 21.1 +1.9
PAHR Pah Rah Range 15.76 141 P 21 09 24.3 -1.4
PAHR IAmb IAmb 21 09 36.9
comp=Z,47nm,1.3s
QLMT Earthquake Lak 15.78 112 P P 21 09 24.7 -1.2
AFDM Forest Hills D 15.86 146 P 21 09 26.0 -0.6
AFDM IAmb IAmb 21 09 37.2
comp=Z,38nm,1.3s
BMAR Burnt Mountain 15.88 342 P 21 09 26.3 -0.5
YHL Hebgen Lake 15.90 112 P 21 09 26.4 -1.0
YHH Holmes Hill 16.13 111 P 21 09 28.9 -1.0
YMR Madison River 16.14 112 P 21 09 29.4 -0.5
TTA Tatalina 16.14 318 P 21 09 28.3 -1.4
TTA IAmb IAmb 21 09 32.6
comp=Z,58nm,0.9s
PNTR Pine Nut 16.22 143 P 21 09 31.0 +0.2
PNTR IAmb IAmb 21 09 42.2
comp=Z,45nm,1.3s
GCMT Greycliff 16.23 107 P P 21 09 30.8 -0.1
YNR Norris Junctio 16.27 111 P 21 09 30.7 -0.7
YERR Yerington 16.44 142 P 21 09 34.4 +1.1
YPP Pitchstone Pla 16.48 113 Pn 21 09 30.9 -0.2
YNE Yellowstone No 16.48 109 P 21 09 32.9 -0.9
LKWY Lake 16.52 111 P 21 09 33.9 -0.3
H17A Grant Village 16.53 112 P P 21 09 35.4 +1.1
baz=308,SNR=11
H17A Grant Village 16.53 112 Pn P 21 09 34.7 +0.4
YMP Mirror Lake Pl 16.55 110 P 21 09 34.1 -0.5
IMW Indian Meadow 16.64 114 P 21 09 34.8 -0.8
FLWY Flagg Ranch 16.65 113 P P 21 09 35.5 -0.1
ELK Elko 16.67 129 Pn P 21 09 38.2 +2.3
comp=Z,0.1nm,0.3s,baz=339,slow=9.6,SNR=12
ELK LR LR 21 15 56.7
comp=Z,454nm,19.8s,baz=322,slow=37
ELK Elko 16.67 129 P P 21 09 36.8 +0.9
FXWY Fox Creek 16.75 115 Pn P 21 09 36.8 0.0
WAKR Walker 16.79 143 Pn P 21 09 37.2 0.0
WAKR IAmb IAmb 21 09 48.9
comp=Z,47nm,1.5s
KVN Kaiserville 16.82 139 Pn P 21 09 37.4 -0.1
RLMT Red Lodge 16.84 108 P P 21 09 40.3 +2.6
baz=305,SNR=9.5
RLMT Red Lodge 16.84 108 P P 21 09 38.6 +0.9
CMB Columbia Colle 16.88 146 P 21 09 38.6 +0.6
TPAW Teton Pass 16.89 115 P P 21 09 39.6 +1.3
TPAW IAmb IAmb 21 09 57.6
comp=Z,33nm,1.1s
COLD Coldfoot 16.95 336 P P 21 09 38.1 -0.4
baz=140
COLD Coldfoot 16.95 336 Pn P 21 09 38.9 +0.5
LOHW Long Hollow 17.00 114 P P 21 09 40.9 +1.4
SNOW Snow King Moun 17.02 115 P 21 09 41.4 +1.7
RYN Ryan 17.02 141 P P 21 09 42.0 +2.3
REDW Red Top Meadow 17.03 115 P P 21 09 41.0 +1.2
IMAR Indian Mountai 17.06 329 Pn P 21 09 39.8 +0.1
HVU Hansel Valley 17.10 122 P 21 09 42.0 +1.5
NVAR Mina Array Bea 17.28 141 Pn P 21 09 43.6 +1.0
comp=Z,0.2nm,0.3s,baz=328,slow=11,SNR=6.0
NVAR Mina Array Bea 17.28 141 P P 21 09 43.3 +0.7
AHID Auburn Hatcher 17.29 117 P 21 09 44.3 +1.6
NV11 Mina Array Sit 17.34 140 P 21 09 45.3 +2.2
BGU Big Grassy Mou 17.60 125 Pn P 21 09 46.9 +0.8
MDPB Devils Postpil 17.70 144 P P 21 09 48.3 +1.1
SAO San Andreas Ge 17.70 151 P P 21 09 49.7 +2.6
OMMB Old Mammoth Mi 17.74 144 P 21 09 50.2 +2.4
LAO LASA Array 17.80 100 P P 21 09 50.3 +2.2
HWUT Hardware Ranch 17.85 121 P P 21 09 51.4 +2.6
FFC Flin Flon 17.90 72 P P 21 09 49.6 +0.5
TOLK Toolik Lake Re 17.92 339 P P 21 09 51.8 +2.5
baz=144
TOLK Toolik Lake Re 17.92 339 P P 21 09 50.3 +1.1
TOLK IAmb IAmb 21 09 52.3
comp=Z,57nm,1.5s
BW06 Boulder Array 18.14 114 P P 21 09 55.0 +3.0
baz=312,SNR=8.0
BW06 Boulder Array 18.14 114 P P 21 09 53.6 +1.6
PD31 Pinedale Array 18.14 114 P P 21 09 53.3 +1.2
PDAR Pinedale Array 18.14 114 Pn P 21 09 54.0 +1.9
comp=Z,0.3nm,0.3s,baz=344,slow=4.8,SNR=21
PDAR Pinedale Array 18.14 114 P 21 09 53.2 +1.2
DGMT Dagmar 18.21 92 P P 21 09 54.2 +1.6
baz=294
DGMT Dagmar 18.21 92 Pn P 21 09 53.2 +0.5
DGMT IAmb IAmb 21 09 55.0
comp=Z,31nm,1.1s
DUG Dugway, Tooele 18.27 126 P P 21 09 55.2 +1.9
baz=320,SNR=5.5
DUG Dugway, Tooele 18.27 126 P P 21 09 55.7 +2.3
TCUT Toone Canyon 18.29 121 P 21 09 56.4 +2.6
PMPB Monarch Peak 18.41 150 P Pn 21 09 56.4 +1.5
PMPB IAmb IAmb 21 10 00.8
comp=Z,68nm,1.4s
CTU Camp Tracy 18.42 123 Pn 21 09 57.8 +2.5
R11A Troy Canyon, C 18.46 135 P Pn 21 09 57.0 +1.3
baz=327
R11A Troy Canyon, C 18.46 135 P Pn 21 09 57.5 +1.7
JLU Jordanelle 18.64 123 Pn 21 09 58.5 +0.5
GRAC Grapevine Rang 18.89 141 P Pn 21 10 03.0 +2.2
baz=331
PAGB Antelope Grade 19.02 149 P Pn 21 10 03.3 +1.0
PSUT Pine Spring 19.08 131 P Pn 21 10 04.6 +1.3
TPNV Topopah Spring 19.38 138 P Pn 21 10 08.5 +1.8
baz=330,SNR=18
TPNV Topopah Spring 19.38 138 P Pn 21 10 08.0 +1.3
TPNV IAmb IAmb 21 10 20.6
comp=Z,27nm,1.1s
PRN Pahroc Range 19.48 135 P Pn 21 10 09.1 +1.1
RDMU Red Mountain 19.65 119 P Pn 21 10 10.9 +0.9
ISA Isabella, Lake 19.67 145 P Pn 21 10 11.5 +1.3
baz=335,SNR=7.4
ISA Isabella, Lake 19.67 145 P Pn 21 10 11.6 +1.4
ISA IAmb IAmb 21 10 22.7
comp=Z,37nm,1.2s
MPMC Manual Prospec 19.68 142 P Pn 21 10 11.8 +1.4
baz=333,SNR=7.3
TMUT Trail Mountain 19.75 125 P Pn 21 10 11.4 +0.1
P17A Butcher Ranch, 19.85 124 P Pn 21 10 11.8 -0.6
MSU Marysvale 19.88 128 P Pn 21 10 13.6 +0.7
K22A Casper 19.91 110 P Pn 21 10 13.9 +0.7
baz=310
K22A Casper 19.91 110 P Pn 21 10 13.8 +0.7
K22A IAmb IAmb 21 10 23.1
comp=Z,23nm,1.1s
PKM Mcpherson Peak 19.94 149 P Pn 21 10 15.4 +1.9
baz=338
Q16A Castle Valley 20.06 125 P Pn 21 10 15.2 +0.3
Q16A Sn 21 14 10.4 +10
CCUT Cedar City 20.11 132 P Pn 21 10 15.6 +0.1
LRMC Laurel Mtn Rad 20.12 144 P Pn 21 10 16.3 +0.7
baz=334
RWWY Rawlins 20.16 113 P Pn 21 10 16.6 +0.5
RWWY IAmb IAmb 21 10 18.3
comp=Z,25nm,1.2s
SHPR Sheep Range 20.20 137 P Pn 21 10 16.3 -0.2
SRU San Rafael Swe 20.23 124 P Pn 21 10 17.9 +0.9
MTPU Mount Pierson 20.25 129 P Pn 21 10 17.5 +0.1
UNV Unalaska Valle 20.42 287 P P 21 10 16.4 -0.3
RSSD Black Hills 20.47 104 P Pn 21 10 20.0 +0.3
baz=305
RSSD Black Hills 20.47 104 Pn 21 10 20.2 +0.4
RSSD IAmb IAmb 21 10 31.8
comp=Z,15nm,0.9s
OSI Osito Audit: C 20.54 147 P Pn 21 10 20.5 +0.1
OSI IAmb IAmb 21 10 31.0
comp=Z,42nm,1.3s
GSC Goldstone, Bar 20.60 142 P Pn 21 10 21.3 +0.2
baz=333,SNR=6.3
GSC Goldstone, Bar 20.60 142 P Pn 21 10 21.6 +0.4
GSC IAmb IAmb 21 10 33.0
comp=Z,36nm,1.2s
LCMT Little Creek M 20.60 132 P Pn 21 10 21.3 +0.1
ANM Nome 20.61 318 P Pn 21 10 20.1 -0.8
O20A White River Ci 20.67 118 P Pn 21 10 21.7 -0.3
baz=316,SNR=10
O20A White River Ci 20.67 118 P Pn 21 10 21.8 -0.2
O20A IAmb IAmb 21 10 36.7
comp=Z,35nm,0.9s
KNB Kanab 20.79 132 P Pn 21 10 23.7 +0.3
MWC Mount Wilson 21.12 146 P P 21 10 27.1 +2.5
PASC Pasadena Art C 21.12 146 P P 21 10 26.2 +1.8
PASC IAmb IAmb 21 10 35.0
comp=Z,43nm,1.2s
BFSC Mount Baldy Ra 21.25 145 P P 21 10 28.2 +2.4
baz=335,SNR=5.9
MDND Maddock 21.27 90 P P 21 10 27.8 +1.9
N23A Red Feather La 21.39 113 P P 21 10 28.9 +1.3
baz=313
N23A Red Feather La 21.39 113 P P 21 10 29.7 +2.1
N23A IAmb IAmb 21 10 49.1
comp=Z,30nm,1.2s
PHWY Pilot Hill 21.39 112 P P 21 10 28.6 +1.0
PHWY IAmb IAmb 21 10 34.5
comp=Z,25nm,1.2s
PV21 Cone Mtn., Par 21.44 122 P P 21 10 29.7 +1.7
GMRC Granite Mounta 21.49 140 P P 21 10 30.6 +2.0
baz=332
PV23 Carpenter Ridg 21.50 123 P P 21 10 30.7 +1.9
PV23 IAmb IAmb 21 10 33.2
comp=Z,25nm,1.2s
U15A North Rim 21.52 132 P P 21 10 30.5 +1.6
U15A IAmb IAmb 21 10 38.7
comp=Z,16nm,1.0s
PV10 Paradox Valley 21.55 123 P P 21 10 31.0 +1.8
PV10 IAmb IAmb 21 10 32.5
comp=Z,28nm,1.3s
PV22 Blue Mesa, Par 21.55 122 P P 21 10 31.7 +2.4
PV22 IAmb IAmb 21 10 42.0
comp=Z,18nm,1.0s
PV14 Lion Creek, Pa 21.56 123 P P 21 10 31.0 +1.7
PV14 IAmb IAmb 21 10 33.7
comp=Z,29nm,1.3s
PV04 Paradox Valley 21.60 122 P P 21 10 29.9 +0.2
PV04 IAmb IAmb 21 10 34.1
comp=Z,21nm,1.1s
PV20 West Nyswonger 21.61 123 P P 21 10 31.1 +1.3
PV20 IAmb IAmb 21 10 34.1
comp=Z,27nm,1.3s
PV19 Morning Glory 21.62 123 P P 21 10 31.0 +1.0
PV19 IAmb IAmb 21 10 34.3
comp=Z,18nm,1.2s
PV16 Nyswonger Mesa 21.66 123 P P 21 10 31.9 +1.5
PV16 IAmb IAmb 21 10 41.7
comp=Z,21nm,1.1s
PV17 East Wray Mesa 21.66 123 P P 21 10 32.1 +1.7
PV17 IAmb IAmb 21 10 34.6
comp=Z,26nm,1.0s
PV11 David Mesa, Pa 21.69 123 P P 21 10 32.5 +1.8
PV11 IAmb IAmb 21 10 41.3
comp=Z,27nm,1.1s
PV07 Paradox Valley 21.70 122 P P 21 10 31.8 +1.0
PV07 IAmb IAmb 21 10 41.5
comp=Z,20nm,1.1s
PV18 Skein Mesa, Pa 21.71 123 P P 21 10 32.8 +1.9
PV18 IAmb IAmb 21 10 34.5
comp=Z,31nm,1.4s
PV12 Saucer Basin, 21.71 122 P P 21 10 32.3 +1.4
PV12 IAmb IAmb 21 10 34.6
comp=Z,25nm,1.1s
PV03 Paradox Valley 21.73 123 P P 21 10 32.7 +1.5
PV03 IAmb IAmb 21 10 34.7
comp=Z,16nm,1.2s
PV13 Radium Mtn., P 21.82 123 P P 21 10 33.8 +1.7
PV13 IAmb IAmb 21 10 36.2
comp=Z,22nm,1.1s
PV02 Paradox Valley 21.83 123 P P 21 10 33.9 +1.7
PV15 Paradox Valley 21.86 122 P P 21 10 34.7 +2.1
PV15 IAmb IAmb 21 10 43.0
comp=Z,21nm,1.1s
W13A Hualapai Mount 21.94 136 P P 21 10 35.2 +1.8
PV01 Paradox Valley 21.97 122 P P 21 10 35.5 +1.8
PV01 IAmb IAmb 21 10 44.7
comp=Z,15nm,1.0s
FCC Fort Churchill 22.01 59 P P 21 10 32.8 -0.9
BELC Belle Mtn. Jos 22.06 142 P P 21 10 37.0 +2.4
baz=333,SNR=5.7
SPIA Saint Paul Isl 22.08 297 P P 21 10 33.6 -0.8
PFO Pinyon Flats O 22.24 143 LR LR 21 18 13.5
comp=Z,159nm,18.8s,baz=312,slow=34
PFO Pinyon Flats O 22.24 143 P P 21 10 38.0 +1.5
IRM Iron Mountain 22.25 140 P P 21 10 39.4 +2.9
baz=332
ISCO Idaho Springs 22.33 115 P P 21 10 40.8 +3.1
baz=314
ISCO Idaho Springs 22.33 115 P P 21 10 41.2 +3.5
ULM Lac du Bonnet 22.59 82 P P 21 10 41.7 +1.7
comp=Z,12nm,1.0s,baz=300,slow=10,SNR=6.6
ULM LR LR 21 19 24.3
comp=Z,286nm,18.3s,baz=290,slow=36
ULM Lac du Bonnet 22.59 82 P P 21 10 41.4 +1.4
ULM IAmb IAmb 21 10 43.6
comp=Z,20nm,1.1s
WUAZ Wupatki 22.68 131 P P 21 10 43.3 +2.0
WUAZ IAmb IAmb 21 10 46.1
comp=Z,17nm,1.1s
MVCO Mesa Verde 22.71 124 P P 21 10 43.2 +1.5
baz=321
MVCO Mesa Verde 22.71 124 P P 21 10 43.0 +1.3
MVCO IAmb IAmb 21 10 44.0
comp=Z,30nm,1.4s
S22A 4UR Ranch, Cre 23.16 120 P P 21 10 47.7 +1.3
baz=319,SNR=12
S22A 4UR Ranch, Cre 23.16 120 P P 21 10 48.3 +1.9
S22A IAmb IAmb 21 10 56.5
comp=Z,29nm,1.4s
Q24A Divide 23.18 116 P P 21 10 48.5 +2.0
Q24A IAmb IAmb 21 10 57.7
comp=Z,12nm,1.1s
Y14A Wickenburg 23.30 136 P P 21 10 50.3 +2.7
SUSD Miller 23.32 98 P P 21 10 50.6 +2.9
AGMN Agassiz Nation 23.35 86 P P 21 10 50.3 +2.5
baz=295
AGMN Agassiz Nation 23.35 86 P P 21 10 49.9 +2.0
AGMN IAmb IAmb 21 10 50.8
comp=Z,23nm,1.1s
GLA Glamis 23.35 141 P P 21 10 49.0 +1.0
GLA IAmb IAmb 21 11 02.4
comp=Z,15nm,1.0s
X16A Lo Mia Camp, P 23.57 133 P P 21 10 52.1 +1.7
SDCO Great Sand Dun 23.87 118 P P 21 10 55.2 +1.9
baz=318,SNR=7.9
SDCO Great Sand Dun 23.87 118 P P 21 10 55.2 +1.9
F33A 5 Mile Ranch, 24.21 92 P P 21 10 55.5 -0.7
F33A IAmb IAmb 21 10 59.3
comp=Z,19nm,1.2s
K31A O'Neill 24.48 101 P P 21 11 00.9 +2.2
KSCO Kaye Shedlock' 24.54 112 P P 21 11 01.6 +2.2
B35A Bob, Littlefor 24.61 85 P P 21 11 01.1 +1.3
B35A IAmb IAmb 21 11 01.5
comp=Z,23nm,1.3s
ECSD EROS Data Cent 25.12 97 P P 21 11 06.5 +2.1
baz=304,SNR=15
ECSD EROS Data Cent 25.12 97 P P 21 11 06.1 +1.6
ANMO Albuquerque 25.51 124 P P 21 11 09.3 +1.1
baz=322
ANMO Albuquerque 25.51 124 P P 21 11 09.8 +1.5
BGNE Belgrade 25.57 103 P P 21 11 09.5 +1.0
LENM Lemitar 25.88 126 P P 21 11 14.1 +2.6
F36A Milaca 25.88 90 P P 21 11 12.9 +1.6
F36A IAmb IAmb 21 11 15.4
comp=Z,25nm,1.1s
BNM Barren Site 26.06 125 P P 21 11 14.8 +1.6
EYMN Ely 26.14 84 P P 21 11 17.3 +3.6
baz=296,SNR=8.2
EYMN Ely 26.14 84 P P 21 11 16.0 +2.3
EYMN IAmb IAmb 21 11 18.0
comp=Z,21nm,1.1s
L34A Svendsen Farm, 26.29 100 P P 21 11 16.7 +1.7
L34A IAmb IAmb 21 11 24.1
comp=Z,26nm,1.1s
RES Resolute Bay 26.59 21 LR LR 21 22 58.0
comp=Z,127nm,20.3s,baz=180,slow=39
SPMN Marine on St. 26.64 91 P P 21 11 20.9 +2.8
SPMN IAmb IAmb 21 11 35.1
comp=Z,14nm,1.1s
121A Cookes Peak, D 26.82 129 P P 21 11 22.2 +2.1
baz=326
121A Cookes Peak, D 26.82 129 P P 21 11 21.2 +1.1
121A IAmb IAmb 21 11 36.1
comp=Z,12nm,1.1s
I37A Lemond, Waseca 26.91 93 P P 21 11 22.8 +2.2
N35A Tabor 27.39 101 P P 21 11 26.4 +1.5
AMTX Amarillo 28.05 117 P P 21 11 31.7 +0.7
K38A Parkersburg 28.06 95 P P 21 11 33.4 +2.5
G40A Rib Lake 28.20 88 P P 21 11 33.6 +1.4
G40A IAmb IAmb 21 11 51.6
comp=Z,9.6nm,1.4s
SCIA State Center 28.22 97 P P 21 11 34.5 +2.2
SCIA IAmb IAmb 21 11 37.2
comp=Z,22nm,1.2s
U32A Winter Ranch, 28.43 112 P P 21 11 36.4 +2.1
MNTX Cornudas Mount 28.66 127 P P 21 11 37.7 +1.4
baz=325
MNTX Cornudas Mount 28.66 127 P P 21 11 37.8 +1.4
KAN13 South Haven SW 28.85 109 S 21 16 26.8 -0.5
N38A Joes South For 28.88 99 P P 21 11 39.9 +1.7
P38A Dawn 29.43 101 P P 21 11 43.8 +0.8
P38A IAmb IAmb 21 11 52.4
comp=Z,12nm,1.1s
T35A Sooner Cattle 29.48 108 P P 21 11 45.1 +1.5
T35A IAmb IAmb 21 11 55.0
comp=Z,17nm,1.1s
I42A Draeger Farm, 29.71 90 P P 21 11 45.7 +0.2
I42A IAmb IAmb 21 11 59.7
comp=Z,8.0nm,1.2s
BCOK Bluff Creek, N 29.74 111 P P 21 11 47.6 +1.7
WMOK Wichita Mounta 29.75 114 P P 21 11 47.7 +1.7
baz=318,SNR=12
WMOK Wichita Mounta 29.75 114 P P 21 11 47.7 +1.7
WMOK IAmb IAmb 21 11 56.9
comp=Z,12nm,1.1s
FNO Franklin 30.14 112 P P 21 11 50.9 +1.4
X34A Smith Ranch, M 30.38 113 P P 21 11 53.0 +1.4
X34A IAmb IAmb 21 12 00.6
comp=Z,7.8nm,1.0s
TUL1 Leonard 30.59 109 P P 21 11 54.1 +0.7
TUL1 IAmb IAmb 21 12 04.7
comp=Z,14nm,1.2s
U38A Gravette 31.04 107 P P 21 11 58.5 +1.2
U38A IAmb IAmb 21 12 07.7
comp=Z,8.2nm,0.9s
R40A Maddies Statio 31.04 102 P P 21 11 57.1 -0.2
HHAR Hobbs 31.41 106 P P 21 12 03.0 +2.4
TX31 Lajitas Ar. Si 31.43 127 P P 21 12 02.5 +1.4
TX32 Lajitas Array 31.43 127 P P 21 12 02.5 +1.4
TX32 IAmb IAmb 21 12 03.5
comp=Z,10nm,1.3s
TXAR Lajitas Array 31.44 127 P P 21 12 02.4 +1.3
comp=Z,4.7nm,0.9s,baz=329,slow=7.6,SNR=31
TXAR LR LR 21 25 14.6
comp=Z,141nm,19.4s,baz=0.0,slow=37
TXAR Lajitas Array 31.44 127 P P 21 12 02.3 +1.3
Z35A Perchaven, San 31.64 114 P P 21 12 04.0 +1.3
X37A Clayton 31.77 110 P P 21 12 05.7 +1.8
X37A IAmb IAmb 21 12 14.8
comp=Z,11nm,1.0s
CCM Cathedral Cave 31.80 101 P P 21 12 04.5 +0.4
baz=311
CCM Cathedral Cave 31.80 101 P P 21 12 04.9 +0.8
CCM IAmb IAmb 21 12 09.3
comp=Z,7.8nm,0.9s
U40A Yellville 31.99 105 P P 21 12 06.3 +0.6
baz=314
U40A Yellville 31.99 105 P P 21 12 06.5 +0.7
U40A IAmb IAmb 21 12 14.3
comp=Z,11nm,0.9s
W39A Magazine 32.26 108 P P 21 12 09.0 +0.9
baz=315
W39A Magazine 32.26 108 P P 21 12 08.6 +0.5
W39A IAmb IAmb 21 12 18.5
comp=Z,11nm,1.1s
JCT Junction City 32.46 121 P P 21 12 10.5 +0.6
baz=323
JCT Junction City 32.46 121 P P 21 12 10.1 +0.2
JCT IAmb IAmb 21 12 11.1
comp=Z,18nm,1.5s
WHTX Lake Whitney, 32.54 116 P P 21 12 12.5 +1.9
WHTX IAmb IAmb 21 12 18.8
comp=Z,9.1nm,1.1s
FCAR Ozark Folk Cen 32.74 105 P P 21 12 12.6 +0.3
FCAR IAmb IAmb 21 12 21.8
comp=Z,8.2nm,0.9s
MIAR Mount Ida 32.84 108 P P 21 12 14.2 +1.1
baz=316,SNR=6.9
MIAR Mount Ida 32.84 108 P P 21 12 14.4 +1.2
LCAR Lake Charles 33.19 104 P P 21 12 16.2 0.0
LCAR IAmb IAmb 21 12 22.1
comp=Z,14nm,1.5s
OLIL Olney 33.25 97 P P 21 12 17.2 +0.5
ALGO Algonquin Park 35.17 79 P P 21 12 34.4 +1.1
baz=301
OXF Oxford 35.29 104 P P 21 12 34.8 +0.3
PLAL Pickwick Lake 35.76 102 P P 21 12 38.7 +0.3
PLAL IAmb IAmb 21 12 48.3
comp=Z,14nm,1.2s
G55A Calabogie 36.34 79 P P 21 12 45.4 +2.1
baz=302
D56A ZEC Mazanza, M 36.56 75 P P 21 12 46.2 +1.0
baz=301
L55A Hinsdale 37.02 85 P P 21 12 50.7 +1.5
baz=306
TRQ Mont Tremblant 37.11 76 P P 21 12 51.4 +1.4
SCHQ Schefferville 37.39 60 LR LR 21 28 59.3
comp=Z,462nm,21.8s,baz=284,slow=37
V51A Loudon 37.43 98 P P 21 12 54.1 +1.4
FPAL Fort Paine 37.53 100 P P 21 12 54.8 +1.2
FPAL IAmb IAmb 21 12 56.9
comp=Z,15nm,1.1s
H57A Richville 37.56 79 P P 21 12 55.0 +1.3
baz=304
CPCT Cooper Cave 37.56 98 P P 21 12 54.6 +0.8
CPCT IAmb IAmb 21 12 56.6
comp=Z,16nm,1.3s
X51A Calhoun 37.96 99 P P 21 12 56.9 -0.4
X51A IAmb IAmb 21 12 59.8
comp=Z,16nm,1.1s
W52A Murphy 38.16 98 P P 21 13 00.1 +1.2
W52A IAmb IAmb 21 13 01.3
comp=Z,15nm,1.1s
H59A Cadyville 38.47 78 P P 21 13 03.7 +2.2

baz=304
J59A Piesco 38.65 80 P **P 21 13 03.3 +0.3**
baz=305
J59A Piesco 38.65 80 P **P 21 13 03.9 +0.9**
J59A IAmb IAmb 21 13 21.7
comp=Z,21nm,1.4s
I59A Olmsteadville 38.84 79 P **P 21 13 04.3 -0.2**
baz=305
J60A Lant Hill Farm 39.42 80 P **P 21 13 10.5 +1.1**
baz=305
M60A Port Jervis 39.83 83 P **P 21 13 13.1 +0.3**
baz=307
PETK Petropavlovsk- 40.68 300 P **P 21 13 19.8 +0.1**
comp=Z,8.0nm,0.8s,baz=83,slow=12,SNR=13
PETK LR LR 21 28 39.6
comp=Z,143nm,20.6s,baz=61,slow=34
PETK Petropavlovsk- 40.68 300 P **P 21 13 19.8 +0.1**
MA2 Magadan 41.14 311 P **P 21 13 25.0 +1.6**
comp=Z,19nm,1.0s,baz=93,slow=10,SNR=4.6
MA2 Magadan 41.14 311 P **P 21 13 25.0 +1.6**
MA2 Magadan 41.14 311 IAmb IAmb 21 13 25.9
comp=Z,36nm,1.1s
SUMG Summit 41.79 27 *i* P **P 21 13 29.0 -0.1**
comp=Z,57nm,1.2s
SUMG Summit 41.79 27 P **P 21 13 30.7 +1.6**
SUMG IAmb IAmb 21 13 31.9
comp=Z,14nm,1.0s
DAG Danmarks Havn 44.18 18 *i* P **P 21 13 49.6 +1.8**
YAK Yakutsk 48.70 322 P **P 21 14 24.5 +1.0**
NRIK Noril'sk 54.77 344 P **P 21 15 09.2 +0.5**
comp=Z,11nm,0.9s,baz=29,slow=5.9,SNR=8.6
NRIK LR LR 21 42 07.6
comp=Z,49nm,18.2s,baz=17,slow=40
NRIK Noril'sk 54.77 344 P **P 21 15 09.2 +0.5**
ARCES ARCESS Array B 56.91 9 LR LR 21 43 12.4
comp=Z,73nm,18.4s,baz=340,slow=40
H11N2 WAKE ISLAND Hy 57.00 259 T T 22 17 09.4
baz=39,slow=76,SNR=7426
H11N3 WAKE ISLAND Hy 57.00 259 T T 22 17 09.6
baz=39,slow=76,SNR=9925
H11N1 WAKE ISLAND Hy 57.01 259 T T 22 17 15.2
baz=39,slow=76,SNR=5105
H11S1 WAKE ISLAND Hy 58.06 258 T T 22 18 29.8
baz=36,slow=74,SNR=249
H11S2 WAKE ISLAND Hy 58.07 258 T T 22 18 33.2
baz=36
H11S3 WAKE ISLAND Hy 58.08 258 T T 22 18 31.6
baz=36,slow=74,SNR=115
USRK Ussuriysk Ar. 59.50 304 P **P 21 15 42.0 -0.5**
comp=Z,7.4nm,1.0s,baz=41,slow=5.4,SNR=11
USRK LR LR 21 40 03.5
comp=Z,111nm,20.3s,baz=51,slow=35
USRK Ussuriysk Ar. 59.50 304 P **P 21 15 42.1 -0.3**
MAT Matsushiro 61.69 294 P **P 21 15 56.7 -0.9**
MJAR Matsushiro Arr 61.69 294 P **P 21 15 56.8 -0.8**
comp=Z,2.8nm,0.8s,baz=36,slow=6.5,SNR=8.8
MJAR LR LR 21 40 59.5
comp=Z,43nm,20.7s,baz=150,slow=34
MJAR Matsushiro Arr 61.69 294 P **P 21 15 57.4 -0.2**
NB2 NORSAR Subarra 62.83 19 P **P 21 16 05.3 +0.4**
comp=Z,30nm,0.8s,baz=338,slow=6.9
NB2 NORSAR Subarra 62.83 19 P **P 21 16 05.3 +0.4**
baz=338,slow=6.9
NOA NORSAR Array B 62.83 19 P **P 21 16 05.7 +0.8**
comp=Z,3.6nm,0.9s,baz=338,slow=6.7,SNR=7.1
NOA LR LR 21 45 22.1
comp=Z,133nm,18.7s,baz=345,slow=38
FINES FINESS Array B 64.81 11 P **P 21 16 18.2 +0.4**
comp=Z,6.2nm,0.9s,baz=324,slow=12,SNR=5.5
FINES LR LR 21 46 31.4
comp=Z,105nm,18.4s,slow=38
FINES FINESS Array B 64.81 11 P **P 21 16 18.2 +0.4**
TLY Talaya 65.84 326 P **P 21 16 25.9 +1.1**
KLMR Klimovskoe 66.52 4 *eP* **P 21 16 28.4 -0.4**
KLMR AMP 21 16 36.8
comp=Z,23nm,1.4s
KSRS Korea Array 66.55 301 P **P 21 16 29.3 -0.1**
comp=Z,1.5nm,0.9s,baz=57,slow=5.4,SNR=6.1
KSRS LR LR 21 45 02.9
comp=Z,40nm,19.3s,baz=56,slow=36
KSRS Korea Array 66.55 301 P **P 21 16 29.3 -0.1**
KSAR Wonju Array Be 66.58 301 P **P 21 16 28.8 -0.8**
SONM Songino Array 68.06 322 LR LR 21 47 53.1
comp=Z,171nm,18.1s,baz=26,slow=37
OTAV Otavalo 68.74 120 P **P 21 16 45.2 +1.1**
OTAV IAmb IAmb 21 16 46.8
comp=Z,7.5nm,1.1s
ZAA0 Zalesovo Array 69.27 338 P **P 21 16 46.1 -0.1**
ZALV Zalesovo Beam 69.27 338 P **P 21 16 46.0 -0.3**
comp=Z,6.2nm,0.7s,baz=18,slow=5.7,SNR=25
ZALV LR LR 21 49 25.4
comp=Z,66nm,19.4s,baz=226,slow=38
ZALV Zalesovo Beam 69.27 338 P **P 21 16 45.8 -0.4**
ARU Arti 70.79 354 P **P 21 16 54.2 -1.4**
HHC Hu-ho-hao-te 71.71 314 *eP* **P 21 17 02.8 +1.2**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.5s
HHC LR LR
comp=Z,240nm,14.5s
HHC LR LR
comp=Z,250nm,14.5s
HHC LR LR
comp=Z,210nm,14.5s
CLL Collm 72.22 22 *eP* **P 21 17 04.0 -0.3**
comp=Z,104nm,2.9s
CLL *eP*P **PP 21 19 43.0 -1.1**
CLL LmV 21 53 00.0
comp=Z,100nm,19.0s
BRG Berggiesshubel 72.84 22 *eP* **P 21 17 08.1 +0.1**
comp=Z,11nm,1.3s
BRG *e* 21 17 16.6
comp=Z,15nm,1.6s
BRVK Borovoye 72.87 346 P **P 21 17 08.3 +0.2**
CHVC Chvalec 73.57 20 *eP* **P 21 17 13.6 +1.3**
OSTC Ostas 73.63 20 *eP* **P 21 17 13.9 +1.2**
KURK Kurchatov 73.65 340 P **P 21 17 12.6 -0.1**
BFO Black Forest 73.81 26 P **P 21 17 15.3 +1.5**
BFO IAmb IAmb 21 17 23.4
comp=Z,9.8nm,1.3s
DPC Dobruska-Polom 73.85 20 *eP* **P 21 17 15.5 +1.5**
PGAV Gavieira, Arco 73.95 40 *eLR* LR 21 46 19.6
comp=Z,237nm,16.0s
KRLC Kraliky 74.21 20 *eP* **P 21 17 17.7 +1.6**
PCAB Cabril 74.26 40 *eP* **P 21 17 18.6 +2.0**
KHC Kasperske Hory 74.39 23 *eP* **P 21 17 18.7 +1.6**
KHC Kasperske Hory 74.39 23 P **P 21 17 18.8 +1.6**
MORC Moravsky Berou 74.65 20 *eP* **P 21 17 19.2 +0.5**
PBRG Braganca 74.68 39 *eP* **P 21 17 19.7 +0.7**
GEC2 GERESS Array S 74.68 23 P **P 21 17 20.3 +1.3**
GEC2 IAmb IAmb 21 17 20.4
comp=Z,3.3nm,0.9s
GERES GERESS Array B 74.68 23 P **P 21 17 19.8 +0.8**
comp=Z,1.6nm,0.7s,baz=343,slow=4.2,SNR=15
GERES LR LR 21 53 09.1
comp=Z,104nm,18.8s,baz=335,slow=38
GERES GERESS Array B 74.68 23 P **P 21 17 19.7 +0.8**
VRAC Vranov 74.89 21 ⇑P **P 21 17 21.4 +1.4**
VRAC Vranov 74.89 21 *eP* **P 21 17 20.8 +0.7**
KRUC Moravsky 75.08 21 *eP* **P 21 17 21.6 +0.5**
MVO Moncorvo 75.12 40 *eLR* LR 21 46 16.8
comp=Z,195nm,18.0s
NJ2 Nanjing 75.41 304 *eP* **P 21 17 23.0 -0.3**
NJ2 pmax pmax
comp=Z,13nm,0.5s
MOTA Moosalm 75.45 25 *epP* **P 21 17 24.3 +0.8**
comp=Z,5.4nm,1.5s
PCAS Casmilo, Conde 75.49 41 *eP* **P 21 17 24.4 +0.8**
WATA Walderalm 75.58 25 *i pP* **P 21 17 24.8 +0.6**
comp=Z,7.3nm,1.0s
SQTA Sankt Quirin 75.59 25 *epP* **P 21 17 24.9 +0.6**
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 75.63 19 *eP* **P 21 17 26.2 +1.9**
FETA Feichten 75.65 25 *epP* **P 21 17 25.3 +0.6**
comp=Z,4.6nm,1.2s
AKASG Malin Array Be 75.70 12 P **P 21 17 24.4 -0.3**
comp=Z,2.8nm,0.7s,baz=354,slow=5.5,SNR=10
AKASG LR LR 21 53 22.6
comp=Z,123nm,18.1s,baz=325,slow=38
AKASG Malin Array Be 75.70 12 P **P 21 17 24.4 -0.3**
AKASG Malin Array Be 75.70 12 IAmb IAmb 21 17 25.9
comp=Z,2.2nm,1.1s
TUE Stuetta 75.79 26 P **P 21 17 26.7 +1.2**
TUE IAmb IAmb 21 17 31.3
comp=Z,10.0nm,1.2s
FUORN Ofenpass-Fuorn 75.90 26 P **P 21 17 22.5 -3.7**
FUORN IAmb IAmb 21 17 30.5
comp=Z,9.6nm,1.2s
CONA Conrad Observa 76.04 22 *epP* **P 21 17 28.0 +1.3**
comp=Z,5.4nm,1.0s
PCBR Castelo Branco 76.08 41 *eP* **P 21 17 27.6 +0.6**
VYHS Vyhne 76.13 19 *eP* **P 21 17 27.5 +0.3**
KBA Koelnbreinsper 76.25 23 *epP* **P 21 17 29.3 +1.2**
comp=Z,10nm,1.3s
BNI Bardonecchia 76.35 29 P **P 21 17 25.1 -3.5**
BNI IAmb IAmb 21 17 41.4
comp=Z,6.3nm,1.3s
PMRV Marv??o 76.46 41 *eLR* LR 21 47 32.6
comp=Z,197nm,16.0s
MK31 Makanchi Array 76.52 336 P **P 21 17 27.1 -2.3**
MK31 IAmb IAmb 21 17 30.2
comp=Z,5.9nm,0.9s
MKAR Makanchi Array 76.52 336 P **P 21 17 29.0 -0.4**
comp=Z,5.1nm,0.8s,baz=29,slow=5.2,SNR=23
MKAR Makanchi Array 76.52 336 P **P 21 17 28.0 -1.4**
MAKZ Makanchi 76.58 337 P **P 21 17 28.3 -1.4**
ARSA Arzberg 76.60 22 *epP* **P 21 17 30.8 +0.9**
comp=Z,6.4nm,1.9s
MYKA Terra Mystica 76.74 23 *epP* **P 21 17 32.2 +1.5**
comp=Z,9.3nm,1.4s
PSZ Piszkesteto 76.89 19 P **P 21 17 30.1 -1.4**
PSZ IAmb IAmb 21 17 41.5
comp=Z,9.0nm,1.0s
SALO Salr 76.90 26 P **P 21 17 29.6 -2.0**
SOKA Soboth 77.03 22 *epP* **P 21 17 33.1 +0.7**
comp=Z,9.9nm,1.4s
OBKA Obir 77.07 23 *epP* **P 21 17 33.4 +0.7**
comp=Z,6.2nm,1.0s
ESDC Sonseca Array 77.58 38 P **P 21 17 36.2 +0.7**
comp=Z,2.5nm,1.1s,baz=323,slow=5.7,SNR=11
ESDC LR LR 21 51 02.7
comp=Z,108nm,18.1s,baz=350,slow=35
ESDC Sonseca Array 77.58 38 P **P 21 17 32.8 -2.8**
GTA Gaotai 77.73 321 *eP* **P 21 17 36.0 -0.5**
GTA pP pP 21 17 39.5 -2.3
GTA sP sP 21 17 42.0 -1.7
GTA SKS **SKSac 21 27 43.3 -6.0**
GTA pmax pmax
comp=Z,44nm,6.9s
GTA LR LR
comp=Z,140nm,17.5s
GTA LR LR
comp=Z,160nm,16.0s
GTA LR LR
comp=Z,220nm,16.4s
ABKAR Akbulak array 77.82 352 P **P 21 17 36.6 0.0**
ABKAR Akbulak array 77.82 352 P **P 21 17 36.3 -0.3**
WMQ Urumqi 77.84 332 *eP* **P 21 17 40.3 +3.4**
PVAQ Vaqueiros 78.07 42 P **P 21 17 34.5 -3.7**
PVAQ Vaqueiros 78.07 42 *eLR* LR 21 49 11.2
comp=Z,293nm,18.0s
SORM Soroca 78.10 13 ⇑P **P 21 17 37.9 -0.2**
BURAR Bucovina Array 78.14 15 ⇓P **P 21 17 39.8 +1.2**
BURAR Bucovina Array 78.14 15 P **P 21 17 37.5 -1.1**
VLC Villacollemand 78.21 27 P **P 21 17 36.0 -3.0**
VLC IAmb IAmb 21 17 42.0
comp=Z,7.2nm,1.1s
ARCR ARCALIA 78.51 16 ⇑P **P 21 17 41.2 +0.7**
XAN Xi'an 78.53 312 P **P 21 17 41.3 +0.4**
XAN pP PcP 21 17 51.3 +1.3
XAN pmax pmax
comp=Z,8.0nm,1.7s
BIZ Bicaz 78.94 15 ⇓P **P 21 17 44.5 +1.6**
LZH Lanzhou 79.00 317 *eP* **P 21 17 43.3 -0.3**
LZH pP pP 21 17 46.5 -2.4
LZH sP sP 21 17 48.0 -2.8
LZH *e*PP **PP 21 20 43.5 +1.6**
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,72nm,8.5s
LZH LR LR
comp=Z,140nm,16.8s
LZH LR LR
comp=Z,150nm,17.0s
LZH LR LR
comp=Z,220nm,19.2s
YOJ Yonaguni jima 79.30 296 P P 21 17 39.0 -6.1
CASP Castiglione de 79.61 27 P **P 21 17 44.8 -1.9**
CASP IAmb IAmb 21 17 50.2
comp=Z,8.6nm,1.1s
VRI Vrincioaia 80.08 15 ⇑P **P 21 17 50.1 +1.0**
PLOR Plostina 80.08 15 ⇑P **P 21 17 49.8 +0.6**
VOIR 80.23 16 ⇑P **P 21 17 50.5 +0.5**
CFR Carcaliu 80.97 14 ⇑P **P 21 17 54.9 +1.0**
KIV Kislovodsk 83.54 4 ⇑P **P 21 18 07.5 0.0**
KIV Kislovodsk 83.54 4 P **P 21 18 08.2 +0.7**
KBZ Khabaz 83.77 4 P **P 21 18 09.0 +0.5**
comp=Z,6.5nm,0.9s,baz=313,slow=4.3,SNR=11
KBZ LR LR 21 57 21.2
comp=Z,52nm,21.9s,baz=0.5,slow=37
KBZ Khabaz 83.77 4 P **P 21 18 09.0 +0.5**
BTK Batken 85.41 342 P **P 21 18 17.2 +0.2**
KEST Kesra 85.70 31 LR LR 21 57 34.3
comp=Z,192nm,18.2s,baz=278,slow=36
MDUB Mudurnu 86.01 13 P **P 21 18 20.0 0.0**
GAR Garm 86.53 343 P **P 21 18 22.3 -0.3**
BRTR Keskin Array B 87.05 11 P **P 21 18 25.5 +0.3**
comp=Z,2.6nm,0.9s,baz=30,slow=18,SNR=5.6
BRTR Keskin Array B 87.05 11 P **P 21 18 24.9 -0.3**
CHGR Chuyangaron 87.06 343 P **P 21 18 24.9 -0.3**
LPAZ La Paz 88.06 120 P **P 21 18 29.3 -1.4**
comp=Z,3.4nm,0.8s,baz=350,slow=9.7,SNR=8.8
LPAZ LR LR 22 05 44.4
comp=Z,26nm,18.3s,baz=300,slow=41
LPAZ La Paz 88.06 120 P **P 21 18 29.4 -1.4**
LPAZ IAmb IAmb 21 18 32.6
comp=Z,4.9nm,1.0s
GEYT Alibeck 89.22 352 P **P 21 18 35.6 +0.2**
comp=Z,1.9nm,0.8s,baz=329,slow=11,SNR=6.0
GEYT Alibeck 89.22 352 P **P 21 18 35.1 -0.3**
GYA0B ALIBECK ARRAY 89.22 352 P **P 21 18 34.1 -1.3**
NIL Nilore 91.11 339 P **P 21 18 41.9 -2.4**
CMAR Chiang Mai Arr 96.42 312 P **P 21 19 07.7 -1.2**
comp=Z,1.0nm,0.8s,baz=6.7,slow=4.0,SNR=8.6
CMAR LR LR 22 03 28.4
comp=Z,35nm,19.9s,baz=186,slow=36
CMAR Chiang Mai Arr 96.42 312 P **P 21 19 07.2 -1.6**
KMBO Kiilima Mbogo 127.77 13 PKP **PKiKP 21 24 48.2 +2.0**
comp=Z,1.5nm,0.8s,baz=31,slow=3.0,SNR=4.9
VNDA Vanda 136.18 197 PKP **PKiKP 21 25 00.5 -0.4**
comp=Z,0.9nm,0.8s,baz=22,slow=3.3,SNR=3.9
VNA3 Neumayer Olymp 149.01 148 PKPdf **PKPbc 21 25 25.5 -0.6**
VNA1 Neumayer--Stat 149.53 147 PKPdf **PKPbc 21 25 26.8 -0.5**
VNA2 Neumayer--Watz 149.79 148 PKPdf **PKPbc 21 25 27.2 -0.8**
baz=257,slow=2.4
BOSA Boshof 150.65 43 PKPbc **PKPbc 21 25 31.4 -0.2**
comp=Z,6.8nm,0.9s,baz=313,slow=4.3,SNR=5.8
SNAA Sanae 151.09 150 PKPdf **PKPbc 21 25 30.5 -0.7**

IDC 27 21:07:03.9±6.8, 31°.59S×179°.89W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/25, mbtmp3.5/2, Error ellipse: s-maj=280.5km s-min=60.1km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.44**	**269**	P	P	21 14 53.1	+0.5
	0.5nm,0.8s,baz=106,slow=7.3,SNR=6.2						
WRA	**Warramunga Arr**	**42.54**	**274**	P	P	21 15 00.9	-0.7
	0.2nm,0.3s,baz=115,slow=7.9,SNR=8.5						
FINES	**FINESS Array B**	**145.67**	**338**	PKPbc	PKPdf	21 26 43.0	-0.6
	10nm,1.2s,baz=25,slow=3.7,SNR=4.9						

ISN 27 21:09:44.8±0.6, 32°.71N×47°.80E, h14km±4km, ML3.0
TEH 27 21:09:45.2, 32°.69N×47°.65E, h20km, ML3.0
ISC 27 21:09:46.8±1.1, 32°.55N±0°.05×47°.56E±0°.05, h23km, n20, σ2°.28/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.27**	**300**	*e*Pg	**Pb**	**21 09 52.4**	**-0.9**
IBDR	**Badra**	**1.48**	**293**	*e*Pg	**Pb**	**21 10 14.0**	**+0.3**
IBDR				*e*Sg	**Sb**	**21 10 36.0**	**+3.9**
IBDR				AML	AML	21 10 40.6	
	comp=N,160nm,0.4s						
IBDR				AML	AML	21 10 40.8	
	comp=E,111nm,0.4s						
IKOM Komasi 1.62 359 *e*Pg **Pn 21 10 13.2 -1.0**
IKOM *e* 21 10 15.0
KCHF Cheshme Sefid, 1.78 346 *e*Pn **Pn 21 10 13.7 -2.7**
KER Kermanshah 1.87 349 *e*Pg **Pn 21 10 16.9 -0.7**
HSAM Samen 1.88 27 *e*Pg **Pn 21 10 16.6 -1.2**
HSAM *e* 21 10 17.9
NSR Nassriya 1.95 219 *e*Pn **Pb 21 10 22.0 +0.3**
NSR *e*Sn **Sb 21 10 49.0 +3.4**
NSR AML AML 21 10 55.0
comp=E,277nm,0.2s
IGHG Ghaleghazi 1.96 335 *e*Pg **Pn 21 10 19.2 +0.3**
IGHG *e* 21 10 53.5
IVIS Veis 2.06 343 *e* **Sb 21 10 54.8 +5.9**
IDHR Dehrash 2.36 336 *e*Pn **Pn 21 10 21.9 -2.5**
IDHR *e* 21 11 04.5
ILIN Lien 2.42 348 *e*Pn **Pn 21 10 23.4 -1.8**
ILIN *e* 21 11 06.1
JHBN Jahan bin 2.65 96 *e*Pn **Pn 21 10 27.2 -1.2**
JHBN *e* 21 11 10.3
BHD Baghdad 2.77 286 *e*Pn **Pb 21 10 33.0 -2.6**
BHD *e*Sn **Sb 21 11 08.0 -1.2**
BHD AML AML 21 11 09.3
comp=E,105nm,0.4s
IPIR Pirpir 2.81 86 *e*Pn **Pn 21 10 29.0 -1.7**
IPIR *e* 21 11 14.5
IKLH Kolahrood 3.47 76 *e*Pn **Pn 21 10 39.4 -0.2**
QAM Ghamsar 3.47 69 *e*Pn **Pn 21 10 38.7 -1.0**
QABG Abgarm-Qazvin 3.57 27 *e*Pn **Pn 21 10 39.4 -1.7**
IZEF Zefreh 4.04 84 *e*Pn **Pn 21 10 46.4 -1.1**
KRSH Karshahi 4.09 68 *e*Pn **Pn 21 10 47.4 -0.7**
IRAM Ramesheh 4.15 99 *e*Pn **Pn 21 10 47.1 -2.0**

IDC 27 21:10:57.8±4.7, 21°.46S×177°.04W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/22, mbtmp4.0/3, Error ellipse: s-maj=162.0km s-min=91.3km az=159.0
NEIC 27 21:11:25.2±1.1, 23°.30S±0°.04×177°.2W±0°.2, h214km±13km, mb4.1/14, Error ellipse: s-maj=20.3km s-min=6.4km az=88.0
ISC 27 21:11:24.6±0.8, 23°.30S±0°.08×177°.2W±0°.1, h200km, n24, σ0°.73/25, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.96**	**186**	Pn	**Pn**	**21 12 52.6**	**+1.4**
MSVF	**Nonsavu**	**7.08**	**321**	Pn	**Pn**	**21 13 06.6**	**+0.5**
NIUE	**Niue**	**8.01**	**60**	Pn	**Pn**	**21 13 17.8**	**-0.3**
AFI	**Afiamalu**	**10.68**	**30**	Pn	**Pn**	**21 13 53.5**	**+0.7**
MXZ	**Matakaoa Point**	**14.72**	**194**		**P**	**21 14 43.7**	**-0.6**
DZM	**Mont Dzumac**	**15.11**	**271**	P	**P**	**21 14 49.1**	**+0.3**
DZM				IAmb	IAmb	21 14 53.3	
	comp=Z,4.2nm,0.7s						
HIZ	**Hauiti**	**16.60**	**202**	P	**Pn**	**21 15 05.8**	**-0.2**
HIZ				IAmb	IAmb	21 15 17.7	
	comp=Z,19nm,1.0s						
SANVU	**Saraoutou**	**16.62**	**295**	P	**P**	**21 15 05.6**	**+0.2**
THZ	**Tophouse**	**20.17**	**202**	P	**P**	**21 15 44.3**	**+0.6**
CTA	**Charters Tower**	**34.01**	**268**	P	**P**	**21 17 50.0**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=98,slow=12,SNR=8.7						
CTAO	**Charters Tower**	**34.01**	**268**	P	**P**	**21 17 50.3**	**+0.6**
CTAO				IAmb	IAmb	21 17 51.3	
	comp=Z,3.5nm,0.6s						
STKA	**Stephens Creek**	**37.29**	**248**	P	**P**	**21 18 18.5**	**+1.0**
	comp=Z,4.9nm,1.1s,baz=69,slow=8.6,SNR=2.4						
COEN	**Coen**	**38.54**	**277**	P	**P**	**21 18 27.3**	**-0.8**
COEN				IAmb	IAmb	21 18 35.8	
	comp=Z,3.8nm,1.0s						
BBOO	**Buckleboo**	**42.00**	**246**	P	**P**	**21 18 56.2**	**-0.2**
BBOO				IAmb	IAmb	21 19 01.2	
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**44.63**	**259**	P	**P**	**21 19 16.9**	**-0.6**
ASAR	**Alice Springs**	**44.63**	**259**	P	**P**	**21 19 16.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=91,slow=7.5,SNR=16						
ASAR				PcP	**PcP**	**21 20 56.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=103,slow=3.8,SNR=5.4						
WR0	**Warramunga Arr**	**44.79**	**265**	P	**P**	**21 19 18.2**	**-0.6**
WB2	**Warramunga Arr**	**44.97**	**265**	P	**P**	**21 19 19.2**	**-0.9**
WB2				IAmb	IAmb	21 19 32.1	
	comp=Z,3.1nm,1.1s						
WB0	**Warramunga Arr**	**44.97**	**265**	P	**P**	**21 19 19.2**	**-0.9**
WRA	**Warramunga Arr**	**44.98**	**265**	P	**P**	**21 19 19.0**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=96,slow=8.5,SNR=34						
MTN	**Manton Dam**	**49.94**	**273**	P	**P**	**21 19 58.0**	**-0.6**
MTN				IAmb	IAmb	21 20 03.9	
	comp=Z,3.1nm,1.0s						
KNRA	**Kununurra**	**51.23**	**268**	P	**P**	**21 20 07.9**	**-0.2**
KNRA				IAmb	IAmb	21 20 13.8	
	comp=Z,7.7nm,0.9s						
FAKI	**Fak Fak**	**52.85**	**285**	P	**P**	**21 20 19.5**	**-0.6**
QSPA	**South Pole Qui**	**66.78**	**180**	P	**P**	**21 21 53.6**	**-0.7**

SOME 27 21:40:58.3, 42°.18N×84°.77E, h5km
BJI 27 21:41:10.6±0.0, 41°.30N×83°.76E, h14km, mb4.0/1, ML3.7/10
NNC 27 21:41:14.5±4.7, 41°.29N×83°.37E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=34.6km s-min=28.8km az=145.0
ISC 27 21:41:15.5±1.9, 41°.4N±0°.1×83°.91E±0°.04, h10km, n26, σ2°.75/24, 9C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.72**	**47**	*e*Pn	**Pn**	**21 42 13.0**	**-0.1**
WMQ				Sn	**Sn**	**21 42 58.0**	**+1.0**
WMQ				smax	smax		
	comp=N,33nm,1.1s						
WMQ				smax	smax		
	comp=E,69nm,1.1s						
SHLS	**Shalkode**	**3.75**	**300**	*e*P	Pn	21 42 07.3	-6.3
	30nm,0.3s						
SHLS				*e*S	**Sn**	**21 42 57.1**	**-0.8**
	114nm,0.8s						
SHLS	**Shalkode**	**3.75**	**300**	Pg	Pn	21 42 07.3	-6.3
	30nm,0.3s						
SHLS				Lg	Lg	21 42 57.1	
	114nm,0.8s						
PDGK	**Podgornoye**	**3.82**	**302**	⇓Pn	**Pn**	**21 42 11.3**	**-3.2**
	5.4nm,0.8s						
PDGK				⇑Pg	**Pb**	**21 42 20.5**	**-2.6**
	24nm,0.6s						
PDGK				⇓Lg	Lg	21 43 05.9	
	76nm,1.0s						
UZB	**Uzynbulak**	**4.04**	**298**	*e*P	**Pn**	**21 42 17.8**	**+0.3**
	3.6nm,0.3s						
UZB				*e*S	**Sb**	**21 43 15.1**	**-0.6**
	61nm,0.7s						
UZB	**Uzynbulak**	**4.04**	**298**	Pg	**Pn**	**21 42 17.8**	**+0.3**
	3.6nm,0.3s						
UZB				Lg	Lg	21 43 15.1	
	61nm,0.7s						
DJR	**Jarkent**	**4.24**	**316**	*e*P	**Pn**	**21 42 17.4**	**-2.8**
	4.0nm,0.2s						
DJR				*e*S	**Sn**	**21 43 14.4**	**+4.7**
	27nm,0.8s						
DJR	**Jarkent**	**4.24**	**316**	Pg	**Pn**	**21 42 17.4**	**-2.8**
	4.0nm,0.2s						
DJR				Lg	Lg	21 43 14.4	
	27nm,0.8s						
SATY	**Saty**	**4.42**	**294**	*e*P	**Pn**	**21 42 26.1**	**+3.4**
	27nm,0.7s						
SATY				*e*S	**Sb**	**21 43 29.4**	**+2.6**
	80nm,0.7s						
SATY	**Saty**	**4.42**	**294**	Pg	**Pn**	**21 42 26.1**	**+3.4**
	27nm,0.7s						
SATY				Lg	Lg	21 43 29.4	
	80nm,0.7s						
KURS	**Kuram**	**4.75**	**298**	*e*P	Pn	21 42 32.2	+5.0
	23nm,0.9s						
KURS				*e*S	**Sb**	**21 43 39.5**	**+3.5**
	22nm,0.8s						
KURS	**Kuram**	**4.75**	**298**	Pg	Pn	21 42 32.2	+5.0
	23nm,0.9s						
KURS				Lg	Lg	21 43 39.5	
	22nm,0.8s						
KAPS	**Kapalarasan**	**5.13**	**321**	*e*P	**Pn**	**21 42 30.1**	**-2.5**
	12nm,0.4s						
KAPS				*e*S	**Sn**	**21 43 36.3**	**+4.5**
	22nm,0.3s						
KAPS	**Kapalarasan**	**5.13**	**321**	Pg	**Pn**	**21 42 30.0**	**-2.5**
	12nm,0.4s						
KAPS				Lg	Lg	21 43 36.3	
	22nm,0.3s						
ARXS	**Arharly**	**5.30**	**304**	*e*P	Pn	21 42 39.9	+5.0
	14nm,0.5s						

ARXS				*e*S	**Sb**	**21 43 52.8**	**+0.8**
	28nm,0.7s						
ARXS	**Arharly**	**5.30**	**304**	Pg	Pn	21 42 39.8	+5.0
	14nm,0.5s						
ARXS				Lg	Lg	21 43 52.8	
	28nm,0.7s						
TNSS	**Tian-Shan**	**5.43**	**290**	*e*P	**Pb**	**21 42 48.1**	**-2.6**
	6.7nm,0.6s						
TNSS				*e*S	**Sg**	**21 44 07.0**	**-2.9**
	16nm,0.8s						
MK31	**Makanchi Array**	**5.55**	**348**	⇑Pg	Pb	21 42 58.7	+6.2
	1.9nm,0.5s,baz=186,slow=18,SNR=7.3						
MK31				Lg	Lg	21 44 10.1	
	33nm,0.6s,baz=156,slow=24,SNR=5.3						
MAKZ	**Makanchi**	**5.62**	**346**	⇑Pg	Pb	21 42 59.5	+5.9
	8.0nm,1.0s						
MAKZ				⇓Lg	Lg	21 44 13.0	
	58nm,0.9s						
TKM2	**Tokmak 2**	**6.37**	**287**	⇑Pn	**Pn**	**21 42 47.0**	**-2.7**
	1.6nm,0.4s						
TKM2				⇑Lg	Lg	21 44 27.0	
AAK	**Ala-Archa**	**7.12**	**283**	⇓Pg	**Pb**	**21 43 21.3**	**+1.8**
	3.6nm,0.8s						
AAK				⇓Lg	Lg	21 44 50.9	
	27nm,1.2s						
KURBB	**Kurchatov Arra**	**9.98**	**340**	⇑Sn	**Sn**	**21 45 32.4**	**+1.5**
	14nm,0.8s						
KURBB				⇑Lg	Lg	21 46 31.1	
	20nm,0.7s						
KURK	**Kurchatov**	**10.04**	**340**	⇓Lg	Lg	21 46 32.9	
	23nm,1.4s						
KK31	**Karatay Array**	**10.09**	**284**	⇑Pg	Pn	21 44 16.5	+36
	1.2nm,0.8s,baz=96,slow=16,SNR=3.6						
KK31				⇑Lg	Lg	21 46 23.8	
	6.1nm,1.1s,baz=91,slow=29,SNR=5.2						
GTA	**Gaotai**	**12.29**	**94**	pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA	**Gaotai**	**12.29**	**94**	*e*P	Pn	21 44 06.0	-4.7
GTA				pP		21 44 11.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						

*TIR **27** 22:01:21.5, 41°.28N×19°.96E, h12km±1km, Md2.9*
*SKO **27** 22:01:22.4, 41°.26N×19°.91E, h3km*
*PDG **27** 22:01:22.1±0.4, 41°.27N×19°.93E, h6km, ML2.7/6, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
*BEO **27** 22:01:23.4±0.4, 41°.30N×20°.00E, h0km, ML2.4/11*
ISC 27 22:01:22.4±0.9, 41°.26N±0°.02×19°.92E±0°.02, h7km±6km, n60, σ1§21/98, 10C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.10**	**335**	*e*Pg	**Pg**	**22 01 24.3**	**-0.4**
TIR				*e*Sg	**Sg**	**22 01 26.8**	**+0.5**
TIR	**Tirane**	**0.10**	**335**	⇑P	**Pg**	**22 01 24.5**	**-0.2**
TIR				⇑S	**Sg**	**22 01 27.3**	**+1.0**
TIR	**Tirane**	**0.10**	**335**	P	**Pg**	**22 01 24.6**	**-0.1**
	baz=315						
TIR				S	**Sg**	**22 01 26.7**	**+0.4**
	baz=315						
PHP	**Peshkopia**	**0.58**	**42**	P	**Pg**	**22 01 32.5**	**-1.1**
	baz=41						
PHP				S	**Sg**	**22 01 40.9**	**-0.3**
	baz=41						
OHR	**Ohrid**	**0.68**	**102**	⇓*i*Pg	**Pg**	**22 01 34.3**	**-1.1**
OHR				*i* Sg	**Sg**	**22 01 44.3**	**+0.1**
OHR				*e*Lg	Lg	22 01 45.6	
	comp=N,122nm,0.4s						
PUK	**Puka**	**0.79**	**358**	P	**Pg**	**22 01 36.7**	**-0.9**
	baz=357						
PUK				S	**Sg**	**22 01 48.2**	**+0.4**
	baz=357						
ULC	**Ulcinj**	**0.87**	**325**	*e*Pg	**Pg**	**22 01 38.1**	**-1.0**
ULC				*i* Sg	**Sg**	**22 01 51.0**	**+0.5**
DRME	**Dracevica, Mon**	**1.08**	**330**	*e*Pn	**Pg**	**22 01 41.8**	**-1.4**
BCI	**Bajram Curri**	**1.12**	**6**	P	**Pg**	**22 01 42.4**	**-1.5**
	baz=4.0						
BCI				S	**Sb**	**22 01 59.0**	**+0.1**
	baz=4.0						
FNA	**Florina**	**1.20**	**113**	P	**Pg**	**22 01 44.2**	**-1.2**
	baz=114						
FNA				S	**Sn**	**22 02 02.1**	**-0.1**
	baz=114						
LSK	**Leskovik**	**1.22**	**155**	P	**Pg**	**22 01 44.9**	**-0.8**
	baz=156						
LSK				S	**Sn**	**22 02 03.2**	**+0.4**
	baz=156						
PDG	**Podgorica**	**1.28**	**337**	*e*Pg	**Pn**	**22 01 45.9**	**-0.8**
PDG				*e*Sg	**Sn**	**22 02 04.3**	**+0.2**
PDG	**Podgorica**	**1.28**	**337**	⇓P	**Pn**	**22 01 44.7**	**-2.0**
PDG	**Podgorica**	**1.28**	**337**	⇑S	**Sn**	**22 02 05.3**	**+1.2**
PDG	**Podgorica**	**1.28**	**337**	*e*Pn	**Pn**	**22 01 44.0**	**-2.7**
TTG	**Podgorica**	**1.28**	**337**	⇓*i*Pg	**Pn**	**22 01 44.7**	**-2.0**
TTG				*i* Sg	**Sn**	**22 02 05.3**	**+1.2**
BUM	**Brajici-Budva**	**1.30**	**324**	⇓*i*Pg	**Pn**	**22 01 45.3**	**-1.8**
BUM				*i* Sg	**Sn**	**22 02 05.8**	**+1.1**
PVY	**Plav**	**1.34**	**1**	⇑*i*Pg	**Pn**	**22 01 46.9**	**-0.8**
PVY				*i* Sg	**Sn**	**22 02 07.8**	**+2.0**
SKO	**Skopje**	**1.34**	**57**	*e*Pg	**Pn**	**22 01 46.6**	**-1.0**
SKO				*e*Sg	**Sb**	**22 02 04.4**	**-1.0**
SKO	**Skopje**	**1.34**	**57**	*i* Pg	**Pn**	**22 01 46.6**	**-1.0**
SKO				*i* Sg	**Sn**	**22 02 05.7**	**-0.1**
SKO				*e*Lg	Lg	22 02 06.7	
	comp=N,16nm,0.4s						
SRN	**Sarande**	**1.37**	**177**	P	**Pb**	**22 01 48.3**	**-0.2**
	baz=178						
SRN				S	**Sg**	**22 02 08.1**	**+1.6**
	baz=178						
HCY	**Herceg Novi**	**1.60**	**319**	⇓*i*Pn	**Pn**	**22 01 51.2**	**+0.1**
HCY				*i* Sn	**Sg**	**22 02 15.3**	**+1.5**
HCY	**Herceg Novi**	**1.60**	**319**	*e*Pn	**Pn**	**22 01 51.3**	**+0.1**
STIP	**Stip**	**1.76**	**75**	*i* Pg	**Pg**	**22 01 55.3**	**-0.8**
STIP				*i* Sg	**Sg**	**22 02 24.8**	**+5.9**
STIP				*e*Lg	Lg	22 02 27.4	
	comp=E,15nm,0.4s						
DBRK	**Dubrovnik**	**1.94**	**317**	*e*Pn	**Pn**	**22 01 56.0**	**+0.2**
DBRK				Sn	**Sb**	**22 02 22.0**	**-0.5**
BRY	**Bratogost**	**1.94**	**328**	⇓*i*Pn	**Pn**	**22 01 56.4**	**+0.4**
BRY				*i* Sn	**Sb**	**22 02 23.2**	**+0.5**
BRY	**Bratogost**	**1.94**	**328**	*e*Pn	**Pb**	**22 01 57.4**	**-0.8**
VAY	**Valandovo**	**2.00**	**87**	*e*Pn	**Pb**	**22 01 58.2**	**-0.8**
VAY				*e*Sg	**Sb**	**22 02 24.6**	**+0.5**
VAY	**Valandovo**	**2.00**	**87**	⇓*i*Pg	**Pb**	**22 01 58.3**	**-0.8**
VAY				*i* Sg	**Sg**	**22 02 25.5**	**-1.0**
VAY				*e*Lg	Lg	22 02 26.0	
	comp=N,25nm,0.7s						
SJES	**Sjenica**	**2.01**	**1**	*e*Pn	**Pb**	**22 01 58.3**	**-1.0**
SJES				*e*Sg	**Sg**	**22 02 25.7**	**-1.1**
PLE	**Pljevlja**	**2.11**	**349**	⇑*i*Pn	**Pn**	**22 01 58.8**	**+0.5**
PLE				*i* Sn	**Sb**	**22 02 27.8**	**+0.2**
SELS	**Selova**	**2.15**	**24**	*e*Pn	**Pn**	**22 01 59.2**	**+0.4**
BOSS	**Bosilegrad**	**2.28**	**56**	*e*Pn	**Pb**	**22 02 02.0**	**-1.9**
BOSS				*e*Sg	**Sb**	**22 02 32.3**	**0.0**
RUDO	**Rudo**	**2.40**	**350**	*e*Pn	**Pb**	**22 02 04.9**	**-1.0**
MATE	**Matera**	**2.51**	**257**	⇓P	**Pn**	**22 02 03.4**	**-0.2**
BBLS	**Lazići**	**2.64**	**352**	*e*Pn	**Pn**	**22 02 07.5**	**+2.0**
BBLS				*e*Sn	**Sn**	**22 02 38.0**	**+0.2**
BBLS	**Lazići**	**2.64**	**352**	*e*Pn	**Pn**	**22 02 07.3**	**+1.8**
GRUS	**Gruza**	**2.70**	**12**	*e*Pn	**Pn**	**22 02 07.2**	**+1.0**
LSTV	**Lastovo**	**2.72**	**305**	*e*Pn	**Pn**	**22 02 06.3**	**-0.2**
LSTV				Sn	**Sn**	**22 02 39.4**	**-0.2**
BOVS	**Bovan**	**2.72**	**28**	*e*Sg	**Sb**	**22 02 46.4**	**+1.4**
DIVS	**Divibare**	**2.84**	**1**	*e*Pn	**Pn**	**22 02 09.7**	**+1.4**
DIVS				*e*Sn	**Sn**	**22 02 43.6**	**+0.7**
DIVS	**Divibare**	**2.84**	**1**	*e*Pn	**Pn**	**22 02 08.9**	**+0.6**
ZAPS	**Zavoj**	**2.85**	**44**	*e*Pn	**Pn**	**22 02 09.9**	**+1.5**
ZAPS				*e*Sn	**Sn**	**22 02 43.4**	**+0.4**
HAPS	**Han Pijesak,BI**	**2.92**	**346**	*e*Pn	**Pn**	**22 02 09.3**	**-0.1**
HAPS				*e*Sn	**Sn**	**22 02 46.1**	**+1.3**
HAPS	**Han Pijesak,BI**	**2.92**	**346**	*e*Pn	**Pn**	**22 02 08.3**	**-1.1**
MAKA	**Makarska**	**2.96**	**314**	*e*Pn	**Pn**	**22 02 09.7**	**-0.1**
MAKA				Sn	**Sn**	**22 02 46.5**	**+0.9**
TRUS	**Trudelj**	**2.99**	**7**	*e*Pn	**Pn**	**22 02 11.1**	**+0.9**
RICI	**Ricice**	**3.05**	**318**	*e*Pn	**Pn**	**22 02 11.0**	**-0.1**
RICI				Sn	**Sn**	**22 02 48.9**	**+1.1**
ZAGS	**Zajecar**	**3.07**	**33**	*e*Pn	**Pn**	**22 02 11.5**	**+0.1**
BLKB	**Belogradchik**	**3.12**	**40**	⇑S	**Sn**	**22 02 52.4**	**+2.7**
MDVR	**Moldovita**	**3.76**	**20**	⇑P	**Pn**	**22 02 21.1**	**+0.2**
KIJV	**Kijevo**	**3.78**	**318**	*e*Pn	**Pn**	**22 02 21.7**	**+0.6**
KIJV				Sn	**Sn**	**22 03 07.2**	**+1.3**
FRGS	**Fruska Gora**	**3.90**	**359**	*e*Pn	**Pn**	**22 02 23.9**	**+1.1**
HERR	**Herculane**	**4.06**	**26**	⇑P	**Pn**	**22 02 25.3**	**+0.4**
MORI	**Morici**	**4.06**	**311**	*e*Pn	**Pn**	**22 02 25.8**	**+0.8**
MORI				Sn	**Sn**	**22 03 12.9**	**+0.2**
UDBI	**Udbina**	**4.47**	**318**	*e*Pn	**Pn**	**22 02 32.2**	**+1.4**
UDBI				Sn	**Sn**	**22 03 24.7**	**+1.6**
DUGI	**Dugi Otok**	**4.51**	**309**	*e*Pn	**Pn**	**22 02 31.7**	**+0.6**
DUGI				Sn	**Sn**	**22 03 22.6**	**-1.3**
BZS	**Buzias**	**4.53**	**15**	⇑P	**Pn**	**22 02 31.6**	**+0.2**
BZS	**Buzias**	**4.53**	**15**	⇑S	**Sn**	**22 03 25.7**	**+1.3**
NVLJ	**Novalja**	**4.97**	**313**	*e*Pn	**Pn**	**22 02 38.4**	**+1.0**
NVLJ				Sn	**Sn**	**22 03 34.4**	**-0.7**

*ANF **27** 22:01:24.9±0.9, 31°.42N×115°.36W, h1km, ML3.7/13, Error ellipse: s-maj=10.3km s-min=3.6km az=24.0*
*UNK **27** 22:01:26.8, 31°.36N×115°.40W, h11km*
*ECX **27** 22:01:27.3±0.6, 31°.37N×115°.40W, h5km±4km, MD3.5, ML3.7*
*MEX **27** 22:01:29.2±0.5, 31°.29N×115°.44W, h10km±23km, MD4.0*
ISC 27 22:01:26.0±0.9, 31°.36N±0°.02×115°.41W±0°.03, h14km±8km, n26, σ1§20/47, 6C-6D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.32**	**188**	*i* P	**Pb**	**22 01 33.8**	**+0.1**
SPIG				*e*S	**Sb**	**22 01 38.2**	**-0.6**
SPIG	**San Pedro Mart**	**0.32**	**188**	⇓*e*P	**Pb**	**22 01 33.8**	**+0.1**
SPIG				*e*S	**Sb**	**22 01 38.4**	**-0.4**
VTX	**Valle De La Tr**	**0.32**	**275**	⇑*i*P	**Pb**	**22 01 33.4**	**-0.2**
VTX				*e*S	**Sg**	**22 01 37.8**	**+0.6**
ECBX	**El Chinero**	**0.33**	**70**	⇑*e*P	**Pb**	**22 01 33.6**	**0.0**
ECBX				*e*S	**Sg**	**22 01 37.4**	**+0.1**
SPX	**San Pedro Mart**	**0.33**	**188**	⇓*e*P	**Pg**	**22 01 32.8**	**-0.1**
SPX				*e*S	**Sg**	**22 01 37.5**	**-0.1**
SPX				IAML		22 01 38.1	
	comp=E,10μm,0.5s						
SFX	**San Felipe**	**0.58**	**124**	⇑*e*P	**Pg**	**22 01 37.4**	**0.0**
SFX				*e*S	**Sg**	**22 01 45.3**	**+0.2**
SFX				⇓*e*		22 01 47.4	
SFX				IAML		22 01 47.4	
	comp=N,5μm,0.5s						
SFX				IAML		22 01 47.4	
	comp=E,4μm,0.4s						
SFX				⇓*e*		22 01 47.4	
SJX	**San Joaquin**	**0.61**	**311**	⇓*e*P	**Pn**	**22 01 41.4**	**+1.0**
SJX				*e*S	**Sn**	**22 01 51.5**	**+1.5**
SJX				⇓*e*		22 01 54.8	
SJX				IAML		22 01 54.8	
	comp=E,3μm,0.2s						
SVX	**San Vicente**	**0.72**	**267**	⇑*i*P	**Pg**	**22 01 40.1**	**+0.1**
SQX	**San Quintin**	**0.88**	**207**	⇑*e*P	**Pb**	**22 01 43.2**	**+0.1**
SQX				*e*S	**Sb**	**22 01 54.9**	**+0.2**
MBIG	**Mexicali**	**1.06**	**10**	*e*P	**Pg**	**22 01 47.0**	**+0.6**
MBIG				*e*P	**Pn**	**22 01 47.5**	**+1.1**
MBIG				*e*S	**Sn**	**22 02 01.1**	**+0.2**
CCX	**Cicese**	**1.18**	**296**	⇑*e*P	**Pn**	**22 01 48.2**	**+0.1**
CCX				*e*S	**Sb**	**22 02 03.5**	**+0.2**
RMX	**La Rumorosa**	**1.36**	**336**	*e*P	**Pn**	**22 01 50.0**	**-0.7**
RMX				*e*S	**Sn**	**22 02 07.3**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**1.41**	**335**	P	**Pn**	**22 01 51.3**	**-0.1**
	baz=155,SNR=160						
IKP				S	**Sn**	**22 02 10.2**	**+0.3**
	baz=155						
TJIG	**Tijuana**	**1.52**	**315**	*e*P	**Pb**	**22 01 53.6**	**-0.3**
TJIG				*e*S	**Sn**	**22 02 12.0**	**-0.3**
SWSC	**Sam W. Stewart**	**1.61**	**348**	P	**Pn**	**22 01 53.6**	**-0.5**
	baz=168,SNR=37						
MONP2	**Monument Peak**	**1.75**	**331**	Pn	**Pn**	**22 01 56.5**	**+0.4**
	baz=150,SNR=66						
MONP2				Pg	**Pb**	**22 01 58.4**	**+0.4**
	baz=150						
MONP2				S	**Sb**	**22 02 20.0**	**+0.1**
	baz=150						
GLA	**Glamis**	**1.75**	**16**	P	**Pn**	**22 01 55.7**	**-0.4**
	baz=196						
GLA				S	**Sb**	**22 02 21.4**	**+1.4**
	baz=196						
109C	**Camp Elliot, M**	**2.09**	**317**	Pb	**Pb**	**22 02 03.6**	**-0.2**
	baz=136,SNR=41						
109C				S	**Sb**	**22 02 29.4**	**-0.2**
	baz=136						
BC3	**Big Chuckawall**	**2.29**	**359**	P	**Pn**	**22 02 03.4**	**0.0**
	baz=179,SNR=8.5						
214A	**Organ Pipe Nat**	**2.29**	**74**	P	**Pn**	**22 02 03.5**	**0.0**
	baz=256						
214A				S	**Sn**	**22 02 31.2**	**-0.3**
	baz=256						
MURC	**Murrieta**	**2.69**	**326**	Pb	**Pb**	**22 02 13.5**	**-0.5**
	baz=146,SNR=16						
MURC				Sb	**Sb**	**22 02 47.4**	**+0.5**
	baz=146						
BFSC	**Mount Baldy Ra**	**3.44**	**327**	Pb	**Pb**	**22 02 25.9**	**-0.8**
	baz=146,SNR=12						
GSC	**Goldstone, Bar**	**4.10**	**344**	Pg	**Pg**	**22 02 42.0**	**-2.5**
	baz=163,SNR=6.8						
EDW2	**Edwards Air Fo**	**4.12**	**329**	Pb	**Pb**	**22 02 38.4**	**0.0**
	baz=148,SNR=6.5						
EDW2				Sb	**Sb**	**22 03 31.5**	**+3.4**
	baz=148						
ARVC	**Arvin**	**4.72**	**324**	Sb	**Sb**	**22 03 49.7**	**+4.4**
	baz=142						
MPMC	**Manual Prospec**	**4.99**	**340**	Pg	**Pg**	**22 02 58.2**	**-3.5**
	baz=159						

IDC 27 22:01:32.3±10.0, 22°.16N×144°.39E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, Error ellipse: s-maj=374.2km s-min=33.4km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.98**	**194**	P	P	22 09 32.8	-0.7
	0.2nm,0.3s,baz=15,slow=8.3,SNR=7.7						
ASAR	**Alice Springs**	**46.68**	**193**	P	P	22 10 03.5	+0.6
	0.3nm,0.8s,baz=9.9,slow=5.9,SNR=1.9						
MKAR	**Makanchi Array**	**55.21**	**312**	P	P	22 11 07.0	0.0
	0.4nm,0.5s,baz=96,slow=8.9,SNR=4.6						

*SNET **27** 22:07:37.9±1.1, 13°.77N×90°.43W, h68km±9km, ML2.7*
*GCG **27** 22:07:39.0±0.3, 13°.71N×90°.48W, h56km±19km, MD3.4*
ISC 27 22:07:38.8±3.7, 13°.6N±0°.2×90°.5W±0°.1, h38km, n8, σ0§69/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.57**	**3**	*e*P	**Pn**	**22 07 50.0**	**-0.7**
IXG	**Ixpaco**	**0.57**	**3**	*e*P	**Pn**	**22 07 50.9**	**+0.2**
PCG	**Pacaya**	**0.80**	**351**	*e*P	**Pn**	**22 07 53.8**	**0.0**
PCG				*e*S	**Sn**	**22 08 05.3**	**+0.6**
CEVE	**Cerro Verde**	**0.86**	**75**	*e*P	**Pn**	**22 07 53.9**	**-0.6**
CEVE				*e*S	**Sn**	**22 08 07.0**	**+0.9**
CEVE				IAML		22 08 12.7	
	comp=Z,358nm,0.2s						
RTR	**El Retiro**	**0.86**	**70**	*e*P	**Pn**	**22 07 54.8**	**+0.2**
SBLS	**San Blas**	**0.86**	**74**	*e*P	**Pn**	**22 07 54.7**	**+0.1**
FUG	**Fuego 3**	**0.92**	**337**	*e*P	**Pn**	**22 07 55.0**	**-0.3**
FUG				*e*S	**Sn**	**22 08 07.5**	**+0.1**
MTO3	**Montecristo**	**1.34**	**54**	*i* P	**Pn**	**22 07 60.0**	**-1.2**

*IDC **27** 22:06:51.5±2.2, 26°.02S×177°.00W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/29, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=56.1km s-min=34.0km az=57.0*
*NEIC **27** 22:08:03.8±2.2, 29°.7S±0°.1×179°.0E±0°.1, h472km±11km, mb4.0/16, Error ellipse: s-maj=19.3km s-min=12.8km az=52.0*
ISC 27 22:07:57.0±2.0, 29°.2S±0°.2×179°.7E±0°.2, h450km, n39, σ1§79/33, mb3.9/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**7.92**	**219**	P	**P**	**22 09 49.7**	**-1.7**
URZ	**Urewera**	**9.28**	**193**	Pn	P	22 10 00.5	-5.6
	0.3nm,0.3s,baz=177,slow=15,SNR=2.5						
URZ				Sn	S	22 12 09.7	+17
	0.5nm,0.3s,baz=145,slow=10,SNR=2.1						
URZ	**Urewera**	**9.28**	**193**	P	**P**	**22 10 07.5**	**+1.4**
BKZ	**Black Stump Fm**	**10.28**	**194**	P	**P**	**22 10 18.3**	**+1.2**
MSVF	**Nonsavu**	**11.54**	**352**	P	P	22 10 43.7	+13
BFZ	**Birch Farm**	**11.78**	**193**	P	**P**	**22 10 33.5**	**+0.1**
MSWZ	**Moikau Station**	**12.70**	**196**	P	**P**	**22 10 38.5**	**-4.8**
PLWZ	**Palliser**	**12.85**	**195**	P	**P**	**22 10 44.8**	**-0.1**
THZ	**Tophouse**	**13.69**	**202**	P	**P**	**22 10 54.3**	**+0.3**
NIUE	**Niue**	**13.81**	**45**	P	P	22 11 09.8	+14
KHZ	**Kahutara**	**14.09**	**199**	P	**P**	**22 10 56.6**	**-1.6**
ODZ	**Otahua Downs**	**17.36**	**202**	P	**P**	**22 11 32.2**	**-0.7**
ODZ				IAmb	IAmb	22 11 40.8	
	comp=Z,19nm,1.2s						
TOO	**Toolangi**	**29.65**	**245**	P	**P**	**22 13 22.7**	**-1.7**
TOO				IAmb	IAmb	22 13 25.1	
	comp=Z,6.4nm,1.1s						
STKA	**Stephens Creek**	**32.84**	**256**	P	**P**	**22 13 51.5**	**-0.4**
COEN	**Coen**	**37.05**	**286**	P	**P**	**22 14 25.5**	**-2.0**
ASAR	**Alice Springs**	**41.20**	**267**	P	**P**	**22 15 04.0**	**+2.7**
	comp=Z,0.8nm,0.6s,baz=95,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**41.20**	**267**	P	**P**	**22 15 02.2**	**+0.9**
WR0	**Warramunga Arr**	**41.90**	**272**	P	**P**	**22 15 07.4**	**+0.6**
WR0				IAmb	IAmb	22 15 27.2	
	comp=Z,4.8nm,1.1s						
WC3	**Warramunga Arr**	**42.05**	**272**	P	**P**	**22 15 08.8**	**+0.8**
WB2	**Warramunga Arr**	**42.07**	**272**	P	**P**	**22 15 08.5**	**+0.3**
WB2				IAmb	IAmb	22 15 11.6	
	comp=Z,2.3nm,0.8s						
WRA	**Warramunga Arr**	**42.08**	**272**	P	**P**	**22 15 08.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=108,slow=6.3,SNR=6.4						
WB0	**Warramunga Arr**	**42.10**	**272**	P	**P**	**22 15 08.8**	**+0.4**
WB0				IAmb	IAmb	22 15 10.4	
	comp=Z,5.5nm,1.1s						
FORT	**Forrest**	**44.45**	**255**	P	**P**	**22 15 23.7**	**-3.0**
VNDA	**Vanda**	**49.08**	**185**	P	P	22 16 07.3	+6.1
	comp=Z,0.6nm,0.5s,baz=360,slow=8.1,SNR=12						
VNDA	**Vanda**	**49.08**	**185**	P	P	22 16 05.5	+4.4
SAUI	**Saumlaki**	**50.10**	**285**	P	**P**	**22 16 10.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**50.39**	**270**	P	**P**	**22 16 14.5**	**+2.8**
MORW	**Morawa**	**54.98**	**253**	P	**P**	**22 16 45.2**	**+0.5**
MORW				IAmb	IAmb	22 16 57.8	
	comp=Z,8.1nm,1.1s						
CASY	**Casey**	**55.27**	**207**	P	**P**	**22 16 48.9**	**+2.9**
CASY				IAmb	IAmb	22 16 57.7	
	comp=Z,10nm,1.0s						
GIRL	**Giralia**	**58.61**	**260**	P	**P**	**22 17 11.2**	**+1.3**
QSPA	**South Pole Qui**	**60.88**	**180**	P	**P**	**22 17 26.1**	**+1.6**
QSPA				IAmb	IAmb	22 17 26.8	
	comp=Z,3.2nm,0.7s						
QSPA				pP	**pwP**	**22 19 00.4**	**-0.3**
MAW	**Mawson**	**72.71**	**201**	P	P	22 18 42.3	+4.7
	comp=Z,1.0nm,0.4s,baz=145,slow=8.3,SNR=6.5						
SNAA	**Sanae**	**79.37**	**179**	P	**P**	**22 19 13.2**	**-1.5**
SNAA	**Sanae**	**79.37**	**179**	P	**P**	**22 19 13.6**	**-1.1**
VNA3	**Neumayer Olymp**	**79.60**	**177**	P	**P**	**22 19 13.6**	**-2.2**
PAF	**Port-aux-Franc**	**79.84**	**219**	P	**P**	**22 19 17.8**	**+0.3**
VNA2	**Neumayer--Watz**	**80.01**	**178**	P	**P**	**22 19 16.2**	**-1.9**
VNA1	**Neumayer--Stat**	**80.25**	**177**	P	**P**	**22 19 16.9**	**-2.3**
AKASG	**Malin Array Be**	**149.17**	**322**	PKPbc	PKPdf	22 26 39.5	-9.1
	comp=Z,0.4nm,0.4s,baz=45,slow=3.6,SNR=4.0						

*IDC **27** 22:08:30.7±1.9, 7°.07S×156°.17E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/27, mbtmp3.8/7, ML2.2/1, Error ellipse: s-maj=61.5km s-min=25.6km az=127.0*
ISC 27 22:08:39.6±1.2, 7°.1S±0°.1×155°.8E±0°.1, h62km, n16, σ1§87/11, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.68**	**306**	Pn	Pn	22 09 53.0	+5.3
	2.6nm,0.3s,baz=240,slow=20,SNR=1.4						
KRVT				Sn	**Sn**	**22 10 40.0**	**-0.7**
	1.8nm,0.3s,baz=200,slow=23,SNR=1.3						
KRVT				Lg	Lg	22 11 01.6	
	14nm,0.3s,baz=4.4,slow=18,SNR=5.8						
HNR	**Honiara**	**4.70**	**120**	Lg	Lg	22 10 47.5	
	13nm,0.3s,baz=135,slow=18,SNR=2.0						
PMG	**Port Moresby**	**8.89**	**254**	Pn	**Pn**	**22 10 46.9**	**+1.4**
	1.3nm,0.3s,baz=302,slow=19,SNR=1.5						
WRA	**Warramunga Arr**	**24.47**	**236**	P	**P**	**22 13 54.3**	**+1.3**
	0.3nm,0.3s,baz=61,slow=9.6,SNR=12						
WRA				pP	**pP**	**22 14 03.8**	**-3.9**
	0.8nm,0.5s,baz=60,slow=9.3,SNR=5.3						
ASAR	**Alice Springs**	**26.75**	**230**	P	**P**	**22 14 14.4**	**+0.7**
	0.4nm,0.3s,baz=60,slow=9.9,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.56**	**23**	T	T	22 42 45.2	
	baz=202,slow=75,SNR=117						
H11S2	**WAKE ISLAND Hy**	**27.57**	**23**	T	T	22 42 46.8	
	baz=202,slow=75,SNR=91						
H11S1	**WAKE ISLAND Hy**	**27.58**	**23**	T	T	22 42 39.4	
	baz=202,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**28.75**	**22**	T	T	22 44 11.0	
	baz=203,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.76**	**22**	T	T	22 44 12.1	
	baz=203,slow=76,SN

Error ellipse: s-maj=16.1km s-min=9.2km az=171.0
BJI ***27*** *22:48:59.0±0.0, 36°.40N×69°.90E, h6km, mB5.1/57, mb5.3/80, ML5.0/2, Ms4.9/79, Ms7 4.7/74*
IDC ***27*** *22:48:59.1±0.5, 36°.25N×69°.85E, h0km, mb4.8/36, mb1 4.9/41, mb1mx4.9/45, mbtmp4.9/41, ML4.9/4, MS4.4/39, Ms1 4.4/39, ms1mx4.3/44, Error ellipse: s-maj=12.5km s-min=9.4km az=5.0*
BGR ***27*** *22:49:03.6±0.0, 36°.45N×69°.85E, h10km, mb4.5*
MOS ***27*** *22:49:03.3±1.0, 36°.47N×69°.88E, h33km, mb5.2/41, MS4.6/21, Error ellipse: s-maj=4.0km s-min=3.1km az=93.6*
NEIC ***27*** *22:49:04.5±1.7, 36°.45N±0°.04×69°.81E±0°.07, h29km±2km, mb5.2/234, Mwr5.0/21, Error ellipse: s-maj=8.7km s-min=5.8km az=88.0*
UNK ***27*** *22:49:05.3, 36°.45N×69°.81E, h35km*
GCMT ***27*** *22:49:05.4±0.2, 36°.54N±0°.01×69°.68E±0°.01, h22km, MW5.1/114, Moment Tensor Solution. s66,c93; s114,c192; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.57±.10; $M_{\theta\theta}$-2.88±.08; $M_{\phi\phi}$1.31±.07; $M_{r\theta}$-2.92±.14; $M_{\theta\phi}$-1.31±.06; $M_{\phi r}$-4.28±.13; Best double couple: $M_0$5.89900×10^16^ NP1:ϕ_s110.00000°, δ25.00000°, λ160.00000°. NP2:ϕ_s218.00000°, δ82.00000°, λ66.00000°. Principal axes: T 5.9020, Plg48.0000°, Azm103.0000°; N -0.0060, Plg23.0000°, Azm222.0000°; P -5.8960, Plg32.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***27*** *22:49:05.3, 36°.45N×69°.81E, h28km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}-0.36; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$1.31; $M_{r\theta}$3.18; $M_{\theta\phi}$0.31; $M_{\phi r}$3.06; Fault plane solution: $M_0$4.58000×10^16^ NP1:ϕ_s326.06000°, δ14.58000°, λ-169.47000°. NP2:ϕ_s225.86000°, δ87.36000°, λ-75.66000°. Principal axes: T 4.6293, Plg41.0000°, Azm303.0000°; N -0.1064, Plg14.0000°, Azm45.0000°; P -4.5229, Plg46.0000°, Azm150.0000°;*
ISC 27 22:49:04.1±0.4, 36°.41N±0°.02×69°.81E±0°.02, h31km±2km, h31km:pP-P, n813, σ1§70/892, mb5.2/285, MS4.6/79, 67C-49D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.97**	**199**	P	**Pb**	**22 49 38.9**	**-0.5**
KBL				S	**Sb**	**22 50 06.0**	**+2.4**
KBL	**Kabul**	**1.97**	**199**	PN	**Pb**	**22 49 38.9**	**-0.5**
KBL	**Kabul**	**1.97**	**199**		**Pb**	**22 49 38.9**	**-0.5**
CHGR	**Chuyangaron**	**2.30**	**347**		**Pn**	**22 49 41.4**	**+1.4**
GAR	**Garm**	**2.62**	**9**		**Pn**	**22 49 46.4**	**+2.1**
CEP	**Cherat**	**3.10**	**146**	⇑P	**Pb**	**22 49 56.3**	**-2.3**
CEP				S	**Sb**	**22 50 36.0**	**-0.1**
BTK	**Batken**	**3.73**	**12**	PN	**Pn**	**22 50 02.7**	**+3.1**
BTK	**Batken**	**3.73**	**12**	Pn	**Pn**	**22 50 02.7**	**+3.1**
NIL	**Nilore**	**3.94**	**133**	P	Pn	22 50 07.4	+4.9
NIL	**Nilore**	**3.94**	**133**	PN	**Pn**	**22 50 06.6**	**+4.1**
NIL	**Nilore**	**3.94**	**133**	Pn	**Pn**	**22 50 06.6**	**+4.1**
THW	**Thamme Wali**	**3.94**	**156**	⇑P	**Pn**	**22 50 06.8**	**+4.3**
SARP	**Sargodha**	**5.07**	**151**	⇑P	**Pn**	**22 50 21.0**	**+3.1**
IUG	**Iuzhnay**	**5.73**	**2**	*i* P	**Pn**	**22 50 26.8**	**-0.4**
	157nm,0.6s,baz=1.6						
IUG				*e*S	**Sn**	**22 51 30.8**	**-1.1**
	baz=1.6						
IUG				LR	LR	22 52 34.1	
	777nm,9.3s,baz=1.6						
IUG	**Iuzhnay**	**5.73**	**2**	*i* PN	**Pn**	**22 50 26.7**	**-0.4**
IUG				pmax	pmax		
	comp=Z,157nm,0.6s						
IUG				MLR	MLR		
	comp=Z,777nm,9.0s						
KSH	**Kashi**	**5.77**	**56**	Pg	**Pn**	**22 50 27.5**	**-0.2**
KSH				Sn	**Sn**	**22 51 30.0**	**-2.9**
KSH				LR	LR		
	comp=Z,23μm,6.4s						
KSH				LR	LR		
	comp=Z,24μm,6.7s						
KSH				LR	LR		
	comp=Z,9μm,7.4s						
AML	**Almayashu**	**6.46**	**27**	P	**Pn**	**22 50 39.2**	**+1.8**
	SNR=412						
HRA	**Herat**	**6.50**	**254**	Pn	**Pn**	**22 50 39.3**	**+1.4**
BRLS	**Borolday**	**6.61**	**0**	*e*P	**Pn**	**22 50 36.4**	**-2.7**
	baz=359						
BRLS	**Borolday**	**6.61**	**0**	*e*PN	**Pn**	**22 50 36.4**	**-2.7**
KK31	**Karatay Array**	**6.71**	**4**	⇓P	**Pn**	**22 50 41.7**	**+1.3**
	comp=Z,163nm,0.5s,baz=201,slow=16,SNR=1276						
KK31				⇑S	**Sb**	**22 52 14.7**	**-4.7**
	comp=Z,1μm,0.8s						
KK31	**Karatay Array**	**6.71**	**4**	PN	**Pn**	**22 50 41.5**	**+1.1**
KK31	**Karatay Array**	**6.71**	**4**	Pn	**Pn**	**22 50 41.5**	**+1.1**
KKAR	**Karatay Array**	**6.71**	**4**	PN	**Pn**	**22 50 40.5**	**+0.1**
KKAR	**Karatay Array**	**6.71**	**4**	Pn	**Pn**	**22 50 41.4**	**+1.0**
KKAR	**Karatay Array**	**6.71**	**4**	Pn	**Pn**	**22 50 40.5**	**+0.1**
DHRM	**DHARAMSHALA**	**6.78**	**126**	*e*P	**Pn**	**22 50 44.5**	**+2.8**
DHRM				*ex*	x	22 52 00.1	
DHRM				*e*S	**Sn**	**22 52 00.3**	**+2.2**
UCH	**Uchtor**	**6.86**	**31**	P	**Pn**	**22 50 44.9**	**+2.0**
	SNR=489						
EKS2	**Erkin-Say**	**6.95**	**25**	P	**Pn**	**22 50 45.4**	**+1.5**
	SNR=131						
KZA	**Kyzart**	**7.06**	**35**	P	**Pn**	**22 50 48.0**	**+2.4**
	SNR=31						
AAK	**Ala-Archa**	**7.19**	**29**	P	**Pn**	**22 50 49.5**	**+2.2**
	SNR=279						
AAK	**Ala-Archa**	**7.19**	**29**	*i* P	**Pn**	**22 50 49.5**	**+2.2**
	SNR=406						
AAK	**Ala-Archa**	**7.19**	**29**	P	**Pn**	**22 50 50.0**	**+2.8**
AAK				S	**Sn**	**22 52 10.1**	**+2.2**
AAK	**Ala-Archa**	**7.19**	**29**	*d i* PN	**Pn**	**22 50 49.1**	**+1.9**
AAK				pmax	pmax		
	comp=Z,494nm,0.8s						
KBK	**Karagaybulak**	**7.39**	**31**	P	**Pn**	**22 50 52.6**	**+2.6**
	SNR=186						
FRU1	**Bishkek**	**7.39**	**29**	P	**Pn**	**22 50 52.3**	**+2.4**
FRU1	**Bishkek**	**7.39**	**29**		**Pn**	**22 50 52.3**	**+2.4**
CHMS	**Chumysh**	**7.60**	**29**	P	**Pn**	**22 50 54.5**	**+1.8**
	SNR=449						
ULHL	**Ulahol**	**7.67**	**39**	P	**Pn**	**22 50 56.0**	**+2.2**
	SNR=59						
BOOM	**Boomskoye usch**	**7.70**	**36**	P	**Pn**	**22 50 55.7**	**+1.5**
BOOM	**Boomskoye usch**	**7.70**	**36**	Pn	**Pn**	**22 50 55.7**	**+1.5**
USP	**Ospenovka**	**7.74**	**26**	P	**Pn**	**22 50 55.9**	**+1.3**
	SNR=315						
TKM2	**Tokmak 2**	**7.88**	**33**	P	**Pn**	**22 50 58.5**	**+1.8**
	SNR=460						
SGDS	**Sogindy**	**7.95**	**26**	*e*P	**Pn**	**22 50 57.0**	**-0.5**
	comp=Z,80nm,0.7s,baz=27						
SGDS				*e*S	**Sn**	**22 52 25.6**	**-0.8**
	baz=27						
SGDS				LR	LR	22 53 29.0	
	comp=Z,231nm,6.0s,baz=27						
SGDS	**Sogindy**	**7.95**	**26**	*e*P	**Pn**	**22 50 56.9**	**-0.5**
SGDS				*e*S	**Sn**	**22 52 25.5**	**-0.8**
SGDS				pmax	pmax		
	comp=Z,80nm,0.7s						
SGDS				MLR	MLR		
	comp=Z,231nm,6.0s						
KDJ	**Kajisay**	**8.08**	**43**	P	**Pn**	**22 51 00.7**	**+1.3**
KDJ	**Kajisay**	**8.08**	**43**	Pn	**Pn**	**22 51 00.7**	**+1.3**
SMLA	**Simla**	**8.08**	**129**	*e*P	**Pn**	**22 51 00.6**	**+1.4**
SMLA				*e*S	**Sn**	**22 52 26.8**	**-2.7**
SMLA				*e*S	**Sn**	**22 52 28.8**	**-0.6**
TARG	**Taragay, Kyrgy**	**8.17**	**47**	Pn	**Pn**	**22 51 01.8**	**+0.8**
MTBS	**Maitube**	**8.42**	**35**	*e*P	**Pn**	**22 51 04.1**	**0.0**
	baz=36						
MTBS	**Maitube**	**8.42**	**35**	*e*P	**Pn**	**22 51 04.0**	**0.0**
TNSS	**Tian-Shan**	**8.60**	**38**	⇓*e*P	**Pn**	**22 51 06.5**	**-0.3**
	baz=38						
TNSS	**Tian-Shan**	**8.60**	**38**	*de*P	**Pn**	**22 51 06.4**	**-0.3**
KKR	**Kurukshetra**	**8.71**	**136**	*e*P	**Pn**	**22 51 08.7**	**+0.8**
AAA	**Alma-Ata**	**8.71**	**37**	*e*P	**Pn**	**22 51 08.8**	**+0.7**
	baz=37						
AAA				*e*S	**Sn**	**22 52 45.6**	**+0.4**
	baz=37						
AAA				LR	LR	22 53 59.5	
	comp=Z,588nm,9.8s,baz=37						
AAA	**Alma-Ata**	**8.71**	**37**	*e*P	**Pn**	**22 51 08.7**	**+0.7**
AAA				*e*S	**Sn**	**22 52 45.6**	**+0.4**
AAA				MLR	MLR		
	comp=Z,588nm,10.0s						
MDOK	**Medeo**	**8.74**	**37**	*e*P	**Pn**	**22 51 09.0**	**+0.5**
	baz=38						
MDOK				LR	LR	22 53 56.6	
	comp=Z,828nm,11.1s,baz=38						
MDOK	**Medeo**	**8.74**	**37**	*e*P	**Pn**	**22 51 09.0**	**+0.5**
MDOK				MLR	MLR		
	comp=Z,828nm,11.0s						
KNDC	**Almaty**	**8.74**	**37**	⇑P	**Pn**	**22 51 11.3**	**+2.9**
	comp=Z,324nm,0.7s						
KNDC				⇓S	Sn	22 53 02.8	+17
	comp=Z,2μm,1.4s						
KUU	**Kurty**	**8.99**	**32**	*e*P	**Pn**	**22 51 11.9**	**+0.2**
	comp=Z,28nm,0.7s,baz=32						
KUU				LR	LR	22 54 00.1	
	comp=Z,507nm,9.0s,baz=32						
KUU	**Kurty**	**8.99**	**32**	*e*P	**Pn**	**22 51 11.8**	**+0.1**
KUU				pmax	pmax		
	comp=Z,29nm,0.7s						
KUU				MLR	MLR		
	comp=Z,507nm,9.0s						
PRZ	**Przheval'sk**	**8.99**	**45**	P	**Pn**	**22 51 13.7**	**+1.8**
PRZ	**Przheval'sk**	**8.99**	**45**	Pn	**Pn**	**22 51 13.7**	**+1.8**
DDI	**Dehra Dun**	**9.18**	**129**	*e*P	**Pn**	**22 51 16.0**	**+1.5**
DDI				*e*P	**Pn**	**22 51 16.5**	**+2.0**
DDI				*ex*	**Sn**	**22 52 56.2**	**-0.7**
DDI				*e*S		22 52 57.1	
BTLS	**Baital**	**9.20**	**19**	*e*P	**Pn**	**22 51 14.1**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=19						
BTLS	**Baital**	**9.20**	**19**	*e*P	**Pn**	**22 51 14.0**	**-0.5**
BTLS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SATY	**Saty**	**9.37**	**42**	*e*P	**Pn**	**22 51 17.3**	**+0.2**
	comp=Z,8.2nm,0.7s,baz=43						
SATY	**Saty**	**9.37**	**42**	*e*P	**Pn**	**22 51 17.2**	**+0.2**
SATY				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GEYT	**Alibeck**	**9.46**	**283**	Pn	**Pn**	**22 51 15.6**	**-2.6**
	comp=Z,17nm,0.3s,baz=107,slow=9.9,SNR=133						
GEYT				Sn	**Sn**	**22 52 58.4**	**-5.0**
	comp=Z,9.7nm,0.3s,baz=116,slow=13,SNR=1.7						
GEYT				LR	LR	22 56 04.5	
	comp=Z,5μm,21.1s,baz=80,slow=45						
GEYT	**Alibeck**	**9.46**	**283**		**Pn**	**22 51 18.0**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**9.46**	**283**	Pn	**Pn**	**22 51 15.7**	**-2.5**
BHGR	**Bahadurgarh**	**9.77**	**140**	*e*P	**Pn**	**22 51 24.0**	**+1.6**
UZB	**Uzynbulak**	**9.77**	**44**	*e*P	**Pn**	**22 51 22.4**	**-0.1**
	comp=Z,26nm,0.9s,baz=44						
UZB	**Uzynbulak**	**9.77**	**44**	*e*P	**Pn**	**22 51 22.4**	**-0.1**
UZB				pmax	pmax		
	comp=Z,26nm,0.9s						
SHLS	**Shalkode**	**10.02**	**45**	*e*P	**Pn**	**22 51 29.0**	**+3.0**
	baz=46						
SHLS	**Shalkode**	**10.02**	**45**	*e*P	**Pn**	**22 51 29.0**	**+3.0**
PDGK	**Podgornoye**	**10.15**	**44**	⇑P	**Pn**	**22 51 28.2**	**+0.5**
	comp=Z,106nm,0.8s						
PDGK				⇑S	Sn	22 53 35.3	+15
	comp=Z,264nm,1.2s						
SONA	**Sohna**	**10.20**	**141**	*e*P	**Pn**	**22 51 29.4**	**+1.2**
SONA				*ex*	**Sn**	**22 53 19.4**	**-2.1**
AJM	**Ajmer**	**10.72**	**156**	⇑*i*P	**Pn**	**22 51 35.0**	**-0.6**
AJM				*i* x	**Sn**	**22 53 26.0**	**-8.6**
TDK	**Taldyqorghan**	**10.77**	**35**	*e*P	**Pn**	**22 51 35.6**	**-0.5**
	comp=Z,37nm,0.6s,baz=35						
TDK	**Taldyqorghan**	**10.77**	**35**	*e*P	**Pn**	**22 51 35.6**	**-0.5**
TDK				pmax	pmax		
	comp=Z,37nm,0.6s						
BHUJ	**Bhuj**	**13.11**	**181**	*e*P	**Pn**	**22 52 07.5**	**-0.7**
BHUJ				*e*P	**Pn**	**22 52 08.5**	**+0.3**
BHUJ				*ex*	**Sn**	**22 54 26.8**	**-6.2**
MAKZ	**Makanchi**	**13.79**	**37**	⇑P	**Pn**	**22 52 16.4**	**-1.0**
	comp=Z,128nm,0.7s						
MAKZ	**Makanchi**	**13.79**	**37**	P	**Pn**	**22 52 16.9**	**-0.5**
MAKZ	**Makanchi**	**13.79**	**37**	Pn	**Pn**	**22 52 16.9**	**-0.5**
PYUN	**Piuthan**	**13.88**	**123**	*e*P	**Pn**	**22 52 16.2**	**-2.7**
	comp=Z,615nm,0.3s						
MK31	**Makanchi Array**	**13.94**	**38**	⇓P	**Pn**	**22 52 18.5**	**-0.8**
	comp=Z,81nm,0.8s,baz=223,slow=11,SNR=342						
MKAR	**Makanchi Array**	**13.94**	**38**	Pn	**Pn**	**22 52 19.2**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=221,slow=15,SNR=62						
MKAR				LR	LR	22 57 31.9	
	comp=Z,557nm,21.2s,baz=226,slow=36						
MKAR	**Makanchi Array**	**13.94**	**38**	P	**Pn**	**22 52 17.9**	**-1.5**
MKAR	**Makanchi Array**	**13.94**	**38**	Pn	**Pn**	**22 52 17.9**	**-1.5**
DANN	**Dangsing**	**14.26**	**120**	*e*P	**Pn**	**22 52 21.4**	**-2.7**
	comp=Z,726nm,0.5s						
KOLN	**Koldanda**	**14.51**	**123**	*e*P	**Pn**	**22 52 24.3**	**-3.1**
BHPL	**Bhopal**	**14.69**	**151**	*e*P	**Pn**	**22 52 27.4**	**-2.3**
BHPL				*e*P	**Pn**	**22 52 28.6**	**-1.1**
BHPL				*i* x	**P**	**22 52 37.6**	**+2.1**
AB31	**Akbulak array**	**14.72**	**334**	⇓P	**Pn**	**22 52 26.9**	**-3.1**
	comp=Z,28nm,0.3s,baz=155,slow=13,SNR=1787						
AB31				⇓S	**S**	**22 55 24.4**	**-5.6**
	comp=Z,31nm,0.5s,baz=149,slow=23,SNR=3.8						
ABKAR	**Akbulak array**	**14.72**	**334**	Pn	**Pn**	**22 52 26.8**	**-3.2**
ABKAR	**Akbulak array**	**14.72**	**334**	Pn	**Pn**	**22 52 26.9**	**-3.1**
GKN	**Gorkha**	**15.08**	**120**	*e*P	**Pn**	**22 52 31.5**	**-3.6**
	comp=Z,573nm,0.4s						
KURBB	**Kurchatov Arra**	**15.53**	**21**	Pn	**Pn**	**22 52 34.8**	**-5.9**
	comp=Z,0.7nm,0.3s,baz=209,slow=12,SNR=36						
KURBB	**Kurchatov Arra**	**15.53**	**21**	⇑P	**P**	**22 52 44.2**	**-0.5**
	comp=Z,120nm,0.7s						
WMQ	**Urumqi**	**15.54**	**56**	*e*P	**Pn**	**22 52 39.8**	**-1.1**
WMQ				pP	P	22 52 45.8	+0.9
WMQ				S	**Sn**	**22 55 32.5**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,22nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.5s						
WMQ				LR	LR		
	comp=Z,450nm,4.3s						
WMQ				LR	LR		
	comp=Z,380nm,5.7s						
WMQ	**Urumqi**	**15.54**	**56**	P	**Pn**	**22 52 40.4**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,155nm,1.3s						
WMQ	**Urumqi**	**15.54**	**56**	P	**Pn**	**22 52 40.4**	**-0.5**
WMQ				IAmb	IAmb	22 52 59.1	
	comp=Z,155nm,1.3s						
BANOM	**Banah**	**15.57**	**232**	P	**P**	**22 52 46.0**	**+0.6**
SHME	**Shamm**	**15.58**	**232**	P	**P**	**22 52 46.4**	**+0.9**
KURK	**Kurchatov**	**15.64**	**21**	⇑P	**P**	**22 52 45.6**	**-0.3**
	comp=Z,55nm,0.7s						
KURK	**Kurchatov**	**15.64**	**21**	*d i*P	**Pn**	**22 52 38.1**	**-4.0**
KURK				pmax	pmax		
	comp=Z,12nm,0.9s						
KURK	**Kurchatov**	**15.64**	**21**	Pn	**Pn**	**22 52 38.6**	**-3.5**
DMN	**Daman**	**15.65**	**120**	*e*P	**Pn**	**22 52 38.8**	**-3.8**
	comp=Z,627nm,0.6s						
KKN	**Kakani**	**15.66**	**119**	*e*P	**Pn**	**22 52 38.7**	**-4.0**
	comp=Z,1μm,0.7s						
ZSN	**Zaisan**	**15.69**	**41**	*e*P	**Pn**	**22 52 43.3**	**+0.5**
	comp=Z,18nm,1.2s,baz=41						
ZSN	**Zaisan**	**15.69**	**41**	*e*P	**Pn**	**22 52 43.3**	**+0.5**
ZSN				pmax	pmax		
	comp=Z,18nm,1.2s						
PKIN	**Phulchoki**	**15.87**	**119**	*e*P	**Pn**	**22 52 41.5**	**-4.0**
	comp=Z,672nm,0.5s						
PKI	**Pulchoki**	**15.88**	**119**	*e*P	**Pn**	**22 52 41.6**	**-4.1**
	comp=Z,796nm,0.7s						
MDH	**Madha**	**16.02**	**230**	P	**P**	**22 52 52.2**	**+1.9**
MSFE	**Esma-Masafi**	**16.06**	**231**	P	**P**	**22 52 51.5**	**+0.7**
WSAR	**Wadi Sarin**	**16.30**	**219**	Pn	**Pn**	**22 52 49.3**	**-1.5**
	baz=65,slow=7.8,SNR=2.6						
WSAR				LR	LR	23 00 17.5	
	comp=Z,708nm,18.8s,baz=84,slow=42						
UOSS	**Minazif**	**16.34**	**229**	P	**P**	**22 52 56.2**	**+2.4**
UOSS	**Minazif**	**16.34**	**229**	P	**P**	**22 52 54.4**	**+0.6**
JIRN	**Jiri**	**16.39**	**118**	*e*P	**Pn**	**22 52 48.4**	**-3.7**
	comp=Z,792nm,0.4s						
AKTO	**Aktyubinsk**	**16.40**	**332**	Pn	**Pn**	**22 52 50.2**	**-1.5**
	comp=Z,7.7nm,0.3s,baz=138,slow=16,SNR=210						
AKTO				LR	LR	23 00 12.4	
	comp=Z,2μm,20.1s,baz=146,slow=41						
AKTO	**Aktyubinsk**	**16.40**	**332**	⇓P	**Pn**	**22 52 49.8**	**-2.0**
	comp=Z,293nm,1.0s						
AKTO				⇓S	**S**	**22 56 02.3**	**-2.0**
	comp=Z,137nm,1.0s						
HATD	**Hatta, Dubai**	**16.47**	**229**	P	**P**	**22 52 57.4**	**+2.0**
BVAR	**Borovoye Array**	**16.62**	**1**	Pn	**Pn**	**22 52 52.5**	**-2.1**
	comp=Z,5.2nm,0.3s,baz=171,slow=20,SNR=125						
BVAR				Sn	**Sn**	**22 56 01.5**	**+3.5**
	comp=Z,1.9nm,0.3s,baz=164,slow=32,SNR=1.5						
ASHO	**Ashiyiah**	**16.62**	**229**	*i* P	**P**	**22 52 58.5**	**+1.5**
	SNR=8.1						
ASHO	**Ashiyiah**	**16.62**	**229**	P	**P**	**22 52 56.9**	**-0.1**
	SNR=6.0						
BRVK	**Borovoye**	**16.65**	**1**	⇑P	**Pn**	**22 52 54.0**	**-0.9**
	comp=Z,124nm,0.9s						
BRVK	**Borovoye**	**16.65**	**1**	*d i*P	**Pn**	**22 52 52.1**	**-2.8**
BRVK				pmax	pmax		
	comp=Z,101nm,1.3s						
BRVK	**Borovoye**	**16.65**	**1**	Pn	**Pn**	**22 52 52.5**	**-2.5**
BRVK				IAmb	IAmb	22 53 03.8	
	comp=Z,162nm,1.1s						
SMDO	**Samad**	**16.75**	**221**	P	**P**	**22 53 00.9**	**+2.4**
	SNR=7.1						
JLN	**Jalan Bani Buh**	**16.84**	**215**	P	**P**	**22 52 59.9**	**+0.5**
	SNR=9.2						
RAMN	**Ramite**	**17.10**	**119**	*e*P	**Pn**	**22 52 57.3**	**-3.8**
	comp=Z,488nm,0.5s						
NGP	**Nagpur**	**17.21**	**150**	*ex*	**Pn**	**22 53 00.4**	**-1.8**
NGP				*e*P	**Pn**	**22 53 00.6**	**-1.6**
NGP				*e*S	Sn	22 56 00.8	-12
ALNE	**Al Ain**	**17.27**	**228**	*i* P	**P**	**22 53 06.3**	**+2.1**
	SNR=6.2						
JMDO	**Jabal Madar**	**17.29**	**219**	P	**P**	**22 53 09.7**	**+5.2**
	SNR=9.5						
ARQ	**Araqi**	**17.37**	**225**	P	**P**	**22 53 10.9**	**+5.6**
	SNR=7.2						
TAPN	**Taplejung**	**17.66**	**116**	*e*P	**Pn**	**22 53 04.8**	**-3.3**
	comp=Z,1μm,0.7s						
ODAN	**Odare**	**17.72**	**118**	*e*P	**Pn**	**22 53 05.4**	**-3.3**
	comp=Z,525nm,0.5s						
POO	**Poona**	**18.17**	**168**	*ex*	**Pn**	**22 53 10.3**	**-3.7**
POO				*ex*	**P**	**22 53 13.0**	**-1.1**
	comp=Z,200nm,1.2s						
POO				*e*P	**P**	**22 53 13.7**	**-0.4**
POO				IAmb	IAmb	22 53 14.7	
	comp=Z,30nm,0.8s						
POO				*i* x	x	22 56 32.0	
POO				*i* x	S	22 56 55.0	+14
POO				*i* x	x	22 57 08.0	
GTK	**Tadong**	**18.33**	**114**	*ex*	**P**	**22 53 12.6**	**-3.4**
GTK				*ex*	**P**	**22 53 13.1**	**-2.9**
MAK	**Makhachkala**	**18.34**	**298**	*e*P	**P**	**22 53 13.5**	**-2.4**
MAK				*e*S	**Sn**	**22 56 38.4**	**-1.5**
MAK				pmax	pmax		
	comp=Z,187nm,1.1s						
MAK				MLR	MLR		
	comp=Z,2μm,11.0s						
DGZ	**Jazzator, Alta**	**18.44**	**38**	*d i*P	**P**	**22 53 15.1**	**-1.9**
DGZ				pmax	pmax		
	comp=Z,61nm,1.0s						
MHTO	**MHTO**	**18.52**	**217**	P	**Pn**	**22 53 21.4**	**+3.0**
	SNR=7.9						
GNBR	**Gunib**	**18.61**	**296**	*de*P	**Pn**	**22 53 20.0**	**+0.6**
BOK	**Bokaro**	**18.72**	**128**	*ex*	**P**	**22 53 18.9**	**-1.2**
BOK				*e*P	**Pn**	**22 53 20.9**	**+0.2**
LSA	**Lhasa**	**19.08**	**104**	*i* P	**Pn**	**22 53 25.2**	**-0.3**
	SNR=12						
LSA	**Lhasa**	**19.08**	**104**	P	**Pn**	**22 53 25.2**	**-0.3**
LSA				pmax	pmax		
	comp=Z,360nm,0.6s						
LSA	**Lhasa**	**19.08**	**104**	P	**Pn**	**22 53 25.2**	**-0.3**
BTLR	**Botlikh**	**19.20**	**296**	*de*P	**Pn**	**22 53 26.9**	**+0.4**
DVE	**Vedeno**	**19.33**	**297**	*c i*P	**Pn**	**22 53 27.9**	**-0.1**
GROC	**Groznyy**	**19.62**	**298**	⇑*i*P	**Pn**	**22 53 31.4**	**0.0**
GROC				*e*S	**Sn**	**22 57 14.6**	**+3.9**
GROC				pmax	pmax		
	comp=Z,130nm,1.4s						
GROC				MLR	MLR		
	comp=Z,978nm,10.0s						
ZAA0	**Zalesovo Array**	**20.40**	**26**	⇑P	**P**	**22 53 37.9**	**-0.4**
	comp=Z,22nm,0.8s						
ZAA0	**Zalesovo Array**	**20.40**	**26**	P	**P**	**22 53 37.8**	**-0.4**
ZAA0				IAmb	IAmb	22 53 51.4	
	comp=Z,146nm,0.7s						
ZALV	**Zalesovo Beam**	**20.40**	**26**	P	**P**	**22 53 38.1**	**-0.2**
	comp=Z,51nm,0.3s,baz=212,slow=10,SNR=294						
ZALV				S	**S**	**22 57 19.5**	**-5.6**
	comp=Z,4.2nm,0.7s,baz=167,slow=38,SNR=1.4						
ZALV				LR	LR	23 02 28.6	
	comp=Z,1μm,20.8s,baz=212,slow=39						
ZALV	**Zalesovo Beam**	**20.40**	**26**	*i* P	**P**	**22 53 38.0**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,51nm,0.3s						
ZALV	**Zalesovo Beam**	**20.40**	**26**	P	**P**	**22 53 37.4**	**-0.9**
HYB	**Hyderabad**	**20.44**	**155**	*i* P	**P**	**22 53 39.0**	**0.0**
	comp=Z,460nm,1.0s						
HYB				*e*S	S	22 57 15.0	-11
ZEI	**Tsey**	**20.91**	**296**	*e*P	**P**	**22 53 44.4**	**+0.3**
ZEI				pmax	pmax		
	comp=Z,62nm,1.3s						
AKH	**Akhalkalaki**	**21.04**	**292**	⇑P	**P**	**22 53 48.7**	**+3.2**
AKH	**Akhalkalaki**	**21.04**	**292**	IAmb	IAmb	22 54 03.7	
	comp=Z,130nm,1.0s						
GOA	**Goa**	**21.14**	**169**	*e*P	**P**	**22 53 48.7**	**+2.2**
GOA				*ex*	**P**	**22 53 49.3**	**+2.8**
GOA				IAmb	IAmb	22 53 49.8	
	comp=Z,88nm,0.7s						
GUWA	**GUWAHATI**	**21.25**	**112**	*ex*	**P**	**22 53 48.5**	**+0.9**
GUWA				*e*P	**P**	**22 53 48.7**	**+1.1**
GUWA

AGT			*e*P	**P**	**22 54 00.4 +1.5**
BELG	**Belogornoye**	**22.37 323**	*i* P	**P**	**22 53 58.5 -0.9**
BCA	**Borcka**	**22.45 292**	⇑P	**P**	**22 54 02.1 +1.6**
BELO	**BELONIA**	**22.84 119**	*e*P	**P**	**22 54 05.6 +1.0**
BELO			*ex*	**P**	**22 54 06.2 +1.6**
JORH	**JORHAT**	**22.89 108**	*ex*	**P**	**22 54 05.7 +0.5**
JORH			*e*P	**P**	**22 54 05.8 +0.6**
JORH			IAmb	IAmb	22 54 07.5
	comp=Z,151nm,0.5s				
ARXR	**Arkhyz**	**22.93 297**	*de*P	**P**	**22 54 08.4 +2.8**
DIBR	**DIBRUGARH**	**23.04 106**	*e*P	**P**	**22 54 07.0 +0.2**
DIBR			*ex*	**P**	**22 54 07.2 +0.5**
MARD	**Mardin**	**23.21 281**	P	**P**	**22 54 10.9 +2.3**
KOPT	**Kop Dagi**	**23.26 288**	P	**P**	**22 54 10.5 +1.3**
KOHI	**KOHIMA**	**23.32 110**	*ex*	**P**	**22 54 10.3 +0.6**
RBK	**Rabkut**	**23.35 220**	P	**P**	**22 54 10.8 +0.9**
	SNR=5.2				
GTA	**Gaotai**	**23.81 74**	⇑P	**P**	**22 54 14.5 +0.2**
GTA			pP	pP	22 54 24.0 -0.2
GTA			S	**S**	**22 58 30.0 +1.8**
GTA			pmax	pmax	
	comp=Z,31nm,1.2s				
GTA			pmax	pmax	
	comp=Z,460nm,7.1s				
GTA			LR	LR	
	comp=Z,2μm,16.4s				
GTA			LR	LR	
	comp=Z,2μm,17.1s				
GTA			LR	LR	
	comp=Z,2μm,17.1s				
KTUT	**Trabzon**	**23.83 290**	⇑P	**P**	**22 54 15.1 +0.8**
LKP	**Lekhapani**	**23.83 105**	*ex*	**P**	**22 54 15.0 +0.5**
LKP			*e*P	**P**	**22 54 15.3 +0.8**
SOC	**Sochi**	**24.05 297**	*e*P	**P**	**22 54 15.5 -0.9**
SOC			*e*		22 54 47.1
SOC			*e*S	**S**	**22 58 30.9 -0.8**
SOC			*e*SS	**SnSn**	**22 59 13.5 -0.1**
SOC			*e*SSS	SSS	22 59 29.7
SOC			pmax	pmax	
	comp=Z,25nm,0.8s				
SOC			MLR	MLR	
	comp=Z,596nm,14.0s				
SAIH	**SAIHA**	**24.41 118**	*e*P	**P**	**22 54 21.8 +1.8**
SAIH			IAmb	IAmb	22 54 23.3
	comp=Z,180nm,0.7s				
VRH	**Novokhopyorsk**	**24.89 315**	*e*P	**P**	**22 54 24.5 +0.6**
VRH			*e**PP	**pP**	**22 54 32.6 -0.8**
VRH			pmax	pmax	
	comp=Z,30nm,1.6s				
VRH			MLR	MLR	
	comp=Z,3μm,14.0s				
MDRS	**Chennai**	**25.07 155**	*ex*	**P**	**22 54 27.5 +1.7**
MDRS			*e*P	**P**	**22 54 27.5 +1.7**
MDRS			IAmb	IAmb	22 54 30.3
	comp=Z,60nm,0.6s				
ANN	**Anapa**	**25.84 299**	*e*P	**P**	**22 54 35.7 +3.1**
ANN			*e**PP	**pP**	**22 54 42.6 +0.5**
ANN			*e*PPP	PPP	22 55 16.8
ANN			*e*S	**S**	**22 59 06.3 +6.2**
ANN			pmax	pmax	
	comp=Z,84nm,0.7s				
ANN			MLR	MLR	
	comp=Z,3μm,16.0s				
KIRV	**Kirov**	**25.91 335**	P	**P**	**22 54 33.8 +0.8**
	comp=Z,60nm,0.8s,baz=165,slow=3.2,SNR=19				
KIRV			LR	LR	23 05 43.8
	comp=Z,2μm,19.0s,baz=136,slow=38				
GAZ	**Gaziantep**	**26.05 282**	P	**P**	**22 54 36.0 +1.3**
GAZ			IAmb	IAmb	22 54 48.7
	comp=Z,54nm,1.1s				
VORD	**Divnogorie**	**26.20 313**	*e*P	**P**	**22 54 36.4 +0.6**
VORD			*e**PP	**pP**	**22 54 44.7 -0.5**
VORD			pmax	pmax	
	comp=Z,150nm,0.6s				
TOKA	**Tokat**	**26.33 289**	P	**P**	**22 54 38.8 +1.6**
VSR	**Storozhevoye**	**26.37 314**	*e*P	**P**	**22 54 37.2 -0.1**
VSR			*e**PP	**pP**	**22 54 46.2 -0.5**
VSR			pmax	pmax	
	comp=Z,70nm,1.2s				
VSR			MLR	MLR	
	comp=Z,3μm,15.0s				
VORR	**Voronezh**	**26.52 315**	*e*P	**P**	**22 54 39.0 +0.3**
VORR			pmax	pmax	
	comp=Z,350nm,0.8s				
MOY	**Mondy**	**26.85 46**	*e*P	**P**	**22 54 43.2 +1.4**
MOY			pmax	pmax	
	comp=Z,65nm,1.8s				
LPSR	**Galich'ya Gora**	**27.05 316**	*e*P	**P**	**22 54 43.9 +0.4**
LPSR			*e**PP	**pP**	**22 54 52.7 -0.2**
LPSR			pmax	pmax	
	comp=Z,60nm,1.0s				
LPSR			MLR	MLR	
	comp=Z,3μm,18.0s				
DIKM	**Dikmen**	**27.23 292**	⇓P	**P**	**22 54 46.5 +1.3**
LZH	**Lanzhou**	**27.37 80**	*e*P	**P**	**22 54 48.3 +1.6**
LZH			*e*S	**S**	**22 59 23.0 -1.9**
LZH			pmax	pmax	
	comp=Z,72nm,1.1s				
LZH			pmax	pmax	
	comp=Z,360nm,4.9s				
LZH			LR	LR	
	comp=Z,1μm,12.3s				
LZH			LR	LR	
	comp=Z,1μm,13.0s				
LZH			LR	LR	
	comp=Z,1μm,14.6s				
ASF	**Jabal al Asfar**	**27.44 271**	P	**P**	**22 54 47.1 -0.2**
	comp=Z,1.4nm,0.8s,baz=140,slow=7.9,SNR=1.6				
ASF			LR	LR	23 08 11.1
	comp=Z,680nm,19.9s,baz=34,slow=42				
ZAK	**Zakamensk**	**27.77 49**	*e*P	**P**	**22 54 51.1 +1.0**
ZAK			pmax	pmax	
	comp=Z,16nm,1.2s				
SOCY	**Socotra**	**28.02 215**	P	**P**	**22 54 51.6 -0.9**
MMAI	**Mount Meron Ar**	**28.40 273**	P	**P**	**22 54 56.7 +0.9**
	comp=Z,1.0nm,0.5s,baz=76,slow=12,SNR=2.9				
MMAI			LR	LR	23 08 50.6
	comp=Z,322nm,21.6s,baz=30,slow=42				
TLY	**Talaya**	**28.40 47**	P	**P**	**22 54 56.5 +1.0**
	comp=Z,9.1nm,0.6s,baz=240,slow=5.7,SNR=8.2				
TLY			LR	LR	23 07 45.6
	comp=Z,411nm,20.0s,baz=252,slow=40				
TLY	**Talaya**	**28.40 47**	*e*P	**P**	**22 54 57.6 +2.0**
TLY			*e*		22 55 47.2
TLY			*e*S	**S**	**22 59 47.3 +6.8**
TLY			*e*SS	**SnSn**	**23 01 09.0 +9.4**
TLY			pmax	pmax	
	comp=Z,59nm,1.4s				
TLY			MLR	MLR	
	comp=Z,1μm,19.0s				
TLY	**Talaya**	**28.40 47**	P	**P**	**22 54 55.7 +0.2**
ILGA	**Ilgaz**	**28.40 291**	P	**P**	**22 54 57.1 +1.2**
ILGA			IAmb	IAmb	22 55 12.3
	comp=Z,58nm,1.4s				
BR131	**Keskin Array S**	**28.55 288**	⇓*e*P	**P**	**22 54 57.9 +0.7**
BR131	**Keskin Array S**	**28.55 288**	P	**P**	**22 54 58.2 +1.0**
BRTR	**Keskin Array B**	**28.55 288**	P	**P**	**22 54 58.8 +1.6**
	comp=Z,4.4nm,0.8s,baz=102,slow=8.6,SNR=12				
BRTR			LR	LR	23 10 38.1
	comp=Z,366nm,18.3s,baz=81,slow=45				
BRTR	**Keskin Array B**	**28.55 288**	P	**P**	**22 54 58.1 +0.9**
CD2	**Chengdu**	**28.69 91**	⇑*i*P	**P**	**22 54 59.5 +1.1**
CD2			pP	pP	22 55 09.3 +1.2
CD2			S	**S**	**22 59 44.0 -1.5**
CD2			sS	pS	22 59 58.3 +1.3
CD2			ScS	**ScS**	**23 05 40.0 -1.0**
CD2			pmax	pmax	
	comp=Z,90nm,1.1s				
CD2			pmax	pmax	
	comp=Z,290nm,4.7s				
CD2			LR	LR	
	comp=Z,2μm,12.6s				
CD2			LR	LR	
	comp=Z,1μm,18.3s				
CD2			LR	LR	
	comp=Z,2μm,14.5s				
IRK	**Irkutsk**	**28.95 46**	*e*P	**P**	**22 55 00.8 +0.3**
IRK			pmax	pmax	
	comp=Z,46nm,1.3s				
MOS	**Moscow**	**29.13 322**	*e*P	**P**	**22 55 01.7 -0.3**
MOS			*e*		22 55 11.0
MOS			*e*		22 55 53.5
MOS			pmax	pmax	
	comp=Z,51nm,1.1s				
MOS			MLR	MLR	
	comp=Z,2μm,14.0s				
SONM	**Songino Array**	**29.18 55**	P	**P**	**22 55 03.5 +0.8**
	comp=Z,22nm,0.9s,baz=258,slow=9.0,SNR=58				
SONM			LR	LR	23 08 29.2
	comp=Z,1μm,21.4s,baz=264,slow=40				
SONM	**Songino Array**	**29.18 55**	P	**P**	**22 55 03.4 +0.8**
SONM			pmax	pmax	
	comp=Z,21nm,1.0s				
SONM	**Songino Array**	**29.18 55**	P	**P**	**22 55 03.4 +0.7**
OBN	**Obninsk**	**29.39 320**	P	**P**	**22 55 03.9 -0.3**
	comp=Z,3.9nm,0.4s,baz=69,slow=5.8,SNR=6.0				
OBN			LR	LR	23 08 40.4
	comp=Z,511nm,20.7s,baz=128,slow=40				
OBN	**Obninsk**	**29.39 320**	⇑P	**P**	**22 55 05.1 +0.9**
OBN	**Obninsk**	**29.39 320**	⇓*e*P	**P**	**22 55 05.9 +1.7**
OBN			*i*		22 55 14.5
OBN			*e*		22 55 58.7
OBN			*e*S	**S**	**22 59 51.4 -4.4**
OBN			pmax	pmax	
	comp=Z,58nm,1.3s				
OBN			MLR	MLR	
	comp=Z,2μm,16.0s				
OBN	**Obninsk**	**29.39 320**	P	**P**	**22 55 04.4 +0.2**
PRGR	**Permogore**	**29.46 337**	*e*P	**P**	**22 55 05.3 +0.5**
ULN	**Ulaanbaatar**	**29.62 56**	*de*P	**P**	**22 55 07.6 +1.0**
ULN			pmax	pmax	
	comp=Z,18nm,1.0s				
ULN	**Ulaanbaatar**	**29.62 56**	P	**P**	**22 55 06.5 -0.1**
EIL	**Elat**	**29.87 267**	P	**P**	**22 55 09.3 +0.5**
	comp=Z,4.6nm,0.7s,baz=18,slow=13,SNR=3.4				
EIL			LR	LR	23 09 40.1
	comp=Z,342nm,20.6s,baz=70,slow=42				
KMI	**Kunming**	**30.31 102**	⇑*i*P	**P**	**22 55 13.5 +0.5**
KMI			pP	pP	22 55 20.8 -1.9
KMI			PP	**PnPn**	**22 56 14.5 +2.9**
KMI			S	**S**	**23 00 07.0 -4.4**
KMI			pmax	pmax	
	comp=Z,18nm,0.7s				
KMI			pmax	pmax	
	comp=Z,270nm,4.2s				
KMI			LR	LR	
	comp=Z,570nm,16.3s				
KMI			LR	LR	
	comp=Z,590nm,24.2s				
KMI			LR	LR	
	comp=Z,1μm,26.5s				
KMI	**Kunming**	**30.31 102**	P	**P**	**22 55 13.6 +0.5**
KMI			pmax	pmax	
	comp=Z,31nm,0.8s				
KMI	**Kunming**	**30.31 102**	P	**P**	**22 55 13.6 +0.5**
KMI			IAmb	IAmb	22 55 29.9
	comp=Z,31nm,0.8s				
PALK	**Pallekele**	**30.66 158**	P	**P**	**22 55 16.4 +0.5**
PALK			pmax	pmax	
	comp=Z,47nm,0.9s				
PALK	**Pallekele**	**30.66 158**	P	**P**	**22 55 16.4 +0.5**
PALK			IAmb	IAmb	22 55 18.4
	comp=Z,47nm,0.8s				
BOLV	**Bolvadin**	**30.74 286**	P	**P**	**22 55 17.1 +0.5**
CHTO	**Chiang Mai**	**31.03 117**	P	**P**	**22 55 19.7 +0.5**
CHTO			pmax	pmax	
	comp=Z,17nm,0.8s				
CHTO	**Chiang Mai**	**31.03 117**	P	**P**	**22 55 19.7 +0.5**
DGPR	**DIGLIPUR**	**31.08 132**	*e*P	**P**	**22 55 21.0 +1.4**
DGPR			*ex*	**P**	**22 55 21.0 +1.4**
DGPR			IAmb	IAmb	22 55 23.1
	comp=Z,42nm,0.8s				
KLMR	**Klimovskoe**	**31.09 331**	*e*P	**P**	**22 55 18.6 -0.7**
KLMR			*e*		22 56 21.8
KLMR			pmax	pmax	
	comp=Z,40nm,1.1s				
KLMR	**Klimovskoe**	**31.09 331**	*e*P	**P**	**22 55 18.7 -0.6**
KLMR			AMP		22 55 24.4
	comp=Z,40nm,1.1s				
KLMR			*e*PP	**PnPn**	**22 56 21.9 +0.8**
KLMR			LQ	LQ	23 05 19.4
KLMR			LQ	LQ	23 05 19.4
KLMR			LR	LR	23 07 08.8
ISP	**Isparta**	**31.21 285**	P	**P**	**22 55 21.2 +0.5**
ISP			pmax	pmax	
	comp=Z,19nm,0.8s				
ISP	**Isparta**	**31.21 285**	P	**P**	**22 55 21.2 +0.5**
ISP			IAmb	IAmb	22 55 23.4
	comp=Z,19nm,0.8s				
CM31	**Chiang Mai Arr**	**31.26 117**	P	**P**	**22 55 21.7 +0.5**
	SNR=22				
CM31	**Chiang Mai Arr**	**31.26 117**	IAmb	IAmb	22 55 36.5
	comp=Z,44nm,1.1s				
CMAR	**Chiang Mai Arr**	**31.26 117**	P	**P**	**22 55 21.4 +0.1**
	comp=Z,12nm,0.8s,baz=301,slow=8.2,SNR=79				
CMAR			ScP	**ScP**	**23 01 53.1 -2.8**
	comp=Z,5.7nm,0.9s,baz=295,slow=4.9,SNR=9.9				
CMAR			LR	LR	23 11 12.9
	comp=Z,914nm,19.5s,baz=342,slow=43				
CMAR	**Chiang Mai Arr**	**31.26 117**	*ce*P	**P**	**22 55 21.3 +0.1**
CMAR			pmax	pmax	
	comp=Z,11nm,0.6s				
CMAR	**Chiang Mai Arr**	**31.26 117**	P	**P**	**22 55 20.6 -0.6**
BTO	**Baotou**	**31.55 70**	*e*P	**P**	**22 55 23.0 -0.7**
BTO			S	**S**	**23 00 28.0 -2.3**
ELL	**Elmali**	**31.89 283**	P	**P**	**22 55 27.5 +0.8**
ELL			pmax	pmax	
	comp=Z,260nm,0.9s				
ELL	**Elmali**	**31.89 283**	P	**P**	**22 55 27.4 +0.8**
XAN	**Xi'an**	**31.89 83**	P	**P**	**22 55 27.0 +0.3**
XAN			pP	pP	22 55 37.5 +1.2
XAN			S	S	23 00 44.8 +9.2
XAN			pmax	pmax	
	comp=Z,21nm,0.7s				
XAN			pmax	pmax	
	comp=Z,310nm,4.8s				
XAN			LR	LR	
	comp=Z,970nm,11.9s				
XAN			LR	LR	
	comp=Z,1μm,14.1s				
XAN			LR	LR	
	comp=Z,1μm,14.6s				
XAN	**Xi'an**	**31.89 83**	P	**P**	**22 55 27.0 +0.3**
XAN			pmax	pmax	
	comp=Z,90nm,0.8s				
XAN	**Xi'an**	**31.89 83**	P	**P**	**22 55 27.0 +0.3**
TLCR		**31.96 299**	⇓P	**P**	**22 55 28.5 +1.4**
TLCR		**31.96 299**	⇓P	**P**	**22 55 28.5 +1.4**
MILM	**Milestii Mici**	**32.05 302**	⇑P	**P**	**22 55 28.4 +0.6**
PBA	**Port Blair**	**32.17 134**	IAmb	IAmb	22 55 31.9
	comp=Z,43nm,1.0s				
PBA			*ex*	P	22 55 30.5 +1.3
PBA	**Port Blair**	**32.17 134**	P	P	22 55 30.3 +1.1
	SNR=6.9				
PBA	**Port Blair**	**32.17 134**	P	P	22 55 30.4 +1.2
TIRR	**Tirgusor**	**32.24 297**	⇓P	**P**	**22 55 31.7 +2.2**
TIRR	**Tirgusor**	**32.24 297**	⇓P	**P**	**22 55 31.7 +2.2**
AKASG	**Malin Array Be**	**32.26 309**	P	**P**	**22 55 30.0 +0.4**
	comp=Z,5.5nm,0.4s,baz=83,slow=7.0,SNR=28				
AKASG			ScP	**ScP**	**23 01 55.6 -3.1**
	comp=Z,0.7nm,0.4s,baz=83,slow=3.6,SNR=4.2				
AKASG			LR	LR	23 11 34.5
	comp=Z,860nm,18.5s,baz=80,slow=42				
AKASG	**Malin Array Be**	**32.26 309**	P	**P**	**22 55 30.4 +0.8**
AKBB	**Malin Array Si**	**32.26 309**	*ce*P	**P**	**22 55 30.8 +1.2**
CFR	**Carcaliu**	**32.44 299**	⇑P	**P**	**22 55 32.3 +1.0**
CFR	**Carcaliu**	**32.44 299**	⇑P	**P**	**22 55 32.3 +1.0**
SORM	**Soroca**	**32.46 304**	⇑P	**P**	**22 55 31.5 +0.1**
SORM	**Soroca**	**32.46 304**	⇑P	**P**	**22 55 31.5 +0.1**
HHC	**Hu-ho-hao-te**	**32.69 69**	*e*P	**P**	**22 55 34.8 +1.1**
HHC			S	**S**	**23 00 44.8 -3.3**
HHC			SS	**SnSn**	**23 02 45.3 +0.9**
HHC			pmax	pmax	
	comp=Z,33nm,1.0s				
HHC			pmax	pmax	
	comp=Z,180nm,4.8s				
HHC			LR	LR	
	comp=Z,790nm,15.7s				
HHC			LR	LR	
	comp=Z,990nm,14.5s				
HHC			LR	LR	
	comp=Z,2μm,16.2s				
GYA	**Guiyang**	**32.80 97**	⇑P	**P**	**22 55 35.0 +0.2**
GYA			pP	pP	22 55 45.0 +0.5
GYA			S	**S**	**23 00 49.5 -0.6**
GYA			sS	pS	23 01 02.8 +1.2
GYA			ScP	**ScP**	**23 02 00.5 -0.7**
GYA			ScS	**ScS**	**23 05 57.5 -3.9**
GYA			pmax	pmax	
	comp=Z,61nm,0.8s				
GYA			pmax	pmax	
	comp=Z,140nm,3.5s				
GYA			LR	LR	
	comp=Z,450nm,18.6s				
GYA			LR	LR	
	comp=Z,450nm,22.9s				
GYA			LR	LR	
	comp=Z,1μm,27.5s				
SLVN	**Son La**	**33.22 107**	P	**P**	**22 55 39.2 +0.7**
SLVN			IAmb	IAmb	22 55 40.9
	comp=Z,31nm,0.8s				
VRI	**Vrincioaia**	**33.44 300**	⇓P	**P**	**22 55 42.4 +2.3**
VRI	**Vrincioaia**	**33.44 300**	⇓P	**P**	**22 55 42.4 +2.3**
PLOR	**Plostina**	**33.49 300**	⇑P	**P**	**22 55 41.6 +1.0**
PLOR	**Plostina**	**33.49 300**	⇑P	**P**	**22 55 41.6 +1.0**
TMCR	**Tamitsa**	**33.72 335**	*e*P	**P**	**22 55 39.7 -2.5**
TMCR			pmax	pmax	
	comp=Z,29nm,0.9s				
NEHR	**Nehoiu**	**33.74 299**	⇓P	**P**	**22 55 45.1 +2.4**
TIY	**Taiyuan**	**33.83 75**	*e*P	**P**	**22 55 45.0 +1.4**
TIY			S	**S**	**23 01 11.0 +5.3**
TIY			pmax	pmax	
	comp=Z,110nm,1.1s				
TIY			LR	LR	
	comp=Z,340nm,6.8s				
TIY			LR	LR	
	comp=Z,250nm,7.6s				
TIY			LR	LR	
	comp=Z,840nm,20.8s				
PRAR	**RASCA**	**33.83 303**	⇑P	**P**	**22 55 44.3 +0.8**
MICGM	**Minsk**	**33.89 316**	*e*	**P**	**22 55 44.0 +0.2**
MNK	**Minsk**	**33.89 316**	*e*P	**P**	**22 55 44.0 +0.2**
BIZ	**Bicaz**	**33.90 302**	⇑P	**P**	**22 55 45.9 +1.8**
MLR	**Muntele Rosu**	**33.99 299**	⇓P	**P**	**22 55 48.0 +3.0**
MLR	**Muntele Rosu**	**33.99 299**	⇓P	**P**	**22 55 48.0 +3.0**
OZUR		**34.10 300**	⇓P	**P**	**22 55 44.7 -1.1**
KARP	**Karpathos**	**34.32 282**	P	**P**	**22 55 48.9 +1.0**
DOPR	**Dopca**	**34.38 300**	⇓P	**P**	**22 55 48.4 +0.2**
NRIK	**Noril'sk**	**34.39 11**	P	**P**	**22 55 49.4 +1.4**
	comp=Z,15nm,0.5s,baz=198,slow=5.0,SNR=29				
NRIK			LR	LR	23 12 00.6
	comp=Z,1μm,19.5s,baz=202,slow=40				
CIT	**Chita**	**34.43 49**	*e*P	**P**	**22 55 49.7 +1.0**
CIT			*e*		22 56 00.5
CIT			*e*		22 57 00.3
CIT			pmax	pmax	
	comp=Z,137nm,1.2s				
BURAR	**Bucovina Array**	**34.53 303**	⇓P	**P**	**22 55 50.9 +1.3**
BURAR	**Bucovina Array**	**34.53 303**	⇓P	**P**	**22 55 50.9 +1.3**
BURAR	**Bucovina Array**	**34.53 303**	P	**P**	**22 55 50.9 +1.3**
BUR08	**Bucovina Ar. S**	**34.54 303**	P	**P**	**22 55 50.8 +1.1**
NACGM	**Naroch**	**34.61 316**	*e*	**P**	**22 55 50.0 -0.1**
VOIR		**34.62 299**	⇑P	**P**	**22 55 51.6 +1.2**
VOIR		**34.62 299**	⇑P	**P**	**22 55 51.6 +1.2**
HUMR	**Humele**	**34.69 298**	⇑P	**P**	**22 55 54.9 +4.0**
ATD	**Arta Tunnel**	**34.71 231**	P	**P**	**22 55 51.6 +0.2**
IDID	**Didziasalis**	**34.74 317**	*e*P	**P**	**22 55 52.6 +1.5**
ARR	**Arges**	**34.91 299**	⇑P	**P**	**22 55 55.1 +2.2**
IIGN	**Ignalina**	**35.03 317**	*e*P	**P**	**22 55 55.2 +1.5**
ARCR	**ARCALIA**	**35.10 302**	⇑P	**P**	**22 55 57.5 +3.1**
ISAL	**Salakas**	**35.14 317**	*e*P	**P**	**22 55 55.8 +1.2**
APE	**Apeiranthos**	**35.25 285**	⇑P	**P**	**22 55 56.0 +0.1**
APE	**Apeiranthos**	**35.25 285**	⇑P	**P**	**22 55 56.0 +0.1**
LVV	**L'vov**	**35.45 307**	*e*P	**P**	**22 55 59.4 +2.1**
LVV			*e*		22 56 07.4
LVV			*e*		22 57 14.0
LVV			MLR	MLR	
	comp=E,1μm,15.0s				
LVV			MLR	MLR	
	comp=N,600nm,16.0s				
LVV			MLR	MLR	
	comp=Z,1μm,16.0s				
LOT	**Lotru**	**35.52 299**	⇑P	**P**	**22 56 00.1 +1.9**
CJR	**Cluj-Napoca**	**35.62 301**	⇑P	**P**	**22 55 59.0 +0.1**
CJR	**Cluj-Napoca**	**35.62 301**	⇑P	**P**	**22 55 59.0 +0.1**
VSU	**Vasula**	**35.66 322**	*e*P	**P**	**22 56 00.1 +1.1**
VSU	**Vasula**	**35.66 322**	*c i*P	**P**	**22 55 59.8 +0.8**
VSU			pmax	pmax	
	comp=Z,68nm,1.0s				
BOD	**Bodaibo**	**36.02 39**	*e*P	**P**	**22 56 02.7 +0.5**
BOD			pmax	pmax	
	comp=Z,44nm,1.1s				
DEV	**Deva**	**36.11 300**	⇑P	**P**	**22 56 06.2 +3.1**
DEV	**Deva**	**36.11 300**	⇑P	**P**	**22 56 06.2 +3.1**
IDI	**Anoyia**	**36.18 282**	P	**P**	**22 56 05.1 +1.2**
IDI	**Anoyia**	**36.18 282**	P	**P**	**22 56 05.1 +1.2**
BJT	**Baijiatuau**	**36.28 70**	P	**P**	**22 56 06.0 +1.3**
BJT			pmax	pmax	
	comp=Z,30nm,1.3s				
BJT	**Baijiatuau**	**36.28 70**	P	**P**	**22 56 06.0 +1.3**
BJT			IAmb	IAmb	22 56 07.6
	comp=Z,30nm,1.3s				
BJI	**Beijing**	**36.29 70**	P	**P**	**22 56 06.0 +1.4**
BJI			PcP	**PcP**	**22 58 28.5 -0.6**
BJI			ScP	**ScP**	**23 02 13.3 0.0**
BJI			pmax	pmax	
	comp=Z,18nm,1.1s				
KWP	**Kalwaria Pacla**	**36.29 306**	*e*P	**P**	**22 56 06.6 +2.0**
KWP	**Kalwaria Pacla**	**36.29 306**	P	**P**	**22 56 06.6 +2.0**
KWP			pmax	pmax	
	comp=Z,45nm,1.0s				
KWP	**Kalwaria Pacla**	**36.29 306**	P	**P**	**22 56 06.6 +2.0**
KWP			IAmb	IAmb	22 56 15.8
	comp=Z,45nm,1.0s				
PABE	**Paberze**	**36.32 316**	*e*P	**P**	**22 56 06.0 +1.3**
SUW	**Suwalki**	**36.48 314**	P	**P**	**22 56 07.4 +1.3**
SUW			pmax	pmax	
	comp=Z,40nm,1.0s				
SUW	**Suwalki**	**36.48 314**	P	**P**	**22 56 07.4 +1.3**
SUW			IAmb	IAmb	22 56 16.1
	comp=Z,40nm,1.0s				
UZH	**Uzhgorod**	**36.52 305**	*e*P	**P**	**22 56 08.0 +1.5**
UZH			*e*		22 56 15.8
UZH			*e*		22 56 23.2
KOLS	**Kolonicke sedl**	**36.54 305**	*e*P	**P**	**22 56 07.8 +1.0**
KOLS			pmax	pmax	
	comp=Z,11nm,1.0s				
KOLS	**Kolonicke sedl**	**36.54 305**	*e*P	**P**	**22 56 07.8 +1.0**
SIRR	**Siria**	**36.96 301**	⇑P	**P**	**22 56 13.6 +3.3**
MDVR	**Moldovita**	**37.01 298**	⇓P	**P**	**22 56 13.2 +2.4**
BZS	**Buzias**	**37.02 300**	⇑P	**P**	**22 56 12.4 +1.5**
BZS	**Buzias**	**37.02 300**	⇑P	**P**	**22 56 12.4 +1.5**
FIA1	**FINESS Array S**	**37.02 327**	P	**P**	**22 56 11.8 +1.2**
FIA1			IAmb	IAmb	22 56 21.0
	comp=Z,52nm,1.0s				
FINES	**FINESS Array B**	**37.02 327**	P	**P**	**22 56 11.5 +0.9**
	comp=Z,12nm,0.6s,baz=120,slow=9.6,SNR=41				
FINES			LR	LR	23 12 45.5
	comp=Z,3μm,18.6s,slow=38				
FINES	**FINESS Array B**	**37.02 327**	P	**P**	**22 56 10.5 -0.2**
FINES			*PP	**pP**	**22 56 19.2 -1.0**
FINES	**FINESS Array B**	**37.02 327**	P	**P**	**22 56 10.5 -0.2**
FINES			pP	**pP**	**22 56 19.2 -1.0**
CRVS	**Cervenica-Dubn**	**37.08 305**	*e*P	**P**	**22 56 13.3 +2.0**
CRVS			pmax	pmax	
	comp=Z,26nm,1.3s				
CRVS	**Cervenica-Dubn**	**37.08 305**	*e*P	**P**	**22 56 13.3 +2.0**
LVZ	**Lovozero**	**37.19 339**	P	**P**	**22 56 13.1 +1.0**
LVZ			pmax	pmax	
	comp=Z,79nm,1.5s				
LVZ	**Lovozero**	**37.19 339**	P	**P**	**22 56 13.1 +1.0**
LVZ			IAmb	IAmb	22 56 18.0
	comp=Z,79nm,1.5s				
APA	**Apatity**	**37.35 338**	⇓*i*P	P	22 56 19.6 +6.2
APA			pmax	pmax	
	comp=Z,13nm,1.0s				
APA			MLR	MLR	
	comp=Z,2μm,10.0s				
WHN	**Wuhan**	**37.35 86**	⇑P	**P**	**22 56 14.8 +1.0**
WHN			S	**S**	**23 02 04.5 +4.7**
WHN			pmax	pmax	
	comp=Z,240nm,0.9s				
WHN			pmax	pmax	
	comp=Z,370nm,8.2s				
WHN			LR	LR	
	comp=Z,860nm,9.9s				
WHN			LR	LR	
	comp=Z,1μm,6.9s				
WHN			LR	LR	
	comp=Z,3μm,18.7s				
PBUR	**Paburge**	**37.55 317**	*e*P	**P**	**22 56 16.0 +0.8**
BEL	**Belsk**	**37.66 310**	*e*P	P	22 56 24.0 +7.9
FNA	**Florina**	**37.73 292**	P	**P**	**22 56 17.5 +0.6**

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FNA                                     pmax    pmax
     comp=Z,11nm,0.8s
FNA  Florina          37.73 292  P       P       22 56 17.5 +0.6
TIA  Tai'an           37.82  76  P       P       22 56 18.8 +1.0
TIA                                     pmax    pmax
     comp=Z,96nm,1.2s
TIA                                     LR      LR
     comp=Z,420nm,19.0s
TIA                                     LR      LR
     comp=Z,440nm,18.8s
TIA                                     LR      LR
     comp=Z,880nm,19.4s
NIE  Niedzica         37.85 306  eP      P       22 56 19.7 +1.8
ITM  Ithomi           38.03 286  P       P       22 56 20.8 +1.3
ITM                                     IAmb    IAmb    22 56 32.0
     comp=Z,75nm,1.4s
UBPT Khong Chiam      38.06 114  P       P       22 56 19.6 -0.4
UBPT                                    IAmb    IAmb    22 56 20.4
     comp=Z,47nm,0.8s
PSZ  Piszkesteto      38.12 304  ⇓P      P       22 56 23.8 +3.5
PSZ  Piszkesteto      38.12 304  P       P       22 56 20.9 +0.7
PSZ                                     pmax    pmax
     comp=Z,12nm,0.9s
PSZ  Piszkesteto      38.12 304  P       P       22 56 20.9 +0.7
HIA  Hailar           38.12  54 deP      P       22 56 21.4 +1.2
HIA                                     pmax    pmax
     comp=Z,19nm,0.9s
HIA  Hailar           38.12  54  P       P       22 56 22.1 +1.9
HIA                                     IAmb    IAmb    22 56 23.0
     comp=Z,19nm,0.7s
OJC  Ojcow            38.19 307  eP      P       22 56 22.4 +1.6
OJC  Ojcow            38.19 307  P       P       22 56 21.1 +0.4
OJC                                     pmax    pmax
     comp=Z,34nm,1.1s
OJC  Ojcow            38.19 307  P       P       22 56 21.1 +0.4
OJC                                     IAmb    IAmb    22 56 31.3
     comp=Z,34nm,1.1s
DIVS Divibare         38.30 297  P       P       22 56 23.2 +1.5
LANS Liptovska Anna   38.39 306  eP      P       22 56 20.1 -2.4
LANS                                    pmax    pmax
     comp=Z,7.0nm,0.9s
LANS Liptovska Anna   38.39 306  eP      P       22 56 20.1 -2.4
VYHS Vyhne            38.82 304  eP      P       22 56 28.1 +2.1
VYHS                                    pmax    pmax
     comp=Z,24nm,1.5s
VYHS Vyhne            38.82 304  eP      P       22 56 28.0 +2.1
PDG  Podgorica        39.04 295  ⇓P      P       22 56 26.6 -1.3
PDG  Podgorica        39.04 295  P       P       22 56 28.8 +0.9
QIZ  Qiongzhong       39.12 105  P       P       22 56 28.0 -0.8
QIZ                                     S       S       23 02 26.3 -0.3
QIZ                                     pmax    pmax
     comp=Z,7.0nm,0.9s
QIZ                                     pmax    pmax
     comp=Z,130nm,6.3s
QIZ                                     LR      LR
     comp=Z,270nm,19.1s
QIZ                                     LR      LR
     comp=Z,380nm,22.5s
QIZ                                     LR      LR
     comp=Z,610nm,21.6s
QIZ  Qiongzhong       39.12 105  P       P       22 56 29.2 +0.5
SRO  Srobarova        39.19 303  eP      P       22 56 31.2 +2.1
SRO                                     pmax    pmax
     comp=Z,50nm,1.2s
SRO  Srobarova        39.19 303  eP      P       22 56 31.2 +2.1
JAVC Velka Javorina   39.58 305  eP      P       22 56 34.0 +1.6
MORC Moravsky Berou   39.65 307  ⇑P      P       22 56 34.2 +1.3
MORC Moravsky Berou   39.65 307  eP      P       22 56 33.5 +0.6
MORC Moravsky Berou   39.65 307  ⇑P      P       22 56 34.2 +1.3
MORC Moravsky Berou   39.65 307  P       P       22 56 33.9 +1.0
SMOL Smolenice        39.75 305  eP      P       22 56 35.6 +1.8
SMOL                                    pmax    pmax
     comp=Z,10.0nm,1.6s
SMOL Smolenice        39.75 305  eP      P       22 56 35.6 +1.8
LHMI Lhok Sumawe      39.79 135  P       P       22 56 33.9 -0.4
LHMI                                    IAmb    IAmb    22 56 38.6
     comp=Z,57nm,1.0s
MODS Modra-Piesok     39.86 304  eP      P       22 56 36.2 +1.5
MODS                                    pmax    pmax
     comp=Z,20nm,1.3s
MODS Modra-Piesok     39.86 304  eP      P       22 56 36.2 +1.5
GKP  Gorka Klasztor   39.92 312  eP      P       22 56 35.0 -0.1
KRLC Kraliky          40.13 307  eP      P       22 56 38.0 +1.0
KRLC                                    AMS     AMS     23 17 10.0
     comp=Z,600nm,16.0s
KRLC Kraliky          40.13 307  eP      P       22 56 38.0 +1.0
KRLC                                    MLR     MLR
     comp=Z,600nm,16.0s
MLSI Meulaboh, Aceh   40.27 136  P       P       22 56 39.6 +1.2
     comp=Z,82nm,1.0s
VRAC Vranov           40.27 306  ⇑P      P       22 56 39.7 +1.6
VRAC Vranov           40.27 306  eP      P       22 56 39.2 +1.1
VRAC Vranov           40.27 306  ⇑P      P       22 56 39.7 +1.6
KRUC Moravsky         40.41 305  eP      P       22 56 40.2 +0.9
DPC  Dobruska-Polom   40.42 307  eP      P       22 56 40.7 +1.3
DPC                                     epP     pP      22 56 47.3 -2.1
DPC                                     AMS     AMS     23 17 10.0
     comp=Z,1μm,16.4s
DPC  Dobruska-Polom   40.42 307  eP      P       22 56 40.7 +1.3
DPC                                     e               22 56 47.3
DPC                                     MLR     MLR
     comp=Z,1μm,16.4s
NJ2  Nanjing          40.44  81  ⇑P      P       22 56 40.5 +0.9
NJ2                                     sP      pP      22 56 45.5 -3.9
NJ2                                     PP      PnPn    22 58 18.5 +1.6
NJ2                                     S       S       23 02 49.8 +3.6
NJ2                                     pmax    pmax
     comp=Z,150nm,0.7s
NJ2                                     LR      LR
     comp=Z,1μm,15.2s
NJ2                                     LR      LR
     comp=Z,650nm,12.8s
NJ2                                     LR      LR
     comp=Z,940nm,18.0s
KSP  Ksiaz            40.44 308  eP      P       22 56 46.6 +7.2
OSTC Ostas            40.49 308  eP      P       22 56 41.0 +1.1
OSTC                                    AMS     AMS     23 17 20.0
     comp=Z,1μm,18.6s
KEV  Kevo             40.53 339  P       P       22 56 40.1 +0.2
KEV                                     pmax    pmax
     comp=Z,17nm,0.8s
KEV  Kevo             40.53 339  P       P       22 56 40.1 +0.2
CHVC Chvalec          40.59 308  eP      P       22 56 42.0 +1.3
CHVC                                    AMS     AMS     23 17 20.0
     comp=Z,1μm,18.5s
UPC  Upice            40.62 308  eP      P       22 56 42.6 +1.6
UPC                                     epP     pP      22 56 49.0 -1.9
UPC                                     AMS     AMS     23 17 20.0
     comp=Z,1μm,17.2s
UPC  Upice            40.62 308  eP      P       22 56 42.6 +1.6
UPC                                     e               22 56 49.0
UPC                                     MLR     MLR
     comp=Z,1μm,17.2s
DL2  Dalian           40.65  70  P       P       22 56 42.8 +1.5
DL2                                     S       S       23 02 50.8 +1.6
DL2                                     pmax    pmax
     comp=Z,69nm,0.8s
DL2                                     LR      LR
     comp=Z,690nm,14.5s
DL2                                     LR      LR
     comp=Z,950nm,19.2s
DL2                                     LR      LR
     comp=Z,2μm,18.2s
HKPS Hong Kong Po S   40.78  98  P       P       22 56 43.4 +0.8
HKPS                                    IAmb    IAmb    22 56 44.7
     comp=Z,69nm,1.1s
CONA Conrad Observa   40.83 304  eP      P       22 56 44.7 +1.9
     comp=Z,26nm,1.1s SNR=6.9
ARCES ARCESS Array B  40.86 338  P       P       22 56 43.5 +0.7
     comp=Z,8.6nm,0.4s,baz=116,slow=9.2,SNR=16
ARCES                                   LR      LR      23 14 47.1
     comp=Z,1μm,18.6s,baz=110,slow=38
TREC Trest            41.00 306  AMS     AMS     23 18 20.0
     comp=Z,800nm,16.1s
ARSA Arzberg          41.11 303  eP      P       22 56 46.4 +1.3
     comp=Z,6.0nm,1.1s
BSD  Bornholm Skovb   41.39 315  i P     P       22 56 48.1 +0.9
BSD  Bornholm Skovb   41.39 315  eP      P       22 56 48.1 +0.9
GOPC GO Pecny, Ondr   41.42 307  eP      P       22 56 48.1 +0.5
GOPC                                    AMS     AMS     23 17 10.0
     comp=Z,900nm,18.0s
GOPC GO Pecny, Ondr   41.42 307  eP      P       22 56 48.1 +0.5
GOPC                                    MLR     MLR
     comp=Z,900nm,18.0s
SOKA Soboth           41.50 302  eP      P       22 56 49.7 +1.3
     comp=Z,15nm,0.8s,SNR=8.3
TIP  Timpagrande      41.52 290  P       P       22 56 46.4 -2.2
TPTI                  41.53 136  P       P       22 56 51.6 +2.9
     comp=Z,28nm,1.1s
PVCC Panska Ves       41.54 308  AMS     AMS     23 18 00.0
     comp=Z,1μm,18.5s
PRU  Pruhonice        41.58 307  eP      P       22 56 50.0 +1.2
PRU                                     AMS     AMS     23 17 20.0
     comp=Z,800nm,15.5s
PRU  Pruhonice        41.58 307  eP      P       22 56 50.0 +1.2
PRU                                     MLR     MLR
     comp=Z,800nm,15.5s
PRA  Prague           41.65 307  AMS     AMS     23 17 10.0
     comp=Z,500nm,16.2s
SGRT San Giovanni R   41.73 294  P       P       22 56 50.2 -0.1
SGRT                                    IAmb    IAmb    22 56 51.0
     comp=Z,49nm,1.1s
OBKA Obir             41.85 302  eP      P       22 56 51.3  0.0
     comp=Z,16nm,1.5s
MOA  Molln            41.91 304  eP      P       22 56 53.6 +2.0
     comp=Z,23nm,1.2s
BRG  Berggiesshubel   41.93 308  eP      P       22 56 52.8 +1.2
     comp=Z,11nm,0.9s
     comp=N,524nm,16.6s
     comp=E,1μm,16.3s
     comp=Z,2μm,12.3s
BRG  Berggiesshubel   41.93 308  eP      P       22 56 52.8 +1.2
BRG                                     pmax    pmax
     comp=Z,11nm,0.9s
BRG                                     MLR     MLR
     comp=N,524nm,16.6s
BRG                                     MLR     MLR
     comp=E,1μm,16.3s
BRG                                     MLR     MLR
     comp=Z,2μm,12.3s
BRG  Berggiesshubel   41.93 308  eP      P       22 56 52.9 +1.2
     comp=Z,6.7nm,0.8s,baz=86,slow=8.1
KULM Kulim            41.94 130  P       P       22 56 52.1  0.0
KULM                                            P       22 56 52.3 +0.1
KULM                                    IAmb    IAmb    22 56 53.6
     comp=Z,54nm,1.2s
KULM Kulim            41.94 130  P       P       22 56 52.0 -0.1
PBCC Pribram          41.95 307  eP      P       22 56 52.3 +0.4
HAMF Hammerfest       41.96 339  eP      P       22 56 52.8 +1.1
RUE  Ruedersdorf      41.99 311  eP      P       22 56 53.4 +1.3
RUE  Ruedersdorf      41.99 311  eP      P       22 56 53.6 +1.5
     comp=Z,8.7nm,0.7s,baz=86,slow=8.1
GEC2 GERESS Array S   42.20 305  eP      P       22 56 55.5 +1.5
     baz=86,slow=8.1
GEC2 GERESS Array S   42.20 305  P       P       22 56 54.8 +0.7
GERES GERESS Array B  42.20 305  P       P       22 56 55.0 +1.0
     comp=Z,0.8nm,0.5s,baz=86,slow=7.2,SNR=12
GERES                                   PP      PcP     22 58 41.1 -6.7
     comp=Z,2.9nm,0.8s,baz=80,slow=11,SNR=4.2
GERES                                   LR      LR      23 18 14.6
     comp=Z,563nm,18.5s,baz=86,slow=42
GERES GERESS Array B  42.20 305  P       P       22 56 54.5 +0.5
GERES GERESS Array B  42.20 305  P       P       22 56 54.5 +0.5
KHC  Kasperske Hory   42.26 306  eP      P       22 56 55.9 +1.5
KHC                                     epP     pP      22 57 04.1 -0.3
KHC                                     ePP     PP      22 58 31.0 -1.4
KHC                                     AMS     AMS     23 18 40.0
     comp=Z,700nm,18.9s
KHC  Kasperske Hory   42.26 306⇓eP      P       22 56 54.7 +0.3
KHC                                     pmax    pmax
     comp=Z,6.0nm,1.2s
KHC  Kasperske Hory   42.26 306  P       P       22 56 56.1 +1.7
RGN  Rugen            42.29 314  P       P       22 56 55.6 +1.2
FBE  Freiberg         42.30 308  eP      P       22 56 56.5 +1.8
     comp=Z,7.8nm,0.9s,baz=86,slow=8.1
CEL  Celeste          42.40 289  P       P       22 56 56.6 +0.8
CEL                                     IAmb    IAmb    22 57 07.1
     comp=Z,67nm,1.5s
DLV  T Lat            42.45 115  P       P       22 56 57.7 +1.2
DLV                                     IAmb    IAmb    22 56 58.2
     comp=Z,37nm,1.0s
MYKA Terra Mystica    42.46 302  eP      P       22 56 57.7 +1.6
     comp=Z,20nm,1.3s
CLL  Collm            42.50 309  eP      P       22 56 57.0 +0.7
     comp=Z,13nm,1.5s
CLL                                     i pP    pP      22 57 05.1 -1.2
     comp=Z,17nm,1.0s
CLL                                     i               22 57 12.2
CLL                                     e               22 57 35.0
CLL                                     ePP     PP      22 58 33.0 -2.0
CLL                                     i PcP   PcP     22 58 48.2 -0.4
CLL                                     eScP    ScP     23 02 35.0 -2.1
CLL                                     ePcS    PcS     23 02 40.0 -0.4
CLL                                     eS      S       23 03 18.0 +1.7
CLL                                     eSS     SS      23 06 30.0 +3.9
CLL  Collm            42.50 309  eP      P       22 56 57.0 +0.7
CLL                                     i               22 57 05.1
CLL                                     eS      S       23 03 18.0 +1.7
CLL                                     pmax    pmax
     comp=Z,13nm,1.5s
CLL  Collm            42.50 309  eP      P       22 56 58.4 +2.0
     baz=86,slow=8.1
CLL  Collm            42.50 309          P       22 56 57.9 +1.6
PRED Cave del Predi   42.54 302  P       P       22 56 57.8 +1.1
KBA  Koelnbreinsper   42.61 303  eP      P       22 56 58.7 +1.2
     comp=Z,9.5nm,0.9s
WET  Wettzell         42.72 306  eP      P       22 56 59.9 +1.7
     baz=86,slow=8.1
PAOL Paolisi          42.74 294  P       P       22 56 59.3 +0.7
IPM  Ipoh             42.80 131  P       P       22 56 59.3 +0.1
IPM  Ipoh             42.80 131  P       P       22 56 59.0 -0.2
ZEA  Zeya             42.84  47  eP      P       22 57 00.5 +1.5
ZEA                                     MLR     MLR
     comp=Z,500nm,16.0s
ZEA                                     MLR     MLR
     comp=E,400nm,14.0s
TANN Tannenbergstha   42.89 308  eP      P       22 57 01.5 +2.0
     comp=E,9.1nm,1.0s,baz=86,slow=8.1
PSI  Prapat           42.89 134  P       P       22 57 00.0  0.0
PSI                                     pmax    pmax
     comp=Z,31nm,0.7s
NKC  Novy Kostel      42.91 307  eP      P       22 57 01.8 +2.1
NKC                                     AMS     AMS     23 19 00.0
     comp=Z,2μm,16.0s
NKC  Novy Kostel      42.91 307  eP      P       22 57 01.8 +2.1
NKC                                     MLR     MLR
     comp=Z,2μm,16.0s
ZOU  Zoufplan         42.93 302  P       P       22 57 00.8 +0.7
WERN Wernitzgruen     42.95 307  eP      P       22 57 01.8 +1.7
     baz=86,slow=8.1
TRO  Tromso           42.97 337  eP      P       22 57 00.5 +0.7
GUNZ Gunzen           42.98 308  eP      P       22 57 02.2 +2.0
     baz=86,slow=8.1
RPSI Rantau Prapat    42.98 135  P       P       22 56 60.0 -0.6
RPSI                                    IAmb    IAmb    22 57 03.1
     comp=Z,31nm,0.7s
MSEY Mahe Island      43.02 201  P       P       22 57 02.3 +1.4
MSEY                                    pmax    pmax
     comp=Z,54nm,1.2s
MSEY Mahe Island      43.02 201  P       P       22 57 02.2 +1.4
MSEY                                    IAmb    IAmb    22 57 06.6
     comp=Z,54nm,1.2s
INTR Introdacqua      43.02 295  P       P       22 57 01.3 +0.5
QZH  Quanzhou         43.08  91  eP      P       22 57 04.5 +3.2
QZH                                     ScP     ScP     23 02 38.5 -1.3
QZH                                     eS      S       23 03 23.3 -2.1
QZH                                     LR      LR
     comp=Z,630nm,18.5s
QZH                                     LR      LR
     comp=Z,440nm,17.5s
QZH                                     LR      LR
     comp=Z,830nm,19.0s
ROTZ Rotzenmuhle      43.10 307  eP      P       22 57 03.0 +1.8
     comp=Z,4.4nm,1.0s,baz=86,slow=8.1
STAL STALIGIAL        43.15 302  P       P       22 57 02.3 +0.6
MANZ Manzenberg       43.15 307  eP      P       22 57 03.5 +1.8
     comp=Z,3.8nm,0.9s,baz=86,slow=8.1
ABTA Abfaltersbach    43.22 302  eP      P       22 57 03.1 +0.8
     comp=Z,7.6nm,1.4s
NEUB Neuenburg        43.28 309  eP      P       22 57 04.5 +1.9
     comp=Z,9.4nm,0.9s,baz=86,slow=8.1
AQU  L'Aquila         43.32 296  P       P       22 57 03.7 +0.5
AQU                                     pmax    pmax
     comp=Z,32nm,1.3s
AQU  L'Aquila         43.32 296  P       P       22 57 03.7 +0.5
CIMO Cimolais         43.33 302  P       P       22 57 03.7 +0.5
GSI  Gunungsitoli     43.37 137  P       P       22 57 03.6 -0.1
     comp=Z,101nm,0.7s
GSI  Gunungsitoli     43.37 137  P       P       22 57 05.0 +1.3
MOX  Moxa             43.41 308  eP      P       22 57 05.7 +1.9
     baz=86,slow=8.1
MOR8 Moi Rana         43.43 331  eP      P       22 57 03.8 +0.1
NRCA Norcia           43.43 297  P       P       22 57 05.3 +1.2
STEI Steigen          43.62 333  eP      P       22 57 06.0 +0.9
NC405 NORSAR Array S  43.64 323  P       P       22 57 06.2 +0.8
NC405                                   IAmb    IAmb    22 57 19.9
     comp=Z,74nm,1.1s
NC602 NORSAR Array S  43.68 323  P       P       22 57 05.7  0.0
GRA1 Grafenberg Arr   43.74 307  P       P       22 57 06.9 +0.5
GRF  Grafenberg Arr   43.74 307  P       P       22 57 06.9 +0.5
GRF                                     pmax    pmax
     comp=Z,27nm,1.1s
GRF  Grafenberg Arr   43.74 307  eP      P       22 57 08.5 +2.1
     baz=86,slow=8.1
WATA Walderalm        43.77 303  eP      P       22 57 07.6 +0.7
     comp=Z,6.6nm,0.9s
MURB Monte Urbino     43.77 297  P       P       22 57 09.1 +2.3
NB201 NORSAR Array S  43.84 323  P       P       22 57 07.4 +0.3
RAFF Raffo Rosso      43.85 288  P       P       22 57 08.3 +0.9
NB2  NORSAR Subarra   43.88 323  P       P       22 57 07.5 +0.1
     comp=Z,6.1nm,0.5s,baz=98,slow=8.6
NB2  NORSAR Subarra   43.88 323  P       P       22 57 07.5 +0.1
     baz=98,slow=8.6
NOA  NORSAR Array B   43.88 323  P       P       22 57 07.2 -0.2
     comp=Z,12nm,0.6s,baz=98,slow=7.9,SNR=25
NOA                                     LR      LR      23 17 00.6
     comp=Z,936nm,18.3s,baz=95,slow=38
CTI  Castel Tesino    43.91 301  P       P       22 57 08.7 +0.8
CTI                                     pmax    pmax
     comp=Z,18nm,1.0s
CTI  Castel Tesino    43.91 301  P       P       22 57 08.7 +0.8
ASSE Asse, Remlinge   43.91 310  eP      P       22 57 09.7 +2.1
     baz=86,slow=8.1
TEOL Teolo            44.00 300  IAmb    IAmb    22 57 19.0
     comp=Z,29nm,0.9s
NAO01 NORSAR Array S  44.01 323  P       P       22 57 09.7 +1.3
NAO01                                   IAmb    IAmb    22 57 19.0
     comp=Z,88nm,1.4s
NAO01 NORSAR Array S  44.01 323  eP      P       22 57 08.6 +0.2
KONS Konsvik          44.02 331  eP      P       22 57 09.8 +1.4
SQTA Sankt Quirin     44.04 303  P       P       22 57 09.7 +0.8
     comp=Z,12nm,1.0s
BSEG Bad Segeberg     44.05 313  eP      P       22 57 10.3 +1.6
     comp=Z,3.1nm,0.9s,baz=86,slow=8.1
NBO00 NORSAR Array S  44.09 323  IAmb    IAmb    22 57 17.9
     comp=Z,73nm,1.4s
MOTA Moosalm          44.09 303  eP      P       22 57 09.8 +0.4
     comp=Z,13nm,0.9s
CLZ  Clausthal        44.11 310  eP      P       22 57 11.4 +2.0
     comp=Z,6.2nm,1.0s,baz=86,slow=8.1
NC204 NORSAR Array S  44.12 323  P       P       22 57 09.7 +0.4
NRDL Niedersach Rie   44.24 311  eP      P       22 57 12.3 +2.1
     comp=Z,5.8nm,0.9s,baz=86,slow=8.1
LOF  Lofoten          44.29 334  eP      P       22 57 10.3 -0.2
RETA Reutte           44.30 304  P       P       22 57 12.3 +1.3
     comp=Z,8.8nm,1.2s
GTTG Gottingen        44.39 309  eP      P       22 57 13.9 +2.4
     comp=Z,12nm,0.9s,baz=86,slow=8.1
FETA Feichten         44.39 303  eP      P       22 57 12.6 +0.7
     comp=Z,13nm,1.0s
CORL Corleone         44.47 290  P       P       22 57 11.6 -0.9
CORL                                    IAmb    IAmb    22 57 22.6
     comp=Z,34nm,1.0s
KONO Kongsberg        44.55 321  P       P       22 57 13.3 +0.6
KONO                                    pmax    pmax
     comp=Z,55nm,1.3s
KONO Kongsberg        44.55 321  P       P       22 57 13.3 +0.6
KONO                                    IAmb    IAmb    22 57 24.5
     comp=Z,55nm,1.3s
KONO Kongsberg        44.55 321  eP      P       22 57 13.3 +0.6
YAK  Yakutsk          44.59  36c i P   P       22 57 13.5 +0.5
YAK                                     e*PP    pP      22 57 22.8 +0.1
YAK                                     e               22 58 57.2
YAK                                     ePPP    PPP     22 59 31.6
YAK                                     eS      S       23 03 46.5 -0.1
YAK                                     e*SS    sS      23 04 05.4 +2.7
YAK                                     e               23 06 59.5
YAK                                     eSSS    SSS     23 07 51.0
YAK                                     pmax    pmax
     comp=Z,65nm,0.6s
YAK                                     pmax    pmax
     comp=N,6.0nm,0.9s
YAK                                     pmax    pmax
     comp=E,12nm,0.6s
YAK                                     pmax    pmax
     comp=Z,114nm,3.1s
YAK                                     pmax    pmax
     comp=N,58nm,2.8s
YAK                                     pmax    pmax
     comp=E,102nm,3.2s
YAK                                     smax    smax
     comp=N,115nm,1.3s
YAK                                     smax    smax
     comp=E,205nm,1.5s
YAK  Yakutsk          44.59  36          P       P       22 57 13.7 +0.7
CLTB Caltabellotta    44.62 289  P       P       22 57 14.8 +1.1
OSSC Osservatorio P   44.64 298  IAmb    IAmb    22 57 24.8
     comp=Z,42nm,1.1s
ZCCA Zocca            44.67 299  P       P       22 57 14.5 +0.6
ZCCA                                    IAmb    IAmb    22 57 26.9
     comp=Z,28nm,1.2s
MUD  Monsted U'grnd   44.67 317  i P     P       22 57 15.2 +1.5
MUD                                     i               22 59 05.2
MUD  Monsted U'grnd   44.67 317  i P     P       22 57 15.2 +1.5
MUD                                     i               22 59 05.2
UBR  Ueberruh         44.71 304  eP      P       22 57 15.5 +1.2
     baz=86,slow=8.1
SALO Salr             44.75 301  P       P       22 57 16.2 +1.6
SALO                                    IAmb    IAmb    22 57 25.5
     comp=Z,53nm,0.9s
INCN Inchon           44.82  71  P       P       22 57 16.3 +1.0
INCN                                    pmax    pmax
     comp=Z,31nm,0.7s
INCN Inchon           44.82  71  P       P       22 57 16.3 +1.0
INCN                                    IAmb    IAmb    22 57 17.5
     comp=Z,31nm,0.7s
MNSI Mandailing Nat   44.90 135  P       P       22 57 16.0  0.0
     comp=Z,1μmcomp=Z,132nm,1.0s
DAVA Damuels          44.92 303  eP      P       22 57 16.3 +0.2
     comp=Z,17nm,1.0s,SNR=7.0
DOMB Dombas           45.01 324  eP      P       22 57 17.7 +1.3
VLC  Villacollemand   45.12 299  P       P       22 57 19.0 +1.4
VLC                                     IAmb    IAmb    22 57 29.7
     comp=Z,62nm,1.5s
STU  Stuttgart        45.17 306  eP      P       22 57 19.9 +2.1
     baz=86,slow=8.1
SKAR Skarslia         45.26 322  eP      P       22 57 19.3 +0.9
MDJ  Mudanjiang       45.28  60  P       P       22 57 18.5 -0.2
MDJ                                     S       S       23 03 59.3 +2.2
MDJ                                     pmax    pmax
     comp=Z,8.0nm,0.7s
MDJ                                     pmax    pmax
     comp=Z,260nm,4.1s
MDJ                                     LR      LR
     comp=Z,650nm,11.0s
MDJ                                     LR      LR
     comp=Z,1μm,13.9s
TUE  Stuetta          45.41 302  P       P       22 57 20.4 +0.4
YHNB Yeheng           45.45  90  P       P       22 57 22.1 +1.6
YHNB                                    IAmb    IAmb    22 57 25.6
     comp=Z,25nm,0.7s
SSLB Suanglung        45.52  91  P       P       22 57 21.9 +1.0
IBBN Ibbenburen       45.69 311  eP      P       22 57 24.0 +2.2
     comp=Z,11nm,0.8s,baz=86,slow=8.1
MSSA Maissana         45.70 299  IAmb    IAmb    22 57 32.3
     comp=Z,25nm,1.0s
TJN  Taejon           45.71  72c i P   P       22 57 21.2 -1.0
KS19 Wonju Array Si   45.76  70  IAmb    IAmb    22 57 24.2
     comp=Z,48nm,1.1s
KSAR Wonju Array Be   45.79  70  P       P       22 57 24.3 +1.5
KSAR Wonju Array Be   45.79  70  P       P       22 57 24.3 +1.5
BFO  Black Forest     45.80 305  P       P       22 57 24.3 +1.5
BFO                                     pmax    pmax
     comp=Z,19nm,1.3s
BFO  Black Forest     45.80 305  eP      P       22 57 24.5 +1.6
     comp=Z,3.2nm,0.9s,baz=86,slow=8.1
BFO  Black Forest     45.80 305  P       P       22 57 24.3 +1.5
KSRS Korea Array      45.81  70  P       P       22 57 23.2 +0.2
     comp=Z,28nm,1.0s,baz=281,slow=6.8,SNR=75
KSRS                                    LR      LR      23 19 13.3
     comp=Z,934nm,18.9s,baz=291,slow=40
NACB Ninganchiao      45.86  90  P       P       22 57 24.6 +1.0
NACB                                    IAmb    IAmb    22 57 33.5
     comp=Z,26nm,0.9s
YULB Yu-li            45.99  92  IAmb    IAmb    22 57 30.0
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comp=Z,20nm,0.7s
BUG Bochum--Univer 46.07 310 *e*P **P 22 57 27.3 +2.4**
comp=Z,6.6nm,1.0s,baz=86,slow=8.1
BKNI Bangkinang 46.12 134 P **P 22 57 25.5 -0.2**
comp=Z,3μmcomp=Z,297nm,0.9s
TIXI Tiksi 46.22 22*d i*P **P 22 57 26.8 +1.1**
TIXI pmax pmax
comp=Z,205nm,0.8s
TIXI Tiksi 46.22 22 P **P 22 57 26.6 +0.9**
AHRW Bad Neuenahr-A 46.30 308 *e*P **P 22 57 28.9 +2.2**
comp=Z,7.7nm,1.0s,baz=86,slow=8.1
SISI Saibi 46.38 138 P **P 22 57 29.0 +1.3**
comp=Z,116nm,1.0s
ECH Echery 46.59 305 P **P 22 57 30.1 +1.0**
ECH pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 46.59 305 P **P 22 57 30.1 +1.0**
MYKOM Kota Tinggi 46.65 130 P **P 22 57 31.0 +1.2**
SENIN Lac Senin/Sane 46.83 303 IAmb IAmb 22 57 41.1
comp=Z,21nm,0.9s
YOJ Yonaguni jima 46.87 89 P **P 22 57 32.2 +0.8**
YOJ pmax pmax
comp=Z,47nm,1.0s
YOJ Yonaguni jima 46.87 89 P **P 22 57 32.2 +0.8**
YOJ IAmb IAmb 22 57 39.8
comp=Z,47nm,1.0s
MEM Membach 46.97 309 P **P 22 57 32.8 +0.8**
MEM pP **pP 22 57 41.2 -0.8**
VSL Villasalto 46.97 293 P **P 22 57 33.4 +1.3**
WLF Walferdange 47.02 307 P **P 22 57 33.2 +0.9**
WLF PcP **PcP 22 59 01.1 -3.1**
WLF Walferdange 47.02 307 P **P 22 57 33.2 +0.9**
WLF pmax pmax
comp=Z,30nm,1.0s
WLF Walferdange 47.02 307 *e*P **P 22 57 35.0 +2.7**
comp=Z,9.6nm,0.9s,baz=86,slow=8.1
WLF Walferdange 47.02 307 P **P 22 57 33.2 +0.9**
WLF IAmb IAmb 22 57 43.6
comp=Z,30nm,1.0s
USA0B Ussuriysk Arra 47.05 60⇑*e*P **P 22 57 33.7 +1.1**
USA0B Ussuriysk Arra 47.05 60 IAmb IAmb 22 57 37.4
comp=Z,17nm,0.9s
USRK Ussuriysk Ar. 47.05 60 P **P 22 57 32.6 -0.1**
comp=Z,10nm,0.8s,baz=279,slow=6.8,SNR=21
USRK PcP **PcP 22 59 03.5 -0.9**
comp=Z,2.0nm,0.5s,baz=329,slow=4.4,SNR=4.3
USRK LR LR 23 19 45.8
comp=Z,1μm,18.6s,baz=269,slow=39
USRK Ussuriysk Ar. 47.05 60 P **P 22 57 33.1 +0.5**
VLA Vladivostok 47.22 62*d i*P **P 22 57 35.0 +1.0**
VLA pmax pmax
comp=Z,98nm,1.0s
SPA0 Spitsbergen Ar 47.36 347 P **P 22 57 35.4 +0.8**
SPA0 IAmb IAmb 22 57 45.5
comp=Z,39nm,0.9s
SPA0 Spitsbergen Ar 47.36 347 *e*P **P 22 57 36.2 +1.6**
SDSI Sungai Dareh 47.37 135 P **P 22 57 34.4 -1.0**
comp=Z,747nmcomp=Z,49nm,0.6s
BNI Bardonecchia 47.52 301 P **P 22 57 36.1 -0.4**
BNI pmax pmax
comp=Z,16nm,1.0s
BNI Bardonecchia 47.52 301 P **P 22 57 36.1 -0.4**
BNI IAmb IAmb 22 57 46.8
comp=Z,16nm,1.0s
BMRD Maredsous 47.80 308 P **P 22 57 39.5 +1.1**
BMRD pP **pP 22 57 48.5 0.0**
JTU Tsushima 47.89 74 P **P 22 57 39.1 -0.2**
DOU Dourbes 47.94 308 P **P 22 57 40.6 +1.2**
DOU pP **pP 22 57 48.6 -1.0**
DOU PcP **PcP 22 59 07.6 +0.2**
KMBO Kilima Mbogo 48.07 226 P **P 22 57 43.4 +2.2**
comp=Z,4.2nm,0.6s,baz=36,slow=12,SNR=19
KMBO Kilima Mbogo 48.07 226 *i* P **P 22 57 42.3 +1.2**
SNR=7.5
KMBO Kilima Mbogo 48.07 226 P **P 22 57 42.1 +0.9**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 48.07 226 P **P 22 57 42.1 +0.9**
SNF Seneffe 48.07 309 P **P 22 57 41.0 +0.5**
SNF pP **pP 22 57 50.5 -0.1**
KEST Kesra 48.15 288 P **P 22 57 42.3 +0.9**
comp=Z,7.2nm,0.6s,baz=14,slow=1.5,SNR=25
KEST LR LR 23 23 07.2
comp=Z,247nm,19.6s,baz=314,slow=42
KRJI Kerinci 48.33 135 P **P 22 57 43.2 +0.2**
comp=Z,10μmcomp=Z,470nm,1.4s
KBS Kingsbay 48.49 347 P **P 22 57 45.5 +2.2**
KBS pmax pmax
comp=Z,53nm,0.9s
KBS Kingsbay 48.49 347 P **P 22 57 45.5 +2.2**
KBS Kingsbay 48.49 347 *e*P **P 22 57 45.2 +1.9**
GRNR Gornyy 48.71 51⇑*i*P **P 22 57 46.4 +1.0**
GRNR pmax pmax
comp=E,30nm,1.0s
GRNR pmax pmax
comp=Z,50nm,0.9s
GRNR MLR MLR
comp=E,360nm,14.0s
GRNR MLR MLR
comp=N,150nm,12.0s
GRNR MLR MLR
comp=Z,390nm,14.0s
DSRI Dabo 48.87 131 P **P 22 57 47.3 +0.2**
comp=Z,118nm,0.9s
SSB Saint Sauveur 48.94 302 IAmb IAmb 22 57 57.9
comp=Z,17nm,1.0s
JNU Nakatsue 49.54 75 P **P 22 57 49.5 -2.6**
JSU Suzuyama 49.83 77 P **P 22 57 52.9 -1.3**
JSU IAmb IAmb 22 57 57.0
comp=Z,23nm,0.9s
CLF Chambon-Foret 49.85 306 **P 22 57 54.5 +0.4**
CLF IAmb IAmb 22 58 04.4
comp=Z,22nm,0.9s
TEY Ternei 50.05 58⇓*e*P **P 22 57 54.2 -1.5**
TEY pmax pmax
comp=Z,20nm,1.4s
TEY pmax pmax
comp=E,20nm,1.2s
KSI Kapahiang 50.25 135 P **P 22 57 56.4 -1.2**
comp=E,4μmcomp=E,489nm,0.7s
JHS Saijyo 50.58 72 P **P 22 57 59.8 -0.2**
JHS IAmb IAmb 22 58 00.6
comp=Z,44nm,1.3s
LHSI Lahat 50.92 134 P **P 22 58 00.6 -2.0**
comp=Z,50nm,0.8s
KSM Kuching 51.07 123 P **P 22 58 04.0 +0.2**
PPBI Pangkal Pinang 51.15 131 P **P 22 58 04.0 -0.3**
comp=Z,3μmcomp=Z,104nm,1.1s
JMN Monobe 51.64 73 P **P 22 58 07.4 -0.5**
SBUM Sibu 51.67 121 IAmb IAmb 22 58 10.1
comp=Z,24nm,0.8s
MBAR Mbarara 51.68 233*d i*P **P 22 58 09.1 +0.6**
MBAR pmax pmax
comp=Z,7.0nm,0.9s
MBAR Mbarara 51.68 233 P **P 22 58 09.3 +0.7**
MBAR IAmb IAmb 22 58 19.8
comp=Z,34nm,1.1s
ESK Eskdalemuir 51.71 316 P **P 22 58 06.7 -1.4**
ESK pmax pmax
comp=Z,28nm,1.2s
ESK Eskdalemuir 51.71 316 P **P 22 58 06.7 -1.4**
ESK IAmb IAmb 22 58 12.9
comp=Z,28nm,1.1s
MDSI Maura Dua 51.84 134 P **P 22 58 06.2 -3.2**
comp=Z,16nm,0.8s
KKM Kota Kinabalu 52.05 114 P **P 22 58 12.5 +1.3**
LWLI Liwa 52.20 135 P **P 22 58 11.5 -0.8**
comp=Z,4μmcomp=Z,128nm,0.7s
KLSI 52.32 134 P **P 22 58 10.0 -3.1**
comp=Z,29nm,1.8s
TPI Tanjungpandan 52.55 129 P **P 22 58 14.7 -0.1**
comp=Z,849nmcomp=Z,80nm,1.0s
STKI Sintang 52.90 124 P **P 22 58 19.1 +1.8**
SPMM Sapulut 53.13 115 P **P 22 58 20.0 +0.9**
JSD Sado 53.37 66 P **P 22 58 20.2 -0.4**
JSD IAmb IAmb 22 58 21.8
comp=Z,40nm,0.8s
INU Inuyama 53.42 70 P **P 22 58 21.3 +0.2**
INU IAmb IAmb 22 58 31.0
comp=Z,20nm,1.0s
JGF Kuroka 53.59 69 P **P 22 58 21.7 -0.7**
JGF IAmb IAmb 22 58 34.9
comp=Z,50nm,1.5s
YSS Yuzh-Sakhalins 53.66 54 *e*P **P 22 58 23.0 +0.4**
YSS *e**PP **sP 22 58 37.6 +0.8**
YSS *e* 23 00 27.6
YSS *e* 23 01 35.7
YSS *e*S **S 23 05 51.6 -2.6**
YSS *e*PS **PKiKP 23 06 03.7 -0.9**
YSS *e*SSS SSS 23 11 25.5
YSS pmax pmax
comp=Z,80nm,1.2s
YSS pmax pmax
comp=Z,400nm,3.3s
YSS MLR MLR
comp=Z,900nm,12.0s
YSS MLR MLR
comp=N,400nm,14.0s
YSS MLR MLR
comp=E,500nm,16.0s
YSS Yuzh-Sakhalins 53.66 54 P **P 22 58 23.2 +0.7**
NOR Nord 53.71 350 *i* P **P 22 58 23.9 +1.4**
comp=E,10.0nm,1.1s
NOR Nord 53.71 350 *e*P **P 22 58 23.9 +1.4**
NOR pmax pmax
comp=Z,10.0nm,1.1s
MAJO Matsushiro 53.88 68⇑*e*P **P 22 58 24.6 +0.2**
MAJO pmax pmax
comp=Z,29nm,1.0s
MAJO Matsushiro 53.88 68 P **P 22 58 24.2 -0.2**
MAT Matsushiro 53.88 68 P **P 22 58 24.0 -0.4**
MAT *e*S **S 23 05 55.2 -2.3**
MJAR Matsushiro Arr 53.88 68 P **P 22 58 24.4 +0.1**
comp=Z,36nm,1.1s,baz=292,slow=8.9,SNR=35
MJAR LR LR 23 23 55.0
comp=Z,163nm,19.5s,baz=295,slow=39
MJAR Matsushiro Arr 53.88 68 P **P 22 58 24.9 +0.6**
MYLDM Lahad Datu 54.31 113 P **P 22 58 28.7 +0.9**
MYLDM IAmb IAmb 22 58 44.8
comp=Z,54nm,1.2s
CGJI Cibinong 54.43 134 P **P 22 58 26.2 -2.3**
comp=Z,99nm,0.9s
JTM Tenmabayashi 54.45 62 P **P 22 58 26.8 -1.7**
DAG Danmarks Havn 54.54 344 *i* P **P 22 58 29.0 +0.4**
comp=Z,8.9nm,0.7s
DAG Danmarks Havn 54.54 344 *i* P **P 22 58 29.0 +0.4**
DAG pmax pmax
comp=Z,9.0nm,0.7s
COCO West Island 54.65 147 P **P 22 58 31.0 +0.9**
COCO pmax pmax
comp=Z,219nm,0.9s
COCO West Island 54.65 147 P **P 22 58 31.0 +0.9**
SEY Seymchan 55.02 34⇓*e*P **P 22 58 33.6 +1.3**
PBKI Pangkalan Bun 55.08 126 P **P 22 58 34.8 +1.5**
comp=Z,273nm,1.1s
JMM Marumori 55.30 66 P **P 22 58 32.8 -1.8**
MTKI Muara Teweh, K 55.96 121 P **P 22 58 39.9 +0.3**
TAM Tamanrasset 56.59 275 P **P 22 58 45.5 +1.2**
TAM pmax pmax
comp=Z,8.0nm,1.0s
TAM Tamanrasset 56.59 275 P **P 22 58 45.5 +1.2**
ESDC Sonseca Array 56.65 297 P **P 22 58 44.7 +0.3**
comp=Z,3.1nm,0.7s,baz=58,slow=7.4,SNR=35
ESDC LR LR 23 29 52.9
comp=Z,194nm,19.2s,baz=70,slow=43
ESDC Sonseca Array 56.65 297 P **P 22 58 45.0 +0.6**
SMKI Samarinda 57.22 119 P **P 22 58 50.1 +1.5**
comp=Z,136nm,0.8s
BBKI Banjar Baru 57.75 123 P **P 22 58 52.5 +0.2**
comp=Z,4μmcomp=Z,140nm,1.0s
PBRG Bragança 57.81 301 *e*P **P 22 58 54.7 +2.2**
comp=Z,22nm,1.7s
MVO Moncorvo 58.25 300⇑*e*P **P 22 58 57.7 +2.0**
comp=Z,21nm,1.7s
MVO Moncorvo 58.25 300 *e*LR LR 23 18 16.3
comp=Z,291nm,20.0s
KBKI Kotabaru 58.53 122 P **P 22 58 58.7 +0.9**
comp=Z,1μmcomp=Z,138nm,0.8s
MPSI Mapaga 58.60 116 P **P 22 58 59.0 +0.7**
comp=Z,1μmcomp=Z,74nm,1.1s
PCAB Cabril 58.73 301 *e*P **P 22 59 01.2 +2.2**
comp=Z,45nm,1.6s
PGAV Gavieira, Arco 58.80 301 *e*P **P 22 59 01.7 +2.2**
comp=Z,47nm,1.7s
PGAV A A 23 29 14.3
comp=Z,333nm,20.0s
PCBR Castelo Branco 59.08 299 *e*P **P 22 59 03.9 +2.5**
comp=Z,22nm,1.2s
BILL Bilibino 59.11 26⇓*e*P **P 22 59 00.6 -0.5**
BILL pmax pmax
comp=Z,39nm,1.7s
BILL MLR MLR
comp=Z,698nm,18.0s
ABPO Ambohimpanom 59.12 205 P **P 22 59 03.0 +1.1**
ABPO pmax pmax
comp=Z,13nm,0.9s
ABPO Ambohimpanom 59.12 205 P **P 22 59 03.0 +1.1**
ABPO IAmb IAmb 22 59 12.9
comp=Z,12nm,0.8s
PMRV Marv??o 59.19 298 *e*LR LR 23 20 08.7
comp=Z,144nm,16.0s
PWJI Pagerwojo 59.22 130 P **P 22 59 01.7 -0.8**
comp=Z,20nm,2.2s
PSBE So Bento 60.15 299 *e*P **P 22 59 11.9 +3.2**
comp=Z,37nm,1.7s
PVAQ Vaqueiros 60.25 296 A A 23 31 33.5
comp=Z,328nm,18.0s
PEA0B Petropavlovsk- 60.70 44⇑*e*P **P 22 59 12.5 +0.2**
PETK Petropavlovsk- 60.70 44 P **P 22 59 12.2 0.0**
comp=Z,9.5nm,0.8s,baz=301,slow=0.9,SNR=12
PETK LR LR 23 26 42.2
comp=Z,190nm,18.2s,baz=260,slow=37
PETK Petropavlovsk- 60.70 44 P **P 22 59 12.1 -0.2**
PETK Petropavlovsk- 60.70 44 P **P 22 59 12.1 -0.2**
SKR Severo-Kuril's 60.72 47 *e*P P 22 59 26.8 +14
SKR pmax pmax
comp=Z,100nm,3.5s
SKR MLR MLR
comp=Z,300nm,21.0s
SUMG Summit 60.83 341 *i* P **P 22 59 14.0 +0.7**
comp=Z,56nm,1.0s
SUMG Summit 60.83 341 *i* P **P 22 59 14.0 +0.7**
SUMG pmax pmax
comp=Z,56nm,1.0s
SUMG Summit 60.83 341 P **P 22 59 14.6 +1.3**
SUMG IAmb IAmb 22 59 29.3
comp=Z,17nm,0.7s
MORF Marmelete 60.97 297 *e*P **P 22 59 16.8 +2.4**
PET Petropavlovsk 61.26 44 *e*P P 22 59 26.8 +11
PET *e*S S 23 07 44.7 +11
PET MLR MLR
comp=Z,200nm,18.0s
SPSI Sidrap Palu 61.50 120 P **P 22 59 17.8 -0.4**
comp=Z,26nm,0.8s
KAPI Kappang 62.23 120 P **P 22 59 21.7 -1.4**
KAPI pmax pmax
comp=Z,42nm,1.0s
KAPI Kappang 62.23 120 P **P 22 59 21.7 -1.4**
BKSI Bulukumba 62.71 120 P **P 22 59 25.9 -0.4**
comp=Z,39nm,1.0s
SANI Sanana 64.68 113 P **P 22 59 38.8 -0.5**
comp=Z,687nmcomp=Z,39nm,0.8s
LSZ Lusaka 64.71 225 *i* P **P 22 59 40.0 +0.5**
LSZ Lusaka 64.71 225 P **P 22 59 39.9 +0.4**
LSZ pmax pmax
comp=Z,11nm,0.7s
LSZ Lusaka 64.71 225 P **P 22 59 39.9 +0.4**
LSZ IAmb IAmb 22 59 57.6
comp=Z,11nm,0.7s
LSZ Lusaka 64.71 225 *i* P **P 22 59 40.0 +0.4**
FOMA Nahampoana Res 64.75 203 P **P 22 59 39.8 +0.4**
FOMA IAmb IAmb 22 59 41.5
comp=Z,23nm,0.7s
TOA0 Torodi Ar. Sit 64.76 268 IAmb IAmb 22 59 48.8
comp=Z,16nm,0.8s
TORD Torodi Ar. Bea 64.76 268 P **P 22 59 38.9 -0.9**
comp=Z,9.0nm,0.5s,baz=50,slow=6.1,SNR=65
TORD LR LR 23 31 53.9
comp=Z,162nm,19.4s,baz=40,slow=40
TORD Torodi Ar. Bea 64.76 268 P **P 22 59 38.5 -1.3**
ILULI Ilulissat 66.17 340 P **P 22 59 48.8 +0.7**
ILULI pmax pmax
comp=Z,23nm,0.8s
ILULI Ilulissat 66.17 340 P **P 22 59 48.8 +0.7**
ILULI IAmb IAmb 23 00 01.1
comp=Z,23nm,0.8s
EDFI Ende, Flores 66.24 122 P **P 22 59 45.7 -3.8**
comp=Z,13nm,0.7s
BLWY Bulawayo 68.41 222 *i* P **P 23 00 03.1 0.0**
BLWY Bulawayo 68.41 222 *i* P **P 23 00 03.1 0.0**
KOWA Kowa 68.61 273 P **P 23 00 04.4 -0.1**
KOWA IAmb IAmb 23 00 13.6
comp=Z,20nm,1.0s
BATI Baumata 68.63 121 P **P 23 00 03.5 -1.0**
comp=Z,62nm,0.9s
SOEI Soe 68.73 121 P **P 23 00 03.9 -1.3**
comp=Z,1μmcomp=Z,99nm,0.9s
SOEI Soe 68.73 121 P **P 23 00 03.4 -1.8**
FAKI Fak Fak 69.95 110 P **P 23 00 12.0 -0.7**
TOLK Toolik Lake Re 71.25 14 P **P 23 00 21.5 +1.6**
baz=327
COLD Coldfoot 72.31 15 P **P 23 00 27.7 +1.5**
baz=327
COLD Coldfoot 72.31 15 IAmb IAmb 23 00 38.9
comp=Z,24nm,0.9s
IMAR Indian Mountai 72.54 17 P **P 23 00 27.0 -0.6**
SAUI Saumlaki 72.55 114 P **P 23 00 30.5 +2.1**
comp=Z,347nm,1.1s
SAUI Saumlaki 72.55 114 P **P 23 00 28.5 +0.1**
KIC Kosan Boka 73.82 266 *e*P **P 23 00 35.0 -1.0**
comp=Z,23nm,0.8s
TIC Toumodi 73.88 266 *e*P **P 23 00 35.4 -1.0**
FYU Fort Yukon 73.89 14 IAmb IAmb 23 00 39.3
comp=Z,30nm,0.9s
LBTB Lobatse 73.97 221 *i* P **P 23 00 37.3 +0.7**
LBTB Lobatse 73.97 221 P **P 23 00 37.3 +0.7**
LBTB pmax pmax
comp=Z,32nm,0.9s
LBTB Lobatse 73.97 221 P **P 23 00 37.3 +0.7**
LBTB IAmb IAmb 23 00 52.0
comp=Z,32nm,0.9s
LBTB Lobatse 73.97 221 *i* P **P 23 00 37.3 +0.7**
C36M Paulatuk 74.06 5 P **P 23 00 37.4 +0.9**
baz=348
TSUM Tsumeb 74.11 231 P **P 23 00 37.6 0.0**
LIC Lamto 74.13 266 *e*P **P 23 00 37.5 -0.3**
comp=Z,42nm,0.9s
INK Inuvik 74.14 9 P **P 23 00 38.4 +1.4**
comp=Z,14nm,0.6s,baz=348,slow=5.4
INK LR LR 23 36 59.9
comp=Z,248nm,20.6s,baz=354,slow=39
INK Inuvik 74.14 9 P **P 23 00 38.4 +1.4**
INK pmax pmax
comp=Z,34nm,0.9s
INK Inuvik 74.14 9 IAmb IAmb 23 00 50.4
comp=Z,34nm,0.8s
TTA Tatalina 74.44 20 P **P 23 00 40.2 +1.3**
TTA pmax pmax
comp=Z,14nm,1.1s
TTA Tatalina 74.44 20 P **P 23 00 40.2 +1.3**
PSA00 Pilbara Seismi 74.56 132 P **P 23 00 39.5 -0.5**
PSA00 Pilbara Seismi 74.56 132 IAmb IAmb 23 00 40.2
comp=Z,39nm,0.9s
MDM Murphy Dome 74.67 16 P **P 23 00 40.3 +0.2**
MDM IAmb IAmb 23 00 43.5
comp=Z,25nm,0.9s
ADK Adak 74.67 36 P **P 23 00 38.7 -1.6**
ADK pmax pmax
comp=Z,47nm,1.1s
ADK Adak 74.67 36 P **P 23 00 38.7 -1.6**
ADK IAmb IAmb 23 00 39.7
comp=Z,48nm,1.1s
POKR Poker Plat Res 74.70 15 P **P 23 00 41.6 +1.3**
baz=330
BPAW Bear Paw Mtn. 74.77 17 IAmb IAmb 23 00 43.0
comp=Z,23nm,0.9s
NEA2 Nenana 74.80 16 P **P 23 00 41.5 +0.6**
baz=328
TCOL CIGO, UAF Yank 74.82 16 P **P 23 00 42.6 +1.6**
baz=329
COLA College 74.83 16*ce*P **P 23 00 42.5 +1.5**
COLA pmax pmax
comp=Z,37nm,0.8s
COLA College 74.83 16 P **P 23 00 42.3 +1.3**
FRB Frobisher Bay 74.86 342 P **P 23 00 43.5 +2.4**
comp=Z,36nm,1.2s,baz=28,slow=7.6,SNR=4.5
IL31 75.12 15 P **P 23 00 43.0 +0.3**
IL31 IAmb IAmb 23 00 44.8
comp=Z,16nm,1.0s
ILAR Eielson Array 75.12 15 P **P 23 00 43.0 +0.3**
comp=Z,15nm,1.0s,baz=324,slow=4.4,SNR=12
ILAR LR LR 23 40 59.3
comp=Z,253nm,18.2s,baz=319,slow=42
ILAR Eielson Array 75.12 15 P **P 23 00 42.6 -0.1**
ILAR Eielson Array 75.12 15 P **P 23 00 42.6 -0.1**
KTH Kantishna Hill 75.24 18 IAmb IAmb 23 00 46.4
comp=Z,36nm,0.9s
HDA Harding Lake 75.42 16 P **P 23 00 44.6 +0.1**
baz=330
HDA Harding Lake 75.42 16 P **P 23 00 44.1 -0.4**
HDA IAmb IAmb 23 00 46.4
comp=Z,15nm,1.0s
PPLA Purkeypile 75.48 18 P **P 23 00 45.7 +0.7**
PPLA IAmb IAmb 23 00 49.4
comp=Z,18nm,0.9s
EPYK Eagle Plains 75.53 11 P **P 23 00 46.8 +1.7**
baz=338
EPYK Eagle Plains 75.53 11 P **P 23 00 45.1 0.0**
EPYK IAmb IAmb 23 00 47.1
comp=Z,15nm,0.7s
MCK McKinley 75.56 17 IAmb IAmb 23 00 47.6
comp=Z,13nm,0.6s
GENI Genyem 75.86 104 P **P 23 00 47.4 -0.3**
comp=Z,2μmcomp=Z,99nm,1.0s
EGAK Eagle 76.25 13 IAmb IAmb 23 01 01.8
comp=Z,18nm,1.1s
SKT Skwentna 76.41 19 IAmb IAmb 23 00 52.4
comp=Z,33nm,0.9s
DOT Dot Lake 76.70 15 IAmb IAmb 23 00 54.1
comp=Z,16nm,0.8s
K27K Chicken 76.76 14 P **P 23 00 53.2 +1.1**
baz=334
PAX Paxson 77.01 16 P **P 23 00 54.1 +0.5**
PAX pmax pmax
comp=Z,9.0nm,0.9s
PAX Paxson 77.01 16 P **P 23 00 54.1 +0.5**
SUA Susitna One 77.05 19 IAmb IAmb 23 00 56.8
comp=Z,28nm,1.0s
BOSA Boshof 77.07 219 P **P 23 00 54.3 0.0**
comp=Z,15nm,0.7s,baz=26,slow=4.4,SNR=39
BOSA LR LR 23 37 31.3
comp=Z,91nm,18.8s,baz=26,slow=38
BOSA Boshof 77.07 219 *i* P **P 23 00 54.2 -0.2**
BOSA Boshof 77.07 219 IAmb IAmb 23 00 55.0
comp=Z,23nm,0.9s
BOSA Boshof 77.07 219 *i* P **P 23 00 54.2 -0.2**
PMR Palmer 77.35 18 P **P 23 00 55.9 +0.5**
PMR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 77.35 18 P **P 23 00 55.9 +0.5**
PMR IAmb IAmb 23 00 57.0
comp=Z,20nm,0.8s
RSO Redoubt South 77.35 20 P **P 23 00 56.8 +1.0**
M24K Tolsona, Glenn 77.61 16 P **P 23 00 58.4 +1.4**
baz=331
M24K Tolsona, Glenn 77.61 16 P **P 23 00 57.9 +0.9**
RC01 Rabbit Creek A 77.63 18 P **P 23 00 57.4 +0.4**
baz=328
BCAR Beaver Creek A 77.69 14 P **P 23 00 57.9 +0.5**
KLU Klutina 78.21 17 P **P 23 01 00.4 +0.1**
KLU IAmb IAmb 23 01 03.1
comp=Z,36nm,0.8s
MORW Morawa 78.30 140 IAmb IAmb 23 01 01.0
comp=Z,31nm,0.8s
GLI Glacier Island 78.47 17 P **P 23 01 02.0 +0.3**
CNPM China Poot 78.56 20 P **P 23 01 02.5 +0.3**
CNPM IAmb IAmb 23 01 05.5
comp=Z,52nm,1.2s
GLB Gilahina Butte 78.73 16 P **P 23 01 04.0 +0.8**
FID Port Fidalgo 78.73 17 P **P 23 01 03.4 +0.2**
FID IAmb IAmb 23 01 06.6
comp=Z,29nm,0.8s
MCARA McCarthy VSAT 78.95 15 P **P 23 01 05.6 +1.3**
MCARA IAmb IAmb 23 01 07.1
comp=Z,17nm,0.8s
SDPT Sand Point 79.00 27 P **P 23 01 05.0 +0.3**
EYAK Cordova Ski Ar 79.08 17 P **P 23 01 05.6 +0.6**
EYAK IAmb IAmb 23 01 07.9
comp=Z,31nm,0.7s
BALM Baldy 79.41 15 P **P 23 01 07.2 +0.3**
BALM IAmb IAmb 23 01 09.7
comp=Z,21nm,0.7s
CRQM Cirque 79.49 16 IAmb IAmb 23 01 10.1
comp=Z,20nm,0.8s
BARN Barnard Glacie 79.53 15 P **P 23 01 09.1 +1.3**
BARN IAmb IAmb 23 01 22.5
comp=Z,22nm,1.0s

TGL	**Tana Glacier**	**79.56**	**16**	P	**P**	**23 01 07.7**	**-0.1**
TGL				IAmb	IAmb	23 01 10.5	
	comp=Z,22nm,0.9s						
CTGM	**Chitina Glacie**	**79.68**	**15**	P	**P**	**23 01 09.0**	**+0.5**
CTGM				IAmb	IAmb	23 01 11.4	
	comp=Z,18nm,0.6s						
WAX	**Waxell Ridge**	**79.83**	**16**	P	**P**	**23 01 10.4**	**+1.2**
WAX				IAmb	IAmb	23 01 11.7	
	comp=Z,21nm,0.7s						
YAH	**Yahtse**	**80.14**	**15**	P	**P**	**23 01 10.1**	**-1.0**
YAH				IAmb	IAmb	23 01 14.3	
	comp=Z,29nm,0.7s						
HYT	**Haines Junctio**	**80.56**	**13**	P	**P**	**23 01 13.9**	**+0.7**
HYT				IAmb	IAmb	23 01 16.3	
	comp=Z,19nm,0.7s						
PCA	**Pinnacle**	**80.70**	**15**	P	**P**	**23 01 13.8**	**-0.1**
WHY	**Whitehorse**	**81.18**	**12**	P	**P**	**23 01 16.5**	**0.0**
WHY				IAmb	IAmb	23 01 18.3	
	comp=Z,11nm,0.7s						
YKA	**Yellowknife Ar**	**81.37**	**2**	P	**P**	**23 01 18.0**	**+0.7**
	comp=Z,10nm,0.6s,baz=354,slow=5.9,SNR=53						
YKA				LR	LR	23 41 12.2	
	comp=Z,326nm,19.8s,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**81.37**	**2**	P	**P**	**23 01 18.0**	**+0.7**
SCHQ	**Schefferville**	**81.80**	**336**	P	**P**	**23 01 20.4**	**+0.6**
	comp=Z,8.7nm,0.8s,baz=51,slow=3.5,SNR=4.6						
SCHQ				LR	LR	23 38 33.8	
	comp=Z,151nm,18.5s,baz=53,slow=36						
SKAG	**Skagway**	**82.23**	**13**	P	**P**	**23 01 22.3**	**+0.5**
SKAG				IAmb	IAmb	23 01 28.5	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**82.76**	**121**	P	**P**	**23 01 23.7**	**-1.6**
	comp=Z,15nm,0.7s,baz=326,slow=5.0,SNR=151						
WRA				PKKPbc	**PKKPbc**	**23 19 49.2**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=127,slow=2.4,SNR=10						
WRA				LR	LR	23 45 53.8	
	comp=Z,53nm,18.3s,baz=290,slow=41						
WRAB	**Tennant Creek**	**82.76**	**121**	*de*P	**P**	**23 01 23.6**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,17nm,0.9s						
WRAB	**Tennant Creek**	**82.76**	**121**	P	**P**	**23 01 23.2**	**-2.0**
WRAB				IAmb	IAmb	23 01 24.2	
	comp=Z,20nm,0.7s						
WB2	**Warramunga Arr**	**82.77**	**121**	P	**P**	**23 01 23.2**	**-2.1**
WB2				IAmb	IAmb	23 01 24.3	
	comp=Z,20nm,0.7s						
WR0	**Warramunga Arr**	**82.91**	**121**	P	**P**	**23 01 24.1**	**-1.9**
WR0				IAmb	IAmb	23 01 26.3	
	comp=Z,12nm,0.7s						
BESE	**Bessie Mountai**	**83.14**	**13**	P	**P**	**23 01 27.8**	**+1.0**
BESE				IAmb	IAmb	23 01 42.4	
	comp=Z,26nm,1.0s						
DLBC	**Dease Lake**	**84.06**	**10**	P	**P**	**23 01 32.3**	**+0.9**
DLBC				IAmb	IAmb	23 01 46.8	
	comp=Z,9.9nm,0.9s						
ASAR	**Alice Springs**	**84.99**	**124**	P	**P**	**23 01 35.1**	**-1.5**
	comp=Z,11nm,0.6s,baz=311,slow=4.8,SNR=160						
ASAR				PKKPbc	**PKKPbc**	**23 19 44.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=121,slow=2.8,SNR=7.3						
ASAR				LR	LR	23 44 46.0	
	comp=Z,95nm,18.8s,baz=316,slow=39						
ASAR	**Alice Springs**	**84.99**	**124**	P	**P**	**23 01 34.6**	**-2.0**
ASAR	**Alice Springs**	**84.99**	**124**	P	**P**	**23 01 34.6**	**-2.0**
COEN	**Coen**	**85.26**	**111**	P	**P**	**23 01 36.1**	**-2.0**
COEN				IAmb	IAmb	23 01 37.5	
	comp=Z,12nm,0.8s						
WRAK	**Wrangell Islan**	**85.63**	**12**	P	**P**	**23 01 40.0**	**+0.7**
CTAO	**Charters Tower**	**91.38**	**114**	P	**P**	**23 02 05.7**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,12nm,0.9s						
CTAO	**Charters Tower**	**91.38**	**114**	P	**P**	**23 02 05.7**	**-1.5**
CTAO				IAmb	IAmb	23 02 06.2	
	comp=Z,12nm,0.8s						
ULM	**Lac du Bonnet**	**92.79**	**351**	P	**P**	**23 02 13.5**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=352,slow=3.5,SNR=3.2						
ULM				LR	LR	23 49 07.5	
	comp=Z,167nm,18.9s,baz=9.5,slow=39						
ULM	**Lac du Bonnet**	**92.79**	**351**	IAmb	IAmb	23 02 15.1	
	comp=Z,24nm,1.5s						
WALA	**Waterton Lakes**	**94.84**	**2**	P	**P**	**23 02 24.1**	**+1.2**
STKA	**Stephens Creek**	**95.51**	**126**	P	**P**	**23 02 24.0**	**-2.0**
	comp=Z,2.7nm,0.8s,baz=335,slow=6.0,SNR=3.8						
STKA				LR	LR	23 53 36.4	
	comp=Z,102nm,18.1s,baz=248,slow=41						
STKA	**Stephens Creek**	**95.51**	**126**	P	**P**	**23 02 24.0**	**-2.0**
PDAR	**Pinedale Array**	**101.20**	**360**	P	**Pdif**	**23 02 52.6**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=356,slow=4.0,SNR=1.7						
NVAR	**Mina Array Bea**	**105.15**	**7**	PKiKP	**PKiKP**	**23 07 24.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=330,slow=3.1,SNR=2.7						
RCBR	**Riachuelo**	**106.08**	**275**	*e*P	**Pdif**	**23 03 11.6**	**-2.1**
SYO	**Syowa Base**	**107.47**	**191⇑**	*e*X	**Pdif**	**23 03 17.6**	**-0.8**
TXAR	**Lajitas Array**	**114.32**	**354**	PKP	**PKiKP**	**23 07 40.8**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=18,slow=3.2,SNR=4.1						
TXAR				PP	**PP**	**23 08 33.5**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=46,slow=4.3,SNR=2.7						
TXAR				PKKPbc	**PKKPbc**	**23 18 18.9**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=219,slow=2.3,SNR=1.9						
SNAA	**Sanae**	**118.98**	**200**	PKPdf	**PKPdf**	**23 07 48.3**	**-0.2**
VNA2	**Neumayer--Watz**	**119.96**	**202**	PKPdf	**PKiKP**	**23 07 50.5**	**+0.1**
VNA3	**Neumayer Olymp**	**120.77**	**202**	PKPdf	**PKPdf**	**23 07 51.1**	**-0.8**
VNDA	**Vanda**	**125.67**	**164**	PKP	**PKPdf**	**23 08 00.2**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=307,slow=5.8,SNR=5.5						
QSPA	**South Pole Qui**	**126.21**	**180**		**PKPdf**	**23 08 01.7**	**-0.8**
LPAZ	**La Paz**	**137.72**	**287**	PKP	**PKPdf**	**23 08 26.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=166,slow=8.9,SNR=3.5						
LPAZ	**La Paz**	**137.72**	**287**	*e*P	**PKPdf**	**23 08 25.5**	**-0.9**
PLCA	**Paso Flores**	**148.90**	**250**	PKPbc	**PKPbc**	**23 08 48.9**	**+0.3**
	comp=Z,7.3nm,1.0s,baz=105,slow=5.9,SNR=8.6						
PLCA	**Paso Flores**	**148.90**	**250**		**PKiKP**	**23 08 49.4**	**-0.6**
PLCA	**Paso Flores**	**148.90**	**250**	*e*P	**PKPdf**	**23 08 45.6**	**+1.0**

*ISN **28** 00:00:40.2±1.1, 32°.7N×47°.57E, h15km±5km, ML4.4*
*IDC **28** 00:00:40.3±0.7, 32°.72N×47°.61E, h0km, mb4.2/24, mb1 4.2/31, mb1mx4.1/58, mbtmp4.2/31, ML4.1/5, MS3.8/22, Ms1 3.8/22, ms1mx3.7/31, Error ellipse: s-maj=16.7km s-min=11.1km az=169.0*
*THR **28** 00:00:40.1±0.7, 32°.70N×47°.56E, h14km±11km, ML4.5*
*TEH **28** 00:00:40.8, 32°.77N×47°.56E, h15km, ML4.5*
*NEIC **28** 00:00:41.4±1.6, 32°.73N±0°.06×47°.57E±0°.07, h10km±1km, mb4.6/73, mb_Lg4.5(TEH), Error ellipse: s-maj=10.8km s-min=9.9km az=230.0*
*MOS **28** 00:00:42.6±1.1, 32°.65N×47°.58E, h32km, mb4.8/38, Error ellipse: s-maj=6.1km s-min=4.0km az=113.9*
*GII **28** 00:00:44.8±0.4, 32°.66N×47°.58E, h40km*
*OMAN **28** 00:00:47.5±3.3, 32°.58N×47°.76E, h44km±19km, mb5.4/7, ms3.5/5, Error ellipse: s-maj=10.8km s-min=3.1km az=296.0*

ISC 28 00:00:43.3±0.3, 32°.68N±0°.03×47°.56E±0°.03, h23km, n414, σ1§43/412, mb4.5/100, MS3.9/21, 23C-28D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**269**	*e*Pg	**Pb**	**00 00 47.6**	**-1.6**
IBDR	**Badra**	**1.43**	**288**	*e*Pg	**Pn**	**00 01 06.0**	**-1.9**
IBDR				*e*Sg	**Sn**	**00 01 25.0**	**-1.0**
IBDR				AML	AML	00 01 43.5	
	comp=N,7μm,0.6s						
IBDR				AML	AML	00 01 46.1	
	comp=E,7μm,0.5s						
IKOM	**Komasi**	**1.49**	**359**	*e*		00 01 32.9	
IKOM				*e*Pg	**Pn**	**00 01 09.3**	**+0.5**
AHWZ	**Ahwaz**	**1.64**	**145**	*e*Pg	**Pb**	**00 01 13.9**	**+1.1**
KCHF	**Cheshme Sefid,**	**1.64**	**345**	*e*Pg	**Pn**	**00 01 11.7**	**+0.7**
KER	**Kermanshah**	**1.73**	**348**	*e*Pg	**Pn**	**00 01 13.5**	**+1.3**
HSAM	**Samen**	**1.76**	**30**	*e*Pg	**Pn**	**00 01 13.9**	**+1.3**
HSAM				*e*		00 01 24.5	
IBZA	**Bozab**	**1.80**	**8**	*e*Pg	**Pb**	**00 01 14.9**	**-0.9**
IBZA				*e*		00 01 48.2	
IGHG	**Ghaleghazi**	**1.84**	**334**	*e*Pg	**Pb**	**00 01 15.4**	**-1.0**
IVIS	**Veis**	**1.93**	**342**	*e*Pn	**Pn**	**00 01 16.0**	**+1.1**
IVIS				*e*		00 01 49.2	
NSR	**Nassriya**	**2.06**	**216**	*e*Pn	**Pn**	**00 01 17.0**	**+0.5**
NSR				*e*Sn	**Sn**	**00 01 43.0**	**+1.6**
NSR				AML	AML	00 02 04.2	
	comp=E,1μm,0.5s						
IALM	**Almabolaq**	**2.23**	**13**	*e*Pn	**Pn**	**00 01 20.7**	**+1.6**
IALM				*e*		00 02 00.2	
IDHR	**Dehrash**	**2.23**	**334**	*e*Pn	**Pn**	**00 01 20.2**	**+1.1**
KHMZ	**Khomeyn**	**2.27**	**62**	*e*Pg	**Pn**	**00 01 21.1**	**+1.4**
KHMZ	**Khomeyn**	**2.27**	**62**	*e*Pn	**Pn**	**00 01 21.1**	**+1.4**
ILIN	**Lien**	**2.28**	**348**	*e*Pn	**Pn**	**00 01 21.1**	**+1.3**
ILIN				*e*		00 02 00.0	
SNGE	**Sanandaj**	**2.41**	**356**	*e*Pn	**Pn**	**00 01 20.7**	**-0.9**
SNGE				*e*Sg	**Sb**	**00 01 55.4**	**-0.1**
SNGE				IAML		00 02 01.0	
	comp=N,2μm,0.4s						
SNGE	**Sanandaj**	**2.41**	**356**	*e*Pn	**Pn**	**00 01 20.7**	**-0.9**
HAGD	**Aghdareh**	**2.51**	**31**	*e*Pn	**Pn**	**00 01 24.4**	**+1.5**
HAGD				*e*		00 02 08.3	
HSRG	**Sareghieh**	**2.62**	**13**	*e*Pn	**Pn**	**00 01 26.1**	**+1.6**
HSRG				*e*		00 02 07.9	
JHBN	**Jahan bin**	**2.67**	**99**	*e*Pn	**Pn**	**00 01 26.6**	**+1.4**
BHD	**Baghdad**	**2.73**	**283**	*e*Pn	**Pn**	**00 01 25.0**	**-0.8**
BHD				*e*Sn	**Sn**	**00 01 59.0**	**+0.9**
BHD				AML	AML	00 02 23.1	
	comp=E,5μm,0.6s						
ASAO	**Ashtian**	**2.77**	**47**	*e*Pn	**Pn**	**00 01 25.9**	**-0.6**
ASAO	**Ashtian**	**2.77**	**47**	*e*Pn	**Pn**	**00 01 26.0**	**-0.6**
IPIR	**Pirpir**	**2.81**	**89**	*e*Pn	**Pn**	**00 01 28.5**	**+1.3**
IPIR				*e*		00 02 22.6	
ROKH	**ROKH**	**2.96**	**96**	*e*Pn	**Pn**	**00 01 30.8**	**+1.7**
IBRJ	**Brojen**	**3.23**	**103**	*e*Pn	**Pn**	**00 01 34.2**	**+1.3**
QAM	**Ghamsar**	**3.43**	**71**	*e*Pn	**Pn**	**00 01 37.9**	**+2.3**
IKLH	**Kolahrood**	**3.44**	**78**	*e*Pn	**Pn**	**00 01 37.4**	**+1.6**
IKLH				*e*		00 02 43.5	
QABG	**Abgarm-Qazvin**	**3.45**	**29**	*e*Pn	**Pn**	**00 01 36.9**	**+1.0**
GHVR	**GHOM**	**3.60**	**59**	*e*Pn	**Pn**	**00 01 37.2**	**-0.6**
GHVR	**GHOM**	**3.60**	**59**	*e*Pn	**Pn**	**00 01 37.2**	**-0.6**
IGAR	**Gharneh**	**3.80**	**93**	*e*Pn	**Pn**	**00 01 41.9**	**+1.2**
IGAR				*e*		00 01 46.0	
IZEF	**Zefreh**	**4.03**	**86**	*e*Pn	**Pn**	**00 01 44.6**	**+0.8**
QSDN	**Sirdan**	**4.04**	**19**	*e*Pn	**Pn**	**00 01 45.7**	**+1.7**
KRSH	**Karshahi**	**4.04**	**70**	*e*Pn	**Pn**	**00 01 45.1**	**+1.1**
ZNJK	**Zanjan**	**4.08**	**13**	*e*Pn	**Pn**	**00 01 44.6**	**0.0**
ZNJK	**Zanjan**	**4.08**	**13**	*e*Pn	**Pn**	**00 01 44.6**	**0.0**
IHSB	**Hasanabad**	**4.13**	**47**	*e*Pn	**Pn**	**00 01 46.4**	**+1.3**
IRAM	**Ramesheh**	**4.18**	**101**	*e*Pn	**Pn**	**00 01 46.4**	**+0.5**
MAHB	**Mahabad**	**4.35**	**340**	*e*Pn	**Pn**	**00 01 49.3**	**+1.2**
CHTH	**Charan**	**4.37**	**42**	*e*Pn	**Pn**	**00 01 48.4**	**-0.1**
CHTH	**Charan**	**4.37**	**42**	*e*Pn	**Pn**	**00 01 48.4**	**-0.1**
QALM	**Alamut, Qazvin**	**4.53**	**33**	*e*Pn	**Pn**	**00 01 51.9**	**+1.2**
IDMV	**Damavand**	**4.70**	**51**	*e*Pn	**Pn**	**00 01 54.0**	**+0.9**
ISRB	**Sarab**	**5.13**	**1**	*e*Pn	**Pn**	**00 02 00.7**	**+1.8**
IAZR	**Azarshahr**	**5.15**	**346**	*e*Pn	**Pn**	**00 01 59.7**	**+0.5**
IFIR	**Firoozkooh**	**5.22**	**54**	*e*Pn	**Pn**	**00 02 01.4**	**+1.1**
ILAS	**Lasjerd**	**5.23**	**58**	*e*Pn	**Pn**	**00 02 01.5**	**+1.1**
IPRN	**Peran**	**5.31**	**47**	*e*Pn	**Pn**	**00 02 03.2**	**+1.8**
CUKT	**Cukurca**	**5.59**	**326**	*e*P	**Pn**	**00 02 05.2**	**0.0**
CUKT	**Cukurca**	**5.59**	**326**	*e*Pn	**Pn**	**00 02 04.9**	**-0.3**
IHRS	**Heris**	**5.64**	**356**	*e*Pn	**Pn**	**00 02 07.5**	**+1.6**
ITBZ	**Tabriz**	**5.66**	**349**	*e*Pn	**Pn**	**00 02 06.0**	**-0.1**
ISHM	**Shahmirzad**	**5.68**	**55**	*e*Pn	**Pn**	**00 02 07.9**	**+1.3**
AHAR	**Ahar**	**5.81**	**356**	*e*Pn	**Pn**	**00 02 10.1**	**+1.9**
IANJ	**Anjilo**	**5.96**	**61**	*e*Pn	**Pn**	**00 02 10.6**	**+0.2**
IMRD	**Marand**	**6.20**	**346**	*e*Pn	**Pn**	**00 02 15.3**	**+1.7**
SIRT	**Sirnak**	**6.38**	**320**	*e*P	**Pn**	**00 02 15.1**	**-0.9**
SIRT	**Sirnak**	**6.38**	**320**	*e*Pn	**Pn**	**00 02 16.0**	**0.0**
IGLO	**Ghaloghah**	**6.42**	**52**	*e*Pn	**Pn**	**00 02 18.2**	**+1.5**
GEVA	**Gevas**	**6.71**	**328**	*e*Pn	**Pn**	**00 02 21.4**	**+0.8**
GEVA	**Gevas**	**6.71**	**328**	Pn	Pn	00 02 16.0	-4.5
AKDM	**Akdamar-Van**	**6.75**	**328**	*e*P	**Pn**	**00 02 22.8**	**+1.6**
VANB	**Van**	**6.80**	**331**	*e*P	Pb	00 02 35.4	-5.5
CLDR	**Caldiran**	**7.09**	**336**	*e*P	**Pn**	**00 02 22.1**	**-3.8**
MARD	**Mardin**	**7.23**	**312**	Pn	**Pn**	**00 02 26.6**	**-1.1**
GURO	**Guroymak-BITLI**	**7.38**	**324**	*e*P	**Pn**	**00 02 29.2**	**-0.6**
GURO	**Guroymak-BITLI**	**7.38**	**324**	*e*Pn	**Pn**	**00 02 32.4**	**+2.6**
SVAN	**Silvan-Diyarba**	**7.53**	**318**	*e*P	**Pn**	**00 02 29.9**	**-1.8**
SVAN	**Silvan-Diyarba**	**7.53**	**318**	*e*Pn	**Pn**	**00 02 31.6**	**-0.1**
TNSJ	**Nastanj**	**7.68**	**78**	*e*Pn	**Pn**	**00 02 34.8**	**+0.9**
TASB	**TASBURUN-IGDIR**	**7.76**	**341**	*e*P	Pn	00 02 45.5	+11
AGRB	**Hanur-Agry**	**7.80**	**333**	*e*P	Pn	00 02 42.9	+7.3
TKDS	**Koohdasht(Taba**	**8.08**	**81**	*e*Pn	**Pn**	**00 02 40.3**	**+1.0**
VRTB	**Varto-Mus**	**8.14**	**324**	*e*P	**Pn**	**00 02 42.5**	**+2.3**
BNGB	**Bingl**	**8.41**	**320**	*e*P	**Pn**	**00 02 43.3**	**-0.6**
NGRK	**Negar Kerman**	**8.43**	**109**	*e*Pn	**Pn**	**00 02 44.9**	**+0.5**
KARO	**Karliova-Bingo**	**8.45**	**323**	*e*P	Pn	00 02 51.0	+6.5
URFA	**Urfa**	**8.59**	**306**	*e*P	**Pn**	**00 02 46.1**	**-0.2**
SVRC	**Sivrice-ELAZID**	**8.80**	**313**	*e*P	**Pn**	**00 02 49.2**	**-0.1**
YEDI	**Yedisu-Bingol**	**8.81**	**322**	*e*P	**Pn**	**00 02 51.6**	**+2.2**
SENK	**Senkaya-Erzuru**	**8.90**	**333**	*e*P	**Pn**	**00 02 54.1**	**+3.4**
CHMN	**Cheshme madani**	**9.00**	**106**	*e*Pn	**Pn**	**00 02 53.9**	**+1.7**
ASF	**Jabal al Asfar**	**9.02**	**270**	Pn	**Pn**	**00 02 52.0**	**-0.3**
	comp=E,1.4nm,0.3s,baz=41,slow=10,SNR=16						
ASF				Sn	**Sn**	**00 04 31.0**	**-2.3**
	comp=E,0.7nm,0.3s,baz=34,slow=18,SNR=1.5						
ASF				Lg	Lg	00 05 27.9	
	comp=E,1.4nm,0.3s,baz=219,slow=16,SNR=3.8						
ASF				LR	LR	00 07 18.4	
	comp=E,360nm,19.4s,baz=45,slow=44						
PTK	**Pertek**	**9.07**	**315**	*e*P	**Pn**	**00 02 53.0**	**0.0**
KOPT	**Kop Dagi**	**9.27**	**324**	Pn	Pn	**00 02 53.6**	**-2.2**
AKH	**Akhalkalaki**	**9.29**	**341**	P	Pn	**00 02 55.0**	**-1.0**
AKH	**Akhalkalaki**	**9.29**	**341**	Pn	**Pn**	**00 02 55.0**	**-1.0**
MALT	**Malatya**	**9.32**	**310**	*e*P	**Pn**	**00 02 58.3**	**+1.9**
ITEG	**Tejag**	**9.43**	**86**	*e*Pn	**Pn**	**00 02 58.5**	**+0.6**
GAZ	**Gaziantep**	**9.60**	**301**	Pn	**Pn**	**00 02 58.6**	**-1.5**
ISFR	**Sfrayin**	**9.62**	**60**	*e*Pn	**Pn**	**00 03 02.1**	**+1.4**
IKOO	**Kooshah**	**9.67**	**88**	*e*Pn	**Pn**	**00 03 02.7**	**+1.4**
GNBR	**Gunib**	**9.70**	**357⇑**	*e*P	**Pn**	**00 03 02.3**	**+0.8**
IKRD	**Kardeh**	**9.90**	**63**	*e*Pn	Pn	00 03 16.6	+12
SHMJ	**Saham**	**9.94**	**273**	Pn	**Pn**	**00 03 05.9**	**+1.2**
NATI	**Neve Ativ**	**9.95**	**277**	Pn	**Pn**	**00 03 05.6**	**+0.8**
KMRS	**Kahramanmaras**	**9.96**	**302**	*e*P	Pn	00 02 59.1	-6.0
GEM	**Giv'at Ha'Em**	**10.01**	**276**	Pn	**Pn**	**00 03 07.0**	**+1.3**
GEYT	**Alibeck**	**10.09**	**56**	Pn	**Pn**	**00 03 10.9**	**+4.1**
	comp=E,0.2nm,0.3s,baz=251,slow=9.0,SNR=5.8						
GEYT				Lg	Lg	00 05 59.9	
	comp=E,0.1nm,0.3s,baz=233,slow=14,SNR=1.4						
GEYT				LR	LR	00 07 59.9	
	comp=E,421nm,18.3s,baz=0.0,slow=44						
GEYT	**Alibeck**	**10.09**	**56**	Pn	**Pn**	**00 03 04.7**	**-2.2**
GYA0B	**ALIBECK ARRAY**	**10.09**	**56**	Pn	**Pn**	**00 03 06.9**	**0.0**
IPAY	**Payeh**	**10.15**	**65**	*e*Pn	**Pn**	**00 03 10.2**	**+2.3**
HMDT	**Nahal Hemdat**	**10.17**	**271**	Pn	**Pn**	**00 03 09.1**	**+1.2**
BANOM	**Banah**	**10.18**	**129**	P	**Pn**	**00 03 09.0**	**+0.9**
BANOM				S	**Sn**	**00 04 58.2**	**-3.3**
IMON	**Monand**	**10.19**	**84**	*e*Pn	**Pn**	**00 03 09.7**	**+1.3**
MMA1	**Mount Meron ar**	**10.23**	**275**	Pn	**Pn**	**00 03 09.4**	**+0.6**
MMAI	**Mount Meron Ar**	**10.23**	**275**	Pn	**Pn**	**00 03 10.8**	**+2.0**
	comp=E,0.8nm,0.3s,baz=72,slow=18,SNR=6.5						
MMAI				Lg	Lg	00 06 06.2	
	comp=E,2.3nm,0.3s,baz=95,slow=30,SNR=1.9						
IEMG	**Emamgholi**	**10.25**	**59**	*e*Pn	**Pn**	**00 03 11.1**	**+1.9**
MAK	**Makhachkala**	**10.26**	**360**	*e*P	**Pn**	**00 03 07.5**	**-1.6**
MAK				*e*S	**Sn**	**00 05 00.7**	**-2.6**
MAK				pmax	pmax		
	comp=Z,244nm,1.2s						
MAK				MLR	MLR		
	comp=Z,1μm,12.0s						
GHAJ	**Ghor Haditha**	**10.27**	**266**	Pn	**Pn**	**00 03 10.4**	**+1.1**
DVE	**Vedeno**	**10.32**	**354**	*de*P	**Pn**	**00 03 14.1**	**+4.1**
DSI	**Dead Sea**	**10.38**	**267**	Pn	**Pn**	**00 03 11.4**	**+0.5**
ZEI	**Tsey**	**10.49**	**345**	*e*P	**Pn**	**00 03 16.3**	**+3.8**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GROC	**Groznyy**	**10.59**	**353**	*e*P	Pn	00 03 19.9	+6.3
GROC				pmax	pmax		
	comp=Z,31nm,1.4s						
GROC				MLR	MLR		
	comp=Z,376nm,9.0s						
MDH	**Madha**	**10.61**	**132**	P	**Pn**	**00 03 14.9**	**+0.9**
MDH				P	**Pn**	**00 03 14.9**	**+0.9**
MDH				S	**Sn**	**00 05 09.0**	**-3.2**
MDH				S	**Sn**	**00 05 09.0**	**-3.2**
UOSS	**Minazif**	**10.81**	**133**	P	**Pn**	**00 03 17.1**	**+0.3**
UOSS				P	**Pn**	**00 03 17.1**	**+0.3**
UOSS	**Minazif**	**10.81**	**133**	Pn	**Pn**	**00 03 16.2**	**-0.5**
ASHO	**Ashiyiah**	**10.92**	**135**	P	**Pn**	**00 03 18.3**	**+0.1**
ASHO				S	**Sn**	**00 05 18.2**	**-1.4**
IMYA	**Miami**	**10.97**	**67**	*e*Pn	**Pn**	**00 03 21.8**	**+2.7**
HRFI	**Mount Harif**	**11.02**	**259**	Pn	**Pn**	**00 03 20.6**	**+1.0**
EIL	**Elat**	**11.21**	**258**	Pn	**Pn**	**00 03 25.4**	**+3.3**
	comp=Z,0.7nm,0.3s,baz=90,slow=4.3,SNR=4.2						
EIL				Lg	Lg	00 06 38.1	
	comp=Z,0.7nm,0.3s,baz=279,slow=16,SNR=2.2						
EIL	**Elat**	**11.21**	**258**	Pn	**Pn**	**00 03 23.5**	**+1.4**
KRMI	**Paran Flat**	**11.26**	**260**	Pn	**Pn**	**00 03 23.3**	**+0.4**
SOHO	**SOHO**	**11.61**	**135**	P	**Pn**	**00 03 28.3**	**+0.6**
SOHO				P	**Pn**	**00 03 28.3**	**+0.6**
SOHO				S	**Sn**	**00 05 34.9**	**-1.8**
SOHO				S	**Sn**	**00 05 34.9**	**-1.8**
KBZ	**Khabaz**	**11.62**	**343**	Pn	**Pn**	**00 03 31.0**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=171,slow=8.5,SNR=4.6						
KBZ				LR	LR	00 09 01.6	
	comp=Z,253nm,19.7s,baz=146,slow=43						
KBZ	**Khabaz**	**11.62**	**343⇑**	*e*P	**Pn**	**00 03 30.0**	**+2.4**
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KVAR	**Kislovodsk Arr**	**11.88**	**343**	LR	LR	00 07 45.3	
	comp=Z,514nm,18.1s,baz=88,slow=36						
KIV	**Kislovodsk**	**11.88**	**343**	*e*P	**Pn**	**00 03 34.7**	**+3.3**
KIV				pmax	pmax		
	comp=Z,35nm,1.0s						
KIV				MLR	MLR		
	comp=Z,356nm,10.0s						
KIV	**Kislovodsk**	**11.88**	**343**	Pn	**Pn**	**00 03 30.0**	**-1.4**
CSS	**Mathiatis**	**12.05**	**285**	Pn	**Pn**	**00 03 34.1**	**+0.4**
HRA	**Herat**	**12.37**	**78**	Pn	**Pn**	**00 03 37.3**	**-1.0**
SOC	**Sochi**	**12.50**	**333**	*e*P	**Pn**	**00 03 41.0**	**+1.3**
SOC				*e*		00 06 02.3	
SOC				pmax	pmax		
	comp=Z,23nm,1.0s						
SOC				MLR	MLR		
	comp=Z,718nm,13.0s						
BSY	**Bisya**	**13.07**	**137**	P	**Pn**	**00 03 47.4**	**-0.2**
BSY				S	**Sn**	**00 06 08.0**	**-4.4**
BR131	**Keskin Array S**	**13.24**	**306⇑**	*e*P	**Pn**	**00 03 52.0**	**+1.9**
BR131	**Keskin Array S**	**13.24**	**306**		**Pn**	**00 03 46.6**	**-3.5**
BRTR	**Keskin Array B**	**13.24**	**306**	Pn	**Pn**	**00 03 53.0**	**+2.9**
	baz=126,slow=12,SNR=10						
BRTR				LR	LR	00 09 26.1	
	comp=Z,97nm,19.0s,baz=120,slow=40						
BRTR	**Keskin Array B**	**13.24**	**306**	P	**Pn**	**00 03 53.0**	**+2.9**
BRTR	**Keskin Array B**	**13.24**	**306**		**Pn**	**00 03 49.1**	**-1.0**
WSAR	**Wadi Sarin**	**13.57**	**131**	Pn	**Pn**	**00 03 52.7**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=311,slow=7.1,SNR=12						
WSAR	**Wadi Sarin**	**13.57**	**131**	P	**Pn**	**00 03 54.4**	**-0.1**
	SNR=8.0						
WSAR				S	**Sn**	**00 06 25.0**	**+0.5**
BR231	**Keskin MP Arra**	**13.89**	**305**	Pn	**Pn**	**00 03 56.7**	**-2.2**
ISP	**Isparta**	**14.83**	**295**	P	**Pn**	**00 04 13.1**	**+1.5**
ISP	**Isparta**	**14.83**	**295**	Pn	**Pn**

FRU1 pmax pmax
comp=Z,12nm,1.2s
FRU1 Bishkek 23.58 57 P **P 00 05 52.9 +0.5**
OBN Obninsk 23.72 344 P **P 00 05 53.5 +0.1**
comp=Z,3.6nm,0.4s,baz=308,slow=4.9,SNR=4.8
OBN Obninsk 23.72 344⇓ *i* P **P 00 05 53.5 +0.1**
OBN *e* 00 06 01.8
OBN *PP **sP** **00 06 05.0 +1.6**
OBN 00 06 21.0
OBN SS Sn 00 10 52.0 +23
OBN pmax pmax
comp=Z,105nm,2.5s
OBN MLR MLR
comp=Z,256nm,15.0s
OBN Obninsk 23.72 344 P **P 00 05 53.3 -0.1**
BZS Buzias 23.78 310⇓ P **P 00 05 54.7 +0.5**
KSH Kashi 23.89 65 P **P 00 05 54.0 -1.4**
KSH S **S 00 10 02.8 -7.6**
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH pmax pmax
comp=Z,190nm,6.5s
KSH LR LR
comp=N,460nm,13.2s
KSH LR LR
comp=E,960nm,14.9s
KSH LR LR
comp=Z,1μm,18.3s
BANR Banloc 24.00 310⇑ P **P 00 05 58.0 +1.8**
SIRR Siria 24.03 312⇓ P **P 00 05 57.7 +1.2**
MOS Moscow 24.07 346 *e*P **P 00 05 56.2 -0.5**
MOS *e*S **S 00 10 17.2 +4.5**
MOS pmax pmax
comp=Z,50nm,1.1s
DIVS Divibare 24.31 306 P **P 00 05 59.8 +0.6**
DIVS IAmb IAmb 00 06 08.6
comp=Z,12nm,1.2s
BOOM Boomskoye usch 24.43 58 P **P 00 05 58.7 -1.7**
BOOM pmax pmax
comp=Z,14nm,1.0s
BOOM Boomskoye usch 24.43 58 P **P 00 05 58.7 -1.7**
BOOM IAmb IAmb 00 06 11.6
comp=Z,14nm,1.0s
UZH Uzhgorod 24.76 317 *e*P **P 00 06 03.8 +0.7**
UZH *e* 00 06 17.8
UZH *e*S **S 00 10 20.9 -3.0**
UZH *e*SS SnSn 00 11 32.0 +21
KOLS Kolonicke sedl 24.93 318 *e*P **P 00 06 05.3 +0.7**
KOLS pmax pmax
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 24.93 318 *e*P **P 00 06 05.3 +0.7**
ARU Arti 24.94 15 P **P 00 06 04.4 -0.3**
comp=Z,1.2nm,0.6s,baz=185,slow=12,SNR=4.2
ARU Arti 24.94 15*c* *i* P **P 00 06 08.2 +3.6**
ARU 00 06 43.8
ARU pmax pmax
comp=Z,32nm,1.5s
ARU Arti 24.94 15 IAmb IAmb 00 06 11.4
comp=Z,23nm,1.2s
KWP Kalwaria Pacla 25.06 320 P **P 00 06 07.3 +1.5**
KWP pmax pmax
comp=Z,39nm,1.2s
KWP Kalwaria Pacla 25.06 320 P **P 00 06 07.3 +1.5**
FURI Furi 25.06 201 P **P 00 06 07.2 +0.8**
KDJ Kajisay 25.25 60 P **P 00 06 08.1 +0.3**
KDJ pmax pmax
comp=Z,21nm,1.4s
KDJ Kajisay 25.25 60 P **P 00 06 08.1 +0.3**
KDJ IAmb IAmb 00 06 11.3
comp=Z,21nm,1.4s
CRVS Cervenica-Dubn 25.37 317 *e*P **P 00 06 09.8 +1.2**
CRVS pmax pmax
comp=Z,21nm,0.9s
CRVS Cervenica-Dubn 25.37 317 *e*P **P 00 06 09.8 +1.2**
TARG Taragay, Kyrgy 25.62 61 IAmb IAmb 00 06 18.8
comp=Z,9.4nm,0.9s
TIP Timpagrande 25.69 293⇑ P **P 00 06 12.9 +1.2**
TIP Timpagrande 25.69 293 P **P 00 06 11.3 -0.4**
TIP IAmb IAmb 00 06 18.8
comp=Z,12nm,0.9s
KECS Kecovo 25.73 316 *e*P **P 00 06 13.4 +1.5**
KECS pmax pmax
comp=Z,15nm,1.0s
KECS Kecovo 25.73 316 *e*P **P 00 06 13.4 +1.5**
SVE Sverdlovsk 25.77 17 *e*P **P 00 06 12.4 +0.2**
PSZ Piszkesteto 25.83 314⇓ P **P 00 06 14.2 +1.3**
PSZ Piszkesteto 25.83 314 P **P 00 06 13.9 +1.0**
PSZ pmax pmax
comp=Z,19nm,1.0s
PSZ Piszkesteto 25.83 314 P **P 00 06 13.8 +1.0**
PSZ IAmb IAmb 00 06 16.4
comp=Z,19nm,1.0s
KIRV Kirov 25.93 2 P **P 00 06 15.2 +1.6**
comp=Z,16nm,0.5s,baz=171,slow=8.5,SNR=9.4
KIRV Kirov 25.93 2⇓ *e*P **P 00 06 15.3 +1.7**
BRVK Borovoye 26.11 32⇑ *e*P **P 00 06 14.9 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 26.11 32 P **P 00 06 15.5 +0.2**
BRVK IAmb IAmb 00 06 25.3
comp=Z,11nm,1.0s
BVAR Borovoye Array 26.13 32 P **P 00 06 15.6 +0.1**
comp=Z,3.3nm,0.6s,baz=237,slow=16,SNR=21
BVAR PcP **PcP 00 09 41.9 -0.4**
comp=Z,0.3nm,0.3s,baz=212,slow=5.1,SNR=1.7
NACGM Naroch 26.60 333 *e* **P 00 06 19.0 -0.7**
LANS Liptovska Anna 26.64 316 *e*P **P 00 06 21.5 +1.3**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 26.64 316 *e*P **P 00 06 21.5 +1.3**
VYHS Vyhne 26.72 315 *e*P **P 00 06 21.8 +0.9**
VYHS Vyhne 26.72 315 *e*P **P 00 06 21.8 +0.9**
SRO Srobarova 26.75 313 *e*P **P 00 06 22.3 +1.2**
SRO Srobarova 26.75 313 *e*P **P 00 06 22.3 +1.2**
IDID Didziasalis 26.93 333 *e*P **P 00 06 25.3 +2.7**
OJC Ojcow 26.97 319 P **P 00 06 23.6 +0.5**
OJC pmax pmax
comp=Z,17nm,0.9s
OJC Ojcow 26.97 319 P **P 00 06 23.6 +0.5**
OJC IAmb IAmb 00 06 35.5
comp=Z,17nm,0.9s
IIGN Ignalina 27.15 333 *e*P **P 00 06 25.4 +0.7**
ISAL Salakas 27.35 333 *e*P **P 00 06 27.1 +0.6**
SUW Suwalki 27.48 328 P **P 00 06 27.0 -0.6**
SUW pmax pmax
comp=Z,48nm,1.0s
SUW Suwalki 27.48 328 P **P 00 06 27.0 -0.6**
JAVC Velka Javorina 27.57 315 *e*P **P 00 06 30.4 +1.8**
SMOL Smolenice 27.57 314 *e*P **P 00 06 29.5 +0.9**
SMOL pmax pmax
comp=Z,5.0nm,1.1s
SMOL Smolenice 27.57 314 *e*P **P 00 06 29.5 +0.9**
ZST Bratislava 27.65 313 *e*P **P 00 06 29.8 +0.6**
ZST pmax pmax
comp=Z,29nm,1.4s
ZST Bratislava 27.65 313 *e*P **P 00 06 29.8 +0.6**
MORC Moravsky Berou 28.04 316⇓ P **P 00 06 32.7 -0.1**
MORC Moravsky Berou 28.04 316 *e*P **P 00 06 32.9 +0.1**
MORC Moravsky Berou 28.04 316 P **P 00 06 32.6 -0.1**
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 28.04 316 P **P 00 06 32.6 -0.1**
PABE Paberze 28.16 331 *e*P **P 00 06 33.5 -0.1**
ARSA Arzberg 28.30 310 *i* pP **P 00 06 36.1 +1.0**
comp=Z,2.8nm,0.9s
CONA Conrad Observa 28.32 312 *e*P **P 00 06 36.1 +0.8**
comp=Z,3.7nm,1.1s
VRAC Vranov 28.40 315 P **P 00 06 36.7 +0.8**
comp=Z,1.3nm,0.4s,baz=101,slow=7.7,SNR=4.6
VRAC Vranov 28.40 315⇓ P **P 00 06 37.1 +1.2**
VRAC Vranov 28.40 315 *e*P **P 00 06 36.5 +0.6**
KRUC Moravsky 28.42 314 *e*P **P 00 06 36.2 +0.1**
KRLC Kraliky 28.61 317 *e*P **P 00 06 38.0 +0.1**
KRLC Kraliky 28.61 317 *e*P **P 00 06 38.0 +0.1**
KLMR Klimovskoe 28.67 352 *e*P **P 00 06 35.8 -2.3**
KLMR pmax pmax
comp=Z,29nm,1.1s
KLMR Klimovskoe 28.67 352 *e*P **P 00 06 35.8 -2.3**
KLMR AMP 00 06 41.7
comp=Z,29nm,1.1s
KURBB Kurchatov Arra 28.97 43 P **P 00 06 41.8 +0.8**
comp=Z,5.9nm,0.8s,baz=247,slow=9.3,SNR=18
DPC Dobruska-Polom 29.00 317 *e*P **P 00 06 41.5 +0.2**
DPC *e*pP **pP 00 06 47.8 -0.7**
DPC Dobruska-Polom 29.00 317 *e*P **P 00 06 41.5 +0.2**
DPC *e* 00 06 47.8
KURK Kurchatov 29.06 42*ce*P **P 00 06 42.2 +0.4**
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 29.06 42 P **P 00 06 41.9 +0.2**
KURK IAmb IAmb 00 06 47.3
comp=Z,10nm,0.8s
OSTC Ostas 29.15 317 *e*P **P 00 06 43.2 +0.6**
UPC Upice 29.25 317 *e*P **P 00 06 43.9 +0.5**
UPC Upice 29.25 317 *e*P **P 00 06 43.9 +0.5**
CHVC Chvalec 29.26 317 *e*P **P 00 06 43.8 +0.3**
CHVC *ex* x 00 06 57.5
MOA Molln 29.30 311 *i* P **P 00 06 44.6 +0.7**
comp=Z,5.8nm,1.1s,SNR=6.5
KBA Koelnbreinsper 29.66 309 *e*P **P 00 06 46.6 -0.7**
comp=Z,4.9nm,1.0s
GOPC GO Pecny, Ondr 29.72 315 *e*P **P 00 06 46.3 -1.4**
GOPC GO Pecny, Ondr 29.72 315 *e*P **P 00 06 46.3 -1.4**
ZOU Zoufplan 29.76 308 P **P 00 06 48.0 -0.3**
STAL STALIGIAL 29.86 307 P **P 00 06 48.9 -0.1**
PRU Pruhonice 29.90 315 *e*P **P 00 06 52.9 +3.7**
PRU Pruhonice 29.90 315 *e*P **P 00 06 52.9 +3.7**
MK31 Makanchi Array 29.93 52*d* *i* P **P 00 06 50.0 +0.5**
MK31 Makanchi Array 29.93 52 P **P 00 06 49.3 -0.3**
MKAR Makanchi Array 29.93 52 P **P 00 06 49.9 +0.3**
comp=Z,1.5nm,0.5s,baz=247,slow=11,SNR=27
MKAR PcP **PcP 00 09 54.1 +2.3**
comp=Z,0.5nm,0.8s,baz=252,slow=3.9,SNR=2.0
MKAR LR LR 00 19 41.3
comp=Z,66nm,19.9s,baz=254,slow=38
MKAR Makanchi Array 29.93 52 P **P 00 06 49.7 +0.2**
MKAR Makanchi Array 29.93 52 P **P 00 06 49.7 +0.2**
GEC2 GERESS Array S 29.99 313 P **P 00 06 49.5 -0.7**
GERES GERESS Array B 29.99 313 P **P 00 06 49.8 -0.3**
comp=Z,0.9nm,0.7s,baz=120,slow=7.9,SNR=9.5
GERES PcP **PcP 00 09 52.6 +0.6**
comp=Z,0.6nm,0.8s,baz=108,slow=2.2,SNR=3.5
GERES ScP **ScP 00 13 35.8 +3.0**
comp=Z,0.4nm,0.7s,baz=79,slow=5.1,SNR=2.3
CIMO Cimolais 30.06 307 P **P 00 06 50.0 -0.6**
PVCC Panska Ves 30.09 316 *e*P P 00 07 09.1 +18
PBCC Pribram 30.11 314 *e*P **P 00 06 51.3 +0.2**
PBCC *ex* x 00 06 56.8
ABTA Abfaltersbach 30.12 308 *e*P **P 00 06 51.7 +0.4**
comp=Z,3.4nm,1.0s
KHC Kasperske Hory 30.16 313 *e*P **P 00 06 51.3 -0.3**
KHC Kasperske Hory 30.16 313⇑ *e*P **P 00 06 51.8 +0.2**
KHC pmax pmax
comp=Z,3.0nm,1.3s
CTI Castel Tesino 30.53 306 P **P 00 06 55.3 +0.4**
CTI pmax pmax
comp=Z,8.0nm,0.8s
CTI Castel Tesino 30.53 306 P **P 00 06 55.3 +0.4**
CTI IAmb IAmb 00 06 58.6
comp=Z,8.3nm,0.8s
ZCCA Zocca 30.66 303 P **P 00 06 56.9 +0.9**
WATA Walderalm 30.89 309 *e*P **P 00 06 58.0 -0.2**
comp=Z,12nm,1.1s,SNR=6.9
VLC Villacollemand 31.04 303 IAmb IAmb 00 07 01.0
comp=Z,12nm,1.0s
SQTA Sankt Quirin 31.10 309 *e*P **P 00 06 60.0 -0.1**
comp=Z,5.6nm,0.7s,SNR=5.2
PRMA PARMA 31.19 304 P **P 00 07 01.0 +0.4**
MOTA Moosalm 31.20 309 *e*P **P 00 07 00.6 -0.3**
comp=Z,5.8nm,0.7s,SNR=5.5
SALO Salr 31.20 305 P **P 00 07 01.3 +0.5**
NKC Novy Kostel 31.24 315 *e*P **P 00 07 01.5 +0.4**
NKC *e*pP **pP 00 07 06.6 -1.7**
NKC Novy Kostel 31.24 315 *e*P **P 00 07 01.5 +0.4**
NKC *e* 00 07 06.6
CLL Collm 31.31 317 *e*P **P 00 07 02.0 +0.4**
CLL *e*(PP) 00 08 13.0
CLL *e*PPPP 00 08 22.0
CLL Collm 31.31 317 *e*P **P 00 07 02.0 +0.4**
CLL Collm 31.31 317 P **P 00 07 01.4 -0.2**
CLL IAmb IAmb 00 07 15.9
comp=Z,5.6nm,1.0s
FETA Feichten 31.37 308 *e*P **P 00 07 02.6 +0.2**
comp=Z,7.8nm,1.0s,SNR=7.8
RETA Reutte 31.46 309 *e*P **P 00 07 03.0 -0.1**
comp=Z,7.1nm,1.5s
KEST Kesra 31.61 286 P **P 00 07 06.8 +2.2**
comp=Z,4.2nm,1.0s,baz=103,slow=4.5,SNR=4.4
KEST Kesra 31.61 286 P **P 00 07 01.8 -2.8**
KEST IAmb IAmb 00 07 15.2
comp=Z,10nm,1.2s
MSSA Maissana 31.68 303 P **P 00 07 04.5 -0.6**
MSSA IAmb IAmb 00 07 06.6
comp=Z,11nm,1.1s
GRA1 Grafenberg Arr 31.80 313 IAmb IAmb 00 07 07.5
comp=Z,13nm,1.1s
GRF Grafenberg Arr 31.80 313 *e*P **P 00 07 06.7 +0.7**
comp=Z,7.1nm,1.0s,baz=110,slow=10
FIA1 FINESS Array S 31.96 341 P **P 00 07 08.1 +0.9**
FINES FINESS Array B 31.96 341 P **P 00 07 06.8 -0.4**
comp=Z,3.8nm,0.7s,baz=148,slow=11,SNR=14
FINES LR LR 00 21 26.6
comp=Z,241nm,18.9s,baz=69,slow=39
FINES FINESS Array B 31.96 341 P **P 00 07 07.4 +0.2**
FINES FINESS Array B 31.96 341 P **P 00 07 07.4 +0.2**
DAVA Damuels 32.00 308 *e*P **P 00 07 07.7 -0.2**
comp=Z,1.6nm,0.3s
BSD Bornholm Skovb 32.02 324 *i* P **P 00 07 07.5 -0.3**
BSD Bornholm Skovb 32.02 324 *i* P **P 00 07 07.5 -0.3**
TMCR Tamitsa 32.06 352 *e*P **P 00 07 07.7 -0.3**
TMCR pmax pmax
comp=Z,24nm,0.8s
TUE Stuetta 32.18 307 P **P 00 07 08.8 -0.8**
TUE IAmb IAmb 00 07 19.6
comp=Z,7.1nm,0.9s
WMQ Urumqi 33.13 59 *e*P **P 00 07 20.8 +3.0**
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ pmax pmax
comp=Z,99nm,4.5s
WMQ LR LR
comp=E,200nm,15.9s
WMQ LR LR
comp=Z,66nm,16.5s
BFO Black Forest 33.26 310 P **P 00 07 19.7 +0.9**
BFO pmax pmax
comp=Z,6.0nm,1.1s
BFO Black Forest 33.26 310 P **P 00 07 19.7 +0.9**
BFO IAmb IAmb 00 07 25.2
comp=Z,5.6nm,1.1s
SENIN Lac Senin/Sane 33.55 306 IAmb IAmb 00 07 28.7
comp=Z,14nm,1.2s
BNI Bardonecchia 33.79 303 P **P 00 07 23.5 -0.1**
BNI pmax pmax
comp=Z,32nm,1.1s
BNI Bardonecchia 33.79 303 P **P 00 07 23.5 -0.1**
ZAA0 Zalesovo Array 33.88 40 IAmb IAmb 00 07 28.6
comp=Z,9.3nm,0.9s
ZALV Zalesovo Beam 33.88 40 P **P 00 07 23.9 -0.2**
comp=Z,10nm,0.9s,baz=244,slow=8.8,SNR=15
ZALV LR LR 00 23 27.1
comp=Z,126nm,18.2s,baz=208,slow=40
ZALV Zalesovo Beam 33.88 40 P **P 00 07 23.4 -0.6**
ECH Echery 33.99 309 IAmb IAmb 00 07 25.9
comp=Z,8.5nm,1.2s
DGZ Jazzator, Alta 34.01 48⇓ *e*P **P 00 07 25.4 -0.1**
DGZ pmax pmax
comp=Z,5.0nm,1.3s
KMBO Kilima Mbogo 35.01 198 LR LR 00 22 37.7
comp=Z,150nm,18.8s,baz=11,slow=38
SSB Saint Sauveur 35.32 304 P **P 00 07 36.3 -0.4**
SSB pmax pmax
comp=Z,9.0nm,1.3s
SSB Saint Sauveur 35.32 304 P **P 00 07 36.2 -0.4**
SSB IAmb IAmb 00 07 36.6
comp=Z,9.3nm,1.3s
NB2 NORSAR Subarra 36.86 331 P **P 00 07 49.9 +0.2**
comp=Z,1.3nm,0.5s,baz=124,slow=8.6
NOA NORSAR Array B 36.86 331 P **P 00 07 50.2 +0.5**
comp=Z,1.8nm,0.6s,baz=124,slow=8.5,SNR=8.0
NOA LR LR 00 24 31.8
comp=Z,114nm,19.0s,baz=130,slow=39
LSA Lhasa 37.22 83 P **P 00 07 54.0 +0.4**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 37.22 83 P **P 00 07 54.0 +0.4**
LSA IAmb IAmb 00 07 59.4
comp=Z,7.3nm,0.6s
TAM Tamanrasset 38.27 266 P **P 00 07 59.7 -2.5**
TAM pmax pmax
comp=Z,11nm,1.3s
TAM Tamanrasset 38.27 266 P **P 00 07 59.7 -2.5**
TAM IAmb IAmb 00 08 10.3
comp=Z,11nm,1.3s
ARCES ARCESS Array B 38.92 348 P **P 00 08 06.9 -0.1**
comp=Z,1.7nm,0.4s,baz=148,slow=7.5,SNR=3.2
ARCES LR LR 00 24 51.3
comp=Z,152nm,18.9s,baz=130,slow=37
SHL Shillong 39.15 89 P **P 00 08 07.2 -2.4**
SHL pmax pmax
comp=Z,34nm,1.5s
SHL Shillong 39.15 89 P **P 00 08 07.2 -2.4**
SHL IAmb IAmb 00 08 14.2
comp=Z,34nm,1.5s
ESBB Sonseca Array 41.69 295 P **P 00 08 29.5 -0.8**
ESDC Sonseca Array 41.69 295 P **P 00 08 30.6 +0.2**
comp=Z,2.3nm,1.0s,baz=68,slow=8.9,SNR=9.7
ESDC Sonseca Array 41.69 295 P **P 00 08 29.7 -0.7**
GTA Gaotai 42.29 66 *e*P **P 00 08 37.3 +2.0**
GTA pP pP 00 08 43.0 +0.5
GTA sP sP 00 08 46.3 +0.9
GTA pmax pmax
comp=Z,5.0nm,1.2s
NRIK Noril'sk 42.97 20 LR LR 00 31 14.7
comp=Z,177nm,18.4s,baz=199,slow=43
NRIK Noril'sk 42.97 20*de*P **P 00 08 41.6 +1.4**
NRIK pmax pmax
comp=Z,11nm,1.3s
SFS San Fernando 43.95 290 P **P 00 08 49.4 +0.8**
SFS pmax pmax
comp=Z,26nm,0.7s
SFS San Fernando 43.95 290 P **P 00 08 49.4 +0.8**
COI Coimbra 45.01 296 P **P 00 08 57.5 +0.5**
COI pmax pmax
comp=Z,12nm,0.7s
COI Coimbra 45.01 296 P **P 00 08 57.5 +0.5**
LZH Lanzhou 46.03 69 *e*P **P 00 09 05.8 +0.4**
LZH pP sP 00 09 20.0 +4.5
LZH sP pP 00 09 23.5 +11
LZH *e*PP **PP 00 10 53.5 +0.2**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,65nm,5.8s
LZH LR LR
comp=N,210nm,13.6s
LZH LR LR
comp=E,220nm,14.0s
LZH LR LR
comp=Z,330nm,16.8s
TORD Torodi Ar. Bea 46.09 256 P **P 00 09 05.9 0.0**
comp=Z,1.2nm,0.7s,baz=73,slow=6.5,SNR=8.1
TORD LR LR 00 31 17.5
comp=Z,137nm,18.9s,baz=50,slow=40
TORD Torodi Ar. Bea 46.09 256 P **P 00 09 06.8 +1.0**
SONM Songino Array 46.28 53 P **P 00 09 07.1 -0.1**
comp=Z,2.2nm,0.9s,baz=272,slow=8.6,SNR=5.5
SONM LR LR 00 31 55.3
comp=Z,139nm,18.5s,baz=256,slow=41
SONM Songino Array 46.28 53 P **P 00 09 05.3 -1.8**
ULN Ulaanbaatar 46.72 53*de*P **P 00 09 11.2 +0.6**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 46.72 53 P **P 00 09 11.0 +0.3**
CD2 Chengdu 47.32 76 *e*P **P 00 09 15.8 +0.4**
CHTO Chiang Mai 47.87 94 P **P 00 09 19.7 -0.1**
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CHTO Chiang Mai 47.87 94 P **P 00 09 19.7 -0.1**
CHTO IAmb IAmb 00 09 25.0
comp=Z,5.2nm,1.1s
CMAR Chiang Mai Arr 48.04 94 P **P 00 09 21.2 +0.2**
comp=Z,0.9nm,0.4s,baz=295,slow=8.6,SNR=1.7
CMAR LR LR 00 32 37.3
comp=Z,92nm,18.1s,baz=316,slow=40
KMI Kunming 48.44 84⇓ *e*P P 00 09 31.5 +7.1
KMI pP sP 00 09 40.3 +5.8
KMI sP pP 00 09 49.8 +18
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,88nm,4.4s
HHC Hu-ho-hao-te 50.91 61 *e*P **P 00 09 44.3 +1.5**
HHC pmax pmax
comp=Z,25nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.8s
SLVN Son La 50.95 88 P **P 00 09 42.9 -0.4**
SLVN IAmb IAmb 00 09 48.8
comp=Z,5.0nm,1.0s
GYA Guiyang 51.22 81 *e*P **P 00 09 47.8 +2.4**
GYA pmax pmax
comp=Z,5.0nm,1.1s
HIA Hailar 54.90 50⇑ *e*P **P 00 10 13.0 +1.0**
HIA pmax pmax
comp=Z,7.0nm,1.1s
DBIC Dimbokro 55.04 254 P **P 00 10 14.1 +0.6**
comp=Z,2.0nm,0.7s,baz=152,slow=19,SNR=1.5
DBIC LR LR 00 36 32.4
comp=Z,142nm,20.5s,baz=29,slow=39
KULM Kulim 56.39 107 P **P 00 10 23.0 -0.2**
PSI Prapat 56.50 111 P **P 00 10 23.5 -0.6**
PSI pmax pmax
comp=Z,7.0nm,1.1s
RPSI Rantau Prapat 56.56 111 P **P 00 10 23.5 -0.9**
RPSI IAmb IAmb 00 10 36.6
comp=Z,7.0nm,1.1s
TIXI Tiksi 56.62 22⇑ *e*P **P 00 10 23.4 -0.6**
TIXI pmax pmax
comp=Z,39nm,1.2s
YAK Yakutsk 58.10 33⇓ *e*P **P 00 10 35.1 +0.6**
YAK pmax pmax
comp=Z,8.0nm,0.8s
NJ2 Nanjing 59.11 70 *e*P **P 00 10 41.3 -0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
BKNI Bangkinang 59.68 111 P P 00 10 51.1 +4.9
KSRS Korea Array 64.04 61 LR LR 00 42 38.8
comp=Z,116nm,18.3s,baz=286,slow=39
USRK Ussuriysk Ar. 64.39 53 P **P 00 11 15.8 -1.7**
comp=Z,2.9nm,0.6s,baz=284,slow=7.2,SNR=6.3
USRK LR LR 00 41 56.3
comp=Z,110nm,19.9s,baz=284,slow=38
BOSA Boshof 64.54 202 LR LR 00 41 46.9
comp=Z,143nm,19.3s,baz=23,slow=38
PMBI Palembang 64.61 112 P **P 00 11 19.3 0.0**
SEY Seymchan 67.72 29⇓ *e*P **P 00 11 36.3 -2.2**
TNG Tangerang 68.08 113 P P 00 11 53.7 +12
YSS Yuzh-Sakhalins 70.17 46⇓ *e*P **P 00 11 54.4 +0.3**
YSS pmax pmax
comp=Z,38nm,1.2s
PETK Petropavlovsk- 75.30 36 LR LR 00 50 57.1
comp=Z,59nm,19.1s,baz=248,slow=40
INK Inuvik 79.31 0 P **P 00 12 48.5 +1.9**
comp=Z,1.6nm,0.6s,baz=315,slow=2.9,SNR=2.1
INK Inuvik 79.31 0 IAmb IAmb 00 13 03.9
comp=Z,7.0nm,1.2s
ILAR Eielson Array 82.21 6 P **P 00 13 02.4 +0.2**
comp=Z,0.1nm,0.6s,baz=316,slow=5.0,SNR=1.5
ILAR PP **PP 00 16 08.3 -1.5**
comp=Z,0.5nm,0.7s,baz=353,slow=11,SNR=3.7
YKA Yellowknife Ar 84.07 352 P **P 00 13 12.9 +1.1**
comp=Z,0.6nm,0.7s,baz=10,slow=3.8,SNR=1.6
YKA LR LR 00 52 03.3
comp=Z,36nm,18.1s,baz=0.0,slow=37

MDD 28 00:02:16.4±2.6, 38°.63N×18°.46W, h80km, mb3.9/6, Error ellipse: s-maj=30.7km s-min=18.0km az=129.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M** 17nm,0.3s,SNR=7.9	**5.88**	**170**	P	Pn	00 03 39.8	-1.3
PMOZ				S	Sn	00 04 38.8	-8.5
PMAFR	**Mafra** 1.1nm,0.1s,SNR=7.9	**7.17**	**85**	P	Pn	00 03 58.4	-0.2
PMAFR				S	Sn	00 05 12.5	-6.0
PFVI	**Vila Bisbo** 0.6nm,0.1s,SNR=7.9	**7.76**	**98**	P	Pn	00 04 06.3	-0.4
PFVI				S	Sn	00 05 24.3	-8.6
	1.4nm,0.1s,SNR=5.6						

EZAM	**Zamans**	**8.24**	**62**	P	Pn	00 04 13.0	-0.1
	1.2nm,0.2s,SNR=7.9						
EZAM				S	Sn	00 05 35.6	-8.9
	0.4nm,0.0s,SNR=7.9						
EMAZ	**Mazaricos**	**8.38**	**56**	P	Pn	00 04 13.8	-1.3
	1.9nm,0.2s,SNR=7.9						
EMAZ				S	Sn	00 05 40.2	-7.9
	0.1nm,0.0s,SNR=7.9						
ELOB	**Lobios**	**8.58**	**65**	P	Pn	00 04 17.4	-0.5
	1.1nm,0.3s,SNR=6.6						
ELOB				S	Sn	00 05 46.3	-6.8
	0.6nm,0.1s,SNR=11						
EGRO	**El Granado**	**8.72**	**94**	P	Pn	00 04 19.9	+0.2
	0.5nm,0.2s,SNR=7.9						
EGRO				S	Sn	00 05 48.8	-7.6
	0.4nm,0.1s,SNR=9.6						
MVO	**Moncorvo**	**9.14**	**70**	S	Sn	00 05 57.8	-8.9
	0.4nm,0.1s,SNR=9.6						
EMIN	**Mina Concepcio**	**9.32**	**92**	P	Pn	00 04 27.6	-0.3
	0.3nm,0.2s,SNR=7.9						
EMIN				S	Sn	00 06 02.9	-8.0
	0.2nm,0.1s,SNR=39						
ECAL	**Calabor**	**9.55**	**66**	P	Pn	00 04 30.0	-1.0
	0.8nm,0.3s,SNR=7.9						
ECAL				S	Sn	00 06 08.2	-8.4
	0.1nm,0.0s,SNR=5.3						
EPLA	**Plasencia**	**9.70**	**78**	S	Sn	00 06 12.7	-7.5
	0.1nm,0.0s,SNR=7.9						
EPON	**Pontenova**	**9.75**	**58**	P	Pn	00 04 33.4	-0.4
	0.5nm,0.2s,SNR=7.9						
EPON				S	Sn	00 06 12.0	-9.5
	0.1nm,0.1s,SNR=5.8						
ESPR	**Espera**	**10.13**	**96**	S	Sn	00 06 23.6	-7.2
	0.1nm,0.0s,SNR=4.7						
ECAB	**El Cabril**	**10.26**	**89**	P	Pn	00 04 40.2	-0.5
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	00 06 25.4	-8.5
	0.2nm,0.1s,SNR=8.5						
EADA	**Adamuz**	**10.90**	**88**	P	Pn	00 04 49.4	-0.2
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	00 06 41.0	-8.7
	0.0nm,0.0s,SNR=7.9						

*NEIC **28** 00:06:15.7±1.2, 19°.23N±0°.08×145°.5E±0°.1, h145km±8km, mb4.1/40, Error ellipse: s-maj=19.9km s-min=11.9km az=78.0*
*IDC **28** 00:06:15.8±6.0, 19°.21N×145°.55E, h148km±56km, mb3.6/15, mb1 3.8/16, mb1mx3.7/53, mbtmp4.1/16, Error ellipse: s-maj=24.4km s-min=13.5km az=92.0*

ISC 28 00:06:16.2±0.7, 19°.28N±0°.07×145°.5E±0°.1, h150km, n69, σ1°.02/61, mb4.0/27, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.69**	**186**	Pn	**Pn**	**00 07 38.2**	**-0.6**
JMZ	**Minamidaito 2**	**14.67**	**299**	Pn	**Pn**	**00 09 36.1**	**-0.4**
JHJ2	**Mitsune**	**14.67**	**341**	Pn	**Pn**	**00 09 35.0**	**-1.4**
JHJ	**Hachijo jima 2**	**14.69**	**341**	P	**Pn**	**00 09 35.9**	**-0.7**
	47nm,0.3s,baz=72,slow=20,SNR=2.8						
JHJ				S	**Sn**	**00 12 16.1**	**-3.5**
	42nm,0.3s,baz=57,slow=22,SNR=1.4						
JMN	**Monobe**	**17.71**	**327**	P	**P**	**00 10 12.6**	**+0.3**
JMN				IAmb	IAmb	00 10 23.7	
	comp=Z,15nm,1.1s						
JGF	**Kuroka**	**17.76**	**338**		**P**	**00 10 14.7**	**+1.9**
JGF				IAmb	IAmb	00 10 19.4	
	comp=Z,6.4nm,0.9s						
JWT	**Wachi**	**18.25**	**333**	P	**Pn**	**00 10 21.0**	**+1.1**
JWT				IAmb	IAmb	00 10 24.8	
	comp=Z,12nm,1.1s						
MJAR	**Matsushiro Arr**	**18.34**	**341**	P	**P**	**00 10 19.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=162,slow=11,SNR=2.5						
MAJO	**Matsushiro**	**18.34**	**341**	P	**P**	**00 10 19.7**	**+0.6**
JNU	**Nakatsue**	**18.97**	**319**	P	**P**	**00 10 26.3**	**+0.2**
JNU				IAmb	IAmb	00 10 27.7	
	comp=Z,7.7nm,1.0s						
JHS	**Saijyo**	**19.10**	**328**	P	**P**	**00 10 29.7**	**+2.3**
JSD	**Sado**	**19.71**	**343**	P	**P**	**00 10 34.7**	**+0.7**
JSD				IAmb	IAmb	00 10 38.1	
	comp=Z,12nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**20.10**	**89**	T	T	00 31 26.0	
	baz=275,slow=74,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**20.11**	**89**	T	T	00 31 27.6	
	baz=275,slow=74,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**20.12**	**89**	T	T	00 31 27.4	
	baz=275,slow=74,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**20.21**	**85**	T	T	00 31 59.1	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**20.22**	**85**	T	T	00 32 05.5	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**20.23**	**85**	T	T	00 31 58.7	
	baz=267						
JTU	**Tsushima**	**20.83**	**320**	P	**P**	**00 10 47.4**	**+1.4**
ERM	**Erimo**	**22.75**	**356**	P	**P**	**00 11 08.1**	**+2.6**
YHNB	**Yeheng**	**22.95**	**288**	P	**P**	**00 11 07.7**	**0.0**
YHNB				IAmb	IAmb	00 11 09.1	
	comp=Z,10nm,1.1s						
KSRS	**Korea Array**	**23.72**	**323**	P	**P**	**00 11 15.3**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=145,slow=9.4,SNR=13						
USRK	**Ussuriysk Ar.**	**27.28**	**339**	P	**P**	**00 11 48.5**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=123,slow=5.3,SNR=2.6						
KNRA	**Kununurra**	**38.43**	**206**	P	**P**	**00 13 23.3**	**0.0**
WB0	**Warramunga Arr**	**40.29**	**196**	P	**P**	**00 13 37.9**	**-0.9**
WB0				IAmb	IAmb	00 13 40.8	
	comp=Z,5.6nm,1.1s						
WR0	**Warramunga Arr**	**40.44**	**196**	P	**P**	**00 13 38.8**	**-1.2**
WRAB	**Tennant Creek**	**40.46**	**196**	P	**P**	**00 13 39.5**	**-0.8**
WB2	**Warramunga Arr**	**40.47**	**196**	P	**P**	**00 13 39.5**	**-0.8**
WB2				IAmb	IAmb	00 13 40.8	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**40.48**	**196**	P	**P**	**00 13 39.7**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=18,slow=8.8,SNR=27						
ULN	**Ulaanbaatar**	**42.17**	**321**	P	**P**	**00 13 55.1**	**+1.0**
ULN				IAmb	IAmb	00 13 56.3	
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**42.55**	**321**	P	**P**	**00 13 58.6**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=130,slow=7.9,SNR=7.7						
SONM	**Songino Array**	**42.55**	**321**	IAmb	IAmb	00 13 59.2	
	comp=Z,1.3nm,0.7s						
AS31	**Alice Springs**	**44.15**	**195**	P	**P**	**00 14 10.7**	**+0.6**
ASAR	**Alice Springs**	**44.15**	**195**	P	**P**	**00 14 09.3**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=18,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**57.42**	**322**	P	**P**	**00 15 49.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=109,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**57.90**	**314**	P	**P**	**00 15 53.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=80,slow=8.5,SNR=6.3						
ILAR	**Eielson Array**	**63.23**	**26**	P	**P**	**00 16 27.1**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=258,slow=4.9,SNR=8.2						
INK	**Inuvik**	**68.93**	**23**	P	**P**	**00 17 04.7**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=278,slow=8.3,SNR=3.7						
INK	**Inuvik**	**68.93**	**23**	IAmb	IAmb	00 17 04.9	
	comp=Z,2.1nm,0.8s						
ABKAR	**Akbulak array**	**72.76**	**317**	P	**P**	**00 17 28.0**	**0.0**
EUNU	**Eureka**	**77.18**	**8**	P	**P**	**00 17 53.5**	**+0.5**
YKA	**Yellowknife Ar**	**77.58**	**28**	P	**P**	**00 17 55.1**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=294,slow=5.4,SNR=4.6						
HUMO	**Hull Mountain**	**78.34**	**49**	P	**P**	**00 18 01.4**	**+1.4**
YBH	**Yreka Blue Hor**	**78.75**	**50**	P	**P**	**00 18 02.8**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=280,slow=6.1,SNR=3.1						
YBH	**Yreka Blue Hor**	**78.75**	**50**	IAmb	IAmb	00 18 04.4	
	comp=Z,2.2nm,1.1s						
B08A	**Colville Reser**	**79.20**	**43**	P	**P**	**00 18 04.5**	**-0.1**
B08A				IAmb	IAmb	00 18 05.2	
	comp=Z,1.9nm,0.6s						
PINE	**Pine Mountain**	**79.43**	**47**	P	**P**	**00 18 06.7**	**+0.5**
HAWA	**Hanford**	**79.64**	**45**	P	**P**	**00 18 06.9**	**-0.1**
HAWA				IAmb	IAmb	00 18 07.8	
	comp=Z,2.0nm,0.5s						
K05A	**Summer Lake**	**79.77**	**48**	P	**P**	**00 18 08.7**	**+0.6**
CMB	**Columbia Colle**	**81.53**	**53**	P	**P**	**00 18 17.2**	**0.0**
BMO	**Blue Mountains**	**81.60**	**46**	P	**P**	**00 18 18.3**	**+0.7**
PNTR	**Pine Nut**	**81.79**	**52**	P	**P**	**00 18 19.8**	**+0.9**
YERR	**Yerington**	**82.09**	**52**	P	**P**	**00 18 20.5**	**+0.1**
YERR				IAmb	IAmb	00 18 21.4	
	comp=Z,2.6nm,0.6s						
WAKR	**Walker**	**82.09**	**52**	P	**P**	**00 18 20.8**	**+0.4**
RYN	**Ryan**	**82.73**	**52**	P	**P**	**00 18 24.2**	**+0.5**
RYN				IAmb	IAmb	00 18 24.7	
	comp=Z,2.0nm,0.7s						
KVN	**Kaiserville**	**82.91**	**51**	P	**P**	**00 18 24.8**	**+0.2**
KVN				IAmb	IAmb	00 18 25.5	
	comp=Z,2.2nm,0.7s						
NVAR	**Mina Array Bea**	**82.96**	**52**	P	**P**	**00 18 25.5**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=270,slow=6.0,SNR=18						
NVAR	**Mina Array Bea**	**82.96**	**52**	P	**P**	**00 18 25.1**	**+0.1**
NV11	**Mina Array Sit**	**83.07**	**52**	P	**P**	**00 18 25.8**	**+0.3**
NV11				IAmb	IAmb	00 18 26.3	
	comp=Z,2.4nm,0.8s						
ELK	**Elko**	**84.41**	**49**	P	**P**	**00 18 32.4**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=295,slow=8.2,SNR=7.8						
LRM	**Limekiln Ridge**	**84.48**	**43**	P	**P**	**00 18 32.4**	**-0.1**
HRY	**Holter Researc**	**84.54**	**42**	P	**P**	**00 18 32.5**	**-0.2**
TPNV	**Topopah Spring**	**84.99**	**53**	P	**P**	**00 18 35.2**	**0.0**
TPNV				IAmb	IAmb	00 18 36.0	
	comp=Z,1.8nm,0.6s						
YHL	**Hebgen Lake**	**85.67**	**44**	P	**P**	**00 18 38.9**	**+0.3**
YHH	**Holmes Hill**	**85.92**	**44**	P	**P**	**00 18 40.1**	**+0.3**
FIA1	**FINESS Array S**	**86.26**	**335**	P	**P**	**00 18 39.3**	**-1.4**
FINES	**FINESS Array B**	**86.26**	**335**	P	**P**	**00 18 39.4**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=70,slow=4.9,SNR=25						
DUG	**Dugway, Tooele**	**86.34**	**49**	P	**P**	**00 18 42.1**	**+0.4**
DUG				IAmb	IAmb	00 18 42.6	
	comp=Z,1.4nm,0.7s						
PDAR	**Pinedale Array**	**87.58**	**45**	P	**P**	**00 18 47.2**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=262,slow=1.9,SNR=3.9						

*TAP **28** 00:25:11.9, 24°.96N×122°.40E, h15km, ML3.4, C*
*JMA **28** 00:25:12.3±0.1, 24°.84N×122°.37E, h3km, M2.9*

ISC 28 00:25:11.9±1.2, 24°.91N±0°.02×122°.40E±0°.03, h9km±9km, n72, σ0°.56/135, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.38**	**285**	P	**Pg**	**00 25 20.1**	**+0.7**
	baz=278						
TWB1				*i* S	**Sb**	**00 25 25.8**	**-1.1**
	baz=278						
NTC	**Toucheng**	**0.52**	**264**	P	**Pb**	**00 25 23.1**	**-0.1**
	baz=271						
NTC				*e*S	**Sb**	**00 25 31.2**	**+0.5**
	baz=271						
TIPB	**Shuangxi**	**0.52**	**277**	P	**Pb**	**00 25 22.9**	**-0.4**
	baz=271						
TIPB				S	**Sb**	**00 25 30.3**	**-0.7**
	baz=271						
TWC	**Suao**	**0.58**	**239**	P	**Pg**	**00 25 23.5**	**+0.4**
	baz=234						
TWC				S	**Sb**	**00 25 33.0**	**+0.4**
	baz=234						
NWF	**Wu-fen Shan**	**0.58**	**286**	*e*P	**Pb**	**00 25 24.1**	**-0.2**
	baz=281						
NWF				*e*S	**Sb**	**00 25 32.1**	**-0.6**
	baz=281						
WFSB	**Wu-fen Shan**	**0.58**	**286**	*e*P	**Pb**	**00 25 24.1**	**-0.2**
	baz=281						
WFSB				*e*S	**Sb**	**00 25 32.3**	**-0.3**
	baz=281						
ILA	**Ilan**	**0.61**	**257**	S	**Sb**	**00 25 34.2**	**+0.9**
	baz=251						
JYNG	**Yonagunijimaku**	**0.68**	**132**	P	**Pg**	**00 25 24.8**	**-0.1**
TWE	**Neicheng**	**0.69**	**255**	P	**Pb**	**00 25 25.6**	**-0.4**
	baz=239						
TWE				S	**Sb**	**00 25 36.5**	**+0.8**
	baz=239						
ENAH	**Nanao**	**0.70**	**230**	*e*P	**Pb**	**00 25 26.2**	**-0.1**
	baz=227						
ENAH				*e*S	**Sb**	**00 25 37.1**	**+1.1**
	baz=227						
YOJ	**Yonaguni jima**	**0.71**	**128**	P	**Pg**	**00 25 25.8**	**+0.1**
	baz=121						
YOJ	**Yonaguni jima**	**0.71**	**128**	P	**Pg**	**00 25 25.9**	**+0.2**
NWRT	**Kuosheng**	**0.73**	**294**	*e*P	**Pb**	**00 25 27.1**	**+0.3**
	baz=290						
NWRT				*e*S	**Sb**	**00 25 36.8**	**-0.1**
	baz=290						
TWA	**Mucha**	**0.74**	**276**	P	**Pb**	**00 25 27.2**	**+0.2**
	baz=271						
TWA				S	**Sb**	**00 25 37.1**	**-0.2**
	baz=271						
ENA	**Nanau**	**0.77**	**231**	*i* P	**Pg**	**00 25 26.9**	**+0.3**
	baz=228						
ENA				*i* S	**Sb**	**00 25 37.8**	**-0.1**
	baz=228						
PCYT	**Pengchaiyu**	**0.78**	**338**	*e*P	**Pg**	**00 25 26.3**	**-0.6**
	baz=318						
PCYT				*e*S	**Sb**	**00 25 38.8**	**+0.6**
	baz=318						
YM08	**YM08**	**0.78**	**291**	P	**Pb**	**00 25 27.6**	**-0.1**
	baz=287						
YM08				S	**Sb**	**00 25 37.8**	**-0.6**
	baz=287						
YM01	**YM01**	**0.79**	**288**	*e*P	**Pb**	**00 25 27.9**	**+0.1**
	baz=284						
YM01				S	**Sb**	**00 25 38.6**	**0.0**
	baz=284						
YM11	**YM11**	**0.79**	**289**	P	**Pb**	**00 25 28.4**	**+0.5**
	baz=285						
YM11				S	**Sb**	**00 25 39.6**	**+0.9**
	baz=285						
YM05	**YM05**	**0.80**	**289**	*e*P	**Pb**	**00 25 28.3**	**+0.3**
	baz=285						
YM05				S	**Sb**	**00 25 38.8**	**-0.1**
	baz=285						
YM10	**YM10**	**0.80**	**288**	P	**Pb**	**00 25 28.2**	**+0.3**
	baz=271						
YM10				S	**Sb**	**00 25 39.2**	**+0.3**
	baz=271						
ENTT	**Nioudou**	**0.80**	**251**	*i* P	**Pb**	**00 25 28.0**	**0.0**
	baz=247						
ENTT				*i* S	**Sb**	**00 25 39.9**	**+1.0**
	baz=247						
TAP1	**Taipei**	**0.80**	**280**	*e*P	**Pn**	**00 25 28.9**	**-0.5**
	baz=275						
TAP1				*e*S	**Sb**	**00 25 39.1**	**+0.1**
	baz=275						
TWY	**Chenhua**	**0.81**	**297**	*i* P	**Pb**	**00 25 28.4**	**+0.2**
	baz=293						
TWY				*i* S	**Sb**	**00 25 38.9**	**-0.3**
	baz=293						
YM04	**YM04**	**0.82**	**288**	P	**Pb**	**00 25 28.6**	**+0.3**
	baz=271						
YM04				S	**Sb**	**00 25 39.2**	**-0.2**
	baz=271						
TAP	**Taipei**	**0.82**	**279**	S	**Sb**	**00 25 39.6**	**+0.2**
	baz=275						
NWLT	**Wulai**	**0.82**	**261**	P	**Pb**	**00 25 28.2**	**-0.2**
	baz=257						
NWLT				S	**Sb**	**00 25 39.3**	**-0.3**
	baz=257						
YM03	**YM03**	**0.82**	**289**	*e*P	**Pb**	**00 25 28.8**	**+0.4**
	baz=273						
YM03				S	**Sn**	**00 25 41.2**	**-0.9**
	baz=273						
TATO	**Taipei**	**0.83**	**275**	*e*P	**Pb**	**00 25 28.2**	**-0.2**
	baz=271						
TATO				S	**Sb**	**00 25 39.8**	**+0.1**
	baz=271						
ANP	**Anpu**	**0.84**	**289**	P	**Pb**	**00 25 28.6**	**-0.2**
	baz=273						
ANP				S	**Sg**	**00 25 39.2**	**+0.1**
	baz=273						
NDT	**Datong Townshi**	**0.86**	**249**	P	**Pb**	**00 25 29.1**	**+0.1**
	baz=246						
NDT				S	**Sn**	**00 25 41.8**	**-1.1**
	baz=246						
NTST	**Danshui**	**0.90**	**287**	P	**Pn**	**00 25 31.3**	**+0.6**
	baz=283						
NTST				S	**Sn**	**00 25 43.1**	**-0.7**
	baz=283						
TWS1	**Kuangyinshan**	**0.91**	**282**	P	**Pn**	**00 25 31.1**	**+0.2**
	baz=279						
TWS1				*e*S	**Sn**	**00 25 43.1**	**-1.0**
	baz=279						
YHNB	**Yeheng**	**0.96**	**256**	*e*P	**Pg**	**00 25 30.4**	**0.0**
	baz=267						
YHNB				S	**Sb**	**00 25 44.1**	**+0.6**
	baz=267						
NSK	**Sanguang**	**0.97**	**256**	P	**Pg**	**00 25 30.6**	**0.0**
	baz=267						
NSK				S	**Sb**	**00 25 44.1**	**+0.2**
	baz=267						
NACB	**Ninganchiao**	**1.03**	**225**	*e*P	**Pg**	**00 25 31.1**	**-0.7**
	baz=223						
NACB				*e*S	**Sb**	**00 25 45.4**	**-0.2**
	baz=223						
NNSB	**Datong**	**1.04**	**243**	*e*P	**Pg**	**00 25 31.5**	**-0.4**
	baz=225						
NNSB				*e*S	**Sb**	**00 25 45.8**	**-0.1**
	baz=225						
NNSH	**Datong**	**1.04**	**243**	P	**Pg**	**00 25 31.5**	**-0.4**
	baz=225						
NNSH				S	**Sn**	**00 25 46.9**	**-0.6**
	baz=225						
ETLH	**Xiulin Townshi**	**1.09**	**230**	*e*P	**Pg**	**00 25 32.6**	**-0.2**
	baz=227						
ETLH				S	**Sn**	**00 25 47.9**	**-0.7**
	baz=227						
NCU	**National Centr**	**1.10**	**273**	S	**Sn**	**00 25 49.0**	**+0.2**
	baz=270						
TWD	**Chiawan**	**1.10**	**222**	*e*P	**Pn**	**00 25 33.8**	**+0.3**
	baz=227						
TWD				S	**Sb**	**00 25 47.4**	**-0.1**
	baz=227						
NCUH	**Zhongli**	**1.10**	**273**	*e*P	**Pn**	**00 25 34.2**	**+0.7**
	baz=270						
NCUH				S	**Sn**	**00 25 49.8**	**+1.0**
	baz=270						
FUSS	**Fushou**	**1.24**	**238**	P	**Pb**	**00 25 34.9**	**-0.7**
	baz=225						
FUSS				S	**Sn**	**00 25 53.1**	**+0.5**
	baz=225						
WHF	**Hehuan Shan**	**1.28**	**234**	P	**Pg**	**00 25 36.7**	**+0.1**
	baz=231						
WHF				S	**Sn**	**00 25 53.9**	**0.0**
	baz=231						
LIOB	**Emei**	**1.28**	**259**	*e*P	**Pn**	**00 25 35.9**	**-0.2**
	baz=255						
LIOB				*e*S	**Sn**	**00 25 54.1**	**+0.8**
	baz=255						
TWT	**Tachien**	**1.29**	**240**	P	**Pn**	**00 25 35.8**	**-0.4**
	baz=237						
TWT				S	**Sn**	**00 25 54.5**	**+0.8**
	baz=237						
NSTT	**Nanjuang**	**1.30**	**258**	*e*P	**Pn**	**00 25 35.0**	**-1.3**
	baz=255						
NSTT				*e*S	**Sn**	**00 25 54.2**	**+0.5**
	baz=255						
TDCB	**Techi**	**1.30**	**240**	*e*P	**Pb**	**00 25 36.5**	**-0.1**
	baz=237						
TDCB				*e*S	**Sn**	**00 25 55.1**	**+1.1**
	baz=237						
IRIF	**Iriomote-Funau**	**1.34**	**115**	P	**Pg**	**00 25 37.8**	**+0.2**
CHGB	**Renai**	**1.40**	**233**	*e*P	**Pg**	**00 25 38.8**	**+0.1**
	baz=230						
CHGB				S	**Sg**	**00 25 57.7**	**+0.8**
	baz=230						
ESL	**Shilin**	**1.40**	**219**	P	**Pn**	**00 25 36.9**	**-0.7**
	baz=198						
ESL				*e*S	**Sg**	**00 25 57.4**	**+0.4**
	baz=198						
WHP	**Taichung City**	**1.46**	**245**	*e*P	**Pg**	**00 25 39.8**	**-0.2**
	baz=229						
WHP				S	**Sg**	**00 25 59.4**	**+0.4**
	baz=229						
NMLH	**Miaoli**	**1.51**	**256**	*e*S	**Sg**	**00 26 01.4**	**+1.0**
	baz=267						
EGFH	**Guangfu**	**1.52**	**216**	*e*P	**Pn**	**00 25 39.4**	**+0.1**
	baz=196						
EGFH				*e*S	**Sg**	**00 26 00.3**	**-0.4**
	baz=196						
NSY	**Sanyi**	**1.57**	**252**	*e*P	**Pb**	**00 25 41.0**	**-0.1**
	baz=265						
NSY				*e*S	**Sg**	**00 26 01.7**	**-0.7**
	baz=265						
TWQ1	**Liyutan**	**1.58**	**250**	P	**Pb**	**00 25 40.7**	**-0.6**
	baz=262						
TWQ1				*e*S	**Sg**	**00 26 02.2**	**-0.5**
	baz=262						
VWDT	**VWDT**	**1.62**	**225**	*e*P	**Pn**	**00 25 40.7**	**0.0**
	baz=222						
VWDT				*e*S	**Sg**	**00 26 04.1**	**0.0**
	baz=222						
HGSD	**Ruisui**	**1.67**	**212**	*e*P	**Pn**	**00 25 41.5**	**+0.2**
	baz=196						
HGSD				*e*S	**Sb**	**00 26 03.8**	**0.0**
	baz=196						
SMLT	**Sun Moon Lake**	**1.70**	**234**	P	**Pb**	**00 25 43.3**	**-0.2**
	baz=231						
SMLT				*e*S	**Sg**	**00 26 06.2**	**-0.5**
	baz=231						
TYC	**Yuchr**	**1.72**	**235**	P	**Pb**	**00 25 43.1**	**-0.6**
	baz=232						
TYC				*e*S	**Sg**	**00 26 06.5**	**-0.8**
	baz=232						
SSLB	**Suanglung**	**1.73**	**230**	*e*P	**Pn**	**00 25 42.9**	**+0.8**
	baz=239						
SSLB				*e*S	**Sg**	**00 26 07.0**	**-0.3**
	baz=239						
TCU	**Taichung**	**1.74**	**245**	*e*P	**Pb**	**00 25 43.7**	**-0.4**
	baz=240						
TCU				*e*S	**Sb**	**00 26 06.2**	**+0.2**
	baz=240						
YULB	**Yu-li**	**1.81**	**214**	*e*P	**Pb**	**00 25 44.5**	**-0.8**
	baz=211						
YULB				*e*S	**Sb**	**00 26 08.1**	**0.0**
	baz=211						
TWF1	**Yuli**	**1.85**	**213**	P	**Pn**	**00 25 43.9**	**+0.2**
	baz=211						
TWF1				*e*S	**Sb**	**00 26 09.2**	**+0.1**
	baz=211						
WJS	**Zhushan**	**1.87**	**235**	*e*P	**Pb**	**00 25 46.1**	**-0.1**
	baz=231						
WJS				*e*S	**Sb**	**00 26 09.2**	**-0.5**
	baz=231						
WNT	**Mingjian**	**1.87**	**237**	*e*P	**Pb**	**00 25 46.9**	**+0.7**
	baz=233						
WNT				*e*S	**Sb**	**00 26 10.0**	**+0.3**
	baz=233						
ALS	**Alishan**	**2.01**	**227**	*e*P	**Pb**	**00 25 48.2**	**-0.6**
	baz=207						
ALS				*e*S	**Sb**	**00 26 13.2**	**-0.9**
	baz=207						
CHN5	**Tsauling**	**2.04**	**231**	*e*P	**Pb**	**00 25 48.5**	**-0.7**
	baz=227						
CHN5				*e*S	**Sb**	**00 26 15.1**	**+0.4**
	baz=227						
EDH	**Donghe**	**2.17**	**208**	*e*S	**Sn**	**00 26 15.9**	**+0.7**
	baz=193						
CHN4	**Tsaushan**	**2.26**	**227**	*e*P	**Pn**	**00 25 51.2**	**+1.7**
	baz=208						
CHN4				*e*S	**Sn**	**00 26 18.9**	**+1.4**
	baz=208						
WTP	**Ta-pu**	**2.32**	**225**	*e*P	**Pb**	**00 25 53.1**	**-0.9**
	baz=206						
WTP				*e*S	**Sb**	**00 26 22.6**	**-0.2**
	baz=206						
TWK	**Hsinying**	**2.39**	**227**	*e*P	**Pb**	**00 25 54.1**	**-1.0**
	baz=208						
TWK				S	**Sb**	**00 26 24.2**	**-0.5**
	baz=208						

PGC 28 00:25:58.8±0.6, 52°.72N×132°.28W, h22km, ML3.5/18, 66km southwest of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG1B	**Mitchell Dam**	**0.24**	**22**	P	Pb	00 26 04.3	-0.4
HG1B				S	Sb	00 26 07.8	-0.9
BNB	**Barry Inlet**	**0.35**	**114**	P	Pb	00 26

KITB				Pg	Pb	00 26 43.8	-0.4
KITB				Sg	Sb	00 27 16.9	+1.7
BBB	**Bella Bella**	**2.60 100**		Pn	Pn	00 26 39.2	-0.3
BBB				Sn	Sn	00 27 09.2	-1.2
BBB				Sg	Sb	00 27 18.0	+1.8
HOLB	**Holberg**	**3.31 127**		Pn	Pn	00 26 48.2	-1.1
HOLB				Sn	Sn	00 27 25.6	-2.4
PHC	**Port Hardy**	**3.62 122**		Pn	Pn	00 26 52.2	-1.3
PHC				Sn	Sn	00 27 32.9	-2.7
BPBC	**Brooks Peninsu**	**3.81 130**		Pn	Pn	00 26 57.0	+0.9
BPBC				Sn	Sn	00 27 39.0	-1.3
MAYB	**Maynard**	**3.94 124**		Pn	Pn	00 26 57.6	-0.4
MAYB				Sn	Sn	00 27 41.3	-2.2
TLCB	**Telegraph Cove**	**4.03 120**		Pn	Pn	00 26 59.2	+0.1
TLCB				Sn	Sn	00 27 43.9	-1.6
FHRB	**Fair Harbour**	**4.19 127**		Pn	Pn	00 27 01.6	+0.3
EDB	**Eliza Dome**	**4.31 129**		Pn	Pn	00 27 03.3	+0.4
EDB				Sn	Sn	00 27 49.7	-2.8
WOSB	**Woss**	**4.39 123**		Pn	Pn	00 27 03.9	-0.3
WOSB				Sn	Sn	00 27 51.4	-3.3
NCRB	**Newcastle Ridg**	**4.52 118**		Pn	Pn	00 27 04.7	-1.3
NCRB				Sn	Sn	00 27 55.1	-2.7
GDR	**Gold River**	**4.90 124**		Sn	Sn	00 28 06.5	-0.6
UBRB	**Upper Baezaeko**	**4.97 85**		Pn	Pn	00 27 14.6	+2.4
UBRB				Sg	Sb	00 28 32.2	+7.6
FSB	**Fort Saint Jam**	**5.05 66**		Pn	Pn	00 27 13.2	+0.1
FSB				Pg	Pb	00 27 28.1	+1.7
FSB				Sg	Sb	00 28 33.5	+6.8
CBB	**Campbell River**	**5.10 119**		Sn	Sn	00 28 09.6	-2.3
DLBC	**Dease Lake**	**5.87 12**		Pn	Pn	00 27 27.5	+3.0
DLBC				Sg	Sb	00 29 00.3	+10
SHB	**Sechelt**	**6.14 117**		Pn	Pn	00 27 29.6	+1.4

JMA ***28*** *01:15:30.2±0.1, 25°.37N×140°.56E, h31km, M5.3*
NEIC ***28*** *01:15:33.9±2.6, 25°.03N±0°.05×142°.0E±0°.2, h80km±6km, mb4.2/6, Error ellipse: s-maj=23.4km s-min=7.7km az=94.0*
IDC ***28*** *01:15:34.7±1.8, 25°.09N×141°.98E, h85km±16km, mb3.7/11, mb1 3.8/14, mb1mx3.7/44, mbtmp4.0/14, MS3.2/8, Ms1 3.2/8, ms1mx2.9/35, Error ellipse: s-maj=33.4km s-min=13.7km az=86.0*
ISC 28 01:15:29.4±0.7, 24°.85N±0°.07×142°.1E±0°.1, h35km, n34, σ2§19/29, mb3.8/13, MS3.3/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.78**	**2**	P	**Pn**	**01 16 02.1**	**+4.4**
CBIJ	**Chichi jima**	**2.24**	**2**	P	**Pn**	**01 16 06.8**	**+2.8**
CBIJ				S	**Sn**	**01 16 33.2**	**+2.8**
JCJ	**Chichijima**	**2.24**	**2**	P	**Pn**	**01 16 06.8**	**+2.8**
	114nm,0.3s,baz=101,slow=23,SNR=20						
JCJ				S	**Sn**	**01 16 31.4**	**+1.0**
	305nm,0.3s,baz=297,slow=23,SNR=7.1						
JAG	**Ashikaga**	**11.76**	**350**	P	**Pn**	**01 18 12.3**	**-2.4**
JAG				*e*S	Sn	01 20 15.7	-9.0
MJAR	**Matsushiro Arr**	**12.12**	**345**	P	**Pn**	**01 18 21.8**	**+2.2**
	0.1nm,0.3s,baz=164,slow=9.2,SNR=8.5						
MJAR				LR	LR	01 22 14.1	
	comp=Z,97nm,18.1s,baz=200,slow=34						
JNU	**Nakatsue**	**12.81**	**313**	LR	LR	01 22 49.0	
	comp=Z,58nm,20.9s,baz=328,slow=35						
KSRS	**Korea Array**	**17.44**	**319**	P	**P**	**01 19 31.0**	**+0.2**
	0.2nm,0.3s,baz=134,slow=11,SNR=2.7						
KSRS				LR	LR	01 25 31.4	
	comp=Z,78nm,18.6s,baz=119,slow=35						
KSAR	**Wonju Array Be**	**17.45**	**319**		**Pn**	**01 19 29.8**	**-0.2**
YULB	**Yu-li**	**19.04**	**270**	P	**Pn**	**01 19 50.4**	**+0.9**
YULB				IAmb	IAmb	01 19 55.4	
	comp=Z,14nm,0.9s						
ASAJ	**Asahikawa**	**19.23**	**1**	LR	LR	01 28 48.7	
	comp=Z,36nm,20.6s,baz=168,slow=42						
TWG	**Pinlang**	**19.34**	**268**	P	**P**	**01 19 50.6**	**-1.3**
H11S3	**WAKE ISLAND Hy**	**23.70**	**101**	T	T	01 46 34.1	
	baz=290,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**23.70**	**101**	T	T	01 46 21.8	
	baz=290,slow=75,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**23.71**	**101**	T	T	01 46 31.0	
	baz=290,slow=75,SNR=9.7						
PEA0B	**Petropavlovsk-**	**30.58**	**19**	P	**P**	**01 21 36.9**	**-2.8**
SONM	**Songino Array**	**36.30**	**318**	P	**P**	**01 22 29.1**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=124,slow=7.5,SNR=1.5						
SONM				LR	LR	01 37 53.3	
	comp=Z,52nm,18.3s,baz=48,slow=37						
CMAR	**Chiang Mai Arr**	**40.48**	**270**	P	**P**	**01 23 08.2**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=58,slow=8.6,SNR=5.8						
CMAR				LR	LR	01 39 21.9	
	comp=Z,24nm,18.7s,baz=80,slow=35						
WB0	**Warramunga Arr**	**44.98**	**190**	P	**P**	**01 23 42.3**	**+0.9**
WRAB	**Tennant Creek**	**45.15**	**190**	P	**P**	**01 23 43.7**	**+0.9**
WRA	**Warramunga Arr**	**45.16**	**190**	P	**P**	**01 23 44.5**	**+1.7**
	comp=Z,3.3nm,0.5s,baz=11,slow=8.7,SNR=77						
ASAR	**Alice Springs**	**48.88**	**190**	P	**P**	**01 24 13.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=5.6,slow=5.0,SNR=24						
ZALV	**Zalesovo Beam**	**51.14**	**320**	LR	LR	01 44 19.0	
	comp=Z,29nm,21.7s,baz=216,slow=34						
MKAR	**Makanchi Array**	**51.86**	**311**	P	**P**	**01 24 31.7**	**-2.5**
	comp=Z,0.6nm,0.8s,baz=88,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**56.41**	**181**	P	**P**	**01 25 09.5**	**+2.1**
	comp=Z,2.5nm,0.4s,baz=344,slow=8.9,SNR=8.8						
ILAR	**Eielson Array**	**59.72**	**28**	P	**P**	**01 25 29.6**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=258,slow=4.4,SNR=5.9						
ARCES	**ARCESS Array B**	**75.63**	**341**	P	**P**	**01 27 09.7**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=42,slow=8.6,SNR=1.8						
FINES	**FINESS Array B**	**79.92**	**334**	P	**P**	**01 27 31.8**	**-2.6**
	comp=Z,3.0nm,0.7s,baz=66,slow=5.2,SNR=22						
HFS	**Hagfors**	**85.45**	**337**	P	**P**	**01 28 01.3**	**-2.0**
	comp=Z,0.9nm,0.4s,baz=90,slow=4.4,SNR=6.1						
NB2	**NORSAR Subarra**	**85.66**	**338**	P	**P**	**01 28 01.8**	**-2.5**
	comp=Z,1.0nm,0.6s,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**85.66**	**338**	P	**P**	**01 28 02.2**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=54,slow=6.6,SNR=4.6						
PDAR	**Pinedale Array**	**85.86**	**44**	P	**P**	**01 28 07.3**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=255,slow=2.7,SNR=4.3						
BRTR	**Keskin Array B**	**87.46**	**313**	LR	LR	02 11 17.8	
	comp=Z,19nm,18.5s,baz=75,slow=38						
GERES	**GERESS Array B**	**93.38**	**329**	P	**P**	**01 28 38.3**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=30,slow=6.8,SNR=3.9						
PLCA	**Paso Flores**	**148.54**	**128**	PKPbc	**PKPbc**	**01 35 11.8**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=60,slow=19,SNR=6.4						

IDC ***28*** *01:52:41.8±1.9, 17°.37N×145°.83E, h230km±19km, mb3.2/7, mb1 3.5/8, mb1mx3.2/36, mbtmp3.8/8, Error ellipse: s-maj=27.1km s-min=17.3km az=102.0*
NEIC ***28*** *01:52:42.5±1.6, 17°.4N±0°.1×145°.7E±0°.2, h234km±7km, mb3.9/2, Error ellipse: s-maj=27.4km s-min=15.1km az=113.0*
ISC 28 01:52:43.8±0.9, 17°.25N±0°.10×145°.7E±0°.2, h250km, n13, σ1§10/10, mb3.4/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.73**	**193**	P	**Pn**	**01 53 44.2**	**-0.3**
	22nm,0.3s,baz=118,slow=5.6,SNR=15						
GUMO				S	**S**	**01 54 31.5**	**-1.1**
	14nm,0.3s,baz=3.2,slow=22,SNR=1.8						
H11N1	**WAKE ISLAND Hy**	**20.23**	**80**	T	T	02 18 39.2	
	baz=260						
H11N2	**WAKE ISLAND Hy**	**20.24**	**80**	T	T	02 18 38.5	
	baz=260						
H11N3	**WAKE ISLAND Hy**	**20.25**	**80**	T	T	02 18 38.4	
	baz=260						
WRA	**Warramunga Arr**	**38.61**	**197**	P	**P**	**01 59 44.2**	**+1.0**
	0.5nm,0.4s,baz=20,slow=8.2,SNR=8.4						
ASAR	**Alice Springs**	**42.27**	**196**	P	**P**	**02 00 13.7**	**+0.6**
	0.2nm,0.4s,baz=15,slow=6.7,SNR=6.8						
SONM	**Songino Array**	**44.29**	**322**	P	**P**	**02 00 29.3**	**+0.2**
	0.6nm,0.6s,baz=136,slow=6.7,SNR=3.2						
SONM	**Songino Array**	**44.29**	**322**	IAmb	IAmb	02 00 31.6	
	comp=Z,0.9nm,1.0s						
CHTO	**Chiang Mai**	**44.41**	**279**	P	**P**	**02 00 29.9**	**-0.3**
CHTO				IAmb	IAmb	02 01 15.4	
	comp=Z,2.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**44.44**	**279**	P	**P**	**02 00 31.7**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=59,slow=7.0,SNR=1.8						
MKAR	**Makanchi Array**	**59.48**	**314**	P	**P**	**02 02 20.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=94,slow=7.4,SNR=4.1						
ILAR	**Eielson Array**	**64.94**	**26**	P	**P**	**02 02 55.0**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=250,slow=5.9,SNR=20						
NVAR	**Mina Array Bea**	**84.02**	**52**	P	**P**	**02 04 48.1**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=274,slow=5.7,SNR=4.6						

TUL ***28*** *02:26:03.3±1.3, 36°.39N±0°.02×97°.15W±0°.05, h5km±2km, ML3.2, Error ellipse: s-maj=6.2km s-min=3.1km az=267.0*
NEIC ***28*** *02:26:03.4±1.0, 36°.39N±0°.02×97°.17W±0°.01, h5km±7km, Error ellipse: s-maj=2.9km s-min=1.6km az=187.0*
ANF ***28*** *02:26:03.8±0.3, 36°.31N×97°.12W, h0km, ML4.1/11, Error ellipse: s-maj=3.7km s-min=2.4km az=5.0*
UNK ***28*** *02:26:03.6, 36°.38N×97°.17W, h5km*
ISC 28 02:26:02.0±1.2, 36°.36N±0°.02×97°.22W±0°.02, h2km±12km, n76, σ1§01/83, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.46**	**114**		**Pg**	**02 26 11.7**	**+1.0**
QUOK				Sg	**Sg**	**02 26 17.4**	**+0.8**
OK029	**Liberty Lake**	**0.59**	**199**		**Pb**	**02 26 15.6**	**+0.6**
OK029				Sg	**Sb**	**02 26 24.2**	**+0.4**
CROK	**Carrier**	**0.63**	**283**		**Pb**	**02 26 15.9**	**+0.2**
KAN13	**South Haven SW**	**0.68**	**343**		**Pb**	**02 26 16.3**	**-0.3**
BCOK	**Bluff Creek, N**	**0.77**	**204**		**Pn**	**02 26 18.9**	**-0.9**
OK025	**Westminster Rd**	**0.78**	**187**		**Pn**	**02 26 18.9**	**-1.1**
T35A	**Sooner Cattle**	**0.80**	**46**		**Pg**	**02 26 17.4**	**+0.2**
OKCFA	**Oklahoma City**	**0.96**	**191**		**Pn**	**02 26 22.5**	**0.0**
OKCFA					**Sn**	**02 26 35.8**	**-1.0**
OKCSW	**OKLAHOMA CITY**	**0.97**	**191**		**Pn**	**02 26 22.3**	**-0.3**
KAN10	**Anthony SW Sta**	**1.04**	**318**		**Pn**	**02 26 23.1**	**-0.4**
FNO	**Franklin**	**1.11**	**188**		**Pn**	**02 26 25.1**	**+0.6**
KAN12	**Harper NE Stat**	**1.12**	**327**		**Pn**	**02 26 24.4**	**-0.4**
W35A	**Tecumseh**	**1.24**	**167**		**Pg**	**02 26 25.9**	**+0.2**
TUL1	**Leonard**	**1.24**	**111**	P	**Pn**	**02 26 25.4**	**-0.8**
	baz=293						
TUL1				S	**Sb**	**02 26 42.0**	**-0.5**
	baz=293						
TUL1	**Leonard**	**1.24**	**111**		**Pn**	**02 26 25.5**	**-0.8**
U32A	**Winter Ranch,**	**1.44**	**271**		**Pg**	**02 26 30.1**	**+0.7**
WMOK	**Wichita Mounta**	**2.06**	**219**	P	**Pb**	**02 26 39.9**	**-0.2**
	baz=38						
WMOK				S	**Sg**	**02 27 07.6**	**-0.4**
	baz=38						
WMOK	**Wichita Mounta**	**2.06**	**219**	Pn	**Pb**	**02 26 40.0**	**-0.1**
U38A	**Gravette**	**2.29**	**87**		**Pn**	**02 26 41.8**	**+1.0**
X37A	**Clayton**	**2.32**	**139**		**Pb**	**02 26 42.7**	**-1.9**
R32A	**Long Quarter,**	**2.38**	**330**		**Pb**	**02 26 43.6**	**-1.9**
HHAR	**Hobbs**	**2.65**	**91**		**Pb**	**02 26 47.5**	**-2.6**
KSU1	**Kansas State U**	**2.78**	**10**	P	**Pn**	**02 26 49.2**	**+1.7**
	baz=190						
KSU1				S	**Sb**	**02 27 27.1**	**+0.3**
	baz=190						
KSU1	**Kansas State U**	**2.78**	**10**		**Pn**	**02 26 49.0**	**+1.5**
Z35A	**Perchaven, San**	**3.02**	**181**	Pn	**Pn**	**02 26 52.2**	**+1.4**
W39A	**Magazine**	**3.03**	**112**	Sb	**Sb**	**02 27 34.3**	**+0.3**
	baz=294						
W39A	**Magazine**	**3.03**	**112**		**Pn**	**02 26 51.8**	**+1.0**
CBKS	**Cedar Bluff**	**3.16**	**322**	Pb	**Pg**	**02 27 01.6**	**-0.9**
	baz=139						
CBKS	**Cedar Bluff**	**3.16**	**322**	Pn	**Pn**	**02 26 54.0**	**+1.2**
S39A	**Bolivar**	**3.39**	**66**		**Pn**	**02 26 56.6**	**+0.8**
MIAR	**Mount Ida**	**3.48**	**120**	P	**Pn**	**02 26 58.3**	**+1.1**
	baz=303						
MIAR	**Mount Ida**	**3.48**	**120**		**Pn**	**02 26 57.9**	**+0.8**
U40A	**Yellville**	**3.53**	**89**	P	**Pn**	**02 26 58.5**	**+0.8**
	baz=272						
U40A	**Yellville**	**3.53**	**89**	Pn	**Pn**	**02 26 58.4**	**+0.6**
Z38A	**Mt. Pleasant**	**3.60**	**149**	Pn	**Pn**	**02 26 58.5**	**-0.2**
AMTX	**Amarillo**	**3.92**	**249**	Sb	**Sg**	**02 28 07.2**	**-0.7**
	baz=66						
AMTX	**Amarillo**	**3.92**	**249**		**Pn**	**02 27 05.4**	**+2.1**
X40A	**Basin Creek Fa**	**4.04**	**116**	P	**Pn**	**02 27 06.4**	**+1.6**
	baz=299						
X40A				S	**Sn**	**02 27 53.4**	**+0.7**
	baz=299						
X40A	**Basin Creek Fa**	**4.04**	**116**		**Pn**	**02 27 05.8**	**+1.0**
MGMO	**Mountain Grove**	**4.05**	**77**		**Pn**	**02 27 05.5**	**+0.5**
WHAR	**Wooly Hollow**	**4.15**	**103**	Pn	**Pn**	**02 27 07.7**	**+1.4**
FCAR	**Ozark Folk Cen**	**4.15**	**95**	Pn	**Pn**	**02 27 07.5**	**+1.1**
W41B	**Gary Mavity, V**	**4.21**	**105**	Pn	**Pn**	**02 27 08.1**	**+0.9**
ABTX	**Abilene, Hawle**	**4.23**	**209**	Pn	**Pn**	**02 27 08.8**	**+1.3**
UALR	**University of**	**4.28**	**110**	Pn	**Pn**	**02 27 08.5**	**+0.5**
WLAR	**White Oak Lake**	**4.30**	**127**	Pn	**Pn**	**02 27 07.9**	**-0.4**
WHTX	**Lake Whitney,**	**4.36**	**183**	Pn	**Pn**	**02 27 10.7**	**+1.4**
P38A	**Dawn**	**4.37**	**41**	Pn	**Pn**	**02 27 10.7**	**+1.3**
N33A	**J Bar K, Exete**	**4.38**	**358**	Pn	**Pn**	**02 27 10.3**	**+0.8**
R40A	**Maddies Static**	**4.39**	**62**		**Pn**	**02 27 10.0**	**+0.4**
237A	**Washetta, Mont**	**4.50**	**165**		**Pn**	**02 27 11.6**	**+0.5**
N35A	**Tabor**	**4.66**	**15**	Pn	**Pn**	**02 27 13.0**	**-0.4**
Z41A	**Richland Creek**	**4.77**	**129**	P	**Pn**	**02 27 15.7**	**+0.9**
	baz=312						
Z41A	**Richland Creek**	**4.77**	**129**	Pn	**Pn**	**02 27 15.0**	**+0.1**
LCAR	**Lake Charles**	**4.91**	**92**	Pn	**Pn**	**02 27 17.1**	**+0.3**
T42A	**Van Buren**	**4.97**	**80**	Pn	**Pn**	**02 27 16.6**	**-1.0**
KSCO	**Kaye Shedlock'**	**5.04**	**303**	Pn	**Pn**	**02 27 19.9**	**+1.3**
NATX	**Nacogdoches**	**5.06**	**154**	Pn	**Pn**	**02 27 19.9**	**+1.1**
CCM	**Cathedral Cave**	**5.06**	**69**	P	**Pn**	**02 27 20.5**	**+1.6**
	baz=252						
CCM	**Cathedral Cave**	**5.06**	**69**	Pn	**Pn**	**02 27 19.1**	**+0.3**
BGNE	**Belgrade**	**5.09**	**352**	Pn	**Pn**	**02 27 19.7**	**+0.4**
MSTX	**Muleshoe**	**5.13**	**244**	Pn	**Pn**	**02 27 21.8**	**+1.9**
P40A	**Paris**	**5.17**	**51**	Pn	**Pn**	**02 27 21.1**	**+0.8**
N38A	**Joes South For**	**5.42**	**34**	Pn	**Pn**	**02 27 24.3**	**+0.6**
L34A	**Svendsen Farm,**	**5.64**	**6**	Pn	**Pn**	**02 27 28.3**	**+1.5**
JCT	**Junction City**	**6.25**	**201**	Pn	**Pn**	**02 27 36.7**	**+1.5**
SCIA	**State Center**	**6.35**	**28**	Pn	**Pn**	**02 27 37.5**	**+0.9**
S44A	**Carbondale**	**6.51**	**76**	Pn	**Pn**	**02 27 39.5**	**+0.8**
OXF	**Oxford**	**6.64**	**104**	Pn	**Pn**	**02 27 41.7**	**+1.2**
P43A	**Skaggs, Pawnee**	**6.91**	**59**	Pn	**Pn**	**02 27 43.6**	**-0.5**
Q44A	**Meyer Farm, Va**	**6.99**	**66**	Pn	**Pn**	**02 27 45.3**	**0.0**
K38A	**Parkersburg**	**7.16**	**27**	Pn	**Pn**	**02 27 47.2**	**-0.4**
L40A	**Anamosa**	**7.36**	**37**	Pn	**Pn**	**02 27 50.4**	**+0.1**
ECSD	**EROS Data Cent**	**7.38**	**3**	Pn	**Pn**	**02 27 50.7**	**0.0**
PLAL	**Pickwick Lake**	**7.57**	**98**	Pn	**Pn**	**02 27 53.9**	**+0.6**
WVT	**Waverly**	**7.59**	**89**	Pn	**Pn**	**02 27 54.9**	**+1.3**

GUC ***28*** *02:35:20.3±0.4, 13°.51S×72°.05W, h14km±13km, MW5.3*
IDC ***28*** *02:35:20.7±0.6, 13°.78S×71°.56W, h0km, mb4.2/14, mb1 4.4/19, mb1mx4.3/31, mbtmp4.3/19, ML3.7/4, MS4.5/21, Ms1 4.5/21, ms1mx4.4/30, Error ellipse: s-maj=18.9km s-min=14.6km az=46.0*
NEIC ***28*** *02:35:22.2±1.9, 13°.84S±0°.06×71°.70W±0°.06, h10km±1km, mb4.9/119, ML5.1(ARE), Error ellipse: s-maj=11.4km s-min=10.0km az=221.0*
VAO ***28*** *02:35:23.3±0.4, 13°.68S×71°.74W, h10km, mb4.7*
GCMT ***28*** *02:35:26.2±0.2, 13°.65S±0°.01×71°.78W±0°.01, h16km±1km, MW5.0/109, Moment Tensor Solution. s45,c55; s109,c175; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.08±.15; $M_{\theta\theta}$5.00±.12; $M_{\phi\phi}$-3.92±.14; $M_{r\theta}$0.52±.28; $M_{\theta\phi}$-0.73±.11; $M_{\phi r}$1.28±.39; Best double couple: M_{o}4.78900×10^16^ NP1:ϕ_s138.00000°, δ72.00000°, λ-13.00000°. NP2:ϕ_s232.00000°, δ78.00000°, λ-162.00000°. Principal axes: T 5.0880, Plg4.0000°, Azm4.0000°; N -0.5970, Plg68.0000°, Azm264.0000°; P -4.4910, Plg21.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ARE ***28*** *02:35:27±3.2, 13°.81S±0°.08×71°.89W±0°.09, h6km±3km Error ellipse: s-maj=0.0km s-min=0.0km az=146.0*
BJI ***28*** *02:35:27.0±0.0, 13°.80S×71°.80W, h48km, mB5.2/9, Ms5.2/4, Ms7 5.0/5*
ISC 28 02:35:22.4±0.3, 13°.73S±0°.04×71°.69W±0°.05, h10km, n218, σ1§71/178, mb4.9/58, MS4.6/18, 1C, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.28**	**127**	Pn	**Pn**	**02 36 32.0**	**+3.8**
	3.4nm,0.3s,baz=311,slow=7.4,SNR=44						
LPAZ				Lg	Lg	02 37 45.5	
	13nm,0.3s,baz=86,slow=14,SNR=1.6						
LPAZ				LR	LR	02 38 39.4	
	comp=Z,14μm,21.3s,baz=318,slow=48						
LPAZ	**La Paz**	**4.28**	**127**	*e*P	Pb	02 36 32.7	-5.4
LPAZ				*i* S	Sg	02 38 00.7	+21
LPAZ	**La Paz**	**4.28**	**127**	Pn	**Pn**	**02 36 28.4**	**+0.2**
LPAZ	**La Paz**	**4.28**	**127**	*e*P	**Pn**	**02 36 29.4**	**+1.2**
AP01	**Chacalluta**	**4.80**	**165**	Pn	**Pn**	**02 36 33.5**	**-1.2**
PB16	**IPOC Station P**	**5.04**	**156**	*i*P	Pb	02 36 44.0	-7.0
PB16	**IPOC Station P**	**5.04**	**156**	Pn	**Pn**	**02 36 37.0**	**-1.6**
NNA	**Nana**	**5.31**	**288**	Pn	**Pn**	**02 36 42.9**	**+1.0**
	6.4nm,0.3s,baz=117,slow=10,SNR=18						
NNA				Sn	**Sn**	**02 37 47.5**	**+4.3**
	3.2nm,0.3s,baz=75,slow=21,SNR=1.3						
NNA				LR	LR	02 39 17.2	
	comp=Z,4μm,20.9s,baz=118,slow=43						
NNA	**Nana**	**5.31**	**288**		**Pn**	**02 36 42.7**	**+0.8**
MNMC	**Minye Minye**	**5.74**	**160**	*e*P	**Pn**	**02 36 50.6**	**+2.7**
MNMC	**Minye Minye**	**5.74**	**160**		**Pn**	**02 36 47.1**	**-0.9**
PSGCX	**Pisagua**	**6.03**	**166**	Pn	**Pn**	**02 36 50.3**	**-1.5**
CZSB	**Cruzeiro do Su**	**6.04**	**350**	*e*P	**Pn**	**02 36 52.3**	**+0.4**
PB11	**IPOC Station P**	**6.31**	**162**	*e*P	**Pn**	**02 36 56.8**	**+1.1**
PB11	**IPOC Station P**	**6.31**	**162**	Pn	**Pn**	**02 36 54.2**	**-1.5**
GO01	**Chusmiza**	**6.38**	**158**		**Pn**	**02 36 55.6**	**-1.3**
ETMB	**Extrema**	**6.62**	**55**	*e*P	**Pn**	**02 37 01.0**	**+1.2**
PB08	**IPOC Station P**	**6.83**	**160**	*e*P	**Pn**	**02 37 04.8**	**+1.8**
PB08	**IPOC Station P**	**6.83**	**160**		**Pn**	**02 37 00.9**	**-2.0**
TA01	**Diego Aracena**	**6.95**	**168**	Pn	**Pn**	**02 37 02.3**	**-2.0**
PATCX	**Punta Patache**	**7.21**	**168**		**Pn**	**02 37 06.6**	**-1.4**
PB01	**IPOC Station P**	**7.58**	**164**		**Pn**	**02 37 11.4**	**-1.6**
PB02	**IPOC Station P**	**7.74**	**167**	*e*P	**Pn**	**02 37 14.9**	**-0.4**
PB07	**IPOC Station P**	**8.14**	**168**		**Pn**	**02 37 19.6**	**-1.2**
PB09	**IPOC Station P**	**8.36**	**164**		**Pn**	**02 37 22.2**	**-1.7**
PB04	**IPOC Station P**	**8.69**	**171**		**Pn**	**02 37 26.8**	**-1.5**
PB06	**IPOC Station P**	**9.16**	**168**		**Pn**	**02 37 33.8**	**-1.0**
LVC	**Limon Verde**	**9.22**	**164**	Pn	**Pn**	**02 37 35.8**	**-0.1**
	3.4nm,0.3s,baz=331,slow=9.6,SNR=25						
LVC				Sn	**Sn**	**02 39 22.1**	**+2.1**
	0.7nm,0.3s,baz=221,slow=23,SNR=6.3						
LVC				LR	LR	02 41 29.2	
	comp=Z,5μm,19.2s,baz=332,slow=40						
LVC	**Limon Verde**	**9.22**	**164**	Pn	**Pn**	**02 37 35.9**	**+0.1**
LVC	**Limon Verde**	**9.22**	**164**	*e*P	**Pn**	**02 37 37.0**	**+1.2**
LVC				*e*S	**Sn**	**02 39 22.9**	**+3.0**
ATAH	**Atahualpa**	**9.29**	**314**	Pn	**Pn**	**02 37 39.4**	**+2.5**
	1.5nm,0.3s,baz=138,slow=15,SNR=11						
ATAH				Sn	**Sn**	**02 39 26.2**	**+4.5**
	0.3nm,0.3s,baz=280,slow=23,SNR=1.3						
ATAH				Lg	Lg	02 40 17.1	
	0.2nm,0.3s,baz=5.5,slow=17,SNR=1.5						
SAML	**Samuel**	**9.60**	**61**		**Pn**	**02 37 41.0**	**+0.3**
PB15	**IPOC Station P**	**9.66**	**168**		**Pn**	**02 37 39.8**	**-2.0**
SIV	**San Ignacio**	**10.51**	**104**	Pn	**Pn**	**02 37 55.4**	**+2.2**
	3.3nm,0.3s,baz=312,slow=9.6,SNR=54						
SIV				Sn	**Sn**	**02 39 58.3**	**+7.2**
	3.6nm,0.3s,baz=215,slow=22,SNR=2.8						
SIV				Lg	Lg	02 40 58.1	
	2.2nm,0.3s,baz=39,slow=23,SNR=2.0						
SIV				LR	LR	02 42 14.2	
	comp=Z,4μm,18.3s,baz=298,slow=40						
PB14	**IPOC Station P**	**10.91**	**174**	Pn	**Pn**	**02 37 57.0**	**-1.9**
VILB	**Vilhena**	**11.21**	**87**	*e*P	**Pn**	**02 38 03.3**	**+0.5**
GO02	**Mina Guanaco**	**11.55**	**170**		**Pn**	**02 38 05.6**	**-2.1**
PTLB	**Pontes e Lacer**	**12.27**	**100**	*e*P	**Pn**	**02 38 18.8**	**+1.5**
PUAC	**Puerto Asis, P**	**14.98**	**341**	*e*P	**Pn**	**02 38 51.2**	**-3.3**
AC05	**El Transito**	**15.10**	**175**	Pn	**Pn**	**02 38 52.8**	**-3.1**
OTAV	**Otavalo**	**15.40**	**334**	*e*P	**Pn**	**02 39 00.3**	**-0.1**
OTAV	**Otavalo**	**15.40**	**334**	Pn	**Pn**	**02 39 01.4**	**+1.0**
OTAV	**Otav

comp=Z,20nm,1.2s
S57A Dark Hollow, R 51.66 353 IAmb IAmb 02 45 10.7
comp=Z,34nm,1.6s
U49A Red Boiling Sp 51.71 346 IAmb IAmb 02 44 35.1
comp=Z,36nm,2.0s
WVT Waverly 51.88 343 P **P** **02 44 29.8 -1.3**
W41B Gary Mavity, V 52.39 339 IAmb IAmb 02 44 57.7
comp=Z,16nm,1.3s
T47A Sharon Grove 52.49 344 IAmb IAmb 02 44 49.6
comp=Z,19nm,1.3s
TX32 Lajitas Array 52.78 324 IAmb IAmb 02 45 49.8
comp=Z,23nm,2.0s
TXAR Lajitas Array 52.78 324 P **P** **02 44 37.2 -0.8**
comp=Z,0.7nm,0.6s,baz=148,slow=7.6,SNR=8.9
TX31 Lajitas Ar. Si 52.78 324 IAmb IAmb 02 45 11.1
comp=Z,23nm,1.4s
W39A Magazine 52.97 337 IAmb IAmb 02 44 56.3
comp=Z,19nm,1.2s
X37A Clayton 53.06 336 IAmb IAmb 02 44 50.4
comp=Z,25nm,1.2s
PBMO Poplar Bluff 53.25 341 IAmb IAmb 02 44 44.5
comp=Z,8.0nm,0.7s
ABTX Abilene, Hawle 53.28 330 IAmb IAmb 02 44 46.7
comp=Z,30nm,1.5s
WCI Wyandotte Cave 53.46 346 P **P** **02 44 41.0 -1.8**
T42A Van Buren 53.69 341 IAmb IAmb 02 45 10.7
comp=Z,17nm,1.4s
S44A Carbondale 53.74 343 IAmb IAmb 02 44 59.3
comp=Z,16nm,0.8s
HHAR Hobbs 53.99 338 IAmb IAmb 02 45 02.3
comp=Z,22nm,1.4s
CCM Cathedral Cave 54.68 341 P **P** **02 44 52.9 +1.2**
CCM IAmb IAmb 02 45 13.9
comp=Z,29nm,1.6s
S39A Bolivar 55.03 339 IAmb IAmb 02 45 16.8
comp=Z,15nm,1.1s
R40A Maddies Statio 55.22 340 IAmb IAmb 02 45 15.9
comp=Z,28nm,1.6s
M56A Emporium 55.26 354 IAmb IAmb 02 45 18.6
comp=Z,24nm,1.3s
N49A Columbus Grove 55.59 349 IAmb IAmb 02 45 02.0
comp=Z,20nm,1.1s
P40A Paris 56.28 341 IAmb IAmb 02 45 18.0
comp=Z,18nm,1.1s
N41A Harden Midland 57.00 343 IAmb IAmb 02 45 22.2
comp=Z,20nm,1.1s
G62A West of Eustis 58.67 1 P **P** **02 45 19.4 -0.5**
G65A Princeton 58.76 3 P **P** **02 45 19.5 -1.1**
G65A IAmb IAmb 02 45 29.3
comp=Z,15nm,1.1s
H43A Windswept, Lux 59.74 347 IAmb IAmb 02 45 36.8
comp=Z,16nm,1.1s
I40A Norwalk 59.89 344 P **P** **02 45 27.7 -0.7**
D62A Allapoint, All 60.57 2 P **P** **02 45 31.9 -1.0**
X16A Lo Mia Camp, P 60.99 323 IAmb IAmb 02 45 51.4
comp=Z,13nm,1.6s
WUAZ Wupatki 61.72 324 IAmb IAmb 02 45 58.1
comp=Z,13nm,1.2s
D41A Chassel 62.37 347 P **P** **02 45 45.7 +0.6**
EYMN Ely 63.88 345 P **P** **02 45 54.2 -1.0**
PDAR Pinedale Array 66.08 330 P **P** **02 46 09.5 -0.4**
comp=Z,0.4nm,0.7s,baz=129,slow=5.9,SNR=5.7
PDAR LR LR 03 17 55.0
comp=Z,245nm,19.2s,baz=150,slow=39
PDAR Pinedale Array 66.08 330 P **P** **02 46 09.0 -0.9**
R11A Troy Canyon, C 66.11 323 P **P** **02 46 09.9 -0.2**
R11A IAmb IAmb 02 46 25.8
comp=Z,18nm,1.8s
BELA Belgrano 2 66.77 172 P **P** **02 46 12.4 -1.2**
ULM Lac du Bonnet 67.15 343 P **P** **02 46 15.6 -0.7**
comp=Z,4.5nm,0.7s,baz=158,slow=6.4,SNR=3.6
ULM LR LR 03 17 58.2
comp=Z,252nm,18.3s,baz=128,slow=38
REDW Red Top Meadow 67.16 330 IAmb IAmb 02 46 57.3
comp=Z,20nm,1.6s
IMW Indian Meadow 67.60 330 IAmb IAmb 02 46 34.4
comp=Z,9.9nm,1.4s
OMMB Old Mammoth Mi 67.67 321 IAmb IAmb 02 46 34.3
comp=Z,8.5nm,1.1s
NVAR Mina Array Bea 67.77 322 P **P** **02 46 23.3 +2.5**
comp=Z,0.3nm,0.6s,baz=123,slow=5.5,SNR=3.8
NVAR LR LR 03 17 43.6
comp=Z,122nm,18.7s,baz=131,slow=38
NVAR Mina Array Bea 67.77 322 P P 02 46 26.8 +6.1
VNA3 Neumayer Olymp 68.25 162 P **P** **02 46 23.0 0.0**
VNA1 Neumayer--Stat 68.46 161 P **P** **02 46 23.4 -0.9**
YERR Yerington 68.69 322 IAmb IAmb 02 46 36.5
comp=Z,15nm,1.5s
HLID Hailey 69.08 328 IAmb IAmb 02 46 45.9
comp=Z,14nm,1.8s
BOZ Bozeman (W) 69.19 331 IAmb IAmb 02 46 35.1
comp=Z,26nm,2.0s
PAHR Pah Rah Range 69.23 322 IAmb IAmb 02 46 39.7
comp=Z,12nm,1.2s
DBIC Dimbokro 69.36 77 P **P** **02 46 29.3 -1.6**
comp=Z,5.0nm,0.7s,baz=248,slow=8.2,SNR=6.9
DBIC LR LR 03 14 51.3
comp=Z,540nm,19.5s,baz=234,slow=34
DBIC Dimbokro 69.36 77 P **P** **02 46 30.2 -0.7**
MFID Camas Ranch 69.71 327 IAmb IAmb 02 47 02.5
comp=Z,16nm,1.3s
SNAA Sanae 70.45 162 P **P** **02 46 35.4 -1.3**
SNAA Sanae 70.45 162 P **P** **02 46 35.5 -1.3**
SNAA IAmb IAmb 02 46 39.7
comp=Z,12nm,1.3s
MOD Modoc Plateau 71.17 324 IAmb IAmb 02 46 50.4
comp=Z,9.2nm,1.2s
MSO Missoula 71.19 331 IAmb IAmb 02 46 58.5
comp=Z,25nm,1.9s
KOWA Kowa 72.61 70 P **P** **02 46 49.8 -0.8**
KOWA IAmb IAmb 02 46 52.7
comp=Z,22nm,1.4s
QSPA South Pole Qui 76.42 180 P **P** **02 47 11.3 -0.7**
QSPA IAmb IAmb 02 47 20.5
comp=Z,9.9nm,1.1s
TOA0 Torodi Ar. Sit 77.44 73 P **P** **02 47 16.8 -1.7**
TOA0 IAmb IAmb 02 47 19.7
comp=Z,11nm,0.7s
TORD Torodi Ar. Bea 77.44 73 P **P** **02 47 16.8 -1.8**
comp=Z,11nm,0.7s,baz=261,slow=3.8,SNR=42
TORD LR LR 03 19 55.9
comp=Z,421nm,19.0s,baz=260,slow=35
TORD Torodi Ar. Bea 77.44 73 P **P** **02 47 17.3 -1.3**
ESDC Sonseca Array 82.28 46 P **P** **02 47 44.6 +0.3**
comp=Z,0.5nm,0.6s,baz=257,slow=5.6,SNR=6.3
ESDC LR LR 03 22 49.6
comp=Z,219nm,18.6s,baz=280,slow=35
YKA Yellowknife Ar 83.01 341 P **P** **02 47 48.6 +1.0**
comp=Z,2.0nm,0.8s,baz=140,slow=6.0,SNR=5.4
YKA LR LR 03 27 27.2
comp=Z,320nm,19.6s,baz=0.0,slow=38
TAM Tamanrasset 83.82 65 P **P** **02 47 51.9 -1.0**
TAM IAmb IAmb 02 47 54.8
comp=Z,20nm,1.8s
VNDA Vanda 84.00 190 P **P** **02 47 53.0 +0.5**
comp=Z,1.2nm,0.9s,baz=164,slow=5.1,SNR=4.9
VNDA LR LR 03 17 52.7
comp=Z,213nm,19.9s,baz=132,slow=30
VNDA Vanda 84.00 190 P **P** **02 47 51.5 -1.0**
VNDA IAmb IAmb 02 48 24.1
comp=Z,13nm,1.9s
BOSA Boshof 89.48 119 LR LR 03 26 01.6
comp=Z,228nm,18.7s,baz=255,slow=34
KEST Kesra 90.80 53 LR LR 03 25 35.2
comp=Z,265nm,21.8s,baz=200,slow=33
MAW Mawson 92.50 164 LR LR 03 31 30.5
comp=Z,208nm,18.8s,baz=236,slow=36
ILAR Eielson Array 96.12 335 LR LR 03 36 37.3
comp=Z,201nm,19.2s,baz=122,slow=38
GERES GERESS Array B 97.20 42 LR LR 03 28 52.7
comp=Z,113nm,19.8s,baz=269,slow=33
CLL Collm 97.30 39 *eP* **P** **02 48 54.0 -1.6**
CLL LmV 03 31 00.0
comp=Z,300nm,18.3s
ABKAR Akbulak array 126.95 38 PKPdf **PKPdf** **02 54 26.7 +0.1**
BVAR Borovoye Array 130.62 29 PKP **PKPdf** **02 54 31.9 -1.6**
comp=Z,0.7nm,0.7s,baz=20,slow=4.6,SNR=4.7
ASAR Alice Springs 135.19 214 PKP **PKPdf** **02 54 42.3 -0.9**
comp=Z,0.8nm,0.7s,baz=121,slow=2.5,SNR=9.3
ZALV Zalesovo Beam 135.81 20 PKP **PKPdf** **02 54 43.5 +0.3**
comp=Z,15nm,0.7s,baz=301,slow=2.5,SNR=43
ZALV Zalesovo Beam 135.81 20 PKPdf **PKPdf** **02 54 42.7 -0.5**
KURK Kurchatov 135.95 27 **PKPdf** **02 54 44.0 +0.4**
KURBB Kurchatov Arra 135.97 27 PKP **PKPdf** **02 54 44.0 +0.3**
comp=Z,1.2nm,0.6s,baz=303,slow=2.4,SNR=8.7
WRA Warramunga Arr 137.87 218 PKP **PKPdf** **02 54 47.1 -1.0**
comp=Z,2.0nm,0.7s,baz=149,slow=1.7,SNR=21
MKAR Makanchi Array 140.47 28 PKP **PKPdf** **02 54 50.8 -1.3**
comp=Z,1.1nm,0.8s,baz=304,slow=2.8,SNR=6.5
KSH Kashi 141.68 42 PKP **PKPdf** **02 54 54.8 +0.2**
USRK Ussuriysk Ar. 143.51 331 PKP **PKPdf** **02 54 58.4 +0.8**
comp=Z,1.5nm,0.8s,baz=350,slow=4.4,SNR=3.1
USRK Ussuriysk Ar. 143.51 331 PKPdf PKPbc 02 54 55.5 +0.7
MJAR Matsushiro Arr 144.91 316 PKPbc PKPbc 02 54 59.6 +0.2
comp=Z,3.5nm,0.8s,baz=100,slow=0.5,SNR=9.2
MJAR Matsushiro Arr 144.91 316 **PKPdf** **02 55 00.2 -0.1**
MAT Matsushiro 144.91 316 *e*PKP **PKPab** **02 54 59.4 0.0**
WMQ Urumqi 145.19 27 *e*PKPbc **PKPbc** **02 54 59.0 -1.2**
WMQ AMB AMB
comp=Z,61nm,5.3s
WMQ Urumqi 145.19 27 PKPbc **PKPdf** **02 55 01.5 +0.9**
MTN Manton Dam 145.24 222 **PKPbc** **02 55 00.1 -0.9**
ULN Ulaanbaatar 145.95 2 PKPbc **PKPab** **02 55 03.1 +0.1**
SONM Songino Array 145.96 2 PKPbc **PKPbc** **02 55 02.7 +0.2**
comp=Z,6.1nm,0.8s,baz=323,slow=1.8,SNR=22
SONM Songino Array 145.96 2 PKPbc **PKPbc** **02 55 02.6 +0.1**
KSRS Korea Array 150.61 327 PKP **PKPdf** **02 55 11.6 +2.0**
comp=Z,3.3nm,0.7s,baz=4.7,slow=2.2,SNR=13
HHC Hu-ho-hao-te 152.83 355 *e*PKPbc **PKPdf** **02 55 12.5 -0.5**
BTO Baotou 153.18 357 *eP* **PKPbc** **02 55 19.0 -1.9**
GTA Gaotai 153.34 15 *e*PKPbc **PKPdf** **02 55 16.0 +2.2**
GTA pPKP pPKPbc 02 55 27.0 +0.9
GTA sPKP 02 55 32.0
GTA LR LR
comp=Z,200nm,21.4s
GTA LR LR
comp=Z,100nm,21.5s
GTA LR LR
comp=Z,180nm,21.8s
LZH Lanzhou 157.38 9 *e*PKP **PKPdf** **02 55 17.3 -2.1**
LZH pPKP sPKPdf 02 55 29.0 +3.2
LZH sPKP 02 55 35.3
LZH LR LR
comp=Z,130nm,17.9s
LZH LR LR
comp=Z,130nm,18.0s
LZH LR LR
comp=Z,160nm,20.1s
NJ2 Nanjing 159.36 334 *e*PKP **PKPdf** **02 55 18.8 -2.9**
CMAR Chiang Mai Arr 169.84 61 PKP **PKPdf** **02 55 31.3 0.0**
comp=Z,1.0nm,0.3s,baz=275,slow=2.7,SNR=4.6

WEL 28 02:41:04.9,39°S±1°×17°6E±°, h56km±2km, M3.7/28, ML4.0/28, MLv3.7/28, Error ellipse: s-maj=0.0km s-min=0.0km az=73.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.09**	**299**	P	Pn	02 41 13.4	-0.2
MOVZ				S	Sn	02 41 19.5	-0.2
BHHZ	**Black Hill Sta**	**0.17**	**104**	P	Pn	02 41 13.9	+0.1
BHHZ				S	Sn	02 41 20.4	+0.2
WNVZ	**Wahianoa**	**0.23**	**302**	P	Pn	02 41 14.3	0.0
WNVZ				S	Sn	02 41 21.1	+0.1
TUVZ	**Tukino**	**0.24**	**320**	P	Pn	02 41 14.5	+0.2
TUVZ				S	Sn	02 41 21.6	+0.5
DRZ	**Dome Shelter**	**0.28**	**308**	P	Pn	02 41 14.9	0.0
FWVZ	**Far West T-bar**	**0.30**	**310**	P	Pn	02 41 15.0	0.0
MTVZ	**Mangateitei**	**0.30**	**282**	P	Pn	02 41 14.7	0.0
OTVZ	**Oturere**	**0.32**	**333**	P	Pn	02 41 15.2	+0.2
ETVZ	**East Tongariro**	**0.33**	**341**	P	Pn	02 41 15.3	+0.2
NGZ	**Ngauruhoe**	**0.34**	**324**	P	Pn	02 41 15.3	+0.2
TMVZ	**Te Maari**	**0.35**	**341**	P	Pn	02 41 15.4	+0.2
KRVZ	**Karewarewa**	**0.39**	**335**	P	Pn	02 41 15.7	+0.1
WTVZ	**West Tongariro**	**0.39**	**328**	P	Pn	02 41 15.7	+0.1
PKVZ	**Pokaka**	**0.42**	**292**	P	Pn	02 41 15.7	-0.1
KWHZ	**Kaweka Forest**	**0.44**	**87**	P	Pn	02 41 17.0	+1.0
KRHZ	**Kereru**	**0.45**	**116**	P	Pn	02 41 17.1	+1.1
KRHZ				S	Sn	02 41 26.9	+2.8
RITZ	**Rihia Road**	**0.47**	**1**	P	Pn	02 41 16.7	+0.4
KATZ	**Kakaramea**	**0.49**	**345**	P	Pn	02 41 16.7	+0.1
TWVZ	**Taurewa**	**0.50**	**319**	P	Pn	02 41 16.3	-0.3
TWVZ				S	Sn	02 41 24.9	-0.2
PNHZ	**Pukenui**	**0.54**	**150**	P	Pn	02 41 17.7	+0.7
PNHZ				S	Sn	02 41 27.9	+2.1
RATZ	**Rangitukua**	**0.58**	**354**	P	Pn	02 41 17.7	+0.1
HATZ	**Hinemaiaia**	**0.59**	**19**	P	Pn	02 41 17.6	0.0
HATZ				S	Sn	02 41 27.0	+0.2
TSZ	**Takapari Road**	**0.61**	**172**	P	Pn	02 41 18.6	+0.7
TSZ				S	Sn	02 41 29.1	+1.7
MCHZ	**McNeill Hill**	**0.65**	**90**	P	Pn	02 41 20.2	+1.8
WAZ	**Wanganui**	**0.74**	**245**	P	Pn	02 41 19.6	+0.2
WAZ				S	Sn	02 41 30.5	+0.5
WATZ	**Wairara**	**0.75**	**353**	P	Pn	02 41 19.5	-0.1
MRHZ	**Matea Rd**	**0.76**	**36**	P	Pn	02 41 19.9	+0.2
MRHZ				S	Sn	02 41 30.7	+0.2
WPHZ	**Waipukurau**	**0.76**	**144**	P	Pn	02 41 20.2	+0.4
WHTZ	**Whakaora**	**0.79**	**6**	P	Pn	02 41 20.5	+0.4
NMHZ	**Naumai**	**0.82**	**65**	P	Pn	02 41 22.4	+1.9
KAHZ	**Kahuranaki**	**0.86**	**114**	P	Pn	02 41 22.3	+1.3
DVHZ	**Dannevirke**	**0.88**	**164**	P	Pn	02 41 21.2	-0.1
ARHZ	**Arapoaonui**	**0.91**	**79**	P	Pn	02 41 22.9	+1.3
POWZ	**Post Office Ro**	**0.94**	**184**	P	Pn	02 41 22.1	+0.1
KUTZ	**Kaahu Road**	**0.96**	**359**	P	Pn	02 41 22.3	0.0
WPRZ	**Whakapapatarin**	**0.96**	**15**	P	Pn	02 41 22.4	+0.1
ALRZ	**Allen Road**	**0.96**	**23**	P	Pn	02 41 22.4	+0.1
PXZ	**Pawanui**	**0.97**	**127**	P	Pn	02 41 22.6	+0.2
MTHZ	**Maungataniwha**	**0.97**	**53**	P	Pn	02 41 23.2	+0.7
PRHZ	**Porangahau**	**1.01**	**144**	P	Pn	02 41 23.2	+0.2
PRRZ	**Plateau Road**	**1.04**	**24**	P	Pn	02 41 23.4	+0.1
RAHZ	**Arahi**	**1.10**	**61**	P	Pn	02 41 25.2	+1.1
PRWZ	**Pori Road**	**1.11**	**175**	P	Pn	02 41 24.4	+0.1
HRRZ	**Handcock Road**	**1.11**	**18**	P	Pn	02 41 24.7	+0.4
GRRZ	**Galatos Road**	**1.12**	**10**	P	Pn	02 41 24.7	+0.3
ANWZ	**Angora Road**	**1.12**	**155**	P	Pn	02 41 24.6	+0.3
LREZ	**Lake Rotokare**	**1.12**	**269**	P	Pn	02 41 24.3	-0.1
HSRZ	**Hossack Road**	**1.18**	**15**	P	Pn	02 41 25.3	+0.1
RTZ	**Ruatahuna**	**1.21**	**47**	P	Pn	02 41 26.0	+0.4
RRRZ	**Republican Roa**	**1.22**	**25**	P	Pn	02 41 25.9	+0.1
MHEZ	**Mangahewa**	**1.24**	**287**	P	Pn	02 41 26.2	+0.2
HLRZ	**Highlands Stat**	**1.26**	**18**	P	Pn	02 41 27.0	+0.7
BFZ	**Birch Farm**	**1.27**	**166**	P	Pn	02 41 26.0	-0.3
UTU	**Utuhina**	**1.30**	**12**	P	Pn	02 41 27.1	+0.3
TARZ	**Mount Tarawera**	**1.31**	**23**	P	Pn	02 41 27.6	+0.5
PREZ	**Palmer Road**	**1.32**	**274**	P	Pn	02 41 27.5	+0.4
TIWZ	**Tintock**	**1.33**	**179**	P	Pn	02 41 26.8	-0.4
NEZ	**North Egmont**	**1.37**	**277**	P	Pn	02 41 28.1	+0.2
MKRZ	**Makatiti**	**1.39**	**20**	P	Pn	02 41 28.8	+0.7
OMRZ	**Omania**	**1.40**	**17**	P	Pn	02 41 28.3	+0.1
KHEZ	**Kahui Hut**	**1.43**	**276**	P	Pn	02 41 29.3	+0.6
OGWZ	**Otaki Gorge**	**1.46**	**201**	P	Pn	02 41 28.5	-0.5
PKE	**Pukeiti**	**1.47**	**279**	P	Pn	02 41 29.3	+0.2
CPWZ	**Castlepoint**	**1.48**	**170**	P	Pn	02 41 29.2	-0.1
NMEZ	**Namu Road**	**1.53**	**271**	P	Pn	02 41 30.4	+0.5
NBEZ	**Newall Road No**	**1.55**	**276**	P	Pn	02 41 30.4	+0.3
KIW	**Kapiti Island**	**1.58**	**207**	P	Pn	02 41 29.9	-0.8
KMRZ	**Kaimai**	**1.60**	**3**	P	Pn	02 41 30.9	0.0
MHGZ	**Mahia Peninsul**	**1.62**	**80**	P	Pn	02 41 31.7	+0.5
RIGZ	**Rimuhau**	**1.66**	**64**	P	Pn	02 41 32.7	+1.0
PRGZ	**Paritu Road**	**1.66**	**72**	P	Pn	02 41 32.2	+0.5
OPRZ	**Ohinepanea**	**1.69**	**19**	P	Pn	02 41 32.3	+0.2
TOZ	**Tahuroa Road**	**1.74**	**351**	P	Pn	02 41 32.4	-0.3
TGRZ	**Tauranga**	**1.75**	**11**	P	Pn	02 41 33.1	+0.2
CAW	**Cannon Point**	**1.76**	**200**	P	Pn	02 41 31.8	-1.3
WHRZ	**Whale Island**	**1.82**	**29**	P	Pn	02 41 35.9	+2.1
TKGZ	**Te Karaka**	**1.85**	**58**	P	Pn	02 41 35.2	+0.9
TRWZ	**Traveller**	**1.95**	**184**	P	Pn	02 41 34.0	-1.7
DUWZ	**D'Urville Isla**	**2.00**	**227**	P	Pn	02 41 35.5	-0.9
WEL	**Wellington**	**2.01**	**204**	P	Pn	02 41 34.8	-1.6
MSWZ	**Moikau Station**	**2.02**	**193**	P	Pn	02 41 34.6	-2.0
RUGZ	**Raukumara Rang**	**2.06**	**45**	P	Pn	02 41 37.1	-0.1
TWGZ	**Tauwhareparae**	**2.09**	**53**	P	Pn	02 41 38.8	+1.2
BHW	**Baring Head**	**2.10**	**201**	P	Pn	02 41 35.6	-2.0
TCW	**Tory Channel**	**2.13**	**214**	P	Pn	02 41 36.5	-1.6
PLWZ	**Palliser**	**2.17**	**192**	P	Pn	02 41 36.4	-2.2
TUWZ	**Tuamarina**	**2.46**	**216**	P	Pn	02 41 40.6	-2.0
AWAZ	**Awhitu Peninsu**	**2.56**	**338**	P	Pn	02 41 44.2	+0.2
ETAZ	**East Tamaki Re**	**2.60**	**343**	P	Pn	02 41 44.2	-0.2
KUZ	**Kuaotunu**	**2.70**	**358**	P	Pn	02 41 45.7	-0.2
WTAZ	**Waiatarua**	**2.71**	**338**	P	Pn	02 41 46.4	+0.4
WIAZ	**Waiheke Island**	**2.71**	**348**	P	Pn	02 41 45.9	-0.1
EPAZ	**Eden Park BICE**	**2.71**	**341**	P	Pn	02 41 46.1	+0.1
BSWZ	**Blackbirch Sta**	**2.72**	**213**	P	Pn	02 41 43.9	-2.2
HBAZ	**Herne Bay Bore**	**2.74**	**341**	P	Pn	02 41 46.4	0.0
MBAZ	**Motutapu North**	**2.78**	**344**	P	Pn	02 41 46.6	-0.3
RVAZ	**Riverhead Bore**	**2.86**	**339**	P	Pn	02 41 48.2	+0.2
ABAZ	**Army Bay**	**2.96**	**344**	P	Pn	02 41 49.3	-0.1
GRZ	**Great Barrier**	**3.21**	**354**	P	Pn	02 41 52.2	-0.7
THZ	**Tophouse**	**3.22**	**223**	P	Pn	02 41 50.9	-2.2
GVZ	**Greta Valley S**	**4.11**	**210**	P	Pn	02 42 01.6	-3.5
WVZ	**Waitaha Valley**	**5.29**	**225**	P	Pn	02 42 20.1	-1.2
GCSZ	**Gaunt Creek Bo**	**5.67**	**225**	P	Pn	02 42 28.3	+1.7
ARCZ	**Arundel**	**5.70**	**216**	P	Pn	02 42 23.4	-3.5
JCZ	**Jackson Bay**	**7.02**	**227**	P	Pn	02 42 44.8	-0.2
CTZ	**Chatham Island**	**7.08**	**130**	P	Pn	02 42 44.2	-1.6

*IDC **28** 02:49:44.1±1.7, 53°67N×163°55W, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.8/49, mbtmp3.8/15, ML2.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/39, Error ellipse: s-maj=46.8km s-min=21.1km az=172.0*

*NEIC **28** 02:49:45.8±0.7, 53°50N±0°05×163°41W±0°06, h17km±2km, Error ellipse: s-maj=7.6km s-min=5.1km az=175.0*

*AEIC **28** 02:49:46.9±1.1, 53°50N±0°06×163°42W±0°08, h35km±6km, mb4.2/6(NEIC), Error ellipse: s-maj=9.2km s-min=6.3km az=156.0*

ISC 28 02:49:46.7±2.1, 53°54N±0°09×163°29W±0°04, h26km±12km, n66, σ1°09/66, mb3.9/14, MS3.5/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.14**	**347**		**Pn**	**02 50 07.2**	**+0.2**
WESE	**West Dahl East**	**1.21**	**321**		**Pn**	**02 50 07.9**	**-0.1**
SSLS	**Shishaldin Sou**	**1.25**	**341**		**Pb**	**02 50 09.0**	**-0.6**
SSLS					**Sb**	**02 50 26.6**	**+1.4**
WESP	**Westdahl Peak**	**1.27**	**319**		**Pn**	**02 50 08.4**	**-0.5**
WESP					**Sn**	**02 50 25.2**	**0.0**
FALS	**False Pass**	**1.32**	**357**		**Pb**	**02 50 10.0**	**-0.7**
WECS	**Westdahl Cape**	**1.32**	**319**		**Pn**	**02 50 09.3**	**-0.3**
SSLW	**Shishaldin Wes**	**1.33**	**339**		**Pn**	**02 50 09.9**	**+0.3**
SSBA	**Shishaldin**	**1.33**	**339**		**Pn**	**02 50 09.8**	**+0.2**
SSLN	**Shishaldin Nor**	**1.34**	**342**		**Pb**	**02 50 10.6**	**-0.6**
WEBT	**Westdahl Beart**	**1.36**	**321**		**Pn**	**02 50 10.1**	**0.0**
AKSA	**Akutan Strait**	**1.55**	**294**		**Pn**	**02 50 11.6**	**-1.0**
AKSA					**Sn**	**02 50 31.7**	**-0.1**
AKSA	**Akutan Strait**	**1.55**	**294**		**Pn**	**02 50 11.8**	**-0.7**
AKUT	**Akutan**	**1.59**	**293**		**Pn**	**02 50 12.5**	**-0.6**
AKUT					**Sn**	**02 50 32.0**	**-0.7**
AKBBA	**Akutan Broad B**	**1.66**	**291**		**Pn**	**02 50 13.5**	**-0.7**
AKBBA					**Sn**	**02 50 34.1**	**-0.6**
ZRO	**Akutan Zero**	**1.69**	**290**		**Pn**	**02 50 13.9**	**-0.6**
AKLV	**Akutan Long Va**	**1.70**	**293**		**Pn**	**02 50 14.1**	**-0.6**
AKLV					**Sn**	**02 50 34.9**	**-0.6**
AKMO	**Akutan Morgan**	**1.71**	**290**		**Pn**	**02 50 14.3**	**-0.5**
AKMO					**Sn**	**02 50 35.4**	**-0.3**
AKGG	**Akutan Green G**	**1.73**	**293**		**Pn**	**02 50 14.8**	**-0.3**
AKGG					**Sn**	**02 50 36.6**	**+0.2**
AKRB	**Akutan Reef Bi**	**1.75**	**291**		**Pn**	**02 50 14.9**	**-0.5**
UNV	**Unalaska Valle**	**1.94**	**280**		**Pn**	**02 50 16.6**	**-1.3**
MNAT	**Makushin Natee**	**2.05**	**281**		**Pn**	**02 50 18.7**	**-0.8**
MREP	**Makushin Rep't**	**2.07**	**279**		**Pn**	**02 50 19.3**	**-0.6**
MSW	**Makushin Switc**	**2.11**	**282**		**Pn**	**02 50 19.6**	**-0.8**
MSW					**Sn**	**02 50 45.2**	**-0.5**
MGOD	**Makushin Gods**	**2.15**	**278**		**Pn**	**02 50 20.4**	**-0.5**
MCIR	**Makushin Cirqu**	**2.18**	**282**		**Pn**	**02 50 20.9**	**-0.5**
MAPS	**Pakushin South**	**2.19**	**278**		**Pn**	**02 50 20.8**	**-0.6**
MAPS					**Sn**	**02 50 46.7**	**-0.9**
SDPT	**Sand Point**	**2.44**	**41**	Pn	**Pn**	**02 50 25.5**	**+0.6**
CNBA	**Chernabura Isl**	**2.52**	**58**	Pn	**Pn**	**02 50 27.2**	**+1.3**
OKFG	**Magazine Ridge**	**2.77**	**269**		**Pn**	**02 50 28.8**	**-0.5**
OKSP	**Okmok Steeple**	**3.01**	**266**		**Pn**	**02 50 31.8**	**-0.9**
NIKH	**Nikolski High**	**3.39**	**263**		**Pn**	**02 50 37.1**	**-0.8**
KDAK	**Kodiak Island**	**7.39**	**51**	Pn	**Pn**	**02 51 34.5**	**+1.7**
	0.2nm,0.3s,baz=106,slow=23,SNR=1.5						
KDAK				Sn	**Sn**	**02 52 51.0**	**-4.8**
	baz=14,slow=8.3,SNR=1.5						
RSO	**Redoubt South**	**9.00**	**35**	Pn	**Pn**	**02 51 56.2**	**+1.2**
ILAR	**Eielson Array**	**13.99**	**30**	LR	LR	02 59 01.7	
	comp=Z,107nm,20.0s,baz=284,slow=40						
EPYK	**Eagle Plains**	**18.29**	**35**	P	**P**	**02 53 55.8**	**-2.5**
EPYK				IAmb	IAmb	02 53 56.4	
	comp=Z,13nm,0.5s						
INK	**Inuvik**	**20.37**	**32**	P	**P**	**02 54 20.9**	**0.0**
	comp=Z,1.7nm,0.9s,baz=289,slow=18,SNR=1.9						
INK	**Inuvik**	**20.37**	**32**	IAmb	IAmb	02 55 01.8	
	comp=Z,9.4nm,1.4s						
PETK	**Petropavlovsk-**	**23.11**	**285**	P	**P**	**02 54 49.3**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=82,slow=13,SNR=7.4						
MA2	**Magadan**	**25.59**	**302**		**S**	**02 59 40.2**	**+0.7**
U15A	**North Rim**	**38.98**	**95**		**S**	**03 03 06.2**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**40.79**	**226**	T	T	03 41 11.1	
	baz=26,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**40.80**	**226**	T	T	03 41 05.1	
	baz=26,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**40.81**	**226**	T	T	03 41 04.2	
	baz=26,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**41.96**	**225**	T	T	03 42 33.4	
	baz=22,slow=74						
H11S2	**WAKE ISLAND Hy**	**41.98**	**225**	T	T	03 42 38.5	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**41.98**	**225**	T	T	03 42 34.7	
	baz=22,slow=74						
KSRS	**Korea Array**	**48.87**	**280**	P	**P**	**02 58 30.2**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=56,slow=7.7,SNR=4.3						
TXAR	**Lajitas Array**	**49.11**	**95**	P	**P**	**02 58 34.3**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=345,slow=10,SNR=2.3						
SONM	**Songino Array**	**53.79**	**303**	P	**P**	**02 59 07.1**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=26,slow=8.0,SNR=3.9						
SONM				LR	LR	03 23 27.3	
	comp=Z,43nm,18.4s,baz=46,sl

PCIG eS Sn 02 58 00.6 0.0
HUEH Huehuetenango 2.01 52 eS Sn 02 58 16.3 +6.0
HUEH Huehuetenango 2.01 52 Pn 02 57 45.0 -1.3
FUG Fuego 3 2.25 80 eP Pn 02 57 47.7 -1.9
CCIG Comitan 2.41 23 eP Pn 02 57 52.4 +0.8
CCIG Comitan 2.41 23 Pn 02 57 51.7 +0.1
PCG Pacaya 2.47 82 eP Pn 02 57 51.2 -1.4
IXG Ixpaco 2.61 87 eP Pn 02 57 51.3 -3.2
IXG Ixpaco 2.61 87 eP Pn 02 57 51.3 -3.2
IXG Ixpaco 2.61 87 eP Pn 02 57 52.4 -2.1
TGIG 2.70 0 eP Pn 02 57 55.7 +0.1
TGIG eS Sn 02 58 28.9 +1.9
APG El Apazote 2.75 70 P Pn 02 57 55.5 -0.9
15nm,0.3s,baz=239,slow=7.4,SNR=200
APG S Sn 02 58 29.0 +0.5
17nm,0.3s,baz=257,slow=17,SNR=2.2
APG LR LR 02 58 59.2
comp=Z,1µm,18.5s,baz=166,slow=46
NBG Las Nubes 2.75 79 eP Pn 02 57 56.5 0.0
HUIG Huatulco 3.34 301 eP Pn 02 58 01.9 -2.4
RTR El Retiro 3.39 92 eP Pn 02 58 02.5 -2.7
RTR El Retiro 3.39 92 eP Pn 02 58 02.5 -2.7
CEVE Cerro Verde 3.42 94 eP Pn 02 58 02.9 -2.8
CEVE IAML 02 59 07.1
comp=Z,757nm,0.5s
CEVE Cerro Verde 3.42 94 eP Pn 02 58 02.9 -2.8
CEVE IAML 02 59 07.1
comp=Z,757nm,0.5s
CMIG Matias Romero 3.45 331 eP Pn 02 58 05.2 -0.7
MRL Marmol 3.49 73 eP Pn 02 58 05.1 -1.5
MRL Marmol 3.49 73 eP Pn 02 58 05.1 -1.5
CEDA San Andres 3.64 94 IAML 02 59 05.5
comp=Z,280nm,0.4s
CEDA San Andres 3.64 94 IAML 02 59 05.5
comp=Z,280nm,0.4s
MTO3 Montecristo 3.67 84 eP Pn 02 58 06.3 -2.8
MTO3 Montecristo 3.67 84 eP Pn 02 58 06.3 -2.8
MTO3 Montecristo 3.67 84 Pn 02 58 06.3 -2.4
ESQI Esquipulas 3.71 82 eP Pn 02 58 07.5 -2.0
ESQI Esquipulas 3.71 82 Pn 02 58 07.4 -2.1
PETF Flores 4.24 48 eP Pn 02 58 16.5 -0.2
PETF Flores 4.24 48 Pn 02 58 15.3 -1.4
PEIG Puerto Escondi 4.33 297 eP Pn 02 58 17.4 -0.6
TEIG Tepich 7.69 36 P Pn 02 59 02.4 -1.7
comp=Z,15nm,0.3s,baz=256,slow=1.7,SNR=67
TEIG S Sn 03 00 28.2 -1.7
baz=308,slow=16,SNR=4.3
TEIG LR LR 03 02 23.2
comp=Z,2µm,19.0s,baz=194,slow=43
JTS Las Juntas de 8.83 114 P Pn 02 59 22.1 +2.3
comp=Z,0.4nm,0.3s,baz=60,slow=18,SNR=2.1
JTS S Sn 03 01 03.9 +5.7
comp=Z,0.3nm,0.3s,baz=218,slow=23,SNR=1.8
833A Chaparral WMA, 15.34 339 P P 03 00 54.8 +2.1
baz=156,SNR=5.3
833A Chaparral WMA, 15.34 339 IAmb IAmb 03 01 04.0
comp=Z,37nm,1.1s
HKT Hockley 16.00 351 IAmb IAmb 03 01 07.7
comp=Z,82nm,1.9s
JCT Junction City 17.45 340 P P 03 01 16.2 -0.1
baz=158
H06E1 SOCORRO T-PHAS 17.70 288 T T 03 19 23.6
SNR=7.3
MOTC Monteria, Cord 17.91 105 eP Pn 03 01 18.6 -2.4
TX31 Lajitas Ar. Si 18.05 329 Pn 03 01 22.9 +0.1
TX31 IAmb IAmb 03 01 43.5
comp=Z,50nm,1.0s
TX32 Lajitas Array 18.05 329 Pn 03 01 22.4 -0.4
TXAR Lajitas Array 18.05 329 P P 03 01 24.7 +1.8
comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=17
TXAR Lajitas Array 18.05 329 P 03 01 23.1 +0.2
WHTX Lake Whitney, 18.28 348 P Pn 03 01 26.9 +1.6
baz=166
WHTX Lake Whitney, 18.28 348 P Pn 03 01 25.7 +0.4
143A Socs Landing, 18.62 5 P P 03 01 26.8 -2.2
CBOC Ciudad Bolivar 18.72 114 eP Pn 03 01 31.8 +0.7
352A Blakely 18.90 22 P P 03 01 31.8 -0.3
Z41A Richland Creek 19.11 1 P P 03 01 34.4 +0.1
Z41A IAmb IAmb 03 01 46.4
comp=Z,36nm,1.3s
YOTC Yotoco, Valle 19.35 120 eP P 03 01 37.2 -0.1
TIGA Tifton 19.38 25 P P 03 01 36.9 -0.4
baz=209
TIGA Tifton 19.38 25 P P 03 01 35.3 -2.1
SMLC San Martn de 19.40 104 eP P 03 01 37.3 -0.4
ABTX Abilene, Hawle 19.41 343 P Pn 03 01 39.3 +0.3
baz=160,SNR=8.1
ABTX Abilene, Hawle 19.41 343 P P 03 01 37.8 +0.1
WLAR White Oak Lake 19.54 0 P P 03 01 38.6 -0.4
WLAR IAmb IAmb 03 01 46.1
comp=Z,27nm,0.9s
Z35A Perchaven, San 19.54 350 P P 03 01 38.3 -0.8
GUY2C Guyana, Caldas 19.58 115 eP Pn 03 01 42.3 +0.6
Z47A Carrollton 19.60 13 P P 03 01 39.4 -0.3
Z47A IAmb IAmb 03 02 27.2
comp=Z,34nm,1.3s
LRAL Lakeview Retre 19.69 15 P P 03 01 40.6 -0.2
baz=198
BBAC Balboa, Cauca 19.74 126 eP P 03 01 40.9 -0.7
RREF El Recreo 19.75 116 eP P 03 01 40.9 -1.3
CCAR Cane Creek 19.80 3 P P 03 01 41.6 -0.3
CCAR IAmb IAmb 03 01 51.5
comp=Z,26nm,1.0s
PTBC PUERTO BERRIO, 19.83 110 eP P 03 01 41.6 -0.8
POPC Popayan, Colom 19.89 124 eP Pn 03 01 44.2 -0.8
TOLC Tolima 19.93 117 eP Pn 03 01 46.9 +1.3
152A Waverly Hall 20.05 21 P P 03 01 42.8 -1.9
152A IAmb IAmb 03 01 55.2
comp=Z,20nm,1.0s
PCON Cinco Dias 20.23 124 eP Pn 03 01 48.8 -0.7
MARP Paez Belalcaza 20.30 122 eP P 03 01 48.4 +0.6
ORTC Ortega, Tolima 20.33 118 eP Pn 03 01 51.1 +1.1
X40A Basin Creek Fa 20.34 1 P Pn 03 01 50.1 +0.2
baz=180
X40A Basin Creek Fa 20.34 1 P P 03 01 47.0 -0.7
MIAR Mount Ida 20.39 359 P P 03 01 48.4 0.0
baz=178,SNR=11
MIAR Mount Ida 20.39 359 P P 03 01 47.6 -0.8
MIAR IAmb IAmb 03 02 04.4
comp=Z,17nm,0.8s
X37A Clayton 20.54 355 P P 03 01 49.4 -0.5
X37A IAmb IAmb 03 01 55.3
comp=Z,25nm,0.8s
SPBC San Pablo de B 20.54 112 eP P 03 01 50.3 +0.1
154A Montrose 20.61 25 P P 03 01 50.0 -0.7
CLNB Carlsbad 20.61 333 P P 03 01 51.3 +0.5
UALR University of 20.63 2 P P 03 01 50.0 -1.0
UALR IAmb IAmb 03 01 55.9
comp=Z,26nm,0.8s
ROSC El Rosal 20.68 115 P Pn 03 01 54.0 -0.6
comp=Z,13nm,0.7s,baz=135,slow=20,SNR=3.5
ROSC El Rosal 20.68 115 IAmb IAmb 03 02 01.3
comp=Z,115nm,1.7s
PRAC Prado 20.73 118 eP Pn 03 01 55.7 +0.9
GDL2 Guadalupe Moun 20.77 332 P Pn 03 01 54.4 -0.8
MNTX Cornudas Mount 20.83 329 P Pn 03 01 54.6 -1.2
baz=144,SNR=30
MNTX Cornudas Mount 20.83 329 P Pn 03 01 54.7 -1.1
BARC Barichara 20.97 109 eP Pn 03 01 59.6 +1.9
X48A Hartselle 21.03 14 P P 03 01 53.3 -1.9
X48A IAmb IAmb 03 02 10.3
comp=Z,52nm,1.9s
W41B Gary Mavity, V 21.03 2 P P 03 01 54.4 -0.9
baz=182
W41B Gary Mavity, V 21.03 2 P P 03 01 54.2 -1.0
W41B IAmb IAmb 03 02 15.7
comp=Z,40nm,1.6s
W39A Magazine 21.05 359 P P 03 01 56.3 +0.9
baz=178,SNR=7.8
WHAR Wooly Hollow 21.15 2 P P 03 01 56.0 -0.5
WHAR IAmb IAmb 03 02 46.3
comp=Z,33nm,1.5s
PAMC Pamplona, Colo 21.15 106 eP P 03 01 57.4 +0.1
GOGA Godfrey 21.17 23 P P 03 01 55.3 -1.5
baz=206
GOGA Godfrey 21.17 23 IAmb IAmb 03 02 10.1
comp=Z,37nm,1.4s
WMOK Wichita Mounta 21.21 347 P P 03 01 58.3 +1.1
baz=164,SNR=12
WMOK Wichita Mounta 21.21 347 P P 03 01 56.5 -0.6
FLOC Florencia 21.27 124 eP P 03 01 58.5 +0.4
CHIC Chingaza 21.30 114 eP P 03 02 00.3 +1.6
RUSC La Rusia 21.34 110 eP P 03 01 59.2 0.0
Y52A Lilburn 21.36 21 IAmb IAmb 03 02 15.3
comp=Z,23nm,1.1s
OKCSW OKLAHOMA CITY 21.60 350 P P 03 02 01.6 +0.2
MSTX Muleshoe 21.66 338 P P 03 02 02.9 +0.8
baz=154
MSTX Muleshoe 21.66 338 IAmb IAmb 03 02 06.1
comp=Z,16nm,0.8s
FCAR Ozark Folk Cen 21.75 2 P P 03 02 02.5 -0.4
FCAR IAmb IAmb 03 02 05.9
comp=Z,16nm,0.7s
BCOK Bluff Creek, N 21.87 350 P P 03 02 05.0 +0.7
TUL1 Leonard 21.88 354 P P 03 02 05.5 +1.1
baz=173,SNR=8.0
TUL1 Leonard 21.88 354 IAmb IAmb 03 02 07.0
comp=Z,20nm,0.8s
LCAR Lake Charles 21.98 4 P P 03 02 04.6 -0.9
AMTX Amarillo 22.12 341 P P 03 02 07.8 +0.8
baz=157
AMTX Amarillo 22.12 341 P P 03 02 07.6 +0.6
AMTX IAmb IAmb 03 02 10.3
comp=Z,22nm,0.8s
HHAR Hobbs 22.14 358 IAmb IAmb 03 02 09.3
comp=Z,14nm,0.9s
U40A Yellville 22.20 1 P P 03 02 07.7 -0.1
baz=180,SNR=16
U40A Yellville 22.20 1 IAmb IAmb 03 02 09.6
comp=Z,14nm,0.8s
Z57A Bowman 22.23 28 P P 03 02 08.6 +0.4
baz=213
Y55A Saluda 22.27 25 P P 03 02 07.7 -0.9
baz=210
TAMC Tame, Arauca 22.31 108 eP P 03 02 10.8 +1.5
V48A Smith Brothers 22.32 14 IAmb IAmb 03 02 41.4
comp=Z,20nm,1.4s
NHSC New Hope 22.33 30 P P 03 02 08.6 -0.5
baz=215
MACC Macarena, Meta 22.44 120 eP P 03 02 12.0 +1.4
WVT Waverly 22.48 11 P P 03 02 09.1 -1.7
baz=193
WVT Waverly 22.48 11 P P 03 02 09.4 -1.4
SOCV Socops 22.59 102 eP P 03 02 10.3 -1.9
X54A Belton 22.59 24 P P 03 02 10.9 -1.2
baz=208
SDV Santo Domingo 22.64 101 P P 03 02 12.3 -0.6
comp=Z,12nm,0.6s,baz=305,slow=3.9,SNR=7.3
SDV Santo Domingo 22.64 101 P P 03 02 12.0 -0.9
SDV IAmb IAmb 03 02 15.1
comp=Z,15nm,0.8s
121A Cookes Peak, D 22.73 326 P P 03 02 16.7 +3.0
baz=140,SNR=13
PBMO Poplar Bluff 22.75 6 P P 03 02 13.3 -0.3
PBMO IAmb IAmb 03 02 44.4
comp=Z,19nm,1.1s
X55A Gracelyn & Ava 22.82 25 P P 03 02 13.3 -1.1
baz=210
U32A Winter Ranch, 22.84 348 IAmb IAmb 03 02 52.4
comp=Z,26nm,1.1s
T35A Sooner Cattle 22.96 353 IAmb IAmb 03 02 16.4
comp=Z,29nm,0.9s
Y57A Sumter 22.98 28 P P 03 02 14.6 -1.5
baz=213
Y57A Sumter 22.98 28 IAmb IAmb 03 02 15.4
comp=Z,28nm,0.9s
MGMO Mountain Grove 23.01 2 IAmb IAmb 03 02 17.5
comp=Z,11nm,0.8s
TKL Tuckaleechee C 23.09 20 P P 03 02 14.1 -3.1
comp=Z,3.1nm,0.8s,baz=158,slow=7.3,SNR=3.7
TKL Tuckaleechee C 23.09 20 P P 03 02 15.3 -1.8
X56A White Oak 23.10 26 P P 03 02 15.8 -1.4
baz=211
W54A Cherokee Point 23.14 23 P P 03 02 16.3 -1.4
baz=208
V53A Saluda 23.43 22 IAmb IAmb 03 02 52.3
comp=Z,16nm,1.1s
KMSC Kings Mountain 23.53 25 P P 03 02 20.3 -1.2
baz=210
KMSC Kings Mountain 23.53 25 IAmb IAmb 03 02 21.9
comp=Z,18nm,1.1s
S44A Carbondale 23.78 8 IAmb IAmb 03 02 52.8
comp=Z,16nm,0.9s
V54A Nebo 23.84 23 P P 03 02 23.4 -1.0
baz=207
CCM Cathedral Cave 23.95 4 P P 03 02 24.5 -0.9
baz=184
CCM Cathedral Cave 23.95 4 P P 03 02 23.7 -1.7
CCM IAmb IAmb 03 02 25.2
comp=Z,10nm,0.8s
ANMO Albuquerque 24.02 332 P P 03 02 27.8 +1.5
baz=146
ANMO Albuquerque 24.02 332 P P 03 02 28.3 +1.9
R40A Maddies Statio 24.14 2 IAmb IAmb 03 02 27.6
comp=Z,13nm,0.7s
V55A Taylorsville 24.19 24 P P 03 02 26.1 -1.6
baz=209
W58A Raeford 24.34 29 P P 03 02 27.0 -2.0
baz=214
V56A Mocksville 24.45 25 P P 03 02 28.4 -1.6
baz=211
U54A Nelsons Funny 24.55 22 P P 03 02 29.4 -1.6
baz=207
WCI Wyandotte Cave 24.82 13 P P 03 02 31.0 -2.3
baz=196
WCI Wyandotte Cave 24.82 13 P P 03 02 31.4 -2.0
WCI IAmb IAmb 03 02 33.3
comp=Z,11nm,0.8s
V57A Coltrane Farms 24.82 27 P P 03 02 31.1 -2.3
baz=212
U55A TA2, Sparta 24.83 24 P P 03 02 32.0 -1.6
baz=209
V58A Windy Hill, Pi 25.04 28 P P 03 02 33.3 -2.0
baz=213,SNR=8.2
V58A Windy Hill, Pi 25.04 28 IAmb IAmb 03 02 34.0
comp=Z,22nm,0.9s
T25A Trinidad 25.09 338 P P 03 02 39.0 +2.9
baz=153,SNR=7.0
T25A Trinidad 25.09 338 IAmb IAmb 03 02 48.5
comp=Z,21nm,1.1s
T54A Tazewell 25.12 22 P P 03 02 35.5 -0.6
baz=207
KSU1 Kansas State U 25.13 354 P P 03 02 35.8 -0.4
baz=172,SNR=8.2
CBKS Cedar Bluff 25.33 348 P P 03 02 39.8 +1.8
baz=165,SNR=5.8
P40A Paris 25.38 2 IAmb IAmb 03 02 38.4
comp=Z,19nm,0.8s
V59A Middlesex 25.42 29 P P 03 02 37.1 -1.7
baz=215
U57A Blanch 25.47 27 P P 03 02 37.5 -1.8
baz=212
ATAH Atahualpa 25.64 144 P P 03 02 45.6 +4.1
comp=Z,6.4nm,0.9s,baz=320,slow=14,SNR=4.2
ATAH LR LR 03 11 18.3
comp=Z,182nm,19.2s,baz=19,slow=33
S54A Dingess, Beckl 25.87 22 P P 03 02 42.9 -0.1
baz=207
SDCO Great Sand Dun 26.02 337 P P 03 02 46.8 +2.1
baz=152,SNR=16
U60A Pendleton 26.50 30 P P 03 02 46.9 -1.7
baz=216
S22A 4UR Ranch, Cre 26.54 335 P P 03 02 52.3 +2.9
baz=149
Q52A Bidwell 26.59 19 P P 03 02 48.4 -1.0
baz=204
T59A Double "B" Far 26.72 29 P P 03 02 48.8 -1.7
baz=213
T59A Double "B" Far 26.72 29 IAmb IAmb 03 02 49.2
comp=Z,20nm,0.9s
N35A Tabor 26.79 356 IAmb IAmb 03 02 53.6
comp=Z,20nm,0.9s
MVCO Mesa Verde 26.82 332 P P 03 02 54.2 +2.5
baz=145
WUAZ Wupatki 26.93 326 P P 03 02 55.6 +2.8
baz=138
ISCO Idaho Springs 27.88 339 P P 03 03 03.4 +2.0
baz=153
R59A King George, V 27.92 28 P P 03 02 59.7 -1.6
baz=215
PV04 Paradox Valley 27.97 333 IAmb IAmb 03 03 14.5
comp=Z,19nm,1.2s
SABA Saba 28.96 79 P P 03 03 08.8 -2.0
ECSD EROS Data Cent 29.72 355 P P 03 03 16.5 -0.7
baz=173
ECSD EROS Data Cent 29.72 355 IAmb IAmb 03 03 19.6
comp=Z,11nm,1.1s
TMUT Trail Mountain 29.75 331 P P 03 03 19.3 +1.3
RWWY Rawlins 30.12 339 IAmb IAmb 03 03 23.6
comp=Z,11nm,1.1s
K22A Casper 30.74 340 P P 03 03 28.2 +1.7
baz=154
M58A Price's Panora 30.83 25 P P 03 03 25.1 -2.1
baz=213
N60A Cedar Hill Far 31.00 27 P P 03 03 26.4 -2.2
baz=215
SPMN Marine on St. 31.06 0 P P 03 03 28.8 -0.3
baz=180
R11A Troy Canyon, C 31.31 325 P P 03 03 34.5 +2.9
baz=134
RSSD Black Hills 31.37 345 P P 03 03 33.3 +1.2
baz=159
GRAC Grapevine Rang 31.44 321 P P 03 03 36.0 +3.3
baz=130
K56A Middlesex 31.62 23 P P 03 03 31.9 -2.3
baz=210
L58A Harry Jones Me 31.65 25 P P 03 03 32.3 -2.0
baz=213
PAL Palisades 31.65 28 P P 03 03 31.9 -2.4
baz=217
BINY Binghamton 31.72 25 P P 03 03 32.5 -2.5
baz=213
PDAR Pinedale Array 31.92 337 P P 03 03 37.8 +0.8
comp=Z,1.2nm,0.9s,baz=136,slow=7.1,SNR=8.9
M61A Granite Spring 31.95 28 P P 03 03 34.6 -2.4
baz=217
L59A Walton 32.10 26 P P 03 03 36.1 -2.3
baz=214
J56A Wolcott 32.30 23 P P 03 03 37.7 -2.3
baz=210,SNR=5.8
J56A Wolcott 32.30 23 IAmb IAmb 03 03 38.0
comp=Z,9.5nm,0.8s
K58A Earlville 32.33 24 P P 03 03 38.1 -2.2
baz=213
K58A Earlville 32.33 24 IAmb IAmb 03 03 38.7
comp=Z,8.4nm,0.8s
KSCT Kent School, K 32.41 28 IAmb IAmb 03 03 39.4
comp=Z,10nm,0.9s
J57A Williamstown 32.74 23 P P 03 03 41.3 -2.5
baz=212
M63A Gales Ferry 32.84 30 P P 03 03 42.5 -2.2
baz=220
NV11 Mina Array Sit 32.85 322 IAmb IAmb 03 03 49.2
comp=Z,6.8nm,1.0s
NVAR Mina Array Bea 32.94 322 P P 03 03 49.3 +3.3
comp=Z,3.9nm,0.8s,baz=139,slow=8.9,SNR=23
NVAR Mina Array Bea 32.94 322 P P 03 03 48.0 +2.1
J58A Remsen 32.97 24 P P 03 03 43.8 -2.2
baz=213
LOHW Long Hollow 33.04 336 IAmb IAmb 03 03 49.2
comp=Z,6.5nm,0.9s
TPAW Teton Pass 33.07 336 IAmb IAmb 03 03 59.2
comp=Z,11nm,0.9s
FXWY Fox Creek 33.23 336 IAmb IAmb 03 04 02.4
comp=Z,6.1nm,1.1s
KVN Kaiserville 33.23 323 IAmb IAmb 03 03 59.9
comp=Z,12nm,1.7s
I58A Old Forge 33.37 24 P P 03 03 47.1 -2.3
baz=213,SNR=5.2
IMW Indian Meadow 33.41 336 IAmb IAmb 03 04 02.0
comp=Z,19nm,1.7s
L64A Middleborough 33.83 31 P P 03 03 51.6 -1.8
baz=221
RLMT Red Lodge 33.85 339 P P 03 03 55.0 +1.2
baz=151
MDND Maddock 34.11 352 P P 03 03 55.9 +0.1
baz=169
MDND Maddock 34.11 352 P P 03 03 55.3 -0.5
I60A Shoreham 34.19 26 P P 03 03 53.7 -2.8
baz=216
AGMN Agassiz Nation 34.21 357 P P 03 03 56.0 -0.6
baz=175,SNR=5.3
LONY Lake Ozonia 34.31 24 P P 03 03 55.0 -2.5
baz=213
LONY Lake Ozonia 34.31 24 IAmb IAmb 03 03 56.2
comp=Z,4.8nm,0.8s
HLID Hailey 34.60 332 P P 03 04 02.6 +2.3
baz=142,SNR=9.5
HLID Hailey 34.60 332 IAmb IAmb 03 04 11.1
comp=Z,4.8nm,1.0s
BCYI Bear Canyon 34.75 334 P P 03 04 02.4 +0.7
BOZ Bozeman (W) 35.11 337 P P 03 04 06.9 +2.3
baz=148
ULM Lac du Bonnet 36.16 357 P P 03 04 11.4 -1.9
comp=Z,3.3nm,0.7s,baz=180,slow=10,SNR=5.1
ULM Lac du Bonnet 36.16 357 IAmb IAmb 03 04 12.3
comp=Z,6.9nm,0.8s
J08A Circle Bar Ran 36.40 328 IAmb IAmb 03 04 29.4
comp=Z,8.4nm,0.8s
F60A Warwick 36.47 25 P P 03 04 13.5 -2.6
baz=216
G62A West of Eustis 36.48 27 P P 03 04 13.9 -2.3
baz=219
D57A Chemin Vers le 36.58 22 P P 03 04 15.1 -2.0
baz=212
H64A Troy 36.64 29 P P 03 04 15.2 -2.3
baz=221
E60A Ste Agathe de 37.00 25 P P 03 04 18.1 -2.5
baz=216
MSO Missoula 37.02 336 P P 03 04 22.4 +1.4
baz=145
MSO Missoula 37.02 336 IAmb IAmb 03 04 23.5
comp=Z,4.6nm,0.9s
G64A Maxfield 37.32 29 P P 03 04 20.8 -2.5
baz=221
SAML Samuel 37.50 126 P P 03 04 24.0 -1.2
SAML IAmb IAmb 03 04 26.1
comp=Z,7.3nm,1.2s
E63A Oxbow 38.35 28 P P 03 04 29.4 -2.6
baz=221
D62A Allapoint, All 38.58 27 P P 03 04 31.6 -2.3
baz=219
D63A Stockholm 38.96 27 P P 03 04 34.6 -2.5
baz=221
LPAZ La Paz 38.99 140 P P 03 04 38.5 +0.2
LPAZ IAmb IAmb 03 05 56.5
comp=Z,5.7nm,0.8s
NEW Newport 39.46 335 P P 03 04 42.1 +0.8
comp=Z,1.2nm,0.7s,baz=213,slow=3.3,SNR=3.8
F05D White Salmon 39.69 329 P P 03 04 46.4 +3.1
baz=134
A04D Lummi Island 42.28 331 P P 03 05 06.5 +2.0
baz=134
SIV San Ignacio 43.54 132 P P 03 05 14.7 -0.4
comp=Z,2.5nm,0.9s,baz=317,slow=9.3,SNR=8.9
AC05 El Transito 48.04 153 P P 03 05 51.5 +0.9
YKA Yellowknife Ar 50.72 347 P P 03 06 11.0 +0.6
comp=Z,9.7nm,0.8s,baz=147,slow=7.3,SNR=24
DLBC Dease Lake 52.15 336 P P 03 06 23.5 +2.2
comp=Z,3.7nm,0.9s,baz=229,slow=11,SNR=4.5
DLBC Dease Lake 52.15 336 P P 03 06 21.4 0.0
BDFB Brasilia 53.49 122 P P 03 06 32.0 +0.2
comp=Z,2.2nm,0.7s,baz=174,slow=19,SNR=2.2
BCAR Beaver Creek A 59.54 337 P P 03 07 15.2 +1.1
INK Inuvik 60.07 344 P P 03 07 17.8 +0.2
K27K Chicken 60.17 337 P P 03 07 20.0 +1.6
baz=122
DOT Dot Lake 60.72 337 P P 03 07 22.6 +0.4
HDA Harding Lake 62.20 337 P P 03 07 32.8 +0.7
baz=118
IL31 62.35 337 P P 03 07 33.5 +0.5
ILAR Eielson Array 62.35 337 P P 03 07 34.4 +1.2
comp=Z,2.2nm,1.0s,baz=137,slow=4.4,SNR=19
ILAR Eielson Array 62.35 337 P P 03 07 33.7 +0.5
ESDC Sonseca Array 80.54 51 P P 03 09 21.2 -2.2
comp=Z,0.8nm,0.7s,baz=285,slow=5.9,SNR=11
NB2 NORSAR Subarra 84.61 28 P P 03 09 45.4 +1.2
comp=Z,1.4nm,0.7s,baz=290,slow=5.1
NOA NORSAR Array B 84.61 28 P P 03 09 43.1 -1.1
comp=Z,3.0nm,0.8s,baz=290,slow=4.9,SNR=6.7
ARCES ARCESS Array B 86.42 18 P P 03 09 52.2 -0.8
comp=Z,6.6nm,1.1s,baz=317,slow=3.8,SNR=2.0
GERES GERESS Array B 90.25 39 P P 03 10 10.7 -1.1
comp=Z,0.7nm,0.9s,baz=318,slow=1.8,SNR=5.6
FINES FINESS Array B 90.90 25 P P 03 10 13.7 -0.6
comp=Z,2.6nm,1.0s,baz=70,slow=2.2,SNR=5.1
MORC Moravsky Berou 92.19 37 P P 03 10 19.5 -1.2
LZH Lanzhou 127.60 343 sPKP 03 16 21.8
LZH Lanzhou 127.60 343 LR LR
comp=N,57nm,18.0s
LZH Lanzhou 127.60 343 LR LR
comp=Z,83nm,20.3s
LZH Lanzhou 127.60 343 LR LR
comp=E,61nm,18.1s
LZH Lanzhou 127.60 343 *e*PKP **PKiKP** 03 16 17.3 +0.1
LZH Lanzhou 127.60 343 pPKP PKiKP 03 16 20.5 +3.3
WRA Warramunga Arr 134.34 256 PKhKP PKPpre 03 16 30.0
comp=E,0.6nm,0.8s,baz=85,slow=2.4,SNR=5.6
ASAR Alice Springs 134.65 251 PKP **PKiKP** 03 16 31.1 -0.4
comp=E,0.4nm,0.9s,baz=48,slow=2.9,SNR=2.3

CHTO	Chiang Mai	145.23 340		PKPbc	03 16 48.8	-0.1
UBPT	Khong Chiam	145.52 327		PKPab	03 16 51.6	+1.4
CM31	Chiang Mai Arr	145.56 339	PKPdf	PKPab	03 16 51.3	+1.0
CMAR	Chiang Mai Arr	145.56 339	PKPbc	PKPab	03 16 50.5	+0.3
	comp=E,6.0nm,0.8s,baz=340,slow=3.6,SNR=24					
CMAR	Chiang Mai Arr	145.56 339		PKPab	03 16 50.4	+0.1

NEIC ***28*** *03:10:37.0±1.0, 37°.64N±0°.02×118°.96W±0°.02, h2km±5km, Error ellipse: s-maj=3.6km s-min=1.9km az=153.0*
NCEDC ***28*** *03:10:36.3±1.6, 37°.64N±0°.01×118°.95W±0°.02, h8km±2km, ML3.0/22, Error ellipse: s-maj=2.6km s-min=1.7km az=117.0*
ANF ***28*** *03:10:36.9±0.5, 37°.57N×118°.94W, h1km±3km, ML3.1/13, Error ellipse: s-maj=4.2km s-min=2.1km az=125.0*

ISC 28 03:10:36.7±0.8, 37°.64N±0°.02×118°.96W±0°.02, h7km±4km, n171, σ0°93/184, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEMM	East Mammoth H	0.03	28		Pg	03 10 38.0	-0.4
MMLB	Mammoth Lakes	0.03	308		Pg	03 10 38.0	-0.3
MCSM	Casa Diablo Ho	0.04	74		Pg	03 10 38.0	-0.4
MGPM	Gravel Pit	0.04	113		Pg	03 10 38.0	-0.4
MLCM	Laurel Creek C	0.04	136		Pg	03 10 37.9	-0.5
OMMB	Old Mammoth Mi	0.05	230	Pg	Pg	03 10 37.9	-0.7
OMMB				Sg	Sg	03 10 39.1	-0.7
MLIM	Lincoln Peak	0.05	262		Pg	03 10 38.4	-0.2
MMSM	Mammoth Summit	0.06	258		Pg	03 10 38.5	-0.3
MMPM	Mammoth Pass	0.07	240		Pg	03 10 38.3	-0.4
MINS	Minaret Summit	0.09	277		Pg	03 10 38.6	-0.4
MDCM	Deadman Creek	0.10	313		Pg	03 10 38.8	-0.4
MDRNC	Doe Ridge	0.10	94		Pg	03 10 38.8	-0.2
MLAC	Mammoth, Mammo	0.10	98	P	Pg	03 10 38.8	-0.3
	baz=276						
MLAC				S	Sg	03 10 41.0	+0.3
	baz=276						
MLAC	Mammoth, Mammo	0.10	98		Pg	03 10 38.8	-0.3
MRDM	Red Cones	0.10	241		Pg	03 10 38.7	-0.3
MDPB	Devils Postpil	0.10	263		Pg	03 10 38.9	-0.3
MCVM	Convict Lake	0.11	118		Pg	03 10 38.9	-0.5
MLHM	Little Hot Cre	0.12	73		Pg	03 10 39.3	-0.1
MRCM	Red Rock Canyo	0.36	85		Pg	03 10 43.4	-0.3
MCDM	Chidago Canyon	0.42	103		Pg	03 10 44.7	-0.1
MTUM	Tungsten Hills	0.42	133		Pg	03 10 44.5	-0.5
KCC	Kaiser Creek	0.43	222		Pg	03 10 44.5	-0.6
KCC					Sg	03 10 50.1	-0.6
MFBM	Five Bridges	0.47	117		Pg	03 10 45.8	0.0
MMIM	Miami Mountain	0.67	251		Pg	03 10 48.9	-0.6
LHV	Little Huntoon	0.70	30		Pg	03 10 50.0	-0.3
TIN	Tinemaha, Big	0.82	135	P	Pg	03 10 52.0	-0.6
	baz=316						
TIN				S	Sg	03 11 03.3	0.0
	baz=316						
TIN	Tinemaha, Big	0.82	135		Pg	03 10 52.0	-0.6
TIN					Sg	03 11 03.4	+0.2
FRI	Friant	0.89	223		Pg	03 10 52.6	-1.1
MHDM	Hidden Dam	0.92	235		Pg	03 10 53.4	-0.9
NVAR	Mina Array Bea	0.94	33	Pg	Pg	03 10 53.6	-1.1
WAKR	Walker	0.94	336		Pg	03 10 54.4	-0.4
HELL	Mitchell Peak,	0.96	183		Pg	03 10 54.1	-1.1
HELL					Sg	03 11 06.5	-1.2
NV11	Mina Array Sit	1.01	38		Pg	03 10 55.4	-0.7
RYN	Ryan	1.04	19		Pg	03 10 56.2	-0.5
MYLM	Yosemite Lake	1.19	258		Pg	03 10 58.4	-1.2
CMB	Columbia Colle	1.20	289		Pg	03 10 58.4	-1.4
CMB	Columbia Colle	1.20	289		Pg	03 10 58.1	-1.6
YERR	Yerington	1.36	351		Pg	03 11 02.1	-0.7
MRHM	Rocky Hill	1.36	185		Pn	03 11 00.8	-1.4
MCUB	Copperopolis B	1.36	285		Pn	03 11 01.2	-1.0
VOG	Valley Oaks Go	1.36	195	P	Pn	03 11 01.4	-0.9
	baz=15						
VOG				S	Sg	03 11 19.6	-1.0
	baz=15						
GRAC	Grapevine Rang	1.42	117	P	Pn	03 11 03.3	+0.2
	baz=298						
SPG2	Springville 2	1.45	174		Pn	03 11 02.6	-0.8
GNO	Genoa	1.47	331		Pn	03 11 04.1	+0.3
PNTR	Pine Nut	1.53	341		Pn	03 11 05.2	+0.5
MNHB	New Hogan Dam	1.55	289		Pn	03 11 04.5	-0.3
KVN	Kaiserville	1.56	25		Pn	03 11 05.2	+0.1
PWMM	Westland Maint	1.57	220		Pn	03 11 05.7	+0.6
EMB	Emerald Bay	1.61	326		Pb	03 11 07.5	+0.6
RUBR	Rubicon Trail	1.69	326		Pb	03 11 08.5	+0.1
BRMM	Rolling Bench	1.70	242		Pn	03 11 07.6	+0.8
VCNR	Virginia City	1.74	342		Pn	03 11 08.4	+0.8
BMSM	Mercy Hot Spri	1.77	237		Pn	03 11 09.1	+1.2
TAHR	Tahoe	1.78	328		Pb	03 11 10.5	+0.6
PARM	Anticline Ridg	1.78	219		Pn	03 11 08.9	+0.9
VES	Vestal, Richgr	1.80	183	P	Pn	03 11 08.8	+0.6
	baz=3.5						
VES				S	Sn	03 11 32.4	+1.0
	baz=3.5						
VES	Vestal, Richgr	1.80	183		Pn	03 11 08.9	+0.6
PKEM	Kettleman Hill	1.83	211		Pn	03 11 10.1	+1.4
MPK	Martis Peak	1.85	333		Pb	03 11 11.5	+0.4
SFJWR	San Luis Fatjo	1.86	252		Pn	03 11 09.9	+0.8
AASM	Arroyo Seco	1.87	295		Pn	03 11 10.1	+0.8
SLD	San Luis Dam	1.89	253		Pn	03 11 10.2	+0.7
BAVM	Antelope Valle	1.94	240		Pn	03 11 10.9	+0.8
HPCM	Pacheco Lake	1.94	253		Pn	03 11 10.9	+0.7
PHRM	Hernandez Vall	1.96	230		Pn	03 11 11.0	+0.5
PACP	Pacheco Peak	1.96	252		Pn	03 11 11.7	+1.1
BEMM	Emmet	1.97	241		Pn	03 11 11.8	+1.2
MPMC	Manual Prospec	1.97	143	Pb	Pb	03 11 12.9	-0.2
	baz=324						
MPMC				S	Sn	03 11 36.1	+0.3
	baz=324						
BBGB	Big Mountain B	1.98	238		Pn	03 11 11.9	+1.1
WNMM	Nine Mile Cany	1.99	155		Pn	03 11 12.2	+1.4
DONR	Donner Summit	2.01	328		Pb	03 11 13.7	-0.2
ISA	Isabella, Lake	2.02	169	Pb	Pn	03 11 12.8	+1.5
	baz=349						
ISA				Sb	Sb	03 11 39.3	+0.2
	baz=349						
ISA	Isabella, Lake	2.02	169		Pn	03 11 12.8	+1.5
ISA	Isabella, Lake	2.02	169	Pn	Pn	03 11 12.0	+0.8
VPK	Verdi Peak	2.02	335		Pn	03 11 13.4	+2.0
BEHM	Elkhorn Ranch	2.02	242		Pn	03 11 12.5	+1.2
CMMM	Mount Mocho	2.03	265		Pn	03 11 12.2	+0.7
CTM	Castle Mountai	2.04	213		Pn	03 11 12.7	+1.0
HJSM	John Smith Roa	2.04	247		Pn	03 11 12.8	+1.2
PSMM	Smith Mountain	2.05	220		Pn	03 11 12.3	+0.6
LRV	Little Rabbit	2.05	234		Pn	03 11 13.1	+1.3
AFDM	Forest Hills D	2.05	310		Pn	03 11 13.3	+1.6
PMPB	Monarch Peak	2.06	227		Pn	03 11 11.9	+0.1
BHRM	Hodges Ranch	2.06	244		Pn	03 11 12.5	+0.7
HFEM	San Felipe	2.06	252		Pn	03 11 13.4	+1.6
GHS	Gilroy Hot Spr	2.06	255		Pn	03 11 13.2	+1.3
PBWM	Bitterwater Cr	2.06	231		Pn	03 11 12.8	+0.9
IND	Independence	2.07	330		Pb	03 11 14.9	+0.1
PSRM	Scobie Ranch	2.08	211		Pn	03 11 12.8	+0.7
PAHR	Pah Rah Range	2.09	351		Pb	03 11 14.9	-0.1
BLRM	Lewis Ranch	2.09	243		Pn	03 11 14.1	+1.8
HSPM	Sheep	2.11	256		Pn	03 11 14.1	+1.5
CDC	Canada Road	2.11	254		Pn	03 11 14.0	+1.5
BPIM	Pinnacles	2.11	238		Pn	03 11 13.6	+1.1
PEAR	Peavine Mounta	2.11	338		Pb	03 11 15.8	+0.3
WOFM	Oak Flat	2.11	175		Pn	03 11 14.3	+1.6
PSTM	Stockdale Moun	2.12	217		Pn	03 11 13.2	+0.6
PKD	Bear Valley Ra	2.12	217		Pn	03 11 13.3	+0.6
PMRM	Maxey Ranch	2.12	209		Pn	03 11 13.2	+0.5
PHPM	Hope Ranch	2.12	219		Pn	03 11 13.2	+0.5
PVCM	Vineyard Canyo	2.14	217		Pn	03 11 13.4	+0.5
BABR	Babbit Peak	2.15	336		Pb	03 11 16.8	+0.5
BVYM	Vineyard	2.16	246		Pn	03 11 14.3	+1.2
MHC	Mount Hamilton	2.16	263		Pn	03 11 14.8	+1.6
THIS	South End of C	2.17	208		Pn	03 11 14.2	+0.8
PKLM	Kerr Lake	2.17	211		Pn	03 11 13.6	+0.2
PAGB	Antelope Grade	2.17	209		Pn	03 11 13.9	+0.5
SAO	San Andreas Ge	2.17	247		Pn	03 11 14.4	+1.0
SAO	San Andreas Ge	2.17	247	Pn	Pn	03 11 13.3	-0.1
PCMM	Cholame Hills	2.18	213		Pn	03 11 14.2	+0.7
LRC	Lone Oak Road	2.18	231		Pn	03 11 14.6	+1.1
FRP	Fremont Peak	2.21	247		Pn	03 11 14.5	+0.6
BSGM	Shirttail Gulc	2.21	237		Pn	03 11 15.0	+1.1
HLPM	Lions Peak	2.22	255		Pn	03 11 15.4	+1.5
SCZ	Santa Cruz	2.22	243		Pn	03 11 14.6	+0.7
PTRM	Twissleman Ran	2.23	207		Pn	03 11 14.9	+0.7
TRAM	Private Proper	2.23	209		Pn	03 11 15.0	+0.8
BJCM	Johnson Can.	2.23	241		Pn	03 11 15.0	+0.8
PSAM	San Ardo	2.24	224		Pn	03 11 15.3	+1.0
LOY	Loyalton	2.25	334		Pb	03 11 18.4	+0.6
PBPM	Bitterwater Pu	2.25	204		Pn	03 11 15.2	+0.7
HJGM	San Juan Grade	2.25	249		Pn	03 11 15.2	+0.7
TPNV	Topopah Spring	2.27	107	P	Pn	03 11 15.6	+0.8
	baz=289						
TPNV	Topopah Spring	2.27	107	Pn	Pn	03 11 14.5	-0.3
JLAB	Laurel Hill	2.27	258		Pn	03 11 16.1	+1.5
BSRM	Salinas Radio	2.27	245		Pn	03 11 15.4	+0.7
TCHL	Shandon	2.27	211		Pn	03 11 15.9	+1.1
CBC	Chamberlain	2.27	253		Pn	03 11 15.9	+1.2
JSTM	Santa Teresa H	2.30	260		Pn	03 11 13.6	-1.6
BSMM	Soledad Missio	2.35	238		Pn	03 11 16.8	+1.0
AMC	Almaden	2.35	259		Pn	03 11 16.9	+1.0
JHLM	Holstrom Ranch	2.35	258		Pn	03 11 16.8	+0.9
PCCM	Crazy Canyon	2.35	229		Pn	03 11 17.0	+1.2
TSCN	Private Proper	2.38	209		Pn	03 11 17.5	+1.3
BPCNC	Pine Canyon	2.39	244		Pn	03 11 17.4	+1.0
LRMC	Laurel Mtn Rad	2.39	154	Sb	Sb	03 11 50.8	+0.9
	baz=335						
WVA	Winnemucca Val	2.40	344		Pb	03 11 20.1	-0.2
TEJ	El Tejon	2.42	175		Pn	03 11 19.1	+2.3
HAST	Hastings Reser	2.43	240		Pn	03 11 17.5	+0.6
PANM	San Antonio Re	2.43	221		Pn	03 11 18.1	+1.1
CARC	Carrizo Plain	2.44	197		Pn	03 11 18.0	+0.9
SMMC	Simmler	2.47	200	P	Pn	03 11 18.1	+0.5
	baz=20						
CRGC	Crocker Grade	2.48	195		Pn	03 11 18.7	+1.0
BCWM	Chews Ridge	2.48	238		Pn	03 11 18.8	+1.0
ARVC	Arvin	2.51	178	Pb	Pn	03 11 20.8	+2.7
	baz=358						
ARVC				Sb	Sb	03 11 54.3	+1.0
	baz=358						
NADM	Allendale	2.52	290		Pn	03 11 20.3	+2.3
RAMR	Ramage Ranch	2.53	218		Pn	03 11 19.2	+0.9
PAPM	Alder Peak	2.59	229		Pn	03 11 20.2	+1.0
BAPM	Anderson Peak	2.61	237		Pn	03 11 20.1	+0.7
BCH	Branch Mountai	2.62	201		Pn	03 11 20.3	+0.7
BLDC	Black Mountain	2.63	217		Pn	03 11 20.5	+0.9
PHCM	Hearst Castle	2.64	223		Pn	03 11 20.9	+1.1
PTAM	Tassajara Cree	2.65	213		Pn	03 11 20.7	+0.7
BPOM	Post Ranch	2.66	239		Pn	03 11 20.6	+0.5
PCBM	Cambria	2.71	219		Pn	03 11 21.8	+1.0
R11A	Troy Canyon, C	2.75	74	Pb	Pb	03 11 26.1	-0.3
	baz=256						
R11A				Sb	Sg	03 12 03.6	-1.6
	baz=256						
R11A	Troy Canyon, C	2.75	74	Pn	Pn	03 11 22.2	+0.7
ORV	Oroville	2.76	315	Pn	Pn	03 11 21.2	-0.3
EDW2	Edwards Air Fo	2.86	164	P	Pn	03 11 24.5	+1.6
	baz=345						
EDW2				Sb	Sb	03 12 04.5	+1.0
	baz=345						
OSI	Osito Audit: C	3.03	176	Pn	Pn	03 11 25.0	-0.2
PRN	Pahroc Range	3.11	93	Pn	Pn	03 11 27.6	+1.2
SHPR	Sheep Range	3.24	109	Pn	Pn	03 11 27.9	-0.3
MWC	Mount Wilson	3.49	168	Pn	Pn	03 11 30.3	-1.4
PASC	Pasadena Art C	3.52	170	Pn	Pn	03 11 30.7	-1.2
PASC					Lg	03 12 30.6	
PSUT	Pine Spring	4.12	76	Pn	Pn	03 11 40.2	-0.1
ELK	Elko	4.23	42	Pn	Pn	03 11 41.6	-0.3
MOD	Modoc Plateau	4.38	347	Pn	Pn	03 11 43.4	-0.4
CCUT	Cedar City	4.44	90	Pn	Pn	03 11 45.1	+0.4
MSU	Marysvale	5.42	79	Pn	Pn	03 11 58.8	+0.6
DUG	Dugway, Tooele	5.42	60	Pn	Pn	03 11 57.9	-0.3
U15A	North Rim	5.47	101	Pn	Pn	03 11 57.4	-1.5

SOME ***28*** *03:11:11.5, 44°.35N×73°.78E*
NNC ***28*** *03:11:12.0±0.6, 44°.38N×73°.80E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.4km s-min=3.7km az=88.0, Suspected Mining explosion.*

ISC 28 03:11:11.7±1.0, 44°.35N±0°.03×73°.78E±0°.04, h0km, n22, σ0°66/29, 6C, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLS	Baital	0.71	16	P	Pg	03 11 25.6	+0.2
	22nm,0.2s						
BTLS				S	Sg	03 11 35.1	+0.5
	48nm,0.3s						
SGDS	Sogindy	1.09	145	P	Pg	03 11 32.3	-0.3
	5.3nm,0.2s						
SGDS				S	Sg	03 11 47.0	+0.3
	21nm,0.3s						
USP	Ospenovka	1.21	154	P	Pg	03 11 34.1	-0.6
	SNR=7.1						
CHMS	Chumysh	1.53	152	P	Pb	03 11 40.7	-0.2
	SNR=7.6						
MRKS	Merke	1.66	194	P	Pg	03 11 43.7	+0.3
	8.2nm,0.2s						
MRKS				S	Sg	03 12 06.3	+1.5
	38nm,0.3s						
EKS2	Erkin-Say	1.69	180	P	Pb	03 11 43.2	-0.5
	SNR=17						
AAK	Ala-Archa	1.79	163	P	Pb	03 11 45.0	-0.5
	SNR=12						
AAK	Ala-Archa	1.79	163	⇑Pn	Pn	03 11 44.7	+0.7
	8.7nm,0.6s						
AAK				⇑Sn	Sg	03 12 09.5	+0.3
	16nm,0.5s						
DGS	Degeres	1.82	127	P	Pb	03 11 46.0	0.0
	9.2nm,0.2s						
DGS				S	Sg	03 12 10.7	+0.5
	50nm,0.5s						
KBK	Karagaybulak	1.90	153	P	Pb	03 11 46.9	-0.3
	SNR=8.1						
KUU	Kurty	1.90	103	P	Pb	03 11 46.6	-0.6
	23nm,0.3s						
KUU				S	Sb	03 12 11.3	-0.2
	32nm,0.2s						
TKM2	Tokmak 2	1.95	137	P	Pb	03 11 47.6	-0.5
	SNR=11						
TKM2	Tokmak 2	1.95	137	⇑Pn	Pn	03 11 46.8	+0.6
	5.2nm,0.6s						
TKM2				⇑Sn	Sg	03 12 13.7	-0.5
	18nm,0.6s						
KST	Kastek	2.06	129	Pg	Pb	03 11 49.3	-0.7
	12nm,0.3s						
KST				Lg	Lg	03 12 16.3	
	13nm,0.5s						
KTBS	Karatobe	2.19	106	Pg	Pb	03 11 51.5	-0.7
	5.2nm,0.3s						
KTBS				Lg	Lg	03 12 20.2	
	56nm,0.4s						
UCH	Uchtor	2.19	166	P	Pb	03 11 51.8	-0.6
	SNR=16						
MTBS	Maitube	2.28	122	Pg	Pb	03 11 53.5	-0.2
	12nm,0.2s						
MTBS				Lg	Lg	03 12 23.6	
	36nm,0.5s						
IZV	Izvestkoviy	2.44	122	Pg	Pb	03 11 55.9	-0.7
	6.9nm,0.3s						
IZV				Lg	Lg	03 12 27.9	
	24nm,0.5s						
TNSS	Tian-Shan	2.65	119	Pg	Pb	03 11 59.5	-0.7
	4.1nm,0.3s						
TNSS				Lg	Lg	03 12 34.1	
	9.5nm,0.3s						
MDOK	Medeo	2.65	116	Pg	Pb	03 11 59.1	-1.0
	2.9nm,0.6s						
MDOK				Lg	Lg	03 12 33.3	
	8.3nm,0.8s						
KOTS	Kotyrbulak	2.66	114	Pg	Pb	03 11 60.0	-0.3
	6.0nm,0.2s						
KOTS				Lg	Lg	03 12 34.6	
	37nm,0.6s						
KK31	Karatay Array	2.68	243	⇑Pg	Pb	03 11 59.0	-1.4
	0.3nm,0.3s,baz=66,slow=14,SNR=7.2						
KK31				⇑Lg	Lg	03 12 33.4	
	4.0nm,0.5s,baz=58,slow=28,SNR=7.7						

WEL 28 03:28:12.1, 41°S±2°×17°4E±°, h75km±5km, M2.8/16, ML3.0/17, MLv2.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=93.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.15	38	P	Pn	03 28 23.6	+0.4
TCW	Tory Channel	0.46	129	P	Pn	03 28 25.7	+0.6
TUWZ	Tuamarina	0.52	168	P	Pn	03 28 25.8	+0.1
BSWZ	Blackbirch Sta	0.80	176	P	Pn	03 28 29.5	+1.0
WEL	Wellington	0.82	117	P	Pn	03 28 29.4	+0.7
KIW	Kapiti Island	0.84	86	P	Pn	03 28 29.5	+0.5
BHW	Baring Head	0.94	122	P	Pn	03 28 31.0	+0.8
CAW	Cannon Point	0.98	102	P	Pn	03 28 31.3	+0.7
OGWZ	Otaki Gorge	1.04	85	P	Pn	03 28 31.9	+0.5
THZ	Tophouse	1.08	218	P	Pn	03 28 32.6	+0.6
MSWZ	Moikau Station	1.20	115	P	Pn	03 28 35.7	+2.3
PLWZ	Palliser	1.27	121	P	Pn	03 28 34.4	0.0
HOWZ	Holdsworth Sta	1.30	90	P	Pn	03 28 34.7	0.0
WAZ	Wanganui	1.47	38	P	Pn	03 28 38.6	+1.6
PNHZ	Pukenui	2.09	62	P	Pn	03 28 44.1	-1.0
WNVZ	Wahianoa	2.10	41	P	Pn	03 28 46.2	+0.7
GVZ	Greta Valley S	2.12	195	P	Pn	03 28 47.1	+1.5
MOVZ	Moawhango	2.12	45	P	Pn	03 28 45.7	0.0
FWVZ	Far West T-bar	2.14	40	P	Pn	03 28 46.7	+0.7
TUVZ	Tukino	2.18	41	P	Pn	03 28 47.4	+1.0
BHHZ	Black Hill Sta	2.25	51	P	Pn	03 28 47.0	-0.3
OTVZ	Oturere	2.26	40	P	Pn	03 28 48.3	+0.7
WVZ	Waitaha Valley	3.14	226	P	Pn	03 28 59.0	-0.2
JCZ	Jackson Bay	4.87	228	P	Pn	03 29 21.5	-1.4

IDC ***28*** *03:32:11.8±1.8, 55°.75N×162°.53E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.4/43, mbtmp3.7/4, ML2.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/36, Error ellipse: s-maj=64.3km s-min=21.9km az=133.0*
KRSC ***28*** *03:32:13.2±0.8, 55°.69N×162°.65E, h24km±19km, ML3.9*

ISC 28 03:32:13.2±1.2, 55°.75N±0°.03×162°.55E±0°.03, h11km±9km, n45, σ1°50/64, mb3.8/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.48	18	eP	Pb	03 32 23.7	0.0
KBTR				eS	Sb	03 32 30.7	0.0
KBG	Krutoberegovo	0.51	10	eP	Pb	03 32 24.2	0.0
KBG				eS	Sb	03 32 31.6	0.0
ZLN	Zelenaya	1.02	286	eP	Pn	03 32 33.6	0.0
SMKR	Semkarok	1.03	324	eP	Pg	03 32 33.2	+0.2
SMKR				eS	Sn	03 32 47.7	-0.4
BZGR	Bezymyannyi-Gr	1.06	281	eP	Pn	03 32 33.9	-0.3
BZGR				eS	Sn	03 32 49.1	+0.1
CIRR	Tsirk	1.08	290	eP	Pn	03 32 34.4	0.0
LGNR	Loginova	1.10	288	eP	Pn	03 32 35.0	+0.2
BDR	Baidarnaya	1.11	318	eP	Pg	03 32 35.0	+0.5
BDR				eS	Sg	03 32 49.8	+0.8
BZWR	Bezymyannyi-We	1.18	281	eP	Pg	03 32 36.1	+0.2
BZWR				eS	Sn	03 32 51.9	0.0
SRKR	Sorokina	1.19	320	eP	Pg	03 32 36.1	+0.1
KLY	Klyuchi	1.21	299	eP	Pn	03 32 34.4	-1.6
KLY				eS	Sb	03 32 49.5	-2.1
KRSR	Krestovskiy	1.21	293	eP	Pb	03 32 35.9	-0.3
KRSR				eS	Sb	03 32 51.9	+0.1
KIRR	Kirishev	1.26	280	eP	Pg	03 32 37.3	-0.1
KMNR	Kamenistaya	1.31	271	eP	Pg	03 32 38.5	+0.2
KMNR				eS	Sg	03 32 57.1	+1.8
KPT	Kopyto	1.33	280	eP	Pg	03 32 38.8	+0.1
KPT				eS	Sg	03 32 57.9	+1.9
TUMD	Tumrok D	1.34	247	eP	Pg	03 32 38.9	-0.1
TUMD				eS	Sg	03 32 57.2	+0.8
KZV	Kizimen	1.44	244	eP	Pg	03 32 40.3	-0.5
KZV				eS	Sg	03 32 59.9	+0.4
TUMR	Tumrok	1.45	252	eP	Pg	03 32 41.1	+0.1
TUMR				eS	Sg	03 32 58.8	-1.0
KOZ	Kozyrevsk	1.54	283	eP	Pg	03 32 42.4	-0.3
KOZ				eS	Sg	03 33 03.6	+0.9
SRDR	Sredinnyy	1.69	291	eP	Pb	03 32 44.0	-0.3
BKI	Bering	2.02	104	eP	Pb	03 32 49.0	-0.9
BKI				eS	Sb	03 33 12.7	-2.4
SPN	Mys Shipunski	3.04	210	eP	Pn	03 33 01.2	-0.1
SPN				eS	Sn	03 33 35.7	-1.9
NLC	Nalytchevo	3.19	217	eP	Pn	03 33 04.7	+1.4
NLC				eS	Sn	03 33 41.4	+0.1
SDLR	Sedlovina	3.27	222	eP	Pn	03 33 06.1	+1.5
KRX	Arik	3.31	225	eP	Pn	03 33 06.9	+1.9
KRER	Koryakskii	3.31	224	eP	Pb	03 33 07.7	-4.3
SMAR	Somma	3.32	223	eP	Pn	03 33 06.9	+1.7
AVH	Avacha	3.34	223	eP	Pn	03 33 07.7	+2.3
AVH				eS	Sn	03 33 46.2	+1.1
UGLR	Uglovaya	3.35	222	eP	Pn	03 33 07.8	+2.2
KOK	Koryaka	3.36	224	eP	Pn	03 33 07.7	+2.0
GNL	Ganaly	3.38	234	eP	Pn	03 33 07.9	+2.0
DALK	Dalny	3.52	221	eP	Pn	03 33 08.9	+1.2
DALK				eS	Sn	03 33 49.4	+0.1
PALN	Palana	3.62	338	eP	Pb	03 33 13.4	-3.8
PETK	Petropavlovsk-	3.88	229	Pn	Pn	03 33 14.6	+1.8
	0.7nm,0.3s,baz=63,slow=16,SNR=15						
PETK				Sn	Sn	03 33 59.9	+1.5
	0.8nm,0.3s,baz=70,slow=18,SNR=3.7						
KRMR	Karymshinskiy	3.91	223	eP	Pn	03 33 15.7	+2.5
KRMR				eS	Sn	03 34 01.7	+2.7
MTVR	Mutnovka	4.17	220	eP	Pn	03 33 18.9	+

*IDC **28** 04:42:08.4±0.8, 46°.98N×112°.57W, h0km, mb3.1/1, mb1 3.5/7, mb1mx3.3/52, mbtmp3.2/7, ML3.0/6, Error ellipse: s-maj=11.5km s-min=7.3km az=46.0*
*BUT **28** 04:42:09.3±2.2, 46°.88N±0°.04×112°.54W±0°.06, h18km±6km, Md3.6, Error ellipse: s-maj=7.0km s-min=5.9km az=219.0*
ISC 28 04:42:08.1±0.7, **46°.90N**±0°.05×**112°.52W**±0°.03, **h10**km, **n53**, σ1°**38**/57, **Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRY	**Holter Researc**	**0.51**	**112**		**Pg**	**04 42 19.0**	**+1.1**
MSO	**Missoula**	**0.98**	**266**		**Pg**	**04 42 27.2**	**+0.3**
MSO				Sg	**Sg**	04 42 40.0	+0.3
LRM	**Limekiln Ridge**	**1.08**	**178**		**Pg**	**04 42 29.3**	**+0.5**
BOZ	**Bozeman (W)**	**1.44**	**154**		**Pn**	**04 42 34.4**	**0.0**
JTMT	**Jette**	**1.47**	**306**		**Pb**	**04 42 35.7**	**+0.1**
DLMT	**Dillon**	**1.54**	**182**		**Pn**	**04 42 36.0**	**+0.3**
MCMT	**McKenzie Canyo**	**2.09**	**187**	Pn	**Pn**	**04 42 43.7**	**+0.3**
EGMT	**Eagleton**	**2.18**	**58**	Pn	**Pn**	**04 42 46.5**	**+2.0**
QLMT	**Earthquake Lak**	**2.21**	**160**		**Pn**	**04 42 45.5**	**+0.6**
YHL	**Hebgen Lake**	**2.25**	**155**		**Pn**	**04 42 46.6**	**+1.0**
GCMT	**Greycliff**	**2.26**	**118**		**Pn**	**04 42 47.6**	**+1.9**
WALA	**Waterton Lakes**	**2.35**	**337**		**Pn**	**04 42 49.2**	**+2.4**
YHH	**Holmes Hill**	**2.41**	**151**	Pn	**Pn**	**04 42 48.7**	**+0.8**
YMR	**Madison River**	**2.48**	**154**		**Pn**	**04 42 49.8**	**+1.0**
YNR	**Norris Junctio**	**2.54**	**149**		**Pn**	**04 42 51.1**	**+1.6**
YNR					**Pb**	**04 42 52.2**	**-1.6**
YNE	**Yellowstone No**	**2.58**	**136**		**Pn**	**04 42 51.2**	**+1.1**
YUF	**Upper Falls**	**2.60**	**147**	Pn	**Pn**	**04 42 52.0**	**+1.6**
YUF					**Pg**	**04 42 59.3**	**+1.4**
BCYI	**Bear Canyon**	**2.67**	**194**		**Pn**	**04 42 51.1**	**-0.2**
YMP	**Mirror Lake Pl**	**2.72**	**142**		**Pn**	**04 42 53.2**	**+1.2**
YMP					**Pb**	**04 42 55.0**	**-2.0**
LKWY	**Lake**	**2.77**	**147**	Pn	**Pn**	**04 42 54.0**	**+1.4**
LKWY					**Pg**	**04 43 01.1**	**0.0**
H17A	**Grant Village**	**2.85**	**151**	Pn	**Pn**	**04 42 55.6**	**+1.8**
RLMT	**Red Lodge**	**2.88**	**127**	Pn	**Pn**	**04 42 56.0**	**+1.8**
YPP	**Pitchstone Pla**	**2.89**	**155**		**Pn**	**04 42 56.6**	**+2.1**
FLWY	**Flagg Ranch**	**3.10**	**155**		**Pn**	**04 42 58.4**	**+1.2**
IMW	**Indian Meadow**	**3.20**	**159**	Pn	**Pn**	**04 43 00.3**	**+1.6**
F10A	**Beach Ranch, E**	**3.39**	**256**		**Pn**	**04 43 01.6**	**+0.5**
NEW	**Newport**	**3.40**	**295**	Pn	**Pn**	**04 43 01.4**	**+0.2**
	4.3nm,0.3s,baz=110,slow=7.3,SNR=54						
NEW				Lg	Lg	04 43 53.0	
	27nm,0.3s,baz=21,slow=20,SNR=9.8						
NEW	**Newport**	**3.40**	**295**	Pn	**Pn**	**04 43 01.6**	**+0.4**
FXWY	**Fox Creek**	**3.43**	**162**	Pn	**Pn**	**04 43 03.5**	**+1.8**
LOHW	**Long Hollow**	**3.56**	**157**		**Pn**	**04 43 04.0**	**+0.5**
HLID	**Hailey**	**3.60**	**203**	Pn	**Pn**	**04 43 04.6**	**+0.5**
SNOW	**Snow King Moun**	**3.66**	**159**	Pn	**Pn**	**04 43 06.6**	**+1.7**
E09A	**Wood Farm, Sta**	**3.89**	**266**		**Pn**	**04 43 09.0**	**+1.1**
BMO	**Blue Mountains**	**3.92**	**240**	Pn	**Pn**	**04 43 08.4**	**0.0**
C09A	**Chrisman Ranch**	**4.02**	**285**	Pn	**Pn**	**04 43 09.5**	**-0.1**
MFID	**Camas Ranch**	**4.20**	**215**	Pn	**Pn**	**04 43 12.3**	**+0.1**
E08A	**Dider Farm, El**	**4.52**	**267**	Pn	**Pn**	**04 43 16.9**	**+0.4**
PDAR	**Pinedale Array**	**4.64**	**152**	Pn	Pn	04 43 24.2	+5.9
	0.4nm,0.3s,baz=355,slow=16,SNR=10						
PDAR				Pg	**Pb**	**04 43 31.9**	**+2.3**
	0.6nm,0.3s,baz=350,slow=15,SNR=9.8						
PDAR				Lg	Lg	04 44 32.5	
	0.8nm,0.3s,baz=353,slow=24,SNR=9.2						
G08A	**Pilot Rock**	**4.76**	**253**		**Pn**	**04 43 20.1**	**+0.1**
B08A	**Colville Reser**	**4.83**	**290**		**Pn**	**04 43 20.1**	**-0.8**
HAWA	**Hanford**	**4.86**	**267**	Pn	**Pn**	**04 43 21.6**	**+0.4**
E07A	**Sunnyside**	**5.06**	**269**		**Pn**	**04 43 24.1**	**+0.2**
F07A	**Phinny Hill Vi**	**5.23**	**262**		**Pn**	**04 43 26.6**	**+0.4**
HWUT	**Hardware Ranch**	**5.34**	**172**	Pn	**Pn**	**04 43 28.7**	**+0.7**
J08A	**Circle Bar Ran**	**5.51**	**232**	Pn	**Pn**	**04 43 31.5**	**+1.3**
LTY	**Liberty**	**5.58**	**277**		**Pn**	**04 43 31.0**	**-0.2**
SPUT	**South Promonto**	**5.59**	**179**	Pn	**Pn**	**04 43 31.4**	**-0.1**
ELK	**Elko**	**6.46**	**199**	Pn	Pn	04 43 49.2	+5.7
	0.1nm,0.3s,baz=0.0,slow=13,SNR=1.5						
ELK				Pg	**Pb**	**04 44 02.8**	**+2.1**
	0.3nm,0.3s,baz=6.5,slow=16,SNR=5.4						
ELK				Lg	Lg	04 45 27.1	
	1.7nm,0.3s,baz=158,slow=8.6,SNR=11						
O20A	**White River Ci**	**7.44**	**154**		Pn	04 44 02.5	+5.6
NVAR	**Mina Array Bea**	**9.48**	**209**	Pn	**Pn**	**04 44 28.8**	**+4.1**
	0.1nm,0.3s,baz=11,slow=25,SNR=2.2						
NVAR				Pg		04 44 59.8	
	0.1nm,0.3s,baz=31,slow=16,SNR=3.1						
NVAR				Lg	Lg	04 47 06.2	
	0.1nm,0.3s,baz=95,slow=34,SNR=2.4						
ULM	**Lac du Bonnet**	**11.52**	**67**	Pn	**Pn**	**04 44 51.6**	**-0.8**
	0.3nm,0.3s,baz=266,slow=15,SNR=1.9						
ULM				Pg		04 45 38.9	
	0.6nm,0.3s,baz=264,slow=11,SNR=5.3						
ULM				Lg	Lg	04 48 01.2	
	0.8nm,0.3s,baz=294,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**15.67**	**356**	Pn	**Pn**	**04 45 45.5**	**-3.2**
	0.1nm,0.3s,baz=174,slow=13,SNR=1.7						
ILAR	**Eielson Array**	**25.81**	**326**	P	**P**	**04 47 40.5**	**+1.5**
	0.3nm,0.8s,baz=124,slow=7.4,SNR=4.1						

*NAO **28** 04:51:16.6±1.2, 71°.32N×5°.26W, ML3.9*
*IDC **28** 04:51:17.6±0.8, 71°.35N×5°.19W, h0km, mb3.6/9, mb1 3.9/14, mb1mx3.7/49, mbtmp3.8/14, ML3.6/5, MS3.4/31, Ms1 3.4/31, ms1mx3.4/44, Error ellipse: s-maj=17.8km s-min=17.1km az=13.0*
*NEIC **28** 04:51:18.9±1.9, 71°.32N±0°.07×5°.50W±0°.09, h10km±1km, mb4.3/26, Error ellipse: s-maj=12.2km s-min=4.6km az=177.0*
*BER **28** 04:51:20.3±2.6, 71°.35N×5°.42W, h10km, ML2.8, ML3.9(NAO)*
*DNK **28** 04:51:29.3±3.1, 72°.11N×6°.36W, h79km±311km, ML3.1, Hypocentre not reviewed by the ISC*
ISC 28 04:51:18.9±0.5, **71°.34N**±0°.06×**5°.39W**±0°.04, **h10**km, **n133**, σ2°**06**/113, **mb4.2**/24, **MS3.3**/26, **Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**1.01**	**251**	*eP*	**Pg**	**04 51 38.1**	**-0.1**
JNE				IAML		04 51 53.0	
	comp=Z,528nm,0.3s						
JNW	**Jan Mayen West**	**1.03**	**254**	*eP*	**Pg**	**04 51 38.2**	**-0.5**
JNW				IAML		04 51 57.5	
	comp=Z,398nm,0.5s						
JMIC	**Jan Mayen**	**1.07**	**252**	Pg	**Pg**	**04 51 38.5**	**-0.9**
JMIC				Lg	Lg	04 51 52.4	
JMIC	**Jan Mayen**	**1.07**	**252**	Pn	**Pg**	**04 51 38.8**	**-0.7**
	baz=209,slow=6.3,SNR=3.6						
JMIC				Sn	**Sg**	**04 51 51.9**	**-1.4**
	baz=154,slow=22,SNR=11						
JMIC	**Jan Mayen**	**1.07**	**252**	*eP*	**Pg**	**04 51 39.2**	**-0.3**
JMIC				IAML		04 52 00.3	
	comp=Z,265nm,0.4s						
JMI	**Jan Mayen**	**1.16**	**251**	*eP*	**Pb**	**04 51 40.5**	**-0.5**
JMI				*eS*	**Sb**	**04 51 55.6**	**-0.4**
JMI				IAML		04 52 00.1	
	comp=Z,388nm,0.6s						
DBG	**Daneborg**	**5.30**	**311**	*i P*	**Pn**	**04 52 36.7**	**-1.3**
DBG				*eS*	Sn	04 53 28.3	-11
DBG				IAML		04 53 34.7	
	comp=Z,14nm,0.4s						
DAG	**Danmarks Havn**	**6.55**	**332**	*i P*	**Pn**	**04 52 52.8**	**-2.2**
DAG	**Danmarks Havn**	**6.55**	**332**	*i P*	**Pn**	**04 52 52.0**	**-3.0**
DAG				IAML		04 54 05.9	
	comp=Z,15nm,0.3s						
N2RO	**R st**	**7.24**	**113**	*eP*	**Pn**	**04 53 03.1**	**-1.5**
LOF	**Lofoten**	**7.30**	**107**	*eP*	**Pn**	**04 53 03.4**	**-2.0**
N2VA	**Vr y**	**7.32**	**111**	*eP*	**Pn**	**04 53 03.4**	**-2.3**
N2VI	**Vinje**	**7.40**	**105**	*eP*	**Pn**	**04 53 05.1**	**-1.6**
STEI	**Steigen**	**7.94**	**105**	*eP*	**Pn**	**04 53 12.4**	**-1.7**
HSPB	**Hornsund (broa**	**8.01**	**35**	Pn	**Pn**	**04 53 13.8**	**-1.2**
HSPB	**Hornsund (broa**	**8.01**	**35**	*eP*	**Pn**	**04 53 14.0**	**-0.9**
N2TV	**Tvrnvik**	**8.12**	**108**	*eP*	**Pn**	**04 53 14.8**	**-1.8**
NBB05	**Inndyr**	**8.12**	**113**	*eP*	**Pn**	**04 53 14.4**	**-2.2**
N2IH	**Innhavet**	**8.14**	**104**	*eP*	**Pn**	**04 53 15.4**	**-1.4**
NBB40	**Tonnes**	**8.18**	**117**	*eP*	**Pn**	**04 53 15.3**	**-2.1**
KONS	**Konsvik**	**8.22**	**117**	*eP*	**Pn**	**04 53 15.9**	**-2.1**
NBB17	**Glomfjord B¥r**	**8.25**	**114**	*eP*	**Pn**	**04 53 17.1**	**-1.3**
FAUS	**Fauske**	**8.28**	**109**	*eP*	**Pn**	**04 53 16.3**	**-2.5**
TRO	**Tromso**	**8.29**	**90**	*eP*	**Pn**	**04 53 15.9**	**-3.0**
BRBA	**Barentsburg A**	**8.44**	**28**	Pn	**Pn**	**04 53 18.9**	**-2.1**
BRBA	**Barentsburg A**	**8.44**	**28**	Pn	**Pn**	**04 53 18.9**	**-2.1**
KBS	**Kingsbay**	**8.77**	**22**	Pn	**Pn**	**04 53 24.9**	**-0.5**
KBS	**Kingsbay**	**8.77**	**22**	Pn	**Pn**	**04 53 24.8**	**-0.7**
KBS	**Kingsbay**	**8.77**	**22**	*eP*	**Pn**	**04 53 24.8**	**-0.7**
MOR8	**Moi Rana**	**8.83**	**116**	*eP*	**Pn**	**04 53 25.9**	**-0.5**
MOR8				*eS*	**Sn**	**04 54 59.6**	**-6.2**
SPA0	**Spitsbergen Ar**	**8.86**	**30**	Pn	**Pn**	**04 53 26.2**	**-0.5**
	baz=212,slow=18						
SPA0	**Spitsbergen Ar**	**8.86**	**30**		**Pn**	**04 53 26.5**	**-0.3**
SPA0	**Spitsbergen Ar**	**8.86**	**30**	Pn	**Pn**	**04 53 26.2**	**-0.5**
	baz=212,slow=18						
SPITS	**Spitsbergen Ar**	**8.86**	**30**	Pn	**Pn**	**04 53 25.9**	**-0.8**
	baz=205,slow=19,SNR=60						
SPITS				LR	LR	04 55 51.5	
	comp=Z,126nm,18.2s,baz=75,slow=31						
KIF	**Kilpisjarvi**	**9.16**	**92**	*eP*	**Pn**	**04 53 28.6**	**-2.2**
NSS	**Namsos**	**9.41**	**128**	*eP*	**Pn**	**04 53 33.4**	**-0.9**
HOPEN	**Hopen**	**9.77**	**44**	Pn	**Pn**	**04 53 38.5**	**-0.7**
HOPEN	**Hopen**	**9.77**	**44**	Pn	**Pn**	**04 53 38.5**	**-0.7**
TBLU	**Trondheim**	**10.08**	**136**	*eP*	**Pn**	**04 53 42.4**	**-1.1**
SUMG	**Summit**	**10.24**	**292**	*i P*	**Pn**	**04 53 47.2**	**+1.2**
SUMG	**Summit**	**10.24**	**292**	Pn	**Pn**	**04 53 45.1**	**-0.9**
SUMG	**Summit**	**10.24**	**292**	*eP*	**Pn**	**04 53 46.0**	**-0.1**
ARCES	**ARCESS Array B**	**10.44**	**85**	Pn	**Pn**	**04 53 46.8**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=284,slow=13,SNR=1.6						
ARCES				LR	LR	04 57 06.0	
	comp=Z,194nm,20.6s,baz=290,slow=34						
ARA0	**ARCESS Array S**	**10.44**	**85**	Pn	**Pn**	**04 53 45.8**	**-2.7**
	baz=296,slow=12						
ARA0	**ARCESS Array S**	**10.44**	**85**	Pn	**Pn**	**04 53 45.8**	**-2.7**
	baz=296,slow=12						
NOR	**Nord**	**10.61**	**351**	Pn	**Pn**	**04 53 49.2**	**-1.5**
NOR	**Nord**	**10.61**	**351**	*i P*	**Pn**	**04 53 48.8**	**-1.9**
NOR	**Nord**	**10.61**	**351**	*i P*	**Pn**	**04 53 48.0**	**-2.7**
NOR				Pn	Pn	04 53 49.2	-1.5
NC204	**NORSAR Array S**	**11.95**	**140**	Pn	**Pn**	**04 54 09.0**	**-0.1**
NOA	**NORSAR Array B**	**12.26**	**139**	LR	LR	04 59 02.1	
	comp=Z,272nm,18.8s,baz=330,slow=38						
NRA0	**NORESS Array S**	**12.60**	**139**	Pn	**Pn**	**04 54 17.1**	**-0.8**
	baz=332,slow=16						
NRA0	**NORESS Array S**	**12.60**	**139**	Pn	**Pn**	**04 54 17.1**	**-0.8**
	baz=332,slow=16						
HFS	**Hagfors**	**13.61**	**136**	Pn	**Pn**	**04 54 31.2**	**-0.5**
	baz=339,slow=12						
HFS	**Hagfors**	**13.61**	**136**	Pn	**Pn**	**04 54 31.0**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=353,slow=10,SNR=39						
HFS				LR	LR	04 59 44.3	
	comp=Z,340nm,18.8s,baz=325,slow=37						
HFS	**Hagfors**	**13.61**	**136**	Pn	**Pn**	**04 54 31.2**	**-0.5**
	baz=339,slow=12						
LVZ	**Lovozero**	**14.16**	**84**	Pn	**Pn**	**04 54 39.8**	**+0.6**
ILULI	**Ilulissat**	**15.29**	**284**	Pn	**Pn**	**04 54 54.0**	**-0.3**
FIA1	**FINESS Array S**	**15.79**	**113**	Pn	**Pn**	**04 55 00.3**	**-0.7**
FIA0	**FINESS Array S**	**15.79**	**113**	P	**Pn**	**04 54 59.1**	**-1.9**
	baz=332,slow=12						
FIA0	**FINESS Array S**	**15.79**	**113**	P	**Pn**	**04 54 59.1**	**-1.9**
	baz=332,slow=12						
FINES	**FINESS Array B**	**15.79**	**113**	Pn	**Pn**	**04 54 59.0**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=334,slow=13,SNR=7.1						
FINES				LR	LR	05 00 14.7	
	comp=Z,229nm,20.3s,baz=286,slow=34						
EKA	**Eskdalemuir Ar**	**16.10**	**175**	Pn	**Pn**	**04 55 04.3**	**-0.6**
	baz=354,slow=13,SNR=2.6						
SFJD	**Kangerlussuaq**	**16.32**	**277**	LR	LR	05 01 15.9	
	comp=Z,62nm,19.3s,baz=31,slow=36						
EUNU	**Eureka**	**19.77**	**329**	P	**P**	**04 55 46.9**	**-1.7**
EUNU				IAmb	IAmb	04 55 54.7	
	comp=Z,20nm,1.2s						
KLMR	**Klimovskoe**	**20.42**	**98**	*eP*	**P**	**04 55 54.5**	**-1.2**
KLMR				AMP		04 56 06.6	
	comp=Z,51nm,1.4s						
SUW	**Suwalki**	**21.39**	**129**	P	**P**	**04 56 06.2**	**+0.1**
CLL	**Collm**	**21.76**	**148**	*eP*	**P**	**04 56 13.0**	**+2.8**
	comp=Z,10.0nm,1.5s						
CLL				Lm	MLR	05 03 00.0	
	comp=Z,100nm,21.8s						
CLL	**Collm**	**21.76**	**148**	P	**P**	**04 56 09.9**	**-0.3**
BRG	**Berggiesshubel**	**22.34**	**147**	*eP*	P	04 56 24.3	+7.9
	comp=Z,15nm,1.7s						
CHVC	**Chvalec**	**23.00**	**143**	*eP*	**P**	**04 56 26.4**	**+2.9**
OSTC	**Ostas**	**23.06**	**143**	*eP*	**P**	**04 56 27.6**	**+3.5**
DPC	**Dobruska-Polom**	**23.28**	**143**	*eP*	**P**	**04 56 28.9**	**+2.5**
PRU	**Pruhonice**	**23.30**	**146**	*eP*	**P**	**04 56 31.0**	**+4.5**
KRLC	**Kraliky**	**23.63**	**143**	*eP*	**P**	**04 56 33.9**	**+4.0**
CLF	**Chambon-Foret**	**23.66**	**167**	P	**P**	**04 56 30.6**	**+0.5**
ECH	**Echery**	**23.93**	**159**	P	**P**	**04 56 32.6**	**-0.2**
ECH				IAmb	IAmb	04 56 42.4	
	comp=Z,8.8nm,1.3s						
KHC	**Kasperske Hory**	**23.96**	**148**	*eP*	**P**	**04 56 36.2**	**+3.2**
BFO	**Black Forest**	**23.96**	**157**	P	**P**	**04 56 32.9**	**-0.2**
BFO				IAmb	IAmb	04 56 38.2	
	comp=Z,15nm,1.4s						
RES	**Resolute Bay**	**24.01**	**319**	LR	LR	05 05 33.2	
	comp=Z,156nm,20.7s,baz=90,slow=36						
MORC	**Moravsky Berou**	**24.07**	**142**	*eP*	**P**	**04 56 37.6**	**+3.6**
FRB	**Frobisher Bay**	**24.13**	**284**	LR	LR	05 05 32.4	
	comp=Z,109nm,20.0s,baz=8.0,slow=35						
OBN	**Obninsk**	**24.15**	**110**	LR	LR	05 05 26.2	
	comp=Z,36nm,19.9s,baz=358,slow=35						
GEC2	**GERESS Array S**	**24.25**	**148**	P	**P**	**04 56 35.8**	**0.0**
GERES	**GERESS Array B**	**24.25**	**148**	P	**P**	**04 56 36.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=344,slow=9.2,SNR=4.5						
GERES				LR	LR	05 04 32.4	
	comp=Z,96nm,19.4s,baz=346,slow=33						
VRAC	**Vranov**	**24.33**	**144**	LR	LR	05 05 51.7	
	comp=Z,82nm,19.4s,baz=346,slow=36						
VRAC	**Vranov**	**24.33**	**144**	*eP*	**P**	**04 56 39.9**	**+3.5**
KRUC	**Moravsky**	**24.53**	**144**	*eP*	**P**	**04 56 40.6**	**+2.4**
DAVA	**Damuels**	**25.19**	**155**	*epP*	**P**	**04 56 49.6**	**+5.3**
	comp=Z,9.0nm,1.2s						
MOTA	**Moosalm**	**25.30**	**153**	*epP*	**P**	**04 56 49.4**	**+4.1**
	comp=Z,6.5nm,1.1s						
KIRV	**Kirov**	**25.35**	**92**	LR	LR	05 05 55.5	
	comp=Z,74nm,20.9s,baz=320,slow=35						
WATA	**Walderalm**	**25.38**	**152**	*epP*	**P**	**04 56 50.2**	**+4.2**
	comp=Z,7.0nm,1.2s						
SQTA	**Sankt Quirin**	**25.44**	**153**	*epP*	**P**	**04 56 50.5**	**+3.9**
	comp=Z,15nm,1.3s						
CONA	**Conrad Observa**	**25.52**	**146**	*epP*	**P**	**04 56 51.8**	**+4.6**
	comp=Z,5.0nm,1.1s						
VYHS	**Vyhne**	**25.55**	**141**	*eP*	**P**	**04 56 51.4**	**+4.0**
SENIN	**Lac Senin/Sane**	**25.78**	**160**	P	**P**	**04 56 50.4**	**+0.6**
SENIN				IAmb	IAmb	04 57 04.0	
	comp=Z,6.8nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**25.89**	**155**	P	**P**	**04 56 50.7**	**-0.2**
KBA	**Koelnbreinsper**	**25.91**	**150**	*epP*	**P**	**04 56 55.4**	**+4.5**
	comp=Z,1.9nm,0.5s						
TUE	**Stuetta**	**25.92**	**156**	P	**P**	**04 56 50.6**	**-0.4**
AKASG	**Malin Array Be**	**25.95**	**124**	P	**P**	**04 56 50.2**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=324,slow=9.3,SNR=4.1						
AKASG				LR	LR	05 06 22.1	
	comp=Z,118nm,18.2s,baz=320,slow=35						
CTI	**Castel Tesino**	**26.65**	**153**	P	**P**	**04 56 56.8**	**-0.8**
CTI				IAmb	IAmb	04 57 07.2	
	comp=Z,12nm,1.4s						
NRIK	**Noril'sk**	**28.45**	**48**	LR	LR	05 09 40.2	
	comp=Z,29nm,20.2s,baz=9.5,slow=39						
MLR	**Muntele Rosu**	**29.96**	**133**	LR	LR	05 09 58.5	
	comp=Z,335nm,19.9s,baz=299,slow=38						
ARU	**Arti**	**30.03**	**86**	P	**P**	**04 57 28.5**	**+1.1**
ARU				IAmb	IAmb	04 57 34.2	
	comp=Z,5.5nm,0.9s						
SCHQ	**Schefferville**	**30.54**	**270**	LR	LR	05 08 46.3	
	comp=Z,135nm,19.0s,baz=50,slow=34						
ESDC	**Sonseca Array**	**31.74**	**178**	P	**P**	**04 57 43.4**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=360,slow=9.2,SNR=4.6						
ESDC				LR	LR	05 08 56.7	
	comp=Z,41nm,21.7s,baz=350,slow=33						
KBZ	**Khabaz**	**36.15**	**113**	LR	LR	05 11 28.5	
	comp=Z,50nm,19.6s,baz=358,slow=34						
INK	**Inuvik**	**36.39**	**330**	LR	LR	05 13 49.2	
	comp=Z,58nm,20.1s,baz=20,slow=37						
ABKAR	**Akbulak array**	**36.56**	**92**	P	**P**	**04 58 25.8**	**+1.6**
BRVK	**Borovoye**	**36.59**	**79**	P	**P**	**04 58 26.1**	**+1.6**
BRVK				IAmb	IAmb	04 58 31.2	
	comp=Z,4.2nm,0.9s						
BRTR	**Keskin Array B**	**37.29**	**127**	LR	LR	05 15 45.4	
	comp=Z,34nm,19.1s,baz=338,slow=39						
YKA	**Yellowknife Ar**	**37.88**	**314**	LR	LR	05 13 46.5	
	comp=Z,104nm,19.1s,baz=0.0,slow=36						
ZALV	**Zalesovo Beam**	**40.27**	**66**	LR	LR	05 18 20.4	
	comp=Z,18nm,20.9s,baz=274,slow=40						
KURK	**Kurchatov**	**41.22**	**74**	P	**P**	**04 59 04.8**	**+1.6**
IL31		**41.63**	**336**	P	**P**	**04 59 08.0**	**+1.5**
ILAR	**Eielson Array**	**41.63**	**336**	P	**P**	**04 59 06.8**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=355,slow=6.2,SNR=4.1						
ILAR				LR	LR	05 16 52.2	
	comp=Z,47nm,21.6s,baz=340,slow=37						
CSS	**Mathiatis**	**41.72**	**129**	P	**P**	**04 59 07.3**	**-0.3**
YAK	**Yakutsk**	**43.32**	**29**	LR	LR	05 17 22.0	
	comp=Z,68nm,18.4s,baz=356,slow=36						
ULM	**Lac du Bonnet**	**43.60**	**291**	LR	LR	05 18 27.3	
	comp=Z,67nm,18.1s,baz=316,slow=37						
KK31	**Karatay Array**	**45.41**	**86**	P	**P**	**04 59 39.0**	**+1.7**
KK31				IAmb	IAmb	04 59 45.1	
	comp=Z,4.2nm,1.0s						
KKAR	**Karatay Array**	**45.41**	**86**	P	**P**	**04 59 39.0**	**+1.8**
MKAR	**Makanchi Array**	**45.82**	**73**	P	**P**	**04 59 38.6**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=129,slow=18,SNR=2.6						
MKAR				LR	LR	05 21 15.5	
	comp=Z,31nm,18.7s,baz=344,slow=39						
MKAR	**Makanchi Array**	**45.82**	**73**	P	**P**	**04 59 40.9**	**+0.4**
GEYT	**Alibeck**	**46.12**	**101**	LR	LR	05 20 48.6	
	comp=Z,81nm,18.1s,baz=35,slow=38						
SONM	**Songino Array**	**51.75**	**53**	P	**P**	**05 00 26.0**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=310,slow=5.4,SNR=2.1						
SONM	**Songino Array**	**51.75**	**53**	IAmb	IAmb	05 00 32.7	
	comp=Z,1.5nm,1.1s						
PD31	**Pinedale Array**	**54.37**	**299**	P	**P**	**05 00 46.8**	**+1.2**
PDAR	**Pinedale Array**	**54.37**	**299**	P	**P**	**05 00 46.9**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=15,slow=7.5,SNR=2.2						
PDAR				LR	LR	05 23 51.3	
	comp=Z,91nm,18.1s,baz=356,slow=36						
TOA0	**Torodi Ar. Sit**	**58.32**	**172**	P	**P**	**05 01 15.9**	**+2.2**
TORD	**Torodi Ar. Bea**	**58.32**	**172**	P	**P**	**05 01 15.1**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=4.0,slow=7.3,SNR=12						
TORD				LR	LR	05 26 48.9	
	comp=Z,34nm,18.7s,baz=215,slow=36						
TORD	**Torodi Ar. Bea**	**58.32**	**172**	IAmb	IAmb	05 01 16.3	
	comp=Z,1.3nm,0.8s						
DBIC	**Dimbokro**	**64.60**	**179**	LR	LR	05 30 42.1	
	comp=Z,20nm,18.4s,baz=346,slow=37						
TXAR	**Lajitas Array**	**65.10**	**288**	LR	LR	05 33 02.7	
	comp=Z,47nm,18.8s,baz=0.0,slow=38						
CMAR	**Chiang Mai Arr**	**77.16**	**71**	P	**P**	**05 03 13.3**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=331,slow=7.2,SNR=4.7						

*IDC **28** 04:59:05.4±0.9, 13°.30N×146°.44E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/43, mbtmp3.9/11, Error ellipse: s-maj=21.9km s-min=19.6km az=82.0*
*NEIC **28** 04:59:07.8±1.5, 13°.33N±0°.06×146°.46E±0°.08, h13km±5km, mb4.4/13, Error ellipse: s-maj=12.0km s-min=8.0km az=86.0*
ISC 28 04:59:09.6±0.8, **13°.3N**±0°.1×**146°.38E**±0°.09, **h26**km, **n28**, σ0°**99**/27, **mb4.1**/14, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**282**	Pn	**Pn**	**04 59 35.5**	**+0.8**
	22nm,0.3s,baz=119,slow=6.5,SNR=11						
GUMO				Sn	**Sb**	**04 59 55.2**	**-0.1**
	80nm,0.3s,baz=230,slow=23,SNR=19						
TATO	**Taipei**	**26.18**	**300**	P	**P**	**05 04 42.6**	**+0.4**
KSRS	**Korea Array**	**29.16**	**329**	P	**P**	**05 05 07.0**	**-1.7**
	0.7nm,0.6s,baz=145,slow=9.0,SNR=2.5

NonLinLoc error statistics line:STATISTICS ExpectX 24.6762 Y 46.4093 Z 4.62749 CovXX 0.195713 XY 0.116332 XZ 0.243254 YY 0.763608 YZ -0.0351525 ZZ 2.96118 EllAz1 101.041 Dip1 -4.99304 Len1 0.730963 Az2 191.013 Dip2 0.315228 Len2 1.66618 Len3 3.244826e+00

ISC 28 05:14:22.8±1.5, 1°.09S±0°.08×29°.22E±0°.05, h12km±7km, n11, σ0.947/14, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGO	**Tongo**	**0.12**	**156**	*i* P	**Pg**	**05 14 26.0**	**-0.1**
TGO	**Tongo**	**0.12**	**156**	*i* S	**Sg**	**05 14 28.2**	**-0.4**
LBGA	**Luboga**	**0.20**	**212**	*i* S	**Sg**	**05 14 30.5**	**+0.1**
LBGA	**Luboga**	**0.20**	**212**	*i* P	**Pg**	**05 14 27.4**	**+0.1**
KTSH	**Kitshanga**	**0.23**	**230**	*i* S	**Sg**	**05 14 31.1**	**0.0**
KTSH	**Kitshanga**	**0.23**	**230**	*i* P	**Pg**	**05 14 27.8**	**+0.1**
RGB	**Rumangabo**	**0.29**	**150**	*i* P	**Pg**	**05 14 28.9**	**+0.1**
RGB	**Rumangabo**	**0.29**	**150**	*i* S	**Sg**	**05 14 33.2**	**+0.3**
BOBN	**Bobandana**	**0.64**	**199**	*i* P	**Pg**	**05 14 34.5**	**-1.0**
BOBN				*i* S	**Sg**	**05 14 44.0**	**+0.1**
LWI	**Lwiro**	**1.21**	**200**	*i* P	**Pn**	**05 14 45.6**	**-0.2**
LWI				*i* S	**Sb**	**05 15 02.5**	**+1.0**
MBAR	**Mbarara**	**1.59**	**72**	*e*P	**Pn**	**05 14 51.0**	**0.0**
MBAR				*e*S	**Sn**	**05 15 11.3**	**-0.2**

*NEIC **28** 06:09:31.7±1.5, 36°.18N±0°.03×140°.12E±0°.07, h52km±3km, mb4.5/15, Error ellipse: s-maj=9.4km s-min=2.1km az=115.0*

*NIED **28** 06:09:32.1, 36°.13N×140°.02E, h49km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.86; $M_{\theta\theta}$-2.61; $M_{\phi\phi}$-0.25; $M_{r\theta}$4.34; $M_{\theta\phi}$-1.61; $M_{\phi r}$3.47; Fault plane solution: $M_0$6.39000×10^{14} NP1:ϕ_s53.00000°, δ76.00000°, λ83.00000°. NP2:ϕ_s257.00000°, δ16.00000°, λ114.00000°.*

*JMA **28** 06:09:32.1±0.1, 36°.13N×140°.02E, h49km±1km, M3.9 Broadband fault plane solution: T-axis Azimuth: 245°; Dip: 15°; Length: 1.0 NP1: ϕ_s242.00000°, δ16.00000°, λ110.00000°. NP2: ϕ_s42.00000°, δ75.00000°, λ85.00000°. Principal axes: T Plg59.0000°, Azm304.0000°; N Plg5.0000°, Azm43.0000°; P Plg30.0000°, Azm136.0000°;*

JMA Felt III J1.

*IDC **28** 06:09:32.2±2.0, 36°.17N×139°.85E, h53km±18km, mb3.5/11, mb1 3.8/14, mb1mx3.6/36, mbtmp3.9/14, ML3.5/3 Error ellipse: s-maj=19.7km s-min=14.9km az=38.0*

ISC 28 06:09:31.7±0.7, 36°.17N±0°.04×139°.99E±0°.05, h51km±6km, n66, σ1.32/77, mb3.9/18, 1C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.17**	**72**	↑P	**Pn**	**06 09 40.2**	**+0.3**
JYT				S	**Sn**	**06 09 45.8**	**+0.1**
JYT	**Yasato**	**0.17**	**72**	Pn	**Pn**	**06 09 40.1**	**+0.2**
JYT				Sn	**Sn**	**06 09 45.8**	**+0.1**
JAG	**Ashikaga**	**0.50**	**300**	↓P	**Pn**	**06 09 43.8**	**+0.7**
JAG				S	**Sn**	**06 09 52.0**	**+0.8**
JKT	**Katashina**	**0.84**	**315**	↓P	**Pn**	**06 09 48.2**	**+0.7**
JKT				S	**Sn**	**06 10 00.6**	**+1.6**
JRY	**Ryogami san**	**0.90**	**260**	↓P	**Pn**	**06 09 48.7**	**+0.6**
JRY				S	**Sn**	**06 10 00.6**	**+0.4**
JOD2	**Odawara 2**	**1.17**	**219**	P	**Pn**	**06 09 52.5**	**+0.7**
JOD2				S	**Sn**	**06 10 06.7**	**0.0**
JFY	**Yanaizu**	**1.25**	**349**	↓P	**Pn**	**06 09 54.2**	**+1.3**
JFY				S	**Sn**	**06 10 10.8**	**+2.1**
JYN	**Shimob**	**1.36**	**241**	P	**Pn**	**06 09 55.9**	**+1.5**
MJAR	**Matsushiro Arr**	**1.49**	**285**	P	**Pn**	**06 09 55.9**	**-0.2**
	16nm,0.3s,baz=92,slow=8.8,SNR=778						
MJAR				LR	LR	06 10 05.2	
	comp=Z,130nm,19.2s,baz=150,slow=25						
MJAR				S	**Sn**	**06 10 11.1**	**-3.3**
	6.9nm,0.3s,baz=124,slow=34,SNR=7.8						
MJAR	**Matsushiro Arr**	**1.49**	**285**		**Pn**	**06 09 56.5**	**+0.4**
MAJO	**Matsushiro**	**1.49**	**285**	Pn	**Pn**	**06 09 56.8**	**+0.7**
MAT	**Matsushiro**	**1.49**	**285**	P	**Pn**	**06 09 56.5**	**+0.4**
MAT				*e*S	**Sn**	**06 10 13.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**1.49**	**285**	Pn	**Pn**	**06 09 57.5**	**+1.4**
JMM	**Marumori**	**1.81**	**20**		**Pn**	**06 10 01.3**	**+0.9**
JSG	**Sagara**	**2.10**	**225**		**Pn**	**06 10 07.2**	**+2.7**
JSG				Sn	**Sn**	**06 10 35.5**	**+6.1**
JGF	**Kuroka**	**2.22**	**256**		**Pn**	**06 10 09.0**	**+3.0**
JSD	**Sado**	**2.32**	**324**	Pn	**Pn**	**06 10 08.6**	**+1.2**
INU	**Inuyama**	**2.56**	**252**	Pn	**Pn**	**06 10 12.7**	**+2.0**
JHJ	**Hachijo jima 2**	**3.05**	**183**	P	**Pn**	**06 10 17.3**	**-0.2**
	74nm,0.3s,baz=103,slow=21,SNR=5.6						
JHJ				S	**Sn**	**06 10 51.4**	**-1.4**
	54nm,0.3s,baz=229,slow=19,SNR=1.6						
JHJ2	**Mitsune**	**3.06**	**183**	Pn	**Pn**	**06 10 17.6**	**+0.1**
JWT	**Wachi**	**3.84**	**258**		**Pn**	**06 10 29.6**	**+1.3**
JTM	**Tenmabayashi**	**4.68**	**10**	Pn	**Pn**	**06 10 39.4**	**-0.4**
JMN	**Monobe**	**5.58**	**246**	Pn	**Pn**	**06 10 53.9**	**+1.7**
JHS	**Saijyo**	**5.73**	**260**		**Pn**	**06 10 54.2**	**0.0**
ERM	**Erimo**	**6.33**	**22**	Pn	**Pn**	**06 11 01.5**	**-0.9**
ERM				Sn	**Sn**	**06 12 12.6**	**-0.7**
JNU	**Nakatsue**	**8.11**	**251**	P	**Pn**	**06 11 27.3**	**+0.5**
	0.2nm,0.3s,baz=171,slow=13,SNR=1.3						
JNU	**Nakatsue**	**8.11**	**251**		**Pn**	**06 11 26.6**	**-0.2**
ASAJ	**Asahikawa**	**8.18**	**13**	P	**Pn**	**06 11 28.9**	**+1.1**
	1.1nm,0.3s,baz=237,slow=13,SNR=5.8						
JKA	**Kamikawa-asahi**	**8.18**	**13**		**Pn**	**06 11 27.1**	**-0.6**
KSRS	**Korea Array**	**9.76**	**281**	P	**Pn**	**06 11 51.7**	**+2.2**
	0.6nm,0.3s,baz=92,slow=14,SNR=5.5						
KSAR	**Wonju Array Be**	**9.79**	**281**		**Pn**	**06 11 47.8**	**-2.0**
USRK	**Ussuriysk Ar.**	**10.08**	**325**	P	Pn	06 11 58.9	+5.2
	baz=134,slow=14,SNR=7.8						
HIA	**Hailar**	**19.73**	**318**	P	**P**	**06 13 55.4**	**-1.7**
HIA				IAmb	IAmb	06 14 24.7	
	comp=Z,9.4nm,0.6s						
KNMB	**Chin-men Tao**	**21.95**	**244**	P	**P**	**06 14 21.5**	**+0.4**
KNMB				IAmb	IAmb	06 14 44.9	
	comp=Z,46nm,0.9s						
GUMO	**Guam**	**22.91**	**168**	P	**P**	**06 14 30.0**	**-1.4**
SONM	**Songino Array**	**27.34**	**306**	P	**P**	**06 15 11.4**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=108,slow=9.5,SNR=2.7						
SONM	**Songino Array**	**27.34**	**306**	P	**P**	**06 15 13.1**	**+1.1**
QIZ	**Qiongzhong**	**31.53**	**245**	P	**P**	**06 15 48.3**	**-0.9**
QIZ				IAmb	IAmb	06 16 58.8	
	comp=Z,17nm,1.3s						
BILL	**Bilibino**	**35.17**	**17**	P	**P**	**06 16 20.8**	**+0.4**
ATKA	**Atka Island**	**35.88**	**49**	P	**P**	**06 16 26.4**	**-0.1**
ZALV	**Zalesovo Beam**	**41.66**	**313**	P	**P**	**06 17 14.8**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=87,slow=12,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.66**	**313**	P	**P**	**06 17 15.3**	**+0.3**
SHL	**Shillong**	**42.25**	**269**	P	**P**	**06 17 20.6**	**+0.2**
MK31	**Makanchi Array**	**43.61**	**303**	P	**P**	**06 17 31.2**	**+0.3**
MKAR	**Makanchi Array**	**43.61**	**303**	P	**P**	**06 17 31.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=91,slow=9.9,SNR=13						
MKAR	**Makanchi Array**	**43.61**	**303**	P	**P**	**06 17 31.4**	**+0.4**
KURK	**Kurchatov**	**45.57**	**309**	P	**P**	**06 17 46.5**	**+0.1**
KURK				IAmb	IAmb	06 17 47.8	
	comp=Z,6.1nm,1.1s						
MCK	**McKinley**	**49.98**	**33**	P	**P**	**06 18 19.3**	**-1.1**
MCK				IAmb	IAmb	06 19 08.0	
	comp=Z,35nm,2.0s						
ILAR	**Eielson Array**	**50.83**	**32**	P	**P**	**06 18 27.2**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=273,slow=6.5,SNR=9.7						
ILAR	**Eielson Array**	**50.83**	**32**	P	**P**	**06 18 27.8**	**+1.0**
KK31	**Karatay Array**	**52.57**	**300**	P	**P**	**06 18 41.0**	**+0.9**
KK31				IAmb	IAmb	06 18 41.8	
	comp=Z,2.6nm,1.1s						
KKAR	**Karatay Array**	**52.57**	**300**	P	**P**	**06 18 39.8**	**-0.4**
KKAR	**Karatay Array**	**52.57**	**300**	P	**P**	**06 18 41.0**	**+0.9**
KKAR				IAmb	IAmb	06 18 41.8	
	comp=Z,2.6nm,1.1s						
ABKAR	**Akbulak array**	**57.62**	**310**	P	**P**	**06 19 16.1**	**-0.3**
ABKAR				IAmb	IAmb	06 19 46.9	
	comp=Z,12nm,2.0s						
ASAR	**Alice Springs**	**59.79**	**186**	P	**P**	**06 19 31.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=12,slow=12,SNR=11						
ASAR	**Alice Springs**	**59.79**	**186**	P	**P**	**06 19 31.8**	**+0.1**
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**06 20 31.6**	**-0.1**
	comp=Z,14nm,1.2s,baz=76,slow=5.9,SNR=5.5						
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**06 20 31.9**	**+0.3**
AKASG	**Malin Array Be**	**74.27**	**322**	P	**P**	**06 21 02.9**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=45,slow=6.0,SNR=2.8						
NB2	**NORSAR Subarra**	**74.53**	**337**	P	**P**	**06 21 04.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**74.53**	**337**	P	**P**	**06 21 04.3**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=56,slow=6.5,SNR=4.1						
NVAR	**Mina Array Bea**	**76.42**	**52**	P	**P**	**06 21 16.7**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=318,slow=6.3,SNR=4.0						
ANTO	**Ankara**	**78.98**	**311**	P	**P**	**06 21 30.6**	**+0.3**
PDAR	**Pinedale Array**	**79.08**	**45**	P	**P**	**06 21 31.5**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=290,slow=2.7,SNR=2.1						
TXAR	**Lajitas Array**	**91.55**	**52**	P	**P**	**06 22 33.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=329,slow=3.2,SNR=3.9						
TXAR	**Lajitas Array**	**91.55**	**52**	P	**P**	**06 22 30.9**	**-2.4**

*IDC **28** 06:23:32.8±0.5, 19°.09S×176°.55W, $h0^{km}$, mb4.8/21, mb1 4.9/23, mb1mx4.8/35, mbtmp4.7/23, ML3.9/2, MS5.1/29, Ms1 5.1/29, ms1mx5.0/34, Error ellipse: s-maj=19.9km s-min=12.6km az=146.0*

*UNK **28** 06:23:35.0, 19°.27S×176°.63W, $h10^{km}$*

*MOS **28** 06:23:35.9±1.3, 19°.32S×176°.53W, $h27^{km}$, mb5.3/38, MS5.3/17, Error ellipse: s-maj=10.5km s-min=8.6km az=145.7*

*BJI **28** 06:23:35.2±0.0, 19°.40S×176°.74W, $h11^{km}$, mB5.6/23, mb5.0/28, Ms5.3/28, Ms7 5.0/28*

*NEIC **28** 06:23:35.8±2.1, 19°.13S±0°.09×176°.34W±0°.06, $h10^{km}$±1km, mb5.2/190, Ms_20 5.4/697, Mwc5.7(GCMT), Error ellipse: s-maj=15.3km s-min=9.9km az=175.0*

*NEIC **28** 06:23:38, 19°.33S×176°.23W, $h15^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.79; $M_{\theta\theta}$-3.25; $M_{\phi\phi}$4.03; $M_{r\theta}$-0.46; $M_{\theta\phi}$-1.85; $M_{\phi r}$0.89; Fault plane solution: $M_0$4.26000×10^{17} NP1:ϕ_s32.00000°, δ79.00000°, λ4.00000°. NP2:ϕ_s301.00000°, δ86.00000°, λ169.00000°. Principal axes: T 4.6494, Plg10.0000°, Azm256.0000°; N -0.9372, Plg79.0000°, Azm103.0000°; P -3.7122, Plg5.0000°, Azm347.0000°;*

*BGR **28** 06:23:38.9±0.0, 19°.17S×176°.13W, $h33^{km}$*

*GCMT **28** 06:23:38.8±0.1, 19°.31S±0°.01×176°.26W±0°.01, $h16^{km}$, MW5.7/159, Moment Tensor Solution. s142,c270; s159,c321; Duration: 19s Moment tensor: Scale 10^{17} Nm; M_{rr}-0.78±.04; $M_{\theta\theta}$-3.10±.04; $M_{\phi\phi}$3.87±.04; $M_{r\theta}$-0.84±.11; $M_{\theta\phi}$-1.77±.03; $M_{\phi r}$1.30±.11; Best double couple: $M_0$4.15500×10^{17} NP1:ϕ_s33.00000°, δ71.00000°, λ3.00000°. NP2:ϕ_s302.00000°, δ87.00000°, λ161.00000°. Principal axes: T 4.6860, Plg15.0000°, Azm256.0000°; N -1.0690, Plg71.0000°, Azm114.0000°; P -3.6250, Plg11.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 06:23:34.5±0.6, 19°.20S±0°.05×176°.29W±0°.04, h15km±3km, h15km:pP-P, n825, σ2.09/544, mb5.1/123, MS5.4/398, 30C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.57**	**284**	*i* P	**Pn**	**06 24 57.6**	**+0.6**
MSVF	**Nonsavu**	**5.57**	**284**		**Pn**	**06 24 58.5**	**+1.4**
MSVF				Sn	**Sn**	**06 25 56.2**	**-4.7**
NIUE	**Niue**	**6.01**	**90**	P	**Pn**	**06 25 00.3**	**-2.6**
	baz=5.9,SNR=16						
NIUE	**Niue**	**6.01**	**90**	Pn	**Pn**	**06 25 03.0**	**0.0**
NIUE				Sn	**Sn**	**06 26 07.7**	**-3.9**
AFI	**Afiamalu**	**6.81**	**40**	Pn	**Pn**	**06 25 13.7**	**-0.3**
	3.0nm,0.3s,baz=229,slow=19,SNR=4.5						
AFI				LR	LR	06 27 33.1	
	comp=Z,13μm,21.7s,baz=220,slow=35						
AFI	**Afiamalu**	**6.81**	**40**	P	**Pn**	**06 25 12.1**	**-2.0**
AFI	**Afiamalu**	**6.81**	**40**		**Pn**	**06 25 12.1**	**-2.0**
AFI				Sn	**Sn**	**06 26 27.0**	**-4.4**
RAO	**Raoul Island**	**10.11**	**188**	LR	LR	06 29 24.7	
	comp=Z,35μm,19.6s,baz=6.5,slow=34						
RAR	**Rarotonga**	**15.63**	**100**	Pn	**Pn**	**06 27 10.9**	**-3.4**
	3.4nm,0.3s,baz=267,slow=8.6,SNR=6.6						
RAR				LR	LR	06 31 50.6	
	comp=Z,6μm,20.8s,baz=261,slow=31						
RAR	**Rarotonga**	**15.63**	**100**	P	**Pn**	**06 27 12.2**	**-2.2**
RAR				pmax	pmax		
	comp=Z,93nm,0.8s						
RAR	**Rarotonga**	**15.63**	**100**	Pn	**Pn**	**06 27 12.2**	**-2.2**
RAR				IAmb	IAmb	06 27 22.5	
	comp=Z,93nm,0.8s						
SANVU	**Saraoutou**	**16.20**	**281**		**Pn**	**06 27 22.0**	**+0.3**
DZM	**Mont Dzumac**	**16.42**	**257**	*e*Pn	**Pn**	**06 27 24.8**	**+0.2**
	comp=Z,261nm,1.4s						
DZM				*e*LQ	LQ	06 30 33.5	
	comp=Z,10μm,25.0s						
DZM				*e*LR	LR	06 31 13.8	
	comp=Z,45μm,25.0s						
DZM	**Mont Dzumac**	**16.42**	**257**	Pn	**Pn**	**06 27 22.4**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=127,slow=17,SNR=10						
DZM				LR	LR	06 32 38.2	
	comp=Z,26μm,20.3s,baz=103,slow=34						
DZM	**Mont Dzumac**	**16.42**	**257**	Pn	**Pn**	**06 27 21.6**	**-3.0**
DZM				IAmb	IAmb	06 27 29.4	
	comp=Z,236nm,1.5s						
URZ	**Urewera**	**19.84**	**195**	P	**P**	**06 28 00.5**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=265,slow=5.2,SNR=5.4						
URZ				LR	LR	06 34 54.0	
	comp=Z,12μm,19.8s,baz=25,slow=34						
BFZ	**Birch Farm**	**22.34**	**195**	IAMs_20	IAMs_20	06 36 36.9	
	comp=Z,15μm,18.0s						
TARA	**Tarawa**	**23.02**	**331**	P	**P**	**06 28 38.0**	**-1.1**
SNZO	**South Karori**	**23.34**	**197**	IAMs_20	IAMs_20	06 37 32.2	
	comp=Z,9μm,20.0s						
NNZ	**Nelson**	**23.65**	**200**	IAMs_20	IAMs_20	06 38 16.4	
	comp=Z,12μm,21.0s						
THZ	**Tophouse**	**24.30**	**200**	IAMs_20	IAMs_20	06 38 38.5	
	comp=Z,11μm,21.0s						
HNR	**Honiara**	**24.96**	**290**	LR	LR	06 38 19.2	
	comp=Z,3μm,18.1s,baz=132,slow=36						
TBI	**Tubuai**	**25.32**	**104**	*e*S	S	06 33 14.0	-13
	comp=Z,988nm,29.5s						
TBI				*e*LQ	LQ	06 34 07.4	
	comp=Z,23μm,27.8s						
TBI				*e*LR	LR	06 35 14.3	
	comp=Z,11μm,27.8s,baz=279						
PPT2	**Papeete2**	**25.39**	**91**	*e*S	**S**	**06 33 18.6**	**-9.3**
	comp=Z,2μm,26.5s						
PPT2				*e*LQ	LQ	06 34 06.4	
	comp=Z,16μm,27.0s						
PPT2				*e*LR	LR	06 35 16.6	
	comp=Z,29μm,26.8s,baz=257						
PPT	**Papeete**	**25.39**	**91**	P	**P**	**06 29 05.4**	**+3.9**
	comp=Z,162nm,1.0s,baz=276,slow=7.7,SNR=4.6						
PPT				LR	LR	06 36 22.1	
	comp=Z,6μm,21.8s,baz=259,slow=30						
PPT	**Papeete**	**25.39**	**91**	P	**P**	**06 29 03.4**	**+1.9**
PPT	**Papeete**	**25.39**	**91**	P	**P**	**06 29 03.4**	**+1.9**
PPTF	**Pamatai, Papee**	**25.40**	**91**	P	**P**	**06 29 04.2**	**+2.5**
OXZ	**Oxford**	**25.98**	**200**	P	**P**	**06 29 03.8**	**-2.9**
OXZ				IAmb	IAmb	06 29 12.3	
	comp=Z,54nm,1.1s						
OXZ				IAMs_20	IAMs_20	06 40 35.1	
	comp=Z,9μm,20.0s						
RPZ	**Rata Peaks**	**26.65**	**201**	P	**P**	**06 29 14.3**	**+1.6**
	comp=Z,20nm,1.0s,baz=8.2,slow=12,SNR=3.0						
RPZ	**Rata Peaks**	**26.65**	**201**	P	**P**	**06 29 14.8**	**+2.1**
RPZ				IAmb	IAmb	06 29 19.0	
	comp=Z,54nm,1.2s						
RPZ				IAMs_20	IAMs_20	06 40 13.8	
	comp=Z,12μm,20.0s						
PMOR	**Pomariorio Ree**	**27.44**	**86**	*e*T	T	06 57 47.0	
	comp=Z,4.5nm,0.3s						
WHZ	**Wether Hill Ro**	**29.64**	**203**	IAMs_20	IAMs_20	06 41 57.6	
	comp=Z,7μm,20.0s						
PYZ	**Puysegur Point**	**30.34**	**204**	IAMs_20	IAMs_20	06 41 30.2	
	comp=Z,9μm,21.0s						
EIDS	**Eidsvold**	**30.76**	**253**	P	**P**	**06 29 48.1**	**-1.4**
ARMA	**Armidale**	**31.09**	**243**	P	**P**	**06 29 53.6**	**+1.1**
	baz=31,SNR=4.1						
ARMA	**Armidale**	**31.09**	**243**	P	**P**	**06 29 54.0**	**+1.5**
ARMA				IAmb	IAmb	06 30 00.1	
	comp=Z,26nm,0.9s						
MGCD	**Mangrove Creek**	**32.26**	**238**	P	**P**	**06 30 04.1**	**+1.4**
	baz=32,SNR=4.9						
RMQ	**Roma**	**32.94**	**251**	P	**P**	**06 30 09.8**	**+1.1**
	baz=33,SNR=6.2						
CNB	**Canberra Magne**	**34.29**	**235**	P	**P**	**06 30 20.8**	**+0.4**
	baz=34,SNR=15						
CAN	**Canberra**	**34.57**	**235**	P	**P**	**06 30 22.2**	**-0.6**
	baz=35						
CTA	**Charters Tower**	**35.24**	**262**	P	**P**	**06 30 27.6**	**-1.2**
	comp=Z,5.7nm,0.6s,baz=93,slow=11,SNR=9.3						
CTA				LR	LR	06 43 02.2	
	comp=Z,10μm,20.8s,baz=106,slow=33						
CTAO	**Charters Tower**	**35.24**	**262**	P	**P**	**06 30 27.4**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,21nm,1.1s						
CTAO	**Charters Tower**	**35.24**	**262**	P	**P**	**06 30 27.4**	**-1.4**
CMSA	**Cobar Meteorol**	**36.31**	**243**	P	**P**	**06 30 37.6**	**-0.1**
	baz=36,SNR=30						
TAOE	**Nuku Hiva Isla**	**36.46**	**79**	*e*S	**S**	**06 36 14.3**	**-6.8**
	comp=Z,1μm,26.1s						
TAOE				*e*LR	LR	06 40 17.4	
	comp=Z,12μm,28.4s,baz=254						
TAOE	**Nuku Hiva Isla**	**36.46**	**79**	*e*T	T	07 09 08.5	
	comp=Z,88nm,0.2s						
PMG	**Port Moresby**	**36.66**	**280**	P	**P**	**06 30 39.9**	**-1.0**
	comp=Z,39nm,0.9s,baz=114,slow=7.5,SNR=6.6						
PMG				LR	LR	06 43 41.0	
	comp=Z,6μm,18.6s,baz=116,slow=33						
PMG	**Port Moresby**	**36.66**	**280**	*ce*P	**P**	**06 30 40.5**	**-0.5**
PMG				pmax	pmax		
	comp=Z,34nm,0.8s						
PMG	**Port Moresby**	**36.66**	**280**	P	**P**	**06 30 40.7**	**-0.3**
PMG	**Port Moresby**	**36.66**	**280**	IAMs_20	IAMs_20	06 43 19.6	
	comp=Z,6μm,19.0s						
QLP	**Quilpie**	**36.99**	**251**	P	**P**	**06 30 43.7**	**0.0**
	baz=37,SNR=7.8						
MTSU	**Mount Surprise**	**37.29**	**265**	P	**P**	**06 30 45.7**	**-0.6**
	baz=37,SNR=5.7						
TOO	**Toolangi**	**37.96**	**233**	P	**P**	**06 30 52.0**	**+0.2**
	baz=38,SNR=4.9						
TOO	**Toolangi**	**37.96**	**233**	P	**P**	**06 30 49.9**	**-1.9**
TOO				pmax	pmax		
	comp=Z,60nm,1.2s						
TOO	**Toolangi**	**37.96**	**233**	P	**P**	**06 30 49.9**	**-1.9**
TOO				IAmb	IAmb	06 31 01.2	
	comp=Z,60nm,1.1s						
TOO				IAMs_20	IAMs_20	06 43 09.1	
	comp=Z,4μm,20.0s						
TAU	**Tasmania Unive**	**38.68**	**224**	IAMs_20	IAMs_20	06 43 38.2	
	comp=Z,5μm,21.0s						
COEN	**Coen**	**39.14**	**271**	P	**P**	**06 31 01.2**	**-0.7**
	baz=39,SNR=4.5						
COEN	**Coen**	**39.14**	**271**	P	P	06 30 56.8	-5.2
COEN				IAmb	IAmb	06 31 10.8	
	comp=Z,42nm,1.1s						
STKA	**Stephens Creek**	**39.81**	**243**	P	**P**	**06 31 06.6**	**-0.7**
	comp=Z,14nm,0.8s,baz=101,slow=10.0,SNR=13						
STKA				LR	LR	06 45 57.7	
	comp=Z,4μm,18.5s,baz=82,slow=34						
STKA	**Stephens Creek**	**39.81**	**243**	P	**P**	**06 31 07.6**	**+0.3**
	baz=40,SNR=6.2						
STKA	**Stephens Creek**	**39.81**	**243**	P	**P**	**06 31 07.1**	**-0.2**
STKA				pmax	pmax		
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**39.81**	**243**	P	**P**	**06 31 07.1**	**-0.2**
ARPS	**Mount Arapiles**	**40.55**	**236**	P	**P**	**06 31 13.2**	**-0.2**
	baz=41,SNR=6.1						
HTT	**Hallett**	**42.26**	**241**	P	**P**	**06 31 27.7**	**+0.1**
	baz=42,SNR=12						
KIP	**Kipapa**	**44.16**	**25**	*ce*P	**P**	**06 31 43.8**	**+1.0**
KIP				pmax	pmax		
	comp=Z,138nm,2.5s						
BBOO	**Buckleboo**	**44.57**	**242**	P	**P**	**06 31 45.7**	**-0.5**
	baz=45,SNR=11						
BBOO	**Buckleboo**	**44.57**	**242**	IAMs_20	IAMs_20	06 48 23.8	
	comp=Z,4μm,19.0s						
WB2	**Warramunga Arr**	**46.38**	**260**	P	**P**	**06 31 58.7**	**-2.0**
	baz=46						
WRAB	**Tennant Creek**	**46.38**	**260**	*ce*P	**P**	**06 31 58.5**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,23nm,1.7s						
WRAB	**Tennant Creek**	**46.38**	**260**	P	**P**	**06 31 58.6**	**-2.1**
WRAB				IAmb	IAmb	06 32 10.9	
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**46.39**	**260**	P	**P**	**06 31 58.6**	**-2.2**
	comp=Z,6.9nm,0.8s,baz=94,slow=7.6,SNR=48						
WRA				PcP	**PcP**	**06 33 37.5**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=102,slow=3.0,SNR=2.1						
WRA				LR	LR	06 50 20.3	
	comp=Z,9μm,19.9s,baz=100,slow=35						
AS31	**Alice Springs**	**46.40**	**255**	P	**P**	**06 31 59.2**	**-1.6**
ASAR	**Alice Springs**	**46.40**	**255**	P	**P**	**06 31 58.4**	**-2.4**
	comp=Z,36nm,0.7s,baz=93,slow=7.8,SNR=125						
ASAR				PcP	**PcP**	**06 33 35.7**	**0.0**
	comp=Z,1.5nm,0.8s,baz=96,slow=3.7,SNR=0.9						
ASAR				LR	LR	06 49 56.2	
	comp=Z,3μm,21.1s,baz=94,slow=34						
ASAR	**Alice Springs**	**46.40**	**255**	P	**P**	**06 31 58.7**	**-2.1**
ASAR	**Alice Springs**	**46.40**	**255**	P	**P**	**06 31 58.7**	**-2.1**
KDU	**Kakadu**	**49.55**	**270**	P	**P**	**06 32 22.9**

ASAJ	**Asahikawa**	**73.38**	**330**	P	**P**	**06 35 03.7**	**-2.1**
ASAJ				pmax	pmax		
	comp=Z,78nm,1.4s						
KSM	**Kuching**	**74.84**	**277**	P	**P**	**06 35 16.0**	**+0.9**
KSM				IAmb	IAmb	06 35 26.8	
	comp=Z,30nm,1.1s						
CNBA	**Chernabura Isl**	**75.09**	**10**	IAMs_20	IAMs_20	07 03 52.5	
	comp=Z,2μm,21.0s						
PET	**Petropavlovsk**	**75.13**	**345**	*e*P	**P**	**06 35 16.1**	**+0.3**
PET				*e*		06 38 02.6	
PET				*e*S	**S**	**06 44 58.2**	**+4.6**
PET				MLR	MLR		
	comp=Z,700nm,19.0s						
PET				MLR	MLR		
	comp=Z,700nm,20.0s						
PET	**Petropavlovsk**	**75.13**	**345**	IAMs_20	IAMs_20	07 01 01.7	
	comp=Z,2μm,21.0s						
PEA0B	**Petropavlovsk-**	**75.45**	**344**	*ce*P	**P**	**06 35 20.0**	**+2.3**
PEA0B	**Petropavlovsk-**	**75.45**	**344**	IAMs_20	IAMs_20	07 04 56.2	
	comp=Z,2μm,19.0s						
PETK	**Petropavlovsk-**	**75.45**	**344**	P	**P**	**06 35 16.9**	**-0.8**
	comp=Z,12nm,0.9s,baz=107,slow=7.9,SNR=9.4						
PETK				LR	LR	07 02 29.1	
	comp=Z,2μm,21.3s,baz=148,slow=31						
PETK	**Petropavlovsk-**	**75.45**	**344**	P	**P**	**06 35 17.5**	**-0.2**
PETK	**Petropavlovsk-**	**75.45**	**344**	P	**P**	**06 35 17.5**	**-0.2**
YSS	**Yuzh-Sakhalins**	**75.48**	**332**	*e*P	**P**	**06 35 19.0**	**+1.1**
YSS				*e*		06 38 07.2	
YSS				*e*S	**S**	**06 45 00.5**	**+2.8**
YSS				*e*SS	**SS**	**06 49 45.0**	**-4.0**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,800nm,14.0s						
YSS				MLR	MLR		
	comp=N,700nm,16.0s						
MCCM	**Marconi Confer**	**75.93**	**41**	IAMs_20	IAMs_20	07 01 56.1	
	comp=Z,2μm,20.0s						
SPIA	**Saint Paul Isl**	**76.25**	**3**	IAMs_20	IAMs_20	07 03 24.6	
	comp=Z,2μm,20.0s						
SPX	**San Pedro Mart**	**76.83**	**50**	IAMs_20	IAMs_20	07 01 10.8	
	comp=Z,2μm,21.0s						
JCC	**Jacoby Creek,**	**76.93**	**38**	IAMs_20	IAMs_20	07 02 26.3	
	comp=Z,2μm,20.0s						
KSRS	**Korea Array**	**77.01**	**318**	P	**P**	**06 35 26.8**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=124,slow=6.7,SNR=2.1						
KSRS				LR	LR	07 03 52.5	
	comp=Z,583nm,21.7s,baz=129,slow=32						
KSAR	**Wonju Array Be**	**77.03**	**317**	P	**P**	**06 35 30.0**	**+3.0**
KSAR	**Wonju Array Be**	**77.03**	**317**	P	**P**	**06 35 30.0**	**+3.0**
KHMM	**Horse Mountain**	**77.14**	**38**	IAMs_20	IAMs_20	07 02 04.9	
	comp=Z,2μm,21.0s						
EDW2	**Edwards Air Fo**	**77.16**	**46**	P	**P**	**06 35 30.4**	**+2.5**
	baz=236						
ISA	**Isabella, Lake**	**77.28**	**45**	P	**P**	**06 35 31.7**	**+3.1**
ISA				pmax	pmax		
	comp=Z,26nm,1.4s						
ISA	**Isabella, Lake**	**77.28**	**45**	P	**P**	**06 35 31.2**	**+2.7**
	baz=235						
ISA	**Isabella, Lake**	**77.28**	**45**	P	**P**	**06 35 31.7**	**+3.1**
ISA				IAmb	IAmb	06 35 34.5	
	comp=Z,26nm,1.4s						
SFX	**San Felipe**	**77.28**	**51**	IAMs_20	IAMs_20	07 01 24.5	
	comp=Z,1μm,19.0s						
CMB	**Columbia Colle**	**77.42**	**42**	P	**P**	**06 35 31.9**	**+2.6**
CMB				pmax	pmax		
	comp=Z,18nm,1.5s						
CMB	**Columbia Colle**	**77.42**	**42**	P	**P**	**06 35 31.9**	**+2.6**
CMB				IAMs_20	IAMs_20	07 01 10.6	
	comp=Z,2μm,22.0s						
KRMB	**Red Mountain**	**77.45**	**38**	IAMs_20	IAMs_20	07 03 31.1	
	comp=Z,2μm,20.0s						
PFO	**Pinyon Flats O**	**77.51**	**48**	IAMs_20	IAMs_20	07 01 06.4	
	comp=Z,2μm,20.0s						
XPFO	**Pion Flat**	**77.51**	**48**	IAMs_20	IAMs_20	07 01 06.4	
	comp=Z,2μm,20.0s						
AFDM	**Forest Hills D**	**77.60**	**41**	P	**P**	**06 35 32.9**	**+2.6**
AFDM				IAMs_20	IAMs_20	07 02 28.4	
	comp=Z,2μm,20.0s						
ORV	**Oroville**	**77.65**	**40**	IAMs_20	IAMs_20	07 00 55.5	
	comp=Z,1μm,22.0s						
WDC	**Whiskeytown Da**	**77.65**	**39**	IAMs_20	IAMs_20	07 03 23.6	
	comp=Z,2μm,20.0s						
LRMC	**Laurel Mtn Rad**	**77.71**	**45**	P	**P**	**06 35 33.7**	**+2.7**
	baz=236						
N02D	**Trinity Center**	**77.80**	**39**	P	**P**	**06 35 34.4**	**+3.0**
	baz=231						
MDPB	**Devils Postpil**	**78.02**	**43**	P	**P**	**06 35 35.7**	**+2.8**
MDPB				IAMs_20	IAMs_20	07 02 01.5	
	comp=Z,2μm,21.0s						
OMMB	**Old Mammoth Mi**	**78.06**	**43**	P	**P**	**06 35 36.9**	**+3.7**
MPMC	**Manual Prospec**	**78.16**	**45**	P	**P**	**06 35 35.9**	**+2.3**
	baz=236						
RUBR	**Rubicon Trail**	**78.17**	**41**	IAMs_20	IAMs_20	07 02 47.5	
	comp=Z,2μm,20.0s						
GSC	**Goldstone, Bar**	**78.20**	**46**	P	**P**	**06 35 36.7**	**+2.9**
GSC				pmax	pmax		
	comp=Z,21nm,1.4s						
GSC	**Goldstone, Bar**	**78.20**	**46**	P	**P**	**06 35 36.7**	**+2.9**
GSC				IAmb	IAmb	06 35 44.2	
	comp=Z,21nm,1.4s						
GSC				IAMs_20	IAMs_20	07 03 34.6	
	comp=Z,2μm,20.0s						
HEC	**Hector,Ludlow**	**78.26**	**47**	P	**P**	**06 35 35.7**	**+1.6**
	baz=237						
YBH	**Yreka Blue Hor**	**78.28**	**38**	P	**P**	**06 35 35.7**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=56,slow=4.8,SNR=6.2						
YBH	**Yreka Blue Hor**	**78.28**	**38**	P	**P**	**06 35 35.7**	**+1.7**
YBH				pmax	pmax		
	comp=Z,13nm,1.2s						
YBH	**Yreka Blue Hor**	**78.28**	**38**	IAMs_20	IAMs_20	07 02 22.0	
	comp=Z,2μm,20.0s						
WAKR	**Walker**	**78.30**	**42**	P	**P**	**06 35 37.7**	**+3.4**
PNTR	**Pine Nut**	**78.54**	**42**	P	**P**	**06 35 38.8**	**+3.1**
PNTR				IAmb	IAmb	06 35 45.5	
	comp=Z,19nm,1.2s						
PMBI	**Palembang**	**78.60**	**271**	IAMs_20	IAMs_20	07 09 54.3	
	comp=Z,2μm,21.0s						
VCNR	**Virginia City**	**78.63**	**41**	IAMs_20	IAMs_20	07 03 21.7	
	comp=Z,2μm,20.0s						
MDSI	**Maura Dua**	**78.67**	**269**	P	P	06 35 48.7	+12
GMRC	**Granite Mounta**	**78.70**	**47**	P	**P**	**06 35 38.7**	**+2.1**
	baz=237						
YERR	**Yerington**	**78.71**	**42**	P	**P**	**06 35 39.6**	**+3.0**
YERR				IAmb	IAmb	06 35 51.3	
	comp=Z,27nm,1.5s						
YERR				IAMs_20	IAMs_20	07 01 26.7	
	comp=Z,2μm,22.0s						
IRM	**Iron Mountain**	**78.72**	**48**	P	**P**	**06 35 39.3**	**+2.7**
	baz=238						
GRAC	**Grapevine Rang**	**78.77**	**44**	P	**P**	**06 35 39.2**	**+2.4**
	baz=236						
USA0B	**Ussuriysk Arra**	**78.82**	**325**	*i* P	**P**	**06 35 38.9**	**+2.1**
USRK	**Ussuriysk Ar.**	**78.82**	**325**	LR	LR	07 06 51.8	
	comp=Z,570nm,19.5s,baz=121,slow=33						
USRK	**Ussuriysk Ar.**	**78.82**	**325**	P	**P**	**06 35 40.8**	**+4.0**
USRK	**Ussuriysk Ar.**	**78.82**	**325**	P	**P**	**06 35 40.8**	**+4.0**
RYN	**Ryan**	**78.95**	**42**	P	**P**	**06 35 40.8**	**+2.9**
RYN				IAMs_20	IAMs_20	07 03 13.3	
	comp=Z,2μm,20.0s						
113A	**Mohawk Valley,**	**78.97**	**50**	IAMs_20	IAMs_20	07 02 36.2	
	comp=Z,1μm,20.0s						
NVAR	**Mina Array Bea**	**78.98**	**43**	P	**P**	**06 35 38.7**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=226,slow=8.5,SNR=18						
NVAR				LR	LR	07 02 47.2	
	comp=Z,2μm,21.8s,baz=234,slow=30						
NVAR	**Mina Array Bea**	**78.98**	**43**	P	**P**	**06 35 38.9**	**+0.8**
PAHR	**Pah Rah Range**	**79.04**	**41**	P	**P**	**06 35 41.3**	**+3.0**
PAHR				IAMs_20	IAMs_20	07 04 03.5	
	comp=Z,2μm,19.0s						
NV11	**Mina Array Sit**	**79.08**	**43**	P	**P**	**06 35 40.9**	**+2.4**
NV11				IAmb	IAmb	06 35 54.4	
	comp=Z,40nm,1.5s						
KVN	**Kaiserville**	**79.47**	**42**	P	**P**	**06 35 43.0**	**+2.3**
KVN				pmax	pmax		
	comp=Z,15nm,1.3s						
KVN	**Kaiserville**	**79.47**	**42**	P	**P**	**06 35 43.0**	**+2.3**
TPNV	**Topopah Spring**	**79.49**	**45**	P	**P**	**06 35 43.4**	**+2.5**
TPNV				pmax	pmax		
	comp=Z,16nm,1.4s						
TPNV	**Topopah Spring**	**79.49**	**45**	P	**P**	**06 35 43.2**	**+2.3**
	baz=236						
TPNV	**Topopah Spring**	**79.49**	**45**	P	**P**	**06 35 43.4**	**+2.5**
MOD	**Modoc Plateau**	**79.80**	**39**	P	**P**	**06 35 44.7**	**+2.3**
MOD				IAMs_20	IAMs_20	07 04 04.3	
	comp=Z,2μm,20.0s						
K05A	**Summer Lake**	**79.95**	**38**	P	**P**	**06 35 44.6**	**+1.3**
K05A				IAmb	IAmb	06 35 52.3	
	comp=Z,28nm,1.4s						
K05A				IAMs_20	IAMs_20	07 04 09.3	
	comp=Z,2μm,20.0s						
SHPR	**Sheep Range**	**79.98**	**46**	P	**P**	**06 35 45.6**	**+2.1**
SHPR				IAMs_20	IAMs_20	07 03 30.6	
	comp=Z,2μm,20.0s						
J05D	**Fort Rock, OR**	**80.10**	**37**	P	**P**	**06 35 45.7**	**+1.7**
	baz=232						
W13A	**Hualapai Mount**	**80.10**	**48**	P	**P**	**06 35 46.9**	**+2.6**
W13A				IAMs_20	IAMs_20	07 03 12.0	
	comp=Z,2μm,21.0s						
Y14A	**Wickenburg**	**80.12**	**49**	P	**P**	**06 35 47.2**	**+3.0**
Y14A				IAMs_20	IAMs_20	07 03 01.6	
	comp=Z,1μm,19.0s						
NJ2	**Nanjing**	**80.31**	**309**	*e*P	**P**	**06 35 45.5**	**+0.3**
NJ2				S	**S**	**06 45 55.0**	**+4.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,440nm,6.5s						
NJ2				LR	LR		
	comp=Z,470nm,18.6s						
NJ2				LR	LR		
	comp=Z,610nm,21.6s						
NJ2				LR	LR		
	comp=Z,810nm,20.6s						
PRN	**Pahroc Range**	**80.54**	**45**	P	**P**	**06 35 48.9**	**+2.4**
PRN				IAmb	IAmb	06 35 57.6	
	comp=Z,38nm,1.5s						
PINE	**Pine Mountain**	**80.58**	**37**	P	**P**	**06 35 49.2**	**+2.6**
BELA	**Belgrano 2**	**80.63**	**172**	P	**P**	**06 35 45.1**	**-1.1**
R11A	**Troy Canyon, C**	**80.70**	**44**	P	**P**	**06 35 48.9**	**+1.5**
	baz=237						
R11A	**Troy Canyon, C**	**80.70**	**44**	P	**P**	**06 35 50.0**	**+2.6**
TUC	**Tucson**	**80.91**	**51**	IAMs_20	IAMs_20	07 03 30.7	
	comp=Z,1μm,20.0s						
CNPM	**China Poot**	**81.08**	**13**	IAMs_20	IAMs_20	07 12 20.5	
	comp=Z,2μm,19.0s						
BRLK	**Bradley Lake**	**81.37**	**13**	IAMs_20	IAMs_20	07 12 10.8	
	comp=Z,1μm,18.0s						
X16A	**Lo Mia Camp, P**	**81.48**	**49**	P	**P**	**06 35 54.2**	**+2.6**
X16A				IAmb	IAmb	06 35 57.3	
	comp=Z,22nm,1.3s						
X16A				IAMs_20	IAMs_20	07 03 54.6	
	comp=Z,1μm,21.0s						
I07A	**Izee**	**81.58**	**38**	P	**P**	**06 35 53.8**	**+1.9**
I07A				IAMs_20	IAMs_20	07 05 02.3	
	comp=Z,1μm,20.0s						
J08A	**Circle Bar Ran**	**81.75**	**39**	P	**P**	**06 35 54.4**	**+1.7**
J08A				IAMs_20	IAMs_20	07 05 28.9	
	comp=Z,1μm,20.0s						
CCUT	**Cedar City**	**81.75**	**46**	P	**P**	**06 35 55.9**	**+2.9**
QIZ	**Qiongzhong**	**81.81**	**293**	P	**P**	**06 35 51.3**	**-2.2**
QIZ				S	**S**	**06 46 06.0**	**-0.7**
QIZ				SS	**SS**	**06 51 22.0**	**-3.3**
QIZ				LR	LR		
	comp=Z,480nm,19.6s						
QIZ				LR	LR		
	comp=Z,390nm,20.6s						
QIZ				LR	LR		
	comp=Z,530nm,19.1s						
PMSA	**Palmer Station**	**81.83**	**156**	LR	LR	07 04 11.5	
	comp=Z,700nm,21.6s,baz=256,slow=30						
KNB	**Kanab**	**81.84**	**46**	P	**P**	**06 35 56.4**	**+2.9**
KNB				pmax	pmax		
	comp=Z,29nm,1.5s						
KNB	**Kanab**	**81.84**	**46**	P	**P**	**06 35 56.4**	**+2.9**
U15A	**North Rim**	**81.90**	**47**	P	**P**	**06 35 56.3**	**+2.3**
U15A				IAmb	IAmb	06 36 05.1	
	comp=Z,28nm,1.2s						
U15A				IAMs_20	IAMs_20	07 04 08.6	
	comp=Z,1μm,20.0s						
PSUT	**Pine Spring**	**81.94**	**45**	P	**P**	**06 35 56.3**	**+2.2**
SEW	**Seward**	**81.98**	**13**	IAMs_20	IAMs_20	07 13 35.5	
	comp=Z,1μm,18.0s						
WUAZ	**Wupatki**	**82.08**	**48**	P	**P**	**06 35 57.5**	**+2.7**
	baz=240						
WUAZ	**Wupatki**	**82.08**	**48**	P	**P**	**06 35 57.4**	**+2.7**
WUAZ				IAmb	IAmb	06 36 01.2	
	comp=Z,32nm,1.4s						
WUAZ				IAMs_20	IAMs_20	07 03 51.4	
	comp=Z,1μm,22.0s						
ELK	**Elko**	**82.24**	**42**	P	**P**	**06 35 58.4**	**+2.8**
ELK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ELK	**Elko**	**82.24**	**42**	P	**P**	**06 35 58.4**	**+2.8**
ELK				IAMs_20	IAMs_20	07 04 04.2	
	comp=Z,2μm,22.0s						
CN2	**Changchun**	**82.28**	**322**	*e*P	**P**	**06 35 53.8**	**-1.6**
CN2				*e*PP	**PP**	**06 39 04.3**	**0.0**
CN2				*e*S	**S**	**06 46 07.3**	**-3.1**
CN2				*e*SS	**SS**	**06 51 30.3**	**-1.0**
CN2				LR	LR		
	comp=Z,460nm,19.0s						
CN2				LR	LR		
	comp=Z,610nm,19.0s						
CN2				LR	LR		
	comp=Z,780nm,20.0s						
SDSI	**Sungai Dareh**	**82.41**	**272**	P	**P**	**06 35 58.7**	**+1.9**
G08A	**Pilot Rock**	**82.61**	**37**	P	**P**	**06 35 59.0**	**+1.7**
G08A				IAmb	IAmb	06 36 20.6	
	comp=Z,26nm,1.3s						
A04D	**Lummi Island**	**82.73**	**32**	P	**P**	**06 36 00.5**	**+2.9**
	baz=230						
B05A	**Bryant**	**82.75**	**33**	P	**P**	**06 36 00.0**	**+2.3**
	baz=231						
GAMB	**Gambell**	**82.78**	**2**	IAMs_20	IAMs_20	07 05 07.2	
	comp=Z,1μm,22.0s						
MTPU	**Mount Pierson**	**82.80**	**46**	P	**P**	**06 36 01.5**	**+2.8**
LTY	**Liberty**	**82.87**	**35**	P	**P**	**06 35 59.7**	**+1.2**
LTY				IAmb	IAmb	06 36 17.9	
	comp=Z,18nm,1.5s						
E07A	**Sunnyside**	**82.88**	**35**	P	**P**	**06 36 00.4**	**+1.9**
E07A				IAmb	IAmb	06 36 14.3	
	comp=Z,37nm,1.4s						
HIN	**Hinchinbrook I**	**82.91**	**14**	IAMs_20	IAMs_20	07 16 28.0	
	comp=Z,1μm,18.0s						
SUA	**Susitna One**	**82.95**	**12**	IAMs_20	IAMs_20	07 09 35.1	
	comp=Z,1μm,20.0s						
HAWA	**Hanford**	**82.96**	**36**	P	**P**	**06 35 59.9**	**+1.1**
HAWA				IAmb	IAmb	06 36 14.6	
	comp=Z,37nm,1.5s						
MA2	**Magadan**	**82.98**	**344**	IAMs_20	IAMs_20	07 05 48.2	
	comp=Z,2μm,22.0s						
WHN	**Wuhan**	**82.99**	**306**	‖P	P	06 36 04.5	+5.1
WHN				pP	pwP	06 36 12.5	+5.6
W18A	**Petrified Fore**	**83.05**	**49**	IAMs_20	IAMs_20	07 04 09.0	
	comp=Z,1μm,21.0s						
MSU	**Marysvale**	**83.05**	**45**	P	**P**	**06 36 02.4**	**+2.6**
MSU	**Marysvale**	**83.05**	**45**	P	**P**	**06 36 02.4**	**+2.6**
ZAIG	**Zacatecas**	**83.18**	**63**	P	**P**	**06 36 02.0**	**+1.1**
ZAIG				IAmb	IAmb	06 36 06.5	
	comp=Z,18nm,1.5s						
ZAIG				IAMs_20	IAMs_20	07 03 44.5	
	comp=Z,2μm,22.0s						
BKNI	**Bangkinang**	**83.19**	**273**	IAMs_20	IAMs_20	07 12 53.7	
	comp=Z,1μm,22.0s						
GLI	**Glacier Island**	**83.20**	**14**	IAMs_20	IAMs_20	07 15 06.7	
	comp=Z,1μm,18.0s						
EYAK	**Cordova Ski Ar**	**83.22**	**15**	IAMs_20	IAMs_20	07 14 44.3	
	comp=Z,2μm,18.0s						
FID	**Port Fidalgo**	**83.23**	**14**	IAMs_20	IAMs_20	07 14 05.2	
	comp=Z,1μm,18.0s						
121A	**Cookes Peak, D**	**83.25**	**52**	P	**P**	**06 36 04.5**	**+3.6**
	baz=242						
121A	**Cookes Peak, D**	**83.25**	**52**	P	**P**	**06 36 04.8**	**+3.9**
121A				IAmb	IAmb	06 36 07.0	
	comp=Z,25nm,1.3s						
121A				IAMs_20	IAMs_20	07 05 26.6	
	comp=Z,2μm,20.0s						
E08A	**Dider Farm, El**	**83.28**	**36**	P	**P**	**06 36 03.1**	**+2.6**
E08A				IAmb	IAmb	06 36 11.0	
	comp=Z,29nm,1.3s						
BMO	**Blue Mountains**	**83.30**	**38**	P	**P**	**06 36 02.8**	**+2.0**
BMO				pmax	pmax		
	comp=Z,20nm,1.4s						
BMO	**Blue Mountains**	**83.30**	**38**	P	**P**	**06 36 02.8**	**+2.0**
BMO				IAmb	IAmb	06 36 19.4	
	comp=Z,20nm,1.4s						
MAW	**Mawson**	**83.32**	**199**	P	**P**	**06 36 01.0**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=130,slow=9.3,SNR=3.4						
MAW	**Mawson**	**83.32**	**199**	IAmb	IAmb	06 36 08.9	
	comp=Z,1.9nm,1.1s						
SIT	**Sitka**	**83.33**	**21**	IAMs_20	IAMs_20	07 04 41.6	
	comp=Z,1μm,22.0s						
MFID	**Camas Ranch**	**83.36**	**40**	P	**P**	**06 36 03.8**	**+2.6**
MFID				IAmb	IAmb	06 36 25.1	
	comp=Z,23nm,1.4s						
PMR	**Palmer**	**83.40**	**13**	P	**P**	**06 36 04.2**	**+3.5**
PMR				pmax	pmax		
	comp=Z,41nm,1.5s						
PMR	**Palmer**	**83.40**	**13**	P	**P**	**06 36 04.2**	**+3.5**
TTA	**Tatalina**	**83.41**	**9**	P	**P**	**06 36 00.4**	**-0.5**
TTA				pmax	pmax		
	comp=Z,22nm,1.2s						
TTA	**Tatalina**	**83.41**	**9**	P	**P**	**06 36 00.4**	**-0.5**
TTA				IAmb	IAmb	06 36 06.7	
	comp=Z,22nm,1.2s						
DUG	**Dugway, Tooele**	**83.50**	**44**	P	**P**	**06 36 05.3**	**+3.2**
DUG				pmax	pmax		
	comp=Z,11nm,1.3s						
DUG	**Dugway, Tooele**	**83.50**	**44**	P	**P**	**06 36 04.7**	**+2.6**
	baz=238						
DUG	**Dugway, Tooele**	**83.50**	**44**	P	**P**	**06 36 05.3**	**+3.2**
DUG				IAMs_20	IAMs_20	07 05 07.7	
	comp=Z,2μm,21.0s						
D08A	**Wollman Farm,**	**83.69**	**35**	P	**P**	**06 36 05.2**	**+2.6**
D08A				IAmb	IAmb	06 36 13.2	
	comp=Z,28nm,1.3s						
BGU	**Big Grassy Mou**	**83.75**	**43**	P	**P**	**06 36 08.0**	**+4.7**
E09A	**Wood Farm, Sta**	**83.80**	**36**	P	**P**	**06 36 05.7**	**+2.5**
E09A				IAmb	IAmb	06 36 22.5	
	comp=Z,26nm,1.4s						
WAX	**Waxell Ridge**	**83.86**	**16**	IAMs_20	IAMs_20	07 04 44.2	
	comp=Z,1μm,21.0s						
EPT	**El Paso**	**83.86**	**53**	IAMs_20	IAMs_20	07 06 26.0	
	comp=Z,2μm,20.0s						
MESA	**MESA**	**83.87**	**16**	IAMs_20	IAMs_20	07 04 34.4	
	comp=Z,1μm,21.0s						
Q16A	**Castle Valley**	**83.93**	**45**	P	**P**	**06 36 05.9**	**+1.5**
F10A	**Beach Ranch, E**	**84.00**	**37**	P	**P**	**06 36 04.3**	**-0.1**
YAH	**Yahtse**	**84.08**	**16**	IAMs_20	IAMs_20	07 04 39.9	
	comp=Z,1μm,21.0s						
TMUT	**Trail Mountain**	**84.10**	**45**	P	**P**	**06 36 06.0**	**+0.7**
ISLE	**Juniper Island**	**84.12**	**16**	IAMs_20	IAMs_20	07 04 31.2	
	comp=Z,1μm,22.0s						
TGL	**Tana Glacier**	**84.13**	**16**	IAMs_20	IAMs_20	07 04 54.2	
	comp=Z,1μm,20.0s						
B08A	**Colville Reser**	**84.25**	**34**	P	**P**	**06 36 07.3**	**+1.8**
PCA	**Pinnacle**	**84.26**	**17**	IAMs_20	IAMs_20	07 04 57.9	
	comp=Z,2μm,21.0s						
HLID	**Hailey**	**84.30**	**40**	P	**P**	**06 36 08.4**	**+2.4**
	baz=237						
HLID	**Hailey**	**84.30**	**40**	P	**P**	**06 36 08.0**	**+2.0**
HLID				IAmb	IAmb	06 36 12.1	
	comp=Z,23nm,1.4s						
BCPM	**Bancas Point**	**84.32**	**18**	IAMs_20	IAMs_20	07 04 48.4	
	comp=Z,2μm,22.0s						
CTU	**Camp Tracy**	**84.46**	**44**	P	**P**	**06 36 09.2**	**+2.2**
SRU	**San Rafael Swe**	**84.47**	**45**	P	**P**	**06 36 08.8**	**+1.8**
SRU				pmax	pmax		
	comp=Z,32nm,1.3s						
SRU	**San Rafael Swe**	**84.47**	**45**	P	**P**	**06 36 08.8**	**+1.8**
GLB	**Gilahina Butte**	**84.47**	**15**	P	**P**	**06 36 06.7**	**+0.4**
C09A	**Chrisman Ranch**	**84.49**	**35**	P	**P**	**06 36 09.0**	**+2.3**
C09A				IAmb	IAmb	06 36 16.8	
	comp=Z,18nm,1.3s						
BALM	**Baldy**	**84.49**	**16**	P	**P**	**06 36 08.3**	**+1.7**
BALM				IAmb	IAmb	06 36 16.7	
	comp=Z,26nm,1.3s						
M24K	**Tolsona, Glenn**	**84.50**	**14**	P	**P**	**06 36 07.4**	**+0.9**
P17A	**Butcher Ranch,**	**84.50**	**45**	P	**P**	**06 36 07.7**	**+0.5**
IPM	**Ipoh**	**84.58**	**277**	P	**P**	**06 36 03.4**	**-4.5**
Y22D	**IRIS PASSCAL I**	**84.60**	**51**	P	**P**	**06 36 12.2**	**+4.4**
JIS	**Juneau Island**	**84.60**	**21**	IAMs_20	IAMs_20	07 04 57.1	
	comp=Z,2μm,22.0s						
LENM	**Lemitar**	**84.60**	**51**	P	**P**	**06 36 10.0**	**+2.2**
JLU	**Jordanelle**	**84.61**	**44**	P	**P**	**06 36 10.4**	**+2.7**
BESE	**Bessie Mountai**	**84.68**	**20**	IAMs_20	IAMs_20	07 05 10.2	
	comp=Z,2μm,22.0s						
MNTX	**Cornudas Mount**	**84.69**	**54**	P	**P**	**06 36 10.3**	**+2.2**
	baz=244						
MNTX	**Cornudas Mount**	**84.69**	**54**	P	**P**	**06 36 09.9**	**+1.8**
MNTX				IAMs_20	IAMs_20	07 06 12.8	
	comp=Z,1μm,20.0s						
BARN	**Barnard Glacie**	**84.69**	**16**	P	**P**	**06 36 09.6**	**+2.0**
CTGM	**Chitina Glacie**	**84.69**	**16**	IAMs_20	IAMs_20	07 04 48.3	
	comp=Z,1μm,22.0s						
UNM	**Universidad Na**	**84.75**	**68**	IAMs_20	IAMs_20	07 04 53.3	
	comp=Z,2μm,22.0s						
KTH	**Kantishna Hill**	**84.83**	**11**	P	**P**	**06 36 09.0**	**+0.8**
KTH				IAmb	IAmb	06 36 13.2	
	comp=Z,30nm,1.4s						
BNM	**Barren Site**	**84.85**	**51**	P	**P**	**06 36 11.2**	**+2.0**
TRF	**Thorofare Moun**	**84.86**	**11**	P	**P**	**06 36 08.8**	**+0.4**
TRF				IAmb	IAmb	06 36 18.8	
	comp=Z,22nm,1.0s						
TRF				IAMs_20	IAMs_20	07 13 11.4	
	comp=Z,2μm,19.0s						
TCUT	**Toone Canyon**	**84.90**	**43**	P	**P**	**06 36 11.1**	**+1.9**
PV05	**Paradox Valley**	**84.93**	**47**	P	**P**	**06 36 12.5**	**+3.0**
MVCO	**Mesa Verde**	**84.93**	**48**	P	**P**	**06 36 12.2**	**+2.7**
MVCO				IAmb	IAmb	06 36 31.4	
	comp=Z,15nm,1.4s						
MVCO				IAMs_20	IAMs_20	07 05 10.8	
	comp=Z,1μm,22.0s						
TX31	**Lajitas Ar. Si**	**85.00**

BCYI	**Bear Canyon**	85.32	40	P		**P**		**06 36 13.7 +2.5**
PV01	**Paradox Valley**	85.32	47	P		**P**		**06 36 14.0 +2.6**
PV01				IAmb		IAmb		06 36 21.8
	comp=Z,15nm,1.2s							
PV01				IAMs_20		IAMs_20		07 06 31.2
	comp=Z,1μm,22.0s							
ANMO	**Albuquerque**	85.34	51	*c*eP		**P**		**06 36 13.7 +2.2**
ANMO				pmax		pmax		
	comp=Z,23nm,1.3s							
ANMO	**Albuquerque**	85.34	51	P		**P**		**06 36 13.8 +2.2**
	baz=243							
ANMO	**Albuquerque**	85.34	51	P		**P**		**06 36 13.2 +1.7**
ANMO	**Albuquerque**	85.34	51	IAMs_20		IAMs_20		07 06 16.8
	comp=Z,1μm,20.0s							
PV22	**Blue Mesa, Par**	85.36	47	P		**P**		**06 36 14.1 +2.5**
PV22				IAmb		IAmb		06 36 32.6
	comp=Z,18nm,1.4s							
PV22				IAMs_20		IAMs_20		07 06 09.2
	comp=Z,2μm,22.0s							
MCK	**McKinley**	85.37	12	P		**P**		**06 36 12.0 +1.2**
MCK				pmax		pmax		
	comp=Z,31nm,1.2s							
MCK				MLR		MLR		
	comp=Z,1μm,19.0s							
MCK	**McKinley**	85.37	12	P		**P**		**06 36 12.0 +1.2**
MCK				IAMs_20		IAMs_20		07 13 15.0
	comp=Z,1μm,19.0s							
NEW	**Newport**	85.39	35	P		**P**		**06 36 12.5 +1.2**
	comp=Z,2.6nm,0.8s,baz=113,slow=0.8,SNR=4.6							
NEW	**Newport**	85.39	35	P		**P**		**06 36 14.6 +3.4**
NEW				pmax		pmax		
	comp=Z,16nm,1.5s							
NEW	**Newport**	85.39	35	P		**P**		**06 36 12.4 +1.1**
	baz=235							
NEW	**Newport**	85.39	35	P		**P**		**06 36 14.6 +3.4**
NEW				IAmb		IAmb		06 36 15.3
	comp=Z,16nm,1.5s							
PV07	**Paradox Valley**	85.42	47	P		**P**		**06 36 13.4 +1.5**
PV07				IAmb		IAmb		06 36 22.4
	comp=Z,24nm,1.5s							
PV15	**Paradox Valley**	85.48	47	P		**P**		**06 36 13.8 +1.6**
PV15				IAmb		IAmb		06 36 17.1
	comp=Z,17nm,1.3s							
PV15				IAMs_20		IAMs_20		07 07 05.4
	comp=Z,1μm,20.0s							
SEY	**Seymchan**	85.50	346	*i* P		**P**		**06 36 11.5 +0.1**
H03N2	**Juan Fernandez**	85.52	124	T		T		08 10 57.1
	baz=249,slow=71							
H03N3	**Juan Fernandez**	85.52	124	T		T		08 10 57.1
	baz=249,slow=71							
H03N1	**Juan Fernandez**	85.53	124	T		T		08 10 50.9
	baz=249,slow=71							
HYT	**Haines Junctio**	85.64	18	P		**P**		**06 36 11.7 -0.7**
HYT				IAmb		IAmb		06 36 18.3
	comp=Z,34nm,1.5s							
HYT				IAMs_20		IAMs_20		07 05 52.5
	comp=Z,1μm,21.0s							
GDL2	**Guadalupe Moun**	85.69	54	P		**P**		**06 36 15.7 +2.4**
RDMU	**Red Mountain**	85.83	45	P		**P**		**06 36 15.9 +2.0**
MCMT	**McKenzie Canyo**	85.93	40	P		**P**		**06 36 16.4 +2.1**
AHID	**Auburn Hatcher**	85.94	42	P		**P**		**06 36 17.2 +2.9**
AHID				IAMs_20		IAMs_20		07 08 17.0
	comp=Z,2μm,21.0s							
RPSI	**Rantau Prapat**	85.96	274	P		**P**		**06 36 14.6 -0.3**
RPSI				IAMs_20		IAMs_20		07 21 04.2
	comp=Z,1μm,20.0s							
PSI	**Prapat**	86.00	274	P		**P**		**06 36 14.6 -0.6**
PSI				pmax		pmax		
	comp=Z,34nm,1.2s							
WRH	**Wood River Hil**	86.20	12	P		**P**		**06 36 16.1 +1.2**
DLBC	**Dease Lake**	86.24	22	P		**P**		**06 36 16.7 +1.4**
	comp=Z,5.6nm,1.1s,baz=231,slow=7.4,SNR=4.4							
DLBC	**Dease Lake**	86.24	22	P		**P**		**06 36 15.7 +0.5**
DLBC				IAmb		IAmb		06 36 21.5
	comp=Z,23nm,1.4s							
WHY	**Whitehorse**	86.30	19	IAMs_20		IAMs_20		07 06 22.9
	comp=Z,2μm,21.0s							
DOT	**Dot Lake**	86.32	14	P		**P**		**06 36 16.4 +0.9**
DOT				IAmb		IAmb		06 36 25.5
	comp=Z,22nm,1.2s							
BCAR	**Beaver Creek A**	86.35	15	P		**P**		**06 36 15.5 -0.2**
S22A	**4UR Ranch, Cre**	86.35	48	P		**P**		**06 36 18.1 +1.4**
	baz=242							
S22A	**4UR Ranch, Cre**	86.35	48	P		**P**		**06 36 19.0 +2.4**
S22A				IAmb		IAmb		06 36 25.9
	comp=Z,19nm,1.4s							
S22A				IAMs_20		IAMs_20		07 06 30.5
	comp=Z,2μm,22.0s							
MSO	**Missoula**	86.36	38	P		**P**		**06 36 21.0 +4.8**
MSO				IAmb		IAmb		06 36 25.0
	comp=Z,21nm,1.5s							
DLMT	**Dillon**	86.36	39	P		**P**		**06 36 19.4 +3.1**
DLMT				IAmb		IAmb		06 36 26.9
	comp=Z,21nm,1.4s							
DLMT				IAMs_20		IAMs_20		07 08 57.1
	comp=Z,2μm,20.0s							
HDA	**Harding Lake**	86.37	12	P		**P**		**06 36 16.2 +0.5**
	baz=208							
HDA	**Harding Lake**	86.37	12	P		**P**		**06 36 16.1 +0.4**
HDA				IAmb		IAmb		06 36 35.1
	comp=Z,12nm,0.9s							
REDW	**Red Top Meadow**	86.40	42	P		**P**		**06 36 19.3 +2.7**
REDW				IAmb		IAmb		06 36 32.4
	comp=Z,22nm,1.4s							
TPAW	**Teton Pass**	86.40	42	P		**P**		**06 36 20.1 +3.4**
TPAW				IAmb		IAmb		06 36 32.5
	comp=Z,18nm,1.4s							
CCB	**Clear Creek Bu**	86.41	12	P		**P**		**06 36 15.7 -0.2**
CCB				IAmb		IAmb		06 36 24.3
	comp=Z,27nm,1.1s							
FXWY	**Fox Creek**	86.43	41	P		**P**		**06 36 19.9 +3.2**
O20A	**White River Ci**	86.50	45	P		**P**		**06 36 19.8 +2.6**
O20A				IAmb		IAmb		06 36 37.5
	comp=Z,16nm,1.3s							
SNOW	**Snow King Moun**	86.51	42	P		**P**		**06 36 20.2 +3.0**
SNOW				IAmb		IAmb		06 36 23.1
	comp=Z,28nm,1.5s							
SNOW				IAMs_20		IAMs_20		07 08 45.1
	comp=Z,1μm,19.0s							
COLA	**College**	86.61	12	*i* P		**P**		**06 36 17.5 +0.7**
COLA				pmax		pmax		
	comp=Z,21nm,1.1s							
COLA	**College**	86.61	12	P		**P**		**06 36 18.1 +1.3**
COLA	**College**	86.61	12	IAMs_20		IAMs_20		07 14 23.6
	comp=Z,1μm,19.0s							
MDM	**Murphy Dome**	86.61	12	P		**P**		**06 36 16.5 -0.4**
MDM				IAMs_20		IAMs_20		07 10 23.8
	comp=Z,1μm,20.0s							
IMW	**Indian Meadow**	86.61	41	P		**P**		**06 36 20.7 +2.9**
IMW				IAmb		IAmb		06 36 40.4
	comp=Z,18nm,1.4s							
IMAR	**Indian Mountai**	86.62	9	P		**P**		**06 36 17.3 +0.4**
ENH	**Enshi**	86.66	303	P		**P**		**06 36 20.0 +2.0**
LOHW	**Long Hollow**	86.68	42	P		**P**		**06 36 21.6 +3.6**
LRM	**Limekiln Ridge**	86.69	39	P		**P**		**06 36 22.6 +4.5**
IL31		86.71	12	P		**P**		**06 36 18.2 +1.0**
ILAR	**Eielson Array**	86.71	12	P		**P**		**06 36 17.4 +0.1**
	comp=Z,16nm,1.2s,baz=223,slow=5.6,SNR=28							
ILAR				LR		LR		07 07 25.0
	comp=Z,313nm,22.0s,baz=219,slow=30							
ILAR	**Eielson Array**	86.71	12	P		**P**		**06 36 17.1 -0.2**
ILAR	**Eielson Array**	86.71	12	P		**P**		**06 36 17.1 -0.2**
QLMT	**Earthquake Lak**	86.79	40	P		**P**		**06 36 21.7 +3.2**
FLWY	**Flagg Ranch**	86.86	41	P		**P**		**06 36 22.8 +3.9**
FLWY				IAmb		IAmb		06 36 40.8
	comp=Z,31nm,1.5s							
POKR	**Poker Plat Res**	86.91	12	P		**P**		**06 36 19.9 +1.6**
	baz=207							
BW06	**Boulder Array**	86.92	43	P		**P**		**06 36 22.5 +3.3**
BW06				IAMs_20		IAMs_20		07 09 18.0
	comp=Z,2μm,20.0s							
PDAR	**Pinedale Array**	86.92	43	P		**P**		**06 36 19.6 +0.4**
	comp=Z,0.4nm,0.7s,baz=27,slow=0.3,SNR=5.5							
PDAR				LR		LR		07 09 48.4
	comp=Z,1μm,19.1s,baz=240,slow=32							
PDAR	**Pinedale Array**	86.92	43	P		**P**		**06 36 19.9 +0.7**
YHL	**Hebgen Lake**	86.95	40	P		**P**		**06 36 21.8 +2.4**
YMR	**Madison River**	86.99	40	P		**P**		**06 36 23.1 +3.6**
BOZ	**Bozeman (W)**	87.06	39	P		**P**		**06 36 21.6 +1.9**
BOZ				pmax		pmax		
	comp=Z,16nm,1.5s							
BOZ	**Bozeman (W)**	87.06	39	P		**P**		**06 36 21.7 +1.9**
	baz=239							
BOZ	**Bozeman (W)**	87.06	39	P		**P**		**06 36 21.6 +1.9**
BOZ				IAmb		IAmb		06 36 36.4
	comp=Z,16nm,1.4s							
BOZ				IAMs_20		IAMs_20		07 08 58.7
	comp=Z,2μm,20.0s							
K27K	**Chicken**	87.10	14	P		**P**		**06 36 21.3 +2.0**
	baz=212							
YHH	**Holmes Hill**	87.12	40	P		**P**		**06 36 24.2 +4.0**
YNR	**Norris Junctio**	87.19	41	P		**P**		**06 36 21.5 +1.0**
SDCO	**Great Sand Dun**	87.29	49	P		**P**		**06 36 22.6 +1.4**
ZEA	**Zeya**	87.30	330	*e*P		**P**		**06 36 22.8 +2.4**
ZEA				pmax		pmax		
	comp=N,29nm,1.2s							
ZEA				pmax		pmax		
	comp=Z,36nm,1.2s							
GYA	**Guiyang**	87.42	299	*e*P		**P**		**06 36 22.5 +0.6**
GYA				S		**S**		**06 47 01.5 -1.1**
GYA				SS		**SS**		**06 52 46.5 -1.7**
GYA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
GYA				LR		LR		
	comp=Z,240nm,16.4s							
GYA				LR		LR		
	comp=Z,350nm,19.9s							
GYA				LR		LR		
	comp=Z,610nm,18.2s							
HRY	**Holter Researc**	87.53	38	P		**P**		**06 36 23.3 +1.4**
RDOG	**Red Dog Mine**	87.56	5	IAMs_20		IAMs_20		07 08 32.5
	comp=Z,1μm,21.0s							
WALA	**Waterton Lakes**	87.59	36	P		**P**		**06 36 20.7 -1.4**
YNE	**Yellowstone No**	87.75	41	P		**P**		**06 36 25.7 +2.5**
T25A	**Trinidad**	87.80	49	P		**P**		**06 36 26.0 +2.4**
BILL	**Bilibino**	87.93	354	‖ *i* P		**P**		**06 36 24.8 +1.7**
BILL				*SP		**pwP**		**06 36 30.0 -0.7**
BILL								06 40 00.0
BILL				*e*PPP		PPP		06 41 47.5
BILL				*e*				06 48 06.8
BILL				SS		SS		06 52 52.9 -0.7
BILL				pmax		pmax		
	comp=Z,16nm,1.1s							
BILL				MLR		MLR		
	comp=Z,744nm,18.0s							
BILL	**Bilibino**	87.93	354	P		**P**		**06 36 25.0 +1.9**
BILL				IAMs_20		IAMs_20		07 09 32.1
	comp=Z,2μm,20.0s							
EGAK	**Eagle**	87.95	14	P		**P**		**06 36 25.1 +1.8**
EGAK				IAmb		IAmb		06 36 28.8
	comp=Z,22nm,1.4s							
EGAK				IAMs_20		IAMs_20		07 15 12.3
	comp=Z,1μm,19.0s							
833A	**Chaparral WMA,**	88.02	59	IAMs_20		IAMs_20		07 08 45.3
	comp=Z,2μm,21.0s							
Q24A	**Divide**	88.08	48	P		**P**		**06 36 28.3 +3.3**
Q24A				IAMs_20		IAMs_20		07 07 18.3
	comp=Z,2μm,22.0s							
ISCO	**Idaho Springs**	88.14	47	P		**P**		**06 36 29.9 +4.7**
ISCO				pmax		pmax		
	comp=Z,7.0nm,1.4s							
ISCO	**Idaho Springs**	88.14	47	P		**P**		**06 36 29.9 +4.7**
ISCO				IAMs_20		IAMs_20		07 09 13.6
	comp=Z,1μm,20.0s							
RLMT	**Red Lodge**	88.26	41	P		**P**		**06 36 25.9 +0.3**
RLMT				IAmb		IAmb		06 36 40.6
	comp=Z,14nm,1.4s							
COLD	**Coldfoot**	88.32	10	P		**P**		**06 36 26.0 +0.9**
COLD				IAmb		IAmb		06 36 29.6
	comp=Z,9.4nm,1.1s							
SYO	**Syowa Base**	88.33	192	‖ *e*P		**P**		**06 36 25.8 +0.5**
SYO	**Syowa Base**	88.33	192	‖ *e*PcP		**PcP**		**06 36 28.7 +1.7**
GCMT	**Greycliff**	88.35	40	P		**P**		**06 36 27.3 +1.4**
N23A	**Red Feather La**	88.41	46	IAMs_20		IAMs_20		07 09 17.7
	comp=Z,1μm,21.0s							
JCT	**Junction City**	88.53	57	P		**P**		**06 36 27.4 +0.5**
JCT				pmax		pmax		
	comp=Z,13nm,1.5s							
JCT	**Junction City**	88.53	57	P		**P**		**06 36 27.4 +0.5**
JCT				IAmb		IAmb		06 36 35.3
	comp=Z,13nm,1.4s							
HIA	**Hailar**	88.59	324	IAMs_20		IAMs_20		07 13 16.1
	comp=Z,1μm,20.0s							
XAN	**Xi'an**	88.64	307	P		P		06 36 32.5 +5.1
XAN				S		**S**		**06 47 17.5 +3.7**
XAN				SS		**SS**		**06 53 06.0 +0.4**
XAN				pmax		pmax		
	comp=Z,10.0nm,1.1s							
XAN				LR		LR		
	comp=Z,470nm,17.7s							
XAN				LR		LR		
	comp=Z,500nm,23.5s							
XAN				LR		LR		
	comp=Z,710nm,17.6s							
K22A	**Casper**	88.83	44	P		**P**		**06 36 29.3 +1.1**
K22A				IAMs_20		IAMs_20		07 09 16.6
	comp=Z,2μm,21.0s							
AMTX	**Amarillo**	88.85	52	IAMs_20		IAMs_20		07 09 35.9
	comp=Z,1μm,20.0s							
MLSI	**Meulaboh, Aceh**	88.85	275	P		P		06 36 40.3 +11
PLCA	**Paso Flores**	88.98	133	LR		LR		07 06 25.0
	comp=Z,334nm,20.8s,baz=256,slow=29							
SNAA	**Sanae**	89.25	178	P		**P**		**06 36 29.5 -0.1**
SNAA	**Sanae**	89.25	178	*c*eP		**P**		**06 36 28.9 -0.8**
SNAA				pmax		pmax		
	comp=Z,15nm,2.5s							
SNAA	**Sanae**	89.25	178	P		**P**		**06 36 29.1 -0.6**
SNAA				IAMs_20		IAMs_20		07 13 42.7
	comp=Z,1μm,21.0s							
EGMT	**Eagleton**	89.41	38	IAMs_20		IAMs_20		07 10 30.5
	comp=Z,1μm,20.0s							
ABTX	**Abilene, Hawle**	89.50	55	P		**P**		**06 36 33.0 +1.5**
	baz=247							
ABTX	**Abilene, Hawle**	89.50	55	P		**P**		**06 36 29.3 -2.1**
ABTX				IAMs_20		IAMs_20		07 09 46.2
	comp=Z,1μm,20.0s							
BMAR	**Burnt Mountain**	89.50	12	P		**P**		**06 36 30.3 -0.4**
HHC	**Hu-ho-hao-te**	89.61	314	*e*P		**P**		**06 36 32.5 +0.6**
HHC				S		**S**		**06 47 20.0 -2.7**
HHC				sS		sS		06 47 29.3 -0.4
HHC				pmax		pmax		
	comp=Z,30nm,1.1s							
HHC				pmax		pmax		
	comp=Z,190nm,5.5s							
HHC				LR		LR		
	comp=Z,400nm,16.9s							
HHC				LR		LR		
	comp=Z,630nm,18.0s							
HHC				LR		LR		
	comp=Z,690nm,17.8s							
VNA1	**Neumayer--Stat**	89.99	176	P		**P**		**06 36 34.9 +1.8**
KMI	**Kunming**	90.21	296	‖ *e*P		P		06 36 44.3 +9.1
KMI				pP		pwP		06 36 46.8 +4.1
KMI				sP		sP		06 36 52.5 +12
KMI				PP		**PP**		**06 40 09.5 +0.3**
KMI	**Kunming**	90.21	296	S		S		06 47 38.8 +10
KMI	**Kunming**	90.21	296	SS		SS		06 53 39.5 +11
KMI				pmax		pmax		
	comp=Z,17nm,0.5s							
KMI				pmax		pmax		
	comp=Z,230nm,6.3s							
KMI				LR		LR		
	comp=N,330nm,22.9s							
KMI				LR		LR		
	comp=E,670nm,24.1s							
KMI				LR		LR		
	comp=Z,1μm,23.9s							
WMOK	**Wichita Mounta**	90.98	54	P		**P**		**06 36 37.9 -0.4**
WMOK				pmax		pmax		
	comp=Z,7.0nm,1.3s							
WMOK	**Wichita Mounta**	90.98	54	P		**P**		**06 36 37.9 -0.4**
WMOK	**Wichita Mounta**	90.98	54	IAMs_20		IAMs_20		07 10 44.4
	comp=Z,1μm,20.0s							
RSSD	**Black Hills**	91.11	43	P		**P**		**06 36 37.6 -1.3**
RSSD				pmax		pmax		
	comp=Z,21nm,1.5s							
RSSD	**Black Hills**	91.11	43	P		**P**		**06 36 41.1 +2.2**
	baz=244							
RSSD	**Black Hills**	91.11	43	P		**P**		**06 36 37.6 -1.3**
RSSD				IAmb		IAmb		06 36 53.9
	comp=Z,21nm,1.4s							
CMAR	**Chiang Mai Arr**	91.21	289	P		**P**		**06 36 40.4 +0.7**
	comp=Z,1.1nm,0.4s,baz=124,slow=2.4,SNR=10							
CMAR				LR		LR		07 19 18.0
	comp=Z,301nm,18.8s,baz=162,slow=37							
CMAR	**Chiang Mai Arr**	91.21	289	*c*eP		**P**		**06 36 41.4 +1.7**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	91.21	289	P		**P**		**06 36 41.1 +1.4**
CHTO	**Chiang Mai**	91.33	289	P		**P**		**06 36 40.6 +0.3**
CHTO				pmax		pmax		
	comp=Z,12nm,1.3s							
CHTO				MLR		MLR		
	comp=Z,600nm,21.0s							
CHTO	**Chiang Mai**	91.33	289	P		**P**		**06 36 40.6 +0.3**
CHTO				IAmb		IAmb		06 36 57.4
	comp=Z,12nm,1.3s							
U32A	**Winter Ranch,**	91.44	52	IAMs_20		IAMs_20		07 10 31.6
	comp=Z,1μm,20.0s							
CD2	**Chengdu**	91.46	302	*e*P		**P**		**06 36 40.0 -0.7**
CD2				PP		**PP**		**06 40 15.0 -3.8**
CD2				S		**S**		**06 47 42.5 +2.5**
CD2				pmax		pmax		
	comp=Z,140nm,6.9s							
CD2				LR		LR		
	comp=Z,410nm,21.5s							
CD2				LR		LR		
	comp=Z,570nm,16.1s							
CD2				LR		LR		
	comp=Z,600nm,18.4s							
HKT	**Hockley**	91.51	59	*i* P		**P**		**06 36 43.8 +3.1**
HKT				pmax		pmax		
	comp=Z,6.0nm,1.2s							
HKT	**Hockley**	91.51	59	IAMs_20		IAMs_20		07 13 14.9
	comp=Z,924nm,19.0s							
Z35A	**Perchaven, San**	91.62	55	P		**P**		**06 36 44.2 +2.9**
Z35A				IAMs_20		IAMs_20		07 10 44.5
	comp=Z,1μm,20.0s							
SNET	**Serv Nac Est T**	91.70	76	IAMs_20		IAMs_20		07 08 19.9
	comp=Z,2μm,21.0s							
MTO3	**Montecristo**	91.81	75	P		**P**		**06 36 43.2 +0.4**
MTO3				IAmb		IAmb		06 36 48.2
	comp=Z,22nm,1.5s							
PETF	**Flores**	92.18	73	IAMs_20		IAMs_20		07 08 16.5
	comp=Z,1μm,22.0s							
FNO	**Franklin**	92.22	53	P		**P**		**06 36 46.7 +2.6**
CROK	**Carrier**	92.25	52	P		**P**		**06 36 45.8 +1.7**
237A	**Washetta, Mont**	92.27	57	IAMs_20		IAMs_20		07 10 55.8
	comp=Z,1μm,19.0s							
OK029	**Liberty Lake**	92.38	53	IAMs_20		IAMs_20		07 11 20.5
	comp=Z,2μm,21.0s							
OK025	**Westminster Rd**	92.39	53	IAMs_20		IAMs_20		07 12 18.7
	comp=Z,2μm,20.0s							
R32A	**Long Quarter,**	92.44	50	P		**P**		**06 36 46.8 +1.8**
R32A				IAMs_20		IAMs_20		07 10 33.9
	comp=Z,2μm,22.0s							
W35A	**Tecumseh**	92.58	54	P		**P**		**06 36 47.8 +2.1**
INK	**Inuvik**	92.61	15	P		**P**		**06 36 45.7 +0.7**
	comp=Z,7.4nm,1.1s,baz=270,slow=4.0,SNR=2.7							
INK				LR		LR		07 10 36.3
	comp=Z,328nm,21.8s,baz=232,slow=30							
INK	**Inuvik**	92.61	15	P		**P**		**06 36 45.7 +0.7**
INK				pmax		pmax		
	comp=Z,18nm,1.3s							
INK	**Inuvik**	92.61	15	IAmb		IAmb		06 36 53.1
	comp=Z,18nm,1.2s							
KAN13	**South Haven SW**	92.82	52	P		**P**		**06 36 47.3 +0.5**
DGMT	**Dagmar**	92.90	39	P		**P**		**06 36 49.7 +2.8**
	baz=244							
DGMT	**Dagmar**	92.90	39	P		**P**		**06 36 50.1 +3.3**
NATX	**Nacogdoches**	93.09	58	IAMs_20		IAMs_20		07 11 49.8
	comp=Z,1μm,20.0s							
Z38A	**Mt. Pleasant**	93.36	56	IAMs_20		IAMs_20		07 14 19.8
	comp=Z,1μm,19.0s							
T35A	**Sooner Cattle**	93.50	52	P		**P**		**06 36 52.7 +2.8**
X37A	**Clayton**	93.53	55	IAMs_20		IAMs_20		07 12 28.1
	comp=Z,1μm,20.0s							
TGUH	**Tegucigalpa,Un**	93.62	76	IAMs_20		IAMs_20		07 08 24.8
	comp=Z,1μm,22.0s							
TUL1	**Leonard**	93.68	53	P		**P**		**06 36 54.8 +4.1**
TUL1				IAMs_20		IAMs_20		07 11 50.9
	comp=Z,1μm,21.0s							
441A	**DeRidder**	93.93	59	IAMs_20		IAMs_20		07 14 04.0
	comp=Z,998nm,20.0s							
BGNE	**Belgrade**	93.97	48	IAMs_20		IAMs_20		07 12 18.1
	comp=Z,1μm,21.0s							
N33A	**J Bar K, Exete**	94.22	48	IAMs_20		IAMs_20		07 11 56.6
	comp=Z,1μm,21.0s							
KSU1	**Kansas State U**	94.22	50	IAMs_20		IAMs_20		07 11 49.9
	comp=Z,2μm,22.0s							
JTS	**Las Juntas de**	94.57	81	IAMs_20		IAMs_20		07 10 31.1
	comp=Z,1μm,20.0s							
YKA	**Yellowknife Ar**	94.67	24	LR		LR		07 15 10.7
	comp=Z,426nm,18.6s,baz=0.0,slow=33							
TEIG	**Tepich**	94.68	70	IAMs_20		IAMs_20		07 10 48.5
	comp=Z,1μm,22.0s							
U38A	**Gravette**	94.93	53	IAMs_20		IAMs_20		07 12 58.0
	comp=Z,1μm,20.0s							
W39A	**Magazine**	94.97	55	P		P		06 37 01.5 +4.9
W39A				IAmb		IAmb		06 37 12.5
	comp=Z,9.1nm,1.4s							
WLAR	**White Oak Lake**	94.98	56	IAMs_20		IAMs_20		07 12 31.6
	comp=Z,1μm,20.0s							
Z41A	**Richland Creek**	95.08	57	IAMs_20		IAMs_20		07 13 15.3
	comp=Z,1μm,20.0s							
HHAR	**Hobbs**	95.22	54	IAMs_20		IAMs_20		07 13 46.6
	comp=Z,1μm,20.0s							
L34A	**Svendsen Farm,**	95.41	48	IAMs_20		IAMs_20		07 12 22.3
	comp=Z,1μm,21.0s							
MDND	**Maddock**	95.45	41	IAMs_20		IAMs_20		07 12 18.7
	comp=Z,1μm,22.0s							
N35A	**Tabor**	95.54	49	IAMs_20		IAMs_20		07 12 37.7
	comp=Z,1μm,22.0s							
ESPN	**Las Esperanzas**	95.78	79	IAMs_20		IAMs_20		07 09 21.1
	comp=Z,984nm,21.0s							
SONM	**Songino Array**	95.84	319	PP		**PP**		**06 40 51.9 -0.9**
	comp=Z,0.4nm,0.6s,baz=134,slow=8.3,SNR=3.7							
SONM				LR		LR		07 18 54.5
	comp=Z,353nm,19.1s,baz=112,slow=35							
ECSD	**EROS Data Cent**	95.88	46	P		**P**		**06 37 01.8 +1.1**
	baz=249							
ECSD	**EROS Data Cent**	95.88	46	P		**P**		**06 37 01.3 +0.7**
ECSD				IAmb		IAmb		06 37 04.7
	comp=Z,16nm,1.4s							
ECSD	**EROS Data Cent**	95.88	46	IAMs_20		IAMs_20		07 12 35.4
	comp=Z,2μm,22.0s							
143A	**Socs Landing,**	96.01

comp=Z,1µm,21.0s
LPAR Lepanto 97.79 55 IAMs_20 IAMs_20 07 12 40.9
comp=Z,977nm,22.0s
CCM Cathedral Cave 97.83 53 IAMs_20 IAMs_20 07 14 28.6
comp=Z,1µm,20.0s
Y45A Yeager Farm, C 97.86 57 IAMs_20 IAMs_20 07 15 28.7
comp=Z,1µm,20.0s
146A Union 97.87 58 IAMs_20 IAMs_20 07 17 44.2
comp=Z,880nm,19.0s
MET Memphis--Engin 97.93 56 IAMs_20 IAMs_20 07 14 57.6
comp=Z,973nm,21.0s
AGMN Agassiz Nation 97.95 42 IAMs_20 IAMs_20 07 16 02.0
comp=Z,1µm,20.0s
PBMO Poplar Bluff 98.05 54 IAMs_20 IAMs_20 07 14 56.7
comp=Z,1µm,21.0s
GNAR Gosnell 98.12 55 IAMs_20 IAMs_20 07 16 14.6
comp=Z,1µm,20.0s
OXF Oxford 98.16 56 IAMs_20 IAMs_20 07 15 18.7
comp=Z,964nm,21.0s
I37A Lemond, Waseca 98.16 46 IAMs_20 IAMs_20 07 15 51.8
comp=Z,929nm,20.0s
K38A Parkersburg 98.16 48 IAMs_20 IAMs_20 07 14 11.0
comp=Z,1µm,20.0s
PEBM Pemiscott Bayo 98.29 55 IAMs_20 IAMs_20 07 16 20.0
comp=Z,1µm,20.0s
PVMO Portageville 98.50 55 IAMs_20 IAMs_20 07 15 10.6
comp=Z,1µm,20.0s
W45A Hickory Valley 98.52 56 IAMs_20 IAMs_20 07 14 42.4
comp=Z,1µm,20.0s
PARMO Parma 98.54 54 IAMs_20 IAMs_20 07 15 00.5
comp=Z,1µm,20.0s
ULM Lac du Bonnet 98.60 40 LR LR 07 14 49.6
comp=Z,1µm,21.9s,baz=254,slow=31
HALT Halls 98.63 55 IAMs_20 IAMs_20 07 13 50.1
comp=Z,949nm,22.0s
SLM Saint Louis 98.76 52 IAMs_20 IAMs_20 07 14 59.3
comp=Z,1µm,21.0s
HENM Henderson Moun 98.77 54 IAMs_20 IAMs_20 07 15 06.6
comp=Z,1µm,20.0s
Z47A Carrollton 98.83 58 IAMs_20 IAMs_20 07 18 04.6
comp=Z,1µm,20.0s
HICK Hickman 98.90 54 IAMs_20 IAMs_20 07 15 22.2
comp=Z,1µm,21.0s
N41A Harden Midland 98.93 50 IAMs_20 IAMs_20 07 15 26.5
comp=Z,1µm,20.0s
L40A Anamosa 99.07 49 IAMs_20 IAMs_20 07 14 57.2
comp=Z,1µm,22.0s
T45A Paducah 99.49 54 IAMs_20 IAMs_20 07 16 57.7
comp=Z,1µm,19.0s
P43A Skaggs, Pawnee 99.59 51 IAMs_20 IAMs_20 07 16 03.1
comp=Z,992nm,20.0s
Q44A Meyer Farm, Va 99.75 52 IAMs_20 IAMs_20 07 16 47.5
comp=Z,1µm,19.0s
WVT Waverly 99.86 55 IAMs_20 IAMs_20 07 16 04.8
comp=Z,1µm,20.0s
X48A Hartselle 100.01 57 IAMs_20 IAMs_20 07 16 54.7
comp=Z,1µm,20.0s
JFWS Jewell Farm 100.01 48 IAMs_20 IAMs_20 07 15 17.0
comp=Z,2µm,22.0s
I40A Norwalk 100.04 47 IAMs_20 IAMs_20 07 16 08.6
comp=Z,1000nm,21.0s
Y49A Blount Mountai 100.34 58 IAMs_20 IAMs_20 07 16 50.7
comp=Z,1µm,21.0s
OLIL Olney 100.39 53 IAMs_20 IAMs_20 07 17 05.5
comp=Z,1µm,20.0s
USIN University of 100.50 53 IAMs_20 IAMs_20 07 16 12.5
comp=Z,1µm,21.0s
O44A Mansfield 100.51 51 IAMs_20 IAMs_20 07 15 22.5
comp=Z,1µm,22.0s
V48A Smith Brothers 100.54 56 IAMs_20 IAMs_20 07 16 33.7
comp=Z,983nm,20.0s
EYMN Ely 100.62 43 IAMs_20 IAMs_20 07 16 32.7
comp=Z,1µm,21.0s
T47A Sharon Grove 100.66 55 IAMs_20 IAMs_20 07 16 35.9
comp=Z,843nm,20.0s
553A Crawfordville 100.96 62 IAMs_20 IAMs_20 07 11 45.3
comp=Z,927nm,22.0s
CLTN Cedars of Leba 101.02 56 IAMs_20 IAMs_20 07 16 08.4
comp=Z,1µm,21.0s
M44A Midewin, Midew 101.16 50 IAMs_20 IAMs_20 07 16 55.6
comp=Z,1µm,20.0s
FPAL Fort Paine 101.17 57 IAMs_20 IAMs_20 07 16 51.5
comp=Z,1µm,22.0s
I42A Draeger Farm, 101.22 47 IAMs_20 IAMs_20 07 16 13.9
comp=Z,1µm,21.0s
K43A Burlington 101.31 49 IAMs_20 IAMs_20 07 15 44.3
comp=Z,944nm,22.0s
HQIL Hanson Quary C 101.41 50 IAMs_20 IAMs_20 07 16 03.1
comp=Z,944nm,21.0s
U49A Red Boiling Sp 101.56 55 IAMs_20 IAMs_20 07 16 24.7
comp=Z,1µm,21.0s
W50A Signal Mountai 101.58 57 IAMs_20 IAMs_20 07 16 33.4
comp=Z,980nm,22.0s
WCI Wyandotte Cave 101.62 54 IAMs_20 IAMs_20 07 17 07.0
comp=Z,1µm,20.0s
BLO Bloomington 101.69 53 IAMs_20 IAMs_20 07 21 44.9
comp=Z,1µm,18.0s
X51A Calhoun 101.78 57 IAMs_20 IAMs_20 07 17 20.6
comp=Z,1µm,21.0s
H43A Windswept, Lux 102.16 47 IAMs_20 IAMs_20 07 18 40.9
comp=Z,1µm,20.0s
Y52A Lilburn 102.23 58 IAMs_20 IAMs_20 07 16 48.7
comp=Z,988nm,22.0s
CPCT Cooper Cave 102.27 57 IAMs_20 IAMs_20 07 17 17.6
comp=Z,979nm,22.0s
T50A Nancy 102.42 55 IAMs_20 IAMs_20 07 17 31.5
comp=Z,1µm,20.0s
R49A Shelbyville 102.49 54 IAMs_20 IAMs_20 07 18 03.1
comp=Z,1µm,20.0s
V51A Loudon 102.50 56 IAMs_20 IAMs_20 07 17 14.5
comp=Z,1µm,22.0s
L46A Eue Claire 102.58 50 IAMs_20 IAMs_20 07 16 58.3
comp=Z,974nm,20.0s
P48A Milroy 102.59 52 IAMs_20 IAMs_20 07 19 18.6
comp=Z,853nm,20.0s
W52A Murphy 102.65 57 IAMs_20 IAMs_20 07 17 37.7
comp=Z,891nm,22.0s
154A Montrose 102.69 60 IAMs_20 IAMs_20 07 18 15.9
comp=Z,851nm,21.0s
ROSC El Rosal 102.86 89 IAMs_20 IAMs_20 07 15 00.2
comp=Z,957nm,20.0s
TKL Tuckaleechee C 102.91 57 IAMs_20 IAMs_20 07 17 37.6
comp=Z,935nm,22.0s
V52A Sevierville 103.10 56 IAMs_20 IAMs_20 07 17 42.5
comp=Z,904nm,21.0s
456A Hilliard 103.10 62 IAMs_20 IAMs_20 07 18 44.1
comp=Z,916nm,22.0s
R50A Paris 103.13 54 IAMs_20 IAMs_20 07 18 34.0
comp=Z,942nm,20.0s
P49A Miami Univ. Ec 103.14 53 IAMs_20 IAMs_20 07 18 13.2
comp=Z,760nm,19.0s
TZTN Tazewell 103.31 56 IAMs_20 IAMs_20 07 17 41.0
comp=Z,1µm,21.0s
S51A Beattyville 103.54 55 IAMs_20 IAMs_20 07 16 42.9
comp=Z,1µm,22.0s
V53A Saluda 103.67 57 IAMs_20 IAMs_20 07 20 55.8
comp=Z,896nm,21.0s
G45A Suttons Bay 103.76 47 IAMs_20 IAMs_20 07 19 37.2
comp=Z,798nm,19.0s
L48A N Adams 103.92 50 IAMs_20 IAMs_20 07 19 07.6
comp=Z,1µm,20.0s
J47A Sunmer 103.94 49 IAMs_20 IAMs_20 07 20 34.9
comp=Z,878nm,19.0s
P51A Williamsport 104.37 53 IAMs_20 IAMs_20 07 19 02.9
comp=Z,1µm,20.0s
GLMI Grayling 104.44 47 IAMs_20 IAMs_20 07 18 31.0
comp=Z,1µm,21.0s
AAM Ann Arbor 104.56 50 IAMs_20 IAMs_20 07 19 55.6
comp=Z,827nm,20.0s
ACSO Alum Creek Sta 104.60 52 IAMs_20 IAMs_20 07 20 03.8
comp=Z,942nm,19.0s
PALK Pallekele 104.61 273 IAMs_20 IAMs_20 07 25 10.5
comp=Z,1µm,20.0s
U54A Nelsons Funny 104.66 56 IAMs_20 IAMs_20 07 18 43.7
comp=Z,1µm,21.0s
KMSC Kings Mountain 104.73 58 IAMs_20 IAMs_20 07 21 13.7
comp=Z,1µm,19.0s
R53A Hurricane 104.96 54 IAMs_20 IAMs_20 07 19 02.5
comp=Z,1µm,21.0s
V55A Taylorsville 104.98 57 IAMs_20 IAMs_20 07 19 23.4
comp=Z,872nm,22.0s
P52A Corning 105.10 53 IAMs_20 IAMs_20 07 18 54.3
comp=Z,1µm,20.0s
NHSC New Hope 105.20 60 IAMs_20 IAMs_20 07 21 57.4
comp=Z,680nm,20.0s
Y57A Sumter 105.23 59 IAMs_20 IAMs_20 07 19 10.1
comp=Z,1µm,22.0s
BIRD Birdtown, Kers 105.31 58 IAMs_20 IAMs_20 07 20 18.3
comp=Z,1µm,21.0s

S54A Dingess, Beckl 105.33 55 IAMs_20 IAMs_20 07 20 57.6
comp=Z,1µm,20.0s
O52A Adamsville 105.43 52 IAMs_20 IAMs_20 07 20 31.8
comp=Z,897nm,19.0s
P53A Whipple 105.63 53 IAMs_20 IAMs_20 07 19 51.3
comp=Z,1µm,20.0s
U56A King 105.75 57 IAMs_20 IAMs_20 07 19 37.6
comp=Z,1µm,22.0s
W57A Gilead, T 105.80 58 IAMs_20 IAMs_20 07 20 24.2
comp=Z,1µm,20.0s
BLA Blacksburg 105.90 56 IAMs_20 IAMs_20 07 18 59.6
comp=Z,1µm,22.0s
O53A New Philadelph 105.92 52 IAMs_20 IAMs_20 07 20 56.9
comp=Z,871nm,20.0s
Q54A Coxs Mills 105.95 54 IAMs_20 IAMs_20 07 19 11.8
comp=Z,980nm,20.0s
RES Resolute Bay 106.12 16 IAMs_20 IAMs_20 07 20 41.5
comp=Z,865nm,20.0s
X58A Rowland 106.20 59 IAMs_20 IAMs_20 07 19 05.7
comp=Z,1µm,22.0s
N53A Lisbon 106.32 52 IAMs_20 IAMs_20 07 19 35.3
comp=Z,1µm,22.0s
R55A Marlinton 106.36 55 IAMs_20 IAMs_20 07 18 54.6
comp=Z,1µm,22.0s
Y59A Loris 106.45 59 IAMs_20 IAMs_20 07 20 59.6
comp=Z,843nm,20.0s
O54A Avella 106.54 53 IAMs_20 IAMs_20 07 20 19.2
comp=Z,1µm,20.0s
V58A Windy Hill, Pi 106.64 57 IAMs_20 IAMs_20 07 20 52.2
comp=Z,859nm,20.0s
N54A Moraine State 106.98 52 IAMs_20 IAMs_20 07 19 54.8
comp=Z,1µm,21.0s
Q56A Snyder Ridge, 107.22 54 IAMs_20 IAMs_20 07 20 13.4
comp=Z,932nm,21.0s
M54A Oil Creek Stat 107.32 51 IAMs_20 IAMs_20 07 20 53.7
comp=Z,1µm,21.0s
CNNC Cliffs of the 107.50 58 IAMs_20 IAMs_20 07 20 19.3
comp=Z,991nm,21.0s
SDV Santo Domingo 107.58 87 IAMs_20 IAMs_20 07 17 12.2
comp=Z,895nm,22.0s
S58A Poland Farm, P 107.83 56 IAMs_20 IAMs_20 07 20 40.7
comp=Z,1µm,21.0s
O56A Blue Knob Stat 107.92 53 IAMs_20 IAMs_20 07 21 50.7
comp=Z,1µm,20.0s
M55A Ridgway 107.98 52 IAMs_20 IAMs_20 07 20 46.2
comp=Z,1µm,20.0s
R58B Mineral 108.03 55 IAMs_20 IAMs_20 07 23 15.9
comp=Z,975nm,20.0s
V60A Jim Taylor Roa 108.11 58 IAMs_20 IAMs_20 07 19 42.2
comp=Z,861nm,22.0s
P57A Homestead Farm 108.20 54 IAMs_20 IAMs_20 07 21 04.2
comp=Z,1µm,21.0s
M56A Emporium 108.41 52 IAMs_20 IAMs_20 07 21 09.7
comp=Z,1µm,20.0s
SAML Samuel 108.41 107 IAMs_20 IAMs_20 07 22 24.8
comp=Z,752nm,19.0s
CBN Corbin Frederi 108.46 55 IAMs_20 IAMs_20 07 21 02.4
comp=Z,964nm,20.0s
MEDO Medina 108.49 50 IAMs_20 IAMs_20 07 21 32.5
comp=Z,864nm,20.0s
SSPA Standing Stone 108.49 53 IAMs_20 IAMs_20 07 22 44.8
comp=Z,1µm,19.0s
EUNU Eureka 108.76 11 IAMs_20 IAMs_20 07 18 21.9
comp=Z,858nm,18.0s
J55A Hilton 108.96 50 IAMs_20 IAMs_20 07 21 46.1
comp=Z,777nm,20.0s
N58A Sunbury 109.40 52 IAMs_20 IAMs_20 07 23 32.0
comp=Z,1µm,20.0s
MVL Millersville 109.55 53 IAMs_20 IAMs_20 07 23 00.9
comp=Z,1µm,20.0s
PECO Prince Edward 109.65 49 IAMs_20 IAMs_20 07 20 50.2
comp=Z,1µm,22.0s
J56A Wolcott 109.66 50 IAMs_20 IAMs_20 07 21 57.4
comp=Z,994nm,21.0s
PLVO Plevna 109.74 48 IAMs_20 IAMs_20 07 21 21.5
comp=Z,1µm,20.0s
N59A State Game Lan 110.12 53 IAMs_20 IAMs_20 07 24 13.0
comp=Z,985nm,19.0s
BINY Binghamton 110.14 51 IAMs_20 IAMs_20 07 20 50.4
comp=Z,1µm,22.0s
PSUB Penn St. - Bra 110.22 54 IAMs_20 IAMs_20 07 22 34.7
comp=Z,1µm,20.0s
J57A Williamstown 110.30 50 IAMs_20 IAMs_20 07 22 25.4
comp=Z,832nm,21.0s
LUPA Lehigh Univers 110.38 53 IAMs_20 IAMs_20 07 23 25.8
comp=Z,1µm,20.0s
J58A Remsen 110.81 50 IAMs_20 IAMs_20 07 23 11.9
comp=Z,1µm,20.0s
BRNJ Basking Ridge 111.00 53 IAMs_20 IAMs_20 07 24 04.2
comp=Z,1µm,20.0s
ODNJ Ogdensburg 111.02 52 IAMs_20 IAMs_20 07 24 39.7
comp=Z,1µm,19.0s
TRNY Table Rock, Ra 111.31 52 IAMs_20 IAMs_20 07 22 39.5
comp=Z,1µm,22.0s
J59A Piesco 111.38 50 IAMs_20 IAMs_20 07 23 59.1
comp=Z,948nm,20.0s
MKAR Makanchi Array 111.48 314 PP **PP 06 42 50.2 +0.7**
comp=Z,0.8nm,1.0s,baz=90,slow=7.6,SNR=3.8
NCB Newcomb 111.64 49 IAMs_20 IAMs_20 07 22 08.9
comp=Z,927nm,22.0s
WSPT Westport, CT 111.98 53 IAMs_20 IAMs_20 07 25 45.4
comp=Z,967nm,19.0s
YLE Yale 112.30 52 IAMs_20 IAMs_20 07 23 29.6
comp=Z,884nm,20.0s
LATQ La Tuque 112.94 46 IAMs_20 IAMs_20 07 23 05.9
comp=Z,749nm,21.0s
HNH Hanover 113.01 50 IAMs_20 IAMs_20 07 25 51.2
comp=Z,852nm,20.0s
LBNH Lisbon 113.31 49 IAMs_20 IAMs_20 07 23 11.2
comp=Z,1µm,22.0s
FFD Franklin Falls 113.45 50 IAMs_20 IAMs_20 07 27 51.8
comp=Z,934nm,19.0s
M65A Busby, Falmout 114.03 52 IAMs_20 IAMs_20 07 25 48.5
comp=Z,965nm,20.0s
I63A Otisfield 114.27 50 IAMs_20 IAMs_20 07 23 50.4
comp=Z,853nm,21.0s
KDJ Kajisay 114.75 308 IAMs_20 IAMs_20 07 29 57.0
comp=Z,979nm,20.0s
F62A Pittston Farm, 114.80 48 IAMs_20 IAMs_20 07 28 29.3
comp=Z,899nm,18.0s
E62A Clayton Lake 115.13 47 IAMs_20 IAMs_20 07 29 13.0
comp=Z,925nm,19.0s
E63A Oxbow 115.89 47 IAMs_20 IAMs_20 07 29 36.0
comp=Z,967nm,19.0s
F64A Sherman 115.93 48 IAMs_20 IAMs_20 07 30 50.1
comp=Z,976nm,18.0s
PQI Presque Isle 116.17 47 IAMs_20 IAMs_20 07 24 56.4
comp=Z,1µm,21.0s
SEUS St. Eustatius 117.03 80 IAMs_20 IAMs_20 07 22 49.3
comp=Z,764nm,22.0s
LMN Caledonia Moun 118.40 48 IAMs_20 IAMs_20 07 27 37.6
comp=Z,976nm,20.0s
GAR Garm 119.83 304 IAMs_20 IAMs_20 07 40 37.8
comp=Z,827nm,20.0s
KBS Kingsbay 120.11 358 IAMs_20 IAMs_20 07 26 22.5
comp=Z,891nm,20.0s
CHGR Chuyangaron 120.72 304 IAMs_20 IAMs_20 07 42 48.6
comp=Z,887nm,20.0s
ABPO Ambohimpanom 122.86 231 IAMs_20 IAMs_20 07 33 28.5
comp=Z,837nm,20.0s
ARCES ARCESS Array B 127.93 350 PKP **PKiKP 06 42 39.7 0.0**
comp=Z,8.2nm,1.1s,baz=330,slow=3.2,SNR=3.8
MAK Makhachkala 136.29 313 *eP* **Pdif 06 39 53.1 -7.4**
MAK *i* 06 42 52.5
MAK *e* 06 50 04.0
MAK *e*SS SS 07 03 31.8 -5.2
MAK pmax pmax
comp=Z,123nm,0.6s
KIV Kislovodsk 139.18 316 *i* PKIKP **PKPdf 06 43 02.1 +1.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,3µm,24.0s
GEVA Gevas 140.97 308 IAMs_20 IAMs_20 07 51 32.1
comp=Z,586nm,21.0s
KMBO Kilima Mbogo 141.37 242 IAMs_20 IAMs_20 07 39 57.0
comp=Z,777nm,20.0s
ATD Arta Tunnel 141.57 264 IAMs_20 IAMs_20 07 38 01.2
comp=Z,845nm,22.0s
MARD Mardin 143.00 307 IAMs_20 IAMs_20 07 55 27.9
comp=Z,535nm,21.0s
TOKA Tokat 144.92 314 IAMs_20 IAMs_20 07 48 32.9
comp=Z,529nm,22.0s
BSEG Bad Segeberg 144.96 353 *e*PKPbc **PKiKP 06 43 13.5 -1.2**
baz=9.2,slow=2.6
PURM Purcari 145.30 328 ⇑P **PKiKP 06 43 15.4 -0.2**
LVV L'vov 145.40 337 *e*PKIKP **PKPab 06 43 12.1 +0.2**
LVV MLR MLR
comp=N,600nm,22.0s
LVV MLR MLR
comp=E,300nm,22.0s
LVV MLR MLR
comp=Z,600nm,22.0s
GAZ Gaziantep 145.71 309 IAMs_20 IAMs_20 07 55 18.6
comp=Z,578nm,20.0s
RUE Ruedersdorf 145.87 349 *e*PKPbc **PKiKP 06 43 16.5 -0.1**
baz=9.2,slow=2.6
ILGA Ilgaz 146.39 317 IAMs_20 IAMs_20 07 46 22.7
comp=Z,658nm,22.0s
NRDL Niedersach Rie 146.40 353 *e*PKPbc **PKiKP 06 43 17.6 -0.1**
baz=9.2,slow=2.6
OJC Ojcow 146.50 341 *e*PKP **PKiKP 06 43 18.1 0.0**
BURAR Bucovina Array 146.68 333 ⇑P **PKPab 06 43 17.8 +0.8**
BURAR Bucovina Array 146.68 333 ⇑PKP2 **PKPab 06 43 17.8 +0.8**
BURAR Bucovina Array 146.68 333 **PKPbc 06 43 15.7 -0.2**
ASSE Asse, Remlinge 146.69 352 *e*PKPbc **PKiKP 06 43 19.0 +0.8**
baz=9.2,slow=2.6
BIZ Bicaz 146.81 332 ⇑P **PKiKP 06 43 19.7 +0.9**
IBBN Ibbenburen 146.81 355 *e*PKPbc **PKiKP 06 43 19.1 +0.5**
baz=9.2,slow=2.6
KSP Ksiaz 146.89 345 *e*PKP **PKPbc 06 43 16.3 0.0**
CLZ Clausthal 147.01 352 *e*PKPbc **PKiKP 06 43 19.6 +0.5**
baz=9.2,slow=2.6
UZH Uzhgorod 147.03 337 *c i*PKP2 **PKiKP 06 43 19.2 0.0**
NIE Niedzica 147.04 340 *e*PKP **PKPbc 06 43 17.5 +0.8**
CRVS Cervenica-Dubn 147.10 338 *e*PKP2 **PKiKP 06 43 21.9 +2.6**
CRVS Cervenica-Dubn 147.10 338 *e*PKP **PKiKP 06 43 21.9 +2.6**
BRTR Keskin Array B 147.12 315 PKPbc **PKPbc 06 43 16.5 -1.0**
comp=Z,2.4nm,0.9s,baz=113,slow=3.3,SNR=6.9
BRTR Keskin Array B 147.12 315 PKP2 **PKiKP 06 43 19.7 -0.2**
BRTR Keskin Array B 147.12 315 **PKiKP 06 43 19.7 -0.2**
CLL Collm 147.13 349 *e*PKPbc **PKPab 06 43 18.0 -0.5**
CLL *i* PKPab **sPKPdf 06 43 20.0 -0.6**
comp=Z,24nm,0.9s
CLL *i* pPKPab **pPKPab 06 43 23.1 +0.4**
CLL *e* 06 45 29.0
CLL *e* 07 01 42.0
CLL *e*SS SS 07 05 48.0 +7.0
CLL *e* 07 08 00.0
CLL *e*SSS SSS 07 11 18.0
CLL *e*SSSS 07 15 00.0
CLL LmV 07 46 00.0
comp=Z,700nm,22.0s
CLL Collm 147.13 349 *e*PKP2 **PKPab 06 43 18.0 -0.5**
CLL MLR MLR
comp=Z,700nm,22.0s
CLL Collm 147.13 349 *e*PKPbc **PKiKP 06 43 20.4 +1.1**
baz=9.2,slow=2.6
CLL Collm 147.13 349 **PKPab 06 43 18.8 +0.3**
OSTC Ostas 147.17 345 *e*PKP **PKiKP 06 43 20.5 +1.0**
OSTC *ex* x 06 43 39.1
OSTC AMS AMS 07 47 00.0
comp=Z,1µm,23.0s
CHVC Chvalec 147.18 345 AMS AMS 07 47 10.0
comp=Z,900nm,18.4s
UPC Upice 147.27 345 *e*PKP **PKiKP 06 43 20.9 +1.3**
UPC AMS AMS 07 47 00.0
comp=Z,1µm,22.5s
UPC Upice 147.27 345 *e*PKP2 **PKiKP 06 43 20.9 +1.3**
UPC MLR MLR
comp=Z,1µm,22.5s
VRI Vrincioaia 147.32 330 ⇑P **PKiKP 06 43 21.8 +1.9**
VRI Vrincioaia 147.32 330 ⇑PKP2 **PKiKP 06 43 21.8 +1.9**
OKC Ostrava-Krasne 147.33 343 AMS AMS 07 46 40.0
comp=Z,2µm,23.3s
DPC Dobruska-Polom 147.34 345 *e*PKP **PKiKP 06 43 20.8 +1.0**
DPC AMS AMS 07 47 20.0
comp=Z,900nm,20.4s
DPC Dobruska-Polom 147.34 345 *e*PKP2 **PKiKP 06 43 20.8 +1.0**
DPC MLR MLR
comp=Z,900nm,20.4s
GTTG Gottingen 147.35 353 *e*PKPbc **PKiKP 06 43 21.0 +1.2**
baz=9.2,slow=2.6
PLOR Plostina 147.37 330 ⇑P **PKiKP 06 43 22.2 +2.2**
PLOR Plostina 147.37 330 ⇑PKP2 **PKiKP 06 43 22.2 +2.2**
BRG Berggiesshubel 147.37 348 *e*PKP **PKPab 06 43 18.8 -0.6**
comp=Z,52nm,1.7s
BRG *i* 06 43 27.1
comp=Z,12nm,0.9s
comp=N,570nm,20.2s
comp=E,240nm,17.2s
comp=Z,632nm,25.4s
BRG Berggiesshubel 147.37 348 *e*PKP2 **PKPab 06 43 18.8 -0.6**
BRG pmax pmax
comp=Z,52nm,1.7s
BRG pmax pmax
comp=Z,12nm,0.9s
BRG MLR MLR
comp=N,570nm,20.2s
BRG MLR MLR
comp=E,240nm,17.2s
BRG MLR MLR
comp=Z,632nm,25.4s
BRG Berggiesshubel 147.37 348 *e*PKPbc **PKiKP 06 43 21.3 +1.5**
baz=9.2,slow=2.6
NEUB Neuenburg 147.43 351 *e*PKPbc **PKiKP 06 43 21.5 +1.5**
baz=9.2,slow=2.6
FBE Freiberg 147.44 349 *e*PKPbc **PKiKP 06 43 21.6 +1.7**
baz=9.2,slow=2.6
KRLC Kraliky 147.48 344 *e*PKP **PKiKP 06 43 21.5 +1.4**
KRLC AMS AMS 07 44 40.0
comp=Z,1µm,26.5s
KRLC Kraliky 147.48 344 *e*PKP2 **PKiKP 06 43 21.5 +1.4**
KRLC MLR MLR
comp=Z,1µm,26.5s
LANS Liptovska Anna 147.54 341 *e*PKP2 **PKiKP 06 43 22.9 +2.6**
LANS Liptovska Anna 147.54 341 *e*PKP **PKiKP 06 43 22.9 +2.6**
MORC Moravsky Berou 147.55 343 ⇑P **PKiKP 06 43 20.9 +0.6**
MORC Moravsky Berou 147.55 343 *e*PKP **PKPab 06 43 19.6 -0.6**
MORC Moravsky Berou 147.55 343 ⇑PKP2 **PKiKP 06 43 20.9 +0.6**
MORC Moravsky Berou 147.55 343 **PKPab 06 43 19.8 -0.4**
PVCC Panska Ves 147.57 347 AMS AMS 07 48 10.0
comp=Z,1µm,19.9s
OZUR 147.59 331 ⇑P **PKPab 06 43 20.6 +0.1**
BUG Bochum--Univer 147.71 356 *e*PKPbc **PKPab 06 43 21.7 +1.1**
baz=9.2,slow=2.6
MLR Muntele Rosu 147.97 330 ⇑P **PKPbc 06 43 19.9 +0.4**
MLR Muntele Rosu 147.97 330 ⇑PKP2 **PKPbc 06 43 19.9 +0.4**
MOX Moxa 148.00 350 *e*PKPbc **PKPab 06 43 22.5 +0.5**
baz=9.2,slow=2.6
PRA Prague 148.03 347 AMS AMS 07 48 30.0
comp=Z,600nm,20.1s
UBBA Unterbreizbach 148.06 352 *e*PKPbc **PKPab 06 43 22.0 0.0**
baz=9.2,slow=2.6
WERD Werda 148.08 350 *e*PKPbc **PKPab 06 43 22.5 +0.2**
baz=9.2,slow=2.6
PRU Pruhonice 148.09 347 *e*PKP **PKPab 06 43 22.5 +0.2**
PRU AMS AMS 07 48 40.0
comp=Z,1µm,18.2s
PRU Pruhonice 148.09 347 *e*PKP2 **PKPab 06 43 22.5 +0.2**
PRU MLR MLR
comp=Z,1µm,18.2s
TANN Tannenbergstha 148.09 349 *e*PKPbc **PKPab 06 43 22.6 +0.2**
baz=9.2,slow=2.6
GOPC GO Pecny, Ondr 148.10 346 *e*PKP **PKPab 06 43 25.0 +2.6**
GOPC AMS AMS 07 48 30.0
comp=Z,1µm,19.2s
GOPC GO Pecny, Ondr 148.10 346 *e*PKP2 **PKPab 06 43 25.0 +2.6**
GOPC MLR MLR
comp=Z,1µm,19.2s
GUNZ Gunzen 148.16 350 *e*PKPbc **PKPab 06 43 22.9 +0.3**
baz=9.2,slow=2.6
WERN Wernitzgruen 148.22 349 *e*PKPbc **PKPab 06 43 23.3 +0.4**
baz=9.2,slow=2.6
VRAC Vranov 148.23 344 ⇑P **PKPab 06 43 25.5 +2.6**
VRAC Vranov 148.23 344 *e*PKP **PKiKP 06 43 21.6 -0.1**
VRAC Vranov 148.23 344 ⇑PKP2 **PKPab 06 43 25.5 +2.6**
NKC Novy Kostel 148.26 349 *e*PKP **PKPab 06 43 27.1 +4.1**
NKC AMS AMS 07 44 20.0
comp=Z,900nm,20.0s
NKC Novy Kostel 148.26 349 *e*PKP2 **PKPab 06 43 27.1 +4.1**
NKC MLR MLR
comp=Z,900nm,20.0s
VYHS Vyhne 148.32 341 *e*PKP2 **PKPab 06 43 23.6 +0.3**
VYHS Vyhne 148.32 341 *e*PKP **PKPab 06 43 23.6 +0.3**
JAVC Velka Javorina 148.34 342 *e*PKP **PKiKP 06 43 22.3 +0.3**
PSZ Piszkesteto 148.48 339 ⇑P **PKPab 06 43 27.4 +3.4**
PSZ Piszkesteto 148.48 339 PKP2 **PKPab 06 43 24.9 +0.9**
PSZ Piszkesteto 148.48 339 **PKPab 06 43 24.9 +0.9**
PBCC Pribram 148.49 347 *e*PKP **PKPab 06 43 23.5 -0.4**
PBCC *ex* x 06 43 35.1
KRUC Moravsky 148.51 344 *e*PKP **PKiKP 06 43 22.9 +0.7**
TREC Trest 148.52 345 *e*PKP **PKPab 06 43 23.5 -0.6**

TREC *e*pPKP **sPKPab** **06 43 29.7 -0.2**
TREC AMS AMS 07 40 30.0
comp=Z,1μm,23.5s
TREC Trest 148.52 345 *e*PKP2 **PKPab** **06 43 23.5 -0.6**
TREC MLR MLR
comp=Z,1μm,23.5s
MANZ Manzenberg 148.56 350 *e*PKPbc **PKPab** **06 43 24.3 0.0**
baz=9.2,slow=2.6
MEM Membach 148.61 357 PKPab **PKPab** **06 43 23.9 -0.4**
BSTI Sart Tilman 148.66 358 PKPab **PKPab** **06 43 24.1 -0.4**
ARR Arges 148.67 331 ⇑P **PKPab** **06 43 24.7 -0.2**
ROTZ Rotzenmuhle 148.76 349 *e*PKPbc **PKPab** **06 43 24.5 -0.5**
baz=9.2,slow=2.6
SNF Seneffe 148.76 359 PKPab **PKPab** **06 43 26.1 +1.2**
BCLA Clavier 148.83 358 PKPab **PKPab** **06 43 25.4 +0.2**
BHOU Houvegnez 148.87 357 PKPab **PKPab** **06 43 26.2 +0.8**
BGES Gesves 148.87 358 PKPab **PKPab** **06 43 26.2 +0.9**
MODS Modra-Piesok 148.89 342 *e*PKP2 **PKiKP** **06 43 24.3 +1.2**
MODS Modra-Piesok 148.89 342 *e*PKP **PKiKP** **06 43 24.3 +1.2**
MODS *e* 06 43 28.4
BMRD Maredsous 148.96 359 PKPab **PKPab** **06 43 26.7 +1.0**
GRA1 Grafenberg Arr 148.99 351 **PKPbc** **06 43 22.2 +0.4**
GRF Grafenberg Arr 148.99 351 PKP2 **PKPbc** **06 43 22.3 +0.4**
GRF Grafenberg Arr 148.99 351 *e*PKPbc **PKPab** **06 43 25.0 -1.0**
baz=9.2,slow=2.6
RCHB Rochefort 149.09 358 PKPab **PKPab** **06 43 26.1 -0.2**
KHC Kasperske Hory 149.10 347 *e*PKP **PKiKP** **06 43 23.1 -0.4**
KHC AMS AMS 07 49 20.0
comp=Z,1μm,19.3s
KHC Kasperske Hory 149.10 347 PKP2 **PKiKP** **06 43 23.4 -0.1**
KHC MLR MLR
comp=Z,400nm,21.0s
KHC Kasperske Hory 149.10 347 **PKiKP** **06 43 23.4 -0.1**
DOU Dourbes 149.17 359 PKPab **PKPab** **06 43 25.5 -1.1**
WET Wettzell 149.23 348 *e*PKPbc **PKPab** **06 43 25.8 -1.1**
baz=9.2,slow=2.6
GEC2 GERESS Array S 149.35 347 *e*PKPbc **PKPab** **06 43 26.4 -1.1**
baz=9.2,slow=2.6
GEC2 GERESS Array S 149.35 347 **PKPbc** **06 43 21.9 -1.0**
GERES GERESS Array B 149.35 347 PKPbc **PKPbc** **06 43 22.1 -0.8**
comp=Z,4.2nm,0.9s,baz=29,slow=3.0,SNR=22
GERES GERESS Array B 149.35 347 PKHKP PKPpre 06 43 20.5
GERES GERESS Array B 149.35 347 **PKPdf** **06 43 20.5 +1.9**
WLF Walferdange 149.55 357 PKPab **PKPab** **06 43 26.7 -1.4**
WLF Walferdange 149.55 357 PKP2 **PKiKP** **06 43 23.9 -0.4**
WLF MLR MLR
comp=Z,1μm,20.0s
WLF Walferdange 149.55 357 *e*PKPbc **PKiKP** **06 43 26.2 +1.9**
baz=9.2,slow=2.6
WLF Walferdange 149.55 357 **PKiKP** **06 43 23.9 -0.4**
CONA Conrad Observa 149.69 344 *e*PKPdf **PKPdf** **06 43 20.1 +1.0**
comp=Z,14nm,1.1s,SNR=8.8
BZS Buzias 149.78 335 ⇓P **PKiKP** **06 43 26.1 +1.2**
BZS Buzias 149.78 335 ⇓PKP2 **PKiKP** **06 43 26.1 +1.2**
MOA Molln 150.16 346 *e*pPKPdf pPKPdf 06 43 23.5 -0.7
comp=Z,9.8nm,1.2s
ISP Isparta 150.18 314 IAMs_20 IAMs_20 08 02 14.2
comp=Z,614nm,19.0s
ARSA Arzberg 150.40 344 *e*PKPdf **PKPdf** **06 43 22.6 +2.4**
comp=Z,4.9nm,0.9s
MDVR Moldovita 150.41 334 ⇑P **PKPbc** **06 43 24.3 -1.3**
BFO Black Forest 150.71 354 PKIKP **PKPdf** **06 43 21.6 +0.9**
BFO 06 43 29.6
BFO Black Forest 150.71 354 *e*PKPbc **PKiKP** **06 43 29.2 +2.4**
baz=9.2,slow=2.6
BFO Black Forest 150.71 354 **PKPdf** **06 43 21.6 +0.9**
BFO PKPbc **pPKPbc** **06 43 29.6 -0.9**
BFO IAMs_20 IAMs_20 07 43 29.0
comp=Z,770nm,22.0s
ECH Echery 150.93 355 PKIKP **PKPdf** **06 43 19.6 -1.4**
ECH Echery 150.93 355 **PKPdf** **06 43 19.6 -1.4**
SOKA Soboth 151.06 344 *e*pPKPdf pPKPdf 06 43 24.6 -1.1
comp=Z,17nm,1.4s,SNR=9.3
KBA Koelnbreinsper 151.10 346 pPKPdf pPKPdf 06 43 24.7 -1.1
comp=Z,7.4nm,1.0s
UBR Ueberruh 151.12 351 *e*PKPbc **PKiKP** **06 43 30.4 +2.7**
baz=9.2,slow=2.6
GROS Grobnik 151.13 343 *e*PKPbc **PKiKP** **06 43 29.9 +2.0**
RETA Reutte 151.21 350 *e*PKPdf **PKPdf** **06 43 23.4 +1.8**
comp=Z,9.8nm,1.2s
WATA Walderalm 151.21 349 *e*PKPdf **PKPdf** **06 43 21.5 -0.2**
comp=Z,14nm,1.2s,SNR=6.1
MOTA Moosalm 151.29 350 *e*PKPdf **PKPdf** **06 43 24.2 +2.4**
comp=Z,16nm,1.1s,SNR=7.1
OBKA Obir 151.34 344 *e*PKiKP **PKiKP** **06 43 30.2 +1.9**
comp=Z,7.9nm,1.2s
SQTA Sankt Quirin 151.39 349 *e*PKPdf **PKPdf** **06 43 24.1 +2.2**
comp=Z,22nm,1.7s
MYKA Terra Mystica 151.45 346 *e*PKPdf **PKPdf** **06 43 23.6 +1.7**
comp=Z,10nm,1.0s
DAVA Damuels 151.54 351 *e*PKPdf **PKPdf** **06 43 23.8 +1.6**
comp=Z,22nm,1.2s,SNR=6.8
ABTA Abfaltersbach 151.59 347 *e*PKPdf **PKPdf** **06 43 24.1 +1.9**
comp=Z,20nm,1.4s
AKAS Kas 151.62 312 IAMs_20 IAMs_20 07 52 04.5
comp=Z,479nm,22.0s
FETA Feichten 151.66 350 *e*pPKPdf pPKPdf 06 43 25.1 -1.6
comp=Z,15nm,1.3s,SNR=5.9
DIVS Divibare 151.68 335 **PKiKP** **06 43 31.4 +2.4**
DIVS IAMs_20 IAMs_20 07 53 42.7
comp=Z,622nm,21.0s
LJU Ljubljana 151.78 344 *i* PKPbc **PKiKP** **06 43 31.8 +2.7**
GBAS Gorenja Brezov 151.91 344 *i* PKPbc **PKiKP** **06 43 31.9 +2.6**
CIMO Cimolais 152.03 347 PKPbc **PKiKP** **06 43 31.6 +2.0**
FUORN Ofenpass-Fuorn 152.13 350 **PKPbc** **06 43 28.4 -1.4**
FUORN IAMs_20 IAMs_20 07 54 06.8
comp=Z,707nm,22.0s
TUE Stuetta 152.41 352 **PKPdf** **06 43 22.3 -1.2**
TUE PKPbc **pPKPbc** **06 43 33.8 -0.9**
CTI Castel Tesino 152.44 348 PKIKP **PKPdf** **06 43 25.3 +1.8**
CTI Castel Tesino 152.44 348 PKPdf **PKPdf** **06 43 25.3 +1.8**
SENIN Lac Senin/Sane 152.75 355 **PKiKP** **06 43 35.2 +3.8**
SENIN PKPab **PKPab** **06 43 43.0 +1.1**
PDG Podgorica 153.36 334 IAMs_20 IAMs_20 07 54 31.3
comp=Z,685nm,20.0s
BNI Bardonecchia 154.11 355 **PKPab** **06 43 41.4 -6.1**
OSSC Osservatorio P 154.94 347 **PKPab** **06 43 53.1 +2.2**
ITM Ithomi 156.03 322 IAMs_20 IAMs_20 08 05 11.0
comp=Z,662nm,21.0s
TIP Timpagrande 157.12 333 IAMs_20 IAMs_20 07 57 15.7
comp=Z,651nm,21.0s
CEL Celeste 158.25 333 IAMs_20 IAMs_20 07 57 45.8
comp=Z,668nm,21.0s
ESDC Sonseca Array 158.55 16 PKP **PKPdf** **06 43 32.5 +0.7**
comp=Z,0.3nm,0.5s,baz=310,slow=3.0,SNR=3.3
ESDC PKPab **PKPab** **06 44 06.8 +0.2**
comp=Z,3.4nm,1.2s,baz=336,slow=4.0,SNR=8.5
ESDC Sonseca Array 158.55 16 **PKPdf** **06 43 31.5 -0.3**
ESDC **PKPab** **06 44 07.6 +1.0**
VSL Villasalto 159.19 348 IAMs_20 IAMs_20 07 55 42.8
comp=Z,684nm,22.0s
TOA0 Torodi Ar. Sit 173.67 162 **PKPdf** **06 43 43.9 -0.5**
TORD Torodi Ar. Bea 173.67 162 PKP **PKPdf** **06 43 45.0 +0.7**
comp=Z,3.9nm,1.2s,baz=318,slow=2.0,SNR=8.9
TORD PKPab **PKPab** **06 45 14.6 +1.0**
comp=Z,1.5nm,1.0s,baz=168,slow=3.1,SNR=3.4
TORD Torodi Ar. Bea 173.67 162 **PKPdf** **06 43 43.3 -1.0**

*IDC **28** 06:35:25.7±4.9, 7.°21S×155.°77E, h133km±36km, mb3.4/6, mb1 3.6/9, mb1mx3.4/34, mbtmp3.9/9, Error ellipse: s-maj=43.6km s-min=18.3km az=102.0*
*NEIC **28** 06:35:27.7±1.8, 7.°4S±0.°1×155.°9E±0.°1, h158km±12km, mb4.3/7, Error ellipse: s-maj=19.5km s-min=14.6km az=66.0*
ISC 28 06:35:27.2±1.0, **7.°36S**±0.°09×**155.°8E**±0.°1, **h150**km, **n25**, σ1°**84**/28, **mb3.9**/10, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.79**	**311**		**Pn**	**06 36 38.8**	**+0.8**
RABL					**Sn**	**06 37 38.2**	**+5.2**
KRVT	**Keravat (AS076**	**4.82**	**309**	P	**Pn**	**06 36 35.2**	**-3.1**
	6.2nm,0.3s,baz=0.0,slow=5.1,SNR=2.2						
KRVT				S	**Sn**	**06 37 30.6**	**-3.1**
	7.0nm,0.3s,baz=265,slow=6.6,SNR=3.5						
PMG	**Port Moresby**	**8.78**	**256**	P	**Pn**	**06 37 29.4**	**-1.7**
	5.3nm,0.3s,baz=56,slow=11,SNR=8.3						
PMG				S	**Sn**	**06 39 07.9**	**-0.8**
	1.3nm,0.3s,baz=40,slow=5.2,SNR=3.8						
PMG	**Port Moresby**	**8.78**	**256**		**Pn**	**06 37 29.0**	**-2.2**
PMG					**Sn**	**06 39 11.1**	**+2.4**
CTA	**Charters Tower**	**15.67**	**215**	P	**P**	**06 39 00.7**	**-0.3**
	0.1nm,0.3s,baz=34,slow=18,SNR=2.0						
FAKI	**Fak Fak**	**23.86**	**279**	P	**P**	**06 40 26.7**	**-0.3**
WR0	**Warramunga Arr**	**24.11**	**237**	P	**P**	**06 40 30.1**	**+0.8**
WB0	**Warramunga Arr**	**24.15**	**237**	P	**P**	**06 40 31.1**	**+1.5**
WB0				IAmb	IAmb	06 40 51.2	
	comp=Z,12nm,1.4s						
WC3	**Warramunga Arr**	**24.25**	**237**	P	**P**	**06 40 31.9**	**+1.4**
WRAB	**Tennant Creek**	**24.26**	**237**	P	**P**	**06 40 30.3**	**-0.3**
WRAB				IAmb	IAmb	06 40 42.9	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**24.26**	**237**	P	**P**	**06 40 32.3**	**+1.6**
WB2				IAmb	IAmb	06 40 42.8	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**24.27**	**237**	P	**P**	**06 40 30.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=60,slow=9.6,SNR=14						
WRA				PcP	**PcP**	**06 44 09.3**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=57,slow=2.1,SNR=2.6						
MTN	**Manton Dam**	**24.87**	**255**	P	**P**	**06 40 37.5**	**+1.2**
MTN				IAmb	IAmb	06 40 47.2	
	comp=Z,16nm,1.5s						
ASAR	**Alice Springs**	**26.54**	**230**	P	**P**	**06 40 51.9**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=60,slow=10.0,SNR=14						
ASAR				PcP	**PcP**	**06 44 14.4**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=73,slow=2.1,SNR=1.7						
H11S3	**WAKE ISLAND Hy**	**27.85**	**23**	T	T	07 09 24.9	
	baz=202,slow=75						
H11S2	**WAKE ISLAND Hy**	**27.85**	**23**	T	T	07 09 25.9	
	baz=202,slow=75						
H11S1	**WAKE ISLAND Hy**	**27.86**	**23**	T	T	07 09 22.9	
	baz=202,slow=75						
FITZ	**Fitzroy Crossi**	**31.24**	**247**	P	**P**	**06 41 33.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**61.66**	**295**	P	**P**	**06 45 29.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=128,slow=6.9,SNR=4.6						
CMAR	**Chiang Mai Arr**	**61.66**	**295**	P	**P**	**06 45 30.3**	**+0.6**
SONM	**Songino Array**	**70.07**	**327**	P	**P**	**06 46 22.1**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=126,slow=7.3,SNR=3.2						
SONM	**Songino Array**	**70.07**	**327**	P	**P**	**06 46 22.7**	**-0.4**
ILAR	**Eielson Array**	**83.42**	**21**	P	**P**	**06 47 36.5**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=258,slow=4.5,SNR=1.4						
MKAR	**Makanchi Array**	**84.20**	**319**	P	**P**	**06 47 41.2**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=111,slow=8.0,SNR=6.8						
MKAR	**Makanchi Array**	**84.20**	**319**	P	**P**	**06 47 41.7**	**-0.2**

*NNC **28** 06:45:47.0±0.9, 42.°19N×72.°46E, h0km, mb2.7, mpv2.9, Error ellipse: s-maj=11.4km s-min=3.5km az=174.0*
*SOME **28** 06:45:46.5, 42.°18N×72.°45E, h10km*
*KRNET **28** 06:45:48.1±0.1, 42.°15N×72.°63E, h20km, mb2.5*
ISC 28 06:45:48.2±1.2, **42.°15N**±0.°03×**72.°59E**±0.°02, **h23**km±15km, **n29**, σ1°**25**/54, **22C-14D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.76**	**38**	*e*P	**Pb**	**06 46 02.4**	**-0.4**
	baz=37						
MRKS				*e*S	**Sn**	**06 46 14.1**	**-0.3**
	baz=37						
MRKS	**Merke**	**0.76**	**38**	*e*P	**Pb**	**06 46 02.4**	**-0.4**
	4.8nm,0.1s						
MRKS				*e*S	**Sn**	**06 46 14.1**	**-0.3**
	20nm,0.3s						
MRKS	**Merke**	**0.76**	**38**	P	**Pb**	**06 46 02.4**	**-0.4**
	4.8nm,0.1s						
MRKS				S	**Sn**	**06 46 14.1**	**-0.3**
	20nm,0.3s						
AML	**Almayashu**	**0.82**	**91**	⇓*i*P	**Pb**	**06 46 02.9**	**-1.2**
	baz=91						
AML				⇓*i*S	**Sb**	**06 46 13.7**	**-1.3**
	baz=91						
EKS2	**Erkin-Say**	**1.02**	**60**	⇓*i*P	**Pn**	**06 46 06.7**	**-0.5**
	baz=59						
EKS2				⇓*i*S	**Sb**	**06 46 20.4**	**+0.1**
	baz=59						
ARLS	**Aral**	**1.33**	**102**	⇓*i*P	**Pb**	**06 46 12.1**	**-0.4**
	baz=2.0						
ARLS				⇓*i*S	**Sb**	**06 46 30.1**	**+0.9**
	baz=2.0						
UCH	**Uchtor**	**1.44**	**86**	⇑*i*P	**Pb**	**06 46 14.2**	**-0.3**
	baz=86						
UCH				⇑*i*S	**Sb**	**06 46 33.4**	**+0.8**
	baz=86						
AAK	**Ala-Archa**	**1.50**	**70**	⇑*i*P	**Pb**	**06 46 14.9**	**-0.5**
	baz=70						
AAK				⇑*i*S	**Sb**	**06 46 34.8**	**+0.8**
	baz=70						
AAK	**Ala-Archa**	**1.50**	**70**	⇑P	**Pb**	**06 46 16.5**	**+1.1**
	0.5nm,0.2s						
AAK				⇑S	**Sb**	**06 46 36.0**	**+2.0**
	4.9nm,0.7s						
OHH	**Osh**	**1.63**	**175**	⇑*i*P	**Pb**	**06 46 18.5**	**+0.8**
	baz=76						
OHH				⇑*i*S	**Sb**	**06 46 40.7**	**+2.9**
	baz=76						
FRU1	**Bishkek**	**1.65**	**66**	⇑*i*P	**Pb**	**06 46 17.6**	**-0.4**
	baz=65						
FRU1				⇑*i*S	**Sb**	**06 46 39.5**	**+1.1**
	baz=65						
USP	**Ospenovka**	**1.80**	**51**	⇑*i*P	**Pb**	**06 46 20.3**	**-0.2**
	baz=50						
USP				⇑*i*S	**Sb**	**06 46 44.1**	**+1.5**
	baz=50						
KK31	**Karatay Array**	**1.80**	**303**	⇓P	**Pn**	**06 46 17.4**	**-0.5**
	3.0nm,0.3s,baz=124,slow=17,SNR=46						
KK31				⇑S	**Sn**	**06 46 40.8**	**+0.8**
	4.6nm,0.3s,baz=124,slow=29,SNR=15						
CHMS	**Chumysh**	**1.81**	**61**	⇓*i*P	**Pb**	**06 46 20.7**	**0.0**
	baz=61						
CHMS				⇓*i*S	**Sb**	**06 46 44.6**	**+1.7**
	baz=61						
KBK	**Karagaybulak**	**1.82**	**73**	⇑*i*P	**Pb**	**06 46 20.8**	**-0.1**
	baz=73						
KBK				⇑*i*S	**Sb**	**06 46 44.9**	**+1.5**
	baz=73						
IUG	**Iuzhnay**	**1.90**	**271**	*e*P	**Pn**	**06 46 19.3**	**0.0**
	8.0nm,0.1s						
IUG				*e*S	**Sn**	**06 46 43.0**	**+0.5**
	14nm,0.4s						
IUG	**Iuzhnay**	**1.90**	**271**	P	**Pn**	**06 46 19.3**	**0.0**
	8.0nm,0.1s						
IUG				S	**Sn**	**06 46 43.0**	**+0.5**
	14nm,0.4s						
KZA	**Kyzart**	**1.98**	**91**	⇓*i*P	**Pb**	**06 46 23.5**	**-0.4**
	baz=91						
KZA				⇓*i*S	**Sb**	**06 46 49.4**	**+1.1**
	baz=91						
SGDS	**Sogindy**	**1.99**	**48**	Pg	**Pb**	**06 46 24.3**	**+0.6**
	3.7nm,0.5s						
SGDS				Lg	Lg	06 46 51.7	
	5.4nm,0.2s						
BRLS	**Borolday**	**2.21**	**294**	*e*P	**Pb**	**06 46 26.4**	**-1.1**
	baz=88						
BRLS				*e*S	**Sb**	**06 46 55.1**	**+0.6**
	baz=88						
BRLS	**Borolday**	**2.21**	**294**	*e*P	**Pb**	**06 46 26.4**	**-1.1**
	15nm,0.2s						
BRLS				*e*S	**Sb**	**06 46 55.1**	**+0.6**
	9.7nm,0.4s						
BRLS	**Borolday**	**2.21**	**294**	Pg	**Pb**	**06 46 26.4**	**-1.1**
	15nm,0.2s						
BRLS				Lg	Lg	06 46 55.1	
	9.7nm,0.4s						
TKM2	**Tokmak 2**	**2.35**	**70**	⇑*i*P	**Pb**	**06 46 28.5**	**-1.6**
	baz=70						
TKM2				⇑*i*S	**Sb**	**06 46 58.5**	**-0.3**
	baz=70						
TKM2	**Tokmak 2**	**2.35**	**70**	⇑Pn	**Pb**	**06 46 30.3**	**+0.3**
	0.8nm,0.3s						
TKM2				⇓Lg	Lg	06 47 03.1	
	5.4nm,0.5s						
BTK	**Batken**	**2.48**	**213**	⇑*i*P	**Pb**	**06 46 30.8**	**-1.3**
	baz=14						
BTK				⇑*i*S	**Sb**	**06 47 02.2**	**-0.1**
	baz=14						
BOOM	**Boomskoye usch**	**2.51**	**81**	⇑*i*P	**Pb**	**06 46 30.8**	**-1.9**
	baz=81						
BOOM				⇑*i*S	**Sb**	**06 47 01.8**	**-1.4**
	baz=81						
KST	**Kastek**	**2.65**	**69**	*e*P	**Pb**	**06 46 35.7**	**+0.7**
	1.6nm,0.5s						
KST				*e*S	**Sb**	**06 47 11.3**	**+4.2**
	10nm,0.7s						
KST	**Kastek**	**2.65**	**69**	Pg	**Pb**	**06 46 35.7**	**+0.7**
	1.6nm,0.5s						
KST				Lg	Lg	06 47 11.4	
	10nm,0.7s						
ULHL	**Ulahol**	**2.72**	**87**	⇓*i*P	**Pb**	**06 46 33.6**	**-2.7**
	baz=87						
ULHL				⇓*i*S	**Sb**	**06 47 06.9**	**-2.3**
	baz=87						

*IDC **28** 06:49:31.8±0.6, 60.°64S×25.°71W, h0km, mb4.3/10, mb1 4.3/10, mb1mx4.2/16, mbtmp4.3/10, MS4.0/3, Ms1 4.0/3, ms1mx3.5/17, Error ellipse: s-maj=23.5km s-min=17.5km az=69.0*
*NEIC **28** 06:49:32.6±1.3, 61.°01S±0.°08×25.°8W±0.°2, h10km±1km, mb4.8/36, Error ellipse: s-maj=16.0km s-min=9.7km az=139.0*
ISC 28 06:49:32.7±0.4, **60.°96S**±0.°08×**25.°74W**±0.°09, **h10**km, **n75**, σ1°**19**/75, **mb4.8**/24, **MS4.4**/3, **1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer–Stat**	**12.02**	**151**	P	**Pn**	**06 52 23.4**	**-0.3**
VNA3	**Neumayer Olymp**	**12.15**	**155**	P	**Pn**	**06 52 24.6**	**-0.9**
VNA2	**Neumayer–Watz**	**12.42**	**151**	P	**Pn**	**06 52 28.3**	**-0.9**
SNAA	**Sanae**	**14.01**	**149**	P	**Pn**	**06 52 50.2**	**-0.9**
SNAA	**Sanae**	**14.01**	**149**	Pn	**Pn**	**06 52 50.2**	**-0.9**
	17nm,0.3s,baz=309,slow=14,SNR=235						
SNAA				Sn	Sn	06 55 16.5	-10
	0.4nm,0.3s,baz=336,slow=20,SNR=2.0						
SNAA				LR	LR	06 58 15.9	
	comp=Z,162nm,18.6s,baz=323,slow=37						
SNAA	**Sanae**	**14.01**	**149**	Pn	**Pn**	**06 52 50.6**	**-0.4**
SNAA				Sn	**Sn**	**06 55 22.4**	**-4.1**
BELA	**Belgrano 2**	**17.24**	**186**		**Pn**	**06 53 32.4**	**-0.8**
BELA				Sn	Sn	06 56 32.9	-12
PMSA	**Palmer Station**	**17.68**	**241**	P	**Pn**	**06 53 38.0**	**-0.6**
EFI	**East Falkland**	**19.99**	**283**	P	**P**	**06 54 02.6**	**-2.3**
EFI				IAmb	IAmb	06 54 25.7	
	comp=Z,89nm,1.4s						
SYO	**Syowa Base**	**27.43**	**135**	⇓*e*pP	**P**	**06 55 16.0**	**-2.0**
QSPA	**South Pole Qui**	**29.28**	**180**	P	**P**	**06 55 38.4**	**+3.6**
	comp=Z,6.2nm,0.6s,baz=204,slow=0.5,SNR=89						
QSPA	**South Pole Qui**	**29.28**	**180**	P	**P**	**06 55 35.5**	**+0.7**
QSPA				IAmb	IAmb	06 55 39.6	
	comp=Z,26nm,1.4s						
PLCA	**Paso Flores**	**33.85**	**286**	P	**P**	**06 56 15.4**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=128,slow=7.3,SNR=1.8						
PLCA	**Paso Flores**	**33.85**	**286**	P	**P**	**06 56 15.2**	**+0.1**
MAW	**Mawson**	**35.83**	**139**	P	**P**	**06 56 33.3**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=235,slow=8.2,SNR=4.5						
MAW	**Mawson**	**35.83**	**139**	IAmb	IAmb	06 56 39.0	
	comp=Z,0.7nm,0.9s						
BO02	**Sierra Bellavi**	**38.78**	**292**	P	**P**	**06 56 57.5**	**+0.3**
BO02				IAmb	IAmb	06 57 15.1	
	comp=Z,13nm,1.1s						
GO05	**Huala**	**39.12**	**290**	P	**P**	**06 56 59.4**	**-0.6**
GO05				IAmb	IAmb	06 57 27.4	
	comp=Z,44nm,1.4s						
MT05	**Renca**	**39.93**	**293**	P	**P**	**06 57 06.5**	**-0.3**
PEL	**Peldehue**	**40.12**	**293**	P	**P**	**06 57 08.0**	**-0.3**
MT02	**Curacav**	**40.22**	**293**	P	**P**	**06 57 09.2**	**0.0**
MT02				IAmb	IAmb	06 57 19.2	
	comp=Z,13nm,1.1s						
VA03	**San Esteban**	**40.38**	**294**	P	**P**	**06 57 10.0**	**-0.5**
VA03				IAmb	IAmb	06 57 20.8	
	comp=Z,16nm,0.8s						
ROC1	**El Roble**	**40.41**	**293**	P	**P**	**06 57 10.1**	**-0.9**
VNDA	**Vanda**	**41.69**	**182**	P	**P**	**06 57 24.5**	**+3.7**
	comp=Z,1.5nm,0.9s,baz=182,slow=6.8,SNR=6.9						
VNDA	**Vanda**	**41.69**	**182**	P	**P**	**06 57 20.5**	**-0.3**
CO02	**Combarbal**	**41.90**	**294**	P	**P**	**06 57 23.6**	**+0.4**
CO02				IAmb	IAmb	06 57 27.0	
	comp=Z,16nm,1.1s						
CO03	**El Pedregal**	**42.07**	**295**	P	**P**	**06 57 24.2**	**-0.3**
CO01	**Juntas del Tor**	**42.55**	**296**	P	**P**	**06 57 29.7**	**+1.1**
CO01				IAmb	IAmb	06 57 32.9	
	comp=Z,11nm,0.9s						
GO04	**Tololo Observa**	**42.69**	**295**	P	**P**	**06 57 31.0**	**+1.2**
GO04				IAmb	IAmb	06 57 53.2	
	comp=Z,45nm,1.5s						
AC05	**El Transito**	**43.61**	**297**	P	**P**	**06 57 36.9**	**-0.2**
AC04	**Llanos de Chal**	**44.51**	**296**	P	**P**	**06 57 44.7**	**+0.6**
AC04				IAmb	IAmb	06 58 08.0	
	comp=Z,15nm,1.1s						
AC01	**Pan de Azucar**	**46.09**	**298**	P	**P**	**06 57 57.7**	**+1.0**
AC01				IAmb	IAmb	06 58 25.5	
	comp=Z,16nm,0.9s						
GO02	**Mina Guanaco**	**46.53**	**300**	P	**P**	**06 58 00.1**	**-0.3**
BOSA	**Boshof**	**46.70**	**70**	P	**P**	**06 58 00.9**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=204,slow=6.4,SNR=6.4						
BOSA	**Boshof**	**46.70**	**70**	P	**P**	**06 58 01.6**	**+0.1**
BOSA				IAmb	IAmb	06 58 08.5	
	comp=Z,19nm,1.4s						
PB14	**IPOC Station P**	**47.35**	**300**	P	**P**	**06 58 06.1**	**-0.7**
BDFB	**Brasilia**	**48.02**	**331**	P	**P**	**06 58 10.7**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=127,slow=6.2,SNR=5.4						
BDFB	**Brasilia**	**48.02**	**331**	P	**P**	**06 58 12.2**	**+0.3**
BDFB				IAmb	IAmb	06 58 14.0	
	comp=Z,12nm,1.5s						
PB10	**IPOC Station P**	**48.39**	**300**	P	**P**	**06 58 13.7**	**-0.9**
LVC	**Limon Verde**	**48.51**	**302**	P	**P**	**06 58 16.5**	**+0.6**
LVC				IAmb	IAmb	06 58 32.5	
	comp=Z,9.9nm,1.1s						
PB09	**IPOC Station P**	**49.37**	**303**	P	**P**	**06 58 22.0**	**-0.3**
PB07	**IPOC Station P**	**49.70**	**302**	P	**P**	**06 58 24.4**	**-0.5**
PB07				IAmb	IAmb	06 58 34.4	
	comp=Z,16nm,1.1s						
PB01	**IPOC Station P**	**50.14**	**303**	P	**P**	**06 58 28.2**	**0.0**
PB01				IAmb	IAmb	06 58 31.6	
	comp=Z,11nm,0.9s						
GO01	**Chusmiza**	**51.25**	**304**	P	**P**	**06 58 37.0**	**0.0**
MNMC	**Minye Minye**	**51.90**	**304**	P	**P**	**06 58 42.1**	**+0.5**
MNMC				IAmb	IAmb	06 58 44.8	
	comp=Z,10nm,0.7s						
H10N1	**ASCENSION HYDR**	**53.66**	**14**	T	T	07 57 21.6	
	baz=186,slow=75						
H10N3	**ASCENSION HYDR**	**53.67**	**14**	T	T	07 57 14.8	
	baz=186,slow=75						
H10N2	**ASCENSION HYDR**	**53.68**	**14**	T	T	07 57 20.6	
	baz=186,slow=75						
LPAZ	**La Paz**	**53.88**	**307**	P	**P**	**06 58 55.5**	**-1.1**
	comp=Z,1.7nm,0.4s,baz=103,slow=5.1,SNR=13						
LPAZ	**La Paz**	**53.88**	**307**	P	**P**	**06 58 55.9**	**-0.7**
SAML	**Samuel**	**58.82**	**315**	P	**P**	**06 59 29.4**	**-1.7**
DBIC	**Dimbokro**	**69.38**	**22**	P	**P**	**07 00 39.1

INK	Inuvik	149.96 315		PKPdf	07 09 16.8	+0.3
ILAR	Eielson Array	153.74 304	PKPbc	PKPbc	07 09 30.6	+0.4
	comp=Z,0.7nm,0.6s,baz=39,slow=0.5,SNR=8.2					
ILAR			PKPab	PKPab	07 09 42.2	-1.0
	comp=Z,1.8nm,0.7s,baz=152,slow=1.0,SNR=10					
ILAR	Eielson Array	153.74 304	PKPdf	PKPdf	07 09 23.2	+0.9
ILAR				PKiKP	07 09 31.3	+1.1
ILAR				PKPab	07 09 42.3	-1.0

IDC 28 07:05:22.1±2.3, 2°.36N×126°.88E, h0^{km}, mb3.3/3, mb1 3.5/3, mb1mx3.2/38, mbtmp3.3/3, Error ellipse: s-maj=188.1km s-min=27.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.34	162	P	P	07 10 32.6	+0.4
	0.4nm,0.5s,baz=341,slow=11,SNR=7.6						
ASAR	Alice Springs	26.75	166	P	P	07 11 03.2	-0.5
	0.3nm,0.8s,baz=342,slow=10.0,SNR=2.4						
MKAR	Makanchi Array	58.77	326	P	P	07 15 22.1	0.0
	0.4nm,0.6s,baz=126,slow=8.6,SNR=3.8						

*IDC **28** 07:09:44.8±0.8, 1°.66N×121°.36E, h0^{km}, mb4.0/8, mb1 4.2/10, mb1mx3.9/39, mbtmp4.1/10, ML5.3/2, Error ellipse: s-maj=27.0km s-min=15.1km az=76.0*
*DJA **28** 07:09:51.0±0.4, 2°.N±.3°×12°.1E±°, h39^{km}±6^{km}, M4.6/12, mb4.4/12, mB5.2/2, MLv4.7/9, Mw(mB)4.5/2*
*NEIC **28** 07:09:52.2±1.9, 1°.73N±0°.06×121°.28E±0°.07, h63^{km}±11^{km}, mb4.3/17, Error ellipse: s-maj=12.0km s-min=6.1km az=52.0*

ISC 28 07:09:50.2±0.5, 1°.73N±0°.04×121°.37E±0°.05, h35^{km}, n56, σ2§15/68, mb4.2/14, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.97	124	P	Pn	07 10 19.9	-1.2
GTOI				S	Sn	07 10 41.3	-3.3
MPSI	Mapaga	2.02	227	P	Pn	07 10 20.3	-1.5
KMSI	Cibinong	2.85	114	P	Pn	07 10 34.4	+1.1
LUWI	Luwuk	3.09	153	P	Pn	07 10 35.6	-1.0
LUWI				S	Sn	07 11 18.9	+6.6
LUWI	Luwuk	3.09	153	Pn	Pn	07 10 39.8	+3.2
LUWI				Sn	Sn	07 11 17.4	+5.1
MYLDM	Lahad Datu	4.46	320	Pn	Pn	07 10 56.9	+1.5
MYLDM				Sn	Sn	07 11 41.2	-5.0
SKMP	Bagumbayan, Su	5.71	34	eP	Pn	07 11 10.9	-1.7
SKMP				eS	Sn	07 12 12.6	-4.4
SPSI	Sidrap Palu	5.88	196	P	Pn	07 11 15.3	+0.4
	0.3nm94nm,0.7s						
DDMP	Don Marcelino,	6.13	45	eP	Pn	07 11 17.3	-1.1
DDMP				eS	Sn	07 12 14.7	-13
BNSI	Bone	6.22	192	P	Pn	07 11 19.9	+0.3
	0.3nm1μm76nm,0.9s						
PAGZ	Pagadian	6.40	18	eP	Pn	07 11 20.2	-1.8
PAGZ				eS	Sn	07 12 30.3	-3.6
KCP	Kidapawan	6.42	35	⇑eP	Pn	07 11 22.9	+0.5
KKM	Kota Kinabalu	6.69	310	Pn	Pn	07 11 27.4	+1.2
KKM				Sn	Sn	07 12 40.2	-1.1
DAV	Davao City (W)	6.76	38	Pn	Pn	07 11 26.6	-0.4
	36nm,0.3s,baz=239,slow=3.6,SNR=4.2						
DAV				Sn	Sn	07 12 44.4	+1.5
	36nm,0.3s,baz=270,slow=9.8,SNR=1.6						
DAV	Davao City (W)	6.76	38	Pn	Pn	07 11 29.0	+2.0
DAV				Sn	Sn	07 12 49.4	+6.4
KAPI	Kappang	6.89	194	Pn	Pn	07 11 26.3	-2.5
	1.3nm,0.3s,baz=0.0,slow=9.1,SNR=7.2						
KAPI				Sn	Sn	07 12 45.4	-0.7
	1.1nm,0.3s,baz=264,slow=22,SNR=1.1						
KAPI	Kappang	6.89	194	Pn	Pn	07 11 30.1	+1.3
BKSI	Bulukumba	7.12	190	P	Pn	07 11 30.8	-1.1
	0.2nm44nm,0.7s						
BUKP	Musuan	7.13	31	eP	Pn	07 11 31.6	-0.6
BUKP				eS	Sn	07 12 49.0	-3.0
SBUM	Sibu	9.17	275	Pn	Pn	07 12 01.0	+0.9
KSM	Kuching	11.06	269	Pn	Pn	07 12 26.7	+0.7
SOEI	Soe	11.77	166	Pn	Pn	07 12 37.8	+1.9
TGY	Tagaytay City	12.30	358	Pn	Pn	07 12 42.2	-0.8
	30nm,0.3s,baz=138,slow=16,SNR=1.3						
WOJI	Wonogiri, Jawa	14.10	227	P	Pn	07 13 07.5	-0.1
	23nm,1.0s						
MTN	Manton Dam	17.42	146	P	P	07 13 51.3	-0.4
MTN				IAmb	IAmb	07 14 00.1	
	comp=Z,14nm,0.5s						
KNRA	Kununurra	18.78	157	P	P	07 14 06.0	-0.6
KNRA				IAmb	IAmb	07 14 23.8	
	comp=Z,31nm,1.1s						
SDSI	Sungai Dareh	20.11	263	P	P	07 14 21.3	0.0
	comp=Z,9.3nm,1.5s						
FITZ	Fitzroy Crossi	20.15	168	P	P	07 14 20.3	-1.3
FITZ				IAmb	IAmb	07 14 21.6	
	comp=Z,10nm,0.8s						
IPM	Ipoh	20.49	278	P	P	07 14 24.2	-1.2
IPM				IAmb	IAmb	07 14 29.9	
	comp=Z,30nm,1.4s						
KULM	Kulim	20.98	280	P	P	07 14 30.6	-0.1
KULM				IAmb	IAmb	07 14 35.2	
	comp=Z,17nm,1.0s						
RPSI	Rantau Prapat	22.45	273	P	P	07 14 45.4	-1.1
RPSI				IAmb	IAmb	07 14 48.7	
	comp=Z,11nm,1.0s						
RPSI	Rantau Prapat	22.45	273	P	P	07 14 45.6	-0.8
PSI	Prapat	22.45	273	P	P	07 14 45.6	-1.0
	comp=Z,3.0nm,0.5s,baz=94,slow=23,SNR=5.7						
WRAB	Tennant Creek	25.02	150	P	P	07 15 10.5	-0.6
WRA	Warramunga Arr	25.02	150	P	P	07 15 09.8	-1.4
	comp=Z,8.6nm,0.7s,baz=326,slow=11,SNR=68						
SLVN	Son La	25.87	320	P	P	07 15 19.5	+0.5
PMG	Port Moresby	27.97	114	P	P	07 15 37.3	-0.5
AS31	Alice Springs	28.04	155	P	P	07 15 37.4	-1.0
ASAR	Alice Springs	28.04	155	P	P	07 15 37.6	-0.7
	comp=Z,1.7nm,0.6s,baz=335,slow=8.2,SNR=37						
ASAR	Alice Springs	28.04	155	P	P	07 15 37.2	-1.2
LZH	Lanzhou	37.85	337	eP	P	07 17 06.0	+2.1
LZH				pP	pwP	07 17 22.3	+5.1
LZH				sP	sP	07 17 30.0	+13
LZH				ePP	PnPn	07 18 37.5	+5.4
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,54nm,5.4s						
STKA	Stephens Creek	38.54	152	P	P	07 17 09.2	-0.3
	comp=Z,5.1nm,0.8s,baz=326,slow=11,SNR=7.2						
HHC	Hu-ho-hao-te	39.94	348	eP	P	07 17 21.8	+0.5
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,240nm,5.7s						
GTA	Gaotai	42.34	335	eP	P	07 17 43.5	+2.4
GTA				pP	pwP	07 18 01.0	+6.5
GTA				sP	sP	07 18 06.8	+13
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	Songino Array	47.72	346	P	P	07 18 24.3	+0.6
	comp=Z,0.3nm,0.4s,baz=161,slow=9.2,SNR=2.7						
WMQ	Urumqi	51.48	329	eP	P	07 18 52.5	+0.1
MK31	Makanchi Array	56.30	329	P	P	07 19 25.6	-1.9
MKAR	Makanchi Array	56.30	329	P	P	07 19 28.0	+0.5
	comp=Z,0.4nm,0.5s,baz=118,slow=7.4,SNR=4.1						
MKAR	Makanchi Array	56.30	329	P	P	07 19 26.6	-0.9
MAKZ	Makanchi	56.47	328	P	P	07 19 29.6	+0.9
MAKZ				IAmb	IAmb	07 19 30.2	
	comp=Z,2.0nm,1.0s						
ZAA0	Zalesovo Array	60.08	336	P	P	07 19 53.6	-0.1
ZAA0				IAmb	IAmb	07 20 12.8	
	comp=Z,2.3nm,0.8s						
ZALV	Zalesovo Beam	60.08	336	P	P	07 19 53.4	-0.3
	comp=Z,0.4nm,0.3s,baz=129,slow=5.7,SNR=1.9						
ZALV	Zalesovo Beam	60.08	336	P	P	07 19 53.7	0.0
KURK	Kurchatov	60.67	330	P	P	07 19 57.1	-0.8
KKAR	Karatay Array	61.15	320	P	P	07 20 00.1	-1.2
VNDA	Vanda	82.18	172	P	P	07 22 06.4	-0.7
	comp=Z,0.6nm,0.7s,baz=317,slow=6.4,SNR=8.0						

*INET **28** 07:20:12.3, 10°.47N×86°.87W, h15^{km}, ML2.2*
*UCR **28** 07:20:25.6±0.5, 10°.56N×86°.10W, h35^{km}±248^{km}, MD3.5*

ISC 28 07:20:10.4±12.0, 10°.5N±0°.2×87°.1W±0°.8, h23^{km}, n8, σ1§36/8, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	Horizontes, Gu	1.48	81	eP	Pn	07 20 36.4	+0.8
ORTG	Ortega, Santa	1.60	94	eP	Pb	07 20 39.0	-0.4
DUNO	Dulce Nombre,	1.61	104	eP	Pb	07 20 39.6	+0.1
BUEV	Buena Vista	1.68	79	eP	Pb	07 20 39.2	-1.4
GB1A	Boringuen Arri	1.69	79	eP	Pb	07 20 39.5	-1.3
PLVR	Palo Verde	1.71	94	eP	Pb	07 20 40.9	-0.3
LAFE	Finca La Fe, P	2.24	107	eP	Pb	07 20 48.5	-1.7
CEDE	Laguna Cedeo	2.34	90	eP	Pb	07 20 53.3	+1.3

*IDC **28** 07:32:07.1±3.6, 19°.39N×121°.52E, h0^{km}, mb3.5/3, mb1 3.8/3, mb1mx3.3/45, mbtmp3.5/3, Error ellipse: s-maj=286.2km s-min=28.9km az=61.0*

ISC 28 07:32:07.6±1.6, 19°.71N±0°.09×122°.1E±0°.4, h10^{km}, n10, σ0§59/5, mb3.7/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	Callao Caves	2.02	188	i,iP	Pb	07 32 44.9	+0.6
CVP				i S	Sg	07 33 11.9	-0.5
WRA	Warramunga Arr	41.19	162	P	P	07 39 52.3	-0.3
	0.8nm,0.5s,baz=342,slow=9.1,SNR=12						
H11S3	WAKE ISLAND Hy	42.04	84	T	T	08 25 47.7	
	baz=279,slow=75,SNR=5.2						
H11S1	WAKE ISLAND Hy	42.05	84	T	T	08 25 49.5	
	baz=279,slow=75,SNR=9.2						
H11N1	WAKE ISLAND Hy	42.05	82	T	T	08 25 44.5	
	baz=278,slow=75,SNR=12						
H11N2	WAKE ISLAND Hy	42.06	82	T	T	08 25 47.8	
	baz=278,slow=75,SNR=7.5						
H11S2	WAKE ISLAND Hy	42.06	84	T	T	08 25 49.9	
	baz=279,slow=75,SNR=6.0						
H11N3	WAKE ISLAND Hy	42.07	82	T	T	08 25 42.2	
	baz=278,slow=75,SNR=10						
MKAR	Makanchi Array	42.21	319	P	P	07 40 00.6	-0.1
	0.2nm,0.6s,baz=118,slow=8.3,SNR=2.3						
ASAR	Alice Springs	44.62	165	P	P	07 40 20.4	0.0
	0.4nm,0.3s,baz=343,slow=6.4,SNR=12						

IDC 28 07:38:02.7±3.5, 17°.52S×167°.59E, h0^{km}, mb3.5/3, mb1 3.7/4, mb1mx3.5/38, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=76.4km s-min=33.0km az=93.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.66	193	Pn	Pn	07 39 15.0	+0.6
	3.2nm,0.3s,baz=18,slow=19,SNR=41						
DZM				Sn	Sn	07 40 08.8	-0.6
	1.5nm,0.3s,baz=175,slow=19,SNR=2.2						
WRA	Warramunga Arr	31.55	260	P	P	07 44 26.7	-0.4
	0.3nm,0.8s,baz=92,slow=9.9,SNR=1.4						
ASAR	Alice Springs	32.07	253	P	P	07 44 31.9	+0.3
	0.5nm,0.8s,baz=76,slow=8.2,SNR=7.2						
SONM	Songino Array	84.91	324	P	P	07 50 39.6	-0.1
	0.3nm,0.4s,baz=116,slow=3.4,SNR=3.8						

NNC 28 07:46:05.8±4.7, 37°.16N×70°.94E, h0^{km}, mb4.0, mpv3.6, 2C-2D, Error ellipse: s-maj=40.2km s-min=34.2km az=136.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.95	357	⇑Pn	Pn	07 47 35.8	+0.7
	1.1nm,0.3s,baz=190,slow=13,SNR=52						
KK31				⇓Sn	Sn	07 48 44.6	+0.7
	5.3nm,0.5s,baz=190,slow=23,SNR=12						
AAK	Ala-Archa	6.12	25	Pn	Pn	07 47 38.0	+0.5
	1.8nm,0.4s						
AAK				Sn	Sn	07 48 50.4	+2.1
	4.4nm,0.6s						
TKM2	Tokmak 2	6.77	30	⇓Pn	Pn	07 47 45.4	-1.2
	5.0nm,0.6s						
TKM2				⇑Sn	Sn	07 49 04.9	+0.4
	2.1nm,1.0s						

IDC 28 08:00:47.5±4.4, 18°.24S×66°.99W, h280^{km}±27^{km}, mb2.9/2, mb1 3.2/3, mb1mx2.9/18, mbtmp3.5/3, Error ellipse: s-maj=97.6km s-min=41.8km az=16.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.22	330	P	Pn	08 01 35.1	-0.1
	6.2nm,0.3s,baz=149,slow=6.7,SNR=179						
LPAZ				S	S	08 02 13.4	+0.4
	1.4nm,0.3s,baz=229,slow=16,SNR=9.0						
NVAR	Mina Array Bea	74.10	320	P	P	08 11 53.7	0.0
	0.1nm,0.3s,baz=132,slow=6.2,SNR=2.0						
TORD	Torodi Ar. Bea	74.56	70	P	P	08 11 56.5	+0.1
	0.3nm,0.3s,baz=253,slow=4.7,SNR=4.7						
WRA	Warramunga Arr	136.67	210	PKP	PKPdf	08 19 37.0	-0.4
	0.4nm,1.0s,baz=155,slow=1.7,SNR=1.3						

*IDC **28** 08:08:10.1±2.8, 15°.52S×166°.29E, h0^{km}, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, MS3.8/3, Ms1 3.8/3, ms1mx3.3/25, Error ellipse: s-maj=123.6km s-min=33.8km az=139.0*
*NEIC **28** 08:08:14.4±2.1, 14°.32S±0°.07×165°.34E±0°.06, h10^{km}±1^{km}, mb4.1/3, Error ellipse: s-maj=12.3km s-min=9.9km az=354.0*

ISC 28 08:08:18.6±1.2, 14°.5S±0°.2×165°.3E±0°.1, h35^{km}, n13, σ1§80/11, mb4.0/7, MS3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.07	117		Pn	08 08 50.0	-0.8
SANVU				Sn	Sn	08 09 15.7	+0.2
HNR	Honiara	7.27	314	Pn	Pn	08 09 57.6	-4.8
STKA	Stephens Creek	27.69	227	P	P	08 14 00.8	-2.7
	1.2nm,0.3s,baz=72,slow=9.6,SNR=1.7						
PLWZ	Palliser	28.30	164	P	P	08 14 10.4	+1.5
WB2	Warramunga Arr	30.00	255	P	P	08 14 23.1	-1.2
WB2				IAmb	IAmb	08 14 31.6	
	comp=Z,7.3nm,1.2s						
WRAB	Tennant Creek	30.00	255	P	P	08 14 23.8	-0.4
WRAB				IAmb	IAmb	08 14 43.1	
	comp=Z,3.2nm,1.1s						
WRA	Warramunga Arr	30.02	255	P	P	08 14 27.9	+3.5
	comp=Z,0.3nm,0.9s,baz=86,slow=8.5,SNR=5.7						
AS31	Alice Springs	30.96	248	P	P	08 14 33.8	+1.1
AS31				IAmb	IAmb	08 14 44.3	
	comp=Z,1.3nm,0.5s						
ASAR	Alice Springs	30.96	248	P	P	08 14 33.4	+0.6
	comp=Z,1.2nm,0.5s,baz=82,slow=8.5,SNR=21						
ASAR				LR	LR	08 27 43.5	
	comp=Z,114nm,18.2s,baz=108,slow=37						
ASAR	Alice Springs	30.96	248	P	P	08 14 33.1	+0.4
PPT	Papeete	43.41	100	LR	LR	08 30 12.5	
	comp=Z,97nm,19.2s,baz=87,slow=31						
ILAR	Eielson Array	86.94	19	P	P	08 20 59.7	+0.1
	comp=Z,0.3nm,0.7s,baz=237,slow=5.3,SNR=4.6						
INK	Inuvik	93.32	19	LR	LR	09 01 20.5	
	comp=Z,65nm,18.8s,baz=12,slow=34						

*ISK **28** 08:22:15.7, 38°.84N×40°.99E, h2^{km}, ML4.0/32*
*DDA **28** 08:22:16.9, 38°.84N×40°.97E, h5^{km}±1^{km}, MW4.1*
*IDC **28** 08:22:17.1±1.5, 38°.81N×41°.06E, h0^{km}, mb3.4/3, mb1 3.6/8, mb1mx3.4/42, mbtmp3.5/8, ML3.4/5, Error ellipse: s-maj=23.5km s-min=12.8km az=144.0*

ISC 28 08:22:16.3±1.1, 38°.83N±0°.02×40°.98E±0°.02, h3^{km}±9^{km}, n98, σ1§30/117, mb3.2/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	Bingl	0.28	304	PG	Pg	08 22 22.4	+0.6
BNGB				SG	Sg	08 22 26.8	+1.4
MUSM	Mu-Merkez	0.43	104	i P	Pg	08 22 24.6	-0.1
MUSM				i S	Sg	08 22 28.6	-1.7
MUSM				IAML		08 22 30.0	
	comp=N,37μm,0.6s						
MUSM				IAML		08 22 31.0	
	comp=E,31μm,0.2s						
KARO	Karliova-Bingo	0.48	7	PG	Pg	08 22 25.7	+0.1
KARO				SG	Sg	08 22 32.7	+0.9
VRTB	Varto-Mus	0.50	49	PG	Pg	08 22 26.0	+0.1
VRTB				SG	Sg	08 22 33.7	+1.4
VRTB	Varto-Mus	0.50	49	i P	Pg	08 22 26.1	+0.3
VRTB				i S	Sg	08 22 30.8	-1.5
VRTB				IAML		08 22 34.0	
	comp=E,23μm,0.7s						
VRTB				IAML		08 22 35.0	
	comp=N,13μm,0.6s						
HANI	Diyarbakir_Han	0.61	227	i P	Pg	08 22 28.1	0.0
HANI				i S	Sg	08 22 35.0	-1.1
HANI				IAML		08 22 42.0	
	comp=E,3μm,0.8s						
HANI				IAML		08 22 47.0	
	comp=N,3μm,0.8s						
YEDI	Yedisu-Bingol	0.69	331	PG	Pg	08 22 29.2	-0.4
SVAN	Silvan-Diyarba	0.70	166	PG	Pg	08 22 30.3	+0.5
SVAN	Silvan-Diyarba	0.70	166	i P	Pg	08 22 30.5	+0.7
GURO	Guroymak-BITLI	0.87	108	PG	Pg	08 22 32.2	-0.9
EKAR	Karacoban	0.95	63	i P	Pg	08 22 34.4	-0.1
EKAR				i S	Sg	08 22 47.7	+0.9
EKAR				IAML		08 22 55.0	
	comp=N,7μm,0.5s						
EKAR				IAML		08 22 56.0	
	comp=E,8μm,0.4s						
BTMN	Batman	0.97	166	i P	Pg	08 22 35.7	+0.8
BTMN				IAML		08 22 51.0	
	comp=N,7μm,0.7s						
BTMN				IAML		08 22 51.0	
	comp=E,3μm,0.7s						
BLIS	Bitlis-Merkez	0.99	115	i P	Pg	08 22 34.4	-0.8
BLIS				i S	Sg	08 22 46.1	-1.9
BLIS				IAML		08 22 51.0	
	comp=N,5μm,0.4s						
BLIS				IAML		08 22 51.0	
	comp=E,3μm,0.5s						
ATA5	Erzurum, Merke	1.09	11	i P	Pg	08 22 37.1	-0.1
ATA5				i S	Sg	08 22 51.1	-0.3
ATA5				IAML		08 22 53.0	
	comp=E,4μm,0.5s						
ATA5				IAML		08 22 54.0	
	comp=N,4μm,0.4s						
DYBB	Diyarbakir	1.10	217	PN	Pg	08 22 37.7	+0.4
SRTM	Siirt_Merkez	1.12	138	i P	Pb	08 22 38.1	-0.4
SRTM				IAML		08 22 57.0	
	comp=E,5μm,0.8s						
SRTM				IAML		08 22 58.0	
	comp=N,5μm,0.5s						
DIYA	Diyarbakir	1.13	217	i P	Pn	08 22 38.8	-0.3
DIYA				i S	Sg	08 22 52.7	+0.1
DIYA				IAML		08 22 57.0	
	comp=N,4μm,0.4s						
DIYA				IAML		08 22 57.0	
	comp=E,5μm,0.6s						
TNCL	Tunceli-Merkez	1.15	285	i P	Pb	08 22 36.9	-2.1
TNCL				i S	Sg	08 22 51.3	-2.1
TNCL				IAML		08 22 54.0	
	comp=N,2μm,0.4s						
TNCL				IAML		08 22 54.0	
	comp=E,2μm,0.5s						
ERZN	Erzincan	1.23	308	PN	Pn	08 22 39.2	-1.4
KOPT	Kop Dagi	1.24	343	i P	Pn	08 22 39.3	-1.6
KOPT				i S	Sb	08 22 54.7	-2.4
KOPT				IAML		08 23 05.0	
	comp=N,1μm,0.7s						
KOPT				IAML		08 23 08.0	
	comp=E,1μm,0.8s						
MLAZ	Malazgirt-MUS	1.27	75	PN	Pn	08 22 39.3	-1.8
EUZM	Uzumlu	1.32	312	i P	Pn	08 22 39.8	-2.0
EUZM				i S	Sb	08 22 53.9	-5.4
KOPR	Koprukoy-ERZUR	1.34	30	PN	Pn	08 22 42.0	-0.2
SVRC	Sivrice-ELAZID	1.38	251	PN	Pn	08 22 42.6	-0.2
HOMI	Horasan	1.41	30	i P	Pn	08 22 42.9	-0.3
HOMI				IAML		08 23 05.0	
	comp=N,4μm,1.0s						
HOMI				IAML		08 23 09.0	
	comp=E,4μm,0.6s						
MAZI	Mazidag	1.43	197	PN	Pn	08 22 42.9	-0.5
KRIK	Erzurum-spir	1.50	359	i P	Pn	08 22 43.6	-0.8
MARD	Mardin	1.52	186	i P	Pn	08 22 44.2	-0.4
MARD				i S	Sn	08 23 04.2	-0.8
MARD				IAML		08 23 10.0	
	comp=E,7μm,0.5s						
MARD				IAML		08 23 11.0	
	comp=N,5μm,0.5s						
BAYB	BAYBURT	1.53	339	i P	Pb	08 22 45.4	0.0
TUTA	Tutak	1.54	68	i P	Pn	08 22 43.9	-1.1
TUTA				IAML		08 23 10.0	
	comp=N,3μm,0.4s						
EATA	Eleskirt	1.56	48	i P	Pn	08 22 44.6	-0.7
EATA				IAML		08 23 09.0	
	comp=N,2μm,0.6s						
EATA				IAML		08 23 11.0	
	comp=E,2μm,0.6s						
ELZG	Elazig	1.59	259	i P	Pb	08 22 46.6	+0.1
ELZG				IAML		08 23 20.0	
	comp=E,977nm,0.5s						
ELZG				IAML		08 23 26.0	
	comp=N,862nm,0.8s						
AKDM	Akdamar-Van	1.65	107	PN	Pn	08 22 46.5	+0.1
BAYT	Aydıntepe-Bayb	1.69	338	PN	Pb	08 22 47.5	-0.6
GEVA	Gevas	1.71	107	i P	Pn	08 22 47.3	+0.1
GEVA				i S	Sn	08 23 08.8	-1.1
GEVA				IAML		08 23 17.0	
	comp=N,751nm,1.1s						
GEVA				IAML		08 23 20.0	
	comp=E,1μm,1.0s						
AGRB	Hanur-Agry	1.73	64	PN	Pn	08 22 47.6	0.0
SIRN	Sırnak	1.75	139	i P	Pn	08 22 48.3	+0.6
SIRN				IAML		08 23 13.0	
	comp=N,2μm,0.9s						
SIRN				IAML		08 23 13.0	
	comp=E,5μm,0.5s						
SIRT	Sirnak	1.76	139	PN	Pn	08 22 48.3	+0.5
KELT	Kelkit	1.87	315	i P	Pn	08 22 49.8	+0.3
KELT				i S	Sn	08 23 12.9	-0.8
KELT				IAML		08 23 19.0	
	comp=N,535nm,1.4s						
KELT				IAML		08 23 20.0	
	comp=E,524nm,0.7s						
VANB	Van	1.90	96	PN	Pn	08 22 50.5	+0.7
TVAN	Van	1.93	98	i P	Pn	08 22 50.4	+0.2
TVAN				IAML		08 23 23.0	
	comp=E,460nm,0.4s						
TVAN				IAML		08 23 28.0	
	comp=N,388nm,0.7s						
KEMA	Kemaliye	1.98	283	i P	Pn	08 22 50.6	-0.3
KEMA				IAML		08 23 29.0	
	comp=N,399nm,0.8s						
SENK	Senkaya-Erzuru	2.03	31	PN	Pn	08 22 51.9	+0.3
VMUR	Van-Muradiye	2.03	85	i P	Pn	08 22 52.6	+0.9
VMUR				i S	Sn	08 23 15.1	-2.5
VMUR				IAML		08 23 24.0	
	comp=E,733nm,0.8s						
VMUR				IAML		08 23 32.0	
	comp=N,454nm,1.2s						
MALT	Malatya	2.06	256	PN	Pn	08 22 52.8	+0.8
ARPR	Arapgir-MALATY	2.07	278	PN	Pn	08 22 52.9	+0.7
DDEM	Demirkent	2.14	16	i P	Pn	08 22 54.0	+0.9
DDEM				IAML		08 23 29.0	
	comp=E

DIGO				IAML		08 23 38.0	
	comp=N,578nm,0.8s						
DIGO				IAML		08 23 42.0	
	comp=E,458nm,0.7s						
HAKT	**HAKKARI**	**2.50 120**	*i* P		**Pn**	**08 22 59.6**	**+1.5**
HAKT				IAML		08 23 46.0	
	comp=E,221nm,1.0s						
HAKT				IAML		08 23 52.0	
	comp=N,228nm,1.2s						
BASK	**Baskale_VAN**	**2.50 107**	*i* P		**Pb**	**08 23 01.5**	**-0.6**
BASK				IAML		08 23 47.0	
	comp=N,238nm,1.1s						
ATAB	**Bozova**	**2.51 238**	*i* P		**Pn**	**08 22 57.8**	**-0.4**
SUSE	**Susehri**	**2.55 304**	*i* P		**Pn**	**08 22 58.1**	**-0.6**
SUSE				IAML		08 23 44.0	
	comp=N,281nm,0.8s						
SUSE				IAML		08 23 57.0	
	comp=E,198nm,1.7s						
DBOC	**Borcka**	**2.56 12**	*i* P		**Pn**	**08 22 56.8**	**-2.1**
IGDI	**IGDIR**	**2.62 66**	*i* P		**Pn**	**08 23 00.3**	**+0.7**
IGDI			*i* S		**Sn**	**08 23 33.8**	**+1.8**
BCA	**Borcka**	**2.66 11**	PN		**Pn**	**08 23 00.8**	**+0.7**
CUZAR	**Zara_SIVAS**	**2.70 294**	*i* P		**Pn**	**08 22 57.1**	**-3.7**
SURC	**SANLIURFA_SURC**	**2.70 225**	*i* P		**Pn**	**08 23 00.2**	**-0.5**
SURC				IAML		08 23 45.0	
	comp=N,864nm,0.7s						
SURC				IAML		08 23 53.0	
	comp=E,933nm,0.7s						
ESPY	**Espiye-Giresun**	**2.71 321**	PN		**Pn**	**08 23 01.9**	**+1.1**
DARE	**Darende-Malaty**	**2.75 266**	PN		**Pn**	**08 23 02.6**	**+1.2**
EAK	**Akyaka**	**2.75 47**	*i* P		**Pn**	**08 23 02.9**	**+1.4**
EAK			*i* S		**Sb**	**08 23 40.9**	**+0.6**
EAK				IAML		08 23 53.0	
	comp=N,412nm,1.0s						
EAK				IAML		08 24 06.0	
	comp=E,362nm,1.5s						
CUKAN	**kangal_SIVAS**	**2.77 281**	*i* P		**Pn**	**08 23 03.2**	**+1.4**
TASB	**TASBURUN-IGDIR**	**2.78 65**	PN		**Pb**	**08 23 02.5**	**+0.7**
BATM	**Batumi**	**2.82 11**	*i* P		**Pn**	**08 23 02.7**	**+0.3**
EPOS	**Posof**	**2.99 26**	*i* P		**Pn**	**08 23 05.9**	**+1.1**
GZT	**Gaziantep**	**3.07 242**	*i* P		**Pn**	**08 23 03.8**	**-2.1**
GZT				IAML		08 24 04.0	
	comp=N,312nm,0.5s						
GZT				IAML		08 24 24.0	
	comp=E,260nm,0.7s						
RSDY	**Resadiye-TOKAT**	**3.22 300**	PN		**Pn**	**08 23 09.3**	**+1.4**
ORDU	**Ordu-Boztepe**	**3.22 313**	*i* P		**Pb**	**08 23 14.7**	**+0.5**
ORDU				IAML		08 24 04.0	
	comp=N,138nm,1.6s						
GAZ	**Gaziantep**	**3.40 242**	PN		**Pn**	**08 23 12.6**	**+2.2**
KMRS	**Kahramanmaras**	**3.48 249**	PN		**Pn**	**08 23 12.9**	**+1.5**
SARI	**SarD1z-Kayseri**	**3.59 265**	PN		**Pn**	**08 23 14.8**	**+1.7**
KUZU	**Kuzuini**	**3.71 238**	*i* P		**Pb**	**08 23 21.4**	**-1.2**
KUZU				IAML		08 24 30.0	
	comp=N,544nm,0.7s						
KUZU				IAML		08 24 32.0	
	comp=E,539nm,0.6s						
ERBA	**Erbaa**	**3.74 301**	*i* P		**Pb**	**08 23 23.1**	**0.0**
TOKA	**Tokat**	**3.78 295**	*i* P		**Pn**	**08 23 18.9**	**+3.4**
ANDN	**Andirin**	**3.86 253**	*i* P		**Pb**	**08 23 26.2**	**+1.1**
ANDN				IAML		08 24 35.0	
	comp=N,88nm,0.6s						
ANDN				IAML		08 24 47.0	
	comp=E,98nm,1.2s						
SAIM	**ADANA**	**3.94 259**	*i* P		**Pb**	**08 23 26.4**	**-0.1**
SIRC	**Yozgat**	**4.56 278**	*i* P		**Pn**	**08 23 28.2**	**+1.9**
HAVZ	**Havza**	**4.62 301**	*i* P		**Pb**	**08 23 39.0**	**+1.0**
HAVZ				IAML		08 26 29.0	
	comp=E,96nm,5.4s						
YAYL	**Yayladag**	**4.78 236**	*i* P		**Pb**	**08 23 42.5**	**+1.7**
YAYL				IAML		08 25 01.0	
	comp=E,135nm,0.5s						
YAYL				IAML		08 25 05.0	
	comp=N,158nm,0.6s						
KBZ	**Khabaz**	**5.10 16**	Pn		**Pn**	**08 23 36.8**	**+3.2**
	comp=N,0.3nm,0.3s,baz=195,slow=8.8,SNR=2.6						
KBZ			Pg		**Pb**	**08 23 48.2**	**+2.0**
	comp=N,0.3nm,0.3s,baz=191,slow=10,SNR=3.1						
KBZ			Lg	Lg		08 24 59.1	
	comp=N,0.1nm,0.3s,baz=136,slow=18,SNR=2.1						
BRTR	**Keskin Array B**	**5.76 281**	Pn		Pn	08 23 47.5	+4.6
	comp=N,0.5nm,0.3s,baz=101,slow=15,SNR=12						
BRTR			Lg	Lg		08 25 22.8	
	baz=110,slow=28,SNR=2.5						
MMAI	**Mount Meron Ar**	**7.36 220**	Pn		**Pn**	**08 24 06.4**	**+1.7**
	comp=N,4.4nm,0.3s,baz=34,slow=10,SNR=11						
MMAI			Lg	Lg		08 26 03.7	
	comp=N,1.8nm,0.3s,baz=34,slow=47,SNR=1.8						
ASF	**Jabal al Asfar**	**7.43 208**	Pn		**Pn**	**08 24 06.1**	**+0.3**
	comp=N,0.4nm,0.3s,baz=351,slow=2.4,SNR=2.7						
ASF			Lg	Lg		08 26 10.1	
	comp=N,0.9nm,0.3s,baz=2.2,slow=20,SNR=1.9						
EIL	**Elat**	**10.41 210**	Lg	Lg		08 27 50.8	
	comp=N,0.3nm,0.3s,baz=324,slow=16,SNR=1.6						
AKTO	**Aktyubinsk**	**16.74 41**	Pn		**Pn**	**08 26 11.6**	**0.0**
	comp=N,0.2nm,0.3s,baz=226,slow=11,SNR=2.5						
VYHS	**Vyhne**	**18.64 308**	*eP*		**Pn**	**08 26 35.6**	**+0.2**
GERES	**GERESS Array B**	**21.96 306**	P		**P**	**08 27 12.5**	**+1.3**
	comp=N,0.4nm,0.7s,baz=104,slow=8.2,SNR=3.2						
FINES	**FINESS Array B**	**24.45 343**	P		**P**	**08 27 36.2**	**+0.1**
	comp=N,2.1nm,0.6s,baz=143,slow=8.0,SNR=9.7						
MKAR	**Makanchi Array**	**31.04 62**	P		**P**	**08 28 36.2**	**+0.9**
	comp=N,0.2nm,0.6s,baz=264,slow=7.2,SNR=2.2						

*IDC **28** 08:28:24.7±1.8, 34.°10N×25.°08E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.2/43, mbtmp3.4/4, ML3.7/2, Error ellipse: s-maj=35.6km s-min=16.4km az=88.0*
*THE **28** 08:28:27.2, 34.°25N×25.°10E, h0km±3km, ML2.9/2, Error ellipse: s-maj=5.8km s-min=1.2km az=142.0*
*ATH **28** 08:28:29.8, 34.°38N×25.°06E, h33km±13km, ML2.9/2, Error ellipse: s-maj=14.5km s-min=2.3km az=148.0*
ISC 28 08:28:28.5±1.3,**34.°26N**±0.°09×**25.°09E**±0.°06,**h25**km,**n16,** σ0°**70**/20,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.79**	**343**	P	**Pb**	**08 28 43.1**	**-0.4**
SIVA				S	**Sn**	**08 28 55.5**	**+0.5**
	1μm,0.6s						
SIVA	**Sivas**	**0.79**	**343**	P	**Pn**	**08 28 43.4**	**-0.6**
SIVA				S	**Sb**	**08 28 53.9**	**+0.1**
SIVA				AML	AML	08 29 01.8	
	comp=E,3056μm,0.7s						
SIVA				AML	AML	08 29 06.1	
	comp=N,2308μm,0.6s						
LAST	**Lasithi**	**0.95**	**20**	P	**Pb**	**08 28 46.3**	**-0.1**
LAST	**Lasithi**	**0.95**	**20**	P	**Pb**	**08 28 46.4**	**-0.1**
GVD	**Gavdhos**	**1.01**	**305**	P	**Pb**	**08 28 47.0**	**-0.2**
GVD				S	**Sn**	**08 29 02.4**	**+2.0**
	comp=N,568nm,0.4s						
GVD	**Gavdhos**	**1.01**	**305**	P	**Pb**	**08 28 47.8**	**+0.6**
GVD				S	**Sn**	**08 29 00.4**	**+0.1**
GVD				AML	AML	08 29 06.0	
	comp=E,1416μm,0.4s						
GVD				AML	AML	08 29 06.2	
	comp=N,860μm,0.5s						
IDI	**Anoyia**	**1.04**	**351**	Pg	**Pn**	**08 28 47.2**	**-0.3**
	comp=N,5.0nm,0.3s,baz=171,slow=13,SNR=18						
IDI				Lg	Lg	08 29 04.8	
	comp=N,19nm,0.3s,baz=29,slow=14,SNR=11						
IDI	**Anoyia**	**1.04**	**351**	P	**Pn**	**08 28 46.8**	**-0.7**
IDI	**Anoyia**	**1.04**	**351**	P	**Pb**	**08 28 47.4**	**-0.4**
NPS	**Neapolis**	**1.09**	**23**	P	**Pb**	**08 28 48.7**	**+0.1**
VAM	**Vamos**	**1.35**	**328**	P	**Pb**	**08 28 53.2**	**0.0**
IMMV	**Iera Moni Meta**	**1.50**	**323**	P	**Pb**	**08 28 54.9**	**-0.8**
AKASG	**Malin Array Be**	**16.70**	**9**	Pn	**Pn**	**08 32 20.5**	**-0.1**
	comp=N,0.6nm,0.3s,baz=202,slow=11,SNR=4.8						
GERES	**GERESS Array B**	**16.85**	**333**	Pn	**P**	**08 32 24.2**	**-0.3**
	comp=N,0.1nm,0.3s,baz=144,slow=12,SNR=7.0						
TORD	**Torodi Ar. Bea**	**29.87**	**231**	P	**P**	**08 34 33.5**	**-0.6**
	comp=N,0.3nm,0.5s,baz=33,slow=8.8,SNR=2.0						
MKAR	**Makanchi Array**	**44.32**	**56**	P	**P**	**08 36 37.4**	**+1.0**
	comp=N,0.4nm,0.5s,baz=285,slow=6.2,SNR=5.4						

*IDC **28** 08:34:47.3±18.0, 12.°48S×167.°19E, h142km±155km, mb3.4/4, mb1 3.7/4, mb1mx3.2/37, mbtmp3.8/4, Error ellipse: s-maj=144.5km s-min=49.7km az=136.0*
*NEIC **28** 08:34:54.2±2.0, 12.°1S±0.°1×166.°6E±0.°1, h193km±10km, mb4.0/6, Error ellipse: s-maj=21.4km s-min=13.8km az=50.0*
ISC 28 08:34:55.1±0.8,**12.°16S**±0.°10×**166.°5E**±0.°1,**h200**km,**n17,**

σ1°**27**/20,**mb3.9**/7,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.34**	**168**		**Pn**	**08 35 49.1**	**+0.3**
SANVU				Sn	**Sn**	**08 36 29.3**	**-1.8**
HNR	**Honiara**	**6.98**	**292**	Pn	**Pn**	**08 36 34.5**	**-0.6**
HNR				Sn	**Sn**	**08 37 53.1**	**-1.4**
EIDS	**Eidsvold**	**19.61**	**226**	P	**P**	**08 39 08.3**	**-0.1**
EIDS				IAmb	IAmb	08 39 12.3	
	comp=Z,9.2nm,1.3s						
WB0	**Warramunga Arr**	**31.73**	**252**	P	**P**	**08 41 03.0**	**+2.5**
WB0				IAmb	IAmb	08 41 24.2	
	comp=Z,5.6nm,1.3s						
WRAB	**Tennant Creek**	**31.80**	**252**	P	**P**	**08 41 01.3**	**+0.2**
WRAB				IAmb	IAmb	08 41 18.2	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**31.81**	**252**	P	**P**	**08 41 03.2**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=82,slow=9.1,SNR=4.8						
ASAR	**Alice Springs**	**32.97**	**245**	P	**P**	**08 41 13.2**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=73,slow=9.6,SNR=9.3						
ASAR	**Alice Springs**	**32.97**	**245**	P	**P**	**08 41 12.7**	**+1.3**
QIZ	**Qiongzhong**	**63.85**	**298**	P	**P**	**08 45 05.9**	**-0.8**
IL31		**84.33**	**18**	P	**P**	**08 47 04.0**	**-0.2**
IL31				IAmb	IAmb	08 47 04.1	
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**84.33**	**18**	P	**P**	**08 47 03.3**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=236,slow=5.4,SNR=22						
ILAR	**Eielson Array**	**84.33**	**18**	P	**P**	**08 47 03.9**	**-0.4**
EGAK	**Eagle**	**86.17**	**20**	P	**P**	**08 47 13.4**	**+0.1**
MKAR	**Makanchi Array**	**94.83**	**317**	P	**P**	**08 47 55.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=113,slow=3.7,SNR=2.7						
ARCES	**ARCESS Array B**	**117.59**	**346**	PKP	**PKiKP**	**08 53 16.2**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=75,slow=2.3,SNR=7.6						
ESDC	**Sonseca Array**	**151.32**	**345**	PKPbc	**PKiKP**	**08 54 25.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=2.2,slow=1.7,SNR=5.5						
ESDC				PKPab	**PKPab**	**08 54 35.2**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=15,slow=3.9,SNR=4.7						
ESDC	**Sonseca Array**	**151.32**	**345**	PKPdf	**PKPdf**	**08 54 17.9**	**-1.3**

*DDA **28** 08:39:46.8, 39.°11N×29.°03E, h3km±3km, MW3.8*
*ISK **28** 08:39:46.6, 39.°15N×29.°05E, h5km, ML3.7/53*
ISC 28 08:39:47.0±0.8,**39.°14N**±0.°02×**29.°04E**±0.°02,**h9**km±6km,
n104,σ0°**94**/124,**12C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.07**	**219**	PG	**Pg**	**08 39 49.2**	**0.0**
SIMA				SG	**Sg**	**08 39 50.8**	**0.0**
SHAP	**Saphane-Kutahy**	**0.18**	**130**	PG	**Pg**	**08 39 50.9**	**0.0**
SHAP				SG	**Sg**	**08 39 53.9**	**+0.4**
GEDZ	**Gediz**	**0.30**	**109**	PG	**Pg**	**08 39 53.2**	**+0.1**
GEDZ				SG	**Sg**	**08 39 57.8**	**+0.7**
GDZ	**Gediz**	**0.34**	**99**	*i* P	**Pg**	**08 39 53.8**	**-0.1**
GDZ				*i* S	**Sg**	**08 39 58.0**	**-0.5**
USAK	**Uak-Merkez**	**0.43**	**183**	*i* P	**Pg**	**08 39 55.2**	**-0.1**
USAK				*i* S	**Sg**	**08 39 60.0**	**-1.0**
USAK				IAML		08 40 04.0	
	comp=E,2μm,0.2s						
TVSB	**Tavsanli**	**0.45**	**46**	PG	**Pg**	**08 39 55.7**	**-0.1**
TVSB				SG	**Sg**	**08 40 01.9**	**+0.2**
DST	**Dursunbey**	**0.57**	**325**	PG	**Pg**	**08 39 57.9**	**-0.1**
DURS	**Dursunbey**	**0.64**	**316**	*i* P	**Pg**	**08 39 59.1**	**-0.2**
DURS				IAML		08 40 13.0	
	comp=N,1μm,0.1s						
DURS				IAML		08 40 14.0	
	comp=E,2μm,0.4s						
KULA	**Kula-Manisa**	**0.69**	**206**	PG	**Pg**	**08 39 59.8**	**-0.6**
MANT	**Manisa**	**0.75**	**210**	*i* P	**Pg**	**08 40 00.9**	**-0.7**
MANT				*i* S	**Sg**	**08 40 09.2**	**-2.1**
MANT				IAML		08 40 15.0	
	comp=N,2μm,0.3s						
MANT				IAML		08 40 16.0	
	comp=E,2μm,0.4s						
ORLT	**Orhaneli**	**0.91**	**353**	PG	**Pg**	**08 40 04.2**	**-0.3**
ORLT				SG	**Sb**	**08 40 17.4**	**+0.1**
GOMA	**Golmarmara-Man**	**0.98**	**244**	PG	**Pb**	**08 40 05.8**	**-0.3**
AKHS	**Akhisar**	**0.99**	**255**	*i* P	**Pg**	**08 40 05.7**	**-0.4**
AKHS				*i* S	**Sg**	**08 40 17.9**	**-1.1**
AKHS				IAML		08 40 21.0	
	comp=E,638nm,0.8s						
AKS	**Akhisar**	**0.99**	**255**	PG	**Pg**	**08 40 05.9**	**-0.2**
ULDT	**Uludag**	**1.00**	**4**	*i* P	**Pg**	**08 40 06.2**	**-0.1**
ULDT				*i* S	**Sg**	**08 40 18.5**	**-0.8**
ULDT				IAML		08 40 22.0	
	comp=E,1μm,0.5s						
ULDT				IAML		08 40 26.0	
	comp=N,2μm,0.7s						
BALB	**Balikesir**	**1.03**	**299**	PG	**Pb**	**08 40 07.4**	**+0.4**
AFYO	**Afyonkarahisar**	**1.04**	**109**	*i* P	**Pb**	**08 40 07.7**	**+0.4**
AFYO				*i* S	**Sb**	**08 40 21.0**	**-0.1**
AFYO				IAML		08 40 28.0	
	comp=E,1μm,0.7s						
AFYO				IAML		08 40 37.0	
	comp=N,744nm,1.0s						
STEP	**BALIKESIR_Sava**	**1.05**	**283**	*i* P	**Pb**	**08 40 07.6**	**+0.2**
STEP				*i* S	**Sg**	**08 40 20.9**	**-0.1**
STEP				IAML		08 40 23.0	
	comp=E,3μm,0.6s						
STEP				IAML		08 40 24.0	
	comp=N,3μm,0.6s						
AUBOZ	**BOZOYUK**	**1.08**	**45**	PG	**Pg**	**08 40 07.7**	**-0.1**
AUBOZ	**BOZOYUK**	**1.08**	**45**	*i* P	**Pg**	**08 40 07.8**	**-0.1**
AUBOZ				*i* S	**Sg**	**08 40 20.1**	**-1.8**
AUBOZ				IAML		08 40 25.0	
	comp=N,1μm,0.7s						
AUBOZ				IAML		08 40 25.0	
	comp=E,2μm,0.6s						
AUKIR	**Kırka- Seyitga**	**1.16**	**83**	*i* P	**Pb**	**08 40 09.6**	**+0.2**
AUKIR				IAML		08 40 28.0	
	comp=N,672nm,0.8s						
AUKIR				IAML		08 40 28.0	
	comp=E,982nm,0.9s						
CAVI	**Cavuskoy**	**1.23**	**30**	PN	**Pg**	**08 40 10.2**	**-0.4**
KZIL	**AFYON_Kizioren**	**1.23**	**135**	*i* P	**Pg**	**08 40 10.3**	**-0.4**
KZIL				IAML		08 40 31.0	
	comp=N,418nm,0.4s						
KZIL				IAML		08 40 37.0	
	comp=E,293nm,0.4s						
MDNY	**Mudanya-Bursa**	**1.23**	**354**	PN	**Pg**	**08 40 10.4**	**-0.3**
BALY	**Balya**	**1.25**	**299**	*i* P	**Pg**	**08 40 10.7**	**-0.4**
BALY				*i* S	**Sg**	**08 40 25.1**	**-2.3**
BALY				IAML		08 40 30.0	
	comp=N,1μm,0.4s						
BALY				IAML		08 40 30.0	
	comp=E,2μm,0.4s						
GEMT	**Gemlik**	**1.30**	**5**	PN	**Pb**	**08 40 11.8**	**+0.2**
BORA	**Eskisehir**	**1.32**	**56**	PN	**Pb**	**08 40 11.9**	**+0.2**
BORA	**Eskisehir**	**1.32**	**56**	*i* P	**Pn**	**08 40 11.6**	**0.0**
BORA				*i* S	**Sg**	**08 40 28.9**	**-0.5**
BORA				IAML		08 40 30.0	
	comp=E,533nm,0.5s						
BORA				IAML		08 40 32.0	
	comp=N,366nm,0.7s						
SHUT	**Suhut-Afyon**	**1.32**	**116**	PN	**Pb**	**08 40 12.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38**	**311**	PN	**Pn**	**08 40 12.8**	**+0.3**
ADVT	**Abdulvahap**	**1.40**	**22**	PN	**Pn**	**08 40 13.2**	**+0.5**
ARMT	**Armutlu**	**1.43**	**354**	PN	**Pn**	**08 40 13.6**	**+0.4**
BASM	**Basmaki-Afyon**	**1.45**	**147**	PN	**Pb**	**08 40 14.2**	**-0.1**
TRML	**Termal-Yalova**	**1.47**	**4**	PN	**Pn**	**08 40 12.7**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**217**	PN	**Pb**	**08 40 14.7**	**-0.3**
EDC	**Edincik**	**1.51**	**323**	PN	**Pn**	**08 40 14.6**	**+0.4**
SRCK	**Saricakaya, Es**	**1.52**	**53**	PN	**Pn**	**08 40 14.7**	**+0.3**
ZEDA	**zmir-Bergama**	**1.54**	**264**	*i* P	**Pb**	**08 40 15.8**	**+0.1**
ZEDA				*i* S	**Sb**	**08 40 35.7**	**+0.3**
ZEDA				IAML		08 40 39.0	
	comp=N,474nm,0.4s						
ZEDA				IAML		08 40 42.0	
	comp=E,216nm,0.3s						
YLVH	**Yalova**	**1.57**	**9**	PN	**Pn**	**08 40 15.5**	**+0.4**
BRDR	**BURDUR-Merkez**	**1.65**	**151**	*i* P	**Pn**	**08 40 15.9**	**-0.4**
BRDR				IAML		08 40 46.0	
	comp=N,606nm,0.6s						
BRDR				IAML		08 40 53.0	
	comp=E,480nm,0.6s						
GEYV	**SAKARYA_Geyve**	**1.65**	**35**	*i* P	**Pb**	**08 40 17.6**	**-0.1**
GEYV				*i* S	**Sn**	**08 40 38.6**	**+1.1**
GEYV				IAML		08 40 45.0	
	comp=E,489nm,0.7s						
GEYV				IAML		08 40 47.0	
	comp=N,624nm,0.5s						
DKL	**Dikili**	**1.66**	**268**	PN	**Pn**	**08 40 16.9**	**+0.6**
TAVA	**DENIZLI_Tavas**	**1.68**	**184**	*i* P	**Pn**	**08 40 15.4**	**-1.2**
GULT	**Gulveren**	**1.72**	**41**	PN	**Pn**	**08 40 17.8**	**+0.6**
BLCB	**Balcova**	**1.74**	**245**	PN	**Pn**	**08 40 18.3**	**+1.0**
HRT	**Hereke**	**1.75**	**16**	PN	**Pn**	**08 40 17.4**	**-0.1**
ISP	**Isparta**	**1.76**	**138**	PN	**Pn**	**08 40 18.2**	**+0.5**
BAGO	**Egridir - ISPA**	**1.79**	**129**	*i* P	**Pn**	**08 40 16.8**	**-1.4**
BAGO				*i* S	**Sg**	**08 40 44.8**	**+0.3**
AYVA	**Ayvalik**	**1.83**	**276**	*i* P	**Pb**	**08 40 20.9**	**+0.2**
AYVA				*i* S	**Sb**	**08 40 43.7**	**0.0**
AYVA				IAML		08 40 51.0	
	comp=N,738nm,0.6s						
AYVA				IAML		08 40 54.0	
	comp=E,450nm,0.5s						
SAUV	**Serdivan-Sakar**	**1.88**	**31**	PN	**Pn**	**08 40 19.2**	**-0.1**
KAVV	**Kandilli-Istan**	**1.92**	**0**	PN	**Pn**	**08 40 20.2**	**+0.3**
ISK	**Istanbul-Kandi**	**1.92**	**0**	PN	**Pn**	**08 40 20.3**	**+0.4**
GOLH	**Golhisar**	**1.94**	**168**	*i* P	**Pn**	**08 40 19.8**	**-0.6**
GOLH				IAML		08 40 44.0	
	comp=E,295nm,1.0s						
GOLH				IAML		08 41 00.0	
	comp=N,304nm,1.0s						
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	PN	**Pn**	**08 40 20.9**	**+0.5**
AUSIV	**SIVRIHISAR**	**1.96**	**80**	PN	**Pn**	**08 40 21.0**	**+0.5**
AUSIV	**SIVRIHISAR**	**1.96**	**80**	*i* P	**Pb**	**08 40 23.1**	**+0.1**
AUSIV				IAML		08 40 54.0	
	comp=E,83nm,0.5s						
AUSIV				IAML		08 41 00.0	
	comp=N,113nm,0.9s						
BOTS	**Marmara Eregli**	**2.02**	**337**	PN	**Pn**	**08 40 22.2**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**2.02**	**288**	*i* P	**Pn**	**08 40 22.6**	**+1.3**
BAYC				IAML		08 40 55.0	
	comp=E,321nm,0.3s						
BAYC				IAML		08 40 57.0	
	comp=N,305nm,0.5s						
BGKT	**Bogazkoy**	**2.05**	**354**	PN	**Pn**	**08 40 21.8**	**+0.2**
SILT	**Sile**	**2.06**	**13**	PN	**Pn**	**08 40 22.3**	**+0.5**
URLA	**Izmir**	**2.07**	**249**	PN	**Pn**	**08 40 22.9**	**+1.0**
URLA	**Izmir**	**2.07**	**249**	*i* P	**Pb**	**08 40 24.8**	**+0.1**
URLA				IAML		08 40 59.0	
	comp=E,144nm,0.4s						
URLA				IAML		08 41 02.0	
	comp=N,94nm,0.4s						
BCK	**Bucak**	**2.07**	**144**	PN	**Pn**	**08 40 22.1**	**0.0**
YER	**Yerkesik**	**2.09**	**197**	PN	**Pn**	**08 40 23.3**	**+1.0**
MLSB	**Milas**	**2.10**	**209**	PN	**Pb**	**08 40 23.9**	**-1.3**
RKY	**Sarkoy-Tekirda**	**2.11**	**318**	PN	**Pn**	**08 40 23.7**	**+1.2**
SART	**Tekirdag**	**2.11**	**318**	*i* P	**Pn**	**08 40 22.3**	**-0.2**
SART				IAML		08 40 59.0	
	comp=E,283nm,0.4s						
MDUB	**Mudurnu**	**2.13**	**51**	PN	**Pn**	**08 40 23.7**	**+0.9**
CTKS	**Kestanelik-??a**	**2.13**	**349**	PN	**Pn**	**08 40 22.6**	**-0.2**
KAND	**Kocaeli-Kandir**	**2.14**	**24**	*i* P	**Pb**	**08 40 26.7**	**+0.7**
KAND				IAML		08 40 57.0	
	comp=E,355nm,0.8s						
KAND				IAML		08 40 58.0	
	comp=N,144nm,0.8s						
LPK	**Lapseki**	**2.15**	**306**	PN	**Pn**	**08 40 24.0**	**+1.0**
SLVT	**Silivri**	**2.18**	**343**	PN	**Pn**	**08 40 24.1**	**+0.6**
SAHE	**Sakarya_HENDEK**	**2.20**	**39**	*i* P	**Pn**	**08 40 23.9**	**+0.1**
CRLT	**Corlu**	**2.22**	**334**	PN	**Pn**	**08 40 25.1**	**+1.0**
KIZT	**Kizilcal**	**2.23**	**96**	PN	**Pn**	**08 40 24.9**	**+0.7**
DALY	**Dalyan (Mula)**	**2.34**	**188**	PN	**Pn**	**08 40 26.1**	**+0.5**
DALY	**Dalyan (Mula)**	**2.34**	**188**	*i* P	**Pn**	**08 40 26.0**	**+0.3**
DALY				IAML		08 41 10.0	
	comp=E,83nm,0.8s						
DALY				IAML		08 41 18.0	
	comp=N,93nm,0.7s						
GELI	**Tayfur-Gelibol**	**2.34**	**303**	PN	**Pn**	**08 40 27.3**	**+1.6**
YUVA	**Yuva-Kibriscik**	**2.39**	**58**	PN	**Pn**	**08 40 27.3**	**+0.8**
CTYL	**Yalikoy Yolu**	**2.40**	**346**	PN	**Pn**	**08 40 27.6**	**+1.1**
TURN	**Turunc**	**2.44**	**195**	PN	**Pn**	**08 40 28.1**	**+1.0**
CHOS	**Chios island**	**2.45**	**253**	PN	**Pn**	**08 40 28.9**	**+1.6**
KESN	**Edirne-Kesan**	**2.48**	**314**	*i* P	**Pn**	**08 40 29.3**	**+1.5**
KESN				IAML		08 41 09.0	
	comp=N,683nm,0.5s						
KESN				IAML		08 41 11.0	
	comp=E,682nm,0.3s						
SIGR	**SIGRI**	**2.48**	**273**	PN	**Pn**	**08 40 28.9**	**+1.4**
KDHN	**Kadinhani**	**2.48**	**104**	*i* P	**Pn**	**08 40 25.7**	**-2.0**
BODT	**Bodrum**	**2.48**	**214**	PN	**Pn**	**08 40 28.8**	**+1.1**
YIGI	**Dzce**	**2.59**	**45**	*i* P	**Pb**	**08 40 31.7**	**-1.9**
YIGI				IAML		08 41 17.0	
	comp=N,91nm,0.7s						
YIGI				IAML		08 41 23.0	
	comp=E,93nm,0.9s						
DAT	**Datca**	**2.67**	**206**	PN	**Pn**

16C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BI03	**Tigo**	**1.23**	**169**	*i*P		**Pn**	**08 46 54.5**	**-1.0**
BI03				*e*S		**Sb**	**08 47 08.9**	**-2.5**
BI03				IAML			08 47 19.3	
	comp=N,279μm,0.4s							
BI03	**Tigo**	**1.23**	**169**			**Pn**	**08 46 55.3**	**-0.3**
BI03					Sn	**Sb**	**08 47 10.6**	**-0.9**
GO05	**Huala**	**1.30**	**62**	*i*P		**Pn**	**08 46 54.0**	**-2.6**
GO05				*i* S		**Sb**	**08 47 10.5**	**-3.1**
GO05				IAML			08 47 14.1	
	comp=E,83μm,0.6s							
GO05	**Huala**	**1.30**	**62**			**Pn**	**08 46 54.9**	**-1.7**
GO05						**Sb**	**08 47 11.8**	**-1.8**
GO05	**Huala**	**1.30**	**62**	*e*P		**Pn**	**08 46 54.2**	**-2.4**
GO05				*e*S		**Sb**	**08 47 12.6**	**-1.1**
LAJA	**Laja**	**1.71**	**163**	*e*P		**Pn**	**08 47 00.9**	**-1.3**
LAJA				*e*S		**Sn**	**08 47 22.9**	**-0.7**
BI02	**San Fabin de**	**1.95**	**122**	*i*P		**Pn**	**08 47 04.7**	**-0.9**
BI02				*i* S		**Sn**	**08 47 28.4**	**-1.2**
BI02				IAML			08 47 33.4	
	comp=N,34μm,0.5s							
BI02	**San Fabin de**	**1.95**	**122**			**Pn**	**08 47 04.9**	**-0.7**
BO02	**Sierra Bellavi**	**2.25**	**69**	*i*P		**Pn**	**08 47 07.9**	**-1.7**
BO02				*i* S		**Sn**	**08 47 37.0**	**+0.1**
BO02	**Sierra Bellavi**	**2.25**	**69**		Pn	**Pn**	**08 47 08.9**	**-0.7**
BI04	**Isla Mocha**	**2.80**	**189**	*e*P		**Pn**	**08 47 15.9**	**-1.3**
BI04				*i* S		**Sn**	**08 47 48.1**	**-2.4**
BI04				IAML			08 48 14.1	
	comp=N,10μm,0.6s							
CANA	**Caviahue**	**2.89**	**142**	*e*P		**Pn**	**08 47 19.8**	**+1.2**
CANA				IAML			08 48 10.3	
	comp=Z,6μm,1.4s							
VA01	**Torpederas**	**2.96**	**28**	*e*P		**Pn**	**08 47 16.5**	**-2.8**
VA01				*e*S		**Sn**	**08 47 50.1**	**-4.1**
VA01	**Torpederas**	**2.96**	**28**		Pn	**Pn**	**08 47 17.4**	**-1.9**
MT02	**Curacav**	**2.98**	**38**	*i*P		**Pn**	**08 47 17.0**	**-2.7**
MT02				*i* S		**Sn**	**08 47 55.6**	**+0.7**
MT02				IAML			08 48 15.1	
	comp=E,7μm,0.6s							
MT02	**Curacav**	**2.98**	**38**			**Pn**	**08 47 17.4**	**-2.3**
MT05	**Renca**	**3.10**	**44**	*i*P		**Pn**	**08 47 19.2**	**-2.1**
MT05				*e*S		**Sn**	**08 47 58.5**	**+0.6**
MT05				IAML			08 48 18.9	
	comp=E,21μm,0.6s							
MT05	**Renca**	**3.10**	**44**			**Pn**	**08 47 20.1**	**-1.2**
LMEL	**Las Melosas**	**3.13**	**56**	*i*P		**Pn**	**08 47 20.3**	**-1.6**
LMEL				*i* S		**Sn**	**08 47 59.1**	**+0.3**
FSR	**Penalolen**	**3.16**	**48**	*e*P		**Pn**	**08 47 21.9**	**-0.3**
FSR				*e*S		**Sn**	**08 47 58.7**	**-0.6**
MT03	**Universidad Ad**	**3.16**	**48**	*i*P		**Pn**	**08 47 20.1**	**-2.1**
MT03				*i* S		**Sn**	**08 47 59.7**	**+0.3**
PUMA	**Malargue**	**3.16**	**89**	*e*P		**Pn**	**08 47 23.4**	**+1.2**
EDS3	**Malargue**	**3.20**	**93**	*e*P		**Pn**	**08 47 23.6**	**+0.8**
EDS3				*e*S		**Sb**	**08 48 09.9**	**+1.5**
CLCH	**Cerro Calan**	**3.21**	**47**	*i*P		**Pn**	**08 47 21.1**	**-1.9**
CLCH				*e*S		**Sn**	**08 48 02.5**	**+1.9**
ROC1	**El Roble**	**3.27**	**36**			**Pn**	**08 47 22.3**	**-1.7**
ROC1	**El Roble**	**3.27**	**36**	*e*P		**Pn**	**08 47 22.7**	**-1.2**
ROCH	**El Roble**	**3.28**	**36**	*e*P		**Pn**	**08 47 21.7**	**-2.3**
ROCH				*e*S		**Sn**	**08 48 03.2**	**+0.7**
PEL	**Peldehue**	**3.31**	**42**	*i*P		**Pn**	**08 47 22.3**	**-2.0**
PEL				*e*S		**Sn**	**08 48 00.5**	**-2.6**
PEL				IAML			08 48 18.5	
	comp=N,10μm,0.6s							
PEL	**Peldehue**	**3.31**	**42**	P		**Pn**	**08 47 22.9**	**-1.4**
PEL	**Peldehue**	**3.31**	**42**	Pn		**Pn**	**08 47 22.9**	**-1.4**
PEL	**Peldehue**	**3.31**	**42**	*e*P		**Pn**	**08 47 23.6**	**-0.7**
PEL				*e*S		**Sb**	**08 48 15.0**	**+3.5**
LAMA	**Las Malvinas**	**3.44**	**79**	*e*P		**Pn**	**08 47 26.9**	**+0.9**
LC01	**Cunco**	**3.45**	**161**	||*i*P		**Pn**	**08 47 26.4**	**+0.3**
LC01				*e*S		**Sn**	**08 48 06.7**	**+0.2**
LC01				IAML			08 48 31.2	
	comp=E,5μm,0.6s							
LC01	**Cunco**	**3.45**	**161**	Pn		**Pn**	**08 47 26.9**	**+0.7**
VA03	**San Esteban**	**3.67**	**39**	*i*P		**Pn**	**08 47 27.4**	**-1.9**
VA03				*e*S		**Sn**	**08 48 11.1**	**-1.0**
VA03	**San Esteban**	**3.67**	**39**			**Pn**	**08 47 28.0**	**-1.3**
RFA	**San Rafael**	**4.07**	**79**	*e*P		**Pn**	**08 47 34.8**	**0.0**
RFA				*e*S		**Sg**	**08 48 43.6**	**-0.6**
RFA				IAML			08 48 50.6	
	comp=Z,5μm,0.9s							
AAGR	**Agrelo**	**4.51**	**57**	*e*P		**Pn**	**08 47 41.2**	**+0.4**
AAGR				IAML			08 49 14.3	
	comp=Z,2μm,1.4s							
ARCO	**CERRO ARCO**	**4.58**	**54**	*e*P		**Pn**	**08 47 42.6**	**+0.7**
ARCO				IAML			08 49 05.5	
	comp=Z,5μm,1.0s							
AUSP	**Uspallata**	**4.72**	**45**	*e*P		**Pn**	**08 47 44.0**	**+0.1**
ASAL	**Salagasta**	**4.81**	**52**	*e*P		**Pn**	**08 47 45.4**	**+0.5**
ASAL				IAML			08 49 12.0	
	comp=Z,2μm,1.8s							
CO02	**Combarbal**	**4.83**	**24**	*i*P		**Pn**	**08 47 43.1**	**-2.2**
CO02	**Combarbal**	**4.83**	**24**			**Pn**	**08 47 43.2**	**-2.0**
H03S1	**Juan Fernandez**	**4.93**	**290**		Pn	**Pn**	**08 47 45.9**	**-0.3**
	baz=72,slow=13,SNR=164							
H03S1					Sn	**Sn**	**08 48 39.9**	**-2.8**
H03S1					T	T	08 53 03.4	
	baz=111,slow=74,SNR=2072							
H03S3	**Juan Fernandez**	**4.94**	**290**		Pn	**Pn**	**08 47 46.8**	**+0.4**
	baz=72,slow=13,SNR=238							
H03S3					Sn	**Sn**	**08 48 40.1**	**-2.8**
H03S3					T	T	08 53 00.3	
	baz=111,slow=74,SNR=3366							
H03S2	**Juan Fernandez**	**4.95**	**290**		Pn	**Pn**	**08 47 46.6**	**+0.1**
	baz=72,slow=13,SNR=272							
H03S2					Sn	**Sn**	**08 48 40.1**	**-3.0**
H03S2					T	T	08 52 59.3	
	baz=111,slow=74,SNR=5756							
VA04	**Juan Fernndez**	**4.96**	**292**		Pn	**Pn**	**08 47 46.3**	**-0.5**
H03N1	**Juan Fernandez**	**5.11**	**294**		Pn	**Pn**	**08 47 49.5**	**+0.9**
	baz=141,slow=25,SNR=404							
H03N1					Sn	**Sn**	**08 48 43.3**	**-3.6**
H03N1					T	T	08 53 15.0	
	baz=109,slow=77,SNR=77							
H03N3	**Juan Fernandez**	**5.11**	**294**		Pn	**Pn**	**08 47 49.5**	**+0.7**
	baz=141,slow=25,SNR=288							
H03N3					Sn	**Sn**	**08 48 43.4**	**-3.6**
H03N3					T	T	08 53 28.2	
	baz=109,slow=77,SNR=76							
H03N2	**Juan Fernandez**	**5.12**	**294**		Pn	**Pn**	**08 47 49.8**	**+0.9**
	baz=141,slow=25,SNR=236							
H03N2					Sn	**Sn**	**08 48 44.0**	**-3.3**
H03N2					T	T	08 53 24.8	
	baz=109,slow=77,SNR=104							
CO03	**El Pedregal**	**5.27**	**25**	*i*P		**Pn**	**08 47 49.3**	**-2.0**
CO03	**El Pedregal**	**5.27**	**25**			**Pn**	**08 47 49.4**	**-1.9**
RTCV	**Cerro Valdivia**	**5.48**	**48**	*e*P		**Pn**	**08 47 53.4**	**-0.8**
RTCV				IAML			08 49 37.8	
	comp=Z,2μm,1.6s							
PLCA	**Paso Flores**	**5.53**	**158**	Pn		**Pn**	**08 47 55.4**	**+0.6**
	comp=Z,10nm,0.3s,baz=328,slow=9.5,SNR=222							
PLCA					Sn	**Sb**	**08 49 08.3**	**-7.1**
	comp=Z,5.6nm,0.3s,baz=267,slow=22,SNR=1.1							
PLCA					Lg	Lg	08 49 23.1	
	comp=Z,22nm,0.3s,baz=252,slow=22,SNR=5.7							
PLCA	**Paso Flores**	**5.53**	**158**	Pn		**Pn**	**08 47 55.6**	**+0.7**
PLCA	**Paso Flores**	**5.53**	**158**	*e*P		**Pn**	**08 47 55.6**	**+0.7**
GO04	**Tololo Observa**	**5.85**	**22**			**Pn**	**08 47 56.7**	**-2.6**
RTLL	**Cerro Villicun**	**5.91**	**45**	*e*P		**Pn**	**08 47 58.8**	**-1.1**
RTLL				IAML			08 49 29.6	
	comp=Z,3μm,0.8s							
CO01	**Juntas del Tor**	**6.27**	**27**			**Pn**	**08 48 04.0**	**-1.1**
CO01					Sn	**Sn**	**08 49 13.5**	**-2.8**
AC05	**El Transito**	**7.26**	**22**		Pn	**Pn**	**08 48 16.5**	**-2.1**
AC05					Sn	**Sn**	**08 49 37.4**	**-3.1**
AGUA	**GUANDACOL**	**7.37**	**35**	*e*P		**Pn**	**08 48 18.5**	**-1.6**
AC04	**Llanos de Chal**	**7.66**	**15**	Pn		**Pn**	**08 48 20.5**	**-3.4**
APLL	**PUNTA DE LOS L**	**7.74**	**49**	*e*P		**Pn**	**08 48 22.3**	**-2.8**
GO03	**Copiap**	**8.44**	**19**			**Pn**	**08 48 32.0**	**-2.7**
TRQA	**Tornquist**	**9.41**	**108**	P		**Pn**	**08 48 46.3**	**-1.7**
TRQA	**Tornquist**	**9.41**	**108**	Pn		**Pn**	**08 48 46.3**	**-1.7**
AC01	**Pan de Azucar**	**9.75**	**15**			**Pn**	**08 48 48.8**	**-3.8**
GO02	**Mina Guanaco**	**10.93**	**18**	Pn		**Pn**	**08 49 07.5**	**-1.6**
PB14	**IPOC Station P**	**11.26**	**14**	Pn		**Pn**	**08 49 12.1**	**-1.6**
LPA	**La Plata**	**12.60**	**91**	*d*P		**Pn**	**08 49 28.3**	**-3.3**
LPA				PPP		PPP	08 50 19.4	
LPA				S		**Sn**	**08 51 47.1**	**-4.3**
LPA				SS		**SbSb**	**08 52 54.3**	**+10**
PB15	**IPOC Station P**	**12.83**	**16**			**Pn**	**08 49 33.7**	**-1.3**
PB06	**IPOC Station P**	**13.30**	**15**			**Pn**	**08 49 40.9**	**-0.5**
LVC	**Limon Verde**	**13.54**	**18**	Pn		**Pn**	**08 49 43.1**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=214,slow=8.4,SNR=17							
LVC					Sn	**Sn**	**08 52 21.3**	**+6.3**
	comp=Z,0.7nm,0.3s,baz=282,slow=8.4,SNR=3.3							
LVC					LR	LR	08 55 20.2	
	comp=Z,5μm,18.2s,baz=209,slow=40							
LVC	**Limon Verde**	**13.54**	**18**			**Pn**	**08 49 43.5**	**-1.3**
LVC	**Limon Verde**	**13.54**	**18**	*e*P		**Pn**	**08 49 44.3**	**-0.6**
LVC				*e*S		**Sn**	**08 52 14.0**	**-1.0**
PB04	**IPOC Station P**	**13.54**	**13**			**Pn**	**08 49 42.4**	**-2.3**
PB07	**IPOC Station P**	**14.19**	**13**			**Pn**	**08 49 53.5**	**0.0**
PB09	**IPOC Station P**	**14.25**	**16**			**Pn**	**08 49 54.7**	**+0.3**
GO09	**Cerro Castillo**	**15.64**	**178**	P		**Pn**	**08 50 12.4**	**-0.3**
MNMC	**Minye Minye**	**16.77**	**12**	Pn		**Pn**	**08 50 26.3**	**-1.2**
MNMC				IAmb		IAmb	08 50 41.2	
	comp=Z,188nm,0.7s							
PLTB	**Pedras Altas**	**16.86**	**82**	*e*P		**Pn**	**08 50 25.7**	**-2.6**
CPSB	**Cacapava Do Su**	**17.47**	**78**	*e*P		**Pn**	**08 50 31.1**	**-4.9**
EFI	**East Falkland**	**19.40**	**150**	P		**P**	**08 50 57.8**	**-0.3**
EFI				pmax		pmax		
	comp=Z,61nm,0.7s							
EFI	**East Falkland**	**19.40**	**150**	P		**P**	**08 50 57.8**	**-0.3**
EFI				IAmb		IAmb	08 51 08.3	
	comp=Z,61nm,0.7s							
MG01	**Puerto William**	**19.69**	**170**	P		**P**	**08 51 01.0**	**-0.3**
MG01				IAmb		IAmb	08 51 22.2	
	comp=Z,100nm,0.8s							
LPAZ	**La Paz**	**19.82**	**15**	P		**P**	**08 51 03.3**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=179,slow=5.7,SNR=53							
LPAZ	**La Paz**	**19.82**	**15**	P		**Pn**	**08 51 04.9**	**-0.4**
LPAZ				IAmb		IAmb	08 51 18.8	
	comp=Z,66nm,0.8s							
ITAB	**Concordia**	**19.90**	**71**	*e*P		**P**	**08 51 01.0**	**-2.8**
CNLB	**Canela**	**19.96**	**78**	*e*P		**P**	**08 51 01.8**	**-2.7**
AQDB	**Aquidauana**	**21.63**	**50**	*e*P		**P**	**08 51 20.9**	**-1.6**
TRCB	**Terra Rica**	**22.08**	**60**	*e*P		**P**	**08 51 25.1**	**-2.3**
SIV	**San Ignacio**	**22.42**	**32**	P		**P**	**08 51 29.4**	**-1.7**
	comp=Z,71nm,0.9s,baz=229,slow=10,SNR=123							
SIV				LR		LR	09 02 04.1	
	comp=Z,7μm,18.3s,baz=230,slow=42							
TIJ01	**Guaruva-PR**	**23.29**	**71**	*e*P		**P**	**08 51 33.9**	**-6.3**
NNA	**Nana**	**23.76**	**351**	P		**P**	**08 51 45.0**	**+0.2**
	comp=Z,7.5nm,0.7s,baz=188,slow=13,SNR=2.0							
NNA				LR		LR	08 59 10.5	
	comp=Z,945nm,19.2s,baz=182,slow=32							
NNA	**Nana**	**23.76**	**351**	*i* P		**P**	**08 51 44.8**	**0.0**
NNA				pmax		pmax		
	comp=Z,12nm,0.9s							
NNA	**Nana**	**23.76**	**351**	P		**P**	**08 51 45.2**	**+0.4**
PTLB	**Pontes e Lacer**	**23.78**	**36**	*e*P		**P**	**08 51 43.9**	**-1.0**
PCMB	**Pacaembu**	**23.81**	**60**	*e*P		**P**	**08 51 41.9**	**-3.3**
FRTB	**Fartura**	**23.97**	**66**	*e*P		**P**	**08 51 44.9**	**-1.9**
PET01	**Itanhaem-SP**	**25.17**	**70**	*e*P		**P**	**08 51 56.0**	**-1.6**
SPB	**Sao Paulo**	**25.43**	**69**	P		**P**	**08 51 58.3**	**-1.6**
SPB	**Sao Paulo**	**25.43**	**69**	*e*P		**P**	**08 51 59.0**	**-0.9**
VILB	**Vilhena**	**25.50**	**31**	*e*P		**P**	**08 51 59.6**	**-1.1**
ITRB	**Iturama**	**25.70**	**58**	*e*P		**P**	**08 52 01.0**	**-1.5**
RCLB	**Rio Claro- Sao**	**26.03**	**67**	*e*P		**P**	**08 52 03.2**	**-2.3**
BB19B	**Bebedouro**	**26.11**	**63**	*e*P		**P**	**08 52 04.0**	**-2.3**
VAO	**Valinhos**	**26.11**	**68**	*e*P		**P**	**08 52 04.2**	**-2.1**
ETMB	**Extrema**	**26.51**	**16**	*e*P		**P**	**08 52 09.9**	**+0.2**
PARB	**Paraibuna**	**26.95**	**71**	*e*P		**P**	**08 52 12.1**	**-1.7**
ARAG	**Araguaiana, MT**	**27.63**	**50**	*e*P		**P**	**08 52 18.0**	**-1.9**
CZSB	**Cruzeiro do Su**	**27.78**	**1**	*e*P		**P**	**08 52 22.1**	**+0.9**
SAML	**Samuel**	**28.14**	**22**	P		**P**	**08 52 23.6**	**-0.8**
SAML				pmax		pmax		
	comp=Z,10.0nm,0.7s							
SAML				MLR		MLR		
	comp=Z,2μm,20.0s							
SAML	**Samuel**	**28.14**	**22**	P		**P**	**08 52 23.6**	**-0.8**
SAML	**Samuel**	**28.14**	**22**	IAMs_20		IAMs_20	09 05 41.0	
	comp=Z,2μm,20.0s							
SAML	**Samuel**	**28.14**	**22**	*e*P		**P**	**08 52 23.3**	**-1.1**
IPMB	**Ipameri, GO**	**28.36**	**58**	*e*P		**P**	**08 52 24.6**	**-1.8**
MAN01	**Ångra dos Reis**	**28.49**	**71**	*e*P		**P**	**08 52 25.2**	**-2.3**
ATAH	**Atahualpa**	**28.75**	**349**	P		**P**	**08 52 31.6**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=117,slow=2.3,SNR=1.8							
ATAH				LR		LR	09 01 44.2	
	comp=Z,692nm,21.2s,baz=194,slow=32							
BSCB	**Bom Sucesso**	**28.93**	**67**	*e*P		**P**	**08 52 29.8**	**-1.8**
VAS01	**Vassouras-RJ**	**29.21**	**71**	*e*P		**P**	**08 52 33.0**	**-1.0**
CLDB	**Colider**	**29.34**	**37**	*e*P		**P**	**08 52 32.4**	**-2.8**
PMSA	**Palmer Station**	**29.70**	**172**	P		**P**	**08 52 39.0**	**+1.2**
	comp=Z,12nm,0.8s,baz=5.6,slow=4.7,SNR=4.0							
PMSA				LR		LR	09 04 35.6	
	comp=Z,2μm,18.2s,baz=340,slow=36							
PMSA	**Palmer Station**	**29.70**	**172**	P		**P**	**08 52 39.0**	**+1.2**
PMSA				IAmb		IAmb	08 52 40.9	
	comp=Z,26nm,0.9s							
PMSA	**Palmer Station**	**29.70**	**172**	IAMs_20		IAMs_20	09 06 19.7	
	comp=Z,2μm,18.0s							
BDFB	**Brasilia**	**30.13**	**55**	P		**P**	**08 52 40.0**	**-2.2**
	comp=Z,24nm,0.8s,baz=227,slow=8.6,SNR=42							
BDFB				LR		LR	09 05 04.7	
	comp=Z,2μm,20.5s,baz=230,slow=37							
BDFB	**Brasilia**	**30.13**	**55**	P		**P**	**08 52 40.1**	**-2.1**
BDFB				IAmb		IAmb	08 52 41.5	
	comp=Z,30nm,0.9s							
MC01	**Montes Claros**	**32.23**	**62**	*e*P		**P**	**08 52 58.8**	**-1.9**
NPGB	**Novo Progresso**	**32.89**	**34**	*e*P		**P**	**08 53 04.6**	**-1.8**
SJMB	**Sao Joao De Ma**	**33.00**	**68**	*e*P		**P**	**08 53 06.0**	**-1.4**
JANB	**Januaria**	**33.08**	**59**	*e*P		**P**	**08 53 06.4**	**-1.8**
BSFB	**Barra de Sao F**	**33.18**	**68**	*e*P		**P**	**08 53 07.3**	**-1.6**
RIB01	**Linhares ES**	**33.24**	**69**	*e*P		**P**	**08 53 08.2**	**-1.3**
NAN01	**Guarapari, ES**	**34.32**	**68**	*e*P		**P**	**08 53 17.1**	**-1.8**
MACA	**Manacapuru-AM**	**34.37**	**23**	*e*P		**P**	**08 53 18.6**	**-0.7**
SDBA	**SAO DESIDERIO**	**34.54**	**55**	*e*P		**P**	**08 53 19.6**	**-1.3**
ITTB	**Itaituba**	**35.10**	**32**	*e*P		**P**	**08 53 24.1**	**-1.5**
SMTB	**Santa Maria do**	**35.52**	**48**	*e*P		**P**	**08 53 27.9**	**-1.4**
OTAV	**Otavalo**	**36.01**	**351**	P		**P**	**08 53 33.9**	**0.0**
OTAV				pmax		pmax		
	comp=Z,17nm,1.1s							
OTAV	**Otavalo**	**36.01**	**351**	P		**P**	**08 53 33.9**	**0.0**
OTAV	**Otavalo**	**36.01**	**351**	*e*P		**P**	**08 53 36.0**	**+2.0**
PRPB	**Parauapebas**	**36.43**	**42**	*e*P		**P**	**08 53 36.0**	**-1.0**
GDU01	**Guandu, BA**	**37.35**	**63**	*e*P		**P**	**08 53 43.1**	**-1.8**
MALB	**Monte Alegre**	**37.99**	**32**	*e*P		**P**	**08 53 49.9**	**-0.4**
ROSC	**El Rosal**	**40.28**	**358**	P		**P**	**08 54 12.2**	**+2.5**
	comp=Z,15nm,0.6s,baz=138,slow=8.1,SNR=6.4							
ROSC				LR		LR	09 11 23.4	
	comp=Z,833nm,18.6s,baz=230,slow=37							
ROSC	**El Rosal**	**40.28**	**358**	P		**P**	**08 54 10.8**	**+1.1**
MCPB	**Macapa, AP**	**40.30**	**34**	*e*P		**P**	**08 54 08.6**	**-0.9**
TMAB	**Tom-Au,PA,Br**	**40.53**	**41**	*e*P		**P**	**08 54 10.9**	**-0.6**
SDV	**Santo Domingo**	**44.36**	**4**	P		**P**	**08 54 42.3**	**-0.5**
SDV				IAmb		IAmb	08 55 05.0	
	comp=Z,21nm,0.8s							
SDV	**Santo Domingo**	**44.36**	**4**	IAMs_20		IAMs_20	09 15 18.7	
	comp=Z,1μm,18.0s							
SDV	**Santo Domingo**	**44.36**	**4**	*e*P		**P**	**08 54 43.3**	**+0.5**
BCIP	**Isla Barro Col**	**44.99**	**351**	P		**P**	**08 54 47.1**	**-0.5**
BCIP				pmax		pmax		
	comp=Z,15nm,0.9s							
BCIP	**Isla Barro Col**	**44.99**	**351**	P		**P**	**08 54 47.1**	**-0.5**
RCBR	**Riachuelo**	**45.40**	**58**	P		**P**	**08 54 51.5**	**+0.5**
RCBR				pmax		pmax		
	comp=Z,39nm,1.0s							
RCBR				MLR		MLR		
	comp=Z,5μm,18.0s							
RCBR	**Riachuelo**	**45.40**	**58**	P		**P**	**08 54 51.5**	**+0.5**
RCBR				IAmb		IAmb	08 55 03.5	
	comp=Z,39nm,1.0s							
TOSP	**Speyside**	**48.22**	**17**	P		**P**	**08 55 12.9**	**-0.1**
VNA3	**Neumayer Olymp**	**48.25**	**157**	P		**P**	**08 55 13.7**	**+1.1**
VNA1	**Neumayer--Stat**	**48.59**	**156**	P		**P**	**08 55 16.6**	**+1.4**
ACON	**Acoyapa**	**48.66**	**344**	P		**P**	**08 55 16.9**	**+0.6**
ESPN	**Las Esperanzas**	**48.69**	**346**	P		**P**	**08 55 17.5**	**+1.0**
GRGR	**Grenville**	**48.78**	**15**	P		**P**	**08 55 17.1**	**-0.1**
GRGR				IAMs_20		IAMs_20	09 19 00.4	
	comp=Z,1μm,19.0s							
VNA2	**Neumayer--Watz**	**48.92**	**157**	P		**P**	**08 55 18.9**	**+1.2**
PTCN	**Pitcairn Islan**	**49.52**	**266**	P		**P**	**08 55 23.4**	**+0.5**
MATN	**Matagalpa**	**49.76**	**344**	P		**P**	**08 55 25.0**	**+0.2**
SVB	**Belmont**	**49.97**	**15**	P		**P**	**08 55 26.1**	**-0.2**
SVB				IAMs_20		IAMs_20	09 19 46.9	
	comp=Z,847nm,19.0s							
MCLT	**Moule a Chique**	**50.46**	**16**	P		**P**	**08 55 30.4**	**+0.3**
SNAA	**Sanae**	**50.48**	**157**	P		**P**	**08 55 30.3**	**+0.6**
SNAA	**Sanae**	**50.48**	**157**	*ce*P		**P**	**08 55 30.4**	**+0.7**
SNAA				pmax		pmax		
	comp=Z,72nm,1.0s							
SNAA	**Sanae**	**50.48**	**157**	P		**P**	**08 55 30.7**	**+1.1**
TGUH	**Tegucigalpa,Un**	**51.16**	**343**	P		**P**	**08 55 35.1**	**-0.4**
TGUH				IAmb		IAmb	08 55 47.5	
	comp=Z,23nm,0.8s							
FDF	**Fort de France**	**51.41**	**15**	P		**P**	**08 55 36.2**	**-1.0**
FDF				pmax		pmax		
	comp=Z,55nm,0.6s							
FDF				MLR		MLR		
	comp=Z,1μm,19.0s							
FDF	**Fort de France**	**51.41**	**15**	P		**P**	**08 55 36.2**	**-1.0**
FDF				IAMs_20		IAMs_20	09 20 32.2	
	comp=Z,979nm,19.0s							
DLPL	**La Plaine**	**51.97**	**15**	IAMs_20		IAMs_20	09 15 35.9	
	comp=Z,893nm,21.0s							
SKI	**Saint Kitts**	**53.63**	**13**	P		**P**	**08 55 53.2**	**-0.4**
SKI				pmax		pmax		
	comp=Z,88nm,1.0s							
SKI				MLR		MLR		
	comp=Z,1μm,18.0s							
SKI	**Saint Kitts**	**53.63**	**13**	P		**P**	**08 55 53.2**	**-0.4**
SKI				IAMs_20		IAMs_20	09 22 28.1	
	comp=Z,1μm,18.0s							
CRPR	**Cabo Rojo, PR**	**53.67**	**7**	P		**P**	**08 55 54.0**	**+0.2**
CRPR				IAmb		IAmb	08 55 54.5	
	comp=Z,34nm,0.8s							
SEUS	**St. Eustatius**	**53.74**	**12**	IAMs_20		IAMs_20	09 22 19.1	
	comp=Z,1μm,19.0s							
OBIP	**Obispado Ponce**	**53.77**	**8**	P		**P**	**08 55 53.1**	**-1.4**
OBIP				IAmb		IAmb	08 55 54.2	
	comp=Z,30nm,0.7s							
OBIP				IAMs_20		IAMs_20	09 22 44.3	
	comp=Z,1μm,22.0s							
BANI	**BANI**	**53.81**	**3**	P		**P**	**08 55 54.6**	**-0.4**
PDPR	**Patillas Dam,**	**53.81**	**9**	P		**P**	**08 55 54.1**	**-0.7**
PDPR				IAmb		IAmb	08 56 02.7	
	comp=Z,26nm,0.9s							
SABA	**Saba**	**53.82**	**12**	P		**P**	**08 55 54.6**	**-0.4**
SABA				IAMs_20		IAMs_20	09 22 03.2	
	comp=Z,1μm,20.0s							
MTP	**Monte Pirata**	**53.95**	**9**	P		**P**	**08 55 55.6**	**-0.3**
MTP				IAmb		IAmb	08 56 12.3	
	comp=Z,36nm,1.5s							
HUMP	**Col San Antoni**	**53.95**	**9**	P		**P**	**08 55 55.6**	**-0.3**
CBYP	**Canovanas**	**54.08**	**9**	P		**P**	**08 55 55.2**	**-1.8**
CBYP				IAmb		IAmb	08 55 56.6	
	comp=Z,21nm,0.8s							
GCPR	**Guaynabo City**	**54.09**	**9**	P		**P**	**08 55 55.6**	**-1.3**
GCPR				IAmb		IAmb	08 56 08.0	
	comp=Z,26nm,0.7s							
ANWB	**Willy Bob**	**54.13**	**14**	P		**P**	**08 55 54.9**	**-2.3**
ANWB				IAMs_20		IAMs_20	09 21 57.3	
	comp=Z,686nm,20.0s							
SDDR	**Presa de Saban**	**54.36**	**2**	IAMs_20		IAMs_20	09 21 22.7	
	comp=Z,736nm,19.0s							
QSPA	**South Pole Qui**	**54.60**	**180**	P		**P**	**08 56 01.9**	**+1.5**
CCIG	**Comitan

JCT	Junction City	70.33 336	P	P	08 57 46.5 +0.8
JCT			pmax	pmax	
comp=Z,14nm,0.9s					
JCT	Junction City	70.33 336	P	P	08 57 47.5 +1.8
baz=157					
JCT	Junction City	70.33 336	P	P	08 57 46.5 +0.8
JCT			IAmb	IAmb	08 58 15.7
comp=Z,14nm,0.8s					
X54A	Belton	70.33 352	P	P	08 57 46.1 +0.5
baz=172,SNR=11					
W60A	Pink Hill	70.45 356	P	P	08 57 46.8 +0.6
baz=176					
W58A	Raeford	70.51 355	P	P	08 57 47.3 +0.7
baz=175					
237A	Washetta, Mont	70.52 340	P	P	08 57 48.2 +1.4
PAULI	Pauline	70.55 353	P	P	08 57 46.7 -0.2
PAULI			IAmb	IAmb	08 57 48.4
comp=Z,17nm,0.7s					
W59A	Clinton	70.61 356	P	P	08 57 48.4 +1.2
baz=176					
CNNC	Cliffs of the	70.64 356	P	P	08 57 49.0 +1.5
baz=176					
CNNC	Cliffs of the	70.64 356	P	P	08 57 48.0 +0.5
TX31	Lajitas Ar. Si	70.67 332	P	P	08 57 49.0 +1.1
TX31			IAmb	IAmb	08 58 07.3
comp=Z,36nm,1.4s					
TX32	Lajitas Array	70.67 332	P	P	08 57 49.0 +1.1
TXAR	Lajitas Array	70.67 332	P	P	08 57 49.3 +1.5
comp=Z,2.7nm,0.6s,baz=153,slow=8.5,SNR=39					
TXAR			LR	LR	09 24 14.6
comp=Z,387nm,18.0s,baz=0.0,slow=32					
TXAR	Lajitas Array	70.67 332	P	P	08 57 49.2 +1.3
TXAR	Lajitas Array	70.67 332	P	P	08 57 49.2 +1.3
X51A	Calhoun	70.67 350	P	P	08 57 47.9 +0.3
W57A	Gilead	70.70 354	P	P	08 57 48.3 +0.5
baz=174					
W57A	Gilead	70.70 354	P	P	08 57 47.9 +0.1
W57A			IAmb	IAmb	08 57 49.0
comp=Z,16nm,0.8s					
FPAL	Fort Paine	70.76 349	P	P	08 57 49.0 +0.8
FPAL			IAmb	IAmb	08 57 51.7
comp=Z,15nm,0.8s					
Y45A	Yeager Farm, C	70.79 346	P	P	08 57 49.3 +0.9
KMSC	Kings Mountain	70.81 353	P	P	08 57 49.1 +0.6
baz=173,SNR=6.1					
KMSC	Kings Mountain	70.81 353	P	P	08 57 48.6 +0.1
KMSC			IAmb	IAmb	08 57 50.2
comp=Z,18nm,0.7s					
BG3	Lake Jocassee	70.84 352	P	P	08 57 49.5 +0.8
BG3			IAmb	IAmb	08 57 50.7
comp=Z,16nm,0.7s					
W54A	Cherokee Point	70.85 352	P	P	08 57 49.7 +1.0
baz=172,SNR=12					
X48A	Hartselle	70.90 348	P	P	08 57 49.6 +0.6
Z41A	Richland Creek	70.92 343	P	P	08 57 50.9 +1.7
baz=163					
Z41A	Richland Creek	70.92 343	P	P	08 57 50.4 +1.2
WHTX	Lake Whitney,	70.99 338	P	P	08 57 50.9 +1.3
baz=159					
WHTX	Lake Whitney,	70.99 338	P	P	08 57 50.4 +0.8
WHTX			IAmb	IAmb	08 58 00.7
comp=Z,26nm,1.0s					
W52A	Murphy	71.06 351	P	P	08 57 50.3 +0.3
W52A			IAmb	IAmb	08 57 52.1
comp=Z,19nm,0.8s					
V60A	Jim Taylor Roa	71.14 357	P	P	08 57 51.7 +1.3
baz=177					
V59A	Middlesex	71.19 356	P	P	08 57 50.9 +0.2
baz=176					
V58A	Windy Hill, Pi	71.27 355	P	P	08 57 51.7 +0.5
baz=175,SNR=6.8					
V58A	Windy Hill, Pi	71.27 355	P	P	08 57 51.3 0.0
V58A			IAmb	IAmb	08 57 52.8
comp=Z,18nm,0.8s					
CCAR	Cane Creek	71.31 344	P	P	08 57 52.8 +1.2
CCAR			IAmb	IAmb	08 58 02.9
comp=Z,30nm,0.9s					
W50A	Signal Mountai	71.36 350	P	P	08 57 52.3 +0.4
OXF	Oxford	71.39 346	P	P	08 57 52.2 +0.2
OXF			pmax	pmax	
comp=Z,33nm,0.8s					
OXF	Oxford	71.39 346	P	P	08 57 52.6 +0.7
baz=166,SNR=7.0					
OXF	Oxford	71.39 346	P	P	08 57 52.2 +0.2
V56A	Mocksville	71.40 354	P	P	08 57 52.8 +0.8
baz=174,SNR=11					
WLAR	White Oak Lake	71.41 343	P	P	08 57 52.9 +0.8
WLAR			IAmb	IAmb	08 58 05.4
comp=Z,30nm,0.9s					
V57A	Coltrane Farms	71.42 354	P	P	08 57 52.6 +0.4
baz=174					
SWET	Sewanee	71.47 349	P	P	08 57 53.2 +0.7
CPCT	Cooper Cave	71.49 350	P	P	08 57 53.1 +0.5
CPCT			IAmb	IAmb	08 57 54.5
comp=Z,24nm,0.7s					
V53A	Saluda	71.49 352	P	P	08 57 52.5 -0.2
V53A			IAmb	IAmb	08 57 54.0
comp=Z,15nm,0.7s					
V54A	Nebo	71.50 353	P	P	08 57 53.3 +0.6
baz=173,SNR=10					
V55A	Taylorsville	71.51 353	P	P	08 57 53.4 +0.7
baz=173,SNR=11					
V55A	Taylorsville	71.51 353	P	P	08 57 53.1 +0.4
PLAL	Pickwick Lake	71.60 347	P	P	08 57 53.1 -0.2
PLAL			IAmb	IAmb	08 58 03.4
comp=Z,24nm,0.8s					
TKL	Tuckaleechee C	71.60 351	P	P	08 57 53.4 +0.1
TKL			pmax	pmax	
comp=Z,17nm,0.8s					
TKL	Tuckaleechee C	71.60 351	P	P	08 57 53.4 +0.1
TKL			IAmb	IAmb	08 57 54.8
comp=Z,17nm,0.8s					
U61A	Possum Corner	71.67 357	P	P	08 57 54.7 +1.1
baz=177					
X43A	Marvell	71.70 345	P	P	08 57 55.1 +1.3
baz=165					
X43A	Marvell	71.70 345	P	P	08 57 54.6 +0.8
U59A	Littleton	71.75 356	P	P	08 57 55.4 +1.3
baz=176					
U59A	Littleton	71.75 356	P	P	08 57 55.0 +0.9
U59A			IAmb	IAmb	08 57 56.9
comp=Z,13nm,0.8s					
V52A	Sevierville	71.76 351	P	P	08 57 54.1 -0.1
V52A			IAmb	IAmb	08 57 55.7
comp=Z,17nm,0.7s					
V51A	Loudon	71.82 351	P	P	08 57 54.9 +0.3
V51A			IAmb	IAmb	08 58 09.8
comp=Z,18nm,0.8s					
U58A	Oxford	71.83 356	P	P	08 57 55.4 +0.7
baz=176,SNR=5.8					
U60A	Pendleton	71.83 357	P	P	08 57 56.0 +1.4
baz=177,SNR=7.4					
MAW	Mawson	71.91 164	P	P	08 57 55.4 +0.6
comp=Z,36nm,0.9s,baz=224,slow=7.0,SNR=61					
MAW			LR	LR	09 30 59.9
comp=Z,522nm,18.2s,baz=230,slow=37					
MAW	Mawson	71.91 164	P	P	08 57 55.6 +0.8
U56A	King	71.92 354	P	P	08 57 56.1 +1.0
baz=174,SNR=8.1					
U56A	King	71.92 354	P	P	08 57 55.6 +0.4
U56A			IAmb	IAmb	08 57 57.1
comp=Z,26nm,0.7s					
U57A	Blanch	71.92 355	P	P	08 57 55.8 +0.6
baz=175,SNR=5.5					
W45A	Hickory Valley	71.97 346	P	P	08 57 55.6 +0.1
X40A	Basin Creek Fa	72.11 343	P	P	08 57 57.5 +1.2
baz=163					
X40A	Basin Creek Fa	72.11 343	P	P	08 57 57.2 +0.9
V48A	Smith Brothers	72.12 348	P	P	08 57 56.8 +0.4
U55A	TA2, Sparta	72.13 353	P	P	08 57 57.1 +0.6
baz=173					
Z35A	Perchaven, San	72.18 339	P	P	08 57 57.7 +0.9
U54A	Nelsons Funny	72.23 353	P	P	08 57 57.6 +0.5
baz=173,SNR=12					
U54A	Nelsons Funny	72.23 353	P	P	08 57 57.6 +0.5
ABTX	Abilene, Hawle	72.25 337	P	P	08 57 58.5 +1.3
baz=158					
ABTX	Abilene, Hawle	72.25 337	P	P	08 57 58.0 +0.8
ABTX			IAmb	IAmb	08 58 08.3
comp=Z,29nm,1.1s					
UALR	University of	72.27 344	P	P	08 57 57.8 +0.5
MIAR	Mount Ida	72.34 343	P	P	08 57 58.9 +1.2
MIAR			pmax	pmax	
comp=Z,27nm,1.5s					
MIAR	Mount Ida	72.34 343	P	P	08 57 58.9 +1.2
baz=163					
MIAR	Mount Ida	72.34 343	P	P	08 57 58.9 +1.2
MIAR			IAmb	IAmb	08 58 08.5
comp=Z,27nm,1.4s					
T59A	Double "B" Far	72.35 356	P	P	08 57 58.3 +0.6
baz=176,SNR=11					
T59A	Double "B" Far	72.35 356	P	P	08 57 57.9 +0.2
T58A	Grand View Acr	72.38 356	P	P	08 57 58.8 +0.9
baz=176,SNR=7.7					
CLTN	Cedars of Leba	72.39 349	P	P	08 57 58.3 +0.3
CLTN			IAmb	IAmb	08 58 00.1
comp=Z,28nm,0.8s					
TZTN	Tazewell	72.44 351	P	P	08 57 58.7 +0.3
baz=171					
TZTN	Tazewell	72.44 351	P	P	08 57 57.8 -0.5
TZTN			IAmb	IAmb	08 58 07.8
comp=Z,18nm,0.9s					
T57A	Hurt	72.48 355	P	P	08 57 59.2 +0.7
baz=175,SNR=8.8					
T57A	Hurt	72.48 355	P	P	08 57 58.8 +0.3
T57A			IAmb	IAmb	08 58 00.2
comp=Z,18nm,0.7s					
T60A	Surry	72.48 357	P	P	08 57 59.7 +1.2
baz=177,SNR=10.0					
T56A	Rocky Mt	72.57 354	P	P	08 57 59.6 +0.5
baz=174,SNR=9.5					
W41B	Gary Mavity, V	72.63 344	P	P	08 58 00.1 +0.7
baz=164,SNR=6.8					
W41B	Gary Mavity, V	72.63 344	P	P	08 57 59.9 +0.5
W41B			IAmb	IAmb	08 58 10.0
comp=Z,31nm,1.1s					
WVT	Waverly	72.67 348	P	P	08 57 59.9 +0.3
WVT			pmax	pmax	
comp=Z,39nm,0.8s					
WVT	Waverly	72.67 348	P	P	08 58 00.4 +0.8
baz=168					
WVT	Waverly	72.67 348	P	P	08 57 59.9 +0.3
U49A	Red Boiling Sp	72.72 350	P	P	08 57 59.8 -0.1
U49A			IAmb	IAmb	08 58 09.6
comp=Z,16nm,0.9s					
T55A	Pulaski	72.72 354	P	P	08 58 00.2 +0.2
baz=174,SNR=7.6					
T54A	Tazewell	72.74 353	P	P	08 58 00.1 -0.1
baz=173,SNR=11					
WHAR	Wooly Hollow	72.75 344	P	P	08 58 00.7 +0.5
WHAR			IAmb	IAmb	08 58 10.8
comp=Z,39nm,1.1s					
T53A	Wise	72.76 352	P	P	08 58 00.2 0.0
baz=172					
VWCC	Virginia Weste	72.78 354	P	P	08 58 00.7 +0.4
BLA	Blacksburg	72.78 354	P	P	08 58 01.0 +0.7
BLA			pmax	pmax	
comp=Z,16nm,0.9s					
BLA	Blacksburg	72.78 354	P	P	08 58 01.1 +0.8
baz=174,SNR=5.9					
BLA	Blacksburg	72.78 354	P	P	08 58 01.0 +0.7
BLA			IAmb	IAmb	08 58 02.5
comp=Z,16nm,0.8s					
RCRC	Randolf Colleg	72.91 355	P	P	08 58 01.5 +0.4
GNAR	Gosnell	72.92 346	P	P	08 58 01.9 +0.8
LNXT	Lenox	72.95 346	P	P	08 58 01.9 +0.7
W39A	Magazine	73.01 343	P	P	08 58 03.2 +1.5
baz=163					
W39A	Magazine	73.01 343	P	P	08 58 02.6 +1.0
S58A	Poland Farm, P	73.02 356	P	P	08 58 02.4 +0.7
baz=176,SNR=7.3					
S58A	Poland Farm, P	73.02 356	P	P	08 58 01.8 +0.2
S58A			IAmb	IAmb	08 58 03.9
comp=Z,16nm,0.7s					
PEBM	Pemiscott Bayo	73.03 346	P	P	08 58 02.3 +0.5
S60A	Water View	73.04 357	P	P	08 58 03.4 +1.6
baz=177,SNR=6.6					
T50A	Nancy	73.08 350	P	P	08 58 01.7 -0.3
T50A			IAmb	IAmb	08 58 12.0
comp=Z,19nm,1.2s					
S59A	Mechanicsville	73.13 357	P	P	08 58 03.7 +1.4
baz=177,SNR=9.1					
S56A	Natural Bridge	73.18 355	P	P	08 58 03.4 +0.8
baz=175,SNR=20					
S57A	Dark Hollow, R	73.22 355	P	P	08 58 03.6 +0.8
baz=175,SNR=12					
S57A	Dark Hollow, R	73.22 355	P	P	08 58 03.4 +0.5
S57A			IAmb	IAmb	08 58 04.8
comp=Z,26nm,0.7s					
LCAR	Lake Charles	73.25 345	P	P	08 58 03.6 +0.5
FCAR	Ozark Folk Cen	73.29 344	P	P	08 58 03.9 +0.6
FCAR			IAmb	IAmb	08 58 05.1
comp=Z,14nm,0.7s					
S55A	Lewisburg	73.35 354	P	P	08 58 03.8 +0.1
baz=174,SNR=9.2					
R58B	Mineral	73.36 356	P	P	08 58 04.1 +0.5
baz=176					
R58B	Mineral	73.36 356	P	P	08 58 04.1 +0.5
R58B			IAmb	IAmb	08 58 14.1
comp=Z,27nm,1.4s					
T47A	Sharon Grove	73.39 349	P	P	08 58 04.0 +0.2
T47A			IAmb	IAmb	08 58 13.3
comp=Z,50nm,1.4s					
S53A	Williamson	73.41 353	P	P	08 58 03.8 -0.2
baz=172,SNR=12					
MNTX	Cornudas Mount	73.43 332	P	P	08 58 05.0 +0.7
baz=153					
MNTX	Cornudas Mount	73.43 332	P	P	08 58 04.1 -0.2
S54A	Dingess, Beckl	73.44 353	P	P	08 58 04.6 +0.3
baz=173,SNR=5.5					
S54A	Dingess, Beckl	73.44 353	P	P	08 58 04.1 -0.1
S54A			IAmb	IAmb	08 58 05.7
comp=Z,21nm,0.7s					
GDL2	Guadalupe Moun	73.50 333	P	P	08 58 05.2 +0.4
S51A	Beattyville	73.53 352	P	P	08 58 04.9 +0.2
X34A	Smith Ranch, M	73.53 339	P	P	08 58 05.8 +0.9
X34A			IAmb	IAmb	08 58 15.7
comp=Z,33nm,1.2s					
HENM	Henderson Moun	73.54 347	P	P	08 58 05.0 +0.3
R59A	King George, V	73.55 357	P	P	08 58 06.4 +1.6
baz=177					
R60A	Leonardtown, M	73.60 357	P	P	08 58 06.9 +1.8
baz=177,SNR=14					
T45A	Paducah	73.68 347	P	P	08 58 05.8 +0.3
R58A	Rapidan	73.70 356	P	P	08 58 06.7 +1.1
baz=176,SNR=6.6					
R57A	Stanardsville	73.72 356	P	P	08 58 06.6 +0.8
baz=176,SNR=14					
W35A	Tecumseh	73.78 340	P	P	08 58 06.3 +0.1
PBMO	Poplar Bluff	73.79 346	P	P	08 58 06.2 0.0
PBMO			IAmb	IAmb	08 58 13.9
comp=Z,18nm,0.7s					
R54A	Victor	73.79 354	P	P	08 58 06.7 +0.4
baz=174,SNR=7.9					
R55A	Marlinton	73.82 354	P	P	08 58 07.3 +0.8
baz=174,SNR=15					
R55A	Marlinton	73.82 354	P	P	08 58 07.0 +0.5
R56A	Bull Pasture M	73.89 355	P	P	08 58 07.8 +0.8
baz=175,SNR=7.7					
U40A	Yellville	73.90 344	P	P	08 58 07.4 +0.5
baz=164					
U40A	Yellville	73.90 344	P	P	08 58 07.2 +0.2
U40A			IAmb	IAmb	08 58 17.3
comp=Z,22nm,0.8s					
EPT	El Paso	73.94 331	IAMs_20	IAMs_20	09 25 44.8
comp=Z,700nm,20.0s					
WMOK	Wichita Mounta	73.94 338	P	P	08 58 07.7 +0.5
WMOK			pmax	pmax	
comp=Z,7.0nm,0.8s					
WMOK	Wichita Mounta	73.94 338	P	P	08 58 07.7 +0.5
baz=159					
WMOK	Wichita Mounta	73.94 338	P	P	08 58 07.7 +0.5
R53A	Hurricane	74.03 353	P	P	08 58 08.2 +0.5
baz=173,SNR=6.3					
R53A	Hurricane	74.03 353	P	P	08 58 07.6 -0.1
R53A			IAmb	IAmb	08 58 09.2
comp=Z,20nm,0.7s					
HHAR	Hobbs	74.08 343	P	P	08 58 07.8 -0.2
T42A	Van Buren	74.16 345	P	P	08 58 08.1 -0.4
Q61A	Milford	74.17 358	P	P	08 58 09.9 +1.5
baz=178					
Q59A	Harwood	74.20 357	P	P	08 58 10.3 +1.8
baz=177,SNR=5.8					
TUL1	Leonard	74.20 341	P	P	08 58 09.3 +0.7
baz=161					
TUL1	Leonard	74.20 341	P	P	08 58 09.3 +0.7
TUL1			IAmb	IAmb	08 58 19.1
comp=Z,33nm,0.9s					
R50A	Paris	74.25 351	P	P	08 58 08.2 -0.7
R50A			IAmb	IAmb	08 58 10.5
comp=Z,14nm,0.8s					
Q60A	Greensboro	74.31 358	P	P	08 58 10.8 +1.6
baz=178					
OK025	Westminster Rd	74.31 340	P	P	08 58 10.0 +0.7
Q58A	Fox Den Farm,	74.32 356	P	P	08 58 10.4 +1.1
baz=176,SNR=8.6					
R49A	Shelbyville	74.38 350	P	P	08 58 09.7 +0.1
R49A			IAmb	IAmb	08 58 11.1
comp=Z,15nm,0.8s					
USIN	University of	74.43 348	P	P	08 58 09.7 -0.3
S44A	Carbondale	74.45 347	P	P	08 58 09.9 -0.1
S44A			IAmb	IAmb	08 58 11.4
comp=Z,21nm,0.6s					
Q57A	Strasburg	74.45 356	P	P	08 58 11.1 +1.0
baz=176,SNR=7.2					
WCI	Wyandotte Cave	74.47 349	P	P	08 58 09.8 -0.4
WCI			pmax	pmax	
comp=Z,8.0nm,0.7s					
WCI	Wyandotte Cave	74.47 349	P	P	08 58 09.9 -0.3
baz=169					
WCI	Wyandotte Cave	74.47 349	P	P	08 58 09.8 -0.4
Q56A	Snyder Ridge,	74.51 355	P	P	08 58 11.6 +1.2
baz=175					
Q56A	Snyder Ridge,	74.51 355	P	P	08 58 11.6 +1.2
Q56A			IAmb	IAmb	08 58 12.8
comp=Z,13nm,0.8s					
Q53A	Leroy	74.52 353	P	P	08 58 10.1 -0.4
baz=173					
Q55A	Buckhannon	74.53 355	P	P	08 58 11.0 +0.4
baz=174,SNR=7.2					
MGMO	Mountain Grove	74.53 344	P	P	08 58 11.3 +0.7
MGMO			IAmb	IAmb	08 58 21.0
comp=Z,20nm,1.0s					
OK029	Liberty Lake	74.54 340	P	P	08 58 10.7 0.0
OK029			IAmb	IAmb	08 58 21.2
comp=Z,39nm,1.1s					
Q54A	Coxs Mills	74.58 354	P	P	08 58 10.9 +0.1
baz=174,SNR=7.5					
Q54A	Coxs Mills	74.58 354	P	P	08 58 09.9 -0.9
Q54A			IAmb	IAmb	08 58 11.9
comp=Z,12nm,0.7s					
QUOK	Quay	74.69 341	P	P	08 58 12.5 +1.0
Q52A	Bidwell	74.69 353	P	P	08 58 11.7 +0.3
baz=172,SNR=10					
SDMD	Soldier's Deli	74.75 357	P	P	08 58 12.1 +0.4
P58A	Pank, Wackersv	74.85 357	P	P	08 58 13.3 +0.9
baz=177,SNR=13					
Q51A	Peebles	74.87 352	P	P	08 58 12.7 +0.2
P57A	Homestead Farm	74.88 356	P	P	08 58 13.7 +1.3
baz=176,SNR=7.9					
P57A	Homestead Farm	74.88 356	P	P	08 58 13.8 +1.3
P57A			IAmb	IAmb	08 58 21.7
comp=Z,31nm,1.1s					
P59A	Jarrettsville	74.93 358	P	P	08 58 14.0 +1.2
baz=177,SNR=15					
P56A	Dayton Farm, R	74.95 356	P	P	08 58 13.5 +0.6
baz=175,SNR=6.0					
AMTX	Amarillo	74.99 336	P	P	08 58 15.1 +1.7
baz=156					
AMTX	Amarillo	74.99 336	P	P	08 58 15.2 +1.9
AMTX			IAmb	IAmb	08 58 24.6
comp=Z,33nm,1.0s					
P55A	Reedsville	75.02 355	P	P	08 58 13.7 +0.3
baz=174,SNR=6.6					
P60A	Greenville	75.11 358	P	P	08 58 14.6 +0.8
baz=178,SNR=5.1					
P60A	Greenville	75.11 358	P	P	08 58 14.3 +0.5
P60A			IAmb	IAmb	08 58 22.8
comp=Z,27nm,1.1s					
121A	Cookes Peak, D	75.12 330	P	P	08 58 16.5 +2.2
baz=152					
121A	Cookes Peak, D	75.12 330	P	P	08 58 16.8 +2.5
P53A	Whipple	75.12 354	P	P	08 58 13.9 -0.1
baz=173,SNR=7.4					
P53A	Whipple	75.12 354	P	P	08 58 13.9 -0.1
P53A			IAmb	IAmb	08 58 16.1
comp=Z,25nm,1.1s					
P54A	Burton	75.16 354	P	P	08 58 14.2 0.0
baz=174,SNR=16					
MCWV	Mont Chateau	75.17 355	P	P	08 58 14.7 +0.5
baz=174					
CCM	Cathedral Cave	75.18 345	P	P	08 58 15.0 +0.7
CCM			pmax	pmax	
comp=Z,42nm,0.7s					
CCM	Cathedral Cave	75.18 345	P	P	08 58 15.0 +0.7
baz=165					
CCM	Cathedral Cave	75.18 345	P	P	08 58 15.0 +0.7
PSUB	Penn St. - Bra	75.22 358	P	P	08 58 14.6 +0.1
PSUB			IAmb	IAmb	08 58 17.1
comp=Z,13nm,0.7s					
WUPA	West Chester U	75.23 358	P	P	08 58 15.0 +0.5
WUPA			IAmb	IAmb	08 58 17.2
comp=Z,19nm,0.7s					
S39A	Bolivar	75.28 344	P	P	08 58 15.5 +0.6
S39A			IAmb	IAmb	08 58 24.7
comp=Z,38nm,1.4s					
P51A	Williamsport	75.29 352	P	P	08 58 15.2 +0.3
baz=172,SNR=17					
P51A	Williamsport	75.29 352	P	P	08 58 15.1 +0.2
MVL	Millersville	75.32 358	P	P	08 58 15.7 +0.7
MVL			IAmb	IAmb	08 58 24.1
comp=Z,15nm,1.0s					
T35A	Sooner Cattle	75.34 341	P	P	08 58 15.5 +0.3
T35A			IAmb	IAmb	08 58 26.1
comp=Z,37nm,1.1s					
P52A	Corning	75.34 353	P	P	08 58 15.2 0.0
baz=173,SNR=14					
P52A	Corning	75.34 353	P	P	08 58 14.8 -0.4
CROK	Carrier	75.35 340	P	P	08 58 15.9 +0.6
O61A	Allentown	75.37 359	P	P	08 58 16.7 +1.4
baz=179,SNR=15					
BLO	Bloomington	75.43 349	P	P	08 58 15.5 -0.2
BLO			pmax	pmax	
comp=Z,30nm,1.1s					
BLO	Bloomington	75.43 349	P	P	08 58 15.4 -0.2
BLO			IAmb	IAmb	08 58 25.4
comp=Z,30nm,1.1s					
O58A	Lewisberry	75.46 357	P	P	08 58 16.7 +0.8
baz=177,SNR=14					
U32A	Winter Ranch,	75.53 339	P	P	08 58 17.4 +0.9
U32A			IAmb	IAmb	08 58 27.5
comp=Z,48nm,1.3s					
P49A	Miami Univ. Ec	75.54 351	P	P	08 58 16.0 -0.3
baz=170,SNR=6.8					
P49A	Miami Univ. Ec	75.54 351	P	P	08 58 15.6 -0.7
P49A			IAmb	IAmb	08 58 17.2
comp=Z,17nm,0.7s					
SLM	Saint Louis	75.54 346	P	P	08 58 16.9 +0.6
SLM			pmax	pmax	
comp=Z,41nm,0.7s					
SLM			MLR	MLR	
comp=Z,300nm,20.0s					
SLM	Saint Louis	75.54 346	P	P	08 58 16.9 +0.6
P48A	Milroy	75.56 350	P	P	08 58 15.8 -0.7
PAGS	Pennsylvania G	75.56 357	P	P	08 58 16.8 +0.4
PAGS			IAmb	IAmb	08 58 18.3
comp=Z,20nm,0.7s					
Q44A	Meyer Farm, Va	75.58 347	P	P	08 58 16.3 -0.2
Q44A			IAmb	IAmb	08 58 18.3
comp=Z,15nm,0.8s					
O57A	Amberson	75.58 357	P	P	08 58 17.4 +0.8
baz=176,SNR=11					
O60A	Telford	75.61 358	P	P	08 58 17.9 +1.2
baz=178,SNR=16					
O59A	Robesonia	75.62 358	P	P	08 58 18.0 +1.2
baz=178					
R40A	Maddies Statio	75.62 345	P	P	08 58 17.3 +0.4
R40A			IAmb	IAmb	08 58 18.9
comp=Z,20nm,0.8s					
O55A	Ligonier	75.68 355	P	P	08 58 17.5 +0.3
baz=175,SNR=6.5					
KAN13	South Haven SW	75.69 340	P	P	08 58 18.1 +0.8
O56A	Blue Knob Stat	75.69 356	P	P	08 58 18.3 +1.1
baz=176					
O56A	Blue Knob Stat	75.69 356	P	P	08 58 17.7 +0.4
O54A	Avella	75.73 354	P	P	08 58 17.8 +0.4
baz=174					
O54A	Avella	75.73 354	P	P	08 58 17.1 -0.3
O52A	Adamsville	75.79 353	P	P	08 58 18.2 +0.4
baz=173,SNR=12					
O52A	Adamsville	75.79 353	P	P	08 58 17.3 -0.4
O52A			IAmb	IAmb	08 58 19.3
comp=Z,29nm,0.8s					
O52A			IAMs_20	IAMs_20	09 38 01.8
comp=Z,361nm,18.0s					
O53A	New Philadelph	75.87 354	P	P	08 58 18.7 +0.5
baz=173,SNR=5.7					
O53A	New Philadelph	75.87 354	P	P	08 58 18.2 0.0

O53A IAmb IAmb 08 58 19.1
comp=Z,16nm,0.9s
LUPA Lehigh Univers 75.89 358 P **P** **08 58 19.5 +1.2**
LUPA IAmb IAmb 08 58 21.3
comp=Z,16nm,0.9s
O51A Pataskala 75.90 353 P **P** **08 58 18.4 +0.1**
baz=172,SNR=37
BRNJ Basking Ridge 75.96 359 P **P** **08 58 19.2 +0.5**
BRNJ IAmb IAmb 08 58 20.9
comp=Z,15nm,0.8s
BRNJ IAMs_20 IAMs_20 09 34 08.0
comp=Z,388nm,20.0s
P46A Rosedale 75.97 349 P **P** **08 58 18.4 -0.4**
P46A IAmb IAmb 08 58 20.8
comp=Z,22nm,0.7s
SSPA Standing Stone 76.02 356 P **P** **08 58 19.4 +0.3**
baz=176
SSPA Standing Stone 76.02 356 P **P** **08 58 19.0 0.0**
SSPA IAmb IAmb 08 58 20.7
comp=Z,14nm,0.7s
ACSO Alum Creek Sta 76.02 352 P **P** **08 58 19.8 +0.7**
baz=172,SNR=19
ACSO Alum Creek Sta 76.02 352 P **P** **08 58 19.1 0.0**
N61A South Mountain 76.02 359 P **P** **08 58 20.4 +1.4**
baz=179,SNR=9.6
CPNY Central Park 76.06 360 P **P** **08 58 19.8 +0.5**
CPNY IAmb IAmb 08 58 21.4
comp=Z,13nm,0.7s
N57A Milroy 76.12 357 P **P** **08 58 20.6 +1.0**
baz=176,SNR=11
Y22D IRIS PASSCAL I 76.13 332 IAMs_20 IAMs_20 09 28 07.9
comp=Z,602nm,18.0s
O49A Covington 76.14 351 P **P** **08 58 19.3 -0.4**
O49A IAmb IAmb 08 58 20.7
comp=Z,21nm,0.6s
N60A Cedar Hill Far 76.16 359 P **P** **08 58 20.7 +0.9**
baz=178,SNR=16
N58A Sunbury 76.17 357 P **P** **08 58 21.0 +1.1**
baz=177,SNR=8.2
N58A Sunbury 76.17 357 P **P** **08 58 19.3 -0.6**
N58A IAmb IAmb 08 58 22.3
comp=Z,18nm,0.8s
N62A Caumsett State 76.20 360 P **P** **08 58 21.3 +1.3**
baz=180,SNR=9.9
N59A State Game Lan 76.22 358 P **P** **08 58 21.3 +1.1**
baz=178,SNR=8.7
N59A State Game Lan 76.22 358 P **P** **08 58 20.7 +0.5**
N59A IAmb IAmb 08 58 22.5
comp=Z,19nm,0.8s
N55A Marion Center 76.23 356 P **P** **08 58 20.8 +0.5**
baz=175,SNR=18
LIC Lamto 76.29 72 *e*P **P** **08 58 20.9 -0.4**
comp=Z,129nm,1.0s
N56A West Decatur 76.32 356 P **P** **08 58 21.6 +0.8**
baz=176
ODNJ Ogdensburg 76.36 359 P **P** **08 58 21.6 +0.7**
ODNJ IAmb IAmb 08 58 23.4
comp=Z,15nm,0.7s
P43A Skaggs, Pawnee 76.39 347 P **P** **08 58 21.6 +0.4**
N53A Lisbon 76.39 354 P **P** **08 58 22.0 +0.9**
baz=174
N53A Lisbon 76.39 354 P **P** **08 58 22.1 +0.9**
N53A IAmb IAmb 08 58 30.2
comp=Z,23nm,1.1s
WSPT Westport, CT 76.44 360 P **P** **08 58 22.2 +0.8**
WSPT IAmb IAmb 08 58 23.9
comp=Z,16nm,0.8s
N52A McGinn's Farm, 76.47 353 P **P** **08 58 21.6 +0.1**
baz=173,SNR=5.7
N54A Moraine State 76.47 355 P **P** **08 58 22.0 +0.4**
baz=174,SNR=9.0
N54A Moraine State 76.47 355 P **P** **08 58 22.1 +0.5**
N54A IAmb IAmb 08 58 30.0
comp=Z,37nm,1.1s
TIC Toumodi 76.56 72 *e*P **P** **08 58 22.3 -0.5**
M61A Granite Spring 76.58 360 P **P** **08 58 23.0 +0.8**
baz=180,SNR=7.7
M66A Nantucket 76.58 2 P **P** **08 58 24.1 +2.0**
baz=183
YLE Yale 76.58 0 P **P** **08 58 23.3 +1.1**
KIC Kosan Boka 76.60 72 *e*P **P** **08 58 22.7 -0.3**
comp=Z,118nm,0.9s
M60A Port Jervis 76.60 359 P **P** **08 58 23.2 +0.9**
baz=179,SNR=12
N51A Ashland 76.64 353 P **P** **08 58 22.6 0.0**
baz=172,SNR=16
N51A Ashland 76.64 353 P **P** **08 58 22.8 +0.2**
M63A Gales Ferry 76.68 1 P **P** **08 58 23.9 +1.2**
baz=181
M57A Sunshine Farm, 76.68 357 P **P** **08 58 23.6 +0.8**
baz=177,SNR=7.4
M57A Sunshine Farm, 76.68 357 P **P** **08 58 23.3 +0.5**
M57A IAmb IAmb 08 58 25.1
comp=Z,22nm,1.1s
M58A Price's Panora 76.69 358 P **P** **08 58 23.7 +0.8**
baz=177,SNR=7.2
O44A Mansfield 76.70 348 P **P** **08 58 22.7 -0.2**
DBIC Dimbokro 76.70 72 P **P** **08 58 23.4 -0.1**
comp=Z,32nm,0.7s,baz=207,slow=6.4,SNR=39
DBIC LR LR 09 28 58.8
comp=Z,701nm,20.6s,baz=210,slow=33
DBIC Dimbokro 76.70 72 P **P** **08 58 23.1 -0.5**
DBIC pmax pmax
comp=Z,36nm,0.8s
DBIC Dimbokro 76.70 72 P **P** **08 58 23.1 -0.5**
SFIN Lafayette 76.70 349 P **P** **08 58 22.6 -0.3**
baz=168,SNR=6.8
SFIN Lafayette 76.70 349 P **P** **08 58 21.9 -1.0**
SFIN IAmb IAmb 08 58 23.3
comp=Z,11nm,0.7s
M62A Hamden 76.71 0 P **P** **08 58 24.2 +1.3**
baz=180,SNR=16
ANMO Albuquerque 76.73 333 *ce*P **P** **08 58 24.9 +1.4**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 76.73 333 P **P** **08 58 25.5 +2.1**
baz=153
ANMO Albuquerque 76.73 333 P **P** **08 58 25.6 +2.1**
ANMO IAmb IAmb 08 58 36.0
comp=Z,19nm,1.1s
P40A Paris 76.77 345 P **P** **08 58 23.9 +0.6**
M59A Waymart 76.83 358 P **P** **08 58 24.4 +0.8**
baz=178,SNR=7.8
N49A Columbus Grove 76.84 352 P **P** **08 58 23.6 0.0**
M64A Tiverton 76.84 2 P **P** **08 58 24.7 +1.1**
baz=182,SNR=6.0
KSPA Keystone Colle 76.86 358 P **P** **08 58 25.0 +1.2**
M56A Emporium 76.88 356 P **P** **08 58 24.4 +0.4**
baz=176,SNR=9.6
M56A Emporium 76.88 356 P **P** **08 58 24.1 +0.1**
M56A IAmb IAmb 08 58 25.5
comp=Z,21nm,0.7s
M55A Ridgway 76.90 356 P **P** **08 58 24.4 +0.4**
baz=175,SNR=15
M55A Ridgway 76.90 356 P **P** **08 58 24.4 +0.4**
M55A IAmb IAmb 08 58 25.6
comp=Z,26nm,0.7s
KSCT Kent School, K 76.99 360 P **P** **08 58 25.0 +0.5**
N47A Urbana 76.99 350 P **P** **08 58 23.9 -0.7**
M54A Oil Creek Stat 76.99 355 P **P** **08 58 24.8 +0.3**
baz=175,SNR=8.1
M54A Oil Creek Stat 76.99 355 P **P** **08 58 24.3 -0.3**
M54A IAmb IAmb 08 58 25.7
comp=Z,17nm,0.7s
M53A WI Miller and 77.00 354 P **P** **08 58 24.9 +0.3**
baz=174,SNR=10
M53A WI Miller and 77.00 354 P **P** **08 58 24.3 -0.3**
M53A IAmb IAmb 08 58 25.9
comp=Z,24nm,0.8s
M51A Elyria 77.03 353 P **P** **08 58 25.0 +0.2**
baz=173,SNR=14
L63A North Scituate 77.14 1 P **P** **08 58 26.6 +1.3**
baz=181,SNR=14
M52A Chesterland 77.16 354 P **P** **08 58 25.9 +0.4**
baz=173,SNR=6.7
M52A Chesterland 77.16 354 P **P** **08 58 25.8 +0.3**
M52A IAmb IAmb 08 58 34.3
comp=Z,49nm,1.2s
ALLY Alegheny Colle 77.17 355 P **P** **08 58 25.7 +0.2**
ALLY IAmb IAmb 08 58 27.3
comp=Z,25nm,0.9s
P38A Dawn 77.18 344 P **P** **08 58 26.1 +0.5**
P38A IAmb IAmb 08 58 27.4
comp=Z,25nm,0.7s
M50A Fremont 77.19 353 P **P** **08 58 25.8 +0.2**
M50A IAmb IAmb 08 58 26.8
comp=Z,24nm,0.7s
BRYW Bryant College 77.20 1 P **P** **08 58 26.2 +0.5**
BRYW IAmb IAmb 08 58 35.0
comp=Z,33nm,1.1s
HDIL Hopedale 77.23 348 P **P** **08 58 26.4 +0.5**
baz=167
HDIL Hopedale 77.23 348 P **P** **08 58 26.3 +0.4**
L64A Middleborough 77.24 2 P **P** **08 58 27.1 +1.3**
baz=182,SNR=10
L60A Shokan, 77.26 359 P **P** **08 58 27.3 +1.2**
baz=179,SNR=6.7
L62A Suffield 77.30 1 P **P** **08 58 27.5 +1.3**
baz=180
L57A Andrews Acres 77.33 357 P **P** **08 58 27.6 +1.1**
baz=177,SNR=6.3
L58A Harry Jones Me 77.34 358 P **P** **08 58 27.5 +1.0**
baz=178,SNR=11
R32A Long Quarter, 77.35 340 P **P** **08 58 28.1 +1.4**
KSU1 Kansas State U 77.42 342 P **P** **08 58 28.1 +1.1**
KSU1 IAmb IAmb 08 58 35.4
comp=Z,20nm,0.7s
L61A Hillsdale 1, H 77.46 360 P **P** **08 58 27.7 +0.6**
baz=180
L59A Walton 77.47 359 P **P** **08 58 28.3 +1.1**
baz=178,SNR=8.2
L59A Walton 77.47 359 P **P** **08 58 27.5 +0.2**
L59A IAmb IAmb 08 58 29.7
comp=Z,19nm,0.8s
L53A Girard 77.48 355 P **P** **08 58 27.7 +0.4**
baz=174,SNR=11
L56A Greenwood 77.50 357 P **P** **08 58 28.1 +0.6**
baz=176,SNR=12
L56A Greenwood 77.50 357 P **P** **08 58 28.1 +0.6**
BINY Binghamton 77.50 358 P **P** **08 58 28.0 +0.6**
baz=178,SNR=6.2
BINY Binghamton 77.50 358 P **P** **08 58 27.4 -0.1**
BINY IAmb IAmb 08 58 29.1
comp=Z,18nm,1.0s
BINY IAMs_20 IAMs_20 09 36 58.9
comp=Z,339nm,18.0s
QUA2 Belchertown 77.55 1 P **P** **08 58 28.1 +0.5**
QUA2 IAmb IAmb 08 58 30.2
comp=Z,27nm,0.7s
L55A Hinsdale 77.59 356 P **P** **08 58 28.5 +0.6**
baz=176,SNR=25
ERPA Erie 77.62 355 P **P** **08 58 28.5 +0.5**
baz=174,SNR=6.6
ERPA Erie 77.62 355 P **P** **08 58 27.7 -0.4**
N41A Harden Midland 77.67 346 P **P** **08 58 28.3 -0.1**
WES Weston 77.67 2 P **P** **08 58 29.0 +0.7**
WES pmax pmax
comp=Z,13nm,0.9s
WES Weston 77.67 2 P **P** **08 58 29.0 +0.7**
L54A Sinclairville 77.69 355 P **P** **08 58 29.1 +0.6**
baz=175,SNR=19
L61B Northampton 77.72 0 P **P** **08 58 29.6 +1.0**
baz=180,SNR=11
HRV Adam Dziewonsk 77.79 1 P **P** **08 58 29.6 +0.7**
HRV pmax pmax
comp=Z,20nm,0.8s
HRV Adam Dziewonsk 77.79 1 P **P** **08 58 30.3 +1.3**
baz=181
HRV Adam Dziewonsk 77.79 1 P **P** **08 58 29.6 +0.7**
HRV IAmb IAmb 08 58 31.9
comp=Z,20nm,0.8s
WVNY West Valley, N 77.82 356 P **P** **08 58 29.5 +0.3**
M44A Midewin, Midew 77.84 349 P **P** **08 58 29.3 +0.1**
L48A N Adams 77.88 352 P **P** **08 58 29.3 -0.2**
L48A IAmb IAmb 08 58 30.3
comp=Z,18nm,0.7s
K60A Five Rivers En 77.88 360 P **P** **08 58 31.0 +1.5**
baz=180,SNR=6.3
K61A Williamstown 77.94 0 P **P** **08 58 31.4 +1.6**
baz=180
K62A Royalston 77.94 1 P **P** **08 58 31.3 +1.5**
baz=181,SNR=7.5
K62A Royalston 77.94 1 P **P** **08 58 30.6 +0.8**
K62A IAmb IAmb 08 58 32.8
comp=Z,16nm,0.8s
T25A Trinidad 77.95 335 P **P** **08 58 32.5 +2.2**
baz=155
T25A Trinidad 77.95 335 P **P** **08 58 32.6 +2.3**
TRY Troy 78.00 360 P **P** **08 58 31.1 +1.0**
TRY IAmb IAmb 08 58 33.0
comp=Z,28nm,0.8s
CBKS Cedar Bluff 78.01 339 P **P** **08 58 31.7 +1.4**
CBKS pmax pmax
comp=Z,49nm,1.1s
CBKS Cedar Bluff 78.01 339 P **P** **08 58 31.8 +1.4**
baz=158
CBKS Cedar Bluff 78.01 339 P **P** **08 58 31.7 +1.4**
K54A Basilika Farm, 78.03 356 P **P** **08 58 31.1 +0.8**
baz=176,SNR=14
K56A Middlesex 78.05 357 P **P** **08 58 30.7 +0.3**
baz=177,SNR=8.5
K57A Scipio Center 78.05 358 P **P** **08 58 31.5 +1.0**
baz=177,SNR=7.2
K59A Cooperstown 78.05 359 P **P** **08 58 31.0 +0.5**
baz=179,SNR=6.6
K58A Earlville 78.06 358 P **P** **08 58 31.4 +0.9**
baz=178,SNR=14
K58A Earlville 78.06 358 P **P** **08 58 31.1 +0.6**
K58A IAmb IAmb 08 58 32.6
comp=Z,25nm,0.7s
MMNY Mt. Morris Dam 78.11 357 P **P** **08 58 30.9 +0.2**
MMNY IAmb IAmb 08 58 32.4
comp=Z,24nm,0.6s
K55A Perry 78.11 356 P **P** **08 58 31.1 +0.3**
baz=176,SNR=12
AAM Ann Arbor 78.14 352 P **P** **08 58 30.4 -0.5**
AAM pmax pmax
comp=Z,14nm,0.7s
AAM Ann Arbor 78.14 352 P **P** **08 58 30.9 0.0**
baz=171
AAM Ann Arbor 78.14 352 P **P** **08 58 30.4 -0.5**
AAM IAmb IAmb 08 58 38.4
comp=Z,14nm,0.7s
L46A Eue Claire 78.19 350 P **P** **08 58 30.9 -0.3**
L46A IAmb IAmb 08 58 39.3
comp=Z,14nm,0.8s
HQIL Hanson Quary C 78.21 349 P **P** **08 58 31.7 +0.4**
N38A Joes South For 78.23 345 P **P** **08 58 32.0 +0.5**
X16A Lo Mia Camp, P 78.26 329 P **P** **08 58 33.8 +1.7**
CASY Casey 78.36 182 P **P** **08 58 33.3 +1.3**
CASY IAmb IAmb 08 58 43.1
comp=Z,36nm,1.1s
K50A Casco 78.50 353 P **P** **08 58 32.8 -0.1**
J62A Henniker 78.50 1 P **P** **08 58 34.6 +1.7**
baz=181,SNR=9.4
J60A Lant Hill Farm 78.51 360 P **P** **08 58 35.1 +2.2**
baz=180
MEDO Medina 78.57 356 P **P** **08 58 32.2 -1.1**
MEDO IAmb IAmb 08 58 35.1
comp=Z,28nm,0.8s
J63A Strafford 78.57 2 P **P** **08 58 34.5 +1.2**
baz=182
J56A Wolcott 78.61 357 P **P** **08 58 33.6 +0.2**
baz=177,SNR=11
J56A Wolcott 78.61 357 P **P** **08 58 33.2 -0.2**
J56A IAmb IAmb 08 58 35.2
comp=Z,19nm,0.7s
J61A Chester 78.61 1 P **P** **08 58 35.0 +1.5**
baz=181
J55A Hilton 78.64 357 P **P** **08 58 34.0 +0.4**
baz=176,SNR=5.8
J55A Hilton 78.64 357 P **P** **08 58 33.4 -0.2**
J58A Remsen 78.65 359 P **P** **08 58 34.2 +0.5**
baz=178
ACCN Adirondack Com 78.65 360 P **P** **08 58 33.9 +0.1**
ACCN IAmb IAmb 08 58 35.8
comp=Z,15nm,0.8s
J54A Appleton 78.69 356 P **P** **08 58 34.5 +0.6**
baz=176,SNR=5.3
J54A Appleton 78.69 356 P **P** **08 58 34.4 +0.5**
L42A Oliver, Polo 78.71 348 P **P** **08 58 34.3 +0.2**
L42A IAmb IAmb 08 58 35.7
comp=Z,26nm,0.8s
J57A Williamstown 78.71 358 P **P** **08 58 34.7 +0.6**
baz=178,SNR=9.6
J57A Williamstown 78.71 358 P **P** **08 58 34.2 +0.2**
J57A IAmb IAmb 08 58 35.7
comp=Z,18nm,0.8s
J59A Piesco 78.74 359 P **P** **08 58 35.1 +0.9**
baz=179,SNR=8.2
J59A Piesco 78.74 359 P **P** **08 58 34.8 +0.5**
J59A IAmb IAmb 08 58 36.5
comp=Z,19nm,1.1s
RMX La Rumorosa 78.83 324 IAMs_20 IAMs_20 09 25 29.3
comp=Z,849nm,18.0s
N35A Tabor 78.84 343 P **P** **08 58 35.4 +0.5**
SDCO Great Sand Dun 78.88 335 P **P** **08 58 37.5 +2.0**
baz=154
SDCO Great Sand Dun 78.88 335 P **P** **08 58 36.4 +0.9**
I58A Old Forge 78.97 359 P **P** **08 58 36.3 +0.8**
baz=179,SNR=11
HNH Hanover 78.98 1 P **P** **08 58 36.2 +0.7**
HNH IAmb IAmb 08 58 38.4
comp=Z,15nm,0.7s
L40A Anamosa 79.05 347 P **P** **08 58 36.0 +0.1**
L40A IAmb IAmb 08 58 45.9
comp=Z,21nm,0.8s
I59A Olmsteadville 79.06 360 P **P** **08 58 36.7 +0.7**
baz=180,SNR=9.0
I60A Shoreham 79.11 0 P **P** **08 58 37.1 +0.9**
baz=180,SNR=11
I62A Tamworth 79.16 1 P **P** **08 58 38.0 +1.5**
baz=182
I62A Tamworth 79.16 1 P **P** **08 58 37.7 +1.2**
K43A Burlington 79.17 349 P **P** **08 58 36.9 +0.3**
K43A IAmb IAmb 08 58 37.9
comp=Z,16nm,0.8s
WUAZ Wupatki 79.18 329 P **P** **08 58 39.3 +2.3**
baz=149
WUAZ Wupatki 79.18 329 P **P** **08 58 37.7 +0.7**
J47A Sunmer 79.20 351 P **P** **08 58 36.6 -0.1**
J47A IAmb IAmb 08 58 38.3
comp=Z,21nm,0.7s
I61A Oroboro, Fairl 79.20 1 P **P** **08 58 38.1 +1.3**
baz=181,SNR=5.1
MONP2 Monument Peak 79.23 324 P **P** **08 58 40.6 +3.2**
baz=146
I57A Carthage 79.23 358 P **P** **08 58 37.9 +1.0**
baz=178,SNR=11
NCB Newcomb 79.24 359 P **P** **08 58 37.2 +0.3**
I64A Boothbay 79.26 3 P **P** **08 58 38.4 +1.5**
baz=183,SNR=6.6
PECO Prince Edward 79.27 357 P **P** **08 58 37.3 +0.2**
PECO IAmb IAmb 08 58 38.7
comp=Z,16nm,0.7s
SCIA State Center 79.30 345 P **P** **08 58 38.3 +0.9**
baz=164
SCIA State Center 79.30 345 P **P** **08 58 38.0 +0.7**
SCIA IAmb IAmb 08 58 47.9
comp=Z,28nm,1.0s
S22A 4UR Ranch, Cre 79.35 334 P **P** **08 58 40.5 +2.4**
baz=153
S22A 4UR Ranch, Cre 79.35 334 P **P** **08 58 39.3 +1.2**
I63A Otisfield 79.36 2 P **P** **08 58 39.2 +1.7**
baz=182,SNR=10.0
I63A Otisfield 79.36 2 P **P** **08 58 38.9 +1.4**
I63A IAmb IAmb 08 58 40.5
comp=Z,23nm,0.9s
I51A Listowel 79.38 354 P **P** **08 58 37.8 +0.1**
baz=174,SNR=14
BC3 Big Chuckawall 79.40 325 P **P** **08 58 40.3 +2.0**
baz=146
MVCO Mesa Verde 79.50 332 P **P** **08 58 41.1 +2.2**
baz=152
MVCO Mesa Verde 79.50 332 P **P** **08 58 40.5 +1.7**
LBNH Lisbon 79.52 1 P **P** **08 58 39.1 +0.7**
LBNH pmax pmax
comp=Z,23nm,0.8s
LBNH Lisbon 79.52 1 P **P** **08 58 40.0 +1.6**
baz=181,SNR=11
LBNH Lisbon 79.52 1 P **P** **08 58 39.1 +0.7**
LBNH IAmb IAmb 08 58 40.8
comp=Z,22nm,0.8s
VT1 Waterbury 79.60 0 P **P** **08 58 39.4 +0.5**
I49A Point Hope 79.67 353 P **P** **08 58 38.7 -0.6**
I49A IAmb IAmb 08 58 40.2
comp=Z,18nm,0.8s
H58A Gabriels 79.69 359 P **P** **08 58 40.4 +1.0**
baz=179,SNR=12
JFWS Jewell Farm 79.69 347 P **P** **08 58 39.5 +0.1**
JFWS pmax pmax
comp=Z,25nm,1.0s
JFWS Jewell Farm 79.69 347 P **P** **08 58 40.1 +0.6**
baz=166
JFWS Jewell Farm 79.69 347 P **P** **08 58 39.5 +0.1**
JFWS IAmb IAmb 08 58 48.5
comp=Z,25nm,1.0s
H57A Richville 79.75 358 P **P** **08 58 40.2 +0.5**
baz=178,SNR=10
H61A Lyndonville 79.81 1 P **P** **08 58 41.3 +1.2**
baz=181,SNR=15
H60A Morristown 79.83 0 P **P** **08 58 41.6 +1.4**
baz=180,SNR=7.5
PFO Pinyon Flats O 79.84 325 *i* P **P** **08 58 42.1 +1.5**
PFO pmax pmax
comp=Z,8.0nm,0.9s
Q24A Divide 79.85 335 P **P** **08 58 42.8 +2.0**
baz=154
H62A Milan 79.86 2 P **P** **08 58 42.4 +2.1**
baz=182
H62A Milan 79.86 2 P **P** **08 58 41.6 +1.2**
DELO Deloro Mine 79.88 357 P **P** **08 58 40.5 +0.1**
DELO IAMs_20 IAMs_20 09 38 27.8
comp=Z,333nm,19.0s
LONY Lake Ozonia 79.89 359 P **P** **08 58 41.5 +1.0**
baz=179,SNR=12
LONY Lake Ozonia 79.89 359 P **P** **08 58 41.1 +0.6**
LONY IAmb IAmb 08 58 42.9
comp=Z,18nm,0.8s
WVL Waterville 79.90 3 P **P** **08 58 41.8 +1.3**
WVL IAmb IAmb 08 59 00.7
comp=Z,18nm,1.1s
W13A Hualapai Mount 79.90 327 P **P** **08 58 42.8 +1.7**
H59A Cadyville 79.91 360 P **P** **08 58 41.7 +1.2**
baz=180,SNR=6.9
H53A Bobcaygeon 79.98 356 P **P** **08 58 41.7 +0.7**
baz=176,SNR=10
BGNE Belgrade 79.99 341 P **P** **08 58 41.7 +0.6**
BGNE IAmb IAmb 08 58 52.0
comp=Z,26nm,0.6s
H64A Troy 79.99 3 P **P** **08 58 42.6 +1.6**
baz=183
L34A Svendsen Farm, 80.07 343 P **P** **08 58 41.5 0.0**
L34A IAmb IAmb 08 59 06.5
comp=Z,18nm,0.7s
H65A Eastbrook 80.09 4 P **P** **08 58 42.9 +1.4**
baz=184,SNR=5.1
FRNY Flat Rock 80.10 360 P **P** **08 58 42.2 +0.6**
FRNY IAmb IAmb 08 58 43.9
comp=Z,24nm,0.7s
EMMW East Machias 80.15 4 P **P** **08 58 42.8 +1.0**
EMMW IAmb IAmb 08 58 44.4
comp=Z,14nm,0.7s
SADO Sadowa 80.21 356 P **P** **08 58 42.4 +0.2**
SADO IAmb IAmb 08 58 43.9
comp=Z,17nm,0.8s
H66A Whiting 80.24 4 P **P** **08 58 43.9 +1.6**
baz=185
BOSA Boshof 80.24 118 P **P** **08 58 42.9 -0.3**
comp=Z,34nm,0.8s,baz=230,slow=5.4,SNR=43
BOSA LR LR 09 31 20.7
comp=Z,461nm,19.3s,slow=34
BOSA Boshof 80.24 118 P **P** **08 58 42.9 -0.3**
PV01 Paradox Valley 80.34 333 P **P** **08 58 44.8 +1.4**
U15A North Rim 80.34 329 P **P** **08 58 46.5 +3.0**
G59A Clarenceville 80.35 0 P **P** **08 58 45.0 +2.2**
baz=180
G60A Masonville 80.37 1 P **P** **08 58 45.1 +2.1**
baz=181
PLVO Plevna 80.38 357 P **P** **08 58 43.3 +0.2**
PLVO IAmb IAmb 08 58 45.2
comp=Z,16nm,0.8s
G57A Newington 80.38 359 P **P** **08 58 44.1 +1.0**
baz=179,SNR=9.5
G58A Ormstown 80.42 359 P **P** **08 58 44.2 +0.9**
baz=179
I42A Draeger Farm, 80.42 349 P **P** **08 58 43.0 -0.3**
I42A IAmb IAmb 08 58 44.7
comp=Z,16nm,0.7s
GMRC Granite Mounta 80.44 326 P **P** **08 58 46.6 +2.8**
baz=146
G63A Kingsbury 80.45 3 P **P** **08 58 44.6 +1.1**
baz=183
PV13 Radium Mtn., P 80.45 332 P **P** **08 58 45.8 +1.9**
PV02 Paradox Valley 80.46 332 P **P** **08 58 46.2 +2.1**
PV15 Paradox Valley 80.49 333 P **P** **08 58 45.9 +1.7**
PV05 Paradox Valley 80.49 332 P **P** **08 58 45.5 +1.3**
G62A West of Eustis 80.52 2 P **P** **08 58 45.2 +1.3**

baz=182,SNR=11
G62A West of Eustis 80.52 2 P P 08 58 44.4 +0.6
G62A IAmb IAmb 08 58 46.4
comp=Z,24nm,0.8s
PV03 Paradox Valley 80.55 332 P P 08 58 45.2 +0.8
PV03 IAMs_20 IAMs_20 09 30 22.7
comp=Z,992nm,21.0s
PV18 Skein Mesa, Pa 80.56 332 P P 08 58 46.3 +1.7
PV18 IAMs_20 IAMs_20 09 30 56.1
comp=Z,768nm,20.0s
G61A St-Isidore-de- 80.56 1 P P 08 58 45.6 +1.6
baz=181,SNR=9.7
G55A Calabogie 80.58 358 P P 08 58 44.8 +0.7
baz=177
PV12 Saucer Basin, 80.58 332 P P 08 58 47.1 +2.5
PV11 David Mesa, Pa 80.59 332 P P 08 58 47.1 +2.4
GGN Saint George 80.60 5 P P 08 58 45.2 +1.0
PV17 East Wray Mesa 80.61 332 P P 08 58 47.0 +2.2
PKME Peaks-Kenny Pk 80.61 3 P P 08 58 45.4 +1.1
baz=183
PKME Peaks-Kenny Pk 80.61 3 P P 08 58 45.6 +1.3
PV16 Nyswonger Mesa 80.62 332 P P 08 58 47.5 +2.6
G64A Maxfield 80.62 3 P P 08 58 45.5 +1.1
baz=184,SNR=5.3
G65A Princeton 80.63 4 P P 08 58 46.5 +2.1
baz=185
I40A Norwalk 80.71 347 P P 08 58 45.0 +0.1
I40A IAmb IAmb 08 58 47.4
comp=Z,12nm,0.7s
PV14 Lion Creek, Pa 80.72 332 P P 08 58 46.7 +1.3
GLMI Grayling 80.74 352 IAMs_20 IAMs_20 09 40 04.9
comp=Z,435nm,19.0s
ISCO Idaho Springs 80.76 335 P P 08 58 46.6 +0.9
ISCO pmax pmax
comp=Z,8.0nm,1.2s
ISCO Idaho Springs 80.76 335 P P 08 58 47.5 +1.8
baz=154
ISCO Idaho Springs 80.76 335 P P 08 58 46.6 +0.9
PV22 Blue Mesa, Par 80.77 333 P P 08 58 46.7 +1.1
G54A Lake Saint Pet 80.78 357 P P 08 58 45.7 +0.5
baz=176,SNR=13
PV23 Carpenter Ridg 80.78 332 P P 08 58 48.6 +2.8
H43A Windswept, Lux 80.81 350 P P 08 58 45.7 +0.3
H43A IAmb IAmb 08 58 46.9
comp=Z,17nm,0.8s
PV21 Cone Mtn., Par 80.86 332 P P 08 58 48.1 +2.0
KNB Kanab 81.06 329 P P 08 58 49.0 +1.8
KNB pmax pmax
comp=Z,14nm,1.0s
KNB Kanab 81.06 329 P P 08 58 49.0 +1.8
G45A Suttons Bay 81.08 351 P P 08 58 46.5 -0.3
G45A IAmb IAmb 08 58 49.3
comp=Z,15nm,0.8s
F57A Harrington 81.09 359 P P 08 58 47.4 +0.6
baz=179
TUQ Turquoise Moun 81.09 326 P P 08 58 50.3 +3.0
baz=146
F55A Otter Lake 81.14 358 P P 08 58 48.0 +0.8
baz=177,SNR=6.5
F62A Pittston Farm, 81.22 2 P P 08 58 48.8 +1.2
baz=183,SNR=13
F62A Pittston Farm, 81.22 2 P P 08 58 48.0 +0.4
F62A IAmb IAmb 08 58 50.1
comp=Z,21nm,0.8s
F60A Warwick 81.24 1 P P 08 58 48.6 +0.9
baz=181,SNR=5.8
K31A O'Neill 81.28 341 P P 08 58 49.5 +1.4
ALGO Algonquin Park 81.33 357 P P 08 58 48.7 +0.5
baz=176
I37A Lemond, Waseca 81.36 345 P P 08 58 48.3 0.0
GSC Goldstone, Bar 81.39 325 P P 08 58 50.4 +1.5
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 81.39 325 P P 08 58 51.9 +3.0
baz=146
GSC Goldstone, Bar 81.39 325 P P 08 58 50.4 +1.5
LMN Caledonia Moun 81.48 6 P P 08 58 49.1 +0.1
LMN IAmb IAmb 08 58 51.6
comp=Z,28nm,0.9s
TRQ Mont Tremblant 81.50 359 P P 08 58 49.5 +0.4
E58A La Victoria 81.64 0 P P 08 58 50.3 +0.5
baz=180,SNR=6.8
SHPR Sheep Range 81.64 327 P P 08 58 52.1 +1.8
E60A Ste Agathe de 81.65 1 P P 08 58 50.3 +0.5
baz=182
MTPU Mount Pierson 81.67 330 P P 08 58 51.1 +0.5
E57A Chemin Saint G 81.68 359 P P 08 58 50.8 +0.8
baz=179,SNR=8.6
CCUT Cedar City 81.74 329 P P 08 58 51.6 +0.8
E55A Montcerf-Lytto 81.76 358 P P 08 58 51.4 +1.0
baz=178
ECSD EROS Data Cent 81.80 343 P P 08 58 51.9 +1.2
baz=161
ECSD EROS Data Cent 81.80 343 P P 08 58 51.5 +0.8
E63A Oxbow 81.81 3 P P 08 58 52.2 +1.5
baz=184
E63A Oxbow 81.81 3 P P 08 58 51.9 +1.3
E63A IAmb IAmb 08 58 59.4
comp=Z,21nm,1.1s
E56A St. Veronique 81.82 359 P P 08 58 51.5 +0.7
baz=178,SNR=15
E64A Bridgewater 81.83 4 P P 08 58 52.3 +1.5
baz=184
N23A Red Feather La 81.85 336 P P 08 58 53.4 +2.0
baz=154
N23A Red Feather La 81.85 336 P P 08 58 52.4 +1.0
N23A IAMs_20 IAMs_20 09 32 21.0
comp=Z,311nm,18.0s
SRU San Rafael Swe 81.93 332 P P 08 58 52.8 +1.0
SRU San Rafael Swe 81.93 332 P P 08 58 52.8 +1.0
E62A Clayton Lake 81.96 3 P P 08 58 53.1 +1.6
baz=183
E62A Clayton Lake 81.96 3 P P 08 58 52.7 +1.3
E62A IAmb IAmb 08 58 59.8
comp=Z,22nm,1.1s
G40A Rib Lake 81.97 348 P P 08 58 51.9 +0.3
O20A White River Ci 81.97 334 P P 08 58 53.9 +1.9
baz=152
O20A White River Ci 81.97 334 P P 08 58 53.5 +1.5
Q16A Castle Valley 82.02 331 P P 08 58 53.5 +1.2
MSU Marysvale 82.07 330 P P 08 58 54.3 +1.7
MSU Marysvale 82.07 330 P P 08 58 54.3 +1.7
PQI Presque Isle 82.08 4 P P 08 58 52.7 +0.6
E46A Sault Ste Mari 82.23 352 P P 08 58 52.6 -0.2
KOWA Kowa 82.27 66 P P 08 58 54.0 +0.1
KOWA IAMs_20 IAMs_20 09 33 26.4
comp=Z,634nm,20.0s
D57A Chemin Vers le 82.28 360 P P 08 58 54.3 +1.2
baz=180,SNR=7.9
D55A Sainte-Anne-du 82.31 359 P P 08 58 53.5 +0.2
baz=178,SNR=12
D56A ZEC Mazanza, M 82.32 359 P P 08 58 53.7 +0.4
baz=179,SNR=6.3
MPMC Manual Prospec 82.33 325 P P 08 58 55.9 +2.0
baz=145
P17A Butcher Ranch, 82.33 332 P P 08 58 55.0 +1.1
PRN Pahroc Range 82.35 328 P P 08 58 55.8 +1.9
PRN IAmb IAmb 08 59 06.7
comp=Z,13nm,0.9s
TMUT Trail Mountain 82.36 331 P P 08 58 56.6 +2.4
D58A Chemin du LacG 82.36 0 P P 08 58 54.3 +0.7
baz=180,SNR=9.6
SPMN Marine on St. 82.40 346 P P 08 58 54.2 +0.4
baz=164
SPMN Marine on St. 82.40 346 P P 08 58 54.0 +0.2
SPMN IAmb IAmb 08 58 54.9
comp=Z,18nm,0.6s
D63A Stockholm 82.44 4 P P 08 58 55.0 +1.0
baz=184
D62A Allapoint, All 82.44 3 P P 08 58 55.1 +1.2
baz=183,SNR=8.0
D62A Allapoint, All 82.44 3 P P 08 58 54.3 +0.4
D62A IAmb IAmb 08 58 56.5
comp=Z,21nm,0.8s
ISA Isabella, Lake 82.47 324 P P 08 58 55.7 +1.2
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella, Lake 82.47 324 P P 08 58 57.6 +3.1
baz=144
ISA Isabella, Lake 82.47 324 P P 08 58 55.7 +1.2
TPNV Topopah Spring 82.50 327 P P 08 58 54.8 0.0
TPNV pmax pmax
comp=Z,6.0nm,1.1s
TPNV Topopah Spring 82.50 327 P P 08 58 57.4 +2.6
baz=146
TPNV Topopah Spring 82.50 327 P P 08 58 54.8 0.0
E43A Lone Tree Farm 82.56 351 P P 08 58 55.1 +0.4
E43A IAmb IAmb 08 58 56.8
comp=Z,24nm,0.8s
LBTB Lobatse 82.57 115 P P 08 58 55.0 -0.5
LBTB pmax pmax
comp=Z,23nm,1.0s
LBTB Lobatse 82.57 115 P P 08 58 55.0 -0.5
LBTB IAmb IAmb 08 59 07.7
comp=Z,23nm,1.0s
COWI Conover 82.61 349 P P 08 58 54.9 0.0
COWI IAmb IAmb 08 59 03.4
comp=Z,18nm,1.1s
LATQ La Tuque 82.65 0 P P 08 58 55.8 +0.7
baz=180
PSUT Pine Spring 82.78 329 P P 08 58 58.3 +2.0
RDMU Red Mountain 82.84 333 P P 08 58 57.7 +1.2
VES Vestal, Richgr 82.90 324 P P 08 58 59.2 +2.5
baz=144
RWWY Rawlins 82.99 335 P P 08 58 57.8 +0.5
RWWY IAmb IAmb 08 59 07.7
comp=Z,15nm,1.1s
SUSD Miller 83.04 342 P P 08 58 58.6 +1.4
baz=159
SUSD Miller 83.04 342 P P 08 58 57.2 0.0
SUSD IAmb IAmb 08 58 59.7
comp=Z,21nm,0.7s
GRAC Grapevine Rang 83.04 326 P P 08 59 00.2 +2.8
baz=145
F36A Milaca 83.15 346 P P 08 58 58.0 +0.3
F36A IAmb IAmb 08 58 59.3
comp=Z,16nm,0.8s
NLU North Lily Min 83.27 331 P P 08 58 59.6 +0.8
R11A Troy Canyon, C 83.36 328 P P 08 59 01.7 +2.4
baz=147
R11A Troy Canyon, C 83.36 328 P P 08 59 01.1 +1.8
D41A Chassel 83.46 350 P P 08 59 00.1 +0.8
VLDQ Val d'Or 83.46 357 P P 08 58 59.9 +0.7
VLDQ IAmb IAmb 08 59 01.9
comp=Z,16nm,0.8s
E38A The Farm, Brul 83.50 347 P P 08 58 59.7 +0.2
E38A IAmb IAmb 08 59 00.8
comp=Z,10nm,0.7s
JLU Jordanelle 83.58 332 P P 08 59 01.7 +1.3
K22A Casper 83.61 336 P P 08 59 02.3 +2.0
baz=153
K22A Casper 83.61 336 P P 08 59 01.7 +1.3
K22A IAmb IAmb 08 59 12.0
comp=Z,19nm,1.1s
F33A 5 Mile Ranch, 83.71 344 P P 08 59 00.7 +0.1
F33A IAmb IAmb 08 59 09.4
comp=Z,30nm,1.4s
DUG Dugway, Tooele 83.77 331 P P 08 59 02.8 +1.6
DUG pmax pmax
comp=Z,24nm,1.2s
DUG Dugway, Tooele 83.77 331 P P 08 59 03.6 +2.4
baz=149
DUG Dugway, Tooele 83.77 331 P P 08 59 02.8 +1.6
DUG IAmb IAmb 08 59 13.8
comp=Z,24nm,1.2s
RSSD Black Hills 84.15 338 P P 08 59 03.9 +0.7
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 84.15 338 P P 08 59 04.6 +1.4
baz=155
RSSD Black Hills 84.15 338 P P 08 59 03.9 +0.7
MLAC Mammoth, Mammo 84.23 325 P P 08 59 06.9 +3.1
baz=144
OMMB Old Mammoth Mi 84.30 325 P P 08 59 05.7 +1.5
LSQQ Lebel-sur-Quev 84.39 358 P P 08 59 04.7 +0.8
baz=177
HWUT Hardware Ranch 84.49 332 P P 08 59 05.9 +1.0
HWUT IAmb IAmb 08 59 15.7
comp=Z,19nm,1.1s
NV11 Mina Array Sit 84.57 326 P P 08 59 08.4 +3.1
NVAR Mina Array Bea 84.64 326 P P 08 59 08.1 +2.3
comp=Z,3.2nm,0.7s,baz=157,slow=6.4,SNR=33
NVAR LR LR 09 30 18.7
comp=Z,174nm,19.1s,baz=143,slow=31
NVAR Mina Array Bea 84.64 326 P P 08 59 05.3 -0.5
PD31 Pinedale Array 84.76 334 P P 08 59 06.3 0.0
PDAR Pinedale Array 84.76 334 P P 08 59 07.2 +0.9
comp=Z,1.1nm,0.6s,baz=142,slow=5.5,SNR=8.4
PDAR LR LR 09 33 31.0
comp=Z,302nm,18.7s,baz=152,slow=33
PDAR Pinedale Array 84.76 334 P P 08 59 06.2 -0.1
EYMN Ely 84.78 348 P P 08 59 06.7 +0.7
baz=165
EYMN Ely 84.78 348 P P 08 59 06.6 +0.7
EYMN IAmb IAmb 08 59 14.3
comp=Z,18nm,1.1s
RYN Ryan 84.90 326 P P 08 59 06.4 -0.6
KVN Kaiserville 85.05 327 P P 08 59 09.7 +1.9
KVN pmax pmax
comp=Z,12nm,1.1s
KVN Kaiserville 85.05 327 P P 08 59 09.7 +1.9
KVN IAmb IAmb 08 59 20.2
comp=Z,12nm,1.1s
KVN IAMs_20 IAMs_20 09 35 01.3
comp=Z,356nm,18.0s
HVU Hansel Valley 85.10 332 P P 08 59 08.9 +0.9
HVU pmax pmax
comp=Z,12nm,1.0s
HVU Hansel Valley 85.10 332 P P 08 59 08.9 +0.9
MATQ Matagami 85.11 357 P P 08 59 08.2 +0.7
baz=176
CHGQ Chibougamau 85.18 359 P P 08 59 08.6 +0.7
baz=179
ELK Elko 85.22 329 P P 08 59 09.1 +0.4
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 85.22 329 P P 08 59 09.1 +0.4
AHID Auburn Hatcher 85.32 333 P P 08 59 09.0 0.0
AHID IAmb IAmb 08 59 27.7
comp=Z,12nm,1.1s
YERR Yerington 85.52 326 P P 08 59 10.7 +0.6
B35A Bob, Littlefor 85.59 347 P P 08 59 10.4 +0.4
B35A IAmb IAmb 08 59 11.6
comp=Z,15nm,0.6s
DRLN Deer Lake 85.69 10 P P 08 59 10.6 +0.1
REDW Red Top Meadow 85.74 334 P P 08 59 12.1 +0.9
REDW IAmb IAmb 08 59 35.8
comp=Z,12nm,1.1s
TOA4 Torodi Ar. Sit 85.74 71 IAMs_20 IAMs_20 09 37 02.3
comp=Z,768nm,18.0s
TOC4 Torodi Ar. Sit 85.74 71 IAMs_20 IAMs_20 09 37 02.3
comp=Z,796nm,18.0s
TOB5 Torodi Ar. Sit 85.75 71 IAMs_20 IAMs_20 09 37 02.4
comp=Z,818nm,18.0s
TOA3 Torodi Ar. Sit 85.75 71 IAMs_20 IAMs_20 09 37 03.5
comp=Z,758nm,18.0s
TOC7 Torodi Ar. Sit 85.75 71 IAMs_20 IAMs_20 09 36 53.6
comp=Z,758nm,19.0s
TOA0 Torodi Ar. Sit 85.76 71 P P 08 59 11.2 -0.5
TOA0 IAmb IAmb 08 59 22.8
comp=Z,14nm,0.8s
TOA0 IAMs_20 IAMs_20 09 36 54.6
comp=Z,727nm,19.0s
TORD Torodi Ar. Bea 85.76 71 P P 08 59 11.0 -0.6
comp=Z,12nm,1.0s,baz=242,slow=3.8,SNR=36
TORD LR LR 09 37 13.8
comp=Z,646nm,18.1s,baz=225,slow=36
TORD Torodi Ar. Bea 85.76 71 P P 08 59 11.0 -0.6
TOB3 Torodi Ar. Sit 85.76 71 IAMs_20 IAMs_20 09 37 03.7
comp=Z,768nm,18.0s
TOA2 Torodi Ar. Sit 85.76 71 IAMs_20 IAMs_20 09 37 03.8
comp=Z,809nm,18.0s
TOB1 Torodi Ar. Sit 85.76 71 IAMs_20 IAMs_20 09 37 03.8
comp=Z,760nm,18.0s
PNTR Pine Nut 85.76 326 P P 08 59 12.3 +0.9
PNTR IAmb IAmb 08 59 23.9
comp=Z,16nm,0.9s
TOC3 Torodi Ar. Sit 85.77 71 IAMs_20 IAMs_20 09 37 04.0
comp=Z,782nm,18.0s
TOC2 Torodi Ar. Sit 85.78 71 IAMs_20 IAMs_20 09 37 03.3
comp=Z,795nm,18.0s
SNOW Snow King Moun 85.79 334 P P 08 59 12.1 +0.6
LOHW Long Hollow 85.87 334 P P 08 59 12.0 +0.2
TPAW Teton Pass 85.89 334 P P 08 59 11.1 -0.8
AGMN Agassiz Nation 85.95 345 P P 08 59 12.7 +0.9
baz=162
AGMN Agassiz Nation 85.95 345 P P 08 59 12.2 +0.4
AGMN IAmb IAmb 08 59 13.4
comp=Z,13nm,0.6s
FXWY Fox Creek 86.04 334 P P 08 59 13.6 +0.9
PAHR Pah Rah Range 86.16 326 P P 08 59 13.6 +0.3
AFDM Forest Hills D 86.29 325 P P 08 59 15.2 +1.5
FLWY Flagg Ranch 86.31 334 P P 08 59 15.1 +1.1
FLWY IAmb IAmb 08 59 25.6
comp=Z,12nm,1.0s
FLWY IAMs_20 IAMs_20 09 34 19.2
comp=Z,450nm,19.0s
RLMT Red Lodge 86.72 335 P P 08 59 17.4 +1.4
baz=151
RLMT Red Lodge 86.72 335 P P 08 59 16.5 +0.5
YMR Madison River 86.92 334 P P 08 59 17.6 +0.7
YHH Holmes Hill 86.98 334 P P 08 59 18.7 +1.4
LAO LASA Array 87.13 338 P P 08 59 19.0 +1.3
baz=154
QLMT Earthquake Lak 87.22 334 P P 08 59 20.6 +2.2
HLID Hailey 87.25 331 P P 08 59 21.0 +2.5
baz=148
HLID Hailey 87.25 331 P P 08 59 20.2 +1.7
GCMT Greycliff 87.44 335 P P 08 59 20.0 +0.6
BCYI Bear Canyon 87.50 332 P P 08 59 21.0 +1.2
MFID Camas Ranch 87.69 330 P P 08 59 22.1 +1.5
MFID IAMs_20 IAMs_20 09 35 38.9
comp=Z,323nm,18.0s
MCMT McKenzie Canyo 87.73 333 P P 08 59 22.5 +1.6
ULM Lac du Bonnet 87.81 346 P P 08 59 20.4 -0.4
comp=Z,21nm,0.8s,baz=181,slow=3.4,SNR=18
ULM Lac du Bonnet 87.81 346 P P 08 59 20.6 -0.2
BOZ Bozeman (W) 87.95 334 P P 08 59 21.8 0.0
BOZ pmax pmax
comp=Z,5.0nm,1.2s
BOZ Bozeman (W) 87.95 334 P P 08 59 21.8 0.0
DLMT Dillon 88.10 333 P P 08 59 22.8 +0.2
DLMT IAmb IAmb 08 59 33.7
comp=Z,14nm,1.1s
DGMT Dagmar 88.15 340 P P 08 59 23.9 +1.4
baz=155
DGMT Dagmar 88.15 340 P P 08 59 23.4 +0.8
MOD Modoc Plateau 88.34 327 P P 08 59 25.5 +1.7
MOD IAmb IAmb 08 59 35.8
comp=Z,18nm,0.9s
LRM Limekiln Ridge 88.44 334 P P 08 59 23.9 -0.3
J08A Circle Bar Ran 88.73 329 P P 08 59 27.5 +2.0
M04C Macdoel 88.94 326 P P 08 59 29.3 +2.7
baz=142
K05A Summer Lake 89.27 327 P P 08 59 30.2 +2.1
YBH Yreka Blue Hor 89.30 325 P P 08 59 30.0 +1.8
comp=Z,1.7nm,0.7s,baz=83,slow=8.1,SNR=2.9
YBH Yreka Blue Hor 89.30 325 P P 08 59 30.0 +1.8
I07A Izee 89.75 329 P P 08 59 31.8 +1.5
I07A IAmb IAmb 08 59 41.9
comp=Z,11nm,1.1s
J05D Fort Rock, OR 89.86 327 P P 08 59 37.0 +6.1
baz=143
PINE Pine Mountain 90.14 328 P P 08 59 32.9 +0.7
PINE IAmb IAmb 08 59 44.6
comp=Z,16nm,0.9s
SCHQ Schefferville 90.28 4 P P 08 59 32.2 -0.1
comp=Z,9.5nm,0.9s,baz=304,slow=1.5,SNR=4.3
SCHQ Schefferville 90.28 4 IAmb IAmb 08 59 38.8
comp=Z,10nm,0.9s
SCHQ IAMs_20 IAMs_20 09 47 42.7
comp=Z,326nm,19.0s
LSZ Lusaka 90.29 109 P P 08 59 33.4 -0.2
LSZ pmax pmax
comp=Z,11nm,1.2s
LSZ Lusaka 90.29 109 P P 08 59 33.4 -0.2
G08A Pilot Rock 90.51 330 P P 08 59 35.0 +1.2
JTMT Jette 90.74 334 IAMs_20 IAMs_20 09 36 57.4
comp=Z,299nm,18.0s
WALA Waterton Lakes 91.72 335 P P 08 59 40.4 +1.0
NEW Newport 92.22 332 P P 08 59 41.7 +0.1
comp=Z,1.4nm,0.7s,baz=128,slow=14,SNR=2.3
C09A Chrisman Ranch 92.28 332 P P 08 59 42.4 +0.6
C09A IAmb IAmb 08 59 53.2
comp=Z,12nm,1.1s
LON Longmire 92.86 329 P P 08 59 45.0 +0.4
LON pmax pmax
comp=Z,3.0nm,0.8s
LON Longmire 92.86 329 P P 08 59 45.0 +0.4
PFVI Vila Bisbo 93.92 46 IAMs_20 IAMs_20 09 40 50.2
comp=Z,614nm,19.0s
TAM Tamanrasset 94.48 65 IAMs_20 IAMs_20 09 41 57.8
comp=Z,474nm,18.0s
PVAQ Vaqueiros 94.76 47 IAMs_20 IAMs_20 09 40 40.4
comp=Z,683nm,20.0s
ES04 SONSECA Array 98.47 47 IAMs_20 IAMs_20 09 43 01.6
comp=Z,654nm,19.0s
ESDC Sonseca Array 98.47 47 P P 09 00 09.2 -1.1
comp=Z,2.4nm,1.0s,baz=251,slow=3.8,SNR=14
ESDC LR LR 09 43 23.3
comp=Z,497nm,19.7s,baz=225,slow=35
ESDC Sonseca Array 98.47 47 P P 09 00 09.3 -1.0
ES11 SONSECA Array 98.48 47 IAMs_20 IAMs_20 09 42 48.8
comp=Z,623nm,21.0s
ES03 SONSECA Array 98.48 47 IAMs_20 IAMs_20 09 43 00.9
comp=Z,647nm,20.0s
DZM Mont Dzumac 99.42 234 *e*LR LR 09 32 46.7
comp=Z,414nm,25.7s
MBAR Mbarara 101.06 99 IAMs_20 IAMs_20 09 49 56.4
comp=Z,436nm,20.0s
ABPO Ambohimpanom 101.76 124 IAMs_20 IAMs_20 09 40 41.7
comp=Z,572nm,19.0s
VSL Villasalto 106.70 53 IAMs_20 IAMs_20 09 49 39.6
comp=Z,588nm,20.0s
SALO Salr 110.61 48 IAMs_20 IAMs_20 09 55 50.8
comp=Z,514nm,21.0s
AQU L'Aquila 110.79 52 IAMs_20 IAMs_20 09 51 12.7
comp=Z,568nm,21.0s
FUORN Ofenpass-Fuorn 110.95 47 IAMs_20 IAMs_20 09 50 45.9
comp=Z,572nm,19.0s
INK Inuvik 112.83 340 IAMs_20 IAMs_20 09 51 46.1
comp=Z,346nm,21.0s
A36M Sachs Harbour 113.27 345 IAMs_20 IAMs_20 10 03 58.3
comp=Z,272nm,19.0s
GEC2 GERESS Array S 114.05 46 IAMs_20 IAMs_20 09 49 28.9
comp=Z,300nm,20.0s
GERES GERESS Array B 114.05 46 PKiKP PKPdf 09 05 10.5 -0.4
comp=Z,1.3nm,0.8s,baz=186,slow=1.2,SNR=12
GERES PKKPab **PKKPab 09 15 59.8 +3.1**
comp=Z,0.2nm,0.6s,baz=56,slow=3.4,SNR=3.6
GERES GERESS Array B 114.05 46 *i* PKIKP PKPdf 09 05 10.3 -0.6
GERES GERESS Array B 114.05 46 PKPdf 09 05 10.3 -0.6
KHC Kasperske Hory 114.11 46 *e*PKP PKPdf 09 05 07.0 -3.9
KHC Kasperske Hory 114.11 46 *e*PKIKP PKPdf 09 05 07.0 -3.9
PDG Podgorica 114.65 54 IAMs_20 IAMs_20 09 56 01.0
comp=Z,558nm,20.0s
CLL Collm 114.76 44 *e*PP PP 09 06 15.0 +4.2
CLL *e*PPP PPP 09 08 36.0
CLL *e*PS **PKKPbc 09 15 50.0 -0.1**
CLL *e*PPS PPS 09 17 05.0
CLL *e*SS SS 09 22 00.0 -4.4
CLL *e*SSS SSS 09 26 24.0
CLL Lm MLR 09 52 00.0
comp=N,200nm,20.1s
CLL Lm MLR 09 52 00.0
comp=E,400nm,19.5s
CLL Lm MLR 09 52 00.0
comp=Z,400nm,20.6s
ILAR Eielson Array 115.17 333 PKP **PKiKP 09 05 13.2 +0.7**
comp=Z,0.9nm,0.8s,baz=172,slow=1.7,SNR=11
ILAR PP PP 09 06 22.1 +8.8
comp=Z,0.7nm,0.9s,baz=106,slow=5.8,SNR=4.5
FYU Fort Yukon 115.50 335 IAMs_20 IAMs_20 09 52 52.0
comp=Z,297nm,18.0s
COLA College 115.58 333 *i* PKIKP **PKiKP 09 05 13.6 +0.4**
ASAR Alice Springs 115.63 208 PKP **PKiKP 09 05 14.8 0.0**
comp=Z,1.2nm,0.8s,baz=120,slow=1.5,SNR=13
ASAR PKKPbc **PKKPbc 09 15 47.0 +0.4**
comp=Z,1.1nm,0.4s,baz=341,slow=3.1,SNR=24
ASAR Alice Springs 115.63 208 PKIKP **PKiKP 09 05 14.2 -0.6**
ASAR Alice Springs 115.63 208 PKiKP 09 05 14.2 -0.6
VYHS Vyhne 116.97 48 *e*PKIKP **PKiKP 09 05 16.9 +0.5**
VYHS Vyhne 116.97 48 *e*PKP **PKiKP 09 05 16.9 +0.5**
ATD Arta Tunnel 117.86 96 IAMs_20 IAMs_20 09 56 16.8
comp=Z,438nm,18.0s
NOA NORSAR Array B 117.97 33 PKP **PKiKP 09 05 18.3 +0.3**
comp=Z,1.4nm,0.9s,baz=249,slow=2.3,SNR=2.1
IMAR Indian Mountai 118.28 333 PKiKP 09 05 19.5 +1.1
WRA Warramunga Arr 118.82 210 PKP **PKPdf 09 05 21.1 +0.1**
comp=Z,1.7nm,0.5s,baz=160,slow=1.6,SNR=42
WRA PKKPbc **PKKPbc 09 15 35.1 -0.2**
comp=Z,0.9nm,0.8s,baz=344,slow=4.2,SNR=9.3
KWP Kalwaria Pacla 119.76 48 PKIKP **PKPdf 09 05 21.6 -0.1**
KWP Kalwaria Pacla 119.76 48 PKPdf 09 05 21.6 -0.1
BURAR Bucovina Array 120.60 51 PKPdf 09 05 23.2 -0.3
KRVT Keravat (AS076 121.84 237 PKP **PKiKP 09 05 28.1 +1.0**
comp=Z,32nm,0.4s,baz=250,slow=2.8,SNR=4.0

BRTR	Keskin Array B	123.54	62	PKP	PKPdf	09 05 29.6	+0.1
	comp=Z,1.8nm,0.8s,baz=268,slow=4.3,SNR=3.2						
BRTR	Keskin Array B	123.54	62	PKIKP	PKPdf	09 05 28.8	-0.7
BRTR	Keskin Array B	123.54	62		PKPdf	09 05 28.8	-0.7
AKASG	Malin Array Be	124.07	49	PKP	PKPdf	09 05 29.1	-0.9
	comp=Z,1.7nm,0.5s,baz=259,slow=2.6,SNR=8.9						
AKBB	Malin Array Si	124.07	49	PKIKP	PKPdf	09 05 29.5	-0.4
AKBB	Malin Array Si	124.07	49		PKPdf	09 05 29.5	-0.4
SPITS	Spitsbergen Ar	124.52	14	PKP	PKPdf	09 05 30.0	-0.1
	comp=Z,12nm,0.9s,baz=168,slow=8.5,SNR=6.8						
SPITS	Spitsbergen Ar	124.52	14	PKIKP	PKPdf	09 05 30.0	-0.1
H11S2	WAKE ISLAND Hyl	24.68	269	T	T	11 23 20.1	
	baz=118,slow=74,SNR=32						
H11S1	WAKE ISLAND Hyl	24.70	269	T	T	11 23 00.5	
	baz=118,slow=74,SNR=30						
H11S3	WAKE ISLAND Hyl	24.70	269	T	T	11 23 00.5	
	baz=118,slow=74,SNR=30						
FINES	FINESS Array B	124.94	35	PKP	PKPdf	09 05 30.8	-0.4
	comp=Z,4.2nm,0.9s,baz=147,slow=11,SNR=5.2						
FINES	FINESS Array B	124.94	35		PKPdf	09 05 31.0	-0.3
H11N3	WAKE ISLAND Hyl	25.14	270	T	T	11 23 36.5	
	baz=122,slow=74						
H11N1	WAKE ISLAND Hyl	25.15	270	T	T	11 23 34.9	
	baz=122						
H11N2	WAKE ISLAND Hyl	25.15	270	T	T	11 23 34.4	
	baz=122,slow=74						
TOKA	Tokat	125.80	62	IAMs_20	IAMs_20	10 03 30.1	
	comp=Z,386nm,20.0s						
ARCES	ARCESS Array B	125.94	25	PKP	PKPdf	09 05 33.0	0.0
	comp=Z,3.9nm,0.7s,baz=267,slow=2.1,SNR=13						
VSR	Storozhevoye	130.31	50	*e*PKIKP	PKPdf	09 05 40.8	-1.0
VSR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LPSR	Galich'ya Gora	130.38	48	*e*PKIKP	PKPdf	09 05 41.7	-0.2
LPSR				pmax	pmax		
	comp=Z,20nm,1.3s						
KIV	Kislovodsk	131.24	60	*i* PKIKP	PKiKP	09 05 45.9	+1.0
KIV				pmax	pmax		
	comp=Z,32nm,1.1s						
KIV	Kislovodsk	131.24	60	IAMs_20	IAMs_20	09 51 53.1	
	comp=Z,287nm,22.0s						
KLMR	Klimovskoe	131.35	37	*e*PKIKP	PKPdf	09 05 43.5	0.0
KLMR				pmax	pmax		
	comp=Z,24nm,1.4s						
KLMR	Klimovskoe	131.35	37	*e*SKPbc	SKPbc	09 09 06.3	-1.1
KLMR	Klimovskoe	131.35	37	*e*PKPdf	PKPdf	09 05 43.5	0.0
KLMR	Klimovskoe	131.35	37	AMP		09 05 54.8	
	comp=Z,24nm,1.4s						
VRH	Novokhopyorsk	131.90	50	*e*PKIKP	PKPdf	09 05 41.3	-3.5
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PETK	Petropavlovsk-	140.51	313	PKP	PKPdf	09 06 01.3	+0.5
	comp=Z,5.6nm,0.9s,baz=105,slow=1.7,SNR=4.4						
PETK	Petropavlovsk-	140.51	313		PKPdf	09 06 01.5	+0.7
GYA0B	ALIBECK ARRAY	141.39	72	IAMs_20	IAMs_20	10 14 39.1	
	comp=Z,409nm,20.0s						
ARU	Arti	141.67	42	*i* PKIKP	PKPdf	09 05 57.8	-5.0
NRIK	Noril'sk	144.63	12	PKP	PKPbc	09 06 06.5	0.0
	comp=Z,19nm,0.9s,baz=36,slow=1.9,SNR=14						
NRIK	Noril'sk	144.63	12	*i* PKIKP	PKPab	09 06 06.3	0.0
GSI	Gunungsitoli	144.81	164		PKPdf	09 06 09.7	0.0
KSM	Kuching	145.84	186	PKPdf	PKPab	09 06 12.2	-0.1
MYKOM	Kota Tinggi	146.22	175	IAMs_20	IAMs_20	10 12 49.2	
	comp=Z,276nm,20.0s						
POO	Poona	146.37	112	*e*P	PKPdf	09 06 12.0	-0.2
RPSI	Rantau Prapat	146.44	166	PKPdf	PKPdf	09 06 11.3	-1.2
RPSI				PKPbc	PKPbc	09 06 13.9	+0.1
PSI	Prapat	146.54	166	PKIKP	PKPdf	09 06 11.3	-1.5
PSI						09 06 13.9	
IPM	Ipoh	148.56	169		PKPbc	09 06 19.5	-0.1
BRVK	Borovoye	149.12	44	PKP2	PKiKP	09 06 20.7	-0.4
BRVK	Borovoye	149.12	44		PKiKP	09 06 20.7	-0.4
HYB	Hyderabad	149.14	119	*i* PKP	PKPbc	09 06 19.0	-2.0
KULM	Kulim	149.29	168		PKPbc	09 06 21.6	+0.2
KBL	Kabul	149.31	81	IAMs_20	IAMs_20	10 20 15.0	
	comp=Z,249nm,21.0s						
YAK	Yakutsk	149.89	338	*e*PKP2	PKPbc	09 06 21.8	+0.4
YAK				*e*		09 10 01.4	
YAK				*e*SS	SS	09 29 14.8	+4.8
YAK				pmax	pmax		
	comp=Z,36nm,0.6s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,14nm,1.4s						
YAK				pmax	pmax		
	comp=N,22nm,1.5s						
YAK				pmax	pmax		
	comp=E,16nm,1.5s						
YAK	Yakutsk	149.89	338	PKPdf	PKPdf	09 06 17.1	+0.6
YAK					pPKPdf	09 06 22.2	-0.7
YAK				PKPab	sPKPbc	09 06 28.8	-1.1
CHGR	Chuyangaron	150.08	73	PKPdf	PKPdf	09 06 18.7	+1.0
CHGR				PKPbc	PKPbc	09 06 22.9	+0.1
YSS	Yuzh-Sakhalins	150.88	304	*e*PKIKP	PKPab	09 06 32.6	+1.0
IUG	Iuzhnay	150.91	66	*e*PKiKP	PKPbc	09 06 24.3	-0.4
	baz=66						
IUG				*e*PKPab	pPKPbc	09 06 30.3	-0.7
	baz=66						
IUG	Iuzhnay	150.91	66	*i* PKPbc	PKPbc	09 06 24.2	-0.4
IUG				*e*		09 06 30.3	
GAR	Garm	151.01	72	PKPdf	PKPdf	09 06 20.5	+1.2
GAR				PKPbc	PKiKP	09 06 25.7	+0.1
KK31	Karatay Array	151.24	64	PKIKP	PKPdf	09 06 19.7	+0.4
KK31						09 06 25.5	
KK31	Karatay Array	151.24	64	PKPdf	PKPdf	09 06 19.7	+0.4
KK31					PKPbc	09 06 25.5	+0.2
KKAR	Karatay Array	151.24	64	PKIKP	PKPdf	09 06 19.4	+0.1
KKAR						09 06 19.6	
KKAR						09 06 25.3	
KKAR						09 06 25.5	
KKAR	Karatay Array	151.24	64		PKPdf	09 06 19.4	+0.1
KKAR					PKPbc	09 06 25.3	0.0
KKAR	Karatay Array	151.24	64	PKPdf	PKPdf	09 06 19.6	+0.2
KKAR					PKPbc	09 06 25.5	+0.2
NIL	Nilore	152.50	84	PKIKP	PKPbc	09 06 28.5	0.0
NIL	Nilore	152.50	84		PKPbc	09 06 28.5	0.0
BTLS	Baital	153.57	59	*e*PKP	PKPdf	09 06 21.6	-1.1
	baz=60						
BTLS				*e*PKPab	PKPab	09 06 41.9	-1.1
	baz=60						
BTLS	Baital	153.57	59	*e*PKIKP	PKPdf	09 06 21.5	-1.1
SGDS	Sogindy	154.20	63	*e*PKP	PKPdf	09 06 22.6	-1.2
	baz=63						
SGDS	Sogindy	154.20	63	*e*PKIKP	PKPdf	09 06 22.5	-1.2
MJAR	Matsushiro Arr	154.56	281	PKPbc	PKiKP	09 06 33.4	+0.5
	comp=E,0.6nm,0.6s,baz=97,slow=2.8,SNR=2.1						
MJAR				PKPab	PKPab	09 06 48.7	+1.2
	comp=E,1.0nm,0.7s,baz=135,slow=4.8,SNR=4.6						
KURK	Kurchatov	154.79	45	PKIKP	PKPdf	09 06 24.6	+0.4
KURK	Kurchatov	154.79	45	PKPdf	PKPdf	09 06 24.6	+0.4
KUU	Kurty	155.37	61	*e*PKPab	PKPab	09 06 49.6	-1.2
	baz=62						
KUU	Kurty	155.37	61	*e*PKP2	PKPab	09 06 49.5	-1.2
KSH	Kashi	155.42	72	PKPbc	PKPdf	09 06 26.3	+0.7
KSH				PKS	PKSdf	09 10 00.0	+0.2
KSH				PP	PP	09 10 26.5	-1.9
KSH				AMB	AMB		
	comp=E,110nm,8.6s						
KSH				LR	LR		
	comp=E,120nm,6.1s						
KSH				LR	LR		
	comp=E,140nm,8.3s						
KSH				LR	LR		
	comp=E,190nm,7.3s						
MDOK	Medeo	155.99	63	*e*PKPab	PKPab	09 06 51.7	-2.0
	baz=63						
MDOK	Medeo	155.99	63	*e*PKP2	PKPab	09 06 51.6	-2.0
ZAA0	Zalesovo Array	156.17	33	PKPdf	PKPdf	09 06 25.4	-0.5
ZAA0				PKPab	PKPab	09 06 54.2	+0.4
ZAA0				IAMs_20	IAMs_20	10 16 30.3	
	comp=Z,249nm,19.0s						
ZALV	Zalesovo Beam	156.17	33	PKP	PKPdf	09 06 25.5	-0.4
	comp=Z,5.4nm,0.8s,baz=302,slow=2.8,SNR=17						
ZALV				PKPbc	sPKPdf	09 06 36.8	+2.3
	comp=Z,8.5nm,0.8s,baz=318,slow=2.0,SNR=6.8						
ZALV				PKPab	PKPab	09 06 54.0	+0.2
	comp=Z,14nm,0.6s,baz=303,slow=5.3,SNR=14						
ZALV	Zalesovo Beam	156.17	33	PKPdf	PKPdf	09 06 25.6	-0.4
ZALV					sPKPdf	09 06 36.3	+1.8
ZALV					PKPab	09 06 54.6	+0.9
TARG	Taragay, Kyrgy	156.72	66		PKPab	09 06 56.5	-0.6
SATY	Saty	156.99	63	*e*PKP	PKPdf	09 06 26.3	-1.4
	baz=63						
SATY	Saty	156.99	63	*e*PKIKP	PKPdf	09 06 26.2	-1.4
BOD	Bodaibo	157.28	350	*e*PKP2	PKPab	09 06 58.5	+0.1
BOD				pmax	pmax		
	comp=Z,17nm,1.4s						
UZB	Uzynbulak	157.42	62	*e*PKPab	PKPab	09 06 57.9	-1.9
	baz=63						
UZB	Uzynbulak	157.42	62	*e*PKP2	PKPab	09 06 57.9	-1.9
SHLS	Shalkode	157.74	62	*e*PKP	PKPdf	09 06 27.7	-0.8
	baz=63						
SHLS	Shalkode	157.74	62	*e*PKIKP	PKPdf	09 06 27.7	-0.8
MAKZ	Makanchi	158.42	51	PKIKP	PKPdf	09 06 29.1	0.0
MAKZ						09 07 02.8	
MAKZ	Makanchi	158.42	51	PKPdf	PKPdf	09 06 29.1	0.0
MAKZ				PKPab	PKPab	09 07 02.8	-1.0
MK31	Makanchi Array	158.62	51	PKIKP	PKPdf	09 06 29.3	0.0
MK31						09 07 04.4	
MK31	Makanchi Array	158.62	51	PKPdf	PKPdf	09 06 29.3	0.0
MK31				PKPab	PKPab	09 07 04.4	-0.3
MKAR	Makanchi Array	158.62	51	PKP	PKPdf	09 06 29.5	+0.2
	comp=Z,2.6nm,0.9s,baz=300,slow=2.4,SNR=15						
MKAR				PKPab	PKPab	09 07 03.9	-0.8
	comp=Z,7.3nm,0.8s,baz=294,slow=3.8,SNR=17						
MKAR	Makanchi Array	158.62	51	PKPdf	PKPdf	09 06 29.6	+0.2
MKAR					PKPab	09 07 04.4	-0.3
KOLN	Koldanda	158.89	105	*e*P	PKPab	09 07 05.8	-0.8
	comp=Z,24nm,0.8s						
DANN	Dangsing	159.28	104	*e*P	PKPab	09 07 08.5	+0.1
	comp=Z,27nm,0.7s						
ZSN	Zaisan	159.93	47	*e*PKP	PKPdf	09 06 29.9	-0.9
	baz=48						
ZSN				*e*PKPab	PKPab	09 07 09.4	-1.0
	baz=48						
ZSN	Zaisan	159.93	47	*e*PKIKP	PKPdf	09 06 29.9	-0.9
DMN	Daman	159.99	108	*e*P	PKPab	09 07 11.1	-0.4
	comp=Z,64nm,0.8s						
PKIN	Phulchoki	160.20	108	*e*P	PKPab	09 07 11.7	-0.7
	comp=Z,40nm,0.7s						
PKI	Pulchoki	160.21	108	*e*P	PKPab	09 07 11.6	-0.9
	comp=Z,44nm,0.8s						
GUN	Gumba	160.74	108	*e*P	PKPab	09 07 14.2	-0.7
	comp=Z,42nm,0.8s						
RAMN	Ramite	160.81	111	*e*P	PKPab	09 07 14.9	-0.1
	comp=Z,24nm,0.8s						
JIRN	Jiri	160.85	109	*e*P	PKPab	09 07 14.9	-0.5
	comp=Z,86nm,1.0s						
ODAN	Odare	161.36	113	*e*P	PKPab	09 07 17.0	-0.4
CMAR	Chiang Mai Arr	161.56	156	PKP	PKPdf	09 06 32.6	-0.8
	comp=Z,3.0nm,0.3s,baz=230,slow=2.2,SNR=8.3						
CMAR				PKPab	PKPab	09 07 17.9	-0.1
	comp=Z,1.2nm,0.4s,baz=229,slow=4.4,SNR=1.2						
KSRS	Korea Array	162.83	282	PKP	PKPdf	09 06 34.7	+0.6
	comp=Z,1.0nm,0.7s,baz=70,slow=5.3,SNR=2.9						
KSRS				PKPab	PKPab	09 07 25.5	+2.2
	comp=Z,2.9nm,0.8s,baz=102,slow=3.5,SNR=9.8						
KSAR	Wonju Array Be	162.86	282	PKIKP	PKPdf	09 06 34.2	0.0
KSAR	Wonju Array Be	162.86	282	PKPdf	PKPdf	09 06 34.2	0.0
KSAR					PKPab	09 07 26.1	+2.6
WMQ	Urumqi	163.29	55	*e*PKP	PKPdf	09 06 35.5	+1.0
WMQ				AMB	AMB		
	comp=Z,97nm,6.3s						
WMQ				LR	LR		
	comp=Z,220nm,23.7s						
WMQ				LR	LR		
	comp=Z,120nm,24.9s						
WMQ	Urumqi	163.29	55	PKP2	PKPab	09 07 25.8	+0.5
WMQ	Urumqi	163.29	55		PKPab	09 07 25.8	+0.5
SHL	Shillong	163.80	124	PKP2	PKPab	09 07 27.5	-0.6
SHL	Shillong	163.80	124	PKPab	PKPab	09 07 27.5	-0.6
ZAK	Zakamensk	165.06	8	*e*PKIKP	PKPdf	09 06 31.2	-4.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ULN	Ulaanbaatar	167.78	359	PKP2	PKPab	09 07 46.4	+1.6
ULN	Ulaanbaatar	167.78	359	PKPab	PKPab	09 07 46.4	+1.6
SONM	Songino Array	167.81	1	PKPab	PKPab	09 07 45.6	+0.6
	comp=Z,5.7nm,0.9s,baz=336,slow=3.1,SNR=13						
SONM	Songino Array	167.81	1	PKPab	PKPab	09 07 45.9	+0.9
KMI	Kunming	168.98	161	*e*PKP	PKPdf	09 06 39.0	-0.8
KMI				pPKP	pPKPdf	09 06 45.5	-0.7
NJ2	Nanjing	169.26	254	*e*PKP	PKPdf	09 06 40.0	+0.6
GTA	Gaotai	173.38	53	*e*PKP	PKPdf	09 06 49.0	+7.5
GTA				PKPab	sPKPab	09 08 18.5	+0.4
GTA				PP	PP	09 12 15.3	+13
HHC	Hu-ho-hao-te	173.53	325	*e*PKP	PKPdf	09 06 44.0	+2.6
LZH	Lanzhou	177.66	78	*e*PKP	PKPdf	09 06 43.0	+0.3
LZH				pPKP	pPKPdf	09 06 46.3	-2.8
LZH				PP	PP	09 12 23.8	+0.7
LZH				SKKS		09 19 07.8	
LZH				AMB	AMB		
	comp=Z,320nm,9.1s						
LZH				LR	LR		
	comp=Z,330nm,18.0s						
LZH				LR	LR		
	comp=Z,450nm,18.1s						
LZH				LR	LR		
	comp=Z,520nm,20.2s						

*GUC **28** 08:53:56.3±0.6, 35°.64S×73°.16W, h30km±4km, ML4.1*
*IDC **28** 08:53:57.0±6.2, 35°.73S×72°.47W, h0km, mb3.6/2,*
mb1 3.7/4, mb1mx3.6/24, mbtmp3.6/4, ML3.5/2, Error
ellipse: s-maj=186.2km s-min=21.8km az=85.0
ISC 28 08:53:54.6±2.8, 35°.67S±0°.05×72°.9W±0°.1, h1km±16km, n18,
σ1§23/26, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	1.05	52	⇑*i* P	Pn	08 54 16.2	-0.3
GO05				*e*S	Sn	08 54 31.8	-0.1
GO05				IAML		08 54 39.3	
	comp=N,4μm,0.3s						
BI03	Tigo	1.18	184	⇑*e*P	Pn	08 54 16.6	-1.6
BI03				*e*S	Sb	08 54 31.9	-1.7
BI03				IAML		08 54 40.3	
	comp=N,8μm,0.3s						
LAJA	Laja	1.62	174	⇑*i* P	Pb	08 54 26.0	+0.6
LAJA				*i* S	Sn	08 54 45.2	-0.7
BI02	San Fabin de	1.67	127	⇑*e*P	Pg	08 54 26.9	+0.2
BI02				*i* S	Sg	08 54 49.7	+1.4
BI02				IAML		08 54 55.4	
	comp=E,2μm,0.4s						
BO02	Sierra Bellavi	1.97	64	*e*P	Pb	08 54 30.6	-0.6
BO02				*e*S	Sg	08 54 56.6	-1.2
MT02	Curacav	2.82	32	*e*P	Pn	08 54 40.2	-0.7
MT02				*i* S	Sb	08 55 20.1	-0.9
MT02				IAML		08 55 36.8	
	comp=E,363nm,0.8s						
MT05	Renca	2.90	39	*e*P	Pn	08 54 42.8	+0.7
MT05				*e*S	Sn	08 55 16.7	-1.0
MT05				IAML		08 55 35.4	
	comp=E,998nm,0.5s						
MT03	Universidad Ad	2.95	43	*e*P	Pn	08 54 43.9	+1.2
MT03				*e*S	Sn	08 55 20.0	+1.2
MT03				IAML		08 55 35.2	
	comp=E,714nm,0.4s						
CLCH	Cerro Calan	3.01	42	*e*P	Pn	08 54 44.5	+1.0
CLCH				*e*S	Sb	08 55 23.3	-3.0
CLCH				IAML		08 55 44.0	
	comp=E,966nm,0.6s						
ROCH	El Roble	3.12	31	*e*P	Pn	08 54 45.5	+0.2
ROCH				*e*S	Sn	08 55 21.3	-2.0
ROCH				IAML		08 55 43.0	
	comp=N,616nm,0.6s						
PEL	Peldehue	3.13	37	*e*P	Pn	08 54 45.6	+0.4
PEL				*e*S	Sn	08 55 23.4	+0.2
PEL				IAML		08 55 50.2	
	comp=N,400nm,0.6s						
H03S1	Juan Fernandez	5.24	289	T	T	09 00 17.1	
	baz=111,slow=74,SNR=440						
H03S3	Juan Fernandez	5.25	289	T	T	09 00 17.6	
	baz=111,slow=74,SNR=369						
H03S2	Juan Fernandez	5.26	289	T	T	09 00 18.1	
	baz=111,slow=74,SNR=349						
PLCA	Paso Flores	5.40	160	Pn	Pn	08 55 16.2	-0.1
	comp=N,0.4nm,0.3s,baz=340,slow=12,SNR=0.5						
PLCA				Lg	Lg	08 56 42.8	
	comp=N,1.1nm,0.3s,baz=252,slow=21,SNR=4.3						
LPAZ	La Paz	19.77	14	P	Pn	08 58 29.0	+0.8
	comp=N,0.1nm,0.3s,baz=192,slow=10,SNR=2.3						
SIV	San Ignacio	22.28	31	P	P	08 58 54.0	+0.7
	comp=N,4.9nm,1.1s,baz=225,slow=5.7,SNR=2.7						
TORD	Torodi Ar. Bea	85.47	70	P	P	09 06 35.7	+1.3
	comp=N,0.2nm,0.4s,baz=242,slow=5.4,SNR=1.6						

*IDC **28** 08:57:28.6±0.8, 13°.37N×146°.44E, h0km, mb4.0/10,*
mb1 4.2/10, mb1mx4.0/45, mbtmp4.0/10, MS3.7/6,
Ms1 3.7/6, ms1mx3.3/36, Error ellipse: s-maj=20.0km
s-min=18.9km az=80.0
*NEIC **28** 08:57:30.4±1.4, 13°.32N±0°.08×146°.36E±0°.07, h10km±1km,*
mb4.6/12, Error ellipse: s-maj=14.0km s-min=11.3km
az=150.0
ISC 28 08:57:33.0±0.6, 13°.2N±0°.1×146°.43E±0°.08, h31km, n40,
σ1§14/38, mb4.4/16, MS3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.56	283	Pn	Pn	08 57 58.0	-0.6
	69nm,0.3s,baz=114,slow=5.1,SNR=21						
GUMO				LR	LR	08 58 14.9	
	comp=Z,216nm,21.0s,baz=122,slow=30						
GUMO				Sn	Sn	08 58 18.2	+0.4
	94nm,0.3s,baz=358,slow=22,SNR=5.1						
GUMO	Guam	1.56	283		Pn	08 57 58.4	-0.2
GUMO					Sn	08 58 16.1	-1.7
PATS	Pohnpei	13.31	117	Pn	Pn	09 00 37.5	-2.4
KRVT	Keravat (AS076	18.30	162	LR	LR	09 09 01.9	
	comp=Z,82nm,18.0s,baz=307,slow=38						
MJAR	Matsushiro Arr	24.35	344	LR	LR	09 11 43.7	
	comp=Z,154nm,19.1s,baz=255,slow=35						
JHS	Saijyo	24.78	333	P	P	09 02 50.9	-1.2
JHS				IAmb	IAmb	09 02 57.3	
	comp=Z,14nm,1.1s						
TGY	Tagaytay City	24.79	275	LR	LR	09 12 40.3	
	comp=Z,120nm,18.4s,baz=203,slow=37						
HNR	Honiara	26.22	149	LR	LR	09 13 17.7	
	comp=Z,154nm,18.5s,baz=318,slow=36						
KSRS	Korea Array	29.23	329	P	P	09 03 31.0	-1.0
	comp=Z,1.4nm,0.6s,baz=141,slow=10,SNR=8.1						
WB0	Warramunga Arr	34.88	200	P	P	09 04 22.6	+0.9
WR0	Warramunga Arr	35.01	200	P	P	09 04 23.3	+0.5
WRAB	Tennant Creek	35.05	200	P	P	09 04 24.2	+1.0
WRAB				IAmb	IAmb	09 04 25.0	
	comp=Z,8.9nm,1.3s						
WB2	Warramunga Arr	35.05	200	P	P	09 04 24.3	+1.0
WB2				IAmb	IAmb	09 04 31.7	
	comp=Z,15nm,1.4s						
WRA	Warramunga Arr	35.06	200	P	P	09 04 24.3	+1.0
	comp=Z,1.5nm,0.9s,baz=22,slow=9.5,SNR=16						
WRA				PcP	PcP	09 06 55.8	+0.9
	comp=Z,1.0nm,0.8s,baz=13,slow=3.4,SNR=2.6						
WRA				LR	LR	09 18 48.8	
	comp=Z,64nm,19.4s,baz=205,slow=36						
ASAR	Alice Springs	38.67	199	P	P	09 04 54.8	+0.7
	comp=Z,0.4nm,0.6s,baz=19,slow=7.7,SNR=7.8						
PEA0B	Petropavlovsk-	40.77	10	P	P	09 05 11.5	+0.4
PETK	Petropavlovsk-	40.77	10	P	P	09 05 11.8	+0.7
CMAR	Chiang Mai Arr	45.88	283	P	P	09 05 53.4	+0.5
	comp=Z,2.2nm,0.3s,baz=81,slow=6.6,SNR=5.8						
SONM	Songino Array	47.89	324	P	P	09 06 08.4	+0.1
	comp=Z,1.0nm,0.5s,baz=134,slow=4.3,SNR=5.6						
SONM	Songino Array	47.89	324	P	P	09 06 08.4	+0.1
ZALV	Zalesovo Beam	62.79	324	P	P	09 07 55.1	-0.3
	comp=Z,1.8nm,0.4s,baz=106,slow=8.9,SNR=1.7						
MKAR	Makanchi Array	62.79	316	P	P	09 07 55.6	-0.1
	comp=Z,2.4nm,0.8s,baz=91,slow=8.7,SNR=2.2						
KURK	Kurchatov	65.83	320	P	P	09 08 15.8	+0.5
ILAR	Eielson Array	68.23	25	P	P	09 08 29.7	-0.7
	comp=Z,0.9nm,0.5s,baz=248,slow=5.7,SNR=20						
ILAR	Eielson Array	68.23	25	P	P	09 08 30.5	+0.1
BCAR	Beaver Creek A	70.05	27	P	P	09 08 42.9	+1.1
ABKAR	Akbulak array	77.82	318	P	P	09 09 27.1	-0.3
ABKAR				IAmb	IAmb	09 09 28.6	
	comp=Z,3.8nm,0.9s						
ABKAR	Akbulak array	77.82	318	P	P	09 09 26.9	-0.5
ARU	Arti	77.92	325	P	P	09 09 26.9	-0.9
ARU				IAmb	IAmb	09 09 29.1	
	comp=Z,6.8nm,0.9s						
GEYT	Alibeck	80.68	307	P	P	09 09 43.9	+0.6
	comp=Z,2.6nm,0.8s,baz=114,slow=6.5,SNR=3.6						
NVAR	Mina Array Bea	85.94	52	P	P	09 10 11.9	+1.2
	comp=Z,0.3nm,0.6s,baz=265,slow=5.4,SNR=2.8						
LRM	Limekiln Ridge	88.20	43	P	P	09 10 21.5	0.0
YHL	Hebgen Lake	89.34	44	P	P	09 10 29.7	+2.7
TCUT	Toone Canyon	90.33	48	P	P	09 10 35.2	+3.6
FINES	FINESS Array B	92.11	335	P	P	09 10 37.8	-1.3
	comp=Z,1.0nm,0.5s,baz=93,slow=4.2,SNR=7.5						
FINES	FINESS Array B	92.11	335	P	P	09 10 39.0	-0.1
BRTR	Keskin Array B	98.40	314	LR	LR	10 00 22.6	
	comp=Z,152nm,21.1s,baz=276,slow=38						
DBIC	Dimbokro	145.29	303	PKPbc	PKPbc	09 17 08.1	-0.3
	comp=Z,5.5nm,0.9s,baz=96,slow=4.0,SNR=3.4						
LPAZ	La Paz	146.47	100	PKPbc	PKPab	09 17 13.7	0.0
	comp=Z,0.9nm,0.6s,baz=23,slow=9.2,SNR=6.5						
LPAZ	La Paz	146.47	100		PKiKP	09 17 15.2	-0.6

*IDC **28** 09:01:52.4±1.9, 35°.68

FIA0	**FINESS Array S**	**2.40**	**72**	SG	Sb	09 04 08.8	-0.1
HEMU	**Hemsoen**	**2.47**	**322**	SG	Sb	09 04 10.3	-0.4
ARBE	**Arbavere**	**2.69**	**118**	SG	Sb	09 04 17.2	0.0

*NEIC **28** 09:04:38.4±2.9, 37.°00S±0.°09×95.°9W±0.°2, h10km±1km, mb4.3/13, Error ellipse: s-maj=24.5km s-min=11.0km az=239.0*
*IDC **28** 09:04:39.2±3.3, 36.°23S×95.°66W, h0km, mb3.7/5, mb1 4.2/5, mb1mx3.9/18, mbtmp3.8/5, MS3.8/3, Ms1 3.8/3, ms1mx3.5/17, Error ellipse: s-maj=96.5km s-min=33.2km az=28.0*

ISC 28 09:04:37.8±0.9, 36.°9S±0.°1×96.°1W±0.°2, h10km, n31, σ1§62/20, mb4.1/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**14.37**	**83**	T	T	09 22 52.8	
	baz=252,slow=74,SNR=95						
H03S1	**Juan Fernandez**	**14.38**	**83**	T	T	09 23 00.3	
	baz=252,slow=74,SNR=74						
H03S3	**Juan Fernandez**	**14.39**	**83**	T	T	09 22 59.3	
	baz=252,slow=74,SNR=62						
H03N2	**Juan Fernandez**	**14.49**	**81**	T	T	09 23 02.3	
	baz=248,slow=72,SNR=84						
H03N3	**Juan Fernandez**	**14.49**	**81**	T	T	09 23 04.0	
	baz=248,slow=72,SNR=94						
H03N1	**Juan Fernandez**	**14.50**	**81**	T	T	09 23 02.3	
	baz=248,slow=72,SNR=90						
VA04	**Juan Fernndez**	**14.51**	**82**	Pn	Pn	09 07 59.8	-3.4
RPN	**Rapa Nui**	**14.85**	**307**	LR	LR	09 12 01.2	
	comp=Z,293nm,18.4s,baz=114,slow=30						
LC01	**Cunco**	**19.23**	**103**	P	Pn	09 09 13.9	+11
PLCA	**Paso Flores**	**20.26**	**109**	P	**P**	**09 09 14.7**	**+1.2**
	5.2nm,1.1s,baz=276,slow=12,SNR=3.0						
PLCA	**Paso Flores**	**20.26**	**109**	P	**P**	**09 09 15.6**	**+2.1**
PLCA				IAmb	IAmb	09 09 17.2	
	comp=Z,19nm,1.4s						
BO02	**Sierra Bellavi**	**20.64**	**92**	P	**P**	**09 09 18.3**	**+0.7**
BO02				IAmb	IAmb	09 09 23.7	
	comp=Z,12nm,1.3s						
MT02	**Curacav**	**20.76**	**87**	P	**P**	**09 09 21.1**	**+2.3**
GO09	**Cerro Castillo**	**22.18**	**138**	P	**P**	**09 09 33.9**	**0.0**
GO09				IAmb	IAmb	09 09 35.1	
	comp=Z,18nm,1.1s						
AC04	**Llanos de Chal**	**22.79**	**75**	P	**P**	**09 09 39.1**	**-1.5**
PB06	**IPOC Station P**	**26.94**	**66**	P	**P**	**09 10 18.1**	**-1.5**
LVC	**Limon Verde**	**27.48**	**66**	LR	LR	09 18 11.0	
	comp=Z,213nm,18.7s,baz=165,slow=30						
LPAZ	**La Paz**	**32.19**	**58**	P	**P**	**09 11 03.8**	**-3.0**
	comp=Z,1.8nm,0.8s,baz=212,slow=9.8,SNR=5.2						
LPAZ	**La Paz**	**32.19**	**58**	P	**P**	**09 11 07.6**	**+0.8**
LPAZ				IAmb	IAmb	09 11 10.4	
	comp=Z,3.6nm,1.1s						
SAML	**Samuel**	**40.81**	**55**	P	**P**	**09 12 19.6**	**-0.1**
QSPA	**South Pole Qui**	**53.30**	**180**	P	**P**	**09 13 56.1**	**-0.6**
QSPA				IAmb	IAmb	09 14 11.7	
	comp=Z,7.8nm,1.4s						
SNAA	**Sanae**	**56.44**	**158**	P	**P**	**09 14 19.0**	**-0.3**
SNAA				IAmb	IAmb	09 14 26.8	
	comp=Z,4.5nm,1.5s						
VNDA	**Vanda**	**56.80**	**195**	LR	LR	09 34 33.4	
	comp=Z,90nm,18.0s,baz=172,slow=31						
TEIG	**Tepich**	**57.32**	**9**	P	**P**	**09 14 26.6**	**+0.6**
TXAR	**Lajitas Array**	**66.29**	**353**	P	**P**	**09 15 24.6**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=178,slow=7.1,SNR=4.4						
TXAR	**Lajitas Array**	**66.29**	**353**	P	**P**	**09 15 25.6**	**-0.7**
NV11	**Mina Array Sit**	**77.69**	**342**	P	**P**	**09 16 37.1**	**+2.5**
NV11				IAmb	IAmb	09 16 46.0	
	comp=Z,1.8nm,0.9s						
NVAR	**Mina Array Bea**	**77.72**	**342**	P	**P**	**09 16 35.9**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=167,slow=6.2,SNR=5.4						
NVAR	**Mina Array Bea**	**77.72**	**342**	P	**P**	**09 16 37.3**	**+2.4**
PDAR	**Pinedale Array**	**80.25**	**350**	P	**P**	**09 16 47.9**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=156,slow=8.8,SNR=6.2						
PDAR	**Pinedale Array**	**80.25**	**350**	P	**P**	**09 16 49.3**	**+0.6**

*UCR **28** 09:07:39.6±2.0, 8.°76N×83.°31W, h13km±6km, MD3.7*
*UPA **28** 09:07:39.3±1.7, 8.°77N×83.°24W, h12km±5km, MW3.9*

ISC 28 09:07:38.7±0.9, 8.°76N±0.°05×83.°26W±0.°04, h25km±9km, n37, σ1§25/54, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.23**	**191**	⇑ *i* P	**Pb**	**09 07 44.0**	**-0.6**
PTJ1				*e*S	**Sb**	**09 07 49.0**	**+0.2**
PTJ1	**Puerto Jimnez**	**0.23**	**191**	*e*P	**Pb**	**09 07 44.0**	**-0.6**
PTJ1				*e*S	**Sb**	**09 07 49.2**	**+0.5**
EDPN	**Palmar Norte**	**0.28**	**316**	*e*P	**Pb**	**09 07 45.4**	**-0.1**
EDPN				*e*S	**Sb**	**09 07 50.0**	**0.0**
EDSV	**San Vito**	**0.29**	**78**	*e*P	**Pn**	**09 07 46.9**	**-0.6**
EDSV				*e*S	**Sn**	**09 07 53.2**	**+0.1**
EDBA	**Buenos Aires**	**0.40**	**358**	*e*P	**Pn**	**09 07 48.0**	**-0.9**
EDBA				*e*S	**Sn**	**09 07 55.2**	**-0.6**
MLIR3	**Monte Lirio, C**	**0.43**	**85**	*i* P	**Pn**	**09 07 49.1**	**-0.3**
DRK0	**Durika**	**0.50**	**2**	⇓ *i* P	**Pn**	**09 07 49.4**	**-1.1**
DRK0				*e*S	**Sn**	**09 07 57.4**	**-1.0**
DRK0	**Durika**	**0.50**	**2**	*e*P	**Pn**	**09 07 49.4**	**-1.1**
DRK0				*e*S	**Sn**	**09 07 57.4**	**-1.0**
BRU2	**Volcan**	**0.56**	**86**	⇓ *i* P	**Pn**	**09 07 50.7**	**-0.5**
BRU2				*e*S	**Sn**	**09 08 00.1**	**+0.3**
BRU2	**Volcan**	**0.56**	**86**	*e*P	**Pn**	**09 07 50.7**	**-0.5**
EDLM	**Las Mercedes**	**0.61**	**328**	*e*P	**Pb**	**09 07 50.8**	**-0.1**
EDLM				*e*S	**Sn**	**09 07 59.9**	**-1.1**
BC3P	**Paso Ancho**	**0.64**	**85**	*i* P	**Pn**	**09 07 51.8**	**-0.6**
BC3P				*e*S	**Sn**	**09 08 02.0**	**+0.1**
BCO2	**Palmira**	**0.72**	**93**	*i* P	**Pn**	**09 07 53.1**	**-0.3**
BCO2				*e*S	**Sn**	**09 08 04.4**	**+0.5**
PEZE	**Perez Zeledon,**	**0.75**	**326**	*e*P	**Pb**	**09 07 52.5**	**-0.6**
PTAR3	**Potrerillos Ar**	**0.76**	**95**	*e*P	**Pn**	**09 07 53.7**	**-0.2**
EDDO	**Dominical**	**0.77**	**309**	*e*P	**Pb**	**09 07 52.7**	**-0.8**
BAGA3	**Bagala, Chiriq**	**0.78**	**112**	*e*P	**Pn**	**09 07 54.0**	**-0.1**
BAGA3				*e*S	**Sn**	**09 08 04.8**	**-0.2**
PSOM3	**Paja de Sombre**	**0.93**	**94**	*e*P	**Pb**	**09 07 55.9**	**-0.2**
PSOM3				*e*S	**Sn**	**09 08 09.0**	**+0.3**
GUAL3	**Gualaca, Chiri**	**0.98**	**103**	*e*P	**Pn**	**09 07 57.0**	**+0.2**
GUAL3				*e*S	**Sb**	**09 08 07.2**	**-2.2**
RGM0	**Gandoca**	**1.05**	**38**	*e*P	**Pn**	**09 07 60.0**	**+2.2**
RGM0				*e*S	**Sn**	**09 08 16.6**	**+5.0**
RGM0	**Gandoca**	**1.05**	**38**	*e*P	**Pn**	**09 08 00.0**	**+2.2**
CHGR2	**Aguacate**	**1.11**	**81**	*e*P	**Pn**	**09 07 58.6**	**-0.1**
CHGR2				*e*S	**Sn**	**09 08 14.8**	**+1.5**
RIMA	**Rio Macho**	**1.17**	**329**	*e*P	**Pn**	**09 07 59.0**	**-0.7**
LCR2	**La Lucha 2**	**1.22**	**323**	*e*P	**Pn**	**09 07 59.9**	**-0.6**
CVTR	**Volcan Turrial**	**1.35**	**339**	*e*P	**Pb**	**09 08 02.6**	**-1.0**
SJS	**Escuela Geolog**	**1.41**	**326**	*e*P	**Pb**	**09 08 04.6**	**+0.1**
REME3	**Remedios, Chir**	**1.51**	**110**	*e*P	**Pb**	**09 08 05.4**	**-0.6**
NANC3	**Nancito, Chiri**	**1.59**	**109**	*e*P	**Pb**	**09 08 08.0**	**+0.5**
NANC3				*e*S	**Sb**	**09 08 26.8**	**-0.5**
JACO	**JACO, Garabito**	**1.65**	**303**	*e*P	**Pb**	**09 08 07.1**	**-1.3**
SRA1	**San Ramn**	**1.79**	**318**	*e*P	**Pb**	**09 08 10.4**	**-0.5**
LAFE	**Finca La Fe, P**	**1.94**	**303**	*e*P	**Pn**	**09 08 11.1**	**+1.0**
FORC	**Fortuna**	**2.19**	**321**	*i* P	**Pb**	**09 08 17.0**	**-0.8**
CEDE	**Laguna Cedeo**	**2.23**	**320**	*e*P	**Pb**	**09 08 16.6**	**-1.8**
DUNO	**Dulce Nombre,**	**2.57**	**301**	*e*P	**Pn**	**09 08 19.1**	**+0.4**
GUAI	**GUAI**	**2.68**	**304**	*i* P	**Pn**	**09 08 22.3**	**+2.0**
ORTG	**Ortega, Santa**	**2.69**	**306**	*e*P	**Pn**	**09 08 22.6**	**+2.1**
BUEV	**Buena Vista**	**2.93**	**314**	*e*P	**Pn**	**09 08 26.5**	**+2.7**

*HLW **28** 09:32:50.3, 34.°87N×33.°04E, h10km±23km, Md3.3, Ml3.6*
*NIC **28** 09:32:54.1±0.0, 34.°59N×33.°21E, h23km±2km, Ml3.2/6*
*DDA **28** 09:32:59.1, 34.°90N×32.°97E, h34km±4km, ML2.6*

ISC 28 09:32:54.5±1.0, 34.°68N±0.°03×33.°17E±0.°04, h33km±4km, n21, σ1§58/36, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.13**	**33**	P	**Pb**	**09 33 00.2**	**-0.3**
ASGA				AML	AML	09 33 05.2	
	11nm,0.4s						
ASGA				AML	AML	09 33 05.2	
	11nm,0.4s						
ASGA				S	**Sb**	**09 33 05.3**	**+0.7**
ASGA				AML	AML	09 33 06.0	
	20nm,0.5s						
ASGA				AML	AML	09 33 06.0	
	20nm,0.5s						
SZAC	**Souni**	**0.24**	**288**	P	**Pn**	**09 33 01.0**	**-0.7**
SZAC				AML	AML	09 33 06.5	
	19nm,0.5s						
SZAC				AML	AML	09 33 06.5	
	19nm,0.5s						
SZAC				AML	AML	09 33 06.7	
	15nm,0.3s						
SZAC				AML	AML	09 33 06.7	
	15nm,0.3s						
SZAC				S	**Sb**	**09 33 07.0**	**+0.5**
CSS	**Mathiatis**	**0.31**	**26**	P	**Pn**	**09 33 02.6**	**-0.2**
CSS				S	**Sn**	**09 33 09.4**	**+1.3**
LEF	**Lefka**	**0.49**	**333**	*i* P	**Pn**	**09 33 05.4**	**+0.1**
LEF				*i* S	**Sn**	**09 33 12.4**	**-0.3**
ATHAL	**Athalassa**	**0.50**	**22**	P	**Pn**	**09 33 05.7**	**+0.4**
NATA	**Nata**	**0.50**	**282**	P	**Pn**	**09 33 05.2**	**-0.2**
NATA				S	**Sn**	**09 33 13.9**	**+1.0**
NATA				AML	AML	09 33 16.3	
	7.3nm,0.4s						
NATA				AML	AML	09 33 16.3	
	7.3nm,0.4s						
NATA				AML	AML	09 33 19.1	
	14nm,0.5s						
NATA				AML	AML	09 33 19.1	
	14nm,0.5s						
MVOU	**Mavrovouni**	**0.51**	**49**	P	**Pb**	**09 33 05.1**	**-0.2**
MVOU				S	**Sn**	**09 33 13.4**	**+0.3**
MVOU				AML	AML	09 33 18.8	
	0.9nm,0.9s						
MVOU				AML	AML	09 33 18.8	
	0.9nm,0.9s						
MVOU				AML	AML	09 33 30.4	
	1.1nm,0.6s						
MVOU				AML	AML	09 33 30.4	
	1.1nm,0.6s						
ALFC	**Alefka**	**0.67**	**316**	P	**Pn**	**09 33 08.6**	**+0.9**
ALFC				S	**Sn**	**09 33 20.5**	**+3.5**
ALFC				AML	AML	09 33 21.6	
	3.4nm,0.3s						
ALFC				AML	AML	09 33 21.6	
	3.4nm,0.3s						
ALFC				AML	AML	09 33 22.9	
	6.0nm,0.5s						
ALFC				AML	AML	09 33 22.9	
	6.0nm,0.5s						
AKMS	**Akamas**	**0.76**	**296**	P	**Pn**	**09 33 10.2**	**+1.2**
AKMS				S	**Sn**	**09 33 23.7**	**+4.3**
AKMS				AML	AML	09 33 27.3	
	1.7nm,0.2s						
AKMS				AML	AML	09 33 27.3	
	1.7nm,0.2s						
AKMS				AML	AML	09 33 27.8	
	3.1nm,0.5s						
AKMS				AML	AML	09 33 27.8	
	3.1nm,0.5s						
EREN	**Erenkoy**	**1.18**	**44**	*i* P	**Pb**	**09 33 15.2**	**-1.3**
EREN				IAML		09 33 30.0	
	comp=E,115nm,1.2s						
EREN				IAML		09 33 33.0	
	comp=N,141nm,1.2s						
GULN	**MERSIN_Gulnar**	**1.53**	**12**	*i* P	**Pb**	**09 33 22.8**	**+0.5**
GULN				*i* S	**Sb**	**09 33 42.9**	**+1.5**
GAZI	**Gazipasa**	**1.70**	**336**	*i* P	**Pb**	**09 33 25.6**	**+0.3**
GAZI				*i* S	**Sb**	**09 33 44.8**	**-1.4**
GAZI				IAML		09 33 50.0	
	comp=N,196nm,0.5s						
OSC2	**CSNet OBS 4**	**1.77**	**205**	P	**Pn**	**09 33 23.2**	**+0.4**
OSC2				S	**Sn**	**09 33 44.7**	**+0.5**
OSC1	**CSNet OBS 1**	**1.96**	**234**	P	**Pn**	**09 33 24.8**	**-0.6**
OSC1				S	**Sn**	**09 33 50.2**	**+1.3**
KEPZ	**Antalya-Kepez**	**2.56**	**331**	*i* P	**Pb**	**09 33 38.1**	**-1.7**
KEPZ				*i* S	**Sb**	**09 34 05.8**	**-5.0**
KEPZ				IAML		09 34 22.0	
	comp=N,22nm,1.3s						
KERG	**Konya-Eregli**	**2.84**	**16**	*i* P	**Pn**	**09 33 38.6**	**+0.9**
KERG				*i* S	**Sb**	**09 34 16.9**	**-2.1**
KERG				IAML		09 34 24.0	
	comp=E,28nm,0.6s						
RSH		**3.74**	**173**	P	**Pn**	**09 33 50.3**	**+0.4**
	baz=171						
HHAG	**Hagoal**	**4.80**	**191**	P	**Pn**	**09 34 04.6**	**0.0**
	baz=190						
HHAG				AMP		09 34 00.0	
	baz=190						
HHAG				S	**Sn**	**09 34 59.1**	**0.0**
	baz=190						
SUZ	**Suez**	**4.83**	**183**	P	**Pn**	**09 34 05.9**	**+0.9**
	baz=183						
KOT	**Kottamia**	**4.87**	**194**	P	**Pn**	**09 34 06.1**	**+0.6**
	baz=193						
GLL	**Jalalah**	**5.24**	**194**	P	**Pn**	**09 34 10.2**	**-0.4**
	baz=193						

*SJA **28** 09:49:03.6±0.6, 21.°85S×68.°73W, h137km±3km, ML4.6, MW4.4*
*UNK **28** 09:49:04.9, 21.°87S×68.°59W, h118km*
*NEIC **28** 09:49:04.6±2.6, 21.°86S±0.°04×68.°47W±0.°07, h119km±5km, mb4.6/91, ML4.7(GUC), Error ellipse: s-maj=9.4km s-min=6.2km az=92.0*
*VAO **28** 09:49:05.5±0.4, 21.°73S×68.°39W, h108km±5km, mb4.7*
*IDC **28** 09:49:05.0±0.4, 22.°03S×68.°51W, h121km±4km, mb4.1/10, mb1 4.1/14, mb1mx4.1/22, mbtmp4.4/14, MS4.0/1, Ms1 4.1/1, ms1mx3.0/32, Error ellipse: s-maj=14.6km s-min=12.0km az=96.0*
*GUC **28** 09:49:05.6±0.6, 21.°86S×68.°65W, h123km±3km, ML4.7*

ISC 28 09:49:04.6±0.4, 21.°85S±0.°03×68.°64W±0.°03, h120km±3km, h120km:pP-P, n355, σ1§46/413, mb4.6/52, 1C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.56**	**275**	*e*P	**Pn**	**09 49 24.0**	**+0.8**
PB09				*i* S	**Sn**	**09 49 38.5**	**+1.4**
PB09	**IPOC Station P**	**0.56**	**275**	P	**Pn**	**09 49 23.5**	**+0.4**
PB09				Sn	**Sn**	**09 49 38.2**	**+1.1**
PB09	**IPOC Station P**	**0.56**	**275**	*e*P	**Pn**	**09 49 24.2**	**+1.0**
PB09				*e*S	**Sn**	**09 49 39.2**	**+2.1**
PB09				IAML		09 49 40.8	
	comp=Z,6μm,0.2s						
LVC	**Limon Verde**	**0.80**	**198**	LR	LR	09 49 19.0	
	comp=Z,87nm,18.6s,baz=201,slow=20						
LVC				P	**Pn**	**09 49 25.4**	**+0.2**
	comp=Z,421nm,0.3s,baz=23,slow=7.4,SNR=1146						
LVC				S	**Sn**	**09 49 40.6**	**-0.1**
	comp=Z,718nm,0.3s,baz=348,slow=9.2,SNR=18						
LVC	**Limon Verde**	**0.80**	**198**	*e*P	**Pn**	**09 49 25.7**	**+0.5**
LVC				*e*S	**Sn**	**09 49 41.3**	**+0.6**
LVC	**Limon Verde**	**0.80**	**198**	*e*P	**Pn**	**09 49 25.7**	**+0.5**
PB03	**IPOC Station P**	**1.06**	**259**	*e*P	**Pn**	**09 49 27.9**	**+0.6**
PB03				*i* S	**Sn**	**09 49 45.1**	**+0.5**
PB03				IAML		09 49 46.1	
	comp=N,13μm,0.2s						
PB03	**IPOC Station P**	**1.06**	**259**	*e*P	**Pn**	**09 49 27.9**	**+0.6**
PB03				*e*S	**Sn**	**09 49 45.2**	**+0.7**
PB03				IAML		09 49 46.6	
	comp=Z,10μm,0.3s						
PB01	**IPOC Station P**	**1.13**	**315**	*e*P	**Pn**	**09 49 28.4**	**+0.4**
PB01				*i* S	**Sn**	**09 49 46.5**	**+0.8**
PB01				IAML		09 49 48.0	
	comp=E,25μm,0.5s						
PB01	**IPOC Station P**	**1.13**	**315**		**Pn**	**09 49 28.5**	**+0.4**
PB01					**Sn**	**09 49 46.6**	**+0.8**
PB01	**IPOC Station P**	**1.13**	**315**	*e*P	**Pn**	**09 49 28.6**	**+0.6**
PB01				*e*S	**Sn**	**09 49 46.8**	**+1.1**
PB01				IAML		09 49 48.0	
	comp=Z,13μm,0.2s						
PB07	**IPOC Station P**	**1.17**	**276**	*e*P	**Pn**	**09 49 29.1**	**+0.5**
PB07				*i* S	**Sn**	**09 49 47.2**	**+0.5**
PB07				IAML		09 49 49.8	
	comp=N,13μm,0.4s						
PB07	**IPOC Station P**	**1.17**	**276**		**Pn**	**09 49 28.8**	**+0.3**
PB07					**Sn**	**09 49 47.1**	**+0.5**
PB07	**IPOC Station P**	**1.17**	**276**	*e*P	**Pn**	**09 49 28.8**	**+0.3**
PB07				*e*S	**Sn**	**09 49 47.3**	**+0.7**
PB07				IAML		09 49 48.6	
	comp=Z,9μm,0.4s						
PB06	**IPOC Station P**	**1.22**	**225**	*e*P	**Pn**	**09 49 29.8**	**+0.7**
PB06				*i* S	**Sn**	**09 49 48.3**	**+0.8**
PB06				IAML		09 49 49.8	
	comp=E,14μm,0.2s						
PB06	**IPOC Station P**	**1.22**	**225**		**Pn**	**09 49 29.5**	**+0.4**
PB06					**Sn**	**09 49 48.2**	**+0.6**
PB06	**IPOC Station P**	**1.22**	**225**	*e*P	**Pn**	**09 49 29.7**	**+0.7**
PB06				*e*S	**Sn**	**09 49 48.6**	**+1.0**
PB06				IAML		09 49 50.6	
	comp=Z,5μm,0.2s						
PB02	**IPOC Station P**	**1.28**	**294**	*e*P	**Pn**	**09 49 30.1**	**+0.4**
PB02				*e*S	**Sn**	**09 49 49.5**	**+0.8**
PB02				IAML		09 49 51.1	
	comp=Z,15μm,0.2s						
PB04	**IPOC Station P**	**1.48**	**251**	*e*P	**Pn**	**09 49 32.5**	**+0.5**
PB04				*i* S	**Sn**	**09 49 52.6**	**-0.2**
PB04				IAML		09 49 55.5	
	comp=N,10μm,0.3s						
PB04	**IPOC Station P**	**1.48**	**251**		**Pn**	**09 49 32.2**	**+0.1**
PB04				Sn	**Sn**	**09 49 52.8**	**0.0**
PB04	**IPOC Station P**	**1.48**	**251**	*e*P	**Pn**	**09 49 32.2**	**+0.1**
PB04				*e*S	**Sn**	**09 49 53.5**	**+0.6**
PB04				IAML		09 49 56.1	
	comp=Z,5μm,0.1s						
PB15	**IPOC Station P**	**1.56**	**209**	*e*P	**Pn**	**09 49 33.9**	**+0.9**
PB15				*i* S	**Sn**	**09 49 56.6**	**+2.1**
PB15	**IPOC Station P**	**1.56**	**209**		**Pn**	**09 49 33.7**	**+0.8**
PB15	**IPOC Station P**	**1.56**	**209**	*e*P	**Pn**	**09 49 33.8**	**+0.9**
PB15				*e*S	**Sn**	**09 49 56.1**	**+1.6**
PB15				IAML		09 49 58.6	
	comp=Z,19μm,0.2s						
PATCX	**Punta Patache**	**1.74**	**306**		**Pn**	**09 49 35.3**	**+0.3**
PATCX	**Punta Patache**	**1.74**	**306**	*e*P	**Pn**	**09 49 34.8**	**-0.2**
PB05	**IPOC Station P**	**1.76**	**235**	*e*P	**Pn**	**09 49 35.5**	**+0.3**
PB05				*i* S	**Sn**	**09 49 58.6**	**0.0**
PB05	**IPOC Station P**	**1.76**	**235**	*e*P	**Pn**	**09 49 35.6**	**+0.3**
PB05				*e*S	**Sn**	**09 49 58.5**	**-0.1**
PB08	**IPOC Station P**	**1.76**	**344**	*e*P	**Pn**	**09 49 36.9**	**+1.3**
PB08				*i* S	**Sn**	**09 50 00.4**	**+1.3**
PB08				IAML		09 50 03.0	
	comp=E,11μm,0.8s						
PB08	**IPOC Station P**	**1.76**	**344**		**Pn**	**09 49 36.8**	**+1.3**
PB08	**IPOC Station P**	**1.76**	**344**	*e*P	**Pn**	**09 49 36.9**	**+1.3**
PB08				*e*S	**Sn**	**09 50 00.8**	**+1.6**
PB08				IAML		09 50 05.3	
	comp=Z,2μm,0.8s						
TA01	**Diego Aracena**	**1.92**	**311**	*e*P	**Pn**	**09 49 37.1**	**0.0**
TA01				*i* S	**Sn**	**09 50 02.0**	**0.0**
TA01				IAML		09 50 03.6	
	comp=E,7μm,0.3s						
TA01	**Diego Aracena**	**1.92**	**311**		**Pn**	**09 49 36.9**	**-0.2**
GO01	**Chusmiza**	**2.23**	**346**	*e*P	**Pn**	**09 49 42.2**	**+0.8**
GO01				*i* S	**Sn**	**09 50 10.8**	**+1.3**
GO01	**Chusmiza**	**2.23**	**346**		**Pn**	**09 49 42.2**	**+0.8**
PB11	**IPOC Station P**	**2.28**	**335**	*e*P	**Pn**	**09 49 41.9**	**+0.1**
PB11				*i* S	**Sn**	**09 50 10.6**	**+0.2**
PB11				IAML		09 50 12.2	
	comp=N,7μm,0.6s						
PB11	**IPOC Station P**	**2.28**	**335**	Pn	**Pn**	**09 49 41.9**	**+0.1**
PB11	**IPOC Station P**	**2.28**	**335**	*e*P	**Pn**	**09 49 42.0**	**+0.1**
PB11				*e*S	**Sn**	**09 50 10.5**	**+0.2**
PB11				IAML		09 50 13.0	
	comp=Z,4μm,0.8s						
PB10	**IPOC Station P**	**2.43**	**227**	*e*P	**Pn**	**09 49 43.6**	**+0.1**
PB10	**IPOC Station P**	**2.43**	**227**		**Pn**	**09 49 43.1**	**-0.4**
PB10	**IPOC Station P**	**2.43**	**227**	*e*P	**Pn**	**09 49 43.4**	**-0.1**
PB10				*e*S	**Sn**	**09 50 12.3**	**-1.0**
PSGC	**Pisagua**	**2.63**	**328**	*e*P	**Pn**	**09 49 45.1**	**-1.2**
PSGC				*i* S	**Sn**	**09 50 16.8**	**-1.5**
PSGC				IAML		09 50 20.2	
	comp=N,2μm,0.6s						
PSGCX	**Pisagua**	**2.63**	**328**	Pn	**Pn**	**09 49 45.1**	**-1.1**
PSGCX	**Pisagua**	**2.63**	**328**	*e*P	**Pn**	**09 49 45.2**	**-1.1**
PSGCX				*e*S	**Sn**	**09 50 16.0**	**-2.3**
MNMC	**Minye Minye**	**2.85**	**341**	*i* S	**Sn**	**09 50 24.1**	**+0.6**
MNMC	**Minye Minye**	**2.85**	**341**		**Pn**	**09 49 49.4**	**+0.2**
MNMCX	**Minye Minye**	**2.85**	**341**	*e*P	**Pn**	**09 49 49.4**	**+0.2**
MNMCX				*e*S	**Sn**	**09 50 23.0**	**-0.5**
YJA	**Yavi**	**2.92**	**97**	*e*P	**Pn**	**09 49 52.6**	**+2.4**
YJA				*e*S	**Sn**	**09 50 28.8**	**+3.5**
PB14	**IPOC Station P**	**3.21**	**210**	Pn	**Pn**	**09 49 54.0**	**0.0**
PB14	**IPOC Station P**	**3.21**	**210**	*e*P	**Pn**	**09 49 54.0**	**0.0**
PB14				*e*S	**Sn**	**09 50 27.7**	**-4.3**
PB14				IAML		09 50 59.1	
	comp=Z,616nm,0.6s						
HJA	**Humahuaca**	**3.28**	**115**	*e*P	**Pn**	**09 49 57.1**	**+2.1**
HJA				*e*S	**Sn**	**09 50 36.3**	**+2.6**
GO02	**Mina Guanaco**	**3.42**	**195**	Pn	**Pn**	**09 49 56.8**	**+0.1**
PB16	**IPOC Station P**	**3.59**	**347**	Pn	**Pn**	**09 49 59.9**	**+0.6**
SLA	**San Lorenzo**	**4.06**	**135**	*e*P	**Pn**	**09 50 07.5**	**+2.4**
SLA				*e*S	**Sn**	**09 50 57.6**	**+5.5**
AC01	**Pan de Azucar**	**4.64**	**202**	Pn	**Pn**	**09 50 11.2**	**-1.6**
LPAZ	**La Paz**	**5.55**	**5**	P	**Pn**	**09 50 27.8**	**+2.2**
	comp=Z,12nm,0.3s,baz=195,slow=5.7,SNR=369						
LPAZ				S	Sn	09 51 19.6	-9.0
	comp=Z,0.6nm,0.3s,baz=176,slow=11,SNR=6.8						
LPAZ	**La Paz**	**5.55**	**5**	Pn	**Pn**	**09 50 27.0**	**+1.4**
GO03	**Copiap**	**5.90**	**194**		**Pn**	**09 50 27.7**	**-2.1**
AC04	**Llanos de Chal**	**6.71**	**199**	Pn	Pn	09 50 36.3	-4.3
VCA	**Vinchina**	**6.87**	**177**	*e*P	**Pn**	**09 50 42.6**	**-0.4**
VCA				*e*S	**Sn**	**09 51 58

OTAV	Otavalo	23.95 335	eP	P	09 54 11.2	+2.8
OTAV	Otavalo	23.95 335	P	P	09 54 11.3	+2.8
OTAV	Otavalo	23.95 335	eP	P	09 54 11.2	+2.8
PRPB	Paraupebas	23.96 52	eP	P	09 54 07.1	-1.0
SMTB	Santa Maria do	24.01 61	eP	P	09 54 08.3	-0.2
JANB	Januaria	24.02 78	eP	P	09 54 07.7	-1.1
FLOC	Florencia	24.27 343	eP	P	09 54 12.3	+1.3
MALB	Monte Alegre	24.30 37	eP	P	09 54 11.7	+0.5
GCUF	Volcan Galeras	24.46 339	eP	P	09 54 17.2	+4.1
SDBA	SAO DESIDERIO	24.52 71	eP	P	09 54 12.9	-0.3
GARC	Garzon, Huila	24.81 343	eP	P	09 54 17.8	+1.8
BBAC	Balboa, Cauca	25.17 339	eP	P	09 54 21.1	+1.8
POPC	Popayan, Colom	25.48 341	eP	P	09 54 24.3	+2.1
PRAC	Prado	26.13 346	eP	P	09 54 28.3	+0.5
ORTC	Ortega, Tolima	26.40 345	eP	P	09 54 31.6	+1.4
RIB01	Linhares ES	26.55 90	eP	P	09 54 31.0	-0.5
YOTC	Yotoco, Valle	26.76 343	eP	P	09 54 33.7	+0.2
CHIC	Chingaza	26.78 349	eP	P	09 54 34.3	+0.3
MCPB	Macapa, AP	26.79 39	eP	P	09 54 33.4	-0.2
TOLC	Tolima	27.07 345	eP	P	09 54 37.2	+0.7
NAN01	Guarapari, ES	27.09 87	eP	P	09 54 36.1	-0.3
RREF	El Recreo	27.38 345	eP	P	09 54 38.2	-1.5
PLMC	San Jos del P	27.62 343	eP	P	09 54 42.0	+0.9
GUY2C	Guyana, Caldas	27.70 345	eP	P	09 54 43.6	+1.4
SPBC	San Pablo de B	27.84 348	eP	P	09 54 42.8	-0.3
RUSC	La Rusia	27.91 351	eP	P	09 54 44.6	+0.5
CBOC	Ciudad Bolivar	28.47 344	eP	P	09 54 48.7	-0.1
BARC	Barichara	28.61 351	eP	P	09 54 49.5	-0.7
PTBC	PUERTO BERRIO,	28.78 348‖	eP	P	09 54 49.8	-1.6
GDU01	Guandu, BA	28.79 79	eP	P	09 54 50.0	-1.5
ZARC	Zaragoza, Cauc	29.79 348	eP	P	09 54 58.6	-1.7
SMLC	San Martn de	30.92 350	eP	P	09 55 07.9	-2.3
SJCC	San Jacinto, C	32.19 348	eP	P	09 55 20.2	-1.3
BCIP	Isla Barro Col	32.72 339	eP	P	09 55 21.4	-4.6
BCIP	Isla Barro Col	32.72 339	P	P	09 55 28.4	+2.3
BCIP			IAmb	IAmb	09 55 46.2	
	comp=Z,15nm,1.2s					
ICMP	Isla Caja de M	39.54 3	P	P	09 56 23.2	-0.8
OBIP	Obispado Ponce	39.69 3	P	P	09 56 24.3	-1.0
PDPR	Patillas Dam,	39.70 4	P	P	09 56 24.5	-0.9
PDPR			IAmb	IAmb	09 56 25.9	
	comp=Z,11nm,1.1s					
PDPR			pP	pP	09 56 52.6	-1.0
HUMP	Col San Antoni	39.84 4	P	P	09 56 25.8	-0.6
HUMP			IAmb	IAmb	09 56 33.9	
	comp=Z,10nm,1.1s					
SDD	Santo Domingo	40.08 358	P	P	09 56 27.3	-1.1
MTO3	Montecristo	41.36 329	P	P	09 56 41.3	+2.0
MTO3			IAmb	IAmb	09 56 42.3	
	comp=Z,8.9nm,0.8s					
APG	El Apazote	42.42 328	P	P	09 56 50.2	+2.3
	comp=Z,8.0nm,0.8s,baz=156,slow=9.0,SNR=12					
TEIG	Tepich	46.01 334	P	P	09 57 16.6	+0.4
TEIG			IAmb	IAmb	09 57 17.9	
	comp=Z,13nm,1.1s					
ZAIG	Zacatecas	55.31 321	P	P	09 58 27.8	+1.4
ZAIG			IAmb	IAmb	09 58 30.0	
	comp=Z,7.2nm,1.0s					
X58A	Rowland	57.01 349	P	P	09 58 37.0	-0.8
X58A			IAmb	IAmb	09 58 39.4	
	comp=Z,6.7nm,0.8s					
344A	Westbrook Farm	57.07 337	P	P	09 58 37.5	-0.9
JSC	Jenkinsville	57.09 348	P	P	09 58 39.7	+1.2
JSC			IAmb	IAmb	09 58 56.4	
	comp=Z,6.4nm,1.3s					
X56A	White Oak	57.25 348	P	P	09 58 40.7	+1.2
	baz=166					
BIRD	Birdtown, Kers	57.29 348	P	P	09 58 39.3	-0.5
BIRD			IAmb	IAmb	09 58 41.6	
	comp=Z,7.8nm,0.7s					
BIRD				pP	09 59 10.9	+1.0
X55A	Gracelyn & Ava	57.35 347	P	P	09 58 41.4	+1.1
	baz=166					
W58A	Raeford	57.44 350	P	P	09 58 42.0	+1.1
	baz=168					
X54A	Belton	57.58 347	P	P	09 58 43.2	+1.3
	baz=165					
W57A	Gilead	57.70 349	P	P	09 58 43.7	+1.0
W56A	Indian Trail	57.79 348	P	P	09 58 44.6	+1.2
	baz=167					
Y49A	Blount Mountai	57.92 343	P	P	09 58 44.2	-0.1
Y49A			IAmb	IAmb	09 59 00.1	
	comp=Z,12nm,1.4s					
833A	Chaparral WMA,	58.05 328	P	P	09 58 46.6	+1.3
	baz=146					
W54A	Cherokee Point	58.06 347	P	P	09 58 46.3	+1.0
	baz=165					
V57A	Coltrane Farms	58.38 349	P	P	09 58 48.1	+0.7
	baz=168					
V56A	Mocksville	58.43 349	P	P	09 58 49.2	+1.4
	baz=167					
V55A	Taylorsville	58.61 348	P	P	09 58 50.3	+1.3
	baz=166					
V55A	Taylorsville	58.61 348	P	P	09 58 49.2	+0.2
V54A	Nebo	58.68 347	P	P	09 58 50.6	+1.0
	baz=166					
V53A	Saluda	58.76 347	P	P	09 58 50.9	+0.8
V53A			IAmb	IAmb	09 58 53.5	
	comp=Z,5.2nm,0.9s					
U57A	Blanch	58.84 350	P	P	09 58 51.5	+0.9
	baz=168					
TKL	Tuckaleechee C	58.96 346	P	P	09 58 52.2	+0.7
SWET	Sewanee	59.08 344	P	P	09 58 51.6	-0.8
SWET			IAmb	IAmb	09 58 53.3	
	comp=Z,5.8nm,0.8s					
SWET			pP	pP	09 59 22.7	+0.2
V52A	Sevierville	59.10 346	P	P	09 58 52.1	-0.3
V52A			pP	pP	09 59 22.6	0.0
T59A	Double "B" Far	59.10 352	P	P	09 58 52.9	+0.5
	baz=170					
T59A	Double "B" Far	59.10 352	P	P	09 58 53.8	+1.4
T59A			IAmb	IAmb	09 58 53.9	
	comp=Z,6.2nm,0.9s					
U55A	TA2, Sparta	59.21 348	P	P	09 58 53.9	+0.6
	baz=167					
T58A	Grand View Acr	59.22 351	P	P	09 58 54.0	+0.8
	baz=169					
U54A	Nelsons Funny	59.37 348	P	P	09 58 55.2	+0.8
	baz=166					
U54A	Nelsons Funny	59.37 348	P	P	09 58 55.5	+1.1
T57A	Hurt	59.38 350	P	P	09 58 55.1	+0.7
	baz=168					
T57A	Hurt	59.38 350	P	P	09 58 55.6	+1.3
T57A			IAmb	IAmb	09 58 56.0	
	comp=Z,4.9nm,0.8s					
T56A	Rocky Mt	59.54 349	P	P	09 58 56.7	+1.3
	baz=168					
T55A	Pulaski	59.76 349	P	P	09 58 58.1	+1.1
	baz=167					
TZTN	Tazewell	59.76 346	P	P	09 58 57.5	+0.5
	baz=164					
BLA	Blacksburg	59.78 349	P	P	09 58 57.5	+0.4
	baz=167					
BLA	Blacksburg	59.78 349	P	P	09 58 58.7	+1.6
T54A	Tazewell	59.85 348	P	P	09 58 58.4	+0.7
	baz=166					
X43A	Marvell	59.91 339	P	P	09 58 58.7	+0.7
	baz=156					
WLAR	White Oak Lake	59.95 336	P	P	09 58 59.9	+1.6
T53A	Wise	59.96 347	P	P	09 58 58.9	+0.5
	baz=165					
JCT	Junction City	60.03 329	P	P	09 59 00.1	+1.1
	baz=146					
WHTX	Lake Whitney,	60.23 332	P	P	09 59 01.1	+0.9
	baz=149					
U49A	Red Boiling Sp	60.26 344	P	P	09 59 00.3	0.0
U49A			IAmb	IAmb	09 59 01.1	
	comp=Z,4.5nm,0.9s					
S55A	Lewisburg	60.34 349	P	P	09 59 02.4	+1.4
	baz=167,SNR=5.1					
WVT	Waverly	60.45 342	P	P	09 59 01.5	-0.2
	baz=160					
WVT	Waverly	60.45 342	P	P	09 59 01.7	0.0
WVT			IAmb	IAmb	09 59 02.2	
	comp=Z,6.9nm,0.8s					
R58A	Rapidan	60.47 352	P	P	09 59 02.4	+0.6
	baz=170					
S54A	Dingess, Beckl	60.52 348	P	P	09 59 02.9	+0.8
	baz=166					
S54A	Dingess, Beckl	60.52 348	P	P	09 59 03.3	+1.2
R55A	Marlinton	60.77 350	P	P	09 59 05.7	+1.8
	baz=168					
R55A	Marlinton	60.77 350	P	P	09 59 05.3	+1.4
R54A	Victor	60.83 349	P	P	09 59 05.3	+1.0
	baz=167					
MIAR	Mount Ida	60.89 337	P	P	09 59 05.4	+0.7
	baz=153					
MIAR	Mount Ida	60.89 337	P	P	09 59 05.4	+0.7
MIAR			IAmb	IAmb	09 59 06.2	
	comp=Z,7.5nm,1.1s					
W41B	Gary Mavity, V	60.97 338	P	P	09 59 06.1	+0.9
	baz=155					
TXAR	Lajitas Array	61.06 325	P	P	09 59 07.3	+1.2
	comp=Z,0.5nm,0.8s,baz=151,slow=8.8,SNR=5.7					
TXAR			pP	pP	09 59 36.7	+0.5
	comp=Z,0.9nm,0.9s,baz=155,slow=9.1,SNR=5.0					
TXAR	Lajitas Array	61.06 325	P	P	09 59 07.5	+1.4
T47A	Sharon Grove	61.06 343	P	P	09 59 06.7	+0.9
T47A			IAmb	IAmb	09 59 06.7	
	comp=Z,10nm,0.9s					
Q58A	Fox Den Farm,	61.06 352	P	P	09 59 06.7	+1.0
	baz=170					
Q57A	Strasburg	61.25 351	P	P	09 59 08.7	+1.7
	baz=170					
Q56A	Snyder Ridge,	61.37 351	P	P	09 59 09.6	+1.8
	baz=169					
Q56A	Snyder Ridge,	61.37 351	P	P	09 59 09.6	+1.8
LCAR	Lake Charles	61.42 339	P	P	09 59 08.5	+0.3
Q55A	Buckhannon	61.46 350	P	P	09 59 10.0	+1.5
	baz=168					
T45A	Paducah	61.52 342	P	P	09 59 08.3	-0.5
W39A	Magazine	61.54 337	P	P	09 59 10.5	+1.4
	baz=153					
W39A	Magazine	61.54 337	P	P	09 59 10.8	+1.8
W39A			IAmb	IAmb	09 59 11.2	
	comp=Z,5.1nm,0.8s					
P59A	Jarrettsville	61.57 353	P	P	09 59 10.7	+1.6
	baz=172					
Q54A	Coxs Mills	61.58 349	P	P	09 59 09.9	+0.6
	baz=167					
Q53A	Leroy	61.58 349	P	P	09 59 10.8	+1.5
	baz=166					
P57A	Homestead Farm	61.64 352	P	P	09 59 11.3	+1.7
	baz=170					
ABTX	Abilene, Hawle	61.74 330	P	P	09 59 11.7	+1.2
	baz=147					
ABTX	Abilene, Hawle	61.74 330	P	P	09 59 10.7	+0.2
ABTX			IAmb	IAmb	09 59 13.0	
	comp=Z,5.9nm,1.1s					
P56A	Dayton Farm, R	61.77 351	P	P	09 59 12.2	+1.7
	baz=169					
PBMO	Poplar Bluff	61.83 340	P	P	09 59 10.6	-0.3
PBMO			IAmb	IAmb	09 59 11.9	
	comp=Z,5.9nm,0.8s					
SNAA	Sanae	61.87 161	P	P	09 59 11.6	+0.6
SNAA	Sanae	61.87 161	P	P	09 59 11.1	+0.2
P55A	Reedsville	61.92 350	P	P	09 59 13.0	+1.4
	baz=168					
WCI	Wyandotte Cave	62.02 344	P	P	09 59 12.3	+0.1
	baz=161					
MCWV	Mont Chateau	62.07 350	P	P	09 59 14.0	+1.5
	baz=168					
MCWV	Mont Chateau	62.07 350	P	P	09 59 13.7	+1.1
MCWV			IAmb	IAmb	09 59 14.6	
	comp=Z,5.2nm,0.8s					
P54A	Burton	62.12 350	P	P	09 59 13.9	+1.0
	baz=168					
O58A	Lewisberry	62.13 353	P	P	09 59 14.6	+1.6
	baz=171					
P53A	Whipple	62.17 349	P	P	09 59 14.0	+0.8
	baz=167					
U40A	Yellville	62.25 338	P	P	09 59 14.2	+0.4
	baz=155					
U40A	Yellville	62.25 338	P	P	09 59 12.7	-1.1
O56A	Blue Knob Stat	62.48 351	P	P	09 59 16.7	+1.3
	baz=170					
O55A	Ligonier	62.53 351	P	P	09 59 16.9	+1.3
	baz=169,SNR=5.9					
HHAR	Hobbs	62.57 337	P	P	09 59 15.7	-0.3
HHAR			IAmb	IAmb	09 59 17.4	
	comp=Z,5.3nm,1.0s					
N55A	Marion Center	63.05 351	P	P	09 59 20.2	+1.2
	baz=169,SNR=7.1					
CCM	Cathedral Cave	63.26 340	P	P	09 59 21.1	+0.6
	baz=156					
M58A	Price's Panora	63.31 353	P	P	09 59 22.1	+1.4
	baz=172					
M57A	Sunshine Farm,	63.35 353	P	P	09 59 22.2	+1.2
	baz=171					
N54A	Moraine State	63.37 350	P	P	09 59 22.1	+0.9
	baz=168,SNR=7.0					
M59A	Waymart	63.38 354	P	P	09 59 22.3	+1.1
	baz=173					
L63A	North Scituate	63.45 358	P	P	09 59 22.2	+0.6
	baz=177,SNR=5.7					
S39A	Bolivar	63.62 338	P	P	09 59 23.0	+0.2
S39A			IAmb	IAmb	09 59 24.2	
	comp=Z,5.2nm,0.8s					
M55A	Ridgway	63.69 352	P	P	09 59 23.9	+0.6
	baz=170,SNR=6.1					
M55A	Ridgway	63.69 352	P	P	09 59 23.9	+0.6
M55A			IAmb	IAmb	09 59 25.3	
	comp=Z,7.2nm,0.9s					
MNTX	Cornudas Mount	63.83 325	P	P	09 59 25.1	+0.7
	baz=142					
MNTX	Cornudas Mount	63.83 325	P	P	09 59 25.1	+0.7
M54A	Oil Creek Stat	63.86 351	P	P	09 59 25.1	+0.8
	baz=169					
M54A	Oil Creek Stat	63.86 351	P	P	09 59 24.9	+0.6
M54A			IAmb	IAmb	09 59 26.4	
	comp=Z,7.4nm,0.9s					
L58A	Harry Jones Me	63.92 354	P	P	09 59 26.4	+1.7
	baz=172					
L59A	Walton	63.99 355	P	P	09 59 26.3	+1.1
	baz=173					
ALLY	Alegheny Colle	64.07 350	P	P	09 59 25.6	-0.1
ALLY			IAmb	IAmb	09 59 28.4	
	comp=Z,12nm,1.0s					
BINY	Binghamton	64.08 354	P	P	09 59 27.0	+1.2
	baz=172					
N49A	Columbus Grove	64.10 347	P	P	09 59 25.7	-0.2
N49A			IAmb	IAmb	09 59 26.7	
	comp=Z,7.3nm,0.9s					
N49A			pP	pP	09 59 56.2	-0.3
L56A	Greenwood	64.19 353	P	P	09 59 27.8	+1.2
	baz=171					
ERPA	Erie	64.50 351	P	P	09 59 29.7	+1.2
	baz=168,SNR=5.5					
ERPA	Erie	64.50 351	P	P	09 59 28.9	+0.4
ERPA			pP	pP	09 59 59.2	+0.2
L54A	Sinclairville	64.52 351	P	P	09 59 29.5	+0.9
	baz=169,SNR=7.9					
K59A	Cooperstown	64.55 355	P	P	09 59 30.0	+1.1
	baz=174,SNR=7.8					
K58A	Earlville	64.61 354	P	P	09 59 30.4	+1.1
	baz=173,SNR=5.3					
K58A	Earlville	64.61 354	P	P	09 59 29.5	+0.3
K58A			IAmb	IAmb	09 59 31.1	
	comp=Z,8.9nm,0.9s					
K58A			pP	pP	10 00 00.2	+0.4
MMNY	Mt. Morris Dam	64.82 352		P	09 59 30.6	0.0
MMNY			IAmb	IAmb	09 59 31.5	
	comp=Z,13nm,1.3s					
MMNY				pP	10 00 01.6	+0.5
K55A	Perry	64.84 352	P	P	09 59 31.4	+0.7
	baz=170					
J59A	Piesco	65.21 355	P	P	09 59 34.3	+1.2
	baz=174,SNR=7.0					
J56A	Wolcott	65.24 353	P	P	09 59 33.5	+0.3
	baz=172,SNR=5.8					
ANMO	Albuquerque	66.93 327	P	P	09 59 46.3	+1.8
	baz=142					
ANMO	Albuquerque	66.93 327	P	P	09 59 46.0	+1.5
LIC	Lamto	68.24 74	eP	P	09 59 52.3	-0.7
	comp=Z,16nm,0.7s					
QSPA	South Pole Qui	68.35 180	P	P	09 59 54.3	+1.4
QSPA			IAmb	IAmb	09 59 55.6	
	comp=Z,10.0nm,1.0s					
TIC	Toumodi	68.43 73	eP	P	09 59 53.5	-0.7
KIC	Kosan Boka	68.56 74	eP	P	09 59 54.3	-0.6
	comp=Z,46nm,0.8s					
DBIC	Dimbokro	68.59 73	P	P	09 59 54.8	-0.3
	comp=Z,16nm,0.7s,baz=215,slow=7.2,SNR=20					
DBIC	Dimbokro	68.59 73	P	P	09 59 54.5	-0.6
SDCO	Great Sand Dun	68.67 329	P	P	09 59 57.6	+2.1
	baz=143					
SDCO	Great Sand Dun	68.67 329	P	P	09 59 57.2	+1.7
D57A	Chemin Vers le	68.70 356	P	P	09 59 56.2	+1.1
	baz=175					
D55A	Sainte-Anne-du	68.82 355	P	P	09 59 56.6	+0.8
	baz=173					
X16A	Lo Mia Camp, P	69.19 323	P	P	10 00 01.1	+2.5
S22A	4UR Ranch, Cre	69.31 328	P	P	10 00 01.1	+1.6
	baz=142					
Q24A	Divide	69.49 330	P	P	10 00 02.8	+2.3
	baz=144					
Q24A	Divide	69.49 330	P	P	10 00 02.2	+1.7
MVCO	Mesa Verde	69.72 327	P	P	10 00 04.1	+2.2
	baz=141					
MVCO	Mesa Verde	69.72 327	P	P	10 00 04.0	+2.0
MVCO			IAmb	IAmb	10 00 05.0	
	comp=Z,11nm,1.1s					
WUAZ	Wupatki	69.96 324	P	P	10 00 05.9	+2.6
	baz=138					
WUAZ	Wupatki	69.96 324	P	P	10 00 06.3	+2.9
WUAZ			IAmb	IAmb	10 00 07.0	
	comp=Z,11nm,1.0s					
ISCO	Idaho Springs	70.37 331	P	P	10 00 08.0	+2.0
	baz=144					
BC3	Big Chuckawall	70.96 320	P	P	10 00 11.5	+2.1
	baz=134					
N23A	Red Feather La	71.40 331	P	P	10 00 14.4	+2.3
	baz=144					
N23A	Red Feather La	71.40 331	P	P	10 00 13.8	+1.7
O20A	White River Ci	71.87 329	P	P	10 00 17.1	+2.3
	baz=142					
O20A	White River Ci	71.87 329	P	P	10 00 16.5	+1.7
O20A			IAmb	IAmb	10 00 17.9	
	comp=Z,8.7nm,0.9s					
GMRC	Granite Mounta	71.87 321	P	P	10 00 17.7	+2.8
	baz=134					
SRU	San Rafael Swe	72.20 327	P	P	10 00 18.2	+1.4
SRU			pP	pP	10 00 49.2	+1.6
CCUT	Cedar City	72.54 324	P	P	10 00 21.3	+2.4
CCUT			pP	pP	10 00 51.2	+1.4
P17A	Butcher Ranch,	72.59 327	P	P	10 00 20.7	+1.6
RDMU	Red Mountain	72.84 329	P	P	10 00 22.3	+1.7
EDW2	Edwards Air Fo	73.33 319	P	P	10 00 25.4	+2.0
	baz=133					
TPNV	Topopah Spring	73.72 322	P	P	10 00 28.3	+2.5
	baz=134					
FURC	Furnace Creek,	73.74 321	P	P	10 00 28.4	+2.8
	baz=134					
MPMC	Manual Prospec	73.83 321	P	P	10 00 28.5	+2.0
	baz=133					
ISA	Isabella, Lake	74.15 320	P	P	10 00 30.9	+2.7
	baz=132					
DUG	Dugway, Tooele	74.19 326	P	P	10 00 30.5	+2.1
	baz=138					
R11A	Troy Canyon, C	74.33 323	P	P	10 00 32.1	+2.8
	baz=135					
PDAR	Pinedale Array	74.54 330	P	P	10 00 31.3	+0.9
	comp=Z,0.6nm,0.7s,baz=123,slow=6.6,SNR=5.3					
PDAR			pP	pP	10 01 02.0	+0.3
	comp=Z,0.5nm,0.8s,baz=153,slow=8.1,SNR=2.7					
PDAR	Pinedale Array	74.54 330	P	P	10 00 30.8	+0.3
HWUT	Hardware Ranch	74.61 328	P	P	10 00 32.6	+1.7
VES	Vestal, Richgr	74.63 319	P	P	10 00 32.8	+1.9
	baz=132					
BGU	Big Grassy Mou	74.83 327	P	P	10 00 32.5	+0.3
AHID	Auburn Hatcher	75.26 329	P	P	10 00 36.0	+1.3
AHID			IAmb	IAmb	10 00 37.3	
	comp=Z,7.4nm,0.8s					
REDW	Red Top Meadow	75.60 330	P	P	10 00 38.4	+1.9
TPAW	Teton Pass	75.74 330	P	P	10 00 39.0	+1.5
ELK	Elko	75.85 325	P	P	10 00 39.7	+1.6
FXWY	Fox Creek	75.89 330	P	P	10 00 39.3	+1.0
NVAR	Mina Array Bea	75.92 322	P	P	10 00 40.5	+2.0
	comp=Z,2.0nm,0.9s,baz=155,slow=6.6,SNR=12					
NVAR			LR	LR	10 32 11.6	
	comp=Z,87nm,18.3s,baz=262,slow=34					
NVAR	Mina Array Bea	75.92 322	P	P	10 00 39.8	+1.3
SYO	Syowa Base	76.09 159‖	eP	P	10 00 35.3	-3.4
SYO	Syowa Base	76.09 159‖	eP	P	10 00 37.0	-1.7
KVN	Kaiserville	76.23 322	P	P	10 00 40.9	+0.7
RLMT	Red Lodge	76.24 332	P	P	10 00 42.0	+1.9
	baz=142					
RLMT	Red Lodge	76.24 332	P	P	10 00 40.7	+0.5
YNE	Yellowstone No	76.48 331	P	P	10 00 42.2	+0.6
YNE				pP	10 01 11.5	-1.3
VNDA	Vanda	76.55 190	P	P	10 00 43.9	+2.7
	comp=Z,1.0nm,0.9s,baz=102,slow=0.6,SNR=5.1					
YHH	Holmes Hill	76.69 331	P	P	10 00 44.0	+1.3
YHH			pP	pP	10 01 13.8	-0.3
TOA0	Torodi Ar. Sit	77.23 70	P	P	10 00 45.4	-0.7
TOA0			IAmb	IAmb	10 00 46.6	
	comp=Z,12nm,1.0s					
TORD	Torodi Ar. Bea	77.23 70	P	P	10 00 45.3	-0.8
	comp=Z,6.9nm,0.8s,baz=254,slow=5.0,SNR=30					
TORD			pP	pP	10 01 18.3	+0.7
	comp=Z,1.8nm,0.7s,baz=250,slow=5.5,SNR=1.3					
TORD	Torodi Ar. Bea	77.23 70	P	P	10 00 44.5	-1.6
HLID	Hailey	77.47 328	P	P	10 00 49.8	+2.8
	baz=137					
HLID	Hailey	77.47 328	P	P	10 00 49.5	+2.5
HLID			IAmb	IAmb	10 00 50.6	
	comp=Z,8.0nm,0.9s					
HLID			pP	pP	10 01 18.5	0.0
MCMT	McKenzie Canyo	77.65 329	P	P	10 00 49.8	+1.7
MOD	Modoc Plateau	79.40 323	P	P	10 00 59.1	+1.5
TSUM	Tsumeb	79.70 107	P	P	10 00 59.8	-0.1
BMO	Blue Mountains	79.84 327	P	P	10 01 01.5	+1.6
BMO				pP	10 01 31.0	-0.5
I07A	Izee	80.44 325	P	P	10 01 03.0	-0.1
PINE	Pine Mountain	81.01 325	P	P	10 01 03.9	-2.4
PINE			IAmb	IAmb	10 01 10.2	
	comp=Z,9.0nm,1.1s					
I05D	Terrebonne, OR	81.59 325	P	P	10 01 11.7	+2.5
	baz=132					
C09A	Chrisman Ranch	82.39 329	P	P	10 01 11.5	-1.7
C09A			IAmb	IAmb	10 01 15.9	
	comp=Z,7.3nm,0.8s					
BOSA	Boshof	83.06 118	P	P	10 01 16.4	-1.0
	comp=Z,7.2nm,0.8s,baz=255,slow=5.2,SNR=8.3					
MAW	Mawson	83.93 163	P	P	10 01 20.5	-0.4
	comp=Z,4.4nm,0.7s,baz=239,slow=7.3,SNR=9.4					
ESDC	Sonseca Array	85.90 44	P	P	10 01 31.7	+0.4
	comp=Z,2.3nm,1.1s,baz=243,slow=5.1,SNR=7.8					
ESDC			pP	pP	10 02 03.9	+0.6
	comp=Z,0.9nm,0.9s,baz=244,slow=4.6,SNR=3.4					
ESDC	Sonseca Array	85.90 44	P	P	10 01 31.7	+0.4
ASAR	Alice Springs	129.72 207	PKP	PKPdf	10 08 01.1	+0.6
	comp=Z,0.7nm,0.9s,baz=135,slow=2.3,SNR=5.2					
ASAR			pPKP	pPKPdf	10 08 33.3	-0.7
	comp=Z,0.9nm,0.9s,baz=144,slow=2.5,SNR=4.1					
ASAR	Alice Springs	129.72 207		PKPdf	10 08 00.4	-0.1
WRA	Warramunga Arr	132.78 210	PKP	PKiKP	10 08 07.5	0.0
	comp=Z,0.5nm,0.6s,baz=150,slow=1.8					
WRA			pPKP	pPKPdf	10 08 39.1	-0.7
	comp=Z,0.8nm,0.8s,baz=160,slow=1.6,SNR=3.3					
ZALV	Zalesovo Beam	142.16 26	PKP	PKPdf	10 08 22.8	+0.3
	comp=Z,1.2nm,0.5s,baz=346,slow=5.2,SNR=3.0					
ZALV			pPKP	pPKPdf	10 08 55.6	-0.6
	comp=Z,1.4nm,0.6s,baz=306,slow=3.4,SNR=2.6					
ZALV	Zalesovo Beam	142.16 26		PKPdf	10 08 22.6	+0.1
MKAR	Makanchi Array	145.76 36	PKPbc	PKPab	10 08 30.2	0.0
	comp=Z,3.7nm,0.8s,baz=320,slow=3.4,SNR=18					
MKAR			pPKPbc	pPKPbc	10 09 05.0	+1.8
	comp=Z,2.1nm,0.7s,baz=321,slow=4.2,SNR=5.2					
MKAR	Makanchi Array	145.76 36		PKPab	10 08 30.6	+0.3

IDC ***28*** *10:16:40.4±0.6, 52°.63N×162°.73W, h0km, mb4.3/26, mb1 4.5/29, mb1mx4.4/49, mbtmp4.3/29, ML4.1/3, MS3.7/20, Ms1 3.7/20, ms1mx3.4/55, Error ellipse: s-maj=17.6km s-min=10.6km az=179.0*

BJI ***28*** *10:16:40.6±0.0, 53°.02N×162°.81W, h6km,

WESP Sn 10 17 44.6 -1.4
FALS False Pass 2.24 349 Pn 10 17 18.6 -0.9
SSLW Shishaldin Wes 2.28 339 Pn 10 17 19.6 -0.5
SSBA Shishaldin 2.28 339 Pn 10 17 19.6 -0.5
WEBT Westdahl Beart 2.29 329 Pn 10 17 19.6 -0.6
SSLN Shishaldin Nor 2.29 341 Pn 10 17 20.2 -0.1
AKSA Akutan Strait 2.32 311 Pn 10 17 19.9 -0.7
AKSA Sn 10 17 46.9 -2.2
AKSA Akutan Strait 2.32 311 Pn 10 17 19.7 -0.9
AKSA Sn 10 17 46.9 -2.2
AKUT Akutan 2.36 310 Pn Pn 10 17 20.4 -0.7
AKUT Sn Sn 10 17 48.0 -1.8
AKBBA Akutan Broad B 2.41 308 Pn 10 17 21.3 -0.6
AKBBA Sn 10 17 50.5 -0.8
AKMO Akutan Morgan 2.44 307 Pn 10 17 21.8 -0.6
AKLV Akutan Long Va 2.46 309 Pn 10 17 21.8 -0.8
DT1 Dutton Round H 2.46 6 Pn 10 17 21.5 -1.1
AKRB Akutan Reef Bi 2.49 308 Pn 10 17 22.5 -0.5
AKGG Akutan Green G 2.50 309 Pn 10 17 22.6 -0.5
UNV Unalaska Valle 2.57 299 Pn Pn 10 17 22.8 -1.2
MNAT Makushin Natee 2.68 299 Pn 10 17 24.8 -0.8
MNAT Sn 10 17 55.7 -2.3
MREP Makushin Rep't 2.69 297 Pn 10 17 24.8 -0.9
HAG Hague Volcano 2.70 10 Pn 10 17 26.0 +0.1
PS4A Pavlof South-4 2.74 10 Pn 10 17 26.4 0.0
MGOD Makushin Gods 2.75 296 Pn 10 17 25.5 -1.0
MSW Makushin Switc 2.75 299 Pn 10 17 25.7 -0.8
MAPS Pakushin South 2.79 296 Pn 10 17 26.1 -1.0
CNBA Chernabura Isl 2.85 39 Pn Pn 10 17 26.8 -1.0
CNBA Sn Sn 10 17 58.7 -3.3
SDPT Sand Point 3.00 25 Pn Pn 10 17 29.4 -0.5
SDPT Sn 10 18 03.8 -1.9
OKFG Magazine Ridge 3.23 286 Pn 10 17 31.9 -1.3
OKSP Okmok Steeple 3.43 282 Pn 10 17 34.4 -1.5
NIKH Nikolski High 3.74 277 Pn 10 17 38.4 -1.8
NIKH Nikolski High 3.74 277 Sn 10 18 19.0 -5.1
VNFG Fog Glacier, M 4.07 26 Pn 10 17 45.4 +0.6
CHGN Chignik 4.42 33 Pn 10 17 49.9 +0.4
CHGN Sn Sn 10 18 40.0 -0.9
PLK3 Peulik 3 6.24 34 Pn 10 18 14.7 +0.2
SPIA Saint Paul Isl 6.27 319 Pn Pn 10 18 16.3 +1.4
SII Sitkinak Islan 6.30 48 Pn Pn 10 18 14.1 -1.3
CAHL Cahill 6.86 35 Pn 10 18 22.4 -0.5
ANCK Angle Creek 6.90 34 Pn 10 18 23.3 -0.3
KABU Katmai Buttres 7.03 34 Pn 10 18 25.1 -0.2
ATKA Atka Island 7.04 271 Pn Pn 10 18 25.3 -0.1
OHAK Old Harbor 7.09 46 Pn Pn 10 18 24.8 -1.3
KAKN Katmai Knife C 7.12 35 Pn 10 18 26.8 +0.2
KDAK Kodiak Island 7.73 44 Pn Pn 10 18 33.2 -1.6
3.6nm,0.3s,baz=208,slow=5.6,SNR=50
KDAK Sn Sn 10 19 54.4 -7.9
2.4nm,0.3s,baz=40,slow=10,SNR=1.9
KDAK Kodiak Island 7.73 44 Pn Pn 10 18 33.1 -1.8
GSTR Great Sitkin T 8.19 271 Pn Pn 10 18 43.8 +2.6
GSMY Great Sitkin M 8.20 271 Pn 10 18 40.9 -0.5
ADK Adak 8.61 270 Pn Pn 10 18 46.7 -0.3
SVW2 Sparrevohn 9.31 22 Pn Pn 10 18 57.9 +1.4
CNPM China Poot 9.39 38 Pn Pn 10 18 58.1 +0.4
RSO Redoubt South 9.55 31 Pn Pn 10 19 01.4 +1.5
BRLK Bradley Lake 9.69 38 Pn Pn 10 19 00.4 -1.3
SEW Seward 10.45 39 Pn Pn 10 19 11.4 -0.7
SEW Sn 10 21 06.7 -2.3
O22K Cooper Landing 10.60 37 P Pn 10 19 14.7 +0.6
baz=228
TTA Tatalina 10.89 16 Pn Pn 10 19 18.2 0.0
SUA Susitna One 10.95 32 Pn 10 19 17.7 -1.3
RC01 Rabbit Creek A 11.01 35 P Pn 10 19 19.7 -0.1
baz=225
SKT Skwentna 11.11 28 Pn Pn 10 19 20.9 -0.2
PMR Palmer 11.57 34 Pn Pn 10 19 26.3 -1.1
PPLA Purkeypile 11.68 24 Pn Pn 10 19 31.3 +2.3
GHO Glory Hole Cre 11.77 34 Pn Pn 10 19 28.8 -1.5
CUT Chulitna 11.81 29 P Pn 10 19 30.1 -0.5
baz=220
HIN Hinchinbrook I 11.81 43 Pn Pn 10 19 29.9 -0.8
GLI Glacier Island 11.85 40 Pn Pn 10 19 30.1 -1.2
FID Port Fidalgo 12.02 41 Pn Pn 10 19 31.6 -2.0
EYAK Cordova Ski Ar 12.20 43 Pn Pn 10 19 34.8 -1.3
KAIM Kayak Island 12.46 47 Pn Pn 10 19 39.6 -0.1
KTH Kantishna Hill 12.54 25 Pn 10 19 41.8 +1.0
RAGM Ragged Mountai 12.57 45 Pn Pn 10 19 40.8 -0.4
TRF Thorofare Moun 12.63 26 Pn 10 19 41.5 -0.5
KLU Klutina 12.68 39 Pn 10 19 41.2 -1.4
HMT Hamilton 12.73 46 Pn Pn 10 19 42.5 -0.8
SUCK Suckling Hills 12.82 47 Pn Pn 10 19 44.6 +0.2
M24K Tolsona, Glenn 12.96 37 P Pn 10 19 46.2 -0.3
baz=230
M24K Tolsona, Glenn 12.96 37 Pn Pn 10 19 45.1 -1.3
BPAW Bear Paw Mtn. 12.98 23 Pn Pn 10 19 46.7 0.0
DHY Denali Highway 13.21 32 Pn Pn 10 19 46.7 -3.1
MCK McKinley 13.22 28 Pn Pn 10 19 49.6 -0.4
WAX Waxell Ridge 13.40 47 Pn Pn 10 19 51.8 -0.7
CRQM Cirque 13.42 45 Pn Pn 10 19 52.4 -0.4
GLB Gilahina Butte 13.48 42 Pn Pn 10 19 52.2 -1.4
ISLE Juniper Island 13.70 46 Pn 10 19 56.0 -0.6
MCARA McCarthy VSAT 13.78 43 Pn Pn 10 19 58.3 +0.8
YAH Yahtse 13.86 48 Pn Pn 10 19 58.5 -0.4
NEA2 Nenana 13.87 25 P Pn 10 19 57.5 -1.2
baz=216
BALM Baldy 13.89 45 Pn Pn 10 19 58.1 -1.1
WRH Wood River Hil 14.03 27 Pn Pn 10 19 57.3 -3.7
IMAR Indian Mountai 14.10 15 Pn Pn 10 20 02.9 +1.0
BARN Barnard Glacie 14.20 45 Pn Pn 10 20 04.6 +1.1
CCB Clear Creek Bu 14.25 27 Pn Pn 10 19 59.4 -4.5
CTGM Chitina Glacie 14.30 46 Pn 10 20 04.8 0.0
HDA Harding Lake 14.31 29 P Pn 10 20 01.9 -2.9
baz=222,SNR=5.6
HDA Harding Lake 14.31 29 Pn Pn 10 20 01.4 -3.4
MENT Mentasta 14.37 37 Pn Pn 10 20 06.7 +0.9
MDM Murphy Dome 14.38 25 Pn Pn 10 20 02.5 -3.3
COLA College 14.41 26 *i* P Pn 10 20 04.1 -2.1
IL31 14.60 28 Pn 10 20 06.9 -1.8
ILAR Eielson Array 14.60 28 Pn Pn 10 20 04.9 -3.9
0.2nm,0.3s,baz=216,slow=14,SNR=15
ILAR Sn Sn 10 22 34.4 -16
baz=225,slow=19,SNR=1.4
ILAR LR LR 10 25 49.5
comp=Z,121nm,18.9s,baz=246,slow=38
ILAR Eielson Array 14.60 28 Pn Pn 10 20 05.3 -3.5
BCPM Bancas Point 14.68 51 Pn 10 20 09.6 -0.3
DOT Dot Lake 14.70 34 P P 10 20 14.6 -1.7
BCAR Beaver Creek A 15.17 38 Pn 10 20 14.2 -2.3
K27K Chicken 15.62 35 P Pn 10 20 21.7 -0.6
baz=232
COLD Coldfoot 15.84 18 P Pn 10 20 25.3 +0.2
baz=209
COLD Coldfoot 15.84 18 Pn Pn 10 20 25.2 0.0
HYT Haines Junctio 15.97 49 Pn Pn 10 20 27.6 +0.6
EGAK Eagle 16.39 34 Pn 10 20 30.0 -2.2
EGAK IAmb IAmb 10 20 39.7
comp=Z,48nm,0.8s
FYU Fort Yukon 16.41 25 P P 10 20 34.0 -1.2
SKAG Skagway 16.65 55 P P 10 20 38.3 +0.5
BESE Bessie Mountai 16.73 58 P P 10 20 38.4 -0.5
JIS Juneau Island 16.93 59 P P 10 20 40.9 -0.1
WHY Whitehorse 17.15 51 P P 10 20 44.3 +0.7
TOLK Toolik Lake Re 17.20 16 P P 10 20 44.9 +0.8
baz=208
TOLK Toolik Lake Re 17.20 16 P P 10 20 44.2 +0.1
BMAR Burnt Mountain 17.24 24 P P 10 20 43.8 -0.7
H02N1 VAN INLET T-PH 18.12 76 T T 10 39 20.1
SNR=16
EPYK Eagle Plains 18.83 33 P Pn 10 21 04.5 +2.0
baz=236,SNR=38
EPYK Eagle Plains 18.83 33 P Pn 10 21 04.7 +2.3
DLBC Dease Lake 19.23 60 P P 10 21 06.6 +0.1
comp=Z,0.4nm,0.3s,baz=274,slow=8.6,SNR=7.9
DLBC LR LR 10 26 56.5
comp=Z,110nm,19.0s,baz=290,slow=32
DLBC Dease Lake 19.23 60 P Pn 10 21 09.6 +2.2
INK Inuvik 20.94 30 P P 10 21 24.6 -0.2
comp=Z,9.0nm,0.6s,baz=236,slow=9.1,SNR=23
INK LR LR 10 30 26.3
comp=Z,191nm,19.6s,baz=199,slow=39
INK Inuvik 20.94 30 P P 10 21 25.4 +0.5
BBB Bella Bella 20.99 77 LR LR 10 27 11.3
comp=Z,108nm,18.5s,baz=286,slow=30
BILL Bilibino 21.38 328‖ *e*P P 10 21 30.1 +0.5
BILL *e**SP sP 10 21 33.3 +0.8
BILL *e* 10 21 47.8
BILL PPP PPP 10 22 00.0
BILL *e*S S 10 25 16.9 -9.5

BILL *e*SS SnSn 10 25 53.8 +4.9
BILL *e*SSS SSS 10 26 13.3
BILL pmax pmax
comp=Z,34nm,1.2s
BILL MLR MLR
comp=Z,481nm,19.0s
PET Petropavlovsk 23.16 286 *e*P P 10 21 50.6 +2.0
PET pmax pmax
comp=Z,181nm,0.8s
PET Petropavlovsk 23.16 286 P P 10 21 50.8 +2.3
PEA0B Petropavlovsk- 23.69 287 *i* P P 10 21 54.2 +0.3
PEA0B Petropavlovsk- 23.69 287 P P 10 21 54.5 +0.6
PETK Petropavlovsk- 23.69 287 P P 10 21 54.0 +0.1
comp=Z,16nm,0.6s,baz=89,slow=13,SNR=55
PETK LR LR 10 29 57.5
comp=Z,160nm,21.5s,baz=71,slow=34
PETK Petropavlovsk- 23.69 287 P P 10 21 55.2 +1.2
C36M Paulatuk 24.45 32 P P 10 22 01.6 +0.8
baz=246
C36M Paulatuk 24.45 32 P P 10 22 01.6 +0.8
C36M IAmb IAmb 10 22 02.5
comp=Z,38nm,1.3s
NLWA Neilton Lookou 25.27 86 P P 10 22 10.9 +2.3
NLWA IAmb IAmb 10 22 11.7
comp=Z,14nm,0.9s
SEY Seymchan 25.50 311 *i* P P 10 22 11.7 +1.3
D03D Eldon 25.68 86 P P 10 22 14.3 +2.0
baz=296,SNR=7.5
E03A Lebam 25.85 88 P P 10 22 15.9 +2.2
E03A IAmb IAmb 10 22 16.2
comp=Z,22nm,0.9s
B05A Bryant 25.97 83 P P 10 22 16.3 +1.5
baz=295
D04E Lakebay 26.04 86 P P 10 22 18.0 +2.6
baz=297
E04D Cinebar 26.45 87 P P 10 22 21.4 +2.3
baz=298,SNR=7.7
D05A Enumclaw 26.51 85 P P 10 22 21.2 +1.5
D05A IAmb IAmb 10 22 23.4
comp=Z,27nm,1.3s
YKA Yellowknife Ar 26.97 50 P P 10 22 23.7 +0.1
comp=Z,6.8nm,0.7s,baz=273,slow=9.3,SNR=7.5
YKA LR LR 10 32 14.4
comp=Z,82nm,18.7s,baz=0.0,slow=35
YKA Yellowknife Ar 26.97 50 *i* P P 10 22 26.1 +2.5
YKA pmax pmax
comp=Z,7.0nm,0.7s
COR Corvallis 26.98 91 P P 10 22 25.9 +1.9
LTY Liberty 27.28 84 P P 10 22 26.7 0.0
B08A Colville Reser 27.60 81 P P 10 22 30.3 +0.8
H04A Detroit Lake 27.61 90 P P 10 22 31.4 +1.7
H04A IAmb IAmb 10 22 31.8
comp=Z,16nm,0.8s
G05D Wamic, OR 27.86 89 P P 10 22 33.2 +1.4
baz=300
I04A Tendick Farm, 27.95 92 P P 10 22 34.4 +1.7
baz=303
I05D Terrebonne, OR 28.31 90 P P 10 22 37.6 +1.6
baz=302,SNR=5.1
HAWA Hanford 28.37 85 P P 10 22 37.5 +1.0
F07A Phinny Hill Vi 28.38 86 P P 10 22 37.7 +1.3
L04D Klamath Falls 28.89 95 P P 10 22 43.1 +1.8
baz=305
YBH Yreka Blue Hor 28.93 96 P P 10 22 41.9 +0.3
comp=Z,4.0nm,0.9s,baz=344,slow=3.2,SNR=5.6
YBH LR LR 10 32 00.5
comp=Z,101nm,18.4s,baz=292,slow=32
YBH Yreka Blue Hor 28.93 96 P P 10 22 43.1 +1.6
J05D Fort Rock, OR 28.94 92 P P 10 22 43.2 +1.4
baz=303,SNR=6.1
NEW Newport 28.97 80 P P 10 22 41.4 -0.4
comp=Z,4.3nm,0.9s,baz=307,slow=6.5,SNR=5.7
NEW Newport 28.97 80 P P 10 22 42.7 +0.9
baz=296
NEW Newport 28.97 80 P P 10 22 42.1 +0.4
E09A Wood Farm, Sta 29.16 84 P P 10 22 43.7 +0.4
G08A Pilot Rock 29.27 87 P P 10 22 45.2 +0.7
M04C Macdoel 29.43 95 P P 10 22 48.2 +2.2
baz=306
K05A Summer Lake 29.46 93 P P 10 22 47.5 +1.1
K05A IAmb IAmb 10 22 49.2
comp=Z,14nm,0.8s
I07A Izee 29.56 89 P P 10 22 48.5 +1.4
I07A IAmb IAmb 10 22 49.4
comp=Z,11nm,0.8s
O02D Mt. Diablo Mer 29.82 99 P P 10 22 50.7 +1.2
baz=308
MOD Modoc Plateau 30.29 94 P P 10 22 53.9 +0.2
MOD IAmb IAmb 10 22 56.1
comp=Z,10nm,0.8s
O03E Paynes Creek 30.34 98 P P 10 22 53.8 -0.2
baz=308
BMO Blue Mountains 30.50 86 P P 10 22 56.1 +0.7
WALA Waterton Lakes 30.54 77 P P 10 22 56.0 +0.2
WALA IAmb IAmb 10 22 57.4
comp=Z,11nm,1.4s
J08A Circle Bar Ran 30.58 90 P P 10 22 57.3 +1.1
J08A IAmb IAmb 10 22 58.4
comp=Z,15nm,1.2s
JTMT Jette 30.90 79 P P 10 22 59.8 +0.8
JTMT IAmb IAmb 10 23 09.6
comp=Z,15nm,1.3s
MSO Missoula 31.54 81 P P 10 23 05.6 +1.0
baz=299
MSO Missoula 31.54 81 P P 10 23 03.5 -1.1
MFID Camas Ranch 32.16 88 P P 10 23 10.4 +0.3
MFID IAmb IAmb 10 23 11.8
comp=Z,6.7nm,0.8s
PAHR Pah Rah Range 32.17 96 P P 10 23 11.1 +0.9
PAHR IAmb IAmb 10 23 13.1
comp=Z,23nm,1.5s
PNTR Pine Nut 32.42 97 P P 10 23 13.2 +0.7
PNTR IAmb IAmb 10 23 15.1
comp=Z,18nm,1.3s
YERR Yerington 32.71 97 P P 10 23 15.8 +0.9
YERR IAmb IAmb 10 23 17.3
comp=Z,17nm,1.3s
HLID Hailey 32.94 86 P P 10 23 18.1 +1.1
baz=303,SNR=8.3
HLID Hailey 32.94 86 P P 10 23 17.2 +0.2
BCYI Bear Canyon 33.15 84 P P 10 23 18.6 -0.2
MCMT McKenzie Canyo 33.21 83 P P 10 23 20.3 +0.9
KVN Kaiserville 33.35 96 P P 10 23 21.9 +1.3
KVN IAmb IAmb 10 23 22.8
comp=Z,9.2nm,1.2s
RYN Ryan 33.37 97 P P 10 23 21.7 +1.0
EGMT Eagleton 33.47 76 P P 10 23 21.5 +0.1
baz=298
EGMT Eagleton 33.47 76 P P 10 23 21.1 -0.3
EGMT IAmb IAmb 10 23 23.1
comp=Z,5.9nm,0.7s
BOZ Bozeman (W) 33.55 81 P P 10 23 23.0 +0.8
baz=301
BOZ Bozeman (W) 33.55 81 P P 10 23 22.7 +0.5
NVAR Mina Array Bea 33.62 97 P P 10 23 23.7 +0.7
comp=Z,2.3nm,0.9s,baz=297,slow=8.0,SNR=16
NVAR PcP PcP 10 26 02.2 -0.8
comp=Z,0.5nm,0.6s,baz=285,slow=3.5,SNR=3.7
NVAR Mina Array Bea 33.62 97 P P 10 23 23.0 0.0
NV11 Mina Array Sit 33.71 97 P P 10 23 23.9 +0.2
ELK Elko 34.06 91 LR LR 10 34 13.7
comp=Z,143nm,18.2s,baz=297,slow=31
ELK Elko 34.06 91 P P 10 23 27.4 +0.6
ELK IAmb IAmb 10 23 28.8
comp=Z,7.8nm,0.9s
YHL Hebgen Lake 34.21 82 P P 10 23 28.7 +0.6
YMR Madison River 34.44 82 P P 10 23 30.5 +0.5
YHH Holmes Hill 34.44 82 P P 10 23 30.4 +0.3
YNR Norris Junctio 34.58 82 P P 10 23 32.2 +0.9
GCMT Greycliff 34.63 80 P P 10 23 31.9 +0.4
IMW Indian Meadow 34.87 83 P P 10 23 34.7 +0.8
YSS Yuzh-Sakhalins 34.93 283 *e*P P 10 23 41.1 +7.2
YSS *e* 10 26 07.1
FXWY Fox Creek 34.96 84 P P 10 23 34.9 +0.3
REDW Red Top Meadow 35.22 84 P P 10 23 38.5 +1.7
REDW IAmb IAmb 10 23 39.2
comp=Z,13nm,1.3s
RLMT Red Lodge 35.22 80 P P 10 23 37.6 +0.8
baz=302,SNR=7.1
RLMT Red Lodge 35.22 80 P P 10 23 37.2 +0.4
RLMT IAmb IAmb 10 23 38.7
comp=Z,11nm,1.0s
SNOW Snow King Moun 35.22 84 P P 10 23 37.5 +0.7
LOHW Long Hollow 35.23 84 P P 10 23 37.6 +0.8
BGU Big Grassy Mou 35.29 89 P P 10 23 37.7 +0.4

R11A Troy Canyon, C 35.32 95 P P 10 23 38.7 +1.0
baz=309,SNR=15
R11A Troy Canyon, C 35.32 95 P P 10 23 37.9 +0.2
R11A IAmb IAmb 10 23 40.2
comp=Z,14nm,1.2s
ISA Isabella, Lake 35.34 101 P P 10 23 38.0 +0.3
baz=313
AHID Auburn Hatcher 35.40 85 P P 10 23 38.8 +0.5
MPMC Manual Prospec 35.67 99 P P 10 23 41.7 +1.0
baz=312
FURC Furnace Creek, 35.77 98 P P 10 23 42.4 +1.1
baz=312
TPNV Topopah Spring 35.82 97 P P 10 23 42.9 +1.0
baz=311,SNR=6.4
TPNV Topopah Spring 35.82 97 P P 10 23 42.7 +0.7
TPNV IAmb IAmb 10 23 44.2
comp=Z,21nm,1.4s
DUG Dugway, Tooele 35.86 90 P P 10 23 43.4 +1.1
baz=307,SNR=14
DUG Dugway, Tooele 35.86 90 P P 10 23 42.9 +0.6
DUG IAmb IAmb 10 23 44.2
comp=Z,26nm,1.2s
YAK Yakutsk 36.02 312 *e*P P 10 23 44.0 +0.8
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.1s
TCUT Toone Canyon 36.17 88 P P 10 23 45.8 +0.8
CTU Camp Tracy 36.21 88 P P 10 23 45.6 +0.3
PRN Pahroc Range 36.25 96 P P 10 23 46.2 +0.7
PRN IAmb IAmb 10 23 47.8
comp=Z,16nm,1.0s
PSUT Pine Spring 36.26 93 P P 10 23 46.5 +0.7
BW06 Boulder Array 36.34 84 P P 10 23 47.0 +0.6
baz=305,SNR=6.8
BW06 Boulder Array 36.34 84 P P 10 23 46.6 +0.2
BW06 IAmb IAmb 10 23 48.0
comp=Z,11nm,1.2s
PD31 Pinedale Array 36.34 84 P P 10 23 46.7 +0.3
PDAR Pinedale Array 36.34 84 P P 10 23 46.6 +0.3
comp=Z,2.0nm,0.5s,baz=308,slow=3.1,SNR=25
JLU Jordanelle 36.45 88 P P 10 23 47.6 +0.2
SHPR Sheep Range 36.77 97 P P 10 23 50.6 +0.5
GRNR Gornyy 36.78 292 ⇑ *i*P P 10 23 49.4 -0.4
GRNR pmax pmax
comp=Z,8.0nm,1.1s
GRNR MLR MLR
comp=E,220nm,16.0s
GRNR MLR MLR
comp=N,120nm,15.0s
GRNR MLR MLR
comp=Z,190nm,17.0s
CCUT Cedar City 37.18 94 P P 10 23 54.4 +0.7
MSU Marysvale 37.29 92 P P 10 23 55.0 +0.5
SZCU Shurtz Canyon 37.32 94 P P 10 23 55.7 +0.9
TMUT Trail Mountain 37.39 90 P P 10 23 55.9 +0.4
P17A Butcher Ranch, 37.57 89 P P 10 23 57.5 +0.7
MTPU Mount Pierson 37.59 92 P P 10 23 57.6 +0.4
LCMT Little Creek M 37.60 94 P P 10 23 57.9 +0.8
RDMU Red Mountain 37.61 87 P P 10 23 57.4 +0.1
GMRC Granite Mounta 37.63 99 P P 10 23 58.0 +0.7
baz=313
Q16A Castle Valley 37.65 90 P P 10 23 59.2 +1.6
KNB Kanab 37.86 94 P P 10 23 59.1 -0.2
SRU San Rafael Swe 37.92 90 P P 10 24 00.4 +0.6
K22A Casper 38.23 82 P P 10 24 02.8 +0.3
baz=305,SNR=6.1
K22A Casper 38.23 82 P P 10 24 02.0 -0.4
K22A IAmb IAmb 10 24 04.1
comp=Z,30nm,1.4s
RWWY Rawlins 38.38 84 P P 10 24 02.1 -1.7
RWWY IAmb IAmb 10 24 03.8
comp=Z,14nm,1.3s
W13A Hualapai Mount 38.48 97 P P 10 24 05.6 +0.9
U15A North Rim 38.56 94 P P 10 24 06.0 +0.6
U15A IAmb IAmb 10 24 07.6
comp=Z,21nm,1.1s
O20A White River Ci 38.68 87 P P 10 24 07.0 +0.8
baz=308,SNR=24
O20A White River Ci 38.68 87 P P 10 24 06.8 +0.6
RSSD Black Hills 38.90 78 P P 10 24 08.2 +0.2
baz=304
RSSD Black Hills 38.90 78 P P 10 24 07.6 -0.4
PV21 Cone Mtn., Par 39.21 89 P P 10 24 11.1 +0.3
PV21 IAmb IAmb 10 24 11.8
comp=Z,12nm,0.6s
PV23 Carpenter Ridg 39.26 89 P P 10 24 11.3 +0.2
PV23 IAmb IAmb 10 24 16.0
comp=Z,16nm,0.6s
PV14 Lion Creek, Pa 39.30 89 P P 10 24 10.7 -0.8
PV14 IAmb IAmb 10 24 12.5
comp=Z,19nm,1.2s
PV22 Blue Mesa, Par 39.34 89 P P 10 24 12.6 +0.8
PV22 IAmb IAmb 10 24 14.1
comp=Z,12nm,0.7s
PV20 West Nyswonger 39.35 89 P P 10 24 11.7 -0.2
PV20 IAmb IAmb 10 24 13.0
comp=Z,24nm,1.3s
PV04 Paradox Valley 39.36 89 P P 10 24 12.1 +0.2
PV04 IAmb IAmb 10 24 13.1
comp=Z,17nm,0.8s
PV19 Morning Glory 39.37 89 P P 10 24 11.8 -0.2
PV19 IAmb IAmb 10 24 13.1
comp=Z,32nm,1.4s
PV17 East Wray Mesa 39.40 89 P P 10 24 12.4 +0.1
PV17 IAmb IAmb 10 24 13.4
comp=Z,20nm,0.8s
PV16 Nyswonger Mesa 39.41 89 P P 10 24 12.4 +0.1
PV16 IAmb IAmb 10 24 13.5
comp=Z,11nm,0.8s
PV11 David Mesa, Pa 39.44 89 P P 10 24 12.7 +0.1
PV05 Paradox Valley 39.44 90 P P 10 24 12.4 -0.2
PV18 Skein Mesa, Pa 39.45 89 P P 10 24 12.7 -0.1
PV18 IAmb IAmb 10 24 13.9
comp=Z,16nm,0.8s
PV12 Saucer Basin, 39.47 89 P P 10 24 12.8 -0.1
PV12 IAmb IAmb 10 24 14.2
comp=Z,15nm,0.7s
PV03 Paradox Valley 39.48 89 P P 10 24 13.3 +0.4
PV03 IAmb IAmb 10 24 14.1
comp=Z,18nm,0.9s
PV07 Paradox Valley 39.49 89 P P 10 24 13.2 +0.2
PV07 IAmb IAmb 10 24 14.1
comp=Z,12nm,0.7s
PV13 Radium Mtn., P 39.56 89 P P 10 24 14.0 +0.4
PV02 Paradox Valley 39.58 89 P P 10 24 13.9 +0.1
PV02 IAmb IAmb 10 24 15.1
comp=Z,23nm,0.7s
TEY Ternei 39.58 284‖ *e*P P 10 24 21.1 +7.7
TEY pmax pmax
comp=Z,20nm,0.9s
N23A Red Feather La 39.62 84 P P 10 24 14.9 +0.7
baz=307,SNR=13
N23A Red Feather La 39.62 84 P P 10 24 14.5 +0.3
N23A IAmb IAmb 10 24 16.4
comp=Z,27nm,1.2s
PV15 Paradox Valley 39.65 89 P P 10 24 14.8 +0.4
PV15 IAmb IAmb 10 24 15.5
comp=Z,16nm,0.9s
PHWY Pilot Hill 39.67 83 P P 10 24 14.7 +0.1
WUAZ Wupatki 39.72 95 P P 10 24 16.3 +1.3
baz=312,SNR=9.5
WUAZ Wupatki 39.72 95 P P 10 24 15.4 +0.5
WUAZ IAmb IAmb 10 24 17.0
comp=Z,17nm,1.0s
PV01 Paradox Valley 39.73 89 P P 10 24 14.7 -0.4
PV01 IAmb IAmb 10 24 16.2
comp=Z,24nm,0.7s
MVCO Mesa Verde 40.36 90 P P 10 24 20.8 +0.5
baz=310,SNR=5.9
MVCO Mesa Verde 40.36 90 P P 10 24 19.4 -0.9
ULM Lac du Bonnet 40.37 66 P P 10 24 19.5 -0.4
comp=Z,6.9nm,0.8s,baz=16,slow=10,SNR=4.3
ULM Lac du Bonnet 40.37 66 P P 10 24 18.9 -1.0
ZEA Zeya 40.41 301 *e*P P 10 24 22.0 +1.8
ZEA pmax pmax
comp=Z,14nm,1.2s
X16A Lo Mia Camp, P 40.42 96 P P 10 24 21.5 +0.7
H11N2 WAKE ISLAND Hy 40.44 227 T T 11 07 23.1
baz=31
H11N3 WAKE ISLAND Hy 40.45 227 T T 11 07 26.2
baz=31
H11N1 WAKE ISLAND Hy 40.46 227 T T 11 07 23.2

baz=31
ISCO Idaho Springs 40.48 85 P **P 10 24 22.1 +0.7**
baz=308,SNR=7.5
ISCO Idaho Springs 40.48 85 P **P 10 24 21.0 -0.4**
S22A 4UR Ranch, Cre 41.03 88 P **P 10 24 27.0 +1.1**
baz=310,SNR=11
S22A 4UR Ranch, Cre 41.03 88 P **P 10 24 26.4 +0.4**
S22A IAmb IAmb 10 24 28.9
comp=Z,14nm,1.2s
Q24A Divide 41.29 86 P **P 10 24 29.4 +1.4**
baz=309
H11S1 WAKE ISLAND Hy 41.60 227 T T 11 08 49.5
baz=29
H11S2 WAKE ISLAND Hy 41.61 227 T T 11 08 46.1
baz=29
H11S3 WAKE ISLAND Hy 41.62 227 T T 11 08 49.7
baz=29
SDCO Great Sand Dun 41.84 87 P **P 10 24 33.2 +0.6**
baz=310,SNR=18
SDCO Great Sand Dun 41.84 87 P **P 10 24 33.1 +0.6**
SDCO IAmb IAmb 10 24 34.3
comp=Z,24nm,1.4s
USRK Ussuriysk Ar. 42.77 286 P **P 10 24 39.3 -0.4**
comp=Z,0.8nm,0.6s,baz=60,slow=8.5,SNR=2.2
USRK Ussuriysk Ar. 42.77 286 P **P 10 24 41.1 +1.4**
KSCO Kaye Shedlock' 42.79 84 P **P 10 24 40.9 +0.9**
baz=309,SNR=7.2
KSCO Kaye Shedlock' 42.79 84 P **P 10 24 40.6 +0.5**
KSCO IAmb IAmb 10 24 41.8
comp=Z,36nm,1.1s
T25A Trinidad 42.90 87 P **P 10 24 42.1 +1.1**
baz=310,SNR=22
T25A Trinidad 42.90 87 P **P 10 24 41.7 +0.7**
ANMO Albuquerque 43.09 91 *ce*P **P 10 24 42.6 -0.1**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO Albuquerque 43.09 91 P **P 10 24 43.1 +0.5**
baz=312
ANMO Albuquerque 43.09 91 P **P 10 24 42.7 +0.1**
ECSD EROS Data Cent 43.51 74 P **P 10 24 44.9 -0.8**
baz=306
BNM Barren Site 43.53 92 P **P 10 24 45.9 -0.3**
MJAR Matsushiro Arr 43.76 273 P **P 10 24 47.6 -0.2**
comp=Z,3.4nm,0.6s,baz=42,slow=6.7,SNR=9.6
MJAR Matsushiro Arr 43.76 273 P **P 10 24 49.8 +2.0**
MAJO Matsushiro 43.77 273 P **P 10 24 49.7 +1.9**
MAJO IAmb IAmb 10 24 57.4
comp=Z,13nm,0.8s
MAT Matsushiro 43.77 273 P **P 10 24 47.0 -0.8**
121A Cookes Peak, D 43.93 95 P **P 10 24 48.1 -1.3**
baz=314
CBKS Cedar Bluff 44.66 82 P **P 10 24 55.7 +0.7**
baz=309
CBKS Cedar Bluff 44.66 82 P **P 10 24 55.0 0.0**
BOD Bodaibo 44.92 311 *e*P **P 10 24 56.5 -0.3**
BOD pmax pmax
comp=Z,11nm,0.9s
R32A Long Quarter, 45.52 82 P **P 10 25 01.0 -0.9**
N35A Tabor 45.82 77 P **P 10 25 03.3 -0.9**
MNTX Cornudas Mount 45.97 94 P **P 10 25 06.3 +0.9**
baz=314,SNR=17
MNTX Cornudas Mount 45.97 94 P **P 10 25 06.2 +0.8**
MNTX IAmb IAmb 10 25 07.8
comp=Z,7.8nm,0.9s
AMTX Amarillo 46.05 88 P **P 10 25 06.2 +0.1**
baz=312
AMTX Amarillo 46.05 88 P **P 10 25 05.6 -0.5**
KSU1 Kansas State U 46.35 79 P **P 10 25 07.5 -0.9**
baz=310
KSU1 Kansas State U 46.35 79 P **P 10 25 05.9 -2.5**
KSU1 IAmb IAmb 10 25 08.6
comp=Z,11nm,1.1s
KAN13 South Haven SW 47.18 82 P **P 10 25 13.8 -1.1**
CROK Carrier 47.21 83 P **P 10 25 14.5 -0.6**
N38A Joes South For 47.29 75 P **P 10 25 14.2 -1.4**
T35A Sooner Cattle 47.83 82 P **P 10 25 19.2 -0.7**
P38A Dawn 47.85 77 P **P 10 25 18.3 -1.7**
P38A IAmb IAmb 10 25 19.7
comp=Z,14nm,1.2s
I42A Draeger Farm, 47.87 69 P **P 10 25 18.2 -1.9**
I42A IAmb IAmb 10 25 19.3
comp=Z,12nm,1.2s
WMOK Wichita Mounta 47.91 85 P **P 10 25 20.5 -0.1**
baz=312,SNR=17
NRIK Noril'sk 48.05 333 P **P 10 25 21.0 -0.2**
comp=Z,9.6nm,0.9s,baz=61,slow=12,SNR=5.4
NRIK LR LR 10 49 50.0
comp=Z,102nm,18.0s,baz=198,slow=41
NRIK Noril'sk 48.05 333 *ce*P **P 10 25 22.3 +1.1**
NRIK pmax pmax
comp=Z,14nm,0.9s
OK025 Westminster Rd 48.22 84 P **P 10 25 22.6 -0.3**
FNO Franklin 48.39 84 P **P 10 25 24.2 -0.1**
LPIG La Paz 48.57 105 LR LR 10 40 25.0
comp=Z,53nm,18.6s,baz=311,slow=29
TX31 Lajitas Ar. Si 48.69 95 P **P 10 25 26.7 -0.1**
TX32 Lajitas Array 48.69 95 P **P 10 25 27.4 +0.6**
TXAR Lajitas Array 48.69 95 P **P 10 25 26.9 +0.2**
comp=Z,6.5nm,0.8s,baz=300,slow=5.8,SNR=59
TXAR PcP **PcP 10 26 50.9 -1.0**
comp=Z,0.8nm,0.5s,baz=244,slow=0.7,SNR=7.4
TXAR Lajitas Array 48.69 95 P **P 10 25 26.7 -0.1**
W35A Tecumseh 48.78 84 P **P 10 25 26.4 -0.9**
P40A Paris 48.79 76 P **P 10 25 25.4 -1.9**
P40A IAmb IAmb 10 25 26.7
comp=Z,20nm,1.3s
ABTX Abilene, Hawle 48.82 88 P **P 10 25 27.8 +0.1**
baz=314,SNR=28
ABTX Abilene, Hawle 48.82 88 P **P 10 25 27.1 -0.6**
DAG Danmarks Havn 48.84 10 *i* P **P 10 25 27.0 -0.1**
comp=Z,6.6nm,0.5s
DAG Danmarks Havn 48.84 10 *i* P **P 10 25 27.0 -0.1**
DAG pmax pmax
comp=Z,7.0nm,0.5s
TUL1 Leonard 48.93 82 P **P 10 25 28.2 -0.2**
baz=312,SNR=5.3
TUL1 Leonard 48.93 82 P **P 10 25 27.7 -0.7**
S39A Bolivar 49.23 79 P **P 10 25 28.1 -2.6**
S39A IAmb IAmb 10 25 29.3
comp=Z,6.7nm,1.1s
SUMG Summit 49.24 19 *i* P **P 10 25 32.1 +1.4**
comp=Z,26nm,1.0s
SUMG Summit 49.24 19 *i* P **P 10 25 32.1 +1.4**
SUMG pmax pmax
comp=Z,27nm,1.0s
KSRS Korea Array 49.38 281 P **P 10 25 31.7 0.0**
comp=Z,4.1nm,0.9s,baz=56,slow=6.9,SNR=15
KSAR Wonju Array Be 49.41 281 P **P 10 25 31.8 -0.2**
U38A Gravette 49.42 81 P **P 10 25 30.8 -1.4**
U38A IAmb IAmb 10 25 31.8
comp=Z,13nm,0.9s
R40A Maddies Statio 49.47 77 P **P 10 25 29.5 -3.0**
R40A IAmb IAmb 10 25 30.9
comp=Z,6.6nm,1.1s
HDIL Hopedale 49.75 73 P **P 10 25 33.4 -1.2**
baz=310,SNR=7.5
HDIL Hopedale 49.75 73 P **P 10 25 33.1 -1.5**
Z35A Perchaven, San 49.79 86 P **P 10 25 34.5 -0.5**
X37A Clayton 50.07 83 P **P 10 25 36.5 -0.6**
P43A Skaggs, Pawnee 50.21 74 P **P 10 25 36.3 -1.8**
P43A IAmb IAmb 10 25 38.3
comp=Z,15nm,0.8s
MGMO Mountain Grove 50.22 78 P **P 10 25 35.4 -2.8**
MGMO IAmb IAmb 10 25 37.3
comp=Z,9.1nm,1.0s
JCT Junction City 50.23 90 P **P 10 25 38.1 -0.3**
baz=315,SNR=40
JCT Junction City 50.23 90 P **P 10 25 37.3 -1.1**
U40A Yellville 50.40 80 P **P 10 25 38.3 -1.3**
baz=312,SNR=9.9
U40A Yellville 50.40 80 P **P 10 25 37.2 -2.4**
U40A IAmb IAmb 10 25 38.6
comp=Z,12nm,0.8s
TJN Taejon 50.43 280 *ce*P **P 10 25 40.6 +0.8**
WHTX Lake Whitney, 50.59 87 P **P 10 25 41.2 +0.2**
baz=314,SNR=38
WHTX Lake Whitney, 50.59 87 P **P 10 25 41.3 +0.2**
W39A Magazine 50.62 81 P **P 10 25 40.3 -0.9**
baz=313,SNR=8.4
W39A Magazine 50.62 81 P **P 10 25 40.5 -0.7**
W39A IAmb IAmb 10 25 41.4
comp=Z,17nm,0.9s
T42A Van Buren 51.00 78 P **P 10 25 40.0 -4.1**
SFIN Lafayette 51.14 72 P **P 10 25 43.8 -1.3**
baz=311
SFIN Lafayette 51.14 72 P **P 10 25 43.6 -1.5**
SFIN IAmb IAmb 10 25 45.0
comp=Z,13nm,1.3s
FCAR Ozark Folk Cen 51.15 80 P **P 10 25 42.9 -2.4**
FCAR IAmb IAmb 10 25 44.1
comp=Z,13nm,0.8s
MIAR Mount Ida 51.19 82 P **P 10 25 45.0 -0.6**
baz=313,SNR=13
MIAR Mount Ida 51.19 82 P **P 10 25 44.7 -0.9**
MIAR IAmb IAmb 10 25 45.9
comp=Z,16nm,1.0s
435B Jarrell 51.36 88 P **P 10 25 47.1 +0.2**
baz=315,SNR=7.4
435B Jarrell 51.36 88 P **P 10 25 46.6 -0.3**
W41B Gary Mavity, V 51.56 80 P **P 10 25 47.0 -1.3**
baz=313
W41B Gary Mavity, V 51.56 80 P **P 10 25 46.4 -1.9**
W41B IAmb IAmb 10 25 47.6
comp=Z,6.3nm,0.9s
237A Washetta, Mont 51.59 86 P **P 10 25 47.9 -0.6**
LCAR Lake Charles 51.61 79 P **P 10 25 46.0 -2.6**
N47A Urbana 51.62 70 P **P 10 25 46.4 -2.3**
N47A IAmb IAmb 10 25 47.6
comp=Z,19nm,1.4s
OLIL Olney 51.64 74 P **P 10 25 47.4 -1.4**
X40A Basin Creek Fa 51.67 81 P **P 10 25 48.0 -1.1**
baz=313
X40A Basin Creek Fa 51.67 81 P **P 10 25 47.2 -2.0**
CHGQ Chibougamau 51.94 55 P **P 10 25 48.9 -2.0**
baz=309
833A Chaparral WMA, 52.01 92 P **P 10 25 52.2 +0.4**
baz=316,SNR=13
833A Chaparral WMA, 52.01 92 P **P 10 25 51.4 -0.3**
WLAR White Oak Lake 52.05 82 P **P 10 25 51.6 -0.4**
I51A Listowel 52.35 65 P **P 10 25 53.4 -0.7**
baz=310
USIN University of 52.40 75 P **P 10 25 52.8 -1.7**
NATX Nacogdoches 52.45 85 P **P 10 25 55.4 +0.4**
baz=315,SNR=6.2
NATX Nacogdoches 52.45 85 P **P 10 25 54.8 -0.2**
ALGO Algonquin Park 52.57 61 P **P 10 25 54.5 -1.2**
baz=310
CCAR Cane Creek 52.70 81 P **P 10 25 56.0 -0.8**
HKT Hockley 53.02 88 *i* P **P 10 25 59.0 -0.1**
HKT pmax pmax
comp=Z,9.0nm,1.0s
HKT Hockley 53.02 88 P **P 10 25 58.8 -0.3**
D55A Sainte-Anne-du 53.24 59 P **P 10 25 59.6 -1.0**
baz=311
TLY Talaya 53.38 309 *e*P **P 10 26 02.7 +1.1**
TLY pmax pmax
comp=Z,12nm,0.6s
T47A Sharon Grove 53.39 75 P **P 10 26 00.4 -1.5**
W45A Hickory Valley 53.40 78 P **P 10 26 00.5 -1.5**
WVT Waverly 53.54 76 P **P 10 26 02.2 -0.8**
baz=313
WVT Waverly 53.54 76 P **P 10 26 01.5 -1.5**
WVT IAmb IAmb 10 26 02.8
comp=Z,16nm,0.8s
D56A ZEC Mazanza, M 53.59 58 P **P 10 26 02.4 -0.8**
baz=311
OXF Oxford 53.71 79 P **P 10 26 03.4 -0.8**
baz=314,SNR=8.5
OXF Oxford 53.71 79 P **P 10 26 02.9 -1.4**
G55A Calabogie 53.74 61 P **P 10 26 03.9 -0.4**
baz=311
O51A Pataskala 53.87 69 P **P 10 26 03.8 -1.5**
baz=312
Y45A Yeager Farm, C 54.08 80 P **P 10 26 05.4 -1.5**
PLAL Pickwick Lake 54.18 78 P **P 10 26 05.9 -1.8**
PLAL IAmb IAmb 10 26 07.2
comp=Z,13nm,0.9s
Q51A Peebles 54.20 71 P **P 10 26 06.1 -1.7**
Q51A IAmb IAmb 10 26 07.3
comp=Z,15nm,1.0s
ULN Ulaanbaatar 54.22 304 *i* P **P 10 26 07.8 -0.2**
ULN pmax pmax
comp=Z,2.0nm,0.5s
ALLY Alegheny Colle 54.26 66 P **P 10 26 06.7 -1.5**
ALLY IAmb IAmb 10 26 07.6
comp=Z,14nm,0.9s
E57A Chemin Saint G 54.33 58 P **P 10 26 07.2 -1.4**
baz=311
L54A Sinclairville 54.33 65 P **P 10 26 07.5 -1.1**
baz=312
V48A Smith Brothers 54.41 76 P **P 10 26 07.4 -1.9**
V48A IAmb IAmb 10 26 08.6
comp=Z,8.8nm,1.1s
ZAK Zakamensk 54.41 308 *e*P **P 10 26 09.2 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
K54A Basiliko Farm, 54.42 65 P **P 10 26 08.4 -0.9**
baz=312
CLTN Cedars of Leba 54.45 75 P **P 10 26 08.0 -1.6**
CLTN IAmb IAmb 10 26 10.1
comp=Z,11nm,1.1s
U49A Red Boiling Sp 54.49 75 P **P 10 26 07.9 -2.0**
U49A IAmb IAmb 10 26 09.4
comp=Z,5.7nm,0.8s
SONM Songino Array 54.58 304 P **P 10 26 10.8 +0.2**
comp=Z,3.0nm,1.2s,baz=54,slow=7.5,SNR=6.8
SONM PcP **PcP 10 27 13.8 +0.3**
comp=Z,1.6nm,1.1s,baz=66,slow=1.9,SNR=4.0
SONM Songino Array 54.58 304 P **P 10 26 10.9 +0.3**
VBMS Vicksburg 54.64 82 P **P 10 26 11.1 +0.1**
baz=315,SNR=5.3
L55A Hinsdale 54.84 65 P **P 10 26 11.5 -1.0**
baz=312
344A Westbrook Farm 55.05 83 P **P 10 26 13.4 -0.6**
K56A Middlesex 55.11 64 P **P 10 26 13.2 -1.2**
baz=312
O54A Avella 55.11 68 P **P 10 26 12.7 -1.7**
baz=313
M55A Ridgway 55.15 66 P **P 10 26 13.6 -1.0**
baz=312
M55A Ridgway 55.15 66 P **P 10 26 13.1 -1.5**
M55A IAmb IAmb 10 26 14.3
comp=Z,18nm,1.2s
X48A Hartselle 55.16 77 P **P 10 26 12.4 -2.4**
X48A IAmb IAmb 10 26 13.7
comp=Z,10nm,0.9s
I57A Carthage 55.18 62 P **P 10 26 14.3 -0.5**
baz=312
146A Union 55.23 80 P **P 10 26 13.4 -1.9**
L56A Greenwood 55.36 64 P **P 10 26 15.3 -0.9**
baz=312,SNR=5.8
L56A Greenwood 55.36 64 P **P 10 26 14.4 -1.8**
L56A IAmb IAmb 10 26 16.0
comp=Z,17nm,1.2s
Z47A Carrollton 55.42 79 P **P 10 26 15.0 -1.7**
M56A Emporium 55.46 65 P **P 10 26 15.7 -1.2**
baz=313
M56A Emporium 55.46 65 P **P 10 26 15.2 -1.6**
M56A IAmb IAmb 10 26 16.4
comp=Z,14nm,1.1s
W50A Signal Mountai 55.67 75 P **P 10 26 16.9 -1.6**
W50A IAmb IAmb 10 26 18.1
comp=Z,15nm,1.1s
I58A Old Forge 55.71 61 P **P 10 26 17.7 -1.0**
baz=312
G59A Clarenceville 55.72 59 P **P 10 26 17.2 -1.5**
baz=312
H59A Cadyville 55.74 60 P **P 10 26 17.6 -1.3**
baz=312,SNR=5.7
J58A Remsen 55.77 62 P **P 10 26 18.4 -0.7**
baz=313
J58A Remsen 55.77 62 P **P 10 26 18.1 -1.0**
J58A IAmb IAmb 10 26 19.4
comp=Z,12nm,1.2s
N56A West Decatur 55.78 66 P **P 10 26 17.8 -1.4**
baz=313
L57A Andrews Acres 55.84 64 P **P 10 26 18.6 -1.1**
baz=313
NCB Newcomb 55.92 61 P **P 10 26 18.9 -1.3**
NCB IAmb IAmb 10 26 20.3
comp=Z,9.6nm,1.1s
FPAL Fort Paine 55.95 76 P **P 10 26 18.5 -2.0**
Y49A Blount Mountai 55.95 77 P **P 10 26 18.4 -2.1**
Y49A IAmb IAmb 10 26 19.3
comp=Z,12nm,0.9s
O56A Blue Knob Stat 56.07 67 P **P 10 26 19.5 -1.8**
baz=313
J59A Piesco 56.11 61 P **P 10 26 20.3 -1.2**
baz=313
M57A Sunshine Farm, 56.14 65 P **P 10 26 20.4 -1.3**
baz=313
LRAL Lakeview Retre 56.18 78 P **P 10 26 20.1 -2.0**
baz=315
LRAL Lakeview Retre 56.18 78 P **P 10 26 19.9 -2.2**
SSPA Standing Stone 56.20 66 P **P 10 26 21.0 -1.2**
baz=313
I59A Olmsteadville 56.22 61 P **P 10 26 21.3 -1.1**
baz=313
N57A Milroy 56.30 65 P **P 10 26 21.3 -1.6**
baz=313
L58A Harry Jones Me 56.36 63 P **P 10 26 22.6 -0.7**
baz=313
G61A St-Isidore-de- 56.44 58 P **P 10 26 22.4 -1.5**
baz=313
M58A Price's Panora 56.48 64 P **P 10 26 23.2 -1.0**
baz=313
HHC Hu-ho-hao-te 56.55 295 *e*P **P 10 26 26.3 +1.5**
HHC pmax pmax
comp=Z,30nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.2s
T54A Tazewell 56.56 71 P **P 10 26 23.7 -1.2**
baz=314
O57A Amberson 56.63 66 P **P 10 26 23.7 -1.6**
baz=313
S55A Lewisburg 56.69 70 P **P 10 26 24.7 -1.1**
baz=314
J60A Lant Hill Farm 56.84 61 P **P 10 26 26.0 -0.7**
baz=313,SNR=6.7
P57A Homestead Farm 56.92 67 P **P 10 26 26.1 -1.2**
baz=314
M59A Waymart 56.93 63 P **P 10 26 26.1 -1.3**
baz=313
G62A West of Eustis 56.99 57 P **P 10 26 26.8 -1.0**
baz=313
Q57A Strasburg 57.00 68 P **P 10 26 25.8 -2.1**
baz=314
I61A Oroboro, Fairl 57.01 59 P **P 10 26 27.6 -0.3**
baz=313
Z51A Franklin 57.07 77 P **P 10 26 25.9 -2.5**
H62A Milan 57.12 58 P **P 10 26 27.6 -1.1**
baz=314
J61A Chester 57.23 60 P **P 10 26 29.0 -0.5**
baz=314
E63A Oxbow 57.23 55 P **P 10 26 27.7 -1.7**
baz=314
K61A Williamstown 57.32 61 P **P 10 26 29.7 -0.5**
baz=314
O59A Robesonia 57.36 65 P **P 10 26 29.1 -1.4**
baz=314
Q58A Fox Den Farm, 57.48 67 P **P 10 26 29.4 -1.8**
baz=314
L61A Hillsdale 1, H 57.49 62 P **P 10 26 30.2 -1.1**
baz=314
M60A Port Jervis 57.52 63 P **P 10 26 30.5 -1.0**
baz=314
E64A Bridgewater 57.53 55 P **P 10 26 29.4 -2.1**
baz=314
N60A Cedar Hill Far 57.57 64 P **P 10 26 31.1 -0.8**
baz=314
LUPA Lehigh Univers 57.61 64 P **P 10 26 30.7 -1.5**
LUPA IAmb IAmb 10 26 32.0
comp=Z,14nm,1.1s
P59A Jarrettsville 57.71 66 P **P 10 26 31.8 -1.1**
baz=314
I63A Otisfield 57.78 58 P **P 10 26 32.7 -0.6**
baz=314
152A Waverly Hall 57.79 77 P **P 10 26 30.9 -2.7**
152A IAmb IAmb 10 26 31.7
comp=Z,11nm,0.8s
K62A Royalston 57.87 61 P **P 10 26 33.1 -0.9**
baz=314,SNR=5.8
K62A Royalston 57.87 61 P **P 10 26 33.0 -1.0**
ARCES ARCESS Array B 57.97 357 P **P 10 26 33.8 -0.5**
comp=Z,2.9nm,0.8s,baz=22,slow=6.0,SNR=8.3
ARCES LR LR 10 54 17.0
comp=Z,56nm,18.1s,baz=45,slow=39
GOGA Godfrey 58.01 76 P **P 10 26 32.8 -2.3**
baz=315
KMSC Kings Mountain 58.04 73 P **P 10 26 33.7 -1.6**
baz=315
U57A Blanch 58.29 70 P **P 10 26 35.6 -1.4**
baz=315
X55A Gracelyn & Ava 58.34 74 P **P 10 26 35.9 -1.5**
baz=315
HRV Adam Dziewonsk 58.34 60 P **P 10 26 36.1 -1.1**
baz=314
HRV Adam Dziewonsk 58.34 60 P **P 10 26 36.1 -1.1**
HRV IAmb IAmb 10 26 37.5
comp=Z,12nm,1.2s
M62A Hamden 58.37 62 P **P 10 26 36.8 -0.7**
baz=314
NJ2 Nanjing 58.50 283 *e*P **P 10 26 37.0 -1.5**
NJ2 pmax pmax
comp=Z,11nm,0.6s
S59A Mechanicsville 58.52 68 P **P 10 26 37.4 -1.1**
baz=315
WES Weston 58.55 60 P **P 10 26 37.9 -0.8**
WES IAmb IAmb 10 26 39.9
comp=Z,12nm,1.0s
BRYW Bryant College 58.76 61 P **P 10 26 39.2 -1.0**
M63A Gales Ferry 58.85 62 P **P 10 26 40.3 -0.5**
baz=315,SNR=5.6
S60A Water View 58.92 68 P **P 10 26 41.0 -0.4**
baz=315
ZALV Zalesovo Beam 59.86 321 P **P 10 26 48.2 +0.6**
comp=Z,0.7nm,0.4s,baz=46,slow=8.3,SNR=2.3
ZALV PcP **PcP 10 27 34.0 +0.1**
comp=Z,0.5nm,0.4s,baz=32,slow=3.7,SNR=3.6
ZALV LR LR 10 54 11.7
comp=Z,78nm,19.2s,baz=59,slow=38
ZALV Zalesovo Beam 59.86 321 *i* P P 10 26 57.5 +10
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 59.86 321 P **P 10 26 47.1 -0.5**
DGZ Jazzator, Alta 62.04 316 *i* P **P 10 27 01.8 -0.9**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
TMCR Tamitsa 62.40 350 *e*P **P 10 27 03.4 -1.2**
TMCR pmax pmax
comp=Z,19nm,1.3s
XAN Xi'an 62.85 291 P P 10 27 17.5 +9.3
XAN pP pwP 10 27 23.8 +6.0
XAN pmax pmax
comp=Z,12nm,0.9s
PRGR Permogore 63.85 345 *e*P P 10 27 08.1 -6.2
GTA Gaotai 63.89 301 *e*P **P 10 27 14.8 -0.3**
GTA pP sP 10 27 20.5 +2.2
GTA sP pwP 10 27 23.5 -1.2
GTA S **S 10 35 53.5 +3.2**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,96nm,6.7s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,120nm,19.6s
GTA LR LR
comp=Z,170nm,16.4s
LZH Lanzhou 64.19 296 *e*P **P 10 27 18.3 +1.1**
LZH pP sP 10 27 21.8 +1.3
LZH sP pwP 10 27 23.3 -3.4
LZH *e*PP **PP 10 29 40.8 +2.9**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,92nm,7.9s
LZH LR LR
comp=Z,220nm,16.0s
LZH LR LR
comp=Z,240nm,16.2s
LZH LR LR
comp=Z,380nm,18.6s
KURK Kurchatov 64.76 322 *i* P **P 10 27 20.6 +0.1**
KURK pmax pmax
comp=Z,7.0nm,1.2s
KURK Kurchatov 64.76 322 P **P 10 27 20.7 +0.3**
KURK IAmb IAmb 10 27 31.1
comp=Z,11nm,1.4s
KLMR Klimovskoe 65.45 348 *e*P **P 10 27 20.8 -3.9**
KLMR pmax pmax
comp=Z,21nm,1.5s
KLMR Klimovskoe 65.45 348 *e*P **P 10 27 20.9 -3.8**
KLMR AMP 10 27 23.3
comp=Z,21nm,1.5s
BRVK Borovoye 65.73 328 *ce*P **P 10 27 27.6 +0.9**
BRVK pmax pmax

comp=Z,10.0nm,2.5s
FINES FINESS Array B 66.03 355 P **P 10 27 28.0 -0.4**
comp=Z,12nm,1.0s,baz=15,slow=8.6,SNR=17
FINES LR LR 10 56 51.3
comp=Z,72nm,20.9s,slow=36
FINES FINESS Array B 66.03 355 *i* P **P 10 27 28.7 +0.2**
FINES pmax pmax
comp=Z,12nm,1.0s
FINES FINESS Array B 66.03 355 P **P 10 27 28.6 +0.2**
KIRV Kirov 66.08 342 *ceP* **P 10 27 30.1 +1.2**
ARU Arti 66.10 336 *c iP* **P 10 27 29.5 +0.4**
ARU S **S 10 36 18.2 +1.5**
ARU pmax pmax
comp=Z,14nm,1.5s
MK31 Makanchi Array 66.46 317 P **P 10 27 31.1 -0.5**
MKAR Makanchi Array 66.46 317 P **P 10 27 31.6 0.0**
comp=Z,1.9nm,0.7s,baz=48,slow=6.5,SNR=20
MKAR LR LR 10 57 27.5
comp=Z,83nm,18.1s,baz=18,slow=37
MKAR Makanchi Array 66.46 317 P **P 10 27 30.8 -0.7**
WMQ Urumqi 66.46 312 *eP* **P 10 27 34.0 +2.3**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,63nm,6.1s
NB2 NORSAR Subarra 66.55 3 P **P 10 27 32.4 +0.5**
comp=Z,1.4nm,0.7s,baz=356,slow=6.2
NOA NORSAR Array B 66.55 3 P **P 10 27 32.1 +0.2**
comp=Z,3.6nm,0.9s,baz=356,slow=6.3,SNR=5.3
MAKZ Makanchi 66.58 317 P **P 10 27 31.6 -0.7**
MAKZ IAmb IAmb 10 27 42.0
comp=Z,5.0nm,0.9s
GYA Guiyang 69.79 287 *eP* **P 10 27 53.8 +0.9**
GYA pmax pmax
comp=Z,8.0nm,0.9s
PPT Papeete 70.86 167 LR LR 10 52 38.7
comp=Z,128nm,21.7s,baz=344,slow=30
OBN Obninsk 71.41 348⇑ *eP* **P 10 28 03.4 +1.3**
OBN *PP **sP 10 28 06.0 +0.8**
OBN *SP **pwP 10 28 08.0 -3.5**
OBN 10 28 20.0
OBN pmax pmax
comp=Z,22nm,1.1s
ABKAR Akbulak array 72.20 332 P **P 10 28 07.8 +0.8**
AAK Ala-Archa 73.04 320 *ceP* **P 10 28 13.1 +0.8**
AAK pmax pmax
comp=Z,21nm,0.9s
KK31 Karatay Array 74.17 322 P **P 10 28 18.7 -0.1**
KK31 IAmb IAmb 10 28 29.0
comp=Z,5.6nm,0.8s
KKAR Karatay Array 74.17 322 P **P 10 28 18.8 0.0**
KKAR IAmb IAmb 10 28 29.0
comp=Z,5.6nm,0.8s
CLL Collm 76.34 3⇑ *iP* **P 10 28 31.8 +0.7**
comp=Z,10.0nm,1.2s
CLL *i* (PcP) **pwP 10 28 40.9 +0.4**
CLL Collm 76.34 3⇑ *iP* **P 10 28 31.8 +0.7**
CLL *i* 10 28 40.9
CLL pmax pmax
comp=Z,10.0nm,1.2s
AKASG Malin Array Be 76.52 352 P **P 10 28 32.0 -0.1**
comp=Z,3.6nm,0.5s,baz=12,slow=6.1,SNR=11
AKASG Malin Array Be 76.52 352 P **P 10 28 31.3 -0.8**
AKBB Malin Array Si 76.52 352 *ceP* **P 10 28 32.4 +0.3**
AKBB Malin Array Si 76.52 352 P **P 10 28 31.9 -0.2**
AKBB IAmb IAmb 10 28 41.7
comp=Z,8.2nm,0.8s
MEM Membach 76.66 7 P **P 10 28 33.8 +0.9**
BCLA Clavier 76.80 8 P **P 10 28 34.0 +0.3**
BRG Berggiesshubel 76.80 2 *e*PKP **P 10 28 34.1 +0.5**
comp=Z,7.6nm,1.2s
BRG *e* 10 28 43.3
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 76.80 2 *eP* **P 10 28 34.2 +0.5**
BRG *e* 10 28 43.3
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BMRD Maredsous 76.87 8 P **P 10 28 34.9 +0.9**
OSTC Ostas 77.15 1 *eP* **P 10 28 36.4 +0.7**
OSTC *e*PCP **pwP 10 28 45.4 +0.2**
DPC Dobruska-Polom 77.36 1 *eP* **P 10 28 38.0 +1.1**
DPC *e*PCP **PcP 10 28 46.9 -0.5**
DPC Dobruska-Polom 77.36 1 *eP* **P 10 28 38.0 +1.1**
DPC *e* 10 28 46.9
NKC Novy Kostel 77.40 3 *eP* **P 10 28 38.1 +1.0**
NKC *e*PCP **pwP 10 28 46.9 +0.3**
NKC Novy Kostel 77.40 3 *eP* **P 10 28 38.1 +1.0**
NKC *e* 10 28 46.9
WLF Walferdange 77.61 7 P **P 10 28 38.8 +0.6**
KRLC Kraliky 77.64 0 *eP* **P 10 28 39.2 +0.7**
KRLC *e*PCP **pwP 10 28 48.2 +0.2**
KRLC Kraliky 77.64 0 *eP* **P 10 28 39.2 +0.7**
KRLC *e* 10 28 48.2
MORC Moravsky Berou 77.94 360 *eP* **P 10 28 40.7 +0.5**
MORC *e* 10 28 49.7
VRAC Vranov 78.41 0⇑ P **P 10 28 43.5 +0.9**
VRAC Vranov 78.41 0 *eP* **P 10 28 43.6 +0.9**
VRAC Vranov 78.41 0⇑ P **P 10 28 43.6 +0.9**
KHC Kasperske Hory 78.54 2 *eP* **P 10 28 44.3 +0.8**
KHC *e*PCP **PcP 10 28 52.1 -0.4**
KHC *ex* x 10 29 01.2
KHC Kasperske Hory 78.54 2 *eP* **P 10 28 44.3 +0.8**
KHC *e* 10 28 52.1
KHC Kasperske Hory 78.54 2 P **P 10 28 44.1 +0.6**
KRUC Moravsky 78.65 1 *eP* **P 10 28 44.7 +0.7**
KOLS Kolonicke sedl 78.69 357 *eP* **P 10 28 44.7 +0.4**
KOLS Kolonicke sedl 78.69 357 *eP* **P 10 28 44.7 +0.4**
CRVS Cervenica-Dubn 78.75 357 *eP* **P 10 28 43.7 -0.9**
CRVS Cervenica-Dubn 78.75 357 *eP* **P 10 28 43.7 -0.9**
GEC2 GERESS Array S 78.83 2 P **P 10 28 45.5 +0.4**
GERES GERESS Array B 78.83 2 P **P 10 28 45.6 +0.4**
comp=Z,1.3nm,0.7s,baz=1.4,slow=5.3,SNR=14
GERES LR LR 11 05 14.5
comp=Z,28nm,20.0s,baz=44,slow=37
JAVC Velka Javorina 78.86 360 *eP* **P 10 28 47.2 +1.9**
JAVC *e* 10 28 56.6
CLF Chambon-Foret 78.88 10 P **P 10 28 46.2 +1.0**
CLF IAmb IAmb 10 28 47.1
comp=Z,14nm,0.9s
UZH Uzhgorod 79.00 357 *eP* **P 10 28 45.0 -0.9**
UZH *i* 10 28 55.1
ECH Echery 79.13 7 P **P 10 28 46.1 -0.6**
ECH IAmb IAmb 10 28 57.3
comp=Z,5.1nm,0.8s
SORM Soroca 79.14 352⇑ P **P 10 28 46.4 -0.3**
SORM Soroca 79.14 352⇑ P **P 10 28 46.4 -0.3**
VYHS Vyhne 79.21 359 *eP* **P 10 28 48.3 +1.1**
VYHS Vyhne 79.21 359 *eP* **P 10 28 48.3 +1.1**
MODS Modra-Piesok 79.34 0 *eP* **P 10 28 46.7 -1.2**
MODS pmax pmax
comp=Z,13nm,1.2s
MODS Modra-Piesok 79.34 0 *eP* **P 10 28 46.7 -1.2**
PSZ Piszkesteto 79.77 358⇑ P **P 10 28 45.5 -4.8**
PSZ Piszkesteto 79.77 358⇑ P **P 10 28 45.5 -4.8**
CONA Conrad Observa 79.78 1 *ep*P **P 10 28 51.8 +1.4**
comp=Z,6.1nm,0.9s
MOA Molln 79.83 2 *ep*P **P 10 28 51.7 +1.1**
comp=Z,4.4nm,1.1s
BUR08 Bucovina Ar. S 79.84 355 P **P 10 28 50.5 -0.2**
BURAR Bucovina Array 79.87 355⇑ P **P 10 28 51.4 +0.5**
BURAR Bucovina Array 79.87 355⇑ P **P 10 28 51.4 +0.5**
BURAR Bucovina Array 79.87 355 P **P 10 28 50.6 -0.3**
RETA Reutte 80.07 4 *ep*P **P 10 28 53.3 +1.3**
comp=Z,2.0nm,0.7s
MOTA Moosalm 80.23 4 *ep*P **P 10 28 53.9 +1.0**
comp=Z,7.2nm,0.8s
WATA Walderalm 80.26 4 *ep*P **P 10 28 54.3 +1.3**
comp=Z,7.3nm,0.9s
SQTA Sankt Quirin 80.36 4 *ep*P **P 10 28 54.9 +1.3**
comp=Z,7.9nm,0.7s,SNR=5.4
ARCR ARCALIA 80.45 355⇑ P **P 10 28 55.2 +1.3**
ARSA Arzberg 80.45 1 *ep*P **P 10 28 55.5 +1.6**
comp=Z,4.6nm,0.8s
CMAR Chiang Mai Arr 80.47 288 P **P 10 28 54.2 -0.1**
comp=Z,2.3nm,0.8s,baz=19,slow=5.0,SNR=16
CMAR Chiang Mai Arr 80.47 288 P **P 10 28 53.9 -0.5**
BIZ Bicaz 80.49 354⇑ P **P 10 28 55.0 +0.9**
FETA Feichten 80.54 5 *ep*P **P 10 28 55.7 +1.2**
comp=Z,6.6nm,0.9s
KBA Koelnbreinsper 80.58 3 *ep*P **P 10 28 56.5 +1.7**
comp=Z,9.2nm,0.6s,SNR=10.0
ABTA Abfaltersbach 80.89 3 *ep*P **P 10 28 57.2 +0.9**
comp=Z,7.0nm,1.2s
FUORN Ofenpass-Fuorn 80.91 5 P **P 10 28 57.7 +1.0**
FUORN IAmb IAmb 10 28 58.9
comp=Z,17nm,1.3s
SOKA Soboth 81.02 2 *i* pP **P 10 28 58.4 +1.4**
comp=Z,5.6nm,0.7s,SNR=7.2
OBKA Obir 81.18 2 *ep*P **P 10 28 59.2 +1.3**
comp=Z,12nm,0.8s,SNR=6.3
NIL Nilore 81.20 316 P **P 10 28 58.6 +0.5**
NIL IAmb IAmb 10 28 59.8
comp=Z,13nm,0.9s
PRED Cave del Predi 81.22 3 P **P 10 28 58.1 0.0**
PRED IAmb IAmb 10 29 59.4
comp=Z,7.1nm,1.1s
KIV Kislovodsk 81.31 342 *eP* **P 10 28 57.8 -0.8**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,115nm,19.0s
KBZ Khabaz 81.48 342 P **P 10 29 00.1 +0.7**
comp=Z,3.2nm,0.9s,baz=289,slow=7.7,SNR=4.4
KBZ LR LR 11 08 31.3
comp=Z,47nm,18.7s,baz=6.0,slow=38
KBZ Khabaz 81.48 342 *ceP* **P 10 29 02.0 +2.6**
SCHL Schela 81.80 353⇑ P P 10 28 55.8 -5.2
MLR Muntele Rosu 81.94 354⇑ P P 10 29 13.4 +11
BZS Buzias 82.03 357⇑ P **P 10 29 01.5 -0.8**
BZS Buzias 82.03 357⇑ P **P 10 29 01.5 -0.8**
VOIR 82.05 354⇑ P **P 10 29 04.3 +1.8**
VOIR 82.05 354⇑ P **P 10 29 04.3 +1.8**
ARR Arges 82.15 355⇑ P P 10 28 57.6 -5.4
TEOL Teolo 82.24 4 P **P 10 29 03.3 -0.1**
BNI Bardonecchia 82.24 8 P **P 10 29 04.8 +1.3**
BNI IAmb IAmb 10 29 06.4
comp=Z,8.8nm,1.1s
MDVR Moldovita 82.86 357⇑ P **P 10 29 06.8 +0.1**
GEYT Alibeck 83.05 329 P **P 10 29 08.2 +0.4**
comp=Z,131nm,0.4s,baz=28,slow=6.8,SNR=5.8
GEYT LR LR 11 11 19.1
comp=Z,58nm,18.3s,baz=40,slow=40
SGRR Singureni 83.20 354⇑ P **P 10 29 05.6 -2.8**
MANR Mangalia 83.41 352⇑ P **P 10 29 10.2 +0.7**
BATM Batumi 83.77 342⇑ P P 10 28 57.8 -14
PDG Podgorica 85.27 359⇑ P P 10 29 27.9 +9.0
ESDC Sonseca Array 86.20 16 P **P 10 29 23.4 -0.3**
comp=Z,1.2nm,0.8s,baz=343,slow=4.1,SNR=10
ESDC LR LR 11 08 47.0
comp=Z,34nm,20.7s,baz=295,slow=36
ESDC Sonseca Array 86.20 16 P **P 10 29 23.0 -0.8**
BRTR Keskin Array B 86.90 347 LR LR 11 11 18.2
comp=Z,18nm,20.6s,baz=26,slow=38
WRA Warramunga Arr 90.48 237 P **P 10 29 42.1 -2.0**
comp=Z,1.2nm,0.9s,baz=41,slow=5.4,SNR=6.5
ASAR Alice Springs 93.81 235 P **P 10 29 58.0 -1.4**
comp=Z,1.6nm,0.9s,baz=34,slow=3.8,SNR=11
ASAR Alice Springs 93.81 235 P **P 10 29 57.5 -1.9**
H03N2 Juan Fernandez 112.32 116 T T 12 37 11.8
baz=321,slow=77,SNR=5.4
H03N1 Juan Fernandez 112.33 116 T T 12 37 13.0
baz=321,slow=77,SNR=5.6
H03N3 Juan Fernandez 112.34 116 T T 12 37 11.4
baz=321,slow=77,SNR=4.2
QSPA South Pole Qui 142.43 180 PKhKP PKPpre 10 36 07.0
comp=Z,1.1nm,0.8s,baz=313,slow=0.8,SNR=10
QSPA South Pole Qui 142.43 180 PKPdf 10 36 14.4 +0.7
MAW Mawson 153.63 218 PKPbc **PKPbc 10 36 38.0 -1.6**
comp=Z,3.1nm,0.8s,baz=141,slow=2.8,SNR=7.9

*IDC **28** 10:24:58.2±3.3, 38°.59N×144°.19E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/46, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=72.8km s-min=43.6km az=60.0*
*JMA **28** 10:25:01.4±0.2, 38°.57N×143°.93E, h40km, M2.9*
ISC 28 10:25:01.1±1.6, 38°.63N±0°.05×143°.9E±0°.1, h14km, n17,
σ1§12/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.78**	**285**	P	**Pn**	**10 25 31.4**	**0.0**
MIYJ	**Miyakonagasawa**	**1.86**	**301**	P	**Pn**	**10 25 32.5**	**0.0**
JKMT	**Kesennumamotoy**	**1.89**	**276**	P	**Pn**	**10 25 33.0**	**+0.1**
JIKH	**Ishinomakikobu**	**1.92**	**261**	P	**Pn**	**10 25 32.5**	**-0.8**
JMK	**Ichinoseki**	**2.10**	**280**	P	**Pn**	**10 25 36.2**	**+0.4**
JOM	**Ohasama**	**2.18**	**294**	P	**Pn**	**10 25 37.3**	**+0.4**
JOM				*e*S	**Sn**	**10 26 05.2**	**+1.5**
JANG	**Nango**	**2.52**	**314**	P	**Pn**	**10 25 41.8**	**+0.1**
JANG				*e*S	**Sn**	**10 26 12.3**	**0.0**
JYK	**Kaneyama**	**2.76**	**277**	P	**Pn**	**10 25 43.6**	**-1.3**
JFT	**Otama**	**3.00**	**249**	P	**Pn**	**10 25 49.3**	**+1.1**
JFT				S	**Sn**	**10 26 24.2**	**+0.2**
JOT	**Ohata**	**3.50**	**323**	P	**Pn**	**10 25 56.4**	**+1.3**
JOT				*e*S	**Sn**	**10 26 35.7**	**-0.7**
JNBK	**Urakawa-nobuka**	**3.75**	**347**	*e*S	**Sn**	**10 26 40.5**	**-1.9**
JKB	**Kayabe**	**3.92**	**327**	S	**Sn**	**10 26 45.3**	**-1.2**
JAG	**Ashikaga**	**4.14**	**239**	P	**Pn**	**10 26 04.6**	**+0.7**
JAG				*e*S	**Sn**	**10 26 51.3**	**-0.9**
JRY	**Ryogami san**	**4.74**	**238**	P	**Pn**	**10 26 12.7**	**+0.5**
JRY				*e*S	**Sn**	**10 27 06.4**	**-0.6**
MJAR	**Matsushiro Arr**	**4.96**	**247**	Pn	**Pn**	**10 26 16.6**	**+1.4**
MJAR	0.2nm,0.3s,baz=57,slow=12,SNR=10.0			Sn	**Sn**	**10 27 09.6**	**-2.7**
	baz=76,slow=25,SNR=1.1						
MKAR	**Makanchi Array**	**44.94**	**301**	P	**P**	**10 33 16.6**	**+1.1**
	0.2nm,0.7s,baz=75,slow=9.1,SNR=1.9						
WRA	**Warramunga Arr**	**58.94**	**190**	P	**P**	**10 34 59.2**	**-0.7**
	0.5nm,0.8s,baz=13,slow=7.3,SNR=3.5						

*IDC **28** 10:36:10.9±28.0, 8°.22S×13°.27W, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.6/34, mbtmp4.0/3, MS3.2/7, Ms1 3.2/7, ms1mx3.0/28, Error ellipse: s-maj=1426.0km s-min=30.3km az=144.0*
ISC 28 10:36:14.0±1.3, 8°.0S±0°.1×13°.57W±0°.10, h17km, n14,
σ1§08/11, mb4.1/3, MS3.2/6, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**0.91**	**279**	Pn	**Pn**	**10 36 31.2**	**-0.6**
	baz=107,slow=16,SNR=2439						
H10N1				Sn	**Sn**	**10 36 45.4**	**+0.9**
H10N1				T	T	10 37 32.8	
	baz=97						
H10N2	**ASCENSION HYDR**	**0.93**	**280**	Pn	**Pn**	**10 36 30.6**	**-1.3**
	baz=107,slow=16,SNR=5066						
H10N2				Sn	**Sn**	**10 36 44.7**	**0.0**
H10N2				T	T	10 37 33.9	
	baz=97						
H10N3	**ASCENSION HYDR**	**0.94**	**279**	Pn	**Pn**	**10 36 30.9**	**-1.2**
	baz=107,slow=16,SNR=1836						
H10N3				Sn	**Sn**	**10 36 44.9**	**-0.1**
H10N3				T	T	10 37 33.1	
	baz=97						
H10S2	**ASCENSION HYDR**	**1.43**	**228**	Pn	**Pn**	**10 36 38.3**	**-0.7**
	baz=205						
H10S2				T	T	10 38 14.6	
	baz=55,slow=74						
H10S3	**ASCENSION HYDR**	**1.44**	**229**	Pn	**Pn**	**10 36 37.7**	**-1.4**
	baz=15						
H10S3				T	T	10 38 14.3	
	baz=165,slow=74						
DBIC	**Dimbokro**	**16.96**	**31**	LR	LR	10 45 05.1	
	comp=Z,72nm,20.9s,baz=169,slow=31						
TORD	**Torodi Ar. Bea**	**25.90**	**36**	P	**P**	**10 41 44.9**	**-0.5**
	4.9nm,0.9s,baz=216,slow=9.3,SNR=15						
TORD				LR	LR	10 50 36.7	
	comp=Z,63nm,19.7s,baz=175,slow=33						
TSUM	**Tsumeb**	**32.20**	**113**	LR	LR	10 52 41.0	
	comp=Z,49nm,21.4s,baz=320,slow=31						
BDFB	**Brasilia**	**34.52**	**254**	P	**P**	**10 43 03.4**	**+1.5**
	1.4nm,0.5s,baz=85,slow=11,SNR=3.4						
LBTB	**Lobatse**	**40.99**	**119**	LR	LR	11 00 35.9	
	comp=Z,34nm,18.2s,baz=168,slow=36						
LSZ	**Lusaka**	**41.48**	**104**	LR	LR	10 58 03.7	
	comp=Z,49nm,19.1s,baz=338,slow=32						
MATP	**Matopo**	**42.48**	**111**	LR	LR	10 59 11.1	
	comp=Z,41nm,21.6s,baz=314,slow=33						
AKASG	**Malin Array Be**	**69.17**	**28**	P	**P**	**10 47 19.7**	**+0.2**
	0.2nm,0.3s,baz=223,slow=6.2,SNR=1.6						
NOA	**NORSAR Array B**	**71.52**	**12**	LR	LR	11 18 00.2	
	comp=Z,5.9nm,18.1s,baz=335,slow=35						

*IDC **28** 10:37:53.7±2.7, 6°.53S×130°.36E, h86km±31km, mb3.6/3, mb1 3.9/7, mb1mx3.5/36, mbtmp4.1/7, Error ellipse: s-maj=46.6km s-min=18.4km az=78.0*
*NEIC **28** 10:37:56.8±2.8, 6°.33S±0°.06×131°.0E±0°.2, h133km±7km, mb4.0/8, Error ellipse: s-maj=21.6km s-min=9.0km az=88.0*
ISC 28 10:37:54.3±0.6, 6°.38S±0°.05×130°.5E±0°.1, h100km, n29,
σ2§21/33, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.78**	**153**	Pn	**Pn**	**10 38 27.8**	**+3.6**
SAUI				Sn	**Sn**	**10 38 48.1**	**+1.3**
FAKI	**Fak Fak**	**3.85**	**27**	Pn	**Pn**	**10 38 52.5**	**+0.9**
FAKI				Sn	**Sn**	**10 39 35.0**	**-0.9**
SIJI	**Sorong**	**5.52**	**8**	P	**Pn**	**10 39 15.2**	**+1.0**
	9.3nm,0.3s,baz=193,slow=19,SNR=64						
SIJI				S	**Sn**	**10 40 12.9**	**-3.6**
	24nm,0.3s,baz=251,slow=23,SNR=18						
MTN	**Manton Dam**	**6.46**	**174**	Pn	**Pn**	**10 39 29.1**	**+2.2**
SOEI	**Soe**	**7.02**	**241**	Pn	Pn	10 39 41.2	+6.5
KNRA	**Kununurra**	**9.40**	**190**	Pn	**Pn**	**10 40 07.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.58**	**202**	P	**Pn**	**10 40 48.5**	**-1.2**
	0.6nm,0.3s,baz=359,slow=11,SNR=25						
FITZ				S	**Sn**	**10 43 01.1**	**-7.0**
	1.9nm,0.3s,baz=360,slow=23,SNR=14						
FITZ	**Fitzroy Crossi**	**12.58**	**202**	Pn	**Pn**	**10 40 49.0**	**-0.7**
WB0	**Warramunga Arr**	**13.84**	**164**	Pn	**Pn**	**10 41 03.3**	**-3.0**
WRAB	**Tennant Creek**	**13.99**	**165**	Pn	**Pn**	**10 41 05.5**	**-2.6**
WRA	**Warramunga Arr**	**13.99**	**165**	P	**Pn**	**10 41 05.1**	**-3.1**
	0.4nm,0.3s,baz=339,slow=13,SNR=26						
WRA				S	Sn	10 43 31.2	-11
	1.9nm,0.3s,baz=343,slow=25,SNR=11						
WB2	**Warramunga Arr**	**14.00**	**165**	Pn	**Pn**	**10 41 05.0**	**-3.2**
WR0	**Warramunga Arr**	**14.06**	**164**	Pn	**Pn**	**10 41 06.5**	**-2.7**
COEN	**Coen**	**14.57**	**122**		**Pn**	**10 41 14.6**	**-1.1**
AS31	**Alice Springs**	**17.50**	**170**	P	**P**	**10 41 51.7**	**-0.1**
AS31				IAmb	IAmb	10 41 54.2	
	comp=Z,2.9nm,0.5s						
ASAR	**Alice Springs**	**17.50**	**170**	P	**P**	**10 41 51.2**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=353,slow=10,SNR=102						
ASAR				S	Sn	10 44 53.1	-14
	comp=Z,0.2nm,0.3s,baz=352,slow=27,SNR=5.9						
ASAR	**Alice Springs**	**17.50**	**170**	P	**Pn**	**10 41 52.4**	**+0.2**
PSA00	**Pilbara Seismi**	**18.29**	**213**	P	**Pn**	**10 42 02.6**	**+1.0**
STKA	**Stephens Creek**	**27.41**	**159**	P	**P**	**10 43 29.9**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=343,slow=14,SNR=1.5						
STKA	**Stephens Creek**	**27.41**	**159**	P	**P**	**10 43 29.8**	**-0.8**
ARMA	**Armidale**	**31.09**	**143**	P	P	10 43 57.2	-6.1
CMAR	**Chiang Mai Arr**	**39.72**	**309**	P	**P**	**10 45 18.6**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=137,slow=8.5,SNR=4.3						
TARG	**Taragay, Kyrgy**	**67.81**	**320**	P	**P**	**10 48 43.3**	**+1.1**
TARG				IAmb	IAmb	10 48 45.5	
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**67.98**	**326**	P	**P**	**10 48 43.8**	**+1.1**
MK31				PcP	**pP**	**10 49 07.1**	**+0.2**
MKAR	**Makanchi Array**	**67.98**	**326**	P	**P**	**10 48 43.8**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=125,slow=7.6,SNR=18						
MKAR	**Makanchi Array**	**67.98**	**326**	P	**P**	**10 48 43.6**	**+0.9**
MKAR				PcP	**pP**	**10 49 07.0**	**+0.1**
MAKZ	**Makanchi**	**68.16**	**326**	P	**P**	**10 48 45.0**	**+1.2**
MAKZ				IAmb	IAmb	10 48 45.4	
	comp=Z,1.6nm,0.9s						
ABKAR	**Akbulak array**	**82.33**	**321**	P	**P**	**10 50 07.4**	**+2.4**
QSPA	**South Pole Qui**	**83.60**	**180**	P	**P**	**10 50 11.5**	**+0.1**
QSPA				IAmb	IAmb	10 50 18.5	
	comp=Z,5.0nm,1.4s						

*DJA **28** 11:07:26.8±0.6, 4°.S±4°×12°.9E±°, h13km±4km, M4.2/8, mb4.7/4, MLv4.0/8*
*IDC **28** 11:07:30.7±1.7, 3°.60S×129°.32E, h59km±16km, mb3.7/8, mb1 3.9/11, mb1mx3.7/37, mbtmp4.1/11, MS2.9/3, Ms1 2.9/3, ms1mx2.6/31, Error ellipse: s-maj=17.1km s-min=11.0km az=91.0*
*NEIC **28** 11:07:31.4±2.6, 3°.64S±0°.06×129°.28E±0°.09, h66km±8km, mb4.1/17, Error ellipse: s-maj=12.5km s-min=9.0km az=91.0*
ISC 28 11:07:28.6±0.5, 3°.63S±0°.05×129°.19E±0°.06, h37km, n49,
σ1§96/51, mb4.1/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.38**	**318**	P	**Pn**	**11 07 33.9**	**-3.5**
AAI	**Ambon**	**0.99**	**267**	P	**Pn**	**11 07 43.7**	**-2.3**
NLAI	**Namlea**	**2.12**	**281**	P	**Pn**	**11 08 00.8**	**-0.7**
FAKI	**Fak Fak**	**3.14**	**77**	P	**Pn**	**11 08 17.8**	**+2.2**
FAKI	**Fak Fak**	**3.14**	**77**		**Pn**	**11 08 18.1**	**+2.5**
SIJI	**Sorong**	**3.44**	**37**	P	**Pn**	**11 08 20.5**	**+0.8**
	10nm,0.3s,baz=270,slow=20,SNR=76						
SIJI				S	**Sn**	**11 08 59.5**	**+0.1**
	11nm,0.3s,baz=211,slow=19,SNR=6.4						
SIJI				LR	LR	11 10 04.9	
	comp=Z,153nm,19.5s,baz=74,slow=46						
SANI	**Sanana**	**3.56**	**296**	P	**Pn**	**11 08 20.1**	**-1.2**
SAUI	**Saumlaki**	**4.81**	**154**	Pn	**Pn**	**11 08 42.9**	**+4.4**
BATI	**Baumata**	**8.53**	**220**	P	**Pn**	**11 09 33.1**	**+3.5**
	6.0nm,0.3s,baz=27,slow=1.5,SNR=4.2						
MTN	**Manton Dam**	**9.35**	**168**	Pn	**Pn**	**11 09 42.9**	**+1.9**
KAPI	**Kappang**	**9.51**	**261**	P	**Pn**	**11 09 46.4**	**+3.3**
	3.4nm,0.3s,baz=117,slow=6.1,SNR=9.1						
KAPI				LR	LR	11 14 31.0	
	comp=Z,36nm,20.7s,baz=101,slow=44						
KAPI	**Kappang**	**9.51**	**261**	Pn	**Pn**	**11 09 45.9**	**+2.9**
KNRA	**Kununurra**	**11.98**	**182**	Pn	**Pn**	**11 10 16.9**	**0.0**
MYLDM	**Lahad Datu**	**13.80**	**309**	Pn	**Pn**	**11 10 45.2**	**+3.3**
FITZ	**Fitzroy Crossi**	**14.79**	**193**	P	**Pn**	**11 10 53.9**	**-1.4**
	0.1nm,0.3s,baz=0.8,slow=13,SNR=2.1						
FITZ	**Fitzroy Crossi**	**14.79**	**193**	Pn	**Pn**	**11 10 53.7**	**-1.5**
WB0	**Warramunga Arr**	**16.82**	**163**	P	**Pn**	**11 11 18.8**	**-2.7**
WRAB	**Tennant Creek**	**16.97**	**163**	P	**Pn**	**11 11 21.2**	**-2.1**
WRAB				IAmb	IAmb	11 11 34.2	
	comp=Z,23nm,1.5s						
WRA	**Warramunga Arr**	**16.97**	**163**	P	**Pn**	**11 11 19.7**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=347,slow=13,SNR=24						
WRA				S	**Sn**	**11 14 26.2**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=335,slow=21,SNR=3.0						
WB2	**Warramunga Arr**	**16.98**	**163**	P	**Pn**	**11 11 22.0**	**-1.4**
WR0	**Warramunga Arr**	**17.05**	**163**	P	**Pn**	**11 11 23.0**	**-1.3**
WR0				IAmb	IAmb	11 11 40.5	
	comp=Z,16nm,1.4s						
COEN	**Coen**	**17.20**	**127**	P	**Pn**	**11 11 25.2**	**-1.0**
COEN				IAmb	IAmb	11 11 38.3	
	comp=Z,24nm,1.4s						
STKI	**Sintang**	**18.07**	**281**	P	P	11 11 44.4	+7.3
PMG	**Port Moresby**	**18.75**	**109**	LR	LR	11 20 40.0	
	comp=Z,71nm,19.2s,baz=232,slow=42						
PSA00	**Pilbara Seismi**	**20.01**	**206**	P	**P**	**11 11 58.6**	**+0.3**
PSA00				IAmb	IAmb	11 12 01.0	
	comp=Z,8.3nm,0.8s						
AS31	**Alice Springs**	**20.43**	**168**	P	**P**	**11 12 04.0**	**+1.1**
ASAR	**Alice Springs**	**20.43**	**168**	P	**P**	**11 12 03.9**	**+0.9**
	comp=Z,8.3nm,0.6s,baz=346,slow=11,SNR=114						
ASAR				S	**S**	**11 15 48.7**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=353,slow=21,SNR=4.6						
ASAR				ScP	**ScP**	**11 19 45.2**	**-3.1**
	comp=Z,0.3nm,0.8s,baz=349,slow=2.0,SNR=2.5						
CTA	**Charters Tower**	**23.33**	**136**	P	**P**	**11 12 34.1**	**+0.3**
	comp=Z,5.6nm,0.9s,baz=295,slow=12,SNR=4.5						
CTAO	**Charters Tower**	**23.33**	**136**	P	**P**	**11 12 35.0**	**+1.3**
CTAO				IAmb	IAmb	11 12 42.4	
	comp=Z,9.8nm,1.1s						
IPM	**Ipoh**	**29.27**	**286**	P	**P**	**11 13 28.8**	**

comp=Z,0.4nm,0.4s,baz=142,slow=7.3,SNR=2.0
KURK Kurchatov 69.24 328 P P 11 18 31.6 -0.1
ABKAR Akbulak array 79.39 321 P P 11 19 30.8 0.0
QSPA South Pole Qui 86.32 180 P P 11 20 06.1 -0.6
comp=Z,1.0nm,1.0s,baz=148,slow=1.0,SNR=5.7
QSPA South Pole Qui 86.32 180 P P 11 20 06.3 -0.4
QSPA IAmb IAmb 11 20 08.6
comp=Z,3.5nm,1.4s
TORD Torodi Ar. Bea 127.30 284 PKP PKPdf 11 26 30.6 +0.2
comp=Z,0.8nm,1.0s,baz=117,slow=3.1,SNR=2.1
TORD Torodi Ar. Bea 127.30 284 PKiKP 11 26 30.9 0.0

*IDC **28** 11:12:23.1±2.1, 32.°38S×178.°35W, h0km, mb4.2/3, mb1 4.3/5, mb1mx3.9/28, mbtmp4.2/5, ML4.1/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/32, Error ellipse: s-maj=53.9km s-min=28.8km az=128.0*
*NEIC **28** 11:12:26.9±2.1, 32.°4S±0.°1×178.°0W±0.°2, h48km±12km, mb4.5/8, Error ellipse: s-maj=27.5km s-min=11.8km az=116.0*
ISC 28 11:12:26.7±1.6, **32.°5S**±0.°1×**178.°1W**±0.°3, **h35**km, **n30,** σ1§**36**/24, **mb4.4/6, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.19**	**3**	Pn	**Pn**	**11 13 15.5**	**+1.1**
	35nm,0.3s,baz=264,slow=20,SNR=1.5						
RAO				Sn	**Sn**	**11 13 50.7**	**-0.5**
	89nm,0.3s,baz=107,slow=19,SNR=2.6						
RAO				LR	LR	11 14 23.2	
	comp=Z,148nm,20.8s,baz=106,slow=38						
RAO	**Raoul Island**	**3.19**	**3**		**Pn**	**11 13 15.2**	**+0.8**
URZ	**Urewera**	**6.99**	**213**	Pn	**Pn**	**11 14 07.3**	**+0.9**
	1.8nm,0.3s,baz=303,slow=2.3,SNR=16						
URZ				Sn	**Sn**	**11 15 23.9**	**-0.8**
	4.5nm,0.3s,baz=116,slow=20,SNR=9.4						
URZ	**Urewera**	**6.99**	**213**	Pn	**Pn**	**11 14 08.2**	**+1.7**
OUZ	**Omahuta**	**7.43**	**246**	Pn	Pn	11 14 16.8	+4.2
HIZ	**Hauiti**	**8.33**	**222**	Pn	Pn	11 14 30.2	+5.2
BFZ	**Birch Farm**	**9.38**	**207**	Pn	**Pn**	**11 14 39.6**	**+0.2**
BHW	**Baring Head**	**10.55**	**210**	Pn	**Pn**	**11 14 58.9**	**+3.5**
KHZ	**Kahutara**	**11.95**	**211**	Pn	Pn	**11 15 12.0**	**-2.5**
CTA	**Charters Tower**	**34.09**	**282**	P	**P**	**11 19 08.8**	**+0.8**
	1.2nm,0.5s,baz=116,slow=11,SNR=1.6						
CTAO	**Charters Tower**	**34.09**	**282**	P	**P**	**11 19 09.7**	**+1.7**
CTAO				IAmb	IAmb	11 19 11.7	
	comp=Z,9.5nm,1.3s						
AS31	**Alice Springs**	**42.94**	**269**	P	**P**	**11 20 22.2**	**-0.2**
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**11 20 21.9**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=107,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**11 20 21.6**	**-0.8**
WR0	**Warramunga Arr**	**43.94**	**274**	P	**P**	**11 20 29.9**	**-0.6**
WB2	**Warramunga Arr**	**44.11**	**274**	P	**P**	**11 20 31.3**	**-0.5**
WB2				IAmb	IAmb	11 20 32.2	
	comp=Z,9.3nm,1.1s						
WRAB	**Tennant Creek**	**44.11**	**274**	P	**P**	**11 20 31.2**	**-0.7**
WRAB				IAmb	IAmb	11 20 32.3	
	comp=Z,8.8nm,1.2s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**11 20 31.3**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=115,slow=7.8,SNR=77						
WB0	**Warramunga Arr**	**44.15**	**275**	P	**P**	**11 20 31.2**	**-1.0**
WB0				IAmb	IAmb	11 20 32.5	
	comp=Z,9.6nm,1.1s						
MTN	**Manton Dam**	**50.24**	**281**	P	**P**	**11 21 19.2**	**-0.4**
H03S2	**Juan Fernandez**	**79.42**	**123**	T	T	12 52 59.2	
	baz=236,slow=74,SNR=34						
H03S1	**Juan Fernandez**	**79.43**	**123**	T	T	12 53 00.3	
	baz=236,slow=74,SNR=32						
H03S3	**Juan Fernandez**	**79.44**	**123**	T	T	12 53 00.4	
	baz=236,slow=74,SNR=32						
H03N3	**Juan Fernandez**	**79.62**	**123**	T	T	12 53 16.0	
	baz=240,slow=72,SNR=29						
H03N2	**Juan Fernandez**	**79.62**	**123**	T	T	12 53 13.9	
	baz=240,slow=72,SNR=20						
H03N1	**Juan Fernandez**	**79.64**	**123**	T	T	12 53 14.2	
	baz=240,slow=72,SNR=53						
MAJO	**Matsushiro**	**79.87**	**326**	P	**P**	**11 24 30.6**	**-1.0**
FINES	**FINESS Array B**	**147.02**	**339**	PKPbc	**PKPab**	**11 32 04.9**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=46,slow=4.2,SNR=14						
FINES	**FINESS Array B**	**147.02**	**339**	PKPbc	**PKiKP**	**11 32 06.3**	**-1.0**
NOA	**NORSAR Array B**	**150.75**	**351**	PKPbc	**PKiKP**	**11 32 16.5**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=14,slow=4.1,SNR=2.3						

*IDC **28** 11:23:02.1±0.8, 55.°42S×29.°15W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/30, mbtmp4.0/7, ML4.6/1, Error ellipse: s-maj=35.9km s-min=19.0km az=66.0*
*NEIC **28** 11:23:04.2±1.8, 55.°5S±0.°1×29.°2W±0.°2, h10km±1km, mb4.5/11, Error ellipse: s-maj=26.2km s-min=18.4km az=211.0*
ISC 28 11:23:05.8±0.7, **55.°6S**±0.°1×**29.°2W**±0.°1, **h24**km, **n29,** σ1§**58**/28, **mb4.3/8, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.39**	**284**	Pn	**Pn**	**11 24 09.2**	**-1.6**
VNA1	**Neumayer--Stat**	**17.70**	**157**	P	**Pn**	**11 27 05.9**	**-4.2**
VNA3	**Neumayer Olymp**	**17.85**	**159**	P	**Pn**	**11 27 07.9**	**-4.2**
SNAA	**Sanae**	**19.67**	**155**	P	**P**	**11 27 32.4**	**-0.2**
SNAA	**Sanae**	**19.67**	**155**	P	**P**	**11 27 32.4**	**-0.2**
	1.9nm,0.3s,baz=316,slow=12,SNR=80						
SNAA	**Sanae**	**19.67**	**155**	P	**P**	**11 27 32.5**	**-0.1**
BELA	**Belgrano 2**	**22.51**	**183**	P	**P**	**11 28 05.7**	**+2.6**
QSPA	**South Pole Qui**	**34.70**	**180**	P	**P**	**11 29 55.0**	**+1.6**
	2.6nm,0.6s,baz=184,slow=7.6,SNR=40						
QSPA	**South Pole Qui**	**34.70**	**180**	P	**P**	**11 29 54.9**	**+1.6**
QSPA				IAmb	IAmb	11 29 56.9	
	comp=Z,3.9nm,0.8s						
GO02	**Mina Guanaco**	**42.25**	**299**	P	**P**	**11 30 57.9**	**+0.6**
GO02				IAmb	IAmb	11 31 06.1	
	comp=Z,8.8nm,1.1s						
LVC	**Limon Verde**	**44.07**	**302**	P	**P**	**11 31 11.1**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=163,slow=11,SNR=2.2						
LVC	**Limon Verde**	**44.07**	**302**	P	**P**	**11 31 11.8**	**-0.3**
LVC				IAmb	IAmb	11 31 30.7	
	comp=Z,11nm,1.3s						
PB01	**IPOC Station P**	**45.68**	**302**	P	**P**	**11 31 24.9**	**+0.3**
PB01				IAmb	IAmb	11 31 33.1	
	comp=Z,4.9nm,0.8s						
SIV	**San Ignacio**	**46.41**	**315**	P	**P**	**11 31 29.3**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=143,slow=10,SNR=3.5						
GO01	**Chusmiza**	**46.72**	**304**	P	**P**	**11 31 34.3**	**+1.1**
VNDA	**Vanda**	**47.02**	**183**	P	**P**	**11 31 35.6**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=189,slow=8.2,SNR=18						
VNDA	**Vanda**	**47.02**	**183**	P	**P**	**11 31 36.0**	**+1.7**
VNDA				IAmb	IAmb	11 31 36.8	
	comp=Z,3.3nm,0.9s						
MNMC	**Minye Minye**	**47.37**	**304**	P	**P**	**11 31 38.8**	**+0.7**
H10N1	**ASCENSION HYDR**	**48.99**	**19**	T	T	12 24 52.7	
	baz=190						
H10N3	**ASCENSION HYDR**	**48.99**	**19**	T	T	12 24 53.3	
	baz=190,slow=74,SNR=4.9						
H10N2	**ASCENSION HYDR**	**49.01**	**19**	T	T	12 24 52.2	
	baz=190,slow=74,SNR=4.8						
LPAZ	**La Paz**	**49.16**	**307**	P	**P**	**11 31 52.3**	**0.0**
	comp=Z,1.4nm,0.7s,baz=167,slow=5.9,SNR=6.6						
LPAZ	**La Paz**	**49.16**	**307**	P	**P**	**11 31 52.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.20**	**32**	P	**P**	**11 34 34.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=198,slow=7.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**73.20**	**32**	P	**P**	**11 34 36.0**	**+1.6**
ILAR	**Eielson Array**	**148.94**	**313**	PKPbc	**PKPbc**	**11 42 49.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=125,slow=1.7,SNR=14						
ILAR	**Eielson Array**	**148.94**	**313**	PKPbc	**PKPbc**	**11 42 49.9**	**-0.1**
SONM	**Songino Array**	**151.83**	**87**	PKPbc	**PKPbc**	**11 42 56.6**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=5.7,slow=2.9,SNR=2.3						
SONM				PKPab	**PKPab**	**11 43 07.1**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=270,slow=4.3,SNR=4.1						
SONM	**Songino Array**	**151.83**	**87**	PKPbc	**PKiKP**	**11 42 57.9**	**0.0**
SONM					**PKPab**	**11 43 06.8**	**0.0**

*IDC **28** 11:25:21.2±0.9, 55.°44S×29.°55W, h0km, mb4.3/6, mb1 4.3/7, mb1mx4.0/30, mbtmp4.2/7, ML3.4/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/17, Error ellipse: s-maj=40.0km s-min=18.5km az=66.0*
*NEIC **28** 11:25:26.0±1.6, 55.°5S±0.°1×29.°8W±0.°2, h29km±3km, mb4.7/22, Error ellipse: s-maj=20.9km s-min=13.8km az=208.0*
ISC 28 11:25:25.7±0.7, **55.°5S**±0.°1×**29.°8W**±0.°1, **h28**km, **n41,** σ0§**85**/34, **mb4.6**/14, **MS3.6**/4, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.08**	**285**	Pn	**Pn**	**11 26 26.7**	**+0.5**
EFI	**East Falkland**	**17.18**	**271**	P	**Pn**	**11 29 23.9**	**+0.5**
PMSA	**Palmer Station**	**19.18**	**227**	LR	LR	11 36 51.4	
	comp=Z,69nm,18.1s,baz=76,slow=36						
PMSA	**Palmer Station**	**19.18**	**227**	P	**P**	**11 29 45.4**	**-1.2**
SNAA	**Sanae**	**19.83**	**155**	P	**P**	**11 29 52.9**	**-0.9**
	0.1nm,0.3s,baz=301,slow=9.4,SNR=4.1						
SNAA	**Sanae**	**19.83**	**155**	P	**P**	**11 29 53.7**	**-0.1**
GO09	**Cerro Castillo**	**25.44**	**262**	P	**P**	**11 30 48.9**	**-1.9**
GO09				IAmb	IAmb	11 31 03.5	
	comp=Z,19nm,1.2s						
PLCA	**Paso Flores**	**30.48**	**282**	LR	LR	11 43 58.1	
	comp=Z,94nm,19.4s,baz=160,slow=36						
QSPA	**South Pole Qui**	**34.73**	**180**	P	**P**	**11 32 13.3**	**+0.3**
	comp=Z,14nm,1.1s,baz=244,slow=0.6,SNR=21						
QSPA	**South Pole Qui**	**34.73**	**180**	P	**P**	**11 32 12.7**	**-0.4**
CO01	**Juntas del Tor**	**38.28**	**295**	P	**P**	**11 32 44.4**	**+0.7**
AC05	**El Transito**	**39.29**	**296**	P	**P**	**11 32 51.8**	**-0.3**
AC05				IAmb	IAmb	11 32 53.1	
	comp=Z,16nm,1.3s						
MAW	**Mawson**	**41.43**	**145**	LR	LR	11 47 19.6	
	comp=Z,115nm,20.8s,baz=257,slow=32						
GO02	**Mina Guanaco**	**41.97**	**300**	P	**P**	**11 33 14.3**	**-0.1**
GO02				IAmb	IAmb	11 33 15.1	
	comp=Z,13nm,0.8s						
LVC	**Limon Verde**	**43.79**	**303**	P	**P**	**11 33 29.4**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=54,slow=19,SNR=6.0						
LVC	**Limon Verde**	**43.79**	**303**	P	**P**	**11 33 30.1**	**+0.9**
LVC				IAmb	IAmb	11 33 31.8	
	comp=Z,11nm,1.2s						
PB09	**IPOC Station P**	**44.64**	**303**	P	**P**	**11 33 37.4**	**+1.6**
PB09				IAmb	IAmb	11 33 37.5	
	comp=Z,12nm,1.0s						
PB01	**IPOC Station P**	**45.40**	**303**	P	**P**	**11 33 42.2**	**+0.4**
SIV	**San Ignacio**	**46.17**	**316**	P	**P**	**11 33 47.1**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=146,slow=7.7,SNR=8.3						
GO01	**Chusmiza**	**46.44**	**304**	P	**P**	**11 33 51.4**	**+1.0**
PB11	**IPOC Station P**	**46.58**	**304**	P	**P**	**11 33 51.2**	**+0.1**
PB11				IAmb	IAmb	11 33 52.7	
	comp=Z,10nm,0.9s						
PSGCX	**Pisagua**	**46.94**	**303**	P	**P**	**11 33 53.9**	**-0.1**
VNDA	**Vanda**	**47.03**	**183**	P	**P**	**11 33 54.0**	**+0.2**
	comp=Z,4.5nm,1.0s,baz=187,slow=7.1,SNR=14						
VNDA	**Vanda**	**47.03**	**183**	P	**P**	**11 33 54.0**	**+0.2**
VNDA				IAmb	IAmb	11 34 02.1	
	comp=Z,7.9nm,0.9s						
MNMC	**Minye Minye**	**47.10**	**304**	P	**P**	**11 33 56.1**	**+0.8**
BOSA	**Boshof**	**47.26**	**79**	LR	LR	11 50 46.5	
	comp=Z,120nm,18.1s,slow=32						
PB16	**IPOC Station P**	**47.74**	**305**	P	**P**	**11 34 01.3**	**+0.6**
PB16				IAmb	IAmb	11 34 01.9	
	comp=Z,8.0nm,1.4s						
LPAZ	**La Paz**	**48.90**	**308**	P	**P**	**11 34 10.2**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=142,slow=4.0,SNR=17						
LPAZ				LR	LR	11 54 16.4	
	comp=Z,22nm,21.9s,baz=156,slow=36						
LPAZ	**La Paz**	**48.90**	**308**	P	**P**	**11 34 10.4**	**+0.7**
LPAZ				IAmb	IAmb	11 34 11.2	
	comp=Z,7.0nm,1.0s						
H10N1	**ASCENSION HYDR**	**49.07**	**20**	T	T	12 27 12.4	
	baz=191,slow=75,SNR=5.7						
H10N3	**ASCENSION HYDR**	**49.07**	**20**	T	T	12 27 13.5	
	baz=191,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**49.09**	**20**	T	T	12 27 13.0	
	baz=191,slow=75,SNR=12						
SAML	**Samuel**	**53.41**	**317**	P	**P**	**11 34 42.6**	**-0.3**
CASY	**Casey**	**54.88**	**162**	P	**P**	**11 34 54.7**	**+1.8**
CASY				IAmb	IAmb	11 34 56.6	
	comp=Z,6.9nm,0.8s						
OTAV	**Otavalo**	**68.16**	**306**	P	**P**	**11 36 24.8**	**+1.0**
OTAV				IAmb	IAmb	11 36 26.2	
	comp=Z,11nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.34**	**32**	P	**P**	**11 36 53.5**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=203,slow=6.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**73.34**	**32**	P	**P**	**11 36 54.0**	**-0.6**
ILAR	**Eielson Array**	**148.69**	**313**	PKPbc	**PKPbc**	**11 45 07.3**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=104,slow=1.0,SNR=9.7						
ILAR	**Eielson Array**	**148.69**	**313**		**PKPbc**	**11 45 07.9**	**-0.8**
SONM	**Songino Array**	**152.14**	**87**	PKPbc	**PKiKP**	**11 45 18.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=264,slow=2.8,SNR=2.2						
SONM	**Songino Array**	**152.14**	**87**	PKPbc	**PKiKP**	**11 45 17.8**	**-0.1**

*UPA **28** 11:30:25.9±1.9, 8.°25N×77.°52W, h10km±8km, MW4.2*
*RSNC **28** 11:30:26.4±1.3, 8.°21N×77.°59W, h11km±12km, ML3.2, Mw3.6*
*IDC **28** 11:30:31.2±2.5, 8.°36N×77.°38W, h59km±23km, mb3.3/2, mb1 3.6/6, mb1mx3.3/28, mbtmp3.8/6, ML2.8/4, Error ellipse: s-maj=26.1km s-min=19.5km az=22.0*
ISC 28 11:30:25.4±1.4, **8.°24N**±0.°03×**77.°57W**±0.°02, **h11**km±10km, **n45,** σ1§**45**/63, **3C-2D, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.45**	**28**	↓iP	**Pb**	**11 30 35.1**	**-0.2**
CAPC				eS	**Sb**	**11 30 41.9**	**-0.2**
CAP2	**Capurgana**	**0.46**	**26**	↓iP	**Pb**	**11 30 35.2**	**-0.4**
CAP2				eS	**Sg**	**11 30 41.0**	**+0.5**
UPD2	**Meteti**	**0.54**	**305**	iP	**Pb**	**11 30 37.3**	**+0.3**
UPD2				eS	**Sb**	**11 30 46.0**	**+1.2**
PTAC	**Punta Ardita,**	**1.11**	**193**	eP	**Pb**	**11 30 44.5**	**-2.1**
PTAC				eS	**Sb**	**11 30 59.8**	**-1.3**
LCBC	**Los crdobas,**	**1.33**	**62**	eP	**Pg**	**11 30 51.2**	**+0.1**
LCBC				i		11 31 15.8	
	comp=Z,382nm,0.3s						
CHPO	**Chepo, Panama**	**1.79**	**301**	eP	**Pn**	**11 30 56.9**	**+0.6**
CHPO				eS	**Sn**	**11 31 19.5**	**+0.5**
DBBC	**Dabeiba**	**1.81**	**132**	eP	**Pn**	**11 30 57.2**	**+0.5**
DBBC				eS	**Sn**	**11 31 19.7**	**+0.1**
MOTC	**Monteria, Cord**	**1.96**	**74**	↑eP	**Pn**	**11 30 58.9**	**+0.3**
MOTC				eS	**Sn**	**11 31 23.0**	**-0.1**
FLAM	**Flamenco Islan**	**2.06**	**289**	eP	**Pn**	**11 30 59.8**	**-0.2**
FLAM				eS	**Sn**	**11 31 26.7**	**+0.9**
UREC	**San Jos de Ur**	**2.07**	**103**	eP	**Pn**	**11 31 00.6**	**+0.4**
UREC				eS	**Sn**	**11 31 25.7**	**-0.3**
UREC				i		11 31 29.7	
	comp=Z,114nm,0.3s						
UPA	**Univ. de Panam**	**2.08**	**291**	eP	**Pn**	**11 31 01.6**	**+1.3**
UPA				eS	**Sn**	**11 31 27.4**	**+1.2**
CHOR3	**La Chorrera**	**2.27**	**287**	eP	**Pn**	**11 31 02.8**	**-0.1**
CHOR3				eS	**Sn**	**11 31 31.2**	**+0.2**
FRIJ	**El Hiral**	**2.35**	**295**	eP	**Pn**	**11 31 04.2**	**+0.2**
ZANG	**Zanguenga, Cho**	**2.39**	**288**	eP	**Pn**	**11 31 05.0**	**+0.5**
ZANG				eS	**Sb**	**11 31 38.2**	**+0.3**
BCIP	**Isla Barro Col**	**2.43**	**293**	eP	**Pn**	**11 31 05.2**	**+0.1**
BCIP	**Isla Barro Col**	**2.43**	**293**	eP	**Pn**	**11 31 05.7**	**+0.6**
BCIP				eS	**Sn**	**11 31 35.6**	**+0.8**
VTON	**El Valle, Cocl**	**2.55**	**279**	eP	**Pb**	**11 31 09.6**	**-1.6**
VTON				eS	**Sn**	**11 31 39.0**	**+1.1**
AZU	**Azuero**	**2.72**	**261**	eP	**Pn**	**11 31 10.0**	**+1.0**
AZU				eS	**Sn**	**11 31 41.1**	**-0.8**
ZARC	**Zaragoza, Cauc**	**2.78**	**105**	↑eP	**Pn**	**11 31 10.6**	**+0.7**
ZARC				i		11 31 46.9	
	comp=Z,107nm,0.6s						
CBOC	**Ciudad Bolivar**	**2.82**	**147**	eP	**Pn**	**11 31 10.6**	**0.0**
CHIT3	**Chitre**	**2.84**	**265**	eP	**Pb**	**11 31 14.5**	**-1.7**
SJCC	**San Jacinto, C**	**2.88**	**55**	eP	**Pn**	**11 31 11.7**	**+0.4**
SJCC				eS	**Sn**	**11 31 46.6**	**+0.7**
SMLC	**San Martn de**	**3.50**	**81**	eP	**Pn**	**11 31 20.1**	**+0.2**
PTBC	**PUERTO BERRIO,**	**3.51**	**118**	↑eP	**Pn**	**11 31 20.9**	**+0.9**
PTBC				eS	**Sn**	**11 32 01.7**	**0.0**
PTBC				i		11 32 04.0	
	comp=Z,39nm,0.4s						
GUY2C	**Guyana, Caldas**	**3.71**	**144**	eP	**Pn**	**11 31 24.8**	**+1.7**
BRRC	**Barranca, Sant**	**3.98**	**106**	eP	**Pn**	**11 31 27.5**	**+1.1**
TOLC	**Tolima**	**4.26**	**148**	eP	**Pn**	**11 31 33.1**	**+2.5**
ANIL	**Santa Ana**	**4.30**	**150**	eP	**Pn**	**11 31 33.9**	**+2.8**
SPBC	**San Pablo de B**	**4.31**	**126**	eP	**Pn**	**11 31 33.0**	**+1.9**
BARC	**Barichara**	**4.64**	**110**	eP	**Pn**	**11 31 37.2**	**+1.4**
ROSC	**El Rosal**	**4.67**	**136**	P	**Pn**	**11 31 38.0**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=137,slow=21,SNR=1.7						
ROSC				S	**Sn**	**11 32 33.0**	**+2.4**
	comp=Z,1.8nm,0.3s,baz=359,slow=22,SNR=1.7						
PAMC	**Pamplona, Colo**	**4.90**	**100**	eP	**Pn**	**11 31 40.2**	**+0.6**
RUSC	**La Rusia**	**5.02**	**117**	eP	**Pn**	**11 31 42.5**	**+1.4**
PRAC	**Prado**	**5.22**	**149**	eP	**Pn**	**11 31 48.3**	**+4.7**
CHIC	**Chingaza**	**5.23**	**133**	eP	**Pn**	**11 31 48.1**	**+4.1**
POPC	**Popayan, Colom**	**5.73**	**171**	eP	**Pn**	**11 31 50.9**	**+0.2**
PCON	**Cinco Dias**	**5.98**	**169**	eP	**Pn**	**11 31 57.2**	**+2.8**
BBAC	**Balboa, Cauca**	**6.18**	**177**	eP	**Pn**	**11 31 59.1**	**+2.2**
SDV	**Santo Domingo**	**6.89**	**84**	P	**Pn**	**11 32 08.0**	**+1.4**
	comp=Z,2.0nm,0.3s,baz=359,slow=20,SNR=2.4						
SDV				S	**Sn**	**11 33 22.1**	**-2.9**
	comp=Z,2.7nm,0.3s,baz=24,slow=17,SNR=2.3						
JTS	**Las Juntas de**	**7.57**	**286**	P	Pn	11 32 21.4	+5.5
	comp=Z,0.3nm,0.3s,baz=218,slow=6.5,SNR=2.0						
PCRV	**Puerto La Cruz**	**12.91**	**80**	P	**Pn**	**11 33 28.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=245,slow=10,SNR=1.7						
SIV	**San Ignacio**	**29.09**	**146**	P	**P**	**11 36 25.8**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=324,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.77**	**78**	P	**P**	**11 42 22.3**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=279,slow=4.8,SNR=1.2						
ASAR	**Alice Springs**	**146.19**	**239**	PKPbc	**PKPdf**	**11 50 05.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.7,SNR=11						
WRA	**Warramunga Arr**	**147.01**	**246**	PKPbc	**PKPdf**	**11 50 08.1**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=104,slow=3.1,SNR=2.7						

*NEIC **28** 12:13:10.3±2.8, 16.°12S±0.°04×171.°8W±0.°1, h38km±10km, mb4.6/10, Error ellipse: s-maj=16.8km s-min=5.4km az=76.0*
*IDC **28** 12:13:16.5±3.5, 15.°74S×172.°28W, h86km±51km, mb4.0/5, mb1 4.1/5, mb1mx3.6/32, mbtmp4.3/5, MS3.6/4, Ms1 3.6/4, ms1mx3.1/27, Error ellipse: s-maj=48.0km s-min=36.8km az=80.0*
ISC 28 12:13:11.5±0.9, **16.°12S**±0.°06×**171.°9W**±0.°1, **h41**km, **n25,** σ1§**82**/25, **mb4.6**/11, **MS3.5**/4, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.20**	**2**	P	**Pn**	**12 13 46.7**	**+1.1**
	14nm,0.3s,baz=109,slow=0.8,SNR=11						
AFI				S	**Sn**	**12 14 10.7**	**-0.9**
	87nm,0.3s,baz=150,slow=20,SNR=12						
AFI	**Afiamalu**	**2.20**	**2**		**Pn**	**12 13 46.4**	**+0.7**
NIUE	**Niue**	**3.47**	**148**		**Pn**	**12 14 03.4**	**+0.4**
MSVF	**Nonsavu**	**9.78**	**259**	Pn	**Pn**	**12 15 32.0**	**+2.3**
DZM	**Mont Dzumac**	**21.32**	**251**	P	**P**	**12 17 52.9**	**-2.2**
	11nm,1.1s,baz=108,slow=20,SNR=1.8						
DZM				LR	LR	12 24 29.2	
	comp=Z,182nm,19.3s,baz=30,slow=32						
PPT	**Papeete**	**21.39**	**97**	LR	LR	12 23 41.5	
	comp=Z,86nm,19.4s,baz=125,slow=29						
OUZ	**Omahuta**	**23.04**	**212**		**P**	**12 18 12.8**	**-0.3**
OUZ				IAmb	IAmb	12 18 13.2	
	comp=Z,37nm,1.4s						
URZ	**Urewera**	**24.09**	**202**	P	**P**	**12 18 27.2**	**+4.0**
	comp=Z,7.8nm,0.5s,baz=45,slow=5.7,SNR=6.6						
URZ				S	**S**	**12 22 38.5**	**+0.5**
	comp=Z,25nm,1.1s,baz=70,slow=7.9,SNR=3.5						
URZ	**Urewera**	**24.09**	**202**	P	**P**	**12 18 27.3**	**+4.1**
PLWZ	**Palliser**	**27.69**	**201**	P	**P**	**12 18 52.2**	**-3.5**
HNR	**Honiara**	**28.26**	**280**	LR	LR	12 28 24.7	
	comp=Z,116nm,20.6s,baz=74,slow=33						
ARMA	**Armidale**	**36.25**	**240**	P	**P**	**12 20 09.6**	**-1.4**
ARMA				IAmb	IAmb	12 20 11.1	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**44.96**	**241**	P	**P**	**12 21 22.0**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=74,slow=8.8,SNR=5.5						
STKA	**Stephens Creek**	**44.96**	**241**	P	**P**	**12 21 22.7**	**-0.1**
BBOO	**Buckleboo**	**49.73**	**241**	P	**P**	**12 22 00.5**	**+0.6**
WR0	**Warramunga Arr**	**50.93**	**257**	P	**P**	**12 22 08.6**	**-0.6**
WR0				IAmb	IAmb	12 22 16.0	
	comp=Z,9.2nm,1.4s						
WB0	**Warramunga Arr**	**51.08**	**257**	P	**P**	**12 22 08.8**	**-1.5**
WB2	**Warramunga Arr**	**51.11**	**257**	P	**P**	**12 22 09.9**	**-0.6**
WB2				IAmb	IAmb	12 22 22.9	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**51.11**	**257**	P	**P**	**12 22 09.9**	**-0.6**
WRAB				IAmb	IAmb	12 22 13.3	
	comp=Z,6.8nm,1.4s						
WRA	**Warramunga Arr**	**51.12**	**257

IMON	Monand	4.23	177	*e*Pn		Pn	12 24 47.5 +2.4
IMON	Monand	4.23	177	Pn		Pn	12 24 47.4 +2.4
IGLO	Ghaloghah	4.53	260	*e*Pn		Pn	12 24 51.3 +2.2
IGLO	Ghaloghah	4.53	260	Pn		Pn	12 24 51.3 +2.2
ITEG	Tejag	4.54	187	*e*Pn		Pn	12 24 51.2 +1.9
ITEG				*e*			12 26 19.7
ITEG	Tejag	4.54	187	Pn		Pn	12 24 51.2 +1.9
IDAH	Dahanechah	4.69	175	*e*Pn		Pn	12 24 54.2 +2.8
IDAH				*e*			12 26 16.1
IANJ	Anjilo	4.81	248	*e*Pn		Pn	12 24 54.8 +1.8
IANJ	Anjilo	4.81	248	Pn		Pn	12 24 54.8 +1.8
TPRV	Parvadeh(Tabas	4.90	207	*e*Pn		Pn	12 24 55.6 +1.5
TPRV				*e*			12 26 29.5
TPRV	Parvadeh(Tabas	4.90	207	Pn		Pn	12 24 55.6 +1.5
NHDN	Nehbandan	6.04	174	*e*Pn		Pn	12 25 12.1 +2.3
ANAR	Anarak	6.25	229	*e*Pn		Pn	12 25 13.1 +0.4
ANAR	Anarak	6.25	229	Pn		Pn	12 25 13.0 +0.4
KRSH	Karshahi	6.81	242	*e*Pn		Pn	12 25 21.2 +0.7
KRSH	Karshahi	6.81	242	Pn		Pn	12 25 21.2 +0.7
ISAD	Sadrabad	7.21	222	*e*Pn		Pn	12 25 27.6 +1.4
ISAD	Sadrabad	7.21	222	Pn		Pn	12 25 27.5 +1.4
GAR	Garm	8.77	76	Pn		Pn	12 25 47.6 +0.4
KK31	Karatay Array	10.23	53	⇓P		Pn	12 26 06.0 -1.2
	comp=N,0.7nm,0.4s,baz=243,slow=16,SNR=3.8						
KK31				⇓S		Sn	12 27 58.3 -3.8
	comp=N,3.8nm,0.5s						
KK31	Karatay Array	10.23	53	Pn		Pn	12 26 07.2 0.0
KKAR	Karatay Array	10.23	53	Pn		Pn	12 26 07.7 +0.5
KKAR	Karatay Array	10.23	53	Pn		Pn	12 26 07.2 0.0
AB31	Akbulak array	11.84	2	P		Pn	12 26 27.2 -1.9
	comp=N,2.0nm,0.6s,baz=187,slow=14,SNR=18						
AB31				⇑S		Sn	12 28 34.0 -7.3
	comp=N,4.2nm,0.7s,baz=177,slow=17,SNR=9.4						
ABKAR	Akbulak array	11.84	2	Pn		Pn	12 26 27.6 -1.5
ABKAR	Akbulak array	11.84	2	Pn		Pn	12 26 28.8 -0.3
AKTO	Aktyubinsk	13.05	356	⇑P		Pn	12 26 43.3 -2.3
	comp=N,1.9nm,0.6s						
AKTO				⇓S		Sn	12 29 00.3 -11
	comp=N,6.0nm,0.8s						
MAKZ	Makanchi	19.16	54	P		Pn	12 28 06.0 +1.2
MAKZ				IAmb		IAmb	12 28 06.5
	comp=Z,2.6nm,0.7s						
MK31	Makanchi Array	19.36	54	P		Pn	12 28 08.5 +1.4
MKAR	Makanchi Array	19.36	54	P		Pn	12 28 07.9 +0.8
	comp=Z,0.2nm,0.3s,baz=248,slow=11,SNR=10						
MKAR				LR		LR	12 36 41.1
	comp=Z,44nm,18.0s,baz=176,slow=40						
MKAR	Makanchi Array	19.36	54	P		Pn	12 28 08.1 +0.9
ZALV	Zalesovo Beam	24.08	39	P		P	12 28 58.8 +3.0
	comp=Z,1.4nm,0.6s,baz=233,slow=8.9,SNR=2.4						
ZALV	Zalesovo Beam	24.08	39	P		P	12 28 57.3 +1.6
AKASG	Malin Array Be	25.20	311	P		P	12 29 07.3 +1.4
	comp=Z,0.3nm,0.3s,baz=107,slow=8.8,SNR=4.0						
AKASG	Malin Array Be	25.20	311	P		P	12 29 07.8 +1.8
FINES	FINESS Array B	31.74	330	P		P	12 30 03.9 -0.3
TGY	Tagaytay City	59.05	96	LR		LR	13 01 39.4
	comp=Z,68nm,18.3s,baz=138,slow=39						
IMAR	Indian Mountai	73.79	13	P		P	12 35 16.4 +1.8
BCAR	Beaver Creek A	78.43	10	P		P	12 35 42.4 +1.3
HYT	Haines Junctio	81.13	8	P		P	12 35 56.3 +0.4
HYT				IAmb		IAmb	12 36 05.1
	comp=Z,5.1nm,1.1s						
WRA	Warramunga Arr	90.63	115	P		P	12 36 43.5 +0.2
	comp=Z,0.6nm,1.0s,baz=306,slow=6.0,SNR=2.6						
WRAB	Tennant Creek	90.63	115	P		P	12 36 44.1 +0.8

IDC 28 12:33:05.8±2.1, 2°32N×125°34E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, Error ellipse: s-maj=180.4km s-min=28.2km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.83	159	P	P	12 38 20.3	-0.5
	0.2nm,0.4s,baz=337,slow=11,SNR=12						
ASAR	Alice Springs	27.15	163	P	P	12 38 51.9	+0.9
	0.3nm,0.9s,baz=344,slow=12,SNR=1.7						
MKAR	Makanchi Array	57.93	326	P	P	12 42 59.6	-0.4
	0.2nm,0.4s,baz=119,slow=7.6,SNR=2.4						

*REY **28** 12:34:15.8, 64°67N×17°47W, h2km*
*IDC **28** 12:34:17.0±0.5, 64°62N×17°60W, h0km, mb4.2/21, mb1 4.3/26, mb1mx4.2/39, mbtmp4.2/26, ML2.8/4, MS3.7/30, Ms1 3.7/30, ms1mx3.6/41, Error ellipse: s-maj=16.4km s-min=8.4km az=11.0*
*MOS **28** 12:34:16.7±0.9, 64°64N×17°62W, h10km, mb4.8/57, MS4.2/12, Error ellipse: s-maj=9.3km s-min=5.4km az=107.7*
*NEIC **28** 12:34:18.4±1.5, 64°64N±0°08×17°6W±0°1, h10km±4km, mb4.7/157, Error ellipse: s-maj=11.4km s-min=7.3km az=193.0*
*DNK **28** 12:34:21.1±3.7, 64°48N×18°27W, h48km±112km, ML2.9, Hypocentre not reviewed by the ISC*
*GCMT **28** 12:34:22.4±0.3, 64°57N±0°03×16°95W±0°07, h14km±1km, MW4.8/102, Moment Tensor Solution. s23,c26; s102,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.70±.12; $M_{\theta\theta}$0.95±.08; $M_{\phi\phi}$0.74±.07; $M_{r\theta}$-0.08±.21; $M_{\theta\phi}$-0.36±.04; $M_{r\phi}$-0.88±.20; Best double couple: $M_0$1.65800×10^{16} NP1:ϕ_s119.00000°, δ36.00000°, λ-115.00000°. NP2:ϕ_s330.00000°, δ58.00000°, λ-72.00000°. Principal axes: T 1.3200, Plg11.0000°, Azm47.0000°; N 0.6730, Plg15.0000°, Azm140.0000°; P -1.9950, Plg71.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **28** 12:34:27.9±0.0, 64°58N×15°08W, h10km, mb4.8*
ISC 28 12:34:18.1±0.3, 64°68N±0°02×17°55W±0°02, h10km, n464, σ1§64/472, mb4.7/159, MS3.8/35, 8C-2D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.09	268	P	Pg	12 34 18.7	-2.0
	baz=272						
IDYN	Dyngjuhals	0.14	34	P	Pg	12 34 18.9	-2.4
	baz=20						
IDJK	Dyngjujokull	0.22	142	P	Pg	12 34 19.9	-2.8
	baz=149						
IURH	Urdarhals	0.22	50	P	Pg	12 34 20.2	-2.5
	baz=42						
IGRF	Grimsfjall	0.30	156	P	Pg	12 34 21.7	-2.4
	baz=162						
IKVE	Kverkfjoll	0.37	89	P	Pg	12 34 22.9	-2.7
	baz=88						
IHUS	Husbondi	0.39	187	P	Pg	12 34 23.4	-2.3
	baz=192						
IBJK	Bruarjokull	0.40	121	P	Pg	12 34 22.8	-3.2
	baz=123						
IVOT	Vottur	0.44	159	P	Pg	12 34 23.9	-2.7
	baz=163						
THOR	Thorvaldshraun	0.45	55	P	Pg	12 34 24.2	-2.7
	baz=52						
THOR				S	Sg	12 34 31.0	-1.9
	baz=52						
IJOK	Jokulheimar	0.47	219	P	Pg	12 34 24.8	-2.4
	baz=223						
IKRE	Kreppuhraun	0.51	77	P	Pg	12 34 24.6	-3.4
	baz=76						
IKRE				S	Sg	12 34 32.2	-2.5
	baz=76						
IMKO	Mokollar	0.60	59	P	Pg	12 34 26.4	-3.3
	baz=57						
IMKO				S	Sg	12 34 35.2	-2.3
	baz=57						
IIEY	Innrieyrar	0.64	204	P	Pg	12 34 27.6	-2.8
	baz=207						
ISVA	Svartarkot	0.67	10	P	Pg	12 34 28.1	-3.1
	baz=7.6						
ISVA				S	Sg	12 34 37.7	-2.3
	baz=7.6						
IKAL	Kalfafell	0.73	185	P	Pg	12 34 29.2	-3.0
	baz=188						
IVAT	Vatnsfell	0.77	231	P	Pg	12 34 30.2	-2.8
	baz=233						
IVSH	V-Sauoahnukur	0.79	80	P	Pg	12 34 29.4	-4.0
	baz=79						
IVSH				S	Sg	12 34 40.2	-3.4
	baz=79						
IHVE	Hveravellir	0.89	284	P	Pg	12 34 32.0	-3.2
	baz=284						
IHVE				S	Sg	12 34 44.6	-2.1
	baz=284						
IFAG	Fagurholsmyri	0.89	154	P	Pg	12 34 31.5	-3.7
	baz=156						
IADA	Aoalbol	0.91	67	P	Pg	12 34 31.4	-4.1
	baz=66						
IMEL	Melhnausar	0.97	22	P	Pg	12 34 32.9	-3.9
	baz=20						
ISNB	Snabyli	1.06	207	P	Pg	12 34 35.0	-3.4
	baz=209						
ISNB				S	Sg	12 34 49.6	-2.5
	baz=209						
IKVO	Krokottuvotn	1.08	15	P	Pg	12 34 34.6	-4.2
	baz=13						
ISLY	Slysaalda	1.10	219	P	Pg	12 34 35.7	-3.5
	baz=221						
IGRS	Grimsstaoir	1.14	31	P	Pb	12 34 35.6	-4.2
	baz=30						
IFED	Fedgar	1.14	236	P	Pb	12 34 36.8	-3.0
	baz=237						
IRJU	Rjupnafell	1.17	205	P	Pb	12 34 36.8	-3.6
	baz=207						
IMJO	Mjoaskard	1.19	232	P	Pb	12 34 37.3	-3.5
	baz=233						
ISKI	Skildingahlsh	1.22	10	P	Pn	12 34 37.0	-4.1
	baz=8.6						
IGYG	Gygjarholskot	1.22	252	P	Pn	12 34 37.4	-3.8
	baz=253						
IGHA	Grjothals	1.23	17	P	Pn	12 34 37.0	-4.3
	baz=16						
IGRA	Granastaoir	1.25	359	P	Pn	12 34 37.4	-4.1
	baz=358						
IGRA				S	Sb	12 34 55.2	-2.5
	baz=358						
IHAU	Haukadalur	1.27	237	P	Pn	12 34 38.5	-3.3
	baz=238						
IHAU				S	Sb	12 34 55.0	-3.5
	baz=238						
IGOD	Go??abunga	1.28	218	P	Pn	12 34 39.2	-3.0
	baz=220						
IHVO	Lagu-Hvolar	1.29	207	P	Pn	12 34 39.0	-3.2
	baz=208						
IDIM	Dimmadalss	1.31	11	P	Pn	12 34 38.9	-3.6
	baz=9.6						
IHLA	Hella	1.32	345	P	Pn	12 34 39.0	-3.5
	baz=344						
IALF	Alftagrof	1.39	212	P	Pn	12 34 40.6	-2.9
	baz=213						
IHED	Heoinshofoi	1.41	4	P	Pn	12 34 40.3	-3.6
	baz=2.6						
ISAU	Saurbar	1.43	242	P	Pn	12 34 40.6	-3.4
	baz=243						
IESK	Eystri-Skogar	1.43	217	P	Pn	12 34 41.2	-2.8
	baz=218						
BORG	Borgarnes	1.63	274	Pg	Pn	12 34 44.2	-2.6
	28nm,0.3s,baz=99,slow=10,SNR=82						
BORG				Lg	Lg	12 35 07.5	
	32nm,0.3s,baz=38,slow=19,SNR=9.8						
BORG	Borgarnes	1.63	274		Pn	12 34 43.9	-2.8
BORG				Sn	Sg	12 35 09.1	-1.2
SCO	Scoresbysund	6.07	346	*i* P	Pn	12 35 48.0	+0.3
SCO				*i* S	Sn	12 36 59.7	+2.6
SCO	Scoresbysund	6.07	346	*i* P	Pn	12 35 48.0	+0.3
SCO				*i* S	Sn	12 36 59.7	+2.6
SCO	Scoresbysund	6.07	346	Pn	Pn	12 35 46.1	-1.6
SUMG	Summit	10.92	325	*i* P	Pn	12 36 56.0	+1.5
SUMG	Summit	10.92	325	*i* P	Pn	12 36 56.0	+1.5
SUMG	Summit	10.92	325	Pn	Pn	12 36 53.9	-0.6
EKA	Eskdalemuir Ar	11.78	136	Pn	Pn	12 37 04.2	-1.7
	baz=325,slow=13,SNR=19						
ESK	Eskdalemuir	11.78	136	P	Pn	12 37 05.2	-0.7
ESK	Eskdalemuir	11.78	136	Pn	Pn	12 37 05.2	-0.7
DAG	Danmarks Havn	12.16	359	*i* P	Pn	12 37 15.1	+4.0
DAG	Danmarks Havn	12.16	359	*e*P	Pn	12 37 15.1	+4.0
DSB	Dublin	12.80	148	Pn	Pn	12 37 22.1	+2.2
NC204	NORSAR Array S	13.25	92	Pn	Pn	12 37 24.9	-1.2
NBO00	NORSAR Array S	13.37	93	Pn	Pn	12 37 28.7	+1.1
NOA	NORSAR Array B	13.55	92	Pn	Pn	12 37 27.4	-2.8
	0.0nm,0.3s,baz=298,slow=13,SNR=3.6						
NOA				LR	LR	12 42 40.9	
	comp=Z,178nm,20.7s,baz=295,slow=37						
SFJD	Kangerlussuaq	13.64	295	LR	LR	12 41 52.3	
	comp=Z,320nm,20.0s,baz=86,slow=33						
ILULI	Ilulissat	13.77	304	P	Pn	12 37 31.9	-1.1
ILULI	Ilulissat	13.77	304	Pn	Pn	12 37 31.9	-1.1
HFS	Hagfors	15.07	93	Pn	Pn	12 37 48.0	-2.7
	0.1nm,0.3s,baz=316,slow=10,SNR=1.6						
HFS				LR	LR	12 43 14.7	
	comp=Z,370nm,21.3s,baz=307,slow=36						
SPITS	Spitsbergen Ar	16.87	23	LR	LR	12 42 59.4	
	comp=Z,210nm,20.1s,baz=220,slow=31						
NOR	Nord	17.02	0	*i* P	P	12 38 17.3	-0.2
NOR	Nord	17.02	0	*i* P	P	12 38 17.3	-0.2
ARCES	ARCESS Array B	17.13	55	P	Pn	12 38 16.3	-0.9
	0.0nm,0.3s,baz=268,slow=11,SNR=2.6						
ARCES				LR	LR	12 43 28.9	
	comp=Z,474nm,20.7s,baz=270,slow=32						
KEV	Kevo	17.63	54	P	P	12 38 25.7	+1.3
KEV				pmax	pmax		
	comp=Z,84nm,1.5s						
KEV	Kevo	17.63	54	P	P	12 38 25.7	+1.3
KEV				IAmb	IAmb	12 38 36.0	
	comp=Z,84nm,1.5s						
BSEG	Bad Segeberg	17.66	114	*e*P	P	12 38 23.1	-1.7
	baz=327,slow=11						
IBBN	Ibbenburen	17.95	122	*e*P	P	12 38 29.3	+1.3
	baz=327,slow=11						
UCC	Uccle	18.02	130	P	P	12 38 27.5	-1.3
UCC				pmax	pmax		
	comp=Z,11nm,0.6s						
UCC	Uccle	18.02	130		P	12 38 27.5	-1.3
SNF	Seneffe	18.25	131	P	P	12 38 30.1	-1.2
BUG	Bochum--Univer	18.48	124	*e*P	Pn	12 38 33.9	0.0
	baz=327,slow=11						
BMRD	Maredsous	18.58	130	P	Pn	12 38 36.3	+1.1
BSTI	Sart Tilman	18.61	128	P	Pn	12 38 36.9	+1.4
BGES	Gesves	18.62	129	P	Pn	12 38 34.9	-0.7
BCLA	Clavier	18.66	129	P	Pn	12 38 35.7	-0.4
BSD	Bornholm Skovb	18.66	106	*i* P	Pn	12 38 37.0	+0.9
BSD	Bornholm Skovb	18.66	106	*e*P	Pn	12 38 37.0	+0.9
NRDL	Niedersach Rie	18.68	118	*e*P	Pn	12 38 35.0	-1.3
	baz=327,slow=11						
DOU	Dourbes	18.70	131	P	Pn	12 38 35.9	-0.8
MEM	Membach	18.73	128	P	Pn	12 38 35.5	-1.5
BHOU	Houvegnez	18.95	128	P	Pn	12 38 38.3	-1.4
AHRW	Bad Neuenahr-A	19.16	126	*e*P	Pn	12 38 43.3	+1.1
	baz=327,slow=11						
ASSE	Asse, Remlinge	19.18	118	*e*P	Pn	12 38 40.9	-1.5
	baz=327,slow=11						
CLZ	Clausthal	19.30	118	*e*P	Pn	12 38 43.9	0.0
	baz=327,slow=11						
GTTG	Gottingen	19.38	120	*e*P	Pn	12 38 43.9	-1.0
	baz=327,slow=11						
WLF	Walferdange	19.59	129	P	Pn	12 38 46.7	-0.6
WLF	Walferdange	19.59	129	P	Pn	12 38 46.4	-0.9
WLF				pmax	pmax		
	comp=Z,26nm,1.5s						
WLF	Walferdange	19.59	129	P	Pn	12 38 46.4	-0.9
FINES	FINESS Array B	19.72	79	P	P	12 38 46.1	-1.2
	comp=Z,0.1nm,0.3s,baz=304,slow=9.9,SNR=2.7						
FINES	FINESS Array B	19.72	79	P	Pn	12 38 49.7	+0.9
FINES	FINESS Array B	19.72	79		Pn	12 38 49.7	+0.9
CLF	Chambon-Foret	19.82	138	P	Pn	12 38 48.6	-1.4
CLF				IAmb	IAmb	12 39 03.0	
	comp=Z,78nm,1.3s						
UBBA	Unterbreizbach	19.98	121	*e*P	Pn	12 38 51.5	-0.4
	baz=327,slow=11						
NEUB	Neuenburg	20.33	118	*e*P	Pn	12 38 54.3	-1.8
	baz=327,slow=11						
MOX	Moxa	20.73	119	*e*P	Pn	12 38 59.3	-1.4
	baz=327,slow=11						
CLL	Collm	20.73	116	*i* P	Pn	12 38 58.7	-2.0
	comp=Z,68nm,1.6s						
CLL				*i* sP	sP	12 39 03.7	+0.5
CLL				*i*		12 39 11.5	
CLL				*e*PPP	PPP	12 39 23.0	
CLL				*e*S	Sn	12 42 52.0	-2.3
CLL				*e*SSS	SSS	12 43 21.0	
CLL	Collm	20.73	116	*i* P	Pn	12 38 58.7	-2.0
CLL				*i*		12 39 03.7	
CLL				*e*S	Sn	12 42 52.0	-2.3
CLL				pmax	pmax		
	comp=Z,68nm,1.6s						
CLL	Collm	20.73	116	*e*P	Pn	12 38 58.7	-2.0
	baz=327,slow=11						
CLL	Collm	20.73	116	P	Pn	12 38 58.5	-2.2
CLL				IAmb	IAmb	12 39 01.1	
	comp=Z,54nm,1.4s						
GKP	Gorka Klasztor	20.94	107	*e*P	Pn	12 39 05.7	+2.5
PLN	Plauen	21.06	118	*e*P	P	12 39 02.4	+0.5
	comp=Z,32nm,1.3s,baz=327,slow=11						
WERD	Werda	21.15	118	*e*P	P	12 39 02.9	0.0
	baz=327,slow=11						
FBE	Freiberg	21.17	116	*e*P	P	12 39 03.6	+0.4
	baz=327,slow=11						
ECH	Echery	21.18	129	P	P	12 39 03.4	+0.1
ECH				pmax	pmax		
	comp=Z,21nm,1.1s						
ECH	Echery	21.18	129	P	P	12 39 03.4	+0.1
GUNZ	Gunzen	21.22	118	*e*P	P	12 39 03.3	-0.5
	comp=Z,121nm,1.7s,baz=327,slow=11						
TANN	Tannenbergstha	21.23	118	*e*P	P	12 39 04.6	+0.7
	comp=Z,419nm,2.3s,baz=327,slow=11						
WERN	Wernitzgruen	21.30	118	*e*P	P	12 39 04.7	+0.1
	comp=Z,128nm,1.6s,baz=327,slow=11						
GRA1	Grafenberg Arr	21.36	121	P	P	12 39 06.1	+0.9
GRA1				IAmb	IAmb	12 39 19.3	
	comp=Z,49nm,1.4s						
GRF	Grafenberg Arr	21.36	121	P	P	12 39 06.1	+0.9
GRF				pmax	pmax		
	comp=Z,49nm,1.4s						
GRF	Grafenberg Arr	21.36	121	*e*P	P	12 39 05.8	+0.6
	baz=327,slow=11						
NKC	Novy Kostel	21.37	118	*e*P	P	12 39 05.4	0.0
NKC				*ex*	x	12 39 11.1	
NKC				AMS	AMS	12 51 20.0	
	comp=Z,600nm,13.1s						
NKC	Novy Kostel	21.37	118	*e*P	P	12 39 05.4	0.0
NKC				*e*		12 39 11.1	
NKC				MLR	MLR		
	comp=Z,600nm,13.1s						
STU	Stuttgart	21.39	125	P	P	12 39 06.3	+0.7
STU				pmax	pmax		
	comp=Z,32nm,1.0s						
STU	Stuttgart	21.39	125	*e*P	P	12 39 06.4	+0.8
	baz=327,slow=11						
STU	Stuttgart	21.39	125	P	P	12 39 06.3	+0.7
STU				IAmb	IAmb	12 39 14.7	
	comp=Z,32nm,1.0s						
BRG	Berggiesshubel	21.43	115	*i* P	P	12 39 06.0	0.0
	comp=Z,80nm,1.8s						
BRG				S	Sn	12 43 11.0	-0.3
	comp=N,549nm,10.7s						
	comp=E,690nm,14.4s						
	comp=Z,446nm,13.5s						
BRG	Berggiesshubel	21.43	115	*i* P	P	12 39 06.0	0.0
BRG				S	Sn	12 43 11.0	-0.3
BRG				pmax	pmax		
	comp=Z,80nm,1.8s						
BRG				MLR	MLR		
	comp=N,549nm,10.7s						
BRG				MLR	MLR		
	comp=E,690nm,14.4s						
BRG				MLR	MLR		
	comp=Z,446nm,13.5s						
BRG	Berggiesshubel	21.43	115	*e*P	P	12 39 06.3	+0.3
	baz=327,slow=11						
MANZ	Manzenberg	21.45	119	*e*P	P	12 39 06.5	+0.4
	comp=Z,52nm,1.6s,baz=327,slow=11						
BFO	Black Forest	21.47	127	P	P	12 39 07.1	+0.7
BFO				pmax	pmax		
	comp=Z,56nm,1.5s						
BFO	Black Forest	21.47	127	*e*P	P	12 39 06.9	+0.5
	baz=327,slow=11						
BFO	Black Forest	21.47	127	P	P	12 39 07.1	+0.7
BFO				IAmb	IAmb	12 39 25.1	
	comp=Z,56nm,1.5s						
VSU	Vasula	21.59	86	*e*P	P	12 39 07.5	-0.1
VSU	Vasula	21.59	86	*i* P	P	12 39 08.9	+1.4
VSU				pmax	pmax		
	comp=Z,66nm,0.9s						
ROTZ	Rotzenmuhle	21.66	119	*e*P	P	12 39 09.2	+0.7
	comp=Z,28nm,1.6s,baz=327,slow=11						
FRB	Frobisher Bay	21.73	291	LR	LR	12 47 05.5	
	comp=Z,296nm,20.4s,baz=69,slow=35						
PVCC	Panska Ves	21.95	115	*e*S	Sn	12 43 21.5	-2.2
SLE	Schleitheim	22.02	128	*e*P	P	12 39 12.9	+0.6
	baz=327,slow=11						
SULZ	Cheisacher	22.09	129	*e*P	P	12 39 14.1	+1.0
	baz=327,slow=11						
PABE	Paberze	22.23	95	*e*P	P	12 39 15.2	+0.7
PRA	Prague	22.26	116	*e*S	Sn	12 43 27.6	-3.6
PRA				AMS	AMS	12 51 10.0	
	comp=Z,300nm,9.9s						
PRU	Pruhonice	22.37	116	*e*P	P	12 39 17.2	+1.2
PRU				*ex*	x	12 39 30.6	
PRU				*e*S	S	12 43 23.3	+1.7
PRU				AMS	AMS	12 51 10.0	
	comp=Z,600nm,8.2s						
PRU	Pruhonice	22.37	116	*e*P	P	12 39 17.2	+1.2
PRU				*e*S	S	12 43 23.3	+1.7
PRU				MLR	MLR		
	comp=Z,600nm,8.2s						
KSP	Ksiaz	22.39	112	*e*P	P	12 39 16.5	+0.3
PBCC	Pribram	22.41	117	*e*P	P	12 39 17.3	+0.9
WET	Wettzell	22.42	119	*e*P	P	12 39 17.1	+0.5
	comp=Z,67nm,1.9s,baz=327,slow=11						
GOPC	GO Pecny, Ondr	22.53	116	*e*P	P	12 39 17.9	+0.2
GOPC				*e*S	Sn	12 43 31.1	-6.4
GOPC				AMS	AMS	12 52 20.0	
	comp=Z,600nm,7.5s						
GOPC	GO Pecny, Ondr	22.53	116	*e*P	P	12 39 17.9	+0.2
GOPC				MLR	MLR		
	comp=Z,600nm,7.5s						
UPC	Upice	22.54	113	*e*P	P	12 39 18.5	+0.7
UPC				*e*S	S	12 43 28.9	+4.2
UPC				AMS	AMS	12 52 40.0	
	comp=Z,500nm,10.6s						
UPC	Upice	22.54	113	*e*P	P	12 39 18.5	+0.7
UPC				*e*S	S	12 43 28.9	+4.2
UPC				MLR	MLR		
	comp=Z,500nm,10.6s						
OSTC	Ostas	22.58	113	*e*P	P	12 39 19.9	+1.6
OSTC				*e*S	Sn	12 43 32.2	-6.6
UBR	Ueberruh	22.64	125	*e*P	P	12 39 20.1	+1.1
	comp=Z,167nm,1.9s,baz=327,slow=11						
KHC	Kasperske Hory	22.70	118	*e*P	P	12 39 20.2	+0.6
KHC				*ex*	x	12 39 30.6	
KHC				*e*S	S	12 43 30.9	+3.2
KHC				AMS	AMS	12 51 30.0	
	comp=Z,700nm,11.4s						
KHC	Kasperske Hory	22.70	118	*e*P	P	12 39 20.2	+0.6
KHC				*e*S	S	12 43 30.9	+3.2
KHC				MLR	MLR		
	comp=Z,700nm,11.4s						
KHC	Kasperske Hory	22.70	118	P	P	12 39 19.9	+0.4
DPC	Dobruska-Polom	22.78	113	*e*P	P	12 39 20.5	0.0
DPC				*ex*	x	12 39 30.5	
DPC				*e*S	S	12 43 31.1	+1.9
DPC				AMS

KRLC Kraliky 23.18 113 *e*P **P 12 39 24.1 -0.5**
KRLC *e*S **S 12 43 40.7 +4.6**
KRLC MLR MLR
comp=Z,800nm,7.5s
MOTA Moosalm 23.28 124 *ep*P **P 12 39 27.6 +1.8**
comp=Z,17nm,1.3s,SNR=9.6
TREC Trest 23.30 116 *e*P **P 12 39 26.3 +0.6**
TREC Trest 23.30 116 *e*P **P 12 39 26.3 +0.6**
IIGN Ignalina 23.30 93 *e*P **P 12 39 26.6 +0.9**
TMCR Tamitsa 23.36 66 *e*P **P 12 39 25.4 -0.7**
comp=Z,41nm,0.9s
TMCR Tamitsa 23.36 66 *e*P **P 12 39 25.5 -0.7**
TMCR pmax pmax
comp=Z,53nm,1.3s
SQTA Sankt Quirin 23.43 124 *e*P **P 12 39 28.5 +1.3**
comp=Z,10.0nm,1.0s,SNR=6.3
TUE Stuetta 23.43 128 P **P 12 39 28.3 +1.0**
TUE IAmb IAmb 12 39 44.2
comp=Z,26nm,1.2s
FETA Feichten 23.43 125 *es*P **P 12 39 31.1 +3.8**
comp=Z,13nm,1.5s
WATA Walderalm 23.46 124 *e*P **P 12 39 28.8 +1.3**
comp=Z,7.8nm,0.9s,SNR=6.8
BEL Belsk 23.46 105 *e*P **P 12 39 30.2 +2.8**
IDID Didziasalis 23.55 92 *e*P **P 12 39 28.3 +0.2**
FUORN Ofenpass-Fuorn 23.61 127 P **P 12 39 30.0 +0.9**
EUNU Eureka 23.65 336 P **P 12 39 30.5 +1.4**
VRAC Vranov 23.72 114 P **P 12 39 30.9 +1.1**
comp=Z,5.0nm,0.9s,baz=333,slow=12,SNR=9.7
VRAC LR LR 12 48 35.9
comp=Z,255nm,20.3s,baz=332,slow=36
VRAC Vranov 23.72 114 *e*P **P 12 39 30.7 +0.8**
MORC Moravsky Berou 23.72 112 *e*P **P 12 39 30.2 +0.3**
MORC Moravsky Berou 23.72 112 P **P 12 39 30.3 +0.3**
MORC pmax pmax
comp=Z,36nm,1.4s
MORC Moravsky Berou 23.72 112 P **P 12 39 30.3 +0.4**
MORC IAmb IAmb 12 39 47.6
comp=Z,36nm,1.4s
BNI Bardonecchia 23.82 134 P **P 12 39 31.0 -0.1**
BNI pmax pmax
comp=Z,22nm,1.5s
BNI Bardonecchia 23.82 134 P **P 12 39 31.0 -0.1**
KRUC Moravsky 23.84 115 *e*P **P 12 39 31.2 +0.2**
NACGM Naroch 23.84 93 *e* **P 12 39 30.0 -1.0**
MOA Molln 24.01 119 *e*P **P 12 39 32.9 +0.1**
comp=Z,9.3nm,1.6s
OJC Ojcow 24.28 109 *e*P **P 12 39 35.3 +0.1**
OJC Ojcow 24.28 109 P **P 12 39 34.5 -0.7**
OJC pmax pmax
comp=Z,21nm,1.5s
OJC Ojcow 24.28 109 P **P 12 39 34.5 -0.7**
ABTA Abfaltersbach 24.30 123 *e*P **P 12 39 35.6 +0.2**
comp=Z,7.6nm,1.2s
KBA Koelnbreinsper 24.32 122 *e*P **P 12 39 36.5 +0.8**
comp=Z,14nm,1.7s
JAVC Velka Javorina 24.50 113 *e*P **P 12 39 38.5 +1.2**
CONA Conrad Observa 24.55 117 *e*P **P 12 39 38.3 +0.5**
comp=Z,7.2nm,1.0s,SNR=6.8
SALO Salr 24.57 127 P **P 12 39 37.5 -0.4**
MICGM Minsk 24.58 93 *e* **P 12 39 38.0 +0.2**
MNK Minsk 24.58 93 *e*P **P 12 39 38.0 +0.2**
CTI Castel Tesino 24.59 125 P **P 12 39 39.2 +1.1**
CTI pmax pmax
comp=Z,16nm,1.0s
CTI Castel Tesino 24.59 125 P **P 12 39 39.1 +1.1**
CTI IAmb IAmb 12 39 48.0
comp=Z,16nm,1.0s
ZOU Zoufplan 24.62 123 P **P 12 39 39.0 +0.5**
ZOU IAmb IAmb 12 39 46.8
comp=Z,31nm,1.5s
CIMO Cimolais 24.64 124 P **P 12 39 39.4 +0.8**
SMOL Smolenice 24.68 114 *e*P **P 12 39 39.8 +1.0**
SMOL Smolenice 24.68 114 *e*P **P 12 39 39.8 +1.0**
MODS Modra-Piesok 24.74 115 *e*P **P 12 39 40.0 +0.7**
MODS pmax pmax
comp=Z,71nm,1.9s
MODS Modra-Piesok 24.74 115 *e*P **P 12 39 40.0 +0.7**
MYKA Terra Mystica 24.81 122 *e*P **P 12 39 40.4 +0.4**
comp=Z,15nm,1.6s
PRED Cave del Predi 24.94 122 P **P 12 39 42.0 +0.8**
PRED IAmb IAmb 12 39 52.9
comp=Z,17nm,1.3s
ARSA Arzberg 24.98 118 *e*P **P 12 39 40.3 -1.3**
comp=Z,6.6nm,0.9s
LANS Liptovska Anna 24.99 111 *e*P **P 12 39 42.6 +1.0**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 24.99 111 *e*P **P 12 39 42.6 +1.0**
COI Coimbra 25.08 163 P **P 12 39 43.7 +1.3**
COI pmax pmax
comp=Z,35nm,1.3s
COI Coimbra 25.08 163 P **P 12 39 43.7 +1.3**
NIE Niedzica 25.11 109 *e*P **P 12 39 43.7 +1.0**
TEOL Teolo 25.19 126 P **P 12 39 44.2 +0.7**
TEOL IAmb IAmb 12 40 00.8
comp=Z,11nm,0.8s
OBKA Obir 25.24 121 *e*P **P 12 39 44.9 +0.9**
comp=Z,12nm,1.2s
PRMA PARMA 25.25 129 P **P 12 39 45.5 +1.6**
PRMA IAmb IAmb 12 39 47.4
comp=Z,19nm,1.0s
VYHS Vyhne 25.26 112 *e*P **P 12 39 44.6 +0.6**
VYHS pmax pmax
comp=Z,47nm,1.8s
VYHS Vyhne 25.26 112 *e*P **P 12 39 44.6 +0.6**
VYHS *e*PDIFF 13 04 57.7
SOKA Soboth 25.28 120 *e*P **P 12 39 44.3 0.0**
comp=Z,6.0nm,0.9s
MSSA Maissana 25.38 130 P **P 12 39 46.4 +1.1**
MSSA IAmb IAmb 12 39 55.9
comp=Z,19nm,1.3s
SRO Srobarova 25.60 114 *e*P **P 12 39 48.2 +1.1**
SRO pmax pmax
comp=Z,50nm,1.6s
SRO Srobarova 25.60 114 *e*P **P 12 39 48.2 +1.1**
KLMR Klimovskoe 25.62 72 *e*P **P 12 39 46.8 -0.3**
comp=Z,34nm,1.4s
KLMR Klimovskoe 25.62 72 *e*P **P 12 39 46.8 -0.3**
KLMR pmax pmax
comp=Z,34nm,1.4s
KLMR Klimovskoe 25.62 72 *e*P **P 12 39 46.9 -0.3**
KLMR AMP 12 39 49.3
comp=Z,34nm,1.4s
KECS Kecovo 25.93 110 *e*P **P 12 39 51.5 +1.4**
KECS pmax pmax
comp=Z,8.0nm,1.3s
KECS Kecovo 25.93 110 *e*P **P 12 39 51.5 +1.4**
KWP Kalwaria Pacla 25.93 106 *e*P **P 12 39 53.7 +3.6**
KWP Kalwaria Pacla 25.93 106 P **P 12 39 50.3 +0.2**
KWP pmax pmax
comp=Z,74nm,1.2s
KWP Kalwaria Pacla 25.93 106 P **P 12 39 50.3 +0.2**
LSH Leshukonskoye 25.98 61 *e*P **P 12 39 49.1 -1.3**
comp=Z,54nm,1.3s
CRVS Cervenica-Dubn 25.99 109 *e*P **P 12 39 51.7 +1.0**
CRVS Cervenica-Dubn 25.99 109 *e*P **P 12 39 51.7 +1.0**
SCHQ Schefferville 26.02 271 P **P 12 39 51.1 +0.2**
comp=Z,11nm,0.8s,baz=46,slow=6.6,SNR=5.8
SCHQ LR LR 12 49 00.2
comp=Z,183nm,19.5s,baz=36,slow=34
SCHQ Schefferville 26.02 271 P **P 12 39 51.0 +0.1**
SCHQ IAmb IAmb 12 39 53.6
comp=Z,14nm,0.9s
PSZ Piszkesteto 26.14 112 P **P 12 39 52.3 +0.2**
PSZ pmax pmax
comp=Z,62nm,1.5s
PSZ Piszkesteto 26.14 112 P **P 12 39 52.3 +0.2**
ESBB Sonseca Array 26.27 156 P **P 12 39 53.3 0.0**
ESBB IAmb IAmb 12 40 01.3
comp=Z,20nm,1.4s
ESDC Sonseca Array 26.27 156 P **P 12 39 53.6 +0.3**
comp=Z,3.1nm,0.9s,baz=349,slow=9.0,SNR=25
ESDC LR LR 12 49 11.6
comp=Z,127nm,21.1s,baz=330,slow=34
ESDC Sonseca Array 26.27 156 P **P 12 39 53.8 +0.4**
KOLS Kolonicke sedl 26.30 108 *e*P **P 12 39 53.8 +0.4**
KOLS pmax pmax
comp=Z,42nm,1.6s
KOLS Kolonicke sedl 26.30 108 *e*P **P 12 39 53.8 +0.4**
LVV L'vov 26.34 104 *e*P P 12 39 45.6 -8.2
RES Resolute Bay 26.45 324 LR LR 12 50 33.7
comp=Z,77nm,21.1s,baz=128,slow=37
UZH Uzhgorod 26.54 108 *e*P **P 12 39 52.7 -2.9**
MURB Monte Urbino 27.33 127 P **P 12 40 03.6 +0.8**

AKASG Malin Array Be 27.86 98 P **P 12 40 07.2 -0.2**
comp=Z,3.9nm,0.9s,baz=324,slow=9.7,SNR=5.9
AKASG LR LR 12 50 52.5
comp=Z,210nm,21.7s,baz=320,slow=36
AKASG Malin Array Be 27.86 98 P **P 12 40 09.4 +2.0**
AKASG pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 27.86 98 P **P 12 40 09.4 +2.0**
OBN Obninsk 27.90 84 P **P 12 40 07.9 +0.2**
comp=Z,2.3nm,0.4s,baz=286,slow=12,SNR=1.5
OBN LR LR 12 51 06.9
comp=Z,38nm,21.6s,baz=360,slow=36
OBN Obninsk 27.90 84⇓ *e*P **P 12 40 07.5 -0.2**
OBN *e* 12 40 13.8
OBN *e*S **S 12 44 57.8 +6.9**
OBN SSS SSS 12 46 17.0
OBN pmax pmax
comp=Z,34nm,1.7s
OBN MLR MLR
comp=Z,171nm,15.0s
OBN Obninsk 27.90 84 P **P 12 40 07.6 -0.2**
MOS Moscow 27.94 82 *e*P **P 12 40 05.0 -3.1**
BURAR Bucovina Array 28.55 106 P **P 12 40 14.6 +0.9**
LPSR Galich'ya Gora 30.65 86 *e*P **P 12 40 31.4 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
KIRV Kirov 31.00 69 *ce*P **P 12 40 35.7 +0.6**
VSR Storozhevoye 31.75 88 *e*P **P 12 40 42.3 +0.4**
VSR pmax pmax
comp=Z,60nm,1.3s
VRH Novokhopyorsk 32.86 85 *e*P **P 12 40 52.4 +0.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KEST Kesra 33.18 138 P **P 12 40 55.5 +0.9**
comp=Z,5.2nm,1.2s,baz=315,slow=7.1,SNR=2.1
KEST LR LR 12 53 50.9
comp=Z,172nm,18.0s,baz=306,slow=35
ARU Arti 36.10 66 *c i*P **P 12 41 18.5 -1.0**
ARU 12 42 37.8
ARU S **S 12 47 00.2 +1.8**
ARU SS **SnSn 12 49 20.5 -2.5**
ARU pmax pmax
comp=Z,10.0nm,1.4s
ARU MLR MLR
comp=Z,299nm,17.0s
ARU Arti 36.10 66 P **P 12 41 20.3 +0.8**
ARU IAmb IAmb 12 41 29.1
comp=Z,16nm,1.3s
NRIK Noril'sk 36.46 35 P **P 12 41 23.9 +1.4**
comp=Z,2.7nm,0.7s,baz=321,slow=12,SNR=4.0
NRIK LR LR 12 56 43.3
comp=Z,69nm,21.9s,baz=22,slow=37
LONY Lake Ozonia 36.96 265 P **P 12 41 24.1 -2.9**
LONY IAmb IAmb 12 41 32.0
comp=Z,14nm,1.2s
SOC Sochi 37.89 96 *e*P **P 12 41 34.2 -0.7**
SOC *e* 12 42 59.3
SOC *e*S **S 12 47 26.6 +0.7**
SOC *e*SS **SnSn 12 49 56.3 -10**
SOC pmax pmax
comp=Z,8.0nm,0.7s
SOC MLR MLR
comp=Z,149nm,11.0s
BR131 Keskin Array S 38.50 105 P **P 12 41 42.3 +2.0**
BR131 pmax pmax
comp=Z,7.0nm,1.1s
BR131 Keskin Array S 38.50 105 P **P 12 41 42.3 +2.0**
BRTR Keskin Array B 38.50 105 P **P 12 41 42.0 +1.8**
comp=Z,3.5nm,0.8s,baz=327,slow=6.5,SNR=8.4
BRTR LR LR 12 57 52.7
comp=Z,44nm,20.3s,baz=320,slow=37
BRTR Keskin Array B 38.50 105 P **P 12 41 41.8 +1.5**
BRTR Keskin Array B 38.50 105 P **P 12 41 41.8 +1.5**
KIV Kislovodsk 38.86 92 *e*P **P 12 41 42.4 -0.8**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,325nm,16.0s
KIV Kislovodsk 38.86 92 P **P 12 41 42.8 -0.5**
KBZ Khabaz 39.14 92 P **P 12 41 46.9 +1.5**
comp=Z,7.4nm,0.9s,baz=329,slow=11,SNR=7.0
KBZ LR LR 12 58 02.9
comp=Z,186nm,20.4s,baz=330,slow=36
KBZ Khabaz 39.14 92 *i* P **P 12 41 46.8 +1.5**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
E46A Sault Ste Mari 39.75 276 P **P 12 41 51.7 +1.2**
E46A IAmb IAmb 12 41 55.2
comp=Z,14nm,1.0s
WVNY West Valley, N 40.47 267 P **P 12 41 57.6 +1.1**
WVNY IAmb IAmb 12 42 03.0
comp=Z,36nm,1.4s
ABKAR Akbulak array 42.01 73 P **P 12 42 09.1 +0.1**
TIXI Tiksi 42.03 15 *ce*P **P 12 42 10.9 +2.0**
TIXI pmax pmax
comp=Z,76nm,1.3s
TOLK Toolik Lake Re 42.73 336 P **P 12 42 16.7 +2.0**
TOLK IAmb IAmb 12 42 22.4
comp=Z,23nm,1.1s
H43A Windswept, Lux 42.74 277 P **P 12 42 15.7 +0.7**
BMAR Burnt Mountain 42.88 333 P **P 12 42 16.7 +0.8**
G40A Rib Lake 43.13 280 P **P 12 42 18.6 +0.4**
G40A IAmb IAmb 12 42 22.9
comp=Z,15nm,1.2s
BRVK Borovoye 43.14 62 *ce*P **P 12 42 19.4 +1.2**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 43.14 62 P **P 12 42 18.5 +0.3**
L48A N Adams 43.35 272 P **P 12 42 19.1 -0.9**
L48A IAmb IAmb 12 42 22.4
comp=Z,19nm,1.1s
MARD Mardin 43.53 100 P **P 12 42 23.5 +1.8**
MARD IAmb IAmb 12 42 29.1
comp=Z,14nm,1.0s
I42A Draeger Farm, 43.69 277 P **P 12 42 22.0 -0.7**
I42A IAmb IAmb 12 42 33.4
comp=Z,17nm,1.4s
FYU Fort Yukon 43.76 333 P **P 12 42 22.3 -0.7**
F36A Milaca 44.06 283 P **P 12 42 25.4 -0.3**
F36A IAmb IAmb 12 42 32.1
comp=Z,13nm,1.4s
N49A Columbus Grove 44.08 271 P **P 12 42 26.4 +0.5**
ACSO Alum Creek Sta 44.14 269 P **P 12 42 24.0 -2.4**
ACSO IAmb IAmb 12 42 31.2
comp=Z,17nm,1.2s
S58A Poland Farm, P 44.21 262 P **P 12 42 23.8 -3.1**
Q54A Coxs Mills 44.25 266 P **P 12 42 28.8 +1.5**
Q54A IAmb IAmb 12 42 34.4
comp=Z,12nm,1.1s
SPMN Marine on St. 44.27 282 P **P 12 42 26.5 -0.8**
SPMN IAmb IAmb 12 42 33.0
comp=Z,15nm,1.2s
K43A Burlington 44.41 276 P **P 12 42 26.6 -1.8**
EGAK Eagle 44.46 329 P **P 12 42 29.3 +0.7**
TAM Tamanrasset 44.53 149 P **P 12 42 31.0 +1.2**
TAM pmax pmax
comp=Z,12nm,1.5s
TAM Tamanrasset 44.53 149 P **P 12 42 31.0 +1.2**
TAM IAmb IAmb 12 42 37.6
comp=Z,12nm,1.5s
O49A Covington 44.76 270 P **P 12 42 30.9 -0.4**
O49A IAmb IAmb 12 42 33.7
comp=Z,14nm,0.9s
P51A Williamsport 44.79 269 P **P 12 42 31.3 -0.3**
P51A IAmb IAmb 12 42 36.1
comp=Z,15nm,1.1s
IL31 45.67 332 P **P 12 42 39.5 +1.3**
IL31 IAmb IAmb 12 42 44.7
comp=Z,14nm,1.4s
ILAR Eielson Array 45.67 332 P **P 12 42 39.8 +1.5**
comp=Z,6.3nm,1.1s,baz=27,slow=5.6,SNR=18
ILAR PcP **PcP 12 44 16.2 +0.2**
comp=Z,2.2nm,1.0s,baz=348,slow=3.7,SNR=6.9
ILAR LR LR 13 03 15.4
comp=Z,44nm,20.3s,baz=42,slow=38
ILAR Eielson Array 45.67 332 P **P 12 42 39.6 +1.4**
MDM Murphy Dome 45.76 333 P **P 12 42 40.1 +1.1**
COLA College 45.77 333 P **P 12 42 39.9 +0.9**
COLA pmax pmax
comp=Z,25nm,1.2s
COLA College 45.77 333 P **P 12 42 39.9 +0.9**
P48A Milroy 45.83 271 P **P 12 42 38.3 -1.5**
P48A IAmb IAmb 12 42 41.7
comp=Z,8.2nm,0.9s
IMAR Indian Mountai 45.84 337 P **P 12 42 41.4 +1.8**

HDA Harding Lake 46.00 332 P **P 12 42 42.0 +1.1**
BCAR Beaver Creek A 46.09 328 P **P 12 42 42.8 +1.1**
L40A Anamosa 46.16 278 P **P 12 42 43.3 +0.8**
L40A IAmb IAmb 12 42 48.7
comp=Z,14nm,1.2s
R50A Paris 46.34 269 P **P 12 42 43.9 0.0**
R50A IAmb IAmb 12 42 50.1
comp=Z,17nm,1.4s
S51A Beattyville 46.56 268 P **P 12 42 43.8 -1.8**
MCK McKinley 47.00 333 P **P 12 42 49.9 +1.1**
MCK pmax pmax
comp=Z,16nm,1.2s
MCK McKinley 47.00 333 P **P 12 42 49.9 +1.1**
BPAW Bear Paw Mtn. 47.06 334 P **P 12 42 49.2 0.0**
BPAW IAmb IAmb 12 42 56.2
comp=Z,12nm,1.2s
ECSD EROS Data Cent 47.08 284 P **P 12 42 48.1 -1.5**
ECSD IAmb IAmb 12 42 54.6
comp=Z,8.3nm,1.3s
WCI Wyandotte Cave 47.23 271 P **P 12 42 50.0 -0.8**
WCI pmax pmax
comp=Z,10.0nm,0.8s
WCI Wyandotte Cave 47.23 271 P **P 12 42 50.0 -0.8**
BILL Bilibino 47.54 358⇓ *e*P **P 12 42 55.1 +2.2**
BILL *e* 12 43 00.8
BILL 12 44 23.0
BILL pmax pmax
comp=Z,37nm,1.6s
ZAA0 Zalesovo Array 47.64 51 P **P 12 42 54.0 +0.1**
ZAA0 IAmb IAmb 12 42 55.5
comp=Z,11nm,1.4s
ZALV Zalesovo Beam 47.64 51 P **P 12 42 54.2 +0.4**
comp=Z,0.9nm,0.4s,baz=339,slow=7.9,SNR=6.5
ZALV LR LR 13 04 39.8
comp=Z,78nm,18.1s,baz=298,slow=38
ZALV Zalesovo Beam 47.64 51 P **P 12 42 53.7 -0.1**
KURK Kurchatov 48.12 58 *ce*P **P 12 42 58.1 +0.5**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 48.12 58 P **P 12 42 57.7 +0.1**
KURK IAmb IAmb 12 43 03.2
comp=Z,9.8nm,0.9s
T47A Sharon Grove 48.62 270 P **P 12 43 02.2 +0.6**
S44A Carbondale 48.95 273 P **P 12 43 02.5 -1.6**
S44A IAmb IAmb 12 43 06.9
comp=Z,9.8nm,1.1s
W50A Signal Mountai 49.36 268 P **P 12 43 06.7 -0.6**
V48A Smith Brothers 49.55 269 P **P 12 43 09.3 +0.6**
V48A IAmb IAmb 12 43 16.9
comp=Z,9.2nm,1.2s
N33A J Bar K, Exete 49.90 282 P **P 12 43 09.0 -2.3**
T42A Van Buren 50.29 274 P **P 12 43 13.5 -0.9**
T42A IAmb IAmb 12 43 19.7
comp=Z,9.3nm,1.2s
GEYT Alibeck 50.44 84 P **P 12 43 16.1 +0.5**
comp=Z,2.3nm,0.7s,baz=289,slow=14,SNR=5.0
GEYT LR LR 13 07 10.3
comp=Z,91nm,19.3s,baz=345,slow=39
GCMT Greycliff 50.66 295 P **P 12 43 18.0 +0.7**
S39A Bolivar 50.69 276 P **P 12 43 17.6 +0.2**
PLAL Pickwick Lake 50.73 270 P **P 12 43 16.8 -0.9**
X48A Hartselle 50.74 269 P **P 12 43 17.9 +0.2**
YAK Yakutsk 51.27 19 *i* P **P 12 43 21.8 +0.5**
YAK pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 51.29 70 P **P 12 43 22.7 +0.9**
KK31 pmax pmax
comp=Z,9.0nm,1.3s
KK31 Karatay Array 51.29 70 P **P 12 43 22.7 +0.9**
KK31 IAmb IAmb 12 43 24.2
comp=Z,9.2nm,1.2s
KKAR Karatay Array 51.29 70 P **P 12 43 22.1 +0.2**
KKAR 12 43 22.7
KKAR pmax pmax
comp=Z,9.0nm,1.3s
KKAR Karatay Array 51.29 70 P **P 12 43 22.7 +0.8**
KKAR Karatay Array 51.29 70 P **P 12 43 22.1 +0.2**
KKAR IAmb IAmb 12 43 24.2
comp=Z,9.2nm,1.2s
YNE Yellowstone No 51.45 295 P **P 12 43 24.7 +1.4**
BOZ Bozeman (W) 51.59 297 P **P 12 43 25.5 +1.3**
BOZ pmax pmax
comp=Z,25nm,1.4s
BOZ Bozeman (W) 51.59 297 P **P 12 43 25.5 +1.3**
U40A Yellville 51.62 275 P **P 12 43 24.2 -0.2**
U40A IAmb IAmb 12 43 32.8
comp=Z,9.4nm,1.2s
LRM Limekiln Ridge 51.71 297 P **P 12 43 25.9 +0.6**
LRAL Lakeview Retre 51.93 268 P **P 12 43 26.9 +0.2**
LRAL IAmb IAmb 12 43 34.9
comp=Z,18nm,1.4s
DGZ Jazzator, Alta 52.09 53 *i* P **P 12 43 29.6 +1.7**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
WHAR Wooly Hollow 52.28 274 P **P 12 43 28.9 -0.3**
WHAR IAmb IAmb 12 43 35.1
comp=Z,14nm,1.2s
MAKZ Makanchi 52.61 58 P **P 12 43 31.6 0.0**
MAKZ pmax pmax
comp=Z,8.0nm,1.3s
MAKZ Makanchi 52.61 58 P **P 12 43 31.6 0.0**
MCMT McKenzie Canyo 52.70 297 P **P 12 43 33.5 +0.9**
MK31 Makanchi Array 52.74 58 P **P 12 43 32.9 +0.3**
MK31 pmax pmax
comp=Z,7.0nm,1.3s
MK31 Makanchi Array 52.74 58 P **P 12 43 32.9 +0.3**
MKAR Makanchi Array 52.74 58 P **P 12 43 32.9 +0.4**
comp=Z,2.6nm,0.9s,baz=336,slow=5.6,SNR=16
MKAR LR LR 13 07 50.3
comp=Z,49nm,18.5s,baz=314,slow=38
MKAR Makanchi Array 52.74 58 P **P 12 43 32.7 +0.1**
PHWY Pilot Hill 52.74 289 P **P 12 43 31.5 -1.5**
PHWY IAmb IAmb 12 43 40.0
comp=Z,8.0nm,1.1s
IMW Indian Meadow 52.74 295 P **P 12 43 33.4 +0.4**
LOHW Long Hollow 52.85 295 P **P 12 43 32.5 -1.2**
FXWY Fox Creek 53.00 295 P **P 12 43 35.4 +0.6**
W39A Magazine 53.00 275 P **P 12 43 34.3 -0.3**
W39A IAmb IAmb 12 43 36.2
comp=Z,18nm,1.5s
BW06 Boulder Array 53.15 293 P **P 12 43 36.1 +0.1**
BW06 IAmb IAmb 12 43 41.4
comp=Z,16nm,1.2s
PD31 Pinedale Array 53.15 293 P **P 12 43 36.4 +0.4**
PD31 IAmb IAmb 12 43 41.5
comp=Z,14nm,1.2s
PDAR Pinedale Array 53.15 293 P **P 12 43 36.1 +0.1**
comp=Z,6.7nm,1.0s,baz=58,slow=6.8,SNR=26
PDAR LR LR 13 05 53.8
comp=Z,156nm,18.9s,baz=31,slow=36
TOA0 Torodi Ar. Sit 53.16 156 P **P 12 43 34.7 -1.2**
TOA0 IAmb IAmb 12 43 51.3
comp=Z,13nm,1.4s
TORD Torodi Ar. Bea 53.16 156 P **P 12 43 35.1 -0.9**
comp=Z,3.4nm,1.0s,baz=347,slow=7.4,SNR=12
TORD Torodi Ar. Bea 53.16 156 P **P 12 43 35.0 -0.9**
AAK Ala-Archa 53.27 67 *ce*P **P 12 43 38.6 +1.8**
AAK pmax pmax
comp=Z,37nm,1.7s
N23A Red Feather La 53.28 289 P **P 12 43 38.1 +1.2**
ISCO Idaho Springs 54.07 288 P **P 12 43 44.1 +1.3**
ISCO pmax pmax
comp=Z,5.0nm,1.3s
ISCO Idaho Springs 54.07 288 P **P 12 43 44.1 +1.3**
U32A Winter Ranch, 54.22 280 P **P 12 43 44.2 +0.7**
BMO Blue Mountains 54.36 300 P **P 12 43 44.6 0.0**
BMO pmax pmax
comp=Z,7.0nm,1.3s
BMO Blue Mountains 54.36 300 P **P 12 43 44.6 0.0**
W35A Tecumseh 54.36 278 P **P 12 43 44.3 -0.3**
HLID Hailey 54.37 297 P **P 12 43 44.2 -0.6**
CHGR Chuyangaron 54.48 74 P **P 12 43 46.1 +0.6**
NLWA Neilton Lookou 54.53 307 P **P 12 43 46.0 +0.3**
Q24A Divide 54.59 287 P **P 12 43 46.7 +0.1**
Q24A IAmb IAmb 12 43 53.5
comp=Z,8.6nm,1.4s
MOY Mondy 54.66 42 *e*P **P 12 43 48.6 +1.9**
MOY pmax pmax
comp=Z,30nm,1.7s
GAR Garm 54.67 73 P **P 12 43 48.0 +1.1**
O20A White River Ci 54.86 290 P **P 12 43 48.7 +0.3**
O20A IAmb IAmb 12 43 55.3
comp=Z,10nm,1.1s
HWUT Hardware Ranch 54.93 294 P **P 12 43 49.2 +0.4**

RDMU Red Mountain 55.02 292 P **P** **12 43 50.3 +0.7**
TARG Taragay, Kyrgy 55.34 65 P **P** **12 43 52.9 +0.7**
TARG IAmb IAmb 12 43 56.0
comp=Z,9.1nm,1.1s
TLY Talaya 55.40 40 LR LR 13 08 42.0
comp=Z,72nm,21.3s,baz=346,slow=37
WMOK Wichita Mounta 55.52 279 P **P** **12 43 53.6 +0.5**
WMOK pmax pmax
comp=Z,12nm,1.4s
WMOK Wichita Mounta 55.52 279 P **P** **12 43 53.6 +0.5**
WMOK IAmb IAmb 12 43 58.3
comp=Z,12nm,1.4s
MA2 Magadan 55.75 7 LR LR 13 06 21.5
comp=Z,52nm,18.4s,baz=99,slow=34
SDCO Great Sand Dun 55.77 287 P **P** **12 43 55.1 0.0**
CTU Camp Tracy 55.78 293 P **P** **12 43 53.8 -1.2**
Z35A Perchaven, San 56.08 277 P **P** **12 43 55.8 -1.2**
BGU Big Grassy Mou 56.08 295 P **P** **12 43 56.5 -0.7**
S22A 4UR Ranch, Cre 56.32 288 P **P** **12 43 58.5 -0.6**
P17A Butcher Ranch, 56.42 292 P **P** **12 44 00.2 +0.6**
ZAK Zakamensk 56.47 41 *eP* **P** **12 44 00.9 +1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
KSH Kashi 56.51 68 P **P** **12 44 03.3 +3.1**
KSH S **S** **12 51 51.5 +0.2**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,150nm,8.0s
KSH LR LR
comp=N,190nm,9.2s
KSH LR LR
comp=E,170nm,6.2s
KSH LR LR
comp=Z,190nm,7.1s
DUG Dugway, Tooele 56.62 294 P **P** **12 44 02.5 +1.5**
DUG Dugway, Tooele 56.62 294 P **P** **12 44 02.5 +1.5**
DUG IAmb IAmb 12 44 11.7
comp=Z,16nm,1.5s
PV14 Lion Creek, Pa 56.67 290 P **P** **12 44 02.4 +0.9**
PV14 IAmb IAmb 12 44 03.4
comp=Z,6.8nm,0.8s
PV16 Nyswonger Mesa 56.68 290 P **P** **12 44 02.1 +0.5**
PV01 Paradox Valley 56.70 289 P **P** **12 44 02.3 +0.7**
PV01 IAmb IAmb 12 44 13.0
comp=Z,15nm,1.3s
PV02 Paradox Valley 56.70 290 P **P** **12 44 02.3 +0.7**
PV03 Paradox Valley 56.70 290 P **P** **12 44 02.6 +1.0**
PV17 East Wray Mesa 56.73 290 P **P** **12 44 02.4 +0.6**
PV17 IAmb IAmb 12 44 12.5
comp=Z,7.2nm,0.9s
PV18 Skein Mesa, Pa 56.74 290 P **P** **12 44 01.9 0.0**
PV18 IAmb IAmb 12 44 08.5
comp=Z,8.1nm,0.9s
TMUT Trail Mountain 56.76 292 P **P** **12 44 02.1 -0.1**
PV13 Radium Mtn., P 56.77 290 P **P** **12 44 03.0 +0.8**
Q16A Castle Valley 57.07 292 P **P** **12 44 04.0 -0.3**
WMQ Urumqi 57.24 56 *eP* P 12 44 08.8 +3.6
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.3s
MSU Marysvale 57.82 292 P **P** **12 44 10.8 +1.3**
MSU Marysvale 57.82 292 P **P** **12 44 10.8 +1.3**
MTPU Mount Pierson 58.23 292 P **P** **12 44 12.7 +0.1**
ANMO Albuquerque 58.57 286 *ceP* **P** **12 44 16.2 +1.4**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 58.57 286 P **P** **12 44 14.9 +0.1**
DBIC Dimbokro 58.60 165 P **P** **12 44 14.6 -0.4**
comp=Z,3.8nm,0.8s,baz=9.3,slow=12,SNR=2.4
DBIC Dimbokro 58.60 165 P **P** **12 44 13.2 -1.7**
DBIC IAmb IAmb 12 44 21.1
comp=Z,8.4nm,1.0s
TIC Toumodi 58.61 165 *eP* **P** **12 44 14.6 -0.4**
KIC Kosan Boka 58.92 165 *eP* **P** **12 44 16.7 -0.5**
comp=Z,48nm,1.4s
LIC Lamto 59.03 165 *eP* **P** **12 44 16.5 -1.4**
comp=Z,24nm,1.2s
R11A Troy Canyon, C 59.30 295 P **P** **12 44 20.4 +0.5**
R11A IAmb IAmb 12 44 35.8
comp=Z,9.9nm,1.5s
KNB Kanab 59.37 292 P **P** **12 44 20.9 +0.6**
KNB pmax pmax
comp=Z,11nm,1.5s
KNB Kanab 59.37 292 P **P** **12 44 20.9 +0.6**
SONM Songino Array 59.65 40 P **P** **12 44 22.5 +0.5**
comp=Z,1.5nm,0.9s,baz=328,slow=6.0,SNR=5.9
SONM Songino Array 59.65 40 P **P** **12 44 22.2 +0.2**
KVN Kaiserville 59.66 298 P **P** **12 44 23.2 +0.9**
KVN pmax pmax
comp=Z,7.0nm,1.2s
KVN Kaiserville 59.66 298 P **P** **12 44 23.2 +0.9**
KVN IAmb IAmb 12 44 24.7
comp=Z,7.1nm,1.2s
U15A North Rim 59.66 291 P **P** **12 44 23.0 +0.5**
ULN Ulaanbaatar 59.80 40 *ceP* **P** **12 44 25.0 +1.9**
ULN pmax pmax
comp=Z,14nm,2.5s
WUAZ Wupatki 60.09 290 P **P** **12 44 25.2 -0.1**
NV11 Mina Array Sit 60.22 297 P **P** **12 44 26.0 -0.1**
NVAR Mina Array Bea 60.28 297 P **P** **12 44 27.6 +0.9**
comp=Z,0.9nm,0.9s,baz=56,slow=3.7,SNR=5.2
NVAR LR LR 13 10 24.5
comp=Z,194nm,18.2s,baz=27,slow=36
NVAR Mina Array Bea 60.28 297 P **P** **12 44 26.3 -0.3**
NIL Nilore 60.47 73 P **P** **12 44 28.0 +0.3**
NIL pmax pmax
comp=Z,19nm,1.3s
NIL Nilore 60.47 73 P **P** **12 44 28.0 +0.3**
SHPR Sheep Range 60.74 294 P **P** **12 44 29.4 -0.3**
SHPR IAmb IAmb 12 44 41.4
comp=Z,9.1nm,1.2s
TPNV Topopah Spring 60.78 295 P **P** **12 44 29.9 0.0**
TPNV pmax pmax
comp=Z,4.0nm,1.2s
TPNV Topopah Spring 60.78 295 P **P** **12 44 29.9 0.0**
MNTX Cornudas Mount 60.93 283 P **P** **12 44 31.2 +0.3**
X16A Lo Mia Camp, P 61.07 290 P **P** **12 44 33.3 +1.3**
X16A IAmb IAmb 12 44 38.8
comp=Z,11nm,1.3s
TX31 Lajitas Ar. Si 62.26 280 P **P** **12 44 40.4 +0.4**
TX32 Lajitas Array 62.26 280 P **P** **12 44 40.4 +0.4**
TX32 IAmb IAmb 12 44 44.1
comp=Z,5.2nm,1.2s
TXAR Lajitas Array 62.26 280 P **P** **12 44 41.1 +1.1**
comp=Z,1.3nm,0.9s,baz=52,slow=4.9,SNR=12
TXAR PcP **PcP** **12 45 20.9 +1.1**
comp=Z,1.0nm,1.0s,baz=38,slow=1.6,SNR=2.7
TXAR LR LR 13 10 38.5
comp=Z,145nm,21.3s,baz=0.0,slow=35
TXAR Lajitas Array 62.26 280 P **P** **12 44 40.3 +0.3**
PET Petropavlovsk 62.60 3 P **P** **12 44 41.8 +0.1**
PET pmax pmax
comp=Z,39nm,1.4s
PET Petropavlovsk 62.60 3 P **P** **12 44 41.8 +0.1**
GTA Gaotai 65.31 49 *eP* **P** **12 45 01.0 +1.0**
GTA pP sP 12 45 05.5 +0.4
GTA sP pP 12 45 08.0 +4.3
GTA S **S** **12 53 43.3 -0.2**
GTA Gaotai 65.31 49 SS SS 12 57 55.5 +0.1
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,170nm,8.0s
GTA LR LR
comp=N,100nm,18.5s
GTA LR LR
comp=E,140nm,16.4s
GTA LR LR
comp=Z,180nm,18.9s
HHC Hu-ho-hao-te 67.52 40 *eP* **P** **12 45 16.3 +2.2**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.2s
LZH Lanzhou 69.64 48 *eP* **P** **12 45 27.0 -0.4**
LZH pP pP 12 45 30.3 -0.9
LZH sP sP 12 45 32.0 -0.6
LZH *eP*P **PP** **12 48 03.5 +2.7**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,76nm,8.0s
LZH LR LR
comp=N,200nm,16.5s
LZH LR LR
comp=E,200nm,16.7s
LZH LR LR
comp=Z,380nm,18.6s
ROSC El Rosal 71.91 241 LR LR 13 16 09.1
comp=Z,45nm,18.5s,baz=311,slow=35
KSRS Korea Array 74.65 28 LR LR 13 22 27.2
comp=Z,22nm,18.9s,baz=185,slow=39
SHL Shillong 75.03 62 P **P** **12 45 59.4 -0.4**
SHL pmax pmax
comp=Z,11nm,1.4s
SHL Shillong 75.03 62 P **P** **12 45 59.4 -0.4**
SHL IAmb IAmb 12 46 02.3
comp=Z,11nm,1.4s
ENH Enshi 76.78 45 P **P** **12 46 09.9 +0.4**
CHTO Chiang Mai 83.82 59 P **P** **12 46 47.7 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.3s
CHTO Chiang Mai 83.82 59 P **P** **12 46 47.7 +0.2**
CHTO IAmb IAmb 12 46 48.6
comp=Z,8.0nm,1.3s
CMAR Chiang Mai Arr 84.14 59 P **P** **12 46 49.9 +0.6**
comp=Z,1.1nm,0.6s,baz=317,slow=6.6,SNR=11
CMAR LR LR 13 27 01.2
comp=Z,33nm,19.3s,baz=105,slow=38
CMAR Chiang Mai Arr 84.14 59 *i* P **P** **12 46 49.7 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
BOSA Boshof 98.78 143 LR LR 13 34 00.0
comp=Z,60nm,18.9s,baz=344,slow=36
ASAR Alice Springs 134.97 38 PKhKP PKPpre 12 53 33.3
comp=Z,0.4nm,0.8s,baz=334,slow=3.4,SNR=3.1
ASAR PKP pPKPdf 12 53 38.2 -2.5
comp=Z,1.2nm,0.9s,baz=339,slow=3.3,SNR=7.4
ASAR Alice Springs 134.97 38 PKIKP **PKiKP** **12 53 36.9 -1.5**
ASAR Alice Springs 134.97 38 PKPdf **PKiKP** **12 53 36.9 -1.5**

RSNC ***28*** *12:46:34.5±1.1, 6°.84N×73°.15W, h145km±5km, ML3.2, Mw3.8, Fault plane solution: NP1:φs128.00000°, δ73.00000°, λ-82.00000°.*
IDC ***28*** *12:46:34.4±6.8, 5°.81N×72°.27W, h177km±45km, mb1 3.7/1, mb1mx2.8/23, mbtmp4.2/1, Error ellipse: s-maj=288.8km s-min=86.7km az=154.0*
ISC 28 12:46:31.1±1.3, 6°.93N±0°.04×73°.01W±0°.08, h159km±7km, n22, σ1§46/34, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.37**	**207** ⇓	*iP*	**Pn**	**12 46 54.1**	**+0.8**
BARC				*eS*	**Sn**	**12 47 09.0**	**-1.1**
BARC				*i*		12 47 10.7	
comp=Z,454nm,0.3s							
PAMC	**Pamplona, Colo**	**0.52**	**37** ⇑	*eP*	Pn	12 46 56.5	+2.4
PAMC				*eS*	Sn	12 47 13.4	+1.6
PAMC				*i*		12 47 16.1	
comp=Z,127nm,0.2s							
BRRC	**Barranca, Sant**	**0.72**	**285** ⇑	*iP*	**Pn**	**12 46 55.7**	**+1.0**
BRRC				*eS*	**Sn**	**12 47 12.6**	**-0.1**
BRRC				*i*		12 47 15.9	
comp=Z,552nm,0.1s							
RUSC	**La Rusia**	**1.03**	**184**	*eP*	**Pn**	**12 46 58.4**	**+0.9**
RUSC				*eS*	**Sn**	**12 47 16.8**	**-1.0**
RUSC				*i*		12 47 18.8	
comp=Z,256nm,0.3s							
TAMC	**Tame, Arauca**	**1.31**	**112** ⇑	*iP*	Pn	12 47 02.4	+2.9
TAMC				*i*		12 47 23.0	
comp=Z,97nm,0.2s							
TAMC				*eS*	Sn	12 47 23.9	+2.6
PTBC	**PUERTO BERRIO,**	**1.48**	**255** ⇓	*iP*	**Pn**	**12 47 00.7**	**-0.5**
PTBC				*eS*	**Sn**	**12 47 22.1**	**-2.2**
PTBC				*i*		12 47 27.1	
comp=Z,297nm,0.2s							
SPBC	**San Pablo de B**	**1.65**	**220**	*eP*	**Pn**	**12 47 03.2**	**+0.2**
SPBC				*eS*	**Sn**	**12 47 24.9**	**-2.6**
SPBC				*i*		12 47 28.5	
comp=Z,200nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.92**	**287**	*eP*	**Pn**	**12 47 06.8**	**+0.9**
ZARC				*eS*	**Sn**	**12 47 32.1**	**-0.5**
SMLC	**San Martn de**	**2.14**	**331**	*eP*	**Pn**	**12 47 09.6**	**+1.1**
SMLC				*eS*	**Sn**	**12 47 36.5**	**-0.7**
SMLC				*i*		12 47 47.7	
comp=Z,212nm,0.1s							
CTAB	**Cerro Tablazo,**	**2.24**	**212**	*eP*	**Pn**	**12 47 12.1**	**+2.0**
CHIC	**Chingaza**	**2.39**	**197**	*eP*	**Pn**	**12 47 12.6**	**+0.8**
CHIC				*eS*	**Sn**	**12 47 42.3**	**-0.9**
CHIC				*i*		12 47 50.3	
comp=Z,84nm,0.4s							
ROSC	**El Rosal**	**2.45**	**212**	P	**Pn**	**12 47 14.5**	**+2.1**
comp=Z,45nm,0.3s,baz=78,slow=20,SNR=29							
ROSC				S	**Sn**	**12 47 46.0**	**+1.7**
comp=Z,18nm,0.3s,baz=123,slow=16,SNR=7.3							
ROSC	**El Rosal**	**2.45**	**212**	*eP*	**Pn**	**12 47 14.2**	**+1.7**
ROSC				*eS*	**Sn**	**12 47 44.9**	**+0.5**
ROSC				*i*		12 47 50.4	
comp=Z,152nm,0.3s							
CVER	**Cruz Verde, Cu**	**2.61**	**204**	*eP*	**Pn**	**12 47 16.1**	**+1.5**
PTGC	**Puerto Gaitan,**	**2.84**	**162**	*eP*	**Pn**	**12 47 17.5**	**+0.5**
PTGC				*eS*	**Sn**	**12 47 51.4**	**-1.1**
PTGC				*i*		12 47 57.5	
comp=Z,45nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.89**	**234**	*eP*	**Pn**	**12 47 18.7**	**+0.8**
GUY2C				*i*		12 48 05.5	
comp=Z,91nm,0.5s							
DBBC	**Dabeiba**	**3.17**	**272**	*eP*	**Pn**	**12 47 21.7**	**+0.5**
SJCC	**San Jacinto, C**	**3.65**	**324**	*eP*	**Pn**	**12 47 27.4**	**+0.2**
SJCC				*eS*	**Sn**	**12 48 08.0**	**-2.7**
SJCC				*i*		12 48 12.5	
comp=Z,38nm,0.4s							
PRAC	**Prado**	**3.69**	**210**	*eP*	**Pn**	**12 47 27.9**	**+0.2**
PRAC				*eS*	**Sn**	**12 48 11.4**	**-0.4**
PRAC				*i*		12 48 19.6	
comp=Z,95nm,0.5s							
MACC	**Macarena, Meta**	**4.82**	**190** ⇑	*eP*	**Pn**	**12 47 41.6**	**-0.8**
MACC				*eS*	**Sn**	**12 48 34.4**	**-3.7**
MACC				*i*		12 48 38.1	
comp=Z,21nm,0.7s							
ASAR	**Alice Springs**	**149.26**	**234**	PKPbc	**PKPbc**	**13 06 02.6**	**+0.7**
comp=Z,0.3nm,0.6s,baz=116,slow=3.2,SNR=4.2							
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	**PKPbc**	**13 06 05.8**	**+0.8**
comp=Z,0.4nm,0.4s,baz=110,slow=2.6,SNR=9.0							

IDC ***28*** *12:51:11.5±0.5, 2°.43N×126°.64E, h0km, mb4.4/23, mb1 4.5/24, mb1mx4.4/37, mbtmp4.4/24, ML4.1/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/36, Error ellipse: s-maj=21.5km s-min=11.0km az=76.0*
BJI ***28*** *12:51:16.5±0.0, 2°.31N×127°.09E, h65km, mB5.1/7, mb4.6/12, Ms4.2/1, Ms7 3.8/1*
KLM ***28*** *12:51:18.0, 2°.50N×127°.12E, h67km, mb4.5*
NEIC ***28*** *12:51:18.2±2.5, 2°.44N±0°.08×126°.81E±0°.08, h50km±6km, mb4.6/59, Error ellipse: s-maj=12.5km s-min=9.5km az=45.0*
DJA ***28*** *12:51:18.3±0.3, 2°N±3°×12°7E±°, h59km±6km, M4.3/11, mb4.5/11, mB4.8/5, MLv4.3/11, Mw(mB)4.1/5*
ISC 28 12:51:18.2±0.3, 2°.45N±0°.04×126°.79E±0°.06, h50km, n145, σ1§29/148, mb4.5/51, MS3.5/10, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.76**	**161**	P	**Pn**	**12 51 45.8**	**-0.6**
TNTI	**Ternate**	**1.76**	**161**	Pn	**Pn**	**12 51 46.0**	**-0.3**
KMSI	**Cibinong**	**3.37**	**236**	P	**Pn**	**12 52 10.4**	**+2.0**
DDMP	**Don Marcelino,**	**3.79**	**344**	*eP*	**Pn**	**12 52 13.0**	**-1.2**
GTOI	**Gorontalo**	**4.18**	**245**	P	**Pn**	**12 52 22.0**	**+2.4**
MATI	**Mati**	**4.50**	**353**	*eP*	**Pn**	**12 52 27.7**	**+3.8**
MATI				*eS*	**Sn**	**12 53 14.4**	**-0.6**
SANI	**Sanana**	**4.54**	**190**	P	**Pn**	**12 52 24.5**	**0.0**
SKMP	**Bagumbayan, Su**	**4.62**	**331**	*eP*	**Pn**	**12 52 24.9**	**-0.7**
SKMP				*eS*	**Sn**	**12 53 18.8**	**+0.8**
KCP	**Kidapawan**	**4.84**	**340** ⇓	*eP*	**Pn**	**12 52 31.6**	**+3.0**
LUWI	**Luwuk**	**5.31**	**229**	P	**Pn**	**12 52 36.1**	**+1.1**
1.1nm2μm144nm,0.7s							
LUWI	**Luwuk**	**5.31**	**229**	Pn	**Pn**	**12 52 39.6**	**+4.7**
SIJI	**Sorong**	**5.56**	**126**	Pn	**Pn**	**12 52 38.6**	**+0.2**
5.2nm,0.3s,baz=342,slow=22,SNR=10							
SIJI				LR	LR	12 55 01.3	
comp=Z,743nm,20.1s,baz=324,slow=40							
NLAI	**Namlea**	**5.66**	**177**	P	**Pn**	**12 52 40.1**	**+0.3**
0.2nm2μm32nm,0.5s							
BUKP	**Musuan**	**5.66**	**342**	*eP*	**Pn**	**12 52 42.4**	**+2.4**
BUKP				*eS*	**Sn**	**12 53 44.4**	**+0.7**
PAGZ	**Pagadian**	**6.35**	**328**	*eP*	**Pn**	**12 52 48.8**	**-0.5**
PAGZ				*eS*	**Sn**	**12 53 57.1**	**-3.4**
MPSI	**Mapaga**	**7.20**	**253**	P	**Pn**	**12 53 03.3**	**+2.3**
0.1nm491nm29nm,0.8s							
MYLDM	**Lahad Datu**	**8.70**	**288**	Pn	**Pn**	**12 53 22.8**	**+1.2**
BKSI	**Bulukumba**	**10.20**	**221**	P	**Pn**	**12 53 43.6**	**+1.6**
14nm,0.7s							
SPMM	**Sapulut**	**10.54**	**283**	P	**Pn**	**12 53 51.0**	**+4.1**
KKM	**Kota Kinabalu**	**11.13**	**289**	Pn	**Pn**	**12 53 58.0**	**+3.0**
SOEI	**Soe**	**12.38**	**192**	P	**Pn**	**12 54 11.6**	**-0.4**
GENI	**Genyem**	**14.28**	**110**	P	**P**	**12 54 45.5**	**+1.8**
SBUM	**Sibu**	**14.56**	**270**		**P**	**12 54 48.4**	**+1.6**
SBUM	**Sibu**	**14.56**	**270**	P	**P**	**12 54 49.0**	**+2.2**
MTN	**Manton Dam**	**15.79**	**164**	P	**P**	**12 55 00.5**	**0.0**
KSM	**Kuching**	**16.50**	**267**	P	**P**	**12 55 08.5**	**+0.1**
KNRA	**Kununurra**	**18.11**	**174**	P	**P**	**12 55 25.1**	**-1.2**
PWJI	**Pagerwojo**	**18.21**	**235**	P	**P**	**12 55 26.4**	**-0.9**
18nm,0.7s							
TPI	**Tanjungpandan**	**19.82**	**255**	P	**P**	**12 55 45.8**	**+0.9**
DLV	**T Lat**	**20.44**	**298**	P	**P**	**12 55 52.3**	**+0.4**
DLV				IAmb	IAmb	12 55 58.5	
comp=Z,28nm,1.0s							
FITZ	**Fitzroy Crossi**	**20.45**	**183**	P	**P**	**12 55 51.6**	**-0.1**
comp=Z,10nm,0.7s,baz=0.7,slow=8.3,SNR=29							
FITZ				LR	LR	13 03 45.9	
comp=Z,66nm,19.4s,baz=5.0,slow=37							
FITZ	**Fitzroy Crossi**	**20.45**	**183**	P	**P**	**12 55 52.0**	**+0.3**
TWG	**Pinlang**	**21.00**	**345**	P	**P**	**12 55 56.3**	**-1.3**
LEM	**Lembang**	**21.24**	**244**	LR	LR	13 05 42.1	
comp=Z,145nm,18.1s,baz=130,slow=41							
YULB	**Yu-li**	**21.49**	**346**	P	**P**	**12 56 01.1**	**-1.7**
TPUB	**Ta-pu**	**21.57**	**344**	P	**P**	**12 56 01.8**	**-2.0**
TPUB				IAmb	IAmb	12 56 10.1	
comp=Z,28nm,1.3s							
YHNB	**Yeheng**	**22.70**	**347**	P	**P**	**12 56 17.0**	**+1.1**
YHNB				IAmb	IAmb	12 56 17.4	
comp=Z,30nm,1.3s							
COEN	**Coen**	**23.01**	**136**	P	**P**	**12 56 18.4**	**-0.8**
WB0	**Warramunga Arr**	**23.31**	**162**	P	**P**	**12 56 20.9**	**-1.1**
WB0				IAmb	IAmb	12 56 31.6	
comp=Z,18nm,0.8s							
QIZ	**Qiongzhong**	**23.38**	**316**	P	**P**	**12 56 24.4**	**+1.7**
QIZ				IAmb	IAmb	12 56 39.2	
comp=Z,16nm,1.1s							
WRAB	**Tennant Creek**	**23.45**	**162**	P	**P**	**12 56 22.4**	**-1.0**
WRAB				IAmb	IAmb	12 56 41.5	
comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**23.45**	**162**	P	**P**	**12 56 22.3**	**-1.1**
comp=Z,4.1nm,0.4s,baz=340,slow=11,SNR=113							
WRA				PcP	**PcP**	**13 00 09.2**	**+0.7**
comp=Z,0.6nm,0.5s,baz=331,slow=2.3,SNR=6.3							
WRA				S	**S**	**13 00 32.7**	**-0.7**
comp=Z,2.2nm,0.9s,baz=342,slow=19,SNR=6.5							
WB2	**Warramunga Arr**	**23.46**	**162**	P	**P**	**12 56 22.4**	**-1.0**
WB2				IAmb	IAmb	12 56 33.0	
comp=Z,16nm,0.8s							
PMG	**Port Moresby**	**23.46**	**120**	LR	LR	13 06 06.3	
comp=Z,231nm,21.3s,baz=276,slow=38							
WR0	**Warramunga Arr**	**23.53**	**161**	P	**P**	**12 56 23.2**	**-1.0**
PSA00	**Pilbara Seismi**	**24.82**	**196**	P	**P**	**12 56 37.1**	**+1.1**
PSA00				IAmb	IAmb	12 56 42.6	
comp=Z,18nm,1.2s							
IPM	**Ipoh**	**25.79**	**275**	P	**P**	**12 56 45.1**	**+0.2**
KRVT	**Keravat (AS076**	**26.10**	**105**	LR	LR	13 06 10.4	
comp=Z,142nm,21.6s,baz=295,slow=34							
AS31	**Alice Springs**	**26.87**	**165**	P	**P**	**12 56 53.9**	**-0.6**
ASAR	**Alice Springs**	**26.87**	**165**	P	**P**	**12 56 54.0**	**-0.5**
comp=Z,1.5nm,0.5s,baz=346,slow=7.5,SNR=48							
ASAR				PcP	**PcP**	**13 00 16.6**	**+0.5**
comp=Z,1.5nm,0.5s,baz=345,slow=2.2,SNR=7.5							
ASAR				S	**S**	**13 01 24.9**	**-2.9**
comp=Z,0.7nm,1.0s,baz=349,slow=19,SNR=2.8							
ASAR	**Alice Springs**	**26.87**	**165**	P	**P**	**12 56 54.5**	**+0.1**
PSI	**Prapat**	**27.84**	**271**	P	**P**	**12 57 02.6**	**-0.8**
comp=Z,4.9nm,0.7s,baz=109,slow=2.0,SNR=8.9							
PSI				LR	LR	13 09 57.4	
comp=Z,70nm,18.4s,baz=96,slow=41							
RPSI	**Rantau Prapat**	**27.84**	**271**	P	**P**	**12 57 02.6**	**-0.7**
RPSI	**Rantau Prapat**	**27.84**	**271**	P	**P**	**12 57 04.0**	**+0.7**
RPSI				IAmb	IAmb	12 57 07.0	
comp=Z,5.2nm,0.7s							
GSI	**Gunungsitoli**	**29.22**	**268**	P	**P**	**12 57 15.2**	**-0.4**
GSI				IAmb	IAmb	12 57 16.3	
comp=Z,36nm,1.3s							
JNU	**Nakatsue**	**30.75**	**7**	P	**P**	**12 57 30.2**	**+1.3**
JNU				IAmb	IAmb	12 57 48.0	
comp=Z,30nm,1.4s							
CM31	**Chiang Mai Arr**	**31.58**	**302**	P	**P**	**12 57 35.9**	**-0.5**
CM31				IAmb	IAmb	12 57 39.6	
comp=Z,7.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**31.58**	**302**	P	**P**	**12 57 36.0**	**-0.4**
comp=Z,5.5nm,0.9s,baz=118,slow=7.0,SNR=33							
CMAR				LR	LR	13 10 34.4	
comp=Z,67nm,21.7s,baz=166,slow=37							
CMAR	**Chiang Mai Arr**	**31.58**	**302**	P	**P**	**12 57 35.2**	**-1.2**
CHTO	**Chiang Mai**	**31.75**	**303**	P	**P**	**12 57 36.8**	**-1.1**
CHTO				IAmb	IAmb	12 57 39.9	
comp=Z,8.4nm,0.8s							
ENH	**Enshi**	**32.17**	**331**	P	**P**	**12 57 41.0**	**-0.5**
ENH				IAmb	IAmb	12 57 45.0	
comp=Z,11nm,1.1s							
KMI	**Kunming**	**32.33**	**316** ⇑	*iP*	P	12 57 48.3	+5.1
KMI				pmax	pmax		
comp=Z,13nm,0.5s							
KMI				pmax	pmax		
comp=Z,150nm,4.6s							
JHS	**Saijyo**	**32.92**	**10**	P	**P**	**12 57 50.7**	**+2.7**
JHS				IAmb	IAmb	12 57 55.6	
comp=Z,14nm,1.1s							
MORW	**Morawa**	**32.99**	**197**	P	**P**	**12 57 46.7**	**-1.9**
MORW				IAmb	IAmb	12 57 48.3	
comp=Z,31nm,1.5s							
FORT	**Forrest**	**33.06**	**178**	P	**P**	**12 57 49.0**	**-0.2**
JWT	**Wachi**	**33.63**	**13**	P	**P**	**12 57 54.9**	**+0.7**
INU	**Inuyama**	**34.09**	**15**	P	**P**	**12 57 58.9**	**+0.8**
INU				IAmb	IAmb	12 58 00.8	
comp=Z,15nm,1.1s							
JGF	**Kuroka**	**34.41**	**15**	P	**P**	**12 58 01.5**	**+0.6**
JGF				IAmb	IAmb	12 58 07.3	
comp=Z,6.0nm,0.9s							
KSAR	**Wonju Array Be**	**34.84**	**2**	P	**P**	**12 58 05.2**	**+0.7**
KSRS	**Korea Array**	**34.85**	**2**	P	**P**	**12 58 05.5**	**+0.9**
comp=Z,6.1nm,0.9s,baz=177,slow=9.5,SNR=18							
KSRS				PcP	**PcP**	**13 00 38.2**	**+1.3**
comp=Z,1.0nm,0.6s,baz=188,slow=2.3,SNR=4.5							
KS19	**Wonju Array Si**	**34.90**	**1**	P	**P**	**12 58 05.8**	**+0.7**
KS19				IAmb	IAmb	12 58 08.0	
comp=Z,6.9nm,0.7s							
MJAR	**Matsushiro Arr**	**35.53**	**16**	P	**P**	**12 58 09.5**	**-1.0**
comp=Z,3.1nm,0.7s,baz=181,slow=9.9,SNR=12							
MJAR				PcP	**PcP**	**13 00 39.6**	**+0.6**
comp=Z,1.2nm,0.6s,baz=188,slow=4.3,SNR=4.2							
MJAR	**Matsushiro Arr**	**35.53**	**16**	P	**P**	**12 58 10.0**	**-0.5**
BBOO	**Buckleboo**	**36.15**	**167**	P	**P**	**12 58 16.7**	**+0.8**
STKA	**Stephens Creek**	**36.92**	**159**	P	**P**	**12 58 22.6**	**+0.2**
comp=Z,5.8nm,0.4s,baz=338,slow=12,SNR=8.0							
STKA	**Stephens Creek**	**36.92**	**159**	P	**P**	**12 58 23.2**	**+0.7**
JSD	**Sado**	**36.95**	**15**	P	**P**	**12 58 22.2**	**-0.4**
JMM	**Marumori**	**37.52**	**18**	P	**P**	**12 58 28.1**	**+0.7**
JTM	**Tenmabayashi**	**40.29**	**17**	P	**P**	**12 58 51.7**	**+1.1**
JTM				IAmb	IAmb	12 58 53.2	
comp=Z,22nm,1.0s							
ARMA	**Armidale**	**40.38**	**146**	P	**P**	**12 58 52.6**	**+1.0**
ARMA				IAmb	IAmb	12 59 03.0	
comp=Z,18nm,1.4s							
USA0B	**Ussuriysk Arra**	**41.83**	**6**	P	**P**	**12 59 04.8**	**+1.7**
USA0B				IAmb	IAmb	12 59 06.8	
comp=Z,9.3nm,0.8s							
USRK	**Ussuriysk Ar.**	**41.83**	**6**	P	**P**	**12 59 04.3**	**+1.1**
comp=Z,8.3nm,0.8s,baz=195,slow=7.6,SNR=18							
**H11

comp=Z,20nm,0.6s
YSS Yuzh-Sakhalins 46.45 15 P P 12 59 40.9 +0.8
GUN Gumba 46.53 307 eP P 12 59 40.4 -1.1
comp=Z,29nm,0.7s
PKI Pulchoki 46.76 306 eP P 12 59 41.8 -1.5
comp=Z,2.7nm,0.3s
PKIN Phulchoki 46.77 306 eP P 12 59 42.0 -1.4
comp=Z,4.7nm,0.4s
KOLN Koldanda 48.31 306 eP P 12 59 54.2 -1.0
comp=Z,23nm,0.6s
ULN Ulaanbaatar 48.35 342 P P 12 59 56.4 +1.3
ULN IAmb IAmb 13 00 00.8
comp=Z,12nm,1.4s
DANN Dangsing 48.41 306 eP P 12 59 54.9 -1.2
comp=Z,25nm,0.6s
SONM Songino Array 48.52 342 P P 12 59 56.4 0.0
comp=Z,2.7nm,0.7s,baz=166,slow=7.0,SNR=13
SONM PcP PcP 13 01 21.5 -0.2
comp=Z,0.9nm,0.6s,baz=133,slow=4.7,SNR=2.8
SONM Songino Array 48.52 342 P P 12 59 56.8 +0.4
PYUN Piuthan 48.93 306 eP P 12 59 59.0 -1.0
comp=Z,16nm,0.5s
HYB Hyderabad 49.61 291 i P P 13 00 04.5 -0.6
PETK Petropavlovsk- 56.59 22 P P 13 00 57.2 +1.4
comp=Z,4.3nm,1.0s,baz=176,slow=3.9,SNR=4.3
PETK Petropavlovsk- 56.59 22 P P 13 00 55.3 -0.5
MK31 Makanchi Array 58.64 326 P P 13 01 10.2 -0.2
MK31 IAmb IAmb 13 01 10.6
comp=Z,2.5nm,0.8s
MKAR Makanchi Array 58.64 326 P P 13 01 10.0 -0.4
comp=Z,2.5nm,0.4s,baz=120,slow=7.5,SNR=43
MKAR LR LR 13 28 07.2
comp=Z,53nm,20.9s,baz=114,slow=38
MKAR Makanchi Array 58.64 326 P P 13 01 09.7 -0.7
MAKZ Makanchi 58.82 326 P P 13 01 11.4 -0.2
MAKZ IAmb IAmb 13 01 15.2
comp=Z,8.6nm,1.2s
KDJ Kajisay 59.34 319 P P 13 01 15.9 +0.3
KDJ IAmb IAmb 13 01 17.9
comp=Z,7.2nm,1.1s
YAK Yakutsk 59.48 2 P P 13 01 15.9 +0.1
comp=Z,4.3nm,0.3s,baz=183,slow=2.1,SNR=2.8
YAK Yakutsk 59.48 2 P P 13 01 15.3 -0.6
TUWZ Tuamarina 61.12 141 P P 13 01 27.6 +0.2
ZALV Zalesovo Beam 61.75 333 P P 13 01 30.3 -1.2
comp=Z,1.6nm,0.5s,baz=147,slow=4.9,SNR=5.3
ZALV Zalesovo Beam 61.75 333 P P 13 01 31.0 -0.5
KBL Kabul 62.35 308 P P 13 01 35.5 -0.7
GAR Garm 62.83 313 P P 13 01 38.3 -0.9
KURK Kurchatov 62.85 328 P P 13 01 38.5 -0.4
CHGR Chuyangaron 63.56 312 P P 13 01 43.4 -0.6
CHGR IAmb IAmb 13 01 45.2
comp=Z,8.5nm,0.8s
KK31 Karatay Array 64.21 317 P P 13 01 47.2 -0.9
KK31 IAmb IAmb 13 01 49.6
comp=Z,5.9nm,1.0s
KKAR Karatay Array 64.21 317 P P 13 01 46.6 -1.4
NRIK Noril'sk 71.68 346 P P 13 02 34.9 +0.4
comp=Z,6.0nm,0.7s,baz=136,slow=5.4,SNR=6.3
GEYT Alibeck 71.74 309 P P 13 02 35.4 -0.1
comp=Z,2.7nm,0.8s,baz=78,slow=6.8,SNR=4.7
GEYT Alibeck 71.74 309 P P 13 02 34.5 -1.0
ABKAR Akbulak array 73.17 321 P P 13 02 42.6 -1.2
ARU Arti 76.04 328 P P 13 02 59.5 -0.8
TTA Tatalina 82.01 27 P P 13 03 34.8 +1.9
TTA IAmb IAmb 13 03 35.3
comp=Z,5.9nm,1.3s
VNDA Vanda 82.16 173 P P 13 03 33.7 +0.4
comp=Z,1.2nm,0.4s,baz=320,slow=6.0,SNR=19
VNDA LR LR 13 41 27.4
comp=Z,37nm,18.3s,baz=292,slow=37
VNDA Vanda 82.16 173 P P 13 03 33.8 +0.6
MAW Mawson 82.58 200 P P 13 03 36.2 +0.6
comp=Z,2.4nm,0.5s,baz=77,slow=7.2,SNR=12
MAW Mawson 82.58 200 P P 13 03 36.7 +1.1
IMAR Indian Mountai 83.48 24 P P 13 03 41.7 +1.3
KBZ Khabaz 83.90 314 P P 13 03 42.8 -0.2
comp=Z,3.6nm,0.8s,baz=176,slow=6.2,SNR=4.6
MARD Mardin 85.35 307 P P 13 03 51.6 +1.0
ILAR Eielson Array 86.23 25 P P 13 03 55.3 +1.1
comp=Z,0.3nm,0.6s,baz=257,slow=5.1,SNR=2.6
ILAR Eielson Array 86.23 25 P P 13 03 54.9 +0.7
KLMR Klimovskoe 86.54 331 eP P 13 03 54.8 -1.0
KLMR AMP 13 03 57.3
comp=Z,17nm,1.2s
BRTR Keskin Array B 90.88 310 P P 13 04 16.4 -0.6
comp=Z,2.4nm,0.7s,baz=116,slow=3.4,SNR=3.7
BRTR Keskin Array B 90.88 310 P P 13 04 17.0 0.0
ARCES ARCESS Array B 91.66 340 P P 13 04 19.2 -0.6
comp=Z,2.1nm,0.7s,baz=69,slow=4.0,SNR=6.4
ARCES LR LR 13 48 48.5
comp=Z,36nm,19.3s,baz=345,slow=38
AKASG Malin Array Be 92.92 321 P P 13 04 24.4 -1.6
comp=Z,0.3nm,0.4s,baz=70,slow=5.0,SNR=2.1
AKASG Malin Array Be 92.92 321 P P 13 04 23.3 -2.6
FINES FINESS Array B 92.98 332 P P 13 04 25.4 -0.6
comp=Z,1.7nm,0.8s,baz=87,slow=7.8,SNR=3.7
FINES FINESS Array B 92.98 332 P P 13 04 26.1 +0.1
BURAR Bucovina Array 95.99 318 P P 13 04 39.4 -0.9
NOA NORSAR Array B 99.95 334 LR LR 13 53 41.7
comp=Z,35nm,18.1s,baz=60,slow=38
TORD Torodi Ar. Bea 123.36 287 PKP PKPdf 13 10 10.9 0.0
comp=Z,0.6nm,0.5s,baz=89,slow=1.5,SNR=5.5
TORD Torodi Ar. Bea 123.36 287 PKPdf 13 10 11.1 +0.2

*IDC **28** 12:57:40.7±1.4, 5.49S×152.83E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/35, mbtmp3.7/7, ML1.7/1, Error ellipse: s-maj=35.0km s-min=19.3km az=100.0*

ISC 28 12:57:46.1±1.3, 5.55S±0.08×152.7E±0.2, h35km, n9, σ1§29/12, mb3.6/6, New Britain region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KRVT Keravat (AS076 1.40 331 Pn Pn 12 58 08.6 -0.5
91nm,0.3s,baz=156,slow=2.5,SNR=260
KRVT Sn Sn 12 58 27.9 +1.5
65nm,0.3s,baz=151,slow=18,SNR=17
PMG Port Moresby 6.70 235 Pn Pn 12 59 23.5 +1.5
0.8nm,0.3s,baz=14,slow=8.8,SNR=2.3
PMG Sn Sn 13 00 34.8 -2.4
1.6nm,0.3s,baz=111,slow=18,SNR=2.7
WRA Warramunga Arr 22.88 230 P P 13 02 46.6 -0.3
0.9nm,0.6s,baz=54,slow=10.0,SNR=7.6
ASAR Alice Springs 25.54 223 P P 13 03 12.9 +1.2
1.2nm,0.8s,baz=61,slow=8.8,SNR=9.8
FITZ Fitzroy Crossi 29.22 242 P P 13 03 45.1 +0.4
1.3nm,0.6s,baz=360,slow=2.6,SNR=1.8
SONM Songino Array 66.90 328 P P 13 08 33.4 -1.5
0.4nm,0.6s,baz=145,slow=5.3,SNR=2.2
MKAR Makanchi Array 80.82 319 P P 13 09 57.0 +0.7
0.2nm,0.6s,baz=90,slow=4.3,SNR=2.1
ILAR Eielson Array 82.88 22 P P 13 10 06.5 -0.3
0.5nm,0.7s,baz=245,slow=4.9,SNR=6.2
TORD Torodi Ar. Bea 150.43 287 PKPbc PKiKP 13 17 36.1 +0.3
0.5nm,0.7s,baz=61,slow=2.6,SNR=3.3
TORD PKPab sPKPdf 13 17 42.5 -0.4
0.5nm,0.8s,baz=84,slow=4.7,SNR=3.2

*IDC **28** 12:58:06.3±1.5, 5.46S×152.85E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/33, mbtmp3.8/5, Error ellipse: s-maj=36.4km s-min=21.4km az=93.0*

ISC 28 12:58:11.9±1.3, 5.56S±0.09×152.7E±0.2, h35km, n8, σ1§50/10, mb3.7/5, New Britain region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KRVT Keravat (AS076 1.41 332 Pn Pn 12 58 34.0 -1.0
413nm,0.3s,baz=211,slow=7.3,SNR=11
KRVT Sn Sn 12 58 53.8 +1.4
327nm,0.3s,baz=66,slow=22,SNR=11
PMG Port Moresby 6.68 235 Sn Sn 13 01 01.3 -1.2
4.4nm,0.3s,baz=351,slow=19,SNR=2.0
WRA Warramunga Arr 22.86 230 P P 13 03 12.9 +0.5
0.9nm,0.6s,baz=53,slow=9.9,SNR=2.9
ASAR Alice Springs 25.52 223 P P 13 03 38.8 +1.5
1.4nm,0.8s,baz=58,slow=8.9,SNR=5.1
FITZ Fitzroy Crossi 29.20 242 P P 13 04 12.4 +2.0
1.6nm,0.6s,baz=90,slow=20,SNR=2.2
SONM Songino Array 66.90 328 P P 13 08 58.9 -1.8
0.3nm,0.5s,baz=139,slow=7.8,SNR=3.5
ILAR Eielson Array 82.90 22 P P 13 10 33.1 +0.4
0.5nm,0.7s,baz=247,slow=4.9,SNR=4.7
TORD Torodi Ar. Bea 150.42 287 PKPbc PKPbc 13 17 59.7 -1.1
0.6nm,0.8s,baz=76,slow=3.1,SNR=2.8
TORD PKPab PKPab 13 18 07.7 +0.4
0.8nm,0.8s,baz=64,slow=2.8,SNR=3.1

*NCEDC **28** 13:53:10.3±1.4, 40.64N±0.04×125.29W±0.05, h12km±6km, ML3.0/16, Error ellipse: s-maj=7.5km s-min=4.5km az=218.0*

*ANF **28** 13:53:11.0±0.8, 40.81N×124.95W, h1km, ML2.7/9, Error ellipse: s-maj=7.9km s-min=3.8km az=63.0*

ISC 28 13:53:09.1±1.9, 40.65N±0.04×125.32W±0.08, h16km±12km, n92, σ1§05/104, Off coast of northern California

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KCTM Capetown 0.77 103 Pb 13 53 25.1 +1.0
KCTM Sb 13 53 36.2 +1.9
KMPM Mount Pierce 0.94 104 Pg 13 53 27.3 0.0
KSMM Slide Mountain 0.98 117 Pg 13 53 27.5 -0.7
JCC Jacoby Creek, 0.99 80 Pg Pg 13 53 27.3 -1.0
KRPM Rodgers 1.10 62 Pb 13 53 29.1 -0.7
KCRM Chalk Rock 1.16 100 Pb 13 53 30.6 -0.2
KHMM Horse Mountain 1.23 79 Pn 13 53 31.1 -0.6
KMRM Mail Ridge 1.30 109 Pn 13 53 33.0 +0.4
KCSM Cold Springs 1.38 94 Pn 13 53 33.9 0.0
KRMB Red Mountain 1.38 50 Pn 13 53 32.8 -1.0
KBSM Bell Springs 1.50 118 Pn 13 53 35.4 -0.2
KPPM Pickett Peak 1.52 101 Pn 13 53 35.9 +0.1
KOMM Orleans Mounta 1.55 65 Pn 13 53 35.9 -0.3
KHBM Hayfork Bally 1.59 89 Pn 13 53 36.4 -0.4
KSXB Camp Six Broad 1.60 42 Pn 13 53 36.2 -0.7
KIPM Iron Peak 1.64 120 Pn 13 53 37.1 -0.2
KCPM Cahto Peak 1.64 125 Pn 13 53 37.1 -0.3
KFPM Farley Peak 1.76 124 Pn 13 53 38.8 -0.3
KBO Bosley Butte 1.77 27 Pn 13 53 38.7 -0.4
KBNM Bluenose Ridge 1.79 114 Pn 13 53 39.8 +0.4
GTC Three Chop Rid 1.84 132 Pn 13 53 39.4 -0.6
LBPM Beegum Peak 1.89 99 Pn 13 53 40.7 -0.1
LGPM Granite Peak 1.91 81 Pn 13 53 40.6 -0.4
KTRM Thompson Ridge 1.93 49 Pn 13 53 40.9 -0.5
GNAM Navarro Ridge 1.94 138 Pn 13 53 41.2 -0.3
L02E Cave Junction 1.98 40 P Pn 13 53 42.0 -0.1
baz=220,SNR=92
L02E S Sn 13 54 04.5 -2.1
baz=220
L02E Cave Junction 1.98 40 Pn 13 53 41.9 -0.1
O02D Mt. Diablo Mer 1.99 103 P Pn 13 53 42.2 +0.1
baz=285,SNR=12
O02D S Sn 13 54 06.3 -0.5
baz=285
O02D Mt. Diablo Mer 1.99 103 Pn 13 53 42.3 +0.1
M02C Callahan 2.01 67 P Pn 13 53 42.2 -0.2
baz=249,SNR=123
M02C S Sn 13 54 06.1 -1.2
baz=249
M02C Callahan 2.01 67 Pn 13 53 42.4 -0.1
N02D Trinity Center 2.01 80 P Pn 13 53 42.0 -0.5
baz=261,SNR=57
N02D S Sn 13 54 05.6 -1.7
baz=261
N02D Trinity Center 2.01 80 Pn 13 53 42.1 -0.4
LBKM Bonanza King 2.06 77 Pn 13 53 43.0 -0.2
GWRM Wonder Ranch 2.11 132 Pn 13 53 43.4 -0.5
WDC Whiskeytown Da 2.11 91 Pn Pn 13 53 43.5 -0.2
GROM Round Mountain 2.15 109 Pn 13 53 45.1 +0.7
GHMM Hull Mountain 2.16 121 Pn 13 53 44.5 0.0
GVV Valley View 2.20 112 Pn 13 53 45.7 +0.6
GASB Alder Springs 2.23 116 Pn 13 53 45.5 +0.1
YBH Yreka Blue Hor 2.25 60 Pn Pn 13 53 45.8 +0.1
GGUM Gualala 2.27 141 Pn 13 53 45.5 -0.6
KEBM Edson Butte 2.34 18 Pn Pn 13 53 46.9 -0.1
GSNM Snow Mountain 2.36 135 Pn 13 53 47.1 -0.2
GHLM Highland Sprin 2.39 131 Pn 13 53 47.2 -0.5
HOPS Hopland Field 2.39 133 Pn 13 53 47.3 -0.3
HOPS Hopland Field 2.39 133 Pn 13 53 47.9 +0.3
K02D Willamette Mer 2.39 31 P Pn 13 53 47.9 +0.2
baz=211,SNR=832
K02D S Sn 13 54 14.5 -2.3
baz=211
LGBM Gray Butte 2.46 73 Pn 13 53 50.0 +1.1
GTSM Trough Springs 2.47 122 Pn 13 53 48.9 +0.1
LTCM Tuscan Springs 2.48 99 Pn 13 53 49.6 +0.8
B040 Montague 2.48 61 Pn 13 53 49.4 +0.5
M03C McCloud 2.50 74 Pn 13 53 47.8 -1.4
LHEM Herd Peak 2.54 66 Pn 13 53 51.1 +1.2
GACM Adobe Creek 2.59 132 Pn 13 53 50.6 +0.2
GHCM House Creek 2.61 141 Pn 13 53 50.8 +0.1
HUMO Hull Mountain 2.64 41 Pn 13 53 51.7 +0.7
HUMO Hull Mountain 2.64 41 Pn Pn 13 53 51.3 +0.3
FTR Fort Ross 2.70 141 Pn 13 53 51.7 -0.1
LDBM Digger Butte 2.70 93 Pn 13 53 51.9 -0.1
O03E Paynes Creek 2.70 96 P Pn 13 53 51.8 -0.2
baz=279
O03E S Sn 13 54 23.4 -1.0
baz=279
O03E Paynes Creek 2.70 96 Pn 13 53 52.0 +0.1
J01E Myrtle Point 2.72 22 P Pn 13 53 52.4 +0.3
baz=202,SNR=9.6
J01E S Sn 13 54 22.9 -1.7
baz=202
L04D Klamath Falls 2.75 54 P Pn 13 53 54.2 +1.4
baz=236,SNR=23
L04D Klamath Falls 2.75 54 Pn 13 53 54.8 +2.0
LGMM Garner Mountai 2.80 69 Pn 13 53 55.6 +2.3
M04C Macdoel 2.86 65 P Pn 13 53 56.6 +2.4
baz=247,SNR=6.9
DBO Dodson Butte 2.92 31 Pn 13 53 55.7 +0.8
LCMM Colby Mountain 2.94 99 Pn 13 53 55.8 +0.4
LTIM Timbered Crate 2.95 78 Pn 13 53 55.9 +0.5
BBOR Butler Butte 2.98 41 Pn 13 53 57.5 +1.6
ORV Oroville 3.12 109 Pn Pn 13 53 57.6 0.0
NOLM Olema 3.26 142 Pn 13 54 01.2 +1.7
K04D Chiloquin, OR 3.32 52 P Pn 13 54 02.6 +2.1
baz=234,SNR=23
K04D Chiloquin, OR 3.32 52 Pn 13 54 02.7 +2.1
I03D Drain, OR 3.38 25 P Pn 13 54 02.4 +1.2
baz=206,SNR=133
I03D S Sn 13 54 40.4 -0.6
baz=206
I02D Swisshome 3.62 17 P Pn 13 54 05.5 +0.9
baz=198,SNR=28
I02D S Sn 13 54 45.1 -1.9
baz=198
AFDM Forest Hills D 3.75 115 Pn Pn 13 54 06.6 +0.3
I04A Tendick Farm, 3.81 33 P Pn 13 54 08.9 +1.7
baz=215,SNR=74
I04A S Sn 13 54 51.5 -0.3
baz=215
K05A Summer Lake 3.91 56 Pn Pn 13 54 10.2 +1.6
MOD Modoc Plateau 3.98 70 Pn Pn 13 54 11.0 +1.4
J05D Fort Rock, OR 4.03 48 P Pn 13 54 12.3 +2.0
baz=230,SNR=15
COR Corvallis 4.21 20 Pn Pn 13 54 14.2 +1.6
RUBR Rubicon Trail 4.28 110 Pn Pn 13 54 15.0 +1.2
H04D Lebanon 4.32 25 P Pn 13 54 16.2 +2.1
baz=207,SNR=18
H04D S Sn 13 55 03.5 -0.5
baz=207
PAHR Pah Rah Range 4.64 100 Pn Pn 13 54 19.3 +0.7
H04A Detroit Lake 4.65 29 Pn 13 54 20.0 +1.3
PNTR Pine Nut 4.67 108 Pn Pn 13 54 20.1 +1.1
I07A Izee 5.51 50 Pn Pn 13 54 31.9 +1.4
J08A Circle Bar Ran 5.77 60 Pn 13 54 35.8 +1.6
KVN Kaiserville 5.78 104 Pn Pn 13 54 35.8 +1.5
LON Longmire 6.61 21 Pn Pn 13 54 47.8 +2.2

IDC 28 14:03:21.0±4.8, 4.70S×153.05E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.3/26, mbtmp3.4/2, Error ellipse: s-maj=170.8km s-min=44.8km az=114.0, New Ireland region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 23.70 229 P P 14 08 35.1 +0.4
0.4nm,0.5s,baz=50,slow=9.6,SNR=6.9
MKAR Makanchi Array 80.42 319 P P 14 15 35.3 +0.6
0.3nm,0.6s,baz=103,slow=6.5,SNR=4.3
TORD Torodi Ar. Bea 150.52 288 PKPbc PKPbc 14 23 14.5 -1.4
0.3nm,0.7s,baz=51,slow=2.4,SNR=3.9

*ISK **28** 14:14:04.1, 42.24N×26.25E, h7km, ML2.5/5*

ISC 28 14:14:09.3±1.2, 42.07N±0.03×26.37E±0.05, h35km, n19, σ2§10/22, 8C-4D, Bulgaria

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
EDRB Edirne 0.36 129 PG Pn 14 14 15.2 -2.8
EDRB SG Sn 14 14 22.4 -1.6
KDZ Kurdzhali 0.83 240 PG Pn 14 14 22.3 -2.3
KDZ SG Sn 14 14 34.8 -0.8
UKOP Uzunkopru-Edir 0.96 168 PN Pn 14 14 26.4 0.0
UKOP SN Sn 14 14 42.7 +3.9
RDO Rodhopi 1.12 214 PN Pn 14 14 27.8 -0.7
ALN Alexandroupoli 1.20 192 PN Pn 14 14 29.6 0.0
PLD Plovdiv 1.24 272 PN Pn 14 14 26.1 -4.1
RAZG Razgrad 1.49 4 ⇑P Pn 14 14 31.1 -2.6
RAZG Razgrad 1.49 4 ⇑S Sn 14 14 50.1 -1.9
RKY Sarkoy-Tekirda 1.51 156 PN Pn 14 14 34.7 +0.7
SGRR Singureni 2.17 352 ⇑P Pn 14 14 42.3 -0.6
SGRR Singureni 2.17 352 ⇓S Sn 14 15 09.6 +1.1
VLAD Vladila 2.41 324 ⇑P Pn 14 14 47.7 +1.5
VLAD Vladila 2.41 324 ⇑S Sn 14 15 17.5 +3.1
MLR Muntele Rosu 3.43 355 ⇓P Pn 14 14 59.8 -0.6
MLR Muntele Rosu 3.43 355 ⇑S Sn 14 15 40.0 +0.1
VOIR 3.50 345 ⇑P Pn 14 15 01.1 -0.1
VOIR 3.50 345 ⇓S Sn 14 15 43.0 +1.5
ARR Arges 3.52 340 ⇑P Pn 14 15 01.9 +0.3
ARR Arges 3.52 340 ⇓S Sn 14 15 45.1 +3.0

WEL 28 14:46:22.0, 42.5S±1.7×17.3E±.7, h74km±4km, M2.7/11, ML2.8/11, MLv2.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=83.7, South Island

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
THZ Tophouse 0.10 61 P Pn 14 46 33.5 +0.6
DSZ Denniston Nort 0.74 275 P Pn 14 46 38.2 +0.5
NNZ Nelson 0.74 37 P Pn 14 46 38.5 +0.8
NNZ S Sn 14 46 50.4 +1.0
BSWZ Blackbirch Sta 0.82 84 P Pn 14 46 39.9 +1.3
KHZ Kahutara 0.82 137 P Pn 14 46 39.1 +0.5
TUWZ Tuamarina 0.95 67 P Pn 14 46 40.9 +0.8
QRZ Quartz Range 1.00 349 P Pn 14 46 41.4 +0.5
LTZ Lake Taylor 1.04 201 P Pn 14 46 41.9 +0.5
TCW Tory Channel 1.27 62 P Pn 14 46 45.2 +1.1
DUWZ D'Urville Isla 1.32 41 P Pn 14 46 45.5 +0.6
INZ Inchbonnie 1.35 227 P Pn 14 46 45.6 +0.5
INZ S Sn 14 47 02.5 -0.1
OXZ Oxford 1.61 200 S Sn 14 47 07.3 -1.4
CAW Cannon Point 1.85 68 P Pn 14 46 51.4 -0.4
KIW Kapiti Island 1.86 60 P Pn 14 46 52.2 +0.3
WVZ Waitaha Valley 1.97 230 P Pn 14 46 53.7 +0.3
HOWZ Holdsworth Sta 2.25 67 P Pn 14 46 59.3 +2.2
JCZ Jackson Bay 3.71 231 P Pn 14 47 16.9 0.0

IDC 28 14:54:02.9±2.9, 8.12S×111.14E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/41, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=158.8km s-min=19.1km az=53.0, Jawa

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
TGY Tagaytay City 24.12 24 LR LR 15 09 31.5
comp=Z,57nm,18.4s,baz=189,slow=38
WRA Warramunga Arr 25.35 120 P P 14 59 31.6 -0.3
0.8nm,0.7s,baz=294,slow=11,SNR=24
ASAR Alice Springs 26.73 128 P P 14 59 44.5 +0.1
0.4nm,0.3s,baz=303,slow=8.2,SNR=24
STKA Stephens Creek 36.88 134 P P 15 01 13.6 +0.2
2.7nm,1.0s,baz=315,slow=14,SNR=2.8
SONM Songino Array 55.87 356 P P 15 03 42.8 +0.5
0.4nm,0.5s,baz=188,slow=8.4,SNR=2.3
MKAR Makanchi Array 60.40 338 P P 15 04 14.2 +0.2
0.6nm,0.4s,baz=152,slow=7.0,SNR=12
ZALV Zalesovo Beam 65.71 343 P P 15 04 48.3 -0.8
0.4nm,0.3s,baz=134,slow=8.4,SNR=2.0

*IDC **28** 14:54:15.2±0.8, 36.00N×68.97E, h0km, mb3.8/14, mb1 3.9/17, mb1mx3.8/47, mbtmp3.8/17, ML3.5/4, MS3.1/8, Ms1 3.1/8, ms1mx2.8/45, Error ellipse: s-maj=19.1km s-min=15.4km az=27.0*

*BJI **28** 14:54:17.9±0.0, 36.50N×68.92E, h6km, mB4.8/13, mb4.5/16, Ms3.9/4, Ms7 3.6/3*

*NEIC **28** 14:54:19.9±2.7, 36.15N±0.05×68.87E±0.05, h25km±5km, mb4.2/13, Error ellipse: s-maj=8.1km s-min=4.1km az=137.0*

*NNC **28** 14:54:23.7±2.8, 36.39N×68.71E, h78km±34km, mb4.0, mpv4.3, Error ellipse: s-maj=29.1km s-min=12.3km az=158.0*

ISC 28 14:54:20.4±0.5, 36.18N±0.05×68.81E±0.05, h35km, n96, σ2§39/104, mb3.8/17, MS3.2/8, 9C-4D, Hindu Kush region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KBL Kabul 1.65 173 Pn Pn 14 54 48.5 +1.4
CHGR Chuyangaron 2.48 6 Pn Pn 14 55 00.3 +1.9
GAR Garm 3.05 23 Pn Pn 14 55 08.7 +2.3
THW Thamme Wali 4.16 144 P Pn 14 55 23.9 +2.5
NIL Nilore 4.44 123 Pn Pn 14 55 27.0 +1.7
KSH Kashi 6.57 57 P Pn 14 55 52.8 -1.8
KSH sP 14 55 59.8
KSH S Sn 14 57 03.3 -5.0
KSH sS 14 57 10.8
KSH pmax pmax
comp=Z,38nm,0.8s
KSH pmax pmax
comp=Z,100nm,4.4s
KSH LR LR
comp=N,280nm,7.8s
KSH LR LR
comp=E,340nm,9.4s
KSH LR LR
comp=Z,100nm,7.7s
THN Thein Dam 6.83 121 eP Pn 14 56 02.0 +4.0
THN eS Sn 14 57 18.5 +4.0
KK31 Karatay Array 7.03 10 P Pn 14 56 02.4 +1.5
comp=Z,1.3nm,0.1s,baz=299,slow=7.1,SNR=29
KK31 ⇓S Sn 14 57 18.7 -0.9
comp=Z,6.9nm,0.4s,baz=191,slow=21,SNR=3.6
KK31 Karatay Array 7.03 10 Pn Pn 14 56 02.3 +1.5
KKAR Karatay Array 7.03 10 Pn Pn 14 56 02.2 +1.3
KKAR Karatay Array 7.03 10 Pn Pn 14 56 02.4 +1.5
AML Almayashu 7.04 31 P Pn 14 56 02.8 +1.4
SNR=28
DHRM DHARAMSHALA 7.34 120 eP Pn 14 56 07.0 +1.7
DHRM eS Sn 14 57 29.9 +2.4
DHRM IAML 14 57 32.3
comp=E,234nm,0.6s
DHRM IAML 14 57 38.2
comp=N,222nm,0.8s
UCH Uchtor 7.48 35 P Pn 14 56 08.8 +1.3
SNR=69
EKS2 Erkin-Say 7.52 29 P Pn 14 56 09.7 +2.0
SNR=20
AAK Ala-Archa 7.80 33 P Pn 14 56 13.0 +1.5
SNR=17
AAK Ala-Archa 7.80 33 ⇑P Pn 14 56 12.8 +1.3
comp=N,11nm,0.5s
AAK ⇑S Sn 14 57 41.0 +2.3
comp=N,24nm,0.6s
BHK Bhakra 7.91 125 eS Sn 14 58 09.0 +28
FRU1 Bishkek 8.00 32 Pn 14 56 15.1 +0.9
KBK Karagaybulak 8.02 34 P Pn 14 56 16.2 +1.7
SNR=15
CHMS Chumysh 8.20 32 P Pn 14 56 18.1 +1.1
SNR=16
USP Ospenovka 8.32 30 P Pn 14 56 19.2 +0.7
SNR=24
ULHL Ulahol 8.36 41 P Pn 14 56 20.4 +1.1
SNR=23
BOOM Boomskoye usch 8.37 39 Pn Pn 14 56 20.1 +0.7
TKM2 Tokmak 2 8.52 36 P Pn 14 56 22.4 +0.9
SNR=31
TKM2 Tokmak 2 8.52 36 ⇓P Pn 14 56 22.2 +0.7
comp=N,11nm,0.4s
TKM2 ⇑S Sn 14 57 57.6 +1.0
comp=N,21nm,0.8s
SMLA Simla 8.59 124 eP Pn 14 56 22.8 +0.5
SMLA eS Sn 14 57 59.0 +1.0
SMLA IAML 14 58 00.3

comp=E,100nm,0.5s
SMLA IAML 14 58 00.9
comp=N,106nm,0.2s
GEYT Alibeck 8.73 285 Pn **Pn 14 56 24.5 +0.4**
comp=N,1.3nm,0.3s,baz=115,slow=11,SNR=13
GEYT Sn **Sn 14 58 02.0 +0.7**
comp=N,2.3nm,0.3s,baz=60,slow=20,SNR=1.6
GEYT LR LR 15 00 56.7
comp=N,15nm,20.7s,baz=175,slow=45
GYA0B ALIBECK ARRAY 8.73 285 ⇑P **Pn 14 56 26.4 +2.3**
GYA0B ⇑S **Sn 14 58 01.6 +0.2**
GYA0B ALIBECK ARRAY 8.73 285 Pn **Pn 14 56 24.2 0.0**
KDJ Kajisay 8.80 45 Pn **Pn 14 56 25.4 +0.1**
TARG Taragay, Kyrgy 8.93 49 Pn 14 56 25.2 -2.0
PRZ Przheval'sk 9.73 47 Pn 14 56 38.1 +0.1
SONA Sohna 10.56 136 *e*S **Sn 14 58 39.6 -6.6**
PDGK Podgornoye 10.88 46 ⇑P **Pn 14 56 52.9 -0.7**
comp=N,5.9nm,0.9s
PYUN Piuthan 14.45 120 *e*P **Pn 14 57 40.7 -1.9**
comp=N,42nm,0.5s
MAKZ Makanchi 14.47 39 Pn 14 57 39.9 -2.7
AB31 Akbulak array 14.59 336 P **Pn 14 57 42.1 -2.0**
comp=N,2.1nm,0.5s,baz=153,slow=12,SNR=73
AB31 ⇑S **Sn 15 00 17.3 -7.1**
comp=N,2.6nm,0.5s
ABKAR Akbulak array 14.59 336 Pn **Pn 14 57 41.8 -2.3**
ABKAR Akbulak array 14.59 336 Pn 14 57 41.3 -2.8
MK31 Makanchi Array 14.62 39 Pn 14 57 42.4 -2.2
MKAR Makanchi Array 14.62 39 Pn **Pn 14 57 42.7 -2.0**
comp=N,0.2nm,0.3s,baz=228,slow=13,SNR=15
MKAR Makanchi Array 14.62 39 Pn **Pn 14 57 41.5 -3.1**
DANN Dangsing 14.85 118 *e*P **Pn 14 57 45.8 -2.3**
comp=N,23nm,0.4s
DANN *e*S **Sn 15 00 25.1 -6.5**
BHPL Bhopal 14.90 148 *e*P **Pn 14 57 45.8 -2.8**
KOLN Koldanda 15.08 120 *e*P **Pn 14 57 49.1 -2.0**
comp=N,16nm,0.4s
GKN Gorkha 15.68 117 *e*P **Pn 14 57 57.0 -1.9**
comp=N,53nm,0.7s
KURBB Kurchatov Arra 16.05 23 Pn **Pn 14 57 59.8 -3.4**
comp=N,0.1nm,0.3s,baz=214,slow=12,SNR=6.9
KURBB Kurchatov Arra 16.05 23 ⇑P **Pn 14 57 59.7 -3.5**
comp=N,5.4nm,0.8s
KURK Kurchatov 16.15 23 ⇓P **Pn 14 58 00.1 -4.5**
comp=N,7.8nm,1.2s
KURK Kurchatov 16.15 23 Pn 14 58 01.0 -3.6
AKTO Aktyubinsk 16.24 335 Pn **Pn 14 58 05.8 0.0**
comp=N,0.2nm,0.3s,baz=142,slow=17,SNR=2.0
AKTO Sn **Sn 15 00 57.2 -7.5**
comp=N,0.0nm,0.3s,baz=139,slow=20,SNR=1.0
AKTO LR LR 15 04 08.2
comp=N,21nm,18.9s,baz=26,slow=36
AKTO Aktyubinsk 16.24 335 ⇓P **Pn 14 58 04.4 -1.4**
comp=N,1.6nm,0.5s
DMN Daman 16.25 117 *e*P **Pn 14 58 03.8 -2.4**
comp=N,26nm,0.6s
KKN Kakani 16.27 116 *e*P **Pn 14 58 04.4 -2.1**
comp=N,54nm,0.6s
WMQ Urumqi 16.33 56 *e*P **P 14 58 09.5 -0.1**
WMQ pP pP 14 58 14.0 -5.1
WMQ pmax pmax
comp=N,9.0nm,0.7s
WMQ pmax pmax
comp=N,67nm,4.5s
PKIN Phulchoki 16.48 117 *e*P **Pn 14 58 07.2 -1.9**
comp=N,42nm,0.5s
PKI Pulchoki 16.49 117 *e*P **Pn 14 58 07.3 -2.0**
comp=N,42nm,0.6s
GUN Gumba 16.64 115 *e*P **Pn 14 58 09.4 -1.9**
comp=N,23nm,0.4s
BVAR Borovoye Array 16.88 3 P **Pn 14 58 12.5 -1.3**
comp=N,0.7nm,0.3s,baz=190,slow=17,SNR=13
BRVK Borovoye 16.90 3 Pn **Pn 14 58 13.5 -0.6**
JIRN Jiri 17.01 115 *e*P **Pn 14 58 14.1 -1.8**
comp=N,89nm,0.5s
RAMN Ramite 17.71 116 *e*P **Pn 14 58 23.0 -1.5**
comp=N,17nm,0.4s
TAPN Taplejung 18.30 113 *e*P **Pn 14 58 31.0 -0.8**
comp=N,43nm,0.7s
LSA Lhasa 19.81 103 P **P 14 58 47.3 -1.1**
LSA IAmb IAmb 14 59 02.9
comp=Z,6.8nm,0.8s
ZAA0 Zalesovo Array 20.97 27 ⇑P **P 14 58 59.6 -0.6**
comp=Z,1.7nm,0.7s
ZAA0 Zalesovo Array 20.97 27 P **P 14 59 00.1 -0.1**
ZAA0 IAmb IAmb 14 59 05.2
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 20.97 27 P **P 14 59 00.3 0.0**
comp=Z,12nm,0.4s,baz=220,slow=10,SNR=31
ZALV Zalesovo Beam 20.97 27 P **P 14 58 59.8 -0.4**
ARU Arti 21.41 344 P **P 14 59 05.8 +0.8**
comp=Z,0.5nm,0.4s,baz=100,slow=12,SNR=1.9
ARU LR LR 15 08 40.3
comp=Z,58nm,18.9s,baz=137,slow=40
ARU Arti 21.41 344 IAmb IAmb 14 59 19.3
comp=Z,3.7nm,0.8s
SHL Shillong 22.40 112 P **P 14 59 14.7 -1.4**
GTA Gaotai 24.65 73 *e*P **P 14 59 40.3 +2.4**
GTA pP pP 14 59 43.5 -4.7
GTA sP sP 14 59 46.5 -6.2
GTA S **S 15 04 01.0 +3.9**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,120nm,6.5s
GTA LR LR
comp=Z,80nm,14.2s
GTA LR LR
comp=Z,87nm,15.6s
GTA LR LR
comp=Z,77nm,14.5s
LZH Lanzhou 28.20 80 *e*P **P 15 00 13.0 +3.0**
LZH pP pP 15 00 18.8 -1.6
LZH sP sP 15 00 22.0 -2.8
LZH *e*PP **PnPn 15 01 04.3 +5.6**
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,65nm,4.7s
LZH LR LR
comp=Z,260nm,12.0s
LZH LR LR
comp=Z,270nm,11.8s
LZH LR LR
comp=Z,360nm,14.5s
TLY Talaya 29.14 47 LR LR 15 12 41.8
comp=Z,27nm,18.4s,baz=190,slow=38
SONM Songino Array 29.97 55 P **P 15 00 26.6 +1.2**
comp=Z,0.8nm,0.6s,baz=275,slow=10,SNR=4.7
SONM LR LR 15 13 40.0
comp=Z,32nm,19.8s,baz=40,slow=39
SONM Songino Array 29.97 55 IAmb IAmb 15 00 28.2
comp=Z,0.8nm,0.7s
CMAR Chiang Mai Arr 31.88 116 P **P 15 00 42.5 0.0**
comp=Z,0.8nm,0.6s,baz=296,slow=8.6,SNR=7.2
CMAR Chiang Mai Arr 31.88 116 P **P 15 00 41.4 -1.0**
HHC Hu-ho-hao-te 33.52 69 *e*P **P 15 00 59.3 +2.5**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.4s
NRIK Noril'sk 34.77 12 P **P 15 01 09.2 +2.1**
comp=Z,1.6nm,0.5s,baz=182,slow=8.1,SNR=2.0
FINES FINESS Array B 36.77 327 P **P 15 01 27.0 +2.7**
comp=Z,2.1nm,0.8s,baz=111,slow=11,SNR=4.9
ARCES ARCESS Array B 40.77 338 P **P 15 01 59.8 +2.0**
comp=Z,0.7nm,0.5s,baz=105,slow=9.2,SNR=4.5
NOA NORSAR Array B 43.58 323 P **P 15 02 20.6 -0.2**
comp=Z,0.8nm,0.7s,baz=107,slow=7.9,SNR=3.3
NOA LR LR 15 23 15.1
comp=Z,21nm,19.6s,baz=340,slow=40
KSRS Korea Array 46.65 70 P **P 15 02 43.8 -1.6**
comp=Z,0.6nm,0.6s,baz=286,slow=6.7,SNR=2.5
YSS Yuzh-Sakhalins 54.44 54 P **P 15 03 44.8 +0.7**
ESDC Sonseca Array 56.04 297 P **P 15 03 58.4 +2.6**
comp=Z,0.6nm,0.6s,baz=60,slow=7.6,SNR=6.7
TOA0 Torodi Ar. Sit 63.94 267 P **P 15 04 50.6 +0.3**
TOA0 IAmb IAmb 15 04 53.3
comp=Z,6.4nm,1.4s
TORD Torodi Ar. Bea 63.94 267 P **P 15 04 51.1 +0.8**
comp=Z,1.7nm,0.7s,baz=50,slow=6.3,SNR=10
TORD Torodi Ar. Bea 63.94 267 P **P 15 04 50.9 +0.6**
BATI Baumata 69.20 121 LR LR 15 40 34.3
comp=Z,92nm,18.3s,baz=200,slow=40
TOLK Toolik Lake Re 71.66 14 P **P 15 05 39.5 +1.3**
LBTB Lobatse 73.28 220 P **P 15 05 48.6 +0.3**

ILAR Eielson Array 75.55 15 P **P 15 06 01.2 +0.3**
comp=Z,0.4nm,0.8s,baz=326,slow=4.6,SNR=5.5
WRA Warramunga Arr 83.34 120 P **P 15 06 42.4 -1.6**
comp=Z,0.6nm,0.7s,baz=324,slow=4.7,SNR=12
ASAR Alice Springs 85.54 123 P **P 15 06 54.0 -1.1**
comp=Z,0.5nm,0.6s,baz=312,slow=4.7,SNR=18
ASAR LR LR 15 48 18.1
comp=Z,56nm,21.8s,baz=78,slow=38

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*CRAAG **28** 15:03:02.3,35.°70N×0.°27E,MI2.8*
*MDD **28** 15:03:03.5±0.4,35.°75N×0.°28E,h0km,mb3.5/6,Error ellipse: s-maj=4.7km s-min=2.4km az=6.0,PRXIMO*
ISC 28 15:03:01.5±1.1,35.°80N±0.°06×0.°22E±0.°05,h10km,n18, σ1§62/26,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**0.42**	**55**	P	**Pb**	**15 03 12.1**	**+1.0**
OKGL	SNR=7.9			S	**Sb**	**15 03 19.3**	**+1.8**
	221nm,0.2s,SNR=7.9						
OJGS	**Djebel Guires**	**0.52**	**124**	P	**Pn**	**15 03 15.2**	**+0.1**
OJGS	**Djebel Guires**	**0.52**	**124**	P	**Pn**	**15 03 15.2**	**+0.1**
EANR	**'Ain N'Sour**	**0.73**	**78**	P	**Pb**	**15 03 17.1**	**+0.7**
EANR	**'Ain N'Sour**	**0.73**	**78**	P	**Pb**	**15 03 17.1**	**+0.7**
ETRT	**Tiaret**	**0.97**	**114**	P	**Pg**	**15 03 20.0**	**-0.2**
ETRT	**Tiaret**	**0.97**	**114**	P	**Pg**	**15 03 20.0**	**-0.2**
ECHF	**Ech Chlef**	**0.98**	**68**	P	**Pg**	**15 03 20.0**	**-0.3**
ECHA	**Ech Chlef**	**1.00**	**69**	P	**Pg**	**15 03 20.0**	**-0.7**
EBNR	**Beni Rached**	**1.17**	**65**	P	**Pb**	**15 03 23.0**	**-0.9**
CART	**Cartagena**	**2.04**	**332**	P	**Pn**	**15 03 36.6**	**+0.7**
CART				S	**Sn**	**15 03 56.9**	**-4.5**
CART	**Cartagena**	**2.04**	**332**	*e*P	**Pn**	**15 03 36.6**	**+0.7**
CART				*e*S	**Sn**	**15 03 56.9**	**-4.5**
EMUR	**La Murta**	**2.35**	**331**	P	**Pn**	**15 03 40.9**	**+0.7**
	0.9nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**15 04 08.7**	**-0.5**
	0.2nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.74**	**295**	P	**Pn**	**15 03 46.0**	**+0.3**
	3.4nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**15 04 18.3**	**-0.7**
	2.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.17**	**334**	P	**Pn**	**15 03 53.4**	**+1.8**
	1.5nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**15 04 28.5**	**-1.0**
	2.3nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**3.21**	**317**	P	**Pn**	**15 03 53.8**	**+1.7**
	2.5nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**15 04 29.9**	**-0.5**
	4.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.27**	**297**	P	**Pn**	**15 03 54.7**	**+1.9**
	2.9nm,0.4s,SNR=7.9						
ELGU	**Los Guajares,**	**3.28**	**290**	P	**Pn**	**15 03 53.2**	**+0.1**
	1.2nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**15 04 31.3**	**-0.9**
	0.5nm,0.3s,SNR=7.9						

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*BGR **28** 15:15:29.3±0.0,17.°55S×177.°19W,h33km*
*BJI **28** 15:16:36.0±0.0,18.°10S×178.°30W,h622km,mB4.8/24, mb4.8/36*
*UNK **28** 15:16:38.0,18.°07S×178.°32W,h625km*
*NEIC **28** 15:16:39.2±1.5,17.°96S±0.°09×178.°4W±0.°1,h636km±5km, mb4.8/246,Error ellipse: s-maj=15.0km s-min=12.0km az=107.0*
*IDC **28** 15:16:41.6±1.6,18.°05S×178.°48W,h665km±19km, mb4.1/28,mb1 4.3/28,mb1mx4.1/39,mbtmp5.1/28,Error ellipse: s-maj=10.9km s-min=8.0km az=148.0*
ISC 28 15:16:37.7±0.4,18.°11S±0.°04×178.°30W±0.°05, h626km±4km,h626km:pP-P,n674,σ1§14/704,**mb4.8**/157, **62C-3D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.50**	**276**		**P**	**15 18 03.6**	**+1.6**
AFI	**Afiamalu**	**7.53**	**57**	P	**P**	**15 18 32.9**	**-0.9**
	26nm,0.3s,baz=61,slow=17,SNR=44						
AFI				S	**S**	**15 20 06.4**	**-2.4**
	1.6nm,0.3s,baz=44,slow=21,SNR=2.2						
AFI	**Afiamalu**	**7.53**	**57**		**P**	**15 18 32.6**	**-1.2**
NIUE	**Niue**	**7.99**	**98**	P	**P**	**15 18 38.9**	**+0.9**
FUNA	**Funafuti**	**9.83**	**345**		**P**	**15 18 53.6**	**-1.9**
RAO	**Raoul Island**	**11.10**	**178**	P	**P**	**15 19 06.5**	**-1.2**
GLKZ	**Green Lake**	**11.11**	**178**	P	**P**	**15 19 04.5**	**-3.2**
GLKZ				S	**S**	**15 21 05.5**	**-5.2**
SANVU	**Saraoutou**	**14.14**	**279**	P	**P**	**15 19 36.7**	**-0.3**
DZM	**Mont Dzumac**	**14.87**	**252**	P	**P**	**15 19 42.7**	**-1.0**
	7.9nm,0.3s,baz=113,slow=5.3,SNR=67						
DZM				S	**S**	**15 22 17.8**	**+2.4**
	baz=325,slow=18,SNR=2.1						
DZM	**Mont Dzumac**	**14.87**	**252**		**P**	**15 19 44.1**	**+0.3**
KNTN	**Kanton**	**16.55**	**24**	P	**P**	**15 19 58.4**	**-0.7**
NFK	**Norfolk Island**	**16.65**	**227**	P	**P**	**15 20 02.3**	**+2.5**
	baz=17						
OUZ	**Omahuta**	**18.50**	**201**	P	**P**	**15 20 19.6**	**+3.0**
KUZ	**Kuaotunu**	**19.30**	**195**	P	**P**	**15 20 24.7**	**+0.9**
MXZ	**Matakaoa Point**	**19.61**	**188**	P	**P**	**15 20 25.2**	**-1.4**
MXZ	**Matakaoa Point**	**19.61**	**188**	P	**P**	**15 20 25.1**	**-1.4**
WMGZ	**Waiomatatini S**	**19.85**	**188**	P	**P**	**15 20 29.0**	**+0.3**
HAZ	**Te Kaha**	**19.88**	**189**	P	**P**	**15 20 26.6**	**-2.3**
RUGZ	**Raukumara Rang**	**20.10**	**189**	P	**P**	**15 20 30.2**	**-0.9**
PUZ	**Puketiti**	**20.12**	**188**	P	**P**	**15 20 28.1**	**-3.1**
TWGZ	**Tauwhareparae**	**20.26**	**189**	P	**P**	**15 20 32.7**	**+0.2**
TOZ	**Tahuroa Road**	**20.29**	**194**	P	**P**	**15 20 34.7**	**+2.0**
URZ	**Urewera**	**20.48**	**190**	P	**P**	**15 20 31.8**	**-2.5**
	70nm,0.7s,baz=314,slow=3.0,SNR=32						
URZ	**Urewera**	**20.48**	**190**	P	**P**	**15 20 31.9**	**-2.5**
URZ				S	**S**	**15 23 40.9**	**-4.1**
URZ	**Urewera**	**20.48**	**190**	P	**P**	**15 20 31.6**	**-2.8**
RRRZ	**Republican Roa**	**20.66**	**192**	P	**P**	**15 20 36.0**	**-0.1**
HRRZ	**Handcock Road**	**20.75**	**192**	P	**P**	**15 20 35.5**	**-1.4**
PRRZ	**Plateau Road**	**20.84**	**192**	P	**P**	**15 20 37.2**	**-0.5**
RTZ	**Ruatahuna**	**20.84**	**190**	P	**P**	**15 20 36.6**	**-1.2**
WPRZ	**Whakapapatarin**	**20.91**	**192**	P	**P**	**15 20 33.2**	**-5.1**
TARA	**Tarawa**	**21.18**	**335**	P	**P**	**15 20 39.8**	**-1.2**
HIZ	**Hauiti**	**21.19**	**195**	P	**P**	**15 20 42.7**	**+2.0**
MHGZ	**Mahia Peninsul**	**21.23**	**188**	P	**P**	**15 20 41.7**	**+0.7**
NMHZ	**Naumai**	**21.34**	**191**	P	**P**	**15 20 40.4**	**-1.8**
RITZ	**Rihia Road**	**21.41**	**193**	P	**P**	**15 20 42.2**	**-0.5**
WTVZ	**West Tongariro**	**21.60**	**193**	P	**P**	**15 20 43.5**	**-1.0**
OTVZ	**Oturere**	**21.63**	**193**	P	**P**	**15 20 43.2**	**-1.7**
MCHZ	**McNeill Hill**	**21.70**	**191**	P	**P**	**15 20 44.2**	**-1.1**
KWHZ	**Kaweka Forest**	**21.73**	**191**	P	**P**	**15 20 44.0**	**-1.6**
TUVZ	**Tukino**	**21.73**	**193**	P	**P**	**15 20 43.7**	**-2.0**
FWVZ	**Far West T-bar**	**21.74**	**193**	P	**P**	**15 20 44.5**	**-1.4**
WNVZ	**Wahianoa**	**21.80**	**193**	P	**P**	**15 20 44.8**	**-1.5**
PKVZ	**Pokaka**	**21.82**	**193**	P	**P**	**15 20 45.0**	**-1.4**
MOVZ	**Moawhango**	**21.84**	**192**	P	**P**	**15 20 44.6**	**-2.0**
BHHZ	**Black Hill Sta**	**21.86**	**192**	P	**P**	**15 20 44.1**	**-2.7**
KRHZ	**Kereru**	**21.95**	**191**	P	**P**	**15 20 45.7**	**-1.9**
KAHZ	**Kahuranaki**	**22.01**	**190**	P	**P**	**15 20 47.2**	**-0.9**
PKE	**Pukeiti**	**22.06**	**196**	P	**P**	**15 20 51.6**	**+3.1**
NEZ	**North Egmont**	**22.10**	**196**	P	**P**	**15 20 52.0**	**+3.1**
LREZ	**Lake Rotokare**	**22.20**	**195**	P	**P**	**15 20 51.2**	**+1.5**
PNHZ	**Pukenui**	**22.25**	**191**	P	**P**	**15 20 47.7**	**-2.5**
WAZ	**Wanganui**	**22.34**	**194**	P	**P**	**15 20 50.3**	**-0.7**
WPHZ	**Waipukurau**	**22.35**	**191**	P	**P**	**15 20 50.4**	**-0.7**
PRHZ	**Porangahau**	**22.51**	**190**	P	**P**	**15 20 51.9**	**-0.6**
DVHZ	**Dannevirke**	**22.62**	**191**	P	**P**	**15 20 51.1**	**-2.4**
ANWZ	**Angora Road**	**22.73**	**190**	P	**P**	**15 20 53.3**	**-1.0**
HNR	**Honiara**	**22.80**	**289**	P	**P**	**15 20 53.0**	**-2.4**
BFZ	**Birch Farm**	**22.98**	**191**	P	**P**	**15 20 55.1**	**-1.5**
BFZ	**Birch Farm**	**22.98**	**191**	P	**P**	**15 20 55.5**	**-1.2**
MSWZ	**Moikau Station**	**23.88**	**192**	P	**P**	**15 21 03.1**	**-1.5**
SNZO	**South Karori**	**23.89**	**193**	P	**P**	**15 21 03.7**	**-0.9**
BHW	**Baring Head**	**23.95**	**193**	P	**P**	**15 21 03.7**	**-1.4**
PLWZ	**Palliser**	**24.03**	**192**	P	**P**	**15 21 04.4**	**-1.5**
TUWZ	**Tuamarina**	**24.18**	**194**	P	**P**	**15 21 06.0**	**-1.2**
CMWZ	**Cape Campbell**	**24.42**	**194**	P	**P**	**15 21 08.9**	**-0.4**
LHI	**Lord Howe Isla**	**24.44**	**233**	P	**P**	**15 21 10.6**	**+0.9**
	baz=25,SNR=3.4						
LHI	**Lord Howe Isla**	**24.44**	**233**	P	**P**	**15 21 09.1**	**-0.6**
BSWZ	**Blackbirch Sta**	**24.46**	**194**	P	**P**	**15 21 09.1**	**-0.7**
THZ	**Tophouse**	**24.75**	**196**	P	**P**	**15 21 11.2**	**-1.1**
INZ	**Inchbonnie**	**26.04**	**197**	P	**P**	**15 21 22.8**	**-0.7**
OXZ	**Oxford**	**26.44**	**196**	P	**P**	**15 21 26.0**	**-1.0**
MQZ	**McQueen's Vall**	**26.64**	**195**	P	**P**	**15 21 28.1**	**-0.7**
RPZ	**Rata Peaks**	**27.06**	**197**	P	**P**	**15 21 31.5**	**-1.0**
	53nm,0.6s,baz=63,slow=1.8,SNR=18						
RPZ	**Rata Peaks**	**27.06**	**197**	P	**P**	**15 21 31.1**	**-1.5**

EIDS Eidsvold 29.30 250 P **P 15 21 52.3 +0.2**
baz=30,SNR=36
EIDS Eidsvold 29.30 250 P **P 15 21 51.9 -0.3**
MLZ Mavora Lakes 29.45 200 P **P 15 21 53.5 +0.4**
ARMA Armidale 29.93 240 P **P 15 21 59.1 +1.4**
baz=30,SNR=102
ARMA Armidale 29.93 240 P **P 15 21 58.5 +0.8**
KWAJ Kwajalein Atol 30.14 331 P **P 15 21 58.6 -0.8**
PYZ Puysegur Point 30.62 201 P **P 15 22 03.7 +0.5**
MGCD Mangrove Creek 31.27 235 P **P 15 22 10.4 +1.6**
baz=32,SNR=58
RIV Riverview 31.46 234 P **P 15 22 11.9 +1.4**
baz=32,SNR=5.8
RMQ Roma 31.53 249 P **P 15 22 12.6 +1.4**
baz=32,SNR=63
CNB Canberra Magne 33.39 233 P **P 15 22 28.4 +1.6**
baz=34,SNR=637
CTA Charters Tower 33.52 261 P **P 15 22 28.4 +0.4**
43nm,0.6s,baz=88,slow=9.9,SNR=97
CTAO Charters Tower 33.52 261 P **P 15 22 28.4 +0.4**
CAN Canberra 33.67 233 P **P 15 22 30.0 +0.9**
baz=34
YNG Young 33.77 235 P **P 15 22 31.6 +1.7**
baz=34,SNR=15
PATS Pohnpei 33.88 315 P **P 15 22 30.7 -0.2**
PMG Port Moresby 34.60 280 P **P 15 22 38.1 +1.1**
33nm,0.8s,baz=71,slow=8.3,SNR=8.1
PMG S **S 15 27 24.9 +0.8**
12nm,0.9s,baz=199,slow=4.7,SNR=3.7
PMG Port Moresby 34.60 280 P **P 15 22 38.0 +1.0**
PMG IAmb IAmb 15 22 39.0
comp=Z,42nm,0.9s
CMSA Cobar Meteorol 35.15 241 P **P 15 22 42.2 +0.9**
baz=35,SNR=178
MTSU Mount Surprise 35.49 264 P **P 15 22 44.7 +0.3**
baz=36,SNR=76
QLP Quilpie 35.56 249 P **P 15 22 45.4 +0.6**
baz=36,SNR=100
TOO Toolangi 37.13 231 P **P 15 22 58.8 +1.3**
baz=37,SNR=73
TOO Toolangi 37.13 231 P **P 15 22 58.6 +1.1**
COEN Coen 37.21 271 P **P 15 22 59.6 +1.2**
baz=37,SNR=146
COEN Coen 37.21 271 P **P 15 22 59.4 +0.9**
MOO Moorlands 38.02 223 P **P 15 23 05.8 +1.2**
baz=38,SNR=9.4
TAU Tasmania Unive 38.16 222 P **P 15 23 06.7 +0.9**
STKA Stephens Creek 38.63 241 P **P 15 23 10.7 +1.0**
comp=Z,100nm,0.6s,baz=91,slow=9.8,SNR=259
STKA Stephens Creek 38.63 241 P **P 15 23 11.0 +1.3**
baz=39,SNR=180
STKA Stephens Creek 38.63 241 P **P 15 23 10.7 +1.0**
STKA IAmb IAmb 15 23 11.9
comp=Z,37nm,0.9s
ARPS Mount Arapiles 39.62 234 P **P 15 23 18.1 +0.6**
baz=40,SNR=16
QIS Mount Isa 39.72 259 P **P 15 23 18.6 0.0**
baz=40,SNR=16
WAKE Wake Island 39.99 338 P **P 15 23 20.3 -0.3**
HTT Hallett 41.14 240 P **P 15 23 30.7 +1.0**
baz=41,SNR=30
BBOO Buckleboo 43.40 241 P **P 15 23 47.9 +0.6**
baz=44,SNR=102
BBOO Buckleboo 43.40 241 P **P 15 23 47.8 +0.5**
KHLU Kahalu`u 43.44 32 P **P 15 23 48.0 +0.2**
KHLU IAmb IAmb 15 23 48.9
comp=Z,31nm,0.7s
GENI Genyem 43.52 286 P **P 15 23 49.9 +1.5**
comp=Z,80nm,0.5s
HUH Hualalai 43.55 31 P **P 15 23 49.3 +0.5**
MLOA Mauna Loa Obse 43.55 32 P **P 15 23 49.7 +0.7**
HMH Humu'ula Sheep 43.66 32 P **P 15 23 50.3 +0.7**
POHA Pohakuloa 43.76 32 P **P 15 23 50.7 +0.3**
HPAH Hawaii Prepara 43.91 31 P **P 15 23 51.7 +0.4**
HLK Haleakala 44.26 30 P **P 15 23 54.7 +0.5**
WR0 Warramunga Arr 44.51 260 P **P 15 23 55.4 -0.6**
WR0 IAmb IAmb 15 23 57.4
comp=Z,49nm,1.3s
WB0 Warramunga Arr 44.67 260 P **P 15 23 56.7 -0.5**
WC3 Warramunga Arr 44.67 260 P **P 15 23 57.2 0.0**
baz=45
WB2 Warramunga Arr 44.69 260 P **P 15 23 56.8 -0.5**
WRAB Tennant Creek 44.69 260 P **P 15 23 56.8 -0.5**
WRA Warramunga Arr 44.70 260 P **P 15 23 56.8 -0.6**
comp=Z,48nm,0.6s,baz=95,slow=7.0,SNR=508
WRA ScP **ScP 15 28 18.2 -1.3**
comp=Z,1.4nm,0.6s,baz=70,slow=8.8,SNR=2.2
WRA S **S 15 29 45.0 -5.4**
comp=Z,5.5nm,0.7s,baz=97,slow=13,SNR=9.3
WRA Warramunga Arr 44.70 260 P **P 15 23 55.8 -1.6**
AS31 Alice Springs 44.84 254 P **P 15 23 58.6 +0.2**
ASAR Alice Springs 44.84 254 P **P 15 23 58.8 +0.3**
comp=Z,182nm,0.8s,baz=88,slow=8.3,SNR=1961
ASAR PcP **PcP 15 25 26.5 +0.2**
comp=Z,5.5nm,0.5s,baz=104,slow=3.4,SNR=4.4
ASAR S **S 15 29 50.0 -2.3**
comp=Z,12nm,0.9s,baz=89,slow=16,SNR=34
ASAR Alice Springs 44.84 254 P **P 15 23 57.9 -0.5**
KDU Kakadu 47.66 269 P **P 15 24 19.5 -0.2**
baz=48,SNR=63
GUMO Guam 48.08 308 P **P 15 24 22.8 0.0**
comp=Z,156nm,0.7s,baz=142,slow=8.5,SNR=9.9
GUMO Guam 48.08 308 P **P 15 24 23.1 +0.4**
MTN Manton Dam 48.90 269 P **P 15 24 28.4 -0.5**
baz=49,SNR=15
MTN Manton Dam 48.90 269 P **P 15 24 28.3 -0.5**
MTN IAmb IAmb 15 24 29.1
comp=Z,39nm,0.7s
WRKA Warakurna 49.89 252 P **P 15 24 36.1 0.0**
baz=50,SNR=474
FORT Forrest 50.02 245 P **P 15 24 36.6 -0.2**
baz=50,SNR=60
FORT Forrest 50.02 245 P **P 15 24 36.6 -0.2**
KNRA Kununurra 50.58 264 P **P 15 24 40.8 -0.2**
baz=51,SNR=22
KNRA Kununurra 50.58 264 P **P 15 24 40.8 -0.2**
KNRA IAmb IAmb 15 24 41.8
comp=Z,46nm,0.8s
FAKI Fak Fak 50.72 281 P **P 15 24 41.9 -0.3**
FAKI IAmb IAmb 15 24 51.0
comp=Z,46nm,1.3s
FITZ Fitzroy Crossi 53.10 261 P **P 15 24 59.3 +0.2**
comp=Z,8.0nm,0.5s,baz=96,slow=23,SNR=73
FITZ Fitzroy Crossi 53.10 261 P **P 15 24 59.3 +0.2**
baz=53,SNR=50
FITZ Fitzroy Crossi 53.10 261 P **P 15 24 59.3 +0.2**
KMBL Kambalda 55.32 244 P **P 15 25 13.9 -0.5**
baz=56,SNR=16
NLAI Namlea 55.43 279 P **P 15 25 15.5 +0.1**
comp=Z,32nm,0.6s
SOEI Soe 56.18 270 P **P 15 25 22.5 +1.8**
comp=Z,968nmcomp=Z,115nm,1.0s
SOEI Soe 56.18 270 P **P 15 25 22.0 +1.3**
SOEI IAmb IAmb 15 25 23.1
comp=Z,74nm,0.7s
TNTI Ternate 56.61 283 P **P 15 25 24.1 +0.5**
TNTI IAmb IAmb 15 25 24.9
comp=Z,29nm,0.9s
BATI Baumata 56.64 270 P **P 15 25 24.7 +1.0**
comp=Z,28nm,0.7s
SANI Sanana 56.88 280 P **P 15 25 25.3 0.0**
comp=Z,22nm,1.0s
PSA00 Pilbara Seismi 57.96 256 P **P 15 25 31.2 -1.4**
PSA00 Pilbara Seismi 57.96 256 P **P 15 25 32.0 -0.6**
PSA00 IAmb IAmb 15 25 33.3
comp=Z,54nm,0.8s
MMRI Maumere 58.41 271 P **P 15 25 35.4 -0.2**
MMRI IAmb IAmb 15 25 36.1
comp=Z,34nm,0.7s
MEEK Meekatharra 58.46 249 P **P 15 25 35.5 -0.4**
baz=59,SNR=28
EDFI Ende, Flores 58.90 271 P **P 15 25 39.1 0.0**
comp=Z,24nm,0.9s
NWAO Narrogin (SRO) 59.21 242 P **P 15 25 41.0 +0.3**
baz=59,SNR=7.3
NWAO Narrogin (SRO) 59.21 242 P **P 15 25 40.6 -0.1**
NWAO IAmb IAmb 15 25 41.7
comp=Z,36nm,0.9s
BASI Baing, Sumba 59.57 269 P **P 15 25 43.6 +0.2**
comp=Z,82nm,1.5s
KMSI Cibinong 59.68 282 P **P 15 25 46.5 +2.4**
comp=Z,984nmcomp=Z,47nm,0.8s
BLDU Ballidu 59.79 245 P **P 15 25 44.3 -0.4**
baz=60,SNR=17
LUWI Luwuk 60.24 279 P **P 15 25 48.3 +0.5**
VNDA Vanda 60.26 185 P **P 15 25 48.8 +2.0**

comp=Z,9.1nm,0.8s,baz=354,slow=7.9,SNR=62
VNDA Vanda 60.26 185 P P 15 25 48.5 +1.7
MORW Morawa 60.50 246 P P 15 25 49.0 -0.3
baz=61,SNR=8.0
MORW Morawa 60.50 246 P P 15 25 49.1 -0.3
MORW IAmb IAmb 15 25 49.6
comp=Z,19nm,0.7s
KAPI Kappang 61.81 274 P P 15 25 58.5 +0.4
SPSI Sidrap Palu 62.12 275 P P 15 25 59.5 -0.5
comp=Z,14nm,0.7s
PLAI Plampang 62.60 269 P P 15 26 02.9 -0.2
comp=Z,66nm,1.1s
GIRL Giralia 62.94 253 P P 15 26 06.4 +1.3
baz=63,SNR=6.6
GIRL Giralia 62.94 253 P P 15 26 06.1 +1.0
MPSI Mapaga 63.41 280 P P 15 26 08.5 +0.2
comp=Z,14nm,0.8s
TWSI Taliwang, Sumb 63.47 269 P P 15 26 08.8 +0.1
comp=Z,34nm,0.8s
CASY Casey 66.00 205 P P 15 26 24.1 +0.6
CASY IAmb IAmb 15 26 25.4
comp=Z,59nm,1.1s
JAGI Jajag, Banyuwa 66.14 269 P P 15 26 24.1 -1.3
JAGI IAmb IAmb 15 26 25.1
comp=Z,33nm,0.7s
JYT Yasato 66.79 324 P P 15 26 29.3 +0.4
JMM Marumori 67.67 326 P P 15 26 34.3 +0.2
JMM IAmb IAmb 15 26 34.6
comp=Z,55nm,1.1s
JGF Kuroka 67.96 322 P P 15 26 36.0 -0.1
JGF IAmb IAmb 15 26 38.1
comp=Z,20nm,1.0s
INU Inuyama 67.99 322 P P 15 26 36.3 +0.1
INU IAmb IAmb 15 26 37.2
comp=Z,27nm,1.3s
MJAR Matsushiro Arr 68.13 323 P P 15 26 36.8 -0.3
comp=Z,30nm,0.7s,baz=159,slow=6.2,SNR=110
MJAR Matsushiro Arr 68.13 323 P P 15 26 36.2 -0.8
MAJO Matsushiro 68.13 323 P P 15 26 36.8 -0.3
MAJO IAmb IAmb 15 26 37.5
comp=Z,28nm,0.6s
MAT Matsushiro 68.13 323 P P 15 26 36.9 -0.2
JMN Monobe 68.81 319 P P 15 26 42.0 +0.7
JMN IAmb IAmb 15 26 43.2
comp=Z,24nm,0.8s
KKM Kota Kinabalu 68.89 284 P P 15 26 42.1 -0.1
JWT Wachi 68.91 321 P P 15 26 41.8 +0.1
JWT IAmb IAmb 15 26 43.0
comp=Z,34nm,0.9s
JSD Sado 69.16 324 P P 15 26 43.3 +0.1
JSD IAmb IAmb 15 26 44.5
comp=Z,42nm,0.7s
JSU Suzuyama 69.65 315 P P 15 26 46.0 -0.3
JSU IAmb IAmb 15 26 47.2
comp=Z,15nm,0.7s
KIWB Kanaga Island 69.67 1 P P 15 26 46.4 +0.5
JTM Tenmabayashi 69.70 328 P P 15 26 46.6 +0.3
JTM IAmb IAmb 15 26 47.5
comp=Z,32nm,0.9s
ADK Adak 69.71 1 P P 15 26 45.7 -0.4
ATKA Atka Island 70.10 3 P P 15 26 47.5 -0.9
JHS Saijyo 70.12 319 P P 15 26 49.6 +0.6
JNU Nakatsue 70.36 316 P P 15 26 50.5 0.0
JNU IAmb IAmb 15 26 51.6
comp=Z,43nm,1.2s
JEW Eniwo 71.06 330 P P 15 26 55.0 +0.8
YOJ Yonaguni jima 71.15 305 P P 15 26 55.2 0.0
YOJ IAmb IAmb 15 27 16.2
comp=Z,48nm,0.9s
NIKH Nikolski High 71.25 6 P P 15 26 54.3 -0.9
SBUM Sibu 71.34 279 P P 15 26 56.4 -0.2
JKA Kamikawa-asahi 71.50 331 P P 15 26 58.1 +1.3
JKA IAmb IAmb 15 26 58.9
comp=Z,24nm,0.7s
TWG Pinlang 71.87 302 P P 15 26 58.0 -1.4
TWG IAmb IAmb 15 26 58.9
comp=Z,21nm,0.6s
QSPA South Pole Qui 71.95 180 P P 15 27 00.7 +1.4
comp=Z,53nm,0.8s,baz=18,slow=1.0,SNR=308
QSPA South Pole Qui 71.95 180 P P 15 27 00.1 +0.8
YULB Yu-li 71.97 303 P P 15 26 58.4 -1.6
YULB IAmb IAmb 15 26 59.9
comp=Z,15nm,0.6s
NACB Ninganchiao 72.12 304 P P 15 27 00.2 -0.6
NACB IAmb IAmb 15 27 01.4
comp=Z,60nm,1.3s
JTU Tsushima 72.19 317 P P 15 27 00.9 -0.1
JTU IAmb IAmb 15 27 18.3
comp=Z,46nm,1.3s
UNV Unalaska Valle 72.37 7 P P 15 27 00.3 -1.2
UNV IAmb IAmb 15 27 01.1
comp=Z,23nm,0.6s
CISI Cisompet, Garu 72.42 268 P P 15 27 01.9 -1.0
CISI IAmb IAmb 15 27 20.3
comp=Z,77nm,1.4s
SSLB Suanglung 72.44 303 P P 15 27 01.6 -1.1
SSLB IAmb IAmb 15 27 02.6
comp=Z,28nm,0.5s
TPUB Ta-pu 72.46 302 P P 15 27 01.5 -1.3
YHNB Yeheng 72.54 304 P P 15 27 02.8 -0.5
YHNB IAmb IAmb 15 27 04.5
comp=Z,21nm,1.0s
AKUT Akutan 72.75 8 P P 15 27 02.6 -1.1
KSM Kuching 72.82 277 P P 15 27 05.2 +0.1
KSM IAmb IAmb 15 27 07.2
comp=Z,21nm,0.9s
PET Petropavlovsk 73.59 346 P P 15 27 08.0 -0.5
YSS Yuzh-Sakhalins 73.64 333 P P 15 27 09.5 +0.5
YSS IAmb IAmb 15 27 11.0
comp=Z,46nm,0.9s
PEA0B Petropavlovsk- 73.90 345 P P 15 27 10.3 +0.1
PETK Petropavlovsk- 73.90 345 P P 15 27 10.3 0.0
comp=Z,28nm,0.6s,baz=108,slow=7.3,SNR=96
KSRS Korea Array 74.92 318 P P 15 27 17.4 +1.1
comp=Z,5.2nm,0.7s,baz=129,slow=6.3,SNR=30
KSRS PP PP 15 30 15.7 -0.6
comp=Z,1.0nm,0.9s,baz=136,slow=8.5,SNR=4.0
KSAR Wonju Array Be 74.94 318 P P 15 27 16.6 +0.1
KS19 Wonju Array Si 74.99 318 P P 15 27 16.5 -0.2
SPIA Saint Paul Isl 75.30 5 P P 15 27 18.0 +0.1
SPIA IAmb IAmb 15 27 18.3
comp=Z,41nm,0.9s
CHGN Chignik 75.99 11 P P 15 27 21.6 -0.2
CHGN IAmb IAmb 15 27 25.1
comp=Z,47nm,1.0s
CHIR Chirikof Islan 76.10 13 P P 15 27 22.4 0.0
SAO San Andreas Ge 76.49 44 P P 15 27 25.3 +0.2
PMPB Monarch Peak 76.61 45 P P 15 27 27.4 +1.6
PMPB IAmb IAmb 15 27 28.5
comp=Z,24nm,1.0s
HOPS Hopland Field 76.75 41 P P 15 27 27.5 +1.1
HOPS IAmb IAmb 15 27 47.8
comp=Z,36nm,1.4s
USA0B Ussuriysk Arra 76.84 326 P P 15 27 27.3 +0.5
USA0B IAmb IAmb 15 27 29.0
comp=Z,37nm,1.4s
USRK Ussuriysk Ar. 76.84 326 P P 15 27 27.9 +1.1
comp=Z,5.0nm,0.6s,baz=114,slow=3.6,SNR=28
USRK Ussuriysk Ar. 76.84 326 P P 15 27 27.5 +0.8
KCPM Cahto Peak 76.85 40 P P 15 27 28.0 +0.9
KCPM IAmb IAmb 15 27 41.2
comp=Z,40nm,1.2s
SII Sitkinak Islan 77.09 13 P P 15 27 28.3 +0.4
KMRM Mail Ridge 77.10 40 P P 15 27 30.1 +1.7
KMRM IAmb IAmb 15 27 31.3
comp=Z,25nm,0.9s
ARVC Arvin 77.34 46 P P 15 27 30.6 +0.9
baz=237
MWC Mount Wilson 77.39 47 P P 15 27 31.0 +0.8
VES Vestal, Richgr 77.56 46 P P 15 27 31.9 +1.1
baz=237
BAR Barrett 77.57 49 P P 15 27 32.0 +0.9
O02D Mt. Diablo Mer 77.63 40 P P 15 27 32.9 +1.6
baz=233
MURC Murrieta 77.67 48 P P 15 27 32.8 +1.2
baz=238
BFSC Mount Baldy Ra 77.68 48 P P 15 27 32.9 +1.2
baz=238
KRMB Red Mountain 77.77 39 P P 15 27 33.4 +1.4
EDW2 Edwards Air Fo 77.79 47 P P 15 27 33.5 +1.4
baz=238,SNR=6.3
MONP2 Monument Peak 77.86 49 P P 15 27 34.3 +1.5
baz=239
ISA Isabella, Lake 77.88 46 P P 15 27 34.4 +1.8
baz=237,SNR=8.5
ISA Isabella, Lake 77.88 46 P P 15 27 32.9 +0.2
OHAK Old Harbor 77.90 14 P P 15 27 32.1 0.0
OHAK IAmb IAmb 15 27 33.2
comp=Z,34nm,0.8s
CMB Columbia Colle 77.91 43 P P 15 27 33.4 +0.7
IKP In-Ko-Pah, Jac 77.97 50 P P 15 27 34.6 +1.4
baz=239
WDC Whiskeytown Da 78.03 40 P P 15 27 34.2 +0.9
AFDM Forest Hills D 78.05 42 P P 15 27 34.3 +0.9
ORV Oroville 78.07 41 P P 15 27 34.1 +0.6
NJ2 Nanjing 78.15 309 *eP* **P 15 27 35.5 +1.4**
NJ2 pmax pmax
comp=Z,24nm,0.6s
N02D Trinity Center 78.16 40 P P 15 27 36.1 +2.1
baz=233
O03E Paynes Creek 78.31 41 P P 15 27 36.0 +1.1
baz=234
M02C Callahan 78.32 39 P P 15 27 36.4 +1.5
baz=233
LRMC Laurel Mtn Rad 78.32 47 P P 15 27 36.6 +1.5
baz=238
L02E Cave Junction 78.34 38 P P 15 27 36.5 +1.7
baz=232
MDJ Mudanjiang 78.41 325 P P 15 27 36.8 +1.6
MDJ pmax pmax
comp=Z,58nm,0.9s
MDJ pmax pmax
comp=Z,160nm,6.1s
MDJ Mudanjiang 78.41 325 P P 15 27 35.4 +0.2
MDJ IAmb IAmb 15 27 37.4
comp=Z,39nm,0.8s
MDPB Devils Postpil 78.54 44 P P 15 27 37.4 +1.0
KDAK Kodiak Island 78.57 14 P P 15 27 36.1 +0.5
comp=Z,22nm,0.9s,baz=118,slow=5.3,SNR=10
KDAK Kodiak Island 78.57 14 P P 15 27 35.7 +0.1
KDAK IAmb IAmb 15 27 37.8
comp=Z,31nm,0.9s
OMMB Old Mammoth Mi 78.58 44 P P 15 27 37.7 +1.0
YBH Yreka Blue Hor 78.61 39 P P 15 27 38.2 +1.7
comp=Z,9.1nm,0.6s,baz=202,slow=2.2,SNR=42
YBH Yreka Blue Hor 78.61 39 P P 15 27 37.9 +1.5
K02D Willamette Mer 78.63 38 P P 15 27 37.9 +1.4
baz=232
BELC Belle Mtn. Jos 78.73 49 P P 15 27 38.7 +1.4
baz=239
MPMC Manual Prospec 78.76 46 P P 15 27 39.0 +1.4
baz=238,SNR=6.6
WAKR Walker 78.79 43 P P 15 27 38.9 +1.3
WAKR IAmb IAmb 15 27 40.3
comp=Z,16nm,0.9s
GSC Goldstone, Bar 78.84 47 P P 15 27 39.1 +1.3
baz=238
BC3 Big Chuckawall 78.95 49 P P 15 27 40.2 +1.7
baz=240
HUMO Hull Mountain 78.99 38 P P 15 27 39.7 +1.3
PNTR Pine Nut 79.01 43 P P 15 27 40.0 +1.2
PNTR IAmb IAmb 15 27 41.3
comp=Z,20nm,0.8s
L04D Klamath Falls 79.14 39 P P 15 27 40.8 +1.4
baz=233
M04C Macdoel 79.17 39 P P 15 27 41.0 +1.6
baz=234
YERR Yerington 79.19 43 P P 15 27 40.6 +0.9
YERR IAmb IAmb 15 27 41.5
comp=Z,13nm,0.6s
GRAC Grapevine Rang 79.35 45 P P 15 27 42.1 +1.7
baz=238
FURC Furnace Creek, 79.41 46 P P 15 27 42.1 +1.5
baz=238
IRM Iron Mountain 79.42 49 P P 15 27 42.4 +1.6
baz=240
I03D Drain, OR 79.42 37 P P 15 27 41.6 +1.0
baz=232
RYN Ryan 79.46 44 P P 15 27 42.1 +1.1
NVAR Mina Array Bea 79.49 44 P P 15 27 42.7 +1.3
comp=Z,6.6nm,0.7s,baz=223,slow=8.6,SNR=51
NVAR pP **pP** 15 29 50.3 -0.2
comp=Z,0.9nm,0.9s,baz=230,slow=9.7,SNR=3.0
NVAR Mina Array Bea 79.49 44 P P 15 27 42.3 +0.9
PAHR Pah Rah Range 79.50 42 P P 15 27 42.2 +1.0
SHOC Shoshone, Teco 79.52 47 P P 15 27 43.2 +1.9
baz=239
TUQ Turquoise Moun 79.52 47 P P 15 27 43.7 +2.2
baz=239
NV11 Mina Array Sit 79.59 44 P P 15 27 42.3 +0.6
113A Mohawk Valley, 79.73 51 P P 15 27 43.8 +1.3
J04D Umpqua Nationa 79.87 38 P P 15 27 45.0 +1.8
baz=233
KVN Kaiserville 79.97 43 P P 15 27 44.5 +0.8
I04A Tendick Farm, 80.02 37 P P 15 27 44.7 +0.9
baz=233
TPNV Topopah Spring 80.08 46 P P 15 27 46.1 +1.8
baz=238,SNR=6.9
TPNV Topopah Spring 80.08 46 P P 15 27 45.7 +1.3
MOD Modoc Plateau 80.17 40 P P 15 27 45.8 +1.1
MOD IAmb IAmb 15 27 46.9
comp=Z,16nm,0.7s
CN2 Changchun 80.25 322 *eP* **P 15 27 45.0 +0.2**
CN2 *ep*P pP 15 29 53.5 -0.7
CN2 *e*S **S 15 37 02.5 +2.5**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,120nm,6.0s
H04D Lebanon 80.28 37 P P 15 27 46.4 +1.4
baz=233
K05A Summer Lake 80.29 39 P P 15 27 46.5 +1.2
K05A IAmb IAmb 15 27 48.0
comp=Z,30nm,1.0s
J05D Fort Rock, OR 80.41 38 P P 15 27 47.7 +1.8
baz=234
CNPM China Poot 80.45 14 P P 15 27 45.7 +0.2
CNPM IAmb IAmb 15 27 46.5
comp=Z,35nm,1.1s
SHPR Sheep Range 80.60 47 P P 15 27 48.5 +1.4
H04A Detroit Lake 80.69 37 P P 15 27 47.8 +0.6
H04A IAmb IAmb 15 27 48.5
comp=Z,15nm,0.6s
BRLK Bradley Lake 80.74 14 P P 15 27 46.8 -0.3
BRLK IAmb IAmb 15 27 47.8
comp=Z,26nm,0.8s
WHN Wuhan 80.81 306 P P 15 27 49.0 +1.0
PINE Pine Mountain 80.88 38 P P 15 27 49.7 +1.3
PINE IAmb IAmb 15 27 51.0
comp=Z,28nm,0.9s
I05D Terrebonne, OR 80.97 38 P P 15 27 49.9 +1.3
baz=234
RSO Redoubt South 80.97 12 P P 15 27 47.9 -0.5
SVW2 Sparrevohn 81.01 11 P P 15 27 48.2 -0.2
E03A Lebam 81.06 35 P P 15 27 50.1 +1.3
E03A IAmb IAmb 15 27 51.2
comp=Z,32nm,1.0s
F04D Rainier, OR 81.07 35 P P 15 27 50.8 +1.8
baz=232
PRN Pahroc Range 81.14 46 P P 15 27 51.3 +1.5
PRN IAmb IAmb 15 27 52.5
comp=Z,13nm,0.8s
R11A Troy Canyon, C 81.26 45 P P 15 27 51.5 +1.0
baz=239,SNR=8.1
R11A Troy Canyon, C 81.26 45 P P 15 27 51.4 +1.0
F04A Amboy 81.31 36 P P 15 27 51.1 +0.9
F04A IAmb IAmb 15 27 51.7
comp=Z,12nm,0.7s
NLWA Neilton Lookou 81.42 34 P P 15 27 51.9 +1.1
MA2 Magadan 81.42 345 P P 15 27 50.0 -0.5
comp=Z,17nm,0.8s,baz=101,slow=20,SNR=1.7
MA2 Magadan 81.42 345 IAmb IAmb 15 28 01.6
comp=Z,60nm,1.2s
G05D Wamic, OR 81.52 37 P P 15 27 52.7 +1.4
baz=234
E04D Cinebar 81.61 35 P P 15 27 53.2 +1.5
baz=233
O22K Cooper Landing 81.65 14 P P 15 27 51.3 -0.2
baz=207
F05D White Salmon 81.82 36 P P 15 27 54.1 +1.3
baz=234
I07A Izee 81.89 39 P P 15 27 54.3 +0.9
I07A IAmb IAmb 15 27 55.8
comp=Z,16nm,0.8s
D03D Eldon 81.92 34 P P 15 27 54.7 +1.4
baz=232
BELA Belgrano 2 81.95 173 P P 15 27 53.5 +0.4
J08A Circle Bar Ran 82.10 40 P P 15 27 55.3 +0.8
J08A IAmb IAmb 15 27 56.8
comp=Z,25nm,1.2s
LON Longmire 82.14 35 P P 15 27 54.8 +0.3
LCMT Little Creek M 82.19 47 P P 15 27 56.2 +1.2
RC01 Rabbit Creek A 82.19 14 P P 15 27 53.8 -0.5
baz=207
X16A Lo Mia Camp, P 82.23 50 P P 15 27 55.9 +0.5
D05A Enumclaw 82.30 35 P P 15 27 56.5 +1.3
D05A IAmb IAmb 15 27 57.9
comp=Z,55nm,1.3s
SUA Susitna One 82.30 13 P P 15 27 54.4 -0.7
SUA IAmb IAmb 15 27 55.9
comp=Z,36nm,0.8s
CCUT Cedar City 82.37 47 P P 15 27 57.3 +1.2
PGC Sidney 82.42 33 P P 15 27 56.4 +0.7
PGC IAmb IAmb 15 27 57.7
comp=Z,23nm,1.1s
KNB Kanab 82.48 47 P P 15 27 57.6 +1.0
PSUT Pine Spring 82.52 46 P P 15 27 57.2 +0.4
IPM Ipoh 82.55 277 P P 15 27 57.8 +0.5
U15A North Rim 82.57 48 P P 15 27 58.5 +1.3
U15A IAmb IAmb 15 28 00.1
comp=Z,15nm,0.8s
GLI Glacier Island 82.62 15 P P 15 27 56.0 -0.5
TTA Tatalina 82.65 10 P P 15 27 56.8 +0.1
TTA IAmb IAmb 15 27 58.1
comp=Z,28nm,1.0s
FID Port Fidalgo 82.66 15 P P 15 27 56.1 -0.6
FID IAmb IAmb 15 27 57.2
comp=Z,26nm,1.1s
ELK Elko 82.73 43 P P 15 27 58.0 +0.2
comp=Z,5.1nm,0.8s,baz=249,slow=4.6,SNR=18
ELK Elko 82.73 43 P P 15 27 57.7 -0.2
PMR Palmer 82.77 14 P P 15 27 56.6 -0.6
PMR IAmb IAmb 15 27 57.4
comp=Z,19nm,0.6s
WUAZ Wupatki 82.79 49 P P 15 28 00.1 +1.9
baz=242
WUAZ Wupatki 82.79 49 P P 15 27 59.6 +1.4
A04D Lummi Island 82.85 33 P P 15 27 59.5 +1.6
baz=232
B05A Bryant 82.89 34 P P 15 27 59.3 +1.2
baz=233
G08A Pilot Rock 82.90 38 P P 15 27 59.1 +0.7
G08A IAmb IAmb 15 28 00.6
comp=Z,25nm,1.4s
E07A Sunnyside 83.11 36 P P 15 28 00.5 +1.1
E07A IAmb IAmb 15 28 01.5
comp=Z,17nm,1.0s
HAWA Hanford 83.20 37 P P 15 28 00.7 +1.0
HAWA IAmb IAmb 15 28 02.0
comp=Z,17nm,1.0s
CUT Chulitna 83.25 13 P P 15 27 59.4 -0.2
baz=207,SNR=12
PPLA Purkeypile 83.31 12 P P 15 27 59.0 -1.1
PPLA IAmb IAmb 15 27 59.4
comp=Z,30nm,1.5s
WAX Waxell Ridge 83.35 17 P P 15 28 00.8 +0.5
MTPU Mount Pierson 83.42 47 P P 15 28 03.0 +1.4
KLU Klutina 83.44 15 P P 15 28 00.3 -0.3
KLU IAmb IAmb 15 28 01.6
comp=Z,12nm,1.0s
CRQM Cirque 83.53 17 P P 15 28 01.2 0.0
CRQM IAmb IAmb 15 28 02.5
comp=Z,40nm,1.0s
YAH Yahtse 83.59 17 P P 15 28 02.1 +0.5
YAH IAmb IAmb 15 28 03.1
comp=Z,30nm,0.8s
TGL Tana Glacier 83.61 17 P P 15 28 01.7 +0.1
TGL IAmb IAmb 15 28 02.8
comp=Z,38nm,1.1s
ISLE Juniper Island 83.62 17 P P 15 28 01.5 -0.2
ISLE IAmb IAmb 15 28 02.8
comp=Z,33nm,0.9s
BMO Blue Mountains 83.63 39 P P 15 28 02.3 +0.3
MSU Marysvale 83.66 46 P P 15 28 03.1 +0.6
MAW Mawson 83.71 200 P P 15 28 03.0 +1.0
comp=Z,16nm,0.7s,baz=129,slow=6.6,SNR=47
MAW Mawson 83.71 200 P P 15 28 02.9 +1.0
baz=84,SNR=20
MAW Mawson 83.71 200 P P 15 28 02.8 +0.9
MFID Camas Ranch 83.75 41 P P 15 28 03.4 +0.7
M24K Tolsona, Glenn 83.91 15 P P 15 28 03.5 +0.6
baz=211
M24K Tolsona, Glenn 83.91 15 P P 15 28 03.3 +0.4
D08A Wollman Farm, 83.92 36 P P 15 28 04.2 +0.9
D08A IAmb IAmb 15 28 05.5
comp=Z,14nm,0.9s
GLB Gilahina Butte 83.93 16 P P 15 28 02.8 -0.2
GLB IAmb IAmb 15 28 04.0
comp=Z,24nm,0.6s
RPSI Rantau Prapat 83.97 275 P P 15 28 03.6 -0.7
BALM Baldy 83.98 17 P P 15 28 03.3 -0.1
BALM IAmb IAmb 15 28 04.4
comp=Z,24nm,0.8s
BJI Beijing 84.00 315 P P 15 28 04.3 +0.5
DUG Dugway, Tooele 84.05 44 P P 15 28 05.3 +1.0
baz=240
E09A Wood Farm, Sta 84.06 37 P P 15 28 04.4 +0.4
MCARA McCarthy VSAT 84.08 16 P P 15 28 04.0 +0.3
MCARA IAmb IAmb 15 28 05.0
comp=Z,21nm,1.0s
121A Cookes Peak, D 84.11 53 P P 15 28 06.7 +2.0
baz=244
KTH Kantishna Hill 84.15 12 P P 15 28 02.7 -1.4
KTH IAmb IAmb 15 28 03.9
comp=Z,26nm,0.9s
TRF Thorofare Moun 84.18 12 P P 15 28 03.4 -1.0
BARN Barnard Glacie 84.19 17 P P 15 28 03.8 -0.7
BARN IAmb IAmb 15 28 05.8
comp=Z,33nm,0.9s
CTGM Chitina Glacie 84.20 17 P P 15 28 04.6 +0.1
CTGM IAmb IAmb 15 28 05.7
comp=Z,27nm,1.0s
B08A Colville Reser 84.44 35 P P 15 28 06.0 +0.1
B08A IAmb IAmb 15 28 07.1
comp=Z,13nm,0.8s
DHY Denali Highway 84.47 14 P P 15 28 05.2 -0.6
DHY IAmb IAmb 15 28 06.0
comp=Z,12nm,0.6s
ENH Enshi 84.47 304 P P 15 28 07.1 +0.7
ENH IAmb IAmb 15 28 08.5
comp=Z,24nm,0.9s
BPAW Bear Paw Mtn. 84.63 12 P P 15 28 05.1 -1.3
TMUT Trail Mountain 84.69 46 P P 15 28 07.8 +0.1
C09A Chrisman Ranch 84.71 36 P P 15 28 07.7 +0.6
C09A IAmb IAmb 15 28 08.9
comp=Z,11nm,0.8s
HLID Hailey 84.71 41 P P 15 28 08.9 +1.4
baz=239
HLID Hailey 84.71 41 P P 15 28 08.5 +1.0
MCK McKinley 84.71 13 P P 15 28 05.8 -1.0
MCK IAmb IAmb 15 28 07.3
comp=Z,30nm,1.0s
HYT Haines Junctio 85.21 19 P P 15 28 09.8 +0.4
HYT IAmb IAmb 15 28 11.1
comp=Z,10nm,0.9s
MENT Mentasta 85.21 15 P P 15 28 09.2 0.0
MENT IAmb IAmb 15 28 10.0
comp=Z,11nm,0.8s
GYA Guiyang 85.23 300 ||P **P 15 28 11.3 +1.0**
GYA pmax pmax
comp=Z,7.0nm,1.2s
TCUT Toone Canyon 85.43 44 P P 15 28 12.1 +1.0
NEA2 Nenana 85.45 12 P P 15 28 09.1 -1.2
baz=208,SNR=6.0
WRH Wood River Hil 85.54 13 P P 15 28 10.0 -0.7
WRH IAmb IAmb 15 28 11.9
comp=Z,48nm,1.2s
MNTX Cornudas Mount 85.60 55 P P 15 28 13.3 +1.5
baz=246
MNTX Cornudas Mount 85.60 55 P P 15 28 12.8 +1.0
NEW Newport 85.61 36 P P 15 28 11.5 0.0
comp=Z,4.1nm,0.7s,baz=214,slow=4.6,SNR=9.0
NEW Newport 85.61 36 P P 15 28 11.6 0.0
baz=237
NEW Newport 85.61 36 P P 15 28 11.4 0.0
BCYI Bear Canyon 85.72 41 P P 15 28 13.2 +0.9
HDA Harding Lake 85.73 13 P P 15 28 11.2 -0.3
baz=210,SNR=22
HDA Harding Lake 85.73 13 P P 15 28 11.0 -0.6
HDA IAmb IAmb 15 28 12.0
comp=Z,17nm,0.6s
DOT Dot Lake 85.73 15 P P 15 28 11.3 -0.3
DOT IAmb IAmb 15 28 12.6
comp=Z,16nm,1.0s
CCB Clear Creek Bu 85.75 13 P P 15 28 10.8 -0.9
CCB IAmb IAmb 15 28 11.8

comp=Z,52nm,1.3s
MDM Murphy Dome 85.94 12 P P 15 28 11.6 -1.0
MDM IAmb IAmb 15 28 12.8
comp=Z,20nm,0.9s
TCOL CIGO, UAF Yank 85.94 13 P P 15 28 12.1 -0.5
baz=209,SNR=13
COLA College 85.94 13 P P 15 28 11.7 -0.8
DLBC Dease Lake 85.97 23 P P 15 28 13.8 +0.9
comp=Z,5.1nm,1.0s,baz=205,slow=3.6,SNR=3.8
DLBC Dease Lake 85.97 23 IAmb IAmb 15 28 14.5
comp=Z,7.5nm,0.9s
PV01 Paradox Valley 85.99 48 P P 15 28 14.4 +0.6
TX31 Lajitas Ar. Si 86.01 58 P P 15 28 15.6 +1.7
TX31 IAmb IAmb 15 28 17.3
comp=Z,33nm,0.9s
TX32 Lajitas Array 86.01 58 P P 15 28 15.8 +1.9
TX32 IAmb IAmb 15 28 17.3
comp=Z,11nm,0.9s
TXAR Lajitas Array 86.01 58 P P 15 28 15.8 +1.9
comp=Z,6.6nm,0.7s,baz=218,slow=6.0,SNR=101
TXAR pP **pwP 15 30 28.0 -0.8**
comp=Z,0.1nm,0.4s,baz=153,slow=45,SNR=2.6
TXAR Lajitas Array 86.01 58 P P 15 28 15.6 +1.7
IL31 86.06 13 P P 15 28 12.2 -0.9
IL31 IAmb IAmb 15 28 13.5
comp=Z,18nm,0.9s
ILAR Eielson Array 86.06 13 P P 15 28 12.4 -0.7
comp=Z,8.5nm,0.5s,baz=220,slow=4.9,SNR=212
ILAR pP **pP 15 30 25.1 -0.5**
comp=Z,0.6nm,1.1s,baz=237,slow=20,SNR=3.3
ILAR PP **PP 15 31 47.5 +1.5**
comp=Z,1.4nm,0.9s,baz=216,slow=7.7,SNR=5.9
ILAR Eielson Array 86.06 13 P P 15 28 12.0 -1.1
ANMO Albuquerque 86.14 51 P P 15 28 15.6 +1.1
baz=245
ANMO Albuquerque 86.14 51 P P 15 28 13.7 -0.8
POKR Poker Plat Res 86.24 13 P P 15 28 13.3 -0.7
baz=209,SNR=14
MCMT McKenzie Canyo 86.32 40 P P 15 28 16.0 +0.8
XAN Xi'an 86.47 307 P P 15 28 15.1 -0.7
XAN IAmb IAmb 15 28 18.1
comp=Z,28nm,1.1s
K27K Chicken 86.53 15 P P 15 28 16.2 +0.9
baz=214
MSO Missoula 86.67 38 P P 15 28 16.9 +0.3
baz=239
MSO Missoula 86.67 38 P P 15 28 16.3 -0.3
DLMT Dillon 86.74 40 P P 15 28 17.9 +0.9
TPAW Teton Pass 86.86 42 P P 15 28 18.9 +1.1
REDW Red Top Meadow 86.86 42 P P 15 28 18.9 +1.2
REDW IAmb IAmb 15 28 20.1
comp=Z,15nm,1.1s
SNOW Snow King Moun 86.97 42 P P 15 28 19.4 +1.1
SNOW IAmb IAmb 15 28 20.7
comp=Z,19nm,1.1s
LRM Limekiln Ridge 87.06 40 P P 15 28 19.1 +0.5
S22A 4UR Ranch, Cre 87.06 49 P P 15 28 20.3 +1.4
baz=244
S22A 4UR Ranch, Cre 87.06 49 P P 15 28 19.8 +0.9
IMW Indian Meadow 87.06 42 P P 15 28 19.7 +1.0
IMW IAmb IAmb 15 28 21.2
comp=Z,13nm,0.9s
O20A White River Ci 87.11 46 P P 15 28 20.2 +1.3
baz=244
O20A White River Ci 87.11 46 P P 15 28 19.8 +0.9
LOHW Long Hollow 87.14 42 P P 15 28 19.9 +0.8
QLMT Earthquake Lak 87.20 41 P P 15 28 20.7 +1.4
FLWY Flagg Ranch 87.30 42 P P 15 28 20.9 +1.1
FLWY IAmb IAmb 15 28 22.5
comp=Z,18nm,1.1s
YHL Hebgen Lake 87.36 41 P P 15 28 21.7 +1.5
EGAK Eagle 87.38 15 P P 15 28 19.4 0.0
EGAK IAmb IAmb 15 28 20.5
comp=Z,18nm,0.8s
BW06 Boulder Array 87.42 43 P P 15 28 21.1 +0.7
baz=242,SNR=12
BW06 Boulder Array 87.42 43 P P 15 28 20.7 +0.3
PD31 Pinedale Array 87.42 43 P P 15 28 20.7 +0.3
PDAR Pinedale Array 87.42 43 P P 15 28 21.0 +0.6
comp=Z,4.5nm,0.6s,baz=220,slow=3.2,SNR=57
PDAR pP **pwP 15 30 34.7 -0.8**
comp=Z,0.2nm,0.6s,baz=192,slow=36,SNR=3.9
PDAR Pinedale Array 87.42 43 P P 15 28 20.6 +0.3
BOZ Bozeman (W) 87.45 40 P P 15 28 21.5 +1.2
baz=241
HHC Hu-ho-hao-te 87.49 314 *eP* **P 15 28 23.0 +2.4**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.4s
COLD Coldfoot 87.59 11 P P 15 28 20.8 +0.6
baz=207
COLD Coldfoot 87.59 11 P P 15 28 20.6 +0.3
COLD IAmb IAmb 15 28 21.7
comp=Z,18nm,0.9s
WALA Waterton Lakes 87.83 36 P P 15 28 22.3 +0.3
HRY Holter Researc 87.87 39 P P 15 28 23.2 +1.0
FYU Fort Yukon 87.96 13 P P 15 28 21.4 -0.5
FYU IAmb IAmb 15 28 23.2
comp=Z,20nm,1.2s
KMI Kunming 88.02 297⇑ *eP* **P 15 28 25.3 +1.8**
KMI pmax pmax
comp=Z,11nm,0.5s
KMI pmax pmax
comp=Z,58nm,3.9s
RWWY Rawlins 88.50 45 P P 15 28 25.0 -0.5
RWWY IAmb IAmb 15 28 26.4
comp=Z,13nm,1.2s
RLMT Red Lodge 88.69 41 P P 15 28 27.8 +1.6
baz=243,SNR=5.6
RLMT Red Lodge 88.69 41 P P 15 28 27.2 +0.9
TOLK Toolik Lake Re 88.96 10 P P 15 28 26.6 -0.1
baz=207
SYO Syowa Base 88.98 193⇑ *iP* **P 15 28 25.4 -1.5**
SYO Syowa Base 88.98 193⇑ *iPcP* **P 15 28 26.8 -0.1**
N23A Red Feather La 89.02 46 P P 15 28 29.3 +1.4
baz=245
N23A Red Feather La 89.02 46 P P 15 28 28.8 +0.9
N23A IAmb IAmb 15 28 30.4
comp=Z,9.0nm,1.1s
CM31 Chiang Mai Arr 89.05 290 P P 15 28 28.7 +0.5
CMAR Chiang Mai Arr 89.05 290 P P 15 28 29.7 +1.5
comp=Z,2.8nm,0.8s,baz=111,slow=2.8,SNR=23
CMAR Chiang Mai Arr 89.05 290 P P 15 28 28.8 +0.6
CD2 Chengdu 89.27 303 *eP* **P 15 28 29.5 +0.5**
CD2 S **S 15 38 27.0 -0.2**
CD2 pmax pmax
comp=Z,190nm,4.7s
AMTX Amarillo 89.71 53 P P 15 28 32.1 +1.1
baz=248
EPYK Eagle Plains 89.77 16 P P 15 28 30.7 +0.3
baz=219,SNR=9.1
EPYK Eagle Plains 89.77 16 P P 15 28 30.2 -0.3
EPYK IAmb IAmb 15 28 31.5
comp=Z,16nm,0.8s
SNAA Sanae 90.39 179 P P 15 28 33.5 0.0
SNAA Sanae 90.39 179 P P 15 28 33.6 +0.1
SNAA IAmb IAmb 15 28 34.6
comp=Z,10nm,0.7s
ABTX Abilene, Hawle 90.45 56 P P 15 28 35.4 +1.0
baz=249
ABTX Abilene, Hawle 90.45 56 P P 15 28 35.0 +0.6
ABTX IAmb IAmb 15 28 35.9
comp=Z,6.2nm,0.7s
VNA3 Neumayer Olymp 90.53 176 P P 15 28 34.8 +0.7
VNA2 Neumayer--Watz 90.97 177 P P 15 28 36.6 +0.5
LZH Lanzhou 91.10 308 ⇑P P 15 28 39.0 +1.5
LZH pP pP 15 30 53.5 +1.6
LZH sP sP 15 31 54.3 +0.5
LZH PP **PP 15 32 30.3 +4.1**
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,95nm,9.2s
PLCA Paso Flores 91.11 134 P P 15 28 39.3 +1.8
comp=Z,0.7nm,0.7s,baz=210,slow=7.2,SNR=3.2
PLCA Paso Flores 91.11 134 IAmb IAmb 15 29 01.3
comp=Z,7.3nm,1.4s
VNA1 Neumayer--Stat 91.20 177 P P 15 28 38.3 +1.2
LAO LASA Array 91.29 41 P P 15 28 39.9 +1.9
baz=245,SNR=5.4
LAO LASA Array 91.29 41 P P 15 28 39.5 +1.4
LAO IAmb IAmb 15 28 40.7
comp=Z,16nm,1.0s
RSSD Black Hills 91.63 44 P P 15 28 40.7 +0.8
baz=246
INK Inuvik 92.05 15 P P 15 28 40.4 -0.5
comp=Z,11nm,0.9s,baz=211,slow=6.0,SNR=8.7
INK Inuvik 92.05 15 P P 15 28 40.2 -0.5
INK IAmb IAmb 15 28 41.0
comp=Z,9.8nm,0.8s
R32A Long Quarter, 93.22 51 P P 15 28 47.9 +0.9
SONM Songino Array 93.77 319 P P 15 28 49.5 +0.1
comp=Z,1.3nm,0.6s,baz=142,slow=2.8,SNR=8.0
SONM Songino Array 93.77 319 P P 15 28 49.5 +0.1
GTA Gaotai 95.24 310 *eP* **P 15 28 56.8 +0.5**
GTA pP pP 15 31 12.3 +1.2
GTA sP sP 15 32 13.3 +0.5
GTA S **S 15 39 18.5 -0.7**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,62nm,6.4s
ZALV Zalesovo Beam 108.46 322 PP PP 15 34 29.6 -4.9
comp=Z,0.4nm,0.4s,baz=65,slow=8.4,SNR=3.7
MKAR Makanchi Array 109.35 314 PKiKP PKiKP 15 33 57.0 -1.2
comp=Z,0.7nm,0.5s,baz=178,slow=0.8,SNR=12
KURK Kurchatov 112.05 318 PKiKP 15 34 02.0 -1.1
KURK PP 15 34 49.4 -11
KURBB Kurchatov Arra 112.10 318 PKiKP PKiKP 15 34 02.0 -1.2
comp=Z,0.9nm,0.6s,baz=90,slow=1.7,SNR=12
KURBB PP PP 15 34 49.4 -11
comp=Z,0.9nm,0.8s,baz=92,slow=6.7,SNR=7.1
BVAR Borovoye Array 117.07 321 PKP PKPdf 15 34 11.9 -0.8
comp=Z,1.2nm,0.5s,baz=202,slow=7.7,SNR=12
BVAR PP **PP 15 35 31.0 -3.6**
comp=Z,1.3nm,0.9s,baz=131,slow=15,SNR=3.8
ARU Arti 123.08 326 PKP PKPdf 15 34 23.7 -0.4
comp=Z,1.3nm,0.5s,baz=252,slow=3.6,SNR=7.6
ARCES ARCESS Array B 126.53 350 PKP PKPdf 15 34 29.4 -1.0
comp=Z,1.5nm,0.5s,baz=81,slow=0.6,SNR=17
KLMR Klimovskoe 129.58 337 *e*PKPdf **PKPdf 15 34 36.0 -0.4**
KLMR AMP 15 34 37.6
comp=Z,23nm,1.5s
KLMR *e*PP **PP 15 36 56.7 0.0**
FINES FINESS Array B 133.41 344 PKP PKPdf 15 34 42.5 -1.1
comp=Z,2.9nm,0.9s,baz=301,slow=4.0,SNR=4.1
FINES PP **PP 15 37 16.4 -4.2**
comp=Z,4.8nm,0.9s,baz=129,slow=5.2,SNR=3.7
NB2 NORSAR Subarra 136.59 353 PKP PKPdf 15 34 40.1 -10
comp=Z,1.1nm,0.9s,baz=31,slow=2.6
NOA NORSAR Array B 136.59 353 PKP PKPdf 15 34 49.8 +0.1
comp=Z,1.2nm,1.0s,baz=18,slow=5.7,SNR=3.8
KMBO Kilima Mbogo 140.14 245 PKhKP PKPpre 15 34 52.5
comp=Z,0.9nm,0.4s,baz=55,slow=6.5,SNR=4.7
AKASG Malin Array Be 140.79 332 PKhKP PKPpre 15 34 51.5
comp=Z,4.3nm,0.5s,baz=42,slow=4.4,SNR=11
AKASG SKPbc **SKPbc 15 37 35.6 -0.7**
comp=Z,1.8nm,0.6s,baz=42,slow=3.7,SNR=5.7
AKASG Malin Array Be 140.79 332 PKPpre 15 34 50.6
AKBB Malin Array Si 140.79 332 PKPpre 15 34 51.2
SORM Soroca 143.02 330 ⇑P PKPab 15 34 59.3 -0.1
BEL Belsk 143.13 340 *eP* **PKPbc 15 35 00.9 +0.7**
PURM Purcari 143.36 327 ⇑P PKPdf 15 35 03.6 +1.4
GAZ Gaziantep 143.54 309 PKPab 15 35 02.0 0.0
BSEG Bad Segeberg 143.63 351 *e*PKPbc PKPab 15 35 01.8 +0.2
baz=15,slow=2.9
MILM Milestii Mici 143.64 328 ⇑P PKPbc 15 35 01.5 -0.4
IAS Iasi 144.06 330 ⇓P PKPab 15 35 03.7 +0.1
KWP Kalwaria Pacla 144.30 336 *eP* **PKPab 15 35 04.2 -0.1**
VASR Vaslui 144.34 329 ⇑P PKPdf 15 35 03.4 -0.5
RUE Ruedersdorf 144.41 347 *e*PKPbc **PKPab 15 35 04.5 -0.1**
baz=15,slow=2.9
PRAR RASCA 144.57 331 ⇑P PKPbc 15 35 04.7 0.0
BIR Birlad 144.68 328 ⇑P PKPbc 15 35 05.3 +0.2
TLCR 144.80 326 ⇑P PKPab 15 35 06.0 -0.4
BUR08 Bucovina Ar. S 144.82 332 PKPab 15 35 06.5 -0.1
OJC Ojcow 144.84 340 *eP* **PKPbc 15 35 05.9 +0.5**
OJC Ojcow 144.84 340 PKPbc 15 35 05.6 +0.2
BURAR Bucovina Array 144.84 332 ⇑P PKPab 15 35 06.8 +0.2
BURAR Bucovina Array 144.84 332 PKPbc 15 35 06.0 +0.4
GHRR 144.93 328 ⇑P PKPab 15 35 07.2 +0.3
BIZ Bicaz 144.94 330 ⇑P PKPab 15 35 06.9 0.0
BR131 Keskin Array S 145.00 315 PKPdf 15 35 05.3 -0.1
BRTR Keskin Array B 145.00 315 PKP PKPbc 15 35 06.6 +0.2
comp=Z,9.2nm,0.8s,baz=56,slow=2.5,SNR=16
BRTR Keskin Array B 145.00 315 PKPbc PKPbc 15 35 06.3 -0.1
KOLS Kolonicke sedl 145.03 336 *e*PKP **PKPbc 15 35 05.7 -0.4**
NRDL Niedersach Rie 145.06 351 *e*PKPbc **PKPbc 15 35 06.2 +0.3**
baz=15,slow=2.9
CFR Carcaliu 145.16 327 ⇑P PKPbc 15 35 06.9 +0.4
ODBI Odobesti 145.31 328 ⇑P PKPab 15 35 08.8 +0.3
ASSE Asse, Remlinge 145.32 350 *e*PKPbc **PKPbc 15 35 06.9 +0.2**
baz=15,slow=2.9
KSP Ksiaz 145.33 344 *eP* **PKPab 15 35 07.8 -0.6**
NIE Niedzica 145.35 339 *eP* **PKPab 15 35 08.1 -0.4**
CRVS Cervenica-Dubn 145.36 337 *e*PKP **PKPbc 15 35 07.7 +0.7**
VRI Vrincioaia 145.41 329 ⇑P PKPbc 15 35 07.6 +0.4
PLOR Plostina 145.45 329 ⇑P PKPbc 15 35 07.8 +0.4
TIRR Tirgusor 145.49 325 ⇑P PKPab 15 35 08.4 -0.8
IBBN Ibbenburen 145.54 353 *e*PKPbc **PKPbc 15 35 07.5 +0.1**
baz=15,slow=2.9
HARR Harsova 145.60 326 ⇑P PKPbc 15 35 08.6 +0.8
OSTC Ostas 145.61 344⇑ *e*PKP **PKPbc 15 35 08.5 +0.8**
ARCR ARCALIA 145.62 332 ⇑P PKPbc 15 35 08.6 +0.8
CHVC Chvalec 145.63 344⇑ *e*PKP **PKPbc 15 35 08.0 +0.3**
CLZ Clausthal 145.65 350 *e*PKPbc **PKPbc 15 35 08.5 +0.7**
baz=15,slow=2.9
CLL Collm 145.68 347⇑ *i*PKPbc **PKPbc 15 35 08.1 +0.3**
comp=Z,51nm,0.8s
CLL ⇓ *i*PKPab **PKPab 15 35 09.8 +0.1**
comp=Z,22nm,0.7s
CLL *e* 15 35 17.0
CLL *i* SKPbc **SKiKP 15 37 49.8 +1.6**
CLL Collm 145.68 347 *e*PKPbc **PKPbc 15 35 07.9 +0.1**
baz=15,slow=2.9
CLL Collm 145.68 347 PKPbc **PKPbc 15 35 08.0 +0.1**
OZUR 145.70 330 ⇑P PKPbc 15 35 09.0 +0.9
UPC Upice 145.71 344⇑ *e*PKP **PKPbc 15 35 08.6 +0.6**
DPC Doburuska-Polom 145.77 343⇑ *e*PKP **PKPbc 15 35 09.1 +0.9**
LANS Liptovska Anna 145.86 339 *e*PKP **PKPab 15 35 09.8 -0.8**
BRG Berggiesshubel 145.88 346 *i* PKP **PKPbc 15 35 08.6 +0.2**
comp=Z,22nm,0.7s
BRG *i* 15 35 13.3
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 145.88 346 *e*PKPbc **PKPbc 15 35 08.9 +0.5**
baz=15,slow=2.9
KRLC Kraliky 145.89 343⇑ *e*PKP **PKPbc 15 35 08.9 +0.4**
MBAR Mbarara 145.92 240 PKPab 15 35 11.1 -1.0
MORC Moravsky Berou 145.93 342 ⇑P PKPbc 15 35 09.3 +0.7
MORC Moravsky Berou 145.93 342 *e*PKP **PKPbc 15 35 09.1 +0.4**
MORC Moravsky Berou 145.93 342 PKPbc 15 35 08.6 -0.1
FBE Freiberg 145.97 347 *e*PKPbc **PKPbc 15 35 09.4 +0.8**
baz=15,slow=2.9
DOPR Dopca 145.98 330 ⇑P PKPbc 15 35 10.0 +1.1
GTTG Gottingen 146.00 351 *e*PKPbc **PKPbc 15 35 09.0 +0.3**
baz=15,slow=2.9
NEUB Neuenburg 146.02 349 *e*PKPbc **PKPbc 15 35 09.6 +0.8**
baz=15,slow=2.9
ISR Istrita 146.02 328 ⇑P PKPbc 15 35 08.9 -0.1
MLR Muntele Rosu 146.06 329 ⇑P PKPbc 15 35 10.2 +0.9
MLR Muntele Rosu 146.06 329 PKPbc 15 35 09.1 -0.2
PVCC Panska Ves 146.06 345⇑ *e*PKP **PKPbc 15 35 09.5 +0.6**
KECS Kecovo 146.07 337 *e*PKP **PKPbc 15 35 09.7 +0.7**
CJR Cluj-Napoca 146.24 333 ⇑P PKPbc 15 35 10.3 +0.7
SECR 146.32 328 ⇑P PKPbc 15 35 10.4 +0.6
BUG Bochum--Univer 146.45 354 *e*PKPbc **PKPbc 15 35 09.7 -0.2**
baz=15,slow=2.9
SULR 146.48 328 ⇑P PKPbc 15 35 11.2 +1.0
VOIR 146.53 330 ⇑P PKPbc 15 35 11.3 +0.9
PRU Pruhonice 146.56 345⇑ *e*PKP **PKPbc 15 35 10.5 +0.2**
PRU *e*PKPAB **PKPab 15 35 13.3 0.0**
GOPC GO Pecny, Ondr 146.57 345⇑ *e*PKP **PKPbc 15 35 10.6 +0.2**
GOPC *e*PKPAB **PKPab 15 35 13.4 0.0**
MOX Moxa 146.59 349 *e*PKPbc **PKPbc 15 35 10.5 +0.2**
baz=15,slow=2.9
VRAC Vranov 146.63 342 ⇑P PKPbc 15 35 10.9 +0.4
VRAC Vranov 146.63 342 *e*PKP **PKPbc 15 35 10.9 +0.4**
TANN Tannenbergstha 146.64 347 *e*PKPbc **PKPbc 15 35 11.2 +0.6**
baz=15,slow=2.9
WERD Werda 146.64 348 *e*PKPbc **PKiKP 15 35 11.6 -0.9**
baz=15,slow=2.9
VYHS Vyhne 146.64 339 *e*PKP **PKPbc 15 35 11.2 +0.6**
UBBA Unterbreizbach 146.70 350 *e*PKPbc **PKPbc 15 35 10.9 +0.5**
baz=15,slow=2.9
JAVC Velka Javorina 146.71 341 *e*PKP **PKiKP 15 35 12.4 -0.3**
GUNZ Gunzen 146.71 348 *e*PKPbc **PKPbc 15 35 11.3 +0.5**
baz=15,slow=2.9
PSZ Piszkesteto 146.76 337 ⇑P PKPbc 15 35 11.6 +0.6
PSZ Piszkesteto 146.76 337 PKPbc 15 35 11.0 0.0
WERN Wernitzgruen 146.78 347 *e*PKPbc **PKPbc 15 35 11.5 +0.6**
baz=15,slow=2.9
ARR Arges 146.78 330 ⇑P PKiKP 15 35 12.3 -0.7
NKC Novy Kostel 146.81 347⇑ *e*PKP **PKPbc 15 35 11.4 +0.4**
KRUC Moravsky 146.91 342 *e*PKP **PKPbc 15 35 11.6 +0.4**
KRUC *e* 15 35 14.8
TREC Trest 146.96 343⇑ *e*PKP **PKPbc 15 35 11.6 +0.2**
PBCC Pribram 146.98 345⇑ *e*PKP **PKPbc 15 35 11.8 +0.4**
PBCC *e*PKPAB **PKPab 15 35 14.9 -0.1**
SMOL Smolenice 147.09 341 *e*PKP **PKiKP 15 35 12.9 -0.5**
SMOL *e* 15 35 16.6
MANZ Manzenberg 147.12 348 *e*PKPbc **PKPbc 15 35 12.1 +0.3**
baz=15,slow=2.9
DEV Deva 147.19 332 ⇑P PKPbc 15 35 11.5 -0.6
MODS Modra-Piesok 147.26 341 *e*PKP **PKPbc 15 35 12.4 +0.2**
ROTZ Rotzenmuhle 147.31 347 *e*PKPbc **PKiKP 15 35 13.3 -0.6**
baz=15,slow=2.9
AHRW Bad Neuenahr-A 147.36 354 *e*PKPbc **PKPbc 15 35 13.0 +0.6**
baz=15,slow=2.9
MEM Membach 147.39 355 PKiKP **PKPbc 15 35 12.7 +0.3**
SIRR Siria 147.42 334 ⇑P PKPbc 15 35 13.3 +0.6
BSTI Sart Tilman 147.45 355 PKiKP **PKPbc 15 35 12.9 +0.3**
ZST Bratislava 147.47 341 *e*PKP **PKPbc 15 35 12.9 +0.2**
GRA1 Grafenberg Arr 147.57 348 PKPbc 15 35 13.5 +0.6
GRF Grafenberg Arr 147.57 348 *e*PKPbc **PKPbc 15 35 13.4 +0.4**
baz=15,slow=2.9
KHC Kasperske Hory 147.60 345⇑ *e*PKP **PKPbc 15 35 13.5 +0.4**
KHC *e*PKPAB **PKPab 15 35 18.2 +0.6**
KHC Kasperske Hory 147.60 345 PKPbc 15 35 13.7 +0.6
SNF Seneffe 147.61 357 PKiKP **PKPbc 15 35 13.2 +0.2**
SNF PKPab **PKPab 15 35 17.1 -0.4**
BCLA Clavier 147.64 356 PKPab **PKPab 15 35 17.2 -0.4**
WET Wettzell 147.75 346 *e*PKPbc **PKPbc 15 35 13.9 +0.4**
baz=15,slow=2.9
BMRD Maredsous 147.79 356 PKiKP **PKPbc 15 35 13.2 -0.2**
BMRD PKPab **PKPab 15 35 16.6 -1.6**
GEC2 GERESS Array S 147.83 345 *e*PKPbc **PKPbc 15 35 14.0 +0.3**
baz=15,slow=2.9
GEC2 GERESS Array S 147.83 345 PKPbc 15 35 14.1 +0.3
GERES GERESS Array B 147.83 345 PKPbc **PKPbc 15 35 14.1 +0.3**
comp=Z,11nm,0.7s,baz=23,slow=3.2,SNR=87
GERES pPKPbc **pPKPab 15 37 39.3 +3.8**
comp=Z,0.4nm,0.7s,baz=220,slow=1.0,SNR=2.8
GERES GERESS Array B 147.83 345 PKPbc 15 35 13.9 +0.2
RCHB Rochefort 147.90 356 PKiKP **PKPbc 15 35 13.5 -0.2**
BZS Buzias 147.96 333 ⇑P PKPbc 15 35 14.3 +0.3
SRE Strehaia 147.98 330 ⇑P PKPbc 15 35 13.4 -0.8
DOU Dourbes 148.00 356 PKiKP **PKPbc 15 35 14.5 +0.5**
CONA Conrad Observa 148.09 342 *i* PKiKP **PKPbc 15 35 15.0 +0.6**
comp=Z,6.6nm,0.7s,SNR=14
HERR Herculane 148.18 332 ⇑P PKPbc 15 35 14.9 +0.3
WLF Walferdange 148.32 354 PKiKP **PKiKP 15 35 15.6 -0.3**
WLF Walferdange 148.32 354 *e*PKPbc **PKPbc 15 35 15.0 +0.2**
baz=15,slow=2.9
WLF Walferdange 148.32 354 PKiKP 15 35 15.4 -0.5
MDVR Moldovita 148.57 332 ⇑P PKPbc 15 35 16.0 +0.3
MOA Molln 148.61 344 *e*PKPbc **PKPbc 15 35 15.8 +0.2**
comp=Z,3.2nm,0.8s
ARSA Arzberg 148.80 342 *e*PKPbc **PKPbc 15 35 16.2 +0.1**
comp=Z,6.3nm,1.3s
FUR Furstenfeldbru 149.02 348 *e*PKPbc **PKiKP 15 35 17.3 -0.1**
baz=15,slow=2.9
FRGS Fruska Gora 149.08 335⇑ *iP* **PKPbc 15 35 17.0 +0.2**
BFO Black Forest 149.38 351 *e*PKPbc **PKiKP 15 35 17.9 -0.3**
baz=15,slow=2.9
BFO Black Forest 149.38 351 PKPbc 15 35 17.4 -0.1
SOKA Soboth 149.46 342 *e*PKPbc **PKPbc 15 35 17.5 -0.3**
comp=Z,10nm,1.0s,SNR=6.6
KBA Koelnbreinsper 149.56 344 *e*PKPbc **PKPbc 15 35 17.6 -0.5**
comp=Z,12nm,1.1s,SNR=8.0
ECH Echery 149.64 353 PKPbc 15 35 17.8 -0.3
ECH PKPab **PKPab 15 35 25.3 -0.7**
UBR Ueberruh 149.71 349 *e*PKPbc **PKiKP 15 35 18.9 0.0**
baz=15,slow=2.9
WATA Walderalm 149.74 347 *e*PKiKP **PKPbc 15 35 18.5 0.0**
comp=Z,9.8nm,0.6s,SNR=6.7
OBKA Obir 149.75 342 *e*PKPbc **PKPbc 15 35 17.9 -0.6**
comp=Z,5.0nm,0.8s
RETA Reutte 149.77 348 *i* PKiKP **PKPbc 15 35 18.6 +0.1**
comp=Z,4.8nm,0.8s
MOTA Moosalm 149.84 347 *e*PKPbc **PKPbc 15 35 18.6 -0.1**
comp=Z,13nm,0.9s,SNR=7.3
DIVS Divibare 149.87 333⇑ *iP* **PKPbc 15 35 19.0 +0.2**
DIVS Divibare 149.87 333 PKPbc 15 35 18.7 -0.1
MYKA Terra Mystica 149.90 343 *i* PKPbc **PKPbc 15 35 18.1 -0.7**
comp=Z,8.1nm,0.8s,SNR=6.8
SQTA Sankt Quirin 149.93 347 *i* PKiKP **PKPbc 15 35 19.0 +0.1**
comp=Z,16nm,0.6s,SNR=9.2
MOZS Mozjanca 149.98 342 *i* PKPbc **PKPbc 15 35 18.6 -0.3**
GCIS Gornji Cirnik 150.00 340 *i* PKPbc **PKPbc 15 35 19.2 +0.3**
ABTA Abfaltersbach 150.08 345 *i* PKPbc **PKPbc 15 35 18.9 -0.4**
comp=Z,18nm,0.6s,SNR=13
PRED Cave del Predi 150.09 343 PKPbc 15 35 19.2 -0.1
PRED PKPab **PKPab 15 35 27.1 -0.9**
CRES Cresnjev 150.09 341⇑ *iP* **PKPbc 15 35 19.0 -0.2**
DAVA Damuels 150.13 349 *i* PKiKP **PKiKP 15 35 20.5 +0.5**
comp=Z,6.4nm,0.6s,SNR=7.7
ZOU Zoufplan 150.14 344 PKPbc 15 35 18.6 -0.9
ZOU PKPab **PKPab 15 35 27.4 -1.0**
CLF Chambon-Foret 150.16 359 PKPbc 15 35 18.9 -0.3
CLF PKPab **PKPab 15 35 28.2 +0.1**
LJU Ljubljana 150.18 342 *i* PKPbc **PKPbc 15 35 19.5 +0.2**
LJU *i* PKPab **PKPab 15 35 27.8 -0.5**
LJU Ljubljana 150.18 342⇑ *iP* **PKPbc 15 35 19.6 +0.2**
FETA Feichten 150.22 348 *i* PKiKP **PKiKP 15 35 19.9 -0.2**
comp=Z,11nm,0.7s,SNR=8.7
BBLS Lazići 150.31 334⇑ *iP* **PKiKP 15 35 20.2 -0.1**
GBAS Gorenja Brezov 150.31 342 *i* PKPbc **PKPbc 15 35 19.6 -0.1**
GBAS *i* PKPab **PKPab 15 35 28.2 -0.7**
HAPS Han Pijesak,Bl 150.31 334 *eP* **PKPbc 15 35 19.2 -0.7**
BLY Banja Luka 150.44 337⇑ *iP* **PKiKP 15 35 20.3 -0.2**
BOJS Bojanci 150.44 340 *i* PKPbc **PKiKP 15 35 20.5 0.0**
STAL STALIGIAL 150.48 344 PKPbc 15 35 19.2 -0.9
STAL PKPab **PKPab 15 35 28.8 -0.8**
CEY Cerknica 150.49 342⇑ *iP* **PKPbc 15 35 20.0 -0.1**
CIMO Cimolais 150.50 345 PKPbc 15 35 19.1 -1.1
RUDO Rudo 150.52 333 *eP* **PKPbc 15 35 20.2 -0.1**
SJES Sjenica 150.54 332⇑ *iP* **PKPdf 15 35 12.6 -1.7**
KNDS Knezji Dol 150.69 342 *i* PKPbc **PKPbc 15 35 20.6 -0.1**
KNDS *e*PKPab **PKPab 15 35 29.7 -0.9**
FUORN Ofenpass-Fuorn 150.70 348 PKiKP 15 35 21.3 0.0
CTI Castel Tesino 150.94 346 PKPbc 15 35 21.2 -0.1
CTI PKPab **PKPab 15 35 30.7 -1.0**
TUE Stuetta 151.02 349 PKPbc 15 35 21.4 -0.1
TUE PKPab **PKPab 15 35 31.9 -0.1**
UPM Unac-Piva 151.06 333 *eP* **PKPbc 15 35 20.6 -1.1**
SENIN Lac Senin/Sane 151.44 352 PKiKP 15 35 22.7 0.0
BRY Bratogost 151.46 334 *eP* **PKPbc 15 35 21.6 -1.0**
PDG Podgorica 151.53 332 ⇑P PKPbc 15 35 21.5 -1.0
PDG Podgorica 151.53 332 *eP* **PKPbc 15 35 21.2 -1.3**
TEOL Teolo 151.58 345 PKPbc 15 35 22.4 -0.2
TEOL PKPab **PKPab 15 35 34.4 +0.1**
DRME Dracevica, Mon 151.75 332⇑ *iP* **PKPbc 15 35 22.8 -0.3**
FNA Florina 151.77 327 PKPbc 15 35 22.4 -0.8
BNI Bardonecchia 152.81 352 PKPbc **PKiKP 15 35 26.1 +0.5**
BNI PKPab **PKPab 15 35 39.8 +0.1**
ESDC Sonseca Array 157.96 12 PKPab **PKPab 15 36 01.3 -0.6**
comp=Z,3.1nm,0.9s,baz=341,slow=3.9,SNR=15
ESDC Sonseca Array 157.96 12 PKPab PKPab 15 36 00.7 -1.1
KEST Kesra 161.18 340 PKPab **PKPab 15 36 16.3 +0.1**
comp=Z,2.3nm,0.6s,baz=50,slow=4.3,SNR=5.2
TORD Torodi Ar. Bea 175.07 180 PKPab **PKPab 15 37 17.3 -0.5**
comp=Z,1.0nm,0.6s,baz=186,slow=3.6,SNR=9.0
TORD pPKPab **pPKPab 15 39 37.1 +4.4**
comp=Z,3.6nm,1.3s,baz=180,slow=3.6,SNR=4.6
TORD PP **PP 15 41 10.2 +0.8**
comp=Z,1.6nm,0.8s,baz=174,slow=3.8,SNR=5.1
TORD Torodi Ar. Bea 175.07 180 PKPab 15 37 17.6 -0.1
TORD **pPKPab 15 39 38.3 +5.7**
TORD **PP 15 41 11.2 +1.8**

DDA **28** *15:22:29.9, 37°.34N×42°.63E, h10km±2km, ML2.7*
ISK **28** *15:22:29.7, 37°.33N×42°.61E, h2km, ML2.7/9*
ISC 28 15:22:30.2±1.3, 37°.35N±0°.05×42°.64E±0°.03, h4km±11km, n21, σ1°30/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.22**	**315**	PG	**Pg**	**15 22 34.8**	**+0.3**
SIRT				SG	**Sg**	**15 22 38.9**	**+1.5**
SIRN	**Sırnak**	**0.23**	**310**	*i* P	**Pg**	**15 22 34.5**	**-0.2**

CUKT	**Cukurca**	**0.78**	**97**	PG	**Pb**	**15 22 46.0**	**-0.5**
CUKT				SG	**Sb**	**15 22 57.9**	**+0.4**
CUKT	**Cukurca**	**0.78**	**97**	*i* P	**Pg**	**15 22 44.9**	**-0.4**
SRTM	**Siirt_Merkez**	**0.86**	**319**	*i* P	**Pb**	**15 22 47.5**	**-0.3**
HAKT	**HAKKARI**	**0.88**	**76**	*i* P	**Pg**	**15 22 47.0**	**-0.1**
AKDM	**Akdamar-Van**	**1.02**	**15**	PG	**Pb**	**15 22 50.2**	**-0.4**
AKDM				SG	**Sn**	**15 23 05.8**	**-0.6**
BLIS	**Bitlis-Merkez**	**1.14**	**339**	*i* P	**Pg**	**15 22 51.5**	**-0.7**
BTMN	**Batman**	**1.21**	**297**	*i* P	**Pb**	**15 22 53.2**	**-0.6**
BTMN				*i* S	**Sn**	**15 23 12.0**	**+1.0**
BTMN				IAML		15 23 15.0	
	comp=E,172nm,0.4s						
GURO	**Guroymak-BITLI**	**1.29**	**339**	PN	**Pb**	**15 22 56.1**	**+0.9**
GURO				SN	**Sn**	**15 23 14.3**	**+1.2**
YOVA	**Hakkari_Yksek**	**1.34**	**79**	*i* P	**Pb**	**15 22 55.7**	**-0.4**
YOVA				*i* S	**Sn**	**15 23 17.5**	**+3.2**
YOVA				IAML		15 23 34.0	
	comp=N,47nm,0.9s						
YOVA				IAML		15 23 51.0	
	comp=E,118nm,1.6s						
MARD	**Mardin**	**1.48**	**269**	*i* P	**Pb**	**15 22 57.5**	**-0.9**
MARD				*i* S	**Sg**	**15 23 19.3**	**+1.5**
MARD				IAML		15 23 21.0	
	comp=E,225nm,0.9s						
MARD				IAML		15 23 23.0	
	comp=N,268nm,0.6s						
MUSM	**Mu-Merkez**	**1.64**	**328**	*i* P	**Pb**	**15 23 00.5**	**-0.6**
MAZI	**Mazidag**	**1.75**	**274**	PN	**Pb**	**15 23 01.8**	**-1.1**
VRTB	**Varto-Mus**	**2.04**	**333**	PN	**Pb**	**15 23 06.3**	**-1.6**
TUTA	**Tutak**	**2.06**	**4**	*i* P	**Pb**	**15 23 07.4**	**-0.9**
CLDR	**Caldiran**	**2.06**	**29**	*i* P	**Pn**	**15 23 02.5**	**-3.3**
HANI	**Diyarbakir_Han**	**2.07**	**302**	*i* P	**Pb**	**15 23 07.6**	**-0.8**
DYBB	**Diyarbakir**	**2.07**	**288**	PN	**Pb**	**15 23 07.0**	**-1.5**
AGRB	**Hanur-Agry**	**2.24**	**7**	PN	**Pn**	**15 23 09.4**	**+1.0**
SVRC	**Sivrice-ELAZID**	**2.83**	**292**	PN	**Pn**	**15 23 16.3**	**-0.1**

NEIC ***28*** *15:32:58.4±1.3, 6°.49S±0°.08×154°.86E±0°.08, h81km±6km, mb4.5/31, Error ellipse: s-maj=13.0km s-min=10.3km az=219.0*
IDC ***28*** *15:32:59.7±1.4, 6°.45S×154°.82E, h87km±12km, mb3.9/16, mb1 4.0/20, mb1mx3.9/40, mbtmp4.2/20, MS3.3/6, Ms1 3.3/6, ms1mx3.0/33, Error ellipse: s-maj=14.1km s-min=10.1km az=45.0*

ISC 28 15:32:56.4±0.4, 6°.48S±0°.06×154°.85E±0°.06, h56km, n70, σ1§56/68, mb4.4/27, MS3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.51**	**310**	Pn	**Pn**	**15 33 53.0**	**+4.4**
KRVT	**Keravat (AS076**	**3.55**	**307**	P	**Pn**	**15 33 50.4**	**+1.4**
	12nm,0.3s,baz=92,slow=2.6,SNR=23						
KRVT				S	**Sn**	**15 34 34.2**	**+4.5**
	59nm,0.3s,baz=340,slow=23,SNR=3.9						
HNR	**Honiara**	**5.84**	**121**	P	**Pn**	**15 34 22.7**	**+2.3**
	7.3nm,0.3s,baz=217,slow=4.6,SNR=5.0						
HNR				S	**Sn**	**15 35 32.9**	**+6.9**
	6.5nm,0.3s,baz=193,slow=16,SNR=2.6						
HNR				LR	LR	15 36 35.2	
	comp=Z,248nm,18.7s,baz=253,slow=37						
PMG	**Port Moresby**	**8.16**	**249**	P	**Pn**	**15 34 53.5**	**+1.3**
	9.6nm,0.3s,baz=65,slow=7.0,SNR=24						
PMG				S	**Sn**	**15 36 28.0**	**+5.0**
	1.5nm,0.3s,baz=46,slow=22,SNR=4.2						
PMG				LR	LR	15 38 04.9	
	comp=Z,196nm,18.8s,baz=74,slow=38						
PMG	**Port Moresby**	**8.16**	**249**		**Pn**	**15 34 53.8**	**+1.6**
PATS	**Pohnpei**	**13.67**	**15**	Pn	**Pn**	**15 36 08.1**	**+0.5**
CTA	**Charters Tower**	**15.90**	**211**	P	**Pn**	**15 36 36.2**	**-0.5**
	0.3nm,0.3s,baz=68,slow=22,SNR=2.4						
CTAO	**Charters Tower**	**15.90**	**211**	Pn	**Pn**	**15 36 36.2**	**-0.5**
DZM	**Mont Dzumac**	**19.12**	**145**	P	**Pn**	**15 37 15.4**	**-1.0**
	0.5nm,0.3s,baz=85,slow=22,SNR=2.6						
DZM				LR	LR	15 43 52.8	
	comp=Z,120nm,19.8s,baz=24,slow=34						
DZM	**Mont Dzumac**	**19.12**	**145**	IAmb	IAmb	15 37 38.4	
	comp=Z,47nm,1.5s						
WR0	**Warramunga Arr**	**23.84**	**234**	P	**P**	**15 38 04.3**	**-0.4**
WR0				IAmb	IAmb	15 38 28.8	
	comp=Z,8.0nm,0.8s						
WB0	**Warramunga Arr**	**23.86**	**234**	P	**P**	**15 38 04.5**	**-0.4**
WRAB	**Tennant Creek**	**23.98**	**234**	P	**P**	**15 38 06.0**	**0.0**
WRAB				IAmb	IAmb	15 38 19.0	
	comp=Z,16nm,1.2s						
WB2	**Warramunga Arr**	**23.99**	**234**	P	**P**	**15 38 06.1**	**+0.1**
WB2				IAmb	IAmb	15 38 19.0	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**24.00**	**234**	P	**P**	**15 38 05.8**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=56,slow=9.5,SNR=26						
WRA				PcP	**PcP**	**15 41 47.1**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=61,slow=2.2,SNR=16						
WRA	**Warramunga Arr**	**24.00**	**234**	P	**P**	**15 38 05.5**	**-0.6**
ARMA	**Armidale**	**24.01**	**187**	P	**P**	**15 38 06.5**	**+0.3**
SIJI	**Sorong**	**24.18**	**282**	P	**P**	**15 38 07.4**	**-0.4**
	comp=Z,12nm,1.0s,baz=175,slow=1.6,SNR=3.6						
MSVF	**Nonsavu**	**25.25**	**118**	P	**P**	**15 38 16.9**	**-0.7**
MSVF				IAmb	IAmb	15 38 29.2	
	comp=Z,22nm,1.4s						
ASAR	**Alice Springs**	**26.41**	**227**	P	**P**	**15 38 28.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=58,slow=9.4,SNR=6.4						
ASAR				PcP	**PcP**	**15 41 52.6**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=60,slow=2.5,SNR=9.3						
KNRA	**Kununurra**	**27.16**	**248**	P	**P**	**15 38 35.5**	**+0.7**
KNRA				IAmb	IAmb	15 38 52.6	
	comp=Z,21nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**27.42**	**25**	T	T	16 07 08.1	
	SNR=17						
H11S2	**WAKE ISLAND Hy**	**27.43**	**25**	T	T	16 07 08.1	
	baz=203,slow=74,SNR=28						
H11S1	**WAKE ISLAND Hy**	**27.44**	**25**	T	T	16 07 08.1	
	baz=126,slow=74,SNR=18						
STKA	**Stephens Creek**	**28.14**	**204**	LR	LR	15 48 49.0	
	comp=Z,81nm,19.5s,baz=23,slow=34						
H11N1	**WAKE ISLAND Hy**	**28.60**	**24**	T	T	16 08 51.9	
	baz=205						
H11N3	**WAKE ISLAND Hy**	**28.61**	**24**	T	T	16 08 35.0	
	baz=205						
H11N2	**WAKE ISLAND Hy**	**28.62**	**24**	T	T	16 08 52.0	
	baz=205						
FITZ	**Fitzroy Crossi**	**30.73**	**245**	P	**P**	**15 39 07.0**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=179,slow=23,SNR=2.9						
FITZ				PcP	**PcP**	**15 42 03.3**	**0.0**
	comp=Z,3.1nm,0.8s,baz=174,slow=6.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**30.73**	**245**	P	**P**	**15 39 06.1**	**-0.4**
BKZ	**Black Stump Fm**	**37.95**	**152**	P	**P**	**15 40 08.1**	**-0.6**
THZ	**Tophouse**	**38.63**	**158**	P	**P**	**15 40 13.3**	**-1.1**
TUWZ	**Tuamarina**	**38.74**	**157**	P	**P**	**15 40 14.2**	**-1.0**
LTZ	**Lake Taylor**	**39.30**	**160**	P	**P**	**15 40 19.4**	**-0.6**
OXZ	**Oxford**	**39.70**	**160**	P	**P**	**15 40 22.7**	**-0.6**
KKM	**Kota Kinabalu**	**40.52**	**287**	P	**P**	**15 40 31.2**	**+0.7**
KKM				IAmb	IAmb	15 40 41.8	
	comp=Z,8.5nm,1.0s						
NACB	**Ninganchiao**	**44.50**	**314**	P	**P**	**15 41 02.2**	**-0.4**
TPUB	**Ta-pu**	**44.66**	**313**	P	**P**	**15 41 03.1**	**-0.8**
SSLB	**Suanglung**	**44.72**	**313**	P	**P**	**15 41 03.9**	**-0.5**
SSLB				IAmb	IAmb	15 41 11.6	
	comp=Z,14nm,1.2s						
JNU	**Nakatsue**	**45.49**	**331**	P	**P**	**15 41 09.2**	**-1.2**
	comp=Z,7.2nm,0.9s,baz=108,slow=14,SNR=2.2						
KSRS	**Korea Array**	**50.42**	**332**	P	**P**	**15 41 47.6**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=142,slow=8.4,SNR=8.7						
ASAJ	**Asahikawa**	**51.56**	**349**	LR	LR	16 07 24.0	
	comp=Z,32nm,18.2s,baz=166,slow=40						
USRK	**Ussuriysk Ar.**	**54.50**	**340**	P	**P**	**15 42 18.4**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=127,slow=8.0,SNR=3.7						
IPM	**Ipoh**	**54.83**	**280**	P	**P**	**15 42 20.9**	**-0.6**
IPM				IAmb	IAmb	15 42 22.3	
	comp=Z,6.1nm,0.9s						
KULM	**Kulim**	**55.35**	**281**	P	**P**	**15 42 24.2**	**-1.0**
GSI	**Gunungsitoli**	**57.69**	**276**	P	**P**	**15 42 40.5**	**-1.3**
PETK	**Petropavlovsk-**	**59.41**	**2**	P	**P**	**15 42 53.1**	**+0.1**
	comp=Z,5.1nm,0.8s,baz=163,slow=6.1,SNR=8.3						
CM31	**Chiang Mai Arr**	**60.44**	**295**	P	**P**	**15 43 01.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**60.44**	**295**	P	**P**	**15 43 01.4**	**+0.6**
	comp=Z,8.1nm,0.8s,baz=120,slow=5.2,SNR=51						
CMAR	**Chiang Mai Arr**	**60.44**	**295**	P	**P**	**15 43 00.3**	**-0.4**
CHTO	**Chiang Mai**	**60.55**	**296**	P	**P**	**15 43 01.1**	**-0.5**
MA2	**Magadan**	**65.92**	**358**	LR	LR	16 13 03.7	
	comp=Z,16nm,19.1s,baz=280,slow=36						
CASY	**Casey**	**67.04**	**198**	P	**P**	**15 43 41.9**	**-1.5**
CASY				IAmb	IAmb	15 44 10.9	
	comp=Z,13nm,1.4s						
SONM	**Songino Array**	**68.83**	**327**	P	**P**	**15 43 54.8**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=146,slow=5.4,SNR=6.1						
SONM	**Songino Array**	**68.83**	**327**	P	**P**	**15 43 54.3**	**-0.8**
VNDA	**Vanda**	**71.10**	**178**	P	**P**	**15 44 08.2**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=317,slow=7.4,SNR=4.3						
MK31	**Makanchi Array**	**82.92**	**319**		**P**	**15 45 15.3**	**-0.1**
MKAR	**Makanchi Array**	**82.92**	**319**	P	**P**	**15 45 14.5**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=104,slow=5.5,SNR=17						
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**15 45 14.3**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=234,slow=5.2,SNR=5.4						
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**15 45 14.1**	**-1.0**
MAKZ	**Makanchi**	**83.14**	**319**		**P**	**15 45 15.1**	**-1.3**
MAKZ				IAmb	IAmb	15 45 16.9	
	comp=Z,3.7nm,0.9s						
QSPA	**South Pole Qui**	**83.49**	**180**	P	**P**	**15 45 17.7**	**-0.3**
QSPA				IAmb	IAmb	15 45 31.2	
	comp=Z,7.4nm,1.3s						
ZALV	**Zalesovo Beam**	**83.67**	**326**	P	**P**	**15 45 17.1**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=67,slow=3.9,SNR=6.1						
MAW	**Mawson**	**84.82**	**203**	P	**P**	**15 45 24.1**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=112,slow=5.2,SNR=12						
NVAR	**Mina Array Bea**	**91.51**	**52**	P	**P**	**15 45 57.8**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=261,slow=5.3,SNR=7.3						
NVAR	**Mina Array Bea**	**91.51**	**52**	P	**P**	**15 45 57.1**	**-0.4**
BOSA	**Boshof**	**120.23**	**232**	PKP	**PKPdf**	**15 51 41.4**	**-0.8**
	comp=Z,2.8nm,1.0s,baz=113,slow=4.6,SNR=4.0						
BDFB	**Brasilia**	**148.44**	**134**	PKPbc	**PKiKP**	**15 52 38.2**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=164,slow=6.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**152.75**	**286**	PKPbc	**PKPbc**	**15 52 46.6**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=64,slow=2.3,SNR=9.6						
TORD				PKPab	**pPKPdf**	**15 52 57.0**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=90,slow=3.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**152.75**	**286**		**PKPbc**	**15 52 46.4**	**-1.7**
TORD					**pPKPdf**	**15 52 57.6**	**+0.2**

ASRS ***28*** *15:36:30.9±0.2, 51°.N±1°×92°.1E±0°.9, h10km, MLh3.4/15, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
NNC ***28*** *15:36:36.3±6.0, 51°.00N×91°.79E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=73.6km s-min=41.4km az=2.0*

ISC 28 15:36:31.7±1.1, 50°.97N±0°.03×92°.09E±0°.02, h12km±12km, n27, σ1§77/52, 5C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL	**Teeli**	**1.20**	**273**	Pg	**Pg**	**15 36 56.6**	**+1.9**
TEL				Sg	**Sn**	**15 37 10.2**	**-0.4**
KZLR	**Kyzyl**	**1.66**	**63**	Pg	**Pg**	**15 37 03.5**	**+0.1**
KZLR				Sg	**Sg**	**15 37 28.6**	**+3.7**
ARDR	**Aradan**	**1.82**	**27**	Pg	**Pg**	**15 37 08.1**	**+1.6**
ARDR				Sg	**Sg**	**15 37 30.1**	**0.0**
DJOS	**Djoyskaya Sosn**	**1.88**	**347**	Pg	**Pg**	**15 37 09.3**	**+1.5**
DJOS				Sg	**Sg**	**15 37 34.0**	**+1.8**
DJO	**Djoy, Khakassi**	**1.90**	**344**	Pg	**Pg**	**15 37 09.2**	**+1.1**
DJO				Sg	**Sg**	**15 37 34.1**	**+1.4**
CERR	**Cheremushki**	**1.94**	**348**	Pg	**Pg**	**15 37 10.4**	**+1.6**
CERR				Sg	**Sg**	**15 37 35.7**	**+1.7**
ERNS	**Erzin**	**2.07**	**109**	Pg	**Pg**	**15 37 10.6**	**-0.8**
ERNS				Sg	**Sb**	**15 37 35.2**	**+0.1**
BLRR	**Bol'shaya Rech**	**2.09**	**6**	Pg	**Pg**	**15 37 13.1**	**+1.4**
BLRR				Sg	**Sg**	**15 37 39.6**	**+0.9**
TBTR	**Tabat**	**2.14**	**337**	Pg	**Pg**	**15 37 13.3**	**+0.5**
TBTR				Sg	**Sg**	**15 37 42.2**	**+1.7**
CUR	**Chagan-Uzun**	**2.54**	**251**	Pg	**Pg**	**15 37 20.5**	**+0.1**
CUR				Sg	**Sg**	**15 37 53.5**	**+0.2**
ULGR	**Ulagan, Altay**	**2.64**	**264**	Pg	**Pg**	**15 37 22.4**	**0.0**
ULGR				Sg	**Sg**	**15 37 57.3**	**+0.7**
ABNR	**Abakan**	**2.79**	**352**	Pg	**Pg**	**15 37 26.1**	**+0.9**
ABNR				Sg	**Sg**	**15 37 59.6**	**-1.8**
TDJR	**Todzha**	**2.88**	**59**	Pg	**Pg**	**15 37 24.8**	**-2.0**
TDJR				Sg	**Sg**	**15 38 01.6**	**-2.5**
CHBI	**Chibit, Altay**	**2.99**	**259**	Pg	**Pg**	**15 37 27.9**	**-1.2**
CHBI				Sg	**Sg**	**15 38 07.3**	**-0.5**
ARTR	**Artybash**	**3.13**	**287**	Pg	**Pg**	**15 37 32.6**	**+1.0**
ARTR				Sg	**Sg**	**15 38 13.3**	**+1.2**
TASR	**Tashtagol**	**3.17**	**306**	Pn	**Pb**	**15 37 25.4**	**-2.5**
TASR				Pg	**Pg**	**15 37 32.4**	**0.0**
TASR				Sg	**Sg**	**15 38 11.6**	**-1.8**
DGZ	**Jazzator, Alta**	**3.24**	**249**	Pn	**Pb**	**15 37 27.5**	**-1.8**
DGZ				Pg	**Pg**	**15 37 33.5**	**-0.3**
DGZ				Sg	**Sg**	**15 38 16.9**	**+1.1**
KNGR	**Kungurtug, Tuv**	**3.46**	**94**	Pn	**Pn**	**15 37 27.9**	**+2.3**
KNGR				Pg	**Pg**	**15 37 34.8**	**-3.1**
KNGR				Sg	**Sg**	**15 38 23.0**	**+0.1**
SHRR	**Shira**	**3.72**	**342**	Pn	**Pn**	**15 37 29.2**	**+0.2**
SHRR				Pg	**Pg**	**15 37 39.9**	**-3.0**
SHRR				Sg	**Sg**	**15 38 29.6**	**-1.6**
TUNR	**Tungur**	**3.76**	**260**	Pn	**Pb**	**15 37 34.8**	**-3.2**
TUNR				Pg	**Pg**	**15 37 43.7**	**0.0**
TUNR				Sg	**Sg**	**15 38 34.5**	**+2.0**
ORY	**Orie**	**4.44**	**23**	Pg	**Pg**	**15 37 53.5**	**-3.1**
ORY				Sg	**Sg**	**15 38 51.8**	**-2.2**
UKR	**Ust'-Kan**	**4.63**	**272**	Pg	**Pg**	**15 37 59.4**	**-0.9**
UKR				Sg	**Sg**	**15 39 01.3**	**+1.1**
SALR	**Pechorkino, Sa**	**5.20**	**314**	Sg	**Sg**	**15 39 15.8**	**-2.7**
MK31	**Makanchi Array**	**7.69**	**241**	⇑Pn	Pn	15 38 27.7	+4.2
	0.3nm,0.3s,baz=55,slow=14,SNR=14						
MK31				⇑Pg	**Pg**	**15 38 57.0**	**-1.8**
	0.7nm,0.6s,baz=61,slow=14,SNR=3.7						
MK31				⇓Lg	Lg	15 40 34.7	
	1.0nm,0.5s,baz=67,slow=30,SNR=3.9						
MAKZ	**Makanchi**	**7.86**	**242**	⇓Pn	**Pn**	**15 38 28.7**	**+3.0**
	1.4nm,0.8s						
MAKZ				⇑Lg	Lg	15 40 40.6	
	2.0nm,0.8s						
KURK	**Kurchatov**	**8.53**	**274**	⇑Lg	Lg	15 40 59.7	
	7.1nm,1.1s						
KURBB	**Kurchatov Arra**	**8.60**	**273**	⇑Lg	Lg	15 41 03.3	
	3.5nm,0.6s						

JMA ***28*** *15:59:38.5±0.1, 37°.22N×135°.10E, h385km, M2.6*
IDC ***28*** *15:59:39.5±1.3, 37°.18N×135°.16E, h376km±22km, mb2.9/1, mb1 2.8/5, mb1mx2.5/54, mbtmp3.4/5, Error ellipse: s-maj=30.2km s-min=26.6km az=43.0*

ISC 28 15:59:39.6±1.1, 37°.2N±0°.1×135°.2E±0°.1, h372km, n8, σ0§69/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**1.95**	**174**	P	**Pn**	**16 00 33.2**	**+0.5**
JYTA	**Yamagatataniai**	**2.07**	**141**	P	**Pn**	**16 00 33.9**	**+0.5**
MJAR	**Matsushiro Arr**	**2.55**	**105**	P	**Pn**	**16 00 37.6**	**+0.7**
	0.1nm,0.3s,baz=275,slow=8.8,SNR=15						
JSD	**Sado**	**2.60**	**71**	P	**Pn**	**16 00 37.9**	**+0.7**
KSRS	**Korea Array**	**5.76**	**274**	P	**Pn**	**16 01 08.8**	**+0.4**
	0.1nm,0.3s,baz=96,slow=11,SNR=6.9						
USRK	**Ussuriysk Ar.**	**7.37**	**342**	P	**P**	**16 01 27.6**	**0.0**
	baz=162,slow=12,SNR=10						
ASAJ	**Asahikawa**	**8.91**	**37**	P	**Pn**	**16 01 44.0**	**-0.4**
	0.4nm,0.3s,baz=224,slow=12,SNR=8.7						
WRA	**Warramunga Arr**	**56.87**	**181**	P	**P**	**16 08 46.1**	**-0.8**
	1.0nm,1.1s,baz=355,slow=7.6,SNR=3.7						

NNC ***28*** *16:07:20.4±5.0, 37°.99N×71°.98E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=39.8km s-min=27.3km az=163.0*

ISC 28 16:07:19.9±4.7, 37°.7N±0°.3×72°.0E±0°.2, h100km, n10, σ1§07/13, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.67**	**16**	P	**Pn**	**16 08 29.3**	**+0.9**
	SNR=9.2						
UCH	**Uchtor**	**4.97**	**22**	P	**Pn**	**16 08 33.5**	**+0.8**
	SNR=20						
EKS2	**Erkin-Say**	**5.19**	**15**	P	**Pn**	**16 08 36.8**	**+1.4**
	SNR=16						
AAK	**Ala-Archa**	**5.34**	**20**	P	**Pn**	**16 08 38.6**	**+1.2**
	SNR=11						
AAK	**Ala-Archa**	**5.34**	**20**	⇓Pn	**Pn**	**16 08 38.0**	**+0.6**
	4.9nm,0.5s						
AAK				⇑Sn	**Sn**	**16 09 37.7**	**0.0**
	12nm,0.8s						
KK31	**Karatay Array**	**5.56**	**349**	⇓Pn	**Pn**	**16 08 40.1**	**-0.1**
	1.4nm,0.3s,baz=161,slow=11,SNR=14						
KK31				⇑Sn	**Sn**	**16 09 41.6**	**-1.1**
	5.4nm,0.5s,baz=168,slow=22,SNR=10						
ULHL	**Ulahol**	**5.64**	**34**	P	**Pn**	**16 08 41.3**	**-0.2**
	SNR=7.6						
CHMS	**Chumysh**	**5.75**	**21**	P	**Pn**	**16 08 43.4**	**+0.6**
	SNR=7.5						
TKM2	**Tokmak 2**	**5.95**	**27**	P	**Pn**	**16 08 45.1**	**-0.6**
	SNR=5.1						
TKM2	**Tokmak 2**	**5.95**	**27**	⇑Pn	**Pn**	**16 08 43.6**	**-2.1**
	3.4nm,0.7s						
TKM2				⇓Sn	**Sn**	**16 09 52.6**	**+0.1**
	1.7nm,0.8s						

IDC 28 16:23:41.6±1.9, 2°.61N×126°.54E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/33, mbtmp3.6/5, Error ellipse: s-maj=110.6km s-min=26.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.59**	**182**	P	Pn	16 28 23.8	-0.9
	1.3nm,0.7s,baz=1.5,slow=13,SNR=0.8						
WRA	**Warramunga Arr**	**23.68**	**161**	P	P	16 28 54.5	-0.7
	0.5nm,0.3s,baz=340,slow=11,SNR=35						
ASAR	**Alice Springs**	**27.08**	**165**	P	P	16 29 25.9	-0.4
	0.1nm,0.3s,baz=347,slow=12,SNR=10						
STKA	**Stephens Creek**	**37.16**	**159**	P	P	16 30 55.1	+0.8
	0.6nm,0.3s,baz=339,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**58.37**	**326**	P	P	16 33 38.3	-0.5
	0.3nm,0.5s,baz=131,slow=6.5,SNR=1.8						

IDC ***28*** *16:57:14.7±0.8, 70°.80N×13°.99W, h0km, mb3.6/9, mb1 3.9/15, mb1mx3.7/41, mbtmp3.7/15, ML3.7/4, MS3.3/22, Ms1 3.4/22, ms1mx3.2/36, Error ellipse: s-maj=21.3km s-min=16.5km az=19.0*
BER ***28*** *16:57:16.0±5.4, 70°.71N×14°.41W, h10km, ML2.6*
NEIC ***28*** *16:57:16.9±2.4, 70°.74N±0°.07×14°.4W±0°.1, h13km±4km, mb4.1/14, Error ellipse: s-maj=10.9km s-min=5.1km az=193.0*
REY ***28*** *16:57:16.6, 70°.20N×12°.60W, h10km*
DNK ***28*** *16:57:18.4±2.9, 70°.91N×15°.43W, h12km±30km, ML3.1, Hypocentre not reviewed by the ISC*

ISC 28 16:57:15.8±0.5, 70°.74N±0°.04×14°.46W±0°.05, h10km, n91, σ2§48/94, mb3.7/15, MS3.3/19, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**1.98**	**80**	Pn	**Pn**	**16 57 46.6**	**-2.6**
	baz=163,slow=11,SNR=2.3						
JMIC				Sn	Sn	16 58 06.4	-7.7
	baz=122,slow=17,SNR=2.0						
JMIC				LR	LR	16 58 16.4	
	comp=Z,111nm,20.3s,baz=253,slow=34						
JMIC	**Jan Mayen**	**1.98**	**80**	*e*P	**Pn**	**16 57 47.2**	**-2.1**
JMIC				*e*S	Sn	16 58 06.6	-7.4
JMIC				IAML		16 58 22.4	
	comp=Z,55nm,0.4s						
SCO	**Scoresbysund**	**2.51**	**268**	*i* P	**Pn**	**16 57 54.8**	**-1.8**
SCO				*i* S	**Sn**	**16 58 22.0**	**-5.3**
SCO	**Scoresbysund**	**2.51**	**268**	Pn	**Pn**	**16 57 55.0**	**-1.6**
SCO	**Scoresbysund**	**2.51**	**268**	*e*P	**Pn**	**16 57 54.8**	**-1.8**
SCO				*i* S	**Sn**	**16 58 22.0**	**-5.3**
SCO				IAML		16 58 38.3	
	comp=Z,16nm,0.5s						
DBG	**Daneborg**	**3.99**	**337**	*e*P	**Pn**	**16 58 14.9**	**-1.9**
DBG				*i* S	**Sn**	**16 58 57.9**	**-5.6**
IGRI	**Grimsey**	**4.41**	**199**	P	**Pn**	**16 58 21.1**	**-1.6**
	baz=211						
IGRI				S	**Sn**	**16 59 11.7**	**-2.2**
	baz=211						
IGIL	**Gilhagi**	**4.73**	**189**	P	**Pn**	**16 58 23.9**	**-3.2**
	baz=200						
IGIL				S	**Sn**	**16 59 16.5**	**-5.4**
	baz=200						
IHED	**Heoinshofoi**	**4.79**	**194**	P	**Pn**	**16 58 25.5**	**-2.4**
	baz=205						
IHED				S	**Sn**	**16 59 18.5**	**-4.9**
	baz=205						
IBRE	**Brettingsstaoi**	**4.81**	**197**	P	**Pn**	**16 58 26.5**	**-1.6**
	baz=208						
IBRE				S	**Sn**	**16 59 19.9**	**-3.9**
	baz=208						
IDIM	**Dimmadalss**	**4.88**	**192**	P	**Pn**	**16 58 26.6**	**-2.6**
	baz=203						
IDIM				S	**Sn**	**16 59 20.6**	**-5.1**
	baz=203						

comp=Z,148nm,18.9s,baz=112,slow=37
DOU Dourbes 22.53 147 P **P 17 02 17.0 +1.6**
CLL Collm 23.19 133 *i* P **P 17 02 23.9 +1.6**
comp=Z,35nm,2.1s
CLL *e*S **S 17 06 37.0 +3.3**
CLL LmH 17 10 00.0
comp=Z,100nm,20.0s
CHVC Chvalec 24.62 129 *e*P **P 17 02 36.6 +0.7**
PRU Pruhonice 24.79 132 *e*P **P 17 02 38.8 +1.4**
ECH Echery 24.82 144 P **P 17 02 38.4 +0.7**
ECH IAmb IAmb 17 02 43.2
comp=Z,8.9nm,1.2s
DPC Dobruska-Polom 24.91 129 *e*P **P 17 02 39.3 +0.8**
GOPC GO Pecny, Ondr 24.92 131 *e*P **P 17 02 39.8 +1.2**
BFO Black Forest 24.94 142 P **P 17 02 39.6 +0.7**
BFO IAmb IAmb 17 02 44.1
comp=Z,4.5nm,1.0s
KRLC Kraliky 25.28 129 *e*P **P 17 02 42.6 +0.7**
KHC Kasperske Hory 25.35 134 *e*P **P 17 02 43.6 +1.1**
KHC Kasperske Hory 25.35 134 P **P 17 02 43.7 +1.2**
GEC2 GERESS Array S 25.65 134 P **P 17 02 46.5 +1.2**
GEC2 IAmb IAmb 17 02 57.2
comp=Z,3.5nm,1.1s
GERES GERESS Array B 25.65 134 P **P 17 02 45.7 +0.4**
comp=Z,0.6nm,0.6s,baz=333,slow=7.8,SNR=8.5
GERES LR LR 17 12 13.6
comp=Z,58nm,21.6s,baz=316,slow=35
GERES GERESS Array B 25.65 134 P **P 17 02 46.6 +1.2**
MORC Moravsky Berou 25.75 128 P **P 17 02 47.1 +0.9**
MORC IAmb IAmb 17 02 50.4
comp=Z,4.5nm,1.1s
VRAC Vranov 25.93 129 LR LR 17 12 52.7
comp=Z,79nm,19.0s,baz=330,slow=36
OJC Ojcow 25.95 124 P **P 17 02 49.4 +1.5**
AKASG Malin Array Be 28.28 112 P **P 17 03 08.4 -0.4**
comp=Z,0.2nm,0.3s,baz=330,slow=8.8,SNR=4.2
AKASG LR LR 17 13 22.4
comp=Z,63nm,19.1s,baz=325,slow=34
ESDC Sonseca Array 31.60 164 P **P 17 03 39.0 +0.6**
comp=Z,0.8nm,1.1s,baz=353,slow=9.2,SNR=3.1
ESDC LR LR 17 14 46.4
comp=Z,60nm,20.9s,baz=145,slow=33
ESDC Sonseca Array 31.60 164 IAmb IAmb 17 03 42.6
comp=Z,2.8nm,1.2s
YKA Yellowknife Ar 36.07 309 LR LR 17 17 20.9
comp=Z,70nm,21.2s,baz=0.0,slow=33
KEST Kesra 37.30 147 LR LR 17 18 48.1
comp=Z,45nm,21.1s,baz=214,slow=35
TOLK Toolik Lake Re 37.67 335 P **P 17 04 31.9 +1.4**
KBZ Khabaz 38.78 103 LR LR 17 20 54.1
comp=Z,44nm,18.5s,baz=7.0,slow=37
BRTR Keskin Array B 39.52 116 LR LR 17 20 02.3
comp=Z,27nm,20.1s,baz=331,slow=35
BRTR Keskin Array B 39.52 116 P **P 17 04 48.8 +2.4**
ILAR Eielson Array 40.86 331 LR LR 17 25 15.0
comp=Z,41nm,19.3s,baz=51,slow=41
ILAR Eielson Array 40.86 331 P **P 17 04 56.2 -0.9**
ULM Lac du Bonnet 40.97 284 LR LR 17 21 11.7
comp=Z,51nm,18.1s,baz=56,slow=35
ZALV Zalesovo Beam 43.18 58 LR LR 17 25 40.8
comp=Z,22nm,18.2s,baz=58,slow=40
MKAR Makanchi Array 48.80 65 P **P 17 05 57.8 -2.8**
comp=Z,0.4nm,0.6s,baz=344,slow=9.6,SNR=2.1
PDAR Pinedale Array 51.94 291 P **P 17 06 25.0 +0.4**
comp=Z,0.1nm,0.3s,baz=139,slow=36,SNR=4.4
PDAR LR LR 17 26 59.5
comp=Z,55nm,20.0s,baz=11,slow=34
PDAR Pinedale Array 51.94 291 P **P 17 06 25.4 +0.8**
WMQ Urumqi 53.11 62 *e*P **P 17 06 36.3 +3.3**
TORD Torodi Ar. Bea 58.41 161 P **P 17 07 10.8 -0.5**
comp=Z,2.0nm,0.8s,baz=0.5,slow=6.1,SNR=10
TORD LR LR 17 31 34.5
comp=Z,25nm,19.4s,baz=45,slow=35
TORD Torodi Ar. Bea 58.41 161 P **P 17 07 11.5 +0.3**
NVAR Mina Array Bea 58.57 297 P **P 17 07 14.1 +1.7**
comp=Z,0.1nm,0.5s,baz=12,slow=9.2,SNR=2.0
NVAR LR LR 17 33 22.3
comp=Z,77nm,19.1s,baz=326,slow=37
HHC Hu-ho-hao-te 62.19 44 *e*P **P 17 07 40.5 +3.5**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,100nm,5.6s
TXAR Lajitas Array 62.37 280 P **P 17 07 41.2 +2.8**
comp=Z,0.2nm,0.8s,baz=95,slow=1.4,SNR=1.8
TXAR LR LR 17 35 56.4
comp=Z,52nm,18.8s,baz=0.0,slow=37
DBIC Dimbokro 64.28 169 LR LR 17 34 24.3
comp=Z,22nm,22.0s,baz=356,slow=35
LZH Lanzhou 64.80 52 *e*P **P 17 07 54.5 +0.1**
LZH pP pwP 17 07 59.3 0.0
LZH sP sP 17 08 01.5 +3.4
LZH *e*PP **PP 17 10 18.8 +2.4**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,65nm,7.8s
LZH LR LR
comp=N,97nm,16.0s
LZH LR LR
comp=E,100nm,16.1s
LZH LR LR
comp=Z,170nm,18.3s
CMAR Chiang Mai Arr 80.11 62 P **P 17 09 25.3 -0.4**
comp=Z,0.3nm,0.4s,baz=331,slow=9.1,SNR=5.7

*TAP **28** 17:41:59.1,24°.63N×122°.48E,h15km,ML2.5,D*
*JMA **28** 17:41:59.6,24°.55N×122°.50E,h28km±1km,M1.9*
ISC 28 17:41:59.4±1.2,24°.60N±0°.02×122°.49E±0°.02,h22km±4km, n72,σ0§75/133,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.44**	**110**	P	**Pb**	**17 42 08.3**	**0.0**
JYNG				*e*S	**Sb**	**17 42 14.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.49**	**106**	P	**Pb**	**17 42 09.2**	**0.0**
YOJ	baz=108			S	**Sb**	**17 42 16.8**	**+0.8**
YOJ	**Yonaguni jima**	**0.49**	**106**	P	**Pb**	**17 42 09.3**	**0.0**
YOJ				*e*S	**Sb**	**17 42 16.3**	**+0.3**
EGS		**0.56**	**296**	*i* P	**Pb**	**17 42 10.0**	**-0.7**
EGS	baz=293			*e*S	**Sb**	**17 42 17.8**	**-0.5**
TWC	**Suao**	**0.59**	**271**	*i* P	**Pb**	**17 42 09.9**	**-1.1**
TWC	baz=268			S	**Sb**	**17 42 18.1**	**-0.8**
TWB1	**Santiao Chiao**	**0.61**	**312**	*i* P	**Pb**	**17 42 11.1**	**-0.4**
TWB1	baz=310			*i* S	**Sb**	**17 42 18.3**	**-1.4**
ENAH	**Nanao**	**0.64**	**256**	P	**Pb**	**17 42 11.6**	**-0.3**
ENAH	baz=264			*e*S	**Sb**	**17 42 20.1**	**-0.4**
NTC	**Toucheng**	**0.65**	**293**	*e*P	**Pb**	**17 42 12.0**	**-0.1**
NTC	baz=291			S	**Sb**	**17 42 21.7**	**+0.8**
ILA	**Ilan**	**0.70**	**284**	P	**Pn**	**17 42 13.4**	**-0.5**
ILA	baz=272			S	**Sn**	**17 42 23.1**	**-1.0**
ENA	**Nanau**	**0.71**	**256**	*i* P	**Pb**	**17 42 12.7**	**-0.3**
ENA	baz=262			S	**Sb**	**17 42 21.2**	**-1.1**
TIPB	**Shuangxi**	**0.71**	**301**	*i* P	**Pb**	**17 42 12.8**	**-0.3**
TIPB	baz=310			*e*S	**Sb**	**17 42 22.0**	**-0.5**
TWE	**Neicheng**	**0.76**	**279**	*i* P	**Pb**	**17 42 13.2**	**-0.7**
TWE	baz=270			*i* S	**Sb**	**17 42 23.5**	**-0.3**
NWF	**Wu-fen Shan**	**0.80**	**306**	*i* P	**Pn**	**17 42 15.1**	**-0.3**
NWF	baz=314			S	**Sb**	**17 42 25.8**	**+0.8**
WFSB	**Wu-fen Shan**	**0.80**	**306**	P	**Pn**	**17 42 15.1**	**-0.3**
WFSB	baz=314			S	**Sb**	**17 42 25.5**	**+0.6**
ENTT	**Nioudou**	**0.84**	**273**	P	**Pb**	**17 42 14.9**	**-0.5**
ENTT	baz=263			S	**Sb**	**17 42 26.4**	**+0.1**
NDT	**Datong Townshi**	**0.89**	**270**	*i* P	**Pb**	**17 42 15.6**	**-0.5**
NDT	baz=268			*i* S	**Sn**	**17 42 28.3**	**-0.6**
TWA	**Mucha**	**0.91**	**295**	P	**Pn**	**17 42 17.0**	**+0.1**
TWA	baz=293			S	**Sb**	**17 42 28.6**	**+0.5**
NWLT	**Wulai**	**0.92**	**281**	*i* P	**Pb**	**17 42 16.7**	**+0.1**
NWLT	baz=279			S	**Sb**	**17 42 28.2**	**-0.2**
NACB	**Ninganchiao**	**0.92**	**243**	P	**Pb**	**17 42 16.5**	**-0.2**
NACB	baz=249			S	**Sb**	**17 42 28.7**	**+0.1**
TWD	**Chiawan**	**0.97**	**238**	P	**Pb**	**17 42 16.9**	**-0.5**
TWD	baz=245			*e*S	**Sn**	**17 42 31.8**	**+1.0**
TATO	**Taipei**	**0.99**	**292**	P	**Pn**	**17 42 18.5**	**+0.6**
TATO	baz=280			*e*S	**Sn**	**17 42 30.9**	**-0.4**
YM01	**YM01**	**1.00**	**303**	P	**Pn**	**17 42 18.3**	**+0.2**
YM01	baz=301			S	**Sn**	**17 42 31.8**	**+0.2**
ETLH	**Xiulin Townshi**	**1.00**	**247**	P	**Pn**	**17 42 18.2**	**0.0**
ETLH	baz=254			S	**Sn**	**17 42 32.1**	**+0.3**
YM08	**YM08**	**1.01**	**306**	P	**Pn**	**17 42 18.5**	**+0.3**
YM08	baz=304			S	**Sb**	**17 42 31.1**	**+0.2**
YM11	**YM11**	**1.01**	**304**	*e*P	**Pb**	**17 42 17.4**	**-0.7**
YM10	**YM10**	**1.01**	**303**	*e*P	**Pb**	**17 42 17.9**	**-0.4**
YM05	**YM05**	**1.01**	**304**	*e*P	**Pb**	**17 42 18.2**	**0.0**
YHNB	**Yeheng**	**1.02**	**274**	P	**Pb**	**17 42 18.2**	**-0.2**
YHNB	baz=266			S	**Sn**	**17 42 31.8**	**-0.4**
NNSB	**Datong**	**1.03**	**261**	P	**Pb**	**17 42 18.1**	**-0.4**
NNSB	baz=258			S	**Sn**	**17 42 32.0**	**-0.4**
NNSH	**Datong**	**1.03**	**261**	*i* P	**Pb**	**17 42 18.4**	**-0.1**
NNSH	baz=259			S	**Sb**	**17 42 31.6**	**0.0**
YM04	**YM04**	**1.03**	**303**	P	**Pb**	**17 42 17.9**	**-0.6**
NNS	**Nan Shan**	**1.03**	**261**	*i* P	**Pn**	**17 42 18.6**	**-0.1**
NNS	baz=259			*i* S	**Sb**	**17 42 32.0**	**+0.2**
NSK	**Sanguang**	**1.04**	**274**	*i* P	**Pn**	**17 42 18.7**	**0.0**
NSK	baz=268			S	**Sb**	**17 42 31.4**	**-0.4**
YM03	**YM03**	**1.04**	**304**	*e*P	**Pb**	**17 42 18.4**	**-0.3**
YM03	baz=302			*e*S	**Sn**	**17 42 32.6**	**0.0**
TWY	**Chenhua**	**1.05**	**310**	*e*P	**Pb**	**17 42 19.1**	**+0.2**
TWY	baz=308			S	**Sn**	**17 42 33.3**	**+0.5**
NTST	**Danshui**	**1.10**	**301**	*e*P	**Pb**	**17 42 20.1**	**+0.4**
IRIF	**Iriomote-Funau**	**1.16**	**103**	P	**Pn**	**17 42 20.0**	**-0.3**
FUSS	**Fushou**	**1.19**	**253**	P	**Pb**	**17 42 21.8**	**+0.4**
FUSS	baz=251			S	**Sn**	**17 42 37.0**	**+0.3**
WHF	**Hehuan Shan**	**1.21**	**248**	*i* P	**Pb**	**17 42 22.0**	**+0.2**
WHF	baz=254			S	**Sn**	**17 42 38.3**	**+1.0**
ESL	**Shilin**	**1.25**	**231**	*i* P	**Pb**	**17 42 22.3**	**+0.1**
ESL	baz=229			*e*S	**Sb**	**17 42 38.2**	**+0.4**
TWT	**Tachien**	**1.25**	**254**	*i* P	**Pb**	**17 42 23.5**	**+1.2**
TWT	baz=252			*i* S	**Sb**	**17 42 40.3**	**+2.2**
TDCB	**Techi**	**1.27**	**254**	P	**Pb**	**17 42 23.2**	**+0.6**
TDCB	baz=252			S	**Sb**	**17 42 39.5**	**+1.0**
CHGB	**Renai**	**1.32**	**246**	P	**Pb**	**17 42 23.7**	**+0.1**
CHGB	baz=226			S	**Sb**	**17 42 41.9**	**+1.7**
EGFH	**Guangfu**	**1.35**	**227**	P	**Pb**	**17 42 23.5**	**-0.3**
LIOB	**Emei**	**1.35**	**272**	*i* P	**Pb**	**17 42 24.9**	**+1.0**
LIOB	baz=270			*e*S	**Sb**	**17 42 42.0**	**+1.3**
NSTT	**Nanjuang**	**1.36**	**272**	*e*P	**Pb**	**17 42 24.6**	**+0.5**
NSTT	baz=269			S	**Sb**	**17 42 42.1**	**+1.0**
JKRS	**Kuro-shima**	**1.43**	**104**	P	**Pn**	**17 42 24.2**	**+0.2**
JKRS				*e*S	**Sn**	**17 42 42.1**	**0.0**
WHP	**Taichung City**	**1.45**	**257**	*i* P	**Pb**	**17 42 27.2**	**+1.6**
WHP	baz=263			S	**Sb**	**17 42 45.0**	**+1.4**
HGSD	**Ruisui**	**1.48**	**222**	P	**Pn**	**17 42 24.9**	**+0.3**
HGSD	baz=206			*e*S	**Sb**	**17 42 44.2**	**-0.2**
VWDT	**VWDT**	**1.50**	**236**	P	**Pb**	**17 42 26.2**	**-0.2**
VWDT	baz=234			*e*S	**Sb**	**17 42 44.9**	**0.0**
JIJ	**Ishigaki jima**	**1.52**	**99**	P	**Pn**	**17 42 25.1**	**-0.2**
JIJ				*e*S	**Sn**	**17 42 44.3**	**-0.1**
EHY	**Hungye**	**1.53**	**225**	*e*P	**Pn**	**17 42 25.5**	**+0.1**
EHY	baz=222			*e*S	**Sb**	**17 42 46.0**	**+0.1**
SMLT	**Sun Moon Lake**	**1.62**	**244**	*e*P	**Pb**	**17 42 28.6**	**-0.1**
SMLT	baz=227			*e*S	**Sb**	**17 42 49.7**	**+1.0**
SSLB	**Suanglung**	**1.62**	**240**	P	**Pb**	**17 42 28.4**	**-0.2**
SSLB	baz=224			*e*S	**Sb**	**17 42 48.0**	**-0.7**
YULB	**Yu-li**	**1.63**	**223**	P	**Pn**	**17 42 27.2**	**+0.4**
EYUL	**Yuli**	**1.65**	**221**	*e*P	**Pn**	**17 42 27.8**	**+0.7**
EYUL	baz=205			*e*S	**Sb**	**17 42 48.6**	**-0.8**
TYC	**Yuchr**	**1.65**	**245**	*e*P	**Pb**	**17 42 29.2**	**+0.2**
TYC	baz=229			*e*S	**Sb**	**17 42 49.7**	**+0.3**
JISG	**Ishigakijimahi**	**1.65**	**90**	P	**Pn**	**17 42 26.9**	**-0.2**
JISG				S	**Sn**	**17 42 48.0**	**+0.3**
TWF1	**Yuli**	**1.66**	**222**	*e*P	**Pn**	**17 42 27.5**	**+0.3**
FULB	**Fuli**	**1.78**	**218**	*i* P	**Pn**	**17 42 29.0**	**+0.2**
FULB	baz=203			*e*S	**Sb**	**17 42 52.2**	**-0.9**
ALS	**Alishan**	**1.89**	**235**	P	**Pb**	**17 42 32.4**	**-0.9**
ALS	baz=218			*e*S	**Sb**	**17 42 56.0**	**-0.6**
CHN5	**Tsauling**	**1.94**	**239**	*i* P	**Pb**	**17 42 33.8**	**-0.3**
CHN5	baz=220			S	**Sb**	**17 42 58.2**	**+0.4**
ELDTW	**Lidau**	**1.95**	**224**	P	**Pn**	**17 42 31.8**	**+0.5**
CHN4	**Tsaushan**	**2.14**	**235**	P	**Pb**	**17 42 36.9**	**-0.5**
CHN4	baz=217			*e*S	**Sb**	**17 43 03.0**	**-0.5**
TPUB	**Ta-pu**	**2.14**	**233**	P	**Pb**	**17 42 36.1**	**-1.4**
TPUB	baz=219			S	**Sb**	**17 43 03.1**	**-0.5**
WTP	**Ta-pu**	**2.19**	**232**	*i* P	**Pb**	**17 42 36.8**	**-1.4**
WTP	baz=229			S	**Sb**	**17 43 04.2**	**-0.7**
TWK	**Hsinying**	**2.27**	**235**	*e*S	**Sb**	**17 43 07.4**	**+0.2**
CHN1	**Nanshi**	**2.29**	**232**	*e*P	**Pb**	**17 42 38.5**	**-1.4**
CHN1	baz=230			*e*S	**Sb**	**17 43 07.2**	**-0.6**
SLGT	**Liugui**	**2.33**	**227**	P	**Pb**	**17 42 39.5**	**-1.2**
SLGT	baz=215			*e*S	**Sb**	**17 43 08.0**	**-1.0**
SCST	**Cishan**	**2.50**	**227**	*e*P	**Pb**	**17 42 41.3**	**-2.4**
SCST	baz=225			*e*S	**Sb**	**17 43 13.6**	**-0.5**
TSMG	**Majia**	**2.54**	**222**	*e*P	**Pn**	**17 42 41.1**	**+1.9**
TSMG	baz=209			*e*S	**Sb**	**17 43 12.8**	**-2.1**
MASBT	**Mashibuluo**	**2.61**	**221**	*e*P	**Pn**	**17 42 41.6**	**+1.2**
MASBT	baz=208			*e*S	**Sn**	**17 43 13.7**	**+2.3**

*NEIC **28** 18:34:06.3±2.2,20°.0S±0°.1×169°.4E±0°.2,h105km±15km, mb4.4/17,Error ellipse: s-maj=26.6km s-min=13.9km az=105.0*
*IDC **28** 18:34:06.7±5.4,20°.00S×169°.29E,h100km±39km,mb3.7/7, mb1 3.9/8,mb1mx3.7/25,mbtmp4.1/8,Error ellipse: s-maj=40.9km s-min=28.8km az=63.0*
ISC 28 18:34:06.2±1.1,19°.97S±0°.09×169°.4E±0°.2,h100km,n30, σ1§08/31,mb4.2/15,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.44**	**232**	P	**Pn**	**18 34 57.8**	**-0.2**
DZM	87nm,0.3s,baz=73,slow=9.9,SNR=1411			S	**Sn**	**18 35 36.5**	**-1.5**
DZM	**Mont Dzumac**	**3.44**	**232**		**Pn**	**18 34 58.1**	**+0.1**
SANVU	**Saraoutou**	**4.96**	**335**	Pn	**Pn**	**18 35 18.1**	**-0.3**
EIDS	**Eidsvold**	**17.71**	**249**	P	**Pn**	**18 38 08.7**	**+2.2**
ARMA	**Armidale**	**19.11**	**234**	P	**Pn**	**18 38 24.3**	**+1.1**
ARMA	comp=Z,16nm,0.8s			IAmb	IAmb	18 38 25.2	
CTA	**Charters Tower**	**21.73**	**266**	P	**P**	**18 38 50.2**	**+0.7**
CTAO	**Charters Tower**	**21.73**	**266**	P	**P**	**18 38 50.5**	**+1.0**
CTAO	comp=Z,8.0nm,0.6s			IAmb	IAmb	18 38 52.1	
STKA	**Stephens Creek**	**27.57**	**239**	P	**P**	**18 39 44.1**	**+0.2**
STKA	comp=Z,2.4nm,0.5s,baz=72,slow=10.0,SNR=11 **Stephens Creek**	**27.57**	**239**	P	**P**	**18 39 44.4**	**+0.4**
WR0	**Warramunga Arr**	**32.71**	**264**	P	**P**	**18 40 28.0**	**-1.4**
WR0	comp=Z,3.6nm,0.7s			IAmb	IAmb	18 40 28.5	
WB0	**Warramunga Arr**	**32.87**	**264**	P	**P**	**18 40 29.5**	**-1.3**
WB2	**Warramunga Arr**	**32.89**	**264**	P	**P**	**18 40 29.7**	**-1.3**
WB2	comp=Z,2.8nm,0.8s			IAmb	IAmb	18 40 33.4	
WRAB	**Tennant Creek**	**32.89**	**264**	P	**P**	**18 40 29.8**	**-1.2**
WRAB	comp=Z,3.7nm,1.1s			IAmb	IAmb	18 40 33.9	
WRA	**Warramunga Arr**	**32.90**	**264**	P	**P**	**18 40 29.6**	**-1.5**
WRA	comp=Z,2.0nm,0.5s,baz=90,slow=8.4,SNR=69			PcP	**PcP**	**18 43 12.8**	**-0.7**
WRA	comp=Z,0.3nm,0.5s,baz=91,slow=3.0,SNR=1.3 **Warramunga Arr**	**32.90**	**264**	P	**P**	**18 40 30.0**	**-1.1**
AS31	**Alice Springs**	**33.08**	**257**	P	**P**	**18 40 32.3**	**-0.5**
ASAR	**Alice Springs**	**33.08**	**257**	P	**P**	**18 40 32.1**	**-0.6**
ASAR	comp=Z,26nm,0.6s,baz=88,slow=9.3,SNR=804 **Alice Springs**	**33.08**	**257**	P	**P**	**18 40 32.0**	**-0.7**
MTN	**Manton Dam**	**37.30**	**275**	P	**P**	**18 41 07.6**	**-1.3**
FORT	**Forrest**	**38.66**	**245**	P	**P**	**18 41 19.7**	**-0.5**
KNRA	**Kununurra**	**38.84**	**270**	P	**P**	**18 41 21.2**	**-0.6**
KNRA	comp=Z,9.9nm,0.9s			IAmb	IAmb	18 41 22.2	
FITZ	**Fitzroy Crossi**	**41.30**	**265**	P	**P**	**18 41 42.3**	**+0.1**
FITZ	comp=Z,6.4nm,0.8s			IAmb	IAmb	18 41 42.7	
SOEI	**Soe**	**44.64**	**276**	P	**P**	**18 42 10.9**	**+1.5**
SOEI	comp=Z,13nm,1.1s			IAmb	IAmb	18 42 25.6	
NWAO	**Narrogin (SRO)**	**48.00**	**243**	P	**P**	**18 42 34.1**	**-1.2**
NWAO	comp=Z,20nm,1.0s			IAmb	IAmb	18 42 34.8	
VNDA	**Vanda**	**57.70**	**182**	P	**P**	**18 43 46.0**	**0.0**
MAW	comp=Z,0.4nm,0.5s,baz=347,slow=7.7,SNR=2.4 **Mawson**	**77.81**	**202**	P	**P**	**18 45 52.8**	**+0.6**
CMAR	comp=Z,1.0nm,0.9s,baz=109,slow=5.0,SNR=3.9 **Chiang Mai Arr**	**78.92**	**294**	P	**P**	**18 45 59.8**	**+0.6**
SONM	comp=Z,1.3nm,0.8s,baz=134,slow=4.3,SNR=11 **Songino Array**	**87.88**	**323**	P	**P**	**18 46 45.2**	**+0.5**
SONM	comp=Z,0.4nm,0.6s,baz=114,slow=4.2,SNR=3.1 **Songino Array**	**87.88**	**323**	IAmb	IAmb	18 46 45.4	
GERES	comp=Z,0.9nm,1.0s **GERESS Array B**	**145.20**	**332**	PKPbc	**PKPab**	**18 53 30.4**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=34,slow=3.4,SNR=7.1						

DJA 28 18:34:51.0±0.5,8°.S±4°×10°.6E±°,h10km,M3.8/12, MLv3.8/12,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.95**	**36**	P	Pg	18 35 08.9	-0.5
CGJI	**Cibinong**	**1.20**	**346**	P	Pb	18 35 12.7	-1.1
CNJI	**Cibinong**	**1.22**	**68**	P	Pn	18 35 13.4	-0.8
CNJI				S	Sb	18 35 28.8	-1.3
DBJI	**Dramaga**	**1.43**	**32**	P	Pn	18 35 17.0	-0.1
DBJI				S	Sn	18 35 36.0	0.0
TNG	**Tangerang**	**1.73**	**22**	P	Pb	18 35 22.0	-0.8
TNG				S	Sb	18 35 44.1	-0.5
CISI	**Cisompet, Garu**	**1.82**	**83**	P	Pn	18 35 21.5	-1.0
CMJI	**Cimerak**	**2.44**	**90**	P	Pn	18 35 30.6	-0.3
KPJI	**Karang Pucung**	**2.95**	**82**	P	Pn	18 35 38.8	+0.9
KLSI		**3.31**	**338**	P	Pn	18 35 43.3	+0.3
LWLI	**Liwa**	**3.35**	**325**	P	Pn	18 35 43.4	-0.2
MDSI	**Maura Dua**	**3.73**	**331**	P	Pn	18 35 48.4	-0.4

*IDC **28** 18:52:47.9±2.0,34°.07N×139°.05E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.3/50,mbtmp3.5/4,ML2.2/1,MS3.5/1, Ms1 3.5/1,ms1mx2.5/37,Error ellipse: s-maj=91.0km s-min=23.4km az=77.0*
*JMA **28** 18:52:50.6±0.2,34°.69N×140°.18E,h58km±2km,M3.0*
ISC 28 18:52:51.3±1.0,34°.71N±0°.05×140°.17E±0°.05,h55km±8km, n21,σ1§32/27,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.30**	**72**	P	**Pn**	**18 53 00.5**	**-0.1**
BSO4	**Boso 4**	**0.31**	**27**	P	**Pn**	**18 53 01.0**	**+0.1**
TATJ	**Tateyama 2**	**0.39**	**325**	P	**Pn**	**18 53 02.3**	**+0.6**
JKUC	**kamogawauchiur**	**0.45**	**3**	P	**Pn**	**18 53 02.1**	**-0.2**
JKUC				S	**Sn**	**18 53 10.2**	**-0.1**
KTR	**Katsuura**	**0.45**	**16**	P	**Pn**	**18 53 02.1**	**-0.3**
KTR				S	**Sn**	**18 53 10.2**	**-0.1**
JIM2	**Oshima 3**	**0.60**	**271**	P	**Pn**	**18 53 03.9**	**-0.2**
JIM2				S	**Sn**	**18 53 13.2**	**-0.2**
BSO1	**Boso 1**	**0.67**	**95**	P	**Pn**	**18 53 03.7**	**-0.7**
KTJ3	**Kamata3**	**0.93**	**284**	P	**Pn**	**18 53 07.6**	**-0.6**
KTJ3				S	**Sn**	**18 53 19.6**	**-1.1**
JMKN	**Mikurajimanish**	**0.94**	**210**	P	**Pn**	**18 53 08.5**	**+0.1**
JMKN				*e*S	**Sn**	**18 53 20.7**	**-0.3**
JSMT	**Sammumatsuo**	**0.96**	**14**	P	**Pn**	**18 53 08.0**	**-0.6**
JSMT				*e*S	**Sn**	**18 53 21.1**	**-0.3**
JOD2	**Odawara 2**	**1.04**	**302**	P	**Pn**	**18 53 09.2**	**-0.6**
JOD2				S	**Sn**	**18 53 22.5**	**-0.9**
JIZS	**Izushimoda**	**1.06**	**271**	P	**Pn**	**18 53 09.9**	**-0.1**
JIZS				*e*S	**Sn**	**18 53 23.6**	**-0.2**

MJAR Matsushiro Arr 2.42 319 Pn **Pn 18 53 28.7 +0.1**
0.5nm,0.3s,baz=167,slow=14,SNR=27
MJAR Sn **Sn 18 53 52.7 -4.3**
0.4nm,0.3s,baz=149,slow=16,SNR=2.4
MAT Matsushiro 2.43 319 P **Pn 18 53 29.6 +1.1**
MAT S **Sn 18 53 56.1 -1.0**
H11N2 WAKE ISLAND Hy 27.95 115 T T 19 28 18.4
baz=308,slow=75,SNR=18
H11N1 WAKE ISLAND Hy 27.96 115 T T 19 28 18.9
baz=308,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 27.97 115 T T 19 28 19.7
baz=308,slow=75,SNR=13
ZALV Zalesovo Beam 42.77 314 P **P 19 00 46.5 +3.3**
0.5nm,0.4s,baz=52,slow=9.3,SNR=2.2
PMG Port Moresby 44.37 170 LR LR 19 18 47.6
comp=Z,63nm,20.2s,baz=122,slow=36
WRA Warramunga Arr 54.63 187 P **P 19 02 13.0 -1.5**
0.9nm,1.0s,baz=0.7,slow=7.6,SNR=14
ASAR Alice Springs 58.36 187 P **P 19 02 39.5 -1.4**
0.4nm,0.8s,baz=21,slow=8.2,SNR=7.2

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*GCG **28** 18:58:24.4±0.5, 13°.93N×91°.46W, h35km±248km, MD4.0*
*SNET **28** 18:58:26.1±1.1, 14°.16N×91°.18W, h14km±5km, ML3.7*
*UCR **28** 18:58:26.0±1.1, 14°.17N×91°.18W, h12km±8km, ML3.6*
ISC 28 18:58:25.6±1.9, 13°.99N±0°.10×91°.40W±0.08, h35km, n31, σ0s91/35, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.61**	**332**	*eP*	**Pn**	**18 58 37.1**	**-0.6**
RTAL				*eS*	**Sn**	**18 58 47.0**	**+0.6**
FUG	**Fuego 3**	**0.71**	**50**	*eP*	**Pn**	**18 58 39.4**	**+0.1**
PCG	**Pacaya**	**0.87**	**62**	*eP*	**Pn**	**18 58 41.8**	**+0.3**
IXG	**Ixpaco**	**0.95**	**79**	*eP*	**Pn**	**18 58 42.7**	**+0.1**
NBG	**Las Nubes**	**1.18**	**59**	*eP*	**Pn**	**18 58 46.7**	**+0.9**
NBG				*eS*	**Sn**	**18 59 03.6**	**+2.7**
HUEH	**Huehuetenango**	**1.33**	**356**	*eS*	**Sn**	**18 59 04.9**	**+0.5**
NUBE	**Las Nubes**	**1.57**	**93**	*eP*	**Pn**	**18 58 50.5**	**-0.6**
NUBE				*eS*	**Sn**	**18 59 09.1**	**-1.3**
NUBE				IAML		18 59 11.1	
	comp=Z,1μm,0.3s						
NUBE	**Las Nubes**	**1.57**	**93**	*eP*	**Pn**	**18 58 50.5**	**-0.6**
NUBE				*eS*	**Sn**	**18 59 09.1**	**-1.3**
NUBE				IAML		18 59 11.1	
	comp=Z,1μm,0.3s						
RTR	**El Retiro**	**1.70**	**93**	*eP*	**Pn**	**18 58 53.3**	**+0.3**
RTR	**El Retiro**	**1.70**	**93**	*eP*	**Pn**	**18 58 53.3**	**+0.3**
SBLS	**San Blas**	**1.73**	**95**	*eP*	**Pn**	**18 58 53.4**	**0.0**
SBLS	**San Blas**	**1.73**	**95**	*eP*	**Pn**	**18 58 53.4**	**0.0**
SNJE	**San Jose**	**1.74**	**94**	*eP*	**Pn**	**18 58 53.6**	**0.0**
SNJE	**San Jose**	**1.74**	**94**	*eP*	**Pn**	**18 58 53.6**	**0.0**
TACO	**Tacachico**	**1.98**	**90**	*eP*	**Pn**	**18 58 55.8**	**-0.9**
TACO				*eS*	**Sn**	**18 59 19.6**	**-0.8**
TACO	**Tacachico**	**1.98**	**90**	*eP*	**Pn**	**18 58 55.8**	**-0.9**
TACO				*eS*	**Sn**	**18 59 19.6**	**-0.8**
MRL	**Marmol**	**1.98**	**57**	*eP*	**Pn**	**18 58 55.6**	**-1.2**
MRL	**Marmol**	**1.98**	**57**	*eP*	**Pn**	**18 58 55.6**	**-1.2**
MTO3	**Montecristo**	**2.02**	**78**	*eP*	**Pn**	**18 58 56.0**	**-1.3**
MTO3	**Montecristo**	**2.02**	**78**	*eP*	**Pn**	**18 58 56.0**	**-1.3**
ESQI	**Esquipulas**	**2.07**	**74**	*eP*	**Pn**	**18 58 57.2**	**-0.7**
LFRS	**El Faro**	**2.30**	**99**	*eP*	**Pn**	**18 59 01.8**	**+0.7**
LFRS	**El Faro**	**2.30**	**99**	*eP*	**Pn**	**18 59 01.8**	**+0.7**
COEG	**Centro de Oper**	**2.47**	**98**	*eS*	**Sn**	**18 59 33.3**	**+0.8**
COEG				IAML		18 59 45.7	
	comp=Z,598nm,0.4s						
COEG	**Centro de Oper**	**2.47**	**98**	*eS*	**Sn**	**18 59 33.3**	**+0.8**
COEG				IAML		18 59 45.7	
	comp=Z,598nm,0.4s						
COEB	**Comit de Eme**	**2.83**	**100**	IAML		18 59 53.2	
	comp=Z,356nm,0.3s						
COEB	**Comit de Eme**	**2.83**	**100**	IAML		18 59 53.2	
	comp=Z,356nm,0.3s						
RANC	**El Ranchito**	**3.07**	**100**	*eP*	**Pn**	**18 59 12.4**	**+0.7**
RANC	**El Ranchito**	**3.07**	**100**	*eP*	**Pn**	**18 59 12.4**	**+0.7**
LCND	**La Caada**	**3.48**	**101**	*eP*	**Pn**	**18 59 17.2**	**0.0**
LCND	**La Caada**	**3.48**	**101**	*eP*	**Pn**	**18 59 17.2**	**0.0**

IDC 28 19:02:47.5±6.0, 18°.53S×176°.48W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.6/32, mbtmp4.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/28, Error ellipse: s-maj=300.9km s-min=54.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**24.57**	**288**	LR	LR	19 17 28.2	
	comp=Z,40nm,20.2s,baz=44,slow=36						
WRA	**Warramunga Arr**	**46.32**	**260**	P	P	19 11 14.7	-0.9
	0.4nm,0.5s,baz=97,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**46.39**	**255**	P	P	19 11 16.6	+0.6
	3.4nm,0.4s,baz=90,slow=8.4,SNR=131						
GERES	**GERESS Array B**	**148.66**	**347**	PKPbc	PKPbc	19 22 36.2	-0.6
	0.1nm,0.3s,baz=28,slow=6.7,SNR=2.1						

IDC 28 19:07:25.0±14.0, 54°.18S×134°.13W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.7/23, mbtmp3.5/3, Error ellipse: s-maj=978.1km s-min=46.2km az=143.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**43.31**	**85**	T	T	20 01 28.7	
	baz=223,slow=74,SNR=17						
H03S1	**Juan Fernandez**	**43.32**	**85**	T	T	20 01 33.9	
	baz=223,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**43.33**	**85**	T	T	20 01 33.5	
	baz=223,slow=74,SNR=19						
H03N3	**Juan Fernandez**	**43.59**	**85**	T	T	20 01 51.2	
	baz=226,slow=72,SNR=144						
H03N2	**Juan Fernandez**	**43.59**	**85**	T	T	20 01 41.3	
	baz=226,slow=72,SNR=196						
H03N1	**Juan Fernandez**	**43.60**	**85**	T	T	20 01 52.5	
	baz=226,slow=72,SNR=152						
ASAR	**Alice Springs**	**72.28**	**254**	P	P	19 18 52.3	+0.1
	0.6nm,0.8s,baz=140,slow=7.8,SNR=6.0						
H01W1	**Cape Leeuwin H**	**73.63**	**233**	T	T	20 40 31.1	
	baz=144,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**73.63**	**233**	T	T	20 40 31.4	
	baz=144,slow=76,SNR=18						
H01W3	**Cape Leeuwin H**	**73.64**	**233**	T	T	20 40 32.3	
	baz=144,slow=76,SNR=16						
WRA	**Warramunga Arr**	**74.96**	**257**	P	P	19 19 08.1	0.0
	0.5nm,0.7s,baz=150,slow=5.3,SNR=5.9						
TXAR	**Lajitas Array**	**87.24**	**26**	P	P	19 20 13.0	-0.1
	0.1nm,0.6s,baz=185,slow=8.9,SNR=1.7						
H11S2	**WAKE ISLAND Hy 88.23**	**305**		T	T	20 57 51.0	
	baz=148,slow=76,SNR=5.3						
H11S3	**WAKE ISLAND Hy 88.24**	**305**		T	T	20 57 56.1	
	baz=148,slow=76,SNR=5.8						
H11S1	**WAKE ISLAND Hy 88.25**	**305**		T	T	20 57 43.6	
	baz=148,slow=76,SNR=5.6						

IDC 28 19:15:07.1±13.0, 14°.87S×165°.55E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=232.9km s-min=36.5km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.21**	**173**	Pn	Pn	19 16 54.7	+0.8
	1.3nm,0.3s,baz=44,slow=10,SNR=11						
DZM				Sn	Sn	19 18 14.9	-1.8
	0.5nm,0.3s,baz=124,slow=18,SNR=1.8						
STKA	**Stephens Creek**	**27.65**	**228**	P	P	19 20 56.5	-0.2
	1.1nm,0.8s,baz=58,slow=9.5,SNR=1.0						
WRA	**Warramunga Arr**	**30.18**	**256**	P	P	19 21 19.6	+0.2
	0.1nm,0.3s,baz=83,slow=8.3,SNR=5.1						
ASAR	**Alice Springs**	**31.07**	**249**	P	P	19 21 27.1	-0.1
	0.4nm,0.4s,baz=76,slow=9.3,SNR=30						

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*CRAAG **28** 19:37:37.5, 35°.70N×0°.31E, Ml2.9*
*MDD **28** 19:37:39.7±0.2, 35°.74N×0°.25E, h0km, mb3.7/10, Error ellipse: s-maj=2.8km s-min=1.9km az=170.0, PRXIMO*
*CNRM **28** 19:37:45.7±0.6, 35°.83N×1°.04W, h0km, Error ellipse: s-maj=8.3km s-min=1.9km az=91.0*
ISC 28 19:37:38.1±1.0, 35°.73N±0°.03×0°.23E±0°.03, h32km±10km, n30, σ1s55/48, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**0.46**	**47**	P	**Pb**	**19 37 47.4**	**-0.6**
	SNR=7.9						
OKGL				S	**Sb**	**19 37 54.9**	**+0.1**
	842nm,0.3s,SNR=7.9						
OJGS	**Djebel Guires**	**0.48**	**118**	P	**Pn**	**19 37 50.3**	**+1.5**
OJGS	**Djebel Guires**	**0.48**	**118**	P	**Pn**	**19 37 50.3**	**+1.5**
ODJA	**Bouhanifia**	**0.50**	**218**	P	**Pb**	**19 37 49.2**	**+0.5**
ODJA	**Bouhanifia**	**0.50**	**218**	P	**Pb**	**19 37 49.2**	**+0.5**
EANR	**'Ain N'Sour**	**0.74**	**72**	P	**Pb**	**19 37 52.3**	**-0.3**
EANR	**'Ain N'Sour**	**0.74**	**72**	P	**Pb**	**19 37 52.3**	**-0.3**
ETRT	**Tiaret**	**0.94**	**111**	P	**Pn**	**19 37 56.1**	**+0.9**
ETRT	**Tiaret**	**0.94**	**111**	P	**Pn**	**19 37 56.1**	**+0.9**
CART	**Cartagena**	**2.10**	**332**	P	**Pn**	**19 38 12.5**	**+1.5**
CART				S	**Sn**	**19 38 33.0**	**-3.1**
CART	**Cartagena**	**2.10**	**332**	*e*P	**Pn**	**19 38 12.5**	**+1.5**
CART				*e*S	**Sn**	**19 38 33.0**	**-3.1**
ENIJ	**Nijar**	**2.33**	**303**	P	**Pn**	**19 38 14.2**	**+0.1**
	1.4nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**19 38 40.3**	**-1.4**
	5.1nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.42**	**331**	P	**Pn**	**19 38 15.7**	**+0.2**
	0.9nm,0.1s,SNR=9.4						
EMUR				S	**Sn**	**19 38 42.1**	**-1.9**
	0.1nm,0.4s,SNR=7.9						
JBK	**JBK**	**2.68**	**240**	P	**Pn**	**19 38 21.2**	**+1.9**
JBK				S	**Sn**	**19 38 49.4**	**-1.4**
EBER	**Berja**	**2.78**	**296**	P	**Pn**	**19 38 21.6**	**+1.1**
	5.8nm,0.1s,SNR=46						
EBER				S	**Sn**	**19 38 52.9**	**-0.1**
	2.1nm,0.2s,SNR=7.9						
AFON	**Font Roja**	**3.00**	**348**	P	**Pn**	**19 38 24.6**	**+1.1**
	1.8nm,0.3s,SNR=7.9						
AFON				S	**Sn**	**19 38 57.8**	**-0.5**
	0.4nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.24**	**335**	P	**Pn**	**19 38 28.7**	**+1.9**
	2.8nm,0.2s,SNR=37						
ETOB				S	**Sn**	**19 39 04.1**	**-0.1**
	0.3nm,0.1s,SNR=4.6						
SESP	**Santiago Espad**	**3.26**	**318**	P	**Pn**	**19 38 29.4**	**+2.2**
	10nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**19 39 06.3**	**+1.4**
	4.5nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.26**	**318**	P	**Pn**	**19 38 29.1**	**+1.9**
SESP				S	**Sn**	**19 39 02.5**	**-2.4**
TDRA	**Tendrara**	**3.27**	**215**	P	**Pb**	**19 38 35.2**	**-0.3**
TDRA				S	**Sb**	**19 39 12.7**	**-2.3**
EQUE	**Quentar**	**3.30**	**298**	P	**Pn**	**19 38 29.9**	**+2.2**
	3.8nm,0.4s,SNR=11						
ELGU	**Los Guajares,**	**3.31**	**291**	P	**Pn**	**19 38 28.1**	**+0.3**
	2.8nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**19 39 05.3**	**-0.8**
	1.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.36**	**309**	P	**Pn**	**19 38 31.6**	**+3.1**
	4.2nm,0.2s,SNR=62						
EQES				S	**Sn**	**19 39 08.3**	**+0.9**
	0.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.41**	**15**	P	**Pn**	**19 38 31.2**	**+2.1**
	1.0nm,0.1s,SNR=8.8						
EIBI				S	**Sn**	**19 39 07.8**	**-0.6**
	2.0nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**3.76**	**293**	P	**Pn**	**19 38 35.8**	**+1.8**
	0.6nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.97**	**347**	P	**Pn**	**19 38 38.7**	**+1.9**
	0.3nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**19 39 21.7**	**-0.6**
	4.1nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.66**	**353**	P	**Pn**	**19 38 48.1**	**+1.7**
	0.3nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**19 39 39.5**	**0.0**
	0.2nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.10**	**299**	P	**Pn**	**19 38 52.5**	**+0.3**
	0.3nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**19 39 48.7**	**-1.3**
	0.1nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.15**	**321**	P	**Pn**	**19 38 54.7**	**+1.7**
	0.2nm,0.2s,baz=140,slow=13,SNR=4.0						

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*ATH **28** 20:06:07.6, 37°.53N×19°.94E, h20km±2km, ML2.5/5, Error ellipse: s-maj=3.4km s-min=1.5km az=28.0*
*THE **28** 20:06:11.6, 37°.62N×20°.38E, h6km±1km, ML2.1/3, Error ellipse: s-maj=3.8km s-min=0.8km az=84.0*
ISC 28 20:06:07.9±2.7, 37°.56N±0°.09×20°.0E±0°.1, h10km±12km, n27, σ1s07/38, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLMS	**Volimes, Zakyn**	**0.65**	**61**	P	**Pg**	**20 06 20.5**	**+0.1**
VLMS				S	**Sb**	**20 06 30.4**	**+0.1**
VLMS				AML	AML	20 06 32.0	
	comp=E,1699μm,0.2s						
VLMS				AML	AML	20 06 35.8	
	comp=N,2460μm,0.3s						
KEF3	**Kipouria, Keph**	**0.71**	**26**	P	**Pb**	**20 06 22.2**	**-0.2**
KEF3				S	**Sn**	**20 06 32.9**	**-2.1**
ARGA	**Argostoli. Kep**	**0.74**	**34**	P	**Pb**	**20 06 23.2**	**+0.3**
ARGA				S	**Sn**	**20 06 34.1**	**-1.6**
KEF4	**Livadi, Kephal**	**0.79**	**28**	P	**Pb**	**20 06 23.7**	**0.0**
KEF4				S	**Sn**	**20 06 35.7**	**-1.2**
VLS	**Valsamata**	**0.80**	**39**	P	**Pg**	**20 06 22.4**	**-0.9**
VLS	**Valsamata**	**0.80**	**39**	P	**Pb**	**20 06 23.5**	**-0.3**
VLS				S	**Sn**	**20 06 35.4**	**-1.7**
VLS				AML	AML	20 06 36.0	
	comp=N,914μm,0.4s						
VLS				AML	AML	20 06 39.7	
	comp=E,890μm,0.4s						
KEF5	**Kardakata, Kep**	**0.82**	**30**	P	**Pb**	**20 06 23.7**	**-0.6**
FSK	**Fiskardo**	**1.02**	**28**	P	**Pb**	**20 06 27.4**	**-0.2**
FSK				S	**Sn**	**20 06 40.4**	**-2.2**
	comp=E,170nm,0.4s						
FSK	**Fiskardo**	**1.02**	**28**	P	**Pb**	**20 06 27.4**	**-0.2**
FSK				S	**Sn**	**20 06 42.0**	**-0.6**
FSK				AML	AML	20 06 49.6	
	comp=E,317μm,0.4s						
FSK				AML	AML	20 06 50.5	
	comp=N,359μm,0.5s						
EVGI	**Lefkada island**	**1.20**	**28**	P	**Pb**	**20 06 30.7**	**0.0**
EVGI				S	**Sn**	**20 06 45.7**	**-1.3**
	comp=N,48nm,0.2s						
EVGI	**Lefkada island**	**1.20**	**28**	P	**Pb**	**20 06 30.6**	**0.0**
DRAG	**Dragano-Lefkad**	**1.22**	**24**	P	**Pn**	**20 06 32.1**	**+1.0**
MGNA	**Meganis**	**1.28**	**31**	P	**Pn**	**20 06 32.0**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.29**	**27**	P	**Pb**	**20 06 32.2**	**-0.1**
AXS	**Araxos**	**1.29**	**60**	P	**Pb**	**20 06 32.5**	**+0.2**
RLS	**Riolos of Patr**	**1.30**	**67**	P	**Pb**	**20 06 32.7**	**+0.3**
RLS				S	**Sn**	**20 06 50.6**	**+1.2**
RLS				AML	AML	20 07 01.5	
	comp=E,251μm,0.6s						
RLS				AML	AML	20 07 06.8	
	comp=N,220μm,0.5s						
LKD2	**Lefkada island**	**1.35**	**24**	P	**Pn**	**20 06 34.0**	**+1.2**
LKD2				S	**Sn**	**20 06 51.0**	**+0.3**
	comp=N,112nm,0.2s						
LKD2	**Lefkada island**	**1.35**	**24**	P	**Pn**	**20 06 33.9**	**+1.1**
LKD2				S	**Sn**	**20 06 52.0**	**+1.3**
LKD2				AML	AML	20 06 59.6	
	comp=E,244μm,0.6s						
LKD2				AML	AML	20 06 60.0	
	comp=N,197μm,0.3s						
TSLK	**Tsoukalades, L**	**1.38**	**24**	P	**Pn**	**20 06 34.3**	**+1.1**
TSLK	**Tsoukalades, L**	**1.38**	**24**	P	**Pn**	**20 06 34.8**	**+1.6**
PYL	**PYLOS**	**1.58**	**114**	P	**Pn**	**20 06 35.4**	**-0.5**
EFP	**Efpalio**	**1.77**	**60**	P	**Pn**	**20 06 39.3**	**+0.7**
KLV	**Kalavryta, Ach**	**1.81**	**74**	P	**Pn**	**20 06 40.2**	**+1.1**
ANX	**Ano Chora**	**1.87**	**56**	P	**Pn**	**20 06 41.2**	**+1.2**
SERG	**Sergoula**	**1.87**	**62**	P	**Pn**	**20 06 41.3**	**+1.4**
GUR	**Goura**	**1.93**	**78**	P	**Pn**	**20 06 42.0**	**+1.1**
IGT	**Igoumenitsa**	**1.99**	**9**	P	**Pn**	**20 06 43.1**	**+1.5**

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*IDC **28** 20:06:22.1±1.0, 36°.81N×29°.08E, h0km, mb3.7/3, mb1 3.8/10, mb1mx3.5/43, mbtmp3.7/10, ML3.7/7, MS2.9/2, Ms1 2.9/2, ms1mx2.4/49, Error ellipse: s-maj=18.7km s-min=15.6km az=180.0*
*DDA **28** 20:06:23.1, 36°.86N×28°.99E, h7km±3km, MW3.6*
*ISK **28** 20:06:23.5, 36°.85N×28°.99E, h8km, ML3.5/15*
*GII **28** 20:06:23.1±0.0, 36°.63N×28°.99E, h5km*
*ATH **28** 20:06:23.3, 36°.91N×28°.94E, h11km±2km, ML3.3/5, Error ellipse: s-maj=2.5km s-min=0.8km az=122.0*
*THE **28** 20:06:24.0, 36°.80N×28°.95E, h0km±1km, ML3.3/3, Error ellipse: s-maj=2.2km s-min=0.9km az=36.0*
*NIC **28** 20:06:24.4±0.0, 36°.84N×29°.05E, h6km±2km, Ml3.9/2*

ISC 28 20:06:23.8±0.8, 36°.86N±0°.02×29°.00E±0°.02, h12km±6km, n115, σ1s37/154, mb3.6/3, 5C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.23**	**163**	P	**Pg**	**20 06 28.2**	**-0.5**
FETY				S	**Sg**	**20 06 32.0**	**-0.1**
FETY	**Fethiye**	**0.23**	**163**	PG	**Pg**	**20 06 28.5**	**-0.2**
FETY				SG	**Sg**	**20 06 32.3**	**+0.2**
FETY	**Fethiye**	**0.23**	**163**	*i* P	**Pg**	**20 06 28.1**	**-0.7**
FETY				*i* S	**Sg**	**20 06 31.5**	**-0.6**
FETY				IAML		20 06 32.0	
	comp=E,5μm,0.7s						
FETY				IAML		20 06 33.0	
	comp=N,3μm,0.4s						
DALY	**Dalyan (Mula)**	**0.28**	**262**	PG	**Pg**	**20 06 29.5**	**-0.2**
DALY				SG	**Sg**	**20 06 33.8**	**+0.3**
DALY	**Dalyan (Mula)**	**0.28**	**262**	*i* P	**Pg**	**20 06 29.4**	**-0.2**
DALY				*i* S	**Sg**	**20 06 33.4**	**-0.1**
DALY				IAML		20 06 34.0	
	comp=N,8μm,0.5s						
DALY				IAML		20 06 36.0	
	comp=E,9μm,0.5s						
GOLH	**Golhisar**	**0.59**	**49**	*i* P	**Pg**	**20 06 34.4**	**-1.0**
GOLH				*i* S	**Sg**	**20 06 43.5**	**+0.4**
GOLH				IAML		20 06 45.0	
	comp=N,2μm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.61**	**353**	*i* P	**Pg**	**20 06 35.0**	**-0.9**
TAVA				*i* S	**Sg**	**20 06 42.9**	**-1.0**
TAVA				IAML		20 06 46.0	
	comp=E,1μm,0.2s						
TAVA				IAML		20 06 48.0	
	comp=N,1μm,0.5s						
YER	**Yerkesik**	**0.64**	**296**	P	**Pb**	**20 06 36.3**	**-0.7**
YER	**Yerkesik**	**0.64**	**296**	PG	**Pb**	**20 06 36.3**	**-0.7**
YER				SG	**Sb**	**20 06 45.6**	**-0.3**
ELL	**Elmali**	**0.74**	**98**	PG	**Pb**	**20 06 38.2**	**-0.4**
ELL				SG	**Sb**	**20 06 49.0**	**+0.3**
ELL	**Elmali**	**0.74**	**98**	P	**Pg**	**20 06 37.3**	**-0.8**
ELL				S	**Sb**	**20 06 49.1**	**+0.3**
AKAS	**Kas**	**0.79**	**142**	PG	**Pb**	**20 06 39.2**	**-0.3**
AKAS	**Kas**	**0.79**	**142**	*i* P	**Pb**	**20 06 39.6**	**0.0**
AKAS				IAML		20 06 59.0	
	comp=E,797nm,0.4s						
KSL	**Kastellorizon**	**0.85**	**146**	P	**Pb**	**20 06 40.5**	**+0.1**
KSL	**Kastellorizon**	**0.85**	**146**	P	**Pb**	**20 06 40.6**	**+0.1**
KSL				S	**Sn**	**20 06 53.7**	**-0.2**
KSL				AML	AML	20 06 59.4	
	comp=N,1764μm,0.4s						
KSL				AML	AML	20 07 04.0	
	comp=E,2090μm,0.7s						
KSL	**Kastellorizon**	**0.85**	**146**	P	**Pb**	**20 06 40.5**	**+0.1**
KSL				S	**Sb**	**20 06 52.5**	**+0.7**
ARG	**Arkhangelos**	**0.95**	**228**	P	**Pg**	**20 06 41.4**	**-0.8**
ARG				S	**Sb**	**20 06 55.5**	**+0.8**
	comp=E,2μm,0.4s						
ARG	**Arkhangelos**	**0.95**	**228**	P	**Pg**	**20 06 41.4**	**-0.8**
ARG				S	**Sb**	**20 06 54.9**	**+0.2**
ARG				AML	AML	20 07 02.1	
	comp=E,4843μm,0.4s						
ARG				AML	AML	20 07 06.9	
	comp=N,2574μm,0.6s						
ARG	**Arkhangelos**	**0.95**	**228**	PG	**Pg**	**20 06 41.4**	**-0.8**
ARG				SG	**Sb**	**20 06 55.5**	**+0.8**
ARG	**Arkhangelos**	**0.95**	**228**	P	**Pg**	**20 06 41.5**	**-0.8**
ARG				S	**Sn**	**20 06 57.7**	**+1.3**
DEMR	**Demre-Antalya**	**0.95**	**130**	PG	**Pb**	**20 06 42.2**	**-0.1**
MLSB	**Milas**	**1.07**	**294**	PG	**Pb**	**20 06 44.5**	**+0.2**
DATC	**Datca-Mugla**	**1.08**	**265**	PG	**Pg**	**20 06 43.7**	**-0.9**
DAT	**Datca**	**1.15**	**264**	P	**Pg**	**20 06 44.6**	**-1.4**
DAT	**Datca**	**1.15**	**264**	PN	**Pn**	**20 06 45.8**	**0.0**
DAT	**Datca**	**1.15**	**264**	*i* P	**Pg**	**20 06 44.0**	**-2.0**
DAT				*i* S	**Sn**	**20 07 01.9**	**+0.4**
DAT				IAML		20 07 10.0	
	comp=E,349nm,0.7s						
DAT				IAML		20 07 11.0	
	comp=N,445nm,0.3s						
BRDR	**BURDUR-Merkez**	**1.19**	**45**	*i* P	**Pg**	**20 06 45.8**	**-1.0**
BRDR				*i* S	**Sn**	**20 07 03.6**	**+1.1**
BRDR				IAML		20 07 08.0	
	comp=N,719nm,0.6s						
BRDR				IAML		20 07 08.0	
	comp=E,937nm,0.5s						
AKUM	**Antalya-Kumluc**	**1.20**	**116**	*i* P	**Pn**	**20 06 48.3**	**+1.9**
AKUM				IAML		20 07 13.0	
	comp=E,337nm,0.7s						
AKUM				IAML		20 07 14.0	
	comp=N,435nm,0.5s						
BDRM	**Kayabasi**	**1.27**	**280**	*i* P	**Pb**	**20 06 49.5**	**+1.9**
BDRM				*i* S	**Sn**	**20 07 05.2**	**+1.0**
BDRM				IAML		20 07 09.0	
	comp=E,412nm,0.4s						
ANTB	**Antalya**	**1.33**	**88**	PN	**Pg**	**20 06 49.1**	**-0.2**
BASM	**Basmaki-Afyon**	**1.35**	**38**	PN	**Pn**	**20 06 48.9**	**+0.3**
BODT	**Bodrum**	**1.37**	**279**	P	**Pb**	**20 06 49.2**	**-0.2**
BODT	**Bodrum**	**1.37**	**279**	PN	**Pg**	**20 06 49.4**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.40**	**321**	PN	**Pn**	**20 06 49.9**	**+0.6**
BCK	**Bucak**	**1.41**	**64**	PN	**Pn**	**20 06 49.9**	**+0.6**
ISP	**Isparta**	**1.55**	**51**	P	**Pb**	**20 06 52.4**	**-0.1**
ISP				S	**Sg**	**20 07 13.9**	**+0.1**
ISP				AML	AML	20 07 20.6	
	comp=N,3313μm,0.7s						
ISP				AML	AML	20 07 23.0	
	comp=E,2147μm,0.5s						
ISP	**Isparta**	**1.55**	**51**	PN	**Pb**	**20 06 52.3**	**-0.2**
ISP	**Isparta**	**1.55**	**51**	Pn	**Pn**	**20 06 52.0**	**+0.7**
ISP				Sn

DOGA	**KONYA_Doganhis**	**2.46**	**59**	*i* P	**Pn**	**20 07 05.8**	**+1.9**
DOGA				IAML		20 07 39.0	
	comp=N,81nm,0.5s						
DOGA				IAML		20 07 42.0	
	comp=E,88nm,0.9s						
AMGA	**Amorgos Island**	**2.49**	**270**	P	**Pn**	**20 07 05.2**	**+1.0**
ZEDA	**zmir-Bergama**	**2.60**	**325**	*i* P	**Pn**	**20 07 06.5**	**+0.9**
ZEDA				*i* S	**Sn**	**20 07 35.9**	**-1.2**
ZEDA				IAML		20 07 39.0	
	comp=N,97nm,0.5s						
ZEDA				IAML		20 07 40.0	
	comp=E,75nm,0.8s						
STEP	**BALIKESIR_Sava**	**2.71**	**338**	*i* P	**Pn**	**20 07 07.4**	**+0.1**
STEP				*i* S	**Sn**	**20 07 40.7**	**+0.7**
STEP				IAML		20 07 42.0	
	comp=N,186nm,0.4s						
STEP				IAML		20 07 43.0	
	comp=E,100nm,0.3s						
DURS	**Dursunbey**	**2.77**	**352**	*i* P	**Pn**	**20 07 06.4**	**-1.7**
DURS				IAML		20 07 43.0	
	comp=E,50nm,1.1s						
DURS				IAML		20 08 02.0	
	comp=N,54nm,0.9s						
APE	**Apeiranthos**	**2.79**	**275**	P	**Pn**	**20 07 09.5**	**+1.2**
APE				S	**Sn**	**20 07 43.7**	**+1.8**
APE	**Apeiranthos**	**2.79**	**275**	P	**Pn**	**20 07 10.0**	**+1.8**
CHOS	**Chios island**	**2.79**	**304**	P	**Pn**	**20 07 09.6**	**+1.2**
ZKR	**Zakros**	**2.85**	**233**	P	**Pn**	**20 07 11.4**	**+2.4**
KDHN	**Kadinhani**	**2.98**	**55**	*i* P	**Pn**	**20 07 12.6**	**+1.6**
AUBOZ	**BOZOYUK**	**3.16**	**15**	*i* P	**Pg**	**20 07 22.6**	**-1.7**
NPS	**Neapolis**	**3.17**	**241**	P	**Pn**	**20 07 15.4**	**+1.9**
PRK	**Paraskevi**	**3.21**	**319**	P	**Pn**	**20 07 16.2**	**+2.1**
AKMS	**Akamas**	**3.27**	**123**	P	**Pn**	**20 07 16.5**	**+1.6**
LAST	**Lasithi**	**3.32**	**240**	P	**Pn**	**20 07 17.8**	**+2.1**
ALFC	**Alefka**	**3.37**	**119**	P	**Pn**	**20 07 17.2**	**+0.8**
SIGR	**SIGRI**	**3.42**	**319**	P	**Pn**	**20 07 18.5**	**+1.6**
BAYC	**CANAKKALE_Bayr**	**3.47**	**327**	*i* P	**Pn**	**20 07 18.2**	**+0.6**
BAYC				*i* S	**Sn**	**20 07 56.0**	**-2.6**
BAYC				IAML		20 08 02.0	
	comp=E,63nm,1.1s						
BAYC				IAML		20 08 04.0	
	comp=N,33nm,0.4s						
NATA	**Nata**	**3.56**	**124**	P	**Pn**	**20 07 20.0**	**+1.1**
NATA				AML	AML	20 08 18.1	
	comp=N,0.9nm,1.4s						
NATA				AML	AML	20 08 22.9	
	comp=N,0.9nm,0.8s						
IDI	**Anoyia**	**3.68**	**246**	Pn	**Pn**	**20 07 22.6**	**+2.0**
	comp=N,7.1nm,0.3s,baz=338,slow=4.7,SNR=54						
IDI				Sn	**Sn**	**20 08 05.3**	**+1.4**
	comp=N,11nm,0.3s,baz=347,slow=22,SNR=6.5						
IDI	**Anoyia**	**3.68**	**246**	P	**Pn**	**20 07 22.2**	**+1.7**
SZAC	**Souni**	**3.79**	**122**	P	**Pn**	**20 07 23.1**	**+1.1**
OSC1	**CSNet OBS 1**	**3.83**	**150**	P	**Pn**	**20 07 23.5**	**+1.0**
SIVA	**Sivas**	**3.86**	**243**	P	**Pn**	**20 07 26.2**	**+3.2**
CSS	**Mathiatis**	**3.99**	**117**	P	**Pn**	**20 07 26.9**	**+2.1**
CSS	**Mathiatis**	**3.99**	**117**	Pn	**Pn**	**20 07 25.7**	**+0.9**
CSS	**Mathiatis**	**3.99**	**117**	P	**Pn**	**20 07 25.8**	**+1.1**
ASGA	**Asgata**	**4.02**	**120**	P	**Pn**	**20 07 26.1**	**+0.9**
IMMV	**Iera Moni Meta**	**4.29**	**253**	P	**Pn**	**20 07 31.6**	**+2.7**
OSC2	**CSNet OBS 4**	**4.63**	**144**	S	**Sn**	**20 08 28.7**	**+1.5**
BRTR	**Keskin Array B**	**4.64**	**50**	Pn	**Pn**	**20 07 35.2**	**+1.4**
	comp=N,1.8nm,0.3s,baz=173,slow=20,SNR=32						
BRTR				Sn	**Sn**	**20 08 29.1**	**+1.4**
	comp=N,0.5nm,0.3s,baz=241,slow=25,SNR=7.0						
MMA0B	**Mount Meron ar**	**6.50**	**124**	Pn	**Pn**	**20 07 57.6**	**-1.8**
MMA0B				Sn	**Sn**	**20 09 11.1**	**-2.4**
MMAI	**Mount Meron Ar**	**6.50**	**124**	Pn	**Pn**	**20 07 58.7**	**-0.7**
	comp=N,6.1nm,0.3s,baz=310,slow=12,SNR=31						
MMAI				Sn	**Sn**	**20 09 10.9**	**-2.6**
	comp=N,2.5nm,0.3s,baz=298,slow=24,SNR=1.4						
MMAI				LR	LR	20 11 54.1	
	comp=N,24nm,18.5s,baz=170,slow=52						
GEM	**Giv'at Ha'Em**	**6.56**	**122**	Pn	**Pn**	**20 07 59.7**	**-0.4**
NATI	**Neve Ativ**	**6.58**	**121**	Pn	**Pn**	**20 07 59.7**	**-0.7**
NATI				Sn	**Sn**	**20 09 13.6**	**-1.7**
SLTI	**Sal'it**	**6.78**	**131**	Pn	**Pn**	**20 08 01.6**	**-1.5**
MMLI	**Mount Malkishu**	**6.88**	**128**	Pn	**Pn**	**20 08 03.4**	**-1.2**
MMLI				Sn	**Sn**	**20 09 20.4**	**-2.5**
SHMJ	**Saham**	**6.92**	**125**	Pn	**Pn**	**20 08 04.7**	**-0.4**
HMDT	**Nahal Hemdat**	**7.07**	**129**	Pn	**Pn**	**20 08 06.6**	**-0.5**
KZIT	**Kziot**	**7.44**	**141**	Pn	**Pn**	**20 08 11.9**	**-0.2**
KZIT				Sn	**Sn**	**20 09 33.0**	**-3.4**
DSI	**Dead Sea**	**7.46**	**133**	Pn	**Pn**	**20 08 11.8**	**-0.7**
GHAJ	**Ghor Haditha**	**7.76**	**134**	Pn	**Pn**	**20 08 15.6**	**-1.0**
KARJ	**KARJ**	**7.95**	**134**	Pn	Pn	20 08 07.8	-1.1
ASF	**Jabal al Asfar**	**8.02**	**123**	Pn	**Pn**	**20 08 20.3**	**+0.2**
	comp=N,0.3nm,0.3s,baz=298,slow=12,SNR=2.2						
PRNI	**Paran**	**8.19**	**141**	Pn	**Pn**	**20 08 19.4**	**-3.1**
CFR	**Carcaliu**	**8.34**	**356**	⇓P	**Pn**	**20 08 25.6**	**+1.1**
HRFI	**Mount Harif**	**8.46**	**142**	Pn	**Pn**	**20 08 24.4**	**-1.9**
MBRI	**Mt Berech**	**8.60**	**143**	Pn	**Pn**	**20 08 26.3**	**-1.9**
EIL	**Elat**	**8.72**	**144**	Pn	**Pn**	**20 08 28.8**	**-1.0**
	comp=N,0.6nm,0.3s,baz=218,slow=7.6,SNR=4.4						
EIL				Sn	**Sn**	**20 10 02.0**	**-6.1**
	comp=N,0.8nm,0.3s,baz=296,slow=24,SNR=3.6						
EIL	**Elat**	**8.72**	**144**	Pn	**Pn**	**20 08 27.9**	**-1.9**
MLR	**Muntele Rosu**	**8.93**	**346**	Pn	**Pn**	**20 08 34.5**	**+1.9**
	comp=N,0.5nm,0.3s,baz=5.8,slow=13,SNR=8.2						
MLR	**Muntele Rosu**	**8.93**	**346**	⇑P	**Pn**	**20 08 35.7**	**+3.1**
PLOR	**Plostina**	**9.16**	**350**	⇑P	**Pn**	**20 08 38.6**	**+2.8**
VRI	**Vrincioaia**	**9.16**	**350**	⇑P	**Pn**	**20 08 37.8**	**+2.0**
SIRR	**Siria**	**10.89**	**332**	⇑P	Pn	20 08 51.7	-7.7
BURAR	**Bucovina Array**	**11.11**	**347**	⇑P	**Pn**	**20 09 05.0**	**+2.5**
GERES	**GERESS Array B**	**16.38**	**322**	Pn	**P**	**20 10 17.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=130,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**24.68**	**357**	LR	LR	20 21 29.0	
	comp=N,88nm,18.5s,baz=274,slow=37						
ESDC	**Sonseca Array**	**25.96**	**286**	P	**P**	**20 11 55.9**	**-0.3**
	comp=N,0.5nm,0.8s,baz=79,slow=10,SNR=5.5						
TORD	**Torodi Ar. Bea**	**33.98**	**233**	P	**P**	**20 13 07.6**	**+0.2**
	comp=N,2.3nm,0.5s,baz=33,slow=8.7,SNR=31						
CMAR	**Chiang Mai Arr**	**63.32**	**86**	P	**P**	**20 16 52.1**	**-0.8**
	comp=N,0.2nm,0.4s,baz=315,slow=8.2,SNR=2.8						

IDC 28 20:10:00.4±54.0, 18°.17S×178°.42W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/27, mbtmp4.1/3, Error ellipse: s-maj=993.9km s-min=158.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.49**	**241**	P	P	20 17 25.2	+0.7
	3.0nm,0.8s,baz=63,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**44.57**	**260**	P	P	20 18 14.4	-0.1
	1.0nm,0.4s,baz=97,slow=7.5,SNR=26						
ASAR	**Alice Springs**	**44.71**	**254**	P	P	20 18 15.1	-0.6
	2.5nm,0.7s,baz=86,slow=7.8,SNR=27						

*IDC **28** 20:35:47.9±4.5, 52°.41N×177°.27E, h131km±42km, mb3.3/11, mb1 3.5/13, mb1mx3.3/48, mbtmp3.7/13, MS3.0/1, Ms1 3.0/1, ms1mx2.4/30, Error ellipse: s-maj=34.4km s-min=13.6km az=168.0*

*NEIC **28** 20:35:48.5±2.7, 52°.4N±0°.2×177°.3E±0°.1, h139km±13km, mb4.1/24, Error ellipse: s-maj=24.1km s-min=8.6km az=187.0*

ISC 28 20:35:48.7±0.6, 52°.3N±0°.1×177°.23E±0°.05, h150km, n47, σ1§67/47, mb4.1/21, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.61**	**126**	Pn	**Pn**	**20 36 17.7**	**-1.6**
AMKA				Sn	**Sn**	**20 36 39.4**	**-3.4**
SMY	**Shemya**	**1.95**	**283**		**Pn**	**20 36 21.6**	**-1.5**
PEA0B	**Petropavlovsk-**	**11.87**	**281**	Pn	Pn	**20 38 31.1**	**-1.9**
PETK	**Petropavlovsk-**	**11.87**	**281**	P	**Pn**	**20 38 33.8**	**+0.8**
	0.3nm,0.3s,baz=99,slow=20,SNR=8.3						
PETK				S	**Sn**	**20 40 39.6**	**-4.5**
	0.4nm,0.3s,baz=94,slow=20,SNR=1.9						
PETK	**Petropavlovsk-**	**11.87**	**281**		**Pn**	**20 38 29.9**	**-3.2**
SDPT	**Sand Point**	**13.49**	**68**	P	**P**	**20 38 55.9**	**-1.9**
CHGN	**Chignik**	**14.72**	**65**	P	**P**	**20 39 11.0**	**-0.5**
OHAK	**Old Harbor**	**17.61**	**62**	P	**Pn**	**20 39 43.2**	**-1.3**
OHAK				IAmb	IAmb	20 39 46.7	
	comp=Z,13nm,1.0s						
KDAK	**Kodiak Island**	**18.03**	**60**	P	**Pn**	**20 39 47.7**	**-1.8**
	comp=Z,1.6nm,0.3s,baz=260,slow=5.4,SNR=15						
KDAK	**Kodiak Island**	**18.03**	**60**	P	**Pn**	**20 39 48.7**	**-0.8**
KDAK				IAmb	IAmb	20 40 00.9	
	comp=Z,16nm,1.1s						
CNPM	**China Poot**	**18.93**	**55**		**Pn**	**20 39 59.4**	**-0.7**
BRLK	**Bradley Lake**	**19.14**	**55**		**Pn**	**20 40 01.7**	**-0.8**
BRLK				IAmb	IAmb	20 40 12.6	
	comp=Z,12nm,1.2s						
SEW	**Seward**	**19.91**	**54**	P	**P**	**20 40 08.3**	**+0.1**
GHO	**Glory Hole Cre**	**20.45**	**49**	P	Pn	20 40 16.7	-1.3
GLI	**Glacier Island**	**21.17**	**52**	P	**P**	**20 40 21.1**	**-0.7**
GLI				IAmb	IAmb	20 40 23.9	
	comp=Z,6.3nm,0.8s						
EYAK	**Cordova Ski Ar**	**21.79**	**53**	P	**P**	**20 40 29.5**	**+1.2**
EYAK				IAmb	IAmb	20 40 35.9	
	comp=Z,8.7nm,1.2s						
M24K	**Tolsona, Glenn**	**21.79**	**49**	P	**P**	**20 40 30.1**	**+1.7**
KLU	**Klutina**	**21.82**	**51**	P	**P**	**20 40 29.8**	**+1.1**
ILAR	**Eielson Array**	**22.11**	**42**	P	**P**	**20 40 31.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=253,slow=8.4,SNR=5.5						
HMT	**Hamilton**	**22.51**	**54**	P	**P**	**20 40 36.4**	**+0.9**
HMT				IAmb	IAmb	20 40 48.8	
	comp=Z,13nm,1.1s						
SUCK	**Suckling Hills**	**22.73**	**55**	P	**P**	**20 40 39.2**	**+1.6**
GLB	**Gilahina Butte**	**22.82**	**51**	P	**P**	**20 40 38.5**	**+0.1**
CRQM	**Cirque**	**23.09**	**53**	P	**P**	**20 40 43.5**	**+2.5**
CRQM				IAmb	IAmb	20 40 51.9	
	comp=Z,8.8nm,1.0s						
TGL	**Tana Glacier**	**23.24**	**53**	P	**P**	**20 40 43.3**	**+0.9**
TGL				IAmb	IAmb	20 40 45.8	
	comp=Z,11nm,1.0s						
BALM	**Baldy**	**23.49**	**52**	P	**P**	**20 40 44.5**	**-0.1**
MESA	**MESA**	**23.65**	**55**	P	**P**	**20 40 49.3**	**+3.1**
BARN	**Barnard Glacie**	**23.82**	**52**	P	**P**	**20 40 49.3**	**+1.6**
BARN				IAmb	IAmb	20 40 50.3	
	comp=Z,5.2nm,0.8s						
BCAR	**Beaver Creek A**	**23.95**	**47**	P	**P**	**20 40 50.1**	**+1.4**
CTGM	**Chitina Glacie**	**23.98**	**53**	P	**P**	**20 40 51.1**	**+2.0**
CTGM				IAmb	IAmb	20 40 52.6	
	comp=Z,3.7nm,0.6s						
JKA	**Kamikawa-asahi**	**24.30**	**264**	P	**P**	**20 40 53.4**	**+1.4**
JKA				IAmb	IAmb	20 40 54.8	
	comp=Z,7.0nm,0.7s						
ASAJ	**Asahikawa**	**24.30**	**264**	P	**P**	**20 40 54.3**	**+2.3**
	comp=Z,4.5nm,0.5s,baz=115,slow=7.9,SNR=7.2						
EGAK	**Eagle**	**24.49**	**43**	P	**P**	**20 40 52.8**	**-0.7**
EGAK				IAmb	IAmb	20 40 55.6	
	comp=Z,5.4nm,0.9s						
PCA	**Pinnacle**	**24.50**	**55**	P	**P**	**20 40 52.9**	**-0.9**
HYT	**Haines Junctio**	**25.85**	**53**	P	**P**	**20 41 07.9**	**+1.9**
USA0B	**Ussuriysk Arra**	**30.76**	**273**	P	**P**	**20 41 50.0**	**+0.4**
USA0B				IAmb	IAmb	20 41 56.2	
	comp=Z,4.1nm,0.9s						
USRK	**Ussuriysk Ar.**	**30.76**	**273**	P	**P**	**20 41 50.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=149,slow=41,SNR=2.9						
MJAR	**Matsushiro Arr**	**31.57**	**256**	P	**P**	**20 41 58.4**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=49,slow=11,SNR=4.0						
KSRS	**Korea Array**	**37.20**	**266**	LR	LR	20 58 58.2	
	comp=Z,22nm,18.1s,baz=103,slow=37						
SONM	**Songino Array**	**44.01**	**294**	P	**P**	**20 43 42.7**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=64,slow=8.6,SNR=8.1						
SONM	**Songino Array**	**44.01**	**294**	P	**P**	**20 43 42.3**	**+1.3**
NVAR	**Mina Array Bea**	**45.85**	**81**	P	**P**	**20 43 56.8**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=289,slow=8.3,SNR=2.1						
MKAR	**Makanchi Array**	**57.49**	**306**	P	**P**	**20 45 22.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=45,slow=7.8,SNR=6.9						
MKAR	**Makanchi Array**	**57.49**	**306**	P	**P**	**20 45 22.0**	**+0.2**
TXAR	**Lajitas Array**	**60.91**	**79**	P	**P**	**20 45 46.4**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=292,slow=4.8,SNR=1.9						
CMAR	**Chiang Mai Arr**	**68.48**	**273**	P	**P**	**20 46 36.3**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=28,slow=7.4,SNR=5.6						
WRA	**Warramunga Arr**	**81.07**	**220**	P	**P**	**20 47 48.0**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=30,slow=6.2,SNR=6.7						
ASAR	**Alice Springs**	**84.60**	**219**	P	**P**	**20 48 06.5**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=25,slow=5.0,SNR=4.1						

*IDC **28** 20:45:12.0±0.5, 36°.53N×120°.71W, h0km, mb4.3/18, mb1 4.4/25, mb1mx4.3/36, mbtmp4.2/25, ML4.2/6, MS3.8/26, Ms1 3.8/26, ms1mx3.6/49, Error ellipse: s-maj=8.9km s-min=8.0km az=130.0*

*ANF **28** 20:45:12.8±0.6, 36°.53N×120°.76W, h1km, ML4.8/40, Error ellipse: s-maj=5.4km s-min=3.7km az=108.0*

*NCEDC **28** 20:45:13.3±1.9, 36°.63N±0°.01×120°.83W±0°.02, h8km±5km, Mwr4.4/4, mb4.7/15(NEIC), Mwr4.4/47(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=61.0*

*NEIC **28** 20:45:13.4±1.0, 36°.63N±0°.01×120°.86W±0°.02, h18km±2km, Error ellipse: s-maj=2.8km s-min=1.2km az=46.0*

*NEIC **28** 20:45:13.3, 36°.63N×120°.84W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.26; $M_{\theta\theta}$-3.62; $M_{\phi\phi}$0.36; $M_{r\theta}$-0.14; $M_{\theta\phi}$2.91; $M_{\phi r}$-2.74; Fault plane solution: $M_0$5.29000×10^{15} NP1:ϕ_s266.60000°, δ48.03000°, λ38.31000°. NP2:ϕ_s148.76000°, δ62.56000°, λ131.11000°. Principal axes: T 5.2434, Plg53.0000°, Azm109.0000°; N 0.0864, Plg36.0000°, Azm307.0000°; P -5.3299, Plg8.0000°, Azm211.0000°;*

*NEIC **28** 20:45:13.3, 36°.63N×120°.84W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.69; $M_{\theta\theta}$-3.82; $M_{\phi\phi}$ 1.13; $M_{r\theta}$-1.42; $M_{\theta\phi}$3.07; $M_{\phi r}$-1.51; Fault plane solution: $M_0$5.02000×10^{15} NP1:ϕ_s261.12000°, δ63.28000°, λ39.37000°. NP2:ϕ_s150.87000°, δ55.49000°, λ146.93000°. Principal axes: T 4.6351, Plg46.0000°, Azm119.0000°; N 0.7050, Plg44.0000°, Azm290.0000°; P -5.3402, Plg5.0000°, Azm24.0000°;*

*BGR **28** 20:45:20.7±0.0, 37°.25N×122°.14W, h33km, mb4.4*

ISC 28 20:45:13.3±0.9, 36°.64N±0°.01×120°.76W±0°.02, h7km±5km, n407, σ1§46/399, mb4.5/28, MS3.9/23, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMSM	**Mercy Hot Spri**	**0.03**	**313**		**Pg**	**20 45 15.2**	**+0.5**
BRMM	**Rolling Bench**	**0.20**	**346**		**Pg**	**20 45 18.5**	**+1.1**
BAVM	**Antelope Valle**	**0.21**	**273**		**Pg**	**20 45 16.6**	**-1.0**
BBGB	**Big Mountain B**	**0.23**	**256**		**Pg**	**20 45 17.3**	**-0.6**
BBGB					**Sg**	**20 45 21.1**	**+0.1**
PHRM	**Hernandez Vall**	**0.27**	**190**		**Pg**	**20 45 18.9**	**+0.4**
BEMM	**Emmet**	**0.27**	**276**		**Pg**	**20 45 17.8**	**-0.8**
BBNM	**San Benito**	**0.28**	**244**		**Pb**	**20 45 19.7**	**-1.0**
LRV	**Little Rabbit**	**0.29**	**224**		**Pg**	**20 45 18.8**	**-0.2**
BEHM	**Elkhorn Ranch**	**0.33**	**275**		**Pg**	**20 45 19.1**	**-0.6**
PBWM	**Bitterwater Cr**	**0.35**	**203**		**Pg**	**20 45 20.2**	**+0.2**
BPIM	**Pinnacles**	**0.36**	**246**		**Pg**	**20 45 19.5**	**-0.8**
BLRM	**Lewis Ranch**	**0.41**	**274**		**Pg**	**20 45 21.3**	**0.0**
BHRM	**Hodges Ranch**	**0.41**	**283**		**Pg**	**20 45 20.8**	**-0.5**
PMPB	**Monarch Peak**	**0.42**	**184**		**Pb**	**20 45 22.1**	**-1.0**
PMPB					**Sb**	**20 45 29.4**	**-0.3**
PJUM	**Juniper Ridge**	**0.43**	**161**		**Pb**	**20 45 22.7**	**-0.6**
BJOM	**Mount Johnson**	**0.44**	**269**		**Pg**	**20 45 21.1**	**-0.8**
BJOM					**Sg**	**20 45 27.7**	**0.0**
LRC	**Lone Oak Road**	**0.45**	**210**		**Pg**	**20 45 21.6**	**-0.3**
BSGM	**Shirttail Gulc**	**0.45**	**241**		**Pg**	**20 45 21.0**	**-1.0**
HJSM	**John Smith Roa**	**0.47**	**293**		**Pg**	**20 45 21.9**	**-0.4**
BCGM	**Cienega Road**	**0.47**	**279**		**Pg**	**20 45 22.2**	**-0.2**
PWMM	**Westland Maint**	**0.49**	**114**		**Pb**	**20 45 24.6**	**+0.4**
BSLM	**Silva Ranch**	**0.49**	**287**		**Pg**	**20 45 22.4**	**-0.4**
BJCM	**Johnson Can.**	**0.51**	**260**		**Pg**	**20 45 22.1**	**-1.1**
PARM	**Anticline Ridg**	**0.51**	**138**		**Pb**	**20 45 24.5**	**-0.2**
SCZ	**Santa Cruz**	**0.52**	**266**		**Pg**	**20 45 22.2**	**-1.0**
SCZ					**Sg**	**20 45 29.0**	**-1.0**
SFJWR	**San Luis Fatjo**	**0.53**	**322**		**Pg**	**20 45 23.0**	**-0.5**
BVYM	**Vineyard**	**0.53**	**283**		**Pg**	**20 45 23.2**	**-0.4**
PACP	**Pacheco Peak**	**0.56**	**312**		**Pg**	**20 45 23.8**	**-0.4**
PACP					**Sb**	**20 45 33.5**	**-0.3**
SAO	**San Andreas Ge**	**0.56**	**283**		**Pg**	**20 45 23.6**	**-0.6**
SLD	**San Luis Dam**	**0.57**	**320**		**Pg**	**20 45 24.1**	**-0.2**
SLD					**Sb**	**20 45 32.8**	**-1.3**
PSMM	**Smith Mountain**	**0.58**	**166**		**Pb**	**20 45 25.1**	**-0.8**
HPCM	**Pacheco Lake**	**0.59**	**316**		**Pg**	**20 45 24.2**	**-0.4**
BSMM	**Soledad Missio**	**0.59**	**245**		**Pg**	**20 45 23.8**	**-0.9**
FRP	**Fremont Peak**	**0.60**	**282**		**Pg**	**20 45 24.0**	**-0.8**
BSRM	**Salinas Radio**	**0.61**	**273**		**Pg**	**20 45 24.0**	**-1.0**
PSAM	**San Ardo**	**0.62**	**189**		**Pg**	**20 45 25.3**	**+0.1**
HFEM	**San Felipe**	**0.62**	**304**		**Pg**	**20 45 24.7**	**-0.5**
PCCM	**Crazy Canyon**	**0.63**	**211**		**Pg**	**20 45 25.3**	**-0.2**
PHPM	**Hope Ranch**	**0.67**	**169**		**Pb**	**20 45 26.2**	**-1.1**
HBTM	**San Juan Bauti**	**0.67**	**289**		**Pg**	**20 45 25.8**	**-0.3**
HJGM	**San Juan Grade**	**0.67**	**284**		**Pg**	**20 45 25.3**	**-0.9**
HAST	**Hastings Reser**	**0.68**	**249**		**Pg**	**20 45 25.2**	**-1.2**
CDC	**Canada Road**	**0.70**	**304**		**Pg**	**20 45 26.2**	**-0.5**
HCAM	**Canada Road**	**0.70**	**304**		**Pg**	**20 45 26.4**	**-0.3**
BPCNC	**Pine Canyon**	**0.70**	**265**		**Pg**	**20 45 25.8**	**-0.9**
PKD	**Bear Valley Ra**	**0.71**	**165**		**Pb**	**20 45 27.1**	**-1.0**
GHS	**Gilroy Hot Spr**	**0.71**	**310**		**Pg**	**20 45 26.6**	**-0.4**
BCWM	**Chews Ridge**	**0.72**	**243**		**Pg**	**20 45 26.2**	**-1.0**
HTUM	**Tustin Road**	**0.73**	**285**		**Pg**	**20 45 26.4**	**-0.9**
CSR	**Chase Ranch**	**0.73**	**296**		**Pg**	**20 45 26.5**	**-0.9**
PSTM	**Stockdale Moun**	**0.73**	**164**		**Pb**	**20 45 27.4**	**-1.0**
PVCM	**Vineyard Canyo**	**0.73**	**165**		**Pb**	**20 45 27.5**	**-1.0**
HSPM	**Sheep**	**0.77**	**309**		**Pg**	**20 45 27.6**	**-0.5**
PPO	**Portuguese Can**	**0.78**	**171**		**Pb**	**20 45 28.6**	**-0.6**
CBC	**Chamberlain**	**0.78**	**293**		**Pg**	**20 45 27.6**	**-0.7**
HERM	**Elkhorn Road**	**0.78**	**282**		**Pg**	**20 45 27.6**	**-0.7**
PKEM	**Kettleman Hill**	**0.78**	**137**		**Pb**	**20 45 29.4**	**+0.2**
CTM	**Castle Mountai**	**0.78**	**154**		**Pb**	**20 45 29.1**	**-0.2**
HCOM	**Corn Cob Canyo**	**0.80**	**289**		**Pg**	**20 45 27.8**	**-0.8**
HLPM	**Lions Peak**	**0.81**	**300**		**Pg**	**20 45 27.7**	**-1.1**
PHFM	**Heflinger Ranc**	**0.81**	**159**		**Pb**	**20 45 29.1**	**-0.6**
BAPM	**Anderson Peak**	**0.84**	**237**		**Pg**	**20 45 28.4**	**-1.1**
CMPM	**Mikes Peak**	**0.85**	**329**		**Pg**	**20 45 29.0**	**-0.6**
PHAM	**Harlan Ranch**	**0.85**	**160**		**Pb**	**20 45 29.6**	**-0.8**
PANM	**San Antonio Re**	**0.86**	**188**		**Pb**	**20 45 29.9**	**-0.7**
GHC	**Gold Hill**	**0.87**	**157**		**Pb**	**20 45 29.8**	**-1.0**
PAPM	**Alder Peak**	**0.87**	**214**		**Pg**	**20 45 29.4**	**-0.6**
PSRM	**Scobie Ranch**	**0.87**	**153**		**Pb**	**20 45 30.1**	**-0.6**
CADM	**Anderson Res.**	**0.87**	**308**		**Pg**	**20 45 29.3**	**-0.7**
PCMM	**Cholame Hills**	**0.88**	**161**		**Pb**	**20 45 30.1**	**-0.8**
JELB	**Ellicott, Sant**	**0.90**	**289**		**Pg**	**20 45 29.5**	**-1.2**
BPOM	**Post Ranch**	**0.91**	**244**		**Pg**	**20 45 29.3**	**-1.3**
PKLM	**Kerr Lake**	**0.93**	**158**		**Pb**	**20 45 30.9**	**-0.8**
PSNM	**Stone Corral**	**0.93**	**156**		**Pg**	**20 45 30.6**	**-0.5**
HMOM	**Monterey**	**0.93**	**268**		**Pg**	**20 45 29.8**	**-1.3**
JLAB	**Laurel Hill**	**0.94**	**304**		**Pg**	**20 45 30.2**	**-1.0**
ARN	**Arnold Ranch**	**0.94**	**319**		**Pg**	**20 45 30.8**	**-0.5**
PMRM	**Maxey Ranch**	**0.95**	**153**		**Pg**	**20 45 31.0**	**-0.5**
CCOB	**Coe Ranch Numb**	**0.96**	**311**		**Pg**	**20 45 31.4**	**-0.3**
PMCM	**McMillan Canyo**	**0.96**	**161**		**Pb**	**20 45 31.6**	**-0.8**
JHLM	**Holstrom Ranch**	**0.98**	**299**		**Pg**	**20 45 30.8**	**-1.3**
TCHL	**Shandon**	**0.99**	**163**		**Pb**	**20 45 32.2**	**-0.6**
PAGB	**Antelope Grade**	**0.99**	**155**		**Pg**	**20 45 31.8**	**-0.5**
MHC	**Mount Hamilton**	**1.00**	**315**		**Pg**	**20 45 31.7**	**-0.7**
RAMR	**Ramage Ranch**	**1.00**	**185**		**Pg**	**20 45 32.3**	**-0.2**
PHCM	**Hearst Castle**	**1.00**	**198**		**Pg**	**20 45 32.1**	**-0.4**
CMMM	**Mount Mocho**	**1.01**	**325**		**Pg**	**20 45 31.8**	**-0.8**
JSTM	**Santa Teresa H**	**1.01**	**305**		**Pg**	**20 45 31.5**	**-1.1**
THIS	**South End of C**	**1.01**	**154**		**Pg**

FIGC Figueroa Mtn. 2.00 161 Pn 20 45 47.2 -0.5
BCW Bitter Crk WRg 2.02 147 Pn 20 45 46.9 -0.9
MGNR McGee Canyon 2.03 54 Pb 20 45 49.8 -0.9
MFBM Five Bridges 2.03 66 Pb 20 45 49.7 -0.9
SNT Sears Point 2.05 319 Pn 20 45 46.5 -1.7
BENR Benton 2.06 58 Pb 20 45 49.8 -1.4
NADM Allendale 2.06 333 Pn 20 45 47.8 -0.5
MCDM Chidago Canyon 2.07 63 Pb 20 45 50.5 -0.7
TIN Tinemaha, Big 2.08 78 P Pb 20 45 49.7 -1.7
baz=259,SNR=436
TIN S Sg 20 46 18.4 -1.6
baz=259
TIN Tinemaha, Big 2.08 78 Pb 20 45 50.3 -1.0
FARB Farallon Islan 2.08 301 Pn 20 45 46.3 -2.3
MRCM Red Rock Canyo 2.08 59 Pb 20 45 50.3 -1.3
GATR Gnd/Air Tx Cnt 2.09 174 Pn 20 45 47.8 -1.0
ISA Isabella, Lake 2.09 117 P Pn 20 45 48.1 -0.8
baz=298,SNR=1000
ISA S Sn 20 46 15.9 +0.6
baz=298
ISA Isabella, Lake 2.09 117 Pn Pn 20 45 48.2 -0.7
POCCA Poleta Canyon 2.12 69 Pb 20 45 50.5 -1.6
NOLM Olema 2.14 312 Pn 20 45 47.8 -1.7
WAKR Walker 2.14 29 Pb 20 45 51.7 -0.9
NJQ Nojoqui County 2.15 167 Pn 20 45 49.4 -0.2
MLNR Milner Canyon 2.16 63 Pb 20 45 51.5 -1.4
ANTCA Antelope Range 2.17 53 Pb 20 45 51.5 -1.5
ARVC Arvin 2.17 133 P Pn 20 45 48.3 -1.7
baz=313,SNR=245
ARVC S Sb 20 46 19.0 -1.2
baz=313
ARVC Arvin 2.17 133 Pn 20 45 48.5 -1.5
CVS Carmenet Viney 2.17 322 Pn 20 45 48.1 -1.8
ABL Mount Abel 2.18 144 Pn 20 45 48.9 -1.3
TEJ El Tejon 2.19 129 Pn 20 45 48.7 -1.5
SYP Santa Ynez Pea 2.20 163 Pn 20 45 49.9 -0.5
HCK Huntoon Valley 2.25 50 Pb 20 45 52.5 -1.7
NPRM Point Reyes 2.25 308 Pn 20 45 49.2 -1.8
MCCM Marconi Confer 2.26 312 Pn 20 45 49.3 -1.8
TJR Tejon Ranch 2.29 134 Pn 20 45 50.4 -1.2
RYS Reyes Peak 2.30 150 Pn 20 45 52.1 +0.3
NTYM Taylor 2.31 320 Pn 20 45 49.9 -1.9
NDHM Dunnigan Hills 2.31 337 Pn 20 45 50.6 -1.2
AFDM Forest Hills D 2.31 356 Pn 20 45 51.1 -0.8
NBPM Berryessa Peak 2.33 331 Pn 20 45 51.3 -0.7
SBC Santa Barbara 2.35 158 P Pn 20 45 52.0 -0.4
baz=338,SNR=72
SBC Santa Barbara 2.35 158 Pn 20 45 52.3 0.0
BONR Boundary Peak 2.36 55 Pb 20 45 54.3 -2.1
NSHM Saint Helena R 2.38 323 Pn 20 45 50.8 -2.1
GNO Genoa 2.40 17 Pn 20 45 54.0 +0.8
TVH1 TV Hill, Hawth 2.41 41 Pb 20 45 56.9 -0.4
LHV Little Huntoon 2.42 47 Pb 20 45 54.8 -2.3
BFC Buffalo Canyon 2.43 22 Pn 20 45 54.4 +0.7
WNMM Nine Mile Cany 2.44 108 Pn 20 45 53.6 0.0
RUBR Rubicon Trail 2.46 11 Pn 20 45 55.1 +1.0
MAC Mark West Spri 2.46 321 Pn 20 45 52.0 -2.0
NHSM Mount Saint He 2.50 324 Pn 20 45 52.4 -2.1
NMTM Middletown 2.54 329 Pn 20 45 53.2 -1.9
TAHR Tahoe 2.56 11 Pn 20 45 56.0 +0.5
NMCNC Mill Creek, So 2.59 319 Pn 20 45 53.6 -2.1
MNRC McLaughlin Min 2.60 330 Pn 20 45 54.6 -1.3
GAXM Alexander Vall 2.61 323 Pn 20 45 53.5 -2.4
OSI Osito Audit: C 2.61 140 P Pn 20 45 56.1 0.0
baz=320,SNR=18
OSI Osito Audit: C 2.61 140 Pn 20 45 55.6 -0.4
PNTR Pine Nut 2.62 20 Pn 20 45 57.0 +0.7
GCRM Castle Rock Sp 2.64 325 Pn 20 45 54.3 -2.1
YERR Yerington 2.64 27 Pn 20 45 57.5 +0.9
PYR Pyramid 2.64 141 Pn 20 45 55.4 -1.0
NVAR Mina Array Bea 2.65 47 Pn Pn 20 45 57.7 +1.0
63nm,0.3s,baz=227,slow=12,SNR=222
NVAR Pg Pb 20 46 01.0 -0.3
123nm,0.3s,baz=232,slow=20,SNR=187
NVAR Lg Lg 20 46 36.5
323nm,0.3s,baz=223,slow=28,SNR=13
NVAR Mina Array Bea 2.65 47 Pb 20 45 58.6 -2.7
GBGM Boggs Mountain 2.65 326 Pn 20 45 54.8 -1.8
RYN Ryan 2.67 41 Pn 20 45 57.0 +0.1
FTR Fort Ross 2.68 315 Pn 20 45 54.8 -2.2
GGPM Geyser Peak 2.69 323 Pn 20 45 55.2 -2.0
GDXM Geysers 2.70 324 Pn 20 45 55.5 -1.8
MPMC Manual Prospec 2.71 101 Pn Pn 20 45 57.1 -0.3
baz=283,SNR=719
MPMC Pb Pb 20 46 00.1 -2.1
baz=283
MPMC S Sb 20 46 33.1 -2.6
baz=283
GSGM Seigler Mounta 2.71 326 Pn 20 45 56.0 -1.3
GSSM Skaggs Springs 2.73 320 Pn 20 45 55.7 -1.8
GRAC Grapevine Rang 2.75 81 P Pn 20 45 58.7 +0.7
baz=263,SNR=140
LRMC Laurel Mtn Rad 2.75 114 P Pn 20 45 57.3 -0.7
baz=295,SNR=164
VCNR Virginia City 2.80 18 Pn 20 45 59.2 +0.5
EDW2 Edwards Air Fo 2.85 127 P Pn 20 45 58.4 -0.9
baz=308,SNR=184
ORV Oroville 2.97 349 Pn Pn 20 46 00.8 -0.2
HOPS Hopland Field 2.98 323 Pn 20 45 59.0 -2.0
DECC Green Verdugo 3.10 139 P Pn 20 46 02.0 -0.7
baz=320,SNR=26
FURC Furnace Creek, 3.15 92 P Pn 20 46 03.5 +0.2
baz=274,SNR=57
KVN Kaiserville 3.20 40 Pn 20 46 05.5 +1.2
PASC Pasadena Art C 3.24 139 Pn 20 46 03.8 -0.8
PAHR Pah Rah Range 3.25 19 Pn 20 46 05.0 0.0
MWC Mount Wilson 3.27 137 Pn 20 46 04.3 -0.8
GSC Goldstone, Bar 3.48 111 P Pn 20 46 07.3 -0.7
baz=293,SNR=136
GSC Goldstone, Bar 3.48 111 Pn Pn 20 46 07.2 -0.7
BFSC Mount Baldy Ra 3.48 132 P Pn 20 46 07.0 -1.1
baz=314,SNR=86
BFSC S Sn 20 46 48.2 -1.5
baz=314
RRX Edison Barstow 3.53 119 P Pn 20 46 08.6 0.0
baz=300,SNR=22
TPNV Topopah Spring 3.64 84 P Pn 20 46 11.0 +0.8
baz=266,SNR=204
TPNV Topopah Spring 3.64 84 Pn Pn 20 46 11.1 +0.8
SHOC Shoshone, Teco 3.70 100 P Pn 20 46 10.7 -0.2
baz=282,SNR=32
O03E Paynes Creek 3.74 348 P Pn 20 46 11.0 -0.6
baz=168,SNR=78
CIS Catalina Islan 3.76 148 P Pn 20 46 10.7 -1.1
baz=329,SNR=11
O02D Mt. Diablo Mer 3.88 336 P Pn 20 46 13.0 -0.5
baz=156,SNR=7.7
O02D S Sn 20 47 02.1 +2.8
baz=156
BBRC Big Bear Solar 3.93 126 P Pn 20 46 13.6 -0.7
baz=308,SNR=11
HEC Hector,Ludlow 4.03 115 P Pn 20 46 14.9 -0.7
baz=298,SNR=210
SCI2 San Clemente I 4.08 153 P Pn 20 46 16.1 0.0
baz=333,SNR=23
TUQ Turquoise Moun 4.10 106 P Pn 20 46 15.9 -0.7
baz=288,SNR=146
WDC Whiskeytown Da 4.18 341 Pn Pn 20 46 16.6 -0.8
MURC Murrieta 4.21 135 P Pn 20 46 16.5 -1.5
baz=316,SNR=22
KMRM Mail Ridge 4.26 328 Pn 20 46 18.4 -0.3
R11A Troy Canyon, C 4.46 66 P Pn 20 46 23.2 +1.7
baz=249,SNR=18
R11A Sb Sg 20 47 33.2 -3.3
baz=249
SHPR Sheep Range 4.51 90 Pn Pn 20 46 23.3 +1.0
GMRC Granite Mounta 4.54 112 P Pn 20 46 21.2 -1.5
baz=295,SNR=89
N02D Trinity Center 4.59 341 P Pn 20 46 24.1 +0.9
baz=161
PRN Pahroc Range 4.64 79 Pn 20 46 25.3 +1.4
PFO Pinyon Flats O 4.64 129 Pn Pn 20 46 23.2 -0.8
12nm,0.3s,baz=311,slow=10,SNR=66
PFO Sn Sn 20 47 22.3 +4.1
11nm,0.3s,baz=108,slow=23,SNR=1.9
PFO Lg Lg 20 47 41.9
5.5nm,0.3s,baz=84,slow=0.1,SNR=3.5
BELC Belle Mtn. Jos 4.70 123 P Pn 20 46 23.5 -1.3
baz=305,SNR=59
109C Camp Elliot, M 4.80 140 P Pn 20 46 24.4 -1.7
baz=322
109C Camp Elliot, M 4.80 140 Pn 20 46 24.3 -1.7
M02C Callahan 5.02 342 P Pn 20 46 32.0 +2.9
baz=161,SNR=21
M02C S Sn 20 47 30.5 +3.0
baz=161
MONP2 Monument Peak 5.17 135 P Pn 20 46 30.4 -0.9
baz=317,SNR=28
BAR Barrett 5.19 138 Pn 20 46 30.2 -1.2
M04C Macdoel 5.21 351 P Pn 20 46 36.3 +4.5
baz=171,SNR=24
IRM Iron Mountain 5.21 117 P Pn 20 46 30.4 -1.3
baz=300,SNR=74
IRM S Sn 20 47 31.2 -0.9
baz=300
BC3 Big Chuckawall 5.27 123 P Pn 20 46 31.0 -1.6
baz=306,SNR=44
MOD Modoc Plateau 5.27 4 Pn Pn 20 46 34.1 +1.4
YBH Yreka Blue Hor 5.31 344 Pn Pn 20 46 35.3 +2.2
0.5nm,0.3s,baz=177,slow=7.9,SNR=15
YBH Sn Sn 20 47 38.4 +3.8
1.3nm,0.3s,baz=45,slow=9.9,SNR=4.9
YBH LR LR 20 48 34.8
comp=Z,433nm,20.2s,baz=150,slow=37
YBH Yreka Blue Hor 5.31 344 Pn Pn 20 46 33.8 +0.7
NEE2 Needles Airpor 5.34 109 P Pn 20 46 32.7 -0.8
baz=292
IKP In-Ko-Pah, Jac 5.52 135 P Pn 20 46 35.8 -0.3
baz=317
L04D Klamath Falls 5.70 348 P Pn 20 46 44.6 +6.0
baz=168,SNR=6.8
W13A Hualapai Mount 5.79 103 Pn Pn 20 46 39.9 0.0
L02E Cave Junction 5.94 339 P Pn 20 46 48.7 +7.0
baz=158
ELK Elko 5.96 45 Pn Pn 20 46 44.0 +1.8
0.8nm,0.3s,baz=255,slow=13,SNR=20
ELK Lg Lg 20 48 19.1
15nm,0.3s,baz=80,slow=3.2,SNR=9.6
GLA Glamis 6.05 124 P Pn 20 46 41.6 -1.7
baz=308,SNR=16
GLA S Sn 20 47 51.6 -1.2
baz=308
GLA Glamis 6.05 124 Pn 20 46 41.5 -1.7
K02D Willamette Mer 6.45 341 P Pn 20 46 52.8 +4.0
baz=159,SNR=14
J05D Fort Rock, OR 6.65 357 P Pn 20 46 56.0 +4.3
baz=177,SNR=14
Y14A Wickenburg 6.89 111 Pn 20 46 53.7 -1.1
J01E Myrtle Point 6.96 340 P Pn 20 46 59.5 +3.9
baz=159,SNR=9.4
DUG Dugway, Tooele 7.18 58 P Pn 20 47 02.6 +3.7
baz=243,SNR=16
DUG Sb Sg 20 48 56.1 -7.7
baz=243
O20A White River Ci 10.43 67 P Pn 20 47 48.9 +5.4
baz=254,SNR=19
PDAR Pinedale Array 10.58 51 Pn Pn 20 47 49.9 +4.3
0.1nm,0.3s,baz=260,slow=8.9,SNR=18
PDAR Lg Lg 20 50 43.7
0.2nm,0.3s,baz=242,slow=38,SNR=2.5
D03D Eldon 11.03 352 P Pn 20 47 55.6 +4.1
baz=170
121A Cookes Peak, D 11.45 107 P Pn 20 48 00.0 +2.5
baz=294
ANMO Albuquerque 11.74 94 P Pn 20 48 05.8 +4.4
baz=282
NEW Newport 11.93 12 Pn Pn 20 48 09.2 +5.4
0.4nm,0.3s,baz=182,slow=8.5,SNR=14
NEW LR LR 20 52 58.3
comp=Z,404nm,18.9s,baz=189,slow=39
NEW Newport 11.93 12 P Pn 20 48 09.5 +5.7
baz=194,SNR=10.0
MNTX Cornudas Mount 13.65 107 P Pn 20 48 31.1 +3.7
baz=295
LPIG La Paz 15.39 141 LR LR 20 54 53.9
comp=Z,641nm,18.4s,baz=330,slow=38
TX31 Lajitas Ar. Si 16.07 112 P 20 49 03.2 -0.2
TX31 IAmb IAmb 20 49 20.6
comp=Z,51nm,1.1s
TX32 Lajitas Array 16.07 112 P P 20 49 03.0 -0.4
TXAR Lajitas Array 16.07 112 Pn P 20 49 02.3 -1.1
comp=Z,0.6nm,0.3s,baz=292,slow=11,SNR=50
TXAR LR LR 20 55 28.9
comp=Z,114nm,19.0s,baz=0.0,slow=39
TXAR Lajitas Array 16.07 112 P 20 49 02.9 -0.5
MDND Maddock 19.20 48 P Pn 20 49 43.5 +4.9
baz=242
ECSD EROS Data Cent 19.73 61 P Pn 20 49 48.5 +3.7
baz=257,SNR=12
X37A Clayton 20.73 88 P P 20 49 54.3 -0.1
AGMN Agassiz Nation 21.65 50 P P 20 50 03.9 -0.3
baz=247,SNR=8.3
AGMN Agassiz Nation 21.65 50 P P 20 50 03.9 -0.3
AGMN IAmb IAmb 20 50 09.3
comp=Z,29nm,0.8s
MIAR Mount Ida 22.18 87 P P 20 50 10.5 +0.5
baz=283,SNR=19
MIAR Mount Ida 22.18 87 P P 20 50 10.5 +0.5
MIAR IAmb IAmb 20 50 11.3
comp=Z,24nm,0.8s
ULM Lac du Bonnet 22.49 45 P P 20 50 14.2 +1.1
comp=Z,19nm,0.8s,baz=243,slow=9.7,SNR=12
DLBC Dease Lake 22.65 347 P P 20 50 16.6 +1.6
comp=Z,1.5nm,0.3s,baz=180,slow=13,SNR=2.7
DLBC LR LR 20 59 00.8
comp=Z,300nm,19.2s,baz=125,slow=36
FCAR Ozark Folk Cen 23.07 83 P P 20 50 18.2 -1.3
G40A Rib Lake 24.52 60 P P 20 50 33.6 +0.1
I42A Draeger Farm, 25.25 63 P P 20 50 39.0 -1.0
COWI Conover 25.41 58 P P 20 50 41.6 +0.2
YKA Yellowknife Ar 26.17 6 LR LR 21 00 47.6
comp=Z,194nm,18.9s,baz=0.0,slow=36
W50A Signal Mountai 28.65 82 P P 20 51 10.1 -0.6
W50A IAmb IAmb 20 51 11.0
comp=Z,9.0nm,0.7s
S51A Beattyville 29.53 77 P P 20 51 18.1 -0.3
S51A IAmb IAmb 20 51 19.5
comp=Z,9.2nm,0.8s
TKL Tuckaleechee C 29.77 81 P P 20 51 20.2 -0.4
comp=Z,4.7nm,0.7s,baz=221,slow=5.9,SNR=12
TKL LR LR 21 05 03.3
comp=Z,110nm,19.7s,baz=285,slow=40
TKL Tuckaleechee C 29.77 81 P P 20 51 20.4 -0.2
TKL IAmb IAmb 20 51 37.8
comp=Z,18nm,1.4s
KDAK Kodiak Island 29.79 325 LR LR 21 01 37.4
comp=Z,279nm,18.0s,baz=138,slow=33
V53A Saluda 30.53 80 P P 20 51 27.2 -0.1
V53A IAmb IAmb 20 51 28.2
comp=Z,5.4nm,0.7s
ILAR Eielson Array 32.19 339 P P 20 51 42.8 +1.2
comp=Z,1.9nm,0.8s,baz=155,slow=7.9,SNR=12
ILAR PcP PcP 20 54 30.6 +0.5
comp=Z,0.9nm,0.9s,baz=186,slow=2.3,SNR=4.3
SADO Sadowa 32.29 62 LR LR 21 05 41.8
comp=Z,226nm,21.2s,baz=284,slow=38
INK Inuvik 32.52 351 P P 20 51 45.0 +0.6
comp=Z,6.9nm,1.0s,baz=218,slow=11,SNR=4.0
WUPA West Chester U 35.31 71 P P 20 52 07.4 -1.6
WUPA IAmb IAmb 20 52 09.8
comp=Z,8.0nm,0.7s
RES Resolute Bay 40.08 10 LR LR 21 10 08.5
comp=Z,284nm,19.7s,baz=272,slow=37
SCHQ Schefferville 40.66 46 LR LR 21 10 38.7
comp=Z,206nm,19.0s,baz=110,slow=38
FRB Frobisher Bay 41.30 32 LR LR 21 10 59.3
comp=Z,209nm,20.9s,baz=234,slow=37
TAOE Nuku Hiva Isla 48.78 206 eT T 21 44 58.5
comp=Z,38nm,0.3s
SFJD Kangerlussuaq 49.18 29 LR LR 21 15 09.9
comp=Z,143nm,19.3s,baz=284,slow=36
ROSC El Rosal 52.98 115 LR LR 21 20 09.3
comp=Z,94nm,19.2s,baz=54,slow=40
PETK Petropavlovsk- 56.95 315 P P 20 54 59.8 +0.7
comp=Z,6.9nm,1.0s,baz=87,slow=11,SNR=4.2
PMOR Pomariorio Ree 57.39 212 eT T 21 55 44.7
comp=Z,10nm,0.2s
ATAH Atahualpa 58.91 129 LR LR 21 17 59.4
comp=Z,63nm,18.1s,baz=307,slow=34
PPT2 Papeete2 60.41 212 eLR LR 21 12 46.8
comp=Z,169nm,25.8s
BORG Borgarnes 61.31 29 LR LR 21 21 43.2
comp=Z,144nm,18.8s,baz=315,slow=36
JMIC Jan Mayen 62.52 20 LR LR 21 24 19.1
comp=Z,82nm,18.0s,baz=18,slow=38
SPITS Spitsbergen Ar 62.63 9 LR LR 21 23 34.5
comp=Z,140nm,18.7s,baz=310,slow=37
NNA Nana 63.62 131 LR LR 21 18 35.8
comp=Z,36nm,20.8s,baz=338,slow=32
H11N3 WAKE ISLAND Hy 64.58 276 T T 22 05 30.5
baz=58,slow=75,SNR=194
H11N2 WAKE ISLAND Hy 64.58 276 T T 22 05 30.9
baz=58,slow=75,SNR=168
H11N1 WAKE ISLAND Hy 64.59 276 T T 22 05 29.3
baz=58,slow=75,SNR=159
H11S1 WAKE ISLAND Hy 65.38 275 T T 22 06 15.6
baz=57,slow=75,SNR=56
H11S2 WAKE ISLAND Hy 65.39 275 T T 22 06 16.0
baz=57,slow=75,SNR=60
H11S3 WAKE ISLAND Hy 65.40 275 T T 22 06 17.0
baz=57,slow=75,SNR=42
ARCES ARCESS Array B 71.28 12 P P 20 56 34.9 +1.9
comp=Z,2.0nm,0.7s,baz=2.9,slow=4.9,SNR=4.2
ARCES LR LR 21 28 56.0
comp=Z,85nm,18.8s,baz=310,slow=37
LPAZ La Paz 72.35 127 P P 20 56 38.8 -2.0
comp=Z,1.4nm,0.6s,baz=238,slow=9.1,SNR=5.7
NB2 NORSAR Subarra 75.10 22 P P 20 56 56.7 +1.0
comp=Z,2.0nm,1.0s,baz=322,slow=5.9
NOA NORSAR Array B 75.10 22 P P 20 56 56.8 +1.0
comp=Z,1.5nm,0.9s,baz=321,slow=5.3,SNR=4.6
USRK Ussuriysk Ar. 76.04 315 P P 20 57 01.4 +0.1
comp=Z,13nm,1.0s,baz=52,slow=5.2,SNR=20
MJAR Matsushiro Arr 76.80 306 P P 20 57 05.0 -0.9
comp=Z,0.7nm,0.3s,baz=50,slow=5.3,SNR=4.8
FINES FINESS Array B 78.61 16 P P 20 57 15.6 +0.2
comp=Z,4.9nm,1.0s,baz=119,slow=2.4,SNR=4.4
KSRS Korea Array 82.70 312 P P 20 57 37.4 -0.4
comp=Z,1.8nm,0.8s,baz=57,slow=4.1,SNR=6.6
CLL Collm 83.50 27 eP P 20 57 43.0 +1.3
comp=Z,9.0nm,1.2s
TLY Talaya 83.85 334 LR LR 21 34 58.2
comp=Z,24nm,18.6s,baz=38,slow=36
GRF Grafenberg Arr 84.12 29 eP P 20 57 47.1 +2.1
comp=Z,2.0nm,0.8s,baz=325,slow=4.5
ESDC Sonseca Array 84.38 44 P P 20 57 46.5 -0.1
comp=Z,1.6nm,0.9s,baz=304,slow=5.6,SNR=6.9
ESDC LR LR 21 33 31.1
comp=Z,94nm,18.4s,baz=100,slow=34
GERES GERESS Array B 85.77 28 P P 20 57 53.5 +0.2
comp=Z,0.4nm,0.7s,baz=339,slow=7.1,SNR=4.0
GERES LR LR 21 36 08.3
comp=Z,49nm,20.8s,baz=348,slow=36
SONM Songino Array 85.95 330 P P 20 57 55.0 +0.7
comp=Z,3.5nm,0.8s,baz=39,slow=3.4,SNR=20
SONM Songino Array 85.95 330 P P 20 57 55.2 +0.9
ZALV Zalesovo Beam 87.11 345 P P 20 57 59.4 -0.3
comp=Z,1.7nm,0.6s,baz=35,slow=3.8,SNR=9.0
ZALV LR LR 21 39 22.4
comp=Z,29nm,21.7s,baz=58,slow=37
ARU Arti 87.30 0 LR LR 21 41 12.7
comp=Z,51nm,19.2s,baz=356,slow=38
AKASG Malin Array Be 89.11 19 P P 20 58 08.5 -0.7
comp=Z,0.4nm,0.4s,baz=346,slow=3.8,SNR=4.8
HHC Hu-ho-hao-te 89.19 323 eP P 20 58 09.5 -0.5
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,130nm,5.7s
AKTO Aktyubinsk 93.30 1 LR LR 21 42 14.5
comp=Z,56nm,18.9s,baz=349,slow=37
WMQ Urumqi 95.85 340 eP P 20 58 41.0 +0.3
LZH Lanzhou 96.63 325 eP P 20 58 41.5 -3.0
LZH pP PcP 20 58 44.3 -0.3
LZH sP sP 20 58 45.5 -2.2
LZH ePP PP 21 02 37.8 -0.2
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,56nm,5.5s
ASAR Alice Springs 115.61 259 PKP PKPdf 21 03 55.5 -1.0
comp=Z,0.7nm,0.8s,baz=48,slow=2.8,SNR=6.0
VNDA Vanda 122.80 195 PKP PKPdf 21 04 08.9 +0.1
comp=Z,0.9nm,0.8s,baz=1.0,slow=0.9,SNR=6.2
MAW Mawson 148.91 183 PKPbc PKPbc 21 05 00.3 -0.5
comp=Z,10nm,0.8s,baz=213,slow=2.9,SNR=26
BOSA Boshof 150.40 84 PKPbc PKPbc 21 05 05.3 -0.6
comp=Z,4.6nm,0.8s,baz=326,slow=4.2,SNR=5.8

INET 28 20:55:00.5, 11°.53N×86°.10W, h146km, ML3.6, Near coast of Nicaragua

*IDC **28** 21:10:16.6±1.3, 12°.30N×88°.10W, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.8/44, mbtmp3.8/10, ML3.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/35, Error ellipse: s-maj=41.3km s-min=15.2km az=43.0*
*NEIC **28** 21:10:18.6±1.8, 11°.88N±0°.08×88°.22W±0°.07, h45km±1km, mb4.3/71, Error ellipse: s-maj=13.5km s-min=7.5km az=220.0*
*UCR **28** 21:10:19.8±0.9, 12°.07N×88°.30W, h25km±39km, ML3.5, mb4.3(NEIC)*
*SNET **28** 21:10:19.6±0.9, 12°.08N×88°.30W, h22km±38km, ML3.5*
*INET **28** 21:10:20.8, 12°.07N×88°.12W, h14km, ML3.7*
ISC 28 21:10:18.0±0.6, 11°.92N±0°.06×88°.24W±0°.05, h35km, n145, σ1°.20/152, mb4.4/33, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.40	56	Pn	Pn	21 10 42.1	+1.1
CNCH	Conchagua	1.40	16	eP	Pn	21 10 41.9	+0.6
CNCH	Conchagua	1.40	16	eP	Pn	21 10 41.9	+0.6
LCND	La Caada	1.42	14	eP	Pn	21 10 41.8	+0.5
LCND				IAML		21 11 07.4	
	comp=Z,685nm,0.5s						
LCND	La Caada	1.42	14	eP	Pn	21 10 41.8	+0.5
LCND				IAML		21 11 07.4	
	comp=Z,685nm,0.5s						
ALJI	Alcalda de J	1.44	347	eP	Pn	21 10 41.9	+0.4
ALJI				eS	Sn	21 10 59.2	0.0
ALJI	Alcalda de J	1.44	347	eP	Pn	21 10 41.9	+0.4
ALJI				eS	Sn	21 10 59.2	0.0
LCY	Lacayo	1.50	358	eP	Pn	21 10 43.1	+0.6
LCY	Lacayo	1.50	358	eP	Pn	21 10 43.1	+0.6
VSM	San Miguel	1.50	359	eP	Pn	21 10 43.5	+0.8
VSM	San Miguel	1.50	359	eP	Pn	21 10 43.5	+0.8
RANC	El Ranchito	1.50	358	eP	Pn	21 10 43.1	+0.5
RANC	El Ranchito	1.50	358	eP	Pn	21 10 43.1	+0.5
BLLM	Bellamira	1.51	0	eP	Pn	21 10 43.1	+0.5
BLLM	Bellamira	1.51	0	eP	Pn	21 10 43.1	+0.5
TECA	Tecapa	1.58	351	eP	Pn	21 10 44.2	+0.4
TECA	Tecapa	1.58	351	eP	Pn	21 10 44.2	+0.4
COEB	Comit de Eme	1.59	350	eP	Pn	21 10 44.1	+0.3
COEB				IAML		21 11 08.3	
	comp=Z,577nm,0.5s						
COEB	Comit de Eme	1.59	350	eP	Pn	21 10 44.1	+0.3
COEB				IAML		21 11 08.3	
	comp=Z,577nm,0.5s						
FAGO	Alcalda de S	1.77	4	eP	Pn	21 10 46.8	+0.7
FAGO				eS	Sn	21 11 08.1	+0.6
FAGO	Alcalda de S	1.77	4	eP	Pn	21 10 46.8	+0.7
FAGO				eS	Sn	21 11 08.1	+0.6
COEG	Centro de Oper	1.80	340	eP	Pn	21 10 47.0	+0.4
COEG	Centro de Oper	1.80	340	eP	Pn	21 10 47.0	+0.4
LFRS	El Faro	1.87	335	eP	Pn	21 10 47.9	+0.2
LFRS	El Faro	1.87	335	eP	Pn	21 10 47.9	+0.2
PAVA	Las Pavas	1.91	339	eP	Pn	21 10 48.1	0.0
PAVA	Las Pavas	1.91	339	eP	Pn	21 10 48.1	0.0
SNET	Serv Nac Est T	2.00	331	Pn	Pn	21 10 50.4	+1.0
LFU	La Fuente	2.01	335	eP	Pn	21 10 50.2	+0.8
LFU	La Fuente	2.01	335	eP	Pn	21 10 50.2	+0.8
TACO	Tacachico	2.31	332	eP	Pn	21 10 54.7	+1.1
TACO	Tacachico	2.31	332	eP	Pn	21 10 54.7	+1.1
TGUH	Tegucigalpa,Un	2.32	24	eP	Pn	21 10 55.1	+1.3
TGUH	Tegucigalpa,Un	2.32	24	eP	Pn	21 10 55.1	+1.3
TGUH	Tegucigalpa,Un	2.32	24		Pn	21 10 55.4	+1.5
CEVE	Cerro Verde	2.33	325	eP	Pn	21 10 54.5	+0.5
CEVE				IAML		21 11 43.2	
	comp=Z,520nm,0.5s						
CEVE	Cerro Verde	2.33	325	eP	Pn	21 10 54.5	+0.5
CEVE				IAML		21 11 43.2	
	comp=Z,520nm,0.5s						
SNJE	San Jose	2.35	326	eP	Pn	21 10 55.0	+0.6
SNJE	San Jose	2.35	326	eP	Pn	21 10 55.0	+0.6
RTR	El Retiro	2.40	325	eP	Pn	21 10 56.2	+1.2
RTR	El Retiro	2.40	325	eP	Pn	21 10 56.2	+1.2
MATN	Matagalpa	2.47	66		Pn	21 10 57.0	+1.1
NUBE	Las Nubes	2.48	323	eP	Pn	21 10 56.8	+0.8
NUBE				eS	Sn	21 11 24.3	-0.8
NUBE	Las Nubes	2.48	323	eP	Pn	21 10 56.8	+0.8
NUBE				eS	Sn	21 11 24.3	-0.8
MTO3	Montecristo	2.69	336	eP	Pn	21 11 00.3	+1.2
MTO3	Montecristo	2.69	336	eP	Pn	21 11 00.3	+1.2

MTO3 Montecristo 2.69 336 Pn **Pn** **21 11 00.5 +1.4**
ESQI Esquipulas 2.83 338 *e*P **Pn** **21 11 01.6 +0.7**
ESQI Esquipulas 2.83 338 Pn **Pn** **21 11 02.5 +1.6**
ACON Acoyapa 3.00 89 Pn **Pn** **21 11 02.1 -1.0**
IXG Ixpaco 3.10 316 *e*P **Pn** **21 11 06.0 +1.4**
IXG Ixpaco 3.10 316 *e*P **Pn** **21 11 06.0 +1.4**
JTS Las Juntas de 3.61 116 Pn **Pn** 21 11 16.1 +4.7
comp=Z,1.4nm,0.3s,baz=354,slow=10,SNR=2.3
JTS Sn **Sn** **21 11 54.3 +1.4**
comp=Z,5.0nm,0.3s,baz=287,slow=19,SNR=4.0
JTS Lg Lg 21 12 14.7
comp=Z,2.2nm,0.3s,baz=358,slow=22,SNR=1.5
JTS Las Juntas de 3.61 116 **Pn** **21 11 11.5 0.0**
JTS **Sn** **21 11 52.3 -0.6**
APG El Apazote 3.75 325 Pn **Pn** **21 11 13.4 -0.2**
comp=Z,2.2nm,0.3s,baz=120,slow=20,SNR=1.9
APG Sn **Sn** **21 11 52.0 -4.8**
comp=Z,0.6nm,0.3s,baz=140,slow=20,SNR=1.9
APG Lg Lg 21 12 08.8
baz=169,slow=19,SNR=2.0
ESPN Las Esperanzas 3.86 86 Pn **Pn** **21 11 15.0 +0.1**
CCIG Comitan 5.75 319 Pn **Pn** **21 11 40.7 -0.4**
TEIG Tepich 8.26 360 Pn **Pn** **21 12 12.8 -2.5**
comp=Z,0.2nm,0.3s,baz=198,slow=7.2,SNR=1.9
TEIG Tepich 8.26 360 Pn **Pn** **21 12 16.3 +0.9**
BANI BANI 18.41 67 P **P** **21 14 29.9 -0.5**
553A Crawfordville 18.52 10 P **P** **21 14 30.1 -1.3**
833A Chaparral WMA, 19.37 329 P **Pn** **21 14 41.2 -0.8**
TIGA Tifton 19.89 12 P **Pn** **21 14 48.7 +0.5**
TIGA IAmb IAmb 21 14 49.9
comp=Z,24nm,1.1s
NATX Nacogdoches 20.61 344 P **P** **21 14 54.4 +0.2**
NATX IAmb IAmb 21 14 59.6
comp=Z,10nm,0.6s
146A Union 20.63 358 P **P** **21 14 53.7 -0.7**
146A IAmb IAmb 21 14 58.1
comp=Z,12nm,0.6s
435B Jarrell 20.67 337 P **P** **21 14 55.2 +0.3**
435B IAmb IAmb 21 14 57.2
comp=Z,11nm,0.9s
152A Waverly Hall 20.90 8 P **P** **21 14 56.8 -0.6**
152A IAmb IAmb 21 15 03.4
comp=Z,9.7nm,0.9s
257A Skidaway Islan 21.04 17 P **P** **21 14 58.7 -0.1**
LRAL Lakeview Retre 21.05 3 P **P** **21 14 59.4 +0.5**
237A Washetta, Mont 21.17 342 P **P** **21 15 00.2 0.0**
237A IAmb IAmb 21 15 06.8
comp=Z,16nm,0.8s
Z47A Carrollton 21.18 0 P **P** **21 15 00.0 -0.3**
Z47A IAmb IAmb 21 15 16.3
comp=Z,9.7nm,0.9s
JCT Junction City 21.35 332 P **P** **21 15 02.0 -0.3**
Z41A Richland Creek 21.65 350 P **P** **21 15 05.2 -0.2**
Z41A IAmb IAmb 21 15 11.0
comp=Z,22nm,1.1s
WLAR White Oak Lake 22.12 349 P **P** **21 15 09.7 -0.7**
WLAR IAmb IAmb 21 15 15.7
comp=Z,16nm,0.8s
TXAR Lajitas Array 22.51 323 P **P** **21 15 17.6 +2.8**
comp=Z,1.9nm,0.8s,baz=145,slow=12,SNR=18
TXAR Lajitas Array 22.51 323 P **P** **21 15 14.9 +0.1**
TX31 Lajitas Ar. Si 22.51 323 P **P** **21 15 15.4 +0.6**
TX31 IAmb IAmb 21 15 27.8
comp=Z,8.5nm,0.8s
TX32 Lajitas Array 22.51 323 P **P** **21 15 14.8 0.0**
CUPR Culebra, Puert 23.04 71 P **P** **21 15 19.6 -0.8**
CUPR IAmb IAmb 21 15 20.8
comp=Z,19nm,1.1s
MIAR Mount Ida 23.04 349 P **P** **21 15 21.1 +0.9**
MIAR IAmb IAmb 21 15 23.9
comp=Z,10nm,0.8s
UALR University of 23.06 351 P **P** **21 15 21.6 +1.2**
UALR IAmb IAmb 21 15 23.8
comp=Z,7.2nm,0.7s
ABTX Abilene, Hawle 23.12 335 P **P** **21 15 22.3 +1.3**
WHAR Wooly Hollow 23.55 352 P **P** **21 15 26.2 +0.9**
WHAR IAmb IAmb 21 15 27.4
comp=Z,6.6nm,0.8s
W39A Magazine 23.71 349 P **P** **21 15 28.5 +1.8**
TKL Tuckaleechee C 23.98 9 P **P** **21 15 29.6 +0.4**
comp=Z,5.5nm,0.9s,baz=188,slow=14,SNR=4.4
TKL Tuckaleechee C 23.98 9 P **P** **21 15 28.5 -0.8**
TKL IAmb IAmb 21 15 34.3
comp=Z,7.3nm,0.9s
FCAR Ozark Folk Cen 24.12 352 P **P** **21 15 30.9 +0.3**
WMOK Wichita Mounta 24.66 339 P **P** **21 15 35.9 +0.4**
FNO Franklin 24.68 342 P **P** **21 15 36.0 +0.4**
U40A Yellville 24.68 351 P **P** **21 15 35.8 +0.1**
U40A IAmb IAmb 21 15 37.8
comp=Z,6.2nm,1.0s
HHAR Hobbs 24.80 349 P **P** **21 15 37.0 +0.3**
TUL1 Leonard 24.84 345 P **P** **21 15 37.9 +0.7**
TUL1 IAmb IAmb 21 15 39.2
comp=Z,6.7nm,0.8s
OK025 Westminster Rd 24.96 342 P **P** **21 15 38.2 +0.1**
OK025 IAmb IAmb 21 15 40.6
comp=Z,8.5nm,0.7s
T47A Sharon Grove 24.98 2 P **P** **21 15 38.0 -0.4**
U38A Gravette 25.03 348 P **P** **21 15 40.5 +1.7**
V58A Windy Hill, Pi 25.16 18 P **P** **21 15 40.1 +0.1**
V58A IAmb IAmb 21 15 41.8
comp=Z,8.3nm,0.9s
OK029 Liberty Lake 25.19 342 P **P** **21 15 41.0 +0.7**
MNTX Cornudas Mount 25.24 324 P **P** **21 15 42.6 +1.8**
QUOK Quay 25.33 344 P **P** **21 15 42.5 +0.9**
MGMO Mountain Grove 25.39 352 P **P** **21 15 43.2 +1.2**
AMTX Amarillo 25.92 334 P **P** **21 15 48.7 +1.7**
AMTX IAmb IAmb 21 15 50.2
comp=Z,9.5nm,0.9s
S39A Bolivar 26.06 351 IAmb IAmb 21 15 50.3
comp=Z,13nm,0.7s
CCM Cathedral Cave 26.16 355 P **P** **21 15 49.7 +0.6**
ANWB Willy Bob 26.19 74 P **P** **21 15 46.6 -2.9**
VWCC Virginia Weste 26.29 15 P **P** **21 15 48.5 -1.7**
R40A Maddies Statio 26.51 353 P **P** **21 15 52.8 +0.6**
U61A Possum Corner 26.53 22 P **P** **21 15 49.6 -2.8**
RCRC Randolf Colleg 26.65 16 P **P** **21 15 54.0 +0.6**
OLIL Olney 26.70 0 P **P** **21 15 54.7 +0.8**
OLIL IAmb IAmb 21 15 57.8
comp=Z,11nm,1.1s
P38A Dawn 27.99 351 P **P** **21 16 05.8 +0.4**
P38A IAmb IAmb 21 16 07.4
comp=Z,12nm,1.1s
L42A Oliver, Polo 30.00 358 P **P** **21 16 24.0 +0.8**
L42A IAmb IAmb 21 16 25.6
comp=Z,5.3nm,0.8s
SDCO Great Sand Dun 30.00 332 P **P** **21 16 25.2 +1.4**
BRNJ Basking Ridge 31.08 20 P **P** **21 16 32.4 -0.4**
PV21 Cone Mtn., Par 32.33 329 P **P** **21 16 44.4 +0.2**
J55A Hilton 32.51 14 P **P** **21 16 44.1 -1.3**
J55A IAmb IAmb 21 16 52.1
comp=Z,5.0nm,0.8s
PHWY Pilot Hill 32.94 336 P **P** **21 16 48.8 -0.7**
PHWY IAmb IAmb 21 16 52.6
comp=Z,2.8nm,0.8s
O20A White River Ci 33.19 331 P **P** **21 16 53.0 +1.3**
O20A IAmb IAmb 21 16 58.6
comp=Z,5.2nm,0.9s
SADO Sadowa 33.65 12 P **P** **21 16 56.2 +0.9**
comp=Z,3.0nm,0.7s,baz=221,slow=11,SNR=3.6
SADO Sadowa 33.65 12 IAmb IAmb 21 16 56.9
comp=Z,3.5nm,0.8s
Q16A Castle Valley 33.74 327 P **P** **21 16 56.3 -0.2**
BCX Boston College 33.75 23 P **P** **21 16 53.5 -2.8**
F36A Milaca 34.12 353 P **P** **21 17 00.1 +0.6**
F36A IAmb IAmb 21 17 01.0
comp=Z,7.0nm,1.1s
PDAR Pinedale Array 35.88 333 P **P** **21 17 16.5 +1.5**
comp=Z,0.3nm,0.6s,baz=130,slow=9.7,SNR=1.6
PDAR PcP **PcP** **21 19 44.1 +2.4**
comp=Z,0.5nm,0.7s,baz=157,slow=4.8,SNR=4.3
PDAR Pinedale Array 35.88 333 **PcP** **21 19 41.1 -0.6**
ISA Isabella, Lake 36.13 316 P **P** **21 17 17.3 +0.4**
ISA IAmb IAmb 21 17 37.1
comp=Z,3.0nm,0.9s
AGMN Agassiz Nation 36.82 351 IAmb IAmb 21 17 23.5
comp=Z,6.2nm,0.8s
REDW Red Top Meadow 36.93 332 P **P** **21 17 24.6 +0.7**
REDW IAmb IAmb 21 17 30.2
comp=Z,6.8nm,1.1s
SNOW Snow King Moun 36.97 332 P **P** **21 17 25.7 +1.5**
SNOW IAmb IAmb 21 17 30.6
comp=Z,6.0nm,0.9s
PATCX Punta Patache 37.08 151 P **P** **21 17 23.8 -1.3**

NVAR Mina Array Bea 37.60 320 P **P** **21 17 33.1 +3.5**
comp=Z,0.2nm,0.6s,baz=138,slow=4.2,SNR=2.9
NVAR PcP **PcP** **21 19 50.5 +3.5**
comp=Z,0.5nm,0.8s,baz=126,slow=4.6,SNR=4.4
NVAR Mina Array Bea 37.60 320 P **P** **21 17 28.3 -1.3**
NVAR **PcP** **21 19 46.5 -0.5**
ULM Lac du Bonnet 38.73 352 P **P** **21 17 38.3 -0.4**
comp=Z,7.8nm,0.8s,baz=158,slow=6.6,SNR=6.0
ULM Lac du Bonnet 38.73 352 P **P** **21 17 37.9 -0.8**
MCMT McKenzie Canyo 38.98 332 P **P** **21 17 42.7 +1.5**
BOZ Bozeman (W) 39.03 334 P **P** **21 17 41.4 -0.1**
PAHR Pah Rah Range 39.03 321 P **P** **21 17 41.0 -0.6**
HRY Holter Researc 40.00 335 P **P** **21 17 50.2 +0.8**
AC04 Llanos de Chal 43.21 158 P **P** **21 18 14.9 -0.9**
YKA Yellowknife Ar 53.92 345 LR LR 21 43 12.1
comp=Z,40nm,18.6s,baz=0.0,slow=37
ILAR Eielson Array 66.19 336 P **P** **21 21 02.9 +0.9**
comp=Z,0.8nm,1.1s,baz=108,slow=5.8,SNR=4.7
ILAR Eielson Array 66.19 336 P **P** **21 21 02.0 +0.1**
SUA Susitna One 66.61 332 P **P** **21 21 04.8 +0.1**
ASAR Alice Springs 138.36 248 PKP **PKiKP** **21 29 47.4 +4.8**
comp=Z,0.3nm,0.8s,baz=78,slow=2.3,SNR=2.8
CMAR Chiang Mai Arr 148.99 347 PKPbc **PKiKP** **21 30 04.2 -0.4**
comp=Z,1.0nm,0.7s,baz=316,slow=2.5,SNR=5.6
CMAR Chiang Mai Arr 148.99 347 PKPdf **PKPdf** **21 29 57.7 -1.5**

IDC 28 21:21:53.8±7.5, 5°.09S×103°.15E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.1/44, mbtmp3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/25, Error ellipse: s-maj=319.5km s-min=53.7km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**25.43**	**62**	LR	LR	21 38 45.1	
	comp=Z,36nm,18.3s,baz=110,slow=40						
H08S2	**Diego Garcia H**	**30.57**	**264**	T	T	21 58 00.6	
	baz=86,slow=75,SNR=50						
H08S3	**Diego Garcia H**	**30.58**	**264**	T	T	21 58 03.5	
	baz=86,slow=75,SNR=54						
H08S1	**Diego Carcia H**	**30.59**	**264**	T	T	21 58 00.6	
	baz=86,slow=75,SNR=41						
H01W2	**Cape Leeuwin H**	**31.36**	**162**	T	T	22 02 19.9	
	baz=166,slow=74,SNR=4.5						
H01W1	**Cape Leeuwin H**	**31.36**	**162**	T	T	22 02 18.8	
	baz=337,slow=74,SNR=3.3						
WRA	**Warramunga Arr**	**33.74**	**119**	P	P	21 28 36.8	-0.6
	0.3nm,0.3s,baz=303,slow=9.0,SNR=1.1						
ASAR	**Alice Springs**	**34.91**	**125**	P	P	21 28 47.3	-0.2
	0.2nm,0.5s,baz=292,slow=7.5,SNR=2.1						
TXAR	**Lajitas Array**	**145.00**	**43**	PKPbc	PKPab	21 41 33.0	-0.3
	0.6nm,0.6s,baz=285,slow=0.8,SNR=7.8						

*NEIC **28** 21:27:09.8±1.3, 13°.70N±0°.09×144°.51E±0°.10, h143km±4km, mb4.4/92, Error ellipse: s-maj=13.6km s-min=12.3km az=70.0*
*IDC **28** 21:27:09.6±0.3, 13°.76N×144°.55E, h137km±3km, mb4.0/27, mb1 4.1/27, mb1mx4.0/50, mbtmp4.4/27, Error ellipse: s-maj=13.4km s-min=9.1km az=92.0*
ISC 28 21:27:10.2±0.7, 13°.69N±0°.06×144°.59E±0°.07, h146km±6km, n154, σ0°.84/158, mb4.3/75, 2C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.28**	**110**	P	**Pn**	**21 27 30.0**	**-0.2**
	885nm,0.3s,baz=288,slow=3.7,SNR=295						
GUMO				S	**Sn**	**21 27 44.7**	**-0.6**
	655nm,0.3s,baz=155,slow=23,SNR=77						
PATS	**Pohnpei**	**15.11**	**115**	Pn	**Pn**	**21 30 36.5**	**+0.2**
RABL	**Rabaul**	**19.29**	**157**	P	**P**	**21 31 22.6**	**-1.3**
SIJI	**Sorong**	**19.59**	**223**	P	**Pn**	**21 31 31.2**	**+1.1**
	1.9nm,0.3s,baz=61,slow=10,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**21.75**	**74**	T	T	21 54 37.9	
	baz=260,slow=76,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**21.77**	**74**	T	T	21 54 39.1	
	baz=260,slow=76,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**21.77**	**74**	T	T	21 54 38.0	
	baz=260,slow=76,SNR=3.5						
WAKE	**Wake Island**	**21.86**	**72**	P	**P**	**21 31 51.9**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**22.17**	**71**	T	T	21 55 13.7	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**22.18**	**71**	T	T	21 55 28.0	
	baz=255,slow=74						
H11N3	**WAKE ISLAND Hy**	**22.19**	**71**	T	T	21 55 29.7	
	baz=255,slow=74						
JMN	**Monobe**	**22.20**	**336**	P	**P**	**21 31 55.6**	**+0.8**
JMN				IAmb	IAmb	21 32 02.7	
	comp=Z,21nm,1.0s						
INU	**Inuyama**	**22.62**	**344**	P	**P**	**21 31 59.4**	**+0.7**
INU				IAmb	IAmb	21 32 00.5	
	comp=Z,10nm,0.9s						
JGF	**Kuroka**	**22.77**	**345**	P	**P**	**21 32 00.1**	**-0.1**
JGF				IAmb	IAmb	21 32 02.4	
	comp=Z,16nm,1.0s						
JNU	**Nakatsue**	**23.03**	**329**	P	**P**	**21 32 02.9**	**+0.2**
	comp=Z,9.8nm,0.7s,baz=222,slow=1.2,SNR=6.1						
JNU	**Nakatsue**	**23.03**	**329**	P	**P**	**21 32 02.9**	**+0.2**
JNU				IAmb	IAmb	21 32 04.8	
	comp=Z,14nm,1.0s						
JWT	**Wachi**	**23.04**	**340**	P	**P**	**21 32 01.9**	**-0.8**
JWT				IAmb	IAmb	21 32 02.2	
	comp=Z,11nm,1.0s						
MJAR	**Matsushiro Arr**	**23.47**	**347**	P	**P**	**21 32 05.7**	**-0.9**
	comp=Z,11nm,0.9s,baz=172,slow=8.8,SNR=26						
MAJO	**Matsushiro**	**23.47**	**347**	P	**P**	**21 32 06.5**	**-0.1**
MAT	**Matsushiro**	**23.47**	**347**	P	**P**	**21 32 05.9**	**-0.7**
JHS	**Saijyo**	**23.61**	**336**	P	**P**	**21 32 07.3**	**-0.7**
JHS				IAmb	IAmb	21 32 11.3	
	comp=Z,8.0nm,0.8s						
YULB	**Yu-li**	**24.07**	**297**	P	**P**	**21 32 12.1**	**-0.1**
YULB				IAmb	IAmb	21 32 12.9	
	comp=Z,15nm,1.0s						
TWG	**Pinlang**	**24.08**	**296**	P	**P**	**21 32 11.2**	**-1.2**
YHNB	**Yeheng**	**24.46**	**300**	P	**P**	**21 32 14.7**	**-1.1**
YHNB				IAmb	IAmb	21 32 20.4	
	comp=Z,6.6nm,0.9s						
SSLB	**Suanglung**	**24.50**	**298**	P	**P**	**21 32 15.0**	**-1.2**
TPUB	**Ta-pu**	**24.62**	**296**	P	**P**	**21 32 14.6**	**-2.7**
TPUB				IAmb	IAmb	21 32 19.4	
	comp=Z,11nm,0.9s						
JSD	**Sado**	**24.89**	**348**	P	**P**	**21 32 18.9**	**-0.6**
COEN	**Coen**	**27.50**	**183**	P	**P**	**21 32 43.0**	**-0.1**
COEN				IAmb	IAmb	21 32 46.4	
	comp=Z,4.9nm,0.8s						
KSRS	**Korea Array**	**27.95**	**331**	P	**P**	**21 32 46.4**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=141,slow=9.8,SNR=12						
USA0B	**Ussuriysk Arra**	**32.26**	**343**	P	**P**	**21 33 24.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**32.26**	**343**	P	**P**	**21 33 25.0**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=154,slow=10,SNR=8.2						
USRK	**Ussuriysk Ar.**	**32.26**	**343**	P	**P**	**21 33 25.1**	**+0.2**
KNRA	**Kununurra**	**33.11**	**209**	P	**P**	**21 33 32.6**	**0.0**
KNRA				IAmb	IAmb	21 33 47.7	
	comp=Z,6.0nm,1.1s						
CTA	**Charters Tower**	**33.60**	**177**	P	**P**	**21 33 38.3**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=27,slow=6.8,SNR=1.4						
WB0	**Warramunga Arr**	**34.73**	**197**	P	**P**	**21 33 46.6**	**+0.1**
WB0				IAmb	IAmb	21 33 47.3	
	comp=Z,5.5nm,0.6s						
WR0	**Warramunga Arr**	**34.87**	**197**	P	**P**	**21 33 47.6**	**-0.1**
WR0				IAmb	IAmb	21 33 48.2	
	comp=Z,3.1nm,0.7s						
WRAB	**Tennant Creek**	**34.90**	**197**	P	**P**	**21 33 47.5**	**-0.5**
WRAB				IAmb	IAmb	21 33 48.9	
	comp=Z,7.4nm,0.8s						
WB2	**Warramunga Arr**	**34.91**	**197**	P	**P**	**21 33 47.7**	**-0.3**
WB2				IAmb	IAmb	21 33 49.0	
	comp=Z,8.8nm,0.8s						
WRA	**Warramunga Arr**	**34.91**	**197**	P	**P**	**21 33 48.2**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=18,slow=9.3,SNR=52						
WRA				PcP	**PcP**	**21 36 18.6**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=10.0,slow=3.2,SNR=8.4						
WRA				ScP	**ScP**	**21 39 50.6**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=22,slow=3.5,SNR=2.6						
WRA	**Warramunga Arr**	**34.91**	**197**	P	**P**	**21 33 46.9**	**-1.1**
WRA					**PcP**	**21 36 17.6**	**-0.1**
ENH	**Enshi**	**36.31**	**303**	IAmb	IAmb	21 34 01.1	
	comp=Z,9.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**36.70**	**211**	P	**P**	**21 34 03.8**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=0.5,slow=8.5,SNR=23						
FITZ				PcP	**PcP**	**21 36 23.8**	**+0.8**
	comp=Z,2.0nm,0.4s,baz=0.9,slow=4.8,SNR=6.9						
FITZ	**Fitzroy Crossi**	**36.70**	**211**	P	**P**	**21 34 03.7**	**+0.4**
FITZ					**PcP**	**21 36 22.3**	**-0.7**
GYA	**Guiyang**	**37.68**	**296**	*e*P	**P**	**21 34 12.8**	**+1.1**
GYA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AS31	**Alice Springs**	**38.57**	**196**	P	**P**	**21 34 18.5**	**-0.5**
AS31				IAmb	IAmb	21 34 20.7	
	comp=Z,2.2nm,0.4s						
ASAR	**Alice Springs**	**38.57**	**196**	P	**P**	**21 34 19.1**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=15,slow=14,SNR=58						
ASAR				PcP	**PcP**	**21 36 29.5**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=27,slow=2.4,SNR=3.1						
ASAR	**Alice Springs**	**38.57**	**196**	P	**P**	**21 34 18.7**	**-0.3**
ASAR					**PcP**	**21 36 27.5**	**-1.2**
EIDS	**Eidsvold**	**39.33**	**171**	P	**P**	**21 34 26.2**	**+0.9**
HHC	**Hu-ho-hao-te**	**39.52**	**319**	*e*P	**P**	**21 34 28.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.4s						
KMI	**Kunming**	**40.93**	**293⇑**	*e*P	**P**	**21 34 41.0**	**+2.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,110nm,4.4s						
DZM	**Mont Dzumac**	**41.50**	**149**	P	**P**	**21 34 43.8**	**+0.5**
DZM				IAmb	IAmb	21 34 49.3	
	comp=Z,7.1nm,1.0s						
PSA00	**Pilbara Seismi**	**42.64**	**215**	P	**P**	**21 34 51.6**	**-0.9**
PSA00				IAmb	IAmb	21 34 51.7	
	comp=Z,9.6nm,1.1s						
LZH	**Lanzhou**	**42.75**	**309**	⇑P	**P**	**21 34 54.0**	**+0.6**
LZH				pP	pP	21 35 26.0	+1.4
LZH				sP	sP	21 35 42.5	+1.9
LZH				PP	**PP**	**21 36 38.3**	**+2.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,72nm,5.6s						
CM31	**Chiang Mai Arr**	**44.03**	**282**	P	**P**	**21 35 03.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**44.03**	**282**	P	**P**	**21 35 04.0**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=84,slow=6.5,SNR=4.6						
CMAR				PcP	**PcP**	**21 36 47.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=108,slow=2.3,SNR=2.5						
CMAR	**Chiang Mai Arr**	**44.03**	**282**	P	**P**	**21 35 03.2**	**-0.6**
CMAR					**PcP**	**21 36 45.6**	**-1.2**
ARMA	**Armidale**	**44.37**	**171**	P	**P**	**21 35 07.2**	**+0.9**
STKA	**Stephens Creek**	**45.40**	**184**	P	**P**	**21 35 14.5**	**+0.2**
	comp=Z,4.7nm,0.4s,baz=18,slow=7.3,SNR=27						
STKA	**Stephens Creek**	**45.40**	**184**	P	**P**	**21 35 14.4**	**+0.2**
PSI	**Prapat**	**46.38**	**261**	P	**P**	**21 35 22.1**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=91,slow=23,SNR=1.5						
RPSI	**Rantau Prapat**	**46.41**	**261**	P	**P**	**21 35 22.1**	**-0.4**
SONM	**Songino Array**	**46.50**	**325**	P	**P**	**21 35 23.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=128,slow=6.3,SNR=9.7						
SONM	**Songino Array**	**46.50**	**325**	P	**P**	**21 35 22.6**	**-0.3**
GTA	**Gaotai**	**46.91**	**312**	*e*P	**P**	**21 35 26.3**	**+0.1**
GTA				S	**S**	**21 42 07.5**	**+1.2**
GTA				sS	sS	21 43 01.3	-1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,74nm,7.6s						
GTA				LR	LR		
	comp=N,100nm,16.4s						
GTA				LR	LR		
	comp=E,110nm,16.4s						
GTA				LR	LR		
	comp=Z,79nm,15.6s						
BBOO	**Buckleboo**	**46.95**	**190**	P	**P**	**21 35 26.6**	**+0.2**
BBOO				IAmb	IAmb	21 35 27.5	
	comp=Z,12nm,0.7s						
FORT	**Forrest**	**46.98**	**200**	P	**P**	**21 35 26.6**	**-0.1**
MORW	**Morawa**	**50.67**	**213**	P	**P**	**21 35 54.1**	**-0.8**
MORW				IAmb	IAmb	21 35 55.3	
	comp=Z,6.1nm,1.0s						
TOO	**Toolangi**	**50.99**	**179**	P	**P**	**21 35 56.6**	**-0.5**
LSA	**Lhasa**	**51.71**	**297**	P	**P**	**21 36 02.1**	**-1.2**
LSA				IAmb	IAmb	21 36 04.6	
	comp=Z,3.0nm,0.6s						
UNV	**Unalaska Valle**	**55.39**	**33**	P	**P**	**21 36 28.3**	**-0.7**
UNV				IAmb	IAmb	21 36 30.5	
	comp=Z,7.8nm,0.8s						
AKUT	**Akutan**	**55.91**	**33**	P	**P**	**21 36 32.6**	**-0.1**
TAU	**Tasmania Unive**	**56.38**	**178**	P	**P**	**21 36 36.6**	**+0.5**
WMQ	**Urumqi**	**56.88**	**314**	*e*P	**P**	**21 36 40.8**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,46nm,5.1s						
TUWZ	**Tuamarina**	**61.18**	**155**	P	**P**	**21 37 09.6**	**+0.3**
MK31	**Makanchi Array**	**61.23**	**316**	P	**P**	**21 37 09.4**	**-0.4**
MK31				IAmb	IAmb	21 37 10.1	
	comp=Z,2.6nm,0.4s						
MKAR	**Makanchi Array**	**61.23**	**316**	P	**P**	**21 37 09.7**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=86,slow=8.7,SNR=61						
ZAA0	**Zalesovo Array**	**61.39**	**324**	P	**P**	**21 37 10.0**	**-0.7**
ZALV	**Zalesovo Beam**	**61.39**	**324**	P	**P**	**21 37 09.7**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=87,slow=5.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**61.39**	**324**	P	**P**	**21 37 10.0**	**-0.6**
SNZO	**South Karori**	**61.40**	**155**	P	**P**	**21 37 10.3**	**-0.4**
MAKZ	**Makanchi**	**61.45**	**316**	P	**P**	**21 37 11.4**	**+0.1**
BFZ	**Birch Farm**	**61.54**	**153**	P	**P**	**21 37 12.4**	**+0.6**
LTZ	**Lake Taylor**	**61.67**	**157**	P	**P**	**21 37 12.8**	**+0.1**
MSWZ	**Moikau Station**	**61.71**	**154**	P	**P**	**21 37 13.3**	**+0.3**
OHAK	**Old Harbor**	**63.60**	**32**	P	**P**	**21 37 26.1**	**+0.8**
KDAK	**Kodiak Island**	**64.13**	**32**	P	**P**	**21 37 29.3**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=22,slow=1.5,SNR=5.6						
KDAK	**Kodiak Island**	**64.13**	**32**	P	**P**	**21 37 28.8**	**+0.1**
TTA	**Tatalina**	**64.18**	**26**	P	**P**	**21 37 28.3**	**-0.8**
KURK	**Kurchatov**	**64.33**	**320**	P	**P**	**21 37 29.6**	**-0.6**
KURK				IAmb	IAmb	21 37 29.9	
	comp=Z,4.1nm,0.5s						
KURBB	**Kurchatov Arra**	**64.38**	**320**	P	**P**	**21 37 29.8**	**-0.7**
	comp=Z,4.3nm,0.6s,baz=104,slow=6.9,SNR=57						
BOOM	**Boomskoye usch**	**65.17**	**311**	P	**P**	**21 37 35.7**	**-0.3**
BOOM				IAmb	IAmb	21 37 48.9	
	comp=Z,3.1nm,0.9s						
BRLK	**Bradley Lake**	**65.52**	**30**	P	**P**	**21 37 37.0**	**-0.7**
BRLK				IAmb	IAmb	21 37 53.9	
	comp=Z,4.6nm,1.0s						
PPLA	**Purkeypile**	**65.82**	**27**	P	**P**	**21 37 40.0**	**+0.2**
BPAW	**Bear Paw Mtn.**	**66.70**	**26**	P	**P**	**21 37 45.3**	**+0.1**
TRF	**Thorofare Moun**	**66.81**	**26**	P	**P**	**21 37 45.4**	**-0.6**
HIN	**Hinchinbrook I**	**67.80**	**30**	P	**P**	**21 37 52.8**	**+0.6**
FID	**Port Fidalgo**	**67.89**	**30**	P	**P**	**21 37 52.7**	**0.0**
WRH	**Wood River Hil**	**68.02**	**26**	P	**P**	**21 37 52.6**	**-0.8**
MDM	**Murphy Dome**	**68.08**	**25**	P	**P**	**21 37 54.3**	**+0.4**
MDM				IAmb	IAmb	21 37 55.6	
	comp=Z,4.4nm,1.2s						
CCB	**Clear Creek Bu**	**

KMRM **Mail Ridge** 82.58 51 P P 21 39 16.6 -0.6
KCPM **Cahto Peak** 82.78 51 P P 21 39 19.1 +0.7
EUNU **Eureka** 82.81 8 P P 21 39 18.0 +0.3
YKA **Yellowknife Ar** 82.89 27 P P 21 39 17.6 -0.7
comp=Z,1.3nm0.6s,baz=282,slow=3.5,SNR=2.5
YBH **Yreka Blue Hor** 83.01 49 P P 21 39 19.8 +0.4
comp=Z,3.8nm0.6s,baz=326,slow=4.2,SNR=11
YBH **Yreka Blue Hor** 83.01 49 IAmb IAmb 21 39 21.2
comp=Z,5.1nm0.8s
K05A **Summer Lake** 84.11 48 P P 21 39 26.1 +0.9
K05A IAmb IAmb 21 39 26.7
comp=Z,6.4nm0.8s
MOD **Modoc Plateau** 84.73 48 P P 21 39 28.6 +0.3
MOD IAmb IAmb 21 39 29.5
comp=Z,3.4nm0.7s
I07A **Izee** 84.78 46 P P 21 39 28.5 +0.1
E09A **Wood Farm, Sta** 85.11 43 P P 21 39 31.2 +1.4
E09A IAmb IAmb 21 39 32.2
comp=Z,4.0nm0.6s
NEW **Newport** 85.33 42 P P 21 39 31.1 +0.1
comp=Z,6.3nm0.8s,baz=229,slow=3.0,SNR=8.7
NEW **Newport** 85.33 42 IAmb IAmb 21 39 32.4
comp=Z,6.5nm0.8s
CMB **Columbia Colle** 85.58 52 P P 21 39 33.4 +0.9
CMB IAmb IAmb 21 39 33.8
comp=Z,3.4nm0.8s
PAHR **Pah Rah Range** 85.93 50 P P 21 39 34.7 +0.3
PAHR IAmb IAmb 21 39 35.6
comp=Z,4.3nm1.0s
WAKR **Walker** 86.19 51 P P 21 39 36.2 +0.6
WAKR IAmb IAmb 21 39 37.3
comp=Z,2.2nm0.7s
NVAR **Mina Array Bea** 87.07 51 P P 21 39 40.9 +0.9
comp=Z,3.7nm0.7s,baz=265,slow=6.0,SNR=32
NVAR **Mina Array Bea** 87.07 51 P P 21 39 39.1 -0.9
WALA **Waterton Lakes** 87.15 40 P P 21 39 41.4 +1.4
WALA IAmb IAmb 21 39 46.4
comp=Z,5.7nm,1.1s
JTMT **Jette** 87.31 42 P P 21 39 41.8 +0.9
JTMT IAmb IAmb 21 39 57.5
comp=Z,5.1nm,1.0s
ELK **Elko** 88.71 48 P P 21 39 48.6 +0.8
comp=Z,5.5nm0.7s,baz=290,slow=4.4,SNR=33
HRY **Holter Researc** 89.22 42 P P 21 39 50.5 +0.6
PFO **Pinyon Flats O** 89.80 56 P P 21 39 53.9 +1.0
comp=Z,3.4nm0.9s,baz=257,slow=6.7,SNR=2.9
PFO **Pinyon Flats O** 89.80 56 P P 21 39 52.1 -0.8
PFO IAmb IAmb 21 39 54.9
comp=Z,4.9nm,1.0s
FINES **FINESS Array B** 90.96 335 P P 21 39 55.2 -2.2
comp=Z,2.7nm0.9s,baz=78,slow=7.3,SNR=2.5
FINES **FINESS Array B** 90.96 335 P P 21 39 57.0 -0.4
VNDA **Vanda** 91.58 176 P P 21 40 00.5 +0.6
comp=Z,1.0nm0.8s,baz=318,slow=6.2,SNR=6.3
VNDA **Vanda** 91.58 176 P P 21 40 00.7 +0.9
VNDA IAmb IAmb 21 40 01.5
comp=Z,1.7nm0.9s
PDAR **Pinedale Array** 92.08 45 P P 21 40 03.3 -0.1
comp=Z,0.6nm0.5s,baz=240,slow=2.9,SNR=9.7
PDAR **Pinedale Array** 92.08 45 P P 21 40 02.7 -0.7
TORD **Torodi Ar. Bea** 134.59 304 PKP PKPdf 21 46 11.6 -0.7
comp=Z,0.2nm0.5s,baz=15,slow=3.2,SNR=1.4
TORD SKPbc SKPbc 21 49 27.0 -2.0
comp=Z,1.2nm0.9s,baz=48,slow=4.1,SNR=4.4
TORD **Torodi Ar. Bea** 134.59 304 PKPdf 21 46 11.4 -0.9
LPAZ **La Paz** 148.30 99 PKPbc PKiKP 21 46 42.4 -0.2
comp=Z,6.4nm0.5s,baz=285,slow=3.0,SNR=19
LPAZ **La Paz** 148.30 99 PKPbc 21 46 39.5 -1.5

*IDC **28** 21:32:48.7±0.6,2.˚24N×126.˚64E,h0km,mb3.9/16,*
mb1 4.0/16,mb1mx3.9/43,mbtmp3.9/16,MS3.3/2,
Ms1 3.3/2,ms1mx2.6/33,Error ellipse: s-maj=36.8km
s-min=12.8km az=75.0
*NEIC **28** 21:32:55.3±1.3,2.˚22N±0.˚09×126.˚68E±0.˚10,h55km±9km,*
mb4.2/13,Error ellipse: s-maj=15.4km s-min=11.2km
az=57.0
*DJA **28** 21:32:55.4±1.3,2˚N±8˚×12˚7E±˚,h33km±26km,M4.1/10,*
mB5.6/1,mb4.2/5,MLv4.0/10,Mw(mB)5.1/1
ISC 28 21:32:54.9±0.5,**2.˚35N**±0.˚04×**126.˚89E**±0.˚07,**h50**km,**n49,**
σ1°13/52,mb4.0/19,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.64**	**163**	P	**Pn**	**21 33 21.5**	**+0.2**
TNTI				S	**Sn**	**21 33 42.4**	**+1.2**
TNTI	**Ternate**	**1.64**	**163**		**Pn**	**21 33 21.3**	**0.0**
TNTI				Sn	**Sn**	**21 33 40.2**	**-1.0**
KMSI	**Cibinong**	**3.40**	**239**	P	**Pn**	**21 33 46.7**	**+1.2**
KMSI				S	**Sn**	**21 34 25.3**	**+0.7**
DDMP	**Don Marcelino,**	**3.91**	**343**	*e*P	**Pn**	**21 33 52.5**	**0.0**
DDMP				*e*S	**Sn**	**21 34 35.4**	**-1.8**
GTOI	**Gorontalo**	**4.24**	**246**	P	Pn	21 33 58.9	+2.0
SANI	**Sanana**	**4.46**	**192**	P	**Pn**	**21 33 59.8**	**-0.2**
SKMP	**Bagumbayan, Su**	**4.76**	**331**	*e*P	**Pn**	**21 34 04.6**	**+0.5**
SKMP				*e*S	**Sn**	**21 34 58.1**	**+0.1**
KCP	**Kidapawan**	**4.97**	**339⇑**	*e*P	Pn	21 34 19.2	+12
LUWI	**Luwuk**	**5.32**	**231**	P	**Pn**	**21 34 13.0**	**+1.2**
	0.4nm6µm49nm,0.5s						
LUWI	**Luwuk**	**5.32**	**231**	Pn	**Pn**	**21 34 08.9**	**-3.0**
NLAI	**Namlea**	**5.55**	**178**	P	**Pn**	**21 34 15.7**	**+0.7**
	0.1nm11nm,0.8s						
MPSI	**Mapaga**	**7.27**	**254**	P	**Pn**	**21 34 39.4**	**+0.8**
SBUM	**Sibu**	**14.66**	**271**	P	**Pn**	**21 36 18.0**	**-1.4**
KNRA	**Kununurra**	**18.00**	**174**	P	**Pn**	**21 37 00.5**	**-1.1**
KNRA				IAmb	IAmb	21 37 01.9	
comp=Z,15nm,1.1s							
FITZ	**Fitzroy Crossi**	**20.36**	**183**	P	**P**	**21 37 26.4**	**-0.9**
comp=Z,1.2nm0.5s,baz=3.9,slow=9.3,SNR=1.8							
FITZ	**Fitzroy Crossi**	**20.36**	**183**	P	**P**	**21 37 25.6**	**-1.7**
TPUB	**Ta-pu**	**21.69**	**344**	P	**P**	**21 37 41.2**	**-0.6**
TPUB				IAmb	IAmb	21 37 45.5	
comp=Z,14nm,1.1s							
WB0	**Warramunga Arr**	**23.18**	**162**	P	**P**	**21 37 56.0**	**-1.4**
WB0				IAmb	IAmb	21 38 02.8	
comp=Z,6.6nm,1.1s							
PMG	**Port Moresby**	**23.32**	**120**	LR	LR	21 48 31.5	
comp=Z,70nm,20.3s,baz=271,slow=40							
WRA	**Warramunga Arr**	**23.33**	**162**	P	**P**	**21 37 57.5**	**-1.4**
comp=Z,1.6nm0.4s,baz=340,slow=11,SNR=25							
WRA	**Warramunga Arr**	**23.33**	**162**	P	**P**	**21 37 56.5**	**-2.3**
WB2	**Warramunga Arr**	**23.33**	**162**	P	**P**	**21 37 57.9**	**-1.0**
WB2				IAmb	IAmb	21 38 04.9	
comp=Z,7.0nm0.9s							
ASAR	**Alice Springs**	**26.74**	**166**	P	**P**	**21 38 30.8**	**+0.8**
comp=Z,1.0nm0.4s,baz=347,slow=13,SNR=9.9							
ASAR				PcP	**PcP**	**21 41 51.9**	**-0.6**
comp=Z,0.2nm0.4s,baz=342,slow=2.8,SNR=1.9							
ASAR	**Alice Springs**	**26.74**	**166**	P	**P**	**21 38 29.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**21 39 13.9**	**-0.4**
comp=Z,0.7nm0.6s,baz=115,slow=6.7,SNR=8.6							
CMAR	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**21 39 13.7**	**-0.6**
CHTO	**Chiang Mai**	**31.89**	**303**	P	**P**	**21 39 14.8**	**-1.0**
CHTO				IAmb	IAmb	21 39 15.9	
comp=Z,4.3nm0.6s							
KSRS	**Korea Array**	**34.95**	**1**	P	**P**	**21 39 44.3**	**+2.2**
comp=Z,1.0nm0.5s,baz=175,slow=10.0,SNR=7.5							
KS19	**Wonju Array Si**	**34.99**	**1**	P	**P**	**21 39 44.6**	**+2.0**
MJAR	**Matsushiro Arr**	**35.59**	**16**	P	**P**	**21 39 48.8**	**+1.2**
comp=Z,1.1nm0.6s,baz=188,slow=9.9,SNR=2.7							
MJAR	**Matsushiro Arr**	**35.59**	**16**	P	**P**	**21 39 48.9**	**+1.2**
STKA	**Stephens Creek**	**36.79**	**159**	P	**P**	**21 39 58.8**	**+0.8**
comp=Z,1.8nm0.7s,baz=335,slow=8.9,SNR=5.5							
STKA				LR	LR	21 58 05.5	
comp=Z,51nm,19.5s,baz=41,slow=41							
STKA	**Stephens Creek**	**36.79**	**159**	P	**P**	**21 39 57.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**41.92**	**5**	P	**P**	**21 40 42.8**	**+2.3**
comp=Z,1.4nm0.7s,baz=209,slow=6.6,SNR=6.4							
USRK	**Ussuriysk Ar.**	**41.92**	**5**	P	**P**	**21 40 39.6**	**-0.9**
SONM	**Songino Array**	**48.65**	**342**	P	**P**	**21 41 35.0**	**+1.0**
comp=Z,0.5nm0.6s,baz=163,slow=7.7,SNR=6.2							
SONM	**Songino Array**	**48.65**	**342**	P	**P**	**21 41 34.3**	**+0.3**
MKAR	**Makanchi Array**	**58.78**	**326**	P	**P**	**21 42 48.1**	**+0.1**
comp=Z,0.7nm0.4s,baz=116,slow=7.5,SNR=21							
MKAR	**Makanchi Array**	**58.78**	**326**	P	**P**	**21 42 48.2**	**+0.2**
ZALV	**Zalesovo Beam**	**61.89**	**333**	P	**P**	**21 43 09.1**	**0.0**
comp=Z,0.4nm0.4s,baz=118,slow=6.7,SNR=2.9							
KURK	**Kurchatov**	**62.99**	**328**	P	**P**	**21 43 16.5**	**+0.1**
AKTO	**Aktyubinsk**	**74.84**	**322**	P	**P**	**21 44 30.7**	**+0.6**
comp=Z,0.8nm0.4s,baz=80,slow=7.0,SNR=7.1							
ARU	**Arti**	**76.18**	**328**	P	**P**	**21 44 37.6**	**-0.1**
comp=Z,0.8nm0.5s,baz=108,slow=20,SNR=4.0							
ARU	**Arti**	**76.18**	**328**	P	**P**	**21 44 38.0**	**+0.4**
ARU				IAmb	IAmb	21 44 38.5	
comp=Z,2.4nm0.7s							
VNDA	**Vanda**	**82.05**	**173**	P	**P**	**21 45 09.7**	**+0.4**
comp=Z,0.4nm0.5s,baz=310,slow=7.8,SNR=5.8							
MAW	**Mawson**	**82.52**	**200**	P	**P**	**21 45 12.5**	**+0.6**
comp=Z,0.5nm0.5s,baz=45,slow=8.6,SNR=2.0							
MAW	**Mawson**	**82.52**	**200**	P	**P**	**21 45 11.1**	**-0.9**
FINES	**FINESS Array B**	**93.12**	**332**	P	**P**	**21 46 04.6**	**+1.3**
comp=Z,1.8nm,1.0s,baz=79,slow=7.2,SNR=3.8							
FINES	**FINESS Array B**	**93.12**	**332**	P	**P**	**21 46 02.6**	**-0.6**

*NEIC **28** 21:41:57.2±0.6,43.˚65N±0.˚03×105.˚30W±0.˚06,h0km±2km,*
ML3.5/69,Error ellipse: s-maj=9.3km s-min=3.0km
az=126.0
*IDC **28** 21:41:57.4±0.9,44.˚05N×105.˚74W,h0km,mb4.1/2,*
mb1 3.7/7,mb1mx3.5/37,mbtmp3.5/7,ML2.9/4,MS2.5/3,
Ms1 2.4/3,ms1mx2.3/49,Error ellipse: s-maj=23.1km
s-min=7.6km az=146.0
ISC 28 21:41:56.3±0.9,**43.˚69N**±0.˚06×**105.˚20W**±0.˚06,**h0**km,**n45,**
σ0°95/39,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**62**	Pg	**Pn**	**21 42 15.7**	**-1.3**
RSSD				Sg	**Sn**	**21 42 30.5**	**-0.9**
K22A	**Casper**	**1.42**	**224**		**Pn**	**21 42 21.2**	**-2.4**
K22A				IAML		21 42 42.8	
comp=E,679nm,0.6s							
K22A				IAML		21 42 44.7	
comp=N,790nm,0.5s							
PHWY	**Pilot Hill**	**2.39**	**185**		**Pn**	**21 42 36.9**	**-0.1**
RWWY	**Rawlins**	**2.49**	**217**		**Pn**	**21 42 38.1**	**-0.2**
RWWY				IAML		21 43 11.9	
comp=N,370nm,1.1s							
N23A	**Red Feather La**	**2.85**	**191**	Pn	**Pn**	**21 42 43.7**	**+0.5**
N23A				IAML		21 43 27.2	
comp=E,179nm,0.9s							
N23A				IAML		21 43 27.5	
comp=N,221nm,0.7s							
LAO	**LASA Array**	**3.09**	**347**		**Pn**	**21 42 47.0**	**+0.6**
LAO				IAML		21 43 33.3	
comp=N,198nm,0.8s							
LAO				IAML		21 43 42.7	
comp=N,181nm,0.9s							
RLMT	**Red Lodge**	**3.25**	**298**	Pn	**Pn**	**21 42 48.5**	**-0.2**
PD31	**Pinedale Array**	**3.32**	**255**		**Pn**	**21 42 49.3**	**-0.4**
PDAR	**Pinedale Array**	**3.32**	**255**	Pn	**Pn**	**21 42 50.4**	**+0.7**
comp=N,9.3nm,0.3s,baz=71,slow=16,SNR=85							
PDAR				Lg	Lg	21 43 32.1	
comp=N,24nm,0.3s,baz=64,slow=33,SNR=13							
PDAR				LR	LR	21 43 52.4	
comp=N,28nm,18.7s,baz=359,slow=38							
PDAR	**Pinedale Array**	**3.32**	**255**	Pn	**Pn**	**21 42 49.2**	**-0.4**
YNE	**Yellowstone No**	**3.69**	**293**		**Pn**	**21 42 54.2**	**-0.7**
YMP	**Mirror Lake Pl**	**3.72**	**288**		**Pn**	**21 42 55.2**	**0.0**
GCMT	**Greycliff**	**3.82**	**305**		**Pn**	**21 42 56.5**	**+0.1**
LKWY	**Lake**	**3.85**	**285**		**Pn**	**21 42 57.0**	**0.0**
LKWY				IAML		21 44 08.1	
comp=N,74nm,0.8s							
LKWY				IAML		21 44 11.6	
comp=N,60nm,2.4s							
ISCO	**Idaho Springs**	**3.90**	**185**	Pn	**Pn**	**21 42 57.7**	**0.0**
ISCO				IAML		21 44 03.9	
comp=N,52nm,2.0s							
LOHW	**Long Hollow**	**3.92**	**271**		**Pn**	**21 42 57.9**	**-0.2**
H17A	**Grant Village**	**3.94**	**282**	IAML		21 44 02.4	
comp=N,60nm,0.8s							
H17A				IAML		21 44 02.9	
comp=E,63nm,1.1s							
FLWY	**Flagg Ranch**	**4.00**	**278**	IAML		21 44 14.0	
comp=E,85nm,1.9s							
FLWY				IAML		21 44 30.2	
comp=E,78nm,2.0s							
SNOW	**Snow King Moun**	**4.04**	**269**	IAML		21 44 14.8	
comp=E,100nm,1.1s							
SNOW				IAML		21 44 17.1	
comp=E,83nm,0.9s							
REDW	**Red Top Meadow**	**4.12**	**267**	IAML		21 44 25.5	
comp=E,90nm,1.2s							
IMW	**Indian Meadow**	**4.16**	**275**	Pn	**Pn**	**21 43 01.1**	**-0.2**
IMW				IAML		21 44 13.4	
comp=E,50nm,0.8s							
IMW				IAML		21 44 19.0	
comp=E,74nm,0.7s							
TPAW	**Teton Pass**	**4.18**	**269**	Pn	**Pn**	**21 43 01.4**	**-0.2**
TPAW				IAML		21 44 20.9	
comp=E,41nm,0.7s							
TPAW				IAML		21 44 29.8	
comp=E,86nm,1.0s							
YHH	**Holmes Hill**	**4.21**	**287**		**Pn**	**21 43 02.0**	**0.0**
O20A	**White River Ci**	**4.22**	**214**	Pn	**Pn**	**21 43 02.0**	**0.0**
O20A				IAML		21 44 46.5	
comp=E,90nm,1.9s							
FXWY	**Fox Creek**	**4.23**	**271**	Pn	**Pn**	**21 43 02.1**	**-0.1**
E28A	**Huff**	**4.30**	**46**		**Pn**	**21 43 04.7**	**+1.7**
YHL	**Hebgen Lake**	**4.45**	**287**		**Pn**	**21 43 05.1**	**-0.3**
QLMT	**Earthquake Lak**	**4.62**	**286**	Pn	**Pn**	**21 43 07.7**	**+0.1**
Q24A	**Divide**	**4.72**	**180**	IAML		21 44 27.9	
comp=E,39nm,0.7s							
DGMT	**Dagmar**	**4.83**	**8**	Pn	**Pn**	**21 43 12.1**	**+1.8**
BOZ	**Bozeman (W)**	**4.97**	**295**	IAML		21 44 34.4	
comp=E,24nm,1.2s							
HWUT	**Hardware Ranch**	**5.14**	**248**	Pn	**Pn**	**21 43 14.3**	**-0.3**
HWUT				IAML		21 44 35.9	
comp=E,47nm,1.0s							
EGMT	**Eagleton**	**5.38**	**325**	Pn	**Pn**	**21 43 18.7**	**+0.9**
PV18	**Skein Mesa, Pa**	**6.12**	**209**	Pn	**Pn**	**21 43 28.1**	**-0.1**
ECSD	**EROS Data Cent**	**6.22**	**87**	Pn	**Pn**	**21 43 31.4**	**+2.1**
ELK	**Elko**	**8.01**	**252**	Pn	**Pn**	**21 43 54.0**	**-0.2**
comp=E,0.1nm,0.3s,baz=197,slow=19,SNR=2.4							
ELK				Lg	Lg	21 46 04.1	
comp=E,0.1nm,0.3s,baz=160,slow=23,SNR=1.4							
ELK				LR	LR	21 47 12.9	
comp=E,69nm,20.8s,baz=78,slow=41							
ELK	**Elko**	**8.01**	**252**		**Pn**	**21 43 54.0**	**-0.2**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**21 44 08.1**	**-1.3**
comp=E,1.8nm,0.3s,baz=232,slow=12,SNR=12							
ULM				Lg	Lg	21 46 41.1	
comp=E,0.2nm,0.3s,baz=324,slow=21,SNR=1.4							
ULM	**Lac du Bonnet**	**9.14**	**41**		**Pn**	**21 44 11.5**	**+2.1**
NEW	**Newport**	**9.48**	**303**	LR	LR	21 48 29.8	
comp=E,31nm,20.2s,baz=124,slow=44							
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**Pn**	**21 44 39.7**	**+1.9**
comp=E,0.1nm,0.3s,baz=44,slow=12,SNR=2.1							
NVAR	**Mina Array Bea**	**11.20**	**246**		**Pn**	**21 44 37.5**	**-0.3**
TXAR	**Lajitas Array**	**14.38**	**175**	Pn	**P**	**21 45 29.0**	**+0.5**
comp=E,0.0nm,0.3s,baz=359,slow=7.8,SNR=1.4							
TXAR				Pg		21 46 27.7	
comp=E,0.1nm,0.3s,baz=349,slow=18,SNR=5.1							
TXAR				Lg	Lg	21 49 34.9	
comp=E,0.0nm,0.3s,baz=351,slow=30,SNR=5.5							
ARCES	**ARCESS Array B**	**61.45**	**18**	P	**P**	**21 52 13.3**	**-0.7**
comp=E,4.7nm,1.0s,baz=330,slow=5.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**82.36**	**354**	P	**P**	**21 54 18.8**	**-0.8**
comp=E,0.3nm,0.4s,baz=353,slow=5.8,SNR=2.1							

*TAP **28** 22:31:58.5,24.˚79N×122.˚40E,h116km,ML3.0,D*
*JMA **28** 22:31:58.8±0.1,24.˚64N×122.˚42E,h113km±2km,M1.7*
ISC 28 22:31:59.3±1.7,**24.˚78N**±0.˚06×**122.˚44E**±0.˚03,
h107km±10km,**n51,σ0°78/88,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.47**	**300**	*e*S	**Sn**	**22 32 28.4**	**+0.6**
baz=292							
TWC	**Suao**	**0.56**	**253**	*e*S	**Sn**	**22 32 29.0**	**+0.1**
baz=246							
JYNG	**Yonagunijimaku**	**0.57**	**125**	P	**Pn**	**22 32 16.3**	**0.0**
JYNG				*e*S	**Sn**	**22 32 29.5**	**+0.5**
TIPB	**Shuangxi**	**0.59**	**290**	*e*P	**Pn**	**22 32 16.1**	**-0.4**
baz=286							
TIPB				*e*S	**Sn**	**22 32 29.5**	**+0.2**
baz=286							
YOJ	**Yonaguni jima**	**0.61**	**121**	P	**Pn**	**22 32 16.6**	**0.0**
YOJ				*e*S	**Sn**	**22 32 29.6**	**0.0**
ILA	**Ilan**	**0.62**	**269**	*e*P	**Pn**	**22 32 17.0**	**+0.3**
baz=267							
ILA				*e*S	**Sn**	**22 32 30.4**	**+0.7**
baz=267							
ENAH	**Nanao**	**0.66**	**240**	*e*P	**Pn**	**22 32 17.3**	**+0.3**
baz=238							
ENAH				*e*S	**Sn**	**22 32 31.5**	**+1.3**
baz=238							
ENA	**Nanau**	**0.72**	**241**	P	**Pn**	**22 32 17.7**	**+0.1**
baz=238							
ENA				S	**Sn**	**22 32 31.8**	**+0.5**
baz=238							
ENTT	**Nioudou**	**0.80**	**260**	*i* P	**Pn**	**22 32 19.0**	**+0.7**
baz=260							
ENTT				*e*S	**Sn**	**22 32 33.7**	**+1.1**
baz=260							
NWLT	**Wulai**	**0.85**	**270**	*e*P	**Pn**	**22 32 18.2**	**-0.6**
baz=272							
NWLT				*e*S	**Sn**	**22 32 33.3**	**-0.1**
baz=272							
NDT	**Datong Townshi**	**0.86**	**259**	P	**Pn**	**22 32 19.2**	**+0.4**
baz=258							
NDT				S	**Sn**	**22 32 34.3**	**+0.8**
baz=258							
YM01	**YM01**	**0.87**	**295**	*e*P	**Pn**	**22 32 18.7**	**-0.2**
baz=288							
YM01				*e*S	**Sn**	**22 32 33.5**	**-0.2**
baz=288							
YM08	**YM08**	**0.87**	**298**	*e*S	**Sn**	**22 32 33.3**	**-0.5**
baz=292							
YM11	**YM11**	**0.87**	**297**	*e*S	**Sn**	**22 32 35.5**	**+1.6**
baz=290							
YM05	**YM05**	**0.88**	**296**	*e*S	**Sn**	**22 32 33.7**	**-0.3**
baz=290							
YM10	**YM10**	**0.88**	**296**	*e*P	**Pn**	**22 32 19.5**	**+0.4**
baz=289							
YM10				*e*S	**Sn**	**22 32 34.2**	**+0.2**
baz=289							
YM04	**YM04**	**0.90**	**295**	*e*P	**Pn**	**22 32 17.3**	**-2.0**
baz=288							
YM04				*e*S	**Sn**	**22 32 33.5**	**-0.7**
baz=288							
YHNB	**Yeheng**	**0.97**	**264**	*e*P	**Pn**	**22 32 19.9**	**-0.1**
baz=268							
YHNB				*e*S	**Sn**	**22 32 34.3**	**-1.4**
baz=268							
NACB	**Ninganchiao**	**0.97**	**232**	*e*P	**Pn**	**22 32 19.5**	**-0.5**
baz=225							
NACB				*e*S	**Sn**	**22 32 35.0**	**-0.6**
baz=225							
NSK	**Sanguang**	**0.98**	**264**	P	**Pn**	**22 32 20.1**	**0.0**
baz=268							
NSK				S	**Sn**	**22 32 34.2**	**-1.7**
baz=268							
NNSB	**Datong**	**1.02**	**250**	*e*P	**Pn**	**22 32 20.5**	**-0.1**
baz=244							
NNSB				S	**Sn**	**22 32 36.8**	**+0.2**
baz=244							
NNSH	**Datong**	**1.02**	**250**	*e*P	**Pn**	**22 32 20.5**	**-0.1**
baz=244							
NNSH				*e*S	**Sn**	**22 32 36.4**	**-0.2**
baz=244							
NNS	**Nan Shan**	**1.02**	**251**	P	**Pn**	**22 32 20.9**	**+0.3**
baz=243							
NNS				S	**Sn**	**22 32 36.8**	**+0.1**
baz=243							
TWD	**Chiawan**	**1.03**	**228**	S	**Sn**	**22 32 36.2**	**-0.4**
baz=222							
ETLH	**Xiulin Townshi**	**1.04**	**237**	P	**Pn**	**22 32 20.3**	**-0.5**
baz=235							
ETLH				S	**Sn**	**22 32 36.2**	**-0.7**
baz=235							
NCUH	**Zhongli**	**1.15**	**280**	*e*S	**Sn**	**22 32 37.7**	**-1.3**
baz=284							
FUSS	**Fushou**	**1.21**	**244**	*e*P	**Pn**	**22 32 22.8**	**0.0**
baz=237							
FUSS				*e*S	**Sn**	**22 32 40.5**	**0.0**
baz=237							
WHF	**Hehuan Shan**	**1.24**	**240**	P	**Pn**	**22 32 23.1**	**-0.3**
baz=233							
WHF				S	**Sn**	**22 32 41.0**	**-0.4**
baz=233							
IRIF	**Iriomote-Funau**	**1.26**	**110**	P	**Pn**	**22 32 22.8**	**-0.3**
IRIF				S	**Sn**	**22 32 40.4**	**-0.7**
TWT	**Tachien**	**1.26**	**246**	*e*S	**Sn**	**22 32 42.3**	**+0.9**
baz=239							
TDCB	**Techi**	**1.27**	**246**	*e*P	**Pn**	**22 32 23.6**	**+0.2**
baz=239							
TDCB				*e*S	**Sn**	**22 32 41.8**	**+0.1**
baz=239							
LIOB	**Emei**	**1.30**	**265**	P	**Pn**	**22 32 23.2**	**-0.3**
baz=263							
LIOB				S	**Sn**	**22 32 41.6**	**-0.3**
baz=263							
NSTT	**Nanjuang**	**1.31**	**264**	S	**Sn**	**22 32 41.7**	**-0.5**
baz=262							
ESL	**Shilin**	**1.32**	**224**	*e*P	**Pn**	**22 32 23.5**	**-0.4**
baz=229							
ESL				S	**Sn**	**22 32 40.6**	**-1.8**
baz=229							
CHGB	**Renai**	**1.35**	**238**	P	**Pn**	**22 32 24.6**	**+0.2**
baz=230							
CHGB				S	**Sn**	**22 32 43.5**	**+0.1**
baz=230							
EGFH	**Guangfu**	**1.44**	**220**	*e*S	**Sn**	**22 32 44.6**	**-0.1**
baz=226							
WHP	**Taichung City**	**1.44**	**250**	*e*P	**Pn**	**22 32 25.7**	**+0.4**
baz=256							
WHP				*e*S	**Sn**	**22 32 45.5**	**+0.3**
baz=256							
JKRS	**Kuro-shima**	**1.53**	**110**	P	**Pn**	**22 32 26.5**	**+0.2**
JKRS				S	**Sn**	**22 32 47.4**	**+0.6**
VWDT	**VWDT**	**1.56**	**230**	*e*P	**Pn**	**22 32 25.9**	**-0.7**
baz=223							
VWDT				*e*S	**Sn**	**22 32 47.6**	**+0.2**
baz=223							
NSY	**Sanyi**	**1.56**	**257**	*e*S	**Sn**	**22 32 48.0**	**+0.4**
baz=255							
HGSD	**Ruisui**	**1.58**	**216**	*e*P	**Pn**	**22 32 27.0**	**+0.1**
baz=210							
HGSD				*e*S	**Sn**	**22 32 47.6**	**-0.2**
baz=210							
JIJ	**Ishigaki jima**	**1.61**	**104**	P	**Pn**	**22 32 27.1**	**-0.2**
JIJ				S	**Sn**	**22 32 48.0**	**-0.5**
EHY	**Hungye**	**1.62**	**219**	*e*S	**Sn**	**22 32 45.5**	**-3.3**
baz=224							
SMLT	**Sun Moon Lake**	**1.66**	**238**	P	**Pn**	**22 32 28.2**	**+0.2**
baz=232							
SMLT				S	**Sn**	**22 32 51.4**	**+1.6**
baz=232							
SSLB	**Suanglung**	**1.67**	**234**	*e*

PB06	IPOC Station P	2.72 297	⇑iP		Pn	22 46 14.8	+0.9
PB06			i S		S	22 46 50.0	-0.1
PB06			IAML			22 46 51.9	
comp=N,232nm,0.1s							
PB09	IPOC Station P	3.02 315	⇑iP		Pn	22 46 18.6	+1.2
PB09			i S		S	22 46 56.8	+0.3
PB09			IAML			22 47 00.4	
comp=E,78nm,0.4s							
PB05	IPOC Station P	3.19 290	eP		Pn	22 46 19.7	+0.5
PB05			i S		S	22 46 58.1	-1.6
PB03	IPOC Station P	3.21 306	⇑iP		Pn	22 46 20.1	+0.5
PB03			i S		S	22 46 59.5	-1.0
PB14	IPOC Station P	3.21 258	⇑iP		Pn	22 46 20.0	+0.3
PB14			i S		S	22 46 59.0	-1.7
PB10	IPOC Station P	3.33 277	⇑iP		Pn	22 46 21.5	+0.7
PB10			eS		S	22 47 00.6	-2.0
PB04	IPOC Station P	3.36 298	⇑iP		Pn	22 46 21.8	+0.4
PB04			eS		S	22 47 02.0	-1.6
PB07	IPOC Station P	3.51 309	⇑iP		Pn	22 46 23.5	+0.4
PB07			i S		S	22 47 05.2	-1.7
PB01	IPOC Station P	3.74 321	⇑iP		Pn	22 46 26.0	+0.1
PB01			eS		S	22 47 10.4	-1.4
PB02	IPOC Station P	3.79 314	⇑iP		Pn	22 46 26.4	-0.1
PB02			i S		S	22 47 11.3	-1.6
AC01	Pan de Azucar	3.95 236	eP		Pn	22 46 27.6	-0.8
AC01			eS		S	22 47 13.4	-2.8
PATCX	Punta Patache	4.31 316	⇓eP		Pn	22 46 32.4	-0.6
PATCX			i S		S	22 47 22.3	-2.3
PB08	IPOC Station P	4.32 331	eP		Pn	22 46 34.1	+0.8
PB08			eS		S	22 47 24.9	-0.4
GO03	Copiap	4.66 219	eP		Pn	22 46 36.3	-0.9
GO01	Chusmiza	4.76 334	eP		Pn	22 46 39.6	+0.7
GO01			eS		S	22 47 36.0	+0.5
PB11	IPOC Station P	4.88 329	⇑eP		Pn	22 46 39.3	-0.9
PB11			eS		S	22 47 34.8	-3.0
LPAZ	La Paz	7.72 352	P		Pn	22 47 17.9	+0.7
comp=E,0.3nm,0.3s,baz=198,slow=3.2,SNR=8.7							
LPAZ			S		S	22 48 43.7	-1.2
comp=E,0.2nm,0.3s,baz=300,slow=7.4,SNR=5.2							
SIV	San Ignacio	9.67 36	P		Pn	22 47 40.0	-1.8
comp=E,0.7nm,0.3s,baz=227,slow=12,SNR=9.2							
PLCA	Paso Flores	16.98 189	P		P	22 49 13.1	+2.2
comp=E,0.1nm,0.3s,baz=11,slow=11,SNR=1.8							
BDFB	Brasilia	19.64 69	P		P	22 49 39.9	-0.1
comp=E,0.4nm,0.3s,baz=241,slow=13,SNR=7.8							
TORD	Torodi Ar. Bea	76.52 69	P		P	22 56 54.7	+0.4
comp=E,0.2nm,0.5s,baz=259,slow=6.3,SNR=5.5							

IDC 28 22:52:58.4±2.4, 6°.81S×129°.44E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=144.3km s-min=33.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.89	160	Pn	Pn	22 56 16.8	+0.1
0.3nm,0.3s,baz=343,slow=13,SNR=20							
WRA				Sn	Sn	22 58 40.0	-12
0.4nm,0.3s,baz=331,slow=23,SNR=7.2							
ASAR	Alice Springs	17.30	166	P	Pn	22 57 01.5	0.0
0.1nm,0.3s,baz=338,slow=9.9,SNR=2.0							
ASAR				S	Sn	22 59 58.7	-16
0.1nm,0.3s,baz=311,slow=17,SNR=2.3							
MKAR	Makanchi Array	67.77	327	P	P	23 03 58.1	0.0
0.2nm,0.3s,baz=116,slow=8.2,SNR=1.3							

*BGR **28** 22:52:46.2±0.0, 18°.14S×176°.34W, h33km*
*NEIC **28** 22:53:50.1±1.1, 17°.89S±0°.09×178°.4W±0°.1, h600km±7km, mb4.3/79, Error ellipse: s-maj=16.9km s-min=12.8km az=111.0*
*IDC **28** 22:53:51.9±2.6, 17°.93S×178°.47W, h611km±29km, mb3.4/14, mb1 3.6/15, mb1mx3.5/26, mbtmp4.3/15, Error ellipse: s-maj=26.9km s-min=12.2km az=147.0*
ISC 28 22:53:49.8±0.7, 17°.90S±0°.07×178°.35W±0°.07, h597km±8km, n224, σ0°.84/230, mb4.2/53, 24C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.44	272	P	P	22 55 12.2	+0.9
AFI	Afiamalu	7.46	59	P	P	22 55 42.6	-1.5
3.1nm,0.3s,baz=192,slow=21,SNR=2.1							
AFI				S	S	22 57 15.5	-2.1
3.1nm,0.3s,baz=73,slow=20,SNR=1.6							
AFI	Afiamalu	7.46	59	P	P	22 55 43.8	-0.3
NIUE	Niue	8.07	100	P	P	22 55 50.2	+0.5
RAO	Raoul Island	11.30	178	P	P	22 56 22.0	+0.7
DZM	Mont Dzumac	14.88	251	P	P	22 56 56.8	-0.3
0.7nm,0.3s,baz=82,slow=19,SNR=5.9							
DZM	Mont Dzumac	14.88	251	P	P	22 56 57.0	-0.1
KNTN	Kanton	16.38	24	P	P	22 57 10.3	-0.6
OUZ	Omahuta	18.68	201	P	P	22 57 31.5	0.0
OUZ				IAmb	IAmb	22 57 42.6	
comp=Z,15nm,1.2s							
MXZ	Matakaoa Point	19.81	188	P	P	22 57 42.5	+0.8
BFZ	Birch Farm	23.18	190	P	P	22 58 12.6	+0.7
THZ	Tophouse	24.93	196	P	P	22 58 28.1	+0.6
KHZ	Kahutara	25.39	194	P	P	22 58 32.2	+0.8
KHZ				IAmb	IAmb	22 58 38.4	
comp=Z,7.0nm,0.8s							
LTZ	Lake Taylor	26.05	196	P	P	22 58 37.3	+0.1
FOZ	Fox Glacier	27.44	199	P	P	22 58 47.5	-1.8
WKZ	Wanaka	28.86	199	P	P	22 59 00.3	-1.3
MLZ	Mavora Lakes	29.62	199	P	P	22 59 07.6	-0.6
MLZ				IAmb	IAmb	22 59 23.8	
comp=Z,4.4nm,0.9s							
ARMA	Armidale	29.99	240	P	P	22 59 12.2	+0.4
ARMA				IAmb	IAmb	22 59 13.8	
comp=Z,5.0nm,1.0s							
WHZ	Wether Hill Ro	30.15	199	P	P	22 59 12.0	-0.7
CTA	Charters Tower	33.51	261	P	P	22 59 41.8	+0.2
comp=Z,1.2nm,0.3s,baz=85,slow=11,SNR=1.7							
CTAO	Charters Tower	33.51	261	P	P	22 59 40.9	-0.7
CTAO				IAmb	IAmb	22 59 42.3	
comp=Z,10nm,1.1s							
COEN	Coen	37.16	270	P	P	23 00 11.3	-0.6
COEN				IAmb	IAmb	23 00 15.4	
comp=Z,7.0nm,0.8s							
TOO	Toolangi	37.22	231	P	P	23 00 12.0	-0.1
TOO				IAmb	IAmb	23 00 13.3	
comp=Z,7.8nm,0.8s							
STKA	Stephens Creek	38.68	241	P	P	23 00 24.4	+0.5
comp=Z,2.1nm,0.5s,baz=90,slow=12,SNR=3.8							
STKA	Stephens Creek	38.68	241	P	P	23 00 24.0	+0.1
WAKE	Wake Island	39.78	338	P	P	23 00 32.8	0.0
OBL	Observatory Le	43.46	33	P	P	23 01 00.7	-1.2
BBOO	Buckleboo	43.46	241	P	P	23 01 01.7	0.0
BBOO				IAmb	IAmb	23 01 04.8	
comp=Z,10nm,1.0s							
WB0	Warramunga Arr	44.66	260	P	P	23 01 11.3	+0.3
WB0				IAmb	IAmb	23 01 11.7	
comp=Z,5.4nm,0.8s							
WB0				PcP	PcP	23 02 40.2	-0.3
WB2	Warramunga Arr	44.68	260	P	P	23 01 11.3	+0.1
WRA	Warramunga Arr	44.69	260	P	P	23 01 11.1	-0.2
comp=Z,2.8nm,0.8s,baz=92,slow=7.0,SNR=13							
WRA				PcP	PcP	23 02 41.2	+0.5
comp=Z,1.6nm,0.7s,baz=93,slow=3.7,SNR=6.2							
WRA				S	S	23 07 01.5	-4.3
comp=Z,0.8nm,0.8s,baz=98,slow=13,SNR=4.2							
WRA	Warramunga Arr	44.69	260	P	P	23 01 10.5	-0.8
WRA					PcP	23 02 40.7	+0.1
AS31	Alice Springs	44.85	254	P	P	23 01 12.2	-0.3
ASAR	Alice Springs	44.85	254	P	P	23 01 12.8	+0.2
comp=Z,11nm,0.7s,baz=86,slow=8.6,SNR=87							
ASAR				PcP	PcP	23 02 41.6	+0.4
comp=Z,2.2nm,0.5s,baz=101,slow=3.9,SNR=10							
ASAR				S	S	23 07 06.1	-1.8
comp=Z,1.8nm,1.0s,baz=87,slow=13,SNR=10							
ASAR	Alice Springs	44.85	254	P	P	23 01 12.5	0.0
ASAR					PcP	23 02 41.0	-0.2
FORT	Forrest	50.06	245	P	P	23 01 50.4	-0.8
KNRA	Kununurra	50.55	264	P	P	23 01 54.3	-0.7
KNRA				IAmb	IAmb	23 01 55.5	
comp=Z,5.4nm,0.7s							
FAKI	Fak Fak	50.63	281	P	P	23 01 55.4	-0.2
FITZ	Fitzroy Crossi	53.09	261	P	P	23 02 13.3	+0.2
SOEI	Soe	56.13	270	P	P	23 02 34.5	-0.1
SOEI				IAmb	IAmb	23 02 40.8	
comp=Z,13nm,0.6s							
GIRL	Giralia	62.95	253	P	P	23 03 19.8	+0.3
JAGI	Jajag, Banyuwa	66.10	269	P	P	23 03 38.4	-1.1
CASY	Casey	66.17	205	P	P	23 03 39.1	+0.2
CASY				IAmb	IAmb	23 03 48.7	
comp=Z,7.6nm,1.1s							
JGF	Kuroka	67.77	322	P	P	23 03 48.8	-0.6
JGF				IAmb	IAmb	23 03 52.5	
comp=Z,7.0nm,1.0s							
MJAR	Matsushiro Arr	67.94	323	P	P	23 03 50.7	+0.4
comp=Z,4.6nm,0.6s,baz=162,slow=5.8,SNR=12							
MJAR	Matsushiro Arr	67.94	323	P	P	23 03 50.6	+0.4
MAJO	Matsushiro	67.94	323	P	P	23 03 50.5	+0.1
MAJO				IAmb	IAmb	23 03 51.4	
comp=Z,8.1nm,0.8s							
MAT	Matsushiro	67.94	323	P	P	23 03 51.0	+0.7
JMN	Monobe	68.63	318	P	P	23 03 56.0	+1.5
JMN				IAmb	IAmb	23 03 56.7	
comp=Z,9.8nm,0.8s							
JWT	Wachi	68.72	321	P	P	23 03 55.5	+0.5
JWT				IAmb	IAmb	23 04 02.2	
comp=Z,12nm,1.1s							
KKM	Kota Kinabalu	68.80	284	P	P	23 03 56.7	+0.6
KKM				IAmb	IAmb	23 03 57.6	
comp=Z,5.8nm,0.7s							
JSD	Sado	68.97	324	P	P	23 03 56.4	-0.1
ADK	Adak	69.50	1	P	P	23 03 59.5	+0.2
JHS	Saijyo	69.93	319	P	P	23 04 03.3	+1.0
YULB	Yu-li	71.81	303	P	P	23 04 13.1	-0.4
YULB				IAmb	IAmb	23 04 14.7	
comp=Z,6.5nm,0.8s							
QSPA	South Pole Qui	72.15	180	P	P	23 04 15.5	+0.6
UNV	Unalaska Valle	72.17	7	P	P	23 04 14.9	0.0
UNV				IAmb	IAmb	23 04 32.6	
comp=Z,17nm,1.2s							
SSLB	Suanglung	72.28	303	P	P	23 04 16.1	-0.2
SSLB				IAmb	IAmb	23 04 16.8	
comp=Z,5.4nm,0.5s							
TPUB	Ta-pu	72.31	302	P	P	23 04 16.4	0.0
PEA0B	Petropavlovsk-	73.69	345	P	P	23 04 23.9	+0.3
PETK	Petropavlovsk-	73.69	345	P	P	23 04 24.5	+0.9
comp=Z,6.7nm,0.6s,baz=102,slow=7.2,SNR=13							
PETK	Petropavlovsk-	73.69	345	P	P	23 04 24.3	+0.7
KSRS	Korea Array	74.73	318	P	P	23 04 31.6	+1.8
comp=Z,1.0nm,0.6s,baz=134,slow=5.1,SNR=3.1							
OHAK	Old Harbor	77.71	14	P	P	23 04 45.9	+0.3
OHAK				IAmb	IAmb	23 04 54.8	
comp=Z,16nm,1.2s							
YBH	Yreka Blue Hor	78.48	39	P	P	23 04 51.0	+0.7
WAKR	Walker	78.68	43	P	P	23 04 52.6	+1.1
HUMO	Hull Mountain	78.86	38	P	P	23 04 52.7	+0.5
PNTR	Pine Nut	78.90	43	P	P	23 04 53.5	+0.8
PAHR	Pah Rah Range	79.38	42	P	P	23 04 55.9	+0.7
NVAR	Mina Array Bea	79.38	44	P	P	23 04 56.6	+1.3
comp=Z,0.9nm,0.7s,baz=222,slow=8.4,SNR=8.7							
NVAR	Mina Array Bea	79.38	44	P	P	23 04 55.3	0.0
MOD	Modoc Plateau	80.04	40	P	P	23 04 57.0	-1.5
K05A	Summer Lake	80.16	39	P	P	23 05 00.2	+1.0
CNPM	China Poot	80.26	14	P	P	23 04 59.2	+0.1
CNPM				IAmb	IAmb	23 05 09.0	
comp=Z,11nm,1.0s							
H04A	Detroit Lake	80.55	37	P	P	23 05 01.6	+0.5
BRLK	Bradley Lake	80.56	14	P	P	23 04 58.9	-1.8
PINE	Pine Mountain	80.75	38	P	P	23 05 02.0	-0.2
SVW2	Sparrevohn	80.82	11	P	P	23 04 59.2	-2.8
SVW2				IAmb	IAmb	23 05 00.4	
comp=Z,4.5nm,0.8s							
E03A	Lebam	80.92	35	P	P	23 05 03.7	+1.0
E03A				IAmb	IAmb	23 05 19.0	
comp=Z,9.4nm,1.1s							
I07A	Izee	81.77	39	P	P	23 05 08.8	+1.4
LON	Longmire	82.00	35	P	P	23 05 08.7	+0.3
PSUT	Pine Spring	82.41	46	P	P	23 05 11.2	+0.3
GLI	Glacier Island	82.43	15	P	P	23 05 10.2	0.0
GLI				IAmb	IAmb	23 05 10.9	
comp=Z,11nm,0.8s							
TTA	Tatalina	82.46	10	P	P	23 05 11.0	+0.7
TTA				IAmb	IAmb	23 05 11.8	
comp=Z,5.5nm,1.1s							
IPM	Ipoh	82.48	277	P	P	23 05 10.8	-0.7
IPM				IAmb	IAmb	23 05 13.5	
comp=Z,9.1nm,0.8s							
G08A	Pilot Rock	82.77	38	P	P	23 05 12.3	-0.1
PPLA	Purkeypile	83.11	12	P	P	23 05 12.7	-1.0
PPLA				IAmb	IAmb	23 05 19.2	
comp=Z,5.8nm,1.0s							
ISLE	Juniper Island	83.44	17	P	P	23 05 15.8	+0.4
ISLE				IAmb	IAmb	23 05 26.6	
comp=Z,9.0nm,1.0s							
M24K	Tolsona, Glenn	83.72	15	P	P	23 05 17.7	+1.1
M24K				IAmb	IAmb	23 05 18.8	
comp=Z,8.2nm,0.7s							
GLB	Gilahina Butte	83.74	16	P	P	23 05 17.0	+0.3
GLB				IAmb	IAmb	23 05 17.5	
comp=Z,4.2nm,0.6s							
BALM	Baldy	83.80	17	P	P	23 05 17.4	+0.3
BALM				IAmb	IAmb	23 05 18.0	
comp=Z,5.0nm,0.6s							
MAW	Mawson	83.89	200	P	P	23 05 17.7	+0.3
comp=Z,1.2nm,0.6s,baz=162,slow=3.2,SNR=3.0							
MAW	Mawson	83.89	200	P	P	23 05 17.3	-0.1
KTH	Kantishna Hill	83.96	12	P	P	23 05 16.9	-0.9
KTH				IAmb	IAmb	23 05 19.1	
comp=Z,6.0nm,0.8s							
TRF	Thorofare Moun	83.99	12	P	P	23 05 17.9	-0.1
BARN	Barnard Glacie	84.00	17	P	P	23 05 18.7	+0.5
BARN				IAmb	IAmb	23 05 19.7	
comp=Z,4.6nm,0.8s							
CTGM	Chitina Glacie	84.02	17	P	P	23 05 18.8	+0.6
DHY	Denali Highway	84.28	14	P	P	23 05 19.4	-0.1
DHY				IAmb	IAmb	23 05 19.9	
comp=Z,4.6nm,0.5s							
HDA	Harding Lake	85.54	13	IAmb	IAmb	23 05 25.6	
comp=Z,3.6nm,0.8s							
HDA				P	P	23 05 25.8	+0.4
CCB	Clear Creek Bu	85.56	13	P	P	23 05 25.3	-0.1
CCB				IAmb	IAmb	23 05 25.4	
comp=Z,4.1nm,0.5s							
MDM	Murphy Dome	85.75	12	P	P	23 05 26.0	-0.4
MDM				IAmb	IAmb	23 05 26.8	
comp=Z,3.9nm,0.9s							
ILAR	Eielson Array	85.87	13	P	P	23 05 26.7	-0.2
comp=Z,1.5nm,0.4s,baz=221,slow=5.0,SNR=29							
TX31	Lajitas Ar. Si	85.94	58	P	P	23 05 28.1	-0.1
TXAR	Lajitas Array	85.94	58	P	P	23 05 30.1	+1.9
comp=Z,1.2nm,0.7s,baz=215,slow=6.0,SNR=15							
TXAR	Lajitas Array	85.94	58	P	P	23 05 28.2	0.0
XAN	Xi'an	86.30	307	P	P	23 05 32.0	+2.3
XAN				pP	PcP	23 05 37.5	+6.1
XAN				pmax	pmax		
comp=Z,12nm,1.0s							
PDAR	Pinedale Array	87.31	43	P	P	23 05 35.4	+0.9
comp=Z,0.9nm,0.6s,baz=227,slow=3.9,SNR=8.8							
PDAR	Pinedale Array	87.31	43	P	P	23 05 34.2	-0.3
HHC	Hu-ho-hao-te	87.31	314	eP	P	23 05 34.5	+0.1
HHC				pmax	pmax		
comp=Z,24nm,1.1s							
HHC				pmax	pmax		
comp=Z,140nm,5.5s							
CMAR	Chiang Mai Arr	88.94	290	P	P	23 05 44.1	+1.7
comp=Z,2.8nm,0.9s,baz=108,slow=2.9,SNR=14							
CMAR	Chiang Mai Arr	88.94	290	P	P	23 05 42.3	-0.1
LZH	Lanzhou	90.93	308	⇑P	P	23 05 53.0	+1.6
LZH				pP	pP	23 08 00.0	-0.6
LZH				sP	sP	23 08 58.5	-1.4
LZH				PP	PP	23 09 43.3	+4.4
LZH				pmax	pmax		
comp=Z,20nm,1.4s							
LZH				pmax	pmax		
comp=Z,65nm,9.3s							
SONM	Songino Array	93.58	319	P	P	23 06 04.4	+1.2
comp=Z,0.5nm,0.7s,baz=130,slow=3.9,SNR=3.7							
MKAR	Makanchi Array	109.17	314	PKiKP	PKiKP	23 11 11.8	-1.0
comp=Z,0.6nm,0.5s,baz=326,slow=1.8,SNR=13							
ARCES	ARCESS Array B	126.32	350	PKP	PKPdf	23 11 44.8	-0.1
comp=Z,1.7nm,0.8s,baz=8.0,slow=1.5,SNR=7.3							
FINES	FINESS Array B	133.20	344	PKhKP	PKPpre	23 11 51.2	
comp=Z,2.9nm,1.0s,baz=48,slow=2.1,SNR=1.5							
FINES				PKP	PKPdf	23 11 57.3	-0.9
comp=Z,1.5nm,0.7s,baz=230,slow=1.1,SNR=5.2							
FINES	FINESS Array B	133.20	344		PKPdf	23 11 57.5	-0.7
NOA	NORSAR Array B	136.38	353	PKP	PKiKP	23 12 05.4	-0.6
comp=Z,0.4nm,0.7s,baz=21,slow=3.8,SNR=1.6							
AKASG	Malin Array Be	140.58	332	PKhKP	PKPpre	23 12 05.8	
comp=Z,0.3nm,0.3s,baz=44,slow=4.1,SNR=3.2							
AKASG				PKP	PKPdf	23 12 12.8	+0.7
comp=Z,0.8nm,0.4s,baz=45,slow=3.0,SNR=6.1							
SORM	Soroca	142.81	330	⇓P	PKPdf	23 12 14.2	-1.9
PURM	Purcari	143.16	327	⇑P	PKPdf	23 12 17.3	+0.5
BSEG	Bad Segeberg	143.41	351	ePKPbc	PKPbc	23 12 16.3	+0.5
baz=14,slow=2.8							
IAS	Iasi	143.86	330	⇑P	PKPdf	23 12 18.2	+0.2
VASR	Vaslui	144.13	329	⇑P	PKPab	23 12 19.3	+0.7
RUE	Ruedersdorf	144.20	347	ePKPbc	PKPab	23 12 19.0	+0.4
baz=14,slow=2.8							
PRAR	RASCA	144.37	331	⇑P	PKiKP	23 12 22.6	-0.2
TLCR		144.60	326	⇑P	PKPab	23 12 20.6	+0.2
BURAR	Bucovina Array	144.63	332	⇑P	PKPab	23 12 21.5	+0.8
BURAR	Bucovina Array	144.63	332	PKPdf	PKPbc	23 12 19.7	-0.2
GHRR		144.73	328	⇑P	PKPab	23 12 21.6	+0.7
BIZ	Bicaz	144.73	331	⇑P	PKPab	23 12 21.7	+0.7
BR131	Keskin Array S	144.82	315		PKPab	23 12 21.2	-0.5
BRTR	Keskin Array B	144.82	315	PKP	PKPbc	23 12 20.8	0.0
comp=Z,2.9nm,0.6s,baz=110,slow=5.8,SNR=10							
BRTR	Keskin Array B	144.82	315	PKPdf	PKPdf	23 12 20.0	-0.2
KOLS	Kolonicke sedl	144.82	336	ePKP	PKPab	23 12 20.9	-0.3
NRDL	Niedersach Rie	144.85	351	ePKPbc	PKPbc	23 12 20.4	+0.3
baz=14,slow=2.8							
CFR	Carcaliu	144.96	327	⇑P	PKPbc	23 12 20.9	+0.2
ASSE	Asse, Remlinge	145.11	350	ePKPbc	PKPbc	23 12 21.4	+0.5
baz=14,slow=2.8							
VRI	Vrincioaia	145.20	329	⇑P	PKPab	23 12 22.5	-0.3
PLOR	Plostina	145.25	329	⇑P	PKPbc	23 12 21.9	+0.2
IBBN	Ibbenburen	145.33	353	ePKPbc	PKPbc	23 12 21.9	+0.3
baz=14,slow=2.8							
HARR	Harsova	145.40	326	⇓P	PKPab	23 12 23.2	-0.4
OSTC	Ostas	145.40	344	ePKP	PKPab	23 12 23.1	-0.3
OSTC				ex	x	23 12 25.5	
CHVC	Chvalec	145.41	344	ePKP	PKPab	23 12 22.9	-0.6
ARCR	ARCALIA	145.42	332	⇑P	PKPab	23 12 23.4	-0.2
TLBR	Topalu	145.43	326	⇑P	PKPbc	23 12 22.7	+0.5
CLZ	Clausthal	145.44	350	ePKPbc	PKPbc	23 12 22.4	+0.4
baz=14,slow=2.8							
CLL	Collm	145.47	347	⇓iPKPbc	PKPbc	23 12 22.5	+0.4
comp=Z,18nm,0.9s							
CLL	Collm	145.47	347	ePKPbc	PKPab	23 12 22.8	-0.8
baz=14,slow=2.8							
OZUR		145.50	330	⇓P	PKPab	23 12 23.4	-0.6
UPC	Upice	145.50	344	ePKP	PKPab	23 12 23.2	-0.6
DPC	Dobruska-Polom	145.56	343	ePKP	PKPab	23 12 23.3	-0.8
BRG	Berggiesshubel	145.67	346	i PKP	PKPbc	23 12 23.2	+0.5
comp=Z,6.6nm,0.7s							
BRG	Berggiesshubel	145.67	346	ePKPbc	PKPab	23 12 23.7	-0.7
baz=14,slow=2.8							
KRLC	Kraliky	145.68	343	ePKP	PKPbc	23 12 23.4	+0.6
MORC	Moravsky Berou	145.72	342	⇓P	PKPab	23 12 23.9	-0.9
MORC	Moravsky Berou	145.72	342	ePKP	PKPab	23 12 23.8	-0.9
NEHR	Nehoiu	145.73	329	⇓P	PKPab	23 12 23.9	+0.8
FBE	Freiberg	145.76	347	ePKPbc	PKPbc	23 12 23.6	+0.7
baz=14,slow=2.8							
DOPR	Dopca	145.78	330	⇓P	PKPab	23 12 24.3	-0.8
GTTG	Gottingen	145.79	351	ePKPbc	PKPbc	23 12 23.4	+0.4
baz=14,slow=2.8							
NEUB	Neuenburg	145.81	349	ePKPbc	PKPbc	23 12 23.6	+0.6
baz=14,slow=2.8							
PVCC	Panska Ves	145.85	345	ePKP	PKPbc	23 12 24.0	+0.8
MLR	Muntele Rosu	145.86	329	⇑P	PKPab	23 12 25.3	-0.3
MBAR	Mbarara	145.98	240		PKPbc	23 12 24.0	-0.9
CJR	Cluj-Napoca	146.04	333	⇓P	PKPbc	23 12 25.0	+1.0
SECR		146.12	328	⇑P	PKPbc	23 12 25.1	+1.0
PRA	Prague	146.31	345	ePKP	PKPbc	23 12 25.3	+0.8
VOIR		146.33	330	⇑P	PKiKP	23 12 26.1	-0.9
PRU	Pruhonice	146.35	345	ePKP	PKPbc	23 12 25.2	+0.6
PRU				ex	x	23 12 27.9	
GOPC	GO Pecny, Ondr	146.36	345	ePKP	PKPbc	23 12 25.3	+0.6
MOX	Moxa	146.38	349	ePKPbc	PKPbc	23 12 25.3	+0.7
baz=14,slow=2.8							
VRAC	Vranov	146.42	342	⇑P	PKPbc	23 12 24.9	0.0
VRAC	Vranov	146.42	342	ePKP	PKPbc	23 12 25.7	+0.9
TANN	Tannenbergstha	146.43	347	ePKPbc	PKPbc	23 12 25.8	+0.9
baz=14,slow=2.8							
VYHS	Vyhne	146.43	339	ePKP	PKiKP	23 12 26.1	-0.9
VYHS				e		23 12 30.0	
UBBA	Unterbreizbach	146.49	350	ePKPbc	PKPbc	23 12 25.7	+0.9
baz=14,slow=2.8							
JAVC	Velka Javorina	146.50	341	ePKP	PKiKP	23 12 27.2	0.0
GUNZ	Gunzen	146.50	348	ePKPbc	PKPbc	23 12 25.9	+0.9
baz=14,slow=2.8							
PSZ	Piszkesteto	146.55	338	⇑P	PKiKP	23 12 26.8	-0.5
PSZ	Piszkesteto	146.55	338	PKPdf	PKPdf	23 12 22.6	-0.1
WERN	Wernitzgruen	146.56	347	ePKPbc	PKPbc	23 12 26.2	+0.9
baz=14,slow=2.8							
ARR	Arges	146.58	330	⇑P	PKiKP

GO02	**Mina Guanaco**	**2.62 242**	*e*P	Pn	23 12 25.9	-0.2
GO02			*e*S	S	23 13 04.1	-0.7
GO02			IAML		23 13 05.1	
comp=N,267nm,0.3s						
PB06	**IPOC Station P**	**2.62 297**	⇑*i*P	Pn	23 12 26.3	+0.2
PB06			*i*S	S	23 13 03.1	-1.5
PB06			IAML		23 13 05.2	
comp=E,417nm,0.3s						
PB09	**IPOC Station P**	**2.94 316**	*e*P	Pn	23 12 29.8	+0.4
PB09			*i*S	S	23 13 09.8	-0.8
PB05	**IPOC Station P**	**3.09 290**	⇑*e*P	Pn	23 12 31.3	+0.3
PB05			*i*S	S	23 13 11.8	-1.7
PB03	**IPOC Station P**	**3.12 306**	⇑*i*P	Pn	23 12 31.5	+0.1
PB03			*e*S	S	23 13 11.9	-2.3
PB14	**IPOC Station P**	**3.14 257**	*e*P	Pn	23 12 32.3	+0.7
PB14			*i*S	S	23 13 13.9	-0.8
PB10	**IPOC Station P**	**3.24 277**	⇓*i*P	Pn	23 12 33.4	+0.9
PB10			*i*S	S	23 13 15.1	-1.2
PB04	**IPOC Station P**	**3.27 299**	⇑*e*P	Pn	23 12 33.5	+0.5
PB04			*i*S	S	23 13 15.9	-1.2
PB07	**IPOC Station P**	**3.42 309**	⇑*i*P	Pn	23 12 34.8	+0.1
PB07			*i*S	S	23 13 18.0	-2.1
PB01	**IPOC Station P**	**3.66 321**	⇓*e*P	Pn	23 12 37.0	-0.3
PB01			*e*S	S	23 13 22.0	-2.9
PB02	**IPOC Station P**	**3.70 314**	*e*P	Pn	23 12 37.9	+0.1
PB02			*e*S	S	23 13 23.1	-2.8
PATCX	**Punta Patache**	**4.23 317**	*e*P	Pn	23 12 43.8	-0.1
PATCX			*e*S	S	23 13 33.8	-3.2
PB08	**IPOC Station P**	**4.25 332**	*e*P	Pn	23 12 44.9	+0.3
PB08			*e*S	S	23 13 35.7	-2.3
GO01	**Chusmiza**	**4.69 334**	*e*P	Pn	23 12 49.8	-0.1
GO01			*e*S	S	23 13 45.6	-2.1

*IDC **28** 23:17:15.6±3.1,5°.54N×74°.11W,h102km±16km,mb3.7/1, mb1 4.0/1,mb1mx3.1/21,mbtmp4.0/1,Error ellipse: s-maj=159.4km s-min=45.0km az=95.0*
*RSNC **28** 23:17:16.7±1.1,5°.60N×74°.36W,h97km±6km,ML3.3, Mw3.5,Fault plane solution: NP1:φ=88.00000°, δ=57.00000°,λ=-142.00000°.*
ISC 28 23:17:16.2±0.9,5°.60N±0°.02×74°.37W±0°.03,h96km±6km, n35,σ1°=69/64,9C-4D,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.30**	**80**	⇓*i*P	**Pn**	**23 17 30.0**	**-0.4**
SPBC				*e*S	**Sn**	**23 17 39.5**	**-1.5**
SPBC				*i*		23 17 40.4	
comp=Z,2μm,0.3s							
ROSC	**El Rosal**	**0.76**	**177**	P	**Pn**	**23 17 34.8**	**+0.6**
comp=Z,152nm,0.3s,baz=16,slow=2.2,SNR=110							
ROSC				S	**Sn**	**23 17 48.7**	**+1.0**
comp=Z,252nm,0.3s,baz=273,slow=18,SNR=10.0							
ROSC	**El Rosal**	**0.76**	**177**	⇓*i*P	**Pn**	**23 17 34.8**	**+0.6**
ROSC				*e*S	**Sn**	**23 17 48.5**	**+0.8**
ROSC				*i*		23 17 50.4	
comp=Z,586nm,0.3s							
PTBC	**PUERTO BERRIO,**	**0.94**	**354**	⇑*i*P	**Pn**	**23 17 35.3**	**-0.4**
PTBC				*e*S	**Sn**	**23 17 49.5**	**-0.8**
PTBC				*i*		23 17 50.3	
comp=Z,483nm,0.3s							
GUY2C	**Guyana, Caldas**	**1.06**	**249**	⇑*i*P	**Pn**	**23 17 37.7**	**+0.2**
GUY2C				*e*S	**Sn**	**23 17 54.7**	**+1.2**
GUY2C				*i*		23 17 58.9	
comp=Z,308nm,0.4s							
CHIC	**Chingaza**	**1.15**	**147**	⇓*i*P	**Pn**	**23 17 38.9**	**+0.4**
CHIC				*e*S	**Sn**	**23 17 56.1**	**+0.9**
CHIC				*i*		23 17 57.6	
comp=Z,341nm,0.3s							
RUSC	**La Rusia**	**1.31**	**77**	*e*P	**Pn**	**23 17 40.5**	**+0.1**
RUSC				*e*S	**Sn**	**23 17 59.0**	**+0.4**
RUSC				*i*		23 18 03.3	
comp=Z,133nm,0.5s							
TOLC	**Tolima**	**1.39**	**223**	⇑*i*P	**Pn**	**23 17 41.5**	**+0.3**
TOLC				*e*S	**Sn**	**23 18 00.1**	**+0.1**
ANIL	**Santa Ana**	**1.51**	**223**	⇓*i*P	**Pn**	**23 17 43.4**	**+0.7**
ANIL				*e*S	**Sn**	**23 18 02.7**	**0.0**
ANIL				*i*		23 18 06.5	
comp=N,239nm,0.5s							
VILC	**Villavicencio,**	**1.62**	**156**	*e*P	**Pn**	**23 17 44.8**	**+0.8**
VILC				*e*S	**Sn**	**23 18 05.3**	**+0.3**
VILC				*i*		23 18 09.7	
comp=Z,400nm,0.3s							
BRRC	**Barranca, Sant**	**1.63**	**23**	⇑*i*P	**Pn**	**23 17 44.0**	**0.0**
BRRC				*e*S	**Sn**	**23 18 05.5**	**+0.5**
BRRC				*i*		23 18 09.7	
comp=Z,664nm,0.2s							
CBOC	**Ciudad Bolivar**	**1.66**	**279**	*e*P	**Pn**	**23 17 45.6**	**+1.2**
CBOC				*e*S	**Sn**	**23 18 06.5**	**+0.6**
CBOC				*i*		23 18 11.0	
comp=Z,92nm,0.4s							
ORTC	**Ortega, Tolima**	**1.90**	**208**	⇑*e*P	**Pn**	**23 17 47.7**	**+0.4**
ORTC				*e*S	**Sn**	**23 18 12.0**	**+0.9**
ORTC				*i*		23 18 18.4	
comp=Z,188nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.94**	**345**	*e*P	**Pn**	**23 17 47.6**	**-0.3**
ZARC				*e*S	**Sn**	**23 18 12.1**	**0.0**
ZARC				*i*		23 18 17.2	
comp=Z,313nm,0.3s							
PRAC	**Prado**	**1.94**	**195**	⇑*i*P	**Pn**	**23 17 47.9**	**-0.1**
PRAC				*e*S	**Sn**	**23 18 12.7**	**+0.5**
PRAC				*i*		23 18 16.6	
comp=Z,182nm,0.3s							
PLMC	**San Jos del P**	**2.03**	**250**	*e*P	**Pn**	**23 17 50.6**	**+1.5**
DBBC	**Dabeiba**	**2.31**	**308**	*e*P	**Pn**	**23 17 53.9**	**+1.1**
DBBC				*e*S	**Sn**	**23 18 16.3**	**-4.5**
DBBC				*i*		23 18 27.5	
comp=Z,258nm,0.7s							
PAMC	**Pamplona, Colo**	**2.39**	**44**	*e*P	**Pn**	**23 17 54.8**	**+0.6**
PAMC				*e*S	**Sn**	**23 18 23.9**	**+0.6**
PAMC				*i*		23 18 31.0	
comp=Z,105nm,0.5s							
UREC	**San Jos de Ur**	**2.43**	**332**	*e*P	**Pn**	**23 17 53.5**	**-0.9**
UREC				*e*S	**Sn**	**23 18 24.1**	**+0.5**
UREC				*i*		23 18 34.0	
comp=Z,82nm,0.1s							
YOTC	**Yotoco, Valle**	**2.54**	**231**	*e*P	**Pn**	**23 17 56.3**	**+0.4**
YOTC				*e*S	**Sn**	**23 18 30.4**	**+4.0**
TAMC	**Tame, Arauca**	**2.69**	**72**	⇑*i*P	**Pn**	**23 17 58.5**	**+0.7**
TAMC				*e*S	**Sn**	**23 18 28.8**	**-1.0**
TAMC				*i*		23 18 32.7	
comp=Z,79nm,0.4s							
OCAC	**Ocana**	**2.82**	**22**	*e*P	**Pn**	**23 17 59.7**	**0.0**
OCAC				*e*S	**Sn**	**23 18 34.4**	**+1.4**
MARP	**Paez Belalcaza**	**3.17**	**210**	*e*P	**Pn**	**23 18 04.2**	**-0.2**
MARP				*e*S	**Sn**	**23 18 42.3**	**+0.9**
SMLC	**San Martn de**	**3.19**	**5**	*e*P	**Pn**	**23 18 03.5**	**-1.0**
SMLC				*e*S	**Sn**	**23 18 44.5**	**+2.8**
SMLC				*i*		23 18 51.4	
comp=Z,122nm,0.3s							
MOTC	**Monteria, Cord**	**3.41**	**338**	⇑*e*P	**Pn**	**23 18 06.1**	**-1.4**
MOTC				*e*S	**Sn**	**23 18 46.7**	**-0.3**
MOTC				*i*		23 19 09.9	
comp=Z,39nm,0.4s							
MACC	**Macarena, Meta**	**3.47**	**171**	*e*P	**Pn**	**23 18 07.1**	**-1.2**
MACC				*e*S	**Sn**	**23 18 45.5**	**-2.9**
MACC				*i*		23 18 46.6	
comp=Z,43nm,0.2s							
GARC	**Garzon, Huila**	**3.57**	**198**	*e*P	**Pn**	**23 18 09.1**	**-0.7**
GARC				*e*S	**Sn**	**23 18 51.1**	**-0.2**
GARC				*i*		23 18 53.6	
comp=Z,150nm,0.2s							
POPC	**Popayan, Colom**	**3.81**	**217**	⇑*e*P	**Pn**	**23 18 14.1**	**+1.0**
PCON	**Cinco Dias**	**3.83**	**212**	*e*P	**Pn**	**23 18 14.8**	**+1.2**
FLOC	**Florencia**	**4.19**	**198**	*e*P	**Pn**	**23 18 17.7**	**-0.3**
FLOC				*e*S	**Sn**	**23 19 05.6**	**-0.4**
FLOC				*i*		23 19 11.7	
comp=Z,37nm,0.7s							
CAPC	**Capurgana**	**4.23**	**316**	*e*P	**Pn**	**23 18 17.1**	**-1.3**
CAPC				*e*S	**Sn**	**23 19 04.2**	**-2.6**
CAPC				*i*		23 19 07.2	
comp=Z,18nm,0.4s							
ARGC	**Ariguani, Magd**	**4.23**	**2**	*e*P	**Pn**	**23 18 19.1**	**+0.6**
ARGC				*e*S	**Sn**	**23 19 15.7**	**+8.8**
ARGC				*i*		23 19 28.1	
comp=Z,36nm,0.3s							
YKA	**Yellowknife Ar**	**63.98**	**341**	P	**P**	**23 27 38.6**	**-0.5**
comp=Z,0.8nm,0.5s,baz=128,slow=6.8,SNR=1.8							
ASAR	**Alice Springs**	**147.40**	**234**	PKPbc	**PKPdf**	**23 36 48.3**	**+1.0**
comp=Z,0.3nm,0.5s,baz=120,slow=3.7,SNR=5.0							
WRA	**Warramunga Arr**	**148.66**	**240**	PKPbc	**PKPbc**	**23 36 51.8**	**-1.5**
comp=Z,0.4nm,0.5s,baz=109,slow=2.5,SNR=8.9							

*IDC **29** 00:18:30.0±0.7,2°.74S×139°.32E,h0km,mb4.4/13, mb1 4.6/16,mb1mx4.4/34,mbtmp4.4/16,ML4.5/3,MS3.7/14, Ms1 3.7/14,ms1mx3.5/37,Error ellipse: s-maj=24.4km s-min=13.7km az=80.0*
*DJA **29** 00:18:33.2±1.0,3°.5±7°.×13°.9E±°,h12km±12km,M5.0/6, mb4.9/6,mB5.3/1,MLv5.1/4,Mw(mB)4.7/1,Mwp5.0/1*
*NEIC **29** 00:18:35.0±2.4,2°.80S±0°.09×139°.32E±0°.09,h34km±2km, mb4.6/49,Error ellipse: s-maj=15.0km s-min=9.9km az=221.0*
ISC 29 00:18:33.8±0.3,2°.75S±0°.05×139°.44E±0°.05,h27km,n119, σ1°=58/113,mb4.6/39,MS4.0/14,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.75**	**78**	P	**Pb**	**00 18 47.8**	**-0.4**
GENI				S	**Sn**	**00 18 59.3**	**+0.2**
WAMI	**Wamena**	**1.34**	**213**	P	**Pb**	**00 19 02.4**	**+4.0**
SRPI	**Serui, Papua**	**3.31**	**285**	P	**Pn**	**00 19 23.7**	**-0.2**
FAKI	**Fak Fak**	**7.18**	**268**	P	**Pn**	**00 20 18.6**	**+1.4**
0.3nm76nm,1.1s							
FAKI	**Fak Fak**	**7.18**	**268**	Pn	**Pn**	**00 20 17.2**	**+0.1**
SIJI	**Sorong**	**8.38**	**283**	Pn	**Pn**	**00 20 33.4**	**-0.2**
1.7nm,0.3s,baz=270,slow=20,SNR=1.9							
SIJI				Sn	Sn	00 21 55.9	-11
1.8nm,0.3s,baz=233,slow=20,SNR=2.1							
PMG	**Port Moresby**	**10.13**	**131**	Pn	Pn	00 21 04.8	+7.1
1.9nm,0.3s,baz=328,slow=10,SNR=4.9							
PMG				LR	LR	00 26 00.4	
comp=Z,454nm,20.1s,baz=266,slow=44							
PMG	**Port Moresby**	**10.13**	**131**	Pn	**Pn**	**00 20 57.9**	**+0.2**
COEN	**Coen**	**11.74**	**162**	Pn	**Pn**	**00 21 19.9**	**+0.3**
NLAI	**Namlea**	**12.33**	**267**	P	**Pn**	**00 21 28.3**	**+0.6**
46nm,0.6s							
MTN	**Manton Dam**	**12.97**	**219**	Pn	**Pn**	**00 21 34.2**	**-2.3**
SANI	**Sanana**	**13.45**	**273**	P	**Pn**	**00 21 43.3**	**+0.2**
1μm57nm,0.8s							
SOEI	**Soe**	**16.60**	**245**		**Pn**	**00 22 23.9**	**-1.1**
KNRA	**Kununurra**	**16.60**	**219**		**Pn**	**00 22 24.8**	**-0.1**
DAV	**Davao City (W)**	**16.92**	**305**	LR	LR	00 29 34.0	
comp=Z,126nm,18.2s,baz=148,slow=40							
BATI	**Baumata**	**17.33**	**244**	P	**P**	**00 22 35.0**	**-0.2**
14nm,0.3s,baz=90,slow=2.3,SNR=19							
WB0	**Warramunga Arr**	**17.62**	**196**		**Pn**	**00 22 35.3**	**-2.3**
WR0	**Warramunga Arr**	**17.77**	**195**		**Pn**	**00 22 37.1**	**-2.2**
WRAB	**Tennant Creek**	**17.79**	**196**	P	**Pn**	**00 22 38.5**	**-1.2**
WRAB				IAmb	IAmb	00 22 47.4	
comp=Z,24nm,0.8s							
WB2	**Warramunga Arr**	**17.80**	**196**	P	**Pn**	**00 22 37.7**	**-2.1**
WB2				IAmb	IAmb	00 22 47.5	
comp=Z,30nm,0.8s							
WRA	**Warramunga Arr**	**17.80**	**196**	P	**Pn**	**00 22 37.3**	**-2.5**
comp=Z,3.0nm,0.3s,baz=18,slow=13,SNR=51							
WRA				S	**Sn**	**00 25 51.0**	**-6.6**
comp=Z,0.9nm,0.3s,baz=10,slow=21,SNR=5.4							
WRA				Lg	Lg	00 27 55.5	
baz=15,slow=29,SNR=2.8							
WRA				LR	LR	00 29 55.3	
comp=Z,539nm,18.6s,baz=5.0,slow=38							
WRA	**Warramunga Arr**	**17.80**	**196**	P	**Pn**	**00 22 37.7**	**-2.1**
CTA	**Charters Tower**	**18.48**	**159**	P	**Pn**	**00 22 49.9**	**+1.7**
comp=Z,0.7nm,0.3s,baz=338,slow=12,SNR=11							
CTAO	**Charters Tower**	**18.48**	**159**	P	**Pn**	**00 22 48.3**	**+0.1**
KAPI	**Kappang**	**19.77**	**263**	LR	LR	00 32 54.9	
comp=Z,57nm,19.4s,baz=77,slow=44							
FITZ	**Fitzroy Crossi**	**20.39**	**221**	P	**P**	**00 23 07.8**	**-0.9**
comp=Z,18nm,0.8s,baz=0.3,slow=8.2,SNR=28							
FITZ				LR	LR	00 31 55.5	
comp=Z,613nm,18.4s,baz=82,slow=40							
FITZ	**Fitzroy Crossi**	**20.39**	**221**	P	**P**	**00 23 06.7**	**-2.1**
FITZ				IAmb	IAmb	00 23 25.6	
comp=Z,30nm,0.8s							
HNR	**Honiara**	**21.44**	**109**	LR	LR	00 31 08.6	
comp=Z,45nm,21.8s,baz=326,slow=35							
AS31	**Alice Springs**	**21.48**	**194**	P	**P**	**00 23 19.9**	**-0.6**
AS31				IAmb	IAmb	00 23 36.7	
comp=Z,12nm,0.6s							
ASAR	**Alice Springs**	**21.48**	**194**	P	**P**	**00 23 19.4**	**-1.1**
comp=Z,6.4nm,0.4s,baz=26,slow=8.2,SNR=64							
ASAR				S	**S**	**00 27 15.5**	**-2.0**
comp=Z,2.4nm,0.7s,baz=22,slow=27,SNR=3.0							
ASAR	**Alice Springs**	**21.48**	**194**	P	**P**	**00 23 19.3**	**-1.2**
MYLDM	**Lahad Datu**	**22.35**	**291**	P	**P**	**00 23 29.2**	**-0.7**
MYLDM				IAmb	IAmb	00 23 44.0	
comp=Z,38nm,1.0s							
TGY	**Tagaytay City**	**24.83**	**313**	LR	LR	00 33 25.4	
comp=Z,81nm,19.5s,baz=126,slow=36							
EIDS	**Eidsvold**	**25.13**	**155**	P	**P**	**00 23 58.6**	**+1.8**
PSA00	**Pilbara Seismi**	**26.71**	**224**	P	**P**	**00 24 08.6**	**-2.5**
PSA00				IAmb	IAmb	00 24 16.3	
comp=Z,20nm,1.1s							
SBUM	**Sibu**	**27.69**	**280**	P	**P**	**00 24 17.3**	**-2.8**
STKA	**Stephens Creek**	**29.05**	**176**	P	**P**	**00 24 32.6**	**+0.7**
comp=Z,3.0nm,0.5s,baz=334,slow=7.9,SNR=11							
STKA				LR	LR	00 37 21.2	
comp=Z,589nm,18.2s,baz=4.7,slow=39							
JCJ	**Chichijima**	**29.79**	**5**	LR	LR	00 35 04.7	
comp=Z,141nm,18.8s,baz=5.0,slow=33							
ARMA	**Armidale**	**29.85**	**158**	P	**P**	**00 24 40.1**	**+1.0**
ARMA				IAmb	IAmb	00 24 42.0	
comp=Z,9.8nm,1.0s							
BBOO	**Buckleboo**	**30.08**	**186**	P	**P**	**00 24 40.3**	**-0.7**
BBOO				IAmb	IAmb	00 24 53.2	
comp=Z,10nm,0.9s							
MORW	**Morawa**	**34.36**	**218**	P	**P**	**00 25 18.9**	**+0.3**
MORW				IAmb	IAmb	00 25 22.5	
comp=Z,15nm,1.0s							
TOO	**Toolangi**	**35.10**	**172**	P	**P**	**00 25 27.0**	**+2.0**
TOO				IAmb	IAmb	00 25 42.7	
comp=Z,13nm,1.1s							
NWAO	**Narrogin (SRO)**	**36.53**	**212**	P	**P**	**00 25 37.4**	**+0.2**
NWAO				IAmb	IAmb	00 25 51.0	
comp=Z,12nm,1.1s							
JNU	**Nakatsue**	**36.58**	**348**	LR	LR	00 38 20.4	
comp=Z,128nm,19.3s,baz=166,slow=33							
JHS	**Saijyo**	**38.01**	**352**	P	**P**	**00 25 50.4**	**+0.7**
JHS				IAmb	IAmb	00 25 59.6	
comp=Z,8.0nm,1.0s							
MJAR	**Matsushiro Arr**	**39.10**	**358**	LR	LR	00 40 19.1	
comp=Z,113nm,19.5s,baz=165,slow=34							
NJ2	**Nanjing**	**39.74**	**332**	*e*P	**P**	**00 26 05.8**	**+1.5**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.5s							
RPSI	**Rantau Prapat**	**40.86**	**277**	P	**P**	**00 26 12.8**	**-1.0**
PSI	**Prapat**	**40.87**	**277**	P	**P**	**00 26 12.8**	**-1.3**
comp=Z,6.1nm,0.4s,baz=116,slow=2.5,SNR=7.4							
KSRS	**Korea Array**	**41.40**	**346**	LR	LR	00 43 54.0	
comp=Z,55nm,18.4s,baz=145,slow=37							
GYA	**Guiyang**	**42.96**	**315**	*e*P	**P**	**00 26 32.0**	**+1.0**
GYA				pP	sP	00 26 41.3	-1.3
GYA				pmax	pmax		
comp=Z,4.0nm,0.9s							
GYA				LR	LR		
comp=N,190nm,7.9s							
GYA				LR	LR		
comp=E,240nm,10.7s							
GYA				LR	LR		
comp=Z,310nm,10.8s							
CMAR	**Chiang Mai Arr**	**45.09**	**299**	P	**P**	**00 26 47.6**	**-0.4**
comp=Z,1.0nm,0.4s,baz=122,slow=6.4,SNR=9.4							
CMAR				PcP	**PcP**	**00 28 28.7**	**+0.1**
comp=Z,0.9nm,0.4s,baz=162,slow=2.7,SNR=5.3							
CHTO	**Chiang Mai**	**45.23**	**300**	P	**P**	**00 26 47.8**	**-1.4**
XAN	**Xi'an**	**46.52**	**324**	P	**P**	**00 26 58.8**	**-0.4**
XAN				pP	pP	00 27 05.0	-2.5
XAN				pmax	pmax		
comp=Z,8.0nm,1.5s							
XAN	**Xi'an**	**46.52**	**324**	P	**P**	**00 26 57.3**	**-1.9**
XAN				IAmb	IAmb	00 27 05.3	
comp=Z,6.0nm,1.1s							
CD2	**Chengdu**	**47.70**	**317**	*e*P	**P**	**00 27 08.3**	**-0.1**
MLZ	**Mavora Lakes**	**49.35**	**154**	P	**P**	**00 27 22.6**	**+1.7**
LTZ	**Lake Taylor**	**49.45**	**148**	P	**P**	**00 27 23.2**	**+1.5**
LTZ				IAmb	IAmb	00 27 30.3	
comp=Z,8.2nm,1.0s							
RPZ	**Rata Peaks**	**49.49**	**150**	P	**P**	**00 27 23.9**	**+1.8**
HHC	**Hu-ho-hao-te**	**50.30**	**333**	*e*P	**P**	**00 27 30.0**	**+1.8**
HHC				pmax	pmax		
comp=Z,19nm,0.9s							
HHC				pmax	pmax		
comp=Z,120nm,5.4s							
HHC				LR	LR		
comp=N,310nm,12.9s							
HHC				LR	LR		
comp=E,340nm,12.3s							
HHC				LR	LR		
comp=Z,170nm,12.7s							
LZH	**Lanzhou**	**50.95**	**323**	*e*P	**P**	**00 27 36.0**	**+2.7**
LZH				pP	sP	00 27 48.5	+3.5
LZH				pmax	pmax		
comp=Z,20nm,1.3s							
LZH				pmax	pmax		
comp=Z,130nm,6.2s							
LZH				LR	LR		
comp=N,190nm,15.2s							
LZH				LR	LR		
comp=E,200nm,15.5s							
LZH				LR	LR		
comp=Z,320nm,17.4s							
GTA	**Gaotai**	**55.53**	**323**	*e*P	**P**	**00 28 07.3**	**+0.3**
GTA				pP	sP	00 28 19.5	+0.8
GTA				sP	pP	00 28 25.0	+10
GTA				S	**S**	**00 35 47.5**	**-3.4**
GTA				sS	sS	00 36 10.0	+5.2
GTA	**Gaotai**	**55.53**	**323**	SS	**SS**	**00 39 35.3**	**-1.0**
GTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,46nm,7.8s							
GTA				LR	LR		
comp=N,100nm,15.3s							
GTA				LR	LR		
comp=E,220nm,16.0s							
GTA				LR	LR		
comp=Z,110nm,16.7s							
PETK	**Petropavlovsk-**	**57.73**	**13**	P	**P**	**00 28 24.4**	**+2.2**
comp=Z,3.9nm,0.9s,baz=203,slow=11,SNR=4.2							
SONM	**Songino Array**	**58.06**	**334**	P	**P**	**00 28 25.8**	**+1.0**
comp=Z,0.9nm,0.6s,baz=160,slow=7.1,SNR=5.9							
SONM				LR	LR	00 54 09.3	
comp=Z,123nm,19.1s,baz=135,slow=37							
SONM	**Songino Array**	**58.06**	**334**	P	**P**	**00 28 26.3**	**+1.5**
WMQ	**Urumqi**	**65.49**	**321**	*e*P	**P**	**00 29 16.0**	**+1.2**
MK31	**Makanchi Array**	**70.26**	**322**	P	**P**	**00 29 45.4**	**+0.6**
MKAR	**Makanchi Array**	**70.26**	**322**	P	**P**	**00 29 45.1**	**+0.3**
comp=Z,4.1nm,0.6s,baz=103,slow=7.8,SNR=28							
MKAR	**Makanchi Array**	**70.26**	**322**	P	**P**	**00 29 45.0**	**+0.3**
MAKZ	**Makanchi**	**70.46**	**322**	P	**P**	**00 29 46.2**	**+0.2**
MAKZ				IAmb	IAmb	00 29 49.8	
comp=Z,7.2nm,1.0s							
NIL	**Nilore**	**71.93**	**307**	P	**P**	**00 29 55.4**	**+0.2**
SPIA	**Saint Paul Isl**	**72.09**	**26**	P	**P**	**00 29 57.0**	**+1.4**
ZAA0	**Zalesovo Array**	**72.33**	**330**	P	**P**	**00 29 56.5**	**-0.6**
ZALV	**Zalesovo Beam**	**72.33**	**330**	P	**P**	**00 29 56.0**	**-1.1**
comp=Z,2.1nm,0.5s,baz=108,slow=6.5,SNR=11							
ZALV	**Zalesovo Beam**	**72.33**	**330**	P	**P**	**00 29 56.3**	**-0.7**
BOOM	**Boomskoye usch**	**72.68**	**316**	IAmb	IAmb	00 30 01.4	
comp=Z,4.5nm,0.6s							
KBL	**Kabul**	**75.53**	**307**	P	**P**	**00 30 15.7**	**-0.8**
KBL				IAmb	IAmb	00 30 16.4	
comp=Z,3.1nm,0.7s							
GAR	**Garm**	**75.67**	**311**	P	**P**	**00 30 17.0**	**-0.1**
GAR				IAmb	IAmb	00 30 18.1	
comp=Z,8.5nm,0.6s							
VNDA	**Vanda**	**75.68**	**175**	P	**P**	**00 30 17.2**	**+1.0**
comp=Z,5.2nm,0.7s,baz=326,slow=6.8,SNR=63							
VNDA				LR	LR	01 02 18.2	
comp=Z,101nm,20.1s,baz=352,slow=35							
VNDA	**Vanda**	**75.68**	**175**	P	**P**	**00 30 17.2**	**+1.0**
VNDA				IAmb	IAmb	00 30 20.9	
comp=Z,5.1nm,0.7s							
CHGR	**Chuyangaron**	**76.45**	**311**	P	**P**	**00 30 21.5**	**-0.1**
KKAR	**Karatay Array**	**76.66**	**315**	P	**P**	**00 30 22.5**	**0.0**
BRVK	**Borovoye**	**79.83**	**325**	P	**P**	**00 30 40.1**	**+0.3**
BRVK				IAmb	IAmb	00 30 40.6	
comp=Z,3.8nm,0.6s							
NRIK	**Noril'sk**	**79.96**	**344**	P	**P**	**00 30 40.9**	**+0.7**
comp=Z,1.7nm,0.6s,baz=150,slow=2.0,SNR=2.3							
OHAK	**Old Harbor**	**80.21**	**31**	P	**P**	**00 30 43.4**	**+1.7**
SVW2	**Sparrevohn**	**80.58**	**27**	P	**P**	**00 30 44.4**	**+0.7**
TTA	**Tatalina**	**81.14**	**25**	P	**P**	**00 30 47.9**	**+1.2**
CNPM	**China Poot**	**82.02**	**29**	P	**P**	**00 30 52.4**	**+1.0**
MAW	**Mawson**	**82.36**	**202**	P	**P**	**00 30 53.5**	**+0.5**
comp=Z,2.4nm,0.7s,baz=88,slow=7.1,SNR=7.6							
MAW	**Mawson**	**82.36**	**202**	P	**P**	**00 30 53.5**	**+0.5**
PPLA	**Purkeypile**	**82.74**	**25**	P	**P**	**00 30 56.4**	**+1.1**
PPLA				IAmb	IAmb	00 30 57.5	
comp=Z,4.2nm,1.2s							
IMAR	**Indian Mountai**	**83.25**	**22**	P	**P**	**00 30 59.5**	**+1.9**
GHO	**Glory Hole Cre**	**83.81**	**27**	P	**P**	**00 31 02.7**	**+2.0**
GHO				IAmb	IAmb	00 31 13.3	
comp=Z,4.6nm,1.1s							
GEYT	**Alibeck**	**84.83**	**308**	P	**P**	**00 31 06.3**	**0.0**
comp=Z,2.7nm,0.7s,baz=50,slow=2.3,SNR=7.6							
CCB	**Clear Creek Bu**	**85.15**	**24**	IAmb	IAmb	00 31 07.7	
comp=Z,4.9nm,0.9s							
ABKAR	**Akbulak array**	**85.22**	**320**	P	**P**	**00 31 07.3**	**-0.6**
ABKAR	**Akbulak array**	**85.22**	**320**	P	**P**	**00 31 07.3**	**-0.6**
ABKAR				IAmb	IAmb	00 31 09.

PET				*e*S		**Sn**	**00 29 43.7 +0.6**
GNL	**Ganaly**	**1.72**	**255**	*e*P		**Pn**	**00 29 23.2 +0.3**
BZGR	**Bezymyannyi-Gr**	**1.77**	**359**	*e*P		**Pn**	**00 29 23.6 0.0**
KIRR	**Kirishev**	**1.80**	**353**	*e*P		**Pn**	**00 29 24.0 0.0**
KIRR				*e*S		**Sn**	**00 29 46.4 +0.4**
BZWR	**Bezymyannyi-We**	**1.80**	**356**	*e*P		**Pn**	**00 29 24.2 +0.1**
KPT	**Kopyto**	**1.82**	**351**	*e*P		**Pn**	**00 29 24.2 -0.1**
ZLN	**Zelenaya**	**1.85**	**1**	*e*P		**Pn**	**00 29 25.0 +0.3**
LGNR	**Loginova**	**1.92**	**359**	*e*P		**Pn**	**00 29 26.3 +0.6**
LGNR				*e*S		**Sn**	**00 29 50.5 +1.5**
CIRR	**Tsirk**	**1.95**	**0**	*e*P		**Pn**	**00 29 26.4 +0.4**
KOZ	**Kozyrevsk**	**1.96**	**346**	*e*P		**Pn**	**00 29 26.0 0.0**
KRSR	**Krestovskiy**	**2.05**	**357**	*e*P		**Pn**	**00 29 27.1 -0.3**
KRMR	**Karymshinskiy**	**2.06**	**230**	*e*P		**Pn**	**00 29 27.8 +0.5**
KRMR				*e*S		**Sn**	**00 29 53.2 +1.3**
PETK	**Petropavlovsk-**	**2.10**	**241**	Pn		**Pn**	**00 29 27.8 -0.1**
	16nm,0.3s,baz=74,slow=17,SNR=154						
PETK				Sn		**Sn**	**00 29 54.5 +1.5**
	9.8nm,0.3s,baz=308,slow=4.9,SNR=10.0						
ESO	**Esso**	**2.11**	**327**	*e*P		**Pn**	**00 29 27.5 -0.6**
KLY	**Klyuchi**	**2.15**	**359**	*e*P		**Pn**	**00 29 28.5 0.0**
RUS	**Russkaya**	**2.19**	**218**	*e*P		**Pn**	**00 29 28.5 -0.7**
RUS				*e*S		**Sn**	**00 29 53.9 -1.3**
SRDR	**Sredinnyy**	**2.23**	**345**	*e*P		**Pn**	**00 29 28.9 -0.8**
GRL	**Gorelyy**	**2.28**	**226**	*e*P		**Pn**	**00 29 31.3 +0.9**
MTVR	**Mutnovka**	**2.28**	**223**	*e*P		**Pn**	**00 29 30.7 +0.2**
MTVR				*e*S		**Sn**	**00 29 58.1 +0.5**
BDR	**Baidarnaya**	**2.42**	**6**	*e*P		**Pn**	**00 29 32.7 +0.4**
SMKR	**Semkarok**	**2.45**	**9**	*e*P		**Pn**	**00 29 32.8 0.0**
ASAK	**Asacha**	**2.47**	**225**	*e*P		**Pn**	**00 29 33.6 +0.6**
ASAK				*e*S		**Sn**	**00 30 02.9 +0.8**
APC	**Apacha**	**2.47**	**241**	*e*P		**Pn**	**00 29 33.4 +0.5**
SRKR	**Sorokina**	**2.50**	**5**	*e*P		**Pn**	**00 29 33.5 +0.1**
KDTR	**Khodutka, Kamc**	**2.86**	**215**	*e*P		**Pn**	**00 29 37.8 -0.4**
KDTR				*e*S		**Sn**	**00 30 10.4 -1.0**
BKI	**Bering**	**3.21**	**69**	*e*P		**Pn**	**00 29 44.3 +1.4**
MKAR	**Makanchi Array**	**48.04**	**295**	LR		LR	01 00 26.6
	comp=Z,71nm,18.7s,baz=14,slow=39						
NVAR	**Mina Array Bea**	**55.02**	**71**	P		**P**	**00 38 19.7 +0.1**
	0.5nm,0.6s,baz=309,slow=7.6,SNR=3.9						
TXAR	**Lajitas Array**	**69.87**	**68**	P		**P**	**00 39 57.5 -1.1**
	0.4nm,0.7s,baz=298,slow=5.8,SNR=3.6						

BJI ***29*** *00:32:29.3±0.0, 32°.64N×85°.91E, h7km, mb4.3/6, Ms3.9/7, Ms7 3.8/4*
IDC ***29*** *00:32:29.3±1.0, 32°.56N×86°.32E, h0km, mb3.6/7, mb1 3.9/10, mb1mx3.6/40, mbtmp3.7/10, ML3.1/2, MS3.5/11, Ms1 3.5/11, ms1mx3.3/41, Error ellipse: s-maj=35.5km s-min=18.5km az=64.0*
NEIC ***29*** *00:32:30.2±2.2, 32°.5N±0°.1×86°.02E±0°.09, h10km±1km, mb4.1/20, Error ellipse: s-maj=18.3km s-min=11.4km az=25.0*
ISC 29 00:32:31.4±0.5, 32°.64N±0°.08×86°.11E±0°.05, h10km, n60, σ1$96/50, mb3.9/14, MS3.6/12, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.22**	**123**	Pn	**Pn**	**00 33 53.0**	**+3.0**
LSA				Sg	**Sg**	**00 35 17.3**	**-1.7**
LSA	**Lhasa**	**5.22**	**123**	Pn	**Pn**	**00 33 52.1**	**+2.2**
SMLA	**Simla**	**7.75**	**261**	*e*P	**Pn**	**00 34 28.2**	**+3.9**
SMLA				*i* x	x	00 36 55.0	
DHRM	**DHARAMSHALA**	**8.30**	**270**	*e*P	**Pn**	**00 34 30.9**	**-1.1**
SHL	**Shillong**	**8.66**	**143**	Pn	**Pn**	**00 34 36.5**	**-0.5**
NIL	**Nilore**	**10.83**	**279**		**Pn**	**00 35 07.1**	**+0.6**
NIL					**Sn**	**00 37 14.8**	**+7.0**
TARG	**Taragay, Kyrgy**	**11.23**	**326**	Pn	**Pn**	**00 35 12.9**	**+0.6**
WMQ	**Urumqi**	**11.24**	**6**	*e*P	Pn	00 35 05.0	-7.1
WMQ				smax	smax		
	comp=N,8.0nm,0.5s						
WMQ				smax	smax		
	comp=E,14nm,0.9s						
GAR	**Garm**	**14.29**	**301**	Pn	**Pn**	**00 35 51.7**	**-2.2**
KBL	**Kabul**	**14.35**	**282**	Pn	**Pn**	**00 35 53.3**	**-1.6**
MK31	**Makanchi Array**	**14.44**	**349**	P	**Pn**	**00 35 57.1**	**+1.3**
MKAR	**Makanchi Array**	**14.44**	**349**	Pn	**Pn**	**00 35 55.8**	**-0.1**
	comp=E,0.1nm,0.3s,baz=159,slow=14,SNR=5.7						
MKAR				LR	LR	00 42 26.1	
	comp=E,109nm,19.9s,baz=162,slow=41						
MKAR	**Makanchi Array**	**14.44**	**349**	Pn	**Pn**	**00 35 57.1**	**+1.3**
MAKZ	**Makanchi**	**14.50**	**349**		**Pn**	**00 35 56.7**	**0.0**
CHGR	**Chuyangaron**	**15.03**	**298**		**Pn**	**00 36 02.6**	**-1.3**
CHGR				IAmb	IAmb	00 36 12.7	
	comp=Z,19nm,1.2s						
LZH	**Lanzhou**	**15.05**	**72**	*e*P	**Pn**	**00 36 06.3**	**+2.0**
LZH				pP	P	00 36 12.5	+2.8
LZH				sP	pP	00 36 16.3	+2.5
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH				LR	LR		
	comp=Z,410nm,11.3s						
LZH				LR	LR		
	comp=Z,340nm,14.5s						
KK31	**Karatay Array**	**16.12**	**315**	Pn	**Pn**	**00 36 17.7**	**-0.5**
KKAR	**Karatay Array**	**16.12**	**315**		**Pn**	**00 36 18.9**	**+0.8**
KKAR	**Karatay Array**	**16.12**	**315**	Pn	**Pn**	**00 36 18.5**	**+0.4**
KKAR				IAmb	IAmb	00 36 33.0	
	comp=Z,3.6nm,1.4s						
KMI	**Kunming**	**16.37**	**113**	⇑P	**Pn**	**00 36 24.3**	**+2.8**
KMI				LR	LR		
	comp=Z,160nm,11.7s						
KMI				LR	LR		
	comp=Z,260nm,10.6s						
CMAR	**Chiang Mai Arr**	**18.23**	**138**	P	**Pn**	**00 36 42.6**	**-2.1**
	baz=311,slow=17,SNR=2.9						
KURBB	**Kurchatov Arra**	**18.82**	**345**	P	**P**	**00 36 50.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=159,slow=11,SNR=22						
KURK	**Kurchatov**	**18.89**	**345**	P	**P**	**00 36 51.3**	**-0.6**
KURK				IAmb	IAmb	00 36 52.8	
	comp=Z,17nm,1.2s						
XAN	**Xi'an**	**19.11**	**80**	P	**P**	**00 36 54.8**	**+0.3**
HRA	**Herat**	**19.97**	**282**	Pn	**P**	**00 37 03.7**	**-0.3**
HRA				IAmb	IAmb	00 37 11.3	
	comp=Z,4.1nm,1.1s						
ZAA0	**Zalesovo Array**	**21.32**	**358**	P	**P**	**00 37 16.9**	**-1.4**
ZAA0				IAmb	IAmb	00 37 18.8	
	comp=Z,7.0nm,1.3s						
ZALV	**Zalesovo Beam**	**21.32**	**358**	P	**P**	**00 37 17.9**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=177,slow=10,SNR=12						
ZALV				LR	LR	00 46 51.4	
	comp=Z,207nm,18.5s,baz=184,slow=40						
ZALV	**Zalesovo Beam**	**21.32**	**358**	P	**P**	**00 37 17.4**	**-0.9**
SONM	**Songino Array**	**21.59**	**39**	P	**P**	**00 37 20.6**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=220,slow=13,SNR=5.6						
SONM	**Songino Array**	**21.59**	**39**	P	**P**	**00 37 21.5**	**+0.1**
HHC	**Hu-ho-hao-te**	**21.93**	**61**	*e*P	**P**	**00 37 29.3**	**+4.2**
HHC				LR	LR		
	comp=Z,310nm,10.5s						
HHC				LR	LR		
	comp=Z,180nm,10.2s						
ULN	**Ulaanbaatar**	**21.96**	**40**	P	**P**	**00 37 25.5**	**+0.1**
ULN				IAmb	IAmb	00 37 30.8	
	comp=Z,7.2nm,1.4s						
TLY	**Talaya**	**22.94**	**29**	LR	LR	00 47 18.1	
	comp=Z,100nm,19.2s,baz=226,slow=39						
TLY	**Talaya**	**22.94**	**29**	P	**P**	**00 37 35.8**	**+0.2**
TLY				IAmb	IAmb	00 37 47.5	
	comp=Z,10nm,1.3s						
BRVK	**Borovoye**	**23.38**	**335**	P	**P**	**00 37 39.7**	**-0.3**
GEYT	**Alibeck**	**23.41**	**291**	LR	LR	00 47 15.8	
	comp=Z,73nm,18.6s,baz=185,slow=38						
GYA0B	**ALIBECK ARRAY**	**23.41**	**291**	P	**P**	**00 37 39.3**	**-1.3**
GYA0B				IAmb	IAmb	00 37 52.1	
	comp=Z,3.2nm,1.1s						
QIZ	**Qiongzhong**	**25.22**	**117**	P	**P**	**00 38 00.8**	**+3.3**
QIZ				S	**S**	**00 42 23.3**	**+0.2**
QIZ				LR	LR		
	comp=Z,130nm,16.2s						
QIZ				LR	LR		
	comp=Z,120nm,12.8s						
BJT	**Baijiatuau**	**25.23**	**64**	P	**P**	**00 37 55.6**	**-1.8**
BJT				IAmb	IAmb	00 38 06.4	
	comp=Z,5.2nm,0.9s						
ABKAR	**Akbulak array**	**25.62**	**318**	P	**P**	**00 38 00.2**	**-0.7**
ABKAR	**Akbulak array**	**25.62**	**318**	P	**P**	**00 38 00.0**	**-0.9**
ABKAR				IAmb	IAmb	00 38 04.8	
	comp=Z,5.9nm,1.5s						
WSAR	**Wadi Sarin**	**25.95**	**256**	LR	LR	00 49 45.0	
	comp=Z,78nm,18.0s,baz=78,slow=40						
AKTO	**Aktyubinsk**	**27.30**	**319**	LR	LR	00 49 52.2	
	comp=Z,165nm,18.2s,baz=128,slow=38						
SSLB	**Suanglung**	**31.83**	**97**	P	P	00 38 52.7	-3.9
YHNB	**Yeheng**	**31.84**	**95**	P	P	00 38 54.0	-2.6
KSAR	**Wonju Array Be**	**34.34**	**70**	P	P	00 39 15.8	-2.4
KSRS	**Korea Array**	**34.37**	**70**	LR	LR	00 54 28.5	
	comp=Z,53nm,19.4s,baz=235,slow=39						
NRIK	**Noril'sk**	**36.76**	**1**	LR	LR	00 55 59.1	
	comp=Z,75nm,18.2s,baz=193,slow=38						
LEM	**Lembang**	**44.26**	**149**	LR	LR	01 04 15.8	
	comp=Z,70nm,18.3s,baz=123,slow=43						
ATD	**Arta Tunnel**	**44.86**	**252**	P	**P**	**00 40 43.8**	**-2.5**
AKASG	**Malin Array Be**	**44.98**	**311**	LR	LR	01 00 22.4	
	comp=Z,69nm,19.0s,baz=330,slow=37						
FINES	**FINESS Array B**	**47.68**	**326**	P	**P**	**00 41 07.8**	**0.0**
	comp=Z,2.5nm,0.9s,baz=112,slow=15,SNR=5.1						
PSZ	**Piszkesteto**	**51.24**	**308**	P	**P**	**00 41 33.9**	**-1.4**
PSZ				IAmb	IAmb	00 41 39.1	
	comp=Z,2.9nm,0.8s						
RGN	**Rugen**	**54.43**	**317**	P	**P**	**00 41 57.5**	**-1.0**
GERES	**GERESS Array B**	**55.15**	**310**	P	**P**	**00 42 01.5**	**-2.5**
WRA	**Warramunga Arr**	**69.71**	**132**	P	P	00 43 39.2	-2.4
	comp=Z,0.3nm,0.6s,baz=324,slow=6.4,SNR=3.6						
ASAR	**Alice Springs**	**72.21**	**134**	P	**P**	**00 43 55.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=314,slow=5.9,SNR=5.3						
ILAR	**Eielson Array**	**74.50**	**21**	P	**P**	**00 44 10.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=321,slow=4.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**78.39**	**278**	P	**P**	**00 44 34.2**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=41,slow=5.1,SNR=3.5						
TORD				LR	LR	01 25 08.5	
	comp=Z,31nm,18.9s,baz=45,slow=40						
TORD	**Torodi Ar. Bea**	**78.39**	**278**	P	**P**	**00 44 30.1**	**-2.5**

BJI ***29*** *01:05:34.2±0.0, 41°.97N×144°.35E, h8km, mB4.9/51, mb5.0/68, Ms4.4/57, Ms7 4.2/55*
IDC ***29*** *01:05:34.4±0.6, 41°.96N×144°.34E, h0km, mb4.5/24, mb1 4.6/28, mb1mx4.5/47, mbtmp4.5/28, ML3.5/4, MS4.1/12, Ms1 4.1/12, ms1mx3.8/35, Error ellipse: s-maj=17.0km s-min=12.6km az=150.0*
NEIC ***29*** *01:05:38.0±1.8, 41°.93N±0°.06×144°.42E±0°.10, h23km±4km, mb4.9/107, Error ellipse: s-maj=11.1km s-min=8.7km az=117.0*
MOS ***29*** *01:05:38.5±1.0, 41°.93N×144°.31E, h39km, mb5.1/61, MS4.0/8, Error ellipse: s-maj=6.1km s-min=4.5km az=116.2*
JMA ***29*** *01:05:38.5±0.1, 41°.94N×144°.45E, h41km±2km, M4.8*
JMA Felt II J1.
NIED ***29*** *01:05:38.6, 41°.94N×144°.45E, h41km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.38; Mθθ-0.53; Mφφ0.15; Mrθ0.16; Mθφ-0.84; Mφr0.92; Fault plane solution: M0 1.34000×10^16 NP1:φs 18.00000°, δ79.00000°, λ48.00000°. NP2:φs 276.00000°, δ43.00000°, λ164.00000°.*
BGR ***29*** *01:05:43.8±0.0, 42°.66N×144°.58E, h33km, mb4.7*
ISC 29 01:05:38.1±0.6, 41°.99N±0°.04×144°.42E±0°.03, h25km±3km, h24km:pP-P, n460, σ1$42/465, mb4.8/159, MS4.3/27, 40C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.89**	**290**	⇑P	**Pb**	**01 05 55.6**	**+0.8**
JTHR				*e*S	**Sn**	**01 06 09.0**	**+2.0**
ERM	**Erimo**	**0.94**	**272**	*ce*P	**Pb**	**01 05 56.7**	**+1.0**
ERM				pmax	pmax		
	comp=Z,4μm,0.7s						
ERM	**Erimo**	**0.94**	**272**		**Pb**	**01 05 56.5**	**+0.8**
JEM	**Erimo**	**0.94**	**272**	⇑P	**Pb**	**01 05 56.2**	**+0.5**
JCH	**Churui**	**1.00**	**309**	⇑P	**Pb**	**01 05 57.4**	**+0.6**
JCH				*e*S	**Sb**	**01 06 12.4**	**+2.8**
JOB	**Onbets**	**1.01**	**335**	⇑P	**Pb**	**01 05 57.8**	**+0.9**
JOB				*e*S	**Sb**	**01 06 13.3**	**+3.5**
JAK	**Akkeshi**	**1.03**	**11**	⇑P	**Pb**	**01 05 57.5**	**+0.3**
JAK				*e*S	**Sb**	**01 06 12.6**	**+2.4**
JKHN	**Kushirohamanak**	**1.22**	**26**	P	**Pb**	**01 06 00.5**	**0.0**
JNBK	**Urakawa-nobuka**	**1.27**	**284**	P	**Pb**	**01 06 01.2**	**-0.2**
JNBK				*e*S	**Sb**	**01 06 17.6**	**+0.3**
JAR	**Ashorobuto**	**1.39**	**340**	⇑P	**Pn**	**01 06 02.4**	**+0.5**
NMR	**Nemuro--Hokkai**	**1.68**	**35**	⇓*i*P	**Pn**	**01 06 06.0**	**+0.1**
NMR				*e*S	**Sn**	**01 06 26.0**	**-0.6**
RUSJ	**Misakicho**	**2.20**	**16**	*e*P	**Pn**	**01 06 13.7**	**+0.7**
RUSJ				*e*S	**Sn**	**01 06 39.8**	**+0.4**
GRPR	**Tuman**	**2.23**	**26**	*e*P	**Pn**	**01 06 13.6**	**+0.1**
GRPR				*e*S	**Sn**	**01 06 39.2**	**-1.1**
GRPR				pmax	pmax		
	comp=N,86nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,494nm,0.3s						
GRPR				pmax	pmax		
	comp=E,74nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.4s						
GRPR				smax	smax		
	comp=E,2μm,0.4s						
GRPR				smax	smax		
	comp=E,2μm,0.8s						
GRPR				smax	smax		
	comp=N,2μm,1.1s						
YUK	**Yuzh-Kuril'sk**	**2.30**	**27**	*e*P	**Pn**	**01 06 16.3**	**+1.9**
YUK				*e*S	**Sn**	**01 06 41.5**	**-0.4**
YUK				pmax	pmax		
	comp=Z,456nm,0.3s						
YUK				pmax	pmax		
	comp=N,129nm,0.2s						
YUK				pmax	pmax		
	comp=E,88nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,808nm,0.3s						
YUK				smax	smax		
	comp=N,7μm,1.0s						
YUK				smax	smax		
	comp=E,2μm,0.7s						
YUK				MLR	MLR		
	comp=Z,3μm,15.0s						
JEW	**Eniwo**	**2.36**	**292**		**Pn**	**01 06 17.3**	**+2.1**
JKA	**Kamikawa-asahi**	**2.51**	**328**	Pn	**Pn**	**01 06 18.6**	**+1.4**
ASAJ	**Asahikawa**	**2.51**	**328**	Pn	**Pn**	**01 06 19.7**	**+2.4**
	comp=Z,12nm,0.3s,baz=194,slow=12,SNR=32						
ASAJ				Sn	**Sb**	**01 06 53.8**	**+0.8**
	comp=Z,57nm,0.3s,baz=305,slow=30,SNR=5.9						
ASAJ				LR	LR	01 07 40.3	
	comp=Z,3μm,21.0s,baz=172,slow=50						
ASAJ	**Asahikawa**	**2.51**	**328**	P	**Pn**	**01 06 18.6**	**+1.3**
JTM	**Tenmabayashi**	**2.79**	**246**	Pn	**Pn**	**01 06 21.4**	**+0.2**
KUR	**Kuril'sk**	**4.09**	**36**	*d i*P	**Pn**	**01 06 42.0**	**+3.0**
KUR				*e*S	**Sn**	**01 07 27.5**	**+1.4**
KUR				pmax	pmax		
	comp=Z,200nm,0.4s						
KUR				pmax	pmax		
	comp=N,73nm,0.3s						
KUR				pmax	pmax		
	comp=E,66nm,0.3s						
KUR				smax	smax		
	comp=N,306nm,0.6s						
KUR				smax	smax		
	comp=E,167nm,0.2s						
KUR				smax	smax		
	comp=N,627nm,1.0s						
KUR				smax	smax		
	comp=E,594nm,1.0s						
KUR				MLR	MLR		
	comp=Z,2μm,17.0s						
JMM	**Marumori**	**4.97**	**215**		**Pn**	**01 06 49.6**	**-1.5**
YSS	**Yuzh-Sakhalins**	**5.10**	**347**	*e*P	**Pn**	**01 06 56.0**	**+3.1**
YSS				*e*S	**Sn**	**01 07 53.6**	**+2.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				smax	smax		
	comp=N,80nm,0.7s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=N,1μm,12.0s						
YSS				MLR	MLR		
	comp=E,1μm,13.0s						
YSS	**Yuzh-Sakhalins**	**5.10**	**347**	Pn	**Pn**	**01 06 54.2**	**+1.3**
JSD	**Sado**	**6.16**	**232**	Pn	**Pn**	**01 07 07.1**	**-0.4**
TEY	**Ternei**	**6.45**	**301**	⇑*e*P	**Pn**	**01 07 15.8**	**+4.4**
TEY				pmax	pmax		
	comp=Z,30nm,0.4s						
TEY				pmax	pmax		
	comp=E,30nm,0.5s						
TEY				pmax	pmax		
	comp=N,20nm,0.6s						
JYT	**Yasato**	**6.63**	**211**	Pn	**Pn**	**01 07 13.2**	**-0.7**
MJAR	**Matsushiro Arr**	**7.27**	**224**	Pn	**Pn**	**01 07 22.6**	**0.0**
	comp=N,0.5nm,0.3s,baz=30,slow=13,SNR=32						
MJAR				LR	LR	01 10 37.8	
	comp=N,775nm,21.9s,baz=35,slow=42						
MJAR	**Matsushiro Arr**	**7.27**	**224**	Pn	**Pn**	**01 07 22.1**	**-0.6**
MAJO	**Matsushiro**	**7.27**	**224**	⇓*i*P	**Pn**	**01 07 21.8**	**-0.9**
MAJO	**Matsushiro**	**7.27**	**224**	Pn	**Pn**	**01 07 22.1**	**-0.6**
MAT	**Matsushiro**	**7.27**	**224**	P	**Pn**	**01 07 22.5**	**-0.2**
MAT				*e*S	**Sn**	**01 08 42.4**	**-2.0**
JGF	**Kuroka**	**8.43**	**223**	Pn	**Pn**	**01 07 38.6**	**0.0**
INU	**Inuyama**	**8.80**	**224**	Pn	**Pn**	**01 07 44.7**	**+1.0**
USA0B	**Ussuriysk Arra**	**9.36**	**288**	⇓*e*P	**Pn**	**01 07 53.0**	**+1.7**
USA0B	**Ussuriysk Arra**	**9.36**	**288**	Pn	**Pn**	**01 07 53.2**	**+1.8**
USRK	**Ussuriysk Ar.**	**9.36**	**288**	Pn	**Pn**	**01 07 54.0**	**+2.7**
	baz=90,slow=14,SNR=23						
USRK				LR	LR	01 11 48.6	
	comp=N,1μm,19.4s,baz=109,slow=40						
USRK	**Ussuriysk Ar.**	**9.36**	**288**	P	**Pn**	**01 07 53.9**	**+2.6**
USRK	**Ussuriysk Ar.**	**9.36**	**288**	Pn	**Pn**	**01 07 53.9**	**+2.6**
JWT	**Wachi**	**9.72**	**229**	Pn	**Pn**	**01 07 57.1**	**+0.7**
MDJ	**Mudanjiang**	**11.12**	**289**	P	**Pn**	**01 08 18.5**	**+3.1**
MDJ				S	**Sn**	**01 10 20.8**	**+1.9**
MDJ				pmax	pmax		
	comp=N,19nm,0.6s						
MDJ				pmax	pmax		
	comp=N,160nm,3.9s						
MDJ				LR	LR		
	comp=N,880nm,14.2s						
MDJ				LR	LR		
	comp=N,1μm,18.5s						
MDJ				LR	LR		
	comp=N,2μm,19.9s						
MDJ	**Mudanjiang**	**11.12**	**289**	Pn	**Pn**	**01 08 17.0**	**+1.6**
JHS	**Saijyo**	**11.27**	**235**	Pn	**Pn**	**01 08 15.8**	**-1.8**
OKH	**Okha**	**11.61**	**356**	*de*P	**Pn**	**01 08 17.8**	**-4.2**
OKH				MLR	MLR		
	comp=Z,800nm,15.0s						
OKH				MLR	MLR		
	comp=N,800nm,14.0s						
OKH				MLR	MLR		
	comp=E,500nm,18.0s						
KSRS	**Korea Array**	**13.48**	**256**	Pn	**Pn**	**01 08 48.5**	**+0.8**
	comp=E,0.3nm,0.3s,baz=69,slow=12,SNR=21						
KSRS				LR	LR	01 13 49.7	
	comp=E,388nm,20.4s,baz=70,slow=37						
KS19	**Wonju Array Si**	**13.50**	**256**	Pn	**Pn**	**01 08 46.4**	**-1.6**
KSAR	**Wonju Array Be**	**13.51**	**256**	P	**Pn**	**01 08 46.3**	**-1.8**
KSAR	**Wonju Array Be**	**13.51**	**256**	Pn	**Pn**	**01 08 46.3**	**-1.8**
JNU	**Nakatsue**	**13.91**	**235**	Pn	**Pn**	**01 08 51.4**	**-2.2**
	comp=E,0.5nm,0.3s,baz=76,slow=4.2,SNR=2.2						
JNU	**Nakatsue**	**13.91**	**235**	Pn	**Pn**	**01 08 52.2**	**-1.4**
CN2	**Changchun**	**14.03**	**284**	*e*P	**Pn**	**01 08 55.8**	**+0.7**
CN2				pmax	pmax		
	comp=E,20nm,0.9s						
CN2				pmax	pmax		
	comp=E,100nm,3.0s						
CN2				LR	LR		
	comp=E,800nm,14.0s						
CN2				LR	LR		
	comp=E,1μm,14.0s						
CN2				LR	LR		
	comp=E,2μm,15.0s						
PETK	**Petropavlovsk-**	**14.26**	**34**	Pn	**Pn**	**01 08 57.3**	**-1.0**
	comp=E,0.2nm,0.3s,baz=187,slow=11,SNR=3.1						
PETK				LR	LR	01 14 39.3	
	comp=E,341nm,18.5s,baz=232,slow=38						
TJN	**Taejon**	**14.36**	**253**	*ce*P	**Pn**	**01 08 59.3**	**-0.4**
JSU	**Suzuyama**	**15.30**	**231**	Pn	**Pn**	**01 09 10.1**	**-2.4**
ZEA	**Zeya**	**16.41**	**322**	*e*P	**Pn**	**01 09 26.8**	**+0.3**
ZEA				pmax	pmax		
	comp=N,41nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,46nm,1.0s						
ZEA				MLR	MLR		
	comp=E,700nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,14.0s						
ZEA				MLR	MLR		
	comp=N,1μm,15.0s						
DL2	**Dalian**	**17.61**	**268**	P	**Pn**	**01 09 41.5**	**-0.2**
DL2				S	**S**	**01 13 00.5**	**-3.7**
DL2				pmax	pmax		
	comp=N,36nm,1.0s						
DL2				pmax	pmax		
	comp=N,230nm,3.7s						
DL2				LR	LR		
	comp=N,550nm,13.7s						
DL2				LR	LR		
	comp=N,480nm,15.1s						
DL2				LR	LR		
	comp=N,570nm,16.2s						
HIA	**Hailar**	**18.68**	**301**	P	**P**	**01 09 53.7**	**-0.6**
HIA				pmax	pmax		
	comp=Z,57nm,0.9s						
HIA	**Hailar**	**18.68**	**301**	P	**P**	**01 09 53.7**	**-0.6**
HIA				IAmb	IAmb	01 09 55.4	
	comp=Z,56nm,0.9s						
JOW	**Kunigami**	**20.10**	**226**	P	Pn	01 10 12.8	+1.0
BJI	**Beijing**	**21.37**	**274**	P	**P**	**01 10 21.8**	**-1.7**
BJI				S	**S**	**01 14 22.0**	**+2.6**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,110nm,4.3s						
BJI				LR	LR		
	comp=Z,440nm,11.8s						
BJI				LR	LR		
	comp=Z,650nm,17.2s						
BJI				LR	LR		
	comp=Z,490nm,18.1s						
BJT	**Baijiatuau**	**21.38**	**274**	P	**P**	**01 10 21.9**	**-1.7**
BJT				pmax	pmax		
	comp=Z,34nm,1.4s						
BJT	**Baijiatuau**	**21.38**	**274**	P	**P**	**01 10 21.9**	**-1.7**
SEY	**Seymchan**	**21.50**	**10**	*i* P	**P**	**01 10 23.4**	**-1.3**
TIA	**Tai'an**	**21.91**	**264**	P	**P**	**01 10 27.3**	**-2.0**
TIA				pmax	pmax		

HHC Hu-ho-hao-te 24.59 278 *e*P **P 01 10 58.5 +2.3**
HHC PP **PnPn 01 11 34.0 +6.2**
HHC pmax pmax
comp=Z,47nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.2s
HHC LR LR
comp=Z,460nm,11.2s
HHC LR LR
comp=Z,560nm,11.3s
HHC LR LR
comp=Z,740nm,11.2s
BOD Bodaibo 24.89 320 *e*P **P 01 10 55.8 -2.9**
BOD pmax pmax
comp=Z,12nm,1.4s
BTO Baotou 25.78 279 *e*P **P 01 11 04.0 -3.0**
BTO S **S 01 15 27.3 -7.6**
NACB Ninganchiao 25.98 234 P **P 01 11 08.2 -0.5**
NACB IAmb IAmb 01 11 13.6
comp=Z,14nm,0.7s
SSLB Suanglung 26.65 234 P **P 01 11 15.5 +0.6**
WHN Wuhan 26.67 254 ⇓P **P 01 11 15.8 +0.8**
WHN S **S 01 15 42.8 -5.9**
WHN pmax pmax
comp=Z,68nm,0.7s
WHN LR LR
comp=Z,1μm,15.6s
WHN LR LR
comp=Z,700nm,15.1s
WHN LR LR
comp=Z,1μm,15.9s
YULB Yu-li 26.74 233 P **P 01 11 14.2 -1.5**
ULN Ulaanbaatar 26.91 295*ce*P **P 01 11 17.6 +0.4**
ULN pmax pmax
comp=Z,56nm,1.3s
ULN Ulaanbaatar 26.91 295 P **P 01 11 17.3 +0.1**
ULN IAmb IAmb 01 11 19.7
comp=Z,34nm,1.0s
TPUB Ta-pu 27.21 234 P **P 01 11 20.1 +0.2**
SONM Songino Array 27.35 295 P **P 01 11 21.2 +0.1**
comp=Z,36nm,1.0s,baz=87,slow=6.5,SNR=60
SONM LR LR 01 23 22.9
comp=Z,536nm,18.3s,baz=105,slow=39
SONM Songino Array 27.35 295 P **P 01 11 21.3 +0.1**
SONM pmax pmax
comp=Z,50nm,1.2s
SONM Songino Array 27.35 295 P **P 01 11 21.3 +0.1**
BILL Bilibino 28.62 17 *e*P **P 01 11 34.0 +1.9**
BILL *e* 01 12 28.3
BILL *e*PPP PPP 01 12 34.6
BILL *e* 01 14 41.6
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL MLR MLR
comp=Z,342nm,18.0s
XAN Xi'an 28.91 266 P **P 01 11 35.8 +0.7**
XAN pP sP 01 11 45.5 +0.7
XAN pmax pmax
comp=Z,23nm,1.1s
XAN Xi'an 28.91 266 P **P 01 11 35.2 +0.1**
XAN pmax pmax
comp=Z,16nm,0.9s
XAN Xi'an 28.91 266 P **P 01 11 35.2 +0.1**
XAN IAmb IAmb 01 11 37.2
comp=Z,16nm,0.9s
TLY Talaya 29.18 303 P **P 01 11 37.9 +0.6**
comp=Z,21nm,0.9s,baz=116,slow=9.6,SNR=5.4
TLY Talaya 29.18 303 *e*P **P 01 11 39.9 +2.6**
TLY *e* 01 12 41.5
TLY pmax pmax
comp=Z,54nm,1.0s
TLY MLR MLR
comp=Z,650nm,15.0s
TLY Talaya 29.18 303 P **P 01 11 38.3 +1.0**
TLY IAmb IAmb 01 11 57.7
comp=Z,21nm,0.9s
H11N2 WAKE ISLAND Hy 29.24 132 T T 01 43 07.5
baz=325,slow=75,SNR=944
H11N1 WAKE ISLAND Hy 29.25 133 T T 01 43 10.7
baz=325,slow=75,SNR=752
H11N3 WAKE ISLAND Hy 29.26 132 T T 01 43 12.5
baz=325,slow=75,SNR=666
ZAK Zakamensk 29.37 301 *e*P **P 01 11 39.3 +0.2**
ZAK pmax pmax
comp=Z,20nm,1.1s
H11S1 WAKE ISLAND Hy 30.13 134 T T 01 44 20.2
baz=325,slow=76,SNR=749
H11S3 WAKE ISLAND Hy 30.13 134 T T 01 44 18.5
baz=325,slow=76,SNR=620
H11S2 WAKE ISLAND Hy 30.15 134 T T 01 44 16.9
baz=325,slow=76,SNR=612
ENH Enshi 30.34 259 P **P 01 11 47.6 -0.2**
ENH IAmb IAmb 01 11 48.8
comp=Z,21nm,0.9s
TIXI Tiksi 30.72 350*ce*P **P 01 11 47.2 -3.4**
TIXI pmax pmax
comp=Z,54nm,2.5s
MOY Mondy 30.83 303 *e*P **P 01 11 52.6 +0.6**
MOY pmax pmax
comp=Z,31nm,1.7s
LZH Lanzhou 31.84 273 *e*P **P 01 12 03.0 +1.9**
LZH PP **PnPn 01 13 09.3 +3.5**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.9s
LZH LR LR
comp=Z,430nm,13.2s
LZH LR LR
comp=Z,460nm,13.0s
LZH LR LR
comp=Z,410nm,17.1s
GTA Gaotai 33.63 281 *e*P **P 01 12 17.5 +0.8**
GTA pP sP 01 12 28.3 +1.8
GTA PcP **PcP 01 14 58.8 +2.4**
GTA sS sS 01 17 52.8 +3.1
GTA SS **SnSn 01 19 39.0 -3.0**
GTA pmax pmax
comp=Z,21nm,1.2s
GTA pmax pmax
comp=Z,130nm,8.0s
GTA LR LR
comp=Z,270nm,17.4s
GTA LR LR
comp=Z,600nm,18.5s
GTA LR LR
comp=Z,720nm,16.7s
CD2 Chengdu 34.24 265 P **P 01 12 22.3 +0.4**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,170nm,8.0s
GYA Guiyang 34.54 255 ⇑P **P 01 12 24.5 -0.2**
GYA S **S 01 17 52.5 +0.3**
GYA pmax pmax
comp=Z,11nm,0.8s
GYA LR LR
comp=Z,190nm,15.6s
GYA LR LR
comp=Z,280nm,12.0s
GYA LR LR
comp=Z,350nm,16.5s
QIZ Qiongzhong 37.19 243 P **P 01 12 48.0 +0.8**
QIZ S **S 01 18 33.3 +0.7**
QIZ LR LR
comp=Z,200nm,19.1s
QIZ LR LR
comp=Z,300nm,16.7s
QIZ LR LR
comp=Z,180nm,15.2s
KMI Kunming 38.17 257 ⇑P **P 01 12 56.8 +1.0**
KMI pmax pmax
comp=Z,25nm,0.9s
KMI pmax pmax
comp=Z,120nm,3.5s
KMI LR LR
comp=Z,290nm,13.0s
KMI LR LR
comp=Z,210nm,13.0s
KMI LR LR
comp=Z,340nm,18.0s
KMI Kunming 38.17 257 P **P 01 12 55.2 -0.7**
KMI pmax pmax
comp=Z,22nm,0.9s
KMI Kunming 38.17 257 P **P 01 12 55.1 -0.7**
KMI IAmb IAmb 01 12 57.7
comp=Z,22nm,0.9s
DGZ Jazzator, Alta 39.59 301 *i* P **P 01 13 08.0 +0.6**
DGZ pmax pmax
comp=Z,16nm,0.9s
SLVN Son La 39.70 251 P **P 01 13 08.5 0.0**
NRIK Noril'sk 39.85 332 P **P 01 13 08.3 -0.7**
comp=Z,1.8nm,0.3s,baz=107,slow=9.7,SNR=4.4
NRIK LR LR 01 31 02.5
comp=Z,554nm,19.3s,baz=56,slow=38
ZAA0 Zalesovo Array 40.48 308 P **P 01 13 14.5 0.0**
ZAA0 IAmb IAmb 01 13 29.1
comp=Z,18nm,0.8s
ZAA0 **PcP 01 15 16.6 -0.2**
ZALV Zalesovo Beam 40.48 308 P **P 01 13 14.4 -0.1**
comp=Z,13nm,0.9s,baz=91,slow=7.7,SNR=43
ZALV PcP **PcP 01 15 17.4 +0.7**
comp=Z,6.6nm,0.7s,baz=81,slow=2.3,SNR=6.9
ZALV LR LR 01 30 48.5
comp=Z,202nm,18.8s,baz=74,slow=37
ZALV Zalesovo Beam 40.48 308 *i* P **P 01 13 14.8 +0.3**
ZALV pmax pmax
comp=Z,14nm,0.9s
WMQ Urumqi 40.89 292 *e*P **P 01 13 19.0 +0.9**
WMQ pP sP 01 13 28.3 +0.2
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,130nm,5.9s
WMQ LR LR
comp=Z,350nm,16.5s
WMQ LR LR
comp=Z,450nm,16.5s
WMQ LR LR
comp=Z,260nm,17.1s
WMQ Urumqi 40.89 292 P **P 01 13 18.7 +0.5**
WMQ pmax pmax
comp=Z,32nm,1.2s
WMQ Urumqi 40.89 292 P **P 01 13 18.6 +0.5**
WMQ IAmb IAmb 01 13 23.4
comp=Z,32nm,1.2s
IMAR Indian Mountai 41.22 33 P **P 01 13 21.0 +0.5**
ZSN Zaisan 41.77 299 *i* P **P 01 13 25.8 +0.6**
comp=Z,9.0nm,1.1s,baz=298
ZSN *e*S **S 01 19 39.7 -1.2**
baz=298
ZSN Zaisan 41.77 299 *i* P **P 01 13 25.7 +0.6**
ZSN *e*S **S 01 19 39.7 -1.2**
ZSN pmax pmax
comp=Z,9.0nm,1.1s
KDAK Kodiak Island 41.91 46 P **P 01 13 26.9 +0.7**
comp=Z,7.2nm,0.9s,baz=331,slow=21,SNR=6.7
KDAK Kodiak Island 41.91 46 P **P 01 13 27.4 +1.2**
KDAK pmax pmax
comp=Z,47nm,1.2s
KDAK Kodiak Island 41.91 46 P **P 01 13 27.4 +1.2**
KDAK IAmb IAmb 01 13 39.1
comp=Z,47nm,1.2s
KTH Kantishna Hill 42.37 37 P **P 01 13 31.6 +1.7**
KTH IAmb IAmb 01 13 45.5
comp=Z,18nm,1.0s
MCK McKinley 43.25 37 P **P 01 13 38.5 +1.5**
MCK pmax pmax
comp=Z,10.0nm,1.2s
MCK McKinley 43.25 37 P **P 01 13 38.5 +1.5**
DLV T Lat 43.30 237 P **P 01 13 38.9 +0.7**
DLV IAmb IAmb 01 13 40.9
comp=Z,15nm,1.0s
GHO Glory Hole Cre 43.38 39 P **P 01 13 38.8 +0.7**
GHO IAmb IAmb 01 13 48.2
comp=Z,16nm,0.9s
MDM Murphy Dome 43.50 35 P **P 01 13 40.7 +1.6**
WRH Wood River Hil 43.58 35 P **P 01 13 40.3 +0.7**
MK31 Makanchi Array 43.64 298 P **P 01 13 40.3 -0.1**
MK31 pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 43.64 298 P **P 01 13 40.3 -0.1**
MK31 IAmb IAmb 01 13 46.4
comp=Z,15nm,0.8s
MKAR Makanchi Array 43.64 298 P **P 01 13 40.3 -0.1**
comp=Z,15nm,1.0s,baz=74,slow=8.9,SNR=34
MKAR LR LR 01 33 06.6
comp=Z,257nm,18.2s,baz=62,slow=38
COLA College 43.67 35 *i* P **P 01 13 41.1 +0.8**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 43.67 35 P **P 01 13 41.8 +1.5**
COLA IAmb IAmb 01 13 56.0
comp=Z,16nm,1.0s
CCB Clear Creek Bu 43.70 35 P **P 01 13 41.8 +1.2**
MAKZ Makanchi 43.84 298 P **P 01 13 42.2 +0.2**
MAKZ pmax pmax
comp=Z,24nm,0.9s
MAKZ Makanchi 43.84 298 P **P 01 13 42.2 +0.2**
MAKZ IAmb IAmb 01 13 48.1
comp=Z,24nm,0.8s
IL31 44.09 35 IAmb IAmb 01 13 58.1
comp=Z,14nm,1.1s
ILAR Eielson Array 44.09 35 P **P 01 13 43.9 +0.1**
comp=Z,4.1nm,0.8s,baz=260,slow=6.1,SNR=26
ILAR Eielson Array 44.09 35 P **P 01 13 44.1 +0.4**
ILAR Eielson Array 44.09 35 P **P 01 13 44.1 +0.4**
LSA Lhasa 44.24 272 P **P 01 13 46.9 +1.0**
LSA pmax pmax
comp=Z,19nm,1.3s
LSA Lhasa 44.24 272 P **P 01 13 46.9 +1.0**
LSA IAmb IAmb 01 13 48.6
comp=Z,19nm,1.3s
FYU Fort Yukon 44.67 32 P **P 01 13 49.9 +1.5**
FYU IAmb IAmb 01 14 00.8
comp=Z,10nm,0.8s
KLU Klutina 44.84 40 IAmb IAmb 01 14 04.9
comp=Z,14nm,0.9s
CHTO Chiang Mai 44.86 253 P **P 01 13 50.5 0.0**
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO Chiang Mai 44.86 253 P **P 01 13 50.5 0.0**
CHTO IAmb IAmb 01 13 52.6
comp=Z,21nm,1.1s
KURK Kurchatov 44.87 305*ce*P **P 01 13 50.0 -0.1**
KURK pmax pmax
comp=Z,44nm,1.3s
KURK Kurchatov 44.87 305 P **P 01 13 49.5 -0.6**
KURBB Kurchatov Arra 44.95 305 P **P 01 13 50.3 -0.4**
CM31 Chiang Mai Arr 45.10 253 P **P 01 13 53.1 +0.7**
CM31 IAmb IAmb 01 13 54.6
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 45.10 253 P **P 01 13 51.5 -0.8**
comp=Z,1.9nm,0.3s,baz=54,slow=6.5,SNR=22
CMAR LR LR 01 32 50.5
comp=Z,93nm,20.7s,baz=88,slow=36
CMAR Chiang Mai Arr 45.10 253 P **P 01 13 52.9 +0.6**
CMAR Chiang Mai Arr 45.10 253 P **P 01 13 52.9 +0.6**
SHL Shillong 45.92 266 P **P 01 13 59.0 0.0**
SHL pmax pmax
comp=Z,34nm,1.4s
SHL Shillong 45.92 266 P **P 01 13 59.0 0.0**
SHL IAmb IAmb 01 14 00.2
comp=Z,34nm,1.4s
CRQM Cirque 46.28 40 P **P 01 14 03.2 +1.8**
BCAR Beaver Creek A 46.52 37 P **P 01 14 04.8 +1.7**
EGAK Eagle 46.53 35 P **P 01 14 03.8 +0.8**
EGAK IAmb IAmb 01 14 16.5
comp=Z,9.6nm,1.0s
PDGK Podgornoye 46.67 295 P **P 01 14 03.7 -0.9**
SHLS Shalkode 46.75 294 *i* P **P 01 14 03.0 -2.3**
comp=Z,38nm,2.2s,baz=294
SHLS Shalkode 46.75 294 *i* P **P 01 14 02.9 -2.3**
SHLS pmax pmax
comp=Z,38nm,2.2s
TDK Taldyqorghan 46.79 297 *e*P **P 01 14 06.1 +0.7**
comp=Z,28nm,0.6s,baz=297
TDK LR LR 01 34 06.5
comp=Z,220nm,13.6s,baz=297
TDK Taldyqorghan 46.79 297 *e*P **P 01 14 06.1 +0.7**
TDK pmax pmax
comp=Z,28nm,0.6s
TDK MLR MLR
comp=Z,220nm,14.0s
UZB Uzynbulak 47.05 295 *i* P **P 01 14 07.2 -0.5**
baz=294
UZB Uzynbulak 47.05 295 *i* P **P 01 14 07.2 -0.5**
SATY Saty 47.50 295 *i* P **P 01 14 11.6 +0.4**
comp=Z,7.2nm,0.8s,baz=295
SATY Saty 47.50 295 *i* P **P 01 14 11.5 +0.4**
SATY pmax pmax
comp=Z,7.0nm,0.8s
TAPN Taplejung 48.05 271 *e*P **P 01 14 16.7 +1.0**
comp=Z,36nm,0.9s
MDOK Medeo 48.38 295 *i* P **P 01 14 18.4 +0.4**
baz=295
MDOK LR LR 01 35 55.6
comp=Z,177nm,12.4s,baz=295
MDOK Medeo 48.38 295 *i* P **P 01 14 18.4 +0.4**
MDOK MLR MLR
comp=Z,177nm,12.0s
TARG Taragay, Kyrgy 48.44 293 IAmb IAmb 01 14 19.5
comp=Z,12nm,0.8s
AAA Alma-Ata 48.45 295 *e*P **P 01 14 19.2 +0.7**
baz=295
AAA Alma-Ata 48.45 295 *e*P **P 01 14 19.1 +0.7**
ODAN Odare 48.55 271 *e*P **P 01 14 20.2 +0.6**
comp=Z,31nm,0.9s
KUU Kurty 48.57 297 *i* P **P 01 14 18.9 -0.4**
comp=Z,22nm,1.1s,baz=296
KUU Kurty 48.57 297 *i* P **P 01 14 18.8 -0.4**
KUU pmax pmax
comp=Z,23nm,1.1s
INK Inuvik 48.92 29 P **P 01 14 22.4 +0.9**
comp=Z,3.4nm,0.6s,baz=286,slow=6.1,SNR=12
INK Inuvik 48.92 29 IAmb IAmb 01 14 24.0
comp=Z,21nm,1.4s
JIRN Jiri 49.01 273 *e*P **P 01 14 24.3 +1.1**
comp=Z,29nm,0.7s
RAMN Ramite 49.09 271 *e*P **P 01 14 24.0 +0.3**
comp=Z,34nm,0.8s
BRVK Borovoye 49.13 310 P **P 01 14 23.3 0.0**
BRVK pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 49.13 310 P **P 01 14 23.3 0.0**
BRVK IAmb IAmb 01 14 24.9
comp=Z,14nm,0.8s
TKM2 Tokmak 2 49.45 296 P **P 01 14 27.1 +0.8**
SNR=44
KKN Kakani 49.62 273 *e*P **P 01 14 27.8 +0.1**
comp=Z,50nm,0.9s
PKI Pulchoki 49.64 273 *e*P **P 01 14 28.1 +0.1**
comp=Z,26nm,0.9s
BTLS Baital 49.64 299 *i* P **P 01 14 27.1 -0.3**
comp=Z,5.5nm,1.1s,baz=299
BTLS Baital 49.64 299 *i* P **P 01 14 27.1 -0.3**
BTLS pmax pmax
comp=Z,5.0nm,1.1s
PKIN Phulchoki 49.65 273 *e*P **P 01 14 28.0 0.0**
SGDS Sogindy 49.89 297⇑*i*P **P 01 14 29.6 +0.2**
comp=Z,14nm,1.4s,baz=297
SGDS Sogindy 49.89 297*c i*P **P 01 14 29.5 +0.2**
SGDS pmax pmax
comp=Z,14nm,1.4s
GKN Gorkha 49.98 274 *e*P **P 01 14 31.0 +0.6**
comp=Z,26nm,0.9s
KBK Karagaybulak 50.00 296 P **P 01 14 31.1 +0.7**
SNR=22
USP Ospenovka 50.05 296 P **P 01 14 31.0 +0.4**
SNR=10
AAK Ala-Archa 50.31 296 P **P 01 14 33.1 +0.4**
SNR=5.7
AAK Ala-Archa 50.31 296 *i* P **P 01 14 33.0 +0.2**
SNR=7.4
AAK Ala-Archa 50.31 296*ce*P **P 01 14 32.3 -0.4**
AAK pmax pmax
comp=Z,44nm,1.3s
DANN Dangsing 50.45 275 *e*P **P 01 14 34.8 +0.7**
comp=Z,108nm,0.7s
UCH Uchtor 50.47 295 P **P 01 14 35.3 +1.0**
SNR=6.6
KSH Kashi 50.64 291 P P 01 14 40.0 +4.8
KSH S **S 01 21 51.8 +3.3**
KSH pmax pmax
comp=Z,39nm,1.1s
KSH pmax pmax
comp=Z,140nm,5.0s
KSH LR LR
comp=Z,450nm,15.6s
KSH LR LR
comp=Z,510nm,12.8s
KSH LR LR
comp=Z,680nm,13.1s
EKS2 Erkin-Say 50.78 296 P **P 01 14 36.7 +0.5**
SNR=11
KOLN Koldanda 50.88 274 *e*P **P 01 14 37.5 +0.3**
comp=Z,31nm,0.8s
AML Almayashu 51.06 295 P **P 01 14 39.6 +1.0**
SNR=6.2
PYUN Piuthan 51.15 275 *e*P **P 01 14 39.8 +0.5**
comp=Z,27nm,0.6s
DZA Taraz 52.31 297 *e*P **P 01 14 47.9 +0.3**
baz=297
DZA Taraz 52.31 297 *e*P **P 01 14 47.8 +0.3**
KK31 Karatay Array 52.76 298 *i* P **P 01 14 50.5 -0.4**
KKAR Karatay Array 52.76 298 P **P 01 14 50.7 -0.2**
KKAR pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 52.76 298 P **P 01 14 50.7 -0.2**
SVE Sverdlovsk 53.05 317 *e*P **P 01 14 53.2 +0.5**
SVE pmax pmax
comp=Z,37nm,1.0s
IUG Iuzhnay 53.50 297 *i* P **P 01 14 56.9 +0.5**
comp=Z,23nm,1.5s,baz=297
IUG Iuzhnay 53.50 297 *i* P **P 01 14 56.9 +0.5**
IUG pmax pmax
comp=Z,23nm,1.5s
ARU Arti 54.26 317*d i*P **P 01 15 01.8 +0.2**
ARU *PP **sP 01 15 12.2 +0.6**
ARU 01 16 59.0
ARU S **S 01 22 37.6 +0.2**
ARU SS **SS 01 26 20.0 +1.2**
ARU pmax pmax
comp=Z,36nm,1.2s
ARU Arti 54.26 317 P **P 01 15 01.8 +0.2**
SOEI Soe 54.71 205 P **P 01 15 06.9 +1.4**
comp=Z,26nm,0.9s
GAR Garm 54.77 293 P **P 01 15 05.4 -0.4**
NIL Nilore 55.37 286 P **P 01 15 10.5 +0.5**
NIL pmax pmax
comp=Z,18nm,0.9s
NIL Nilore 55.37 286 P **P 01 15 10.5 +0.5**
NOR Nord 56.25 357 *i* P **P 01 15 14.0 -1.6**
comp=Z,3.8nm,0.7s
NOR Nord 56.25 357 *i* P **P 01 15 14.0 -1.6**
NOR pmax pmax
comp=Z,4.0nm,0.7s
AB31 Akbulak array 56.60 309 *i* P **P 01 15 18.4 -0.1**
ABKAR Akbulak array 56.60 309 P **P 01 15 18.8 +0.3**
ABKAR Akbulak array 56.60 309 P **P 01 15 18.8 +0.3**
RES Resolute Bay 57.22 16 P **P 01 15 23.4 +0.9**
comp=Z,9.4nm,0.7s,baz=325,slow=5.5,SNR=4.7
SDSI Sungai Dareh 57.70 234 P **P 01 15 27.4 +0.7**
comp=Z,3μmcomp=Z,14nm,1.7s
KIRV Kirov 57.74 322⇑*e*P **P 01 15 24.7 -1.7**
KBL Kabul 57.89 289 P **P 01 15 27.0 -1.2**
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 57.89 289 P **P 01 15 27.0 -1.2**
KBL IAmb IAmb 01 15 28.4
comp=Z,14nm,0.8s
PRGR Permogore 57.91 326 *e*P **P 01 15 26.0 -1.6**
PRGR pmax pmax
comp=Z,10.0nm,1.1s
YKA Yellowknife Ar 58.37 32 P **P 01 15 30.1 -0.7**
comp=Z,2.7nm,1.0s,baz=306,slow=6.8,SNR=3.0
TMCR Tamitsa 59.54 331 *e*P **P 01 15 38.1 -0.7**
TMCR pmax pmax
comp=Z,12nm,0.8s
ARCES ARCESS Array B 60.19 339 P **P 01 15 43.2 -0.1**
comp=Z,3.7nm,0.8s,baz=41,slow=8.0,SNR=13
KLMR Klimovskoe 60.83 327 *e*P **P 01 15 46.3 -1.5**
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 60.83 327 *e*P **P 01 15 46.4 -1.4**
KLMR AMP 01 15 53.8
comp=Z,17nm,1.4s
DAG Danmarks Havn 61.03 356 *i* P **P 01 15 48.0 -0.9**
comp=Z,13nm,0.9s
DAG Danmarks Havn 61.03 356 *i* P **P 01 15 48.0 -0.9**
DAG pmax pmax
comp=Z,13nm,0.9s
WB0 Warramunga Arr 62.14 191 P **P 01 15 57.1 0.0**
WB0 IAmb IAmb 01 16 07.8
comp=Z,12nm,0.9s
WRA Warramunga Arr 62.32 191 P **P 01 15 57.5 -0.8**
comp=Z,2.0nm,0.8s,baz=7,9,slow=6.8,SNR=8.6
WRA Warramunga Arr 62.32 191 P **P 01 15 58.7 +0.4**

WRA	Warramunga Arr	62.32	191	P	P	01 15 58.7 +0.4
GEYT	Alibeck	63.51	298	P	P	01 16 06.5 +0.3
	comp=Z,22nm,0.8s,baz=16,slow=2.2,SNR=36					
GEYT	Alibeck	63.51	298	P	P	01 16 07.1 +0.9
GYA0	ALIBECK ARRAY	63.51	298	P	P	01 16 06.1 -0.1
GYA0B	ALIBECK ARRAY	63.51	298	P	P	01 16 06.0 -0.3
MOS	Moscow	64.67	323	eP	P	01 16 08.1 -5.3
E08A	Dider Farm, El	64.95	49	P	P	01 16 17.2 +1.8
PINE	Pine Mountain	65.42	53	P	P	01 16 20.5 +1.7
PINE				IAmb	IAmb	01 16 34.7
	comp=Z,9.5nm,0.8s					
VRH	Novokhopyorsk	65.48	318	eP	P	01 16 17.2 -1.6
VRH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
FINES	FINESS Array B	65.51	332	P	P	01 16 18.5 -0.3
	comp=Z,7.1nm,0.5s,baz=48,slow=7.0,SNR=89					
FINES	FINESS Array B	65.51	332	P	P	01 16 18.1 -0.7
OBN	Obninsk	65.53	323	eP	P	01 16 19.2 +0.2
OBN				e		01 16 50.0
OBN				e		01 18 43.7
OBN				ePPP	PPP	01 20 20.0
OBN				pmax	pmax	
	comp=Z,26nm,1.3s					
OBN				MLR	MLR	
	comp=Z,759nm,16.0s					
SUMG	Summit	65.72	1	i P	P	01 16 21.0 +0.5
	comp=Z,49nm,0.8s					
SUMG	Summit	65.72	1	P	P	01 16 21.3 +0.8
SUMG				pmax	pmax	
	comp=Z,24nm,0.8s					
SUMG	Summit	65.72	1	P	P	01 16 21.3 +0.8
LPSR	Galich'ya Gora	66.00	320	eP	P	01 16 21.3 -0.8
LPSR				pmax	pmax	
	comp=Z,20nm,0.9s					
AS31	Alice Springs	66.05	191		P	01 16 22.5 -0.2
ASAR	Alice Springs	66.05	191	P	P	01 16 22.2 -0.5
	comp=Z,7.1nm,0.5s,baz=354,slow=5.0,SNR=4.9					
ASAR	Alice Springs	66.05	191	P	P	01 16 22.9 +0.2
ASAR	Alice Springs	66.05	191	P	P	01 16 22.9 +0.2
VSR	Storozhevoye	66.75	319	eP	P	01 16 25.6 -1.3
VSR				pmax	pmax	
	comp=Z,10.0nm,0.7s					
DZM	Mont Dzumac	66.92	158	eLR	LR	01 36 39.2
	comp=Z,138nm,22.6s					
GOF	Gofitskoye	68.53	312⇑	eP	P	01 16 38.9 +0.6
GOF				pmax	pmax	
	comp=Z,31nm,0.8s					
LRM	Limekiln Ridge	69.02	47	P	P	01 16 42.7 +1.0
YERR	Yerington	69.30	56	IAmb	IAmb	01 16 59.4
	comp=Z,7.7nm,0.9s					
KIV	Kislovodsk	69.42	311	i P	P	01 16 45.8 +1.9
	SNR=8.6					
KIV	Kislovodsk	69.42	311	eP	P	01 16 44.8 +0.8
KIV				pmax	pmax	
	comp=Z,104nm,1.1s					
KIV	Kislovodsk	69.42	311	P	P	01 16 45.5 +1.6
KBZ	Khabaz	69.44	311	P	P	01 16 44.5 +0.6
	comp=Z,14nm,0.9s,baz=36,slow=5.6,SNR=14					
KBZ	Khabaz	69.44	311	ceP	P	01 16 44.2 +0.3
ZEI	Tsey	69.46	309	eP	P	01 16 43.0 -1.3
ZEI				pmax	pmax	
	comp=Z,17nm,1.3s					
BOZ	Bozeman (W)	69.61	47	IAmb	IAmb	01 17 00.4
	comp=Z,5.6nm,0.7s					
KVN	Kaiserville	69.96	55	P	P	01 16 50.3 +2.8
KVN				pmax	pmax	
	comp=Z,6.0nm,0.9s					
KVN	Kaiserville	69.96	55	P	P	01 16 50.3 +2.8
NVAR	Mina Array Bea	70.22	56	P	P	01 16 50.8 +1.6
	comp=Z,0.8nm,0.6s,baz=286,slow=5.7,SNR=7.1					
NVAR	Mina Array Bea	70.22	56	P	P	01 16 50.5 +1.4
NB2	NORSAR Subarra	70.50	338	P	P	01 16 50.1 -0.1
	comp=Z,13nm,0.9s,baz=33,slow=6.5					
NOA	NORSAR Array B	70.50	338	P	P	01 16 50.1 -0.1
	comp=Z,4.7nm,0.7s,baz=35,slow=6.1,SNR=13					
AKASG	Malin Array Be	71.79	323	P	P	01 16 58.0 -0.1
	comp=Z,4.1nm,0.4s,baz=43,slow=6.4,SNR=34					
AKASG	Malin Array Be	71.79	323	ceP	P	01 16 58.0 -0.1
AKASG				pmax	pmax	
	comp=Z,4.0nm,0.4s					
AKASG	Malin Array Be	71.79	323	P	P	01 16 57.8 -0.3
AKBB	Malin Array Si	71.79	323	ceP	P	01 16 58.5 +0.4
AKBB	Malin Array Si	71.79	323	P	P	01 16 57.6 -0.5
AKBB				IAmb	IAmb	01 16 59.0
	comp=Z,16nm,0.9s					
BANOM	Banah	71.83	289	P	P	01 16 59.6 +0.8
SHME	Shamm	71.87	289	P	P	01 16 59.3 +0.2
MSFE	Esma-Masafi	72.28	288	P	P	01 17 02.2 +0.7
DUG	Dugway, Tooele	72.40	52	P	P	01 17 05.0 +2.8
DUG				pmax	pmax	
	comp=Z,5.0nm,1.0s					
DUG	Dugway, Tooele	72.40	52	P	P	01 17 05.0 +2.8
UOSS	Minazif	72.51	288	P	P	01 17 03.1 +0.2
UOSS	Minazif	72.51	288	P	P	01 17 02.7 -0.2
PDAR	Pinedale Array	72.58	48	P	P	01 17 04.3 +1.0
	comp=Z,0.5nm,0.6s,baz=249,slow=1.7,SNR=5.6					
PDAR	Pinedale Array	72.58	48	P	P	01 17 03.3 0.0
HATD	Hatta, Dubai	72.63	288	i P	P	01 17 04.4 +0.8
	SNR=6.8					
ASHO	Ashiyiah	72.77	288	P	P	01 17 05.2 +0.7
SOHO	SOHO	72.78	287	P	P	01 17 05.0 +0.5
ALNE	Al Ain	73.38	287	P	P	01 17 08.8 +0.7
BEL	Belsk	74.54	328	eP	P	01 17 16.3 +1.9
LVV	L'vov	74.72	325	eP	P	01 17 11.4 -4.1
GKP	Gorka Klasztor	74.79	330	eP	P	01 17 17.2 +1.4
KWP	Kalwaria Pacla	75.43	325	eP	P	01 17 20.6 +1.0
BUR08	Bucovina Ar. S	75.82	323	P	P	01 17 22.4 +0.4
BUR08				IAmb	IAmb	01 17 23.7
	comp=Z,6.9nm,0.8s					
BURAR	Bucovina Array	75.84	322	⇑P	P	01 17 22.5 +0.4
BURAR	Bucovina Array	75.84	322	P	P	01 17 22.4 +0.3
PV17	East Wray Mesa	75.91	51	IAmb	IAmb	01 17 33.4
	comp=Z,7.3nm,0.8s					
PV03	Paradox Valley	76.00	51	P	P	01 17 25.3 +2.0
KOLS	Kolonicke sedl	76.14	325	eP	P	01 17 23.8 +0.1
KOLS				pmax	pmax	
	comp=Z,9.0nm,1.1s					
KOLS	Kolonicke sedl	76.14	325	eP	P	01 17 23.8 +0.1
OJC	Ojcow	76.19	327	eP	P	01 17 25.0 +1.1
OJC	Ojcow	76.19	327	P	P	01 17 24.4 +0.5
OJC				pmax	pmax	
	comp=Z,23nm,1.0s					
OJC	Ojcow	76.19	327	P	P	01 17 24.4 +0.5
CFR	Carcaliu	76.25	319	⇓P	P	01 17 25.8 +1.5
VRI	Vrincioaia	76.42	320	⇑P	P	01 17 27.0 +1.7
CRVS	Cervenica-Dubn	76.52	325	eP	P	01 17 26.7 +0.9
CRVS				pmax	pmax	
	comp=Z,9.0nm,0.9s					
CRVS	Cervenica-Dubn	76.52	325	eP	P	01 17 26.7 +0.9
NIE	Niedzica	76.61	326	eP	P	01 17 27.9 +1.6
BSEG	Bad Segeberg	76.66	334	eP	P	01 17 27.4 +1.0
	comp=Z,18nm,1.2s,baz=33,slow=5.5					
BISRR	Bisoca	76.67	320	⇓P	P	01 17 28.0 +1.3
OZUR		76.70	321	⇑P	P	01 17 28.3 +1.4
KSP	Ksiaz	77.08	329	eP	P	01 17 29.8 +0.9
LANS	Liptovska Anna	77.16	326	eP	P	01 17 31.4 +2.0
LANS				pmax	pmax	
	comp=Z,6.0nm,1.0s					
LANS	Liptovska Anna	77.16	326	eP	P	01 17 31.4 +2.0
BRTR	Keskin Array B	77.27	312	P	P	01 17 30.1 -0.3
	comp=Z,2.0nm,0.8s,baz=64,slow=5.7,SNR=4.6					
BRTR	Keskin Array B	77.27	312	ceP	P	01 17 30.8 +0.4
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
BRTR	Keskin Array B	77.27	312	P	P	01 17 30.7 +0.3
OSTC	Ostas	77.34	329	eP	P	01 17 31.1 +0.7
CHVC	Chvalec	77.37	329	eP	P	01 17 31.4 +0.8
MORC	Moravsky Berou	77.44	328	⇑P	P	01 17 32.0 +0.9
MORC	Moravsky Berou	77.44	328	eP	P	01 17 31.7 +0.7
MORC	Moravsky Berou	77.44	328	IAmb	IAmb	01 17 33.0
	comp=Z,14nm,1.0s					
UPC	Upice	77.45	329	eP	P	01 17 31.7 +0.7
UPC	Upice	77.45	329	eP	P	01 17 31.7 +0.7
DPC	Dobruska-Polom	77.46	329	eP	P	01 17 32.1 +1.0
DPC	Dobruska-Polom	77.46	329	eP	P	01 17 32.1 +1.0
KRLC	Kraliky	77.50	328	eP	P	01 17 32.1 +0.7
KRLC	Kraliky	77.50	328	eP	P	01 17 32.1 +0.7
VOIR		77.53	321	⇑P	P	01 17 33.3 +1.6
ARR	Arges	77.78	321	⇓P	P	01 17 34.8 +1.8
CLL	Collm	77.92	331	⇑iP	P	01 17 33.7 +0.1
	comp=Z,21nm,1.1s					
CLL				i (pP)	pP	01 17 38.8 -2.3
CLL	Collm	77.92	331	⇑iP	P	01 17 33.7 +0.1
CLL				pmax	pmax	
	comp=Z,21nm,1.1s					
CLL	Collm	77.92	331	eP	P	01 17 34.0 +0.4
	comp=Z,11nm,0.8s,baz=33,slow=5.5					
CLL	Collm	77.92	331	IAmb	IAmb	01 17 35.3
	comp=Z,14nm,0.8s					
VYHS	Vyhne	77.93	326	eP	P	01 17 34.7 +1.0
VYHS				pmax	pmax	
	comp=Z,8.0nm,1.1s					
VYHS	Vyhne	77.93	326	eP	P	01 17 34.7 +1.0
BRG	Berggiesshubel	77.93	330	eP	P	01 17 34.0 +0.3
	comp=Z,8.7nm,1.2s					
BRG	Berggiesshubel	77.93	330	eP	P	01 17 34.0 +0.3
BRG				pmax	pmax	
	comp=Z,9.0nm,1.2s					
BRG	Berggiesshubel	77.93	330	eP	P	01 17 34.2 +0.5
	comp=Z,5.3nm,1.0s,baz=33,slow=5.5					
NRDL	Niedersach Rie	77.94	333	eP	P	01 17 34.3 +0.7
	comp=Z,4.8nm,1.1s,baz=33,slow=5.5					
PSZ	Piszkesteto	77.94	325	IAmb	IAmb	01 17 36.1
	comp=Z,9.1nm,1.0s					
PVCC	Panska Ves	77.98	330	eP	P	01 17 34.5 +0.5
PVCC	Panska Ves	77.98	330	eP	P	01 17 34.5 +0.5
ASSE	Asse, Remlinge	78.05	333	eP	P	01 17 34.8 +0.6
	comp=Z,5.6nm,1.0s,baz=33,slow=5.5					
FBE	Freiberg	78.11	331	eP	P	01 17 35.4 +0.8
	comp=Z,18nm,1.2s,baz=33,slow=5.5					
JAVC	Velka Javorina	78.12	327	eP	P	01 17 36.6 +1.8
VRAC	Vranov	78.19	328	⇑P	P	01 17 36.3 +1.1
VRAC	Vranov	78.19	328	eP	P	01 17 36.1 +1.0
CLZ	Clausthal	78.39	333	eP	P	01 17 37.2 +0.9
	comp=Z,11nm,1.0s,baz=33,slow=5.5					
GOPC	GO Pecny, Ondr	78.40	329	eP	P	01 17 37.1 +0.8
GOPC	GO Pecny, Ondr	78.40	329	eP	P	01 17 37.1 +0.8
PRA	Prague	78.41	330	eP	P	01 17 37.3 +1.0
PRA	Prague	78.41	330	eP	P	01 17 37.3 +1.0
COPA	Copaceanca	78.43	320	⇑P	P	01 17 37.4 +0.9
PRU	Pruhonice	78.43	330	eP	P	01 17 37.0 +0.6
PRU				epP	pP	01 17 44.5 +0.6
PRU	Pruhonice	78.43	330	eP	P	01 17 37.0 +0.6
PRU				e		01 17 44.5
NEUB	Neuenburg	78.44	332	eP	P	01 17 37.1 +0.7
	comp=Z,17nm,1.1s,baz=33,slow=5.5					
SIRR	Siria	78.45	323	⇑P	P	01 17 37.9 +1.3
KRUC	Moravsky	78.46	328	eP	P	01 17 37.4 +0.7
SMOL	Smolenice	78.49	327	eP	P	01 17 38.3 +1.5
SMOL				pmax	pmax	
	comp=Z,7.0nm,1.2s					
SMOL	Smolenice	78.49	327	eP	P	01 17 38.3 +1.5
TREC	Trest	78.63	329	eP	P	01 17 38.3 +0.7
TREC	Trest	78.63	329	eP	P	01 17 38.3 +0.7
MODS	Modra-Piesok	78.66	327	eP	P	01 17 38.3 +0.5
MODS				pmax	pmax	
	comp=Z,11nm,1.0s					
MODS	Modra-Piesok	78.66	327	eP	P	01 17 38.2 +0.5
GTTG	Gottingen	78.78	333	eP	P	01 17 38.8 +0.4
	baz=33,slow=5.5					
TANN	Tannenbergstha	78.85	331	eP	P	01 17 39.4 +0.5
	baz=33,slow=5.5					
IBBN	Ibbenburen	78.86	335	eP	P	01 17 39.2 +0.5
	comp=Z,5.6nm,0.8s,baz=33,slow=5.5					
PBCC	Pribram	78.88	330	eP	P	01 17 39.6 +0.6
GUNZ	Gunzen	78.94	331	eP	P	01 17 39.9 +0.6
	comp=Z,7.0nm,1.1s,baz=33,slow=5.5					
MOX	Moxa	78.96	332	eP	P	01 17 40.0 +0.7
	baz=33,slow=5.5					
BZS	Buzias	78.97	323	⇑P	P	01 17 39.8 +0.3
WERN	Wernitzgruen	78.99	331	eP	P	01 17 40.1 +0.6
	baz=33,slow=5.5					
NKC	Novy Kostel	79.00	331	eP	P	01 17 40.4 +0.8
NKC	Novy Kostel	79.00	331	eP	P	01 17 40.4 +0.8
MANZ	Manzenberg	79.33	331	eP	P	01 17 42.3 +0.9
	comp=Z,2.0nm,0.8s,baz=33,slow=5.5					
UBBA	Unterbreizbach	79.38	333	eP	P	01 17 41.9 +0.4
	baz=33,slow=5.5					
ROTZ	Rotzenmuhle	79.48	331	eP	P	01 17 43.1 +0.9
	comp=Z,5.0nm,0.8s,baz=33,slow=5.5					
KHC	Kasperske Hory	79.49	330	eP	P	01 17 42.8 +0.4
KHC	Kasperske Hory	79.49	330	ceP	P	01 17 42.6 +0.2
KHC				pmax	pmax	
	comp=Z,43nm,1.3s					
CONA	Conrad Observa	79.59	328	i P	P	01 17 44.4 +1.4
	comp=Z,9.4nm,0.9s,SNR=5.2					
ANMO	Albuquerque	79.66	52	ceP	P	01 17 46.3 +2.6
ANMO				pmax	pmax	
	comp=Z,4.0nm,1.7s					
ANMO	Albuquerque	79.66	52	P	P	01 17 44.7 +1.0
GEC2	GERESS Array S	79.68	329	eP	P	01 17 44.0 +0.6
	comp=Z,3.7nm,1.0s,baz=33,slow=5.5					
GERES	GERESS Array B	79.68	329	P	P	01 17 43.9 +0.4
	comp=Z,1.8nm,0.5s,baz=36,slow=5.6,SNR=24					
GERES	GERESS Array B	79.68	329	P	P	01 17 43.3 -0.2
WET	Wettzell	79.75	330	eP	P	01 17 44.4 +0.7
	comp=Z,11nm,1.0s,baz=33,slow=5.5					
BUG	Bochum--Univer	79.76	334	eP	P	01 17 44.2 +0.6
	comp=Z,6.3nm,0.9s,baz=33,slow=5.5					
GRA1	Grafenberg Arr	79.90	331	IAmb	IAmb	01 17 46.5
	comp=Z,20nm,1.1s					
GRF	Grafenberg Arr	79.90	331	eP	P	01 17 45.1 +0.6
	comp=Z,16nm,1.1s,baz=33,slow=5.5					
FRGS	Fruska Gora	80.13	324	eP	P	01 17 45.8 0.0
ARSA	Arzberg	80.27	327	i P	P	01 17 47.1 +0.5
	comp=Z,7.2nm,1.3s					
MOA	Molln	80.28	329	i P	P	01 17 47.4 +0.8
	comp=Z,4.5nm,0.9s					
AHRW	Bad Neuenahr-A	80.60	334	eP	P	01 17 49.1 +0.9
	comp=Z,4.9nm,0.9s,baz=33,slow=5.5					
DIVS	Divibare	80.88	323	eP	P	01 17 49.9 -0.1
MEM	Membach	80.88	335	P	P	01 17 49.7 0.0
GROS	Grobnik	80.92	327	i P	P	01 17 50.5 +0.4
SOKA	Soboth	80.93	327	i P	P	01 17 50.6 +0.4
	comp=Z,18nm,1.4s,SNR=12					
FUR	Furstenfeldbru	81.15	330	eP	P	01 17 52.3 +1.0
	comp=Z,12nm,0.8s,baz=33,slow=5.5					
OBKA	Obir	81.26	328	i P	P	01 17 52.4 +0.5
	comp=Z,6.4nm,0.8s,SNR=5.9					
KBA	Koelnbreinsper	81.27	329	i P	P	01 17 53.1 +0.9
	comp=Z,13nm,1.1s,SNR=9.4					
BBLS	Lazići	81.32	323	⇑iP	P	01 17 52.8 +0.5
HAPS	Han Pijesak,Bl	81.35	324	eP	P	01 17 52.3 -0.2
CRES	Cresnjev	81.45	327	eP	P	01 17 53.0 +0.1
SNF	Seneffe	81.51	336	P	P	01 17 53.2 +0.1
MYKA	Terra Mystica	81.52	328	i P	P	01 17 52.8 -0.6
	comp=Z,12nm,1.2s					
BMRD	Maredsous	81.54	335	P	P	01 17 53.5 +0.3
	comp=Z,9.0nm,1.1s					
BLY	Banja Luka	81.59	325	eP	P	01 17 53.9 +0.3
LJU	Ljubljana	81.65	327	⇑iP	P	01 17 53.8 -0.1
PRED	Cave del Predi	81.71	328	IAmb	IAmb	01 17 54.9
	comp=Z,12nm,1.2s					
WATA	Walderalm	81.73	330	i P	P	01 17 55.2 +0.7
	comp=Z,16nm,1.1s,SNR=12					
ABTA	Abfaltersbach	81.86	329	i P	P	01 17 54.9 -0.2
	comp=Z,7.8nm,1.1s					
MOTA	Moosalm	81.90	330	i P	P	01 17 56.0 +0.6
	comp=Z,30nm,1.0s,SNR=15					
RETA	Reutte	81.91	330	i P	P	01 17 56.1 +0.8
	comp=Z,18nm,1.1s,SNR=8.1					
CEY	Cerknica	81.94	327	i P	P	01 17 55.5 0.0
CEY	Cerknica	81.94	327	⇑iP	P	01 17 55.4 0.0
SQTA	Sankt Quirin	81.97	330	i P	P	01 17 56.0 +0.3
	comp=Z,14nm,1.1s,SNR=9.9					
BFO	Black Forest	82.07	332	P	P	01 17 55.6 -0.5
BFO				pmax	pmax	
	comp=Z,7.0nm,1.0s					
BFO	Black Forest	82.07	332	eP	P	01 17 56.8 +0.7
	comp=Z,4.5nm,0.9s,baz=33,slow=5.5					
BFO	Black Forest	82.07	332	P	P	01 17 55.6 -0.5
UPM	Unac-Piva	82.07	323	eP	P	01 17 56.5 +0.1
STAL	STALIGIAL	82.19	328	IAmb	IAmb	01 17 57.5
	comp=Z,9.3nm,0.7s					
FETA	Feichten	82.31	330	i P	P	01 17 57.9 +0.3
	comp=Z,12nm,1.0s,SNR=6.9					
DAVA	Damuels	82.40	331	i P	P	01 17 58.5 +0.4
	comp=Z,14nm,1.1s,SNR=5.7					
BRY	Bratogost	82.47	323	eP	P	01 17 57.8 -0.7
PDG	Podgorica	82.52	322	⇑iP	P	01 17 58.7 +0.2
ECH	Echery	82.57	333	IAmb	IAmb	01 17 60.0
	comp=Z,12nm,1.2s					
CTI	Castel Tesino	82.78	329	IAmb	IAmb	01 18 00.3
	comp=Z,12nm,1.0s					
FUORN	Ofenpass-Fuorn	82.82	330	P	P	01 18 00.5 +0.1
P38A	Dawn	83.23	41	IAmb	IAmb	01 18 03.8
	comp=Z,6.1nm,0.7s					
TUE	Stuetta	83.29	331	IAmb	IAmb	01 18 04.2
	comp=Z,7.8nm,0.7s					
PMOR	Pomariorio Ree	84.14	116	eT	T	02 50 41.7
	comp=Z,9.0nm,0.2s					
NRCA	Norcia	84.86	326	P	P	01 18 11.2 +0.5
PPT	Papeete	84.88	119	LR	LR	01 57 40.1
	comp=Z,65nm,18.1s,baz=334,slow=37					
PPT2	Papeete2	84.89	119	eLR	LR	01 44 57.0
	comp=Z,126nm,22.0s					
OSSC	Osservatorio P	85.05	328	IAmb	IAmb	01 18 12.3
	comp=Z,7.6nm,0.9s					
AQU	L'Aquila	85.14	326	eP	P	01 18 11.4 -0.6
TX31	Lajitas Ar. Si	85.30	54	IAmb	IAmb	01 18 28.2
	comp=Z,6.8nm,0.8s					
TXAR	Lajitas Array	85.30	54	P	P	01 18 15.0 +1.9
	comp=Z,0.8nm,0.7s,baz=274,slow=2.9,SNR=7.9					
TXAR	Lajitas Array	85.30	54	P	P	01 18 14.4 +1.3
TXAR	Lajitas Array	85.30	54	P	P	01 18 14.3 +1.3
CCM	Cathedral Cave	85.57	41	P	P	01 18 14.2 0.0
CCM				pmax	pmax	
	comp=Z,6.0nm,0.9s					
CCM	Cathedral Cave	85.57	41	P	P	01 18 14.2 0.0
CCM				IAmb	IAmb	01 18 15.5
	comp=Z,5.5nm,0.8s					
U40A	Yellville	86.10	43	IAmb	IAmb	01 18 18.1
	comp=Z,5.5nm,0.9s					
PBMO	Poplar Bluff	86.98	41	IAmb	IAmb	01 18 23.1
	comp=Z,4.9nm,0.8s					
TBI	Tubuai	89.16	123	eLR	LR	01 46 53.6
	comp=Z,143nm,25.2s					
KEST	Kesra	92.40	325	LR	LR	02 05 10.9
	comp=Z,384nm,18.8s,baz=16,slow=39					
ESDC	Sonseca Array	93.79	336	P	P	01 18 53.0 0.0
	comp=Z,0.5nm,0.9s,baz=1.5,slow=4.3,SNR=6.2					
ESDC	Sonseca Array	93.79	336	P	P	01 18 53.8 +0.8
TORD	Torodi Ar. Bea	115.29	319	PKP	PKiKP	01 24 16.7 -1.1
	comp=Z,0.6nm,0.8s,baz=30,slow=1.9,SNR=2.1					
SNAA	Sanae	146.17	198	PKPdf	PKPab	01 25 15.6 -0.1
VNA2	Neumayer--Watz	147.72	197	PKPdf	PKPdf	01 25 15.7 -0.7
VNA3	Neumayer Olymp	147.95	195	PKPdf	PKPdf	01 25 15.8 -1.0
BDFB	Brasilia	151.64	26	PKPbc	PKiKP	01 25 31.5 +0.4
	comp=Z,4.8nm,0.8s,baz=286,slow=1.5,SNR=8.2					
BDFB	Brasilia	151.64	26	PKIKP	PKiKP	01 25 30.9 -0.2
BDFB	Brasilia	151.64	26		PKiKP	01 25 30.9 -0.2

NSSP ***29*** *01:38:05.0, 41.°15N×47.°92E, h15km, Ms5.4*
BJI ***29*** *01:38:06.4±0.0, 41.°11N×47.°41E, h34km, mB5.2/55, mb5.2/76, Ms5.0/71, Ms7 4.9/68*
IDC ***29*** *01:38:06.1±0.4, 41.°16N×47.°94E, h0km, mb4.9/33, mb1 4.9/47, mb1mx4.9/49, mbtmp4.9/47, ML4.2/13, MS4.7/37, Ms1 4.7/37, ms1mx4.6/41, Error ellipse: s-maj=9.0km s-min=6.7km az=164.0*
AZER ***29*** *01:38:07.2, 41.°14N×47.°94E, h13km, ML5.5*
UNK ***29*** *01:38:07.9, 41.°21N×48.°11E, h10km*
MOS ***29*** *01:38:07.8±0.0, 41.°16N×47.°87E, h5km, MPVA6.1*
NEIC ***29*** *01:38:08.1±2.4, 41.°20N±0.°06×48.°10E±0.°05, h13km±3km, mb5.3/346, Error ellipse: s-maj=9.4km s-min=5.2km az=173.0*
GCMT ***29*** *01:38:09.1±0.2, 41.°42N±0.°02×47.°76E±0.°02, h33km±1km, MW5.1/100, Moment Tensor Solution. s82,c101; s100,c165; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.42±.15; Mθθ3.56±.11; Mφφ-0.14±.10; Mrθ4.27±.19; Mθφ1.40±.07; Mφr0.40±.12; Best double couple: M0=5.69000×10^16 NP1φs58.00000°, δ22.00000°, λ-112.00000°. NP2φs262.00000°, δ70.00000°, λ-81.00000°. Principal axes: T 5.9250, Plg24.0000°, Azm345.0000°; N -0.4690, Plg8.0000°, Azm79.0000°; P -5.4560, Plg64.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DRS ***29*** *01:38:09.2±0.0, 41.°14N×48.°09E, h16km, ML5.5/7, FELT I=IV MSK at Akhty*
GII ***29*** *01:38:10.3±1.2, 41.°22N×48.°09E, h41km*
NNC ***29*** *01:38:13.6±1.8, 41.°48N×48.°85E, h0km, mb5.3, Error ellipse: s-maj=23.6km s-min=14.1km az=102.0*
PDG ***29*** *01:38:26.1, 40.°10N×49.°20E, h33km, mb5.4/8*
BGR ***29*** *01:38:32.0±0.0, 41.°05N×44.°40E, h33km, mb4.8*
ISC 29 01:38:08.4±0.2, 41.°14N±0.°01×47.°95E±0.°01, h15km, h16km:pP-P, n1293, σ1991/1430, mb5.3/323, MS4.7/75, 94C-63D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNQ	Khinaliq	0.15	77	P	Pb	01 38 13.4	+0.4
XNQ				S	Sb	01 38 16.9	+0.9
QBL	Gabala	0.21	204	P	Pg	01 38 13.5	+0.3
QBL				S	Sb	01 38 17.2	-0.5
AKT	Akhty	0.38	334	i Pg	Pb	01 38 17.1	+0.2
	119μm,0.7s						
AKT				eSg	Sb	01 38 22.7	0.0
	815μm,0.6s						
AKT	Akhty	0.38	334	i PG	Pb	01 38 17.1	+0.2
AKT				eS	Sb	01 38 22.7	0.0
IML	Ismayilli	0.39	153	P	Pb	01 38 17.0	+0.1
IML				S	Sb	01 38 23.8	+1.0
QSAR	Qusar	0.45	32	P	Pb	01 38 19.0	+1.1
	SNR=708						
QSAR				S	Sb	01 38 26.1	+1.6
KSMR	Kasumkent	0.48	16	i Pg	Pb	01 38 19.0	+0.4
KSMR	Kasumkent	0.48	16	i PG	Pb	01 38 19.0	+0.4
SEKA	Sheki	0.57	277	PG	Pg	01 38 19.6	-0.1
SEKA	Sheki	0.57	277	P	Pg	01 38 19.5	-0.1
	SNR=6604						
SEKA				S	S

ALIB Sn **Sb** **01 38 53.6 +1.0**
BLQ Beylaqan 1.45 192 Pn **Pn** **01 38 33.7 -0.3**
SNR=655
BLQ Sn **Sb** **01 38 54.0 +0.8**
GNBR Gunib 1.45 330 *e*Pg **Pg** **01 38 36.3 0.0**
comp=Z,9μm,0.6s
GNBR *e*Sg **Sg** **01 38 57.8 +2.6**
comp=Z,30μm,0.8s
GNBR Gunib 1.45 330⇓*e*PG **Pg** **01 38 36.3 0.0**
GNBR *e* 01 38 56.5
LGD Lagodekhi 1.46 299 *e*Pg **Pb** **01 38 35.5 +0.2**
LGD *e*Sg **Sg** **01 38 56.0 +0.5**
LGD Lagodekhi 1.46 299 *e*PG **Pb** **01 38 35.5 +0.2**
LGD *e*S **Sg** **01 38 56.8 +1.4**
LGD Lagodekhi 1.46 299 P **Pb** **01 38 35.4 +0.2**
LGD S **Sg** **01 38 56.4 +1.0**
GOBA Gobu 1.54 118 Pn **Pg** **01 38 39.6 +1.6**
SNR=286
GOBA Sn **Sg** **01 38 58.8 +0.7**
ARKR Arakani 1.63 334 *e*Pg **Pb** **01 38 39.0 +0.9**
ARKR Arakani 1.63 334 *e*PN **Pb** **01 38 39.0 +0.9**
NDR Nardaran 1.64 109 Pn **Pb** **01 38 38.8 +0.5**
SNR=194
NDR Sn **Sb** **01 38 59.5 +0.7**
XNZR Khunzakh 1.68 327 *e*Pg **Pb** **01 38 40.3 +1.1**
XNZR *e*Sg **Sg** **01 39 05.3 +2.7**
XNZR Khunzakh 1.68 327 *e*PN **Pg** **01 38 43.5 +2.8**
XNZR *e*S **Sg** **01 39 05.9 +3.3**
GDB GEDABAY 1.71 257 Pn **Pn** **01 38 38.0 +0.1**
SNR=190
GDB Sn **Sn** **01 38 59.9 +0.3**
QRD Qoradiz 1.74 196 Pn **Pn** **01 38 37.8 -0.3**
SNR=497
QRD Sn **Sb** **01 39 01.8 +0.1**
UNCR Uncukul 1.79 332 *e*Pg **Pg** **01 38 43.0 +0.2**
UNCR Uncukul 1.79 332 PN **Pg** **01 38 43.0 +0.2**
UNCR S **Sg** **01 39 13.0 +6.8**
BUJR Buynaksk 1.80 340 *e*Pg **Pg** **01 38 42.9 0.0**
BUJR ⇓*e*Sg **Sg** **01 39 08.6 +2.3**
comp=Z,90μm,1.0s
BUJR Buynaksk 1.80 340 *e*PN **Pg** **01 38 42.9 0.0**
BUJR *e*S **Sg** **01 39 08.6 +2.3**
GALA Gala 1.83 113 Pn **Pg** **01 38 43.1 -0.3**
SNR=23
MAK Makhachkala 1.85 350 *e*Pg **Pb** **01 38 42.8 +0.9**
MAK *e*Sg **Sg** **01 39 10.2 +2.2**
MAK Makhachkala 1.85 350⇑*i*PN **Pb** **01 38 43.1 +1.2**
MAK *e* 01 39 10.1
MAK pmax pmax
comp=Z,11μm,0.6s
MAK smax smax
comp=N,54μm,0.6s
MAK smax smax
comp=N,60μm,0.7s
KRNR Karanay 1.86 336 *i* Pg **Pb** **01 38 42.5 +0.4**
KRNR Karanay 1.86 336⇑*i*PN **Pb** **01 38 42.5 +0.4**
KRNR *e*S **Sg** **01 39 12.0 +3.8**
GLBA Clilabad 1.92 170 Pn **Pn** **01 38 40.5 0.0**
SNR=847
GLBA Sn **Sb** **01 39 06.6 -0.3**
QZX Qazax, Azerbai 1.95 269 Pn **Pn** **01 38 41.4 +0.5**
SNR=1409
QZX Sn **Sb** **01 39 07.2 -0.5**
BTLR Botlikh 2.00 320 *e*Pg **Pb** **01 38 45.1 +0.7**
comp=N,13μm,0.7s
BTLR *e*Sg **Sg** **01 39 13.2 +0.6**
comp=N,22μm,0.7s
BTLR Botlikh 2.00 320 *e*PN **Pg** **01 38 47.2 +0.5**
BTLR *e*S **Sg** **01 39 14.8 +2.2**
GRS Goris 2.05 218⇑*i*P **Pn** **01 38 41.0 -1.4**
GRS ⇑*i*S **Sn** **01 39 09.0 +1.2**
DBC Dubki 2.06 336 *e*Pg **Pb** **01 38 46.5 +1.0**
comp=N,8μm,0.6s
DBC *e*Sg **Sg** **01 39 14.7 +0.2**
comp=N,9μm,0.7s
DBC Dubki 2.06 336⇑*e*PN **Pb** **01 38 47.0 +1.5**
DBC *e* 01 39 17.0
DBC pmax pmax
comp=Z,8μm,0.6s
DBC smax smax
comp=N,7μm,0.9s
KANR Karaman 2.08 351 *e*Pg **Pg** **01 38 47.8 -0.6**
KANR ⇑*e*Sg **Sg** **01 39 15.6 +0.2**
comp=N,7μm,0.9s
DLMR Dylym 2.17 333 *i* Pg **Pb** **01 38 49.0 +1.7**
DLMR Dylym 2.17 333⇑*i*PN **Pb** **01 38 49.0 +1.7**
DLMR S **Sg** **01 39 21.5 +3.5**
YRD Yardimli 2.23 174 Pn **Pn** **01 38 44.7 -0.3**
SNR=148
YRD Sn **Sn** **01 39 13.3 +0.9**
DVE Vedeno 2.27 324 *i* Pg **Pb** **01 38 49.4 +0.3**
DVE *e*Sg **Sg** **01 39 20.1 -1.2**
DVE Vedeno 2.27 324 *i* PN **Pb** **01 38 49.4 +0.3**
DVE *e*S **Sg** **01 39 20.1 -1.2**
LKRN Lenkeran, Azer 2.51 165 PN **Pn** **01 38 48.6 +0.1**
LKRN Lenkeran, Azer 2.51 165 Pn **Pn** **01 38 48.6 +0.1**
SNR=180
LKRN Sn **Sn** **01 39 19.6 +0.8**
LRK Lerik 2.51 173 Pn **Pn** **01 38 48.7 -0.1**
SNR=114
LRK Sn **Sb** **01 39 21.7 -2.3**
SBZ Shahbuz 2.53 227 Pn **Pn** **01 38 50.1 +1.2**
SNR=1095
SBZ Sn **Sb** **01 39 23.4 -1.1**
KAPZ Kaputan 2.60 253⇓*i*P **Pn** **01 38 51.4 +1.4**
KAPZ ⇑*i*S **Sb** **01 39 26.5 -0.1**
GROC Groznyy 2.61 323 *i* Pn **Pb** **01 38 54.2 -0.6**
GROC *e*Sn **Sb** **01 39 28.7 +2.0**
GROC Groznyy 2.61 323 *i* PN **Pb** **01 38 54.2 -0.6**
GROC *e*S **Sb** **01 39 28.9 +2.2**
ASTR Astara 2.66 166 Pn **Pn** **01 38 50.7 +0.1**
SNR=305
ASTR Sn **Sn** **01 39 23.6 +1.1**
ORD Ordubad 2.67 215 Pn **Pn** **01 38 51.8 +0.9**
SNR=1781
ORD Sn **Sb** **01 39 26.4 -2.1**
KZRT Kazreti 2.69 276 P **Pn** **01 38 52.1 +1.0**
KZRT S **Sn** **01 39 26.2 +2.8**
NAX Nakhchivan 2.72 225 PN **Pn** **01 38 53.0 +1.5**
NAX Nakhchivan 2.72 225 Pn **Pn** **01 38 53.1 +1.5**
SNR=1236
NAX Sn **Sb** **01 39 28.3 -1.6**
NRKZ NAREK 2.75 247⇓*i*P **Pn** **01 38 53.5 +1.5**
NRKZ ⇑*i*S **Sb** **01 39 32.6 +1.8**
HYR Heyderabad 2.76 240 Pn **Pn** **01 38 53.6 +1.6**
SNR=73
HYR Sn **Sb** **01 39 28.1 -2.9**
DMNI Dmanisi 2.84 275 P **Pn** **01 38 53.5 +0.2**
DMNI S **Sb** **01 39 30.8 -2.7**
PNSH Pansheti 2.90 302 P **Pn** **01 38 57.3 +3.1**
TRLG Trialeti 2.92 279 P **Pn** **01 38 55.3 +0.8**
TASB TASBURUN-IGDIR 3.05 249 P **Pn** **01 38 58.0 +1.9**
ARUZ Aruch 3.05 255⇓*i*P **Pn** **01 38 57.7 +1.5**
ARUZ ⇑*i*S **Sb** **01 39 39.6 0.0**
VLKR Vladikavkaz 3.09 309 *i* Pn **Pb** **01 39 00.6 -2.5**
VLKR *e*Sn **Sb** **01 39 39.4 -1.3**
VLKR Vladikavkaz 3.09 309⇓*i*PN **Pb** **01 39 00.6 -2.5**
VLKR *e*S **Sb** **01 39 39.3 -1.3**
METS Metsamor 3.10 253⇓*i*P **Pn** **01 38 57.8 +1.0**
METS ⇑*i*S **Sb** **01 39 40.9 -0.1**
LACR Lac 3.20 303 *e*Pn **Pn** **01 39 00.8 +2.6**
LACR *e*Sn **Sb** **01 39 41.9 -2.0**
LACR Lac 3.20 303⇓*e*PN **Pn** **01 39 00.8 +2.6**
LACR *e*S **Sb** **01 39 41.9 -2.0**
VNNZ Vanand 3.31 253⇓*i*P **Pn** **01 39 01.3 +1.6**
VNNZ ⇑*i*S **Sb** **01 39 45.8 -1.0**
AKH Akhalkalaki 3.37 276 ⇑P **Pn** **01 39 03.2 +2.6**
AKH Akhalkalaki 3.37 276 P **Pn** **01 39 02.9 +2.3**
AKH Akhalkalaki 3.37 276 *e*Pn **Pn** **01 39 02.9 +2.3**
AKH *e*Sn **Sn** **01 39 43.3 +2.9**
AKH Akhalkalaki 3.37 276 *e*PN **Pn** **01 39 02.9 +2.3**
AKH *e*S **Sn** **01 39 43.3 +2.9**
AKH Akhalkalaki 3.37 276 Pn **Pn** **01 39 02.6 +2.0**
AKH Akhalkalaki 3.37 276 P **Pn** **01 39 03.0 +2.3**
AKH S **Sb** **01 39 45.4 -3.3**
BTKR Batakoyurt 3.37 313 *e*Pn **Pn** **01 39 04.4 +3.9**
BTKR *e*Sn **Sb** **01 39 45.0 -3.7**
BTKR Batakoyurt 3.37 313 *e*PN **Pn** **01 39 04.4 +3.9**
BTKR *e*S **Sb** **01 39 45.0 -3.7**
BKRG Bakuriani 3.38 282 P **Pn** **01 39 02.2 +1.4**
BKRG S **Sn** **01 39 40.8 0.0**
ARNR Ardon 3.40 308 *e*Pn **Pn** **01 39 04.1 +3.2**
ARNR Ardon 3.40 308 *e*PN **Pn** **01 39 04.1 +3.2**
ZEI Tsey 3.44 300 *e*Pn **Pn** **01 39 05.2 +3.6**
ZEI *e*Sn **Sn** **01 39 46.0 +3.8**
ZEI Tsey 3.44 300 *e*PN **Pn** **01 39 05.2 +3.6**
ZEI *e*S **Sb** **01 39 47.8 -3.0**
KORR Kora 3.48 305 *e*Pn **Pn** **01 39 05.0 +3.0**
KORR *e*Sn **Sn** **01 39 47.7 +4.7**
KORR Kora 3.48 305 *e*PN **Pn** **01 39 05.0 +3.0**
KORR *e*S **Sb** **01 39 50.8 -1.0**
TRKR Terskaya 3.51 318 *i* Pn **Pn** **01 39 05.7 +3.3**
TRKR *e*Sn **Sn** **01 39 47.3 +3.6**
TRKR Terskaya 3.51 318 *i* PN **Pn** **01 39 05.7 +3.3**
STDR Stavd-Durt 3.65 309 *e*Pn **Pn** **01 39 07.6 +3.4**
STDR *e*Sn **Sn** **01 39 51.2 +4.2**
STDR Stavd-Durt 3.65 309 *e*PN **Pn** **01 39 07.6 +3.4**
STDR *e*S **Sb** **01 39 52.6 -3.9**
ONI Oni 3.66 295 *i* Pn **Pn** **01 39 07.4 +2.9**
ONI *e*Sn **Sn** **01 39 51.2 +3.8**
ONI Oni 3.66 295 P **Pn** **01 39 07.3 +2.8**
ONI S **Sb** **01 39 54.7 -2.2**
CLDR Caldiran 3.68 239 P **Pn** **01 39 07.4 +2.5**
DIGR Digorskoe uzhe 3.70 300 *e*Pn **Pn** **01 39 08.3 +3.2**
DIGR *e*Sn **Sn** **01 39 51.5 +2.9**
DIGR Digorskoe uzhe 3.70 300 *e*PN **Pn** **01 39 08.4 +3.2**
DIGR *e*S **Sb** **01 39 54.4 -3.9**
KARS Kars 3.73 264 P **Pn** **01 39 08.1 +2.6**
LSNR Lesken 3.73 306 *e*Pn **Pn** **01 39 09.1 +3.6**
LSNR *e*Sn **Sn** **01 39 53.6 +4.4**
LSNR Lesken 3.73 306⇓*e*PN **Pn** **01 39 09.1 +3.6**
LSNR *e*S **Sn** **01 39 53.6 +4.4**
PRTR Priterechnaya 3.77 315 *e*Pn **Pn** **01 39 09.0 +3.2**
PRTR *e*Sn **Sn** **01 39 52.6 +2.7**
PRTR Priterechnaya 3.77 315⇓*e*PN **Pn** **01 39 09.0 +3.2**
PRTR *e*S **Sn** **01 39 52.6 +2.7**
TKB Tkibuli 3.90 290 P **Pn** **01 39 10.3 +2.6**
AGRB Hanur-Agry 4.10 249 P **Pn** **01 39 13.5 +2.9**
ERCV ERCIS-VAN 4.12 241 *e*P **Pn** **01 39 13.9 +3.0**
SENK Senkaya-Erzuru 4.29 264 *e*P **Pn** **01 39 16.9 +3.7**
VANB Van 4.33 236 *e*P **Pn** **01 39 16.9 +3.1**
KBZ Khabaz 4.55 306 Pn **Pn** **01 39 18.3 +1.7**
comp=N,3.5nm,0.3s,baz=136,slow=8.8,SNR=38
KBZ Lg Lg 01 40 21.5
comp=N,22nm,0.3s,baz=201,slow=14,SNR=5.0
KBZ LR LR 01 41 24.1
comp=N,6μm,19.5s,baz=126,slow=44
MLAZ Malazgirt-MUS 4.59 246 *e*P **Pn** **01 39 20.3 +2.9**
CHVG Ch'k'valeri 4.65 292 P **Pn** **01 39 20.9 +2.8**
SHA1 Shidzhatmaz 4.70 305 *e*Pn **Pn** **01 39 21.4 +2.5**
SHA1 *e*Sn **Sn** **01 40 16.3 +3.1**
SHA1 Shidzhatmaz 4.70 305⇓*e*PN **Pn** **01 39 21.4 +2.5**
SHA1 *e*S **Sn** **01 40 18.6 +5.3**
AKDM Akdamar-Van 4.75 235 *e*P **Pn** **01 39 22.8 +3.3**
BEYR Belyy Ugol+ 4.75 309 *e*Pn **Pn** **01 39 21.0 +1.5**
BEYR Belyy Ugol+ 4.75 309 *e*PN **Pn** **01 39 21.0 +1.5**
BCA Borcka 4.78 276 *e*P **Pn** **01 39 23.8 +4.0**
KOPR Koprukoy-ERZUR 4.78 258 *e*P **Pn** **01 39 23.4 +3.4**
KVAR Kislovodsk Arr 4.79 308 Pn **Pn** **01 39 21.8 +1.6**
baz=286,slow=22,SNR=53
KVAR LR LR 01 41 39.5
comp=N,7μm,21.4s,baz=48,slow=45
KIV Kislovodsk 4.80 308 *i* P **Pn** **01 39 23.0 +2.8**
SNR=56
KIV Kislovodsk 4.80 308 *e*P **Pn** **01 39 22.2 +2.0**
KIV Kislovodsk 4.80 308 P **Pn** **01 39 22.0 +1.8**
KIV Kislovodsk 4.80 308 *e*PN **Pn** **01 39 21.9 +1.7**
KIV *e*S **Sn** **01 40 18.0 +2.4**
KIV pmax pmax
comp=Z,2μm,1.0s
KIV MLR MLR
comp=Z,3μm,7.0s
KIV Kislovodsk 4.80 308 Pn **Pn** **01 39 21.4 +1.2**
CUKT Cukurca 5.14 222 *e*P **Pn** **01 39 27.8 +2.9**
GURO Guroymak-BITLI 5.24 242 *e*P **Pn** **01 39 29.5 +3.3**
GOF Gofitskoye 5.32 319 *e*Pn **Pn** **01 39 28.7 +1.6**
GOF *e*Sn **Sn** **01 40 31.0 +2.9**
GOF Gofitskoye 5.32 319 *e*P **Pn** **01 39 28.7 +1.6**
GOF *e*S **Sn** **01 40 23.9 -4.2**
VRTB Varto-Mus 5.35 250 *e*P **Pn** **01 39 31.7 +3.9**
ARXR Arkhyz 5.51 298 *e*Pn **Pn** **01 39 32.1 +2.2**
ARXR *e*Sn **Sn** **01 40 33.2 +0.1**
ARXR Arkhyz 5.51 298 *e*P **Pn** **01 39 34.3 +4.4**
ARXR *e*S **Sn** **01 40 33.2 +0.1**
SIRT Sirnak 5.61 231 *e*P **Pn** **01 39 34.3 +3.0**
KOPT Kop Dagi 5.78 261 Pn **Pn** **01 39 36.6 +2.8**
YEDI Yedisu-Bingol 5.91 256 *e*P **Pn** **01 39 40.2 +4.7**
BAYT Aydintepe-Bayb 5.97 265 *e*P **Pn** **01 39 40.9 +4.5**
BNGB Bingl 5.97 251 *e*P **Pn** **01 39 40.9 +4.6**
SVAN Silvan-Diyarba 6.00 242 *e*P **Pn** **01 39 40.4 +3.7**
KTUT Trabzon 6.19 271 *e*P **Pn** **01 39 43.7 +4.6**
RPOR Krasnaya Polya 6.24 297 *e*Pn **Pn** **01 39 44.0 +4.2**
RPOR *e*Sn **Sn** **01 40 50.6 -0.2**
RPOR Krasnaya Polya 6.24 297 *e*P **Pn** **01 39 44.0 +4.2**
LABN Labinsk 6.36 306 *e*Pn **Pn** **01 39 45.4 +3.9**
LABN Labinsk 6.36 306 *e*P **Pn** **01 39 45.7 +4.2**
GUZR Guzeripl' 6.45 299 *e*P Pn 01 39 47.8 +5.0
SOC Sochi 6.57 295 *e*P **Pn** **01 39 47.2 +2.8**
SOC *e* 01 41 02.0
SOC pmax pmax
comp=Z,70nm,0.6s
SOC MLR MLR
comp=Z,2μm,9.0s
MARD Mardin 6.75 238 Pn **Pn** **01 39 49.0 +2.0**
DYBB Diyarbakir 6.82 245 *e*P **Pn** **01 39 50.9 +3.0**
MAZI Mazidag 6.88 240 *e*P **Pn** **01 39 51.1 +2.3**
PTK Pertek 6.94 254 *e*P **Pn** **01 39 53.0 +3.3**
ESPY Espiye-Giresun 6.98 271 *e*P **Pn** **01 39 53.2 +3.2**
ERBR Yeremizino-Bor 7.10 313 *e*Pn **Pn** **01 39 53.7 +2.0**
ERBR *e*Sn **Sn** **01 41 10.0 -2.1**
ERBR Yeremizino-Bor 7.10 313 *e*P **Pn** **01 39 53.7 +2.0**
SVRC Sivrice-ELAZID 7.21 250 *e*P **Pn** **01 39 57.1 +3.8**
KGUR Krasnodar 7.59 304 *e*P Pn 01 40 06.4 +8.0
KGUR *e*S **Sn** **01 41 32.7 +8.5**
GEYT Alibeck 8.48 109 Pn **Pn** **01 40 09.4 -1.3**
comp=Z,9.5nm,0.3s,baz=290,slow=17,SNR=116
GEYT Sn **Sn** **01 41 43.8 -2.4**
comp=Z,15nm,0.3s,baz=310,slow=21,SNR=11
GEYT Alibeck 8.48 109 Pn **Pn** **01 40 09.6 -1.1**
GYA0 ALIBECK ARRAY 8.48 109 P **Pn** **01 40 09.3 -1.4**
GYA0 S **Sn** **01 41 42.4 -3.8**
GYA0B ALIBECK ARRAY 8.48 109 ⇓P **Pn** **01 40 09.4 -1.4**
GYA0B ⇓S **Sn** **01 41 42.5 -3.7**
GYA0B ALIBECK ARRAY 8.48 109 Pn **Pn** **01 40 09.6 -1.2**
ANN Anapa 8.53 299 *e*P **Pn** **01 40 11.9 +0.6**
ANN *e*S **Sn** **01 41 49.5 +2.2**
ANN pmax pmax
comp=Z,27nm,0.9s
ANN MLR MLR
comp=Z,2μm,10.0s
ASHT Ashkhabad 8.67 108 P **Pn** **01 40 12.7 -0.5**
ASHT Ashkhabad 8.67 108 Pn **Pn** **01 40 12.7 -0.5**
TOKA Tokat 8.75 268 Pn Pn 01 40 20.0 +5.6
GAZ Gaziantep 9.23 248 Pn **Pn** **01 40 24.6 +3.6**
SIM Simferopol' 10.82 295 *d* *i*P **Pn** **01 40 46.5 +3.9**
SIM pmax pmax
comp=Z,326nm,1.7s
VRH Novokhopyorsk 10.95 339 *e*P **Pn** **01 40 42.9 -1.4**
VRH pmax pmax
comp=Z,320nm,0.7s
VRH pmax pmax
comp=Z,250nm,0.9s
VRH MLR MLR
comp=Z,5μm,15.0s
BR131 Keskin Array S 11.00 267 *d* *i*P **Pn** **01 40 49.4 +4.1**
BR131 Keskin Array S 11.00 267 Pn **Pn** **01 40 48.8 +3.5**
BRTR Keskin Array B 11.00 267 Pn **Pn** **01 40 48.8 +3.5**
comp=Z,0.4nm,0.3s,baz=91,slow=11,SNR=65
BRTR LR LR 01 45 15.7
comp=Z,740nm,20.7s,baz=68,slow=39
BRTR Keskin Array B 11.00 267 *i* P **Pn** **01 40 50.0 +4.7**
BRTR pmax pmax
comp=Z,38nm,1.1s
BRTR Keskin Array B 11.00 267 Pn **Pn** **01 40 48.7 +3.4**
VORD Divnogorie 11.51 332 *e*P **Pn** **01 40 51.4 -0.7**
VORD pmax pmax
comp=Z,90nm,1.0s
BR231 Keskin MP Arra 11.63 269 Pn **Pn** **01 40 56.5 +2.7**
AKTO Aktyubinsk 11.64 34 Pn **Pn** **01 40 51.7 -2.2**
comp=Z,11nm,0.3s,baz=215,slow=12,SNR=229
AKTO Sn **Sn** **01 42 58.3 -5.2**
comp=Z,5.3nm,0.3s,baz=12,slow=19,SNR=4.1
AKTO LR LR 01 46 37.9
comp=Z,5μm,18.1s,baz=218,slow=44
AKTO Aktyubinsk 11.64 34 ⇑P **Pn** **01 40 51.7 -2.2**
comp=Z,207nm,0.8s
AKTO ⇓S **Sn** **01 42 59.0 -4.5**
comp=Z,744nm,1.1s
AB31 Akbulak array 11.71 42 ⇑P **Pn** **01 40 53.4 -1.5**
comp=Z,98nm,0.7s,baz=221,slow=13,SNR=528
AB31 ⇑S **Sn** **01 43 01.4 -3.9**
comp=Z,191nm,0.9s,baz=203,slow=25,SNR=5.5
AB31 Akbulak array 11.71 42 *e*P **Pn** **01 40 53.3 -1.5**
AB31 S **Sn** **01 43 01.3 -3.9**
ABKAR Akbulak array 11.71 42 Pn **Pn** **01 40 53.1 -1.7**
ABKAR Akbulak array 11.71 42 Pn **Pn** **01 40 52.7 -2.1**
VSR Storozhevoye 11.77 332 *e*P **Pn** **01 40 54.0 -1.5**
VSR pmax pmax
comp=Z,120nm,1.0s
VSR pmax pmax
comp=Z,210nm,1.9s
VSR MLR MLR
comp=Z,5μm,14.0s
VORR Voronezh 12.13 333 *e*P **Pn** **01 41 03.0 +2.5**
VORR pmax pmax
comp=Z,400nm,1.0s
NATI Neve Ativ 12.50 235 Pn **Pn** **01 41 08.5 +2.8**
ASF Jabal al Asfar 12.59 228 Pn **Pn** **01 41 08.7 +1.7**
comp=Z,0.2nm,0.3s,baz=58,slow=2.1,SNR=11
ASF LR LR 01 46 43.4
comp=Z,4μm,18.4s,baz=358,slow=41
MDUB Mudurnu 12.71 272 Pn **Pn** **01 41 11.1 +2.5**
MMAI Mount Meron Ar 12.88 235 Pn **Pn** **01 41 11.4 +0.6**
comp=Z,0.3nm,0.3s,baz=306,slow=50,SNR=4.0
MMAI LR LR 01 46 56.3
comp=Z,6μm,18.9s,baz=50,slow=41
LPSR Galich'ya Gora 13.01 335 *e*P **Pn** **01 41 11.9 -0.6**
LPSR pmax pmax
comp=Z,390nm,0.9s
LPSR pmax pmax
comp=Z,450nm,0.7s
LPSR MLR MLR
comp=Z,4μm,19.0s
CSS Mathiatis 13.06 247 Pn **Pn** **01 41 13.8 +0.5**
CSS Mathiatis 13.06 247 Pn **Pn** **01 41 16.4 +3.0**
HRA Herat 13.16 116 Pn **Pn** **01 41 13.4 -1.4**
MMLI Mount Malkishu 13.26 233 Pn **Pn** **01 41 17.9 +1.8**
BOLV Bolvadin 13.27 265 Pn **Pn** **01 41 19.2 +2.9**
HMDT Nahal Hemdat 13.33 232 Pn **Pn** **01 41 19.7 +2.7**
OFRI `Ofer 13.40 235 Pn **Pn** **01 41 21.0 +3.0**
UJAP Al Uja 13.58 232 Pn **Pn** **01 41 22.4 +2.0**
ISP Isparta 13.86 262 P **Pn** **01 41 26.2 +1.9**
ISP Isparta 13.86 262 Pn **Pn** **01 41 25.8 +1.5**
ISP Isparta 13.86 262 Pn **Pn** **01 41 26.2 +1.9**
DSI Dead Sea 13.90 231 Pn **Pn** **01 41 26.4 +1.5**
AMAZ Amatzia 14.21 232 Pn **Pn** **01 41 30.5 +1.5**
YTIR Yattir 14.21 231 Pn **Pn** **01 41 31.7 +2.6**
JURR Jurilovca 14.43 291 ⇑P **P** **01 41 35.7 -3.0**
TLCR 14.53 293 ⇑P **Pn** **01 41 35.2 +1.9**
MFTR Murfatlar 14.68 288 ⇑P **Pn** **01 41 37.1 +1.7**
ELL Elmali 14.70 259 P **Pn** **01 41 38.8 +2.9**
ELL Elmali 14.70 259 Pn **Pn** **01 41 38.8 +2.9**
TIRR Tirgusor 14.72 290 ⇑P **Pn** **01 41 37.0 +1.1**
TIRR Tirgusor 14.72 290 P **Pn** **01 41 35.7 -0.2**
TIRR Tirgusor 14.72 290 Pn **Pn** **01 41 35.6 -0.2**
ZFRI Zfri 14.77 228 Pn **Pn** **01 41 37.8 +1.1**
PSN Preselentsi 14.82 286 *e*P **P** **01 41 44.7 +1.6**
MILM Milestii Mici 14.92 299 ⇓P **Pn** **01 41 38.9 +0.4**
KIS Kishinev 14.93 299⇑*i*P **Pn** **01 41 39.0 +0.2**
comp=Z,170nm,1.0s
KIS *e*S **Sn** **01 44 23.0 -0.8**
KIS *e*Li 01 45 40.0
KIS *e*Lq LQ 01 46 45.0
KIS LQM 01 47 30.0
comp=Z,1μm,2.5s
KIS Kishinev 14.93 299 ⇓P **Pn** **01 41 40.4 +1.6**
KIS Kishinev 14.93 299 *c* *i*P **Pn** **01 41 39.0 +0.2**
KIS *e*S **Sn** **01 44 23.0 -0.8**
KIS pmax pmax
comp=Z,170nm,1.0s
KZIT Kziot 14.96 231 Pn **Pn** **01 41 41.2 +1.9**
TLBR Topalu 14.99 290 ⇑P **Pn** **01 41 41.0 +1.4**
CFR Carcaliu 15.01 292 ⇓P **Pn** **01 41 42.3 +2.5**
PRNI Paran 15.02 228 Pn **Pn** **01 41 41.4 +1.3**
HARR Harsova 15.09 290 ⇑P **Pn** **01 41 41.9 +1.0**
ICOR Ion Corvin 15.12 288 ⇓P **P** **01 41 45.8 -0.7**
AKAS Kas 15.13 257 **P** **01 41 45.7 -1.1**
MANT Manisa 15.13 266 **Pn** **01 41 43.0 +1.2**
MANT IAmb IAmb 01 41 49.0
comp=Z,264nm,1.4s
HRFI Mount Harif 15.24 227 Pn **Pn** **01 41 43.3 +0.2**
SCHL Schela 15.27 293 ⇓P **P** **01 41 47.5 -0.6**
VARL Varlezi 15.33 295 ⇑P **Pn** **01 41 46.5 +2.5**
MBRI Mt Berech 15.50 227 Pn **Pn** **01 41 47.6 +1.1**
VASR Vaslui 15.53 297 ⇑P **P** **01 41 49.5 -1.4**
BIR Birlad 15.55 296 ⇑P **P** **01 41 50.3 -1.0**
EIL Elat 15.57 227 Pn **Pn** **01 41 47.7 +0.3**
comp=Z,0.2nm,0.3s,baz=20,slow=6.9,SNR=13
EIL LR LR 01 48 37.3
comp=Z,3μm,19.0s,baz=39,slow=40
EIL Elat 15.57 227 Pn **Pn** **01 41 48.4 +1.0**
SORM Soroca 15.58 303 ⇓P **Pn** **01 41 47.9 +0.6**
GHRR 15.66 295 ⇓P **Pn** **01 41 50.5 +2.1**
IAS Iasi 15.81 299 ⇑P **Pn** **01 41 51.2 +0.9**
GRER 15.85 293 ⇑P **P** **01 41 53.8 -0.7**
ODBI Odobesti 15.85 294 ⇓P **P** **01 41 53.4 -1.1**
LEHL Lehliu 15.86 289 ⇓P **P** **01 41 53.5 -1.1**
OBN Obninsk 15.88 336 Pn **Pn** **01 41 48.1 -3.0**
comp=Z,2.1nm,0.3s,baz=235,slow=0.4,SNR=34
OBN Sn **Sn** **01 44 47.6 +0.8**
comp=Z,1.1nm,0.3s,baz=202,slow=22,SNR=2.3
OBN LR LR 01 48 44.3
comp=Z,985nm,18.9s,baz=145,slow=40
OBN Obninsk 15.88 336 ⇓P **Pn** **01 41 48.3 -2.9**
OBN Obninsk 15.88 336 *c* *i*P **Pn** **01 41 48.2 -3.0**
OBN *e*S **Sn** **01 44 45.0 -1.8**
OBN pmax pmax
comp=Z,212nm,1.0s
OBN MLR MLR
comp=Z,3μm,17.0s
OBN Obninsk 15.88 336 P **Pn** **01 41 48.1 -3.0**
JMB Yambol 15.99 282 *e*P **Pn** **01 41 54.5 +1.9**
RAZG Razgrad 16.03 286 ⇑P **Pn** **01 41 54.1 +0.9**
BISRR Bisoca 16.06 293 ⇑P **P** **01 41 56.6 -0.3**
VRI Vrincioaia 16.09 294 ⇑P **Pn** **01 41 55.0 +1.0**
MOS Moscow 16.11 339 *e*P **Pn** **01 41 49.9 -4.1**
MOS *e*S **Sn** **01 44 49.1 -3.2**
MOS pmax pmax
comp=Z,728nm,1.2s
MOS pmax pmax
comp=N,485nm,1.0s
MOS pmax pmax
comp=E,265nm,1.1s
MOS pmax pmax
comp=Z,1μm,1.3s
MOS pmax pmax
comp=E,400nm,1.2s
MOS pmax pmax
comp=N,500nm,1.0s
MOS MLR MLR
comp=Z,3μm,15.0s
ISR Istrita 16.12 291 ⇑P **P** **01 41 57.3 -0.3**
AKASG Malin Array Be 16.12 313 Pn **Pn** **01 41 52.4 -1.9**
comp=Z,2.0nm,0.3s,baz=117,slow=14,SNR=111
AKASG Malin Array Be 16.12 313 *i* P **Pn** **01 41 52.4 -1.9**
AKASG pmax pmax
comp=Z,87nm,1.0s
AKASG Malin Array Be 16.12 313 P **Pn** **01 41 52.3 -1.9**
AKBB Malin Array Si 16.12 313 *c* *e*P **Pn** **01 41 52.8 -1.5**
AKBB Malin Array Si 16.12 313 P **Pn** **01 41 52.7 -1.5**
AKBB IAmb IAmb 01 42 03.6
comp=Z,300nm,1.0s
PLOR Plostina 16.14 294 ⇓P **P** **01 41 56.6 -1.2**
SULR 16.27 290 ⇑P **P** **01 41 58.7 -0.5**
NEHR Nehoiu 16.33 292 ⇑P **P** **01 41 59.9 0.0**
SECR 16.44 291 ⇓P **Pn** **01 41 59.0 +0.6**
SGRR Singureni 16.44 288 ⇓P **P** **01 42 00.4 -0.8**
SZH Strazhica 16.45 285 *e*P **Pn** **01 42 00.1 +1.6**
CHGR Chuyangaron 16.46 92 Pn **Pn** **01 41 57.8 -1.0**
CHGR IAmb IAmb 01 42 16.2
comp=Z,220nm,0.7s
SHME Shamm 16.51 153 *i* P **Pn** **01 41 58.6 -0.8**
SNR=18
ALN Alexandroupoli 16.53 276 P **Pn** **01 42 00.9 +1.3**
ALN pmax pmax
comp=Z,367nm,1.3s
ALN Alexandroupoli 16.53 276 P **Pn** **01 42 00.9 +1.3**

ALN				IAmb	IAmb	01 42 05.8	
	comp=Z,367nm,1.3s						
IUG	**Iuzhnay**	**16.54**	**79**	*e*P	**Pn**	**01 41 59.8**	**+0.1**
	baz=79						
IUG	**Iuzhnay**	**16.54**	**79**	*e*P	**Pn**	**01 41 59.8**	**+0.1**
MLR	**Muntele Rosu**	**16.58**	**293**	Pn	**P**	**01 42 02.6**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=138,slow=8.1,SNR=32						
MLR				LR	LR	01 50 33.0	
	comp=Z,1μm,21.3s,baz=82,slow=45						
MLR	**Muntele Rosu**	**16.58**	**293**	⇑P	**P**	**01 42 02.9**	**+0.1**
MLR	**Muntele Rosu**	**16.58**	**293**	P	**P**	**01 42 03.6**	**+0.8**
MLR				pmax	pmax		
	comp=Z,360nm,1.4s						
MLR	**Muntele Rosu**	**16.58**	**293**	P	**P**	**01 42 03.6**	**+0.8**
MLR				IAmb	IAmb	01 42 19.2	
	comp=Z,360nm,1.4s						
BANOM	**Banah**	**16.68**	**153**	*i* P	**Pn**	**01 42 00.4**	**-1.2**
	SNR=16						
BANOM	**Banah**	**16.68**	**153**	P	**Pn**	**01 42 00.8**	**-0.8**
	SNR=21						
BANOM				P	**Pn**	**01 42 00.8**	**-0.8**
	SNR=21						
BANOM				S	**Sn**	**01 45 09.3**	**+2.7**
BANOM				S	**Sn**	**01 45 09.3**	**+2.7**
BIZ	**Bicaz**	**16.72**	**298**	⇓P	**Pn**	**01 42 02.6**	**+0.6**
PRAR	**RASCA**	**16.73**	**299**	⇑P	**Pn**	**01 42 02.3**	**+0.2**
OZUR		**16.78**	**295**	⇑P	**P**	**01 42 06.7**	**+1.8**
DIM	**Dimitrovgrad**	**16.79**	**281**	*e*P	**P**	**01 42 04.5**	**-0.5**
ARU	**Arti**	**16.79**	**21**	Pn	**Pn**	**01 41 58.3**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=193,slow=5.5,SNR=64						
ARU				Sn	**Sn**	**01 45 02.5**	**-6.4**
	comp=Z,0.0nm,0.3s,baz=307,slow=20,SNR=5.3						
ARU				LR	LR	01 50 35.9	
	comp=Z,5μm,18.2s,baz=208,slow=45						
ARU	**Arti**	**16.79**	**21**	*c i* P	**Pn**	**01 41 57.4**	**-5.4**
ARU				SS	**Sn**	**01 45 12.2**	**+3.3**
ARU				pmax	pmax		
	comp=Z,93nm,0.8s						
ARU				MLR	MLR		
	comp=Z,5μm,16.0s						
ARU	**Arti**	**16.79**	**21**	P	**Pn**	**01 41 58.2**	**-4.6**
ARU				IAmb	IAmb	01 42 09.3	
	comp=Z,248nm,0.7s						
UMQ	**Umm Al-Quwin**	**16.84**	**155**	*i* P	**Pn**	**01 42 03.9**	**+0.3**
	SNR=7.9						
UMQ	**Umm Al-Quwin**	**16.84**	**155**	P	**Pn**	**01 42 02.9**	**-0.6**
	SNR=11						
UMQ				S	**Sn**	**01 45 13.0**	**+2.7**
KK31	**Karatay Array**	**16.85**	**76**	⇓P	**Pn**	**01 42 02.6**	**-1.0**
	comp=Z,115nm,0.9s,baz=279,slow=13,SNR=402						
KK31				⇑S	**Sn**	**01 45 00.5**	**-10**
	comp=Z,55nm,0.8s,baz=268,slow=24,SNR=7.2						
KK31	**Karatay Array**	**16.85**	**76**	*i* P	**Pn**	**01 42 02.6**	**-1.0**
KK31				*e*S	**Sn**	**01 45 00.5**	**-10**
KK31	**Karatay Array**	**16.85**	**76**	P	**Pn**	**01 42 02.3**	**-1.3**
KKAR	**Karatay Array**	**16.85**	**76**	P	**Pn**	**01 42 02.8**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,105nm,0.8s						
KKAR	**Karatay Array**	**16.85**	**76**	P	**Pn**	**01 42 02.8**	**-0.8**
PVL	**Pavlikeni**	**16.89**	**285**	*e*P	**P**	**01 42 07.4**	**+1.4**
KDZ	**Kurdzhali**	**16.91**	**279**	*e*P	**P**	**01 42 06.3**	**-0.1**
COPA	**Copaceanca**	**16.98**	**288**	⇑P	**P**	**01 42 07.0**	**-0.1**
DOPR	**Dopca**	**17.03**	**294**	⇑P	**Pn**	**01 42 07.0**	**+1.1**
MSFE	**Esma-Masafi**	**17.15**	**154**	*i* P	**Pn**	**01 42 06.6**	**-1.0**
	SNR=37						
MTUR	**Matau**	**17.17**	**291**	⇓P	**P**	**01 42 10.4**	**+1.2**
HUMR	**Humele**	**17.17**	**289**	⇑P	**P**	**01 42 12.2**	**+3.0**
VOIR		**17.20**	**292**	⇓P	**P**	**01 42 11.4**	**+1.8**
KARP	**Karpathos**	**17.22**	**258**		**P**	**01 42 10.3**	**+0.5**
GAR	**Garm**	**17.25**	**90**	P	**Pn**	**01 42 08.2**	**-0.6**
GAR				IAmb	IAmb	01 42 20.8	
	comp=Z,246nm,0.8s						
MDH	**Madha**	**17.26**	**154**	*i* P	**Pn**	**01 42 07.8**	**-0.9**
	SNR=10.0						
MDH	**Madha**	**17.26**	**154**	P	**Pn**	**01 42 08.1**	**-0.7**
	SNR=13						
MDH				P	**Pn**	**01 42 08.1**	**-0.7**
	SNR=13						
MDH				S	**Sn**	**01 45 20.2**	**-0.3**
MDH				S	**Sn**	**01 45 20.2**	**-0.3**
NAZ	**Nazwa, Dubai**	**17.34**	**156**	*i* P	**Pn**	**01 42 09.1**	**-0.7**
	SNR=45						
NAZ	**Nazwa, Dubai**	**17.34**	**156**	P	**Pn**	**01 42 10.1**	**+0.2**
	SNR=50						
NAZ				S	**Sn**	**01 45 22.4**	**-0.2**
PLD	**Plovdiv**	**17.40**	**281**	*e*P	**P**	**01 42 11.7**	**0.0**
RZN	**Rozhen**	**17.43**	**279**	*e*P	**P**	**01 42 12.5**	**+0.2**
DZA	**Taraz**	**17.46**	**76**	*e*P	**Pn**	**01 42 10.8**	**-0.5**
	comp=Z,13nm,0.6s,baz=76						
DZA				*e*S	**Sn**	**01 45 24.4**	**-0.8**
	baz=76						
DZA				LR	LR	01 48 50.2	
	comp=Z,462nm,13.1s,baz=76						
DZA	**Taraz**	**17.46**	**76**	*e*P	**Pn**	**01 42 10.7**	**-0.5**
DZA				*e*S	**Sn**	**01 45 24.4**	**-0.8**
DZA				pmax	pmax		
	comp=Z,13nm,0.6s						
DZA				MLR	MLR		
	comp=Z,462nm,13.0s						
BURAR	**Bucovina Array**	**17.46**	**299**	⇑P	**Pn**	**01 42 11.7**	**+0.3**
BURAR	**Bucovina Array**	**17.46**	**299**	P	**Pn**	**01 42 10.5**	**-0.8**
BUR08	**Bucovina Ar. S**	**17.48**	**299**	P	**Pn**	**01 42 11.0**	**-0.6**
ARR	**Arges**	**17.48**	**292**	⇓P	**P**	**01 42 16.7**	**+4.0**
KIRV	**Kirov**	**17.49**	**3**	P	**Pn**	**01 42 08.1**	**-3.4**
	comp=Z,7.2nm,0.3s,baz=177,slow=5.8,SNR=57						
KIRV				S	**Sn**	**01 45 20.1**	**-5.7**
	comp=Z,2.4nm,0.3s,baz=302,slow=19,SNR=1.3						
KIRV				LR	LR	01 50 46.0	
	comp=Z,6μm,18.4s,baz=187,slow=44						
KIRV	**Kirov**	**17.49**	**3**	*i* P	**Pn**	**01 42 07.5**	**-4.0**
AJN	**Ajban**	**17.54**	**158**	*i* P	**P**	**01 42 13.4**	**+0.1**
	SNR=23						
AJN	**Ajban**	**17.54**	**158**	P	**P**	**01 42 14.1**	**+0.7**
	SNR=22						
AJN				P	**P**	**01 42 14.1**	**+0.7**
	SNR=22						
AJN				S	**Sn**	**01 45 27.4**	**0.0**
AJN				S	**Sn**	**01 45 27.4**	**0.0**
FAQ	**Al Faqa, Dubai**	**17.55**	**156**	*i* P	**Pn**	**01 42 12.0**	**-0.4**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**17.55**	**156**	P	**P**	**01 42 13.8**	**+0.4**
	SNR=12						
FAQ				P	**P**	**01 42 13.8**	**+0.4**
	SNR=12						
FAQ				S	**Sn**	**01 45 28.4**	**+0.9**
FAQ				S	**Sn**	**01 45 28.4**	**+0.9**
UOSS	**Minazif**	**17.55**	**154**	*i* P	**Pn**	**01 42 10.8**	**-1.7**
	SNR=19						
UOSS	**Minazif**	**17.55**	**154**	P	**Pn**	**01 42 11.3**	**-1.1**
UOSS				P	**Pn**	**01 42 11.3**	**-1.1**
UOSS				S	**Sn**	**01 45 26.2**	**-1.5**
UOSS				S	**Sn**	**01 45 26.2**	**-1.5**
UOSS	**Minazif**	**17.55**	**154**		**Pn**	**01 42 12.8**	**+0.3**
UOSS				IAmb	IAmb	01 42 23.7	
	comp=Z,162nm,0.9s						
HATD	**Hatta, Dubai**	**17.64**	**155**	*i* P	**Pn**	**01 42 12.6**	**-0.9**
	SNR=57						
HATD	**Hatta, Dubai**	**17.64**	**155**	P	**Pn**	**01 42 12.8**	**-0.8**
	SNR=41						
HATD				P	**Pn**	**01 42 12.8**	**-0.8**
	SNR=41						
SVE	**Sverdlovsk**	**17.72**	**23**	*de*P	**Pn**	**01 42 11.2**	**-3.2**
SVE				pmax	pmax		
	comp=Z,978nm,1.5s						
SVE				MLR	MLR		
	comp=Z,3μm,19.0s						
ASHO	**Ashiyiah**	**17.75**	**155**	*i* P	**Pn**	**01 42 14.0**	**-1.0**
	SNR=23						
ASHO	**Ashiyiah**	**17.75**	**155**	P	**Pn**	**01 42 13.9**	**-1.1**
	SNR=35						
ASHO				P	**Pn**	**01 42 13.9**	**-1.1**
	SNR=35						
ASHO				S	**Sn**	**01 45 31.6**	**-0.9**
ASHO				S	**Sn**	**01 45 31.6**	**-0.9**
MDB	**Medias**	**17.75**	**294**	⇓P	**P**	**01 42 18.5**	**+2.9**
PGB	**Panagyurishte**	**17.77**	**282**	*e*P	**P**	**01 42 17.0**	**+1.1**
APE	**Apeiranthos**	**17.86**	**264**	⇑P	**P**	**01 42 18.7**	**+1.9**
KBL	**Kabul**	**17.89**	**105**	P	**P**	**01 42 18.6**	**+1.1**
	SNR=75						
KBL	**Kabul**	**17.89**	**105**	P	**P**	**01 42 18.1**	**+0.6**
KBL				pmax	pmax		
	comp=Z,181nm,1.2s						
KBL	**Kabul**	**17.89**	**105**	P	**P**	**01 42 18.1**	**+0.6**
ARCR	**ARCALIA**	**17.92**	**297**	⇑P	**P**	**01 42 18.1**	**+0.6**
LOT	**Lotru**	**18.10**	**292**	⇑P	**P**	**01 42 21.6**	**+2.0**
SANT	**Santorini**	**18.16**	**262**	P	**P**	**01 42 20.6**	**+0.4**
MMB	**Musomiste**	**18.18**	**279**	*e*P	**P**	**01 42 22.3**	**+1.9**
ALNE	**Al Ain**	**18.24**	**157**	*i* P	**Pn**	**01 42 20.3**	**-0.7**
	SNR=15						
CJR	**Cluj-Napoca**	**18.37**	**296**	⇑P	**Pn**	**01 42 26.3**	**+3.9**
SOHO	**SOHO**	**18.41**	**154**	*i* P	**P**	**01 42 21.8**	**-1.2**
	SNR=66						
SOHO	**SOHO**	**18.41**	**154**	P	**P**	**01 42 22.2**	**-0.8**
SOHO				P	**P**	**01 42 22.2**	**-0.8**
SRE	**Strehaia**	**18.45**	**289**	⇑P	**Pn**	**01 42 25.4**	**+2.1**
VTS	**Vitosha**	**18.45**	**283**	*e*P	**Pn**	**01 42 25.3**	**+1.7**
KKB	**Krupnik**	**18.63**	**280**	*e*P	**Pn**	**01 42 26.7**	**+1.1**
PUNG	**Punghina**	**18.63**	**288**	⇑P	**Pn**	**01 42 28.3**	**+2.7**
DEV	**Deva**	**18.74**	**293**	⇑P	**Pn**	**01 42 30.0**	**+3.1**
LVV	**L'vov**	**18.82**	**306**	*e*P	**P**	**01 42 27.6**	**+0.3**
LVV				*e*S	**Sn**	**01 45 50.0**	**-8.1**
LVV				MLR	MLR		
	comp=Z,2μm,15.0s						
MICGM	**Minsk**	**18.89**	**322**	⇓*e*P	**P**	**01 42 25.0**	**-3.0**
MICGM				PM		01 42 26.0	
	comp=Z,0.6nm,1.0s						
MICGM				PM		01 42 27.0	
	comp=N,0.5nm,1.0s						
MICGM				*e*pP	**sP**	**01 42 41.0**	**+5.5**
MICGM				*e*S	**Sn**	**01 45 50.0**	**-10**
MICGM				*e*LR	LR	01 49 34.0	
MICGM				LRM	MLR	01 50 44.0	
	comp=E,3.1nm,16.0s						
MICGM				LRM	MLR	01 50 46.0	
	comp=Z,6.8nm,14.0s						
MNK	**Minsk**	**18.89**	**322**	⇓*e*P	**P**	**01 42 25.0**	**-3.0**
MNK				*e*S	**Sn**	**01 45 50.0**	**-10**
MNK				pmax	pmax		
	comp=Z,600nm,1.0s						
MNK				pmax	pmax		
	comp=N,530nm,1.0s						
MNK				MLR	MLR		
	comp=E,3μm,16.0s						
MNK				MLR	MLR		
	comp=Z,7μm,14.0s						
IDI	**Anoyia**	**19.01**	**260**	P	**P**	**01 42 29.0**	**-0.7**
	comp=Z,2.2nm,0.3s,baz=40,slow=14,SNR=9.9						
IDI				LR	LR	01 50 55.2	
	comp=Z,624nm,20.5s,baz=64,slow=40						
IDI	**Anoyia**	**19.01**	**260**	⇑P	**P**	**01 42 30.0**	**+0.3**
IDI	**Anoyia**	**19.01**	**260**	P	**Pn**	**01 42 30.4**	**0.0**
HERR	**Herculane**	**19.02**	**290**	⇑P	**Pn**	**01 42 30.3**	**0.0**
VAY	**Valandovo**	**19.07**	**279**	*i* P	**Pn**	**01 42 32.1**	**+1.1**
ARQ	**Araqi**	**19.15**	**155**	P	**P**	**01 42 31.6**	**+0.4**
	SNR=60						
HOQ	**Hoqain**	**19.19**	**153**	P	**P**	**01 42 31.4**	**-0.1**
	SNR=26						
HOQ				P	**P**	**01 42 31.4**	**-0.1**
	SNR=26						
BRVK	**Borovoye**	**19.23**	**44**	⇑P	**P**	**01 42 30.3**	**-1.5**
	comp=Z,195nm,0.8s						
BRVK				⇑S	**Sn**	**01 45 58.8**	**-9.0**
	comp=Z,200nm,1.2s						
BRVK	**Borovoye**	**19.23**	**44**	P	**P**	**01 42 32.2**	**+0.5**
BRVK				P	**P**	**01 42 32.2**	**+0.5**
BRVK	**Borovoye**	**19.23**	**44**	*i* P	**P**	**01 42 32.0**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,232nm,0.8s						
BRVK				MLR	MLR		
	comp=Z,3μm,16.0s						
BRVK	**Borovoye**	**19.23**	**44**	P	**P**	**01 42 31.2**	**-0.5**
BRVK				IAmb	IAmb	01 42 40.5	
	comp=Z,209nm,0.7s						
AML	**Almayashu**	**19.25**	**79**	P	**Pn**	**01 42 34.5**	**+1.0**
	SNR=11						
BVAR	**Borovoye Array**	**19.27**	**44**	P	**P**	**01 42 31.6**	**-0.6**
	comp=Z,10nm,0.3s,baz=186,slow=13,SNR=181						
BVAR				S	**Sn**	**01 45 59.8**	**-9.0**
	comp=Z,1.3nm,0.3s,baz=213,slow=27,SNR=3.9						
EKS2	**Erkin-Say**	**19.27**	**77**	P	**Pn**	**01 42 33.9**	**+0.5**
	SNR=62						
STIP	**Stip**	**19.31**	**280**	*i* P	**P**	**01 42 32.5**	**-0.2**
LIT	**Litokhoron**	**19.34**	**275**	P	**Pn**	**01 42 34.1**	**-0.1**
LIT				pmax	pmax		
	comp=Z,60nm,1.1s						
LIT	**Litokhoron**	**19.34**	**275**	P	**Pn**	**01 42 34.0**	**-0.1**
BTLS	**Baital**	**19.42**	**70**	*e*P	**P**	**01 42 33.4**	**-0.6**
	comp=Z,13nm,0.7s,baz=70						
BTLS				*e*S	**Sn**	**01 46 11.6**	**-1.1**
	baz=70						
BTLS	**Baital**	**19.42**	**70**	*e*P	**P**	**01 42 33.4**	**-0.6**
BTLS				*e*S	**Sn**	**01 46 11.6**	**-1.1**
BTLS				pmax	pmax		
	comp=Z,13nm,0.7s						
MDVR	**Moldovita**	**19.51**	**290**	⇑P	**Pn**	**01 42 36.2**	**-0.1**
BIDO	**Bidbid**	**19.53**	**151**	P	**P**	**01 42 35.0**	**-0.3**
	SNR=17						
BIDO				P	**P**	**01 42 35.0**	**-0.3**
	SNR=17						
KWP	**Kalwaria Pacla**	**19.59**	**304**	*e*P	**P**	**01 42 36.7**	**+1.0**
KWP	**Kalwaria Pacla**	**19.59**	**304**	P	**P**	**01 42 36.2**	**+0.5**
KWP				pmax	pmax		
	comp=Z,1μm,1.3s						
KWP	**Kalwaria Pacla**	**19.59**	**304**	P	**P**	**01 42 36.2**	**+0.5**
UZH	**Uzhgorod**	**19.60**	**301**	*e*P	**P**	**01 42 36.0**	**+0.2**
UZH				*i* S	**S**	**01 46 09.6**	**-6.9**
UZH				MLR	MLR		
	comp=N,200nm,16.0s						
UZH				MLR	MLR		
	comp=E,400nm,16.0s						
UZH				MLR	MLR		
	comp=Z,230nm,16.0s						
BZS	**Buzias**	**19.62**	**292**	⇑P	**Pn**	**01 42 37.2**	**-0.3**
NACGM	**Naroch**	**19.64**	**322**	*e*P	**P**	**01 42 33.0**	**-3.3**
NACGM				*e*S	**S**	**01 46 08.0**	**-9.3**
NACGM				*e*SS	**SnSn**	**01 46 40.0**	**+8.1**
NACGM				*e*LQ	LQ	01 48 36.0	
NACGM				*e*LR	LR	01 50 24.0	
NACGM				LRM	MLR	01 51 16.0	
	comp=Z,7.5nm,14.0s						
SIRR	**Siria**	**19.64**	**294**	⇑P	**Pn**	**01 42 38.8**	**+1.0**
KOLS	**Kolonicke sedl**	**19.68**	**302**	*e*P	**P**	**01 42 36.2**	**-0.6**
KOLS				pmax	pmax		
	comp=Z,71nm,0.9s						
KOLS	**Kolonicke sedl**	**19.68**	**302**	*e*P	**P**	**01 42 36.2**	**-0.6**
USP	**Ospenovka**	**19.76**	**75**	P	**Pn**	**01 42 40.3**	**+1.0**
	SNR=21						
AAK	**Ala-Archa**	**19.80**	**77**	P	**P**	**01 42 39.4**	**+1.1**
	SNR=27						
AAK	**Ala-Archa**	**19.80**	**77**	*i* P	**P**	**01 42 39.0**	**+0.7**
	SNR=64						
AAK	**Ala-Archa**	**19.80**	**77**	⇓P	**Pn**	**01 42 41.2**	**+1.4**
	comp=Z,144nm,1.1s						
AAK	**Ala-Archa**	**19.80**	**77**	*ce*P	**P**	**01 42 39.1**	**+0.8**
AAK				pmax	pmax		
	comp=Z,273nm,1.3s						
AAK				MLR	MLR		
	comp=Z,7μm,16.0s						
SKO	**Skopje**	**19.84**	**281**	*i* P	**Pn**	**01 42 40.4**	**+0.3**
SGDS	**Sogindy**	**19.84**	**74**	*e*P	**P**	**01 42 38.6**	**-0.1**
	baz=74						
SGDS	**Sogindy**	**19.84**	**74**	*e*P	**P**	**01 42 38.6**	**-0.1**
UCH	**Uchtor**	**19.85**	**78**	P	**Pn**	**01 42 40.6**	**-0.1**
	SNR=23						
FRU1	**Bishkek**	**19.88**	**76**	P	**P**	**01 42 39.8**	**+0.7**
FRU1				pmax	pmax		
	comp=Z,159nm,1.0s						
FRU1	**Bishkek**	**19.88**	**76**	P	**P**	**01 42 39.8**	**+0.7**
FRU1				IAmb	IAmb	01 42 53.3	
	comp=Z,159nm,1.0s						
IDID	**Didziasalis**	**19.91**	**323**	*e*P	**P**	**01 42 38.2**	**-1.0**
BSY	**Bisya**	**19.93**	**154**	P	**P**	**01 42 39.9**	**+0.3**
	SNR=57						
BSY				P	**P**	**01 42 39.9**	**+0.3**
	SNR=57						
SMDO	**Samad**	**19.93**	**152**	P	**P**	**01 42 40.2**	**+0.5**
	SNR=31						
SMDO				P	**P**	**01 42 40.2**	**+0.5**
	SNR=31						
BANR	**Banloc**	**19.94**	**291**	⇑P	**Pn**	**01 42 42.6**	**+1.3**
CHMS	**Chumysh**	**19.96**	**76**	P	**P**	**01 42 40.6**	**+0.8**
	SNR=13						
WSAR	**Wadi Sarin**	**19.98**	**150**	P	**P**	**01 42 41.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=360,slow=11,SNR=17						
WSAR	**Wadi Sarin**	**19.98**	**150**	P	**P**	**01 42 41.1**	**+1.0**
	SNR=16						
KBK	**Karagaybulak**	**20.13**	**77**	P	**P**	**01 42 43.1**	**+1.3**
	SNR=34						
IIGN	**Ignalina**	**20.16**	**322**	*e*P	**P**	**01 42 40.6**	**-1.4**
CRVS	**Cervenica-Dubn**	**20.20**	**302**	*e*P	**P**	**01 42 43.2**	**+0.8**
CRVS				pmax	pmax		
	comp=Z,625nm,1.4s						
CRVS	**Cervenica-Dubn**	**20.20**	**302**	*e*P	**P**	**01 42 43.2**	**+0.8**
ISAL	**Salakas**	**20.34**	**323**	*e*P	**P**	**01 42 43.0**	**-0.8**
KLMR	**Klimovskoe**	**20.41**	**348**	*e*P	**P**	**01 42 43.8**	**-0.7**
KLMR				*e*S	**S**	**01 46 32.4**	**0.0**
KLMR				pmax	pmax		
	comp=Z,382nm,1.0s						
KLMR				MLR	MLR		
	comp=Z,1μm,10.0s						
KLMR	**Klimovskoe**	**20.41**	**348**	*e*P	**P**	**01 42 43.8**	**-0.7**
KLMR				AMP		01 42 50.5	
	comp=Z,382nm,1.0s						
KLMR				*e*S	**S**	**01 46 32.5**	**0.0**
KLMR				*e*S	**S**	**01 46 32.5**	**0.0**
KLMR				LQ	LQ	01 48 55.3	
KLMR				LQ	LQ	01 48 55.3	
KLMR				LR	LR	01 50 33.1	
KLMR				AMP		01 52 24.1	
	comp=Z,1μm,10.4s						
OHR	**Ohrid**	**20.43**	**279**	*i* P	Pn	01 42 47.0	-0.2
ITM	**Ithomi**	**20.53**	**267**	P	**P**	**01 42 45.8**	**-0.3**
ITM				IAmb	IAmb	01 43 04.9	
	comp=Z,242nm,1.2s						
PRGR	**Permogore**	**20.58**	**357**	⇑*i* P	**P**	**01 42 44.7**	**-1.6**
PRGR				*e*S	**S**	**01 46 27.7**	**-8.0**
PRGR				pmax	pmax		
	comp=Z,463nm,0.8s						
JMDO	**Jabal Madar**	**20.58**	**152**	P	**P**	**01 42 46.9**	**+0.2**
	SNR=46						
TKM2	**Tokmak 2**	**20.58**	**76**	P	**P**	**01 42 47.3**	**+0.4**
	SNR=26						
TKM2	**Tokmak 2**	**20.58**	**76**	⇑P	**P**	**01 42 47.1**	**+0.2**
	comp=Z,92nm,1.1s						
WBK	**Wadi Bani Khal**	**20.68**	**150**	P	**P**	**01 42 48.7**	**+0.9**
	SNR=32						
WBK				P	**P**	**01 42 48.7**	**+0.9**
	SNR=32						
DIVS	**Divibare**	**20.75**	**288**	⇓*i* P	**P**	**01 42 49.5**	**+1.0**
DIVS	**Divibare**	**20.75**	**288**	P	**P**	**01 42 49.9**	**+1.4**
DIVS				IAmb	IAmb	01 43 00.4	
	comp=Z,252nm,1.0s						
KECS	**Kecovo**	**20.75**	**300**	*e*P	**P**	**01 42 49.5**	**+1.2**
KECS				pmax	pmax		
	comp=Z,107nm,1.1s						
KECS	**Kecovo**	**20.75**	**300**	*e*P	**P**	**01 42 49.5**	**+1.2**
SJES	**Sjenica**	**20.80**	**285**	⇓*i* P	**P**	**01 42 50.2**	**+1.1**
PVY	**Plav**	**20.86**	**283**	⇓*i* P	**P**	**01 42 51.2**	**+1.4**
FRGS	**Fruska Gora**	**20.87**	**291**	⇓*i* P	**P**	**01 42 51.2**	**+1.4**
BOOM	**Boomskoye usch**	**20.87**	**77**	P	**P**	**01 42 50.0**	**0.0**
BOOM				pmax	pmax		
	comp=Z,106nm,1.1s						
BOOM	**Boomskoye usch**	**20.87**	**77**	P	**P**	**01 42 50.0**	**0.0**
BOOM				IAmb	IAmb	01 43 06.4	
	comp=Z,106nm,1.1s						
IVA	**Berane**	**20.89**	**284**	⇓*i* P	**P**	**01 42 51.5**	**+1.5**
SUW	**Suwalki**	**20.96**	**316**	*e*P	**P**	**01 42 48.9**	**-1.7**
SUW	**Suwalki**	**20.96**	**316**	P	**P**	**01 42 49.3**	**-1.3**
SUW				pmax	pmax		
	comp=Z,687nm,1.1s						
SUW	**Suwalki**	**20.96**	**316**	P	**P**	**01 42 49.3**	**-1.3**
PSZ	**Piszkesteto**	**21.04**	**298**	⇓P	**P**	**01 42 53.2**	**+1.6**
PSZ	**Piszkesteto**	**21.04**	**298**	P	**P**	**01 42 52.8**	**+1.1**
PSZ				pmax	pmax		
	comp=Z,274nm,1.1s						
PSZ	**Piszkesteto**	**21.04**	**298**	P	**P**	**01 42 52.8**	**+1.1**
PSZ				IAmb	IAmb	01 43 06.6	
	comp=Z,274nm,1.1s						
NIE	**Niedzica**	**21.05**	**302**	*e*P	**P**	**01 42 52.6**	**+0.9**
KUU	**Kurty**	**21.07**	**73**	*e*P	**P**	**01 42 51.6**	**-0.3**
	comp=Z,43nm,0.9s,baz=73						
KUU				*i* S	**S**	**01 46 45.6**	**-0.2**
	baz=73						
KUU				LR	LR	01 51 29.9	
	comp=Z,2μm,14.7s,baz=73						
KUU	**Kurty**	**21.07**	**73**	*e*P	**P**	**01 42 51.5**	**-0.3**
KUU				*i* S	**S**	**01 46 45.6**	**-0.2**
KUU				pmax	pmax		
	comp=Z,43nm,0.9s						
KUU				MLR	MLR		
	comp=Z,2μm,15.0s						
TIR	**Tirane**	**21.09**	**280**	P	**P**	**01 42 53.5**	**+1.4**
TIR				pmax	pmax		
	comp=Z,53nm,0.9s						
TIR	**Tirane**	**21.09**	**280**	P	**P**	**01 42 53.5**	**+1.4**
ULHL	**Ulahol**	**21.12**	**78**	P	**P**	**01 42 55.3**	**+2.6**
	SNR=22						
KOME	**Kolasin**	**21.16**	**284**	⇑*i* P	**P**	**01 42 54.6**	**+1.6**
MTBS	**Maitube**	**21.18**	**75**	*e*P	**P**	**01 42 53.3**	**+0.1**
	baz=75						
MTBS	**Maitube**	**21.18**	**75**	*e*P	**P**	**01 42 53.2**	**+0.1**
BBLS	**Lazići**	**21.18**	**287**	⇓*i* P	**P**	**01 42 54.2**	**+1.1**
RUDO	**Rudo**	**21.21**	**286**	*e*P	**P**	**01 42 56.4**	**+2.9**
PLE	**Pljevlja**	**21.22**	**285**	⇓*i* P	**P**	**01 42 55.0**	**+1.4**
JLN	**Jalan Bani Buh**	**21.26**	**149**	P	**P**	**01 42 54.3**	**+0.2**
	SNR=18						
JLN				P	**P**	**01 42 54.3**	**+0.2**
	SNR=18						
KSH	**Kashi**	**21.39**	**85**	P	**P**	**01 42 54.0**	**-1.5**
KSH				S	S	01 46 40.5	-12
KSH				pmax	pmax		
	comp=Z,85nm,1.1s						
KSH				pmax	pmax		
	comp=Z,280nm,6.4s						
KSH				LR	LR		
	comp=Z,900nm,12.9s						
KSH				LR	LR		
	comp=Z,1μm,13.2s						
KSH				LR	LR		
	comp=Z,750nm,14.5s						
PDG	**Podgorica**	**21.40**	**283**

BUM Brajici-Budva 21.68 283⇑ *i*P P 01 42 59.5 +1.0
MHTO MHTO 21.81 154 P **P 01 43 00.1 +0.1**
SNR=74
MHTO P **P 01 43 00.1 +0.1**
SNR=74
KDJ Kajisay 21.83 78 P **P 01 42 59.5 -0.7**
KDJ pmax pmax
comp=Z,170nm,1.1s
KDJ Kajisay 21.83 78 P **P 01 42 59.5 -0.7**
KDJ IAmb IAmb 01 43 12.2
comp=Z,170nm,1.1s
VYHS Vyhne 21.83 300 *e*P **P 01 43 01.4 +1.4**
VYHS pmax pmax
comp=Z,269nm,1.3s
VYHS Vyhne 21.83 300 *e*P **P 01 43 01.4 +1.4**
BRY Bratogost 21.88 284⇑ *i*P **P 01 43 02.0 +1.3**
BRY Bratogost 21.88 284 *e*P **P 01 43 01.5 +0.8**
VSU Vasula 21.93 329*c* *i*P **P 01 42 59.7 -1.2**
VSU pmax pmax
comp=Z,300nm,0.7s
VSU MLR MLR
comp=Z,7μm,17.0s
HCY Herceg Novi 21.95 283⇑ *i*P **P 01 43 01.6 +0.2**
HCY Herceg Novi 21.95 283 *e*P **P 01 43 01.5 +0.2**
SRO2 Moca 22.02 297 *e*P **P 01 43 03.2 +1.1**
SRO2 pmax pmax
comp=Z,391nm,1.4s
SRO2 Moca 22.02 297 *e*P **P 01 43 03.2 +1.1**
SRO Srobarova 22.09 298 *e*P **P 01 43 05.1 +2.3**
SRO pmax pmax
comp=Z,373nm,1.4s
SRO Srobarova 22.09 298 *e*P **P 01 43 05.0 +2.3**
TARG Taragay, Kyrgy 22.34 79 P **P 01 43 05.3 -0.7**
TARG IAmb IAmb 01 43 17.6
comp=Z,92nm,0.9s
SCTE Santa Cesarea 22.36 277 P **P 01 43 05.8 0.0**
SCTE IAmb IAmb 01 43 07.8
comp=Z,144nm,0.9s
OKC Ostrava-Krasne 22.51 303 *e*P **P 01 43 07.9 +0.6**
OKC *e*x x 01 43 20.9
OKC Ostrava-Krasne 22.51 303 *e*P **P 01 43 07.9 +0.6**
TDK Taldyqorghan 22.51 70 *e*P **P 01 43 07.7 +0.3**
baz=70
TDK *e*S **S 01 47 14.3 +0.5**
baz=70
TDK LR LR 01 52 17.3
comp=Z,2μm,12.6s,baz=70
TDK Taldyqorghan 22.51 70 *e*P **P 01 43 07.7 +0.3**
TDK *e*S **S 01 47 14.3 +0.5**
TDK MLR MLR
comp=Z,2μm,13.0s
SATY Saty 22.62 75 *e*P **P 01 43 08.8 +0.1**
baz=75
SATY Saty 22.62 75 *e*P **P 01 43 08.8 +0.1**
JAVC Velka Javorina 22.65 300 *e*P **P 01 43 11.0 +2.2**
DQM DQM 22.67 156 P **P 01 43 07.6 -1.6**
SNR=16
DQM P **P 01 43 07.6 -1.6**
SNR=16
PRZ Przheval'sk 22.68 76 P **P 01 43 07.8 -1.6**
PRZ pmax pmax
comp=Z,125nm,1.0s
PRZ Przheval'sk 22.68 76 P **P 01 43 07.8 -1.6**
PRZ IAmb IAmb 01 43 20.6
comp=Z,124nm,1.0s
BLY Banja Luka 22.74 289⇓ *i*P **P 01 43 09.9 +0.2**
SMOL Smolenice 22.76 299 *e*P **P 01 43 10.9 +1.0**
SMOL *e* 01 43 18.0
SMOL pmax pmax
comp=Z,58nm,1.0s
SMOL Smolenice 22.76 299 *e*P **P 01 43 10.9 +1.0**
SMOL Smolenice 22.76 299 *e*PN P 01 43 18.0 +8.1
MGRS Mrkonjic Grad 22.82 289 *e*P P 01 43 25.1 +14
MODS Modra-Piesok 22.84 299 *e*P **P 01 43 11.0 +0.2**
MODS pmax pmax
comp=Z,296nm,1.4s
MODS Modra-Piesok 22.84 299 *e*P **P 01 43 11.0 +0.2**
MORC Moravsky Berou 22.88 302⇑ P **P 01 43 11.6 +0.3**
MORC Moravsky Berou 22.88 302 *e*P **P 01 43 11.4 +0.1**
MORC Moravsky Berou 22.88 302 P **P 01 43 11.1 -0.2**
MORC pmax pmax
comp=Z,138nm,1.2s
MORC Moravsky Berou 22.88 302 P **P 01 43 11.1 -0.2**
MORC IAmb IAmb 01 43 18.7
comp=Z,138nm,1.2s
ZST Bratislava 22.94 298 *e*P **P 01 43 11.5 -0.3**
ZST *e* 01 43 18.4
ZST pmax pmax
comp=Z,585nm,1.3s
ZST Bratislava 22.94 298 *e*P **P 01 43 11.5 -0.3**
ZST Bratislava 22.94 298 *e*PN **P 01 43 18.4 +6.6**
BEHE Becsehely 23.03 294⇓ *i*P **P 01 43 14.9 +2.1**
UZB Uzynbulak 23.07 75 *e*P **P 01 43 12.9 -0.5**
comp=Z,11nm,1.3s,baz=74
UZB Uzynbulak 23.07 75 *e*P **P 01 43 12.8 -0.5**
PRIJ Prijedor 23.07 290 *e*P **P 01 43 14.8 +1.7**
KURBB Kurchatov Arra 23.16 55 P **P 01 43 14.1 +0.1**
comp=Z,51nm,0.7s,baz=262,slow=11,SNR=280
KURBB S **S 01 47 25.7 +0.8**
comp=Z,4.1nm,0.8s,baz=340,slow=23,SNR=2.1
KURBB Kurchatov Arra 23.16 55 ⇑P **P 01 43 14.1 +0.1**
comp=Z,156nm,0.9s
KURK Kurchatov 23.24 55 P **P 01 43 15.7 +0.9**
KURK P **P 01 43 15.7 +0.9**
KURK Kurchatov 23.24 55*c* *i*P **P 01 43 15.8 +1.0**
KURK pmax pmax
comp=Z,197nm,1.3s
KURK MLR MLR
comp=Z,3μm,16.0s
KURK Kurchatov 23.24 55 P **P 01 43 15.1 +0.3**
SHLS Shalkode 23.38 75 *e*P **P 01 43 19.8 +3.3**
comp=Z,28nm,1.1s,baz=74
SHLS Shalkode 23.38 75 *e*P **P 01 43 19.8 +3.3**
SHLS pmax pmax
comp=Z,28nm,1.1s
PDGK Podgornoye 23.39 74 ⇓P **P 01 43 16.7 +0.1**
comp=Z,124nm,1.4s
PDGK Podgornoye 23.39 74 P **P 01 43 16.7 +0.1**
KOGS Kog 23.39 294 *i*P **P 01 43 17.0 +0.5**
VRAC Vranov 23.41 301 P **P 01 43 16.1 -0.6**
comp=Z,23nm,1.1s,baz=101,slow=10,SNR=16
VRAC Vranov 23.41 301 ⇓P **P 01 43 16.9 +0.2**
VRAC Vranov 23.41 301 *e*P **P 01 43 16.1 -0.6**
KRLC Kraliky 23.42 303 *e*P **P 01 43 15.9 -0.8**
KRLC *e*S **S 01 47 31.5 +2.1**
KRLC AMS AMS 01 54 10.0
comp=Z,1μm,10.3s
KRLC Kraliky 23.42 303 *e*P **P 01 43 15.9 -0.8**
KRLC *e*S **S 01 47 31.5 +2.1**
KRLC MLR MLR
comp=Z,1μm,10.3s
KRUC Moravsky 23.51 300 *e*P **P 01 43 18.0 +0.4**
MATE Matera 23.56 279⇑ P **P 01 43 17.7 -0.5**
WHFO Wadi Hawf 23.68 166 P **P 01 43 17.8 -1.6**
SNR=11
WHFO P **P 01 43 17.8 -1.6**
SNR=11
CONA Conrad Observa 23.74 297 *i*P **P 01 43 20.3 +0.4**
comp=Z,295nm,2.0s,SNR=26
DPC Dobruska-Polom 23.76 304 *e*P **P 01 43 19.8 -0.3**
DPC *e*pP **pP 01 43 25.0 -0.5**
DPC *e*S **S 01 47 40.6 +5.8**
DPC AMS AMS 01 54 20.0
comp=Z,1μm,10.5s
DPC Dobruska-Polom 23.76 304 *e*P **P 01 43 19.8 -0.3**
DPC *e* 01 43 25.0
DPC *e*S **S 01 47 40.6 +5.8**
DPC MLR MLR
comp=Z,1μm,10.5s
TMCR Tamitsa 23.78 349 *e*P **P 01 43 18.0 -2.0**
TMCR *e*S **S 01 47 32.3 -2.4**
TMCR pmax pmax
comp=Z,483nm,1.0s
THN Thein Dam 23.80 102 *e*P **P 01 43 22.5 +2.0**
TIP Timpagrande 23.86 276⇑ P **P 01 43 21.0 -0.1**
TIP Timpagrande 23.86 276 P **P 01 43 20.5 -0.7**
TIP IAmb IAmb 01 43 36.9
comp=Z,117nm,1.1s
OSTC Ostas 23.87 304 *e*P **P 01 43 20.7 -0.3**
OSTC *e*x x 01 43 31.2
OSTC *e*S **S 01 47 33.1 -3.4**
OSTC AMS AMS 01 53 40.0
comp=Z,1μm,16.3s
KSP Ksiaz 23.88 305 *e*P **P 01 43 20.9 -0.2**

ARSA Arzberg 23.92 296 *i*P **P 01 43 22.1 +0.4**
comp=Z,154nm,1.1s,SNR=42
GKP Gorka Klasztor 23.93 311 *e*P **P 01 43 21.0 -0.6**
CRES Cresnjev 23.94 292⇓ *i*P **P 01 43 21.9 +0.1**
SHAO Shalim 23.96 162 *i*P **P 01 43 21.3 -0.8**
SNR=20
SHAO Shalim 23.96 162 P **P 01 43 21.1 -1.1**
SNR=6.2
CHVC Chvalec 23.97 304 *e*P **P 01 43 21.6 -0.5**
CHVC AMS AMS 01 54 40.0
comp=Z,1μm,16.2s
UPC Upice 23.98 304 *e*P **P 01 43 21.7 -0.4**
UPC *e*pP **pP 01 43 28.7 +1.1**
UPC *e*x x 01 47 26.4
UPC AMS AMS 01 54 30.0
comp=Z,1μm,14.9s
UPC Upice 23.98 304 *e*P **P 01 43 21.7 -0.4**
UPC *e* 01 43 28.7
UPC MLR MLR
comp=Z,1μm,14.9s
SGRT San Giovanni R 24.08 282 P **P 01 43 22.5 -0.7**
SGRT IAmb IAmb 01 43 23.8
comp=Z,89nm,1.1s
DMTO DMTO 24.11 163 P **P 01 43 22.9 -0.6**
SNR=9.1
TREC Trest 24.13 301 *e*P **P 01 43 23.2 -0.3**
TREC *e*pP **pP 01 43 29.3 +0.3**
TREC *e*S **S 01 47 46.7 +6.0**
TREC AMS AMS 01 54 30.0
comp=Z,2μm,16.2s
TREC Trest 24.13 301 *e*P **P 01 43 23.2 -0.3**
TREC *e* 01 43 29.3
TREC *e*S **S 01 47 46.7 +6.0**
TREC MLR MLR
comp=Z,2μm,16.2s
ABTO Aybut 24.15 167 P **P 01 43 22.5 -1.4**
SNR=9.8
RBK Rabkut 24.16 165 P **P 01 43 25.0 +0.9**
SNR=24
RBK P **P 01 43 25.0 +0.9**
SNR=24
SOKA Soboth 24.24 294 *i*P **P 01 43 25.2 +0.6**
comp=Z,194nm,0.9s,SNR=85
FIA1 FINESS Array S 24.28 334 P **P 01 43 24.0 -0.7**
FINES FINESS Array B 24.28 334 P **P 01 43 24.2 -0.5**
comp=Z,88nm,0.7s,baz=144,slow=10.0,SNR=220
FINES S **S 01 47 38.6 -4.1**
comp=Z,14nm,0.9s,baz=86,slow=21,SNR=2.5
FINES LR LR 01 53 46.7
comp=Z,4μm,18.6s,baz=140,slow=39
FINES FINESS Array B 24.28 334 P **P 01 43 24.0 -0.7**
DHRM DHARAMSHALA 24.32 102 *e*P **P 01 43 27.6 +1.9**
OBKA Obir 24.57 294 *i*P **P 01 43 28.3 +0.6**
comp=Z,123nm,1.0s,SNR=39
LJU Ljubljana 24.59 293 *i*P **P 01 43 28.5 +0.8**
LJU *e*S **S 01 47 55.2 +7.1**
LJU Ljubljana 24.59 293 *e*P **P 01 43 28.3 +0.6**
CEY Cerknica 24.66 292 *e*P **P 01 43 28.7 +0.3**
GOPC GO Pecny, Ondr 24.66 302 *e*P **P 01 43 29.1 +0.7**
GOPC *e*x x 01 43 35.3
GOPC *e*S **S 01 47 50.4 +1.1**
GOPC AMS AMS 01 54 40.0
comp=Z,2μm,18.1s
GOPC GO Pecny, Ondr 24.66 302 *e*P **P 01 43 29.1 +0.7**
GOPC *e* 01 43 35.3
GOPC *e*S **S 01 47 50.4 +1.1**
GOPC MLR MLR
comp=Z,2μm,18.1s
CEL Celeste 24.76 274 P **P 01 43 30.0 +0.6**
CEL IAmb IAmb 01 43 47.6
comp=Z,96nm,1.0s
MOA Molln 24.80 297 *i*P **P 01 43 30.0 +0.3**
comp=Z,106nm,1.2s,SNR=34
BHK Bhakra 24.82 104 *e*x **P 01 43 32.8 +2.8**
PRU Pruhonice 24.83 302 *e*P **P 01 43 30.6 +0.7**
PRU *e*pP **sP 01 43 37.4 -0.2**
PRU *e*x x 01 48 28.4
PRU AMS AMS 01 55 00.0
comp=Z,2μm,15.8s
PRU Pruhonice 24.83 302 *e*P **P 01 43 30.6 +0.7**
PRU *e* 01 43 37.4
PRU MLR MLR
comp=Z,2μm,15.8s
PVCC Panska Ves 24.90 303 *e*P **P 01 43 30.6 +0.2**
PVCC *e*pP **sP 01 43 37.8 -0.4**
PVCC *e*S **S 01 47 58.0 +5.0**
PVCC AMS AMS 01 54 40.0
comp=Z,1μm,16.0s
PVCC Panska Ves 24.90 303 *e*P **P 01 43 30.6 +0.2**
PVCC *e* 01 43 37.8
PVCC *e*S **S 01 47 58.0 +5.0**
PVCC MLR MLR
comp=Z,1μm,16.0s
PRA Prague 24.91 302 *e*P **P 01 43 31.7 +1.1**
PRA *e*pP **sP 01 43 38.2 -0.2**
PRA *e*S **S 01 47 53.7 +0.5**
PRA AMS AMS 01 55 00.0
comp=Z,700nm,15.0s
PRA Prague 24.91 302 *e*P **P 01 43 31.7 +1.1**
PRA *e* 01 43 38.2
PRA *e*S **S 01 47 53.7 +0.5**
PRA MLR MLR
comp=Z,700nm,15.0s
MAKZ Makanchi 25.00 65 ⇓P **P 01 43 32.1 +0.6**
comp=Z,53nm,0.8s
MAKZ Makanchi 25.00 65 P **P 01 43 32.3 +0.8**
MAKZ pmax pmax
comp=Z,66nm,0.9s
MAKZ Makanchi 25.00 65 P **P 01 43 32.3 +0.8**
MAKZ IAmb IAmb 01 43 44.8
comp=Z,66nm,0.9s
PAOL Paolisi 25.08 281 P **P 01 43 32.6 +0.4**
PAOL IAmb IAmb 01 43 40.2
comp=Z,44nm,0.9s
CADS Cadrg 25.13 293 *i*P **P 01 43 32.7 0.0**
PBCC Pribram 25.14 301 *e*P **P 01 43 37.8 +5.1**
MYKA Terra Mystica 25.20 294 *i*P **P 01 43 33.2 -0.1**
comp=Z,80nm,0.8s,SNR=27
MK31 Makanchi Array 25.22 65 ⇓P **P 01 43 34.0 +0.5**
comp=Z,38nm,0.7s,baz=270,slow=6.7,SNR=237
MK31 Makanchi Array 25.22 65 *i*P **P 01 43 33.9 +0.5**
comp=Z,40nm,0.8s
MK31 Makanchi Array 25.22 65 IAmb IAmb 01 43 51.6
comp=Z,40nm,0.8s
MKAR Makanchi Array 25.22 65 P **P 01 43 34.1 +0.7**
comp=Z,50nm,0.9s,baz=270,slow=7.0,SNR=142
MKAR LR LR 01 54 58.3
comp=Z,2μm,18.0s,baz=262,slow=40
GEC2 GERESS Array S 25.25 299 *e*P **P 01 43 33.8 0.0**
comp=Z,48nm,0.8s,baz=98,slow=9.2
GEC2 GERESS Array S 25.25 299 P **P 01 43 35.9 +2.1**
GERES GERESS Array B 25.25 299 P **P 01 43 33.8 0.0**
comp=Z,38nm,0.8s,baz=104,slow=9.7,SNR=94
GERES PcP **PcP 01 47 07.1 +0.4**
comp=Z,3.1nm,0.7s,baz=85,slow=4.2,SNR=4.6
GERES GERESS Array B 25.25 299 P **P 01 43 34.1 +0.3**
GERES GERESS Array B 25.25 299 P **P 01 43 34.1 +0.3**
BRG Berggiesshubel 25.34 304 *i*P **P 01 43 34.2 -0.3**
comp=Z,29nm,1.1s
BRG *i* 01 43 42.1
comp=Z,162nm,1.5s
BRG S S 01 48 13.0 +13
BRG *e*SCS **ScS 01 54 31.6 -2.3**
comp=Z,78nm,2.2s
comp=N,1μm,17.1s
comp=E,842nm,15.4s
comp=Z,2μm,17.7s
BRG Berggiesshubel 25.34 304 *i*P **P 01 43 34.2 -0.3**
BRG *i* 01 43 42.1
BRG *e* 01 54 31.6
BRG pmax pmax
comp=Z,29nm,1.1s
BRG MLR MLR
comp=N,1μm,17.1s
BRG MLR MLR
comp=E,842nm,15.4s
BRG MLR MLR
comp=Z,2μm,17.7s
BRG Berggiesshubel 25.34 304 *e*P **P 01 43 34.9 +0.4**
comp=Z,33nm,0.9s,baz=98,slow=9.2
KHC Kasperske Hory 25.36 300 *e*P **P 01 43 34.2 -0.5**
KHC *e*pP **pP 01 43 39.8 -0.4**
KHC *e*S **S 01 48 09.9 +9.5**
KHC AMS AMS 01 54 40.0
comp=Z,1μm,15.6s
KHC Kasperske Hory 25.36 300 *e*P **P 01 43 34.2 -0.5**
KHC *e* 01 43 39.8
KHC *e*S **S 01 48 09.9 +9.5**
KHC MLR MLR
comp=Z,1μm,15.6s
INTR Introdacqua 25.39 283 P **P 01 43 35.0 -0.1**
INTR IAmb IAmb 01 43 46.2
comp=Z,62nm,0.8s
KBA Koelnbreinsper 25.40 295 *i*P **P 01 43 35.6 +0.3**
comp=Z,245nm,0.8s,SNR=44
KBA *i*PKiKP **PKiKP 01 54 47.0 -0.5**
comp=Z,4.2nm,1.2s
SMLA Simla 25.52 104 *e*P **P 01 43 37.8 +1.6**
SMLA IAmb IAmb 01 43 39.1
comp=Z,130nm,0.8s
AQU L'Aquila 25.70 284⇓ *i*P **P 01 43 38.4 +0.5**
FBE Freiberg 25.72 304 *e*P **P 01 43 37.9 0.0**
comp=Z,38nm,0.8s,baz=98,slow=9.2
RUE Ruedersdorf 25.75 308 *e*P **P 01 43 38.2 +0.1**
comp=Z,176nm,1.0s,baz=98,slow=9.2
BSD Bornholm Skovb 25.82 314 *i*P **P 01 43 37.7 -1.0**
comp=Z,19nm,0.8s
BSD Bornholm Skovb 25.82 314 *e*P **P 01 43 37.7 -1.0**
BSD pmax pmax
comp=Z,19nm,0.8s
WET Wettzell 25.82 300 *e*P **P 01 43 39.2 +0.4**
comp=Z,9.2nm,1.0s,baz=98,slow=9.2
NRCA Norcia 25.84 285 P **P 01 43 39.5 +0.3**
NRCA IAmb IAmb 01 43 54.3
comp=Z,65nm,0.9s
ABTA Abfaltersbach 25.97 294 *i*P **P 01 43 40.1 -0.2**
comp=Z,122nm,1.4s,SNR=24
ABTA *i*PcP **PcP 01 47 09.8 +1.4**
comp=Z,12nm,1.0s
CLL Collm 26.00 305 *i*P **P 01 43 41.9 +1.5**
comp=Z,113nm,1.2s
CLL *i*sP **sP 01 43 48.7 +0.5**
CLL *e* 01 46 24.0
CLL *e*S S 01 48 24.0 +14
CLL LmV 01 54 00.0
comp=Z,1μm,20.2s
CLL Collm 26.00 305 *i*P **P 01 43 41.9 +1.5**
CLL pmax pmax
comp=Z,113nm,1.2s
CLL MLR MLR
comp=Z,1μm,20.2s
CLL Collm 26.00 305 *e*P **P 01 43 40.5 +0.1**
comp=Z,23nm,0.8s,baz=98,slow=9.2
CLL Collm 26.00 305 IAmb IAmb 01 43 50.2
comp=Z,71nm,1.0s
CIMO Cimolais 26.03 293 IAmb IAmb 01 43 53.1
comp=Z,104nm,1.3s
VAE Valguarnera 26.11 273 P **P 01 43 43.9 +2.2**
comp=Z,71nm,0.9s,baz=39,slow=4.7,SNR=26
NKC Novy Kostel 26.20 302 *e*P **P 01 43 43.7 +1.4**
NKC AMS AMS 01 55 30.0
comp=Z,1μm,15.5s
NKC Novy Kostel 26.20 302 *e*P **P 01 43 43.7 +1.4**
NKC MLR MLR
comp=Z,1μm,15.5s
MURB Monte Urbino 26.21 287 P **P 01 43 44.2 +1.6**
TANN Tannenbergstha 26.21 303 *e*P **P 01 43 43.5 +1.0**
comp=Z,54nm,1.2s,baz=98,slow=9.2
RAFF Raffo Rosso 26.23 272 P **P 01 43 43.0 +0.3**
RAFF IAmb IAmb 01 43 44.7
comp=Z,95nm,1.0s
WERN Wernitzgruen 26.25 302 *e*P **P 01 43 43.8 +1.0**
baz=98,slow=9.2
GUNZ Gunzen 26.29 303 *e*P **P 01 43 44.9 +1.8**
comp=Z,9.8nm,0.8s,baz=98,slow=9.2
ROTZ Rotzenmuhle 26.31 301 *e*P **P 01 43 43.1 -0.2**
comp=Z,12nm,1.0s,baz=98,slow=9.2
WERD Werda 26.32 303 *e*P **P 01 43 45.5 +2.2**
comp=Z,6.3nm,0.9s,baz=98,slow=9.2
AJM Ajmer 26.43 115⇓ *i*P **P 01 43 46.0 +1.4**
RGN Rugen 26.52 312 P **P 01 43 44.8 -0.3**
RGN IAmb IAmb 01 43 59.4
comp=Z,76nm,0.8s
CTI Castel Tesino 26.59 293 IAmb IAmb 01 43 54.0
comp=Z,66nm,0.9s
DDI Dehra Dun 26.59 104 *e*P **P 01 43 46.6 +0.6**
DDI IAmb IAmb 01 43 51.0
comp=Z,135nm,0.8s
WATA Walderalm 26.61 296 *i*P **P 01 43 45.4 -0.8**
comp=Z,144nm,1.6s,SNR=22
WATA *i*PcP **PcP 01 47 09.8 -0.2**
comp=Z,18nm,0.8s
WATA *i*PKiKP **PKiKP 01 54 46.3 -1.9**
comp=Z,9.0nm,1.6s
NEUB Neuenburg 26.75 304 *e*P **P 01 43 47.9 +0.7**
comp=Z,79nm,1.0s,baz=98,slow=9.2
MOX Moxa 26.78 303 *e*P **P 01 43 48.0 +0.5**
baz=98,slow=9.2
MOX Moxa 26.78 303 *e*L L 01 55 08.2
comp=Z,495nm,21.1s
CORL Corleone 26.82 275 IAmb IAmb 01 43 58.7
comp=Z,126nm,1.4s
SQTA Sankt Quirin 26.86 296 *i*P **P 01 43 48.2 -0.2**
comp=Z,90nm,0.9s,SNR=24
SQTA *i*PcP **PcP 01 47 10.7 +0.2**
comp=Z,15nm,0.7s,SNR=5.2
SQTA *e*PKiKP **PKiKP 01 54 45.6 -2.7**
comp=Z,2.4nm,0.9s
NDI New Delhi 26.89 108 *e*x x 01 43 48.5
NDI *e*S **S 01 48 25.0 +0.1**
MOTA Moosalm 26.93 296 *i*P **P 01 43 48.6 -0.5**
comp=Z,65nm,1.1s,SNR=27
MOTA *i*PcP **PcP 01 47 11.0 +0.3**
comp=Z,22nm,0.8s,SNR=5.2
MOTA *i*PKiKP **PKiKP 01 54 47.9 -0.5**
comp=Z,7.3nm,1.4s
GRA1 Grafenberg Arr 26.94 301 P **P 01 43 50.6 +1.6**
GRF Grafenberg Arr 26.94 301 P **P 01 43 50.6 +1.6**
GRF pmax pmax
comp=Z,59nm,1.5s
GRF Grafenberg Arr 26.94 301 *e*P **P 01 43 49.7 +0.8**
baz=98,slow=9.2
GRF Grafenberg Arr 26.94 301 *e*L L 01 55 36.9
comp=Z,690nm,19.9s
ZSN Zaisan 26.98 64 *e*P **P 01 43 49.9 +0.5**
baz=64
ZSN Zaisan 26.98 64 *e*P **P 01 43 49.9 +0.5**
RETA Reutte 27.16 296 *i*P **P 01 43 50.0 -1.1**
comp=Z,25nm,1.3s
RETA *i*PcP **PcP 01 47 11.5 +0.3**
comp=Z,6.2nm,0.8s
RETA *i*PKiKP **PKiKP 01 54 50.3 +1.9**
comp=Z,5.0nm,1.6s
FETA Feichten 27.19 295 *i*P **P 01 43 51.3 -0.1**
comp=Z,51nm,0.9s,SNR=12
FETA *i*PcP **PcP 01 47 11.9 +0.6**
comp=Z,12nm,0.9s
ZCCA Zocca 27.19 289 P **P 01 43 52.4 +1.1**
ZCCA IAmb IAmb 01 43 59.9
comp=Z,78nm,0.9s
SALO Salr 27.40 292 P **P 01 43 53.2 +0.1**
SALO IAmb IAmb 01 44 11.4
comp=Z,35nm,0.8s
ASSE Asse, Remlinge 27.56 306 *e*P **P 01 43 55.4 +1.0**
baz=98,slow=9.2
UBR Ueberruh 27.61 297 *e*P **P 01 43 54.1 -0.9**
comp=Z,30nm,0.8s,baz=98,slow=9.2
PRMA PARMA 27.62 290 IAmb IAmb 01 44 03.4
comp=Z,81nm,0.9s
VLC Villacollemand 27.64 289 P **P 01 43 56.4 +1.1**
VLC IAmb IAmb 01 44 12.2
comp=Z,69nm,1.0s
ZAA0 Zalesovo Array 27.65 50 ⇑P **P 01 43 54.9 -0.4**
comp=Z,3.9nm,1.1s
ZALV Zalesovo Beam 27.65 50 P **P 01 43 54.8 -0.4**
comp=Z,4.1nm,0.3s,baz=259,slow=9.8,SNR=15
ZALV LR LR 01 56 40.0
comp=Z,3μm,18.1s,baz=253,slow=40
ZALV Zalesovo Beam 27.65 50 *i*P **P 01 43 55.0 -0.3**
ZALV pmax pmax
comp=Z,4.0nm,0.3s
ZALV Zalesovo Beam 27.65 50 P **P 01 43 54.4 -0.8**
APA Apatity 27.66 348⇓ *i*P P 01 44 06.1 +11
APA *i*S **S 01 48 45.0 +8.8**
APA pmax pmax
comp=Z,32nm,0.9s
APA MLR MLR
comp=Z,4μm,17.0s
CLZ Clausthal 27.70 306 *e*P **P 01 43 57.3 +1.5**
baz=98,slow=9.2
DAVA Damuels 27.77 296 *i*P **P 01 43 55.5 -1.0**
comp=Z,38nm,0.8s,SNR=10
DAVA *i*PcP **PcP 01 47 13.2 +0.5**

comp=Z,20nm,0.8s,SNR=6.7
LVZ Lovozero 27.77 349 P **P 01 43 56.4 +0.1**
LVZ pmax pmax
comp=Z,149nm,0.7s
LVZ Lovozero 27.77 349 P **P 01 43 56.4 +0.1**
UBBA Unterbreizbach 27.82 303 *e*P **P 01 43 57.6 +1.0**
comp=Z,21nm,1.1s,baz=98,slow=9.2
GTTG Gottingen 27.92 305 *e*P **P 01 44 00.0 +2.3**
comp=Z,36nm,1.0s,baz=98,slow=9.2
NRDL Niedersach Rie 27.96 307 *e*P **P 01 43 60.0 +2.0**
baz=98,slow=9.2
BSEG Bad Segeberg 28.09 310 *e*P **P 01 43 59.5 +0.3**
baz=98,slow=9.2
STU Stuttgart 28.22 299 *e*P **P 01 44 00.2 -0.2**
comp=Z,55nm,0.8s,baz=98,slow=9.2
STU Stuttgart 28.22 299 IAmb IAmb 01 44 07.1
comp=Z,72nm,0.8s
MSSA Maissana 28.24 289 IAmb IAmb 01 44 07.5
comp=Z,68nm,0.8s
HFS Hagfors 28.38 324 P **P 01 44 00.5 -1.2**
comp=Z,5.3nm,0.4s,baz=116,slow=10,SNR=23
HFS LR LR 01 56 06.5
comp=Z,2μm,18.9s,baz=114,slow=38
DGZ Jazzator, Alta 28.72 59 *i* P **P 01 44 05.7 +0.6**
DGZ pmax pmax
comp=Z,21nm,1.2s
DGZ MLR MLR
comp=Z,2μm,17.0s
BFO Black Forest 28.80 298 P **P 01 44 05.5 -0.1**
BFO pmax pmax
comp=Z,23nm,1.2s
BFO Black Forest 28.80 298 *e*P **P 01 44 05.5 -0.1**
comp=Z,5.8nm,0.8s,baz=98,slow=9.2
BFO Black Forest 28.80 298 P **P 01 44 05.5 -0.1**
WMQ Urumqi 29.24 71 *e*P **P 01 44 11.0 +1.3**
WMQ pP sP 01 44 22.0 +4.7
WMQ sP pP 01 44 25.5 +10
WMQ pmax pmax
comp=Z,45nm,0.9s
WMQ pmax pmax
comp=Z,130nm,7.3s
WMQ LR LR
comp=Z,820nm,15.9s
WMQ LR LR
comp=Z,910nm,14.5s
WMQ LR LR
comp=Z,480nm,22.7s
WMQ Urumqi 29.24 71 IAmb IAmb 01 44 18.8
comp=Z,53nm,0.9s
VSL Villasalto 29.30 280 P **P 01 44 09.8 -0.3**
SOCY Socotra 29.32 168 P **P 01 44 06.4 -4.2**
SOCY IAmb IAmb 01 44 08.7
comp=Z,93nm,1.0s
IBBN Ibbenburen 29.36 306 *e*P **P 01 44 10.9 +0.4**
comp=Z,34nm,1.0s,baz=98,slow=9.2
BUG Bochum--Univer 29.58 304 *e*P **P 01 44 14.8 +2.3**
comp=Z,14nm,0.9s,baz=98,slow=9.2
SENIN Lac Senin/Sane 29.58 294 IAmb IAmb 01 44 20.6
comp=Z,34nm,0.7s
NC602 NORSAR Array S 29.60 324 P **P 01 44 13.6 +1.1**
NC602 IAmb IAmb 01 44 25.5
comp=Z,48nm,1.1s
AHRW Bad Neuenahr-A 29.65 302 *e*P **P 01 44 14.7 +1.6**
baz=98,slow=9.2
OSL Oslo 29.65 322 *e*P **P 01 44 12.2 -0.7**
NC405 NORSAR Array S 29.69 325 IAmb IAmb 01 44 28.8
comp=Z,90nm,0.9s
ATD Arta Tunnel 29.83 190 P **P 01 44 14.3 -0.7**
comp=Z,6.9nm,0.8s,baz=315,slow=9.2,SNR=6.9
ATD LR LR 01 57 18.7
comp=Z,1μm,19.8s,baz=349,slow=39
NB201 NORSAR Array S 29.84 324 IAmb IAmb 01 44 27.5
comp=Z,121nm,1.4s
NB2 NORSAR Subarra 29.88 324 P **P 01 44 13.5 -1.5**
comp=Z,15nm,0.7s,baz=112,slow=8.6
NB2 NORSAR Subarra 29.88 324 P **P 01 44 13.5 -1.5**
baz=112,slow=8.6
NOA NORSAR Array B 29.88 324 P **P 01 44 13.3 -1.8**
comp=Z,5.9nm,0.7s,baz=118,slow=8.4,SNR=21
NOA LR LR 01 57 02.0
comp=Z,2μm,18.7s,baz=115,slow=38
NC303 NORSAR Array S 29.89 325 IAmb IAmb 01 44 34.4
comp=Z,41nm,0.9s
NAO01 NORSAR Array S 29.94 324 IAmb IAmb 01 44 28.7
comp=Z,42nm,0.8s
NAO01 NORSAR Array S 29.94 324 *e*P **P 01 44 13.8 -1.8**
NBO00 NORSAR Array S 30.07 324 IAmb IAmb 01 44 35.0
comp=Z,49nm,0.9s
KONO Kongsberg 30.07 321 P **P 01 44 17.5 +0.8**
KONO pmax pmax
comp=Z,27nm,1.0s
KONO Kongsberg 30.07 321 P **P 01 44 17.5 +0.8**
KONO Kongsberg 30.07 321 *e*P **P 01 44 17.5 +0.8**
BNI Bardonecchia 30.15 291 IAmb IAmb 01 44 30.8
comp=Z,57nm,1.0s
NC204 NORSAR Array S 30.17 324 P **P 01 44 18.5 +0.8**
NC204 IAmb IAmb 01 44 32.9
comp=Z,48nm,1.1s
WLF Walferdange 30.23 301 P **P 01 44 19.2 +1.0**
WLF Walferdange 30.23 301 *e*P **P 01 44 19.4 +1.2**
comp=Z,22nm,1.0s,baz=98,slow=9.2
BTNL Ternell 30.26 302 P **P 01 44 19.7 +1.2**
BHOU Houvegnez 30.33 302 P **P 01 44 22.2 +3.1**
MEM Membach 30.34 303 P **P 01 44 19.1 0.0**
BHPL Bhopal 30.46 117 *e*P **P 01 44 22.1 +1.6**
BHPL IAmb IAmb 01 44 32.3
comp=Z,81nm,1.3s
KEST Kesra 30.54 273 P **P 01 44 21.9 +0.7**
comp=Z,30nm,0.8s,baz=321,slow=2.0,SNR=38
KEST Kesra 30.54 273 P **P 01 44 22.0 +0.8**
KEST IAmb IAmb 01 44 23.5
comp=Z,43nm,0.9s
BSTI Sart Tilman 30.62 302 P **P 01 44 24.1 +2.5**
BSTI x x 01 44 45.0
KEV Kevo 30.69 346 P **P 01 44 24.1 +2.0**
KEV pmax pmax
comp=Z,32nm,0.9s
KEV Kevo 30.69 346 P **P 01 44 24.1 +2.0**
KEV IAmb IAmb 01 44 30.1
comp=Z,32nm,0.9s
BCLA Clavier 30.78 302 P **P 01 44 26.4 +3.4**
BCLA PP **PP 01 45 33.6 +1.2**
ARCES ARCESS Array B 30.79 345 P **P 01 44 22.9 -0.1**
comp=Z,9.7nm,0.7s,baz=150,slow=8.6,SNR=37
ARCES LR LR 01 57 56.8
comp=Z,3μm,19.3s,baz=150,slow=39
RCHB Rochefort 30.83 302 P **P 01 44 24.6 +1.1**
BGES Gesves 30.92 302 P **P 01 44 26.8 +2.5**
SKAR Skarslia 31.05 322 *e*P **P 01 44 27.6 +2.2**
BMRD Maredsous 31.12 302 P **P 01 44 27.3 +1.2**
DOMB Dombas 31.23 325 *e*P **P 01 44 28.6 +1.6**
DOU Dourbes 31.23 301 P **P 01 44 28.3 +1.3**
TBLU Trondheim 31.25 328 *e*P **P 01 44 26.2 -0.8**
MOR8 Moi Rana 31.27 334 *e*P **P 01 44 26.0 -1.3**
UCC Uccle 31.39 303 P **P 01 44 28.0 -0.4**
UCC pmax pmax
comp=Z,9.0nm,1.0s
UCC Uccle 31.39 303 P **P 01 44 28.0 -0.4**
PYUN Piuthan 31.42 103 *e*P **P 01 44 30.3 +1.1**
comp=Z,80nm,0.5s
SNF Seneffe 31.43 302 P **P 01 44 29.7 +0.9**
SNF x x 01 44 35.6
POO Poona 31.61 128 *e*P **P 01 44 31.0 +0.3**
N2ST Straumen 31.64 337 *e*P **P 01 44 30.3 -0.1**
CMAH Djebel Manchou 31.67 275 P **P 01 44 32.2 +1.1**
FAUS Fauske 31.75 337 *e*P **P 01 44 30.9 -0.6**
STOK Stokkvaagen 31.84 334 *e*P **P 01 44 31.8 -0.4**
DANN Dangsing 31.85 102 *e*P **P 01 44 34.5 +1.4**
comp=Z,264nm,0.8s
KONS Konsvik 31.90 334 *e*P **P 01 44 30.9 -1.8**
N2TV TVrnvik 31.92 337 *e*P **P 01 44 32.5 -0.3**
N2IH Innhavet 31.94 338 *e*P **P 01 44 32.9 -0.1**
CAEH 'Ain El Ouahch 32.04 276 P **P 01 44 35.7 +1.4**
KOLN Koldanda 32.05 103 *e*P **P 01 44 35.7 +1.0**
comp=Z,228nm,1.2s
HAMF Hammerfest 32.06 345 *e*P **P 01 44 34.3 +0.2**
CKFL Kef-Lekhel 32.27 275 P **P 01 44 37.3 +0.8**
TRO Tromso 32.31 341 *e*P **P 01 44 35.8 -0.6**
CASM Ain Smara 32.50 275 P **P 01 44 38.7 +0.3**
CTEI Djebel Teioual 32.63 275 P **P 01 44 40.7 +1.0**
N2VI Vinje 32.67 338 *e*P **P 01 44 39.7 +0.3**
GKN Gorkha 32.68 102 *e*P **P 01 44 41.3 +1.1**
comp=Z,152nm,0.8s
N2SV Sørvågen 32.76 336 *e*P **P 01 44 39.1 -1.1**
N2RO Røst 32.81 335 *e*P **P 01 44 38.6 -2.1**

DFRA Djebel Bou Aff 32.85 276 P **P 01 44 41.9 +0.3**
FURI Furi 33.15 197 P **P 01 44 46.7 +2.2**
FURI IAmb IAmb 01 44 48.4
comp=Z,51nm,0.9s
DMN Daman 33.25 102 *e*P **P 01 44 46.4 +1.1**
comp=Z,84nm,0.8s
KKN Kakani 33.28 102 *e*P **P 01 44 46.3 +0.8**
comp=Z,61nm,0.7s
CKHR Kef el Ahmar 33.32 275 P **P 01 44 47.4 +1.7**
SET Setif 33.34 276 P **P 01 44 46.0 +0.2**
PKIN Phulchoki 33.48 102 *e*P **P 01 44 48.3 +1.0**
comp=Z,83nm,0.8s
PKI Pulchoki 33.49 102 *e*P **P 01 44 48.3 +0.8**
comp=Z,198nm,1.2s
JIRN Jiri 34.02 101 *e*P **P 01 44 53.4 +1.2**
comp=Z,205nm,0.7s
RAMN Ramite 34.72 102 *e*P **P 01 44 58.8 +0.8**
comp=Z,110nm,0.9s
NRIK Noril'sk 34.99 23 P **P 01 45 00.5 +0.8**
comp=Z,31nm,1.1s,baz=238,slow=7.0,SNR=15
NRIK LR LR 02 02 45.5
comp=Z,3μm,19.1s,baz=222,slow=42
TAPN Taplejung 35.32 100 *e*P **P 01 45 04.2 +0.9**
comp=Z,99nm,0.8s
HYB Hyderabad 35.35 123 *i* P **P 01 45 04.0 +0.7**
comp=Z,120nm,1.0s
ODAN Odare 35.35 101 *e*P **P 01 45 05.0 +1.5**
comp=Z,488nm,1.2s
GTK Tadong 36.00 100 *e*P **P 01 45 10.4 +1.4**
GTK IAmb IAmb 01 45 12.0
comp=Z,42nm,0.6s
BOK Bokaro 36.04 107 *e*P **P 01 45 09.8 +0.6**
BOK IAmb IAmb 01 45 13.2
comp=Z,25nm,0.8s
ESK Eskdalemuir 36.05 311 P **P 01 45 08.4 -0.4**
ESK pmax pmax
comp=Z,36nm,1.3s
ESK Eskdalemuir 36.05 311 P **P 01 45 08.4 -0.4**
EBNR Beni Rached 36.21 278 P **P 01 45 10.9 +0.4**
ECHA Ech Chlef 36.38 278 P **P 01 45 10.4 -1.5**
EANR 'Ain N'Sour 36.66 277 P **P** 01 45 09.7 -4.7
LSA Lhasa 36.67 94 P **P 01 45 16.0 +0.9**
LSA Lhasa 36.67 94 IAmb IAmb 01 45 17.6
comp=Z,38nm,0.7s
ETRT Tiaret 36.73 277 P P 01 45 09.9 -5.2
MOY Mondy 37.29 55 *e*P **P 01 45 22.2 +2.5**
MOY pmax pmax
comp=Z,41nm,2.1s
CART Cartagena 37.62 281 IAmb IAmb 01 45 30.5
comp=Z,27nm,0.7s
ODJA Bouhanifia 37.84 277 P **P 01 45 25.0 +0.6**
DSB Dublin 37.95 307 P **P 01 45 27.0 +1.9**
HSPB Hornsund (broa 38.49 349 *e*P **P 01 45 30.0 +0.7**
ZAK Zakamensk 38.88 57 *e*P **P 01 45 34.4 +1.4**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
TLY Talaya 38.93 55 P **P 01 45 35.0 +1.6**
comp=Z,4.1nm,0.5s,baz=285,slow=3.0,SNR=4.5
TLY Talaya 38.93 55 *e*P **P 01 45 36.9 +3.5**
TLY *e* 01 47 06.9
TLY *e*PPP PPP 01 47 36.5
TLY *e*S **S 01 51 38.6 +7.4**
TLY *e*SS **SnSn 01 54 08.4 -13**
TLY *e*SSS SSS 01 54 47.0
TLY pmax pmax
comp=Z,71nm,1.3s
TLY MLR MLR
comp=Z,4μm,17.0s
TLY Talaya 38.93 55 P **P 01 45 34.2 +0.8**
ESBB Sonseca Array 39.07 285 IAmb IAmb 01 45 40.7
comp=Z,44nm,0.8s
ESDC Sonseca Array 39.07 285 P **P 01 45 33.7 -1.1**
comp=Z,23nm,0.9s,baz=66,slow=8.2,SNR=202
ESDC PcP **PcP 01 47 45.0 +0.5**
comp=Z,2.5nm,0.7s,baz=36,slow=3.6,SNR=4.9
ESDC Sonseca Array 39.07 285 P **P 01 45 33.8 -1.0**
GTA Gaotai 39.13 75 *e*P **P 01 45 35.3 0.0**
GTA pP sP 01 45 47.8 +4.8
GTA sP pP 01 45 52.5 +12
GTA PcP **PcP 01 47 45.5 +0.7**
GTA ScP **ScP 01 51 32.0 -0.6**
GTA S **S 01 51 34.5 -0.1**
GTA sS sS 01 51 48.8 +5.4
GTA SS **SnSn 01 54 23.3 -3.6**
GTA ScS **ScS 01 55 42.8 -1.3**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,160nm,7.5s
GTA LR LR
comp=Z,560nm,17.4s
GTA LR LR
comp=Z,640nm,17.1s
GTA LR LR
comp=Z,820nm,17.4s
LODK Lodwar 39.22 200 P **P 01 45 36.2 0.0**
SNR=7.8
IRK Irkutsk 39.25 54 *e*P **P 01 45 39.9 +3.8**
IRK pmax pmax
comp=Z,59nm,2.2s
SPA0 Spitsbergen Ar 39.29 350 P **P 01 45 36.5 +0.5**
SPA0 Spitsbergen Ar 39.29 350 *e*P **P 01 45 36.5 +0.5**
SPITS Spitsbergen Ar 39.29 350 P **P 01 45 36.6 +0.5**
comp=Z,19nm,0.6s,baz=147,slow=17,SNR=24
SPITS LR LR 02 02 57.7
comp=Z,1μm,21.8s,baz=155,slow=38
SHL Shillong 39.41 99 *e*P **P 01 45 37.7 -0.2**
SHL IAmb IAmb 01 45 38.8
comp=Z,84nm,0.7s
SHL Shillong 39.41 99 P **P 01 45 37.4 -0.5**
SHL pmax pmax
comp=Z,121nm,0.8s
SHL Shillong 39.41 99 P **P 01 45 37.4 -0.5**
TEZP TEZPUR 39.52 97 *e*P **P 01 45 39.0 +0.5**
TEZP IAmb IAmb 01 45 40.7
comp=Z,66nm,0.7s
TAM Tamanrasset 39.92 256 P **P 01 45 42.5 +0.4**
TAM pmax pmax
comp=Z,56nm,0.9s
TAM Tamanrasset 39.92 256 P **P 01 45 42.5 +0.4**
TAM IAmb IAmb 01 45 44.2
comp=Z,56nm,0.9s
KBS Kingsbay 40.44 350 *ce*P **P 01 45 46.5 +1.0**
KBS pmax pmax
comp=Z,47nm,1.7s
KBS MLR MLR
comp=Z,2μm,17.0s
KBS Kingsbay 40.44 350 P **P 01 45 45.5 -0.1**
KBS Kingsbay 40.44 350 *e*P **P 01 45 45.8 +0.3**
SONM Songino Array 41.36 60 P **P 01 45 54.2 +0.5**
comp=Z,5.1nm,0.9s,baz=283,slow=9.8,SNR=17
SONM PcP **PcP 01 47 53.0 +1.2**
comp=Z,3.4nm,0.8s,baz=298,slow=4.2,SNR=4.7
SONM ScP **ScP 01 51 43.5 +2.4**
comp=Z,2.4nm,1.1s,baz=316,slow=4.1,SNR=3.7
SONM LR LR 02 06 27.8
comp=Z,330nm,19.2s,baz=280,slow=41
SONM Songino Array 41.36 60 P **P 01 45 53.8 +0.1**
SONM **ScP 01 51 41.6 +0.5**
ULN Ulaanbaatar 41.78 60 P **P 01 45 57.4 +0.2**
ULN pmax pmax
comp=Z,45nm,0.7s
ULN Ulaanbaatar 41.78 60 P **P 01 45 57.4 +0.2**
ULN IAmb IAmb 01 46 04.8
comp=Z,45nm,0.7s
SFS San Fernando 41.90 282 P **P 01 45 56.5 -1.5**
SFS pmax pmax
comp=Z,108nm,0.8s
SFS San Fernando 41.90 282 P **P 01 45 56.5 -1.5**
SAIH SAIHA 42.02 102 *e*P **P 01 46 00.6 +1.2**
SAIH IAmb IAmb 01 46 03.3
comp=Z,31nm,0.8s
COI Coimbra 42.11 288 P **P 01 45 59.8 +0.1**
COI pmax pmax
comp=Z,152nm,0.8s
COI Coimbra 42.11 288 P **P 01 45 59.8 +0.1**
PVAQ Vaqueiros 42.64 284 IAmb IAmb 01 46 10.6
comp=Z,46nm,0.9s
KMBO Kilima Mbogo 43.18 196 P **P 01 46 10.9 +2.0**
comp=Z,6.4nm,0.9s,baz=22,slow=11,SNR=17
KMBO LR LR 02 05 24.6
comp=Z,2μm,18.2s,baz=9.5,slow=38
KMBO Kilima Mbogo 43.18 196 *i* P **P 01 46 10.0 +1.1**
SNR=15
KMBO Kilima Mbogo 43.18 196 *i* P **P 01 46 11.8 +2.9**

KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 43.18 196 P **P 01 46 09.2 +0.3**
LIS Lisbon 43.18 286 *e*P **P 01 46 09.1 +0.6**
LIS AMb AMB 01 46 10.5
comp=Z,123nm,1.0s
LIS Lisbon 43.18 286 *e*P **P 01 46 09.0 +0.6**
LIS pmax pmax
comp=Z,123nm,1.0s
LZH Lanzhou 43.33 78 *e*P **P 01 46 10.5 +0.5**
LZH pP sP 01 46 20.8 +3.1
LZH sP pP 01 46 26.0 +10
LZH *e*S **S 01 52 36.5 -0.7**
LZH SS **SS 01 55 48.8 -1.8**
LZH pmax pmax
comp=Z,75nm,1.3s
LZH pmax pmax
comp=Z,230nm,5.4s
LZH LR LR
comp=Z,1μm,14.2s
LZH LR LR
comp=Z,830nm,14.0s
LZH LR LR
comp=Z,1μm,16.7s
PFVI Vila Bisbo 43.56 284 P **P 01 46 11.3 -0.3**
PFVI IAmb IAmb 01 46 18.5
comp=Z,60nm,0.7s
BOD Bodaibo 44.14 45 *e*P **P 01 46 15.7 -0.2**
BOD pmax pmax
comp=Z,52nm,1.3s
KIBK Kibwezi 44.20 194 P **P 01 46 18.5 +1.6**
SNR=10
MBAR Mbarara 44.39 205 P **P 01 46 18.5 -0.1**
MBAR pmax pmax
comp=Z,29nm,1.1s
MBAR Mbarara 44.39 205 P **P 01 46 18.4 -0.1**
PALK Pallekele 44.55 130 P **P 01 46 20.0 +0.2**
PALK pmax pmax
comp=Z,51nm,1.2s
PALK Pallekele 44.55 130 P **P 01 46 20.0 +0.2**
PALK IAmb IAmb 01 46 21.4
comp=Z,51nm,1.2s
DAG Danmarks Havn 45.02 343 *i* P **P 01 46 22.6 -0.1**
comp=Z,32nm,0.9s
DAG Danmarks Havn 45.02 343 *i* P **P 01 46 22.6 -0.1**
DAG pmax pmax
comp=Z,32nm,0.9s
BORG Borgarnes 45.04 325 P **P 01 46 23.6 +0.7**
comp=Z,26nm,1.0s,baz=62,slow=15,SNR=2.0
BORG Borgarnes 45.04 325 P **P 01 46 23.3 +0.3**
SCO Scoresbysund 45.21 334 P **P 01 46 24.9 +0.6**
SCO pmax pmax
comp=Z,92nm,1.3s
SCO Scoresbysund 45.21 334 P **P 01 46 24.9 +0.6**
SCO IAmb IAmb 01 46 32.6
comp=Z,92nm,1.3s
CD2 Chengdu 45.59 84 P **P 01 46 29.3 +1.4**
CD2 S **S 01 53 08.0 -1.8**
CD2 pmax pmax
comp=Z,60nm,1.5s
CD2 pmax pmax
comp=Z,160nm,4.6s
CD2 LR LR
comp=Z,530nm,17.8s
CD2 LR LR
comp=Z,730nm,13.7s
CD2 LR LR
comp=Z,690nm,13.2s
NOR Nord 45.91 349 *i* P **P 01 46 29.5 -0.2**
comp=Z,12nm,0.9s
NOR Nord 45.91 349 *i* P **P 01 46 29.5 -0.2**
NOR pmax pmax
comp=Z,12nm,0.9s
BTO Baotou 46.03 69 *e*P **P 01 46 31.3 -0.1**
HHC Hu-ho-hao-te 47.03 68 *e*P **P 01 46 41.0 +1.8**
HHC sP sP 01 46 58.5 +12
HHC PcS **PcS 01 52 05.8 -0.5**
HHC S **S 01 53 33.0 +2.6**
HHC pmax pmax
comp=Z,50nm,0.9s
HHC pmax pmax
comp=Z,200nm,4.4s
HHC LR LR
comp=Z,1μm,15.6s
HHC LR LR
comp=Z,680nm,14.1s
HHC LR LR
comp=Z,890nm,15.5s
KMI Kunming 47.82 92 ⇓P **P 01 46 46.3 +0.6**
KMI pP pP 01 46 52.5 +1.2
KMI sP sP 01 46 56.5 +3.0
KMI S **S 01 53 38.3 -3.9**
KMI sS sS 01 53 56.3 +4.9
KMI pmax pmax
comp=Z,96nm,0.9s
KMI pmax pmax
comp=Z,170nm,3.5s
KMI LR LR
comp=Z,220nm,18.7s
KMI LR LR
comp=Z,340nm,18.8s
KMI LR LR
comp=Z,460nm,24.5s
XAN Xi'an 47.97 78 P **P 01 46 46.0 -0.5**
XAN pmax pmax
comp=Z,33nm,0.9s
XAN pmax pmax
comp=Z,210nm,4.5s
XAN LR LR
comp=Z,780nm,11.3s
XAN LR LR
comp=Z,1μm,12.7s
XAN LR LR
comp=Z,1μm,15.2s
DGPR DIGLIPUR 48.02 112 *e*P **P 01 46 48.5 +1.5**
MHMT Maesarieng 48.32 103 P **P 01 46 50.2 +0.9**
CHTO Chiang Mai 48.67 101 P **P 01 46 51.9 -0.1**
CHTO pmax pmax
comp=Z,76nm,1.2s
CHTO Chiang Mai 48.67 101 P **P 01 46 51.9 -0.1**
CMMT Chiang Mai 48.67 101 P **P 01 46 52.5 +0.4**
TIXI Tiksi 48.75 25 *c i* P **P 01 46 52.3 +0.4**
TIXI pmax pmax
comp=Z,210nm,1.7s
TIXI MLR MLR
comp=Z,3μm,18.0s
TIXI Tiksi 48.75 25 P **P 01 46 52.5 +0.6**
CRAI Chiangrai 48.87 99 P **P 01 46 54.3 +0.8**
CM15 Chiang Mai Arr 48.88 102 P **P 01 46 54.5 +0.8**
CM13 Chiang Mai Arr 48.89 102 P **P 01 46 54.2 +0.5**
CM31 Chiang Mai Arr 48.89 102 P **P 01 46 54.4 +0.7**
SNR=24
CM31 P **P 01 46 54.4 +0.7**
SNR=24
CM31 Chiang Mai Arr 48.89 102 P **P 01 46 54.4 +0.7**
CM31 Chiang Mai Arr 48.89 102 P **P 01 46 53.5 -0.2**
CMAR Chiang Mai Arr 48.89 102 P **P 01 46 54.1 +0.4**
comp=Z,35nm,1.0s,baz=301,slow=8.1,SNR=127
CMAR ScP **ScP 01 52 12.2 -0.3**
comp=Z,1.4nm,0.3s,baz=305,slow=10,SNR=4.2
CMAR LR LR 02 12 22.7
comp=Z,212nm,21.8s,baz=285,slow=42
CMAR Chiang Mai Arr 48.89 102 P **P 01 46 53.9 +0.2**
CM02 Chiang Mai Arr 48.91 102 P **P 01 46 54.4 +0.6**
CM05 Chiang Mai Arr 48.93 102 P **P 01 46 54.4 +0.4**
CM09 Chiang Mai Arr 48.94 102 P **P 01 46 54.8 +0.8**
TOA0 Torodi Ar. Sit 48.94 249 P **P 01 46 54.0 -0.1**
SNR=17
TOA0 Torodi Ar. Sit 48.94 249 P **P 01 46 53.2 -0.9**
TORD Torodi Ar. Bea 48.94 249 P **P 01 46 53.1 -1.0**
comp=Z,59nm,1.0s,baz=34,slow=7.8,SNR=149
TORD LR LR 02 10 59.9
comp=Z,256nm,19.0s,baz=40,slow=40
TORD Torodi Ar. Bea 48.94 249 P **P 01 46 52.8 -1.3**
CM04 Chiang Mai Arr 48.95 102 P **P 01 46 54.9 +0.7**
PBA Port Blair 48.95 114 P P 01 46 56.2 +2.0
SNR=5.8
PBA Port Blair 48.95 114 P P 01 46 54.8 +0.7
PAYA Payao 49.02 100 P **P 01 46 55.1 +0.4**
PHRA Phrae 49.82 101 P **P 01 47 01.6 +0.8**
SUKH Sukhothai 50.01 102 P **P 01 47 03.4 +1.1**
GYA Guiyang 50.06 88 ⇓P **P 01 47 02.8 +0.1**
GYA pP sP 01 47 15.0 +4.5
GYA sP pP 01 47 20.3 +12
GYA S **S 01 54 09.3 -4.1**

GYA pmax pmax
comp=Z,24nm,1.1s
GYA LR LR
comp=Z,260nm,17.1s
GYA LR LR
comp=Z,230nm,18.2s
GYA LR LR
comp=Z,320nm,16.3s
ENH Enshi 50.20 82 IAmb IAmb 01 47 10.9
comp=Z,62nm,1.2s
SUMG Summit 50.27 337⇑ *i*P **P 01 47 04.6 +0.6**
comp=Z,73nm,0.9s
SUMG Summit 50.27 337⇑ *i*P **P 01 47 04.6 +0.6**
SUMG pmax pmax
comp=Z,73nm,0.9s
SUMG Summit 50.27 337 P **P 01 47 03.9 -0.1**
BJI Beijing 50.58 67 P **P 01 47 08.3 +2.0**
BJI S **S 01 54 16.0 -4.1**
BJI pmax pmax
comp=Z,3.0nm,0.6s
BJI pmax pmax
comp=Z,190nm,3.9s
BJI LR LR
comp=Z,700nm,15.2s
BJI LR LR
comp=Z,470nm,18.1s
BJI LR LR
comp=Z,170nm,18.6s
PHIT Phitsanulok 50.78 102 P **P 01 47 09.3 +1.2**
SLVN Son La 50.86 95 P **P 01 47 08.8 +0.1**
YAK Yakutsk 51.01 37 P **P 01 47 06.5 -2.8**
comp=Z,11nm,0.4s,baz=158,slow=0.6,SNR=1.4
YAK Yakutsk 51.01 37 *e*P **P 01 47 12.9 +3.7**
YAK *e* 01 48 30.6
YAK *e* 01 49 09.4
YAK *e*S **S 01 54 22.8 -2.7**
YAK *e**SS sS 01 54 46.8 +12
YAK *e* 01 56 57.1
YAK *e*SS **SS 01 58 02.4 +2.5**
YAK pmax pmax
comp=Z,51nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,24nm,1.3s
YAK pmax pmax
comp=Z,176nm,3.9s
YAK pmax pmax
comp=N,150nm,3.5s
YAK pmax pmax
comp=E,122nm,4.0s
YAK smax smax
comp=N,366nm,3.9s
YAK smax smax
comp=E,159nm,3.3s
YAK MLR MLR
comp=Z,819nm,22.0s
YAK MLR MLR
comp=N,295nm,20.0s
YAK MLR MLR
comp=E,462nm,25.0s
YAK Yakutsk 51.01 37 P **P 01 47 09.2 -0.1**
YAK IAmb IAmb 01 47 20.8
comp=Z,64nm,1.1s
SRDT SRDT 51.66 106 P **P 01 47 15.3 +0.6**
KOWA Kowa 52.14 255 P **P 01 47 17.0 -1.2**
NONG Nongkai 52.26 99 P **P 01 47 19.6 +0.5**
ZEA Zeya 52.38 47 *e*P **P 01 47 19.7 +0.1**
ZEA pmax pmax
comp=Z,80nm,1.8s
ZEA MLR MLR
comp=Z,4μm,15.0s
ZEA MLR MLR
comp=N,600nm,14.0s
ZEA MLR MLR
comp=E,3μm,14.0s
CHAI Chaiyaphum 52.75 102 P **P 01 47 23.7 +0.8**
TIA Tai'an 52.94 71 P **P 01 47 25.5 +1.5**
TIA pmax pmax
comp=E,12nm,0.9s
PHET Kaeng Krachan 52.98 107 P **P 01 47 25.2 +0.8**
KHON Khomkaen 53.10 101 P **P 01 47 26.6 +1.2**
DGAR Diego Garcia 53.30 149 P **P 01 47 25.9 -0.8**
DGAR pmax pmax
comp=Z,409nm,1.3s
DGAR Diego Garcia 53.30 149 P **P 01 47 25.9 -0.8**
WHN Wuhan 53.68 79 ⇑P **P 01 47 30.5 +1.0**
WHN S **S 01 55 05.3 +2.4**
WHN pmax pmax
comp=Z,62nm,0.7s
WHN LR LR
comp=Z,670nm,11.4s
WHN LR LR
comp=Z,900nm,10.6s
WHN LR LR
comp=Z,2μm,14.5s
SRAK Srakaew 54.01 104 P **P 01 47 36.4 +4.3**
DL2 Dalian 54.86 66 P **P 01 47 38.8 +0.8**
DL2 S **S 01 55 20.0 +1.3**
DL2 pmax pmax
comp=Z,44nm,1.0s
DL2 LR LR
comp=Z,960nm,18.5s
DL2 LR LR
comp=Z,680nm,18.6s
DL2 LR LR
comp=Z,780nm,13.7s
SNY Shenyang 54.86 62 ⇓P **P 01 47 42.5 +4.5**
SNY S **S 01 55 23.3 +4.7**
SNY pmax pmax
comp=Z,12nm,0.5s
SNY LR LR
comp=Z,740nm,16.3s
SNY LR LR
comp=Z,1μm,15.7s
SNY LR LR
comp=Z,1μm,15.9s
SURT Suratani 55.07 111 P **P 01 47 39.6 -0.1**
CN2 Changchun 55.22 59 *e*P **P 01 47 41.8 +1.3**
CN2 *e*S **S 01 55 20.5 -2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,2μm,18.0s
ILULI Ilulissat 55.27 335 P **P 01 47 41.3 +0.8**
ILULI pmax pmax
comp=Z,94nm,1.3s
ILULI Ilulissat 55.27 335 P **P 01 47 41.3 +0.8**
SRIT Nakonsritamara 55.89 110 P P 01 47 35.3 -10
SFJD Kangerlussuaq 56.06 332 *i* P **P 01 47 46.3 +0.2**
SFJD Kangerlussuaq 56.06 332 *i* P **P 01 47 46.3 +0.2**
SFJD Kangerlussuaq 56.06 332 P **P 01 47 46.0 -0.1**
SFJD IAmb IAmb 01 47 52.3
comp=Z,27nm,0.8s
NJ2 Nanjing 56.23 75 *e*P **P 01 47 47.8 -0.1**
NJ2 sP **sP 01 47 59.5 +3.7**
NJ2 S **S 01 55 33.0 -4.0**
NJ2 sS **sS 01 55 51.3 +5.0**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,210nm,3.6s
NJ2 LR LR
comp=Z,510nm,14.2s
NJ2 LR LR
comp=Z,840nm,17.1s
NJ2 LR LR
comp=Z,930nm,16.1s
EUNU Eureka 56.39 351 P **P 01 47 48.8 +0.3**
EUNU IAmb IAmb 01 47 56.3
comp=Z,47nm,1.1s
TRTT Trang 56.49 111 P **P 01 47 49.5 -0.4**
NRS Narsarsuaq 56.52 325 P **P 01 47 50.9 +1.4**
NRS pmax pmax
comp=Z,138nm,1.3s
NRS Narsarsuaq 56.52 325 P **P 01 47 50.9 +1.4**
QIZ Qiongzhong 56.70 93 P **P 01 47 51.3 -0.1**
QIZ S **S 01 55 42.0 -1.6**
QIZ pmax pmax
comp=Z,16nm,1.1s
QIZ LR LR
comp=Z,230nm,20.6s
QIZ LR LR
comp=Z,280nm,20.6s
QIZ LR LR
comp=Z,190nm,19.6s
TPTI 58.03 117 P **P 01 48 04.0 +3.2**
comp=Z,10nm,0.6s
DBIC Dimbokro 58.05 249 P **P 01 47 60.0 -1.0**
comp=Z,22nm,0.8s,baz=23,slow=8.2,SNR=40
DBIC LR LR 02 16 56.9
comp=Z,257nm,18.6s,baz=36,slow=40
DBIC Dimbokro 58.05 249 P **P 01 48 00.0 -1.0**
DBIC Dimbokro 58.05 249 P **P 01 47 59.9 -1.0**
DBIC IAmb IAmb 01 48 17.7
comp=Z,37nm,1.1s
TIC Toumodi 58.18 249 *e*P **P 01 48 00.8 -1.2**
KIC Kosan Boka 58.19 248 *e*P **P 01 48 01.0 -1.0**
comp=Z,5.9nm,0.4s
LIC Lamto 58.48 249 *e*P **P 01 48 03.0 -1.0**
comp=Z,41nm,0.5s
KULM Kulim 58.95 112 P **P 01 48 06.3 -1.0**
KULM IAmb IAmb 01 48 07.7
comp=Z,34nm,1.2s
KULM Kulim 58.95 112 P **P 01 48 07.0 -0.3**
INCN Inchon 59.00 66 P **P 01 48 07.0 -0.4**
INCN pmax pmax
comp=Z,72nm,1.4s
INCN Inchon 59.00 66 P **P 01 48 07.0 -0.4**
LSZ Lusaka 59.04 202 P **P 01 48 07.6 -0.3**
LSZ pmax pmax
comp=Z,42nm,0.9s
LSZ Lusaka 59.04 202 P **P 01 48 07.5 -0.3**
USA0B Ussuriysk Arra 59.22 56 P **P 01 48 09.2 +0.4**
USA0B pmax pmax
comp=Z,10.0nm,0.9s
USA0B Ussuriysk Arra 59.22 56 P **P 01 48 09.2 +0.4**
USRK Ussuriysk Ar. 59.22 56 P **P 01 48 08.8 0.0**
comp=Z,2.5nm,0.6s,baz=276,slow=5.4,SNR=8.7
USRK LR LR 02 16 36.3
comp=Z,1μm,18.1s,baz=293,slow=39
PSI Prapat 59.55 116 P **P 01 48 09.9 -1.6**
PSI pmax pmax
comp=Z,54nm,1.1s
RPSI Rantau Prapat 59.62 116 P **P 01 48 09.9 -2.0**
IPM Ipoh 59.79 113 P **P 01 48 11.9 -1.1**
IPM Ipoh 59.79 113 P **P 01 48 12.0 -1.1**
ABPO Ambohimpanom 59.85 181 P **P 01 48 13.8 +0.3**
ABPO pmax pmax
comp=Z,34nm,1.1s
ABPO Ambohimpanom 59.85 181 P **P 01 48 13.8 +0.3**
ABPO IAmb IAmb 01 48 14.8
comp=Z,34nm,1.1s
KSAR Wonju Array Be 59.88 65 P **P 01 48 13.8 +0.3**
KSAR Wonju Array Be 59.88 65 P **P 01 48 13.8 +0.3**
KSRS Korea Array 59.90 65 P **P 01 48 13.6 0.0**
comp=Z,5.8nm,0.7s,baz=294,slow=6.8,SNR=19
KSRS LR LR 02 16 38.2
comp=Z,421nm,18.5s,baz=304,slow=39
TJN Taejon 60.07 66*ce*P **P 01 48 16.7 +2.0**
SEY Seymchan 60.22 31⇑*e*P **P 01 48 15.9 +0.5**
MA2 Magadan 61.39 34*ce*P **P 01 48 26.6 +3.2**
MA2 pmax pmax
comp=Z,125nm,1.3s
MNSI Mandailing Nat 61.46 117 P **P 01 48 25.1 +0.7**
comp=Z,7μmcomp=Z,3μmcomp=Z,20nm,0.8s
TEY Ternei 61.66 54⇑*e*P **P 01 48 26.0 +0.6**
TEY pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 61.81 22 *e*P **P 01 48 26.4 +0.3**
BILL *e* 01 48 33.2
BILL *e* 01 49 06.7
BILL *e* 01 50 40.6
BILL *e* 01 56 43.7
BILL pmax pmax
comp=Z,35nm,1.1s
BILL MLR MLR
comp=Z,1μm,22.0s
BKNI Bangkinang 62.79 116 P **P 01 48 32.8 -0.6**
comp=Z,2μmcomp=Z,161nm,1.1s
BLWY Bulawayo 63.55 200 *i* P **P 01 48 38.1 -0.3**
BLWY Bulawayo 63.55 200 *i* P **P 01 48 38.1 -0.3**
MYKOM Kota Tinggi 63.67 113 P **P 01 48 39.0 -0.2**
SDSI Sungai Dareh 63.97 117 P **P 01 48 44.1 +2.9**
JNU Nakatsue 64.25 68 P **P 01 48 43.2 +0.3**
JNU IAmb IAmb 01 48 50.9
comp=Z,32nm,0.9s
YSS Yuzh-Sakhalins 64.27 49 *e*P **P 01 48 44.4 +1.6**
YSS pmax pmax
comp=Z,20nm,1.4s
YSS MLR MLR
comp=Z,2μm,18.0s
DSRI Dabo 65.80 114 P **P 01 48 53.5 +0.4**
comp=Z,27nm,1.3s
TSUM Tsumeb 66.32 211 P **P 01 48 56.3 -0.1**
TSUM IAmb IAmb 01 48 57.4
comp=Z,39nm,1.0s
KSI Kapahiang 66.75 118 P **P 01 48 59.2 -0.1**
MAT Matsushiro 67.31 61 P **P 01 49 01.6 -1.0**
MAT *e*S **S 01 57 54.6 -2.7**
MJAR Matsushiro Arr 67.31 61 P **P 01 49 02.8 +0.2**
comp=Z,4.4nm,0.8s,baz=305,slow=6.2,SNR=7.9
MJAR LR LR 02 20 54.5
comp=Z,1μm,18.4s,baz=305,slow=38
MJAR Matsushiro Arr 67.31 61 P **P 01 49 03.2 +0.6**
MJAR pmax pmax
comp=Z,15nm,1.5s
MJAR Matsushiro Arr 67.31 61 P **P 01 49 03.2 +0.6**
PETK Petropavlovsk- 68.35 38 P **P 01 49 09.4 +0.6**
comp=Z,26nm,1.2s,baz=63,slow=7.0,SNR=3.1
PETK LR LR 02 22 41.1
comp=Z,530nm,18.0s,baz=244,slow=39
PETK Petropavlovsk- 68.35 38 P **P 01 49 09.7 +0.9**
PETK Petropavlovsk- 68.35 38 P **P 01 49 09.7 +0.9**
MDSI Maura Dua 68.43 117 P **P 01 49 07.2 -2.6**
comp=Z,15nm,1.2s
KSM Kuching 68.47 108 IAmb IAmb 01 49 10.8
comp=Z,24nm,0.7s
KSM Kuching 68.47 108 P **P 01 49 11.0 +0.9**
LWLI Liwa 68.74 117 P **P 01 49 10.3 -1.6**
comp=Z,9μmcomp=Z,242nm,0.8s
KLSI 68.95 117 P **P 01 49 10.7 -2.3**
comp=Z,13nm,0.9s
LBTB Lobatse 69.01 202 *i* P **P 01 49 13.7 +0.5**
LBTB Lobatse 69.01 202 P **P 01 49 12.8 -0.5**
LBTB pmax pmax
comp=Z,67nm,0.9s
LBTB Lobatse 69.01 202 P **P 01 49 12.8 -0.5**
LBTB Lobatse 69.01 202 *i* P **P 01 49 13.7 +0.5**
SKR Severo-Kuril's 69.16 40 *e*P P 01 49 24.0 +10
SKR *e*S **S 01 58 12.0 -6.8**
SKR MLR MLR
comp=Z,400nm,18.0s
SBUM Sibu 69.18 106 IAmb IAmb 01 49 16.8
comp=Z,40nm,1.0s
SBUM Sibu 69.18 106 P **P 01 49 16.0 +1.5**
SCHQ Schefferville 69.43 326 P **P 01 49 14.7 -0.8**
comp=Z,6.2nm,0.8s,baz=321,slow=13,SNR=4.1
SCHQ LR LR 02 18 32.0
comp=Z,393nm,22.0s,baz=64,slow=35
SCHQ Schefferville 69.43 326 IAmb IAmb 01 49 30.1
comp=Z,37nm,1.4s
TPI Tanjungpandan 69.56 113 P **P 01 49 16.6 -0.2**
comp=Z,50nm,1.0s
KKM Kota Kinabalu 69.71 100 IAmb IAmb 01 49 20.5
comp=Z,41nm,1.3s
TOLK Toolik Lake Re 69.76 7 P **P 01 49 17.4 +0.1**
baz=346,SNR=21
CGJI Cibinong 71.00 117 P **P 01 49 23.1 -2.6**
comp=Z,2μmcomp=Z,263nm,1.1s
COLD Coldfoot 71.08 7 P **P 01 49 25.7 +0.3**
baz=346,SNR=20
IMAR Indian Mountai 71.90 9 P **P 01 49 30.7 +0.3**
MYLDM Lahad Datu 71.98 99 IAmb IAmb 01 49 35.3
comp=Z,60nm,1.5s
BOSA Boshof 72.52 201 P **P 01 49 34.4 -0.2**
comp=Z,53nm,0.8s,baz=23,slow=6.2,SNR=85
BOSA LR LR 02 23 12.8
comp=Z,777nm,18.2s,baz=34,slow=37
BOSA Boshof 72.52 201 *i* P **P 01 49 34.5 -0.1**
BOSA Boshof 72.52 201 P **P 01 49 33.8 -0.7**
BOSA Boshof 72.52 201 *i* P **P 01 49 34.5 -0.1**
CISI Cisompet, Garu 73.12 116 P **P 01 49 37.7 -0.7**
comp=Z,61μmcomp=Z,92nm,0.5s
POKR Poker Plat Res 73.40 7 P **P 01 49 39.3 -0.1**
baz=348,SNR=6.7
TCOL CIGO, UAF Yank 73.60 7 P **P 01 49 40.7 +0.2**
baz=348,SNR=5.3
COLA College 73.60 7 P **P 01 49 40.8 +0.4**
COLA pmax pmax
comp=Z,74nm,0.9s
COLA College 73.60 7 P **P 01 49 40.8 +0.4**
NEA2 Nenana 73.76 8 P **P 01 49 40.9 -0.5**
baz=347,SNR=19
IL31 73.79 7 IAmb IAmb 01 49 48.8
comp=Z,34nm,1.3s
ILAR Eielson Array 73.79 7 P **P 01 49 41.6 0.0**
comp=Z,3.7nm,0.9s,baz=330,slow=3.3,SNR=20
ILAR PP **PP 01 52 25.0 -0.4**
comp=Z,2.2nm,0.9s,baz=341,slow=5.2,SNR=4.5
ILAR LR LR 02 24 30.4
comp=Z,446nm,21.0s,baz=1.0,slow=38
ILAR Eielson Array 73.79 7 P **P 01 49 41.8 +0.2**
ILAR Eielson Array 73.79 7 P **P 01 49 41.8 +0.2**
CCB Clear Creek Bu 73.83 7 IAmb IAmb 01 49 49.6
comp=Z,59nm,1.0s
WRH Wood River Hil 73.97 7 IAmb IAmb 01 49 50.4
comp=Z,70nm,1.5s
BPAW Bear Paw Mtn. 74.04 9 IAmb IAmb 01 49 52.0
comp=Z,45nm,1.1s
HDA Harding Lake 74.14 7 P **P 01 49 43.3 -0.4**
baz=348,SNR=28
HDA Harding Lake 74.14 7 IAmb IAmb 01 49 51.0
comp=Z,46nm,0.8s
EGAK Eagle 74.18 4 IAmb IAmb 01 49 51.9
comp=Z,43nm,0.9s
BATG Bathurst New B 74.29 320 P **P 01 49 45.7 +0.9**
BATG IAmb IAmb 01 49 59.0
comp=Z,29nm,1.0s
TTA Tatalina 74.52 11 IAmb IAmb 01 49 55.3
comp=Z,64nm,1.2s
MCK McKinley 74.61 8 P **P 01 49 46.5 0.0**
MCK pmax pmax
comp=Z,83nm,1.2s
MCK McKinley 74.61 8 P **P 01 49 46.5 0.0**
TRF Thorofare Moun 74.75 8 IAmb IAmb 01 49 55.9
comp=Z,39nm,0.9s
SCRK Sand Creek 74.80 5 P **P 01 49 47.8 +0.1**
baz=351
K27K Chicken 74.87 5 P **P 01 49 47.9 0.0**
baz=352
DHY Denali Highway 75.41 7 IAmb IAmb 01 49 58.7
comp=Z,34nm,0.9s
D63A Stockholm 75.45 321 P **P 01 49 52.0 +0.5**
baz=44
PQI Presque Isle 75.67 320 IAmb IAmb 01 50 01.2
comp=Z,29nm,1.0s
E64A Bridgewater 75.76 320 P **P 01 49 53.9 +0.6**
baz=44
YKA Yellowknife Ar 75.77 352 P **P 01 49 52.8 -0.3**
comp=Z,5.4nm,0.8s,baz=11,slow=7.1,SNR=10
YKA LR LR 02 27 15.9
comp=Z,559nm,19.1s,baz=0.0,slow=39
CUT Chulitna 75.77 9 P **P 01 49 53.0 0.0**
baz=346
D62A Allapoint, All 75.87 321 P **P 01 49 54.7 +0.8**
baz=44
KBKI Kotabaru 75.97 107 P **P 01 49 55.9 +0.9**
comp=Z,2μmcomp=Z,43nm,1.0s
SKT Skwentna 76.03 9 P **P 01 49 54.3 -0.3**
E63A Oxbow 76.05 320 P **P 01 49 55.2 +0.2**
baz=44
E63A Oxbow 76.05 320 IAmb IAmb 01 50 06.0
comp=Z,17nm,0.8s
CHGQ Chibougamau 76.18 326 P **P 01 49 55.8 +0.1**
baz=41
PWJI Pagerwojo 76.19 114 P **P 01 49 56.9 +0.8**
comp=Z,29nm,1.1s
MPSI Mapaga 76.24 102 P **P 01 49 57.2 +0.7**
comp=Z,570nmcomp=Z,64nm,1.1s
D61A St Aubert, Com 76.32 322 P **P 01 49 56.6 +0.1**
baz=43
SVW2 Sparrevohn 76.33 12 P **P 01 49 57.0 +0.7**
F64A Sherman 76.41 320 P **P 01 49 57.4 +0.4**
baz=44
F64A Sherman 76.41 320 IAmb IAmb 01 50 06.2
comp=Z,49nm,1.5s
E62A Clayton Lake 76.43 321 P **P 01 49 57.2 +0.1**
baz=43
E62A Clayton Lake 76.43 321 IAmb IAmb 01 50 05.5
comp=Z,23nm,0.8s
M24K Tolsona, Glenn 76.47 7 P **P 01 49 56.7 -0.5**
baz=349,SNR=18
E61A Lac Etchemin 77.02 321 P **P 01 50 00.3 -0.2**
baz=43
G64A Maxfield 77.05 320 P **P 01 49 59.9 -0.8**
baz=44
KLU Klutina 77.10 7 P **P 01 50 01.4 +0.6**
RC01 Rabbit Creek A 77.11 9 P **P 01 50 00.6 -0.1**
baz=346
F62A Pittston Farm, 77.17 321 P **P 01 50 01.4 +0.1**
baz=43
CAPN Captain Cook N 77.25 9 P **P 01 50 01.1 -0.4**
baz=345
SUR Sutherland 77.32 203 P **P 01 50 02.7 +0.4**
SUR IAmb IAmb 01 50 03.5
comp=Z,29nm,0.8s
GLB Gilahina Butte 77.33 6 IAmb IAmb 01 50 13.4
comp=Z,38nm,1.4s
LATQ La Tuque 77.38 323 P **P 01 50 03.9 +1.4**
baz=42
E60A Ste Agathe de 77.52 322 P **P 01 50 03.7 +0.4**
baz=42
G63A Kingsbury 77.57 320 P **P 01 50 04.0 +0.4**
baz=43
GLI Glacier Island 77.60 7 IAmb IAmb 01 50 11.0
comp=Z,42nm,0.9s
F61A St Evariste 77.60 321 P **P 01 50 04.1 +0.4**
baz=42
D58A Chemin du LacG 77.64 323 P **P 01 50 02.9 -1.0**
baz=41
MATQ Matagami 77.66 327 P **P 01 50 04.1 +0.1**
baz=39
H64A Troy 77.72 319 P **P 01 50 04.2 -0.2**
baz=43
BARN Barnard Glacie 77.85 5 IAmb IAmb 01 50 14.4
comp=Z,58nm,1.4s
LSQQ Lebel-sur-Quev 77.93 327 P **P 01 50 05.1 -0.4**
baz=39
G62A West of Eustis 77.93 321 P **P 01 50 05.4 -0.3**
baz=42
G62A West of Eustis 77.93 321 P **P 01 50 06.6 +0.9**
CTGM Chitina Glacie 77.97 5 IAmb IAmb 01 50 13.6
comp=Z,28nm,0.7s
F60A Warwick 78.05 322 P **P 01 50 06.2 0.0**
baz=42
JAGI Jajag, Banyuwa 78.14 112 P **P 01 50 05.5 -1.6**
comp=Z,25nm,0.7s
D57A Chemin Vers le 78.15 324 P **P 01 50 07.0 +0.2**
baz=41
HOM Homer 78.27 10 P **P 01 50 06.5 -0.6**
baz=345
GTOI Gorontalo 78.35 99 P **P 01 50 07.7 -0.6**
comp=Z,18nm,0.9s
G61A St-Isidore-de- 78.36 321 P **P 01 50 08.2 +0.2**
baz=42
E58A La Victoria 78.36 323 P **P 01 50 08.4 +0.4**
baz=41
HMT Hamilton 78.39 6 P **P 01 50 09.2 +1.4**
D56A ZEC Mazanza, M 78.52 324 P **P 01 50 09.2 +0.4**
baz=40
YAH Yahtse 78.54 5 IAmb IAmb 01 50 17.5
comp=Z,39nm,0.8s
E57A Chemin Saint G 78.73 323 P **P 01 50 09.7 -0.4**
baz=40
D55A Sainte-Anne-du 78.86 324 P **P 01 50 10.8 +0.1**
baz=40
VLDQ Val d'Or 78.86 326 P **P 01 50 11.0 +0.4**
E56A St. Veronique 79.02 324 P **P 01 50 12.1 +0.5**
baz=40
SPSI Sidrap Palu 79.04 105 P **P 01 50 12.2 +0.1**
comp=Z,928nmcomp=Z,26nm,0.9s
H61A Lyndonville 79.11 321 P **P 01 50 11.8 -0.3**
baz=42
I62A Tamworth 79.31 320 P **P 01 50 12.2 -1.0**
baz=42
LBNH Lisbon 79.33 321 P **P 01 50 13.7 +0.4**
baz=42
H60A Morristown 79.45 321 P **P 01 50 13.0 -1.0**
baz=41
E55A Montcerf-Lytto 79.55 324 P **P 01 50 14.5 0.0**
baz=39
J63A Strafford 79.63 320 P **P 01 50 14.9 0.0**
baz=42
G58A Ormstown 79.64 322 P **P 01 50 15.0 +0.1**

	baz=40					
I61A	Oroboro, Fairl	79.69 321	P	P	01 50 15.2	0.0
	baz=41					
SKAG	Skagway	79.72 2	IAmb	IAmb	01 50 23.4	
	comp=Z,28nm,1.1s					
KAPI	Kappang	79.74 106	P	P	01 50 15.3	-0.6
KAPI			pmax	pmax		
	comp=Z,77nm,1.2s					
KAPI	Kappang	79.74 106	P	P	01 50 15.3	-0.6
H59A	Cadyville	79.86 322	P	P	01 50 16.1	-0.1
	baz=40					
J62A	Henniker	80.03 320	P	P	01 50 17.1	0.0
	baz=42					
G57A	Newington	80.10 323	P	P	01 50 17.4	-0.1
	baz=40					
BKSI	Bulukumba	80.22 106	P	P	01 50 18.5	0.0
	comp=Z,45nm,0.8s					
LONY	Lake Ozonia	80.29 322	P	P	01 50 18.9	+0.3
	baz=40					
L64A	Middleborough	80.50 318	P	P	01 50 19.5	-0.2
	baz=42					
K62A	Royalston	80.65 320	P	P	01 50 19.5	-1.0
	baz=41					
DLBC	Dease Lake	80.77 359	IAmb	IAmb	01 50 29.9	
	comp=Z,58nm,1.2s					
H57A	Richville	80.78 323	P	P	01 50 21.4	+0.3
	baz=40					
J60A	Lant Hill Farm	80.79 321	P	P	01 50 20.7	-0.5
	baz=40					
ALGO	Algonquin Park	80.80 325	P	P	01 50 21.9	+0.6
	baz=38					
M64A	Tiverton	80.98 318	P	P	01 50 22.7	+0.5
	baz=42					
FFC	Flin Flon	81.10 343	P	P	01 50 22.3	-0.4
FFC			pmax	pmax		
	comp=Z,14nm,0.8s					
FFC	Flin Flon	81.10 343	P	P	01 50 22.3	-0.4
J59A	Piesco	81.13 322	P	P	01 50 24.7	+1.6
	baz=40					
I58A	Old Forge	81.18 322	P	P	01 50 23.2	-0.1
	baz=40					
G54A	Lake Saint Pet	81.26 325	P	P	01 50 24.0	+0.3
	baz=38					
J58A	Remsen	81.58 322	P	P	01 50 24.1	-1.3
	baz=40					
L61A	Hillsdale 1, H	81.65 320	P	P	01 50 25.3	-0.5
	baz=40					
K59A	Cooperstown	81.83 321	P	P	01 50 26.6	-0.1
	baz=40					
J57A	Williamstown	81.87 322	P	P	01 50 26.9	-0.1
	baz=39					
M62A	Hamden	81.89 319	P	P	01 50 26.9	-0.2
	baz=41					
PECO	Prince Edward	81.92 323	P	P	01 50 28.1	+0.9
H53A	Bobcaygeon	82.12 325	P	P	01 50 27.6	-0.6
	baz=38					
K58A	Earlville	82.21 322	P	P	01 50 27.4	-1.3
	baz=39					
K58A	Earlville	82.21 322	IAmb	IAmb	01 50 39.8	
	comp=Z,20nm,1.0s					
SANI	Sanana	82.35 99	P	P	01 50 29.7	-0.1
	comp=Z,42nm,1.2s					
L59A	Walton	82.36 321	P	P	01 50 29.0	-0.6
	baz=40					
L59A	Walton	82.36 321	IAmb	IAmb	01 50 40.5	
	comp=Z,20nm,1.1s					
J56A	Wolcott	82.37 323	P	P	01 50 29.0	-0.6
	baz=38					
J56A	Wolcott	82.37 323	IAmb	IAmb	01 50 39.9	
	comp=Z,32nm,1.2s					
K57A	Scipio Center	82.64 322	P	P	01 50 31.4	+0.4
	baz=39					
TRNY	Table Rock, Ra	82.77 320	P	P	01 50 32.6	+0.9
TRNY			IAmb	IAmb	01 50 42.4	
	comp=Z,18nm,1.1s					
BINY	Binghamton	82.80 322	P	P	01 50 32.3	+0.4
	baz=39					
BINY	Binghamton	82.80 322	IAmb	IAmb	01 50 42.6	
	comp=Z,25nm,1.0s					
J55A	Hilton	82.81 323	P	P	01 50 32.5	+0.7
	baz=38					
J55A	Hilton	82.81 323	IAmb	IAmb	01 50 42.5	
	comp=Z,24nm,1.1s					
M60A	Port Jervis	82.83 320	P	P	01 50 32.2	+0.2
	baz=40					
L58A	Harry Jones Me	82.86 321	P	P	01 50 32.6	+0.4
	baz=39					
ODNJ	Ogdensburg	83.00 320	IAmb	IAmb	01 50 43.5	
	comp=Z,17nm,1.0s					
K56A	Middlesex	83.03 323	P	P	01 50 33.7	+0.6
	baz=38					
E46A	Sault Ste Mari	83.04 329	P	P	01 50 33.9	+0.9
E46A			IAmb	IAmb	01 50 46.4	
	comp=Z,23nm,0.9s					
M59A	Waymart	83.05 321	P	P	01 50 33.6	+0.4
	baz=39					
MMNY	Mt. Morris Dam	83.27 323	IAmb	IAmb	01 50 47.5	
	comp=Z,21nm,0.9s					
K55A	Perry	83.35 323	P	P	01 50 34.3	-0.4
	baz=38					
L57A	Andrews Acres	83.36 322	P	P	01 50 35.1	+0.3
	baz=38,SNR=6.7					
N60A	Cedar Hill Far	83.41 320	P	P	01 50 35.4	+0.4
	baz=39					
L56A	Greenwood	83.58 322	P	P	01 50 35.8	-0.2
	baz=38,SNR=8.2					
L56A	Greenwood	83.58 322	IAmb	IAmb	01 50 47.3	
	comp=Z,33nm,0.9s					
ULM	Lac du Bonnet	83.62 338	P	P	01 50 35.9	0.0
	comp=Z,3.7nm,0.7s,baz=152,slow=14,SNR=3.9					
ULM			LR	LR	02 29 24.4	
	comp=Z,321nm,19.3s,baz=18,slow=37					
ULM	Lac du Bonnet	83.62 338	IAmb	IAmb	01 50 44.6	
	comp=Z,28nm,1.2s					
M58A	Price's Panora	83.67 321	P	P	01 50 36.9	+0.5
	baz=39,SNR=5.8					
EDFI	Ende, Flores	83.69 107	P	P	01 50 34.9	-2.0
	comp=Z,11nm,1.0s					
N59A	State Game Lan	83.69 321	P	P	01 50 36.2	-0.4
	baz=39					
N59A	State Game Lan	83.69 321	IAmb	IAmb	01 50 47.1	
	comp=Z,19nm,1.0s					
K54A	Basiliko Farm,	83.72 323	P	P	01 50 37.0	+0.4
	baz=37,SNR=5.2					
LUPA	Lehigh Univers	83.75 320	IAmb	IAmb	01 50 47.7	
	comp=Z,22nm,0.9s					
I51A	Listowel	83.80 326	P	P	01 50 37.3	+0.3
	baz=36					
WVNY	West Valley, N	83.85 323	IAmb	IAmb	01 50 45.4	
	comp=Z,44nm,1.4s					
BASI	Baing, Sumba	83.89 109	P	P	01 50 38.6	+0.9
	comp=Z,1μmcomp=Z,82nm,0.9s					
L55A	Hinsdale	83.95 323	P	P	01 50 38.1	+0.3
	baz=38,SNR=8.2					
O60A	Telford	83.98 320	P	P	01 50 38.4	+0.5
	baz=39					
M57A	Sunshine Farm,	84.01 322	P	P	01 50 38.5	+0.4
	baz=38					
M57A	Sunshine Farm,	84.01 322	IAmb	IAmb	01 50 51.8	
	comp=Z,19nm,0.8s					
E43A	Lone Tree Farm	84.06 330	P	P	01 50 39.3	+1.0
N58A	Sunbury	84.20 321	P	P	01 50 39.5	+0.4
	baz=38					
N58A	Sunbury	84.20 321	IAmb	IAmb	01 50 52.0	
	comp=Z,17nm,0.9s					
L54A	Sinclairville	84.30 324	P	P	01 50 39.9	+0.3
	baz=37					
PSUB	Penn St. - Bra	84.31 320	IAmb	IAmb	01 50 52.7	
	comp=Z,13nm,0.8s					
O59A	Robesonia	84.36 321	P	P	01 50 39.8	-0.1
	baz=39					
M56A	Emporium	84.38 322	P	P	01 50 40.1	+0.1
	baz=38					
M56A	Emporium	84.38 322	IAmb	IAmb	01 50 41.5	
	comp=Z,22nm,1.1s					
GLMI	Grayling	84.44 328	P	P	01 50 40.7	+0.4
	baz=34					
I49A	Point Hope	84.44 327	P	P	01 50 40.8	+0.6
I49A			IAmb	IAmb	01 50 53.3	
	comp=Z,25nm,0.9s					
P60A	Greenville	84.48 320	P	P	01 50 40.5	0.0
	baz=39					
P60A	Greenville	84.48 320	IAmb	IAmb	01 50 53.7	
	comp=Z,19nm,0.8s					
M55A	Ridgway	84.66 323	P	P	01 50 40.5	-0.9
	baz=37					
M55A	Ridgway	84.66 323	IAmb	IAmb	01 50 53.2	
	comp=Z,18nm,1.1s					
N57A	Milroy	84.66 322	P	P	01 50 40.8	-0.6
	baz=38					
O58A	Lewisberry	84.86 321	P	P	01 50 42.3	-0.1
	baz=38					
N56A	West Decatur	84.88 322	P	P	01 50 42.7	+0.1
	baz=38					
SSPA	Standing Stone	84.92 322	P	P	01 50 42.8	+0.1
	baz=38					
SSPA	Standing Stone	84.92 322	P	P	01 50 42.4	-0.3
SSPA			IAmb	IAmb	01 50 53.2	
	comp=Z,21nm,1.2s					
L53A	Girard	84.95 324	P	P	01 50 42.3	-0.5
	baz=36					
P59A	Jarrettsville	85.03 320	P	P	01 50 42.9	-0.3
	baz=38					
M54A	Oil Creek Stat	85.04 323	P	P	01 50 43.4	+0.1
	baz=37					
M54A	Oil Creek Stat	85.04 323	IAmb	IAmb	01 50 57.3	
	comp=Z,16nm,0.9s					
O57A	Amberson	85.13 321	P	P	01 50 43.9	+0.1
	baz=38					
Q60A	Greensboro	85.21 319	P	P	01 50 43.7	-0.5
	baz=39					
N55A	Marion Center	85.31 322	P	P	01 50 44.3	-0.4
	baz=37					
AGMN	Agassiz Nation	85.37 337	P	P	01 50 44.7	-0.1
	baz=26					
P58A	Pank, Wackersv	85.54 321	P	P	01 50 45.2	-0.6
	baz=38					
J47A	Sunmer	85.84 327	IAmb	IAmb	01 50 55.5	
	comp=Z,42nm,1.3s					
BATI	Baumata	86.10 107	P	P	01 50 48.8	-0.1
	comp=Z,1μmcomp=Z,126nm,0.8s					
G40A	Rib Lake	86.17 332	IAmb	IAmb	01 50 55.4	
	comp=Z,23nm,1.2s					
SOEI	Soe	86.23 106	P	P	01 50 49.7	0.0
	comp=Z,1μmcomp=Z,122nm,0.9s					
SOEI	Soe	86.23 106	P	P	01 50 48.8	-0.9
F36A	Milaca	86.80 334	IAmb	IAmb	01 51 02.0	
	comp=Z,16nm,1.1s					
MDND	Maddock	86.84 339	P	P	01 50 53.0	+0.9
P54A	Burton	86.94 323	P	P	01 50 52.8	+0.1
	baz=36					
SPMN	Marine on St.	87.12 333	P	P	01 50 52.9	-0.6
	baz=28					
SPMN	Marine on St.	87.12 333	IAmb	IAmb	01 51 03.3	
	comp=Z,20nm,1.2s					
S58A	Poland Farm, P	87.38 320	P	P	01 50 54.1	-0.8
	baz=38					
O51A	Pataskala	87.45 324	P	P	01 50 54.3	-0.9
	baz=35					
N49A	Columbus Grove	87.50 326	IAmb	IAmb	01 51 06.1	
	comp=Z,15nm,0.9s					
I40A	Norwalk	87.52 331	P	P	01 50 55.7	+0.3
I40A			IAmb	IAmb	01 50 58.2	
	comp=Z,13nm,1.0s					
ACSO	Alum Creek Sta	87.55 325	P	P	01 50 55.3	-0.3
	baz=35					
T59A	Double "B" Far	87.64 319	P	P	01 50 56.0	-0.2
	baz=38					
P52A	Corning	87.66 324	P	P	01 50 55.8	-0.4
	baz=35					
S57A	Dark Hollow, R	87.70 321	P	P	01 50 55.6	-0.8
	baz=37					
F33A	5 Mile Ranch,	87.70 336	IAmb	IAmb	01 51 06.1	
	comp=Z,33nm,1.4s					
N47A	Urbana	88.17 327	IAmb	IAmb	01 51 09.0	
	comp=Z,11nm,1.1s					
O49A	Covington	88.17 325	IAmb	IAmb	01 51 08.7	
	comp=Z,16nm,0.9s					
I37A	Lemond, Waseca	88.38 333	P	P	01 50 59.1	-0.4
I37A			IAmb	IAmb	01 51 14.1	
	comp=Z,19nm,0.9s					
V60A	Jim Taylor Roa	88.44 318	P	P	01 50 59.9	0.0
	baz=38					
U58A	Oxford	88.59 320	P	P	01 51 00.1	-0.6
	baz=37					
Q51A	Peebles	88.70 324	IAmb	IAmb	01 51 13.6	
	comp=Z,13nm,1.0s					
WALA	Waterton Lakes	88.77 348	IAmb	IAmb	01 51 09.5	
	comp=Z,30nm,1.4s					
L42A	Oliver, Polo	88.79 330	IAmb	IAmb	01 51 09.2	
	comp=Z,33nm,1.3s					
P49A	Miami Univ. Ec	88.88 325	P	P	01 51 00.1	-1.9
	baz=34					
V59A	Middlesex	88.93 319	P	P	01 51 01.2	-1.0
	baz=37					
EGMT	Eagleton	89.05 345	P	P	01 51 02.5	-0.2
	baz=16					
EGMT	Eagleton	89.05 345	IAmb	IAmb	01 51 11.8	
	comp=Z,11nm,0.9s					
L40A	Anamosa	89.32 331	IAmb	IAmb	01 51 18.0	
	comp=Z,17nm,1.0s					
LAO	LASA Array	89.58 343	P	P	01 51 05.9	+0.6
	baz=19					
LAO	LASA Array	89.58 343	P	P	01 51 06.0	+0.7
ECSD	EROS Data Cent	89.69 335	P	P	01 51 05.8	+0.1
	baz=26					
NEW	Newport	90.00 350	P	P	01 51 06.4	-0.8
	baz=11,SNR=17					
NEW	Newport	90.00 350	IAmb	IAmb	01 51 15.9	
	comp=Z,32nm,1.1s					
R49A	Shelbyville	90.11 325	IAmb	IAmb	01 51 17.4	
	comp=Z,18nm,1.3s					
B08A	Colville Reser	90.18 352	P	P	01 51 07.6	-0.4
SAUI	Saumlaki	90.22 100	P	P	01 51 03.9	-4.7
N41A	Harden Midland	90.36 330	IAmb	IAmb	01 51 11.3	
	comp=Z,17nm,1.1s					
MSO	Missoula	90.94 348	IAmb	IAmb	01 51 20.6	
	comp=Z,13nm,1.2s					
OLIL	Olney	90.97 327	IAmb	IAmb	01 51 25.5	
	comp=Z,11nm,0.8s					
GCMT	Greycliff	91.17 345	P	P	01 51 13.0	+0.2
X56A	White Oak	91.32 320	P	P	01 51 12.8	-0.6
	baz=36					
D03D	Eldon	91.35 354	P	P	01 51 10.8	-2.6
	baz=6.6					
D08A	Wollman Farm,	91.41 351	IAmb	IAmb	01 51 23.0	
	comp=Z,16nm,1.1s					
PAULI	Pauline	91.43 321	IAmb	IAmb	01 51 15.7	
	comp=Z,16nm,1.2s					
RSSD	Black Hills	91.47 340	P	P	01 51 14.1	-0.2
RSSD			pmax	pmax		
	comp=Z,9.0nm,0.9s					
RSSD	Black Hills	91.47 340	P	P	01 51 13.8	-0.5
	baz=21					
RSSD	Black Hills	91.47 340	P	P	01 51 14.1	-0.2
RSSD			IAmb	IAmb	01 51 23.8	
	comp=Z,8.9nm,0.8s					
X55A	Gracelyn & Ava	91.63 320	P	P	01 51 15.2	+0.3
	baz=35					
RLMT	Red Lodge	91.73 344	P	P	01 51 14.9	-0.6
	baz=17					
BOZ	Bozeman (W)	91.74 346	P	P	01 51 15.6	+0.2
	baz=15					
E09A	Wood Farm, Sta	91.86 350	IAmb	IAmb	01 51 24.3	
	comp=Z,20nm,1.1s					
YNE	Yellowstone No	91.99 345	P	P	01 51 17.2	+0.5
Z57A	Bowman	92.12 319	P	P	01 51 17.8	+0.6
	baz=36					
DLMT	Dillon	92.14 346	P	P	01 51 17.0	-0.3
HAWA	Hanford	92.14 351	IAmb	IAmb	01 51 26.4	
	comp=Z,29nm,1.5s					
Y55A	Saluda	92.17 320	P	P	01 51 17.7	+0.3
	baz=35					
F10A	Beach Ranch, E	92.27 350	IAmb	IAmb	01 51 32.5	
	comp=Z,9.8nm,0.9s					
E04D	Cinebar	92.28 353	P	P	01 51 18.0	+0.3
	baz=7.0					
S44A	Carbondale	92.33 327	IAmb	IAmb	01 51 32.2	
	comp=Z,9.3nm,0.8s					
Z56A	Williston	92.43 320	P	P	01 51 18.2	-0.4
	baz=36					
CCM	Cathedral Cave	92.81 329	P	P	01 51 19.9	-0.4
CCM			pmax	pmax		
	comp=Z,5.0nm,0.8s					
CCM	Cathedral Cave	92.81 329	P	P	01 51 19.5	-0.8
	baz=29					
CCM	Cathedral Cave	92.81 329	P	P	01 51 19.9	-0.4
FLWY	Flagg Ranch	93.02 345	IAmb	IAmb	01 51 34.7	
	comp=Z,13nm,1.1s					
G08A	Pilot Rock	93.16 351	IAmb	IAmb	01 51 31.4	
	comp=Z,18nm,1.5s					
K22A	Casper	93.47 341	P	P	01 51 22.9	-0.5
	baz=19					
K22A	Casper	93.47 341	P	P	01 51 23.0	-0.5
K22A			IAmb	IAmb	01 51 31.2	
	comp=Z,21nm,1.4s					
PBMO	Poplar Bluff	93.59 328	P	P	01 51 22.7	-1.2
PBMO			IAmb	IAmb	01 51 42.1	
	comp=Z,8.6nm,0.8s					
PDAR	Pinedale Array	94.04 344	P	P	01 51 26.1	-0.1
	comp=Z,0.5nm,0.7s,baz=59,slow=0.9,SNR=4.3					
PDAR			PP	PP	01 55 10.9	-0.3
	comp=Z,1.7nm,0.9s,baz=5.1,slow=11,SNR=5.2					
PDAR			PKKPbc	PKKPbc	02 08 26.4	-0.9
	comp=Z,0.7nm,0.7s,baz=159,slow=4.5,SNR=7.1					
PDAR			LR	LR	02 37 18.3	
	comp=Z,519nm,19.0s,baz=12,slow=38					
PDAR	Pinedale Array	94.04 344	P	P	01 51 24.8	-1.4
HLID	Hailey	94.20 347	P	P	01 51 26.7	-0.2
	baz=13					
MFID	Camas Ranch	94.57 348	IAmb	IAmb	01 51 38.5	
	comp=Z,11nm,0.9s					
PINE	Pine Mountain	94.86 352	IAmb	IAmb	01 51 39.1	
	comp=Z,14nm,1.1s					
U40A	Yellville	94.92 329	P	P	01 51 29.9	-0.2
	baz=28					
J08A	Circle Bar Ran	95.00 350	P	P	01 51 30.7	+0.3
I04A	Tendick Farm,	95.01 353	P	P	01 51 30.3	-0.1
	baz=7.1					
I03D	Drain, OR	95.19 354	P	P	01 51 31.1	0.0
	baz=6.4					
LRAL	Lakeview Retre	95.31 323	P	P	01 51 32.3	+0.5
	baz=32					
J05D	Fort Rock, OR	95.40 352	P	P	01 51 32.0	-0.2
	baz=8.0					
J04D	Umpqua Nationa	95.53 353	P	P	01 51 32.9	-0.1
	baz=7.4					
J01E	Myrtle Point	95.76 354	P	P	01 51 34.0	+0.2
	baz=6.0					
T35A	Sooner Cattle	95.78 332	IAmb	IAmb	01 51 36.4	
	comp=Z,9.5nm,1.1s					
K05A	Summer Lake	95.91 352	IAmb	IAmb	01 51 48.1	
	comp=Z,16nm,1.0s					
HUMO	Hull Mountain	96.23 353	IAmb	IAmb	01 51 45.1	
	comp=Z,25nm,1.5s					
W39A	Magazine	96.30 329	P	P	01 51 37.1	+0.8
	baz=28					
TUL1	Leonard	96.42 331	P	P	01 51 36.6	-0.2
	baz=26					
TUL1	Leonard	96.42 331	P	P	01 51 36.3	-0.6
TUL1			IAmb	IAmb	01 51 50.2	
	comp=Z,10nm,0.9s					
L04D	Klamath Falls	96.56 353	P	P	01 51 37.3	-0.3
	baz=7.2					
MOD	Modoc Plateau	96.66 351	IAmb	IAmb	01 51 48.3	
	comp=Z,22nm,1.4s					
ELK	Elko	97.08 347	P	Pdif	01 51 41.0	+0.8
ELK			pmax	pmax		
	comp=Z,6.0nm,1.1s					
ELK	Elko	97.08 347	P	Pdif	01 51 41.0	+0.9
N02D	Trinity Center	97.83 353	P	P	01 51 42.8	-0.5
	baz=7.0					
PV15	Paradox Valley	98.02 341	IAmb	IAmb	01 51 53.7	
	comp=Z,6.0nm,0.7s					
PV14	Lion Creek, Pa	98.12 342	IAmb	IAmb	01 51 57.4	
	comp=Z,5.6nm,0.9s					
PV20	West Nyswonger	98.14 342	P	Pdif	01 51 45.7	+0.8
PV20			IAmb	IAmb	01 51 57.4	
	comp=Z,6.1nm,0.9s					
PV16	Nyswonger Mesa	98.15 342	IAmb	IAmb	01 51 58.2	
	comp=Z,5.2nm,0.9s					
PV11	David Mesa, Pa	98.15 342	IAmb	IAmb	01 51 52.7	
	comp=Z,7.6nm,0.7s					
S22A	4UR Ranch, Cre	98.17 340	P	P	01 51 45.3	+0.1
	baz=19					
PV17	East Wray Mesa	98.19 342	IAmb	IAmb	01 51 53.4	
	comp=Z,6.7nm,1.0s					
WMOK	Wichita Mounta	98.53 333	P	P	01 51 46.5	+0.1
WMOK			pmax	pmax		
	comp=Z,4.0nm,1.0s					
WMOK	Wichita Mounta	98.53 333	P	Pdif	01 51 47.0	+0.6
	baz=24					
WMOK	Wichita Mounta	98.53 333	P	P	01 51 46.5	+0.1
PAHR	Pah Rah Range	98.71 350	IAmb	IAmb	01 52 00.8	
	comp=Z,6.6nm,1.1s					
VCNR	Virginia City	99.15 350	P	Pdif	01 51 49.1	-0.3
PNTR	Pine Nut	99.35 350	IAmb	IAmb	01 51 59.7	
	comp=Z,6.6nm,0.9s					
NVAR	Mina Array Bea	99.82 349	P	Pdif	01 51 53.4	+1.0
	comp=Z,0.6nm,0.7s,baz=32,slow=5.0,SNR=5.4					
NVAR			PP	PP	01 55 57.1	+1.3
	comp=Z,0.6nm,0.8s,baz=11,slow=6.0,SNR=2.8					
NVAR			PKKPbc	PKKPbc	02 08 10.8	-0.8
	comp=Z,1.0nm,0.8s,baz=196,slow=5.6,SNR=8.1					
NVAR			LR	LR	02 39 32.8	
	comp=Z,543nm,20.2s,baz=9.0,slow=37					
NVAR	Mina Array Bea	99.82 349		Pdif	01 51 53.0	+0.6
WB0	Warramunga Arr	100.15 107	Pdif	Pdif	01 51 52.9	-0.8
WRA	Warramunga Arr	100.22 107	P	Pdif	01 51 53.3	-0.8
	comp=Z,10nm,0.7s,baz=318,slow=4.2,SNR=117					
WRA			PP	PP	01 56 00.6	+0.3
	comp=Z,3.7nm,1.1s,baz=322,slow=7.9,SNR=5.5					
WRA			PKKPbc	PKKPbc	02 08 09.5	-0.7
	comp=Z,0.7nm,0.7s,baz=135,slow=2.5,SNR=6.3					
ASAR	Alice Springs	102.28 111	P	Pdif	01 52 02.4	-0.8
	comp=Z,0.9nm,0.6s,baz=309,slow=4.8,SNR=14					
ASAR			PKiKP	PKiKP	01 56 24.6	-0.4
	comp=Z,0.7nm,0.7s,baz=299,slow=1.9,SNR=3.5					
ASAR			PKKPbc	PKKPbc	02 08 05.8	+1.5
	comp=Z,0.8nm,0.6s,baz=133,slow=3.9,SNR=7.4					
ASAR	Alice Springs	102.28 111	Pdif	Pdif	01 52 01.7	-1.4
MNTX	Cornudas Mount	103.45 337	P	Pdif	01 52 08.1	-0.3
	baz=20					
BDFB	Brasilia	104.55 262	PP	PKiKP	01 56 32.8	+3.2
	comp=Z,2.1nm,0.8s,baz=84,slow=9.2,SNR=3.1					
MAW	Mawson	109.00 174	PKiKP	PKiKP	01 56 34.8	-1.2
	comp=Z,1.0nm,0.5s,baz=346,slow=4.2,SNR=5.6					
STKA	Stephens Creek	112.66 113	PKiKP	PKiKP	01 56 42.9	-1.3
	comp=Z,2.4nm,0.8s,baz=293,slow=7.7,SNR=3.7					
SNAA	Sanae	118.07 196	PKiKP	PKPdf	01 56 53.1	-0.2
SNAA	Sanae	118.07 196	PKiKP	PKPdf	01 56 53.2	-0.2
SNAA	Sanae	118.07 196	PKPdf	PKPdf	01 56 53.2	-0.2
VNA2	Neumayer--Watz	118.54 198	PKiKP	PKPdf	01 56 54.4	+0.2
VNA3	Neumayer Olymp	119.29 198	PKiKP	PKPdf	01 56 55.7	0.0
LPAZ	La Paz	120.10 274	PKP	PKPdf	01 56 59.5	-0.1
	comp=Z,3.9nm,0.7s,baz=225,slow=2.4,SNR=16					
LPAZ	La Paz	120.10 274	PKPdf	PKPdf	01 56 59.0	-0.6
LPAZ	La Paz	120.10 274	eP	PKPdf	01 56 59.4	-0.2
PB16	IPOC Station P	122.39 273	PKPdf	PKPdf	01 57 03.4	-0.6
PB11	IPOC Station P	123.36 272	PKPdf	PKPdf	01 57 04.7	-0.6
DZM	Mont Dzumac	125.39 89	eLR	LR	02 36 25.3	
	comp=Z,251nm,26.1s					
QSPA	South Pole Qui	130.96 180	PKPdf	PKPdf	01 57 17.2	-0.9
PLCA	Paso Flores	134.42 249	PKP	PKiKP	01 57 26.6	-0.3
	comp=Z,4.0nm,0.7s,baz=113,slow=1.6,SNR=14					
PLCA			SKPbc	SKPbc	02 00 55.3	+0.6
	comp=Z,5.2nm,1.0s,baz=84,slow=3.5,SNR=5.5					
PLCA	Paso Flores	134.42 249	PKPdf	PKPdf	01 57 24.4	-1.1
VNDA	Vanda	134.93 164	PKhKP	PKPpre	01 57 19.6	
	comp=Z,0.6nm,0.8s,baz=287,slow=8.1,SNR=4.1					
VNDA			PKP	PKPdf	01 57 26.3	+1.0
	comp=Z,1.2nm,0.7s,baz=288,slow=3.6,SNR=8.9					
PPT2	Papeete2	152.11 38	eLR	LR	02 48 39.5	
	comp=Z,458nm,24.8s					
TBI	Tubual	157.02 45	eLR	LR	02 50 55.5	
	comp=Z,236nm,21.5s					

ATH 29 01:41:21.6,38°33N×21°84E,h11km±5km,ML1.1/2,Error ellipse: s-maj=5.5km s-min=1.4km az=32.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	Efpalio	0.11	31	P	Pg	01 41 24.1	-0.4
EFP				AML	AML	01 41 26.5	
	comp=E,430μm,0.2s						
EFP				S	Sg	01 41 26.5	+0.1
EFP				AML	AML	01 41 27.5	
	comp=N,295μm,0.2s						
SERG	Sergoula	0.19	65	P	Pg	01 41 25.9	+0.2
SERG				S	Sg	01 41 28.9	+0.3
ANX	Ano Chora	0.27	14	P	Pg	01 41 26.9	-0.3
ANX				S	Sg	01 41 31.4	+0.6
ANX				AML	AML	01 41 31.6	
	comp=N,106μm,0.4s						
ANX				AML	AML	01 41 32.2	
	comp=E,104μm,0.2s						
KLV	Kalavryta, Ach	0.38	139	P	Pg	01

*DRS **29** 01:55:51.2±0.0, 41°.14N×48°.11E, h16km*
ISC 29 01:55:51.0±3.0, 41°.2N±0°.1×48°.11E±0°.08, h2km±12km, n14, σ0.82/25, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**0.43**	**320**	*i* Pg	**Pg**	**01 55 59.5**	**+0.1**
AKT				*e*Sg	**Sg**	**01 56 05.1**	**+0.1**
DRN	**Derbent**	**0.90**	**11**	*e*Pg	**Pn**	**01 56 10.4**	**-0.2**
DRN				*e*Sg	**Sn**	**01 56 24.1**	**0.0**
URKR	**Urkarakh**	**1.08**	**341**	*i* Pg	**Pg**	**01 56 11.7**	**+0.1**
URKR				*e*Sg	**Sb**	**01 56 26.0**	**-1.0**
GNBR	**Gunib**	**1.50**	**326**	*e*Pg	**Pn**	**01 56 18.9**	**-0.1**
GNBR				*e*Sg	**Sn**	**01 56 39.1**	**-0.2**
LGD	**Lagodekhi**	**1.56**	**297**	*e*Pg	**Pn**	**01 56 18.5**	**-1.3**
LGD				*e*Sg	**Sn**	**01 56 41.5**	**+0.9**
LGD	**Lagodekhi**	**1.56**	**297**	P	**Pn**	**01 56 18.5**	**-1.3**
LGD				S	**Sb**	**01 56 41.9**	**+1.2**
BUJR	**Buynaksk**	**1.83**	**336**	*e*Pg	**Pn**	**01 56 24.4**	**+0.8**
BUJR				*e*Sg	**Sg**	**01 56 50.0**	**+0.1**
MAK	**Makhachkala**	**1.87**	**346**	*e*Pg	**Pb**	**01 56 26.0**	**+0.2**
BTLR	**Botlikh**	**2.07**	**318**	*e*Pg	**Pb**	**01 56 29.2**	**0.0**
BTLR				*e*Sg	**Sg**	**01 56 57.5**	**+0.1**
DBC	**Dubki**	**2.10**	**334**	*e*Pg	**Pb**	**01 56 30.1**	**+0.2**
DVE	**Vedeno**	**2.33**	**321**	*e*Pg	**Pn**	**01 56 32.0**	**+1.5**
DVE				*i* Sg	**Sb**	**01 57 02.3**	**-0.8**
GROC	**Groznyy**	**2.68**	**321**	*e*Pn	**Pb**	**01 56 38.6**	**-1.0**
GROC				*e*Sn	**Sb**	**01 57 11.6**	**-1.3**
ONI	**Oni**	**3.76**	**294**	*e*Pn	**Pn**	**01 56 50.3**	**+0.2**
ONI				*e*Sn	**Sn**	**01 57 35.4**	**+0.4**
KIV	**Kislovodsk**	**4.89**	**307**	*e*Pn	**Pn**	**01 57 06.5**	**+0.9**

BJI 29 02:16:53.7±0.0, 35°.99N×82°.35E, h7km, mb4.1/2, ML3.8/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.16**	**307**	Pn	Pn	02 18 30.3	+5.1
KSH				smax	smax		
	comp=N,56nm,1.0s						
KSH				smax	smax		
	comp=E,60nm,1.0s						
WMQ	**Urumqi**	**8.83**	**26**	*e*P	Pn	02 19 04.5	+2.7
WMQ				smax	smax		
	comp=N,20nm,0.7s						
WMQ				smax	smax		
	comp=E,16nm,0.5s						

*IDC **29** 02:25:22.3±4.3, 16°.41S×173°.02W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/27, mbtmp4.2/3, Error ellipse: s-maj=196.1km s-min=50.1km az=140.0*
*NEIC **29** 02:25:25.0±1.6, 17°.9S±0°.1×172°.1W±0°.2, h47km±11km, mb4.3/7, Error ellipse: s-maj=27.3km s-min=12.6km az=65.0*
ISC 29 02:25:21.9±1.1, 17°.3S±0°.2×171°.9W±0°.2, h35km, n19, σ1.69/17, mb4.2/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.57**	**133**	Pn	**Pn**	**02 26 01.6**	**+0.6**
AFI	**Afiamalu**	**3.41**	**2**	Sn	Sn	02 26 40.3	-12
	24nm,0.3s,baz=358,slow=20,SNR=10						
AFI	**Afiamalu**	**3.41**	**2**	Pn	Pn	02 26 23.0	+10
MSWZ	**Moikau Station**	**26.41**	**202**	P	**P**	**02 30 51.9**	**-3.4**
STKA	**Stephens Creek**	**44.34**	**242**	P	**P**	**02 33 30.7**	**+1.8**
	3.2nm,0.9s,baz=49,slow=9.3,SNR=3.7						
STKA	**Stephens Creek**	**44.34**	**242**	P	**P**	**02 33 29.2**	**+0.3**
WB0	**Warramunga Arr**	**50.78**	**258**	P	**P**	**02 34 18.6**	**-0.5**
WB0				IAmb	IAmb	02 34 23.6	
	comp=Z,4.3nm,1.1s						
WB2	**Warramunga Arr**	**50.80**	**258**	P	**P**	**02 34 18.4**	**-0.9**
WB2				IAmb	IAmb	02 34 24.6	
	comp=Z,9.4nm,1.4s						
WRAB	**Tennant Creek**	**50.80**	**258**	P	**P**	**02 34 18.5**	**-0.8**
WRAB				IAmb	IAmb	02 34 26.7	
	comp=Z,2.9nm,1.1s						
WRA	**Warramunga Arr**	**50.81**	**258**	P	**P**	**02 34 18.4**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.0,SNR=30						
WRA	**Warramunga Arr**	**50.81**	**258**	P	**P**	**02 34 18.6**	**-0.8**
AS31	**Alice Springs**	**50.89**	**253**	P	**P**	**02 34 19.8**	**-0.2**
AS31				IAmb	IAmb	02 34 21.3	
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**50.89**	**253**	P	**P**	**02 34 20.0**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=84,slow=8.6,SNR=45						
ASAR	**Alice Springs**	**50.89**	**253**	P	**P**	**02 34 19.8**	**-0.2**
MORW	**Morawa**	**66.36**	**245**	P	**P**	**02 36 09.5**	**+1.9**
GERES	**GERESS Array B**	**148.24**	**353**	PKPbc	**PKPab**	**02 45 06.8**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=20,slow=3.2,SNR=3.6						
GERES	**GERESS Array B**	**148.24**	**353**		**PKPab**	**02 45 07.3**	**0.0**
FUORN	**Ofenpass-Fuorn**	**150.74**	**357**		**PKPab**	**02 45 14.1**	**-3.7**
CIMO	**Cimolais**	**150.88**	**354**		**PKiKP**	**02 45 13.3**	**+1.8**

*AZER **29** 02:30:44.9, 40°.17N×51°.53E, h51km, ML3.1*
ISC 29 02:30:42.2±1.3, 40°.22N±0°.06×51°.81E±0°.08, h35km, n24, σ1.69/33, 2C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATGJ	**Altiaghaj**	**2.27**	**287**	Sn	**Sn**	**02 31 44.7**	**+0.5**
SIZA	**Siyzn**	**2.37**	**292**	Pn	**Pn**	**02 31 20.8**	**+2.2**
SIZA				Sn	**Sn**	**02 31 48.0**	**+1.5**
PQL	**Pirkuli**	**2.51**	**284**	Sn	**Sn**	**02 31 51.0**	**+0.8**
LKRN	**Lenkeran, Azer**	**2.79**	**238**	Sn	**Sn**	**02 31 56.5**	**-0.2**
GLBA	**Ciilabad**	**2.81**	**251**	Sn	**Sn**	**02 31 56.1**	**-1.1**
ASTR	**Astara**	**2.87**	**236**	Pn	**Pn**	**02 31 27.3**	**+1.9**
	SNR=5.6						
ASTR				Sn	**Sn**	**02 31 58.0**	**-0.7**
XNQ	**Khinaliq**	**2.94**	**290**	Pn	**Pn**	**02 31 28.3**	**+1.7**
XNQ				Sn	**Sn**	**02 32 00.9**	**+0.1**
QSAR	**Qusar**	**2.98**	**297**	Pn	**Pn**	**02 31 28.9**	**+1.9**
QSAR				Sn	**Sn**	**02 32 02.1**	**+0.6**
YRD	**Yardimli**	**3.05**	**246**	Pn	**Pn**	**02 31 29.3**	**+1.3**
	SNR=3.6						
YRD				Sn	**Sn**	**02 32 01.4**	**-2.1**
QBL	**Gabala**	**3.11**	**285**	Sn	**Sn**	**02 32 03.8**	**-0.8**
LRK	**Lerik**	**3.11**	**241**	Pn	**Pn**	**02 31 30.6**	**+1.7**
	SNR=5.8						
LRK				Sn	**Sn**	**02 32 03.1**	**-1.9**
ZRD	**Zardab**	**3.15**	**272**	Sn	**Sn**	**02 32 06.8**	**+1.0**
BLQ	**Beylaqan**	**3.30**	**263**	Sn	**Sn**	**02 32 08.1**	**-1.2**
QRD	**Qoradiz**	**3.54**	**259**	Sn	**Sn**	**02 32 14.0**	**-1.1**
AGDM	**Agdam**	**3.60**	**270**	Sn	**Sn**	**02 32 15.7**	**-1.1**
SEKA	**Sheki**	**3.64**	**287**	Pn	**Pn**	**02 31 36.1**	**+0.1**
SEKA				Sn	**Sn**	**02 32 16.6**	**-1.1**
ZKTA	**Zakatala**	**4.17**	**291**	Sn	**Sn**	**02 32 30.0**	**-0.9**
GANJ	**Ganja**	**4.21**	**278**	Sn	**Sn**	**02 32 28.5**	**-3.3**
GDB	**GEDABAY**	**4.64**	**278**	Sn	**Sn**	**02 32 39.1**	**-3.6**
ORD	**Ordubad**	**4.67**	**256**	Sn	**Sn**	**02 32 42.4**	**-0.9**
SBZ	**Shahbuz**	**4.88**	**262**	Sn	**Sn**	**02 32 46.7**	**-1.9**
NAX	**Nakhchivan**	**4.98**	**260**	Sn	**Sn**	**02 32 50.9**	**0.0**
AB31	**Akbulak array**	**10.72**	**30**	P	**Pn**	**02 33 15.2**	**+2.1**
	0.4nm,0.4s,baz=213,slow=12,SNR=16						
AB31				⇓S	**Sn**	**02 35 10.5**	**-1.3**
	0.4nm,0.3s,baz=222,slow=28,SNR=5.6						
AKTO	**Aktyubinsk**	**11.10**	**21**	⇑P	**Pn**	**02 33 17.4**	**-0.9**
	1.0nm,0.3s						
AKTO				⇑S	**Sn**	**02 35 17.9**	**-3.3**
	3.5nm,0.5s						

*IDC **29** 02:58:51.8±2.2, 43°.80N×127°.54W, h0km, mb3.3/3, mb1 3.8/8, mb1mx3.6/37, mbtmp3.5/8, ML3.2/4, MS3.2/7, Ms1 3.2/7, ms1mx3.0/17, Error ellipse: s-maj=32.3km s-min=16.6km az=58.0*
*ANF **29** 02:58:52.6±1.1, 43°.55N×127°.59W, h10km, ML3.9/19, Error ellipse: s-maj=11.7km s-min=4.9km az=65.0*
*NEIC **29** 02:58:54.0±2.8, 43°.56N±0°.05×127°.5W±0°.1, h10km±1km, ML3.3/38, Error ellipse: s-maj=16.4km s-min=6.3km az=250.0*
*UNK **29** 02:58:54.0, 43°.56N×127°.51W, h10km*
ISC 29 02:58:54.0±1.2, 43°.64N±0°.07×127°.54W±0°.09, h10km, n111, σ1.31/102, mb3.1/3, MS3.1/5, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.46**	**107**		Pn	02 59 31.4	-2.8
KEBM				Sn	**Sn**	**03 00 03.3**	**-1.2**
KEBM				IAML		03 00 08.4	
	comp=N,401nm,0.6s						
J01E	**Myrtle Point**	**2.67**	**99**	P	Pn	02 59 34.5	-2.5
	baz=280,SNR=99						
J01E				S	**Sn**	**03 00 08.7**	**-0.8**
	baz=280						
I02D	**Swisshome**	**2.71**	**79**	P	Pn	02 59 35.7	-1.8
	baz=260,SNR=310						
I02D				S	**Sn**	**03 00 10.4**	**+0.1**
	baz=260						
KBO	**Bosley Butte**	**2.82**	**119**	Pn	Pn	02 59 37.1	-2.1
KBO				IAML		03 00 46.3	
	comp=E,82nm,2.2s						
K02D	**Willamette Mer**	**2.98**	**107**	P	Pn	02 59 39.0	-2.5
	baz=288,SNR=150						
K02D				S	**Sn**	**03 00 16.2**	**-1.2**
	baz=288						
I03D	**Drain, OR**	**3.04**	**88**	P	**Pn**	**02 59 40.5**	**-1.6**
	baz=269,SNR=727						
I03D				S	**Sn**	**03 00 18.8**	**+0.3**
	baz=269						
COR	**Corvallis**	**3.19**	**71**		**Pn**	**02 59 43.6**	**-0.6**
COR				IAML		03 00 29.1	
	comp=E,68nm,0.5s						
COR				IAML		03 00 29.3	
	comp=E,52nm,0.8s						
L02E	**Cave Junction**	**3.25**	**116**	P	Pn	02 59 43.3	-1.7
	baz=297,SNR=14						
L02E				S	**Sn**	**03 00 23.8**	**0.0**
	baz=297						
KRMB	**Red Mountain**	**3.42**	**127**	Pn	Pn	02 59 45.7	-1.7
G03D	**McMinnville, O**	**3.44**	**61**	P	**Pn**	**02 59 46.9**	**-0.7**
	baz=243,SNR=111						
G03D				S	**Sn**	**03 00 29.8**	**+1.4**
	baz=243						
HUMO	**Hull Mountain**	**3.51**	**106**	Pn	**Pn**	**02 59 46.9**	**-1.7**
HUMO				IAML		03 00 34.8	
	comp=N,74nm,0.5s						
HUMO				IAML		03 00 36.1	
	comp=E,52nm,0.5s						
H04D	**Lebanon**	**3.57**	**74**	P	**Pn**	**02 59 49.1**	**-0.3**
	baz=256,SNR=85						
I04A	**Tendick Farm,**	**3.72**	**86**	P	**Pn**	**02 59 51.2**	**-0.3**
	baz=268,SNR=102						
JCC	**Jacoby Creek,**	**3.84**	**136**	Pn	Pn	02 59 50.9	-2.2
JCC				IAML		03 01 06.1	
	comp=E,34nm,2.5s						
JCC				IAML		03 01 28.3	
	comp=N,33nm,2.2s						
KHMM	**Horse Mountain**	**3.95**	**133**	Pn	**Pn**	**02 59 55.1**	**+0.2**
J04D	**Umpqua Nationa**	**3.97**	**94**	P	**Pn**	**02 59 55.6**	**+0.5**
	baz=276,SNR=33						
H04A	**Detroit Lake**	**3.99**	**73**	Pn	**Pn**	**02 59 55.0**	**-0.2**
H04A				IAML		03 00 48.6	
	comp=E,44nm,0.5s						
H04A				IAML		03 00 50.9	
	comp=N,59nm,0.4s						
F04D	**Rainier, OR**	**4.04**	**51**	P	**Pn**	**02 59 55.6**	**-0.2**
	baz=233,SNR=69						
YBH	**Yreka Blue Hor**	**4.04**	**117**	Pn	**Pn**	**02 59 55.8**	**-0.1**
	comp=N,1.2nm,0.3s,baz=306,slow=12,SNR=27						
YBH				Sn	**Sn**	**03 00 44.1**	**+0.8**
	comp=N,1.1nm,0.3s,baz=77,slow=16,SNR=6.4						
YBH	**Yreka Blue Hor**	**4.04**	**117**	Pn	**Pn**	**02 59 55.6**	**-0.3**
E03A	**Lebam**	**4.04**	**43**		**Pn**	**02 59 54.6**	**-1.2**
L04D	**Klamath Falls**	**4.10**	**109**	P	**Pn**	**02 59 56.0**	**-0.8**
	baz=291,SNR=60						
L04D				S	**Sn**	**03 00 42.5**	**-2.4**
	baz=291						
F04A	**Amboy**	**4.30**	**56**	Pn	**Pn**	**02 59 59.8**	**+0.3**
K04D	**Chiloquin, OR**	**4.35**	**102**	P	**Pn**	**02 59 59.2**	**-1.1**
	baz=284,SNR=6.0						
KMRM	**Mail Ridge**	**4.45**	**139**	Pn	**Pn**	**03 00 01.1**	**-0.5**
KMRM				IAML		03 00 42.7	
	comp=N,24nm,2.8s						
KMRM				IAML		03 02 22.1	
	comp=E,30nm,3.8s						
I05D	**Terrebonne, OR**	**4.52**	**79**	P	**Pn**	**03 00 02.3**	**-0.3**
	baz=262,SNR=46						
NLWA	**Neilton Lookou**	**4.55**	**33**		**Pn**	**03 00 01.8**	**-1.1**
NLWA				IAML		03 00 58.3	
	comp=E,47nm,0.5s						
E04D	**Cinebar**	**4.57**	**49**	P	**Pn**	**03 00 02.5**	**-0.5**
	baz=231,SNR=238						
J05D	**Fort Rock, OR**	**4.60**	**92**	P	**Pn**	**03 00 03.4**	**-0.3**
	baz=276,SNR=107						
G05D	**Wamic, OR**	**4.73**	**68**	P	**Pn**	**03 00 05.8**	**+0.4**
	baz=251,SNR=40						
PINE	**Pine Mountain**	**4.78**	**86**	Pn	**Pn**	**03 00 05.9**	**-0.3**
PINE				IAML		03 01 10.2	
	comp=N,20nm,3.3s						
D04E	**Lakebay**	**4.87**	**42**	P	**Pn**	**03 00 06.9**	**-0.3**
	baz=224,SNR=11						
F05D	**White Salmon**	**4.87**	**61**	P	**Pn**	**03 00 07.8**	**+0.5**
	baz=244,SNR=72						
KCPM	**Cahto Peak**	**4.94**	**142**	Pn	**Pn**	**03 00 07.7**	**-0.6**
KCPM				IAML		03 00 46.7	
	comp=E,40nm,2.9s						
KCPM				IAML		03 03 24.3	
	comp=N,33nm,3.8s						
K05A	**Summer Lake**	**4.94**	**98**	Pn	**Pn**	**03 00 08.3**	**-0.2**
K05A				IAML		03 01 24.5	
	comp=N,20nm,3.7s						
D03D	**Eldon**	**4.99**	**37**	P	**Pn**	**03 00 07.9**	**-1.0**
	baz=220,SNR=10.0						
LON	**Longmire**	**5.10**	**51**	Pn	**Pn**	**03 00 10.8**	**+0.3**
LON				IAML		03 01 15.8	
	comp=E,33nm,0.5s						
D05A	**Enumclaw**	**5.27**	**46**	Pn	**Pn**	**03 00 13.2**	**+0.4**
MOD	**Modoc Plateau**	**5.60**	**106**	Pn	**Pn**	**03 00 16.9**	**-0.6**
HOPS	**Hopland Field**	**5.73**	**143**	Pn	**Pn**	**03 00 18.9**	**-0.2**
PGC	**Sidney**	**5.75**	**28**	Pn	**Pn**	**03 00 18.0**	**-1.4**
I07A	**Izee**	**5.82**	**83**	Pn	**Pn**	**03 00 20.4**	**-0.1**
F07A	**Phinny Hill Vi**	**5.86**	**65**	Pn	**Pn**	**03 00 21.0**	**+0.1**
B05A	**Bryant**	**5.98**	**37**	P	**Pn**	**03 00 22.0**	**-0.4**
	baz=221,SNR=8.5						
LTY	**Liberty**	**6.03**	**51**	Pn	**Pn**	**03 00 23.7**	**+0.4**
A04D	**Lummi Island**	**6.08**	**32**	P	**Pn**	**03 00 23.9**	**0.0**
	baz=215,SNR=12						
ORV	**Oroville**	**6.09**	**130**	Pn	**Pn**	**03 00 26.5**	**+2.4**
E07A	**Sunnyside**	**6.17**	**59**		**Pn**	**03 00 25.6**	**+0.5**
HAWA	**Hanford**	**6.30**	**61**	Pn	**Pn**	**03 00 27.4**	**+0.4**
C06D	**Leavenworth**	**6.31**	**45**	P	**Pn**	**03 00 27.2**	**0.0**
	baz=229						
G08A	**Pilot Rock**	**6.35**	**72**		**Pn**	**03 00 27.4**	**-0.4**
B06A	**Marblemount**	**6.44**	**39**		**Pn**	**03 00 28.5**	**-0.3**
J08A	**Circle Bar Ran**	**6.60**	**89**		**Pn**	**03 00 30.8**	**-0.3**
E08A	**Dider Farm, El**	**6.64**	**62**	Pn	**Pn**	**03 00 32.0**	**+0.4**
AFDM	**Forest Hills D**	**6.81**	**131**		**Pn**	**03 00 35.1**	**+1.1**
D08A	**Wollman Farm,**	**6.96**	**58**	Pn	**Pn**	**03 00 36.2**	**+0.2**
E09A	**Wood Farm, Sta**	**7.24**	**63**	Pn	**Pn**	**03 00 39.3**	**-0.5**
PAHR	**Pah Rah Range**	**7.26**	**120**		**Pn**	**03 00 40.3**	**0.0**
VCNR	**Virginia City**	**7.34**	**124**	Pn	**Pn**	**03 00 43.2**	**+1.7**
B08A	**Colville Reser**	**7.40**	**48**	Pn	**Pn**	**03 00 40.8**	**-1.3**
BMO	**Blue Mountains**	**7.45**	**77**	Pn	**Pn**	**03 00 42.0**	**-0.7**
PNTR	**Pine Nut**	**7.50**	**125**		**Pn**	**03 00 45.5**	**+1.8**
F10A	**Beach Ranch, E**	**7.69**	**69**	Pn	**Pn**	**03 00 45.0**	**-1.1**
C09A	**Chrisman Ranch**	**7.70**	**54**	Pn	**Pn**	**03 00 45.9**	**-0.2**
YERR	**Yerington**	**7.79**	**124**	Pn	**Pn**	**03 00 49.7**	**+2.2**
CMB	**Columbia Colle**	**7.79**	**134**	Pn	**Pn**	**03 00 49.4**	**+1.9**
KVN	**Kaiserville**	**8.45**	**120**	Pn	**Pn**	**03 01 00.3**	**+3.7**
BBB	**Bella Bella**	**8.55**	**358**	Pn	**Pn**	**03 00 58.5**	**+0.8**
NEW	**Newport**	**8.60**	**54**	Pn	**Pn**	**03 00 58.4**	**-0.1**
	comp=E,1.9nm,0.3s,baz=234,slow=12,SNR=25						
NEW	**Newport**	**8.60**	**54**	P	**Pn**	**03 00 58.1**	**-0.4**
	baz=241						
NVAR	**Mina Array Bea**	**8.70**	**124**	Pn	**Pn**	**03 01 02.9**	**+2.7**
	comp=E,0.2nm,0.3s,baz=298,slow=13,SNR=17						
NVAR	**Mina Array Bea**	**8.70**	**124**	Pn	**Pn**	**03 01 02.0**	**+1.9**
NV11	**Mina Array Sit**	**8.79**	**123**		**Pn**	**03 01 03.7**	**+2.4**
MDPB	**Devils Postpil**	**8.79**	**130**		**Pn**	**03 01 03.9**	**+2.5**
OMMB	**Old Mammoth Mi**	**8.85**	**130**		**Pn**	**03 01 04.4**	**+2.2**
ELK	**Elko**	**9.57**	**103**	Pn	**Pn**	**03 01 14.5**	**+2.4**
	comp=E,0.1nm,0.3s,baz=276,slow=9.6,SNR=7.5						
MSO	**Missoula**	**10.10**	**67**	P	**Pn**	**03 01 18.9**	**-0.3**
	baz=256						
MSO	**Missoula**	**10.10**	**67**	Pn	**Pn**	**03 01 19.4**	**+0.3**
JTMT	**Jette**	**10.14**	**62**	Pn	**Pn**	**03 01 19.6**	**-0.1**
BCYI	**Bear Canyon**	**10.21**	**81**	Pn	**Pn**	**03 01 22.1**	**+1.3**
ISA	**Isabella, Lake**	**10.59**	**136**	Pn	**Pn**	**03 01 28.2**	**+2.3**
MCMT	**McKenzie Canyo**	**10.61**	**79**		**Pn**	**03 01 28.3**	**+2.1**
DLMT	**Dillon**	**10.81**	**76**	Pn	**Pn**	**03 01 29.0**	**+0.1**
WALA	**Waterton Lakes**	**10.86**	**55**	Pn	**Pn**	**03 01 30.3**	**+0.8**
LRM	**Limekiln Ridge**	**10.95**	**73**	Pn	**Pn**	**03 01 29.6**	**-1.3**
BOZ	**Bozeman (W)**	**11.51**	**75**	Pn	**Pn**	**03 01 39.8**	**+1.4**
YHL	**Hebgen Lake**	**11.79**	**78**	Pn	**Pn**	**03 01 43.6**	**+1.1**
HWUT	**Hardware Ranch**	**11.94**	**94**		**Pn**	**03 01 45.6**	**+1.2**
AHID	**Auburn Hatcher**	**12.03**	**89**		**Pn**	**03 01 48.4**	**+2.7**
YHH	**Holmes Hill**	**12.03**	**79**	Pn	**Pn**	**03 01 47.5**	**+1.8**
TPAW	**Teton Pass**	**12.04**	**85**		**Pn**	**03 01 48.7**	**+2.9**
REDW	**Red Top Meadow**	**12.12**	**86**		**Pn**	**03 01 50.0**	**+3.1**
LOHW	**Long Hollow**	**12.27**	**84**		**Pn**	**03 01 50.5**	**+1.6**
PD31	**Pinedale Array**	**13.15**	**88**		**Pn**	**03 02 01.8**	**+0.8**
PDAR	**Pinedale Array**	**13.15**	**88**	Pn	**Pn**	**03 02 03.1**	**+2.2**
	comp=E,0.0nm,0.3s,baz=277,slow=12,SNR=10						
PDAR	**Pinedale Array**	**13.15**	**88**	Pn	**Pn**	**03 02 01.9**	**+1.0**
PFO	**Pinyon Flats O**	**13.23**	**136**	LR	LR	03 07 04.7	
	comp=E,76nm,18.5s,baz=319,slow=37						
DLBC	**Dease Lake**	**14.89**	**355**	Pn	**Pn**	**03 02 24.7**	**+0.2**
	comp=E,0.1nm,0.3s,baz=194,slow=12,SNR=2.5						
DLBC				LR	LR	03 06 28.9	
	comp=E,59nm,21.4s,baz=142,slow=31						
DLBC	**Dease Lake**	**14.89**	**355**	P	**P**	**03 02 31.1**	**+0.8**
KDAK	**Kodiak Island**	**21.08**	**321**	LR	LR	03 09 35.3	
	comp=E,50nm,21.5s,baz=144,slow=31						
ULM	**Lac du Bonnet**	**22.48**	**62**	P	**P**	**03 03 51.9**	**-1.5**
	comp=E,3.0nm,0.8s,baz=304,slow=7.3,SNR=2.6						
ULM				LR	LR	03 12 46.1	
	comp=E,78nm,18.8s,baz=352,slow=37						
ILAR	**Eielson Array**	**23.80**	**339**	P	**P**	**03 04 04.0**	**-2.7**
	comp=E,0.4nm,0.8s,baz=148,slow=9.6,SNR=6.9						
ILAR				LR	LR	03 11 34.8	
	comp=E,80nm,19.4s,baz=130,slow=32						
TXAR	**Lajitas Array**	**23.81**	**119**	P	**P**	**03 04 07.4**	**+0.2**
	comp=E,0.5nm,0.8s,baz=310,slow=7.0,SNR=3.8						
LPIG	**La Paz**	**24.09**	**138**	LR	LR	03 12 39.2	
	comp=E,65nm,18.2s,baz=314,slow=34						
INK	**Inuvik**	**24.92**	**355**	LR	LR	03 13 32.6	
	comp=E,63nm,20.7s,baz=25,slow=36						
H11N3	**WAKE ISLAND Hy**	**59.09**	**268**	T	T	04 12 35.8	
	baz=49,slow=75,SNR=57						
H11N2	**WAKE ISLAND Hy**	**59.09**	**268**	T	T	04 12 46.4	
	baz=49,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**59.11**	**268**	T	T	04 12 43.0	
	baz=49,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**60.02**	**267**	T	T	04 13 45.2	
	baz=50,slow=75,SNR=141						
H11S2	**WAKE ISLAND Hy**	**60.02**	**267**	T	T	04 13 45.8	
	baz=50,slow=75,SNR=92						
H11S3	**WAKE ISLAND Hy**	**60.03**	**267**	T	T	04 13 39.3	
	baz=50,slow=75,SNR=80						

IDC 29 03:16:39.0±4.5, 29°.92S×177°.92W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=189.6km s-min=69.5km az=160.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.65**	**256**	P	P	03 23 30.4	+0.2
	1.7nm,0.5s,baz=101,slow=13,SNR=5.7						
ASAR	**Alice Springs**	**43.20**	**266**	P	P	03 24 41.6	-0.4
	0.3nm,0.4s,baz=106,slow=7.5,SNR=5.1						
WRA	**Warramunga Arr**	**44.15**	**272**	P	P	03 24 49.4	-0.2
	0.7nm,0.3s,baz=111,slow=8.1,SNR=30						
FINES	**FINESS Array B**	**144.72**	**340**	PKP	PKPdf	03 36 16.5	-0.5
	1.8nm,0.8s,baz=38,slow=2.5,SNR=3.8						

*NEIC **29** 03:32:10.1±2.7, 20°.3S±0°.1×178°.2W±0°.1, h577km±2km, mb4.2/35, Error ellipse: s-maj=19.4km s-min=15.4km az=112.0*
*IDC **29** 03:32:13.7±6.5, 20°.30S×178°.46W, h612km±80km, mb3.1/9, mb1 3.4/9, mb1mx3.2/21, mbtmp4.0/9, Error ellipse: s-maj=29.9km s-min=25.9km az=75.0*
ISC 29 03:32:11.1±0.5, 20°.36S±0°.09×178°.3W±0°.1, h587km, n61, σ1.34/62, mb3.9/25, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.34**	**306**	P	**P**	**03 33 34.3**	**-4.0**
DZM	**Mont Dzumac**	**14.35**	**260**	P	**P**	**03 35 16.1**	**+2.5**
OUZ	**Omahuta**	**16.44**	**204**	P	**P**	**03 35 32.6**	**-0.3**
OUZ				IAmb	IAmb	03 35 36.1	
	comp=Z,20nm,1.1s						
URZ	**Urewera**	**18.28**	**192**	P	**P**	**03 35 46.2**	**-3.4**
BKZ	**Black Stump Fm**	**19.28**	**192**	P	**P**	**03 35 55.5**	**-3.2**
BKZ				IAmb	IAmb	03 35 58.0	
	comp=Z,30nm,1.4s						
SNZO	**South Karori**	**21.72**	**194**	P	**P**	**03 36 17.9**	**-2.7**
THZ	**Tophouse**	**22.61**	**197**	P	**P**	**03 36 26.7**	**-1.9**
THZ				IAmb	IAmb	03 36 32.5	
	comp=Z,9.9nm,1.0s

DOT	Dot Lake	87.89	15		pwP	03 46 06.4	-1.3
ILAR	Eielson Array	88.24	13	P	P	03 43 59.5	-0.6
comp=Z,1.0nm,0.9s,baz=213,slow=5.3,SNR=9.0							
ILAR	Eielson Array	88.24	13	P	P	03 43 59.9	-0.3
PDAR	Pinedale Array	89.04	43	P	P	03 44 05.0	+0.3
comp=Z,0.6nm,0.6s,baz=198,slow=4.2,SNR=6.2							
PDAR	Pinedale Array	89.04	43	P	P	03 44 05.3	+0.5
AKASG	Malin Array Be	142.76	331	PKP	PKPdf	03 50 35.6	-2.6
comp=Z,2.7nm,0.5s,baz=43,slow=4.6,SNR=18							
AKASG	Malin Array Be	142.76	331		PKPdf	03 50 35.7	-2.5
EKA	Eskdalemuir Ar	144.89	5	PKP	PKPbc	03 50 42.3	-0.1
comp=Z,0.5nm,0.5s,baz=297,slow=30,SNR=4.5							
CLL	Collm	147.87	347	*i* PKPbc	PKPbc	03 50 51.5	+0.8
CLL				*e*PKPab	PKPab	03 50 55.0	-0.4
DPC	Dobruska-Polom	147.91	342⇑	*e*PKP	PKiKP	03 50 52.1	-0.2
DPC				*e*PKPAB	PKPab	03 50 57.0	+1.3
KHC	Kasperske Hory	149.76	344⇑	*e*PKP	PKiKP	03 50 56.2	+0.1
KHC				*e*PKPAB	PKPab	03 51 04.6	+1.2
GERES	GERESS Array B	150.00	344	PKPbc	PKiKP	03 50 56.8	+0.1
comp=Z,0.2nm,0.4s,baz=42,slow=4.2,SNR=4.3							
GERES	GERESS Array B	150.00	344		PKiKP	03 50 56.6	-0.1

REY ***29*** *03:52:11.2, 64.°67N×17.°49W, h3km*
IDC ***29*** *03:52:12.4±0.5, 64.°65N×17.°55W, h0km, mb4.1/19, mb1 4.3/22, mb1mx4.1/47, mbtmp4.1/22, ML2.8/2, MS3.7/31, Ms1 3.7/31, ms1mx3.6/44, Error ellipse: s-maj=18.7km s-min=9.8km az=19.0*
MOS ***29*** *03:52:12.4±1.1, 64.°65N×17.°45W, h10km, mb4.8/51, MS4.2/4, Error ellipse: s-maj=9.2km s-min=5.5km az=109.1*
NEIC ***29*** *03:52:14.0±1.5, 64.°67N±0.°05×17.°5W±0.°1, h8km±3km, mb4.8/262, Error ellipse: s-maj=8.9km s-min=7.3km az=78.0*
GCMT ***29*** *03:52:15.0±0.4, 65.°07N±0.°05×17.°41W±0.°09, h28km±1km, MW4.8/81, Moment Tensor Solution. s10,c10; s81,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.73±.18; $M_{\theta\theta}$0.08±.13; $M_{\phi\phi}$1.65±.14; $M_{r\theta}$1.18±.15; $M_{\phi\theta}$-0.26±.09; $M_{\phi r}$0.14±.17; Best double couple: $M_0$2.01000×10^{16} NP1:ϕ_s194.00000°, δ50.00000°, λ-54.00000°. NP2: ϕ_s326.00000°, δ52.00000°, λ-125.00000°. Principal axes: T 1.6940, Plg1.0000°, Azm80.0000°; N 0.6340, Plg27.0000°, Azm349.0000°; P -2.3260, Plg63.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***29*** *03:52:17.0±0.0, 64.°20N×18.°45W, h10km, mb4.4*
ISC 29 03:52:13.0±0.7, 64.°66N±0.°02×17.°46W±0.°02, h3km±4km, n515, σ1$34/461, mb4.7/200, MS3.7/32, 13C-1D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.13	275	P	Pg	03 52 13.8	-1.7
baz=270							
IVON				S	Sg	03 52 16.2	-1.0
baz=270							
IDYN	Dyngjuhals	0.14	18	P	Pg	03 52 14.2	-1.5
baz=24							
IDJK	Dyngjujokull	0.19	148	P	Pg	03 52 15.3	-1.3
baz=147							
IURH	Urdarhals	0.21	41	P	Pg	03 52 15.5	-1.6
baz=45							
IURH				S	Sg	03 52 19.8	0.0
baz=45							
IKVE	Kverkfjoll	0.34	87	P	Pg	03 52 18.0	-1.5
baz=89							
IKVE				S	Sg	03 52 23.2	-0.8
baz=89							
IBJK	Bruarjokull	0.36	122	P	Pg	03 52 18.5	-1.5
baz=122							
IBJK				S	Sg	03 52 24.1	-0.6
baz=122							
ISKR	Skrokkalda	0.41	256	P	Pg	03 52 18.7	-2.2
baz=254							
IVOT	Vottur	0.41	163	P	Pg	03 52 19.3	-1.6
baz=161							
IVOT				S	Sg	03 52 25.6	-0.7
baz=161							
THOR	Thorvaldshraun	0.43	51	P	Pg	03 52 19.8	-1.5
baz=53							
THOR				S	Sg	03 52 26.2	-0.8
baz=53							
IKRE	Kreppuhraun	0.48	75	P	Pg	03 52 20.4	-1.8
baz=76							
IASK	Askja	0.52	41	P	Pg	03 52 20.6	-2.4
baz=43							
IASK				S	Sg	03 52 28.2	-1.6
baz=43							
IMKO	Mokollar	0.58	56	P	Pg	03 52 21.7	-2.4
baz=58							
IMKO				S	Sg	03 52 29.8	-1.7
baz=58							
IIEY	Innrieyrar	0.64	207	P	Pg	03 52 22.9	-2.3
baz=206							
ISVA	Svartarkot	0.68	7	P	Pg	03 52 23.3	-2.8
baz=8.5							
IKAL	Kalfafell	0.72	188	P	Pg	03 52 24.4	-2.4
baz=187							
IKAL				S	Sg	03 52 35.4	-0.9
baz=187							
IVSH	V-Sauoahnukur	0.76	78	P	Pg	03 52 24.9	-2.7
baz=79							
IVSH				S	Sg	03 52 35.5	-1.8
baz=79							
IVAT	Vatnsfell	0.79	233	P	Pg	03 52 26.1	-2.0
baz=232							
IVAT				S	Sg	03 52 36.1	-2.3
baz=232							
IFAG	Fagurholsmyri	0.87	156	P	Pg	03 52 26.7	-2.9
baz=155							
IFAG				S	Sg	03 52 38.7	-2.1
baz=155							
IADA	Aoalbol	0.88	65	P	Pg	03 52 26.8	-3.1
baz=66							
IADA				S	Sg	03 52 39.3	-2.1
baz=66							
IHVE	Hveravellir	0.93	284	P	Pg	03 52 27.8	-2.9
baz=284							
IMEL	Melhnausar	0.97	20	P	Pg	03 52 28.1	-3.6
baz=21							
ISNB	Snabyli	1.06	209	P	Pg	03 52 30.6	-2.7
baz=208							
IKVO	Krokottuvotn	1.08	13	P	Pg	03 52 30.0	-3.7
baz=14							
ISLY	Slysaalda	1.11	221	P	Pg	03 52 31.5	-2.7
baz=220							
IGRS	Grimsstaoir	1.13	29	P	Pg	03 52 30.8	-3.9
baz=30							
IGRS				S	Sg	03 52 46.1	-3.1
baz=30							
IFED	Fedgar	1.16	238	P	Pg	03 52 32.4	-2.9
baz=237							
IRJU	Rjupnafell	1.18	207	P	Pg	03 52 32.3	-3.2
baz=206							
IMJO	Mjoaskard	1.21	234	P	Pg	03 52 33.4	-2.7
baz=233							
ISKI	Skildingahlsh	1.23	8	P	Pg	03 52 32.2	-4.3
baz=9.0							
IGHA	Grjothals	1.23	16	P	Pg	03 52 33.3	-3.3
baz=16							
IGYG	Gygjarholskot	1.25	253	P	Pg	03 52 33.3	-3.7
baz=253							
IGRA	Granastaoir	1.26	358	P	Pg	03 52 32.6	-4.5
baz=358							
IHAU	Haukadalur	1.29	239	P	Pn	03 52 34.4	-3.6
baz=238							
IHVO	Lagu-Hvolar	1.29	209	P	Pn	03 52 34.6	-3.4
baz=208							
IGOD	Go??abunga	1.29	220	P	Pg	03 52 35.2	-2.6
baz=219							
IDIM	Dimmadalss	1.32	9	P	Pn	03 52 33.7	-4.6
baz=10							
IHLA	Hella	1.34	344	P	Pn	03 52 34.3	-4.3
baz=344							
IHED	Heoinshofoi	1.43	3	P	Pn	03 52 35.4	-4.3
baz=3.0							
BORG	Borgarnes	1.66	275	Pn	Pn	03 52 40.2	-2.7
25nm,0.3s,baz=94,slow=11,SNR=63							
BORG				Sn	Sn	03 53 03.0	-1.7
17nm,0.3s,baz=86,slow=14,SNR=3.3							
BORG	Borgarnes	1.66	275	Pn	Pn	03 52 39.9	-3.1
SCO	Scoresbysund	6.09	346	*i* P	Pn	03 53 42.6	-1.2
SCO	Scoresbysund	6.09	346	*i* P	Pn	03 53 42.6	-1.2
SCO	Scoresbysund	6.09	346	Pn	Pn	03 53 41.7	-2.1
JMIC	Jan Mayen	7.19	24	LR	LR	03 56 19.8	
comp=Z,428nm,20.2s,baz=246,slow=34							
ANGG	Ammassalik, Gr	8.54	285	Pn	Pn	03 54 17.2	-0.2
SUMG	Summit	10.95	325	*i* P	Pn	03 54 52.0	+1.3
SUMG	Summit	10.95	325	*i* P	Pn	03 54 52.0	+1.3
SUMG	Summit	10.95	325	Pn	Pn	03 54 51.6	+0.8
EKA	Eskdalemuir Ar	11.75	136	Pn	Pn	03 55 00.8	-0.4
baz=322,slow=13,SNR=21							
ESK	Eskdalemuir	11.75	136	P	Pn	03 55 00.7	-0.6
ESK	Eskdalemuir	11.75	136	Pn	Pn	03 55 00.7	-0.6
DAG	Danmarks Havn	12.18	359	*i* P	Pn	03 55 10.5	+3.5
28nm,1.4s							
DAG	Danmarks Havn	12.18	359	*i* P	Pn	03 55 10.5	+3.5
DAG				pmax	pmax		
comp=Z,28nm,1.4s							
DSB	Dublin	12.77	148	Pn	Pn	03 55 16.4	+1.1
NRS	Narsarsuaq	13.15	267	P	Pn	03 55 19.9	-0.5
NRS	Narsarsuaq	13.15	267	Pn	Pn	03 55 19.9	-0.5
NC204	NORSAR Array S	13.21	92	Pn	Pn	03 55 19.1	-2.3
NBO00	NORSAR Array S	13.34	93	Pn	Pn	03 55 23.1	+0.2
NOA	NORSAR Array B	13.52	92	Pn	Pn	03 55 24.7	-0.8
comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=3.7							
NOA				LR	LR	04 00 26.0	
comp=Z,228nm,21.5s,baz=300,slow=36							
SFJD	Kangerlussuaq	13.68	295	LR	LR	04 00 17.8	
comp=Z,491nm,18.3s,baz=86,slow=36							
HFS	Hagfors	15.03	93	Pn	Pn	03 55 48.2	+2.2
comp=Z,0.1nm,0.3s,baz=294,slow=14,SNR=2.1							
HFS				LR	LR	04 00 45.0	
comp=Z,311nm,20.9s,baz=335,slow=34							
HLG	Helgoland	16.49	118	*e*P	P	03 56 07.7	-0.1
comp=Z,53nm,1.0s,baz=328,slow=11							
KBS	Kingsbay	16.64	19	P	P	03 56 09.9	+0.7
KBS				pmax	pmax		
comp=Z,36nm,1.4s							
KBS	Kingsbay	16.64	19	P	P	03 56 09.9	+0.7
SPA0	Spitsbergen Ar	16.86	23	P	P	03 56 11.4	-0.4
SPITS	Spitsbergen Ar	16.86	23	LR	LR	04 01 06.3	
comp=Z,106nm,19.6s,baz=225,slow=32							
NOR	Nord	17.03	0	*i* P	Pn	03 56 13.0	+1.3
NOR	Nord	17.03	0	*i* P	Pn	03 56 13.0	+1.3
ARCES	ARCESS Array B	17.11	55	LR	LR	04 01 46.1	
comp=Z,255nm,19.1s,baz=260,slow=34							
BSEG	Bad Segeberg	17.62	114	*e*P	Pn	03 56 18.6	-0.5
baz=328,slow=11							
IBBN	Ibbenburen	17.92	122	*e*P	P	03 56 25.6	+2.1
baz=328,slow=11							
UCC	Uccle	17.99	130	P	Pn	03 56 23.2	-0.6
UCC				pmax	pmax		
comp=Z,12nm,0.8s							
UCC	Uccle	17.99	130		Pn	03 56 23.2	-0.6
RGN	Rugen	18.37	109		P	03 56 28.6	+0.1
BUG	Bochum--Univer	18.45	124	*e*P	P	03 56 30.7	+1.3
baz=328,slow=11							
BMRD	Maredsous	18.55	130	P	Pn	03 56 32.0	+1.4
BSTI	Sart Tilman	18.57	128	P	Pn	03 56 37.2	+6.3
BGES	Gesves	18.58	130	P	Pn	03 56 32.1	+1.0
BCLA	Clavier	18.62	129	P	P	03 56 31.2	-0.1
comp=Z,17nm,2.0s							
NRDL	Niedersach Rie	18.64	118	*e*P	P	03 56 30.8	-0.7
comp=Z,13nm,1.0s,baz=328,slow=11							
MEM	Membach	18.70	128	P	Pn	03 56 33.1	+0.7
BTNL	Ternell	18.76	128	P	Pn	03 56 33.4	+0.2
RCHB	Rochefort	18.82	130	P	P	03 56 32.2	-1.4
AHRW	Bad Neuenahr-A	19.12	126	*e*P	Pn	03 56 39.2	+1.6
comp=Z,33nm,1.2s,baz=328,slow=11							
ASSE	Asse, Remlinge	19.15	118	*e*P	Pn	03 56 37.4	-0.4
baz=328,slow=11							
CLZ	Clausthal	19.26	119	*e*P	P	03 56 38.5	+0.1
comp=Z,52nm,1.4s,baz=328,slow=11							
GTTG	Gottingen	19.34	120	*e*P	Pn	03 56 40.6	+0.4
comp=Z,63nm,1.3s,baz=328,slow=11							
WLF	Walferdange	19.55	129	P	Pn	03 56 44.8	+2.0
WLF	Walferdange	19.55	129	P	Pn	03 56 42.9	+0.1
WLF				pmax	pmax		
comp=Z,22nm,1.4s							
WLF	Walferdange	19.55	129	P	Pn	03 56 42.9	+0.1
FIA1	FINESS Array S	19.69	79	P	Pn	03 56 44.9	+0.6
FINES	FINESS Array B	19.69	79	P	P	03 56 42.8	-0.1
comp=Z,0.1nm,0.3s,baz=338,slow=11,SNR=4.3							
FINES				LR	LR	04 03 54.9	
comp=Z,392nm,20.4s,baz=291,slow=36							
FINES	FINESS Array B	19.69	79	P	Pn	03 56 43.9	-0.4
FINES	FINESS Array B	19.69	79	P	Pn	03 56 43.9	-0.4
CLF	Chambon-Foret	19.78	138	P	P	03 56 43.8	-0.2
CLF				lAmb	lAmb	03 56 47.7	
comp=Z,81nm,1.4s							
UBBA	Unterbreizbach	19.95	121	*e*P	Pn	03 56 46.7	-0.6
comp=Z,23nm,1.4s,baz=328,slow=11							
APA	Apatity	20.32	59⇑	*i*P	Pn	03 56 56.4	+4.7
APA				pmax	pmax		
comp=Z,8.0nm,1.0s							
APA				MLR	MLR		
comp=Z,1μm,14.0s							
MOX	Moxa	20.69	119	*e*P	P	03 56 54.5	+0.6
comp=Z,39nm,1.4s,baz=328,slow=11							
CLL	Collm	20.69	116	*i* P	P	03 56 54.0	+0.1
comp=Z,59nm,1.4s							
CLL				LmV		04 04 00.0	
comp=Z,300nm,21.5s							
CLL	Collm	20.69	116	*i* P	P	03 56 54.0	+0.1
CLL				pmax	pmax		
comp=Z,59nm,1.4s							
CLL				MLR	MLR		
comp=Z,300nm,21.5s							
CLL	Collm	20.69	116	*e*P	P	03 56 53.8	0.0
comp=Z,29nm,1.2s,baz=328,slow=11							
CLL	Collm	20.69	116	P	P	03 56 53.9	0.0
CLL				lAmb	lAmb	03 56 56.4	
comp=Z,56nm,1.4s							
GKP	Gorka Klasztor	20.90	107	*e*P	Pn	03 56 59.0	+0.4
FBE	Freiberg	21.13	116	*e*P	P	03 56 58.0	-0.7
comp=Z,13nm,1.0s,baz=328,slow=11							
ECH	Echery	21.14	129	P	P	03 56 58.8	0.0
ECH				pmax	pmax		
comp=Z,38nm,1.5s							
ECH	Echery	21.14	129	P	P	03 56 58.8	0.0
GUNZ	Gunzen	21.19	118	*e*P	P	03 56 59.3	0.0
comp=Z,13nm,1.0s,baz=328,slow=11							
TANN	Tannenbergstha	21.19	118	*e*P	P	03 56 59.4	0.0
comp=Z,93nm,1.5s,baz=328,slow=11							
WERN	Wernitzgruen	21.26	118	*e*P	P	03 57 00.2	+0.1
baz=328,slow=11							
GRA1	Grafenberg Arr	21.32	121	P	P	03 56 59.9	-0.8
GRF	Grafenberg Arr	21.32	121	P	P	03 56 59.9	-0.8
GRF				pmax	pmax		
comp=Z,31nm,1.1s							
GRF	Grafenberg Arr	21.32	121	*e*P	P	03 57 01.5	+0.8
baz=328,slow=11							
NKC	Novy Kostel	21.34	118	*e*P	P	03 57 00.9	0.0
NKC				*ep*P	sP	03 57 05.4	+2.5
NKC	Novy Kostel	21.34	118	*e*P	P	03 57 00.9	0.0
NKC				*e*		03 57 05.4	
STU	Stuttgart	21.36	125	P	P	03 57 01.3	+0.2
STU				pmax	pmax		
comp=Z,60nm,1.4s							
STU	Stuttgart	21.36	125	P	P	03 57 01.3	+0.2
STU				lAmb	lAmb	03 57 03.6	
comp=Z,60nm,1.4s							
BRG	Berggiesshubel	21.40	115	*i* P	P	03 57 01.6	+0.1
comp=Z,42nm,1.3s							
BRG				S	Sn	04 01 05.0	-1.7
comp=N,368nm,8.5s							
comp=E,516nm,13.2s							
comp=Z,1μm,6.8s							
BRG	Berggiesshubel	21.40	115	*i* P	P	03 57 01.6	+0.1
BRG				S	Sn	04 01 05.0	-1.7
BRG				pmax	pmax		
comp=Z,42nm,1.3s							
BRG				MLR	MLR		
comp=N,368nm,8.5s							
BRG				MLR	MLR		
comp=E,516nm,13.2s							
BRG				MLR	MLR		
comp=Z,1μm,6.8s							
BRG	Berggiesshubel	21.40	115	*e*P	P	03 57 00.1	-1.4
comp=Z,24nm,1.2s,baz=328,slow=11							
MANZ	Manzenberg	21.41	119	*e*P	P	03 57 01.8	+0.1
baz=328,slow=11							
BFO	Black Forest	21.44	127	P	P	03 57 02.1	+0.1
BFO				pmax	pmax		
comp=Z,45nm,1.4s							
BFO	Black Forest	21.44	127	*e*P	P	03 57 02.5	+0.6
comp=Z,14nm,1.1s,baz=328,slow=11							
BFO	Black Forest	21.44	127	P	P	03 57 02.1	+0.1
BFO				lAmb	lAmb	03 57 07.6	
comp=Z,45nm,1.4s							
VSU	Vasula	21.55	86	*i* P	P	03 57 01.7	-1.4
VSU				pmax	pmax		
comp=Z,59nm,1.0s							
ROTZ	Rotzenmuhle	21.62	119	*e*P	P	03 57 03.8	-0.1
comp=Z,6.9nm,1.1s,baz=328,slow=11							
FRB	Frobisher Bay	21.76	291	LR	LR	04 04 50.9	
comp=Z,235nm,19.7s,baz=84,slow=35							
PVCC	Panska Ves	21.91	115	*e*P	P	03 57 08.4	+1.3
PVCC	Panska Ves	21.91	115	*e*P	P	03 57 08.4	+1.3
SLVR	Solovky	22.05	65	*e*P	P	03 57 06.4	-2.0
comp=Z,48nm,1.4s							
PRU	Pruhonice	22.34	116	*e*P	P	03 57 12.7	+1.1
PRU	Pruhonice	22.34	116	*e*P	P	03 57 12.7	+1.1
KSP	Ksiaz	22.35	112	*e*P	P	03 57 11.7	0.0
PBCC	Pribram	22.37	117	*e*P	P	03 57 14.0	+2.1
WET	Wettzell	22.39	119	*e*P	P	03 57 12.3	+0.1
comp=Z,6.4nm,1.1s,baz=328,slow=11							
CHVC	Chvalec	22.45	113	*e*P	P	03 57 12.9	0.0
CHVC				*ex*	x	03 57 27.2	
GOPC	GO Pecny, Ondr	22.49	116	*e*P	P	03 57 14.2	+0.9
GOPC	GO Pecny, Ondr	22.49	116	*e*P	P	03 57 14.2	+0.9
UPC	Upice	22.50	113	*e*P	P	03 57 14.0	+0.7
UPC				*ex*	x	03 57 31.3	
UPC	Upice	22.50	113	*e*P	P	03 57 14.0	+0.7
OSTC	Ostas	22.54	113	*e*P	P	03 57 14.2	+0.4
UBR	Ueberruh	22.61	126	*e*P	P	03 57 15.0	+0.4
comp=Z,7.6nm,0.9s,baz=328,slow=11							
KHC	Kasperske Hory	22.66	118	*e*P	P	03 57 14.7	-0.4
KHC				*ep*P	pP	03 57 16.5	0.0
KHC				*ex*	x	03 57 20.0	
KHC				*ex*	x	03 57 26.1	
KHC	Kasperske Hory	22.66	118	*e*P	P	03 57 14.7	-0.4
KHC				*e*		03 57 16.5	
KHC				*e*		03 57 20.0	
KHC	Kasperske Hory	22.66	118	P	P	03 57 15.4	+0.3
DPC	Dobruska-Polom	22.75	113	*e*P	P	03 57 14.9	-1.1
DPC	Dobruska-Polom	22.75	113	*e*P	P	03 57 14.9	-1.1
SENIN	Lac Senin/Sane	22.81	132	P	P	03 57 17.4	+0.5
DAVA	Damuels	22.87	126	*i* P	P	03 57 18.3	+0.8
comp=Z,15nm,1.3s,SNR=6.9							
SUW	Suwalki	22.87	98	*e*P	P	03 57 17.7	+0.5
SUW	Suwalki	22.87	98	lAmb	lAmb	03 57 24.1	
comp=Z,26nm,0.8s							
SSB	Saint Sauveur	22.94	137	P	P	03 57 18.0	0.0
SSB				pmax	pmax		
comp=Z,21nm,1.3s							
SSB	Saint Sauveur	22.94	137	P	P	03 57 18.0	0.0
GEC2	GERESS Array S	22.94	119	*e*P	P	03 57 18.6	+0.5
baz=328,slow=11							
GEC2	GERESS Array S	22.94	119	P	P	03 57 18.2	+0.1
GEC2				lAmb	lAmb	03 57 27.4	
comp=Z,45nm,1.4s							
GERES	GERESS Array B	22.94	119	P	P	03 57 18.9	+0.8
comp=Z,3.5nm,1.0s,baz=319,slow=7.9,SNR=19							
GERES				LR	LR	04 06 35.5	
comp=Z,288nm,19.4s,baz=330,slow=38							
GERES	GERESS Array B	22.94	119	P	P	03 57 17.5	-0.6
GERES	GERESS Array B	22.94	119	P	P	03 57 17.5	-0.6
RETA	Reutte	23.00	125	*i* P	P	03 57 19.1	+0.4
comp=Z,19nm,2.0s							
ISAL	Salakas	23.08	93	*e*P	P	03 57 19.4	0.0
KRLC	Kraliky	23.14	113	*e*P	P	03 57 18.6	-1.6
KRLC				*ex*	x	03 57 30.8	
KRLC	Kraliky	23.14	113	*e*P	P	03 57 18.6	-1.6
MOTA	Moosalm	23.25	125	*i* P	P	03 57 21.2	-0.1
comp=Z,19nm,1.6s,SNR=5.5							
TREC	Trest	23.26	116	*e*P	P	03 57 21.9	+0.6
TREC	Trest	23.26	116	*e*P	P	03 57 21.9	+0.6
IIGN	Ignalina	23.27	93	*e*P	P	03 57 20.4	-0.9
SQTA	Sankt Quirin	23.39	125	*i* P	P	03 57 23.1	+0.3
comp=Z,17nm,1.7s							
TUE	Stuetta	23.39	128	P	P	03 57 23.6	+0.7
TUE				lAmb	lAmb	03 57 28.8	
comp=Z,30nm,1.5s							
FETA	Feichten	23.39	125	*i* pP	P	03 57 24.2	+1.4
comp=Z,22nm,1.5s							
WATA	Walderalm	23.42	124	*i* pP	P	03 57 24.1	+1.0
comp=Z,17nm,1.2s,SNR=5.4							
BEL	Belsk	23.43	105	*e*P	P	03 57 25.8	+2.9
IDID	Didziasalis	23.51	92	*e*P	P	03 57 23.1	-0.6
FUORN	Ofenpass-Fuorn	23.58	127	P	P	03 57 26.4	+1.7
EUNU	Eureka	23.68	336	P	P	03 57 25.6	+0.4
VRAC	Vranov	23.68	114	P	P	03 57 25.9	+0.4
comp=Z,1.2nm,0.4s,baz=322,slow=12,SNR=6.6							
VRAC				LR	LR	04 06 19.0	
comp=Z,333nm,18.5s,baz=332,slow=36							
VRAC	Vranov	23.68	114	*e*P	P	03 57 25.7	+0.2
MORC	Moravsky Berou	23.68	112	*e*P	P	03 57 25.6	0.0
MORC	Moravsky Berou	23.68	112	P	P	03 57 25.6	0.0
MORC				pmax	pmax		
comp=Z,8.0nm,1.1s							
MORC	Moravsky Berou	23.68	112	P	P	03 57 25.6	0.0
BNI	Bardonecchia	23.79	134	P	P	03 57 27.3	+0.6
BNI				pmax	pmax		
comp=Z,12nm,1.2s							
BNI	Bardonecchia	23.79	134	P	P	03 57 27.3	+0.6
KRUC	Moravsky	23.80	115	*e*P	P	03 57 26.7	+0.1
MOA	Molln	23.98	119	*i* P	P	03 57 28.4	0.0
comp=Z,9.1nm,1.5s							
OJC	Ojcow	24.25	109	*e*P	P	03 57 31.2	+0.4
ABTA	Abfaltersbach	24.26	123	*i* P	P	03 57 31.3	+0.2
comp=Z,7.1nm,1.3s							
KBA	Koelnbreinsper	24.28	122	*i* P	P	03 57 31.2	-0.2
comp=Z,8.2nm,1.5s							
JAVC	Velka Javorina	24.46	113	*e*P	P	03 57 33.9	+1.0
CONA	Conrad Observa	24.52	117	*i* P	P	03 57 33.1	-0.3
comp=Z,6.2nm,0.9s,SNR=6.0							
SALO	Salr	24.54	128	P	P	03 57 34.1	+0.6
ZOU	Zoufplan	24.59	123	lAmb	lAmb	03 57 42.3	
comp=Z,30nm,1.5s							
SMOL	Smolenice	24.65	114	*e*P	P	03 57 35.0	+0.5
SMOL				pmax	pmax		
comp=Z,18nm,1.6s							
SMOL	Smolenice	24.65	114	*e*P	P	03 57 35.0	+0.5
MODS	Modra-Piesok	24.70	115	*e*P	P	03 57 34.5	-0.5
MODS				pmax	pmax		
comp=Z,28nm,1.5s							
MODS	Modra-Piesok	24.70	115	*e*P	P	03 57 34.5	-0.5
MYKA	Terra Mystica	24.77	122	*i* P	P	03 57 36.2	+0.5
comp=Z,18nm,1.4

comp=Z,10.0nm,1.3s
KECS Kecovo 25.89 110 *e*P **P 03 57 48.2 +2.5**
KWP Kalwaria Pacla 25.89 106 *e*P **P 03 57 46.4 +0.6**
KWP Kalwaria Pacla 25.89 106 P **P 03 57 47.1 +1.3**
KWP pmax pmax
comp=Z,121nm,1.5s
KWP Kalwaria Pacla 25.89 106 P **P 03 57 47.1 +1.3**
CRVS Cervenica-Dubn 25.95 109 *e*P **P 03 57 45.6 -0.7**
CRVS pmax pmax
comp=Z,38nm,1.5s
CRVS Cervenica-Dubn 25.95 109 *e*P **P 03 57 45.6 -0.7**
LSH Leshukonskoye 25.95 61 *e*P **P 03 57 44.6 -1.5**
comp=Z,46nm,1.6s
SCHQ Schefferville 26.05 271 P **P 03 57 48.4 +1.2**
comp=Z,8.5nm,0.8s,baz=40,slow=12,SNR=3.9
SCHQ LR LR 04 06 18.2
comp=Z,87nm,20.8s,baz=208,slow=32
SCHQ Schefferville 26.05 271 IAmb IAmb 03 57 50.7
comp=Z,15nm,1.1s
ESDC Sonseca Array 26.24 156 P **P 03 57 49.2 +0.1**
comp=Z,2.9nm,0.9s,baz=347,slow=9.1,SNR=26
ESDC LR LR 04 07 27.6
comp=Z,53nm,19.1s,baz=325,slow=35
ESDC Sonseca Array 26.24 156 P **P 03 57 48.8 -0.3**
KOLS Kolonicke sedl 26.26 108 *e*P **P 03 57 49.2 +0.1**
KOLS pmax pmax
comp=Z,34nm,1.5s
KOLS Kolonicke sedl 26.26 108 *e*P **P 03 57 49.2 +0.1**
LVV L'vov 26.30 104 *e*P **P 03 57 49.5 +0.1**
RES Resolute Bay 26.48 324 LR LR 04 07 17.9
comp=Z,104nm,19.0s,baz=204,slow=34
UZH Uzhgorod 26.50 108 *e*P **P 03 57 49.1 -2.2**
UZH *i* 03 57 51.9
UZH *e* 03 58 29.3
UZH *e*S **S 04 02 18.2 -7.5**
UZH *e*SSS SSS 04 03 51.3
OSSC Osservatorio P 26.63 129 P **P 03 57 53.5 +1.1**
OSSC IAmb IAmb 03 58 04.4
comp=Z,28nm,1.2s
MURB Monte Urbino 27.29 127 P **P 03 57 58.8 +0.3**
MURB IAmb IAmb 03 58 14.5
comp=Z,32nm,1.2s
AKASG Malin Array Be 27.83 98 P **P 03 58 02.3 -0.8**
comp=Z,2.9nm,0.9s,baz=324,slow=9.3,SNR=8.3
AKASG LR LR 04 09 11.1
comp=Z,161nm,19.1s,baz=320,slow=37
AKASG Malin Array Be 27.83 98 P **P 03 58 01.2 -1.9**
AKBB Malin Array Si 27.83 98 *ce*P **P 03 58 04.1 +1.0**
AKBB Malin Array Si 27.83 98 P **P 03 58 02.5 -0.7**
AKBB IAmb IAmb 03 58 07.2
comp=Z,19nm,1.5s
OBN Obninsk 27.87 84 *ce*P **P 03 58 02.2 -1.2**
OBN *e*PPP PPP 03 58 55.7
OBN pmax pmax
comp=Z,50nm,1.7s
OBN Obninsk 27.87 84 P **P 03 58 03.0 -0.4**
NRCA Norcia 27.87 127 P **P 03 58 04.7 +1.0**
MOS Moscow 27.91 82 *e*P P 03 57 52.3 -11
MOS *e* 04 02 55.4
AQU L'Aquila 28.39 127 P **P 03 58 09.8 +1.4**
AQU pmax pmax
comp=Z,11nm,1.0s
AQU L'Aquila 28.39 127 P **P 03 58 09.8 +1.4**
AQU IAmb IAmb 03 58 23.3
comp=Z,11nm,1.0s
BUR08 Bucovina Ar. S 28.48 106 P **P 03 58 09.6 +0.5**
BURAR Bucovina Array 28.51 106 P **P 03 58 09.8 +0.4**
MLR Muntele Rosu 30.52 108 LR LR 04 11 06.1
comp=Z,133nm,18.2s,baz=319,slow=37
KIRV Kirov 30.97 69 *e*P **P 03 58 29.9 -1.0**
CORL Corleone 32.37 131 P **P 03 58 45.1 +1.6**
TIP Timpagrande 32.38 125 P **P 03 58 45.9 +2.3**
TIP IAmb IAmb 03 58 57.0
comp=Z,13nm,1.2s
CLTB Caltabellotta 32.63 131 P **P 03 58 45.6 -0.2**
KEST Kesra 33.15 138 P **P 03 58 50.9 +0.6**
comp=Z,4.0nm,0.8s,baz=291,slow=8.8,SNR=3.8
KEST LR LR 04 11 46.2
comp=Z,133nm,19.2s,baz=306,slow=35
KEST Kesra 33.15 138 P **P 03 58 50.3 0.0**
KEST IAmb IAmb 03 58 56.3
comp=Z,11nm,1.1s
ARU Arti 36.07 66 *d i*P **P 03 59 16.9 +1.6**
ARU S **S 04 05 00.2 +5.5**
ARU SS **SnSn 04 07 23.6 +5.0**
ARU pmax pmax
comp=Z,18nm,1.4s
ARU Arti 36.07 66 P **P 03 59 16.5 +1.2**
ARU IAmb IAmb 03 59 19.6
comp=Z,23nm,1.4s
FRNY Flat Rock 36.39 265 P **P 03 59 18.2 0.0**
FRNY IAmb IAmb 03 59 20.7
comp=Z,16nm,1.4s
NRIK Noril'sk 36.45 35 *i*P **P 03 59 17.9 -0.5**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
ACCN Adirondack Com 37.59 263 P **P 03 59 29.1 +0.7**
PLVO Plevna 37.73 268 P **P 03 59 29.8 +0.3**
PLVO IAmb IAmb 03 59 36.7
comp=Z,21nm,1.4s
SOC Sochi 37.85 96 *e*P **P 03 59 28.8 -1.8**
SOC *e*S **S 04 05 21.6 -0.5**
SOC *e*SS **SnSn 04 07 53.0 -9.0**
SOC MLR MLR
comp=Z,134nm,12.0s
GOF Gofitskoye 38.10 91 *e*P **P 03 59 31.7 -1.0**
GOF pmax pmax
comp=Z,74nm,1.4s
J58A Remsen 38.31 265 P **P 03 59 34.6 +0.1**
BR131 Keskin Array S 38.46 105 P **P 03 59 35.1 -0.9**
BR131 pmax pmax
comp=Z,15nm,1.5s
BR131 Keskin Array S 38.46 105 P **P 03 59 35.1 -0.9**
BRTR Keskin Array B 38.47 105 P **P 03 59 37.5 +1.6**
comp=Z,2.8nm,0.9s,baz=352,slow=9.5,SNR=6.7
BRTR Keskin Array B 38.47 105 P **P 03 59 36.1 +0.1**
BRTR Keskin Array B 38.47 105 P **P 03 59 36.1 +0.1**
J57A Williamstown 38.57 266 P **P 03 59 36.5 -0.1**
KIV Kislovodsk 38.83 92 *e*P **P 03 59 38.8 -0.1**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,243nm,16.0s
SADO Sadowa 38.83 270 P **P 03 59 39.0 +0.2**
KBZ Khabaz 39.10 92 P **P 03 59 40.9 -0.2**
comp=Z,6.3nm,1.0s,baz=355,slow=8.9,SNR=3.8
KBZ LR LR 04 15 36.8
comp=Z,219nm,21.7s,baz=336,slow=36
KBZ Khabaz 39.10 92 *ce*P **P 03 59 41.8 +0.8**
YKA Yellowknife Ar 39.23 313 P **P 03 59 41.8 -0.2**
comp=Z,2.1nm,1.0s,baz=46,slow=8.9,SNR=4.5
YKA LR LR 04 15 18.2
comp=Z,125nm,20.2s,baz=0.0,slow=35
MMNY Mt. Morris Dam 39.94 267 P **P 03 59 48.0 -0.1**
WVNY West Valley, N 40.51 267 P **P 03 59 52.8 0.0**
WVNY IAmb IAmb 03 59 59.4
comp=Z,37nm,1.4s
N58A Sunbury 40.98 264 P **P 03 59 56.6 -0.1**
N58A IAmb IAmb 04 00 02.4
comp=Z,18nm,1.4s
D41A Chassel 41.06 280 P **P 03 59 57.0 -0.3**
KOPT Kop Dagi 41.11 98 P **P 03 59 57.8 -0.3**
KOPT IAmb IAmb 04 00 05.5
comp=Z,32nm,1.4s
AKH Akhalkalaki 41.24 94 P **P 03 59 59.9 +0.9**
AKH IAmb IAmb 04 00 02.7
comp=Z,28nm,1.3s
ERPA Erie 41.34 268 P **P 04 00 00.3 +0.7**
M55A Ridgway 41.34 266 P **P 04 00 00.7 +0.9**
M55A IAmb IAmb 04 00 07.1
comp=Z,20nm,1.4s
P60A Greenville 41.37 262 P **P 04 00 00.8 +0.9**
G45A Suttons Bay 41.42 276 P **P 04 00 00.5 +0.3**
G45A IAmb IAmb 04 00 06.4
comp=Z,20nm,1.1s
ULM Lac du Bonnet 41.62 289 LR LR 04 16 19.0
comp=Z,79nm,19.4s,baz=68,slow=35
ULM Lac du Bonnet 41.62 289 P **P 04 00 03.4 +1.6**
ULM pmax pmax
comp=Z,5.0nm,1.1s
ULM Lac du Bonnet 41.62 289 P **P 04 00 03.4 +1.6**
M54A Oil Creek Stat 41.69 267 IAmb IAmb 04 00 09.1
comp=Z,27nm,1.2s
ALLY Alegheny Colle 41.78 268 P **P 04 00 04.2 +0.8**
ALLY IAmb IAmb 04 00 19.8
comp=Z,15nm,1.0s
K50A Casco 41.93 271 P **P 04 00 04.7 +0.2**
ABKAR Akbulak array 41.98 73 P **P 04 00 03.6 -1.1**
ABKAR Akbulak array 41.98 73 P **P 04 00 04.9 +0.1**
ABKAR IAmb IAmb 04 00 07.1
comp=Z,12nm,1.4s
TIXI Tiksi 42.03 15 *ce*P **P 04 00 05.9 +1.0**
TIXI pmax pmax
comp=Z,98nm,1.7s
TIXI Tiksi 42.03 15 P **P 04 00 06.1 +1.2**
B35A Bob, Littlefor 42.20 285 P **P 04 00 06.4 -0.3**
SDMD Soldier's Deli 42.22 263 P **P 04 00 06.4 -0.4**
O56A Blue Knob Stat 42.24 265 P **P 04 00 07.6 +0.5**
O56A IAmb IAmb 04 00 08.4
comp=Z,17nm,1.4s
N54A Moraine State 42.28 267 IAmb IAmb 04 00 09.3
comp=Z,33nm,1.3s
M52A Chesterland 42.40 269 P **P 04 00 07.7 -0.6**
M52A IAmb IAmb 04 00 13.5
comp=Z,17nm,1.1s
R61A Willards 42.48 260 P **P 04 00 08.9 -0.1**
TOLK Toolik Lake Re 42.76 336 P **P 04 00 12.0 +1.0**
TOLK IAmb IAmb 04 00 17.9
comp=Z,34nm,1.4s
H43A Windswept, Lux 42.78 277 P **P 04 00 10.9 -0.4**
BMAR Burnt Mountain 42.90 333 P **P 04 00 11.5 -0.7**
BRVK Borovoye 43.12 62 *ce*P **P 04 00 14.3 +0.2**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 43.12 62 P **P 04 00 14.2 +0.2**
AGMN Agassiz Nation 43.13 287 IAmb IAmb 04 00 19.9
comp=Z,17nm,1.3s
G40A Rib Lake 43.17 280 P **P 04 00 14.6 0.0**
M50A Fremont 43.23 270 P **P 04 00 15.2 +0.1**
M50A IAmb IAmb 04 00 21.0
comp=Z,23nm,1.1s
N51A Ashland 43.34 269 P **P 04 00 16.2 +0.2**
N51A IAmb IAmb 04 00 21.7
comp=Z,19nm,1.1s
L48A N Adams 43.39 272 P **P 04 00 16.4 +0.1**
L48A IAmb IAmb 04 00 22.0
comp=Z,17nm,1.2s
MARD Mardin 43.50 100 P **P 04 00 19.0 +1.6**
MARD IAmb IAmb 04 00 23.9
comp=Z,28nm,1.3s
O52A Adamsville 43.77 268 IAmb IAmb 04 00 24.9
comp=Z,20nm,1.2s
P53A Whipple 44.10 267 P **P 04 00 22.9 +0.8**
L46A Eue Claire 44.13 274 P **P 04 00 23.0 +0.7**
ACSO Alum Creek Sta 44.17 269 IAmb IAmb 04 00 27.8
comp=Z,13nm,1.1s
Q54A Coxs Mills 44.28 266 P **P 04 00 23.6 +0.1**
Q54A IAmb IAmb 04 00 25.5
comp=Z,11nm,1.1s
P52A Corning 44.30 268 IAmb IAmb 04 00 28.8
comp=Z,25nm,1.4s
SPMN Marine on St. 44.31 282 P **P 04 00 24.1 +0.5**
SPMN IAmb IAmb 04 00 31.0
comp=Z,20nm,1.4s
K43A Burlington 44.44 276 IAmb IAmb 04 00 30.6
comp=Z,19nm,1.1s
I40A Norwalk 44.45 279 P **P 04 00 24.9 -0.1**
I40A IAmb IAmb 04 00 30.8
comp=Z,16nm,1.2s
EGAK Eagle 44.49 329 P **P 04 00 25.4 +0.4**
EGAK IAmb IAmb 04 00 26.2
comp=Z,12nm,1.3s
TAM Tamanrasset 44.50 149 P **P 04 00 26.5 +0.9**
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM Tamanrasset 44.50 149 P **P 04 00 26.5 +0.9**
N47A Urbana 44.80 272 IAmb IAmb 04 00 28.2
comp=Z,17nm,1.3s
P51A Williamsport 44.83 269 P **P 04 00 27.7 -0.2**
P51A IAmb IAmb 04 00 33.4
comp=Z,14nm,0.9s
HQIL Hanson Quary C 44.98 275 P **P 04 00 29.4 +0.4**
M44A Midewin, Midew 45.40 275 P **P 04 00 32.0 -0.4**
S54A Dingess, Beckl 45.48 266 P **P 04 00 33.3 +0.1**
S54A IAmb IAmb 04 00 40.4
comp=Z,18nm,1.4s
P49A Miami Univ. Ec 45.49 270 IAmb IAmb 04 00 38.4
comp=Z,15nm,1.1s
L42A Oliver, Polo 45.59 277 P **P 04 00 34.0 +0.1**
L42A IAmb IAmb 04 00 40.3
comp=Z,19nm,1.2s
BLA Blacksburg 45.59 264 P **P 04 00 35.2 +1.1**
BLA pmax pmax
comp=Z,16nm,1.5s
BLA Blacksburg 45.59 264 P **P 04 00 35.1 +1.1**
BLA IAmb IAmb 04 00 49.3
comp=Z,16nm,1.5s
IL31 45.70 332 IAmb IAmb 04 00 36.8
comp=Z,14nm,1.4s
ILAR Eielson Array 45.70 332 P **P 04 00 35.6 +1.2**
comp=Z,4.4nm,1.1s,baz=22,slow=6.7,SNR=19
ILAR PcP **PcP 04 02 11.9 -0.3**
comp=Z,2.5nm,1.1s,baz=4.5,slow=2.1,SNR=6.2
ILAR LR LR 04 21 43.0
comp=Z,50nm,19.2s,baz=40,slow=39
ILAR Eielson Array 45.70 332 P **P 04 00 34.4 -0.1**
COLA College 45.79 333 P **P 04 00 36.5 +1.3**
COLA pmax pmax
comp=Z,34nm,1.5s
COLA College 45.79 333 P **P 04 00 36.5 +1.3**
SFIN Lafayette 45.82 273 P **P 04 00 36.4 +0.6**
SFIN IAmb IAmb 04 00 44.5
comp=Z,9.8nm,0.8s
P48A Milroy 45.86 271 IAmb IAmb 04 00 36.5
comp=Z,13nm,1.1s
IMAR Indian Mountai 45.87 337 P **P 04 00 36.9 +1.1**
CCB Clear Creek Bu 45.99 333 IAmb IAmb 04 00 43.2
comp=Z,18nm,1.4s
HDA Harding Lake 46.03 332 IAmb IAmb 04 00 43.5
comp=Z,12nm,1.3s
U56A King 46.30 264 P **P 04 00 39.9 +0.3**
DGMT Dagmar 46.36 293 P **P 04 00 40.5 +0.5**
R50A Paris 46.37 269 P **P 04 00 40.4 +0.3**
R50A IAmb IAmb 04 00 45.7
comp=Z,15nm,1.2s
E28A Huff 46.49 289 P **P 04 00 41.2 +0.2**
WHY Whitehorse 46.52 323 P **P 04 00 42.1 +0.9**
WHY IAmb IAmb 04 00 47.1
comp=Z,11nm,1.4s
BLO Bloomington 46.57 272 P **P 04 00 42.5 +0.8**
BLO pmax pmax
comp=Z,8.0nm,0.9s
BLO Bloomington 46.57 272 P **P 04 00 42.5 +0.8**
BLO IAmb IAmb 04 00 44.6
comp=Z,8.3nm,0.8s
S51A Beattyville 46.59 268 IAmb IAmb 04 00 47.5
comp=Z,14nm,1.1s
MCK McKinley 47.03 333 IAmb IAmb 04 00 47.0
comp=Z,9.0nm,1.2s
V55A Taylorsville 47.08 264 P **P 04 00 46.7 +1.0**
WCI Wyandotte Cave 47.26 271 P **P 04 00 47.3 +0.2**
WCI pmax pmax
comp=Z,12nm,1.1s
WCI Wyandotte Cave 47.26 271 P **P 04 00 47.3 +0.2**
WCI IAmb IAmb 04 00 52.0
comp=Z,12nm,1.1s
P43A Skaggs, Pawnee 47.47 275 P **P 04 00 48.8 +0.1**
BILL Bilibino 47.55 358 *e*P **P 04 00 50.1 +1.1**
BILL *e*PPP PPP 04 03 25.2
BILL pmax pmax
comp=Z,2.0nm,0.7s
ZAA0 Zalesovo Array 47.62 51 IAmb IAmb 04 00 54.7
comp=Z,7.5nm,1.3s
ZALV Zalesovo Beam 47.62 51 P **P 04 00 50.0 +0.3**
comp=Z,0.6nm,0.3s,baz=328,slow=7.2,SNR=8.5
ZALV LR LR 04 22 11.6
comp=Z,61nm,18.3s,baz=320,slow=38
ZALV Zalesovo Beam 47.62 51 *i*P **P 04 00 50.0 +0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 48.10 58 *ce*P **P 04 00 51.8 -1.6**
KURK pmax pmax
comp=Z,18nm,1.7s
KURK Kurchatov 48.10 58 P **P 04 00 52.9 -0.5**
KURK IAmb IAmb 04 00 54.2
comp=Z,11nm,1.1s
PAULI Pauline 48.21 264 IAmb IAmb 04 00 56.3
comp=Z,12nm,1.0s
U49A Red Boiling Sp 48.48 269 IAmb IAmb 04 00 57.4
comp=Z,11nm,1.2s
BG3 Lake Jocassee 48.55 265 P **P 04 00 57.8 +0.7**
BG3 IAmb IAmb 04 01 02.9
comp=Z,9.2nm,1.2s
LAO LASA Array 48.61 293 P **P 04 00 58.3 +0.7**
P40A Paris 48.65 277 P **P 04 00 59.7 +1.9**
P40A IAmb IAmb 04 01 01.8
comp=Z,17nm,1.5s
PMR Palmer 49.01 332 P **P 04 01 01.6 +1.4**
PMR pmax pmax
comp=Z,24nm,1.5s
PMR Palmer 49.01 332 P **P 04 01 01.6 +1.4**
CLTN Cedars of Leba 49.08 269 P **P 04 01 01.9 +0.7**
CLTN IAmb IAmb 04 01 06.6
comp=Z,14nm,1.4s
W50A Signal Mountai 49.39 268 P **P 04 01 03.4 -0.2**
V48A Smith Brothers 49.58 269 P **P 04 01 05.3 +0.3**
V48A IAmb IAmb 04 01 10.5
comp=Z,12nm,1.2s
HICK Hickman 49.94 272 P **P 04 01 08.1 +0.4**
Y52A Lilburn 49.99 266 IAmb IAmb 04 01 13.7
comp=Z,13nm,1.2s
GEYT Alibeck 50.41 84 P **P 04 01 11.5 +0.1**
comp=Z,3.6nm,0.9s,baz=327,slow=11,SNR=4.5
GEYT LR LR 04 22 54.2
comp=Z,177nm,18.6s,baz=0.0,slow=36
GYA0B ALIBECK ARRAY 50.41 84 P **P 04 01 11.9 +0.6**
GYA0B IAmb IAmb 04 01 14.5
comp=Z,12nm,1.4s
GCMT Greycliff 50.70 295 P **P 04 01 14.3 +0.8**
S39A Bolivar 50.73 276 IAmb IAmb 04 01 18.4
comp=Z,12nm,1.3s
MGMO Mountain Grove 50.73 275 P **P 04 01 13.2 -0.5**
PLAL Pickwick Lake 50.77 270 P **P 04 01 13.3 -0.7**
PLAL IAmb IAmb 04 01 18.4
comp=Z,11nm,1.3s
X48A Hartselle 50.77 269 IAmb IAmb 04 01 18.1
comp=Z,8.7nm,1.0s
Z51A Franklin 50.94 266 P **P 04 01 15.2 -0.2**
Z51A IAmb IAmb 04 01 20.0
comp=Z,7.4nm,0.9s
BTLS Baital 51.05 66 *e*P **P 04 01 16.5 +0.4**
comp=Z,18nm,2.1s,baz=66
BTLS Baital 51.05 66 *e*P **P 04 01 16.4 +0.4**
BTLS pmax pmax
comp=Z,18nm,2.1s
RLMT Red Lodge 51.10 295 IAmb IAmb 04 01 24.4
comp=Z,22nm,1.4s
KK31 Karatay Array 51.26 70 P **P 04 01 17.8 +0.1**
KK31 pmax pmax
comp=Z,17nm,1.5s
KK31 Karatay Array 51.26 70 P **P 04 01 17.8 +0.1**
KK31 IAmb IAmb 04 01 20.9
comp=Z,17nm,1.4s
KKAR Karatay Array 51.26 70 P **P 04 01 18.0 +0.3**
KKAR Karatay Array 51.26 70 P **P 04 01 17.9 +0.3**
KKAR Karatay Array 51.26 70 IAmb IAmb 04 01 20.9
comp=Z,17nm,1.4s
BOZ Bozeman (W) 51.62 297 IAmb IAmb 04 01 26.5
comp=Z,20nm,1.2s
FCAR Ozark Folk Cen 51.74 274 P **P 04 01 19.4 -1.8**
YMP Mirror Lake Pl 51.77 295 P **P 04 01 22.1 +0.3**
DZA Taraz 51.77 69 *e*P **P 04 01 21.6 0.0**
baz=69
DZA Taraz 51.77 69 *e*P **P 04 01 21.5 0.0**
DGZ Jazzator, Alta 52.07 53 *i*P **P 04 01 24.6 +0.8**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
K22A Casper 52.08 291 P **P 04 01 24.7 +0.7**
K22A IAmb IAmb 04 01 28.7
comp=Z,12nm,1.1s
HHAR Hobbs 52.18 276 P **P 04 01 25.2 +0.6**
H17A Grant Village 52.22 295 IAmb IAmb 04 01 32.9
comp=Z,22nm,1.4s
YPP Pitchstone Pla 52.41 295 P **P 04 01 27.6 +1.0**
FLWY Flagg Ranch 52.53 295 P **P 04 01 28.2 +0.8**
MAKZ Makanchi 52.59 59 P **P 04 01 26.7 -0.8**
MAKZ pmax pmax
comp=Z,7.0nm,1.3s
MAKZ Makanchi 52.59 59 P **P 04 01 26.7 -0.8**
SGDS Sogindy 52.62 66 *e*P **P 04 01 28.2 +0.3**
comp=Z,11nm,1.7s,baz=66
SGDS Sogindy 52.62 66 *e*P **P 04 01 28.1 +0.3**
SGDS pmax pmax
comp=Z,11nm,1.7s
MKAR Makanchi Array 52.71 58 P **P 04 01 28.5 +0.1**
comp=Z,3.0nm,1.0s,baz=316,slow=5.1,SNR=10
MKAR LR LR 04 22 27.0
comp=Z,63nm,20.1s,baz=328,slow=34
MKAR Makanchi Array 52.71 58 P **P 04 01 27.6 -0.8**
T35A Sooner Cattle 52.74 279 IAmb IAmb 04 01 32.9
comp=Z,12nm,1.1s
PHWY Pilot Hill 52.78 289 IAmb IAmb 04 01 35.2
comp=Z,10nm,1.2s
IMW Indian Meadow 52.78 295 IAmb IAmb 04 01 35.5
comp=Z,14nm,1.4s
KUU Kurty 52.91 65 *e*P **P 04 01 29.8 -0.1**
comp=Z,44nm,2.4s,baz=65
KUU Kurty 52.91 65 *e*P **P 04 01 29.8 -0.1**
KUU pmax pmax
comp=Z,44nm,2.4s
FXWY Fox Creek 53.03 295 P **P 04 01 31.9 +0.8**
KAN13 South Haven SW 53.07 280 P **P 04 01 30.8 -0.4**
SNOW Snow King Moun 53.08 295 IAmb IAmb 04 01 37.6
comp=Z,12nm,1.2s
ZSN Zaisan 53.09 56 *e*P **P 04 01 30.7 -0.5**
baz=56
ZSN Zaisan 53.09 56 *e*P **P 04 01 30.7 -0.5**
TPAW Teton Pass 53.13 295 IAmb IAmb 04 01 38.0
comp=Z,14nm,1.2s
TOA0 Torodi Ar. Sit 53.13 156 P **P 04 01 30.6 -1.2**
TORD Torodi Ar. Bea 53.13 156 P **P 04 01 30.9 -0.9**
comp=Z,3.4nm,1.0s,baz=338,slow=6.9,SNR=11
TORD Torodi Ar. Bea 53.13 156 P **P 04 01 30.6 -1.2**
PD31 Pinedale Array 53.19 293 IAmb IAmb 04 01 37.2
comp=Z,20nm,1.2s
PDAR Pinedale Array 53.19 293 P **P 04 01 31.8 -0.5**
comp=Z,7.2nm,1.0s,baz=47,slow=6.5,SNR=20
PDAR LR LR 04 23 49.2
comp=Z,111nm,20.2s,baz=22,slow=36
REDW Red Top Meadow 53.20 295 IAmb IAmb 04 01 39.7
comp=Z,22nm,1.4s
X40A Basin Creek Fa 53.23 274 P **P 04 01 33.4 +1.0**
X40A IAmb IAmb 04 01 37.1
comp=Z,15nm,1.4s
AAK Ala-Archa 53.25 67 *ce*P **P 04 01 33.3 +0.7**
AAK pmax pmax
comp=Z,47nm,1.7s
MTBS Maitube 53.59 65 *e*P **P 04 01 35.8 +0.8**
baz=65
MTBS Maitube 53.59 65 *e*P **P 04 01 35.8 +0.8**
AHID Auburn Hatcher 53.80 294 P **P 04 01 36.8 +0.1**
AHID IAmb IAmb 04 01 44.6
comp=Z,11nm,1.3s
MDOK Medeo 53.80 65 *e*P **P 04 01 36.7 0.0**
baz=65
MDOK Medeo 53.80 65 *e*P **P 04 01 36.6 0.0**
TNSS Tian-Shan 53.87 65 *e*P **P 04 01 37.4 -0.1**
baz=65
TNSS Tian-Shan 53.87 65 *e*P **P 04 01 37.4 -0.1**
BOOM Boomskoye usch 53.94 66 IAmb IAmb 04 01 41.2
comp=Z,12nm,1.2s
ISCO Idaho Springs 54.11 288 P **P 04 01 39.5 +0.4**
ISCO pmax pmax
comp=Z,3.0nm,1.1s
ISCO Idaho Springs 54.11 288 P **P 04 01 39.5 +0.4**
BMO Blue Mountains 54.40 300 IAmb IAmb 04 01 45.4
comp=Z,9.6nm,1.3s
HLID Hailey 54.41 297 P **P 04 01 40.8 -0.3**
SATY Saty 54.42 64 *e*P **P 04 01 40.7 -0.4**
comp=Z,12nm,1.8s,baz=64
SATY Saty 54.42 64 *e*P **P 04 01 40.7 -0.4**
SATY pmax pmax
comp=Z,12nm,1.8s
UZB Uzynbulak 54.58 63 *e*P **P 04 01 42.0 -0.3**
comp=Z,4.4nm,1.4s,baz=63
UZB Uzynbulak 54.58 63 *e*P **P 04 01 42.0 -0.3**
UZB pmax pmax
comp=Z,4.0nm,1.4s
MOY Mondy 54.65 42 *e*P **P 04 01 44.1 +1.4**
MOY pmax pmax
comp=Z,31nm,2.1s
SHLS Shalkode 54.74 63 *e*P **P 04 01 44.4 +0.9**
comp=Z,10nm,1.1s,baz=63
SHLS Shalkode 54.74 63 *e*P **P 04 01 44.4 +0.9**
SHLS pmax pmax

	comp=Z,10.0nm,1.1s					
HRA	**Herat**	**55.18 82**	P	**P**	**04 01 47.7 +0.9**	
HRA			IAmb	IAmb	04 01 51.6	
	comp=Z,12nm,1.4s					
WMOK	**Wichita Mounta**	**55.56 279**	IAmb	IAmb	04 01 54.6	
	comp=Z,15nm,1.4s					
SPUT	**South Promonto**	**55.57 295**	P	**P**	**04 01 49.9 +0.4**	
JLU	**Jordanelle**	**55.78 293**	P	**P**	**04 01 51.1 0.0**	
Z35A	**Perchaven, San**	**56.11 277**	P	**P**	**04 01 53.2 -0.1**	
CBYP	**Canovanas**	**56.44 238**	P	**P**	**04 01 55.9 +0.1**	
ZAK	**Zakamensk**	**56.45 41**	*e*P	**P**	**04 01 56.2 +0.6**	
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.4s					
PV22	**Blue Mesa, Par**	**56.48 290**	IAmb	IAmb	04 02 02.3	
	comp=Z,9.6nm,1.3s					
KSH	**Kashi**	**56.49 68**	P	**P**	**04 01 58.0 +2.0**	
KSH			S	**S**	**04 09 46.3 -1.4**	
KSH			pmax	pmax		
	comp=Z,36nm,1.1s					
KSH			pmax	pmax		
	comp=Z,160nm,5.5s					
KSH			LR	LR		
	comp=N,200nm,7.1s					
KSH			LR	LR		
	comp=E,200nm,6.6s					
KSH			LR	LR		
	comp=Z,190nm,7.4s					
MTP	**Monte Pirata**	**56.49 238**	P	**P**	**04 01 56.9 +0.8**	
PV23	**Carpenter Ridg**	**56.64 290**	IAmb	IAmb	04 02 02.0	
	comp=Z,6.7nm,0.9s					
DUG	**Dugway, Tooele**	**56.66 294**	IAmb	IAmb	04 02 05.1	
	comp=Z,15nm,1.4s					
PV12	**Saucer Basin,**	**56.67 290**	IAmb	IAmb	04 02 03.0	
	comp=Z,15nm,1.3s					
PV16	**Nyswonger Mesa**	**56.72 290**	IAmb	IAmb	04 02 03.4	
	comp=Z,18nm,1.4s					
PV01	**Paradox Valley**	**56.73 289**	P	**P**	**04 01 58.1 +0.1**	
PV03	**Paradox Valley**	**56.74 290**	IAmb	IAmb	04 02 03.5	
	comp=Z,14nm,1.2s					
PV19	**Morning Glory**	**56.75 290**	P	**P**	**04 01 57.4 -0.7**	
PV19			IAmb	IAmb	04 02 03.5	
	comp=Z,16nm,1.5s					
PV18	**Skein Mesa, Pa**	**56.77 290**	P	**P**	**04 01 58.1 -0.1**	
PV18			IAmb	IAmb	04 02 03.7	
	comp=Z,15nm,1.1s					
Q16A	**Castle Valley**	**57.11 292**	P	**P**	**04 02 01.2 +0.6**	
ELK	**Elko**	**57.13 296**	P	**P**	**04 02 00.3 -0.4**	
	comp=Z,0.5nm,0.3s,baz=9.9,slow=10,SNR=3.7					
WMQ	**Urumqi**	**57.22 56**	*e*P	**P**	**04 02 04.0 +2.9**	
WMQ			pmax	pmax		
	comp=Z,10.0nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,69nm,4.7s					
ABTX	**Abilene, Hawle**	**57.74 279**	P	**P**	**04 02 04.9 0.0**	
ABTX			IAmb	IAmb	04 02 10.1	
	comp=Z,14nm,1.4s					
SDDR	**Presa de Saban**	**57.84 244**	P	**P**	**04 02 06.5 +0.8**	
ANMO	**Albuquerque**	**58.60 286**	*ce*P	**P**	**04 02 13.4 +2.3**	
ANMO			pmax	pmax		
	comp=Z,5.0nm,1.3s					
R11A	**Troy Canyon, C**	**59.34 295**	IAmb	IAmb	04 02 22.1	
	comp=Z,12nm,1.5s					
BNM	**Barren Site**	**59.36 285**	P	**P**	**04 02 16.7 +0.2**	
PAHR	**Pah Rah Range**	**59.61 299**	IAmb	IAmb	04 02 24.6	
	comp=Z,12nm,1.4s					
SONM	**Songino Array**	**59.63 40**	P	**P**	**04 02 17.5 -0.5**	
	comp=Z,1.1nm,0.8s,baz=339,slow=7.9,SNR=7.4					
SONM			LR	LR	04 29 38.5	
	comp=Z,44nm,18.9s,baz=315,slow=38					
SONM	**Songino Array**	**59.63 40**	P	**P**	**04 02 17.2 -0.8**	
KVN	**Kaiserville**	**59.70 298**	P	**P**	**04 02 18.4 -0.3**	
KVN			pmax	pmax		
	comp=Z,14nm,1.3s					
KVN	**Kaiserville**	**59.70 298**	P	**P**	**04 02 18.4 -0.3**	
KVN			IAmb	IAmb	04 02 24.2	
	comp=Z,14nm,1.3s					
U15A	**North Rim**	**59.70 291**	IAmb	IAmb	04 02 23.9	
	comp=Z,9.9nm,1.2s					
ULN	**Ulaanbaatar**	**59.79 40**	*ce*P	**P**	**04 02 20.5 +1.4**	
ULN			pmax	pmax		
	comp=Z,12nm,1.7s					
PNTR	**Pine Nut**	**60.23 299**	IAmb	IAmb	04 02 38.9	
	comp=Z,11nm,1.4s					
NVAR	**Mina Array Bea**	**60.32 297**	P	**P**	**04 02 22.8 -0.1**	
	comp=Z,1.4nm,1.1s,baz=61,slow=5.6,SNR=3.1					
NVAR			LR	LR	04 28 10.3	
	comp=Z,172nm,21.8s,baz=27,slow=36					
NVAR	**Mina Array Bea**	**60.32 297**	P	**P**	**04 02 22.3 -0.6**	
NIL	**Nilore**	**60.44 74**	P	**P**	**04 02 23.3 -0.3**	
NIL			pmax	pmax		
	comp=Z,12nm,0.9s					
NIL	**Nilore**	**60.44 74**	P	**P**	**04 02 23.3 -0.3**	
SHPR	**Sheep Range**	**60.77 294**	P	**P**	**04 02 26.4 +0.4**	
SHPR			IAmb	IAmb	04 02 32.2	
	comp=Z,7.4nm,1.2s					
MNTX	**Cornudas Mount**	**60.97 283**	P	**P**	**04 02 27.5 +0.3**	
X16A	**Lo Mia Camp, P**	**61.10 290**	IAmb	IAmb	04 02 34.5	
	comp=Z,7.2nm,1.1s					
OMMB	**Old Mammoth Mi**	**61.30 297**	IAmb	IAmb	04 02 36.8	
	comp=Z,6.2nm,1.2s					
MDPB	**Devils Postpil**	**61.31 298**	IAmb	IAmb	04 02 36.0	
	comp=Z,6.9nm,1.2s					
TX31	**Lajitas Ar. Si**	**62.30 280**	IAmb	IAmb	04 02 41.4	
	comp=Z,9.7nm,1.1s					
TXAR	**Lajitas Array**	**62.30 280**	P	**P**	**04 02 36.2 -0.1**	
	comp=Z,1.2nm,0.9s,baz=57,slow=4.6,SNR=5.9					
TXAR			LR	LR	04 28 44.2	
	comp=Z,147nm,20.3s,baz=0.0,slow=35					
TXAR	**Lajitas Array**	**62.30 280**	P	**P**	**04 02 35.2 -1.1**	
PETK	**Petropavlovsk-**	**62.50 3**	LR	LR	04 29 16.4	
	comp=Z,28nm,19.3s,baz=59,slow=36					
ISA	**Isabella, Lake**	**62.80 296**	P	**P**	**04 02 39.9 +0.4**	
ISA			pmax	pmax		
	comp=Z,12nm,1.4s					
ISA	**Isabella, Lake**	**62.80 296**	P	**P**	**04 02 39.9 +0.4**	
ISA			IAmb	IAmb	04 02 41.5	
	comp=Z,12nm,1.4s					
GTA	**Gaotai**	**65.29 49**	⇑P	**P**	**04 02 56.3 +0.4**	
GTA			pP	sP	04 03 00.5 +2.4	
GTA			sP	pP	04 03 03.5 +6.2	
GTA			sS	sS	04 11 47.5 +5.2	
GTA			pmax	pmax		
	comp=Z,6.0nm,1.2s					
GTA			pmax	pmax		
	comp=Z,180nm,7.3s					
GTA			LR	LR		
	comp=N,150nm,16.4s					
GTA			LR	LR		
	comp=E,170nm,17.1s					
GTA			LR	LR		
	comp=Z,200nm,16.7s					
SOCV	**Socops**	**67.47 239**	*e*P	**P**	**04 03 09.7 -0.3**	
HHC	**Hu-ho-hao-te**	**67.50 40**	*e*P	**P**	**04 03 12.3 +2.2**	
HHC			PP	PP	04 05 57.8 +20	
HHC			S	S	04 12 12.8 +6.0	
HHC			pmax	pmax		
	comp=Z,20nm,1.3s					
HHC			pmax	pmax		
	comp=Z,150nm,6.6s					
HHC			LR	LR		
	comp=N,280nm,17.5s					
HHC			LR	LR		
	comp=E,310nm,17.9s					
HHC			LR	LR		
	comp=Z,140nm,17.7s					
SJCC	**San Jacinto, C**	**67.63 244**	*e*P	**P**	**04 03 13.4 +2.4**	
ELOV	**Elorza**	**68.15 237**	*e*P	**P**	**04 03 13.4 -0.8**	
SMLC	**San Martn de**	**68.20 243**	*e*P	**P**	**04 03 14.9 +0.3**	
MOTC	**Monteria, Cord**	**68.84 244**	*e*P	**P**	**04 03 19.1 +0.5**	
PAMC	**Pamplona, Colo**	**69.03 241**	*e*P	P	04 03 16.5 -3.8	
LZH	**Lanzhou**	**69.62 48**	*e*P	**P**	**04 03 24.0 +0.6**	
LZH			pP	sP	04 03 26.8 +1.2	
LZH			sP	pP	04 03 28.0 +3.2	
LZH			*e*PP	**PP**	**04 06 00.5 +3.8**	
LZH			pmax	pmax		
	comp=Z,22nm,1.3s					
LZH			pmax	pmax		
	comp=Z,97nm,8.2s					
LZH			LR	LR		
	comp=N,320nm,16.3s					
LZH			LR	LR		
	comp=E,340nm,16.0s					
LZH			LR	LR		
	comp=Z,510nm,18.1s					
SPBC	**San Pablo de B**	**71.09 241**	*e*P	**P**	**04 03 31.7 -0.9**	
CHIC	**Chingaza**	**71.91 241**	*e*P	**P**	**04 03 37.3 -0.5**	
ROSC	**El Rosal**	**71.94 241**	LR	LR	04 30 42.9	
	comp=Z,24nm,21.8s,baz=124,slow=32					
GUY2C	**Guyana, Caldas**	**71.98 243**	*e*P	**P**	**04 03 38.2 -0.2**	
RREF	**El Recreo**	**72.27 242**	*e*P	P	04 03 36.4 -3.8	
KSRS	**Korea Array**	**74.64 28**	LR	LR	04 38 03.8	
	comp=Z,20nm,21.2s,baz=339,slow=37					
NJ2	**Nanjing**	**77.73 37**	*e*P	**P**	**04 04 10.0 -0.9**	
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
OTAV	**Otavalo**	**77.74 243**	P	**P**	**04 04 10.7 -0.9**	
OTAV			pmax	pmax		
	comp=Z,7.0nm,1.3s					
OTAV	**Otavalo**	**77.74 243**	P	**P**	**04 04 10.7 -0.9**	
CMAR	**Chiang Mai Arr**	**84.12 59**	P	**P**	**04 04 44.4 -0.8**	
	comp=Z,0.9nm,0.4s,baz=320,slow=5.4,SNR=4.8					
CMAR			LR	LR	04 45 52.8	
	comp=Z,18nm,18.6s,baz=338,slow=38					
CMAR	**Chiang Mai Arr**	**84.12 59**	*i* P	**P**	**04 04 45.2 0.0**	
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.4s					
CMAR	**Chiang Mai Arr**	**84.12 59**	P	**P**	**04 04 44.9 -0.3**	
ASAR	**Alice Springs**	**134.96 38**	PKP	**PKPdf**	**04 11 30.2 -2.8**	
	comp=Z,0.9nm,1.0s,baz=358,slow=3.2,SNR=4.5					
ASAR	**Alice Springs**	**134.96 38**	PKIKP	**PKPdf**	**04 11 31.7 -1.3**	
ASAR	**Alice Springs**	**134.96 38**	PKPdf	**PKPdf**	**04 11 31.7 -1.3**	

NSSP ***29*** *03:55:50.8, 41°.15N×47°.92E, h15km, Ms3.0*
AZER ***29*** *03:55:52.0, 41°.11N×47°.96E, h15km, ML3.1*
MOS ***29*** *03:55:52.8±0.0, 41°.20N×47°.89E, h4km, MPVA4.0*
DRS ***29*** *03:55:53.6±0.0, 41°.05N×48°.10E, h18km*
ISC 29 03:55:53.7±1.0, 41°.13N±0°.02×47°.93E±0°.02, h18km±4km, n51, σ1°.60/98, 3C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNQ	**Khinaliq** SNR=2241	**0.16**	**75**	P	**Pb**	**03 55 57.7**	**-0.2**
XNQ				S	**Sb**	**03 56 01.1**	**+0.6**
QBL	**Gabala** SNR=80	**0.20**	**202**	P	**Pg**	**03 55 58.0**	**-0.7**
QBL				S	**Sb**	**03 56 01.9**	**+0.1**
AKT	**Akhty**	**0.38**	**336**	*i* Pg	**Pb**	**03 56 01.3**	**-0.8**
AKT				*e*Sg	**Sb**	**03 56 07.2**	**-0.5**
IML	**Ismayilli** SNR=10	**0.39**	**151**	P	**Pb**	**03 56 01.4**	**-0.8**
IML				S	**Sb**	**03 56 08.0**	**+0.2**
QSAR	**Qusar** SNR=51	**0.46**	**33**	P	**Pb**	**03 56 03.2**	**-0.1**
QSAR				S	**Sb**	**03 56 10.3**	**+0.5**
SEKA	**Sheki** SNR=36	**0.56**	**278**	P	**Pg**	**03 56 03.9**	**-1.0**
SEKA				S	**Sb**	**03 56 13.2**	**+0.5**
PQL	**Pirkuli** SNR=12	**0.61**	**124**	P	**Pn**	**03 56 06.1**	**-1.5**
PQL				S	**Sn**	**03 56 15.5**	**-1.5**
SIZA	**Siyzn** SNR=14	**0.73**	**94**	P	**Pn**	**03 56 08.0**	**-1.3**
SIZA				S	**Sn**	**03 56 19.6**	**-0.5**
MNGR	**Mingechevir, A** SNR=5.7	**0.74**	**241**	P	**Pb**	**03 56 08.0**	**0.0**
MNGR				S	**Sn**	**03 56 20.4**	**+0.5**
KDMR	**Kurdemir**	**0.78**	**166**	P	**Pg**	**03 56 08.2**	**-0.7**
KDMR				S	**Sn**	**03 56 20.7**	**-0.3**
ATGJ	**Altiaghaj** SNR=39	**0.81**	**109**	P	**Pb**	**03 56 08.9**	**-0.3**
ATGJ				S	**Sn**	**03 56 21.0**	**-0.9**
ZRD	**Zardab** SNR=5.6	**0.87**	**193**	P	**Pg**	**03 56 10.3**	**-0.4**
ZRD				S	**Sn**	**03 56 24.4**	**+1.1**
DRN	**Derbent**	**0.95**	**18**	*i* Pg	**Pn**	**03 56 12.2**	**+0.2**
DRN				*e*Sg	**Sn**	**03 56 26.0**	**+0.9**
BRDA	**Brd** SNR=3.7	**1.04**	**214**	P	**Pg**	**03 56 13.6**	**-0.3**
BRDA				S	**Sn**	**03 56 29.8**	**+2.4**
URKR	**Urkarakh**	**1.06**	**348**	*e*Pg	**Pn**	**03 56 13.5**	**-0.2**
URKR				*e*Sg	**Sn**	**03 56 28.5**	**+0.4**
ZKTA	**Zakatala** SNR=12	**1.11**	**298**	P	**Pg**	**03 56 14.3**	**-1.0**
ZKTA				S	**Sn**	**03 56 33.3**	**+4.1**
AGDM	**Agdam** SNR=28	**1.20**	**212**	P	**Pn**	**03 56 14.9**	**-0.7**
AGDM				S	**Sg**	**03 56 32.5**	**-0.1**
GANJ	**Ganja** SNR=14	**1.31**	**249**	P	**Pn**	**03 56 16.0**	**-1.2**
GANJ				S	**Sn**	**03 56 33.7**	**-0.6**
SAAT	**Saatly**	**1.32**	**163**	S	**Sb**	**03 56 34.9**	**+0.3**
ALIB	**Äli-Bayra**	**1.43**	**145**	P	**Pg**	**03 56 21.7**	**+0.4**
ALIB				S	**Sg**	**03 56 46.2**	**+6.3**
BLQ	**Beylaqan** SNR=3.1	**1.44**	**192**	P	**Pn**	**03 56 18.8**	**-0.1**
BLQ				S	**Sb**	**03 56 37.9**	**0.0**
GNBR	**Gunib**	**1.45**	**330**	*e*Pg	**Pg**	**03 56 20.8**	**-0.9**
GNBR				*e*Sg	**Sg**	**03 56 43.0**	**+2.3**
LGD	**Lagodekhi**	**1.45**	**299**	P	**Pg**	**03 56 20.4**	**-1.3**
LGD				S	**Sg**	**03 56 43.5**	**+2.8**
ARKR	**Arakani**	**1.63**	**335**	*e*Pg	**Pg**	**03 56 25.0**	**-0.1**
GDB	**GEDABAY** SNR=10	**1.70**	**257**	Pn	**Pn**	**03 56 22.2**	**-0.4**
GDB				Sn	**Sn**	**03 56 44.9**	**+0.8**
QRD	**Qoradiz** SNR=3.8	**1.73**	**196**	Pn	**Pn**	**03 56 22.7**	**-0.3**
QRD				Sn	**Sb**	**03 56 45.7**	**-0.7**
BUJR	**Buynaksk**	**1.80**	**340**	*e*Pg	**Pg**	**03 56 27.8**	**-0.5**
BUJR				*e*Sg	**Sg**	**03 56 53.8**	**+2.0**
KRNR	**Karanay**	**1.86**	**336**	*e*Pg	**Pg**	**03 56 28.4**	**-1.1**
KRNR				*e*Sg	**Sg**	**03 56 56.0**	**+2.4**
GLBA	**Clilabad** SNR=7.4	**1.92**	**169**	Pn	**Pn**	**03 56 26.2**	**+0.7**
GLBA				Sn	**Sn**	**03 56 49.0**	**-0.2**
QZX	**Qazax, Azerbai** SNR=38	**1.94**	**269**	Pn	**Pn**	**03 56 26.6**	**+0.8**
QZX				Sn	**Sb**	**03 56 52.5**	**+0.2**
BTLR	**Botlikh**	**1.99**	**321**	*i* Pg	**Pg**	**03 56 31.6**	**-0.4**
BTLR				*i* Sg	**Sg**	**03 56 58.2**	**+0.3**
GRS	**Goris**	**2.04**	**217**	⇑*i*P	**Pn**	**03 56 26.0**	**-1.3**
GRS				⇑*i*S	**Sn**	**03 56 54.0**	**+1.7**
DBC	**Dubki**	**2.06**	**337**	*e*Pg	**Pg**	**03 56 31.4**	**-1.8**
DBC				*e*Sg	**Sg**	**03 56 59.9**	**-0.1**
DLMR	**Dylym**	**2.17**	**334**	*e*Pg	**Pg**	**03 56 33.0**	**-2.3**
DLMR				*e*Sg	**Sg**	**03 57 02.5**	**-0.9**
YRD	**Yardimli** SNR=9.7	**2.23**	**174**	Pn	**Pn**	**03 56 28.9**	**-1.0**
YRD				Sn	**Sn**	**03 56 58.1**	**+1.1**
DVE	**Vedeno**	**2.27**	**324**	*e*Pg	**Pb**	**03 56 33.8**	**-0.4**
DVE				*e*Sg	**Sg**	**03 57 04.4**	**-2.3**
LRK	**Lerik** SNR=12	**2.50**	**173**	Pn	**Pn**	**03 56 33.0**	**-0.7**
LRK				Sn	**Sn**	**03 57 05.8**	**+1.9**
SBZ	**Shahbuz**	**2.51**	**227**	Pn	**Pn**	**03 56 34.5**	**+0.7**
SBZ				Sn	**Sb**	**03 57 09.4**	**+0.4**
KAPZ	**Kaputan**	**2.59**	**253**	⇑*i*P	**Pn**	**03 56 35.7**	**+0.8**
KAPZ				⇓*i*S	**Sb**	**03 57 10.9**	**-0.4**
GROC	**Groznyy**	**2.61**	**323**	*e*Pn	**Pg**	**03 56 45.2**	**+1.5**
GROC				*e*Sn	**Sg**	**03 57 20.4**	**+2.8**
ASTR	**Astara**	**2.65**	**165**	Pn	**Pn**	**03 56 35.5**	**-0.1**
ASTR				Sn	**Sb**	**03 57 10.1**	**-2.8**
ORD	**Ordubad** SNR=9.6	**2.66**	**215**	Pn	**Pn**	**03 56 36.4**	**+0.7**
ORD				Sn	**Sb**	**03 57 12.8**	**-0.3**
NAX	**Nakhchivan**	**2.71**	**224**	Pn	**Pn**	**03 56 36.2**	**-0.1**
NAX				Sn	**Sb**	**03 57 12.3**	**-2.2**
NRKZ	**NAREK**	**2.74**	**247**	⇓*i*P	**Pb**	**03 56 40.1**	**-2.1**
NRKZ				⇓*i*S	**Sb**	**03 57 17.1**	**+1.6**
DMNI	**Dmanisi**	**2.83**	**275**	P	**Pn**	**03 56 38.9**	**+0.8**
DMNI				S	**Sb**	**03 57 19.2**	**+1.1**
TRLG	**Trialeti**	**2.91**	**279**	P	**Pn**	**03 56 40.1**	**+0.8**
LACR	**Lac**	**3.20**	**303**	*e*Pn	**Pb**	**03 56 51.6**	**+1.6**
LACR				*e*Sn	**Sb**	**03 57 30.4**	**+1.7**
VNNZ	**Vanand**	**3.29**	**253**	*i* P	**Pb**	**03 56 52.2**	**+0.6**
VNNZ				*i* S	**Sg**	**03 57 36.2**	**-3.3**
ONI	**Oni**	**3.65**	**295**	*e*Pn	**Pn**	**03 56 51.6**	**+2.2**
ONI				*e*Sn	**Sb**	**03 57 37.5**	**-4.2**
SHA1	**Shidzhatmaz**	**4.69**	**305**	*e*Pn	**Pb**	**03 57 12.8**	**-2.8**
SHA1				*e*Sn	**Sb**	**03 58 07.0**	**-4.8**
KIV	**Kislovodsk**	**4.79**	**308**	*e*Pn	**Pn**	**03 57 06.5**	**+1.4**

NSSP ***29*** *04:19:08.8, 41°.15N×47°.92E, h15km, Ms3.2*
AZER ***29*** *04:19:08.9, 41°.12N×47°.94E, h11km, ML3.3*
MOS ***29*** *04:19:09.6±0.0, 41°.20N×47°.89E, h3km, MPVA4.0*
DRS ***29*** *04:19:12.2±0.0, 41°.21N×48°.10E, h17km*
ISC 29 04:19:11.2±0.9, 41°.10N±0°.01×47°.89E±0°.02, h7km±7km, n80, σ1°.52/142, 3C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QBL	**Gabala** SNR=55	**0.16**	**195**	P	**Pg**	**04 19 14.9**	**+0.4**
QBL				S	**Sg**	**04 19 18.9**	**+2.1**
XNQ	**Khinaliq** SNR=456	**0.20**	**69**	P	**Pg**	**04 19 14.8**	**-0.5**
XNQ				S	**Sg**	**04 19 18.1**	**0.0**
IML	**Ismayilli** SNR=27	**0.38**	**144**	P	**Pg**	**04 19 18.4**	**-0.1**
IML				S	**Sb**	**04 19 25.4**	**-0.9**
AKT	**Akhty**	**0.40**	**342**	*i* Pg	**Pg**	**04 19 18.2**	**-0.8**
AKT				*e*Sg	**Sg**	**04 19 24.0**	**-0.3**
AKT	**Akhty**	**0.40**	**342**	⇓*i*PG	**Pg**	**04 19 18.2**	**-0.8**
AKT	comp=Z,1μm,0.6s			pmax	pmax		
QSAR	**Qusar** SNR=50	**0.50**	**34**	P	**Pg**	**04 19 20.3**	**-0.6**
QSAR				S	**Sg**	**04 19 27.6**	**+0.2**
KSMR	**Kasumkent**	**0.53**	**19**	*e*Pg	**Pg**	**04 19 21.0**	**-0.5**
KSMR				*e*Sg	**Sg**	**04 19 29.0**	**+0.5**
KSMR	**Kasumkent**	**0.53**	**19**	*e*PG	**Pg**	**04 19 21.0**	**-0.5**
KSMR				*e*S	**Sg**	**04 19 29.0**	**+0.5**
SEKA	**Sheki**	**0.54**	**282**	PG	**Pg**	**04 19 20.8**	**-0.7**
SEKA	**Sheki** SNR=27	**0.54**	**282**	P	**Pg**	**04 19 20.9**	**-0.7**
SEKA				S	**Sg**	**04 19 28.8**	**+0.2**
PQL	**Pirkuli**	**0.61**	**120**	P	**Pg**	**04 19 22.5**	**-0.6**
PQL				S	**Sb**	**04 19 32.9**	**-0.3**
MNGR	**Mingechevir, A**	**0.69**	**242**	PG	**Pg**	**04 19 25.0**	**+0.5**
MNGR	**Mingechevir, A** SNR=3.4	**0.69**	**242**	P	**Pg**	**04 19 25.0**	**+0.5**
MNGR				S	**Sb**	**04 19 36.4**	**+1.0**
KDMR	**Kurdemir**	**0.76**	**163**	P	**Pg**	**04 19 25.2**	**-0.5**
KDMR				S	**Sb**	**04 19 37.9**	**+0.8**
SIZA	**Siyzn** SNR=17	**0.76**	**92**	P	**Pg**	**04 19 25.2**	**-0.6**
SIZA				S	**Sb**	**04 19 37.7**	**+0.3**
ATGJ	**Altiaghaj** SNR=12	**0.83**	**107**	P	**Pg**	**04 19 26.2**	**-0.9**
ATGJ				S	**Sg**	**04 19 38.3**	**+0.4**
ZRD	**Zardab** SNR=91	**0.84**	**191**	P	**Pg**	**04 19 27.4**	**+0.2**
ZRD				S	**Sn**	**04 19 41.6**	**-0.2**
DRN	**Derbent**	**0.98**	**19**	*i* Pg	**Pg**	**04 19 29.4**	**-0.7**
DRN				*e*Sg	**Sb**	**04 19 43.2**	**-0.5**
DRN	**Derbent**	**0.98**	**19**	*i* PG	**Pg**	**04 19 29.4**	**-0.7**
DRN				*e*S	**Sb**	**04 19 43.2**	**-0.5**
BRDA	**Brd** SNR=3.4	**1.00**	**213**	P	**Pg**	**04 19 30.5**	**+0.1**
BRDA				S	**Sn**	**04 19 47.3**	**+1.4**
URKR	**Urkarakh**	**1.08**	**350**	*e*Pg	**Pb**	**04 19 30.7**	**-1.6**
URKR	**Urkarakh**	**1.08**	**350**	⇓*e*PG	**Pb**	**04 19 30.7**	**-1.6**
URKR				*e*		04 19 47.8	
URKR	comp=Z,255nm,0.4s			pmax	pmax		
URKR	comp=N,231nm,2.9s			smax	smax		
ZKTA	**Zakatala** SNR=5.6	**1.10**	**300**	P	**Pb**	**04 19 31.3**	**-1.2**
ZKTA				S	**Sn**	**04 19 48.7**	**+0.3**
AGDM	**Agdam** SNR=12	**1.16**	**211**	P	**Pb**	**04 19 32.0**	**-1.5**
AGDM				S	**Sn**	**04 19 50.1**	**+0.2**
GANJ	**Ganja**	**1.27**	**250**	PG	**Pn**	**04 19 33.0**	**-2.4**
GANJ	**Ganja** SNR=30	**1.27**	**250**	P	**Pn**	**04 19 33.1**	**-2.4**
GANJ				S	**Sb**	**04 19 50.7**	**-1.4**
BLQ	**Beylaqan** SNR=15	**1.40**	**191**	P	**Pn**	**04 19 35.3**	**-1.9**
BLQ				S	**Sn**	**04 19 55.3**	**-0.6**
ALIB	**Äli-Bayra**	**1.42**	**143**	P	**Pn**	**04 19 37.2**	**-0.1**
ALIB				S	**Sg**	**04 20 02.9**	**+6.0**
LGD	**Lagodekhi**	**1.44**	**301**	*e*Pg	**Pn**	**04 19 37.4**	**-0.3**
LGD				*e*Sg	**Sg**	**04 19 59.2**	**+1.7**
LGD	**Lagodekhi**	**1.44**	**301**	*ce*PN	**Pn**	**04 19 37.4**	**-0.3**
LGD	**Lagodekhi**	**1.44**	**301**	P	**Pn**	**04 19 37.2**	**-0.5**
LGD				S	**Sg**	**04 19 59.0**	**+1.4**
GNBR	**Gunib**	**1.46**	**332**	*e*Pg	**Pn**	**04 19 37.9**	**-0.2**
GNBR				*e*Sg	**Sg**	**04 20 00.1**	**+1.9**
GNBR	**Gunib**	**1.46**	**332**	*e*PN	**Pn**	**04 19 37.9**	**-0.2**
GNBR				*e*S	**Sg**	**04 20 00.1**	**+1.9**
ARKR	**Arakani**	**1.64**	**336**	*e*Pg	**Pb**	**04 19 42.0**	**+0.2**
ARKR	**Arakani**	**1.64**	**336**	*e*PN	**Pb**	**04 19 42.0**	**+0.2**
ARKR				*e*S	**Sg**	**04 20 08.0**	**+4.0**
ARKR	comp=Z,56nm,0.4s			pmax	pmax		
GDB	**GEDABAY** SNR=47	**1.67**	**258**	Pn	**Pn**	**04 19 39.4**	**-1.5**
GDB				Sn	**Sn**	**04 20 01.7**	**-0.9**
XNZR	**Khunzakh**	**1.69**	**329**	*e*Pg	**Pg**	**04 19 43.2**	**-0.4**
XNZR				*e*Sg	**Sg**	**04 20 06.5**	**+0.9**
XNZR	**Khunzakh**	**1.69**	**329**	*e*PN	**Pg**	**04 19 44.6**	**+1.0**
XNZR				*e*S	**Sg**	**04 20 08.2**	**+2.6**
QRD	**Qoradiz** SNR=8.7	**1.69**	**195**	Pn	**Pn**	**04 19 39.4**	**-1.8**
QRD				Sn	**Sn**	**04 20 03.2**	**+0.2**
BUJR	**Buynaksk**	**1.82**	**341**	*e*Pg	**Pb**	**04 19 44.8**	**0.0**
BUJR				*e*Sg	**Sg**	**04 20 10.9**	**+1.2**
BUJR	**Buynaksk**	**1.82**	**341**	⇓*e*PN	**Pg**	**04 19 45.5**	**-0.6**
BUJR				*e*		04 20 12.9	
BUJR	comp=Z,115nm,0.7s			pmax	pmax		
BUJR	comp=N,681nm,2.7s			smax	smax		
KRNR	**Karanay**	**1.88**	**337**	*e*Pg	**Pb**	**04 19 45.0**	**-0.8**
KRNR				*e*Sg	**Sg**	**04 20 13.5**	**+2.0**
KRNR	**Karanay**	**1.88**	**337**	*e*PN	**Pb**	**04 19 45.0**	**-0.8**
KRNR				*e*S	**Sg**	**04 20 13.5**	**+2.0**
KRNR	comp=Z,29nm,0.3s			pmax	pmax		
MAK	**Makhachkala**	**1.88**	**351**	*e*Pg	**Pb**	**04 19 45.8**	**-0.1**
MAK				*e*Sg	**Sg**	**04 20 12.6**	**+1.0**
MAK	**Makhachkala**	**1.88**	**351**	*e*PN	**Pb**	**04 19 45.8**	**-0.1**
GLBA	**Clilabad** S

ASTR	**Astara**	**2.63**	**164**	Pn	**Pn**	**04 19 53.2**	**-0.8**
ASTR				Sn	**Sn**	**04 20 27.8**	**+1.6**
KZRT	**Kazreti**	**2.65**	**277**	P	**Pn**	**04 19 54.0**	**-0.3**
KZRT				S	**Sn**	**04 20 26.0**	**-0.7**
NRKZ	**NAREK**	**2.70**	**247**	*i* P	**Pn**	**04 19 57.0**	**+2.0**
NRKZ				*i* S	**Sb**	**04 20 33.8**	**+0.7**
DMNI	**Dmanisi**	**2.80**	**276**	P	**Pn**	**04 19 56.4**	**-0.1**
DMNI				S	**Sn**	**04 20 31.1**	**+0.5**
PNSH	**Pansheti**	**2.89**	**303**	P	**Pn**	**04 19 59.2**	**+1.5**
TRLG	**Trialeti**	**2.89**	**280**	P	**Pn**	**04 19 57.5**	**-0.3**
TRLG				S	**Sn**	**04 20 33.0**	**+0.2**
KMGR	**Komgaron**	**2.98**	**312**	*e*PN	**Pb**	**04 20 05.5**	**+0.8**
KMGR				*e*S	**Sn**	**04 20 36.8**	**+1.8**
LACR	**Lac**	**3.19**	**304**	*e*Pn	**Pb**	**04 20 05.4**	**-2.8**
LACR				*e*Sn	**Sb**	**04 20 43.3**	**-3.9**
LACR	**Lac**	**3.19**	**304**	*e*PN	**Pb**	**04 20 05.4**	**-2.8**
LACR				*e*S	**Sg**	**04 20 51.9**	**-1.7**
VNNZ	**Vanand**	**3.25**	**253**	*i* P	**Pb**	**04 20 10.9**	**+1.6**
VNNZ				*i* S	**Sg**	**04 20 55.4**	**-0.3**
AKH	**Akhalkalaki**	**3.33**	**277**	*e*Pn	**Pn**	**04 20 05.6**	**+1.8**
AKH	**Akhalkalaki**	**3.33**	**277**	*e*PN	**Pn**	**04 20 05.6**	**+1.8**
AKH				*e*S	**Sn**	**04 20 45.4**	**+1.7**
AKH	**Akhalkalaki**	**3.33**	**277**	P	**Pn**	**04 20 05.2**	**+1.3**
AKH				S	**Sn**	**04 20 45.8**	**+2.0**
ZEI	**Tsey**	**3.42**	**301**	*e*PN	**Pg**	**04 20 16.9**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KORR	**Kora**	**3.47**	**306**	*e*Pn	**Pb**	**04 20 09.4**	**-3.5**
KORR				*e*Sn	**Sn**	**04 20 50.1**	**+3.2**
KORR	**Kora**	**3.47**	**306**	*e*PN	**Pb**	**04 20 14.8**	**+1.9**
KORR				*e*S	**Sn**	**04 20 50.1**	**+3.2**
ONI	**Oni**	**3.64**	**296**	*e*Pn	**Pn**	**04 20 09.1**	**+1.2**
ONI	**Oni**	**3.64**	**296**	*e*PN	**Pn**	**04 20 09.1**	**+1.2**
ONI				*e*S	**Sb**	**04 20 56.7**	**-3.4**
ONI	**Oni**	**3.64**	**296**	P	**Pn**	**04 20 09.3**	**+1.4**
KBZ	**Khabaz**	**4.54**	**307**	*e*PN	**Pb**	**04 20 27.8**	**-3.2**
KBZ				*e*S	**Sn**	**04 21 17.1**	**+4.0**

*IDC **29** 04:28:16.1±1.4,34°.24N×24°.05E,h0km,mb3.8/4,*
mb1 3.8/6,mb1mx3.5/40,mbtmp3.7/6,ML4.0/1,Error
ellipse: s-maj=43.7km s-min=23.6km az=136.0
*ATH **29** 04:28:23.1,34°.66N×23°.99E,h22km±2km,ML2.8/5,Error*
ellipse: s-maj=10.4km s-min=2.6km az=28.0
ISC 29 04:28:20.3±1.3,34°.5N±0°.1×23°.88E±0°.08,h29km,n15,
σ1§47/15,mb3.9/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.43**	**23**	P	**Pb**	**04 28 28.2**	**-1.3**
GVD				AML	AML	04 28 47.1	
	comp=E,5214μm,0.4s						
GVD				AML	AML	04 28 47.4	
	comp=N,5074μm,0.4s						
SIVA	**Sivas**	**0.95**	**53**	P	**Pb**	**04 28 38.3**	**+0.1**
SIVA				AML	AML	04 29 03.9	
	comp=N,2093μm,1.0s						
SIVA				AML	AML	04 29 07.5	
	comp=E,3426μm,0.6s						
VAM	**Vamos**	**0.99**	**15**	P	**Pn**	**04 28 38.2**	**-0.1**
VAM				AML	AML	04 29 04.1	
	comp=E,1963μm,0.7s						
VAM				AML	AML	04 29 06.8	
	comp=N,1678μm,0.7s						
IMMV	**Iera Moni Meta**	**1.02**	**5**	P	**Pn**	**04 28 38.2**	**-0.4**
IMMV				AML	AML	04 29 05.7	
	comp=N,2669μm,0.5s						
IMMV				AML	AML	04 29 05.8	
	comp=E,2558μm,0.6s						
IDI	**Anoyia**	**1.18**	**44**	P	**Pb**	**04 28 41.4**	**-0.7**
IDI				AML	AML	04 29 09.2	
	comp=N,455μm,0.7s						
IDI				AML	AML	04 29 18.8	
	comp=E,322μm,0.8s						
LAST	**Lasithi**	**1.50**	**61**	P	**Pb**	**04 28 48.1**	**+0.6**
NPS	**Neapolis**	**1.64**	**60**	P	**Pb**	**04 28 50.3**	**+0.5**
VLI	**Veliai**	**2.40**	**341**	P	**Pb**	**04 29 01.4**	**-1.3**
KARP	**Karpathos**	**2.91**	**67**	P	**Pb**	**04 29 07.7**	**-3.7**
GERES	**GERESS Array B**	**16.25**	**335**	Pn	**P**	**04 32 11.8**	**+2.5**
	comp=E,0.2nm,0.3s,baz=150,slow=12,SNR=7.4						
AKASG	**Malin Array Be**	**16.71**	**12**	Pn	**Pn**	**04 32 12.4**	**+0.3**
	baz=204,slow=9.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**29.23**	**229**	P	**P**	**04 34 19.3**	**-0.3**
	comp=E,0.3nm,0.6s,baz=37,slow=8.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**42.39**	**50**	P	**P**	**04 36 12.2**	**+0.3**
	comp=E,1.0nm,0.5s,baz=276,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**45.04**	**56**	P	**P**	**04 36 34.1**	**+0.8**
	comp=E,1.1nm,0.5s,baz=267,slow=7.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**46.26**	**46**	P	**P**	**04 36 42.5**	**-0.2**
	comp=E,0.8nm,0.4s,baz=277,slow=9.0,SNR=2.6						

*INET **29** 04:29:43.7,10°.94N×85°.17W,h174km,ML3.1*
UCR 29 04:29:42.9±1.4,10°.84N×85°.15W,h179km±3km,MD4.0,
Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HORNC	**Hornillas**	**0.12**	**191**	*i* P	Pn	04 30 07.0	+0.3
HORNC				*i* S	Sn	04 30 25.8	+0.7
GUAB	**Guayabo de Bag**	**0.15**	**210**	*i* P	Pn	04 30 06.8	+0.1
GUAB				*i* S	Sn	04 30 25.7	+0.8
LIM1	**Limonal**	**0.17**	**215**	*i* P	Pn	04 30 06.7	0.0
COLC	**Colonia**	**0.18**	**196**	*i* P	Pn	04 30 07.0	+0.3
BUAI	**Buenos Aires**	**0.18**	**283**	*i* P	Pn	04 30 06.6	0.0
GPS1	**Guardaparques**	**0.20**	**252**	*i* P	Pn	04 30 06.8	0.0
GPS1				*i* S	Sn	04 30 26.0	+1.0
PTEN	**Parque Tenorio**	**0.20**	**126**	*i* P	Pn	04 30 07.2	+0.5
GPS2	**Hotel Rincn d**	**0.21**	**247**	*i* P	Pn	04 30 06.7	-0.1
GPS2				*i* S	Sn	04 30 25.6	+0.6
GPS3	**Bodega del ICE**	**0.22**	**249**	*i* P	Pn	04 30 06.7	-0.1
GPS3				*i* S	Sn	04 30 26.0	+0.9
ACAL	**Aguas Claras**	**0.23**	**150**	*i* P	Pn	04 30 07.3	+0.4
ACAL				*i* S	Sn	04 30 25.9	+0.6
GB1A	**Borinquen Arri**	**0.24**	**266**	*i* P	Pn	04 30 06.9	0.0
BUEV	**Buena Vista**	**0.25**	**261**	*i* P	Pn	04 30 06.8	-0.1
BUEV				*i* S	Sn	04 30 26.0	+0.8
LAPC	**Finca la Perla**	**0.28**	**256**	*i* P	Pn	04 30 06.5	-0.4
LAPC				*i* S	Sn	04 30 25.2	+0.1
GBS3	**Finca Las Img**	**0.30**	**260**	*i* P	Pn	04 30 06.6	-0.4
GBS3				*i* S	Sn	04 30 25.5	+0.3
HZTE	**Horizontes, Gu**	**0.45**	**254**	*e*P	Pn	04 30 07.2	-0.1
HZTE				*e*S	Sn	04 30 26.8	+0.7
PLVR	**Palo Verde**	**0.52**	**202**	*e*P	Pn	04 30 08.1	+0.2
PLVR				*e*S	Sn	04 30 27.9	+0.7
ORTG	**Ortega, Santa**	**0.56**	**213**	*e*P	Pn	04 30 08.1	+0.2
CEDE	**Laguna Cedeo**	**0.56**	**128**	*e*P	Pn	04 30 08.6	+0.7
CEDE				*e*S	Sn	04 30 27.9	+0.7
CASO	**Castillo**	**0.57**	**134**	*i* P	Pn	04 30 08.6	+0.6
FORC	**Fortuna**	**0.60**	**128**	*i* P	Pn	04 30 08.8	+0.7
GUAI	**GUAI**	**0.66**	**212**	*i* P	Pn	04 30 08.5	+0.2
GUAI				*i* S	Sn	04 30 28.7	+0.7
COVE	**Coope Vega, Sa**	**0.75**	**99**	*e*P	Pn	04 30 08.7	-0.1
COVE				*e*S	Sn	04 30 30.8	+2.1
DUNO	**Dulce Nombre,**	**0.82**	**204**	*e*P	Pn	04 30 09.3	0.0
LAFE	**Finca La Fe, P**	**1.05**	**167**	*e*P	Pn	04 30 11.0	+0.1
LAFE				*e*S	Sn	04 30 32.8	+0.2
JACO	**JACO, Garabito**	**1.26**	**157**	*e*P	Pn	04 30 12.9	+0.3
JACO				*e*S	Sn	04 30 36.6	+1.0
LCR2	**La Lucha 2**	**1.57**	**134**	*e*P	Pn	04 30 16.2	+0.5
LCR2				*e*S	Sn	04 30 41.2	+0.2
ESPN	**Las Esperanzas**	**1.59**	**32**	*e*P	Pn	04 30 15.2	-0.4
RIMA	**Rio Macho**	**1.66**	**130**	*e*P	Pn	04 30 17.2	+0.6
CDM	**Cerro de Muert**	**1.87**	**133**	*e*P	Pn	04 30 19.9	+0.9
CDM				*e*S	Sn	04 30 47.5	+0.7
EDDO	**Dominical**	**2.02**	**141**	*e*P	Pn	04 30 21.2	+1.1
PEZE	**Perez Zeledon,**	**2.05**	**135**	*e*P	Pn	04 30 21.8	+1.3
MATN	**Matagalpa**	**2.21**	**340**	*e*P	Pn	04 30 22.2	-0.1
DRK0	**Durika**	**2.44**	**130**	*e*P	Pn	04 30 25.7	+0.6
EDBA	**Buenos Aires**	**2.49**	**132**	*e*P	Pn	04 30 26.8	+1.4
RIOS	**Rincon, Osa**	**2.67**	**143**	*e*P	Pn	04 30 28.9	+1.4

IDC 29 04:36:32.1±0.9,15°.55S×173°.89W,h0km,mb3.6/6,
mb1 3.9/7,mb1mx3.8/26,mbtmp3.6/7,ML3.4/1,MS3.2/1,
Ms1 3.2/1,ms1mx2.7/23,Error ellipse: s-maj=44.9km
s-min=20.2km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**52**	Pn	Pn	04 37 14.0	-1.7
	6.9nm,0.3s,baz=17,slow=15,SNR=6.4						
AFI				Sn	Sn	04 37 42.2	-6.1
	14nm,0.3s,baz=233,slow=23,SNR=5.5						
URZ	**Urewera**	**23.97**	**198**	LR	LR	04 49 40.2	
	comp=Z,51nm,19.1s,baz=71,slow=33						
WRA	**Warramunga Arr**	**49.35**	**257**	P	P	04 45 24.5	+0.8
	0.5nm,0.9s,baz=97,slow=6.3,SNR=5.9						
ASAR	**Alice Springs**	**49.62**	**252**	P	P	04 45 24.1	-1.6
	1.2nm,0.7s,baz=88,slow=8.1,SNR=12						
VNDA	**Vanda**	**63.18**	**186**	P	P	04 47 01.8	+0.3
	0.2nm,0.4s,baz=8.1,slow=7.1,SNR=4.2						
NVAR	**Mina Array Bea**	**74.76**	**42**	P	P	04 48 14.9	+0.5
	0.5nm,0.7s,baz=233,slow=9.9,SNR=4.5						
ILAR	**Eielson Array**	**82.69**	**11**	P	P	04 48 58.2	+1.0
	0.2nm,0.6s,baz=212,slow=5.0,SNR=4.1						
PDAR	**Pinedale Array**	**82.69**	**42**	P	P	04 48 57.5	-0.5
	0.7nm,0.8s,baz=199,slow=4.1,SNR=7.3						

*IDC **29** 05:15:51.2±2.1,32°.39N×85°.66E,h0km,mb3.4/4,*
mb1 3.7/7,mb1mx3.5/35,mbtmp3.5/7,ML3.4/3,MS3.2/3,
Ms1 3.2/3,ms1mx2.8/29,Error ellipse: s-maj=69.4km
s-min=20.7km az=72.0
ISC 29 05:15:51.6±1.6,32°.3N±0°.1×85°.2E±0°.2,h10km,n11,
σ1§65/10,mb3.5/4,MS3.0/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.74**	**115**	P	**Pn**	**05 17 17.5**	**+0.1**
LSA				S	**Sb**	**05 18 42.0**	**+0.8**
LSA				LR	LR		
	comp=N,610nm,4.3s						
LSA				LR	LR		
	comp=E,770nm,4.6s						
LSA				LR	LR		
	comp=Z,950nm,6.4s						
WMQ	**Urumqi**	**11.71**	**9**	*e*P	**Pn**	**05 18 40.8**	**+1.9**
WMQ				smax	smax		
	comp=N,12nm,0.7s						
WMQ				smax	smax		
	comp=E,10.0nm,0.7s						
MKAR	**Makanchi Array**	**14.68**	**352**	Pn	**Pn**	**05 19 19.9**	**+0.6**
	comp=E,0.1nm,0.3s,baz=154,slow=15,SNR=4.3						
CMAR	**Chiang Mai Arr**	**18.52**	**135**	P	**P**	**05 20 08.7**	**+0.4**
	comp=E,0.2nm,0.3s,baz=321,slow=14,SNR=5.9						
KURBB	**Kurchatov Arra**	**18.99**	**347**	P	**P**	**05 20 14.8**	**+1.6**
	comp=E,0.0nm,0.3s,baz=157,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**21.68**	**359**	P	**P**	**05 20 40.9**	**-1.5**
	comp=E,1.0nm,0.6s,baz=172,slow=12,SNR=3.9						
ZALV				LR	LR	05 30 04.7	
	comp=E,55nm,18.6s,baz=182,slow=40						
SONM	**Songino Array**	**22.39**	**40**	P	**P**	**05 20 47.2**	**-3.0**
	comp=E,1.1nm,0.7s,baz=246,slow=10,SNR=3.1						
GEYT	**Alibeck**	**22.80**	**292**	LR	LR	05 32 44.6	
	comp=E,42nm,18.1s,baz=25,slow=44						
AKTO	**Aktyubinsk**	**27.06**	**320**	LR	LR	05 33 06.8	
	comp=E,55nm,18.8s,baz=250,slow=38						
WRA	**Warramunga Arr**	**70.06**	**131**	P	**P**	**05 27 03.8**	**-0.3**
	comp=E,0.3nm,0.5s,baz=327,slow=6.7,SNR=4.9						
ASAR	**Alice Springs**	**72.53**	**134**	P	**P**	**05 27 18.5**	**-0.5**
	comp=E,0.3nm,0.7s,baz=335,slow=6.3,SNR=3.8						

IDC 29 05:35:13.9±1.6,24°.31S×69°.61E,h0km,mb3.7/5,
mb1 3.9/5,mb1mx3.6/35,mbtmp3.7/5,MS3.7/10,
Ms1 3.7/10,ms1mx3.4/27,Error ellipse: s-maj=51.6km
s-min=30.7km az=25.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.79**	**10**	T	T	05 56 10.5	
	baz=190,slow=76,SNR=66						
H08S2	**Diego Garcia H**	**16.80**	**10**	T	T	05 56 10.1	
	baz=190,slow=76,SNR=40						
H08S3	**Diego Garcia H**	**16.81**	**10**	T	T	05 56 11.3	
	baz=190,slow=76,SNR=55						
BOSA	**Boshof**	**39.77**	**254**	LR	LR	05 56 39.5	
	comp=Z,158nm,18.2s,baz=159,slow=32						
H01W2	**Cape Leeuwin H**	**39.84**	**116**	T	T	06 25 09.6	
	baz=272,slow=75,SNR=6.3						
H01W3	**Cape Leeuwin H**	**39.84**	**116**	T	T	06 25 06.7	
	baz=272,slow=75,SNR=6.3						
H01W1	**Cape Leeuwin H**	**39.86**	**116**	T	T	06 25 12.7	
	baz=272,slow=75,SNR=5.9						
MAW	**Mawson**	**43.51**	**184**	LR	LR	05 58 27.4	
	comp=Z,52nm,18.3s,baz=52,slow=32						
CMAR	**Chiang Mai Arr**	**51.23**	**37**	P	P	05 44 20.3	+0.8
	0.5nm,0.4s,baz=243,slow=8.0,SNR=3.0						
CMAR				LR	LR	06 03 34.3	
	comp=Z,37nm,19.8s,baz=200,slow=33						
ASAR	**Alice Springs**	**58.25**	**104**	P	P	05 45 10.1	-0.5
	0.3nm,0.6s,baz=249,slow=6.2,SNR=5.0						
ASAR				LR	LR	06 06 46.2	
	comp=Z,68nm,21.4s,baz=312,slow=32						
WRA	**Warramunga Arr**	**59.66**	**100**	P	P	05 45 20.6	+0.2
	0.4nm,0.7s,baz=256,slow=7.0,SNR=3.3						
WRA				LR	LR	06 09 26.3	
	comp=Z,61nm,18.4s,baz=275,slow=34						
GEYT	**Alibeck**	**62.84**	**350**	LR	LR	06 10 07.0	
	comp=Z,33nm,18.1s,baz=0.0,slow=33						
STKA	**Stephens Creek**	**62.93**	**115**	LR	LR	06 09 09.7	
	comp=Z,78nm,18.4s,baz=205,slow=32						
MKAR	**Makanchi Array**	**71.69**	**9**	P	P	05 46 36.2	-1.2
	0.3nm,0.5s,baz=191,slow=5.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.01**	**292**	P	P	05 47 03.9	+0.4
	1.3nm,1.1s,baz=130,slow=4.5,SNR=4.2						
TORD				LR	LR	06 18 45.3	
	comp=Z,52nm,19.0s,baz=335,slow=34						
DBIC	**Dimbokro**	**78.72**	**283**	LR	LR	06 20 21.7	
	comp=Z,51nm,18.0s,baz=102,slow=34						
KSRS	**Korea Array**	**82.33**	**43**	LR	LR	06 22 19.9	
	comp=Z,27nm,19.7s,baz=301,slow=34						

*JMA **29** 05:43:10.5±0.1,24°.29N×121°.79E,h0km,M2.6*
*TAP **29** 05:43:11.3,24°.33N×121°.78E,h6km,ML3.2,C*
ISC 29 05:43:11.3±1.0,24°.32N±0°.01×121°.80E±0°.02,h5km±8km,
n88,σ0§75/143,8C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.12**	**334**	⇑*i*P	**Pg**	**05 43 13.8**	**0.0**
	baz=344						
ENA				*i* S	**Sg**	**05 43 15.4**	**-0.1**
	baz=344						
ENAH	**Nanao**	**0.13**	**4**	P	**Pg**	**05 43 14.3**	**+0.3**
	baz=10.0						
ENAH				*i* S	**Sg**	**05 43 16.3**	**+0.5**
	baz=10.0						
NACB	**Ninganchiao**	**0.23**	**233**	⇓*i*P	**Pg**	**05 43 16.0**	**+0.1**
	baz=216						
NACB				*i* S	**Sg**	**05 43 19.6**	**+0.7**
	baz=216						
TWC	**Suao**	**0.29**	**9**	⇓*i*P	**Pg**	**05 43 17.3**	**+0.3**
	baz=9.0						
TWC				*i* S	**Sg**	**05 43 21.2**	**+0.2**
	baz=9.0						
TWD	**Chiawan**	**0.30**	**218**	⇓*i*P	**Pg**	**05 43 17.4**	**+0.2**
	baz=212						
TWD				S	**Sg**	**05 43 21.8**	**+0.7**
	baz=212						
ETLH	**Xiulin Townshi**	**0.31**	**249**	⇓P	**Pg**	**05 43 17.4**	**0.0**
	baz=245						
HWA	**Hwalien**	**0.38**	**208**	*e*P	**Pb**	**05 43 19.8**	**-0.8**
	baz=203						
HWA				*e*S	**Sb**	**05 43 26.7**	**-0.1**
	baz=203						
ENTT	**Nioudou**	**0.39**	**327**	⇑*i*P	**Pg**	**05 43 19.1**	**+0.3**
	baz=328						
ENTT				*e*S	**Sg**	**05 43 23.8**	**0.0**
	baz=328						
NDT	**Datong Townshi**	**0.39**	**317**	⇑*i*P	**Pg**	**05 43 19.2**	**+0.5**
	baz=318						
NDT				S	**Sb**	**05 43 25.1**	**-1.9**
	baz=318						
NNSB	**Datong**	**0.40**	**286**	⇑*i*P	**Pg**	**05 43 19.1**	**+0.2**
	baz=285						
NNSB				*e*S	**Sg**	**05 43 24.0**	**-0.2**
	baz=285						
NNSH	**Datong**	**0.40**	**286**	P	**Pg**	**05 43 19.1**	**+0.1**
	baz=285						
NNSH				S	**Sg**	**05 43 23.9**	**-0.3**
	baz=285						
NNS	**Nan Shan**	**0.41**	**288**	P	**Pg**	**05 43 19.3**	**+0.1**
	baz=286						
NNS				*e*S	**Sg**	**05 43 24.4**	**-0.2**
	baz=286						
TWE	**Neicheng**	**0.42**	**343**	⇑*i*P	**Pg**	**05 43 19.7**	**+0.3**
	baz=347						
TWE				S	**Sg**	**05 43 24.3**	**-0.6**
	baz=347						
ILA	**Ilan**	**0.45**	**354**	*e*P	**Pg**	**05 43 20.1**	**+0.1**
	baz=357						
ILA				*e*S	**Sb**	**05 43 27.3**	**-1.5**
	baz=357						
FUSS	**Fushou**	**0.51**	**262**	⇓P	**Pg**	**05 43 21.4**	**+0.2**
	baz=260						
FUSS				*e*S	**Sg**	**05 43 28.1**	**+0.2**
	baz=260						
WHF	**Hehuan Shan**	**0.52**	**251**	⇓*i*P	**Pg**	**05 43 21.3**	**0.0**
	baz=247						
WHF				*e*S	**Sg**	**05 43 28.1**	**0.0**
	baz=247						
YHNB	**Yeheng**	**0.52**	**312**	⇑*i*P	**Pb**	**05 43 21.9**	**-1.2**
	baz=321						
YHNB				*e*S	**Sg**	**05 43 28.9**	**+0.7**
	baz=321						
NWLT	**Wulai**	**0.53**	**330**	⇑*i*P	**Pb**	**05 43 22.0**	**-1.1**
	baz=331						
NWLT				S	**Sg**	**05 43 28.4**	**-0.1**
	baz=331						
NTC	**Toucheng**	**0.54**	**3**	*e*P	**Pb**	**05 43 22.4**	**-0.8**
	baz=5.0						
NTC				*e*S	**Sb**	**05 43 30.1**	**-1.1**
	baz=5.0						
NSK	**Sanguang**	**0.54**	**312**	⇑P	**Pb**	**05 43 22.1**	**-1.2**
	baz=312						
NSK				*e*S	**Sg**	**05 43 29.3**	**+0.6**
	baz=312						
EGS		**0.54**	**13**	*e*P	**Pg**	**05 43 22.1**	**+0.4**
	baz=28						
TWT	**Tachien**	**0.57**	**264**	*e*P	**Pb**	**05 43 23.2**	**-0.8**
	baz=262						
TWT				*e*S	**Sb**	**05 43 30.7**	**-1.7**
	baz=262						
TDCB	**Techi**	**0.59**	**264**	*e*P	**Pg**	**05 43 22.8**	**+0.1**
	baz=262						
TDCB				*e*S	**Sg**	**05 43 30.3**	**-0.1**
	baz=262						
ESL	**Shilin**	**0.60**	**214**	⇓*i*P	**Pg**	**05 43 22.8**	**-0.1**
	baz=210						
ESL				*e*S	**Sg**	**05 43 31.2**	**+0.5**
	baz=210						
CHGB	**Renai**	**0.63**	**246**	P	**Pg**	**05 43 23.5**	**+0.1**
	baz=234						
CHGB				*e*S	**Sb**	**05 43 32.5**	**-1.5**
	baz=234						
TIPB	**Shuangxi**	**0.65**	**2**	*e*P	**Pb**	**05 43 24.4**	**-0.8**
	baz=4.0						
TIPB				S	**Sg**	**05 43 32.7**	**+0.3**
	baz=4.0						
TWA	**Mucha**	**0.69**	**343**	*e*P	**Pg**	**05 43 24.4**	**-0.1**
	baz=345						
TWA				*e*S	**Sg**	**05 43 33.7**	**+0.2**
	baz=345						
TWB1	**Santiao Chiao**	**0.71**	**14**	P	**Pb**	**05 43 25.6**	**-0.5**
	baz=17						
TWB1				*e*S	**Sg**	**05 43 34.3**	**+0.1**
	baz=17						
EGFH	**Guangfu**	**0.73**	**208**	*e*P	**Pb**	**05 43 25.4**	**-1.1**
	baz=216						
EGFH				*e*S	**Sb**	**05 43 36.9**	**+0.1**
	baz=216						
NWF	**Wu-fen Shan**	**0.75**	**359**	P	**Pb**	**05 43 27.4**	**+0.4**
	baz=350						
NWF				*e*S	**Sg**	**05 43 36.0**	**+0.5**
	baz=350						
WFSB	**Wu-fen Shan**	**0.75**	**359**	*e*P	**Pb**	**05 43 26.8**	**-0.1**
	baz=350						
WFSB				*e*S	**Sg**	**05 43 36.0**	**+0.5**
	baz=350						
TAP1	**Taipei**	**0.76**	**341**	*e*S	**Sg**	**05 43 36.4**	**+0.6**
	baz=341						
TAP	**Taipei**	**0.77**	**340**	*e*S	**Sg**	**05 43 36.6**	**+0.6**
	baz=341						
WHP	**Taichung City**	**0.78**	**267**	P	**Pb**	**05 43 27.0**	**-0.4**
	baz=266						
WHP				*e*S	**Sb**	**05 43 37.0**	**-1.4**
	baz=266						
LIOB	**Emei**	**0.79**	**295**	*e*P	**Pb**	**05 43 27.5**	**0.0**
	baz=294						
LIOB				*e*S	**Sb**	**05 43 37.9**	**-0.6**
	baz=294						
NSTT	**Nanjuang**	**0.79**	**293**	*e*P	**Pb**	**05 43 27.3**	**-0.3**
	baz=293						
NSTT				S	**Sb**	**05 43 37.8**	**-0.8**
	baz=293						
VWDT	**VWDT**	**0.82**	**227**	P	**Pb**	**05 43 27.0**	**-1.1**
	baz=215						
VWDT				*e*S	**Sb**	**05 43 39.1**	**-0.4**
	baz=215						
YM01	**YM01**	**0.85**	**346**	P	**Pg**	**05 43 27.9**	**+0.2**
	baz=347						
YM01				*e*S	**Sg**	**05 43 39.4**	**+0.6**
	baz=347						
TWS1	**Kuangyinshan**	**0.85**	**336**	*e*P	**Pb**	**05 43 29.0**	**+0.4**
	baz=337						
TWS1				*e*S	**Sb**	**05 43 39.8**	**-0.6**
	baz=337						
YM10	**YM10**	**0.86**	**345**	P	**Pg**	**05 43 28.0**	**+0.1**
	baz=347						
YM04	**YM04**	**0.87**	**344**	*e*P	**Pg**	**05 43 28.0**	**+0.1**
	baz=346						
YM05	**YM05**	**0.87**	**346**	*e*P	**Pg**	**05 43 27.9**	**-0.1**
	baz=347						
YM05				*e*S	**Sg**	**05 43 39.8**	**+0.5**
	baz=347						
YM11	**YM11**	**0.87**	**346**	P	**Pb**	**05 43 29.4**	**+0.5**
	baz=348						
YM11				*e*S	**Sg**	**05 43 39.3**	**0.0**
	baz=348						
YM08	**YM08**	**0.89**	**348**	*e*P	**Pb**	**05 43 28.7**	**-0.5**
	baz=349						
HGSD	**Ruisui**	**0.89**	**203**	*e*P	**Pb**	**05 43 29.0**	**-0.2**
	baz=218						
YM03	**YM03**	**0.89**	**345**	*e*P

YOJ			*e*S		**Sb**	**05 43 48.7 +0.8**
	baz=69					
YOJ	**Yonaguni jima**	**1.11 82**	P		**Pg**	**05 43 32.7 0.0**
YOJ			*e*S		**Sb**	**05 43 48.4 +0.5**
YUS	**Yu-Shan**	**1.13 223**	P		**Pb**	**05 43 32.9 -0.7**
	baz=233					
FULB	**Fuli**	**1.21 203**	*e*P		**Pg**	**05 43 33.2 -1.2**
	baz=214					
ALS	**Alishan**	**1.21 229**	P		**Pb**	**05 43 34.5 -0.4**
	baz=214					
ALS			*e*S		**Sn**	**05 43 53.5 +1.3**
	baz=214					
CHN5	**Tsauling**	**1.25 235**	*e*P		**Pn**	**05 43 36.1 +0.6**
	baz=233					
WDLH	**Douliu**	**1.31 242**	*e*P		**Pb**	**05 43 37.1 +0.7**
	baz=254					
WDLH			*e*S		**Sn**	**05 43 56.3 +2.1**
	baz=254					
ELDTW	**Lidau**	**1.33 213**	*e*P		**Pn**	**05 43 36.3 -0.3**
	baz=210					
EDH	**Donghe**	**1.41 199**	*e*P		**Pg**	**05 43 39.2 +0.8**
	baz=182					
WTK	**Tuku**	**1.43 244**	*e*P		**Pg**	**05 43 38.7 -0.1**
	baz=242					
CHN4	**Tsaushan**	**1.47 229**	*e*P		**Pg**	**05 43 39.9 +0.6**
	baz=228					
CHN4			*e*S		**Sn**	**05 44 01.1 +3.2**
	baz=228					
TPUB	**Ta-pu**	**1.47 227**	*e*P		**Pg**	**05 43 39.6 0.0**
	baz=213					
TPUB			*e*S		**Sn**	**05 44 00.6 +2.4**
	baz=213					
STYT	**Tauyuan**	**1.49 220**	*e*P		**Pg**	**05 43 40.0 0.0**
	baz=217					
WTP	**Ta-pu**	**1.52 226**	*e*P		**Pg**	**05 43 40.6 +0.1**
	baz=212					
WTP			*e*S		**Sg**	**05 44 02.0 +1.8**
	baz=212					
TWK	**Hsinying**	**1.59 229**	*e*P		**Pg**	**05 43 41.0 -0.9**
	baz=210					
CHN1	**Nanshi**	**1.62 226**	*e*P		**Pg**	**05 43 42.6 +0.2**
	baz=209					
TWGBT	**Beinan**	**1.63 204**	*e*P		**Pn**	**05 43 39.8 -0.9**
	baz=202					
ICHU	**Yijhu**	**1.69 236**	*e*P		**Pg**	**05 43 43.5 -0.1**
	baz=234					
SLGT	**Liugui**	**1.69 219**	*e*P		**Pb**	**05 43 42.5 -0.4**
	baz=217					
IRIF	**Iriomote-Funau**	**1.76 89**	P		**Pn**	**05 43 42.1 -0.4**
IRIF			*e*S		**Sn**	**05 44 05.2 -0.1**
HATJ	**Hateruma jima**	**1.85 98**	*e*S		**Sn**	**05 44 08.0 +0.5**
SSD	**Sandimen**	**1.90 215**	*e*P		**Pb**	**05 43 46.4 0.0**
	baz=212					
JKRS	**Kuro-shima**	**2.02 92**	P		**Pn**	**05 43 46.5 +0.5**
JKRS			*e*S		**Sn**	**05 44 12.3 +0.7**
JIJ	**Ishigaki jima**	**2.14 88**	*e*S		**Sn**	**05 44 13.6 -1.0**
PHUB	**P'eng-hu**	**2.19 249**	*e*P		**Pb**	**05 43 51.3 -0.1**
	baz=247					
WDGT	**Dungji**	**2.22 242**	*e*P		**Pn**	**05 43 48.8 -0.1**
	baz=240					
VWUC	**VWUC**	**2.24 288**	*e*P		**Pn**	**05 43 48.7 -0.4**
	baz=286					

WEL 29 05:52:06.2, 37°S±3°×17°8E±°, h148km±4km, M3.2/28, ML3.5/8, MLv3.2/28, Error ellipse: s-maj=0.0km s-min=0.0km az=152.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.63**	**160**	P	Pn	05 52 27.8	-0.2
HAZ				S	Sn	05 52 43.3	-1.3
MXZ	**Matakaoa Point**	**0.75**	**123**	P	Pn	05 52 28.8	+0.1
MXZ				S	Sn	05 52 45.7	-0.2
RUGZ	**Raukumara Rang**	**0.82**	**171**	P	Pn	05 52 28.8	-0.6
WMGZ	**Waiomatatini S**	**0.97**	**133**	P	Pn	05 52 30.9	+0.5
WMGZ				S	Sn	05 52 49.6	+0.6
OPRZ	**Ohinepanea**	**1.03**	**228**	P	Pn	05 52 30.9	0.0
TWGZ	**Tauwhareparae**	**1.08**	**160**	P	Pn	05 52 32.6	+1.1
TWGZ				S	Sn	05 52 51.2	+0.3
PUZ	**Puketiti**	**1.09**	**147**	P	Pn	05 52 31.8	+0.4
PUZ				S	Sn	05 52 50.5	-0.4
URZ	**Urewera**	**1.15**	**196**	P	Pn	05 52 32.1	+0.1
URZ				S	Sn	05 52 51.5	-0.3
TGRZ	**Tauranga**	**1.15**	**240**	P	Pn	05 52 32.3	+0.3
TKGZ	**Te Karaka**	**1.31**	**168**	P	Pn	05 52 33.3	-0.2
TKGZ				S	Sn	05 52 54.2	-0.3
KARZ	**Kaharoa**	**1.33**	**229**	P	Pn	05 52 34.3	+0.5
TARZ	**Mount Tarawera**	**1.34**	**216**	P	Pn	05 52 34.9	+0.9
RRRZ	**Republican Roa**	**1.42**	**214**	P	Pn	05 52 35.5	+0.8
KMRZ	**Kaimai**	**1.43**	**241**	P	Pn	05 52 35.4	+0.6
CNGZ	**Carnagh Statio**	**1.43**	**158**	P	Pn	05 52 35.8	+1.0
RTZ	**Ruatahuna**	**1.52**	**196**	P	Pn	05 52 35.7	0.0
RTZ				S	Sn	05 52 58.3	-0.2
RIGZ	**Rimuhau**	**1.56**	**173**	P	Pn	05 52 36.5	+0.3
HRRZ	**Handcock Road**	**1.57**	**218**	P	Pn	05 52 37.2	+0.9
PRRZ	**Plateau Road**	**1.61**	**213**	P	Pn	05 52 37.2	+0.5
SNGZ	**Shannon Statio**	**1.63**	**185**	P	Pn	05 52 37.1	+0.2
SNGZ				S	Sn	05 53 00.5	-0.1
ALRZ	**Allen Road**	**1.68**	**213**	P	Pn	05 52 38.0	+0.5
TOZ	**Tahuroa Road**	**1.70**	**250**	P	Pn	05 52 38.5	+0.8
TOZ				S	Sn	05 53 02.0	+0.1
WPRZ	**Whakapapatarin**	**1.73**	**218**	P	Pn	05 52 39.0	+0.9
MTHZ	**Maungataniwha**	**1.77**	**197**	P	Pn	05 52 38.6	0.0
MTHZ				S	Sn	05 53 03.1	-0.4
PRGZ	**Paritu Road**	**1.79**	**171**	P	Pn	05 52 39.1	+0.5
RAHZ	**Arahi**	**1.79**	**191**	P	Pn	05 52 39.1	+0.4
RAHZ				S	Sn	05 53 03.7	0.0
KNZ	**Kokohu**	**1.86**	**176**	P	Pn	05 52 39.6	+0.1
KNZ				S	Sn	05 53 04.7	-0.5
KUTZ	**Kaahu Road**	**1.89**	**225**	P	Pn	05 52 40.9	+1.1
WHHZ	**Waihua**	**1.93**	**186**	P	Pn	05 52 40.7	+0.4
WHHZ				S	Sn	05 53 07.3	+0.7
WIAZ	**Waiheke Island**	**1.94**	**280**	P	Pn	05 52 41.0	+0.5
TLZ	**Tolley Road**	**1.96**	**233**	P	Pn	05 52 41.6	+1.0
NMHZ	**Naumai**	**2.02**	**196**	P	Pn	05 52 41.8	+0.4
NMHZ				S	Sn	05 53 10.3	+1.8
MHGZ	**Mahia Peninsul**	**2.02**	**171**	P	Pn	05 52 41.7	+0.4
WATZ	**Wairara**	**2.09**	**222**	P	Pn	05 52 43.2	+0.9
ARHZ	**Aropaoanui**	**2.14**	**191**	P	Pn	05 52 42.9	+0.1
ARHZ				S	Sn	05 53 11.2	+0.2
BKZ	**Black Stump Fm**	**2.16**	**202**	P	Pn	05 52 42.6	-0.4
BKZ				S	Sn	05 53 12.0	+0.5
RITZ	**Rihia Road**	**2.24**	**215**	P	Pn	05 52 44.6	+0.7
KATZ	**Kakaramea**	**2.31**	**218**	P	Pn	05 52 45.4	+0.4
MCHZ	**McNeill Hill**	**2.37**	**195**	P	Pn	05 52 45.5	-0.1
KWHZ	**Kaweka Forest**	**2.42**	**200**	P	Pn	05 52 45.8	-0.4
TMVZ	**Te Maari**	**2.42**	**216**	P	Pn	05 52 46.5	+0.3
ETVZ	**East Tongariro**	**2.43**	**215**	P	Pn	05 52 46.7	+0.3
KRVZ	**Karewarewa**	**2.43**	**217**	P	Pn	05 52 46.9	+0.5
WTVZ	**West Tongariro**	**2.48**	**217**	P	Pn	05 52 47.1	+0.2
OTVZ	**Oturere**	**2.48**	**215**	P	Pn	05 52 47.2	+0.2
HIZ	**Hauiti**	**2.50**	**236**	P	Pn	05 52 48.6	+1.4
TWVZ	**Taurewa**	**2.52**	**220**	P	Pn	05 52 47.9	+0.5
NGZ	**Ngauruhoe**	**2.52**	**216**	P	Pn	05 52 48.0	+0.5
CKHZ	**Cape Kidnapper**	**2.52**	**188**	P	Pn	05 52 47.0	-0.4
TUVZ	**Tukino**	**2.57**	**214**	P	Pn	05 52 48.1	0.0
BHHZ	**Black Hill Sta**	**2.59**	**206**	P	Pn	05 52 47.7	-0.7
FWVZ	**Far West T-bar**	**2.60**	**216**	P	Pn	05 52 48.6	-0.1
MOVZ	**Moawhango**	**2.64**	**211**	P	Pn	05 52 48.1	-0.8
KRHZ	**Kereru**	**2.64**	**200**	P	Pn	05 52 47.9	-1.0
WNVZ	**Wahianoa**	**2.64**	**214**	P	Pn	05 52 48.8	-0.3
KAHZ	**Kahuranaki**	**2.68**	**191**	P	Pn	05 52 48.8	-0.6
PKVZ	**Pokaka**	**2.73**	**218**	P	Pn	05 52 50.1	+0.1
PXZ	**Pawanui**	**2.91**	**190**	P	Pn	05 52 51.3	-0.9
PNHZ	**Pukenui**	**2.94**	**200**	P	Pn	05 52 51.3	-1.4
WPHZ	**Waipukurau**	**3.02**	**196**	P	Pn	05 52 52.4	-1.3
TSZ	**Takapari Road**	**3.14**	**202**	P	Pn	05 52 53.6	-1.6
PRHZ	**Porangahau**	**3.18**	**192**	P	Pn	05 52 54.1	-1.5
WAZ	**Wanganui**	**3.27**	**217**	P	Pn	05 52 56.4	-0.4
DVHZ	**Dannevirke**	**3.31**	**198**	P	Pn	05 52 55.4	-2.0
NEZ	**North Egmont**	**3.42**	**231**	P	Pn	05 53 00.9	+2.0
PKE	**Pukeiti**	**3.44**	**233**	P	Pn	05 53 00.2	+1.1
POWZ	**Post Office Ro**	**3.51**	**202**	P	Pn	05 52 58.1	-1.8
PRWZ	**Pori Road**	**3.60**	**199**	P	Pn	05 52 59.4	-1.7
BFZ	**Birch Farm**	**3.66**	**195**	P	Pn	05 52 59.6	-2.2
MRZ	**Mangatainoka R**	**3.81**	**203**	P	Pn	05 53 01.2	-2.6
TIWZ	**Tintock**	**3.83**	**199**	P	Pn	05 53 01.9	-2.2
CPWZ	**Castlepoint**	**3.88**	**195**	P	Pn	05 53 03.2	-1.6
HOWZ	**Holdsworth Sta**	**4.05**	**202**	P	Pn	05 53 04.0	-2.9
OGWZ	**Otaki Gorge**	**4.08**	**206**	P	Pn	05 53 04.9	-2.5
TMWZ	**Te Maipa**	**4.14**	**197**	P	Pn	05 53 05.5	-2.7
KIW	**Kapiti Island**	**4.22**	**208**	P	Pn	05 53 06.3	-2.8
CAW	**Cannon Point**	**4.38**	**205**	P	Pn	05 53 08.1	-3.2
TRWZ	**Traveller**	**4.47**	**198**	P	Pn	05 53 09.6	-2.8
DUWZ	**D'Urville Isla**	**4.59**	**216**	P	Pn	05 53 11.1	-3.0
MSWZ	**Moikau Station**	**4.60**	**202**	P	Pn	05 53 10.6	-3.6
WEL	**Wellington**	**4.64**	**207**	P	Pn	05 53 11.4	-3.3
BHW	**Baring Head**	**4.71**	**205**	P	Pn	05 53 12.0	-3.6
PLWZ	**Palliser**	**4.74**	**201**	P	Pn	05 53 12.3	-3.7
TCW	**Tory Channel**	**4.76**	**211**	P	Pn	05 53 12.9	-3.4
TUWZ	**Tuamarina**	**5.09**	**212**	P	Pn	05 53 16.9	-3.6
NNZ	**Nelson**	**5.17**	**217**	P	Pn	05 53 18.2	-3.5
QRZ	**Quartz Range**	**5.34**	**225**	P	Pn	05 53 20.8	-3.2
BSWZ	**Blackbirch Sta**	**5.35**	**211**	P	Pn	05 53 20.4	-3.7
THZ	**Tophouse**	**5.82**	**216**	P	Pn	05 53 26.6	-3.8
KHZ	**Kahutara**	**6.08**	**209**	P	Pn	05 53 29.8	-4.0
DSZ	**Denniston Nort**	**6.36**	**222**	P	Pn	05 53 33.7	-3.9
LTZ	**Lake Taylor**	**6.91**	**214**	P	Pn	05 53 40.2	-4.7
MQZ	**McQueen's Vall**	**7.52**	**208**	P	Pn	05 53 47.2	-5.8
MHCZ	**Mount Hutt**	**7.82**	**214**	P	Pn	05 53 52.6	-4.5
WACZ	**Wakanui South**	**8.04**	**211**	P	Pn	05 53 54.9	-5.0
RPZ	**Rata Peaks**	**8.19**	**215**	P	Pn	05 53 58.0	-4.1
ARCZ	**Arundel**	**8.32**	**213**	P	Pn	05 53 59.4	-4.4
ODZ	**Otahua Downs**	**9.43**	**211**	P	Pn	05 54 13.4	-5.1

IDC 29 05:55:39.6±2.2, 8°29S×123°46E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.3/22, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=391.4km s-min=31.6km az=57.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.66**	**139**	Pn	Pn	05 59 21.6	-0.1
	0.1nm,0.3s,baz=300,slow=13,SNR=4.7						
WRA				Sn	Sn	06 02 03.1	-13
	0.1nm,0.3s,baz=297,slow=37,SNR=4.7						
ASAR	**Alice Springs**	**18.27**	**148**	P	Pn	05 59 54.9	+0.1
	0.1nm,0.3s,baz=324,slow=13,SNR=3.7						
ASAR				S	Sn	06 03 10.6	-9.0
	0.2nm,0.3s,baz=308,slow=44,SNR=4.5						
MKAR	**Makanchi Array**	**65.93**	**330**	P	P	06 06 27.5	0.0
	0.3nm,0.5s,baz=123,slow=7.3,SNR=4.3						

*SSNC **29** 05:56:38.5±1.1, 19°.86N×76°.97W, h4km±6km, MD2.9, ML2.4, MW2.8*
*JSN **29** 05:56:40.3±0.4, 19°.58N×76°.97W, h10km±3km, MD3.5*
ISC 29 05:56:35.3±1.1, 19°78N±0°04×76°96W±0°04, h30km±11km, n14, σ1°55/21, 5C-5D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.29**	**351**	⇓*i*P	**Pn**	**05 56 42.9**	**-0.7**
LMGC				*e*S	**Sb**	**05 56 46.3**	**-1.3**
LMGC				IAML		05 56 46.5	
	comp=E,2μm,0.1s						
LMGC				IAML		05 56 46.6	
	comp=N,3μm,0.1s						
RCC	**Rio Carpintero**	**1.21**	**79**	⇑*i*P	**Pb**	**05 56 58.7**	**+1.2**
RCC				*e*S	**Sb**	**05 57 13.8**	**+1.0**
BBJ	**Bamboo Saint A**	**1.42**	**192**	⇓*i*P	**Pb**	**05 57 01.5**	**+0.4**
BNJ	**Bonny Gate**	**1.45**	**180**	⇓*i*P	**Pb**	**05 57 02.2**	**+0.6**
CCCC	**Cccc**	**1.61**	**332**	*e*P	**Pn**	**05 57 01.0**	**-0.7**
CCCC				*e*S	**Sn**	**05 57 18.4**	**-3.1**
CCCC				IAML		05 57 20.6	
	comp=E,23nm,0.3s						
CCCC				IAML		05 57 21.1	
	comp=N,26nm,0.4s						
STH	**Stony Hill**	**1.69**	**175**	⇓*i*P	**Pb**	**05 57 05.5**	**-0.4**
GWJ	**Greenwich**	**1.71**	**173**	⇓*i*P	**Pb**	**05 57 05.8**	**-0.4**
CMJ	**Castle Mountai**	**1.72**	**161**	⇑*i*P	**Pb**	**05 57 06.4**	**+0.1**
GTMO	**Guantanamo**	**1.73**	**80**	*i*P	**Pb**	**05 57 07.9**	**+1.3**
GTMO				*i*S	**Sb**	**05 57 29.8**	**+1.9**
HOJ	**Hope**	**1.77**	**174**	⇑*i*P	**Pb**	**05 57 06.9**	**-0.2**
MCJ	**Malvern**	**1.97**	**201**	*i*P	**Pb**	**05 57 09.7**	**-0.8**
MCJ				⇑*i*S	**Sn**	**05 57 31.8**	**+1.4**
PCJ	**Portland Cotta**	**2.03**	**185**	⇑*i*P	**Pb**	**05 57 10.6**	**-1.0**
MASC	**Masc**	**2.59**	**81**	*e*P	**Pn**	**05 57 13.7**	**-1.5**
MASC				*e*S	**Sn**	**05 57 43.5**	**-2.3**
MASC				IAML		05 57 51.7	
	comp=E,7.4nm,0.2s						
MASC				IAML		05 57 52.3	
	comp=N,7.1nm,0.3s						
MGV	**Manicaragua**	**3.66**	**310**	*e*P	**Pn**	**05 57 32.7**	**+2.8**
MGV				*e*S	**Sn**	**05 58 13.1**	**+1.0**

WEL 29 06:25:12.5, 44°S±3°×17°3E±°, h13km±14km, M2.1/6, ML2.1/6, MLv2.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=80.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.10**	**126**	P	Pb	06 25 16.5	+0.1
AKCZ	**Akaroa Harbour**	**0.35**	**130**	P	Pb	06 25 21.0	+0.4
AMCZ	**Amberley**	**0.48**	**10**	P	Pb	06 25 23.2	+0.4
OXZ	**Oxford**	**0.48**	**311**	P	Pb	06 25 22.8	-0.1
WACZ	**Wakanui South**	**0.59**	**239**	P	Pn	06 25 26.0	-0.6
MHCZ	**Mount Hutt**	**0.71**	**279**	P	Pn	06 25 27.8	-0.5
LTZ	**Lake Taylor**	**0.89**	**347**	P	Pn	06 25 30.5	-0.2
ARCZ	**Arundel**	**1.03**	**253**	P	Pn	06 25 33.8	+1.1
INZ	**Inchbonnie**	**1.22**	**319**	P	Pg	06 25 36.7	+0.7

IDC 29 06:27:36.5±1.6, 5°49S×152°78E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=27.7km s-min=18.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.39**	**327**	Pn	Pb	06 28 04.1	+0.7
	172nm,0.3s,baz=202,slow=1.0,SNR=42						
KRVT				Sn	Sb	06 28 21.7	0.0
	85nm,0.3s,baz=148,slow=17,SNR=8.4						
WRA	**Warramunga Arr**	**22.99**	**230**	P	P	06 32 42.7	-0.3
	0.5nm,0.8s,baz=54,slow=9.9,SNR=7.7						
ASAR	**Alice Springs**	**25.64**	**223**	P	P	06 33 08.4	+0.4
	0.6nm,0.7s,baz=62,slow=8.5,SNR=8.1						
ILAR	**Eielson Array**	**82.80**	**22**	P	P	06 40 01.8	-0.5
	0.4nm,0.7s,baz=251,slow=5.3,SNR=4.4						

*IDC **29** 06:42:16.5±1.2, 73°.38N×8°.05E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/41, mbtmp3.5/6, ML3.0/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/34, Error ellipse: s-maj=23.5km s-min=13.8km az=59.0*
*BER **29** 06:42:18.4±2.2, 73°.51N×8°.02E, h10km, ML2.1*
ISC 29 06:42:17.3±1.1, 73°55N±0°06×8°7E±0°1, h10km, n15, σ2°15/19, mb3.6/3, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.02**	**67**	*e*P	**Pn**	**06 43 07.5**	**+2.5**
HSPB	**Hornsund (broa**	**3.89**	**24**	*e*P	**Pn**	**06 43 17.7**	**+0.8**
SPA0	**Spitsbergen Ar**	**5.02**	**18**	*e*P	**Pn**	**06 43 33.7**	**+1.2**
SPA0				*e*S	**Sn**	**06 44 26.2**	**-4.3**
SPA0				IAML		06 44 32.1	
	comp=Z,3.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**5.02**	**18**	Pn	**Pn**	**06 43 33.7**	**+1.2**
	baz=187,slow=19,SNR=32						
SPITS				Sn	**Sn**	**06 44 27.0**	**-3.5**
	baz=315,slow=57,SNR=3.4						
TRO	**Tromso**	**5.10**	**135**	*e*P	**Pn**	**06 43 35.1**	**+1.5**
TRO				*e*S	**Sn**	**06 44 28.4**	**-4.0**
TRO				IAML		06 44 30.5	
	comp=E,11nm,0.4s						
HOPEN	**Hopen**	**5.17**	**47**	*e*P	**Pn**	**06 43 35.7**	**+1.2**
HOPEN				*e*S	**Sn**	**06 44 33.7**	**-0.2**
HOPEN				IAML		06 44 34.8	
	comp=Z,9.8nm,0.9s						
KBS	**Kingsbay**	**5.47**	**7**	*e*P	**Pn**	**06 43 38.6**	**+0.1**
KBS				IAML		06 44 31.9	
	comp=Z,2.5nm,0.4s						
HAMF	**Hammerfest**	**5.47**	**115**	*e*P	**Pn**	**06 43 39.8**	**+1.1**
HAMF				*e*S	**Sn**	**06 44 40.2**	**-1.3**
HAMF				IAML		06 44 43.7	
	comp=Z,5.3nm,0.5s						
LOF	**Lofoten**	**5.67**	**161**	*e*S	Sn	06 44 36.1	-10
ARCES	**ARCESS Array B**	**6.68**	**119**	Pn	**Pn**	**06 43 56.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=323,slow=12,SNR=17						
ARCES				Sn	**Sn**	**06 45 11.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=311,slow=19,SNR=8.2						
FINES	**FINESS Array B**	**13.77**	**143**	Pn	**Pn**	**06 45 32.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=2.8,slow=12,SNR=4.2						
FINES				LR	LR	06 49 58.8	
	comp=Z,33nm,21.5s,baz=274,slow=34						
VRAC	**Vranov**	**24.57**	**167**	LR	LR	06 56 14.7	
	comp=Z,45nm,18.4s,baz=18,slow=34						
AKASG	**Malin Array Be**	**24.57**	**147**	P	**P**	**06 47 35.7**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=349,slow=10.0,SNR=4.1						
ILAR	**Eielson Array**	**40.99**	**344**	P	**P**	**06 50 02.1**	**+2.5**
	comp=Z,0.6nm,0.9s,baz=359,slow=7.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**60.51**	**188**	P	**P**	**06 52 26.6**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=350,slow=7.3,SNR=3.5						

TAP 29 06:46:54.2, 24°34N×121°77E, h9km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.09**	**345**	*i*P	Pg	06 46 57.2	+0.7
	baz=349						
ENA				*i*S	Sg	06 46 58.8	+0.6
	baz=349						
ENAH	**Nanao**	**0.11**	**21**	*i*P	Pg	06 46 57.8	+0.9
	baz=20						
ENAH				S	Sg	06 46 59.7	+0.9
	baz=20						
NACB	**Ninganchiao**	**0.23**	**223**	*e*P	Pg	06 46 59.4	+0.6
	baz=222						
NACB				*e*S	Sg	06 47 03.3	+1.3
	baz=222						
TWC	**Suao**	**0.28**	**16**	P	Pb	06 47 00.8	-0.6
	baz=17						
TWC				S	Sb	06 47 04.9	-1.2
	baz=17						
ETLH	**Xiulin Townshi**	**0.29**	**243**	*i*P	Pb	06 47 00.9	-0.8
	baz=242						
ETLH				*e*S	Sg	06 47 05.2	+1.2
	baz=242						
TWD	**Chiawan**	**0.30**	**211**	*i*P	Pg	06 47 01.0	+0.8
	baz=209						
NDT	**Datong Townshi**	**0.35**	**318**	*e*P	Pb	06 47 02.6	0.0
	baz=318						
NDT				*e*S	Sb	06 47 08.0	-0.3
	baz=318						
ENTT	**Nioudou**	**0.35**	**328**	*e*P	Pb	06 47 02.5	-0.1
	baz=329						
ENTT				*e*S	Sb	06 47 07.5	-0.8
	baz=329						
NNSB	**Datong**	**0.36**	**284**	*e*P	Pb	06 47 02.6	-0.2
	baz=283						
NNSB				*e*S	Sb	06 47 07.9	-0.8
	baz=283						
NNSH	**Datong**	**0.36**	**284**	*e*P	Pb	06 47 02.6	-0.3
	baz=283						
NNSH				*e*S	Sb	06 47 07.7	-1.0
	baz=283						
NNS	**Nan Shan**	**0.37**	**285**	*e*P	Pb	06 47 02.8	-0.3
	baz=285						
NNS				*e*S	Sb	06 47 08.1	-0.9
	baz=285						
TWE	**Neicheng**	**0.39**	**347**	*e*P	Pb	06 47 03.0	-0.3
	baz=348						
YHNB	**Yeheng**	**0.48**	**313**	*e*P	Pb	06 47 05.2	+0.3
	baz=312						
YHNB				*e*S	Sb	06 47 12.2	0.0
	baz=312						
FUSS	**Fushou**	**0.49**	**259**	*e*P	Pb	06 47 05.0	-0.1
	baz=258						
NWLT	**Wulai**	**0.49**	**331**	*e*P	Pb	06 47 05.4	+0.3
	baz=331						
NWLT				*e*S	Sb	06 47 11.7	-0.8
	baz=331						
WHF	**Hehuan Shan**	**0.50**	**247**	*e*P	Pb	06 47 04.9	-0.5
	baz=246						
WHF				*e*S	Sb	06 47 12.7	-0.2
	baz=246						
NSK	**Sanguang**	**0.50**	**312**	*e*P	Pb	06 47 05.5	+0.3
	baz=312						
TDCB	**Techi**	**0.56**	**261**	*e*P	Pb	06 47 06.6	+0.3
	baz=260						
CHGB	**Renai**	**0.61**	**243**	*e*P	Pb	06 47 07.4	+0.2
	baz=242						
CHGB				*e*S	Sb	06 47 16.1	+0.1
	baz=242						
TIPB	**Shuangxi**	**0.63**	**5**	*e*S	Sb	06 47 16.1	-0.2
	baz=4.0						

JMA 29 06:46:57.6±0.2, 25°05N×123°74E, h11km, M1.9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.69**	**132**	P	Pg	06 47 11.2	+0.2
JISG				*e*S	Sg	06 47 19.9	-0.2
IRIF	**Iriomote-Funau**	**0.71**	**181**	P	Pg	06 47 11.1	-0.3
IRIF				*e*S	Sb	06 47 21.8	0.0
JIJ	**Ishigaki jima**	**0.78**	**152**	P	Pg	06 47 11.9	-0.7
JIJ				*e*S	Sg	06 47 22.3	-0.4
JKRS	**Kuro-shima**	**0.84**	**163**	P	Pg	06 47 13.6	-0.3
JKRS				S	Sb	06 47 25.4	-0.2
YOJ	**Yonaguni jima**	**0.89**	**229**	P	Pg	06 47 14.3	-0.4
YOJ				*e*S	Sg	06 47 26.1	-0.1
JTJ	**Tarama**	**0.96**	**115**	P	Pg	06 47 15.9	-0.3
HATJ	**

PTJ				Sg	Sb	07 01 21.9	-1.0
RIY	**Rijeka**	**0.61**	**249**	*e*Pg	Pg	07 01 12.9	+0.3
RIY				Sg	Sg	07 01 19.4	-1.1
CEY	**Cerknica**	**0.64**	**288**	⇑*i*Pg	Pg	07 01 13.2	+0.1
CEY				*e*Sg	Sg	07 01 22.3	+0.9
	comp=Z,51nm,0.2s						
CEY	**Cerknica**	**0.64**	**288**	⇑*i*Pg	Pg	07 01 13.0	-0.1
CEY				*e*Sg	Sg	07 01 21.6	+0.2
KNDS	**Knezji Dol**	**0.64**	**269**	⇑*i*Pg	Pg	07 01 12.9	-0.3
KNDS				Sg	Sg	07 01 21.4	-0.1
	comp=Z,45nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.70**	**324**	*i* Pg	Pg	07 01 14.9	+0.7
VNDS				*e*Sg	Sg	07 01 24.2	+1.0
	comp=Z,57nm,0.2s						
GBAS	**Gorenja Brezov**	**0.71**	**304**	⇑*i*Pg	Pg	07 01 14.6	+0.1
	comp=Z,36nm,0.1s						
LJU	**Ljubljana**	**0.73**	**313**	*e*Pg	Pg	07 01 15.3	+0.4
	comp=Z,58nm,0.1s						
LJU	**Ljubljana**	**0.73**	**313**	⇑*i*Pg	Pg	07 01 15.2	+0.3
LJU				*e*Sg	Sg	07 01 25.4	+1.0
SKDS	**Skadanscina**	**0.90**	**271**	*e*Pg	Pg	07 01 17.6	-0.5
SKDS				*e*Sg	Sg	07 01 29.6	-0.2
	comp=Z,46nm,0.2s						
GROS	**Grobnik**	**0.93**	**9**	*e*Pg	Pb	07 01 19.3	-0.3
	comp=Z,46nm,0.2s						
JAVS	**Javornik**	**0.93**	**293**	*i* Pg	Pg	07 01 18.3	-0.4
JAVS				*i*		07 01 19.2	
MOZS	**Mozjanca**	**0.96**	**322**	⇑*i*Pg	Pg	07 01 19.9	+0.7
	comp=Z,84nm,0.3s						
KALN	**Kalnik**	**1.00**	**54**	*i* Pg	Pn	07 01 21.9	+0.1
KALN				Sg	Sn	07 01 35.0	-1.5
NVLJ	**Novalja**	**1.02**	**197**	*e*Pg	Pg	07 01 20.1	-0.4
NVLJ				Sg	Sg	07 01 34.5	+0.8
MOSL	**Moslavina**	**1.03**	**86**	*e*Pg	Pn	07 01 21.8	-0.4
MOSL				Sg	Sn	07 01 36.1	-1.0
OBKA	**Obir**	**1.10**	**332**	*e*Pg	Pb	07 01 22.8	+0.3
	comp=Z,22nm,0.1s,SNR=24						
OBKA				*i* Sg	Sn	07 01 39.8	+0.8
	comp=Z,57nm,0.2s						
VOJS	**Vojsko**	**1.10**	**297**	*e*Pg	Pg	07 01 21.6	-0.3
VOJS				*i*		07 01 22.0	
	comp=Z,25nm,0.1s						
SOKA	**Soboth**	**1.15**	**351**	*e*Pg	Pn	07 01 24.1	+0.1
	comp=Z,0.7nm,0.1s,SNR=23						
SOKA				*i* Sg	Sn	07 01 41.2	+1.0
	comp=Z,15nm,0.3s						
PRIJ	**Prijedor**	**1.15**	**119**	*e*Sg	Sn	07 01 39.8	-0.3
CADS	**Cadrg**	**1.29**	**303**	*i* Pg	Pn	07 01 24.8	-1.0
	comp=Z,128nm,0.4s						
BEHE	**Becsehely**	**1.39**	**48**	*e*Pg	Pg	07 01 27.2	-0.2
BEHE				*e*Sg	Sn	07 01 46.6	+0.6
BLY	**Banja Luka**	**1.55**	**120**	⇑*i*Pn	Pg	07 01 30.9	+0.3
BLY				*e*Sn	Sg	07 01 50.9	+0.2
DUGI	**Dugi Otok**	**1.56**	**186**	*e*Pn	Pn	07 01 30.2	+0.7
DUGI				Sn	Sg	07 01 52.0	+1.0
MYKA	**Terra Mystica**	**1.58**	**314**	*e*Pn	Pn	07 01 30.4	+0.5
	comp=Z,4.9nm,0.2s,SNR=6.2						
MYKA				*i* Sn	Sg	07 01 52.5	+0.8
	comp=Z,7.7nm,0.2s						
MORI	**Morici**	**1.70**	**170**	*e*Pn	Pb	07 01 32.8	0.0
MORI				Sn	Sg	07 01 56.1	+0.6
ARSA	**Arzberg**	**1.71**	**5**	*i* Pn	Pb	07 01 32.3	-0.7
	comp=Z,2.0nm,0.2s						
ARSA				*i* Sn	Sg	07 01 56.7	+0.8
	comp=Z,5.9nm,0.3s						
KIJV	**Kijevo**	**1.73**	**152**	*e*Pn	Pb	07 01 33.3	0.0
KIJV				Sn	Sg	07 01 56.3	-0.1
KBA	**Koelnbreinsper**	**2.05**	**319**	*i* Pn	Pn	07 01 36.7	+0.4
	comp=Z,0.6nm,0.1s						
KBA				*i* Sn	Sb	07 02 04.6	-0.1
	comp=Z,2.1nm,0.2s						
ABTA	**Abfaltersbach**	**2.28**	**303**	*i* Pn	Pn	07 01 38.2	-1.2
	comp=Z,3.1nm,0.2s						
ABTA				*i* Sn	Sn	07 02 09.5	+1.3
	comp=Z,1.2nm,0.2s						
CONA	**Conrad Observa**	**2.42**	**9**	*i* Pn	Pn	07 01 41.0	-0.4
	comp=Z,0.2nm,0.1s						
CONA				*i* Sn	Sb	07 02 13.3	-2.0
	comp=Z,3.8nm,0.5s						
LSTV	**Lastovo**	**3.00**	**157**	*e*Pn	Pn	07 01 51.0	+1.7
LSTV				Sn	Sn	07 02 27.5	+1.7
SQTA	**Sankt Quirin**	**3.29**	**302**	*i* Pn	Pn	07 01 51.8	-1.6
	comp=Z,0.8nm,0.2s						
SQTA				*i* Sn	Sn	07 02 34.6	+1.5
	comp=Z,4.6nm,0.4s						
MOTA	**Moosalm**	**3.41**	**303**	*i* Pn	Pn	07 01 55.6	+0.5
	comp=Z,1.5nm,0.3s						
MOTA				*i* Sn	Sn	07 02 38.1	+1.9
	comp=Z,1.1nm,0.3s						
FETA	**Feichten**	**3.49**	**297**	*i* Pn	Pn	07 01 56.2	-0.1
	comp=Z,0.1nm,0.1s						
FETA				*i* Sn	Sn	07 02 38.5	+0.3
	comp=Z,1.9nm,0.5s						
KHC	**Kasperske Hory**	**3.77**	**343**	*e*SN	Sn	07 02 43.8	-1.1
KHC				*e*SG	Sg	07 03 03.9	+1.9

PDG ***29*** *07:09:13.3±0.2, 43°.57N×17°.65E, h7km, ML2.8/13, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
RHSSO ***29*** *07:09:13.9±0.4, 43°.58N×17°.67E, h4km±2km, ML2.7/9*
BEO ***29*** *07:09:15.4±0.6, 43°.62N×17°.73E, h6km±7km, ML2.5/6*
ISC 29 07:09:13.6±1.1, 43°.57N±0°.02×17°.71E±0°.02, h5km±9km, n51, σ1§16/91, 8C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.42**	**260**	*i* Pg	Pg	07 09 21.3	-0.5
RICI				Sg	Sg	07 09 27.9	+0.5
MAKA	**Makarska**	**0.57**	**241**	*i* Pg	Pg	07 09 23.7	-1.0
MAKA				Sg	Sg	07 09 32.6	+0.5
BRY	**Bratogost**	**0.90**	**137**	⇓*i*Pg	Pg	07 09 29.6	-1.3
BRY				*i* Sg	Sn	07 09 45.1	-1.5
BRY	**Bratogost**	**0.90**	**137**	*e*Pg	Pg	07 09 30.2	-0.7
BRY				*e*Sg	Sb	07 09 43.7	-0.5
UPM	**Unac-Piva**	**0.94**	**112**	⇑*i*Pg	Pg	07 09 31.7	-0.1
UPM				*i* Sg	Sn	07 09 47.0	-0.7
UPM	**Unac-Piva**	**0.94**	**112**	⇑*i*Pg	Pg	07 09 31.7	-0.1
UPM				*e*Sg	Sb	07 09 45.1	-0.4
DBRK	**Dubrovnik**	**0.95**	**160**	*e*Pg	Pg	07 09 31.5	-0.4
DBRK				Sg	Sb	07 09 45.9	+0.3
LSTV	**Lastovo**	**1.00**	**217**	*e*Pg	Pg	07 09 30.9	-1.8
LSTV				Sg	Sb	07 09 46.3	-0.5
HAPS	**Han Pijesak,Bl**	**1.04**	**60**	*e*Pg	Pb	07 09 33.8	-0.4
HAPS				*e*Sg	Sb	07 09 47.9	-0.2
HAPS	**Han Pijesak,Bl**	**1.04**	**60**	⇑*i*Pg	Pg	07 09 32.6	-1.0
HAPS				*e*Sg	Sg	07 09 47.1	+0.1
KIJV	**Kijevo**	**1.04**	**295**	*e*Pg	Pn	07 09 34.2	-0.8
KIJV				Sg	Sn	07 09 49.2	-0.7
NKY	**Niksic**	**1.21**	**128**	⇑*i*Pg	Pn	07 09 36.0	-1.3
NKY				*i* Sg	Sn	07 09 55.8	+1.8
RUDO	**Rudo**	**1.21**	**87**	*e*Pg	Pn	07 09 36.0	-1.2
RUDO				*e*Sg	Sn	07 09 53.4	-0.6
NKME	**Niksic**	**1.21**	**131**	⇑*i*Pg	Pn	07 09 36.0	-1.3
NKME				*i* Sg	Sn	07 09 56.0	+1.9
BLY	**Banja Luka**	**1.24**	**342**	*e*Pg	Pg	07 09 37.5	+0.1
BLY	**Banja Luka**	**1.24**	**342**	*e*Pn	Pn	07 09 36.5	-1.2
BLY				*e*Sg	Sg	07 09 52.9	-0.6
PLE	**Pljevlja**	**1.25**	**100**	⇓*i*Pg	Pn	07 09 36.9	-0.9
PLE				*i* Sg	Sn	07 09 57.3	+2.2
HCY	**Herceg Novi**	**1.26**	**153**	⇓*i*Pg	Pn	07 09 36.9	-1.0
HCY				*i* Sg	Sn	07 09 57.2	+2.0
HCY	**Herceg Novi**	**1.26**	**153**	⇑*i*Pg	Pn	07 09 36.3	-1.6
HCY				*e*Sg	Sn	07 09 54.8	-0.4
BBLS	**Lazići**	**1.27**	**76**	*e*Pg	Pb	07 09 37.7	-0.3
BBLS				*e*Sg	Sg	07 09 54.4	+0.1
BBLS	**Lazići**	**1.27**	**76**	*e*Pg	Pn	07 09 37.3	-0.8
BBLS				*e*Sg	Sg	07 09 54.4	+0.1
CEME	**Cevo**	**1.35**	**139**	⇓*i*Pg	Pn	07 09 38.8	-0.4
CEME				*i* Sg	Sg	07 10 00.3	+3.2
MORI	**Morici**	**1.48**	**282**	*e*Pn	Pg	07 09 41.9	-0.2
MORI				Sn	Sg	07 10 04.7	+3.5
KOME	**Kolasin**	**1.50**	**118**	⇓*i*Pg	Pb	07 09 42.0	-0.1
KOME				*i* Sg	Sg	07 10 05.3	+3.4
BUM	**Brajici-Budva**	**1.54**	**145**	⇓*i*Pg	Pb	07 09 42.4	-0.2
BUM				*i* Sg	Sg	07 10 05.8	+2.8
PDG	**Podgorica**	**1.61**	**135**	*e*Pg	Pg	07 09 44.7	+0.3
PDG				*e*Sg	Sg	07 10 07.4	+2.2
PDG	**Podgorica**	**1.61**	**135**	*e*Pn	Pb	07 09 43.1	-0.7
PDG				*e*Sn	Sg	07 10 05.1	-0.1
TTG	**Podgorica**	**1.61**	**135**	⇑*i*Pn	Pb	07 09 43.5	-0.3
TTG	**Podgorica**	**1.61**	**135**	*e*Pn	Pb	07 09 43.5	-0.3
TTG				*i* Sn	Sg	07 10 07.4	+2.2
SJES	**Sjenica**	**1.68**	**100**	*e*Pg	Pb	07 09 45.4	+0.3
SJES				*e*Sg	Sg	07 10 08.3	+0.7
DIVS	**Divibare**	**1.73**	**71**	*e*Pg	Pb	07 09 46.1	+0.1
DIVS				*e*Sg	Sg	07 10 09.8	+0.4
DIVS	**Divibare**	**1.73**	**71**	*e*Pn	Pn	07 09 44.8	+0.3
DIVS				*e*Sn	Sb	07 10 08.2	0.0
IVA	**Berane**	**1.74**	**113**	⇓*i*Pn	Pb	07 09 45.2	-0.9
IVA	**Berane**	**1.74**	**113**	*e*Pn	Pg	07 09 46.8	-0.2
IVA				*i* Sn	Sg	07 10 10.7	+1.1
DRME	**Dracevica, Mon**	**1.75**	**141**	⇓*i*Pn	Pb	07 09 45.6	-0.7
DRME				*i* Sn	Sg	07 10 11.0	+1.0
DRME	**Dracevica, Mon**	**1.75**	**141**	*e*Pn	Pb	07 09 45.9	-0.4
DRME				*e*Sn	Sb	07 10 09.2	+0.6
PVY	**Plav**	**1.91**	**120**	⇓*i*Pn	Pb	07 09 48.1	-1.0
ULC	**Ulcinj**	**1.96**	**144**	⇑*i*Pn	Pb	07 09 48.6	-1.3
ULC				*i* Sn	Sg	07 10 15.9	-0.7
DUGI	**Dugi Otok**	**1.97**	**283**	*e*Pn	Pb	07 09 49.5	-0.4
DUGI				Sn	Sg	07 10 16.9	+0.1
TRUS	**Trudelj**	**2.06**	**70**	*e*Pg	Pb	07 09 50.7	-0.8
TRUS				*e*Sg	Sg	07 10 19.0	-0.7
FRGS	**Fruska Gora**	**2.19**	**43**	*e*Pn	Pn	07 09 50.8	+0.1
FRGS	**Fruska Gora**	**2.19**	**43**	*e*Pn	Pn	07 09 50.6	-0.1
FRGS				*e*Sn	Sn	07 10 18.6	+0.3
GRUS	**Gruza**	**2.20**	**81**	*e*Pn	Pb	07 09 52.9	-1.1
NVLJ	**Novalja**	**2.27**	**297**	*e*Pn	Pb	07 09 54.8	-0.4
NVLJ				Sn	Sb	07 10 24.1	+0.5
CRES	**Cresnjev**	**2.77**	**325**	*e*Pn	Pn	07 09 58.8	+0.1
CRES				*e*Sn	Sn	07 10 32.0	-0.6
CEY	**Cerknica**	**3.19**	**314**	*e*Pn	Pn	07 10 04.2	-0.3
CEY				*e*Sn	Sn	07 10 42.2	-0.8
SOKA	**Soboth**	**3.64**	**330**	*i* Pn	Pn	07 10 13.1	+2.4
	1.3nm,0.2s						
OBKA	**Obir**	**3.70**	**324**	*i* Pn	Pn	07 10 12.6	+1.1
	0.6nm,0.2s						
ARSA	**Arzberg**	**3.99**	**338**	*i* Pn	Pn	07 10 15.8	+0.3
	3.7nm,0.3s						
CONA	**Conrad Observa**	**4.55**	**344**	*i* Pn	Pn	07 10 24.1	+0.9
	0.6nm,0.2s						
ABTA	**Abfaltersbach**	**4.86**	**313**	*i* Pn	Pn	07 10 29.5	+2.0
	0.2nm,0.1s						

NEIC ***29*** *07:17:05.6±1.0, 24°.9N±0°.1×126°.92E±0°.08, h10km±1km, mb4.2/6, Error ellipse: s-maj=19.3km s-min=11.2km az=170.0*
IDC ***29*** *07:17:06.9±1.0, 24°.67N×126°.12E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/34, mbtmp3.8/7, MS3.3/3, Ms1 3.2/3, ms1mx2.7/55, Error ellipse: s-maj=46.6km s-min=19.4km az=69.0*
JMA ***29*** *07:17:07.9±0.1, 24°.81N×126°.98E, h66km, M3.4*
ISC 29 07:17:05.9±3.2, 24°.84N±0°.06×126°.99E±0°.04, h14km±20km, n50, σ1§15/58, mb4.0/9, MS3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.44**	**267**	S	Sn	07 17 50.4	0.0
JJT3	**Tamagusuku3**	**1.49**	**29**	P	Pb	07 17 33.1	-0.3
JJT3				S	Sb	07 17 52.3	+0.1
JKE	**Kume jima 2**	**1.50**	**353**	P	Pb	07 17 33.3	-0.2
JKE				S	Sn	07 17 51.7	-0.1
JMJ2	**Miyako jima3**	**1.51**	**267**	P	Pn	07 17 33.4	+0.8
JMJ2				*e*S	Sn	07 17 52.0	-0.2
JIKM	**Ikemajima**	**1.58**	**274**	P	Pn	07 17 34.2	+0.6
JIRB	**Irabujima**	**1.65**	**270**	P	Pn	07 17 34.9	+0.4
JIRB				*e*S	Sn	07 17 55.8	+0.3
JAGN	**Aguni-jima**	**1.76**	**7**	P	Pb	07 17 37.7	-0.4
JAGN				S	Sb	07 17 59.8	-0.2
JNTH	**Nagotoyohara**	**1.92**	**29**	P	Pb	07 17 39.7	-1.0
JTJ	**Tarama**	**2.09**	**265**	P	Pn	07 17 41.1	+0.6
JTJ				*e*S	Sn	07 18 05.6	-0.8
JOW	**Kunigami**	**2.30**	**30**	S	Sn	07 18 12.2	+0.5
JIH	**Iheya**	**2.36**	**22**	P	Pn	07 17 45.2	+0.9
JIH				*e*S	Sn	07 18 13.4	+0.3
JISG	**Ishigakijimahi**	**2.45**	**265**	P	Pn	07 17 45.7	+0.2
JYRO	**Yoronjima**	**2.55**	**31**	P	Pn	07 17 48.8	+1.9
JYRO				S	Sn	07 18 19.2	+1.5
JIJ	**Ishigaki jima**	**2.63**	**260**	P	Pn	07 17 48.0	-0.1
JKRS	**Kuro-shima**	**2.78**	**258**	P	Pn	07 17 50.6	+0.6
JOKE	**Okinoerabujima**	**2.89**	**29**	P	Pn	07 17 52.2	+0.6
JOKE				S	Sn	07 18 26.1	-0.1
IRIF	**Iriomote-Funau**	**3.01**	**261**	P	Pn	07 17 54.5	+1.3
JTK	**Tokunoshima**	**3.43**	**31**	P	Pn	07 18 00.7	+1.7
JTK				S	Sn	07 18 37.1	-2.3
YOJ	**Yonaguni jima**	**3.64**	**265**	Pn	Pn	07 18 02.4	+0.6
YOJ				Sn	Sn	07 18 42.7	-2.0
JAMN	**Amaminishikomi**	**3.92**	**30**	P	Pn	07 18 07.2	+1.5
JAMN				S	Sn	07 18 49.0	-2.6
JMZ	**Minamidaito 2**	**3.95**	**75**	P	Pn	07 18 06.7	+0.5
JMZ				S	Sn	07 18 49.6	-2.9
JMZ	**Minamidaito 2**	**3.95**	**75**	Pn	Pn	07 18 07.0	+0.8
NACB	**Ninganchiao**	**4.96**	**263**	Pn	Pn	07 18 19.7	-0.4
YHNB	**Yeheng**	**5.10**	**269**		Pn	07 18 21.7	-0.4
YULB	**Yu-li**	**5.39**	**256**	Pn	Pn	07 18 24.0	-2.1
SSLB	**Suanglung**	**5.60**	**261**	Pn	Pn	07 18 28.4	-0.5
TPUB	**Ta-pu**	**6.01**	**257**	Pn	Pn	07 18 33.9	-0.7
JMN	**Monobe**	**10.71**	**33**	Pn	Pn	07 19 39.4	+0.4
KSRS	**Korea Array**	**12.60**	**3**	LR	LR	07 25 13.7	
	comp=Z,57nm,19.9s,baz=140,slow=38						
ENH	**Enshi**	**16.43**	**293**	P	Pn	07 20 55.9	-0.3
ENH				IAmb	IAmb	07 21 15.2	
	comp=Z,6.2nm,0.4s						
SONM	**Songino Array**	**28.15**	**330**	P	P	07 22 58.6	+0.7
	comp=Z,1.3nm,0.4s,baz=154,slow=12,SNR=5.3						
SONM	**Songino Array**	**28.15**	**330**	P	P	07 22 56.5	-1.4
PSI	**Prapat**	**34.81**	**235**	LR	LR	07 38 28.6	
	comp=Z,98nm,19.4s,baz=266,slow=38						
MK31	**Makanchi Array**	**41.65**	**313**	P	P	07 24 53.7	-0.2
MKAR	**Makanchi Array**	**41.65**	**313**	P	P	07 24 54.0	0.0
	comp=Z,2.4nm,0.6s,baz=98,slow=10,SNR=27						
MKAR	**Makanchi Array**	**41.65**	**313**	P	P	07 24 53.8	-0.1
MAKZ	**Makanchi**	**41.86**	**313**	P	P	07 24 55.7	0.0
MAKZ				IAmb	IAmb	07 24 56.5	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**42.70**	**324**	P	P	07 25 02.5	+0.2
	comp=Z,0.8nm,0.4s,baz=119,slow=8.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.70**	**324**	P	P	07 25 02.1	-0.2
WB0	**Warramunga Arr**	**44.92**	**170**	P	P	07 25 22.2	+1.7
WB0				IAmb	IAmb	07 25 48.2	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**45.08**	**170**	P	P	07 25 24.4	+2.6
	comp=Z,0.5nm,0.7s,baz=350,slow=8.9,SNR=7.7						
WR0	**Warramunga Arr**	**45.13**	**170**	P	P	07 25 21.4	-0.8
MBWA	**Marble Bar**	**46.26**	**189**	P	P	07 25 30.0	-1.1
ASAR	**Alice Springs**	**48.68**	**172**	P	P	07 25 52.8	+2.9
	comp=Z,0.3nm,0.8s,baz=357,slow=12,SNR=5.8						
KKAR	**Karatay Array**	**49.31**	**306**	P	P	07 25 54.7	0.0
ABKAR	**Akbulak array**	**56.79**	**314**	P	P	07 26 49.2	-0.5
ILAR	**Eielson Array**	**66.19**	**28**	P	P	07 27 59.8	+6.8
	comp=Z,0.5nm,1.0s,baz=280,slow=6.1,SNR=3.3						
KBZ	**Khabaz**	**69.17**	**310**	LR	LR	07 59 39.1	
	comp=Z,20nm,18.0s,baz=130,slow=37						
FINES	**FINESS Array B**	**73.52**	**331**	P	P	07 28 38.7	+0.6
	comp=Z,1.6nm,0.8s,baz=54,slow=3.3,SNR=6.3						
IDI	**Anoyia**	**85.16**	**307**	LR	LR	08 10 37.0	
	comp=Z,385nm,21.7s,baz=272,slow=38						

IDC 29 07:30:30.3±2.0, 8°.10S×126°.01E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/37, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=110.0km s-min=28.2km az=68.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.95**	**182**	Pn	Pn	07 32 54.2	-0.5
	0.4nm,0.3s,baz=355,slow=9.0,SNR=8.7						
FITZ				Sn	Sn	07 34 39.8	-7.3
	0.3nm,0.3s,baz=0.4,slow=8.6,SNR=2.7						
WRA	**Warramunga Arr**	**14.28**	**146**	Pn	Pn	07 33 52.1	-1.8
	0.2nm,0.3s,baz=328,slow=13,SNR=13						
WRA				Sn	Sn	07 36 26.2	-6.9
	0.1nm,0.3s,baz=317,slow=26,SNR=3.0						
ASAR	**Alice Springs**	**17.23**	**155**	P	P	07 34 34.4	+0.1
	0.1nm,0.3s,baz=327,slow=10.0,SNR=14						
ASAR				S	Sn	07 37 41.5	-3.6
	0.1nm,0.3s,baz=315,slow=21,SNR=5.7						
MKAR	**Makanchi Array**	**67.04**	**329**	P	P	07 41 25.4	0.0
	0.3nm,0.5s,baz=119,slow=6.4,SNR=4.1						

SOME ***29*** *07:32:44.6, 40°.95N×76°.62E, h5km*
KRNET ***29*** *07:32:44.7±0.1, 40°.91N×76°.66E, h15km, mb2.6*

NNC ***29*** *07:32:49.7±2.9, 41°.04N×76°.68E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=20.6km s-min=12.7km az=171.0*
ISC 29 07:32:44.5±2.4, 40°.91N±0°.09×76°.65E±0°.03, h8km±13km, n32, σ1§16/55, 19C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.20**	**46**	⇓*i*P	Pn	07 33 07.2	-0.7
	baz=46						
TARG				⇓*i*S	Sn	07 33 24.1	-0.4
	baz=46						
KDJ	**Kajisay**	**1.28**	**18**	⇑*i*P	Pg	07 33 09.4	+0.2
	baz=18						
KDJ				⇑*i*S	Sg	07 33 27.0	+1.2
	baz=18						
BOOM	**Boomskoye usch**	**1.67**	**342**	⇑*i*P	Pg	07 33 16.2	-0.3
	baz=41						
BOOM				⇑*i*S	Sg	07 33 39.2	+1.1
	baz=41						
ARLS	**Aral**	**1.99**	**299**	⇓*i*P	Pb	07 33 22.0	+0.9
	baz=0.0						
ARLS				⇓*i*S	Sg	07 33 49.1	+0.6
	baz=0.0						
ANVS	**Anan'yevo**	**2.02**	**22**	⇑*i*P	Pb	07 33 22.1	+0.5
	baz=21						
ANVS				⇑*i*S	Sg	07 33 49.9	+0.4
	baz=21						
UCH	**Uchtor**	**2.07**	**310**	⇑*i*P	Pb	07 33 23.2	+0.6
	baz=10.0						
UCH				⇑*i*S	Sg	07 33 51.4	+0.2
	baz=10.0						
IZV	**Izvestkoviy**	**2.12**	**359**	*e*P	Pg	07 33 25.1	-0.2
	4.7nm,0.3s						
IZV				*e*S	Sg	07 33 54.0	+1.2
	17nm,0.3s						
IZV	**Izvestkoviy**	**2.12**	**359**	Pg	Pg	07 33 25.1	-0.2
	4.7nm,0.3s						
IZV				Lg	Lg	07 33 54.0	
	17nm,0.3s						
TNSS	**Tian-Shan**	**2.14**	**6**	*e*P	Pg	07 33 24.7	-0.8
	7.2nm,0.3s						
TNSS				*e*S	Sg	07 33 53.9	+0.7
	5.7nm,0.6s						
TNSS	**Tian-Shan**	**2.14**	**6**	Pg	Pg	07 33 24.7	-0.8
	7.2nm,0.3s						
TNSS				Lg	Lg	07 33 53.9	
	5.7nm,0.6s						
TKM2	**Tokmak 2**	**2.16**	**339**	⇓*i*P	Pb	07 33 24.3	+0.4
	baz=39						
TKM2				⇓*i*S	Sg	07 33 52.9	-0.9
	baz=39						
TKM2	**Tokmak 2**	**2.16**	**339**	⇓Pn	Pg	07 33 25.6	-0.3
	1.7nm,0.3s						
TKM2				⇑Sn	Sg	07 33 54.2	+0.4
	6.6nm,0.5s						
KBK	**Karagaybulak**	**2.16**	**325**	⇑*i*P	Pb	07 33 24.4	+0.5
	baz=24						
KBK				⇑*i*S	Sg	07 33 53.2	-0.7
	baz=24						
KST	**Kastek**	**2.19**	**347**	*e*P	Pg	07 33 26.1	-0.5
	3.9nm,0.3s						
KST				*e*S	Sg	07 33 55.8	+0.8
	5.8nm,0.3s						
KST	**Kastek**	**2.19**	**347**	Pg	Pg	07 33 26.1	-0.5
	3.9nm,0.3s						
KST				Lg	Lg	07 33 55.8	
	5.8nm,0.3s						
KOTS	**Kotyrbulak**	**2.35**	**8**	*e*P	Pg	07 33 28.8	-0.7
	20nm,0.4s						
KOTS				*e*S	Sg	07 34 00.5	+0.5
	78nm,0.5s						
KOTS	**Kotyrbulak**	**2.35**	**8**	Pg	Pg	07 33 28.8	-0.7
	20nm,0.4s						
KOTS				Lg	Lg	07 34 00.5	
	78nm,0.5s						
AAK	**Ala-Archa**	**2.36**	**318**	⇑*i*P	Pb	07 33 26.9	-0.5
	baz=18						
AAK				⇑*i*S	Sb	07 33 57.8	+1.1
	baz=18						
AAK	**Ala-Archa**	**2.36**	**318**	⇑Pn	Pg	07 33 29.8	0.0
	3.4nm,0.5s						
AAK				Sn	Sg	07 34 01.7	+1.4
	4.8nm,0.6s						
SATY	**Saty**	**2.52

LLP	Lapu-Lapu	2.69 295	⇓eP	Pn	07 55 04.3	+1.3
LLP			eS	Sn	07 55 35.6	+1.2
DDMP	Don Marcelino,	3.15 193	eP	Pn	07 55 08.8	-0.4
DDMP			eS	Sn	07 55 47.4	+1.8
PAGZ	Pagadian	3.31 247	eP	Pn	07 55 10.8	-0.7
CNP	Cataman	3.74 332	eP	Pn	07 55 18.0	+0.7
CNP			eS	Sn	07 56 01.6	+1.5
CNOP	Candoni, Negro	3.81 280	eP	Pn	07 55 19.2	+0.9
PVCP	Virac	4.93 333	eP	Pn	07 55 34.8	+1.2
PVCP			eS	Sn	07 56 26.9	-2.5
TGY	Tagaytay City	7.28 313	LR	LR	07 58 57.8	
	comp=Z,104nm,18.9s,baz=329,slow=37					
TNTI	Ternate	8.41 174	Pn	Pn	07 56 27.5	+6.1
JAY	Jayapura	18.36 129	LR	LR	08 05 42.6	
	comp=Z,46nm,21.1s,baz=217,slow=37					
KNRA	Kununurra	24.81 175	P	P	07 59 39.7	+0.5
FITZ	Fitzroy Crossi	27.12 182	P	P	07 59 59.6	-0.5
	0.7nm,0.4s,baz=359,slow=13,SNR=3.8					
FITZ	Fitzroy Crossi	27.12 182	P	P	07 59 59.5	-0.7
FITZ			IAmb	IAmb	08 00 15.7	
	comp=Z,9.5nm,1.4s					
KSRS	Korea Array	28.18 2	P	P	08 00 10.8	+1.4
	comp=Z,1.0nm,0.7s,baz=174,slow=12,SNR=5.1					
CMAR	Chiang Mai Arr	28.22 292	P	P	08 00 10.6	+0.5
	comp=Z,0.8nm,0.3s,baz=90,slow=6.3,SNR=3.2					
CMAR			LR	LR	08 10 42.3	
	comp=Z,12nm,21.1s,baz=190,slow=35					
CMAR	Chiang Mai Arr	28.22 292	P	P	08 00 06.5	-3.5
WB0	Warramunga Arr	29.82 165	P	P	08 00 22.6	-1.6
WB0			IAmb	IAmb	08 00 41.6	
	comp=Z,6.0nm,1.1s					
WRAB	Tennant Creek	29.96 165	P	P	08 00 27.0	+1.5
WRAB			IAmb	IAmb	08 00 49.2	
	comp=Z,15nm,1.6s					
WRA	Warramunga Arr	29.97 165	P	P	08 00 24.6	-1.0
	comp=Z,0.4nm,0.5s,baz=343,slow=8.5,SNR=15					
WRA	Warramunga Arr	29.97 165	P	P	08 00 24.4	-1.1
WB2	Warramunga Arr	29.97 165	P	P	08 00 25.2	-0.3
WR0	Warramunga Arr	30.04 165	P	P	08 00 25.3	-0.8
WR0			IAmb	IAmb	08 00 44.9	
	comp=Z,12nm,1.6s					
AS31	Alice Springs	33.45 168	P	P	08 00 55.5	-0.7
ASAR	Alice Springs	33.45 168	P	P	08 00 55.9	-0.2
	comp=Z,0.3nm,0.3s,baz=348,slow=7.4,SNR=16					
USRK	Ussuriysk Ar.	35.21 7	P	P	08 01 12.4	+1.4
	comp=Z,4.3nm,0.9s,baz=213,slow=5.9,SNR=7.2					
FORT	Forrest	39.77 178	P	P	08 01 50.1	+0.4
H11S3	WAKE ISLAND Hy 40.07 72		T	T	08 44 47.4	
	baz=262,slow=75,SNR=252					
H11S1	WAKE ISLAND Hy 40.08 72		T	T	08 44 47.9	
	baz=262,slow=75,SNR=143					
H11S2	WAKE ISLAND Hy 40.09 72		T	T	08 44 48.6	
	baz=262,slow=75,SNR=176					
H11N1	WAKE ISLAND Hy 40.44 70		T	T	08 45 28.1	
	baz=266,slow=75,SNR=76					
H11N2	WAKE ISLAND Hy 40.45 70		T	T	08 45 34.4	
	baz=266,slow=75,SNR=57					
H11N3	WAKE ISLAND Hy 40.46 70		T	T	08 45 29.3	
	baz=266,slow=75,SNR=72					
BBOO	Buckleboo	42.75 168	P	P	08 02 15.1	+0.9
STKA	Stephens Creek	43.32 161	P	P	08 02 19.1	+0.3
	comp=Z,1.1nm,0.6s,baz=349,slow=8.1,SNR=4.7					
STKA	Stephens Creek	43.32 161	P	P	08 02 18.6	-0.2
PETK	Petropavlovsk-	50.55 24	P	P	08 03 17.1	+2.1
	comp=Z,6.3nm,1.0s,baz=196,slow=6.8,SNR=4.5					
MK31	Makanchi Array	52.99 323	P	P	08 03 31.1	-2.2
MKAR	Makanchi Array	52.99 323	P	P	08 03 33.0	-0.3
	comp=Z,1.8nm,0.5s,baz=122,slow=8.0,SNR=22					
MKAR			PcP	PcP	08 04 40.6	-0.9
	comp=Z,0.4nm,0.6s,baz=130,slow=3.6,SNR=3.6					
MKAR	Makanchi Array	52.99 323	P	P	08 03 31.9	-1.4
MAKZ	Makanchi	53.19 323	P	P	08 03 33.6	-1.1
MAKZ			IAmb	IAmb	08 03 34.6	
	comp=Z,2.1nm,0.5s					
ZALV	Zalesovo Beam	55.66 332	P	P	08 03 51.2	-1.3
	comp=Z,0.6nm,0.3s,baz=110,slow=11,SNR=2.6					
KURK	Kurchatov	57.06 326	P	P	08 04 01.7	-0.8
KURK			IAmb	IAmb	08 04 02.3	
	comp=Z,4.6nm,1.1s					
ABKAR	Akbulak array	67.81 320	P	P	08 05 13.2	-1.2
ABKAR			IAmb	IAmb	08 05 23.5	
	comp=Z,7.5nm,1.6s					
IMAR	Indian Mountai	77.51 24	P	P	08 06 13.2	+1.5
BPAW	Bear Paw Mtn.	78.55 26	P	P	08 06 18.0	+0.5
ILAR	Eielson Array	80.33 26	P	P	08 06 26.8	-0.4
	comp=Z,0.2nm,0.6s,baz=234,slow=4.3,SNR=5.9					
RIDG	Independent Ri	81.26 27	P	P	08 06 33.6	+1.3
RIDG			IAmb	IAmb	08 06 45.3	
	comp=Z,12nm,1.3s					
ARCES	ARCESS Array B	85.27 340	P	P	08 06 52.5	-0.1
	comp=Z,0.7nm,0.5s,baz=71,slow=5.3,SNR=11					
FINES	FINESS Array B	86.92 332	P	P	08 07 00.2	-0.7
	comp=Z,2.2nm,0.8s,baz=84,slow=7.9,SNR=4.3					
FINES	FINESS Array B	86.92 332	P	P	08 07 00.6	-0.4
VNDA	Vanda	88.84 173	P	P	08 07 09.6	-0.1
	comp=Z,0.5nm,0.7s,baz=321,slow=7.7,SNR=4.2					
TORD	Torodi Ar. Bea	120.83 291	PKP	PKPdf	08 13 07.9	-1.3
	comp=Z,0.4nm,0.5s,baz=40,slow=2.4,SNR=3.2					

IDC 29 07:58:16.9±1.6, 16°.44S×178°.75W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/44, mbtmp3.7/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/31, Error ellipse: s-maj=112.2km s-min=22.6km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	33.92	278	LR	LR	08 16 16.6	
	comp=Z,43nm,21.2s,baz=154,slow=32						
STKA	Stephens Creek	39.07	239	P	P	08 05 45.9	0.0
	2.1nm,0.7s,baz=76,slow=8.3,SNR=4.5						
WRA	Warramunga Arr	44.60	258	P	P	08 06 31.1	-0.2
	0.2nm,0.6s,baz=99,slow=7.8,SNR=3.5						
ASAR	Alice Springs	44.90	253	P	P	08 06 33.6	-0.1
	1.5nm,0.5s,baz=90,slow=8.1,SNR=33						
ILAR	Eielson Array	84.54	13	P	P	08 10 51.8	+0.2
	0.2nm,0.4s,baz=214,slow=6.0,SNR=5.3						
TXAR	Lajitas Array	85.49	58	P	P	08 10 57.5	+0.3
	0.4nm,0.8s,baz=204,slow=9.0,SNR=4.2						
PDAR	Pinedale Array	86.51	44	P	P	08 11 01.8	-0.4
	0.2nm,0.5s,baz=238,slow=5.2,SNR=2.8						

*DJA **29** 08:07:38.1±0.8, 1°.N±3°×12°.7E±°, h38km±25km, M4.6/12, mB4.9/2, mb4.8/6, MLv4.5/12, Mw(mB)4.2/2*
*NEIC **29** 08:07:38.0±1.3, 0°.66N±0°.09×126°.66E±0°.05, h77km±8km, mb4.5/19, Error ellipse: s-maj=12.9km s-min=6.9km az=165.0*
*IDC **29** 08:07:40.1±2.8, 0°.54N×126°.53E, h94km±24km, mb3.9/9, mb1 4.1/11, mb1mx3.7/58, mbtmp4.3/11, MS3.9/2, Ms1 3.8/2, ms1mx2.7/32, Error ellipse: s-maj=27.9km s-min=9.9km az=79.0*

ISC 29 08:07:38.6±0.7, 0°.68N±0°.07×126°.64E±0°.06, h100km, n58, σ1§80/46, mb4.5/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.73	83	P	Pn	08 07 53.0	-3.3
TNTI	Ternate	0.73	83		Pn	08 07 53.6	-2.7
TNTI				Sn	Sn	08 08 05.4	-4.2
LBMI	Labuha	1.56	147	P	Pn	08 08 04.1	-1.6
LBMI				S	Sn	08 08 25.0	-1.2
KMSI	Cibinong	2.66	268	P	Pn	08 08 18.4	-1.5
SANI	Sanana	2.79	194	P	Pn	08 08 19.1	-2.4
GTOI	Gorontalo	3.63	269	P	Pn	08 08 33.4	+0.6
NLAI	Namlea	3.92	173	P	Pn	08 08 35.9	-0.8
LUWI	Luwuk	4.23	246	P	Pn	08 08 40.5	-0.4
LUWI	Luwuk	4.23	246		Pn	08 08 40.4	-0.4
LUWI				Sn	Sn	08 09 28.9	-0.3
AAI	Ambon	4.60	160	P	Pn	08 08 45.9	-0.1
MSAI	Masohi	4.60	150	P	Pn	08 08 46.1	+0.1
FAKI	Fak Fak	6.65	123	Pn	Pn	08 09 12.1	-1.7
MPSI	Mapaga	6.75	267	P	Pn	08 09 15.0	-0.2
	0.2nm1μm,51nm,0.6s						
SPSI	Sidrap Palu	8.27	236	P	Pn	08 09 35.8	0.0
BKSI	Bulukumba	8.82	227	P	Pn	08 09 44.1	+0.7
	31nm,0.6s						
KAPI	Kappang	8.90	231	P	Pn	08 09 44.5	0.0
	9.2nm,0.3s,baz=43,slow=6.5,SNR=9.9						
KAPI				S	Sn	08 11 18.2	-4.9
	9.7nm,0.3s,baz=291,slow=22,SNR=10						
KAPI	Kappang	8.90	231		Pn	08 09 44.6	+0.1
MYLDM	Lahad Datu	9.28	299	Pn	Pn	08 09 46.9	-2.6
EDFI	Ende, Flores	10.58	208	P	Pn	08 10 08.1	+0.7

SOEI	Soe	10.63	193	Pn	Pn	08 10 06.0	-2.0
MTN	Manton Dam	14.15	162	Pn	Pn	08 10 53.4	-1.3
KNRA	Kununurra	16.38	173	P	P	08 11 23.3	-0.4
KNRA				IAmb	IAmb	08 11 23.8	
	comp=Z,35nm,0.7s						
FITZ	Fitzroy Crossi	18.68	183	P	Pn	08 11 49.7	-0.9
	comp=Z,0.5nm,0.3s,baz=357,slow=8.6,SNR=14						
PPBI	Pangkal Pinang	20.69	262	P	Pn	08 12 21.5	+7.3
WB0	Warramunga Arr	21.69	160	P	P	08 12 22.6	+1.0
WB0				IAmb	IAmb	08 12 23.3	
	comp=Z,22nm,0.8s						
WRAB	Tennant Creek	21.83	160	P	P	08 12 24.1	+1.0
WRAB				IAmb	IAmb	08 12 24.8	
	comp=Z,23nm,0.9s						
WRA	Warramunga Arr	21.84	160	P	P	08 12 23.9	+0.7
	comp=Z,18nm,0.4s,baz=340,slow=11,SNR=448						
WRA				S	S	08 16 17.4	-1.4
	comp=Z,4.0nm,1.0s,baz=334,slow=21,SNR=11						
WRA	Warramunga Arr	21.84	160	P	P	08 12 23.1	0.0
WB2	Warramunga Arr	21.84	160	P	P	08 12 24.1	+0.9
WB2				IAmb	IAmb	08 12 24.9	
	comp=Z,20nm,0.8s						
COEN	Coen	21.90	132	P	P	08 12 24.8	+0.9
COEN				IAmb	IAmb	08 12 29.7	
	comp=Z,23nm,1.5s						
WR0	Warramunga Arr	21.92	160	P	P	08 12 24.9	+0.9
WR0				IAmb	IAmb	08 12 25.7	
	comp=Z,16nm,0.9s						
PSA00	Pilbara Seismi	23.09	196	P	P	08 12 36.0	+0.2
PSA00				IAmb	IAmb	08 12 37.2	
	comp=Z,11nm,0.8s						
YULB	Yu-li	23.17	347	P	P	08 12 36.2	-0.4
TPUB	Ta-pu	23.23	346	P	P	08 12 38.0	+0.7
AS31	Alice Springs	25.20	164		P	08 12 56.1	+1.0
ASAR	Alice Springs	25.21	164	P	P	08 12 58.0	+2.8
	comp=Z,5.2nm,0.3s,baz=347,slow=13,SNR=99						
ASAR				S	S	08 17 16.9	+3.5
	comp=Z,0.6nm,0.7s,baz=351,slow=22,SNR=4.9						
ASAR	Alice Springs	25.21	164		P	08 12 56.6	+1.5
JCJ	Chichijima	30.22	28	LR	LR	08 27 02.7	
	comp=Z,496nm,18.5s,baz=249,slow=38						
FORT	Forrest	31.31	178	P	P	08 13 51.3	+1.9
BBOO	Buckleboo	34.47	166	P	P	08 14 18.8	+1.8
STKA	Stephens Creek	35.34	158	P	P	08 14 26.4	+1.9
	comp=Z,2.1nm,0.7s,baz=347,slow=6.8,SNR=6.7						
STKA				LR	LR	08 30 44.5	
	comp=Z,65nm,19.6s,baz=218,slow=39						
STKA	Stephens Creek	35.34	158	P	P	08 14 26.0	+1.5
SONM	Songino Array	50.15	342	P	P	08 16 26.0	+2.0
	comp=Z,1.1nm,0.6s,baz=122,slow=11,SNR=4.2						
SONM	Songino Array	50.15	342	P	P	08 16 26.4	+2.4
PETK	Petropavlovsk-	58.28	21	P	P	08 17 25.9	+3.2
	comp=Z,2.8nm,0.6s,baz=191,slow=4.9,SNR=7.1						
PETK	Petropavlovsk-	58.28	21	P	P	08 17 25.0	+2.3
MK31	Makanchi Array	60.01	326	P	P	08 17 37.5	+2.6
MKAR	Makanchi Array	60.01	326	P	P	08 17 36.9	+2.0
	comp=Z,1.3nm,0.3s,baz=122,slow=8.3,SNR=26						
MKAR	Makanchi Array	60.01	326	P	P	08 17 37.6	+2.8
MAKZ	Makanchi	60.20	326	P	P	08 17 38.9	+2.8
MAKZ				IAmb	IAmb	08 17 39.5	
	comp=Z,2.3nm,0.5s						
BKZ	Black Stump Fm	60.41	137	P	P	08 17 39.5	+1.8
KURK	Kurchatov	64.26	328	P	P	08 18 06.2	+3.1
KURK				IAmb	IAmb	08 18 09.8	
	comp=Z,5.8nm,0.9s						
ABKAR	Akbulak array	74.45	321	P	P	08 19 08.8	+2.8
AKTO	Aktyubinsk	75.99	322	P	P	08 19 17.8	+3.0
	comp=Z,1.3nm,0.5s,baz=117,slow=5.9,SNR=4.7						
VNDA	Vanda	80.43	173	P	P	08 19 40.8	+2.0
	comp=Z,0.4nm,0.6s,baz=319,slow=7.3,SNR=3.7						
ILAR	Eielson Array	87.88	25	P	P	08 20 17.9	+1.1
	comp=Z,0.4nm,0.7s,baz=251,slow=5.0,SNR=5.8						
TXAR	Lajitas Array	123.50	54	PKP	PKiKP	08 26 28.3	+2.9
	comp=Z,0.3nm,0.9s,baz=163,slow=1.3,SNR=3.8						
TORD	Torodi Ar. Bea	123.73	286	PKP	PKiKP	08 26 28.2	+2.2
	comp=Z,0.4nm,0.8s,baz=51,slow=2.9,SNR=2.5						

*NIED **29** 08:12:18.4, 33°.68N×135°.15E, h39km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.60; $M_{\theta\theta}$-1.94; $M_{\phi\phi}$1.35; $M_{r\theta}$-0.58; $M_{\theta\phi}$-2.20; $M_{\phi r}$-0.12; Fault plane solution: $M_0$2.80000×10^{14} NP1: φs108.00000°, δ87.00000°, λ-170.00000°. NP2: φs18.00000°, δ80.00000°, λ-3.00000°.*

JMA 29 08:12:18.3, 33°.68N×135°.15E, h39km±1km, M3.5, 5C-1D Broadband fault plane solution: P waves. NP1: φs12.00000°, δ71.00000°, λ-1.00000°. **NP2:** φs103.00000°, δ89.00000°, λ-161.00000°. **Principal axes:** T Plg12.0000°, Azm236.0000°; N Plg71.0000°, Azm107.0000°; P Plg14.0000°, Azm329.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	Minabe	0.24	45	⇑P	Pn	08 12 25.8	-0.5
JWM				S	Sn	08 12 30.8	-2.0
JTNC	Tanabenakahech	0.41	70	⇑P	Pn	08 12 27.8	+0.1
JTNC				S	Sn	08 12 34.3	-0.2
JAI	Aioi	0.59	281	⇑P	Pn	08 12 30.3	0.0
JAI				S	Sn	08 12 38.5	-0.3
JWY	Kouya	0.65	34	⇑P	Pn	08 12 31.0	-0.2
JWY				S	Sn	08 12 39.9	-0.4
JAWN	Awajishima-nag	0.83	346	⇓P	Pn	08 12 33.7	+0.2
JAWN				S	Sn	08 12 44.6	0.0
JHE	Heguri	1.07	24	⇑P	Pn	08 12 36.9	+0.1
JHE				S	Sn	08 12 50.6	+0.2
MAT	Matsushiro	3.80	40	P	Pn	08 13 15.3	+1.0
MAT				eS	Sn	08 13 58.3	+0.5

PRU 29 08:14:47.6±0.5, 50°.11N×19°.09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.47	76	ePg	Pg	08 14 56.6	0.0
OJC				eSg	Sg	08 15 02.7	+0.1
LANS	Liptovska Anna	0.99	166	ePG	Pg	08 15 06.3	-0.3
LANS				eSG	Sg	08 15 19.2	-0.2
LANS				eLG	Lg	08 15 21.4	
MORC	Moravsky Berou	1.05	252	ePG	Pg	08 15 08.0	+0.2
MORC				eSG	Sg	08 15 21.4	0.0
KRLC	Kraliky	1.49	270	eSG	Sg	08 15 34.9	-0.4
	comp=Z,2.5nm,0.2s						
VYHS	Vyhne	1.63	186	ePN	Pn	08 15 16.7	-0.8
VYHS				eSN	Sn	08 15 37.7	-1.4
DPC	Dobruska-Polom	1.79	279	ePG	Pn	08 15 20.4	+0.6
DPC				eSG	Sg	08 15 45.2	0.0
	comp=Z,4.2nm,0.4s						

*IDC **29** 08:15:07.1±0.8, 39°.30N×23°.88E, h0km, mb3.9/9, mb1 4.0/14, mb1mx3.8/52, mbtmp3.9/14, ML3.9/5, MS3.0/6, Ms1 3.0/6, ms1mx2.7/44, Error ellipse: s-maj=17.9km s-min=11.2km az=115.0*
*SOF **29** 08:15:07.8, 39°.50N×24°.12E, h7km, MD3.7*
*DDA **29** 08:15:07.7, 39°.41N×24°.19E, h12km±4km, MW4.2*
*ATH **29** 08:15:07.5, 39°.31N×24°.04E, h32km±1km, ML3.9/21, Error ellipse: s-maj=1.1km s-min=0.7km az=233.0*
*PDG **29** 08:15:07.8±0.5, 39°.30N×24°.02E, h21km, ML3.8/13, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*ISK **29** 08:15:07.6, 39°.36N×24°.04E, h18km, ML4.1/26*
*BEO **29** 08:15:07.3±0.9, 39°.27N×23°.88E, h0km, ML3.8/2*
*NEIC **29** 08:15:08.1±2.8, 39°.35N±0°.05×24°.00E±0°.06, h14km±2km, Error ellipse: s-maj=7.6km s-min=6.8km az=197.0*
*THE **29** 08:15:08.4, 39°.34N×24°.03E, h15km, ML3.9/20, Error ellipse: s-maj=0.6km s-min=0.3km az=254.0*
*TIR **29** 08:15:10.0, 39°.46N×23°.68E, h12km±3km, Md3.9*

ISC 29 08:15:08.4±1.0, 39°.32N±0°.02×24°.04E±0°.01, h14km±7km, n286, σ1§15/370, mb4.1/11, 24C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	Skiros Island	0.59	138	P	Pg	08 15 19.6	-0.5
SKY				S	Sg	08 15 29.1	+1.1
	21μm,0.2s						
SKY	Skiros Island	0.59	138	P	Pg	08 15 19.5	-0.6
SKY				S	Sg	08 15 28.1	+0.2
SKY				AML	AML	08 15 30.9	
	comp=N,36955μm,0.2s						
SKY				AML	AML	08 15 33.1	
	comp=E,47557μm,0.2s						

NEO	Neokhori	0.63 269	P	Pg	08 15 20.4	-0.4
NEO			S	Sg	08 15 29.6	+0.4
NEO	Neokhori	0.63 269	P	Pg	08 15 21.2	+0.4
NEO			S	Sg	08 15 29.4	+0.2
NEO			AML	AML	08 15 31.1	
	comp=N,90182μm,0.3s					
NEO			AML	AML	08 15 32.7	
	comp=E,96210μm,0.7s					
XOR	Xorichti	0.66 274	P	Pb	08 15 20.4	-1.3
XOR			S	Sb	08 15 31.0	+0.2
XOR	Xorichti	0.66 274	P	Pb	08 15 21.6	-0.2
XOR			S	Sg	08 15 30.2	+0.2
XOR			AML	AML	08 15 31.8	
	comp=E,61410μm,0.3s					
XOR			AML	AML	08 15 32.2	
PAIG	Paliouri	0.67 336	P	Pb	08 15 21.2	-0.7
PAIG			S	Sb	08 15 31.1	+0.1
	comp=E,10μm,0.5s					
PAIG	Paliouri	0.67 336	P	Pb	08 15 21.3	-0.7
PAIG			S	Sb	08 15 31.0	0.0
PAIG			AML	AML	08 15 33.0	
	comp=N,18084μm,0.5s					
PAIG			AML	AML	08 15 35.2	
	comp=E,20775μm,0.5s					
KYMI	Kymi, Euboea I	0.69 176	P	Pb	08 15 21.3	-0.9
KYMI			S	Sg	08 15 32.5	+1.6
	comp=E,22μm,0.6s					
KYMI	Kymi, Euboea I	0.69 176	P	Pb	08 15 20.6	-1.6
KYMI			S	Sb	08 15 30.3	-1.3
KYMI			AML	AML	08 15 33.8	
	comp=N,44061μm,0.6s					
KYMI			AML	AML	08 15 33.9	
	comp=E,44779μm,0.5s					
VOL2	Volos	0.84 274	P	Pg	08 15 25.6	+0.8
VOL2			S	Sn	08 15 37.5	-0.6
VOL3	Nea Ionia, Vol	0.86 274	P	Pn	08 15 26.1	0.0
VOL3			S	Sn	08 15 39.2	+0.8
OUR	Ouranopolis	1.02 358	P	Pb	08 15 27.2	-0.6
OUR			S	Sb	08 15 41.0	0.0
	comp=E,7μm,0.5s					
OUR	Ouranopolis	1.02 358	PG	Pb	08 15 26.9	-0.9
OUR			SG	Sb	08 15 41.2	+0.2
LKR	Lokris	1.05 231	P	Pb	08 15 27.5	-0.9
LKR			S	Sn	08 15 42.5	-0.7
	comp=E,5μm,0.4s					
LKR	Lokris	1.05 231	P	Pb	08 15 27.1	-1.3
LKR			AML	AML	08 15 46.0	
	comp=N,10297μm,0.3s					
LKR			AML	AML	08 15 46.6	
	comp=E,10326μm,0.5s					
LIA	Limnos Island	1.06 56	P	Pb	08 15 28.1	-0.4
LIA			S	Sb	08 15 43.0	+0.8
	comp=E,6μm,0.7s					
LIA	Limnos Island	1.06 56	P	Pb	08 15 28.1	-0.4
LIA			S	Sb	08 15 40.7	-1.5
LIA			AML	AML	08 15 44.6	
	comp=N,11865μm,0.5s					
LIA			AML	AML	08 15 44.7	
	comp=E,12485μm,0.9s					
PLG	Polygyros	1.15 337	P	Pn	08 15 28.9	-1.2
PLG			S	Sb	08 15 44.5	-0.4
	comp=E,5μm,0.5s					
PLG	Polygyros	1.15 337	P	Pn	08 15 29.0	-1.2
PLG			S	Sb	08 15 44.2	-0.7
PLG			AML	AML	08 15 46.9	
	comp=E,11063μm,0.6s					
PLG			AML	AML	08 15 46.9	
	comp=N,6892μm,0.5s					
AXAR	Agios Charalam	1.21 243	P	Pn	08 15 29.9	-1.0
AXAR	Agios Charalam	1.21 243	P	Pn	08 15 30.1	-0.9
DION	Dionisos Attik	1.24 184	P	Pn	08 15 30.8	-0.6
DION			S	Sn	08 15 48.3	+0.3
DION	Dionisos Attik	1.24 184	P	Pn	08 15 30.8	-0.6
DION			S	Sb	08 15 45.9	-1.6
VIL2	Platees	1.26 209	P	Pn	08 15 30.9	-0.7
VIL2			S	Sb	08 15 48.0	-0.1
PTL	Penteli	1.27 186	P	Pn	08 15 31.1	-0.8
PTL			S	Sn	08 15 48.9	+0.1
	comp=N,9μm,0.4s					
PTL	Penteli	1.27 186	P	Pn	08 15 31.2	-0.7
PTL			S	Sb	08 15 46.9	-1.6
PTL			AML	AML	08 15 50.8	
	comp=E,18212μm,0.4s					
PTL			AML	AML	08 15 52.1	
	comp=N,15541μm,0.5s					
VILL	Villia	1.28 206	P	Pn	08 15 31.0	-1.0
VILL			S	Sn	08 15 48.9	-0.2
KARY	Karystos	1.32 166	P	Pn	08 15 31.8	-0.7
KARY			S	Sn	08 15 49.8	-0.1
	comp=N,4μm,0.5s					
KARY	Karystos	1.32 166	P	Pn	08 15 31.9	-0.6
KARY			S	Sn	08 15 48.1	-1.8
KARY			AML	AML	08 15 51.4	
	comp=E,7740μm,0.4s					
KARY			AML	AML	08 15 52.5	
	comp=N,7138μm,0.6s					
ATHU	Athens Univers	1.36 188	P	Pn	08 15 32.4	-0.7
ATHU	Athens Univers	1.36 188	P	Pn	08 15 32.3	-0.8
ATHU			S	Sn	08 15 49.3	-1.7
ATHU			AML	AML	08 15 52.6	
	comp=E,3553μm,0.4s					
ATHU			AML	AML	08 15 52.8	
	comp=N,9267μm,0.4s					
ATH	Athens Observa	1.37 191	P	Pn	08 15 32.3	-0.8
ATH			S	Sb	08 15 51.1	0.0
ATH	Athens Observa	1.37 191	P	Pn	08 15 32.6	-0.5
THAS	Thassos island	1.39 22	P	Pn	08 15 32.0	-1.4
THAS			S	Sn	08 15 50.3	-1.3
	comp=N,3μm,0.6s					
THAS	Thassos island	1.39 22	P	Pn	08 15 32.0	-1.4
THAS			S	Sn	08 15 50.1	-1.5
THAS			AML	AML	08 15 55.5	
	comp=N,5002μm,0.7s					
THAS			AML	AML	08 15 56.5	
	comp=E,7552μm,0.4s					
SIGR	SIGRI	1.42 94	P	Pn	08 15 33.5	-0.2
SIGR			S	Sn	08 15 52.6	+0.4
	comp=E,5μm,0.7s					
SIGR	SIGRI	1.42 94	P	Pn	08 15 33.6	-0.2
SIGR			S	Sn	08 15 50.5	-1.7
SIGR			AML	AML	08 15 56.3	
	comp=N,11667μm,0.8s					
SIGR			AML	AML	08 15 57.4	
	comp=E,7367μm,0.7s					
SIGR	SIGRI

THL	Klokotos Trika	1.59	280	P	Pn	08 15 35.3	-0.8
THL	Klokotos Trika	1.59	280	P	Pn	08 15 35.4	-0.7
THL				S	Sn	08 15 55.1	-1.3
THL				AML	AML	08 16 03.8	
	comp=E,4966μm,0.6s						
THL				AML	AML	08 16 06.0	
	comp=N,5305μm,0.9s						
SOH	Sokhos	1.59	341	P	Pn	08 15 35.6	-0.7
SOH				S	Sn	08 15 55.1	-1.5
	comp=N,2μm,0.7s						
SOH	Sokhos	1.59	341	P	Pn	08 15 35.9	-0.4
SOH				S	Sn	08 15 55.6	-1.0
SMTH	Samothraki Isl	1.63	44	P	Pn	08 15 35.4	-1.3
SMTH				S	Sn	08 15 56.3	-1.2
	comp=N,1μm,0.5s						
SMTH	Samothraki Isl	1.63	44	P	Pn	08 15 35.4	-1.3
SMTH				S	Sn	08 15 57.2	-0.2
SMTH				AML	AML	08 16 04.7	
	comp=E,2996μm,0.5s						
SMTH				AML	AML	08 16 05.2	
	comp=N,2302μm,0.4s						
GADA	Gvkgeada	1.68	58	P	Pn	08 15 36.1	-1.3
GADA				S	Sn	08 15 58.5	-0.2
	comp=N,2μm,0.9s						
GADA	Gvkgeada	1.68	58	PN	Pn	08 15 36.7	-0.7
GOKA	anakkale-Gk	1.68	58	*i* P	Pn	08 15 37.0	-0.5
GOKA				*i* S	Sb	08 16 01.7	+1.4
GOKA				IAML		08 16 04.0	
	comp=N,2μm,0.6s						
GOKA				IAML		08 16 08.0	
	comp=E,2μm,0.7s						
GOKC	Gokceada-Canak	1.70	58	PN	Pn	08 15 36.9	-0.7
KAVA	Kavala	1.71	12	P	Pn	08 15 36.6	-1.3
KAVA				S	Sn	08 15 58.2	-1.4
	comp=E,2μm,0.5s						
KAVA	Kavala	1.71	12	P	Pn	08 15 36.8	-1.2
KAVA				S	Sn	08 15 59.6	0.0
KAVA				AML	AML	08 16 08.0	
	comp=E,4091μm,0.5s						
KAVA				AML	AML	08 16 09.1	
	comp=N,3957μm,0.4s						
PRK	Paraskevi	1.73	92	P	Pn	08 15 37.5	-0.7
PRK				S	Sn	08 16 00.7	+0.6
	comp=N,6μm,0.9s						
PRK	Paraskevi	1.73	92	P	Pn	08 15 37.7	-0.5
PRK				S	Sn	08 16 01.0	+0.9
PRK				AML	AML	08 16 07.3	
	comp=N,15402μm,0.9s						
PRK				AML	AML	08 16 08.9	
	comp=E,9741μm,0.7s						
ANX	Ano Chora	1.80	247	P	Pn	08 15 38.1	-1.1
ANX	Ano Chora	1.80	247	P	Pn	08 15 38.8	-0.4
KTI	Kastanea	1.83	307	P	Pn	08 15 38.6	-1.0
CHOS	Chios island	1.83	120	P	Pn	08 15 39.4	-0.1
CHOS				S	Sn	08 16 02.1	-0.4
CHOS				AML	AML	08 16 10.7	
	comp=N,3929μm,0.7s						
CHOS				AML	AML	08 16 14.8	
	comp=E,4342μm,1.1s						
CHOS	Chios island	1.83	120	PN	Pn	08 15 39.3	-0.3
SRS	Serrai	1.83	349	P	Pn	08 15 38.0	-1.5
SRS				S	Sn	08 16 02.1	-0.4
SRS	Serrai	1.83	349	*e*Pg	Pn	08 15 40.3	+0.8
SRS				*e*Sg	Sb	08 16 06.0	+1.5
SRS	Serrai	1.83	349	P	Pn	08 15 37.7	-1.8
EZN	Ezine	1.84	73	P	Pn	08 15 39.1	-0.5
EZN	Ezine	1.84	73	PN	Pn	08 15 39.1	-0.5
EFP	Efpalio	1.89	243	P	Pn	08 15 39.7	-0.5
EFP	Efpalio	1.89	243	P	Pn	08 15 39.8	-0.5
KLV	Kalavryta, Ach	1.95	230	P	Pn	08 15 40.4	-0.8
KLV	Kalavryta, Ach	1.95	230	P	Pn	08 15 40.4	-0.8
BAYC	CANAKKALE_Bayr	1.99	77	*i* P	Pn	08 15 41.3	-0.3
BAYC				*i* S	Sn	08 16 07.3	+1.0
BAYC				IAML		08 16 14.0	
	comp=N,460nm,0.8s						
KZN	Kozani	2.01	300	P	Pn	08 15 40.9	-1.1
NVR	Nevrokopi	2.03	356	P	Pn	08 15 41.7	-0.6
NVR	Nevrokopi	2.03	356	P	Pn	08 15 41.3	-1.0
KNT	Kendrikon	2.04	335	P	Pn	08 15 42.1	-0.3
KNT				S	Sn	08 16 07.5	-0.1
KNT	Kendrikon	2.04	335	P	Pn	08 15 42.0	-0.3
KNT	Kendrikon	2.04	335	PN	Pn	08 15 41.5	-0.9
KRND	KRANIDI	2.06	200	P	Pn	08 15 42.3	-0.3
KRND				S	Sn	08 16 08.8	+0.8
	comp=N,5μm,0.9s						
KRND	KRANIDI	2.06	200	P	Pn	08 15 42.2	-0.4
AYVA	Ayvalik	2.06	89	*i* P	Pn	08 15 42.8	+0.2
AYVA				*i* S	Sg	08 16 14.4	-0.2
AYVA				IAML		08 16 16.0	
	comp=N,1μm,0.8s						
AYVA				IAML		08 16 19.0	
	comp=E,840nm,0.7s						
ENEZ	Enez	2.15	48	PN	Pn	08 15 43.4	-0.5
RDO	Rodhopi	2.16	32	P	Pn	08 15 42.6	-1.4
RDO				S	Sn	08 16 10.0	-0.5
RDO	Rodhopi	2.16	32	P	Pn	08 15 42.8	-1.1
RDO	Rodhopi	2.16	32	PN	Pn	08 15 42.9	-1.1
KPRO	Kipourio	2.16	288	P	Pn	08 15 43.7	-0.4
GELI	Tayfur-Gelibol	2.16	59	PN	Pn	08 15 43.6	-0.5
SERI	Serifos	2.18	171	P	Pn	08 15 43.8	-0.6
SERI				S	Sn	08 16 11.9	+0.7
	comp=E,2μm,0.7s						
SERI	Serifos	2.18	171	P	Pn	08 15 43.3	-1.0
ALN	Alexandroupoli	2.20	44	P	Pn	08 15 43.6	-1.1
ALN				S	Sn	08 16 11.0	-0.7
	comp=E,1μm,0.6s						
ALN	Alexandroupoli	2.20	44	P	Pn	08 15 43.4	-1.2
ALN	Alexandroupoli	2.20	44	PN	Pn	08 15 43.5	-1.1
ALN	Alexandroupoli	2.20	44	Pn	Pn	08 15 43.4	-1.2
URLA	Izmir	2.21	115	PN	Pn	08 15 44.8	0.0
DKL	Dikili	2.24	95	PN	Pn	08 15 44.9	-0.2
TRIP	Tripoli	2.26	218	P	Pn	08 15 45.2	-0.3
MMB	Musomiste	2.28	354	*i* P	Pn	08 15 44.6	-1.1
VAY	Valandovo	2.29	331	*i* Pn	Pn	08 15 45.9	0.0
ERIK	Erikli-Kesan	2.33	54	PN	Pn	08 15 45.6	-0.8
LPK	Lapseki	2.35	62	PN	Pn	08 15 46.2	-0.4
AXS	Araxos	2.36	243	P	Pn	08 15 47.6	+0.8
ZEDA	zmir-Bergama	2.39	98	*i* P	Pn	08 15 46.9	-0.3
ZEDA				*i* S	Sn	08 16 13.7	-2.6
ZEDA				IAML		08 16 29.0	
	comp=E,366nm,0.7s						
ZEDA				IAML		08 16 30.0	
	comp=N,340nm,1.5s						
PENT	Pentalofos	2.40	292	P	Pn	08 15 47.6	+0.2
RZN	Rozhen	2.42	12	*i* P	Pn	08 15 47.4	-0.4
BLCB	Balcova	2.52	111	PN	Pn	08 15 49.2	+0.2
KESN	Edirne-Kesan	2.52	53	*i* P	Pn	08 15 48.0	-1.4
KESN				*i* S	Sg	08 16 29.8	+0.2
KESN				IAML		08 16 31.0	
	comp=E,539nm,0.5s						
KESN				IAML		08 16 32.0	
	comp=N,343nm,0.5s						
APE	Apeiranthos	2.54	152	P	Pn	08 15 48.8	-0.5
APE	Apeiranthos	2.54	152	⇓P	Pn	08 15 49.2	-0.1
APE	Apeiranthos	2.54	152	⇑S	Sn	08 16 20.9	+1.0
APE	Apeiranthos	2.54	152	PN	Pn	08 15 48.9	-0.3
NEST	Nestorio	2.55	296	P	Pn	08 15 48.9	-0.6
KDZ	Kurdzhali	2.56	24	*i* P	Pn	08 15 48.0	-1.4
KDZ	Kurdzhali	2.56	24	PN	Pn	08 15 48.1	-1.4
KKB	Krupnik	2.65	344	*i* P	Pn	08 15 50.2	-0.5
LKD2	Lefkada island	2.68	260	P	Pn	08 15 53.6	+2.4
	baz=256						
LKD2				S	Sb	08 16 26.3	-2.8
	baz=256						
UKOP	Uzunkopru-Edir	2.69	47	PN	Pn	08 15 50.9	-0.3
ITM	Ithomi	2.71	219	PN	Pn	08 15 52.0	+0.5
ITM	Ithomi	2.71	219		Pn	08 15 52.1	+0.5
KRBG	Karabiga-Canak	2.73	66	PN	Pn	08 15 51.7	-0.1
STIP	Stip	2.76	330	*i* Pn	Pn	08 15 51.9	-0.4
RKY	Sarkoy-Tekirda	2.77	59	PN	Pn	08 15 52.3	-0.2
LSK	Leskovik	2.78	288	P	Pn	08 15 54.2	+1.7
	baz=288						
LSK				S	Sn	08 16 27.1	+1.1
	baz=288						
BALY	Balya	2.80	80	*i* P	Pn	08 15 53.4	+0.5
BALY				*i* S	Sg	08 16 37.1	-1.4
BALY				IAML		08 16 41.0	
	comp=N,536nm,0.7s						
BALY				IAML		08 16 52.0	
	comp=E,223nm,1.2s						
PLD	Plovdiv	2.83	10	PN	Pn	08 15 52.9	-0.3
MAR6	Marsite Statio	2.84	60	PN	Pn	08 15 53.3	-0.1
STEP	BALIKESIR_Sava	2.85	88	*i* P	Pn	08 15 55.1	+1.5
STEP				*i* S	Sg	08 16 41.4	+1.3
STEP				IAML		08 16 51.0	
	comp=E,571nm,0.7s						
STEP				IAML		08 16 53.0	
	comp=N,729nm,1.0s						
IGT	Igoumenitsa	2.88	275	*e*Pg	Pn	08 15 56.5	+2.6
IGT				*e*Sg	Sb	08 16 34.7	+0.1
IGT	Igoumenitsa	2.88	275	P	Pn	08 15 55.8	+1.9
	baz=273						
IGT				S	Sn	08 16 29.8	+1.4
	baz=273						
MAR3	Marsite Statio	2.88	59	PN	Pn	08 15 53.9	0.0
MAR4	Marsite Statio	2.90	59	PN	Pn	08 15 54.2	-0.1
GONE	Gonen-Balikesi	2.91	74	PN	Pn	08 15 54.3	0.0
DIM	Dimitrovgrad	2.96	22	*i* P	Pn	08 15 54.8	-0.2
BALB	Balikesir	2.99	83	PN	Pn	08 15 55.5	+0.1
MRMT	Marmara Adasi	3.02	64	PN	Pn	08 15 55.8	-0.1
OHR	Ohrid	3.06	307	*i* Pn	Pn	08 15 57.0	+0.6
MAR9	Marsite Statio	3.10	64	PN	Pn	08 15 56.9	0.0
EDC	Edincik	3.12	70	PN	Pn	08 15 57.4	+0.2
SANT	Santorini	3.15	159	Pn	Pn	08 15 54.5	-3.2
SRN	Sarande	3.17	281	P	Pn	08 16 00.0	+2.2
	baz=280						
SRN				S	Sn	08 16 37.2	+1.7
	baz=280						
EDRB	Edirne	3.26	38	PN	Pn	08 15 59.1	0.0
SKO	Skopje	3.31	324	*e*Pn	Pn	08 16 00.4	+0.6
SKO	Skopje	3.31	324	*i* Pn	Pn	08 16 00.5	+0.6
VTS	Vitosha	3.35	350	*i* P	Pn	08 16 00.4	-0.2
BOSS	Bosilegrad	3.39	340	*e*Pn	Pn	08 16 01.0	+0.1
DURS	Dursunbey	3.45	84	*i* P	Pn	08 16 04.0	+2.2
DURS				*i* S	Sg	08 17 00.3	+1.2
DURS				IAML		08 17 07.0	
	comp=E,122nm,0.5s						
DURS				IAML		08 17 11.0	
	comp=N,163nm,1.0s						
PHP	Peshkopia	3.62	312	P	Pn	08 16 06.8	+2.6
	baz=314						
MANT	Manisa	3.62	102	Pn	Pn	08 16 04.8	+0.4
TIR	Tirane	3.78	304	*e*Pn	Pn	08 16 05.1	-1.2
TIR	Tirane	3.78	304	Pn	Pn	08 16 01.5	-4.8
TIR	Tirane	3.78	304	P	Pn	08 16 08.8	+2.6
	baz=305						
ULDT	Uludag	4.02	77	*i* P	Pn	08 16 10.7	+1.0
ULDT				*i* S	Sg	08 17 15.6	-1.9
ULDT				IAML		08 17 29.0	
	comp=N,118nm,0.7s						
ULDT				IAML		08 17 31.0	
	comp=E,121nm,0.8s						
IDI	Anoyia	4.08	170	Pn	Pn	08 16 10.8	+0.3
	comp=E,11nm,0.3s,baz=332,slow=11,SNR=29						
IDI	Anoyia	4.08	170	⇑P	Pn	08 16 10.8	+0.3
IDI	Anoyia	4.08	170		Pn	08 16 10.1	-0.4
IGD	Bursa	4.09	75	*i* P	Pn	08 16 13.0	+2.5
IGD				IAML		08 17 26.0	
	comp=N,60nm,1.1s						
IGD				IAML		08 17 32.0	
	comp=E,56nm,0.7s						
ZAPS	Zavoj	4.09	345	*e*Pn	Pn	08 16 10.6	0.0
PUK	Puka	4.16	312	P	Pn	08 16 14.3	+2.7
	baz=314						
PUK				S	Sn	08 17 02.9	+2.7
	baz=314						
BCI	Bajram Curri	4.28	317	P	Pn	08 16 16.3	+3.0
	baz=318						
SCTE	Santa Cesarea	4.36	282		Pn	08 16 15.7	+1.5
SCTE	Santa Cesarea	4.36	282	P	Pn	08 16 17.7	+3.4
	baz=281						
BLKB	Belogradchik	4.42	347	⇑S	Sn	08 17 09.9	+3.5
SELS	Selova	4.47	332	*e*Pn	Pn	08 16 15.8	-0.1
PVY	Plav	4.50	318	⇑*i*Pn	Pn	08 16 16.1	-0.2
PVY				*i* Sn	Sn	08 17 08.2	-0.3
ULC	Ulcinj	4.50	307	⇑*i*Pn	Pn	08 16 16.3	0.0
ULC				*i* Sn	Sn	08 17 08.2	-0.2
KARP	Karpathos	4.51	146		Pn	08 16 16.5	+0.1
RAZG	Razgrad	4.63	23	⇓P	Pn	08 16 19.3	+1.3
BOVS	Bovan	4.66	339	*e*Pn	Pn	08 16 17.9	-0.4
DRME	Dracevica, Mon	4.67	309	⇑*i*Pn	Pn	08 16 18.8	+0.3
DRME				*i* Sn	Sn	08 17 12.2	-0.3
DRME	Dracevica, Mon	4.67	309	*e*Pn	Pn	08 16 19.7	+1.2
ZAGS	Zajecar	4.69	344	*e*Pn	Pn	08 16 18.4	-0.4
IVA	Berane	4.73	320	*e*Pn	Pn	08 16 19.5	0.0
IVA				*i* Sn	Sn	08 17 13.8	-0.4
PDG	Podgorica	4.78	312	*e*Pn	Pn	08 16 20.1	+0.2
PDG	Podgorica	4.78	312	⇓P	Pn	08 16 22.0	+2.1
PDG	Podgorica	4.78	312	*e*Pn	Pn	08 16 21.5	+1.6
PDG	Podgorica	4.78	312		Pn	08 16 21.7	+1.8
TTG	Podgorica	4.78	312	⇑*i*Pn	Pn	08 16 20.2	+0.3
TTG				*i* Sn	Sn	08 17 14.7	-0.4
BUM	Brajici-Budva	4.91	309	⇑*i*Pn	Pn	08 16 22.1	+0.2
BUM				*i* Sn	Sn	08 17 18.2	-0.3
KOME	Kolasin	4.91	317	⇑*i*Pn	Pn	08 16 22.2	+0.3
KOME				*i* Sn	Sn	08 17 18.2	-0.4
SJES	Sjenica	4.99	323	*e*Pn	Pn	08 16 22.8	-0.2
CEME	Cevo	5.04	311	⇓*i*Pn	Pn	08 16 24.0	+0.3
CEME				*i* Sn	Sn	08 17 20.9	-0.9
NKME	Niksic	5.16	313	⇑*i*Pn	Pn	08 16 25.9	+0.6
NKME				*i* Sn	Sn	08 17 24.1	-0.6
NKY	Niksic	5.17	314	⇓*i*Pn	Pn	08 16 26.3	+0.8
NKY				*i* Sn	Sn	08 17 23.8	-1.2
GRUS	Gruza	5.20	332	*e*Pn	Pn	08 16 25.8	0.0
HCY	Herceg Novi	5.24	308	*e*Pn	Pn	08 16 26.8	+0.5
HCY				*i* Sn	Sn	08 17 25.8	-0.7
HCY	Herceg Novi	5.24	308	*e*Pn	Pn	08 16 26.9	+0.6
PLE	Pljevlja	5.32	320	⇓*i*Pn	Pn	08 16 27.5	-0.1
PLE				*i* Sn	Sn	08 17 27.7	-1.0
AKAS	Kas	5.38	123		Pn	08 16 31.5	+3.1
UPM	Unac-Piva	5.48	317	⇑*i*Pn	Pn	08 16 30.2	+0.4
UPM				*i* Sn	Sn	08 17 31.8	-0.9
UPM	Unac-Piva	5.48	317	*e*Pn	Pn	08 16 32.1	+2.3
BRY	Bratogost	5.48	313	*e*Pn	Pn	08 16 30.2	+0.4
BRY				*i* Sn	Sn	08 17 31.7	-1.0
BRY	Bratogost	5.48	313	*e*Pn	Pn	08 16 30.7	+0.9
NOCI	Noci	5.55	288	P	Pn	08 16 34.7	+4.1
	baz=287						
TRUS	Trudelj	5.60	332	*e*Pn	Pn	08 16 31.3	0.0
TIP	Timpagrande	5.65	271	⇓P	Pn	08 16 33.3	+1.2
TIP	Timpagrande	5.65	271	Pn	Pn	08 16 33.0	+1.0
DIVS	Divibare	5.65	329	*e*Pn	Pn	08 16 32.3	+0.2
DIVS	Divibare	5.65	329	*e*Pn	Pn	08 16 32.0	-0.1
DIVS	Divibare	5.65	329	Pn	Pn	08 16 32.2	+0.1
BBLS	Lazići	5.72	324	*e*Pn	Pn	08 16 32.6	-0.4
BBLS	Lazići	5.72	324	*e*Pn	Pn	08 16 32.9	-0.1
MDVR	Moldovita	5.73	343	⇑P	Pn	08 16 33.0	-0.1
MATE	Matera	5.79	286	⇑P	Pn	08 16 34.4	+0.5
MTUR	Matau	5.95	7	⇑P	Pn	08 16 37.2	+1.0
ARR	Arges	6.06	4	⇑P	Pn	08 16 38.2	+0.5
TIRR	Tirgusor	6.08	31	⇑P	Pn	08 16 39.3	+1.4
TIRR	Tirgusor	6.08	31	Pn	Pn	08 16 40.1	+2.2
HAPS	Han Pijesak,BI	6.10	323	*e*Pn	Pn	08 16 37.5	-0.7
HARR	Harsova	6.10	27	⇑P	Pn	08 16 38.4	+0.2
VOIR		6.16	7	⇑P	Pn	08 16 39.6	+0.5
MRVN	Minervino Murg	6.25	289	P	Pn	08 16 45.0	+4.7
	baz=289						
MLR	Muntele Rosu	6.33	12	Pn	Pn	08 16 42.1	+0.6
	comp=E,1.9nm,0.3s,baz=162,slow=18,SNR=10						
MLR				Sn	Sn	08 17 54.7	+1.2
	baz=231,slow=19,SNR=1.8						
MLR	Muntele Rosu	6.33	12	⇑P	Pn	08 16 42.0	+0.6
MLR	Muntele Rosu	6.33	12		Pn	08 16 40.8	-0.7
NEHR	Nehoiu	6.33	15	⇓P	Pn	08 16 43.0	+1.6
CEL	Celeste	6.45	263		Pn	08 16 39.5	-3.5
BZS	Buzias	6.54	345	*e*Pn	Pn	08 16 43.2	-1.0
CFR	Carcaliu	6.60	26	⇑P	Pn	08 16 44.5	-0.4
FRGS	Fruska Gora	6.62	333	*e*Pn	Pn	08 16 45.3	-0.1
FRGS	Fruska Gora	6.62	333	*e*Pn	Pn	08 16 44.6	-0.8
DOPR	Dopca	6.72	8	⇑P	Pn	08 16 47.7	+1.0
SGRT	San Giovanni R	6.77	294	Pn	Pn	08 16 46.0	-1.4
SGRT	San Giovanni R	6.77	294	P	Pn	08 16 52.3	+4.9
	baz=294						
PLOR	Plostina	6.81	16	⇑P	Pn	08 16 49.4	+1.5
VRI	Vrincioaia	6.84	16	⇑P	Pn	08 16 49.5	+1.2
OZUR		6.89	10	⇓P	Pn	08 16 50.5	+1.4
BR131	Keskin Array S	7.43	84	Pn	Pn	08 16 52.7	-3.9
BRTR	Keskin Array B	7.43	84	Pn	Pn	08 16 58.4	+1.7
	comp=E,0.8nm,0.3s,baz=264,slow=13,SNR=9.0						
BRTR				LR	LR	08 20 22.5	
	comp=E,60nm,20.2s,baz=278,slow=42						
BLY	Banja Luka	7.45	319	*e*Pn	Pn	08 16 56.3	-0.3
BLY	Banja Luka	7.45	319	*e*Pn	Pn	08 16 57.2	+0.6
PAOL	Paolisi	7.45	286		Pn	08 16 55.5	-1.3
BIZ	Bicaz	7.76	11	⇑P	Pn	08 17 02.0	+1.0
RAFF	Raffo Rosso	7.89	258	Pn	Pn	08 17 03.6	+0.8
INTR	Introdacqua	8.16	292	Pn	Pn	08 17 06.3	-0.2
BURAR	Bucovina Array	8.34	6	⇓P	Pn	08 17 10.2	+1.2
BURAR	Bucovina Array	8.34	6	Pn	Pn	08 17 06.7	-2.2
BUR08	Bucovina Ar. S	8.37	5		Pn	08 17 06.0	-3.3
CRES	Cresnjev	9.07	319	*e*Pn	Pn	08 17 18.5	-0.4
CEY	Cerknica	9.56	315	*e*Pn	Pn	08 17 23.9	-1.8
SOKA	Soboth	9.87	321	Pn	Pn	08 17 30.9	+0.9
	comp=E,4.8nm,0.6s,SNR=5.4						
OBKA	Obir	10.00	319	*i* Pn	Pn	08 17 32.1	+0.4
	comp=E,1.2nm,0.3s						
ARSA	Arzberg	10.06	325	Pn	Pn	08 17 34.1	+1.6
	comp=E,6.7nm,0.3s,SNR=4.8						
ZOU	Zoufplan	10.86	315		Pn	08 17 42.8	-0.9
KBA	Koelnbreinsper	10.99	318	*i* Pn	Pn	08 17 45.9	+0.4
	comp=E,2.0nm,0.4s						
MOA	Molln	11.08	323	Pn	Pn	08 17 48.2	+1.8
	comp=E,2.4nm,0.3s,SNR=6.0						
ABTA	Abfaltersbach	11.23	315	Pn	Pn	08 17 47.9	-0.7
	comp=E,4.0nm,0.5s,SNR=5.6						
VRAC	Vranov	11.31	334	LR	LR	08 21 44.9	
	comp=E,73nm,19.5s,baz=164,slow=35						
AKASG	Malin Array Be	11.96	16	Pn	Pn	08 17 56.9	-1.4
	comp=E,1.0nm,0.3s,baz=197,slow=13,SNR=4.3						
GERES	GERESS Array B	12.07	325	Pn	Pn	08 18 00.9	+0.9
	comp=E,0.3nm,0.3s,baz=148,slow=13,SNR=6.5						
GERES				LR	LR	08 22 53.9	
	comp=E,81nm,19.8s,baz=147,slow=39						
GERES	GERESS Array B	12.07	325		Pn	08 17 56.9	-3.1
SQTA	Sankt Quirin	12.23	314	*i* Pn	Pn	08 18 02.0	-0.2
	comp=E,2.3nm,0.3s						
KHC	Kasperske Hory	12.34	326	*e*P	Pn	08 18 04.5	+0.9
KHC	Kasperske Hory	12.34	326		Pn	08 18 02.2	-1.4
FETA	Feichten	12.38	313	*i* Pn	Pn	08 18 03.5	-0.9
	comp=E,1.0nm,0.4s						
EIL	Elat	13.17	134	LR	LR	08 25 03.2	
	comp=E,31nm,18.6s,baz=275,slow=45						
ESDC	Sonseca Array	21.58	280	P	P	08 19 56.6	-1.1
	comp=E,0.5nm,0.4s,baz=77,slow=11,SNR=5.2						
ESDC	Sonseca Array	21.58	280	P	P	08 19 58.6	+0.9
HFS	Hagfors	21.83	346	LR	LR	08 28 32.1	
	comp=E,118nm,19.4s,baz=15,slow=37						
FINES	FINESS Array B	22.19	3	P	P	08 20 06.2	+2.2
	comp=E,1.4nm,0.6s,baz=169,slow=11,SNR=4.7						
NB2	NORSAR Subarra	23.16	344	P	P	08 20 14.8	+0.5
	comp=Z,5.2nm,1.0s,baz=153,slow=11						
NOA	NORSAR Array B	23.16	344	P	P	08 20 14.6	+0.3
	comp=Z,2.1nm,0.8s,baz=153,slow=11,SNR=4.2						
NOA				LR	LR	08 29 07.8	
	comp=Z,45nm,19.3s,baz=5.0,slow=36						
EKA	Eskdalemuir Ar	24.20	320	P	P	08 20 24.3	0.0
	comp=Z,0.4nm,0.4s,baz=119,slow=12,SNR=6.3						
TOA0	Torodi Ar. Sit	32.70	223	P	P	08 21 40.1	-0.4
TORD	Torodi Ar. Bea	32.70	223	P	P	08 21 40.5	0.0
	comp=Z,4.5nm,0.6s,baz=34,slow=9.2,SNR=41						
TORD	Torodi Ar. Bea	32.70	223	P	P	08 21 40.2	-0.3
KOWA	Kowa	34.91	233	P	P	08 21 58.6	-1.2
	comp=Z,0.7nm,0.3s,baz=22,slow=5.4,SNR=2.4						
KOWA	Kowa	34.91	233	P	P	08 21 58.4	-1.4
KOWA				IAmb	IAmb	08 22 04.4	
	comp=Z,9.8nm,1.4s						
DBIC	Dimbokro	41.63	226	P	P	08 22 56.4	+0.1
	comp=Z,5.3nm,0.8s,baz=4.7,slow=9.2,SNR=6.2						
DBIC	Dimbokro	41.63	226	P	P	08 22 54.9	-1.4
DBIC				IAmb	IAmb	08 22 57.1	
	comp=Z,13nm,1.2s						
TIC	Toumodi	41.74	226	*e*P	P	08 22 58.8	+1.5
KIC	Kosan Boka	41.82	226	*e*P	P	08 22 57.4	-0.5
	comp=Z,18nm,1.1s						
LIC	Lamto	42.09	226	*e*P	P	08 23 00.0	-0.1
	comp=Z,18nm,0.6s						
MK31	Makanchi Array	42.36	60	P	P	08 23 03.5	+1.5
MKAR	Makanchi Array	42.36	60	P	P	08 23 05.1	+3.1
	comp=Z,1.5nm,0.6s,baz=277,slow=6.7,SNR=12						
MKAR	Makanchi Array	42.36	60	P	P	08 23 01.0	-1.0
ZALV	Zalesovo Beam	42.87	49	P	P	08 23 08.4	+2.3
	comp=Z,2.1nm,0.6s,baz=278,slow=8.7,SNR=7.2						
ZALV	Zalesovo Beam	42.87	49	P	P	08 23 06.0	-0.1

ATH ***29*** *08:25:50.9, 34.°66N×23.°45E, h34km

JAG	**Ashikaga**	**4.62 336**	P		**Pn**	**08 32 41.3**	**-1.9**
JAG			*e*S		**Sn**	**08 33 33.4**	**-2.1**
JGF	**Kuroka**	**5.00 313**			**Pn**	**08 32 49.0**	**+0.4**
INU	**Inuyama**	**5.06 309**	Pn		**Pn**	**08 32 46.1**	**-3.2**
JCJ	**Chichijima**	**5.13 176**	Pn		**Pn**	**08 32 49.0**	**-1.4**
	14nm,0.3s,baz=338,slow=21,SNR=7.0						
JCJ			Sn		**Sn**	**08 33 45.5**	**-2.8**
	18nm,0.3s,baz=90,slow=20,SNR=3.5						
JCJ	**Chichijima**	**5.13 176**			**Pn**	**08 32 47.5**	**-2.8**
JCJ					**Sn**	**08 33 46.2**	**-2.1**
MJAR	**Matsushiro Arr**	**5.23 326**	Pn		**Pn**	**08 32 50.8**	**-0.9**
	0.3nm,0.3s,baz=154,slow=11,SNR=15						
MJAR			LR		LR	08 35 06.2	
	comp=Z,115nm,19.8s,baz=140,slow=42						
MJAR	**Matsushiro Arr**	**5.23 326**			**Pn**	**08 32 51.5**	**-0.1**
MAJO	**Matsushiro**	**5.23 326**			**Pn**	**08 32 49.7**	**-2.0**
MAT	**Matsushiro**	**5.23 326**	P		**Pn**	**08 32 51.3**	**-0.4**
MAT			S		**Sn**	**08 33 43.3**	**-7.4**
JMM	**Marumori**	**5.68 352**			**Pn**	**08 32 55.1**	**-2.7**
JMM			Sn		**Sn**	**08 34 00.4**	**-1.2**
JWT	**Wachi**	**6.15 301**	Pn		**Pn**	**08 33 02.7**	**-1.6**
JSD	**Sado**	**6.48 334**	Pn		**Pn**	**08 33 07.2**	**-1.6**
JMK	**Ichinoseki**	**6.72 356**	P		**Pn**	**08 33 09.4**	**-2.6**
JMK			S		**Sn**	**08 34 21.9**	**-5.2**
JMN	**Monobe**	**6.84 285**	Pn		**Pn**	**08 33 10.6**	**-3.1**
KSRS	**Korea Array**	**12.54 298**	LR		LR	08 39 56.9	
	comp=Z,77nm,19.1s,baz=122,slow=40						
DAV	**Davao City (W)**	**29.26 215**	LR		LR	08 47 48.2	
	comp=Z,22nm,21.1s,baz=100,slow=33						
SONM	**Songino Array**	**30.96 311**	P		**P**	**08 37 50.7**	**+2.3**
	1.0nm,0.5s,baz=112,slow=11,SNR=3.9						
SONM			LR		LR	08 49 57.5	
	comp=Z,51nm,18.0s,baz=104,slow=36						
SONM	**Songino Array**	**30.96 311**	P		**P**	**08 37 48.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**40.84 261**	LR		LR	08 56 19.1	
	comp=Z,5.2nm,18.1s,baz=240,slow=36						
KAPI	**Kappang**	**42.58 214**	LR		LR	08 55 41.3	
	comp=Z,17nm,21.0s,baz=35,slow=34						
MK31	**Makanchi Array**	**47.08 306**	P		**P**	**08 40 02.9**	**+0.1**
MKAR	**Makanchi Array**	**47.08 306**	P		**P**	**08 40 04.0**	**+1.3**
	1.8nm,0.7s,baz=93,slow=9.6,SNR=13						
MKAR	**Makanchi Array**	**47.08 306**	P		**P**	**08 40 03.2**	**+0.4**
MAKZ	**Makanchi**	**47.30 306**	P		**P**	**08 40 04.1**	**-0.3**
MAKZ			IAmb		IAmb	08 40 06.3	
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**49.26 311**	P		**P**	**08 40 19.0**	**-0.5**
BWN	**Browne**	**52.27 31**	P		**P**	**08 40 42.0**	**+0.1**
WRAB	**Tennant Creek**	**52.37 189**	P		**P**	**08 40 43.8**	**+0.7**
WRAB			IAmb		IAmb	08 40 44.1	
	comp=Z,4.3nm,0.8s						
WR0	**Warramunga Arr**	**52.37 189**	P		**P**	**08 40 43.9**	**+0.8**
WB2	**Warramunga Arr**	**52.38 189**	P		**P**	**08 40 44.2**	**+1.0**
WB2			IAmb		IAmb	08 40 44.2	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**52.38 189**	P		**P**	**08 40 43.8**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=6,9,slow=7.7,SNR=39						
WRA	**Warramunga Arr**	**52.38 189**	P		**P**	**08 40 43.7**	**+0.5**
WC3	**Warramunga Arr**	**52.39 189**	P		**P**	**08 40 44.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**52.40 200**	P		**P**	**08 40 43.1**	**-0.2**
FITZ			IAmb		IAmb	08 40 45.8	
	comp=Z,6.2nm,1.1s						
ILAR	**Eielson Array**	**53.41 30**	P		**P**	**08 40 50.5**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=266,slow=5.7,SNR=4.4						
KKAR	**Karatay Array**	**55.92 303**	P		**P**	**08 41 09.0**	**+0.1**
ASAR	**Alice Springs**	**56.10 189**	P		**P**	**08 41 12.1**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=19,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**56.10 189**	P		**P**	**08 41 10.2**	**0.0**
ABKAR	**Akbulak array**	**61.35 312**	P		**P**	**08 41 47.7**	**+1.2**
FINES	**FINESS Array B**	**73.22 333**	P		**P**	**08 43 02.5**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=54,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	**73.22 333**	P		**P**	**08 43 01.8**	**+0.5**
AKASG	**Malin Array Be**	**78.31 323**	P		**P**	**08 43 31.4**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=50,slow=6.2,SNR=4.2						
NB2	**NORSAR Subarra**	**78.74 338**	P		**P**	**08 43 34.0**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**78.74 338**	P		**P**	**08 43 32.9**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=40,slow=5.1,SNR=5.1						
PDAR	**Pinedale Array**	**80.80 45**	P		**P**	**08 43 46.7**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=299,slow=6.1,SNR=2.4						
TXAR	**Lajitas Array**	**92.77 53**	P		**P**	**08 44 46.5**	**+3.1**
	comp=Z,0.7nm,1.0s,baz=279,slow=1.7,SNR=3.1						
LPAZ	**La Paz**	**148.55 67**	PKPbc		**PKPab**	**08 51 21.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=12,slow=6.0,SNR=5.5						

TRN 29 09:08:30.9, 14°.45N×58°.77W, h25km, MD3.9, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.51**	**211**	*e*P	Pb	09 08 58.5	+0.2
BBGH				*e*S	Sb	09 09 16.8	-0.3
BIM	**Bigot**	**2.23**	**272**	*e*P	Pb	09 09 09.2	-1.4
BIM				*e*S	Sn	09 09 35.5	+2.3
MCLT	**Moule a Chique**	**2.24**	**251**	*e*P	Pn	09 09 07.2	+0.7
MCLT				*e*S	Sn	09 09 33.2	-0.1
FDF	**Fort de France**	**2.33**	**277**	*e*P	Pn	09 09 08.2	+0.5
FDF				*e*S	Sn	09 09 36.9	+1.4
BAMF	**Morne Balai**	**2.33**	**279**	*e*P	Pn	09 09 08.8	+1.0
GBMF	**Grand Be**	**2.35**	**279**	*e*P	Pn	09 09 09.2	+1.2
CXM	**Morne La Croix**	**2.35**	**279**	*e*P	Pn	09 09 09.8	+1.6
PCM	**Pelee Case Pet**	**2.39**	**279**	*e*P	Pn	09 09 09.7	+1.1
SVCV	**St. Vincent, C**	**2.59**	**243**	*e*P	Pn	09 09 11.8	+0.4
SVCV				*e*S	Sn	09 09 44.1	+2.0
MDN	**Morne-Daniel**	**2.68**	**289**	*e*P	Pn	09 09 13.9	+1.3
SVB	**Belmont**	**2.69**	**244**	*e*P	Pn	09 09 13.5	+0.9
SVB				*e*S	Sn	09 09 46.0	+1.6
DSLB	**Salisbury**	**2.75**	**291**	*e*P	Pn	09 09 14.2	+0.7
DSLB				*e*S	Sn	09 09 46.7	+0.8
MAGL	**Barre de l'ile**	**2.85**	**302**	*e*P	Pn	09 09 15.2	+0.3
MAGL				*e*S	Sn	09 09 49.5	+1.1
TDBA	**Terre de Bas,**	**3.10**	**297**	*e*P	Pn	09 09 20.9	+2.6
TDBA				*e*S	Sn	09 09 56.6	+2.1
CBE	**Ff, Capester**	**3.18**	**301**	*e*P	Pn	09 09 21.4	+2.0
CBE				*e*S	Sn	09 09 57.0	+0.5
GCMP	**Grenada, Carri**	**3.24**	**233**	*e*P	Pn	09 09 21.6	+1.4
GRGR	**Grenville**	**3.64**	**231**	*e*P	Pn	09 09 28.6	+2.9

*JMA **29** 09:51:07.9±0.9, 43°.70N×150°.63E, h30km, M4.1*
*SKHL **29** 09:51:10.2±0.4, 43°.34N×150°.43E, h50km±4km, mb4.0/1*
ISC 29 09:51:10.5±3.9, 43°.3N±0°.1×150°.4E±0°.2, h42km, n13, σ0s84/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.62**	**317**	*i* P	**Pn**	**09 51 50.3**	**0.0**
KUR				AMB	AMB	09 51 51.0	
	20nm,0.3s						
KUR				*i* S	**Sn**	**09 52 20.5**	**-0.3**
KUR				A	A	09 52 24.0	
	100nm,0.4s						
KUR				A	A	09 52 24.0	
	70nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.35**	**283**	*e*S	**Sn**	**09 52 37.6**	**-1.3**
NEM2	**Nemuro 2**	**3.38**	**272**	P	**Pn**	**09 52 00.9**	**+0.1**
NEM2				*e*S	**Sn**	**09 52 39.4**	**-0.3**
NMR	**Nemuro--Hokkai**	**3.40**	**272**	*e*P	**Pn**	**09 52 01.1**	**+0.1**
NMR				*e*S	**Sn**	**09 52 38.9**	**-1.1**
GRPR	**Tuman**	**3.41**	**283**	*e*P	**Pn**	**09 52 01.0**	**-0.2**
GRPR				*i* S	**Sn**	**09 52 39.8**	**-0.5**
GRPR				A	A	09 52 40.0	
	120nm,0.4s						
GRPR				A	A	09 52 40.0	
	80nm,0.4s						
JNK	**Nakash**	**4.13**	**275**	P	**Pn**	**09 52 10.7**	**-0.4**
JNK				*e*S	**Sn**	**09 52 57.6**	**-0.5**
JAK	**Akkeshi**	**4.17**	**267**	P	**Pn**	**09 52 11.9**	**+0.2**
JAK				*e*S	**Sn**	**09 53 00.0**	**+0.8**
JTKR	**Abashiri--Toko**	**4.74**	**280**	P	**Pn**	**09 52 20.8**	**+1.4**
JAR	**Ashorobuto**	**4.83**	**272**	P	**Pn**	**09 52 21.7**	**+1.1**
JAR				*e*S	**Sn**	**09 53 15.8**	**+0.6**
JCH	**Churui**	**5.20**	**264**	P	**Pn**	**09 52 26.8**	**+1.0**
JBT2	**Biratori 2**	**5.90**	**267**	P	**Pn**	**09 52 35.7**	**+0.3**
JKB	**Kayabe**	**7.05**	**261**	P	**Pn**	**09 52 52.3**	**+1.2**
JANG	**Nango**	**7.25**	**249**	P	**Pn**	**09 52 52.7**	**-1.3**

IDC 29 10:20:01.1±1.2, 28°.55N×139°.89E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/40, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=36.8km s-min=24.1km az=96.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.50**	**125**	Pn	Pn	10 20 41.5	-1.6
	10nm,0.3s,baz=291,slow=19,SNR=3.5						
JCJ				Sn	Sb	10 21 16.7	-1.5
	22nm,0.3s,baz=296,slow=21,SNR=3.7						
WRA	**Warramunga Arr**	**48.51**	**187**	P	P	10 28 45.4	-0.5
	0.9nm,0.7s,baz=3.0,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**52.24**	**187**	P	P	10 29 14.4	+0.3
	0.4nm,1.1s,baz=20,slow=14,SNR=4.3						
ILAR	**Eielson Array**	**57.42**	**29**	P	P	10 29 50.1	-1.1
	0.2nm,0.5s,baz=256,slow=7.1,SNR=3.3						
TXAR	**Lajitas Array**	**96.33**	**52**	P	P	10 33 33.9	+1.7
	0.1nm,0.5s,baz=318,slow=2.4,SNR=3.1						
LPAZ	**La Paz**	**151.44**	**71**	PKPbc	PKPbc	10 39 58.3	-0.1
	0.5nm,0.4s,baz=0.0,slow=1.0,SNR=2.9						

*REY **29** 10:37:15.8, 64°.69N×17°.49W, h4km*
*IDC **29** 10:37:16.5±0.9, 64°.64N×17°.76W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/38, mbtmp3.7/7, ML4.2/1, Error ellipse: s-maj=29.4km s-min=15.7km az=28.0*
*NEIC **29** 10:37:17.2±1.9, 64°.65N±0°.10×17°.7W±0°.1, h7km±4km, mb4.1/3, Error ellipse: s-maj=15.2km s-min=6.9km az=203.0*
ISC 29 10:37:16.7±0.6, 64°.69N±0°.03×17°.49W±0°.03, h10km, n46, σ1s92/46, mb3.8/7, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**264**	P	**Pg**	**10 37 18.0**	**-1.6**
	baz=262						
IDYN	**Dyngjuhals**	**0.12**	**27**	P	**Pg**	**10 37 18.3**	**-1.3**
	baz=28						
IURH	**Urdarhals**	**0.20**	**47**	P	**Pg**	**10 37 19.8**	**-1.1**
	baz=48						
IDJK	**Dyngjujokull**	**0.21**	**149**	P	**Pg**	**10 37 20.0**	**-1.2**
	baz=149						
IKVE	**Kverkfjoll**	**0.35**	**91**	P	**Pg**	**10 37 22.7**	**-1.0**
	baz=91						
IBJK	**Bruarjokull**	**0.39**	**124**	P	**Pg**	**10 37 22.9**	**-1.4**
	baz=124						
IHUS	**Husbondi**	**0.40**	**190**	P	**Pg**	**10 37 23.6**	**-0.9**
	baz=190						
ISKR	**Skrokkalda**	**0.41**	**252**	P	**Pg**	**10 37 23.8**	**-0.8**
	baz=252						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**10 37 24.7**	**-1.5**
	baz=220						
IASK	**Askja**	**0.52**	**44**	P	**Pg**	**10 37 25.3**	**-1.4**
	baz=44						
IMKO	**Mokollar**	**0.57**	**59**	S	**Sg**	**10 37 34.6**	**-0.8**
	baz=59						
IMKO				P	**Pg**	**10 37 25.9**	**-1.9**
	baz=59						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**10 37 27.6**	**-1.7**
	baz=205						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**10 37 27.5**	**-2.0**
	baz=8.7						
IKAL	**Kalfafell**	**0.74**	**187**	P	**Pg**	**10 37 28.6**	**-2.4**
	baz=187						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	S	**Sg**	**10 37 40.1**	**-1.3**
	baz=80						
IVSH				P	**Pg**	**10 37 29.1**	**-2.3**
	baz=80						
IADA	**Aoalbol**	**0.89**	**67**	P	**Pg**	**10 37 30.8**	**-2.9**
	baz=67						
IFAG	**Fagurholsmyri**	**0.89**	**155**	P	**Pg**	**10 37 30.9**	**-2.9**
	baz=156						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**	**10 37 34.9**	**-2.3**
	baz=14						
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**	**10 37 35.1**	**-2.3**
	baz=208						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**10 37 35.1**	**-3.0**
	baz=31						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pb**	**10 37 36.0**	**-2.2**
	baz=220						
IRJU	**Rjupnafell**	**1.19**	**206**	P	**Pb**	**10 37 36.6**	**-2.7**
	baz=206						
IGHA	**Grjothals**	**1.22**	**16**	P	**Pn**	**10 37 36.9**	**-2.8**
	baz=16						
IHVO	**Lagu-Hvolar**	**1.31**	**208**	P	**Pn**	**10 37 39.3**	**-1.7**
	baz=208						
IALF	**Alftagrof**	**1.41**	**213**	P	**Pn**	**10 37 40.8**	**-1.6**
	baz=212						
IESK	**Eystri-Skogar**	**1.45**	**217**	P	**Pn**	**10 37 41.4**	**-1.4**
	baz=217						
ISAU	**Saurbar**	**1.45**	**243**	P	**Pn**	**10 37 40.8**	**-2.1**
	baz=242						
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**10 37 43.5**	**-2.1**
	13nm,0.3s,baz=87,slow=7.6,SNR=29						
BORG				Sn	**Sg**	**10 38 07.7**	**-1.9**
	7.5nm,0.3s,baz=21,slow=23,SNR=8.0						
BORG	**Borgarnes**	**1.65**	**274**		**Pn**	**10 37 44.6**	**-1.1**
SCO	**Scoresbysund**	**6.07**	**346**		**Pn**	**10 38 47.2**	**+0.9**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**10 40 05.9**	**+1.5**
	baz=328,slow=14,SNR=7.4						
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**10 40 05.6**	**+1.1**
CLL	**Collm**	**20.71**	**116**	*e*P	Pn	10 41 59.0	-0.1
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P	**P**	**10 42 07.0**	**+2.5**
	11nm,1.2s						
BRG				*e*		10 42 09.5	
	11nm,1.2s						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**10 42 23.9**	**+2.9**
	0.2nm,0.3s,baz=338,slow=9.5,SNR=5.6						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**10 42 54.5**	**+2.6**
	0.7nm,0.4s,baz=350,slow=8.1,SNR=6.3						
ESDC	**Sonseca Array**	**26.27**	**156**	IAmb	IAmb	10 42 55.9	
	comp=Z,2.9nm,1.1s						
BMAR	**Burnt Mountain**	**42.88**	**333**	P	**P**	**10 45 17.2**	**+2.6**
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**10 45 38.9**	**+2.0**
	comp=Z,1.2nm,1.1s,baz=27,slow=6.5,SNR=7.3						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**10 45 38.4**	**+1.5**
MKAR	**Makanchi Array**	**52.71**	**58**	P	**P**	**10 46 32.1**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=340,slow=3.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**10 46 34.5**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=338,slow=5.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	IAmb	IAmb	10 46 37.5	
	comp=Z,1.1nm,0.9s						
PD31	**Pinedale Array**	**53.17**	**293**	P	**P**	**10 46 34.6**	**-0.1**
PD31				IAmb	IAmb	10 46 37.8	
	comp=Z,3.1nm,1.2s						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**10 46 36.0**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=42,slow=4.6,SNR=7.8						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**10 46 34.6**	**-0.1**

IDC 29 10:54:04.7±1.9, 2°.02N×127°.44E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/33, mbtmp3.5/4, Error ellipse: s-maj=102.8km s-min=23.5km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.07**	**185**	P	P	10 58 39.6	-0.1
	0.8nm,0.6s,baz=346,slow=8.3,SNR=1.9						
WRA	**Warramunga Arr**	**22.85**	**163**	P	P	10 59 08.8	-1.0
	1.4nm,0.5s,baz=343,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.30**	**167**	P	P	10 59 43.1	+0.9
	0.3nm,0.5s,baz=339,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**59.35**	**326**	P	P	11 04 08.7	0.0
	0.3nm,0.4s,baz=110,slow=8.0,SNR=3.3						

*IDC **29** 10:56:07.5±9.8, 22°.08S×179°.04W, h486km±113km, mb3.3/12, mb1 3.5/12, mb1mx3.4/35, mbtmp4.1/12, Error ellipse: s-maj=34.7km s-min=22.7km az=62.0*
ISC 29 10:56:07.8±0.8, 22°.3S±0°.1×179°.0W±0°.1, h500km, n23, σ2s72/21, mb3.8/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**21.66**	**198**	P	**P**	**11 00 24.2**	**+2.8**
INZ	**Inchbonnie**	**21.85**	**199**	P	**P**	**11 00 18.8**	**-4.2**
OXZ	**Oxford**	**22.23**	**198**	P	**P**	**11 00 21.4**	**-5.0**
WVZ	**Waitaha Valley**	**22.39**	**200**	P	**P**	**11 00 23.8**	**-4.0**
MHCZ	**Mount Hutt**	**22.55**	**198**	P	P	11 00 22.0	-7.3
WACZ	**Wakanui South**	**22.85**	**197**	P	**P**	**11 00 30.7**	**-1.3**
RPZ	**Rata Peaks**	**22.87**	**199**	P	**P**	**11 00 27.3**	**-4.9**
ARCZ	**Arundel**	**23.04**	**198**	P	**P**	**11 00 30.7**	**-3.1**
FOZ	**Fox Glacier**	**23.10**	**201**	P	**P**	**11 00 38.2**	**+4.0**
CTA	**Charters Tower**	**32.45**	**267**	P	**P**	**11 01 57.2**	**+0.7**
	8.2nm,0.8s,baz=58,slow=9.5,SNR=8.1						
STKA	**Stephens Creek**	**36.20**	**246**	P	**P**	**11 02 27.3**	**-0.5**
	2.4nm,0.7s,baz=109,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**43.24**	**259**	P	**P**	**11 03 24.8**	**+0.1**
	4.6nm,0.7s,baz=95,slow=7.7,SNR=70						
WRA	**Warramunga Arr**	**43.48**	**264**	P	**P**	**11 03 26.4**	**-0.2**
	2.0nm,0.3s,baz=90,slow=5.8,SNR=133						
FITZ	**Fitzroy Crossi**	**51.91**	**264**	P	**P**	**11 04 30.6**	**+0.7**
	2.1nm,0.5s,baz=196,slow=1.0,SNR=21						
VNDA	**Vanda**	**56.01**	**185**	P	**P**	**11 05 01.1**	**+3.2**
	0.5nm,0.6s,baz=14,slow=6.9,SNR=8.1						
MJAR	**Matsushiro Arr**	**71.16**	**325**	P	**P**	**11 06 35.0**	**-0.6**
	2.4nm,1.0s,baz=169,slow=6.4,SNR=4.9						
PETK	**Petropavlovsk-**	**77.81**	**346**	P	**P**	**11 07 13.8**	**+1.0**
	3.6nm,0.9s,baz=252,slow=5.3,SNR=5.7						
NVAR	**Mina Array Bea**	**82.97**	**44**	P	**P**	**11 07 40.3**	**0.0**
	0.5nm,0.6s,baz=227,slow=8.4,SNR=6.9						
TXAR	**Lajitas Array**	**88.80**	**58**	P	**P**	**11 08 08.8**	**+0.4**
	0.4nm,0.7s,baz=218,slow=5.9,SNR=5.3						
CMAR	**Chiang Mai Arr**	**89.88**	**290**	P	P	11 08 17.4	+3.9
	0.6nm,0.4s,baz=126,slow=4.6,SNR=7.3						
ILAR	**Eielson Array**	**90.30**	**13**	P	**P**	**11 08 13.5**	**-0.9**
	0.3nm,0.4s,baz=211,slow=6.1,SNR=6.1						
PDAR	**Pinedale Array**	**90.91**	**44**	P	**P**	**11 08 17.2**	**-0.8**
	0.3nm,0.6s,baz=206,slow=3.9,SNR=5.0						
AKASG	**Malin Array Be**	**144.15**	**329**	PKP	**PKPdf**	**11 14 45.4**	**-0.7**
	0.7nm,0.3s,baz=42,slow=3.6,SNR=6.3						

TAP 29 11:01:07.7, 24°.01N×121°.59E, h4km, ML2.8, 1C-4D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.03**	**148**	⇑*i*P	Pg	11 01 09.4	+0.8
	baz=141						
TWD	**Chiawan**	**0.07**	**8**	⇓*i*P	Pg	11 01 09.8	+0.5
	baz=13						
NACB	**Ninganchiao**	**0.17**	**3**	⇓*i*P	Pg	11 01 11.3	+0.3
	baz=16						
NACB				*e*S	Sg	11 01 13.8	+0.5
	baz=16						
ETLH	**Xiulin Townshi**	**0.22**	**335**	⇓*i*P	Pg	11 01 12.9	+0.8
	baz=334						
ESL	**Shilin**	**0.24**	**216**	*i* P	Pg	11 01 12.8	+0.5
	baz=214						
ESL				*e*S	Sg	11 01 16.1	+0.7
	baz=214						
WHF	**Hehuan Shan**	**0.32**	**295**	⇓*i*P	Pg	11 01 15.1	+1.0
	baz=295						
WHF				*e*S	Sg	11 01 20.0	+1.6
	baz=295						
EGFH	**Guangfu**	**0.36**	**203**	*e*P	Pg	11 01 15.6	+0.9
	baz=215						
FUSS	**Fushou**	**0.39**	**308**	P	Pb	11 01 16.7	-0.7
	baz=307						
ENA	**Nanau**	**0.44**	**19**	*i* P	Pg	11 01 16.2	-0.1
	baz=21						
TWT	**Tachien**	**0.45**	**303**	P	Pb	11 01 18.0	-0.2
	baz=301						
TWT				*e*S	Sb	11 01 24.4	-1.0
	baz=301						
NNSB	**Datong**	**0.46**	**336**	*i* P	Pg	11 01 17.4	+0.9
	baz=336						
NNSH	**Datong**	**0.46**	**336**	P	Pb	11 01 17.5	-0.9
	baz=350						
TDCB	**Techi**	**0.46**	**302**	P	Pb	11 01 18.1	-0.4
	baz=301						
ENAH	**Nanao**	**0.49**	**25**	*e*P	Pg	11 01 16.9	-0.2
	baz=26						
HGSD	**Ruisui**	**0.53**	**196**	*e*P	Pb	11 01 19.6	+0.1
	baz=203						
EHY	**Hungye**	**0.55**	**206**	*e*P	Pg	11 01 18.9	+0.6
	baz=211						
NDT	**Datong Townshi**	**0.60**	**354**	P	Pg	11 01 19.9	+0.8
	baz=354						
SSLB	**Suanglung**	**0.62**	**249**	*e*P	Pb	11 01 20.7	-0.4
	baz=263						
SSLB				*e*S	Sb	11 01 29.1	-1.1
	baz=263						
ENTT	**Nioudou**	**0.63**	**358**	*e*P	Pg	11 01 20.5	+0.6
TWC	**Suao**	**0.65**	**22**	*e*P	Pg	11 01 20.8	+0.6
	baz=23						
YULB	**Yu-li**	**0.67**	**203**	*e*P	Pg	11 01 20.8	+0.3
	baz=215						
YULB				*e*S	Sg	11 01 30.0	+0.9
	baz=215						
TYC	**Yuchr**	**0.67**	**261**	*e*P	Pg	11 01 21.3	+0.7
	baz=260						
NSK	**Sanguang**	**0.70**	**343**	*e*P	Pb	11 01 22.0	-0.5
	baz=353						
TWF1	**Yuli**	**0.70**	**202**	*e*P	Pb	11 01 22.0	-0.5
	baz=208						
NWLT	**Wulai**	**0.77**	**354**	*e*P	Pb	11 01 23.1	-0.6
	baz=355						
NWLT				*e*S	Sg	11 01 32.9	+0.3
	baz=355						

TAP 29 11:01:08.4, 24°.01N×121°.61E, h7km, ML2.9, C, Taiwan

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

TDCB	Techi (baz=334)	0.48	300	eP	Pb	11 01 19.0	-0.3
TDCB (baz=301)				eS	Sb	11 01 25.6	-1.1
VWDT	VWDT (baz=301)	0.50	239	eP	Pg	11 01 18.2	0.0
VWDT	VWDT (baz=222)	0.50	239	eP	Pg	11 01 18.3	+0.2
VWDT (baz=232)				eS	Sg	11 01 25.2	+0.4
HGSD	Ruisui (baz=232)	0.55	199	eP	Pb	11 01 20.4	+0.1
HGSD (baz=210)				eS	Sb	11 01 29.9	+1.5
EHY	Hungye (baz=210)	0.57	208	eP	Pg	11 01 19.9	+0.4
EHY (baz=216)				eS	Sb	11 01 28.6	-0.5
NDT	Datong Townshi (baz=216)	0.59	351	P	Pb	11 01 20.9	-0.4
NDT (baz=352)				eS	Sb	11 01 29.2	-0.7
ENTT	Nioudou (baz=352)	0.63	356	P	Pb	11 01 21.5	-0.3
ENTT (baz=357)				eS	Sg	11 01 29.7	+1.0
TWC	Suao (baz=357)	0.63	20	eP	Pb	11 01 21.8	-0.1
TWC (baz=21)				eS	Sg	11 01 29.6	+0.7
TWC	Suao (baz=21)	0.63	20	eS	Sg	11 01 29.7	+0.8
SSLB	Suanglung (baz=23)	0.64	250	i P	Pb	11 01 21.7	-0.3
SSLB (baz=262)				i S	Sg	11 01 29.9	+0.6
WHP	Taichung City (baz=262)	0.67	294	eP	Pb	11 01 22.6	+0.2
WHP (baz=285)				eS	Sb	11 01 32.2	+0.3
SMLT	Sun Moon Lake (baz=285)	0.67	259	eP	Pb	11 01 22.4	0.0
SMLT (baz=259)				eS	Sb	11 01 31.5	-0.5
YULB	Yu-li (baz=259)	0.68	205	eP	Pg	11 01 21.9	+0.3
YHNB	Yeheng (baz=211)	0.69	342	P	Pb	11 01 22.8	-0.1
YHNB (baz=343)				eS	Sb	11 01 32.1	-0.5
NSK	Sanguang (baz=343)	0.70	341	eP	Pb	11 01 22.9	-0.2
NSK (baz=333)				eS	Sb	11 01 32.4	-0.6
TYC	Yuchr (baz=333)	0.70	261	eP	Pb	11 01 23.0	0.0
TYC (baz=262)				eS	Sb	11 01 32.3	-0.6
TWE	Neicheng (baz=262)	0.71	4	eP	Pb	11 01 22.7	-0.5
TWE (baz=6.0)				eS	Sg	11 01 32.1	+0.8
EYUL	Yuli (baz=6.0)	0.71	202	eP	Pg	11 01 22.6	+0.4
TWF1	Yuli (baz=215)	0.72	204	eP	Pb	11 01 23.7	+0.4
TWF1 (baz=214)				eS	Sb	11 01 32.8	-0.6
NWLT	Wulai (baz=214)	0.77	352	eP	Pb	11 01 24.1	-0.1
NWLT (baz=347)				eS	Sg	11 01 33.5	+0.3
NSTT	Nanjuang (baz=347)	0.83	318	eP	Pn	11 01 26.2	-0.4
NSTT (baz=319)				eS	Sb	11 01 37.4	+0.8
WJS	Zhushan (baz=319)	0.83	257	eS	Sn	11 01 39.2	+0.1
LIOB	Emei (baz=257)	0.83	319	eP	Pn	11 01 26.3	-0.4
LIOB (baz=320)				eS	Sg	11 01 35.9	+0.5
TWQ1	Liyutan (baz=320)	0.84	294	eP	Pn	11 01 26.4	-0.3
FULB	Fuli (baz=293)	0.86	200	eP	Pb	11 01 25.5	-0.3
FULB (baz=215)				eS	Sb	11 01 38.0	+0.5
WNT	Mingjian (baz=215)	0.86	261	eP	Pn	11 01 26.4	-0.6
NSY	Sanyi (baz=261)	0.88	297	eP	Pn	11 01 27.1	-0.1
NSY (baz=311)				eS	Sb	11 01 38.2	+0.3
ALS	Alishan (baz=311)	0.89	236	P	Pb	11 01 26.4	-0.1
ALS (baz=237)				eS	Sb	11 01 38.9	+0.2
NMLH	Miaoli (baz=237)	0.92	305	eP	Pn	11 01 28.3	+0.5
CHKT	Chengkung (baz=305)	0.94	194	eP	Pb	11 01 27.1	+0.1
CHKT (baz=194)				eS	Sn	11 01 41.9	+0.3
CHN5	Tsauling (baz=194)	0.95	244	eP	Pn	11 01 27.9	-0.4
CHN5 (baz=234)				eS	Sn	11 01 43.0	+0.8
TIPB	Shuangxi (baz=234)	0.97	11	eP	Pb	11 01 27.5	-0.2
TIPB (baz=3.0)				eS	Sg	11 01 40.1	+0.2
ELDTW	Lidau (baz=3.0)	0.98	214	eP	Pb	11 01 28.2	+0.2
WDLH	Douliu (baz=201)	1.04	252	eP	Pn	11 01 29.4	0.0
TWB1	Santiao Chiao (baz=253)	1.05	19	eP	Pb	11 01 29.0	+0.1
TWB1 (baz=12)				eS	Sb	11 01 43.1	+0.2
NWF	Wu-fen Shan (baz=12)	1.06	8	eP	Pb	11 01 29.4	+0.1
EDH	Donghe (baz=8.0)	1.07	195	eP	Pg	11 01 28.8	-0.3
EDH (baz=176)				eS	Sn	11 01 45.5	+0.5
YM01	YM01 (baz=176)	1.13	358	eP	Pg	11 01 30.1	-0.1
YM10	YM10 (baz=9.0)	1.14	358	eP	Pg	11 01 29.9	-0.4
CHN4	Tsaushan (baz=357)	1.14	235	eP	Pn	11 01 31.1	+0.2
TPUB	Ta-pu (baz=237)	1.15	232	eP	Pg	11 01 30.2	-0.3
YM11	YM11 (baz=234)	1.15	358	eP	Pn	11 01 31.9	+0.8
STYT	Tauyuan (baz=9.0)	1.15	223	eP	Pb	11 01 30.8	+0.1
WTP	Ta-pu (baz=225)	1.19	230	eP	Pn	11 01 32.3	+0.7
TWK	Hsinying (baz=232)	1.27	235	eP	Pg	11 01 33.6	+0.8
TWG	Pinlang (baz=236)	1.29	203	eP	Pn	11 01 31.1	-1.8
TWGBT	Beinan (baz=205)	1.29	203	eP	Pn	11 01 30.7	-2.1
CHN1	Nanshi (baz=205)	1.29	231	eP	Pg	11 01 34.0	+0.8
SGST	Jiashian (baz=232)	1.32	226	eP	Pn	11 01 33.5	+0.1
SLGT	Liugui (baz=229)	1.35	221	eP	Pb	11 01 34.2	+0.1
ICHU	Yijhu (baz=225)	1.39	242	eP	Pg	11 01 36.1	+1.1
SCST	Cishan (baz=245)	1.52	223	eP	Pg	11 01 37.6	-0.1
SSD	Sandimen (baz=226)	1.55	216	eP	Pb	11 01 37.7	+0.3
TSMG	Majia (baz=207)	1.58	215	eP	Pb	11 01 37.7	-0.2
MASBT	Mashibuluo (baz=206)	1.66	213	eP	Pb	11 01 39.0	-0.4
EAST	Anshuo (baz=205)	1.77	204	eP	Pn	11 01 38.7	-0.9
PHUB	P'eng-hu (baz=194)	1.94	256	eP	Pb	11 01 43.1	-1.0
PNG	Penghu (baz=258)	1.94	257	eP	Pb	11 01 43.5	-0.6
WDGT	Dungji (baz=259)	1.94	248	eP	Pb	11 01 43.1	-1.1
VWUC	VWUC (baz=250)	2.20	297	eP	Pn	11 01 45.8	+0.4
	(baz=296)						

BJI ***29*** *11:16:26.1±0.0,24°.08N×121°.94E,h13km,ML3.7/4*
JMA ***29*** *11:16:27.4,24°.32N×121°.80E,h0km,M3.9*
NIED ***29*** *11:16:27.4,24°.32N×121°.80E,h0km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=-4.40; $M_{\theta\theta}$=2.75; $M_{\phi\phi}$=1.65; $M_{r\theta}$=-7.16; $M_{\theta\phi}$=4.18; $M_{\phi r}$=-1.32; Fault plane solution: M_0=9.22000×10^14^ NP1:ϕ_s=74.00000°, δ74.00000°,λ-69.00000°. NP2:ϕ_s=200.00000°,δ26.00000°, λ-141.00000°.*
TAP ***29*** *11:16:28.2,24°.33N×121°.79E,h5km,ML3.8,C*
ASIES ***29*** *11:16:28.0,24°.33N×121°.77E,h11km,MW3.6*
IDC ***29*** *11:16:30.2±1.6,24°.25N×121°.68E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.3/47,mbtmp3.6/4,ML3.1/1,MS3.0/5, Ms1 3.0/5,ms1mx2.6/37,Error ellipse: s-maj=80.6km s-min=26.4km az=71.0*

ISC 29 11:16:28.5±1.0,**24°.33N**±0°.01×**121°.81E**±0°.02,**h3**km±8km, **n144**,σ0$70/213,**mb3.6**/3,**MS2.9**/4,**30C-4D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	Nanau (baz=343)	0.12	328	i P	i	P	Pg	11 16 30.8	0.0
ENA (baz=343)				i S	i		Sg	11 16 32.3	-0.1
ENAH	Nanao (baz=9.0)	0.12	0	⇑P	i	P	Pg	11 16 31.2	+0.3
ENAH (baz=9.0)				i S	i		Sg	11 16 33.1	+0.6
NACB	Ninganchiao (baz=216)	0.25	232	⇓P	i	P	Pg	11 16 33.0	-0.2
NACB (baz=216)				i S	i		Sg	11 16 36.7	+0.2
TWC	Suao (baz=5.0)	0.28	7	⇓P	i	P	Pg	11 16 34.3	+0.3
TWC (baz=5.0)				S			Sg	11 16 37.9	+0.3
TWD	Chiawan (baz=213)	0.31	218	⇓P	i	P	Pg	11 16 34.4	-0.1
TWD (baz=213)				S			Sg	11 16 38.7	+0.1
ETLH	Xiulin Townshi (baz=246)	0.32	248	⇑P	i	P	Pg	11 16 34.4	-0.3
ETLH (baz=246)				eS			Sg	11 16 39.6	+0.7
ENTT	Nioudou (baz=329)	0.38	325	⇑P	i	P	Pg	11 16 36.1	+0.3
ENTT (baz=329)				eS			Sg	11 16 41.3	+0.4
NDT	Datong Townshi (baz=318)	0.38	315	⇑P	i	P	Pg	11 16 36.3	+0.4
NDT (baz=318)				eS			Sg	11 16 41.2	+0.3
HWA	Hwalien (baz=203)	0.40	208	eP		P	Pg	11 16 36.6	+0.6
HWA (baz=203)				eS			Sg	11 16 43.0	+1.7
NNSB	Datong (baz=285)	0.40	285	⇑P	i	P	Pg	11 16 36.2	0.0
NNSB (baz=285)				eS			Sg	11 16 41.0	-0.5
NNSH	Datong (baz=285)	0.40	285	⇑P	i	P	Pg	11 16 36.2	0.0
NNSH (baz=285)				eS			Sg	11 16 40.9	-0.6
NNS	Nan Shan (baz=286)	0.41	286	⇑P	i	P	Pg	11 16 36.4	0.0
NNS (baz=286)				eS			Sg	11 16 41.5	-0.3
TWE	Neicheng (baz=347)	0.41	342	⇑P	i	P	Pg	11 16 36.8	+0.3
TWE (baz=347)				eS			Sg	11 16 42.3	+0.5
ILA	Ilan (baz=348)	0.44	353	eP		P	Pb	11 16 38.0	-0.9
ILA (baz=348)				eS			Sg	11 16 43.5	+0.8
YHNB	Yeheng (baz=313)	0.52	311	⇑P	i	P	Pg	11 16 38.9	+0.4
YHNB (baz=313)				eS			Sg	11 16 45.8	+0.5
FUSS	Fushou (baz=260)	0.52	261	⇑P	i	P	Pg	11 16 38.5	0.0
FUSS (baz=260)				S			Sg	11 16 45.3	0.0
NTC	Toucheng (baz=6.0)	0.53	2	eP		P	Pg	11 16 39.2	+0.7
NTC (baz=6.0)				eS			Sg	11 16 45.7	+0.3
NWLT	Wulai (baz=331)	0.53	328	⇑P	i	P	Pg	11 16 39.1	+0.5
NWLT (baz=331)				i S	i		Sg	11 16 45.5	0.0
WHF	Hehuan Shan (baz=247)	0.53	250	⇑P	i	P	Pg	11 16 38.4	-0.3
WHF (baz=247)				eS			Sg	11 16 45.6	0.0
NSK	Sanguang (baz=313)	0.54	310	⇑P	i	P	Pg	11 16 39.1	+0.3
NSK (baz=313)				eS			Sg	11 16 46.4	+0.6
TDCB	Techi (baz=262)	0.60	263	⇑P	i	P	Pg	11 16 40.0	0.0
TDCB (baz=262)				eS			Sg	11 16 47.6	-0.1
ESL	Shilin (baz=210)	0.62	214	⇓P	i	P	Pg	11 16 39.8	-0.5
ESL (baz=210)				eS			Sg	11 16 48.2	-0.1
CHGB	Renai (baz=231)	0.64	245	⇑P	i	P	Pg	11 16 40.6	-0.1
CHGB (baz=231)				S			Sg	11 16 49.2	+0.2
TIPB	Shuangxi (baz=4.0)	0.64	1	eP		P	Pb	11 16 41.6	-0.7
TIPB (baz=4.0)				eS			Sg	11 16 49.6	+0.5
OWD	Renai (baz=235)	0.69	237	eP		P	Pg	11 16 41.4	-0.3
OWD (baz=235)				eS			Sg	11 16 50.7	+0.1
TWB1	Santiao Chiao (baz=17)	0.70	13	eP		P	Pg	11 16 42.4	+0.5
TWB1 (baz=17)				eS			Sg	11 16 51.4	+0.5
TATO	Taipei (baz=338)	0.71	336	⇑P	i	P	Pb	11 16 42.7	-0.8
TATO (baz=338)				eS			Sg	11 16 51.0	-0.2
NWF	Wu-fen Shan (baz=350)	0.74	358	eP		P	Pb	11 16 43.8	-0.3
NWF (baz=350)				S			Sb	11 16 53.5	-1.2
WFSB	Wu-fen Shan (baz=350)	0.74	358	eP		P	Pb	11 16 43.7	-0.4
WFSB (baz=350)				eS			Sg	11 16 53.1	+0.8
EGFH	Guangfu (baz=217)	0.74	208	eP		P	Pg	11 16 42.4	-0.3
EGFH (baz=217)				eS			Sg	11 16 52.0	-0.4
TAP	Taipei (baz=342)	0.76	339	eP		P	Pb	11 16 44.0	-0.3
TAP (baz=342)				eS			Sb	11 16 53.8	-1.3
LIOB	Emei (baz=294)	0.79	294	⇑P	i	P	Pb	11 16 44.5	-0.4
LIOB (baz=294)				eS			Sb	11 16 55.0	-1.0
WHP	Taichung City (baz=266)	0.79	267	⇑P	i	P	Pb	11 16 44.1	-0.8
WHP (baz=266)				eS			Sg	11 16 53.8	-0.1
NSTT	Nanjuang (baz=293)	0.80	292	⇑P	i	P	Pb	11 16 44.4	-0.5
NSTT (baz=293)				eS			Sb	11 16 55.1	-1.0
VWDT	VWDT (baz=213)	0.84	227	P		P	Pg	11 16 44.2	-0.3
VWDT (baz=213)				eS			Sg	11 16 55.6	+0.2
YM01	YM01 (baz=347)	0.84	345	P		P	Pb	11 16 45.5	-0.3
YM01 (baz=347)				S			Sg	11 16 56.2	+0.6
TWS1	Kuangyinshan (baz=338)	0.85	335	P		P	Pb	11 16 45.9	+0.1
NCU	National Centr (baz=320)	0.85	319	eP		P	Pb	11 16 46.2	+0.2
NCU (baz=320)				eS			Sn	11 16 60.0	-0.5
NCUH	Zhongli (baz=320)	0.85	318	⇑P	i	P	Pb	11 16 46.2	+0.3
NCUH (baz=320)				eS			Sn	11 16 59.3	-1.1
YM10	YM10 (baz=347)	0.85	345	P		P	Pb	11 16 45.7	-0.3
YM10 (baz=347)				eS			Sg	11 16 56.5	+0.5
YM04	YM04 (baz=345)	0.86	343	eP		P	Pg	11 16 45.4	+0.5
YM04 (baz=345)				eS			Sg	11 16 56.1	0.0
YM11	YM11 (baz=348)	0.86	346	eP		P	Pb	11 16 46.2	+0.1
YM11 (baz=348)				eS			Sg	11 16 56.6	+0.4
YM05	YM05 (baz=347)	0.86	345	⇑P	i	P	Pb	11 16 45.8	-0.3
YM05 (baz=347)				eS			Sb	11 16 56.9	-1.2
YM08	YM08 (baz=349)	0.88	347	P		P	Pg	11 16 45.8	+0.4
YM08 (baz=349)				S			Sb	11 16 59.3	+0.7
SBCB	Hsinchu (baz=303)	0.88	302	⇑P		P	Pb	11 16 46.8	+0.4
SBCB (baz=303)				eS			Sb	11 16 58.9	+0.3
NWRT	Kuosheng (baz=343)	0.88	351	eP		P	Pb	11 16 45.9	-0.5
NWRT (baz=343)				eS			Sg	11 16 56.8	-0.1
YM03	YM03 (baz=346)	0.88	344	⇑P	i	P	Pb	11 16 46.1	-0.4
YM03 (baz=346)				eS			Sg	11 16 56.9	+0.1
ANP	Anpu (baz=346)	0.90	343	⇑P		P	Pb	11 16 46.4	-0.3
ANP (baz=346)				eS			Sb	11 16 58.5	-0.6
NTST	Danshui (baz=327)	0.90	339	P		P	Pb	11 16 46.8	+0.2
HSN	Hsinchu (baz=306)	0.90	302	eP		P	Pb	11 16 46.8	+0.1
HSN (baz=306)				eS			Sn	11 16 59.8	-1.7
HGSD	Ruisui (baz=216)	0.90	203	eP		P	Pb	11 16 46.6	-0.1
HGSD (baz=216)				eS			Sb	11 16 59.6	+0.4
EHY	Hungye (baz=214)	0.93	209	P		P	Pg	11 16 45.8	-0.5
EHY (baz=214)				eS			Sg	11 16 58.5	0.0
SMLT	Sun Moon Lake (baz=228)	0.94	242	⇑P	i	P	Pg	11 16 46.4	-0.1
SMLT (baz=228)				eS			Sg	11 16 58.4	-0.4
TWQ1	Liyutan (baz=271)	0.94	271	⇑P	i	P	Pb	11 16 47.5	0.0
TWQ1 (baz=271)				eS			Sb	11 17 00.6	+0.2
SSLB	Suanglung (baz=234)	0.95	236	⇑P	i	P	Pg	11 16 46.2	-0.5
SSLB (baz=234)				eS			Sg	11 16 57.7	-1.3
NMLH	Miaoli (baz=283)	0.95	283	P		P	Pb	11 16 48.0	+0.4
NMLH (baz=283)				eS			Sb	11 17 00.5	-0.1
NSY	Sanyi (baz=275)	0.96	275	⇑P	i	P	Pn	11 16 48.1	-0.7
NSY (baz=275)				eS			Sn	11 17 01.7	-1.4
TWY	Chenhua (baz=352)	0.96	349	eP		P	Pg	11 16 47.2	+0.3
TYC	Yuchr (baz=242)	0.97	244	⇑P	i	P	Pg	11 16 46.7	-0.3
TYC (baz=242)				eS			Sg	11 16 58.7	-0.8
PTSB	Yuanli (baz=277)	1.01	277	eP		P	Pn	11 16 49.5	-0.1
YULB	Yu-li (baz=215)	1.04	207	eP		P	Pg	11 16 47.2	-1.3
YULB (baz=215)				eS			Sg	11 17 02.5	+0.5
JYNG	Yonagunijimaku	1.04	83	P		P	Pg	11 16 48.4	-0.1
TCU	Taichung (baz=259)	1.05	260	eP		P	Pn	11 16 50.1	+0.1
WDJ	Dajia District (baz=271)	1.07	271	eP		P	Pn	11 16 50.5	+0.2
WDJ (baz=271)				eS			Sb	11 17 03.3	-0.6
EYUL	Yuli (baz=214)	1.07	205	eP		P	Pg	11 16 48.8	-0.3
EYUL (baz=214)				eS			Sb	11 17 04.0	-0.2
WHYT	Xinyi Township (baz=232)	1.08	234	eP		P	Pn	11 16 50.2	-0.3
TWF1	Yuli (baz=213)	1.08	206	eP		P	Pg	11 16 48.4	-0.7
TWF1 (baz=213)				eS			Sg	11 17 03.5	+0.3
YOJ	Yonaguni jima (baz=71)	1.10	83	eP		P	Pg	11 16 49.4	-0.3
YOJ	Yonaguni jima	1.10	83	P		P	Pg	11 16 49.4	-0.3
WJS	Zhushan (baz=234)	1.11	243	eP		P	Pg	11 16 50.0	+0.2
WJS (baz=234)				eS			Sn	11 17 06.2	-0.5
WNT	Mingjian (baz=237)	1.12	247	eP		P	Pn	11 16 51.0	-0.1
WNT (baz=237)				eS			Sn	11 17 06.9	-0.1
YUS	Yu-Shan (baz=211)	1.15	223	P		P	Pg	11 16 50.3	-0.1
YUS (baz=211)				eS			Sb	11 17 07.0	+0.3
WCHH	Zhanghua (baz=257)	1.17	258	eP		P	Pn	11 16 52.2	+0.5
FULB	Fuli (baz=214)	1.22	203	eP		P	Pg	11 16 50.7	-1.1
ALS	Alishan (baz=226)	1.23	229	eP		P	Pg	11 16 52.0	0.0
ALS (baz=226)				eS			Sb	11 17 09.1	+0.2
CHN5	Tsauling (baz=221)	1.27	235	eP		P	Pn	11 16 53.3	+0.2
CHN5 (baz=221)				eS			Sn	11 17 11.5	+0.8
CHKT	Chengkung (baz=185)	1.29	198	eP		P	Pg	11 16 52.5	-0.6
WGK	Gukeng (baz=239)	1.31	241	eP		P	Pb	11 16 54.0	+0.3
WGK (baz=239)				eS			Sn	11 17 13.1	+1.5
PCYT	Pengchaiyu (baz=13)	1.32	10	eP		P	Pn	11 16 52.9	-0.8
PCYT (baz=13)				eS			Sb	11 17 11.1	-0.1
WDLH	Douliu (baz=255)	1.32	242	P		P	Pb	11 16 54.5	+0.5
WDLH (baz=255)				eS			Sn	11 17 12.8	+0.8
ELDTW	Lidau (baz=209)	1.35	213	eP		P	Pn	11 16 53.5	-0.8
RLNB	Erlin (baz=250)	1.39	252	eP		P	Pg	11 16 55.4	+0.2
RLNB (baz=250)				eS			Sn	11 17 13.9	+0.2
EDH	Donghe (baz=197)	1.43	199	eP		P	Pn	11 16 54.3	-0.9
EDH (baz=197)				eS			Sb	11 17 14.2	0.0
WTK	Tuku (baz=242)	1.45	244	eP		P	Pb	11 16 55.9	-0.1
CHN4	Tsaushan (baz=226)	1.48	229	eP		P	Pg	11 16 57.2	+0.4
TPUB	Ta-pu	1.49	227	eP		P	Pb	11 16 56.8	0.0

	baz=209						
CHY	Chiayi	1.51	237	eP	Pn	11 16 56.3	-0.2
	baz=234						
WTP	Ta-pu	1.54	226	eP	Pg	11 16 57.9	0.0
	baz=207						
LONT	Longtian	1.55	204	eP	Pn	11 16 55.5	-1.4
	baz=201						
TWK	Hsinying	1.61	229	eP	Pn	11 16 58.3	+0.5
	baz=209						
SNST	Tainan City	1.63	228	eP	Pg	11 17 00.6	+0.8
	baz=208						
CHN1	Nanshi	1.64	226	eP	Pg	11 16 59.7	-0.1
	baz=223						
TWG	Pinlang	1.65	204	eP	Pn	11 16 58.1	-0.2
	baz=201						
TWGBT	Beinan	1.65	204	eP	Pn	11 16 57.4	-0.9
	baz=201						
SGST	Jiashian	1.67	222	eP	Pb	11 16 59.5	-0.5
	baz=219						
ICHU	Yijhu	1.70	236	eP	Pb	11 17 00.7	+0.3
	baz=234						
SLGT	Liugui	1.70	219	eP	Pb	11 16 59.9	-0.5
	baz=216						
IRIF	Iriomote-Funau	1.75	89	P	Pn	11 16 58.7	-1.0
IRIF				S	Sn	11 17 21.4	-1.2
HATJ	Hateruma jima	1.84	98	P	Pn	11 17 00.9	-0.1
SCST	Cishan	1.88	220	eP	Pn	11 17 01.7	+0.3
	baz=217						
ECL	Taimali	1.89	205	eP	Pn	11 17 00.3	-1.4
	baz=186						
SSD	Sandimen	1.91	215	eP	Pb	11 17 04.0	+0.1
	baz=211						
TSMG	Majia	1.94	214	eP	Pb	11 17 03.5	-0.9
	baz=211						
JKRS	Kuro-shima	2.01	92	P	Pn	11 17 03.2	-0.1
JKRS				eS	Sn	11 17 29.2	+0.3
MASBT	Mashibuluo	2.02	213	eP	Pn	11 17 03.8	+0.3
	baz=197						
EAST	Anshuo	2.13	205	eP	Pn	11 17 04.2	-0.7
	baz=188						
JIJ	Ishigaki jima	2.13	89	P	Pn	11 17 03.8	-1.1
SSPT	Xinbi	2.16	212	eP	Pb	11 17 08.1	-0.1
	baz=210						
PTTC	Pingtan	2.19	303	eP	Pn	11 17 04.2	-1.5
	baz=303						
PNG	Penghu	2.20	250	eP	Pn	11 17 05.4	-0.5
	baz=265						
PHUB	P'eng-hu	2.20	249	eP	Pn	11 17 05.4	-0.6
	baz=247						
SCZT	Fangliau	2.23	210	eP	Pb	11 17 08.5	-0.9
	baz=190						
WDGT	Dungji	2.24	242	eP	Pn	11 17 07.2	+0.8
	baz=240						
VWUC	VWUC	2.25	288	eP	Pn	11 17 05.2	-1.3
	baz=287						
JISG	Ishigakijimahi	2.29	83	P	Pn	11 17 06.1	-1.1
JISG				eS	Sn	11 17 35.3	-0.7
SLIU	Shizi	2.30	204	eP	Pn	11 17 08.0	+0.7
	baz=188						
MATB	Ma-tsu	2.48	317	eP	Pn	11 17 08.7	-1.1
	baz=317						
PTMZ	Houxiangcun	2.55	287	eP	Pn	11 17 09.9	-0.8
	baz=286						
JTJ	Tarama	2.65	83	P	Pn	11 17 12.2	+0.1
JTJ				eS	Sn	11 17 44.9	+0.1
LYJJ	Jianjiangzhen	2.89	320	eP	Pn	11 17 14.7	-0.7
	baz=321						
QZH	Quanzhou	2.99	282	Pn	Pn	11 17 16.5	-0.3
QZH				Sn	Sn	11 17 51.8	-1.4
QZH				smax	smax		
	comp=N,68nm,0.8s						
QZH				smax	smax		
	comp=E,46nm,0.7s						
MHZQ	Yeshan	3.07	306	eP	Pn	11 17 16.8	-1.1
	baz=305						
KNM	Kinmen	3.08	272	eP	Pn	11 17 19.4	+1.4
	baz=272						
JIRB	Irabujima	3.10	80	P	Pn	11 17 17.6	-0.7
KNMB	Chin-men Tao	3.12	273	eP	Pn	11 17 17.7	-0.9
	baz=273						
JIKM	Ikemajima	3.19	79	P	Pn	11 17 19.8	+0.3
JMJ	Miyako jima 2	3.21	81	eP	Pn	11 17 20.2	+0.4
	baz=79						
JMJ2	Miyako jima3	3.23	82	P	Pn	11 17 20.5	+0.4
JMJ2				S	Sn	11 17 59.4	+0.3
JOGS	Gusukube	3.30	82	P	Pn	11 17 21.7	+0.6
JOGS				eS	Sn	11 18 01.1	+0.2
AXDP	Jialang	3.54	280	eP	Pn	11 17 24.2	-0.1
	baz=279						
ZPLA	Ao Xicun	3.73	265	eP	Pn	11 17 26.8	-0.1
	baz=264						
ZZJH	Jiuhuzhen	3.81	273	eP	Pn	11 17 28.1	0.0
	baz=272						
KSRS	Korea Array	14.09	20	Pn	P	11 19 53.2	-3.7
	0.1nm,0.3s,baz=199,slow=11,SNR=3.6						
KSRS				LR	LR	11 25 55.0	
	comp=Z,55nm,19.7s,baz=181,slow=40						
GUMO	Guam	24.25	112	LR	LR	11 30 06.8	
	comp=Z,24nm,22.0s,baz=247,slow=34						
SONM	Songino Array	26.46	336	P	P	11 22 08.7	+1.9
	0.4nm,0.3s,baz=145,slow=11,SNR=3.9						
SONM				LR	LR	11 33 37.6	
	comp=Z,65nm,18.3s,baz=98,slow=39						
KAPI	Kappang	29.23	184	LR	LR	11 34 08.6	
	comp=Z,18nm,18.2s,baz=217,slow=36						
ZALV	Zalesovo Beam	40.44	327	P	P	11 24 10.2	+2.3
	0.8nm,0.6s,baz=132,slow=8.5,SNR=3.4						
H11N1	WAKE ISLAND Hy 41.91	87		T	T	12 09 30.4	
	baz=283,slow=75,SNR=5.7						
H11N2	WAKE ISLAND Hy 41.91	87		T	T	12 09 33.8	
	baz=283,slow=75,SNR=5.9						
H11N3	WAKE ISLAND Hy 41.93	87		T	T	12 09 29.9	
	baz=283,slow=75,SNR=7.5						
H11S3	WAKE ISLAND Hy 42.05	89		T	T	12 09 40.1	
	baz=284,slow=75,SNR=6.8						
H11S1	WAKE ISLAND Hy 42.05	89		T	T	12 09 40.9	
	baz=284,slow=75,SNR=8.0						
H11S2	WAKE ISLAND Hy 42.06	89		T	T	12 09 46.6	
	baz=284,slow=75,SNR=7.8						
WRA	Warramunga Arr	45.66	163	P	P	11 24 52.4	+1.7
	0.2nm,0.5s,baz=347,slow=8.8,SNR=5.1						
WRA				LR	LR	11 46 12.4	
	comp=Z,17nm,18.9s,baz=250,slow=39						

JMA ***29*** *11:25:19.7,39.07N×140.87E,h6km±1km,M3.2*
Broadband fault plane solution: P waves. NP1: φs99.00000°,δ45.00000°,λ59.00000°. NP2:φs320.00000°, δ53.00000°,λ118.00000°. Principal axes: T Plg68.0000°, Azm291.0000°; N Plg22.0000°, Azm123.0000°; P Plg4.0000°, Azm31.0000°;
JMA Felt I J1.
IDC ***29*** *11:25:24.8±2.5,39.03N×140.79E,h47km±26km,mb3.2/4, mb1 3.4/8,mb1mx3.2/44,mbtmp3.4/8,ML2.8/4,MS2.6/2, Ms1 2.6/2,ms1mx2.2/24 Error ellipse: s-maj=34.0km s-min=19.9km az=107.0*
ISC 29 11:25:20.1±1.1,39.06N±0.03×140.88E±0.03,h8km±8km, n22,σ1§00/21,mb3.5/4,2C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	Ichinoseki	0.28	112	⇑P	Pg	11 25 25.4	-0.3
JMK				eS	Sg	11 25 29.6	+0.2
JRG	Rokugo	0.39	330	⇓P	Pg	11 25 27.2	-0.4
JRG				eS	Sg	11 25 32.9	+0.2
JYK	Kaneyama	0.43	251	⇓P	Pg	11 25 28.1	-0.4
JYK				S	Sg	11 25 33.7	-0.5
JOM	Ohasama	0.52	38	⇓P	Pg	11 25 29.6	-0.5
JOM				S	Sg	11 25 36.9	0.0
JKMT	Kesennumamotoy	0.52	118	⇑P	Pg	11 25 29.8	-0.4
OFUJ	Ofunato	0.61	88	⇓P	Pg	11 25 31.5	-0.4
JIO	Ouri	0.71	149	S	Sg	11 25 42.8	0.0
JOU	Okura	0.71	194	⇓P	Pg	11 25 33.5	-0.3
JOU				S	Sg	11 25 43.2	+0.1
MJAR	Matsushiro Arr	3.29	221	P	Pn	11 26 13.2	+1.3
	0.2nm,0.3s,baz=25,slow=17,SNR=8.9						
MJAR				LR	LR	11 27 39.4	
	comp=Z,98nm,20.0s,baz=345,slow=42						
ASAJ	Asahikawa	5.21	14	P	Pn	11 26 41.0	+2.7
	0.5nm,0.3s,baz=208,slow=7.3,SNR=3.6						
ASAJ				LR	LR	11 29 00.9	
	comp=Z,69nm,19.2s,baz=166,slow=41						
USRK	Ussuriysk Ar.	8.41	310	P	Pn	11 27 21.9	-0.3
	baz=118,slow=13,SNR=5.2						
KSRS	Korea Array	10.32	265	P	Pn	11 27 50.3	+1.9
	0.5nm,0.3s,baz=73,slow=13,SNR=4.8						
H11N2	WAKE ISLAND Hy 29.57	123		T	T	12 01 57.5	
	baz=317,slow=75,SNR=39						
H11N1	WAKE ISLAND Hy 29.58	123		T	T	12 01 58.2	
	baz=317,slow=75,SNR=28						
H11N3	WAKE ISLAND Hy 29.59	123		T	T	12 01 58.9	
	baz=317,slow=75,SNR=26						
H11S1	WAKE ISLAND Hy 30.34	125		T	T	12 02 48.1	
	baz=318,slow=76,SNR=6.1						
H11S3	WAKE ISLAND Hy 30.34	125		T	T	12 02 50.9	
	baz=318,slow=76,SNR=6.9						
H11S2	WAKE ISLAND Hy 30.36	125		T	T	12 02 53.1	
	baz=318,slow=76,SNR=5.0						
MKAR	Makanchi Array	42.71	300	P	P	11 33 16.9	-0.6
	0.4nm,0.7s,baz=83,slow=9.1,SNR=4.8						
WRA	Warramunga Arr	59.01	187	P	P	11 35 19.3	-1.1
	0.4nm,0.4s,baz=4.9,slow=7.4,SNR=22						
ASAR	Alice Springs	62.74	187	P	P	11 35 44.5	-1.2
	0.3nm,0.7s,baz=5.7,slow=6.8,SNR=4.4						
PDAR	Pinedale Array	76.55	46	P	P	11 37 11.0	-0.2
	0.1nm,0.3s,baz=322,slow=7.1,SNR=2.3						

SJA ***29*** *11:33:12.6±0.6,24.26S×67.15W,h198km±5km,ML4.0, MW3.8*
IDC ***29*** *11:33:14.6±1.9,24.08S×67.05W,h178km±13km,mb2.9/4, mb1 3.4/8,mb1mx3.3/21,mbtmp3.7/8,MS1.8/1,Ms1 1.8/1, ms1mx1.7/5,Error ellipse: s-maj=28.0km s-min=17.3km az=178.0*
GUC ***29*** *11:33:15.2±0.6,24.22S×67.52W,h219km±7km,ML4.2*
ISC 29 11:33:13.8±0.8,24.23S±0.04×67.20W±0.03,h183km±7km, n45,σ1§19/76,mb3.1/4,13C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.62	108	⇓iP	Pn	11 33 47.6	+0.3
SLA				i S	Sn	11 34 12.9	-0.3
SLA	San Lorenzo	1.62	108	eP	Pn	11 33 47.6	+0.3
SLA				eS	Sn	11 34 13.4	+0.1
HJA	Humahuaca	1.93	58	eP	Pn	11 33 51.2	+0.5
HJA				eS	Sn	11 34 18.5	-0.8
FSA	Cafayete	2.17	150	eP	Pn	11 33 53.3	+0.2
LVC	Limon Verde	2.25	315	P	Pn	11 33 55.6	+1.3
	61nm,0.3s,baz=139,slow=5.6,SNR=339						
LVC				S	Sn	11 34 25.7	+0.1
	48nm,0.3s,baz=244,slow=23,SNR=29						
LVC				LR	LR	11 34 40.8	
	comp=Z,20nm,20.0s,baz=120,slow=38						
LVC	Limon Verde	2.25	315	eP	Pn	11 33 55.5	+1.2
LVC				eS	Sn	11 34 26.6	+1.0
LVC	Limon Verde	2.25	315	eP	Pn	11 33 55.4	+1.2
PB15	IPOC Station P	2.32	296	⇑iP	Pn	11 33 56.1	+1.2
PB15				eS	Sn	11 34 26.8	+0.2
PB15	IPOC Station P	2.32	296	eP	Pn	11 33 56.2	+1.4
PB15				eS	Sn	11 34 27.8	+1.1
GO02	Mina Guanaco	2.37	246	⇑iP	Pn	11 33 56.4	+1.0
GO02				eS	Sn	11 34 28.2	+0.4
GO02				IAML		11 34 30.0	
	comp=N,1μm,0.7s						
YJA	Yavi	2.57	37	eP	Pn	11 33 58.7	+0.8
YJA				eS	Sn	11 34 32.9	+0.7
PB06	IPOC Station P	2.66	304	⇑iP	Pn	11 33 59.8	+1.1
PB06				i S	Sn	11 34 33.3	-0.3
PB06				IAML		11 34 35.8	
	comp=E,879nm,0.1s						
PB06	IPOC Station P	2.66	304	eP	Pn	11 33 59.6	+0.9
PB06				eS	Sn	11 34 34.0	+0.5
PB06				IAML		11 34 35.7	
	comp=Z,436nm,0.1s						
PB14	IPOC Station P	2.95	262	⇑iP	Pn	11 34 02.6	+0.4
PB14				i S	Sn	11 34 38.5	-1.5
PB14				IAML		11 34 40.5	
	comp=E,204nm,0.5s						
PB14	IPOC Station P	2.95	262	eP	Pn	11 34 02.8	+0.5
PB14				eS	Sn	11 34 39.9	-0.1
PB14				IAML		11 34 42.8	
	comp=Z,195nm,0.4s						
AHML	Horco Molle	3.05	147	eP	Pn	11 34 03.1	-0.1
AHML				eS	Sn	11 34 40.3	-1.5
PB09	IPOC Station P	3.07	322	⇑iP	Pn	11 34 04.9	+1.2
PB09				i S	Sn	11 34 42.7	+0.2
PB09				IAML		11 34 47.5	
	comp=E,529nm,0.5s						
PB09	IPOC Station P	3.07	322	eS	Sn	11 34 43.2	+0.7
PB09				IAML		11 34 43.8	
	comp=Z,394nm,0.8s						
PB05	IPOC Station P	3.08	296	⇑eP	Pn	11 34 04.2	+0.6
PB05				eS	Sn	11 34 40.8	-1.8
PB05				IAML		11 34 43.0	
	comp=N,231nm,0.2s						
PB05	IPOC Station P	3.08	296	eP	Pn	11 34 04.3	+0.6
PB05				eS	Sn	11 34 41.5	-1.1
PB05				IAML		11 34 46.3	
	comp=Z,128nm,0.3s						
PB10	IPOC Station P	3.16	282	⇑iP	Pn	11 34 05.3	+0.8
PB10				eS	Sn	11 34 41.0	-3.0
PB10				IAML		11 34 47.5	
	comp=N,237nm,0.3s						
PB10	IPOC Station P	3.16	282	eP	Pn	11 34 05.3	+0.8
PB10				eS	Sn	11 34 44.1	+0.1
PB10				IAML		11 34 46.2	
	comp=Z,179nm,0.3s						
PB03	IPOC Station P	3.20	312	⇑iP	Pn	11 34 05.8	+0.6
PB03				eS	Sn	11 34 44.0	-1.3
PB03				IAML		11 34 46.3	
	comp=E,412nm,0.2s						
PB03	IPOC Station P	3.20	312	eS	Sn	11 34 44.6	-0.7
PB03				IAML		11 34 49.5	
	comp=Z,453nm,0.3s						
PB04	IPOC Station P	3.31	304	⇑iP	Pn	11 34 07.0	+0.5
PB04				i S	Sn	11 34 46.2	-1.4
PB04	IPOC Station P	3.31	304	eP	Pn	11 34 07.2	+0.7
PB04				eS	Sn	11 34 47.7	0.0
PB04				IAML		11 34 48.9	
	comp=Z,388nm,0.2s						
PB07	IPOC Station P	3.52	315	⇑iP	Pn	11 34 09.5	+0.4
PB07				i S	Sn	11 34 50.5	-1.9
PB07	IPOC Station P	3.52	315	eS	Sn	11 34 51.0	-1.3
PB07				IAML		11 34 52.2	
	comp=Z,404nm,0.5s						
AC01	Pan de Azucar	3.62	238	⇑iP	Pn	11 34 09.7	-0.6
AC01				i S	Sn	11 34 51.9	-2.5
PB01	IPOC Station P	3.81	326	⇑iP	Pn	11 34 12.7	-0.1
PB01				i S	Sn	11 34 57.1	-1.8
GO03	Copiap	4.32	219	eP	Pn	11 34 18.6	-0.6
GO03				eS	Sn	11 35 08.4	-2.0
PB08	IPOC Station P	4.46	336	⇑iP	Pn	11 34 21.8	+0.5
PB08				eS	Sn	11 35 12.8	-1.2
AGUA	GUANDACOL	5.36	192	eP	Pn	11 34 33.3	+0.7
AGUA				eS	Sn	11 35 36.7	+2.1
ACDV	Cuesta del Vie	6.16	196	eP	Pn	11 34 42.2	-0.8
ACDV				eS	Sn	11 35 53.9	+0.5
ACCO	Cerro Coronel	6.54	194	eP	Pn	11 34 45.6	-2.6
ACCO				eS	Sn	11 36 03.5	+0.7
LPAZ	La Paz	7.95	354	P	Pn	11 35 07.8	+0.6
	comp=Z,1.4nm,0.3s,baz=161,slow=6.2,SNR=31						
LPAZ				S	Sn	11 36 33.3	-3.5
	comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=3.6						
SIV	San Ignacio	10.01	36	P	Pn	11 35 31.3	-2.3
	comp=Z,0.5nm,0.3s,baz=249,slow=8.6,SNR=8.8						
BDFB	Brasilia	19.94	68	P	P	11 37 31.4	-0.6
	comp=Z,0.7nm,0.3s,baz=241,slow=12,SNR=8.9						
TXAR	Lajitas Array	63.76	325	P	P	11 43 27.8	+1.3
	comp=Z,0.2nm,0.7s,baz=159,slow=7.7,SNR=3.4						
TORD	Torodi Ar. Bea	76.82	69	P	P	11 44 45.5	-0.4
	comp=Z,0.4nm,0.7s,baz=256,slow=5.2,SNR=6.8						
PDAR	Pinedale Array	77.26	329	P	P	11 44 48.9	+0.9
	comp=Z,0.2nm,0.6s,baz=120,slow=8.7,SNR=3.7						
NVAR	Mina Array Bea	78.61	321	P	P	11 44 56.3	+0.8
	comp=Z,0.2nm,0.6s,baz=139,slow=4.3,SNR=2.9						
ASAR	Alice Springs	128.17	205	PKP	PKiKP	11 51 59.8	+0.2
	comp=Z,0.4nm,0.8s,baz=128,slow=1.5,SNR=3.9						
WRA	Warramunga Arr	131.34	207	PKP	PKiKP	11 52 06.1	0.0
	comp=Z,0.2nm,0.4s,baz=157,slow=1.9,SNR=5.6						
MKAR	Makanchi Array	146.82	40	PKPbc	PKPab	11 52 35.3	-0.7
	comp=Z,0.6nm,0.6s,baz=331,slow=1.3,SNR=4.3						

SOME ***29*** *11:46:42.6,44.73N×82.23E,h25km*
NNC ***29*** *11:46:43.9±1.2,44.73N×82.11E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=12.0km s-min=6.1km az=121.0*
ISC 29 11:46:41.0±3.2,44.64N±0.05×82.46E±0.09,h5km±26km, n25,σ1§40/40,2C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.93	233	eP	Pn	11 47 16.1	+1.6
	21nm,0.3s						
KTMS				eS	Sb	11 47 40.5	-0.6
	48nm,0.4s						
KTMS	Ketmen	1.93	233	P	Pn	11 47 16.2	+1.6
	21nm,0.3s						
KTMS				S	Sb	11 47 40.5	-0.6
	48nm,0.4s						
DJR	Jarkent	1.94	262	eP	Pn	11 47 15.6	+1.0
	6.1nm,0.3s						
DJR				eS	Sn	11 47 39.2	-0.1
	11nm,0.2s						
DJR	Jarkent	1.94	262	P	Pn	11 47 15.6	+1.0
	6.1nm,0.3s						
DJR				S	Sn	11 47 39.2	-0.1
	11nm,0.2s						
MK31	Makanchi Array	2.16	357	⇑Pn	Pb	11 47 19.5	-1.0
	7.4nm,0.3s,baz=183,slow=13,SNR=170						
MK31				⇑Sn	Sb	11 47 47.8	+0.2
	5.4nm,0.3s,baz=180,slow=29,SNR=15						
KAPS	Kapalarasan	2.30	287	eP	Pn	11 47 20.7	+1.2
	6.8nm,0.5s						
KAPS				eS	Sn	11 47 47.8	-0.4
	19nm,0.5s						
KAPS	Kapalarasan	2.30	287	Pg	Pn	11 47 20.7	+1.2
	6.8nm,0.5s						
KAPS				Lg	Lg	11 47 47.8	
	19nm,0.5s						
PDGK	Podgornoye	2.51	240	Pg	Pb	11 47 25.3	-1.3
	3.2nm,0.3s						
PDGK				Lg	Lg	11 47 56.4	
	19nm,0.4s						
PDGK	Podgornoye	2.51	240	⇓Pn	Pn	11 47 24.3	+1.8
	3.8nm,0.5s						
PDGK				⇓Sn	Sb	11 47 57.6	-0.2
	13nm,0.6s						
SHLS	Shalkode	2.62	237	eP	Pn	11 47 24.6	+0.5
	8.9nm,0.2s						
SHLS				eS	Sn	11 47 54.6	-1.7
	51nm,0.6s						
SHLS	Shalkode	2.62	237	Pg	Pn	11 47 24.6	+0.5
	8.9nm,0.2s						
SHLS				Lg	Lg	11 47 54.6	
	51nm,0.6s						
UZB	Uzynbulak	2.90	240	eP	Pb	11 47 31.6	-1.6
	3.6nm,0.5s						
UZB				eS	Sb	11 48 07.1	-1.8
	10.0nm,0.3s						
UZB	Uzynbulak	2.90	240	Pg	Pb	11 47 31.6	-1.6
	3.6nm,0.5s						
UZB				Lg	Lg	11 48 07.1	
	10.0nm,0.3s						
TDK	Taldyqorghan	2.91	279	eP	Pb	11 47 32.3	-1.0
	32nm,0.2s						
TDK				eS	Sb	11 48 08.1	-1.1
	39nm,0.4s						
TDK	Taldyqorghan	2.91	279	Pg	Pb	11 47 32.4	-0.8
	57nm,0.3s						
TDK				Lg	Lg	11 48 08.1	
	68nm,0.2s						
MNBS	Baschi	2.96	261	eP	Pb	11 47 32.5	-1.8
	9.5nm,0.5s						
MNBS				eS	Sb	11 48 08.3	-2.5
	27nm,0.4s						
MNBS	Baschi	2.96	261	Pg	Pb	11 47 32.5	-1.8
	9.5nm,0.5s						
MNBS				Lg	Lg	11 48 08.3	
	27nm,0.4s						
SATY	Saty	3.33	243	eP	Pb	11 47 39.9	-0.6
	0.7nm,0.2s						
SATY				eS	Sb	11 48 20.7	-0.7
	10nm,0.3s						
SATY	Saty	3.33	243	Pg	Pb	11 47 40.3	-0.2
	3.0nm,0.5s						
SATY				Lg	Lg	11 48 21.6	
	13nm,0.3s						
KOTS	Kotyrbulak	4.11	252	eP	Pb	11 47 55.6	+1.8
	11nm,0.5s						
KOTS				eS	Sb	11 48 47.8	+4.0
	26nm,0.3s						
KOTS	Kotyrbulak	4.11	252	Pg	Pb	11 47 55.6	+1.8
	11nm,0.5s						
KOTS				Lg	Lg	11 48 47.8	
	26nm,0.3s						
KTBS	Karatobe	4.26	259	eP	Pb	11 47 56.5	+0.2
	1.4nm,0.3s						
KTBS				eS	Sb	11 48 49.3	+1.3
	4.9nm,0.4s						
KTBS	Karatobe	4.26	259	Pg	Pb	11 47 56.5	+0.2
	1.4nm,0.3s						
KTBS				Lg	Lg	11 48 49.3	
	4.9nm,0.4s						
KUU	Kurty	4.46	263	eP	Pb	11 47 59.2	-0.4
	0.6nm,0.7s						
KUU				eS	Sb	11 48 54.1	+0.3
	3.1nm,0.4s						
KUU	Kurty	4.46	263	Pg	Pb	11 47 59.3	-0.4
	1.1nm,0.4s						
KUU				Lg	Lg	11 48 54.3	
	5.4nm,0.4s						

IDC ***29*** *12:16:16.2±0.8,32.21N×141.81E,h0km,mb3.8/11, mb1 4.0/13,mb1mx3.9/35,mbtmp3.9/13,ML3.6/2,MS3.2/3, Ms1 3.2/3,ms1mx2.6/42,Error ellipse: s-maj=26.1km s-min=16.0km az=68.0*
JMA ***29*** *12:16:18.0±0.2,32.42N×141.81E,h3km,M4.1*
NEIC ***29*** *12:16:21.0±2.0,32.19N±0.07×141.73E±0.06,h31km±6km, mb4.4/12,Error ellipse: s-maj=11.3km s-min=5.2km az=216.0*
ISC 29 12:16:21.8±0.7,32.27N±0.05×141.82E±0.07,h39km,n58, σ1§31/67,mb4.0/16,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.75	277	P	Pn	12 16 49.4	-0.3
JHCJ	Hachijojimakas	1.89	296	P	Pn	12 16 50.4	-1.1
JHCJ				S	Sn	12 17 14.0	-0.1
JHJ2	Mitsune	1.89	297	P	Pn	12 16 50.7	-0.8
JHJ2	Mitsune	1.89	297	Pn	Pn	12 16 50.1	-1.4
JHJ	Hachijo jima 2	1.92	297	Pn	Pn	12 16 50.0	-1.9
	85nm,0.3s,baz=180,slow=23,SNR=15						
JHJ				Sn	Sn	12 17 13.4	-1.4
	99nm,0.3s,baz=58,slow=22,SNR=2.7						
JMKN	Mikurajimanish	2.48	311	P	Pn	12 16 58.8	-0.8
JMKN				S	Sn	12 17 28.2	-0.4
BSO1	Boso 1	2.48	344	P	Pn	12 16 58.1	-1.1
BSO1				S	Sn	12 17 28.1	+0.1
BSO2	Boso 2	2.63	340	S	Sn	12 17 32.6	+0.5
BSO3	Boso 3	2.76	337	P	Pn	12 17 02.3	-0.9
BSO3				S	Sn	12 17 34.1	-1.0
JOD2	Odawara 2	3.76	323	P	Pn	12 17 17.0	-0.2
JYT	Yasato	4.17	342		Pn	12 17 22.6	-0.4
JYN	Shimob	4.22	321	P	Pn	12 17 24.4	+0.7
JRY	Ryogami san	4.46	328	P	Pn	12 17 26.3	-0.6
JRY				eS	Sn	12 18 16.3	-1.2
JAG	Ashikaga	4.59	335	P	Pn	12

JMK	Ichinoseki	6.69	356	P	Pn	12 17 55.7	-1.7
JMN	Monobe	6.83	284	Pn	Pn	12 17 57.8	-1.7
JHS	Saijyo	7.76	293	Pn	Pn	12 18 11.1	-1.0
KSRS	Korea Array	12.53	298	LR	LR	12 24 16.1	
	comp=Z,57nm,18.2s,baz=110,slow=38						
SONM	Songino Array	30.94	311	P	P	12 22 36.2	+1.1
	1.2nm,0.6s,baz=117,slow=8.5,SNR=6.3						
ZALV	Zalesovo Beam	45.47	316	P	P	12 24 37.0	+0.1
	0.6nm,0.4s,baz=95,slow=7.4,SNR=3.8						
ZALV				PcP	PcP	12 26 15.3	0.0
	1.0nm,0.6s,baz=102,slow=3.6,SNR=3.7						
MK31	Makanchi Array	47.06	306	P	P	12 24 50.3	+0.7
MKAR	Makanchi Array	47.06	306	P	P	12 24 50.2	+0.6
	2.1nm,0.7s,baz=90,slow=9.6,SNR=16						
MKAR	Makanchi Array	47.06	306	P	P	12 24 49.9	+0.3
MAKZ	Makanchi	47.28	306	P	P	12 24 52.1	+0.8
MAKZ				IAmb	IAmb	12 24 52.6	
	comp=Z,2.6nm,0.6s						
KURK	Kurchatov	49.24	311	P	P	12 25 05.4	-0.9
KURK				IAmb	IAmb	12 25 22.3	
	comp=Z,3.4nm,0.8s						
WB0	Warramunga Arr	52.23	189	P	P	12 25 28.6	-0.4
WRA	Warramunga Arr	52.41	189	P	P	12 25 30.0	-0.4
	comp=Z,3.2nm,0.7s,baz=5.8,slow=7.6,SNR=34						
WRA	Warramunga Arr	52.41	189	P	P	12 25 30.0	-0.4
ILAR	Eielson Array	53.38	30	P	P	12 25 38.0	+1.0
	comp=Z,0.3nm,0.8s,baz=275,slow=5.8,SNR=4.1						
KK31	Karatay Array	55.91	303	P	P	12 25 56.5	+0.8
KK31				IAmb	IAmb	12 25 57.1	
	comp=Z,3.6nm,0.8s						
KKAR	Karatay Array	55.91	303	P	P	12 25 55.5	-0.3
KKAR				IAmb	IAmb	12 25 57.1	
	comp=Z,3.6nm,0.8s						
KKAR	Karatay Array	55.91	303	P	P	12 25 54.9	-0.9
AS31	Alice Springs	56.13	189	P	P	12 25 58.2	+0.7
ASAR	Alice Springs	56.13	189	P	P	12 25 57.2	-0.2
	comp=Z,0.2nm,0.4s,baz=6.6,slow=5.9,SNR=8.3						
CHGR	Chuyangaron	58.12	298	P	P	12 26 12.3	+0.7
ABKAR	Abkulak array	61.33	312	P	P	12 26 33.7	+0.3
ABKAR				IAmb	IAmb	12 26 34.7	
	comp=Z,2.3nm,0.9s						
ABKAR	Abkulak array	61.33	312	P	P	12 26 34.1	+0.8
FINES	FINESS Array B	73.19	333	P	P	12 27 48.4	+0.2
	comp=Z,1.1nm,0.6s,baz=66,slow=4.7,SNR=4.7						
NVAR	Mina Array Bea	77.60	52	P	P	12 28 15.9	+1.6
	comp=Z,0.3nm,0.7s,baz=277,slow=7.1,SNR=2.4						
AKASG	Malin Array Be	78.29	323	P	P	12 28 17.3	-0.2
	comp=Z,0.7nm,0.4s,baz=45,slow=6.8,SNR=4.6						
AKASG	Malin Array Be	78.29	323	IAmb	IAmb	12 28 18.2	
	comp=Z,0.8nm,0.7s						
NOA	NORSAR Array B	78.71	338	P	P	12 28 18.9	-0.8
	comp=Z,0.8nm,0.7s,baz=40,slow=5.1,SNR=3.4						
RPZ	Rata Peaks	80.20	159	LR	LR	13 08 59.8	
	comp=Z,38nm,18.1s,baz=352,slow=40						
TXAR	Lajitas Array	92.75	53	P	P	12 29 30.4	0.0
	comp=Z,0.4nm,0.9s,baz=318,slow=3.6,SNR=2.8						

IDC 29 12:40:07.8±5.4, 28°.22S×176°.40W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/17, mbtmp4.0/3, Error ellipse: s-maj=124.5km s-min=52.5km az=123.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.68	232	Pn	Pn	12 40 38.2	-0.3
	169nm,0.3s,baz=68,slow=11,SNR=6.0						
RAO				Sn	Sn	12 40 54.6	-6.2
	404nm,0.3s,baz=66,slow=12,SNR=13						
STKA	Stephens Creek	36.38	254	P	P	12 47 13.9	0.0
	1.4nm,0.5s,baz=119,slow=10,SNR=2.5						
ASAR	Alice Springs	44.67	264	P	P	12 48 22.6	0.0
	1.1nm,0.5s,baz=104,slow=6.6,SNR=41						
WRA	Warramunga Arr	45.47	269	P	P	12 48 28.9	-0.1
	0.9nm,0.4s,baz=109,slow=8.0,SNR=16						
FINES	FINESS Array B	143.55	342	PKP	PKPdf	12 59 43.2	-0.7
	1.0nm,0.6s,baz=48,slow=2.8,SNR=4.2						

*BGS **29** 13:42:56.0±1.6, 64°.64N×17°.92W, h5km, MS5.0*
*REY **29** 13:42:58.6, 64°.61N×17°.36W, h5km*
*BJI **29** 13:43:00.0±0.0, 64°.60N×17°.40W, h10km, mB5.7/60, mb5.0/68, Ms5.6/70, Ms7 5.3/66*
*IDC **29** 13:43:00.7±0.4, 64°.50N×17°.50W, h0km, mb4.6/37, mb1 4.7/44, mb1mx4.7/49, mbtmp4.6/44, ML3.4/5, MS5.2/42, Ms1 5.2/42, ms1mx5.2/44, Error ellipse: s-maj=11.7km s-min=8.1km az=18.0*
*IEPN **29** 13:43:00.0, 64°.44N×17°.75W, h10km*
*MOS **29** 13:43:00.2±1.3, 64°.47N×17°.47W, h10km, mb5.5/90, MS5.1/58, Error ellipse: s-maj=7.0km s-min=4.7km az=102.5*
*NEIC **29** 13:43:01.7±1.7, 64°.51N±0°.07×17°.3W±0°.2, h10km±1km, mb5.2/415, Ms_20 5.3/798, Mww5.6, Mwc5.5(GCMT), Error ellipse: s-maj=12.4km s-min=11.4km az=215.0*
*UNK **29** 13:43:01.5, 64°.54N×17°.19W, h10km*
*GCMT **29** 13:43:03.7±0.1, 64°.59N±0°.01×17°.32W±0°.01, h12km, MW5.5/163, Moment Tensor Solution. s119,c196; s163,c310; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr=3.00±.02; Mθθ=1.59±.03; Mφφ=1.41±.02; Mrθ=-0.32±.07; Mrφ=0.28±.02; Mθr=-0.62±.07; Best double couple: M0=2.49100×10^17 NP1:φs=235.00000°, δ38.00000°, λ=-84.00000°. NP2:φs=47.00000°, δ53.00000°, λ=-95.00000°. Principal axes: T 1.8800, Plg8.0000°, Azm140.0000°; N 1.2220, Plg4.0000°, Azm50.0000°; P -3.1020, Plg82.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **29** 13:43:04, 64°.54N×17°.19W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=2.56; Mθθ=1.38; Mφφ=1.19; Mrθ=1.21; Mrφ=0.55; Mθr=1.00; Fault plane solution: M0=2.78000×10^17 NP1:φs=50.00000°, δ27.00000°, λ=-90.00000°. NP2:φs=230.00000°, δ63.00000°, λ=-89.00000°. Principal axes: T 2.3423, Plg18.0000°, Azm320.0000°; N 0.7239, Plg0.0000°, Azm50.0000°; P -3.0662, Plg72.0000°, Azm141.0000°;*
*DNK **29** 13:43:04.9±7.6, 64°.54N×17°.12W, h3km±285km, Ms5.2, Hypocentre not reviewed by the ISC*
*NEIC **29** 13:43:05, 64°.59N×17°.33W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=3.11; Mθθ=1.71; Mφφ=1.40; Mrθ=0.51; Mrφ=0.30; Mθr=0.71; Fault plane solution: M0=2.85000×10^17 NP1:φs=239.00000°, δ36.00000°, λ=-84.00000°. NP2:φs=52.00000°, δ54.00000°, λ=-94.00000°. Principal axes: T 2.0215, Plg9.0000°, Azm145.0000°; N 1.2408, Plg4.0000°, Azm54.0000°; P -3.2623, Plg80.0000°, Azm303.0000°;*

ISC 29 13:43:02.6±0.2, 64°.46N±0°.02×17°.48W±0°.02, h10km, h10km:pP-P, n1566, σ2=28/1458, mb5.2/322, MS5.3/510, 62C-26D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRF	Grimsfjall	0.11	121	P	Pg	13 43 02.8	-2.7
	baz=169						
IGRF				S	Sg	13 43 06.7	-0.8
	baz=169						
IDJK	Dyngjujokull	0.11	69	P	Pg	13 43 01.4	-4.2
	baz=154						
IHUS	Husbondi	0.18	204	P	Pg	13 43 05.1	-1.5
	baz=202						
IVOT	Vottur	0.23	146	P	Pg	13 43 05.2	-2.2
	baz=167						
IVON	Vonarskard	0.24	331	P	Pg	13 43 02.7	-5.0
	baz=290						
IVON				S	Sg	13 43 05.1	-5.9
	baz=290						
IBJK	Bruarjokull	0.32	89	P	Pg	13 43 04.3	-4.6
	baz=118						
IDYN	Dyngjuhals	0.33	9	P	Pg	13 43 02.0	-7.3
	baz=359						
IJOK	Jokulheimar	0.36	246	P	Pg	13 43 07.1	-2.5
	baz=232						
IURH	Urdarhals	0.39	22	P	Pg	13 43 03.1	-7.2
	baz=24						
ISKR	Skrokkalda	0.40	284	P	Pg	13 43 07.3	-3.3
	baz=264						
IKVE	Kverkfjoll	0.41	58	P	Pg	13 43 04.9	-5.9
	baz=77						
IIEY	Innrieyrar	0.46	218	P	Pg	13 43 09.4	-2.3
	baz=213						
IKAL	Kalfafell	0.53	190	P	Pg	13 43 10.6	-2.2
	baz=192						
THOR	Thorvaldshraun	0.59	36	P	Pg	13 43 06.5	-7.5
	baz=42						
THOR				S	Sg	13 43 14.1	-7.6
	baz=42						
IVAT	Vatnsfell	0.68	247	P	Pg	13 43 12.8	-3.0
	baz=238						
IASK	Askja	0.69	31	P	Pg	13 43 08.3	-7.7
	baz=34						
IASK				S	Sg	13 43 15.9	-9.2
	baz=34						
IFAG	Fagurholsmyri	0.69	148	P	Pg	13 43 12.7	-3.2
	baz=157						
IMKO	Mokollar	0.71	43	P	Pg	13 43 09.0	-7.4
	baz=50						
IVSH	V-Sauoahnukur	0.83	65	P	Pg	13 43 12.1	-6.6
	baz=74						
ISVA	Svartarkot	0.88	6	P	Pg	13 43 11.2	-8.4
	baz=3.5						
ISVA				S	Sg	13 43 21.1	-10
	baz=3.5						
ISNB	Snabyli	0.89	215	P	Pg	13 43 17.1	-2.6
	baz=213						
ISLY	Slysaalda	0.96	229	P	Pg	13 43 17.4	-3.7
	baz=225						
IHVE	Hveravellir	0.99	295	P	Pg	13 43 15.7	-5.9
	baz=286						
IADA	Aoalbol	0.99	55	P	Pg	13 43 14.0	-7.7
	baz=61						
IRJU	Rjupnafell	1.00	212	P	Pg	13 43 18.6	-3.2
	baz=210						
IFED	Fedgar	1.06	247	P	Pg	13 43 18.9	-4.0
	baz=241						
IHVO	Lagu-Hvolar	1.12	213	S	Sg	13 43 37.0	-1.5
	baz=212						
IHVO				P	Pb	13 43 20.7	-3.3
	baz=212						
IGOD	Go??abunga	1.14	226	P	Pb	13 43 21.1	-3.3
	baz=223						
IMEL	Melhnausar	1.17	17	P	Pb	13 43 15.8	-9.0
	baz=17						
IHAU	Haukadalur	1.19	247	P	Pb	13 43 20.9	-4.4
	baz=242						
IGYG	Gygjarholskot	1.20	263	P	Pb	13 43 20.4	-5.0
	baz=256						
IREN	Reynihlio	1.21	11	P	Pn	13 43 17.1	-8.6
	baz=10						
IESK	Eystri-Skogar	1.28	224	P	Pn	13 43 22.9	-3.7
	baz=221						
IKVO	Krokottuvotn	1.28	11	P	Pn	13 43 18.4	-8.2
	baz=10						
IGRS	Grimsstaoir	1.31	25	P	Pn	13 43 18.4	-8.6
	baz=26						
IMID	Miomork	1.33	234	P	Pn	13 43 23.6	-3.6
	baz=230						
ISAU	Saurbar	1.37	251	P	Pn	13 43 23.3	-4.4
	baz=246						
IGHA	Grjothals	1.43	14	P	Pn	13 43 20.6	-8.0
	baz=13						
IGHA				S	Sn	13 43 36.8	-11
	baz=13						
IGRA	Granastaoir	1.46	358	P	Pn	13 43 20.6	-8.4
	baz=356						
IASM	Asmuli	1.51	247	P	Pn	13 43 25.9	-3.8
	baz=243						
IDIM	Dimmadalss	1.52	9	P	Pn	13 43 21.9	-7.9
	baz=7.4						
IHLA	Hella	1.54	346	P	Pn	13 43 22.2	-7.8
	baz=343						
ISOL	Solvholt	1.61	252	P	Pn	13 43 26.6	-4.4
	baz=248						
IHED	Heolnshofoi	1.63	2	P	Pn	13 43 23.2	-8.1
	baz=0.8						
IKRO	Krokur	1.63	259	P	Pn	13 43 26.9	-4.4
	baz=254						
IBRE	Brettingsstaoi	1.68	354	P	Pn	13 43 24.1	-7.9
	baz=352						
BORG	Borgarnes	1.68	282	Pg	Pn	13 43 28.1	-4.0
	128nm,0.3s,baz=91,slow=7.8,SNR=102						
BORG				Lg	Lg	13 43 52.7	
	158nm,0.3s,baz=271,slow=19,SNR=8.1						
BORG	Borgarnes	1.68	282	P	Pn	13 43 27.1	-4.9
BORG	Borgarnes	1.68	282	Pn	Pn	13 43 27.1	-4.9
IASB	`sbjarnarst	1.68	282	P	Pn	13 43 27.1	-5.0
	baz=276						
IASB				S	Sn	13 43 50.2	-3.4
	baz=276						
IGIL	Gilhagi	1.69	16	P	Pn	13 43 25.1	-7.0
	baz=16						
IBJA	Bjarnastaoir	1.75	254	P	Pn	13 43 29.5	-3.5
	baz=250						
ISAN	Sandskeio	1.83	259	P	Pn	13 43 30.2	-3.9
	baz=255						
IKUD	Kuludalsa	1.91	268	P	Pn	13 43 30.9	-4.4
	baz=264						
IVOS	Vogsosar	1.95	254	P	Pn	13 43 32.7	-2.9
	baz=250						
IKAS	Kald??rsel	1.96	259	P	Pn	13 43 32.6	-3.2
	baz=255						
IHRN	Hraun	1.99	327	P	Pn	13 43 29.7	-6.6
	baz=324						
IGRI	Grimsey	2.10	354	P	Pn	13 43 30.3	-7.5
	baz=352						
IVOG	Vogar	2.20	259	P	Pn	13 43 36.5	-2.7
	baz=256						
SCO	Scoresbysund	6.29	346	*i* P	Pn	13 44 31.9	-3.3
SCO	Scoresbysund	6.29	346	*eP*	Pn	13 44 31.9	-3.3
SCO	Scoresbysund	6.29	346	Pn	Pn	13 44 30.5	-4.7
JMIC	Jan Mayen	7.38	23	Pn	Pn	13 44 49.8	-0.4
JMIC	Jan Mayen	7.38	23	Pn	Pn	13 44 49.4	-0.8
	baz=174,slow=7.8,SNR=2.5						
JMIC	Jan Mayen	7.38	23	Pn	Pn	13 44 49.8	-0.4
LEWI	Lewis, Hebride	8.13	136	*eP*	Pn	13 44 57.6	-2.9
LEWI				IAMs_20	IAMs_20	13 47 54.6	
	comp=Z,16μm,19.6s						
WAL1	Walls	8.48	113	*eP*	Pn	13 45 02.5	-2.9
LRW	Lerwick	8.73	112	*eP*	Pn	13 45 06.5	-2.3
LRW				IAMs_20	IAMs_20	13 48 26.2	
	comp=Z,27μm,20.1s						
LRW	Lerwick	8.73	112	*eP*	Pn	13 45 08.5	-0.3
KAC	Achnashellach	9.14	134	*eP*	Pn	13 45 12.0	-2.4
MLA1	Latheron	9.15	126	*eP*	Pn	13 45 12.5	-2.0
KPL	Plockton	9.16	136	*eP*	Pn	13 45 12.0	-2.7
KPL				IAMs_20	IAMs_20	13 49 19.3	
	comp=Z,18μm,13.4s						
KPL	Plockton	9.16	136	*eP*	Pn	13 45 11.7	-3.0
MDO	Dochfour	9.48	132	*eP*	Pn	13 45 17.3	-1.8
MCD	Coleburn Disti	9.74	129	*eP*	Pn	13 45 21.8	-0.8
LAWE	Loch Awe, Argy	10.15	138	*eP*	Pn	13 45 25.9	-2.3
LAWE				IAMs_20	IAMs_20	13 49 41.6	
	comp=Z,13μm,17.2s						
INVG	Invergeldie, C	10.41	134	*eP*	Pn	13 45 29.4	-2.4
INVG				IAMs_20	IAMs_20	13 49 03.0	
	comp=Z,17μm,22.7s						
DRUM	Mains of Drumt	10.53	129	*eP*	Pn	13 45 30.9	-2.4
DRUM				IAMs_20	IAMs_20	13 49 25.4	
	comp=Z,9μm,15.0s						
EAB	Aberfoyle	10.53	136	*eP*	Pn	13 45 31.1	-2.3
PGBU	Glenifferbraes	10.80	137	*eP*	Pn	13 45 34.5	-2.6
PGBU				IAMs_20	IAMs_20	13 50 25.9	
	comp=Z,14μm,14.8s						
CLGH	Cloghs, Cushen	10.99	144	*eP*	Pn	13 45 37.7	-2.1
CLGH				IAMs_20	IAMs_20	13 51 23.5	
	comp=Z,12μm,11.6s						
EDI	Edinburgh	11.10	134	*eP*	Pn	13 45 38.9	-2.3
EDI				IAMs_20	IAMs_20	13 49 54.4	
	comp=Z,13μm,20.3s						
SUMG	Summit	11.12	326	*i* P	Pn	13 45 42.2	+0.5
	comp=Z,70μm,12.0s						
SUMG	Summit	11.12	326	*i* P	Pn	13 45 42.2	+0.5
SUMG				MLR	MLR		
	comp=Z,70μm,12.0s						
SUMG	Summit	11.12	326		Pn	13 45 39.9	-1.8
ASK	Askoy	11.19	100	*eP*	Pn	13 45 40.7	-1.8
AKN	Aaknes	11.21	91	Pn	Pn	13 45 38.6	-4.1
AKN	Aaknes	11.21	91	*eP*	Pn	13 45 38.5	-4.1
EBL	Broad Law	11.27	134	*eP*	Pn	13 45 41.2	-2.3
ESY	Stoneypath	11.29	132	*eP*	Pn	13 45 41.3	-2.4
HYA	Hoyanger	11.29	96	*eP*	Pn	13 45 44.6	+0.9
MOL	Molde	11.30	88	*eP*	Pn	13 45 42.8	-1.2
EKA	Eskdalemuir Ar	11.61	135	Pn	Pn	13 45 46.3	-1.8
EKA	Eskdalemuir Ar	11.61	135	Pn	Pn	13 45 46.2	-1.9
	baz=327,slow=14,SNR=39						
EKA				LR	LR	13 50 17.5	
	comp=Z,12μm,19.1s,baz=325,slow=38						
EKA	Eskdalemuir Ar	11.61	135	Pn	Pn	13 45 46.3	-1.8
ESK	Eskdalemuir	11.61	136	*eP*	Pn	13 45 45.9	-2.3
ESK				IAMs_20	IAMs_20	13 49 40.4	
	comp=Z,16μm,21.1s						
ESK	Eskdalemuir	11.61	136	P	Pn	13 45 46.3	-1.8
ESK	Eskdalemuir	11.61	136		Pn	13 45 46.3	-1.8
KMY	Karmoy	11.91	106	*eP*	Pn	13 45 49.4	-2.9
ODD1	Odda	12.10	101	*eP*	Pn	13 45 52.8	-2.1
DOMB	Dombas	12.16	89	*eP*	Pn	13 45 57.2	+1.5
KESW	Keswick, Cumbr	12.26	137	*eP*	Pn	13 45 54.7	-2.4
KESW				IAMs_20	IAMs_20	13 50 39.9	
	comp=Z,15μm,16.8s						
BLS5	Blasjo	12.30	103	*eP*	Pn	13 45 53.4	-4.2
DAG	Danmarks Havn	12.38	359	*i* P	Pn	13 46 00.2	+1.7
DAG	Danmarks Havn	12.38	359	*i* P	Pn	13 46 00.2	+1.7
SKAR	Skarslia	12.43	96	*eP*	Pn	13 45 56.6	-2.8
DSB	Dublin	12.60	148		Pn	13 46 00.8	-1.0
NSS	Namsos	12.63	76	*eP*	Pn	13 46 06.5	+4.4
KONS	Konsvik	12.80	67	*eP*	Pn	13 46 04.3	0.0
WPS	Cemaes, Angles	12.92	143	*eP*	Pn	13 46 04.3	-1.8
WPS				IAMs_20	IAMs_20	13 52 34.0	
	comp=Z,9μm,11.0s						
NRS	Narsarsuaq	13.14	268	*i* P	P	13 46 14.6	-4.6
	comp=Z,23μm,15.0s						
NRS	Narsarsuaq	13.14	268	*i* P	P	13 46 14.6	-4.6
NRS				MLR	MLR		
	comp=Z,23μm,15.0s						
NC204	NORSAR Array S	13.22	91	Pn	Pn	13 46 06.0	-4.1
SNART	Snartemo	13.26	106	*eP*	Pn	13 46 05.0	-5.6
NBO00	NORSAR Array S	13.33	92		Pn	13 46 07.1	-4.6
NAO01	NORSAR Array S	13.47	93		Pn	13 46 11.2	-2.3
NAO01	NORSAR Array S	13.47	93	*eP*	Pn	13 46 16.6	+3.1
NC303	NORSAR Array S	13.50	91		Pn	13 46 10.6	-3.3
KONO	Kongsberg	13.51	98	P	Pn	13 46 11.4	-2.7
KONO	Kongsberg	13.51	98	Pn	Pn	13 46 11.4	-2.7
KONO	Kongsberg	13.51	98	*eP*	P	13 46 19.6	-3.8
NB2	NORSAR Subarra	13.52	91	Pn	Pn	13 46 09.3	-4.9
	comp=Z,399nm,3.3s,baz=298,slow=14						
NB2	NORSAR Subarra	13.52	91	Pn	Pn	13 46 12.3	-1.9
	baz=301,slow=14						
NB2	NORSAR Subarra	13.52	91	Pn	Pn	13 46 12.3	-1.9
	baz=301,slow=14						
NOA	NORSAR Array B	13.52	91	Pn	Pn	13 46 10.5	-3.8
	comp=Z,0.1nm,0.3s,baz=299,slow=13,SNR=8.2						
NOA				LR	LR	13 51 24.3	
	comp=Z,7μm,19.7s,baz=300,slow=37						
NB201	NORSAR Array S	13.55	91		Pn	13 46 11.4	-3.2
NB201	NORSAR Array S	13.55	91	*eP*	Pn	13 46 16.1	+1.4
LBWR	Ladybower, Pea	13.70	137	*eP*	Pn	13 46 15.0	-1.7
LBWR				IAMs_20	IAMs_20	13 51 24.2	
	comp=Z,17μm,16.7s						
NC405	NORSAR Array S	13.70	91	Pn	Pn	13 46 12.8	-3.9
FOEL	Foel Wylfa	13.73	141	*eP*	Pn	13 46 14.5	-2.6
FOEL				IAMs_20	IAMs_20	13 52 01.8	
	comp=Z,13μm,14.7s						
SFJD	Kangerlussuaq	13.76	295	Pn	Pn	13 46 14.2	-3.2
	comp=Z,0.3nm,0.3s,baz=57,slow=14,SNR=1.3						
SFJD				LR	LR	13 51 13.0	
	comp=Z,35μm,18.2s,baz=83,slow=36						
NC602	NORSAR Array S	13.80	92	Pn	Pn	13 46 13.7	-4.3
HOMB	Homborsund	13.84	105	*eP*	Pn	13 46 14.5	-4.1
HLM1	Long Mynd	14.15	141	*eP*	Pn	13 46 20.3	-2.5
HLM1				IAMs_20	IAMs_20	13 51 51.6	
	comp=Z,10μm,17.4s						
NOD	Norderasen	14.16	79	*eP*	Pn	13 46 19.2	-3.7
MONM	Monmouth	14.78	142	*eP*	Pn	13 46 29.5	-1.9
MONM				IAMs_20	IAMs_20	13 52 35.8	
	comp=Z,8μm,16.4s						
SALU	Saltoluokta	14.83	63	*eP*	P	13 46 35.0	-2.9
GOET	G??ttrup	14.92	107	*i* P	Pn	13 46 33.2	-0.1
HFS	Hagfors	15.03	92	P	Pn	13 46 35.0	+0.2
	baz=321,slow=14						
HFS	Hagfors	15.03	92	Pn	Pn	13 46 32.7	-2.0
	comp=Z,0.4nm,0.3s,baz=340,slow=16,SNR=3.6						
HFS				LR	LR	13 52 11.0	
	comp=Z,8μm,20.5s,baz=286,slow=37						
HFS	Hagfors	15.03	92	P	Pn	13 46 35.0	+0.2
	baz=321,slow=14						
MUD	Monsted U'grnd	15.29	109	*i* P	P	13 46 44.1	+1.1
	comp=Z,8μm,16.0s						
MUD	Monsted U'grnd	15.29	109	*i* P	P	13 46 44.1	+1.1
MUD				MLR	MLR		
	comp=Z,8μm,16.0s						
BJO1	Bjornoya	15.91	36	P	Pn	13 46 46.5	+0.3
BJO1	Bjornoya	15.91	36	P	Pn	13 46 46.5	+0.3
HSPB	Hornsund (broa	16.25	26	*eP*	P	13 46 52.0	-1.6
HSPB				*e*S	S	13 50 06.8	+3.4
HSPB	Hornsund (broa	16.25	26	⇑*i*P	Pn	13 46 51.5	+1.0
HSPB				*i* S	Sn	13 49 53.9	+3.5
HLG	Helgoland	16.41	117	*eP*	Pn	13 46 52.4	-0.3
	comp=Z,203nm,0.9s,baz=328,slow=12						
HAMF	Hammerfest	16.58	50	P	Pn	13 46 54.1	-0.7
HAMF	Hammerfest	16.58	50	P	Pn	13 46 54.1	-0.7
BRBA	Barentsburg A	16.62	22	P	P	13 46 57.2	-0.5
BRBA	Barentsburg A	16.62	22	P	P	13 46 57.2	-0.5
BRBB	Barentsburg B	16.64	22	P	P	13 46 56.6	-1.3
BRBB	Barentsburg B	16.64	22	P	P	13 46 56.6	-1.3
KBS	Kingsbay	16.83	19	P	P	13 46 59.1	-0.9
KBS	Kingsbay	16.83	19	⇑*i*P	Pn	13 46 56.6	-1.3
KBS				*i* S	Sn	13 50 04.3	-0.2
KBS	Kingsbay	16.83	19	*ce*P	Pn	13 46 57.6	-0.3
KBS				pmax	pmax		
	comp=Z,279nm,1.7s						
KBS	Kingsbay	16.83	19		Pn	13 46 57.4	-0.5
KBS				IAmb	IAmb	13 47 05.6	
	comp=Z,220nm,1.4s						
KBS	Kingsbay	16.83	19	P	P	13 46 59.1	-0.9
SPA0	Spitsbergen Ar	17.05	23	P	Pn	13 47 00.6	-0.1
SPA0	Spitsbergen Ar	17.05	23	*eP*	P	13 47 01.7	-0.8
SPA0				*i* S	Sn	13 50 13.9	+3.9
SPA0	Spitsbergen Ar	17.05	23	P	Pn	13 47 00.6	-0.1
SPITS	Spitsbergen Ar	17.05	23	LR	LR	13 51 42.5	
	comp=Z,9μm,21.7s,baz=220,slow=31						
COP	Copenhagen	17.16	107	*i* P	P	13 47 04.9	+1.2
	comp=Z,5μm,23.0s						
COP	Copenhagen	17.16	107	*i* P	P	13 47

comp=Z,4μm,17.0s
BSD Bornholm Skovb 18.58 105 *i* P **Pn 13 47 18.9 -0.8**
BSD MLR MLR
comp=Z,4μm,17.0s
MEM Membach 18.58 127 P **Pn 13 47 19.3 -0.4**
BTNL Ternell 18.64 127 P **P 13 47 19.2 -1.0**
RCHB Rochefort 18.70 129 P **P 13 47 19.8 -1.0**
BHOU Houvegnez 18.80 128 P **Pn 13 47 22.1 -0.2**
AHRW Bad Neuenahr-A 19.01 126 *eP* **P 13 47 22.9 -1.3**
baz=328,slow=12
ASSE Asse, Remlinge 19.06 117 *eP* **P 13 47 21.9 -2.7**
baz=328,slow=12
CLZ Clausthal 19.17 118 *eP* **P 13 47 24.7 -1.4**
baz=328,slow=12
GTTG Gottingen 19.25 119 *eP* **P 13 47 25.9 -0.9**
baz=328,slow=12
WLF Walferdange 19.43 128 P **Pn 13 47 30.7 +0.7**
WLF Walferdange 19.43 128 P **P 13 47 27.1 -1.7**
WLF pmax pmax
comp=Z,134nm,1.5s
WLF Walferdange 19.43 128 *eP* **P 13 47 28.5 -0.4**
baz=328,slow=12
WLF Walferdange 19.43 128 P **P 13 47 27.1 -1.7**
CLF Chambon-Foret 19.64 138 **Pn 13 47 31.1 -1.4**
CLF IAmb IAmb 13 47 38.3
comp=Z,288nm,1.4s
FIA0 FINESS Array S 19.74 79 P **P 13 47 32.2 +0.2**
baz=302,slow=10
FIA0 FINESS Array S 19.74 79 P **P 13 47 32.2 +0.2**
baz=302,slow=10
FIA1 FINESS Array S 19.74 79 **P 13 47 30.4 -1.6**
FIA1 IAmb IAmb 13 47 37.2
comp=Z,249nm,1.5s
FINES FINESS Array B 19.74 79 P **P 13 47 30.1 -1.9**
comp=Z,0.6nm,0.3s,baz=302,slow=11,SNR=20
FINES LR LR 13 54 42.4
comp=Z,6μm,20.8s,baz=299,slow=36
FINES FINESS Array B 19.74 79 P **P 13 47 29.2 -2.9**
TNS Taunus Mts 19.77 124 *eP* **P 13 47 32.5 -0.1**
baz=328,slow=12
UBBA Unterbreizbach 19.85 120 *eP* **P 13 47 32.6 -0.7**
baz=328,slow=12
TULEG Thule 20.03 328 P Pn 13 47 36.0 -0.9
TULEG IAmb IAmb 13 47 43.3
comp=Z,148nm,1.2s
TULEG IAMs_20 IAMs_20 13 54 44.8
comp=Z,11μm,21.0s
APA Apatity 20.43 59⇓ *iP* Pn 13 47 40.5 -1.1
APA *i* S **S 13 51 23.0 -4.9**
APA pmax pmax
comp=Z,84nm,0.9s
APA MLR MLR
comp=Z,7μm,17.0s
MOX Moxa 20.60 118 *eP* **P 13 47 40.7 -0.9**
baz=328,slow=12
CLL Collm 20.61 115⇑ *iP* Pn 13 47 43.3 -0.6
comp=Z,373nm,1.7s
CLL *e*Pmax 13 47 42.0
CLL *e*Plp 13 47 44.0
CLL *e*S Sn 13 51 36.0 0.0
comp=N,2μm,10.3s
CLL *e*S Sn 13 51 36.0 0.0
comp=E,2μm,10.8s
CLL *e*SS **SnSn 13 51 56.0 +5.6**
CLL LmV 13 55 00.0
comp=Z,7μm,20.0s
CLL Lmax 13 56 00.0
CLL Collm 20.61 115⇑ *iP* Pn 13 47 43.3 -0.6
CLL *e* 13 47 44.0
CLL *e*S Sn 13 51 36.0 0.0
CLL pmax pmax
comp=Z,373nm,1.7s
CLL MLR MLR
comp=Z,7μm,20.0s
CLL Collm 20.61 115 *eP* **P 13 47 40.3 -1.3**
baz=328,slow=12
CLL Collm 20.61 115 P **P 13 47 39.1 -2.5**
CLL IAMs_20 IAMs_20 13 56 47.2
comp=Z,9μm,18.0s
GKP Gorka Klasztor 20.85 106 *eP* **P 13 47 44.3 +0.1**
GKP *e*S Sn 13 51 49.2 +7.4
ECH Echery 21.02 129 P **P 13 47 44.2 -1.9**
ECH pmax pmax
comp=Z,135nm,1.2s
ECH MLR MLR
comp=Z,6μm,19.0s
ECH Echery 21.02 129 *eP* **P 13 47 45.7 -0.4**
baz=328,slow=12
ECH Echery 21.02 129 P **P 13 47 44.2 -1.9**
ECH IAmb IAmb 13 47 56.9
comp=Z,135nm,1.2s
FBE Freiberg 21.05 115 *eP* **P 13 47 45.3 -1.1**
baz=328,slow=12
GUNZ Gunzen 21.10 118 *eP* **P 13 47 46.0 -1.0**
baz=328,slow=12
TANN Tannenbergstha 21.11 118 *eP* **P 13 47 45.1 -1.9**
baz=328,slow=12
WERN Wernitzgruen 21.18 118 *eP* **P 13 47 46.8 -1.0**
baz=328,slow=12
GRA1 Grafenberg Arr 21.22 120 P **P 13 47 46.4 -1.9**
GRF Grafenberg Arr 21.22 120 P **P 13 47 46.4 -1.9**
GRF pmax pmax
comp=Z,244nm,1.3s
GRF MLR MLR
comp=Z,7μm,21.0s
GRF Grafenberg Arr 21.22 120 *eP* **P 13 47 47.5 -0.8**
baz=328,slow=12
NKC Novy Kostel 21.25 118 *eP* **P 13 47 51.2 +2.7**
NKC *ex* x 13 47 58.3
NKC *e*S Sn 13 51 51.8 +0.4
NKC AMS AMS 13 56 10.0
comp=Z,9μm,21.6s
NKC Novy Kostel 21.25 118 *eP* **P 13 47 51.2 +2.7**
NKC *e* 13 47 58.3
NKC *e*S Sn 13 51 51.8 +0.4
NKC MLR MLR
comp=Z,9μm,21.6s
STU Stuttgart 21.25 125 P **P 13 47 47.4 -1.1**
STU pmax pmax
comp=Z,178nm,1.1s
STU MLR MLR
comp=Z,6μm,19.0s
STU Stuttgart 21.25 125 *eP* **P 13 47 49.1 +0.5**
comp=Z,107nm,1.0s,baz=328,slow=12
STU Stuttgart 21.25 125 P **P 13 47 47.4 -1.1**
STU IAmb IAmb 13 47 56.5
comp=Z,178nm,1.1s
MANZ Manzenberg 21.32 119 *eP* **P 13 47 49.0 -0.3**
baz=328,slow=12
BFO Black Forest 21.32 127 P **P 13 47 48.3 -1.0**
BFO pmax pmax
comp=Z,197nm,1.3s
BFO MLR MLR
comp=Z,6μm,19.0s
BFO Black Forest 21.32 127 *eP* **P 13 47 49.0 -0.3**
baz=328,slow=12
BFO Black Forest 21.32 127 P **P 13 47 48.3 -1.0**
BFO IAmb IAmb 13 47 57.2
comp=Z,197nm,1.3s
BRG Berggiesshubel 21.32 115 *i* P **P 13 47 47.2 -2.1**
comp=Z,7.9nm,0.9s
BRG *i* 13 47 50.7
comp=Z,289nm,1.6s
BRG S Sn 13 51 53.0 -0.1
comp=N,8μm,16.0s
comp=E,6μm,14.0s
comp=Z,11μm,17.9s
BRG Berggiesshubel 21.32 115 *i* P **P 13 47 47.2 -2.1**
BRG *i* 13 47 50.7
BRG S Sn 13 51 53.0 -0.1
BRG MLR MLR
comp=N,8μm,16.0s
BRG MLR MLR
comp=E,6μm,14.0s
BRG MLR MLR
comp=Z,11μm,17.9s
BRG Berggiesshubel 21.32 115 *eP* **P 13 47 47.8 -1.5**
comp=Z,22nm,1.1s,baz=328,slow=12
ROTZ Rotzenmuhle 21.53 119 *eP* **P 13 47 51.4 -0.2**
baz=328,slow=12
VSU Vasula 21.57 85⇑ *eP* **P 13 47 49.6 -2.3**
VSU pmax pmax
comp=Z,813nm,1.1s
FRB Frobisher Bay 21.83 292 P **P 13 47 53.1 -1.5**
comp=Z,30nm,0.8s,baz=276,slow=5.8,SNR=3.8
FRB LR LR 13 56 03.2

comp=Z,11μm,18.2s,baz=66,slow=36
PVCC Panska Ves 21.84 114 *eP* P 13 48 03.2 +8.4
PVCC *e*S Sn 13 52 01.9 -3.6
PVCC AMS AMS 13 57 20.0
comp=Z,8μm,17.2s
PVCC Panska Ves 21.84 114 *eP* P 13 48 03.2 +8.4
PVCC *e*S Sn 13 52 01.9 -3.6
PVCC MLR MLR
comp=Z,8μm,17.2s
PRA Prague 22.15 115 *eP* **P 13 48 00.6 +2.4**
PRA *e*S Sn 13 52 08.4 -4.5
PRA AMS AMS 13 57 40.0
comp=Z,4μm,17.0s
PRA Prague 22.15 115 *eP* **P 13 48 00.6 +2.4**
PRA MLR MLR
comp=Z,4μm,17.0s
SLVR Solovky 22.15 64 *eP* **P 13 47 59.0 +1.0**
comp=Z,349nm,1.2s
SLVR *e*S **S 13 52 05.8 +4.2**
PRU Pruhonice 22.25 115 *eP* **P 13 48 00.0 +0.7**
PRU *e*S **S 13 52 05.5 +1.6**
PRU AMS AMS 13 57 50.0
comp=Z,7μm,17.0s
PRU Pruhonice 22.25 115 *eP* **P 13 48 00.0 +0.7**
PRU *e*S **S 13 52 05.5 +1.6**
PRU MLR MLR
comp=Z,7μm,17.0s
KSP Ksiaz 22.28 112 *eP* **P 13 48 00.1 +0.4**
KSP *e*S Sn 13 52 14.4 -1.7
PBCC Pribram 22.28 117 *eP* **P 13 48 03.3 +3.6**
PBCC *ex* x 13 48 11.6
PBCC *e*S Sn 13 52 12.0 -4.2
WET Wettzell 22.29 119 *eP* **P 13 48 01.1 +1.3**
baz=328,slow=12
CHVC Chvalec 22.38 112 *eP* **P 13 48 01.5 +0.8**
CHVC *ex* x 13 48 08.5
CHVC *e*S Sn 13 52 16.5 -2.1
CHVC AMS AMS 13 56 40.0
comp=Z,8μm,18.6s
GOPC GO Pecny, Ondr 22.41 115 *eP* **P 13 48 02.6 +1.6**
GOPC *e*pP **sP 13 48 06.5 +0.7**
GOPC *e*S **S 13 52 10.2 +3.3**
GOPC AMS AMS 13 58 00.0
comp=Z,7μm,16.9s
GOPC GO Pecny, Ondr 22.41 115 *eP* **P 13 48 02.6 +1.6**
GOPC *e* 13 48 06.5
GOPC *e*S **S 13 52 10.2 +3.3**
GOPC MLR MLR
comp=Z,7μm,16.9s
UPC Upice 22.43 113 *eP* **P 13 48 02.9 +1.7**
UPC *e*pP **sP 13 48 06.4 +0.4**
UPC *e*S **S 13 52 08.3 +1.1**
UPC AMS AMS 13 56 50.0
comp=Z,9μm,20.5s
UPC Upice 22.43 113 *eP* **P 13 48 02.9 +1.7**
UPC *e* 13 48 06.4
UPC *e*S **S 13 52 08.3 +1.1**
UPC MLR MLR
comp=Z,9μm,20.5s
OSTC Ostas 22.47 112 *eP* **P 13 48 04.1 +2.4**
OSTC *ex* x 13 48 10.0
OSTC *e*S Sn 13 52 15.0 -5.7
OSTC AMS AMS 13 56 40.0
comp=Z,8μm,19.2s
UBR Ueberruh 22.50 125 *eP* **P 13 48 02.3 +0.3**
comp=Z,66nm,1.0s,baz=328,slow=12
FUR Furstenfeldbru 22.51 123 *eP* **P 13 48 03.3 +1.2**
comp=Z,44nm,0.9s,baz=328,slow=12
KHC Kasperske Hory 22.57 118 *eP* **P 13 48 02.3 -0.5**
KHC *e*pP **sP 13 48 08.1 +0.5**
KHC *e*S **S 13 52 15.3 +5.4**
KHC AMS AMS 13 57 00.0
comp=Z,9μm,19.4s
KHC Kasperske Hory 22.57 118 *eP* **P 13 48 02.3 -0.5**
KHC *e* 13 48 08.1
KHC MLR MLR
comp=Z,9μm,19.4s
KHC Kasperske Hory 22.57 118 P **P 13 48 01.0 -1.7**
DPC Dobruska-Polom 22.68 112 *eP* **P 13 48 03.7 -0.2**
DPC *e*pP **sP 13 48 09.1 +0.4**
DPC *e*S **S 13 52 14.7 +2.9**
DPC AMS AMS 13 57 00.0
comp=Z,8μm,20.6s
DPC Dobruska-Polom 22.68 112 *eP* **P 13 48 03.7 -0.2**
DPC *e* 13 48 09.1
DPC *e*S **S 13 52 14.7 +2.9**
DPC MLR MLR
comp=Z,8μm,20.6s
SENIN Lac Senin/Sane 22.68 131 P **P 13 48 02.6 -1.6**
SENIN IAmb IAmb 13 48 27.2
comp=Z,136nm,1.5s
DAVA Damuels 22.75 126 *eP* **P 13 48 04.5 -0.3**
comp=Z,108nm,1.5s,SNR=15
SSB Saint Sauveur 22.80 137 P **P 13 48 04.1 -1.1**
SSB pmax pmax
comp=Z,118nm,1.4s
SSB MLR MLR
comp=Z,10μm,19.0s
SSB Saint Sauveur 22.80 137 P **P 13 48 04.1 -1.1**
SSB IAmb IAmb 13 48 24.3
comp=Z,118nm,1.4s
SSB Saint Sauveur 22.80 137 IAMs_20 IAMs_20 13 57 13.0
comp=Z,10μm,19.0s
GEC2 GERESS Array S 22.85 118 *eP* **P 13 48 05.2 -0.6**
comp=Z,48nm,1.1s,baz=328,slow=12
GEC2 GERESS Array S 22.85 118 P **P 13 48 03.8 -2.0**
GEC2 IAmb IAmb 13 48 13.7
comp=Z,180nm,1.4s
GEC2 IAMs_20 IAMs_20 13 57 34.6
comp=Z,10μm,20.0s
GERES GERESS Array B 22.85 118 P **P 13 48 04.8 -1.0**
comp=Z,8.2nm,0.9s,baz=332,slow=8.2,SNR=19
GERES LR LR 13 57 54.9
comp=Z,9μm,19.6s,baz=330,slow=39
GERES GERESS Array B 22.85 118 P **P 13 48 03.8 -2.0**
RETA Reutte 22.90 124 *eP* **P 13 48 05.6 -0.6**
comp=Z,87nm,2.0s,SNR=14
KRLC Kraliky 23.07 112 *eP* **P 13 48 09.4 +1.4**
KRLC *e*S **S 13 52 19.0 +0.2**
KRLC AMS AMS 13 57 20.0
comp=Z,7μm,19.3s
KRLC Kraliky 23.07 112 *eP* **P 13 48 09.4 +1.4**
KRLC *e*S **S 13 52 19.0 +0.2**
KRLC MLR MLR
comp=Z,7μm,19.3s
ISAL Salakas 23.08 92 *eP* **P 13 48 07.8 -0.1**
ISAL *e*S Sn 13 52 30.3 -4.8
MOTA Moosalm 23.14 124 *eP* **P 13 48 07.7 -1.1**
comp=Z,141nm,1.5s,SNR=35
TREC Trest 23.18 115 *eP* **P 13 48 08.0 -1.1**
TREC *ex* x 13 48 16.1
TREC *e*S **S 13 52 23.6 +3.1**
TREC AMS AMS 13 58 20.0
comp=Z,6μm,17.4s
TREC Trest 23.18 115 *eP* **P 13 48 08.0 -1.1**
TREC *e* 13 48 16.1
TREC *e*S **S 13 52 23.6 +3.1**
TREC MLR MLR
comp=Z,6μm,17.4s
ZFI Zemlya Franca- 23.26 22 P **P 13 48 07.3 -2.3**
comp=Z,535nm,2.4s
ZFI *e*S **S 13 52 19.2 -2.1**
ZFI2 Zemlya Franca- 23.26 22 *eS* **S 13 52 23.8 +2.5**
IIGN Ignalina 23.26 92 *eP* **P 13 48 10.2 +0.4**
IIGN *e*S Sn 13 52 33.0 -6.6
TUE Stuetta 23.27 128 P **P 13 48 08.7 -1.5**
TUE IAmb IAmb 13 48 26.5
comp=Z,62nm,1.0s
TUE IAMs_20 IAMs_20 13 57 24.2
comp=Z,9μm,20.0s
FETA Feichten 23.28 125 *eP* **P 13 48 09.8 -0.5**
comp=Z,65nm,1.2s,SNR=7.7
SQTA Sankt Quirin 23.28 124 *eP* **P 13 48 09.3 -0.9**
comp=Z,179nm,2.3s,SNR=23
WATA Walderalm 23.32 123 *eP* **P 13 48 09.6 -1.0**
comp=Z,133nm,1.9s,SNR=24
BEL Belsk 23.38 104 *eP* **P 13 48 10.5 -0.6**
BEL *e*S **S 13 52 31.1 +7.3**
TMCR Tamitsa 23.42 65 *eP* **P 13 48 11.8 +0.4**
TMCR *e*S **S 13 52 26.2 +2.0**
TMCR Tamitsa 23.42 65 *eP* **P 13 48 10.1 -1.3**
TMCR *e*S **S 13 52 25.9 +1.7**
TMCR pmax pmax
comp=Z,147nm,0.9s

FUORN Ofenpass-Fuorn 23.46 126 P **P 13 48 10.7 -1.5**
FUORN IAMs_20 IAMs_20 13 58 29.2
comp=Z,10μm,18.0s
IDID Didziasalis 23.51 92 *eP* **P 13 48 11.9 -0.4**
IDID *e*S Sn 13 52 40.5 -4.9
VRAC Vranov 23.61 114 P **P 13 48 13.0 -0.3**
comp=Z,20nm,1.1s,baz=322,slow=11,SNR=22
VRAC LR LR 13 58 48.4
comp=Z,9μm,18.3s,baz=324,slow=40
VRAC Vranov 23.61 114⇓ *P* **P 13 48 15.4 +2.1**
VRAC Vranov 23.61 114 *eP* **P 13 48 11.4 -1.9**
VRAC *e*S Sn 13 52 37.6 -10
VRAC Vranov 23.61 114⇓ *P* **P 13 48 15.4 +2.1**
MORC Moravsky Berou 23.61 112⇓ *P* **P 13 48 15.6 +2.2**
MORC Moravsky Berou 23.61 112 *eP* **P 13 48 11.7 -1.8**
MORC *e*S Sn 13 52 37.2 -11
MORC Moravsky Berou 23.61 112⇓ *P* **P 13 48 15.6 +2.2**
MORC Moravsky Berou 23.61 112 P **P 13 48 11.2 -2.2**
MORC IAmb IAmb 13 48 39.8
comp=Z,146nm,1.3s
BNI Bardonecchia 23.65 134 P **P 13 48 12.5 -1.4**
BNI pmax pmax
comp=Z,66nm,1.3s
BNI MLR MLR
comp=Z,11μm,19.0s
BNI Bardonecchia 23.65 134 P **P 13 48 12.5 -1.4**
BNI IAMs_20 IAMs_20 13 58 13.5
comp=Z,11μm,19.0s
KRUC Moravsky 23.72 114 *eP* **P 13 48 12.3 -2.2**
KRUC *e*S Sn 13 52 39.4 -11
NACGM Naroch 23.80 93 *eP* **P 13 48 15.0 -0.1**
NACGM *e*PP PnPn 13 48 54.0 +11
NACGM *e*S **S 13 52 32.0 +1.6**
NACGM *e*SS SnSn 13 53 32.0 +24
NACGM *e*LQ LQ 13 55 16.0
NACGM *e*LR LR 13 57 12.0
NACGM LRM MLR 13 58 38.0
comp=Z,8.6nm,18.0s
OKC Ostrava-Krasne 23.81 111 AMS AMS 13 57 20.0
comp=Z,5μm,23.6s
EUNU Eureka 23.86 336 P **P 13 48 13.8 -1.8**
MOA Molln 23.88 119 *eP* **P 13 48 14.3 -1.8**
comp=Z,74nm,1.7s,SNR=25
ABTA Abfaltersbach 24.16 123 *eP* **P 13 48 17.9 -0.8**
comp=Z,79nm,1.3s,SNR=19
KBA Koelnbreinsper 24.18 121 *eP* **P 13 48 18.0 -1.0**
comp=Z,56nm,1.6s,SNR=22
OJC Ojcow 24.19 108 *eP* **P 13 48 17.5 -1.3**
OJC *e*S **S 13 52 38.7 +2.0**
OJC Ojcow 24.19 108 P **P 13 48 16.1 -2.8**
OJC pmax pmax
comp=Z,113nm,1.5s
OJC Ojcow 24.19 108 P **P 13 48 16.1 -2.8**
OJC IAmb IAmb 13 48 37.8
comp=Z,113nm,1.5s
JAVC Velka Javorina 24.39 113 *eP* **P 13 48 20.6 -0.2**
JAVC *e*S S 13 52 52.2 +12
SALO Salr 24.42 127 P **P 13 48 19.4 -1.7**
SALO IAmb IAmb 13 48 29.0
comp=Z,68nm,1.4s
SALO IAMs_20 IAMs_20 13 58 43.6
comp=Z,8μm,20.0s
CONA Conrad Observa 24.43 117 *eP* **P 13 48 20.3 -0.9**
comp=Z,61nm,1.2s,SNR=18
CTI Castel Tesino 24.44 125 P **P 13 48 18.7 -2.7**
CTI pmax pmax
comp=Z,133nm,1.4s
CTI MLR MLR
comp=Z,3μm,19.0s
CTI Castel Tesino 24.44 125 P **P 13 48 18.6 -2.7**
CTI IAmb IAmb 13 48 39.7
comp=Z,133nm,1.4s
ZOU Zoufplan 24.48 122 P **P 13 48 18.7 -3.2**
CIMO Cimolais 24.50 124 P **P 13 48 18.9 -2.9**
CIMO IAmb IAmb 13 48 44.7
comp=Z,102nm,1.4s
MICGM Minsk 24.54 92⇓ *eP* **P 13 48 22.0 0.0**
MICGM PM 13 48 26.0
comp=Z,1.0nm,1.4s
MICGM PM 13 48 27.0
comp=N,1.1nm,2.0s
MICGM PM 13 48 27.0
comp=E,0.7nm,2.0s
MICGM *e*PP **PnPn 13 48 46.0 -6.8**
MICGM *e*PPP PPP 13 49 01.0
MICGM *e*S **S 13 52 44.0 +1.7**
MICGM *e*SS **SnSn 13 53 34.0 +7.4**
MICGM *e*LR LR 13 56 40.0
MICGM LRM MLR 13 59 56.0
comp=Z,8.5nm,14.0s
MNK Minsk 24.54 92⇓ *eP* **P 13 48 22.0 0.0**
MNK *e*PPP PPP 13 49 01.0
MNK *e*S **S 13 52 44.0 +1.7**
MNK *e*SS **SnSn 13 53 34.0 +7.4**
MNK pmax pmax
comp=Z,960nm,1.4s
MNK pmax pmax
comp=N,1μm,2.0s
MNK pmax pmax
comp=E,720nm,2.0s
MNK MLR MLR
comp=Z,8μm,14.0s
SMOL Smolenice 24.57 114 *eP* **P 13 48 22.2 -0.2**
SMOL pmax pmax
comp=Z,67nm,1.3s
SMOL Smolenice 24.57 114 *eP* **P 13 48 22.2 -0.2**
SMOL *e*S **S 13 52 49.4 +6.5**
MODS Modra-Piesok 24.62 114 *eP* **P 13 48 24.1 +1.2**
MODS pmax pmax
comp=Z,289nm,1.9s
MODS Modra-Piesok 24.62 114 *eS* **S 13 52 51.3 +7.5**
MODS Modra-Piesok 24.62 114 *eP* **P 13 48 24.0 +1.2**
MYKA Terra Mystica 24.67 121 *eP* **P 13 48 22.2 -1.2**
comp=Z,77nm,1.6s,SNR=12
PRED Cave del Predi 24.80 122 P **P 13 48 23.0 -1.5**
PRED IAmb IAmb 13 48 35.0
comp=Z,125nm,1.4s
ARSA Arzberg 24.86 118 P **P 13 48 24.4 -0.6**
comp=Z,50nm,1.4s
COI Coimbra 24.87 163 P **P 13 48 24.4 -0.7**
COI pmax pmax
comp=Z,100nm,1.2s
COI MLR MLR
comp=Z,6μm,20.0s
COI Coimbra 24.87 163 P **P 13 48 24.4 -0.7**
COI IAmb IAmb 13 48 37.0
comp=Z,100nm,1.2s
LANS Liptovska Anna 24.89 110 *eP* **P 13 48 25.0 -0.2**
LANS pmax pmax
comp=Z,43nm,1.0s
LANS Liptovska Anna 24.89 110 *eP* **P 13 48 25.0 -0.2**
NIE Niedzica 25.02 109 *eP* **P 13 48 27.0 +0.6**
NIE *e*S S 13 53 08.8 +19
TEOL Teolo 25.04 126 P **P 13 48 25.9 -0.7**
TEOL IAmb IAmb 13 48 35.2
comp=Z,59nm,1.0s
TEOL IAMs_20 IAMs_20 13 59 21.0
comp=Z,6μm,18.0s
PRMA PARMA 25.10 128 P **P 13 48 25.9 -1.2**
PRMA IAmb IAmb 13 48 37.5
comp=Z,46nm,0.7s
OBKA Obir 25.11 120 *eP* **P 13 48 26.1 -1.2**
comp=Z,29nm,1.1s,SNR=11
SOKA Soboth 25.15 119 *eP* **P 13 48 25.5 -2.2**
comp=Z,74nm,1.4s,SNR=23
VYHS Vyhne 25.15 112 *eP* **P 13 48 28.8 +1.2**
VYHS pmax pmax
comp=Z,132nm,1.5s
VYHS Vyhne 25.15 112 *eP* **P 13 48 28.8 +1.2**
PERS Pernice 25.22 119 *i* P **P 13 48 28.7 +0.5**
MSSA Maissana 25.22 130 P **P 13 48 27.3 -1.1**
MSSA IAmb IAmb 13 48 39.1
comp=Z,63nm,1.3s
LJU Ljubljana 25.49 121 *eP* **P 13 48 30.2 -0.5**
LJU *e*S **S 13 53 04.5 +6.9**
LJU Ljubljana 25.49 121 *eP* **P 13 48 30.8 +0.1**
UCM Universidad Co 25.58 154 *eP* **P 13 48 26.8 -4.8**
UCM *e*S S 13 53 11.4 +12
VLC Villacollemand 25.65 129 P **P 13 48 31.5 -0.7**
VLC IAmb IAmb 13 48 57.7
comp=Z,100nm,1.4s
KLMR Klimovskoe 25.66 71⇑ *iP* **P 13 48 31.2 -0.9**
comp=Z,283nm,1.3s
KLMR *e*S **S 13 53 00.1 +0.1**

KLMR	**Klimovskoe**	**25.66**	**71**	*e*P	**P**	**13 48 30.9**	**-1.2**
KLMR				*e*S	**S**	**13 53 00.1**	**+0.1**
KLMR				pmax	pmax		
	comp=Z,283nm,1.3s						
KLMR	**Klimovskoe**	**25.66**	**71**	*e*P	**P**	**13 48 30.9**	**-1.2**
KLMR				AMP		13 48 36.9	
	comp=Z,283nm,1.3s						
KLMR				*e*S	**S**	**13 53 00.1**	**+0.1**
KLMR				*e*S	**S**	**13 53 00.1**	**+0.1**
KLMR				LQ	LQ	13 55 56.8	
KLMR				LQ	LQ	13 55 56.8	
KLMR				LR	LR	13 56 42.9	
ZCCA	**Zocca**	**25.68**	**128**	IAMs_20	IAMs_20	13 59 39.1	
	comp=Z,7μm,20.0s						
CEY	**Cerknica**	**25.71**	**121**	*e*P	**P**	**13 48 28.9**	**-3.8**
KOGS	**Kog**	**25.80**	**118**	*e*P	**P**	**13 48 34.8**	**+1.3**
KWP	**Kalwaria Pacla**	**25.85**	**106**	*e*P	**P**	**13 48 34.7**	**+0.8**
KWP	**Kalwaria Pacla**	**25.85**	**106**	P	**P**	**13 48 32.5**	**-1.4**
KWP				pmax	pmax		
	comp=Z,253nm,1.1s						
KWP				MLR	MLR		
	comp=Z,5μm,22.0s						
KWP	**Kalwaria Pacla**	**25.85**	**106**	P	**P**	**13 48 32.5**	**-1.4**
CRVS	**Cervenica-Dubn**	**25.89**	**108**	*e*P	**P**	**13 48 35.5**	**+1.2**
CRVS				pmax	pmax		
	comp=Z,454nm,2.1s						
CRVS	**Cervenica-Dubn**	**25.89**	**108**	*e*P	**P**	**13 48 35.5**	**+1.2**
BEHE	**Becsehely**	**25.99**	**117**	*e*P	**P**	**13 48 37.9**	**+2.7**
CRES	**Cresnjev**	**26.02**	**120**	*e*P	P	13 48 28.4	-7.1
ES18	**SONSECA Array**	**26.03**	**156**	IAMs_20	IAMs_20	13 59 01.5	
	comp=Z,6μm,18.0s						
PSZ	**Piszkesteto**	**26.04**	**112**	⇑P	**P**	**13 48 37.3**	**+1.6**
PSZ	**Piszkesteto**	**26.04**	**112**	⇑P	**P**	**13 48 37.3**	**+1.6**
PSZ	**Piszkesteto**	**26.04**	**112**	P	**P**	**13 48 33.7**	**-2.0**
ES17	**SONSECA Array**	**26.04**	**156**	IAMs_20	IAMs_20	13 59 01.7	
	comp=Z,7μm,18.0s						
ES19	**SONSECA Array**	**26.05**	**156**	IAMs_20	IAMs_20	13 58 54.0	
	comp=Z,7μm,18.0s						
SCHQ	**Schefferville**	**26.05**	**272**	P	**P**	**13 48 34.9**	**-0.8**
	comp=Z,56nm,0.9s,baz=51,slow=6.6,SNR=13						
SCHQ				LR	LR	13 57 54.8	
	comp=Z,6μm,18.4s,baz=62,slow=34						
SCHQ	**Schefferville**	**26.05**	**272**	P	**P**	**13 48 35.1**	**-0.6**
SCHQ				IAmb	IAmb	13 48 43.0	
	comp=Z,57nm,0.8s						
ES08	**SONSECA Array**	**26.05**	**156**	IAMs_20	IAMs_20	13 58 53.1	
	comp=Z,7μm,18.0s						
ESBB	**Sonseca Array**	**26.06**	**156**	P	**P**	**13 48 34.8**	**-1.1**
ESBB				IAmb	IAmb	13 48 42.8	
	comp=Z,59nm,1.4s						
ESBB				IAMs_20	IAMs_20	13 58 53.4	
	comp=Z,6μm,18.0s						
LSH	**Leshukonskoye**	**26.06**	**60**	*e*P	**P**	**13 48 34.6**	**-1.1**
	comp=Z,259nm,1.2s						
LSH				*e*S	**S**	**13 53 07.0**	**+0.7**
ESDC	**Sonseca Array**	**26.06**	**156**	P	**P**	**13 48 35.0**	**-0.9**
	comp=Z,6.7nm,1.0s,baz=349,slow=8.7,SNR=26						
ESDC				LR	LR	13 58 55.7	
	comp=Z,6μm,18.0s,baz=340,slow=37						
ESDC	**Sonseca Array**	**26.06**	**156**	P	**P**	**13 48 34.1**	**-1.9**
ES06	**SONSECA Array**	**26.06**	**156**	IAMs_20	IAMs_20	13 59 02.4	
	comp=Z,7μm,18.0s						
DRLN	**Deer Lake**	**26.07**	**254**	P	**P**	**13 48 35.1**	**-0.8**
DRLN				IAmb	IAmb	13 48 50.7	
	comp=Z,81nm,1.2s						
ES02	**SONSECA Array**	**26.07**	**156**	IAMs_20	IAMs_20	13 59 02.5	
	comp=Z,6μm,18.0s						
ES15	**SONSECA Array**	**26.07**	**156**	IAMs_20	IAMs_20	13 59 01.5	
	comp=Z,7μm,18.0s						
ES01	**SONSECA Array**	**26.07**	**156**	IAMs_20	IAMs_20	13 59 02.6	
	comp=Z,7μm,18.0s						
ES09	**SONSECA Array**	**26.07**	**156**	IAMs_20	IAMs_20	13 59 02.6	
	comp=Z,6μm,18.0s						
ES03	**SONSECA Array**	**26.08**	**156**	IAMs_20	IAMs_20	13 59 02.8	
	comp=Z,7μm,18.0s						
ES05	**SONSECA Array**	**26.08**	**156**	IAMs_20	IAMs_20	13 59 02.7	
	comp=Z,7μm,18.0s						
ES04	**SONSECA Array**	**26.09**	**156**	IAMs_20	IAMs_20	13 59 04.0	
	comp=Z,7μm,18.0s						
ES13	**SONSECA Array**	**26.09**	**156**	IAMs_20	IAMs_20	13 58 55.0	
	comp=Z,6μm,18.0s						
ES10	**SONSECA Array**	**26.09**	**156**	IAMs_20	IAMs_20	13 58 54.1	
	comp=Z,6μm,18.0s						
ES11	**SONSECA Array**	**26.10**	**156**	IAMs_20	IAMs_20	13 59 03.3	
	comp=Z,7μm,18.0s						
KOLS	**Kolonicke sedl**	**26.21**	**107**	*e*P	**P**	**13 48 36.9**	**-0.3**
KOLS				pmax	pmax		
	comp=Z,482nm,2.6s						
KOLS	**Kolonicke sedl**	**26.21**	**107**	*e*P	**P**	**13 48 36.8**	**-0.4**
LIS	**Lisbon**	**26.25**	**165**	*e*P	**P**	**13 48 37.5**	**-0.2**
LIS				AMb	AMB	13 48 47.4	
	comp=Z,76nm,1.4s						
LIS				*e*S	**S**	**13 53 11.0**	**+1.3**
LIS	**Lisbon**	**26.25**	**165**	*e*P	**P**	**13 48 37.4**	**-0.2**
LIS				*e*S	**S**	**13 53 10.9**	**+1.3**
LIS				pmax	pmax		
	comp=Z,76nm,1.4s						
LVV	**L'vov**	**26.26**	**104**	*e*P	**P**	**13 48 38.0**	**+0.4**
LVV				*e*		13 49 20.3	
LVV				*e*S	**S**	**13 53 07.1**	**-2.6**
LVV				*e*		13 54 27.8	
LVV				pmax	pmax		
	comp=Z,270nm,1.4s						
UZH	**Uzhgorod**	**26.45**	**108**	*e*P	**P**	**13 48 39.2**	**-0.1**
UZH				*i*		13 48 40.2	
UZH				*i*		13 48 41.9	
UZH				*i*		13 49 20.2	
UZH				*e*PPP	PPP	13 49 32.0	
UZH				*e*		13 52 09.2	
UZH				*i* S	**S**	**13 53 08.4**	**-4.3**
UZH				MLR	MLR		
	comp=N,800nm,14.0s						
UZH				MLR	MLR		
	comp=E,800nm,14.0s						
UZH				MLR	MLR		
	comp=Z,480nm,14.0s						
OSSC	**Osservatorio P**	**26.51**	**128**	P	**P**	**13 48 39.5**	**-0.4**
OSSC				IAmb	IAmb	13 48 50.8	
	comp=Z,101nm,1.2s						
EVO	**Evora**	**26.57**	**163**	*e*P	**P**	**13 48 41.4**	**+0.9**
EVO				*e*S	S	13 53 25.9	+11
RES	**Resolute Bay**	**26.64**	**325**	LR	LR	13 59 21.9	
	comp=Z,8μm,18.4s,baz=74,slow=37						
RES	**Resolute Bay**	**26.64**	**325**	IAMs_20	IAMs_20	13 59 01.6	
	comp=Z,9μm,20.0s						
MURB	**Monte Urbano**	**27.17**	**127**	P	**P**	**13 48 45.0**	**-1.0**
MURB				IAmb	IAmb	13 49 03.5	
	comp=Z,97nm,1.2s						
LATE	**Laterza**	**27.50**	**129**	P	**P**	**13 48 47.9**	**-1.0**
BLY	**Banja Luka**	**27.59**	**119**	*e*P	**P**	**13 48 49.6**	**0.0**
PRGR	**Permogore**	**27.70**	**66**	*e*P	**P**	**13 48 53.4**	**+3.0**
PRGR				*e*		13 52 05.0	
PRGR				pmax	pmax		
	comp=Z,105nm,1.5s						
MORF	**Marmelete**	**27.70**	**165**	*e*P	**P**	**13 48 50.4**	**-0.3**
MORF				AMb	AMB	13 49 01.5	
	comp=Z,34nm,1.8s						
MORF				*e*S	**S**	**13 53 33.9**	**+1.2**
MORF	**Marmelete**	**27.70**	**165**	*e*P	**P**	**13 48 50.4**	**-0.3**
MORF				*e*S	**S**	**13 53 33.9**	**+1.2**
MORF				pmax	pmax		
	comp=Z,34nm,1.8s						
PVAQ	**Vaqueiros**	**27.72**	**163**	P	**P**	**13 48 51.0**	**+0.2**
PVAQ				IAmb	IAmb	13 49 04.7	
	comp=Z,50nm,1.5s						
PVAQ				IAMs_20	IAMs_20	13 58 11.5	
	comp=Z,6μm,20.0s						
AKASG	**Malin Array Be**	**27.81**	**97**	P	**P**	**13 48 49.1**	**-2.4**
	comp=Z,9.2nm,0.8s,baz=322,slow=9.1,SNR=18						
AKASG				LR	LR	13 59 37.4	
	comp=Z,4μm,21.8s,baz=315,slow=36						
AKASG	**Malin Array Be**	**27.81**	**97**	P	**P**	**13 48 49.8**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,15nm,1.3s						
AKASG	**Malin Array Be**	**27.81**	**97**	P	**P**	**13 48 49.8**	**-1.7**
AKBB	**Malin Array Si**	**27.81**	**97**	P	**P**	**13 48 50.1**	**-1.4**
AKBB				pmax	pmax		
	comp=Z,48nm,1.3s						
AKBB				MLR	MLR		
	comp=Z,5μm,22.0s						
AKBB	**Malin Array Si**	**27.81**	**97**	P	**P**	**13 48 50.0**	**-1.4**
AKBB				IAmb	IAmb	13 49 02.9	
	comp=Z,48nm,1.2s						
OBN	**Obninsk**	**27.90**	**84**	P	**P**	**13 48 52.5**	**+0.2**
	comp=Z,7.2nm,0.5s,baz=19,slow=1.6,SNR=14						
OBN				LR	LR	13 59 27.4	
	comp=Z,762nm,21.8s,baz=320,slow=35						
OBN	**Obninsk**	**27.90**	**84**	⇓P	**P**	**13 48 51.4**	**-0.8**
OBN	**Obninsk**	**27.90**	**84**	*ce*P	**P**	**13 48 52.4**	**+0.2**
OBN				*e*		13 49 37.4	
OBN				*e*PPP	PPP	13 49 46.8	
OBN				*e*		13 52 08.3	
OBN				*e*S	**S**	**13 53 35.7**	**+0.4**
OBN				*e*SS	**SnSn**	**13 54 49.5**	**+1.1**
OBN				pmax	pmax		
	comp=Z,331nm,1.7s						
OBN				MLR	MLR		
	comp=Z,3μm,22.0s						
MOS	**Moscow**	**27.94**	**82**	*e*P	**P**	**13 48 51.5**	**-1.1**
MOS				*e*		13 49 38.5	
MOS				*e*S	**S**	**13 53 39.1**	**+3.1**
MOS				pmax	pmax		
	comp=Z,105nm,1.1s						
MOS				MLR	MLR		
	comp=Z,4μm,18.0s						
SIRR	**Siria**	**28.08**	**112**	⇓P	**P**	**13 48 55.7**	**+1.7**
FRGS	**Fruska Gora**	**28.26**	**115**	*e*P	**P**	**13 48 53.3**	**-2.3**
AQU	**L'Aquila**	**28.28**	**127**	*e*P	**P**	**13 48 55.6**	**-0.3**
AQU	**L'Aquila**	**28.28**	**127**	IAMs_20	IAMs_20	14 01 44.7	
	comp=Z,7μm,19.0s						
BUR08	**Bucovina Ar. S**	**28.43**	**106**	P	**P**	**13 48 56.5**	**-0.8**
BURAR	**Bucovina Array**	**28.46**	**106**	⇑P	**P**	**13 48 56.8**	**-0.7**
BURAR	**Bucovina Array**	**28.46**	**106**	⇑P	**P**	**13 48 56.8**	**-0.7**
BURAR	**Bucovina Array**	**28.46**	**106**	P	**P**	**13 48 55.9**	**-1.6**
BZS	**Buzias**	**28.59**	**112**	⇑P	**P**	**13 48 59.1**	**+0.5**
BZS	**Buzias**	**28.59**	**112**	⇑P	**P**	**13 48 59.1**	**+0.5**
CART	**Cartagena**	**28.65**	**152**	*e*P	**P**	**13 48 57.8**	**-1.3**
CART				*i* S	S	13 53 56.9	+9.4
CART	**Cartagena**	**28.65**	**152**	P	**P**	**13 48 56.7**	**-2.4**
INTR	**Introdacqua**	**28.76**	**126**	P	**P**	**13 48 58.2**	**-2.0**
INTR				IAmb	IAmb	13 49 22.9	
	comp=Z,54nm,1.4s						
EMAL	**Malaga-Limoner**	**28.82**	**158**	*i* P	**P**	**13 49 02.8**	**+2.1**
EMAL				*i* S	S	13 53 59.5	+9.3
SFS	**San Fernando**	**28.84**	**161**	*i* P	**P**	**13 49 00.7**	**-0.1**
SFS				*e*S	**S**	**13 53 57.0**	**+6.5**
BBLS	**Lazići**	**29.18**	**117**	*e*P	**P**	**13 48 59.8**	**-4.1**
DIVS	**Divibare**	**29.21**	**116**	*e*P	**P**	**13 49 01.3**	**-2.9**
DIVS	**Divibare**	**29.21**	**116**	P	**P**	**13 49 01.6**	**-2.6**
MDVR	**Moldovita**	**29.32**	**113**	⇑P	**P**	**13 49 03.9**	**-1.2**
BIZ	**Bicaz**	**29.37**	**106**	⇓P	**P**	**13 49 06.3**	**+0.8**
SORM	**Soroca**	**29.38**	**102**	⇑P	**P**	**13 49 03.3**	**-2.1**
SORM	**Soroca**	**29.38**	**102**	⇑P	**P**	**13 49 03.3**	**-2.1**
CEU	**Ceuta**	**29.52**	**160**	*i* P	**P**	**13 49 06.2**	**-0.6**
CEU				*e*S	**S**	**13 54 03.6**	**+2.5**
VSL	**Villasalto**	**29.53**	**135**	IAMs_20	IAMs_20	14 01 28.2	
	comp=Z,8μm,18.0s						
DOPR	**Dopca**	**29.85**	**108**	⇑P	**P**	**13 49 09.2**	**-0.5**
PAOL	**Paolisi**	**29.86**	**126**	P	**P**	**13 49 08.9**	**-1.0**
PAOL				IAmb	IAmb	13 49 20.1	
	comp=Z,53nm,1.4s						
PAOL				IAMs_20	IAMs_20	14 03 07.4	
	comp=Z,7μm,18.0s						
ARR	**Arges**	**30.02**	**109**	⇑P	**P**	**13 49 12.1**	**+0.8**
VOIR		**30.14**	**109**	⇑P	**P**	**13 49 11.1**	**-1.2**
VOIR		**30.14**	**109**	⇑P	**P**	**13 49 11.1**	**-1.2**
PUNG	**Punghina**	**30.23**	**112**	⇑P	**P**	**13 49 13.0**	**0.0**
MTUR	**Matau**	**30.31**	**109**	⇑P	P	13 49 18.7	+4.8
MTUR	**Matau**	**30.31**	**109**	⇑P	P	13 49 18.7	+4.8
PDG	**Podgorica**	**30.35**	**119**	*e*P	**P**	**13 49 13.0**	**-1.1**
PDG	**Podgorica**	**30.35**	**119**	P	**P**	**13 49 12.2**	**-1.9**
PDG				IAmb	IAmb	13 49 21.6	
	comp=Z,29nm,0.9s						
PVLZ	**Peæn de**	**30.40**	**158**	*i* P	**P**	**13 49 12.7**	**-1.9**
PVLZ				*i* S	**S**	**13 54 19.8**	**+4.8**
KIS	**Kishinev**	**30.46**	**103**	⇑*i*P	**P**	**13 49 15.4**	**+0.3**
	comp=Z,280nm,5.6s						
KIS	**Kishinev**	**30.46**	**103**	*e*PP	PP	13 50 17.0	-6.6
KIS				*e*S	**S**	**13 54 12.0**	**-3.8**
KIS				*e*SS	**ScP**	**13 55 54.0**	**-2.1**
KIS				*e*LR	LR	14 00 40.0	
	comp=Z,1μm,16.0s						
KIS	**Kishinev**	**30.46**	**103**	*c i*P	**P**	**13 49 15.4**	**+0.3**
KIS				*e*		13 50 17.0	
KIS				*e*S	**S**	**13 54 12.0**	**-3.8**
KIS				*e*SS	**ScP**	**13 55 54.0**	**-2.1**
KIS				pmax	pmax		
	comp=Z,280nm,5.6s						
KIS				MLR	MLR		
	comp=Z,1μm,16.0s						
KIS				MLR	MLR		
	comp=N,1μm,15.0s						
KIS				MLR	MLR		
	comp=E,1μm,16.0s						
MLR	**Muntele Rosu**	**30.46**	**107**	P	**P**	**13 49 15.7**	**+0.5**
	comp=E,8.6nm,0.9s,baz=158,slow=12,SNR=3.1						
MLR	**Muntele Rosu**	**30.46**	**107**	⇓P	**P**	**13 49 15.4**	**+0.1**
MLR	**Muntele Rosu**	**30.46**	**107**	⇓P	**P**	**13 49 15.4**	**+0.1**
MLR	**Muntele Rosu**	**30.46**	**107**	P	**P**	**13 49 12.2**	**-3.0**
MLR				IAmb	IAmb	13 49 34.5	
	comp=Z,53nm,1.3s						
PLOR	**Plostina**	**30.46**	**106**	⇓P	**P**	**13 49 15.7**	**+0.5**
PLOR	**Plostina**	**30.46**	**106**	⇓P	**P**	**13 49 15.7**	**+0.5**
VRI	**Vrincioaia**	**30.48**	**106**	⇑P	**P**	**13 49 13.9**	**-1.4**
VRI	**Vrincioaia**	**30.48**	**106**	⇑P	**P**	**13 49 13.9**	**-1.4**
MELI	**Melilla**	**30.51**	**156**	*i* P	**P**	**13 49 13.2**	**-2.3**
MELI				*e*S	S	13 54 26.6	+10
DRME	**Dracevica, Mon**	**30.53**	**119**	*e*P	**P**	**13 49 15.5**	**-0.3**
LPSR	**Galich'ya Gora**	**30.64**	**86**	*e*P	**P**	**13 49 17.1**	**+0.5**
LPSR				pmax	pmax		
	comp=Z,120nm,1.6s						
LPSR				MLR	MLR		
	comp=Z,2μm,15.0s						
MATE	**Matera**	**30.95**	**124**	⇓P	**P**	**13 49 14.9**	**-4.5**
KIRV	**Kirov**	**31.05**	**69**	P	**P**	**13 49 19.5**	**-0.6**
	comp=Z,65nm,1.1s,baz=311,slow=3.7,SNR=7.7						
KIRV				LR	LR	14 01 14.7	
	comp=Z,6μm,20.4s,baz=311,slow=35						
RTC	**Rabat Centre**	**31.19**	**163**	IAMs_20	IAMs_20	14 00 01.5	
	comp=Z,9μm,22.0s						
BATG	**Bathurst New B**	**31.21**	**260**	P	**P**	**13 49 21.6**	**-0.2**
BATG				IAmb	IAmb	13 49 28.3	
	comp=Z,34nm,1.2s						
BATG				IAMs_20	IAMs_20	13 59 53.3	
	comp=Z,5μm,19.0s						
VORR	**Voronezh**	**31.42**	**87**	*e*P	**P**	**13 49 22.0**	**-1.5**
VORR				pmax	pmax		
	comp=Z,350nm,1.6s						
SGRR	**Singureni**	**31.51**	**109**	⇑P	P	13 49 17.0	-7.3
TIR	**Tirane**	**31.51**	**119**	IAMs_20	IAMs_20	14 03 00.8	
	comp=Z,6μm,21.0s						
SKO	**Skopje**	**31.58**	**117**	*i* P	**P**	**13 49 27.2**	**+2.2**
CFR	**Carcaliu**	**31.62**	**105**	⇑P	**P**	**13 49 22.8**	**-2.5**
CFR	**Carcaliu**	**31.62**	**105**	⇑P	**P**	**13 49 22.8**	**-2.5**
VSR	**Storozhevoye**	**31.73**	**87**	*e*P	**P**	**13 49 26.4**	**+0.2**
VSR				pmax	pmax		
	comp=Z,150nm,1.6s						
VSR				MLR	MLR		
	comp=Z,4μm,19.0s						
VTS	**Vitosha**	**31.74**	**114**	*i* P	**P**	**13 49 27.2**	**+0.7**
AVE	**Averroes**	**31.80**	**164**	*i* P	**P**	**13 49 27.7**	**+0.7**
AVE				IS		13 54 46.1	
IFR	**Ifrane**	**31.89**	**160**	*i* P	**P**	**13 49 26.0**	**-2.0**
IFR				*i* S	**S**	**13 54 45.3**	**+6.5**
HARR	**Harsova**	**31.93**	**106**	⇓P	**P**	**13 49 27.5**	**-0.5**
HARR	**Harsova**	**31.93**	**106**	⇓P	**P**	**13 49 27.5**	**-0.5**
VORD	**Divnogorie**	**31.97**	**87**	*e*P	**P**	**13 49 29.4**	**+1.1**
VORD				pmax	pmax		
	comp=Z,210nm,1.9s						
OHR	**Ohrid**	**32.07**	**118**	*i* P	**P**	**13 49 31.5**	**+2.1**
SCTE	**Santa Cesarea**	**32.10**	**122**	IAMs_20	IAMs_20	14 03 54.6	
	comp=Z,5μm,20.0s						
PGB	**Panagyurishte**	**32.16**	**113**	*i* P	**P**	**13 49 29.6**	**-0.6**
CORL	**Corleone**	**32.24**	**131**	P	**P**	**13 49 30.3**	**-0.6**
CORL				IAMs_20	IAMs_20	14 02 39.7	
	comp=Z,6μm,18.0s						
RAZG	**Razgrad**	**32.27**	**109**	⇓P	**P**	**13 49 30.8**	**-0.2**
TIP	**Timpagrande**	**32.27**	**125**	⇑P	**P**	**13 49 27.5**	**-3.7**
TIP	**Timpagrande**	**32.27**	**125**	P	**P**	**13 49 30.1**	**-1.0**
SZH	**Strazhica**	**32.28**	**110**	*i* P	**P**	**13 49 31.9**	**+0.8**
TIRR	**Tirgusor**	**32.32**	**106**	P	**P**	**13 49 29.2**	**-2.3**
TIRR				pmax	pmax		
	comp=Z,65nm,1.3s						
TIRR				MLR	MLR		
	comp=Z,4μm,19.0s						
TIRR	**Tirgusor**	**32.32**	**106**	P	**P**	**13 49 29.2**	**-2.3**
TIRR	**Tirgusor**	**32.32**	**106**	*i* P	**P**	**13 49 31.6**	**+0.1**
CLTB	**Caltabellotta**	**32.50**	**131**	P	**P**	**13 49 31.7**	**-1.5**
CLTB				IAMs_20	IAMs_20	14 02 49.6	
	comp=Z,7μm,19.0s						
PQI	**Presque Isle**	**32.52**	**261**	IAMs_20	IAMs_20	14 00 35.0	
	comp=Z,5μm,20.0s						
VAY	**Valandovo**	**32.58**	**116**	*i* P	**P**	**13 49 34.8**	**+1.0**
E64A	**Bridgewater**	**32.64**	**261**	S	**S**	**13 54 56.7**	**+6.8**
	baz=38						
MDT	**Midelt**	**32.66**	**160**	P	**P**	**13 49 35.5**	**+0.8**
	comp=Z,11nm,0.9s,baz=19,slow=8.9,SNR=20						
MDT				LR	LR	14 02 08.5	
	comp=Z,3μm,21.5s,baz=36,slow=35						
PLD	**Plovdiv**	**32.75**	**113**	*i* P	**P**	**13 49 37.3**	**+2.0**
CHGQ	**Chibougamau**	**32.80**	**271**	P	**P**	**13 49 36.5**	**+0.9**
	baz=42						
CHGQ				S	**S**	**13 54 57.6**	**+5.3**
	baz=42						
MMB	**Musomiste**	**32.80**	**114**	*i* P	**P**	**13 49 34.1**	**-1.7**
VRH	**Novokhopyorsk**	**32.85**	**85**	*e*P	**P**	**13 49 36.6**	**+0.6**
VRH				pmax	pmax		
	comp=Z,160nm,1.6s						
VRH				MLR	MLR		
	comp=Z,3μm,14.0s						
PSN	**Preselentsi**	**32.86**	**107**	*i* P	**P**	**13 49 38.8**	**+2.6**
VAE	**Valguarnera**	**32.99**	**129**	LR	LR	14 02 46.7	
	comp=Z,3μm,20.8s,baz=328,slow=4.3,SNR=14						
KEST	**Kesra**	**33.00**	**138**	P	**P**	**13 49 39.0**	**+1.4**
	comp=Z,13nm,1.0s,baz=294,slow=4.3,SNR=14						
KEST				LR	LR	14 02 58.6	
	comp=Z,4μm,18.3s,baz=302,slow=36						
KEST	**Kesra**	**33.00**	**138**	P	**P**	**13 49 36.4**	**-1.2**
KEST				IAMs_20	IAMs_20	14 02 57.2	
	comp=Z,5μm,18.0s						
RZN	**Rozhen**	**33.11**	**113**	*i* P	**P**	**13 49 38.7**	**+0.1**
JMB	**Yambol**	**33.21**	**110**	*i* P	**P**	**13 49 41.8**	**+2.5**
F64A	**Sherman**	**33.30**	**261**	IAMs_20	IAMs_20	14 01 26.6	
	comp=Z,5μm,19.0s						
KDZ	**Kurdzhali**	**33.42**	**112**	*i* P	**P**	**13 49 41.3**	**+0.1**
G65A	**Princeton**	**33.49**	**259**	IAMs_20	IAMs_20	14 01 21.7	
	comp=Z,5μm,19.0s						
H66A	**Whiting**	**33.72**	**259**	S	**S**	**13 55 13.9**	**+7.4**
	baz=36						
E61A	**Lac Etchemin**	**33.77**	**264**	P	**P**	**13 49 44.0**	**-0.2**
	baz=38,SNR=5.5						
E61A				S	**S**	**13 55 13.4**	**+5.9**
	baz=38						
G64A	**Maxfield**	**33.96**	**261**	P	**P**	**13 49 46.1**	**+0.4**
	baz=37						
F62A	**Pittston Farm,**	**33.97**	**262**	P	**P**	**13 49 47.9**	**+2.1**
	baz=38						
F62A	**Pittston Farm,**	**33.97**	**262**	P	**P**	**13 49 47.1**	**+1.2**
F62A				IAmb	IAmb	13 49 53.5	
	comp=Z,22nm,0.9s						
F62A				IAMs_20	IAMs_20	14 01 20.2	
	comp=Z,4μm,21.0s						
H65A	**Eastbrook**	**34.19**	**259**	S	**S**	**13 55 21.4**	**+7.6**
	baz=36						
E60A	**Ste Agathe de**	**34.23**	**264**	P	**P**	**13 49 47.8**	**-0.3**
	baz=38						
D58A	**Chemin du LacG**	**34.29**	**267**	P	**P**	**13 49 48.6**	**-0.1**
	baz=39						
D58A				S	**S**	**13 55 22.4**	**+7.0**
	baz=39						
ALN	**Alexandroupoli**	**34.31**	**112**	P	**P**	**13 49 47.7**	**-1.2**
ALN				pmax	pmax		
	comp=Z,70nm,1.4s						
ALN				MLR	MLR		
	comp=Z,4μm,18.0s						
ALN	**Alexandroupoli**	**34.31**	**112**	P	**P**	**13 49 47.6**	**-1.2**
ALN				IAmb	IAmb	13 49 55.5	
	comp=Z,70nm,1.4s						
ALN				IAMs_20	IAMs_20	14 06 21.7	
	comp=Z,4μm,18.0s						
MATQ	**Matagami**	**34.33**	**274**	P	**P**	**13 49 48.7**	**-0.2**
	baz=42						
MATQ				S	**S**	**13 55 20.5**	**+4.6**
	baz=42						
F61A	**St Evariste**	**34.35**	**264**	P	**P**	**13 49 48.6**	**-0.6**
	baz=38						
G63A	**Kingsbury**	**34.44**	**261**	P	**P**	**13 49 49.1**	**-0.8**
	baz=37						
BELG	**Belogornoye**	**34.52**	**79**	*i* P	**P**	**13 49 50.1**	**-0.4**
LSQQ	**Lebel-sur-Quev**	**34.57**	**273**	P	**P**	**13 49 49.8**	**-1.2**
	baz=41						
H64A	**Troy**	**34.65**	**260**	P	**P**	**13 49 52.9**	**+1.2**
	baz=37						
H64A				S	**S**	**13 55 27.9**	**+7.0**
	baz=37						
G62A	**West of Eustis**	**34.75**	**262**	P	**P**	**13 49 53.5**	**+0.9**
	baz=37						
G62A				S	**S**	**13 55 29.2**	**+6.7**
	baz=37						
G62A	**West of Eustis**	**34.75**	**262**	P	**P**	**13 49 53.5**	**+0.9**
G62A				IAmb	IAmb	13 50 05.1	
	comp=Z,38nm,1.4s						
F60A	**Warwick**	**34.77**	**265**	P	**P**	**13 49 52.5**	**-0.2**
	baz=38						
F60A				S	S	13 55 36.0	+13
	baz=38						
D57A	**Chemin Vers le**	**34.78**	**267**	P	**P**	**13 49 52.5**	**-0.4**
	baz=39,SNR=6.5						
D57A				S	**S**	**13 55 29.7**	**+6.7**
	baz=39						
WVL	**Waterville**	**34.89**	**261**	P	**

comp=Z,5µm,20.0s
ARU Arti 36.16 66 P **P** **13 50 01.0 -3.6**
ARU IAmb IAmb 13 50 08.4
comp=Z,78nm,1.4s
ARU IAMs_20 IAMs_20 14 04 00.9
comp=Z,5µm,18.0s
I62A Tamworth 36.17 262 P **P** **13 50 03.3 -1.5**
baz=36
H60A Morristown 36.20 264 P **P** **13 50 04.4 -0.7**
baz=37,SNR=6.7
H60A S **S** **13 55 52.6 +7.7**
baz=37
G58A Ormstown 36.32 266 S **S** **13 55 53.8 +7.2**
baz=37
FRNY Flat Rock 36.37 265 P **P** **13 50 06.8 +0.3**
FRNY IAmb IAmb 13 50 15.2
comp=Z,42nm,1.2s
FRNY IAMs_20 IAMs_20 14 02 56.6
comp=Z,4µm,21.0s
VT1 Waterbury 36.41 264 IAMs_20 IAMs_20 14 02 56.0
comp=Z,4µm,20.0s
I61A Oroboro, Fairl 36.49 263 P **P** **13 50 07.0 -0.6**
baz=36
J63A Strafford 36.54 261 S **S** **13 55 58.0 +8.0**
baz=36
H59A Cadyville 36.56 265 P **P** **13 50 07.9 -0.3**
baz=37,SNR=6.3
H59A S **S** **13 55 56.5 +6.1**
baz=37
NRIK Noril'sk 36.62 35 P **P** **13 50 08.1 -0.4**
comp=Z,29nm,1.1s,baz=331,slow=16,SNR=16
NRIK LR LR 14 06 50.9
comp=Z,3µm,18.5s,baz=347,slow=39
FFD Franklin Falls 36.63 262 IAMs_20 IAMs_20 14 03 29.6
comp=Z,4µm,18.0s
SVE Sverdlovsk 36.69 64 *e*P **P** **13 50 09.4 +0.2**
SVE *e*S **S** **13 55 55.9 +3.8**
SVE pmax pmax
comp=Z,92nm,1.8s
SVE MLR MLR
comp=Z,5µm,17.0s
HNH Hanover 36.71 262 IAMs_20 IAMs_20 14 03 04.8
comp=Z,4µm,21.0s
G57A Newington 36.76 266 P **P** **13 50 09.5 -0.3**
baz=37,SNR=7.3
G57A S **S** **13 56 00.3 +7.0**
baz=37
F55A Otter Lake 36.77 268 S **S** **13 55 59.9 +6.4**
baz=38
MDUB Mudurnu 36.78 107 IAMs_20 IAMs_20 14 06 08.6
comp=Z,7µm,21.0s
H58A Gabriels 36.96 265 P **P** **13 50 11.0 -0.6**
baz=37,SNR=5.5
H58A S **S** **13 56 04.3 +7.9**
baz=37
LONY Lake Ozonia 36.97 266 P **P** **13 50 10.9 -0.8**
baz=37,SNR=6.6
LONY S **S** **13 56 02.8 +6.2**
baz=37
C36M Paulatuk 37.00 326 S **S** **13 56 01.5 +5.1**
baz=43
C36M Paulatuk 37.00 326 IAMs_20 IAMs_20 14 05 21.4
comp=Z,4µm,19.0s
I60A Shoreham 37.03 264 P **P** **13 50 12.5 +0.3**
baz=36
K63A Dunstable 37.21 261 S S 13 56 08.9 +8.7
baz=35
I59A Olmsteadville 37.32 264 S **S** **13 56 09.6 +7.7**
baz=36
NCB Newcomb 37.33 265 P **P** **13 50 14.2 -0.6**
BCX Boston College 37.34 260 IAMs_20 IAMs_20 14 04 01.6
comp=Z,4µm,18.0s
WES Weston 37.37 260 IAMs_20 IAMs_20 14 03 47.2
comp=Z,4µm,19.0s
HRV Adam Dziewonsk 37.37 261 S S 13 56 14.1 +11
baz=35
HRV Adam Dziewonsk 37.37 261 IAMs_20 IAMs_20 14 03 48.3
comp=Z,4µm,19.0s
G55A Calabogie 37.39 268 P **P** **13 50 14.4 -0.8**
baz=38,SNR=6.6
G55A S **S** **13 56 09.5 +6.6**
baz=38
ALGO Algonquin Park 37.42 270 P **P** **13 50 15.0 -0.5**
baz=38
H57A Richville 37.44 266 P **P** **13 50 14.7 -0.9**
baz=37
K62A Royalston 37.53 261 IAMs_20 IAMs_20 14 03 56.5
comp=Z,4µm,19.0s
ACCN Adirondack Com 37.56 264 IAMs_20 IAMs_20 14 03 41.3
comp=Z,5µm,22.0s
PLVO Plevna 37.72 268 P **P** **13 50 17.2 -0.7**
PLVO IAMs_20 IAMs_20 14 04 10.1
comp=Z,6µm,20.0s
SOC Sochi 37.84 95 *i*P **P** **13 50 20.3 +1.3**
SOC *e* 13 51 41.4
SOC *e*S **S** **13 56 11.8 +2.0**
SOC pmax pmax
comp=Z,38nm,1.0s
SOC MLR MLR
comp=Z,2µm,18.0s
J59A Piesco 37.86 264 P **P** **13 50 18.7 -0.5**
baz=36
J59A S **S** **13 56 18.0 +7.9**
baz=36
J59A Piesco 37.86 264 IAMs_20 IAMs_20 14 03 51.1
comp=Z,4µm,20.0s
G54A Lake Saint Pet 37.87 270 P **P** **13 50 18.5 -0.8**
baz=38,SNR=5.5
I58A Old Forge 37.88 265 P **P** **13 50 18.7 -0.8**
baz=36
I58A S S 13 56 19.8 +9.3
baz=36
QUA2 Belchertown 37.90 261 P **P** **13 50 18.1 -1.4**
QUA2 IAMs_20 IAMs_20 14 04 15.2
comp=Z,4µm,19.0s
L61B Northampton 37.90 262 S S 13 56 20.8 +10
baz=35
K61A Williamstown 37.97 262 S S 13 56 21.8 +10
baz=35
I57A Carthage 37.98 266 P **P** **13 50 19.3 -0.9**
baz=36,SNR=6.6
I57A S **S** **13 56 20.1 +8.2**
baz=36
SANT Santorini 37.98 117 IAMs_20 IAMs_20 14 08 25.0
comp=Z,4µm,20.0s
M64A Tiverton 38.01 259 S S 13 56 21.1 +8.9
baz=34
TRY Troy 38.09 263 IAMs_20 IAMs_20 14 03 57.3
comp=Z,4µm,20.0s
GOF Gofitskoye 38.10 91⇑ *e*P **P** **13 50 23.2 +2.0**
GOF pmax pmax
comp=Z,251nm,1.3s
J58A Remsen 38.28 265 P **P** **13 50 21.7 -1.0**
baz=36,SNR=5.7
J58A S S 13 56 25.0 +8.5
baz=36
J58A Remsen 38.28 265 P **P** **13 50 22.4 -0.4**
J58A IAMs_20 IAMs_20 14 04 04.2
comp=Z,4µm,20.0s
DELO Deloro Mine 38.36 268 IAMs_20 IAMs_20 14 04 29.1
comp=Z,6µm,20.0s
BR131 Keskin Array S 38.42 105 P **P** **13 50 26.7 +2.6**
SNR=12
BR131 P **P** **13 50 26.7 +2.6**
SNR=12
BR131 Keskin Array S 38.42 105 P **P** **13 50 22.5 -1.6**
BR131 pmax pmax
comp=Z,25nm,1.1s
BR131 Keskin Array S 38.42 105 P **P** **13 50 22.4 -1.6**
BRTR Keskin Array B 38.42 105 P **P** **13 50 23.1 -1.0**
comp=Z,4.4nm,0.8s,baz=316,slow=3.4,SNR=11
BRTR LR LR 14 08 50.8
comp=Z,714nm,18.5s,baz=308,slow=40
BRTR Keskin Array B 38.42 105 *i*P **P** **13 50 23.2 -1.0**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 38.42 105 P **P** **13 50 22.7 -1.5**
L61A Hillsdale 1, H 38.48 262 S S 13 56 29.3 +10
baz=35
J57A Williamstown 38.55 266 P **P** **13 50 25.6 +0.6**
PECO Prince Edward 38.56 267 P **P** **13 50 25.9 +0.8**
K59A Cooperstown 38.57 264 P **P** **13 50 23.9 -1.3**
baz=36,SNR=5.9
IDI Anoyia 38.72 118 P **P** **13 50 27.7 +1.2**
comp=Z,52nm,1.0s,baz=348,slow=5.0,SNR=6.3
IDI Anoyia 38.72 118 IAmb IAmb 13 50 33.3
comp=Z,74nm,1.0s
IDI IAMs_20 IAMs_20 14 07 28.5
comp=Z,3µm,21.0s
H53A Bobcaygeon 38.74 269 P **P** **13 50 25.7 -0.9**
baz=37,SNR=7.2
H53A S **S** **13 56 29.6 +6.3**
baz=37
M62A Hamden 38.81 261 S S 13 56 33.8 +9.4
baz=34
SADO Sadowa 38.82 270 P **P** **13 50 27.1 -0.2**
comp=Z,24nm,0.9s,baz=37,slow=10,SNR=5.6
SADO Sadowa 38.82 270 P **P** **13 50 26.9 -0.3**
SADO IAMs_20 IAMs_20 14 05 02.4
comp=Z,5µm,18.0s
KIV Kislovodsk 38.83 92 P **P** **13 50 28.9 +1.5**
KIV Kislovodsk 38.83 92 P **P** **13 50 28.7 +1.2**
KIV P **P** **13 50 28.7 +1.2**
KIV S **S** **13 56 26.3 +1.4**
KIV S **S** **13 56 26.3 +1.4**
KIV Kislovodsk 38.83 92 *e*P **P** **13 50 27.2 -0.2**
KIV *e* 13 51 55.4
KIV *e*S **S** **13 56 25.0 +0.1**
KIV pmax pmax
comp=Z,634nm,4.3s
KIV pmax pmax
comp=Z,63nm,1.1s
KIV MLR MLR
comp=Z,7µm,16.0s
KIV Kislovodsk 38.83 92 P **P** **13 50 24.5 -3.0**
KIV IAMs_20 IAMs_20 14 06 15.2
comp=Z,4µm,22.0s
KSCT Kent School, K 38.83 262 P **P** **13 50 28.5 +1.1**
KSCT IAMs_20 IAMs_20 14 04 45.9
comp=Z,4µm,18.0s
K58A Earlville 38.92 265 P **P** **13 50 28.3 +0.2**
baz=36
K58A Earlville 38.92 265 P **P** **13 50 28.9 +0.8**
K58A IAMs_20 IAMs_20 14 04 24.1
comp=Z,4µm,21.0s
L60A Shokan 38.94 263 P **P** **13 50 29.5 +1.2**
baz=35
YLE Yale 38.94 261 IAMs_20 IAMs_20 14 04 34.7
comp=Z,3µm,18.0s
KBZ Khabaz 39.10 92 P **P** **13 50 30.2 +0.7**
comp=Z,13nm,0.9s,baz=323,slow=11,SNR=8.9
KBZ LR LR 14 06 59.1
comp=Z,5µm,21.1s,baz=330,slow=37
KBZ Khabaz 39.10 92 *c i*P **P** **13 50 31.5 +1.9**
KBZ pmax pmax
comp=Z,93nm,1.8s
L59A Walton 39.12 264 P **P** **13 50 30.6 +0.7**
L59A IAMs_20 IAMs_20 14 04 18.6
comp=Z,4µm,22.0s
WSPT Westport, CT 39.22 261 IAMs_20 IAMs_20 14 04 43.2
comp=Z,3µm,18.0s
M61A Granite Spring 39.30 262 P **P** **13 50 31.4 +0.1**
baz=34
YKA Yellowknife Ar 39.36 313 P **P** **13 50 30.9 -0.6**
comp=Z,12nm,0.9s,baz=42,slow=9.1,SNR=15
YKA PcP **PcP** **13 52 40.1 +0.6**
comp=Z,7.0nm,0.9s,baz=41,slow=3.8,SNR=6.5
YKA LR LR 14 06 41.8
comp=Z,5µm,18.2s,baz=0.0,slow=36
KARP Karpathos 39.37 115 IAMs_20 IAMs_20 14 08 10.6
comp=Z,4µm,21.0s
ELL Elmali 39.42 111 P **P** **13 50 31.1 -1.4**
ELL pmax pmax
comp=Z,272nm,1.2s
ELL MLR MLR
comp=Z,12µm,19.0s
ELL Elmali 39.42 111 P **P** **13 50 31.1 -1.4**
J55A Hilton 39.45 267 P **P** **13 50 32.9 +0.4**
baz=36
J55A Hilton 39.45 267 P **P** **13 50 33.3 +0.8**
J55A IAMs_20 IAMs_20 14 04 51.1
comp=Z,3µm,21.0s
BINY Binghamton 39.52 265 IAMs_20 IAMs_20 14 04 52.1
comp=Z,4µm,20.0s
TRNY Table Rock, Ra 39.63 262 IAMs_20 IAMs_20 14 05 10.0
comp=Z,4µm,18.0s
M60A Port Jervis 39.65 263 S S 13 56 46.6 +10
baz=35
E46A Sault Ste Mari 39.80 276 P **P** **13 50 35.7 +0.3**
E46A IAmb IAmb 13 50 42.0
comp=Z,70nm,1.0s
J54A Appleton 39.80 268 P **P** **13 50 35.6 +0.2**
baz=36
J54A Appleton 39.80 268 P **P** **13 50 35.0 -0.4**
J54A IAMs_20 IAMs_20 14 05 12.4
comp=Z,5µm,21.0s
MEDO Medina 39.81 268 P **P** **13 50 36.0 +0.5**
MEDO IAMs_20 IAMs_20 14 05 12.6
comp=Z,4µm,21.0s
M59A Waymart 39.82 263 P **P** **13 50 35.3 -0.3**
baz=35
ODNJ Ogdensburg 39.84 262 IAMs_20 IAMs_20 14 05 18.6
comp=Z,4µm,18.0s
MMNY Mt. Morris Dam 39.92 267 P **P** **13 50 36.9 +0.4**
MMNY IAMs_20 IAMs_20 14 05 06.6
comp=Z,4µm,22.0s
KSPA Keystone Colle 39.95 264 IAMs_20 IAMs_20 14 04 55.5
comp=Z,4µm,21.0s
K55A Perry 40.00 267 P **P** **13 50 36.3 -0.8**
baz=36
INK Inuvik 40.02 329 P **P** **13 50 36.1 -0.8**
comp=Z,11nm,1.0s,baz=65,slow=9.8,SNR=7.2
INK PcP **PcP** **13 52 43.1 +1.6**
comp=Z,8.1nm,0.9s,baz=28,slow=6.6,SNR=4.6
INK Inuvik 40.02 329 P **P** **13 50 36.2 -0.8**
INK Inuvik 40.02 329 IAMs_20 IAMs_20 14 08 16.0
comp=Z,6µm,19.0s
L57A Andrews Acres 40.06 265 P **P** **13 50 38.0 +0.3**
baz=35
L57A S S 13 56 52.0 +8.8
baz=35
N60A Cedar Hill Far 40.23 263 P **P** **13 50 39.5 +0.5**
baz=34
L56A Greenwood 40.25 266 P **P** **13 50 38.5 -0.8**
baz=35
L56A S **S** **13 56 54.6 +8.4**
baz=35
L56A Greenwood 40.25 266 P **P** **13 50 39.5 +0.2**
ZEI Tsey 40.29 92 *e*P **P** **13 50 43.3 +3.5**
ZEI pmax pmax
comp=Z,62nm,2.0s
K54A Basiliko Farm, 40.36 268 S **S** **13 56 55.0 +7.2**
baz=36
I51A Listowel 40.41 271 P **P** **13 50 40.7 +0.2**
baz=36
N59A State Game Lan 40.48 263 P **P** **13 50 41.3 +0.1**
N59A IAMs_20 IAMs_20 14 05 20.5
comp=Z,5µm,20.0s
WVNY West Valley, N 40.49 267 P **P** **13 50 41.5 +0.3**
WVNY IAmb IAmb 13 50 50.1
comp=Z,53nm,1.1s
WVNY IAMs_20 IAMs_20 14 05 34.5
comp=Z,4µm,22.0s
LUPA Lehigh Univers 40.57 263 IAMs_20 IAMs_20 14 05 31.9
comp=Z,5µm,20.0s
L55A Hinsdale 40.60 267 P **P** **13 50 42.6 +0.5**
baz=35
L55A S **S** **13 56 59.2 +7.8**
baz=35
FFC Flin Flon 40.70 298 P **P** **13 50 42.8 0.0**
FFC pmax pmax
comp=Z,74nm,1.5s
FFC MLR MLR
comp=Z,12µm,18.0s
FFC Flin Flon 40.70 298 P **P** **13 50 42.8 0.0**
FFC IAmb IAmb 13 50 49.0
comp=Z,74nm,1.5s
M57A Sunshine Farm, 40.72 265 P **P** **13 50 42.7 -0.4**
baz=35
M57A S S 13 57 01.8 +8.6
baz=35
M57A Sunshine Farm, 40.72 265 P **P** **13 50 42.6 -0.5**
M57A IAMs_20 IAMs_20 14 05 29.8
comp=Z,4µm,20.0s
GROC Groznyy 40.78 90 *e*P **P** **13 50 44.2 +0.7**
GROC *e* 13 52 45.8
GROC *e*S **S** **13 56 53.5 -0.4**
GROC pmax pmax
comp=Z,116nm,1.3s
GROC MLR MLR
comp=Z,2µm,12.0s
L54A Sinclairville 40.94 268 P **P** **13 50 45.0 +0.1**
baz=36
N58A Sunbury 40.95 264 P **P** **13 50 44.6 -0.4**
baz=34,SNR=6.1
N58A Sunbury 40.95 264 P **P** **13 50 43.7 -1.3**
N58A IAMs_20 IAMs_20 14 05 36.9
comp=Z,4µm,21.0s
M56A Emporium 41.06 266 P **P** **13 50 45.8 -0.1**
baz=35
M56A Emporium 41.06 266 P **P** **13 50 45.2 -0.7**
M56A IAMs_20 IAMs_20 14 05 51.6
comp=Z,3µm,20.0s
I49A Point Hope 41.08 272 P **P** **13 50 46.4 +0.3**
I49A IAMs_20 IAMs_20 14 06 38.0
comp=Z,3µm,18.0s
D41A Chassel 41.09 280 P **P** **13 50 46.4 +0.3**
D41A IAmb IAmb 13 50 52.7
comp=Z,48nm,0.8s
D41A IAMs_20 IAMs_20 14 06 17.8
comp=Z,7µm,21.0s
O59A Robesonia 41.16 263 S S 13 57 08.1 +8.5
baz=34
M55A Ridgway 41.32 267 P **P** **13 50 46.7 -1.4**
M55A IAMs_20 IAMs_20 14 05 49.6
comp=Z,3µm,21.0s
ERPA Erie 41.32 268 IAMs_20 IAMs_20 14 06 19.6
comp=Z,4µm,20.0s
P60A Greenville 41.34 262 IAMs_20 IAMs_20 14 06 04.1
comp=Z,3µm,19.0s
N57A Milroy 41.38 265 P **P** **13 50 48.7 +0.2**
baz=34
N57A S S 13 57 11.4 +8.5
baz=34
G45A Suttons Bay 41.43 276 IAMs_20 IAMs_20 14 06 54.1
comp=Z,5µm,18.0s
PAGS Pennsylvania G 41.46 264 IAMs_20 IAMs_20 14 06 01.3
comp=Z,5µm,20.0s
MVL Millersville 41.49 263 IAMs_20 IAMs_20 14 06 01.1
comp=Z,6µm,20.0s
L53A Girard 41.57 268 P **P** **13 50 50.6 +0.5**
baz=35
SSPA Standing Stone 41.62 265 P **P** **13 50 50.7 +0.2**
baz=34
SSPA S **S** **13 57 14.6 +8.1**
baz=34
SSPA Standing Stone 41.62 265 P **P** **13 50 49.2 -1.3**
O58A Lewisberry 41.63 264 P **P** **13 50 49.7 -0.9**
baz=34
O58A S S 13 57 17.5 +11
baz=34
EYMN Ely 41.64 283 P **P** **13 50 49.8 -0.7**
baz=39
EYMN Ely 41.64 283 IAMs_20 IAMs_20 14 06 53.2
comp=Z,5µm,20.0s
ULM Lac du Bonnet 41.67 289 P **P** **13 50 51.1 +0.3**
comp=Z,12nm,0.9s,baz=44,slow=8.6,SNR=8.6
ULM PcP **PcP** **13 52 48.1 +0.8**
comp=Z,3.5nm,0.7s,baz=54,slow=5.2,SNR=3.1
ULM Lac du Bonnet 41.67 289 P **P** **13 50 51.4 +0.6**
M54A Oil Creek Stat 41.68 267 P **P** **13 50 50.4 -0.6**
baz=35,SNR=8.2
M54A Oil Creek Stat 41.68 267 P **P** **13 50 50.2 -0.8**
M54A IAmb IAmb 13 50 58.7
comp=Z,58nm,1.1s
M54A IAMs_20 IAMs_20 14 06 22.0
comp=Z,4µm,21.0s
MAK Makhachkala 41.71 89 *e*P **P** **13 50 48.2 -3.0**
MAK *e* 13 52 24.1
MAK *e*S **S** **13 57 02.1 -5.6**
MAK *e*SS **SS** **14 00 10.3 -2.5**
MAK pmax pmax
comp=Z,556nm,1.8s
MAK MLR MLR
comp=Z,3µm,17.0s
ALLY Alegheny Colle 41.77 268 IAMs_20 IAMs_20 14 06 34.5
comp=Z,4µm,21.0s
O57A Amberson 41.87 264 P **P** **13 50 51.9 -0.6**
baz=34,SNR=6.2
K50A Casco 41.93 271 P **P** **13 50 51.7 -1.3**
K50A IAmb IAmb 13 51 00.6
comp=Z,72nm,1.1s
K50A IAMs_20 IAMs_20 14 06 57.6
comp=Z,3µm,19.0s
N55A Marion Center 41.98 266 P **P** **13 50 54.0 +0.5**
baz=34
AB31 Akbulak array 42.04 73 *i*P **P** **13 50 51.3 -2.6**
ABKAR Akbulak array 42.04 73 P **P** **13 50 52.1 -1.8**
ABKAR Akbulak array 42.04 73 P **P** **13 50 51.2 -2.7**
ABKAR IAmb IAmb 13 50 58.8
comp=Z,108nm,1.4s
COWI Conover 42.08 280 IAMs_20 IAMs_20 14 06 58.2
comp=Z,6µm,21.0s
M53A WI Miller and 42.17 268 P **P** **13 50 54.7 -0.3**
baz=35
M53A WI Miller and 42.17 268 P **P** **13 50 54.5 -0.5**
M53A IAmb IAmb 13 51 01.9
comp=Z,48nm,1.2s
M53A IAMs_20 IAMs_20 14 06 47.1
comp=Z,4µm,21.0s
SDMD Soldier's Deli 42.19 263 P **P** **13 50 54.5 -0.6**
O56A Blue Knob Stat 42.22 265 P **P** **13 50 55.6 +0.1**
baz=34
O56A Blue Knob Stat 42.22 265 P **P** **13 50 55.5 0.0**
TIXI Tiksi 42.23 15 *de*P **P** **13 50 54.8 -0.3**
TIXI pmax pmax
comp=Z,527nm,1.7s
TIXI Tiksi 42.23 15 P **P** **13 50 53.6 -1.5**
TIXI IAMs_20 IAMs_20 14 06 22.8
comp=Z,4µm,22.0s
B35A Bob, Littlefor 42.25 286 P **P** **13 50 54.8 -0.8**
N54A Moraine State 42.27 267 P **P** **13 50 55.7 -0.1**
baz=35,SNR=6.1
N54A Moraine State 42.27 267 P **P** **13 50 55.2 -0.5**
N54A IAmb IAmb 13 51 03.5
comp=Z,45nm,1.0s
N54A IAMs_20 IAMs_20 14 06 28.6
comp=Z,4µm,21.0s
M52A Chesterland 42.38 269 P **P** **13 50 56.1 -0.6**
baz=35,SNR=5.4
M52A Chesterland 42.38 269 P **P** **13 50 56.4 -0.4**
M52A IAmb IAmb 13 51 03.7
comp=Z,59nm,0.9s
M52A IAMs_20 IAMs_20 14 06 52.7
comp=Z,5µm,20.0s
R61A Willards 42.44 261 P **P** **13 50 57.5 +0.2**
I45A Fountain 42.48 276 IAMs_20 IAMs_20 14 07 34.9
comp=Z,5µm,18.0s
J47A Sunmer 42.51 274 P **P** **13 50 58.3 +0.6**
P57A Homestead Farm 42.63 264 P **P** **13 50 59.1 +0.4**
baz=34
P57A Homestead Farm 42.63 264 IAMs_20 IAMs_20 14 06 48.3
comp=Z,4µm,20.0s
E38A The Farm, Brul 42.71 282 P **P** **13 50 58.4 -1.0**
E38A IAmb IAmb 13 51 03.7
comp=Z,55nm,1.3s
E38A IAMs_20 IAMs_20 14 07 45.8
comp=Z,4µm,19.0s
N53A Lisbon 42.76 268 P **P** **13 51 00.8 +1.0**
baz=35
N53A Lisbon 42.76 268 P **P** **13 50 58.7 -1.1**
N53A IAmb IAmb 13 51 06.8
comp=Z,47nm,1.1s
N53A IAMs_20 IAMs_20 14 07 05.6
comp=Z,4µm,20.0s
M51A Elyria 42.91 270 P **P** **13 51 01.5 +0.4**
baz=35
Q58A Fox Den Farm, 42.94 263 S **S** **13 57 33.3 +7.4**
baz=33
TOLK Toolik Lake Re 42.94 336 P **P** **13 50 58.6 -2.4**
baz=28,SNR=19
TOLK Toolik Lake Re 42.94 336 P **P** **13 51 00.0 -1.0**
TOLK IAMs_20 IAMs_20 14 10 37.8
comp=Z,4µm,19.0s
P56A Dayton Farm, R 42.97 265 P **P** **13 51 01.1 -0.4**
baz=34
O54A Avella 43.07 267 P **P** **13 51 03.0 +0.7**
baz=34
O54A S S 13 57 37.1 +9.1
baz=34
O54A Avella 43.07 267 P **P** **13 51 02.4 0.0**
O54A IAmb IAmb 13 51 09.4
comp=Z,35nm,0.9s
O54A IAMs_20 IAMs_20 14 07 16.0
comp=Z,4µm,21.0s
Q57A Strasburg 43.17 264 P **P** **13 51 02.7 -0.5**
baz=33,SNR=6.5
Q57A S S 13 57 38.0 +8.6
baz=33
AGMN Agassiz Nation 43.19 287 P **P** **13 51 03.1 -0.1**
baz=38

AGMN			S	S	13 57 36.2	+6.8
	baz=38						
AGMN	Agassiz Nation	43.19 287	P	P	13 51 00.5	-2.7
G40A	Rib Lake	43.20 280	P	P	13 51 01.2	-2.1
G40A			IAmb	IAmb	13 51 09.6	
	comp=Z,34nm,0.9s					
G40A			IAMs_20	IAMs_20	14 07 53.7	
	comp=Z,5μm,20.0s					
BRVK	Borovoye	43.22 62	P	P	13 51 04.5	+1.1
BRVK	Borovoye	43.22 62	*de*P	P	13 51 02.3	-1.1
BRVK			pmax	pmax		
	comp=Z,121nm,1.7s					
BRVK	Borovoye	43.22 62	P	P	13 51 00.7	-2.7
BRVK			IAmb	IAmb	13 51 07.6	
	comp=Z,78nm,1.3s					
M50A	Fremont	43.23 270	P	P	13 51 03.6	+0.1
M50A			IAMs_20	IAMs_20	14 07 38.9	
	comp=Z,5μm,18.0s					
MCWV	Mont Chateau	43.28 266	S	S	13 57 39.1	+8.2
	baz=34					
N51A	Ashland	43.33 269	P	P	13 51 04.3	-0.1
	baz=35					
N51A	Ashland	43.33 269	P	P	13 51 05.0	+0.6
N51A			IAMs_20	IAMs_20	14 07 31.8	
	comp=Z,5μm,19.0s					
O53A	New Philadelph	43.38 268	P	P	13 51 04.3	-0.5
	baz=34					
O53A	New Philadelph	43.38 268	P	P	13 51 04.7	-0.1
O53A			IAmb	IAmb	13 51 12.7	
	comp=Z,62nm,1.2s					
O53A			IAMs_20	IAMs_20	14 07 24.1	
	comp=Z,4μm,21.0s					
L48A	N Adams	43.39 272	P	P	13 51 04.4	-0.5
L48A			IAmb	IAmb	13 51 11.5	
	comp=Z,58nm,0.9s					
P55A	Reedsville	43.39 266	P	P	13 51 04.3	-0.6
	baz=34					
P55A			S	S	13 57 42.0	+9.4
	baz=34					
CBN	Corbin Frederi	43.42 263	IAMs_20	IAMs_20	14 07 27.3	
	comp=Z,3μm,18.0s					
MARD	Mardin	43.47 100	P	P	13 51 03.6	-2.1
Q56A	Snyder Ridge,	43.50 265	P	P	13 51 05.1	-0.8
	baz=34					
Q56A			S	S	13 57 42.7	+8.5
	baz=34					
Q56A	Snyder Ridge,	43.50 265	IAMs_20	IAMs_20	14 07 06.4	
	comp=Z,3μm,21.0s					
P54A	Burton	43.60 267	P	P	13 51 06.5	-0.1
	baz=34					
P54A			S	S	13 57 45.5	+10
	baz=34					
GEVA	Gevas	43.61 97	P	P	13 51 05.6	-1.3
R58A	Rapidan	43.61 263	P	P	13 51 06.2	-0.5
	baz=33					
R58A			S	S	13 57 44.0	+8.2
	baz=33					
O52A	Adamsville	43.76 268	P	P	13 51 06.5	-1.4
	baz=34,SNR=6.0					
O52A			S	S	13 57 46.3	+8.3
	baz=34					
O52A	Adamsville	43.76 268	P	P	13 51 06.7	-1.1
O52A			IAmb	IAmb	13 51 15.0	
	comp=Z,63nm,1.0s					
O52A			IAMs_20	IAMs_20	14 07 46.1	
	comp=Z,4μm,20.0s					
R57A	Stanardsville	43.84 264	P	P	13 51 09.5	+1.0
	baz=33					
R57A			S	S	13 57 48.6	+9.4
	baz=33					
R58B	Mineral	43.84 263	IAMs_20	IAMs_20	14 07 11.4	
	comp=Z,3μm,20.0s					
Q55A	Buckhannon	43.93 266	P	P	13 51 09.2	-0.1
	baz=34					
Q55A			S	S	13 57 49.1	+8.6
	baz=34					
FYU	Fort Yukon	43.96 333	P	P	13 51 08.2	-0.9
T60A	Surry	44.04 261	P	P	13 51 09.5	-0.6
T60A			IAmb	IAmb	13 51 30.4	
	comp=Z,16nm,0.5s					
O51A	Pataskala	44.07 269	P	P	13 51 09.7	-0.6
	baz=34,SNR=6.5					
O51A			S	S	13 57 50.4	+7.9
	baz=34					
P53A	Whipple	44.09 267	P	P	13 51 10.5	0.0
	baz=34,SNR=6.4					
P53A	Whipple	44.09 267	P	P	13 51 10.3	-0.2
P53A			IAMs_20	IAMs_20	14 07 57.8	
	comp=Z,4μm,21.0s					
N49A	Columbus Grove	44.12 271	P	P	13 51 10.1	-0.7
N49A			IAMs_20	IAMs_20	14 08 06.4	
	comp=Z,3μm,18.0s					
R56A	Bull Pasture M	44.12 265	P	P	13 51 10.7	-0.2
	baz=33,SNR=5.7					
R56A			S	S	13 57 53.6	+10
	baz=33					
F36A	Milaca	44.14 283	P	P	13 51 09.9	-0.9
F36A			IAmb	IAmb	13 51 17.2	
	comp=Z,31nm,1.1s					
F36A			IAMs_20	IAMs_20	14 08 18.4	
	comp=Z,4μm,19.0s					
L46A	Eue Claire	44.14 274	IAMs_20	IAMs_20	14 08 33.9	
	comp=Z,3μm,18.0s					
ACSO	Alum Creek Sta	44.16 269	P	P	13 51 11.0	-0.1
	baz=34					
ACSO	Alum Creek Sta	44.16 269	IAMs_20	IAMs_20	14 07 56.7	
	comp=Z,5μm,19.0s					
S58A	Poland Farm, P	44.21 263	S	S	13 57 53.2	+8.7
	baz=33					
S58A	Poland Farm, P	44.21 263	IAMs_20	IAMs_20	14 08 00.1	
	comp=Z,3μm,18.0s					
Q54A	Coxs Mills	44.26 266	P	P	13 51 12.6	+0.7
	baz=34					
Q54A			S	S	13 57 53.9	+8.6
	baz=34					
Q54A	Coxs Mills	44.26 266	P	P	13 51 11.1	-0.9
Q54A			IAmb	IAmb	13 51 19.2	
	comp=Z,41nm,1.2s					
Q54A			IAMs_20	IAMs_20	14 07 41.5	
	comp=Z,4μm,21.0s					
P52A	Corning	44.29 268	P	P	13 51 11.9	-0.2
	baz=34,SNR=5.4					
P52A	Corning	44.29 268	P	P	13 51 11.1	-1.0
P52A			IAMs_20	IAMs_20	14 08 02.0	
	comp=Z,4μm,20.0s					
COLD	Coldfoot	44.31 336	P	P	13 51 09.4	-2.6
	baz=27,SNR=11					
COLD	Coldfoot	44.31 336	P	P	13 51 11.3	-0.6
COLD			IAmb	IAmb	13 51 15.7	
	comp=Z,37nm,1.2s					
COLD			IAMs_20	IAMs_20	14 11 45.0	
	comp=Z,4μm,20.0s					
TAM	Tamanrasset	44.33 149	P	P	13 51 11.2	-1.6
TAM			pmax	pmax		
	comp=Z,31nm,1.4s					
TAM			MLR	MLR		
	comp=Z,3μm,20.0s					
TAM	Tamanrasset	44.33 149	P	P	13 51 11.2	-1.6
TAM			IAMs_20	IAMs_20	14 09 28.9	
	comp=Z,3μm,20.0s					
SPMN	Marine on St.	44.34 282	P	P	13 51 12.7	+0.3
SPMN			IAmb	IAmb	13 51 17.6	
	comp=Z,41nm,1.3s					
SPMN			IAMs_20	IAMs_20	14 07 57.8	
	comp=Z,3μm,21.0s					
K43A	Burlington	44.46 276	P	P	13 51 13.5	+0.1
S57A	Dark Hollow, R	44.47 264	P	P	13 51 14.8	+1.2
	baz=33					
S57A	Dark Hollow, R	44.47 264	IAMs_20	IAMs_20	14 07 43.1	
	comp=Z,5μm,20.0s					
I40A	Norwalk	44.48 279	P	P	13 51 13.4	-0.2
I40A			IAmb	IAmb	13 51 20.5	
	comp=Z,36nm,1.1s					
T59A	Double "B" Far	44.53 262	P	P	13 51 15.5	+1.4
	baz=32					
T59A			S	S	13 57 57.3	+8.1
	baz=32					
R55A	Marlinton	44.54 265	P	P	13 51 15.3	+1.0
	baz=33					
R55A			S	S	13 57 59.0	+10
	baz=33					
R55A	Marlinton	44.54 265	IAMs_20	IAMs_20	14 07 39.8	
	comp=Z,4μm,22.0s					
EGAK	Eagle	44.66 330	P	P	13 51 14.0	-0.8
EGAK			IAMs_20	IAMs_20	14 11 04.7	
	comp=Z,4μm,19.0s					
Q53A	Leroy	44.67 267	P	P	13 51 13.9	-1.2
	baz=34,SNR=6.3					
Q53A			S	S	13 57 59.3	+8.1
	baz=34					
L44A	Lake County Fo	44.70 275	P	P	13 51 14.9	-0.5
O49A	Covington	44.78 271	P	P	13 51 15.2	-0.9
O49A			IAMs_20	IAMs_20	14 08 37.1	
	comp=Z,5μm,18.0s					
U60A	Pendleton	44.79 261	S	S	13 57 59.2	+6.3
	baz=32					
N47A	Urbana	44.80 272	P	P	13 51 15.0	-1.2
N47A			IAmb	IAmb	13 51 22.6	
	comp=Z,33nm,1.0s					
P51A	Williamsport	44.81 269	P	P	13 51 16.3	0.0
	baz=34,SNR=5.4					
P51A	Williamsport	44.81 269	P	P	13 51 15.9	-0.4
P51A			IAMs_20	IAMs_20	14 08 28.0	
	comp=Z,4μm,19.0s					
Q52A	Bidwell	44.90 268	P	P	13 51 17.7	+0.7
	baz=34					
HQIL	Hanson Quary C	44.99 275	IAMs_20	IAMs_20	14 09 10.3	
	comp=Z,4μm,19.0s					
R54A	Victor	45.00 266	P	P	13 51 16.4	-1.4
	baz=33,SNR=5.4					
V62A	Hyde County Ai	45.05 259	IAMs_20	IAMs_20	14 08 11.4	
	comp=Z,4μm,20.0s					
S55A	Lewisburg	45.13 265	P	P	13 51 19.2	+0.3
	baz=33					
S55A			S	S	13 58 09.3	+11
	baz=33					
T57A	Hurt	45.24 263	P	P	13 51 20.0	+0.3
T57A			IAmb	IAmb	13 51 28.2	
	comp=Z,50nm,1.4s					
T57A			IAMs_20	IAMs_20	14 08 33.5	
	comp=Z,4μm,18.0s					
R53A	Hurricane	45.29 267	P	P	13 51 20.4	+0.3
R53A			IAMs_20	IAMs_20	14 08 34.7	
	comp=Z,5μm,21.0s					
Q51A	Peebles	45.32 269	P	P	13 51 19.8	-0.5
Q51A			IAMs_20	IAMs_20	14 08 44.3	
	comp=Z,4μm,19.0s					
F33A	5 Mile Ranch,	45.32 285	P	P	13 51 19.9	-0.3
F33A			IAmb	IAmb	13 51 26.9	
	comp=Z,46nm,1.1s					
F33A			IAMs_20	IAMs_20	14 09 16.5	
	comp=Z,5μm,20.0s					
M44A	Midewin, Midew	45.40 275	P	P	13 51 20.6	-0.4
M44A			IAMs_20	IAMs_20	14 09 22.3	
	comp=Z,3μm,19.0s					
S54A	Dingess, Beckl	45.46 266	P	P	13 51 21.4	-0.1
	baz=33					
S54A			S	S	13 58 11.8	+9.1
	baz=33					
S54A	Dingess, Beckl	45.46 266	P	P	13 51 21.6	+0.1
S54A			IAmb	IAmb	13 51 28.4	
	comp=Z,30nm,1.0s					
S54A			IAMs_20	IAMs_20	14 08 20.1	
	comp=Z,3μm,20.0s					
P49A	Miami Univ. Ec	45.49 270	P	P	13 51 21.9	+0.2
	baz=34					
P49A	Miami Univ. Ec	45.49 270	P	P	13 51 21.9	+0.2
BLA	Blacksburg	45.56 265	IAMs_20	IAMs_20	14 08 30.0	
	comp=Z,5μm,20.0s					
I37A	Lemond, Waseca	45.57 281	P	P	13 51 22.3	+0.1
I37A			IAmb	IAmb	13 51 33.9	
	comp=Z,56nm,1.5s					
I37A			IAMs_20	IAMs_20	14 08 57.3	
	comp=Z,5μm,20.0s					
L42A	Oliver, Polo	45.60 277	P	P	13 51 22.5	0.0
U57A	Blanch	45.75 263	P	P	13 51 23.5	-0.3
	baz=32					
T55A	Pulaski	45.80 265	P	P	13 51 23.4	-0.8
	baz=32					
SFIN	Lafayette	45.82 273	P	P	13 51 24.3	0.0
	baz=34,SNR=5.5					
SFIN	Lafayette	45.82 273	P	P	13 51 24.4	+0.1
SFIN			IAMs_20	IAMs_20	14 09 36.5	
	comp=Z,3μm,19.0s					
P48A	Milroy	45.86 271	P	P	13 51 24.1	-0.5
P48A			IAMs_20	IAMs_20	14 08 51.5	
	comp=Z,3μm,21.0s					
ILAR	Eielson Array	45.87 333	P	P	13 51 23.4	-1.0
	comp=Z,23nm,1.1s,baz=27,slow=6.1,SNR=14					
ILAR			PcP	PcP	13 53 02.0	+0.7
	comp=Z,11nm,1.0s,baz=17,slow=2.0,SNR=9.7					
ILAR			LR	LR	14 13 01.0	
	comp=Z,3μm,18.8s,baz=32,slow=39					
MDM	Murphy Dome	45.97 333	IAMs_20	IAMs_20	14 12 19.0	
	comp=Z,3μm,20.0s					
CCB	Clear Creek Bu	46.16 333	IAMs_20	IAMs_20	14 11 59.2	
	comp=Z,3μm,20.0s					
T54A	Tazewell	46.19 266	P	P	13 51 26.6	-0.7
	baz=32,SNR=6.5					
V58A	Windy Hill, Pi	46.20 262	P	P	13 51 28.0	+0.7
	baz=32					
V58A	Windy Hill, Pi	46.20 262	P	P	13 51 28.1	+0.9
V58A			IAmb	IAmb	13 51 31.9	
	comp=Z,32nm,1.4s					
HDA	Harding Lake	46.20 332	IAMs_20	IAMs_20	14 12 59.3	
	comp=Z,3μm,19.0s					
L40A	Anamosa	46.22 278	P	P	13 51 27.8	+0.4
L40A			IAmb	IAmb	13 51 33.9	
	comp=Z,26nm,0.9s					
U56A	King	46.28 264	P	P	13 51 28.5	+0.6
	baz=32					
U56A	King	46.28 264	P	P	13 51 28.9	+1.0
U56A			IAmb	IAmb	13 51 35.8	
	comp=Z,38nm,1.1s					
U56A			IAMs_20	IAMs_20	14 08 58.9	
	comp=Z,5μm,19.0s					
DOT	Dot Lake	46.28 330	IAMs_20	IAMs_20	14 11 44.4	
	comp=Z,4μm,19.0s					
R50A	Paris	46.36 269	P	P	13 51 28.9	+0.4
R50A			IAmb	IAmb	13 51 35.2	
	comp=Z,33nm,0.9s					
R50A			IAMs_20	IAMs_20	14 09 16.9	
	comp=Z,4μm,19.0s					
WRH	Wood River Hil	46.38 333	IAMs_20	IAMs_20	14 12 05.8	
	comp=Z,3μm,20.0s					
V57A	Coltrane Farms	46.40 263	P	P	13 51 29.4	+0.4
	baz=32					
K38A	Parkersburg	46.41 280	P	P	13 51 28.9	0.0
U55A	TA2, Sparta	46.43 265	P	P	13 51 29.0	-0.2
	baz=32,SNR=5.7					
U55A			S	S	13 58 24.8	+8.0
	baz=32					
DGMT	Dagmar	46.44 294	P	P	13 51 29.3	+0.2
DGMT			IAmb	IAmb	13 51 37.8	
	comp=Z,45nm,1.2s					
P46A	Rosedale	46.50 273	IAMs_20	IAMs_20	14 09 49.4	
	comp=Z,3μm,19.0s					
BRZS	Berezniki	46.57 63⇑	*i*P	P	13 51 30.3	+0.2
	comp=Z,275nm,2.3s,baz=63					
BRZS			*i* PP	PP	13 53 19.4	+0.2
	baz=63					
BRZS			LR	LR	14 09 42.9	
	comp=Z,571nm,14.3s,baz=63					
BRZS	Berezniki	46.57 63*c*	*i*P	P	13 51 30.3	+0.2
BRZS			*i*		13 53 19.3	
BRZS			pmax	pmax		
	comp=Z,275nm,2.3s					
BRZS			MLR	MLR		
	comp=Z,571nm,14.0s					
S51A	Beattyville	46.58 268	P	P	13 51 29.9	-0.4
S51A			IAMs_20	IAMs_20	14 09 25.7	
	comp=Z,4μm,21.0s					
O44A	Mansfield	46.60 274	P	P	13 51 30.5	+0.1
O44A			IAMs_20	IAMs_20	14 10 09.1	
	comp=Z,3μm,18.0s					
HDIL	Hopedale	46.63 275	P	P	13 51 30.1	-0.5
HDIL			IAMs_20	IAMs_20	14 10 10.7	
	comp=Z,4μm,19.0s					
T53A	Wise	46.67 266	P	P	13 51 31.3	+0.2
	baz=32					
T53A			S	S	13 58 29.1	+8.9
	baz=32					
WHY	Whitehorse	46.68 323	P	P	13 51 30.6	-0.4
WHY			IAmb	IAmb	13 51 45.0	
	comp=Z,31nm,1.4s					
WHY			IAMs_20	IAMs_20	14 11 14.4	
	comp=Z,4μm,20.0s					
R49A	Shelbyville	46.72 270	P	P	13 51 31.4	0.0
R49A			IAmb	IAmb	13 51 38.6	
	comp=Z,50nm,1.4s					
R49A			IAMs_20	IAMs_20	14 09 36.3	
	comp=Z,5μm,19.0s					
U54A	Nelsons Funny	46.75 265	P	P	13 51 31.4	-0.3
	baz=32					
U54A			S	S	13 58 29.5	+8.1
	baz=32					
U54A	Nelsons Funny	46.75 265	P	P	13 51 32.0	+0.2
U54A			IAmb	IAmb	13 51 38.5	
	comp=Z,36nm,1.1s					
U54A			IAMs_20	IAMs_20	14 09 08.4	
	comp=Z,5μm,22.0s					
V56A	Mocksville	46.78 264	P	P	13 51 31.5	-0.3
	baz=32,SNR=5.7					
MENT	Mentasta	46.83 330	IAMs_20	IAMs_20	14 12 22.9	
	comp=Z,3μm,18.0s					
BWN	Browne	46.91 334	IAMs_20	IAMs_20	14 12 45.1	
	comp=Z,3μm,20.0s					
V55A	Taylorsville	47.05 264	P	P	13 51 33.5	-0.5
	baz=32,SNR=5.5					
V55A			S	S	13 58 34.0	+8.5
	baz=32					
V55A	Taylorsville	47.05 264	P	P	13 51 34.9	+0.9
V55A			IAMs_20	IAMs_20	14 09 14.4	
	comp=Z,5μm,20.0s					
W57A	Gilead	47.12 263	P	P	13 51 35.7	+1.2
W57A			IAmb	IAmb	13 51 45.5	
	comp=Z,37nm,1.3s					
ECSD	EROS Data Cent	47.15 284	S	S	13 58 34.4	+7.5
	baz=35					
ECSD	EROS Data Cent	47.15 284	P	P	13 51 35.1	+0.4
ECSD			IAmb	IAmb	13 51 41.4	
	comp=Z,24nm,1.2s					
N41A	Harden Midland	47.17 277	P	P	13 51 35.1	+0.2
N41A			IAmb	IAmb	13 51 41.3	
	comp=Z,30nm,1.1s					
N41A			IAMs_20	IAMs_20	14 10 21.1	
	comp=Z,5μm,18.0s					
SCIA	State Center	47.20 280	S	S	13 58 35.3	+7.7
	baz=35					
MCK	McKinley	47.21 333	IAMs_20	IAMs_20	14 12 30.8	
	comp=Z,3μm,20.0s					
HYT	Haines Junctio	47.21 325	P	P	13 51 35.2	+0.1
HYT			IAmb	IAmb	13 51 49.5	
	comp=Z,24nm,1.4s					
HYT			IAMs_20	IAMs_20	14 11 49.3	
	comp=Z,4μm,20.0s					
DLBC	Dease Lake	47.23 319	P	P	13 51 35.0	-0.3
DLBC			IAMs_20	IAMs_20	14 11 37.3	
	comp=Z,3μm,18.0s					
WCI	Wyandotte Cave	47.26 271	P	P	13 51 34.9	-0.7
WCI			pmax	pmax		
	comp=Z,63nm,0.9s					
WCI	Wyandotte Cave	47.26 271	P	P	13 51 35.8	+0.2
	baz=33					
WCI	Wyandotte Cave	47.26 271	P	P	13 51 34.9	-0.7
BPAW	Bear Paw Mtn.	47.27 334	P	P	13 51 35.4	0.0
Y60A	Bolivia	47.34 260	IAMs_20	IAMs_20	14 09 35.1	
	comp=Z,3μm,21.0s					
W56A	Indian Trail	47.39 263	P	P	13 51 36.9	+0.3
	baz=32					
V54A	Nebo	47.43 265	P	P	13 51 36.7	-0.3
	baz=32,SNR=5.3					
V54A			S	S	13 58 39.7	+8.7
	baz=32					
TZTN	Tazewell	47.48 267	P	P	13 51 38.4	+1.0
TZTN			IAMs_20	IAMs_20	14 09 52.6	
	comp=Z,4μm,20.0s					
P43A	Skaggs, Pawnee	47.48 275	P	P	13 51 37.4	+0.1
P43A			IAMs_20	IAMs_20	14 10 46.3	
	comp=Z,3μm,18.0s					
DHY	Denali Highway	47.48 332	IAMs_20	IAMs_20	14 12 56.1	
	comp=Z,4μm,19.0s					
RND	Reindeer	47.48 333	IAMs_20	IAMs_20	14 12 29.1	
	comp=Z,4μm,21.0s					
OLIL	Olney	47.62 273	P	P	13 51 39.0	+0.7
OLIL			IAMs_20	IAMs_20	14 10 33.0	
	comp=Z,3μm,19.0s					
T50A	Nancy	47.64 269	P	P	13 51 38.9	+0.3
T50A			IAmb	IAmb	13 51 45.3	
	comp=Z,20nm,0.9s					
T50A			IAMs_20	IAMs_20	14 09 36.7	
	comp=Z,3μm,20.0s					
KMSC	Kings Mountain	47.71 264	IAMs_20	IAMs_20	14 10 08.9	
	comp=Z,4μm,18.0s					
TRF	Thorofare Moun	47.73 334	IAMs_20	IAMs_20	14 13 11.4	
	comp=Z,4μm,20.0s					
BIRD	Birdtown, Kers	47.75 263	P	P	13 51 40.0	+0.5
BIRD			IAmb	IAmb	13 51 47.0	
	comp=Z,17nm,1.1s					
KTH	Kantishna Hill	47.75 334	IAMs_20	IAMs_20	14 13 13.2	
	comp=Z,3μm,20.0s					
BILL	Bilibino	47.76 358⇑	*e*P	P	13 51 39.4	+0.3
BILL			*e*		13 53 06.2	
BILL			*e*		13 53 33.2	
BILL			*e*PPP	PPP	13 54 20.2	
BILL			S	S	13 58 32.9	-1.9
BILL			*e*SS	SS	14 02 03.8	+1.5
BILL			pmax	pmax		
	comp=Z,92nm,3.5s					
BILL			MLR	MLR		
	comp=Z,2μm,17.0s					
BILL	Bilibino	47.76 358	P	P	13 51 36.6	-2.4
BILL			IAmb	IAmb	13 51 44.9	
	comp=Z,45nm,1.5s					
ZAA0	Zalesovo Array	47.76 51	P	P	13 51 37.4	-1.9
ZAA0			IAmb	IAmb	13 51 42.9	
	comp=Z,29nm,1.2s					
ZALV	Zalesovo Beam	47.76 51	P	P	13 51 39.0	-0.2
	comp=Z,12nm,0.9s,baz=324,slow=7.3,SNR=15					
ZALV			PP	PP	13 53 32.2	+1.7
	comp=Z,1.5nm,0.6s,baz=330,slow=8.3,SNR=2.4					
ZALV			LR	LR	14 14 28.9	
	comp=Z,1μm,18.4s,baz=320,slow=40					
ZALV	Zalesovo Beam	47.76 51	P	P	13 51 37.7	-1.5
ZALV					13 53 32.2	
ZALV	Zalesovo Beam	47.76 51	P	P	13 51 37.7	-1.5
SKAG	Skagway	47.82 322	P	P	13 51 39.6	-0.1
Q44A	Meyer Farm, Va	47.88 274	P	P	13 51 40.4	0.0
Q44A			IAMs_20	IAMs_20	14 10 49.8	
	comp=Z,3μm,18.0s					
V53A	Saluda	47.90 266	P	P	13 51 40.1	-0.6
V53A			IAmb	IAmb	13 51 47.6	
	comp=Z,33nm,1.4s					
V53A			IAMs_20	IAMs_20	14 09 55.5	
	comp=Z,5μm,21.0s					
BARN	Barnard Glacie	48.01 327	IAMs_20	IAMs_20	14 12 05.4	
	comp=Z,4μm,20.0s					
CTGM	Chitina Glacie	48.02 327	IAMs_20	IAMs_20	14 12 05.6	
	comp=Z,3μm,20.0s					
MCARA	McCarthy VSAT	48.04 328	P	P	13 51 41.6	+0.2
MCARA			IAMs_20	IAMs_20	14 12 35.2	
	comp=Z,4μm,20.0s					
V52A	Sevierville	48.09 267	P	P	13 51 42.2	+0.2
V52A			IAmb	IAmb	13 51 49.0	
	comp=Z,33nm,1.2s					
V52A			IAMs_20	IAMs_20	14 10 44.6	
	comp=Z,4μm,18.0s					
M24K	Tolsona, Glenn	48.10 330	IAMs_20	IAMs_20	14 12 53.5	
	comp=Z,2μm,18.0s					
W54A	Cherokee Point	48.12 265	P	P	13 51 42.2	-0.1
	baz=32,SNR=5.5					
W54A			S	S	13 58 49.5	+8.8
	baz=32					
N38A	Joes South For	48.13 279	P	P	13 51 42.6	+0.3
N38A			IAmb	IAmb	13 51 48.0	
	comp=Z,34nm,1.1s					
GLB	Gilahina Butte	48.17 329	IAMs_20	IAMs_20	14 12 58.5	
	comp=Z,4μm,18.0s					
PAULI	Pauline	48.19 264	P	P	13 51 41.2	-1.6
PAULI			IAMs_20	IAMs_20	14 10 25.4	
	comp=Z,4μm,18.0s					
BALM	Baldy	48.19 328	IAMs_20	IAMs_20	14 12 31.2	
	comp=Z,4μm,20.0s					
KURK	Kurchatov	48.22 58	P	P	13 51 42.7	-0.1
KURK			P	P	13 51 42.7	-0.1
KURK			S	S	13 58 44.6	+2.9
KURK			S	S	13 58 44.6	+2.9
KURK	Kurchatov	48.22 58⇑	*e*P	P	13 51 40.7	-2.1
KURK			pmax	pmax		
	comp=Z,83nm,1.7s					
KURK	Kurchatov	48.22 58	P	P	13 51 39.8	-3.0
KURK	Kurchatov	48.22 58	IAMs_20	IAMs_20	14 11 59.6	
	comp=Z,3μm,21.0s					
KURBB	Kurchatov Arra	48.26 58	P	P	13 51 38.6	-4.6
TKL	Tuckaleechee C	48.32 267	P	P	13 51 44.1	+0.2
TKL			pmax	pmax		
	comp=Z,33nm,1.2s					
TKL	Tuckaleechee C	48.32 267	P	P	13 51 44.1	+0.2
TKL			IAmb	IAmb	13 51 51.9	
	comp=Z,32nm,1.1s					

TKL IAMs_20 IAMs_20 14 10 51.7
comp=Z,4μm,18.0s
JSC Jenkinsville 48.41 263 P **P** **13 51 45.3 +0.8**
JSC pmax pmax
comp=Z,25nm,1.2s
JSC Jenkinsville 48.41 263 P **P** **13 51 45.3 +0.8**
JSC IAmb IAmb 13 51 51.7
comp=Z,25nm,1.2s
X55A Gracelyn & Ava 48.41 264 P **P** **13 51 44.3 -0.2**
baz=31,SNR=5.7
V51A Loudon 48.45 267 P **P** **13 51 44.3 -0.6**
V51A IAMs_20 IAMs_20 14 10 33.3
comp=Z,5μm,20.0s
BESE Bessie Mountai 48.45 322 P **P** **13 51 44.2 -0.4**
BESE IAmb IAmb 13 51 51.5
comp=Z,25nm,1.0s
U49A Red Boiling Sp 48.47 269 P **P** **13 51 45.4 +0.4**
U49A IAmb IAmb 13 51 51.6
comp=Z,31nm,1.0s
U49A IAMs_20 IAMs_20 14 10 40.8
comp=Z,4μm,19.0s
BCPM Bancas Point 48.50 325 IAMs_20 IAMs_20 14 12 50.3
comp=Z,3μm,19.0s
L34A Svendsen Farm, 48.50 282 IAMs_20 IAMs_20 14 10 47.9
comp=Z,3μm,20.0s
BG3 Lake Jocassee 48.52 265 P **P** **13 51 46.1 +0.7**
BG3 IAmb IAmb 13 51 52.5
comp=Z,30nm,1.2s
BG3 IAMs_20 IAMs_20 14 10 13.3
comp=Z,4μm,20.0s
PCA Pinnacle 48.52 326 IAMs_20 IAMs_20 14 13 46.0
comp=Z,3μm,19.0s
TGL Tana Glacier 48.55 328 IAMs_20 IAMs_20 14 12 52.7
comp=Z,4μm,18.0s
ISLE Juniper Island 48.58 327 P **P** **13 51 45.6 0.0**
ISLE IAmb IAmb 13 52 02.8
comp=Z,22nm,0.7s
ISLE IAMs_20 IAMs_20 14 12 43.3
comp=Z,4μm,20.0s
SCM Sheep Creek Mo 48.59 331 IAMs_20 IAMs_20 14 13 10.4
comp=Z,3μm,20.0s
PPLA Purkeypile 48.59 334 IAMs_20 IAMs_20 14 13 50.3
comp=Z,2μm,19.0s
KLU Klutina 48.59 330 IAMs_20 IAMs_20 14 12 45.6
comp=Z,3μm,21.0s
SLM Saint Louis 48.62 275 IAMs_20 IAMs_20 14 11 31.6
comp=Z,3μm,18.0s
T47A Sharon Grove 48.65 271 P **P** **13 51 45.7 -0.7**
T47A IAMs_20 IAMs_20 14 10 28.3
comp=Z,3μm,20.0s
YAH Yahtse 48.65 327 P **P** **13 51 44.8 -1.5**
YAH IAmb IAmb 13 52 00.3
comp=Z,27nm,1.2s
YAH IAMs_20 IAMs_20 14 12 36.3
comp=Z,4μm,20.0s
P40A Paris 48.66 277 P **P** **13 51 44.7 -1.8**
P40A IAmb IAmb 13 51 52.0
comp=Z,20nm,1.1s
LAO LASA Array 48.69 294 P **P** **13 51 46.2 -0.4**
baz=35
LAO LASA Array 48.69 294 P **P** **13 51 46.2 -0.4**
SML Sawmill 48.82 331 IAMs_20 IAMs_20 14 13 26.5
comp=Z,4μm,18.0s
CPCT Cooper Cave 48.82 267 IAMs_20 IAMs_20 14 10 45.2
comp=Z,4μm,20.0s
MESA MESA 48.86 327 IAMs_20 IAMs_20 14 15 16.8
comp=Z,4μm,18.0s
W52A Murphy 48.87 266 P **P** **13 51 48.1 0.0**
W52A IAmb IAmb 13 51 55.7
comp=Z,36nm,1.1s
W52A IAMs_20 IAMs_20 14 10 59.4
comp=Z,4μm,20.0s
HODGE Hodges 48.88 264 P **P** **13 51 48.4 +0.2**
HODGE IAmb IAmb 13 51 55.1
comp=Z,33nm,1.0s
HODGE IAMs_20 IAMs_20 14 10 19.8
comp=Z,3μm,19.0s
NHSC New Hope 48.95 262 P **P** **13 51 47.6 -1.0**
Y55A Saluda 48.96 264 P **P** **13 51 48.1 -0.7**
baz=31
Y55A S **S** **13 59 00.4 +7.8**
baz=31
K31A O'Neill 48.96 285 P **P** **13 51 49.0 +0.2**
EGMT Eagleton 48.97 297 P **P** **13 51 47.8 -1.0**
baz=35,SNR=15
EGMT Eagleton 48.97 297 P **P** **13 51 48.3 -0.5**
GHO Glory Hole Cre 48.97 332 IAMs_20 IAMs_20 14 13 40.6
comp=Z,3μm,19.0s
S44A Carbondale 48.99 273 P **P** **13 51 48.0 -0.9**
S44A IAMs_20 IAMs_20 14 11 25.2
comp=Z,3μm,18.0s
CLTN Cedars of Leba 49.06 269 P **P** **13 51 49.9 +0.4**
CLTN IAmb IAmb 13 51 56.3
comp=Z,50nm,1.3s
CLTN IAMs_20 IAMs_20 14 10 59.5
comp=Z,3μm,19.0s
ANM Nome 49.14 342 IAMs_20 IAMs_20 14 12 45.3
comp=Z,2μm,19.0s
KNK Knik Glacier 49.20 331 IAMs_20 IAMs_20 14 13 38.6
comp=Z,4μm,18.0s
TTA Tatalina 49.25 336 IAMs_20 IAMs_20 14 14 38.6
comp=Z,3μm,18.0s
SKT Skwentna 49.30 333 IAMs_20 IAMs_20 14 15 08.2
comp=Z,4μm,19.0s
W50A Signal Mountai 49.38 268 P **P** **13 51 50.7 -1.3**
W50A IAMs_20 IAMs_20 14 11 01.8
comp=Z,4μm,20.0s
FID Port Fidalgo 49.38 330 IAMs_20 IAMs_20 14 13 33.6
comp=Z,2μm,19.0s
GLI Glacier Island 49.40 330 IAMs_20 IAMs_20 14 15 03.8
comp=Z,2μm,20.0s
EYAK Cordova Ski Ar 49.40 329 IAMs_20 IAMs_20 14 14 08.0
comp=Z,4μm,18.0s
CCM Cathedral Cave 49.54 275 P **P** **13 51 52.8 -0.4**
CCM pmax pmax
comp=Z,8.0nm,0.8s
CCM Cathedral Cave 49.54 275 P **P** **13 51 52.8 -0.4**
CCM Cathedral Cave 49.54 275 IAMs_20 IAMs_20 14 12 00.9
comp=Z,3μm,18.0s
V48A Smith Brothers 49.57 270 P **P** **13 51 53.9 +0.4**
V48A IAmb IAmb 13 52 00.0
comp=Z,47nm,1.2s
V48A IAMs_20 IAMs_20 14 11 24.0
comp=Z,4μm,18.0s
SUA Susitna One 49.62 333 IAMs_20 IAMs_20 14 14 44.6
comp=Z,3μm,19.0s
SWET Sewanee 49.63 268 P **P** **13 51 55.0 +1.0**
SWET IAmb IAmb 13 52 00.3
comp=Z,31nm,1.1s
SWET IAMs_20 IAMs_20 14 11 20.5
comp=Z,4μm,20.0s
WVT Waverly 49.68 271 P **P** **13 51 54.8 +0.5**
WVT pmax pmax
comp=Z,20nm,1.3s
WVT Waverly 49.68 271 P **P** **13 51 54.7 +0.4**
baz=32
WVT S **S** **13 59 07.2 +4.5**
baz=32
WVT Waverly 49.68 271 P **P** **13 51 54.8 +0.5**
WVT IAMs_20 IAMs_20 14 11 20.8
comp=Z,4μm,19.0s
WALA Waterton Lakes 49.70 301 P **P** **13 51 53.6 -0.8**
HIN Hinchinbrook I 49.70 330 P **P** **13 51 54.0 -0.2**
HIN IAMs_20 IAMs_20 14 13 43.0
comp=Z,3μm,20.0s
BGNE Belgrade 49.71 283 IAMs_20 IAMs_20 14 11 21.9
comp=Z,4μm,20.0s
X51A Calhoun 49.72 267 P **P** **13 51 53.7 -0.9**
X51A IAMs_20 IAMs_20 14 11 13.9
comp=Z,4μm,21.0s
R40A Maddies Statio 49.79 276 P **P** **13 51 54.9 -0.2**
RSSD Black Hills 49.91 290 P **P** **13 51 56.3 +0.1**
RSSD pmax pmax
comp=Z,17nm,1.0s
RSSD Black Hills 49.91 290 S **S** **13 59 14.2 +8.0**
baz=34
RSSD Black Hills 49.91 290 P **P** **13 51 56.3 +0.1**
RSSD Black Hills 49.91 290 IAMs_20 IAMs_20 14 11 37.8
comp=Z,4μm,22.0s
N33A J Bar K, Exete 49.97 282 P **P** **13 51 57.0 +0.6**
N33A IAMs_20 IAMs_20 14 11 43.8
comp=Z,3μm,21.0s
Y52A Lilburn 49.97 266 P **P** **13 51 56.3 -0.2**
Y52A IAmb IAmb 13 52 03.3
comp=Z,32nm,0.9s
MBO M'Bour 50.02 179 IAMs_20 IAMs_20 14 12 05.8
comp=Z,3μm,19.0s

FPAL Fort Paine 50.06 268 P **P** **13 51 57.5 +0.2**
FPAL IAmb IAmb 13 52 03.7
comp=Z,40nm,1.2s
FPAL IAMs_20 IAMs_20 14 11 33.0
comp=Z,4μm,20.0s
PARMO Parma 50.06 273 IAMs_20 IAMs_20 14 11 58.8
comp=Z,3μm,19.0s
GOGA Godfrey 50.10 265 P **P** **13 51 58.3 +0.8**
GOGA pmax pmax
comp=Z,26nm,1.0s
GOGA Godfrey 50.10 265 P **P** **13 51 56.9 -0.5**
baz=31
GOGA S **S** **13 59 16.4 +7.9**
baz=31
GOGA Godfrey 50.10 265 P **P** **13 51 58.3 +0.8**
GOGA IAmb IAmb 13 52 04.3
comp=Z,26nm,1.0s
GOGA Godfrey 50.10 265 IAMs_20 IAMs_20 14 11 08.1
comp=Z,3μm,20.0s
GLAT Glass 50.20 272 IAMs_20 IAMs_20 14 11 47.3
comp=Z,2μm,19.0s
PBMO Poplar Bluff 50.26 273 IAMs_20 IAMs_20 14 12 14.0
comp=Z,3μm,19.0s
257A Skidaway Islan 50.28 262 IAMs_20 IAMs_20 14 11 18.0
comp=Z,2μm,20.0s
T42A Van Buren 50.34 274 P **P** **13 51 58.9 -0.3**
T42A IAMs_20 IAMs_20 14 12 24.7
comp=Z,3μm,18.0s
LNXT Lenox 50.43 272 IAMs_20 IAMs_20 14 12 03.4
comp=Z,2μm,18.0s
GEYT Alibeck 50.44 83 P **P** **13 51 58.8 -1.3**
comp=Z,3.6nm,0.8s,baz=316,slow=8.3,SNR=15
GEYT PP **PP** **13 53 57.2 +1.8**
comp=Z,12nm,1.2s,baz=309,slow=9.4,SNR=7.3
GEYT LR LR 14 15 34.1
comp=Z,2μm,18.2s,baz=350,slow=39
GEYT Alibeck 50.44 83 P **P** **13 51 58.7 -1.3**
GYA0 ALIBECK ARRAY 50.44 83 P **P** **13 51 59.5 -0.6**
GYA0B ALIBECK ARRAY 50.44 83 P **P** **13 51 59.0 -1.1**
GYA0B IAmb IAmb 13 52 09.2
comp=Z,42nm,1.4s
GYA0B IAMs_20 IAMs_20 14 15 31.3
comp=Z,2μm,18.0s
HALT Halls 50.52 272 IAMs_20 IAMs_20 14 12 05.9
comp=Z,2μm,18.0s
PEBM Pemiscott Bayo 50.58 272 IAMs_20 IAMs_20 14 12 16.1
comp=Z,2μm,18.0s
SEW Seward 50.60 331 IAMs_20 IAMs_20 14 14 40.6
comp=Z,3μm,20.0s
154A Montrose 50.63 264 IAMs_20 IAMs_20 14 11 49.1
comp=Z,2μm,18.0s
MGMO Mountain Grove 50.74 275 P **P** **13 52 01.9 -0.4**
MGMO IAMs_20 IAMs_20 14 12 39.6
comp=Z,4μm,18.0s
S39A Bolivar 50.74 277 P **P** **13 52 01.7 -0.6**
S39A IAmb IAmb 13 52 07.9
comp=Z,30nm,0.9s
S39A IAMs_20 IAMs_20 14 13 35.6
comp=Z,3μm,22.0s
PLAL Pickwick Lake 50.76 270 P **P** **13 52 01.6 -0.8**
PLAL IAmb IAmb 13 52 08.1
comp=Z,37nm,1.3s
PLAL IAMs_20 IAMs_20 14 12 02.3
comp=Z,4μm,19.0s
X48A Hartselle 50.76 269 P **P** **13 52 01.1 -1.4**
X48A IAmb IAmb 13 52 08.3
comp=Z,39nm,1.0s
X48A IAMs_20 IAMs_20 14 11 55.4
comp=Z,3μm,20.0s
KOWA Kowa 50.77 163 P **P** **13 52 01.1 -1.5**
KOWA IAmb IAmb 13 52 10.7
comp=Z,24nm,0.9s
GCMT Greycliff 50.78 296 P **P** **13 52 02.5 -0.2**
HRY Holter Researc 50.86 298 P **P** **13 52 02.6 -0.6**
Z51A Franklin 50.92 266 P **P** **13 52 03.9 +0.2**
Z51A IAmb IAmb 13 52 10.3
comp=Z,40nm,1.2s
JTMT Jette 50.92 300 P **P** **13 52 03.6 -0.1**
255A Hazlehurst 50.95 263 P **P** **13 52 04.3 +0.5**
KSU1 Kansas State U 50.97 280 P **P** **13 52 03.2 -0.9**
baz=33
KSU1 Kansas State U 50.97 280 P **P** **13 52 03.7 -0.4**
KSU1 IAmb IAmb 13 52 09.6
comp=Z,44nm,1.0s
Y49A Blount Mountai 50.99 268 P **P** **13 52 04.6 +0.3**
Y49A IAmb IAmb 13 52 10.6
comp=Z,46nm,1.2s
Y49A IAMs_20 IAMs_20 14 12 01.6
comp=Z,4μm,20.0s
W45A Hickory Valley 51.09 271 IAMs_20 IAMs_20 14 12 13.3
comp=Z,3μm,19.0s
BTLS Baital 51.15 66⇑ *iP* **P** **13 52 06.1 +0.8**
comp=Z,118nm,2.5s,baz=66
BTLS LR LR 14 12 39.6
comp=Z,434nm,15.0s,baz=66
BTLS Baital 51.15 66 *c iP* **P** **13 52 06.0 +0.8**
BTLS pmax pmax
comp=Z,118nm,2.5s
BTLS MLR MLR
comp=Z,435nm,15.0s
LCAR Lake Charles 51.17 274 P **P** **13 52 05.9 +0.4**
LCAR IAMs_20 IAMs_20 14 12 42.1
comp=Z,3μm,19.0s
RLMT Red Lodge 51.18 295 P **P** **13 52 04.1 -1.7**
baz=34,SNR=9.1
RLMT S S 13 59 33.1 +9.4
baz=34
RLMT Red Lodge 51.18 295 P **P** **13 52 06.1 +0.3**
RLMT IAmb IAmb 13 52 09.9
comp=Z,46nm,1.4s
LPAR Lepanto 51.20 273 IAMs_20 IAMs_20 14 12 43.8
comp=Z,3μm,18.0s
BRLK Bradley Lake 51.21 332 IAMs_20 IAMs_20 14 15 03.0
comp=Z,3μm,19.0s
152A Waverly Hall 51.27 265 IAMs_20 IAMs_20 14 11 48.2
comp=Z,4μm,20.0s
KK31 Karatay Array 51.34 70 *i* P **P** **13 52 05.6 -1.2**
KK31 Karatay Array 51.34 70 P **P** **13 52 05.0 -1.7**
KKAR Karatay Array 51.34 70 P **P** **13 52 05.0 -1.8**
KKAR pmax pmax
comp=Z,95nm,1.5s
KKAR Karatay Array 51.34 70 P **P** **13 52 05.0 -1.8**
HBAR Harrisburg 51.39 273 IAMs_20 IAMs_20 14 12 48.9
comp=Z,2μm,18.0s
MET Memphis--Engin 51.45 272 IAMs_20 IAMs_20 14 12 34.3
comp=Z,2μm,18.0s
YAK Yakutsk 51.46 19 *eP* **P** **13 52 05.9 -1.4**
YAK pmax pmax
comp=Z,43nm,1.5s
CNPM China Poot 51.50 332 IAMs_20 IAMs_20 14 15 13.3
comp=Z,2μm,19.0s
NEW Newport 51.54 303 P **P** **13 52 07.0 -1.2**
NEW pmax pmax
comp=Z,10.0nm,1.2s
NEW MLR MLR
comp=Z,6μm,18.0s
NEW Newport 51.54 303 P **P** **13 52 06.8 -1.4**
baz=33
NEW Newport 51.54 303 P **P** **13 52 07.0 -1.2**
MSO Missoula 51.56 299 P **P** **13 52 07.0 -1.5**
baz=33,SNR=6.0
YNE Yellowstone No 51.57 295 P **P** **13 52 07.2 -1.5**
U40A Yellville 51.66 275 P **P** **13 52 08.0 -1.3**
baz=32
U40A S **S** **13 59 35.3 +5.0**
baz=32
U40A Yellville 51.66 275 P **P** **13 52 08.4 -0.9**
U40A IAmb IAmb 13 52 15.1
comp=Z,33nm,1.1s
U40A IAMs_20 IAMs_20 14 13 18.0
comp=Z,4μm,18.0s
BOZ Bozeman (W) 51.71 297 P **P** **13 52 08.6 -1.0**
BOZ pmax pmax
comp=Z,52nm,1.1s
BOZ MLR MLR
comp=Z,12μm,19.0s
BOZ Bozeman (W) 51.71 297 P **P** **13 52 08.6 -1.0**
baz=33,SNR=44
BOZ Bozeman (W) 51.71 297 P **P** **13 52 08.6 -1.0**
FCAR Ozark Folk Cen 51.74 274 P **P** **13 52 10.1 +0.2**
FCAR IAMs_20 IAMs_20 14 13 10.2
comp=Z,2μm,19.0s
456A Hilliard 51.79 262 IAMs_20 IAMs_20 14 12 12.9
comp=Z,2μm,20.0s
LRM Limekiln Ridge 51.84 298 P **P** **13 52 09.7 -1.0**
TIGA Tifton 51.84 264 IAMs_20 IAMs_20 14 12 36.3
comp=Z,2μm,19.0s

YMP Mirror Lake Pl 51.85 295 P **P** **13 52 09.2 -1.7**
DZA Taraz 51.85 69 *eP* **P** **13 52 11.6 +1.0**
comp=Z,49nm,1.3s,baz=69
DZA LR LR 14 13 31.5
comp=Z,622nm,14.8s,baz=69
DZA Taraz 51.85 69 *eP* **P** **13 52 11.5 +1.0**
DZA pmax pmax
comp=Z,49nm,1.3s
DZA MLR MLR
comp=Z,622nm,15.0s
IUG Iuzhnay 51.94 71⇑ *iP* **P** **13 52 12.6 +1.2**
comp=Z,161nm,2.0s,baz=71
IUG LR LR 14 13 31.5
comp=Z,523nm,16.6s,baz=71
IUG Iuzhnay 51.94 71 *c iP* **P** **13 52 12.5 +1.2**
IUG pmax pmax
comp=Z,161nm,2.0s
IUG MLR MLR
comp=Z,523nm,17.0s
LRAL Lakeview Retre 51.95 268 P **P** **13 52 11.1 -0.3**
baz=31,SNR=5.8
LRAL S **S** **13 59 39.9 +5.8**
baz=31
LRAL Lakeview Retre 51.95 268 P **P** **13 52 11.1 -0.3**
LRAL IAmb IAmb 13 52 17.2
comp=Z,37nm,1.2s
LRAL IAMs_20 IAMs_20 14 12 40.9
comp=Z,3μm,19.0s
BBB Bella Bella 51.97 313 IAMs_20 IAMs_20 14 14 31.9
comp=Z,3μm,18.0s
YHH Holmes Hill 52.08 296 P **P** **13 52 12.9 +0.3**
K22A Casper 52.14 291 P **P** **13 52 11.3 -1.6**
baz=33,SNR=8.7
K22A Casper 52.14 291 P **P** **13 52 12.1 -0.9**
K22A IAmb IAmb 13 52 19.0
comp=Z,27nm,0.9s
K22A IAMs_20 IAMs_20 14 13 42.8
comp=Z,4μm,20.0s
YHL Hebgen Lake 52.16 296 P **P** **13 52 11.7 -1.4**
HHAR Hobbs 52.20 276 P **P** **13 52 12.4 -0.8**
HHAR IAMs_20 IAMs_20 14 13 34.1
comp=Z,4μm,18.0s
DGZ Jazzator, Alta 52.20 53‖ *eP* **P** **13 52 13.0 -0.2**
DGZ pmax pmax
comp=Z,91nm,1.9s
YMR Madison River 52.22 296 P **P** **13 52 12.5 -1.1**
U38A Gravette 52.26 277 P **P** **13 52 13.2 -0.5**
U38A IAMs_20 IAMs_20 14 13 00.6
comp=Z,2μm,20.0s
B08A Colville Reser 52.26 304 P **P** **13 52 13.0 -0.6**
QLMT Earthquake Lak 52.27 296 P **P** **13 52 12.9 -1.0**
Z47A Carrollton 52.27 269 IAMs_20 IAMs_20 14 12 50.4
comp=Z,4μm,19.0s
DLMT Dillon 52.27 297 P **P** **13 52 13.4 -0.5**
H17A Grant Village 52.30 295 P **P** **13 52 13.7 -0.5**
baz=33
WHAR Wooly Hollow 52.32 274 P **P** **13 52 14.2 +0.1**
WHAR IAMs_20 IAMs_20 14 13 27.5
comp=Z,3μm,19.0s
TAS Tashkent 52.33 72 IAMs_20 IAMs_20 14 14 31.6
comp=Z,2μm,20.0s
C09A Chrisman Ranch 52.35 303 P **P** **13 52 13.5 -0.7**
352A Blakely 52.39 265 IAMs_20 IAMs_20 14 12 54.6
comp=Z,2μm,18.0s
W41B Gary Mavity, V 52.40 274 P **P** **13 52 14.9 +0.2**
baz=32
W41B Gary Mavity, V 52.40 274 P **P** **13 52 13.9 -0.8**
W41B IAMs_20 IAMs_20 14 13 38.6
comp=Z,3μm,19.0s
DIB Dawson Inlet, 52.43 317 IAMs_20 IAMs_20 14 14 40.9
comp=Z,4μm,19.0s
R32A Long Quarter, 52.44 282 P **P** **13 52 14.8 -0.2**
R32A IAmb IAmb 13 52 21.8
comp=Z,51nm,1.2s
R32A IAMs_20 IAMs_20 14 13 13.1
comp=Z,4μm,20.0s
YPP Pitchstone Pla 52.49 295 P **P** **13 52 15.0 -0.7**
CBKS Cedar Bluff 52.54 283 P **P** **13 52 14.7 -1.1**
CBKS pmax pmax
comp=Z,32nm,1.0s
CBKS Cedar Bluff 52.54 283 P **P** **13 52 14.7 -1.1**
CBKS IAmb IAmb 13 52 22.6
comp=Z,32nm,1.0s
CBKS IAMs_20 IAMs_20 14 13 33.9
comp=Z,3μm,20.0s
BOD Bodaibo 52.58 30 *eP* **P** **13 52 14.6 -1.2**
BOD pmax pmax
comp=Z,32nm,1.8s
FLWY Flagg Ranch 52.61 295 P **P** **13 52 15.7 -0.7**
FLWY IAmb IAmb 13 52 23.9
comp=Z,25nm,1.0s
SEY Seymchan 52.69 6‖ *eP* **P** **13 52 16.1 -0.4**
MAKZ Makanchi 52.70 58 P **P** **13 52 15.1 -1.7**
MAKZ pmax pmax
comp=Z,75nm,1.5s
MAKZ MLR MLR
comp=Z,1μm,19.0s
MAKZ Makanchi 52.70 58 P **P** **13 52 15.1 -1.7**
SGDS Sogindy 52.70 66⇑ *iP* **P** **13 52 17.8 +0.8**
comp=Z,121nm,2.1s,baz=66
SGDS *eS* **S** **13 59 45.5 +1.1**
baz=66
SGDS Sogindy 52.70 66 *c iP* **P** **13 52 17.7 +0.8**
SGDS *eS* **S** **13 59 45.5 +1.1**
SGDS pmax pmax
comp=Z,121nm,2.1s
T35A Sooner Cattle 52.77 279 P **P** **13 52 15.4 -2.0**
T35A IAmb IAmb 13 52 23.7
comp=Z,36nm,1.2s
UALR University of 52.78 274 P **P** **13 52 16.7 -0.9**
UALR IAMs_20 IAMs_20 14 13 51.7
comp=Z,3μm,19.0s
MCMT McKenzie Canyo 52.82 297 P **P** **13 52 16.8 -1.2**
MK31 Makanchi Array 52.83 58 P **P** **13 52 15.7 -2.1**
MK31 pmax pmax
comp=Z,49nm,1.5s
MK31 Makanchi Array 52.83 58 P **P** **13 52 15.7 -2.1**
MK31 IAmb IAmb 13 52 21.5
comp=Z,49nm,1.4s
MKAR Makanchi Array 52.83 58 P **P** **13 52 16.0 -1.8**
comp=Z,5.5nm,1.1s,baz=336,slow=5.6,SNR=16
MKAR PP **PP** **13 54 20.1 +3.4**
comp=Z,2.1nm,1.0s,baz=340,slow=6.3,SNR=2.7
MKAR LR LR 14 15 19.9
comp=Z,1μm,21.0s,baz=314,slow=37
MKAR Makanchi Array 52.83 58 P **P** **13 52 16.0 -1.8**
MKAR Makanchi Array 52.83 58 P **P** **13 52 15.3 -2.5**
PHWY Pilot Hill 52.84 289 P **P** **13 52 17.0 -1.3**
PHWY IAmb IAmb 13 52 24.2
comp=Z,26nm,1.0s
IMW Indian Meadow 52.86 295 P **P** **13 52 17.3 -1.1**
TDK Taldyqorghan 52.88 62 *eP* **P** **13 52 19.1 +1.0**
comp=Z,238nm,1.6s,baz=62
TDK *eS* **S** **13 59 47.8 +1.2**
baz=62
TDK LR LR 14 13 47.4
comp=Z,2μm,17.4s,baz=62
TDK Taldyqorghan 52.88 62 *eP* **P** **13 52 19.1 +1.0**
TDK *eS* **S** **13 59 47.8 +1.2**
TDK pmax pmax
comp=Z,238nm,1.6s
B06A Marblemount 52.89 306 IAMs_20 IAMs_20 14 14 56.6
comp=Z,3μm,19.0s
TOA0 Torodi Ar. Sit 52.95 156 P **P** **13 52 16.3 -2.6**
SNR=7.5
TOA0 P **P** **13 52 16.3 -2.6**
SNR=7.5
TOA0 S **S** **13 59 51.8 +3.7**
TOA0 S **S** **13 59 51.8 +3.7**
TOA0 Torodi Ar. Sit 52.95 156 P **P** **13 52 17.1 -1.8**
TOA0 IAmb IAmb 13 52 23.1
comp=Z,25nm,1.0s
TORD Torodi Ar. Bea 52.95 156 P **P** **13 52 17.6 -1.3**
comp=Z,18nm,0.9s,baz=343,slow=7.6,SNR=25
TORD LR LR 14 14 52.2
comp=Z,1μm,19.4s,baz=335,slow=36
TORD Torodi Ar. Bea 52.95 156 P **P** **13 52 17.0 -2.0**
LOHW Long Hollow 52.97 295 P **P** **13 52 17.7 -1.4**
LOHW IAmb IAmb 13 52 23.1
comp=Z,31nm,1.3s
KUU Kurty 53.01 65⇑ *iP* **P** **13 52 19.8 +0.6**
comp=Z,312nm,2.2s,baz=65
KUU LR LR 14 13 46.5
comp=Z,3μm,17.3s,baz=65
KUU Kurty 53.01 65 *c iP* **P** **13 52 19.7 +0.6**

KUU pmax pmax
comp=Z,312nm,2.2s
KUU MLR MLR
comp=Z,3μm,17.0s
W39A Magazine 53.05 275 P **P** **13 52 18.5 -1.0**
baz=32
W39A Magazine 53.05 275 P **P** **13 52 17.9 -1.6**
W39A IAmb IAmb 13 52 25.3
comp=Z,30nm,1.3s
W39A IAMs_20 IAMs_20 14 14 01.6
comp=Z,4μm,18.0s
KAN13 South Haven SW 53.10 280 P **P** **13 52 18.4 -1.4**
FXWY Fox Creek 53.11 295 P **P** **13 52 18.4 -1.8**
SNOW Snow King Moun 53.15 295 P **P** **13 52 19.2 -1.3**
SNOW IAmb IAmb 13 52 28.3
comp=Z,30nm,1.1s
146A Union 53.18 269 IAMs_20 IAMs_20 14 12 58.5
comp=Z,4μm,21.0s
656A Willston 53.18 261 IAMs_20 IAMs_20 14 13 04.8
comp=Z,2μm,20.0s
TPAW Teton Pass 53.21 295 P **P** **13 52 19.5 -1.5**
TPAW IAmb IAmb 13 52 25.1
comp=Z,35nm,1.2s
ZSN Zaisan 53.21 56⇑ *i*P **P** **13 52 21.0 +0.4**
comp=Z,159nm,2.4s,baz=56
ZSN LR LR 14 14 45.2
comp=Z,698nm,16.3s,baz=56
ZSN Zaisan 53.21 56*c i*P **P** **13 52 20.9 +0.4**
ZSN pmax pmax
comp=Z,159nm,2.4s
ZSN MLR MLR
comp=Z,698nm,16.0s
D08A Wollman Farm, 53.21 303 P **P** **13 52 20.2 -0.4**
RWWY Rawlins 53.23 291 P **P** **13 52 19.5 -1.6**
RWWY IAmb IAmb 13 52 23.4
comp=Z,46nm,1.3s
X40A Basin Creek Fa 53.24 274 P **P** **13 52 19.9 -1.0**
baz=31
X40A Basin Creek Fa 53.24 274 P **P** **13 52 20.6 -0.4**
X40A IAMs_20 IAMs_20 14 14 14.8
comp=Z,3μm,19.0s
FRU1 Bishkek 53.24 67 IAMs_20 IAMs_20 14 14 33.8
comp=Z,3μm,21.0s
BW06 Boulder Array 53.26 293 P **P** **13 52 19.3 -2.0**
baz=32,SNR=47
BW06 Boulder Array 53.26 293 P **P** **13 52 19.0 -2.3**
BW06 IAmb IAmb 13 52 26.8
comp=Z,34nm,0.9s
CCAR Cane Creek 53.26 273 P **P** **13 52 21.7 +0.6**
CCAR IAMs_20 IAMs_20 14 13 58.5
comp=Z,3μm,18.0s
PD31 Pinedale Array 53.26 293 P **P** **13 52 19.0 -2.4**
PD31 IAmb IAmb 13 52 26.8
comp=Z,31nm,0.9s
PDAR Pinedale Array 53.26 293 P **P** **13 52 19.4 -2.0**
comp=Z,14nm,0.9s,baz=55,slow=6.4,SNR=38
PDAR LR LR 14 14 50.3
comp=Z,6μm,18.5s,baz=28,slow=36
PDAR Pinedale Array 53.26 293 P **P** **13 52 19.2 -2.2**
KAN10 Anthony SW Sta 53.27 280 P **P** **13 52 21.1 -0.1**
REDW Red Top Meadow 53.27 295 P **P** **13 52 21.4 0.0**
REDW IAmb IAmb 13 52 29.7
comp=Z,37nm,1.2s
553A Crawfordville 53.28 264 P **P** **13 52 20.8 -0.5**
TUL1 Leonard 53.31 278 P **P** **13 52 21.4 0.0**
AAK Ala-Archa 53.33 67 *i*P **P** **13 52 22.1 +0.4**
SNR=38
AAK Ala-Archa 53.33 67 P **P** **13 52 21.6 -0.1**
AAK P **P** **13 52 21.6 -0.1**
AAK S **S** **14 00 01.7 +8.5**
AAK S **S** **14 00 01.7 +8.5**
AAK Ala-Archa 53.33 67⇑ *e*P **P** **13 52 22.0 +0.3**
AAK pmax pmax
comp=Z,249nm,1.7s
N23A Red Feather La 53.38 289 P **P** **13 52 21.3 -0.9**
baz=32,SNR=27
N23A Red Feather La 53.38 289 P **P** **13 52 21.1 -1.1**
KDAK Kodiak Island 53.38 332 IAMs_20 IAMs_20 14 16 24.1
comp=Z,3μm,19.0s
E09A Wood Farm, Sta 53.39 302 P **P** **13 52 21.5 -0.4**
E09A IAMs_20 IAMs_20 14 14 35.1
comp=Z,2μm,20.0s
BCYI Bear Canyon 53.47 297 P **P** **13 52 21.2 -1.6**
451A Vernon 53.48 265 IAMs_20 IAMs_20 14 13 47.7
comp=Z,2μm,18.0s
MIAR Mount Ida 53.51 275 P **P** **13 52 21.3 -1.6**
MIAR pmax pmax
comp=Z,19nm,1.1s
MIAR Mount Ida 53.51 275 P **P** **13 52 22.7 -0.3**
baz=31
MIAR Mount Ida 53.51 275 P **P** **13 52 21.3 -1.6**
MIAR IAMs_20 IAMs_20 14 14 06.9
comp=Z,3μm,19.0s
TKM2 Tokmak 2 53.53 66 P **P** **13 52 21.0 -2.3**
CROK Carrier 53.74 280 P **P** **13 52 24.7 0.0**
AAA Alma-Ata 53.81 65 *e*P **P** **13 52 25.8 +0.7**
comp=Z,28nm,1.2s,baz=65
AAA *e*S **S** **14 00 00.5 +1.0**
baz=65
AAA LR LR 14 14 15.8
comp=Z,2μm,15.1s,baz=65
AAA Alma-Ata 53.81 65 *e*P **P** **13 52 25.7 +0.7**
AAA *e*S **S** **14 00 00.4 +1.0**
AAA pmax pmax
comp=Z,28nm,1.2s
AAA MLR MLR
comp=Z,2μm,15.0s
AHID Auburn Hatcher 53.88 295 P **P** **13 52 25.1 -0.7**
MDOK Medeo 53.90 65 *e*P **P** **13 52 26.7 +0.8**
baz=65
MDOK LR LR 14 14 15.8
comp=Z,2μm,16.9s,baz=65
MDOK Medeo 53.90 65 *e*P **P** **13 52 26.6 +0.8**
MDOK MLR MLR
comp=Z,2μm,17.0s
TNSS Tian-Shan 53.97 65 *e*P **P** **13 52 27.7 +1.0**
baz=65
TNSS Tian-Shan 53.97 65 *e*P **P** **13 52 27.6 +1.0**
E07A Sunnyside 53.97 304 P **P** **13 52 24.4 -1.8**
HAWA Hanford 54.00 303 P **P** **13 52 25.9 -0.5**
WLAR White Oak Lake 54.04 274 P **P** **13 52 26.6 -0.2**
WLAR IAmb IAmb 13 52 33.9
comp=Z,35nm,1.2s
OK029 Liberty Lake 54.12 279 P **P** **13 52 27.3 -0.1**
143A Socs Landing, 54.14 272 IAMs_20 IAMs_20 14 14 26.8
comp=Z,3μm,18.0s
ISCO Idaho Springs 54.17 288 P **P** **13 52 27.4 -0.7**
ISCO pmax pmax
comp=Z,7.0nm,1.2s
ISCO Idaho Springs 54.17 288 P **P** **13 52 28.3 +0.2**
baz=32
ISCO Idaho Springs 54.17 288 P **P** **13 52 27.4 -0.7**
VBMS Vicksburg 54.17 271 IAMs_20 IAMs_20 14 14 08.7
comp=Z,3μm,19.0s
D05A Enumclaw 54.20 305 IAMs_20 IAMs_20 14 15 39.3
comp=Z,3μm,21.0s
X37A Clayton 54.25 276 P **P** **13 52 28.1 -0.2**
Z41A Richland Creek 54.27 273 IAMs_20 IAMs_20 14 14 48.0
comp=Z,3μm,18.0s
D03D Eldon 54.29 307 P **P** **13 52 28.9 +0.4**
baz=31
W35A Tecumseh 54.41 278 P **P** **13 52 28.9 -0.7**
346A Big Creek Wild 54.43 269 P **P** **13 52 29.5 -0.1**
BMO Blue Mountains 54.49 301 P **P** **13 52 28.0 -2.1**
BMO pmax pmax
comp=Z,41nm,1.5s
BMO MLR MLR
comp=Z,10μm,18.0s
BMO Blue Mountains 54.49 301 P **P** **13 52 28.0 -2.1**
BMO IAmb IAmb 13 52 35.2
comp=Z,41nm,1.4s
HLID Hailey 54.49 298 P **P** **13 52 29.2 -1.0**
baz=32,SNR=9.9
HLID Hailey 54.49 298 P **P** **13 52 29.7 -0.5**
CHGR Chuyangaron 54.51 74 P **P** **13 52 28.3 -2.0**
SATY Saty 54.52 64⇑ *i*P **P** **13 52 31.1 +0.7**
comp=Z,103nm,2.1s,baz=64
SATY LR LR 14 14 44.3
comp=Z,597nm,14.9s,baz=64
SATY Saty 54.52 64*c i*P **P** **13 52 31.0 +0.7**
SATY pmax pmax
comp=Z,103nm,2.1s
SATY MLR MLR
comp=Z,597nm,15.0s
Q24A Divide 54.68 287 P **P** **13 52 30.7 -1.1**
baz=32
Q24A Divide 54.68 287 P **P** **13 52 29.6 -2.2**
Q24A IAmb IAmb 13 52 37.9
comp=Z,22nm,1.2s
UZB Uzynbulak 54.68 63⇑ *i*P **P** **13 52 32.4 +0.8**
comp=Z,120nm,2.2s,baz=63
UZB Uzynbulak 54.68 63*c i*P **P** **13 52 32.3 +0.8**
UZB pmax pmax
comp=Z,120nm,2.2s
NLWA Neilton Lookou 54.68 307 P **P** **13 52 29.2 -2.2**
NLWA IAmb IAmb 13 52 35.3
comp=Z,48nm,1.5s
GAR Garm 54.70 73 P **P** **13 52 29.4 -2.3**
PDGK Podgornoye 54.70 63 P **P** **13 52 31.2 -0.5**
MOY Mondy 54.80 42 *e*P **P** **13 52 32.1 -0.2**
MOY pmax pmax
comp=Z,298nm,2.2s
SHLS Shalkode 54.84 63⇑ *e*P **P** **13 52 34.8 +2.1**
comp=Z,144nm,1.9s,baz=62
SHLS LR LR 14 14 52.7
comp=Z,333nm,15.4s,baz=62
SHLS Shalkode 54.84 63*c e*P **P** **13 52 34.8 +2.1**
SHLS pmax pmax
comp=Z,144nm,1.9s
SHLS MLR MLR
comp=Z,333nm,15.0s
SII Sitkinak Islan 54.84 332 IAMs_20 IAMs_20 14 17 33.7
comp=Z,4μm,20.0s
344A Westbrook Farm 54.92 270 IAMs_20 IAMs_20 14 14 51.5
comp=Z,3μm,18.0s
O20A White River Ci 54.96 291 P **P** **13 52 32.8 -0.8**
baz=32,SNR=14
O20A White River Ci 54.96 291 P **P** **13 52 32.1 -1.5**
O20A IAmb IAmb 13 52 40.6
comp=Z,29nm,1.1s
O20A IAMs_20 IAMs_20 14 14 41.3
comp=Z,3μm,19.0s
HWUT Hardware Ranch 55.04 294 P **P** **13 52 33.9 -0.3**
MFID Camas Ranch 55.16 299 P **P** **13 52 34.1 -0.8**
HRA Herat 55.21 82 P **P** **13 52 33.8 -1.7**
HRA IAmb IAmb 13 52 42.2
comp=Z,47nm,1.4s
E03A Lebam 55.30 306 IAMs_20 IAMs_20 14 16 00.5
comp=Z,3μm,19.0s
TCUT Toone Canyon 55.39 294 P **P** **13 52 35.6 -1.3**
GRTK Grand Turk 55.41 246 IAMs_20 IAMs_20 14 12 07.2
comp=Z,3μm,20.0s
TARG Taragay, Kyrgy 55.41 65 P **P** **13 52 35.4 -1.7**
F04A Amboy 55.43 305 P **P** **13 52 35.7 -1.0**
F04A IAmb IAmb 13 52 42.2
comp=Z,25nm,0.9s
TLY Talaya 55.55 40 P **P** **13 52 36.6 -0.9**
TLY P **P** **13 52 36.6 -0.9**
TLY Talaya 55.55 40 *e*P **P** **13 52 37.5 0.0**
TLY *e* 13 54 42.1
TLY *e*S **S** **14 00 26.1 +3.6**
TLY *e* 14 02 27.9
TLY *e*SS **SS** **14 04 11.0 +4.4**
TLY pmax pmax
comp=Z,90nm,2.0s
TLY MLR MLR
comp=Z,9μm,19.0s
TLY Talaya 55.55 40 P **P** **13 52 35.7 -1.8**
TLY IAmb IAmb 13 52 41.1
comp=Z,31nm,1.4s
TLY IAMs_20 IAMs_20 14 19 16.3
comp=Z,4μm,18.0s
WMOK Wichita Mounta 55.59 279 P **P** **13 52 36.7 -1.3**
WMOK pmax pmax
comp=Z,32nm,1.2s
WMOK Wichita Mounta 55.59 279 P **P** **13 52 37.5 -0.6**
baz=31,SNR=22
WMOK S **S** **14 00 31.5 +8.1**
baz=31
WMOK Wichita Mounta 55.59 279 P **P** **13 52 36.7 -1.3**
WMOK IAmb IAmb 13 52 46.1
comp=Z,32nm,1.1s
SPUT South Promonto 55.64 295 P **P** **13 52 37.0 -1.5**
JLU Jordanelle 55.85 293 P **P** **13 52 39.3 -0.8**
SDCO Great Sand Dun 55.86 287 P **P** **13 52 39.3 -1.0**
baz=31,SNR=6.6
SDCO S **S** **14 00 35.6 +8.0**
baz=31
SDCO Great Sand Dun 55.86 287 P **P** **13 52 39.4 -0.9**
SDCO IAMs_20 IAMs_20 14 15 21.5
comp=Z,3μm,20.0s
CTU Camp Tracy 55.89 294 P **P** **13 52 39.1 -1.2**
CHGN Chignik 55.90 335 IAMs_20 IAMs_20 14 16 15.6
comp=Z,2μm,21.0s
T25A Trinidad 55.92 286 P **P** **13 52 39.9 -0.8**
baz=31,SNR=7.3
T25A Trinidad 55.92 286 P **P** **13 52 39.4 -1.3**
T25A IAmb IAmb 13 52 45.0
comp=Z,46nm,1.5s
CUPR Culebra, Puert 56.09 238 P **P** **13 52 41.3 -0.4**
CUPR IAmb IAmb 13 52 48.9
comp=Z,40nm,1.5s
Z35A Perchaven, San 56.13 277 P **P** **13 52 42.1 +0.2**
Z35A IAMs_20 IAMs_20 14 15 52.2
comp=Z,3μm,18.0s
BGU Big Grassy Mou 56.20 295 P **P** **13 52 42.5 -0.1**
J08A Circle Bar Ran 56.20 301 P **P** **13 52 41.7 -0.8**
NATX Nacogdoches 56.36 274 IAMs_20 IAMs_20 14 16 32.4
comp=Z,2μm,18.0s
MTP Monte Pirata 56.38 238 P **P** **13 52 43.9 +0.2**
S22A 4UR Ranch, Cre 56.41 288 P **P** **13 52 42.8 -1.4**
baz=31,SNR=13
S22A 4UR Ranch, Cre 56.41 288 P **P** **13 52 43.2 -1.0**
S22A IAMs_20 IAMs_20 14 16 21.9
comp=Z,3μm,19.0s
I05D Terrebonne, OR 56.42 303 P **P** **13 52 42.5 -1.4**
baz=30
H04A Detroit Lake 56.42 304 P **P** **13 52 42.1 -1.8**
H04A IAmb IAmb 13 52 49.5
comp=Z,42nm,1.5s
P17A Butcher Ranch, 56.53 292 P **P** **13 52 43.6 -1.3**
PV22 Blue Mesa, Par 56.54 290 P **P** **13 52 43.7 -1.3**
PV22 IAmb IAmb 13 52 52.1
comp=Z,19nm,1.0s
PV07 Paradox Valley 56.56 290 P **P** **13 52 44.7 -0.5**
PV07 IAmb IAmb 13 52 51.1
comp=Z,36nm,1.4s
PV07 IAMs_20 IAMs_20 14 16 53.8
comp=Z,4μm,19.0s
KSH Kashi 56.57 68 P **P** **13 52 47.0 +1.9**
KSH sP sP 13 52 51.3 +1.1
KSH S **S** **14 00 33.0 -3.6**
KSH sS sS 14 00 46.8 +4.1
KSH pmax pmax
comp=Z,74nm,1.1s
KSH pmax pmax
comp=Z,940nm,4.8s
KSH LR LR
comp=Z,960nm,12.1s
KSH LR LR
comp=Z,2μm,15.1s
KSH LR LR
comp=Z,5μm,19.4s
PV15 Paradox Valley 56.58 290 P **P** **13 52 44.2 -1.2**
PV15 IAmb IAmb 13 52 48.9
comp=Z,37nm,1.4s
PV15 IAMs_20 IAMs_20 14 17 16.3
comp=Z,3μm,21.0s
441A DeRidder 56.59 272 IAMs_20 IAMs_20 14 15 56.7
comp=Z,3μm,19.0s
PV21 Cone Mtn., Par 56.59 290 P **P** **13 52 43.6 -1.9**
PV21 IAmb IAmb 13 52 51.3
comp=Z,34nm,1.0s
ZAK Zakamensk 56.61 41 *e*P **P** **13 52 44.8 -0.4**
ZAK *e* 13 54 54.4
ZAK pmax pmax
comp=Z,33nm,1.5s
ZAK pmax pmax
comp=Z,9.0nm,2.0s
PDPR Patillas Dam, 56.62 239 P **P** **13 52 46.3 +0.8**
NLU North Lily Min 56.65 293 P **P** **13 52 45.4 -0.5**
AMTX Amarillo 56.70 282 P **P** **13 52 46.5 +0.5**
PV23 Carpenter Ridg 56.70 290 P **P** **13 52 44.5 -1.8**
PV23 IAmb IAmb 13 52 52.6
comp=Z,29nm,0.9s
PV04 Paradox Valley 56.71 290 P **P** **13 52 45.1 -1.1**
PV04 IAmb IAmb 13 52 52.2
comp=Z,24nm,0.9s
PV12 Saucer Basin, 56.73 290 P **P** **13 52 46.3 -0.2**
DUG Dugway, Tooele 56.74 294 P **P** **13 52 46.6 +0.2**
DUG pmax pmax
comp=Z,42nm,1.4s
DUG MLR MLR
comp=Z,6μm,20.0s
DUG Dugway, Tooele 56.74 294 P **P** **13 52 45.5 -0.9**
baz=31,SNR=12
DUG Dugway, Tooele 56.74 294 P **P** **13 52 46.6 +0.2**
DUG IAmb IAmb 13 52 50.6
comp=Z,42nm,1.4s
SRU San Rafael Swe 56.75 292 P **P** **13 52 45.1 -1.4**
SRU pmax pmax
comp=Z,30nm,1.0s
SRU San Rafael Swe 56.75 292 P **P** **13 52 45.1 -1.4**
PV14 Lion Creek, Pa 56.77 290 P **P** **13 52 45.3 -1.4**
PV14 IAmb IAmb 13 52 52.6
comp=Z,32nm,0.9s
PV14 IAMs_20 IAMs_20 14 16 52.4
comp=Z,3μm,18.0s
PV11 David Mesa, Pa 56.77 290 P **P** **13 52 46.5 -0.2**
PV10 Paradox Valley 56.78 290 P **P** **13 52 46.0 -0.8**
PV20 West Nyswonger 56.78 290 P **P** **13 52 46.4 -0.3**
PV20 IAmb IAmb 13 52 52.7
comp=Z,22nm,0.9s
PV20 IAMs_20 IAMs_20 14 15 37.6
comp=Z,2μm,21.0s
PV16 Nyswonger Mesa 56.78 290 P **P** **13 52 46.5 -0.3**
PV16 IAmb IAmb 13 52 50.4
comp=Z,40nm,1.2s
PV16 IAMs_20 IAMs_20 14 17 00.7
comp=Z,3μm,18.0s
PV01 Paradox Valley 56.79 290 P **P** **13 52 45.5 -1.4**
PV01 IAmb IAmb 13 52 50.7
comp=Z,41nm,1.1s
PV01 IAMs_20 IAMs_20 14 17 02.0
comp=Z,3μm,18.0s
PV02 Paradox Valley 56.80 290 P **P** **13 52 45.0 -1.9**
PV03 Paradox Valley 56.80 290 P **P** **13 52 45.1 -1.8**
PV03 IAmb IAmb 13 52 53.0
comp=Z,38nm,1.1s
PV03 IAMs_20 IAMs_20 14 17 03.2
comp=Z,4μm,20.0s
PV19 Morning Glory 56.81 290 P **P** **13 52 45.9 -1.1**
PV19 IAmb IAmb 13 52 53.0
comp=Z,28nm,1.1s
PV19 IAMs_20 IAMs_20 14 16 53.4
comp=Z,2μm,19.0s
PV17 East Wray Mesa 56.83 290 P **P** **13 52 45.8 -1.3**
PV17 IAmb IAmb 13 52 53.1
comp=Z,40nm,1.1s
PV18 Skein Mesa, Pa 56.84 290 P **P** **13 52 45.4 -1.8**
PV18 IAMs_20 IAMs_20 14 17 03.1
comp=Z,4μm,20.0s
TMUT Trail Mountain 56.87 292 P **P** **13 52 46.1 -1.4**
PV13 Radium Mtn., P 56.87 290 P **P** **13 52 45.7 -1.8**
PV13 IAMs_20 IAMs_20 14 17 35.1
comp=Z,3μm,18.0s
PV05 Paradox Valley 57.06 290 P **P** **13 52 45.8 -3.0**
SC01 Santiago de lo 57.13 244 IAMs_20 IAMs_20 14 12 48.0
comp=Z,3μm,21.0s
Q16A Castle Valley 57.18 292 P **P** **13 52 48.7 -0.8**
ELK Elko 57.22 296 P **P** **13 52 49.0 -0.9**
ELK pmax pmax
comp=Z,30nm,1.4s
ELK MLR MLR
comp=Z,11μm,18.0s
ELK Elko 57.22 296 P **P** **13 52 49.0 -0.9**
ELK IAmb IAmb 13 52 54.3
comp=Z,30nm,1.4s
I04A Tendick Farm, 57.27 304 P **P** **13 52 48.2 -1.8**
baz=30
J05D Fort Rock, OR 57.29 303 P **P** **13 52 48.8 -1.4**
baz=30,SNR=17
WMQ Urumqi 57.34 56 *e*P **P** **13 52 50.8 +0.3**
WMQ pP sP 13 52 54.8 -0.7
WMQ PcP **PcP** **13 53 45.8 +1.4**
WMQ PP **PP** **13 54 59.0 +1.7**
WMQ S **S** **14 00 44.5 -2.1**
WMQ SS **SS** **14 04 34.8 -0.3**
WMQ pmax pmax
comp=Z,29nm,1.3s
WMQ pmax pmax
comp=Z,330nm,4.7s
WMQ LR LR
comp=Z,760nm,15.1s
WMQ LR LR
comp=Z,1μm,19.1s
WMQ LR LR
comp=Z,770nm,21.1s
WMQ Urumqi 57.34 56 IAMs_20 IAMs_20 14 17 58.2
comp=Z,2μm,20.0s
WHTX Lake Whitney, 57.37 276 IAMs_20 IAMs_20 14 16 41.0
comp=Z,3μm,18.0s
CNBA Chernabura Isl 57.52 335 IAMs_20 IAMs_20 14 18 12.1
comp=Z,3μm,21.0s
MVCO Mesa Verde 57.55 289 P **P** **13 52 51.5 -0.8**
baz=31,SNR=6.6
MVCO Mesa Verde 57.55 289 P **P** **13 52 52.4 +0.1**
MVCO IAmb IAmb 13 52 56.5
comp=Z,42nm,1.5s
J04D Umpqua Nationa 57.65 303 P **P** **13 52 51.9 -0.8**
baz=30
K05A Summer Lake 57.65 302 P **P** **13 52 52.7 -0.1**
I03D Drain, OR 57.70 304 P **P** **13 52 52.2 -0.6**
baz=29
SDDR Presa de Saban 57.75 245 P **P** **13 52 53.1 -0.4**
SDDR IAmb IAmb 13 53 00.4
comp=Z,36nm,1.1s
SDDR IAMs_20 IAMs_20 14 12 57.4
comp=Z,4μm,21.0s
ABTX Abilene, Hawle 57.76 279 P **P** **13 52 53.0 -0.6**
baz=30
ABTX Abilene, Hawle 57.76 279 P **P** **13 52 53.4 -0.2**
FDF Fort de France 57.92 232 P **P** **13 52 53.9 -0.9**
FDF Fort de France 57.92 232 P **P** **13 52 53.9 -0.9**
MSU Marysvale 57.93 293 P **P** **13 52 53.2 -1.7**
MSU Marysvale 57.93 293 P **P** **13 52 53.2 -1.7**
KBL Kabul 57.97 76 P **P** **13 52 56.1 +0.9**
SNR=12
KBL P **P** **13 52 56.1 +0.9**
SNR=12
KBL S S 14 01 12.2 +17
KBL S S 14 01 12.2 +17
KBL Kabul 57.97 76 IAMs_20 IAMs_20 14 18 17.4
comp=Z,2μm,20.0s
MOD Modoc Plateau 58.14 301 P **P** **13 52 55.7 -0.5**
FALS False Pass 58.16 338 IAMs_20 IAMs_20 14 19 27.0
comp=Z,3μm,21.0s
DBIC Dimbokro 58.39 165 P **P** **13 52 57.7 -0.3**
comp=Z,20nm,0.9s,baz=330,slow=7.6,SNR=8.1
DBIC LR LR 14 18 45.6
comp=Z,2μm,18.9s,baz=344,slow=37
DBIC Dimbokro 58.39 165 P **P** **13 52 56.8 -1.1**
DBIC IAmb IAmb 13 53 01.9
comp=Z,24nm,0.9s
TIC Toumodi 58.40 165 *e*P **P** **13 53 00.9 +2.8**
GTBY Guantanamo Bay 58.42 249 P **P** **13 52 58.5 +0.3**
GTBY IAMs_20 IAMs_20 14 13 32.1
comp=Z,2μm,21.0s
HKT Hockley 58.43 274 IAMs_20 IAMs_20 14 18 39.7
comp=Z,2μm,20.0s
HUMO Hull Mountain 58.50 303 IAMs_20 IAMs_20 14 18 38.4
comp=Z,3μm,18.0s
PSUT Pine Spring 58.58 294 P **P** **13 52 58.8 -0.6**
L04D Klamath Falls 58.60 303 P **P** **13 52 58.5 -0.9**
baz=29
ANMO Albuquerque 58.65 286⇓ *i*P **P** **13 53 01.2 +1.3**
ANMO pmax pmax
comp=Z,21nm,1.7s
ANMO Albuquerque 58.65 286 P **P** **13 52 59.3 -0.6**
baz=30
ANMO Albuquerque 58.65 286 P **P** **13 52 59.5 -0.4**
K02D Willamette Mer 58.68 304 P **P** **13 52 59.0 -0.9**
baz=29
KIC Kosan Boka 58.71 165 *e*P **P** **13 53 03.0 +2.8**
comp=Z,101nm,1.4s
LIC Lamto 58.81 165 *e*P **P** **13 53 01.7 +0.8**
comp=Z,166nm,1.3s
M04C Macdoel 58.81 302 P **P** **13 52 59.8 -1.1**
baz=29
BBGH Gun Hill 58.87 230 IAMs_20 IAMs_20 14 13 03.2
comp=Z,2μm,20.0s
PKCU Pink Cliffs 58.90 292 P **P** **13 53 02.5 +0.7**
SZCU Shurtz Canyon 59.08 293 P **P** **13 53 03.4 +0.5**
YBH Yreka Blue Hor 59.18 303 P **P** **13 53 03.4 0.0**
YBH pmax pmax
comp=Z,8.0nm,1.2s
YBH MLR MLR

comp=Z,3μm,19.0s
YBH Yreka Blue Hor 59.18 303 P P 13 53 03.4 0.0
YBH IAMs_20 IAMs_20 14 18 43.2
comp=Z,3μm,19.0s
AKUT Akutan 59.23 339 IAMs_20 IAMs_20 14 20 52.3
comp=Z,2μm,18.0s
CCUT Cedar City 59.23 293 P P 13 53 04.5 +0.5
BNM Barren Site 59.41 286 P P 13 53 04.4 -0.9
R11A Troy Canyon, C 59.42 295 P P 13 53 03.8 -1.4
baz=30,SNR=24
R11A Troy Canyon, C 59.42 295 P P 13 53 04.4 -0.7
KNB Kanab 59.47 292 P P 13 53 05.2 -0.4
KNB pmax pmax
comp=Z,44nm,1.5s
KNB Kanab 59.47 292 P P 13 53 05.2 -0.4
Y22D IRIS PASSCAL I 59.60 286 IAMs_20 IAMs_20 14 18 07.4
comp=Z,3μm,18.0s
UNV Unalaska Valle 59.62 339 P P 13 53 05.1 -1.0
UNV IAMs_20 IAMs_20 14 21 03.6
comp=Z,2μm,18.0s
LCMT Little Creek M 59.65 293 P P 13 53 06.6 -0.2
JCT Junction City 59.68 278 P P 13 53 05.8 -1.1
JCT pmax pmax
comp=Z,51nm,1.2s
JCT Junction City 59.68 278 P P 13 53 05.9 -1.1
baz=30,SNR=7.8
JCT Junction City 59.68 278 P P 13 53 05.8 -1.1
JCT IAMs_20 IAMs_20 14 17 44.1
comp=Z,3μm,20.0s
PAHR Pah Rah Range 59.70 299 P P 13 53 07.0 -0.1
PAHR IAmb IAmb 13 53 11.1
comp=Z,40nm,1.4s
SHME Shamm 59.77 93 *i* P **P 13 53 07.0 -0.5**
SNR=5.1
U15A North Rim 59.77 292 P P 13 53 06.3 -1.4
U15A IAmb IAmb 13 53 13.9
comp=Z,26nm,0.9s
U15A IAMs_20 IAMs_20 14 18 37.7
comp=Z,3μm,18.0s
KVN Kaiserville 59.78 298 P P 13 53 07.0 -0.7
KVN pmax pmax
comp=Z,38nm,1.3s
KVN MLR MLR
comp=Z,11μm,19.0s
KVN Kaiserville 59.78 298 P P 13 53 07.0 -0.7
KVN IAmb IAmb 13 53 11.3
comp=Z,38nm,1.3s
SONM Songino Array 59.79 40 P P 13 53 06.6 -0.9
comp=Z,5.4nm,1.1s,baz=316,slow=5.1,SNR=12
SONM LR LR 14 21 15.0
comp=Z,3μm,20.3s,baz=336,slow=38
SONM Songino Array 59.79 40 P P 13 53 05.4 -2.2
N02D Trinity Center 59.84 302 P P 13 53 06.1 -1.8
baz=29
W18A Petrified Fore 59.86 289 P P 13 53 07.7 -0.6
BANOM Banah 59.94 93 P P 13 53 08.9 +0.2
BANOM Banah 59.94 93 P P 13 53 09.5 +0.7
BANOM S S 14 01 29.8 +9.1
ULN Ulaanbaatar 59.95 40 P P 13 53 09.3 +0.6
ULN P **P 13 53 09.3 +0.6**
ULN Ulaanbaatar 59.95 40 *de*P **P 13 53 08.7 0.0**
ULN pmax pmax
comp=Z,68nm,1.7s
ULN Ulaanbaatar 59.95 40 P P 13 53 06.6 -2.1
ULN IAmb IAmb 13 53 12.6
comp=Z,43nm,1.4s
PRN Pahroc Range 60.02 294 P P 13 53 09.7 +0.4
PRN IAmb IAmb 13 53 23.7
comp=Z,24nm,1.4s
O03E Paynes Creek 60.10 301 P P 13 53 06.8 -2.9
baz=29
GDL2 Guadalupe Moun 60.14 283 P P 13 53 10.3 +0.1
WUAZ Wupatki 60.19 290 P P 13 53 08.9 -1.6
baz=30,SNR=15
WUAZ Wupatki 60.19 290 P P 13 53 09.9 -0.5
WUAZ IAMs_20 IAMs_20 14 19 37.8
comp=Z,2μm,18.0s
735A Kenedy 60.23 275 IAMs_20 IAMs_20 14 18 59.8
comp=Z,2μm,18.0s
YERR Yerington 60.28 299 P P 13 53 10.5 -0.6
KHMM Horse Mountain 60.30 303 IAMs_20 IAMs_20 14 19 22.9
comp=Z,3μm,18.0s
RYN Ryan 60.31 298 P P 13 53 11.3 0.0
PNTR Pine Nut 60.32 299 P P 13 53 11.4 -0.1
PNTR IAmb IAmb 13 53 15.5
comp=Z,37nm,1.4s
NV11 Mina Array Sit 60.34 297 P P 13 53 11.3 -0.2
MSFE Esma-Masafi 60.38 93 *i* P **P 13 53 11.4 -0.4**
SNR=9.1
NVAR Mina Array Bea 60.40 297 P P 13 53 11.2 -0.8
comp=Z,4.1nm,0.9s,baz=48,slow=6.3,SNR=9.9
NVAR LR LR 14 19 31.9
comp=Z,12μm,18.0s,baz=24,slow=36
NVAR Mina Array Bea 60.40 297 P P 13 53 11.4 -0.6
NAZ Nazwa, Dubai 60.48 94 *i* P **P 13 53 12.6 +0.1**
SNR=6.3
MDH Madha 60.49 93 *i* P **P 13 53 11.8 -0.7**
SNR=7.9
CBCY The Bluff, Cay 60.50 253 P P 13 53 12.5 0.0
NIL Nilore 60.50 73 P P 13 53 11.0 -1.5
NIL pmax pmax
comp=Z,71nm,1.1s
NIL MLR MLR
comp=Z,1μm,19.0s
NIL Nilore 60.50 73 P P 13 53 11.0 -1.5
ORV Oroville 60.63 301 P P 13 53 13.4 +0.1
ORV pmax pmax
comp=Z,11nm,1.3s
ORV MLR MLR
comp=Z,10μm,18.0s
ORV Oroville 60.63 301 P P 13 53 13.4 +0.1
UOSS Minazif 60.76 93 *i* P **P 13 53 14.2 -0.1**
SNR=8.5
UOSS Minazif 60.76 93 P P 13 53 14.4 +0.1
UOSS S **S 14 01 34.5 +3.4**
UOSS Minazif 60.76 93 P P 13 53 11.5 -2.8
UOSS IAmb IAmb 13 53 24.5
comp=Z,28nm,1.2s
WAKR Walker 60.77 298 P P 13 53 14.4 -0.1
WAKR IAmb IAmb 13 53 18.5
comp=Z,30nm,1.3s
HATD Hatta, Dubai 60.83 93 *i* P **P 13 53 15.0 +0.2**
SNR=10
HATD Hatta, Dubai 60.83 93 P P 13 53 15.4 +0.6
SNR=12
HATD P **P 13 53 15.4 +0.6**
SNR=12
HATD S **S 14 01 37.3 +5.2**
HATD S **S 14 01 37.3 +5.2**
SHPR Sheep Range 60.85 294 P P 13 53 15.3 +0.3
TPNV Topopah Spring 60.89 295 P P 13 53 14.6 -0.7
TPNV pmax pmax
comp=Z,30nm,1.4s
TPNV MLR MLR
comp=Z,7μm,18.0s
TPNV Topopah Spring 60.89 295 P P 13 53 13.5 -1.8
baz=29,SNR=9.6
TPNV Topopah Spring 60.89 295 P P 13 53 14.6 -0.7
TPNV IAmb IAmb 13 53 20.1
comp=Z,30nm,1.4s
ASHO Ashiyiah 60.92 93 *i* P **P 13 53 15.7 +0.2**
SNR=9.3
ASHO Ashiyiah 60.92 93 P P 13 53 15.8 +0.2
SNR=7.1
ASHO S **S 14 01 36.7 +3.4**
MTDJ Mount Denham 60.93 250 IAMs_20 IAMs_20 14 16 12.6
comp=Z,2μm,20.0s
AFDM Forest Hills D 60.97 300 P P 13 53 13.8 -1.8
MNTX Cornudas Mount 61.00 283 P P 13 53 14.6 -1.3
baz=29,SNR=12
MNTX Cornudas Mount 61.00 283 P P 13 53 14.5 -1.4
MNTX IAMs_20 IAMs_20 14 18 59.9
comp=Z,3μm,18.0s
X16A Lo Mia Camp, P 61.16 290 P P 13 53 15.8 -1.4
X16A IAmb IAmb 13 53 24.1
comp=Z,26nm,1.0s
X16A IAMs_20 IAMs_20 14 19 24.7
comp=Z,2μm,18.0s
GRAC Grapevine Rang 61.29 296 P P 13 53 16.9 -1.0
baz=29,SNR=5.3
121A Cookes Peak, D 61.29 286 P P 13 53 17.3 -0.7
baz=29
121A Cookes Peak, D 61.29 286 P P 13 53 16.5 -1.6
121A IAmb IAmb 13 53 25.1
comp=Z,30nm,1.1s
121A IAMs_20 IAMs_20 14 19 02.3
comp=Z,3μm,20.0s
ALNE Al Ain 61.34 94 *i* P **P 13 53 18.9 +0.6**
SNR=6.8
OMMB Old Mammoth Mi 61.38 298 P P 13 53 16.6 -2.2
OMMB IAmb IAmb 13 53 23.2
comp=Z,30nm,1.3s
MDPB Devils Postpil 61.40 298 P P 13 53 17.1 -1.7
MDPB IAmb IAmb 13 53 25.7
comp=Z,18nm,1.1s
W13A Hualapai Mount 61.56 292 P P 13 53 19.9 -0.1
W13A IAmb IAmb 13 53 23.8
comp=Z,20nm,1.4s
W13A IAMs_20 IAMs_20 14 19 21.1
comp=Z,2μm,19.0s
SOHO SOHO 61.61 93 *i* P **P 13 53 20.1 0.0**
SNR=9.6
SOHO SOHO 61.61 93 P P 13 53 20.0 0.0
HIA Hailar 61.80 30 IAMs_20 IAMs_20 14 20 34.7
comp=Z,2μm,19.0s
SHOC Shoshone, Teco 61.82 294 P P 13 53 20.2 -1.2
baz=29
TUQ Turquoise Moun 62.08 294 P P 13 53 22.1 -1.2
baz=29,SNR=5.4
MPMC Manual Prospec 62.16 296 P P 13 53 22.5 -1.3
baz=29,SNR=9.3
Y14A Wickenburg 62.22 291 P P 13 53 23.1 -1.0
Y14A IAMs_20 IAMs_20 14 19 34.5
comp=Z,2μm,20.0s
ARQ Araqi 62.30 94 P P 13 53 24.6 -0.2
SNR=5.1
ARQ P **P 13 53 24.6 -0.2**
SNR=5.1
TX31 Lajitas Ar. Si 62.33 280 P P 13 53 23.5 -1.4
TX32 Lajitas Array 62.33 280 P P 13 53 23.2 -1.8
TX32 IAmb IAmb 13 53 31.2
comp=Z,14nm,1.1s
TXAR Lajitas Array 62.33 280 P P 13 53 23.5 -1.5
comp=Z,5.2nm,1.0s,baz=55,slow=5.1,SNR=16
TXAR LR LR 14 20 06.6
comp=Z,6μm,18.5s,baz=0.0,slow=36
HOQ Hoqain 62.43 93 P P 13 53 25.3 -0.3
SNR=7.0
GMRC Granite Mounta 62.55 293 P P 13 53 25.2 -1.2
baz=29,SNR=7.1
GSC Goldstone, Bar 62.55 295 P P 13 53 26.4 0.0
GSC pmax pmax
comp=Z,21nm,1.5s
GSC MLR MLR
comp=Z,6μm,18.0s
GSC Goldstone, Bar 62.55 295 P P 13 53 25.5 -0.8
baz=29,SNR=6.0
GSC Goldstone, Bar 62.55 295 P P 13 53 26.4 0.0
GSC IAmb IAmb 13 53 29.9
comp=Z,21nm,1.4s
PEA0B Petropavlovsk- 62.70 3⇑ *e*P **P 13 53 24.0 -3.0**
PETK Petropavlovsk- 62.70 3 P **P 13 53 24.4 -2.6**
comp=Z,9.9nm,1.1s,baz=32,slow=5.6,SNR=4.2
SMY Shemya 62.80 352 IAMs_20 IAMs_20 14 18 04.0
comp=Z,2μm,22.0s
PET Petropavlovsk 62.81 3 *e*P **P 13 53 31.8 +4.1**
PET *e* 13 55 50.8
PET *e*S **S 14 02 00.7 +4.4**
PET *e*SS **SS 14 06 05.1 +5.0**
PET pmax pmax
comp=Z,300nm,11.8s
PET MLR MLR
comp=Z,900nm,18.0s
BIDO Bidbid 62.84 92 P P 13 53 26.5 -1.8
SNR=11
ISA Isabella, Lake 62.89 296 P P 13 53 28.1 -0.5
ISA pmax pmax
comp=Z,33nm,1.3s
ISA MLR MLR
comp=Z,7μm,19.0s
ISA Isabella, Lake 62.89 296 P P 13 53 27.7 -0.9
baz=28,SNR=12
ISA Isabella, Lake 62.89 296 P P 13 53 28.1 -0.5
ISA IAmb IAmb 13 53 32.8
comp=Z,33nm,1.2s
IRM Iron Mountain 62.89 293 P P 13 53 28.0 -0.6
baz=29
BSY Bisya 63.12 93 P P 13 53 29.5 -0.7
SNR=8.0
BSY P **P 13 53 29.5 -0.7**
SNR=8.0
SMDO Samad 63.21 92 P P 13 53 30.9 0.0
SNR=10
PMPB Monarch Peak 63.30 298 P P 13 53 31.2 -0.1
PMPB IAmb IAmb 13 53 35.4
comp=Z,21nm,1.1s
WSAR Wadi Sarin 63.30 92 P P 13 53 31.8 +0.4
SNR=5.7
BELC Belle Mtn. Jos 63.37 293 P P 13 53 30.9 -0.9
baz=28,SNR=8.5
EDW2 Edwards Air Fo 63.38 295 P P 13 53 30.6 -1.3
baz=28
BC3 Big Chuckawall 63.45 293 P P 13 53 31.5 -0.9
baz=28,SNR=9.1
113A Mohawk Valley, 63.55 291 IAMs_20 IAMs_20 14 20 54.7
comp=Z,2μm,18.0s
TEIG Tepich 63.66 262 P P 13 53 34.5 +0.7
TEIG IAmb IAmb 13 53 40.1
comp=Z,37nm,1.4s
TEIG Tepich 63.66 262 IAMs_20 IAMs_20 14 20 00.5
comp=Z,2μm,20.0s
GLA Glamis 63.73 292 IAMs_20 IAMs_20 14 20 01.5
comp=Z,3μm,21.0s
BFSC Mount Baldy Ra 63.82 295 P P 13 53 33.3 -1.5
baz=28
JMDO Jabal Madar 63.84 93 P P 13 53 34.4 -0.6
SNR=6.4
JMDO P **P 13 53 34.4 -0.6**
SNR=6.4
214A Organ Pipe Nat 63.87 289 P P 13 53 34.5 -0.6
baz=28
MURC Murrieta 64.19 294 P P 13 53 37.2 0.0
baz=28
SWSC Sam W. Stewart 64.21 292 P P 13 53 36.8 -0.5
baz=28
GUVIX Guadalupe Vict 64.48 292 IAMs_20 IAMs_20 14 19 33.5
comp=Z,2μm,20.0s
MONP2 Monument Peak 64.51 293 P P 13 53 37.8 -1.7
baz=28,SNR=5.4
RMX La Rumorosa 64.62 293 IAMs_20 IAMs_20 14 21 28.7
comp=Z,3μm,20.0s
SKR Severo-Kuril's 65.08 4 *e*P **P 13 53 42.2 -0.5**
SKR *e*S **S 14 02 26.3 +1.7**
SKR *e*SS **SS 14 06 38.1 +2.5**
SKR pmax pmax
comp=Z,200nm,4.7s
SKR MLR MLR
comp=Z,500nm,21.0s
ESJX Sierra Juarez 65.10 292 IAMs_20 IAMs_20 14 20 57.7
comp=Z,2μm,21.0s
GTA Gaotai 65.43 49 ⇑P **P 13 53 45.8 +0.5**
GTA pP sP 13 53 50.5 +0.1
GTA sP pP 13 53 53.0 +4.0
GTA S **S 14 02 32.5 +3.0**
GTA sS sS 14 02 40.8 +5.0
GTA pmax pmax
comp=Z,16nm,1.4s
GTA pmax pmax
comp=Z,610nm,7.3s
GTA LR LR
comp=Z,1μm,17.8s
GTA LR LR
comp=Z,1μm,18.9s
GTA LR LR
comp=Z,2μm,18.2s
CCX Cicese 65.50 293 IAMs_20 IAMs_20 14 21 45.4
comp=Z,2μm,20.0s
HSIG 65.67 286 P P 13 53 46.3 -0.5
HSIG IAmb IAmb 13 53 53.2
comp=Z,29nm,1.1s
SDV Santo Domingo 66.72 239 *e*P **P 13 53 55.8 +1.9**
PETF Flores 67.28 262 IAMs_20 IAMs_20 14 24 09.4
comp=Z,2μm,18.0s
BTO Baotou 67.46 41 *e*P **P 13 53 53.5 -4.7**
BTO S S 14 02 42.3 -12
ZAIG Zacatecas 67.60 276 IAMs_20 IAMs_20 14 22 48.0
comp=Z,2μm,21.0s
HHC Hu-ho-hao-te 67.67 40 *e*P **P 13 54 00.0 +0.5**
HHC PP **PP 13 56 33.5 +5.4**
HHC S **S 14 03 01.5 +5.0**
HHC pmax pmax
comp=Z,54nm,1.1s
HHC pmax pmax
comp=Z,360nm,7.2s
HHC LR LR
comp=Z,1μm,18.5s
HHC LR LR
comp=Z,1μm,18.1s
HHC LR LR
comp=Z,2μm,17.2s
SRIG Santa Rosalia 67.70 287 IAMs_20 IAMs_20 14 24 45.2
comp=Z,2μm,18.0s
YSS Yuzh-Sakhalins 67.85 14 *e*P P 13 54 05.5 +5.1
YSS *e*S **S 14 03 02.4 +4.2**
YSS pmax pmax
comp=Z,700nm,8.1s
YSS MLR MLR
comp=Z,700nm,18.0s
CN2 Changchun 68.21 28 *e*P **P 13 54 00.5 -2.3**
CN2 *e*S **S 14 02 58.0 -4.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,900nm,16.0s
CN2 LR LR
comp=Z,2μm,17.0s
MDJ Mudanjiang 68.23 25 P **P 13 54 04.8 +1.9**
MDJ PP **PP 13 56 31.3 -1.4**
MDJ S **S 14 02 58.3 -4.6**
MDJ pmax pmax
comp=Z,22nm,1.8s
MDJ pmax pmax
comp=Z,340nm,4.1s
MDJ LR LR
comp=Z,1μm,18.5s
MDJ LR LR
comp=Z,650nm,15.7s
MDJ LR LR
comp=Z,2μm,18.5s
CCIG Comitan 68.82 263 IAMs_20 IAMs_20 14 23 05.1
comp=Z,2μm,20.0s
USRK Ussuriysk Ar. 69.05 23 LR LR 14 26 27.7
comp=Z,660nm,18.4s,baz=328,slow=38
MTO3 Montecristo 69.31 260 P **P 13 54 10.3 +0.1**
MTO3 IAmb IAmb 13 54 16.6
comp=Z,30nm,1.2s
PYUN Piuthan 69.35 68 *e*P **P 13 54 10.0 -0.4**
comp=Z,331nm,1.6s
HUEH Huehuetenango 69.41 262 IAMs_20 IAMs_20 14 24 03.6
comp=Z,2μm,20.0s
MCPB Macapa, AP 69.44 217 *e*P **P 13 54 11.7 +1.0**
DANN Dangsing 69.44 67 *e*P **P 13 54 11.5 +0.5**
comp=Z,107nm,1.2s
BJI Beijing 69.65 36 P **P 13 54 15.8 +4.0**
BJI S **S 14 03 22.0 +2.2**
BJI pmax pmax
comp=Z,26nm,1.8s
BJI pmax pmax
comp=Z,390nm,4.8s
BJI LR LR
comp=Z,2μm,19.6s
BJI LR LR
comp=Z,980nm,15.2s
BJI LR LR
comp=Z,1μm,22.1s
SNY Shenyang 69.71 30 ⇑P **P 13 54 13.0 +0.9**
SNY S **S 14 03 22.0 +1.5**
SNY pmax pmax
comp=Z,24nm,1.9s
SNY pmax pmax
comp=Z,220nm,4.1s
SNY LR LR
comp=Z,1μm,18.0s
SNY LR LR
comp=Z,510nm,14.3s
SNY LR LR
comp=Z,2μm,19.6s
ACON Acoyapa 69.72 255 P **P 13 54 12.0 -0.5**
ACON IAmb IAmb 13 54 18.2
comp=Z,29nm,1.3s
ACON IAMs_20 IAMs_20 14 21 20.3
comp=Z,2μm,22.0s
LZH Lanzhou 69.76 48 *e*P **P 13 54 13.5 +0.7**
LZH pP sP 13 54 16.8 -1.1
LZH sP pP 13 54 19.0 +2.5
LZH *e*S **S 14 03 22.5 +0.9**
LZH sS sS 14 03 27.5 -0.4
LZH SS **SS 14 07 43.5 -5.5**
LZH pmax pmax
comp=Z,46nm,1.4s
LZH pmax pmax
comp=Z,630nm,6.5s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,2μm,16.3s
LZH LR LR
comp=Z,2μm,18.2s
KOLN Koldanda 69.89 68 *e*P **P 13 54 14.0 +0.3**
comp=Z,319nm,1.7s
ROSB Rosrio 70.02 208 *e*P **P 13 54 16.5 +2.3**
BCIP Isla Barro Col 70.05 249 P **P 13 54 14.5 0.0**
BCIP pmax pmax
comp=Z,29nm,1.4s
BCIP Isla Barro Col 70.05 249 P **P 13 54 14.5 0.0**
BCIP IAmb IAmb 13 54 26.3
comp=Z,29nm,1.4s
GKN Gorkha 70.10 67 *e*P **P 13 54 15.1 +0.2**
comp=Z,243nm,1.7s
TMAB Tom-Au,PA,Br 70.39 213 *e*P **P 13 54 17.3 +0.8**
KKN Kakani 70.54 66 *e*P **P 13 54 18.2 +0.5**
comp=Z,176nm,1.7s
DMN Daman 70.63 67 *e*P **P 13 54 19.3 +1.0**
comp=Z,257nm,1.6s
GUN Gumba 70.67 66 *e*P **P 13 54 19.3 +0.6**
comp=Z,168nm,1.5s
PKIN Phulchoki 70.78 66 *e*P **P 13 54 19.5 +0.3**
comp=Z,192nm,1.8s
PKI Pulchoki 70.79 66 *e*P **P 13 54 19.7 +0.3**
comp=Z,182nm,1.7s
TIY Taiyuan 70.83 40 *e*P **P 13 54 22.8 +3.6**
TIY S **S 14 03 37.5 +3.6**
TIY LR LR
comp=Z,1μm,14.3s
TIY LR LR
comp=Z,250nm,11.4s
TIY LR LR
comp=Z,2μm,16.5s
JIRN Jiri 71.02 66 *e*P **P 13 54 21.6 +0.8**
comp=Z,399nm,1.7s
RCBR Riachuelo 71.44 199 *e*P **P 13 54 24.5 +1.5**
MALB Monte Alegre 71.46 219 *e*P **P 13 54 24.7 +1.6**
LODK Lodwar 71.65 123 P **P 13 54 23.8 -0.5**
SNR=6.8
RAMN Ramite 71.81 66 *e*P **P 13 54 25.9 +0.4**
comp=Z,127nm,1.6s
ROSC El Rosal 71.83 241 P **P 13 54 25.2 -0.6**
comp=Z,27nm,0.8s,baz=37,slow=8.4,SNR=6.3
ROSC LR LR 14 22 27.7
comp=Z,1μm,21.8s,baz=318,slow=33
ROSC El Rosal 71.83 241 P **P 13 54 25.2 -0.6**
ROSC IAMs_20 IAMs_20 14 21 53.5
comp=Z,2μm,21.0s
TAPN Taplejung 71.89 65 *e*P **P 13 54 27.5 +1.5**
comp=Z,92nm,1.2s
ODAN Odare 72.20 65 *e*P **P 13 54 28.5 +0.7**
comp=Z,137nm,1.3s
XAN Xi'an 73.23 44 P **P 13 54 33.8 +0.2**
XAN S **SKiKP 14 04 04.3 -0.4**
XAN pmax pmax
comp=Z,23nm,0.5s
XAN pmax pmax
comp=Z,460nm,4.1s
XAN LR LR
comp=Z,2μm,19.6s
XAN LR LR
comp=Z,2μm,18.1s
XAN LR LR
comp=Z,3μm,16.7s
XAN Xi'an 73.23 44 P **P 13 54 31.3 -2.3**
XAN pmax pmax
comp=Z,51nm,1.5s
XAN MLR MLR
comp=Z,2μm,18.0s
XAN Xi'an 73.23 44 P **P 13 54 31.3 -2.3**
XAN IAmb IAmb 13 54 36.6

comp=Z,50nm,1.5s
XAN Xi'an 73.23 44 IAMs_20 IAMs_20 14 31 04.6
comp=Z,2μm,18.0s
ITTB Itaituba 74.26 220 *e*P **P 13 54 41.4 +1.8**
PRPB Parauapebas 74.46 214 *e*P **P 13 54 41.7 +0.9**
CD2 Chengdu 74.49 50 P **P 13 54 40.5 -0.5**
CD2 pP pP 13 54 44.3 -0.5
CD2 S **S 14 04 14.3 -1.5**
CD2 SS **SS 14 09 04.5 +3.2**
CD2 pmax pmax
comp=Z,60nm,1.3s
CD2 pmax pmax
comp=Z,410nm,6.2s
CD2 LR LR
comp=Z,2μm,16.5s
CD2 LR LR
comp=Z,1μm,14.3s
CD2 LR LR
comp=Z,2μm,18.1s
INCN Inchon 74.53 29 IAMs_20 IAMs_20 14 28 31.7
comp=Z,1μm,21.0s
MACA Manacapuru-AM 74.57 225 *e*P **P 13 54 42.7 +1.2**
KSRS Korea Array 74.83 28 P **P 13 54 42.2 -0.5**
comp=Z,0.4nm,0.5s,baz=68,slow=26,SNR=4.6
KSRS LR LR 14 31 20.9
comp=Z,797nm,18.1s,baz=338,slow=39
KSAR Wonju Array Be 74.83 28 P **P 13 54 40.5 -2.3**
KSAR Wonju Array Be 74.83 28 P **P 13 54 40.5 -2.3**
SHL Shillong 75.11 62 P **P 13 54 45.3 +0.5**
SNR=18
SHL Shillong 75.11 62 IAMs_20 IAMs_20 14 28 48.3
comp=Z,2μm,19.0s
TJN Taejon 75.75 29⇓*e*P **P 13 54 48.7 +0.6**
SMTB Santa Maria do 76.55 211 *e*P **P 13 54 53.9 +1.1**
KMBO Kilima Mbogo 76.55 123 LR LR 14 31 53.5
comp=Z,1μm,19.4s,baz=280,slow=38
KMBO Kilima Mbogo 76.55 123 IAMs_20 IAMs_20 14 31 50.1
comp=Z,1μm,19.0s
NPGB Novo Progresso 76.72 219 *e*P **P 13 54 54.8 +1.1**
ENH Enshi 76.91 45 P **P 13 54 53.1 -1.7**
ENH IAmb IAmb 13 54 55.8
comp=Z,32nm,1.4s
ENH IAMs_20 IAMs_20 14 31 32.7
comp=Z,2μm,22.0s
HYB Hyderabad 77.02 77 *i*P **P 13 54 55.0 -0.6**
MJAR Matsushiro Arr 77.52 20 P **P 13 54 59.0 +0.9**
comp=Z,5.3nm,1.1s,baz=328,slow=6.7,SNR=7.6
MJAR Matsushiro Arr 77.52 20 IAmb IAmb 13 55 04.3
comp=Z,4.0nm,1.1s
OTAV Otavalo 77.64 244 P **P 13 54 59.3 -0.2**
OTAV pmax pmax
comp=Z,29nm,1.3s
OTAV Otavalo 77.64 244 P **P 13 54 59.3 -0.2**
OTAV IAmb IAmb 13 55 07.0
comp=Z,29nm,1.3s
OTAV Otavalo 77.64 244 *e*P **P 13 55 01.4 +1.9**
NJ2 Nanjing 77.90 37 *e*P **P 13 54 55.5 -4.7**
NJ2 S **S 14 04 46.0 -7.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,390nm,3.8s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,780nm,17.8s
NJ2 LR LR
comp=Z,2μm,18.5s
JTU Tsushima 77.95 27 IAMs_20 IAMs_20 14 33 06.1
comp=Z,1μm,18.0s
WHN Wuhan 78.10 41 ⇑P **P 13 55 00.8 -0.6**
WHN S **S 14 04 58.5 +3.3**
WHN pmax pmax
comp=Z,310nm,2.3s
WHN LR LR
comp=Z,2μm,15.3s
WHN LR LR
comp=Z,3μm,19.7s
WHN LR LR
comp=Z,4μm,19.2s
SSE Sheshan 79.40 35 P **P 13 55 06.5 -2.0**
SSE S **S 14 05 08.0 -1.2**
SSE pmax pmax
comp=Z,12nm,0.7s
SSE pmax pmax
comp=Z,190nm,3.0s
SSE LR LR
comp=Z,690nm,18.2s
SSE LR LR
comp=Z,1μm,23.0s
SSE Sheshan 79.40 35 IAMs_20 IAMs_20 14 33 16.6
comp=Z,2μm,20.0s
SDBA SAO DESIDERIO 79.43 207 *e*P **P 13 55 09.0 +0.3**
KMI Kunming 79.47 53 ⇑P **P 13 55 08.8 -0.5**
KMI pP pP 13 55 12.3 -0.8
KMI sP sP 13 55 14.0 -0.5
KMI PP **PP 13 58 08.3 -0.7**
KMI S **S 14 05 06.3 -4.3**
KMI pmax pmax
comp=Z,12nm,1.7s
KMI pmax pmax
comp=Z,390nm,4.7s
KMI LR LR
comp=Z,850nm,17.1s
KMI LR LR
comp=Z,520nm,17.9s
KMI LR LR
comp=Z,1μm,15.6s
KMI Kunming 79.47 53 IAMs_20 IAMs_20 14 35 48.8
comp=Z,1μm,18.0s
GYA Guiyang 79.56 49 ⇑P **P 13 55 09.5 -0.1**
GYA PP **PP 13 58 12.0 +2.5**
GYA S **S 14 05 11.3 +0.1**
GYA SS **SS 14 10 23.0 +5.0**
GYA pmax pmax
comp=Z,15nm,1.7s
GYA pmax pmax
comp=Z,380nm,3.7s
GYA LR LR
comp=Z,230nm,17.8s
GYA LR LR
comp=Z,400nm,23.0s
GYA LR LR
comp=Z,400nm,31.4s
JNU Nakatsue 79.61 27 LR LR 14 32 17.9
comp=Z,434nm,20.9s,baz=340,slow=37
GDU01 Guandu, BA 79.75 202 *e*P **P 13 55 11.4 +1.0**
CLDB Colider 80.49 218 *e*P **P 13 55 14.9 +0.4**
SAML Samuel 80.80 226 P **P 13 55 16.2 0.0**
SAML pmax pmax
comp=Z,18nm,1.2s
SAML Samuel 80.80 226 P **P 13 55 16.2 0.0**
SAML Samuel 80.80 226 *e*P **P 13 55 17.1 +0.9**
JSU Suzuyama 81.09 27 IAMs_20 IAMs_20 14 35 21.1
comp=Z,906nm,18.0s
JANB Januaria 81.89 206 *e*P **P 13 55 24.0 +2.0**
ETMB Extrema 82.58 228 *e*P **P 13 55 26.8 +1.2**
CZSB Cruzeiro do Su 82.84 235 *e*P **P 13 55 27.9 +0.9**
BDFB Brasilia 83.21 210 P **P 13 55 29.3 +0.4**
comp=Z,1.4nm,0.3s,baz=36,slow=5.7,SNR=1.6
BDFB LR LR 14 26 10.0
comp=Z,1μm,21.5s,baz=342,slow=31
BDFB Brasilia 83.21 210 IAmb IAmb 13 55 50.8
comp=Z,19nm,1.4s
BDFB IAMs_20 IAMs_20 14 25 58.4
comp=Z,1μm,21.0s
SLVN Son La 83.37 53 P **P 13 55 27.6 -2.3**
SLVN IAMs_20 IAMs_20 14 36 04.7
comp=Z,1μm,21.0s
MC01 Montes Claros 83.43 205 *e*P **P 13 55 31.1 +1.1**
VILB Vilhena 83.70 222 *e*P **P 13 55 33.1 +1.7**
NAN01 Guarapari, ES 83.88 202 *e*P **P 13 55 33.8 +1.7**
CHTO Chiang Mai 83.91 59 P **P 13 55 29.9 -2.6**
CHTO pmax pmax
comp=Z,26nm,1.5s
CHTO MLR MLR
comp=Z,800nm,20.0s
CHTO Chiang Mai 83.91 59 P **P 13 55 29.9 -2.6**
CHTO IAmb IAmb 13 55 37.8
comp=Z,26nm,1.5s
ARAG Araguaiana, MT 84.13 213 *e*P **P 13 55 35.2 +1.7**
CM31 Chiang Mai Arr 84.23 59 P **P 13 55 34.8 +0.6**
SNR=13
CMAR Chiang Mai Arr 84.23 59 P **P 13 55 34.2 0.0**
comp=Z,2.5nm,0.9s,baz=319,slow=6.4,SNR=19
CMAR PP **PP 13 58 51.6 +3.5**
comp=Z,2.1nm,1.0s,baz=332,slow=8.9,SNR=6.5
CMAR LR LR 14 35 44.3
comp=Z,782nm,19.9s,baz=356,slow=38
CMAR Chiang Mai Arr 84.23 59 PP 13 58 51.1 +3.0
QZH Quanzhou 84.58 39 P **P 13 55 36.3 +0.5**
QZH S **S 14 06 06.0 +3.4**
QZH LR LR
comp=Z,1μm,17.0s
QZH LR LR
comp=Z,320nm,17.2s
QZH LR LR
comp=Z,2μm,18.5s
SJMB Sao Joao De Ma 84.90 202 *e*P **P 13 55 38.5 +1.2**
KNMB Chin-men Tao 84.97 40 IAMs_20 IAMs_20 14 37 32.2
comp=Z,2μm,18.0s
RIB01 Linhares ES 85.37 202 *e*P **P 13 55 40.3 +0.7**
IPMB Ipameri, GO 85.52 209 *e*P **P 13 55 42.6 +2.1**
YHNB Yeheng 85.58 37 IAMs_20 IAMs_20 14 37 31.2
comp=Z,2μm,19.0s
PTLB Pontes e Lacer 85.77 220 *e*P **P 13 55 43.0 +1.3**
HKPS Hong Kong Po S 85.81 44 IAMs_20 IAMs_20 14 37 32.6
comp=Z,2μm,20.0s
NACB Ninganchiao 86.11 37 IAMs_20 IAMs_20 14 37 58.3
comp=Z,2μm,19.0s
YOJ Yonaguni jima 86.20 36 IAMs_20 IAMs_20 14 36 56.4
comp=Z,1μm,20.0s
SSLB Suanglung 86.31 38 IAMs_20 IAMs_20 14 38 25.6
comp=Z,1μm,19.0s
TPUB Ta-pu 86.69 38 IAMs_20 IAMs_20 14 38 34.6
comp=Z,1μm,19.0s
PALK Pallekele 87.01 80 IAMs_20 IAMs_20 14 36 23.9
comp=Z,1μm,20.0s
TWG Pinlang 87.26 38 IAMs_20 IAMs_20 14 38 56.0
comp=Z,2μm,18.0s
QIZ Qiongzhong 87.51 49 P **P 13 55 50.5 +0.1**
QIZ PP **PP 13 59 17.5 +2.9**
QIZ S **S 14 06 31.5 0.0**
QIZ SS **SS 14 12 16.8 +1.1**
QIZ pmax pmax
comp=Z,9.0nm,2.2s
QIZ pmax pmax
comp=Z,320nm,3.6s
QIZ LR LR
comp=Z,930nm,17.1s
QIZ LR LR
comp=Z,550nm,16.1s
QIZ LR LR
comp=Z,1μm,17.7s
QIZ Qiongzhong 87.51 49 IAMs_20 IAMs_20 14 39 33.7
comp=Z,2μm,20.0s
ITRB Iturama 87.65 211 *e*P **P 13 55 52.1 +1.2**
TSUM Tsumeb 87.67 147 IAMs_20 IAMs_20 14 36 56.2
comp=Z,1μm,19.0s
BSCB Bom Sucesso 87.77 205 *e*P **P 13 55 52.4 +1.0**
PBA Port Blair 88.05 67 P P 13 55 59.6 +6.6
SNR=6.2
PBA Port Blair 88.05 67 IAMs_20 IAMs_20 14 40 56.6
comp=Z,2μm,21.0s
BB19B Bebedouro 88.58 209 *e*P **P 13 55 56.2 +0.9**
LPAZ La Paz 89.27 228 P **P 13 55 58.8 -0.4**
comp=Z,0.4nm,0.5s,baz=338,slow=5.4,SNR=2.4
LPAZ LR LR 14 33 26.0
comp=Z,415nm,19.9s,baz=1.0,slow=34
LPAZ La Paz 89.27 228 IAmb IAmb 13 56 07.1
comp=Z,5.7nm,1.1s
LPAZ La Paz 89.27 228 *e*P **P 13 55 58.9 -0.4**
SPB Sao Paulo 90.81 207 IAMs_20 IAMs_20 14 29 38.6
comp=Z,1μm,22.0s
DLV T Lat 93.66 53 IAMs_20 IAMs_20 14 43 04.5
comp=Z,1μm,21.0s
KULM Kulim 96.95 62 IAMs_20 IAMs_20 14 49 12.3
comp=Z,899nm,18.0s
IPM Ipoh 97.84 62 IAMs_20 IAMs_20 14 45 02.8
comp=Z,788nm,22.0s
BOSA Boshof 98.59 143 LR LR 14 43 42.4
comp=Z,2μm,18.4s,baz=346,slow=37
MYKOM Kota Tinggi 101.38 61 IAMs_20 IAMs_20 14 50 01.6
comp=Z,736nm,19.0s
BKNI Bangkinang 101.65 64 IAMs_20 IAMs_20 14 47 41.9
comp=Z,841nm,22.0s
AC05 El Transito 101.68 226 IAMs_20 IAMs_20 14 38 42.5
comp=Z,1μm,22.0s
CO01 Juntas del Tor 102.69 225 IAMs_20 IAMs_20 14 44 48.5
comp=Z,878nm,18.0s
VA03 San Esteban 105.42 224 IAMs_20 IAMs_20 14 41 23.9
comp=Z,1μm,20.0s
PEL Peldehue 105.82 224 IAMs_20 IAMs_20 14 41 23.2
comp=Z,1μm,21.0s
MT05 Renca 106.06 224 IAMs_20 IAMs_20 14 41 52.9
comp=Z,963nm,20.0s
BO02 Sierra Bellavi 107.38 224 IAMs_20 IAMs_20 14 42 21.7
comp=Z,931nm,21.0s
BI02 San Fabin de 109.26 223 IAMs_20 IAMs_20 14 43 30.5
comp=Z,629nm,18.0s
TNG Tangerang 109.76 61 P **Pdif 13 57 43.1 +12**
LC01 Cunco 111.51 223 IAMs_20 IAMs_20 14 45 29.2
comp=Z,808nm,21.0s
TAOE Nuku Hiva Isla 111.66 296 *e*PP **PP 14 02 12.0 -6.8**
comp=Z,173nm,29.8s
TAOE Nuku Hiva Isla 111.66 296 *e*LR LR 14 34 39.8
comp=Z,1μm,21.7s
LL01 San Ignacio de 114.88 222 IAMs_20 IAMs_20 14 46 48.1
comp=Z,611nm,21.0s
PPT2 Papeete2 123.22 302 *e*SS SS 14 20 29.6 +5.3
comp=Z,1μm,33.2s
PPT2 Papeete2 123.22 302 *e*LR LR 14 40 15.4
comp=Z,1μm,21.5s
TBI Tubuai 128.43 299 *e*SS SS 14 21 36.4 +6.9
comp=Z,570nm,35.2s
TBI Tubuai 128.43 299 *e*LR LR 14 32 34.9
comp=Z,1μm,24.0s
SANVU Saraoutou 130.93 354 IAMs_20 IAMs_20 14 56 49.6
comp=Z,715nm,18.0s
WRA Warramunga Arr 131.68 37 PKP **PKiKP 14 02 15.9 -0.4**
comp=Z,3.0nm,1.1s,baz=350,slow=2.5,SNR=8.4
WR7 Warramunga Arr 131.73 36 IAMs_20 IAMs_20 14 45 04.2
comp=Z,535nm,18.0s
ASAR Alice Springs 135.12 38 PKP **PKPdf 14 02 21.7 0.0**
comp=Z,2.3nm,1.0s,baz=324,slow=3.1,SNR=6.9
ASAR Alice Springs 135.12 38 PKIKP **PKPdf 14 02 20.6 -1.1**
ASAR Alice Springs 135.12 38 PKPdf **PKPdf 14 02 20.6 -1.1**
VNA3 Neumayer Olymp 135.54 176 PKPdf **PKiKP 14 02 23.5 +0.9**
SNAA Sanae 136.24 173 PKPdf **PKPdf 14 02 21.3 -1.0**
SNAA Sanae 136.24 173 PKIKP **PKPdf 14 02 22.1 -0.2**
SNAA Sanae 136.24 173 PKPdf **PKPdf 14 02 22.1 -0.2**
SNAA IAMs_20 IAMs_20 15 09 39.4
comp=Z,409nm,20.0s
DZM Mont Dzumac 137.54 355 *e*SS SS 14 23 18.5 -1.0
comp=Z,710nm,35.1s
DZM Mont Dzumac 137.54 355 *e*LR LR 14 46 42.9
comp=Z,1μm,24.6s
MAW Mawson 143.57 140 PKP **PKPdf 14 02 35.1 -0.5**
comp=Z,1.3nm,0.7s,baz=290,slow=8.1,SNR=4.4
MAW Mawson 143.57 140 PKPdf **PKPdf 14 02 36.1 +0.5**
BBOO Buckleboo 144.37 40 PKPdf **PKPab 14 02 35.6 -0.7**
STKA Stephens Creek 144.89 32 PKP **PKPab 14 02 37.3 -1.0**
comp=Z,8.5nm,0.9s,baz=332,slow=4.0,SNR=7.8
STKA Stephens Creek 144.89 32 PKPdf **PKPab 14 02 36.6 -1.6**
QSPA South Pole Qui 154.38 180 **PKPdf 14 02 53.2 +0.1**
QSPA South Pole Qui 154.38 180 IAMs_20 15 21 40.0
comp=Z,590nm,20.0s

VIE 29 13:47:48.3±0.2, 46°68N×15°34E, h0km, ml0.9/3, Error ellipse: s-maj=1.7km s-min=1.1km az=124.0 7 km E of Eibiswald Suspected Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.21**	**269**	*e*Pg	Pg	13 47 52.8	+0.5
	0.9nm,0.0s,SNR=6.1						
SOKA				*e*Sg	Sg	13 47 55.4	+0.3
	0.8nm,0.0s						
OBKA	**Obir**	**0.57**	**253**	*e*Pg	Pg	13 47 59.2	0.0
	0.9nm,0.1s						
OBKA				*e*Sg	Sg	13 48 07.2	+0.5
	2.0nm,0.2s						
ARSA	**Arzberg**	**0.58**	**12**	Pg	Pg	13 48 00.2	+0.7
	0.5nm,0.1s						
ARSA				*e*Sg	Sg	13 48 07.6	+0.5
	0.6nm,0.1s						

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*NEIC **29** 13:54:16.0±1.5, 11°74S±0°07×166°3E±0°1, h52km±4km, mb4.4/25, Error ellipse: s-maj=17.7km s-min=7.3km az=66.0*

*IDC **29** 13:54:15.1±2.6, 11°76S×166°34E, h44km±22km, mb4.1/16, mb1 4.2/18, mb1mx4.1/32, mbtmp4.4/18, ML4.7/2, MS3.6/4, Ms1 3.6/4, ms1mx3.4/22, Error ellipse: s-maj=23.3km s-min=14.9km az=84.0*

ISC 29 13:54:15.9±0.6, 11°88S±0°06×166°29E±0°10, h50km, n77, σ1§59/79, mb4.5/32, MS4.7/8, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.66**	**166**		**Pn**	**13 55 11.7**	**+1.7**
HNR	**Honiara**	**6.70**	**291**	P	**Pn**	**13 55 51.6**	**-0.1**
	56nm,0.3s,baz=139,slow=7.3,SNR=19						
HNR				S	**Sn**	**13 57 03.3**	**-3.4**
	25nm,0.3s,baz=193,slow=22,SNR=2.0						
HNR				LR	LR	13 58 32.3	
	comp=Z,526nm,21.9s,baz=140,slow=38						
HNR	**Honiara**	**6.70**	**291**	Pn	**Pn**	**13 55 51.3**	**-0.4**
DZM	**Mont Dzumac**	**10.14**	**179**	*e*Pn	**Pn**	**13 56 39.8**	**+0.9**
	8.2nm,0.3s						
DZM				*e*Sn	**Sn**	**13 58 25.5**	**-5.8**
	2.2nm,0.3s						
DZM				*e*LR	LR	13 59 01.3	
	comp=Z,503nm,24.3s						
DZM	**Mont Dzumac**	**10.14**	**179**	P	**Pn**	**13 56 40.8**	**+1.9**
	1.6nm,0.3s,baz=310,slow=23,SNR=15						
DZM				S	**Sn**	**13 58 28.4**	**-2.9**
	baz=342,slow=23,SNR=0.8						
DZM				LR	LR	14 00 33.9	
	comp=Z,329nm,18.0s,baz=38,slow=37						
DZM	**Mont Dzumac**	**10.14**	**179**	Pn	**Pn**	**13 56 40.5**	**+1.5**
EIDS	**Eidsvold**	**19.66**	**225**	P	**P**	**13 58 41.4**	**+0.5**
PATS	**Pohnpei**	**20.22**	**336**	Pn	**P**	**13 58 47.1**	**+0.2**
CTA	**Charters Tower**	**20.91**	**245**	P	**P**	**13 58 55.3**	**+1.0**
	10.0nm,0.9s,baz=71,slow=12,SNR=6.3						
CTAO	**Charters Tower**	**20.91**	**245**	P	**P**	**13 58 55.3**	**+1.0**
CTAO				IAmb	IAmb	13 59 12.2	
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**30.22**	**225**	P	**P**	**14 00 22.8**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=62,slow=9.4,SNR=7.6						
STKA				LR	LR	14 11 57.3	
	comp=Z,148nm,18.6s,baz=30,slow=35						
STKA	**Stephens Creek**	**30.22**	**225**	IAmb	IAmb	14 00 25.4	
	comp=Z,1.1nm,1.2s						
WR0	**Warramunga Arr**	**31.53**	**251**	P	**P**	**14 00 33.3**	**-0.3**
WR0				IAmb	IAmb	14 01 02.2	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**31.63**	**252**	P	**P**	**14 00 34.2**	**-0.3**
WB0				IAmb	IAmb	14 00 49.0	
	comp=Z,12nm,1.3s						
TOO	**Toolangi**	**31.65**	**213**	P	**P**	**14 00 36.2**	**+1.7**
WRAB	**Tennant Creek**	**31.70**	**251**	P	**P**	**14 00 34.6**	**-0.5**
WRAB				IAmb	IAmb	14 00 48.9	
	comp=Z,7.0nm,1.2s						
WB2	**Warramunga Arr**	**31.70**	**251**	P	**P**	**14 00 34.2**	**-0.9**
WB2				IAmb	IAmb	14 00 46.9	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**31.71**	**251**	P	**P**	**14 00 35.0**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=83,slow=9.2,SNR=22						
WRA				PcP	**PcP**	**14 03 26.2**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=82,slow=3.3,SNR=7.6						
WRA	**Warramunga Arr**	**31.71**	**251**	P	**P**	**14 00 34.8**	**-0.5**
RPZ	**Rata Peaks**	**31.99**	**173**	P	**P**	**14 00 38.5**	**+1.2**
	comp=Z,6.5nm,0.6s,baz=339,slow=3.4,SNR=6.1						
RPZ	**Rata Peaks**	**31.99**	**173**	P	**P**	**14 00 39.2**	**+1.9**
AS31	**Alice Springs**	**32.91**	**245**	P	**P**	**14 00 44.8**	**-0.9**
ASAR	**Alice Springs**	**32.91**	**245**	P	**P**	**14 00 45.0**	**-0.8**
	comp=Z,3.5nm,0.6s,baz=68,slow=9.6,SNR=108						
ASAR				PcP	**PcP**	**14 03 29.5**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=65,slow=2.6,SNR=15						
ASAR				ScP	**ScP**	**14 07 11.1**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=74,slow=3.3,SNR=4.1						
ASAR				LR	LR	14 12 44.7	
	comp=Z,96nm,19.8s,baz=50,slow=34						
TBI	**Tubuai**	**43.52**	**111**	*e*LR	LR	14 14 23.8	
	comp=Z,133nm,27.0s						
MJAR	**Matsushiro Arr**	**54.95**	**332**	P	**P**	**14 03 40.0**	**-2.0**
	comp=Z,2.5nm,0.8s,baz=169,slow=8.0,SNR=5.1						
MJAR	**Matsushiro Arr**	**54.95**	**332**	IAmb	IAmb	14 03 41.2	
	comp=Z,1.9nm,1.0s						
MAT	**Matsushiro**	**54.96**	**332**	P	**P**	**14 03 39.1**	**-2.9**
JSU	**Suzuyama**	**55.15**	**322**	P	**P**	**14 03 42.9**	**-0.6**
TPUB	**Ta-pu**	**56.73**	**308**	P	**P**	**14 03 54.0**	**-1.0**
KSRS	**Korea Array**	**60.87**	**326**	P	**P**	**14 04 23.0**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=138,slow=6.9,SNR=7.9						
NJ2	**Nanjing**	**62.99**	**315**	*e*P	**P**	**14 04 38.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,18nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,280nm,4.3s						
NJ2				LR	LR		
	comp=N,2μm,21.6s						
NJ2				LR	LR		
	comp=E,980nm,22.3s						
NJ2				LR	LR		
	comp=Z,2μm,20.4s						
USRK	**Ussuriysk Ar.**	**63.93**	**333**	P	**P**	**14 04 43.8**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=178,slow=4.3,SNR=3.8						
USRK	**Ussuriysk Ar.**	**63.93**	**333**	P	**P**	**14 04 43.4**	**-0.3**
VNDA	**Vanda**	**65.67**	**181**	P	**P**	**14 04 55.3**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=349,slow=9.0,SNR=15						
VNDA	**Vanda**	**65.67**	**181**	P	**P**	**14 04 55.4**	**+0.7**
VNDA				IAmb	IAmb	14 05 10.0	
	comp=Z,4.0nm,1.1s						
CASY	**Casey**	**65.80**	**202**	P	**P**	**14 04 55.7**	**+0.1**
CASY				IAmb	IAmb	14 04 56.4	
	comp=Z,5.6nm,0.8s						
CN2	**Changchun**	**66.73**	**329**	*e*P	**P**	**14 05 01.5**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ENH	**Enshi**	**68.84**	**309**	P	**P**	**14 05 14.5**	**-1.0**
GYA	**Guiyang**	**69.33**	**304**	⇓P	**P**	**14 05 19.3**	**+0.6**
GYA				pP	sP	14 05 35.8	-1.0
GYA				S	**S**	**14 14 31.0**	**+8.9**
GYA	**Guiyang**	**69.33**	**304**	SS	SS	14 18 35.0	-15
GYA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GYA				LR	LR		
	comp=N,940nm,17.5s						
GYA				LR	LR		
	comp=E,460nm,17.4s						
GYA				LR	LR		
	comp=Z,1μm,18.4s						
TIY	**Taiyuan**	**70.53**	**317**	*e*P	**P**	**14 05 26.5**	**+0.7**
TIY				pmax	pmax		
	comp=Z,14nm,0.9s						
TIY				LR	LR		
	comp=N,1μm,14.3s						
TIY				LR	LR		
	comp=E,250nm,11.4s						
TIY				LR	LR		
	comp=Z,2μm,15.9s						
XAN	**Xi'an**	**71.08**	**312**	P	**P**	**14 05 29.5**	**+0.3**
XAN				pP	pP	14 05 39.8	-2.2
XAN				pmax	pmax		
	comp=Z,21nm,0.7s						
XAN	**Xi'an**	**71.08**	**312**	P	**P**	**14 05 29.0**	**-0.2**
HHC	**Hu-ho-hao-te**	**72.81**	**320**	*e*P	**P**	**14 05 39.5**	**0.0**
HHC				PP	PP	14 08 33.0	+11
HHC				pmax	pmax		
	comp=Z,32nm,1.1s						
HHC				pmax	pmax		
	comp=Z,150nm,6.5s						
CMAR	**Chiang Mai Arr**	**72.94**	**294**	P	**P**	**14 05 41.2**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=126,slow=4.7,SNR=30						
CMAR	**Chiang Mai Arr**	**72.94**	**294**	P	**P**	**14 05 40.0**	**-0.6**
CHTO	**Chiang Mai**	**73.05**	**294**	P	**P**	**14 05 41.1**	**-0.1**
CHTO				IAmb	IAmb	14 05 42.3	
	comp=Z,2.4nm,0.7s						
CD2	**Chengdu**	**73.53**	**307**	P	**P**	**14 05 44.8**	**+0.9**
CD2				pmax	pmax		
	comp=Z,30nm,1.1s						
LZH	**Lanzhou**	**75.71**	**312**	*e*P	**P**	**14 05 57.8**	**+1.2**
LZH				pP	pwP	14 06 13.3	-2.0
LZH				sP	sP	14 06 19.5	+4.9
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,79nm,8.5s						
LZH				LR	LR		
	comp=N,130nm,16.5s						
LZH				LR	LR		
	comp=E,130nm,17.0s						
LZH				LR	LR		
	comp=Z,210nm,19.2s						
QSPA	**South Pole Qui**	**78.13**	**180**	P	**P**	**14 06 09.6**	**0.0**

QSPA				IAmb	IAmb	14 06 24.0	
	comp=Z,10.0nm,1.1s						
ULN	**Ulaanbaatar**	**79.29 324**		P	**P**	**14 06 16.3**	**0.0**
SONM	**Songino Array**	**79.65 324**		P	**P**	**14 06 18.3**	**0.0**
	comp=Z,2.7nm,0.5s,baz=148,slow=5.8,SNR=13						
SONM	**Songino Array**	**79.65 324**		P	**P**	**14 06 17.9**	**-0.3**
GTA	**Gaotai**	**80.02 314**	⇑	P	**P**	**14 06 21.0**	**+0.6**
GTA				pP	pP	14 06 32.3	-1.8
GTA				sP	pwP	14 06 36.8	-0.4
GTA				pmax	pmax		
	comp=Z,11nm,1.3s						
GTA				pmax	pmax		
	comp=Z,75nm,7.1s						
GTA				LR	LR		
	comp=N,340nm,17.4s						
GTA				LR	LR		
	comp=E,390nm,16.4s						
GTA				LR	LR		
	comp=Z,390nm,18.2s						
ILAR	**Eielson Array**	**84.13 18**		P	**P**	**14 06 39.2**	**-2.0**
	comp=Z,0.9nm,1.0s,baz=206,slow=6.3,SNR=5.7						
MAW	**Mawson**	**84.15 202**		P	**P**	**14 06 41.2**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=126,slow=4.9,SNR=6.6						
MAW	**Mawson**	**84.15 202**		IAmb	IAmb	14 06 42.3	
	comp=Z,0.8nm,0.8s						
TAPN	**Taplejung**	**85.48 299**		*e*P	**P**	**14 06 50.2**	**+1.0**
	comp=Z,15nm,0.7s						
ODAN	**Odare**	**85.62 298**		*e*P	**P**	**14 06 50.3**	**+0.4**
	comp=Z,39nm,0.7s						
NVAR	**Mina Array Bea**	**86.15 50**		P	**P**	**14 06 52.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=224,slow=5.0,SNR=2.8						
RAMN	**Ramite**	**86.32 298**		*e*P	**P**	**14 06 52.9**	**-0.5**
	comp=Z,14nm,0.6s						
JIRN	**Jiri**	**86.86 299**		*e*P	**P**	**14 06 56.4**	**+0.3**
	comp=Z,24nm,0.8s						
PKI	**Pulchoki**	**87.51 299**		*e*P	**P**	**14 06 59.1**	**-0.1**
	comp=Z,20nm,0.7s						
PKIN	**Phulchoki**	**87.52 299**		*e*P	**P**	**14 06 59.0**	**-0.2**
	comp=Z,17nm,0.7s						
KKN	**Kakani**	**87.67 299**		*e*P	**P**	**14 06 59.9**	**0.0**
	comp=Z,29nm,0.8s						
DMN	**Daman**	**87.78 299**		*e*P	**P**	**14 07 00.7**	**+0.3**
	comp=Z,58nm,0.7s						
GKN	**Gorkha**	**88.28 299**		*e*P	**P**	**14 07 02.2**	**-0.5**
	comp=Z,32nm,0.6s						
KOLN	**Koldanda**	**89.11 298**		*e*P	**P**	**14 07 06.0**	**-0.7**
	comp=Z,19nm,0.6s						
DANN	**Dangsing**	**89.11 299**		*e*P	**P**	**14 07 06.1**	**-0.7**
	comp=Z,44nm,0.6s						
PYUN	**Piuthan**	**89.71 299**		*e*P	**P**	**14 07 08.6**	**-0.9**
	comp=Z,37nm,0.8s						
WMQ	**Urumqi**	**90.06 315**		*e*P	**P**	**14 07 10.3**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.7s						
MK31	**Makanchi Array**	**94.49 317**		P	**P**	**14 07 30.2**	**-0.7**
MKAR	**Makanchi Array**	**94.49 317**		P	**P**	**14 07 30.6**	**-0.3**
	comp=Z,5.1nm,0.6s,baz=88,slow=6.0,SNR=56						
MKAR	**Makanchi Array**	**94.49 317**		P	**P**	**14 07 30.3**	**-0.6**
ZALV	**Zalesovo Beam**	**94.54 324**		P	**P**	**14 07 29.6**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=116,slow=6.8,SNR=4.1						
ARCES	**ARCESS Array B 117.27 346**			PKP	**PKPdf**	**14 12 53.6**	**-1.6**
	comp=Z,3.7nm,1.1s,baz=50,slow=1.9,SNR=7.4						
TORD	**Torodi Ar. Bea**	**164.91 276**		PKPab	**PKPab**	**14 15 11.8**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=60,slow=4.0,SNR=4.0						

IDC 29 14:13:48.9±2.6, 5°.45S×129°.69E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.7/25, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=148.4km s-min=27.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.10**	**163**	Pn	Pn	14 17 22.4	-1.3
	0.5nm,0.3s,baz=336,slow=14,SNR=29						
WRA				Sn	Sn	14 20 06.2	-5.7
	0.1nm,0.3s,baz=242,slow=7.1,SNR=1.7						
ASAR	**Alice Springs**	**18.57**	**168**	P	Pn	14 18 08.0	+0.4
	0.4nm,0.3s,baz=352,slow=11,SNR=51						
ASAR				S	Sn	14 21 31.0	-4.9
	0.0nm,0.3s,baz=348,slow=26,SNR=2.0						
CMAR	**Chiang Mai Arr**	**38.51**	**309**	P	P	14 21 13.7	+0.4
	0.3nm,0.3s,baz=147,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**66.77**	**327**	P	P	14 24 41.9	-0.3
	1.0nm,0.7s,baz=130,slow=7.7,SNR=9.5						

*JMA **29** 14:29:09.1±0.1, 24°.30N×121°.80E, h0km, M2.3*
*TAP **29** 14:29:09.8, 24°.33N×121°.77E, h6km, ML2.8, C*
ISC 29 14:29:09.2±0.8, 24°.33N±0°.01×121°.80E±0°.02, h11km±5km, n86, σ0°87/152, 8C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.11**	**330**	⇑ *i*P	**Pg**	**14 29 12.2**	**+0.2**
	baz=348						
ENA				S	**Sg**	**14 29 13.9**	**-0.1**
	baz=348						
ENAH	**Nanao**	**0.12**	**5**	⇑ *i*P	**Pg**	**14 29 12.6**	**+0.4**
	baz=13						
ENAH				*i* S	**Sg**	**14 29 14.5**	**+0.3**
	baz=13						
NACB	**Ninganchiao**	**0.25**	**229**	⇓ *i*P	**Pg**	**14 29 14.5**	**+0.2**
	baz=214						
NACB				*i* S	**Sg**	**14 29 18.2**	**+0.5**
	baz=214						
TWD	**Chiawan**	**0.31**	**216**	⇓ *i*P	**Pg**	**14 29 15.8**	**+0.2**
	baz=211						
TWD				*e*S	**Sg**	**14 29 20.2**	**+0.5**
	baz=211						
ETLH	**Xiulin Townshi**	**0.32**	**246**	⇓ *i*P	**Pg**	**14 29 15.8**	**+0.2**
	baz=245						
ETLH				*i* S	**Sg**	**14 29 20.5**	**+0.6**
	baz=245						
ENTT	**Nioudou**	**0.37**	**325**	⇑ *i*P	**Pb**	**14 29 17.5**	**-0.4**
	baz=329						
ENTT				*e*S	**Sg**	**14 29 22.6**	**+1.0**
	baz=329						
NDT	**Datong Townshi**	**0.37**	**316**	⇑ *i*P	**Pb**	**14 29 17.7**	**-0.2**
	baz=319						
NDT				S	**Sb**	**14 29 23.7**	**-0.1**
	baz=319						
NNSB	**Datong**	**0.39**	**284**	*e*P	**Pb**	**14 29 17.6**	**-0.7**
	baz=285						
NNSB				S	**Sg**	**14 29 22.7**	**+0.5**
	baz=285						
NNSH	**Datong**	**0.39**	**284**	*e*P	**Pb**	**14 29 17.6**	**-0.6**
	baz=285						
NNSH				*e*S	**Sg**	**14 29 22.6**	**+0.4**
	baz=285						
HWA	**Hwalien**	**0.40**	**207**	*e*P	**Pb**	**14 29 18.3**	**0.0**
	baz=201						
NNS	**Nan Shan**	**0.40**	**285**	P	**Pb**	**14 29 17.9**	**-0.6**
	baz=286						
NNS				*e*S	**Sg**	**14 29 23.2**	**+0.6**
	baz=286						
TWE	**Neicheng**	**0.40**	**343**	⇑ *i*P	**Pb**	**14 29 18.1**	**-0.3**
	baz=349						
TWE				*e*S	**Sg**	**14 29 22.9**	**+0.4**
	baz=349						
YHNB	**Yeheng**	**0.51**	**311**	⇑ *i*P	**Pb**	**14 29 20.3**	**0.0**
	baz=313						
YHNB				*e*S	**Sg**	**14 29 26.7**	**+0.7**
	baz=313						
FUSS	**Fushou**	**0.51**	**260**	*e*P	**Pb**	**14 29 19.9**	**-0.6**
	baz=260						
FUSS				*e*S	**Sb**	**14 29 27.3**	**-0.8**
	baz=260						
NWLT	**Wulai**	**0.52**	**329**	⇑ *i*P	**Pb**	**14 29 20.4**	**0.0**
	baz=331						
NWLT				S	**Sg**	**14 29 26.8**	**+0.6**
	baz=331						
NTC	**Toucheng**	**0.52**	**3**	*e*P	**Pb**	**14 29 20.3**	**-0.1**
	baz=6.0						
NTC				*e*S	**Sb**	**14 29 28.6**	**+0.6**
	baz=6.0						
EGS		**0.52**	**13**	*e*P	**Pb**	**14 29 20.1**	**-0.3**
	baz=28						
EGS				*e*S	**Sb**	**14 29 28.4**	**+0.3**
	baz=28						
WHF	**Hehuan Shan**	**0.52**	**249**	⇓ *i*P	**Pg**	**14 29 19.9**	**+0.3**
	baz=247						
WHF				S	**Sb**	**14 29 27.4**	**-1.1**
	baz=247						
NSK	**Sanguang**	**0.53**	**310**	⇑ *i*P	**Pb**	**14 29 20.6**	**0.0**
	baz=313						
NSK				*e*S	**Sb**	**14 29 28.0**	**-0.3**
	baz=313						
TWT	**Tachien**	**0.57**	**262**	*e*P	**Pb**	**14 29 21.5**	**0.0**
	baz=261						
TWT				*e*S	**Sb**	**14 29 29.3**	**-0.4**
	baz=261						
TDCB	**Techi**	**0.59**	**262**	P	**Pb**	**14 29 21.4**	**-0.3**
	baz=261						
TDCB				*e*S	**Sb**	**14 29 29.2**	**-1.0**
	baz=261						
ESL	**Shilin**	**0.62**	**213**	⇓ *i*P	**Pg**	**14 29 21.2**	**0.0**
	baz=210						
ESL				*e*S	**Sg**	**14 29 28.9**	**-0.4**
	baz=210						
CHGB	**Renai**	**0.63**	**245**	P	**Pb**	**14 29 22.0**	**-0.4**
	baz=233						
CHGB				S	**Sb**	**14 29 30.8**	**-0.6**
	baz=233						
TIPB	**Shuangxi**	**0.64**	**2**	*e*P	**Pb**	**14 29 22.7**	**+0.3**
	baz=5.0						
TIPB				*e*S	**Sb**	**14 29 30.9**	**-0.5**
	baz=5.0						
TWA	**Mucha**	**0.67**	**343**	*e*P	**Pn**	**14 29 23.5**	**-1.3**
	baz=346						
TWA				*e*S	**Sn**	**14 29 33.1**	**-2.2**
	baz=346						
TWB1	**Santiao Chiao**	**0.69**	**14**	P	**Pn**	**14 29 23.8**	**-1.2**
	baz=17						
TWB1				*e*S	**Sg**	**14 29 31.7**	**-0.1**
	baz=17						
TATO	**Taipei**	**0.70**	**336**	*e*P	**Pn**	**14 29 23.9**	**-1.2**
	baz=338						
TATO				*e*S	**Sb**	**14 29 32.5**	**-0.6**
	baz=338						
NWF	**Wu-fen Shan**	**0.73**	**359**	*e*P	**Pn**	**14 29 25.1**	**-0.5**
	baz=351						
NWF				*e*S	**Sb**	**14 29 34.4**	**+0.1**
	baz=351						
WFSB	**Wu-fen Shan**	**0.73**	**359**	*e*P	**Pn**	**14 29 25.0**	**-0.6**
	baz=351						
WFSB				*e*S	**Sb**	**14 29 34.4**	**+0.2**
	baz=351						
EGFH	**Guangfu**	**0.74**	**207**	*e*P	**Pg**	**14 29 23.7**	**0.0**
	baz=215						
EGFH				*e*S	**Sb**	**14 29 34.5**	**0.0**
	baz=215						
LIOB	**Emei**	**0.78**	**294**	*e*P	**Pn**	**14 29 25.4**	**-0.8**
	baz=294						
LIOB				*e*S	**Sn**	**14 29 37.3**	**-0.7**
	baz=294						
WHP	**Taichung City**	**0.78**	**266**	*e*P	**Pn**	**14 29 25.5**	**-0.8**
	baz=266						
WHP				*e*S	**Sb**	**14 29 35.4**	**-0.1**
	baz=266						
NSTT	**Nanjuang**	**0.79**	**292**	P	**Pn**	**14 29 26.0**	**-0.3**
	baz=293						
NSTT				*e*S	**Sn**	**14 29 36.7**	**-1.4**
	baz=293						
VWDT	**VWDT**	**0.83**	**226**	*e*P	**Pb**	**14 29 25.3**	**-0.5**
	baz=215						
VWDT				*e*S	**Sg**	**14 29 37.1**	**+0.9**
	baz=215						
YM01	**YM01**	**0.83**	**346**	*e*P	**Pn**	**14 29 26.6**	**-0.4**
	baz=348						
YM01				*e*S	**Sg**	**14 29 37.5**	**+1.2**
	baz=348						
TWS1	**Kuangyinshan**	**0.84**	**336**	*e*P	**Pn**	**14 29 27.3**	**+0.3**
	baz=338						
TWS1				*e*S	**Sn**	**14 29 37.8**	**-1.6**
	baz=338						
YM10	**YM10**	**0.85**	**345**	*e*P	**Pn**	**14 29 26.9**	**-0.3**
	baz=347						
YM10				*e*S	**Sg**	**14 29 37.6**	**+1.0**
	baz=347						
YM04	**YM04**	**0.85**	**344**	*e*P	**Pn**	**14 29 27.3**	**0.0**
	baz=346						
YM04				*e*S	**Sn**	**14 29 38.0**	**-1.8**
	baz=346						
YM05	**YM05**	**0.85**	**346**	*e*P	**Pn**	**14 29 27.3**	**0.0**
	baz=348						
YM05				*e*S	**Sn**	**14 29 39.7**	**-0.2**
	baz=348						
YM11	**YM11**	**0.85**	**346**	*e*P	**Pn**	**14 29 27.2**	**-0.2**
	baz=348						
YM11				*e*S	**Sn**	**14 29 38.7**	**-1.2**
	baz=348						
YM08	**YM08**	**0.87**	**347**	*e*P	**Pn**	**14 29 27.8**	**+0.2**
	baz=349						
YM03	**YM03**	**0.87**	**344**	*e*P	**Pn**	**14 29 28.0**	**+0.4**
	baz=346						
NTST	**Danshui**	**0.89**	**339**	*e*P	**Pn**	**14 29 27.7**	**0.0**
	baz=352						
NTST				*e*S	**Sn**	**14 29 40.1**	**-0.5**
	baz=352						
ANP	**Anpu**	**0.89**	**343**	*e*P	**Pn**	**14 29 27.4**	**-0.4**
	baz=346						
HGSD	**Ruisui**	**0.91**	**202**	*e*P	**Pn**	**14 29 27.4**	**-0.5**
	baz=215						
HGSD				*e*S	**Sn**	**14 29 41.4**	**+0.4**
	baz=215						
EHY	**Hungye**	**0.93**	**208**	*e*P	**Pg**	**14 29 27.2**	**0.0**
	baz=214						
EHY				*e*S	**Sb**	**14 29 39.1**	**-0.8**
	baz=214						
TWQ1	**Liyutan**	**0.94**	**271**	P	**Pn**	**14 29 29.3**	**+0.9**
	baz=271						
TWQ1				*e*S	**Sn**	**14 29 41.6**	**-0.3**
	baz=271						
SMLT	**Sun Moon Lake**	**0.94**	**242**	*e*P	**Pn**	**14 29 27.9**	**-0.6**
	baz=229						
SMLT				*e*S	**Sb**	**14 29 38.8**	**-1.3**
	baz=229						
SSLB	**Suanglung**	**0.94**	**235**	⇓ *i*P	**Pg**	**14 29 27.7**	**+0.2**
	baz=233						
SSLB				*e*S	**Sb**	**14 29 39.4**	**-0.9**
	baz=233						
TWY	**Chenhua**	**0.95**	**349**	*e*P	**Pn**	**14 29 30.5**	**+1.9**
	baz=351						
TWY				*e*S	**Sn**	**14 29 42.9**	**+0.7**
	baz=351						
YULB	**Yu-li**	**1.04**	**206**	*e*P	**Pn**	**14 29 29.2**	**-0.7**
	baz=215						
YULB				*e*S	**Sn**	**14 29 43.3**	**-1.2**
	baz=215						
JYNG	**Yonagunijimaku**	**1.05**	**83**	P	**Pg**	**14 29 29.9**	**+0.4**
JYNG				*e*S	**Sn**	**14 29 44.4**	**-0.2**
WHYT	**Xinyi Township**	**1.07**	**234**	*e*P	**Pg**	**14 29 31.8**	**+1.9**
	baz=233						
TWF1	**Yuli**	**1.08**	**205**	*e*P	**Pg**	**14 29 30.2**	**+0.1**
	baz=213						
TWF1				*e*S	**Sn**	**14 29 45.0**	**-0.3**
	baz=213						
WJS	**Zhushan**	**1.10**	**243**	*e*P	**Pg**	**14 29 31.4**	**+0.9**
	baz=235						
WJS				*e*S	**Sg**	**14 29 46.0**	**+1.2**
	baz=235						
YOJ	**Yonaguni jima**	**1.11**	**83**	P	**Pg**	**14 29 30.8**	**+0.2**
YOJ				S	**Sg**	**14 29 46.0**	**+0.9**
WNT	**Mingjian**	**1.12**	**246**	*e*P	**Pg**	**14 29 32.7**	**+2.0**
	baz=233						
YUS	**Yu-Shan**	**1.14**	**223**	P	**Pg**	**14 29 31.5**	**+0.2**
	baz=211						
YUS				*e*S	**Sn**	**14 29 47.0**	**-0.6**
	baz=211						
FULB	**Fuli**	**1.22**	**202**	*e*P	**Pg**	**14 29 33.9**	**+1.2**
	baz=216						
FULB				*e*S	**Sg**	**14 29 50.6**	**+2.0**
	baz=216						
ALS	**Alishan**	**1.23**	**228**	*e*P	**Pg**	**14 29 32.6**	**-0.2**
	baz=226						
ALS				*e*S	**Sg**	**14 29 49.9**	**+1.2**
	baz=226						
CHN5	**Tsauling**	**1.26**	**235**	*e*P	**Pg**	**14 29 34.8**	**+1.3**
	baz=222						
CHN5				*e*S	**Sg**	**14 29 51.6**	**+1.7**
	baz=222						
WDLH	**Douliu**	**1.32**	**241**	*e*P	**Pg**	**14 29 35.7**	**+1.1**
	baz=254						
WDLH				*e*S	**Sg**	**14 29 54.8**	**+3.1**
	baz=254						
ELDTW	**Lidau**	**1.35**	**212**	*e*P	**Pg**	**14 29 35.0**	**-0.2**
	baz=220						
ELDTW				*e*S	**Sb**	**14 29 51.2**	**-0.7**
	baz=220						
WTK	**Tuku**	**1.44**	**244**	*e*P	**Pg**	**14 29 37.6**	**+0.7**
	baz=242						
WTK				*e*S	**Sg**	**14 29 58.1**	**+2.5**
	baz=242						
CHN4	**Tsaushan**	**1.48**	**229**	P	**Pg**	**14 29 38.5**	**+0.9**
	baz=210						
TPUB	**Ta-pu**	**1.48**	**226**	*e*P	**Pg**	**14 29 37.9**	**+0.1**
	baz=212						
TPUB				*e*S	**Sg**	**14 29 57.5**	**+0.4**
	baz=212						
STYT	**Tauyuan**	**1.51**	**220**	*e*P	**Pg**	**14 29 38.2**	**0.0**
	baz=217						
WTP	**Ta-pu**	**1.53**	**225**	*e*P	**Pg**	**14 29 39.0**	**+0.3**
	baz=207						
WSF	**Szhu**	**1.60**	**245**	*e*S	**Sg**	**14 30 02.2**	**+1.5**
	baz=243						
TWK	**Hsinying**	**1.60**	**229**	*e*P	**Pg**	**14 29 40.3**	**+0.3**
	baz=210						
SNST	**Tainan City**	**1.63**	**227**	*e*P	**Pg**	**14 29 40.8**	**+0.3**
	baz=209						
CHN1	**Nanshi**	**1.63**	**226**	*e*P	**Pg**	**14 29 41.4**	**+0.8**
	baz=213						
CHN1				*e*S	**Sg**	**14 30 04.6**	**+2.8**
	baz=213						
SGST	**Jiashian**	**1.67**	**222**	*e*P	**Pg**	**14 29 41.0**	**-0.3**
	baz=210						
SGST				*e*S	**Sg**	**14 30 04.2**	**+1.1**
	baz=210						
ICHU	**Yijhu**	**1.70**	**235**	*e*P	**Pb**	**14 29 40.2**	**-0.3**
	baz=234						
SLGT	**Liugui**	**1.70**	**219**	*e*P	**Pg**	**14 29 42.9**	**+1.0**
	baz=216						
IRIF	**Iriomote-Funau**	**1.76**	**90**	P	**Pb**	**14 29 40.3**	**-1.3**
IRIF				S	**Sb**	**14 30 03.1**	**-0.6**
SCST	**Cishan**	**1.87**	**220**	*e*P	**Pb**	**14 29 43.1**	**-0.4**
	baz=218						
SSD	**Sandimen**	**1.91**	**214**	*e*P	**Pg**	**14 29 45.6**	**-0.3**
	baz=212						
JKRS	**Kuro-shima**	**2.02**	**92**	P	**Pb**	**14 29 44.7**	**-1.3**
JKRS				S	**Sb**	**14 30 09.9**	**-1.2**
MASBT	**Mashibuluo**	**2.02**	**212**	*e*P	**Pb**	**14 29 45.1**	**-1.0**
	baz=210						
JIJ	**Ishigaki jima**	**2.14**	**89**	P	**Pn**	**14 29 45.5**	**+0.6**
JIJ				*e*S	**Sn**	**14 30 11.4**	**-0.1**
PNG	**Penghu**	**2.19**	**250**	*e*P	**Pb**	**14 29 48.8**	**-0.1**
	baz=266						
PHUB	**P'eng-hu**	**2.20**	**249**	*e*P	**Pb**	**14 29 48.4**	**-0.6**
	baz=248						
WDGT	**Dungji**	**2.23**	**242**	*e*P	**Pb**	**14 29 49.3**	**-0.3**
	baz=241						
JISG	**Ishigakijimahi**	**2.30**	**83**	P	**Pn**	**14 29 47.9**	**+0.7**
JISG				S	**Sn**	**14 30 16.1**	**+0.6**
JTJ	**Tarama**	**2.66**	**83**	P	**Pn**	**14 29 53.1**	**+1.0**
JTJ				S	**Sn**	**14 30 25.7**	**+1.3**

*IDC **29** 14:39:60.0±1.6, 38°.12N×142°.61E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.4/43, mbtmp3.4/6, ML2.7/3, Error ellipse: s-maj=37.0km s-min=24.3km az=77.0*
*JMA **29** 14:40:05.3±0.1, 38°.27N×142°.17E, h39km±1km, M3.9*
JMA Felt I J1.
ISC 29 14:40:06.3±1.5, 38°.29N±0°.06×142°.2E±0°.1, h39km±5km, n20, σ1°97/32, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.56**	**272**	P	**Pn**	**14 40 16.7**	**-1.2**
JIKH				S	**Sn**	**14 40 24.5**	**-1.6**
JIO	**Ouri**	**0.68**	**284**	P	**Pn**	**14 40 18.5**	**-0.9**
JIO				S	**Sn**	**14 40 27.6**	**-1.1**
JKMT	**Kesennumamotoy**	**0.76**	**313**	P	**Pn**	**14 40 19.9**	**-0.6**
JKMT				S	**Sn**	**14 40 29.3**	**-1.5**
OFUJ	**Ofunato**	**0.89**	**333**	P	**Pn**	**14 40 21.5**	**-0.8**
OFUJ				*e*S	**Sn**	**14 40 33.4**	**-0.5**
JMK	**Ichinoseki**	**1.00**	**311**	P	**Pn**	**14 40 23.4**	**-0.4**
JMK				*e*S	**Sn**	**14 40 36.1**	**-0.6**
JMM	**Marumori**	**1.18**	**249**	P	**Pn**	**14 40 24.7**	**-1.5**
JMM				*e*S	**Sn**	**14 40 39.3**	**-1.7**
JOU	**Okura**	**1.20**	**274**	P	**Pn**	**14 40 26.2**	**-0.3**
JOU				*e*S	**Sn**	**14 40 41.6**	**0.0**
JOM	**Ohasama**	**1.37**	**330**	P	**Pn**	**14 40 29.0**	**+0.1**
JFK	**Kawauchi**	**1.39**	**229**	P	**Pn**	**14 40 27.2**	**-2.0**
JFK				S	**Sn**	**14 40 43.3**	**-3.0**
JYK	**Kaneyama**	**1.56**	**294**	P	**Pn**	**14 40 31.5**	**0.0**
JRG	**Rokugo**	**1.64**	**313**	P	**Pn**	**14 40 33.2**	**+0.6**
JFT	**Otama**	**1.65**	**243**	P	**Pn**	**14 40 32.4**	**-0.4**
JFT				*e*S	**Sn**	**14 40 52.1**	**-0.7**
JYS	**Shiratake**	**1.67**	**268**	P	**Pn**	**14 40 32.8**	**-0.2**
JYS				*e*S	**Sn**	**14 40 52.9**	**-0.3**
MJAR	**Matsushiro Arr**	**3.61**	**242**	Pn	**Pn**	**14 41 01.9**	**+2.2**
	0.4nm,0.3s,baz=75,slow=12,SNR=13						
MJAR				Sn	**Sn**	**14 41 47.2**	**+6.1**
	0.3nm,0.3s,baz=77,slow=21,SNR=4.5						
MAT	**Matsushiro**	**3.62**	**242**	P	**Pn**	**14 41 02.5**	**+2.7**
MAT				S	**Sn**	**14 41 44.1**	**+2.9**
ASAJ	**Asahikawa**	**5.83**	**3**	Pn	**Pn**	**14 41 31.6**	**+1.4**
	0.4nm,0.3s,baz=214,slow=16,SNR=11						
USRK	**Ussuriysk Ar.**	**9.68**	**311**	Pn	**Pn**	**14 42 26.8**	**+3.9**
	baz=131,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**43.98**	**301**	P	**P**	**14 48 10.0**	**+0.3**
	0.4nm,0.7s,baz=83,slow=9.9,SNR=4.4						
WRA	**Warramunga Arr**	**58.39**	**189**	P	**P**	**14 49 56.1**	**-1.7**
	0.3nm,0.5s,baz=7.2,slow=7.4,SNR=6.7						
ASAR	**Alice Springs**	**62.12**	**189**	P	**P**	**14 50 22.2**	**-1.0**
	0.7nm,1.0s,baz=358,slow=5.4,SNR=6.5						

*UNK **29** 14:43:39.5, 36°.08N×97°.23W, h4km*
*TUL **29** 14:43:39.5±0.9, 36°.08N±0°.02×97°.23W±0°.06, h4km±7km, ML3.1, Error ellipse: s-maj=6.3km s-min=2.2km az=87.0*
*ANF **29** 14:43:39.8±0.7, 36°.06N×97°.19W, h1km±5km, ML3.6/9, Error ellipse: s-maj=5.0km s-min=3.3km az=1.0*
ISC 29 14:43:39.6±1.2, 36°.09N±0°.03×97°.22W±0°.03, h6km±10km, n56, σ0°51/62, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.35**	**214**		**Pg**	**14 43 46.2**	**-0.1**
OK029				Sg	**Sg**	**14 43 51.1**	**+0.2**
QUOK	**Quay**	**0.42**	**78**		**Pg**	**14 43 48.2**	**+0.4**
QUOK				Sg	**Sg**	**14 43 53.9**	**+0.6**
OK005	**Luther M Schoo**	**0.43**	**177**	Pg	**Pg**	**14 43 48.0**	**+0.1**
OK025	**Westminster Rd**	**0.51**	**191**		**Pg**	**14 43 49.5**	**+0.1**
BCOK	**Bluff Creek, N**	**0.53**	**217**		**Pg**	**14 43 49.8**	**-0.1**
BCOK				Sg	**Sg**	**14 43 56.9**	**+0.1**
OKCFA	**Oklahoma City**	**0.69**	**196**		**Pg**	**14 43 52.8**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.70**	**195**		**Pg**	**14 43 52.9**	**-0.2**
CROK	**Carrier**	**0.75**	**304**		**Pg**	**14 43 53.9**	**-0.1**
FNO	**Franklin**	**0.84**	**190**		**Pg**	**14 43 55.6**	**-0.1**
KAN13	**South Haven SW**	**0.95**	**347**		**Pg**	**14 43 57.5**	**-0.3**
W35A	**Tecumseh**	**0.97**	**163**		**Pg**	**14 43 57.3**	**-1.0**
T35A	**Sooner Cattle**	**1.01**	**34**	Pg	**Pg**	**14 43 58.8**	**-0.2**
TUL1	**Leonard**	**1.17**	**98**	P	**Pg**	**14 44 01.1**	**-1.0**
	baz=279						
TUL1				S	**Sg**	**14 44 17.3**	**0.0**
	baz=279						
TUL1	**Leonard**	**

ABTX	Abilene, Hawle	3.99 211	Pn	Pn	14 44 41.1	-0.3
WHTX	Lake Whitney, baz=2.6	4.09 183	P	Pn	14 44 43.8	+1.1
WHTX	Lake Whitney,	4.09 183	Pn	Pn	14 44 42.3	-0.4
WHAR	Wooly Hollow	4.09 100	Pn	Pn	14 44 42.8	+0.1
MGMO	Mountain Grove	4.12 74	Pn	Pn	14 44 43.6	+0.4
FCAR	Ozark Folk Cen	4.14 91	Pn	Pn	14 44 43.5	+0.1
W41B	Gary Mavity, V baz=284	4.15 101	P	Pn	14 44 43.7	+0.1
W41B	baz=284		S	Sn	14 45 33.2	+0.8
W41B	Gary Mavity, V	4.15 101		Pn	14 44 43.6	+0.1
UALR	University of	4.19 107	Pn	Pn	14 44 43.8	-0.3
237A	Washetta, Mont	4.24 164	Pn	Pn	14 44 44.3	-0.5
R40A	Maddies Statio	4.52 59	Pn	Pn	14 44 49.0	+0.3
Z41A	Richland Creek baz=309	4.60 127	S	Sn	14 45 43.4	-0.2
LCAR	Lake Charles	4.91 88	Pn	Pn	14 44 54.1	+0.1
N35A	Tabor	4.93 14	Pn	Pn	14 44 54.4	+0.2
T42A	Van Buren	5.02 77	Pn	Pn	14 44 55.4	-0.2
BGNE	Belgrade	5.37 352	Pn	Pn	14 44 59.8	-0.6
N38A	Joes South For	5.64 32	Pn	Pn	14 45 04.1	0.0
L34A	Svendsen Farm,	5.91 6	Pn	Pn	14 45 08.0	+0.3
ECSD	EROS Data Cent	7.65 3	Pn	Pn	14 45 31.1	-0.6
LENM	Lemitar	8.22 259	Pn	Pn	14 45 39.7	0.0

*IDC **29** 14:52:45.1±0.7, 26°.89N×144°.06E, h0km, mb3.9/11, mb1 4.2/12, mb1mx4.0/36, mbtmp3.9/12, ML3.1/1, Error ellipse: s-maj=19.9km s-min=18.3km az=105.0*
*NEIC **29** 14:52:47.1±2.1, 27°.0N±0°.1×144°.0E±0°.1, h11km±4km, mb4.6/22, Error ellipse: s-maj=15.7km s-min=13.7km az=150.0*

ISC 29 14:52:51.0±0.6, 26°.93N±0°.10×143°.91E±0°.08, h35km, n48, σ1§19/51, mb4.4/21, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.55	277	Pn	Pn	14 53 15.5	-0.5
	30nm,0.3s,baz=174,slow=23,SNR=9.1						
JCJ				Sn	Sn	14 53 33.4	-1.5
	150nm,0.3s,baz=276,slow=22,SNR=9.6						
JCJ	Chichijima	1.55	277	Pn		14 53 15.4	-0.7
MJAR	Matsushiro Arr	10.74	335	Pn	Pn	14 55 19.6	-2.6
	0.1nm,0.3s,baz=164,slow=12,SNR=6.3						
MAJO	Matsushiro	10.74	335	Pn	Pn	14 55 20.2	-2.0
JMN	Monobe	10.99	310	Pn	Pn	14 55 24.8	-1.0
KSRS	Korea Array	17.10	312	P	P	14 56 53.0	+4.4
	0.1nm,0.3s,baz=107,slow=11,SNR=5.6						
KSAR	Wonju Array Be	17.12	312	P	Pn	14 56 47.3	-0.2
SONM	Songino Array	35.90	316	P	P	14 59 48.7	+0.8
	0.6nm,0.5s,baz=98,slow=10,SNR=2.6						
SOEI	Soe	41.15	210	P	P	15 00 33.0	+0.9
SOEI				IAmb	IAmb	15 00 55.9	
	comp=Z,21nm,1.3s						
MTN	Manton Dam	41.44	199	P	P	15 00 33.3	-1.0
MTN				IAmb	IAmb	15 00 36.5	
	comp=Z,12nm,1.2s						
CMAR	Chiang Mai Arr	42.15	268	P	P	15 00 41.4	+1.0
	comp=Z,0.5nm,0.3s,baz=64,slow=6.1,SNR=2.6						
KNRA	Kununurra	44.84	201	P	P	15 01 02.1	+0.3
WB0	Warramunga Arr	47.33	192	P	P	15 01 20.6	-0.9
WB0				IAmb	IAmb	15 01 38.3	
	comp=Z,12nm,1.4s						
WR0	Warramunga Arr	47.49	192	P	P	15 01 21.5	-1.1
WR0				IAmb	IAmb	15 01 31.5	
	comp=Z,9.4nm,1.4s						
WRAB	Tennant Creek	47.50	192	P	P	15 01 21.8	-1.0
WRAB				IAmb	IAmb	15 01 22.7	
	comp=Z,4.8nm,0.8s						
WB2	Warramunga Arr	47.51	192	P	P	15 01 21.6	-1.3
WB2				IAmb	IAmb	15 01 32.9	
	comp=Z,3.7nm,0.8s						
WRA	Warramunga Arr	47.51	192	P	P	15 01 22.1	-0.8
	comp=Z,3.2nm,0.7s,baz=14,slow=8.8,SNR=28						
WRA	Warramunga Arr	47.51	192	IAmb	IAmb	15 01 22.8	
	comp=Z,0.5nm,1.3s						
FITZ	Fitzroy Crossi	48.14	204	P	P	15 01 27.6	-0.1
ZALV	Zalesovo Beam	50.62	319	P	P	15 01 46.2	-0.2
	comp=Z,0.9nm,0.7s,baz=95,slow=10,SNR=2.4						
ZALV				PcP	PcP	15 03 03.0	-0.5
	comp=Z,1.2nm,0.6s,baz=104,slow=2.3,SNR=4.4						
ASAR	Alice Springs	51.22	192	P	P	15 01 50.0	-1.1
	comp=Z,0.4nm,0.6s,baz=10,slow=5.9,SNR=12						
ASAR				PcP	PcP	15 03 06.1	0.0
	comp=Z,0.3nm,0.8s,baz=17,slow=3.4,SNR=2.3						
MK31	Makanchi Array	51.76	310	P	P	15 01 55.5	+0.4
MKAR	Makanchi Array	51.76	310	P	P	15 01 55.3	+0.2
	comp=Z,1.5nm,0.7s,baz=87,slow=10.0,SNR=16						
MKAR	Makanchi Array	51.76	310	P	P	15 01 55.4	+0.3
MAKZ	Makanchi	51.98	310	P	P	15 01 56.8	+0.1
IMAR	Indian Mountai	54.50	26	P	P	15 02 15.2	+0.3
SML	Sawmill	56.16	32	P	P	15 02 27.4	+0.4
SCM	Sheep Creek Mo	56.63	32	P	P	15 02 30.0	-0.3
ILAR	Eielson Array	57.12	28	P	P	15 02 32.7	-1.0
	comp=Z,0.6nm,0.9s,baz=258,slow=5.7,SNR=5.6						
ILAR				PcP	PcP	15 03 27.2	-0.9
	comp=Z,0.3nm,0.8s,baz=290,slow=3.9,SNR=2.9						
KLU	Klutina	57.28	32	P	P	15 02 35.0	+0.1
KK31	Karatay Array	60.42	306	P	P	15 02 55.7	-1.3
KK31				IAmb	IAmb	15 03 01.4	
	comp=Z,2.8nm,0.7s						
KKAR	Karatay Array	60.42	306	P	P	15 02 56.5	-0.5
KKAR	Karatay Array	60.42	306	P	P	15 02 55.8	-1.2
KKAR				IAmb	IAmb	15 03 01.3	
	comp=Z,2.8nm,0.7s						
CHGR	Chuyangaron	62.35	301	P	P	15 03 09.8	-0.4
INK	Inuvik	62.54	25	P	P	15 03 10.3	-0.5
	comp=Z,5.1nm,1.0s,baz=286,slow=7.4,SNR=4.6						
INK	Inuvik	62.54	25	P	P	15 03 09.8	-1.0
ABKAR	Akbulak array	66.31	315	P	P	15 03 34.9	-0.9
ABKAR	Akbulak array	66.31	315	P	P	15 03 34.9	-0.9
JTMT	Jette	77.93	42	P	P	15 04 46.2	+0.7
JTMT				IAmb	IAmb	15 04 47.0	
	comp=Z,5.4nm,1.0s						
FIA1	FINESS Array S	78.77	334	P	P	15 04 51.6	+1.9
FINES	FINESS Array B	78.77	334	P	P	15 04 51.4	+1.7
KBZ	Khabaz	79.24	314	P	P	15 04 53.5	+0.9
	comp=Z,3.5nm,0.8s,baz=252,slow=3.2,SNR=3.0						
NVAR	Mina Array Bea	79.41	52	P	P	15 04 54.5	+0.5
	comp=Z,0.9nm,0.7s,baz=285,slow=5.2,SNR=6.2						
NV11	Mina Array Sit	79.51	52	P	P	15 04 55.2	+0.7
NV11				IAmb	IAmb	15 05 11.4	
	comp=Z,4.3nm,1.4s						
LRM	Limekiln Ridge	79.93	44	P	P	15 04 57.4	+0.7
PDAR	Pinedale Array	83.24	45	P	P	15 05 13.4	-0.8
	comp=Z,0.2nm,0.5s,baz=337,slow=4.2,SNR=2.9						
LPAZ	La Paz	148.47	77	PKPbc	PKPdf	15 12 32.9	+1.1
	comp=Z,1.8nm,0.6s,baz=126,slow=0.9,SNR=6.7						
LPAZ	La Paz	148.47	77		PKPbc	15 12 33.6	-1.8

*BJI **29** 14:55:49.1±0.0, 28°.99N×140°.97E, h41km, mB4.8/19, mb4.3/25, Ms4.3/7, Ms7 4.0/5*
*IDC **29** 14:55:50.7±0.6, 29°.56N×140°.05E, h0km, mb4.0/15, mb1 4.3/18, mb1mx4.1/37, mbtmp4.0/18, ML3.0/2, MS3.5/8, Ms1 3.5/8, ms1mx3.1/54, Error ellipse: s-maj=20.1km s-min=15.8km az=74.0*
*NEIC **29** 14:55:57.7±1.1, 29°.36N±0°.07×140°.36E±0°.09, h41km±4km, mb4.8/41, Error ellipse: s-maj=11.8km s-min=9.9km az=66.0*

ISC 29 14:55:58.5±0.4, 29°.44N±0°.06×140°.33E±0°.07, h57km, n91, σ1§52/88, mb4.6/33, MS3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.85	144	Pn	Pn	14 56 40.0	-1.6
	49nm,0.3s,baz=277,slow=23,SNR=6.6						
JCJ				Sn	Sn	14 57 13.4	-1.4
	203nm,0.3s,baz=278,slow=22,SNR=15						
JCJ				LR	LR	14 57 57.1	
	comp=Z,513nm,21.1s,baz=342,slow=41						
JCJ	Chichijima	2.85	144	Pn	Pn	14 56 39.6	-2.0
INU	Inuyama	6.53	335		Pn	14 57 32.8	+0.9
JGF	Kuroka	6.64	339		Pn	14 57 34.1	+0.6
JMN	Monobe	6.97	310	Pn	Pn	14 57 39.1	+1.1
MJAR	Matsushiro Arr	7.30	346	Pn	Pn	14 57 36.5	-6.2
	baz=172,slow=18,SNR=1.0						
MJAR				LR	LR	15 00 09.9	
	comp=Z,124nm,20.4s,baz=205,slow=36						
MJAR	Matsushiro Arr	7.30	346	Pn	Pn	14 57 40.9	-1.7
MAJO	Matsushiro	7.31	346	Pn	Pn	14 57 42.2	-0.5
MAT	Matsushiro	7.31	346	P	Pn	14 57 43.6	+1.0
MAT				S	Sn	14 58 59.4	-4.7
JMM	Marumori	8.42	3	Pn	Pn	14 57 58.5	+0.7
JMZ	Minamidaito 2	8.84	248	Pn	Pn	14 58 03.5	-0.2
JNU	Nakatsue	8.88	297	Pn	Pn	14 57 57.0	-7.2
	0.1nm,0.3s,baz=129,slow=6.5,SNR=1.6						
JNU				Sn	Sn	14 59 33.2	-10
	0.2nm,0.3s,baz=229,slow=20,SNR=2.0						
JNU				LR	LR	15 01 15.7	
	comp=Z,320nm,18.3s,baz=80,slow=38						
JNU	Nakatsue	8.88	297	Pn	Pn	14 58 03.7	-0.5
ERM	Erimo	12.76	10	Pn	Pn	14 58 56.7	-0.4
KSRS	Korea Array	13.07	311	LR	LR	15 03 29.8	
	comp=Z,156nm,18.8s,baz=130,slow=36						
KSAR	Wonju Array Be	13.09	311	Pn	Pn	14 59 02.3	+0.6
ASAJ	Asahikawa	14.76	6	Pn	Pn	14 59 18.1	-5.8
	0.1nm,0.3s,baz=190,slow=18,SNR=2.0						
JKA	Kamikawa-asahi	14.76	6		Pn	14 59 24.3	+0.4
NJ2	Nanjing	18.64	283	eP	Pn	15 00 12.5	+0.1
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
TGY	Tagaytay City	23.55	234	LR	LR	15 09 08.0	
	comp=Z,102nm,20.2s,baz=24,slow=34						
H11N2	WAKE ISLAND Hy	25.97	106	T	T	15 28 44.1	
	baz=298,slow=75,SNR=178						
H11N1	WAKE ISLAND Hy	25.97	106	T	T	15 28 46.2	
	baz=298,slow=75,SNR=328						
H11N3	WAKE ISLAND Hy	25.99	106	T	T	15 28 45.9	
	baz=298,slow=75,SNR=319						
HHC	Hu-ho-hao-te	26.02	304	eP	P	15 01 29.0	+2.7
HHC				pmax	pmax		
	comp=Z,38nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,4.3s						
HHC				LR	LR		
	comp=N,180nm,11.6s						
HHC				LR	LR		
	comp=E,280nm,11.4s						
HHC				LR	LR		
	comp=Z,220nm,11.9s						
LZH	Lanzhou	31.26	292	eP	P	15 02 14.0	+0.9
LZH				pP	pP	15 02 25.0	-1.7
LZH				sP	pwP	15 02 30.3	+0.7
LZH				ePP	PnPn	15 03 18.0	+1.0
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,78nm,4.9s						
LZH				LR	LR		
	comp=N,220nm,12.9s						
LZH				LR	LR		
	comp=E,230nm,13.3s						
LZH				LR	LR		
	comp=Z,320nm,16.5s						
SONM	Songino Array	31.90	315	P	P	15 02 17.3	-1.3
	0.4nm,0.4s,baz=116,slow=8.5,SNR=2.4						
GTA	Gaotai	34.62	298	eP	P	15 02 45.3	+2.9
GTA				pP	pP	15 02 52.8	-3.2
GTA				sP	pwP	15 02 56.3	-3.0
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,70nm,7.3s						
GTA				LR	LR		
	comp=N,130nm,15.6s						
GTA				LR	LR		
	comp=E,120nm,16.4s						
CMAR	Chiang Mai Arr	39.18	263	P	P	15 03 19.6	-1.6
	0.6nm,0.4s,baz=58,slow=8.6,SNR=1.4						
CMAR				LR	LR	15 19 58.6	
	comp=Z,86nm,18.7s,baz=136,slow=37						
MTN	Manton Dam	42.96	193		P	15 03 50.5	-1.7
MTN				IAmb	IAmb	15 03 60.0	
	comp=Z,17nm,1.0s						
WMQ	Urumqi	43.90	304	eP	P	15 04 03.3	+3.7
ZALV	Zalesovo Beam	46.66	318	P	P	15 04 17.8	-3.3
	comp=Z,0.3nm,0.4s,baz=108,slow=7.7,SNR=1.9						
ZALV				PcP	PcP	15 05 52.4	-1.7
	comp=Z,1.8nm,0.9s,baz=60,slow=5.8,SNR=3.8						
ZALV				LR	LR	15 22 05.7	
	comp=Z,73nm,21.2s,baz=338,slow=34						
MKAR	Makanchi Array	47.73	308	P	P	15 04 27.6	-2.1
	comp=Z,0.3nm,0.8s,baz=87,slow=7.7,SNR=2.3						
MKAR				PcP	PcP	15 05 56.5	-1.6
	comp=Z,0.6nm,0.8s,baz=59,slow=7.5,SNR=1.9						
MKAR				LR	LR	15 25 37.6	
	comp=Z,86nm,18.2s,baz=28,slow=38						
WB0	Warramunga Arr	49.25	187	P	P	15 04 41.8	+0.3
FITZ	Fitzroy Crossi	49.34	199	P	P	15 04 43.0	+0.8
WRAB	Tennant Creek	49.42	187	P	P	15 04 42.9	+0.1
WRAB				IAmb	IAmb	15 04 49.2	
	comp=Z,12nm,0.9s						
WR0	Warramunga Arr	49.42	187	P	P	15 04 43.1	+0.3
WB2	Warramunga Arr	49.43	187	P	P	15 04 43.1	+0.2
WB2				IAmb	IAmb	15 04 49.3	
	comp=Z,12nm,0.8s						
WRA	Warramunga Arr	49.43	187	P	P	15 04 43.2	+0.3
	comp=Z,8.1nm,0.7s,baz=4.7,slow=7.7,SNR=44						
WRA	Warramunga Arr	49.43	187	P	P	15 04 42.4	-0.5
AS31	Alice Springs	53.16	187	P	P	15 05 10.8	0.0
ASAR	Alice Springs	53.16	187	P	P	15 05 10.9	+0.2
	comp=Z,2.2nm,0.8s,baz=16,slow=14,SNR=18						
ASAR	Alice Springs	53.16	187	P	P	15 05 10.8	+0.1
PPLA	Purkeypile	54.01	32	P	P	15 05 18.3	+1.6
PSA00	Pilbara Seismi	54.42	204	P	P	15 05 21.3	+1.4
KNK	Knik Glacier	55.68	33	P	P	15 05 30.9	+2.2
TOLK	Toolik Lake Re	55.69	25	P	P	15 05 30.7	+2.0
SML	Sawmill	55.75	33	P	P	15 05 30.5	+1.2
MDM	Murphy Dome	55.90	29	P	P	15 05 31.2	+0.9
MDM				IAmb	IAmb	15 05 45.6	
	comp=Z,8.5nm,1.0s						
SCM	Sheep Creek Mo	56.23	33	P	P	15 05 33.3	+0.6
GLI	Glacier Island	56.34	34	P	P	15 05 34.6	+1.2
ILAR	Eielson Array	56.47	29	P	P	15 05 34.4	+0.1
	comp=Z,2.0nm,0.8s,baz=271,slow=5.8,SNR=21						
ILAR	Eielson Array	56.47	29		P	15 05 34.1	-0.1
VRDI	Verde Repeater	58.10	34	P	P	15 05 46.9	+0.9
VRDI				IAmb	IAmb	15 06 13.5	
	comp=Z,5.3nm,0.7s						
CRQM	Cirque	58.28	34	P	P	15 05 48.7	+1.3
BARN	Barnard Glacie	58.98	34	P	P	15 05 52.1	-0.1
CTGM	Chitina Glacie	59.15	34	P	P	15 05 55.1	+1.8
CTGM				IAmb	IAmb	15 06 08.2	
	comp=Z,8.2nm,1.1s						
FORT	Forrest	61.01	192	P	P	15 06 05.4	-0.7
HYT	Haines Junctio	61.02	34	P	P	15 06 07.7	+1.6
HYT				IAmb	IAmb	15 06 09.3	
	comp=Z,11nm,1.2s						
ABKAR	Akbulak array	62.30	313	P	P	15 06 18.4	+3.7
WHY	Whitehorse	62.32	34	P	P	15 06 16.5	+1.7
WHY				IAmb	IAmb	15 06 17.8	
	comp=Z,7.0nm,0.9s						
EUNU	Eureka	67.82	8	P	P	15 06 50.6	+0.5
ARCES	ARCESS Array B	70.80	340	P	P	15 07 07.2	-1.4
	comp=Z,4.8nm,0.9s,baz=74,slow=5.2,SNR=4.6						
YKA	Yellowknife Ar	70.87	28	P	P	15 07 08.6	-0.5
	comp=Z,2.3nm,0.8s,baz=293,slow=6.5,SNR=3.2						
FINES	FINESS Array B	75.13	333	P	P	15 07 32.9	-1.4
	comp=Z,3.0nm,0.8s,baz=150,slow=8.4,SNR=4.7						
PINE	Pine Mountain	76.04	48		P	15 07 42.5	+2.4
PINE				IAmb	IAmb	15 07 55.4	
	comp=Z,6.8nm,0.8s						
NEW	Newport	76.28	42		P	15 07 42.9	+1.7
NEW				IAmb	IAmb	15 07 50.2	
	comp=Z,5.4nm,0.9s						
BMO	Blue Mountains	77.83	45	P	P	15 07 51.6	+1.6
AKASG	Malin Array Be	79.77	323	P	P	15 07 58.2	-2.2
	comp=Z,0.3nm,0.4s,baz=45,slow=6.4,SNR=1.5						
LRM	Limekiln Ridge	80.28	43	P	P	15 08 04.9	+1.3
NVAR	Mina Array Bea	80.35	51	P	P	15 08 05.3	+1.2
	comp=Z,1.2nm,0.7s,baz=288,slow=6.8,SNR=8.8						
NVAR	Mina Array Bea	80.35	51	P	P	15 08 04.9	+0.8
TPNV	Topopah Spring	82.51	52	P	P	15 08 16.8	+1.3
PRN	Pahroc Range	83.08	51	P	P	15 08 19.8	+1.4
BRTR	Keskin Array B	83.22	312	P	P	15 08 18.0	-1.0
	comp=Z,1.2nm,0.9s,baz=61,slow=7.2,SNR=2.7						
PDAR	Pinedale Array	83.69	44	P	P	15 08 22.8	+1.2
	comp=Z,0.6nm,0.8s,baz=270,slow=3.0,SNR=4.0						
LCMT	Little Creek M	84.52	50	P	P	15 08 27.3	+1.6
MTPU	Mount Pierson	84.66	49	P	P	15 08 28.5	+1.8
KNB	Kanab	84.80	50	P	P	15 08 28.8	+1.6
RDMU	Red Mountain	84.93	46	P	P	15 08 29.5	+1.6
SRU	San Rafael Swe	85.15	48		P	15 08 29.9	+0.9
U15A	North Rim	85.47	51	P	P	15 08 31.7	+1.0
PV21	Cone Mtn., Par	86.46	47	P	P	15 08 36.9	+1.4
PV21				IAmb	IAmb	15 08 50.2	
	comp=Z,5.3nm,0.8s						
PV23	Carpenter Ridg	86.50	47	P	P	15 08 37.1	+1.4
PV14	Lion Creek, Pa	86.53	47	P	P	15 08 37.1	+1.3
PV14				IAmb	IAmb	15 08 43.6	
	comp=Z,4.7nm,0.9s						
PV17	East Wray Mesa	86.63	48	P	P	15 08 37.6	+1.3
PV17				IAmb	IAmb	15 08 53.1	
	comp=Z,6.8nm,1.0s						
PV16	Nyswonger Mesa	86.64	47	P	P	15 08 37.8	+1.4
PV16				IAmb	IAmb	15 08 44.1	
	comp=Z,4.2nm,0.9s						
PV03	Paradox Valley	86.71	47	P	P	15 08 37.9	+1.2
PV03				IAmb	IAmb	15 08 50.8	
	comp=Z,6.5nm,1.1s						
TXAR	Lajitas Array	95.49	52	P	P	15 09 18.6	+0.9
	comp=Z,0.7nm,0.7s,baz=304,slow=2.2,SNR=10.0						
LPAZ	La Paz	150.79	70	PKPbc	PKiKP	15 15 47.3	+0.8
	comp=Z,3.7nm,0.8s,baz=345,slow=3.3,SNR=12						
LPAZ	La Paz	150.79	70		PKiKP	15 15 47.1	+0.6
PLCA	Paso Flores	152.47	122	PKPbc	PKiKP	15 15 49.5	+0.8
	comp=Z,2.7nm,0.8s,baz=141,slow=5.1,SNR=3.0						

TAP 29 15:29:11.7, 24°.86N×122°.37E, h3km±1km, ML2.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.38	293	i P	Pg	15 29 18.5	-0.4
	baz=293						
TWB1				i S	Sg	15 29 23.7	-0.1
	baz=293						
TIPB	Shuangxi	0.51	283	i P	Pg	15 29 21.5	+0.1
	baz=282						
TIPB				i S	Sg	15 29 29.1	+1.1
	baz=282						
TWC	Suao	0.54	242	P	Pg	15 29 22.3	+0.3
	baz=241						
TWC				S	Sb	15 29 30.6	-1.2
	baz=241						
ENAH	Nanao	0.66	231	P	Pg	15 29 24.3	+0.1
	baz=231						
ENAH				S	Sg	15 29 32.7	0.0
	baz=231						
TWE	Neicheng	0.66	258	P	Pg	15 29 23.9	-0.3
	baz=257						
ENA	Nanau	0.72	233	i P	Pg	15 29 25.4	-0.1
	baz=232						
ENTT	Nioudou	0.77	253	i P	Pg	15 29 26.3	0.0
	baz=252						
ENTT				i S	Sg	15 29 35.9	-0.4
	baz=252						
YM01	YM01	0.78	291	P	Pg	15 29 26.5	-0.1
	baz=291						
YM08	YM08	0.78	295	P	Pb	15 29 27.4	-0.4
	baz=294						
NWLT	Wulai	0.79	264	eP	Pg	15 29 26.5	-0.4
	baz=263						
NWLT				eS	Sg	15 29 37.8	+0.6
	baz=263						
NDT	Datong Townshi	0.82	252	eP	Pg	15 29 27.8	+0.3
	baz=251						
NDT				eS	Sg	15 29 39.0	+0.9
	baz=251						
YHNB	Yeheng	0.93	258	P	Pg	15 29 28.8	-0.6
	baz=258						
YHNB				eS	Sg	15 29 42.0	+0.6
	baz=258						
NSK	Sanguang	0.94	259	i P	Pg	15 29 29.4	-0.2
	baz=258						
NACB	Ninganchiao	0.98	226	P	Pg	15 29 30.3	-0.2
	baz=225						
NACB				S	Sb	15 29 44.3	-0.4
	baz=225						
NNSB	Datong	1.00	245	P	Pg	15 29 30.3	-0.5
	baz=244						
NNSB				eS	Sb	15 29 44.7	-0.6
	baz=244						
NNSH	Datong	1.00	245	eP	Pg	15 29 30.5	-0.3
	baz=244						
NNSH				eS	Sb	15 29 45.5	+0.2
	baz=244						
NNS	Nan Shan	1.00	245	i P	Pg	15 29 30.6	-0.3
	baz=244						
NNS				eS	Sg	15 29 44.2	+0.4
	baz=244						
ETLH	Xiulin Townshi	1.04	231	eP	Pg	15 29 30.9	-0.7
	baz=231						
ETLH				eS	Sb	15 29 46.6	+0.1
	baz=231						
FUSS	Fushou	1.20	239	eP	Pg	15 29 34.3	-0.3
	baz=239						
FUSS				eS	Sb	15 29 50.6	-0.5
	baz=239						
WHF	Hehuan Shan	1.23	235	P	Pg	15 29 35.0	-0.3
	baz=234						
WHF				S	Sg	15 29 50.4	-1.0
	baz=234						
TDCB	Techi	1.26	241	P	Pg	15 29 34.7	-1.2
	baz=241						
TDCB				eS	Sg	15 29 52.1	-0.1
	baz=241						

TAP 29 15:29:20.0, 24°.91N×122°.34E, h9km±1km, ML2.1, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.34	287	P	Pb	15 29 27.6	-0.6
	baz=287						
TWB1				i S	Sb	15 29 33.1	-0.6
	baz=287						
TIPB	Shuangxi	0.47	278	i P	Pb	15 29 30.4	-0.2
	baz=277						
TIPB				i S	Sb	15 29 38.0	+0.2
	baz=277						
NWF	Wu-fen Shan	0.54	288	S	Sb	15 29 39.8	+0.2
	baz=287						
WFSB	Wu-fen Shan	0.54	288	eS	Sb	15 29 40.2	+0.7
	baz=287						
TWC	Suao	0.54	237	P	Pb	15 29 31.3	-0.4
	baz=235						
TWC				S	Sb	15 29 39.8	+0.3
	baz=235						
TWE	Neicheng	0.64	253	P	Pb	15 29 33.1	-0.3
	baz=252						
TWE				S	Sb	15 29 42.1	-0.4
	baz=252						
TWE	Neicheng	0.64	253	S	Pb	15 29 33.3	-0.1
	baz=257						
ENAH	Nanao	0.67	227	eP	P

NWLT				*e*S	Sb	15 29 46.2	-0.2
	baz=260						
ANP	**Anpu**	**0.80 291**		*e*P	Pb	15 29 36.0	-0.2
	baz=290						
ANP				*e*S	Sb	15 29 47.6	+0.5
	baz=290						
NDT	**Datong Townshi**	**0.81 248**		*e*P	Pb	15 29 36.1	-0.2
	baz=248						
NDT				*e*S	Sb	15 29 48.5	+1.0
	baz=248						
YHNB	**Yeheng**	**0.91 255**		*e*P	Pg	15 29 37.8	+0.2
	baz=254						
YHNB				*e*S	Sb	15 29 50.1	-0.3
	baz=254						
NSK	**Sanguang**	**0.93 256**		P	Pb	15 29 38.2	-0.1
	baz=255						
NSK				S	Sb	15 29 50.8	+0.1
	baz=255						
NNSB	**Datong**	**1.00 242**		*e*P	Pb	15 29 39.4	-0.2
	baz=241						
NNSB				S	Sb	15 29 53.6	+0.8
	baz=241						
NNSH	**Datong**	**1.00 242**		*e*P	Pg	15 29 39.1	-0.1
	baz=241						
NNSH				*e*S	Sb	15 29 53.5	+0.7
	baz=241						
NNS	**Nan Shan**	**1.00 242**		P	Pg	15 29 39.3	0.0
	baz=241						
NNS				*e*S	Sn	15 29 54.1	-0.5
	baz=241						
NACB	**Ninganchiao**	**1.00 223**		P	Pb	15 29 39.4	-0.1
	baz=223						
NACB				S	Sn	15 29 54.4	-0.1
	baz=223						
ETLH	**Xiulin Townshi**	**1.05 229**		*e*P	Pg	15 29 40.2	-0.1
	baz=228						
ETLH				*e*S	Sn	15 29 55.3	-0.5
	baz=228						
TWD	**Chiawan**	**1.07 220**		*e*P	Pb	15 29 40.7	0.0
	baz=219						
TWD				*e*S	Sn	15 29 55.9	-0.3
	baz=219						
HWA	**Hwalien**	**1.15 216**		*e*S	Sn	15 29 58.8	+0.7
	baz=215						
FUSS	**Fushou**	**1.20 237**		*e*P	Pn	15 29 43.6	+0.4
	baz=236						
FUSS				*e*S	Sn	15 29 59.9	+0.2
	baz=236						
WHF	**Hehuan Shan**	**1.24 233**		P	Pg	15 29 44.0	0.0
	baz=232						
WHF				*e*S	Sn	15 30 01.4	+0.3
	baz=232						
TDCB	**Techi**	**1.26 239**		*e*P	Pn	15 29 43.4	-0.6
	baz=238						
TDCB				*e*S	Sn	15 30 01.0	-0.1
	baz=238						
CHGB	**Renai**	**1.36 232**		*e*P	Pb	15 29 45.7	-0.1
	baz=231						

RHSSO ***29*** *15:29:49.3±0.4, 43°.66N×17°.14E, h6km±2km, ML2.5/8*
BEO ***29*** *15:29:52.1±0.7, 43°.73N×17°.15E, h0km, ML2.3/5*
ISC 29 15:29:49.7±0.9, 43°.65N±0°.02×17°.13E±0°.02, h12km±7km, n37, σ1s04/69, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.15 180**		*i* Pg	**Pg**	**15 29 52.9**	**-0.4**
RICI				Sg	**Sg**	**15 29 56.5**	**+0.8**
MAKA	**Makarska**	**0.37 193**		*i* Pg	**Pg**	**15 29 55.9**	**-1.1**
MAKA				Sg	**Sg**	**15 30 02.4**	**+0.4**
KIJV	**Kijevo**	**0.64 305**		*e*Pg	**Pg**	**15 30 00.8**	**-1.3**
KIJV				Sg	**Sb**	**15 30 11.3**	**-0.4**
LSTV	**Lastovo**	**0.89 191**		*e*Pg	**Pb**	**15 30 05.7**	**-1.5**
LSTV				Sg	**Sb**	**15 30 18.2**	**-0.9**
MORI	**Morici**	**1.05 283**		*e*Pg	**Pb**	**15 30 08.2**	**-1.8**
MORI				Sg	**Sn**	**15 30 24.9**	**-0.1**
BLY	**Banja Luka**	**1.10 2**		*e*Pg	**Pb**	**15 30 10.5**	**-0.3**
BLY				*e*Sg	**Sn**	**15 30 25.7**	**-0.5**
BLY	**Banja Luka**	**1.10 2**		⇓*i*Pg	**Pb**	**15 30 09.4**	**-1.4**
BLY				*e*Sg	**Sn**	**15 30 25.0**	**-1.2**
DBRK	**Dubrovnik**	**1.23 142**		*e*Pg	**Pn**	**15 30 10.7**	**-2.0**
DBRK				Sg	**Sb**	**15 30 29.2**	**+0.6**
BRY	**Bratogost**	**1.27 125**		*e*Pg	**Pn**	**15 30 11.6**	**-1.8**
BRY				*e*Sg	**Sb**	**15 30 30.4**	**+0.4**
UDBI	**Udbina**	**1.32 312**		*e*Pg	**Pg**	**15 30 16.9**	**+1.7**
UDBI				Sg	**Sg**	**15 30 33.9**	**+1.5**
UPM	**Unac-Piva**	**1.37 108**		*e*Pg	**Pn**	**15 30 13.5**	**-1.3**
UPM				*e*Sg	**Sn**	**15 30 32.9**	**-0.1**
HAPS	**Han Pijesak,BI**	**1.39 71**		*e*Pg	**Pb**	**15 30 16.0**	**+0.3**
HAPS				*e*Sg	**Sg**	**15 30 35.3**	**+0.9**
HAPS	**Han Pijesak,BI**	**1.39 71**		*e*Pg	**Pn**	**15 30 13.7**	**-1.4**
HAPS				*e*Sg	**Sb**	**15 30 32.8**	**-0.6**
DUGI	**Dugi Otok**	**1.54 284**		*e*Pn	**Pn**	**15 30 17.9**	**+0.8**
DUGI				Sn	**Sb**	**15 30 38.1**	**+0.4**
HCY	**Herceg Novi**	**1.56 140**		*e*Pg	**Pn**	**15 30 17.1**	**-0.2**
HCY				*e*Sg	**Sb**	**15 30 39.4**	**+1.2**
RUDO	**Rudo**	**1.62 90**		*e*Pn	**Pn**	**15 30 18.3**	**+0.1**
RUDO				*e*Sn	**Sb**	**15 30 39.8**	**-0.4**
BBLS	**Lazići**	**1.66 82**		*e*Pg	**Pb**	**15 30 19.8**	**-0.5**
BBLS				*e*Sg	**Sg**	**15 30 43.7**	**+0.5**
BBLS	**Lazići**	**1.66 82**		⇓*i*Pn	**Pn**	**15 30 18.8**	**0.0**
BBLS				*e*Sn	**Sn**	**15 30 40.2**	**+0.1**
NVLJ	**Novalja**	**1.87 300**		*e*Pn	**Pb**	**15 30 23.5**	**-0.3**
NVLJ				Sn	**Sb**	**15 30 48.2**	**+1.0**
PDG	**Podgorica**	**1.98 127**		*e*Pg	**Pg**	**15 30 28.6**	**+1.0**
PDG				*e*Sg	**Sg**	**15 30 55.7**	**+2.5**
PDG	**Podgorica**	**1.98 127**		*e*Pn	**Pn**	**15 30 23.0**	**0.0**
PDG				*e*Sn	**Sn**	**15 30 48.7**	**+1.0**
MOSL	**Moslavina**	**1.99 352**		*e*Pn	**Pn**	**15 30 22.8**	**-0.4**
MOSL				Sn	**Sb**	**15 30 50.2**	**-0.4**
DRME	**Dracevica, Mon**	**2.10 133**		*e*Pn	**Pn**	**15 30 24.8**	**+0.1**
DRME				*e*Sn	**Sn**	**15 30 51.8**	**+1.1**
SJES	**Sjenica**	**2.10 100**		*e*Pg	**Pg**	**15 30 30.7**	**+0.6**
SJES				*e*Sg	**Sg**	**15 30 59.6**	**+2.2**
DIVS	**Divibare**	**2.12 77**		*e*Pg	**Pg**	**15 30 29.6**	**-0.7**
DIVS				*e*Sg	**Sg**	**15 30 57.8**	**0.0**
DIVS	**Divibare**	**2.12 77**		*e*Pn	**Pn**	**15 30 24.6**	**-0.5**
DIVS				*e*Sn	**Sn**	**15 30 51.5**	**+0.1**
OZLJ	**Ozalj**	**2.30 329**		*e*Pn	**Pn**	**15 30 27.8**	**+0.4**
OZLJ				Sn	**Sb**	**15 30 58.4**	**-1.1**
PTJ	**Puntijarka**	**2.41 340**		*e*Pn	**Pn**	**15 30 29.2**	**+0.1**
TRUS	**Trudelj**	**2.44 75**		*e*Pn	**Pb**	**15 30 33.1**	**-0.4**
FRGS	**Fruska Gora**	**2.44 51**		*e*Pg	**Pg**	**15 30 35.6**	**-1.0**
CRES	**Cresnjev**	**2.49 332**		*e*Pn	**Pn**	**15 30 29.7**	**-0.4**
CRES				*e*Sn	**Sn**	**15 31 00.9**	**+0.5**
KALN	**Kalnik**	**2.53 349**		*e*Pn	**Pn**	**15 30 29.8**	**-0.9**
CEY	**Cerknica**	**2.85 318**		*e*Pn	**Pn**	**15 30 35.2**	**+0.2**
CEY				*e*Sn	**Sn**	**15 31 09.9**	**+0.6**
SOKA	**Soboth**	**3.38 335**		*i* Pn	**Pn**	**15 30 42.6**	**+0.2**
	2.1nm,0.2s						
SOKA				*i* Sn	**Sn**	**15 31 20.7**	**-1.7**
	1.7nm,0.4s						
OBKA	**Obir**	**3.40 328**		*e*Pn	**Pn**	**15 30 45.2**	**+2.5**
	2.4nm,0.3s						
OBKA				*e*Sn	**Sn**	**15 31 22.2**	**-0.7**
	7.5nm,0.7s						
ABTA	**Abfaltersbach**	**4.50 315**		*e*Pn	**Pn**	**15 30 58.8**	**+1.0**
	1.1nm,0.2s						
ABTA				Sg	**Sg**	**15 32 15.8**	**+1.5**
	3.5nm,0.6s						
VYHS	**Vyhne**	**4.99 13**		*e*PN	**Pn**	**15 31 04.0**	**-0.5**

IDC ***29*** *15:35:43.2±2.5, 40°.86N×47°.47E, h0km, mb3.9/4,*
mb1 3.8/7, mb1mx3.5/44, mbtmp3.8/7, ML3.1/3, Error
ellipse: s-maj=36.6km s-min=14.3km az=13.0
AZER ***29*** *15:35:44.2, 41°.10N×47°.78E, h7km, ML3.6*
NSSP ***29*** *15:35:44.6, 41°.10N×47°.80E, h15km, Ms3.6*
MOS ***29*** *15:35:47.6±0.0, 41°.17N×47°.74E, h9km, MPVA4.3*
DRS ***29*** *15:35:48.5±0.0, 41°.18N×47°.67E, h14km*
NNC ***29*** *15:35:51.3±3.8, 41°.44N×48°.14E, h0km, mb3.7, Error*
ellipse: s-maj=129.5km s-min=31.4km az=121.0
ISC 29 15:35:46.8±0.8, 41°.08N±0°.01×47°.77E±0°.02, h13km±5km, n123, σ1s74/202, mb3.9/4, 5C-8D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QBL	**Gabala**	**0.14 159**		P	**Pg**	**15 35 50.0**	**-0.3**
	SNR=2219						
QBL				S	**Sg**	**15 35 53.0**	**+0.1**
XNQ	**Khinaliq**	**0.29 71**		P	**Pg**	**15 35 52.6**	**-0.4**
	SNR=1169						
XNQ				S	**Sg**	**15 35 57.3**	**+0.1**
AKT	**Akhty**	**0.40 356**		*i* Pg	**Pg**	**15 35 54.6**	**-0.3**
	2μm,0.5s						
AKT				*e*Sg	**Sg**	**15 36 00.2**	**-0.2**
	21μm,0.3s						
AKT	**Akhty**	**0.40 356**		*i* PG	**Pg**	**15 35 54.6**	**-0.3**
IML	**Ismayilli**	**0.42 132**		P	**Pg**	**15 35 55.7**	**+0.5**
	SNR=92						
IML				S	**Sb**	**15 36 03.7**	**+1.3**
SEKA	**Sheki**	**0.45 287**		PG	**Pg**	**15 35 54.8**	**-1.0**
SEKA	**Sheki**	**0.45 287**		P	**Pg**	**15 35 54.8**	**-1.0**
	SNR=234						
SEKA				S	**Sg**	**15 36 02.0**	**+0.2**
QSAR	**Qusar**	**0.57 40**		P	**Pg**	**15 35 58.3**	**+0.3**
	SNR=157						
QSAR				S	**Sb**	**15 36 06.9**	**0.0**
KSMR	**Kasumkent**	**0.59 27**		*e*Pg	**Pb**	**15 35 59.0**	**0.0**
KSMR				*e*Sg	**Sb**	**15 36 07.0**	**-0.4**
KSMR	**Kasumkent**	**0.59 27**		*e*PG	**Pb**	**15 35 59.0**	**0.0**
KSMR				*e*S	**Sb**	**15 36 07.0**	**-0.4**
MNGR	**Mingechevir, A**	**0.60 240**		PG	**Pb**	**15 35 59.2**	**+0.1**
MNGR	**Mingechevir, A**	**0.60 240**		P	**Pb**	**15 35 59.3**	**+0.1**
	SNR=5.7						
MNGR				S	**Sb**	**15 36 09.2**	**+1.7**
PQL	**Pirkuli**	**0.69 114**		P	**Pg**	**15 36 00.6**	**+0.4**
	SNR=10						
PQL				S	**Sn**	**15 36 12.2**	**-0.8**
KDMR	**Kurdemir**	**0.77 156**		P	**Pb**	**15 36 02.2**	**+0.2**
	SNR=9.3						
KDMR				S	**Sn**	**15 36 15.6**	**+0.9**
ZRD	**Zardab**	**0.80 185**		P	**Pb**	**15 36 03.0**	**+0.4**
	SNR=63						
ZRD				S	**Sn**	**15 36 17.4**	**+1.9**
SIZA	**Siyzn**	**0.85 90**		P	**Pg**	**15 36 02.3**	**-1.1**
	SNR=8.2						
SIZA				S	**Sn**	**15 36 18.3**	**+1.3**
ATGJ	**Altiaghaj**	**0.91 103**		P	**Pb**	**15 36 04.9**	**+0.4**
	SNR=8.0						
ATGJ				S	**Sn**	**15 36 18.3**	**-0.2**
BRDA	**Brd**	**0.93 209**		P	**Pn**	**15 36 05.5**	**-0.1**
	SNR=11						
BRDA				S	**Sn**	**15 36 21.4**	**+2.7**
ZKTA	**Zakatala**	**1.03 303**		P	**Pb**	**15 36 05.6**	**-0.9**
	SNR=44						
ZKTA				S	**Sn**	**15 36 21.2**	**-0.1**
DRN	**Derbent**	**1.04 24**		*e*Pg	**Pn**	**15 36 07.4**	**+0.3**
	311nm,0.7s						
DRN				*e*Sg	**Sn**	**15 36 22.2**	**+0.7**
	925nm,0.6s						
DRN	**Derbent**	**1.04 24**		*e*PG	**Pn**	**15 36 07.4**	**+0.3**
DRN				*e*S	**Sn**	**15 36 22.2**	**+0.7**
GBS	**Qobustan**	**1.04 121**		P	**Pn**	**15 36 08.0**	**+0.8**
	SNR=11						
GBS				S	**Sn**	**15 36 24.8**	**+3.2**
AGDM	**Agdam**	**1.09 208**		P	**Pb**	**15 36 07.2**	**-0.3**
	SNR=98						
AGDM				S	**Sn**	**15 36 24.0**	**+1.3**
URKR	**Urkarakh**	**1.09 355**		*i* Pg	**Pn**	**15 36 08.4**	**+0.4**
	237nm,0.4s						
URKR				*e*Sg	**Sn**	**15 36 23.7**	**+0.7**
	587nm,0.6s						
URKR	**Urkarakh**	**1.09 355**		⇓*e*PG	**Pn**	**15 36 08.3**	**+0.4**
URKR				*e*		15 36 24.0	
URKR				pmax	pmax		
	comp=Z,237nm,0.4s						
URKR				smax	smax		
	comp=N,433nm,0.7s						
GANJ	**Ganja**	**1.18 249**		PG	**Pb**	**15 36 07.4**	**-1.6**
GANJ	**Ganja**	**1.18 249**		P	**Pb**	**15 36 07.4**	**-1.6**
	SNR=31						
GANJ				S	**Sb**	**15 36 24.1**	**-0.1**
SAAT	**Saatly**	**1.31 157**		P	**Pn**	**15 36 10.1**	**-0.7**
	SNR=5.1						
SAAT				S	**Sg**	**15 36 29.9**	**+0.8**
BLQ	**Beylaqan**	**1.36 187**		P	**Pn**	**15 36 11.4**	**-0.2**
	SNR=25						
BLQ				S	**Sn**	**15 36 30.0**	**+0.5**
LGD	**Lagodekhi**	**1.38 304**		*e*PG	**Pb**	**15 36 12.3**	**-0.1**
LGD	**Lagodekhi**	**1.38 304**		P	**Pb**	**15 36 12.3**	**-0.1**
LGD				S	**Sg**	**15 36 33.3**	**+2.2**
GNBR	**Gunib**	**1.44 336**		*i* Pg	**Pg**	**15 36 14.1**	**-0.4**
	comp=N,197nm,0.6s						
GNBR				*e*Sg	**Sg**	**15 36 33.3**	**0.0**
	comp=N,705nm,0.7s						
GNBR	**Gunib**	**1.44 336**		*i* PG	**Pg**	**15 36 14.1**	**-0.4**
GNBR				*e*S	**Sg**	**15 36 33.3**	**0.0**
ALIB	**Äli-Bayra**	**1.46 139**		P	**Pg**	**15 36 15.8**	**+1.0**
ALIB				S	**Sn**	**15 36 32.2**	**+0.4**
STKZ		**1.48 212**		⇓*i*P	**Pn**	**15 36 12.1**	**-1.1**
STKZ				⇑*i*S	**Sb**	**15 36 33.2**	**+0.2**
GDB	**GEDABAY**	**1.57 258**		Pn	**Pn**	**15 36 13.6**	**-0.9**
	SNR=399						
GDB				Sn	**Sn**	**15 36 34.8**	**0.0**
ARKR	**Arakani**	**1.63 339**		*e*Pg	**Pg**	**15 36 17.5**	**-0.6**
	comp=N,140nm,0.0s						
ARKR	**Arakani**	**1.63 339**		*e*PN	**Pg**	**15 36 17.5**	**-0.6**
ARKR				*e*S	**Sg**	**15 36 45.0**	**+5.7**
QRD	**Qoradiz**	**1.65 192**		Pn	**Pn**	**15 36 15.3**	**-0.2**
	SNR=15						
QRD				Sn	**Sb**	**15 36 37.9**	**+0.1**
XNZR	**Khunzakh**	**1.67 332**		*e*Pg	**Pg**	**15 36 18.5**	**-0.3**
XNZR				*e*Sg	**Sg**	**15 36 41.4**	**+0.9**
XNZR	**Khunzakh**	**1.67 332**		*e*PN	**Pg**	**15 36 18.5**	**-0.3**
XNZR				*e*S	**Sg**	**15 36 41.4**	**+0.9**
UNCR	**Uncukul**	**1.79 336**		*e*Pg	**Pg**	**15 36 21.0**	**-0.2**
UNCR	**Uncukul**	**1.79 336**		PN	**Pg**	**15 36 21.0**	**-0.2**
UNCR				S	**Sg**	**15 36 49.0**	**+4.6**
QZX	**Qazax, Azerbai**	**1.81 270**		Pn	**Pn**	**15 36 18.3**	**+0.6**
	SNR=108						
QZX				Sn	**Sb**	**15 36 42.7**	**+0.2**
BUJR	**Buynaksk**	**1.81 344**		*e*Pg	**Pg**	**15 36 21.8**	**+0.2**
BUJR				*e*Sg	**Sg**	**15 36 47.0**	**+1.8**
BUJR	**Buynaksk**	**1.81 344**		*e*PN	**Pg**	**15 36 21.8**	**+0.2**
BUJR				*e*S	**Sg**	**15 36 47.0**	**+1.8**
KRNR	**Karanay**	**1.86 340**		*i* Pg	**Pg**	**15 36 23.0**	**+0.4**
KRNR	**Karanay**	**1.86 340**		⇑*i*PN	**Pg**	**15 36 23.0**	**+0.4**
KRNR				*e*S	**Sg**	**15 36 51.5**	**+4.8**
KRNR				pmax	pmax		
	comp=Z,96nm,0.4s						
MAK	**Makhachkala**	**1.89 354**		*e*Pg	**Pg**	**15 36 22.2**	**-0.9**
MAK				*e*Sg	**Sg**	**15 36 48.7**	**+1.0**
MAK	**Makhachkala**	**1.89 354**		*e*PN	**Pn**	**15 36 19.6**	**+0.8**
MAK				pmax	pmax		
	comp=Z,196nm,0.4s						
GLBA	**Ciilabad**	**1.89 165**		Pn	**Pn**	**15 36 19.1**	**+0.3**
	SNR=7.3						
GLBA				Sn	**Sg**	**15 36 47.2**	**-0.5**
BTLR	**Botlikh**	**1.96 324**		*e*Pg	**Pb**	**15 36 23.0**	**+0.6**
	comp=Z,113nm,0.5s						
BTLR				*e*Sg	**Sg**	**15 36 49.6**	**-0.3**
	comp=Z,231nm,0.7s						
BTLR	**Botlikh**	**1.96 324**		*e*PN	**Pb**	**15 36 23.0**	**+0.6**
BTLR				*e*S	**Sg**	**15 36 49.6**	**-0.3**
DBC	**Dubki**	**2.06 340**		*i* Pg	**Pg**	**15 36 25.6**	**-0.7**
	comp=Z,143nm,0.6s						
DBC				*e*Sg	**Sg**	**15 36 54.7**	**+1.5**
	comp=Z,470nm,0.6s						
DBC	**Dubki**	**2.06 340**		⇓*i*PN	**Pg**	**15 36 25.5**	**-0.9**
DBC				*e*		15 36 55.1	
DBC				pmax	pmax		
	comp=Z,143nm,0.5s						
DBC				smax	smax		
	comp=N,498nm,1.0s						
DLMR	**Dylym**	**2.17 337**		*e*Pg	**Pb**	**15 36 26.0**	**+0.2**
DLMR	**Dylym**	**2.17 337**		*e*PN	**Pb**	**15 36 26.0**	**+0.2**
DLMR				S	**Sg**	**15 36 58.0**	**+1.6**
DLMR				pmax	pmax		
	comp=Z,192nm,0.8s						
YRD	**Yardimli**	**2.19 170**		Pn	**Pn**	**15 36 22.6**	**-0.5**
	SNR=22						
YRD				Sn	**Sb**	**15 36 52.6**	**-0.8**
DVE	**Vedeno**	**2.24 327**		*e*Pg	**Pb**	**15 36 27.6**	**+0.4**
DVE				*e*Sg	**Sg**	**15 36 56.9**	**-2.0**
DVE	**Vedeno**	**2.24 327**		⇓*e*PN	**Pb**	**15 36 27.6**	**+0.4**
DVE				*e*S	**Sg**	**15 36 56.9**	**-2.0**
BTNK	**Botanikuri**	**2.32 286**		P	**Pn**	**15 36 26.2**	**+1.5**
BTNK				S	**Sb**	**15 36 57.6**	**+0.6**
SBZ	**Shahbuz**	**2.39 226**		Pn	**Pb**	**15 36 28.1**	**-1.6**
	SNR=34						
SBZ				Sn	**Sb**	**15 37 00.5**	**+1.4**
LRK	**Lerik**	**2.47 170**		Pn	**Pn**	**15 36 26.9**	**0.0**
	SNR=12						
LRK				Sn	**Sb**	**15 37 00.3**	**-1.3**
LKRN	**Lenkeran, Azer**	**2.49 161**		PN	**Pn**	**15 36 27.6**	**+0.6**
	SNR=3.0						
LKRN	**Lenkeran, Azer**	**2.49 161**		Pn	**Pn**	**15 36 27.6**	**+0.6**
	SNR=3.0						
LKRN				Sn	**Sn**	**15 36 59.8**	**+2.6**
ORD	**Ordubad**	**2.54 213**		Pn	**Pn**	**15 36 29.1**	**+1.3**
	SNR=49						
ORD				Sn	**Sb**	**15 37 03.8**	**+0.2**
KZRT	**Kazreti**	**2.56 278**		P	**Pn**	**15 36 30.1**	**+2.0**
KZRT				S	**Sb**	**15 37 03.0**	**-1.0**
NAX	**Nakhchivan**	**2.58 223**		PN	**Pb**	**15 36 32.4**	**-0.6**
NAX	**Nakhchivan**	**2.58 223**		Pg	**Pb**	**15 36 32.3**	**-0.7**
	SNR=6.8						
NAX				Sg	**Sb**	**15 37 05.0**	**+0.5**
GROC	**Groznyy**	**2.58 326**		*e*Pn	**Pb**	**15 36 33.6**	**+0.7**
GROC				*e*Sn	**Sb**	**15 37 04.8**	**+0.3**
GROC	**Groznyy**	**2.58 326**		*e*PN	**Pb**	**15 36 33.5**	**+0.6**
GROC				*e*		15 37 12.7	
GROC				pmax	pmax		
	comp=Z,56nm,0.5s						
GROC				smax	smax		
	comp=N,228nm,0.6s						
GROC				smax	smax		
	comp=N,238nm,0.7s						
GROC				smax	smax		
	comp=E,132nm,0.4s						
GROC				MLR	MLR		
	comp=Z,209nm,2.0s						
NRKZ	**NAREK**	**2.60 247**		*i* P	**Pb**	**15 36 32.1**	**-1.3**
HYR	**Heyderabad**	**2.61 240**		Pg	**Pb**	**15 36 33.2**	**-0.2**
HYR				Sg	**Sb**	**15 37 07.1**	**+1.7**
ASTR	**Astara**	**2.63 162**		Pn	**Pn**	**15 36 30.0**	**+1.0**
	SNR=5.7						
ASTR				Sn	**Sb**	**15 37 04.3**	**-1.7**
DMNI	**Dmanisi**	**2.71 277**		P	**Pn**	**15 36 31.8**	**+1.6**
DMNI				S	**Sb**	**15 37 08.0**	**-0.5**
TRLG	**Trialeti**	**2.80 281**		P	**Pn**	**15 36 33.9**	**+2.5**
TRLG				S	**Sb**	**15 37 09.5**	**-1.5**
PNSH	**Pansheti**	**2.82 305**		P	**Pb**	**15 36 35.4**	**-1.8**
ARUZ	**Aruch**	**2.91 255**		*i* P	**Pb**	**15 36 36.6**	**-1.9**
METS	**Metsamor**	**2.96 253**		*i* P	**Pb**	**15 36 36.9**	**-2.5**
VLKR	**Vladikavkaz**	**3.03 312**		⇓*e*PN	**Pg**	**15 36 42.9**	**-1.9**
LACR	**Lac**	**3.12 305**		*e*Pn	**Pn**	**15 36 38.7**	**+2.8**
LACR				*e*Sn	**Sb**	**15 37 17.0**	**-3.3**
LACR	**Lac**	**3.12 305**		*e*PN	**Pn**	**15 36 38.7**	**+2.8**
LACR				*e*S	**Sb**	**15 37 17.0**	**-3.3**
VNNZ	**Vanand**	**3.16 253**		*i* P	**Pb**	**15 36 40.9**	**-1.9**
AKH	**Akhalkalaki**	**3.24 277**		*e*Pn	**Pn**	**15 36 40.6**	**+3.1**
AKH				*e*Sn	**Sb**	**15 37 21.9**	**-1.9**
AKH	**Akhalkalaki**	**3.24 277**		*e*PN	**Pn**	**15 36 40.6**	**+3.1**
AKH				*e*S	**Sb**	**15 37 21.9**	**-1.9**
BTKR	**Batakoyurt**	**3.32 315**		*e*PN	**Pg**	**15 36 53.3**	**+3.0**
BTKR				*e*S	**Sb**	**15 37 27.9**	**+2.1**
ARNR	**Ardon**	**3.34 310**		*e*PN	**Pn**	**15 36 37.2**	**-1.5**
ZEI	**Tsey**	**3.35 302**		*e*Pn	**Pn**	**15 36 42.4**	**+3.3**
ZEI				*e*Sn	**Sn**	**15 37 22.2**	**+3.3**
ZEI	**Tsey**	**3.35 302**		*e*PN	**Pb**	**15 36 44.9**	**-1.3**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KORR	**Kora**	**3.41 307**		*e*PN	**Pb**	**15 36 48.0**	**+0.9**
KORR				*e*S	**Sn**	**15 37 24.1**	**+4.1**
ONI	**Oni**	**3.56 297**		*e*Pn	**Pn**	**15 36 44.0**	**+2.1**
ONI				*e*Sn	**Sn**	**15 37 27.0**	**+3.2**
ONI	**Oni**	**3.56 297**		*e*PN	**Pn**	**15 36 44.0**	**+2.1**
ONI				*e*S	**Sn**	**15 37 27.0**	**+3.2**
ONI	**Oni**	**3.56 297**		P	**Pn**	**15 36 44.3**	**+2.5**
STDR	**Stavd-Durt**	**3.58 311**		*e*PN	**Pb**	**15 36 50.5**	**+0.5**
STDR				*e*S	**Sb**	**15 37 30.7**	**-2.6**
DIGR	**Digorskoe uzhe**	**3.61 302**		*e*Pn	**Pn**	**15 36 45.5**	**+2.8**
DIGR				*e*Sn	**Sb**	**15 37 30.6**	**-3.9**
DIGR	**Digorskoe uzhe**	**3.61 302**		*e*PN	**Pn**	**15 36 45.5**	**+2.8**
DIGR				*e*S	**Sn**	**15 37 25.9**	**+0.6**
LSNR	**Lesken**	**3.66 308**		⇓*e*PN	**Pg**	**15 36 56.5**	**-0.5**
KBZ	**Khabaz**	**4.48 308**		Pg	**Pb**	**15 37 05.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=162,slow=19,SNR=2.0						
KBZ				Lg	Lg	15 38 10.5	
	comp=Z,0.7nm,0.3s,baz=253,slow=14,SNR=3.9						
SHA1	**Shidzhatmaz**	**4.63 307**		*e*Pn	**Pn**	**15 37 00.4**	**+3.8**
SHA1				*e*Sn	**Sn**	**15 37 53.7**	**+3.4**
SHA1	**Shidzhatmaz**	**4.63 307**		*e*PN	**Pb**	**15 37 03.3**	**-4.6**
SHA1				*e*S	**Sb**	**15 38 01.5**	**-2.1**
BEYR	**Belyy Ugol+**	**4.69 310**		*e*PN	Pb	15 37 03.2	-5.7
BEYR				*e*S	**Sn**	**15 37 54.4**	**+2.8**
KVAR	**Kislovodsk Arr**	**4.73 309**		Pg	**Pb**	**15 37 10.3**	**+0.8**
	baz=90,slow=20,SNR=2.1						
KVAR				Lg	Lg	15 38 12.6	
	baz=231,slow=12,SNR=3.4						
KIV	**Kislovodsk**	**4.73 309**		*e*PN	**Pn**	**15 37 01.8**	**+3.9**
KIV				pmax	pmax		
	comp=Z,29nm,1.0s						
GOF	**Gofitskoye**	**5.27 321**		⇑*e*P	**Pn**	**15 37 04.2**	**-

UPC				*e*SG		**Sb**	**15 41 50.1**	**-1.2**
	comp=Z,76nm,0.4s							
DPC	**Dobruska-Polom**	**1.08 175**		*e*PG		**Pg**	**15 41 39.7**	**-0.5**
DPC				*e*SG		**Sb**	**15 41 55.0**	**-0.8**
	comp=Z,45nm,0.3s							
PVCC	**Panska Ves**	**1.36 229**		*e*PG		**Pg**	**15 41 45.6**	**+0.1**
PVCC				*e*SG		**Sn**	**15 42 04.4**	**0.0**
	comp=Z,70nm,0.5s							
KRLC	**Kraliky**	**1.41 164**		*e*PG		**Pg**	**15 41 45.6**	**-0.8**
KRLC				*e*SG		**Sb**	**15 42 04.9**	**-0.2**
	comp=Z,35nm,0.5s							
BRG	**Berggiesshubel**	**1.51 249**		PG		**Pn**	**15 41 48.2**	**+0.4**
BRG				SG		**Sn**	**15 42 08.4**	**+0.2**
	33nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.75 211**		*e*PG		**Pn**	**15 41 52.0**	**+0.8**
GOPC				*e*SG		**Sg**	**15 42 15.3**	**-0.5**
	comp=Z,20nm,0.6s							
PRU	**Pruhonice**	**1.78 217**		*e*PG		**Pn**	**15 41 52.2**	**+0.7**
PRU				*e*SG		**Sg**	**15 42 16.2**	**-0.4**
	comp=Z,21nm,0.4s							
MORC	**Moravsky Berou**	**1.87 152**		*e*PN		**Pn**	**15 41 50.9**	**-1.8**
MORC				*e*SG		**Sn**	**15 42 17.1**	**+0.1**
CLL	**Collm**	**2.00 268**		*e*Pn		**Pn**	**15 41 53.0**	**-1.5**
CLL				*i* Pg		**Pb**	**15 41 57.0**	**+0.4**
CLL				*i* Sg		**Sg**	**15 42 23.7**	**+0.1**
	comp=Z,8.0nm,0.5s							
VRAC	**Vranov**	**2.14 173**		*e*PN		**Pn**	**15 41 56.7**	**+0.3**
VRAC				*e*SG		**Sg**	**15 42 27.5**	**-0.6**
TREC	**Trest**	**2.18 192**		*e*PG		**Pb**	**15 42 00.4**	**+0.6**
TREC				*e*SG		**Sg**	**15 42 29.1**	**-0.4**
	comp=Z,16nm,0.3s							
PBCC	**Pribram**	**2.23 219**		*e*PG		**Pb**	**15 42 01.0**	**+0.3**
PBCC				*e*SG		**Sg**	**15 42 30.4**	**-0.7**
	comp=Z,9.2nm,0.7s							
KRUC	**Moravsky**	**2.37 177**		*e*PN		**Pn**	**15 42 00.9**	**+1.3**
KRUC				*e*SG		**Sg**	**15 42 35.6**	**0.0**
OJC	**Ojcow**	**2.59 116**		*e*Pg		**Pb**	**15 42 07.7**	**+0.8**
OJC				*e*Sg		**Sg**	**15 42 42.8**	**0.0**
NKC	**Novy Kostel**	**2.65 245**		*e*PN		**Pn**	**15 42 03.8**	**+0.3**
NKC				*e*PG		**Pb**	**15 42 09.4**	**+1.6**
NKC				*e*SG		**Sg**	**15 42 45.0**	**+0.4**
	comp=Z,18nm,0.3s							
JAVC	**Velka Javorina**	**2.74 159**		*e*PN		**Pn**	**15 42 06.1**	**+1.3**
KHC	**Kasperske Hory**	**2.84 217**		*e*PN		**Pn**	**15 42 07.8**	**+1.7**
KHC				*e*PG		**Pb**	**15 42 11.6**	**+0.5**
KHC				*e*SN		**Sn**	**15 42 40.9**	**-0.1**
KHC				*e*SG		**Sg**	**15 42 49.7**	**-1.0**
	comp=Z,13nm,0.7s							
MODS	**Modra-Piesok**	**3.14 167**		*e*SG		**Sg**	**15 43 01.1**	**+0.9**
VYHS	**Vyhne**	**3.40 149**		*e*PN		**Pn**	**15 42 13.8**	**0.0**
VYHS				*e*SG		**Sg**	**15 43 09.6**	**+0.9**
CONA	**Conrad Observa**	**3.51 184**		Pn		**Pn**	**15 42 15.4**	**0.0**
	comp=Z,0.1nm,0.1s							
CONA				Sg		**Sg**	**15 43 12.0**	**-0.2**
	comp=Z,11nm,0.4s							
BSD	**Bornholm Skovb**	**3.77 349**		*i* P		Pn	15 42 15.9	-2.9
BSD				*i* S		Sn	15 42 57.3	-6.6
ARSA	**Arzberg**	**4.20 186**		*e*Sg		**Sg**	**15 43 35.7**	**+1.3**
	comp=Z,5.8nm,0.4s							

IDC 29 15:43:59.5±24.0, 37°.07S×103°.05W, h0km, mb3.7/3, mb1 4.2/3, mb1mx3.7/29, mbtmp3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.3/20, Error ellipse: s-maj=734.5km s-min=307.9km az=135.0, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**19.90**	**88**	T	T	16 11 02.3	
	baz=263,slow=74,SNR=31						
H03S1	**Juan Fernandez**	**19.92**	**88**	T	T	16 11 02.7	
	baz=263,slow=74,SNR=44						
H03S3	**Juan Fernandez**	**19.92**	**88**	T	T	16 10 59.8	
	baz=263,slow=74,SNR=53						
H03N2	**Juan Fernandez**	**20.01**	**87**	T	T	16 11 02.1	
	baz=247,slow=72,SNR=8.0						
H03N3	**Juan Fernandez**	**20.01**	**87**	T	T	16 11 02.7	
	baz=247,slow=72,SNR=9.1						
H03N1	**Juan Fernandez**	**20.03**	**87**	T	T	16 10 59.6	
	baz=247,slow=72,SNR=10						
VNDA	**Vanda**	**55.23 195**		LR	LR	16 12 55.9	
	comp=Z,50nm,18.6s,baz=258,slow=31						
RPZ	**Rata Peaks**	**62.95 234**		LR	LR	16 15 38.9	
	comp=Z,88nm,20.4s,baz=72,slow=30						
TXAR	**Lajitas Array**	**66.05 359**		P	P	15 54 48.1	0.0
	0.8nm,0.9s,baz=180,slow=8.8,SNR=6.5						
NVAR	**Mina Array Bea**	**76.43 348**		P	P	15 55 51.1	+0.2
	0.4nm,0.7s,baz=179,slow=7.8,SNR=3.6						
PDAR	**Pinedale Array**	**79.68 355**		P	P	15 56 08.8	-0.1
	0.6nm,0.8s,baz=152,slow=4.9,SNR=4.3						
H01W1	**Cape Leeuwin H**	**100.48 210**		T	T	17 51 33.8	
	baz=148,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**100.49 210**		T	T	17 51 35.6	
	baz=148,slow=76,SNR=6.5						
H01W3	**Cape Leeuwin H**	**100.50 210**		T	T	17 51 32.4	
	baz=148,slow=76,SNR=5.4						

*JMA **29** 15:48:50.6, 24°.74N×125°.41E, h46km±1km, M3.4*
JMA Felt I J1.
*IDC **29** 15:48:57.3±7.7, 24°.23N×122°.46E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/46, mbtmp3.5/3, Error ellipse: s-maj=526.2km s-min=27.8km az=60.0*
ISC 29 15:48:50.7±1.8, 24°.8N±0°.1×125°.4E±0°.1, h45km±9km, n13, σ0°24/19, mb3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.02 210**		P	**Pn**	**15 48 57.7**	**0.0**
JOGS				S	**Sn**	**15 49 02.9**	**+0.3**
JMJ2	**Miyako jima3**	**0.09 247**		P	**Pn**	**15 48 57.7**	**-0.2**
JMJ2				S	**Sn**	**15 49 03.0**	**+0.1**
JIKM	**Ikemajima**	**0.21 314**		P	**Pn**	**15 48 58.7**	**+0.1**
JIKM				S	**Sn**	**15 49 04.5**	**+0.3**
JIRB	**Irabujima**	**0.23 283**		P	**Pn**	**15 48 58.5**	**-0.2**
JIRB				S	**Sn**	**15 49 04.2**	**-0.1**
JTJ	**Tarama**	**0.66 258**		P	**Pn**	**15 49 03.6**	**-0.2**
JTJ				S	**Sn**	**15 49 13.0**	**-0.2**
JISG	**Ishigakijimahi**	**1.02 260**		P	**Pn**	**15 49 08.4**	**-0.2**
JISG				*e*S	**Sn**	**15 49 22.1**	**+0.3**
JIJ	**Ishigaki jima**	**1.23 251**		P	**Pn**	**15 49 11.8**	**+0.4**
JKRS	**Kuro-shima**	**1.39 248**		P	**Pn**	**15 49 13.9**	**+0.3**
JKRS				*e*S	**Sn**	**15 49 30.5**	**-0.3**
IRIF	**Iriomote-Funau**	**1.60 254**		P	**Pn**	**15 49 16.7**	**+0.2**
IRIF				S	**Sn**	**15 49 36.1**	**+0.2**
HATJ	**Hateruma jima**	**1.63 244**		P	**Pn**	**15 49 16.9**	**-0.1**
MKAR	**Makanchi Array**	**40.66 314**		P	**P**	**15 56 26.4**	**-0.1**
	0.4nm,0.5s,baz=100,slow=10,SNR=6.1						
WRA	**Warramunga Arr**	**45.29 168**		P	P	15 57 16.9	+13
	1.2nm,0.9s,baz=347,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**48.85 170**		P	P	15 57 45.6	+14
	0.2nm,0.8s,baz=353,slow=14,SNR=5.6						

*VIE **29** 16:19:20.5±1.1, 51°.44N×16°.37E, h0km, mb2.4/4, ml2.8/4, Error ellipse: s-maj=11.7km s-min=7.2km az=90.0 59 km NW of Wroclaw Suspected Mining induced.*
*IDC **29** 16:19:21.4±1.0, 51°.45N×16°.01E, h0km, mb1 3.6/5, mb1mx3.2/40, mbtmp3.4/5, ML2.9/5, Error ellipse: s-maj=15.7km s-min=9.1km az=117.0*
*PRU **29** 16:19:21.3±0.0, 51°.43N×16°.09E, h0km*
*UPP **29** 16:19:21.9±3.0, 51°.58N×15°.53E, h0km, ML2.0, Suspected explosion*
*DNK **29** 16:19:21.2±2.9, 51°.55N×15°.38E, h8km±162km, ML2.0, Hypocentre not reviewed by the ISC*
ISC 29 16:19:18.9±0.7, 51°.55N±0°.03×16°.14E±0°.03, h0km, n41, σ1°04/73, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71 172**		*i* Pg	**Pg**	**16 19 32.8**	**+0.3**
KSP				*e*Sg	**Sg**	**16 19 41.2**	**-0.5**
CHVC	**Chvalec**	**0.96 183**		*e*PG	**Pg**	**16 19 37.3**	**0.0**
CHVC				*e*SG	**Sg**	**16 19 48.2**	**-1.5**
	comp=Z,47nm,0.6s						
OSTC	**Ostas**	**0.99 177**		*e*PG	**Pg**	**16 19 37.9**	**0.0**
OSTC				*e*SG	**Sg**	**16 19 48.8**	**-1.9**
	comp=Z,74nm,0.8s						
UPC	**Upice**	**1.04 185**		*e*PG	**Pg**	**16 19 38.7**	**-0.2**
UPC				*e*SG	**Sg**	**16 19 51.2**	**-1.2**
	comp=Z,126nm,0.4s						
DPC	**Dobruska-Polom**	**1.20 175**		*e*PG	**Pg**	**16 19 41.6**	**-0.3**
DPC				*e*SG	**Sg**	**16 19 55.9**	**-1.6**
	comp=Z,46nm,0.5s						
PVCC	**Panska Ves**	**1.43 225**		*e*PG	**Pn**	**16 19 46.0**	**0.0**
PVCC				*e*SG	**Sg**	**16 20 04.4**	**-0.2**
	comp=Z,144nm,0.7s						
KRLC	**Kraliky**	**1.53 164**		*e*PG	**Pn**	**16 19 47.3**	**-0.2**
KRLC				*e*SG	**Sg**	**16 20 05.4**	**-2.5**
	comp=Z,102nm,1.0s						
PRA	**Prague**	**1.83 217**		*e*SG	**Sb**	**16 20 16.8**	**+0.1**
	comp=Z,17nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.85 208**		*e*PG	**Pn**	**16 19 52.1**	**+0.3**
GOPC				*e*SG	**Sb**	**16 20 16.9**	**-0.3**
	comp=Z,34nm,1.0s						
PRU	**Pruhonice**	**1.86 214**		*e*PG	**Pn**	**16 19 52.2**	**+0.2**
PRU				*e*SG	**Sn**	**16 20 16.5**	**+0.3**
	comp=Z,46nm,1.0s						
CLL	**Collm**	**1.98 264**		*i* Pn	**Pn**	**16 19 53.6**	**0.0**
	comp=Z,7.0nm,0.8s						
CLL				*i* Pg	**Pb**	**16 19 55.9**	**+0.1**
CLL				*i*		16 20 00.9	
CLL				*i* Sg	**Sg**	**16 20 23.3**	**+0.8**
	comp=Z,23nm,0.6s						
MORC	**Moravsky Berou**	**1.98 153**		*e*PN	**Pn**	**16 19 52.4**	**-1.3**
MORC				*e*SG	**Sn**	**16 20 20.0**	**+0.7**
OKC	**Ostrava-Krasne**	**2.13 143**		*e*PG	**Pb**	**16 19 59.0**	**+0.6**
OKC				*e*SG	**Sb**	**16 20 25.6**	**+0.2**
	comp=Z,41nm,0.6s						
VRAC	**Vranov**	**2.26 173**		Pn	**Pn**	**16 19 58.8**	**+1.3**
	comp=Z,1.7nm,0.3s,baz=348,slow=16,SNR=12						
VRAC				Lg	Lg	16 20 29.8	
	comp=Z,2.6nm,0.3s,baz=278,slow=23,SNR=9.6						
VRAC	**Vranov**	**2.26 173**		*e*PN	**Pn**	**16 19 57.5**	**0.0**
VRAC				*e*SG	**Sb**	**16 20 29.5**	**+0.5**
TREC	**Trest**	**2.29 191**		*e*PN	**Pn**	**16 19 59.2**	**+1.2**
TREC				*e*PG	**Pb**	**16 20 01.4**	**+0.3**
TREC				*e*SG	**Sb**	**16 20 29.7**	**-0.3**
	comp=Z,26nm,0.7s						
PBCC	**Pribram**	**2.31 217**		*e*PG	**Pb**	**16 20 01.8**	**+0.4**
PBCC				*e*SG	**Sb**	**16 20 31.2**	**+0.7**
KRUC	**Moravsky**	**2.49 176**		*e*PN	**Pn**	**16 20 00.2**	**-0.5**
KRUC				*e*SG	**Sb**	**16 20 36.8**	**+1.1**
OJC	**Ojcow**	**2.67 118**		*e*Pg	**Pg**	**16 20 11.6**	**+1.6**
OJC				*e*Sg	**Sg**	**16 20 46.2**	**+1.6**
NKC	**Novy Kostel**	**2.69 242**		*e*PN	**Pn**	**16 20 04.3**	**+1.0**
NKC				*e*PG	**Pb**	**16 20 08.7**	**+0.9**
NKC				*e*SG	**Sg**	**16 20 45.4**	**+0.3**
	comp=Z,40nm,0.4s						
KHC	**Kasperske Hory**	**2.92 215**		*e*PN	**Pn**	**16 20 07.0**	**+0.4**
KHC				*e*PG	**Pb**	**16 20 12.4**	**+0.5**
KHC				*e*SN	**Sn**	**16 20 41.5**	**-1.0**
KHC				*e*SG	**Sb**	**16 20 50.4**	**+2.2**
	comp=Z,16nm,0.6s						
GERES	**GERESS Array B**	**3.13 211**		Pn	**Pn**	**16 20 10.2**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=28,slow=13,SNR=24						
GERES				Pg	**Pb**	**16 20 16.2**	**+0.9**
	comp=Z,3.1nm,0.3s,baz=29,slow=17,SNR=37						
GERES				Lg	Lg	16 20 56.9	
	comp=Z,3.6nm,0.3s,baz=33,slow=27,SNR=11						
MODS	**Modra-Piesok**	**3.26 167**		*e*PG	**Pg**	**16 20 21.8**	**+0.5**
MODS				*e*SG	**Sg**	**16 21 04.1**	**+0.5**
NIE	**Niedzica**	**3.40 127**		*e*P	**Pg**	**16 20 23.8**	**-0.3**
NIE				*e*S	**Sg**	**16 21 08.3**	**+0.2**
VYHS	**Vyhne**	**3.52 149**		*e*PN	**Pn**	**16 20 15.5**	**+0.8**
VYHS				*e*PG	**Pg**	**16 20 25.2**	**-1.0**
CONA	**Conrad Observa**	**3.63 183**		*i* Pn	**Pn**	**16 20 17.0**	**+0.6**
	comp=Z,1.3nm,0.3s						
CONA				Sg	**Sg**	**16 21 14.3**	**-1.0**
	comp=Z,15nm,0.5s						
BSD	**Bornholm Skovb**	**3.65 349**		*i* P	**Pn**	**16 20 17.2**	**+0.7**
BSD				*i* S	**Sn**	**16 20 57.2**	**-3.0**
MOA	**Molln**	**3.90 199**		Sg	**Sg**	**16 21 22.8**	**-1.2**
	comp=Z,5.0nm,0.3s						
ARSA	**Arzberg**	**4.32 186**		Sg	**Sg**	**16 21 37.8**	**+0.2**
	comp=Z,12nm,0.6s						
LUNU	**Lund**	**4.40 340**		P	**Pn**	**16 20 27.4**	**+0.6**
LUNU				S	**Sn**	**16 21 18.7**	**+0.1**
BLEU	**Blekinge**	**4.77 358**		P	**Pn**	**16 20 33.2**	**+1.3**
BLEU				S	**Sn**	**16 21 26.4**	**-1.4**
BJUU	**Bjuv**	**4.90 339**		P	**Pn**	**16 20 33.7**	**0.0**
DEL	**Delary**	**5.11 346**		P	**Pn**	**16 20 37.0**	**+0.3**
VXJU	**Vaexsjoe**	**5.43 353**		P	**Pn**	**16 20 42.2**	**+1.2**
OSKU	**Oskarshamn**	**5.66 360**		P	**Pn**	**16 20 45.6**	**+1.5**
BYXU	**Byxelkrok**	**5.78 5**		P	**Pn**	**16 20 47.7**	**+1.9**
ASPU	**Aespoe**	**5.89 2**		P	**Pn**	**16 20 49.1**	**+1.9**
EKSU	**Eksjoe**	**6.06 356**		P	**Pn**	**16 20 50.8**	**+1.2**
AKASG	**Malin Array Be**	**8.28 91**		Pn	**Pn**	**16 21 20.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**11.32 25**		Pn	**Pn**	**16 22 01.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=5.4						
ARCES	**ARCESS Array B**	**18.58 10**		Pn	**P**	**16 23 35.2**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=200,slow=10,SNR=8.1						

*NNC **29** 16:25:04.9±2.3, 42°.55N×79°.61E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=14.3km s-min=8.2km az=161.0*
*SOME **29** 16:25:04.6, 42°.53N×79°.53E, h5km*
*KRNET **29** 16:25:04.7±0.1, 42°.29N×79°.85E, h35km, mb2.5*
ISC 29 16:25:03.9±1.8, 42°.51N±0°.06×79°.65E±0°.04, h4km±11km, n24, σ0°75/46, 10C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.66 348**		*e*P	**Pb**	**16 25 17.9**	**-0.3**
	17nm,0.1s						
SHLS				*e*S	**Sb**	**16 25 27.2**	**-0.6**
	10nm,0.2s						
SHLS	**Shalkode**	**0.66 348**		P	**Pb**	**16 25 17.9**	**-0.3**
	15nm,0.1s						
SHLS				S	**Sb**	**16 25 27.2**	**-0.6**
	15nm,0.2s						
UZB	**Uzynbulak**	**0.79 324**		*e*P	**Pg**	**16 25 19.1**	**+0.1**
	2.1nm,0.1s						
UZB				*e*S	**Sg**	**16 25 29.4**	**+0.1**
	14nm,0.2s						
UZB	**Uzynbulak**	**0.79 324**		P	**Pg**	**16 25 19.1**	**+0.1**
	2.1nm,0.1s						
UZB				S	**Sg**	**16 25 29.4**	**+0.1**
	14nm,0.2s						
PDGK	**Podgornoye**	**0.83 352**		P	**Pg**	**16 25 19.8**	**0.0**
	1.4nm,0.3s						
PDGK				S	**Sg**	**16 25 30.6**	**0.0**
	1.9nm,0.5s						
PDGK	**Podgornoye**	**0.83 352**		⇑P	**Pg**	**16 25 19.5**	**-0.3**
	1.0nm,0.3s						
PDGK				⇑S	**Sg**	**16 25 30.3**	**-0.2**
	2.0nm,0.6s						
PRZ	**Przheval'sk**	**0.93 269**		⇓*i*P	**Pn**	**16 25 25.0**	**+1.1**
	baz=81						
PRZ				⇓*i*S	**Sn**	**16 25 39.4**	**+1.6**
	baz=81						
SATY	**Saty**	**1.07 301**		*e*P	**Pg**	**16 25 24.2**	**-0.2**
	0.2nm,0.2s						
SATY				*e*S	**Sg**	**16 25 37.8**	**-0.5**
	7.1nm,0.1s						
SATY	**Saty**	**1.07 301**		P	**Pg**	**16 25 24.2**	**-0.2**
	0.7nm,0.1s						
SATY				S	**Sg**	**16 25 37.9**	**-0.4**
	12nm,0.1s						
KTMS	**Ketmen**	**1.07 29**		*e*P	**Pg**	**16 25 24.5**	**+0.1**
	1.6nm,0.2s						
KTMS				*e*S	**Sg**	**16 25 38.5**	**+0.2**
	2.5nm,0.2s						
KTMS	**Ketmen**	**1.07 29**		P	**Pg**	**16 25 24.5**	**+0.1**
	1.6nm,0.2s						
KTMS				S	**Sg**	**16 25 38.5**	**+0.2**
	2.5nm,0.2s						
ANVS	**Anan'yevo**	**1.49 281**		⇑*i*P	**Pg**	**16 25 33.0**	**+0.5**
	baz=88						
ANVS				⇑*i*S	**Sg**	**16 25 54.2**	**+2.4**
	baz=88						
TARG	**Taragay, Kyrgy**	**1.58 241**		⇑*i*P	**Pn**	**16 25 32.4**	**-0.7**
	baz=51						
TARG				⇑*i*S	**Sn**	**16 25 52.7**	**-1.5**
	baz=51						
MNBS	**Baschi**	**1.81 330**		*e*P	**Pb**	**16 25 37.5**	**-0.3**
MNBS				*e*S	**Sb**	**16 26 00.9**	**-0.1**
MNBS	**Baschi**	**1.81 330**		P	**Pb**	**16 25 37.5**	**-0.3**
MNBS				S	**Sb**	**16 26 00.9**	**-0.1**
DJR	**Jarkent**	**1.82 3**		*e*P	**Pb**	**16 25 37.7**	**-0.2**
	1.6nm,0.3s						
DJR				*e*S	**Sb**	**16 26 01.7**	**+0.4**
	1.3nm,0.3s						
DJR	**Jarkent**	**1.82 3**		P	**Pb**	**16 25 38.0**	**0.0**
	1.5nm,0.4s						
DJR				S	**Sb**	**16 26 01.6**	**+0.4**
	1.8nm,0.4s						
KDJ	**Kajisay**	**1.87 259**		⇓*i*P	**Pn**	**16 25 37.2**	**+0.3**
	baz=66						
KDJ				⇓*i*S	**Sn**	**16 26 00.8**	**-0.3**
	baz=66						
ARXS	**Arharly**	**2.16 323**		*e*P	**Pb**	**16 25 42.6**	**-1.0**
	3.9nm,0.5s						
ARXS				*e*S	**Sb**	**16 26 09.6**	**-1.3**
	4.8nm,0.5s						
ARXS	**Arharly**	**2.16 323**		Pg	**Pb**	**16 25 42.7**	**-1.0**
	3.9nm,0.5s						
ARXS				Lg	Lg	16 26 09.6	
	4.8nm,0.5s						
KTBS	**Karatobe**	**2.48 300**		*e*P	**Pb**	**16 25 48.4**	**-0.8**
	0.6nm,0.2s						
KTBS				*e*S	**Sb**	**16 26 19.4**	**-0.7**
	7.6nm,0.6s						
KTBS	**Karatobe**	**2.48 300**		Pg	**Pb**	**16 25 48.4**	**-0.8**
	0.6nm,0.2s						
ULHL	**Ulahol**	**2.54 265**		⇑*i*P	**Pn**	**16 25 46.8**	**+0.6**
	baz=70						
ULHL				⇑*i*S	**Sn**	**16 26 17.7**	**0.0**
	baz=70						
BOOM	**Boomskoye usch**	**2.74 271**		⇑*i*P	**Pn**	**16 25 50.1**	**+1.2**
	baz=75						
BOOM				⇑*i*S	**Sn**	**16 26 23.5**	**+0.8**
	baz=75						

*IDC **29** 16:40:08.5±3.0, 39°.55N×143°.56E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/49, mbtmp3.5/4, ML2.3/1, Error ellipse: s-maj=73.0km s-min=34.9km az=74.0*
*JMA **29** 16:40:12.1±0.1, 39°.43N×143°.11E, h20km±2km, M3.7*
ISC 29 16:40:10.7±2.3, 39°.45N±0°.05×143°.09E±0°.09, h9km±12km, n23, σ0°74/27, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.99 278**		P	**Pg**	**16 40 30.6**	**+0.8**
MIYJ				S	**Sb**	**16 40 43.8**	**+0.5**
JTH	**Tanohata**	**1.07 298**		P	**Pg**	**16 40 32.0**	**+0.7**
JTH				S	**Sb**	**16 40 46.0**	**+0.5**
OFUJ	**Ofunato**	**1.16 252**		P	**Pg**	**16 40 33.1**	**0.0**
OFUJ				*e*S	**Sb**	**16 40 48.2**	**0.0**
JOM	**Ohasama**	**1.39 272**		P	**Pg**	**16 40 37.0**	**-0.5**
JOM				S	**Sb**	**16 40 55.2**	**+0.3**
JKMT	**Kesennumamotoy**	**1.41 244**		P	**Pb**	**16 40 37.0**	**-0.2**
JKMT				S	**Sn**	**16 40 55.0**	**-0.3**
JANG	**Nango**	**1.53 308**		P	**Pb**	**16 40 38.6**	**-0.6**
JANG				*e*S	**Sn**	**16 40 57.6**	**-0.6**
JMK	**Ichinoseki**	**1.54 252**		P	**Pb**	**16 40 39.0**	**-0.4**
JMK				*e*S	**Sb**	**16 40 59.1**	**+0.1**
JIO	**Ouri**	**1.68 234**		P	**Pb**	**16 40 40.8**	**-1.1**
JIO				*e*S	**Sn**	**16 41 01.2**	**-0.8**
JRG	**Rokugo**	**1.91 269**		P	**Pb**	**16 40 45.6**	**-0.1**
JRG				*e*S	**Sb**	**16 41 10.2**	**+0.6**
JAH	**Hinai**	**2.03 292**		P	**Pb**	**16 40 47.5**	**-0.3**
JAH				*e*S	**Sb**	**16 41 13.1**	**-0.1**
JTM	**Tenmabayashi**	**2.05 311**		P	**Pb**	**16 40 46.8**	**-1.4**
JTM				*e*S	**Sb**	**16 41 12.3**	**-1.5**
JOU	**Okura**	**2.18 241**		P	**Pb**	**16 40 49.4**	**-1.0**
JYK	**Kaneyama**	**2.19 257**		P	**Pb**	**16 40 49.7**	**-0.8**
MJAR	**Matsushiro Arr**	**4.83 235**		Pn	Pn	16 41 27.3	+3.7
	0.1nm,0.3s,baz=32,slow=14,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**28.39 127**		T	T	17 16 52.3	
	baz=318,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.40 127**		T	T	17 16 51.4	
	baz=318,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.41 127**		T	T	17 16 53.4	
	baz=318,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.20 129**		T	T	17 17 09.9	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**29.20 129**		T	T	17 17 58.8	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**29.22 129**		T	T	17 17 46.8	
	baz=322						
MKAR	**Makanchi Array**	**44.00 300**		P	**P**	**16 48 19.3**	**+0.8**
	0.4nm,0.7s,baz=84,slow=7.6,SNR=3.2						
KURBB	**Kurchatov Arra**	**45.60 306**		P	**P**	**16 48 32.0**	**+1.0**
	0.7nm,0.5s,baz=81,slow=8.5,SNR=9.2						
WRA	**Warramunga Arr**	**59.64 190**		P	**P**	**16 50 15.4**	**+0.1**
	0.4nm,0.8s,baz=5.8,slow=7.2,SNR=2.9						

*NEIC **29** 16:44:14.5±1.8, 21°.43N±0°.08×121°.33E±0°.09, h10km±1km, mb4.3/29, Error ellipse: s-maj=14.0km s-min=12.2km az=128.0*
*NIED **29** 16:44:17.3, 21°.70N×121°.25E, h15km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}2.99; $M_{\theta\theta}$-2.96; $M_{\phi\phi}$-0.03; $M_{r\theta}$-0.29; $M_{\theta\phi}$-0.54; $M_{\phi r}$-0.73; Fault plane solution: $M_0$3.13000×10^{15} NP1: ϕ_s248.00000°, δ50.00000°, λ74.00000°. NP2: ϕ_s92.00000°, δ42.00000°, λ108.00000°.*
*JMA **29** 16:44:17.3±0.5, 21°.70N×121°.25E, h15km, M5.1*
*TAP **29** 16:44:18.3, 21°.56N×121°.28E, h49km, ML4.6, D*
*IDC **29** 16:44:22.9±3.8, 21°.40N×121°.42E, h80km±36km, mb3.8/18, mb1 3.9/20, mb1mx3.7/47, mbtmp4.1/20, MS

TWP	Hsiaoliuchiu	1.25	315	P	Pn	16 44 41.2	+1.4
	baz=302						
TTN	Taitung	1.30	353	eP	Pn	16 44 39.5	-0.9
	baz=354						
TTN				eS	Sn	16 44 55.9	-0.7
	baz=354						
MASBT	Mashibuluo	1.31	331	⇓iP	Pn	16 44 40.0	-0.6
	baz=339						
MASBT				eS	Sn	16 44 54.9	-2.0
	baz=339						
TWGBT	Beinan	1.37	351	⇓iP	Pn	16 44 39.4	-2.0
	baz=343						
TWGBT				eS	Sn	16 44 53.9	-4.5
	baz=343						
TWG	Pinlang	1.38	351	⇓iP	Pn	16 44 39.4	-2.1
	baz=343						
TWG				eS	Sn	16 44 53.9	-4.6
	baz=343						
TWG	Pinlang	1.38	351		Pn	16 44 39.2	-2.3
TSMG	Majia	1.39	334	eP	Pn	16 44 41.1	-0.6
	baz=340						
SSD	Sandimen	1.43	334	P	Pn	16 44 41.5	-0.7
	baz=341						
LONT	Longtian	1.45	353	⇓P	Pn	16 44 40.7	-1.9
	baz=346						
LONT				eS	Sn	16 44 58.4	-2.0
	baz=346						
SGLT	Jiouru	1.48	329	eP	Pn	16 44 44.6	+1.8
	baz=337						
EDH	Donghe	1.51	360	P	Pn	16 44 41.9	-1.4
	baz=352						
EDH				eS	Sn	16 44 59.7	-2.0
	baz=352						
SNJT	Kaohsiung City	1.58	325	eP	Pn	16 44 45.1	+0.8
	baz=309						
SCST	Cishan	1.61	332	eP	Pn	16 44 43.8	-0.9
	baz=331						
CHKT	Chengkung	1.64	2	eP	Pn	16 44 43.2	-1.8
	baz=9.0						
CHKT				eS	Sn	16 45 02.3	-2.5
	baz=9.0						
SLGT	Liugui	1.65	338	eP	Pn	16 44 45.2	-0.1
	baz=338						
SLGT				eS	Sn	16 45 03.3	-2.0
	baz=338						
FULB	Fuli	1.73	359	P	Pn	16 44 45.3	-1.2
	baz=351						
ELDTW	Lidau	1.75	351	P	Pn	16 44 44.8	-1.9
	baz=358						
SGST	Jiashian	1.75	337	P	Pn	16 44 46.7	0.0
	baz=337						
STYT	Tauyuan	1.78	343	eP	Pn	16 44 46.8	-0.3
	baz=350						
CHN1	Nanshi	1.87	337	eP	Pn	16 44 49.0	+0.6
	baz=337						
CHN1				eS	Sn	16 45 10.8	+0.1
	baz=337						
EYUL	Yuli	1.88	0	P	Pn	16 44 47.9	-0.5
	baz=353						
TWF1	Yuli	1.89	359	eP	Pn	16 44 46.7	-1.8
	baz=353						
WTP	Ta-pu	1.90	340	eP	Pn	16 44 49.2	+0.5
	baz=340						
SNST	Tainan City	1.91	337	P	Pn	16 44 49.6	+0.7
	baz=336						
YULB	Yu-li	1.93	359	eP	Pn	16 44 46.9	-2.2
	baz=354						
YULB	Yu-li	1.93	359		Pn	16 44 46.9	-2.2
TPUB	Ta-pu	1.94	341	eP	Pn	16 44 49.6	+0.4
	baz=341						
TPUB	Ta-pu	1.94	341		Pn	16 44 49.7	+0.4
TWK	Hsinying	1.96	337	eP	Pn	16 44 50.4	+0.8
	baz=337						
CHN4	Tsaushan	2.00	341	eP	Pn	16 44 50.9	+0.8
	baz=340						
SCLT	Jiali	2.00	329	eP	Pn	16 44 48.7	-1.4
	baz=328						
HGSD	Ruisui	2.03	3	eP	Pn	16 44 49.8	-0.7
	baz=12						
EHY	Hungye	2.04	0	eP	Pn	16 44 48.6	-2.1
	baz=355						
YUS	Yu-Shan	2.05	351	P	Pn	16 44 51.2	-0.1
YUS				eS	Sn	16 45 12.3	-3.5
ALS	Alishan	2.10	347	eP	Pn	16 44 52.1	+0.4
	baz=347						
ICHU	Yijhu	2.12	333	eP	Pn	16 44 52.0	+0.2
	baz=347						
ICHU				eS	Sn	16 45 16.0	-0.9
	baz=347						
CHN8	Yiju	2.14	332	eP	Pn	16 44 52.1	+0.1
	baz=345						
CHN8				eS	Sn	16 45 18.8	+1.5
	baz=345						
CHY	Chiayi	2.19	338	P	Pn	16 44 52.8	+0.1
	baz=338						
EGFH	Guangfu	2.21	3	eP	Pn	16 44 52.4	-0.5
	baz=356						
CHN5	Tsauling	2.21	345	eP	Pn	16 44 54.1	+1.0
	baz=345						
WLGB	Puzi	2.22	335	eP	Pn	16 44 52.5	-0.6
	baz=335						
WHYT	Xinyi Township	2.27	349	P	Pn	16 44 54.9	+1.0
	baz=349						
VWDT	VWDT	2.29	356	eP	Pn	16 44 53.4	-0.7
	baz=359						
WGK	Gukeng	2.33	343	P	Pn	16 44 55.2	+0.7
	baz=343						
WDLH	Douliu	2.34	342	P	Pn	16 44 55.0	+0.3
	baz=342						
SSLB	Suanglung	2.34	352	eP	Pn	16 44 55.1	+0.3
	baz=339						
SSLB	Suanglung	2.34	352		Pn	16 44 54.8	-0.1
ESL	Shilin	2.35	3	eP	Pn	16 44 53.3	-1.5
	baz=357						
WDGT	Dungji	2.36	320	eP	Pn	16 44 54.3	-0.8
	baz=319						
WTK	Tuku	2.38	339	P	Pn	16 44 55.0	-0.3
	baz=339						
WSF	Szhu	2.40	335	P	Pn	16 44 55.4	-0.1
	baz=335						
WJS	Zhushan	2.42	347	eP	Pn	16 44 56.5	+0.7
	baz=347						
SMLT	Sun Moon Lake	2.45	351	eP	Pn	16 44 57.1	+0.8
	baz=352						
SMLT				eS	Sn	16 45 23.1	-1.9
	baz=352						
TYC	Yuchr	2.47	350	eP	Pn	16 44 57.5	+0.9
	baz=351						
WNT	Mingjian	2.48	346	P	Pn	16 44 57.3	+0.6
	baz=347						
WNT				eS	Sn	16 45 23.0	-2.7
	baz=347						
RLNB	Erlin	2.58	340	eP	Pn	16 44 57.2	-0.9
	baz=340						
CHGB	Renai	2.59	357	P	Pn	16 44 58.0	-0.5
	baz=7.0						
PHUB	P'eng-hu	2.61	322	eP	Pn	16 44 57.3	-1.1
	baz=321						
TWD	Chiawan	2.62	6	eP	Pn	16 44 58.8	+0.2
	baz=359						
PNG	Penghu	2.66	323	eP	Pn	16 44 57.8	-1.3
	baz=322						
PNG				eS	Sn	16 45 27.1	-3.0
	baz=322						
WHF	Hehuan Shan	2.68	359	eP	Pn	16 44 59.2	-0.6
	baz=8.0						
WCHH	Zhanghua	2.70	345	eP	Pn	16 45 00.1	+0.4
	baz=335						
NACB	Ninganchiao	2.72	5	eP	Pn	16 44 58.6	-1.3
	baz=359						
NACB	Ninganchiao	2.72	5		Pn	16 44 58.1	-1.8
ETLH	Xiulin Townshi	2.74	3	eP	Pn	16 44 59.3	-1.1
	baz=4.0						
TCU	Taichung	2.74	348	eP	Pn	16 45 01.1	+0.8
	baz=348						
FUSS	Fushou	2.78	359	eP	Pn	16 45 01.1	+0.1
	baz=7.0						
TWT	Tachien	2.79	357	eP	Pn	16 45 01.2	+0.1
	baz=345						
TDCB	Techi	2.79	357	eP	Pn	16 45 01.3	+0.2
	baz=345						
WHP	Taichung City	2.83	353	eP	Pn	16 45 02.6	+1.1
	baz=353						
TWQ1	Liyutan	2.92	350	eP	Pn	16 45 03.5	+0.7
	baz=351						
WDJ	Dajia District	2.94	348	eP	Pn	16 45 03.4	+0.4
	baz=348						
NNSB	Datong	2.96	1	eP	Pn	16 45 03.0	-0.4
	baz=11						
NNSH	Datong	2.96	1	eP	Pn	16 45 03.4	0.0
	baz=11						
NNS	Nan Shan	2.97	1	eP	Pn	16 45 04.1	+0.6
	baz=11						
ENA	Nanau	2.98	7	eP	Pn	16 45 02.5	-1.1
	baz=360						
NSY	Sanyi	2.99	350	eP	Pn	16 45 05.0	+1.3
	baz=351						
ENAH	Nanao	3.01	9	eP	Pn	16 45 04.6	+0.6
	baz=9.0						
PTSB	Yuanli	3.03	349	eP	Pn	16 45 04.0	-0.3
	baz=350						
NMLH	Miaoli	3.10	351	eP	Pn	16 45 05.7	+0.5
	baz=351						
NDT	Datong Townshi	3.14	3	eP	Pn	16 45 05.5	-0.2
	baz=12						
NSTT	Nanjuang	3.17	355	eP	Pn	16 45 07.5	+1.2
	baz=344						
TWC	Suao	3.18	9	P	Pn	16 45 07.4	+1.1
	baz=10.0						
ENTT	Nioudou	3.18	4	eP	Pn	16 45 06.0	-0.3
	baz=5.0						
LIOB	Emei	3.19	355	eP	Pn	16 45 07.7	+1.3
	baz=344						
YHNB	Yeheng	3.20	1	eP	Pn	16 45 06.9	+0.2
	baz=9.0						
YHNB	Yeheng	3.20	1		Pn	16 45 06.7	+0.1
NSK	Sanguang	3.21	1	eP	Pn	16 45 07.3	+0.6
	baz=9.0						
TWE	Neicheng	3.27	6	eP	Pn	16 45 08.4	+1.0
	baz=7.0						
SGCP	Mt. Cagua	3.27	168	eP	Pn	16 45 06.8	-0.7
SGCP				eS	Sn	16 45 42.3	-2.9
NWLT	Wulai	3.31	3	eP	Pn	16 45 08.9	+0.8
	baz=11						
ILA	Ilan	3.32	7	eP	Pn	16 45 08.2	+0.1
SBCB	Hsinchu	3.33	355	eP	Pn	16 45 09.8	+1.4
	baz=344						
JYNG	Yonagunijimaku	3.34	26	P	Pn	16 45 07.7	-0.8
JYNG				S	Sn	16 45 46.7	-0.1
YOJ	Yonaguni jima	3.37	27	eP	Pn	16 45 09.6	+0.6
	baz=39						
YOJ	Yonaguni jima	3.37	27	P	Pn	16 45 09.8	+0.8
YOJ				eS	Sn	16 45 48.0	+0.2
YOJ	Yonaguni jima	3.37	27		Pn	16 45 09.6	+0.6
NTC	Toucheng	3.42	8	eP	Pn	16 45 10.8	+1.2
	baz=1.0						
EGS		3.42	9	eP	Pn	16 45 12.2	+2.6
	baz=10.0						
HATJ	Hateruma jima	3.46	41	P	Pn	16 45 10.7	+0.6
HATJ				S	Sn	16 45 50.2	+0.3
TATO	Taipei	3.51	3	eP	Pn	16 45 10.2	-0.6
	baz=10.0						
TATO	Taipei	3.51	3		Pn	16 45 10.6	-0.2
TWA	Mucha	3.52	4	eP	Pn	16 45 12.0	+1.0
	baz=11						
TIPB	Shuangxi	3.53	8	eP	Pn	16 45 12.3	+1.1
	baz=1.0						
TAP1	Taipei	3.57	3	eP	Pn	16 45 12.8	+1.2
	baz=349						
APYP	Conner	3.58	181	eP	Pn	16 45 11.3	-0.4
APYP				eS	Sn	16 45 52.1	-0.6
TWB1	Santiao Chiao	3.59	10	eP	Pn	16 45 13.3	+1.4
	baz=11						
NWF	Wu-fen Shan	3.62	7	eP	Pn	16 45 12.8	+0.3
	baz=7.0						
WFSB	Wu-fen Shan	3.62	7	eP	Pn	16 45 13.6	+1.2
	baz=7.0						
IRIF	Iriomote-Funau	3.63	37	P	Pn	16 45 13.1	+0.7
IRIF				eS	Sn	16 45 54.6	+0.6
TWS1	Kuangyinshan	3.63	1	eP	Pn	16 45 13.2	+0.8
	baz=349						
YM01	YM01	3.68	4	eP	Pn	16 45 13.0	-0.2
	baz=4.0						
YM04	YM04	3.69	3	eP	Pn	16 45 13.3	0.0
	baz=4.0						
YM10	YM10	3.69	3	eP	Pn	16 45 13.5	+0.1
	baz=4.0						
NTST	Danshui	3.69	2	eP	Pn	16 45 14.0	+0.7
	baz=349						
YM05	YM05	3.70	3	eP	Pn	16 45 13.2	-0.2
	baz=4.0						
YM11	YM11	3.70	4	eP	Pn	16 45 13.6	0.0
	baz=4.0						
YM03	YM03	3.71	3	eP	Pn	16 45 12.4	-1.3
	baz=4.0						
ANP	Anpu	3.72	3	eP	Pn	16 45 13.9	+0.1
	baz=4.0						
JKRS	Kuro-shima	3.72	41	P	Pn	16 45 14.4	+0.7
JKRS				eS	Sn	16 45 56.5	+0.2
YM08	YM08	3.72	4	eP	Pn	16 45 13.4	-0.4
	baz=4.0						
CVP	Callao Caves	3.76	173	⇓iP	Pn	16 45 15.2	+0.9
CVP				iS	Sn	16 45 58.6	+1.2
TWY	Chenhua	3.81	4	eP	Pn	16 45 16.9	+1.9
	baz=5.0						
ABRA	Dolores	3.83	189	eP	Pn	16 45 15.1	-0.2
ABRA				eS	Sn	16 45 52.5	-6.5
JIJ	Ishigaki jima	3.89	41	P	Pn	16 45 16.2	+0.1
JIJ				eS	Sn	16 45 59.6	-1.0
VWUC	VWUC	3.92	334	eP	Pn	16 45 15.3	-1.1
	baz=344						
KNM	Kinmen	3.97	318	eP	Pn	16 45 18.0	+0.9
	baz=316						
KNMB	Chin-men Tao	4.03	319	eP	Pn	16 45 17.4	-0.5
	baz=317						
KNMB	Chin-men Tao	4.03	319		Pn	16 45 17.5	-0.5
PTMZ	Houxiangcun	4.10	331	eP	Pn	16 45 18.3	-0.6
	baz=330						
ZPLA	Ao Xicun	4.11	307	eP	Pn	16 45 18.3	-0.8
	baz=306						
JISG	Ishigakijimahi	4.16	41	P	Pn	16 45 19.8	0.0
PCYT	Pengchaiyu	4.21	9	eP	Pn	16 45 21.9	+1.4
	baz=10.0						
PTTC	Pingtan	4.27	341	eP	Pn	16 45 20.9	-0.4
	baz=351						
QZH	Quanzhou	4.28	325	⇑iP	Pn	16 45 21.0	-0.4
QZH				S	Sn	16 46 08.8	-1.3
VDOS	Pratas Island	4.35	261	eP	Pn	16 45 22.6	+0.3
	baz=258						
JTJ	Tarama	4.45	44	P	Pn	16 45 24.3	+0.6
JTJ				S	Sn	16 46 13.5	-0.7
CAUP	Cauayan	4.51	174	eP	Pn	16 45 26.4	+1.7
CAUP				eS	Sn	16 46 18.4	+2.5
ZZJH	Jiuhuzhen	4.53	312	eP	Pn	16 45 24.0	-0.9
	baz=311						
AXDP	Jialang	4.61	319	eP	Pn	16 45 25.0	-0.9
	baz=317						
MATB	Ma-tsu	4.84	345	eP	Pn	16 45 27.6	-1.5
	baz=345						
JIRB	Irabujima	4.88	46	P	Pn	16 45 29.8	+0.1
JIRB				eS	Sn	16 46 24.4	-0.6
JMJ2	Miyako jima3	4.93	48	P	Pn	16 45 30.9	+0.5
JMJ2				S	Sn	16 46 25.6	-0.6
JMJ	Miyako jima 2	4.96	47	eP	Pn	16 45 30.6	-0.2
	baz=48						
JIKM	Ikemajima	5.00	46	P	Pn	16 45 31.7	+0.4
JIKM				S	Sn	16 46 28.1	+0.3
JOGS	Gusukube	5.00	48	P	Pn	16 45 31.9	+0.6
JOGS				eS	Sn	16 46 28.2	+0.4
BCP	Baguio City	5.06	188	⇑iP	Pn	16 45 33.7	+1.4
MHZQ	Yeshan	5.08	336	eP	Pn	16 45 31.6	-0.7
	baz=336						
LYJJ	Jianjiangzhen	5.27	345	eP	Pn	16 45 33.4	-1.6
	baz=345						
SMPP	San Manuel, Pa	5.31	187	eP	Pn	16 45 35.6	0.0
SMPP				eS	Sn	16 46 35.6	0.0
XPSS	Dashiqiu	5.55	350	eP	Pn	16 45 37.7	-1.1
	baz=350						
BALP	Baler	5.69	177	eP	Pn	16 45 42.1	+1.3
BALP				eS	Sn	16 46 41.9	-3.0
HKPS	Hong Kong Po S	6.71	278	Pn	Pn	16 45 54.0	-0.8
JKE	Kume jima 2	6.97	45	P	Pn	16 45 56.8	-1.5
LQP	Lukban	7.31	178	eP	Pn	16 46 04.3	+1.1
TGY	Tagaytay City	7.32	183	LR	LR	16 49 18.5	
	comp=Z,260nm,20.3s,baz=24,slow=41						
JNTH	Nagotoyohara	7.94	49	P	Pn	16 46 11.9	+0.3
NJ2	Nanjing	10.78	349	eP	Pn	16 46 51.3	+0.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIZ	Qiongzhong	11.04	259	P	Pn	16 46 54.5	+0.3
QIZ				S	Sn	16 48 57.5	+1.1
QIZ				LR	LR		
	comp=N,110nm,18.6s						
QIZ				LR	LR		
	comp=E,110nm,17.9s						
QIZ	Qiongzhong	11.04	259	Pn	Pn	16 46 54.4	+0.2
GYA	Guiyang	14.29	293	eP	P	16 47 42.3	-3.0
GYA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JNU	Nakatsue	14.39	34	P	Pn	16 47 42.9	+3.0
	0.2nm,0.3s,baz=119,slow=11,SNR=2.0						
JNU				LR	LR	16 52 38.2	
	comp=Z,131nm,21.8s,baz=276,slow=34						
DAV	Davao City (W)	14.88	163	LR	LR	16 53 27.3	
	comp=Z,162nm,21.2s,baz=352,slow=37						
SLVN	Son La	16.22	273	P	P	16 48 08.7	+2.0
KSRS	Korea Array	16.94	18	P	P	16 48 14.4	-0.1
	0.2nm,0.3s,baz=200,slow=12,SNR=8.7						
KSRS				LR	LR	16 55 19.9	
	comp=Z,75nm,18.9s,baz=184,slow=39						
KMI	Kunming	17.45	286	⇑P	P	16 48 22.5	+2.0
KMI				pmax	pmax		
	comp=Z,12nm,0.8s						
CD2	Chengdu	18.34	304	P	Pn	16 48 31.8	+1.5
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
JHJ	Hachijo jima 2	20.07	51	LR	LR	16 55 36.8	
	comp=Z,99nm,19.4s,baz=230,slow=34						
GTOI	Gorontalo	20.76	175	P	P	16 48 54.9	-1.6
	14nm,1.0s						
KMSI	Cibinong	20.92	173	P	P	16 48 58.6	+0.4
	48nm,0.5s						
MJAR	Matsushiro Arr	21.03	41	P	P	16 49 01.6	+2.2
	5.1nm,1.0s,baz=237,slow=9.4,SNR=6.5						
MJAR				LR	LR	16 58 02.7	
	comp=Z,68nm,18.5s,baz=220,slow=39						
MJAR	Matsushiro Arr	21.03	41	P	P	16 48 58.3	-1.0
HHC	Hu-ho-hao-te	21.03	339	eP	P	16 49 01.5	+2.1
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.4s						
HHC				LR	LR		
	comp=E,150nm,12.2s						
HHC				LR	LR		
	comp=Z,220nm,12.7s						
LZH	Lanzhou	21.09	317	eP	P	16 48 59.0	-1.2
LZH				pP	pP	16 49 08.3	-1.5
LZH				sP	sP	16 49 13.0	-1.6
LZH				PP	PnPn	16 49 22.5	+2.4
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,96nm,5.2s						
LZH				LR	LR		
	comp=N,240nm,10.3s						
LZH				LR	LR		
	comp=E,230nm,13.0s						
LZH				LR	LR		
	comp=Z,240nm,14.8s						
CHTO	Chiang Mai	21.17	267	P	P	16 49 00.6	-0.4
CMAR	Chiang Mai Arr	21.24	266	P	P	16 49 03.7	+2.0
	2.8nm,0.7s,baz=71,slow=9.0,SNR=18						
CMAR				LR	LR	16 57 48.5	
	comp=Z,74nm,19.5s,baz=98,slow=38						
CMAR	Chiang Mai Arr	21.24	266	P	P	16 49 02.5	+0.8
JMM	Marumori	23.46	42	P	P	16 49 27.3	+2.5
GUMO	Guam	23.76	105	LR	LR	16 56 05.3	
	comp=Z,61nm,20.8s,baz=249,slow=30						
USRK	Ussuriysk Ar.	24.35	19	P	P	16 49 33.6	+0.5
GTA	Gaotai	25.66	319	⇑P	P	16 49 45.8	+0.6
GTA				pP	pP	16 49 55.0	-0.5
GTA				sP	sP	16 49 59.0	-1.4
GTA				sS	sS	16 54 21.3	-6.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,95nm,8.4s						
GTA				LR	LR		
	comp=N,88nm,16.0s						
GTA				LR	LR		
	comp=E,110nm,18.2s						
GTA				LR	LR		
	comp=Z,110nm,14.9s						
SONM	Songino Array	28.93	339	P	P	16 50 14.4	-0.1
	2.3nm,0.6s,baz=149,slow=11,SNR=13						
SONM				LR	LR	17 03 11.8	
	comp=Z,200nm,19.2s,baz=156,slow=39						
SONM	Songino Array	28.93	339	P	P	16 50 14.3	-0.2
EDFI	Ende, Flores	30.02	179	P	P	16 50 25.4	+1.0
	13nm,0.9s						
JAY	Jayapura	30.46	139	LR	LR	17 00 01.7	
	comp=Z,67nm,19.9s,baz=324,slow=31						
WMQ	Urumqi	35.67	317	eP	P	16 51 15.0	+1.5
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MK31	Makanchi Array	40.41	318	P	P	16 51 53.8	+0.5
MKAR	Makanchi Array	40.41	318	P	P	16 51 54.3	+1.0
	3.1nm,0.8s,baz=110,slow=10,SNR=24						
MKAR				PcP	PcP	16 53 55.8	-0.1
	0.6nm,0.5s,baz=98,slow=3.6,SNR=4.3						
MKAR				LR	LR	17 10 37.0	
	comp=Z,45nm,19.7s,baz=310,slow=39						
MKAR	Makanchi Array	40.41	318	P	P	16 51 53.8	+0.4
MAKZ	Makanchi	40.61	318	P	P	16 51 55.5	+0.6
MAKZ				IAmb	IAmb	16 51 57.1	
	comp=Z,6.4nm,1.1s						
PETK	Petropavlovsk-	42.07	32	LR	LR	17 10 49.3	
	comp=Z,40nm,19.1s,baz=241,slow=38						
KSH	Kashi	42.53	306	P	P	16 52 13.0	+2.1
KSH				S	S	16 58 33.0	+2.1
KSH				pmax	pmax		
	comp=Z,12nm,0.6s						
KSH				LR	LR		
	comp=Z,130nm,7.1s						
KSH				LR	LR		
	comp=Z,130nm,6.1s						
KSH				LR	LR		
	comp=Z,180nm,7.0s						
H11N1	WAKE ISLAND Hy	42.59	84	T	T	17 37 33.1	
	baz=282,slow=75,SNR=30						
H11N2	WAKE ISLAND Hy	42.59	84	T	T	17 37 23.9	
	baz=282,slow=75,SNR=38						
H11N3	WAKE ISLAND Hy	42.60	84	T	T	17 37 31.2	
	baz=282,slow=75,SNR=28						
ZAA0	Zalesovo Array	42.61	329	P	P	16 52 11.1	-0.1
ZAA0				IAmb	IAmb	16 52 12.3	
	comp=Z,3.4nm,0.7s						
ZALV	Zalesovo Beam	42.61	329	P	P	16 52 11.4	+0.3
	comp=Z,4.0nm,0.6s,baz=119,slow=8.1,SNR=18						
ZALV				PcP	PcP	16 54 01.6	-1.2
	comp=Z,0.6nm,0.6s,baz=77,slow=2.9,SNR=2.6						
ZALV	Zalesovo Beam	42.61	329	P	P	16 52 11.1	-0.1
H11S3	WAKE ISLAND Hy	42.63	86	T	T	17 37 33.7	
	baz=283,slow=74,SNR=73						
H11S1	WAKE ISLAND Hy	42.64	86	T	T	17 37 34.9	
	baz=283,slow=74,SNR=72						
H11S2	WAKE ISLAND Hy	42.65	86	T	T	17 37 33.9	
	baz=283,slow=74,SNR=53						
WB0	Warramunga Arr	42.92	162	P	P	16 52 12.0	-2.0
WB0				IAmb	IAmb	16 52 21.2	
	comp=Z,8.9nm,1.3s						
WRAB	Tennant Creek	43.06	162	P	P	16 52 13.2	-2.1
WRAB				IAmb	IAmb	16 52 37.1	
	comp=Z,6.9nm,1.1s						
WRA	Warramunga Arr	43.07	162	P	P	16 52 13.6	-1.7
	comp=Z,1.7nm,0.4s,baz=345,slow=9.0,SNR=44						
WRA	Warramunga Arr	43.07	162	P	P	16 52 13.4	-1.9
WB2	Warramunga Arr	43.08	162	P	P	16 52 13.4	-1.9
WB2				IAmb	IAmb	16 52 37.1	
	comp=Z,6.9nm,1.1s						
WR0	Warramunga Arr	43.15	162	P	P	16 52 14.2	-1.7
WR0				IAmb	IAmb	16 52 15.1	
	comp=Z,4.7nm,0.6s						
KURK	Kurchatov	44.28	322	P	P	16 52 24.9	+0.2
KURK				IAmb	IAmb	16 52 26.0	
	comp=Z,3.9nm,1.1s						
KURK	Kurchatov	44.28	322		PP	16 54 07.8	-0.4
KURBB	Kurchatov Arra	44.29	322	P	P	16 52 25.9	+1.1
	comp=Z,3.3nm,1.0s,baz=117,slow=7.6,SNR=15						
KURBB				PcP	PP	16 54 07.8	-0.5
	comp=Z,1.2nm,0.7s,baz=118,slow=3.3,SNR=5.6						
AS31	Alice Springs	46.49	164	P	P	16 52 41.5	-

BVAR	Borovoye Array	49.87 322	P	P	16 53 09.5	+1.2
	comp=Z,1.0nm,0.5s,baz=157,slow=9.1,SNR=7.9					
NRIK	Noril'sk	52.06 346	P	P	16 53 24.9	+0.5
	comp=Z,2.5nm,0.5s,baz=133,slow=11,SNR=3.6					
ABKAR	Akbulak array	55.45 316	P	P	16 53 49.9	+0.3
ABKAR	Akbulak array	55.45 316	P	P	16 53 49.8	+0.2
ABKAR			IAmb	IAmb	16 54 06.9	
	comp=Z,2.1nm,1.1s					
STKA	Stephens Creek	56.48 159	P	P	16 53 56.1	-1.0
	comp=Z,1.6nm,0.7s,baz=326,slow=11,SNR=4.6					
ARU	Arti	57.36 324	P	P	16 54 03.2	+0.1
	comp=Z,1.4nm,0.4s,baz=95,slow=4.8,SNR=8.4					
ARU	Arti	57.36 324	P	P	16 54 03.0	-0.1
SOCY	Socotra	64.70 274	P	P	16 54 52.6	-1.0
KLMR	Klimovskoe	67.53 328	eP	P	16 55 08.0	-3.0
KLMR			AMP		16 55 12.3	
	comp=Z,20nm,1.5s					
ILAR	Eielson Array	71.58 27	P	P	16 55 34.5	-1.4
	comp=Z,0.3nm,0.5s,baz=291,slow=5.3,SNR=4.6					
ARCES	ARCESS Array B	72.11 338	P	P	16 55 38.9	-0.1
	comp=Z,1.1nm,0.6s,baz=68,slow=9.8,SNR=5.3					
RAGM	Ragged Mountai	73.54 31	P	P	16 55 47.5	-0.2
RAGM			IAmb	IAmb	16 56 13.5	
	comp=Z,7.1nm,1.1s					
GLB	Gilahina Butte	73.69 30	P	P	16 55 47.7	-0.9
GLB			IAmb	IAmb	16 56 16.2	
	comp=Z,7.8nm,1.4s					
HMT	Hamilton	73.75 31	P	P	16 55 48.4	-0.5
FIA1	FINESS Array S	73.85 330	P	P	16 55 48.9	-0.5
FINES	FINESS Array B	73.86 330	P	P	16 55 49.4	-0.1
	comp=Z,5.5nm,0.7s,baz=93,slow=7.6,SNR=12					
FINES	FINESS Array B	73.86 330	P	P	16 55 49.2	-0.2
EGAK	Eagle	73.96 26	P	P	16 55 49.2	-0.8
EGAK			IAmb	IAmb	16 56 09.2	
	comp=Z,6.5nm,1.4s					
CTGM	Chitina Glacie	74.97 30	P	P	16 55 56.1	0.0
CTGM			IAmb	IAmb	16 56 13.8	
	comp=Z,3.2nm,0.8s					
AKASG	Malin Array Be	74.99 319	P	P	16 55 55.4	-0.8
	comp=Z,1.1nm,0.5s,baz=61,slow=5.9,SNR=5.3					
AKASG	Malin Array Be	74.99 319	P	P	16 55 56.2	0.0
AKBB	Malin Array Si	74.99 319	P	P	16 55 56.1	-0.1
AKBB			IAmb	IAmb	16 56 19.9	
	comp=Z,2.9nm,1.1s					
EUNU	Eureka	77.60 5	P	P	16 56 09.9	-0.8
BURAR	Bucovina Array	78.42 317	P	P	16 56 15.7	-0.1
BUR08	Bucovina Ar. S	78.42 317	P	P	16 56 16.2	+0.4
NB2	NORSAR Subarra	80.69 332	P	P	16 56 27.3	-0.5
	comp=Z,0.9nm,0.7s,baz=57,slow=5.9					
NOA	NORSAR Array B	80.69 332	P	P	16 56 27.4	-0.5
	comp=Z,1.0nm,0.6s,baz=58,slow=5.7,SNR=5.5					
NOA			LR	LR	17 36 06.7	
	comp=Z,84nm,18.5s,baz=305,slow=38					
CLL	Collm	84.30 323	eP	P	16 56 47.0	+0.3
GERES	GERESS Array B	85.02 321	P	P	16 56 50.3	-0.3
	comp=Z,0.7nm,0.7s,baz=59,slow=5.1,SNR=6.3					

IDC 29 16:52:41.5±3.9, 5°.64S×150°.50E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/29, mbtmp3.4/2, Error ellipse: s-maj=157.3km s-min=49.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.19	226	P	P	16 57 29.2	+0.3
	1.7nm,1.2s,baz=50,slow=10,SNR=6.2						
ASAR	Alice Springs	24.01	220	P	P	16 57 57.7	-0.5
	0.9nm,0.7s,baz=58,slow=9.0,SNR=14						
TORD	Torodi Ar. Bea	148.35	286	PKPbc	PKPbc	17 12 30.8	-0.3
	0.4nm,0.8s,baz=70,slow=3.7,SNR=2.0						

DJA 29 17:08:10.2±0.7, 10°.S±6°.×10°.8E±°., h10km, M3.9/13, mb3.6/2, MLv4.0/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	2.29	19	P	Pn	17 08 46.9	-1.1
CISI	Cisompet, Garu	2.39	3	P	Pn	17 08 48.9	-0.6
CNJI	Cibinong	2.69	348	P	Pn	17 08 53.0	-0.6
KPJI	Karang Pucung	2.88	25	P	Pn	17 08 56.7	+0.5
SKJI	Sukabumi	3.15	339	P	Pn	17 08 59.6	-0.3
DBJI	Dramaga	3.51	344	P	Pn	17 09 04.2	-0.7
WOJI	Wonogiri, Jawa	3.82	57	P	Pn	17 09 09.5	+0.4
CGJI	Cibinong	3.87	329	P	Pn	17 09 10.4	+0.5
PWJI	Pagerwojo	4.49	65	P	Pn	17 09 18.4	+0.1
KLSI		6.01	330	P	Pn	17 09 40.0	+0.8
	0.0nm7.6nm,1.5s						
MDSI	Maura Dua	6.46	327	P	Pn	17 09 45.3	-0.2

IDC 29 17:10:29.1±3.1, 28°.39S×177°.31W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.3/38, mbtmp3.3/2, Error ellipse: s-maj=72.5km s-min=24.9km az=107.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.01	212	Pn	Pn	17 10 50.7	+0.2
	156nm,0.3s,baz=88,slow=18,SNR=15						
RAO				Sn	Sn	17 11 05.0	-0.4
	720nm,0.3s,baz=13,slow=22,SNR=8.8						
ASAR	Alice Springs	43.86	265	P	P	17 18 37.6	+0.2
	0.2nm,0.4s,baz=107,slow=7.7,SNR=7.6						
WRA	Warramunga Arr	44.66	270	P	P	17 18 43.8	-0.1
	0.3nm,0.7s,baz=107,slow=7.9,SNR=5.2						
AKASG	Malin Array Be	150.03	325	PKPbc	PKPbc	17 30 20.6	-0.7
	0.1nm,0.2s,baz=55,slow=2.9,SNR=4.1						

IDC 29 17:12:25.2±1.2, 37°.86N×91°.53E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.5/52, mbtmp3.6/9, ML3.0/4, Error ellipse: s-maj=49.6km s-min=19.5km az=55.0
BJI 29 17:12:26.3±0.0, 37°.91N×91°.45E, h7km, ML3.6/6

ISC 29 17:12:30.3±1.1, 38°.0N±0°.1×91°.4E±0°.1, h35km, n12, σ0§84/13, mb3.8/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	6.73	76	Pn	Pn	17 14 06.3	-0.4
GTA				smax	smax		
	comp=N,24nm,0.8s						
GTA				smax	smax		
	comp=E,26nm,1.0s						
MKAR	Makanchi Array	11.04	325	Pn	Pn	17 15 06.2	+0.5
	0.4nm,0.3s,baz=131,slow=14,SNR=20						
MKAR				Sn	Sn	17 17 06.6	-1.2
	0.2nm,0.3s,baz=142,slow=21,SNR=3.1						
SONM	Songino Array	14.71	43	Pn	Pn	17 15 56.2	+0.4
	0.2nm,0.3s,baz=264,slow=13,SNR=1.9						
KURBB	Kurchatov Arra	15.57	328	Pn	Pn	17 16 06.3	-0.7
	0.0nm,0.3s,baz=136,slow=12,SNR=1.8						
ZALV	Zalesovo Beam	16.56	346	Pn	Pn	17 16 18.9	-0.6
	0.1nm,0.3s,baz=312,slow=37,SNR=2.5						
GYA	Guiyang	17.29	127	eP	P	17 16 30.5	+0.2
FINES	FINESS Array B	45.86	323	P	P	17 20 49.6	+0.9
	1.3nm,0.7s,baz=101,slow=14,SNR=3.6						
NB2	NORSAR Subarra	53.03	323	P	P	17 21 43.6	+0.1
	comp=Z,1.1nm,0.5s,baz=76,slow=7.4						
NOA	NORSAR Array B	53.03	323	P	P	17 21 43.9	+0.5
	comp=Z,0.4nm,0.6s,baz=76,slow=7.5,SNR=1.8						
ILAR	Eielson Array	67.90	23	P	P	17 23 25.6	+0.8
	comp=Z,0.5nm,0.6s,baz=316,slow=4.8,SNR=6.0						
WRA	Warramunga Arr	70.38	137	P	P	17 23 39.3	-1.5
	comp=Z,0.2nm,0.7s,baz=333,slow=5.9,SNR=1.5						
ASAR	Alice Springs	73.21	140	P	P	17 23 57.8	0.0
	comp=Z,0.4nm,0.8s,baz=321,slow=5.4,SNR=6.1						

IDC 29 17:12:53.4±0.9, 37°.89N×91°.44E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.7/50, mbtmp3.7/12, ML3.4/3, MS3.0/1, Ms1 3.2/1, ms1mx2.4/44, Error ellipse: s-maj=41.0km s-min=18.3km az=49.0
NEIC 29 17:12:58.0±0.8, 38°.0N±0°.1×91°.5E±0°.2, h28km±5km, mb4.2/10, Error ellipse: s-maj=24.5km s-min=10.9km az=222.0

ISC 29 17:12:58.8±0.8, 38°.0N±0°.1×91°.4E±0°.1, h35km, n36, σ0§68/35, mb3.8/11, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	11.05	325	Pn	Pn	17 15 33.5	-0.9
MKAR	Makanchi Array	11.05	325	Pn	Pn	17 15 33.5	-0.8
	1.6nm,0.3s,baz=134,slow=14,SNR=11						
MKAR	Makanchi Array	11.05	325	Pn	Pn	17 15 33.9	-0.5
KURBB	Kurchatov Arra	15.58	328	Pn	Pn	17 16 33.6	-2.0
	0.1nm,0.3s,baz=131,slow=12,SNR=4.2						
KURK	Kurchatov	15.61	328		Pn	17 16 36.1	+0.1
KURK				IAmb	IAmb	17 16 47.5	
	comp=Z,2.7nm,0.7s						
ZALV	Zalesovo Beam	16.56	346	Pn	Pn	17 16 47.5	-0.7
	comp=Z,0.2nm,0.3s,baz=173,slow=11,SNR=2.8						
KK31	Karatay Array	16.66	294	Pn	Pn	17 16 50.0	+0.5
KKAR	Karatay Array	16.66	294	Pn	Pn	17 16 50.0	+0.4
KKAR	Karatay Array	16.66	294	Pn	Pn	17 16 50.0	+0.4
KKAR				IAmb	IAmb	17 16 54.0	
	comp=Z,1.3nm,0.7s						
CMAR	Chiang Mai Arr	20.57	159	P	Pn	17 17 35.8	-1.3
	comp=Z,0.5nm,0.5s,baz=344,slow=12,SNR=4.1						
CMAR				LR	LR	17 25 21.5	
	comp=Z,45nm,20.5s,baz=194,slow=37						
CMAR	Chiang Mai Arr	20.57	159	P	P	17 17 34.5	-0.2
BVAR	Borovoye Array	20.91	323	P	P	17 17 38.2	+0.2
	comp=Z,1.1nm,0.8s,baz=168,slow=15,SNR=4.7						
ABKAR	Akbulak array	25.21	307	P	P	17 18 20.7	-0.4
ABKAR				IAmb	IAmb	17 18 48.9	
	comp=Z,2.6nm,1.1s						
ABKAR	Akbulak array	25.21	307	P	P	17 18 20.7	-0.4
BRTR	Keskin Array B	44.33	291	P	P	17 21 06.0	+0.4
	comp=Z,1.0nm,0.7s,baz=111,slow=5.3,SNR=2.5						
BRTR	Keskin Array B	44.33	291	P	P	17 21 06.5	+0.8
AKASG	Malin Array Be	44.95	307	P	P	17 21 09.1	-1.1
FINES	FINESS Array B	45.87	323	P	P	17 21 17.8	+0.5
	comp=Z,1.2nm,0.5s,baz=92,slow=7.7,SNR=9.7						
NC405	NORSAR Array S	52.78	323	P	P	17 22 10.8	+0.6
NC303	NORSAR Array S	52.92	323	P	P	17 22 11.6	+0.4
NB201	NORSAR Array S	53.00	323	P	P	17 22 11.8	0.0
NB2	NORSAR Subarra	53.04	323	P	P	17 22 11.9	-0.2
	comp=Z,1.2nm,0.5s,baz=76,slow=7.4						
NOA	NORSAR Array B	53.04	323	P	P	17 22 12.1	+0.1
	comp=Z,1.5nm,0.7s,baz=77,slow=7.4,SNR=5.7						
NC204	NORSAR Array S	53.20	323	P	P	17 22 13.5	+0.2
NC204				IAmb	IAmb	17 22 14.9	
	comp=Z,21nm,1.2s						
CLL	Collm	54.75	311	eP	P	17 22 26.0	+1.3
GERES	GERESS Array B	55.14	308	P	P	17 22 28.0	+0.3
	comp=Z,0.5nm,0.6s,baz=64,slow=4.5,SNR=5.3						
GERES	GERESS Array B	55.14	308	P	P	17 22 27.2	-0.4
ILAR	Eielson Array	67.89	23	P	P	17 23 53.9	+0.6
	comp=Z,0.7nm,0.7s,baz=292,slow=5.3,SNR=6.8						
ILAR	Eielson Array	67.89	23	P	P	17 23 53.4	+0.1
DHY	Denali Highway	68.91	25	P	P	17 23 59.9	0.0
DHY				IAmb	IAmb	17 24 01.6	
	comp=Z,5.1nm,0.8s						
WRA	Warramunga Arr	70.36	137	P	P	17 24 08.8	-0.4
	comp=Z,0.2nm,0.5s,baz=332,slow=5.6,SNR=1.8						
BCAR	Beaver Creek A	70.69	23	P	P	17 24 12.1	+1.4
ASAR	Alice Springs	73.19	140	P	P	17 24 25.8	-0.4
	comp=Z,0.3nm,0.5s,baz=324,slow=5.7,SNR=8.0						
ASAR	Alice Springs	73.19	140	P	P	17 24 25.9	-0.2
TORD	Torodi Ar. Bea	81.81	280	P	P	17 25 14.6	-0.1
	comp=Z,0.4nm,0.4s,baz=41,slow=4.2,SNR=3.1						
TORD	Torodi Ar. Bea	81.81	280	P	P	17 25 14.5	-0.1

NEIC 29 17:15:35.0±1.3, 60°.8S±0°.2×24°.2W±0°.5, h32km±9km, mb4.5/9, Error ellipse: s-maj=39.9km s-min=17.9km az=51.0
IDC 29 17:15:36.1±1.1, 61°.07S×24°.64W, h0km, mb3.9/5, mb1 4.1/6, mb1mx4.0/20, mbtmp4.1/6, ML5.0/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/18, Error ellipse: s-maj=39.9km s-min=25.4km az=100.0

ISC 29 17:15:34.1±1.0, 60°.8S±0°.1×24°.6W±0°.1, h10km, n30, σ1§80/23, mb4.1/8, MS3.4/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	9.11	310	Pn	Pn	17 17 44.4	-1.0
VNA1	Neumayer--Stat	11.92	153	P	Pn	17 18 22.0	-1.8
VNA3	Neumayer Olymp	12.09	157	P	Pn	17 18 23.8	-2.3
VNA2	Neumayer--Watz	12.32	153	P	Pn	17 18 27.0	-2.3
SNAA	Sanae	13.90	151	P	Pn	17 18 48.9	-2.0
SNAA	Sanae	13.90	151	Pn	Pn	17 18 48.9	-2.0
BELA	Belgrano 2	17.49	187	P	P	17 19 37.9	-1.0
PMSA	Palmer Station	18.26	240	P	P	17 19 48.8	+1.5
	4.6nm,0.3s,baz=88,slow=11,SNR=51						
PMSA	Palmer Station	18.26	240	P	Pn	17 19 47.8	+0.6
PMSA				IAmb	IAmb	17 20 13.5	
	comp=Z,24nm,1.1s						
QSPA	South Pole Qui	29.46	180	P	P	17 21 39.2	+1.3
	comp=Z,1.1nm,0.6s,baz=248,slow=2.3,SNR=8.4						
PLCA	Paso Flores	34.34	285	LR	LR	17 35 56.2	
	comp=Z,31nm,18.2s,baz=160,slow=36						
MAW	Mawson	35.61	139	P	P	17 22 33.4	+2.1
	comp=Z,2.9nm,0.9s,baz=251,slow=12,SNR=5.4						
MAW				LR	LR	17 35 43.0	
	comp=Z,41nm,19.2s,baz=236,slow=34						
VNDA	Vanda	41.90	182	P	P	17 23 25.7	+1.8
	comp=Z,0.5nm,0.6s,baz=181,slow=9.4,SNR=5.8						
VNDA	Vanda	41.90	182	P	P	17 23 21.7	-2.2
BOSA	Boshof	46.12	69	LR	LR	17 41 26.4	
	comp=Z,64nm,18.0s,baz=18,slow=34						
GO02	Mina Guanaco	46.92	299	P	P	17 24 03.3	-1.7
PB01	IPOC Station P	50.51	301	P	P	17 24 31.1	-1.3
PB01				IAmb	IAmb	17 24 37.0	
	comp=Z,8.2nm,1.4s						
PB08	IPOC Station P	51.18	302	P	P	17 24 36.1	-1.6
PB08				IAmb	IAmb	17 24 44.6	
	comp=Z,6.3nm,1.3s						
PSGCX	Pisagua	52.07	301	P	P	17 24 43.2	-0.9
MNMC	Minye Minye	52.26	302	P	P	17 24 44.2	-1.5
MNMC				IAmb	IAmb	17 24 46.0	
	comp=Z,5.9nm,0.6s						
PB16	IPOC Station P	52.94	303	P	P	17 24 50.9	-0.2
H10N1	ASCENSION HYDR	53.36	13	T	T	18 23 24.1	
	baz=185						
H10N3	ASCENSION HYDR	53.36	13	T	T	18 23 11.7	
	baz=185,slow=74						
H10N2	ASCENSION HYDR	53.38	13	T	T	18 23 17.8	
	baz=185,slow=74						
LPAZ	La Paz	54.22	305	P	P	17 24 59.3	-1.3
TORD	Torodi Ar. Bea	76.61	26	P	P	17 27 31.0	+6.4
	comp=Z,0.7nm,0.5s,baz=199,slow=5.3,SNR=7.5						
ASAR	Alice Springs	94.07	160	P	P	17 28 52.9	+0.3
	comp=Z,0.5nm,1.0s,baz=188,slow=3.9,SNR=2.2						
CTA	Charters Tower	99.09	171	LR	LR	18 15 45.5	
	comp=Z,230nm,18.1s,baz=240,slow=36						
SONM	Songino Array	149.41	93	PKPbc	PKiKP	17 35 23.5	0.0
	comp=Z,0.5nm,0.7s,baz=222,slow=1.9,SNR=2.2						
ILAR	Eielson Array	154.09	304	PKPbc	PKiKP	17 35 35.9	+3.4
	comp=Z,0.4nm,0.8s,baz=158,slow=1.0,SNR=5.0						

IDC 29 17:26:30.4±1.6, 0°.78N×125°.82E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/37, mbtmp3.6/3, Error ellipse: s-maj=166.0km s-min=23.8km az=65.0
DJA 29 17:26:37.3±0.3, 1°.N±3°.×12°.6E±°., h10km, M3.8/10, mB4.4/1, mb4.0/1, MLv3.6/10, Mw(mB)3.5/1

ISC 29 17:26:40.1±1.0, 0°.50N±0°.09×125°.67E±0°.05, h73km, n10, σ1§44/13, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.69	272	P	Pn	17 27 06.1	-1.6
KMSI				S	Sn	17 27 27.9	-0.7
TNTI	Ternate	1.72	81	P	Pn	17 27 07.7	-0.4
TNTI				S	Sn	17 27 30.1	+0.8
SANI	Sanana	2.56	173	P	Pn	17 27 17.5	-1.8
GTOI	Gorontalo	2.66	273	P	Pn	17 27 22.3	+1.5
LUWI	Luwuk	3.28	242	P	Pn	17 27 31.2	+2.0
NLAI	Namlea	3.98	159	P	Pn	17 27 38.2	-0.6
MSAI	Masohi	5.02	140	P	Pn	17 27 54.5	+1.5
WRA	Warramunga Arr	22.02	158	P	P	17 31 28.1	-0.6
	1.1nm,0.5s,baz=337,slow=11,SNR=21						
ASAR	Alice Springs	25.32	162	P	P	17 32 01.6	+1.3
	0.6nm,0.5s,baz=344,slow=11,SNR=26						
ASAR				PcP	PcP	17 35 32.4	+0.8
	0.1nm,0.3s,baz=355,slow=1.9,SNR=1.8						
MKAR	Makanchi Array	59.62	327	P	P	17 36 35.3	-1.3
	0.3nm,0.4s,baz=122,slow=7.8,SNR=9.9						

NEIC 29 17:32:59.9±1.2, 15°.44S±0°.09×173°.0W±0°.1, h10km±1km, mb4.5/10, Error ellipse: s-maj=23.7km s-min=11.5km az=295.0
IDC 29 17:33:00.6±1.7, 15°.39S×173°.38W, h0km, mb3.9/6, mb1 4.3/6, mb1mx3.9/30, mbtmp3.9/6, MS3.2/5, Ms1 3.2/5, ms1mx3.0/34, Error ellipse: s-maj=110.6km s-min=21.5km az=150.0

ISC 29 17:33:03.9±0.7, 15°.45S±0°.09×172°.9W±0°.1, h29km, n35, σ1§90/29, mb4.2/10, MS3.2/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.90	36	Pn	Pn	17 33 33.8	-0.7
	28nm,0.3s,baz=18,slow=4.4,SNR=29						
AFI				Sn	Sn	17 33 54.6	-2.9
	70nm,0.3s,baz=236,slow=24,SNR=9.9						
AFI				LR	LR	17 34 17.1	
	comp=Z,248nm,21.1s,baz=294,slow=36						
AFI	Afiamalu	1.90	36		Pn	17 33 33.2	-1.2
AFI					Sn	17 33 55.3	-2.1
NIUE	Niue	4.61	142	Pn	Pn	17 34 10.3	-1.4
RAR	Rarotonga	13.75	117	LR	LR	17 40 16.2	
	comp=Z,123nm,20.2s,baz=286,slow=31						
PAE	Paea	22.50	99	eT	T	18 01 06.8	
	3.3nm,0.2s						
PPT	Papeete	22.50	99	LR	LR	17 45 45.2	
	comp=Z,51nm,18.2s,baz=342,slow=33						
PPT2	Papeete2	22.50	99	eLR	LR	17 43 04.4	
	comp=Z,104nm,25.2s						
TBI	Tubuai	23.47	113	eLR	LR	17 43 31.8	
	comp=Z,118nm,26.5s						
TBI	Tubuai	23.47	113	eT	T	18 02 20.7	
	9.7nm,0.2s						
TAOE	Nuku Hiva Isla	32.69	82	eT	T	18 13 51.9	
	33nm,0.2s						
WR0	Warramunga Arr	50.08	257	P	P	17 41 55.0	-1.6
WR0				IAmb	IAmb	17 42 09.8	
	comp=Z,8.7nm,1.5s						
WB0	Warramunga Arr	50.23	257	P	P	17 41 55.8	-2.0
WB0				IAmb	IAmb	17 41 59.1	
	comp=Z,6.4nm,1.2s						
WB2	Warramunga Arr	50.25	257	P	P	17 41 56.1	-1.9
WB2				IAmb	IAmb	17 42 11.4	
	comp=Z,6.3nm,1.2s						
WRAB	Tennant Creek	50.26	257	P	P	17 41 56.0	-2.0
WRAB				IAmb	IAmb	17 42 22.6	
	comp=Z,11nm,1.5s						
WRA	Warramunga Arr	50.27	257	P	P	17 41 55.8	-2.2
	comp=Z,0.7nm,0.6s,baz=83,slow=5.8,SNR=14						
WRA				PcP	PcP	17 43 16.8	0.0
	comp=Z,0.8nm,0.9s,baz=99,slow=3.5,SNR=3.5						
WRA	Warramunga Arr	50.27	257	P	P	17 41 56.0	-2.0
AS31	Alice Springs	50.52	252	P	P	17 41 57.7	-2.2
ASAR	Alice Springs	50.52	252	P	P	17 41 57.6	-2.3
	comp=Z,5.4nm,0.8s,baz=85,slow=8.0,SNR=70						
FITZ	Fitzroy Crossi	58.63	258	LR	LR	18 06 06.8	
	comp=Z,61nm,19.4s,baz=209,slow=34						
NVAR	Mina Array Bea	74.07	42	P	P	17 44 40.0	+2.4
	comp=Z,0.7nm,0.7s,baz=227,slow=8.7,SNR=6.7						
NVAR	Mina Array Bea	74.07	42	P	P	17 44 38.6	+1.0
KSRS	Korea Array	76.51	315	LR	LR	18 18 58.3	
	comp=Z,7.3nm,18.0s,baz=125,slow=36						
HLID	Hailey	79.39	39	P	P	17 45 08.1	+0.7
TXAR	Lajitas Array	80.27	56	P	P	17 45 15.9	+3.5
	comp=Z,0.6nm,0.9s,baz=220,slow=4.9,SNR=6.7						
TXAR	Lajitas Array	80.27	56	P	P	17 45 12.1	-0.4
DLBC	Dease Lake	81.59	21	P	P	17 45 18.9	+0.2
IMW	Indian Meadow	81.70	40	P	P	17 45 23.4	+3.3
PDAR	Pinedale Array	82.01	42	P	P	17 45 23.7	+2.1
	comp=Z,1.4nm,1.1s,baz=262,slow=4.2,SNR=5.5						
PDAR	Pinedale Array	82.01	42	P	P	17 45 23.9	+2.3
YHL	Hebgen Lake	82.04	39	P	P	17 45 20.9	-0.8
ILAR	Eielson Array	82.41	11	P	P	17 45 24.1	+1.2
	comp=Z,0.3nm,0.5s,baz=228,slow=6.0,SNR=5.5						
GERES	GERESS Array B	146.25	352	PKPbc	PKPbc	17 52 42.1	+0.3
	comp=Z,0.6nm,0.7s,baz=42,slow=4.2,SNR=5.4						
GERES	GERESS Array B	146.25	352		PKPbc	17 52 41.6	-0.1
BRTR	Keskin Array B	146.47	321	PKPbc	PKPbc	17 52 43.8	+1.0
	comp=Z,1.3nm,0.8s,baz=71,slow=4.3,SNR=3.6						
BRTR	Keskin Array B	146.47	321		PKPdf	17 52 42.1	+0.7

CNRM 29 17:56:50.2±0.4, 33°.65N×5°.99W, h6km±2km, Error ellipse: s-maj=2.3km s-min=1.8km az=134.0
SFS 29 17:56:50.0, 33°.64N×5°.66W, ML3.7, EL KANSERA (MARRUECOS)
MDD 29 17:56:53.2±1.0, 33°.72N×5°.95W, h30km, mb3.9/5, Error ellipse: s-maj=7.4km s-min=7.3km az=171.0, PRXIMO

ISC 29 17:56:51.1±1.1, 33°.71N±0°.02×5°.95W±0°.02, h33km±4km, n33, σ2§19/64, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	ZHG	0.63	246	P	Pn	17 57 03.6	-0.2
ZHG				S	Sn	17 57 13.1	+0.4
SICH	Sidi Chahed	0.66	53	P	Pb	17 57 03.3	-1.1
SICH				S	Sb	17 57 12.6	-0.8
IFR	Ifrane	0.72	105	eP	Pb	17 57 04.5	-0.9
IFR				eS	Sb	17 57 13.2	-1.8
RTC	Rabat Centre	0.80	291	P	Pn	17 57 06.7	+0.6
RTC				S	Sn	17 57 17.8	+0.9
CZD	Col de Zad	1.02	131	P	Pn	17 57 10.4	+1.1
CZD				S	Sn	17 57 24.0	+1.4
RSA	Sarsar	1.18	5	P	Pb	17 57 13.4	+0.3
RSA				S	Sb	17 57 29.9	+1.8
AVE	Averroes	1.28	252	P	Pb	17 57 15.1	+0.3
AVE				S	Sb	17 57 31.8	+0.8
AVE	Averroes	1.28	252	eP	Pb	17 57 15.6	+0.9
AVE				eS	Sb	17 57 33.1	+2.1
MD31	MD31	1.30	130	P	Pb	17 57 15.4	+0.2
MD31				S

ETOR				S	Sn	18 00 02.4	-6.0
	8.1nm,1.0s,SNR=4.0						

IDC 29 18:00:54.4±1.8, 51°.93S×141°.55E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/27, mbtmp3.8/4, MS3.1/3, Ms1 3.1/3, ms1mx2.9/17, Error ellipse: s-maj=147.3km s-min=25.8km az=78.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.04**	**0**	LR	LR	18 11 21.2	
	comp=Z,80nm,21.2s,baz=204,slow=31						
RPZ	**Rata Peaks**	**21.33**	**79**	LR	LR	18 12 22.2	
	comp=Z,111nm,19.0s,baz=254,slow=32						
H01W1	**Cape Leeuwin H**	**25.96**	**300**	T	T	18 32 32.3	
	baz=141,slow=75,SNR=39						
H01W2	**Cape Leeuwin H**	**25.97**	**300**	T	T	18 32 32.4	
	baz=141,slow=75,SNR=36						
H01W3	**Cape Leeuwin H**	**25.98**	**300**	T	T	18 32 32.8	
	baz=141,slow=75,SNR=24						
VNDA	**Vanda**	**26.78**	**170**	P	P	18 06 35.1	-0.3
	0.4nm,0.8s,baz=323,slow=12,SNR=2.0						
VNDA				LR	LR	18 15 12.6	
	comp=Z,15nm,20.7s,baz=353,slow=32						
ASAR	**Alice Springs**	**28.82**	**345**	P	P	18 06 54.1	-0.1
	1.3nm,0.8s,baz=166,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**32.42**	**347**	P	P	18 07 26.1	+0.2
	3.2nm,0.8s,baz=175,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**36.02**	**334**	P	P	18 07 56.5	-0.6
	2.3nm,1.0s,baz=180,slow=10,SNR=2.2						
QSPA	**South Pole Qui**	**38.18**	**180**	P	P	18 08 11.4	-3.9
	0.9nm,1.0s,baz=283,slow=1.9,SNR=1.9						
H08S2	**Diego Garcia H**	**71.14**	**282**	T	T	19 28 32.7	
	baz=142,slow=76,SNR=5.1						
H08S1	**Diego Carcia H**	**71.16**	**282**	T	T	19 28 34.1	
	baz=142,slow=76,SNR=4.8						
H08S3	**Diego Garcia H**	**71.16**	**282**	T	T	19 28 31.6	
	baz=142,slow=76,SNR=5.1						
GERES	**GERESS Array B**	**147.19**	**286**	PKPbc	PKPbc	18 20 38.5	-0.1
	0.2nm,0.5s,baz=123,slow=3.6,SNR=2.2						

IDC 29 18:56:36.9±2.2, 3°.01N×129°.21E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.5/3, Error ellipse: s-maj=139.7km s-min=25.9km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**168**	P	P	19 01 47.0	-0.2
	0.9nm,0.6s,baz=348,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.91**	**170**	P	P	19 02 19.9	0.0
	0.4nm,0.8s,baz=1.9,slow=5.7,SNR=2.6						
MKAR	**Makanchi Array**	**59.56**	**324**	P	P	19 06 42.5	+0.1
	0.5nm,0.4s,baz=115,slow=7.5,SNR=6.5						

*KRNET **29** 19:22:33.9±0.1, 39°.85N×75°.78E, mb3.2*
*NNC **29** 19:22:34.7±1.8, 40°.15N×75°.71E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.1km s-min=8.2km az=172.0*
*SOME **29** 19:22:34.9, 40°.22N×75°.67E, h15km*

ISC 29 19:22:35.7±1.9, 39°.97N±0°.07×75°.73E±0°.03, h15km±15km, n58, σ1§63/91, 25C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.14**	**350**	⇓*iP*	**Pn**	**19 23 10.5**	**-0.8**
	baz=50						
KZA				⇓*iS*	**Sn**	**19 23 37.5**	**-0.3**
	baz=50						
KZA	**Kyzart**	**2.14**	**350**	P	**Pn**	**19 23 11.2**	**0.0**
	SNR=8.2						
ARLS	**Aral**	**2.17**	**331**	⇓*iP*	**Pn**	**19 23 10.8**	**-0.7**
	baz=32						
ARLS				⇓*iS*	**Sn**	**19 23 38.0**	**-0.2**
	baz=32						
ULHL	**Ulahol**	**2.31**	**10**	⇓*eP*	**Pn**	**19 23 12.5**	**-0.9**
	baz=8.0						
ULHL				⇓*iS*	**Sn**	**19 23 40.9**	**-0.8**
	baz=8.0						
ULHL	**Ulahol**	**2.31**	**10**	P	**Pn**	**19 23 13.5**	**+0.1**
	SNR=7.0						
OHH	**Osh**	**2.32**	**285**	⇓*iP*	**Pn**	**19 23 12.2**	**-1.2**
	baz=87						
OHH				⇓*iS*	**Sn**	**19 23 40.4**	**-1.3**
	baz=87						
TARG	**Taragay, Kyrgy**	**2.36**	**41**	⇑*iP*	**Pn**	**19 23 12.7**	**-1.6**
	baz=39						
TARG				⇑*iS*	**Sn**	**19 23 41.6**	**-1.7**
	baz=39						
KDJ	**Kajisay**	**2.43**	**26**	⇓*iP*	**Pn**	**19 23 14.3**	**-0.7**
	baz=25						
KDJ				⇓*iS*	**Sn**	**19 23 43.4**	**-1.1**
	baz=25						
UCH	**Uchtor**	**2.44**	**338**	⇑*iP*	**Pn**	**19 23 14.9**	**-0.5**
	baz=38						
UCH				⇑*iS*	**Sn**	**19 23 44.5**	**-0.7**
	baz=38						
UCH	**Uchtor**	**2.44**	**338**	P	**Pn**	**19 23 14.0**	**-1.4**
	SNR=16						
BOOM	**Boomskoye usch**	**2.53**	**4**	⇑*iP*	**Pn**	**19 23 15.8**	**-0.6**
	baz=3.0						
BOOM				⇑*iS*	**Sn**	**19 23 46.4**	**-0.6**
	baz=3.0						
AML	**Almayashu**	**2.65**	**325**	⇑*iP*	**Pn**	**19 23 17.6**	**-0.7**
	baz=26						
AML				⇑*iS*	**Sn**	**19 23 49.3**	**-1.1**
	baz=26						
AML	**Almayashu**	**2.65**	**325**	P	**Pn**	**19 23 16.8**	**-1.5**
	SNR=7.9						
KBK	**Karagaybulak**	**2.75**	**348**	⇑*eP*	**Pn**	**19 23 18.5**	**-1.0**
	baz=48						
KBK				⇑*iS*	**Sn**	**19 23 52.3**	**-0.2**
	baz=48						
KBK	**Karagaybulak**	**2.75**	**348**	P	**Pn**	**19 23 18.9**	**-0.6**
	SNR=11						
AAK	**Ala-Archa**	**2.83**	**341**	⇓*iP*	**Pn**	**19 23 19.5**	**-0.9**
	baz=41						
AAK				⇓*iS*	**Sn**	**19 23 53.5**	**-0.9**
	baz=41						
AAK	**Ala-Archa**	**2.83**	**341**	P	**Pn**	**19 23 19.5**	**-0.9**
	SNR=5.8						
AAK	**Ala-Archa**	**2.83**	**341**	⇑Pn	**Pn**	**19 23 19.6**	**-0.9**
	12nm,0.5s						
AAK				⇑Sn	**Sn**	**19 23 54.1**	**-0.2**
	26nm,0.8s						
TKM2	**Tokmak 2**	**2.95**	**358**	P	**Pn**	**19 23 21.4**	**-0.9**
	SNR=6.4						
TKM2	**Tokmak 2**	**2.95**	**358**	⇑Pn	**Pn**	**19 23 21.2**	**-1.1**
	8.2nm,0.6s						
TKM2				⇓Sn	**Sn**	**19 23 57.0**	**-0.6**
	11nm,0.4s						
FRU1	**Bishkek**	**2.96**	**344**	⇑*iP*	**Pn**	**19 23 21.0**	**-1.2**
	baz=44						
FRU1				⇑*iS*	**Sn**	**19 23 57.0**	**-0.5**
	baz=44						
EKS2	**Erkin-Say**	**3.07**	**332**	⇑*iP*	**Pn**	**19 23 23.2**	**-0.5**
	baz=32						
EKS2				⇑*iS*	**Sn**	**19 23 59.4**	**-0.9**
	baz=32						
KST	**Kastek**	**3.08**	**3**	*eP*	**Pn**	**19 23 25.6**	**+1.7**
	5.0nm,0.4s						
KST				*eS*	**Sn**	**19 24 01.8**	**+1.2**
	20nm,0.6s						
KST	**Kastek**	**3.08**	**3**	Pg	**Pn**	**19 23 26.0**	**+2.0**
	12nm,0.4s						
KST				Lg	Lg	19 24 04.9	
	21nm,0.6s						
CHMS	**Chumysh**	**3.12**	**347**	⇓*iP*	**Pn**	**19 23 24.0**	**-0.4**
	baz=46						
CHMS				⇓*iS*	**Sn**	**19 24 00.5**	**-0.9**
	baz=46						
IZV	**Izvestkoviy**	**3.14**	**12**	*eP*	**Pb**	**19 23 30.4**	**-0.9**
	4.2nm,0.3s						
IZV				*eS*	**Sb**	**19 24 09.6**	**+0.2**
	23nm,0.5s						
IZV	**Izvestkoviy**	**3.14**	**12**	Pg	**Pb**	**19 23 28.9**	**-2.3**
	13nm,0.5s						
IZV				Lg	Lg	19 24 10.0	
	20nm,0.6s						
ANVS	**Anan'yevo**	**3.17**	**27**	⇑*iP*	**Pn**	**19 23 24.2**	**-1.0**
	baz=25						
ANVS				⇑*iS*	**Sn**	**19 24 01.4**	**-1.5**
	baz=25						
TNSS	**Tian-Shan**	**3.20**	**16**	*eP*	**Pb**	**19 23 31.3**	**-1.2**
	6.2nm,0.4s						
TNSS				*eS*	**Sb**	**19 24 11.4**	**-0.1**
	10nm,0.6s						
TNSS	**Tian-Shan**	**3.20**	**16**	Pg	**Pb**	**19 23 29.7**	**-2.8**
	6.2nm,0.4s						
TNSS				Lg	Lg	19 24 11.4	
	10nm,0.6s						
PRZ	**Przheval'sk**	**3.22**	**38**	⇑*iP*	**Pn**	**19 23 24.9**	**-1.1**
	baz=36						
PRZ				⇑*iS*	**Sn**	**19 24 02.4**	**-1.8**
	baz=36						
MRKS	**Merke**	**3.35**	**327**	*eP*	**Pb**	**19 23 33.4**	**-1.5**
	5.7nm,0.4s						
MRKS				*eS*	**Sb**	**19 24 14.9**	**-0.7**
	17nm,0.5s						
MRKS	**Merke**	**3.35**	**327**	Pg	**Pn**	**19 23 31.8**	**+4.2**
	8.6nm,0.3s						
MRKS				Lg	Lg	19 24 14.9	
	17nm,0.4s						
USP	**Ospenovka**	**3.42**	**345**	P	**Pn**	**19 23 27.7**	**-0.9**
	SNR=5.6						
KOTS	**Kotyrbulak**	**3.43**	**17**	*eP*	**Pb**	**19 23 35.5**	**-0.7**
	8.2nm,0.5s						
KOTS				*eS*	**Sb**	**19 24 18.0**	**+0.3**
	8.9nm,0.4s						
KOTS	**Kotyrbulak**	**3.43**	**17**	Pg	**Pb**	**19 23 33.6**	**-2.6**
	11nm,0.3s						
KOTS				Lg	Lg	19 24 17.6	
	88nm,0.6s						
SATY	**Saty**	**3.69**	**32**	*eP*	**Pb**	**19 23 41.0**	**+0.4**
	2.8nm,0.5s						
SATY				*eS*	**Sb**	**19 24 28.2**	**+3.0**
	9.7nm,0.6s						
SATY	**Saty**	**3.69**	**32**	Pg	**Pb**	**19 23 40.2**	**-0.4**
	3.5nm,0.4s						
SATY				Lg	Lg	19 24 29.1	
	14nm,0.5s						
BTK	**Batken**	**3.77**	**273**	⇑*iP*	**Pn**	**19 23 32.4**	**-1.0**
	baz=75						
BTK				⇑*iS*	**Sn**	**19 24 14.8**	**-2.7**
	baz=75						
KTBS	**Karatobe**	**3.81**	**10**	*eP*	**Pb**	**19 23 42.5**	**-0.1**
	3.2nm,0.2s						
KTBS				*eS*	**Sb**	**19 24 30.2**	**+1.6**
	24nm,0.6s						
KTBS	**Karatobe**	**3.81**	**10**	Pg	**Pb**	**19 23 40.3**	**-2.3**
	17nm,0.4s						
KTBS				Lg	Lg	19 24 30.2	
	24nm,0.6s						
KUU	**Kurty**	**3.95**	**6**	*eP*	**Pb**	**19 23 44.6**	**-0.4**
	3.8nm,0.6s						
KUU				*eS*	**Sb**	**19 24 34.2**	**+1.6**
	12nm,0.5s						
KUU	**Kurty**	**3.95**	**6**	Pg	**Pb**	**19 23 43.3**	**-1.7**
	3.8nm,0.6s						
KUU				Lg	Lg	19 24 34.2	
	12nm,0.5s						
UZB	**Uzynbulak**	**4.03**	**37**	*eP*	**Pb**	**19 23 46.0**	**-0.4**
	2.7nm,0.5s						
UZB				*eS*	**Sb**	**19 24 35.9**	**+0.9**
	7.3nm,0.7s						
UZB	**Uzynbulak**	**4.03**	**37**	Pg	**Pb**	**19 23 44.6**	**-1.8**
	2.5nm,0.5s						
UZB				Lg	Lg	19 24 36.5	
	6.5nm,0.8s						
SHLS	**Shalkode**	**4.25**	**40**	Pg	**Pb**	**19 23 52.9**	**+2.8**
	3.5nm,0.3s						
SHLS				Lg	Lg	19 24 51.1	
	16nm,0.8s						
PDGK	**Podgornoye**	**4.39**	**39**	⇓Pg	**Pg**	**19 23 59.1**	**-0.5**
	1.2nm,0.5s						
PDGK				⇑Lg	Lg	19 24 46.6	
	16nm,0.9s						
ARXS	**Arharly**	**4.52**	**20**	*eP*	**Pb**	**19 23 55.0**	**+0.2**
	4.6nm,0.5s						
ARXS				*eS*	**Sb**	**19 24 51.5**	**+2.3**
	8.2nm,0.6s						
ARXS	**Arharly**	**4.52**	**20**	Pg	**Pb**	**19 23 53.0**	**-1.8**
	7.8nm,0.6s						
ARXS				Lg	Lg	19 24 51.5	
	8.2nm,0.6s						
MNBS	**Baschi**	**4.57**	**25**	*eP*	**Pb**	**19 23 56.5**	**+0.9**
	3.7nm,0.5s						
MNBS				*eS*	**Sb**	**19 24 53.7**	**+3.2**
	10nm,0.7s						
MNBS	**Baschi**	**4.57**	**25**	Pg	**Pb**	**19 23 54.7**	**-0.9**
	3.7nm,0.5s						
MNBS				Lg	Lg	19 24 53.7	
	10nm,0.7s						
IUG	**Iuzhnay**	**4.83**	**299**	*eP*	**Pb**	**19 24 01.9**	**+2.0**
	4.2nm,0.4s						
IUG				*eS*	**Sb**	**19 25 03.5**	**+5.6**
	12nm,0.9s						
IUG	**Iuzhnay**	**4.83**	**299**	Pg	**Pb**	**19 23 59.4**	**-0.5**
	4.3nm,0.5s						
IUG				Lg	Lg	19 25 02.1	
	10nm,0.9s						
KTMS	**Ketmen**	**4.91**	**43**	*eP*	**Pb**	**19 24 03.2**	**+1.8**
	1.6nm,0.3s						
KTMS				*eS*	**Sb**	**19 25 05.9**	**+5.6**
	7.8nm,0.7s						
KTMS	**Ketmen**	**4.91**	**43**	Pg	**Pb**	**19 24 00.7**	**-0.7**
	1.9nm,0.3s						
KTMS				Lg	Lg	19 25 04.3	
	7.8nm,0.7s						
KK31	**Karatay Array**	**5.01**	**310**	⇓Pg	**Pb**	**19 24 03.5**	**+0.3**
	0.8nm,0.5s,baz=133,slow=16,SNR=5.7						
KK31				⇑Lg	Lg	19 25 10.9	
	0.6nm,0.3s,baz=124,slow=28,SNR=4.9						
BTLS	**Baital**	**5.22**	**347**	*eP*	**Pb**	**19 24 06.5**	**-0.1**
	0.6nm,0.2s						
BTLS				*eS*	**Sb**	**19 25 11.4**	**+2.2**
	4.1nm,0.6s						
KAPS	**Kapalarasan**	**5.95**	**26**	Pg	**Pb**	**19 24 20.1**	**+1.0**
	1.0nm,0.5s						
KAPS				Lg	Lg	19 25 37.9	
	2.9nm,0.6s						

*ECX **29** 20:05:15.8±0.5, 28°.07N×112°.17W, h12km±15km, MD2.9*
*MEX **29** 20:05:16.4±0.6, 27°.90N×112°.20W, h77km±11km, MD3.6*

ISC 29 20:05:12.9±1.7, 28°.01N±0°.07×112°.2W±0°.1, h10km, n7, σ0§42/14, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.69**	**182**	*eP*	**Pn**	**20 05 29.1**	**+0.4**
SRIG				*eS*	**Sn**	**20 05 39.2**	**-0.3**
SRIG	**Santa Rosalia**	**0.69**	**182**	*eP*	**Pn**	**20 05 28.8**	**+0.1**
SRIG				*eS*	**Sn**	**20 05 39.2**	**-0.3**
GUYB	**Guaymas**	**1.19**	**95**	*eP*	**Pg**	**20 05 36.2**	**+0.4**
GUYB				*eS*	**Sn**	**20 05 51.9**	**0.0**
GUYB	**Guaymas**	**1.19**	**95**	*eP*	**Pg**	**20 05 36.1**	**+0.4**
GUYB				*eS*	**Sn**	**20 05 51.3**	**-0.5**
HSIG		**1.50**	**48**	*eP*	**Pb**	**20 05 40.3**	**-0.5**
HSIG				*eS*	**Sb**	**20 05 59.8**	**-0.1**
HSIG		**1.50**	**48**	*eP*	**Pn**	**20 05 40.1**	**+0.2**
HSIG				*eS*	**Sb**	**20 05 59.5**	**-0.5**
NZIG	**Nacozari, Sono**	**3.31**	**44**	*i P*	**Pn**	**20 06 05.6**	**+0.7**
NZIG				*i S*	**Sn**	**20 06 44.3**	**-0.1**

*IDC **29** 20:17:03.7±2.3, 30°.55N×140°.32E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/45, mbtmp3.6/4, ML2.9/2, MS2.2/1, Ms1 2.2/1, ms1mx2.0/33, Error ellipse: s-maj=103.4km s-min=31.1km az=76.0*
*JMA **29** 20:17:04.4±0.2, 31°.01N×141°.29E, h56km, M3.7*

ISC 29 20:17:05.1±1.1, 30°.95N±0°.05×141°.4E±0°.2, h37km, n18, σ1§54/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.50**	**328**	P	**Pn**	**20 17 42.6**	**-0.6**
JHCJ				*eS*	**Sn**	**20 18 10.3**	**-2.1**
BSO1	**Boso 1**	**3.71**	**355**	P	**Pn**	**20 18 00.3**	**+1.0**
BSO1				*eS*	**Sn**	**20 18 42.2**	**+0.8**
BSO3	**Boso 3**	**3.91**	**350**	*eS*	**Sn**	**20 18 47.1**	**+0.4**
CBIJ	**Chichi jima**	**3.91**	**169**	P	**Pn**	**20 18 03.7**	**+1.1**
CBIJ				*eS*	**Sn**	**20 18 46.9**	**-0.3**
JCJ	**Chichijima**	**3.91**	**169**	Pn	**Pn**	**20 18 03.8**	**+1.2**
	2.6nm,0.3s,baz=291,slow=19,SNR=1.8						
JCJ				Sn	**Sn**	**20 18 46.5**	**-0.7**
	7.8nm,0.3s,baz=287,slow=19,SNR=1.4						
BSO4	**Boso 4**	**4.12**	**348**	*eS*	**Sn**	**20 18 50.6**	**-1.6**
TTO1	**TONANKAI O.B.S**	**4.70**	**306**	P	**Pn**	**20 18 13.7**	**+0.5**
JHO	**Hitachi**	**5.68**	**354**	P	**Pn**	**20 18 26.9**	**-0.1**
JHO				*eS*	**Sn**	**20 19 28.1**	**-2.8**
MJAR	**Matsushiro Arr**	**6.16**	**336**	Pn	**Pn**	**20 18 36.7**	**+3.2**
	0.1nm,0.3s,baz=163,slow=14,SNR=5.0						
KSRS	**Korea Array**	**12.87**	**304**	LR	LR	20 24 39.1	
	comp=Z,10nm,19.0s,baz=60,slow=37						
H11N2	**WAKE ISLAND Hy**	**25.58**	**110**	T	T	20 49 05.7	
	baz=297						
H11N1	**WAKE ISLAND Hy**	**25.58**	**110**	T	T	20 49 16.2	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**25.59**	**110**	T	T	20 49 10.3	
	baz=297						
H11S3	**WAKE ISLAND Hy**	**26.06**	**112**	T	T	20 49 38.4	
	baz=304,slow=76,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**26.07**	**112**	T	T	20 49 33.8	
	baz=304,slow=76,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**26.08**	**112**	T	T	20 49 30.8	
	baz=304,slow=76,SNR=7.6						
WRA	**Warramunga Arr**	**51.05**	**189**	P	**P**	**20 26 04.2**	**+0.5**
	0.5nm,0.3s,baz=6.0,slow=7.8,SNR=47						
ASAR	**Alice Springs**	**54.78**	**188**	P	**P**	**20 26 30.8**	**-0.4**
	0.2nm,0.3s,baz=1.5,slow=4.9,SNR=7.3						

*IDC **29** 20:26:42.6±4.3, 16°.65S×174°.84W, h132km±33km, mb3.6/3, mb1 3.9/4, mb1mx3.4/33, mbtmp4.1/4, MS2.4/1, Ms1 2.4/1, ms1mx2.3/26, Error ellipse: s-maj=243.0km s-min=22.6km az=142.0*
*NEIC **29** 20:26:43.1±1.1, 16°.2S±0°.6×175°.2W±0°.5, h122km±19km, mb4.6/7, Error ellipse: s-maj=109.2km s-min=6.8km az=142.0*

ISC 29 20:26:45.4±2.3, 16°.1S±0°.7×175°.1W±0°.4, h150km, n22, σ0§96/18, mb4.4/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.88**	**56**	P	**Pn**	**20 27 44.5**	**+0.3**
	21nm,0.3s,baz=175,slow=1.8,SNR=20						
AFI				S	**Sn**	**20 28 29.2**	**-0.6**
	22nm,0.3s,baz=352,slow=20,SNR=7.9						
AFI				LR	LR	20 29 12.0	
	comp=Z,57nm,20.9s,baz=74,slow=37						
AFI	**Afiamalu**	**3.88**	**56**		**Pn**	**20 27 43.8**	**-0.3**
AFI					**Sn**	**20 28 28.1**	**-1.6**
WB2	**Warramunga Arr**	**48.10**	**258**	P	**P**	**20 35 10.0**	**-0.4**
WRAB	**Tennant Creek**	**48.10**	**258**	P	**P**	**20 35 10.1**	**-0.4**
WRAB				IAmb	IAmb	20 35 10.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**48.12**	**258**	P	**P**	**20 35 10.0**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=99,slow=7.1,SNR=37						
WRA	**Warramunga Arr**	**48.12**	**258**	P	**P**	**20 35 09.9**	**-0.6**
AS31	**Alice Springs**	**48.36**	**253**	P	**P**	**20 35 11.6**	**-0.8**
ASAR	**Alice Springs**	**48.36**	**253**	P	**P**	**20 35 11.6**	**-0.8**
	comp=Z,4.6nm,0.5s,baz=89,slow=8.5,SNR=106						
SAUI	**Saumlaki**	**52.95**	**272**	P	**P**	**20 35 46.2**	**-0.6**
KNRA	**Kununurra**	**53.87**	**262**	P	**P**	**20 35 52.8**	**-0.7**
KNRA				IAmb	IAmb	20 36 21.1	
	comp=Z,23nm,1.4s						
H04A	**Detroit Lake**	**77.28**	**36**	P	**P**	**20 38 23.2**	**0.0**
H04A				IAmb	IAmb	20 38 49.9	
	comp=Z,8.7nm,0.9s						
E09A	**Wood Farm, Sta**	**80.65**	**36**	P	**P**	**20 38 43.6**	**+2.1**
E09A				IAmb	IAmb	20 38 44.9	
	comp=Z,11nm,0.8s						
ILAR	**Eielson Array**	**83.48**	**12**	P	**P**	**20 38 56.2**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=221,slow=7.9,SNR=4.3						
H03S2	**Juan Fernandez**	**86.13**	**124**	T	T	22 11 54.3	
	baz=249,slow=75,SNR=12						
H03S1	**Juan Fernandez**	**86.14**	**124**	T	T	22 11 53.3	
	baz=249,slow=75,SNR=17						
H03S3	**Juan Fernandez**	**86.14**	**124**	T	T	22 11 51.7	
	baz=249,slow=75,SNR=13						
H03N2	**Juan Fernandez**	**86.24**	**124**	T	T	22 11 56.7	
	baz=257,slow=72,SNR=7.2						
H03N3	**Juan Fernandez**	**86.24**	**124**	T	T	22 11 57.7	
	baz=257,slow=72,SNR=4.2						
H03N1	**Juan Fernandez**	**86.25**	**124**	T	T	22 11 56.9	
	baz=257,slow=72,SNR=5.9						
CLL	**Collm**	**144.32**	**351**	*e*PKPdf	**PKPdf**	**20 46 05.0**	**+1.4**
GERES	**GERESS Array B**	**146.60**	**349**	PKPbc	**PKiKP**	**20 46 11.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=40,slow=2.3,SNR=3.7						
GERES	**GERESS Array B**	**146.60**	**349**		**PKPab**	**20 46 11.4**	**+0.6**

GCMT 29 20:58:39.0±0.3, 35°.03S±0°.04×15°.28W±0°.03, h20km±1km, MW4.9/89, Moment Tensor Solution. s14,c16; s89,c109; Duration: 0 Moment tensor: Scale 10^{16} **Nm;** M_{rr}=2.53±.21; $M_{\theta\theta}$0.82±.13; $M_{\phi\phi}$1.71±.12; $M_{r\theta}$0.91±.31; $M_{\theta\phi}$-0.95±.07; $M_{\phi r}$1.55±.23; **Best double couple:** $M_0$2.92600×10^{16} **NP1:**ϕ_s310.00000°,δ38.00000°, λ-127.00000°. **NP2:**ϕ_s174.00000°,δ60.00000°, λ-65.00000°. **Principal axes:** T 2.4880, Plg12.0000°, Azm246.0000°; N 0.8750, Plg22.0000°, Azm341.0000°; P -3.3650, Plg65.0000°, Azm130.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**36.40**	**177**	P	P	21 05 36.5	-5.2

IDC 29 21:07:37.2±3.7, 29°.37S×178°.06W, h100km±26km, mb3.1/2, mb1 3.3/2, mb1mx3.1/21, mbtmp3.4/2 Error ellipse: s-maj=198.8km s-min=65.9km az=168.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.17**	**48**	P	Pn	21 07 52.2	+1.0
	76nm,0.3s,baz=91,slow=20,SNR=1.8						
RAO				S	Sn	21 08 03.1	+1.4
	180nm,0.3s,baz=36,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**43.12**	**266**	P	P	21 15 27.7	-0.3
	0.3nm,0.9s,baz=96,slow=7.6,SNR=2.2						
WRA	**Warramunga Arr**	**44.02**	**271**	P	P	21 15 35.1	-0.1
	0.3nm,0.3s,baz=110,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**144.16**	**340**	PKP	PKPdf	21 26 59.9	-0.8
	3.0nm,0.9s,baz=46,slow=5.5,SNR=5.8						

*KRSC **29** 21:35:43.8±1.5, 53°.66N×160°.76E, h51km±20km, ML4.4*
*MOS **29** 21:35:45.1±0.6, 53°.67N×160°.71E, h54km, mb4.0/2, Error ellipse: s-maj=9.1km s-min=4.2km az=73.5*
*IDC **29** 21:35:49.3±1.8, 53°.92N×160°.31E, h84km±18km, mb3.3/9, mb1 3.7/9, mb1mx3.3/37, mbtmp3.6/9, MS3.1/2, Ms1 3.1/2, ms1mx2.7/23, Error ellipse: s-maj=38.0km s-min=15.0km az=149.0*

ISC 29 21:35:46.0±1.0, 53°.69N±0°.03×160°.69E±0°.04, h43km±12km, n106, σ1§25/139, mb3.7/9, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.72**	**214**	*eP*	**Pn**	**21 35 58.6**	**-1.1**
SPN				*eS*	**S

KOK	**Koryaka**	**1.29**	**253**	*e*P	**Pn**	**21 36 07.5**	**-0.1**
KOK				*e*S	**Sn**	**21 36 24.4**	**+0.7**
KOK	**Koryaka**	**1.29**	**253**	PN	**Pn**	**21 36 07.5**	**-0.1**
KOK				S	**Sn**	**21 36 24.4**	**+0.7**
DALK	**Dalny**	**1.34**	**241**	*e*P	**Pn**	**21 36 07.7**	**-0.4**
DALK				*e*S	**Sn**	**21 36 24.7**	**0.0**
DALK	**Dalny**	**1.34**	**241**	PN	**Pn**	**21 36 07.7**	**-0.4**
DALK				S	**Sn**	**21 36 24.7**	**0.0**
PET	**Petropavlovsk**	**1.39**	**242**	*e*P	**Pn**	**21 36 08.6**	**-0.3**
PET				*e*S	**Sn**	**21 36 26.1**	**0.0**
PET	**Petropavlovsk**	**1.39**	**242**	⇓*i*PN	**Pn**	**21 36 08.8**	**-0.1**
PET				*e*S	**Sn**	**21 36 27.0**	**+0.9**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=E,4μm,0.6s						
PET				smax	smax		
	comp=N,3μm,0.5s						
KZV	**Kizimen**	**1.44**	**351**	*e*P	**Pn**	**21 36 09.4**	**-0.4**
KZV				*e*S	**Sn**	**21 36 28.1**	**+0.5**
KZV	**Kizimen**	**1.44**	**351**	PN	**Pn**	**21 36 09.4**	**-0.4**
KZV				S	**Sn**	**21 36 28.1**	**+0.5**
TUMD	**Tumrok D**	**1.52**	**354**	*e*P	**Pn**	**21 36 10.0**	**-0.8**
TUMD				*e*S	**Sn**	**21 36 28.5**	**-0.9**
TUMR	**Tumrok**	**1.62**	**349**	*e*P	**Pn**	**21 36 12.4**	**+0.2**
TUMR	**Tumrok**	**1.62**	**349**	PN	**Pn**	**21 36 10.0**	**-2.2**
TUMR				S	**Sn**	**21 36 28.5**	**-3.5**
GNL	**Ganaly**	**1.63**	**271**	*e*P	**Pn**	**21 36 12.7**	**+0.3**
GNL	**Ganaly**	**1.63**	**271**	PN	**Pn**	**21 36 12.7**	**+0.3**
KRMR	**Karymshinskiy**	**1.76**	**242**	*e*P	**Pn**	**21 36 14.9**	**+0.9**
KRMR				*e*S	**Sn**	**21 36 37.8**	**+2.6**
KRMR	**Karymshinskiy**	**1.76**	**242**	PN	**Pn**	**21 36 14.9**	**+0.9**
KRMR				S	**Sn**	**21 36 37.8**	**+2.6**
RUS	**Russkaya**	**1.82**	**227**	*e*P	**Pn**	**21 36 13.8**	**-1.0**
RUS				*e*S	**Sn**	**21 36 38.7**	**+2.1**
RUS	**Russkaya**	**1.82**	**227**	PN	**Pn**	**21 36 13.8**	**-1.0**
RUS				S	**Sn**	**21 36 38.7**	**+2.1**
PEA0B	**Petropavlovsk-**	**1.88**	**253**	*d i*PN	**Pn**	**21 36 16.1**	**+0.4**
PEA0B				*e*S	**Sn**	**21 36 40.2**	**+2.0**
PETK	**Petropavlovsk-**	**1.88**	**253**	P	**Pn**	**21 36 16.4**	**+0.8**
	comp=N,76nm,0.3s,baz=94,slow=21,SNR=824						
PETK				S	**Sn**	**21 36 40.7**	**+2.4**
	comp=N,41nm,0.3s,baz=134,slow=6.4,SNR=5.3						
PETK				LR	LR	21 37 11.0	
	comp=N,135nm,21.3s,baz=56,slow=46						
MTVR	**Mutnovka**	**1.94**	**232**	*e*P	**Pn**	**21 36 16.4**	**-0.1**
MTVR				*e*S	**Sn**	**21 36 40.4**	**+0.7**
MTVR	**Mutnovka**	**1.94**	**232**	PN	**Pn**	**21 36 16.4**	**-0.1**
MTVR				S	**Sn**	**21 36 40.4**	**+0.7**
GRL	**Gorelyy**	**1.95**	**235**	*e*P	**Pn**	**21 36 16.9**	**+0.2**
GRL				*e*S	**Sn**	**21 36 41.6**	**+1.7**
GRL	**Gorelyy**	**1.95**	**235**	PN	**Pn**	**21 36 16.9**	**+0.2**
GRL				S	**Sn**	**21 36 41.6**	**+1.7**
KMNR	**Kamenistaya**	**2.08**	**353**	*e*P	**Pn**	**21 36 19.1**	**+0.6**
KMNR	**Kamenistaya**	**2.08**	**353**	PN	**Pn**	**21 36 19.1**	**+0.6**
ASAK	**Asacha**	**2.13**	**233**	*e*P	**Pn**	**21 36 19.7**	**+0.5**
ASAK				*e*S	**Sn**	**21 36 48.8**	**+4.3**
ASAK	**Asacha**	**2.13**	**233**	PN	**Pn**	**21 36 19.7**	**+0.5**
ASAK				S	**Sn**	**21 36 48.8**	**+4.3**
BZGR	**Bezymyannyi-Gr**	**2.25**	**0**	*e*P	**Pn**	**21 36 22.0**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**2.25**	**0**	PN	**Pn**	**21 36 22.0**	**+1.2**
APC	**Apacha**	**2.25**	**251**	*e*P	**Pn**	**21 36 21.6**	**+0.9**
APC	**Apacha**	**2.25**	**251**	PN	**Pn**	**21 36 21.6**	**+0.9**
KIRR	**Kirishev**	**2.27**	**355**	*e*P	**Pn**	**21 36 22.0**	**+0.8**
KIRR	**Kirishev**	**2.27**	**355**	PN	**Pn**	**21 36 22.0**	**+0.8**
BZWR	**Bezymyannyi-We**	**2.28**	**357**	*e*P	**Pn**	**21 36 21.9**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.28**	**357**	PN	**Pn**	**21 36 21.9**	**+0.6**
KPT	**Kopyto**	**2.29**	**353**	*e*P	**Pn**	**21 36 22.2**	**+0.8**
KPT	**Kopyto**	**2.29**	**353**	PN	**Pn**	**21 36 22.2**	**+0.8**
ZLN	**Zelenaya**	**2.33**	**2**	*e*P	**Pn**	**21 36 22.9**	**+1.0**
ZLN	**Zelenaya**	**2.33**	**2**	PN	**Pn**	**21 36 22.9**	**+1.0**
LGNR	**Loginova**	**2.40**	**0**	*e*P	**Pn**	**21 36 24.4**	**+1.4**
LGNR				*e*S	**Sn**	**21 36 53.9**	**+2.7**
LGNR	**Loginova**	**2.40**	**0**	PN	**Pn**	**21 36 24.4**	**+1.4**
LGNR				S	**Sn**	**21 36 53.9**	**+2.7**
CIRR	**Tsirk**	**2.43**	**1**	*e*P	**Pn**	**21 36 24.4**	**+1.1**
CIRR	**Tsirk**	**2.43**	**1**	PN	**Pn**	**21 36 24.4**	**+1.1**
KDTR	**Khodutka, Kamc**	**2.47**	**221**	*e*P	**Pn**	**21 36 23.2**	**-0.4**
KDTR				*e*S	**Sn**	**21 36 53.5**	**+1.0**
KDTR	**Khodutka, Kamc**	**2.47**	**221**	PN	**Pn**	**21 36 23.2**	**-0.4**
KDTR				S	**Sn**	**21 36 53.5**	**+1.0**
KRSR	**Krestovskiy**	**2.53**	**358**	*e*P	**Pn**	**21 36 25.5**	**+0.8**
KRSR	**Krestovskiy**	**2.53**	**358**	PN	**Pn**	**21 36 25.5**	**+0.8**
KLY	**Klyuchi**	**2.63**	**360**	*e*P	**Pn**	**21 36 26.8**	**+1.0**
KLY	**Klyuchi**	**2.63**	**360**	PN	**Pn**	**21 36 26.8**	**+1.0**
SRDR	**Sredinnyy**	**2.69**	**348**	*e*P	**Pn**	**21 36 26.6**	**-0.2**
SRDR	**Sredinnyy**	**2.69**	**348**	PN	**Pn**	**21 36 26.6**	**-0.2**
MIPR	**Malaya Ipel'ka**	**2.77**	**241**	*e*P	**Pn**	**21 36 28.7**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.77**	**241**	PN	**Pn**	**21 36 28.7**	**+0.9**
KBTR	**Krutoberegovo**	**2.80**	**25**	*e*P	**Pn**	**21 36 28.9**	**+0.6**
KBTR	**Krutoberegovo**	**2.80**	**25**	PN	**Pn**	**21 36 28.9**	**+0.6**
KBG	**Krutoberegovo**	**2.82**	**24**	*e*S	Sn	21 37 11.8	+11
BDR	**Baidarnaya**	**2.90**	**6**	*e*P	**Pn**	**21 36 30.0**	**+0.3**
BDR				*e*S	**Sn**	**21 37 04.4**	**+1.1**
BDR	**Baidarnaya**	**2.90**	**6**	PN	**Pn**	**21 36 30.0**	**+0.3**
BDR				S	**Sn**	**21 37 04.4**	**+1.1**
SMKR	**Semkarok**	**2.93**	**8**	*e*P	**Pn**	**21 36 30.8**	**+0.7**
SMKR	**Semkarok**	**2.93**	**8**	PN	**Pn**	**21 36 30.8**	**+0.7**
SRKR	**Sorokina**	**2.98**	**5**	*e*P	**Pn**	**21 36 31.4**	**+0.6**
SRKR	**Sorokina**	**2.98**	**5**	PN	**Pn**	**21 36 31.4**	**+0.6**
PAU	**Pauzhetka**	**3.25**	**228**	*e*P	**Pn**	**21 36 36.1**	**+1.7**
PAU	**Pauzhetka**	**3.25**	**228**	PN	**Pn**	**21 36 36.1**	**+1.7**
BKI	**Bering**	**3.44**	**62**	*e*P	**Pn**	**21 36 39.3**	**+2.4**
BKI				*e*S	**Sn**	**21 37 15.7**	**-0.7**
BKI	**Bering**	**3.44**	**62**	PN	**Pn**	**21 36 39.3**	**+2.4**
BKI				S	**Sn**	**21 37 15.7**	**-0.7**
SKR	**Severo-Kuril's**	**4.12**	**225**	*e*P	**Pn**	**21 36 47.7**	**+1.3**
SKR	**Severo-Kuril's**	**4.12**	**225**	*e*PN	**Pn**	**21 36 48.9**	**+2.5**
SKR				*e*S	**Sn**	**21 37 35.6**	**+2.3**
SKR				pmax	pmax		
	comp=Z,19nm,0.4s						
SKR				smax	smax		
	comp=N,138nm,0.7s						
SKR				smax	smax		
	comp=E,85nm,0.5s						
BILL	**Bilibino**	**14.64**	**8**	*e*P	**Pn**	**21 39 11.7**	**+1.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MJA0	**Matsu Arr-Jizo**	**23.18**	**231**	*e*P	**P**	**21 40 47.4**	**-1.4**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**23.20**	**231**	P	**P**	**21 40 48.7**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=23,slow=11,SNR=6.0						
KSRS	**Korea Array**	**27.77**	**248**	LR	LR	21 52 02.1	
	comp=Z,26nm,19.2s,baz=355,slow=35						
ILAR	**Eielson Array**	**28.14**	**46**	P	**P**	**21 41 32.2**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=262,slow=8.1,SNR=13						
H11N2	**WAKE ISLAND Hy**	**34.24**	**170**	T	T	22 18 50.2	
	baz=354,slow=76,SNR=96						
H11N3	**WAKE ISLAND Hy**	**34.25**	**170**	T	T	22 18 51.6	
	baz=354,slow=76,SNR=86						
H11N1	**WAKE ISLAND Hy**	**34.25**	**170**	T	T	22 18 49.3	
	baz=354,slow=76,SNR=96						
H11S1	**WAKE ISLAND Hy**	**35.42**	**170**	T	T	22 20 15.1	
	baz=351,slow=74						
H11S3	**WAKE ISLAND Hy**	**35.44**	**170**	T	T	22 20 13.9	
	baz=351,slow=74						
H11S2	**WAKE ISLAND Hy**	**35.44**	**170**	T	T	22 20 15.5	
	baz=351						
MKAR	**Makanchi Array**	**48.22**	**296**	P	P	21 44 17.9	-4.2
	comp=Z,0.1nm,0.4s,baz=32,slow=3.8,SNR=4.9						
DAV	**Davao City (W)**	**54.47**	**225**	LR	LR	22 10 35.4	
	comp=Z,20nm,18.7s,baz=212,slow=38						
NVAR	**Mina Array Bea**	**55.20**	**71**	P	**P**	**21 45 15.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=299,slow=6.2,SNR=4.3						
PDAR	**Pinedale Array**	**56.92**	**62**	P	**P**	**21 45 26.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=316,slow=4.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**58.65**	**258**	P	**P**	**21 45 38.0**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=22,slow=7.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**58.65**	**258**	*i* P	**P**	**21 45 38.5**	**-0.4**
TXAR	**Lajitas Array**	**70.08**	**68**	P	**P**	**21 46 53.5**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=300,slow=4.3,SNR=13						
WRA	**Warramunga Arr**	**76.78**	**205**	P	**P**	**21 47 30.9**	**-1.9**
	comp=Z,0.4nm,0.9s,baz=24,slow=6.1,SNR=4.7						
ASAR	**Alice Springs**	**80.45**	**205**	P	**P**	**21 47 51.8**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=17,slow=6.6,SNR=2.7						

HLW ***29*** *21:43:02.8,34°.67N×33°.56E,h9km±39km,Md3.6,Ml3.8*
ISK ***29*** *21:43:03.2,34°.70N×33°.68E,h27km,ML3.6/31*
NIC ***29*** *21:43:04.6±0.0,34°.74N×33°.64E,h29km,Ml3.9/8*
DDA ***29*** *21:43:04.0,34°.71N×33°.67E,h32km±6km,ML3.1*

GRAL ***29*** *21:43:05.4±0.6,34°.63N×34°.00E,h0km±9km,MD3.5*
GII ***29*** *21:43:05.1±0.0,34°.76N×33°.82E,h30km,MD3.0/8,*
Mm3.0/7

ISC 29 21:43:04.2±0.9,**34°.71N**±0°.02×**33°.68E**±0°.02,**h30**km±7km,
n106,σ0§**90**/139,**3C-5D,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVOU	**Mavrovouni**	**0.31**	**353**	⇑P	**Pb**	**21 43 11.5**	**-0.3**
MVOU				S	**Sb**	**21 43 17.1**	**+0.1**
MVOU				AML	AML	21 43 19.1	
	43nm,0.4s						
MVOU				AML	AML	21 43 19.1	
	43nm,0.4s						
MVOU				AML	AML	21 43 19.4	
	35nm,0.5s						
MVOU				AML	AML	21 43 19.4	
	35nm,0.5s						
AKIN	**Akıncılar- Kıb**	**0.35**	**331**	PG	**Pb**	**21 43 11.9**	**-0.5**
AKIN				SG	**Sb**	**21 43 18.0**	**0.0**
ASGA	**Asgata**	**0.36**	**283**	⇓P	**Pb**	**21 43 12.5**	**-0.1**
ASGA				S	**Sb**	**21 43 18.8**	**+0.6**
ASGA				AML	AML	21 43 20.4	
	76nm,0.6s						
ASGA				AML	AML	21 43 20.4	
	76nm,0.6s						
ASGA				AML	AML	21 43 22.7	
	28nm,0.2s						
ASGA				AML	AML	21 43 22.7	
	28nm,0.2s						
CSS	**Mathiatis**	**0.38**	**312**	PG	**Pb**	**21 43 12.3**	**-0.6**
CSS				SG	**Sb**	**21 43 18.8**	**0.0**
CSS	**Mathiatis**	**0.38**	**312**	P	**Pb**	**21 43 12.6**	**-0.3**
CSS	**Mathiatis**	**0.38**	**312**	Pg	**Pb**	**21 43 12.2**	**-0.6**
CSS	**Mathiatis**	**0.38**	**312**	⇑P	**Pb**	**21 43 12.4**	**-0.4**
CSS				S	**Sb**	**21 43 18.2**	**-0.6**
PARAL	**Paralimni**	**0.41**	**46**	⇓P	**Pb**	**21 43 13.9**	**+0.6**
PARAL				S	**Sn**	**21 43 22.2**	**+1.5**
PARAL				AML	AML	21 43 23.4	
	38nm,0.6s						
PARAL				AML	AML	21 43 23.4	
	38nm,0.6s						
PARAL				AML	AML	21 43 26.2	
	31nm,0.4s						
PARAL				AML	AML	21 43 26.2	
	31nm,0.4s						
ATHAL	**Athalassa**	**0.49**	**332**	⇑P	**Pb**	**21 43 14.3**	**-0.2**
ATHAL				S	**Sb**	**21 43 22.5**	**+0.9**
ATHAL				AML	AML	21 43 22.9	
	85nm,0.8s						
ATHAL				AML	AML	21 43 22.9	
	85nm,0.8s						
ATHAL				AML	AML	21 43 23.2	
	84nm,0.7s						
ATHAL				AML	AML	21 43 23.2	
	84nm,0.7s						
SZAC	**Souni**	**0.66**	**274**	⇓P	**Pb**	**21 43 17.1**	**-0.1**
SZAC				S	**Sn**	**21 43 26.9**	**+0.1**
SZAC				AML	AML	21 43 27.6	
	48nm,0.7s						
SZAC				AML	AML	21 43 27.6	
	48nm,0.7s						
SZAC				AML	AML	21 43 28.0	
	81nm,0.5s						
SZAC				AML	AML	21 43 28.0	
	81nm,0.5s						
LEF	**Lefka**	**0.77**	**303**	PG	**Pb**	**21 43 18.8**	**-0.2**
LEF	**Lefka**	**0.77**	**303**	*i* P	**Pb**	**21 43 18.3**	**-0.7**
LEF				*i* S	**Sn**	**21 43 30.1**	**+0.7**
AKDN	**Akdeniz- Kıbrı**	**0.83**	**316**	PG	**Pn**	**21 43 19.5**	**-0.3**
AKDN				SG	**Sn**	**21 43 31.4**	**+0.5**
NATA	**Nata**	**0.91**	**275**	P	**Pn**	**21 43 21.0**	**0.0**
NATA				S	**Sn**	**21 43 33.9**	**+0.8**
NATA				AML	AML	21 43 39.6	
	18nm,0.4s						
NATA				AML	AML	21 43 39.6	
	18nm,0.4s						
NATA				AML	AML	21 43 42.7	
	24nm,0.4s						
NATA				AML	AML	21 43 42.7	
	24nm,0.4s						
EREN	**Erenkoy**	**0.92**	**26**	PG	**Pn**	**21 43 20.8**	**-0.2**
EREN	**Erenkoy**	**0.92**	**26**	*i* P	**Pn**	**21 43 21.0**	**+0.1**
ALFC	**Alefka**	**0.99**	**297**	⇓P	**Pn**	**21 43 21.3**	**-0.7**
ALFC				S	**Sn**	**21 43 34.2**	**-0.9**
ALFC				AML	AML	21 43 36.3	
	13nm,0.3s						
ALFC				AML	AML	21 43 36.3	
	13nm,0.3s						
ALFC				AML	AML	21 43 38.2	
	12nm,0.4s						
ALFC				AML	AML	21 43 38.2	
	12nm,0.4s						
AKMS	**Akamas**	**1.15**	**286**	⇓P	**Pn**	**21 43 24.4**	**+0.3**
AKMS				S	**Sn**	**21 43 39.3**	**+0.5**
AKMS				AML	AML	21 43 41.7	
	6.5nm,0.5s						
AKMS				AML	AML	21 43 41.7	
	6.5nm,0.5s						
AKMS				AML	AML	21 43 49.5	
	7.6nm,0.4s						
AKMS				AML	AML	21 43 49.5	
	7.6nm,0.4s						
AKK2	**Akkuyu-Mersin**	**1.43**	**356**	PN	**Pn**	**21 43 28.1**	**+0.1**
AKK1	**Akkuyu-Mersin**	**1.44**	**356**	PN	**Pn**	**21 43 28.3**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.45**	**356**	PN	**Pn**	**21 43 28.4**	**+0.1**
TISA	**Tisan-Mersin**	**1.45**	**0**	PN	**Pn**	**21 43 28.4**	**+0.1**
GULN	**MERSIN_Gulnar**	**1.48**	**356**	*i* P	**Pn**	**21 43 28.2**	**-0.5**
GULN				*i* S	**Sn**	**21 43 46.6**	**-0.3**
GULN				IAML		21 43 47.0	
	comp=N,238nm,0.5s						
GULN				IAML		21 43 47.0	
	comp=E,389nm,0.5s						
YESI	**Yesilovacik-Me**	**1.49**	**359**	PN	**Pn**	**21 43 28.9**	**+0.1**
KARG	**Kargicak-Mersi**	**1.49**	**1**	PN	**Pn**	**21 43 29.1**	**+0.2**
TEKE	**Tekeli-Mersin**	**1.50**	**342**	PN	**Pn**	**21 43 28.9**	**-0.2**
OREN	**Orenkoy-Mersin**	**1.51**	**353**	PN	**Pn**	**21 43 28.9**	**-0.2**
TEPK	**Tepekoy-MERSIN**	**1.52**	**356**	PN	**Pn**	**21 43 29.4**	**+0.1**
IKL	**Isikli**	**1.53**	**0**	PN	**Pn**	**21 43 29.5**	**+0.1**
SILI	**Silifke-Mersin**	**1.67**	**7**	PN	**Pn**	**21 43 31.6**	**+0.3**
BERE	**Bereket-Mersin**	**1.68**	**347**	PN	**Pn**	**21 43 31.6**	**0.0**
TEVE	**Tevekalti-Mers**	**1.74**	**354**	PN	**Pn**	**21 43 32.5**	**+0.2**
BHL	**Bhannes**	**1.82**	**116**	*e*P	**Pn**	**21 43 32.3**	**-1.2**
DQRL	**Deir Qamar**	**1.86**	**122**	*e*P	**Pn**	**21 43 33.0**	**-1.0**
DQRL				*e*S	**Sn**	**21 43 54.1**	**-2.4**
GAZI	**Gazipasa**	**1.89**	**324**	PN	**Pn**	**21 43 34.6**	**+0.3**
GAZI	**Gazipasa**	**1.89**	**324**	*i* P	**Pn**	**21 43 34.2**	**-0.1**
GAZI				*i* S	**Sn**	**21 43 55.6**	**-1.5**
GAZI				IAML		21 43 58.0	
	comp=N,212nm,0.6s						
GAZI				IAML		21 43 59.0	
	comp=E,255nm,0.5s						
HWQ	**Hawqa**	**1.92**	**102**	*e*P	**Pn**	**21 43 34.4**	**-0.5**
OSC2	**CSNet OBS 4**	**2.01**	**216**	P	**Pn**	**21 43 37.2**	**+1.2**
OSC2				S	**Sb**	**21 44 04.1**	**-0.4**
QRWL	**Qaraoun**	**2.03**	**124**	*e*P	**Pn**	**21 43 35.9**	**-0.4**
HNTI	**Hanita**	**2.04**	**142**	P	**Pn**	**21 43 36.7**	**+0.2**
HNTI	**Hanita**	**2.04**	**142**	Pn	**Pn**	**21 43 36.7**	**+0.2**
HNTI				Sn	**Sn**	**21 44 00.6**	**-0.4**
RCY	**Rachaya**	**2.16**	**123**	*e*P	**Pn**	**21 43 37.8**	**-0.4**
SHBL	**Chebaa**	**2.19**	**128**	*e*P	**Pn**	**21 43 38.4**	**-0.2**
SHBL				*e*S	**Sn**	**21 44 02.5**	**-2.2**
MMA0B	**Mount Meron ar**	**2.22**	**139**	Pn	**Pn**	**21 43 39.3**	**+0.4**
MMA0B				Sn	**Sn**	**21 44 04.6**	**-0.7**
GEM	**Giv'at Ha'Em**	**2.23**	**132**	P	**Pn**	**21 43 39.6**	**+0.6**
GEM	**Giv'at Ha'Em**	**2.23**	**132**	Pn	**Pn**	**21 43 39.1**	**+0.1**
GEM				Sn	**Sn**	**21 44 04.2**	**-1.2**
NATI	**Neve Ativ**	**2.24**	**130**	P	**Pn**	**21 43 39.6**	**+0.5**
MERS	**Mersin**	**2.26**	**17**	PN	**Pn**	**21 43 39.9**	**+0.3**
KRTS	**Karatas**	**2.32**	**36**	PN	**Pn**	**21 43 40.9**	**+0.7**
OSC1	**CSNet OBS 1**	**2.33**	**240**	P	**Pn**	**21 43 40.4**	**0.0**
OSC1				S	**Sn**	**21 44 08.6**	**+0.7**
BLGI	**Bet Lehem HaGe**	**2.34**	**147**	P	**Pn**	**21 43 40.7**	**+0.2**
BLGI	**Bet Lehem HaGe**	**2.34**	**147**	Pn	**Pn**	**21 43 41.3**	**+0.8**
BLGI				Sn	**Sn**	**21 44 09.0**	**+0.8**
OFRI	**`Ofer**	**2.35**	**152**	P	**Pn**	**21 43 40.2**	**-0.5**
OFRI	**`Ofer**	**2.35**	**152**	Pn	**Pn**	**21 43 40.7**	**0.0**
OFRI				Sn	**Sn**	**21 44 09.4**	**+0.8**
YAYL	**Yayladag**	**2.39**	**56**	PN	**Pn**	**21 43 41.4**	**+0.1**
YAYL	**Yayladag**	**2.39**	**56**	*i* P	**Pn**	**21 43 41.0**	**-0.3**
YAYL				*i* S	**Sn**	**21 44 08.0**	**-1.6**
YAYL				IAML		21 44 09.0	
	comp=E,121nm,0.5s						
YAYL				IAML		21 44 11.0	
	comp=N,88nm,0.7s						
DED	**Mersin**	**2.43**	**22**	*i* P	**Pn**	**21 43 41.8**	**0.0**
DED				*i* S	**Sn**	**21 44 08.9**	**-1.6**
KRMN	**Karaman**	**2.48**	**352**	PN	**Pn**	**21 43 43.2**	**+0.6**
SHMJ	**Saham**	**2.63**	**138**	P	**Pn**	**21 43 45.7**	**+1.1**
SHMJ	**Saham**	**2.63**	**138**	Pn	**Pn**	**21 43 45.4**	**+0.8**
TAHT	**Tahtakopru-Hat**	**2.64**	**50**	PN	**Pn**	**21 43 45.4**	**+0.8**
YURE	**YUREGIR**	**2.65**	**36**	PN	**Pn**	**21 43 45.2**	**+0.4**
MMLI	**Mount Malkishu**	**2.69**	**147**	PN	**Pn**	**21 43 46.1**	**+0.7**
MMLI	**Mount Malkishu**	**2.69**	**147**	P	**Pn**	**21 43 45.4**	**0.0**
MMLI	**Mount Malkishu**	**2.69**	**147**	Pn	**Pn**	**21 43 46.1**	**+0.7**
MMLI	**Mount Malkishu**	**2.69**	**147**	P	**Pn**	**21 43 46.5**	**+1.0**
SLTI	**Sal'it**	**2.71**	**155**	Pn	**Pn**	**21 43 45.7**	**0.0**
GULE	**Gulek**	**2.72**	**19**	*i* P	**Pn**	**21 43 47.0**	**+1.0**
GULE				*i* S	**Sn**	**21 44 19.0**	**+1.1**
KERG	**Konya-Eregli**	**2.73**	**8**	*i* P	**Pn**	**21 43 47.2**	**+1.2**
KERG				*i* S	**Sn**	**21 44 20.5**	**+2.5**
KEPZ	**Antalya-Kepez**	**2.76**	**323**	*i* P	**Pn**	**21 43 47.6**	**+1.2**
KARA	**Karaisali**	**2.78**	**23**	PN	**Pn**	**21 43 47.2**	**+0.5**
CEYT	**Ceyhan**	**2.85**	**36**	PN	**Pn**	**21 43 48.4**	**+0.9**
HMDT	**Nahal Hemdat**	**2.89**	**147**	P	**Pn**	**21 43 49.2**	**+1.0**
HMDT	**Nahal Hemdat**	**2.89**	**147**	Pn	**Pn**	**21 43 49.5**	**+1.3**
HMDT				Sn	**Sn**	**21 44 22.8**	**+0.9**
YESY	**Yesilyurt**	**3.07**	**1**	PN	**Pn**	**21 43 51.5**	**+0.8**
SEYD	**Seydisehir-KON**	**3.08**	**332**	PN	**Pn**	**21 43 51.6**	**+0.8**
UJAP	**Al Uja**	**3.13**	**151**	P	**Pn**	**21 43 52.0**	**+0.6**
UJAP	**Al Uja**	**3.13**	**151**	Pn	**Pn**	**21 43 51.1**	**-0.3**
UJAP				Sn	**Sn**	**21 44 29.0**	**+1.3**
CMRD	**Camardi-Nigde**	**3.13**	**19**	PN	**Pn**	**21 43 52.5**	**+0.9**
KOZT	**Kozan**	**3.27**	**32**	PN	**Pn**	**21 43 53.4**	**+0.1**
AMAZ	**Amatzia**	**3.33**	**161**	Pn	**Pn**	**21 43 55.4**	**+1.2**
AMAZ				Sn	**Sn**	**21 44 34.9**	**+2.1**
AMAZ	**Amatzia**	**3.33**	**161**	P	**Pn**	**21 43 55.5**	**+1.2**
KONT	**Konya--Tatoy**	**3.40**	**342**	PN	**Pn**	**21 43 56.4**	**+1.2**
DSI	**Dead Sea**	**3.44**	**155**	Pn	**Pn**	**21 43 56.7**	**+1.0**
DSI				Sn	**Sn**	**21 44 36.5**	**+1.1**
YTIR	**Yattir**	**3.55**	**160**	Pn	**Pn**	**21 43 58.3**	**+1.1**
WALJ	**Wala**	**3.61**	**150**	P	**Pn**	**21 43 58.5**	**+0.5**
ASF	**Jabal al Asfar**	**3.69**	**132**	P	**Pn**	**21 44 00.7**	**+1.4**
GHAJ	**Ghor Haditha**	**3.75**	**154**	Pn	**Pn**	**21 44 01.4**	**+1.5**
KZIT	**Kziot**	**3.84**	**171**	Pn	**Pn**	**21 44 02.5**	**+1.3**
KZIT	**Kziot**	**3.84**	**171**	P	**Pn**	**21 44 03.0**	**+1.8**
KARJ	**KARJ**	**3.94**	**155**	Pn	Pn	21 43 52.1	-11
KARJ				Sn	Sn	21 44 28.5	-19
JDRJ	**Daraweish**	**4.31**	**157**	P	**Pn**	**21 44 07.4**	**-0.4**
PRNI	**Paran**	**4.49**	**165**	Pn	**Pn**	**21 44 11.1**	**+1.0**
HRFI	**Mount Harif**	**4.80**	**166**	Pn	**Pn**	**21 44 15.6**	**+1.2**
SUZ	**Suez**	**4.91**	**189**	P	**Pn**	**21 44 16.5**	**+0.7**
	baz=188						
HHAG	**Hagoal**	**4.92**	**196**	P	**Pn**	**21 44 14.4**	**-1.7**
	baz=196						
HHAG				AMP		21 45 00.0	
	baz=196						
MBRI	**Mt Berech**	**5.01**	**168**	Pn	**Pn**	**21 44 19.1**	**+1.8**
MBRI				Sn	**Sn**	**21 45 14.7**	**+0.4**
KOT	**Kottamia**	**5.02**	**199**	P	**Pn**	**21 44 17.6**	**+0.2**
	baz=198						
KOT				S	**Sn**	**21 45 11.3**	**-3.1**

THN	**Thein Dam**	**5.72**	**135**	*e*P	Pn	22 13 41.0	+5.1
THN				*e*S	**Sn**	**22 14 45.5**	**+3.5**
AML	**Almayashu**	**5.98**	**20**	P	**Pn**	**22 13 41.7**	**+2.1**
	SNR=102						
DHRM	**DHARAMSHALA**	**6.19**	**132**	*e*P	**Pn**	**22 13 45.9**	**+3.5**
DHRM				*e*S	**Sn**	**22 14 54.7**	**+1.3**
DHRM				IAML		22 14 56.2	
	comp=E,484nm,0.4s						
DHRM				IAML		22 14 56.4	
	comp=N,393nm,0.4s						
UCH	**Uchtor**	**6.32**	**25**	P	**Pn**	**22 13 46.0**	**+1.9**
	SNR=56						
KZA	**Kyzart**	**6.47**	**30**	P	**Pn**	**22 13 47.9**	**+1.9**
	SNR=7.6						
EKS2	**Erkin-Say**	**6.49**	**19**	P	**Pn**	**22 13 48.2**	**+2.2**
	SNR=10						
KK31	**Karatay Array**	**6.55**	**358**	⇓P	**Pn**	**22 13 49.3**	**+2.6**
	comp=N,32nm,0.5s,baz=170,slow=12,SNR=392						
KK31				⇓S	**Sn**	**22 15 00.4**	**-1.1**
	comp=N,23nm,0.5s,baz=182,slow=23,SNR=13						
AAK	**Ala-Archa**	**6.68**	**23**	P	**Pn**	**22 13 50.6**	**+2.1**
	SNR=16						
KBK	**Karagaybulak**	**6.85**	**26**	P	**Pn**	**22 13 53.4**	**+2.7**
	SNR=7.7						
BHK	**Bhakra**	**6.87**	**137**	*ex*	**Sn**	**22 15 02.5**	**-6.6**
CHMS	**Chumysh**	**7.09**	**24**	P	**Pn**	**22 13 55.6**	**+1.9**
	SNR=5.8						
USP	**Ospenovka**	**7.25**	**21**	P	**Pn**	**22 13 58.4**	**+2.6**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.32**	**28**	P	**Pn**	**22 13 58.5**	**+1.6**
	SNR=8.3						
DDI	**Dehra Dun**	**8.62**	**134**	*e*P	**Pn**	**22 14 16.7**	**+2.9**
DDI				*ex*	**Sn**	**22 15 50.0**	**-0.6**
GEYT	**Alibeck**	**10.29**	**282**	P	**P**	**22 14 39.3**	**-3.6**
	comp=N,0.3nm,0.3s,baz=89,slow=12,SNR=5.5						
PYUN	**Piuthan**	**13.24**	**126**	*e*P	**Pn**	**22 15 13.1**	**+0.1**
	comp=N,48nm,0.3s						
MK31	**Makanchi Array**	**13.30**	**36**	⇑P	**Pn**	**22 15 13.1**	**-0.3**
	comp=N,1.5nm,0.7s,baz=233,slow=6.5,SNR=4.5						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**22 15 13.5**	**+0.1**
	comp=N,0.3nm,0.3s,baz=203,slow=9.5,SNR=15						
MKAR				S	**S**	**22 17 40.1**	**-1.5**
	baz=223,slow=23,SNR=1.9						
DANN	**Dangsing**	**13.58**	**123**	*e*P	**Pn**	**22 15 17.6**	**+0.2**
	comp=N,25nm,0.3s						
KOLN	**Koldanda**	**13.86**	**126**	*e*P	**Pn**	**22 15 21.6**	**+0.8**
	comp=N,11nm,0.3s						
GKN	**Gorkha**	**14.40**	**122**	*e*P	**Pn**	**22 15 27.7**	**+0.3**
	comp=N,38nm,0.3s						
BHPL	**Bhopal**	**14.41**	**155**	*e*P	**P**	**22 15 32.3**	**+3.5**
BHPL				*e*S	**S**	**22 18 06.8**	**-1.0**
WMQ	**Urumqi**	**14.73**	**55**	*e*P	**Pn**	**22 15 31.5**	**+0.3**
DMN	**Daman**	**14.97**	**123**	*e*P	**Pn**	**22 15 34.9**	**+0.4**
	comp=N,19nm,0.4s						
KKN	**Kakani**	**14.97**	**122**	*e*P	**Pn**	**22 15 34.5**	**0.0**
	comp=N,50nm,0.5s						
AB31	**Akbulak array**	**15.00**	**331**	⇓P	**P**	**22 15 35.6**	**+0.6**
	comp=N,1.0nm,0.3s,baz=145,slow=12,SNR=43						
KURBB	**Kurchatov Arra**	**15.10**	**19**	P	**Pn**	**22 15 34.8**	**-0.8**
	comp=N,0.1nm,0.3s,baz=206,slow=12,SNR=7.3						
PKIN	**Phulchoki**	**15.19**	**122**	*e*P	**Pn**	**22 15 37.3**	**+0.2**
	comp=N,39nm,0.5s						
PKI	**Pulchoki**	**15.20**	**122**	*e*P	**Pn**	**22 15 37.5**	**+0.2**
	comp=N,36nm,0.4s						
JIRN	**Jiri**	**15.68**	**120**	*e*P	**Pn**	**22 15 43.9**	**+0.7**
	comp=N,50nm,0.3s						
RAMN	**Ramite**	**16.41**	**121**	*e*P	**Pn**	**22 15 52.1**	**+0.2**
	comp=N,20nm,0.5s						
BVAR	**Borovoye Array**	**16.48**	**359**	P	**P**	**22 15 52.9**	**+1.6**
	comp=N,1.4nm,0.3s,baz=184,slow=17,SNR=20						
AKTO	**Aktyubinsk**	**16.70**	**330**	P	**Pn**	**22 15 56.3**	**+1.5**
	comp=N,2.3nm,0.3s,baz=132,slow=12,SNR=25						
AKTO	**Aktyubinsk**	**16.70**	**330**	⇑P	**Pn**	**22 15 55.6**	**+0.8**
	comp=N,12nm,0.7s						
TAPN	**Taplejung**	**16.94**	**118**	*e*P	**Pn**	**22 15 58.5**	**+0.3**
	comp=N,19nm,0.4s						
ODAN	**Odare**	**17.02**	**120**	*e*P	**Pn**	**22 16 00.1**	**+1.1**
	comp=N,16nm,0.4s						
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**22 16 27.6**	**-0.8**
	comp=N,1.7nm,0.3s,baz=216,slow=11,SNR=24						
ARU	**Arti**	**21.56**	**341**	P	**P**	**22 16 47.8**	**+1.9**
	comp=N,0.4nm,0.4s,baz=122,slow=16,SNR=3.2						
GTA	**Gaotai**	**22.93**	**74**	*e*P	**P**	**22 16 59.3**	**+0.2**
GTA				pmax	pmax		
	comp=N,3.0nm,0.9s						
LZH	**Lanzhou**	**26.48**	**81**	⇓P	**P**	**22 17 29.5**	**-1.8**
LZH				pP	pP	22 18 16.3	+3.3
LZH				PP	**PnPn**	**22 18 22.8**	**-1.4**
LZH				sP	sP	22 18 44.0	+7.3
LZH				pmax	pmax		
	comp=N,19nm,1.3s						
LZH				pmax	pmax		
	comp=N,62nm,4.7s						
HHC	**Hu-ho-hao-te**	**31.82**	**70**	*e*P	**P**	**22 18 17.3**	**-1.0**
HHC				pmax	pmax		
	comp=N,19nm,0.9s						
HHC				pmax	pmax		
	comp=N,82nm,4.4s						
NRIK	**Noril'sk**	**34.09**	**10**	P	**P**	**22 18 37.8**	**+0.3**
	comp=N,2.3nm,0.4s,baz=191,slow=10,SNR=5.1						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**22 19 06.5**	**+0.9**
	comp=N,1.5nm,0.4s,baz=124,slow=10,SNR=19						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**22 19 36.7**	**+0.8**
	comp=N,1.2nm,0.4s,baz=114,slow=8.3,SNR=18						
NB2	**NORSAR Subarra**	**44.29**	**323**	P	**P**	**22 20 02.3**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**22 20 02.4**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=103,slow=7.3,SNR=6.5						
ESDC	**Sonseca Array**	**57.36**	**298**	P	**P**	**22 21 40.6**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=64,slow=6.4,SNR=9.1						
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	**P**	**22 22 35.1**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=50,slow=6.1,SNR=34						
INK	**Inuvik**	**73.87**	**9**	P	**P**	**22 23 24.4**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=321,slow=5.6,SNR=11						
ILAR	**Eielson Array**	**74.75**	**16**	P	**P**	**22 23 28.3**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=318,slow=4.9,SNR=5.0						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**22 24 04.5**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=354,slow=5.3,SNR=4.8						
WRA	**Warramunga Arr**	**82.09**	**122**	P	**P**	**22 24 08.1**	**-2.5**
	comp=Z,0.8nm,0.6s,baz=324,slow=4.8,SNR=8.4						
ASAR	**Alice Springs**	**84.35**	**125**	P	**P**	**22 24 19.7**	**-2.4**
	comp=Z,0.9nm,0.7s,baz=313,slow=5.3,SNR=9.6						

*SOME **29** 22:18:33.2, 44°.65N×80°.05E, h10km*
NNC 29 22:18:32.7±0.7, 44°.64N×80°.09E, h0km, mb2.5, mpv2.8, 3C, Error ellipse: s-maj=5.6km s-min=3.5km az=78.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.37**	**216**	*e*P	Pg	22 18 41.0	+1.2
	11nm,0.2s						
DJR				*e*S	Sg	22 18 46.5	+1.8
	24nm,0.2s						
DJR	**Jarkent**	**0.37**	**216**	P	Pg	22 18 41.0	+1.2
	11nm,0.2s						
DJR				S	Sg	22 18 46.5	+1.8
	24nm,0.2s						
KAPS	**Kapalarasan**	**0.83**	**321**	*e*P	Pg	22 18 48.4	-0.3
	1.1nm,0.1s						
KAPS				*e*S	Sg	22 18 59.2	-0.3
	9.9nm,0.1s						
KAPS	**Kapalarasan**	**0.83**	**321**	P	Pg	22 18 48.4	-0.3
	1.0nm,0.1s						
KAPS				S	Sg	22 18 59.3	-0.2
	16nm,0.1s						
KTMS	**Ketmen**	**1.20**	**171**	*e*P	Pg	22 18 55.1	-0.6
	9.9nm,0.1s						
KTMS				*e*S	Sg	22 19 11.0	-0.3
	3.3nm,0.1s						
KTMS	**Ketmen**	**1.20**	**171**	P	Pg	22 18 55.1	-0.6
	9.9nm,0.1s						
KTMS				S	Sg	22 19 11.0	-0.3
	3.3nm,0.1s						
TDK	**Taldyqorghan**	**1.26**	**288**	P	Pg	22 18 56.7	-0.1
TDK				S	Sb	22 19 14.1	+0.1
MNBS	**Baschi**	**1.34**	**246**	*e*P	Pg	22 18 57.4	-0.9
	5.9nm,0.1s						
MNBS				*e*S	Sg	22 19 15.6	0.0
	7.1nm,0.2s						
MNBS	**Baschi**	**1.34**	**246**	P	Pg	22 18 57.4	-0.8
	5.9nm,0.1s						
MNBS				S	Sg	22 19 15.6	0.0
	7.1nm,0.2s						
PDGK	**Podgornoye**	**1.38**	**199**	P	Pg	22 18 58.6	-0.5
	0.8nm,0.2s						
PDGK				S	Sg	22 19 17.0	+0.1
	4.3nm,0.3s						
PDGK	**Podgornoye**	**1.38**	**199**	⇑Pn	Pg	22 18 58.3	-0.8
	0.4nm,0.2s						
PDGK				⇑Sn	Sg	22 19 16.5	-0.4
	6.3nm,0.5s						
SHLS	**Shalkode**	**1.55**	**197**	*e*P	Pn	22 19 00.5	-1.1
	7.6nm,0.1s						
SHLS				*e*S	Sg	22 19 20.3	-2.0
	5.0nm,0.1s						
SHLS	**Shalkode**	**1.55**	**197**	P	Pn	22 19 00.5	-1.1
	7.6nm,0.1s						
SHLS				S	Sg	22 19 20.3	-2.0
	5.0nm,0.1s						
ARXS	**Arharly**	**1.68**	**256**	*e*P	Pb	22 19 04.4	-0.1
	4.2nm,0.2s						
ARXS				*e*S	Sb	22 19 26.4	+0.2
	6.8nm,0.2s						
ARXS	**Arharly**	**1.68**	**256**	P	Pb	22 19 04.3	-0.2
	7.7nm,0.2s						
ARXS				S	Sb	22 19 26.4	+0.2
	9.5nm,0.2s						
UZB	**Uzynbulak**	**1.68**	**208**	*e*P	Pn	22 19 03.9	+0.4
	1.2nm,0.1s						
UZB				*e*S	Sn	22 19 25.7	0.0
	20nm,0.4s						
UZB	**Uzynbulak**	**1.68**	**208**	P	Pn	22 19 04.0	+0.5
	1.2nm,0.1s						
UZB				S	Sn	22 19 25.8	+0.1
	17nm,0.3s						
KURS	**Kuram**	**1.80**	**231**	*e*P	Pb	22 19 06.5	0.0
	1.5nm,0.4s						
KURS				*e*S	Sg	22 19 30.5	0.0
	4.2nm,0.5s						
KURS	**Kuram**	**1.80**	**231**	P	Pb	22 19 06.6	0.0
	3.6nm,0.4s						
KURS				S	Sg	22 19 30.5	0.0
	4.4nm,0.2s						
SATY	**Saty**	**1.99**	**218**	*e*P	Pb	22 19 10.0	+0.1
	2.2nm,0.1s						
SATY				*e*S	Sg	22 19 36.3	-0.4
	12nm,0.2s						
KOTS	**Kotyrbulak**	**2.57**	**238**	*e*P	Pb	22 19 19.8	0.0
	1.5nm,0.2s						
KOTS				*e*S	Sg	22 19 53.9	-1.4
	4.6nm,0.5s						
KOTS	**Kotyrbulak**	**2.57**	**238**	Pg	Pb	22 19 19.8	+0.1
	2.3nm,0.2s						
KOTS				Lg	Lg	22 19 54.0	
	14nm,0.2s						
KTBS	**Karatobe**	**2.62**	**251**	*e*P	Pb	22 19 20.8	+0.2
	0.7nm,0.2s						
KTBS				*e*S	Sb	22 19 54.8	+1.4
	4.2nm,0.5s						
KTBS	**Karatobe**	**2.62**	**251**	Pg	Pb	22 19 21.0	+0.4
	0.7nm,0.2s						
KTBS				Lg	Lg	22 19 55.3	
	5.5nm,0.4s						
MK31	**Makanchi Array**	**2.65**	**35**	Pn	Pb	22 19 19.8	-1.2
	0.1nm,0.2s,baz=213,slow=17,SNR=6.4						
MK31				⇑Sn	Sn	22 19 51.6	+2.0
	0.4nm,0.2s,baz=217,slow=28,SNR=23						
TNSS	**Tian-Shan**	**2.78**	**236**	*e*P	Pb	22 19 23.5	0.0
	0.4nm,0.1s						
TNSS				*e*S	Sb	22 19 59.5	+1.2
	1.1nm,0.3s						

*DJA **29** 22:25:05.9±0.4, 9°.S±3°.×12°.4E±°, h95km±4km, M4.2/11, mB5.5/2, mb4.3/6, MLv4.1/11, Mw(mB)5.0/2*
*IDC **29** 22:25:05.9±3.7, 8°.90S×124°.53E, h114km±40km, mb3.4/4, mb1 3.8/7, mb1mx3.5/29, mbtmp4.0/7, MS3.1/2, Ms1 3.1/2, ms1mx2.6/24, Error ellipse: s-maj=54.5km s-min=23.6km az=45.0*
*NEIC **29** 22:25:06.5±1.6, 8°.90S±0°.07×124°.35E±0°.09, h116km±3km, mb4.3/9, Error ellipse: s-maj=15.4km s-min=6.1km az=54.0*
ISC 29 22:25:06.7±0.8, 9°.06S±0°.07×124°.25E±0°.06, h127km±7km, n39, σ1.96/47, mb3.8/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.69**	**179**	P	**Pn**	**22 25 27.2**	**+0.3**
SOEI				S	**Sn**	**22 25 40.3**	**-1.8**
SOEI	**Soe**	**0.69**	**179**		**Pn**	**22 25 27.1**	**+0.3**
SOEI				Sn	**Sn**	**22 25 42.9**	**+0.8**
BATI	**Baumata**	**1.28**	**207**	P	**Pn**	**22 25 33.8**	**+1.7**
	159nm,0.3s,baz=33,slow=3.3,SNR=90						
BATI				S	**Sn**	**22 25 54.8**	**+3.2**
	280nm,0.3s,baz=143,slow=20,SNR=11						
BATI	**Baumata**	**1.28**	**207**	P	**Pn**	**22 25 33.7**	**+1.5**
BATI				S	**Sn**	**22 25 53.1**	**+1.5**
MMRI	**Maumere**	**2.04**	**282**	P	**Pn**	**22 25 40.2**	**-0.7**
MMRI				S	**Sn**	**22 26 05.1**	**-2.1**
MMRI	**Maumere**	**2.04**	**282**		**Pn**	**22 25 40.7**	**-0.2**
MMRI				Sn	**Sn**	**22 26 06.8**	**-0.4**
EDFI	**Ende, Flores**	**2.55**	**277**	P	**Pn**	**22 25 47.7**	**+0.2**
EDFI				S	**Sn**	**22 26 18.2**	**-0.7**
BASI	**Baing, Sumba**	**3.80**	**252**	P	**Pn**	**22 26 05.1**	**+1.4**
BKSI	**Bulukumba**	**5.53**	**312**	P	**Pn**	**22 26 26.8**	**-0.1**
	0.1nm23nm,1.0s						
KAPI	**Kappang**	**6.01**	**312**	LR	LR	22 29 29.0	
	comp=Z,33nm,19.7s,baz=93,slow=43						
PLAI	**Plampang**	**6.40**	**272**	P	**Pn**	**22 26 39.0**	**+0.4**
	0.2nm38nm,0.7s						
PLAI				S	**Sn**	**22 27 47.7**	**-2.7**
	0.2nm38nm,0.7s						
TWSI	**Taliwang, Sumb**	**7.29**	**272**	P	**Pn**	**22 26 50.3**	**-0.3**
	0.1nm8.8nm,0.5s						
MTN	**Manton Dam**	**7.73**	**120**	Pn	**Pn**	**22 26 56.4**	**-0.1**
KNRA	**Kununurra**	**7.91**	**147**	Pn	**Pn**	**22 26 59.1**	**+0.2**
LUWI	**Luwuk**	**8.10**	**349**	P	**Pn**	**22 26 57.8**	**-3.8**
FITZ	**Fitzroy Crossi**	**9.08**	**172**	P	**Pn**	**22 27 14.8**	**+0.1**
	1.9nm,0.3s,baz=360,slow=9.1,SNR=84						
FITZ				S	**Sn**	**22 28 51.7**	**-3.6**
	3.5nm,0.3s,baz=1.1,slow=5.3,SNR=3.8						
FITZ	**Fitzroy Crossi**	**9.08**	**172**	Pn	**Pn**	**22 27 14.6**	**-0.2**
WB0	**Warramunga Arr**	**14.47**	**138**	Pn	**Pn**	**22 28 24.5**	**-1.1**
WRA	**Warramunga Arr**	**14.56**	**139**	P	**Pn**	**22 28 25.6**	**-1.1**
	1.0nm,0.3s,baz=323,slow=13,SNR=40						
WRA				S	Sn	22 30 57.9	-10
	2.1nm,0.3s,baz=313,slow=23,SNR=14						
WB2	**Warramunga Arr**	**14.57**	**139**		**Pn**	**22 28 25.4**	**-1.5**
WR0	**Warramunga Arr**	**14.71**	**139**	Pn	**Pn**	**22 28 27.2**	**-1.3**
AS31	**Alice Springs**	**17.21**	**149**		**P**	**22 28 59.4**	**+0.5**
ASAR	**Alice Springs**	**17.21**	**149**	P	**Pn**	**22 29 00.6**	**+1.2**
	1.3nm,0.3s,baz=330,slow=12,SNR=24						
ASAR				S	**Sn**	**22 32 02.8**	**-8.7**
	1.0nm,0.3s,baz=318,slow=21,SNR=14						
ASAR	**Alice Springs**	**17.21**	**149**		**P**	**22 29 00.3**	**+1.3**
COEN	**Coen**	**19.16**	**106**	P	**Pn**	**22 29 22.0**	**-0.7**
COEN				IAmb	IAmb	22 29 24.3	
	comp=Z,21nm,1.4s						
CTAO	**Charters Tower**	**23.91**	**120**	P	**P**	**22 30 09.9**	**+0.9**
CTAO				IAmb	IAmb	22 30 20.7	
	comp=Z,19nm,1.4s						
BBOO	**Buckleboo**	**26.03**	**157**	P	**P**	**22 30 30.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**37.03**	**318**	P	**P**	**22 32 06.2**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=150,slow=7.3,SNR=4.5						
JHS	**Saijyo**	**44.62**	**10**	P	**P**	**22 33 08.0**	**+1.6**
JWT	**Wachi**	**45.35**	**13**	P	**P**	**22 33 12.9**	**+0.8**
JWT				IAmb	IAmb	22 33 25.8	
	comp=Z,8.2nm,1.2s						
SHL	**Shillong**	**46.66**	**318**	P	**P**	**22 33 23.7**	**+0.9**
SHL				IAmb	IAmb	22 33 24.0	
	comp=Z,2.5nm,0.4s						
SONM	**Songino Array**	**58.82**	**346**	P	**P**	**22 34 51.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=163,slow=8.7,SNR=3.6						
SONM	**Songino Array**	**58.82**	**346**	P	**P**	**22 34 51.8**	**0.0**
AFI	**Afiamalu**	**62.73**	**101**	LR	LR	22 59 24.9	
	comp=Z,71nm,18.4s,baz=46,slow=33						
MKAR	**Makanchi Array**	**66.99**	**330**	P	**P**	**22 35 46.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=132,slow=6.1,SNR=7.9						
MKAR	**Makanchi Array**	**66.99**	**330**	P	**P**	**22 35 46.0**	**+0.2**
MAKZ	**Makanchi**	**67.16**	**330**	P	**P**	**22 35 47.6**	**+0.8**
ZALV	**Zalesovo Beam**	**71.05**	**337**	P	**P**	**22 36 10.3**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=142,slow=7.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**123.58**	**280**	PKP	**PKPdf**	**22 43 51.4**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=103,slow=3.3,SNR=2.2						

*INET **29** 22:27:41.5, 12°.26N×87°.72W, h20km, ML3.7*
SNET 29 22:27:43.5±0.9, 12°.43N×87°.82W, h28km±3km, ML3.4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.84**	**359**	*i*P	Pn	22 27 59.5	-0.1
CNCH				*e*S	Sn	22 28 12.3	+1.1
LCND	**La Caada**	**0.88**	**356**	*e*P	Pn	22 27 59.9	-0.2
LCND				*e*S	Sn	22 28 12.4	+0.6
JUCU	**Jucuarın**	**0.92**	**333**	*e*P	Pn	22 28 00.4	-0.2
JUCU				*e*S	Sn	22 28 13.4	+0.4
JUCU				IAML		22 28 15.6	
	comp=Z,1μm,0.2s						
BLLM	**Bellamira**	**1.09**	**338**	*e*P	Pn	22 28 03.0	+0.1
VSM	**San Miguel**	**1.09**	**336**	*e*P	Pb	22 28 03.6	-0.3
LCY	**Lacayo**	**1.09**	**335**	*e*P	Pn	22 28 03.0	0.0
RANC	**El Ranchito**	**1.10**	**336**	*e*P	Pn	22 28 03.3	+0.1
RANC				*e*S	Sb	22 28 18.7	+0.8
ALJI	**Alcalda de J**	**1.15**	**321**	*e*S	Sb	22 28 19.8	+0.5
TECA	**Tecapa**	**1.25**	**328**	*e*P	Pn	22 28 05.5	+0.2
COEB	**Comit de Eme**	**1.27**	**327**	*e*P	Pn	22 28 05.6	+0.1
COEB				*e*S	Sb	22 28 22.4	-0.4
COEB				IAML		22 28 27.3	
	comp=Z,496nm,0.2s						
FAGO	**Alcalda de S**	**1.29**	**348**	*e*P	Pn	22 28 05.7	0.0
FAGO				*e*S	Sb	22 28 23.3	0.0
COEG	**Centro de Oper**	**1.57**	**319**	*e*S	Sn	22 28 30.0	+0.9
LFRS	**El Faro**	**1.69**	**315**	*e*P	Pn	22 28 11.6	+0.3
TGUH	**Tegucigalpa,Un**	**1.71**	**18**	*e*P	Pn	22 28 10.9	-0.6
TACO	**Tacachico**	**2.14**	**316**	*e*P	Pn	22 28 17.6	+0.2
CEVE	**Cerro Verde**	**2.24**	**309**	*e*P	Pn	22 28 20.6	+1.6
CEVE				IAML		22 28 53.7	
	comp=Z,263nm,0.3s						
NUBE	**Las Nubes**	**2.40**	**308**	*e*S	Sn	22 28 50.5	+0.8
MTO3	**Montecristo**	**2.46**	**323**	*e*P	Pn	22 28 22.5	+0.5

*ECX **29** 22:45:38.2±0.6, 31°.54N×115°.47W, h5km±4km, MD2.1, ML2.3*
*MEX **29** 22:45:38.8±0.7, 31°.45N×115°.24W, h5km, MD3.1*
ISC 29 22:45:36.5±1.3, 31°.51N±0°.04×115°.40W±0°.05, h23km±14km, n11, σ0.91/21, 4C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.30**	**98**	⇑*i*P	**Pn**	**22 45 45.2**	**-0.3**
ECBX				*i* S	**Sn**	**22 45 50.0**	**-1.2**
SPIG	**San Pedro Mart**	**0.47**	**187**	*i* P	**Pn**	**22 45 47.3**	**-0.9**
SPIG				*e*S	**Sb**	**22 45 54.2**	**+1.1**
SPIG	**San Pedro Mart**	**0.47**	**187**	*e*P	**Pn**	**22 45 47.2**	**-0.9**
SPIG				*i* S	**Sb**	**22 45 54.1**	**+1.1**
SPX	**San Pedro Mart**	**0.48**	**187**	*e*P	**Pb**	**22 45 46.3**	**-0.2**
SPX				*e*S	**Sb**	**22 45 53.0**	**-0.3**
SPX	**San Pedro Mart**	**0.48**	**187**	⇑*e*P	**Pb**	**22 45 46.3**	**-0.2**
SPX				*e*S	**Sb**	**22 45 53.2**	**-0.1**
SPX				⇑*e*		22 45 55.0	
SPX				IAML		22 45 55.0	
	comp=N,159nm,0.1s						
SJX	**San Joaquin**	**0.54**	**298**	*e*P	**Pn**	**22 45 49.0**	**+0.2**
SJX				*e*S	**Sn**	**22 45 57.5**	**+0.3**
SJX				IAML		22 46 00.7	
	comp=N,186nm,0.2s						
SJX				⇑*e*		22 46 00.7	
SJX				IAML		22 46 01.2	
	comp=E,202nm,0.1s						
SJX				⇓*e*		22 46 01.2	
SFX	**San Felipe**	**0.67**	**135**	*e*P	**Pn**	**22 45 50.7**	**+0.2**
SFX				*e*S	**Sn**	**22 46 00.8**	**+0.5**
SFX				*e*		22 46 02.5	
SFX				IAML		22 46 02.5	
	comp=E,158nm,0.2s						
SFX				⇓*e*		22 46 02.8	
SFX				IAML		22 46 02.8	
	comp=N,148nm,0.2s						
MBIG	**Mexicali**	**0.91**	**11**	*e*P	**Pn**	**22 45 55.5**	**+1.6**
MBIG				*e*S	**Sn**	**22 46 07.2**	**+0.9**
SQX	**San Quintin**	**1.02**	**204**	*e*P	**Pn**	**22 45 56.1**	**+0.7**
SQX				*e*S	**Sn**	**22 46 09.4**	**+0.3**
CCX	**Cicese**	**1.14**	**288**	*e*P	**Pn**	**22 45 57.0**	**0.0**
RMX	**La Rumorosa**	**1.23**	**332**	*e*P	**Pn**	**22 45 57.9**	**-0.6**
RMX				*e*S	**Sb**	**22 46 12.8**	**-1.9**

*NNC **29** 22:50:08.3±1.4, 42°.53N×79°.60E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=9.7km s-min=4.8km az=155.0*
*SOME **29** 22:50:08.4, 42°.53N×79°.58E, h10km*
KRNET 29 22:50:08.9±0.1, 42°.53N×79°.62E, h19km, mb2.5, 12C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.63**	**350**	*e*P	Pg	22 50 21.7	+0.2
	baz=17						
SHLS				*e*S	Sg	22 50 31.3	+1.2
	baz=17						
SHLS	**Shalkode**	**0.63**	**350**	*e*P	Pg	22 50 21.7	+0.2
	22nm,0.1s						
SHLS				*e*S	Sg	22 50 31.2	+1.2
	8.8nm,0.2s						
SHLS	**Shalkode**	**0.63**	**350**	P	Pg	22 50 21.7	+0.2
	19nm,0.1s						
SHLS				S	Sn	22 50 31.4	-1.3
	7.0nm,0.2s						
UZB	**Uzynbulak**	**0.75**	**325**	*e*P	Pb	22 50 23.0	-0.5

0.9nm,0.1s
MNBS eS Sg 22 51 04.9 -1.5
8.1nm,0.2s
MNBS Baschi 1.78 331 P Pb 22 50 41.3 +0.4
1.3nm,0.1s
MNBS S Sg 22 51 05.0 -1.3
12nm,0.2s
DJR Jarkent 1.80 4 eP Pb 22 50 41.7 +0.4
1.3nm,0.4s
DJR eS Sg 22 51 05.8 -1.2
1.8nm,0.2s
DJR Jarkent 1.80 4 P Pb 22 50 41.9 +0.5
1.2nm,0.3s
DJR S Sg 22 51 05.9 -1.2
2.0nm,0.3s
KDJ Kajisay 1.85 258⇑ eP Pb 22 50 41.8 -0.4
baz=58
KDJ ⇑ iS Sb 22 51 06.1 +1.1
baz=58
KOTS Kotyrbulak 1.97 292 eP Pb 22 50 44.6 +0.4
baz=92
KOTS eS Sg 22 51 11.1 -1.3
baz=92
KOTS Kotyrbulak 1.97 292 eP Pb 22 50 44.6 +0.4
2.3nm,0.2s
KOTS eS Sg 22 51 11.0 -1.3
3.8nm,0.2s
KOTS Kotyrbulak 1.97 292 Pg Pb 22 50 44.7 +0.5
4.3nm,0.2s
KOTS Lg Lg 22 51 10.8
10.0nm,0.4s
TNSS Tian-Shan 2.03 285 eP Pb 22 50 45.2 -0.2
baz=85
TNSS eS Sb 22 51 12.3 +1.9
baz=85
TNSS Tian-Shan 2.03 285 eP Pb 22 50 45.2 -0.2
1.1nm,0.3s
TNSS eS Sb 22 51 12.3 +1.9
1.2nm,0.4s
TNSS Tian-Shan 2.03 285 Pg Pb 22 50 45.2 -0.1
1.4nm,0.2s
TNSS Lg Lg 22 51 12.3
1.6nm,0.2s
ARXS Arharly 2.13 323 eP Pb 22 50 47.0 +0.1
1.6nm,0.3s
ARXS eS Sb 22 51 14.9 +2.0
4.1nm,0.4s
ARXS Arharly 2.13 323 Pg Pb 22 50 47.0 +0.2
2.3nm,0.3s
ARXS Lg Lg 22 51 15.2
5.0nm,0.3s
IZV Izvestkoviy 2.27 284 eP Pb 22 50 49.6 +0.3
2.7nm,0.2s
IZV eS Sg 22 51 19.5 -2.4
3.7nm,0.4s
IZV Izvestkoviy 2.27 284 Pg Pb 22 50 49.4 +0.2
3.3nm,0.2s
IZV Lg Lg 22 51 19.4
3.4nm,0.1s
KTBS Karatobe 2.45 300 eP Pb 22 50 52.3 0.0
0.9nm,0.3s
KTBS eS Sb 22 51 23.7 +1.6
5.5nm,0.5s
KTBS Karatobe 2.45 300 Pg Pb 22 50 52.4 +0.1
0.6nm,0.2s
KTBS Lg Lg 22 51 24.8
7.2nm,0.3s
ULHL Ulahol 2.52 265⇑ iP Pb 22 50 52.0 -1.6
baz=65
ULHL ⇑ iS Sb 22 51 22.9 -1.3
baz=65
BOOM Boomskoye usch 2.72 270⇓ iP Pn 22 50 54.1 +2.4
baz=70
BOOM ⇓ iS Sb 22 51 27.5 -2.5
baz=70
KST Kastek 2.74 282 eP Pb 22 50 57.5 +0.2
1.4nm,0.3s
KST eS Sb 22 51 32.9 +2.4
1.4nm,0.5s
KST Kastek 2.74 282 Pg Pb 22 50 57.5 +0.2
1.7nm,0.2s
KST Lg Lg 22 51 32.9
1.4nm,0.3s
KUU Kurty 2.75 301 eP Pb 22 50 58.2 +0.7
0.2nm,0.4s
KUU eS Sb 22 51 33.6 +2.7
2.3nm,0.3s
KUU Kurty 2.75 301 Pg Pb 22 50 58.2 +0.7
0.3nm,0.1s
KUU Lg Lg 22 51 33.8
2.4nm,0.3s
KAPS Kapalarasan 2.76 356 eP Pb 22 50 58.1 +0.6
0.2nm,0.3s
KAPS eS Sb 22 51 33.7 +2.7
0.7nm,0.4s
KAPS Kapalarasan 2.76 356 Pg Pb 22 50 58.1 +0.5
0.5nm,0.4s
KAPS Lg Lg 22 51 33.8
0.7nm,0.4s

*IDC **29** 23:20:27.4±1.6, 23°.24N×94°.07E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/37, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=77.3km s-min=20.3km az=56.0*
ISC 29 23:20:34.8±1.0, 23°.0N±0°.3×93°.8E±0°.2, h58km, n15, σ2§64/24, mb3.8/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.56**	**132**	Pn	**Pn**	**23 22 07.5**	**-1.3**
	0.1nm,0.3s,baz=311,slow=13,SNR=1.4						
CMAR				Lg	Lg	23 23 54.9	
	0.1nm,0.3s,baz=312,slow=32,SNR=1.8						
ODAN	**Odare**	**7.01**	**305**	ePn	**Pn**	**23 22 18.4**	**+3.4**
ODAN				eSn	**Sn**	**23 23 32.6**	**-0.9**
	124nm,0.4s						
TAPN	**Taplejung**	**7.05**	**310**	ePn	**Pn**	**23 22 19.3**	**+3.6**
TAPN				eSn	**Sn**	**23 23 33.5**	**-1.1**
	78nm,0.5s						
RAMN	**Ramite**	**7.66**	**303**	ePn	**Pn**	**23 22 27.3**	**+3.3**
RAMN				eSn	**Sn**	**23 23 47.3**	**-2.2**
	40nm,0.3s						
JIRN	**Jiri**	**8.34**	**306**	ePn	**Pn**	**23 22 36.8**	**+3.4**
JIRN				eSn	**Sn**	**23 24 03.3**	**-3.0**
	93nm,0.3s						
PKI	**Pulchoki**	**8.88**	**303**	ePn	**Pn**	**23 22 43.8**	**+2.9**
PKI				eSn	**Sn**	**23 24 18.3**	**-1.4**
	23nm,0.5s						
PKIN	**Phulchoki**	**8.90**	**303**	ePn	**Pn**	**23 22 44.2**	**+3.2**
PKIN				eSn	**Sn**	**23 24 18.4**	**-1.5**
	36nm,0.5s						
KKN	**Kakani**	**9.09**	**304**	ePn	**Pn**	**23 22 47.0**	**+3.4**
KKN				eSn	**Sn**	**23 24 23.2**	**-1.4**
	44nm,0.5s						
GKN	**Gorkha**	**9.69**	**303**	ePn	**Pn**	**23 22 54.5**	**+2.8**
GKN				eSn	**Sn**	**23 24 37.0**	**-2.2**
	43nm,0.3s						
KOLN	**Koldanda**	**10.40**	**300**	ePn	**Pn**	**23 23 03.5**	**+2.0**
KOLN				eSn	**Sn**	**23 24 54.5**	**-2.2**
	34nm,0.4s						
DANN	**Dangsing**	**10.54**	**303**	eSn	**Sn**	**23 24 56.9**	**-3.2**
	20nm,0.4s						
PYUN	**Piuthan**	**11.03**	**300**	eSn	**Sn**	**23 25 09.1**	**-2.9**
	28nm,0.4s						
MKAR	**Makanchi Array**	**25.54**	**341**	P	**P**	**23 25 55.9**	**-2.2**
	1.7nm,0.6s,baz=150,slow=9.6,SNR=20						
WRA	**Warramunga Arr**	**58.16**	**134**	P	**P**	**23 30 23.1**	**+0.1**
	0.2nm,0.5s,baz=315,slow=8.1,SNR=7.3						
ASAR	**Alice Springs**	**60.55**	**137**	P	**P**	**23 30 40.3**	**+0.8**
	0.3nm,0.4s,baz=322,slow=6.8,SNR=6.4						

*ATH **29** 23:23:37.5, 36°.70N×21°.34E, h32km±1km, ML2.9/6, Error ellipse: s-maj=3.6km s-min=1.6km az=32.0*
*IDC **29** 23:23:37.5±4.5, 37°.24N×21°.90E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/32, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/36, Error ellipse: s-maj=98.9km s-min=30.0km az=52.0*
*THE **29** 23:23:38.6, 36°.68N×21°.35E, h15km, ML2.9/3, Error ellipse: s-maj=1.9km s-min=1.1km az=26.0*
ISC 29 23:23:35.4±1.4, 36°.63N±0°.05×21°.27E±0°.04, h18km±5km, n69, σ1§12/78, mb3.8/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.47**	**55**	P	**Pb**	**23 23 46.3**	**+1.2**
PYL				S	**Sb**	**23 23 51.6**	**-0.1**
ITM	**Ithomi**	**0.76**	**44**	P	**Pb**	**23 23 50.9**	**+0.7**
ITM				S	**Sn**	**23 24 02.3**	**-0.1**
	2μm,0.5s						
ITM	**Ithomi**	**0.76**	**44**	P	**Pb**	**23 23 50.9**	**+0.7**
ITM				S	**Sn**	**23 24 01.7**	**-0.7**
ITM				AML	AML	23 24 06.1	
	comp=E,3548μm,0.5s						
ITM				AML	AML	23 24 07.5	
	comp=N,3257μm,0.3s						
VLX	**Vlachokerasia**	**1.16**	**50**	P	**Pg**	**23 23 57.8**	**0.0**
TRIP	**Tripoli**	**1.20**	**42**	P	**Pg**	**23 23 58.8**	**+0.1**
TRIP				S	**Sg**	**23 24 15.1**	**+0.6**
	comp=N,668nm,0.8s						
TRIP	**Tripoli**	**1.20**	**42**	P	**Pg**	**23 23 58.8**	**+0.1**
TRIP				S	**Sn**	**23 24 13.3**	**0.0**
TRIP				AML	AML	23 24 18.5	
	comp=E,985μm,1.0s						
TRIP				AML	AML	23 24 20.4	
	comp=N,1696μm,0.7s						
VLMS	**Volimes, Zakyn**	**1.33**	**339**	P	**Pb**	**23 24 00.3**	**+0.4**
VLMS				S	**Sg**	**23 24 18.9**	**+0.3**
VLMS				AML	AML	23 24 25.0	
	comp=E,1172μm,0.2s						
VLMS				AML	AML	23 24 40.5	
	comp=N,1553μm,0.7s						
VLI	**Veliai**	**1.35**	**86**	P	**Pg**	**23 24 01.6**	**+0.2**
VLI				S	**Sg**	**23 24 18.3**	**-0.7**
	comp=N,325nm,0.6s						
VLI	**Veliai**	**1.35**	**86**	P	**Pg**	**23 24 01.6**	**+0.2**
VLI				S	**Sg**	**23 24 18.3**	**-0.7**
VLI				AML	AML	23 24 25.9	
	comp=E,625μm,0.4s						
VLI				AML	AML	23 24 31.4	
	comp=N,792μm,0.5s						
MNVA	**Monemvasia**	**1.43**	**87**	P	**Pg**	**23 24 03.1**	**+0.1**
RLS	**Riolos of Patr**	**1.43**	**6**	P	**Pg**	**23 24 02.7**	**-0.4**
RLS	**Riolos of Patr**	**1.43**	**6**	P	**Pg**	**23 24 02.7**	**-0.4**
RLS				AML	AML	23 24 35.2	
	comp=N,438μm,0.4s						
RLS				AML	AML	23 24 39.2	
	comp=E,540μm,0.7s						
KTHA	**Kythira Island**	**1.50**	**104**	P	**Pg**	**23 24 04.1**	**-0.1**
KTHA	**Kythira Island**	**1.50**	**104**	P	**Pg**	**23 24 04.1**	**-0.1**
GUR	**Goura**	**1.56**	**33**	P	**Pn**	**23 24 03.2**	**+0.8**
AXS	**Araxos**	**1.56**	**3**	P	**Pg**	**23 24 05.1**	**-0.4**
AXS	**Araxos**	**1.56**	**3**	P	**Pg**	**23 24 05.1**	**-0.4**
KLV	**Kalavryta, Ach**	**1.58**	**26**	P	**Pb**	**23 24 04.1**	**0.0**
KLV				S	**Sb**	**23 24 23.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.58**	**26**	P	**Pb**	**23 24 04.1**	**0.0**
KLV				S	**Sb**	**23 24 23.7**	**0.0**
KLV				AML	AML	23 24 34.1	
	comp=N,459μm,0.6s						
KLV				AML	AML	23 24 35.9	
	comp=E,490μm,0.7s						
VLS	**Valsamata**	**1.63**	**341**	P	**Pn**	**23 24 04.8**	**+1.5**
VLS	**Valsamata**	**1.63**	**341**	P	**Pn**	**23 24 04.8**	**+1.5**
KRND	**KRANIDI**	**1.69**	**63**	P	**Pb**	**23 24 05.2**	**-0.7**
KRND	**KRANIDI**	**1.69**	**63**	P	**Pb**	**23 24 05.2**	**-0.7**
KEF5	**Kardakata, Kep**	**1.76**	**339**	P	**Pb**	**23 24 06.9**	**-0.3**
EFP	**Efpalio**	**1.86**	**16**	P	**Pb**	**23 24 09.2**	**+0.3**
EFP	**Efpalio**	**1.86**	**16**	P	**Pb**	**23 24 09.2**	**+0.3**
SERG	**Sergoula**	**1.89**	**19**	P	**Pb**	**23 24 09.3**	**-0.1**
SERG	**Sergoula**	**1.89**	**19**	P	**Pb**	**23 24 09.3**	**-0.1**
FSK	**Fiskardo**	**1.91**	**343**	P	**Pb**	**23 24 09.2**	**-0.5**
FSK	**Fiskardo**	**1.91**	**343**	P	**Pb**	**23 24 09.2**	**-0.5**
LTK	**Loutraki**	**1.94**	**44**	P	**Pn**	**23 24 08.8**	**+1.3**
LTK	**Loutraki**	**1.94**	**44**	P	**Pn**	**23 24 08.8**	**+1.3**
ANX	**Ano Chora**	**2.03**	**15**	P	**Pb**	**23 24 12.0**	**+0.2**
ANX	**Ano Chora**	**2.03**	**15**	P	**Pb**	**23 24 11.6**	**-0.2**
DSF	**Desfina**	**2.04**	**29**	P	**Pn**	**23 24 10.6**	**+1.7**
DSF	**Desfina**	**2.04**	**29**	P	**Pn**	**23 24 10.6**	**+1.7**
EVGI	**Lefkada island**	**2.04**	**347**	P	**Pn**	**23 24 11.1**	**+2.2**
EVGI	**Lefkada island**	**2.04**	**347**	P	**Pn**	**23 24 11.1**	**+2.2**
LKD2	**Lefkada island**	**2.21**	**348**	P	**Pb**	**23 24 13.8**	**-1.0**
LKD2	**Lefkada island**	**2.21**	**348**	P	**Pb**	**23 24 13.8**	**-1.0**
VILL	**Villia**	**2.24**	**46**	P	**Pn**	**23 24 12.2**	**+0.6**
TSLK	**Tsoukalades, L**	**2.24**	**348**	P	**Pb**	**23 24 14.8**	**-0.6**
TSLK	**Tsoukalades, L**	**2.24**	**348**	P	**Pb**	**23 24 14.8**	**-0.6**
VIL2	**Platees**	**2.24**	**45**	P	**Pn**	**23 24 12.2**	**+0.6**
VLY	**Voula,Athens**	**2.36**	**58**	P	**Pn**	**23 24 13.9**	**+0.7**
VLY	**Voula,Athens**	**2.36**	**58**	P	**Pn**	**23 24 13.9**	**+0.7**
AXAR	**Agios Charalam**	**2.40**	**27**	P	**Pn**	**23 24 15.9**	**+2.1**
AXAR	**Agios Charalam**	**2.40**	**27**	P	**Pn**	**23 24 15.9**	**+2.1**
ATHU	**Athens Univers**	**2.41**	**56**	P	**Pn**	**23 24 14.4**	**+0.5**
ATHU	**Athens Univers**	**2.41**	**56**	P	**Pn**	**23 24 14.4**	**+0.5**
LKR	**Lokris**	**2.44**	**34**	P	**Pn**	**23 24 15.6**	**+1.2**
LKR	**Lokris**	**2.44**	**34**	P	**Pn**	**23 24 15.5**	**+1.2**
DION	**Dionisos Attik**	**2.57**	**55**	P	**Pn**	**23 24 16.8**	**+0.6**
DION	**Dionisos Attik**	**2.57**	**55**	P	**Pn**	**23 24 16.8**	**+0.6**
THL	**Klokotos Trika**	**2.99**	**11**	P	**Pn**	**23 24 24.0**	**+2.1**
THL	**Klokotos Trika**	**2.99**	**11**	P	**Pn**	**23 24 24.0**	**+2.1**
IGT	**Igoumenitsa**	**2.99**	**346**	P	**Pn**	**23 24 23.5**	**+1.6**
IGT	**Igoumenitsa**	**2.99**	**346**	P	**Pn**	**23 24 23.5**	**+1.6**
VOL2	**Volos**	**3.04**	**25**	P	**Pn**	**23 24 25.3**	**+2.8**
IDI	**Anoyia**	**3.23**	**113**	Pn	**Pn**	**23 24 27.9**	**+2.6**
	baz=270,slow=13						
KEK	**Kerkira**	**3.29**	**340**	P	**Pn**	**23 24 27.5**	**+1.5**
KEK	**Kerkira**	**3.29**	**340**	P	**Pn**	**23 24 27.5**	**+1.5**
VAY	**Valandovo**	**4.79**	**12**	*i* Pn	**Pn**	**23 24 47.3**	**+0.6**
STIP	**Stip**	**5.11**	**8**	*i* Pn	**Pn**	**23 24 53.8**	**+2.7**
FINES	**FINESS Array B**	**25.02**	**5**	P	**P**	**23 28 57.6**	**-0.5**
	comp=E,7.7nm,1.1s,baz=167,slow=11,SNR=7.3						
NOA	**NORSAR Array B**	**25.25**	**349**	P	**P**	**23 29 00.1**	**-0.1**
	comp=E,0.3nm,0.6s,baz=155,slow=9.3,SNR=1.6						
DBIC	**Dimbokro**	**38.119**	**225**	LR	LR	23 47 02.4	
	comp=E,31nm,18.9s,baz=22,slow=36						
MKAR	**Makanchi Array**	**45.62**	**57**	P	**P**	**23 31 53.4**	**-1.3**
	comp=E,0.2nm,0.4s,baz=274,slow=7.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**46.30**	**47**	P	**P**	**23 31 58.2**	**-1.5**
	comp=E,1.0nm,0.4s,baz=293,slow=7.9,SNR=3.8						

*UPA **29** 23:26:53.8±0.7, 9°.24N×79°.39W, h65km±2km, MW3.5, Fault plane solution: NP1:φs62.48000°, δ83.59000°, λ-39.57000°.*
ISC 29 23:26:53.5±1.5, 9°.24N±0°.06×79°.39W±0°.03, h67km±7km, n44, σ0§49/64, 14C-21D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAD3	**Madden Dam**	**0.23**	**262**⇑	*e*P	**Pn**	**23 27 04.1**	**+0.3**
MAD3				*e*S	**Sn**	**23 27 11.7**	**+0.3**
CHPO	**Chepo, Panama**	**0.28**	**105**⇓	*e*P	**Pn**	**23 27 04.1**	**-0.1**
CHPO				*e*S	**Sn**	**23 27 12.1**	**+0.1**
UPA	**Univ. de Panam**	**0.30**	**209**	*e*P	**Pn**	**23 27 03.5**	**-0.9**
UPA	**Univ. de Panam**	**0.30**	**209**	⇓ *i*P	**Pn**	**23 27 03.5**	**-0.9**
UPA				*e*S	**Sn**	**23 27 11.8**	**-0.4**
PML3	**Paraiso**	**0.32**	**225**⇓	*e*P	**Pn**	**23 27 04.5**	**+0.1**
PML3				*e*S	**Sn**	**23 27 12.6**	**+0.2**
FRIJ	**El Hiral**	**0.33**	**266**⇑	*e*P	**Pn**	**23 27 04.4**	**-0.2**
MIRA3	**Miramar, Colon**	**0.34**	**10**⇑	*e*P	**Pn**	**23 27 04.2**	**-0.4**
MIRA3				*i* S	**Sn**	**23 27 12.5**	**-0.2**
GAMB1	**Gamboa**	**0.34**	**249**⇓	*e*P	**Pn**	**23 27 04.7**	**+0.1**
GAMB1				*i* S	**Sn**	**23 27 12.8**	**+0.1**
FLAM	**Flamenco Islan**	**0.36**	**204**⇓	*e*P	**Pn**	**23 27 04.8**	**0.0**
FLAM				*e*S	**Sn**	**23 27 13.0**	**0.0**
ARRA3	**Arraijan, Pana**	**0.38**	**224**⇓	*e*P	**Pn**	**23 27 05.0**	**0.0**
ARRA3				*e*S	**Sn**	**23 27 13.6**	**+0.2**
SABA3	**Sabanitas, Col**	**0.42**	**285**⇑	*i*P	**Pn**	**23 27 05.2**	**-0.1**
SABA3				*e*S	**Sn**	**23 27 14.4**	**+0.5**
BCIP	**Isla Barro Col**	**0.45**	**260**	*e*P	**Pn**	**23 27 05.5**	**-0.1**
BCIP	**Isla Barro Col**	**0.45**	**260**⇑	*i*P	**Pn**	**23 27 05.6**	**0.0**
BCIP				*e*S	**Sn**	**23 27 14.7**	**+0.3**
MLIR	**Monte Lirio**	**0.46**	**270**⇑	*i*P	**Pn**	**23 27 05.8**	**+0.2**
MLIR				*i* S	**Sn**	**23 27 14.5**	**0.0**
CNTA3	**Canitas, Panam**	**0.49**	**93**⇑	*e*P	**Pn**	**23 27 06.0**	**0.0**
CNTA3				*e*S	**Sn**	**23 27 15.9**	**+0.8**
CHOR3	**La Chorrera**	**0.51**	**227**⇓	*e*P	**Pn**	**23 27 06.0**	**-0.1**
CHOR3				*e*S	**Sn**	**23 27 15.9**	**+0.5**
SPIL	**Cristobal, Col**	**0.54**	**272**⇑	*e*P	**Pn**	**23 27 06.8**	**+0.5**
SPIL				*e*S	**Sn**	**23 27 15.6**	**-0.3**
ZANG	**Zanguenga, Cho**	**0.55**	**239**⇓	*i*P	**Pn**	**23 27 06.5**	**0.0**
ZANG				*e*S	**Sn**	**23 27 16.4**	**+0.2**
VTON	**El Valle, Cocl**	**0.95**	**229**⇓	*i*P	**Pn**	**23 27 11.3**	**0.0**
VTON				*e*S	**Sn**	**23 27 25.0**	**+0.5**
PNME	**Penonome**	**1.19**	**231**	*e*P	**Pn**	**23 27 14.3**	**-0.1**
PNME	**Penonome**	**1.19**	**231**⇓	*i*P	**Pn**	**23 27 14.4**	**0.0**
PNME				*i* S	**Sn**	**23 27 29.6**	**-0.4**
UPD2	**Meteti**	**1.52**	**117**	*e*P	**Pn**	**23 27 19.4**	**+0.7**
UPD2	**Meteti**	**1.52**	**117**⇑	*e*P	**Pn**	**23 27 19.4**	**+0.7**
UPD2				*e*S	**Sn**	**23 27 38.2**	**+0.5**
CRIS3	**El Cristo, Coc**	**1.56**	**231**⇓	*e*P	**Pn**	**23 27 18.5**	**-0.7**
AZU	**Azuero**	**1.69**	**211**⇓	*i*P	**Pn**	**23 27 20.7**	**-0.2**
AZU	**Azuero**	**1.69**	**211**⇓	*i*P	**Pn**	**23 27 20.7**	**-0.2**
AZU				*e*S	**Sn**	**23 27 41.3**	**-0.3**
CALO3	**Calobre, Verag**	**1.70**	**238**⇓	*i*P	**Pn**	**23 27 21.3**	**+0.2**
PCRI3	**Pocri, Los San**	**1.73**	**205**⇓	*i*P	**Pn**	**23 27 21.7**	**+0.2**
PEDA3	**Pedasi**	**1.82**	**200**⇓	*i*P	**Pn**	**23 27 22.8**	**+0.1**
OCU3	**Ocu, Herrera**	**1.88**	**227**⇑	*i*P	**Pn**	**23 27 23.6**	**+0.1**
STIA3	**Santiago, Vera**	**1.94**	**234**⇑	*i*P	**Pn**	**23 27 24.3**	**+0.1**
STIA3				*e*S	**Sn**	**23 27 45.9**	**-1.7**
CNAZ3	**Canazas, Verag**	**2.01**	**244**⇑	*e*P	**Pn**	**23 27 25.9**	**+0.8**
PONU3	**Ponuga, Veragu**	**2.07**	**229**⇓	*i*P	**Pn**	**23 27 26.0**	**-0.1**
CAP2	**Capurgana**	**2.09**	**106**⇑	*e*P	**Pn**	**23 27 26.3**	**0.0**
TOSI3	**Tonosi**	**2.10**	**210**⇑	*e*P	**Pn**	**23 27 26.7**	**+0.3**
CAPC	**Capurgana**	**2.10**	**107**	*e*P	**Pn**	**23 27 25.9**	**-0.6**
RSUS3	**Rio de Jesus,**	**2.15**	**235**⇓	*i*P	**Pn**	**23 27 27.7**	**+0.5**
MARI3	**Mariato, Verag**	**2.24**	**225**⇓	*e*P	**Pn**	**23 27 29.4**	**+1.0**
GMAL	**Guarumal, Vera**	**2.34**	**231**⇓	*e*P	**Pn**	**23 27 30.0**	**+0.2**
CACAO	**El Cacao, Vera**	**2.38**	**218**⇓	*e*P	**Pn**	**23 27 30.8**	**+0.5**
UREC	**San Jos de Ur**	**4.09**	**111**	*e*P	**Pn**	**23 27 52.4**	**-1.2**
SJCC	**San Jacinto, C**	**4.20**	**81**	*e*P	**Pn**	**23 27 55.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**4.81**	**111**	*e*P	**Pn**	**23 28 04.0**	**+0.6**
SMLC	**San Martn de**	**5.27**	**94**	*e*P	**Pn**	**23 28 09.1**	**-0.6**

*IDC **29** 23:33:43.8±0.9, 6°.18S×153°.97E, h0km, mb4.2/10, mb1 4.3/13, mb1mx4.2/33, mbtmp4.2/13, ML3.2/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/26, Error ellipse: s-maj=23.2km s-min=14.9km az=67.0*
*NEIC **29** 23:33:46.2±1.3, 6°.10S±0°.08×153°.94E±0°.09, h16km±5km, mb4.5/16, Error ellipse: s-maj=14.3km s-min=10.0km az=49.0*
ISC 29 23:33:50.0±0.5, 6°.08S±0°.07×153°.97E±0°.08, h48km, n48, σ1§04/45, mb4.2/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.60**	**316**	Pn	**Pn**	**23 34 27.9**	**-1.7**
KRVT	**Keravat (AS076**	**2.62**	**312**	Pn	**Pn**	**23 34 28.6**	**-1.3**
	27nm,0.3s,baz=76,slow=4.2,SNR=15						
KRVT				Lg	Lg	23 35 11.2	
	34nm,0.3s,baz=342,slow=14,SNR=4.5						
HNR	**Honiara**	**6.79**	**120**	LR	LR	23 38 15.3	
	comp=Z,128nm,18.6s,baz=316,slow=40						
HNR	**Honiara**	**6.79**	**120**	Pn	**Pn**	**23 35 26.0**	**-1.2**
PMG	**Port Moresby**	**7.51**	**243**	Pn	**Pn**	**23 35 35.6**	**-1.4**
	3.0nm,0.3s,baz=144,slow=4.7,SNR=6.4						
PMG				Sn	**Sn**	**23 37 00.8**	**-0.1**
	2.7nm,0.3s,baz=33,slow=18,SNR=2.0						
PMG	**Port Moresby**	**7.51**	**243**	Pn	**Pn**	**23 35 35.1**	**-1.9**
PATS	**Pohnpei**	**13.54**	**19**	Pn	**Pn**	**23 36 57.8**	**-1.8**
CTA	**Charters Tower**	**15.81**	**208**	Pn	**P**	**23 37 33.3**	**+0.7**
	0.1nm,0.3s,baz=84,slow=18,SNR=6.0						
DZM	**Mont Dzumac**	**19.95**	**144**	P	**P**	**23 38 17.7**	**-0.6**
	0.2nm,0.3s,baz=288,slow=3.2,SNR=1.8						
DZM	**Mont Dzumac**	**19.95**	**144**	P	**P**	**23 38 17.8**	**-0.5**
DZM				IAmb	IAmb	23 38 26.0	
	comp=Z,39nm,1.4s						
WB0	**Warramunga Arr**	**23.39**	**233**	P	**P**	**23 38 54.2**	**-0.6**
WB0				IAmb	IAmb	23 39 08.5	
	comp=Z,11nm,1.3s						
MTN	**Manton Dam**	**23.49**	**252**	P	**P**	**23 38 56.2**	**+0.5**
MTN				IAmb	IAmb	23 39 13.4	
	comp=Z,20nm,1.2s						
WB2	**Warramunga Arr**	**23.52**	**232**	P	**P**	**23 38 55.3**	**-0.6**
WRA	**Warramunga Arr**	**23.53**	**232**	P	**P**	**23 38 55.0**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=60,slow=9.5,SNR=10.0						
WRA				LR	LR	23 48 37.2	
	comp=Z,62nm,18.7s,baz=150,slow=38						
ARMA	**Armidale**	**24.31**	**185**	P	**P**	**23 39 03.0**	**-0.3**
ARMA				IAmb	IAmb	23 39 05.1	
	comp=Z,8.5nm,1.1s						
AS31	**Alice Springs**	**26.04**	**226**	P	**P**	**23 39 17.4**	**-1.6**
ASAR	**Alice Springs**	**26.04**	**226**	P	**P**	**23 39 18.4**	**-0.7**
	comp=Z,5.6nm,0.8s,baz=59,slow=8.9,SNR=39						
ASAR	**Alice Springs**	**26.04**	**226**	P	**P**	**23 39 17.7**	**-1.3**
H11S3	**WAKE ISLAND Hy**	**27.45**	**27**	T	T	00 08 02.4	
	baz=209						
H11S2	**WAKE ISLAND Hy**	**27.46**	**27**	T	T	00 08 01.5	
	baz=209						
H11S1	**WAKE ISLAND Hy**	**27.47**	**27**	T	T	00 07 58.3	
	baz=209						
FITZ	**Fitzroy Crossi**	**30.11**	**244**	P	**P**	**23 39 54.2**	**-1.1**
	comp=Z,6.8nm,0.8s,baz=182,slow=3.5,SNR=13						
FITZ	**Fitzroy Crossi**	**30.11**	**244**	P	**P**	**23 39 53.9**	**-1.5**
DLV	**T Lat**	**48.65**	**292**	P	**P**	**23 42 29.9**	**0.0**
KSRS	**Korea Array**	**49.66**	**333**	P	**P**	**23 42 37.9**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=159,slow=8.1,SNR=2.6						
KULM	**Kulim**	**54.41**	**281**	P	**P**	**23 43 12.4**	**-0.4**
KULM				IAmb	IAmb	23 43 12.8	
	comp=Z,4.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.47**	**295**	P	**P**	**23 43 49.3**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=108,slow=5.1,SNR=6.5						
CMAR	**Chiang Mai Arr**	**59.47**	**295**	P	**P**	**23 43 48.5**	**-0.1**
SONM	**Songino Array**	**68.02**	**328**	P	**P**	**23 44 46.0**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=146,slow=6.3,SNR=5.1						
SONM	**Songino Array**	**68.02**	**328**	P	**P**	**23 44 45.3**	**+0.8**
VNDA	**Vanda**	**71.52**	**178**	P	**P**	**23 45 06.2**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=338,slow=5.8,SNR=8.1						
VNDA	**Vanda**	**71.52**	**178**	P	**P**	**23 45 06.5**	**+1.2**
MK31	**Makanchi Array**	**82.05**	**319**	P	**P**	**23 46 06.3**	**+1.0**
MK31				IAmb	IAmb	23 46 07.5	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**82.05**	**319**	P	**P**	**23 46 06.7**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=97,slow=5.6,SNR=17						
MKAR	**Makanchi Array**	**82.05**	**319**	P	**P**	**23 46

ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 43 44.1	-0.8
ERTU				*e*SN	Sg	23 44 05.1	0.0
KALU	**Kalix**	**2.35**	**146**	*e*P	Pn	23 43 57.5	+1.0
KALU				*e*SG	Sb	23 44 28.9	-0.4
TOF	**Tornio**	**2.40**	**135**	*e*PB	Pn	23 43 58.5	+1.2
	baz=316						
TOF				MSG		23 44 28.7	
	comp=Z,6.3nm,0.2s						
TOF				*e*SG	Sb	23 44 30.9	+0.1
SGF	**Sodankyl**	**2.46**	**96**	*e*PB	Pn	23 43 59.7	+1.7
	baz=285						
SGF				*e*SG	Sb	23 44 32.8	+0.3
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	23 44 01.5	+1.8
RNF				*e*SB	Sb	23 44 35.3	-0.7
BURU	**Burvik**	**3.30**	**171**	*e*P	Pn	23 44 11.6	+2.0
	baz=353						
VRF	**Varrio**	**3.58**	**87**	*e*PG	Pb	23 44 21.3	+0.4
	baz=277						
UMAU	**Umeaa**	**3.98**	**177**	*e*S	Sn	23 45 07.4	+1.3

UPP 29 23:43:21.7±0.1, 67°.84N×20°.25E, h0km, ML2.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**16**	P	Pg	23 43 24.2	+0.2
KUA				S	Sg	23 43 26.0	+0.5
RATU	**Laukkuluspa**	**0.25**	**267**	P	Pg	23 43 26.6	+0.2
KOVU	**Salmi**	**0.39**	**355**	P	Pg	23 43 29.1	0.0
PAJU	**Pajala**	**1.38**	**125**	P	Pg	23 43 47.0	-1.0

*IDC **29** 23:52:56.2±0.7, 35°.14S×15°.06W, h0km, mb4.2/10, mb1 4.2/10, mb1mx4.0/26, mbtmp4.1/10, MS4.1/17, Ms1 4.1/17, ms1mx4.0/19, Error ellipse: s-maj=20.2km s-min=18.5km az=76.0*

*NEIC **29** 23:52:57.1±1.3, 35°.1S±0°.1×15°.1W±0°.1, h10km±1km, mb4.7/21, Error ellipse: s-maj=19.1km s-min=17.0km az=216.0*

*GCMT **29** 23:53:01.2±0.3, 34°.99S±0°.03×15°.17W±0°.03, h19km±1km, MW4.9/83, Moment Tensor Solution. s22,c23; s83,c107; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.29±.18; Mθθ=0.15±.12; Mφφ=2.14±.12; Mrθ=1.51±.33; Mφθ=-0.83±.07; Mφr=0.71±.22; Best double couple: M0=2.82200×10^16 NP1:φs=315.00000°, δ=49.00000°, λ=-129.00000°. NP2: φs=186.00000°, δ=54.00000°, λ=-54.00000°. Principal axes: T 2.4450, Plg2.0000°, Azm252.0000°; N 0.7560, Plg28.0000°, Azm343.0000°; P -3.2000, Plg61.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 23:52:57.2±0.5, 35°.11S±0°.09×15°.1W±0°.1, h10km, n62, σ0.73/42, mb4.5/19, MS4.1/17, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**2.99**	**132**	Pn	**Pn**	**23 53 43.8**	**-0.9**
	SNR=8.9						
H09N1				T	T	23 56 54.7	
	SNR=26						
H09W1	**TRISTAN DA CUN**	**2.99**	**132**	Pn	**Pn**	**23 53 45.6**	**+0.9**
	SNR=17						
H09W1				T	T	23 56 54.2	
	SNR=544						
H10S2	**ASCENSION HYDR**	**26.03**	**1**	T	T	00 25 33.6	
	baz=181,slow=74,SNR=81						
H10S3	**ASCENSION HYDR**	**26.04**	**1**	T	T	00 25 34.0	
	baz=39,slow=74,SNR=166						
H10N1	**ASCENSION HYDR**	**27.14**	**1**	T	T	00 26 58.2	
	baz=188,slow=78						
H10N3	**ASCENSION HYDR**	**27.15**	**1**	T	T	00 26 57.3	
	baz=188,slow=78						
H10N2	**ASCENSION HYDR**	**27.16**	**1**	T	T	00 27 00.8	
	baz=188,slow=78						
SUR	**Sutherland**	**29.89**	**95**	LR	LR	00 08 22.3	
	comp=Z,387nm,19.0s,baz=250,slow=31						
BOSA	**Boshof**	**34.71**	**91**	LR	LR	00 11 42.9	
	comp=Z,319nm,18.1s,baz=241,slow=32						
BDFB	**Brasilia**	**35.26**	**295**	LR	LR	00 11 40.3	
	comp=Z,279nm,20.1s,baz=135,slow=32						
SNAA	**Sanae**	**37.19**	**174**	P	**P**	**00 00 06.4**	**-1.8**
	1.0nm,0.2s,baz=290,slow=8.1,SNR=1.5						
SNAA	**Sanae**	**37.19**	**174**	P	**P**	**00 00 07.1**	**-1.1**
MATP	**Matopo**	**40.94**	**81**	P	**P**	**00 00 40.2**	**0.0**
	4.3nm,1.0s,baz=245,slow=10,SNR=7.4						
LIC	**Lamto**	**42.20**	**15**	*e*P	**P**	**00 00 50.1**	**-0.3**
	3.7nm,0.5s						
KIC	**Kosan Boka**	**42.39**	**15**	*e*P	**P**	**00 00 51.7**	**-0.3**
	15nm,0.9s						
TIC	**Toumodi**	**42.61**	**15**	*e*P	**P**	**00 00 53.4**	**-0.3**
DBIC	**Dimbokro**	**42.67**	**15**	P	**P**	**00 00 54.2**	**0.0**
	5.0nm,0.9s,baz=149,slow=7.4,SNR=7.1						
DBIC				LR	LR	00 14 10.5	
	comp=Z,81nm,20.5s,baz=151,slow=30						
DBIC	**Dimbokro**	**42.67**	**15**	P	**P**	**00 00 52.9**	**-1.3**
DBIC				IAmb	IAmb	00 00 56.2	
	comp=Z,25nm,1.5s						
LSZ	**Lusaka**	**43.46**	**74**	P	**P**	**00 01 01.9**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=239,slow=8.1,SNR=5.5						
LSZ	**Lusaka**	**43.46**	**74**	P	**P**	**00 01 01.1**	**+0.2**
LSZ				IAmb	IAmb	00 01 14.2	
	comp=Z,22nm,1.8s						
PLCA	**Paso Flores**	**43.48**	**245**	P	**P**	**00 01 02.1**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=76,slow=4.2,SNR=2.3						
PLCA				LR	LR	00 17 56.5	
	comp=Z,239nm,19.0s,baz=131,slow=34						
PLCA	**Paso Flores**	**43.48**	**245**	P	**P**	**00 01 00.6**	**-0.2**
SIV	**San Ignacio**	**45.18**	**283**	P	**P**	**00 01 15.3**	**+0.8**
	comp=Z,3.9nm,1.0s,baz=133,slow=7.9,SNR=9.3						
MT02	**Curacav**	**45.86**	**256**	P	**P**	**00 01 19.3**	**-0.4**
PB08	**IPOC Station P**	**49.59**	**273**	P	**P**	**00 01 48.3**	**-0.9**
GO01	**Chusmiza**	**49.85**	**273**	P	**P**	**00 01 50.4**	**-1.0**
GO01				IAmb	IAmb	00 01 52.3	
	comp=Z,10.0nm,0.9s						
PB11	**IPOC Station P**	**50.19**	**273**	P	**P**	**00 01 53.3**	**-0.3**
KOWA	**Kowa**	**50.45**	**14**	P	**P**	**00 01 55.3**	**+0.1**
KOWA				IAmb	IAmb	00 02 06.8	
	comp=Z,13nm,1.4s						
MNMC	**Minye Minye**	**50.45**	**274**	P	**P**	**00 01 55.2**	**-0.4**
MNMC				IAmb	IAmb	00 01 59.6	
	comp=Z,14nm,1.3s						
TOA0	**Torodi Ar. Sit**	**50.57**	**21**	P	**P**	**00 01 56.1**	**-0.1**
TOA0				IAmb	IAmb	00 01 58.3	
	comp=Z,11nm,1.0s						
TORD	**Torodi Ar. Bea**	**50.57**	**21**	P	**P**	**00 01 56.2**	**0.0**
	comp=Z,5.2nm,0.7s,baz=205,slow=6.0,SNR=33						
TORD				LR	LR	00 19 06.4	
	comp=Z,311nm,20.0s,baz=195,slow=31						
TORD	**Torodi Ar. Bea**	**50.57**	**21**	P	**P**	**00 01 55.8**	**-0.3**
LPAZ	**La Paz**	**50.72**	**278**	LR	LR	00 22 53.8	
	comp=Z,156nm,19.6s,baz=130,slow=35						
PB16	**IPOC Station P**	**50.78**	**274**	P	**P**	**00 01 57.9**	**-0.6**
SAML	**Samuel**	**50.98**	**289**	P	**P**	**00 01 59.7**	**+0.4**
MAW	**Mawson**	**53.53**	**152**	P	**P**	**00 02 17.6**	**0.0**
	comp=Z,1.5nm,0.8s,baz=270,slow=11,SNR=3.9						
MAW				LR	LR	00 20 38.9	
	comp=Z,77nm,20.7s,baz=246,slow=31						
MBAR	**Mbarara**	**54.76**	**61**	P	**P**	**00 02 27.7**	**+0.2**
QSPA	**South Pole Qui**	**55.14**	**180**	P	**P**	**00 02 29.8**	**+0.2**
KMBO	**Kilima Mbogo**	**59.22**	**67**	LR	LR	00 26 34.5	
	comp=Z,431nm,19.1s,baz=234,slow=34						
TAM	**Tamanrasset**	**60.82**	**22**	P	**P**	**00 03 09.1**	**-0.8**
TAM				IAmb	IAmb	00 03 13.5	
	comp=Z,8.4nm,1.5s						
VNDA	**Vanda**	**67.62**	**179**	P	**P**	**00 03 54.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=157,slow=6.7,SNR=3.4						
VNDA				LR	LR	00 29 24.5	
	comp=Z,62nm,21.3s,baz=167,slow=32						
VNDA	**Vanda**	**67.62**	**179**	P	**P**	**00 03 54.4**	**+0.8**
VNDA				IAmb	IAmb	00 03 57.3	
	comp=Z,11nm,1.8s						
ROSC	**El Rosal**	**68.28**	**293**	LR	LR	00 32 51.3	
	comp=Z,376nm,18.1s,baz=154,slow=35						
KEST	**Kesra**	**74.08**	**20**	LR	LR	00 35 02.0	
	comp=Z,255nm,18.1s,baz=194,slow=34						
ESDC	**Sonseca Array**	**75.12**	**9**	LR	LR	00 35 35.1	
	comp=Z,64nm,18.1s,baz=180,slow=34						
TIP	**Timpagrande**	**79.58**	**25**	P	**P**	**00 05 03.4**	**-0.9**
TIP				IAmb	IAmb	00 05 07.4	
	comp=Z,17nm,1.5s						
CIMO	**Cimolais**	**84.77**	**19**	P	**P**	**00 05 31.0**	**-0.3**
DIVS	**Divibare**	**85.06**	**25**	P	**P**	**00 05 33.0**	**+0.1**
DIVS				IAmb	IAmb	00 05 49.7	
	comp=Z,5.9nm,1.2s						
BRTR	**Keskin Array B**	**86.99**	**35**	LR	LR	00 42 50.2	
	comp=Z,18nm,20.8s,baz=169,slow=34						
GERES	**GERESS Array B**	**87.44**	**19**	LR	LR	00 42 53.0	
	comp=Z,81nm,19.3s,baz=231,slow=34						
AKASG	**Malin Array Be**	**93.95**	**26**	P	**P**	**00 06 15.8**	**+1.0**
	comp=Z,0.3nm,0.2s,baz=226,slow=5.7,SNR=4.0						
H01W2	**Cape Leeuwin H**	**95.75**	**140**	T	T	01 53 54.9	
	baz=219,slow=75,SNR=8.6						
H01W3	**Cape Leeuwin H**	**95.76**	**140**	T	T	01 53 56.6	
	baz=219,slow=75,SNR=7.2						
H01W1	**Cape Leeuwin H**	**95.76**	**140**	T	T	01 53 55.0	
	baz=219,slow=75,SNR=10						
NOA	**NORSAR Array B**	**98.19**	**13**	LR	LR	00 49 54.2	
	comp=Z,43nm,18.5s,baz=300,slow=35						
GEYT	**Alibeck**	**99.40**	**50**	LR	LR	00 50 28.1	
	comp=Z,191nm,20.1s,baz=40,slow=35						
MKAR	**Makanchi Array**	**119.25**	**51**	PKP	**PKiKP**	**00 11 47.1**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=297,slow=1.3,SNR=2.5						
SONM	**Songino Array**	**135.38**	**55**	PKP	**PKPdf**	**00 12 16.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=333,slow=2.0,SNR=4.0						
SONM	**Songino Array**	**135.38**	**55**		**PKPdf**	**00 12 17.6**	**+0.4**
ILAR	**Eielson Array**	**138.72**	**331**	PKP	**PKPdf**	**00 12 22.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=138,slow=2.0,SNR=6.6						
ILAR	**Eielson Array**	**138.72**	**331**		**PKPdf**	**00 12 23.4**	**+0.8**
KSRS	**Korea Array**	**150.23**	**75**	PKPbc	**PKiKP**	**00 12 48.8**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=273,slow=3.3,SNR=2.3						

IDC 30 00:02:52.8±2.6, 2°.53S×140°.30E, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.7/24, mbtmp3.9/6, ML4.2/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=57.8km s-min=27.0km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.65**	**135**	LR	LR	00 09 58.3	
	comp=Z,26nm,18.8s,baz=164,slow=44						
BATI	**Baumata**	**18.20**	**244**	P	P	00 07 07.6	+0.1
	4.6nm,0.3s,baz=83,slow=8.1,SNR=4.5						
WRA	**Warramunga Arr**	**18.26**	**198**	P	Pn	00 07 07.1	-0.8
	0.3nm,0.3s,baz=18,slow=12,SNR=19						
KAPI	**Kappang**	**20.65**	**263**	P	P	00 07 34.9	+0.6
	1.7nm,0.3s,baz=90,slow=19,SNR=1.6						
FITZ	**Fitzroy Crossi**	**21.12**	**222**	P	P	00 07 39.1	-0.2
	2.0nm,0.7s,baz=22,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**21.91**	**196**	P	P	00 07 48.6	+0.9
	0.6nm,0.6s,baz=26,slow=11,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**34.21**	**49**	T	T	00 45 59.1	
	baz=233,slow=74						
H11N2	**WAKE ISLAND Hy**	**34.23**	**49**	T	T	00 45 58.4	
	baz=233,slow=74						
H11N3	**WAKE ISLAND Hy**	**34.23**	**49**	T	T	00 46 04.5	
	baz=233						
MKAR	**Makanchi Array**	**70.62**	**322**	P	P	00 14 09.8	-0.4
	0.6nm,0.6s,baz=111,slow=7.4,SNR=7.3						

GUC 30 00:14:20.6±0.5, 24°.01S×67°.43W, h214km±7km, ML4.0, 14C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.95**	**315⇑**	*i*P	Pn	00 14 59.7	-0.4
LVC				*i* S	S	00 15 29.3	-1.2
PB15	**IPOC Station P**	**2.04**	**293⇑**	*i*P	Pn	00 15 01.1	+0.3
PB15				*i* S	S	00 15 31.6	-0.1
GO02	**Mina Guanaco**	**2.28**	**239⇑**	*i*P	Pn	00 15 03.4	+0.1
GO02				*e*S	S	00 15 36.2	-0.1
GO02				IAML		00 15 37.5	
	comp=N,570nm,0.3s						
PB06	**IPOC Station P**	**2.36**	**303⇑**	*e*P	Pn	00 15 04.1	+0.1
PB06				*e*S	S	00 15 37.1	-0.4
PB06				IAML		00 15 39.7	
	comp=E,377nm,0.3s						
PB09	**IPOC Station P**	**2.77**	**322⇑**	*i*P	Pn	00 15 08.8	+0.3
PB09				*e*S	S	00 15 45.5	-0.2
PB09				IAML		00 15 47.0	
	comp=N,155nm,0.3s						
PB14	**IPOC Station P**	**2.78**	**257⇑**	*i*P	Pn	00 15 09.2	+0.4
PB14				*e*S	S	00 15 45.6	-0.5
PB05	**IPOC Station P**	**2.80**	**294⇑**	*i*P	Pn	00 15 09.1	+0.3
PB05				*i* S	S	00 15 45.3	-0.7
PB05				IAML		00 15 50.4	
	comp=E,118nm,0.3s						
PB03	**IPOC Station P**	**2.90**	**312⇑**	*i*P	Pn	00 15 10.0	0.0
PB03				*e*S	S	00 15 47.5	-0.8
PB03				IAML		00 15 50.1	
	comp=E,297nm,0.3s						
PB10	**IPOC Station P**	**2.91**	**279⇑**	*i*P	Pn	00 15 10.8	+0.9
PB10				*e*S	S	00 15 47.5	-0.6
PB04	**IPOC Station P**	**3.01**	**303⇑**	*i*P	Pn	00 15 11.6	+0.3
PB04				*i* S	S	00 15 49.9	-0.7
PB04				IAML		00 15 54.1	
	comp=N,246nm,0.5s						
PB07	**IPOC Station P**	**3.21**	**315⇑**	*i*P	Pn	00 15 13.6	-0.1
PB07				*e*S	S	00 15 53.4	-1.4
PB01	**IPOC Station P**	**3.52**	**327**	*e*P	Pn	00 15 16.5	-0.7
PB01				*i* S	S	00 15 59.3	-1.9
PB02	**IPOC Station P**	**3.52**	**319⇑**	*i*P	Pn	00 15 16.7	-0.5
PB02				*i* S	S	00 15 59.4	-1.8
AC01	**Pan de Azucar**	**3.58**	**233⇑**	*i*P	Pn	00 15 17.0	-0.7
AC01				*e*S	S	00 16 01.0	-1.2
PATCX	**Punta Patache**	**4.05**	**321⇓**	*e*P	Pn	00 15 22.8	-0.9
PATCX				*i* S	S	00 16 11.4	-1.6
PB08	**IPOC Station P**	**4.17**	**337⇑**	*i*P	Pn	00 15 25.1	-0.3
PB08				*i* S	S	00 16 14.7	-1.4

*DJA **30** 00:16:48.5±1.4, 1°.S±3°.×13°.2E±°, h12km±12km, M3.8/5, MLv3.8/5*

*IDC **30** 00:16:49.1±1.5, 1°.78S×130°.76E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.6/29, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=29.5km s-min=12.1km az=112.0*

ISC 30 00:16:53.1±1.1, 1°.74S±0°.08×131°.4E±0°.2, h35km, n7, σ1.34/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.87**	**354**	Pg	**Pn**	**00 17 08.4**	**-0.5**
	74nm,0.3s,baz=208,slow=22,SNR=123						
SIJI				Lg	Lg	00 17 24.1	
	81nm,0.3s,baz=163,slow=23,SNR=28						
FAKI	**Fak Fak**	**1.47**	**143**	P	**Pn**	**00 17 15.7**	**-1.5**
FAKI				S	**Sn**	**00 17 36.2**	**+1.0**
MSAI	**Masohi**	**2.90**	**237**	P	Pn	00 17 46.9	+10
FITZ	**Fitzroy Crossi**	**17.19**	**199**	Pn	**P**	**00 20 52.9**	**+0.9**
	0.2nm,0.3s,baz=0.1,slow=12,SNR=1.6						
FITZ				Sn	**Sn**	**00 23 59.7**	**-1.3**
	0.1nm,0.3s,baz=180,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**18.32**	**171**	P	**Pn**	**00 21 05.0**	**+0.4**
	0.3nm,0.3s,baz=353,slow=11,SNR=17						
WRA				S	Sn	00 24 18.2	-10
	0.1nm,0.3s,baz=358,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**21.93**	**174**	P	**P**	**00 21 45.4**	**+1.6**
	2.2nm,0.6s,baz=350,slow=9.8,SNR=28						
MKAR	**Makanchi Array**	**64.66**	**325**	P	**P**	**00 27 26.8**	**-0.7**
	0.3nm,0.5s,baz=124,slow=7.5,SNR=4.7						

*IDC **30** 00:41:54.4±1.0, 32°.35N×141°.88E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.8/44, mbtmp4.0/12, ML3.6/2, MS2.8/4, Ms1 2.8/4, ms1mx2.6/41, Error ellipse: s-maj=34.0km s-min=16.7km az=63.0*

*NEIC **30** 00:41:56.0±1.1, 32°.32N±0°.07×141°.83E±0°.09, h10km±1km, mb4.5/13, Error ellipse: s-maj=14.4km s-min=10.7km az=48.0*

*NIED **30** 00:41:59.3, 32°.47N×141°.79E, h63km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^14 Nm; Mrr=6.50; Mθθ=-0.35; Mφφ=-6.14; Mrθ=3.20; Mφθ=0.20; Mφr=4.41; Fault plane solution: M0=8.27000×10^14 NP1:φs=20.00000°, δ=65.00000°, λ=107.00000°. NP2:φs=163.00000°, δ=30.00000°, λ=57.00000°.*

*JMA **30** 00:41:59.3±0.3, 32°.47N×141°.79E, h63km, M3.5*

ISC 30 00:41:59.8±0.7, 32°.39N±0°.05×141°.85E±0°.08, h39km, n63, σ1.34/74, mb4.3/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.86**	**292**	P	**Pn**	**00 42 28.1**	**-1.0**
JHCJ				*e*S	**Sn**	**00 42 49.8**	**-1.6**
JHJ2	**Mitsune**	**1.86**	**293**	P	**Pn**	**00 42 28.7**	**-0.4**
JHJ2				*e*S	**Sn**	**00 42 50.9**	**-0.5**
JHJ2	**Mitsune**	**1.86**	**293**	Pn	**Pn**	**00 42 28.1**	**-1.1**
JHJ	**Hachijo jima 2**	**1.89**	**293**	Pn	**Pn**	**00 42 27.7**	**-1.8**
	68nm,0.3s,baz=342,slow=23,SNR=8.7						
JHJ				Sn	**Sn**	**00 42 52.8**	**+0.7**
	40nm,0.3s,baz=349,slow=16,SNR=2.3						
BSO1	**Boso 1**	**2.38**	**342**	P	**Pn**	**00 42 35.7**	**0.0**
BSO1				*e*S	**Sn**	**00 43 02.2**	**-1.1**
BSO3	**Boso 3**	**2.66**	**335**	P	**Pn**	**00 42 39.6**	**-0.2**
BSO3				*e*S	**Sn**	**00 43 08.9**	**-1.7**
BSO4	**Boso 4**	**2.89**	**334**	P	**Pn**	**00 42 43.3**	**+0.2**
BSO4				*e*S	**Sn**	**00 43 15.7**	**-0.8**
JOD2	**Odawara 2**	**3.68**	**322**	*e*S	**Sn**	**00 43 35.0**	**-1.2**
JHU	**Hanno**	**4.06**	**329**	*e*S	**Sn**	**00 43 45.1**	**-0.5**
JYT	**Yasato**	**4.07**	**341**	P	**Pn**	**00 42 59.9**	**+0.4**
JYT	**Yasato**	**4.07**	**341**	Pn	**Pn**	**00 42 59.8**	**+0.3**
JHO	**Hitachi**	**4.34**	**346**	P	**Pn**	**00 43 02.9**	**-0.4**
JHO				*e*S	**Sn**	**00 43 50.5**	**-2.1**
JAG	**Ashikaga**	**4.49**	**334**	P	**Pn**	**00 43 05.2**	**-0.1**
JAG				*e*S	**Sn**	**00 43 54.5**	**-1.7**
JGF	**Kuroka**	**4.92**	**312**		**Pn**	**00 43 11.7**	**+0.5**
INU	**Inuyama**	**4.99**	**308**	Pn	**Pn**	**00 43 12.1**	**0.0**
MJAR	**Matsushiro Arr**	**5.12**	**325**	Pn	**Pn**	**00 43 13.2**	**-0.8**
	0.4nm,0.3s,baz=149,slow=11,SNR=8.3						
MJAR				LR	LR	00 45 09.4	
	comp=Z,45nm,19.5s,baz=145,slow=38						
MJAR	**Matsushiro Arr**	**5.12**	**325**		**Pn**	**00 43 13.4**	**-0.5**
MAJO	**Matsushiro**	**5.12**	**325**	Pn	**Pn**	**00 43 14.5**	**+0.5**
MAT	**Matsushiro**	**5.12**	**325**	P	**Pn**	**00 43 15.1**	**+1.1**
MAT				*e*S	**Sn**	**00 44 08.4**	**-3.5**
JFT	**Otama**	**5.27**	**347**	P	**Pn**	**00 43 15.8**	**-0.2**
JFT				*e*S	**Sn**	**00 44 12.7**	**-2.7**
CBIJ	**Chichi jima**	**5.28**	**177**	P	**Pn**	**00 43 15.7**	**-0.4**
CBIJ				*e*S	**Sn**	**00 44 11.5**	**-4.2**
JCJ	**Chichijima**	**5.28**	**177**	Pn	**Pn**	**00 43 14.9**	**-1.3**
	12nm,0.3s,baz=283,slow=20,SNR=9.1						
JCJ				Sn	**Sn**	**00 44 11.4**	**-4.3**
	14nm,0.3s,baz=290,slow=21,SNR=2.5						
JCJ	**Chichijima**	**5.28**	**177**		**Pn**	**00 43 14.5**	**-1.6**
JMM	**Marumori**	**5.54**	**351**	Pn	**Pn**	**00 43 18.7**	**-0.8**
JWT	**Wachi**	**6.09**	**300**	Pn	**Pn**	**00 43 27.0**	**-0.3**
JSD	**Sado**	**6.36**	**333**	Pn	**Pn**	**00 43 31.1**	**+0.2**
JMK	**Ichinoseki**	**6.57**	**356**	P	**Pn**	**00 43 33.1**	**-0.7**
JMK				*e*S	**Sn**	**00 44 43.0**	**-4.4**
JMN	**Monobe**	**6.83**	**283**	Pn	**Pn**	**00 43 35.5**	**-1.9**
JTM	**Tenmabayashi**	**8.41**	**356**	Pn	**Pn**	**00 43 58.3**	**-0.7**
JNU	**Nakatsue**	**9.27**	**277**	LR	LR	00 47 56.4	
	comp=Z,84nm,18.2s,baz=88,slow=39						
JNU	**Nakatsue**	**9.27**	**277**	Pn	**Pn**	**00 44 08.7**	**-2.2**
ERM	**Erimo**	**9.67**	**6**	Pn	**Pn**	**00 44 15.7**	**-0.6**
ASAJ	**Asahikawa**	**11.73**	**3**	LR	LR	00 50 26.1	
	comp=Z,44nm,18.9s,baz=162,slow=44						
KSRS	**Korea Array**	**12.50**	**298**	LR	LR	00 50 27.1	
	comp=Z,59nm,18.2s,baz=92,slow=41						
ULN	**Ulaanbaatar**	**30.47**	**311**	P	**P**	**00 48 08.7**	**-0.2**
ULN				IAmb	IAmb	00 48 26.2	
	comp=Z,5.5nm,1.0s						
SONM	**Songino Array**	**30.88**	**310**	P	**P**	**00 48 14.5**	**+2.0**
	comp=Z,1.5nm,0.6s,baz=110,slow=8.6,SNR=7.1						
SONM	**Songino Array**	**30.88**	**310**	P	**P**	**00 48 13.0**	**+0.4**
ZALV	**Zalesovo Beam**	**45.40**	**316**	P	**P**	**00 50 14.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=103,slow=6.4,SNR=5.3						
ZALV				PcP	**PcP**	**00 51 53.5**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=99,slow=4.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**45.40**	**316**	P	**P**	**00 50 14.3**	**0.0**
MK31	**Makanchi Array**	**47.01**	**306**	P	**P**	**00 50 27.4**	**+0.2**
MK31				IAmb	IAmb	00 50 43.5	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**47.01**	**306**	P	**P**	**00 50 27.4**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=86,slow=9.3,SNR=13						
MKAR	**Makanchi Array**	**47.01**	**306**	P	**P**	**00 50 27.7**	**+0.5**
KURK	**Kurchatov**	**49.18**	**311**	P	**P**	**00 50 44.3**	**+0.5**
KURK				IAmb	IAmb	00 50 47.5	
	comp=Z,4.4nm,0.9s						
KURBB	**Kurchatov Arra**	**49.24**	**311**	P	**P**	**00 50 44.6**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=89,slow=7.7,SNR=4.6						
WB0	**Warramunga Arr**	**52.35**	**189**	P	**P**	**00 51 07.8**	**-0.1**
WB0				IAmb	IAmb	00 51 21.8	
	comp=Z,6.1nm,0.9s						
WB2	**Warramunga Arr**	**52.53**	**189**	P	**P**	**00 51 09.1**	**-0.1**
WB2				IAmb	IAmb	00 51 23.1	
	comp=Z,6.7nm,1.0s						
WRA	**Warramunga Arr**	**52.53**	**189**	P	**P**	**00 51 09.1**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=5.6,slow=7.7,SNR=31						
WRA	**Warramunga Arr**	**52.53**	**189**	P	**P**	**00 51 09.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.55**	**200**	P	**P**	**00 51 08.5**	**-0.8**
KK31	**Karatay Array**	**55.86**	**303**	P	**P**	**00 51 34.0**	**+0.6**
KKAR	**Karatay Array**	**55.86**	**303**	P	**P**	**00 51 34.1**	**+0.7**
ASAR	**

comp=Z,188nm,21.9s,baz=235,slow=30
CLTN Cedars of Leba 37.45 291 P **P 01 14 24.7 +1.4**
CLTN IAmb IAmb 01 14 32.4
comp=Z,12nm,1.2s
W45A Hickory Valley 39.86 290 P **P 01 14 43.8 +0.2**
ROSC El Rosal 39.91 237 LR LR 01 30 13.1
comp=Z,112nm,21.4s,baz=46,slow=35
DBIC Dimbokro 41.91 117 LR LR 01 29 39.4
comp=Z,267nm,21.6s,baz=289,slow=32
FCAR Ozark Folk Cen 42.15 291 P **P 01 15 02.1 -0.2**
W41B Gary Mavity, V 42.35 290 P **P 01 15 04.7 +0.8**
W41B IAmb IAmb 01 15 08.3
comp=Z,12nm,1.1s
UALR University of 42.48 290 P **P 01 15 05.7 +0.7**
UALR IAmb IAmb 01 15 09.2
comp=Z,14nm,1.1s
U40A Yellville 42.67 292 P **P 01 15 06.6 0.0**
TAM Tamanrasset 42.67 89 P **P 01 15 06.5 -0.4**
DAVA Damuels 42.71 52 *epP* **P 01 15 09.4 +2.5**
comp=Z,6.3nm,1.4s
FETA Feichten 43.27 52 *epP* **P 01 15 14.2 +2.7**
comp=Z,5.8nm,1.3s
WLAR White Oak Lake 43.29 288 P **P 01 15 12.6 +1.0**
WLAR IAmb IAmb 01 15 16.9
comp=Z,21nm,1.1s
RETA Reutte 43.32 52 *epP* **P 01 15 14.2 +2.4**
comp=Z,9.8nm,1.4s
TORD Torodi Ar. Bea 43.54 104 P **P 01 15 13.2 -0.6**
comp=Z,2.0nm,1.0s,baz=306,slow=7.1,SNR=6.8
TORD LR LR 01 31 48.2
comp=Z,177nm,19.5s,baz=265,slow=34
TORD Torodi Ar. Bea 43.54 104 P **P 01 15 14.2 +0.4**
MOTA Moosalm 43.55 52 *epP* **P 01 15 16.1 +2.4**
comp=Z,9.4nm,1.7s
OSSC Osservatorio P 43.57 57 P **P 01 15 14.3 +0.6**
OSSC IAmb IAmb 01 15 16.9
comp=Z,16nm,1.2s
SQTA Sankt Quirin 43.61 52 *epP* **P 01 15 16.9 +2.7**
comp=Z,7.8nm,1.4s
WATA Walderalm 43.87 52 *epP* **P 01 15 18.6 +2.3**
comp=Z,5.3nm,1.0s
U38A Gravette 43.89 292 P **P 01 15 17.4 +1.0**
LATE Laterza 44.00 59 P **P 01 15 17.9 +0.7**
LATE IAmb IAmb 01 15 21.9
comp=Z,19nm,1.6s
SAML Samuel 44.30 211 P **P 01 15 20.1 +0.3**
ABTA Abfaltersbach 44.48 53 *i pP* **P 01 15 22.4 +1.2**
comp=Z,8.2nm,1.2s
ULM Lac du Bonnet 44.63 312 LR LR 01 31 49.2
comp=Z,97nm,20.1s,baz=120,slow=33
ZOU Zoufplan 44.80 53 P **P 01 15 23.9 +0.1**
ZOU IAmb IAmb 01 15 34.4
comp=Z,18nm,1.6s
TUL1 Leonard 45.09 292 P **P 01 15 27.0 +1.0**
CLL Collm 45.10 46 *i* P **P 01 15 26.7 +0.8**
CLL L L 01 30 00.0
comp=Z,200nm,21.0s
AQU L'Aquila 45.19 59 P **P 01 15 28.1 +1.2**
AQU IAmb IAmb 01 15 30.5
comp=Z,14nm,1.1s
MYKA Terra Mystica 45.26 53 *epP* **P 01 15 29.0 +1.7**
comp=Z,6.1nm,1.2s
KHC Kasperske Hory 45.30 49 *eP* **P 01 15 28.8 +1.3**
GERES GERESS Array B 45.36 50 P **P 01 15 27.6 -0.5**
comp=Z,0.3nm,0.5s,baz=270,slow=6.7,SNR=5.4
GERES GERESS Array B 45.36 50 P **P 01 15 28.3 +0.1**
T35A Sooner Cattle 45.51 293 P **P 01 15 30.4 +1.1**
T35A IAmb IAmb 01 15 33.7
comp=Z,10nm,0.9s
BRG Berggiesshubel 45.65 47 *e*(P) **P 01 15 30.2 -0.1**
comp=Z,11nm,1.7s
MOA Molln 45.70 51 *epP* **P 01 15 32.4 +1.6**
comp=Z,5.3nm,1.6s
OBKA Obir 45.88 53 *eP* **P 01 15 32.5 +0.2**
comp=Z,7.1nm,0.8s
NOA NORSAR Array B 46.04 33 P **P 01 15 31.9 -1.3**
comp=Z,0.3nm,0.8s,baz=253,slow=8.5,SNR=1.8
H10N2 ASCENSION HYDR 46.20 141 T T 02 04 55.7
baz=326,slow=75
H10N3 ASCENSION HYDR 46.20 141 T T 02 04 55.9
baz=326,slow=75
H10N1 ASCENSION HYDR 46.22 141 T T 02 04 57.2
baz=326,slow=75
SOKA Soboth 46.22 53 *epP* **P 01 15 36.1 +1.2**
comp=Z,6.9nm,1.7s
BDFB Brasilia 46.26 188 LR LR 01 32 23.9
comp=Z,61nm,19.4s,baz=312,slow=33
ARSA Arzberg 46.55 52 *epP* **P 01 15 38.9 +1.5**
comp=Z,8.6nm,1.9s
CONA Conrad Observa 46.78 51 *epP* **P 01 15 40.9 +1.6**
comp=Z,5.0nm,1.6s
OSTC Ostas 47.07 48 *eP* **P 01 15 43.2 +1.7**
KRLC Kraliky 47.42 48 *eP* **P 01 15 45.2 +1.0**
WMOK Wichita Mounta 47.71 291 P **P 01 15 47.2 +0.5**
WMOK IAmb IAmb 01 15 51.2
comp=Z,6.2nm,0.9s
ABTX Abilene, Hawle 48.87 288 IAmb IAmb 01 16 00.7
comp=Z,11nm,1.1s
JCT Junction City 49.55 286 P **P 01 16 00.5 -0.4**
SIV San Ignacio 49.82 205 LR LR 01 35 07.5
comp=Z,105nm,19.0s,baz=102,slow=34
DIVS Divibare 49.85 56 P **P 01 16 02.3 -0.8**
LPAZ La Paz 53.00 212 LR LR 01 37 42.5
comp=Z,108nm,19.7s,baz=7.0,slow=35
BUR08 Bucovina Ar. S 53.08 51 P **P 01 16 27.3 +0.1**
BUR08 IAmb IAmb 01 16 32.6
comp=Z,24nm,1.8s
TXAR Lajitas Array 53.09 285 P **P 01 16 25.6 -1.9**
comp=Z,1.1nm,0.9s,baz=99,slow=9.0,SNR=7.5
TX31 Lajitas Ar. Si 53.09 285 IAmb IAmb 01 16 32.1
comp=Z,12nm,1.1s
BURAR Bucovina Array 53.09 51 P **P 01 16 28.6 +1.2**
FINES FINESS Array B 53.17 34 LR LR 01 35 46.2
comp=Z,64nm,18.2s,baz=268,slow=32
MLR Muntele Rosu 53.88 54 P **P 01 16 33.5 +0.3**
BNM Barren Site 54.15 292 P **P 01 16 35.1 -0.3**
BW06 Boulder Array 54.45 303 P **P 01 16 36.0 -1.6**
BW06 IAmb IAmb 01 16 42.0
comp=Z,8.4nm,0.9s
PD31 Pinedale Array 54.45 303 P **P 01 16 35.8 -1.7**
PD31 IAmb IAmb 01 16 42.0
comp=Z,7.2nm,0.8s
PDAR Pinedale Array 54.45 303 P **P 01 16 35.0 -2.6**
comp=Z,2.3nm,0.7s,baz=86,slow=8.2,SNR=18
PDAR LR LR 01 38 51.1
comp=Z,370nm,18.8s,baz=103,slow=35
YMP Mirror Lake Pl 54.53 306 P **P 01 16 37.8 -0.4**
PV22 Blue Mesa, Par 54.76 298 P **P 01 16 40.6 +0.8**
IMW Indian Meadow 55.23 305 IAmb IAmb 01 16 48.4
comp=Z,6.0nm,0.9s
REDW Red Top Meadow 55.27 304 IAmb IAmb 01 16 48.3
comp=Z,5.2nm,1.0s
TPAW Teton Pass 55.32 304 P **P 01 16 44.8 +0.9**
TPAW IAmb IAmb 01 16 49.4
comp=Z,8.4nm,1.1s
AKASG Malin Array Be 55.33 47 P **P 01 16 42.0 -1.4**
comp=Z,1.1nm,0.5s,baz=272,slow=6.2,SNR=9.6
AKASG LR LR 01 38 45.4
comp=Z,103nm,18.4s,baz=260,slow=34
YKA Yellowknife Ar 55.59 327 LR LR 01 40 22.7
comp=Z,200nm,18.5s,baz=0.0,slow=36
DLMT Dillon 56.12 307 IAmb IAmb 01 16 55.2
comp=Z,6.6nm,1.1s
HWUT Hardware Ranch 56.15 302 IAmb IAmb 01 16 55.0
comp=Z,6.9nm,0.9s
DUG Dugway, Tooele 57.40 301 P **P 01 16 59.0 +0.4**
DUG IAmb IAmb 01 17 03.8
comp=Z,7.0nm,1.0s
NEW Newport 58.60 311 IAmb IAmb 01 17 11.5
comp=Z,7.1nm,0.9s
MFID Camas Ranch 58.80 305 IAmb IAmb 01 17 13.6
comp=Z,8.5nm,1.0s
KLMR Klimovskoe 59.70 34 *eP* **P 01 17 14.6 +0.6**
KLMR AMP 01 17 20.2
comp=Z,14nm,1.2s
BRTR Keskin Array B 60.69 59 P **P 01 17 20.8 -0.6**
comp=Z,1.3nm,0.9s,baz=232,slow=7.1,SNR=2.0
BRTR LR LR 01 43 16.9
comp=Z,29nm,18.2s,baz=301,slow=36
BRTR Keskin Array B 60.69 59 P **P 01 17 21.3 -0.1**
TPNV Topopah Spring 60.88 298 P **P 01 17 23.8 +1.0**
LTY Liberty 61.16 310 IAmb IAmb 01 17 29.3
comp=Z,6.3nm,1.0s
KVN Kaiserville 61.64 301 P **P 01 17 27.5 -0.4**
KVN IAmb IAmb 01 17 32.6
comp=Z,6.7nm,1.1s
NVAR Mina Array Bea 61.98 300 P **P 01 17 28.4 -1.8**
comp=Z,2.1nm,0.8s,baz=75,slow=6.1,SNR=6.0
NVAR LR LR 01 43 18.2
comp=Z,341nm,19.6s,baz=74,slow=35
NVAR Mina Array Bea 61.98 300 P **P 01 17 28.9 -1.4**
PAHR Pah Rah Range 62.39 302 IAmb IAmb 01 17 37.7
comp=Z,5.4nm,0.9s
K05A Summer Lake 62.56 305 P **P 01 17 34.4 +0.3**
INK Inuvik 62.71 335 LR LR 01 44 26.2
comp=Z,152nm,18.1s,baz=50,slow=36
MDPB Devils Postpil 62.81 299 IAmb IAmb 01 17 41.1
comp=Z,5.1nm,1.2s
CO02 Combarbal 67.36 207 P **P 01 18 05.4 +0.3**
BCAR Beaver Creek A 67.62 331 P **P 01 18 06.9 +0.6**
IL31 68.94 334 IAmb IAmb 01 18 16.2
comp=Z,7.8nm,1.2s
ILAR Eielson Array 68.94 334 P **P 01 18 13.2 -1.4**
comp=Z,2.8nm,0.9s,baz=63,slow=4.6,SNR=17
ILAR LR LR 01 47 56.9
comp=Z,158nm,19.6s,baz=100,slow=36
ILAR Eielson Array 68.94 334 P **P 01 18 14.8 +0.3**
CCB Clear Creek Bu 69.35 334 P **P 01 18 17.8 +0.8**
ABKAR Akbulak array 74.51 42 P **P 01 18 48.5 +0.1**
PLCA Paso Flores 75.73 202 LR LR 01 52 02.3
comp=Z,47nm,19.0s,baz=340,slow=36
BRVK Borovoye 78.04 35 P **P 01 19 08.7 +0.4**
BRVK IAmb IAmb 01 19 11.2
comp=Z,8.8nm,1.5s
KMBO Kilima Mbogo 81.07 97 LR LR 01 54 37.2
comp=Z,214nm,19.5s,baz=285,slow=35
KURK Kurchatov 83.54 34 P **P 01 19 37.5 -0.3**
KURK IAmb IAmb 01 19 40.5
comp=Z,7.1nm,1.4s
ZALV Zalesovo Beam 84.07 29 P **P 01 19 40.4 0.0**
comp=Z,0.9nm,0.8s,baz=297,slow=4.7,SNR=5.8
ZALV LR LR 01 56 27.6
comp=Z,47nm,18.6s,baz=74,slow=35
ZALV Zalesovo Beam 84.07 29 P **P 01 19 40.6 +0.2**
CHGR Chuyangaron 85.81 47 P **P 01 19 48.7 -0.9**
BOSA Boshof 86.77 126 LR LR 01 51 44.9
comp=Z,57nm,20.8s,baz=323,slow=31
MKAR Makanchi Array 87.99 35 P **P 01 20 00.8 +0.8**
comp=Z,2.2nm,1.2s,baz=325,slow=2.3,SNR=5.0
MKAR Makanchi Array 87.99 35 P **P 01 19 60.0 -0.1**
PETK Petropavlovsk- 95.05 348 LR LR 02 06 00.2
comp=Z,28nm,20.9s,baz=61,slow=37

DJA 30 01:21:39.1±0.6, 3°S±6°×12°E±°, h19km±10km, M3.8/7, mb4.2/1, MLv3.6/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.45**	**217**	P	Pb	01 21 49.2	+0.7
NLAI				S	Sn	01 21 56.8	-1.3
SANI	**Sanana**	**1.61**	**301**	P	Pn	01 22 07.0	+0.5
MSAI	**Masohi**	**1.62**	**107**	P	Pb	01 22 08.5	0.0
MSAI				S	Sg	01 22 35.0	+3.4

IDC 30 01:33:49.7±1.7, 30°19N×42°03W, h0km, mb3.6/7, mb1 4.0/7, mb1mx3.7/41, mbtmp3.6/7, MS3.6/17, Ms1 3.7/17, ms1mx3.5/30, Error ellipse: s-maj=62.5km s-min=21.7km az=6.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**26.89**	**204**	LR	LR	01 46 31.9	
	comp=Z,21nm,20.4s,baz=54,slow=28						
SCHQ	**Schefferville**	**30.36**	**331**	LR	LR	01 51 20.7	
	comp=Z,155nm,18.6s,baz=217,slow=35						
ESDC	**Sonseca Array**	**32.41**	**63**	P	P	01 40 19.4	-2.0
	0.5nm,1.0s,baz=273,slow=8.9,SNR=2.5						
ESDC				LR	LR	01 50 18.9	
	comp=Z,77nm,20.7s,baz=215,slow=30						
ROSC	**El Rosal**	**39.53**	**237**	LR	LR	01 56 44.5	
	comp=Z,43nm,20.9s,baz=62,slow=35						
DBIC	**Dimbokro**	**42.01**	**116**	LR	LR	01 56 22.3	
	comp=Z,125nm,21.8s,baz=300,slow=32						
KEST	**Kesra**	**43.06**	**69**	LR	LR	01 57 09.4	
	comp=Z,60nm,19.5s,baz=256,slow=32						
TORD	**Torodi Ar. Bea**	**43.73**	**103**	P	P	01 41 57.1	+0.1
	0.9nm,1.0s,baz=307,slow=8.1,SNR=3.5						
TORD				LR	LR	01 58 32.0	
	comp=Z,79nm,19.9s,baz=285,slow=34						
ULM	**Lac du Bonnet**	**44.64**	**312**	LR	LR	01 58 18.9	
	comp=Z,47nm,19.8s,baz=3.0,slow=33						
GERES	**GERESS Array B**	**45.76**	**50**	P	P	01 42 14.2	+1.2
	0.5nm,0.8s,baz=263,slow=5.8,SNR=4.0						
H10N2	**ASCENSION HYDR**	**46.14**	**141**	T	T	02 31 41.2	
	baz=327,slow=75						
H10N3	**ASCENSION HYDR**	**46.14**	**141**	T	T	02 31 41.4	
	baz=327,slow=75						
H10N1	**ASCENSION HYDR**	**46.16**	**141**	T	T	02 31 42.6	
	baz=327,slow=75						
NOA	**NORSAR Array B**	**46.43**	**33**	LR	LR	01 59 00.7	
	comp=Z,18nm,18.4s,baz=250,slow=32						
LPAZ	**La Paz**	**52.61**	**212**	LR	LR	02 04 26.7	
	comp=Z,53nm,19.1s,baz=13,slow=35						
TXAR	**Lajitas Array**	**52.91**	**286**	P	P	01 43 08.4	+0.5
	0.8nm,0.9s,baz=80,slow=10,SNR=5.8						
PDAR	**Pinedale Array**	**54.39**	**303**	P	P	01 43 17.4	-1.4
	1.4nm,0.9s,baz=84,slow=8.3,SNR=8.8						
PDAR				LR	LR	02 05 24.6	
	comp=Z,208nm,18.6s,baz=116,slow=35						
YKA	**Yellowknife Ar**	**55.70**	**328**	LR	LR	02 06 55.1	
	comp=Z,90nm,18.4s,baz=0.0,slow=36						
AKASG	**Malin Array Be**	**55.73**	**47**	LR	LR	02 05 08.5	
	comp=Z,53nm,18.2s,baz=320,slow=34						
NVAR	**Mina Array Bea**	**61.90**	**300**	P	P	01 44 11.6	+0.2
	0.5nm,0.7s,baz=76,slow=7.5,SNR=4.2						
NVAR				LR	LR	02 10 11.2	
	comp=Z,151nm,18.7s,baz=62,slow=35						
ILAR	**Eielson Array**	**69.09**	**334**	P	P	01 44 57.8	+0.6
	0.9nm,0.8s,baz=49,slow=4.4,SNR=7.0						
ILAR				LR	LR	02 14 60.0	
	comp=Z,99nm,19.1s,baz=95,slow=36						
KMBO	**Kilima Mbogo**	**81.30**	**96**	LR	LR	02 21 49.4	
	comp=Z,97nm,18.4s,baz=278,slow=35						
BOSA	**Boshof**	**86.81**	**126**	LR	LR	02 22 01.3	
	comp=Z,32nm,18.6s,baz=281,slow=33						

OMAN 30 02:04:21.4±1.7, 25°97N×63°54E, h33km, mb4.8/9, ml3.3/3, Error ellipse: s-maj=37.9km s-min=9.0km az=78.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**5.23**	**240**	P	Pn	02 05 36.4	-0.9
WSAR				S	Sn	02 06 35.6	-0.8
WBK	**Wadi Bani Khal**	**5.34**	**232**	P	Pn	02 05 37.7	-1.2
	SNR=7.6						
WBK				S	Sn	02 06 40.8	+1.5
JLN	**Jalan Bani Buh**	**5.36**	**226**	P	Pn	02 05 37.3	-1.7
JLN				S	Sn	02 06 41.3	+1.8
SMDO	**Samad**	**5.78**	**241**	P	Pn	02 05 45.0	+0.1
JMDO	**Jabal Madar**	**6.12**	**235**	P	Pn	02 05 50.4	+0.9
JMDO				S	Sn	02 06 58.9	+0.4
HOQ	**Hoqain**	**6.14**	**249**	P	Pn	02 05 49.1	-0.7
BANOM	**Banah**	**6.51**	**271**	P	Pn	02 05 55.4	+0.4
MDH	**Madha**	**6.57**	**266**	P	Pn	02 05 55.4	-0.2
BSY	**Bisya**	**6.61**	**242**	P	Pn	02 05 57.7	+1.4
	SNR=14						
UOSS	**Minazif**	**6.71**	**263**	P	Pn	02 05 56.8	-0.7
UOSS				S	Sn	02 07 14.1	+1.3
ASHO	**Ashiyiah**	**6.89**	**261**	P	Pn	02 06 01.1	+1.0
ARQ	**Araqi**	**6.90**	**249**	P	Pn	02 06 02.5	+2.3
MHTO	**MHTO**	**7.12**	**227**	P	Pn	02 06 04.7	+1.4
MHTO				S	Sn	02 07 23.5	+0.4

IDC ***30*** *02:13:45.1±1.1, 7°65S×128°45E, h0km, mb3.9/5, mb1 4.1/9, mb1mx3.9/28, mbtmp4.0/9, ML4.1/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=38.9km s-min=19.2km az=67.0*

ISC 30 02:13:59.9±1.0, 8°38S±0°08×128°16E±0°09, h150km, n9, σ2°77/13, mb3.8/5, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.79**	**247**	Pn	**Pn**	**02 15 07.9**	**-2.8**
	2.9nm,0.3s,baz=117,slow=8.6,SNR=1.5						
BATI				Sn	**Sn**	**02 16 07.8**	**+2.0**
	11nm,0.3s,baz=94,slow=23,SNR=7.0						
FITZ	**Fitzroy Crossi**	**9.97**	**194**	Pn	**Pn**	**02 16 19.9**	**+0.5**
	1.3nm,0.3s,baz=1.2,slow=10,SNR=41						
FITZ				Sn	**Sn**	**02 18 10.2**	**+0.2**
	2.9nm,0.3s,baz=180,slow=22,SNR=5.6						
WRA	**Warramunga Arr**	**12.96**	**153**	Pn	**Pn**	**02 16 56.9**	**-1.7**
	1.1nm,0.3s,baz=324,slow=14,SNR=48						
WRA				Sn	**Sn**	**02 19 17.7**	**-4.4**
	2.0nm,0.3s,baz=320,slow=24,SNR=13						
WRA				LR	LR	02 22 13.6	
	comp=Z,62nm,21.0s,baz=140,slow=38						
ASAR	**Alice Springs**	**16.17**	**161**	Pn	**Pn**	**02 17 40.9**	**+1.8**
	0.9nm,0.3s,baz=330,slow=9.5,SNR=34						
ASAR				Sn	**S**	**02 20 37.1**	**-1.5**
	1.1nm,0.3s,baz=314,slow=17,SNR=8.8						
CTA	**Charters Tower**	**21.02**	**126**	P	**P**	**02 18 34.0**	**+2.1**
	4.4nm,0.8s,baz=308,slow=14,SNR=2.5						
STKA	**Stephens Creek**	**26.51**	**154**	P	**P**	**02 19 29.1**	**+5.6**
	1.6nm,0.5s,baz=349,slow=9.4,SNR=6.1						
SONM	**Songino Array**	**59.19**	**343**	P	**P**	**02 23 44.8**	**-0.4**
	0.7nm,0.6s,baz=152,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**68.40**	**328**	P	**P**	**02 24 46.0**	**+0.6**
	0.3nm,0.5s,baz=135,slow=8.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**72.03**	**335**	P	**P**	**02 25 06.1**	**-1.1**
	0.7nm,0.5s,baz=125,slow=7.6,SNR=2.4						

TUL ***30*** *03:01:25.9±0.9, 36°224N±0°007×97°55W±0°02, h2km±5km, ML3.9, mb3.5/2(NEIC), Mwr4.0/75(NEIC), Error ellipse: s-maj=2.8km s-min=0.3km az=71.0*
UNK ***30*** *03:01:25.9, 36°22N×97°55W, h2km*
NEIC ***30*** *03:01:25.9, 36°22N×97°55W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.09; $M_{\theta\theta}$1.18; $M_{\phi\phi}$-1.10; $M_{r\theta}$-0.30; $M_{\theta\phi}$0.65; $M_{\phi r}$0.35; Fault plane solution: $M_0$1.39000×10^{15} NP1:ϕ_s211.37000°, δ71.48000°, λ-173.08000°. NP2:ϕ_s119.16000°, δ83.44000°, λ-18.65000°. Principal axes: T 1.3831, Plg8.0000°, Azm167.0000°; N 0.0178, Plg70.0000°, Azm280.0000°; P -1.4009, Plg18.0000°, Azm74.0000°;*
IDC ***30*** *03:01:26.0±0.8, 36°26N×97°60W, h0km, mb3.6/2, mb1 3.9/9, mb1mx3.7/42, mbtmp3.7/9, ML3.6/7, MS3.4/13, Ms1 3.4/13, ms1mx3.1/40 Error ellipse: s-maj=12.0km s-min=9.2km az=126.0*
ANF ***30*** *03:01:27.7±0.9, 36°26N×97°53W, h21km±7km, ML5.2/17, Error ellipse: s-maj=2.4km s-min=2.0km az=147.0*

ISC 30 03:01:26.1±0.9, 36°23N±0°02×97°55W±0°03, h12km±7km, n256, σ1°00/274, MS3.5/6, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.44**	**308**		**Pg**	**03 01 34.8**	**0.0**
CROK				Sg	**Sg**	**03 01 41.5**	**+0.8**
OK029	**Liberty Lake**	**0.44**	**170**		**Pg**	**03 01 34.7**	**-0.2**
OK029				Sg	**Sg**	**03 01 41.0**	**+0.2**
BCOK	**Bluff Creek, N**	**0.58**	**185**		**Pg**	**03 01 37.1**	**-0.3**
BCOK				Sg	**Sg**	**03 01 45.2**	**+0.1**
OK005	**Luther M Schoo**	**0.65**	**153**		**Pg**	**03 01 38.5**	**-0.2**
OK005				Sg	**Sg**	**03 01 47.2**	**-0.1**
OK009	**Oakdale Elemen**	**0.66**	**171**		**Pg**	**03 01 38.4**	**-0.6**
OK009				Sg	**Sg**	**03 01 48.1**	**+0.4**
OK025	**Westminster Rd**	**0.68**	**165**		**Pg**	**03 01 39.0**	**-0.3**
OK025				Sg	**Sg**	**03 01 48.1**	**0.0**
QUOK	**Quay**	**0.69**	**95**		**Pg**	**03 01 39.5**	**0.0**
QUOK				Sg	**Sg**	**03 01 49.0**	**+0.4**
OK001	**Jones High Sch**	**0.70**	**162**	Pg	**Pg**	**03 01 40.0**	**+0.2**
OK001				Sg	**Sg**	**03 01 49.7**	**+0.6**
KAN13	**South Haven SW**	**0.78**	**4**		**Pg**	**03 01 41.2**	**0.0**
KAN13				Sg	**Sg**	**03 01 52.2**	**+0.7**
OKCFA	**Oklahoma City**	**0.82**	**174**		**Pg**	**03 01 41.5**	**-0.5**
OKCFA				Sg	**Sg**	**03 01 53.0**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.83**	**173**		**Pg**	**03 01 41.6**	**-0.6**
OKCSW				Sg	**Sg**	**03 01 52.7**	**-0.4**
FNO	**Franklin**	**0.98**	**173**	Pg	**Pg**	**03 01 44.9**	**-0.2**
FNO				Sg	**Sg**	**03 01 58.1**	**+0.2**
KAN10	**Anthony SW Sta**	**0.99**	**334**		**Pg**	**03 01 44.9**	**-0.3**
OK011	**Prague**	**1.03**	**136**		**Pb**	**03 01 45.5**	**-0.3**
OK011				Sg	**Sg**	**03 01 59.3**	**0.0**
T35A	**Sooner Cattle**	**1.08**	**51**	Pg	**Pb**	**03 01 46.7**	**0.0**
KAN12	**Harper NE Stat**	**1.12**	**342**		**Pb**	**03 01 47.4**	**0.0**
KAN12				Sg	**Sb**	**03 02 02.8**	**+0.8**
U32A	**Winter Ranch,**	**1.18**	**277**		**Pn**	**03 01 48.0**	**-0.4**
U32A				Sg	**Sb**	**03 02 04.4**	**+0.8**
W35A	**Tecumseh**	**1.21**	**153**		**Pn**	**03 01 48.3**	**-0.6**
W35A				Sg	**Sb**	**03 02 04.8**	**+0.2**
TUL1	**Leonard**	**1.46**	**102**	P	**Pn**	**03 01 52.6**	**+0.3**
	baz=283,SNR=1000						
TUL1				S	**Sb**	**03 02 12.8**	**+1.0**
	baz=283						
TUL1	**Leonard**	**1.46**	**102**	Pn	**Pn**	**03 01 52.7**	**+0.4**
TUL1				Sn	**Sg**	**03 02 13.2**	**-0.1**
X34A	**Smith Ranch, M**	**1.65**	**188**		**Pn**	**03 01 56.3**	**+1.5**
WMOK	**Wichita Mounta**	**1.80**	**214**	P	**Pn**	**03 01 57.8**	**+0.8**
	baz=34,SNR=205						
WMOK				S	**Sb**	**03 02 22.0**	**+0.5**
	baz=34						
WMOK	**Wichita Mounta**	**1.80**	**214**	Pn	**Pn**	**03 01 57.7**	**+0.8**
R32A	**Long Quarter,**	**2.37**	**337**		**Pn**	**03 02 06.0**	**+1.1**
X37A	**Clayton**	**2.42**	**132**		**Pn**	**03 02 07.0**	**+1.5**
U36A	**Gravette**	**2.57**	**84**		**Pn**	**03 02 08.4**	**+0.9**
Z35A	**Perchaven, San**	**2.91**	**175**		**Pn**	**03 02 13.1**	**+0.9**
HHAR	**Hobbs**	**2.92**	**88**		**Pn**	**03 02 13.3**	**+0.9**
KSU1	**Kansas State U**	**2.96**	**14**	P	**Pn**	**03 02 14.3**	**+1.4**
	baz=195,SNR=25						
KSU1	**Kansas State U**	**2.96**	**14**	Pn	**Pn**	**03 02 13.8**	**+1.0**
CBKS	**Cedar Bluff**	**3.11**	**327**	P	**Pn**	**03 02 15.8**	**+0.9**
	baz=146,SNR=38						
CBKS	**Cedar Bluff**	**3.11**	**327**	Pn	**Pn**	**03 02 15.9**	**+0.9**
W39A	**Magazine**	**3.24**	**108**	P	**Pn**	**03 02 17.8**	**+1.1**
	baz=290,SNR=35						
W39A	**Magazine**	**3.24**	**108**		**Pn**	**03 02 17.5**	**+0.8**
AMTX	**Amarillo**	**3.62**	**249**	P	**Pn**	**03 02 23.8**	**+1.7**
	baz=67						
AMTX	**Amarillo**	**3.62**	**249**	Pn	**Pn**	**03 02 22.7**	**+0.6**
Z38A	**Mt. Pleasant**	**3.64**	**144**		**Pn**	**03 02 23.1**	**+0.8**
MIAR	**Mount Ida**	**3.66**	**116**	P	**Pn**	**03 02 24.1**	**+1.6**
	baz=298,SNR=40						
MIAR				S	**Sn**	**03 03 06.5**	**+0.9**
	baz=298						
MIAR	**Mount Ida**	**3.66**	**116**	Pn	**Pn**	**03 02 23.3**	**+0.8**
S39A	**Bolivar**	**3.69**	**66**		**Pn**	**03 02 23.8**	**+0.9**
U40A	**Yellville**	**3.80**	**87**	P	**Pn**	**03 02 25.1**	**+0.7**
	baz=269,SNR=33						
U40A	**Yellville**	**3.80**	**87**	Pn	**Pn**	**03 02 25.1**	**+0.7**
ABTX	**Abilene, Hawle**	**3.99**	**206**	P	**Pn**	**03 02 28.1**	**+1.0**
	baz=25						
ABTX				S	**Sn**	**03 03 15.1**	**+1.2**
	baz=25						
ABTX	**Abilene, Hawle**	**3.99**	**206**	Pn	**Pn**	**03 02 28.1**	**+1.0**
X40A	**Basin Creek Fa**	**4.23**	**113**	P	**Pn**	**03 02 32.3**	**+1.9**
	baz=296,SNR=18						
X40A				S	**Sn**	**03 03 21.3**	**+1.6**
	baz=296						
X40A	**Basin Creek Fa**	**4.23**	**113**	Pn	**Pn**	**03 02 31.2**	**+0.8**
WHTX	**Lake Whitney,**	**4.23**	**179**	P	**Pn**	**03 02 31.4**	**+1.0**
	baz=359,SNR=5.7						
WHTX				S	**Sn**	**03 03 21.1**	**+1.3**
	baz=359						
WHTX	**Lake Whitney,**	**4.23**	**179**	Pn	**Pn**	**03 02 31.3**	**+0.9**
MGMO	**Mountain Grove**	**4.34**	**76**		**Pn**	**03 02 32.8**	**+0.8**
WHAR	**Wooly Hollow**	**4.38**	**101**		**Pn**	**03 02 33.3**	**+0.8**
FCAR	**Ozark Folk Cen**	**4.41**	**93**		**Pn**	**03 02 33.6**	**+0.8**
W41B	**Gary Mavity, V**	**4.45**	**102**	P	**Pn**	**03 02 34.0**	**+0.7**
	ba

baz=333
NATX Nacogdoches 5.07 151 Pn 03 02 42.6 +0.7
LCAR Lake Charles 5.18 90 Pn Pn 03 02 44.1 +0.7
BGNE Belgrade 5.19 355 P Pn 03 02 44.2 +0.7
baz=175,SNR=19
BGNE S Sn 03 03 43.0 -0.4
baz=175
BGNE Belgrade 5.19 355 Pn Pn 03 02 44.3 +0.7
T42A Van Buren 5.26 79 Pn 03 02 45.3 +0.9
CCAR Cane Creek 5.27 114 Pn 03 02 45.6 +0.9
CCM Cathedral Cave 5.36 68 P Pn 03 02 46.6 +0.7
baz=252
CCM Cathedral Cave 5.36 68 Pn Pn 03 02 46.6 +0.7
435B Jarrell 5.44 180 P Pn 03 02 47.8 +0.8
baz=0.3,SNR=7.5
435B Jarrell 5.44 180 Pn 03 02 47.7 +0.7
P40A Paris 5.46 51 Pn 03 02 48.0 +0.8
T25A Trinidad 5.58 281 P Pn 03 02 49.8 +0.6
baz=97
T25A Trinidad 5.58 281 Pn Pn 03 02 49.8 +0.6
HBAR Harrisburg 5.64 95 Pn Pn 03 02 50.5 +0.8
N38A Joes South For 5.67 35 Pn Pn 03 02 50.5 +0.4
PBMO Poplar Bluff 5.76 82 Pn 03 02 52.3 +0.9
LPAR Lepanto 5.92 94 Pn Pn 03 02 52.7 -0.9
JCT Junction City 6.04 199 P Pn 03 02 56.3 +1.0
baz=18
GNAR Gosnell 6.11 90 Pn Pn 03 02 56.7 +0.5
PEBM Pemiscott Bayo 6.22 89 Pn Pn 03 02 57.8 +0.1
SLM Saint Louis 6.30 65 Pn 03 02 59.5 +0.8
SLM Sn 03 04 09.2 -1.3
PARMO Parma 6.30 84 Pn Pn 03 02 59.7 +0.8
PENMO Penman 6.40 86 Pn Pn 03 03 02.7 +2.5
HKT Hockley 6.43 167 Pn Pn 03 03 01.4 +0.9
K31A O'Neill 6.45 352 Pn Pn 03 03 01.6 +0.7
342A Flagon Creek P 6.51 137 Pn Pn 03 03 02.4 +0.7
LNXT Lenox 6.52 89 Pn Pn 03 03 02.7 +0.8
SDCO Great Sand Dun 6.54 286 P Pn 03 03 04.0 +1.7
baz=101,SNR=14
SDCO Great Sand Dun 6.54 286 Pn 03 03 02.8 +0.5
CLNB Carlsbad 6.56 235 Pn Pn 03 03 03.4 +0.9
441A DeRidder 6.57 145 Pn 03 03 03.3 +0.8
SCIA State Center 6.59 29 P Pn 03 03 03.7 +0.9
baz=212
SCIA State Center 6.59 29 Pn 03 03 03.7 +0.9
Q24A Divide 6.62 297 P Pn 03 03 04.1 +0.7
baz=112
Q24A Divide 6.62 297 Pn 03 03 04.0 +0.5
HALT Halls 6.66 90 Pn Pn 03 03 04.4 +0.6
GLAT Glass 6.68 87 Pn Pn 03 03 04.8 +0.8
S44A Carbondale 6.80 75 Pn 03 03 06.5 +0.8
OXF Oxford 6.87 102 P Pn 03 03 06.0 -0.7
baz=287,SNR=14
OXF Oxford 6.87 102 Pn 03 03 06.2 -0.5
W45A Hickory Valley 6.89 97 Pn 03 03 07.6 +0.6
N41A Harden Midland 6.89 48 Pn Pn 03 03 06.9 -0.1
Y45A Yeager Farm, C 6.98 107 Pn 03 03 08.8 +0.7
P43A Skaggs, Pawnee 7.20 59 Pn 03 03 12.0 +0.8
T45A Paducah 7.21 81 Sn 03 04 34.5 +1.5
Q44A Meyer Farm, Va 7.28 66 Pn Pn 03 03 13.0 +0.7
ISCO Idaho Springs 7.29 302 P Pn 03 03 13.2 +0.5
baz=117,SNR=8.6
ISCO Idaho Springs 7.29 302 Pn Pn 03 03 13.2 +0.5
ANMO Albuquerque 7.37 263 Pn Pn 03 03 14.2 +0.5
K38A Parkersburg 7.39 29 Pn 03 03 14.8 +0.9
344A Westbrook Farm 7.41 128 Pn Pn 03 03 14.8 +0.7
ECSD EROS Data Cent 7.53 5 P Pn 03 03 15.2 -0.4
baz=186,SNR=11
ECSD EROS Data Cent 7.53 5 Pn 03 03 15.3 -0.3
S22A 4UR Ranch, Cre 7.58 284 Pn Pn 03 03 17.1 +0.5
L40A Anamosa 7.62 38 Pn 03 03 17.7 +0.8
HDIL Hopedale 7.79 54 P Pn 03 03 19.0 -0.3
baz=239,SNR=12
HDIL Hopedale 7.79 54 Pn Pn 03 03 19.8 +0.6
PLAL Pickwick Lake 7.82 96 Pn 03 03 20.3 +0.6
WVT Waverly 7.86 88 P Pn 03 03 20.6 +0.3
baz=274
WVT Waverly 7.86 88 Pn Pn 03 03 20.8 +0.6
OLIL Olney 7.92 69 Pn Pn 03 03 21.7 +0.7
MNTX Cornudas Mount 7.92 237 P Pn 03 03 21.3 +0.2
baz=53,SNR=10
MNTX Cornudas Mount 7.92 237 Pn Pn 03 03 21.7 +0.6
Y22D IRIS PASSCAL I 7.97 257 Pn Pn 03 03 22.5 +0.6
PHWY Pilot Hill 7.98 312 Pn 03 03 22.5 +0.4
LENM Lemitar 7.98 258 Pn Pn 03 03 22.4 +0.3
833A Chaparral WMA, 8.04 192 P Pn 03 03 23.4 +0.7
baz=11
N23A Red Feather La 8.05 308 P Pn 03 03 24.7 +1.6
baz=123,SNR=17
N23A Red Feather La 8.05 308 Pn Pn 03 03 23.5 +0.4
USIN University of 8.09 75 Pn Pn 03 03 23.9 +0.6
O44A Mansfield 8.15 59 Pn 03 03 24.9 +0.6
SUSD Miller 8.27 353 P Pn 03 03 25.6 -0.3
baz=172
Z47A Carrollton 8.37 108 Pn Pn 03 03 28.0 +0.7
L42A Oliver, Polo 8.41 44 Pn Pn 03 03 28.2 +0.5
T47A Sharon Grove 8.44 82 Pn Pn 03 03 28.7 +0.6
TXAR Lajitas Array 8.59 219 Pn Pn 03 03 29.8 -0.6
0.4nm,0.3s,baz=41,slow=11,SNR=30
TXAR Pg Pg 03 03 52.6 -18
1.2nm,0.3s,baz=36,slow=12,SNR=6.5
TXAR Sn Sn 03 05 05.0 -2.2
2.4nm,0.3s,baz=43,slow=45,SNR=1.3
TXAR Lg Lg 03 05 53.5
7.4nm,0.3s,baz=45,slow=26,SNR=8.8
TXAR Lajitas Array 8.59 219 Pn Pn 03 03 30.6 +0.2
TX31 Lajitas Ar. Si 8.59 219 Pn Pn 03 03 30.5 +0.1
TX32 Lajitas Array 8.59 219 Pn 03 03 30.8 +0.4
JFWS Jewell Farm 8.73 38 P Pn 03 03 32.1 -0.1
baz=222
JFWS Jewell Farm 8.73 38 Pn 03 03 32.8 +0.6
P46A Rosedale 8.85 64 Pn Pn 03 03 34.0 +0.2
CLTN Cedars of Leba 9.08 88 Pn 03 03 37.3 +0.4
WCI Wyandotte Cave 9.20 74 P Pn 03 03 39.6 +1.0
baz=261
WCI Wyandotte Cave 9.20 74 Pn Pn 03 03 39.0 +0.4
SFIN Lafayette 9.20 60 P Pn 03 03 38.5 -0.1
baz=246,SNR=7.4
SFIN Lafayette 9.20 60 Pn 03 03 39.0 +0.4
BLO Bloomington 9.22 68 Pn 03 03 39.4 +0.5
LRAL Lakeview Retre 9.26 107 P Pn 03 03 40.0 +0.5
baz=293
LRAL Lakeview Retre 9.26 107 Pn 03 03 39.8 +0.3
RWWY Rawlins 9.28 309 Pn 03 03 40.3 +0.4
RSSD Black Hills 9.31 330 P Pn 03 03 41.0 +0.7
baz=146
RSSD Black Hills 9.31 330 Pn Pn 03 03 40.8 +0.5
I40A Norwalk 9.31 33 Pn 03 03 39.7 -0.4
K22A Casper 9.44 315 P Pn 03 03 42.7 +0.7
baz=130
K22A Casper 9.44 315 Pn 03 03 42.1 +0.1
U49A Red Boiling Sp 9.50 85 Pn 03 03 43.1 +0.4
F33A 5 Mile Ranch, 9.64 5 Pn 03 03 45.5 +0.9
SPMN Marine on St. 9.68 20 P Pn 03 03 44.7 -0.3
baz=203
SPMN Marine on St. 9.68 20 Pn Pn 03 03 45.5 +0.5
FPAL Fort Paine 9.90 96 Pn Pn 03 03 49.1 +0.9
R49A Shelbyville 10.08 75 Pn Pn 03 03 51.3 +0.6
F36A Milaca 10.09 16 Pn Pn 03 03 51.6 +0.9
P48A Milroy 10.12 68 Pn Pn 03 03 51.5 +0.3
T50A Nancy 10.25 82 Pn 03 03 53.7 +0.7
L46A Eue Claire 10.47 53 Pn 03 03 54.9 -1.1
Z51A Franklin 10.59 102 Pn 03 03 57.8 +0.1
G40A Rib Lake 10.60 29 Pn 03 03 57.4 -0.4
CPCT Cooper Cave 10.61 90 Pn Pn 03 03 58.8 +0.9
P49A Miami Univ. Ec 10.67 68 P Pn 03 03 57.5 -1.2
baz=256
P49A Miami Univ. Ec 10.67 68 Pn 03 03 57.7 -1.0
V51A Loudon 10.70 88 Pn 03 03 59.8 +0.6
R50A Paris 10.74 75 Pn 03 03 59.4 -0.3
O49A Covington 11.12 65 Pn Pn 03 04 03.8 -1.1
TKL Tuckaleechee C 11.19 89 Pn Pn 03 04 06.2 +0.4
0.3nm,0.3s,baz=276,slow=18,SNR=1.4
TKL Lg Lg 03 07 14.9
5.4nm,0.3s,baz=357,slow=19,SNR=10
TKL LR LR 03 08 24.8
comp=Z,248nm,18.4s,baz=284,slow=37
TKL Tuckaleechee C 11.19 89 Pn 03 04 06.7 +0.8
S51A Beattyville 11.26 79 Pn 03 04 07.6 +0.8
V52A Sevierville 11.31 88 Pn 03 04 08.2 +0.7
PD31 Pinedale Array 11.33 309 Pn 03 04 07.9 -0.1
PDAR Pinedale Array 11.33 309 Pn Pn 03 04 08.0 -0.1
0.2nm,0.3s,baz=123,slow=16,SNR=8.5
PDAR Pg 03 04 53.5
0.7nm,0.3s,baz=104,slow=15,SNR=7.8
PDAR Lg Lg 03 07 20.1
1.7nm,0.3s,baz=118,slow=29,SNR=5.4
PDAR LR LR 03 08 06.2
comp=Z,97nm,18.1s,baz=118,slow=36
PDAR Pinedale Array 11.33 309 Pn Pn 03 04 07.7 -0.3
Q51A Peebles 11.61 72 Pn 03 04 11.2 -0.3
L48A N Adams 11.68 57 Pn Pn 03 04 11.5 -1.0
U15A North Rim 11.89 275 Pn 03 04 15.9 +0.2
P51A Williamsport 11.91 70 Pn 03 04 15.6 0.0
T53A Wise 12.10 82 P Pn 03 04 18.0 -0.3
baz=271
AGMN Agassiz Nation 12.12 5 P Pn 03 04 16.1 -2.5
baz=186
AGMN Agassiz Nation 12.12 5 Pn Pn 03 04 15.9 -2.6
ACSO Alum Creek Sta 12.13 66 P Pn 03 04 17.2 -1.6
baz=255,SNR=10.0
ACSO Alum Creek Sta 12.13 66 Pn 03 04 17.0 -1.8
AAM Ann Arbor 12.35 56 P Pn 03 04 20.2 -1.5
baz=245
AAM Ann Arbor 12.35 56 Pn 03 04 20.3 -1.5
O51A Pataskala 12.39 67 P Pn 03 04 21.1 -1.2
baz=256,SNR=12
Q52A Bidwell 12.43 73 P Pn 03 04 21.4 -1.4
baz=262,SNR=5.5
M50A Fremont 12.43 61 Pn 03 04 22.0 -0.8
R53A Hurricane 12.60 76 P Pn 03 04 25.0 -0.2
baz=265
P52A Corning 12.64 70 P Pn 03 04 23.8 -1.9
baz=259,SNR=5.5
P52A Corning 12.64 70 Pn 03 04 24.2 -1.5
U54A Nelsons Funny 12.69 84 P Pn 03 04 25.8 -0.6
baz=273
U54A Nelsons Funny 12.69 84 Pn 03 04 26.3 -0.1
N51A Ashland 12.76 64 P Pn 03 04 26.7 -0.6
baz=253,SNR=10
N51A Ashland 12.76 64 Pn 03 04 25.8 -1.6
T54A Tazewell 12.86 82 P Pn 03 04 28.6 -0.2
baz=271
O52A Adamsville 12.96 68 P Pn 03 04 29.2 -0.8
baz=258
Q53A Leroy 12.99 74 P Pn 03 04 29.5 -0.9
baz=263,SNR=6.5
M51A Elyria 13.02 62 P Pn 03 04 30.3 -0.6
baz=252,SNR=5.9
S54A Dingess, Beckl 13.08 78 P Pn 03 04 30.9 -0.8
baz=268
S54A Dingess, Beckl 13.08 78 Pn 03 04 31.8 +0.1
DGMT Dagmar 13.17 340 Pn 03 04 30.8 -2.1
P53A Whipple 13.18 71 P Pn 03 04 31.4 -1.6
baz=261
P53A Whipple 13.18 71 Pn Pn 03 04 32.2 -0.8
R54A Victor 13.35 77 P Pn 03 04 34.6 -0.8
baz=267
O53A New Philadelph 13.45 68 P Pn 03 04 34.4 -2.4
baz=258
M52A Chesterland 13.68 62 P Pn 03 04 37.5 -2.3
baz=252
N53A Lisbon 13.86 66 P Pn 03 04 39.4 -2.9
baz=256
N53A Lisbon 13.86 66 Pn 03 04 39.8 -2.5
R55A Marlinton 14.04 76 P Pn 03 04 43.5 -1.4
baz=267
R55A Marlinton 14.04 76 Pn 03 04 43.4 -1.4
ULM Lac du Bonnet 14.06 4 Pn Pn 03 04 40.8 -4.2
0.5nm,0.3s,baz=182,slow=9.7,SNR=7.7
ULM Sn Sn 03 07 09.2 -12
1.1nm,0.3s,baz=194,slow=12,SNR=2.7
ULM Lg Lg 03 08 41.9
0.4nm,0.3s,baz=182,slow=9.2,SNR=3.8
ULM LR LR 03 10 22.4
comp=Z,162nm,19.3s,baz=175,slow=38
ULM Lac du Bonnet 14.06 4 Pn 03 04 41.6 -3.4
O54A Avella 14.07 69 Pn Pn 03 04 45.6 +0.4
PRN Pahroc Range 14.07 280 Pn Pn 03 04 46.3 +0.9
M53A WI Miller and 14.14 63 P Pn 03 04 45.3 -0.8
baz=254
M53A WI Miller and 14.14 63 Pn 03 04 45.1 -1.1
SHPR Sheep Range 14.19 276 Pn Pn 03 04 46.2 -0.9
S56A Natural Bridge 14.46 79 P Pn 03 04 50.0 -0.5
baz=270,SNR=6.3
N54A Moraine State 14.52 66 P Pn 03 04 48.3 -3.0
baz=257
ELK Elko 14.56 293 Pn P 03 04 56.9 -1.8
0.1nm,0.3s,baz=78,slow=15,SNR=1.8
R56A Bull Pasture M 14.61 76 P Pn 03 04 50.4 -2.2
baz=267
T57A Hurt 14.72 82 Pn Pn 03 04 53.6 -0.6
Q56A Snyder Ridge, 14.82 74 Pn Pn 03 04 55.9 +0.4
M54A Oil Creek Stat 14.89 64 Pn 03 04 53.4 -3.1
PFO Pinyon Flats O 15.73 266 Lg Lg 03 09 44.6
0.2nm,0.3s,baz=121,slow=2.9,SNR=1.7
PFO LR LR 03 11 33.5
comp=Z,158nm,18.4s,baz=70,slow=39
LPIG La Paz 16.35 226 LR LR 03 11 50.6
comp=Z,63nm,18.5s,baz=42,slow=38
SADO Sadowa 16.37 53 Pn Pn 03 05 13.7 -1.9
0.5nm,0.3s,baz=263,slow=12,SNR=4.5
SADO Lg Lg 03 09 53.1
1.6nm,0.3s,baz=282,slow=19,SNR=8.2
SADO LR LR 03 11 43.4
comp=Z,165nm,19.4s,baz=253,slow=38
SADO Sadowa 16.37 53 Pn 03 05 13.6 -2.1
SADO IAmb IAmb 03 05 25.9
comp=Z,7.4nm,1.0s
NVAR Mina Array Bea 16.65 284 Pn P 03 05 22.4 +0.6
comp=Z,0.1nm,0.3s,baz=92,slow=9.9,SNR=3.9
NVAR Mina Array Bea 16.65 284 Pn Pn 03 05 19.9 +0.4
TEIG Tepich 17.90 150 P P 03 05 38.8 +3.2
comp=Z,0.9nm,0.3s,baz=309,slow=13,SNR=8.3
NEW Newport 18.76 316 LR LR 03 13 08.4
comp=Z,91nm,19.0s,baz=115,slow=38
YBH Yreka Blue Hor 20.28 292 P Pn 03 06 04.1 +0.4
comp=Z,2.4nm,1.0s,baz=97,slow=4.4,SNR=4.8
YBH Yreka Blue Hor 20.28 293 P P 03 06 02.4 +0.8
YBH IAmb IAmb 03 06 11.8
comp=Z,1.1nm,0.8s
BBB Bella Bella 26.83 316 LR LR 03 17 42.6
comp=Z,78nm,19.0s,baz=72,slow=36
YKA Yellowknife Ar 28.34 343 LR LR 03 19 07.8
comp=Z,103nm,18.3s,baz=0.0,slow=38
ILAR Eielson Array 40.75 330 P P 03 09 08.2 +1.7
comp=Z,1.1nm,0.8s,baz=108,slow=7.0,SNR=16
ILAR Eielson Array 40.75 330 P P 03 09 07.1 +0.5
AFI Afiamalu 85.82 250 LR LR 03 45 29.6
comp=Z,46nm,18.6s,baz=50,slow=31
ZALV Zalesovo Beam 90.16 359 LR LR 03 57 50.8
comp=Z,22nm,19.1s,baz=52,slow=38
SONM Songino Array 93.61 344 LR LR 04 01 04.2
comp=Z,19nm,19.1s,baz=22,slow=38
KSRS Korea Array 95.44 325 LR LR 04 04 36.4
comp=Z,14nm,20.3s,baz=56,slow=40
HHC Hu-ho-hao-te 98.76 338 eP P 03 15 05.8 0.0
HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,90nm,6.2s

IDC 30 03:04:47.9±9.6, 19°.40S×177°.84W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/25, mbtmp3.9/3, Error ellipse: s-maj=420.5km s-min=41.3km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.91	261	P	P	03 13 04.6	-0.1
0.9nm,0.3s,baz=96,slow=8.4,SNR=74							
ASAR	Alice Springs	44.93	256	P	P	03 13 04.8	-0.1
1.3nm,0.5s,baz=93,slow=7.8,SNR=22							
ILAR	Eielson Array	87.22	13	P	P	03 17 35.6	0.0
0.4nm,0.8s,baz=213,slow=6.5,SNR=2.7							
AKASG	Malin Array Be	142.13	332	PKhKP	PKPpre	03 24 10.8	
0.9nm,0.4s,baz=42,slow=4.2,SNR=6.7							

*DRS **30** 03:27:16.9±0.0, 41°.56N×44°.90E, h11km*
*NORS **30** 03:27:22.3±0.0, 41°.69N×44°.82E, h4km, MPVA3.6*
*TIF **30** 03:27:22.6, 41°.73N×44°.87E, h18km*

ISC 30 03:27:23.0±0.9, 41.71N±0°.03×44.88E±0°.02, h17km±6km, n23, σ0°82/46, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTNK	Botanikuri	0.07	248	P	Pg	03 27 26.3	-0.1
BTNK				S	Sg	03 27 28.9	+0.3
KZRT	Kazreti	0.49	229	P	Pb	03 27 33.1	0.0
KZRT				S	Sb	03 27 40.7	+0.7
TRLG	Trialeti	0.61	254	P	Pb	03 27 35.6	+0.3
TRLG				S	Sb	03 27 44.2	+0.6
DMNI	Dmanisi	0.64	234	P	Pb	03 27 35.7	-0.2
DMNI				S	Sb	03 27 45.3	+0.7
PNSH	Pansheti	0.95	348	P	Pg	03 27 39.6	-1.8
PNSH				S	Sg	03 27 53.0	-1.0
LGD	Lagodekhi	1.02	83	P	Pb	03 27 42.3	0.0
LGD				S	Sn	03 27 57.2	+0.6
AKH	Akhalkalaki	1.09	254	P	Pn	03 27 43.8	+0.3
AKH				S	Sn	03 27 58.2	-0.1
LACR	Lac	1.20	339	ePg	Pn	03 27 44.6	-0.5
LACR				eSg	Sn	03 28 01.6	+0.6
ZEI	Tsey	1.30	326	ePg	Pn	03 27 46.5	-0.1
ZEI				eSg	Sb	03 28 03.3	-0.3
VLKR	Vladikavkaz	1.34	354	ePg	Pg	03 27 49.1	+0.1
VLKR				eSg	Sg	03 28 07.4	+0.9
BTLR	Botlikh	1.38	46	ePg	Pn	03 27 47.9	+0.3
13nm,0.7s							
BTLR				eSg	Sn	03 28 06.2	+0.9
41nm,0.6s							
ONI	Oni	1.38	310	P	Pb	03 27 48.2	-0.2
ONI				S	Sg	03 28 06.7	-1.0
KORR	Kora	1.50	337	ePg	Pg	03 27 51.9	-0.1
KORR				eSg	Sg	03 28 13.2	+1.6
DIGR	Digorskoe uzhe	1.53	321	ePg	Pb	03 27 50.9	-0.1
DIGR				eSg	Sg	03 28 11.3	-1.2
ARNR	Ardon	1.54	343	ePg	Pb	03 27 51.2	+0.2
ARNR				eSg	Sg	03 28 12.9	+0.3
TKB	Tkibuli	1.55	295	P	Pb	03 27 50.5	-0.7
TKB				S	Sb	03 28 10.8	+0.3
DVE	Vedeno	1.55	36	ePg	Pb	03 27 51.0	-0.3
DVE				eSg	Sb	03 28 11.1	+0.5
GROC	Groznyy	1.64	24	ePg	Pb	03 27 53.1	+0.4
GROC				eSg	Sg	03 28 16.6	+0.8
BTKR	Batakoyurt	1.68	351	ePg	Pg	03 27 54.3	-1.0
BTKR				eSg	Sg	03 28 18.3	+1.0
GNBR	Gunib	1.69	66	ePg	Pb	03 27 53.6	-0.1
16nm,0.8s							
GNBR				eSg	Sb	03 28 15.9	+1.2
37nm,0.7s							
DLMR	Dylym	1.88	43	ePg	Pg	03 27 58.0	-1.1
69nm,0.0s							
DLMR				eSg	Sg	03 28 25.0	+1.5
181nm,0.0s							
DBC	Dubki	1.95	47	ePg	Pb	03 27 58.0	-0.1
DBC				eSg	Sg	03 28 24.4	-1.4
AKT	Akhty	2.15	95	ePg	Pb	03 28 01.3	-0.2
AKT				eSg	Sg	03 28 30.2	-2.0

IDC 30 04:19:16.9±3.3, 5°.55S×152°.65E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/31, mbtmp3.7/3, Error ellipse: s-maj=70.0km s-min=20.8km az=89.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.38	333	Pn	Pb	04 19 44.1	+0.4
169nm,0.3s,baz=100,slow=2.9,SNR=32							
KRVT				Sn	Sn	04 20 02.5	+0.1
358nm,0.3s,baz=151,slow=19,SNR=8.1							
WRA	Warramunga Arr	22.85	230	P	P	04 24 22.9	+0.9
1.0nm,0.5s,baz=54,slow=9.9,SNR=11							
ASAR	Alice Springs	25.50	223	P	P	04 24 47.1	-0.2
0.9nm,0.9s,baz=57,slow=9.8,SNR=6.1							
FITZ	Fitzroy Crossi	29.18	242	P	P	04 25 19.0	-1.3
0.7nm,0.4s,baz=5.8,slow=5.5,SNR=1.8							
TORD	Torodi Ar. Bea	150.39	287	PKPbc	PKPbc	04 39 11.3	-0.2
0.4nm,0.8s,baz=99,slow=1.4,SNR=1.6							

*NEIC **30** 04:56:22.6±1.4, 8°.24S±0°.07×119°.62E±0°.08, h181km±6km, mb4.5/18, Error ellipse: s-maj=13.5km s-min=7.9km az=49.0*
*DJA **30** 04:56:22.7±0.5, 8°.5S±3°.3×12°.0E±°, h152km±7km, M4.1/12, mB5.1/1, mb4.1/2, MLv4.2/12, Mw(mB)4.4/1*
*IDC **30** 04:56:25.1±1.4, 8°.04S×119°.98E, h194km±12km, mb3.6/7, mb1 3.8/10, mb1mx3.4/47, mbtmp4.2/10, MS2.9/2, Ms1 2.9/2, ms1mx2.6/26, Error ellipse: s-maj=30.7km s-min=8.4km az=53.0*

ISC 30 04:56:21.7±0.5, 8°.34S±0°.04×119°.57E±0°.04, h170km, n52, σ1°.54/64, mb3.9/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.50	151	P	Pn	04 56 52.8	0.0
PLAI	Plampang	1.84	255	P	Pn	04 56 56.3	0.0
PLAI				S	Sn	04 57 21.6	-1.4
BASI	Baing, Sumba	2.11	152	P	Pn	04 56 59.5	+0.2
BASI				S	Sn	04 57 27.6	-0.9
EDFI	Ende, Flores	2.14	101	P	Pn	04 56 59.6	-0.1
MMRI	Maumere	2.66	96	Pn	Pn	04 57 05.5	-0.1
TWSI	Taliwang, Sumb	2.69	261	P	Pn	04 57 06.1	+0.1
TWSI				S	Sn	04 57 39.7	-0.8
BKSI	Bulukumba	3.05	10	P	Pn	04 57 11.5	+1.0
BKSI				S	Sn	04 57 48.8	+0.2
KAPI	Kappang	3.31	3	P	Pn	04 57 14.6	+0.8
4.3nm,0.3s,baz=168,slow=8.8,SNR=6.2							
KAPI				LR	LR	04 58 21.9	
comp=Z,83nm,20.7s,baz=208,slow=39							
KAPI	Kappang	3.31	3		Pn	04 57 13.7	-0.1
KAPI				Sn	Sn	04 57 52.1	-2.4
BATI	Baumata	4.44	115	P	Pn	04 57 29.8	+1.6
18nm,0.3s,baz=280,slow=6.1,SNR=6.7							
BATI				S	Sn	04 58 20.6	+0.2
33nm,0.3s,baz=321,slow=22,SNR=8.3							
BATI	Baumata	4.44	115	P	Pn	04 57 29.1	+0.9
SOEI	Soe	4.85	107	P	Pn	04 57 34.5	+0.9
SOEI	Soe	4.85	107	Pn	Pn	04 57 34.5	+0.9
SOEI					Sn	04 58 30.8	+1.0
JAGI	Jajag, Banyuwa	5.36	268	P	Pn	04 57 41.0	+0.8
JAGI	Jajag, Banyuwa	5.36	268		Pn	04 57 41.2	+1.0
FITZ	Fitzroy Crossi	11.35	149	P	Pn	04 59 00.3	+1.3
0.9nm,0.3s,baz=359,slow=9.4,SNR=45							
FITZ				S	Sn	05 00 59.1	-5.9
2.3nm,0.3s,baz=360,slow=1.6,SNR=9.6							
FITZ	Fitzroy Crossi	11.35	149	Pn	Pn	04 59 00.5	+1.4
FITZ					Sn	05 01 01.3	-3.7
KNRA	Kununurra	11.57	130	Pn	Pn	04 59 01.3	-0.6
MTN	Manton Dam	12.21	112	Pn	Pn	04 59 09.9	-0.3
GIRL	Giralia	15.11	199	P	P	04 59 51.5	+3.6
GIRL				IAmb	IAmb	04 59 51.7	
comp=Z,64nm,1.1s							
WB0	Warramunga Arr	18.30	130		Pn	05 00 23.8	-1.2
WB0				IAmb	IAmb	05 00 26.4	
comp=Z,9.3nm,0.6s							
WB0				S	S	05 03 42.0	-1.4
WRA	Warramunga Arr	18.37	130	P	Pn	05 00 24.4	-1.3
comp=Z,2.4nm,0.3s,baz=306,slow=13,SNR=55							
WRA				S	S	05 03 43.0	-1.7
comp=Z,0.6nm,0.3s,baz=307,slow=22,SNR=7.1							
WRA				ScP	ScP	05 08 05.3	-1.9
comp=Z,0.0nm,0.3s,baz=318,slow=2.3,SNR=3.0							
WRA	Warramunga Arr	18.37	130	P	Pn	05 00 24.5	-1.3
WRA					S	05 03 44.1	-0.6
WRAB	Tennant Creek	18.37	130		Pn	05 00 24.6	-1.2
WRAB				IAmb	IAmb	05 00 26.9	
comp=Z,10.0nm,0.7s							
WB2	Warramunga Arr	18.38	130	P	Pn	05 00 24.7	-1.2
WB2				IAmb	IAmb	05 00 26.9	
comp=Z,9.6nm,0.5s							
WR0	Warramunga Arr	18.53	130		Pn	05 00 26.2	-1.5
WR0				IAmb	IAmb	05 00 29.1	
comp=Z,17nm,0.6s							
AS31	Alice Springs	20.51	140	P	P	05 00 47.6	+0.9
AS31				IAmb	IAmb	05 00 51.3	
comp=Z,11nm,0.4s							
ASAR	Alice Springs	20.51	140	P	Pn	05 00 48.2	-3.0
comp=Z,16nm,0.4s,baz=313,slow=9.2,SNR=98							
ASAR				S	S	05 04 26.5	-0.6
comp=Z,2.8nm,0.8s,baz=316,slow=20,SNR=12							
ASAR				ScP	ScP	05 08 12.0	0.0
comp=Z,0.6nm,0.5s,baz=331,slow=2.3,SNR=5.7							
ASAR	Alice Springs	20.51	140	P	Pn	05 00 48.0	-3.2
ASAR					ScP	05 08 09.4	-2.6
MORW	Morawa	20.88	189	P	Pn	05 00 52.4	-3.4
IPM	Ipoh	22.46	304	P	P	05 01 05.3	-1.6
KULM	Kulim	23.23	305	P	P	05 01 13.7	-0.2
PSI	Prapat	23.38	297	LR	LR	05 10 52.2	
comp=Z,63nm,19.8s,baz=91,slow=37							

FORT	Forrest	23.69	162	P	P	05 01 18.7 +0.8
COEN	Coen	23.81	106	P	P	05 01 19.4 +0.1
COEN				IAmb	IAmb	05 01 22.2
	comp=Z,8.6nm,0.8s					
BBOO	Buckleboo	28.74	150	P	P	05 02 04.5 +1.2
STKA	Stephens Creek	31.11	142	P	P	05 02 26.5 +2.3
	comp=Z,19nm,0.4s,baz=318,slow=8.8,SNR=56					
STKA	Stephens Creek	31.11	142	P	P	05 02 24.8 +0.6
STKA				IAmb	IAmb	05 02 27.1
	comp=Z,4.1nm,0.7s					
SONM	Songino Array	57.14	349	P	P	05 05 51.0 +0.4
	comp=Z,0.5nm,0.5s,baz=172,slow=7.4,SNR=5.4					
SONM	Songino Array	57.14	349	P	P	05 05 50.0 -0.6
MKAR	Makanchi Array	64.14	332	P	P	05 06 37.7 -0.2
	comp=Z,0.6nm,0.6s,baz=140,slow=7.7,SNR=4.0					
MKAR	Makanchi Array	64.14	332	P	P	05 06 37.0 -0.8
ZALV	Zalesovo Beam	68.64	339	P	P	05 07 04.8 -1.5
	comp=Z,0.8nm,0.3s,baz=152,slow=4.6,SNR=3.6					
ZALV	Zalesovo Beam	68.64	339	P	P	05 07 04.9 -1.3
KURBB	Kurchatov Arra	68.64	333	P	P	05 07 06.4 +0.1
	comp=Z,0.3nm,0.3s,baz=142,slow=6.3,SNR=1.8					
KURK	Kurchatov	68.66	333	P	P	05 07 06.2 -0.2
MAW	Mawson	70.04	200	P	P	05 07 17.3 +2.6
	comp=Z,1.2nm,0.6s,baz=90,slow=6.1,SNR=3.5					
MAW	Mawson	70.04	200	P	P	05 07 15.8 +1.1
VNDA	Vanda	72.54	171	P	P	05 07 32.3 +2.8
	comp=Z,1.4nm,0.5s,baz=313,slow=7.3,SNR=39					
VNDA	Vanda	72.54	171	P	P	05 07 30.7 +1.1
TORD	Torodi Ar. Bea	118.90	280	PKP	PKiKP	05 14 51.0 0.0
	comp=Z,0.2nm,0.5s,baz=46,slow=2.8,SNR=1.9					
TORD	Torodi Ar. Bea	118.90	280		PKPdf	05 14 49.9 -1.0

*IDC **30** 05:00:26.9±3.7, 37.°31N×72.°12E, h88km±30km, mb3.7/10, mb1 3.8/16, mb1mx3.6/46, mbtmp4.1/16, Error ellipse: s-maj=28.3km s-min=20.1km az=161.0*
*NNC **30** 05:00:30.5±2.7, 37.°62N×71.°71E, h140km±35km, mb3.7, mpv4.5, Error ellipse: s-maj=25.1km s-min=14.2km az=166.0*

ISC 30 05:00:31.0±0.6, 37.°52N±0.°05×72.°24E±0.°08, h130km, n52, σ2°20/57, mb3.9/10, 9C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.69	184	P	Pn	05 01 28.6	+1.7
CEP				S	Sn	05 02 12.0	+1.9
THW	Thamme Wali	4.73	185	P	Pn	05 01 40.7	+0.2
AML	Almayashu	4.74	13	P	Pn	05 01 42.2	+1.2
	SNR=41						
UCH	Uchtor	5.02	20	P	Pn	05 01 45.8	+1.1
	SNR=59						
KZA	Kyzart	5.11	26	P	Pn	05 01 47.9	+2.0
	SNR=7.0						
EKS2	Erkin-Say	5.27	12	P	Pn	05 01 49.5	+1.7
	SNR=52						
AAK	Ala-Archa	5.40	18	P	Pn	05 01 51.7	+2.2
	SNR=55						
AAK	Ala-Archa	5.40	18	⇓P	Pn	05 01 51.3	+1.7
	27nm,0.3s						
AAK				⇑S	Sn	05 02 51.1	+0.3
	71nm,0.8s						
KBK	Karagaybulak	5.54	21	P	Pn	05 01 49.7	-1.7
	SNR=16						
ULHL	Ulahol	5.64	32	P	Pn	05 01 54.6	+1.8
	SNR=7.7						
KK31	Karatay Array	5.74	347	⇓P	Pn	05 01 53.8	-0.2
	29nm,0.5s,baz=178,slow=18,SNR=208						
KK31				⇓S	Sn	05 02 54.5	-4.2
	25nm,0.3s,baz=172,slow=27,SNR=14						
CHMS	Chumysh	5.80	19	P	Pn	05 01 56.7	+1.9
	SNR=32						
THN	Thein Dam	5.82	150	*e*P	Pn	05 01 58.5	+3.4
THN				*e*S	Sn	05 02 59.5	-1.1
TKM2	Tokmak 2	5.98	24	P	Pn	05 01 59.1	+1.7
	SNR=49						
TKM2	Tokmak 2	5.98	24	⇑P	Pn	05 01 59.1	+1.7
	24nm,0.5s						
TKM2				⇓S	Sn	05 03 06.4	+1.7
	20nm,0.6s						
USP	Ospenovka	6.00	16	P	Pn	05 01 58.8	+1.3
	SNR=28						
PDGK	Podgornoye	8.02	41	⇑P	Pn	05 02 25.7	+1.0
	9.2nm,0.7s						
GEYT	Alibeck	11.20	276	P	Pn	05 03 02.9	-4.4
	1.0nm,0.3s,baz=102,slow=14,SNR=2.9						
GEYT				S	Sn	05 04 58.4	-12
	2.7nm,0.3s,baz=91,slow=12,SNR=8.4						
GYA0B	ALIBECK ARRAY	11.20	276	⇓P	Pn	05 02 59.0	-8.3
GYA0B				⇑S	Sn	05 04 57.2	-14
MAKZ	Makanchi	11.76	35	⇓P	Pn	05 03 14.6	0.0
	4.3nm,0.8s						
MK31	Makanchi Array	11.89	36	⇓P	Pn	05 03 14.1	-2.2
	3.5nm,0.5s,baz=211,slow=9.5,SNR=16						
MKAR	Makanchi Array	11.89	36	P	Pn	05 03 17.6	+1.3
	0.3nm,0.3s,baz=219,slow=14,SNR=20						
PYUN	Piuthan	13.02	133	*e*P	Pn	05 03 29.8	-1.6
	23nm,0.3s						
DANN	Dangsing	13.30	130	*e*P	Pn	05 03 34.1	-0.9
	30nm,0.4s						
KOLN	Koldanda	13.63	132	*e*P	Pn	05 03 38.2	-1.0
	16nm,0.3s						
KOLN				*e*S	Sn	05 06 01.2	-8.5
KURBB	Kurchatov Arra	13.85	17	P	Pn	05 03 40.3	-1.4
	0.2nm,0.3s,baz=209,slow=12,SNR=5.3						
KURBB	Kurchatov Arra	13.85	17	⇑P	Pn	05 03 41.3	-0.4
	9.9nm,0.8s						
KURK	Kurchatov	13.96	17	⇑P	Pn	05 03 41.3	-1.7
	7.8nm,0.7s						
GKN	Gorkha	14.08	129	*e*P	Pn	05 03 44.5	-0.5
	24nm,0.4s						
DMN	Daman	14.65	129	*e*P	Pn	05 03 51.4	-0.9
	6.7nm,0.2s						
AB31	Akbulak array	14.73	327	⇓P	Pn	05 03 49.7	-3.0
	3.0nm,0.5s,baz=142,slow=12,SNR=71						
AB31				⇑S	Sn	05 06 24.2	-12
	3.1nm,0.5s,baz=152,slow=20,SNR=12						
PKIN	Phulchoki	14.86	128	*e*P	Pn	05 03 54.2	-0.7
	8.4nm,0.2s						
PKI	Pulchoki	14.87	128	*e*P	Pn	05 03 55.2	+0.1
	7.6nm,0.3s						
GUN	Gumba	14.93	126	*e*P	Pn	05 03 55.2	-0.7
	16nm,0.4s						
JIRN	Jiri	15.30	126	*e*P	Pn	05 03 59.6	-0.9
	34nm,0.3s						
BVAR	Borovoye Array	15.56	356	P	Pn	05 04 02.5	-0.6
	2.1nm,0.3s,baz=183,slow=18,SNR=26						
BRVK	Borovoye	15.60	356	⇑P	Pn	05 04 01.6	-2.0
	11nm,1.0s						
AKTO	Aktyubinsk	16.44	326	P	Pn	05 04 12.9	-1.1
	2.3nm,0.3s,baz=114,slow=11,SNR=17						
AKTO				S	Sn	05 07 01.4	-15
	0.2nm,0.3s,baz=144,slow=21,SNR=2.0						
AKTO	Aktyubinsk	16.44	326	⇓P	Pn	05 04 13.0	-1.0
	4.6nm,0.5s						
AKTO				⇓S	Sn	05 07 09.2	-7.7
	7.1nm,1.2s						
ZAA0	Zalesovo Array	18.58	24	⇑P	P	05 04 38.2	+0.4
	1.3nm,0.9s						
ZALV	Zalesovo Beam	18.58	24	P	P	05 04 39.3	+1.5
	1.8nm,0.3s,baz=221,slow=10,SNR=29						
ARU	Arti	21.02	339	P	P	05 05 04.2	+0.1
	2.7nm,0.2s,baz=131,slow=20,SNR=6.7						
NRIK	Noril'sk	32.95	10	P	P	05 06 55.1	+2.3
	2.0nm,0.4s,baz=195,slow=5.4,SNR=3.6						
AKASG	Malin Array Be	33.10	307	P	P	05 06 55.0	+0.7
	0.6nm,0.4s,baz=109,slow=9.1,SNR=5.3						
FINES	FINESS Array B	37.21	325	P	P	05 07 30.7	+1.3
	1.6nm,0.3s,baz=120,slow=9.7,SNR=20						
ARCES	ARCESS Array B	40.60	337	P	P	05 07 59.2	+1.7
	1.2nm,0.4s,baz=111,slow=7.7,SNR=18						
NB2	NORSAR Subarra	44.18	322	P	P	05 08 27.5	+0.9
	comp=Z,1.5nm,0.6s,baz=94,slow=7.9						
NOA	NORSAR Array B	44.18	322	P	P	05 08 27.0	+0.4
	comp=Z,1.4nm,0.7s,baz=95,slow=7.7,SNR=6.3						
TORD	Torodi Ar. Bea	66.73	269	P	P	05 11 08.0	-0.5
	comp=Z,0.4nm,0.4s,baz=50,slow=5.8,SNR=10.0						
INK	Inuvik	72.74	10	P	P	05 11 46.6	+2.2
	comp=Z,1.5nm,0.5s,baz=327,slow=3.2,SNR=6.4						
ILAR	Eielson Array	73.53	16	P	P	05 11 49.2	0.0
	comp=Z,0.2nm,0.5s,baz=330,slow=5.2,SNR=2.2						
WRA	Warramunga Arr	81.69	123	P	P	05 12 36.0	+0.9
	comp=Z,0.3nm,0.7s,baz=330,slow=5.3,SNR=2.1						

*CERI **30** 05:35:36.0, 36.°21N×97.°54W, h5km*
*TUL **30** 05:35:36.8±1.7, 36.°21N±0.°02×97.°54W±0.°06, h5km±2km,*

ML3.0, Error ellipse: s-maj=8.9km s-min=3.0km az=75.0
*NEIC **30** 05:35:36.8±2.0, 36.°24N±0.°02×97.°51W±0.°06, h2km±8km, Error ellipse: s-maj=7.4km s-min=2.3km az=71.0*
*ANF **30** 05:35:38.2±1.4, 36.°20N×97.°52W, h12km±10km, ML4.0/11, Error ellipse: s-maj=6.0km s-min=3.3km az=161.0*

ISC 30 05:35:37.3±0.8, 36.°21N±0.°03×97.°54W±0.°03, h10km, n56, σ1°28/60, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.41	170		Pg	05 35 45.1	-0.4
BCOK	Bluff Creek, N	0.55	186		Pg	05 35 47.5	-0.5
OK025	Westminster Rd	0.65	165		Pg	05 35 49.1	-0.7
QUOK	Quay	0.68	93		Pg	05 35 49.8	-0.6
OKCFA	Oklahoma City	0.79	175		Pg	05 35 51.9	-0.7
OKCSW	OKLAHOMA CITY	0.80	174		Pg	05 35 52.2	-0.6
KAN13	South Haven SW	0.81	4	Pg	Pg	05 35 51.9	-1.0
KAN10	Anthony SW Sta	1.02	334	Pg	Pg	05 35 55.6	-1.3
T35A	Sooner Cattle	1.09	49	Pg	Pg	05 35 57.1	-1.2
KAN12	Harper NE Stat	1.15	342	Pg	Pb	05 35 58.0	-1.3
W35A	Tecumseh	1.18	152		Pb	05 35 58.5	-1.3
U32A	Winter Ranch,	1.19	279	Pg	Pn	05 35 58.7	-1.4
TUL1	Leonard	1.45	101	P	Pn	05 36 02.9	-0.7
	baz=282						
TUL1				S	Sg	05 36 22.9	-1.1
	baz=282						
TUL1	Leonard	1.45	101		Pn	05 36 03.1	-0.5
X34A	Smith Ranch, M	1.62	189		Pb	05 36 06.8	-0.5
WMOK	Wichita Mounta	1.78	215	P	Pn	05 36 08.4	+0.2
	baz=34						
WMOK				S	Sb	05 36 32.5	0.0
	baz=34						
WMOK	Wichita Mounta	1.78	215	Pn	Pn	05 36 08.3	+0.2
X37A	Clayton	2.40	132		Pn	05 36 17.2	+0.6
R32A	Long Quarter,	2.40	338		Pn	05 36 18.0	+1.2
U38A	Gravette	2.56	84		Pn	05 36 20.6	+1.8
Z35A	Perchaven, San	2.88	175	Pn	Pn	05 36 23.2	-0.1
HHAR	Hobbs	2.91	87		Pn	05 36 24.3	+0.5
KSU1	Kansas State U	2.98	14	P	Pn	05 36 25.8	+1.0
	baz=194						
KSU1	Kansas State U	2.98	14	Pn	Pn	05 36 25.1	+0.4
CBKS	Cedar Bluff	3.13	327	Pb	Pb	05 36 34.2	+1.0
	baz=146						
CBKS	Cedar Bluff	3.13	327	Pn	Pn	05 36 27.2	+0.4
W39A	Magazine	3.22	107	P	Pn	05 36 28.8	+0.8
	baz=290						
W39A				S	Sn	05 37 08.3	+1.9
	baz=290						
W39A	Magazine	3.22	107		Pn	05 36 28.6	+0.7
AMTX	Amarillo	3.62	250	Sb	Sb	05 37 30.0	+4.4
	baz=67						
AMTX	Amarillo	3.62	250	Pn	Pn	05 36 33.9	+0.3
MIAR	Mount Ida	3.64	116	P	Pn	05 36 34.9	+1.2
	baz=298						
MIAR				S	Sn	05 37 18.8	+2.0
	baz=298						
MIAR	Mount Ida	3.64	116	Pn	Pn	05 36 35.1	+1.4
U40A	Yellville	3.79	86		Pn	05 36 37.3	+1.5
ABTX	Abilene, Hawle	3.97	207	Pn	Pb	05 36 44.2	-3.2
WHTX	Lake Whitney,	4.20	179	P	Pn	05 36 42.1	+0.6
	baz=359						
WHTX	Lake Whitney,	4.20	179	Pn	Pn	05 36 42.4	+0.9
MGMO	Mountain Grove	4.34	76		Pn	05 36 44.6	+1.2
WHAR	Wooly Hollow	4.37	101		Pn	05 36 45.3	+1.5
FCAR	Ozark Folk Cen	4.40	93		Pn	05 36 45.3	+1.1
WLAR	White Oak Lake	4.42	123	Pn	Pn	05 36 45.7	+1.3
W41B	Gary Mavity, V	4.43	102	S	Sn	05 37 36.1	-0.1
	baz=285						
W41B	Gary Mavity, V	4.43	102		Pn	05 36 44.9	+0.3
237A	Washetta, Mont	4.43	161		Pn	05 36 43.9	-0.8
N33A	J Bar K, Exete	4.53	1	Pn	Pn	05 36 44.9	-1.0
P38A	Dawn	4.66	42		Pn	05 36 47.6	-0.2
Z41A	Richland Creek	4.89	126	S	Sn	05 37 47.0	-0.4
	baz=308						
LCAR	Lake Charles	5.17	90	Pn	Pn	05 36 56.7	+1.9
BGNE	Belgrade	5.22	355	P	Pn	05 36 55.0	-0.5
	baz=175						
BGNE	Belgrade	5.22	355	Pn	Pn	05 36 54.3	-1.1
T42A	Van Buren	5.25	79	Pn	Pn	05 36 57.4	+1.5
CCM	Cathedral Cave	5.36	68	Pn	Pn	05 36 57.8	+0.4
P40A	Paris	5.47	51	Pn	Pn	05 36 58.7	-0.2
T25A	Trinidad	5.60	282	Pn	Pn	05 37 01.6	+0.7
SDCO	Great Sand Dun	6.55	286		Pn	05 37 16.8	+2.7
ECSD	EROS Data Cent	7.55	5	Pn	Pn	05 37 26.6	-0.8
HDIL	Hopedale	7.80	54	Pn	Pn	05 37 29.7	-1.1

*TUL **30** 05:58:46.3±0.9, 36.°21N±0.°01×97.°54W±0.°03, h3km±7km, ML2.9, Error ellipse: s-maj=2.9km s-min=2.0km az=100.0*
*NEIC **30** 05:58:46.5±0.9, 36.°220N±0.°008×97.°56W±0.°02, h5km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=79.0*
*ANF **30** 05:58:46.3±0.4, 36.°17N×97.°51W, h0km, ML4.1/9, Error ellipse: s-maj=4.6km s-min=3.6km az=5.0*
*UNK **30** 05:58:46.6, 36.°22N×97.°56W, h5km*

ISC 30 05:58:46.6±1.2, 36.°22N±0.°02×97.°54W±0.°03, h4km±11km, n42, σ0°81/49, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.42	170		Pg	05 58 54.8	0.0
OK029				Sg	Sg	05 59 00.6	+0.4
BCOK	Bluff Creek, N	0.56	186		Pg	05 58 57.2	-0.2
OK025	Westminster Rd	0.65	165		Pg	05 58 59.1	-0.1
OK025				Sg	Sg	05 59 08.0	+0.4
QUOK	Quay	0.68	93		Pg	05 58 59.4	-0.2
QUOK				Sg	Sg	05 59 08.8	+0.4
KAN13	South Haven SW	0.80	4		Pg	05 59 01.6	-0.3
OKCFA	Oklahoma City	0.80	175		Pg	05 59 01.5	-0.4
OKCSW	OKLAHOMA CITY	0.81	174		Pg	05 59 01.9	-0.3
KAN10	Anthony SW Sta	1.01	334		Pg	05 59 05.0	-1.0
T35A	Sooner Cattle	1.08	50	Pg	Pg	05 59 06.8	-0.6
KAN12	Harper NE Stat	1.14	341		Pg	05 59 07.7	-0.8
U32A	Winter Ranch,	1.19	278		Pg	05 59 08.1	-1.4
W35A	Tecumseh	1.19	153		Pg	05 59 08.2	-1.2
TUL1	Leonard	1.45	102	P	Pn	05 59 12.6	-1.0
	baz=283						
TUL1				S	Sb	05 59 32.5	-0.5
	baz=283						
TUL1	Leonard	1.45	102		Pn	05 59 12.7	-1.0
X34A	Smith Ranch, M	1.63	188		Pn	05 59 16.2	+0.1
WMOK	Wichita Mounta	1.79	215	P	Pn	05 59 17.9	-0.4
	baz=34						
WMOK				S	Sb	05 59 42.0	-0.8
	baz=34						
WMOK	Wichita Mounta	1.79	215	Pn	Pn	05 59 18.0	-0.4
R32A	Long Quarter,	2.39	337		Pb	05 59 28.5	-1.8
X37A	Clayton	2.40	132		Pn	05 59 27.0	+0.2
Z35A	Perchaven, San	2.89	175		Pn	05 59 34.4	+1.0
HHAR	Hobbs	2.91	88		Pn	05 59 33.9	+0.1
KSU1	Kansas State U	2.97	14	Pb	Pb	05 59 41.6	+1.4
	baz=195						
KSU1	Kansas State U	2.97	14		Pn	05 59 35.5	+0.8
CBKS	Cedar Bluff	3.13	327	Pb	Pb	05 59 43.8	+0.9
	baz=146						
CBKS				Sb	Sb	06 00 23.7	+2.3
	baz=146						
W39A	Magazine	3.22	107	P	Pn	05 59 38.7	+0.7
	baz=290						
W39A	Magazine	3.22	107		Pn	05 59 38.2	+0.2
Z38A	Mt. Pleasant	3.62	144		Pn	05 59 43.1	-0.5
AMTX	Amarillo	3.63	250	Pb	Pb	05 59 51.8	+0.4
	baz=67						
AMTX	Amarillo	3.63	250		Pn	05 59 43.7	0.0
MIAR	Mount Ida	3.64	116	P	Pn	05 59 44.5	+0.7
	baz=298						
MIAR				S	Sn	06 00 27.4	+0.2
	baz=298						
MIAR	Mount Ida	3.64	116	Pn	Pn	05 59 44.3	+0.5
S39A	Bolivar	3.69	65		Pn	05 59 44.3	-0.2
U40A	Yellville	3.79	86		Pn	05 59 45.7	-0.2
ABTX	Abilene, Hawle	3.98	206	Pn	Pn	05 59 50.1	+1.6
WHTX	Lake Whitney,	4.21	179	P	Pn	05 59 51.8	+0.1
	baz=359						
WHTX	Lake Whitney,	4.21	179	Pn	Pn	05 59 51.3	-0.4
WHAR	Wooly Hollow	4.37	101	Pn	Pn	05 59 53.6	-0.2
FCAR	Ozark Folk Cen	4.40	93	Pn	Pn	05 59 54.8	+0.6
WLAR	White Oak Lake	4.43	123		Pn	05 59 54.9	+0.3
W41B	Gary Mavity, V	4.43	102	S	Sn	06 00 45.4	-1.3
	baz=285						
W41B	Gary Mavity, V	4.43	102	Pn	Pn	05 59 54.7	0.0
R40A	Maddies Statio	4.69	62		Pn	05 59 57.9	-0.3

*NEIC **30** 06:06:01.4±1.3, 36.°216N±0.°008×97.°55W±0.°06, h5km±2km, Error ellipse: s-maj=7.6km s-min=3.0km az=81.0*
*TUL **30** 06:06:01.1±1.2, 36.°214N±0.°009×97.°54W±0.°06, h4km±7km, ML3.1, Mwr3.2/30(NEIC), Error ellipse: s-maj=6.4km s-min=0.6km az=79.0*
*NEIC **30** 06:06:01.1, 36.°21N×97.°54W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-1.01; $M_{\theta\theta}$8.30; $M_{\phi\phi}$-7.29; $M_{r\theta}$0.91; $M_{\theta\phi}$3.63; $M_{\phi r}$-0.13; Fault plane solution: $M_0$8.69000×10^{13} NP1:ϕ_s122.56000°, δ88.46000°, λ5.30000°. NP2:ϕ_s32.42000°, δ84.70000°, λ178.45000°. Principal axes: T 9.1737, Plg5.0000°, Azm348.0000°; N -1.0651, Plg84.0000°, Azm139.0000°; P -8.1086, Plg3.0000°, Azm257.0000°;*
*UNK **30** 06:06:01.6, 36.°21N×97.°55W, h5km*
*ANF **30** 06:06:02.3±1.6, 36.°19N×97.°52W, h10km±12km, ML4.3/9, Error ellipse: s-maj=7.8km s-min=4.5km az=154.0*

ISC 30 06:06:01.4±1.2, 36.°23N±0.°03×97.°54W±0.°03, h3km±11km, n48, σ0°93/55, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.43	171		Pg	06 06 09.6	-0.1
OK029				Sg	Sg	06 06 15.4	0.0
BCOK	Bluff Creek, N	0.57	185		Pg	06 06 12.1	-0.2
BCOK				Sg	Sg	06 06 19.8	+0.1
OK025	Westminster Rd	0.66	165		Pg	06 06 14.0	-0.1
OK025				Sg	Sg	06 06 22.8	+0.1
QUOK	Quay	0.68	94		Pg	06 06 14.3	-0.1
KAN13	South Haven SW	0.79	4		Pg	06 06 16.6	0.0
OKCFA	Oklahoma City	0.81	175		Pg	06 06 16.4	-0.5
OKCSW	OKLAHOMA CITY	0.82	174		Pg	06 06 16.7	-0.5
FNO	Franklin	0.97	173	Pg	Pg	06 06 19.8	-0.2
KAN10	Anthony SW Sta	1.00	334		Pg	06 06 20.1	-0.5
T35A	Sooner Cattle	1.08	50		Pg	06 06 21.7	-0.4
KAN12	Harper NE Stat	1.13	341		Pg	06 06 22.7	-0.4
U32A	Winter Ranch,	1.19	278		Pg	06 06 23.1	-1.1
W35A	Tecumseh	1.20	153		Pg	06 06 23.0	-1.4
TUL1	Leonard	1.45	102	P	Pn	06 06 27.4	-1.1
	baz=282						
TUL1				S	Sb	06 06 47.2	-0.8
	baz=282						
TUL1	Leonard	1.45	102	Pn	Pn	06 06 27.4	-1.1
X34A	Smith Ranch, M	1.64	188		Pn	06 06 31.3	+0.2
WMOK	Wichita Mounta	1.79	215	P	Pn	06 06 32.8	-0.5
	baz=34						
WMOK				S	Sb	06 06 56.8	-1.1
	baz=34						
WMOK	Wichita Mounta	1.79	215	Pn	Pn	06 06 32.9	-0.5
R32A	Long Quarter,	2.38	337		Pn	06 06 41.4	0.0
X37A	Clayton	2.41	132		Pn	06 06 42.1	+0.4
Z35A	Perchaven, San	2.90	175		Pn	06 06 48.5	+0.1
KSU1	Kansas State U	2.96	14	Pn	Pn	06 06 49.1	-0.3
CBKS	Cedar Bluff	3.12	327	Pb	Pb	06 06 58.7	+1.2
	baz=146						
CBKS	Cedar Bluff	3.12	327		Pb	06 06 58.0	+0.4
W39A	Magazine	3.23	107	S	Sn	06 07 32.7	+0.8
	baz=289						
AMTX	Amarillo	3.63	250	Pn	Pn	06 07 00.1	+1.5
Z38A	Mt. Pleasant	3.63	144		Pn	06 06 58.7	+0.2
MIAR	Mount Ida	3.65	116	P	Pn	06 06 59.5	+0.7
	baz=298						
MIAR				S	Sn	06 07 43.1	+0.8
	baz=298						
MIAR	Mount Ida	3.65	116		Pn	06 06 59.4	+0.6
S39A	Bolivar	3.68	65		Pn	06 06 59.5	+0.3
U40A	Yellville	3.79	87		Pn	06 07 01.5	+0.8
WHTX	Lake Whitney,	4.22	179	P	Pn	06 07 06.7	0.0
	baz=359						
WHTX				Sb	Sb	06 08 10.4	+2.7
	baz=359						
WHTX	Lake Whitney,	4.22	179	Pn	Pn	06 07 06.8	+0.1
MGMO	Mountain Grove	4.34	76	Pn	Pn	06 07 09.6	+1.3
WHAR	Wooly Hollow	4.37	101	Pn	Pn	06 07 10.8	+2.0
WLAR	White Oak Lake	4.43	124		Pn	06 07 10.0	+0.4
W41B	Gary Mavity, V	4.43	102	S	Sn	06 08 00.4	-1.3
	baz=285						
W41B	Gary Mavity, V	4.43	102	Pn	Pn	06 07 09.1	-0.5
237A	Washetta, Mont	4.45	161	Pn	Pn	06 07 09.0	-0.8
N33A	J Bar K, Exete	4.51	1	Pn	Pn	06 07 10.0	-0.6
Z41A	Richland Creek	4.90	126	S	Sn	06 08 11.3	-1.8
	baz=308						
BGNE	Belgrade	5.20	355	P	Pn	06 07 19.4	-0.7
	baz=175						
BGNE	Belgrade	5.20	355	Pn	Pn	06 07 19.7	-0.4
CCM	Cathedral Cave	5.35	68	Pn	Pn	06 07 23.3	+1.1
L34A	Svendsen Farm,	5.80	9	Pn	Pn	06 07 27.3	-1.1
SDCO	Great Sand Dun	6.55	286	Pn	Pn	06 07 40.8	+1.8
P43A	Skaggs, Pawnee	7.20	59		Pn	06 07 47.3	-0.2
ECSD	EROS Data Cent	7.53	5	P	Pn	06 07 50.5	-1.6
	baz=186						

*RSNC **30** 06:21:59.2±1.7, 11.°41N×74.°33W, h6km±8km, ML3.4, Mw3.6, Fault plane solution: NP1:ϕ_s101.00000°, δ88.00000°, λ158.00000°.*
*IDC **30** 06:22:07.7±4.6, 11.°34N×73.°89W, h99km±37km, mb3.6/1, mb1 3.9/4, mb1mx3.3/33, mbtmp4.3/4, MS2.6/3, Ms1 2.6/3, ms1mx2.4/28, Error ellipse: s-maj=40.5km s-min=21.9km az=143.0*

**ISC 30 06:21:57.8±1.9, 11

SDV	Santo Domingo	4.44	124	eP	Pn	06 23 05.8 +1.0
SDV				eS	Sn	06 23 54.5 -1.8
SDV				i		06 24 12.9
	comp=Z,56nm,0.4s					
DBBC	Dabeiba	4.76	203	eP	Pn	06 23 10.8 +1.5
PTBC	PUERTO BERRIO,	4.87	181	eP	Pn	06 23 11.2 +0.7
PTBC				eS	Sn	06 24 08.2 +1.5
PTBC				i		06 24 20.2
	comp=Z,56nm,0.7s					
BARC	Barichara	4.95	167	eP	Pn	06 23 13.2 +1.4
BARC				eS	Sn	06 24 05.0 -3.9
BARC				i		06 24 20.3
	comp=Z,56nm,0.3s					
SPBC	San Pablo de B	5.75	177	eP	Pn	06 23 23.5 +0.7
SPBC				eS	Sn	06 24 31.5 +2.8
CBOC	Ciudad Bolivar	5.78	197	eP	Pn	06 23 24.4 +1.2
CBOC				eS	Sn	06 24 28.8 -0.6
CBOC				i		06 25 08.2
	comp=Z,10.0nm,0.5s					
GUY2C	Guyana, Caldas	6.25	189	eP	Pn	06 23 33.0 +2.9
GUY2C				eS	Sb	06 24 59.9 -1.8
GUY2C				i		06 25 11.4
	comp=Z,26nm,0.5s					
ELOV	Elorza	6.51	132	eP	Pn	06 23 33.4 +0.3
ELOV				eS	Sn	06 24 43.8 -3.4
ROSC	El Rosal	6.55	180	P	Pn	06 23 41.1 +7.0
	comp=Z,6.3nm,0.3s,baz=25,slow=12,SNR=12					
ROSC				S	Sn	06 24 53.9 +5.1
	comp=Z,1.9nm,0.3s,baz=87,slow=22,SNR=1.3					
ROSC	El Rosal	6.55	180	‖eP	Pn	06 23 41.0 +7.0
ROSC				eS	Sn	06 24 51.9 +3.1
RREF	El Recreo	6.57	189	eP	Pn	06 23 33.0 -1.5
RREF				eS	Sn	06 24 51.7 +2.2
PLMC	San Jos del P	6.77	197	eP	Pn	06 23 39.0 +2.3
CHIC	Chingaza	6.79	175	eP	Pn	06 23 41.0 +3.7
CHIC				eS	Sn	06 24 56.2 +1.6
ORTC	Ortega, Tolima	7.53	187	eP	Pn	06 23 49.8 +2.6
PCRV	Puerto La Cruz	9.61	97	P	Pn	06 24 17.8 +2.0
	comp=Z,1.7nm,0.3s,baz=240,slow=2.8,SNR=10.0					
PCRV				S	Sn	06 25 59.5 -4.1
	comp=Z,0.1nm,0.3s,baz=0.6,slow=18,SNR=0.9					
TEIG	Tepich	16.00	305	P	Pn	06 25 45.0 +2.5
	comp=Z,0.8nm,0.3s,baz=8.7,slow=0.3,SNR=5.9					
ATAH	Atahualpa	18.89	193	LR	LR	06 36 28.4
	comp=Z,27nm,18.6s,baz=202,slow=46					
MDP	Montagnes des	22.36	105	LR	LR	06 37 09.6
	comp=Z,20nm,21.0s,baz=30,slow=41					
LPAZ	La Paz	28.22	167	P	P	06 27 49.5 -1.4
	comp=Z,0.7nm,0.4s,baz=353,slow=8.6,SNR=6.1					
ASAR	Alice Springs	150.52	242	PKPbc	PKPbc	06 41 49.9 -0.1
	comp=Z,0.8nm,1.0s,baz=110,slow=2.9,SNR=4.6					
WRA	Warramunga Arr	151.16	249	PKPbc	PKPbc	06 41 51.3 -0.2
	comp=Z,0.5nm,0.6s,baz=99,slow=2.8,SNR=6.8					

*CERI **30** 06:21:59.0, 36.°17N×97.°25W, h4km*
*TUL **30** 06:21:59.8±1.1, 36.°17N±0.°01×97.°25W±0.°03, h4km±7km, ML3.0, Error ellipse: s-maj=3.3km s-min=1.8km az=106.0*
*NEIC **30** 06:22:00.3±0.8, 36.°19N±0.°01×97.°24W±0.°03, h3km±7km, Error ellipse: s-maj=3.3km s-min=1.6km az=113.0*
*ANF **30** 06:22:00.6±0.3, 36.°12N×97.°20W, h0km, ML3.7/8, Error ellipse: s-maj=3.6km s-min=2.3km az=2.0*

ISC 30 06:21:59.8±1.1, 36.°19N±0.°02×97.°26W±0.°03, h5km±13km, n45, σ0§87/53, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.42	203	Pg	Pg	06 22 08.2	+0.3
OK029				Sg	Sg	06 22 14.1	+0.7
QUOK	Quay	0.44	92	Pg	Pg	06 22 08.8	+0.4
ADOK	Arcadia Dam	0.54	190		Sb	06 22 18.9	-1.1
BCOK	Bluff Creek, N	0.60	209		Pg	06 22 11.5	+0.1
OK025	Westminster Rd	0.61	186		Pg	06 22 11.7	+0.2
OK025				Sg	Sg	06 22 19.9	+0.6
OKCFA	Oklahoma City	0.79	192		Pg	06 22 14.8	-0.1
OKCFA				Sg	Sg	06 22 25.0	0.0
OKCSW	OKLAHOMA CITY	0.79	191		Pg	06 22 15.0	0.0
OKCSW				Sg	Sg	06 22 25.6	+0.3
KAN13	South Haven SW	0.84	348	Pg	Pg	06 22 16.3	+0.2
FNO	Franklin	0.93	187	Sg	Sg	06 22 30.4	+0.5
T35A	Sooner Cattle	0.94	39	Pg	Pg	06 22 18.1	+0.1
T35A				Sg	Sg	06 22 30.5	+0.3
W35A	Tecumseh	1.08	163		Pg	06 22 19.3	-1.1
W35A				Sg	Sg	06 22 34.4	0.0
KAN10	Anthony SW Sta	1.16	324	Pg	Pg	06 22 22.0	0.0
TUL1	Leonard	1.22	103	P	Pg	06 22 22.2	-1.0
	baz=283						
TUL1				S	Sg	06 22 38.7	-0.2
	baz=283						
TUL1	Leonard	1.22	103		Pg	06 22 22.0	-1.2
KAN12	Harper NE Stat	1.26	332	Pn	Pg	06 22 23.2	-0.8
U32A	Winter Ranch,	1.42	278		Pn	06 22 25.7	-0.8
X34A	Smith Ranch, M	1.65	197		Pb	06 22 30.5	-0.2
WMOK	Wichita Mounta	1.91	221	P	Pn	06 22 33.8	+0.8
	baz=41						
WMOK				S	Sb	06 22 59.5	+0.2
	baz=41						
WMOK	Wichita Mounta	1.91	221		Pn	06 22 34.0	+0.9
X37A	Clayton	2.21	135		Pn	06 22 37.8	+0.5
U38A	Gravette	2.33	83		Pb	06 22 41.3	-1.1
R32A	Long Quarter,	2.52	333	Pn	Pn	06 22 42.0	+0.6
HHAR	Hobbs	2.68	87		Pn	06 22 44.9	+1.1
Z35A	Perchaven, San	2.85	180		Pn	06 22 46.5	+0.5
KSU1	Kansas State U	2.96	10	Pb	Pg	06 22 55.5	-0.9
	baz=190						
KSU1	Kansas State U	2.96	10		Pn	06 22 48.3	+0.8
W39A	Magazine	2.99	108	P	Pn	06 22 49.2	+1.2
	baz=290						
W39A	Magazine	2.99	108	Pn	Pn	06 22 49.2	+1.2
CBKS	Cedar Bluff	3.28	324	Sb	Sg	06 23 45.1	-0.2
	baz=142						
CBKS	Cedar Bluff	3.28	324	Pn	Pn	06 22 52.7	+0.7
MIAR	Mount Ida	3.42	117	P	Pn	06 22 54.9	+1.0
	baz=300						
MIAR	Mount Ida	3.42	117	Pn	Pn	06 22 55.0	+1.1
Z38A	Mt. Pleasant	3.47	147	Pn	Pn	06 22 55.0	+0.5
S39A	Bolivar	3.49	63		Pb	06 22 57.0	+2.1
U40A	Yellville	3.56	86		Pn	06 22 58.3	+2.5
AMTX	Amarillo	3.84	252	P	Pn	06 23 01.2	+1.5
	baz=69						
AMTX	Amarillo	3.84	252		Pn	06 23 00.2	+0.5
X40A	Basin Creek Fa	3.99	114	Pn	Pn	06 23 02.1	+0.4
FCAR	Ozark Folk Cen	4.17	93	Pn	Pn	06 23 05.2	+1.0
WHTX	Lake Whitney,	4.19	182	Pn	Pn	06 23 04.5	+0.1
W41B	Gary Mavity, V	4.20	102	P	Pn	06 23 05.3	+0.7
	baz=285						
W41B	Gary Mavity, V	4.20	102	Pn	Pn	06 23 05.4	+0.9
WLAR	White Oak Lake	4.22	125	Pn	Pn	06 23 05.3	+0.5
UALR	University of	4.25	108	Pn	Pn	06 23 05.7	+0.4
R40A	Maddies Statio	4.50	61		Pn	06 23 10.0	+1.3

*ISK **30** 06:29:08.5, 36.°10N×33.°68E, h19km, ML2.5/16*
*NIC **30** 06:29:09.6±0.0, 35.°91N×33.°49E, h12km±2km, Ml2.1/2*

ISC 30 06:29:07.8±0.9, 36.°00N±0.°03×33.°67E±0.°04, h16km±7km, n22, σ0§56/31, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TISA	Tisan-Mersin	0.17	2	PG	Pg	06 29 12.1	+0.1
TISA				SG	Sg	06 29 14.8	-0.1
AKK2	Akkuyu-Mersin	0.17	325	PG	Pb	06 29 12.5	0.0
AKK1	Akkuyu-Mersin	0.18	324	PG	Pb	06 29 13.1	+0.4
AKK1				SG	Sg	06 29 15.8	+0.5
AKKU	Akkuyu-Mersin	0.19	329	PG	Pb	06 29 12.9	+0.1
AKKU				SG	Sg	06 29 15.8	+0.3
YESI	Yesilovacik-Me	0.20	353	PG	Pg	06 29 12.5	0.0
YESI				SG	Sg	06 29 15.3	-0.5
KARG	Kargicak-Mersi	0.21	8	PG	Pg	06 29 12.9	+0.2
KARG				SG	Sg	06 29 15.6	-0.4
IKL	Isikli	0.24	3	PG	Pg	06 29 13.0	-0.2
IKL				SG	Sg	06 29 16.1	-0.8
TEPK	Tepekoy-MERSIN	0.25	336	PG	Pb	06 29 13.4	-0.5
OREN	Orenkoy-Mersin	0.27	321	PG	Pg	06 29 13.5	-0.2
SILI	Silifke-Mersin	0.42	29	PG	Pg	06 29 15.8	-0.5
SLFK	Silifke-Mersin	0.45	29	PG	Pg	06 29 16.4	-0.5
TEKE	Tekeli-Mersin	0.47	288	PG	Pb	06 29 17.9	+0.2
TEVE	Tevekalti-Mers	0.47	337	PG	Pg	06 29 16.9	-0.4
BERE	Bereket-Mersin	0.50	314	PG	Pb	06 29 17.9	-0.4
EREN	Erenkoy	0.62	139	PG	Pn	06 29 22.7	+0.9
ATHAL	Athalassa	0.88	195	S	Sn	06 29 37.6	-0.3
MVOU	Mavrovouni	0.98	182	P	Pb	06 29 26.5	+0.2
MVOU				S	Sb	06 29 40.1	+1.1
MVOU				AML	AML	06 29 40.5	
	0.2nm,0.2s						
MVOU				AML	AML	06 29 40.5	
	0.2nm,0.2s						
MVOU				AML	AML	06 29 40.7	
	0.3nm,0.2s						
MVOU				AML	AML	06 29 40.7	
	0.3nm,0.2s						
CSS	Mathiatis	1.07	195	P	Pg	06 29 27.8	-0.6
CSS				S	Sb	06 29 42.1	+0.5
MERS	Mersin	1.11	38	PG	Pb	06 29 28.2	-0.4
GAZI	Gazipasa	1.12	283	PN	Pn	06 29 29.7	+0.9
ALFC	Alefka	1.21	226	P	Pb	06 29 29.6	-0.7
ALFC				S	Sb	06 29 44.6	-1.1
ALFC				AML	AML	06 29 47.3	
	0.2nm,0.4s						
ALFC				AML	AML	06 29 47.3	
	0.2nm,0.4s						
ALFC				AML	AML	06 29 48.7	
	0.2nm,0.1s						
ALFC				AML	AML	06 29 48.7	
	0.2nm,0.1s						
SZAC	Souni	1.40	208	P	Pn	06 29 32.7	+0.2

IDC 30 06:50:03.8±3.5, 22.°64N×144.°26E, h135km±32km, mb3.2/7, mb1 3.4/8, mb1mx3.2/41, mbtmp3.7/8, MS2.9/1, Ms1 2.9/1, ms1mx2.1/20, Error ellipse: s-maj=42.4km s-min=18.0km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.82	337	P	Pn	06 51 14.0	-0.6
	5.7nm,0.3s,baz=129,slow=21,SNR=8.2						
JCJ				S	Sn	06 52 05.7	-4.0
	22nm,0.3s,baz=278,slow=24,SNR=17						
JNU	Nakatsue	15.76	314	LR	LR	06 59 02.8	
	comp=Z,38nm,18.0s,baz=71,slow=34						
KSRS	Korea Array	20.40	320	P	Pn	06 54 32.2	-1.3
	1.7nm,0.7s,baz=147,slow=9.0,SNR=6.6						
SONM	Songino Array	39.26	319	P	P	06 57 18.4	-1.0
	0.4nm,0.4s,baz=132,slow=3.8,SNR=1.9						
WRA	Warramunga Arr	43.42	194	P	P	06 57 52.8	-0.5
	0.3nm,0.3s,baz=15,slow=8.9,SNR=24						
ASAR	Alice Springs	47.12	193	P	P	06 58 23.1	+0.6
	0.2nm,0.6s,baz=17,slow=11,SNR=4.2						
MKAR	Makanchi Array	54.80	312	P	P	06 59 18.9	-0.9
	0.5nm,0.6s,baz=93,slow=9.3,SNR=5.8						
NVAR	Mina Array Bea	81.78	52	P	P	07 02 08.2	0.0
	0.1nm,0.6s,baz=294,slow=2.9,SNR=1.6						
FINES	FINESS Array B	82.76	335	P	P	07 02 12.9	+0.5
	6.3nm,1.1s,baz=48,slow=2.1,SNR=4.4						

*IDC **30** 06:55:25.1±1.1, 5.°56S×146.°61E, h0km, mb3.9/5, mb1 4.2/8, mb1mx4.0/30, mbtmp4.1/8, ML4.1/2, Error ellipse: s-maj=44.1km s-min=21.1km az=105.0*

ISC 30 06:55:35.5±1.8, 6.°1S±0.°1×146.°3E±0.°2, h35km, n10, σ2§44/9, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.39	166	Pn	Pn	06 56 26.0	0.0
	39nm,0.3s,baz=38,slow=5.8,SNR=43						
PMG				Sn	Sn	06 57 03.4	-1.7
	9.6nm,0.3s,baz=321,slow=11,SNR=4.5						
CTA	Charters Tower	13.91	180	Pn	Pn	06 58 52.9	+2.5
	0.8nm,0.3s,baz=360,slow=17,SNR=2.8						
WRA	Warramunga Arr	18.04	219	P	P	06 59 44.1	+0.3
	0.6nm,0.3s,baz=36,slow=11,SNR=32						
WRA				S	Sn	07 03 04.6	+0.6
	0.1nm,0.3s,baz=46,slow=23,SNR=3.9						
WRA				PcP	PcP	07 04 13.5	-4.0
	0.1nm,0.3s,baz=33,slow=1.9,SNR=6.2						
ASAR	Alice Springs	21.18	213	P	P	07 00 18.3	+0.3
	1.0nm,0.4s,baz=51,slow=8.9,SNR=21						
ASAR				S	S	07 04 09.5	-2.3
	0.6nm,0.8s,baz=32,slow=25,SNR=3.3						
FITZ	Fitzroy Crossi	23.46	238	P	P	07 00 41.2	-0.8
	8.9nm,0.5s,baz=360,slow=5.5,SNR=42						
MKAR	Makanchi Array	77.15	321	P	P	07 07 20.1	-5.6
	0.5nm,0.8s,baz=124,slow=7.2,SNR=3.3						
ZALV	Zalesovo Beam	78.74	328	P	P	07 07 28.1	-6.2
	0.4nm,0.4s,baz=337,slow=39,SNR=1.7						
ILAR	Eielson Array	85.83	23	P	P	07 08 02.8	-8.4
	0.6nm,0.6s,baz=263,slow=4.6,SNR=7.8						
TORD	Torodi Ar. Bea	144.47	284	PKP	PKPbc	07 15 03.9	-4.0
	2.6nm,0.7s,baz=75,slow=3.8,SNR=14						
DBIC	Dimbokro	151.36	273	PKPbc	PKPdf	07 15 22.9	+2.2
	1.7nm,0.6s,baz=21,slow=8.6,SNR=1.4						

TIR 30 06:57:39.9, 42.°54N×19.°85E, h7km±14km, Md2.6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.23	137	S	Sg	06 57 48.9	+1.2
	baz=136						
BCI	Bajram Curri	0.23	137	P	Pg	06 57 44.9	+0.4
	baz=136						
PUK	Puka	0.50	176	S	Sb	06 57 57.5	-0.9
	baz=176						
PUK	Puka	0.50	176	P	Pg	06 57 50.1	+0.6
	baz=176						

*ISK **30** 06:58:53.2, 39.°62N×26.°07E, h5km, ML2.7/16*
*ATH **30** 06:58:53.1, 39.°57N×26.°03E, h32km±2km, ML2.3/3, Error ellipse: s-maj=3.4km s-min=1.0km az=185.0*
*THE **30** 06:58:54.1, 39.°61N×26.°03E, h14km, ML2.1/6, Error ellipse: s-maj=1.7km s-min=0.6km az=249.0*

ISC 30 06:58:53.4±1.1, 39.°61N±0.°02×26.°01E±0.°03, h17km±9km, n39, σ0§39/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.41	151	P	Pb	06 59 02.6	+0.4
PRK				S	Sb	06 59 08.1	-0.1
	502nm,0.3s						
PRK	Paraskevi	0.41	151	P	Pb	06 59 02.5	+0.3
PRK				S	Sb	06 59 08.2	+0.1
PRK				AML	AML	06 59 08.7	
	comp=E,810μm,0.3s						
PRK				AML	AML	06 59 09.3	
	comp=N,1218μm,0.4s						
SIGR	SIGRI	0.41	197	P	Pb	06 59 02.3	+0.1
SIGR				S	Sb	06 59 08.2	0.0
	comp=N,778nm,0.2s						
SIGR	SIGRI	0.41	197	P	Pb	06 59 02.4	+0.1
SIGR				S	Sb	06 59 08.4	+0.2
SIGR				AML	AML	06 59 09.0	
	comp=E,1422μm,0.3s						
SIGR				AML	AML	06 59 09.4	
	comp=N,1715μm,0.3s						
SIGR	SIGRI	0.41	197	PG	Pb	06 59 02.4	+0.2
SIGR				SG	Sb	06 59 08.9	+0.7
GADA	Gvkgeada	0.59	352	P	Pg	06 59 05.1	0.0
GADA				S	Sb	06 59 13.5	+0.1
	comp=N,132nm,0.7s						
GADA	Gvkgeada	0.59	352	PG	Pg	06 59 05.1	0.0
LIA	Limnos Island	0.70	295	P	Pn	06 59 08.4	-0.2
LIA				S	Sn	06 59 18.7	-0.3
	comp=N,142nm,0.4s						
LIA	Limnos Island	0.70	295	P	Pn	06 59 08.3	-0.3
GELI	Tayfur-Gelibol	0.87	24	PG	Pb	06 59 09.7	-0.3
GELI				SG	Sg	06 59 21.9	+0.2
DKL	Dikili	0.88	127	PG	Pb	06 59 10.1	0.0
DKL				SG	Sg	06 59 22.3	+0.4
SMTH	Samothraki Isl	0.94	337	P	Pn	06 59 11.7	-0.2
SMTH				S	Sn	06 59 24.5	-0.5
	comp=N,162nm,0.3s						
SMTH	Samothraki Isl	0.94	337	P	Pn	06 59 11.7	-0.2
LPK	Lapseki	0.96	37	PG	Pb	06 59 11.3	-0.3
ERIK	Erikli-Kesan	1.13	20	PN	Pb	06 59 14.5	0.0
ENEZ	Enez	1.14	5	P	Pb	06 59 14.8	+0.2
ENEZ				S	Sg	06 59 30.5	+0.3
ENEZ	Enez	1.14	5	PN	Pg	06 59 15.0	-0.3
CHOS	Chios island	1.22	178	P	Pn	06 59 15.4	-0.3
CHOS				S	Sg	06 59 33.0	+0.2
CHOS	Chios island	1.22	178	P	Pn	06 59 15.0	-0.7
KRBG	Karabiga-Canak	1.26	51	PN	Pn	06 59 16.3	0.0
ALN	Alexandroupoli	1.29	1	P	Pb	06 59 17.3	+0.1
ALN				S	Sn	06 59 34.0	+0.4
	comp=N,52nm,0.5s						
ALN	Alexandroupoli	1.29	1	P	Pb	06 59 17.1	-0.1
ALN				S	Sg	06 59 34.5	-0.6
ALN				AML	AML	06 59 35.5	
	comp=E,104μm,0.4s						
ALN				AML	AML	06 59 36.2	
	comp=N,117μm,0.5s						
ALN	Alexandroupoli	1.29	1	PN	Pg	06 59 17.8	-0.5
GONE	Gonen-Balikesi	1.36	71	PN	Pb	06 59 18.4	0.0
RKY	Sarkoy-Tekirda	1.40	39	PN	Pb	06 59 19.3	+0.1
THAS	Thassos island	1.41	316	P	Pn	06 59 18.5	+0.2
THAS				S	Sn	06 59 36.4	0.0
BALB	Balikesir	1.44	88	PN	Pb	06 59 19.8	0.0
BLCB	Balcova	1.46	146	P	Pb	06 59 19.7	-0.4
BLCB				S	Sn	06 59 37.5	-0.2
MAR6	Marsite Statio	1.46	41	PN	Pb	06 59 20.2	+0.1
MAR3	Marsite Statio	1.50	40	PN	Pb	06 59 20.8	0.0
MAR4	Marsite Statio	1.54	39	PN	Pb	06 59 21.3	-0.2
MRMT	Marmara Adasi	1.57	50	PN	Pb	06 59 21.6	-0.5
RDO	Rodhopi	1.58	347	P	Pn	06 59 20.7	0.0
RDO				S	Sb	06 59 42.0	+0.1
RDO	Rodhopi	1.58	347	P	Pb	06 59 21.9	-0.3
RDO	Rodhopi	1.58	347	PN	Pb	06 59 22.4	+0.2
EDC	Edincik	1.60	62	PN	Pb	06 59 22.2	-0.4
MAR9	Marsite Statio	1.65	51	PN	Pb	06 59 22.8	-0.5
KAVA	Kavala	1.80	321	P	Pn	06 59 24.1	+0.4
EDRB	Edirne	2.31	14	PN	Pn	06 59 32.4	+1.7

*IDC **30** 07:23:22.1±1.5, 48.°34N×155.°93E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/43, mbtmp3.5/4, ML1.9/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/35, Error ellipse: s-maj=101.2km s-min=29.4km az=118.0*
*KRSC **30** 07:23:27.5±1.2, 48.°79N×156.°57E, h28km±17km, ML3.9*

ISC 30 07:23:27.2±1.3, 48.°57N±0.°09×156.°0E±0.°2, h35km, n26, σ1§75/26, mb3.6/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.11	2	eP	Pn	07 23 59.4	-0.6
SKR				eS	Sn	07 24 23.1	-1.9
ALID	Alaid	2.32	353	eP	Pn	07 24 03.0	0.0
PAU	Pauzhetka	2.94	10	eP	Pn	07 24 12.4	+1.1
PAU				eS	Sn	07 24 44.8	-0.6
KDTR	Khodutka, Kamc	3.50	21	eP	Pn	07 24 18.8	-0.2
KDTR				eS	Sn	07 24 56.3	-2.8
MIPR	Malaya Ipel'ka	3.74	7	eP	Pn	07 24 23.7	+1.4
ASAK	Asacha	4.00	17	eP	Pn	07 24 27.4	+1.4
MTVR	Mutnovka	4.15	19	eP	Pn	07 24 29.0	+0.9
MTVR				eS	Sn	07 25 14.1	-1.3
RUS	Russkaya	4.18	21	eP	Pn	07 24 28.4	+0.1
RUS				eS	Sn	07 25 13.1	-2.8
GRL	Gorelyy	4.19	17	eP	Pn	07 24 29.5	+0.8
KRMR	Karymshinskiy	4.47	17	eP	Pn	07 24 33.8	+1.5
PETK	Petropavlovsk-	4.66	12	Pn	Pn	07 24 37.4	+2.3
	0.3nm,0.3s,baz=184,slow=11,SNR=2.2						
PETK				Sn	Sn	07 25 31.4	+3.5
	baz=167,slow=14,SNR=1.5						
PETK				LR	LR	07 26 38.3	
	comp=Z,73nm,20.1s,baz=232,slow=40						
AVH	Avacha	5.00	19	eP	Pn	07 24 40.3	+0.6
KOK	Koryaka	5.01	18	eP	Pn	07 24 41.7	+1.9
SDLR	Sedlovina	5.05	20	eP	Pn	07 24 42.1	+1.7
SPN	Mys Shipunski	5.19	28	eP	Pn	07 24 43.4	+1.2
SPN				eS	Sn	07 25 38.3	-2.5
TUMR	Tumrok	7.19	19	eP	Pn	07 25 11.7	+2.0
H11N2	WAKE ISLAND Hy	30.08	159	T	T	08 02 04.6	
	baz=342,slow=76,SNR=6.2						
H11N1	WAKE ISLAND Hy	30.10	159	T	T	08 01 43.9	
	baz=342,slow=76,SNR=7.4						
H11N3	WAKE ISLAND Hy	30.10	159	T	T	08 02 07.4	
	baz=342,slow=76,SNR=3.6						
H11S1	WAKE ISLAND Hy	31.21	160	T	T	08 03 03.1	
	baz=345,slow=76,SNR=52						
H11S3	WAKE ISLAND Hy	31.23	160	T	T	08 03 15.1	
	baz=345,slow=76,SNR=37						
H11S2	WAKE ISLAND Hy	31.23	160	T	T	08 03 27.3	
	baz=345,slow=76,SNR=39						
SONM	Songino Array	32.62	288	LR	LR	07 44 01.4	
	comp=Z,20nm,18.2s,baz=62,slow=38						
WRA	Warramunga Arr	70.91	202	P	P	07 34 39.4	-1.2
	0.5nm,0.6s,baz=17,slow=6.7,SNR=5.6						
ASAR	Alice Springs	74.59	201	P	P	07 35 01.6	-0.8
	0.6nm,0.9s,baz=28,slow=4.2,SNR=2.1						
TXAR	Lajitas Array	74.89	63	P	P	07 35 05.7	+1.2
	0.2nm,0.7s,baz=331,slow=5.0,SNR=3.9						

*IDC **30** 07:24:44.0±0.7, 65.°20S×179.°64E, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.2/20, mbtmp4.2/6, ML3.3/1, MS4.1/7, Ms1 4.0/7, ms1mx4.0/8, Error ellipse: s-maj=36.5km s-min=21.0km az=50.0*
*NEIC **30** 07:24:45.0±2.1, 65.°2S±0.°1×179.°8E±0.°4, h10km±3km, mb4.8/9, Error ellipse: s-maj=23.0km s-min=16.7km az=70.0*

ISC 30 07:24:45.3±0.5, 65.°32S±0.°08×179.°6E±0.°1, h10km, n65, σ1§43/49, mb4.6/8, MS4.1/11, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	13.38	197	Pn	Pn	07 27 56.1	+1.3
	0.1nm,0.3s,baz=36,slow=14,SNR=11						
VNDA				Sn	Sn	07 30 19.0	-4.3
	0.1nm,0.3s,baz=62,slow=15,SNR=1.4						
VNDA	Vanda	13.38	197	Pn	Pn	07 27 56.6	+1.8
MSWZ	Moikau Station	24.08	352	P	P	07 29 59.3	-1.3
SNZO	South Karori	24.22	351	P	P	07 30 02.1	+0.4
SNZO				IAmb	IAmb	07 30 05.8	
	comp=Z,37nm,1.2s						
QSPA	South Pole Qui	24.76	180	P	P	07 30 08.8	+2.0
	comp=Z,8.0nm,1.1s,baz=42,slow=7.2,SNR=9.7						
QSPA	South Pole Qui	24.76	180	P	P	07 30 08.2	+1.4
QSPA				IAmb	IAmb

H03S2 Juan Fernandez 64.32 115 T T 08 46 01.8
baz=206,slow=74,SNR=21
H03S1 Juan Fernandez 64.33 115 T T 08 46 03.3
baz=206,slow=74
H03S3 Juan Fernandez 64.34 115 T T 08 46 03.1
baz=206,slow=74,SNR=22
H03N3 Juan Fernandez 64.66 115 T T 08 46 33.7
baz=237,slow=76
H03N2 Juan Fernandez 64.67 115 T T 08 46 26.3
baz=237,slow=76
H03N1 Juan Fernandez 64.68 115 T T 08 46 34.8
baz=237,slow=76
PB08 IPOC Station P 80.36 117 P **P** **07 36 53.5 -3.5**
LPAZ La Paz 84.27 117 P **P** **07 37 18.6 +0.8**
comp=Z,1.1nm,0.8s,baz=215,slow=2.0,SNR=5.3
LPAZ LR LR 08 06 14.1
comp=Z,82nm,20.6s,baz=142,slow=30
BOSA Boshof 84.27 203 LR LR 08 14 21.3
comp=Z,62nm,18.7s,baz=186,slow=35
PDAR Pinedale Array 120.85 54 PKP **PKiKP** **07 43 36.6 -0.4**
comp=Z,0.9nm,1.0s,baz=208,slow=1.7,SNR=2.9
PDAR Pinedale Array 120.85 54 **PKPdf** **07 43 35.9 -0.9**
MSO Missoula 123.02 49 PKPdf **PKiKP** **07 43 40.9 0.0**
TORD Torodi Ar. Bea 127.86 183 PKP **PKPdf** **07 43 50.1 -0.7**
comp=Z,2.1nm,1.1s,baz=162,slow=6.1,SNR=4.4
BCAR Beaver Creek A 131.20 22 PKPdf **PKPdf** **07 43 53.1 -2.7**
IL31 132.07 19 PKPdf **PKiKP** **07 43 57.7 -0.6**
ILAR Eielson Array 132.07 19 PKP **PKiKP** **07 43 58.2 -0.1**
comp=Z,1.8nm,0.8s,baz=240,slow=2.6,SNR=16
ILAR Eielson Array 132.07 19 PKPdf **PKiKP** **07 43 58.1 -0.2**
MKAR Makanchi Array 134.10 288 PKhKP PKPpre 07 43 53.6
comp=Z,0.2nm,0.4s,baz=135,slow=3.1,SNR=3.1
GEYT Alibeck 136.78 260 PKP **PKPdf** **07 44 07.3 +0.3**
comp=Z,0.7nm,0.3s,baz=250,slow=7.5,SNR=1.4
GEYT Alibeck 136.78 260 PKPdf **PKPdf** **07 44 06.3 -0.7**
AKH Akhalkalaki 145.64 248 PKPdf **PKPab** **07 44 24.0 +0.5**
ELL Elmali 146.27 227 PKPdf **PKPbc** **07 44 25.4 +0.1**
BR131 Keskin Array S 147.77 234 PKPbc **PKPbc** **07 44 29.4 0.0**
BRTR Keskin Array B 147.77 234 PKPbc **PKPbc** **07 44 29.2 -0.2**
comp=Z,11nm,1.2s,baz=165,slow=5.1,SNR=16
BRTR Keskin Array B 147.77 234 **PKPbc** **07 44 28.8 -0.7**
KBZ Khabaz 147.84 249 PKPbc **PKPbc** **07 44 28.9 -0.3**
comp=Z,7.2nm,1.0s,baz=165,slow=2.9,SNR=6.3
KIV Kislovodsk 148.11 249 PKPbc **PKPbc** **07 44 30.3 +0.1**
NRIK Noril'sk 148.62 317 PKPbc **PKPbc** **07 44 30.3 -0.2**
comp=Z,7.8nm,0.8s,baz=154,slow=5.3,SNR=4.7
KEST Kesra 149.80 196 PKPbc **PKPbc** **07 44 35.0 +0.4**
comp=Z,5.7nm,1.0s,baz=180,slow=6.1,SNR=2.9
KEST PKPab **pPKPab** **07 44 41.9 -0.7**
comp=Z,13nm,1.1s,baz=251,slow=8.6,SNR=4.8
KEST Kesra 149.80 196 PKPbc **PKPbc** **07 44 34.5 -0.1**
KEST **PKPab** **07 44 41.2 +1.1**
ALN Alexandroupoli 151.26 225 **PKPbc** **07 44 37.0 -0.9**
TIP Timpagrande 151.98 209 PKPbc **PKPbc** **07 44 38.2 -1.5**
ESDC Sonseca Array 154.23 174 PKP **PKPdf** **07 44 37.3 +1.0**
comp=Z,2.6nm,1.3s,baz=114,slow=0.7,SNR=6.0
ESDC PKPbc **PKPbc** **07 44 43.0 -1.5**
comp=Z,1.3nm,0.9s,baz=31,slow=0.9,SNR=7.0
ESDC Sonseca Array 154.23 174 **PKPdf** **07 44 36.7 +0.4**
ESDC **PKPbc** **07 44 42.0 -2.5**
AKASG Malin Array Be 158.82 241 PKPab **PKPab** **07 45 17.8 -0.1**
comp=Z,0.2nm,0.3s,baz=142,slow=3.4,SNR=4.5
AKASG Malin Array Be 158.82 241 PKPdf **PKPdf** **07 44 46.4 +4.6**
AKASG **PKPab** **07 45 18.2 +0.3**

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*IDC **30** 07:32:19.9±1.5, 65°.16S×179°.54E, h0km, mb4.1/3, mb1 4.2/4, mb1mx4.0/17, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=65.6km s-min=25.7km az=68.0*
*NEIC **30** 07:32:22.1±1.6, 65°.21S±0°.06×179°.1E±0°.5, h10km±1km, mb4.5/10, Error ellipse: s-maj=35.9km s-min=4.5km az=75.0*
ISC 30 07:32:21.9±0.7, 65°.16S±0°.09×179°.4E±0°.2, h10km, n49, σ1ˢ17/29, mb4.4/7, MS3.7/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.51**	**196**	Pn	**Pn**	**07 35 32.4**	**-0.9**
	0.1nm,0.3s,baz=32,slow=16,SNR=16						
VNDA				Sn	Sn	07 37 53.5	-10
	0.0nm,0.3s,baz=337,slow=8.5,SNR=1.5						
VNDA	**Vanda**	**13.51**	**196**	Pn	**P**	**07 35 32.2**	**-1.1**
WHZ	**Wether Hill Ro**	**20.31**	**336**	P	**P**	**07 36 56.2**	**-1.4**
WHZ				IAmb	IAmb	07 37 08.1	
	comp=Z,30nm,1.2s						
MSWZ	**Moikau Station**	**23.91**	**352**	P	**P**	**07 37 36.8**	**+1.3**
QSPA	**South Pole Qui**	**24.93**	**180**	P	**P**	**07 37 45.0**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=41,slow=3.4,SNR=8.3						
QSPA	**South Pole Qui**	**24.93**	**180**	P	**P**	**07 37 44.6**	**-0.2**
BKZ	**Black Stump Fm**	**26.09**	**355**	P	**P**	**07 37 56.4**	**+0.9**
BKZ				IAmb	IAmb	07 38 15.5	
	comp=Z,9.1nm,1.1s						
RAO	**Raoul Island**	**35.97**	**4**	P	**P**	**07 39 23.2**	**+0.8**
MAW	**Mawson**	**40.10**	**212**	P	**P**	**07 39 59.7**	**+2.8**
PMSA	**Palmer Station**	**42.43**	**145**	P	**P**	**07 40 17.1**	**+1.1**
PMSA				IAmb	IAmb	07 40 19.0	
	comp=Z,14nm,1.1s						
DZM	**Mont Dzumac**	**43.91**	**343**	*e*LR	LR	07 52 34.9	
	comp=Z,362nm,23.4s						
TBI	**Tubuai**	**46.41**	**41**	*e*LR	LR	07 53 52.3	
	comp=Z,124nm,27.2s						
TBI	**Tubuai**	**46.41**	**41**	*e*T	T	08 30 19.7	
	comp=Z,5.2nm,0.3s						
H01W1	**Cape Leeuwin H**	**48.59**	**275**	T	T	08 33 47.0	
	baz=149,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**48.59**	**275**	T	T	08 33 47.9	
	baz=149,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**48.60**	**275**	T	T	08 33 48.9	
	baz=149,slow=76,SNR=20						
ASAR	**Alice Springs**	**50.71**	**302**	P	**P**	**07 41 21.6**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=156,slow=7.2,SNR=15						
ASAR	**Alice Springs**	**50.71**	**302**	P	**P**	**07 41 23.0**	**+1.5**
TVO	**Taravao**	**51.77**	**39**	*e*T	T	08 36 54.1	
	comp=Z,0.9nm,0.3s						
PPT2	**Papeete2**	**51.86**	**39**	*e*LR	LR	07 56 04.0	
	comp=Z,88nm,25.8s						
WR0	**Warramunga Arr**	**53.90**	**305**	P	**P**	**07 41 45.3**	**+0.2**
WR0				IAmb	IAmb	07 41 52.2	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**53.98**	**305**	P	**P**	**07 41 46.2**	**+0.5**
WRA	**Warramunga Arr**	**53.99**	**305**	P	**P**	**07 41 45.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=156,slow=6.4,SNR=7.6						
WRA	**Warramunga Arr**	**53.99**	**305**	P	**P**	**07 41 46.3**	**+0.5**
WB0	**Warramunga Arr**	**54.13**	**305**	P	**P**	**07 41 47.4**	**+0.5**
WB0				IAmb	IAmb	07 41 53.4	
	comp=Z,5.1nm,1.0s						
VAH	**Vaihoa**	**54.63**	**40**	*e*T	T	08 40 38.2	
	comp=Z,17nm,0.3s						
PMOR	**Pomariorio Ree**	**54.78**	**40**	*e*T	T	08 40 48.7	
	comp=Z,2.0nm,0.3s						
TAOE	**Nuku Hiva Isla**	**62.85**	**46**	*e*LR	LR	08 01 16.7	
	comp=Z,76nm,28.7s						
H03S2	**Juan Fernandez**	**64.45**	**115**	T	T	08 53 45.1	
	baz=205,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**64.45**	**115**	T	T	08 53 47.4	
	baz=205,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**64.47**	**115**	T	T	08 53 45.4	
	baz=205,slow=74,SNR=9.9						
H03N3	**Juan Fernandez**	**64.79**	**115**	T	T	08 54 11.3	
	baz=208,slow=80,SNR=5.0						
H03N2	**Juan Fernandez**	**64.80**	**115**	T	T	08 54 09.8	
	baz=208,slow=80,SNR=22						
H03N1	**Juan Fernandez**	**64.81**	**115**	T	T	08 54 06.9	
	baz=208,slow=80,SNR=4.1						
H08S2	**Diego Garcia H**	**90.12**	**252**	T	T	09 26 03.1	
	baz=153,slow=76						
H08S1	**Diego Garcia H**	**90.12**	**251**	T	T	09 26 09.1	
H08S3	**Diego Garcia H**	**90.14**	**252**	T	T	09 25 50.9	
	baz=151,slow=76,SNR=4.5						
TORD	**Torodi Ar. Bea**	**128.03**	**183**	PKP	**PKPdf**	**07 51 26.0**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=191,slow=1.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**128.03**	**183**		**PKPdf**	**07 51 27.0**	**-0.7**
ILAR	**Eielson Array**	**131.94**	**19**	PKP	**PKPdf**	**07 51 33.4**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=227,slow=2.8,SNR=6.6						
ILAR	**Eielson Array**	**131.94**	**19**	PKPdf	**PKPdf**	**07 51 33.9**	**+0.3**
MDM	**Murphy Dome**	**131.94**	**18**	PKPdf	**PKPdf**	**07 51 30.9**	**-2.7**
L59A	**Walton**	**133.68**	**82**	PKPdf	**PKiKP**	**07 51 39.0**	**+0.1**
ABKAR	**Akbulak array**	**145.18**	**273**		**PKPbc**	**07 51 57.5**	**-0.3**
BRTR	**Keskin Array B**	**147.81**	**235**	PKPbc	**PKPbc**	**07 52 04.7**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=131,slow=3.3,SNR=4.1						
BRTR	**Keskin Array B**	**147.81**	**235**		**PKPbc**	**07 52 05.9**	**-0.3**
KBZ	**Khabaz**	**147.84**	**250**	PKPbc	**PKPbc**	**07 52 05.6**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=188,slow=7.1,SNR=1.8						
NRIK	**Noril'sk**	**148.46**	**317**	PKPbc	**PKPbc**	**07 52 06.3**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=93,slow=4.3,SNR=2.6						
MORC	**Moravsky Berou**	**161.87**	**220**	PKPdf	**PKPdf**	**07 52 20.4**	**-1.6**

IDC 30 07:33:05.9±5.3, 65°.08S×129°.86E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.4/27, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=74.7km s-min=29.4km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.33**	**13**	Pn	Pn	07 34 40.1	-0.4
	3.2nm,0.3s,baz=190,slow=22,SNR=7.0						
SIJI				Sn	Sn	07 35 43.9	-10
	1.3nm,0.3s,baz=226,slow=22,SNR=1.1						
WRA	**Warramunga Arr**	**13.51**	**162**	Pn	Pn	07 36 18.7	-0.3
	0.1nm,0.3s,baz=339,slow=12,SNR=1.6						
WRA				Sn	Sn	07 38 45.0	-5.0
	0.5nm,0.3s,baz=336,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.95**	**167**	Pn	Pn	07 37 04.8	+0.2
	0.1nm,0.3s,baz=341,slow=9.1,SNR=8.0						
ASAR				Sn	Sn	07 40 06.5	-7.2
	0.1nm,0.3s,baz=354,slow=26,SNR=1.9						
MKAR	**Makanchi Array**	**68.21**	**327**	P	P	07 44 08.5	+0.1
	0.6nm,0.7s,baz=122,slow=5.4,SNR=4.7						

IDC 30 07:39:50.5±5.3, 65°.09S×179°.72W, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.6/13, mbtmp3.5/4, ML2.6/1, Error ellipse: s-maj=170.9km s-min=29.4km az=69.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.68**	**197**	Pn	Pn	07 43 04.1	-1.3
	0.0nm,0.3s,baz=48,slow=16,SNR=2.0						
QSPA	**South Pole Qui**	**24.99**	**180**	P	P	07 45 16.0	+0.4
	1.9nm,1.1s,baz=39,slow=3.6,SNR=3.5						
ASAR	**Alice Springs**	**50.99**	**301**	P	P	07 48 54.1	+0.3
	0.3nm,0.6s,baz=155,slow=7.7,SNR=6.7						
WRA	**Warramunga Arr**	**54.25**	**304**	P	P	07 49 17.4	-0.5
	0.6nm,0.8s,baz=154,slow=6.3,SNR=5.9						

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*REY **30** 07:57:56.5, 64°.67N×17°.45W, h5km*
*NEIC **30** 07:57:57.9±2.1, 64°.50N±0°.09×17°.9W±0°.1, h6km±5km, mb4.5/5, Error ellipse: s-maj=12.8km s-min=8.0km az=173.0*
*IDC **30** 07:57:57.1±0.9, 64°.52N×17°.79W, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/44, mbtmp3.6/8, MS3.6/3, Ms1 3.6/3, ms1mx2.7/42, Error ellipse: s-maj=27.5km s-min=12.4km az=15.0*
ISC 30 07:57:57.8±0.5, 64°.68N±0°.02×17°.46W±0°.02, h10km, n62, σ2ˢ21/73, mb3.8/11, MS3.6/3, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.12**	**20**	P	**Pg**	**07 57 59.3**	**-1.5**
	baz=16						
IDYN				S	**Sg**	**07 58 01.9**	**-1.1**
	baz=16						
IVON	**Vonarskard**	**0.13**	**269**	P	**Pg**	**07 57 59.2**	**-1.6**
	baz=271						
IVON				S	**Sg**	**07 58 01.6**	**-1.4**
	baz=271						
IURH	**Urdarhals**	**0.20**	**43**	P	**Pg**	**07 58 00.6**	**-1.4**
	baz=41						
IDJK	**Dyngjujokull**	**0.20**	**150**	P	**Pg**	**07 58 00.4**	**-1.6**
	baz=151						
IGRF	**Grimsfjall**	**0.28**	**163**	P	**Pg**	**07 58 01.9**	**-1.7**
	baz=163						
IKVE	**Kverkfjoll**	**0.34**	**89**	P	**Pg**	**07 58 02.9**	**-1.7**
	baz=88						
IKVE				S	**Sg**	**07 58 07.6**	**-1.5**
	baz=88						
IBJK	**Bruarjokull**	**0.37**	**124**	P	**Pg**	**07 58 03.1**	**-2.1**
	baz=124						
IHUS	**Husbondi**	**0.39**	**192**	P	**Pg**	**07 58 04.0**	**-1.6**
	baz=194						
IHUS				S	**Sg**	**07 58 09.2**	**-1.5**
	baz=194						
ISKR	**Skrokkalda**	**0.41**	**254**	P	**Pg**	**07 58 04.2**	**-1.8**
	baz=255						
IVOT	**Vottur**	**0.42**	**163**	P	**Pg**	**07 58 04.4**	**-1.8**
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**76**	P	**Pg**	**07 58 05.0**	**-2.1**
	baz=76						
IKRE				S	**Sg**	**07 58 12.0**	**-1.3**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**223**	P	**Pg**	**07 58 05.5**	**-1.9**
	baz=224						
IASK	**Askja**	**0.51**	**42**	P	**Pg**	**07 58 05.8**	**-2.0**
	baz=41						
IASK				S	**Sg**	**07 58 12.9**	**-1.7**
	baz=41						
IMKO	**Mokollar**	**0.57**	**57**	P	**Pg**	**07 58 06.8**	**-2.1**
	baz=56						
IMKO				S	**Sg**	**07 58 14.0**	**-2.3**
	baz=56						
IIEY	**Innrieyrar**	**0.65**	**207**	P	**Pg**	**07 58 08.2**	**-2.2**
	baz=207						
IIEY				S	**Sg**	**07 58 17.0**	**-1.9**
	baz=207						
ISVA	**Svartarkot**	**0.67**	**7**	P	**Pg**	**07 58 08.5**	**-2.2**
	baz=7.0						
ISVA				S	**Sg**	**07 58 17.9**	**-1.6**
	baz=7.0						
IKSK	**Karasker**	**0.67**	**140**	P	**Pg**	**07 58 07.9**	**-2.9**
	baz=140						
IKAL	**Kalfafell**	**0.74**	**188**	P	**Pg**	**07 58 09.5**	**-2.5**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.76**	**79**	P	**Pg**	**07 58 09.6**	**-2.8**
	baz=79						
IVSH				S	**Sg**	**07 58 20.1**	**-2.2**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**233**	P	**Pg**	**07 58 10.5**	**-2.7**
	baz=233						
IADA	**Aoalbol**	**0.88**	**66**	P	**Pg**	**07 58 11.6**	**-3.0**
	baz=66						
IADA				S	**Sg**	**07 58 24.3**	**-1.7**
	baz=66						
IFAG	**Fagurholsmyri**	**0.88**	**156**	P	**Pg**	**07 58 11.7**	**-3.0**
	baz=156						
IFAG				S	**Sg**	**07 58 22.7**	**-3.4**
	baz=156						
IHVE	**Hveravellir**	**0.92**	**283**	P	**Pg**	**07 58 12.4**	**-3.2**
	baz=283						
IMEL	**Melhnausar**	**0.96**	**20**	P	**Pg**	**07 58 13.2**	**-3.0**
	baz=20						
IREN	**Reynihlio**	**1.00**	**13**	P	**Pg**	**07 58 14.0**	**-3.0**
	baz=13						
IKVO	**Krokottuvotn**	**1.07**	**13**	P	**Pg**	**07 58 15.1**	**-3.3**
	baz=13						
ISNB	**Snabyli**	**1.07**	**209**	P	**Pg**	**07 58 15.2**	**-3.2**
	baz=209						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**07 58 16.0**	**-3.2**
	baz=29						
IGRS				S	**Sb**	**07 58 31.2**	**-2.6**
	baz=29						
ISLY	**Slysaalda**	**1.12**	**221**	P	**Pg**	**07 58 16.2**	**-3.1**
	baz=221						
IRJU	**Rjupnafell**	**1.19**	**207**	P	**Pb**	**07 58 17.3**	**-3.1**
	baz=207						
ISKI	**Skildingahlsh**	**1.21**	**8**	P	**Pn**	**07 58 17.5**	**-3.3**
	baz=8.2						
IGHA	**Grjothals**	**1.22**	**16**	P	**Pn**	**07 58 17.4**	**-3.5**
	baz=15						
IGRA	**Granastaoir**	**1.25**	**358**	P	**Pn**	**07 58 17.9**	**-3.4**
	baz=358						
BORG	**Borgarnes**	**1.66**	**274**	Pg	**Pn**	**07 58 24.3**	**-2.6**
	24nm,0.3s,baz=105,slow=8.0,SNR=32						
BORG				Lg	Lg	07 58 46.2	
	13nm,0.3s,baz=94,slow=23,SNR=3.9						
BORG	**Borgarnes**	**1.66**	**274**		**Pn**	**07 58 24.2**	**-2.8**
SCO	**Scoresbysund**	**6.08**	**346**	Pn	**Pn**	**07 59 28.5**	**+1.0**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**08 00 45.6**	**+0.2**
ILULI	**Ilulissat**	**13.80**	**304**	Pn	**Pn**	**08 01 15.4**	**+2.2**
FINES	**FINESS Array B**	**19.69**	**79**	P	**Pn**	**08 02 30.3**	**+2.2**
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**08 03 03.8**	**+1.8**
	0.2nm,0.3s,baz=311,slow=6.3,SNR=4.0						
GERES	**GERESS Array B**	**22.95**	**119**	P	**P**	**08 03 03.1**	**+1.2**
MSSA	**Maissana**	**25.36**	**130**	P	**P**	**08 03 27.1**	**+2.4**
MSSA				IAmb	IAmb	08 03 27.5	
	comp=Z,20nm,1.1s						
ESDC	**Sonseca Array**	**26.26**	**156**	P	**P**	**08 03 33.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=345,slow=9.6,SNR=4.6						
ESDC	**Sonseca Array**	**26.26**	**156**	P	**P**	**08 03 32.6**	**-0.3**
BRTR	**Keskin Array B**	**38.47**	**105**	P	**P**	**08 05 22.5**	**+2.8**
BMAR	**Burnt Mountain**	**42.89**	**333**	P	**P**	**08 05 57.5**	**+1.7**
BVAR	**Borovoye Array**	**43.18**	**62**	P	**P**	**08 06 01.1**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=280,slow=8.3,SNR=2.4						
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**	**08 06 20.2**	**+2.1**
	comp=Z,1.5nm,1.1s,baz=44,slow=4.7,SNR=5.4						
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**	**08 06 19.1**	**+1.0**
IMAR	**Indian Mountai**	**45.85**	**337**	P	**P**	**08 06 21.4**	**+2.0**
KURK	**Kurchatov**	**48.09**	**58**	P	**P**	**08 06 39.6**	**+2.5**
KURK				IAmb	IAmb	08 06 47.4	
	comp=Z,2.3nm,0.9s						
KURBB	**Kurchatov Arra**	**48.14**	**58**	P	**P**	**08 06 38.6**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=325,slow=7.7,SNR=4.3						
KKAR	**Karatay Array**	**51.26**	**70**	P	**P**	**08 07 02.7**	**+1.4**
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**08 07 15.3**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=341,slow=9.4,SNR=4.1						
TORD				LR	LR	08 31 17.0	
	comp=Z,57nm,21.9s,baz=165,slow=38						
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P	**P**	**08 07 14.8**	**-0.8**
PDAR	**Pinedale Array**	**53.19**	**293**	P	**P**	**08 07 15.8**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=84,slow=4.6,SNR=5.6						
PDAR	**Pinedale Array**	**53.19**	**293**	P	**P**	**08 07 14.7**	**-1.2**
MA2	**Magadan**	**55.75**	**7**	LR	LR	08 27 07.8	
	comp=Z,56nm,21.6s,baz=134,slow=31						
PV13	**Radium Mtn., P**	**56.81**	**290**	P	**P**	**08 07 43.0**	**+0.8**
PV13				IAmb	IAmb	08 07 50.8	
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**59.62**	**40**	LR	LR	08 35 37.3	
	comp=Z,47nm,20.5s,baz=135,slow=38						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**08 08 20.7**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=22,slow=7.1,SNR=3.5						
TXAR	**Lajitas Array**	**62.30**	**280**	P	**P**	**08 08 20.4**	**+0.4**

NNC 30 08:14:54.3±3.2, 42°.00N×63°.89E, h0km, mb3.6, mpv3.2, 8C-3D, Error ellipse: s-maj=34.9km s-min=9.5km az=25.0, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.01**	**75**	Pn	Pn	08 16 09.6	-1.3
	1.5nm,0.3s,baz=220,slow=48,SNR=32						
KK31				⇑Sn	Sn	08 17 09.2	-0.3
	2.7nm,0.5s,baz=254,slow=26,SNR=4.3						
KK31				⇓Lg	Lg	08 17 35.2	
	9.7nm,0.6s,baz=246,slow=26,SNR=4.3						
AB31	**Akbulak array**	**7.76**	**340**	⇓Pn	Pn	08 16 47.1	-1.4
	0.3nm,0.4s,baz=155,slow=14,SNR=27						
AB31				⇑Sn	Sn	08 18 18.3	+1.3
	0.8nm,0.5s,baz=154,slow=24,SNR=3.0						
AB31				⇑Lg	Lg	08 18 59.5	
	3.5nm,0.7s,baz=157,slow=27,SNR=4.0						
AAK	**Ala-Archa**	**7.88**	**82**	⇑Pn	Pn	08 16 50.1	-0.3
	1.3nm,0.7s						
AAK				⇓Sn	Sn	08 18 23.0	+2.6
	2.0nm,0.7s						
TKM2	**Tokmak 2**	**8.71**	**80**	⇑Pn	Pn	08 17 04.5	+2.8
	0.7nm,0.5s						
TKM2				⇑Sn	Sn	08 18 44.0	+3.4
	2.0nm,0.9s						
AKTO	**Aktyubinsk**	**9.36**	**336**	⇑Pn	Pn	08 17 10.4	0.0
	1.3nm,0.8s						
AKTO				⇑Sn	Sn	08 18 59.8	+3.4
	0.9nm,0.6s						

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*IDC **30** 08:15:41.0±0.7, 27°.36N×140°.15E, h399km±9km, mb3.0/9, mb1 3.2/10, mb1mx2.9/57, mbtmp3.7/10, Error ellipse: s-maj=24.1km s-min=14.5km az=86.0*
ISC 30 08:15:41.1±0.9, 27°.3N±0°.1×140°.1E±0°.2, h400km, n11, σ1ˢ02/12, mb3.3/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.89**	**96**	P	**Pn**	**08 16 37.7**	**+1.3**
	9.2nm,0.3s,baz=112,slow=23,SNR=17						
JCJ				S	**S**	**08 17 20.0**	**-1.0**
	30nm,0.3s,baz=281,slow=24,SNR=16						
MJAR	**Matsushiro Arr**	**9.33**	**351**	P	**Pn**	**08 17 52.4**	**+1.1**
	0.1nm,0.3s,baz=161,slow=11,SNR=1.9						
WRA	**Warramunga Arr**	**47.31**	**187**	P	**P**	**08 23 37.2**	**+0.6**
	0.5nm,0.4s,baz=3.1,slow=7.6,SNR=20						
ASAR	**Alice Springs**	**51.04**	**187**	P	**P**	**08 24 04.0**	**-0.5**
	0.5nm,0.8s,baz=359,slow=10.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**51.54**	**314**	P	**P**	**08 24 06.5**	**-1.4**
	0.5nm,0.3s,baz=92,slow=7.4,SNR=5.5						
BVAR	**Borovoye Array**	**56.61**	**317**	P	**P**	**08 24 44.7**	**+0.7**
	1.1nm,0.4s,baz=188,slow=5.7,SNR=9.2						
ILAR	**Eielson Array**	**58.41**	**29**	P	**P**	**08 24 55.0**	**-1.2**
	0.1nm,0.4s,baz=251,slow=5.5,SNR=4.4						
YKA	**Yellowknife Ar**	**72.83**	**28**	P	**P**	**08 26 26.5**	**-0.6**
	1.0nm,0.7s,baz=327,slow=8.1,SNR=1.7						
FINES	**FINESS Array B**	**76.91**	**333**	P	**P**	**08 26 50.0**	**-0.2**
	1.5nm,0.5s,baz=75,slow=5.2,SNR=13						
NVAR	**Mina Array Bea**	**81.84**	**51**	P	**P**	**08 27 18.1**	**+0.8**
	0.2nm,0.3s,baz=298,slow=5.8,SNR=3.0						
PDAR	**Pinedale Array**	**85.36**	**44**	P	**P**	**08 27 34.8**	**-0.1**
	0.1nm,0.3s,baz=286,slow=9.8,SNR=2.0						

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*NNC **30** 08:43:41.7±3.3, 53°.44N×88°.20E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=28.5km s-min=12.4km az=60.0, Suspected Mining explosion.*
*IDC **30** 08:43:47.0±3.2, 53°.52N×87°.73E, h0km, mb1 3.2/2, mb1mx3.1/46, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=30.0km s-min=16.5km az=54.0*
**ISC 30 08:43:45.7±2.0, 52°.34N±0°.05×86°.2E±0°.1, h0km, n9, σ2ˢ14/11, 8C-4D

FAKI	**Fak Fak**	**3.95**	**30**	Pn	**Pn**	**08 56 45.1**	**+0.8**
FAKI				Sn	**Sn**	**08 57 29.7**	**-1.0**
SIJI	**Sorong**	**5.55**	**10**	P	**Pn**	**08 57 06.5**	**+0.9**
	3.5nm,0.3s,baz=34,slow=23,SNR=21						
SIJI				S	**Sn**	**08 58 04.0**	**-4.6**
	4.9nm,0.3s,baz=245,slow=23,SNR=7.6						
MTN	**Manton Dam**	**6.49**	**173**	Pn	**Pn**	**08 57 18.4**	**+0.5**
SOEI	**Soe**	**6.84**	**240**	Pn	**Pn**	**08 57 23.4**	**+0.5**
BATI	**Baumata**	**7.58**	**239**	P	**Pn**	**08 57 33.2**	**+0.5**
	6.2nm,0.3s,baz=90,slow=14,SNR=1.8						
BATI				S	Sn	08 58 48.7	-8.7
	3.6nm,0.3s,baz=120,slow=9.4,SNR=1.6						
KNRA	**Kununurra**	**9.37**	**189**	Pn	**Pn**	**08 57 55.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**12.51**	**201**	P	**Pn**	**08 58 35.4**	**-2.2**
	0.3nm,0.3s,baz=4.2,slow=14,SNR=11						
FITZ				S	Sn	09 00 42.3	-14
	0.4nm,0.3s,baz=360,slow=16,SNR=3.1						
FITZ	**Fitzroy Crossi**	**12.51**	**201**	Pn	**Pn**	**08 58 37.8**	**+0.2**
WB0	**Warramunga Arr**	**13.90**	**164**	P	**Pn**	**08 58 54.4**	**-1.0**
WRAB	**Tennant Creek**	**14.05**	**164**	P	**Pn**	**08 58 55.9**	**-1.4**
WRA	**Warramunga Arr**	**14.05**	**164**	P	**Pn**	**08 58 54.8**	**-2.6**
	0.3nm,0.3s,baz=345,slow=13,SNR=17						
WRA				S	Sn	09 01 21.1	-12
	1.5nm,0.3s,baz=332,slow=23,SNR=11						
WRA	**Warramunga Arr**	**14.05**	**164**	P	**Pn**	**08 58 54.1**	**-3.2**
WB2	**Warramunga Arr**	**14.06**	**164**	P	**Pn**	**08 58 55.9**	**-1.5**
WR0	**Warramunga Arr**	**14.12**	**163**	P	**Pn**	**08 58 57.9**	**-0.4**
COEN	**Coen**	**14.75**	**122**	P	**P**	**08 59 10.2**	**+2.0**
AS31	**Alice Springs**	**17.54**	**169**	P	**Pn**	**08 59 40.3**	**+0.1**
AS31				IAmb	IAmb	08 59 42.9	
	comp=Z,1.5nm,0.5s						
ASAR	**Alice Springs**	**17.54**	**169**	P	**Pn**	**08 59 40.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=348,slow=10,SNR=32						
ASAR				S	**S**	**09 02 47.2**	**-6.8**
	comp=Z,0.3nm,0.3s,baz=358,slow=27,SNR=4.9						
ASAR	**Alice Springs**	**17.54**	**169**	P	**P**	**08 59 38.4**	**-0.7**
SBUM	**Sibu**	**20.06**	**295**	P	**P**	**09 00 08.0**	**+1.6**
STKA	**Stephens Creek**	**27.49**	**159**	P	**P**	**09 01 17.6**	**+0.6**
STKA				IAmb	IAmb	09 01 33.5	
	comp=Z,2.2nm,1.2s						
CAN	**Canberra**	**33.56**	**152**	P	**P**	**09 02 12.5**	**+2.0**
CAN				IAmb	IAmb	09 02 15.8	
	comp=Z,20nm,1.4s						
CMWZ	**Cape Campbell**	**52.50**	**139**	P	**P**	**09 04 42.3**	**-0.1**
SONM	**Songino Array**	**57.94**	**341**	LR	LR	09 33 21.7	
	comp=Z,33nm,19.3s,baz=14,slow=39						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**09 06 27.3**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=120,slow=7.9,SNR=6.9						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**09 06 27.0**	**+0.1**
CNBA	**Chernabura Isl**	**83.93**	**33**	P	**P**	**09 07 57.2**	**-0.5**

*CNRM **30** 08:56:48.6±0.9, 35°.63N×4°.83W, h135km±10km, Error ellipse: s-maj=8.1km s-min=5.4km az=92.0*
*SFS **30** 08:56:52.0, 35°.69N×4°.58W, h106km, ML2.4, ALBORAN W.*
*IGIL **30** 08:56:52.4, 35°.70N×4°.58W, h22km, ML2.9*
*MDD **30** 08:56:54.4±0.2, 35°.74N×4°.57W, h90km±2km, mb2.9/16, Error ellipse: s-maj=1.7km s-min=0.9km az=5.0, PRXIMO*

ISC 30 08:56:50.6±1.2, **35°.68N**±0°.03×**4°.62W**±0°.03, **h106**km±7km, **n48**, σ**1**°**81**/85, **4C-6D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.57**	**153**	P	**Pn**	**08 57 08.0**	**+0.5**
PVLZ				S	**Sn**	**08 57 17.6**	**-2.5**
PVLZ	**Peæn de**	**0.57**	**153**	*e*P	**Pn**	**08 57 08.0**	**+0.5**
PVLZ				*e*S	**Sn**	**08 57 17.6**	**-2.5**
SMIR	**Smir Dam**	**0.62**	**270**	P	**Pn**	**08 57 08.3**	**+0.4**
SMIR				S	**Sn**	**08 57 23.9**	**+3.0**
CEU	**Ceuta**	**0.65**	**290**	P	**Pn**	**08 57 08.4**	**+0.3**
CEU				S	**Sn**	**08 57 19.3**	**-2.0**
CEU	**Ceuta**	**0.65**	**290**	*e*P	**Pn**	**08 57 08.4**	**+0.3**
CEU				*e*S	**Sn**	**08 57 19.3**	**-2.0**
ECEU	**Ceuta**	**0.66**	**290**	P	**Pn**	**08 57 09.9**	**+1.7**
	51nm,0.2s,SNR=34						
ECEU				S	**Sn**	**08 57 23.0**	**+1.6**
	13nm,0.1s,SNR=4.9						
CHEFC	**Chefchaouen**	**0.82**	**226**	P	**Pn**	**08 57 12.6**	**+2.8**
CHEFC				S	**Sn**	**08 57 25.6**	**+1.4**
EJIF	**Jimena Fronter**	**1.03**	**318**	⇑P	**Pn**	**08 57 14.7**	**+2.9**
	SNR=18						
EJIF				S	**Sn**	**08 57 30.0**	**+2.2**
	69μm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.09**	**8**	P	**Pn**	**08 57 12.7**	**+0.3**
EMAL				S	**Sn**	**08 57 26.5**	**-2.4**
EMAL	**Malaga-Limoner**	**1.09**	**8**	⇓*i*P	**Pn**	**08 57 12.7**	**+0.3**
EMAL				*e*S	**Sn**	**08 57 26.5**	**-2.4**
RSA	**Sarsar**	**1.27**	**231**	S	**Sn**	**08 57 32.1**	**-0.4**
ELGU	**Los Guajares,**	**1.43**	**34**	⇓P	**Pn**	**08 57 16.2**	**-0.2**
	14nm,0.1s,SNR=18						
ELGU				S	**Sn**	**08 57 33.4**	**-2.6**
	13nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.48**	**16**	P	**Pn**	**08 57 18.7**	**+1.5**
	10nm,0.3s,SNR=4.0						
EGOR				S	**Sn**	**08 57 37.6**	**+0.4**
	5.1nm,0.4s,SNR=7.9						
ESPR	**Espera**	**1.55**	**320**	S	**Sn**	**08 57 40.0**	**+1.6**
	20nm,0.2s,SNR=5.6						
SICH	**Sidi Chahed**	**1.67**	**200**	P	**Pn**	**08 57 18.0**	**-1.4**
SICH				S	**Sn**	**08 57 41.0**	**-0.1**
EQUE	**Quentar**	**1.79**	**32**	P	**Pn**	**08 57 22.7**	**+1.8**
	3.4nm,0.1s,SNR=18						
EQUE				S	**Sn**	**08 57 46.3**	**+2.3**
	1.4nm,0.4s						
EBER	**Berja**	**1.85**	**48**	P	**Pn**	**08 57 22.0**	**+0.3**
	4.3nm,0.2s,SNR=18						
EBER				S	**Sn**	**08 57 46.1**	**+0.7**
	3.9nm,0.4s,SNR=5.2						
LCRM	**LCR**	**2.00**	**186**	S	**Sn**	**08 57 51.6**	**+2.9**
JBK	**JBK**	**2.15**	**128**	P	**Pn**	**08 57 25.7**	**+0.1**
JBK				S	**Sn**	**08 57 51.8**	**-0.5**
IFR	**Ifrane**	**2.20**	**191**	*e*P	**Pn**	**08 57 27.5**	**+1.3**
IFR				*e*S	**Sn**	**08 57 52.5**	**-0.8**
HORN	**Hornachuelos**	**2.22**	**347**	P	**Pn**	**08 57 26.4**	**+0.1**
HORN				S	**Sn**	**08 57 51.3**	**-2.3**
EQES	**Quesada**	**2.46**	**30**	⇓P	**Pn**	**08 57 31.1**	**+1.7**
	5.1nm,0.2s,SNR=18						
EQES				S	**Sn**	**08 58 01.0**	**+1.8**
	3.1nm,0.2s						
ECAB	**El Cabril**	**2.48**	**345**	P	**Pn**	**08 57 30.7**	**+1.1**
	1.8nm,0.1s,SNR=18						
ECAB				S	**Sn**	**08 57 57.8**	**-1.7**
	28nm,0.2s,SNR=31						
EADA	**Adamuz**	**2.48**	**1**	⇓P	**Pn**	**08 57 31.1**	**+1.4**
	9.1nm,0.1s,SNR=18						
EADA				S	**Sn**	**08 57 58.5**	**-1.2**
	32nm,0.1s,SNR=5.8						
EMIN	**Mina Concepcio**	**2.66**	**322**	⇑P	**Pn**	**08 57 33.5**	**+1.5**
	7.8nm,0.0s,SNR=18						
EMIN				S	**Sn**	**08 58 02.7**	**-1.1**
	10nm,0.1s						
CZD	**Col de Zad**	**2.66**	**188**	P	**Pn**	**08 57 32.7**	**+0.3**
CZD				S	**Sn**	**08 58 02.6**	**-1.7**
ZHG	**ZHG**	**2.79**	**217**	P	**Pn**	**08 57 34.5**	**+0.7**
ZHG				S	**Sn**	**08 58 05.5**	**-1.4**
MD31	**MD31**	**2.81**	**182**	P	**Pn**	**08 57 35.9**	**+1.8**
MD31				S	**Sn**	**08 58 06.2**	**-1.2**
MDT	**Midelt**	**2.86**	**180**	P	**Pn**	**08 57 36.5**	**+1.8**
	SNR=39						
MDT				S	**Sn**	**08 58 07.5**	**-1.1**
SESP	**Santiago Espad**	**2.95**	**34**	P	**Pn**	**08 57 37.4**	**+1.5**
	1.0nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**2.95**	**34**	P	**Pn**	**08 57 35.2**	**-0.7**
SESP				S	**Sn**	**08 58 14.9**	**+4.0**
EGRO	**El Granado**	**2.96**	**310**	⇑P	**Pn**	**08 57 37.5**	**+1.6**
	14nm,0.1s,SNR=18						
EGRO				S	**Sn**	**08 58 09.8**	**-1.0**
	19nm,0.1s,SNR=22						
PVAQ	**Vaqueiros**	**3.03**	**305**	P	**Pn**	**08 57 37.6**	**+0.7**
	SNR=16						
PVAQ				S	**Sn**	**08 58 10.3**	**-2.3**
TDRA	**Tendrara**	**3.39**	**140**	P	**Pn**	**08 57 40.9**	**-1.1**
TDRA				S	**Sn**	**08 58 22.7**	**+1.2**
MORF	**Marmelete**	**3.63**	**298**	*e*P	**Pn**	**08 57 46.3**	**+1.4**
MORF				*e*S	**Sn**	**08 58 25.4**	**-1.6**
MORF				AML	AML	08 58 27.1	
	comp=N,28nm,0.2s						
MORF	**Marmelete**	**3.63**	**298**	P	**Pn**	**08 57 46.3**	**+1.4**
MORF				S	**Sn**	**08 58 25.4**	**-1.6**
	comp=N,28nm,0.2s						
PFVI	**Vila Bisbo**	**3.69**	**294**	P	**Pn**	**08 57 47.5**	**+1.8**
	comp=N,3.6nm,0.1s,SNR=9.0						
PFVI				S	**Sn**	**08 58 27.7**	**-0.6**
	comp=N,12nm,0.1s,SNR=5.6						
ETOB	**Tobarra**	**3.84**	**39**	⇓P	**Pn**	**08 57 49.3**	**+1.5**
	comp=N,2.4nm,0.2s,SNR=18						
ESDC	**Sonseca Array**	**4.02**	**7**	P	**Pn**	**08 57 51.4**	**+1.2**
	comp=N,0.2nm,0.1s,baz=191,slow=13,SNR=8.3						
ESDC				S	**Sn**	**08 58 33.5**	**-2.9**
	comp=N,0.7nm,0.1s,baz=188,slow=22,SNR=3.7						
SRHM	**Skhour des Reh**	**4.20**	**221**	P	**Pn**	**08 57 51.7**	**-1.0**
SRHM				S	**Sn**	**08 58 39.5**	**-1.3**
EPLA	**Plasencia**	**4.53**	**346**	⇑P	**Pn**	**08 57 58.9**	**+1.9**
	comp=N,1.6nm,0.1s,SNR=18						
EPLA				S	**Sn**	**08 58 46.3**	**-2.3**
	comp=N,7.6nm,0.1s,SNR=12						
OUZM	**OUZ**	**5.08**	**201**	P	**Pn**	**08 58 03.9**	**-0.8**
OUZM				S	**Sn**	**08 59 02.3**	**0.0**
ETOR	**Torete**	**5.51**	**21**	⇓P	**Pn**	**08 58 11.6**	**+1.2**
	comp=N,15nm,0.2s,SNR=18						
EMOS	**Mosqueruela**	**5.71**	**34**	P	**Pn**	**08 58 14.2**	**+1.2**
	comp=N,0.5nm,0.2s,SNR=7.9						
TTIG	**Tnine Tigouga,**	**6.04**	**213**	P	**Pn**	**08 58 14.7**	**-3.0**
	SNR=9.0						
ECAL	**Calabor**	**6.47**	**346**	S	**Sn**	**08 59 32.3**	**-3.4**
	comp=N,3.3nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**6.74**	**338**	S	**Sn**	**08 59 38.4**	**-3.8**
	comp=N,0.7nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.62**	**357**	S	**Sn**	**08 59 59.2**	**-4.5**
	comp=N,1.2nm,0.3s,SNR=7.9						

HEL 30 08:59:22.0±0.2, **64°.69N**×**25°.80E, h0**km, **ML1.3, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**0.40**	**6**	PG	Pg	08 59 29.2	-0.5
	baz=183						
OUL				SG	Sg	08 59 34.5	-0.5
OUF	**Merijarvi**	**0.56**	**236**	PG	Pg	08 59 32.3	-0.4
OBF0	**Syolatti, Pyha**	**0.70**	**255**	PG	Pg	08 59 34.8	-0.6
OBF0				SG	Sg	08 59 44.2	-0.2
KALU	**Kalix**	**1.56**	**320**	PN	Pn	08 59 51.2	+0.2
KALU				SN	Sg	09 00 13.5	+1.3
BURU	**Burvik**	**1.91**	**269**	PG	Pn	08 59 55.7	0.0
BURU				SG	Sb	09 00 21.3	-0.6
RNF	**Rovaniemi**	**1.94**	**3**	SG	Sn	09 00 21.0	-0.1
SUF	**Sumiainen**	**1.98**	**175**	MSG		09 00 20.8	
	comp=Z,0.7nm,0.2s						
SUF				SG	Sg	09 00 25.0	-0.5
VAF	**Ylistaro**	**2.15**	**221**	PG	Pb	09 00 00.6	-1.2
VAF				MSG		09 00 25.8	
	comp=Z,1.3nm,0.2s						
KU6	**Riekki**	**2.18**	**50**	PG	Pb	09 00 01.4	-0.9
	baz=236						
KU6				MSG		09 00 26.5	
	comp=Z,18nm,0.2s						
ERTU	**Ertsjaerv**	**2.40**	**323**	SG	Sb	09 00 35.4	-0.7
KEF	**Keuruu**	**2.56**	**190**	MSG		09 00 37.7	
	comp=Z,1.1nm,0.2s						
KEF				SG	Sb	09 00 40.5	-0.3
KAF	**Kangasniemi**	**2.59**	**175**	SG	Sb	09 00 41.2	-0.4
SGF	**Sodankyl**	**2.79**	**6**	SN	Sn	09 00 39.2	-2.8
FIA0	**FINESS Array S**	**3.26**	**178**	SN	Sn	09 00 49.5	-4.1
LANU	**Lannavaara**	**3.71**	**337**	SB	Sb	09 01 12.5	-1.3
VJF	**Virojoki**	**4.24**	**168**	PG	Pb	09 00 36.7	-0.7

*IDC **30** 08:59:43.4±2.5, 64°.78N×31°.33E, h0km, mb1 3.1/4, mb1mx2.9/40, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=33.0km s-min=9.9km az=103.0*
*KOLA **30** 08:59:43.5, 64°.65N×30°.78E, h0km*
*HEL **30** 08:59:44.0±0.4, 64°.82N×30°.88E, h0km, ML1.8, Explosion*

ISC 30 08:59:44.9±1.1, **64°.89N**±0°.04×**30°.31E**±0°.06, **h0**km, **n14,** σ**1**°**15**/28, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.16**	**351**	*e*P	**Pg**	**09 00 06.3**	**-0.7**
KU6				*e*S	**Sb**	**09 00 23.6**	**+0.4**
KU6				MSG		09 00 31.2	
	comp=Z,7.9nm,0.1s						
MSF	**Maaselka**	**1.16**	**333**	*e*P	**Pg**	**09 00 07.5**	**+0.4**
MSF				*e*S	**Sn**	**09 00 25.6**	**+0.7**
MSF				MSG		09 00 30.6	
	comp=Z,11nm,0.1s						
OUL	**Oulu**	**1.89**	**278**	*e*P	**Pb**	**09 00 20.0**	**-0.2**
OUL				*e*S	**Sg**	**09 00 47.6**	**+2.1**
OBF4	**Vikkela, Lumij**	**2.23**	**270**	*e*P	**Pb**	**09 00 24.9**	**-1.0**
OBF4				*e*S	**Sg**	**09 00 55.8**	**-0.6**
OUF	**Merijarvi**	**2.46**	**260**	*e*P	**Pb**	**09 00 28.2**	**-1.7**
OUF				*e*S	**Sb**	**09 01 01.1**	**+0.4**
RNF	**Rovaniemi**	**2.48**	**316**	*e*P	**Pb**	**09 00 29.2**	**-1.0**
RNF				*e*S	**Sb**	**09 01 01.6**	**+0.4**
SUF	**Sumiainen**	**2.85**	**222**	*e*P	**Pn**	**09 00 33.3**	**+1.6**
SUF				*e*S	**Sn**	**09 01 08.2**	**+1.5**
VRF	**Varrio**	**2.89**	**355**	*e*P	**Pn**	**09 00 32.8**	**+0.6**
VRF				*e*S	**Sn**	**09 01 08.5**	**+1.0**
APA0	**Apatity Array**	**2.94**	**20**	P	**Pn**	**09 00 33.1**	**+0.3**
APA0				S	**Sn**	**09 01 10.2**	**+1.5**
APA	**Apatity**	**2.97**	**24**	P	**Pn**	**09 00 33.4**	**+0.1**
APA				S	**Sn**	**09 01 10.6**	**+1.1**
FINES	**FINESS Array B**	**3.96**	**211**	Pn	**Pn**	**09 00 46.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=33,slow=14,SNR=1.6						
FINES				Pg	**Pb**	**09 00 54.1**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=30,slow=16,SNR=7.7						
FINES				Sn	**Sn**	**09 01 36.1**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=34,slow=15,SNR=1.6						
FINES				Lg	Lg	09 01 46.2	
	comp=Z,1.2nm,0.3s,baz=40,slow=27,SNR=15						
ARCES	**ARCESS Array B**	**5.03**	**340**	Pn	**Pn**	**09 01 01.2**	**-0.3**
	baz=156,slow=14,SNR=21						
ARCES				Sn	**Sn**	**09 02 00.7**	**+0.5**
	baz=158,slow=26,SNR=2.2						
ARCES				Lg	Lg	09 02 21.2	
	baz=154,slow=32,SNR=6.3						
HFS	**Hagfors**	**9.03**	**246**	Pn	**Pn**	**09 01 56.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=64,slow=15,SNR=1.6						
HFS				Sn	**Sn**	**09 03 36.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=61,slow=22,SNR=2.9						
HFS				Lg	Lg	09 04 24.8	
	comp=Z,0.1nm,0.3s,baz=67,slow=36,SNR=1.9						
NOA	**NORSAR Array B**	**9.50**	**255**	Pn	**Pn**	**09 02 01.9**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=68,slow=12,SNR=1.5						
NOA				Lg	Lg	09 04 44.2	
	comp=Z,0.0nm,0.3s,baz=54,slow=24,SNR=2.5						

*SOME **30** 09:00:42.9, 40°.08N×76°.00E, h0km*
*KRNET **30** 09:00:47.2±0.1, 40°.16N×75°.99E, mb3.6*
*NNC **30** 09:00:47.2±1.9, 40°.21N×75°.97E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=14.4km s-min=9.9km az=169.0*

ISC 30 09:00:51.1±1.3, **40°.35N**±0°.06×**75°.96E**±0°.03, **h10**km, **n62,** σ**1**°**57**/97, **30C-11D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**1.80**	**343**	⇓*i*P	**Pb**	**09 01 24.6**	**+0.1**
	baz=44						
KZA				⇓*i*S	**Sg**	**09 01 51.1**	**+1.9**
	baz=44						
KZA	**Kyzart**	**1.80**	**343**	P	**Pb**	**09 01 24.6**	**+0.1**
	SNR=70						
ULHL	**Ulahol**	**1.90**	**6**	⇑*e*P	**Pb**	**09 01 25.9**	**-0.2**
	baz=5.0						
ULHL				⇑*i*S	**Sg**	**09 01 53.5**	**+1.2**
	baz=5.0						
ULHL	**Ulahol**	**1.90**	**6**	P	**Pb**	**09 01 26.1**	**0.0**
	SNR=22						
ARLS	**Aral**	**1.95**	**321**	⇓*i*P	**Pb**	**09 01 26.2**	**-0.6**
	baz=24						
ARLS				⇓*i*S	**Sg**	**09 01 54.6**	**+0.8**
	baz=24						
KDJ	**Kajisay**	**2.00**	**27**	⇓*i*P	**Pb**	**09 01 26.8**	**-0.9**
	baz=24						
KDJ				⇓*i*S	**Sg**	**09 01 55.4**	**0.0**
	baz=24						
BOOM	**Boomskoye usch**	**2.13**	**360**	⇑*e*P	**Pb**	**09 01 29.6**	**-0.4**
	baz=59						
BOOM				⇑*i*S	**Sg**	**09 01 59.4**	**-0.3**
	baz=59						
UCH	**Uchtor**	**2.17**	**330**	⇑*i*P	**Pb**	**09 01 29.7**	**-1.0**
	baz=32						
UCH				⇑*i*S	**Sg**	**09 02 00.6**	**-0.2**
	baz=32						
UCH	**Uchtor**	**2.17**	**330**	P	**Pb**	**09 01 29.1**	**-1.7**
	SNR=300						
KBK	**Karagaybulak**	**2.42**	**342**	⇑*i*P	**Pb**	**09 01 33.3**	**-1.6**
	baz=43						
KBK				⇑*i*S	**Sb**	**09 02 06.0**	**+1.1**
	baz=43						
KBK	**Karagaybulak**	**2.42**	**342**	P	**Pb**	**09 01 35.9**	**+1.0**
	SNR=65						
AML	**Almayashu**	**2.46**	**317**	⇑*e*P	**Pb**	**09 01 33.7**	**-2.1**
	baz=19						
AML				⇑*i*S	**Sb**	**09 02 07.4**	**+1.1**
	baz=19						
AML	**Almayashu**	**2.46**	**317**	P	**Pb**	**09 01 33.5**	**-2.2**
	SNR=6.6						
AAK	**Ala-Archa**	**2.53**	**335**	⇑*e*P	**Pb**	**09 01 34.9**	**-1.9**
	baz=36						
AAK				⇑*i*S	**Sb**	**09 02 08.8**	**+0.7**
	baz=36						
AAK	**Ala-Archa**	**2.53**	**335**	P	**Pb**	**09 01 35.0**	**-1.8**
	SNR=48						
AAK	**Ala-Archa**	**2.53**	**335**	⇑Pg	**Pb**	**09 01 34.5**	**-2.3**
	57nm,0.8s						
AAK				⇑Lg	Lg	09 02 12.4	
	53nm,0.7s						
TKM2	**Tokmak 2**	**2.58**	**354**	⇑*e*P	**Pb**	**09 01 35.7**	**-1.9**
	baz=54						
TKM2				⇑*i*S	**Sb**	**09 02 09.9**	**+0.4**
	baz=54						
TKM2	**Tokmak 2**	**2.58**	**354**	P	**Pb**	**09 01 35.9**	**-1.8**
	SNR=61						
TKM2	**Tokmak 2**	**2.58**	**354**	⇓Pn	**Pb**	**09 01 36.2**	**-1.4**
	13nm,0.3s						
TKM2				⇓Lg	Lg	09 02 15.9	
	44nm,0.6s						
FRU1	**Bishkek**	**2.65**	**338**	⇑*i*P	**Pb**	**09 01 36.3**	**-2.4**
	baz=39						
FRU1				⇑*i*S	**Sb**	**09 02 11.8**	**+0.5**
	baz=39						
KST	**Kastek**	**2.69**	**0**	*e*P	**Pb**	**09 01 37.8**	**-1.6**
	24nm,0.3s						
KST				*e*S	**Sg**	**09 02 19.0**	**+1.5**
	96nm,0.3s						
KST	**Kastek**	**2.69**	**0**	Pg	**Pb**	**09 01 37.8**	**-1.6**
	24nm,0.3s						
KST				Lg	Lg	09 02 19.9	
	96nm,0.3s						
ANVS	**Anan'yevo**	**2.74**	**27**	⇑*e*P	**Pn**	**09 01 37.4**	**+2.0**
	baz=25						
ANVS				⇑*i*S	**Sb**	**09 02 13.4**	**-0.8**
	baz=25						
TNSS	**Tian-Shan**	**2.78**	**15**	*e*P	**Pb**	**09 01 38.7**	**-2.5**
	25nm,0.5s						
TNSS				*e*S	**Sg**	**09 02 20.5**	**0.0**
	23nm,0.5s						
TNSS	**Tian-Shan**	**2.78**	**15**	Pg	**Pb**	**09 01 38.7**	**-2.5**
	25nm,0.5s						
TNSS				Lg	Lg	09 02 20.9	
	23nm,0.5s						
CHMS	**Chumysh**	**2.79**	**341**	⇑*i*P	**Pb**	**09 01 38.4**	**-2.8**
	baz=42						
CHMS				⇑*i*S	**Sb**	**09 02 15.2**	**-0.2**
	baz=42						
CHMS	**Chumysh**	**2.79**	**341**	P	**Pb**	**09 01 39.6**	**-1.5**
	SNR=6.4						
MTBS	**Maitube**	**2.80**	**7**	*e*P	**Pb**	**09 01 38.9**	**-2.4**
	25nm,0.3s						
MTBS				*e*S	**Sg**	**09 02 20.5**	**-0.5**
	47nm,0.3s						
MTBS	**Maitube**	**2.80**	**7**	Pg	**Pb**	**09 01 38.8**	**-2.4**
	25nm,0.3s						
MTBS				Lg	Lg	09 02 20.5	
	47nm,0.3s						
PRZ	**Przheval'sk**	**2.81**	**40**	⇑*e*P	**Pn**	**09 01 37.6**	**+1.3**
	baz=37						
PRZ				⇑*i*S	**Sb**	**09 02 14.5**	**-1.5**
	baz=37						
EKS2	**Erkin-Say**	**2.83**	**325**	⇑*i*P	**Pb**	**09 01 39.0**	**-2.8**
	baz=27						
EKS2				⇑*i*S	**Sb**	**09 02 15.9**	**-0.7**
	baz=27						
EKS2	**Erkin-Say**	**2.83**	**325**	P	**Pn**	**09 01 38.8**	**+2.3**
	SNR=14						
MDOK	**Medeo**	**2.92**	**16**	*e*P	**Pb**	**09 01 41.7**	**-1.7**
	6.4nm,0.4s						
MDOK				*e*S	**Sg**	**09 02 25.6**	**+0.6**
	47nm,0.7s						
MDOK	**Medeo**	**2.92**	**16**	Pg	**Pb**	**09 01 41.7**	**-1.7**
	6.4nm,0.4s						
MDOK				Lg	Lg	09 02 25.6	
	47nm,0.7s						
KOTS	**Kotyrbulak**	**3.00**	**16**	*e*P	**Pb**	**09 01 43.4**	**-1.4**
	33nm,0.4s						
KOTS				*e*S	**Sg**	**09 02 28.7**	**+1.1**
	156nm,0.6s						
KOTS	**Kotyrbulak**	**3.00**	**16**	Pg	**Pb**	**09 01 43.4**	**-1.4**
	33nm,0.4s						
KOTS				Lg	Lg	09 02 28.7	
	156nm,0.6s						
USP	**Ospenovka**	**3.11**	**340**	⇓*e*P	**Pn**	**09 01 42.8**	**+2.5**
	baz=41						
USP				⇓*i*S	**Sb**	**09 02 22.8**	**-1.7**
	baz=41						
USP	**Ospenovka**	**3.11**	**340**	P	**Pn**	**09 01 42.6**	**+2.3**
	SNR=6.8						
MRKS	**Merke**	**3.15**	**320**	*e*P	**Pb**	**09 01 45.4**	**-1.9**
	23nm,0.3

ARXS	**Arharly**	**4.10**	**19**	*eP*		**Pb**	**09 02 02.3**	**-1.1**
	8.8nm,0.4s							
ARXS				*eS*		**Sg**	**09 03 01.5**	**-1.2**
	27nm,0.5s							
ARXS	**Arharly**	**4.10**	**19**	Pg		**Pb**	**09 02 02.3**	**-1.1**
	8.8nm,0.4s							
ARXS				Lg		Lg	09 03 01.5	
	27nm,0.5s							
MNBS	**Baschi**	**4.14**	**25**	*eP*		**Pb**	**09 02 03.8**	**-0.4**
	5.5nm,0.4s							
MNBS				*eS*		**Sg**	**09 03 03.3**	**-0.7**
	27nm,0.5s							
MNBS	**Baschi**	**4.14**	**25**	Pg		**Pb**	**09 02 03.8**	**-0.4**
	5.5nm,0.4s							
MNBS				Lg		Lg	09 03 03.3	
	27nm,0.5s							
IUG	**luzhnay**	**4.82**	**294**	*eP*		**Pb**	**09 02 14.9**	**-0.8**
	5.8nm,0.5s							
IUG				*eS*		**Sg**	**09 03 22.6**	**-3.1**
	22nm,0.8s							
DJR	**Jarkent**	**4.88**	**34**	*eP*		**Pb**	**09 02 15.5**	**-1.3**
	2.9nm,0.5s							
DJR				*eS*		**Sg**	**09 03 24.0**	**-3.9**
	6.1nm,0.5s							
DJR	**Jarkent**	**4.88**	**34**	Pg		**Pb**	**09 02 15.5**	**-1.3**
	2.9nm,0.5s							
DJR				Lg		Lg	09 03 24.0	
	6.1nm,0.5s							
KK31	**Karatay Array**	**4.92**	**306**	⇑Pn		**Pn**	**09 02 04.7**	**-0.4**
	0.6nm,0.5s,baz=132,slow=13,SNR=4.3							
KK31				⇑Pg		**Pb**	**09 02 18.2**	**+0.9**
	1.3nm,0.4s,baz=126,slow=16,SNR=13							
KK31				⇓Lg		Lg	09 03 23.7	
	3.1nm,0.5s,baz=121,slow=28,SNR=4.5							

NIED ***30*** *09:22:08.5, 27°.56N×129°.11E, h18km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.65; $M_{\theta\theta}$=2.12; $M_{\phi\phi}$=0.53; $M_{r\theta}$=-0.18; $M_{\phi\theta}$=-2.12; $M_{\phi r}$=0.82; Fault plane solution: M_0=3.29000×10^{14} NP1: ϕ_s=324.00000°, δ=52.00000°, λ=-63.00000°. NP2: ϕ_s=105.00000°, δ=46.00000°, λ=-120.00000°.*

JMA 30 09:22:08.5±0.1, 27°.56N×129°.11E, h18km±2km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.27**	**328**	P	Pg	09 22 14.4	-0.1
JTK				S	Sg	09 22 18.2	-0.4
JOKE	**Okinoerabujima**	**0.52**	**248**	P	Pg	09 22 18.5	-0.4
JOKE				*eS*	Sg	09 22 25.8	-0.1
JAMN	**Amaminishikomi**	**0.68**	**5**	P	Pb	09 22 21.4	-0.5
JAMN				*eS*	Sb	09 22 30.6	-0.4
JYRO	**Yoronjima**	**0.79**	**228**	P	Pb	09 22 23.2	-0.5
JYRO				*eS*	Sb	09 22 34.1	0.0
JAM	**Amami Oshima**	**0.95**	**27**	P	Pb	09 22 26.3	-0.2
JAM				*eS*	Sb	09 22 38.7	-0.1
JOW	**Kunigami**	**1.04**	**226**	P	Pb	09 22 27.7	-0.3
JOW				*eS*	Sb	09 22 40.8	-0.5
JZK	**Kikaishima**	**1.07**	**45**	P	Pg	09 22 30.5	+1.2
JZK				*eS*	Sg	09 22 47.8	+4.5
JIH	**Iheya**	**1.14**	**243**	P	Pn	09 22 29.6	0.0
JIH				S	Sn	09 22 44.9	+0.1
JNTH	**Nagotoyohara**	**1.42**	**223**	P	Pb	09 22 34.2	-0.3
JTAJ	**Takarajima**	**1.59**	**3**	P	Pn	09 22 36.0	+0.3
JTAJ				S	Sb	09 22 56.9	-0.2
JAGN	**Aguni-jima**	**1.93**	**240**	P	Pn	09 22 41.2	+0.8
JAGN				S	Sn	09 23 04.8	+0.7
JNN	**Nakanoshima**	**2.37**	**16**	P	Pn	09 22 47.4	+0.9
JNN				*eS*	Sn	09 23 15.3	+0.2
JKE	**Kume jima 2**	**2.41**	**240**	P	Pn	09 22 47.8	+0.8
JKE				*eS*	Sn	09 23 17.2	+1.1
JKDJ	**Kitadaitoujima**	**2.53**	**129**	P	Pn	09 22 48.2	-0.5
JKDJ				*eS*	Sn	09 23 17.7	-1.3
JMZ	**Minamidaito 2**	**2.56**	**132**	P	Pn	09 22 49.1	0.0
JMZ				*eS*	Sn	09 23 18.8	-1.1
JYAK	**Yakushimahirau**	**2.94**	**24**	P	Pn	09 22 55.6	+1.3
JYAK				*eS*	Sn	09 23 30.8	+1.7
JKC	**Kuchinoerabu**	**3.04**	**18**	P	Pn	09 22 57.1	+1.4
JKC				*eS*	Sn	09 23 33.2	+1.5
JTN	**Tanegashima 3**	**3.49**	**28**	P	Pn	09 23 03.9	+2.0

NNC ***30*** *09:28:08.0±2.8, 37°.72N×71°.68E, h212km±32km, mb2.6, mpv3.8, Error ellipse: s-maj=26.7km s-min=17.8km az=22.0*

ISC 30 09:28:00.9±2.9, 37°.3N±0°.2×71°.3E±0°.1, h109km, n13, σ2§21/18, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.17**	**20**	P	**Pn**	**09 29 18.6**	**+2.3**
	SNR=35						
UCH	**Uchtor**	**5.51**	**26**	P	**Pn**	**09 29 22.6**	**+1.6**
	SNR=57						
KZA	**Kyzart**	**5.66**	**31**	P	**Pn**	**09 29 23.5**	**+0.6**
	SNR=7.6						
EKS2	**Erkin-Say**	**5.68**	**19**	P	**Pn**	**09 29 26.2**	**+3.2**
	SNR=38						
KK31	**Karatay Array**	**5.83**	**354**	⇓P	**Pn**	**09 29 28.8**	**+3.8**
	4.9nm,0.5s,baz=172,slow=12,SNR=39						
KK31				⇑S	**Sn**	**09 30 32.4**	**+1.9**
	16nm,0.7s,baz=167,slow=20,SNR=16						
AAK	**Ala-Archa**	**5.87**	**24**	P	**Pn**	**09 29 27.5**	**+2.0**
	SNR=13						
AAK	**Ala-Archa**	**5.87**	**24**	⇓P	**Pn**	**09 29 26.9**	**+1.4**
	5.3nm,0.3s						
AAK				S	**Sn**	**09 30 30.8**	**-0.7**
	5.2nm,0.3s						
KBK	**Karagaybulak**	**6.04**	**26**	P	**Pn**	**09 29 30.1**	**+2.2**
	SNR=5.9						
CHMS	**Chumysh**	**6.28**	**24**	P	**Pn**	**09 29 32.7**	**+1.8**
	SNR=5.1						
TKM2	**Tokmak 2**	**6.51**	**29**	P	**Pn**	**09 29 35.1**	**+0.9**
	SNR=6.1						
TKM2	**Tokmak 2**	**6.51**	**29**	⇑P	**Pn**	**09 29 34.7**	**+0.5**
	4.3nm,0.6s						
TKM2				⇑S	**Sn**	**09 30 46.2**	**-0.9**
	2.3nm,0.8s						
AB31	**Akbulak array**	**14.52**	**329**	⇑P	**P**	**09 31 24.3**	**-0.1**
	0.5nm,0.6s,baz=141,slow=12,SNR=10						
AB31				⇑S	**Sn**	**09 33 58.9**	**-2.2**
	1.3nm,0.7s,baz=152,slow=22,SNR=6.4						
AKTO	**Aktyubinsk**	**16.23**	**328**	⇑P	**Pn**	**09 31 40.4**	**-2.0**
	1.5nm,0.8s						
AKTO				⇓S	**Sn**	**09 34 38.8**	**-3.4**
	2.9nm,1.3s						

JMA ***30*** *09:33:14.3±0.1, 38°.72N×142°.24E, h39km±1km, M3.9*
JMA Felt I J1.
NIED ***30*** *09:33:14.3, 38°.72N×142°.24E, h39km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.01; $M_{\theta\theta}$=-0.03; $M_{\phi\phi}$=-1.98; $M_{r\theta}$=0.87; $M_{\phi\theta}$=-0.32; $M_{\phi r}$=3.14; Fault plane solution: M_0=3.84000×10^{14} NP1: ϕ_s=15.00000°, δ=74.00000°, λ=93.00000°. NP2: ϕ_s=184.00000°, δ=16.00000°, λ=80.00000°.*
IDC ***30*** *09:33:15.9±0.9, 38°.76N×142°.46E, h60km±6km, mb3.3/7, mb1 3.5/11, mb1mx3.3/43, mbtmp3.6/11, MS2.6/4, Ms1 2.6/4, ms1mx2.3/38 Error ellipse: s-maj=20.2km s-min=14.1km az=98.0*

ISC 30 09:33:15.9±0.8, 38°.73N±0°.05×142°.24E±0°.08, h54km±6km, n31, σ2§04/39, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.56**	**308**	P	**Pn**	**09 33 26.0**	**-2.2**
OFUJ				*eS*	**Sn**	**09 33 34.3**	**-2.8**
JKMT	**Kesennumamotoy**	**0.60**	**278**	P	**Pn**	**09 33 26.5**	**-2.2**
JKMT				S	**Sn**	**09 33 34.9**	**-3.0**
JIKH	**Ishinomakikobu**	**0.74**	**236**	P	**Pn**	**09 33 28.0**	**-2.4**
JIKH				S	**Sn**	**09 33 37.9**	**-3.0**
JIO	**Ouri**	**0.75**	**249**	P	**Pn**	**09 33 28.2**	**-2.3**
JIO				S	**Sn**	**09 33 37.9**	**-3.3**
JMK	**Ichinoseki**	**0.83**	**286**	P	**Pn**	**09 33 29.7**	**-1.8**
JMK				*eS*	**Sn**	**09 33 40.6**	**-2.3**
JOM	**Ohasama**	**1.04**	**315**	P	**Pn**	**09 33 33.1**	**-1.3**
JOM				S	**Sn**	**09 33 46.4**	**-1.6**
JTH	**Tanohata**	**1.24**	**346**	P	**Pn**	**09 33 35.4**	**-1.6**
JOU	**Okura**	**1.29**	**254**	P	**Pn**	**09 33 36.3**	**-1.4**
JOU				S	**Sn**	**09 33 52.8**	**-1.1**
JRG	**Rokugo**	**1.42**	**298**	P	**Pn**	**09 33 38.4**	**-1.0**
JMM	**Marumori**	**1.43**	**233**	P	**Pn**	**09 33 37.6**	**-2.0**
JMM				*eS*	**Sn**	**09 33 55.1**	**-2.2**
JYK	**Kaneyama**	**1.48**	**278**	P	**Pn**	**09 33 39.2**	**-1.0**
MJAR	**Matsushiro Arr**	**3.88**	**237**	P	**Pn**	**09 34 13.7**	**+0.7**
	0.7nm,0.3s,baz=36,slow=13,SNR=34						
MJAR				LR	LR	09 36 02.8	
	comp=Z,54nm,18.1s,baz=190,slow=42						
MAT	**Matsushiro**	**3.88**	**237**	P	**Pn**	**09 34 13.4**	**+0.4**
MAT				*eS*	**Sn**	**09 35 00.8**	**+3.5**
ASAJ	**Asahikawa**	**5.38**	**3**	P	**Pn**	**09 34 33.5**	**-0.2**
	0.9nm,0.3s,baz=199,slow=19,SNR=5.4						
ASAJ				S	**Sn**	**09 35 34.4**	**+0.1**
	0.5nm,0.3s,baz=72,slow=19,SNR=1.2						
USRK	**Ussuriysk Ar.**	**9.43**	**309**	P	**Pn**	**09 35 32.0**	**+3.0**
	baz=114,slow=14,SNR=8.6						
JNU	**Nakatsue**	**10.78**	**242**	LR	LR	09 40 45.5	
	comp=Z,17nm,18.7s,baz=18,slow=41						
KSRS	**Korea Array**	**11.36**	**268**	P	**Pn**	**09 35 59.4**	**+4.0**
	0.3nm,0.3s,baz=80,slow=15,SNR=2.4						
KSRS				LR	LR	09 39 43.3	
	comp=Z,35nm,20.0s,baz=36,slow=34						
MA2	**Magadan**	**21.56**	**12**	LR	LR	09 46 29.0	
	comp=Z,19nm,19.8s,baz=250,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.51**	**125**	T	T	10 09 32.1	
	baz=317,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy**	**28.52**	**125**	T	T	10 09 32.4	
	baz=317,slow=75,SNR=97						
H11N3	**WAKE ISLAND Hy**	**28.53**	**125**	T	T	10 09 30.0	
	baz=317,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**29.29**	**127**	T	T	10 10 26.5	
	baz=319,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**29.29**	**127**	T	T	10 10 29.8	
	baz=319,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**29.30**	**127**	T	T	10 10 26.0	
	baz=319,slow=76,SNR=57						
ZALV	**Zalesovo Beam**	**41.28**	**311**	P	**P**	**09 40 56.1**	**+0.5**
	0.8nm,0.4s,baz=101,slow=7.8,SNR=3.0						
ZALV				pP	**pP**	**09 41 11.1**	**+1.4**
	0.8nm,0.5s,baz=92,slow=8.6,SNR=2.4						
MKAR	**Makanchi Array**	**43.79**	**301**	P	**P**	**09 41 16.5**	**+0.3**
	0.7nm,0.7s,baz=85,slow=10.0,SNR=6.1						
MKAR				pP	**pP**	**09 41 30.3**	**-0.1**
	0.4nm,0.7s,baz=75,slow=9.4,SNR=2.9						
MKAR				sP	**sP**	**09 41 39.8**	**+3.1**
	0.5nm,0.7s,baz=70,slow=11,SNR=2.9						
KURBB	**Kurchatov Arra**	**45.49**	**307**	P	**P**	**09 41 29.9**	**+0.3**
	2.9nm,0.7s,baz=82,slow=8.3,SNR=22						
KURBB				pP	**pP**	**09 41 44.9**	**+1.0**
	0.6nm,0.4s,baz=80,slow=7.9,SNR=3.5						
ILAR	**Eielson Array**	**47.71**	**33**	P	**P**	**09 41 44.8**	**-2.0**
	0.3nm,0.8s,baz=258,slow=9.0,SNR=2.7						
ILAR				pP	**pP**	**09 42 00.8**	**-0.1**
	0.5nm,0.8s,baz=269,slow=5.6,SNR=3.2						
WRA	**Warramunga Arr**	**58.83**	**189**	P	**P**	**09 43 08.6**	**-0.3**
	0.5nm,0.8s,baz=5.3,slow=6.9,SNR=2.9						
ASAR	**Alice Springs**	**62.56**	**189**	P	**P**	**09 43 34.1**	**-0.1**
	0.3nm,0.8s,baz=8.7,slow=6.7,SNR=1.7						
ASAR				pP	**pP**	**09 43 50.4**	**+1.5**
	0.3nm,0.6s,baz=360,slow=5.3,SNR=2.7						
PDAR	**Pinedale Array**	**76.01**	**46**	P	**P**	**09 44 56.2**	**-1.4**
	0.2nm,0.7s,baz=328,slow=7.8,SNR=1.9						

KRNET ***30*** *09:55:12.0±0.1, 41°.11N×69°.67E, mb3.0*
NNC ***30*** *09:55:14.1±7.0, 41°.54N×68°.48E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=66.4km s-min=52.2km az=174.0*

ISC 30 09:55:11.7±1.4, 41°.06N±0°.04×69°.40E±0°.06, h29km±17km, n11, σ0§88/19, 15C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.28**	**344**	⇑*iP*	**Pn**	**09 55 19.5**	**-0.3**
	baz=8.0						
TAS				⇑*iS*	**Sn**	**09 55 24.5**	**-0.6**
	baz=8.0						
BTK	**Batken**	**1.47**	**132**	⇓*iP*	**Pn**	**09 55 37.0**	**+0.7**
	baz=40						
BTK				⇓*iS*	**Sb**	**09 55 55.7**	**-1.1**
	baz=40						
GAR	**Garm**	**2.17**	**161**	⇓*iP*	**Pb**	**09 55 49.7**	**-0.7**
	baz=66						
GAR				⇓*iS*	**Sb**	**09 56 17.3**	**+0.3**
	baz=66						
KK31	**Karatay Array**	**2.20**	**22**	Pn	**Pb**	**09 55 51.8**	**+0.9**
	3.0nm,0.3s,baz=200,slow=15,SNR=44						
KK31				Lg	Lg	09 56 21.4	
	9.4nm,0.4s,baz=201,slow=26,SNR=14						
CHGR	**Chuyangaron**	**2.41**	**184**	⇑*iP*	**Pb**	**09 55 54.0**	**-0.3**
	baz=89						
CHGR				⇑*iS*	**Sb**	**09 56 24.6**	**+1.0**
	baz=89						
OHH	**Osh**	**2.63**	**101**	⇑*iP*	**Pn**	**09 55 53.5**	**+1.3**
	baz=3.0						
OHH				⇑*iS*	**Sn**	**09 56 23.1**	**0.0**
	baz=3.0						
AML	**Almayashu**	**3.40**	**70**	⇑*iP*	**Pn**	**09 56 03.8**	**+0.8**
	baz=70						
AML				⇑*iS*	**Sn**	**09 56 41.9**	**-0.6**
	baz=70						
EKS2	**Erkin-Say**	**3.64**	**62**	⇑*iP*	**Pn**	**09 56 07.1**	**+0.9**
	baz=62						
EKS2				⇑*iS*	**Sn**	**09 56 47.5**	**-0.7**
	baz=62						
UCH	**Uchtor**	**4.01**	**71**	⇑*iP*	**Pn**	**09 56 12.4**	**+0.9**
	baz=71						
UCH				⇑*iS*	**Sn**	**09 56 56.5**	**-1.2**
	baz=71						
AAK	**Ala-Archa**	**4.12**	**66**	Pn	**Pb**	**09 56 23.0**	**-0.5**
	1.9nm,0.5s						
AAK				⇑Sn	Sb	09 57 20.2	+7.3
	2.7nm,0.8s						
TKM2	**Tokmak 2**	**4.98**	**66**	⇑Pn	**Pb**	**09 56 37.7**	**-0.5**
	1.4nm,0.5s						
TKM2				⇑Sn	Sb	09 57 44.6	+6.9
	1.8nm,0.5s						

UCR ***30*** *09:58:50.1±2.8, 14°.26N×91°.69W, h20km±999km, ML3.5*
SNET ***30*** *09:58:50.1±2.8, 14°.25N×91°.67W, h15km±999km, ML3.6*

GCG 30 09:58:40.0±0.6, 13°.83N×92°.44W, h29km±515km, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.66**	**68**	*eP*	Pn	09 59 07.6	+0.2
FUG				*eS*	Sb	09 59 29.4	-1.3
PCG	**Pacaya**	**1.86**	**72**	*eP*	Pn	09 59 10.9	+0.8
PCG				*eS*	Sb	09 59 34.6	-1.8
IXG	**Ixpaco**	**1.96**	**80**	*eP*	Pn	09 59 12.3	+0.8
IXG				*eS*	Sn	09 59 36.9	+1.6
NBG	**Las Nubes**	**2.16**	**69**	*eP*	Pn	09 59 16.2	+1.9
NBG				*eS*	Sn	09 59 41.9	+1.7
NUBE	**Las Nubes**	**2.58**	**88**	*eP*	Pn	09 59 20.7	+0.8
NUBE				*eS*	Sn	09 59 44.8	-5.7
NUBE				IAML		09 59 53.0	
	comp=Z,278nm,0.4s						
NUBE	**Las Nubes**	**2.58**	**88**	*eP*	Pn	09 59 20.7	+0.8
NUBE				*eS*	Sn	09 59 44.8	-5.7
NUBE				IAML		09 59 53.0	
	comp=Z,278nm,0.4s						
CEVE	**Cerro Verde**	**2.73**	**90**	*eP*	Pn	09 59 22.5	+0.4
CEVE				*eS*	Sn	09 59 50.2	-4.1
CEVE				IAML		10 00 02.9	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**2.73**	**90**	*eP*	Pn	09 59 22.5	+0.4
CEVE				*eS*	Sn	09 59 50.2	-4.1
CEVE				IAML		10 00 02.9	
	comp=Z,2μm,0.4s						
MRL	**Marmol**	**2.94**	**65**	*eP*	Pn	09 59 25.6	+0.6
MRL				*eS*	Sn	10 00 01.8	+2.4
CEDA	**San Andres**	**2.95**	**90**	*eP*	Pn	09 59 27.1	+2.1
CEDA				*eS*	Sn	09 59 57.0	-2.5
CEDA				IAML		10 00 11.5	
	comp=Z,597nm,0.4s						
CEDA	**San Andres**	**2.95**	**90**	*eP*	Pn	09 59 27.1	+2.1
CEDA				*eS*	Sn	09 59 57.0	-2.5
CEDA				IAML		10 00 11.5	
	comp=Z,597nm,0.4s						
UEES	**Universidad Ev**	**3.11**	**92**	*eP*	Pn	09 59 29.1	+2.0
UEES	**Universidad Ev**	**3.11**	**92**	*eP*	Pn	09 59 29.1	+2.0
PAVA	**Las Pavas**	**3.40**	**92**	*eP*	Pn	09 59 33.2	+2.0
PAVA	**Las Pavas**	**3.40**	**92**	*eP*	Pn	09 59 33.2	+2.0
COEG	**Centro de Oper**	**3.46**	**93**	*eP*	Pn	09 59 34.5	+2.5
COEG				*eS*	Sn	10 00 10.2	-1.9
COEG	**Centro de Oper**	**3.46**	**93**	*eP*	Pn	09 59 34.5	+2.5
COEG				*eS*	Sn	10 00 10.2	-1.9
ALJI	**Alcalda de J**	**3.79**	**97**	*eP*	Pn	09 59 39.4	+2.9
ALJI				*eS*	Sn	10 00 16.7	-3.4
ALJI				IAML		10 00 29.7	
	comp=Z,170nm,0.4s						
ALJI	**Alcalda de J**	**3.79**	**97**	*eP*	Pn	09 59 39.4	+2.9
ALJI				*eS*	Sn	10 00 16.7	-3.4
ALJI				IAML		10 00 29.7	
	comp=Z,170nm,0.4s						
COEB	**Comit de Eme**	**3.81**	**95**	*eP*	Pn	09 59 39.1	+2.3
COEB	**Comit de Eme**	**3.81**	**95**	*eP*	Pn	09 59 39.1	+2.3
JUCU	**Jucuarın**	**4.11**	**98**	*eP*	Pn	09 59 45.1	+4.1
JUCU	**Jucuarın**	**4.11**	**98**	*eP*	Pn	09 59 45.1	+4.1
LCND	**La Caada**	**4.45**	**96**	*eP*	Pn	09 59 49.7	+4.2
LCND	**La Caada**	**4.45**	**96**	*eP*	Pn	09 59 49.7	+4.2

IDC ***30*** *10:00:59.2±0.5, 3°.04S×129°.97E, h0km, mb4.3/17, mb1 4.5/21, mb1mx4.4/38, mbtmp4.4/21, ML4.3/3, MS3.9/24, Ms1 3.9/24, ms1mx3.8/38, Error ellipse: s-maj=20.4km s-min=11.5km az=78.0*
NEIC ***30*** *10:01:02.2±2.0, 3°.03S±0°.05×130°.05E±0°.03, h26km±5km, mb4.8/46, Error ellipse: s-maj=7.4km s-min=4.6km az=164.0*
GCMT ***30*** *10:01:02.2±0.3, 2°.96S±0°.02×130°.05E±0°.03, h12km, MW5.0/69, Moment Tensor Solution. s18,c19; s69,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.19±.09; $M_{\theta\theta}$=-0.51±.06; $M_{\phi\phi}$=0.31±.08; $M_{r\theta}$=-1.15±.21; $M_{\phi\theta}$=1.31±.05; $M_{\phi r}$=3.07±.20; Best double couple: M_0=3.54000×10^{16} NP1: ϕ_s=79.00000°, δ=22.00000°, λ=7.00000°. NP2: ϕ_s=342.00000°, δ=87.00000°, λ=111.00000°. Principal axes: T 3.3310, Plg44.0000°, Azm273.0000°; N 0.4180, Plg21.0000°, Azm161.0000°; P -3.7490, Plg39.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***30*** *10:01:04.9±0.2, 3°.5S±3°.3×13°.0E±°, h49km±6km, M4.7/13, mb4.8/13, mB5.2/7, MLv4.6/11, Mw(mB)4.6/7*

ISC 30 10:01:02.1±0.3, 2°.98S±0°.04×130°.20E±0°.03, h25km, n127, σ1§77/115, mb4.7/38, MS3.8/20, 2C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.32**	**254**	P	**Pb**	**10 01 26.9**	**+0.8**
MSAI				S	**Sb**	**10 01 44.2**	**+1.6**
FAKI	**Fak Fak**	**2.05**	**88**	P	**Pb**	**10 01 36.9**	**-1.8**
FAKI				S	**Sb**	**10 02 03.8**	**0.0**
FAKI	**Fak Fak**	**2.05**	**88**	Pn	**Pn**	**10 01 36.4**	**+1.4**
FAKI				Sn	**Sb**	**10 02 03.4**	**-0.3**
AAI	**Ambon**	**2.12**	**251**	P	**Pb**	**10 01 37.1**	**-2.7**
SIJI	**Sorong**	**2.36**	**27**	Pn	**Pb**	**10 01 40.0**	**-3.9**
	41nm,0.3s,baz=289,slow=23,SNR=45						
SIJI				Sn	**Sb**	**10 02 08.9**	**-3.6**
	138nm,0.3s,baz=272,slow=23,SNR=7.0						
NLAI	**Namlea**	**3.10**	**265**	P	Pb	10 01 50.5	-6.1
SANI	**Sanana**	**4.30**	**282**	P	**Pn**	**10 02 04.5**	**-1.5**
SAUI	**Saumlaki**	**5.09**	**168**	P	Pn	10 02 21.5	+4.7
SRPI	**Serui, Papua**	**6.14**	**80**	P	**Pn**	**10 02 33.4**	**+2.1**
BAKI	**Biak**	**6.17**	**73**	P	**Pn**	**10 02 33.8**	**+2.1**
	2.2nm6μm570nm,0.7s						
KDI	**Kendari**	**7.62**	**262**	P	**Pn**	**10 02 52.7**	**+1.0**
	0.3nm3μm74nm,1.0s						
LUWI	**Luwuk**	**7.67**	**284**	P	**Pn**	**10 02 52.7**	**+0.5**
	0.5nm8μm60nm,1.0s						
LUWI	**Luwuk**	**7.67**	**284**	Pn	**Pn**	**10 02 48.6**	**-3.6**
SOEI	**Soe**	**8.94**	**221**	P	Pn	10 03 13.7	+3.8
	2μm112nm,1.0s						
SOEI	**Soe**	**8.94**	**221**	Pn	**Pn**	**10 03 07.9**	**-1.9**
BATI	**Baumata**	**9.67**	**222**	Pn	Pn	10 03 28.2	+8.4
	9.9nm,0.3s,baz=69,slow=4.4,SNR=6.3						
BATI				LR	LR	10 07 18.8	
	comp=Z,2μm,18.7s,baz=58,slow=40						
BATI	**Baumata**	**9.67**	**222**	P	Pn	10 03 24.5	+4.7
	64nm,0.9s						
MTN	**Manton Dam**	**9.84**	**175**	Pn	**Pn**	**10 03 23.2**	**+1.1**
MTN				Sn	**Sn**	**10 05 07.2**	**-4.7**
GENI	**Genyem**	**9.97**	**88**	P	**Pn**	**10 03 27.3**	**+3.5**
	134nm,0.6s						
EDFI	**Ende, Flores**	**10.21**	**236**	P	Pn	10 03 29.8	+2.5
	34nm,0.8s						
BKSI	**Bulukumba**	**10.31**	**257**	P	Pn	10 03 30.3	+1.8
	51nm,0.8s						
KAPI	**Kappang**	**10.61**	**259**	Pn	Pn	10 03 34.0	+1.3
	1.8nm,0.3s,baz=172,slow=17,SNR=3.3						
KAPI				LR	LR	10 08 40.3	
	comp=Z,1μm,20.1s,baz=72,slow=44						
KAPI	**Kappang**	**10.61**	**259**		**Pn**	**10 03 32.5**	**-0.1**
KNRA	**Kununurra**	**12.69**	**186**	Pn	**Pn**	**10 04 00.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**15.67**	**196**	Pn	**Pn**	**10 04 39.5**	**-1.9**
	0.3nm,0.3s,baz=1.2,slow=3.7,SNR=6.3						
FITZ				Sn	**Sn**	**10 07 34.1**	**-0.2**
	0.5nm,0.3s,baz=181,slow=3.7,SNR=2.5						
FITZ				LR	LR	10 11 43.3	
	comp=Z,391nm,20.1s,baz=89,slow=41						
FITZ	**Fitzroy Crossi**	**15.67**	**196**	Pn	**Pn**	**10 04 40.4**	**-1.0**
KKM	**Kota Kinabalu**	**16.59**	**303**	Pn	**P**	**10 04 52.5**	**-3.1**
COEN	**Coen**	**16.83**	**131**	Pn	**Pn**	**10 04 56.5**	**+0.3**
COEN				IAmb	IAmb	10 05 12.0	
	comp=Z,50nm,0.9s						
WB0	**Warramunga Arr**	**17.18**	**167**		**P**	**10 05

STKA			LR	LR	10 21 18.6	
	comp=Z,576nm,21.8s,baz=340,slow=40					
STKA	**Stephens Creek**	**30.68 161**	P	**P**	**10 07 15.8**	**+0.9**
RPSI	**Rantau Prapat**	**31.76 280**	P	**P**	**10 07 22.6**	**-2.1**
RPSI			IAmb	IAmb	10 07 25.9	
	comp=Z,9.4nm,0.8s					
RPSI	**Rantau Prapat**	**31.76 280**	P	**P**	**10 07 22.6**	**-2.1**
PSI	**Prapat**	**31.78 280**	P	**P**	**10 07 22.6**	**-2.4**
	comp=Z,6.8nm,0.6s,baz=174,slow=6.0,SNR=8.2					
NWAO	**Narrogin (SRO)**	**32.17 201**	P	**P**	**10 07 26.7**	**-1.3**
	comp=Z,4.5nm,0.7s,baz=0.9,slow=15,SNR=1.8					
NWAO	**Narrogin (SRO)**	**32.17 201**	P	**P**	**10 07 25.8**	**-2.2**
NWAO			IAmb	IAmb	10 07 46.6	
	comp=Z,24nm,1.4s					
SLVN	**Son La**	**35.31 314**	P	**P**	**10 07 54.2**	**-1.2**
SLVN			IAmb	IAmb	10 08 05.6	
	comp=Z,17nm,1.3s					
NJ2	**Nanjing**	**36.47 344**	*e*P	**P**	**10 08 07.0**	**+1.8**
NJ2			pmax	pmax		
	comp=Z,6.0nm,0.6s					
CAN	**Canberra**	**36.60 154**	P	**P**	**10 08 06.2**	**-0.2**
CAN			IAmb	IAmb	10 08 16.7	
	comp=Z,15nm,0.9s					
GYA	**Guiyang**	**37.07 324**	*e*P	P	10 08 18.8	+8.2
GYA			pmax	pmax		
	comp=Z,9.0nm,0.9s					
CMAR	**Chiang Mai Arr**	**37.43 306**	P	**P**	**10 08 14.0**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=139,slow=7.6,SNR=30					
CMAR	**Chiang Mai Arr**	**37.43 306**	P	**P**	**10 08 13.8**	**+0.2**
CHTO	**Chiang Mai**	**37.62 306**	P	**P**	**10 08 14.2**	**-1.0**
KMI	**Kunming**	**38.60 318**	⇑P	P	10 08 26.0	+2.3
KMI			pP	sP	10 08 33.5	-0.6
KMI			pmax	pmax		
	comp=Z,14nm,0.9s					
MAT	**Matsushiro**	**40.03 10**	P	**P**	**10 08 35.5**	**+0.4**
MJAR	**Matsushiro Arr**	**40.03 10**	P	**P**	**10 08 35.5**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=96,slow=10,SNR=2.1					
MJAR			LR	LR	10 25 01.8	
	comp=Z,62nm,20.3s,baz=190,slow=36					
MJAR	**Matsushiro Arr**	**40.03 10**	IAmb	IAmb	10 08 43.2	
	comp=Z,1.7nm,0.8s					
KSRS	**Korea Array**	**40.29 357**	P	**P**	**10 08 38.4**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=174,slow=8.4,SNR=5.2					
KSRS			LR	LR	10 26 26.7	
	comp=Z,106nm,18.4s,baz=176,slow=38					
KS19	**Wonju Array Si**	**40.34 357**	P	**P**	**10 08 39.2**	**+1.5**
XAN	**Xi'an**	**41.93 333**	P	**P**	**10 08 50.8**	**-0.1**
XAN			pP	pP	10 08 57.0	-1.4
XAN			pmax	pmax		
	comp=Z,7.0nm,1.2s					
LZH	**Lanzhou**	**46.01 330**	*e*P	**P**	**10 09 25.5**	**+1.7**
LZH			pP	pP	10 09 30.0	-1.3
LZH			sP	sP	10 09 33.3	-1.0
LZH			pmax	pmax		
	comp=Z,20nm,1.2s					
USRK	**Ussuriysk Ar.**	**47.00 2**	P	**P**	**10 09 33.0**	**+1.9**
	comp=Z,2.8nm,0.8s,baz=183,slow=6.5,SNR=5.4					
USRK			LR	LR	10 31 29.4	
	comp=Z,58nm,18.1s,baz=165,slow=39					
USRK	**Ussuriysk Ar.**	**47.00 2**	P	**P**	**10 09 30.8**	**-0.3**
GTA	**Gaotai**	**50.60 330**	*e*P	**P**	**10 09 59.8**	**+0.7**
GTA			pP	sP	10 10 07.5	-2.2
GTA			sP	pP	10 10 10.5	+3.7
GTA			PcP	**PcP**	**10 11 15.5**	**-1.1**
GTA			pmax	pmax		
	comp=Z,7.0nm,1.0s					
GTA			pmax	pmax		
	comp=Z,56nm,7.5s					
GTA			LR	LR		
	comp=N,94nm,17.1s					
GTA			LR	LR		
	comp=E,300nm,17.8s					
GTA			LR	LR		
	comp=Z,130nm,19.6s					
ULN	**Ulaanbaatar**	**54.54 341**	P	**P**	**10 10 28.0**	**-0.2**
SONM	**Songino Array**	**54.73 341**	P	**P**	**10 10 30.9**	**+1.4**
	comp=Z,2.9nm,0.9s,baz=154,slow=9.1,SNR=10.0					
SONM			LR	LR	10 35 02.1	
	comp=Z,78nm,18.7s,baz=158,slow=37					
SONM	**Songino Array**	**54.73 341**	P	**P**	**10 10 29.2**	**-0.4**
TUWZ	**Tuamarina**	**54.79 140**	P	**P**	**10 10 30.6**	**+0.6**
BKZ	**Black Stump Fm**	**55.33 137**	P	**P**	**10 10 36.1**	**+2.2**
WMQ	**Urumqi**	**60.18 326**	*e*P	**P**	**10 11 10.0**	**+2.0**
PETK	**Petropavlovsk-**	**60.48 19**	P	P	10 11 12.7	+2.9
	comp=Z,2.1nm,0.7s,baz=120,slow=8.7,SNR=1.3					
PETK			LR	LR	10 36 22.9	
	comp=Z,57nm,20.6s,baz=238,slow=35					
YAK	**Yakutsk**	**64.84 360**	LR	LR	10 40 16.8	
	comp=Z,47nm,19.0s,baz=178,slow=36					
YAK	**Yakutsk**	**64.84 360**	P	**P**	**10 11 40.4**	**+1.8**
MK31	**Makanchi Array**	**65.01 326**	P	**P**	**10 11 38.2**	**-1.9**
MKAR	**Makanchi Array**	**65.01 326**	P	**P**	**10 11 40.9**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=120,slow=7.2,SNR=20					
MKAR			LR	LR	10 42 37.6	
	comp=Z,60nm,18.8s,baz=120,slow=38					
MKAR	**Makanchi Array**	**65.01 326**	P	**P**	**10 11 40.3**	**+0.1**
TARG	**Taragay, Kyrgy**	**65.05 319**	P	**P**	**10 11 37.9**	**-3.1**
MAKZ	**Makanchi**	**65.20 326**	P	**P**	**10 11 41.6**	**+0.3**
MAKZ			IAmb	IAmb	10 11 51.4	
	comp=Z,17nm,1.5s					
KDJ	**Kajisay**	**65.65 319**	P	**P**	**10 11 44.2**	**-0.4**
KDJ			IAmb	IAmb	10 11 54.0	
	comp=Z,5.5nm,0.9s					
ZAA0	**Zalesovo Array**	**68.10 333**	P	**P**	**10 11 59.5**	**-0.1**
ZAA0			IAmb	IAmb	10 12 09.3	
	comp=Z,13nm,1.4s					
ZALV	**Zalesovo Beam**	**68.10 333**	P	**P**	**10 11 59.8**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=116,slow=5.4,SNR=8.4					
ZALV	**Zalesovo Beam**	**68.10 333**	P	**P**	**10 11 59.3**	**-0.4**
GAR	**Garm**	**69.02 314**	P	**P**	**10 12 05.4**	**-0.5**
BTK	**Batken**	**69.07 315**	P	**P**	**10 12 06.2**	**0.0**
BTK			IAmb	IAmb	10 12 17.5	
	comp=Z,3.9nm,0.6s					
KURK	**Kurchatov**	**69.23 328**	P	**P**	**10 12 06.8**	**0.0**
KK31	**Karatay Array**	**70.49 318**	P	**P**	**10 12 13.0**	**-1.7**
KK31			IAmb	IAmb	10 12 23.7	
	comp=Z,6.3nm,1.1s					
KKAR	**Karatay Array**	**70.49 318**	P	**P**	**10 12 12.9**	**-1.8**
KKAR			IAmb	IAmb	10 12 23.7	
	comp=Z,6.3nm,1.1s					
KKAR	**Karatay Array**	**70.49 318**	P	**P**	**10 12 14.0**	**-0.7**
BRVK	**Borovoye**	**74.87 327**	P	**P**	**10 12 39.8**	**-0.8**
BRVK			IAmb	IAmb	10 12 52.6	
	comp=Z,8.1nm,1.0s					
VNDA	**Vanda**	**76.39 173**	P	**P**	**10 12 50.3**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=312,slow=6.5,SNR=8.4					
VNDA			LR	LR	10 48 20.2	
	comp=Z,95nm,18.1s,baz=337,slow=37					
NRIK	**Noril'sk**	**77.74 346**	LR	LR	10 48 22.5	
	comp=Z,57nm,22.0s,baz=195,slow=37					
GEYT	**Alibeck**	**77.80 310**	P	**P**	**10 12 58.5**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=300,slow=30,SNR=2.7					
GEYT	**Alibeck**	**77.80 310**	P	**P**	**10 12 58.3**	**+0.7**
MAW	**Mawson**	**78.74 201**	P	**P**	**10 13 03.0**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=84,slow=3.0,SNR=20					
MAW			LR	LR	10 45 27.5	
	comp=Z,59nm,20.1s,baz=61,slow=34					
MAW	**Mawson**	**78.74 201**	P	**P**	**10 13 02.9**	**+0.8**
ABKAR	**Akbulak array**	**79.51 321**	P	**P**	**10 13 06.5**	**-0.2**
ABKAR			IAmb	IAmb	10 13 12.2	
	comp=Z,7.9nm,0.8s					
ABKAR	**Akbulak array**	**79.51 321**	P	**P**	**10 13 05.6**	**-1.0**
PPT	**Papeete**	**79.79 107**	LR	LR	10 47 54.1	
	comp=Z,45nm,19.1s,baz=296,slow=35					
ARU	**Arti**	**82.42 328**	P	**P**	**10 13 22.4**	**+0.3**
ARU			IAmb	IAmb	10 13 24.4	
	comp=Z,5.8nm,0.9s					
QSPA	**South Pole Qui**	**86.97 180**	P	**P**	**10 13 45.9**	**+0.9**
QSPA			IAmb	IAmb	10 14 04.6	
	comp=Z,8.4nm,1.4s					
SYO	**Syowa Base**	**87.45 201**	⇑*e*PcP	**PcP**	**10 13 50.9**	**+1.8**
RND	**Reindeer**	**88.59 26**	P	**P**	**10 13 53.4**	**+0.6**
RND			IAmb	IAmb	10 14 02.6	
	comp=Z,5.8nm,0.8s					
ILAR	**Eielson Array**	**89.65 25**	P	**P**	**10 13 58.1**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=241,slow=5.5,SNR=4.6					
ILAR			LR	LR	10 48 40.8	
	comp=Z,40nm,20.8s,baz=304,slow=32					
ILAR	**Eielson Array**	**89.65 25**	P	**P**	**10 13 54.7**	**-2.9**
BMAR	**Burnt Mountain**	**90.89 23**	P	**P**	**10 14 04.1**	**+0.7**
BCAR	**Beaver Creek A**	**91.74 27**	P	**P**	**10 14 07.0**	**-0.4**
KMBO	**Kilima Mbogo**	**92.88 269**	LR	LR	10 53 37.3	
	comp=Z,102nm,20.2s,baz=97,slow=34					
BRTR	**Keskin Array B**	**96.94 309**	LR	LR	11 05 41.6	
	comp=Z,14nm,19.9s,baz=94,slow=40					
SNAA	**Sanae**	**99.59 194**	LR	LR	10 59 52.6	
	comp=Z,84nm,19.8s,baz=175,slow=36					
TXAR	**Lajitas Array**	**122.65 57**	PKP	**PKiKP**	**10 19 58.6**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=270,slow=2.7,SNR=4.2					
TXAR			PKKPbc	**PKKPbc**	**10 29 51.4**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=117,slow=5.2,SNR=4.0					
TORD	**Torodi Ar. Bea**	**128.12 284**	PKP	**PKiKP**	**10 20 07.4**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=93,slow=0.4,SNR=3.7					
TORD	**Torodi Ar. Bea**	**128.12 284**	P	**PKiKP**	**10 20 08.1**	**+0.3**
LPAZ	**La Paz**	**153.64 137**	PKPbc	**PKiKP**	**10 21 01.2**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=86,slow=5.1,SNR=5.9					

*NEIC **30** 10:05:21.3±0.8, 53.°70N±0.°04×163.°98W±0.°04, h29km±10km, Error ellipse: s-maj=5.8km s-min=3.5km az=170.0*
*AEIC **30** 10:05:22±0.8, 53.°67N±0.°06×163.°94W±0.°07, h30km±8km, ML3.7, Error ellipse: s-maj=10.0km s-min=4.0km az=149.0*
*IDC **30** 10:05:22.4±1.8, 54.°95N×165.°17W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/48, mbtmp3.9/9, ML3.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/47, Error ellipse: s-maj=51.9km s-min=29.6km az=1.0*
ISC 30 10:05:20.9±1.6, 53.°65N±0.°10×163.°89W±0.°05, h44km±13km, n53, σ1§00/67, mb3.9/8, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.92**	**334**		**Pn**	**10 05 37.2**	**-0.2**
WESP	**Westdahl Peak**	**0.97**	**330**		**Pn**	**10 05 37.9**	**-0.3**
BRPK	**Brown Peak**	**1.00**	**5**		**Pn**	**10 05 38.5**	**+0.1**
BRPK					**Sn**	**10 05 51.3**	**-0.1**
WECS	**Westdahl Cape**	**1.02**	**330**		**Pn**	**10 05 38.7**	**-0.1**
SSLS	**Shishaldin Sou**	**1.06**	**357**		**Pn**	**10 05 39.7**	**+0.3**
WEBT	**Westdahl Beart**	**1.07**	**332**		**Pn**	**10 05 39.3**	**-0.1**
SSLW	**Shishaldin Wes**	**1.13**	**353**		**Pn**	**10 05 40.6**	**+0.3**
SSBA	**Shishaldin**	**1.13**	**353**		**Pn**	**10 05 40.3**	**0.0**
SSBA					**Sn**	**10 05 54.9**	**+0.2**
SSLN	**Shishaldin Nor**	**1.16**	**357**		**Pn**	**10 05 41.0**	**+0.2**
AKSA	**Akutan Strait**	**1.17**	**295**		**Pn**	**10 05 40.6**	**-0.3**
AKSA					**Sn**	**10 05 55.7**	**+0.1**
AKSA	**Akutan Strait**	**1.17**	**295**		**Pn**	**10 05 40.5**	**-0.3**
AKSA					**Sn**	**10 05 55.8**	**+0.2**
AKUT	**Akutan**	**1.21**	**294**		**Pn**	**10 05 41.2**	**-0.1**
AKUT					**Sn**	**10 05 57.0**	**+0.5**
WTUG	**Tugumak**	**1.23**	**347**		**Pn**	**10 05 42.0**	**+0.3**
FALS	**False Pass**	**1.24**	**13**		**Pn**	**10 05 42.1**	**+0.4**
FALS					**Sn**	**10 05 57.8**	**+0.6**
AKBBA	**Akutan Broad B**	**1.29**	**291**		**Pn**	**10 05 42.4**	**0.0**
AKBBA					**Sn**	**10 05 59.1**	**+0.7**
AKLV	**Akutan Long Va**	**1.32**	**294**		**Pn**	**10 05 42.7**	**-0.2**
AKLV					**Sn**	**10 05 58.8**	**-0.6**
AKMO	**Akutan Morgan**	**1.33**	**290**		**Pn**	**10 05 43.0**	**0.0**
AKMO					**Sn**	**10 05 59.2**	**-0.2**
AKGG	**Akutan Green G**	**1.36**	**295**		**Pn**	**10 05 43.4**	**+0.1**
AKRB	**Akutan Reef Bi**	**1.37**	**291**		**Pn**	**10 05 43.6**	**+0.1**
AKRB					**Sn**	**10 06 01.3**	**+0.7**
UNV	**Unalaska Valle**	**1.56**	**278**		**Pn**	**10 05 45.6**	**-0.5**
UNV					**Sn**	**10 06 04.0**	**-1.1**
MNAT	**Makushin Natee**	**1.67**	**279**		**Pn**	**10 05 47.5**	**-0.2**
MNAT					**Sn**	**10 06 07.9**	**0.0**
MREP	**Makushin Rep't**	**1.70**	**276**		**Pn**	**10 05 48.3**	**+0.2**
MSW	**Makushin Switc**	**1.73**	**280**		**Pn**	**10 05 48.5**	**-0.1**
MSW					**Sn**	**10 06 09.8**	**+0.4**
DT1	**Dutton Round H**	**1.74**	**32**		**Pn**	**10 05 49.6**	**+1.0**
MGOD	**Makushin Gods**	**1.78**	**276**		**Pn**	**10 05 49.4**	**+0.2**
MGOD					**Sn**	**10 06 11.2**	**+0.7**
MAPS	**Pakushin South**	**1.82**	**276**		**Pn**	**10 05 50.0**	**+0.4**
MAPS					**Sn**	**10 06 11.6**	**+0.2**
HAG	**Hague Volcano**	**2.03**	**34**		**Pn**	**10 05 54.3**	**+1.7**
PS4A	**Pavlof South-4**	**2.07**	**34**		**Pn**	**10 05 54.8**	**+1.7**
OKER	**Okmok East Rim**	**2.49**	**267**		**Pn**	**10 05 60.0**	**+1.0**
SDPT	**Sand Point**	**2.62**	**48**		**Pn**	**10 06 02.0**	**+1.4**
SDPT					**Sn**	**10 06 32.0**	**+0.9**
OKSP	**Okmok Steeple**	**2.66**	**263**		**Pn**	**10 06 01.9**	**+0.7**
CNBA	**Chernabura Isl**	**2.78**	**63**		**Pn**	**10 06 03.6**	**+0.7**
NIKH	**Nikolski High**	**3.06**	**259**		**Pn**	**10 06 06.2**	**-0.5**
VNHG	**Veniaminof 1**	**3.75**	**45**		**Pn**	**10 06 18.3**	**+2.1**
CHGN	**Chignik**	**4.12**	**48**		**Pn**	**10 06 22.9**	**+1.7**
CHIR	**Chirikof Islan**	**5.26**	**62**		**Pn**	**10 06 37.8**	**+1.0**
SII	**Sitkinak Islan**	**6.29**	**59**	Pn	**Pn**	**10 06 51.1**	**+0.2**
OHAK	**Old Harbor**	**7.01**	**55**		**Pn**	**10 07 00.3**	**-0.5**
KDAK	**Kodiak Island**	**7.61**	**53**	Pn	**Pn**	**10 07 08.4**	**-0.6**
	1.4nm,0.3s,baz=226,slow=4.1,SNR=24						
KDAK				Sn	**Sn**	**10 08 28.6**	**-5.2**
	0.4nm,0.3s,baz=167,slow=9.3,SNR=1.6						
KDAK	**Kodiak Island**	**7.61**	**53**		**Pn**	**10 07 08.7**	**-0.3**
ADK	**Adak**	**7.96**	**262**		**Pn**	**10 07 14.9**	**+1.1**
CNPM	**China Poot**	**9.12**	**45**	Pn	**Pn**	**10 07 30.5**	**+0.7**
INK	**Inuvik**	**20.46**	**33**	P	**P**	**10 09 53.0**	**-1.4**
	0.1nm,0.3s,baz=273,slow=27,SNR=0.9						
PETK	**Petropavlovsk-**	**22.74**	**284**		LR	10 18 27.3	
	comp=Z,46nm,20.8s,baz=56,slow=36						
YKA	**Yellowknife Ar**	**26.88**	**51**	LR	LR	10 21 28.2	
	comp=Z,42nm,19.5s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**49.48**	**94**	P	P	10 14 21.7	+15
	0.2nm,0.7s,baz=304,slow=5.0,SNR=3.0						
SONM	**Songino Array**	**53.43**	**303**	P	**P**	**10 14 35.6**	**-0.5**
	0.4nm,0.3s,baz=56,slow=7.8,SNR=2.4						
FINES	**FINESS Array B**	**64.98**	**355**	P	**P**	**10 15 55.3**	**-0.2**
	3.1nm,0.9s,baz=28,slow=8.6,SNR=4.5						
MKAR	**Makanchi Array**	**65.25**	**316**	P	**P**	**10 15 56.3**	**-1.3**
	0.6nm,0.8s,baz=46,slow=6.9,SNR=3.6						
AKASG	**Malin Array Be**	**75.44**	**351**	P	**P**	**10 16 59.1**	**-0.5**
	1.5nm,0.5s,baz=9.1,slow=5.4,SNR=6.0						
CMAR	**Chiang Mai Arr**	**79.49**	**287**	P	**P**	**10 17 23.4**	**+0.6**
	0.7nm,0.3s,baz=24,slow=6.6,SNR=4.8						
ESDC	**Sonseca Array**	**85.44**	**15**	P	**P**	**10 17 55.1**	**+1.5**
	0.5nm,0.6s,baz=338,slow=6.3,SNR=3.1						
BRTR	**Keskin Array B**	**85.77**	**347**	P	**P**	**10 17 56.4**	**+1.0**
	1.0nm,0.5s,baz=97,slow=1.0,SNR=3.9						

*IDC **30** 10:10:04.6±1.8, 11.°64N×84.°94W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.7/33, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=77.9km s-min=13.8km az=82.0*
*UCR **30** 10:10:05.2±1.7, 10.°32N×86.°30W, h7km±15km, MD4.2, mb4.2(NEIC)*
*NEIC **30** 10:10:07.7±1.5, 10.°4N±0.°1×86.°17W±0.°08, h35km±2km, mb4.2/3, Error ellipse: s-maj=20.0km s-min=10.5km az=206.0*
ISC 30 10:10:06.9±1.3, 10.°47N±0.°06×86.°19W±0.°06, h22km±11km, n49, σ0§97/53, mb3.8/6, 6C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUAI	**GUAI**	**0.70**	**107**	*i* P	**Pb**	**10 10 20.4**	**-0.1**
GUAI				*i* S	**Sn**	**10 10 32.7**	**+1.1**
ORTG	**Ortega, Santa**	**0.73**	**99**	⇑*i* P	**Pb**	**10 10 21.2**	**+0.3**
ORTG				*e*S	**Sn**	**10 10 32.9**	**+0.4**
DUNO	**Dulce Nombre,**	**0.79**	**120**	*e*P	**Pb**	**10 10 21.1**	**-0.9**
DUNO				*e*S	**Sb**	**10 10 33.2**	**+0.9**
LAPC	**Finca la Perla**	**0.80**	**69**	*i* P	**Pn**	**10 10 22.9**	**0.0**
BUEV	**Buena Vista**	**0.83**	**67**	⇑*i* P	**Pn**	**10 10 23.6**	**+0.1**
BUEV				*e*S	**Sn**	**10 10 37.5**	**+2.4**
PLVR	**Palo Verde**	**0.83**	**99**	⇑*i* P	**Pb**	**10 10 22.9**	**0.0**
PLVR				*e*S	**Sn**	**10 10 36.5**	**+1.2**
GB1A	**Borinquen Arri**	**0.85**	**66**	⇑*i* P	**Pn**	**10 10 23.9**	**+0.2**
GPS3	**Bodega del ICE**	**0.86**	**71**	*i* P	**Pn**	**10 10 24.0**	**+0.3**
GPS2	**Hotel Rincn d**	**0.87**	**71**	*i* P	**Pn**	**10 10 24.1**	**+0.2**
GPS1	**Guardaparques**	**0.88**	**70**	*i* P	**Pn**	**10 10 24.2**	**+0.2**
BUAI	**Buenos Aires**	**0.93**	**65**	*i* P	**Pn**	**10 10 25.4**	**+0.7**
LIM1	**Limonal**	**0.95**	**76**	*i* P	**Pn**	**10 10 25.2**	**+0.2**
GUAB	**Guayabo de Bag**	**0.97**	**76**	*i* P	**Pn**	**10 10 25.5**	**+0.2**
COLC	**Colonia**	**0.99**	**79**	*i* P	**Pn**	**10 10 25.7**	**+0.2**
HORNC	**Hornillas**	**1.02**	**77**	*i* P	**Pn**	**10 10 26.3**	**+0.3**
CUI	**Cuipilapa**	**1.02**	**80**	*i* P	**Pn**	**10 10 26.3**	**+0.3**
PTEN	**Parque Tenorio**	**1.21**	**78**	*i* P	**Pb**	**10 10 29.3**	**+0.2**
JTS	**Las Juntas de**	**1.23**	**98**	Pg	**Pn**	**10 10 28.6**	**-0.2**
	31nm,0.3s,baz=16,slow=21,SNR=27						
JTS				LR	LR	10 10 31.9	
	comp=Z,39nm,21.2s,baz=152,slow=20						
JTS				Lg	Lg	10 10 48.8	
	77nm,0.3s,baz=5.5,slow=21,SNR=3.8						
JTS	**Las Juntas de**	**1.23**	**98**	⇑*i* P	**Pn**	**10 10 28.6**	**-0.2**
LAFE	**Finca La Fe, P**	**1.42**	**118**	⇑*i* P	**Pn**	**10 10 29.7**	**-1.7**
CASO	**Castillo**	**1.43**	**91**	*i* P	**Pb**	**10 10 32.5**	**-0.5**
CEDE	**Laguna Cedeo**	**1.46**	**89**	*i* P	**Pb**	**10 10 33.2**	**-0.3**
FORC	**Fortuna**	**1.50**	**90**	*i* P	**Pb**	**10 10 33.7**	**-0.3**
JACO	**JACO, Garabito**	**1.71**	**118**	*e*P	**Pn**	**10 10 35.6**	**+0.2**
SRA1	**San Ramn**	**1.73**	**103**	*e*P	**Pn**	**10 10 35.7**	**0.0**
COVE	**Coope Vega, Sa**	**1.77**	**82**	*e*P	**Pb**	**10 10 37.4**	**-1.4**
ACON	**Acoyapa**	**1.79**	**34**	Pn	**Pb**	**10 10 37.0**	**-2.0**
LCR2	**La Lucha 2**	**2.27**	**108**	*e*P	**Pn**	**10 10 42.9**	**-0.5**
CRIN	**San Cristobal**	**2.37**	**339**	Pn	**Pn**	**10 10 45.3**	**+0.7**
RIMA	**Rio Macho**	**2.40**	**107**	*e*P	**Pn**	**10 10 45.4**	**+0.3**
MATN	**Matagalpa**	**2.45**	**6**	Pn	**Pn**	**10 10 45.7**	**-0.1**
ESPN	**Las Esperanzas**	**2.52**	**47**	Pn	**Pn**	**10 10 46.9**	**+0.3**
CDM	**Cerro de Muert**	**2.56**	**111**	*e*P	**Pn**	**10 10 47.9**	**+0.3**
TGUH	**Tegucigalpa,Un**	**3.71**	**344**		**Pn**	**10 11 03.3**	**+0.2**
MTO3	**Montecristo**	**4.98**	**322**	Pn	**Pn**	**10 11 22.4**	**+1.8**
ESQI	**Esquipulas**	**5.09**	**323**	Pn	**Pn**	**10 11 22.8**	**+0.7**
ATAH	**Atahualpa**	**19.14**	**156**	LR	LR	10 21 01.0	
	comp=Z,90nm,18.9s,baz=350,slow=33						
TXAR	**Lajitas Array**	**24.88**	**321**	P	**P**	**10 15 28.1**	**-0.2**
	0.9nm,0.7s,baz=143,slow=7.8,SNR=12						
TXAR	**Lajitas Array**	**24.88**	**321**	P	**P**	**10 15 27.4**	**-0.9**
TX31	**Lajitas Ar. Si**	**24.88**	**321**	P	**P**	**10 15 27.7**	**-0.6**
TX31				IAmb	IAmb	10 15 38.0	
	comp=Z,9.5nm,0.9s						
TX32	**Lajitas Array**	**24.88**	**321**	P	**P**	**10 15 28.0**	**-0.3**
TX32				IAmb	IAmb	10 15 38.0	
	comp=Z,3.2nm,0.9s						
WMOK	**Wichita Mounta**	**26.75**	**336**	P	**P**	**10 15 43.8**	**-1.3**
WMOK				IAmb	IAmb	10 15 58.9	
	comp=Z,9.0nm,1.2s						
NVAR	**Mina Array Bea**	**40.00**	**319**	P	**P**	**10 17 41.4**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=136,slow=8.6,SNR=6.2						
NVAR	**Mina Array Bea**	**40.00**	**319**	P	**P**	**10 17 41.1**	**+0.7**
ILAR	**Eielson Array**	**68.32**	**336**	P	**P**	**10 21 03.6**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=130,slow=4.6,SNR=5.8						
ILAR	**Eielson Array**	**68.32**	**336**	P	**P**	**10 21 03.9**	**-2.3**
ASAR	**Alice Springs**	**139.64**	**246**	PKP	**PKiKP**	**10 29 37.5**	**+1.3**
	comp=Z,0.5nm,1.1s,baz=90,slow=1.9,SNR=1.6						
WRA	**Warramunga Arr**	**139.87**	**252**	PKP	**PKPdf**	**10 29 36.1**	**+1.7**
	comp=Z,0.2nm,0.8s,baz=90,slow=2.7,SNR=1.4						
CMAR	**Chiang Mai Arr**	**150.81**	**350**	PKPbc	**PKPbc**	**10 29 58.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=339,slow=3.2,SNR=6.3						

*IDC **30** 10:11:51.3±1.2, 25.°75S×69.°29W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/23, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=51.8km s-min=38.1km az=81.0*
*GUC **30** 10:12:04.2±0.6, 25.°21S×68.°76W, h123km±5km, ML3.9*
ISC 30 10:12:04.8±1.3, 25.°18S±0.°04×68.°7W±0.°1, h113km±10km, n23, σ1§28/35, mb3.1/3, 7C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.80**	**271**	⇑*i* P	**Pn**	**10 12 24.8**	**0.0**
GO02				*i* S	**Sn**	**10 12 39.9**	**+0.3**
GO02				IAML		10 12 41.6	
	comp=N,3μm,0.1s						
PB14	**IPOC Station P**	**1.64**	**289**	⇑*i* P	**Pn**	**10 12 33.7**	**-0.1**
PB14				*i* S	**Sn**	**10 12 55.7**	**0.0**
AC01	**Pan de Azucar**	**1.96**	**240**	⇑*i* P	**Pn**	**10 12 36.9**	**-0.5**
PB15	**IPOC Station P**	**2.08**	**340**	⇑*i* P	**Pn**	**10 12 39.6**	**+0.4**
PB15				*i* S	**Sn**	**10 13 06.0**	**+0.5**
PB10	**IPOC Station P**	**2.36**	**314**	*e*P	**Pn**	**10 12 42.9**	**+0.3**
PB10				*e*S	**Sn**	**10 13 10.1**	**-1.5**
LVC	**Limon Verde**	**2.56**	**356**	*e*P	**Pn**	**10 12 45.9**	**+0.3

Plg60.0000°, Azm276.0000°; N Plg9.0000°, Azm22.0000°; P Plg28.0000°, Azm117.0000°; **Near east of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.10**	**191**	⇑P	Pn	10 24 07.7	+0.2
JHYU				S	Sn	10 24 13.7	+0.2
JHO	**Hitachi**	**0.17**	**349**	⇑P	Pn	10 24 07.9	0.0
JHO				S	Sn	10 24 13.9	-0.2
JYT	**Yasato**	**0.40**	**238**	⇓P	Pn	10 24 09.8	+0.2
JYT				S	Sn	10 24 17.0	-0.1
ONAJ	**Iwakimizuishiy**	**0.68**	**13**	⇑P	Pn	10 24 12.3	-0.6
ONAJ				S	Sn	10 24 21.8	-1.1
JAG	**Ashikaga**	**0.93**	**269**	⇓P	Pn	10 24 16.5	+0.4
JFK	**Kawauchi**	**0.95**	**13**	P	Pn	10 24 15.6	-0.7
JFT	**Otama**	**1.10**	**349**	P	Pn	10 24 18.4	+0.1
JFT				S	Sn	10 24 32.3	-0.2
JKT	**Katashina**	**1.14**	**287**	⇓P	Pn	10 24 19.4	+0.5
JKT				S	Sn	10 24 34.7	+1.0
JFY	**Yanaizu**	**1.21**	**323**	⇓P	Pn	10 24 20.2	+0.4
MAT	**Matsushiro**	**1.94**	**274**	P	Pn	10 24 30.1	+0.4
MAT				eS	Sn	10 24 54.0	+1.1

*IDC **30** 10:32:24.7±0.6, 44°.47N×141°.45E, h240km±5km, mb3.4/15, mb1 3.6/18, mb1mx3.5/49, mbtmp4.0/18 Error ellipse: s-maj=13.7km s-min=11.0km az=136.0*
*NEIC **30** 10:32:24.8±1.8, 44°.46N±0°.07×141°.4E±0°.1, h242km±7km, mb4.2/37, Error ellipse: s-maj=14.8km s-min=10.1km az=108.0*
*JMA **30** 10:32:24.3±0.2, 44°.46N×141°.47E, h248km±2km, M3.7*
ISC 30 10:32:24.9±0.5,**44°.42N**±0°.05×**141°.44E**±0°.05,**h243**km±5km, **n103**,σ0°**79**/119,**mb4.0**/32,**3C-8D**,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.01**	**312**	⇓P	**Pn**	**10 32 56.2**	**0.0**
JYG				eS	**S**	**10 33 20.5**	**-0.3**
JSS	**Shosan**	**0.30**	**94**	⇓P	**Pn**	**10 32 57.0**	**+0.5**
JSS				eS	**S**	**10 33 21.9**	**+0.7**
JHR	**Hokuryu**	**0.71**	**163**	P	**Pn**	**10 32 58.5**	**+0.7**
JHR				eS	**S**	**10 33 24.6**	**+1.0**
JRR	**Rishiri**	**0.72**	**353**	⇓P	**Pn**	**10 32 58.0**	**+0.3**
ASAJ	**Asahikawa**	**0.89**	**110**	P	**Pn**	**10 32 58.5**	**-0.2**
	32nm,0.3s,baz=200,slow=9.5,SNR=406						
ASAJ				S	**S**	**10 33 24.4**	**-0.5**
	9.7nm,0.3s,baz=345,slow=34,SNR=2.1						
ASAJ	**Asahikawa**	**0.89**	**110**	⇓P	**Pn**	**10 32 58.4**	**-0.2**
ASAJ				eS	**S**	**10 33 24.5**	**-0.5**
JKA	**Kamikawa-asahi**	**0.89**	**110**		**Pn**	**10 32 58.7**	**+0.1**
JWK2	**Keihoku**	**0.95**	**20**	⇓P	**Pn**	**10 32 58.6**	**-0.3**
JWK2				eS	**S**	**10 33 24.7**	**-0.9**
JSE	**Soyaes**	**0.98**	**56**	⇓P	**Pn**	**10 32 58.5**	**-0.5**
JSE				eS	**S**	**10 33 24.5**	**-1.3**
JRBN	**Rebuntou**	**1.04**	**345**	⇓P	**Pn**	**10 32 58.9**	**-0.4**
JRBN				eS	**S**	**10 33 25.8**	**-0.7**
JKK2	**Kamakawa 2**	**1.09**	**120**	⇓P	**Pn**	**10 32 59.8**	**0.0**
JKK2				eS	**S**	**10 33 27.0**	**-0.1**
JSK	**Shakotan**	**1.27**	**213**	P	**Pn**	**10 33 01.1**	**+0.2**
JSK				eS	**S**	**10 33 28.8**	**-0.4**
JFR	**Furan**	**1.51**	**146**	P	**Pn**	**10 33 02.6**	**-0.1**
JFR				eS	**S**	**10 33 32.4**	**+0.1**
JEW	**Eniwo**	**1.58**	**180**	⇑P	**Pn**	**10 33 03.9**	**+0.7**
JEW				eS	**S**	**10 33 34.6**	**+1.3**
JEW	**Eniwo**	**1.58**	**180**		**Pn**	**10 33 03.9**	**+0.7**
JTKR	**Abashiri--Toko**	**1.83**	**103**	P	**Pn**	**10 33 05.7**	**+0.4**
JNB	**Noboribetsu**	**1.97**	**189**	⇑P	**Pn**	**10 33 06.6**	**0.0**
JAR	**Ashorobuto**	**2.02**	**123**	P	**Pn**	**10 33 07.6**	**+0.6**
JAR				eS	**S**	**10 33 40.9**	**+0.8**
JCH	**Churui**	**2.28**	**142**	P	**Pn**	**10 33 08.1**	**-1.4**
JCH				eS	**S**	**10 33 42.3**	**-2.3**
JNBK	**Urakawa-nobuka**	**2.34**	**155**	P	**Pn**	**10 33 10.2**	**+0.1**
JNBK				eS	**S**	**10 33 44.5**	**-1.2**
JKB	**Kayabe**	**2.55**	**187**	P	**Pn**	**10 33 11.7**	**-0.5**
JKB				eS	**S**	**10 33 47.2**	**-2.2**
YSS	**Yuzh-Sakhalins**	**2.70**	**20**		**Pn**	**10 33 13.2**	**-0.4**
ERM	**Erimo**	**2.71**	**152**	Pn	**Pn**	**10 33 14.0**	**+0.1**
JOSM	**Okushiri--Mats**	**2.74**	**212**	P	**Pn**	**10 33 13.9**	**-0.3**
JOMM	**Oshimamatsumae**	**3.08**	**200**	⇑P	**Pn**	**10 33 17.6**	**-0.2**
JTM	**Tenmabayashi**	**3.64**	**184**		**Pn**	**10 33 23.7**	**-0.5**
USA0B	**Ussuriysk Arra**	**6.78**	**271**		**Pn**	**10 34 02.8**	**0.0**
USRK	**Ussuriysk Ar.**	**6.78**	**271**	P	**Pn**	**10 34 02.6**	**-0.1**
	baz=83,slow=14,SNR=31						
USRK	**Ussuriysk Ar.**	**6.78**	**271**		**Pn**	**10 34 02.7**	**0.0**
JSD	**Sado**	**6.81**	**202**	Pn	**Pn**	**10 34 02.7**	**-0.4**
MAJO	**Matsushiro**	**8.24**	**198**	Pn	**Pn**	**10 34 20.2**	**-1.1**
MJAR	**Matsushiro Arr**	**8.24**	**198**	P	**Pn**	**10 34 20.0**	**-1.3**
	0.1nm,0.3s,baz=117,slow=22,SNR=6.4						
MJAR	**Matsushiro Arr**	**8.24**	**198**		**Pn**	**10 34 19.8**	**-1.5**
JGF	**Kuroka**	**9.35**	**201**	Pn	**Pn**	**10 34 34.1**	**-1.3**
JWT	**Wachi**	**10.23**	**209**	Pn	**Pn**	**10 34 45.4**	**-1.1**
PEA0B	**Petropavlovsk-**	**13.78**	**45**		**Pn**	**10 35 30.2**	**-0.2**
PETK	**Petropavlovsk-**	**13.78**	**45**	P	**Pn**	**10 35 29.8**	**-0.6**
	1.1nm,0.3s,baz=224,slow=11,SNR=31						
PETK	**Petropavlovsk-**	**13.78**	**45**	P	**Pn**	**10 35 30.1**	**-0.3**
JNU	**Nakatsue**	**13.95**	**220**		**P**	**10 35 34.6**	**+1.0**
PET	**Petropavlovsk**	**14.23**	**47**		**P**	**10 35 38.0**	**+1.7**
MA2	**Magadan**	**16.20**	**17**	P	**P**	**10 35 57.6**	**-0.4**
	1.2nm,0.3s,baz=98,slow=4.2,SNR=3.0						
MA2	**Magadan**	**16.20**	**17**	P	**P**	**10 35 57.7**	**-0.4**
SONM	**Songino Array**	**24.40**	**291**	P	**P**	**10 37 21.0**	**-0.2**
CNBA	**Chernabura Isl**	**38.50**	**53**	P	**P**	**10 39 22.5**	**-1.0**
IMAR	**Indian Mountai**	**40.43**	**35**	P	**P**	**10 39 38.1**	**-1.2**
MKAR	**Makanchi Array**	**40.60**	**295**	P	**P**	**10 39 41.2**	**+0.2**
	0.8nm,0.6s,baz=76,slow=9.1,SNR=5.6						
PPLA	**Purkeypile**	**41.27**	**40**	P	**P**	**10 39 46.5**	**+0.2**
PPLA				IAmb	IAmb	10 40 04.0	
	comp=Z,16nm,1.3s						
OHAK	**Old Harbor**	**41.55**	**48**	P	**P**	**10 39 48.5**	**+0.1**
KURBB	**Kurchatov Arra**	**41.79**	**302**	P	**P**	**10 39 50.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=73,slow=8.9,SNR=5.3						
COLD	**Coldfoot**	**41.81**	**33**	P	**P**	**10 39 49.6**	**-0.9**
KDAK	**Kodiak Island**	**41.82**	**47**	P	**P**	**10 39 49.9**	**-0.7**
TOLK	**Toolik Lake Re**	**42.00**	**31**	P	**P**	**10 39 51.0**	**-1.1**
CNPM	**China Poot**	**42.19**	**44**	P	**P**	**10 39 52.9**	**-0.7**
BRLK	**Bradley Lake**	**42.33**	**44**	P	**P**	**10 39 54.5**	**-0.2**
RND	**Reindeer**	**42.72**	**38**	P	**P**	**10 39 57.9**	**0.0**
PMR	**Palmer**	**42.86**	**41**	P	**P**	**10 39 58.8**	**-0.1**
PMR				IAmb	IAmb	10 40 21.1	
	comp=Z,18nm,1.4s						
GHO	**Glory Hole Cre**	**42.93**	**41**	P	**P**	**10 39 59.6**	**0.0**
GHO				IAmb	IAmb	10 40 13.8	
	comp=Z,15nm,1.4s						
CCB	**Clear Creek Bu**	**43.01**	**37**	P	**P**	**10 39 59.4**	**-0.7**
SML	**Sawmill**	**43.20**	**41**	P	**P**	**10 40 01.7**	**-0.1**
SML				IAmb	IAmb	10 40 24.8	
	comp=Z,23nm,1.5s						
IL31		**43.38**	**36**	P	**P**	**10 40 02.3**	**-0.7**
ILAR	**Eielson Array**	**43.38**	**36**	P	**P**	**10 40 02.0**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=279,slow=10,SNR=34						
ILAR	**Eielson Array**	**43.38**	**36**	P	**P**	**10 40 03.6**	**+0.5**
HDA	**Harding Lake**	**43.41**	**37**	P	**P**	**10 40 01.8**	**-1.6**
SCM	**Sheep Creek Mo**	**43.67**	**41**	P	**P**	**10 40 05.2**	**-0.3**
SCM				IAmb	IAmb	10 40 22.1	
	comp=Z,18nm,1.3s						
CMAR	**Chiang Mai Arr**	**43.86**	**248**	P	**P**	**10 40 07.9**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=30,slow=7.6,SNR=2.3						
BMAR	**Burnt Mountain**	**43.97**	**32**	P	**P**	**10 40 07.4**	**-0.3**
KLU	**Klutina**	**44.39**	**41**	P	**P**	**10 40 12.1**	**+0.8**
KLU				IAmb	IAmb	10 40 23.0	
	comp=Z,8.8nm,1.3s						
MCARA	**McCarthy VSAT**	**45.77**	**41**	P	**P**	**10 40 21.4**	**-0.5**
MCARA				IAmb	IAmb	10 40 49.9	
	comp=Z,9.4nm,1.1s						
EGAK	**Eagle**	**45.80**	**36**	P	**P**	**10 40 21.0**	**-1.0**
EGAK				IAmb	IAmb	10 40 34.1	
	comp=Z,10nm,1.5s						
BCAR	**Beaver Creek A**	**45.92**	**38**	P	**P**	**10 40 23.6**	**+0.4**
TGL	**Tana Glacier**	**46.02**	**41**	P	**P**	**10 40 25.4**	**+1.4**
TGL				IAmb	IAmb	10 40 52.1	
	comp=Z,29nm,1.5s						
BALM	**Baldy**	**46.18**	**41**	P	**P**	**10 40 26.2**	**+1.0**
BALM				IAmb	IAmb	10 40 36.7	
	comp=Z,7.3nm,1.1s						
EPYK	**Eagle Plains**	**47.21**	**33**	P	**P**	**10 40 33.2**	**+0.2**
EPYK				IAmb	IAmb	10 40 59.4	
	comp=Z,23nm,1.4s						
FAKI	**Fak Fak**	**47.84**	**192**	P	**P**	**10 40 39.3**	**+0.9**
INK	**Inuvik**	**47.89**	**30**	P	**P**	**10 40 37.7**	**-0.4**
INK				IAmb	IAmb	10 40 52.3	
	comp=Z,12nm,1.2s						
HYT	**Haines Junctio**	**48.50**	**40**		**P**	**10 40 44.8**	**+1.7**
HYT				IAmb	IAmb	10 40 46.0	
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**49.73**	**295**	P	**P**	**10 40 52.2**	**-0.4**
ABKAR	**Akbulak array**	**53.39**	**306**	P	**P**	**10 41 19.8**	**+0.4**
YKA	**Yellowknife Ar**	**57.48**	**32**	P	**P**	**10 41 47.4**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=307,slow=7.1,SNR=4.4						
MTN	**Manton Dam**	**57.75**	**192**	P	**P**	**10 41 51.0**	**+0.3**
KNRA	**Kununurra**	**60.91**	**194**	P	**P**	**10 42 12.3**	**+0.2**
KNRA				IAmb	IAmb	10 42 23.9	
	comp=Z,16nm,1.2s						
FINES	**FINESS Array B**	**62.34**	**331**	P	**P**	**10 42 19.6**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=51,slow=6.1,SNR=4.4						
FINES	**FINESS Array B**	**62.34**	**331**	P	**P**	**10 42 20.3**	**-0.8**
WB0	**Warramunga Arr**	**64.20**	**187**	P	**P**	**10 42 32.8**	**-1.0**
WRAB	**Tennant Creek**	**64.36**	**187**	P	**P**	**10 42 34.4**	**-0.5**
WRAB				IAmb	IAmb	10 42 37.6	
	comp=Z,14nm,1.5s						
WB2	**Warramunga Arr**	**64.37**	**187**	P	**P**	**10 42 34.7**	**-0.2**
WB2				IAmb	IAmb	10 42 47.9	
	comp=Z,6.3nm,1.2s						
WR0	**Warramunga Arr**	**64.37**	**187**	P	**P**	**10 42 34.9**	**0.0**
WR0				IAmb	IAmb	10 42 35.7	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**64.38**	**187**	P	**P**	**10 42 34.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=2.9,slow=7.0,SNR=16						
WC3	**Warramunga Arr**	**64.39**	**187**	P	**P**	**10 42 35.3**	**+0.3**
ASAR	**Alice Springs**	**68.10**	**187**	P	**P**	**10 42 59.5**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=5.8,slow=5.8,SNR=22						
AKASG	**Malin Array Be**	**68.53**	**321**	P	**P**	**10 43 00.3**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=43,slow=6.9,SNR=2.1						
PSAC1	**Pilbara Seismi**	**68.55**	**202**	P	**P**	**10 43 01.4**	**+0.1**
HRY	**Holter Researc**	**68.64**	**45**	P	**P**	**10 43 03.6**	**+1.7**
DLMT	**Dillon**	**69.16**	**46**	P	**P**	**10 43 05.7**	**+0.6**
KVN	**Kaiserville**	**70.35**	**54**	P	**P**	**10 43 13.7**	**+1.2**
NVAR	**Mina Array Bea**	**70.64**	**55**	P	**P**	**10 43 15.4**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=301,slow=6.0,SNR=3.8						
PDAR	**Pinedale Array**	**72.54**	**47**	P	**P**	**10 43 25.9**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=299,slow=0.9,SNR=16						
PDAR	**Pinedale Array**	**72.54**	**47**	P	**P**	**10 43 25.0**	**-0.6**
ULM	**Lac du Bonnet**	**73.36**	**34**	P	**P**	**10 43 29.5**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=338,slow=8.1,SNR=5.7						
ULM	**Lac du Bonnet**	**73.36**	**34**	P	**P**	**10 43 29.7**	**-0.2**
ULM				IAmb	IAmb	10 43 30.1	
	comp=Z,4.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**76.19**	**340**	P	**P**	**10 43 46.1**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=21,slow=4.5,SNR=3.5						
TXAR	**Lajitas Array**	**85.61**	**53**	P	**P**	**10 44 37.1**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=290,slow=4.6,SNR=4.8						

*MEX **30** 10:34:46.2±0.6, 14°.56N×92°.51W, h80km±10km, MD4.3*
*NEIC **30** 10:34:47.4±2.3, 14°.65N±0°.08×92°.47W±0°.05, h78km±5km, Error ellipse: s-maj=12.3km s-min=3.7km az=206.0*
*IDC **30** 10:34:47.5±0.7, 14°.74N×92°.29W, h68km±5km, mb3.8/9, mb1 4.1/11, mb1mx3.8/39, mbtmp4.1/11, MS3.2/4, Ms1 3.2/4, ms1mx2.9/31, Error ellipse: s-maj=19.4km s-min=10.9km az=58.0*
*SNET **30** 10:34:48.6±2.5, 14°.70N×92°.48W, h60km±28km, ML4.4*
*UCR **30** 10:34:48.8±2.5, 14°.67N×92°.48W, h58km±30km, ML4.1, mb4.4(NEIC)*
*GCG **30** 10:35:05.6±0.6, 14°.56N×91°.18W, h50km±13km, MD4.5*
ISC 30 10:34:46.9±0.6,**14°.66N**±0°.06×**92°.58W**±0°.05,**h67**km±5km, **n192**,σ1**36**/217,**mb4.4**/46,**2C-3D**,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.39**	**50**	*e*P	**Pn**	**10 34 57.8**	**-0.7**
THIG				*i* P	**Pn**	**10 34 57.9**	**-0.7**
THIG				⇓*i*P	**Pn**	**10 34 58.2**	**-0.3**
THIG				*i* S	**Sn**	**10 35 07.5**	**+0.6**
RTAL	**Retalhuleu**	**0.86**	**99**	*e*P	**Pn**	**10 35 03.3**	**-0.3**
RTAL				*e*S	**Sn**	**10 35 16.5**	**+0.6**
RTAL				IAML		10 35 18.9	
	comp=Z,10μm,0.2s						
RTAL	**Retalhuleu**	**0.86**	**99**		**Pn**	**10 35 03.3**	**-0.3**
RTAL				Sn	**Sn**	**10 35 14.7**	**-1.2**
PCIG		**1.21**	**329**	⇓*i*P	**Pn**	**10 35 08.0**	**0.0**
HUEH	**Huehuetenango**	**1.23**	**57**		**Pn**	**10 35 09.8**	**+1.4**
CCIG	**Comitan**	**1.67**	**15**	⇑*i*P	**Pn**	**10 35 16.6**	**+2.3**
CCIG				*i* S	**Sn**	**10 35 37.8**	**+2.9**
CCIG	**Comitan**	**1.67**	**15**		**Pn**	**10 35 15.8**	**+1.6**
FUG	**Fuego 3**	**1.69**	**97**	*e*P	**Pn**	**10 35 15.3**	**+0.8**
PCG	**Pacaya**	**1.92**	**98**	*e*P	**Pn**	**10 35 19.0**	**+1.3**
IXG	**Ixpaco**	**2.12**	**103**	*e*P	**Pn**	**10 35 20.6**	**+0.2**
IXG	**Ixpaco**	**2.12**	**103**	*e*P	**Pn**	**10 35 20.6**	**+0.2**
IXG	**Ixpaco**	**2.12**	**103**	*e*P	**Pn**	**10 35 21.4**	**+1.0**
NBG	**Las Nubes**	**2.16**	**92**	*e*P	**Pn**	**10 35 22.9**	**+2.0**
TGIG		**2.17**	**346**	⇑*i*P	**Pn**	**10 35 21.1**	**+0.2**
NUBE	**Las Nubes**	**2.81**	**105**	*e*P	**Pn**	**10 35 30.2**	**+0.5**
NUBE				*e*S	**Sn**	**10 36 02.5**	**-0.1**
NUBE	**Las Nubes**	**2.81**	**105**	*e*P	**Pn**	**10 35 30.2**	**+0.5**
NUBE				*e*S	**Sn**	**10 36 02.5**	**-0.1**
MRL	**Marmol**	**2.83**	**81**	*e*P	**Pn**	**10 35 30.6**	**+0.7**
MRL	**Marmol**	**2.83**	**81**	*e*P	**Pn**	**10 35 30.6**	**+0.7**
MRL	**Marmol**	**2.83**	**81**	*e*P	**Pn**	**10 35 31.6**	**+1.6**
MRL				*e*S	Sn	10 35 51.6	-11
RTR	**El Retiro**	**2.94**	**105**	*e*P	**Pn**	**10 35 33.5**	**+2.1**
RTR	**El Retiro**	**2.94**	**105**	*e*P	**Pn**	**10 35 33.5**	**+2.1**
SBLS	**San Blas**	**2.98**	**105**	*e*P	**Pn**	**10 35 33.4**	**+1.4**
SBLS	**San Blas**	**2.98**	**105**	*e*P	**Pn**	**10 35 33.4**	**+1.4**
CEVE	**Cerro Verde**	**2.98**	**106**	*e*P	**Pn**	**10 35 32.3**	**+0.2**
CEVE				*e*S	**Sn**	**10 36 07.1**	**+0.3**
CEVE				IAML		10 36 14.4	
	comp=Z,3μm,0.5s						
CEVE	**Cerro Verde**	**2.98**	**106**	*e*P	**Pn**	**10 35 32.3**	**+0.2**
CEVE				*e*S	**Sn**	**10 36 07.1**	**+0.3**
CEVE				IAML		10 36 14.4	
	comp=Z,3μm,0.5s						
SNJE	**San Jose**	**2.98**	**105**	*e*P	**Pn**	**10 35 33.0**	**+0.9**
SNJE	**San Jose**	**2.98**	**105**	*e*P	**Pn**	**10 35 33.0**	**+0.9**
MTO3	**Montecristo**	**3.12**	**94**	*e*P	**Pn**	**10 35 34.3**	**+0.3**
MTO3	**Montecristo**	**3.12**	**94**	*e*P	**Pn**	**10 35 34.3**	**+0.3**
MTO3	**Montecristo**	**3.12**	**94**	Pn	**Pn**	**10 35 34.1**	**+0.1**
ESQI	**Esquipulas**	**3.13**	**91**		**Pn**	**10 35 34.4**	**+0.4**
TACO	**Tacachico**	**3.20**	**102**	*e*P	**Pn**	**10 35 34.8**	**0.0**
TACO	**Tacachico**	**3.20**	**102**	*e*P	**Pn**	**10 35 34.8**	**0.0**
CMIG	**Matias Romero**	**3.29**	**318**	⇓*i*P	**Pn**	**10 35 36.5**	**+0.5**
CMIG				*i* S	**Sn**	**10 36 15.0**	**+1.0**
BOQS	**Boqueron**	**3.32**	**106**	*e*P	**Pn**	**10 35 39.2**	**+2.4**
BOQS	**Boqueron**	**3.32**	**106**	*e*P	**Pn**	**10 35 39.2**	**+2.4**
UEES	**Universidad Ev**	**3.37**	**106**	*e*P	**Pn**	**10 35 38.5**	**+1.3**
UEES				*e*S	**Sn**	**10 36 19.1**	**+3.0**
UEES	**Universidad Ev**	**3.37**	**106**	*e*P	**Pn**	**10 35 38.5**	**+1.3**
UEES				*e*S	**Sn**	**10 36 19.1**	**+3.0**
SNET	**Serv Nac Est T**	**3.38**	**106**	Pn	**Pn**	**10 35 37.7**	**+0.3**
PETF	**Flores**	**3.44**	**49**	Pn	**Pn**	**10 35 38.7**	**+0.6**
LBRS	**Las Brisas**	**3.54**	**104**	*e*P	**Pn**	**10 35 42.5**	**+2.9**
LBRS	**Las Brisas**	**3.54**	**104**	*e*P	**Pn**	**10 35 42.5**	**+2.9**
LFRS	**El Faro**	**3.56**	**106**	*e*P	**Pn**	**10 35 41.6**	**+1.8**
LFRS	**El Faro**	**3.56**	**106**	*e*P	**Pn**	**10 35 41.6**	**+1.8**
HUIG	**Huatulco**	**3.59**	**288**	*i* P	**Pn**	**10 35 38.9**	**-1.2**
PAVA	**Las Pavas**	**3.65**	**104**	*e*P	**Pn**	**10 35 42.0**	**+0.9**
PAVA	**Las Pavas**	**3.65**	**104**	*e*P	**Pn**	**10 35 42.0**	**+0.9**
COEG	**Centro de Oper**	**3.73**	**106**	*e*P	**Pn**	**10 35 44.6**	**+2.4**
COEG				*e*S	**Sn**	**10 36 27.7**	**+2.8**
COEG				IAML		10 36 38.1	
	comp=Z,988nm,0.4s						
COEG	**Centro de Oper**	**3.73**	**106**	*e*P	**Pn**	**10 35 44.6**	**+2.4**
COEG				*e*S	**Sn**	**10 36 27.7**	**+2.8**
COEG				IAML		10 36 38.1	
	comp=Z,988nm,0.4s						
COEB	**Comit de Eme**	**4.09**	**106**	*e*P	**Pn**	**10 35 49.4**	**+2.3**
COEB				*e*S	**Sn**	**10 36 36.2**	**+2.4**
COEB				IAML		10 36 40.3	
	comp=Z,427nm,0.4s						
COEB	**Comit de Eme**	**4.09**	**106**	*e*P	**Pn**	**10 35 49.4**	**+2.3**
COEB				*e*S	**Sn**	**10 36 36.2**	**+2.4**
COEB				IAML		10 36 40.3	
	comp=Z,427nm,0.4s						
ALJI	**Alcalda de J**	**4.11**	**108**	*e*P	**Pn**	**10 35 49.0**	**+1.8**
ALJI				*e*S	**Sn**	**10 36 34.4**	**+0.4**
ALJI				IAML		10 36 39.8	
	comp=Z,542nm,0.5s						
ALJI	**Alcalda de J**	**4.11**	**108**	*e*P	**Pn**	**10 35 49.0**	**+1.8**
ALJI				*e*S	**Sn**	**10 36 34.4**	**+0.4**
ALJI				IAML		10 36 39.8	
	comp=Z,542nm,0.5s						
TECA	**Tecapa**	**4.12**	**106**	*e*P	**Pn**	**10 35 49.8**	**+2.2**
TECA	**Tecapa**	**4.12**	**106**	*e*P	**Pn**	**10 35 49.8**	**+2.2**
JUCU	**Jucuarın**	**4.42**	**108**	*e*P	**Pn**	**10 35 52.8**	**+1.1**
JUCU				*e*S	**Sn**	**10 36 42.0**	**0.0**
JUCU				IAML		10 36 49.3	
	comp=Z,422nm,0.3s						
JUCU	**Jucuarın**	**4.42**	**108**	*e*P	**Pn**	**10 35 52.8**	**+1.1**
JUCU				*e*S	**Sn**	**10 36 42.0**	**0.0**
JUCU				IAML		10 36 49.3	
	comp=Z,422nm,0.3s						
TGUH	**Tegucigalpa,Un**	**5.17**	**96**	Pn	**Pn**	**10 36 00.1**	**-1.8**
CRIN	**San Cristobal**	**5.71**	**109**	Pn	**Pn**	**10 36 07.9**	**-1.4**
TLIG	**Tlapa**	**6.44**	**297**		**Pn**	**10 36 21.1**	**+1.8**
MATN	**Matagalpa**	**6.68**	**104**	Pn	**Pn**	**10 36 23.2**	**+0.6**
TEIG	**Tepich**	**6.89**	**36**	P	**Pn**	**10 36 24.7**	**-0.6**
	comp=Z,202nm,0.3s,baz=31,slow=2.6,SNR=596						
TEIG				S	**Sn**	**10 37 38.1**	**-4.3**
	baz=72,slow=21,SNR=0.9						
TEIG	**Tepich**	**6.89**	**36**	*i* P	**Pn**	**10 36 24.5**	**-0.8**
ACON	**Acoyapa**	**7.68**	**109**		**Pn**	**10 36 37.1**	**+0.9**
JTS	**Las Juntas de**	**8.62**	**119**	P	**Pn**	**10 36 48.5**	**-0.4**
	comp=Z,3.7nm,0.3s,baz=3.3,slow=12,SNR=20						
JTS				S	**Sn**	**10 38 21.3**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=350,slow=21,SNR=1.0						
JTS	**Las Juntas de**	**8.62**	**119**	Pn	**Pn**	**10 36 49.5**	**+0.5**
FSCY	**Frank Sound, G**	**11.84**	**65**	Pn	**Pn**	**10 37 32.5**	**-0.4**
LCCY	**Blossom Villag**	**12.94**	**66**	Pn	**Pn**	**10 37 49.6**	**+1.7**
833A	**Chaparral WMA,**	**15.00**	**336**	Pn	**Pn**	**10 38 14.5**	**-0.6**
833A				IAmb	IAmb	10 38 18.3	
	comp=Z,12nm,0.6s						
HKT	**Hockley**	**15.52**	**349**		**Pn**	**10 38 20.5**	**-1.1**
061Z	**Ochoppi**	**15.62**	**43**	Pn	**Pn**	**10 38 22.0**	**-1.0**
060A	**Indiantown**	**16.78**	**41**	P	**Pn**	**10 38 37.0**	**-0.6**
344A	**Westbrook Farm**	**16.80**	**5**		**P**	**10 38 39.7**	**+0.7**
344A				IAmb	IAmb	10 38 58.5	
	comp=Z,18nm,0.7s						
553A	**Crawfordville**	**17.18**	**25**		**P**	**10 38 46.0**	**+2.8**
656A	**Willston**	**17.34**	**31**		**P**	**10 38 44.9**	**0.0**
TX31	**Lajitas Ar. Si**	**17.85**	**327**	P	**P**	**10 38 49.5**	**-1.2**
TX31				IAmb	IAmb	10 38 56.3	
	comp=Z,29nm,1.1s						
TX32	**Lajitas Array**	**17.85**	**327**		**Pn**	**10 38 53.2**	**+2.4**
TXAR	**Lajitas Array**	**17.85**	**327**	P	**Pn**	**10 38 53.1**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=148,slow=10,SNR=28						
143A	**Socs Landing,**	**18.00**	**3**	P	**Pn**	**10 38 53.2**	**+0.7**
143A				IAmb	IAmb	10 39 10.6	
	comp=Z,20nm,0.9s						
352A	**Blakely**	**18.15**	**21**	P	**P**	**10 38 53.2**	**-0.7**
250A	**Grady**	**18.18**	**17**	P	**P**	**10 38 53.9**	**-0.3**
250A				IAmb	IAmb	10 38 57.3	
	comp=Z,22nm,0.9s						
Z47A	**Carrollton**	**18.91**	**12**	P	**Pn**	**10 39 04.0**	**+0.6**
Z47A				IAmb	I

PV13	Radium Mtn., P	27.47	331	P	P	10 40 26.8	-0.3
PV13				IAmb	IAmb	10 40 46.4	
comp=Z,11nm,1.0s							
PV03	Paradox Valley	27.56	332	P	P	10 40 29.0	+1.1
PV03				IAmb	IAmb	10 40 47.1	
comp=Z,14nm,1.1s							
O54A	Avella	27.58	20	P	P	10 40 26.0	-1.7
O54A				IAmb	IAmb	10 40 44.4	
comp=Z,14nm,1.1s							
PV18	Skein Mesa, Pa	27.59	331	P	P	10 40 27.8	-0.2
PV18				IAmb	IAmb	10 40 47.2	
comp=Z,15nm,1.1s							
PV12	Saucer Basin,	27.59	332	P	P	10 40 29.9	+1.8
PV12				IAmb	IAmb	10 40 47.6	
comp=Z,16nm,0.9s							
PV11	David Mesa, Pa	27.61	332	P	P	10 40 27.0	-1.3
PV11				IAmb	IAmb	10 40 47.5	
comp=Z,16nm,1.2s							
PV07	Paradox Valley	27.62	332	P	P	10 40 27.3	-1.1
PV17	East Wray Mesa	27.64	331	P	P	10 40 30.4	+1.9
PV17				IAmb	IAmb	10 40 47.6	
comp=Z,9.4nm,0.9s							
PV16	Nyswonger Mesa	27.64	332	P	P	10 40 30.2	+1.7
PV16				IAmb	IAmb	10 40 47.8	
comp=Z,9.5nm,1.0s							
PV20	West Nyswonger	27.69	331	P	P	10 40 28.4	-0.5
PV20				IAmb	IAmb	10 40 48.0	
comp=Z,15nm,1.3s							
PV04	Paradox Valley	27.70	332	P	P	10 40 30.0	+0.9
PV04				IAmb	IAmb	10 40 48.3	
comp=Z,11nm,0.9s							
M54A	Oil Creek Stat	29.01	20	P	P	10 40 39.8	-0.6
ECSD	EROS Data Cent	29.18	354	P	P	10 40 41.0	-1.0
NNA	Nana	30.72	149	LR	LR	10 52 18.3	
comp=Z,20nm,21.8s,baz=317,slow=34							
HWUT	Hardware Ranch	31.50	332	P	P	10 41 04.0	+1.3
J56A	Wolcott	31.55	22	P	P	10 41 01.0	-1.8
K58A	Earlville	31.57	24	P	P	10 41 01.4	-1.6
K58A				IAmb	IAmb	10 41 20.8	
comp=Z,8.4nm,0.8s							
PDAR	Pinedale Array	31.60	336	P	P	10 41 04.9	+1.4
comp=Z,0.2nm,0.4s,baz=143,slow=9.1,SNR=2.4							
PDAR	Pinedale Array	31.60	336	P	P	10 41 04.2	+0.7
PECO	Prince Edward	32.07	21	P	P	10 41 06.4	-1.0
SADO	Sadowa	32.11	18	P	P	10 41 05.6	-2.1
comp=Z,3.8nm,0.6s,baz=217,slow=10,SNR=3.9							
SADO	Sadowa	32.11	18	P	P	10 41 07.8	+0.1
E28A	Huff	32.54	350	P	P	10 41 11.0	-0.5
E28A				IAmb	IAmb	10 41 11.2	
comp=Z,7.6nm,0.8s							
REDW	Red Top Meadow	32.62	335	P	P	10 41 13.2	+0.7
REDW				IAmb	IAmb	10 41 31.6	
comp=Z,9.9nm,1.1s							
SNOW	Snow King Moun	32.66	335	P	P	10 41 11.7	-1.2
NVAR	Mina Array Bea	32.81	321	P	P	10 41 17.6	+3.3
comp=Z,0.5nm,0.5s,baz=134,slow=8.5,SNR=12							
NVAR				pP	pP	10 41 32.3	+1.7
comp=Z,2.7nm,0.8s,baz=137,slow=8.5,SNR=8.6							
NVAR				PcP	PcP	10 43 58.2	+0.2
comp=Z,0.3nm,0.5s,baz=129,slow=2.4,SNR=3.7							
NVAR				LR	LR	10 56 44.7	
comp=Z,104nm,19.8s,baz=268,slow=40							
NVAR	Mina Array Bea	32.81	321	P	P	10 41 13.4	-0.9
PLVO	Plevna	33.01	20	P	P	10 41 14.3	-1.3
NCB	Newcomb	33.15	25	P	P	10 41 15.1	-1.7
NCB				IAmb	IAmb	10 41 40.4	
comp=Z,12nm,1.4s							
HLID	Hailey	34.34	331	P	P	10 41 27.7	+0.4
HLID				IAmb	IAmb	10 41 46.5	
comp=Z,4.4nm,1.2s							
MFID	Camas Ranch	34.90	330	P	P	10 41 34.9	+2.7
MFID				IAmb	IAmb	10 41 36.4	
comp=Z,5.1nm,1.1s							
J08A	Circle Bar Ran	36.19	327	P	P	10 41 44.9	+1.6
SAML	Samuel	37.41	127	P	P	10 41 50.5	-3.2
SAML				IAmb	IAmb	10 41 52.5	
comp=Z,5.6nm,0.9s							
F10A	Beach Ranch, E	37.47	331	P	P	10 41 54.9	+0.8
LPAZ	La Paz	39.09	141	P	P	10 42 07.5	-1.1
comp=Z,1.8nm,0.8s,baz=330,slow=8.2,SNR=6.9							
LPAZ	La Paz	39.09	141	P	P	10 42 08.0	-0.5
SIV	San Ignacio	43.54	133	P	P	10 42 43.5	-0.9
comp=Z,4.0nm,0.6s,baz=307,slow=8.1,SNR=22							
SIV				pP	pP	10 42 59.9	-1.3
comp=Z,4.1nm,0.7s,baz=318,slow=9.0,SNR=8.1							
YKA	Yellowknife Ar	50.26	347	P	P	10 43 35.1	-1.1
comp=Z,2.0nm,0.9s,baz=144,slow=7.5,SNR=3.4							
BCAR	Beaver Creek A	59.22	336	P	P	10 44 41.0	+0.1
IL31		62.02	337	P	P	10 44 58.0	-1.9
IL31				IAmb	IAmb	10 45 20.5	
comp=Z,4.4nm,1.1s							
ILAR	Eielson Array	62.02	337	P	P	10 45 00.0	0.0
comp=Z,1.4nm,0.6s,baz=126,slow=5.2,SNR=23							
ILAR				pP	pP	10 45 18.5	+0.8
comp=Z,1.6nm,0.9s,baz=142,slow=3.8,SNR=5.8							
ILAR	Eielson Array	62.02	337	P	P	10 44 59.9	-0.1
RND	Reindeer	62.20	335	P	P	10 45 01.6	+0.3
CCB	Clear Creek Bu	62.32	336	P	P	10 45 02.5	+0.6
CCB				IAmb	IAmb	10 45 20.9	
comp=Z,7.0nm,1.5s							
PPLA	Purkeypile	63.40	334	P	P	10 45 09.5	+0.2
SVW2	Sparrevohn	64.33	331	P	P	10 45 15.7	+0.4
TOLK	Toolik Lake Re	64.72	340	P	P	10 45 18.1	+0.3
TOLK				IAmb	IAmb	10 45 19.1	
comp=Z,3.1nm,0.8s							
IMAR	Indian Mountai	65.14	337	P	P	10 45 19.7	-0.8
WRA	Warramunga Arr	135.01	256	PKP	PKPdf	10 53 59.1	-0.2
comp=Z,0.6nm,0.7s,baz=90,slow=2.6,SNR=7.0							
WRA				pPKP	pPKPdf	10 54 19.7	+0.9
comp=Z,1.0nm,0.7s,baz=89,slow=2.8,SNR=4.2							
ASAR	Alice Springs	135.35	251	PKP	PKiKP	10 54 00.6	-0.9
comp=Z,0.8nm,0.9s,baz=108,slow=2.1,SNR=5.1							
ASAR				pPKP	pPKPdf	10 54 20.5	+1.2
comp=Z,0.9nm,0.8s,baz=105,slow=1.9,SNR=4.5							
FITZ	Fitzroy Crossi	143.22	259	PKhKP	PKPpre	10 54 11.7	
comp=Z,1.2nm,0.6s,baz=179,slow=14,SNR=1.8							
FITZ	Fitzroy Crossi	143.22	259		PKPbc	10 54 11.9	+0.5
CMAR	Chiang Mai Arr	145.19	341	PKPbc	PKPbc	10 54 17.1	-0.4
comp=Z,0.8nm,0.5s,baz=336,slow=4.3,SNR=6.7							
CMAR				pPKPbc	pPKPab	10 54 35.8	-0.7
comp=Z,1.7nm,0.7s,baz=335,slow=3.0,SNR=3.5							
CMAR	Chiang Mai Arr	145.19	341		PKPdf	10 54 17.7	-0.1

*IDC **30** 10:39:12.0±2.9, 19°.86S×175°.89W, h131km±27km, mb3.9/10, mb1 4.1/13, mb1mx3.9/33, mbtmp4.4/13, Error ellipse: s-maj=21.7km s-min=14.9km az=122.0*
*NEIC **30** 10:39:13.6±2.2, 20°.0S±0°.1×175°.65W±0°.08, h158km±6km, mb4.8/41, Error ellipse: s-maj=15.3km s-min=10.7km az=172.0*

ISC 30 10:39:13.2±0.4, **19°.78S**±0°.07×**175°.68W**±0°.06, **h150**km, **n76**, σ**1°77/77**, **mb4.8**/31, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.47	84	Pn	Pn	10 40 35.5	+2.6
NIUE					Sn	10 41 33.2	-2.1
MSVF	Nonsavu	6.28	288		Pn	10 40 49.7	+6.0
AFI	Afiamalu	6.93	33	P	Pn	10 40 53.0	+0.5
6.5nm,0.3s,baz=174,slow=3.7,SNR=16							
AFI				S	Sn	10 42 05.7	-4.7
20nm,0.3s,baz=80,slow=18,SNR=7.9							
AFI	Afiamalu	6.93	33	Pn	Pn	10 40 53.2	+0.7
AFI					Sn	10 42 07.1	-3.3
RAR	Rarotonga	14.97	98	P	P	10 42 41.2	+2.0
0.9nm,0.3s,baz=305,slow=1.2,SNR=4.0							
RAR				S	Sn	10 45 21.0	-2.8
1.4nm,0.3s,baz=108,slow=23,SNR=2.9							
RAR	Rarotonga	14.97	98		Pn	10 42 37.9	+0.5
DZM	Mont Dzumac	16.85	259		Pn	10 43 04.5	+3.9
URZ	Urewera	19.45	197	P	P	10 43 26.2	-1.9
7.3nm,0.3s,baz=295,slow=2.8,SNR=27							
URZ	Urewera	19.45	197	P	P	10 43 26.4	-1.7
URZ				IAmb	IAmb	10 43 32.9	
comp=Z,84nm,1.3s							
HIZ	Hauiti	20.39	202	P	P	10 43 37.3	-1.0
HIZ				IAmb	IAmb	10 43 51.9	
comp=Z,61nm,1.1s							
BKZ	Black Stump Fm	20.46	198	P	P	10 43 36.0	-3.2
BFZ	Birch Farm	21.95	197	P	P	10 43 53.4	-1.4
MSWZ	Moikau Station	22.91	198	P	P	10 44 01.3	-2.8
SNZO	South Karori	22.97	199	P	P	10 44 03.1	-1.5
SNZO				IAmb	IAmb	10 44 16.8	
comp=Z,55nm,1.2s							
BHW	Baring Head	23.01	198	P	P	10 44 02.2	-2.7
PLWZ	Palliser	23.05	198	P	P	10 44 02.9	-2.5
QRZ	Quartz Range	23.27	203	P	P	10 44 06.2	-1.2
NNZ	Nelson	23.31	201	P	P	10 44 04.5	-3.2
NNZ				IAmb	IAmb	10 44 10.3	
comp=Z,33nm,1.2s							
TUWZ	Tuamarina	23.32	200	P	P	10 44 05.3	-2.4
BSWZ	Blackbirch Sta	23.59	200	P	P	10 44 08.6	-1.7
THZ	Tophouse	23.96	201	P	P	10 44 11.8	-1.9
KHZ	Kahutara	24.34	200	P	P	10 44 15.4	-1.6
LTZ	Lake Taylor	25.08	201	P	P	10 44 21.9	-1.9
LTZ				IAmb	IAmb	10 44 27.3	
comp=Z,44nm,0.9s							
OXZ	Oxford	25.64	201	P	P	10 44 26.3	-2.6
MQZ	McQueen's Vall	25.78	200	P	P	10 44 28.6	-1.5
RPZ	Rata Peaks	26.32	202	P	P	10 44 34.9	-0.1
comp=Z,20nm,0.5s,baz=349,slow=1.9,SNR=22							
RPZ	Rata Peaks	26.32	202	P	P	10 44 34.1	-0.9
RPZ				IAmb	IAmb	10 44 37.4	
comp=Z,26nm,0.6s							
FOZ	Fox Glacier	26.62	204	P	P	10 44 36.9	-0.7
ODZ	Otahua Downs	27.63	201	P	P	10 44 47.5	+0.8
ODZ				IAmb	IAmb	10 45 08.0	
comp=Z,27nm,1.3s							
WKZ	Wanaka	28.02	204	P	P	10 44 49.0	-1.2
WKZ				IAmb	IAmb	10 44 58.1	
comp=Z,15nm,0.6s							
MLZ	Mavora Lakes	28.82	204	P	P	10 44 56.4	-0.9
MLZ				IAmb	IAmb	10 45 08.7	
comp=Z,23nm,1.2s							
WHZ	Wether Hill Ro	29.33	204	P	P	10 44 59.3	-2.4
ARMA	Armidale	31.34	244	P	P	10 45 17.4	-2.4
ARMA				IAmb	IAmb	10 45 39.1	
comp=Z,17nm,1.4s							
CAN	Canberra	34.72	236	P	P	10 45 48.4	-0.6
CAN				IAmb	IAmb	10 46 15.2	
comp=Z,20nm,1.3s							
CTAO	Charters Tower	35.73	263	P	P	10 45 58.2	+0.3
CTAO				IAmb	IAmb	10 45 59.8	
comp=Z,15nm,0.6s							
TOO	Toolangi	38.08	234	P	P	10 46 17.5	0.0
TOO				IAmb	IAmb	10 46 39.0	
comp=Z,17nm,1.2s							
COEN	Coen	39.73	272	P	P	10 46 32.2	+0.8
COEN				IAmb	IAmb	10 46 32.8	
comp=Z,13nm,0.7s							
STKA	Stephens Creek	40.06	244	P	P	10 46 33.1	-0.8
MANU	Manus Island	40.18	291	P	P	10 46 37.3	+2.1
MANU				IAmb	IAmb	10 47 03.5	
comp=Z,23nm,1.2s							
BBOO	Buckleboo	44.81	243	P	P	10 47 10.8	-1.6
BBOO				IAmb	IAmb	10 47 22.7	
comp=Z,32nm,1.3s							
WR0	Warramunga Arr	46.67	261	P	P	10 47 26.1	-1.0
AS31	Alice Springs	46.80	256	P	P	10 47 25.5	-0.7
ASAR	Alice Springs	46.80	256	P	P	10 47 27.4	-0.8
comp=Z,21nm,0.6s,baz=96,slow=8.5,SNR=337							
ASAR	Alice Springs	46.80	256	P	P	10 47 27.2	-0.9
WB0	Warramunga Arr	46.84	261	P	P	10 47 27.4	-1.0
WB0				IAmb	IAmb	10 47 28.3	
comp=Z,15nm,0.5s							
WB2	Warramunga Arr	46.85	261	P	P	10 47 27.6	-0.9
WB2				IAmb	IAmb	10 47 28.5	
comp=Z,8.2nm,0.5s							
WRAB	Tennant Creek	46.85	261	P	P	10 47 26.9	-1.7
WRAB				IAmb	IAmb	10 47 28.4	
comp=Z,8.5nm,0.5s							
WRA	Warramunga Arr	46.86	261	P	P	10 47 27.4	-1.2
comp=Z,4.9nm,0.4s,baz=95,slow=7.4,SNR=220							
WRA	Warramunga Arr	46.86	261	P	P	10 47 26.8	-1.8
MTN	Manton Dam	51.34	269	P	P	10 48 02.7	0.0
MTN				IAmb	IAmb	10 48 03.4	
comp=Z,14nm,0.7s							
KNRA	Kununurra	52.89	265	P	P	10 48 14.0	-0.1
FITZ	Fitzroy Crossi	55.28	261	P	P	10 48 31.4	0.0
SOEI	Soe	58.66	270	P	P	10 48 56.6	+1.1
VNDA	Vanda	58.82	186	P	P	10 48 53.3	-2.1
PSA00	Pilbara Seismi	59.95	256	P	P	10 49 01.9	-2.2
PSA00				IAmb	IAmb	10 49 13.4	
comp=Z,19nm,1.4s							
PSAA2	Pilbara Seismi	59.95	256	P	P	10 49 03.0	-1.1
PSAC3	Pilbara Seismi	59.96	256	P	P	10 49 02.8	-1.4
PSAA1	Pilbara Seismi	59.96	256	P	P	10 49 02.9	-1.2
PSAD3	Pilbara Seismi	60.00	256	P	P	10 49 02.6	-1.9
QSPA	South Pole Qui	70.28	180	P	P	10 50 10.4	+0.3
comp=Z,1.9nm,0.8s,baz=346,slow=1.1,SNR=13							
QSPA	South Pole Qui	70.28	180	P	P	10 50 10.9	+0.8
MJAR	Matsushiro Arr	70.95	322	P	P	10 50 14.8	+0.3
comp=Z,0.8nm,0.5s,baz=162,slow=6.8,SNR=4.9							
NVAR	Mina Array Bea	79.02	42	P	P	10 51 03.0	+2.1
comp=Z,0.6nm,0.8s,baz=226,slow=8.1,SNR=5.4							
NVAR	Mina Array Bea	79.02	42	P	P	10 51 02.9	+1.9
NJ2	Nanjing	81.12	309	eP	P	10 51 10.3	-1.7
NJ2				pmax	pmax		
comp=Z,6.0nm,0.5s							
MAW	Mawson	82.96	199	P	P	10 51 20.7	-0.4
comp=Z,1.6nm,0.6s,baz=128,slow=7.6,SNR=6.6							
TXAR	Lajitas Array	84.84	56	P	P	10 51 33.7	+2.3
comp=Z,0.5nm,0.8s,baz=216,slow=6.2,SNR=4.5							
TXAR	Lajitas Array	84.84	56	P	P	10 51 32.2	+0.8
ILAR	Eielson Array	87.15	12	P	P	10 51 43.0	+1.2
comp=Z,0.1nm,0.4s,baz=212,slow=4.4,SNR=1.9							
VNA3	Neumayer Olymp	88.70	176	P	P	10 51 43.0	-6.3
VNA1	Neumayer--Stat	89.38	176	P	P	10 51 42.4	-10
HHC	Hu-ho-hao-te	90.43	314	eP	P	10 51 57.0	-0.9
HHC				pmax	pmax		
comp=Z,31nm,0.9s							
HHC				pmax	pmax		
comp=Z,110nm,8.3s							
CMAR	Chiang Mai Arr	91.94	289	P	P	10 52 05.8	+0.5
comp=Z,0.7nm,0.6s,baz=73,slow=3.1,SNR=5.3							
CMAR	Chiang Mai Arr	91.94	289	P	P	10 52 05.0	-0.3
LZH	Lanzhou	94.08	307	eP	P	10 52 14.0	-1.0
LZH				pP	sP	10 53 02.0	-5.5
LZH				pmax	pmax		
comp=Z,13nm,1.0s							
LZH				pmax	pmax		
comp=Z,180nm,4.8s							
U38A	Gravette	94.82	53	P	P	10 52 19.6	+1.4

*NNC **30** 10:47:54.9±6.9, 39°.90N×72°.84E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=53.3km s-min=27.6km az=176.0*

KRNET 30 10:48:05.9±0.1, **39°.41N×72°.28E, mb2.2, 9C-3D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	Osh	1.18	19	⇑iP	Pg	10 48 27.5	-1.0
baz=19							
OHH				⇑iS	Sg	10 48 43.8	0.0
baz=19							
BTK	Batken	1.30	300	⇓iP	Pg	10 48 30.2	-0.6
baz=0.0							
BTK				⇓iS	Sg	10 48 47.2	-0.5
baz=0.0							
ARLS	Aral	2.90	32	⇑iP	Pn	10 48 54.0	+0.5
baz=32							
ARLS				⇑iS	Sn	10 49 29.4	+0.2
baz=32							
AAK	Ala-Archa	3.63	27	⇓Pg	Pn	10 48 48.0	-16
1.1nm,0.6s							
AAK				⇑Lg	Lg	10 49 31.5	
1.6nm,0.5s							
KK31	Karatay Array	3.93	341	⇑Pg	Pn	10 49 02.6	-4.8
0.6nm,0.5s,baz=149,slow=10,SNR=4.6							
KK31				⇑Lg	Lg	10 49 49.0	
0.7nm,0.3s,baz=143,slow=21,SNR=4.1							
TKM2	Tokmak 2	4.31	34	⇑Pg	Pn	10 49 03.1	-10
1.2nm,0.8s							
TKM2				⇑Lg	Lg	10 49 53.1	
1.4nm,0.7s							

IDC 30 10:53:16.9±6.4, **1°.87S×99°.38E, h0km, mb3.4**/3, **mb1 3.6**/3, **mb1mx3.3**/55, **mbtmp3.4**/3, **Error ellipse: s-maj=314.2km s-min=32.3km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.59	120	P	P	11 00 40.5	-1.5
0.3nm,0.6s,baz=294,slow=8.1,SNR=5.0							
ASAR	Alice Springs	39.83	126	P	P	11 00 53.8	+1.5
0.5nm,0.8s,baz=303,slow=7.6,SNR=2.4							
MKAR	Makanchi Array	50.74	345	P	P	11 02 18.6	0.0
0.1nm,0.4s,baz=157,slow=7.8,SNR=2.2							

*NAO **30** 10:59:07.9±2.1, 58°.44N×1°.64E, ML2.7*
*IDC **30** 10:59:08.2±1.3, 58°.57N×1°.68E, h0km, mb3.5/2, mb1 3.7/8, mb1mx3.4/49, mbtmp3.5/8, ML3.2/6, MS2.4/1, Ms1 2.5/1, ms1mx2.1/41, Error ellipse: s-maj=27.5km s-min=13.6km az=148.0*
*LDG **30** 10:59:08.8±0.2, 58°.43N×1°.54E, h10km, Ml3.5/12, Error ellipse: s-maj=5.0km s-min=2.6km az=40.0*
*BGS **30** 10:59:08.0±1.1, 58°.42N×1°.76E, h11km±5km, ML3.1*
*BER **30** 10:59:10.3±1.7, 58°.46N×1°.67E, h5km, ML2.7, MW2.9, ML3.1(BGS), Confirmed Earthquake*
*DNK **30** 10:59:11.5±4.0, 58°.87N×1°.65E, h52km±67km, ML3.0, Hypocentre not reviewed by the ISC*

ISC 30 10:59:07.0±1.8, **58°.38N**±0°.03×**1°.87E**±0°.03, **h10**km±11km, **n126**, σ**2°02**/162, **North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMY	Karmoy	1.94	63	eP	Pn	10 59 43.1	+3.2
KMY				eS	Sn	11 00 07.8	+3.5
KMY				IAML		11 00 22.6	
comp=Z,99nm,0.5s							
LRW	Lerwick	2.35	320	eP	Pn	10 59 46.4	+0.8
LRW				IAML		11 00 23.5	
comp=N,83nm,0.3s							
LRW				IAML		11 00 24.4	
comp=E,76nm,0.5s							
LRW	Lerwick	2.35	320	eP	Pn	10 59 46.4	+0.8
LRW				IAML		11 00 23.5	
comp=N,83nm,0.3s							
LRW				IAML		11 00 24.4	
comp=E,76nm,0.5s							
LRW	Lerwick	2.35	320	eP	Pn	10 59 46.6	+1.0
LRW				eS	Sn	11 00 13.2	-1.3
LRW				IAML		11 00 23.5	
comp=N,83nm,0.3s							
LRW				IAML		11 00 24.4	
comp=E,76nm,0.5s							
BLS5	Blasjo	2.60	64	eP	Pn	10 59 52.4	+3.4
BLS5				eS	Sn	11 00 23.5	+2.9
BLS5				IAML		11 00 42.2	
comp=Z,86nm,0.5s							
BER	Bergen	2.67	40	Pn	Pn	10 59 52.5	+2.5
BER				Sn	Sn	11 00 22.4	0.0
BER	Bergen	2.67	40	eP	Pn	10 59 52.2	+2.2
BER				IAML		11 00 45.7	
comp=N,28nm,0.5s							
BER				IAML		11 00 48.2	
comp=E,42nm,0.6s							
BER	Bergen	2.67	40	eP	Pn	10 59 52.2	+2.2
BER				IAML		11 00 45.7	
comp=N,28nm,0.5s							
BER				IAML		11 00 48.2	
comp=E,42nm,0.6s							
BER	Bergen	2.67	40	eP	Pn	10 59 52.2	+2.2
ASK	Askoy	2.70	37	iP	Pn	10 59 52.4	+2.0
ASK				eS	Sn	11 00 22.9	-0.2
ASK				IAML		11 00 43.0	
comp=Z,89nm,0.5s							
DRUM	Mains of Drumt	2.77	240	eP	Pn	10 59 53.0	+1.7
DRUM				eS	Sn	11 00 25.7	+0.9
DRUM				IAML		11 00 49.2	
comp=N,117nm,0.8s							
DRUM				IAML		11 00 50.1	
comp=E,74nm,0.6

	comp=E,39nm,0.7s								
INVG	**Invergeldie, C**	**3.75**	**241**	*e*P		**Pn**	**11 00 06.3**	**+1.5**
INVG				IAML			11 01 20.4	
	comp=N,37nm,0.5s								
INVG				IAML			11 01 20.4	
	comp=E,39nm,0.7s								
KAC	**Achnashellach**	**3.92**	**260**	*e*P		**Pn**	**11 00 07.7**	**+0.5**
KAC	**Achnashellach**	**3.92**	**260**	*e*P		**Pn**	**11 00 07.7**	**+0.5**
KAC	**Achnashellach**	**3.92**	**260**	*e*P		**Pn**	**11 00 07.7**	**+0.5**
SKAR	**Skarslia**	**4.00**	**52**	*e*P		**Pn**	**11 00 11.5**	**+3.2**
SKAR				*e*S		**Sn**	**11 00 55.8**	**+0.6**
SKAR				IAML			11 01 22.2	
	comp=Z,41nm,0.6s								
EAB	**Aberfoyle**	**4.03**	**240**	*e*P		**Pn**	**11 00 10.4**	**+1.8**
EAB	**Aberfoyle**	**4.03**	**240**	*e*P		**Pn**	**11 00 10.4**	**+1.8**
EAB	**Aberfoyle**	**4.03**	**240**	*e*P		**Pn**	**11 00 10.4**	**+1.8**
EKA	**Eskdalemuir Ar**	**4.12**	**224**	Pn		**Pn**	**11 00 11.2**	**+1.3**
EKA				Sn		**Sn**	**11 00 57.3**	**-0.8**
EKA	**Eskdalemuir Ar**	**4.12**	**224**	Pn		**Pn**	**11 00 11.2**	**+1.3**
	baz=31,slow=11,SNR=31								
EKA				Sn		**Sn**	**11 00 57.6**	**-0.5**
	baz=45,slow=24,SNR=16								
EKA	**Eskdalemuir Ar**	**4.12**	**224**	Pn		**Pn**	**11 00 11.2**	**+1.3**
EKA				Sn		**Sn**	**11 00 57.3**	**-0.8**
EDMD	**Edmundbyers**	**4.14**	**212**	*e*P		**Pn**	**11 00 11.8**	**+1.6**
EDMD				IAML			11 01 48.3	
	comp=N,29nm,0.8s								
EDMD				IAML			11 01 57.2	
	comp=E,35nm,0.6s								
EDMD	**Edmundbyers**	**4.14**	**212**	*e*P		**Pn**	**11 00 11.8**	**+1.6**
EDMD				IAML			11 01 48.3	
	comp=N,29nm,0.8s								
EDMD				IAML			11 01 57.2	
	comp=E,35nm,0.6s								
EDMD	**Edmundbyers**	**4.14**	**212**	*e*P		**Pn**	**11 00 11.8**	**+1.6**
EDMD				*e*S		**Sn**	**11 00 57.5**	**-1.2**
EDMD				IAML			11 01 48.3	
	comp=N,29nm,0.8s								
EDMD				IAML			11 01 57.2	
	comp=E,35nm,0.6s								
ESK	**Eskdalemuir**	**4.15**	**224**	*e*P		**Pn**	**11 00 11.5**	**+1.2**
ESK				*e*S		**Sn**	**11 00 58.2**	**-0.6**
ESK				IAML			11 01 01.0	
	comp=E,23nm,0.3s								
ESK				IAML			11 01 02.5	
	comp=N,29

ULM	**Lac du Bonnet**	**42.51**	**328**	P	**P**	**11 22 18.4**	**+0.2**
ULM				IAmb	IAmb	11 22 43.8	
	comp=Z,5.3nm,0.9s						
BNM	**Barren Site**	**43.39**	**301**	P	**P**	**11 22 25.8**	**-0.2**
ANMO	**Albuquerque**	**43.40**	**302**	P	**P**	**11 22 25.6**	**-0.3**
PD31	**Pinedale Array**	**47.63**	**312**	P	**P**	**11 22 59.7**	**+0.2**
PD31				IAmb	IAmb	11 23 01.8	
	comp=Z,4.8nm,1.4s						
PDAR	**Pinedale Array**	**47.63**	**312**	P	**P**	**11 22 59.6**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=115,slow=8.4,SNR=16						
PDAR				LR	LR	11 42 23.8	
	comp=Z,36nm,21.8s,baz=132,slow=35						
PDAR	**Pinedale Array**	**47.63**	**312**	P	**P**	**11 22 59.4**	**-0.1**
BW06	**Boulder Array**	**47.63**	**312**	P	**P**	**11 22 59.5**	**+0.1**
BW06				IAmb	IAmb	11 23 01.8	
	comp=Z,5.3nm,1.4s						
LOHW	**Long Hollow**	**48.60**	**313**	P	**P**	**11 23 07.6**	**+0.7**
LOHW				IAmb	IAmb	11 23 19.6	
	comp=Z,5.1nm,1.6s						
REDW	**Red Top Meadow**	**48.71**	**313**	P	**P**	**11 23 08.7**	**+0.9**
REDW				IAmb	IAmb	11 23 17.1	
	comp=Z,4.5nm,1.4s						
TPAW	**Teton Pass**	**48.81**	**313**	P	**P**	**11 23 08.3**	**-0.2**
TPAW				IAmb	IAmb	11 23 27.8	
	comp=Z,2.2nm,0.7s						
FXWY	**Fox Creek**	**48.91**	**313**	P	**P**	**11 23 09.9**	**+0.6**
PSUT	**Pine Spring**	**49.89**	**306**	P	**P**	**11 23 17.8**	**+1.0**
JTMT	**Jette**	**52.23**	**317**	P	**P**	**11 23 34.8**	**+0.6**
JTMT				IAmb	IAmb	11 23 40.7	
	comp=Z,8.8nm,1.2s						
H10N3	**ASCENSION HYDR**	**52.91**	**115**	T	T	12 20 50.0	
	baz=299,slow=75,SNR=205						
H10N2	**ASCENSION HYDR**	**52.91**	**115**	T	T	12 20 50.4	
	baz=299,slow=75,SNR=182						
H10N1	**ASCENSION HYDR**	**52.93**	**115**	T	T	12 20 51.5	
	baz=299,slow=75,SNR=194						
H10S3	**ASCENSION HYDR**	**53.31**	**116**	T	T	12 21 21.0	
	baz=295,slow=74,SNR=275						
H10S2	**ASCENSION HYDR**	**53.33**	**116**	T	T	12 21 21.1	
	baz=285,slow=74,SNR=76						
NVAR	**Mina Array Bea**	**53.34**	**305**	P	**P**	**11 23 42.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=93,slow=7.1,SNR=5.3						
NEW	**Newport**	**54.21**	**317**	P	**P**	**11 23 48.8**	**+0.1**
NEW				IAmb	IAmb	11 23 49.4	
	comp=Z,3.1nm,0.8s						
KOWA	**Kowa**	**55.12**	**84**	P	**P**	**11 23 56.8**	**+1.1**
SUMG	**Summit**	**56.41**	**8**	P	**P**	**11 24 05.5**	**+0.9**
YKA	**Yellowknife Ar**	**57.73**	**334**	P	**P**	**11 24 13.1**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=105,slow=7.9,SNR=5.0						
YKA				LR	LR	11 47 59.6	
	comp=Z,32nm,21.8s,baz=0.0,slow=35						
PLCA	**Paso Flores**	**58.79**	**188**	LR	LR	11 55 13.9	
	comp=Z,72nm,20.9s,baz=338,slow=42						
TOA0	**Torodi Ar. Sit**	**60.83**	**85**	P	**P**	**11 24 36.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**60.83**	**85**	P	**P**	**11 24 34.1**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=299,slow=6.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**60.83**	**85**	P	**P**	**11 24 36.1**	**+0.3**
DLBC	**Dease Lake**	**63.83**	**327**	P	**P**	**11 24 56.7**	**+1.4**
NB2	**NORSAR Subarra**	**66.25**	**31**	P	**P**	**11 25 12.1**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=260,slow=6.5						
NOA	**NORSAR Array B**	**66.25**	**31**	P	**P**	**11 25 09.6**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=264,slow=6.4,SNR=4.1						
EGAK	**Eagle**	**69.70**	**333**	P	**P**	**11 25 33.1**	**+0.7**
BCAR	**Beaver Creek A**	**69.95**	**331**	P	**P**	**11 25 35.3**	**+1.1**
IL31		**72.15**	**333**	P	**P**	**11 25 47.1**	**-0.3**
IL31				IAmb	IAmb	11 26 00.1	
	comp=Z,8.0nm,1.6s						
ILAR	**Eielson Array**	**72.15**	**333**	P	**P**	**11 25 46.9**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=102,slow=4.8,SNR=18						
ILAR				LR	LR	12 00 14.6	
	comp=Z,14nm,18.1s,baz=92,slow=38						
ILAR	**Eielson Array**	**72.15**	**333**	P	**P**	**11 25 47.1**	**-0.3**
ARCES	**ARCESS Array B**	**72.47**	**22**	P	**P**	**11 25 50.1**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=289,slow=3.7,SNR=4.9						
FINES	**FINESS Array B**	**73.42**	**30**	P	**P**	**11 25 55.9**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=255,slow=3.7,SNR=7.8						

*SOME **30** 11:18:25.8, 43.°18N×78.°32E, h15km*
*NNC **30** 11:18:27.4±1.2, 43.°18N×78.°48E, h2km±9km, mb4.3, mpv2.7, Error ellipse: s-maj=7.0km s-min=4.7km az=159.0*

ISC 30 11:18:25.4±1.4, 43.°18N±0.°06×78.°34E±0.°06, h17km±11km, n10, σ6°30/18, 3C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.13**	**159**	*e*P	**Pg**	**11 18 29.4**	**0.0**
	21nm,0.1s						
SATY				*e*S	**Sg**	**11 18 32.2**	**0.0**
	127nm,0.1s						
SATY	**Saty**	**0.13**	**159**	P	**Pg**	**11 18 29.4**	**0.0**
	21nm,0.1s						
SATY				S	**Sg**	**11 18 32.2**	**0.0**
	127nm,0.1s						
KPKS	**Kokpek**	**0.38**	**42**	*e*P	**Pg**	**11 18 33.2**	**0.0**
	12nm,0.1s						
KPKS				*e*S	**Sg**	**11 18 38.6**	**0.0**
	13nm,0.1s						
UZB	**Uzynbulak**	**0.50**	**94**	*e*P	**Pg**	**11 18 35.7**	**+0.2**
	2.6nm,0.1s						
UZB				*e*S	**Sg**	**11 18 42.7**	**+0.5**
	16nm,0.1s						
UZB	**Uzynbulak**	**0.50**	**94**	P	**Pg**	**11 18 35.7**	**+0.2**
	2.6nm,0.1s						
UZB				S	**Sg**	**11 18 42.7**	**+0.5**
	16nm,0.1s						
PDGK	**Podgornoye**	**0.85**	**80**	P	**Pb**	**11 18 41.5**	**-0.4**
	0.9nm,0.1s						
PDGK				S	**Sg**	**11 18 52.8**	**-0.5**
	1.9nm,0.2s						
PDGK	**Podgornoye**	**0.85**	**80**	⇓P	**Pb**	**11 18 41.7**	**-0.1**
	0.6nm,0.5s						
PDGK				⇑S	**Sg**	**11 18 52.9**	**-0.4**
	1.0nm,0.5s						
MNBS	**Baschi**	**0.90**	**3**	*e*P	**Pb**	**11 18 42.5**	**-0.1**
	0.8nm,0.2s						
MNBS				*e*S	**Sb**	**11 18 54.5**	**+0.2**
	6.5nm,0.2s						
MNBS	**Baschi**	**0.90**	**3**	P	**Pb**	**11 18 42.5**	**-0.1**
	0.8nm,0.2s						
MNBS				S	**Sb**	**11 18 54.5**	**+0.2**
	6.5nm,0.2s						
TKM2	**Tokmak 2**	**2.03**	**263**	⇑Pg	Pg	11 19 09.4	+5.1
	39nm,0.5s						
TKM2				⇑Lg	Lg	11 19 35.7	
	98nm,0.6s						

IDC 30 11:36:12.6±1.8, 49.°94S×116.°18E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/26, mbtmp3.9/4, Error ellipse: s-maj=153.5km s-min=27.0km az=122.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.11**	**354**	T	T	11 55 19.5	
	baz=176,slow=74,SNR=127						
H01W1	**Cape Leeuwin H**	**15.11**	**354**	T	T	11 55 21.0	
	baz=176,slow=74,SNR=139						
H01W3	**Cape Leeuwin H**	**15.12**	**354**	T	T	11 55 22.5	
	baz=176,slow=74,SNR=119						
ASAR	**Alice Springs**	**29.67**	**34**	P	P	11 42 19.9	0.0
	0.5nm,0.6s,baz=202,slow=8.3,SNR=5.4						
MAW	**Mawson**	**31.47**	**216**	P	P	11 42 35.3	0.0
	0.8nm,0.8s,baz=96,slow=16,SNR=1.8						
FITZ	**Fitzroy Crossi**	**32.67**	**17**	P	P	11 42 46.9	+0.5
	1.0nm,0.5s,baz=180,slow=14,SNR=7.0						
WRA	**Warramunga Arr**	**33.24**	**32**	P	P	11 42 50.9	-0.6
	3.1nm,1.1s,baz=204,slow=9.1,SNR=7.2						
H08S2	**Diego Garcia H**	**55.67**	**304**	T	T	12 45 11.5	
	baz=134						
H08S1	**Diego Carcia H**	**55.68**	**304**	T	T	12 45 11.9	
	baz=134						
H08S3	**Diego Garcia H**	**55.69**	**304**	T	T	12 45 13.0	
	baz=134						

*BNS **30** 11:42:03.6±0.5, 53.°29N×6.°32E, h5km, ML2.7*
*BGR **30** 11:42:03.6±0.4, 53.°26N×6.°56E, h3km, ML3.0/11, Error ellipse: s-maj=6.7km s-min=4.4km az=117.0*
*LDG **30** 11:42:03.7±0.1, 53.°26N×6.°58E, h3km, Ml3.3/21, Error ellipse: s-maj=2.2km s-min=1.2km az=127.0*
*BGS **30** 11:42:04.4±1.2, 53.°35N×6.°40E, h3km, ML3.2, ML3.2*
*BUG **30** 11:42:08.6±0.0, 53.°12N×6.°70E, h0km±18km, MD3.8/7, ML3.4/7*

ISC 30 11:42:00.7±0.7, 53.°27N±0.°03×6.°39E±0.°03, h0km, n93, σ2°19/144, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBBN	**Ibbenburen**	**1.27**	**139**	*e*Pg	**Pn**	**11 42 26.8**	**+1.1**
IBBN				*e*Sg	**Sn**	**11 42 43.0**	**-0.4**
HLG	**Helgoland**	**1.28**	**43**	*e*Pg	**Pn**	**11 42 26.6**	**+0.8**
HLG				*e*Sg	**Sn**	**11 42 44.5**	**+0.9**
IBBS	**Ibbenbueren So**	**1.28**	**139**	Pg	**Pn**	**11 42 26.9**	**+1.0**
IBBS				Sg	**Sn**	**11 42 43.8**	**0.0**
IBBE	**Ibbenbueren Ea**	**1.29**	**138**	Pg	**Pn**	**11 42 26.7**	**+0.7**
IBBE				Sg	**Sn**	**11 42 43.7**	**-0.2**
WTSB	**Winterswijk**	**1.33**	**169**	*e*Pg	**Pn**	**11 42 26.8**	**+0.4**
WTSB				*e*Sg	**Sn**	**11 42 44.9**	**+0.1**
BAVN	**Auguste-Victor**	**1.60**	**163**	Pg	**Pg**	**11 42 33.9**	**+2.6**
BAVN				Pn	**Pb**	**11 42 35.5**	**+4.5**
BAVN				Sg	**Sg**	**11 42 53.6**	**+1.7**
BULI	**Ruhr-Universit**	**1.89**	**163**	Pn	**Pg**	**11 42 40.4**	**+3.4**
BULI				Sg	**Sg**	**11 43 03.5**	**+2.0**
BTEZ	**Ruhr-Universit**	**1.90**	**163**	Pn	**Pg**	**11 42 39.4**	**+2.3**
BUG	**Bochum--Univer**	**1.91**	**163**	*e*Pg	**Pg**	**11 42 39.4**	**+2.2**
BUG				*e*Sg	**Sg**	**11 43 02.6**	**+0.6**
BKLB	**Ruhr-Universit**	**1.91**	**163**	Pn	**Pg**	**11 42 39.8**	**+2.5**
HOBG	**Hohbusch**	**2.36**	**165**	*e*Pn	**Pn**	**11 42 41.9**	**+1.2**
NRDL	**Niedersach Rie**	**2.38**	**107**	*e*Pn	**Pn**	**11 42 40.9**	**0.0**
NRDL				Pg	Pg	11 42 50.2	+3.9
NRDL				Sn	**Sn**	**11 43 08.6**	**-2.2**
NRDL				*e*Sg	**Sg**	**11 43 16.6**	**-0.6**
HGN	**Heimansgroeve**	**2.52**	**187**	*e*Pn	**Pn**	**11 42 43.9**	**+1.0**
HGN				*e*Pg	**Pg**	**11 42 51.0**	**+2.0**
HGN				*e*Sn	**Sn**	**11 43 14.0**	**-0.3**
HGN				*e*Sg	**Sg**	**11 43 24.4**	**+2.7**
DREG	**Dreilaegerbach**	**2.61**	**182**	*e*Pn	**Pn**	**11 42 44.8**	**+0.7**
KLL	**Kalltalsperre**	**2.62**	**181**	*e*Pn	**Pn**	**11 42 43.1**	**-1.2**
MEM	**Membach**	**2.67**	**185**	*e*Pn	**Pn**	**11 42 45.0**	**0.0**
MEM				*e*Pg	**Pg**	**11 42 54.7**	**+2.8**
MEM				*e*Sg	**Sg**	**11 43 28.5**	**+2.0**
STB	**Steinbach**	**2.69**	**174**	*e*Pn	**Pn**	**11 42 46.8**	**+1.6**
STB				*e*Sn	**Sn**	**11 43 18.8**	**+0.3**
	27nm,0.9s						
AHRW	**Bad Neuenahr-A**	**2.76**	**171**	*e*Sg	**Sg**	**11 43 29.0**	**-0.5**
CLZ	**Clausthal**	**2.82**	**119**	*e*Pn	**Pn**	**11 42 46.8**	**-0.2**
CLZ				*e*Sn	**Sn**	**11 43 18.4**	**-3.4**
CLZ				*e*Sg	**Sg**	**11 43 29.9**	**-1.4**
TNS	**Taunus Mts**	**3.31**	**156**	*e*Pn	**Pn**	**11 42 55.1**	**+1.3**
TNS				*e*Sn	**Sn**	**11 43 32.1**	**-1.7**
TNS				*e*Sg	**Sg**	**11 43 45.6**	**-1.3**
GIVF	**Givet**	**3.31**	**198**	*e*Pn	**Pn**	**11 42 54.8**	**+1.0**
GIVF	**Givet**	**3.31**	**198**	*e*Pg	**Pg**	**11 43 05.3**	**+1.1**
GIVF				*e*Sn	**Sn**	**11 43 32.9**	**-1.0**
GIVF				*e*Sg	**Sg**	**11 43 48.6**	**+1.4**
	36nm,0.5s						
BAIF	**Baives**	**3.49**	**204**	*e*Pn	**Pn**	**11 42 57.2**	**+1.0**
BAIF	**Baives**	**3.49**	**204**	*e*Pg	**Pg**	**11 43 09.1**	**+1.6**
BAIF				*e*Sn	**Sn**	**11 43 37.3**	**-0.8**
BAIF				*e*Sg	**Sg**	**11 43 54.3**	**+1.6**
	22nm,0.5s						
WLF	**Walferdange**	**3.61**	**182**	*e*Sg	**Sg**	**11 43 55.6**	**-1.1**
GDLE	**Glaisdale, N Y**	**4.42**	**288**	*e*P	**Pn**	**11 43 12.3**	**+3.3**
GDLE				*e*S	**Sn**	**11 44 01.2**	**+0.1**
GDLE				IAML		11 44 04.1	
	comp=N,33nm,0.3s						
GDLE				IAML		11 44 06.8	
	comp=E,17nm,0.3s						
GDLE	**Glaisdale, N Y**	**4.42**	**288**	*e*P	**Pn**	**11 43 12.6**	**+3.6**
GDLE				*e*S	**Sn**	**11 44 03.4**	**+2.3**
PAGF	**Fort de Pagny**	**4.74**	**185**	*e*Pn	**Pn**	**11 43 13.8**	**+0.4**
	baz=1.7						
PAGF	**Fort de Pagny**	**4.74**	**185**	*e*Pg	**Pg**	**11 43 31.1**	**-0.3**
PAGF				*e*Sg	**Sg**	**11 44 31.8**	**-1.0**
	comp=E,9.8nm,0.5s,baz=11						
MEZF	**Maizieres J'vi**	**4.85**	**191**	*e*P	**Pn**	**11 43 19.2**	**+4.4**
MEZF				*e*Sg	**Sg**	**11 44 36.2**	**-0.1**
	comp=E,14nm,0.3s						
LBWR	**Ladybower, Pea**	**4.87**	**275**	*e*P	**Pn**	**11 43 17.8**	**+2.7**
LBWR				IAML		11 44 17.9	
	comp=N,20nm,0.4s						
LBWR				IAML		11 44 22.4	
	comp=E,14nm,0.5s						
CDF	**Champ du Feu**	**4.89**	**173**	*e*Pn	**Pn**	**11 43 15.5**	**-0.1**
CDF	**Champ du Feu**	**4.89**	**173**	*e*P	**Pn**	**11 43 19.4**	**+3.8**
CDF	**Champ du Feu**	**4.89**	**173**	*e*Pg	**Pg**	**11 43 33.4**	**-1.0**
CDF				*e*Sn	**Sn**	**11 44 09.2**	**-3.7**
CDF				*e*Sg	**Sg**	**11 44 36.6**	**-1.2**
	comp=E,5.0nm,0.4s						
SNART	**Snartemo**	**5.11**	**5**	*e*P	**Pn**	**11 43 18.8**	**+0.5**
SNART				*e*S	**Sn**	**11 44 15.1**	**-2.8**
SNART				IAML		11 44 22.3	
	comp=Z,11nm,0.6s						
SFTF	**Sexfontaines**	**5.14**	**190**	*e*Pn	**Pn**	**11 43 19.4**	**+0.5**
	baz=0.6						
SFTF	**Sexfontaines**	**5.14**	**190**	*e*P	**Pn**	**11 43 23.4**	**+4.5**
SFTF	**Sexfontaines**	**5.14**	**190**	*e*Pg	**Pg**	**11 43 38.8**	**-0.4**
SFTF				*e*Sg	**Sg**	**11 44 45.5**	**-0.2**
	comp=Z,10nm,0.5s,baz=11						
HOMB	**Homborsund**	**5.16**	**13**	*e*P	**Pn**	**11 43 19.3**	**+0.2**
HOMB				*e*S	**Sn**	**11 44 16.3**	**-2.9**
HOMB				IAML		11 45 15.5	
	comp=Z,7.2nm,1.0s						
EDMD	**Edmundbyers**	**5.17**	**291**	*e*P	**Pn**	**11 43 21.7**	**+2.5**
EDMD				*e*S	**Sn**	**11 44 17.1**	**-2.4**
EDMD				IAML		11 44 20.0	
	comp=E,22nm,0.3s						
EDMD				IAML		11 44 20.6	
	comp=N,23nm,0.4s						
EDMD	**Edmundbyers**	**5.17**	**291**	*e*P	**Pn**	**11 43 21.4**	**+2.2**
HAU	**Haudompre**	**5.27**	**180**	*e*Pn	**Pn**	**11 43 20.6**	**-0.1**
HAU	**Haudompre**	**5.27**	**180**	*e*P	**Pn**	**11 43 24.6**	**+3.9**
HAU	**Haudompre**	**5.27**	**180**	*e*Pg	**Pg**	**11 43 40.6**	**-1.0**
HAU				*e*Sn	**Sn**	**11 44 18.9**	**-3.2**
HAU				*e*Sg	**Sg**	**11 44 48.2**	**-1.6**
	comp=N,8.9nm,0.5s						
HINF	**Hinteralfeld**	**5.46**	**177**	*e*Pn	**Pn**	**11 43 23.3**	**-0.1**
HINF	**Hinteralfeld**	**5.46**	**177**	*e*P	**Pn**	**11 43 27.8**	**+4.4**
HINF	**Hinteralfeld**	**5.46**	**177**	*e*Pg	**Pg**	**11 43 44.1**	**-1.3**
HINF				*e*Sn	**Sn**	**11 44 22.9**	**-4.1**
	comp=N,11nm,0.4s						
HINF				*e*Sg	**Sg**	**11 44 54.5**	**-1.7**
	comp=N,6.3nm,0.3s						
MCH1	**Michaelchurch**	**5.86**	**261**	*e*P	**Pn**	**11 43 31.1**	**+2.4**
MCH1				IAML		11 44 39.2	
	comp=E,9.1nm,0.5s						
MCH1				IAML		11 44 39.4	
	comp=N,9.2nm,0.4s						
ESY	**Stoneypath**	**5.87**	**301**	*e*P	**Pn**	**11 43 30.8**	**+1.9**
ESK	**Eskdalemuir**	**5.98**	**294**	*e*P	**Pn**	**11 43 32.5**	**+2.1**
ESK				*e*S	**Sn**	**11 44 37.1**	**-2.4**
ESK				IAML		11 44 41.5	
	comp=N,6.4nm,0.3s						
ESK				IAML		11 44 44.6	
	comp=E,6.5nm,0.3s						
KMY	**Karmoy**	**5.99**	**354**	*e*P	**Pn**	**11 43 31.1**	**+0.6**
KMY				*e*S	**Sn**	**11 44 35.2**	**-4.6**
EBL	**Broad Law**	**6.04**	**298**	*e*P	**Pn**	**11 43 33.8**	**+2.6**
KHC	**Kasperske Hory**	**6.13**	**130**	*e*PN	**Pn**	**11 43 31.0**	**-1.5**
KHC				*e*SG	**Sg**	**11 45 22.0**	**+4.6**
BLS5	**Blasjo**	**6.17**	**0**	*e*P	**Pn**	**11 43 33.2**	**+0.1**
BLS5				*e*S	**Sn**	**11 44 40.5**	**-3.8**
LOR	**Lormes**	**6.22**	**196**	*e*Pn	**Pn**	**11 43 34.4**	**+0.7**
	baz=25						
LOR	**Lormes**	**6.22**	**196**	*e*P	Pn	11 43 38.7	+5.0
LOR	**Lormes**	**6.22**	**196**	*e*Pg	**Pg**	**11 43 58.8**	**-1.0**
	baz=31						
LOR				*e*Sn	**Sn**	**11 44 42.3**	**-3.2**
	baz=23						
LOR				*e*Sg	**Sg**	**11 45 19.2**	**-1.2**
	comp=E,6.3nm,0.5s,baz=10						
LDF	**La Druitiere**	**6.23**	**224**	*e*Pn	**Pn**	**11 43 35.0**	**+1.2**
LDF	**La Druitiere**	**6.23**	**224**	*e*P	Pn	11 43 40.0	+6.2
LDF				*e*Sn	**Sn**	**11 44 43.4**	**-2.3**
	comp=E,3.6nm,0.5s						
FLN	**La Foliniere**	**6.25**	**227**	*e*Pn	**Pn**	**11 43 35.7**	**+1.5**
	baz=53						
FLN	**La Foliniere**	**6.25**	**227**	*e*P	Pn	11 43 40.5	+6.3
FLN				*e*Sn	**Sn**	**11 44 44.2**	**-2.1**
	comp=E,17nm,0.6s						
SSF	**Saint Saulge**	**6.48**	**198**	*e*Pn	**Pn**	**11 43 38.1**	**+0.8**
SSF	**Saint Saulge**	**6.48**	**198**	*e*P	Pn	11 43 42.6	+5.3
SSF	**Saint Saulge**	**6.48**	**198**	*e*Pg	**Pg**	**11 44 04.0**	**-0.8**
SSF				*e*Sn	**Sn**	**11 44 48.3**	**-3.6**
SSF				*e*Sg	**Sg**	**11 45 27.4**	**-1.4**
	comp=E,17nm,0.8s						
ODD1	**Odda**	**6.66**	**1**	*e*P	**Pn**	**11 43 40.3**	**+0.5**
ODD1				*e*S	**Sn**	**11 44 53.2**	**-3.2**
CABF	**La Chapelle**	**6.67**	**182**	*e*Pn	**Pn**	**11 43 39.8**	**-0.1**
CABF	**La Chapelle**	**6.67**	**182**	*e*P	Pn	11 43 45.0	+5.1
CABF	**La Chapelle**	**6.67**	**182**	*e*Pg	**Pg**	**11 44 06.8**	**-1.6**
CABF				*e*Sn	**Sn**	**11 44 51.7**	**-4.9**
GRR	**Gorron**	**6.70**	**226**	*e*Pn	**Pn**	**11 43 41.8**	**+1.5**
GRR	**Gorron**	**6.70**	**226**	*e*P	Pn	11 43 46.6	+6.3
GRR				*e*Sn	**Sn**	**11 44 54.3**	**-3.0**
	comp=E,11nm,0.5s						
AVF	**Avril sur Loir**	**6.77**	**198**	*e*Pn	**Pn**	**11 43 41.8**	**+0.5**
AVF				*e*Sn	**Sn**	**11 44 55.3**	**-3.7**
BGF	**Bois d'Agland**	**7.09**	**200**	*e*P	Pn	11 43 51.5	+5.8
OSL	**Oslo**	**7.10**	**18**	*e*P	**Pn**	**11 43 44.1**	**-1.6**
TCF	**Toulx Ste Croi**	**7.49**	**203**	*e*Pn	**Pn**	**11 43 51.5**	**+0.3**
TCF				*e*Sn	**Sn**	**11 45 12.9**	**-3.9**
	comp=E,1.0nm,0.3s						
SKAR	**Skarslia**	**7.51**	**7**	*e*P	**Pn**	**11 43 51.5**	**+0.1**
SKAR				*e*S	**Sn**	**11 45 13.0**	**-4.2**
SGMF	**Saint Gilles**	**7.57**	**232**	*e*Pn	**Pn**	**11 43 53.4**	**+1.2**
SGMF	**Saint Gilles**	**7.57**	**232**	*e*P	Pn	11 43 59.3	+7.1
SGMF				*e*Sn	**Sn**	**11 45 15.8**	**-2.9**
	comp=E,5.1nm,0.4s						
LPG	**La Plagne**	**7.78**	**178**	*e*P	Pn	11 44 00.3	+4.9
LPG	**La Plagne**	**7.78**	**178**	*e*Pg	**Pg**	**11 44 27.2**	**-2.5**
LPG				*e*Sn	**Sn**	**11 45 18.4**	**-5.9**
LPG				*e*Sg	**Sg**	**11 46 09.8**	**-0.7**
ROSF	**Rostrenen**	**7.86**	**235**	*e*Pn	**Pn**	**11 43 57.7**	**+1.5**
ROSF				*e*Sn	**Sn**	**11 45 22.9**	**-2.9**
	comp=E,7.3nm,0.5s						
MFF	**Saint Martin d**	**7.89**	**215**	*e*P	Pn	11 44 03.0	+6.4
MFF				*e*Sn	**Sn**	**11 45 23.5**	**-3.0**
	comp=E,2.7nm,0.4s						
NAO01	**NORSAR Array S**	**7.98**	**16**	*e*P	**Pn**	**11 43 56.4**	**-1.5**
KPL	**Plockton**	**7.99**	**306**	*e*P	**Pn**	**11 44 00.2**	**+2.3**
KPL				*e*S	**Sn**	**11 45 27.7**	**-1.2**
NC602	**NORSAR Array S**	**8.00**	**18**	*e*P	**Pn**	**11 43 56.3**	**-1.7**
QUIF	**Quistinic**	**8.10**	**232**	*e*Pg	**Pg**	**11 44 35.2**	**-0.5**
QUIF				*e*Sn	**Sn**	**11 45 28.0**	**-3.6**
	comp=E,4.4nm,0.4s						
NBO00	**NORSAR Array S**	**8.14**	**15**	*e*P	**Pn**	**11 43 58.7**	**-1.3**
NB201	**NORSAR Array S**	**8.24**	**17**	*e*P	**Pn**	**11 43 59.9**	**-1.6**
NC204	**NORSAR Array S**	**8.37**	**15**	*e*P	**Pn**	**11 44 02.9**	**-0.4**
NC303	**NORSAR Array S**	**8.42**	**17**	*e*P	**Pn**	**11 44 02.9**	**-1.0**
RJF	**Les Rejaudoux**	**8.58**	**204**	*e*Pn	**Pn**	**11 44 06.5**	**+0.4**
CAF	**Calviac**	**8.81**	**200**	*e*Pn	**Pn**	**11 44 09.7**	**+0.4**
CAF	**Calviac**	**8.81**	**200**	*e*P	Pn	11 44 15.7	+6.4
DOMB	**Dombas**	**8.92**	**8**	*e*P	**Pn**	**11 44 09.5**	**-1.2**

*IDC **30** 12:30:24.9±1.1, 37.°42N×98.°01W, h0km, mb3.2/1, mb1 3.9/4, mb1mx3.6/42, mbtmp3.5/4, ML4.1/3, Error ellipse: s-maj=12.6km s-min=12.3km az=116.0*
*NEIC **30** 12:30:25.9±1.8, 37.°25N±0.°02×97.°94W±0.°03, h5km±1km, mb_Lg3.3/129, Error ellipse: s-maj=4.4km s-min=3.8km az=311.0*
*UNK **30** 12:30:26.7, 37.°24N×97.°92W, h8km*
*ANF **30** 12:30:27.3±1.0, 37.°25N×97.°91W, h6km±7km, ML4.1/9, Error ellipse: s-maj=4.8km s-min=2.3km az=39.0*

ISC 30 12:30:25.8±0.8, 37.°24N±0.°03×97.°95W±0.°03, h7km±6km, n120, σ1°14/105, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.07**	**327**	Pg	**Pg**	**12 30 27.1**	**-0.5**
KAN12				Sg	**Sg**	**12 30 29.1**	**+0.2**
KAN10	**Anthony SW Sta**	**0.16**	**224**	Pg	**Pg**	**12 30 28.6**	**-0.5**
KAN10				Sg	**Sg**	**12 30 31.1**	**-0.3**
KAN13	**South Haven SW**	**0.44**	**121**		**Pg**	**12 30 34.0**	**-0.4**
KAN13				Sg	**Sg**	**12 30 40.0**	**-0.2**
CROK	**Carrier**	**0.73**	**182**		**Pg**	**12 30 39.1**	**-0.8**
CROK				Sg	**Sg**	**12 30 50.3**	**+0.8**
T35A	**Sooner Cattle**	**1.20**	**105**		**Pg**	**12 30 47.8**	**-1.0**
T35A					**Sg**	**12 31 04.0**	**-0.4**
U32A	**Winter Ranch,**	**1.20**	**225**	Pg	**Pg**	**12 30 48.2**	**-0.7**
U32A				Sn	**Sg**	**12 31 04.

FCAR	Ozark Folk Cen	4.88	104			Pn	12 31 39.7 0.0
FCAR				IAmb_Lg			12 33 08.5
comp=Z,41nm,0.8s							
WHAR	Wooly Hollow	4.97	111	Pn		Pn	12 31 41.6 +0.7
WHAR				IAmb_Lg			12 33 13.2
comp=Z,75nm,0.9s							
X40A	Basin Creek Fa	4.98	122	Pn		Pn	12 31 41.9 +0.9
X40A				IAmb_Lg			12 33 00.4
comp=Z,66nm,0.8s							
W41B	Gary Mavity, V	5.05	112			Pn	12 31 41.6 -0.5
W41B				IAmb_Lg			12 33 09.5
comp=Z,41nm,0.7s							
N38A	Joes South For	5.11	45	Pn		Pn	12 31 42.4 -0.3
N38A				IAmb_Lg			12 33 09.3
comp=Z,68nm,0.9s							
T25A	Trinidad	5.16	271	Pn		Pn	12 31 44.8 +1.1
T25A				IAmb_Lg			12 33 15.7
comp=Z,60nm,0.8s							
UALR	University of	5.17	117	Pn		Pn	12 31 43.4 -0.3
UALR				IAmb_Lg			12 33 17.8
comp=Z,52nm,1.0s							
P40A	Paris	5.17	62	Pn		Pn	12 31 42.4 -1.2
P40A				IAmb_Lg			12 33 15.2
comp=Z,40nm,0.8s							
WHTX	Lake Whitney,	5.25	175	Pn		Pn	12 31 43.6 -1.2
WLAR	White Oak Lake	5.31	130	Pn		Pn	12 31 43.3 -2.3
WLAR				IAmb_Lg			12 33 20.9
comp=Z,51nm,0.8s							
CCM	Cathedral Cave	5.38	79	Pn		Pn	12 31 47.4 +0.8
CCM				IAmb_Lg			12 33 24.9
comp=Z,47nm,0.9s							
T42A	Van Buren	5.49	90	Pn		Pn	12 31 48.4 +0.4
T42A				IAmb_Lg			12 33 31.5
comp=Z,34nm,0.8s							
237A	Washetta, Mont	5.52	161	IAmb_Lg			12 33 31.4
comp=Z,62nm,0.9s							
LCAR	Lake Charles	5.59	100			Pn	12 31 49.0 -0.4
LCAR				IAmb_Lg			12 33 26.4
comp=Z,45nm,0.7s							
Z41A	Richland Creek	5.79	132	IAmb_Lg			12 33 45.0
comp=Z,43nm,0.8s							
Q24A	Divide	5.93	289	Pn		Pn	12 31 55.7 +1.3
Q24A				IAmb_Lg			12 33 38.7
comp=Z,39nm,0.9s							
SDCO	Great Sand Dun	6.02	277			Pn	12 31 57.5 +1.9
CCAR	Cane Creek	6.03	122	IAmb_Lg			12 33 50.3
comp=Z,50nm,0.8s							
PBMO	Poplar Bluff	6.04	92	Pn		Pn	12 31 55.8 +0.2
PBMO				IAmb_Lg			12 33 35.7
comp=Z,45nm,0.7s							
NATX	Nacogdoches	6.11	153	IAmb_Lg			12 33 54.0
comp=Z,41nm,0.8s							
435B	Jarrell	6.45	177	IAmb_Lg			12 34 09.1
comp=Z,44nm,0.7s							
N41A	Harden Midland	6.52	56	Pn		Pn	12 32 01.5 -0.7
N41A				IAmb_Lg			12 33 58.7
comp=Z,47nm,0.7s							
ISCO	Idaho Springs	6.53	295	Pn		Pn	12 32 04.6 +2.0
ISCO				IAmb_Lg			12 33 57.1
comp=Z,30nm,0.9s							
ECSD	EROS Data Cent	6.57	9	Pn		Pn	12 32 02.9 0.0
PEBM	Pemiscott Bayo	6.60	97	Pn		Pn	12 32 03.0 -0.2
S44A	Carbondale	6.93	84	Pn		Pn	12 32 08.0 +0.2
S44A				IAmb_Lg			12 34 15.4
comp=Z,48nm,0.7s							
143A	Socs Landing,	7.03	128	IAmb_Lg			12 34 29.4
comp=Z,43nm,0.7s							
P43A	Skaggs, Pawnee	7.04	68	IAmb_Lg			12 34 09.9
comp=Z,40nm,0.8s							
L40A	Anamosa	7.08	45	Pn		Pn	12 32 10.0 +0.1
L40A				IAmb_Lg			12 34 26.5
comp=Z,44nm,0.8s							
PHWY	Pilot Hill	7.09	307	IAmb_Lg			12 34 16.5
comp=Z,23nm,0.7s							
N23A	Red Feather La	7.21	303	Pn		Pn	12 32 09.7 -2.2
SUSD	Miller	7.24	354	IAmb_Lg			12 34 22.7
comp=Z,37nm,0.9s							
Q44A	Meyer Farm, Va	7.24	74	IAmb_Lg			12 34 26.5
comp=Z,48nm,0.9s							
ANMO	Albuquerque	7.26	254	IAmb_Lg			12 34 25.1
comp=Z,9.0nm,0.8s							
ANMO				IAmb_Lg			12 34 25.1
comp=Z,9.1nm,0.8s							
OXF	Oxford	7.45	109	Pn		Pn	12 32 15.1 +0.1
HDIL	Hopedale	7.52	61	Pn		Pn	12 32 16.2 +0.3
HDIL				IAmb_Lg			12 34 26.1
comp=Z,31nm,0.8s							
Y45A	Yeager Farm, C	7.63	114	IAmb_Lg			12 34 36.1
comp=Z,44nm,1.0s							
BNM	Barren Site	7.70	249	Pn		Pn	12 32 17.8 -0.9
Y22D	IRIS PASSCAL I	7.95	249	IAmb_Lg			12 34 47.6
comp=Z,32nm,0.8s							
O44A	Mansfield	7.97	66	IAmb_Lg			12 34 42.2
comp=Z,24nm,0.8s							
L42A	Oliver, Polo	7.97	51	IAmb_Lg			12 34 37.8
comp=Z,34nm,0.8s							
JFWS	Jewell Farm	8.18	44	IAmb_Lg			12 34 50.2
comp=Z,39nm,0.7s							
WVT	Waverly	8.21	95	Pn		Pn	12 32 22.6 -2.7
MNTX	Cornudas Mount	8.26	230	Pn		Pn	12 32 26.1 0.0
MNTX				IAmb_Lg			12 34 58.4
comp=Z,20nm,0.9s							
RSSD	Black Hills	8.28	328	Pn		Pn	12 32 28.9 +2.3
PLAL	Pickwick Lake	8.30	103	Pn		Pn	12 32 24.2 -2.5
RWWY	Rawlins	8.43	305	IAmb_Lg			12 35 03.1
comp=Z,21nm,0.8s							
K22A	Casper	8.51	312	Pn		Pn	12 32 29.0 -0.8
K22A				IAmb_Lg			12 35 02.6
comp=Z,27nm,0.9s							
PV12	Saucer Basin,	8.66	280	IAmb_Lg			12 35 08.8
comp=Z,17nm,0.9s							
T47A	Sharon Grove	8.67	88	IAmb_Lg			12 35 14.9
comp=Z,31nm,0.9s							
I40A	Norwalk	8.67	38	IAmb_Lg			12 35 09.5
comp=Z,31nm,1.1s							
PV11	David Mesa, Pa	8.71	280	IAmb_Lg			12 35 23.3
comp=Z,23nm,1.0s							
P46A	Rosedale	8.76	71	IAmb_Lg			12 35 14.5
comp=Z,30nm,0.8s							
SPMN	Marine on St.	8.87	24	IAmb_Lg			12 35 15.6
comp=Z,20nm,0.8s							
Z47A	Carrollton	9.03	114	IAmb_Lg			12 35 36.4
comp=Z,22nm,1.0s							
BLO	Bloomington	9.20	74	IAmb_Lg			12 35 17.0
comp=Z,31nm,0.8s							
TX31	Lajitas Ar. Si	9.22	213	Pn		Pn	12 32 38.6 -0.8
TX32	Lajitas Array	9.22	213	Pn		Pn	12 32 39.9 +0.6
TXAR	Lajitas Array	9.22	213	Pn		Pn	12 32 39.4 0.0
comp=Z,0.4nm,0.3s,baz=30,slow=10,SNR=31							
TXAR				Pg			12 33 14.4
comp=Z,0.3nm,0.3s,baz=21,slow=12,SNR=4.9							
TXAR				Sn		Sn	12 34 20.8 -2.6
comp=Z,0.7nm,0.3s,baz=40,slow=16,SNR=5.6							
TXAR				Lg		Lg	12 35 13.4
comp=Z,0.6nm,0.3s,baz=40,slow=28,SNR=3.6							
TXAR	Lajitas Array	9.22	213			Pn	12 32 39.7 +0.3
WCI	Wyandotte Cave	9.29	80	IAmb_Lg			12 35 33.7
comp=Z,24nm,0.8s							
E28A	Huff	9.55	349	IAmb_Lg			12 35 48.4
comp=Z,27nm,0.8s							
G40A	Rib Lake	9.91	34	Pn		Pn	12 32 46.9 -1.8
SWET	Sewanee	9.92	98	IAmb_Lg			12 35 53.9
comp=Z,14nm,1.0s							
Y49A	Blount Mountai	9.99	106	IAmb_Lg			12 35 47.4
comp=Z,16nm,0.7s							
PD31	Pinedale Array	10.47	305	Pn		Pn	12 32 55.4 -1.2
PDAR	Pinedale Array	10.47	305	Pn		Pn	12 32 56.0 -0.6
comp=Z,0.3nm,0.3s,baz=122,slow=15,SNR=15							
PDAR				Pg			12 33 33.1
comp=Z,0.3nm,0.3s,baz=105,slow=12,SNR=4.7							
PDAR				Lg		Lg	12 35 43.5
comp=Z,0.3nm,0.3s,baz=101,slow=7.7,SNR=3.6							
PDAR	Pinedale Array	10.47	305			Pn	12 32 55.8 -0.8
TKL	Tuckaleechee C	11.53	94	Pn		Pn	12 33 10.3 -0.6
comp=Z,0.3nm,0.3s,baz=237,slow=4.8,SNR=4.1							
TKL				Lg		Lg	12 36 21.9
comp=Z,0.8nm,0.3s,baz=184,slow=6.5,SNR=6.9							
RLMT	Red Lodge	11.60	316	Pn		Pn	12 33 12.7 +0.7
V52A	Sevierville	11.63	93	Pn		Pn	12 33 10.9 -1.5
ILAR	Eielson Array	39.73	330	P		P	12 37 58.6 0.0
comp=Z,0.3nm,0.7s,baz=90,slow=7.2,SNR=2.7							

GUC 30 13:12:50.7±0.4, 23°.91S×67°.23W, h243km±5km, ML4.0, 12C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.01	310	eP	Pn	13 13 32.7	-0.5
LVC				eS	S	13 14 05.2	-1.4
PB15	IPOC Station P	2.17	288	↑iP	Pn	13 13 34.4	-0.1
PB15				i S	S	13 14 07.5	-1.3
PB06	IPOC Station P	2.46	299	eP	Pn	13 13 37.5	+0.2
PB06				eS	S	13 14 12.8	-1.1
PB06				IAML		13 14 14.9	
comp=N,283nm,0.1s							
GO02	Mina Guanaco	2.48	239	↑eP	Pn	13 13 36.4	-1.2
GO02				eS	S	13 14 12.1	-2.5
GO02				IAML		13 14 13.6	
comp=N,359nm,0.4s							
PB09	IPOC Station P	2.80	318	↑iP	Pn	13 13 41.4	+0.5
PB09				eS	S	13 14 19.6	-0.9
PB09				IAML		13 14 22.1	
comp=E,132nm,0.4s							
PB05	IPOC Station P	2.92	290	↑eP	Pn	13 13 42.2	+0.1
PB05				eS	S	13 14 21.4	-1.3
PB03	IPOC Station P	2.97	308	↑iP	Pn	13 13 42.9	+0.2
PB03				eS	S	13 14 22.5	-1.2
PB10	IPOC Station P	3.07	277	↑iP	Pn	13 13 44.1	+0.6
PB10				eS	S	13 14 23.9	-1.3
PB04	IPOC Station P	3.11	300	↑iP	Pn	13 13 44.6	+0.4
PB04				eS	S	13 14 25.2	-1.2
PB07	IPOC Station P	3.27	311	↑iP	Pn	13 13 46.3	+0.3
PB07				i S	S	13 14 28.8	-0.9
PB01	IPOC Station P	3.53	323	↑iP	Pn	13 13 48.7	-0.2
PB01				eS	S	13 14 33.6	-1.3
PB02	IPOC Station P	3.56	316	↑iP	Pn	13 13 49.2	-0.1
PB02				i S	S	13 14 34.0	-1.5
AC01	Pan de Azucar	3.78	233	eP	Pn	13 13 49.7	-1.9
PATCX	Punta Patache	4.09	318	↑iP	Pn	13 13 55.1	-0.4
PATCX				i S	S	13 14 45.5	-1.3
PB08	IPOC Station P	4.15	334	↑iP	Pn	13 13 57.0	+0.5
PB08				eS	S	13 14 48.5	0.0

*IDC **30** 13:17:16.3±1.5, 41°.16S×80°.67E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, MS3.8/5, Ms1 3.7/5, ms1mx3.4/24, Error ellipse: s-maj=45.5km s-min=30.6km az=113.0*

*NEIC **30** 13:17:18.1±0.4, 41°.2S±0°.2×80°.7E±0°.2, h10km±1km, mb4.3/7, Error ellipse: s-maj=31.7km s-min=18.1km az=140.0*

ISC 30 13:17:18.1±1.1, 41°.2S±0°.2×80°.7E±0°.3, h11km, n21, σ0°71/10, mb3.9/8, MS3.8/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	26.99	87	T	T	13 50 51.9	
baz=246,slow=74,SNR=71							
H01W3	Cape Leeuwin H	26.99	87	T	T	13 50 52.5	
baz=246,slow=74,SNR=107							
H01W1	Cape Leeuwin H	27.00	87	T	T	13 50 53.2	
baz=246,slow=74,SNR=87							
MAW	Mawson	28.19	194	P	P	13 23 10.2	0.0
1.4nm,0.8s,baz=17,slow=3.5,SNR=4.7							
MAW				LR	LR	13 32 09.2	
comp=Z,110nm,19.6s,baz=56,slow=32							
H08S2	Diego Garcia H	34.19	345	T	T	14 00 04.5	
baz=168,slow=76,SNR=10.0							
H08S1	Diego Carcia H	34.20	345	T	T	14 00 03.2	
baz=168,slow=76,SNR=11							
H08S3	Diego Garcia H	34.21	345	T	T	14 00 06.0	
baz=168,slow=76,SNR=14							
LEM	Lembang	41.80	42	LR	LR	13 38 18.4	
comp=Z,63nm,20.9s,baz=177,slow=30							
BOSA	Boshof	46.43	267	LR	LR	13 41 12.5	
comp=Z,100nm,19.5s,baz=184,slow=31							
ASAR	Alice Springs	47.47	85	P	P	13 25 53.3	+0.2
0.9nm,0.9s,baz=223,slow=6.8,SNR=4.1							
VNDA	Vanda	48.28	163	LR	LR	13 44 04.3	
comp=Z,174nm,20.8s,baz=274,slow=33							
QSPA	South Pole Qui	48.96	180	P	P	13 26 03.9	-0.3
QSPA				IAmb	IAmb	13 26 27.6	
comp=Z,6.2nm,1.5s							
WRA	Warramunga Arr	49.98	82	P	P	13 26 12.2	-0.2
comp=Z,0.4nm,0.7s,baz=232,slow=7.8,SNR=7.7							
WRA	Warramunga Arr	49.98	82	IAmb	IAmb	13 26 19.5	
comp=Z,0.2nm,1.2s							
WRAB	Tennant Creek	50.00	82	P	P	13 26 13.0	+0.5
WRAB				IAmb	IAmb	13 26 26.2	
comp=Z,5.6nm,1.2s							
WR0	Warramunga Arr	50.12	82	P	P	13 26 13.7	+0.3
WB0	Warramunga Arr	50.13	82	P	P	13 26 13.9	+0.4
WB0				IAmb	IAmb	13 26 24.5	
comp=Z,2.5nm,0.9s							
BELA	Belgrano 2	55.03	193	P	P	13 26 49.1	+0.1
CMAR	Chiang Mai Arr	61.73	20	P	P	13 27 35.1	-1.2
comp=Z,0.7nm,0.8s,baz=214,slow=5.5,SNR=5.0							
MKAR	Makanchi Array	87.62	1	P	P	13 30 07.0	+1.1
comp=Z,0.2nm,0.6s,baz=191,slow=4.3,SNR=1.9							
TORD	Torodi Ar. Bea	90.44	287	LR	LR	14 09 50.5	
comp=Z,73nm,18.2s,baz=115,slow=35							

*TIF **30** 13:18:24.9, 41°.94N×46°.07E, h26km±3km*

*MOS **30** 13:18:24.5±0.0, 41°.96N×46°.04E, h22km, MPVA3.4*

*NORS **30** 13:18:26.5±0.0, 42°.02N×46°.12E, h42km, MPVA3.5*

ISC 30 13:18:26.1±1.1, 41°.93N±0°.03×46°.04E±0°.03, h19km±3km, n22, σ0°70/44, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	Lagodekhi	0.18	121	ePg	Pg	13 18 30.7	-0.1
LGD				eSg	Sg	13 18 34.4	+0.4
LGD	Lagodekhi	0.18	121	P	Pg	13 18 30.7	-0.1
LGD				S	Sg	13 18 34.4	+0.4
BTLR	Botlikh	0.75	10	ePg	Pb	13 18 39.7	-0.9
BTLR				eSg	Sb	13 18 50.0	-0.5
XNZR	Khunzakh	0.79	39	ePg	Pb	13 18 41.1	-0.3
XNZR				eSg	Sb	13 18 51.7	0.0
GNBR	Gunib	0.83	56	ePg	Pb	13 18 41.6	-0.4
GNBR				eSg	Sb	13 18 53.0	+0.3
BTNK	Botanikuri	0.96	256	ePg	Pb	13 18 43.8	-0.3
BTNK				eSg	Sn	13 18 57.9	+0.2
BTNK	Botanikuri	0.96	256	P	Pb	13 18 43.8	-0.3
BTNK				S	Sn	13 18 57.9	+0.2
DVE	Vedeno	1.03	4	ePg	Pb	13 18 44.9	-0.5
DVE				eSg	Sn	13 18 59.3	-0.4
DBC	Dubki	1.24	28	ePg	Pn	13 18 48.4	-0.2
DBC				eSg	Sn	13 19 05.4	+0.6
PNSH	Pansheti	1.27	304	P	Pn	13 18 48.9	-0.2
PNSH				S	Sb	13 19 05.2	-0.4
GROC	Groznyy	1.29	352	ePg	Pg	13 18 51.4	+0.5
GROC				eSg	Sg	13 19 09.1	+1.3
AKT	Akhty	1.34	109	ePg	Pg	13 18 51.9	-0.2
AKT				eSg	Sg	13 19 10.3	+0.6
TRLG	Trialeti	1.50	256	ePg	Pb	13 18 52.5	-0.9
TRLG				eSg	Sb	13 19 12.9	+0.7
TRLG	Trialeti	1.50	256	P	Pb	13 18 52.5	-0.9
TRLG				S	Sb	13 19 12.9	+0.7
DMNI	Dmanisi	1.51	247	P	Pn	13 18 52.5	+0.2
DMNI				S	Sb	13 19 12.7	+0.3
LACR	Lac	1.57	305	ePg	Pb	13 18 54.8	+0.2
LACR				eSg	Sg	13 19 15.6	-1.3
ZEI	Tsey	1.80	299	ePg	Pb	13 18 58.4	-0.3
ZEI				eSg	Sb	13 19 21.9	+1.0
BKRG	Bakuriani	1.89	266	ePg	Pb	13 18 58.7	-1.3
BKRG				eSg	Sb	13 19 24.5	+1.1
BKRG	Bakuriani	1.89	266	P	Pb	13 18 58.7	-1.3
BKRG				S	Sb	13 19 24.5	+1.1
ONI	Oni	2.03	290	ePg	Pb	13 19 01.3	-1.2
ONI				eSg	Sb	13 19 27.7	+0.4
ONI	Oni	2.03	290	P	Pb	13 19 01.6	-0.9
ONI				S	Sb	13 19 28.1	+0.7
TKB	Tkibuli	2.30	282	P	Pb	13 19 06.8	-0.2
TKB				S	Sb	13 19 35.5	+0.3

IDC 30 13:28:35.5±2.3, 12°.92N×94°.76E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/33, mbtmp3.3/4, Error ellipse: s-maj=75.2km s-min=28.6km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.82	36	Pn	Pn	13 30 17.1	+0.2
baz=214,slow=14,SNR=1.0							
MKAR	Makanchi Array	35.36	345	P	P	13 35 32.6	-0.1
0.4nm,0.8s,baz=162,slow=8.7,SNR=1.9							
WRA	Warramunga Arr	50.83	129	P	P	13 37 37.9	-0.3
0.7nm,0.7s,baz=310,slow=8.4,SNR=9.2							
ASAR	Alice Springs	52.79	133	P	P	13 37 53.0	+0.1
0.3nm,0.4s,baz=315,slow=7.5,SNR=4.7							

*BJI **30** 13:46:19.8±0.0, 6°.43S×148°.22E, h47km, mB5.1/48, mb4.9/54, Ms4.8/43, Ms7 4.6/45*

*MOS **30** 13:46:23.1±1.1, 6°.11S×147°.54E, h47km, mb5.1/27, Error ellipse: s-maj=10.2km s-min=6.1km az=98.1*

*NEIC **30** 13:46:26.0±1.2, 6°.17S±0°.06×147°.65E±0°.07, h62km±4km, mb5.1/91, Error ellipse: s-maj=10.5km s-min=8.4km az=113.0*

*IDC **30** 13:46:25.5±1.6, 6°.19S×147°.66E, h57km±15km, mb4.6/21, mb1 4.7/26, mb1mx4.7/32, mbtmp4.9/26, MS4.5/24, Ms1 4.5/24, ms1mx4.5/27, Error ellipse: s-maj=13.2km s-min=8.6km az=99.0*

*DJA **30** 13:46:27.4±0.4, 6°.S±3°×14°.8E±°, h71km±4km, M5.1/63, mb5.3/63, mB5.5/29, MLv5.8/2, Mw(mB)5.0/29, Mwp5.3/5*

*GCMT **30** 13:46:27.0±0.1, 6°.41S±0°.01×147°.70E±0°.01, h40km, MW5.3/120, Moment Tensor Solution. s120,c197; s107,c176; Duration: 1±1 Moment tensor: Scale 10^17 Nm; M_rr0.96±.02; M_θθ-1.05±.01; M_φφ0.09±.01; M_rθ0.28±.02; M_θφ0.30±.01; M_φr-0.19±.02; Best double couple: M_0 1.09500×10^17 NP1:φ_s276.00000°, δ37.00000°, λ78.00000°. NP2:φ_s111.00000°, δ54.00000°, λ99.00000°. Principal axes: T 1.0180, Plg79.0000°, Azm56.0000°; N 0.1520, Plg7.0000°, Azm286.0000°; P -1.1730, Plg8.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 13:46:24.9±0.2, 6°.27S±0°.04×147°.79E±0°.04, h51km, n339, σ1°68/345, mb5.0/114, MS4.6/40, 12C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.18	191	P	Pn	13 47 13.7	+1.3
269nm,0.3s,baz=40,slow=5.6,SNR=138							
PMG				S	Sn	13 47 51.2	+2.1
372nm,0.3s,baz=228,slow=20,SNR=9.1							
PMG				LR	LR	13 49 02.0	
comp=Z,11μm,21.5s,baz=54,slow=48							
PMG	Port Moresby	3.18	191	Pn	Pn	13 47 13.4	+1.0
KRVT	Keravat (AS076	4.64	65	P	Pn	13 47 34.3	+1.8
98nm,0.3s,baz=97,slow=0.3,SNR=54							
KRVT				LR	LR	13 49 23.6	
comp=Z,10μm,19.9s,baz=235,slow=38							
RABL	Rabaul	4.82	65	Pn	Pn	13 47 36.9	+2.0
GENI	Genyem	8.43	295	P	Pn	13 48 28.7	+4.2
5μm4μm396nm,0.9s							
COEN	Coen	8.89	210	P	Pn	13 48 30.7	-0.1
baz=8.9,SNR=108							
COEN				S	Sn	13 50 07.4	-2.2
baz=8.9							
COEN	Coen	8.89	210	Pn	Pn	13 48 30.4	-0.4
MTSU	Mount Surprise	12.27	196	P	Pn	13 49 18.2	+1.1
baz=12,SNR=127							
SRPI	Serui, Papua	12.32	290	P	Pn	13 49 19.5	+1.8
3μm4μm196nm,0.5s							
HNR	Honiara	12.44	105	P	P	13 49 25.1	-4.7
4.1nm,0.3s,baz=127,slow=11,SNR=3.8							
HNR				LR	LR	13 53 31.6	
comp=Z,1μm,21.7s,baz=274,slow=34							
BAKI	Biak	12.70	293	P	Pn	13 49 26.7	+3.8
158nm,0.9s							
CTA	Charters Tower	13.82	186	P	Pn	13 49 40.0	+1.9
2.3nm,0.3s,baz=360,slow=14,SNR=27							
CTAO	Charters Tower	13.82	186	P	Pn	13 49 39.6	+1.4
CTAO	Charters Tower	13.82	186	Pn	Pn	13 49 39.6	+1.4
QIS	Mount Isa	16.27	208	P	Pn	13 50 10.5	+0.3
baz=16,SNR=47							
KDU	Kakadu	16.39	246	P	Pn	13 50 11.2	-0.5
baz=16,SNR=18							
SAUI	Saumlaki	16.45	263	P	P	13 50 15.2	+0.8
537nm,1.2s							
SAUI	Saumlaki	16.45	263	Pn	Pn	13 50 11.4	-1.1
PATS	Pohnpei	16.72	39	Pn	Pn	13 50 16.3	+0.5
PATS				IAmb	IAmb	13 50 38.0	
comp=Z,291nm,1.2s							
SIJI	Sorong	17.34	287	P	Pn	13 50 23.3	-0.2
comp=Z,1.9nm,0.3s,baz=160,slow=21,SNR=4.0							
MTN	Manton Dam	17.67	247	P	P	13 50 27.5	-0.4
baz=18,SNR=18							
MTN	Manton Dam	17.67	247		Pn	13 50 26.2	-1.3
WB0	Warramunga Arr	18.70	223		P	13 50 39.1	-0.1
WB0				IAmb	IAmb	13 50 58.2	
comp=Z,97nm,1.2s							
WR0	Warramunga Arr	18.73	222		P	13 50 39.5	-0.1
WR0				IAmb	IAmb	13 50 57.4	
comp=Z,66nm,0.8s							
WRAB	Tennant Creek	18.84	223	i P	Pn	13 50 41.1	-0.7
WRAB				pmax	pmax		
comp=Z,28nm,0.7s							
WRAB	Tennant Creek	18.84	223		P	13 50 40.2	-0.6
WB2	Warramunga Arr	18.85	223	P	Pn	13 50 41.1	-0.7
baz=19							
WB2	Warramunga Arr	18.85	223	P	P	13 50 40.3	-0.6
WRA	Warramunga Arr	18.86	223	P	P	13 50 40.1	-0.8
comp=Z,7.6nm,0.3s,baz=50,slow=10,SNR=151							
WRA				S	Sn	13 54 07.3	-5.1
comp=Z,0.7nm,0.3s,baz=52,slow=16,SNR=2.4							
WRA				LR	LR	13 58 43.5	
comp=Z,3μm,19.3s,baz=45,slow=39							
WRA	Warramunga Arr	18.86	223	eP	P	13 50 40.9	0.0
WRA				pmax	pmax		
comp=Z,15nm,0.3s							
WRA	Warramunga Arr	18.86	223	P	P	13 50 39.5	-1.4
MSAI	Masohi	19.02	278	P	Pn	13 50 45.3	+1.4
comp=Z,535nmcomp=Z,34nm,0.8s							
GUMO	Guam	19.94	352	P	P	13 50 53.6	+0.9
GUMO				pmax	pmax		
comp=Z,170nm,1.1s							
GUMO	Guam	19.94	352	Pn	P	13 50 53.6	+0.9
GUMO				IAmb	IAmb	13 51 21.9	
comp=Z,170nm,1.1s							
RMQ	Roma	20.13	177	P	Pn	13 50 57.0	0.0
baz=20,SNR=89							
QLP	Quilpie	20.48	189	P	Pn	13 51 00.0	-1.1
baz=21,SNR=108							
NLAI	Namlea	20.84	277	P	Pn	13 51 04.5	-1.0
comp

baz=24,SNR=46
ARMA Armidale 24.29 172 P P 13 51 39.1 +1.4
ARMA IAmb IAmb 13 51 45.1
comp=Z,42nm,0.7s
FITZ Fitzroy Crossi 24.60 239 P P 13 51 40.7 +0.2
comp=Z,72nm,0.6s,baz=1.1,slow=3.9,SNR=231
FITZ Fitzroy Crossi 24.60 239 P P 13 51 40.8 +0.2
baz=24,SNR=100
KMSI Cibinong 24.72 285 P P 13 51 43.5 +1.8
comp=Z,210nm,0.5s
CMSA Cobar Meteorol 25.22 184 P P 13 51 47.5 +1.6
baz=25,SNR=49
MMRI Maumere 25.45 263 P P 13 51 48.8 +0.5
comp=Z,2µmcomp=Z,142nm,0.9s
MMRI Maumere 25.45 263 P P 13 51 47.2 -1.0
LUWI Luwuk 25.50 281 P P 13 51 48.8 +0.1
comp=Z,3µmcomp=Z,227nm,1.1s
LUWI Luwuk 25.50 281 P P 13 51 47.7 -1.0
EDFI Ende, Flores 25.99 263 P P 13 51 52.1 -1.2
comp=Z,51nm,0.9s
STKA Stephens Creek 26.13 192 P P 13 51 55.1 +0.9
comp=Z,24nm,0.7s,baz=1.5,slow=8.8,SNR=37
STKA LR LR 14 02 54.1
comp=Z,2µm,19.5s,baz=1.7,slow=38
STKA Stephens Creek 26.13 192 P P 13 51 55.2 +0.9
baz=26,SNR=44
STKA Stephens Creek 26.13 192 P P 13 51 54.9 +0.6
WRKA Warakurna 26.40 223 P P 13 51 56.7 -0.1
baz=26,SNR=215
MGCD Mangrove Creek 26.98 174 P P 13 52 03.4 +1.5
baz=27,SNR=12
BKSI Bulukumba 27.54 271 P P 13 52 07.5 +0.3
comp=Z,40nm,1.0s
YNG Young 27.90 179 P P 13 52 13.1 +3.0
baz=28,SNR=20
KAPI Kappang 27.93 271 P P 13 52 10.3 -0.3
comp=Z,15nm,0.7s,baz=55,slow=7.6,SNR=5.6
KAPI Kappang 27.93 271 P P 13 52 10.4 -0.3
KAPI pmax pmax
comp=Z,49nm,1.2s
KAPI Kappang 27.93 271 P P 13 52 10.4 -0.3
KAPI IAmb IAmb 13 52 24.0
comp=Z,49nm,1.1s
SPSI Sidrap Palu 28.00 273 P P 13 52 10.4 -0.9
comp=Z,33nm,1.2s
HTT Hallett 28.25 196 P P 13 52 14.6 +1.3
baz=28,SNR=25
PCI Palu 28.39 280 P P 13 52 15.9 +1.1
comp=Z,325nmcomp=Z,5.0nm,0.5s
BBOO Buckleboo 28.58 201 P P 13 52 18.1 +1.9
baz=29,SNR=6.8
BBOO Buckleboo 28.58 201 P P 13 52 16.0 -0.2
BBOO IAmb IAmb 13 52 28.8
comp=Z,25nm,0.8s
MPSI Mapaga 28.60 282 P P 13 52 16.2 -0.4
comp=Z,330nmcomp=Z,12nm,0.9s
CAN Canberra 28.93 178 P P 13 52 21.0 +1.6
CAN pmax pmax
comp=Z,45nm,1.3s
CAN Canberra 28.93 178 P P 13 52 20.9 +1.6
CAN IAmb IAmb 13 52 25.8
comp=Z,45nm,1.3s
CNB Canberra Magne 28.94 177 P P 13 52 22.1 +2.7
baz=29,SNR=4.5
FORT Forrest 30.62 215 P P 13 52 35.2 +0.9
baz=31,SNR=15
FORT Forrest 30.62 215 P P 13 52 34.0 -0.3
FORT IAmb IAmb 13 52 37.8
comp=Z,33nm,0.7s
ARPS Mount Arapiles 30.84 189 P P 13 52 37.8 +1.6
baz=31,SNR=6.9
PSA00 Pilbara Seismi 31.01 238 P P 13 52 37.7 -0.2
PSA00 IAmb IAmb 13 52 49.8
comp=Z,18nm,0.7s
PSA00 Pilbara Seismi 31.01 238 P P 13 52 36.5 -1.5
PSA00 IAmb IAmb 13 53 01.6
comp=Z,21nm,0.7s
BBKI Banjar Baru 32.95 273 P P 13 52 55.0 0.0
comp=Z,30nm,1.1s
MTKI Muara Teweh, K 33.24 278 P P 13 52 58.1 +0.5
comp=Z,3µmcomp=Z,18nm,0.5s
JAGI Jajag, Banyuwa 33.43 264 P P 13 53 00.2 +1.0
comp=Z,50nm,0.9s
JAGI Jajag, Banyuwa 33.43 264 P P 13 52 58.1 -1.1
JCJ Chichijima 33.61 351 P P 13 52 59.6 -0.9
MEEK Meekatharra 34.39 231 P P 13 53 07.9 +0.5
baz=34,SNR=47
KMBL Kambalda 34.81 221 P P 13 53 11.3 +0.3
baz=35,SNR=16
GIRL Giralia 36.21 240 P P 13 53 24.0 +0.9
baz=36,SNR=4.9
GIRL Giralia 36.21 240 P P 13 53 24.4 +1.3
WOJI Wonogiri, Jawa 36.62 265 P P 13 53 37.9 +11
MORW Morawa 37.59 229 P P 13 53 35.2 +0.5
baz=38,SNR=19
MORW Morawa 37.59 229 P P 13 53 34.9 +0.2
MORW IAmb IAmb 13 53 46.8
comp=Z,65nm,1.4s
BLDU Ballidu 37.91 226 P P 13 53 38.2 +0.8
baz=38,SNR=14
KSM Kuching 38.20 280 P P 13 53 39.2 -0.9
KPJI Karang Pucung 38.59 266 P P 13 53 44.6 +1.2
comp=Z,58nm,0.9s
NWAO Narrogin (SRO) 38.87 223 P P 13 53 45.8 +0.4
baz=39,SNR=12
NWAO Narrogin (SRO) 38.87 223 P P 13 53 45.4 0.0
NWAO pmax pmax
comp=Z,74nm,1.5s
NWAO Narrogin (SRO) 38.87 223 P P 13 53 45.0 -0.4
NWAO Narrogin (SRO) 38.87 223 P P 13 53 45.4 0.0
NWAO IAmb IAmb 13 53 58.9
comp=Z,74nm,1.5s
MUN Mundaring 39.03 225 P P 13 53 47.5 +0.7
baz=39,SNR=5.9
TPUB Ta-pu 39.60 319 P P 13 53 50.1 -1.6
TPUB IAmb IAmb 13 53 55.0
comp=Z,30nm,0.8s
CISI Cisompet, Garu 39.70 266 P P 13 53 53.5 +0.8
comp=Z,2µmcomp=Z,139nm,0.8s
CISI Cisompet, Garu 39.70 266 P P 13 53 51.5 -1.1
LEM Lembang 39.91 267 P P 13 53 55.0 +0.5
comp=Z,50nm,0.9s
RKGY Rocky Gully 40.05 221 P P 13 53 56.7 +1.5
baz=40,SNR=7.8
YHNB Yeheng 40.10 321 P P 13 53 53.7 -2.1
TPI Tanjungpandan 40.16 273 P P 13 53 57.9 +1.5
comp=Z,1µmcomp=Z,100nm,0.9s
CNJI Cibinong 40.38 266 P P 13 54 12.2 +14
AFI Afiamalu 40.47 104 P P 13 54 00.6 +1.5
comp=Z,59nm,1.0s,baz=117,slow=10,SNR=3.6
AFI Afiamalu 40.47 104 P P 13 54 00.6 +1.5
KNTN Kanton 40.50 87 P P 13 54 00.6 +1.4
CBJI Citeko 40.68 267 P P 13 54 01.1 +0.3
comp=Z,6µmcomp=Z,115nm,0.9s
URZ Urewera 41.48 144 LR LR 14 11 06.0
comp=Z,1µm,18.1s,baz=316,slow=36
MXZ Matakaoa Point 41.72 143 P P 13 54 10.2 +1.2
PPBI Pangkal Pinang 41.73 274 P P 13 54 10.3 +0.9
comp=Z,27µmcomp=Z,75nm,1.0s
BKZ Black Stump Fm 41.75 146 P P 13 54 10.2 +1.0
BKZ IAmb IAmb 13 54 27.9
comp=Z,41nm,1.3s
THZ Tophouse 41.81 152 P P 13 54 11.1 +1.4
THZ IAmb IAmb 13 54 31.9
comp=Z,19nm,0.8s
CGJI Cibinong 41.83 267 P P 13 54 10.5 +0.4
comp=Z,2µmcomp=Z,86nm,0.8s
XMIS Christmas Isla 41.88 261 P P 13 54 09.2 -1.4
JMN Monobe 41.91 343 P P 13 54 10.6 +0.1
TUWZ Tuamarina 42.05 150 P P 13 54 13.2 +1.6
BSWZ Blackbirch Sta 42.24 151 P P 13 54 14.6 +1.5
LTZ Lake Taylor 42.31 153 P P 13 54 15.6 +1.9
JNU Nakatsue 42.34 339 P P 13 54 13.2 -0.9
JNU IAmb IAmb 13 54 39.9
comp=Z,30nm,1.0s
SNZO South Karori 42.34 150 P P 13 54 15.8 +1.9
SNZO IAmb IAmb 13 54 37.2
comp=Z,74nm,1.2s
BHW Baring Head 42.50 150 P P 13 54 16.8 +1.5
RPZ Rata Peaks 42.53 155 LR LR 14 10 10.1
comp=Z,2µm,21.9s,baz=334,slow=33
RPZ Rata Peaks 42.53 155 P P 13 54 16.3 +0.9
RPZ IAmb IAmb 13 54 21.8
comp=Z,17nm,0.6s
KHZ Kahutara 42.61 152 P P 13 54 16.9 +0.8
KHZ IAmb IAmb 13 54 31.3
comp=Z,37nm,1.2s
BFZ Birch Farm 42.68 148 P P 13 54 18.2 +1.4
BFZ IAmb IAmb 13 54 23.5
comp=Z,60nm,1.3s
MSWZ Moikau Station 42.70 149 P P 13 54 18.0 +1.2
MLZ Mavora Lakes 42.77 159 P P 13 54 18.7 +1.3
MLZ IAmb IAmb 13 54 31.3
comp=Z,42nm,1.3s
JGF Kuroka 42.79 347 P P 13 54 16.6 -1.0
JGF IAmb IAmb 13 54 20.8
comp=Z,20nm,0.8s
PLWZ Palliser 42.81 149 P P 13 54 18.4 +0.6
JYT Yasato 42.87 351 P P 13 54 18.0 -0.2
JYT IAmb IAmb 13 54 24.7
comp=Z,22nm,0.6s
JWT Wachi 42.95 345 P P 13 54 18.1 -0.7
JWT IAmb IAmb 13 54 23.1
comp=Z,29nm,0.9s
JHS Saijyo 43.32 342 P P 13 54 20.2 -1.7
JHS IAmb IAmb 13 54 40.1
comp=Z,54nm,1.2s
MDSI Maura Dua 43.45 270 P P 13 54 22.6 -0.7
comp=Z,52nm,1.2s
MJAR Matsushiro Arr 43.52 349 P P 13 54 22.4 -1.2
comp=Z,30nm,0.9s,baz=166,slow=7.0,SNR=35
MJAR LR LR 14 11 05.1
comp=Z,323nm,19.1s,baz=190,slow=34
MJAR Matsushiro Arr 43.52 349 P P 13 54 21.6 -1.9
MAJO Matsushiro 43.52 349c iP P 13 54 22.5 -1.1
MAJO pmax pmax
comp=Z,54nm,1.0s
MAJO Matsushiro 43.52 349 P P 13 54 22.2 -1.4
MAJO IAmb IAmb 13 54 26.7
comp=Z,39nm,0.8s
MAT Matsushiro 43.52 349 P P 13 54 22.9 -0.7
MAT S S 14 00 45.6 -3.3
MJB9 Matsu-Tunnel 43.53 349 P P 13 54 22.6 -1.0
LWLI Liwa 43.53 269 P P 13 54 23.7 -0.4
comp=Z,192µmcomp=Z,64nm,1.0s
LHSI Lahat 44.15 271 P P 13 54 29.1 +0.1
comp=Z,55nm,1.1s
JMM Marumori 44.39 352 P P 13 54 30.2 -0.2
JMM IAmb IAmb 13 54 33.0
comp=Z,37nm,0.8s
MYKOM Kota Tinggi 44.59 279 P P 13 54 32.0 -0.5
MYKOM IAmb IAmb 13 54 45.5
comp=Z,23nm,0.8s
MNAI Manna 44.67 270 P P 13 54 31.9 -1.3
JSD Sado 44.96 349 P P 13 54 33.7 -1.3
JSD IAmb IAmb 13 54 55.7
comp=Z,50nm,1.1s
SSE Sheshan 45.03 327 P P 13 54 36.0 +0.3
SSE S S 14 01 12.3 +1.4
SSE pmax pmax
comp=Z,11nm,0.5s
SSE pmax pmax
comp=Z,54nm,3.9s
SSE LR LR
comp=Z,280nm,19.3s
SSE LR LR
comp=Z,290nm,25.1s
QIZ Qiongzhong 45.05 305 P P 13 54 34.3 -1.8
QIZ S S 14 01 10.0 -1.7
QIZ LR LR
comp=Z,240nm,27.5s
QIZ LR LR
comp=Z,320nm,22.6s
QIZ LR LR
comp=Z,570nm,21.8s
KSI Kapahiang 45.09 271 P P 13 54 35.5 -1.1
comp=Z,49nm,0.9s
KRJI Kerinci 46.38 273 P P 13 54 47.6 +0.8
comp=Z,232nm,0.8s
SDSI Sungai Dareh 46.55 275 P P 13 54 47.3 -0.7
comp=Z,819nmcomp=Z,64nm,1.0s
NJ2 Nanjing 47.04 326 eP P 13 54 51.0 -0.5
NJ2 S S 14 01 41.5 +1.7
NJ2 sS sS 14 02 02.8 +0.1
NJ2 pmax pmax
comp=Z,19nm,0.7s
NJ2 pmax pmax
comp=Z,160nm,3.9s
NJ2 LR LR
comp=Z,660nm,19.4s
NJ2 LR LR
comp=Z,280nm,17.1s
NJ2 LR LR
comp=Z,590nm,18.8s
JTM Tenmabayashi 47.23 353 P P 13 54 53.2 +0.4
KSRS Korea Array 47.29 338 P P 13 54 52.4 -0.9
comp=Z,5.9nm,0.8s,baz=159,slow=9.1,SNR=12
KSRS LR LR 14 12 27.5
comp=Z,603nm,21.2s,baz=146,slow=33
KSAR Wonju Array Be 47.29 338 P P 13 54 52.6 -0.7
KSAR Wonju Array Be 47.29 338 P P 13 54 52.6 -0.7
KS19 Wonju Array Si 47.35 338 P P 13 54 52.7 -1.1
KS19 IAmb IAmb 13 55 09.6
comp=Z,58nm,1.4s
IPM Ipoh 47.90 282 P P 13 54 55.9 -2.6
IPM IAmb IAmb 13 55 12.8
comp=Z,23nm,1.0s
KULM Kulim 48.44 283 P P 13 55 02.3 -0.4
KULM IAmb IAmb 13 55 17.2
comp=Z,9.6nm,0.6s
MNSI Mandailing Nat 48.63 277 P P 13 55 03.8 -0.4
comp=Z,2µmcomp=Z,14nm,0.8s
WHN Wuhan 48.64 321 P P 13 55 11.3 +7.4
WHN S S 14 02 20.0 +18
WHN LR LR
comp=Z,1µm,18.6s
JEW Eniwo 49.21 354 P P 13 55 08.1 +0.1
RPSI Rantau Prapat 49.60 279 P P 13 55 10.3 -1.3
RPSI IAmb IAmb 13 55 25.5
comp=Z,28nm,1.2s
PSI Prapat 49.62 279 P P 13 55 10.3 -1.5
PSI pmax pmax
comp=Z,28nm,1.2s
PBSI Pulau Batu 49.79 275 P P 13 55 14.4 +1.4
comp=Z,136nm,1.3s
GSI Gunungsitoli 50.69 277 P P 13 55 20.9 +1.1
GSI Gunungsitoli 50.69 277 P P 13 55 18.7 -1.2
GYA Guiyang 51.45 311 eP P 13 55 30.5 +5.0
GYA pmax pmax
comp=Z,4.0nm,0.8s
USA0B Ussuriysk Arra 52.22 346 P P 13 55 30.4 -0.3
USA0B pmax pmax
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 52.22 346 P P 13 55 30.4 -0.3
USRK Ussuriysk Ar. 52.22 346 P P 13 55 30.0 -0.7
comp=Z,4.3nm,0.6s,baz=176,slow=7.6,SNR=15
USRK LR LR 14 15 54.7
comp=Z,401nm,20.1s,baz=150,slow=34
USRK Ussuriysk Ar. 52.22 346 P P 13 55 30.2 -0.5
USRK Ussuriysk Ar. 52.22 346 P P 13 55 30.2 -0.5
RAR Rarotonga 52.81 112 LR LR 14 15 48.0
comp=Z,160nm,20.6s,baz=285,slow=33
YSS Yuzh-Sakhalins 53.18 356 eP P 13 55 35.3 -2.4
YSS eS S 14 03 01.7 -3.0
YSS MLR MLR
comp=Z,500nm,17.0s
KMI Kunming 53.78 307 ⇑P P 13 55 45.3 +2.4
KMI S S 14 03 18.3 +4.1
KMI sS sS 14 03 36.8 +0.1
KMI SS SKiKP 14 06 53.0 +0.1
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI pmax pmax
comp=Z,85nm,9.0s
KMI LR LR
comp=Z,170nm,18.7s
KMI LR LR
comp=Z,250nm,30.3s
KMI LR LR
comp=Z,460nm,25.9s
CMAR Chiang Mai Arr 54.07 298 P P 13 55 43.4 -1.4
comp=Z,1.6nm,0.7s,baz=120,slow=5.5,SNR=13
CMAR LR LR 14 17 15.8
comp=Z,181nm,21.5s,baz=152,slow=34
CMAR Chiang Mai Arr 54.07 298 i P P 13 55 45.5 +0.7
CMAR pmax pmax
comp=Z,2.0nm,0.6s
XAN Xi'an 54.39 320 P P 13 55 45.5 -1.3
XAN S S 14 03 29.8 +8.0
XAN pmax pmax
comp=Z,16nm,1.0s
XAN pmax pmax
comp=Z,220nm,5.9s
XAN LR LR
comp=Z,270nm,15.7s
XAN LR LR
comp=Z,360nm,14.1s
XAN LR LR
comp=Z,460nm,12.5s
XAN Xi'an 54.39 320 P P 13 55 45.6 -1.3
XAN pmax pmax
comp=Z,11nm,0.9s
XAN Xi'an 54.39 320 P P 13 55 45.6 -1.3
XAN IAmb IAmb 13 55 49.8
comp=Z,11nm,0.9s
BJT Baijiatuau 54.51 330 P P 13 55 46.3 -1.3
BJT pmax pmax
comp=Z,13nm,1.1s
BJT Baijiatuau 54.51 330 P P 13 55 46.3 -1.3
BJI Beijing 54.52 330 P P 13 55 46.5 -1.1
BJI PcP PcP 13 56 50.8 +0.3
BJI S S 14 03 28.5 +5.3
BJI pmax pmax
comp=Z,11nm,0.8s
BJI pmax pmax
comp=Z,140nm,4.3s
BJI LR LR
comp=Z,190nm,13.7s
BJI LR LR
comp=Z,440nm,20.1s
BJI LR LR
comp=Z,790nm,22.7s
XMAS Kiritimati 55.30 83 P P 13 55 54.6 +0.9
CD2 Chengdu 56.02 314 eP P 13 56 02.5 +3.7
CD2 S S 14 03 49.0 +5.2
CD2 pmax pmax
comp=Z,110nm,4.9s
CD2 LR LR
comp=Z,360nm,18.9s
CD2 LR LR
comp=Z,390nm,21.5s
CD2 LR LR
comp=Z,330nm,19.6s
SKR Severo-Kuril's 57.18 6 eP P 13 56 16.9 +10
SKR pmax pmax
comp=Z,46nm,1.2s
SKR pmax pmax
comp=Z,600nm,3.1s
SKR MLR MLR
comp=Z,600nm,21.0s
SKR MLR MLR
comp=Z,300nm,14.0s
HHC Hu-ho-hao-te 57.48 328 eP P 13 56 16.5 +7.6
HHC S S 14 04 07.8 +5.1
HHC sS sS 14 04 33.3 +7.8
HHC ScS ScS 14 05 58.3 +4.1
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,150nm,8.7s
HHC LR LR
comp=N,340nm,17.9s
HHC LR LR
comp=E,310nm,18.7s
HHC LR LR
comp=Z,730nm,19.6s
LZH Lanzhou 58.93 319 eP P 13 56 19.0 -0.2
LZH pP pP 13 56 35.8 +2.3
LZH sP sP 13 56 43.3 +3.9
LZH SS SS 14 08 15.3 -1.2
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.9s
LZH LR LR
comp=Z,310nm,16.3s
LZH LR LR
comp=Z,340nm,16.3s
LZH LR LR
comp=Z,380nm,18.4s
PEA0B Petropavlovsk- 59.74 7ceP P 13 56 25.1 +0.8
PEA0B Petropavlovsk- 59.74 7 P P 13 56 24.7 +0.4
PETK Petropavlovsk- 59.74 7 P P 13 56 24.9 +0.6
comp=Z,23nm,0.8s,baz=151,slow=6.1,SNR=41
PETK LR LR 14 18 20.7
comp=Z,710nm,21.5s,baz=229,slow=32
PETK Petropavlovsk- 59.74 7 P P 13 56 24.5 +0.2
PETK Petropavlovsk- 59.74 7 P P 13 56 24.5 +0.2
PET Petropavlovsk 59.78 8 eP P 13 56 22.0 -2.5
PET e*PP pP 13 56 39.8 +1.4
PET eS S 14 04 28.2 -3.7
PET pmax pmax
comp=Z,300nm,11.5s
HIA Hailar 60.48 339 P P 13 56 28.4 -1.1
HIA pmax pmax
comp=Z,19nm,0.9s
HIA Hailar 60.48 339 P P 13 56 28.4 -1.1
HIA IAmb IAmb 13 56 29.9
comp=Z,19nm,0.9s
PPT Papeete 62.06 106 LR LR 14 21 16.6
comp=Z,146nm,18.9s,baz=294,slow=34
PPT2 Papeete2 62.06 107 eS S 14 05 00.4 -2.1
comp=Z,515nm,25.8s
PPT2 Papeete2 62.06 107 eLR LR 14 15 16.2
comp=Z,416nm,26.0s
ZEA Zeya 62.24 346 eP P 13 56 41.2 0.0
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,44nm,1.0s
TBI Tubuai 62.54 113 eS S 14 05 07.0 -1.2
comp=Z,516nm,26.8s
TBI Tubuai 62.54 113 eLR LR 14 15 27.6
comp=Z,340nm,38.5s
GTA Gaotai 63.45 320 eP P 13 56 50.0 +0.2
GTA pP sP 13 57 07.0 -3.0
GTA sP pP 13 57 14.0 +10
GTA sS sS 14 05 44.0 +1.5
GTA SS SS 14 09 32.0 +4.8
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,8.4s
GTA LR LR
comp=Z,190nm,21.4s
GTA LR LR
comp=Z,190nm,19.6s
GTA LR LR
comp=Z,250nm,20.7s
ULN Ulaanbaatar 64.72 331ceP P 13 56 57.7 -0.3
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 64.72 331 P P 13 56 57.2 -0.8
SONM Songino Array 65.02 331 P P 13 56 58.7 -1.2
comp=Z,4.6nm,0.7s,baz=146,slow=8.1,SNR=25
SONM LR LR 14 24 36.9
comp=Z,730nm,21.4s,baz=129,slow=35
SONM Songino Array 65.02 331 P P 13 56 58.9 -1.0
SONM pmax pmax
comp=Z,8.0nm,1.1s
SONM Songino Array 65.02 331 P P 13 56 58.9 -1.0
CASY Casey 65.21 196 P P 13 57 00.9 +0.3
CASY IAmb IAmb 13 57 13.2
comp=Z,28nm,0.9s
ZAK Zakamensk 68.25 331 eP P 13 57 19.0 -1.4
ZAK pmax pmax
comp=Z,12nm,1.0s
TLY Talaya 68.95 332 eP P 13 57 37.1 +12
TLY eS SKiKP 14 06 56.0 -16
TLY pmax pmax
comp=Z,19nm,1.7s
TLY MLR MLR
comp=Z,667nm,19.0s
SEY Seymchan 69.09 2 i P P 13 57 25.4 +0.2
BOD Bodaibo 69.48 341 eP P 13 57 26.3 -1.4
BOD pmax pmax
comp=Z,7.0nm,1.3s
YAK Yakutsk 69.53 351 eP P 13 57 25.3 -2.6
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK Yakutsk 69.53 351 P P 13 57 27.2 -0.7
YAK IAmb IAmb 13 57 29.2
comp=Z,14nm,0.7s

MOY	**Mondy**	**70.19**	**331**	*e*P	**P**	**13 57 31.8**	**-0.6**
MOY				pmax	pmax		
	comp=Z,25nm,2.4s						
TAOE	**Nuku Hiva Isla**	**71.39**	**97**	*e*LR	LR	14 19 38.4	
	comp=Z,227nm,20.8s						
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**13 57 41.5**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=334,slow=6.9,SNR=29						
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**13 57 41.3**	**+0.9**
WMQ	**Urumqi**	**73.51**	**319**	*e*P	**P**	**13 57 52.5**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,22nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,69nm,5.7s						
WMQ				LR	LR		
	comp=Z,80nm,16.1s						
WMQ				LR	LR		
	comp=Z,110nm,22.9s						
BILL	**Bilibino**	**75.28**	**7⇑**	*e*P	**P**	**13 58 04.0**	**+1.9**
BILL				*e*		13 58 16.3	
BILL				*e*		14 00 53.4	
BILL				pmax	pmax		
	comp=Z,19nm,2.0s						
DGZ	**Jazzator, Alta**	**76.31**	**324**	*i* P	**P**	**13 58 07.0**	**-1.6**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	**Makanchi Array**	**78.20**	**320**	*ce*P	**P**	**13 58 17.8**	**-1.3**
MK31	**Makanchi Array**	**78.20**	**320**	P	**P**	**13 58 17.3**	**-1.8**
MKAR	**Makanchi Array**	**78.20**	**320**	P	**P**	**13 58 17.6**	**-1.5**
	comp=Z,2.5nm,0.6s,baz=98,slow=8.3,SNR=32						
MKAR				LR	LR	14 35 00.3	
	comp=Z,134nm,18.2s,baz=98,slow=37						
MKAR	**Makanchi Array**	**78.20**	**320**	P	**P**	**13 58 17.3**	**-1.8**
MAKZ	**Makanchi**	**78.41**	**320**	P	**P**	**13 58 18.4**	**-1.8**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	**Makanchi**	**78.41**	**320**	P	**P**	**13 58 18.4**	**-1.8**
TIXI	**Tiksi**	**78.76**	**354**	*i* P	**P**	**13 58 21.4**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,36nm,1.5s						
ZAA0	**Zalesovo Array**	**79.66**	**328**	P	**P**	**13 58 24.4**	**-2.4**
ZALV	**Zalesovo Beam**	**79.66**	**328**	P	**P**	**13 58 24.4**	**-2.4**
	comp=Z,4.3nm,0.6s,baz=111,slow=5.7,SNR=19						
ZALV				LR	LR	14 33 29.0	
	comp=Z,309nm,21.2s,baz=110,slow=36						
ZALV	**Zalesovo Beam**	**79.66**	**328**	P	**P**	**13 58 24.1**	**-2.7**
KDJ	**Kajisay**	**80.04**	**315**	P	**P**	**13 58 28.0**	**-1.5**
KDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KDJ	**Kajisay**	**80.04**	**315**	P	**P**	**13 58 28.0**	**-1.5**
KSH	**Kashi**	**80.14**	**312**	P	**P**	**13 58 32.3**	**+2.3**
KSH				S	**S**	**14 08 30.3**	**-0.9**
KSH				sS	sS	14 08 59.0	+2.6
KSH				SS	**SS**	**14 13 46.0**	**+3.2**
KSH				pmax	pmax		
	comp=Z,15nm,0.6s						
KSH				pmax	pmax		
	comp=Z,120nm,6.5s						
KSH				LR	LR		
	comp=Z,100nm,5.4s						
KSH				LR	LR		
	comp=Z,140nm,5.4s						
KSH				LR	LR		
	comp=Z,200nm,7.2s						
NIL	**Nilore**	**80.72**	**305**	P	**P**	**13 58 31.2**	**-1.9**
NIL				pmax	pmax		
	comp=Z,15nm,0.9s						
NIL	**Nilore**	**80.72**	**305**	P	**P**	**13 58 31.2**	**-1.9**
NIL				IAmb	IAmb	13 58 56.0	
	comp=Z,15nm,0.9s						
BOOM	**Boomskoye usch**	**81.02**	**315**	P	**P**	**13 58 32.9**	**-1.8**
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BOOM	**Boomskoye usch**	**81.02**	**315**	P	**P**	**13 58 32.9**	**-1.8**
KURK	**Kurchatov**	**81.89**	**323**	*ce*P	**P**	**13 58 38.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURK	**Kurchatov**	**81.89**	**323**	P	**P**	**13 58 37.0**	**-1.8**
MAW	**Mawson**	**82.31**	**203**	P	**P**	**13 58 40.7**	**0.0**
	comp=Z,5.4nm,0.9s,baz=84,slow=5.6,SNR=12						
MAW				LR	LR	14 35 25.4	
	comp=Z,519nm,18.9s,baz=67,slow=36						
MAW	**Mawson**	**82.31**	**203**	P	**P**	**13 58 41.2**	**+0.5**
	baz=82,SNR=8.3						
MAW	**Mawson**	**82.31**	**203**	P	**P**	**13 58 41.0**	**+0.3**
MAW	**Mawson**	**82.31**	**203**	P	**P**	**13 58 41.0**	**+0.3**
QSPA	**South Pole Qui**	**83.70**	**180**	P	**P**	**13 58 48.4**	**+0.3**
	comp=Z,8.7nm,0.5s,baz=287,slow=0.5,SNR=155						
QSPA	**South Pole Qui**	**83.70**	**180**	P	**P**	**13 58 48.3**	**+0.1**
RND	**Reindeer**	**84.04**	**24**	P	**P**	**13 58 48.2**	**-1.6**
RND				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RND	**Reindeer**	**84.04**	**24**	P	**P**	**13 58 48.2**	**-1.6**
DHY	**Denali Highway**	**84.50**	**24**	P	**P**	**13 58 50.9**	**-1.3**
CCB	**Clear Creek Bu**	**85.01**	**23**	P	**P**	**13 58 53.6**	**-0.9**
KKAR	**Karatay Array**	**85.04**	**314**	P	**P**	**13 58 52.7**	**-2.6**
KKAR	**Karatay Array**	**85.04**	**314**	P	**P**	**13 58 52.7**	**-2.6**
CHGR	**Chuyangaron**	**85.07**	**310**	P	**P**	**13 58 53.3**	**-2.3**
CHGR				IAmb	IAmb	13 58 56.6	
	comp=Z,9.0nm,0.7s						
IL31		**85.42**	**23**	P	**P**	**13 58 54.2**	**-2.3**
ILAR	**Eielson Array**	**85.42**	**23**	P	**P**	**13 58 54.1**	**-2.5**
	comp=Z,3.3nm,0.8s,baz=252,slow=4.4,SNR=22						
ILAR				LR	LR	14 31 55.9	
	comp=Z,217nm,21.9s,baz=257,slow=32						
NRIK	**Noril'sk**	**85.77**	**342**	P	**P**	**13 58 58.0**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=86,slow=8.8,SNR=6.4						
NRIK				LR	LR	14 38 51.4	
	comp=Z,158nm,18.7s,baz=171,slow=37						
NRIK	**Noril'sk**	**85.77**	**342**	*i* P	**P**	**13 58 58.8**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,17nm,2.5s						
BRVK	**Borovoye**	**87.52**	**324**	*ce*P	**P**	**13 59 07.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SYO	**Syowa Base**	**90.61**	**200⇑**	*e*P	**P**	**13 59 20.0**	**-1.4**
SYO	**Syowa Base**	**90.61**	**200⇑**	*e*pP	pP	13 59 30.0	-6.7
ABKAR	**Akbulak array**	**93.30**	**319**	P	**P**	**13 59 30.8**	**-3.4**
GEYT	**Alibeck**	**93.55**	**308**	LR	LR	14 44 34.4	
	comp=Z,165nm,21.6s,baz=90,slow=37						
BELA	**Belgrano 2**	**95.97**	**179**	P	**P**	**13 59 45.0**	**-0.9**
NVAR	**Mina Array Bea**	**96.91**	**52**	P	**P**	**13 59 50.5**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=270,slow=7.8,SNR=4.5						
NVAR				LR	LR	14 37 26.1	
	comp=Z,206nm,20.0s,baz=263,slow=32						
OPO	**Ambohidratompo**	**98.00**	**250**	P	**P**	**13 59 55.5**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=108,slow=9.6,SNR=3.6						
YKA	**Yellowknife Ar**	**99.04**	**28**	LR	LR	14 41 58.4	
	comp=Z,217nm,20.4s,baz=0.0,slow=34						
SNAA	**Sanae**	**99.86**	**189**	P	**Pdif**	**14 00 01.5**	**-2.1**
S39A	**Bolivar**	**116.55**	**51**		**PKPdf**	**14 05 02.5**	**-1.2**
U40A	**Yellville**	**117.22**	**52**	PKPdf	**PKPdf**	**14 05 03.9**	**-1.1**
KOLS	**Kolonicke sedl**	**117.54**	**323**	*e*PKIKP	**PKiKP**	**14 05 05.3**	**0.0**
KOLS	**Kolonicke sedl**	**117.54**	**323**	*e*PKP	**PKiKP**	**14 05 05.3**	**0.0**
MODS	**Modra-Piesok**	**120.76**	**324**	*e*PKIKP	**PKPdf**	**14 05 11.4**	**-0.1**
MODS	**Modra-Piesok**	**120.76**	**324**	*e*PKP	**PKPdf**	**14 05 11.3**	**-0.2**
DIVS	**Divibare**	**120.94**	**318**		**PKPdf**	**14 05 10.8**	**-1.2**
PLCA	**Paso Flores**	**121.47**	**146**	PKP	**PKiKP**	**14 05 13.9**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=232,slow=2.4,SNR=14						
PLCA	**Paso Flores**	**121.47**	**146**	PKIKP	**PKiKP**	**14 05 13.7**	**+0.4**
PLCA	**Paso Flores**	**121.47**	**146**	PKPdf	**PKiKP**	**14 05 13.7**	**+0.4**
CLL	**Collm**	**121.60**	**328**	*i* PKPdf	**PKPdf**	**14 05 12.6**	**-0.3**
	comp=Z,5.0nm,0.7s						
CLL				*e*PP	**PP**	**14 06 46.0**	**+0.7**
CLL				*e*PSKS		14 16 42.0	
CLL				*e*PPS	PPS	14 18 06.0	
CLL				*e*SS	SS	14 23 36.0	+19
CLL				*e*(SSS)		14 28 00.0	
CLL				*e*		14 32 54.0	
CLL				Lm	MLR	15 00 00.0	
	comp=N,200nm,20.6s						
CLL				Lm	MLR	15 00 00.0	
	comp=E,200nm,21.4s						
CLL				Lm	MLR	15 00 00.0	
	comp=Z,300nm,20.5s						
KHC	**Kasperske Hory**	**122.49**	**326**	*e*PKPDF	**PKPdf**	**14 05 13.2**	**-1.6**
KHC				*ex*	x	14 05 15.4	
KHC	**Kasperske Hory**	**122.49**	**326**	*c i*PKIKP	**PKPdf**	**14 05 13.2**	**-1.6**
KHC				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GERES	**GERESS Array B**	**122.57**	**326**	PKP	**PKPdf**	**14 05 13.4**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=48,slow=2.0,SNR=12						
GERES	**GERESS Array B**	**122.57**	**326**	PKPdf	**PKPdf**	**14 05 13.5**	**-1.5**
W50A	**Signal Mountai**	**123.44**	**52**		**PKPdf**	**14 05 16.1**	**-0.9**
CIMO	**Cimolais**	**124.64**	**324**	PKPdf	**PKPdf**	**14 05 18.4**	**-0.6**
BO02	**Sierra Bellavi**	**125.31**	**141**	PKPdf	**PKiKP**	**14 05 21.1**	**0.0**
CO02	**Combarbal**	**127.45**	**137**		**PKiKP**	**14 05 25.7**	**+0.2**
CO03	**El Pedregal**	**127.88**	**137**		**PKiKP**	**14 05 26.2**	**-0.1**
AC05	**El Transito**	**129.39**	**136**	PKPdf	**PKPdf**	**14 05 29.1**	**+0.3**
BBAC	**Balboa, Cauca**	**134.90**	**93**	*e*P	**PKPdf**	**14 05 37.7**	**-1.9**
PB11	**IPOC Station P**	**134.98**	**126**		**PKPdf**	**14 05 39.8**	**+0.3**
PB12	**IPOC Station P**	**135.01**	**124**	PKPdf	**PKPdf**	**14 05 39.9**	**+0.3**
PB08	**IPOC Station P**	**135.18**	**127**		**PKPdf**	**14 05 40.6**	**+0.4**
PUAC	**Puerto Asis, P**	**135.38**	**96**	*e*P	**PKPdf**	**14 05 38.9**	**-1.4**
GO01	**Chusmiza**	**135.40**	**126**		**PKPdf**	**14 05 41.3**	**+0.6**
POPC	**Popayan, Colom**	**135.52**	**93**	*e*P	**PKPdf**	**14 05 37.5**	**-3.4**
SOTA	**Rioblanco**	**135.54**	**93**	*e*P	**PKPdf**	**14 05 41.5**	**+0.3**
DBBC	**Dabeiba**	**136.30**	**86**	*e*P	**PKPdf**	**14 05 42.8**	**+0.8**
MOTC	**Monteria, Cord**	**136.86**	**84**	*e*P	**PKPdf**	**14 05 37.5**	**-5.4**
ANIL	**Santa Ana**	**136.97**	**90**	*e*P	**PKPdf**	**14 05 42.4**	**-1.2**
GUY2C	**Guyana, Caldas**	**137.06**	**89**	*e*P	**PKPdf**	**14 05 44.4**	**+0.4**
TOLC	**Tolima**	**137.06**	**90**	*e*P	**PKPdf**	**14 05 42.9**	**-0.9**
PTLC	**Puerto Leguiza**	**137.07**	**96**	*e*P	**PKPdf**	**14 05 37.7**	**-5.7**
SJCC	**San Jacinto, C**	**137.32**	**82**	*e*P	**PKiKP**	**14 05 45.5**	**-0.3**
PRAC	**Prado**	**137.42**	**91**	*e*P	**PKPdf**	**14 05 43.1**	**-1.0**
ZARC	**Zaragoza, Cauc**	**137.65**	**86**	*e*P	**PKPdf**	**14 05 44.5**	**0.0**
MACC	**Macarena, Meta**	**138.28**	**94**	*e*P	**PKPdf**	**14 05 43.8**	**-1.9**
CVER	**Cruz Verde, Cu**	**138.29**	**90**	*e*P	**PKPdf**	**14 05 41.0**	**-5.2**
SPBC	**San Pablo de B**	**138.37**	**89**	*e*P	**PKPdf**	**14 05 46.3**	**+0.4**
BARC	**Barichara**	**139.29**	**87**	*e*P	PKPdf	14 05 36.4	-11
RUSC	**La Rusia**	**139.36**	**88**	*e*P	**PKPdf**	**14 05 44.2**	**-4.0**
TAMC	**Tame, Arauca**	**140.67**	**88**	*e*P	**PKPdf**	**14 05 43.4**	**-6.7**
SDV	**Santo Domingo**	**141.83**	**84**	*e*P	**PKPdf**	**14 05 46.8**	**-5.4**
SIV	**San Ignacio**	**143.87**	**128**	PKP	PKPbc	14 05 53.7	+0.3
	comp=Z,7.3nm,0.5s,baz=238,slow=3.0,SNR=36						
SAML	**Samuel**	**145.62**	**116**	PKP2	**PKPbc**	**14 05 59.0**	**0.0**
SAML	**Samuel**	**145.62**	**116**		**PKPbc**	**14 05 59.0**	**0.0**
TOA0	**Torodi Ar. Sit**	**145.92**	**284**		**PKPdf**	**14 05 58.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**145.92**	**284**	PKPbc	**PKPdf**	**14 05 59.0**	**-0.1**
	comp=Z,15nm,0.6s,baz=48,slow=3.3,SNR=49						
TORD	**Torodi Ar. Bea**	**145.92**	**284**		**PKPdf**	**14 05 58.8**	**-0.4**
CDVI	**St. Croix**	**146.24**	**67**	PKPbc	**PKPdf**	**14 06 00.2**	**+0.6**
SPB	**Sao Paulo**	**146.81**	**154**		**PKPdf**	**14 06 00.4**	**0.0**
KOWA	**Kowa**	**151.12**	**289**		**PKPbc**	**14 06 12.3**	**-1.1**
KIC	**Kosan Boka**	**152.70**	**272**	*e*PKIKP	**PKiKP**	**14 06 17.9**	**+0.5**
	comp=Z,12nm,0.7s						
DBIC	**Dimbokro**	**152.82**	**272**	PKPbc	**PKPbc**	**14 06 17.2**	**-0.2**
	comp=Z,6.5nm,0.6s,baz=82,slow=2.7,SNR=12						
DBIC				PKPab	PKPab	14 06 28.4	-0.1
	comp=Z,14nm,0.8s,baz=62,slow=2.0,SNR=7.0						
LIC	**Lamto**	**152.98**	**271**	*e*PKIKP	**PKiKP**	**14 06 18.4**	**+0.5**
	comp=Z,38nm,0.7s						
TIC	**Toumodi**	**152.98**	**272**	*e*PKIKP	**PKiKP**	**14 06 18.3**	**+0.3**
BDFB	**Brasilia**	**153.19**	**144**	PKP	**PKPdf**	**14 06 11.3**	**+0.5**
	comp=Z,6.4nm,0.8s,baz=350,slow=3.2,SNR=4.1						
BDFB				PKPbc	**PKiKP**	**14 06 18.9**	**+0.4**
	comp=Z,26nm,0.6s,baz=204,slow=2.7,SNR=19						
BDFB				PKPab	**PKPab**	**14 06 30.6**	**+0.7**
	comp=Z,16nm,0.5s,baz=236,slow=2.4,SNR=7.5						
BDFB	**Brasilia**	**153.19**	**144**		**PKPdf**	**14 06 11.3**	**+0.5**
BDFB					**PKPbc**	**14 06 18.3**	**+0.1**

*ATH **30** 14:09:09.9, 34°.56N×22°.80E, h16km±5km, ML3.6/1, Error ellipse: s-maj=12.1km s-min=2.5km az=34.0*
*THE **30** 14:09:13.2, 34°.72N×22°.92E, h4km±1km, ML3.2/2, Error ellipse: s-maj=2.0km s-min=0.8km az=31.0*
ISC 30 14:09:11.3±2.9, 34°.7N±0°.1×22°.9E±0°.1, h10km, n22, σ0°70/25, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.86**	**47**	P	**Pg**	**14 09 27.6**	**-0.3**
KNDR				S	**Sb**	**14 09 39.3**	**-0.6**
	1μm,0.6s						
GVD	**Gavdhos**	**0.98**	**79**	P	**Pn**	**14 09 31.3**	**+0.1**
GVD				S	**Sn**	**14 09 45.8**	**+0.6**
	3μm,0.4s						
GVD	**Gavdhos**	**0.98**	**79**	P	**Pn**	**14 09 31.3**	**+0.1**
GVD				S	**Sn**	**14 09 46.4**	**+1.3**
GVD				AML	AML	14 09 49.9	
	comp=E,4260μm,0.5s						
GVD				AML	AML	14 09 55.8	
	comp=N,6198μm,0.4s						
RODP	**Rodopos**	**1.14**	**37**	P	**Pn**	**14 09 33.8**	**+0.5**
IMMV	**Iera Moni Meta**	**1.19**	**47**	P	**Pn**	**14 09 34.6**	**+0.6**
IMMV	**Iera Moni Meta**	**1.19**	**47**	P	**Pn**	**14 09 34.6**	**+0.6**
ANKY	**Antikythira Is**	**1.25**	**15**	P	**Pg**	**14 09 35.5**	**+0.1**
ANKY	**Antikythira Is**	**1.25**	**15**	P	**Pg**	**14 09 35.5**	**+0.1**
CHAN	**Chania**	**1.27**	**47**	P	**Pg**	**14 09 35.6**	**0.0**
VAM	**Vamos**	**1.30**	**54**	P	**Pg**	**14 09 36.5**	**+0.3**
VAM	**Vamos**	**1.30**	**54**	P	**Pg**	**14 09 36.4**	**+0.3**
PRNS	**Prines Rethymn**	**1.48**	**61**	P	**Pn**	**14 09 38.1**	**+0.1**
SIVA	**Sivas**	**1.60**	**76**	P	**Pb**	**14 09 41.1**	**+0.1**
SIVA	**Sivas**	**1.60**	**76**	P	**Pb**	**14 09 41.1**	**+0.1**
KTHA	**Kythira Island**	**1.61**	**4**	P	**Pn**	**14 09 40.4**	**+0.6**
KTHA	**Kythira Island**	**1.61**	**4**	P	**Pg**	**14 09 41.5**	**-0.6**
IDI	**Anoyia**	**1.74**	**68**	P	**Pb**	**14 09 42.8**	**-0.6**
IDI	**Anoyia**	**1.74**	**68**	P	**Pb**	**14 09 42.8**	**-0.6**
VLI	**Veliai**	**2.06**	**1**	P	**Pn**	**14 09 47.0**	**+1.0**
VLI	**Veliai**	**2.06**	**1**	P	**Pb**	**14 09 48.0**	**-0.8**
LAST	**Lasithi**	**2.17**	**76**	P	**Pb**	**14 09 49.2**	**-1.5**
LAST	**Lasithi**	**2.17**	**76**	P	**Pb**	**14 09 49.4**	**-1.3**

*REY **30** 14:53:19.2, 64°.68N×17°.47W, h7km*
*IDC **30** 14:53:20.0±0.6, 64°.58N×17°.68W, h0km, mb4.1/16, mb1 4.3/19, mb1mx4.1/51, mbtmp4.1/19, ML2.6/2, MS3.5/10, Ms1 3.5/10, ms1mx3.1/47, Error ellipse: s-maj=18.7km s-min=9.6km az=12.0*
*NEIC **30** 14:53:20.4±1.5, 64°.58N±0°.09×17°.9W±0°.2, h9km±4km, mb4.6/46, Error ellipse: s-maj=13.2km s-min=9.3km az=192.0*
*MOS **30** 14:53:20.2±1.1, 64°.65N×17°.56W, h11km, mb4.7/38, Error ellipse: s-maj=11.2km s-min=7.6km az=100.0*
ISC 30 14:53:19.9±0.7, 64°.68N±0°.02×17°.49W±0°.02, h2km±4km, n214, σ1$46/219, mb4.5/62, MS3.5/14, 15C-1D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**268**	P	**Pg**	**14 53 21.7**	**-0.4**
	baz=268						
IVON				S	**Sg**	**14 53 24.0**	**+0.5**
	baz=268						
IDYN	**Dyngjuhals**	**0.13**	**26**	P	**Pg**	**14 53 21.9**	**-0.5**
	baz=21						
IDYN				S	**Sg**	**14 53 24.3**	**+0.3**
	baz=21						
IDJK	**Dyngjujokull**	**0.21**	**147**	P	**Pg**	**14 53 23.4**	**-0.5**
	baz=150						
IDJK				S	**Sg**	**14 53 26.3**	**-0.3**
	baz=150						
IURH	**Urdarhals**	**0.21**	**46**	P	**Pg**	**14 53 23.2**	**-0.7**
	baz=44						
IGRF	**Grimsfjall**	**0.29**	**160**	P	**Pg**	**14 53 24.9**	**-0.6**
	baz=162						
IGRF				S	**Sg**	**14 53 28.9**	**-0.3**
	baz=162						
IKVE	**Kverkfjoll**	**0.35**	**90**	P	**Pg**	**14 53 25.8**	**-0.9**
	baz=90						
IKVE				S	**Sg**	**14 53 30.6**	**-0.6**
	baz=90						
IBJK	**Bruarjokull**	**0.38**	**123**	P	**Pg**	**14 53 26.0**	**-1.3**
	baz=124						
IBJK				S	**Sg**	**14 53 31.4**	**-0.8**
	baz=124						
IHUS	**Husbondi**	**0.39**	**190**	P	**Pg**	**14 53 26.7**	**-0.6**
	baz=192						
IHUS				S	**Sg**	**14 53 32.6**	**+0.1**
	baz=192						
ISKR	**Skrokkalda**	**0.40**	**253**	P	**Pg**	**14 53 26.9**	**-0.7**
	baz=254						
ISKR				S	**Sg**	**14 53 32.4**	**-0.4**
	baz=254						
IVOT	**Vottur**	**0.43**	**162**	P	**Pg**	**14 53 27.0**	**-1.1**
	baz=163						
IJOK	**Jokulheimar**	**0.48**	**221**	P	**Pg**	**14 53 28.1**	**-1.1**
	baz=222						
IJOK				S	**Sg**	**14 53 35.4**	**0.0**
	baz=222						
IKRE	**Kreppuhraun**	**0.49**	**77**	P	**Pg**	**14 53 27.6**	**-1.7**
	baz=77						
IKRE				S	**Sg**	**14 53 34.2**	**-1.4**
	baz=77						
IASK	**Askja**	**0.52**	**44**	P	**Pg**	**14 53 28.4**	**-1.5**
	baz=43						
IMKO	**Mokollar**	**0.58**	**58**	P	**Pg**	**14 53 29.3**	**-1.6**
	baz=58						
IMKO				S	**Sg**	**14 53 38.3**	**-0.2**
	baz=58						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**14 53 30.7**	**-1.6**
	baz=206						
IIEY				S	**Sg**	**14 53 40.3**	**-0.3**
	baz=206						
ISVA	**Svartarkot**	**0.67**	**9**	P	**Pg**	**14 53 31.1**	**-1.7**
	baz=7.7						
IKSK	**Karasker**	**0.68**	**139**	P	**Pg**	**14 53 30.4**	**-2.5**
	baz=140						
IKSK				S	**Sg**	**14 53 40.2**	**-1.6**
	baz=140						
IKAL	**Kalfafell**	**0.74**	**187**	P	**Pg**	**14 53 31.5**	**-2.5**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.77**	**79**	P	**Pg**	**14 53 32.3**	**-2.3**
	baz=79						
IVSH				S	**Sg**	**14 53 42.8**	**-1.8**
	baz=79						
IVAT	**Vatnsfell**	**0.79**	**232**	P	**Pg**	**14 53 33.5**	**-1.5**
	baz=232						
IFAG	**Fagurholsmyri**	**0.89**	**155**	P	**Pg**	**14 53 34.5**	**-2.3**
	baz=156						
IADA	**Aoalbol**	**0.89**	**66**	P	**Pg**	**14 53 34.3**	**-2.6**
	baz=66						
IHVE	**Hveravellir**	**0.91**	**283**	P	**Pg**	**14 53 35.4**	**-2.0**
	baz=283						
IMEL	**Melhnausar**	**0.96**	**21**	P	**Pg**	**14 53 35.8**	**-2.6**
	baz=21						
IREN	**Reynihlio**	**1.00**	**14**	P	**Pg**	**14 53 36.6**	**-2.6**
	baz=14						
ISNB	**Snabyli**	**1.07**	**208**	P	**Pg**	**14 53 37.8**	**-2.5**
	baz=209						
IKVO	**Krokottuvotn**	**1.07**	**14**	P	**Pg**	**14 53 37.7**	**-2.8**
	baz=13						
ISLY	**Slysaalda**	**1.11**	**220**	P	**Pg**	**14 53 38.9**	**-2.3**
	baz=221						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pg**	**14 53 38.5**	**-2.9**
	baz=30						
IFED	**Fedgar**	**1.16**	**237**	P	**Pg**	**14 53 40.0**	**-2.1**
	baz=237						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pg**	**14 53 40.0**	**-3.2**
	baz=8.6						
IGHA	**Grjothals**	**1.22**	**16**	P	**Pg**	**14 53 40.4**	**-2.9**
	baz=16						
BORG	**Borgarnes**	**1.65**	**274**	Pg	**Pn**	**14 53 48.0**	**-1.8**
	103nm,0.3s,baz=92,slow=8.0,SNR=76						
BORG				Lg	Lg	14 54 10.1	
	30nm,0.3s,baz=214,slow=20,SNR=8.2						
BORG	**Borgarnes**	**1.65**	**274**	P	**Pn**	**14 53 48.0**	**-1.8**
BORG	**Borgarnes**	**1.65**	**274**		**Pn**	**14 53 46.9**	**-2.9**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**14 54 51.0**	**+0.4**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**14 54 51.0**	**+0.4**
SCO	**Scoresbysund**	**6.07**	**346**	Pn	**Pn**	**14 54 50.7**	**+0.1**
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**14 56 01.0**	**+3.5**
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**14 56 01.0**	**+3.5**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**14 56 07.3**	**-1.3**
	baz=325,slow=13,SNR=5.5						
ESK	**Eskdalemuir**	**11.77**	**136**	P	**Pn**	**14 56 08.9**	**+0.3**
ESK	**Eskdalemuir**	**11.77**	**136**		**Pn**	**14 56 08.9**	**+0.3**
NOA	**NORSAR Array B**	**13.53**	**92**	Pn	**Pn**	**14 56 30.2**	**-2.5**
	0.0nm,0.3s,baz=299,slow=13,SNR=3.7						
HFS	**Hagfors**	**15.04**	**93**	Pn	**Pn**	**14 56 54.2**	**+0.9**
	0.1nm,0.3s,baz=308,slow=7.3,SNR=1.9						
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**14 57 19.4**	**-1.1**
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**14 57 19.4**	**-1.1**
ARCES	**ARCESS Array B**	**17.11**	**55**	LR	LR	15 02 54.6	
	comp=Z,75nm,21.6s,baz=40,slow=33						
MEM	**Membach**	**18.72**	**128**	P	**Pn**	**14 57 39.3**	**-0.4**
MEM				pP	**sP**	**14 57 41.6**	**+0.9**
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**14 57 51.1**	**-0.4**
	0.1nm,0.3s,baz=267,slow=13,SNR=2.6						
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**14 57 52.9**	**+1.4**
FINES	**FINESS Array B**	**19.70**	**79**	P	**Pn**	**14 57 52.9**	**+1.4**
LVZ	**Lovozero**	**20.69**	**58**	*i* P	Pn	14 58 02.4	-0.7
LVZ				pmax	pmax		
	comp=Z,17nm,1.1s						
CLL	**Collm**	**20.71**	**116**	*i* P	Pn	14 58 02.1	-1.3
	comp=Z,31nm,1.4s						
CLL	**Collm**	**20.71**	**116**	P

MODS pmax pmax
comp=Z,13nm,1.2s
MODS Modra-Piesok 24.72 115 *eP* **P 14 58 43.0 +0.8**
STAL STALIGIAL 24.77 124 P **P 14 58 43.7 +1.0**
PRED Cave del Predi 24.92 122 P **P 14 58 44.6 +0.6**
VYHS Vyhne 25.24 112 *eP* **P 14 58 47.4 +0.5**
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 25.24 112 *eP* **P 14 58 47.4 +0.5**
KLMR Klimovskoe 25.60 72 *eP* **P 14 58 49.3 -0.7**
comp=Z,23nm,1.2s
KLMR Klimovskoe 25.60 72 *eP* **P 14 58 49.3 -0.7**
KLMR pmax pmax
comp=Z,23nm,1.2s
KLMR Klimovskoe 25.60 72 *eP* **P 14 58 49.4 -0.7**
KLMR AMP 14 58 52.2
comp=Z,23nm,1.2s
KWP Kalwaria Pacla 25.91 106 P **P 14 58 54.4 +1.4**
KWP pmax pmax
comp=Z,37nm,1.2s
KWP Kalwaria Pacla 25.91 106 P **P 14 58 54.4 +1.4**
LSH Leshukonskoye 25.96 61 *eP* **P 14 58 52.2 -1.0**
comp=Z,30nm,1.3s
CRVS Cervenica-Dubn 25.97 109 *eP* **P 14 58 56.7 +3.2**
CRVS pmax pmax
comp=Z,37nm,1.7s
CRVS Cervenica-Dubn 25.97 109 *eP* **P 14 58 56.7 +3.2**
SCHQ Schefferville 26.04 271 P **P 14 58 54.4 +0.3**
comp=Z,9.3nm,0.9s,baz=47,slow=7.5,SNR=3.8
SCHQ Schefferville 26.04 271 IAmb IAmb 14 58 55.8
comp=Z,122nm,1.9s
PSZ Piszkesteto 26.12 112 P **P 14 58 55.1 +0.1**
PSZ pmax pmax
comp=Z,17nm,1.2s
PSZ Piszkesteto 26.12 112 P **P 14 58 55.1 +0.1**
PSZ IAmb IAmb 14 59 01.4
comp=Z,17nm,1.2s
ESDC Sonseca Array 26.26 156 P **P 14 58 56.4 0.0**
comp=Z,2.6nm,0.9s,baz=347,slow=8.8,SNR=14
ESDC Sonseca Array 26.26 156 **P 14 58 55.8 -0.5**
KOLS Kolonicke sedl 26.28 108 *eP* **P 14 58 56.9 +0.6**
KOLS Kolonicke sedl 26.28 108 *eP* **P 14 58 56.9 +0.6**
KOLS *e* 15 14 22.7
LVV L'vov 26.32 104 *eP* **P 14 58 57.0 +0.4**
LVV *eS* **S 15 03 27.0 -2.9**
RES Resolute Bay 26.46 324 LR LR 15 09 40.1
comp=Z,86nm,18.0s,baz=92,slow=37
UZH Uzhgorod 26.52 108 *eP* **P 14 59 00.3 +1.8**
UZH *i* 14 59 07.7
CASP Castiglione de 27.17 130 P **P 14 59 05.2 +0.8**
AKASG Malin Array Be 27.84 98 P **P 14 59 09.9 -0.4**
comp=Z,2.0nm,0.7s,baz=324,slow=9.9,SNR=4.4
AKASG Malin Array Be 27.84 98 *ceP* **P 14 59 13.8 +3.5**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 27.84 98 P **P 14 59 10.7 +0.4**
AKBB Malin Array Si 27.84 98 *ceP* **P 14 59 11.9 +1.6**
AKBB Malin Array Si 27.84 98 P **P 14 59 10.9 +0.6**
AKBB IAmb IAmb 14 59 42.4
comp=Z,18nm,1.6s
OBN Obninsk 27.88 84⇑ *eP* **P 14 59 11.7 +1.1**
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,57nm,16.0s
BURAR Bucovina Array 28.53 106 P **P 14 59 17.2 +0.6**
KIRV Kirov 30.98 69 *ceP* **P 14 59 38.7 +0.7**
BELG Belogornoye 34.48 79 *iP* **P 15 00 08.8 +0.1**
ARU Arti 36.08 66 *diP* **P 15 00 23.3 +0.9**
ARU 15 01 39.4
ARU S **S 15 06 03.1 +1.1**
ARU SS **SnSn 15 08 28.0 +2.1**
ARU pmax pmax
comp=Z,5.0nm,0.9s
NRIK Noril'sk 36.45 35 P **P 15 00 26.9 +1.5**
comp=Z,1.8nm,0.5s,baz=332,slow=8.3,SNR=3.5
NRIK LR LR 15 17 10.1
comp=Z,58nm,19.3s,baz=14,slow=39
NRIK Noril'sk 36.45 35 *ceP* **P 15 00 27.1 +1.6**
NRIK pmax pmax
comp=Z,12nm,1.4s
GOF Gofitskoye 38.11 91⇑ *eP* **P 15 00 42.8 +2.9**
BR131 Keskin Array S 38.48 105 P **P 15 00 44.0 +0.8**
BR131 pmax pmax
comp=Z,4.0nm,1.0s
BR131 Keskin Array S 38.48 105 P **P 15 00 44.0 +0.8**
BRTR Keskin Array B 38.48 105 P **P 15 00 44.8 +1.6**
comp=Z,2.7nm,0.8s,baz=305,slow=4.4,SNR=11
BRTR Keskin Array B 38.48 105 *ceP* P 15 00 47.4 +4.2
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 38.48 105 P **P 15 00 44.5 +1.3**
KIV Kislovodsk 38.84 92 *eP* **P 15 00 49.1 +3.0**
KIV pmax pmax
comp=Z,18nm,0.9s
KBZ Khabaz 39.11 92 P **P 15 00 50.9 +2.6**
comp=Z,6.8nm,1.0s,baz=333,slow=9.9,SNR=6.0
KBZ Khabaz 39.11 92 *iP* **P 15 00 50.2 +2.0**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
AKTO Aktyubinsk 40.28 73 LR LR 15 17 20.1
comp=Z,76nm,18.1s,baz=322,slow=36
EYMN Ely 41.58 283 P **P 15 01 08.0 -0.7**
ABKAR Akbulak array 41.98 73 **P 15 01 12.4 +0.5**
ABKAR Akbulak array 41.98 73 P **P 15 01 12.5 +0.5**
ABKAR IAmb IAmb 15 01 15.5
comp=Z,5.0nm,1.1s
TIXI Tiksi 42.02 15 *ceP* P 15 01 15.5 +3.6
TIXI pmax pmax
comp=Z,60nm,1.3s
J47A Sunmer 42.49 273 P **P 15 01 12.2 -3.9**
TOLK Toolik Lake Re 42.74 336 P **P 15 01 18.7 +0.7**
TOLK IAmb IAmb 15 01 22.2
comp=Z,21nm,1.3s
BRVK Borovoye 43.12 62 *ceP* **P 15 01 22.7 +1.5**
BRVK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 43.12 62 **P 15 01 21.8 +0.6**
BRVK IAmb IAmb 15 01 25.1
comp=Z,14nm,1.6s
IL31 45.68 332 P **P 15 01 42.4 +1.0**
IL31 IAmb IAmb 15 01 48.1
comp=Z,12nm,1.4s
ILAR Eielson Array 45.68 332 P **P 15 01 42.8 +1.3**
comp=Z,3.0nm,1.0s,baz=20,slow=6.2,SNR=18
ILAR PcP **PcP 15 03 20.1 +0.8**
comp=Z,1.6nm,1.0s,baz=354,slow=3.5,SNR=5.9
ILAR LR LR 15 23 09.4
comp=Z,47nm,18.9s,baz=9.0,slow=39
ILAR Eielson Array 45.68 332 P **P 15 01 42.2 +0.8**
ILAR 15 03 19.5
ILAR Eielson Array 45.68 332 P **P 15 01 42.2 +0.8**
ILAR **PcP 15 03 19.5 +0.3**
MDM Murphy Dome 45.77 333 P **P 15 01 44.0 +1.8**
MDM IAmb IAmb 15 01 47.1
comp=Z,12nm,1.2s
RIDG Independent Ri 46.17 331 P **P 15 01 42.9 -2.5**
R50A Paris 46.36 269 P **P 15 01 44.0 -3.1**
U54A Nelsons Funny 46.76 265 P **P 15 01 48.2 -2.2**
BPAW Bear Paw Mtn. 47.07 334 P **P 15 01 53.3 +0.9**
TRF Thorofare Moun 47.53 333 P **P 15 01 55.1 -1.1**
BILL Bilibino 47.54 358⇑ *eP* P 15 02 01.5 +5.5
BILL *e* 15 03 29.7
BILL *e* 15 03 48.9
BILL *e*SS SS 15 12 14.1 -4.0
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,53nm,18.0s
ZAA0 Zalesovo Array 47.62 51 **P 15 01 57.3 +0.5**
ZAA0 IAmb IAmb 15 02 00.5
comp=Z,9.4nm,1.6s
ZALV Zalesovo Beam 47.62 51 P **P 15 01 57.7 +0.9**
comp=Z,1.0nm,0.6s,baz=335,slow=6.7,SNR=6.8
ZALV PcP **PcP 15 03 28.0 +1.7**
comp=Z,0.6nm,0.7s,baz=298,slow=3.2,SNR=3.6
ZALV LR LR 15 22 02.0
comp=Z,26nm,18.8s,baz=222,slow=36
ZALV Zalesovo Beam 47.62 51 P **P 15 01 57.1 +0.3**
ZALV 15 03 28.0
ZALV Zalesovo Beam 47.62 51 **P 15 01 57.1 +0.3**
T50A Nancy 47.64 268 P **P 15 01 52.9 -4.2**
KURK Kurchatov 48.10 58 *ceP* **P 15 02 00.3 -0.3**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 48.10 58 **P 15 02 00.8 +0.2**
KURK IAmb IAmb 15 02 01.8
comp=Z,5.9nm,0.9s
EGMT Eagleton 48.87 297 P **P 15 02 05.2 -1.5**
GEYT Alibeck 50.42 84 P **P 15 02 19.2 +0.7**
comp=Z,1.8nm,0.7s,baz=213,slow=11,SNR=4.2
GEYT Alibeck 50.42 84 IAmb IAmb 15 02 20.2
comp=Z,2.0nm,0.8s
KKAR Karatay Array 51.27 70 P **P 15 02 24.5 -0.3**
KKAR Karatay Array 51.27 70 **P 15 02 24.5 -0.3**
DGZ Jazzator, Alta 52.07 53 *iP* **P 15 02 32.7 +1.8**
DGZ pmax pmax
comp=Z,8.0nm,1.4s
SEY Seymchan 52.47 6 *iP* P 15 02 37.0 +3.5
MAKZ Makanchi 52.59 59 P **P 15 02 34.8 +0.2**
MAKZ pmax pmax
comp=Z,10.0nm,1.5s
MAKZ Makanchi 52.59 59 **P 15 02 34.8 +0.2**
MAKZ IAmb IAmb 15 02 38.2
comp=Z,9.5nm,1.5s
MK31 Makanchi Array 52.72 58 *ceP* **P 15 02 36.1 +0.5**
MK31 Makanchi Array 52.72 58 P **P 15 02 35.7 +0.1**
MKAR Makanchi Array 52.72 58 P **P 15 02 36.1 +0.6**
comp=Z,1.7nm,0.9s,baz=326,slow=5.9,SNR=13
MKAR Makanchi Array 52.72 58 **P 15 02 35.6 +0.1**
TORD Torodi Ar. Bea 53.15 156 P **P 15 02 38.4 -0.7**
comp=Z,3.4nm,1.0s,baz=346,slow=9.9,SNR=9.9
TORD LR LR 15 25 59.3
comp=Z,128nm,22.0s,baz=225,slow=37
TORD Torodi Ar. Bea 53.15 156 **P 15 02 38.1 -0.9**
PDAR Pinedale Array 53.17 293 LR LR 15 24 58.7
comp=Z,51nm,21.8s,baz=76,slow=36
BOOM Boomskoye usch 53.95 66 P **P 15 02 45.4 +0.5**
BOOM pmax pmax
comp=Z,11nm,1.4s
BOOM Boomskoye usch 53.95 66 P **P 15 02 45.4 +0.5**
BOOM IAmb IAmb 15 02 51.6
comp=Z,11nm,1.4s
BTK Batken 53.95 72 P **P 15 02 45.6 +0.8**
BTK pmax pmax
comp=Z,34nm,1.5s
BTK Batken 53.95 72 **P 15 02 45.6 +0.8**
CHGR Chuyangaron 54.46 74 **P 15 02 49.0 +0.5**
GAR Garm 54.65 73 **P 15 02 51.0 +1.1**
MOY Mondy 54.65 42 *eP* **P 15 02 51.7 +2.0**
MOY pmax pmax
comp=Z,23nm,1.8s
TARG Taragay, Kyrgy 55.32 65 P **P 15 02 56.2 +1.1**
TARG IAmb IAmb 15 02 57.4
comp=Z,4.7nm,0.9s
TLY Talaya 55.39 40 *iP* **P 15 02 57.8 +2.8**
TLY pmax pmax
comp=Z,4.0nm,1.0s
ZAK Zakamensk 56.45 41 *eP* **P 15 03 03.7 +1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
KSH Kashi 56.49 68 P P 15 03 06.5 +3.3
KSH S **S 15 10 54.0 -1.0**
KSH pmax pmax
comp=Z,36nm,1.1s
KSH pmax pmax
comp=Z,120nm,4.4s
KSH LR LR
comp=N,150nm,5.8s
KSH LR LR
comp=E,130nm,7.5s
KSH LR LR
comp=Z,230nm,11.1s
WMQ Urumqi 57.22 56 *eP* P 15 03 11.5 +3.3
SONM Songino Array 59.63 40 P **P 15 03 25.7 +0.6**
comp=Z,0.9nm,0.8s,baz=330,slow=4.3,SNR=5.9
SONM Songino Array 59.63 40 P **P 15 03 24.9 -0.1**
ULN Ulaanbaatar 59.78 40 *ceP* **P 15 03 28.0 +1.9**
ULN pmax pmax
comp=Z,7.0nm,1.7s
NVAR Mina Array Bea 60.30 297 P **P 15 03 29.1 -0.8**
comp=Z,2.0nm,1.2s,baz=65,slow=5.8,SNR=3.5
NIL Nilore 60.45 74 P **P 15 03 29.7 -1.0**
NIL pmax pmax
comp=Z,9.0nm,0.9s
NIL Nilore 60.45 74 **P 15 03 29.7 -1.0**
NIL IAmb IAmb 15 03 36.1
comp=Z,9.1nm,0.9s
GTA Gaotai 65.29 49⇑ P **P 15 04 04.0 +1.0**
GTA pP sP 15 04 07.8 +3.4
GTA sP pP 15 04 10.5 +6.4
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,8.0s
GTA LR LR
comp=N,61nm,18.5s
GTA LR LR
comp=E,79nm,19.6s
GTA LR LR
comp=Z,63nm,17.8s
HHC Hu-ho-hao-te 67.50 40 *eP* **P 15 04 18.3 +1.2**
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,140nm,6.3s
KSRS Korea Array 74.64 28 LR LR 15 42 30.9
comp=Z,11nm,18.9s,baz=140,slow=40
NJ2 Nanjing 77.73 37 *eP* **P 15 05 18.8 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
CHTO Chiang Mai 83.80 59 P **P 15 05 50.4 -0.2**
CHTO pmax pmax
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 83.80 59 P **P 15 05 50.4 -0.2**
CHTO IAmb IAmb 15 05 52.2
comp=Z,3.5nm,1.1s
CMAR Chiang Mai Arr 84.12 59 P **P 15 05 52.4 +0.1**
comp=Z,0.8nm,0.4s,baz=324,slow=6.8,SNR=10.0
CMAR Chiang Mai Arr 84.12 59 *iP* **P 15 05 53.0 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
BOSA Boshof 98.77 143 LR LR 15 53 18.5
comp=Z,53nm,18.5s,baz=0.5,slow=36
ASAR Alice Springs 134.96 38 PKP **PKiKP 15 12 40.5 -1.1**
comp=Z,0.6nm,0.9s,baz=324,slow=1.4,SNR=4.9

IDC ***30*** *14:55:03.9±0.7, 37°.37N×98°.01W, h0km, mb4.0/4, mb1 4.2/9, mb1mx3.8/47, mbtmp3.9/9, ML3.8/5, MS3.5/2, Ms1 3.5/2, ms1mx2.8/42, Error ellipse: s-maj=11.1km s-min=10.4km az=150.0*
UNK ***30*** *14:55:04.7, 37°.22N×97°.96W, h4km*
NEIC ***30*** *14:55:04.7, 37°.24N×97°.97W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M_{rr}=5.90; $M_{\theta\theta}$5.38; $M_{\phi\phi}$0.51; $M_{r\theta}$2.07; $M_{\theta\phi}$1.44; $M_{\phi r}$2.35; Fault plane solution: $M_0$6.62000×10^14^ NP1:φ=240.62000°, δ58.64000°, λ-104.71000°. NP2:φ=87.40000°, δ34.32000°, λ-67.37000°. Principal axes: T 6.3542, Plg12.0000°, Azm341.0000°; N 0.5049, Plg13.0000°, Azm248.0000°; P -6.8591, Plg72.0000°, Azm115.0000°;*
NEIC ***30*** *14:55:04.7±0.9, 37°.22N±0°.04×97°.96W±0°.02, h3km±7km, mb_Lg4.0/168, Mwr3.8/26 Error ellipse: s-maj=5.6km s-min=1.6km az=165.0*
ANF ***30*** *14:55:04.0±0.3, 37°.26N×97°.92W, h5km, ML4.9/15, Error ellipse: s-maj=3.9km s-min=3.1km az=46.0*
ISC 30 14:55:04.1±0.8,**37°.26N**±0°.03×**97°.93W**±0°.03, **h8**km±5km, **n256,** σ0=**99**/241, **mb4.0**/4, **Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.07**	**308**	Pg	**Pg**	**14 55 06.3**	**+0.3**
KAN12				Sg	**Sg**	**14 55 07.1**	**-0.3**
KAN10	**Anthony SW Sta**	**0.19**	**224**	Pg	**Pg**	**14 55 07.8**	**-0.1**
KAN13	**South Haven SW**	**0.44**	**124**		**Pg**	**14 55 13.1**	**+0.5**
KAN13				Sg	**Sg**	**14 55 19.3**	**+0.9**
CROK	**Carrier**	**0.75**	**183**		**Pg**	**14 55 18.1**	**-0.4**
T35A	**Sooner Cattle**	**1.19**	**106**		**Pb**	**14 55 26.9**	**+0.1**
U32A	**Wister Ranch,**	**1.23**	**225**		**Pb**	**14 55 26.7**	**-0.8**
R32A	**Long Quarter,**	**1.32**	**332**	Pn	**Pb**	**14 55 29.1**	**0.0**
QUOK	**Quay**	**1.46**	**137**		**Pb**	**14 55 31.2**	**-0.3**
OK029	**Liberty Lake**	**1.51**	**165**		**Pn**	**14 55 31.8**	**+0.4**
OK029				IAmb_Lg		14 55 53.9	
BCOK	**Bluff Creek, N**	**1.62**	**171**		**Pn**	**14 55 33.3**	**+0.3**
OK005	**Luther M Schoo**	**1.71**	**159**		**Pb**	**14 55 35.1**	**-0.6**
OK025	**Westminster Rd**	**1.74**	**164**		**Pb**	**14 55 35.6**	**-0.7**
OKCFA	**Oklahoma City**	**1.88**	**168**		**Pn**	**14 55 37.2**	**+0.7**
OKCFA				IAmb_Lg		14 56 06.3	
OKCSW	**OKLAHOMA CITY**	**1.89**	**168**		**Pn**	**14 55 37.4**	**+0.7**
FNO	**Franklin**	**2.04**	**168**		**Pn**	**14 55 39.5**	**+0.7**
CBKS	**Cedar Bluff**	**2.11**	**318**	P	**Pn**	**14 55 41.1**	**+1.3**
CBKS				S	**Sn**	**14 56 07.1**	**+0.9**
CBKS	**Cedar Bluff**	**2.11**	**318**	Pn	**Pn**	**14 55 41.0**	**+1.3**
CBKS				IAmb_Lg		14 56 14.8	
KSU1	**Kansas State U**	**2.12**	**29**	P	**Pb**	**14 55 41.6**	**-1.0**
KSU1	**Kansas State U**	**2.12**	**29**	Pn	**Pb**	**14 55 41.7**	**-1.0**
KSU1				IAmb_Lg		14 56 15.7	
TUL1	**Leonard**	**2.19**	**127**	P	**Pn**	**14 55 42.0**	**+1.3**
TUL1				S	**Sn**	**14 56 09.4**	**+1.5**
TUL1	**Leonard**	**2.19**	**127**	Pn	**Pn**	**14 55 42.1**	**+1.4**
W35A	**Tecumseh**	**2.27**	**158**		**Pn**	**14 55 42.8**	**+0.9**
WMOK	**Wichita Mounta**	**2.61**	**196**	P	**Pn**	**14 55 47.4**	**+0.9**
WMOK				S	**Sn**	**14 56 19.5**	**+1.1**
WMOK	**Wichita Mounta**	**2.61**	**196**	Pn	**Pn**	**14 55 47.5**	**+0.9**
X34A	**Smith Ranch, M**	**2.65**	**178**		**Pn**	**14 55 48.5**	**+1.4**
U38A	**Gravette**	**2.96**	**105**		**Pn**	**14 55 52.9**	**+1.5**
U38A				IAmb_Lg		14 56 45.6	
HHAR	**Hobbs**	**3.35**	**106**		**Pn**	**14 55 58.2**	**+1.5**
HHAR				IAmb_Lg		14 56 54.8	
X37A	**Clayton**	**3.38**	**141**		**Pn**	**14 55 58.6**	**+1.5**
N33A	**J Bar K, Exete**	**3.50**	**6**		**Pn**	**14 55 59.7**	**+1.0**
S39A	**Bolivar**	**3.69**	**82**		**Pn**	**14 56 02.6**	**+1.2**
AMTX	**Amarillo**	**3.85**	**233**	S	**Sn**	**14 56 49.9**	**+0.7**
AMTX	**Amarillo**	**3.85**	**233**	Pn	**Pn**	**14 56 04.7**	**+1.0**
AMTX				IAmb_Lg		14 57 15.2	
W39A	**Magazine**	**3.93**	**120**	P	**Pn**	**14 56 05.4**	**+0.6**
W39A				S	**Sn**	**14 56 50.5**	**-0.6**
W39A	**Magazine**	**3.93**	**120**		**Pn**	**14 56 05.4**	**+0.6**
Z35A	**Perchaven, San**	**3.96**	**172**	Pn	**Pn**	**14 56 06.3**	**+1.2**
N35A	**Tabor**	**4.02**	**26**	Pn	**Pn**	**14 56 07.3**	**+1.4**
KSCO	**Kaye Shedlock'**	**4.09**	**297**		**Pn**	**14 56 08.5**	**+1.4**
BGNE	**Belgrade**	**4.15**	**358**	P	**Pn**	**14 56 08.8**	**+1.1**
BGNE				S	**Sn**	**14 56 56.3**	**-0.2**
BGNE	**Belgrade**	**4.15**	**358**		**Pn**	**14 56 08.9**	**+1.1**
U40A	**Yellville**	**4.17**	**101**	P	**Pn**	**14 56 09.3**	**+1.2**
U40A	**Yellville**	**4.17**	**101**	Pn	**Pn**	**14 56 09.5**	**+1.4**
P38A	**Dawn**	**4.19**	**54**	Pn	**Pn**	**14 56 09.4**	**+1.2**
P38A				IAmb_Lg		14 57 29.6	
MIAR	**Mount Ida**	**4.45**	**126**	P	**Pn**	**14 56 13.2**	**+1.3**
MIAR				S	**Sn**	**14 57 04.1**	**+0.2**
MIAR	**Mount Ida**	**4.45**	**126**	Pn	**Pn**	**14 56 12.9**	**+1.0**
MIAR				IAmb_Lg		14 57 35.3	
MGMO	**Mountain Grove**	**4.52**	**90**	Pn	**Pn**	**14 56 14.3**	**+1.4**
MGMO				IAmb_Lg		14 57 26.4	
R40A	**Maddies Statio**	**4.61**	**75**		**Pn**	**14 56 15.0**	**+1.0**
R40A				IAmb_Lg		14 57 39.4	
Z38A	**Mt. Pleasant**	**4.66**	**148**		**Pn**	**14 56 15.3**	**+0.5**
Z38A				IAmb_Lg		14 57 34.9	
ABTX	**Abilene, Hawle**	**4.83**	**197**	S	**Sn**	**14 57 12.7**	**-0.6**
ABTX	**Abilene, Hawle**	**4.83**	**197**	Pn	**Pn**	**14 56 17.6**	**+0.4**
L34A	**Svendsen Farm,**	**4.86**	**14**	Pn	**Pn**	**14 56 18.3**	**+0.9**
FCAR	**Ozark Folk Cen**	**4.87**	**105**		**Pn**	**14 56 18.3**	**+0.7**
FCAR				IAmb_Lg		14 57 47.1	
WHAR	**Wooly Hollow**	**4.96**	**112**	Pn	**Pn**	**14 56 19.5**	**+0.6**
X40A	**Basin Creek Fa**	**4.98**	**122**	P	**Pn**	**14 56 20.5**	**+1.4**
X40A				S	**Sn**	**14 57 16.4**	**-0.4**
X40A	**Basin Creek Fa**	**4.98**	**122**		**Pn**	**14 56 20.3**	**+1.2**
X40A				IAmb_Lg		14 57 39.0	
W41B	**Gary Mavity, V**	**5.04**	**113**	P	**Pn**	**14 56 21.1**	**+1.0**
W41B				S	**Sn**	**14 57 17.2**	**-1.3**
W41B	**Gary Mavity, V**	**5.04**	**113**		**Pn**	**14 56 21.0**	**+1.0**
N38A	**Joes South For**	**5.08**	**45**		**Pn**	**14 56 21.6**	**+1.0**
P40A	**Paris**	**5.15**	**62**		**Pn**	**14 56 22.6**	**+1.2**
P40A				IAmb_Lg		14 57 53.8	
UALR	**University of**	**5.16**	**117**		**Pn**	**14 56 22.9**	**+1.3**
UALR				IAmb_Lg		14 57 52.5	
T25A	**Trinidad**	**5.17**	**271**	P	**Pn**	**14 56 22.5**	**+0.5**
T25A	**Trinidad**	**5.17**	**271**	Pn	**Pn**	**14 56 22.4**	**+0.4**
T25A				IAmb_Lg		14 57 53.9	
WHTX	**Lake Whitney,**	**5.27**	**176**	P	**Pn**	**14 56 23.6**	**+0.5**
WHTX				S	**Sn**	**14 57 22.6**	**-1.4**
WHTX	**Lake Whitney,**	**5.27**	**176**	Pn	**Pn**	**14 56 23.4**	**+0.3**
WLAR	**White Oak Lake**	**5.30**	**131**		**Pn**	**14 56 24.5**	**+0.9**
WLAR				IAmb_Lg		14 58 04.5	
CCM	**Cathedral Cave**	**5.37**	**79**	P	**Pn**	**14 56 25.0**	**+0.6**
CCM				S	**Sn**	**14 57 25.8**	**-0.6**
CCM	**Cathedral Cave**	**5.37**	**79**	Pn	**Pn**	**14 56 25.2**	**+0.7**
CCM				IAmb_Lg		14 58 05.6	
K31A	**O'Neill**	**5.40**	**354**	Pn	**Pn**	**14 56 25.8**	**+0.9**
T42A	**Van Buren**	**5.47**	**90**		**Pn**	**14 56 26.5**	**+0.7**
T42A				IAmb_Lg		14 57 55.9	
237A	**Washetta, Mont**	**5.53**	**161**		**Pn**	**14 56 26.8**	**+0.1**
237A				IAmb_Lg		14 58 10.0	
LCAR	**Lake Charles**	**5.58**	**100**	Pn	**Pn**	**14 56 27.9**	**+0.6**
LCAR				IAmb_Lg		14 58 04.9	
Z41A	**Richland Creek**	**5.79**	**132**	S	**Sn**	**14 57 35.0**	**-1.8**
Z41A	**Richland Creek**	**5.79**	**132**	Pn	**Pn**	**14 56 30.9**	**+0.7**
Z41A				IAmb_Lg		14 58 21.4	
SCIA	**State Center**	**5.90**	**37**	P	**Pn**	**14 56 32.9**	**+1.1**
SCIA				S	**Sn**	**14 57 39.4**	**-0.2**
SCIA	**State Center**	**5.90**	**37**		**Pn**	**14 56 32.7**	**+0.9**
Q24A	**Divide**	**5.94**	**289**	S	**Sn**	**14 57 40.8**	**-0.3**
Q24A	**Divide**	**5.94**	**289**		**Pn**	**14 56 33.2**	**+0.6**
Q24A				IAmb_Lg		14 58 19.0	
PBMO	**Poplar Bluff**	**6.02**	**92**		**Pn**	**14 56 34.3**	**+0.8**
PBMO				IAmb_Lg		14 58 14.8	
CCAR	**Cane Creek**	**6.02**	**122**	Pn	**Pn**	**14 56 34.3**	**+0.8**
CCAR				IAmb_Lg		14 58 27.0	
SDCO	**Great Sand Dun**	**6.04**	**277**	Pn	**Pn**	**14 56 34.1**	**+0.1**
SDCO				IAmb_Lg		14 58 24.2	
NATX	**Nacogdoches**	**6.11**	**153**	S	**Sn**	**14 57 42.3**	**-2.5**
NATX	**Nacogdoches**	**6.11**	**153**	Pn	**Pn**	**14 56 34.4**	**-0.3**
NATX				IAmb_Lg		14 58 34.0	
SLM	**Saint Louis**	**6.24**	**75**	Pn	**Pn**	**14 56 37.1**	**+0.7**

X43A	Marvell	6.34	113	IAmb_Lg				14 58 27.4	
	comp=Z,302nm,0.8s								
LPAR	Lepanto	6.37	103	Pn		Pn		14 56 38.8	+0.6
435B	Jarrell	6.46	177	IAmb_Lg				14 58 32.1	
	comp=Z,217nm,0.8s								
N41A	Harden Midland	6.50	56	Pn		Pn		14 56 40.6	+0.5
ISCO	Idaho Springs	6.54	295	Pn		Pn		14 56 41.5	+0.8
ISCO				IAmb_Lg				14 58 35.7	
	comp=Z,159nm,0.9s								
ECSD	EROS Data Cent	6.55	8	P		Pn		14 56 41.1	+0.4
	baz=189,SNR=14								
ECSD				S		Sn		14 57 53.8	-1.8
	baz=189								
ECSD	EROS Data Cent	6.55	8	Pn		Pn		14 56 41.0	+0.4
ECSD				IAmb_Lg				14 58 33.9	
	comp=Z,172nm,0.8s								
K38A	Parkersburg	6.69	35			Pn		14 56 42.7	+0.1
S44A	Carbondale	6.92	84			Pn		14 56 46.3	+0.6
S44A				IAmb_Lg				14 58 53.6	
	comp=Z,300nm,0.7s								
JCT	Junction City	6.94	193	Pn		Pn		14 56 46.4	+0.3
JCT				IAmb_Lg				14 58 49.0	
	comp=Z,169nm,0.8s								
GLAT	Glass	7.01	95	Pn		Pn		14 56 48.2	+1.2
HICK	Hickman	7.01	93	Pn		Pn		14 56 47.9	+0.9
P43A	Skaggs, Pawnee	7.02	68	Pn		Pn		14 56 47.7	+0.6
P43A				IAmb_Lg				14 58 55.7	
	comp=Z,306nm,0.9s								
143A	Socs Landing,	7.02	128	Pn		Pn		14 56 48.2	+1.0
143A				IAmb_Lg				14 58 51.0	
	comp=Z,232nm,0.8s								
L40A	Anamosa	7.06	45			Pn		14 56 48.6	+0.9
PHWY	Pilot Hill	7.10	307	Pn		Pn		14 56 49.1	+0.6
PHWY				IAmb_Lg				14 59 00.4	
	comp=Z,121nm,0.8s								
N23A	Red Feather La	7.21	303	P		Pn		14 56 51.0	+0.9
	baz=118								
N23A	Red Feather La	7.21	303	Pn		Pn		14 56 50.7	+0.6
SUSD	Miller	7.22	354	S		Sn		14 58 08.9	-3.2
	baz=174								
SUSD	Miller	7.22	354	IAmb_Lg				14 59 13.4	
	comp=Z,318nm,1.1s								
Q44A	Meyer Farm, Va	7.22	74			Pn		14 56 50.9	+1.0
ANMO	Albuquerque	7.28	254	IAmb_Lg				14 59 03.8	
	comp=Z,29nm,0.8s								
W45A	Hickory Valley	7.37	104	Pn		Pn		14 56 53.1	+1.1
OXF	Oxford	7.44	109	P		Pn		14 56 53.2	+0.3
	baz=294,SNR=13								
OXF	Oxford	7.44	109	Pn		Pn		14 56 53.2	+0.3
OXF				IAmb_Lg				14 59 08.2	
	comp=Z,287nm,0.9s								
HKT	Hockley	7.49	166	IAmb_Lg				14 59 10.4	
	comp=Z,25nm,1.1s								
HDIL	Hopedale	7.50	61	P		Pn		14 56 54.7	+1.0
	baz=246,SNR=24								
HDIL	Hopedale	7.50	61			Pn		14 56 54.6	+0.9
HDIL				IAmb_Lg				14 59 03.9	
	comp=Z,237nm,0.8s								
Y45A	Yeager Farm, C	7.63	114			Pn		14 56 56.8	+1.3
Y45A				IAmb_Lg				14 59 20.2	
	comp=Z,206nm,0.8s								
L42A	Oliver, Polo	7.95	51	Pn		Pn		14 57 00.5	+0.6
O44A	Mansfield	7.95	66	Pn		Pn		14 57 00.7	+0.8
O44A				IAmb_Lg				14 59 16.7	
	comp=Z,186nm,0.8s								
Y22D	IRIS PASSCAL I	7.97	249	Pn		Pn		14 57 00.8	+0.4
Y22D				IAmb_Lg				14 59 39.2	
	comp=Z,155nm,1.0s								
JFWS	Jewell Farm	8.16	44	P		Pn		14 57 03.1	+0.3
	baz=229,SNR=11								
JFWS	Jewell Farm	8.16	44			Pn		14 57 03.1	+0.3
USIN	University of	8.18	82	Pn		Pn		14 57 03.5	+0.4
USIN				IAmb_Lg				14 59 34.6	
	comp=Z,267nm,1.1s								
WVT	Waverly	8.19	95	P		Pn		14 57 03.1	-0.2
	baz=281								
WVT	Waverly	8.19	95	Pn		Pn		14 57 03.4	+0.1
WVT				IAmb_Lg				14 59 28.4	
	comp=Z,106nm,0.7s								
RSSD	Black Hills	8.28	328	P		Pn		14 57 06.4	+1.8
	baz=144								
RSSD	Black Hills	8.28	328	IAmb_Lg				14 59 50.4	
	comp=Z,85nm,0.8s								
MNTX	Cornudas Mount	8.28	230	P		Pn		14 57 04.8	+0.3
	baz=46,SNR=9.4								
MNTX	Cornudas Mount	8.28	230	Pn		Pn		14 57 04.9	+0.5
MNTX				IAmb_Lg				14 59 32.9	
	comp=Z,143nm,1.1s								
PLAL	Pickwick Lake	8.29	103			Pn		14 57 05.0	+0.4
PLAL				IAmb_Lg				14 59 26.3	
	comp=Z,95nm,0.8s								
735A	Kenedy	8.38	179	IAmb_Lg				14 59 49.3	
	comp=Z,98nm,1.0s								
RWWY	Rawlins	8.43	305	IAmb_Lg				14 59 46.9	
	comp=Z,109nm,0.8s								
K22A	Casper	8.52	312	P		Pn		14 57 08.7	+0.8
	baz=127								
K22A	Casper	8.52	312			Pn		14 57 08.2	+0.4
K22A				IAmb_Lg				14 59 49.1	
	comp=Z,152nm,0.9s								
PV02	Paradox Valley	8.61	280	IAmb_Lg				14 59 45.5	
	comp=Z,114nm,1.3s								
146A	Union	8.62	120	IAmb_Lg				14 59 45.4	
	comp=Z,87nm,0.7s								
I40A	Norwalk	8.65	38			Pn		14 57 10.3	+0.8
I40A				IAmb_Lg				14 59 48.0	
	comp=Z,145nm,0.8s								
T47A	Sharon Grove	8.65	89	Pn		Pn		14 57 10.7	+1.1
T47A				IAmb_Lg				14 59 44.7	
	comp=Z,160nm,0.7s								
F33A	5 Mile Ranch,	8.66	8	IAmb_Lg				14 59 38.5	
	comp=Z,171nm,1.1s								
PV12	Saucer Basin,	8.67	280	IAmb_Lg				14 59 47.5	
	comp=Z,98nm,1.0s								
M44A	Midewin, Midew	8.70	59	Pn		Pn		14 57 10.8	+0.5
PV11	David Mesa, Pa	8.73	280	IAmb_Lg				14 59 46.2	
	comp=Z,96nm,1.0s								
P46A	Rosedale	8.74	71	Pn		Pn		14 57 12.1	+1.3
P46A				IAmb_Lg				14 59 53.1	
	comp=Z,222nm,0.8s								
PV20	West Nyswonger	8.80	280	Pn		Pn		14 57 12.0	+0.2
PV23	Carpenter Ridg	8.85	281	IAmb_Lg				14 59 51.8	
	comp=Z,116nm,1.2s								
SPMN	Marine on St.	8.85	24	P		Pn		14 57 12.5	+0.3
	baz=208								
SPMN	Marine on St.	8.85	24	Pn		Pn		14 57 12.1	-0.1
SPMN				IAmb_Lg				14 59 54.1	
	comp=Z,118nm,0.8s								
PV14	Lion Creek, Pa	8.85	281	IAmb_Lg				14 59 56.6	
	comp=Z,84nm,1.2s								
833A	Chaparral WMA,	8.99	188	IAmb_Lg				15 00 02.7	
	comp=Z,84nm,1.1s								
HQIL	Hanson Quary C	9.01	57	IAmb_Lg				15 00 04.3	
	comp=Z,126nm,0.8s								
SFIN	Lafayette	9.01	66	P		Pn		14 57 14.9	+0.4
	baz=253,SNR=8.0								
SFIN	Lafayette	9.01	66			Pn		14 57 15.8	+1.3
SFIN				IAmb_Lg				14 59 47.7	
	comp=Z,147nm,0.7s								
Z47A	Carrollton	9.03	114	IAmb_Lg				15 00 06.8	
	comp=Z,88nm,0.8s								
V48A	Smith Brothers	9.07	96	IAmb_Lg				14 59 53.7	
	comp=Z,152nm,1.1s								
346A	Big Creek Wild	9.12	127	IAmb_Lg				15 00 02.8	
	comp=Z,125nm,0.7s								
K43A	Burlington	9.16	51	IAmb_Lg				15 00 16.0	
	comp=Z,166nm,0.8s								
BLO	Bloomington	9.18	75			Pn		14 57 17.1	+0.3
BLO				IAmb_Lg				14 59 56.6	
	comp=Z,226nm,0.8s								
TX31	Lajitas Ar. Si	9.24	213			Pn		14 57 18.1	+0.3
TX32	Lajitas Array	9.24	213	Pn		Pn		14 57 18.0	+0.2
TXAR	Lajitas Array	9.24	213	Pn		Pn		14 57 17.9	+0.1
	comp=Z,0.6nm,0.3s,baz=28,slow=11,SNR=19								
TXAR				Pg				14 57 55.0	
	comp=Z,0.8nm,0.3s,baz=34,slow=14,SNR=11								
TXAR				Lg		Lg		14 59 51.7	
	comp=Z,1.2nm,0.3s,baz=40,slow=28,SNR=6.7								
TXAR	Lajitas Array	9.24	213	Pn		Pn		14 57 18.0	+0.3
WCI	Wyandotte Cave	9.27	80	P		Pn		14 57 17.9	-0.1
	baz=267								
WCI	Wyandotte Cave	9.27	80	IAmb_Lg				15 00 14.8	
	comp=Z,111nm,0.8s								
CLTN	Cedars of Leba	9.39	94	IAmb_Lg				15 00 13.9	
	comp=Z,87nm,0.8s								
E28A	Huff	9.54	348	IAmb_Lg				15 00 09.8	
	comp=Z,142nm,0.8s								
I42A	Draeger Farm,	9.54	43	IAmb_Lg				15 00 22.1	
	comp=Z,103nm,0.7s								
U49A	Red Boiling Sp	9.77	91			Pn		14 57 25.9	+1.1
U49A				IAmb_Lg				15 00 35.0	
	comp=Z,105nm,1.1s								
G40A	Rib Lake	9.89	34	IAmb_Lg				15 00 22.4	
	comp=Z,69nm,0.8s								
LRAL	Lakeview Retre	9.89	112	P		Pn		14 57 26.9	+0.3
	baz=298								
LRAL	Lakeview Retre	9.89	112	Pn		Pn		14 57 26.9	+0.3
SWET	Sewanee	9.91	98			Pn		14 57 27.8	+1.0
SWET				IAmb_Lg				15 00 21.3	
	comp=Z,72nm,0.8s								
Y49A	Blount Mountai	9.98	106	IAmb_Lg				15 00 26.3	
	comp=Z,106nm,0.8s								
P48A	Milroy	10.07	74	Pn		Pn		14 57 29.1	+0.2
L46A	Eue Claire	10.15	59	Pn		Pn		14 57 30.6	+0.5
FPAL	Fort Paine	10.36	101	Pn		Pn		14 57 33.4	+0.4
T50A	Nancy	10.46	87			Pn		14 57 34.7	+0.4
PD31	Pinedale Array	10.47	305			Pn		14 57 34.4	-0.3
PDAR	Pinedale Array	10.47	305	Pn		Pn		14 57 33.9	-0.9
	comp=Z,0.8nm,0.3s,baz=114,slow=16,SNR=14								
PDAR				Pg				14 58 18.4	
	comp=Z,1.4nm,0.3s,baz=116,slow=23,SNR=6.5								
PDAR				Lg		Lg		15 00 22.5	
	comp=Z,1.5nm,0.3s,baz=110,slow=18,SNR=4.4								
PDAR	Pinedale Array	10.47	305	Pn		Pn		14 57 34.4	-0.3
BW06	Boulder Array	10.47	305	P		Pn		14 57 34.5	-0.3
	baz=118,SNR=6.4								
BW06	Boulder Array	10.47	305			Pn		14 57 34.4	-0.3
H43A	Windswept, Lux	10.54	44	Pn		Pn		14 57 35.4	0.0
R50A	Paris	10.82	80			Pn		14 57 40.1	+0.8
X51A	Calhoun	10.94	100			Pn		14 57 41.4	+0.5
CPCT	Cooper Cave	10.96	95	Pn		Pn		14 57 41.6	+0.3
O49A	Covington	11.02	70	Pn		Pn		14 57 41.3	-0.7
LAO	LASA Array	11.26	329	P		Pn		14 57 44.9	-0.3
	baz=144								
LAO	LASA Array	11.26	329			Pn		14 57 45.2	-0.1
N49A	Columbus Grove	11.29	67	Pn		Pn		14 57 45.2	-0.5
HWUT	Hardware Ranch	11.40	297	Pn		Pn		14 57 47.1	-0.3
S51A	Beattyville	11.41	84			Pn		14 57 47.5	+0.2
L48A	N Adams	11.41	62	Pn		Pn		14 57 47.4	0.0
TKL	Tuckaleechee C	11.51	94	Pn		Pn		14 57 48.6	-0.2
	comp=Z,2.0nm,0.3s,baz=233,slow=6.4,SNR=20								
TKL				Lg		Lg		15 01 01.8	
	comp=Z,4.8nm,0.3s,baz=23,slow=21,SNR=9.7								
B35A	Bob, Littlefor	11.52	14	Pn		Pn		14 57 46.8	-2.0
TZTN	Tazewell	11.54	89	Pn		Pn		14 57 49.8	+0.6
RLMT	Red Lodge	11.60	316	P		Pn		14 57 50.0	-0.1
	baz=129,SNR=6.9								
RLMT	Red Lodge	11.60	316	Pn		Pn		14 57 50.1	+0.1
V52A	Sevierville	11.62	93			Pn		14 57 50.5	+0.3
Q51A	Peebles	11.62	77	Pn		Pn		14 57 49.6	-0.6
J47A	Sunmer	11.66	55	Pn		Pn		14 57 50.4	-0.3
EYMN	Ely	11.68	22	P		Pn		14 57 48.5	-2.6
	baz=206								
EYMN	Ely	11.68	22	Pn		Pn		14 57 48.7	-2.4
D41A	Chassel	12.00	32	Pn		Pn		14 57 53.7	-1.7
DGMT	Dagmar	12.11	340	P		Pn		14 57 56.6	-0.3
	baz=156,SNR=6.8								
DGMT	Dagmar	12.11	340	Pn		Pn		14 57 56.7	-0.1
GCMT	Greycliff	12.24	318			Pn		14 57 58.7	0.0
M50A	Fremont	12.25	66	Pn		Pn		14 57 58.1	-0.7
V53A	Saluda	12.28	93			Pn		14 57 59.1	-0.2
T53A	Wise	12.30	87	P		Pn		14 57 58.9	-0.7
	baz=276								
O51A	Pataskala	12.32	72	P		Pn		14 57 58.5	-1.2
	baz=261,SNR=7.5								
BG3	Lake Jocassee	12.34	96			Pn		14 58 00.1	0.0
GOGA	Godfrey	12.42	104	P		Pn		14 58 00.5	-0.6
	baz=292								
GOGA	Godfrey	12.42	104	Pn		Pn		14 58 00.9	-0.2
Q52A	Bidwell	12.46	77	P		Pn		14 58 01.1	-0.5
	baz=267								
S53A	Williamson	12.57	83	P		Pn		14 58 02.6	-0.6
	baz=273								
P52A	Corning	12.61	74	P		Pn		14 58 02.6	-1.1
	baz=264								
P52A	Corning	12.61	74	Pn		Pn		14 58 03.1	-0.6
N51A	Ashland	12.63	68	P		Pn		14 58 03.5	-0.5
	baz=258								
N51A	Ashland	12.63	68			Pn		14 58 04.0	0.0
O52A	Adamsville	12.90	72	Pn		Pn		14 58 08.5	+0.8
W54A	Cherokee Point	12.91	95	P		Pn		14 58 07.4	-0.5
	baz=284,SNR=6.8								
U54A	Nelsons Funny	12.92	88	P		Pn		14 58 07.7	-0.4
	baz=278,SNR=6.0								
U54A	Nelsons Funny	12.92	88			Pn		14 58 07.7	-0.4
Q53A	Leroy	13.03	78	P		Pn		14 58 08.3	-1.2
	baz=268								
T54A	Tazewell	13.05	86	P		Pn		14 58 08.9	-0.9
	baz=276								
ULM	Lac du Bonnet	13.07	6	Pn		Pn		14 58 06.1	-3.9
	comp=Z,0.9nm,0.3s,baz=178,slow=10,SNR=5.8								
ULM				Sn		Sn		15 00 24.6	-11
	comp=Z,2.5nm,0.3s,baz=105,slow=19,SNR=6.9								
ULM				Lg		Lg		15 01 43.4	
	comp=Z,1.8nm,0.3s,baz=262,slow=22,SNR=1.8								
P53A	Whipple	13.17	75	P		Pn		14 58 10.6	-0.8
	baz=265								
P53A	Whipple	13.17	75	Pn		Pn		14 58 10.6	-0.8
S54A	Dingess, Beckl	13.21	83	P		Pn		14 58 11.1	-0.9
	baz=273								
S54A	Dingess, Beckl	13.21	83			Pn		14 58 11.1	-0.9
PAULI	Pauline	13.27	96			Pn		14 58 11.8	-0.9
O53A	New Philadelph	13.39	72	P		Pn		14 58 13.3	-1.1
	baz=262								
V55A	Taylorsville	13.52	91	P		Pn		14 58 15.1	-1.0
	baz=281,SNR=6.9								
V55A	Taylorsville	13.52	91			Pn		14 58 15.9	-0.2
U55A	TA2, Sparta	13.54	88	P		Pn		14 58 15.7	-0.8
	baz=278,SNR=9.0								
KMSC	Kings Mountain	13.57	94	Pn		Pn		14 58 15.6	-1.3
Q54A	Coxs Mills	13.58	77	Pn		Pn		14 58 15.6	-1.3
E46A	Sault Ste Mari	13.63	44	Pn		Pn		14 58 15.4	-2.2
N53A	Lisbon	13.75	70	P		Pn		14 58 16.8	-2.5
	baz=260								
N53A	Lisbon	13.75	70	Pn		Pn		14 58 17.0	-2.4
O54A	Avella	14.02	73			Pn		14 58 23.6	+0.7
BIRD	Birdtown, Kers	14.39	95	Pn		Pn		14 58 26.6	-1.5
N54A	Moraine State	14.41	70	Pn		Pn		14 58 26.6	-1.8
M54A	Oil Creek Stat	14.75	68	Pn		Pn		14 58 32.3	-0.6
RCRC	Randolf Colleg	14.85	84	Pn		Pn		14 58 33.0	-1.3
Q56A	Snyder Ridge,	14.86	77	P		P		14 58 41.5	+1.2
T57A	Hurt	14.91	85	Pn		Pn		14 58 34.1	-1.0
T57A				P		P		14 58 42.5	+1.6
SADO	Sadowa	16.02	56	Lg		Lg		15 03 26.9	
	comp=Z,1.7nm,0.3s,baz=350,slow=19,SNR=5.2								
NVAR	Mina Array Bea	16.14	280	Pn		P		14 58 53.7	-1.0
	comp=Z,0.1nm,0.3s,baz=189,slow=8.7,SNR=1.7								
NEW	Newport	17.82	314	LR		LR		15 06 17.3	
	comp=Z,66nm,19.4s,baz=96,slow=38								
FRNY	Flat Rock	19.81	60	P		P		14 59 34.3	-0.7
MOQ	Mont Orford	20.84	59	P		P		14 59 46.7	+0.5
D62A	Allapoint, All	23.43	56	P		P		15 00 15.6	+2.0
E63A	Oxbow	23.70	58	P		P		15 00 17.9	+1.7
BATG	Bathurst New B	25.46	57	P		P		15 00 33.3	+0.9
IL31		39.72	330	P		P		15 02 38.0	+1.4
ILAR	Eielson Array	39.72	330	P		P		15 02 37.7	+1.1
	comp=Z,1.9nm,0.9s,baz=105,slow=6.5,SNR=14								
SUA	Susitna One	40.51	324	P		P		15 02 43.6	+0.2
RPN	Rapa Nui	64.93	191	LR		LR		15 28 24.0	
	comp=Z,61nm,18.6s,baz=120,slow=31								
ESDC	Sonseca Array	70.08	55	P		P		15 06 17.4	+0.6
	comp=Z,0.5nm,0.8s,baz=295,slow=6.5,SNR=4.8								
FINES	FINESS Array B	71.69	25	P		P		15 06 26.9	+0.9
	comp=Z,1.7nm,0.7s,baz=316,slow=13,SNR=3.4								
AKASG	Malin Array Be	80.86	31	P		P		15 07 18.7	+0.3
	comp=Z,2.4nm,0.8s,baz=343,slow=5.5,SNR=4.3								

*IDC **30** 15:12:39.5±0.8, 42°.99N×18°.34E, h0km, mb3.7/8, mb1 4.0/20, mb1mx3.8/49, mbtmp3.8/20, ML3.6/12, MS3.2/6, Ms1 3.2/6, ms1mx2.9/43, Error ellipse: s-maj=13.3km s-min=10.4km az=38.0*

*BEO **30** 15:12:40.5±0.5, 43°.02N×18°.16E, h9km±2km, ML4.0/10*

*MOS **30** 15:12:41.8±1.3, 43°.02N×18°.25E, h26km, mb4.4/5, Error ellipse: s-maj=7.2km s-min=3.8km az=96.4*

*MED_RC **30** 15:12:41.0±0.5, 43°.06N×18°.35E, h34km±2km, MW4.3/8, Moment Tensor Solution.Mantle waves: s8,c12; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.79±.49; $M_{\theta\theta}$0.84±.61; $M_{\phi\phi}$1.94±.55; $M_{r\theta}$1.15±.16; $M_{\theta\phi}$1.45±.31; $M_{r\phi}$0.79±.20; Best double couple: $M_0$3.19000×10^{15} NP1:ϕ_s25.00000°, δ33.00000°, λ-106.00000°. NP2: ϕ_s224.00000°, δ58.00000°, λ-80.00000°. Principal axes: T 3.2300, Plg12.0000°, Azm306.0000°; N -0.0800, Plg9.0000°, Azm38.0000°; P -3.1500, Plg75.0000°, Azm162.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*SKO **30** 15:12:41.3, 43°.06N×18°.24E, h0km*

*PDG **30** 15:12:41.3±1.0, 43°.06N×18°.34E, h12km±1km, MD3.9/14, ML3.9/13, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*

*LDG **30** 15:12:42.9±0.4, 42°.96N×18°.33E, h10km, Ml4.2/14, Error ellipse: s-maj=11.0km s-min=7.9km az=36.0*

*RHSSO **30** 15:12:42.5±0.2, 43°.06N×18°.40E, h6km±2km, ML4.1/9*

*NEIC **30** 15:12:42.6±1.8, 43°.01N±0°.04×18°.38E±0°.05, h18km±4km, Error ellipse: s-maj=6.1km s-min=5.1km az=220.0*

*PRU **30** 15:12:44.4±0.0, 43°.06N×18°.40E, h10km, M4.2*

*BGR **30** 15:12:48.2±0.4, 43°.32N×18°.28E, h33km, ML4.2, Error ellipse: s-maj=7.8km s-min=4.4km az=80.0*

ISC 30 15:12:40.6±1.0, 43°.06N±0°.02×18°.32E±0°.02, h4km±6km, n362, σ2s06/461, mb4.1/19, 40C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRY	Bratogost	0.23	134	⇑iPg		Pg		15 12 46.4	+1.4
BRY				iSg		Sg		15 12 49.9	+1.8
BRY	Bratogost	0.23	134	⇑iPg		Pg		15 12 46.5	+1.4
BRY				eSg		Sg		15 12 49.9	+1.8
DBRK	Dubrovnik	0.41	198	iPg		Pg		15 12 49.8	+1.3
DBRK				Sg		Sb		15 12 56.6	-0.3
UPM	Unac-Piva	0.46	71	⇓iPg		Pg		15 12 50.0	+0.7
UPM				iSg		Sb		15 12 57.0	-1.5
UPM	Unac-Piva	0.46	71	ePg		Pg		15 12 50.1	+0.7
UPM				eSg		Sg		15 12 56.6	+1.3
NKME	Niksic	0.55	122	⇑iPg		Pg		15 12 51.5	+0.3
NKME				iSg		Sb		15 13 00.1	-1.0
NKY	Niksic	0.56	116	⇑iPg		Pg		15 12 51.7	+0.4
NKY				iSg		Sb		15 13 00.0	-1.3
HCY	Herceg Novi	0.63	168	⇑iPg		Pg		15 12 53.1	+0.5
HCY				iSg		Sb		15 13 03.1	-0.1
HCY	Herceg Novi	0.63	168	ePg		Pg		15 12 53.3	+0.7
HCY				eSg		Sb		15 13 03.0	-0.1
CEME	Cevo	0.68	139	⇑iPg		Pg		15 12 53.6	0.0
CEME				iSg		Sb		15 13 04.6	-0.1
PLE	Pljevlja	0.83	71	⇑iPg		Pg		15 12 56.8	+0.3
PLE				iSg		Sb		15 13 09.3	+0.1
BUM	Brajici-Budva	0.87	150	⇑iPg		Pg		15 12 57.5	+0.2
BUM				iSg		Sn		15 13 11.2	-1.6
KOME	Kolasin	0.91	103	⇑iPg		Pg		15 12 57.5	-0.5
KOME				iSg		Sn		15 13 12.1	-1.6
PDG	Podgorica	0.94	132	ePg		Pg		15 12 58.3	-0.3
PDG				eSg		Sb		15 13 12.3	+0.2
PDG	Podgorica	0.94	132	⇑P		Pg		15 12 58.2	-0.3
PDG				⇓S		Sb		15 13 12.4	+0.4
PDG	Podgorica	0.94	132	⇑iPg		Pg		15 12 57.7	-0.8
PDG				eSg		Sb		15 13 11.5	-0.6
PDG	Podgorica	0.94	132			Sb		15 13 12.4	+0.4
PDG	Podgorica	0.94	132			Pg		15 12 57.2	-1.3
TTG	Podgorica	0.94	132	⇑iPg		Pg		15 12 58.0	-0.5
TTG	Podgorica	0.94	132	ePg		Pg		15 12 58.5	0.0
TTG				iSg		Sn		15 13 12.9	-1.4
RUDO	Rudo	0.95	54	ePg		Pg		15 12 58.6	-0.2
RUDO				eSg		Sb		15 13 11.9	-0.7
RICI	Ricice	0.97	297	ePg		Pn		15 13 00.8	-0.2
RICI				Sg		Sn		15 13 16.8	+1.7
MAKA	Makarska	0.97	284	ePg		Pn		15 13 01.5	+0.5
MAKA				Sg		Sn		15 13 16.1	+0.9
DRME	Dracevica, Mon	1.08	143	ePg		Pg		15 13 01.1	-0.2
DRME				iSg		Sn		15 13 18.3	+0.3
DRME	Dracevica, Mon	1.08	143	⇑iPg		Pg		15 13 00.8	-0.5
DRME				eSg		Sb		15 13 16.6	+0.3
LSTV	Lastovo	1.08	255	ePg		Pn		15 13 03.6	+1.1
LSTV				Sg		Sn		15 13 18.8	+0.8
HAPS	Han Pijesak,Bl	1.12	24	ePg		Pb		15 13 02.0	-0.7
HAPS				eSg		Sn		15 13 19.5	+0.3
HAPS	Han Pijesak,Bl	1.12	24	⇑iPg		Pb		15 13 02.0	-0.7
HAPS				eS

BLKB	Belogradchik	3.23	78	⇑S	Sn	15 14 11.4 +0.4
BLKB	Belogradchik	3.23	78		Sn	15 14 11.4 +0.4
ZAG	Zagreb	3.23	330	*e*Pn	Pn	15 13 35.0 +2.9
OZLJ	Ozalj	3.27	322	*e*Pn	Pn	15 13 35.7 +3.1
BOJS	Bojanci	3.29	319	*i* Pn	Pn	15 13 35.0 +2.2
BOJS				*e*Sn	Sn	15 14 15.2 +2.8
	comp=Z,898nm,1.2s					
PTJ	Puntijarka	3.31	330	*i* Pn	Pn	15 13 35.9 +2.7
PTJ				Sn	Sn	15 14 16.4 +3.5
KALN	Kalnik	3.35	337	*e*Pn	Pn	15 13 36.6 +3.0
INTR	Introdacqua	3.42	254	Pn	Pn	15 13 35.1 +0.3
CRES	Cresnjev	3.44	324	*e*Pn	Pn	15 13 36.5 +1.6
CRES				*e*Sn	Sn	15 14 17.8 +1.7
PAOL	Paolisi	3.45	235	Pn	Pn	15 13 36.2 +1.1
HERR	Herculane	3.48	57	⇓P	Pn	15 13 35.6 +0.2
HERR	Herculane	3.48	57		Pn	15 13 35.6 +0.2
BZS	Buzias	3.48	42	*e*Pn	Pn	15 13 35.2 -0.3
BZS	Buzias	3.48	42	⇑P	Pn	15 13 34.9 -0.6
BZS	Buzias	3.48	42	P	Pn	15 13 34.9 -0.6
BZS	Buzias	3.48	42		Pn	15 13 34.9 -0.6
RIY	Rijeka	3.57	311	*e*Pg	Pb	15 13 46.1 +1.9
RIY				Sn	Sn	15 14 22.9 +3.7
VAY	Valandovo	3.61	117	*e*Pn	Pn	15 13 39.0 +1.8
VAY	Valandovo	3.61	117	*i* Pn	Pn	15 13 39.1 +1.9
VAY				*i* Sn	Sb	15 14 30.9 +1.9
	comp=N,368nm,1.0s					
VAY				*e*Lg	Lg	15 14 45.4
AQU	L'Aquila	3.69	261	P	Pn	15 13 39.8 +1.4
AQU	L'Aquila	3.69	261	*e*Pn	Pn	15 13 40.8 +2.4
AQU				*e*Sn	Sn	15 14 24.1 +1.8
AQU	L'Aquila	3.69	261		Pn	15 13 39.8 +1.4
NRCA	Norcia	3.83	268		Pn	15 13 41.4 +1.1
IGT	Igoumenitsa	3.84	156	*e*Pn	Pn	15 13 40.3 -0.1
CEY	Cerknica	3.87	315	⇑*i*Pn	Pn	15 13 43.4 +2.6
CEY				*e*Sn	Sn	15 14 28.2 +1.6
SRE	Strehaia	3.88	64	⇑P	Pn	15 13 41.8 +0.8
SRE	Strehaia	3.88	64	P	Pn	15 13 41.8 +0.8
SRE	Strehaia	3.88	64		Pn	15 13 41.8 +0.8
GROS	Grobnik	3.95	330	⇑*i*Pn	Pn	15 13 43.0 +1.0
GROS				*e*Sn	Sn	15 14 29.8 +1.1
LJU	Ljubljana	4.03	319	*e*Pn	Pn	15 13 45.4 +2.4
LJU	Ljubljana	4.03	319	⇑*i*Pn	Pn	15 13 45.2 +2.2
LJU				*e*Sn	Sn	15 14 31.9 +1.3
TIP	Timpagrande	4.05	197	⇓P	Pn	15 13 43.1 -0.3
TIP	Timpagrande	4.05	197		Pn	15 13 43.0 -0.4
PERS	Pernice	4.24	329	⇑*i*Pn	Pn	15 13 47.2 +1.3
	comp=Z,499nm,1.4s					
MURB	Monte Urbino	4.24	275	Pn	Pn	15 13 47.6 +1.6
SOKA	Soboth	4.30	328	*i* Pn	Pn	15 13 48.2 +1.3
	comp=Z,107nm,0.5s,SNR=139					
SOKA				*e*Sn	Sn	15 14 39.4 +1.8
	comp=Z,56nm,0.7s					
SOKA	Soboth	4.30	328		Pn	15 13 48.2 +1.3
SOKA					Sn	15 14 39.4 +1.8
OBKA	Obir	4.37	323	*i* Pn	Pn	15 13 49.9 +2.1
	comp=Z,4.8nm,0.2s,SNR=17					
OBKA	Obir	4.37	323	*e*Pn	Pn	15 13 49.8 +2.1
OBKA				*e*Sg	Sg	15 14 58.6 -2.2
OBKA	Obir	4.37	323		Pn	15 13 49.9 +2.1
SRS	Serrai	4.38	115	*e*Pn	Pn	15 13 48.9 +1.0
LOT	Lotru	4.59	57	⇑P	Pn	15 13 51.7 +0.8
LOT	Lotru	4.59	57		Pn	15 13 51.7 +0.8
ARSA	Arzberg	4.63	336	*e*Pn	Pn	15 13 52.2 +0.9
	comp=Z,49nm,0.4s,SNR=65					
ARSA	Arzberg	4.63	336	*e*Pn	Pn	15 13 52.2 +0.9
ARSA				*e*Sg	Sg	15 15 07.3 -2.0
ARSA	Arzberg	4.63	336		Pn	15 13 52.2 +0.9
ROBS	Robic	4.68	315	⇑*i*Pn	Pn	15 13 54.0 +2.1
ROBS				*e*Sn	Sn	15 14 49.5 +2.8
	comp=Z,428nm,0.9s					
PRED	Cave del Predi	4.78	317	Pn	Pn	15 13 55.2 +1.8
MYKA	Terra Mystica	4.88	319	*e*Pn	Pn	15 13 57.1 +2.3
	comp=Z,20nm,0.5s,SNR=16					
MYKA	Terra Mystica	4.88	319		Pn	15 13 57.1 +2.3
PSZ	Piszkesteto	4.98	12	⇑P	Pn	15 13 55.8 -0.4
PSZ	Piszkesteto	4.98	12	P	Pn	15 13 55.8 -0.4
PSZ	Piszkesteto	4.98	12		Pn	15 13 55.8 -0.4
PSZ	Piszkesteto	4.98	12	Pn	Pn	15 13 55.6 -0.6
ARR	Arges	5.09	61	⇑P	Pn	15 13 57.5 -0.2
ARR	Arges	5.09	61		Pn	15 13 57.5 -0.2
STAL	STALIGIAL	5.12	311		Pn	15 13 58.7 +0.6
CEL	Celeste	5.14	202	Pn	Pn	15 13 57.0 -1.3
ZOU	Zoufplan	5.16	314		Pn	15 14 00.5 +1.7
CONA	Conrad Observa	5.17	341	*e*Pn	Pn	15 14 00.0 +1.3
	comp=Z,2.3nm,0.4s					
CONA	Conrad Observa	5.17	341		Pn	15 14 00.0 +1.3
OSSC	Osservatorio P	5.18	278	Pn	Pn	15 14 00.4 +1.5
ZST	Bratislava	5.21	351	*e*P	Pn	15 13 59.3 +0.1
ZST				*e*		15 14 58.3
ZST	Bratislava	5.21	351	*e*PN	Pn	15 13 59.2 +0.1
ZST				*e*SN	Sn	15 14 58.3 -1.3
CIMO	Cimolais	5.30	310	Pn	Pn	15 14 01.1 +0.6
TEOL	Teolo	5.30	298	Pn	Pn	15 14 00.6 +0.1
KBA	Koelnbreinsper	5.34	320	*e*Pn	Pn	15 14 03.8 +2.6
	comp=Z,38nm,0.5s,SNR=52					
KBA				*e*Sn	Sn	15 15 06.0 +2.8
	comp=Z,45nm,0.7s					
KBA	Koelnbreinsper	5.34	320	P	Pn	15 14 03.8 +2.6
KBA						15 15 06.0
KBA	Koelnbreinsper	5.34	320	*e*Pn	Pn	15 14 04.1 +2.8
KBA				*e*Sg	Sg	15 15 32.0 -0.1
KBA	Koelnbreinsper	5.34	320		Pn	15 14 03.8 +2.6
KBA					Sn	15 15 06.0 +2.8
MODS	Modra-Piesok	5.36	353	*e*P	Pn	15 14 00.6 -0.8
MODS				*e*		15 15 04.1
MODS	Modra-Piesok	5.36	353	*e*PN	Pn	15 14 00.6 -0.8
MODS				*e*SN	Sn	15 15 04.1 +0.5
VOIR		5.39	62	⇓P	Pn	15 14 02.2 +0.4
VOIR		5.39	62	P	Pn	15 14 02.2 +0.4
VOIR		5.39	62		Pn	15 14 02.2 +0.4
VYHS	Vyhne	5.45	4	*e*P	Pn	15 14 02.3 -0.2
VYHS	Vyhne	5.45	4	*e*PN	Pn	15 14 02.3 -0.2
ZCCA	Zocca	5.47	286		Pn	15 14 03.2 +0.3
CASP	Castiglione de	5.48	270	Pn	Pn	15 14 03.1 +0.2
ABTA	Abfaltersbach	5.53	314	*e*Pn	Pn	15 14 05.6 +1.9
	comp=Z,26nm,0.4s,SNR=33					
ABTA				*e*Sn	Sn	15 15 10.1 +2.4
	comp=Z,53nm,0.7s					
ABTA	Abfaltersbach	5.53	314		Pn	15 14 05.6 +1.9
ABTA					Sn	15 15 10.1 +2.4
MOA	Molln	5.57	331	*i* Pn	Pn	15 14 07.1 +2.9
	comp=Z,17nm,0.3s,SNR=17					
MOA				*e*Sn	Sn	15 15 12.2 +3.5
	comp=Z,33nm,0.4s					
MOA	Molln	5.57	331	*e*Pn	Pn	15 14 06.8 +2.5
MOA	Molln	5.57	331		Pn	15 14 07.1 +2.9
MOA					Sn	15 15 12.2 +3.5
CTI	Castel Tesino	5.62	304	P	Pn	15 14 05.5 +0.5
CTI	Castel Tesino	5.62	304	Pn	Pn	15 14 05.5 +0.5
KECS	Kecovo	5.63	15	*e*P	Pn	15 14 11.2 +6.2
KECS	Kecovo	5.63	15	*e*	Pn	15 14 11.2 +6.2
JAVC	Velka Javorina	5.82	356	*e*PN	Pn	15 14 09.2 +1.6
JAVC	Velka Javorina	5.82	356	*e*Pn	Pn	15 14 09.4 +1.7
DOPR	Dopca	5.83	58	⇑P	Pn	15 14 08.6 +0.8
DOPR	Dopca	5.83	58		Pn	15 14 08.6 +0.8
VLC	Villacollemand	5.86	284	Pn	Pn	15 14 09.1 +0.8
MLR	Muntele Rosu	5.99	63	Pn	Pn	15 14 13.0 +2.9
	comp=Z,0.7nm,0.3s,baz=257,slow=6.0,SNR=3.9					
MLR				Sn	Sn	15 15 18.5 -0.7
	comp=Z,0.7nm,0.3s,baz=278,slow=20,SNR=3.3					
MLR				LR	LR	15 17 13.0
	comp=Z,270nm,21.0s,baz=267,slow=46					
MLR	Muntele Rosu	5.99	63	⇑P	Pn	15 14 10.9 +0.8
MLR	Muntele Rosu	5.99	63	P	Pn	15 14 09.1 -1.0
MLR						15 15 18.5
MLR	Muntele Rosu	5.99	63		Pn	15 14 09.1 -1.0
SALO	Salr	6.14	297	Pn	Pn	15 14 12.8 +0.7
KRUC	Moravsky	6.15	348	*e*PN	Pn	15 14 13.1 +1.0
KRUC	Moravsky	6.15	348	*e*Pn	Pn	15 14 13.4 +1.3
KRUC				*e*Sg	Sg	15 15 53.4 -4.6
ALN	Alexandroupoli	6.15	108	P	Pn	15 14 13.5 +1.3
ALN	Alexandroupoli	6.15	108	Pn	Pn	15 14 13.5 +1.3
UZH	Uzhgorod	6.22	25	*e*P	Pn	15 14 15.6 +2.4
UZH				*e*S	Sn	15 15 28.6 +3.9
UZH				smax	smax	
	comp=N,13nm,0.9s					
UZH				smax	smax	
	comp=E,11nm,0.9s					
UZH				smax	smax	
	comp=Z,5.0nm,0.9s					
UZH				MLR	MLR	
	comp=N,10.0nm,1.1s					
UZH				MLR	MLR	
	comp=E,9.0nm,1.1s					
UZH				MLR	MLR	
	comp=Z,4.0nm,1.1s					
VAE	Valguarnera	6.32	209	Pn	Pn	15 14 15.9 +1.3
	comp=Z,2.6nm,0.3s,baz=140,slow=21,SNR=2.2					
VRAC	Vranov	6.36	350	Pn	Pn	15 14 16.4 +1.3
	comp=Z,0.6nm,0.3s,baz=122,slow=9.7,SNR=2.1					
VRAC				Sn	Sn	15 15 27.2 -1.0
	comp=Z,0.9nm,0.3s,baz=181,slow=15,SNR=1.7					
VRAC				LR	LR	15 16 56.6
	comp=Z,198nm,21.5s,baz=148,slow=40					
VRAC	Vranov	6.36	350	⇓P	Pn	15 14 14.3 -0.8
VRAC	Vranov	6.36	350	*e*PN	Pn	15 14 15.9 +0.8
VRAC	Vranov	6.36	350	*e*Pn	Pn	15 14 16.2 +1.1
VRAC				*e*Sg	Sg	15 16 03.7 -1.1
WATA	Walderalm	6.40	314	*e*Pn	Pn	15 14 18.6 +2.9
	comp=Z,84nm,0.5s,SNR=61					
WATA				*e*Sn	Sn	15 15 32.7 +3.5
	comp=Z,29nm,0.6s					
WATA	Walderalm	6.40	314		Pn	15 14 18.6 +2.9
WATA					Sn	15 15 32.7 +3.5
KW1	Garching a.d.	6.46	324	*e*Pn	Pn	15 14 19.5 +3.1
KW1				*e*Sg	Sg	15 16 05.8 -2.0
ITM	Ithomi	6.49	154	Pn	Pn	15 14 16.4 -0.5
MSSA	Maissana	6.50	284		Pn	15 14 18.0 +0.9
SQTA	Sankt Quirin	6.52	312	*i* Pn	Pn	15 14 20.1 +2.7
	comp=Z,44nm,0.4s,SNR=25					
SQTA				*e*Sn	Sn	15 15 34.7 +2.4
	comp=Z,35nm,0.6s					
SQTA	Sankt Quirin	6.52	312	P	Pn	15 14 20.1 +2.7
SQTA						15 15 34.7
SQTA	Sankt Quirin	6.52	312		Pn	15 14 20.1 +2.7
SQTA					Sn	15 15 34.7 +2.4
TREC	Trest	6.54	344	AMS	AMS	15 16 50.0
	comp=Z,600nm,16.0s					
RAFF	Raffo Rosso	6.57	209	Pn	Pn	15 14 18.2 +0.3
GEC2	GERESS Array S	6.62	333	*e*Pn	Pn	15 14 20.5 +1.9
GEC2	GERESS Array S	6.62	333	Pn	Pn	15 14 19.9 +1.3
GERES	GERESS Array B	6.62	333	Pn	Pn	15 14 20.7 +2.0
	comp=Z,5.1nm,0.3s,baz=153,slow=14,SNR=76					
GERES				Sn	Sn	15 15 35.5 +1.0
	comp=Z,2.6nm,0.3s,baz=147,slow=22,SNR=6.6					
GERES				LR	LR	15 17 17.6
	comp=Z,311nm,18.1s,baz=126,slow=42					
GERES	GERESS Array B	6.62	333	Pn	Pn	15 14 19.9 +1.3
MOTA	Moosalm	6.66	313	*e*Pn	Pn	15 14 21.7 +2.5
	comp=Z,63nm,0.5s,SNR=37					
MOTA				*e*Sn	Sn	15 15 37.6 +2.0
	comp=Z,36nm,0.6s					
MOTA	Moosalm	6.66	313		Pn	15 14 21.7 +2.5
MOTA					Sn	15 15 37.6 +2.0
BURAR	Bucovina Array	6.66	44	⇓P	Pn	15 14 20.4 +1.1
BURAR	Bucovina Array	6.66	44		Pn	15 14 20.4 +1.1
BURAR	Bucovina Array	6.66	44	Pn	Pn	15 14 19.6 +0.3
BUR08	Bucovina Ar. S	6.67	44	Pn	Pn	15 14 20.0 +0.5
FETA	Feichten	6.67	309	*e*Pn	Pn	15 14 22.0 +2.5
	comp=Z,12nm,0.4s,SNR=14					
FETA				*e*Sn	Sn	15 15 40.4 +4.4
	comp=Z,16nm,0.6s					
FETA	Feichten	6.67	309		Pn	15 14 22.0 +2.5
FETA					Sn	15 15 40.4 +4.4
CLTB	Caltabellotta	6.72	217	Pn	Pn	15 14 20.7 +0.6
FUORN	Ofenpass-Fuorn	6.74	305	Pn	Pn	15 14 21.9 +1.4
MORC	Moravsky Berou	6.74	356	⇑P	Pn	15 14 19.3 -1.0
MORC	Moravsky Berou	6.74	356	*e*PN	Pn	15 14 21.5 +1.2
MORC	Moravsky Berou	6.74	356	P	Pn	15 14 20.8 +0.5
MORC	Moravsky Berou	6.74	356	*e*Pn	Pn	15 14 22.1 +1.8
MORC				*e*Sg	Sg	15 16 13.8 -3.2
MORC	Moravsky Berou	6.74	356		Pn	15 14 19.3 -1.0
MORC	Moravsky Berou	6.74	356	Pn	Pn	15 14 20.8 +0.5
PART	Garmisch-Parte	6.74	314	*e*Pn	Pn	15 14 23.0 +2.7
ZUGS	Zugspitze, Sch	6.77	313	*e*Pn	Pn	15 14 24.1 +3.3
OKC	Ostrava-Krasne	6.78	359	*e*PN	Pn	15 14 22.0 +1.2
OKC				AMS	AMS	15 17 30.0
	comp=Z,500nm,9.6s					
OKC	Ostrava-Krasne	6.78	359	*e*P	Pn	15 14 22.0 +1.2
OKC				MLR	MLR	
	comp=Z,500nm,9.6s					
PGF	Pioggiola	6.87	269	*e*Pn	Pn	15 14 22.4 +0.2
PGF	Pioggiola	6.87	269	*e*P	Pn	15 14 26.7 +4.5
KHC	Kasperske Hory	6.91	333	*e*PN	Pn	15 14 24.8 +2.2
KHC				*e*SN	Sn	15 15 41.0 -0.6
KHC				*e*SG	Sg	15 16 28.0 +5.8
KHC				AMS	AMS	15 16 50.0
	comp=Z,400nm,15.4s					
KHC	Kasperske Hory	6.91	333	*ce*P	Pn	15 14 25.3 +2.7
KHC				pmax	pmax	
	comp=Z,45nm,0.7s					
KHC	Kasperske Hory	6.91	333	*e*Pn	Pn	15 14 25.1 +2.5
KHC				*e*Sg	Sg	15 16 21.3 -0.9
KHC	Kasperske Hory	6.91	333		Pn	15 14 23.8 +1.3
RETA	Reutte	6.93	312	*i* Pn	Pn	15 14 25.1 +2.2
	comp=Z,11nm,0.5s,SNR=14					
RETA				*e*Sn	Sn	15 15 45.4 +3.3
	comp=Z,14nm,0.5s					
RETA	Reutte	6.93	312		Pn	15 14 25.1 +2.2
RETA					Sn	15 15 45.4 +3.3
BE1	Monatshausen	6.95	317	*e*Pn	Pn	15 14 25.5 +2.3
KRLC	Kraliky	7.10	352	*e*PN	Pn	15 14 27.9 +2.7
KRLC				AMS	AMS	15 17 30.0
	comp=Z,500nm,12.6s					
KRLC	Kraliky	7.10	352	*e*P	Pn	15 14 27.9 +2.7
KRLC				MLR	MLR	
	comp=Z,500nm,12.6s					
OBER	Oberstdorf	7.14	310	*e*Pn	Pn	15 14 27.9 +2.1
WET	Wettzell	7.16	330	*e*Pn	Pn	15 14 28.1 +2.1
OJC	Ojcow	7.23	8	P	Pn	15 14 28.2 +1.2
OJC	Ojcow	7.23	8	Pn	Pn	15 14 28.2 +1.2
TUE	Stuetta	7.24	301	Pn	Pn	15 14 29.1 +1.8
GOPC	GO Pecny, Ondr	7.28	342	*e*PN	Pn	15 14 30.9 +3.3
GOPC	GO Pecny, Ondr	7.28	342	*e*P	Pn	15 14 30.9 +3.3
DAVA	Damuels	7.30	308	*e*Pn	Pn	15 14 30.7 +2.6
PRU	Pruhonice	7.40	341	*e*PN	Pn	15 14 31.8 +2.5
PRU	Pruhonice	7.40	341	*e*P	Pn	15 14 31.8 +2.5
PRU	Pruhonice	7.40	341	*e*Pn	Pn	15 14 32.5 +3.2
DPC	Dobruska-Polom	7.42	350	*e*PN	Pn	15 14 32.2 +2.6
DPC				AMS	AMS	15 17 50.0
	comp=Z,600nm,7.9s					
DPC	Dobruska-Polom	7.42	350	*e*P	Pn	15 14 32.2 +2.6
DPC				MLR	MLR	
	comp=Z,600nm,7.9s					
DPC	Dobruska-Polom	7.42	350	*e*Sg	Sg	15 16 35.1 -3.6
PLONS	Plons/SG	7.48	305	*e*Pn	Pn	15 14 33.6 +3.1
PLONS				*e*Sg	Sg	15 16 39.7 -0.8
PRA	Prague	7.50	340	AMS	AMS	15 17 20.0
	comp=Z,200nm,15.6s					
UPC	Upice	7.62	349	AMS	AMS	15 17 30.0
	comp=Z,400nm,10.3s					
OSTC	Ostas	7.64	350	AMS	AMS	15 17 40.0
	comp=Z,500nm,9.1s					
CHVC	Chvalec	7.69	349	*e*PN	Pn	15 14 36.0 +2.7
CHVC				AMS	AMS	15 17 40.0
	comp=Z,400nm,15.1s					
NORI	Noerdlinger Ri	7.80	319	*e*Pn	Pn	15 14 35.3 +0.5
PVCC	Panska Ves	7.90	342	AMS	AMS	15 17 40.0
	comp=Z,400nm,17.0s					
PVCC	Panska Ves	7.90	342	*e*Pn	Pn	15 14 40.1 +4.0
PVCC				*e*Sg	Sg	15 16 48.0 -6.1
ROTZ	Rotzenmuhle	7.92	330	*e*Pn	Pn	15 14 37.7 +1.2
WILA	Wila	7.94	307	*e*Pn	Pn	15 14 40.5 +3.7
SBF	Sospel	7.96	280	*e*Pn	Pn	15 14 36.6 -0.4
SBF	Sospel	7.96	280	*e*P	Pn	15 14 42.0 +5.0
SBF				*e*Sn	Sn	15 16 02.0 -5.5
	comp=Z,48nm,0.7s					
MANZ	Manzenberg	8.14	330	*e*Pn	Pn	15 14 41.0 +1.5
NKC	Novy Kostel	8.23	333	*e*PN	Pn	15 14 42.7 +2.0
NKC	Novy Kostel	8.23	333	*e*P	Pn	15 14 42.7 +2.0
NKC	Novy Kostel	8.23	333	*e*Pn	Pn	15 14 42.8 +2.1
GRA1	Grafenberg Arr	8.25	326		Pn	15 14 42.1 +1.2
GRF	Grafenberg Arr	8.25	326	P	Pn	15 14 42.1 +1.2
GRF	Grafenberg Arr	8.25	326	*e*Pn	Pn	15 14 43.1 +2.1
SLE	Schleitheim	8.36	308	*e*Pn	Pn	15 14 43.7 +1.2
BRG	Berggiesshubel	8.37	341	PG	Pn	15 14 44.6 +2.0
BRG				*e*		15 16 16.5
BRG	Berggiesshubel	8.37	341	P	Pn	15 14 44.6 +2.1
BRG				*e*		15 16 16.5
BRG				smax	smax	
	comp=N,19nm,1.2s					
SULZ	Cheisacher	8.46	305	*e*Pn	Pn	15 14 46.8 +2.8
MBDF	Montbardon	8.50	285	*e*Pn	Pn	15 14 43.2 -1.4
MBDF	Montbardon	8.50	285	*e*P	Pn	15 14 49.9 +5.3
MBDF				*e*Sn	Sn	15 16 14.2 -6.8
	comp=N,30nm,0.7s					
SENIN	Lac Senin/Sane	8.51	297	Pn	Pn	15 14 45.8 +1.1
STU	Stuttgart	8.54	315	P	Pn	15 14 46.4 +1.4
STU	Stuttgart	8.54	315	*e*Pn	Pn	15 14 46.9 +1.9
STU	Stuttgart	8.54	315	Pn	Pn	15 14 46.4 +1.4
BNI	Bardonecchia	8.62	287	P	Pn	15 14 45.6 -0.5
BNI	Bardonecchia	8.62	287	Pn	Pn	15 14 45.6 -0.5
LMR	La Mourre	8.63	276	*e*Pn	Pn	15 14 45.0 -1.2
LMR				*e*Sn	Sn	15 16 17.3 -6.6
	comp=N,4.3nm,0.4s					
LPG	La Plagne	8.65	290	*e*Pn	Pn	15 14 47.2 +0.5
LPG	La Plagne	8.65	290	*e*P	Pn	15 14 51.7 +5.0
LPG				*e*Sn	Sn	15 16 20.3 -4.4
	comp=N,54nm,0.6s					
LPL	La Plagne	8.66	290	*e*Pn	Pn	15 14 47.2 +0.3
LPL	La Plagne	8.66	290	*e*P	Pn	15 14 52.4 +5.5
LPL				*e*Sn	Sn	15 16 19.6 -5.5
	comp=N,40nm,0.5s					
BFO	Black Forest	8.75	310	P	Pn	15 14 47.9 +0.1
BFO	Black Forest	8.75	310	*e*Pn	Pn	15 14 48.8 +0.9
BFO	Black Forest	8.75	310	Pn	Pn	15 14 47.9 +0.1
MOX	Moxa	8.86	331	*e*Pn	Pn	15 14 50.5 +1.1
CLL	Collm	9.01	338	*i* Pn	Pn	15 14 50.6 -0.7
CLL				*e*Sn	Sn	15 16 13.0 -20
CLL				*e*Sg		15 17 31.0
	comp=Z,23nm,0.9s					
CLL	Collm	9.01	338	P	Pn	15 14 52.2 +0.9
CLL	Collm	9.01	338	Pn	Pn	15 14 52.2 +0.9
ORIF	Oris-en-Rattie	9.16	286	*e*Pn	Pn	15 14 53.2 -0.3
ORIF	Oris-en-Rattie	9.16	286	*e*P	Pn	15 14 59.3 +5.8
ORIF				*e*Sn	Sn	15 16 29.1 -7.9
	comp=Z,27nm,0.6s					
IDI	Anoyia	9.29	145	Pn	Pn	15 14 54.0 -1.2
	comp=Z,0.5nm,0.3s,baz=151,slow=16,SNR=1.9					
HINF	Hinteralfeld	9.35	305	*e*Pn	Pn	15 14 56.5 +0.4
HINF				*e*Sn	Sn	15 16 36.4 -5.3
ECH	Echery	9.36	307	P	Pn	15 14 56.4 +0.2
ECH	Echery	9.36	307	Pn	Pn	15 14 56.4 +0.2
CABF	La Chapelle	9.38	296	*e*Pn	Pn	15 14 56.2 -0.4
CABF				*e*Sn	Sn	15 16 32.8 -10
	comp=Z,8.1nm,0.5s					
CDF	Champ du Feu	9.39	309	*e*Pn	Pn	15 14 56.6 -0.1
CDF				*e*Sn	Sn	15 16 36.8 -5.9
HAU	Haudompre	9.74	305	*e*Pn	Pn	15 15 02.2 +0.8
HAU				*e*Sn	Sn	15 16 43.4 -7.8
	comp=Z,32nm,0.7s					
TNS	Taunus Mts	9.86	320	*e*Pn	Pn	15 15 05.0 +2.0
VIVF	Saint-Julien-l	10.00	285	*e*Pn	Pn	15 15 02.8 -2.2
VIVF				*e*Sn	Sn	15 16 52.4 -5.2
	comp=Z,16nm,0.8s					
KEST	Kesra	10.08	226	Pn	Pn	15 15 04.0 -2.2
	comp=Z,0.2nm,0.3s,baz=230,slow=7.7,SNR=1.8					
SSB	Saint Sauveur	10.14	287	P	Pn	15 15 06.2 -0.8
SSB	Saint Sauveur	10.14	287	Pn	Pn	15 15 06.2 -0.8
KARP	Karpathos	10.16	135	Pn	Pn	15 15 07.0 -0.1
PAGF	Fort de Pagny	10.36	306	*e*Pn	Pn	15 15 10.1 +0.2
PAGF				*e*Sn	Sn	15 16 59.5 -6.9
LOR	Lormes	11.04	297	*e*Pn	Pn	15 15 17.7 -1.5
LOR				*e*Sn	Sn	15 17 16.9 -6.1
	comp=Z,18nm,0.6s					
SSF	Saint Saulge	11.21	296	*e*Pn	Pn	15 15 23.0 +1.5
SSF				*e*Sn	Sn	15 17 21.9 -5.3
	comp=Z,9.2nm,0.5s					
AVF	Avril sur Loir	11.24	295	*e*Pn	Pn	15 15 21.0 -0.9
AVF				*e*Sn	Sn	15 17 21.4 -6.6
	comp=Z,5.2nm,0.5s					
BGF	Bois d'Agland	11.53	293	*e*Pn	Pn	15 15 25.1 -0.8
BGF				*e*Sn	Sn	15 17 27.0 -8.1
	comp=Z,26nm,0.7s					
TCF	Toulx Ste Croi	11.91	291	*e*Pn	Pn	15 15 31.5 +0.4
TCF				*e*Sn	Sn	15 17 36.5 -7.9
	comp=Z,6.2nm,0.6s					
BRTR	Keskin Array B	11.98	101	Pn	Pn	15 15 31.6 -0.6
	comp=Z,0.1nm,0.3s,baz=277,slow=12,SNR=1.1					
CSS	Mathiatis	14.19	120	P	P	15 16 08.9 -1.0
VSU	Vasula	16.29	16	*d i* P	P	15 16 34.3 +1.2
VSU				pmax	pmax	
	comp=

comp=Z,1.0nm,1.0s
MAKZ Makanchi 44.13 62 P **P 15 20 50.2 +0.2**
MAKZ pmax pmax
comp=Z,3.0nm,1.4s
MAKZ Makanchi 44.13 62 P **P 15 20 50.1 +0.2**
MKAR Makanchi Array 44.34 62 P **P 15 20 51.5 -0.1**
comp=Z,0.2nm,0.6s,baz=302,slow=3.2,SNR=1.8
WMQ Urumqi 48.99 64 *e*P **P 15 21 29.8 +1.6**
SONM Songino Array 58.72 52 P **P 15 22 40.6 +1.3**
comp=Z,0.6nm,0.7s,baz=302,slow=8.3,SNR=2.1
SONM Songino Array 58.72 52 IAmb IAmb 15 22 46.0
comp=Z,0.6nm,0.8s
HHC Hu-ho-hao-te 65.69 56 *e*P **P 15 23 27.0 +0.8**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,91nm,7.1s
BILL Bilibino 66.63 13⇑*e*P **P 15 23 34.6 +2.9**
BILL *e* 15 24 05.3
BILL *e* 15 26 05.4
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,50nm,20.0s
YKA Yellowknife Ar 68.23 339 P **P 15 23 40.9 -0.9**
comp=Z,0.8nm,0.6s,baz=124,slow=15,SNR=1.5
CMAR Chiang Mai Arr 70.89 82 P **P 15 23 57.4 -1.6**
comp=Z,0.9nm,0.4s,baz=305,slow=7.0,SNR=7.4
ILAR Eielson Array 71.88 353 P **P 15 24 03.4 -0.9**
comp=Z,0.3nm,0.8s,baz=343,slow=4.4,SNR=4.4
MCARA McCarthy VSAT 74.81 351 P **P 15 24 20.6 -1.0**
NJ2 Nanjing 75.79 59 *e*P **P 15 24 27.5 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
YSS Yuzh-Sakhalins 77.78 35*ce*P P 15 24 44.9 +6.2
YSS pmax pmax
comp=Z,23nm,1.7s
PDAR Pinedale Array 82.59 324 P **P 15 25 04.3 -0.7**
comp=Z,0.2nm,0.7s,baz=239,slow=45,SNR=2.1
TXAR Lajitas Array 90.42 312 P **P 15 25 43.4 -0.1**
comp=Z,0.3nm,0.7s,baz=86,slow=5.1,SNR=3.8

DJA 30 15:15:46.4±1.2, 9°S±4°×11°3E±°, h17km±11km, M4.0/13, mB4.6/1, mb4.0/2, MLv4.0/13, Mw(mB)3.8/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.11**	**11**	P	Pb	15 16 05.7	-1.4
GMJI				S	Sb	15 16 21.3	0.0
JAGI	**Jajag, Banyuwa**	**1.27**	**45**	P	Pn	15 16 08.9	-0.5
JAGI				S	Sb	15 16 25.2	-0.8
BLJI	**Banyuglugur**	**1.65**	**12**	P	Pn	15 16 15.5	+0.9
ABJI	**Asem Bagus**	**1.85**	**32**	P	Pb	15 16 19.1	-0.6
PWJI	**Pagerwojo**	**1.95**	**313**	P	Pn	15 16 18.0	-0.8
PWJI				S	Sn	15 16 42.7	-0.2
KMMI	**Kalianget**	**2.42**	**17**	P	Pn	15 16 25.9	+0.8
GRJI	**Gresik**	**2.55**	**343**	P	Pn	15 16 28.0	+0.9
GRJI				S	Sn	15 16 59.3	+1.5
WOJI	**Wonogiri, Jawa**	**2.75**	**303**	P	Pn	15 16 30.7	+0.9
TBJI	**Tambak Boyo**	**2.89**	**331**	P	Pn	15 16 32.3	+0.7
TWSI	**Taliwang, Sumb**	**3.65**	**80**	P	Pn	15 16 41.7	-0.5
PLAI	**Plampang**	**4.51**	**83**	P	Pn	15 16 54.2	+0.2
CMJI	**Cimerak**	**4.99**	**288**	P	Pn	15 16 59.7	-0.9
BKSI	**Bulukumba**	**7.92**	**60**	P	Pn	15 17 47.6	+6.7
EDFI	**Ende, Flores**	**8.37**	**86**	P	Pn	15 17 46.1	-1.0

IDC 30 15:16:36.2±1.2, 4°40S×133°47E, h0km, mb3.8/3, mb1 4.0/8, mb1mx3.8/36, mbtmp3.9/8, ML3.8/5, MS2.6/1, Ms1 2.6/1, ms1mx2.3/29, Error ellipse: s-maj=54.9km s-min=18.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.13**	**328**	Pn	Pn	15 17 42.7	+2.0
SIJI	1.7nm,0.3s,baz=204,slow=23,SNR=13			Sn	Sn	15 18 26.1	-3.7
SIJI	7.5nm,0.3s,baz=98,slow=5.3,SNR=3.7			LR	LR	15 19 47.3	
WRA	**Warramunga Arr**	**15.48**	**177**	Pn	Pn	15 20 15.4	-0.6
WRA	0.3nm,0.3s,baz=356,slow=13,SNR=20			Sn	Sn	15 22 58.8	-10
FITZ	**Fitzroy Crossi**	**15.62**	**209**	Pn	Pn	15 20 18.1	+0.2
FITZ	0.5nm,0.3s,baz=360,slow=10,SNR=11			Sn	Sn	15 23 03.8	-8.1
ASAR	**Alice Springs**	**19.16**	**179**	P	P	15 21 01.2	-0.2
CTA	**Charters Tower**	**19.96**	**142**	P	Pn	15 21 11.5	-0.3
STKA	**Stephens Creek**	**28.38**	**165**	P	P	15 22 32.0	-0.4
USRK	**Ussuriysk Ar.**	**48.39**	**359**	P	P	15 25 19.2	-0.8
MKAR	**Makanchi Array**	**68.03**	**325**	P	P	15 27 37.2	-0.3

IDC 30 15:21:05.9±2.9, 6°21S×130°08E, h70km±37km, mb4.0/1, mb1 3.8/5, mb1mx3.4/34, mbtmp4.0/5, ML3.8/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=70.8km s-min=22.9km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.43**	**13**	P	Pn	15 22 24.2	-0.2
SIJI	6.3nm,0.3s,baz=236,slow=23,SNR=17			S	Sn	15 23 19.6	-6.0
KAPI	**Kappang**	**10.35**	**276**	LR	LR	15 28 16.6	
FITZ	**Fitzroy Crossi**	**12.59**	**200**	P	Pn	15 24 03.5	+1.4
FITZ	11nm,0.3s,baz=358,slow=9.3,SNR=13			S	Sn	15 26 17.2	-3.4
WRA	**Warramunga Arr**	**14.27**	**164**	P	Pn	15 24 22.7	-1.9
WRA	0.4nm,0.3s,baz=181,slow=17,SNR=2.7			S	Sn	15 26 50.1	-11
ASAR	**Alice Springs**	**17.74**	**168**	P	P	15 25 08.0	-0.3
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	15 31 55.4	+0.1

0.2nm,0.3s,baz=346,slow=13,SNR=2.2
0.9nm,0.3s,baz=342,slow=25,SNR=8.3
0.2nm,0.3s,baz=350,slow=14,SNR=5.6
1.2nm,0.4s,baz=114,slow=8.1,SNR=30

*IDC **30** 15:23:42.4±2.0, 17°77S×178°52W, h559km±25km, mb3.4/9, mb1 3.7/11, mb1mx3.3/32, mbtmp4.4/11, Error ellipse: s-maj=48.7km s-min=12.8km az=151.0*
*NEIC **30** 15:23:43.3±1.8, 18°0S±0°1×178°4W±0°1, h583km±8km, mb4.4/26, Error ellipse: s-maj=20.1km s-min=15.2km az=156.0*

ISC 30 15:23:43.3±0.6, 18°0S±0°1×178°35W±0°09, h579km, n49, σ0°96/49, mb4.3/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.44**	**274**	P	P	15 25 05.5	+2.0
AFI	**Afiamalu**	**7.51**	**58**	P	P	15 25 35.7	-1.7
	6.8nm,0.3s,baz=336,slow=2.6,SNR=4.0						
NIUE	**Niue**	**8.06**	**99**	P	P	15 25 43.2	+0.7
SANVU	**Saraoutou**	**14.07**	**278**	P	P	15 26 44.7	+1.5
DZM	**Mont Dzumac**	**14.85**	**252**	P	P	15 26 49.7	-1.1
	1.5nm,0.3s,baz=238,slow=20,SNR=12						
OUZ	**Omahuta**	**18.59**	**201**	P	P	15 27 26.8	+1.8
QRZ	**Quartz Range**	**24.06**	**197**	P	P	15 28 14.3	+0.3
TUWZ	**Tuamarina**	**24.27**	**194**	P	P	15 28 16.4	+0.6
MQZ	**McQueen's Vall**	**26.73**	**195**	P	P	15 28 39.3	+1.8
MLZ	**Mavora Lakes**	**29.53**	**200**	P	P	15 29 01.1	-0.8
ARMA	**Armidale**	**29.95**	**240**	P	P	15 29 05.7	-0.2
ARMA				IAmb	IAmb	15 29 13.9	
	comp=Z,20nm,1.4s						
WHZ	**Wether Hill Ro**	**30.05**	**199**	P	P	15 29 05.2	-1.1
CTA	**Charters Tower**	**33.49**	**261**	P	P	15 29 35.3	-0.6
	comp=Z,5.0nm,0.6s,baz=96,slow=11,SNR=14						
CTAO	**Charters Tower**	**33.49**	**261**	P	P	15 29 35.5	-0.4
CTAO				IAmb	IAmb	15 29 38.9	
	comp=Z,12nm,1.2s						
CAN	**Canberra**	**33.69**	**233**	P	P	15 29 37.6	+0.1
TOO	**Toolangi**	**37.16**	**231**	P	P	15 30 06.0	-0.1
TOO				IAmb	IAmb	15 30 13.3	
	comp=Z,34nm,1.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**37.16**	**271**	P	P	15 30 06.7	+0.3
COEN				IAmb	IAmb	15 30 07.7	
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**38.64**	**241**	P	P	15 30 18.4	+0.2
	comp=Z,6.3nm,0.5s,baz=91,slow=10,SNR=18						
STKA	**Stephens Creek**	**38.64**	**241**	P	P	15 30 18.3	+0.2
BBOO	**Buckleboo**	**43.41**	**241**	P	P	15 30 55.3	-0.6
WR0	**Warramunga Arr**	**44.48**	**260**	P	P	15 31 03.2	-1.1
WB0	**Warramunga Arr**	**44.64**	**260**	P	P	15 31 04.7	-0.9
WB2	**Warramunga Arr**	**44.66**	**260**	P	P	15 31 04.8	-1.0
WB2				IAmb	IAmb	15 31 05.7	
	comp=Z,4.6nm,0.7s						
WRAB	**Tennant Creek**	**44.66**	**260**	P	P	15 31 04.6	-1.2
WRAB				IAmb	IAmb	15 31 06.0	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**44.67**	**260**	P	P	15 31 04.8	-1.1
	comp=Z,3.3nm,0.7s,baz=96,slow=7.1,SNR=33						
WRA	**Warramunga Arr**	**44.67**	**260**	P	P	15 31 04.7	-1.1
AS31	**Alice Springs**	**44.82**	**254**	P	P	15 31 06.4	-0.6
AS31				IAmb	IAmb	15 31 07.5	
	comp=Z,6.9nm,0.5s						
ASAR	**Alice Springs**	**44.82**	**254**	P	P	15 31 06.5	-0.5
	comp=Z,22nm,0.6s,baz=88,slow=8.6,SNR=218						
ASAR	**Alice Springs**	**44.82**	**254**	P	P	15 31 06.0	-1.0
MTN	**Manton Dam**	**48.85**	**268**	P	P	15 31 36.6	-0.7
MTN				IAmb	IAmb	15 31 51.3	
	comp=Z,23nm,1.3s						
FORT	**Forrest**	**50.02**	**245**	P	P	15 31 44.5	-1.1
FORT				IAmb	IAmb	15 31 46.7	
	comp=Z,26nm,1.2s						
KNRA	**Kununurra**	**50.54**	**264**	P	P	15 31 48.8	-0.9
KNRA				IAmb	IAmb	15 32 01.5	
	comp=Z,13nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.07**	**261**	P	P	15 32 07.5	-0.3
SOEI	**Soe**	**56.13**	**270**	P	P	15 32 30.7	+1.4
SOEI				IAmb	IAmb	15 32 52.6	
	comp=Z,12nm,1.1s						
PSA00	**Pilbara Seismi**	**57.94**	**255**	P	P	15 32 40.7	-0.8
QSPA	**South Pole Qui**	**72.05**	**180**	P	P	15 34 09.5	+0.3
PEA0B	**Petropavlovsk-**	**73.78**	**345**	P	P	15 34 19.9	+0.8
PETK	**Petropavlovsk-**	**73.78**	**345**	P	P	15 34 19.1	0.0
	comp=Z,3.2nm,1.0s,baz=105,slow=8.2,SNR=5.9						
JCC	**Jacoby Creek,**	**77.22**	**39**	P	P	15 34 37.0	-1.3
NVAR	**Mina Array Bea**	**79.45**	**44**	P	P	15 34 51.6	+1.0
	comp=Z,0.8nm,0.9s,baz=222,slow=8.5,SNR=6.6						
ILAR	**Eielson Array**	**85.97**	**13**	P	P	15 35 21.8	-0.7
	comp=Z,0.6nm,0.5s,baz=219,slow=5.0,SNR=9.9						
ILAR	**Eielson Array**	**85.97**	**13**	P	P	15 35 21.2	-1.2
TXAR	**Lajitas Array**	**86.00**	**58**	P	P	15 35 24.8	+1.3
	comp=Z,1.0nm,0.7s,baz=217,slow=6.5,SNR=9.5						
TXAR	**Lajitas Array**	**86.00**	**58**	P	P	15 35 24.2	+0.7
PDAR	**Pinedale Array**	**87.38**	**43**	P	P	15 35 30.2	+0.4
	comp=Z,0.5nm,0.7s,baz=256,slow=6.0,SNR=4.2						
PDAR	**Pinedale Array**	**87.38**	**43**	P	P	15 35 29.8	-0.1
CLL	**Collm**	**145.57**	**347**	*i* PKPbc	**PKPbc**	15 42 17.6	+0.1
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	**147.72**	**345**	PKPbc	**PKPbc**	15 42 23.1	-0.5
	comp=Z,0.8nm,0.6s,baz=329,slow=2.3,SNR=6.7						
GERES	**GERESS Array B**	**147.72**	**345**		**PKPbc**	15 42 22.7	-0.8

*NEIC **30** 15:24:31.2±1.0, 37°25N±0°03×97°97W±0°02, h5km±1km, mb_Lg3.1/78, Error ellipse: s-maj=4.9km s-min=3.0km az=165.0*
*UNK **30** 15:24:31.2, 37°25N×97°97W, h5km*
*ANF **30** 15:24:32.2±0.3, 37°29N×97°89W, h0km, ML3.9/8, Error ellipse: s-maj=6.4km s-min=3.1km az=44.0*

ISC 30 15:24:31.5±1.1, 37°25N±0°03×97°95W±0°03, h6km±9km, n82, σ0°69/69, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.07**	**323**		**Pg**	**15 24 33.2**	**0.0**
KAN10	**Anthony SW Sta**	**0.17**	**224**		**Pg**	**15 24 34.7**	**-0.2**
KAN13	**South Haven SW**	**0.44**	**122**		**Pg**	**15 24 40.0**	**-0.1**
KAN13				Sg	**Sg**	**15 24 45.8**	**0.0**
CROK	**Carrier**	**0.74**	**182**		**Pg**	**15 24 45.0**	**-0.6**
CROK				Sg	**Sg**	**15 24 54.8**	**-0.4**
T35A	**Sooner Cattle**	**1.20**	**106**	Pg	**Pg**	**15 24 53.7**	**-0.7**
U32A	**Winter Ranch,**	**1.21**	**225**	Pg	**Pg**	**15 24 53.5**	**-1.1**
R32A	**Long Quarter,**	**1.32**	**333**		**Pg**	**15 24 55.9**	**-0.9**
QUOK	**Quay**	**1.46**	**137**	Pn	**Pn**	**15 24 58.1**	**-0.3**
OK029	**Liberty Lake**	**1.50**	**164**		**Pn**	**15 24 58.6**	**-0.3**
BCOK	**Bluff Creek, N**	**1.61**	**170**		**Pn**	**15 25 00.3**	**-0.1**
OK025	**Westminster Rd**	**1.73**	**163**		**Pn**	**15 25 02.5**	**+0.4**
OKCFA	**Oklahoma City**	**1.87**	**167**		**Pn**	**15 25 04.8**	**+0.8**
OKCSW	**OKLAHOMA CITY**	**1.88**	**167**		**Pn**	**15 25 05.0**	**+0.9**
FNO	**Franklin**	**2.03**	**167**	Pn	**Pn**	**15 25 07.8**	**+1.6**
CBKS	**Cedar Bluff**	**2.11**	**318**	P	**Pn**	**15 25 08.0**	**+0.6**
	baz=138						
CBKS				S	**Sb**	**15 25 37.2**	**+0.6**
	baz=138						
CBKS	**Cedar Bluff**	**2.11**	**318**	Pn	**Pn**	**15 25 07.9**	**+0.6**
KSU1	**Kansas State U**	**2.13**	**29**	P	**Pn**	**15 25 08.8**	**+1.1**
	baz=210						
KSU1				S	**Sb**	**15 25 37.0**	**-0.2**
	baz=210						
KSU1	**Kansas State U**	**2.13**	**29**	Pn	**Pn**	**15 25 07.8**	**+0.2**
KSU1				IAmb_Lg		15 25 37.8	
	comp=Z,66nm,0.8s						
TUL1	**Leonard**	**2.19**	**127**	P	**Pn**	**15 25 09.6**	**+1.2**
	baz=308						
TUL1				S	**Sb**	**15 25 39.2**	**+0.4**
	baz=308						
TUL1	**Leonard**	**2.19**	**127**	Pn	**Pn**	**15 25 08.8**	**+0.4**
W35A	**Tecumseh**	**2.26**	**157**		**Pn**	**15 25 09.7**	**+0.3**
WMOK	**Wichita Mounta**	**2.59**	**195**	P	**Pn**	**15 25 16.6**	**+2.7**
	baz=14						
WMOK	**Wichita Mounta**	**2.59**	**195**	Pn	**Pn**	**15 25 14.5**	**+0.5**
X34A	**Smith Ranch, M**	**2.64**	**178**	Pn	**Pn**	**15 25 15.4**	**+0.8**
U38A	**Gravette**	**2.97**	**105**		**Pn**	**15 25 19.6**	**+0.5**
U38A				IAmb_Lg		15 26 11.6	
	comp=Z,60nm,0.7s						
HHAR	**Hobbs**	**3.36**	**105**		**Pn**	**15 25 24.9**	**+0.4**
X37A	**Clayton**	**3.38**	**141**		**Pn**	**15 25 25.3**	**+0.6**
X37A				IAmb_Lg		15 26 26.4	
	comp=Z,83nm,0.7s						
S39A	**Bolivar**	**3.71**	**82**		**Pn**	**15 25 29.4**	**+0.1**
S39A				IAmb_Lg		15 26 34.0	
	comp=Z,38nm,0.7s						
AMTX	**Amarillo**	**3.83**	**233**	Pn	**Pn**	**15 25 31.8**	**+0.7**
W39A	**Magazine**	**3.94**	**120**	P	**Pn**	**15 25 33.6**	**+1.2**
	baz=302						
W39A	**Magazine**	**3.94**	**120**	Pn	**Pn**	**15 25 33.2**	**+0.7**
Z35A	**Perchaven, San**	**3.95**	**172**	IAmb_Lg		15 26 44.3	
	comp=Z,40nm,1.1s						
N35A	**Tabor**	**4.03**	**26**	Pn	**Pn**	**15 25 34.3**	**+0.6**
KSCO	**Kaye Shedlock'**	**4.09**	**297**	Pn	**Pn**	**15 25 35.5**	**+0.8**
KSCO				IAmb_Lg		15 26 47.6	
	comp=Z,33nm,0.8s						
BGNE	**Belgrade**	**4.16**	**358**	Pn	**Pn**	**15 25 36.1**	**+0.6**
U40A	**Yellville**	**4.18**	**101**	P	**Pn**	**15 25 36.4**	**+0.6**
	baz=284						
U40A				S	**Sn**	**15 26 24.7**	**-0.3**
	baz=284						
U40A	**Yellville**	**4.18**	**101**	Pn	**Pn**	**15 25 36.1**	**+0.3**
P38A	**Dawn**	**4.20**	**54**	Pn	**Pn**	**15 25 36.8**	**+0.7**
P38A				IAmb_Lg		15 26 45.2	
	comp=Z,32nm,0.9s						
MIAR	**Mount Ida**	**4.46**	**126**	P	**Pn**	**15 25 40.6**	**+1.0**
	baz=308						
MIAR	**Mount Ida**	**4.46**	**126**	Pn	**Pn**	**15 25 40.1**	**+0.5**
MIAR				IAmb_Lg		15 26 54.6	
	comp=Z,48nm,1.1s						
MGMO	**Mountain Grove**	**4.54**	**89**	Pn	**Pn**	**15 25 41.1**	**+0.4**
MGMO				IAmb_Lg		15 26 56.4	
	comp=Z,36nm,0.7s						
R40A	**Maddies Statio**	**4.62**	**75**		**Pn**	**15 25 42.1**	**+0.3**
Z38A	**Mt. Pleasant**	**4.66**	**148**	Pn	**Pn**	**15 25 42.6**	**+0.3**
Z38A				IAmb_Lg		15 27 12.0	
	comp=Z,54nm,0.8s						
L34A	**Svendsen Farm,**	**4.87**	**14**	Pn	**Pn**	**15 25 45.6**	**+0.4**
FCAR	**Ozark Folk Cen**	**4.88**	**104**	Pn	**Pn**	**15 25 45.1**	**-0.2**
WHAR	**Wooly Hollow**	**4.97**	**111**	Pn	**Pn**	**15 25 46.6**	**0.0**
WHAR				IAmb_Lg		15 27 09.3	
	comp=Z,49nm,1.0s						
X40A	**Basin Creek Fa**	**4.98**	**122**	Pn	**Pn**	**15 25 47.1**	**+0.3**
X40A				IAmb_Lg		15 27 16.0	
	comp=Z,30nm,0.9s						
W41B	**Gary Mavity, V**	**5.05**	**112**	P	**Pn**	**15 25 48.4**	**+0.7**
	baz=296						
W41B	**Gary Mavity, V**	**5.05**	**112**		**Pn**	**15 25 48.1**	**+0.4**
N38A	**Joes South For**	**5.10**	**45**	Pn	**Pn**	**15 25 48.5**	**+0.1**
N38A				IAmb_Lg		15 27 24.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,45nm,0.8s						
T25A	**Trinidad**	**5.16**	**271**	IAmb_Lg		15 27 15.4	
	comp=Z,29nm,0.8s						
P40A	**Paris**	**5.17**	**62**	Pn	**Pn**	**15 25 49.6**	**+0.3**
UALR	**University of**	**5.17**	**117**	Pn	**Pn**	**15 25 49.6**	**+0.3**
WLAR	**White Oak Lake**	**5.31**	**131**	IAmb_Lg		15 27 23.5	
	comp=Z,30nm,0.8s						
CCM	**Cathedral Cave**	**5.38**	**79**	IAmb_Lg		15 27 27.1	
	comp=Z,33nm,0.9s						
T42A	**Van Buren**	**5.48**	**90**	Pn	**Pn**	**15 25 53.6**	**0.0**
LCAR	**Lake Charles**	**5.59**	**100**	Pn	**Pn**	**15 25 55.4**	**+0.4**
LCAR				IAmb_Lg		15 27 27.1	
	comp=Z,35nm,1.1s						
Z41A	**Richland Creek**	**5.79**	**132**	IAmb_Lg		15 27 40.5	
	comp=Z,26nm,0.7s						
SDCO	**Great Sand Dun**	**6.03**	**277**	Pn	**Pn**	**15 26 01.6**	**+0.2**
PBMO	**Poplar Bluff**	**6.04**	**92**	IAmb_Lg		15 27 58.0	
	comp=Z,24nm,0.7s						
NATX	**Nacogdoches**	**6.11**	**153**	IAmb_Lg		15 27 58.2	
	comp=Z,22nm,0.8s						
435B	**Jarrell**	**6.45**	**177**	IAmb_Lg		15 28 03.7	
	comp=Z,20nm,0.7s						
N41A	**Harden Midland**	**6.52**	**56**	Pn	**Pn**	**15 26 08.6**	**+0.7**
N41A				IAmb_Lg		15 28 04.3	
	comp=Z,30nm,0.7s						
ISCO	**Idaho Springs**	**6.53**	**295**	Pn	**Pn**	**15 26 09.0**	**+0.7**
ECSD	**EROS Data Cent**	**6.56**	**8**	Pn	**Pn**	**15 26 09.2**	**+0.7**
JCT	**Junction City**	**6.92**	**193**	IAmb_Lg		15 28 29.3	
	comp=Z,27nm,0.9s						
S44A	**Carbondale**	**6.93**	**84**	IAmb_Lg		15 28 08.2	
	comp=Z,23nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.03**	**68**	IAmb_Lg		15 28 19.3	
	comp=Z,22nm,0.7s						
L40A	**Anamosa**	**7.08**	**45**	Pn	**Pn**	**15 26 16.2**	**+0.7**
L40A				IAmb_Lg		15 28 19.5	
	comp=Z,26nm,0.8s						
N23A	**Red Feather La**	**7.21**	**303**	Pn	**Pn**	**15 26 18.1**	**+0.5**
HDIL	**Hopedale**	**7.51**	**61**	Pn	**Pn**	**15 26 21.8**	**+0.3**
L42A	**Oliver, Polo**	**7.96**	**51**	IAmb_Lg		15 28 56.1	
	comp=Z,26nm,0.9s						
JFWS	**Jewell Farm**	**8.18**	**44**	Pn	**Pn**	**15 26 30.4**	**-0.2**
JFWS				IAmb_Lg		15 28 53.3	
	comp=Z,26nm,0.8s						
MNTX	**Cornudas Mount**	**8.26**	**230**	Pn	**Pn**	**15 26 32.2**	**+0.3**
MNTX				IAmb_Lg		15 29 03.7	
	comp=Z,16nm,0.9s						
RWWY	**Rawlins**	**8.43**	**305**	IAmb_Lg		15 29 03.2	
	comp=Z,16nm,1.0s						
PV01	**Paradox Valley**	**8.47**	**279**	Pn	**Pn**	**15 26 35.1**	**+0.3**
K22A	**Casper**	**8.51**	**312**	IAmb_Lg		15 29 14.5	
	comp=Z,28nm,1.2s						
T47A	**Sharon Grove**	**8.67**	**88**	IAmb_Lg		15 29 02.2	
	comp=Z,14nm,0.9s						
I40A	**Norwalk**	**8.67**	**38**	IAmb_Lg		15 29 15.1	
	comp=Z,14nm,0.8s						
F33A	**5 Mile Ranch,**	**8.68**	**8**	IAmb_Lg		15 29 08.6	
	comp=Z,15nm,1.0s						
PV23	**Carpenter Ridg**	**8.84**	**281**	IAmb_Lg		15 29 17.9	
	comp=Z,12nm,1.2s						
WCI	**Wyandotte Cave**	**9.29**	**80**	IAmb_Lg		15 29 35.2	
	comp=Z,20nm,1.1s						

IDC 30 15:29:54.2±2.5, 43°08S×172°15E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=59.5km s-min=12.8km az=132.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**1.02**	**231**	Pg	Pb	15 30 14.4	-0.3
	122nm,0.3s,baz=83,slow=2.9,SNR=290						
RPZ				Lg	Lg	15 30 26.9	
	115nm,0.3s,baz=342,slow=5.5,SNR=6.3						
URZ	**Urewera**	**6.11**	**40**	Pn	Pn	15 31 24.8	-0.9
	0.9nm,0.3s,baz=255,slow=4.9,SNR=6.6						
URZ				Sn	Sn	15 32 35.8	-0.5
	0.6nm,0.3s,baz=40,slow=15,SNR=1.5						
ASAR	**Alice Springs**	**36.94**	**289**	P	P	15 37 04.5	-0.4
	0.4nm,0.5s,baz=129,slow=7.4,SNR=9.8						
WRA	**Warramunga Arr**	**39.16**	**294**	P	P	15 37 24.1	+0.3
	0.5nm,0.7s,baz=137,slow=7.5,SNR=5.5						
BRTR	**Keskin Array B**	**148.92**	**278**	PKPbc	PKPbc	15 49 43.6	-0.1
	0.7nm,0.8s,baz=155,slow=6.1,SNR=4.2						

*KRNET **30** 15:52:43.3±0.1, 42°08N×77°23E, h21km, mb3.6*
*NNC **30** 15:52:43.9±0.5, 42°14N×77°24E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=3.8km s-min=2.2km az=1.0*
*SOME **30** 15:52:43.6, 42°15N×77°22E, h10km*

ISC 30 15:52:44.5±0.9, 42°17N±0°03×77°21E±0°02, h10km±6km, n81, σ1°25/145, 29C-20D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.04**	**209**	⇑*i*P	**Pg**	**15 52 46.5**	**-0.2**
	baz=27						
KDJ				⇑*i*S	**Sg**	**15 52 48.7**	**+0.5**
	baz=27						
ANVS	**Anan'yevo**	**0.70**	**29**	⇑*i*P	**Pb**	**15 52 58.1**	**-1.0**
	baz=24						
ANVS				⇑*i*S	**Sb**	**15 53 08.4**	**-0.5**
	baz=24						
ULHL	**Ulahol**	**0.72**	**277**	⇓*i*P	**Pg**	**15 52 57.5**	**-1.0**
	baz=83						
ULHL				⇓*i*S	**Sg**	**15 53 07.9**	**-0.1**
	baz=83						
TNSS	**Tian-Shan**	**0.89**	**348**	*e*P	**Pg**	**15 53 01.6**	**-0.2**
	baz=48						
TNSS				*e*S	**Sb**	**15 53 14.6**	**+0.2**
	baz=48						
TNSS	**Tian-Shan**	**0.89**	**348**	*e*P	**Pg**	**15 53 01.6**	**-0.2**
	171nm,0.2s						
TNSS				*e*S	**Sb**	**15 53 14.7**	**+0.2**
	155nm,0.5s						
TNSS	**Tian-Shan**	**0.89**

KOTS	**Kotyrbulak**	**1.07 356**	*e*P	**Pb**	**15 53 05.0**	**-0.3**
	baz=56					
KOTS			*e*S	**Sn**	**15 53 20.5**	**-0.3**
	baz=56					
KOTS	**Kotyrbulak**	**1.07 356**	*e*P	**Pb**	**15 53 05.0**	**-0.3**
	522nm,0.3s					
KOTS			*e*S	**Sn**	**15 53 20.5**	**-0.3**
	540nm,0.4s					
KOTS	**Kotyrbulak**	**1.07 356**	P	**Pb**	**15 53 05.0**	**-0.3**
	522nm,0.3s					
KOTS			S	**Sn**	**15 53 20.5**	**-0.3**
	540nm,0.4s					
MTBS	**Maitube**	**1.12 330**	*e*P	**Pb**	**15 53 05.5**	**-0.6**
	baz=31					
MTBS			*e*S	**Sn**	**15 53 21.6**	**-0.3**
	baz=31					
MTBS	**Maitube**	**1.12 330**	*e*P	**Pb**	**15 53 05.5**	**-0.6**
	151nm,0.2s					
MTBS			*e*S	**Sn**	**15 53 21.6**	**-0.3**
	139nm,0.2s					
MTBS	**Maitube**	**1.12 330**	P	**Pb**	**15 53 05.5**	**-0.6**
	151nm,0.2s					
MTBS			S	**Sn**	**15 53 21.6**	**-0.3**
	139nm,0.2s					
SATY	**Saty**	**1.26 44**	*e*P	**Pn**	**15 53 07.2**	**-1.1**
	15nm,0.3s					
SATY			*e*S	**Sg**	**15 53 24.1**	**-0.9**
	324nm,0.2s					
SATY	**Saty**	**1.26 44**	P	**Pn**	**15 53 07.2**	**-1.1**
	15nm,0.3s					
SATY			S	**Sg**	**15 53 24.2**	**-0.9**
	324nm,0.2s					
KST	**Kastek**	**1.27 314**	*e*P	**Pn**	**15 53 07.9**	**-0.6**
	baz=16					
KST			*e*S	**Sn**	**15 53 25.5**	**-0.1**
	baz=16					
KST	**Kastek**	**1.27 314**	*e*P	**Pn**	**15 53 07.9**	**-0.6**
	69nm,0.4s					
KST			*e*S	**Sn**	**15 53 25.5**	**-0.1**
	193nm,0.5s					
KST	**Kastek**	**1.27 314**	P	**Pn**	**15 53 07.9**	**-0.6**
	69nm,0.4s					
KST			S	**Sn**	**15 53 25.5**	**-0.1**
	193nm,0.5s					
TKM2	**Tokmak 2**	**1.41 303**	⇑*i*P	**Pb**	**15 53 10.4**	**-0.7**
	baz=5.0					
TKM2			⇑*i*S	**Sg**	**15 53 30.1**	**+0.2**
	baz=5.0					
TKM2	**Tokmak 2**	**1.41 303**	⇑P	**Pn**	**15 53 10.0**	**-0.5**
	18nm,0.2s					
TKM2			⇑S	**Sg**	**15 53 30.3**	**+0.4**
	59nm,0.3s					
KZA	**Kyzart**	**1.46 267**	⇑*i*P	**Pn**	**15 53 10.6**	**-0.7**
	baz=70					
KZA			⇑*i*S	**Sn**	**15 53 30.1**	**-0.6**
	baz=70					
KURS	**Kuram**	**1.50 28**	*e*P	**Pb**	**15 53 11.9**	**-0.6**
	baz=26					
KURS			*e*S	**Sg**	**15 53 32.3**	**-0.5**
	baz=26					
KURS	**Kuram**	**1.50 28**	*e*P	**Pb**	**15 53 11.9**	**-0.6**
	17nm,0.3s					
KURS			*e*S	**Sg**	**15 53 32.3**	**-0.5**
	68nm,0.4s					
KURS	**Kuram**	**1.50 28**	P	**Pb**	**15 53 11.9**	**-0.6**
	17nm,0.3s					
KURS			S	**Sg**	**15 53 32.3**	**-0.5**
	68nm,0.4s					
KTBS	**Karatobe**	**1.59 346**	*e*P	**Pb**	**15 53 14.0**	**-0.1**
	baz=46					
KTBS			*e*S	**Sg**	**15 53 35.9**	**+0.1**
	baz=46					
KTBS	**Karatobe**	**1.59 346**	*e*P	**Pb**	**15 53 14.0**	**-0.1**
	45nm,0.3s					
KTBS			*e*S	**Sg**	**15 53 35.9**	**+0.1**
	400nm,0.3s					
KTBS	**Karatobe**	**1.59 346**	P	**Pb**	**15 53 14.0**	**-0.1**
	45nm,0.3s					
KTBS			S	**Sg**	**15 53 35.9**	**+0.1**
	400nm,0.3s					
UZB	**Uzynbulak**	**1.66 53**	*e*P	**Pb**	**15 53 14.2**	**-1.1**
	baz=51					
UZB			*e*S	**Sb**	**15 53 36.2**	**-0.2**
	baz=51					
UZB	**Uzynbulak**	**1.66 53**	*e*P	**Pb**	**15 53 14.2**	**-1.1**
	5.6nm,0.2s					
UZB			*e*S	**Sb**	**15 53 36.1**	**-0.2**
	314nm,0.3s					
UZB	**Uzynbulak**	**1.66 53**	P	**Pb**	**15 53 14.2**	**-1.1**
	5.6nm,0.2s					
UZB			S	**Sb**	**15 53 36.2**	**-0.2**
	314nm,0.3s					
KPKS	**Kokpek**	**1.69 39**	*e*P	**Pb**	**15 53 14.9**	**-1.0**
	baz=37					
KPKS			*e*S	**Sb**	**15 53 37.4**	**+0.1**
	baz=37					
KPKS	**Kokpek**	**1.69 39**	*e*P	**Pb**	**15 53 14.9**	**-1.0**
	53nm,0.3s					
KPKS			*e*S	**Sb**	**15 53 37.3**	**+0.1**
	404nm,0.3s					
KBK	**Karagaybulak**	**1.74 287**	⇑*i*P	**Pb**	**15 53 15.7**	**-1.0**
	baz=89					
KBK			⇑*i*S	**Sb**	**15 53 38.8**	**+0.1**
	baz=89					
KUU	**Kurty**	**1.84 340**	*e*P	**Pb**	**15 53 18.2**	**-0.1**
	34nm,0.4s					
KUU			*e*S	**Sg**	**15 53 43.0**	**-0.7**
	102nm,0.5s					
KUU	**Kurty**	**1.84 340**	P	**Pb**	**15 53 18.2**	**-0.1**
	34nm,0.4s					
KUU			S	**Sg**	**15 53 43.0**	**-0.7**
	102nm,0.5s					
SHLS	**Shalkode**	**1.94 58**	*e*P	**Pg**	**15 53 24.1**	**+2.5**
	21nm,0.3s					
SHLS			*e*S	**Sg**	**15 53 53.2**	**+6.4**
	112nm,0.2s					
SHLS	**Shalkode**	**1.94 58**	Pg	**Pg**	**15 53 24.1**	**+2.5**
	21nm,0.3s					
SHLS			Lg	Lg	15 53 53.2	
	112nm,0.2s					
CHMS	**Chumysh**	**2.00 295**	⇑*i*P	**Pn**	**15 53 19.1**	**+0.7**
	baz=97					
CHMS			⇑*i*S	**Sb**	**15 53 44.8**	**-1.1**
	baz=97					
UCH	**Uchtor**	**2.00 273**	⇓*i*P	**Pn**	**15 53 19.1**	**+0.3**
	baz=75					
UCH			⇓*i*S	**Sn**	**15 53 44.7**	**+0.5**
	baz=75					
FRU1	**Bishkek**	**2.01 290**	⇓*i*P	**Pn**	**15 53 19.3**	**+0.7**
	baz=92					
FRU1			⇓*i*S	**Sb**	**15 53 45.2**	**-1.2**
	baz=92					
PDGK	**Podgornoye**	**2.04 55**	Pg	**Pb**	**15 53 20.3**	**-1.6**
	5.7nm,0.3s					
PDGK			Lg	Lg	15 53 47.5	
	52nm,0.4s					
PDGK	**Podgornoye**	**2.04 55**	⇓Pn	**Pb**	**15 53 19.8**	**-2.0**
	8.8nm,0.6s					
PDGK			⇓Sn	**Sg**	**15 53 48.2**	**-2.0**
	80nm,0.5s					
AAK	**Ala-Archa**	**2.06 284**	⇓*i*P	**Pn**	**15 53 20.1**	**+0.7**
	baz=86					
AAK			⇓*i*S	**Sb**	**15 53 46.4**	**-1.5**
	baz=86					
AAK	**Ala-Archa**	**2.06 284**	Pn	**Pb**	**15 53 22.2**	**0.0**
	4.5nm,0.2s					
AAK			⇑Sn	**Sg**	**15 53 49.8**	**-1.1**
	64nm,0.4s					
ARXS	**Arharly**	**2.10 12**	*e*P	**Pb**	**15 53 22.5**	**-0.2**
	49nm,0.4s					
ARXS			*e*S	**Sg**	**15 53 50.5**	**-1.4**
	204nm,0.2s					
ARXS	**Arharly**	**2.10 12**	Pg	**Pb**	**15 53 22.5**	**-0.2**
	49nm,0.4s					
ARXS			Lg	Lg	15 53 50.5	
	204nm,0.2s					
MNBS	**Baschi**	**2.10 24**	*e*P	**Pb**	**15 53 22.8**	**0.0**
	18nm,0.4s					
MNBS			*e*S	**Sg**	**15 53 51.0**	**-1.2**
	300nm,0.4s					
MNBS	**Baschi**	**2.10 24**	Pg	**Pb**	**15 53 22.8**	**0.0**
	18nm,0.4s					
MNBS			Lg	Lg	15 53 51.0	
	300nm,0.4s					
ARLS	**Aral**	**2.17 263**	⇑*i*P	**Pn**	**15 53 20.5**	**-0.4**
	baz=65					
ARLS			⇑*i*S	**Sn**	**15 53 48.4**	**+0.5**
	baz=65					
USP	**Ospenovka**	**2.28 300**	⇓*i*P	**Pn**	**15 53 22.9**	**+0.6**
	baz=1.0					
USP			⇓*i*S	**Sn**	**15 53 51.8**	**+1.4**
	baz=1.0					
SGDS	**Sogindy**	**2.29 305**	Pg	**Pb**	**15 53 25.7**	**-0.3**
	12nm,0.3s					
SGDS			Lg	Lg	15 53 55.9	
	107nm,0.4s					
EKS2	**Erkin-Say**	**2.59 282**	⇓*i*P	**Pn**	**15 53 26.9**	**+0.3**
	baz=84					
EKS2			⇓*i*S	**Sn**	**15 53 59.1**	**+1.0**
	baz=84					
AML	**Almayashu**	**2.61 270**	⇑*i*P	**Pn**	**15 53 27.2**	**0.0**
	baz=72					
AML			⇑*i*S	**Sn**	**15 53 59.6**	**+0.5**
	baz=72					
KTMS	**Ketmen**	**2.65 60**	*e*P	**Pb**	**15 53 30.6**	**-1.5**
	0.1nm,0.1s					
KTMS			*e*S	**Sb**	**15 54 04.3**	**-0.3**
	41nm,0.3s					
KTMS	**Ketmen**	**2.65 60**	Pg	**Pb**	**15 53 30.6**	**-1.5**
	0.1nm,0.1s					
KTMS			Lg	Lg	15 54 04.3	
	41nm,0.3s					
DJR	**Jarkent**	**2.87 40**	*e*P	**Pb**	**15 53 35.5**	**-0.4**
	1.9nm,0.2s					
DJR			*e*S	**Sb**	**15 54 12.8**	**+1.7**
	23nm,0.5s					
DJR	**Jarkent**	**2.87 40**	Pg	**Pb**	**15 53 35.5**	**-0.4**
	1.9nm,0.2s					
DJR			Lg	Lg	15 54 12.8	
	23nm,0.5s					
TDK	**Taldyqorghan**	**2.97 17**	*e*P	**Pb**	**15 53 38.3**	**+0.8**
	37nm,0.2s					
TDK			*e*S	**Sg**	**15 54 17.5**	**-2.3**
	166nm,0.3s					
TDK	**Taldyqorghan**	**2.97 17**	Pg	**Pb**	**15 53 38.3**	**+0.8**
	37nm,0.2s					
TDK			Lg	Lg	15 54 17.5	
	166nm,0.3s					
MRKS	**Merke**	**3.00 282**	*e*P	**Pb**	**15 53 38.6**	**+0.4**
	3.7nm,0.3s					
MRKS			*e*S	**Sg**	**15 54 17.9**	**-3.0**
	51nm,0.2s					
MRKS	**Merke**	**3.00 282**	Pg	**Pb**	**15 53 38.6**	**+0.4**
	3.7nm,0.3s					
MRKS			Lg	Lg	15 54 17.9	
	51nm,0.2s					
BTLS	**Baital**	**3.68 322**	*e*P	**Pb**	**15 53 50.2**	**+0.6**
	2.1nm,0.5s					
BTLS			*e*S	**Sb**	**15 54 38.0**	**+3.7**
	33nm,0.6s					
BTLS	**Baital**	**3.68 322**	Pg	**Pb**	**15 53 50.2**	**+0.6**
	2.1nm,0.5s					
BTLS			Lg	Lg	15 54 38.0	
	33nm,0.6s					
KK31	**Karatay Array**	**5.03 283**	⇓Pg	**Pb**	**15 54 15.9**	**+3.3**
	3.3nm,0.7s,baz=95,slow=16,SNR=14					
KK31			⇓Lg	Lg	15 55 19.9	
	8.9nm,0.6s,baz=83,slow=27,SNR=5.5					
IUG	**Iuzhnay**	**5.33 272**	*e*P	**Pb**	**15 54 21.0**	**+3.1**
	2.4nm,0.4s					
IUG			*e*S	**Sg**	**15 55 30.7**	**-5.0**
	24nm,0.6s					
IUG	**Iuzhnay**	**5.33 272**	Pg	**Pb**	**15 54 21.0**	**+3.1**
	2.4nm,0.4s					
IUG			Lg	Lg	15 55 30.7	
	24nm,0.6s					
MAKZ	**Makanchi**	**5.76 35**	⇑Pn	**Pn**	**15 54 11.1**	**+1.0**
	0.3nm,0.5s					
MAKZ			⇑Pg	**Pg**	**15 54 33.0**	**-1.8**
	1.2nm,0.7s					
MAKZ			⇓Lg	Lg	15 55 47.8	
	2.4nm,0.5s					
MK31	**Makanchi Array**	**5.88 36**	⇑Pn	**Pn**	**15 54 13.8**	**+2.0**
	0.3nm,0.3s,baz=214,slow=15,SNR=20					
MK31			⇓Sn	**Sn**	**15 55 21.9**	**+2.7**
	2.2nm,0.6s,baz=219,slow=25,SNR=4.7					
MK31			⇓Lg	Lg	15 55 50.2	
	1.5nm,0.5s,baz=214,slow=27,SNR=5.1					
KURBB	**Kurchatov Arra**	**8.51 6**	⇑Lg	Lg	15 57 14.6	
	14nm,0.8s					
KURK	**Kurchatov**	**8.61 6**	⇑Lg	Lg	15 57 15.3	
	2.9nm,0.5s					

IDC ***30*** *15:54:16.2±1.9, 56°.68N×33°.80W, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/38, mbtmp3.8/6, MS3.1/3, Ms1 3.1/3, ms1mx2.6/39, Error ellipse: s-maj=45.2km s-min=33.3km az=36.0*

NEIC ***30*** *15:54:18.2±2.7, 56°.8N±0°.1×33°.7W±0°.1, h10km±2km, mb4.4/10, Error ellipse: s-maj=22.4km s-min=7.1km az=155.0*

ISC 30 15:54:17.9±0.8, 56°.8N±0°.1×33°.7W±0°.1, h10km, n20, σ1§16/16, mb4.0/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.92**	**329**	LR	LR	16 01 05.8	
	comp=Z,102nm,22.0s,baz=142,slow=32						
DRLN	**Deer Lake**	**16.11**	**252**	P	**P**	**15 58 06.9**	**-0.6**
DRLN				IAmb	IAmb	15 58 18.7	
	comp=Z,48nm,1.3s						
ROSA	**Rosais**	**18.43**	**166**	P	**Pn**	**15 58 34.1**	**+0.9**
BATG	**Bathurst New B**	**21.86**	**258**	P	**P**	**15 59 11.0**	**+0.5**
LMN	**Caledonia Moun**	**22.09**	**254**	P	**P**	**15 59 13.8**	**+0.8**
LMN				IAmb	IAmb	15 59 24.4	
	comp=Z,13nm,1.1s						
NC602	**NORSAR Array S**	**23.44**	**61**	P	**P**	**15 59 28.4**	**+1.5**
HFS	**Hagfors**	**24.61**	**62**	P	**P**	**15 59 39.1**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=320,slow=6.4,SNR=2.2						
SPITS	**Spitsbergen Ar**	**27.16**	**20**	LR	LR	16 09 10.6	
	comp=Z,33nm,18.8s,baz=155,slow=33						
SFS	**San Fernando**	**27.43**	**126**	P	**P**	**16 00 02.2**	**-1.3**
FINES	**FINESS Array B**	**30.09**	**56**	P	**P**	**16 00 25.7**	**-1.3**
	comp=Z,4.1nm,0.9s,baz=242,slow=28,SNR=3.7						
FIA1	**FINESS Array S**	**30.09**	**56**	P	**P**	**16 00 25.0**	**-2.1**
FIA1				IAmb	IAmb	16 00 26.4	
	comp=Z,12nm,1.0s						
VRAC	**Vranov**	**30.54**	**82**	LR	LR	16 11 12.6	
	comp=Z,36nm,20.5s,baz=318,slow=33						
AKASG	**Malin Array Be**	**36.53**	**72**	P	**P**	**16 01 23.9**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=307,slow=8.5,SNR=6.3						
AKASG	**Malin Array Be**	**36.53**	**72**	IAmb	IAmb	16 01 31.6	
	comp=Z,3.0nm,1.2s						
ILAR	**Eielson Array**	**48.59**	**328**	P	**P**	**16 03 00.8**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=9.4,slow=24,SNR=2.7						
TORD	**Torodi Ar. Bea**	**51.27**	**134**	P	**P**	**16 03 21.0**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=345,slow=7.8,SNR=4.1						
BILL	**Bilibino**	**54.62**	**351**	P	**P**	**16 03 45.4**	**-0.5**
MK31	**Makanchi Array**	**63.85**	**43**	P	**P**	**16 04 51.2**	**+1.0**
MK31				IAmb	IAmb	16 04 52.1	
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**63.85**	**43**	P	**P**	**16 04 51.3**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=331,slow=6.2,SNR=8.5						
ASAR	**Alice Springs**	**145.72**	**20**	PKPbc	**PKPdf**	**16 13 56.5**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=325,slow=1.3,SNR=6.3						

DJA 30 16:33:46.1±0.7, 10°S±3°×11°4E±°, h12km±4km, M4.0/12, mb4.2/3, MLv3.9/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.13**	**16**	P	Pb	16 34 06.6	-1.0
JAGI				S	Sb	16 34 21.8	-0.4
ABJI	**Asem Bagus**	**1.80**	**13**	P	Pn	16 34 17.7	+0.8
BLJI	**Banyuglugur**	**1.82**	**353**	P	Pn	16 34 17.9	+0.7
BLJI				S	Sb	16 34 41.2	-0.9
KMMI	**Kalianget**	**2.50**	**3**	P	Pn	16 34 27.4	+0.8
KMMI				S	Sn	16 34 58.3	+1.3
PWJI	**Pagerwojo**	**2.52**	**307**	P	Pn	16 34 26.4	-0.5
PWJI				S	Sn	16 34 57.6	+0.1
GRJI	**Gresik**	**2.95**	**333**	P	Pn	16 34 34.0	+1.2
GRJI				S	Sn	16 35 09.4	+1.3
TWSI	**Taliwang, Sumb**	**3.12**	**75**	P	Pn	16 34 35.2	0.0
TWSI				S	Sn	16 35 13.0	+0.6
WOJI	**Wonogiri, Jawa**	**3.34**	**301**	P	Pn	16 34 38.4	+0.2
WOJI				S	Sn	16 35 18.7	+0.8
TBJI	**Tambak Boyo**	**3.36**	**324**	S	Sn	16 35 19.5	+1.3
YOGI	**Yogyakarta**	**3.90**	**296**	S	Sn	16 35 32.8	+1.1
PLAI	**Plampang**	**3.96**	**80**	P	Pn	16 34 47.4	+0.6
PLAI				S	Sn	16 35 34.5	+1.3
SMRI	**Semarang**	**4.18**	**306**	P	Pn	16 34 49.9	+0.1
KPJI	**Karang Pucung**	**5.33**	**294**	P	Pn	16 35 06.0	+0.5
	0.2nm35nm,1.6s						
CISI	**Cisompet, Garu**	**6.27**	**288**	P	Pn	16 35 18.1	-0.5

ASRS 30 16:35:54.8±0.2, 52°N±2°×9°6E±°, h5km, MLh3.3/10, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.65**	**13**	Pg	Pn	16 36 11.0	+0.3
TDJR				Sg	Sn	16 36 19.8	-1.6
KZLR	**Kyzyl**	**0.88**	**266**	Pg	Pn	16 36 15.5	+1.7
KZLR				Sg	Sn	16 36 26.9	-0.1
KNGR	**Kungurtug, Tuv**	**1.56**	**138**	Pg	Pg	16 36 25.5	+0.8
KNGR				Sg	Sg	16 36 46.2	+1.3
ERNS	**Erzin**	**1.57**	**197**	Pg	Pg	16 36 26.4	+1.5
ERNS				Sg	Sg	16 36 47.3	+2.1
ARDR	**Aradan**	**1.71**	**299**	Pg	Pg	16 36 29.7	+2.3
ARDR				Sg	Sg	16 36 52.6	+3.1
BLRR	**Bol'shaya Rech**	**2.46**	**303**	Pg	Pg	16 36 42.8	+1.0
BLRR				Sg	Sg	16 37 15.4	+1.7
ORL	**Orlik**	**2.55**	**71**	Pg	Pg	16 36 42.4	-1.2
ORL				Sg	Sg	16 37 15.4	-1.3
DJOS	**Djoyskaya Sosn**	**2.93**	**292**	Pg	Pg	16 36 52.2	+1.4
DJOS				Sg	Sg	16 37 30.0	+1.2
CERR	**Cheremushki**	**2.94**	**293**	Pg	Pg	16 36 53.1	+2.0
CERR				Sg	Sg	16 37 30.8	+1.7
DJO	**Djoy, Khakassi**	**3.03**	**291**	Pg	Pg	16 36 53.8	+1.1
DJO				Sg	Sg	16 37 33.0	+1.1
ORY	**Orie**	**3.27**	**352**	Pg	Pg	16 36 56.1	-1.3
ORY				Sg	Sg	16 37 37.5	-2.3
ABNR	**Abakan**	**3.33**	**308**	Pg	Pg	16 36 57.2	-1.3
ABNR				Sg	Sg	16 37 45.5	+3.9
TBTR	**Tabat**	**3.36**	**292**	Pg	Pg	16 36 59.8	+0.7
TBTR				Sg	Sg	16 37 44.3	+1.6
TEL	**Teeli**	**3.62**	**260**	Pg	Pg	16 37 03.4	-0.8
TEL				Sg	Sg	16 37 52.1	+1.0
SHRR	**Shira**	**4.39**	**311**	Sg	Sg	16 38 14.5	-1.0

MOS ***30*** *16:45:55.1±1.3, 1°.56N×67°.72E, h10km, mb5.7/58, MS4.9/66, Error ellipse: s-maj=6.1km s-min=3.5km az=99.7*

IDC ***30*** *16:45:55.6±0.4, 1°.50N×67°.82E, h0km, mb4.9/47, mb1 5.0/47, mb1mx4.9/53, mbtmp4.9/47, MS4.9/29, Ms1 4.9/29, ms1mx4.8/37, Error ellipse: s-maj=11.4km s-min=10.3km az=45.0*

UNK ***30*** *16:45:56.3, 1°.64N×67°.69E, h10km*

NEIC ***30*** *16:45:56.2±1.5, 1°.60N±0°.08×67°.74E±0°.08, h10km±1km, mb5.5/152, Ms_20 5.1/189, Mwb5.5/92, Mwc5.5(GCMT), Error ellipse: s-maj=13.8km s-min=12.5km az=235.0*

BJI ***30*** *16:45:56.0±0.0, 1°.50N×67°.80E, h8km, mB5.3/67, mb5.0/74, Ms5.3/75, Ms7 5.1/75*

NEIC ***30*** *16:45:56, 1°.61N×67°.71E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.20; $M_{\theta\theta}$1.01; $M_{\phi\phi}$0.19; $M_{r\theta}$1.58; $M_{r\phi}$0.89; $M_{\theta r}$-0.34; Fault plane solution: $M_0$2.15000×10^{17} NP1:ϕ_s268.07000°, δ71.66000°, λ-63.96000°. NP2:ϕ_s30.85000°, δ31.48000°, λ-142.94000°. Principal axes: T 2.0589, Plg22.0000°, Azm338.0000°; N 0.1789, Plg25.0000°, Azm79.0000°; P -2.2378, Plg56.0000°, Azm211.0000°;*

NEIC ***30*** *16:46:01, 1°.51N×67°.61E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.90; $M_{\theta\theta}$1.97; $M_{\phi\phi}$-0.06; $M_{r\theta}$1.04; $M_{\theta\phi}$1.19; $M_{\phi r}$-0.20; Fault plane solution: $M_0$2.51000×10^{17} NP1:ϕ_s45.00000°, δ38.00000°, λ-122.00000°. NP2:ϕ_s263.00000°, δ59.00000°, λ-67.00000°. Principal axes: T 2.6825, Plg11.0000°, Azm337.0000°; N -0.3991, Plg19.0000°, Azm71.0000°; P -2.2834, Plg68.0000°, Azm219.0000°;*

GCMT ***30*** *16:46:01.2±0.1, 1°.51N±0°.01×67°.66E±0°.01, h14km, MW5.5/150, Moment Tensor Solution. s124,c217; s150,c331; Duration: 1§4 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.92±.04; $M_{\theta\theta}$1.99±.03; $M_{\phi\phi}$-0.06±.03; $M_{r\theta}$0.93±.07; $M_{\theta\phi}$1.27±.02; $M_{\phi r}$-0.21±.06; Best double couple: $M_0$2.48600×10^{17} NP1:ϕ_s44.00000°, δ40.00000°, λ-122.00000°. NP2:ϕ_s263.00000°, δ57.00000°, λ-67.00000°. Principal axes: T 2.7190, Plg9.0000°, Azm336.0000°; N -0.4620, Plg20.0000°, Azm69.0000°; P -2.2520, Plg68.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***30*** *16:46:04.8±0.0, 1°.57N×66°.03E, h10km, mb5.8, Ms4.5*

ISC 30 16:45:57.6±0.5, 1°.54N±0°.04×67°.69E±0°.03, h13km±2km, h13km:pP-P, n968, σ1§88/1011, mb5.4/250, MS5.0/195, 37C-14D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**10.08**	**152**	P	**Pn**	**16 48 24.2**	**+2.0**
DGAR	**Diego Garcia**	**10.08**	**152**	*e*P	**Pn**	**16 48 24.6**	**+2.4**
DGAR				pmax	pmax		
	comp=Z,4μm,1.7s						
DGAR	**Diego Garcia**	**10.08**	**152**	Pn	**Pn**	**16 48 23.0**	**+0.8**
H08S3	**Diego Garcia H**	**10.29**	**152**	T	T	16 59 00.1	
	baz=324,slow=20,SNR=23						
H08S1	**Diego Carcia H**	**10.30**	**152**	T	T	16 59 03.2	
	baz=324,slow=20,SNR=31						
H08S2	**Diego Garcia H**	**10.30**	**152**	T	T	16 59 01.9	
	baz=324,slow=20,SNR=28						
PALK	**Pallekele**	**14.17**	**66**	P	**Pn**	**16 49 16.3**	**-1.8**
PALK				P	**Pn**	**16 49 16.3**	**-1.8**
PALK				S	**Sn**	**16 51 56.8**	**+1.4**
PALK				S	**Sn**	**16 51 56.8**	**+1.4**
PALK	**Pallekele**	**14.17**	**66**	P	**Pn**	**16 49 15.9**	**-2.3**
PALK	**Pallekele**	**14.17**	**66**	Pn	**Pn**	**16 49 15.9**	**-2.3**
GOA	**Goa**	**15.13**	**23**	*e*P	**Pn**	**16 49 29.7**	**-1.5**
GOA				IAmb	IAmb	16 49 38.4	
	comp=Z,48nm,0.5s						
URV	**Uravakonda**	**16.34**	**35**	*e*P	**Pn**	**16 49 44.2**	**-2.7**
URV				IVmB_BB		16 49 51.9	
	comp=Z,524nm,1.9s						
URV				IVMs_BB	IVMs_BB	16 54 52.2	
	comp=Z,3μm,16.0s						
MDRS	**Chennai**	**16.91**	**47**	*e*P	**Pn**	**16 49 50.3**	**-3.8**
MDRS				IAmb	IAmb	16 49 59.9	
	comp=Z,109nm,1.0s						
SKHT	**Srikalahasti**	**16.98**	**44**	*e*P	**Pn**	**16 49 52.7**	**-2.3**
SKHT				IVmB_BB		16 50 01.2	
	comp=Z,1μm,1.8s						
SKHT				IVMs_BB	IVMs_BB	16 55 38.9	
	comp=Z,2μm,15.8s						
SOCY	**Socotra**	**17.22**	**309**	P	**P**	**16 50 03.3**	**+3.6**
SOCY	**Socotra**	**17.22**	**309**	Pn	**P**	**16 49 59.5**	**-0.1**
POO	**Poona**	**17.93**	**19**	*e*P	**Pn**	**16 50 06.3**	**-0.7**
SRLM	**Srisailam**	**18.20**	**37**	*e*P	**Pn**	**16 50 08.1**	**-2.1**
SRLM				IVmB_BB		16 50 14.7	
	comp=Z,735nm,2.0s						
SRLM				IVMsBB		16 56 07.1	
	comp=Z,3μm,16.2s						
KLRI	**Killari**	**18.61**	**27**	*e*P	**P**	**16 50 13.7**	**-1.3**
KLRI				IVmB_BB		16 50 14.9	
	comp=Z,2μm,2.0s						
KLRI			

SHAO	**Shalim**	**20.22**	**325**	*i* P		Pn	16 50 35.0	+0.6
	SNR=12							
SHAO	**Shalim**	**20.22**	**325**	P		Pn	16 50 35.1	+0.7
	SNR=9.7							
SHAO				P		Pn	16 50 35.1	+0.7
	SNR=9.7							
SHAO				P		Pn	16 50 35.1	+0.7
	SNR=9.7							
SHAO				S		Sn	16 54 23.6	+1.5
SHAO				S		Sn	16 54 23.6	+1.5
SHAO				S		Sn	16 54 23.6	+1.5
GGR	**Gangavaram**	**20.32**	**36**	*e*P		**P**	**16 50 33.6**	**-0.1**
GGR				IVmB_BB			16 50 37.5	
	comp=Z,915nm,2.9s							
GGR				IVMs_BB		IVMs_BB	16 57 11.1	
	comp=Z,3μm,16.3s							
DMTO	**DMTO**	**20.38**	**323**	S		Sn	16 54 27.1	+1.2
RPR	**Rampur**	**20.63**	**33**	*e*P		**P**	**16 50 35.6**	**-1.4**
RPR				IVmBBB			16 50 41.2	
	comp=Z,1μm,1.7s							
RPR				IVMs_BB		IVMs_BB	16 57 36.0	
	comp=Z,3μm,18.6s							
RBK	**Rabkut**	**20.67**	**321**	P		Pn	16 50 40.5	+0.7
	SNR=8.2							
RBK				P		Pn	16 50 40.5	+0.7
	SNR=8.2							
RBK				P		Pn	16 50 40.5	+0.7
	SNR=8.2							
RBK				S		Sn	16 54 33.0	-0.2
RBK				S		Sn	16 54 33.0	-0.2
RBK				S		Sn	16 54 33.0	-0.2
PVM	**Polavaram**	**20.77**	**40**	*e*P		**P**	**16 50 38.1**	**-0.4**
PVM				IVmB_BB			16 50 43.6	
	comp=Z,802nm,3.3s							
PVM				IVMs_BB		IVMs_BB	16 57 28.6	
	comp=Z,1μm,21.4s							
DQM	**DQM**	**20.80**	**332**	P		Pn	16 50 41.2	-0.1
	SNR=10							
DQM				P		Pn	16 50 41.2	-0.1
	SNR=10							
DQM				S		Sn	16 54 37.5	+1.4
DQM				S		Sn	16 54 37.5	+1.4
ABTO	**Aybut**	**21.15**	**319**	P		**P**	**16 50 45.6**	**+2.9**
	SNR=22							
ABTO				P		**P**	**16 50 45.6**	**+2.9**
	SNR=22							
ABTO				S		Sn	16 54 43.4	-1.2
ABTO				S		Sn	16 54 43.4	-1.2
WHFO	**Wadi Hawf**	**21.26**	**321**	P		**P**	**16 50 46.2**	**+2.4**
	SNR=10							
WHFO				P		**P**	**16 50 46.2**	**+2.4**
	SNR=10							
WHFO				S		Sn	16 54 44.5	-2.7
WHFO				S		Sn	16 54 44.5	-2.7
MHTO	**MHTO**	**21.53**	**335**	P		**P**	**16 50 48.3**	**+1.7**
	SNR=43							
MHTO				P		**P**	**16 50 48.3**	**+1.7**
	SNR=43							
MHTO				S		Sn	16 54 52.2	-1.4
MHTO				S		Sn	16 54 52.2	-1.4
BHUJ	**Bhuj**	**21.67**	**5⇑**	*i* P		**P**	**16 50 51.5**	**+3.4**
JLN	**Jalan Bani Buh**	**22.02**	**339**	P		**P**	**16 50 54.0**	**+2.2**
	SNR=26							
JLN				P		**P**	**16 50 54.0**	**+2.2**
	SNR=26							
JLN				S		Sn	16 55 02.5	-2.7
JLN				S		Sn	16 55 02.5	-2.7
WBK	**Wadi Bani Khal**	**22.59**	**339**	P		**P**	**16 51 00.4**	**+2.2**
	SNR=17							
WBK				P		**P**	**16 51 00.4**	**+2.2**
	SNR=17							
JMDO	**Jabal Madar**	**22.71**	**336**	P		**P**	**16 51 02.0**	**+2.7**
	SNR=14							
JMDO				P		**P**	**16 51 02.0**	**+2.7**
	SNR=14							
JMDO				P		**P**	**16 51 02.0**	**+2.7**
	SNR=14							
SBV	**Sambava**	**23.07**	**229**	P		**P**	**16 51 05.2**	**+2.1**
	SNR=7.6							
CHLP	**Challavanipeta**	**23.28**	**43**	*e*P		**P**	**16 51 05.5**	**+0.3**
CHLP				IVmB_BB			16 51 10.4	
	comp=Z,1μm,2.5s							
CHLP				IVMsBB			16 59 00.2	
	comp=Z,1μm,16.3s							
WSAR	**Wadi Sarin**	**23.29**	**339**	P		**P**	**16 51 06.8**	**+1.5**
	comp=Z,15nm,0.8s,baz=178,slow=11,SNR=19							
WSAR				LR		LR	16 58 57.6	
	comp=Z,3μm,18.1s,baz=180,slow=34							
WSAR	**Wadi Sarin**	**23.29**	**339**	P		**P**	**16 51 07.6**	**+2.3**
	SNR=22							
SMDO	**Samad**	**23.35**	**337**	P		**P**	**16 51 08.5**	**+2.5**
	SNR=32							
SMDO				P		**P**	**16 51 08.5**	**+2.5**
	SNR=32							
SMDO				P		**P**	**16 51 08.5**	**+2.5**
	SNR=32							
BSY	**Bisya**	**23.41**	**335**	P		**P**	**16 51 08.8**	**+2.2**
	SNR=36							
BSY				P		**P**	**16 51 08.8**	**+2.2**
	SNR=36							
BHPL	**Bhopal**	**23.55**	**23⇑**	*i* P		**P**	**16 51 09.6**	**+1.6**
BHPL				IAmb		IAmb	16 51 13.7	
	comp=Z,268nm,1.2s							
BIDO	**Bidbid**	**23.74**	**338**	P		**P**	**16 51 12.0**	**+2.3**
	SNR=20							
BIDO				P		**P**	**16 51 12.0**	**+2.3**
	SNR=20							
HOQ	**Hoqain**	**24.11**	**336**	P		**P**	**16 51 15.7**	**+2.4**
	SNR=45							
HOQ				P		**P**	**16 51 15.7**	**+2.4**
	SNR=45							
HOQ				P		**P**	**16 51 15.7**	**+2.4**
	SNR=45							
ARQ	**Araqi**	**24.23**	**334**	P		**P**	**16 51 16.2**	**+1.9**
	SNR=37							
ARQ				P		**P**	**16 51 16.2**	**+1.9**
	SNR=37							
ARQ				P		**P**	**16 51 16.2**	**+1.9**
	SNR=37							
SOHO	**SOHO**	**24.92**	**335**	*i* P		**P**	**16 51 22.4**	**+1.8**
	SNR=18							
SOHO	**SOHO**	**24.92**	**335**	P		**P**	**16 51 22.1**	**+1.5**
SOHO				P		**P**	**16 51 22.1**	**+1.5**
ALNE	**Al Ain**	**25.19**	**334**	*i* P		**P**	**16 51 25.0**	**+1.9**
	SNR=14							
RER	**Riviere de l'E**	**25.41**	**207**	P		**P**	**16 51 23.5**	**-1.6**
RER				IAmb		IAmb	16 51 30.9	
	comp=Z,60nm,0.9s							
ASHO	**Ashiyiah**	**25.61**	**335**	*i* P		**P**	**16 51 28.6**	**+1.7**
	SNR=15							
ASHO	**Ashiyiah**	**25.61**	**335**	P		**P**	**16 51 28.8**	**+1.9**
	SNR=13							
ASHO				P		**P**	**16 51 28.8**	**+1.9**
	SNR=13							
ASHO				P		**P**	**16 51 28.8**	**+1.9**
	SNR=13							
HATD	**Hatta, Dubai**	**25.70**	**335**	*i* P		**P**	**16 51 29.5**	**+1.8**
	SNR=11							
HATD	**Hatta, Dubai**	**25.70**	**335**	P		**P**	**16 51 29.9**	**+2.1**
	SNR=17							
HATD				P		**P**	**16 51 29.9**	**+2.1**
	SNR=17							
HATD				P		**P**	**16 51 29.9**	**+2.1**
	SNR=17							
UOSS	**Minazif**	**25.78**	**335**	*i* P		**P**	**16 51 29.9**	**+1.5**
	SNR=7.1							
UOSS	**Minazif**	**25.78**	**335**	P		**P**	**16 51 24.7**	**-3.7**
UOSS				IAmb		IAmb	16 51 34.8	
	comp=Z,94nm,1.4s							
FAQ	**Al Faqa, Dubai**	**25.86**	**334**	*i* P		**P**	**16 51 31.1**	**+1.9**
	SNR=6.6							
NAZ	**Nazwa, Dubai**	**26.05**	**334**	*i* P		**P**	**16 51 32.5**	**+1.7**
	SNR=8.1							
MSFE	**Esma-Masafi**	**26.16**	**336**	*i* P		**P**	**16 51 33.7**	**+1.8**
	SNR=15							
DAMY	**Dhamar**	**26.41**	**301**	P		**P**	**16 51 30.9**	**-3.6**
ATD	**Arta Tunnel**	**26.57**	**293**	P		**P**	**16 51 38.3**	**+2.5**
	comp=Z,38nm,1.0s,baz=93,slow=5.4,SNR=12							
ATD	**Arta Tunnel**	**26.57**	**293**	P		**P**	**16 51 35.9**	**+0.1**
ATD	**Arta Tunnel**	**26.57**	**293**	P		**P**	**16 51 32.4**	**-3.4**
BANOM	**Banah**	**26.61**	**337**	P		**P**	**16 51 37.1**	**+1.1**
PBA	**Port Blair**	**26.81**	**67**	*e*P		P	16 51 39.8	+1.9
PBA				IAmb		IAmb	16 51 49.0	
	comp=Z,134nm,1.2s							
PBA	**Port Blair**	**26.81**	**67**	P		P	16 51 34.0	-3.9
PBA				IAmb		IAmb	16 51 48.7	
	comp=Z,191nm,1.2s							
DGPR	**DIGLIPUR**	**27.54**	**64**	*e*P		**P**	**16 51 48.0**	**+3.6**
BOK	**Bokaro**	**28.29**	**37**	*e*P		**P**	**16 51 54.1**	**+3.1**
BOK				IAmb		IAmb	16 52 00.5	
	comp=Z,6.9nm,0.6s							
OPO	**Ambohidratompo**	**28.39**	**224**	P		**P**	**16 51 53.5**	**+1.3**
	comp=Z,6.8nm,1.1s,baz=341,slow=2.8,SNR=3.8							
ABPO	**Ambohimpanom**	**28.66**	**224**	IAMs_20		IAMs_20	17 00 20.0	
	comp=Z,4μm,19.0s							
MLSI	**Meulaboh, Aceh**	**28.80**	**84**	P		P	16 52 00.8	+5.1
ANKE	**Ethiopia-Afar**	**28.93**	**287**	*i* P		**P**	**16 51 59.1**	**+1.9**
LHMI	**Lhok Sumawe**	**29.43**	**82**	P		**P**	**16 52 01.1**	**-0.2**
	comp=Z,61nm,0.9s							
KIBK	**Kibwezi**	**29.89**	**263**	P		**P**	**16 52 07.7**	**+2.3**
	SNR=19							
PYUN	**Piuthan**	**30.20**	**28**	*e*P		**P**	**16 52 09.1**	**+1.0**
	comp=Z,366nm,1.6s							
KOLN	**Koldanda**	**30.21**	**29**	*e*P		**P**	**16 52 09.3**	**+1.1**
	comp=Z,384nm,1.5s							
KMBO	**Kilima Mbogo**	**30.55**	**265**	P		**P**	**16 52 13.8**	**+2.4**
	comp=Z,12nm,0.8s,baz=60,slow=11,SNR=34							
KMBO				PcP		**PcP**	**16 55 12.6**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=52,slow=6.8,SNR=4.2							
KMBO				LR		LR	17 02 32.8	
	comp=Z,1μm,19.1s,baz=94,slow=32							
KMBO	**Kilima Mbogo**	**30.55**	**265**	*i* P		**P**	**16 52 13.6**	**+2.1**
	SNR=17							
KMBO	**Kilima Mbogo**	**30.55**	**265**	P		**P**	**16 52 11.0**	**-0.5**
KMBO							16 55 12.6	
KMBO				pmax		pmax		
	comp=Z,23nm,1.0s							
KMBO				MLR		MLR		
	comp=Z,1μm,20.0s							
KMBO	**Kilima Mbogo**	**30.55**	**265**	P		**P**	**16 52 11.0**	**-0.5**
DANN	**Dangsing**	**30.77**	**28**	*e*P		**P**	**16 52 14.4**	**+1.1**
	comp=Z,138nm,1.3s							
DMN	**Daman**	**30.83**	**31**	*e*P		**P**	**16 52 15.2**	**+1.4**
	comp=Z,165nm,1.2s							
GKN	**Gorkha**	**30.91**	**30**	*e*P		**P**	**16 52 15.5**	**+1.1**
	comp=Z,373nm,1.4s							
PKIN	**Phulchoki**	**30.95**	**32**	*e*P		**P**	**16 52 16.4**	**+1.5**
	comp=Z,319nm,1.8s							
PKI	**Pulchoki**	**30.96**	**32**	*e*P		**P**	**16 52 15.8**	**+0.8**
	comp=Z,309nm,1.8s							
KKN	**Kakani**	**31.07**	**31**	*e*P		**P**	**16 52 16.8**	**+1.0**
	comp=Z,179nm,1.3s							
RAMN	**Ramite**	**31.11**	**34**	*e*P		**P**	**16 52 18.4**	**+2.1**
	comp=Z,343nm,1.7s							
RPSI	**Rantau Prapat**	**31.23**	**87**	P		**P**	**16 52 18.2**	**+1.0**
RPSI				IAmb		IAmb	16 52 23.3	
	comp=Z,58nm,1.0s							
PSI	**Prapat**	**31.24**	**87**	P		**P**	**16 52 18.2**	**+0.8**
PSI				pmax		pmax		
	comp=Z,58nm,1.0s							
JIRN	**Jiri**	**31.44**	**33**	*e*P		**P**	**16 52 21.1**	**+1.8**
	comp=Z,180nm,1.4s							
ODAN	**Odare**	**31.49**	**35**	*e*P		**P**	**16 52 21.8**	**+2.2**
	comp=Z,696nm,1.9s							
DHRM	**DHARAMSHALA**	**31.61**	**14**	*e*P		**P**	**16 52 22.0**	**+1.5**
DHRM				IAmb		IAmb	16 52 46.0	
	comp=Z,74nm,1.2s							
MNSI	**Mandailing Nat**	**31.89**	**91**	P		**P**	**16 52 23.8**	**+0.8**
	comp=Z,1μmcomp=Z,91nm,1.4s							
TAPN	**Taplejung**	**32.05**	**35**	*e*P		**P**	**16 52 27.0**	**+2.4**
	comp=Z,391nm,1.8s							
LODK	**Lodwar**	**32.35**	**274**	P		**P**	**16 52 29.9**	**+2.8**
	SNR=26							
NIL	**Nilore**	**32.37**	**9**	P		**P**	**16 52 29.3**	**+2.3**
NIL				S		**S**	**16 57 45.8**	**+4.8**
NIL	**Nilore**	**32.37**	**9**	P		**P**	**16 52 26.7**	**-0.3**
NIL				pmax		pmax		
	comp=Z,129nm,1.1s							
NIL				MLR		MLR		
	comp=Z,3μm,20.0s							
NIL	**Nilore**	**32.37**	**9**	P		**P**	**16 52 26.7**	**-0.3**
NIL	**Nilore**	**32.37**	**9**	IAMs_20		IAMs_20	17 04 13.8	
	comp=Z,3μm,20.0s							
KBL	**Kabul**	**32.86**	**2**	P		**P**	**16 52 34.4**	**+2.9**
	SNR=63							
KBL	**Kabul**	**32.86**	**2**	P		**P**	**16 52 32.1**	**+0.6**
KBL				pmax		pmax		
	comp=Z,99nm,1.3s							
KBL				MLR		MLR		
	comp=Z,3μm,22.0s							
KBL	**Kabul**	**32.86**	**2**	P		**P**	**16 52 32.1**	**+0.6**
KBL				IAmb		IAmb	16 52 37.9	
	comp=Z,99nm,1.3s							
KBL				IAMs_20		IAMs_20	17 05 05.8	
	comp=Z,3μm,22.0s							
HRA	**Herat**	**33.07**	**352**	P		**P**	**16 52 33.1**	**-0.2**
HRA				IAmb		IAmb	16 52 38.8	
	comp=Z,48nm,1.2s							
HRA				IAMs_20		IAMs_20	17 04 33.7	
	comp=Z,3μm,21.0s							
KULM	**Kulim**	**33.11**	**83**	P		**P**	**16 52 33.4**	**-0.3**
KULM				IAmb		IAmb	16 52 39.8	
	comp=Z,102nm,1.4s							
KULM	**Kulim**	**33.11**	**83**	P		**P**	**16 52 34.0**	**+0.3**
FOMA	**Nahampoana Res**	**33.13**	**216**	IAMs_20		IAMs_20	17 02 08.3	
	comp=Z,3μm,19.0s							
BKNI	**Bangkinang**	**33.37**	**92**	P		**P**	**16 52 36.8**	**+0.8**
	comp=Z,4μmcomp=Z,390nm,1.5s							
BKNI	**Bangkinang**	**33.37**	**92**	P		**P**	**16 52 36.3**	**+0.3**
SHL	**Shillong**	**33.38**	**42**	*e*P		**P**	**16 52 37.0**	**+0.9**
SHL				IAmb		IAmb	16 52 40.4	
	comp=Z,28nm,0.9s							
SHL	**Shillong**	**33.38**	**42**	P		**P**	**16 52 38.4**	**+2.2**
	SNR=27							
SHL	**Shillong**	**33.38**	**42**	P		**P**	**16 52 35.3**	**-0.9**
SHL				pmax		pmax		
	comp=Z,83nm,1.3s							
SHL				MLR		MLR		
	comp=Z,5μm,22.0s							
SHL	**Shillong**	**33.38**	**42**	P		**P**	**16 52 35.3**	**-0.9**
SHL				IAmb		IAmb	16 52 40.6	
	comp=Z,83nm,1.3s							
SHL				IAMs_20		IAMs_20	17 04 53.2	
	comp=Z,5μm,22.0s							
IPM	**Ipoh**	**33.41**	**84**	P		**P**	**16 52 36.0**	**-0.5**
IPM				IAmb		IAmb	16 52 42.1	
	comp=Z,42nm,1.0s							
IPM	**Ipoh**	**33.41**	**84**	P		**P**	**16 52 37.0**	**+0.6**
SDSI	**Sungai Dareh**	**33.83**	**94**	P		**P**	**16 52 42.1**	**+2.1**
	comp=Z,1μmcomp=Z,61nm,1.1s							
KRJI	**Kerinci**	**33.96**	**96**	P		**P**	**16 52 42.1**	**+0.8**
	comp=Z,285nm,0.4s							
CM31	**Chiang Mai Arr**	**34.96**	**59**	P		**P**	**16 52 51.7**	**+2.0**
	SNR=61							
CM31				P		**P**	**16 52 51.7**	**+2.0**
	SNR=61							
CM31				S		**S**	**16 58 26.7**	**+5.2**
CM31				S		**S**	**16 58 26.7**	**+5.2**
CM31	**Chiang Mai Arr**	**34.96**	**59**	P		**P**	**16 52 48.9**	**-0.9**
CM31				IAmb		IAmb	16 52 52.8	
	comp=Z,81nm,1.4s							
CMAR	**Chiang Mai Arr**	**34.96**	**59**	P		**P**	**16 52 50.4**	**+0.6**
	comp=Z,33nm,1.1s,baz=245,slow=10,SNR=103							
CMAR				PcP		**PcP**	**16 55 22.4**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=240,slow=4.6,SNR=6.3							
CMAR				LR		LR	17 06 58.4	
	comp=Z,1μm,18.1s,baz=282,slow=36							
CMAR	**Chiang Mai Arr**	**34.96**	**59**	P		**P**	**16 52 49.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**34.96**	**59**	P		**P**	**16 52 49.6**	**-0.2**
CHTO	**Chiang Mai**	**35.11**	**59**	P		**P**	**16 52 52.4**	**+1.3**
CHTO				P		**P**	**16 52 52.4**	**+1.3**
CHTO				S		**S**	**16 58 25.9**	**+2.1**
CHTO				S		**S**	**16 58 25.9**	**+2.1**
CHTO	**Chiang Mai**	**35.11**	**59**	P		**P**	**16 52 51.6**	**+0.5**
CHTO				pmax		pmax		
	comp=Z,198nm,1.2s							
CHTO				MLR		MLR		
	comp=Z,2μm,19.0s							
CHTO	**Chiang Mai**	**35.11**	**59**	P		**P**	**16 52 51.6**	**+0.5**
KSI	**Kapahiang**	**35.27**	**98**	P		P	16 53 00.0	+7.5
LSA	**Lhasa**	**35.81**	**36**	*i* P		**P**	**16 52 59.1**	**+1.7**
	SNR=12							
LSA	**Lhasa**	**35.81**	**36**	P		**P**	**16 52 59.5**	**+2.1**
LSA				P		**P**	**16 52 59.5**	**+2.1**
LSA	**Lhasa**	**35.81**	**36**	P		**P**	**16 52 56.6**	**-0.9**
LSA				pmax		pmax		
	comp=Z,95nm,1.3s							
LSA				MLR		MLR		
	comp=Z,5μm,19.0s							
LSA	**Lhasa**	**35.81**	**36**	P		**P**	**16 52 56.5**	**-0.9**
LSA				IAmb		IAmb	16 53 03.0	
	comp=Z,95nm,1.3s							
MYKOM	**Kota Tinggi**	**36.15**	**89**	P		**P**	**16 52 59.3**	**-0.7**
MYKOM				IAmb		IAmb	16 53 04.7	
	comp=Z,76nm,0.9s							
MYKOM	**Kota Tinggi**	**36.15**	**89**	P		**P**	**16 53 02.0**	**+2.0**
DSRI	**Dabo**	**36.94**	**93**	P		**P**	**16 53 07.7**	**+0.9**
	comp=Z,757nmcomp=Z,55nm,1.1s							
MDSI	**Maura Dua**	**36.95**	**99**	P		**P**	**16 53 08.9**	**+2.0**
	comp=Z,1μmcomp=Z,74nm,1.7s							
CHGR	**Chuyangaron**	**36.97**	**2**	P		**P**	**16 53 05.4**	**-1.4**
CHGR				IAmb		IAmb	16 53 11.3	
	comp=Z,73nm,1.2s							
MBAR	**Mbarara**	**37.01**	**267**	P		**P**	**16 53 09.9**	**+2.3**
MBAR				P		**P**	**16 53 09.9**	**+2.3**
MBAR	**Mbarara**	**37.01**	**267**	*d* P		**P**	**16 53 09.0**	**+1.4**
MBAR				pmax		pmax		
	comp=Z,44nm,1.3s							
ASHT	**Ashkhabad**	**37.22**	**348**	IAMs_20		IAMs_20	17 07 38.7	
	comp=Z,2μm,20.0s							
LKP	**Lekhapani**	**37.23**	**44**	*e*P		**P**	**16 53 12.6**	**+3.5**
GEYT	**Alibeck**	**37.27**	**347**	P		**P**	**16 53 10.8**	**+1.5**
	comp=Z,18nm,1.0s,baz=171,slow=12,SNR=23							
GEYT				PcP		**PcP**	**16 55 29.9**	**+1.1**
	comp=Z,7.8nm,1.0s,baz=34,slow=1.1,SNR=4.4							
GEYT				LR		LR	17 07 51.9	
	comp=Z,3μm,20.7s,baz=140,slow=35							
GEYT	**Alibeck**	**37.27**	**347**	P		**P**	**16 53 09.1**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**37.27**	**347**	P		**P**	**16 53 08.5**	**-0.8**
GYA0B				IAMs_20		IAMs_20	17 07 30.9	
	comp=Z,3μm,21.0s							
GAR	**Garm**	**37.36**	**3**	P		**P**	**16 53 09.2**	**-1.0**
KLSI		**37.52**	**100**	P		**P**	**16 53 13.1**	**+1.4**
	comp=Z,566nmcomp=Z,35nm,1.6s							
BLSI	**Bandar Lampung**	**38.13**	**101**	P		**P**	**16 53 18.7**	**+1.8**
	comp=Z,74nm,0.4s							
BTK	**Batken**	**38.45**	**4**	P		**P**	**16 53 18.4**	**-0.9**
BTK				pmax		pmax		
	comp=Z,152nm,1.4s							
BTK				MLR		MLR		
	comp=Z,2μm,21.0s							
BTK	**Batken**	**38.45**	**4**	P		**P**	**16 53 18.4**	**-0.9**
BTK				IAmb		IAmb	16 53 24.4	
	comp=Z,152nm,1.4s							
BTK				IAMs_20		IAMs_20	17 08 38.8	
	comp=Z,2μm,21.0s							
PPBI	**Pangkal Pinang**	**38.62**	**95**	P		**P**	**16 53 21.2**	**+0.2**
	comp=Z,1μmcomp=Z,79nm,1.4s							
TAS	**Tashkent**	**39.63**	**2**	IAMs_20		IAMs_20	17 09 46.3	
	comp=Z,2μm,20.0s							
CBJI	**Citeko**	**39.88**	**102**	P		**P**	**16 53 34.0**	**+2.4**
	comp=Z,3μmcomp=Z,47nm,1.1s							
TPI	**Tanjungpandan**	**40.18**	**96**	P		**P**	**16 53 34.2**	**+0.2**
	comp=Z,554nmcomp=Z,40nm,1.2s							
SLVN	**Son La**	**40.40**	**58**	IAMs_20		IAMs_20	17 11 23.9	
	comp=Z,2μm,18.0s							
IUG	**Iuzhnay**	**40.48**	**3**	*i* P		**P**	**16 53 36.8**	**+0.6**
	comp=Z,88nm,2.0s,baz=2.8							
IUG				*e*S		**S**	**16 59 45.9**	**+1.1**
	baz=2.8							
IUG				LR		LR	17 10 47.8	
	comp=Z,283nm,14.2s,baz=2.8							
IUG	**Iuzhnay**	**40.48**	**3**	*i* P		**P**	**16 53 36.8**	**+0.6**
IUG				*e*S		**S**	**16 59 45.9**	**+1.1**
IUG				pmax		pmax		
	comp=Z,88nm,2.0s							
IUG				MLR		MLR		
	comp=Z,283nm,14.0s							
UCH	**Uchtor**	**40.97**	**8**	P		**P**	**16 53 45.1**	**+4.4**
	SNR=36							
CISI	**Cisompet, Garu**	**41.03**	**103**	P		P	16 53 46.8	+5.6
CISI	**Cisompet, Garu**	**41.03**	**103**	P		**P**	**16 53 38.7**	**-2.4**
CISI				IAmb		IAmb	16 53 47.0	
	comp=Z,225nm,1.5s							
TARG	**Taragay, Kyrgy**	**41.04**	**12**	P		**P**	**16 53 38.8**	**-2.4**
KMI	**Kunming**	**41.14**	**52**	‖P		**P**	**16 53 43.5**	**+1.4**
KMI				pP		pwP	16 53 49.8	+0.6
KMI				S		**S**	**16 59 48.8**	**-6.6**
KMI				SS		**SS**	**17 02 54.3**	**-4.0**
KMI				pmax		pmax		
	comp=Z,25nm,1.4s							
KMI				pmax		pmax		
	comp=Z,380nm,3.7s							
KMI				LR		LR		
	comp=Z,2μm,16.6s							
KMI				LR		LR		
	comp=Z,630nm,22.5s							
KMI				LR		LR		
	comp=Z,2μm,19.3s							
KMI	**Kunming**	**41.14**	**52**	P		**P**	**16 53 38.9**	**-3.2**
KMI				pmax		pmax		
	comp=Z,26nm,0.5s							
KMI				MLR		MLR		
	comp=Z,2μm,20.0s							
KMI	**Kunming**	**41.14**	**52**	P		**P**	**16 53 38.9**	**-3.2**
KMI	**Kunming**	**41.14**	**52**	IAMs_20		IAMs_20	17 11 23.4	
	comp=Z,2μm,20.0s							
ULHL	**Ulahol**	**41.25**	**10**	P		**P**	**16 53 47.1**	**+4.4**
	SNR=9.0							
DZA	**Taraz**	**41.30**	**4**	*e*P		**P**	**16 53 43.4**	**+0.4**
	comp=Z,24nm,1.6s,baz=4.2							
DZA				*e*S		**S**	**16 59 57.8**	**+0.9**
	baz=4.2							
DZA	**Taraz**	**41.30**	**4**	*e*P		**P**	**16 53 43.3**	**+0.4**
DZA				*e*S		**S**	**16 59 57.8**	**+0.9**
DZA				pmax		pmax		
	comp=Z,24nm,1.6s							
KDJ	**Kajisay**	**41.30**	**11**	P		**P**	**16 53 42.8**	**-0.3**
KDJ				pmax		pmax		
	comp=Z,57nm,1.0s							
KDJ				MLR		MLR		
	comp=Z,3μm,20.0s							
KDJ	**Kajisay**	**41.30**	**11**	P		**P**	**16 53 42.8**	**-0.3**
KDJ				IAMs_20		IAMs_20	17 10 24.0	
	comp=Z,3μm,20.0s							
EKS2	**Erkin-Say**	**41.30**	**7**	P		P	16 53 48.0	+5.0
	SNR=40							
AAK	**Ala-Archa**	**41.37**	**8**	P		**P**	**16 53 44.8**	**+1.1**
	SNR=14							
AAK	**Ala-Archa**	**41.37**	**8**	P		**P**	**16 53 43.8**	**+0.1**
AAK				P		**P**	**16 53 43.8**	**+0.1**
AAK				S		**S**	**17 00 02.4**	**+4.3**
AAK				S		**S**	**17 00 02.4**	**+4.3**
AAK

comp=Z,58nm,1.6s
TNSS Tian-Shan 42.14 10 *e*P **P 16 53 50.4 +0.1**
baz=10
TNSS Tian-Shan 42.14 10 *e*P **P 16 53 50.3 +0.1**
MTBS Maitube 42.14 10 *e*P **P 16 53 50.6 +0.7**
baz=9.7
MTBS Maitube 42.14 10 *e*P **P 16 53 50.5 +0.7**
SGDS Sogindy 42.19 8 *i* P **P 16 53 50.7 +0.5**
comp=Z,107nm,2.0s,baz=7.7
SGDS *e*S **S 17 00 10.2 +0.1**
baz=7.7
SGDS Sogindy 42.19 8 *i* P **P 16 53 50.6 +0.4**
SGDS *e*S **S 17 00 10.2 +0.1**
SGDS pmax pmax
comp=Z,107nm,2.0s
MDOK Medeo 42.28 10 *i* P **P 16 53 51.7 +0.7**
baz=10
MDOK *e*PP **PP 16 55 29.6 +0.5**
baz=10
MDOK *i* S **S 17 00 12.4 +0.7**
baz=10
MDOK LR LR 17 09 38.4
comp=Z,1μm,15.0s,baz=10
MDOK Medeo 42.28 10 *i* P **P 16 53 51.7 +0.7**
MDOK *e* 16 55 29.6
MDOK *i* S **S 17 00 12.3 +0.7**
MDOK MLR MLR
comp=Z,1μm,15.0s
AAA Alma-Ata 42.30 10 *e*P **P 16 53 52.6 +1.5**
comp=Z,95nm,2.4s,baz=10
AAA *e*PP **PP 16 55 30.9 +1.6**
baz=10
AAA *i* S **S 17 00 13.5 +1.7**
baz=10
AAA LR LR 17 09 41.9
comp=Z,1μm,16.4s,baz=10
AAA Alma-Ata 42.30 10 *e*P **P 16 53 52.6 +1.5**
AAA *e* 16 55 30.8
AAA *i* S **S 17 00 13.4 +1.7**
AAA pmax pmax
comp=Z,95nm,2.4s
AAA MLR MLR
comp=Z,1μm,16.0s
SATY Saty 42.44 12 *i* P **P 16 53 53.0 +0.7**
comp=Z,97nm,1.5s,baz=12
SATY LR LR 17 11 09.7
comp=Z,259nm,12.5s,baz=12
SATY Saty 42.44 12 *i* P **P 16 53 53.0 +0.7**
SATY pmax pmax
comp=Z,97nm,1.5s
SATY MLR MLR
comp=Z,259nm,13.0s
LSZ Lusaka 42.48 245 P **P 16 53 54.8 +1.7**
LSZ P **P 16 53 54.8 +1.7**
LSZ Lusaka 42.48 245 P **P 16 53 53.0 -0.1**
LSZ pmax pmax
comp=Z,55nm,1.2s
LSZ MLR MLR
comp=Z,4μm,19.0s
LSZ Lusaka 42.48 245 P **P 16 53 53.0 -0.1**
KSM Kuching 42.60 89 P **P 16 53 53.4 -0.6**
KSM Kuching 42.60 89 P **P 16 53 55.0 +1.0**
UZB Uzynbulak 42.65 12 *i* P **P 16 53 54.8 +0.7**
comp=Z,60nm,1.6s,baz=12
UZB *i* S **S 17 00 17.8 +0.7**
baz=12
UZB Uzynbulak 42.65 12 *i* P **P 16 53 54.7 +0.7**
UZB *i* S **S 17 00 17.7 +0.7**
UZB pmax pmax
comp=Z,60nm,1.6s
SHLS Shalkode 42.75 13 *i* P **P 16 53 57.0 +2.1**
comp=Z,180nm,1.7s,baz=13
SHLS *i* S **S 17 00 21.6 +3.0**
baz=13
SHLS Shalkode 42.75 13 *i* P **P 16 53 57.0 +2.1**
SHLS *i* S **S 17 00 21.5 +3.0**
SHLS pmax pmax
comp=Z,181nm,1.7s
KUU Kurty 42.87 9 *e*P **P 16 53 55.6 -0.1**
comp=Z,145nm,2.6s,baz=9.3
KUU *i* S **S 17 00 20.5 +0.4**
baz=9.3
KUU LR LR 17 10 02.7
comp=Z,955nm,15.3s,baz=9.3
KUU Kurty 42.87 9 *e*P **P 16 53 55.6 -0.1**
KUU *i* S **S 17 00 20.4 +0.4**
KUU pmax pmax
comp=Z,145nm,2.6s
KUU MLR MLR
comp=Z,955nm,15.0s
KPKS Kokpek 42.88 12 *i* P **P 16 53 56.4 +0.4**
comp=Z,103nm,1.3s,baz=12
KPKS LR LR 17 10 46.0
comp=Z,593nm,12.7s,baz=12
KPKS Kokpek 42.88 12 *i* P **P 16 53 56.3 +0.4**
KPKS pmax pmax
comp=Z,103nm,1.3s
KPKS MLR MLR
comp=Z,593nm,13.0s
GEVA Gevas 43.01 331 P **P 16 53 56.3 -0.8**
MARD Mardin 43.38 328 P **P 16 53 59.7 -0.4**
MARD IAMs_20 IAMs_20 17 14 03.4
comp=Z,2μm,18.0s
SMRI Semarang 43.51 102 P **P 16 53 59.4 -1.9**
SMRI IAmb IAmb 16 54 05.3
comp=Z,156nm,1.1s
MMAI Mount Meron Ar 43.57 319 P **P 16 54 03.3 +1.7**
comp=Z,16nm,1.1s,baz=125,slow=10,SNR=9.6
MMAI LR LR 17 11 11.2
comp=Z,2μm,18.5s,baz=135,slow=35
BTLS Baital 43.68 7 *i* P **P 16 54 02.7 +0.4**
comp=Z,49nm,1.5s,baz=6.7
BTLS *i* S **S 17 00 32.9 +1.0**
baz=6.7
BTLS Baital 43.68 7 *i* P **P 16 54 02.6 +0.4**
BTLS *i* S **S 17 00 32.8 +1.0**
BTLS pmax pmax
comp=Z,49nm,1.5s
STKI Sintang 43.81 91 P **P 16 54 04.7 +1.0**
WOJI Wonogiri, Jawa 44.11 103 P **P 16 54 07.0 +0.9**
comp=Z,79nm,1.2s
TDK Taldyqorghan 44.31 11 *e*P **P 16 54 07.1 -0.1**
baz=11
TDK *i* S **S 17 00 41.0 -0.1**
baz=11
TDK Taldyqorghan 44.31 11 *e*P **P 16 54 07.1 -0.1**
TDK *i* S **S 17 00 40.9 -0.1**
QIZ Qiongzhong 44.79 64 P **P 16 54 12.0 +0.5**
QIZ sP **sP 16 54 15.5 -0.3**
QIZ S **S 17 00 51.0 +2.3**
QIZ pmax pmax
comp=Z,17nm,1.4s
QIZ pmax pmax
comp=Z,300nm,3.5s
QIZ LR LR
comp=Z,880nm,15.7s
QIZ LR LR
comp=Z,1μm,19.4s
QIZ LR LR
comp=Z,1μm,20.1s
QIZ Qiongzhong 44.79 64 P **P 16 54 09.7 -1.8**
QIZ IAmb IAmb 16 54 16.4
comp=Z,80nm,1.2s
QIZ Qiongzhong 44.79 64 IAMs_20 IAMs_20 17 11 47.3
comp=Z,1μm,20.0s
GYA Guiyang 44.89 53 ‖P **P 16 54 12.3 0.0**
GYA pP pP 16 54 15.5 0.0
GYA PP **PcP 16 55 53.0 -1.0**
GYA S **S 17 00 50.3 +0.1**
GYA pmax pmax
comp=Z,42nm,1.1s
GYA pmax pmax
comp=Z,390nm,3.5s
GYA LR LR
comp=Z,600nm,11.9s
GYA LR LR
comp=Z,780nm,19.8s
GYA LR LR
comp=Z,1μm,23.2s
CD2 Chengdu 44.92 46 P **P 16 54 14.3 +1.9**
CD2 S **S 17 00 51.0 +0.6**
CD2 SS **ScS 17 04 05.0 -5.1**
CD2 pmax pmax
comp=Z,40nm,1.8s
CD2 pmax pmax
comp=Z,240nm,6.5s
CD2 LR LR
comp=Z,1μm,20.2s
CD2 LR LR
comp=Z,1μm,16.7s
CD2 LR LR
comp=Z,1μm,15.1s
PWJI Pagerwojo 45.00 103 P **P 16 54 14.4 +1.1**
comp=Z,48nm,1.0s
MAK Makhachkala 45.02 339 *e*P P 16 54 07.9 -5.0
MAK *e* 16 55 47.9
MAK *e*S S 17 00 42.0 -9.3
MAK *e*SS ScS 17 03 58.9 -11
MAK pmax pmax
comp=Z,188nm,1.5s
MAK MLR MLR
comp=Z,458nm,14.0s
GAZ Gaziantep 45.23 325 P **P 16 54 12.8 -2.1**
AKH Akhalkalaki 45.30 334 P **P 16 54 13.2 -2.2**
AKH pmax pmax
comp=Z,255nm,1.4s
AKH MLR MLR
comp=Z,2μm,22.0s
AKH Akhalkalaki 45.30 334 P **P 16 54 13.2 -2.2**
AKH IAMs_20 IAMs_20 17 13 17.9
comp=Z,2μm,22.0s
KOPT Kop Dagi 45.58 331 P **P 16 54 16.3 -1.5**
KOPT IAmb IAmb 16 54 33.6
comp=Z,42nm,1.2s
WMQ Urumqi 45.71 20 *e*P **P 16 54 21.3 +2.8**
WMQ sP pwP 16 54 26.5 +0.9
WMQ S **S 17 01 00.5 -1.0**
WMQ SS **ScS 17 04 18.8 +4.1**
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,320nm,3.7s
WMQ LR LR
comp=Z,1μm,14.5s
WMQ LR LR
comp=Z,770nm,15.5s
WMQ LR LR
comp=Z,830nm,25.9s
WMQ Urumqi 45.71 20 IAMs_20 IAMs_20 17 13 20.7
comp=Z,2μm,20.0s
GROC Groznyy 45.86 338 *e*P **P 16 54 16.8 -2.8**
GROC *e* 16 56 01.9
GROC *e*S **S 17 01 05.8 +2.4**
GROC *e* 17 04 19.2
GROC pmax pmax
comp=Z,161nm,1.5s
CSS Mathiatis 46.13 320 IAMs_20 IAMs_20 17 12 42.6
comp=Z,2μm,19.0s
ZEI Tsey 46.26 336 *e*P **P 16 54 25.0 +2.0**
ZEI pmax pmax
comp=Z,32nm,1.4s
MAKZ Makanchi 46.78 13 P **P 16 54 24.9 -1.9**
MAKZ pmax pmax
comp=Z,71nm,1.3s
MAKZ MLR MLR
comp=Z,1μm,20.0s
MAKZ Makanchi 46.78 13 P **P 16 54 24.9 -1.9**
MAKZ IAmb IAmb 16 54 30.7
comp=Z,71nm,1.2s
MAKZ IAMs_20 IAMs_20 17 15 19.2
comp=Z,1μm,20.0s
MK31 Makanchi Array 46.84 14 *ce*P **P 16 54 27.1 -0.2**
MK31 Makanchi Array 46.84 14 P **P 16 54 25.3 -2.0**
MK31 IAmb IAmb 16 54 31.0
comp=Z,38nm,1.2s
MKAR Makanchi Array 46.84 14 P **P 16 54 27.0 -0.3**
comp=Z,12nm,0.9s,baz=198,slow=7.4,SNR=34
MKAR Makanchi Array 46.84 14 P **P 16 54 25.4 -1.9**
MKAR Makanchi Array 46.84 14 P **P 16 54 25.4 -1.9**
MTKI Muara Teweh, K 47.27 93 P **P 16 54 32.6 +1.5**
comp=Z,1μmcomp=Z,36nm,1.1s
JAGI Jajag, Banyuwa 47.37 103 P **P 16 54 30.1 -1.8**
JAGI IAmb IAmb 16 54 52.0
comp=Z,82nm,1.2s
BBKI Banjar Baru 47.39 96 P **P 16 54 32.9 +0.8**
comp=Z,1μmcomp=Z,73nm,0.9s
KBZ Khabaz 47.45 336 P **P 16 54 33.0 +1.0**
comp=Z,22nm,1.1s,baz=145,slow=3.8,SNR=15
KBZ LR LR 17 15 17.8
comp=Z,690nm,21.7s,baz=136,slow=37
KBZ Khabaz 47.45 336 *ce*P **P 16 54 33.2 +1.2**
KBZ pmax pmax
comp=Z,44nm,1.0s
SHA1 Shidzhatmaz 47.55 335 *i* P **P 16 54 34.3 +1.1**
KIV Kislovodsk 47.72 336 P **P 16 54 35.2 +0.9**
KIV S **S 17 01 34.6 +4.3**
KIV Kislovodsk 47.72 336 *e*P **P 16 54 35.6 +1.3**
KIV *e* 16 56 05.2
KIV *e* 16 56 27.5
KIV *e*S **S 17 01 32.0 +1.7**
KIV pmax pmax
comp=Z,86nm,1.1s
KIV pmax pmax
comp=Z,77nm,4.4s
KIV MLR MLR
comp=Z,1μm,16.0s
KIV Kislovodsk 47.72 336 P **P 16 54 32.5 -1.8**
KIV IAmb IAmb 16 54 41.5
comp=Z,40nm,1.2s
GTA Gaotai 47.72 34 P **P 16 54 33.0 -1.4**
GTA pP pP 16 54 37.5 -0.1
GTA sP sP 16 54 40.0 +1.2
GTA S **S 17 01 29.0 -1.6**
GTA SS **SS 17 04 56.5 -2.6**
GTA pmax pmax
comp=Z,170nm,7.1s
GTA LR LR
comp=Z,3μm,16.4s
GTA LR LR
comp=Z,3μm,16.0s
GTA LR LR
comp=Z,4μm,17.1s
TOKA Tokat 47.87 328 P **P 16 54 33.7 -1.8**
TOKA IAmb IAmb 16 54 42.6
comp=Z,66nm,1.2s
LZH Lanzhou 47.98 40 *e*P **P 16 54 39.8 +3.3**
LZH pP pwP 16 54 45.5 +1.7
LZH sP sP 16 54 49.5 +8.7
LZH PcP **PcP 16 56 07.3 +2.6**
LZH S **S 17 01 34.5 +0.2**
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,170nm,6.0s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,1μm,17.3s
AB31 Akbulak array 48.00 353 *i* P **P 16 54 36.0 -0.2**
ABKAR Akbulak array 48.00 353 P **P 16 54 35.3 -0.9**
ABKAR Akbulak array 48.00 353 P **P 16 54 35.4 -0.9**
ABKAR IAmb IAmb 16 54 41.7
comp=Z,106nm,1.2s
ZSN Zaisan 48.10 16 *e*P **P 16 54 37.6 +0.4**
comp=Z,65nm,1.5s,baz=16
ZSN *i* S **S 17 01 36.5 +1.0**
baz=16
ZSN Zaisan 48.10 16 *e*P **P 16 54 37.5 +0.4**
ZSN *i* S **S 17 01 36.5 +1.0**
ZSN pmax pmax
comp=Z,65nm,1.5s
BRZS Berezniki 48.45 4 *e*P **P 16 54 40.1 +0.4**
comp=Z,62nm,1.6s,baz=4.4
BRZS *e*S **S 17 01 40.9 +0.5**
baz=4.4
BRZS LR LR 17 15 59.2
comp=Z,419nm,13.7s,baz=4.4
BRZS Berezniki 48.45 4 *e*P **P 16 54 40.1 +0.4**
BRZS *e*S **S 17 01 40.8 +0.5**
BRZS pmax pmax
comp=Z,62nm,1.6s
BRZS MLR MLR
comp=Z,419nm,14.0s
GOF Gofitskoye 48.49 337 ‖ *e*P **P 16 54 39.8 -0.3**
GOF pmax pmax
comp=Z,54nm,1.2s
LBTB Lobatse 48.56 234 P **P 16 54 41.1 0.0**
LBTB pmax pmax
comp=Z,44nm,1.0s
LBTB Lobatse 48.56 234 P **P 16 54 41.1 0.0**
LBTB IAmb IAmb 16 54 42.8
comp=Z,44nm,0.9s
SOC Sochi 48.71 333 *e*P **P 16 54 39.3 -2.5**
SOC *e* 16 56 34.4
SOC *e*S **S 17 01 41.8 -2.3**
SOC *e*SS **SS 17 05 13.2 -1.4**
SOC MLR MLR
comp=Z,929nm,16.0s
SPMM Sapulut 48.80 85 P P 16 54 48.0 +5.0
ENH Enshi 48.85 50 P **P 16 54 42.2 -1.0**
BR131 Keskin Array S 49.02 325 P **P 16 54 45.5 +1.0**
SNR=15
BR131 P **P 16 54 45.5 +1.0**
SNR=15
BR131 Keskin Array S 49.02 325 P **P 16 54 42.9 -1.6**
BR131 pmax pmax
comp=Z,30nm,1.3s
BR131 Keskin Array S 49.02 325 P **P 16 54 42.9 -1.6**
BRTR Keskin Array B 49.02 325 P **P 16 54 44.5 0.0**
comp=Z,6.5nm,1.0s,baz=143,slow=10,SNR=15
BRTR LR LR 17 16 01.0
comp=Z,1μm,18.0s,baz=152,slow=37
BRTR Keskin Array B 49.02 325 P **P 16 54 43.1 -1.4**
BRTR Keskin Array B 49.02 325 P **P 16 54 43.1 -1.4**
AKTO Aktyubinsk 49.41 352 P **P 16 54 47.0 0.0**
comp=Z,32nm,0.9s,baz=171,slow=9.1,SNR=31
AKTO Aktyubinsk 49.41 352 P **P 16 54 45.8 -1.2**
ELL Elmali 49.42 320 P **P 16 54 48.0 +0.4**
ELL pmax pmax
comp=Z,163nm,1.0s
ELL MLR MLR
comp=Z,4μm,21.0s
ELL Elmali 49.42 320 P **P 16 54 48.0 +0.4**
ANTO Ankara 49.61 325 IAMs_20 IAMs_20 17 17 10.7
comp=Z,2μm,19.0s
CRZF Crozet Islands 49.76 194 IAMs_20 IAMs_20 17 11 38.3
comp=Z,2μm,19.0s
KURBB Kurchatov Arra 49.77 9 P **P 16 54 49.1 -0.6**
comp=Z,33nm,1.0s,baz=204,slow=8.0,SNR=45
KURBB PcP **PcP 16 56 12.9 +2.3**
comp=Z,4.4nm,1.0s,baz=208,slow=3.1,SNR=5.5
KURBB PP **PP 16 56 46.5 +2.0**
comp=Z,1.8nm,1.0s,baz=202,slow=8.4,SNR=4.4
KURBB Kurchatov Arra 49.77 9 P **P 16 54 49.0 -0.7**
KURK Kurchatov 49.87 9 P **P 16 54 52.6 +2.1**
KURK P **P 16 54 52.6 +2.1**
KURK Kurchatov 49.87 9 *ce*P **P 16 54 50.3 -0.2**
KURK pmax pmax
comp=Z,90nm,1.2s
KURK Kurchatov 49.87 9 P **P 16 54 49.6 -0.9**
KURK IAmb IAmb 16 54 54.6
comp=Z,74nm,1.1s
KURK Kurchatov 49.87 9 **PcP 16 56 12.9 +2.0**
KURK **PP 16 56 46.5 +1.0**
KURK Kurchatov 49.87 9 IAMs_20 IAMs_20 17 15 17.9
comp=Z,2μm,19.0s
ILGA Ilgaz 49.88 326 P **P 16 54 50.2 -0.9**
ILGA IAmb IAmb 16 54 56.4
comp=Z,85nm,1.4s
TWSI Taliwang, Sumb 50.08 103 P **P 16 54 54.4 +1.7**
comp=Z,704nmcomp=Z,40nm,1.5s
XAN Xi'an 50.27 45 P **P 16 54 51.0 -3.0**
XAN S **S 17 02 05.0 -1.5**
XAN ScS **ScS 17 04 43.0 -2.4**
XAN pmax pmax
comp=Z,26nm,1.1s
XAN pmax pmax
comp=Z,650nm,4.9s
XAN LR LR
comp=Z,700nm,17.9s
XAN LR LR
comp=Z,820nm,17.3s
XAN LR LR
comp=Z,760nm,17.1s
XAN Xi'an 50.27 45 P **P 16 54 52.6 -1.4**
XAN pmax pmax
comp=Z,73nm,1.1s
XAN MLR MLR
comp=Z,600nm,21.0s
XAN Xi'an 50.27 45 P **P 16 54 52.6 -1.4**
XAN IAmb IAmb 16 54 58.4
comp=Z,73nm,1.1s
BOSA Boshof 50.51 230 P **P 16 54 55.7 -0.2**
comp=Z,28nm,0.9s,baz=65,slow=8.3,SNR=30
BOSA LR LR 17 13 46.8
comp=Z,2μm,19.6s,baz=72,slow=33
BOSA Boshof 50.51 230 P **P 16 54 55.2 -0.7**
BOSA pmax pmax
comp=Z,34nm,0.9s
BOSA Boshof 50.51 230 P **P 16 54 55.2 -0.7**
ANN Anapa 50.69 332 *e*P **P 16 54 53.9 -3.0**
ANN *i* *PP **pP 16 55 00.4 +0.5**
ANN *e* 16 56 12.7
ANN *e*S **S 17 02 11.3 -0.5**
ANN pmax pmax
comp=Z,54nm,1.0s
ANN MLR MLR
comp=Z,823nm,15.0s
MYLDM Lahad Datu 50.84 85 P **P 16 54 57.6 -0.9**
MYLDM IAmb IAmb 16 55 23.7
comp=Z,56nm,1.3s
DGZ Jazzator, Alta 50.86 16 *i* P **P 16 54 58.8 +0.5**
DGZ pmax pmax
comp=Z,48nm,1.2s
MDUB Mudurnu 50.92 324 P **P 16 54 58.0 -0.9**
PLAI Plampang 50.96 103 P **P 16 54 59.8 +0.3**
comp=Z,75nm,1.4s
MANT Manisa 51.31 321 P **P 16 55 00.3 -1.7**
BVAR Borovoye Array 51.36 2 P **P 16 55 02.0 +0.2**
comp=Z,1.3nm,0.7s,baz=173,slow=13,SNR=12
BVAR Borovoye Array 51.36 2 P **P 16 55 02.0 +0.2**
BRVK Borovoye 51.39 2 P **P 16 55 04.7 +2.7**
BRVK P **P 16 55 04.7 +2.7**
BRVK Borovoye 51.39 2 P **P 16 55 00.1 -1.9**
BRVK pmax pmax
comp=Z,37nm,1.5s
BRVK MLR MLR
comp=Z,2μm,19.0s
BRVK Borovoye 51.39 2 P **P 16 55 00.1 -1.9**
BRVK Borovoye 51.39 2 IAMs_20 IAMs_20 17 17 23.2
comp=Z,2μm,19.0s
IDI Anoyia 52.02 315 P **P 16 55 08.5 +1.4**
comp=Z,33nm,0.9s,baz=93,slow=11,SNR=7.7
IDI Anoyia 52.02 315 P **P 16 55 06.5 -0.6**
IDI IAmb IAmb 16 55 13.2
comp=Z,97nm,1.3s
MPSI Mapaga 52.21 91 P **P 16 55 08.1 -0.7**
comp=Z,970nmcomp=Z,79nm,1.5s
SPSI Sidrap Palu 52.33 96 P **P 16 55 10.0 +0.3**
comp=Z,16nm,1.1s
KAPI Kappang 52.41 97 P **P 16 55 09.3 -1.1**
KAPI P **P 16 55 09.3 -1.1**
KAPI Kappang 52.41 97 P **P 16 55 07.5 -2.8**
KAPI pmax pmax
comp=Z,26nm,1.1s
KAPI MLR MLR
comp=Z,500nm,18.0s
KAPI Kappang 52.41 97 P **P 16 55 07.5 -2.8**
WHN Wuhan 52.74 52 P **P 16 55 13.0 +0.5**
WHN S **S 17 02 40.8 +0.3**
WHN SS **SS 17 06 15.8 -3.5**
WHN LR LR
comp=Z,2μm,16.5s
WHN LR LR
comp=Z,2μm,13.8s
WHN LR LR
comp=Z,3μm,18.7s
BKSI Bulukumba 52.81 98 P **P 16 55 12.4 -0.9**
comp=Z,898nmcomp=Z,56nm,0.9s
TSUM Tsumeb 53.33 245 P **P 16 55 16.2 -0.9**
TSUM IAmb IAmb 16 55 19.3
comp=Z,54nm,1.3s
TSUM Tsumeb 53.33 245 IAMs_20 IAMs_20 17 15 22.5
comp=Z,3μm,21.0s
BELG Belogornoye 53.38 345 *i* P **P 16 55 17.4 +0.7**
KNMB Chin-men Tao 53.99 61 IAMs_20 IAMs_20 17 18 37.9
comp=Z,875nm,18.0s
ZAA0 Zalesovo Array 54.11 12 P **P 16 55 20.9 -1.2**
ZAA0 IAMs_20 IAMs_20 17 19 12.1
comp=Z,2μm,19.0s
ZALV Zalesovo Beam 54.11 12 P **P 16 55 20.7 -1.4**
comp=Z,45nm,0.9s,baz=209,slow=6.8,SNR=36
ZALV LR LR 17 19 32.8
comp=Z,2μm,19.0s,baz=210,slow=37

ZALV Zalesovo Beam 54.11 12 P **P** **16 55 20.4 -1.7**
ZALV Zalesovo Beam 54.11 12 P **P** **16 55 20.4 -1.7**
VRH Novokhopyorsk 54.12 340 *e*P **P** **16 55 22.5 +0.3**
VRH *e*S **S** **17 02 54.4 -4.0**
VRH pmax pmax
comp=Z,110nm,1.1s
VRH smax smax
comp=E,890nm,8.6s
VRH MLR MLR
comp=Z,990nm,18.0s
ALN Alexandroupoli 54.29 322 P **P** **16 55 21.9 -1.7**
ALN pmax pmax
comp=Z,116nm,1.3s
ALN Alexandroupoli 54.29 322 P **P** **16 55 21.9 -1.7**
QZH Quanzhou 54.30 60 *e*P **P** **16 55 26.8 +2.8**
QZH S **S** **17 03 06.0 +4.1**
QZH LR LR
comp=Z,750nm,18.5s
QZH LR LR
comp=Z,760nm,13.3s
QZH LR LR
comp=Z,1μm,16.1s
TIY Taiyuan 54.60 43 *e*P **P** **16 55 29.0 +2.9**
TIY S **S** **17 03 04.0 -1.6**
TIY ScS **ScS** **17 05 14.5 -1.0**
TIY pmax pmax
comp=Z,16nm,0.5s
TIY LR LR
comp=Z,630nm,15.9s
TIY LR LR
comp=Z,740nm,14.1s
TIY LR LR
comp=Z,770nm,15.2s
PSN Preselentsi 54.70 326 *i* P **P** **16 55 28.6 +2.0**
EDFI Ende, Flores 54.78 102 P **P** **16 55 25.4 -2.4**
comp=Z,359nmcomp=Z,16nm,1.4s
VORD Divnogorie 54.78 338 *e*P **P** **16 55 27.5 +0.5**
VORD pmax pmax
comp=Z,90nm,1.2s
PRD Provadia 54.84 325 *i* P **P** **16 55 30.3 +2.7**
JMB Yambol 54.88 324 P **P** **16 55 31.2 +3.3**
VSR Storozhevoye 55.03 339 *e*P **P** **16 55 29.2 +0.4**
VSR *e*S **S** **17 03 03.9 -6.9**
VSR pmax pmax
comp=Z,100nm,1.2s
VSR smax smax
comp=E,600nm,7.0s
VSR MLR MLR
comp=Z,750nm,17.0s
ITM Ithomi 55.04 316 P **P** **16 55 28.5 -0.7**
ITM IAmb IAmb 16 55 43.8
comp=Z,63nm,1.5s
TIRR Tirgusor 55.06 326 ⇓P **P** **16 55 29.7 +0.6**
TIRR Tirgusor 55.06 326 ⇓P **P** **16 55 29.7 +0.6**
TIRR Tirgusor 55.06 326 P **P** **16 55 28.4 -0.7**
TIRR IAMs_20 IAMs_20 17 20 25.5
comp=Z,2μm,19.0s
KDZ Kurdzhali 55.11 322 *i* P **P** **16 55 32.6 +3.0**
LUWI Luwuk 55.14 92 P **P** **16 55 31.1 +0.8**
LUWI Luwuk 55.14 92 P **P** **16 55 27.5 -2.8**
ARU Arti 55.22 354 P **P** **16 55 29.5 -0.6**
comp=Z,7.4nm,1.0s,baz=171,slow=6.6,SNR=33
ARU Arti 55.22 354*c i*P **P** **16 55 29.8 -0.3**
ARU 16 56 33.4
ARU 16 57 34.3
ARU PPP PPP 16 58 41.7
ARU S **S** **17 03 14.4 +1.3**
ARU 17 05 16.7
ARU SS **SS** **17 07 02.2 +4.8**
ARU pmax pmax
comp=Z,83nm,1.3s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 55.22 354 P **P** **16 55 27.0 -3.1**
ARU IAmb IAmb 16 55 34.2
comp=Z,85nm,1.3s
ARU IAMs_20 IAMs_20 17 20 22.6
comp=Z,1μm,20.0s
GTOI Gorontalo 55.32 90 P **P** **16 55 28.4 -3.2**
MORW Morawa 55.34 127 P **P** **16 55 32.4 +0.8**
baz=55,SNR=12
MORW Morawa 55.34 127 P **P** **16 55 31.3 -0.2**
SVE Sverdlovsk 55.41 355⇑*e*P **P** **16 55 31.7 +0.2**
SVE *e*S **S** **17 03 13.7 -2.0**
SVE pmax pmax
comp=Z,85nm,1.7s
SVE MLR MLR
comp=Z,2μm,20.0s
HARR Harsova 55.47 326 ⇓P **P** **16 55 32.9 +0.8**
HARR Harsova 55.47 326 ⇓P **P** **16 55 32.9 +0.8**
RZN Rozhen 55.56 322 *i* P **P** **16 55 35.9 +2.8**
TPUB Ta-pu 55.64 63 IAMs_20 IAMs_20 17 20 21.8
comp=Z,1μm,20.0s
HHC Hu-ho-hao-te 55.67 40 *e*P **P** **16 55 37.3 +3.5**
HHC S **S** **17 03 19.3 -0.6**
HHC sS sS 17 03 29.5 +4.2
HHC SS **SS** **17 07 07.0 +1.6**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,200nm,6.0s
HHC LR LR
comp=Z,700nm,15.3s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,2μm,14.5s
CFR Carcaliu 55.67 327 ⇑P **P** **16 55 33.8 +0.3**
CFR Carcaliu 55.67 327 ⇑P **P** **16 55 33.8 +0.3**
SZH Strazhica 55.74 324 *i* P **P** **16 55 36.8 +2.7**
TWG Pinlang 55.92 63 P **P** **16 55 32.5 -3.2**
TWG IAMs_20 IAMs_20 17 18 23.2
comp=Z,1μm,21.0s
SSLB Suanglung 56.05 62 P **P** **16 55 35.6 -1.2**
MMB Musomiste 56.12 321 *i* P **P** **16 55 39.4 +2.4**
LPSR Galich'ya Gora 56.25 339 *e*P **P** **16 55 38.2 +0.7**
LPSR *e*S **S** **17 03 23.9 -3.0**
LPSR pmax pmax
comp=Z,90nm,1.1s
LPSR smax smax
comp=N,310nm,3.7s
LPSR MLR MLR
comp=Z,870nm,24.0s
YULB Yu-li 56.26 63 IAMs_20 IAMs_20 17 19 23.1
comp=Z,1μm,19.0s
MEEK Meekatharra 56.49 124 P **P** **16 55 40.3 +0.5**
baz=56,SNR=4.8
ISR Istrita 56.51 326 ⇓P **P** **16 55 40.3 +0.6**
ISR Istrita 56.51 326 ⇓P **P** **16 55 40.3 +0.6**
BLDU Ballidu 56.52 129 P **P** **16 55 40.1 +0.2**
baz=57,SNR=7.4
H01W3 Cape Leeuwin H 56.56 134 T T 17 56 33.8
baz=300,slow=75,SNR=364
H01W2 Cape Leeuwin H 56.56 134 T T 17 56 36.9
baz=300,slow=75,SNR=265
H01W1 Cape Leeuwin H 56.58 134 T T 17 56 37.5
baz=300,slow=75,SNR=374
KKB Krupnik 56.68 321 *i* P **P** **16 55 42.8 +1.9**
BISRR Bisoca 56.68 327 ⇓P **P** **16 55 41.6 +0.7**
VRI Vrincioaia 56.87 327 ⇑P **P** **16 55 43.3 +1.1**
VRI Vrincioaia 56.87 327 ⇑P **P** **16 55 43.3 +1.1**
NJ2 Nanjing 56.88 52 *e*P **P** **16 55 43.0 +0.5**
NJ2 pP **pP** **16 55 46.0 +0.3**
NJ2 S **S** **17 03 38.8 +2.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,410nm,4.1s
NJ2 LR LR
comp=Z,880nm,14.7s
NJ2 LR LR
comp=Z,900nm,14.7s
NJ2 LR LR
comp=Z,1μm,14.7s
PLOR Plostina 56.90 327 ⇑P **P** **16 55 43.7 +1.3**
PLOR Plostina 56.90 327 ⇑P **P** **16 55 43.7 +1.3**
BATI Baumata 56.91 103 P **P** **16 55 44.7 +1.7**
comp=Z,35nm,1.0s
SONM Songino Array 56.96 30 P **P** **16 55 43.6 +0.7**
comp=Z,23nm,1.1s,baz=225,slow=7.4,SNR=31
SONM LR LR 17 20 34.7
comp=Z,6μm,18.2s,baz=228,slow=36
SONM Songino Array 56.96 30 P **P** **16 55 41.6 -1.3**
SONM pmax pmax
comp=Z,47nm,1.3s
SONM Songino Array 56.96 30 P **P** **16 55 41.6 -1.3**
VTS Vitosha 57.00 322 *i* P **P** **16 55 45.8 +2.5**
MLR Muntele Rosu 57.07 326 P **P** **16 55 44.2 +0.5**
comp=Z,23nm,1.1s,baz=111,slow=2.9,SNR=12
MLR Muntele Rosu 57.07 326 ⇑P **P** **16 55 45.0 +1.3**
MLR Muntele Rosu 57.07 326 ⇑P **P** **16 55 45.0 +1.3**
MLR Muntele Rosu 57.07 326 P **P** **16 55 42.9 -0.9**
MPEP Malo Peshtene 57.10 323 P P 16 55 30.3 -14
TIA Tai'an 57.22 47 P **P** **16 55 47.8 +3.0**
TIA pmax pmax
comp=Z,29nm,1.3s
MOY Mondy 57.24 24 *e*P **P** **16 55 45.4 +0.6**
MOY pmax pmax
comp=Z,71nm,3.7s
ZAK Zakamensk 57.26 26 *e*P **P** **16 55 45.1 +0.2**
ZAK *e* 16 57 55.6
ZAK pmax pmax
comp=Z,14nm,1.6s
ZAK pmax pmax
comp=Z,6.0nm,1.6s
ULN Ulaanbaatar 57.31 30 P **P** **16 55 48.0 +2.6**
ULN P **P** **16 55 48.0 +2.6**
ULN S **S** **17 03 44.7 +3.1**
ULN S **S** **17 03 44.7 +3.1**
ULN Ulaanbaatar 57.31 30*ce*P **P** **16 55 45.9 +0.5**
ULN pmax pmax
comp=Z,53nm,1.7s
ULN Ulaanbaatar 57.31 30 P **P** **16 55 44.3 -1.1**
SOEI Soe 57.44 103 P **P** **16 55 47.3 +0.5**
comp=Z,1μmcomp=Z,73nm,1.5s
SOEI Soe 57.44 103 P **P** **16 55 45.3 -1.5**
SOEI IAmb IAmb 16 56 09.6
comp=Z,71nm,1.0s
DOPR Dopca 57.67 326 ⇓P **P** **16 55 48.0 +0.2**
ARR Arges 57.74 325 ⇓P **P** **16 55 48.0 -0.4**
NWAO Narrogin (SRO) 57.92 131 P **P** **16 55 50.0 +0.2**
baz=58,SNR=17
NWAO Narrogin (SRO) 57.92 131 P **P** **16 55 49.1 -0.7**
NWAO pmax pmax
comp=Z,82nm,1.0s
NWAO Narrogin (SRO) 57.92 131 P **P** **16 55 49.1 -0.7**
DAV Davao City (W) 57.95 83 P **P** **16 55 51.1 +0.8**
BJT Baijiatuau 58.27 43 IAMs_20 IAMs_20 17 20 57.6
comp=Z,861nm,19.0s
BJI Beijing 58.28 43 P **P** **16 55 54.5 +2.3**
BJI S **S** **17 03 53.8 -0.4**
BJI pmax pmax
comp=Z,18nm,1.5s
BJI pmax pmax
comp=Z,260nm,4.9s
BJI LR LR
comp=Z,800nm,14.9s
BJI LR LR
comp=Z,610nm,15.7s
BJI LR LR
comp=Z,760nm,18.6s
TLY Talaya 58.35 25 P **P** **16 55 55.1 +2.6**
TLY P **P** **16 55 55.1 +2.6**
TLY S **S** **17 03 58.0 +3.2**
TLY S **S** **17 03 58.0 +3.2**
TLY Talaya 58.35 25 *e*P **P** **16 55 55.4 +2.9**
TLY *e* 16 58 10.8
TLY *e*S **S** **17 03 59.7 +4.9**
TLY pmax pmax
comp=Z,144nm,1.8s
TLY MLR MLR
comp=Z,3μm,14.0s
TLY Talaya 58.35 25 P **P** **16 55 51.3 -1.2**
TLY IAmb IAmb 16 55 57.6
comp=Z,49nm,1.3s
SSE Sheshan 58.41 54 IAMs_20 IAMs_20 17 23 36.9
comp=Z,1μm,18.0s
RKGY Rocky Gully 58.48 133 P **P** **16 55 54.7 +1.0**
baz=58,SNR=7.3
KIRV Kirov 58.67 349 P **P** **16 55 54.2 -0.3**
comp=Z,35nm,0.9s,baz=148,slow=4.6,SNR=14
KIRV Kirov 58.67 349*ce*P **P** **16 55 54.4 -0.1**
BURAR Bucovina Array 58.77 328 ⇑P **P** **16 55 56.5 +0.9**
BURAR Bucovina Array 58.77 328 ⇑P **P** **16 55 56.5 +0.9**
BURAR Bucovina Array 58.77 328 P **P** **16 55 54.9 -0.7**
AKASG Malin Array Be 58.78 332 P **P** **16 55 54.6 -0.8**
comp=Z,3.9nm,0.6s,baz=130,slow=5.9,SNR=39
AKASG PcP **PcP** **16 56 44.6 -0.5**
comp=Z,4.3nm,0.7s,baz=124,slow=2.8,SNR=4.9
AKASG LR LR 17 24 34.4
comp=Z,716nm,18.3s,baz=125,slow=39
AKASG Malin Array Be 58.78 332 P **P** **16 55 54.3 -1.2**
AKBB Malin Array Si 58.78 332*ce*P **P** **16 55 55.0 -0.4**
AKBB pmax pmax
comp=Z,61nm,1.4s
AKBB Malin Array Si 58.78 332 P **P** **16 55 53.7 -1.8**
AKBB IAmb IAmb 16 55 59.1
comp=Z,65nm,1.4s
BUR08 Bucovina Ar. S 58.80 328 P **P** **16 55 53.4 -2.4**
IRK Irkutsk 59.03 25 *e*P **P** **16 55 59.0 +1.8**
IRK pmax pmax
comp=Z,76nm,3.0s
OBN Obninsk 59.10 340 P **P** **16 55 58.5 +0.9**
comp=Z,9.3nm,0.8s,baz=134,slow=2.5,SNR=26
OBN Obninsk 59.10 340*c i*P **P** **16 55 59.4 +1.8**
OBN *e* 16 56 50.2
OBN *e* 16 58 13.6
OBN *e*S **S** **17 04 01.8 -2.5**
OBN *e*SS **SS** **17 07 53.2 -5.4**
OBN pmax pmax
comp=Z,161nm,1.3s
OBN MLR MLR
comp=Z,751nm,20.0s
OBN Obninsk 59.10 340 P **P** **16 55 57.2 -0.3**
MOS Moscow 59.25 341 *e*P **P** **16 55 59.1 +0.5**
MOS *e*S **S** **17 04 06.4 +0.2**
MOS pmax pmax
comp=Z,441nm,1.6s
MOS MLR MLR
comp=Z,900nm,20.0s
TNTI Ternate 59.67 90 P **P** **16 56 00.7 -1.6**
DIVS Divibare 59.79 322 P **P** **16 56 01.9 -0.8**
DIVS IAmb IAmb 16 56 07.5
comp=Z,79nm,1.5s
FITZ Fitzroy Crossi 60.24 112 P **P** **16 56 05.8 -0.3**
baz=60,SNR=5.1
FITZ Fitzroy Crossi 60.24 112 P **P** **16 56 05.3 -0.8**
RAFF Raffo Rosso 60.48 313 P **P** **16 56 06.1 -1.4**
RAFF IAmb IAmb 16 56 13.1
comp=Z,35nm,1.0s
LVV L'vov 60.74 329 *e*P **P** **16 56 10.5 +1.5**
LVV *e*S **S** **17 04 23.7 -2.0**
LVV *e* 17 04 42.6
LVV *e* 17 06 00.1
LVV pmax pmax
comp=Z,260nm,1.7s
LVV MLR MLR
comp=E,1μm,19.0s
LVV MLR MLR
comp=N,300nm,18.0s
LVV MLR MLR
comp=Z,800nm,19.0s
UZH Uzhgorod 60.95 327*c i*P **P** **16 56 10.0 -0.4**
UZH *i* 16 56 12.2
UZH *e*S **S** **17 04 25.1 -3.2**
UZH *e* 17 05 55.2
UZH *e*SS **SS** **17 08 22.4 -5.4**
UZH MLR MLR
comp=N,90nm,18.0s
UZH MLR MLR
comp=E,130nm,18.0s
UZH MLR MLR
comp=Z,90nm,18.0s
KOLS Kolonicke sedl 61.13 328 *e*P **P** **16 56 10.8 -0.9**
KOLS pmax pmax
comp=Z,84nm,1.4s
KOLS Kolonicke sedl 61.13 328 *e*P **P** **16 56 10.8 -0.9**
KWP Kalwaria Pacla 61.31 328 *e*P **P** **16 56 15.2 +2.3**
KWP *e*L L 17 25 42.1
comp=Z,633nm,21.0s
KWP Kalwaria Pacla 61.31 328 P **P** **16 56 11.9 -1.0**
KWP pmax pmax
comp=Z,61nm,1.3s
KWP Kalwaria Pacla 61.31 328 P **P** **16 56 11.9 -1.0**
KWP IAmb IAmb 16 56 22.6
comp=Z,61nm,1.3s
SGRT San Giovanni R 61.40 318 P **P** **16 56 12.9 -0.8**
CLTB Caltabellotta 61.47 313 P **P** **16 56 12.5 -1.8**
CORL Corleone 61.52 313 P **P** **16 56 13.2 -1.4**
CRVS Cervenica-Dubn 61.55 327 *e*P **P** **16 56 14.7 +0.2**
CRVS pmax pmax
comp=Z,108nm,1.4s
CRVS Cervenica-Dubn 61.55 327 *e*P **P** **16 56 14.7 +0.2**
DL2 Dalian 61.59 46 *e*P **P** **16 56 17.3 +2.4**
DL2 S **S** **17 04 36.5 -0.3**
DL2 pmax pmax
comp=Z,180nm,4.0s
DL2 LR LR
comp=Z,720nm,16.3s
DL2 LR LR
comp=Z,640nm,15.9s
DL2 LR LR
comp=Z,740nm,17.1s
KECS Kecovo 61.85 326 *e*P **P** **16 56 18.7 +2.2**
KECS pmax pmax
comp=Z,13nm,1.2s
KECS Kecovo 61.85 326 *e*P **P** **16 56 18.7 +2.2**
PSZ Piszkesteto 61.87 326 IAMs_20 IAMs_20 17 24 18.9
comp=Z,887nm,19.0s
PAOL Paolisi 61.88 317 P **P** **16 56 15.4 -1.6**
PAOL IAmb IAmb 16 56 21.2
comp=Z,34nm,1.0s
PRGR Permogore 62.23 348⇑*i*P **P** **16 56 20.3 +1.5**
PRGR pmax pmax
comp=Z,64nm,1.0s
NIE Niedzica 62.47 327 *e*P **P** **16 56 20.7 -0.1**
NIE *e*L L 17 27 03.2
comp=Z,482nm,19.6s
NIE Niedzica 62.47 327 *e*P **P** **16 56 20.7 -0.1**
NIE MLR MLR
comp=Z,500nm,19.6s
KNRA Kununurra 62.70 108 P **P** **16 56 23.6 +0.8**
baz=63,SNR=5.1
KNRA Kununurra 62.70 108 P **P** **16 56 21.5 -1.3**
KNRA IAmb IAmb 16 56 38.1
comp=Z,75nm,1.5s
INTR Introdacqua 62.75 317 P **P** **16 56 20.5 -2.2**
VYHS Vyhne 62.78 326 *e*P **P** **16 56 22.4 -0.4**
VYHS pmax pmax
comp=Z,82nm,1.6s
VYHS Vyhne 62.78 326 *e*P **P** **16 56 22.4 -0.4**
LANS Liptovska Anna 62.78 327 *e*P **P** **16 56 23.1 +0.3**
LANS pmax pmax
comp=Z,26nm,1.3s
LANS Liptovska Anna 62.78 327 *e*P **P** **16 56 23.1 +0.3**
KLMR Klimovskoe 62.96 345 *e*P **P** **16 56 21.9 -1.7**
KLMR pmax pmax
comp=Z,247nm,1.4s
KLMR Klimovskoe 62.96 345 *e*P **P** **16 56 22.0 -1.7**
KLMR AMP 16 56 28.0
comp=Z,247nm,1.4s
KLMR LQ LQ 17 19 02.4
KLMR LQ LQ 17 19 02.4
KLMR LR LR 17 21 09.1
IDID Didziasalis 63.03 335 *e*P **P** **16 56 26.7 +2.5**
CIT Chita 63.18 30 *e*P **P** **16 56 26.1 +0.7**
CIT pmax pmax
comp=Z,133nm,1.9s
OJC Ojcow 63.19 328 *e*P **P** **16 56 27.2 +1.7**
OJC *e*L L 17 25 35.3
comp=Z,583nm,19.0s
OJC Ojcow 63.19 328 P **P** **16 56 24.1 -1.4**
OJC pmax pmax
comp=Z,43nm,1.4s
OJC Ojcow 63.19 328 P **P** **16 56 24.1 -1.4**
OJC IAmb IAmb 16 56 28.9
comp=Z,43nm,1.4s
AQU L'Aquila 63.23 318 P **P** **16 56 25.2 -0.7**
AQU pmax pmax
comp=Z,76nm,1.2s
AQU MLR MLR
comp=Z,600nm,20.0s
AQU L'Aquila 63.23 318 P **P** **16 56 25.2 -0.7**
IIGN Ignalina 63.27 335 *e*P **P** **16 56 28.2 +2.3**
GCIS Gornji Cirnik 63.35 322 *i* P **P** **16 56 28.9 +2.3**
ISAL Salakas 63.46 335 *e*P **P** **16 56 29.0 +1.8**
BEL Belsk 63.59 330 *e*P **P** **16 56 30.8 +2.7**
BEL *e*L L 17 27 39.2
comp=Z,560nm,18.7s
BEL Belsk 63.59 330 *e*P **P** **16 56 30.8 +2.7**
BEL MLR MLR
comp=Z,600nm,18.7s
MODS Modra-Piesok 63.60 325 *e*P **P** **16 56 26.7 -1.5**
MODS pmax pmax
comp=Z,45nm,1.2s
MODS Modra-Piesok 63.60 325 *e*P **P** **16 56 26.7 -1.5**
ZST Bratislava 63.61 325 *e*P **P** **16 56 26.3 -2.0**
ZST pmax pmax
comp=Z,174nm,1.7s
ZST Bratislava 63.61 325 *e*P **P** **16 56 26.3 -2.0**
NRCA Norcia 63.62 318 P **P** **16 56 27.6 -0.9**
JAVC Velka Javorina 63.63 326 *e*P **P** **16 56 29.0 +0.5**
KEST Kesra 63.74 309 P **P** **16 56 30.9 +1.3**
comp=Z,10nm,1.2s,baz=94,slow=7.4,SNR=13
KEST LR LR 17 24 39.3
comp=Z,678nm,18.0s,baz=27,slow=36
KEST Kesra 63.74 309 P **P** **16 56 28.5 -1.0**
KEST IAmb IAmb 16 56 35.9
comp=Z,59nm,1.4s
KEST IAMs_20 IAMs_20 17 24 19.6
comp=Z,856nm,19.0s
SUW Suwalki 63.75 333 *e*P **P** **16 56 31.0 +1.9**
SUW *e*L L 17 27 57.5
comp=Z,778nm,17.9s
SUW Suwalki 63.75 333 P **P** **16 56 28.4 -0.6**
SUW pmax pmax
comp=Z,143nm,1.1s
SUW Suwalki 63.75 333 P **P** **16 56 28.4 -0.6**
TAM Tamanrasset 63.83 295 P **P** **16 56 29.1 -1.3**
TAM pmax pmax
comp=Z,19nm,1.2s
TAM MLR MLR
comp=Z,400nm,19.0s
TAM Tamanrasset 63.83 295 P **P** **16 56 29.1 -1.3**
OKC Ostrava-Krasne 63.88 327 *e*P **P** **16 56 32.5 +2.5**
OKC *e*S **S** **17 04 56.9 -8.3**
OKC AMS AMS 17 25 50.0
comp=Z,900nm,18.9s
OKC Ostrava-Krasne 63.88 327 *e*P **P** **16 56 32.5 +2.5**
OKC *e*S **S** **17 04 56.9 -8.3**
OKC MLR MLR
comp=Z,900nm,18.9s
SOKA Soboth 64.10 323 *i* sP sP 16 56 35.1 -0.9
SNR=5.6
SNY Shenyang 64.11 43 ⇓P **P** **16 56 34.0 +2.4**
SNY S **S** **17 05 08.0 -0.3**
SNY pmax pmax
comp=Z,360nm,1.7s
SNY pmax pmax
comp=Z,360nm,5.0s
SNY LR LR
comp=Z,770nm,14.7s
SNY LR LR
comp=Z,440nm,15.8s
SNY LR LR
comp=Z,1μm,16.8s
LJU Ljubljana 64.11 322 *e*P **P** **16 56 33.8 +2.2**
MORC Moravsky Berou 64.18 326 ⇑P **P** **16 56 30.8 -1.2**
MORC Moravsky Berou 64.18 326 *e*P **P** **16 56 31.5 -0.5**
MORC Moravsky Berou 64.18 326 ⇑P **P** **16 56 30.8 -1.2**
MORC Moravsky Berou 64.18 326 P **P** **16 56 31.1 -1.0**
MORC IAmb IAmb 16 56 37.4
comp=Z,46nm,1.4s
MURB Monte Urbino 64.19 318 P **P** **16 56 31.4 -0.9**
MURB IAmb IAmb 16 56 58.5
comp=Z,36nm,0.9s
WRKA Warakurna 64.29 119 P **P** **16 56 33.6 +0.3**
baz=64,SNR=9.5
PABE Paberze 64.35 334 *e*P **P** **16 56 35.0 +2.1**
KRUC Moravsky 64.45 325 *e*P **P** **16 56 32.8 -1.0**
VRAC Vranov 64.47 326 P **P** **16 56 33.5 -0.3**
comp=Z,18nm,1.0s,baz=119,slow=5.1,SNR=12
VRAC Vranov 64.47 326 *e*P **P** **16 56 33.6 -0.3**
CADS Cadrg 64.69 322 *i* P **P** **16 56 36.9 +1.4**
KRLC Kraliky 64.75 326 *e*P **P** **16 56 34.9 -0.9**
KRLC *e*pP **pP** **16 56 38.7 -0.2**
KRLC *e*S **S** **17 05 12.6 -3.5**
KRLC AMS AMS 17 26 20.0
comp=Z,700nm,16.8s
KRLC Kraliky 64.75 326 *e*P **P** **16 56 34.9 -0.9**
KRLC *e* 16 56 38.7
KRLC *e*S **S** **17 05 12.6 -3.5**
KRLC MLR MLR
comp=Z,700nm,16.8s

PUL Pulkovo 64.85 340 *eP* **P 16 56 39.3 +3.2**
PRED Cave del Predi 64.89 322 IAMs_20 IAMs_20 17 25 40.0
comp=Z,815nm,22.0s
HIA Hailar 64.99 35 P **P 16 56 36.5 -0.8**
HIA pmax pmax
comp=Z,50nm,1.3s
HIA MLR MLR
comp=Z,800nm,21.0s
HIA Hailar 64.99 35 P **P 16 56 36.5 -0.8**
HIA IAmb IAmb 16 56 41.8
comp=Z,50nm,1.3s
HIA Hailar 64.99 35 IAMs_20 IAMs_20 17 24 47.2
comp=Z,797nm,21.0s
TREC Trest 65.09 325 *eP* **P 16 56 40.9 +2.9**
TREC AMS AMS 17 24 30.0
comp=Z,700nm,20.3s
TREC Trest 65.09 325 *eP* **P 16 56 40.9 +2.9**
TREC MLR MLR
comp=Z,700nm,20.3s
DPC Dobruska-Polom 65.15 327 *eP* **P 16 56 37.5 -0.9**
DPC *epP* **pP 16 56 41.7 +0.3**
DPC *eS* S 17 05 07.8 -13
DPC AMS AMS 17 26 40.0
comp=Z,800nm,17.5s
DPC Dobruska-Polom 65.15 327 *eP* **P 16 56 37.5 -0.9**
DPC *e* 16 56 41.7
DPC MLR MLR
comp=Z,800nm,17.5s
OSSC Osservatorio P 65.15 318 P **P 16 56 35.3 -3.2**
VSU Vasula 65.20 338 *eP* **P 16 56 39.9 +1.5**
VSU Vasula 65.20 338 *i P* **P 16 56 39.9 +1.5**
VSU pmax pmax
comp=Z,225nm,1.1s
OSTC Ostas 65.31 327 *eP* **P 16 56 39.0 -0.4**
OSTC *ex* x 16 56 42.6
OSTC *ex* x 16 56 52.0
OSTC *eS* S 17 05 12.6 -10
OSTC AMS AMS 17 26 50.0
comp=Z,900nm,17.7s
UPC Upice 65.40 327 *eP* **P 16 56 40.7 +0.8**
UPC *eS* **S 17 05 17.2 -6.8**
UPC AMS AMS 17 26 50.0
comp=Z,900nm,18.6s
UPC Upice 65.40 327 *eP* **P 16 56 40.7 +0.8**
UPC *eS* **S 17 05 17.2 -6.8**
UPC MLR MLR
comp=Z,900nm,18.6s
KSP Ksiaz 65.41 327 *eP* **P 16 56 42.4 +2.4**
KSP *eL* L 17 27 15.0
comp=Z,804nm,18.1s
KSP Ksiaz 65.41 327 *eP* **P 16 56 42.4 +2.4**
KSP MLR MLR
comp=Z,800nm,18.1s
CHVC Chvalec 65.42 327 *eP* **P 16 56 42.8 +2.7**
CHVC AMS AMS 17 26 50.0
comp=Z,800nm,18.5s
PBUR Paburge 65.57 334 *eP* **P 16 56 43.1 +2.2**
TEOL Teolo 65.62 320 P **P 16 56 40.0 -1.5**
TEOL IAmb IAmb 16 56 45.2
comp=Z,46nm,1.0s
ZCCA Zocca 65.66 319 P **P 16 56 41.0 -0.8**
ABTA Abfaltersbach 65.68 322 pP pP 16 56 44.9 -0.3
comp=Z,86nm,2.1s
FORT Forrest 65.68 125 P **P 16 56 40.4 -1.7**
FORT IAmb IAmb 16 56 43.4
comp=Z,60nm,1.3s
KSRS Korea Array 65.73 49 P **P 16 56 41.2 -1.0**
comp=Z,5.2nm,1.0s,baz=245,slow=7.8,SNR=8.7
KSRS LR LR 17 26 20.1
comp=Z,354nm,21.3s,baz=253,slow=37
GOPC GO Pecny, Ondr 65.79 326 *eP* **P 16 56 45.1 +2.6**
GOPC *ex* x 16 56 51.2
GOPC *eS* S 17 05 15.8 -13
GOPC AMS AMS 17 28 00.0
comp=Z,600nm,19.5s
GOPC GO Pecny, Ondr 65.79 326 *eP* **P 16 56 45.1 +2.6**
GOPC *e* 16 56 51.2
GOPC MLR MLR
comp=Z,600nm,19.5s
KDU Kakadu 65.81 105 P **P 16 56 43.0 -0.2**
baz=66,SNR=3.5
GEC2 GERESS Array S 65.90 324 *eP* **P 16 56 44.9 +1.5**
comp=Z,35nm,1.8s,baz=117,slow=6.4
GEC2 GERESS Array S 65.90 324 P **P 16 56 41.4 -2.0**
GERES GERESS Array B 65.90 324 P **P 16 56 44.6 +1.3**
comp=Z,1.1nm,0.7s,baz=124,slow=7.2,SNR=4.2
GERES LR LR 17 26 39.5
comp=Z,390nm,20.1s,baz=124,slow=37
GERES GERESS Array B 65.90 324 P **P 16 56 41.2 -2.1**
GERES GERESS Array B 65.90 324 P **P 16 56 41.2 -2.1**
PRU Pruhonice 65.96 326 *eS* **S 17 05 28.4 -2.5**
VLC Villacollemand 65.97 318 P **P 16 56 41.9 -1.9**
VLC IAmb IAmb 16 56 48.2
comp=Z,29nm,1.0s
PRA Prague 66.06 326 AMS AMS 17 25 20.0
comp=Z,400nm,27.0s
KHC Kasperske Hory 66.11 324 *eP* **P 16 56 42.9 -1.7**
KHC *epP* **pP 16 56 46.5 -1.4**
KHC *ex* x 16 57 19.0
KHC *eS* S 17 05 19.2 -14
KHC AMS AMS 17 25 50.0
comp=Z,700nm,18.7s
KHC Kasperske Hory 66.11 324 *eP* **P 16 56 42.9 -1.7**
KHC *e* 16 56 46.5
KHC *e* 16 57 19.0
KHC MLR MLR
comp=Z,700nm,18.7s
KHC Kasperske Hory 66.11 324 P **P 16 56 41.8 -2.8**
TMCR Tamitsa 66.13 346 *eP* **P 16 56 44.8 +0.5**
TMCR pmax pmax
comp=Z,22nm,0.5s
CN2 Changchun 66.14 42 *eP* **P 16 56 47.0 +2.2**
CN2 *eS* **S 17 05 31.3 -1.9**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,300nm,4.4s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,900nm,16.1s
GKP Gorka Klasztor 66.20 330 *eP* **P 16 56 47.6 +2.6**
GKP *eL* L 17 28 06.5
comp=Z,488nm,21.3s
GKP Gorka Klasztor 66.20 330 *eP* **P 16 56 47.6 +2.6**
GKP MLR MLR
comp=Z,500nm,21.3s
PVCC Panska Ves 66.21 326 *eP* **P 16 56 48.3 +3.2**
PVCC *eS* **S 17 05 32.9 -0.9**
PVCC AMS AMS 17 26 50.0
comp=Z,600nm,19.5s
PVCC Panska Ves 66.21 326 *eP* **P 16 56 48.3 +3.2**
PVCC *eS* **S 17 05 32.9 -0.9**
PVCC MLR MLR
comp=Z,600nm,19.5s
TOC1 Torodi Ar. Sit 66.28 284 IAMs_20 IAMs_20 17 25 22.5
comp=Z,786nm,20.0s
TORD Torodi Ar. Bea 66.28 284 P **P 16 56 46.2 -0.1**
comp=Z,11nm,1.2s,baz=86,slow=6.7,SNR=20
TORD Torodi Ar. Bea 66.28 284 P **P 16 56 45.0 -1.3**
SLIT Slitere, Latvi 66.42 335 *eP* **P 16 56 47.6 +1.3**
WET Wettzell 66.52 324 *eP* **P 16 56 48.9 +1.6**
baz=117,slow=6.4
MSSA Maissana 66.61 318 IAMs_20 IAMs_20 17 28 53.7
comp=Z,687nm,19.0s
SQTA Sankt Quirin 66.69 322 *eP* **P 16 56 47.4 -1.1**
comp=Z,14nm,0.7s
BRG Berggiesshubel 66.72 326 *eP* **P 16 56 47.2 -1.2**
comp=Z,4.5nm,1.0s
BRG *i* 16 56 50.3
comp=Z,75nm,1.5s
BRG S **S 17 05 40.0 -0.1**
BRG SS **SS 17 10 01.0 +3.1**
comp=N,550nm,17.9s
comp=E,429nm,17.9s
comp=Z,649nm,19.7s
BRG Berggiesshubel 66.72 326 *eP* **P 16 56 47.2 -1.2**
BRG *i* 16 56 50.3
BRG S **S 17 05 40.0 -0.1**
BRG SS **SS 17 10 01.0 +3.1**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,75nm,1.5s
BRG MLR MLR
comp=N,550nm,17.9s
BRG MLR MLR
comp=E,429nm,17.9s
BRG MLR MLR
comp=Z,649nm,19.7s
BRG Berggiesshubel 66.72 326 *eP* **P 16 56 50.8 +2.4**
baz=117,slow=6.4
MOTA Moosalm 66.80 322 P **P 16 56 47.9 -1.3**
comp=Z,27nm,1.1s
FETA Feichten 66.90 321 *epP* pP 16 56 52.7 -0.5
comp=Z,20nm,0.9s
BOD Bodaibo 66.92 25 *eP* **P 16 56 49.4 -0.1**
BOD pmax pmax
comp=Z,28nm,1.9s
FUORN Ofenpass-Fuorn 67.03 321 P **P 16 56 49.6 -1.2**
FUORN IAmb IAmb 16 56 58.6
comp=Z,44nm,1.1s
FUR Furstenfeldbru 67.04 323 *eP* **P 16 56 52.1 +1.5**
baz=117,slow=6.4
RETA Reutte 67.07 322 pP **P 16 56 51.8 +0.9**
comp=Z,0.4nm,0.3s
FBE Freiberg 67.07 326 *eP* **P 16 56 53.0 +2.4**
baz=117,slow=6.4
ROTZ Rotzenmuhle 67.19 325 *eP* **P 16 56 53.4 +2.0**
comp=Z,77nm,2.3s,baz=117,slow=6.4
NKC Novy Kostel 67.27 325 *eP* **P 16 56 51.7 -0.3**
NKC *epP* **pP 16 56 55.7 +0.7**
NKC *eS* **S 17 05 42.9 -3.8**
NKC AMS AMS 17 28 50.0
comp=Z,600nm,17.2s
NKC Novy Kostel 67.27 325 *eP* **P 16 56 51.7 -0.3**
NKC *e* 16 56 55.7
NKC *eS* **S 17 05 42.9 -3.8**
NKC MLR MLR
comp=Z,600nm,17.2s
WERN Wernitzgruen 67.33 325 *eP* **P 16 56 54.8 +2.4**
comp=Z,99nm,1.4s,baz=117,slow=6.4
TANN Tannenbergstha 67.34 325 *eP* **P 16 56 54.7 +2.2**
baz=117,slow=6.4
MANZ Manzenberg 67.35 325 *eP* **P 16 56 54.6 +2.1**
baz=117,slow=6.4
GUNZ Gunzen 67.39 325 *eP* **P 16 56 55.0 +2.2**
comp=Z,80nm,1.5s,baz=117,slow=6.4
CLL Collm 67.45 326 *i P* **P 16 56 53.2 +0.2**
comp=Z,121nm,1.5s
CLL *ePP* **PP 16 59 20.0 -1.8**
CLL *eS* **S 17 05 45.0 -3.8**
CLL *eS* **S 17 05 45.0 -3.8**
CLL *eS* **S 17 05 45.0 -3.8**
comp=Z,300nm,14.6s
CLL *ePS* **PnS 17 06 06.0 -5.1**
CLL *eSS* **SS 17 10 15.0 +5.8**
CLL L L 17 27 00.0
comp=Z,600nm,20.3s
CLL Collm 67.45 326 *i P* **P 16 56 53.2 +0.2**
CLL *eS* **S 17 05 45.0 -3.8**
CLL pmax pmax
comp=Z,121nm,1.5s
CLL MLR MLR
comp=Z,600nm,20.3s
CLL Collm 67.45 326 *eP* **P 16 56 55.5 +2.5**
comp=Z,121nm,1.5s,baz=117,slow=6.4
CLL Collm 67.45 326 P **P 16 56 51.9 -1.1**
CLL IAMs_20 IAMs_20 17 28 12.4
comp=Z,721nm,19.0s
FINES FINESS Array B 67.51 340 P **P 16 56 54.9 +1.7**
comp=Z,21nm,0.9s,baz=111,slow=10,SNR=25
FINES LR LR 17 28 17.8
comp=Z,638nm,21.7s,baz=130,slow=38
FINES FINESS Array B 67.51 340 P **P 16 56 52.8 -0.4**
FINES FINESS Array B 67.51 340 P **P 16 56 52.8 -0.4**
DAVA Damuels 67.54 321 *eP* **P 16 56 52.9 -1.0**
comp=Z,49nm,1.0s,SNR=9.1
PLN Plauen 67.55 325 *eP* **P 16 56 56.0 +2.3**
baz=117,slow=6.4
TUE Stuetta 67.55 320 P **P 16 56 52.8 -1.3**
TUE IAmb IAmb 16 57 01.3
comp=Z,25nm,1.0s
UBR Ueberruh 67.56 322 *eP* **P 16 56 55.4 +1.6**
comp=Z,128nm,1.4s,baz=117,slow=6.4
RUE Ruedersdorf 67.59 328 *eP* **P 16 56 54.6 +0.7**
RUE Ruedersdorf 67.59 328 *eP* **P 16 56 56.4 +2.5**
comp=Z,231nm,1.5s,baz=117,slow=6.4
GRA1 Grafenberg Arr 67.73 324 P **P 16 56 53.9 -1.0**
GRF Grafenberg Arr 67.73 324 P **P 16 56 53.9 -1.0**
GRF pmax pmax
comp=Z,79nm,1.2s
GRF Grafenberg Arr 67.73 324 *eP* **P 16 56 57.0 +2.1**
comp=Z,106nm,1.3s,baz=117,slow=6.4
GRF *eL* L 17 26 34.0
comp=Z,287nm,21.5s
MOX Moxa 67.93 325 *eP* **P 16 56 58.7 +2.6**
baz=117,slow=6.4
MOX *eL* L 17 27 13.6
comp=Z,395nm,20.6s
NEUB Neuenburg 68.09 326 *eP* **P 16 56 59.6 +2.6**
comp=Z,98nm,1.2s,baz=117,slow=6.4
STU Stuttgart 68.56 323 *eP* **P 16 57 02.1 +2.0**
baz=117,slow=6.4
WRA Warramunga Arr 68.67 112 P **P 16 57 01.1 -0.3**
comp=Z,24nm,1.1s,baz=293,slow=5.8,SNR=67
WRA Warramunga Arr 68.67 112 P **P 16 57 00.3 -1.1**
WRA pmax pmax
comp=Z,4.0nm,1.3s
WRA Warramunga Arr 68.67 112 P **P 16 57 00.3 -1.1**
WRAB Tennant Creek 68.68 112 *ceP* **P 16 57 01.6 +0.2**
WRAB pmax pmax
comp=Z,58nm,1.3s
WRAB Tennant Creek 68.68 112 P **P 16 57 00.6 -0.8**
WB2 Warramunga Arr 68.68 112 P **P 16 57 00.5 -1.0**
WB0 Warramunga Arr 68.69 112 P **P 16 57 00.4 -1.1**
WB0 IAmb IAmb 16 57 07.2
comp=Z,76nm,1.4s
BNI Bardonecchia 68.76 318 P **P 16 56 59.6 -2.0**
BNI pmax pmax
comp=Z,21nm,1.0s
BNI Bardonecchia 68.76 318 P **P 16 56 59.6 -2.0**
BNI IAmb IAmb 16 57 05.3
comp=Z,21nm,1.0s
SENIN Lac Senin/Sane 68.82 320 P **P 16 56 59.8 -2.3**
SENIN IAmb IAmb 16 57 07.7
comp=Z,40nm,0.8s
RGN Rugen 68.84 329 *eP* **P 16 57 02.9 +1.2**
RGN Rugen 68.84 329 *eP* **P 16 57 04.7 +3.0**
baz=117,slow=6.4
WR0 Warramunga Arr 68.86 112 P **P 16 57 01.4 -1.2**
WR0 IAmb IAmb 16 57 03.7
comp=Z,68nm,1.3s
BFO Black Forest 68.91 322 P **P 16 57 00.8 -1.5**
BFO pmax pmax
comp=Z,62nm,1.4s
BFO MLR MLR
comp=Z,500nm,22.0s
BFO Black Forest 68.91 322 *eP* **P 16 57 04.4 +2.1**
baz=117,slow=6.4
BFO Black Forest 68.91 322 P **P 16 57 00.8 -1.5**
BFO IAmb IAmb 16 57 11.7
comp=Z,62nm,1.4s
UBBA Unterbreizbach 68.93 325 *eP* **P 16 57 04.9 +2.7**
baz=117,slow=6.4
ASAR Alice Springs 68.96 116 P **P 16 57 02.7 -0.4**
comp=Z,13nm,1.1s,baz=281,slow=6.0,SNR=52
ASAR LR LR 17 24 23.1
comp=Z,242nm,19.9s,baz=283,slow=34
ASAR Alice Springs 68.96 116 P **P 16 57 01.7 -1.4**
ASAR Alice Springs 68.96 116 P **P 16 57 01.7 -1.4**
AS31 Alice Springs 68.96 116 P **P 16 57 01.8 -1.4**
NRIK Noril'sk 68.99 7 P **P 16 57 02.4 0.0**
comp=Z,17nm,1.0s,baz=196,slow=5.0,SNR=20
NRIK LR LR 17 28 52.9
comp=Z,883nm,19.8s,baz=202,slow=37
NRIK Noril'sk 68.99 7 *ceP* **P 16 57 03.6 +1.3**
NRIK pmax pmax
comp=Z,117nm,1.6s
NRIK MLR MLR
comp=Z,1μm,22.0s
MAW Mawson 69.08 182 P **P 16 57 02.1 -0.8**
comp=Z,10nm,0.9s,baz=354,slow=6.3,SNR=14
MAW LR LR 17 21 46.4
comp=Z,1μm,18.0s,baz=1.5,slow=31
MAW Mawson 69.08 182 P **P 16 57 03.8 +0.9**
baz=69,SNR=18
MAW Mawson 69.08 182 P **P 16 57 03.3 +0.5**
ASSE Asse, Remlinge 69.12 326 *eP* **P 16 57 06.1 +2.7**
baz=117,slow=6.4
CLZ Clausthal 69.16 326 *eP* **P 16 57 06.5 +2.7**
comp=Z,80nm,1.3s,baz=117,slow=6.4
MDJ Mudanjiang 69.21 42 P **P 16 57 06.0 +1.8**
MDJ pmax pmax
comp=Z,23nm,1.4s
MDJ pmax pmax
comp=Z,680nm,4.4s
MDJ Mudanjiang 69.21 42 P **P 16 57 03.3 -0.9**
MDJ IAMs_20 IAMs_20 17 28 33.3
comp=Z,687nm,18.0s
GTTG Gottingen 69.26 326 *eP* **P 16 57 07.1 +2.8**
comp=Z,81nm,1.3s,baz=117,slow=6.4
TNS Taunus Mts 69.58 324 *eP* **P 16 57 09.0 +2.5**
comp=Z,98nm,1.3s,baz=117,slow=6.4
NRDL Niedersach Rie 69.59 327 *eP* **P 16 57 09.3 +3.0**
comp=Z,82nm,1.3s,baz=117,slow=6.4
ECH Echery 69.59 322 P **P 16 57 04.7 -1.8**
ECH pmax pmax
comp=Z,39nm,1.2s
ECH Echery 69.59 322 P **P 16 57 04.7 -1.8**
ECH IAmb IAmb 16 57 10.2
comp=Z,39nm,1.2s
APA Apatity 70.03 347 ↓*i P* **P 16 57 11.1 +2.3**
APA *i* 16 57 33.1
APA pmax pmax
comp=Z,12nm,1.3s
APA MLR MLR
comp=Z,1μm,19.0s
BSEG Bad Segeberg 70.11 328 *eP* **P 16 57 12.5 +3.0**
baz=117,slow=6.4
SSB Saint Sauveur 70.26 318 P **P 16 57 08.9 -1.9**
SSB pmax pmax
comp=Z,34nm,1.0s
SSB Saint Sauveur 70.26 318 P **P 16 57 08.9 -1.9**
SSB IAmb IAmb 16 57 14.6
comp=Z,34nm,1.0s
AHRW Bad Neuenahr-A 70.52 324 *eP* **P 16 57 14.5 +2.4**
baz=117,slow=6.4
USA0B Ussuriysk Arra 70.71 43 IAMs_20 IAMs_20 17 30 13.0
comp=Z,727nm,18.0s
USRK Ussuriysk Ar. 70.71 43 P **P 16 57 12.4 -1.0**
comp=Z,4.4nm,0.8s,baz=268,slow=4.4,SNR=9.2
USRK LR LR 17 30 33.3
comp=Z,537nm,18.6s,baz=243,slow=38
USRK Ussuriysk Ar. 70.71 43 P **P 16 57 11.2 -2.2**
USRK Ussuriysk Ar. 70.71 43 P **P 16 57 11.2 -2.2**
WLF Walferdange 70.74 323 *sP* **P 16 57 15.5 +2.0**
WLF Walferdange 70.74 323 P **P 16 57 12.3 -1.2**
WLF pmax pmax
comp=Z,31nm,0.9s
WLF Walferdange 70.74 323 *eP* **P 16 57 15.7 +2.2**
comp=Z,53nm,1.1s,baz=117,slow=6.4
WLF Walferdange 70.74 323 P **P 16 57 12.3 -1.2**
WLF IAmb IAmb 16 57 18.2
comp=Z,31nm,0.9s
BUG Bochum--Univer 70.75 325 *eP* **P 16 57 16.1 +2.6**
comp=Z,37nm,1.2s,baz=117,slow=6.4
IBBN Ibbenburen 70.82 326 *eP* **P 16 57 16.9 +3.0**
baz=117,slow=6.4
SKMB Sankelmark Bun 70.92 329 *eP* **P 16 57 17.6 +3.2**
baz=117,slow=6.4
JWT Wachi 71.00 53 P **P 16 57 13.1 -2.4**
JWT IAmb IAmb 16 57 19.9
comp=Z,48nm,1.0s
BHOU Houvegnez 71.08 323 P **P 16 57 13.3 -2.3**
BHOU PcP **PcP 16 57 33.9 -1.9**
MEM Membach 71.17 324 P **P 16 57 15.5 -0.6**
ZEA Zeya 71.20 33 *eP* **P 16 57 16.7 +0.5**
ZEA *eS* **S 17 06 34.0 +1.0**
ZEA pmax pmax
comp=N,29nm,1.2s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,91nm,1.6s
ZEA pmax pmax
comp=Z,400nm,5.0s
ZEA smax smax
comp=E,600nm,10.0s
ZEA MLR MLR
comp=Z,3μm,15.0s
ZEA MLR MLR
comp=E,2μm,16.0s
ZEA MLR MLR
comp=N,2μm,18.0s
BSTI Sart Tilman 71.43 324 sP sP 16 57 20.5 -1.5
RCHB Rochefort 71.48 323 sP **P 16 57 19.9 +1.9**
RCHB PcP **PcP 16 57 36.1 -1.4**
HFS Hagfors 71.51 335 P **P 16 57 17.9 0.0**
comp=N,29nm,0.8s,baz=122,slow=7.3,SNR=24
HLG Helgoland 71.51 328 *eP* **P 16 57 21.3 +3.2**
comp=N,199nm,1.3s,baz=117,slow=6.4
BCLA Clavier 71.53 323 P **P 16 57 16.5 -1.8**
BCLA PcP **PcP 16 57 35.7 -1.9**
BGES Gesves 71.64 323 P **P 16 57 17.7 -1.3**
BGES PcP **PcP 16 57 36.7 -1.4**
BMRD Maredsous 71.80 323 sP **sP 16 57 23.0 -1.3**
BMRD PcP **PcP 16 57 37.5 -1.3**
MUD Monsted U'grnd 71.82 330 *i P* **P 16 57 21.5 +1.6**
comp=N,99nm,1.3s
MUD Monsted U'grnd 71.82 330 *i P* **P 16 57 21.5 +1.6**
MUD pmax pmax
comp=Z,99nm,1.3s
DOU Dourbes 71.84 323 P **P 16 57 18.6 -1.6**
comp=Z,22nm,1.9s
DOU sP **pP 16 57 22.0 -1.2**
DOU PcP **PcP 16 57 37.0 -2.0**
KOWA Kowa 71.91 285 P **P 16 57 21.9 +0.7**
comp=Z,30nm,1.3s,baz=104,slow=4.8,SNR=6.3
KIC Kosan Boka 72.37 276 *eP* **P 16 57 24.6 +0.5**
comp=Z,220nm,1.1s
DBIC Dimbokro 72.49 276 P **P 16 57 25.4 +0.7**
comp=Z,45nm,0.7s,baz=72,slow=6.6,SNR=38
DBIC LR LR 17 27 46.7
comp=Z,282nm,21.0s,baz=64,slow=35
DBIC Dimbokro 72.49 276 P **P 16 57 23.9 -0.9**
DBIC pmax pmax
comp=Z,54nm,0.8s
DBIC Dimbokro 72.49 276 P **P 16 57 23.9 -0.9**
DBIC IAmb IAmb 16 57 26.9
comp=Z,54nm,0.8s
CLF Chambon-Foret 72.61 320 P **P 16 57 23.7 -1.2**
CLF IAmb IAmb 16 57 29.2
comp=Z,47nm,0.9s
TIC Toumodi 72.65 276 *eP* **P 16 57 26.3 +0.6**
LIC Lamto 72.65 276 *eP* **P 16 57 26.2 +0.4**
comp=Z,107nm,0.9s
NC602 NORSAR Array S 72.73 335 P **P 16 57 24.3 -1.0**
BBOO Buckleboo 72.79 125 P **P 16 57 25.0 -1.2**
BBOO IAmb IAmb 16 57 41.6
comp=Z,40nm,1.2s
NC405 NORSAR Array S 72.85 335 P **P 16 57 24.1 -1.9**
SYO Syowa Base 72.97 190 ↑*i P* **P 16 57 25.6 -0.9**
SYO Syowa Base 72.97 190 ↑*i pP* pP 16 57 31.0 +1.3
SYO Syowa Base 72.97 190 ↑*ePP* PP 17 00 07.0 -2.0
NOA NORSAR Array B 73.02 335 P **P 16 57 27.0 0.0**
comp=Z,14nm,1.1s,baz=108,slow=7.0,SNR=9.1
NOA LR LR 17 30 44.4
comp=Z,621nm,21.7s,baz=115,slow=37
KONO Kongsberg 73.06 333 P **P 16 57 26.2 -1.0**
KONO pmax pmax
comp=Z,59nm,1.3s
KONO MLR MLR
comp=Z,800nm,22.0s
KONO Kongsberg 73.06 333 P **P 16 57 26.2 -1.0**
KONO IAmb IAmb 16 57 31.4
comp=Z,59nm,1.3s
KONO Kongsberg 73.06 333 IAMs_20 IAMs_20 17 30 18.4
comp=Z,779nm,22.0s
NAO01 NORSAR Array S 73.07 335 P **P 16 57 25.5 -1.7**
NBO00 NORSAR Array S 73.20 335 P **P 16 57 26.7 -1.4**
KEV Kevo 73.21 346 P **P 16 57 27.3 -0.6**
KEV pmax pmax
comp=Z,66nm,1.0s
KEV MLR MLR
comp=Z,900nm,20.0s
KEV Kevo 73.21 346 P **P 16 57 27.3 -0.6**
KEV IAmb IAmb 16 57 32.4
comp=Z,66nm,1.0s
KEV IAMs_20 IAMs_20 17 30 21.5
comp=Z,913nm,20.0s
ARCES ARCESS Array B 73.41 346 P **P 16 57 30.1 +1.0**
comp=Z,36nm,0.9s,baz=141,slow=5.2,SNR=22
ARCES LR LR 17 32 26.0
comp=Z,797nm,19.3s,baz=120,slow=38

MAJO	Matsushiro	73.48	52	P	P	16 57 28.8	-1.5
MAJO				pmax	pmax		
comp=Z,25nm,1.5s							
MAJO	Matsushiro	73.48	52	P	P	16 57 28.8	-1.5
MAT	Matsushiro	73.48	52	P	P	16 57 29.8	-0.5
MAT				S	S	17 06 59.4	-0.5
MJAR	Matsushiro Arr	73.48	52	P	P	16 57 30.7	+0.4
comp=Z,7.5nm,1.0s,baz=260,slow=3.9,SNR=13							
MJAR				LR	LR	17 33 44.7	
comp=Z,308nm,18.4s,baz=285,slow=39							
MJAR	Matsushiro Arr	73.48	52	P	P	16 57 28.5	-1.8
MJAR				pmax	pmax		
comp=Z,17nm,1.3s							
MJAR	Matsushiro Arr	73.48	52	P	P	16 57 28.5	-1.8
QIS	Mount Isa	73.65	112	P	P	16 57 31.6	+0.1
baz=74,SNR=15							
TEY	Ternei	74.11	43⇑	eP	P	16 57 35.4	+1.7
TEY				pmax	pmax		
comp=Z,20nm,1.1s							
CASY	Casey	74.21	163	IAMs_20	IAMs_20	17 25 35.0	
comp=Z,944nm,19.0s							
MDT	Midelt	74.31	304	P	P	16 57 35.7	+0.4
comp=Z,9.7nm,0.9s,baz=95,slow=7.5,SNR=6.1							
ESBB	Sonseca Array	74.94	311	P	P	16 57 37.7	-1.0
ESDC	Sonseca Array	74.94	311	P	P	16 57 38.7	-0.1
comp=Z,24nm,1.1s,baz=88,slow=4.7,SNR=32							
ESDC				LR	LR	17 30 34.5	
comp=Z,160nm,19.1s,baz=110,slow=36							
ESDC	Sonseca Array	74.94	311	P	P	16 57 37.6	-1.1
HTT	Hallett	75.27	125	P	P	16 57 41.0	+0.2
baz=75,SNR=3.8							
YAK	Yakutsk	75.83	25	eP	P	16 57 42.8	-0.5
YAK				e*PP	PcP	16 58 01.6	+5.8
YAK				eS	S	17 07 21.8	-3.2
YAK				e*SS	ScS	17 07 57.5	+0.5
YAK				eSS	SS	17 12 14.7	-2.4
YAK				pmax	pmax		
comp=Z,28nm,1.5s							
YAK				pmax	pmax		
comp=N,6.0nm,1.0s							
YAK				pmax	pmax		
comp=E,10.0nm,1.2s							
YAK				pmax	pmax		
comp=Z,124nm,4.8s							
YAK				pmax	pmax		
comp=N,72nm,4.4s							
YAK				pmax	pmax		
comp=E,170nm,4.8s							
YAK				smax	smax		
comp=N,159nm,5.6s							
YAK				smax	smax		
comp=E,128nm,4.3s							
YAK				MLR	MLR		
comp=Z,1μm,20.0s							
YAK				MLR	MLR		
comp=N,305nm,21.0s							
YAK				MLR	MLR		
comp=E,770nm,18.0s							
YAK	Yakutsk	75.83	25	P	P	16 57 41.6	-1.7
YAK				IAmb	IAmb	16 57 46.4	
comp=Z,38nm,1.2s							
YAK				IAMs_20	IAMs_20	17 31 25.5	
comp=Z,1μm,18.0s							
STKA	Stephens Creek	77.19	123	P	P	16 57 50.0	-1.7
comp=Z,15nm,1.0s,baz=290,slow=7.1,SNR=10							
STKA				LR	LR	17 30 24.7	
comp=Z,718nm,18.3s,baz=271,slow=35							
STKA	Stephens Creek	77.19	123	P	P	16 57 51.1	-0.6
baz=77,SNR=5.4							
STKA	Stephens Creek	77.19	123	P	P	16 57 50.4	-1.2
MTSU	Mount Surprise	77.78	109	P	P	16 57 55.2	0.0
baz=78,SNR=8.0							
EKA	Eskdalemuir Ar	77.92	326	P	P	16 57 54.5	-0.7
comp=Z,4.8nm,0.7s,baz=108,slow=5.9,SNR=9.8							
ESK	Eskdalemuir	77.94	326	P	P	16 57 54.5	-0.8
ESK				pmax	pmax		
comp=Z,18nm,1.1s							
ESK	Eskdalemuir	77.94	326	P	P	16 57 54.5	-0.8
JKA	Kamikawa-asahi	78.12	45	IAMs_20	IAMs_20	17 34 03.9	
comp=Z,528nm,18.0s							
NKL	Nikolayevsk	78.61	36	eP	P	16 58 00.8	+1.7
NKL				eS	S	17 07 56.3	+0.7
NKL				pmax	pmax		
comp=N,9.0nm,1.0s							
NKL				pmax	pmax		
comp=Z,54nm,1.3s							
NKL				MLR	MLR		
comp=N,138nm,12.0s							
NKL				MLR	MLR		
comp=Z,863nm,15.0s							
QLP	Quilpie	78.67	117	P	P	16 58 00.5	+0.5
baz=79,SNR=13							
YSS	Yuzh-Sakhalins	78.70	42	eP	P	16 57 59.2	-0.5
YSS				e		16 58 15.8	
YSS				eS	S	17 07 56.6	-0.3
YSS				pmax	pmax		
comp=Z,50nm,1.2s							
YSS				MLR	MLR		
comp=Z,700nm,19.0s							
YSS	Yuzh-Sakhalins	78.70	42	P	P	16 57 57.4	-2.3
YSS				IAmb	IAmb	16 58 03.7	
comp=Z,88nm,1.2s							
YSS				IAMs_20	IAMs_20	17 34 36.5	
comp=Z,849nm,18.0s							
TYV	Tymovskoe	79.34	39	eP	P	16 58 06.4	+3.2
TYV				pmax	pmax		
comp=Z,400nm,3.9s							
TYV				pmax	pmax		
comp=Z,46nm,1.5s							
TIXI	Tiksi	79.75	16	ceP	P	16 58 05.4	+0.5
TIXI				pmax	pmax		
comp=Z,527nm,1.7s							
TIXI	Tiksi	79.75	16	P	P	16 58 04.1	-0.9
TIXI				IAmb	IAmb	16 58 08.9	
comp=Z,110nm,1.3s							
CTAO	Charters Tower	79.80	111	P	P	16 58 05.4	-0.9
CTAO				pmax	pmax		
comp=Z,36nm,1.1s							
CTAO	Charters Tower	79.80	111	P	P	16 58 05.4	-0.9
PMG	Port Moresby	79.87	100	ceP	P	16 58 06.7	-0.1
PMG				pmax	pmax		
comp=Z,37nm,1.3s							
HSPB	Hornsund (broa	80.52	350	eP	P	16 58 12.4	+3.4
HSPB				eL	L	17 36 29.5	
comp=Z,684nm,19.4s							
HSPB	Hornsund (broa	80.52	350	eP	P	16 58 12.4	+3.4
HSPB				MLR	MLR		
comp=Z,700nm,19.4s							
CMSA	Cobar Meteorol	80.59	122	P	P	16 58 10.1	-0.2
baz=81,SNR=6.4							
NVL	N'lazarevskaya	80.75	196	eP	P	16 58 11.1	+0.8
NVL				eS	S	17 08 18.7	+1.1
NVL				pmax	pmax		
comp=Z,69nm,1.0s							
SPITS	Spitsbergen Ar	81.09	351	P	P	16 58 12.8	+0.7
comp=Z,35nm,0.9s,baz=155,slow=22,SNR=5.0							
TOO	Toolangi	81.28	128	P	P	16 58 15.1	+1.1
baz=81,SNR=4.1							
KBS	Kingsbay	82.25	351	IAMs_20	IAMs_20	17 38 04.9	
comp=Z,768nm,20.0s							
RMQ	Roma	82.69	117	P	P	16 58 22.6	+1.0
baz=83,SNR=23							
CNB	Canberra Magne	84.09	126	P	P	16 58 28.7	0.0
baz=84,SNR=4.4							
SNAA	Sanae	85.40	197	P	P	16 58 35.5	+1.0
SNAA	Sanae	85.40	197	ceP	P	16 58 36.0	+1.5
SNAA				pmax	pmax		
comp=Z,97nm,2.5s							
SNAA	Sanae	85.40	197	P	P	16 58 35.1	+0.6
SNAA				IAmb	IAmb	16 58 42.0	
comp=Z,72nm,1.5s							
SNAA				IAMs_20	IAMs_20	17 28 28.6	
comp=Z,715nm,20.0s							
ARMA	Armidale	85.54	121	P	P	16 58 36.2	0.0
ARMA				IAmb	IAmb	16 58 37.7	
comp=Z,35nm,0.9s							
SEY	Seymchan	86.22	27	i P	P	16 58 38.1	-0.5
VNA2	Neumayer--Watz	86.59	199	P	P	16 58 41.9	+1.6
VNA1	Neumayer--Stat	86.80	199	P	P	16 58 42.7	+1.4
VNA3	Neumayer Olymp	87.39	198	P	P	16 58 45.0	+0.7
NOR	Nord	87.66	352	i P	P	16 58 47.7	+2.3
comp=Z,141nm,1.6s							
NOR	Nord	87.66	352	i P	P	16 58 47.7	+2.3
NOR				pmax	pmax		
comp=Z,140nm,1.6s							
DAG	Danmarks Havn	87.67	347	i P	P	16 58 46.0	+0.5
comp=Z,96nm,1.2s							
DAG	Danmarks Havn	87.67	347	i P	P	16 58 46.0	+0.5
DAG				pmax	pmax		
comp=Z,96nm,1.2s							
SKR	Severo-Kuril's	87.82	40	eP	P	16 58 42.8	-3.9
SKR				eS	S	17 09 23.5	-5.6
SKR				pmax	pmax		
comp=Z,1μm,3.3s							
SKR				pmax	pmax		
comp=Z,400nm,3.4s							
SKR				MLR	MLR		
comp=Z,500nm,18.0s							
PETK	Petropavlovsk-	88.79	37	LR	LR	17 41 39.2	
comp=Z,974nm,18.3s,baz=260,slow=38							
QSPA	South Pole Qui	91.51	180	P	P	16 59 03.5	-0.3
QSPA	South Pole Qui	91.51	180	IAMs_20	IAMs_20	17 36 13.4	
comp=Z,861nm,19.0s							
BILL	Bilibino	91.80	22	ceP	P	16 59 07.3	+2.3
BILL				e		17 02 52.2	
BILL				eS	S	17 10 07.4	+1.9
BILL				eSS	SS	17 16 14.8	+2.0
BILL				pmax	pmax		
comp=Z,8.0nm,1.2s							
BILL				MLR	MLR		
comp=Z,1μm,16.0s							
VNDA	Vanda	92.40	167	P	P	16 59 08.0	+0.4
comp=Z,5.4nm,0.7s,baz=280,slow=5.3,SNR=69							
VNDA				LR	LR	17 35 36.5	
comp=Z,1μm,20.6s,baz=246,slow=32							
VNDA	Vanda	92.40	167	P	P	16 59 08.0	+0.4
VNDA	Vanda	92.40	167	P	P	16 59 08.1	+0.5
SUMG	Summit	93.34	343	i P	P	16 59 17.0	+4.5
comp=Z,171nm,1.3s							
SUMG	Summit	93.34	343	i P	P	16 59 17.0	+4.5
SUMG				pmax	pmax		
comp=Z,170nm,1.3s							
DZM	Mont Dzumac	98.69	112	eSS	SS	17 17 53.0	-0.4
comp=Z,495nm,27.4s							
DZM	Mont Dzumac	98.69	112	eLR	LR	17 31 47.9	
comp=Z,392nm,20.4s							
ANM	Nome	103.61	21	IAMs_20	IAMs_20	17 50 57.6	
comp=Z,744nm,18.0s							
RCBR	Riachuelo	103.67	264	IAMs_20	IAMs_20	17 48 43.4	
comp=Z,445nm,18.0s							
CCB	Clear Creek Bu	109.05	15	IAMs_20	IAMs_20	17 56 41.0	
comp=Z,520nm,19.0s							
WRH	Wood River Hil	109.11	16	IAMs_20	IAMs_20	17 54 24.7	
comp=Z,572nm,18.0s							
ILAR	Eielson Array	109.19	15	PP	PKiKP	17 04 39.1	+12
comp=Z,0.5nm,0.7s,baz=321,slow=9.8,SNR=4.8							
RND	Reindeer	109.73	17	IAMs_20	IAMs_20	17 54 42.2	
comp=Z,716nm,20.0s							
DHY	Denali Highway	110.41	16	IAMs_20	IAMs_20	17 55 49.1	
comp=Z,459nm,20.0s							
DOT	Dot Lake	110.82	15	IAMs_20	IAMs_20	17 56 14.9	
comp=Z,552nm,19.0s							
GHO	Glory Hole Cre	110.98	18	IAMs_20	IAMs_20	17 55 47.2	
comp=Z,661nm,22.0s							
PMR	Palmer	111.06	18	IAMs_20	IAMs_20	17 54 57.2	
comp=Z,633nm,20.0s							
FID	Port Fidalgo	112.52	17	IAMs_20	IAMs_20	17 58 35.4	
comp=Z,642nm,20.0s							
BALM	Baldy	113.45	15	IAMs_20	IAMs_20	17 57 46.4	
comp=Z,682nm,19.0s							
SPB	Sao Paulo	113.57	245	IAMs_20	IAMs_20	17 47 03.2	
comp=Z,584nm,21.0s							
HAL	Halifax	116.88	323	IAMs_20	IAMs_20	17 47 34.2	
comp=Z,361nm,18.0s							
E61A	Lac Etchemin	119.73	328	P	PKiKP	17 04 48.0	+0.1
baz=50							
D56A	ZEC Mazanza, M	121.50	331	P	PKPdf	17 04 51.0	-0.2
baz=46							
D55A	Sainte-Anne-du	121.87	331	P	PKPdf	17 04 51.3	-0.6
baz=45							
HNH	Hanover	122.47	326	IAMs_20	IAMs_20	17 59 14.4	
comp=Z,560nm,18.0s							
LONY	Lake Ozonia	123.09	329	P	PKPdf	17 04 54.2	-0.1
baz=47							
CLDB	Colider	123.14	258	eP	PKiKP	17 04 56.2	+0.8
ACCN	Adirondack Com	123.43	327	IAMs_20	IAMs_20	17 56 18.0	
comp=Z,511nm,21.0s							
ITTB	Itaituba	123.44	266	eP	PKiKP	17 04 56.8	+0.8
I58A	Old Forge	123.93	328	P	PKPdf	17 04 55.7	-0.2
baz=47							
DELO	Deloro Mine	124.71	330	IAMs_20	IAMs_20	18 02 18.2	
comp=Z,556nm,20.0s							
H53A	Bobcaygeon	125.14	331	P	PKPdf	17 04 57.8	-0.4
baz=43							
M59A	Waymart	125.64	326	P	PKPdf	17 04 59.2	-0.1
baz=47							
PLCA	Paso Flores	125.73	219	PKP	PKPdf	17 04 59.5	-0.1
comp=Z,2.5nm,0.7s,baz=177,slow=3.4,SNR=8.1							
PLCA	Paso Flores	125.73	219	eP	PKiKP	17 05 00.6	+0.6
M58A	Price's Panora	126.32	327	P	PKiKP	17 05 00.9	-0.2
baz=46							
L56A	Greenwood	126.38	328	P	PKPdf	17 05 00.5	-0.2
baz=45							
L56A	Greenwood	126.38	328		PKPdf	17 05 00.2	-0.5
M57A	Sunshine Farm,	126.70	327	P	PKiKP	17 05 02.3	+0.5
baz=46							
L55A	Hinsdale	126.80	329	P	PKiKP	17 05 02.0	0.0
baz=44							
O59A	Robesonia	126.89	326	P	PKPdf	17 05 01.6	-0.1
baz=47							
VILB	Vilhena	127.19	255	eP	PKiKP	17 05 04.1	+0.6
O58A	Lewisberry	127.43	326	P	PKiKP	17 05 03.4	+0.1
baz=47							
LC01	Cunco	127.62	220		PKPdf	17 05 01.9	-1.2
SABA	Saba	128.06	294	IAMs_20	IAMs_20	17 54 52.6	
comp=Z,299nm,22.0s							
N55A	Marion Center	128.09	328	P	PKiKP	17 05 04.4	-0.2
baz=44							
VA03	San Esteban	129.99	227		PKPdf	17 05 08.1	+0.1
R56A	Bull Pasture M	130.00	326	P	PKiKP	17 05 08.9	+0.3
baz=45							
P53A	Whipple	130.30	329	P	PKiKP	17 05 09.3	+0.3
baz=42							
SAML	Samuel	130.57	260	PKIKP	PKPdf	17 05 09.3	-0.1
SAML				MLR	MLR		
comp=Z,400nm,20.0s							
SAML	Samuel	130.57	260	PKPdf	PKPdf	17 05 09.3	-0.1
SAML	Samuel	130.57	260	IAMs_20	IAMs_20	17 59 13.3	
comp=Z,414nm,20.0s							
SAML	Samuel	130.57	260	eP	PKiKP	17 05 11.0	+0.8
EGMT	Eagleton	130.59	358	P	PKiKP	17 05 09.4	-0.1
baz=3.4							
EGMT	Eagleton	130.59	358	PKPdf	PKPdf	17 05 08.8	+0.2
AC02	Maricunga	131.55	235		PKPdf	17 05 10.5	-1.0
V58A	Windy Hill, Pi	131.65	323	IAMs_20	IAMs_20	18 03 31.9	
comp=Z,302nm,18.0s							
MSO	Missoula	131.81	2	P	PKiKP	17 05 11.9	-0.2
baz=358							
MSO	Missoula	131.81	2	PKPdf	PKPdf	17 05 10.9	-0.1
ECSD	EROS Data Cent	132.78	345		PKPdf	17 05 12.2	-0.6
BOZ	Bozeman (W)	133.06	359	PKIKP	PKPdf	17 05 12.7	-0.8
BOZ	Bozeman (W)	133.06	359	P	PKPdf	17 05 13.7	+0.3
baz=0.9							
BOZ	Bozeman (W)	133.06	359		PKPdf	17 05 12.7	-0.8
DLMT	Dillon	133.30	0		PKPdf	17 05 13.1	-0.8
ETMB	Extrema	133.45	258	eP	PKiKP	17 05 16.6	+0.5
BMO	Blue Mountains	133.60	5	IAMs_20	IAMs_20	18 05 32.0	
comp=Z,503nm,20.0s							
WCI	Wyandotte Cave	133.72	331	P	PKPdf	17 05 14.9	+0.2
baz=37							
MCMT	McKenzie Canyo	133.84	1	PKPdf	PKPdf	17 05 14.0	-1.1
RSSD	Black Hills	133.94	352	PKIKP	PKPdf	17 05 13.4	-1.9
RSSD	Black Hills	133.94	352	PKPdf	PKPdf	17 05 13.4	-1.9
PB08	IPOC Station P	133.97	243		PKPdf	17 05 14.0	-2.1
LPAZ	La Paz	134.10	249	PKP	PKPdf	17 05 17.2	+0.4
comp=Z,3.2nm,1.0s,baz=28,slow=1.8,SNR=12							
LPAZ	La Paz	134.10	249	PKIKP	PKPdf	17 05 15.3	-1.4
LPAZ	La Paz	134.10	249	PKPdf	PKPdf	17 05 15.3	-1.4
LPAZ	La Paz	134.10	249	eP	PKPdf	17 05 17.3	+0.6
OLIL	Olney	134.14	333	IAMs_20	IAMs_20	18 03 44.5	
comp=Z,513nm,20.0s							
SC01	Santiago de lo	134.18	299	IAMs_20	IAMs_20	18 12 01.8	
comp=Z,251nm,19.0s							
TKL	Tuckaleechee C	134.40	327	PKP	PKPdf	17 05 16.1	0.0
comp=Z,1.6nm,0.4s,baz=104,slow=5.1,SNR=3.7							
PB11	IPOC Station P	134.54	244		PKPdf	17 05 15.8	-1.2
HODGE	Hodges	134.58	324	IAMs_20	IAMs_20	18 05 32.5	
comp=Z,371nm,18.0s							
PB16	IPOC Station P	134.83	246	PKPdf	PKPdf	17 05 16.6	-1.4
PSGCX	Pisagua	135.01	244		PKPdf	17 05 17.0	-0.7
FXWY	Fox Creek	135.01	359	PKPdf	PKPdf	17 05 16.6	-0.7
HUMO	Hull Mountain	135.02	11	PKPdf	PKPdf	17 05 17.1	+0.1
SLM	Saint Louis	135.15	335	IAMs_20	IAMs_20	18 08 12.9	
comp=Z,556nm,22.0s							
REDW	Red Top Meadow	135.28	358		PKPdf	17 05 17.7	-0.1
CLTN	Cedars of Leba	135.42	330		PKPdf	17 05 17.5	-0.5
BW06	Boulder Array	135.83	357		PKPdf	17 05 17.9	-1.0
BW06				IAMs_20	IAMs_20	18 09 15.1	
comp=Z,437nm,22.0s							
PD31	Pinedale Array	135.83	357		PKPdf	17 05 18.0	-0.9
PDAR	Pinedale Array	135.83	357	PKP	PKPdf	17 05 18.6	-0.2
comp=Z,2.1nm,0.6s,baz=66,slow=1.9,SNR=15							
PDAR				PP	PP	17 07 60.0	+4.2
comp=Z,1.6nm,1.1s,baz=50,slow=2.5,SNR=4.0							
PDAR	Pinedale Array	135.83	357		PP	17 07 57.4	+1.6
GOGA	Godfrey	135.87	325	IAMs_20	IAMs_20	18 14 04.0	
comp=Z,385nm,19.0s							
AHID	Auburn Hatcher	135.88	359	IAMs_20	IAMs_20	18 11 34.5	
comp=Z,538nm,21.0s							
SWET	Sewanee	135.89	328	IAMs_20	IAMs_20	17 57 59.4	
comp=Z,428nm,20.0s							
PHWY	Pilot Hill	136.91	352	IAMs_20	IAMs_20	18 13 54.9	
comp=Z,330nm,19.0s							
HWUT	Hardware Ranch	137.05	359	PKPdf	PKPdf	17 05 20.2	-0.9
HWUT				IAMs_20	IAMs_20	18 07 40.4	
comp=Z,526nm,22.0s							
PLAL	Pickwick Lake	137.16	330	IAMs_20	IAMs_20	18 12 31.9	
comp=Z,485nm,21.0s							
Y49A	Blount Mountai	137.18	328		PKPdf	17 05 19.8	-1.6
S39A	Bolivar	137.19	338		PKPdf	17 05 20.4	-0.8
SDV	Santo Domingo	137.20	285	IAMs_20	IAMs_20	18 09 44.7	
comp=Z,357nm,20.0s							
MGMO	Mountain Grove	137.25	336	IAMs_20	IAMs_20	18 04 55.3	
comp=Z,439nm,20.0s							
N23A	Red Feather La	137.37	353		PKPdf	17 05 20.6	-1.2
ELK	Elko	137.83	3	PKP	PKPdf	17 05 23.5	+0.9
comp=Z,1.2nm,0.9s,baz=357,slow=2.6,SNR=3.2							
ELK				PP	PP	17 08 10.1	+1.8
comp=Z,0.7nm,0.4s,baz=348,slow=9.9,SNR=3.7							
TBI	Tubuai	137.97	124	eSS	SS	17 26 21.5	+0.1
comp=Z,770nm,36.0s							
TBI	Tubuai	137.97	124	eLR	LR	17 49 52.5	
comp=Z,317nm,36.0s							
CBKS	Cedar Bluff	138.21	345	IAMs_20	IAMs_20	18 09 32.8	
comp=Z,380nm,20.0s							
FCAR	Ozark Folk Cen	138.27	335		PKPdf	17 05 22.9	-0.4
R32A	Long Quarter,	138.30	344	IAMs_20	IAMs_20	18 12 10.4	
comp=Z,491nm,19.0s							
250A	Grady	138.52	326	IAMs_20	IAMs_20	18 06 57.6	
comp=Z,456nm,21.0s							
TAMC	Tame, Arauca	138.78	282	eP	PKPdf	17 05 23.7	-1.1
PNTR	Pine Nut	139.02	9	IAMs_20	IAMs_20	18 03 31.5	
comp=Z,421nm,20.0s							
PTGC	Puerto Gaitan,	139.45	278	eP	PKPdf	17 05 22.2	-3.8
NVAR	Mina Array Bea	139.85	7	PKP	PKPdf	17 05 25.4	-1.0
comp=Z,1.7nm,0.7s,baz=289,slow=1.8,SNR=9.3							
NVAR				PP	PP	17 08 22.7	+1.9
comp=Z,1.0nm,0.6s,baz=18,slow=5.2,SNR=4.2							
NV11	Mina Array Sit	139.86	7		PKPdf	17 05 25.2	-1.1
PPT2	Papeete2	140.07	116	eSS	SS	17 26 47.1	+0.2
comp=Z,777nm,27.0s							
PPT2	Papeete2	140.07	116	eLR	LR	17 50 54.6	
comp=Z,741nm,29.2s							
GUVC	San Jose del G	140.12	276	eP	PKPdf	17 05 26.4	-0.8
PV16	Nyswonger Mesa	140.22	356	IAMs_20	IAMs_20	18 11 14.5	
comp=Z,336nm,20.0s							
PV02	Paradox Valley	140.31	356	PKPdf	PKPdf	17 05 25.9	-1.4
PV13	Radium Mtn., P	140.37	356	PKPdf	PKPdf	17 05 26.9	-0.5
PV01	Paradox Valley	140.37	355		PKPdf	17 05 25.8	-1.6
PV05	Paradox Valley	140.47	356		PKPdf	17 05 26.1	-1.4
BRRC	Barranca, Sant	140.54	283	eP	PKPdf	17 05 27.4	-0.6
S22A	4UR Ranch, Cre	140.58	353	PKPdf	PKPdf	17 05 24.8	-3.1
MTPU	Mount Pierson	140.62	360	PKPdf	PKPdf	17 05 25.5	-2.5
SPBC	San Pablo de B	141.15	281	eP	PKPdf	17 05 26.6	-2.6
PRN	Pahroc Range	141.17	3		PKPdf	17 05 27.0	-1.6
MVCO	Mesa Verde	141.28	355		PKPdf	17 05 28.0	-1.0
PTBC	PUERTO BERRIO	141.37	282	eP	PKPdf	17 05 22.6	-6.9
ROSC	El Rosal	141.52	280	PKP	PKPdf	17 05 31.3	+1.0
comp=Z,6.9nm,0.3s,baz=257,slow=8.1,SNR=3.5							
TPNV	Topopah Spring	141.53	5	IAMs_20	IAMs_20	18 08 44.0	
comp=Z,442nm,22.0s							
ZARC	Zaragoza, Cauc	141.58	284	eP	PKPdf	17 05 26.0	-3.8
MOTC	Monteria, Cord	142.07	286	eP	PKPdf	17 05 31.5	+0.8
UREC	San Jos de Ur	142.17	285	eP	PKPdf	17 05 27.3	-3.6
U15A	North Rim	142.23	360		PKPdf	17 05 27.1	-3.6
PRAC	Prado	142.23	278	eP	PKPdf	17 05 30.1	-1.0
AMTX	Amarillo	142.42	346	PKPdf	PKPdf	17 05 29.1	-1.9
GUY2C	Guyana, Caldas	142.49	281	eP	PKPdf	17 05 26.9	-5.2
BETC	Betania	142.90	276	eP	PKPdf	17 05 28.2	-4.0
DBBC	Dabeiba	142.99	284	eP	PKPdf	17 05 30.5	-2.0
GARC	Garzon, Huila	143.00	276	eP	PKPbc	17 05 28.8	-0.7
CBOC	Ciudad Bolivar	143.01	282	eP	PKPbc	17 05 28.9	-0.5
TUQ	Turquoise Moun	143.06	5	P	PKPdf	17 05 32.9	+0.8
baz=354							
GSC	Goldstone, Bar	143.11	6	PKIKP	PKPbc	17 05 29.4	+0.5
GSC	Goldstone, Bar	143.11	6	PKPdf	PKPbc	17 05 29.4	+0.5
WUAZ	Wupatki	143.13	359	P	PKPbc	17 05 30.0	+1.0
baz=1.6							
WUAZ	Wupatki	143.13	359		PKPbc	17 05 29.4	+0.4
FLOC	Florencia	143.22	275	eP	PKPab	17 05 28.6	+0.1
ANMO	Albuquerque	143.29	352	PKIKP	PKPbc	17 05 29.8	+0.3
ANMO	Albuquerque	143.29	352	P	PKPbc	17 05 30.4	+0.9
baz=9.7							
ANMO	Albuquerque	143.29	352		PKPbc	17 05 29.8	+0.3
MARP	Paez Belalcaza	143.40	277	eP	PKPbc	17 05 30.8	+0.2
PLMC	San Jos del P	143.44	280	eP	PKPbc	17 05 31.6	+1.1
W18A	Petrified Fore	143.46	356	P	PKPbc	17 05 30.4	+0.4
baz=4.3							
W18A	Petrified Fore	143.46	356		PKPbc	17 05 30.

JCT	Junction City	146.00 340	PKP2	PKPdf	17 05 37.1	-0.1
JCT			MLR	MLR		
comp=Z,400nm,18.0s						
JCT	Junction City	146.00 340	P	PKPbc	17 05 37.9	0.0
baz=23						
JCT	Junction City	146.00 340	PKPbc	PKPdf	17 05 37.1	-0.1
JCT			IAMs_20	IAMs_20	18 15 55.0	
comp=Z,408nm,18.0s						
CUSE	Cuicocha Este	146.04 273	eP	PKPbc	17 05 38.9	-0.1
OTAV	Otavalo	146.10 273	eP	PKPab	17 05 40.3	+0.4
OTAV	Otavalo	146.10 273	PKP2	PKPab	17 05 39.8	0.0
OTAV			MLR	MLR		
comp=Z,400nm,21.0s						
OTAV	Otavalo	146.10 273	PKPbc	PKPab	17 05 39.8	0.0
OTAV	Otavalo	146.10 273	IAMs_20	IAMs_20	18 10 01.7	
comp=Z,364nm,21.0s						
OTAV	Otavalo	146.10 273	eP	PKPbc	17 05 39.0	-0.2
MNTX	Cornudas Mount	146.30 349	P	PKPbc	17 05 38.3	-0.4
baz=12						
MNTX	Cornudas Mount	146.30 349	PKPbc	PKPdf	17 05 38.0	+0.4
TUC	Tucson	146.31 358	P	PKPab	17 05 39.5	0.0
baz=2.7						
PAC1	Pacto, Paraso	146.44 273	eP	PKPdf	17 05 38.9	+0.4
ESJX	Sierra Juarez	146.46 6		PKPbc	17 05 39.3	-0.1
214A	Organ Pipe Nat	146.69 1	P	PKPbc	17 05 40.3	+0.4
baz=359						
214A	Organ Pipe Nat	146.69 1		PKPdf	17 05 38.9	+0.5
PIX	Pinacate	147.07 2		PKPbc	17 05 40.0	-0.9
SPX	San Pedro Mart	147.47 5		PKPdf	17 05 40.9	+0.8
SFX	San Felipe	147.51 4		PKPbc	17 05 41.1	-1.1
833A	Chaparral WMA,	147.82 338	P	PKPbc	17 05 43.1	-0.1
baz=25						
833A	Chaparral WMA,	147.82 338		PKPbc	17 05 41.8	-1.3
TEIG	Tepich	148.02 314		PKPdf	17 05 42.2	+1.4
TX31	Lajitas Ar. Si	148.21 346		PKPdf	17 05 42.5	+1.5
TX32	Lajitas Array	148.21 346		PKPdf	17 05 42.1	+1.1
TXAR	Lajitas Array	148.21 346	PKPbc	PKPbc	17 05 44.7	+0.4
comp=Z,62nm,1.0s,baz=55,slow=3.0,SNR=108						
TXAR			PP	PP	17 09 11.4	+0.5
comp=Z,0.1nm,0.4s,baz=138,slow=38,SNR=2.4						
TXAR	Lajitas Array	148.21 346	PKIKP	PKPdf	17 05 39.7	-1.3
TXAR					17 09 11.4	
TXAR	Lajitas Array	148.21 346	PKPdf	PKPdf	17 05 39.7	-1.3
HSIG		149.59 358		PKPbc	17 05 45.6	-2.1
ACON	Acoyapa	149.88 297	PKPdf	PKPdf	17 05 41.4	-2.5
MATN	Matagalpa	150.13 300		PKPbc	17 05 47.7	-1.8
TGUH	Tegucigalpa,Un	150.75 303	PKPdf	PKPdf	17 05 43.1	-2.3
TGUH			IAMs_20	IAMs_20	18 25 03.7	
comp=Z,314nm,19.0s						
TAOE	Nuku Hiva Isla	151.36 106	eLR	LR	17 56 01.2	
comp=Z,352nm,33.1s						

NEIC ***30*** *16:47:57.8±1.3, 37.°25N±0.°03×97.°98W±0.°03, h5km±2km, mb_Lg3.1/91, Error ellipse: s-maj=5.4km s-min=3.9km az=151.0*
UNK ***30*** *16:47:58.1, 37.°24N×97.°97W, h5km*
ANF ***30*** *16:47:59.9±1.2, 37.°23N×97.°95W, h13km±8km, ML4.0/7, Error ellipse: s-maj=7.5km s-min=3.2km az=51.0*

ISC 30 16:47:57.8±1.1, 37.°24N±0.°03×97.°97W±0.°03, h7km±9km, n82, σ0.°73/67, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	Harper NE Stat	0.07	337	Pg	Pg	16 47 59.8	+0.2
KAN10	Anthony SW Sta	0.15	223	Pg	Pg	16 48 01.3	+0.4
KAN13	South Haven SW	0.45	120		Pg	16 48 06.7	+0.2
KAN13				Sg	Sg	16 48 12.2	-0.1
CROK	Carrier	0.73	181		Pg	16 48 11.6	-0.2
U32A	Winter Ranch,	1.19	225	Pg	Pb	16 48 19.9	-0.9
T35A	Sooner Cattle	1.21	105	Pg	Pb	16 48 20.4	-0.5
T35A				Sg	Sb	16 48 35.6	-1.1
R32A	Long Quarter,	1.32	334	Pn	Pn	16 48 22.7	-0.1
QUOK	Quay	1.47	136		Pn	16 48 24.6	-0.1
OK029	Liberty Lake	1.49	164		Pn	16 48 25.1	+0.1
BCOK	Bluff Creek, N	1.60	170		Pn	16 48 26.8	+0.2
OK025	Westminster Rd	1.73	163		Pn	16 48 29.1	+0.9
OKCFA	Oklahoma City	1.86	167		Pn	16 48 31.2	+1.0
OKCSW	OKLAHOMA CITY	1.88	167		Pn	16 48 31.2	+0.9
FNO	Franklin	2.03	167		Pn	16 48 33.6	+1.2
CBKS	Cedar Bluff	2.11	319	P	Pn	16 48 34.8	+1.3
baz=138							
CBKS				S	Sb	16 49 02.4	-0.4
baz=138							
CBKS	Cedar Bluff	2.11	319	Pn	Pn	16 48 34.5	+0.9
KSU1	Kansas State U	2.15	29	P	Pn	16 48 35.3	+1.3
baz=210							
KSU1				S	Sb	16 49 03.7	-0.2
baz=210							
KSU1	Kansas State U	2.15	29	Pn	Pn	16 48 35.1	+1.1
KSU1				IAmb_Lg		16 49 05.0	
comp=Z,71nm,0.8s							
TUL1	Leonard	2.19	126	P	Pn	16 48 36.6	+1.9
baz=308							
TUL1				S	Sb	16 49 04.5	-0.7
baz=308							
TUL1	Leonard	2.19	126	Pn	Pn	16 48 35.6	+0.9
W35A	Tecumseh	2.26	157		Pn	16 48 36.2	+0.7
WMOK	Wichita Mounta	2.58	195	Pn	Pn	16 48 41.7	+1.7
X34A	Smith Ranch, M	2.63	178	Pn	Pn	16 48 41.9	+1.2
U38A	Gravette	2.98	104		Pn	16 48 46.1	+0.6
U38A				IAmb_Lg		16 49 39.1	
comp=Z,89nm,0.9s							
HHAR	Hobbs	3.37	105		Pn	16 48 51.6	+0.8
HHAR				IAmb_Lg		16 49 47.3	
comp=Z,50nm,0.9s							
X37A	Clayton	3.38	141		Pn	16 48 51.7	+0.8
N33A	J Bar K, Exete	3.52	6	Pn	Pn	16 48 52.9	-0.1
N33A				IAmb_Lg		16 49 52.8	
comp=Z,78nm,0.9s							
S39A	Bolivar	3.72	82		Pn	16 48 56.0	+0.3
S39A				IAmb_Lg		16 50 00.8	
comp=Z,57nm,0.9s							
AMTX	Amarillo	3.82	233	Pn	Pn	16 48 57.4	+0.3
AMTX				IAmb_Lg		16 50 09.6	
comp=Z,67nm,0.7s							
W39A	Magazine	3.95	120	Pn	Pn	16 48 59.3	+0.5
N35A	Tabor	4.05	26	Pn	Pn	16 49 00.3	+0.2
KSCO	Kaye Shedlock'	4.08	297	Pn	Pn	16 49 00.8	0.0
BGNE	Belgrade	4.17	358	Pn	Pn	16 49 01.9	0.0
U40A	Yellville	4.20	101	P	Pn	16 49 03.2	+1.0
baz=284							
U40A				S	Sn	16 49 52.6	+1.1
baz=284							
U40A	Yellville	4.20	101	Pn	Pn	16 49 02.8	+0.6
P38A	Dawn	4.22	54		Pn	16 49 03.0	+0.5
MIAR	Mount Ida	4.46	126	P	Pn	16 49 07.3	+1.4
baz=308							
MIAR				S	Sn	16 49 58.3	+0.3
baz=308							
MIAR	Mount Ida	4.46	126	Pn	Pn	16 49 06.7	+0.8
MIAR				IAmb_Lg		16 50 23.7	
comp=Z,43nm,0.9s							
MGMO	Mountain Grove	4.55	89	Pn	Pn	16 49 07.7	+0.6
MGMO				IAmb_Lg		16 50 19.9	
comp=Z,44nm,0.8s							
R40A	Maddies Statio	4.63	75		Pn	16 49 08.5	+0.3
R40A				IAmb_Lg		16 50 32.0	
comp=Z,43nm,1.1s							
Z38A	Mt. Pleasant	4.66	148	Pn	Pn	16 49 08.8	+0.3
Z38A				IAmb_Lg		16 50 27.9	
comp=Z,50nm,0.7s							
L34A	Svendsen Farm,	4.88	14	Pn	Pn	16 49 12.3	+0.7
FCAR	Ozark Folk Cen	4.89	104	Pn	Pn	16 49 11.4	-0.4
WHAR	Wooly Hollow	4.98	111	Pn	Pn	16 49 13.1	+0.1
WHAR				IAmb_Lg		16 50 45.2	
comp=Z,45nm,0.9s							
X40A	Basin Creek Fa	4.99	122	Pn	Pn	16 49 13.5	+0.4
X40A				IAmb_Lg		16 50 42.3	
comp=Z,36nm,0.9s							
W41B	Gary Mavity, V	5.06	112	P	Pn	16 49 15.1	+1.1
baz=296							
W41B	Gary Mavity, V	5.06	112	Pn	Pn	16 49 14.6	+0.5
W41B				IAmb_Lg		16 50 37.8	
comp=Z,33nm,0.8s							
N38A	Joes South For	5.12	45	Pn	Pn	16 49 15.2	+0.3
N38A				IAmb_Lg		16 50 41.8	
comp=Z,46nm,0.8s							
T25A	Trinidad	5.15	271	IAmb_Lg		16 50 44.1	
comp=Z,35nm,0.8s							
UALR	University of	5.18	117	IAmb_Lg		16 50 45.9	
comp=Z,27nm,0.7s							
P40A	Paris	5.18	62	Pn	Pn	16 49 16.1	+0.3
P40A				IAmb_Lg		16 50 47.3	
comp=Z,33nm,0.8s							
WHTX	Lake Whitney,	5.25	175	Pn	Pn	16 49 16.8	+0.1
WLAR	White Oak Lake	5.31	130	IAmb_Lg		16 50 55.9	
comp=Z,34nm,0.8s							
CCM	Cathedral Cave	5.40	79	P	Pn	16 49 19.3	+0.6
baz=263							
CCM	Cathedral Cave	5.40	79	Pn	Pn	16 49 19.0	+0.3
CCM				IAmb_Lg		16 50 57.4	
comp=Z,26nm,0.9s							
K31A	O'Neill	5.41	354	Pn	Pn	16 49 19.1	+0.1
T42A	Van Buren	5.50	90	Pn	Pn	16 49 19.7	-0.3
237A	Washetta, Mont	5.52	161	Pn	Pn	16 49 20.2	-0.1
237A				IAmb_Lg		16 51 07.2	
comp=Z,40nm,0.9s							
LCAR	Lake Charles	5.60	100	Pn	Pn	16 49 21.6	+0.2
LCAR				IAmb_Lg		16 50 54.7	
comp=Z,28nm,0.8s							
Q24A	Divide	5.92	289	Pn	Pn	16 49 26.1	-0.2
Q24A				IAmb_Lg		16 51 10.8	
comp=Z,29nm,1.0s							
SCIA	State Center	5.93	37	Pn	Pn	16 49 26.8	+0.7
SDCO	Great Sand Dun	6.01	277	IAmb_Lg		16 51 16.7	
comp=Z,21nm,1.2s							
PBMO	Poplar Bluff	6.05	92	IAmb_Lg		16 51 08.3	
comp=Z,23nm,0.8s							
NATX	Nacogdoches	6.11	153	IAmb_Lg		16 51 27.3	
comp=Z,24nm,0.9s							
435B	Jarrell	6.45	177	IAmb_Lg		16 51 25.0	
comp=Z,24nm,0.8s							
N41A	Harden Midland	6.53	56	IAmb_Lg		16 51 30.7	
comp=Z,34nm,0.7s							
ECSD	EROS Data Cent	6.57	9	Pn	Pn	16 49 34.6	-0.2
ECSD				IAmb_Lg		16 51 31.8	
comp=Z,20nm,0.9s							
JCT	Junction City	6.91	193	IAmb_Lg		16 51 45.1	
comp=Z,28nm,0.9s							
S44A	Carbondale	6.94	84	Pn	Pn	16 49 39.6	-0.3
S44A				IAmb_Lg		16 51 44.1	
comp=Z,31nm,0.7s							
P43A	Skaggs, Pawnee	7.05	68	IAmb_Lg		16 51 50.5	
comp=Z,28nm,0.9s							
L40A	Anamosa	7.09	45	IAmb_Lg		16 51 52.2	
comp=Z,28nm,0.8s							
ANMO	Albuquerque	7.25	254	IAmb_Lg		16 51 48.2	
comp=Z,4.9nm,0.9s							
OXF	Oxford	7.46	109	IAmb_Lg		16 52 07.1	
comp=Z,28nm,0.9s							
HDIL	Hopedale	7.53	61	IAmb_Lg		16 52 12.4	
comp=Z,24nm,0.7s							
Y45A	Yeager Farm, C	7.64	114	IAmb_Lg		16 52 11.5	
comp=Z,22nm,0.7s							
JFWS	Jewell Farm	8.19	44	IAmb_Lg		16 52 21.9	
comp=Z,30nm,0.7s							
K22A	Casper	8.51	312	IAmb_Lg		16 52 38.6	
comp=Z,17nm,0.8s							
T47A	Sharon Grove	8.68	88	IAmb_Lg		16 52 33.0	
comp=Z,19nm,0.9s							
P46A	Rosedale	8.77	71	IAmb_Lg		16 52 33.9	
comp=Z,24nm,0.9s							
SPMN	Marine on St.	8.88	24	IAmb_Lg		16 52 43.2	
comp=Z,12nm,0.8s							
WCI	Wyandotte Cave	9.30	80	IAmb_Lg		16 52 53.2	
comp=Z,23nm,1.1s							
CLTN	Cedars of Leba	9.42	93	IAmb_Lg		16 52 57.4	
comp=Z,12nm,1.0s							

IDC ***30*** *16:51:00.2±1.9, 56.°76N×33.°94W, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.6/56, mbtmp3.9/8, MS3.7/1, Ms1 3.7/1, ms1mx2.8/48, Error ellipse: s-maj=46.1km s-min=29.9km az=34.0*
NEIC ***30*** *16:51:02.7±1.1, 56.°81N±0.°07×34.°0W±0.°2, h16km±5km, mb4.4/18, Error ellipse: s-maj=13.8km s-min=8.8km az=66.0*

ISC 30 16:51:01.8±0.7, 56.°8N±0.°1×34.°08W±0.°08, h13km, n34, σ0.°89/31, mb4.3/15, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	10.12	33	Pn	Pn	16 53 26.1	-0.4
SFJD	Kangerlussuaq	12.82	330	Pn	Pn	16 54 03.7	+0.2
LMN	Caledonia Moun	21.91	253	P	P	16 55 57.1	+2.6
LMN				IAmb	IAmb	16 55 58.1	
comp=Z,12nm,0.9s							
D62A	Allapoint, All	23.40	260	P	P	16 56 11.3	+1.2
D62A				IAmb	IAmb	16 56 17.7	
comp=Z,17nm,1.2s							
NB201	NORSAR Array S	23.43	61	P	P	16 56 11.8	+1.4
NB201				IAmb	IAmb	16 56 30.0	
comp=Z,17nm,1.1s							
NC303	NORSAR Array S	23.44	60	P	P	16 56 11.3	+0.9
F64A	Sherman	23.78	257	P	P	16 56 14.9	+1.0
F64A				IAmb	IAmb	16 56 20.6	
comp=Z,9.5nm,1.1s							
BFO	Black Forest	26.75	90	P	P	16 56 40.5	-0.4
AKASG	Malin Array Be	36.72	72	P	P	16 58 06.8	-1.4
comp=Z,1.6nm,0.6s,baz=307,slow=8.4,SNR=4.1							
AKASG	Malin Array Be	36.72	72	IAmb	IAmb	16 58 15.1	
comp=Z,1.6nm,0.9s							
S44A	Carbondale	40.74	266	P	P	16 58 41.8	-0.4
BRTR	Keskin Array B	46.18	82	P	P	16 59 26.6	+0.4
comp=Z,0.6nm,0.6s,baz=286,slow=5.4,SNR=2.1							
IL31		48.49	328	P	P	16 59 43.4	-0.1
IL31				IAmb	IAmb	16 59 57.4	
comp=Z,3.3nm,1.2s							
ILAR	Eielson Array	48.49	328	P	P	16 59 44.1	+0.5
comp=Z,0.9nm,0.7s,baz=37,slow=6.9,SNR=7.1							
RIDG	Independent Ri	48.64	326	P	P	16 59 44.7	-0.2
IMAR	Indian Mountai	49.45	332	P	P	16 59 51.8	+0.9
AMTX	Amarillo	49.63	274	P	P	16 59 51.1	-1.7
HWUT	Hardware Ranch	50.08	287	P	P	16 59 55.6	-0.7
BBB	Bella Bella	50.66	307	LR	LR	17 18 47.0	
comp=Z,77nm,21.2s,baz=132,slow=33							
AKTO	Aktyubinsk	51.03	55	P	P	17 00 03.3	+0.2
comp=Z,2.3nm,0.6s,baz=322,slow=6.7,SNR=5.8							
TORD	Torodi Ar. Bea	51.41	133	P	P	17 00 06.0	-0.3
comp=Z,1.0nm,0.9s,baz=341,slow=8.5,SNR=3.0							
PPLA	Purkeypile	51.44	329	P	P	17 00 06.3	+0.1
PPLA				IAmb	IAmb	17 00 10.6	
comp=Z,8.6nm,1.3s							
ABKAR	Akbulak array	52.74	55	P	P	17 00 15.4	-0.5
BVAR	Borovoye Array	54.39	46	P	P	17 00 28.3	+0.4
comp=Z,1.9nm,0.8s,baz=172,slow=12,SNR=4.1							
KURK	Kurchatov	59.38	43	P	P	17 01 03.5	+0.2
KURK	Kurchatov	59.38	43	IAmb	IAmb	17 01 05.1	
comp=Z,3.9nm,1.1s							
KURBB	Kurchatov Arra	59.42	43	P	P	17 01 03.5	0.0
comp=Z,3.0nm,0.8s,baz=323,slow=7.3,SNR=16							
MK31	Makanchi Array	63.98	43	P	P	17 01 34.6	+0.1
MKAR	Makanchi Array	63.98	43	P	P	17 01 34.7	+0.2
comp=Z,2.1nm,0.8s,baz=333,slow=6.1,SNR=15							
MKAR	Makanchi Array	63.98	43		P	17 01 34.6	+0.1
GAR	Garm	65.38	56	P	P	17 01 45.1	+1.3
TARG	Taragay, Kyrgy	66.42	49	P	P	17 01 50.2	-0.6
ASAR	Alice Springs	145.78	20	PKPbc	PKPbc	17 10 40.1	-0.2
comp=Z,1.7nm,0.8s,baz=345,slow=2.5,SNR=19							
ASAR	Alice Springs	145.78	20		PKPdf	17 10 39.9	0.0

PRU ***30*** *16:53:13.0±0.0, 43.°02N×18.°32E, h0km*
PDG ***30*** *16:53:14.1±0.3, 43.°03N×18.°32E, h13km, MD3.2/10, ML3.2/13, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
BEO ***30*** *16:53:15.1±0.5, 43.°10N×18.°33E, h11km±3km, ML3.0/7*
RHSSO ***30*** *16:53:15.0±0.3, 43.°05N×18.°38E, h8km±2km, ML3.1/8*

ISC 30 16:53:14.9±0.9, 43.°06N±0.°02×18.°42E±0.°02, h12km±6km, n88, σ1.°33/133, 22C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.18	152	⇑iPg	Pg	16 53 19.0	0.0
BRY				i Sg	Sg	16 53 22.6	+0.7
BRY	Bratogost	0.18	152	⇑iPg	Pg	16 53 19.0	0.0
BRY				eSg	Sg	16 53 22.7	+0.8
UPM	Unac-Piva	0.38	68	⇑iPg	Pb	16 53 22.8	-0.9
UPM				i Sg	Sb	16 53 30.0	+0.4
UPM	Unac-Piva	0.38	68	⇑iPg	Pb	16 53 22.8	-0.9
UPM				eSg	Sb	16 53 29.0	-0.6
DBRK	Dubrovnik	0.44	207	i Pg	Pg	16 53 22.6	-1.0
DBRK				Sg	Sg	16 53 29.2	-0.3
NKY	Niksic	0.49	120	⇑iPg	Pb	16 53 24.2	-1.2
NKY				i Sg	Sb	16 53 33.1	+0.5
NKME	Niksic	0.49	127	⇑iPg	Pb	16 53 24.1	-1.3
NKME				i Sg	Sb	16 53 32.8	+0.2
HCY	Herceg Novi	0.62	175	⇑iPg	Pg	16 53 25.8	-1.1
HCY				i Sg	Sg	16 53 34.9	-0.1
HCY	Herceg Novi	0.62	175	⇑iPg	Pg	16 53 25.9	-1.0
HCY				eSg	Sb	16 53 35.7	-0.5
CEME	Cevo	0.63	144	⇑iPg	Pg	16 53 26.1	-1.1
CEME				i Sg	Sb	16 53 36.6	-0.1
PLE	Pljevlja	0.76	69	⇓iPg	Pb	16 53 29.6	-0.4
PLE				i Sg	Sn	16 53 43.2	+0.3
KOME	Kolasin	0.83	104	⇓iPg	Pb	16 53 30.9	-0.4
KOME				i Sg	Sn	16 53 44.9	+0.2
BUM	Brajici-Budva	0.84	155	⇓iPg	Pg	16 53 30.2	-0.8
BUM				i Sg	Sb	16 53 43.1	+0.5
PDG	Podgorica	0.88	135	ePg	Pb	16 53 31.5	-0.6
PDG				eSg	Sn	16 53 45.9	+0.2
PDG	Podgorica	0.88	135	⇓P	Pb	16 53 31.6	-0.6
PDG				⇓S	Sn	16 53 47.0	+1.2
PDG	Podgorica	0.88	135	⇑iPg	Pg	16 53 30.6	-1.3
PDG				eSg	Sb	16 53 43.8	0.0
TTG	Podgorica	0.88	135	⇑iPg	Pg	16 53 30.7	-1.2
TTG	Podgorica	0.88	135	ePg	Pb	16 53 31.4	-0.6
TTG				i Sg	Sn	16 53 45.5	-0.2
RUDO	Rudo	0.89	51	ePg	Pb	16 53 31.2	-1.0
RUDO				eSg	Sn	16 53 45.0	-1.0
DRME	Dracevica, Mon	1.04	147	⇑iPg	Pg	16 53 34.1	-0.8
DRME				i Sg	Sn	16 53 50.5	+0.8
DRME	Dracevica, Mon	1.04	147	⇑iPg	Pg	16 53 34.1	-0.8
DRME				eSg	Sb	16 53 48.5	+0.1
MAKA	Makarska	1.05	283	ePg	Pg	16 53 33.5	-1.6
MAKA				Sg	Sg	16 53 48.5	-0.3
BBLS	Lazići	1.08	41	ePg	Pn	16 53 35.7	-0.2
BBLS	Lazići	1.08	41	⇓iPg	Pb	16 53 35.4	-0.1
BBLS				eSg	Sn	16 53 50.5	+0.1
HAPS	Han Pijesak,Bl	1.09	20	ePg	Pg	16 53 34.4	-1.5
HAPS				eSg	Sb	16 53 50.2	+0.1
HAPS	Han Pijesak,Bl	1.09	20	ePg	Pg	16 53 34.5	-1.5
HAPS				eSg	Sb	16 53 50.2	+0.1
IVA	Berane	1.10	99	⇓iPg	Pn	16 53 35.9	-0.2
IVA				i Sg	Sn	16 53 54.0	+2.8
SJES	Sjenica	1.15	79	ePg	Pn	16 53 37.5	+0.6
SJES				eSg	Sn	16 53 54.3	+1.6
LSTV	Lastovo	1.16	256	ePg	Pg	16 53 36.7	-0.5
LSTV				Sg	Sg	16 53 51.9	-0.4
PVY	Plav	1.22	112	⇓iPg	Pn	16 53 38.2	+0.3
PVY				i Sg	Sn	16 53 58.4	+4.0
ULC	Ulcinj	1.25	151	⇑iPg	Pg	16 53 37.3	-1.7
ULC				i Sg	Sn	16 53 57.4	+2.4
DIVS	Divibare	1.54	47	ePg	Pn	16 53 42.5	+0.2
DIVS				eSg	Sg	16 54 04.2	-0.3
DIVS	Divibare	1.54	47	⇑iPn	Pn	16 53 42.2	-0.1
DIVS				eSn	Sg	16 54 04.1	-0.4
TEKS	Tekeris	1.69	28	ePg	Pn	16 53 44.3	+0.1
TEKS				eSg	Sg	16 54 09.2	0.0
TEKS	Tekeris	1.69	28	ePn	Pn	16 53 44.1	-0.1
TEKS				eSn	Sg	16 54 07.5	-1.7
KIJV	Kijevo	1.74	303	ePn	Pn	16 53 45.8	+0.8
KIJV				Sn	Sg	16 54 11.1	+0.1
TRUS	Trudelj	1.85	50	ePn	Pn	16 53 46.7	+0.3
GRUS	Gruza	1.86	63	ePn	Pn	16 53 47.0	+0.4
BLY	Banja Luka	1.91	332	ePg	Pn	16 53 48.9	+1.7
BLY				eSg	Sg	16 54 15.6	-0.7
BLY	Banja Luka	1.91	332	ePn	Pn	16 53 47.3	+0.1
BLY				eSn	Sn	16 54 12.5	+1.3
SELS	Selova	1.98	85	ePn	Pb	16 53 49.5	-1.4
TIR	Tirane	2.02	147	ePn	Pb	16 53 50.5	-1.0
TIR	Tirane	2.02	147	⇑P	Pn	16 53 49.0	+0.3
TIR	Tirane	2.02	147	⇑S	Sb	16 54 16.2	-0.4
MORI	Morici	2.13	293	i Pn	Pn	16 53 51.3	+1.1
MORI				Sn	Sn	16 54 20.0	+3.3
FRGS	Fruska Gora	2.32	25	ePn	Pn	16 53 52.3	-0.6
FRGS	Fruska Gora	2.32	25	ePn	Pn	16 53 53.7	+0.8
FRGS				eSn	Sn	16 54 23.0	+1.6
UDBI	Udbina	2.42	308	ePg	Pg	16 54 00.4	-0.9
UDBI				Sn	Sn	16 54 27.5	+3.7
SKO	Skopje	2.48	115	ePn	Pb	16 53 57.9	-1.5
SKO	Skopje	2.48	115	i Pn	Pb	16 53 57.9	-1.5
DUGI	Dugi Otok	2.62	292	ePn	Pn	16 53 59.0	+2.1
DUGI				Sn	Sn	16 54 31.2	+2.5
OHR	Ohrid	2.63	137	i Pn	Pb	16 54 02.0	+0.1
MATE	Matera	2.73	209	⇓P	Pn	16 53 56.4	-2.1
MATE	Matera	2.73	209	⇑S	Sn	16 54 29.2	-2.2
ZAGS	Zajecar	2.88	74	ePn	Pn	16 54 02.5	+2.0
MDVR	Moldovita	2.93	53	⇓P	Pn	16 54 02.1	+0.8
NVLJ	Novalja	2.98	302	ePn	Pn	16 54 03.1	+1.2
NVLJ				Sn	Sn	16 54 41.2	+3.7
BOSS	Bosilegrad	3.04	99	ePn	Pn	16 54 04.7	+1.9
ZAPS	Zavoj	3.09	85	ePn	Pn	16 54 05.5	+2.0
STIP	Stip	3.11	115	i Pn	Pb	16 54 07.8	-2.2
BLKB	Belogradchik	3.15	78	⇑S	Sn	16 54 44.9	+3.0
OZLJ	Ozalj	3.32	321	ePn	Pn	16 54 07.9	+1.4
KALN	Kalnik	3.38	336	ePn	Pn	16 54 08.5	+1.1
HERR	Herculane	3.41	56	⇑P	Pn	16 54 10.2	+2.3
BZS	Buzias	3.43	41	ePn	Pn	16 54 07.5	-0.6
CRES	Cresnjev	3.48	323	ePn	Pn	16 54 09.2	+0.3
CRES				eSn	Sn	16 54 50.2

*NEIC **30** 16:54:31.2±1.2, 56°.9N±0°.1×34°.1W±0°.2, h16km±4km, mb4.5/37, Error ellipse: s-maj=19.6km s-min=13.0km az=162.0*

ISC 30 16:54:31.0±0.5, 57°.0N±0°.1×34°.11W±0°.07, h13km, n69, σ1§02/58, mb4.4/34, MS3.7/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.62**	**329**	LR	LR	17 01 37.9	
	comp=Z,315nm,18.6s,baz=140,slow=34						
DRLN	**Deer Lake**	**15.98**	**251**	Pn	**Pn**	**16 58 16.3**	**+1.1**
DRLN				IAmb	IAmb	16 58 39.1	
	comp=Z,47nm,1.4s						
FRB	**Frobisher Bay**	**18.13**	**306**	LR	LR	17 04 33.5	
	comp=Z,96nm,18.1s,baz=38,slow=34						
SCHQ	**Schefferville**	**18.37**	**277**	LR	LR	17 04 35.7	
	comp=Z,199nm,19.6s,baz=92,slow=33						
BATG	**Bathurst New B**	**21.70**	**257**	P	**P**	**16 59 23.0**	**+1.6**
LMN	**Caledonia Moun**	**21.95**	**253**	P	**P**	**16 59 22.2**	**-1.9**
LMN				IAmb	IAmb	16 59 30.6	
	comp=Z,18nm,0.9s						
NOA	**NORSAR Array B**	**23.30**	**61**	P	**P**	**16 59 39.8**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=274,slow=11,SNR=2.0						
NOA				LR	LR	17 07 35.2	
	comp=Z,56nm,18.4s,baz=125,slow=34						
D62A	**Allapoint, All**	**23.42**	**260**	P	**P**	**16 59 40.1**	**+0.6**
D62A				IAmb	IAmb	16 59 54.3	
	comp=Z,19nm,1.4s						
F64A	**Sherman**	**23.82**	**257**	P	**P**	**16 59 42.2**	**-1.2**
F64A				IAmb	IAmb	16 59 48.1	
	comp=Z,21nm,1.2s						
HFS	**Hagfors**	**24.69**	**63**	P	**P**	**16 59 51.6**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=311,slow=11,SNR=3.2						
ESDC	**Sonseca Array**	**26.18**	**119**	P	**P**	**17 00 07.7**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=315,slow=9.4,SNR=2.7						
FRNY	**Flat Rock**	**27.30**	**261**	P	**P**	**17 00 17.7**	**+2.8**
LONY	**Lake Ozonia**	**27.97**	**261**	P	**P**	**17 00 23.7**	**+2.6**
ARCES	**ARCESS Array B**	**28.25**	**40**	P	**P**	**17 00 21.9**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=280,slow=7.3,SNR=5.2						
FINES	**FINESS Array B**	**30.14**	**56**	P	**P**	**17 00 40.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=302,slow=8.0,SNR=1.5						
SADO	**Sadowa**	**30.36**	**266**	LR	LR	17 11 37.6	
	comp=Z,151nm,19.1s,baz=66,slow=34						
BURAR	**Bucovina Array**	**36.37**	**79**	P	**P**	**17 01 34.3**	**-0.3**
AKASG	**Malin Array Be**	**36.66**	**72**	P	**P**	**17 01 36.2**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=307,slow=8.4,SNR=8.0						
AKASG	**Malin Array Be**	**36.66**	**72**	IAmb	IAmb	17 01 42.7	
	comp=Z,1.2nm,0.8s						
AKBB	**Malin Array Si**	**36.66**	**72**	P	**P**	**17 01 35.7**	**-1.2**
AKBB				IAmb	IAmb	17 01 42.8	
	comp=Z,6.3nm,0.9s						
TKL	**Tuckaleechee C**	**39.27**	**259**	LR	LR	17 16 31.6	
	comp=Z,114nm,21.4s,baz=349,slow=34						
ECSD	**EROS Data Cent**	**40.56**	**279**	P	**P**	**17 02 10.2**	**+0.5**
S44A	**Carbondale**	**40.74**	**266**	P	**P**	**17 02 11.5**	**+0.2**
S44A				IAmb	IAmb	17 02 17.2	
	comp=Z,12nm,0.9s						
P40A	**Paris**	**40.95**	**270**	P	**P**	**17 02 13.1**	**+0.1**
250A	**Grady**	**43.41**	**258**	P	**P**	**17 02 34.0**	**+0.9**
LAO	**LASA Array**	**43.72**	**289**	P	**P**	**17 02 36.3**	**+0.8**
LAO				IAmb	IAmb	17 02 41.6	
	comp=Z,14nm,1.4s						
SANT	**Santorini**	**44.12**	**92**	P	**P**	**17 02 38.2**	**-0.6**
MIAR	**Mount Ida**	**45.42**	**267**	P	**P**	**17 02 49.0**	**-0.1**
MIAR				IAmb	IAmb	17 02 55.1	
	comp=Z,8.6nm,1.1s						
BRTR	**Keskin Array B**	**46.16**	**82**	P	**P**	**17 02 56.8**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=306,slow=4.8,SNR=2.7						
DLBC	**Dease Lake**	**46.99**	**314**	LR	LR	17 22 22.9	
	comp=Z,208nm,18.5s,baz=90,slow=36						
ARU	**Arti**	**47.02**	**49**	P	**P**	**17 03 01.8**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=355,slow=15,SNR=3.5						
ARU	**Arti**	**47.02**	**49**	IAmb	IAmb	17 03 02.7	
	comp=Z,7.5nm,1.2s						
PDAR	**Pinedale Array**	**48.13**	**287**	P	**P**	**17 03 09.7**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=94,slow=5.7,SNR=2.4						
ISCO	**Idaho Springs**	**48.14**	**281**	P	**P**	**17 03 10.5**	**-0.2**
ISCO				IAmb	IAmb	17 03 22.4	
	comp=Z,4.4nm,1.2s						
NEW	**Newport**	**48.15**	**297**	P	**P**	**17 03 10.2**	**-0.2**
NEW				IAmb	IAmb	17 03 10.4	
	comp=Z,6.3nm,1.3s						
IL31		**48.28**	**328**	P	**P**	**17 03 11.5**	**+0.4**
IL31				IAmb	IAmb	17 03 17.4	
	comp=Z,5.9nm,1.1s						
ILAR	**Eielson Array**	**48.28**	**328**	P	**P**	**17 03 11.5**	**+0.3**
	comp=Z,1.1nm,1.0s,baz=37,slow=6.0,SNR=8.2						
RIDG	**Independent Ri**	**48.44**	**326**	P	**P**	**17 03 13.2**	**+0.8**
BCYI	**Bear Canyon**	**49.03**	**291**	P	**P**	**17 03 17.3**	**-0.2**
PAX	**Paxson**	**49.20**	**326**	P	**P**	**17 03 18.5**	**+0.2**
IMAR	**Indian Mountai**	**49.24**	**332**	P	**P**	**17 03 19.2**	**+0.8**
AKTO	**Aktyubinsk**	**50.91**	**55**	P	**P**	**17 03 31.9**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=329,slow=9.1,SNR=10						
TORD	**Torodi Ar. Bea**	**51.57**	**133**	P	**P**	**17 03 36.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=341,slow=5.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**51.57**	**133**	IAmb	IAmb	17 03 37.5	
	comp=Z,1.1nm,0.9s						
ABKAR	**Abkulak array**	**52.63**	**55**	P	**P**	**17 03 44.5**	**+0.3**
BVAR	**Borovoye Array**	**54.25**	**46**	P	**P**	**17 03 56.3**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=183,slow=7.4,SNR=5.9						
TXAR	**Lajitas Array**	**54.91**	**271**	P	**P**	**17 04 01.4**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=67,slow=4.2,SNR=5.1						
TXAR	**Lajitas Array**	**54.91**	**271**	P	**P**	**17 04 00.7**	**-0.6**
KVN	**Kaiserville**	**55.27**	**290**	P	**P**	**17 04 03.5**	**-0.3**
PAHR	**Pah Rah Range**	**55.44**	**291**	P	**P**	**17 04 04.3**	**-0.7**
PAHR				IAmb	IAmb	17 04 11.2	
	comp=Z,5.4nm,1.1s						
NVAR	**Mina Array Bea**	**55.84**	**289**	P	**P**	**17 04 09.7**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=44,slow=6.6,SNR=2.9						
NVAR	**Mina Array Bea**	**55.84**	**289**	P	**P**	**17 04 07.5**	**-0.5**
ZALV	**Zalesovo Beam**	**58.76**	**37**	P	**P**	**17 04 28.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=312,slow=7.1,SNR=2.3						
KURK	**Kurchatov**	**59.22**	**43**	P	**P**	**17 04 31.1**	**-0.3**
KURK				IAmb	IAmb	17 04 32.7	
	comp=Z,3.5nm,0.8s						
CCIG	**Comitan**	**59.24**	**251**	P	**P**	**17 04 31.1**	**-1.0**
KURBB	**Kurchatov Arra**	**59.27**	**43**	P	**P**	**17 04 31.1**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=322,slow=7.2,SNR=19						
ROSC	**El Rosal**	**60.88**	**227**	P	**P**	**17 04 43.7**	**+0.1**
	comp=Z,8.3nm,0.4s,baz=63,slow=9.8,SNR=4.6						
ROSC	**El Rosal**	**60.88**	**227**	IAmb	IAmb	17 04 45.0	
	comp=Z,15nm,0.9s						
MAKZ	**Makanchi**	**63.70**	**43**	P	**P**	**17 05 01.8**	**0.0**
MK31	**Makanchi Array**	**63.83**	**43**	P	**P**	**17 05 02.3**	**-0.3**
MKAR	**Makanchi Array**	**63.83**	**43**	P	**P**	**17 05 02.0**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=334,slow=4.9,SNR=19						
MKAR	**Makanchi Array**	**63.83**	**43**	P	**P**	**17 05 02.2**	**-0.4**
GAR	**Garm**	**65.27**	**56**	P	**P**	**17 05 12.0**	**-0.3**
TARG	**Taragay, Kyrgy**	**66.29**	**49**	P	**P**	**17 05 19.4**	**+0.3**
TARG				IAmb	IAmb	17 05 22.2	
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**70.49**	**27**	P	**P**	**17 05 44.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=4.4,slow=33,SNR=3.0						
SONM	**Songino Array**	**70.49**	**27**	IAmb	IAmb	17 05 52.4	
	comp=Z,3.0nm,1.5s						
GO01	**Chusmiza**	**81.84**	**213**	P	**P**	**17 06 48.3**	**-1.8**
GO01				IAmb	IAmb	17 06 55.0	
	comp=Z,9.9nm,1.2s						
ASAR	**Alice Springs**	**145.58**	**20**	PKPbc	**PKPdf**	**17 14 07.8**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=352,slow=3.1,SNR=13						
ASAR	**Alice Springs**	**145.58**	**20**	PKPdf	**PKPdf**	**17 14 07.5**	**-1.2**

*UPP **30** 17:00:57.4±0.1, 67°.07N×20°.91E, h0km, ML2.3, Explosion*
*HEL **30** 17:00:58.3±0.1, 67°.07N×20°.90E, h0km, ML2.3(UPP), Explosion*
*NAO **30** 17:00:58.1±0.9, 67°.12N×21°.27E, ML2.7*
*IDC **30** 17:00:58.1±0.8, 67°.05N×20°.97E, h0km, mb1 3.4/5, mb1mx3.1/60, mbtmp3.4/5, ML2.2/5, Error ellipse: s-maj=15.0km s-min=6.8km az=111.0*
*BER **30** 17:01:00.1±4.0, 67°.13N×21°.18E, h0km, ML1.9, ML2.7(NAO), Suspected explosion*

ISC 30 17:00:56.4±0.7, 67°.08N±0°.02×20°.96E±0°.02, h0km, n46, σ1§59/67, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.55**	**46**	P	**Pg**	**17 01 08.5**	**+1.5**
MASU	**Masugnsbyn**	**0.55**	**46**	*i* P	**Pg**	**17 01 08.5**	**+1.5**
ERTU	**Ertsjaerv**	**0.72**	**137**	P	**Pg**	**17 01 11.0**	**+0.9**
ERTU	**Ertsjaerv**	**0.72**	**137**	*i* P	**Pg**	**17 01 11.0**	**+0.9**
PAJU	**Pajala**	**0.85**	**93**	P	**Pg**	**17 01 13.5**	**+0.9**
PAJU	**Pajala**	**0.85**	**93**	*i* P	**Pg**	**17 01 13.5**	**+0.9**
KUA	**Kurravaara**	**0.91**	**345**	P	**Pg**	**17 01 14.3**	**+0.5**
KUA	**Kurravaara**	**0.91**	**345**	*eP*	**Pg**	**17 01 14.3**	**+0.5**
RATU	**Laukkuluspa**	**0.92**	**325**	P	**Pg**	**17 01 14.4**	**+0.5**
RATU				S	**Sb**	**17 01 28.4**	**+0.6**
RATU	**Laukkuluspa**	**0.92**	**325**	*eP*	**Pg**	**17 01 14.4**	**+0.5**
RATU				*eS*	**Sb**	**17 01 28.4**	**+0.6**
HARU	**Harads**	**0.92**	**180**	P	**Pg**	**17 01 14.6**	**+0.5**
HARU				S	**Sg**	**17 01 27.9**	**+2.0**
HARU	**Harads**	**0.92**	**180**	*eP*	**Pg**	**17 01 14.6**	**+0.5**
HARU				*eS*	**Sg**	**17 01 27.9**	**+2.0**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**17 01 16.1**	**+0.5**
SALU	**Saltoluokta**	**1.00**	**289**	*eP*	**Pg**	**17 01 16.1**	**+0.5**
LANU	**Lannavaara**	**1.05**	**22**	P	**Pg**	**17 01 17.0**	**+0.5**
LANU	**Lannavaara**	**1.05**	**22**	*eP*	**Pg**	**17 01 17.1**	**+0.6**
LANU				*eS*	**Sb**	**17 01 32.2**	**+0.4**
KALU	**Kalix**	**1.56**	**141**	P	**Pn**	**17 01 26.0**	**+0.6**
KALU	**Kalix**	**1.56**	**141**	*eP*	**Pn**	**17 01 26.0**	**+0.6**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**17 01 26.7**	**+0.8**
SJUU	**Sjulsmark**	**1.60**	**170**	*eP*	**Pn**	**17 01 26.7**	**+0.8**
TOF	**Tornio**	**1.68**	**125**	*eP*	**Pn**	**17 01 28.4**	**+1.5**
TOF				*eS*	**Sg**	**17 01 51.3**	**+1.1**
KIF	**Kilpisjarvi**	**1.94**	**358**	Pn	**Pb**	**17 01 33.1**	**+0.6**
KIF				Lg	Lg	17 01 59.6	
KIF	**Kilpisjarvi**	**1.94**	**358**	Pn	**Pb**	**17 01 33.1**	**+0.6**
KIF				Sg	**Sg**	**17 01 59.6**	**+1.1**
N2ST	**Straumen**	**2.11**	**280**	*eP*	**Pb**	**17 01 36.0**	**+0.6**
N2IH	**Innhavet**	**2.13**	**297**	*eP*	**Pb**	**17 01 36.0**	**+0.2**
N2IH				*eS*	**Sg**	**17 02 05.3**	**+0.7**
SGF	**Sodankyl**	**2.19**	**78**	*eP*	**Pb**	**17 01 36.7**	**-0.2**
SGF				*eS*	**Sb**	**17 02 05.4**	**+0.8**
FAUS	**Fauske**	**2.23**	**280**	*eP*	**Pb**	**17 01 37.2**	**-0.3**
FAUS				IAML		17 02 10.5	
	comp=Z,18nm,0.2s						
MOR8	**Moi Rana**	**2.75**	**254**	*eP*	**Pn**	**17 01 42.8**	**+1.0**
MOR8				IAML		17 02 28.0	
	comp=Z,9.0nm,0.2s						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 01 46.7**	**+1.7**
	baz=207,slow=14						
ARA0				Lg	Lg	17 02 27.6	
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 01 46.7**	**+1.7**
	baz=207,slow=14						
ARA0				Sg	**Sb**	**17 02 27.6**	**+0.1**
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**17 01 46.8**	**+1.8**
	baz=213,slow=14,SNR=49						
ARCES				Sn	**Sn**	**17 02 24.9**	**+3.4**
	baz=215,slow=25,SNR=9.4						
LOF	**Lofoten**	**3.03**	**294**	*eP*	**Pn**	**17 01 47.2**	**+1.7**
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**17 02 08.8**	**+0.5**
	baz=256,slow=9.3						
APA0				Sn	**Sn**	**17 03 02.2**	**-1.0**
	baz=279,slow=37						
APA0				Lg	Lg	17 03 22.6	
	baz=256,slow=28						
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**17 02 08.8**	**+0.5**
	baz=256,slow=9.3						
APA0				Sn	**Sn**	**17 03 02.2**	**-1.0**
	baz=279,slow=37						
APA0				Sg	**Sg**	**17 03 22.6**	**-4.0**
	baz=256,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**17 02 29.6**	**+2.1**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**17 03 38.6**	**+1.0**
	baz=349,slow=22						
FIA0				Lg	Lg	17 04 09.3	
	baz=342,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**17 02 29.6**	**+2.1**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**17 03 38.6**	**+1.0**
	baz=349,slow=22						
FIA0				Sg	**Sg**	**17 04 09.3**	**-2.1**
	baz=342,slow=28						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 02 29.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=347,slow=13,SNR=11						
FINES				Sn	**Sn**	**17 03 37.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=343,slow=24,SNR=1.1						
NB2	**NORSAR Subarra**	**7.41**	**220**	Pn	**Pn**	**17 02 47.2**	**+1.5**
NB2	**NORSAR Subarra**	**7.41**	**220**	Pn	**Pn**	**17 02 47.2**	**+1.5**
NOA	**NORSAR Array B**	**7.41**	**220**	Pn	**Pn**	**17 02 46.0**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=26,slow=11,SNR=1.7						
NOA				Sn	**Sn**	**17 04 07.7**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=26,slow=21,SNR=1.4						
NOA				Lg	Lg	17 04 49.6	
	comp=Z,0.0nm,0.3s,baz=17,slow=15,SNR=1.9						
NRA0	**NORESS Array S**	**7.59**	**217**	Pn	**Pn**	**17 02 49.0**	**+0.8**
	baz=35,slow=14						
NRA0	**NORESS Array S**	**7.59**	**217**	Pn	**Pn**	**17 02 49.0**	**+0.8**
	baz=35,slow=14						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**17 02 50.4**	**+1.0**
	baz=27,slow=12						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**17 02 49.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=5.1						
HFS				Sn	**Sn**	**17 04 12.5**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=48,slow=24,SNR=2.0						
HFS				Lg	Lg	17 04 59.1	
	comp=Z,0.1nm,0.3s,baz=21,slow=25,SNR=1.9						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**17 02 50.4**	**+1.0**
	baz=27,slow=12						
SPITS	**Spitsbergen Ar**	**11.23**	**355**	Pn	**Pn**	**17 03 38.3**	**+0.4**
	baz=163,slow=22,SNR=2.4						
SPITS				Sn	**Sn**	**17 05 38.0**	**-6.0**
	baz=108,slow=28,SNR=1.6						

*NEIC **30** 17:06:44.6±1.7, 20°.3S±0°.1×177°.7W±0°.1, h529km±6km, mb4.4/33, Error ellipse: s-maj=17.9km s-min=15.9km az=143.0*
*IDC **30** 17:06:46.1±2.7, 20°.26S×177°.80W, h543km±30km, mb3.3/12, mb1 3.5/13, mb1mx3.4/31, mbtmp4.2/13, Error ellipse: s-maj=20.9km s-min=13.4km az=148.0*

ISC 30 17:06:46.0±0.5, 20°.27S±0°.09×177.73W±0°.08, h550km, n79, σ1§25/79, mb4.2/27, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.72**	**302**	P	**P**	**17 08 10.4**	**-3.3**
NIUE	**Niue**	**7.44**	**82**	P	**P**	**17 08 33.9**	**-4.4**
AFI	**Afiamalu**	**8.50**	**43**	P	P	17 08 39.2	-10
	6.1nm,0.3s,baz=49,slow=16,SNR=1.9						
AFI				S	S	17 10 15.6	-14
	6.4nm,0.3s,baz=37,slow=20,SNR=1.7						
AFI	**Afiamalu**	**8.50**	**43**	P	P	17 08 42.2	-6.7
DZM	**Mont Dzumac**	**14.88**	**260**	P	**P**	**17 09 52.8**	**-1.5**
	0.6nm,0.3s,baz=86,slow=19,SNR=8.4						
DZM	**Mont Dzumac**	**14.88**	**260**	P	**P**	**17 09 52.5**	**-1.9**
SANVU	**Saraoutou**	**15.12**	**286**	P	**P**	**17 09 54.4**	**-2.4**
OUZ	**Omahuta**	**16.75**	**205**	P	**P**	**17 10 11.2**	**-1.1**
URZ	**Urewera**	**18.48**	**193**	P	**P**	**17 10 25.2**	**-2.8**
	4.7nm,0.3s,baz=26,slow=9.2,SNR=25						
BKZ	**Black Stump Fm**	**19.48**	**194**	P	**P**	**17 10 34.4**	**-2.9**
BKZ				IAmb	IAmb	17 10 47.9	
	comp=Z,30nm,1.2s						
CAN	**Canberra**	**32.85**	**236**	P	**P**	**17 12 35.3**	**+0.4**
RABL	**Rabaul**	**33.38**	**295**	P	**P**	**17 12 40.1**	**+0.6**
CTAO	**Charters Tower**	**33.77**	**264**	P	**P**	**17 12 42.6**	**-0.1**
CTAO				IAmb	IAmb	17 12 43.2	
	comp=Z,5.2nm,0.6s						
TOO	**Toolangi**	**36.24**	**234**	P	**P**	**17 13 03.1**	**0.0**
COEN	**Coen**	**37.82**	**273**	P	**P**	**17 13 16.1**	**-0.2**
COEN				IAmb	IAmb	17 13 25.7	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**17 13 18.7**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=87,slow=11,SNR=6.4						
BBOO	**Buckleboo**	**42.88**	**243**	P	**P**	**17 13 56.4**	**0.0**
BBOO				IAmb	IAmb	17 14 14.7	
	comp=Z,42nm,1.6s						
WR0	**Warramunga Arr**	**44.70**	**262**	P	**P**	**17 14 10.9**	**+0.3**
WR0				IAmb	IAmb	17 14 39.4	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**44.82**	**256**	P	**P**	**17 14 11.7**	**+0.1**
AS31				PcP	**PcP**	**17 15 42.5**	**+0.8**
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**17 14 11.9**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=91,slow=7.9,SNR=22						
ASAR				PcP	**PcP**	**17 15 42.3**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=102,slow=4.3,SNR=13						
ASAR				S	**S**	**17 20 08.7**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=93,slow=15,SNR=4.5						
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**17 14 13.0**	**+1.4**
WB0	**Warramunga Arr**	**44.86**	**262**	P	**P**	**17 14 11.8**	**-0.1**
WB0				IAmb	IAmb	17 14 13.2	
	comp=Z,17nm,1.5s						
WB2	**Warramunga Arr**	**44.88**	**262**	P	**P**	**17 14 11.4**	**-0.7**
WRAB	**Tennant Creek**	**44.88**	**262**	P	**P**	**17 14 11.4**	**-0.6**
WRAB				IAmb	IAmb	17 14 20.0	
	comp=Z,16nm,1.6s						
WRA	**Warramunga Arr**	**44.89**	**262**	P	**P**	**17 14 11.7**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=97,slow=7.5,SNR=43						
WRA				PcP	**PcP**	**17 15 42.8**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=100,slow=4.8,SNR=4.6						
WRA	**Warramunga Arr**	**44.89**	**262**	P	**P**	**17 14 11.2**	**-1.0**
FORT	**Forrest**	**49.62**	**246**	P	**P**	**17 14 47.2**	**-0.3**
FORT				IAmb	IAmb	17 14 47.8	
	comp=Z,22nm,0.8s						
KNRA	**Kununurra**	**50.93**	**266**	P	**P**	**17 14 57.7**	**+0.5**
KNRA				IAmb	IAmb	17 15 00.9	
	comp=Z,26nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.31**	**262**	P	**P**	**17 15 14.9**	**+0.6**
PSA00	**Pilbara Seismi**	**57.97**	**257**	P	**P**	**17 15 45.7**	**-0.9**
PSA00				IAmb	IAmb	17 15 52.9	
	comp=Z,28nm,1.4s						
VNDA	**Vanda**	**58.16**	**185**	P	**P**	**17 15 48.5**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=346,slow=8.2,SNR=9.5						
VNDA	**Vanda**	**58.16**	**185**	P	**P**	**17 15 48.8**	**+1.9**
NWAO	**Narrogin (SRO)**	**58.70**	**243**	P	**P**	**17 15 51.4**	**+0.1**
NWAO				IAmb	IAmb	17 16 03.9	
	comp=Z,30nm,1.2s						
MORW	**Morawa**	**60.15**	**247**	P	**P**	**17 16 01.2**	**+0.1**
MORW				IAmb	IAmb	17 16 16.0	
	comp=Z,18nm,1.3s						
GIRL	**Giralia**	**62.86**	**254**	P	**P**	**17 16 20.3**	**+1.5**
CASY	**Casey**	**64.28**	**205**	P	**P**	**17 16 27.1**	**0.0**
CASY				IAmb	IAmb	17 16 55.4	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**69.80**	**180**	P	**P**	**17 17 02.8**	**+1.5**
QSPA				IAmb	IAmb	17 17 03.6	
	comp=Z,6.7nm,0.8s						
PETK	**Petropavlovsk-**	**76.11**	**345**	P	**P**	**17 17 37.2**	**0.0**
	comp=Z,2.3nm,0.8s,baz=110,slow=7.8,SNR=1.4						
USRK	**Ussurisk Ar.**	**78.92**	**326**	P	**P**	**17 17 54.4**	**+1.8**
	comp=Z,2.0nm,0.7s,baz=132,slow=2.1,SNR=4.8						
NVAR	**Mina Array Bea**	**80.68**	**43**	P	**P**	**17 18 02.7**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=224,slow=8.7,SNR=7.4						
MOD	**Modoc Plateau**	**81.47**	**40**	P	**P**	**17 18 07.6**	**+1.4**
K05A	**Summer Lake**	**81.62**	**39**	P	**P**	**17 18 08.7**	**+1.7**
K05A				IAmb	IAmb	17 18 09.4	
	comp=Z,9.8nm,1.1s						
MAW	**Mawson**	**81.87**	**200**	P	**P**	**17 18 08.0**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=139,slow=8.7,SNR=7.0						
MAW	**Mawson**	**81.87**	**200**	IAmb	IAmb	17 18 09.1	
	comp=Z,0.4nm,0.7s						
CNPM	**China Poot**	**82.41**	**13**	P	**P**	**17 18 12.6**	**+2.2**
RSO	**Redoubt South**	**82.96**	**12**	P	**P**	**17 18 13.4**	**+0.1**
I07A	**Izee**	**83.25**	**38**	P	**P**	**17 18 16.2**	**+1.2**
TXAR	**Lajitas Array**	**86.71**	**57**	P	**P**	**17 18 33.9**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=217,slow=6.3,SNR=8.8						
ILAR	**Eielson Array**	**88.03**	**13**	P	**P**	**17 18 36.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=217,slow=5.7,SNR=6.9						
SNAA	**Sanae**	**88.24**	**178**	P	**P**	**17 18 38.7**	**+0.1**
VNA3	**Neumayer Olymp**	**88.36**	**176**	P	**P**	**17 18 39.5**	**+0.5**
PDAR	**Pinedale Array**	**88.62**	**43**	P	**P**	**17 18 41.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=234,slow=1.3,SNR=5.5						
PDAR	**Pinedale Array**	**88.62**	**43**	P	**P**	**17 18 41.5**	**+0.5**
VNA2	**Neumayer--Watz**	**88.80**	**177**	P	**P**	**17 18 40.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**90.28**	**289**	P	**P**	**17 18 51.1**	**+2.2**
	comp=Z,1.0nm,0.5s,baz=125,slow=2.8,SNR=11						
CMAR	**Chiang Mai Arr**	**90.28**	**289**	P	**P**	**17 18 50.6**	**+1.7**
CHTO	**Chiang Mai**	**90.41**	**290**	P	**P**	**17 18 50.9**	**+1.4**
CHTO				IAmb	IAmb	17 18 52.1	
	comp=Z,3.3nm,0.7s						
ZALV	**Zalesovo Beam**	**110.47**

comp=Z,19nm,1.1s
MTN Manton Dam 47.57 275 P **P 17 18 20.7 -0.9**
MTN IAmb IAmb 17 18 25.0
comp=Z,37nm,1.6s
KNRA Kununurra 48.76 270 P **P 17 18 30.4 0.0**
KNRA IAmb IAmb 17 18 30.6
comp=Z,9.4nm,0.7s
FITZ Fitzroy Crossi 50.87 266 P **P 17 18 46.0 +0.1**
MORW Morawa 56.77 250 P **P 17 19 27.6 -0.1**
MORW IAmb IAmb 17 19 34.9
comp=Z,34nm,1.6s
QSPA South Pole Qui 65.69 180 P **P 17 20 27.0 +1.3**
KKM Kota Kinabalu 69.12 287 P **P 17 20 47.6 0.0**
KKM IAmb IAmb 17 20 52.1
comp=Z,39nm,1.3s
AMKA Amchitka 75.45 359 P **P 17 21 20.7 -2.5**
SDPT Sand Point 81.15 11 P **P 17 21 55.4 +1.6**
SNAA Sanae 84.17 179 P **P 17 22 08.9 -0.2**
OHAK Old Harbor 84.34 14 P **P 17 22 09.5 -0.3**
OHAK IAmb IAmb 17 22 21.1
comp=Z,45nm,1.5s
NVAR Mina Array Bea 85.06 44 P **P 17 22 13.4 -0.8**
comp=Z,0.4nm,0.5s,baz=221,slow=9.2,SNR=4.6
TX31 Lajitas Ar. Si 90.63 58 P **P 17 22 41.1 +0.7**
TX31 IAmb IAmb 17 22 41.6
comp=Z,4.3nm,0.8s
TX32 Lajitas Array 90.63 58 P **P 17 22 40.9 +0.5**
TXAR Lajitas Array 90.63 58 P **P 17 22 41.1 +0.7**
comp=Z,1.4nm,0.8s,baz=208,slow=6.3,SNR=14
TXAR Lajitas Array 90.63 58 P **P 17 22 40.9 +0.5**
RIDG Independent Ri 92.06 15 P **P 17 22 47.8 +1.6**
DLBC Dease Lake 92.32 24 P **P 17 22 49.0 +1.6**
DLBC IAmb IAmb 17 22 51.1
comp=Z,6.4nm,0.7s
BW06 Boulder Array 93.00 44 IAmb IAmb 17 22 47.2
comp=Z,2.7nm,1.0s
ARCES ARCESS Array B 132.39 348 PKP **PKPdf 17 28 47.4 -0.1**
comp=Z,7.2nm,1.1s,baz=46,slow=1.3,SNR=6.4
FINES FINESS Array B 138.94 341 PKP **PKPdf 17 29 00.5 +0.6**
comp=Z,0.8nm,0.3s,baz=48,slow=2.1,SNR=2.0
FINES SKPbc **SKPbc 17 31 45.3 -1.8**
comp=Z,2.1nm,1.0s,baz=27,slow=4.7,SNR=5.9
AKASG Malin Array Be 145.43 327 PKPbc **PKPdf 17 29 11.4 -0.2**
comp=Z,0.5nm,0.3s,baz=44,slow=3.9,SNR=4.9
AKASG Malin Array Be 145.43 327 PKPdf 17 29 11.2 -0.5
BRTR Keskin Array B 147.94 307 PKPbc **PKPbc 17 29 19.6 -0.7**
comp=Z,0.8nm,0.5s,baz=160,slow=2.2,SNR=2.1
CLL Collm 151.35 343 *i* PKPbc **PKPbc 17 29 27.5 -0.3**
comp=Z,4.0nm,0.8s
TORD Torodi Ar. Bea 168.70 188 PKPab **PKPab 17 30 53.5 -1.2**
comp=Z,0.5nm,0.6s,baz=156,slow=2.9,SNR=2.0
TORD Torodi Ar. Bea 168.70 188 PKPdf **PKPdf 17 29 39.5 -1.8**

IDC 30 17:34:38.1±41.0, 16°.19S×171°.92W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/37, mbtmp4.0/3, Error ellipse: s-maj=792.9km s-min=180.5km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.89**	**241**	P	P	17 42 55.5	+0.8
	1.1nm,0.4s,baz=86,slow=9.8,SNR=4.9						
WRA	**Warramunga Arr**	**51.06**	**257**	P	P	17 43 41.6	-1.0
	0.3nm,0.4s,baz=97,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**51.23**	**252**	P	P	17 43 44.0	+0.1
	2.4nm,0.5s,baz=90,slow=8.0,SNR=156						

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*IDC **30** 17:38:19.6±2.4, 7°.95N×93°.83E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/44, mbtmp3.4/5, ML3.8/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/31, Error ellipse: s-maj=84.5km s-min=30.7km az=63.0*

*NEIC **30** 17:38:23.6±2.5, 7°.9N±0°.1×94°.0E±0°.1, h29km±9km, mb4.4/4, Error ellipse: s-maj=26.7km s-min=3.7km az=222.0*

ISC 30 17:38:21.7±1.6, 7°.9N±0°.1×93°.9E±0°.2, h18km, n20, σ1°.23/14, mb3.7/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.93**	**343**	Pn	Pn	17 39 22.5	+1.2
LHMI	**Lhok Sumawe**	**4.00**	**131**	Pn	**Pn**	**17 39 22.1**	**0.0**
PSI	**Prapat**	**7.09**	**135**	LR	LR	17 43 24.1	
	comp=Z,184nm,19.5s,baz=270,slow=42						
KULM	**Kulim**	**7.17**	**111**		**Pn**	**17 40 07.0**	**+1.3**
IPM	**Ipoh**	**7.83**	**115**	Pn	**Pn**	**17 40 14.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**11.60**	**24**	Pn	**Pn**	**17 41 06.3**	**-0.3**
	0.2nm,0.3s,baz=208,slow=15,SNR=5.6						
CHTO	**Chiang Mai**	**11.92**	**24**	Pn	**Pn**	**17 41 10.4**	**-0.5**
H08S3	**Diego Garcia H**	**26.34**	**235**	T	T	18 10 57.1	
	baz=53,slow=75,SNR=19						
H08S2	**Diego Garcia H**	**26.34**	**235**	T	T	18 10 56.7	
	baz=53,slow=75,SNR=18						
H08S1	**Diego Carcia H**	**26.35**	**235**	T	T	18 10 57.8	
	baz=53,slow=75,SNR=16						
DAV	**Davao City (W)**	**31.40**	**89**	LR	LR	17 58 39.9	
	comp=Z,37nm,18.7s,baz=338,slow=39						
MKAR	**Makanchi Array**	**40.04**	**348**	P	**P**	**17 45 55.7**	**-0.1**
	0.3nm,0.7s,baz=170,slow=8.8,SNR=2.9						
MKAR	**Makanchi Array**	**40.04**	**348**	P	**P**	**17 45 55.5**	**-0.3**
MAKZ	**Makanchi**	**40.12**	**347**	P	**P**	**17 45 57.0**	**+0.5**
KURBB	**Kurchatov Arra**	**44.49**	**346**	P	**P**	**17 46 30.6**	**-1.3**
	0.3nm,0.5s,baz=163,slow=6.7,SNR=2.9						
KURK	**Kurchatov**	**44.56**	**346**	P	**P**	**17 46 34.5**	**+2.0**
KURK				IAmb	IAmb	17 46 42.2	
	comp=Z,4.8nm,1.4s						
ZALV	**Zalesovo Beam**	**46.53**	**353**	P	**P**	**17 46 49.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=170,slow=8.8,SNR=2.8						
ZALV				LR	LR	18 10 54.3	
	comp=Z,56nm,18.3s,baz=67,slow=42						
WB2	**Warramunga Arr**	**48.45**	**125**	P	**P**	**17 47 01.9**	**-1.7**
WR0	**Warramunga Arr**	**48.61**	**125**	P	**P**	**17 47 03.2**	**-1.5**
WR0				IAmb	IAmb	17 47 28.6	
	comp=Z,14nm,1.6s						
ASAR	**Alice Springs**	**50.09**	**130**	P	**P**	**17 47 17.5**	**+1.5**
	comp=Z,0.1nm,0.7s,baz=311,slow=7.2,SNR=1.4						

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*IDC **30** 17:42:20.7±4.5, 44°.54N×141°.28E, h197km±41km, mb3.0/6, mb1 3.1/7, mb1mx2.9/40, mbtmp3.5/7, Error ellipse: s-maj=36.3km s-min=27.8km az=48.0*

*JMA **30** 17:42:28.4±0.2, 44°.36N×140°.19E, h258km, M2.9*

ISC 30 17:42:28.8±0.8, 44°.29N±0°.08×140°.35E±0°.07, h250km, n23, σ1°.49/26, mb3.1/6, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.94**	**174**	P	**Pn**	**17 43 04.6**	**+1.0**
JSS	**Shosan**	**1.08**	**84**	P	**Pn**	**17 43 05.7**	**+1.4**
JHR	**Hokuryu**	**1.13**	**118**	P	**Pn**	**17 43 06.1**	**+1.4**
JHR				*e*S	**S**	17 43 35.5	+2.7
JRBN	**Rebuntou**	**1.24**	**24**	P	**Pn**	**17 43 05.1**	**-0.1**
JISS	**Ishikarishitsu**	**1.28**	**142**	P	**Pn**	**17 43 07.2**	**+1.6**
JWK2	**Keihoku**	**1.51**	**47**	P	**Pn**	**17 43 08.9**	**+1.8**
JEW	**Eniwo**	**1.66**	**151**	P	**Pn**	**17 43 09.8**	**+1.4**
JKK2	**Kamakawa 2**	**1.78**	**103**	P	**Pn**	**17 43 10.2**	**+0.8**
JKK2				*e*S	**S**	17 43 42.3	+1.0
JFR	**Furan**	**1.98**	**124**	P	**Pn**	**17 43 12.0**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.67**	**138**	P	**Pn**	**17 43 19.5**	**+1.7**
JNBK				*e*S	**S**	17 43 57.9	+1.4
JAR	**Ashorobuto**	**2.67**	**111**	P	**Pn**	**17 43 19.0**	**+1.2**
JCH	**Churui**	**2.76**	**126**	P	**Pn**	**17 43 19.0**	**+0.2**
JCH				*e*S	**S**	17 43 55.8	-2.4
JOT	**Ohata**	**2.95**	**170**	P	**Pn**	**17 43 21.7**	**+0.9**
JAK	**Akkeshi**	**3.41**	**111**	*e*S	**S**	**17 44 09.4**	**-1.5**
JANG	**Nango**	**4.01**	**167**	P	**Pn**	**17 43 32.2**	**-0.6**
NEM2	**Nemuro 2**	**4.01**	**101**	*e*S	**S**	**17 44 20.1**	**-3.3**
USRK	**Ussuriysk Ar.**	**6.01**	**272**	P	**Pn**	**17 43 56.9**	**-0.1**
	baz=85,slow=16,SNR=6.5						
SONM	**Songino Array**	**23.71**	**291**	P	**P**	**17 47 18.2**	**-0.1**
	0.4nm,0.5s,baz=68,slow=8.0,SNR=2.2						
MKAR	**Makanchi Array**	**39.94**	**295**	P	**P**	**17 49 39.5**	**+0.7**
	0.4nm,0.7s,baz=79,slow=9.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**41.19**	**302**	P	**P**	**17 49 49.1**	**+0.2**
	0.8nm,0.4s,baz=73,slow=9.2,SNR=5.9						
FINES	**FINESS Array B**	**62.07**	**330**	P	**P**	**17 52 21.4**	**-1.2**
	0.8nm,0.5s,baz=45,slow=5.7,SNR=6.6						
ASAR	**Alice Springs**	**67.88**	**186**	P	**P**	**17 53 00.2**	**-0.2**
	0.2nm,0.7s,baz=10,slow=5.7,SNR=2.0						
NVAR	**Mina Array Bea**	**71.35**	**54**	P	P	17 53 14.6	-7.2
	0.2nm,0.5s,baz=282,slow=4.5,SNR=1.8						

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*BJI **30** 17:44:17.8±0.0, 28°.32N×104°.80E, h11km, mB4.5/9, mb4.5/20, ML4.0/19, Ms3.8/13, Ms7 3.6/13*

*MOS **30** 17:44:19.9±1.2, 28°.39N×104°.94E, h33km, mb4.6/15, Error ellipse: s-maj=9.3km s-min=5.7km az=110.8*

*NEIC **30** 17:44:21.8±1.4, 28°.39N±0°.07×104°.97E±0°.09, h36km±6km, mb4.4/40, Error ellipse: s-maj=12.4km s-min=9.2km az=127.0*

*IDC **30** 17:44:21.6±2.9, 28°.40N×104°.99E, h33km±22km, mb4.0/17, mb1 4.1/19, mb1mx3.9/46, mbtmp4.2/19, ML4.4/2, Error ellipse: s-maj=15.6km s-min=12.6km az=32.0*

ISC 30 17:44:19.8±0.4, 28°.41N±0°.03×104°.89E±0°.04, h19km, n142, σ1°.80/158, mb4.3/45, 8C-2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.51**	**140**	⇓Pn	**Pn**	**17 45 00.0**	**+0.4**
GYA				Sn	**Sn**	**17 45 30.5**	**+0.8**
GYA				Sg	**Sg**	**17 45 41.3**	**+0.9**
GYA				smax	smax		
	comp=N,1μm,0.7s						
GYA				smax	smax		
	comp=E,1μm,1.0s						
CD2	**Chengdu**	**2.68**	**339**	Pn	**Pn**	**17 45 04.5**	**+2.6**
CD2				Sn	**Sn**	**17 45 37.0**	**+3.2**
CD2				Sg	**Sg**	**17 45 45.5**	**-0.4**
CD2				smax	smax		
	comp=N,2μm,0.6s						
CD2				smax	smax		
	comp=E,4μm,0.6s						
KMI	**Kunming**	**3.79**	**211**	⇑Pn	**Pn**	**17 45 21.0**	**+3.5**
KMI				Pg	**Pb**	**17 45 29.5**	**+3.2**
KMI				Sn	**Sn**	**17 46 04.8**	**+3.1**
KMI				Sg	**Sg**	**17 46 22.0**	**+0.3**
KMI				smax	smax		
	comp=N,70nm,0.7s						
KMI				smax	smax		
	comp=E,57nm,0.9s						
KMI				LR	LR		
	comp=N,450nm,6.9s						
KMI				LR	LR		
	comp=E,530nm,5.3s						
KMI				LR	LR		
	comp=Z,570nm,8.3s						
KMI	**Kunming**	**3.79**	**211**	P	**Pn**	**17 45 20.6**	**+3.2**
KMI	**Kunming**	**3.79**	**211**	Pn	**Pn**	**17 45 20.6**	**+3.2**
ENH	**Enshi**	**4.42**	**64**	Pn	**Pn**	**17 45 29.3**	**+3.3**
XAN	**Xi'an**	**6.59**	**31**	Pn	**Pn**	**17 45 57.5**	**+1.8**
XAN				Sn	**Sn**	**17 47 11.3**	**+1.0**
XAN				Sg	**Sg**	**17 47 50.0**	**-1.2**
XAN				smax	smax		
	comp=Z,270nm,0.9s						
XAN				smax	smax		
	comp=Z,180nm,0.6s						
XAN				LR	LR		
	comp=Z,400nm,4.9s						
XAN				LR	LR		
	comp=Z,380nm,6.0s						
XAN				LR	LR		
	comp=Z,620nm,4.9s						
XAN	**Xi'an**	**6.59**	**31**	P	**Pn**	**17 45 57.2**	**+1.5**
XAN	**Xi'an**	**6.59**	**31**	Pn	**Pn**	**17 45 57.2**	**+1.5**
SLVN	**Son La**	**7.10**	**187**	Pn	**Pn**	**17 46 04.5**	**+1.7**
LKP	**Lekhapani**	**8.07**	**264**	*e*P	**Pn**	**17 46 19.0**	**+2.9**
WHN	**Wuhan**	**8.52**	**73**	P	**Pn**	**17 46 24.0**	**+1.9**
ZIRO	**ZIRO**	**9.80**	**267**	*e*P	**Pn**	**17 46 41.6**	**+1.7**
QIZ	**Qiongzhong**	**10.38**	**153**	P	**Pn**	**17 46 44.5**	**-3.2**
QIZ				S	**Sn**	**17 48 45.0**	**+1.4**
QIZ				LR	LR		
	comp=Z,230nm,13.5s						
QIZ				LR	LR		
	comp=Z,370nm,14.3s						
QIZ				LR	LR		
	comp=Z,290nm,10.3s						
CHTO	**Chiang Mai**	**10.99**	**211**	P	**Pn**	**17 46 58.5**	**+2.4**
CHTO	**Chiang Mai**	**10.99**	**211**	Pn	**Pn**	**17 46 58.5**	**+2.4**
CM31	**Chiang Mai Arr**	**11.31**	**210**	Pn	**Pn**	**17 47 02.4**	**+2.0**
CMAR	**Chiang Mai Arr**	**11.31**	**210**	Pn	**Pn**	**17 47 03.2**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=18,slow=12,SNR=21						
CMAR				Lg	Lg	17 50 22.8	
	comp=Z,0.1nm,0.3s,baz=24,slow=28,SNR=1.3						
CMAR	**Chiang Mai Arr**	**11.31**	**210**	Pn	**Pn**	**17 47 02.7**	**+2.3**
GTA	**Gaotai**	**11.75**	**340**	*e*P	**Pn**	**17 47 08.5**	**+2.0**
GTA				pP		17 47 12.5	
GTA				sP		17 47 15.5	
GTA				S	**Sn**	**17 49 20.8**	**+3.7**
GTA				pmax	pmax		
	comp=Z,55nm,7.3s						
GTA				LR	LR		
	comp=Z,200nm,11.6s						
GTA				LR	LR		
	comp=Z,290nm,11.3s						
GTA				LR	LR		
	comp=Z,220nm,12.4s						
LSA	**Lhasa**	**12.09**	**279**	P	**Pn**	**17 47 11.4**	**-0.1**
LSA	**Lhasa**	**12.09**	**279**	Pn	**Pn**	**17 47 11.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**13.56**	**22**	*e*P	**Pn**	**17 47 35.3**	**+4.1**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
TAPN	**Taplejung**	**15.23**	**270**	*e*P	**Pn**	**17 47 54.2**	**+0.1**
	comp=Z,26nm,0.9s						
ODAN	**Odare**	**15.59**	**268**	*e*P	**Pn**	**17 47 56.4**	**-2.3**
	comp=Z,12nm,0.5s						
RAMN	**Ramite**	**16.27**	**269**	*e*P	**Pn**	**17 48 03.9**	**-3.6**
	comp=Z,24nm,0.6s						
JIRN	**Jiri**	**16.53**	**272**	*e*P	**Pn**	**17 48 09.0**	**-1.9**
	comp=Z,26nm,0.5s						
PKI	**Pulchoki**	**17.23**	**272**	*e*P	**Pn**	**17 48 16.4**	**-3.3**
	comp=Z,27nm,0.8s						
PKIN	**Phulchoki**	**17.24**	**272**	*e*P	**Pn**	**17 48 16.3**	**-3.5**
	comp=Z,12nm,0.5s						
KKN	**Kakani**	**17.31**	**273**	*e*P	**Pn**	**17 48 17.6**	**-3.1**
	comp=Z,27nm,0.7s						
DMN	**Daman**	**17.49**	**272**	*e*P	**Pn**	**17 48 20.2**	**-2.7**
	comp=Z,18nm,0.7s						
GKN	**Gorkha**	**17.85**	**274**	*e*P	**Pn**	**17 48 22.3**	**-5.0**
	comp=Z,13nm,0.7s						
DANN	**Dangsing**	**18.59**	**275**	*e*P	**P**	**17 48 30.9**	**-5.3**
	comp=Z,16nm,0.4s						
KOLN	**Koldanda**	**18.79**	**273**	*e*P	**P**	**17 48 32.5**	**-5.8**
	comp=Z,15nm,0.8s						
SONM	**Songino Array**	**19.43**	**3**	P	**Pn**	**17 48 46.7**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=188,slow=13,SNR=27						
SONM	**Songino Array**	**19.43**	**3**	P	**Pn**	**17 48 46.7**	**+0.5**
ULN	**Ulaanbaatar**	**19.50**	**4**	*ce*P	**Pn**	**17 48 47.9**	**+0.8**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ULN	**Ulaanbaatar**	**19.50**	**4**	P	**P**	**17 48 46.9**	**+1.1**
WMQ	**Urumqi**	**20.66**	**323**	*e*P	Pn	17 49 01.5	+0.7
KSAR	**Wonju Array Be**	**21.26**	**59**	P	**P**	**17 49 05.3**	**+0.4**
KSAR	**Wonju Array Be**	**21.26**	**59**	P	**P**	**17 49 05.3**	**+0.4**
KS19	**Wonju Array Si**	**21.27**	**59**	P	**P**	**17 49 03.0**	**-1.9**
KSRS	**Korea Array**	**21.29**	**59**	P	**P**	**17 49 05.1**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=242,slow=9.2,SNR=10						
ZAK	**Zakamensk**	**21.98**	**357**	*e*P	**P**	**17 49 13.7**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
JNU	**Nakatsue**	**22.80**	**72**	P	**P**	**17 49 19.3**	**-2.1**
	comp=Z,9.7nm,1.1s,baz=292,slow=5.2,SNR=1.8						
JNU				S	**S**	**17 53 27.1**	**-2.7**
	comp=Z,15nm,1.2s,baz=188,slow=17,SNR=2.0						
JNU	**Nakatsue**	**22.80**	**72**	P	**P**	**17 49 19.8**	**-1.7**
JNU				IAmb	IAmb	17 49 41.1	
	comp=Z,21nm,1.1s						
TLY	**Talaya**	**23.26**	**358**	*i* P	**P**	**17 49 27.7**	**+1.7**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HIA	**Hailar**	**23.74**	**25**	P	**P**	**17 49 31.8**	**+1.1**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HIA	**Hailar**	**23.74**	**25**	P	**P**	**17 49 31.8**	**+1.1**
HIA				IAmb	IAmb	17 49 32.6	
	comp=Z,7.0nm,0.5s						
IPM	**Ipoh**	**24.08**	**189**	P	**P**	**17 49 33.9**	**-0.3**
DGZ	**Jazzator, Alta**	**25.09**	**333**	*i* P	**P**	**17 49 45.1**	**+1.8**
DGZ				pmax	pmax		
	comp=Z,11nm,1.0s						
SHLS	**Shalkode**	**25.21**	**312**	*e*P	**P**	**17 49 43.2**	**-1.2**
	comp=Z,3.6nm,0.5s,baz=313						
SHLS	**Shalkode**	**25.21**	**312**	*e*P	**P**	**17 49 43.2**	**-1.2**
SHLS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MK31	**Makanchi Array**	**25.49**	**322**	*ce*P	**P**	**17 49 47.7**	**+0.9**
MK31	**Makanchi Array**	**25.49**	**322**	P	**P**	**17 49 46.8**	**0.0**
MK31				IAmb	IAmb	17 49 49.9	
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**25.49**	**322**	P	**P**	**17 49 47.3**	**+0.6**
	comp=Z,5.9nm,0.7s,baz=125,slow=11,SNR=29						
MKAR				PcP	**PcP**	**17 53 18.2**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=132,slow=2.1,SNR=3.5						
MKAR				ScP	**ScP**	**17 56 55.0**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=101,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	**25.49**	**322**	*ce*P	**P**	**17 49 47.2**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**25.49**	**322**	P	**P**	**17 49 46.8**	**0.0**
UZB	**Uzynbulak**	**25.49**	**312**	*e*P	**P**	**17 49 48.2**	**+1.2**
	baz=313						
UZB	**Uzynbulak**	**25.49**	**312**	*e*P	**P**	**17 49 48.2**	**+1.2**
PRZ	**Przheval'sk**	**25.61**	**310**	P	**P**	**17 49 49.0**	**+0.8**
PRZ				pmax	pmax		
	comp=Z,21nm,1.6s						
PRZ	**Przheval'sk**	**25.61**	**310**	P	**P**	**17 49 49.0**	**+0.8**
PRZ				IAmb	IAmb	17 49 55.1	
	comp=Z,21nm,1.6s						
MAKZ	**Makanchi**	**25.66**	**322**	P	**P**	**17 49 48.7**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.0s						
MAKZ	**Makanchi**	**25.66**	**322**	P	**P**	**17 49 48.6**	**+0.3**
MAKZ				IAmb	IAmb	17 49 51.7	
	comp=Z,12nm,1.0s						
TARG	**Taragay, Kyrgy**	**25.72**	**308**	P	**P**	**17 49 51.0**	**+1.7**
TARG				IAmb	IAmb	17 49 55.5	
	comp=Z,8.1nm,1.2s						
KPKS	**Kokpek**	**25.85**	**313**	*e*P	**P**	**17 49 51.2**	**+1.0**
	baz=313						
KPKS	**Kokpek**	**25.85**	**313**	*e*P	**P**	**17 49 51.2**	**+1.0**
SATY	**Saty**	**25.85**	**311**	*e*P	**P**	**17 49 51.4**	**+1.1**
	baz=312						
SATY	**Saty**	**25.85**	**311**	*e*P	**P**	**17 49 51.4**	**+1.1**
KDJ	**Kajisay**	**26.30**	**309**	P	**P**	**17 49 57.6**	**+3.2**
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KDJ	**Kajisay**	**26.30**	**309**	P	**P**	**17 49 57.6**	**+3.2**
USA0B	**Ussuriysk Arra**	**26.77**	**47**	P	**P**	**17 49 57.9**	**-0.4**
USA0B				pmax	pmax		
	comp=Z,6.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**26.77**	**47**	P	**P**	**17 49 57.9**	**-0.4**
USA0B				IAmb	IAmb	17 49 59.6	
	comp=Z,6.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**26.77**	**47**	P	**P**	**17 49 59.0**	**+0.7**
	comp=Z,4.1nm,0.6s,baz=254,slow=8.8,SNR=14						
USRK	**Ussuriysk Ar.**	**26.77**	**47**	P	**P**	**17 49 58.0**	**-0.3**
MDOK	**Medeo**	**26.80**	**311**	*e*P	**P**	**17 49 59.7**	**+0.9**
	baz=311						
MDOK	**Medeo**	**26.80**	**311**	*e*P	**P**	**17 49 59.7**	**+0.9**
ZAA0	**Zalesovo Array**	**29.44**	**336**	P	**P**	**17 50 22.3**	**+0.2**
ZALV	**Zalesovo Beam**	**29.44**	**336**	P	**P**	**17 50 22.5**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=133,slow=7.9,SNR=12						
ZALV	**Zalesovo Beam**	**29.44**	**336**	P	**P**	**17 50 22.4**	**+0.3**
KURBB	**Kurchatov Arra**	**29.81**	**325**	P	**P**	**17 50 25.2**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=132,slow=9.6,SNR=31						
KURBB				PcP	**PcP**	**17 53 28.1**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=128,slow=3.0,SNR=2.1						
KURK	**Kurchatov**	**29.82**	**326**	*de*P	**P**	**17 50 26.3**	**+0.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	**Kurchatov**	**29.82**	**326**	P	**P**	**17 50 26.0**	**+0.5**
KURK				IAmb	IAmb	17 50 29.6	
	comp=Z,5.4nm,0.9s						
BTK	**Batken**	**30.29**	**302**	P	**P**	**17 50 31.6**	**+1.7**
BTK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BTK	**Batken**	**30.29**	**302**	P	**P**	**17 50 31.6**	**+1.7**
BTK				IAmb	IAmb	17 51 08.7	
	comp=Z,7.2nm,1.6s						
KK31	**Karatay Array**	**31.27**	**307**	P	**P**	**17 50 38.5**	**+0.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KK31	**Karatay Array**	**31.27**	**307**	P	**P**	**17 50 38.5**	**+0.1**
KKAR	**Karatay Array**	**31.27**	**307**	P	**P**	**17 50 38.5**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KKAR	**Karatay Array**	**31.27**	**307**	P	**P**	**17 50 38.9**	**+0.5**
KKAR	**Karatay Array**	**31.27**	**307**	P	**P**	**17 50 38.5**	**+0.1**
KKAR				IAmb	IAmb	17 50 42.8	
	comp=Z,2.9nm,1.3s						
BRVK	**Borovoye**	**35.41**	**324**	*i* P	**P**	**17 51 14.9**	**+0.6**
YAK	**Yakutsk**	**37.40**	**19**	*e*P	**P**	**17 51 30.7**	**-0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK	**Yakutsk**	**37.40**	**19**	P	**P**	**17 51 31.2**	**0.0**
YAK				IAmb	IAmb	17 51 32.6	
	comp=Z,11nm,0.8s						
GEYT	**Alibeck**	**39.93**	**296**	P	**P**	**17 51 54.1**	**+1.3**
	comp=Z,4.6nm,0.7s,baz=126,slow=7.5,SNR=7.9						
GYA0B	**ALIBECK ARRAY**	**39.93**	**296**	P	**P**	**17 51 53.8**	**+1.0**
GYA0B				IAmb	IAmb	17 51 55.0	
	comp=Z,5.1nm,0.8s						
ABKAR	**Akbulak array**	**39.99**	**314**	P	**P**	**17 51 53.9**	**+0.8**
ABKAR	**Akbulak array**	**39.99**	**314**	P	**P**	**17 51 53.6**	**+0.5**
NRIK	**Noril'sk**	**42.19**	**351**	P	**P**	**17 52 12.0**	**+1.1**
	comp=Z,4.7nm,0.5s,baz=144,slow=6.1,SNR=7.3						
NRIK	**Noril'sk**	**42.19**	**351**	*ce*P	**P**	**17 52 11.0**	**+0.1**
NRIK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	**Arti**	**42.99**	**324**	*c i*P	**P**	**17 52 17.8**	**+0.2**
ARU				S	**S**	**17 58 39.3**	**-2.5**
ARU				SS	**SS**	**18 01 47.2**	**-6.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARU	**Arti**	**42.99**	**324**	P	**P**	**17 52 17.9**	**+0.2**
ARU				IAmb	IAmb	17 52 19.6	
	comp=Z,

comp=Z,6.0nm,1.4s
AKBB Malin Array Si 59.73 314 P P 17 54 22.7 -0.4
AKBB IAmb IAmb 17 54 29.0
comp=Z,6.1nm,1.4s
ARCES ARCESS Array B 59.99 336 P P 17 54 24.6 -0.1
comp=Z,2.5nm,0.8s,baz=70,slow=8.0,SNR=6.2
FIA1 FINESS Array S 60.18 327 P P 17 54 25.8 -0.2
FINES FINESS Array B 60.18 327 P P 17 54 25.5 -0.6
comp=Z,1.7nm,0.6s,baz=92,slow=6.7,SNR=7.7
FINES FINESS Array B 60.18 327 P P 17 54 25.8 -0.2
FINES FINESS Array B 60.18 327 P P 17 54 25.8 -0.2
SPA0 Spitsbergen Ar 62.10 347 P P 17 54 37.2 -1.7
BURAR Bucovina Array 62.91 312 P P 17 54 44.8 -0.1
BUR08 Bucovina Ar. S 62.91 312 P P 17 54 45.1 +0.2
BUR08 IAmb IAmb 17 55 09.7
comp=Z,4.3nm,1.4s
VYHS Vyhne 66.81 314 *e*P **P 17 55 08.5 -1.6**
VYHS Vyhne 66.81 314 *e*P **P 17 55 08.5 -1.6**
NOA NORSAR Array B 67.29 328 P **P 17 55 12.3 -0.8**
comp=Z,1.1nm,0.8s,baz=59,slow=6.1,SNR=3.8
GERES GERESS Array B 69.92 315 P **P 17 55 29.7 -0.1**
comp=Z,0.7nm,0.5s,baz=75,slow=5.7,SNR=7.9
GERES GERESS Array B 69.92 315 P **P 17 55 29.3 -0.4**
PPLA Purkeypile 70.70 28 P **P 17 55 35.4 +1.1**
PRED Cave del Predi 70.86 313 P **P 17 55 34.8 -0.7**
PRED IAmb IAmb 17 55 55.4
comp=Z,7.8nm,1.7s
ILAR Eielson Array 71.97 25 P **P 17 55 40.8 -0.9**
comp=Z,0.3nm,0.3s,baz=287,slow=4.3,SNR=4.2
ROSC El Rosal 146.93 359 PKPbc **PKPbc 18 04 02.7 +0.4**
comp=Z,11nm,0.5s,baz=304,slow=18,SNR=3.9

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*IDC **30** 17:53:46.3±1.8, 6°.23S×147°.75E, h43km±15km, mb4.0/7, mb1 4.2/11, mb1mx3.8/36, mbtmp4.3/11, ML4.2/3, MS3.3/10, Ms1 3.3/10, ms1mx3.1/31, Error ellipse: s-maj=27.1km s-min=12.7km az=114.0*
*NEIC **30** 17:53:47.4±1.6, 6°.4S±0°.1×147°.8E±0°.1, h61km±9km, mb4.5/20, Error ellipse: s-maj=23.8km s-min=10.6km az=126.0*
ISC 30 17:53:47.2±0.6, 6°.36S±0°.07×147°.8E±0°.1, h51km, n42, σ1s48/44, mb4.6/16, MS3.3/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.09**	**191**	P	**Pn**	**17 54 34.8**	**+1.2**
	18nm,0.3s,baz=18,slow=5.4,SNR=26						
PMG				S	**Sn**	**17 55 12.8**	**+3.5**
	28nm,0.3s,baz=36,slow=17,SNR=2.7						
PMG				LR	LR	17 56 08.3	
	comp=Z,380nm,21.8s,baz=46,slow=44						
PMG	**Port Moresby**	**3.09**	**191**		**Pn**	**17 54 34.6**	**+1.0**
KRVT	**Keravat (AS076**	**4.70**	**65**	P	**Pn**	**17 54 55.2**	**-0.4**
	13nm,0.3s,baz=179,slow=1.5,SNR=24						
KRVT				LR	LR	17 56 48.0	
	comp=Z,427nm,20.1s,baz=254,slow=39						
RABL	**Rabaul**	**4.87**	**64**		**Pn**	**17 54 57.6**	**-0.4**
COEN	**Coen**	**8.81**	**211**	Pn	**Pn**	**17 55 52.9**	**+0.9**
COEN				Sn	**Sn**	**17 57 24.3**	**-5.6**
HNR	**Honiara**	**12.44**	**105**	LR	LR	18 00 30.9	
	comp=Z,64nm,19.6s,baz=219,slow=32						
CTA	**Charters Tower**	**13.73**	**186**	P	**Pn**	**17 56 59.4**	**+0.1**
	0.2nm,0.3s,baz=0.0,slow=15,SNR=1.8						
MTN	**Manton Dam**	**17.62**	**247**		**Pn**	**17 57 49.3**	**0.0**
MTN				IAmb	IAmb	17 58 34.5	
	comp=Z,26nm,1.2s						
WB0	**Warramunga Arr**	**18.62**	**223**	P	**P**	**17 58 00.0**	**-0.7**
WR0	**Warramunga Arr**	**18.66**	**222**	P	**P**	**17 58 00.4**	**-0.7**
WRAB	**Tennant Creek**	**18.77**	**223**	P	**P**	**17 58 01.5**	**-0.8**
WRAB				IAmb	IAmb	17 58 01.9	
	comp=Z,19nm,1.4s						
WB2	**Warramunga Arr**	**18.77**	**223**		**P**	**17 58 01.7**	**-0.7**
WRA	**Warramunga Arr**	**18.78**	**223**	P	**P**	**17 58 01.9**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=52,slow=10,SNR=78						
WRA				LR	LR	18 06 00.7	
	comp=Z,127nm,21.2s,baz=115,slow=39						
WRA				ScP	**ScP**	**18 06 01.8**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=50,slow=2.3,SNR=3.2						
WRA	**Warramunga Arr**	**18.78**	**223**	P	**P**	**17 58 00.5**	**-1.9**
GUMO	**Guam**	**20.02**	**352**	LR	LR	18 05 25.8	
	comp=Z,75nm,18.6s,baz=138,slow=35						
KNRA	**Kununurra**	**20.82**	**242**	P	**P**	**17 58 23.4**	**-1.2**
KNRA				IAmb	IAmb	17 58 50.8	
	comp=Z,43nm,1.5s						
AS31	**Alice Springs**	**21.77**	**216**	P	**P**	**17 58 35.0**	**+0.1**
AS31				IAmb	IAmb	17 58 35.5	
	comp=Z,5.2nm,0.6s						
ASAR	**Alice Springs**	**21.78**	**216**	P	**P**	**17 58 35.0**	**+0.1**
	comp=Z,12nm,0.5s,baz=50,slow=9.0,SNR=474						
ASAR				S	**S**	**18 02 35.9**	**+2.7**
	comp=Z,0.7nm,0.8s,baz=34,slow=23,SNR=3.5						
ASAR				ScP	**ScP**	**18 06 09.3**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=70,slow=2.9,SNR=4.5						
ASAR	**Alice Springs**	**21.78**	**216**	P	**P**	**17 58 34.4**	**-0.5**
ASAR					**S**	**18 02 31.3**	**-1.9**
SOEI	**Soe**	**23.52**	**260**	P	**P**	**17 58 53.8**	**+0.7**
SOEI				IAmb	IAmb	17 59 03.0	
	comp=Z,27nm,1.2s						
BATI	**Baumata**	**24.16**	**259**	P	**P**	**17 58 59.5**	**+0.6**
	comp=Z,14nm,0.6s,baz=136,slow=1.9,SNR=5.3						
BATI				LR	LR	18 11 11.8	
	comp=Z,170nm,18.4s,baz=88,slow=43						
ARMA	**Armidale**	**24.21**	**172**	P	**P**	**17 58 59.5**	**+0.2**
ARMA				IAmb	IAmb	17 59 03.9	
	comp=Z,19nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.54**	**240**	P	**P**	**17 59 02.1**	**-0.2**
	comp=Z,19nm,0.6s,baz=360,slow=5.4,SNR=115						
FITZ				LR	LR	18 08 25.6	
	comp=Z,128nm,19.5s,baz=84,slow=36						
FITZ	**Fitzroy Crossi**	**24.54**	**240**	P	**P**	**17 59 02.1**	**-0.2**
FITZ				IAmb	IAmb	17 59 03.6	
	comp=Z,27nm,0.9s						
STKA	**Stephens Creek**	**26.04**	**192**	P	**P**	**17 59 16.7**	**+0.9**
	comp=Z,2.6nm,0.4s,baz=3.9,slow=9.2,SNR=15						
STKA				LR	LR	18 10 08.6	
	comp=Z,101nm,18.4s,baz=28,slow=38						
STKA	**Stephens Creek**	**26.04**	**192**	P	**P**	**17 59 15.2**	**-0.6**
KAPI	**Kappang**	**27.91**	**271**	LR	LR	18 12 44.1	
	comp=Z,23nm,18.6s,baz=72,slow=41						
BBOO	**Buckleboo**	**28.49**	**201**	P	**P**	**17 59 35.8**	**-2.0**
FORT	**Forrest**	**30.54**	**215**	P	**P**	**17 59 55.9**	**-0.1**
FORT				IAmb	IAmb	18 00 48.8	
	comp=Z,22nm,1.1s						
PSA00	**Pilbara Seismi**	**30.95**	**238**	P	**P**	**17 59 59.3**	**-0.5**
PSA00				IAmb	IAmb	18 00 57.6	
	comp=Z,21nm,1.2s						
MORW	**Morawa**	**37.52**	**229**	P	**P**	**18 00 56.1**	**-0.3**
MORW				IAmb	IAmb	18 00 58.7	
	comp=Z,29nm,1.4s						
NWAO	**Narrogin (SRO)**	**38.79**	**223**	P	**P**	**18 01 06.6**	**-0.6**
NWAO	**Narrogin (SRO)**	**38.79**	**223**	P	**P**	**18 01 06.5**	**-0.6**
NWAO				IAmb	IAmb	18 01 45.8	
	comp=Z,42nm,1.4s						
JHJ2	**Mitsune**	**39.97**	**350**	P	**P**	**18 01 16.5**	**-0.4**
MJAR	**Matsushiro Arr**	**43.60**	**349**	P	**P**	**18 01 46.1**	**-0.4**
	comp=Z,2.3nm,1.1s,baz=192,slow=8.4,SNR=4.1						
MJAR				LR	LR	18 19 41.4	
	comp=Z,28nm,18.2s,baz=170,slow=36						
NJ2	**Nanjing**	**47.10**	**326**	*e*P	**P**	**18 02 15.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**57.54**	**328**	*e*P	**P**	**18 03 33.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,5.7s						
GTA	**Gaotai**	**63.51**	**320**	*e*P	P	18 04 17.0	+4.5
GTA				pP	pP	18 04 21.0	-6.1
GTA				sP	sP	18 04 24.5	-8.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VNDA	**Vanda**	**71.52**	**177**	P	**P**	**18 05 02.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=328,slow=6.4,SNR=7.3						
WMQ	**Urumqi**	**73.56**	**319**	*e*P	**P**	**18 05 15.5**	**+0.4**
ILAR	**Eielson Array**	**85.50**	**23**	P	**P**	**18 06 17.5**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=243,slow=4.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**145.92**	**284**	PKPbc	**PKPdf**	**18 13 21.2**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=65,slow=4.8,SNR=3.6						

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*IDC **30** 18:04:27.3±1.0, 56°.82N×34°.10W, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/45, mbtmp3.8/9, MS4.1/1, Ms1 4.2/1, ms1mx2.8/42, Error ellipse: s-maj=29.2km s-min=23.1km az=171.0*

*NEIC **30** 18:04:29.1±1.2, 56°.8N±0°.1×34°.2W±0°.2, h15km±4km, mb4.5/10, Error ellipse: s-maj=20.6km s-min=15.2km az=192.0*
ISC 30 18:04:28.9±0.7, 56°.8N±0°.2×34°.18W±0°.10, h13km, n29, σ0s63/27, mb4.0/13, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBN	**Guysborough**	**20.44**	**248**	P	**P**	**18 09 04.3**	**-1.3**
LMN	**Caledonia Moun**	**21.85**	**253**	P	**P**	**18 09 21.1**	**+0.3**
PQI	**Presque Isle**	**23.04**	**258**	P	**P**	**18 09 33.1**	**-0.4**
PQI				IAmb	IAmb	18 09 39.9	
	comp=Z,40nm,1.8s						
ARCES	**ARCESS Array B**	**28.45**	**40**	P	**P**	**18 10 22.2**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=273,slow=7.1,SNR=3.9						
FINES	**FINESS Array B**	**30.30**	**56**	P	**P**	**18 10 38.8**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=289,slow=13,SNR=1.7						
BURAR	**Bucovina Array**	**36.45**	**79**	P	**P**	**18 11 34.2**	**+1.0**
AKASG	**Malin Array Be**	**36.77**	**72**	P	**P**	**18 11 35.3**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=305,slow=8.9,SNR=1.9						
AKASG	**Malin Array Be**	**36.77**	**72**	IAmb	IAmb	18 11 41.4	
	comp=Z,0.5nm,0.8s						
AKBB	**Malin Array Si**	**36.77**	**72**	P	**P**	**18 11 34.2**	**-1.5**
BRTR	**Keskin Array B**	**46.24**	**81**	P	**P**	**18 12 54.5**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=326,slow=4.9,SNR=2.5						
BRTR	**Keskin Array B**	**46.24**	**81**	P	**P**	**18 12 53.7**	**+0.1**
ILAR	**Eielson Array**	**48.45**	**328**	P	**P**	**18 13 11.2**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=36,slow=7.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**51.45**	**133**	P	**P**	**18 13 33.7**	**0.0**
	comp=Z,1.2nm,0.8s,baz=350,slow=6.0,SNR=5.9						
AB31	**Akbulak array**	**52.79**	**55**	P	**P**	**18 13 43.5**	**+0.2**
ABKAR	**Akbulak array**	**52.79**	**55**	P	**P**	**18 13 43.2**	**-0.1**
AB06	**Akbulak array**	**52.80**	**55**	P	**P**	**18 13 42.8**	**-0.6**
TXAR	**Lajitas Array**	**54.88**	**271**	P	**P**	**18 13 59.1**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=54,slow=6.4,SNR=4.1						
NVAR	**Mina Array Bea**	**55.87**	**289**	LR	LR	18 36 53.4	
	comp=Z,191nm,21.6s,baz=136,slow=35						
PNTR	**Pine Nut**	**56.05**	**291**	P	**P**	**18 14 07.4**	**0.0**
PNTR				IAmb	IAmb	18 14 12.7	
	comp=Z,4.4nm,0.8s						
KURK	**Kurchatov**	**59.42**	**43**	P	**P**	**18 14 30.6**	**0.0**
KURK				IAmb	IAmb	18 14 31.9	
	comp=Z,2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**59.46**	**43**	P	**P**	**18 14 30.7**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=324,slow=7.2,SNR=13						
MK31	**Makanchi Array**	**64.03**	**43**	P	**P**	**18 15 01.4**	**-0.4**
MK31				IAmb	IAmb	18 15 05.3	
	comp=Z,10.0nm,1.9s						
MKAR	**Makanchi Array**	**64.03**	**43**	P	**P**	**18 15 02.0**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=332,slow=5.2,SNR=12						
MKAR	**Makanchi Array**	**64.03**	**43**	P	**P**	**18 15 01.4**	**-0.4**
GAR	**Garm**	**65.43**	**56**	P	**P**	**18 15 11.8**	**+0.6**
ASAR	**Alice Springs**	**145.80**	**20**	PKPbc	**PKPdf**	**18 24 07.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=343,slow=2.7,SNR=14						
ASAR	**Alice Springs**	**145.80**	**20**		**PKPdf**	**18 24 06.3**	**-0.7**
QSPA	**South Pole Qui**	**146.67**	**180**	PKPbc	**PKPbc**	**18 24 09.2**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=218,slow=2.0,SNR=5.5						
QSPA	**South Pole Qui**	**146.67**	**180**		**PKPbc**	**18 24 08.9**	**+0.1**

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*IDC **30** 18:06:51.9±0.8, 56°.79N×34°.07W, h0km, mb3.8/15, mb1 3.9/15, mb1mx3.8/46, mbtmp3.8/15, MS3.5/6, Ms1 3.5/6, ms1mx3.1/40, Error ellipse: s-maj=23.9km s-min=18.1km az=171.0*
*NEIC **30** 18:06:54.2±1.8, 56°.9N±0°.1×34°.0W±0°.2, h14km±1km, mb4.6/26, Error ellipse: s-maj=18.5km s-min=13.0km az=177.0*
ISC 30 18:06:54.0±0.5, 56°.8N±0°.1×34°.02W±0°.07, h13km, n51, σ0s77/47, mb4.4/28, MS3.5/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESK	**Eskdalemuir**	**17.20**	**82**	Pn	**Pn**	**18 10 53.0**	**-0.7**
FRB	**Frobisher Bay**	**18.26**	**306**	LR	LR	18 16 47.3	
	comp=Z,123nm,19.1s,baz=349,slow=33						
SCHQ	**Schefferville**	**18.44**	**278**	LR	LR	18 16 51.1	
	comp=Z,226nm,20.4s,baz=84,slow=32						
LMN	**Caledonia Moun**	**21.95**	**253**	P	**P**	**18 11 46.3**	**-0.8**
LMN				IAmb	IAmb	18 11 56.5	
	comp=Z,63nm,1.8s						
NBO00	**NORSAR Array S**	**23.14**	**61**	P	**P**	**18 11 59.0**	**-0.6**
NBO00				IAmb	IAmb	18 12 18.8	
	comp=Z,60nm,1.6s						
NOA	**NORSAR Array B**	**23.34**	**61**	P	**P**	**18 12 02.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=278,slow=8.9,SNR=2.2						
NOA				LR	LR	18 19 03.7	
	comp=Z,38nm,19.3s,baz=255,slow=31						
TULEG	**Thule**	**23.38**	**340**	P	**P**	**18 12 00.6**	**-1.3**
D62A	**Allapoint, All**	**23.44**	**260**	P	**P**	**18 12 03.5**	**+0.8**
D62A				IAmb	IAmb	18 12 04.2	
	comp=Z,46nm,1.9s						
F64A	**Sherman**	**23.83**	**257**	P	**P**	**18 12 06.2**	**-0.3**
F64A				IAmb	IAmb	18 12 12.3	
	comp=Z,42nm,1.7s						
G62A	**West of Eustis**	**25.41**	**258**	P	**P**	**18 12 20.5**	**-0.6**
G62A				IAmb	IAmb	18 12 55.7	
	comp=Z,14nm,1.2s						
ESDC	**Sonseca Array**	**26.05**	**118**	P	**P**	**18 12 27.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=332,slow=7.2,SNR=1.4						
ESDC				LR	LR	18 20 41.0	
	comp=Z,80nm,19.4s,baz=355,slow=32						
SPITS	**Spitsbergen Ar**	**27.16**	**20**	P	**P**	**18 12 37.2**	**+0.7**
	comp=Z,7.9nm,1.0s,baz=188,slow=5.8,SNR=9.5						
ARCES	**ARCESS Array B**	**28.35**	**40**	P	**P**	**18 12 45.7**	**-1.6**
	comp=Z,7.1nm,1.0s,baz=290,slow=7.2,SNR=4.0						
KEV	**Kevo**	**28.86**	**39**	P	**P**	**18 12 51.8**	**+0.1**
MSSA	**Maissana**	**29.82**	**96**	P	**P**	**18 13 00.1**	**-0.4**
MSSA				IAmb	IAmb	18 13 35.8	
	comp=Z,15nm,1.1s						
FINES	**FINESS Array B**	**30.20**	**56**	P	**P**	**18 13 03.9**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=292,slow=7.4,SNR=2.1						
BRNJ	**Basking Ridge**	**30.67**	**256**	P	**P**	**18 13 09.8**	**+1.8**
AKASG	**Malin Array Be**	**36.67**	**72**	P	**P**	**18 14 00.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=306,slow=8.6,SNR=2.8						
AKBB	**Malin Array Si**	**36.67**	**72**	P	**P**	**18 13 59.5**	**-0.6**
YKA	**Yellowknife Ar**	**38.59**	**313**	LR	LR	18 29 28.8	
	comp=Z,104nm,18.7s,baz=0.0,slow=35						
BR131	**Keskin Array S**	**46.14**	**82**	P	**P**	**18 15 19.0**	**+1.0**
BRTR	**Keskin Array B**	**46.14**	**82**	P	**P**	**18 15 18.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=347,slow=5.9,SNR=2.8						
WMOK	**Wichita Mounta**	**48.17**	**271**	P	**P**	**18 15 33.5**	**-0.2**
WMOK				IAmb	IAmb	18 15 41.0	
	comp=Z,5.0nm,0.9s						
LOHW	**Long Hollow**	**48.18**	**289**	P	**P**	**18 15 33.0**	**-1.0**
LOHW				IAmb	IAmb	18 15 33.8	
	comp=Z,6.2nm,1.4s						
ISCO	**Idaho Springs**	**48.22**	**281**	P	**P**	**18 15 34.4**	**-0.1**
ISCO				IAmb	IAmb	18 15 41.0	
	comp=Z,5.0nm,1.1s						
PDAR	**Pinedale Array**	**48.22**	**287**	P	**P**	**18 15 33.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=63,slow=6.2,SNR=2.4						
PDAR				LR	LR	18 34 09.1	
	comp=Z,128nm,19.9s,baz=137,slow=34						
ILAR	**Eielson Array**	**48.45**	**328**	P	**P**	**18 15 36.3**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=41,slow=3.5,SNR=4.8						
IMAR	**Indian Mountai**	**49.41**	**332**	P	**P**	**18 15 42.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**51.42**	**133**	P	**P**	**18 15 57.9**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=331,slow=7.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**51.42**	**133**	IAmb	IAmb	18 16 04.3	
	comp=Z,1.7nm,1.1s						
ABKAR	**Akbulak array**	**52.69**	**55**	P	**P**	**18 16 07.2**	**-0.5**
TXAR	**Lajitas Array**	**54.96**	**271**	P	**P**	**18 16 24.7**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=59,slow=4.8,SNR=3.6						
TXAR				PcP	**PcP**	**18 17 25.4**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=38,slow=4.6,SNR=2.1						
KVN	**Kaiserville**	**55.37**	**290**	P	**P**	**18 16 27.9**	**+0.3**
KVN				IAmb	IAmb	18 16 34.2	
	comp=Z,19nm,2.0s						
ZALV	**Zalesovo Beam**	**58.86**	**37**	P	**P**	**18 16 53.4**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=335,slow=6.4,SNR=1.9						
KURK	**Kurchatov**	**59.31**	**43**	P	**P**	**18 16 54.7**	**-0.3**
KURK				IAmb	IAmb	18 16 56.2	
	comp=Z,4.1nm,0.9s						
KURBB	**Kurchatov Arra**	**59.35**	**43**	P	**P**	**18 16 55.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=322,slow=7.3,SNR=14						
MAKZ	**Makanchi**	**63.79**	**43**	P	**P**	**18 17 25.4**	**0.0**
MK31	**Makanchi Array**	**63.92**	**43**	P	**P**	**18 17 26.5**	**+0.2**
MKAR	**Makanchi Array**	**63.92**	**43**	P	**P**	**18 17 26.6**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=337,slow=5.7,SNR=15						
BTK	**Batken**	**64.69**	**55**	P	**P**	**18 17 32.5**	**+1.0**
BTK				IAmb	IAmb	18 17 35.9	
	comp=Z,3.3nm,1.1s						
GAR	**Garm**	**65.32**	**56**	P	**P**	**18 17 36.6**	**+0.9**
KDJ	**Kajisay**	**65.77**	**50**	P	**P**	**18 17 38.8**	**+0.3**
TARG	**Taragay, Kyrgy**	**66.36**	**49**	P	**P**	**18 17 43.7**	**+1.0**
TARG				IAmb	IAmb	18 17 46.3	
	comp=Z,3.7nm,0.9s						
SONM	**Songino Array**	**70.61**	**27**	P	**P**	**18 18 09.3**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=4.3,slow=5.8,SNR=3.2						
SONM	**Songino Array**	**70.61**	**27**	IAmb	IAmb	18 18 11.2	
	comp=Z,0.8nm,0.9s						
PAYG	**Puerto Ayora**	**72.81**	**241**	P	**P**	**18 18 23.3**	**+1.1**
WRA	**Warramunga Arr**	**142.16**	**18**	PKP	**PKPdf**	**18 26 24.5**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=333,slow=2.1,SNR=1.7						
ASAR	**Alice Springs**	**145.72**	**20**	PKPbc	**PKPdf**	**18 26 31.7**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=347,slow=2.5,SNR=14						
ASAR	**Alice Springs**	**145.72**	**20**		**PKPdf**	**18 26 31.6**	**-0.4**
QSPA	**South Pole Qui**	**146.73**	**180**	PKPbc	**PKPbc**	**18 26 33.5**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=171,slow=3.8,SNR=5.7						
QSPA	**South Pole Qui**	**146.73**	**180**		**PKPbc**	**18 26 33.8**	**-0.3**

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*NEIC **30** 18:15:01.9±1.2, 20°.7S±0°.1×67°.2E±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=34.8km s-min=22.2km az=270.0*
*IDC **30** 18:15:01.3±2.8, 20°.64S×67°.42E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/45, mbtmp3.7/7, MS3.0/1, Ms1 3.2/1, ms1mx2.6/38, Error ellipse: s-maj=83.1km s-min=32.4km az=56.0*
ISC 30 18:15:02.2±1.1, 20°.7S±0°.1×67°.3E±0°.2, h10km, n26, σ0s89/19, mb4.1/13, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.92**	**22**	T	T	18 31 52.6	
	baz=200,slow=76,SNR=131						
H08S2	**Diego Garcia H**	**13.93**	**22**	T	T	18 31 50.7	
	baz=200,slow=76,SNR=120						
H08S3	**Diego Garcia H**	**13.94**	**22**	T	T	18 31 50.1	
	baz=200,slow=76,SNR=91						
H01W2	**Cape Leeuwin H**	**43.44**	**119**	T	T	19 08 58.0	
	baz=279						
H01W3	**Cape Leeuwin H**	**43.44**	**119**	T	T	19 08 56.9	
	baz=279						
H01W1	**Cape Leeuwin H**	**43.46**	**119**	T	T	19 08 58.6	
	baz=279						
CM31	**Chiang Mai Arr**	**49.79**	**41**	P	**P**	**18 23 54.1**	**-1.2**
CM31				IAmb	IAmb	18 23 55.4	
	comp=Z,2.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.79**	**41**	P	**P**	**18 23 54.7**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=237,slow=8.0,SNR=14						
CMAR				LR	LR	18 44 01.8	
	comp=Z,15nm,18.1s,baz=205,slow=35						
SHL	**Shillong**	**51.84**	**29**	P	**P**	**18 24 10.2**	**-0.7**
SHL				IAmb	IAmb	18 24 11.0	
	comp=Z,3.2nm,0.8s						
CASY	**Casey**	**53.35**	**160**	P	**P**	**18 24 19.6**	**-1.8**
CASY				IAmb	IAmb	18 24 40.7	
	comp=Z,21nm,1.5s						
MMRI	**Maumere**	**54.30**	**86**	P	**P**	**18 24 29.1**	**0.0**
ASAR	**Alice Springs**	**61.29**	**106**	P	**P**	**18 25 17.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=271,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**62.48**	**102**	P	**P**	**18 25 26.5**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=259,slow=6.3,SNR=2.0						
WRAB	**Tennant Creek**	**62.49**	**102**	P	**P**	**18 25 28.1**	**+1.7**
WRAB				IAmb	IAmb	18 25 32.0	
	comp=Z,15nm,1.7s						
FAKI	**Fak Fak**	**65.61**	**84**	P	**P**	**18 25 48.3**	**+1.4**
MKAR	**Makanchi Array**	**68.53**	**11**	P	**P**	**18 26 04.8**	**0.0**
	comp=Z,0.8nm,0.8s,baz=205,slow=8.0,SNR=6.7						
QSPA	**South Pole Qui**	**69.42**	**180**	P	**P**	**18 26 11.4**	**+1.0**
QSPA				IAmb	IAmb	18 26 34.9	
	comp=Z,9.3nm,1.2s						
ABKAR	**Akbulak array**	**69.94**	**355**	P	**P**	**18 26 13.5**	**+0.2**
ABKAR	**Akbulak array**	**69.94**	**355**	P	**P**	**18 26 13.7**	**+0.3**
ABKAR				IAmb	IAmb	18 26 14.6	
	comp=Z,5.3nm,1.6s						
KURBB	**Kurchatov Arra**	**71.70**	**8**	P	**P**	**18 26 24.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=203,slow=6.5,SNR=8.0						
KURK	**Kurchatov**	**71.80**	**8**	P	**P**	**18 26 24.9**	**+0.3**
KURK	**Kurchatov**	**71.80**	**8**	IAmb	IAmb	18 26 26.4	
	comp=Z,1.7nm,0.9s						
ZAA0	**Zalesovo Array**	**75.86**	**11**	P	**P**	**18 26 48.7**	**+0.3**
ZALV	**Zalesovo Beam**	**75.86**	**11**	P	**P**	**18 26 48.7**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=230,slow=3.7,SNR=5.5						
SONM	**Songino Array**	**76.72**	**26**	P	**P**	**18 26 53

NACB eS Sn 18 19 59.2 -0.7
baz=238
YHNB Yeheng 1.44 263 P Pn 18 19 39.5 0.0
baz=259
YHNB eS Sn 18 20 00.5 -0.1
baz=259
NSK Sanguang 1.45 263 P Pn 18 19 39.5 -0.1
baz=260
NSK eS Sn 18 20 00.7 -0.2
baz=260
TWD Chiawan 1.45 238 P Pn 18 19 38.7 -0.8
baz=231
TWD eS Sn 18 19 59.8 -1.0
baz=231
ETLH Xiulin Townshi 1.48 244 P Pn 18 19 39.5 -0.4
baz=237
ETLH eS Sn 18 20 00.6 -0.9
baz=237
NNSB Datong 1.48 253 P Pn 18 19 40.0 0.0
baz=245
NNSB eS Sn 18 20 00.9 -0.7
baz=245
NNSH Datong 1.48 253 P Pn 18 19 40.0 0.0
baz=246
NNSH eS Sn 18 20 01.2 -0.4
baz=246
NNS Nan Shan 1.49 254 P Pn 18 19 40.0 0.0
baz=245
NNS eS Sn 18 20 01.2 -0.6
baz=245
HWA Hwalien 1.50 234 P Pn 18 19 39.9 -0.2
baz=227
HWA eS Sn 18 20 03.0 +1.2
baz=227
JTJ Tarama 1.62 97 P Pn 18 19 41.5 +0.2
JTJ S Sn 18 20 03.6 -0.4
FUSS Fushou 1.66 249 P Pn 18 19 42.3 +0.2
baz=242
FUSS eS Sn 18 20 05.2 -0.2
baz=242
WHF Hehuan Shan 1.69 245 P Pn 18 19 42.4 -0.2
baz=242
WHF eS Sn 18 20 05.2 -1.0
baz=242
TWT Tachien 1.72 250 P Pn 18 19 43.3 +0.6
baz=241
TWT eS Sn 18 20 06.5 +0.1
baz=241
TDCB Techi 1.73 250 P Pn 18 19 43.2 +0.4
baz=242
TDCB S Sn 18 20 06.3 -0.4
baz=242
LIOB Emei 1.76 263 eP Pn 18 19 42.7 -0.3
baz=260
LIOB eS Sn 18 20 06.5 -0.6
baz=260
NSTT Nanjuang 1.78 263 P Pn 18 19 43.0 -0.2
baz=260
NSTT eS Sn 18 20 06.5 -0.9
baz=260
CHGB Renai 1.80 244 i P Pn 18 19 43.8 +0.2
baz=242
CHGB eS Sn 18 20 07.5 -0.7
baz=242
EGFH Guangfu 1.82 230 eP Pn 18 19 43.3 -0.5
baz=228
EGFH eS Sn 18 20 07.4 -0.9
baz=228
WHP Taichung City 1.91 253 P Pn 18 19 45.2 +0.4
baz=258
WHP eS Sn 18 20 10.3 +0.1
baz=258
HGSD Ruisui 1.94 226 P Pn 18 19 44.9 -0.2
baz=229
HGSD eS Sn 18 20 09.4 -1.4
baz=229
VWDT VWDT 1.98 236 P Pn 18 19 45.6 +0.1
baz=234
VWDT eS Sn 18 20 11.0 -0.6
baz=234
NMLH Miaoli 1.98 261 eP Pn 18 19 45.8 +0.2
baz=258
NMLH eS Sn 18 20 10.9 -0.7
baz=258
EHY Hungye 2.00 228 eP Pn 18 19 45.0 -0.9
baz=226
EHY eS Sn 18 20 11.1 -1.0
baz=226
JIRB Irabujima 2.03 90 P Pn 18 19 46.5 +0.4
JIRB S Sn 18 20 11.7 -0.9
JIKM Ikemajima 2.10 88 S Sn 18 20 13.6 -0.5
YULB Yu-li 2.10 226 P Pn 18 19 46.2 -0.9
baz=230
YULB eS Sn 18 20 12.5 -1.7
baz=230
SMLT Sun Moon Lake 2.10 243 eP Pn 18 19 47.9 +0.7
baz=238
SMLT eS Sn 18 20 15.3 +0.8
baz=238
SSLB Suanglung 2.10 240 P Pn 18 19 47.1 0.0
baz=236
SSLB eS Sn 18 20 15.4 +1.0
baz=236
EYUL Yuli 2.11 225 P Pn 18 19 46.9 -0.4
baz=234
EYUL eS Sn 18 20 15.3 +0.8
baz=234
TWF1 Yuli 2.12 225 P Pn 18 19 46.8 -0.6
baz=234
TWF1 eS Sn 18 20 13.9 -0.9
baz=234
TYC Yuchr 2.13 244 P Pn 18 19 48.0 +0.6
baz=245
TYC eS Sn 18 20 16.3 +1.5
baz=245
JMJ Miyako jima 2 2.14 91 eP Pn 18 19 48.5 +1.0
baz=95
JMJ eS Sn 18 20 15.4 +0.4
baz=95
JMJ2 Miyako jima3 2.17 93 P Pn 18 19 48.4 +0.5
JMJ2 S Sn 18 20 15.2 -0.6
WHYT Xinyi Township 2.23 239 P Pn 18 19 49.6 +0.9
baz=235
WHYT eS Sn 18 20 18.9 +1.8
baz=235
FULB Fuli 2.24 223 P Pn 18 19 48.4 -0.4
baz=217
FULB eS Sn 18 20 16.9 -0.5
baz=217
JOGS Gusukube 2.24 92 P Pn 18 19 49.4 +0.6
JOGS S Sn 18 20 16.2 -1.1
WJS Zhushan 2.27 243 eP Pn 18 19 50.0 +0.9
baz=242
WJS eS Sn 18 20 20.1 +2.2
baz=242
CHKT Chengkung 2.27 220 eP Pn 18 19 47.1 -2.0
baz=213
CHKT eS Sn 18 20 16.3 -1.7
baz=213
WNT Mingjian 2.28 245 eP Pn 18 19 49.5 +0.2
baz=243
WNT eS Sn 18 20 19.4 +1.3
baz=243
ALS Alishan 2.37 236 eP Pn 18 19 51.4 +0.7
baz=234
ALS eS Sn 18 20 21.5 +0.9
baz=234
EDH Donghe 2.40 219 P Pn 18 19 50.4 -0.5
baz=212
EDH eS Sn 18 20 19.9 -1.1
baz=212
CHN5 Tsauling 2.42 239 eP Pn 18 19 51.6 +0.5
baz=247
CHN5 eS Sn 18 20 22.2 +0.8
baz=247
ELDTW Lidau 2.42 227 P Pn 18 19 50.9 -0.3
baz=225
ELDTW eS Sn 18 20 21.9 +0.3
baz=225
WGK Gukeng 2.47 242 eP Pn 18 19 51.4 -0.1
baz=241
WGK eS Sn 18 20 24.9 +2.6
baz=241
WDLH Douliu 2.48 242 eP Pn 18 19 52.6 +0.8
baz=241
WDLH eS Sn 18 20 23.8 +1.1
baz=241
RLNB Erlin 2.54 248 eP Pn 18 19 52.6 +0.1
baz=247
RLNB eS Sn 18 20 24.4 +0.3
baz=247
LONT Longtian 2.56 221 eP Pn 18 19 51.7 -1.0
baz=220
LONT eS Sn 18 20 23.7 -0.7
baz=220
LDUT Ludao 2.56 212 eP Pn 18 19 51.6 -1.2
baz=214
LDUT eS Sn 18 20 22.8 -1.7
baz=214
WTK Tuku 2.61 244 eP Pn 18 19 51.7 -1.6
baz=242
WTK eS Sn 18 20 25.0 -0.5
baz=242
STYT Tauyuan 2.62 230 eP Pn 18 19 54.0 +0.4
baz=229
STYT eS Sn 18 20 26.3 +0.5
baz=229
TPUB Ta-pu 2.62 234 eP Pn 18 19 54.2 +0.6
baz=233
TPUB eS Sn 18 20 26.5 +0.6
baz=233
TWGBT Beinan 2.65 220 eP Pn 18 19 52.7 -1.3
baz=219
TWGBT eS Sn 18 20 25.9 -0.7
baz=219
TWG Pinlang 2.66 220 eP Pn 18 19 53.0 -1.0
baz=219
TWG eS Sn 18 20 25.4 -1.3
baz=219
WTP Ta-pu 2.67 233 eP Pn 18 19 54.4 +0.2
baz=233
WTP eS Sn 18 20 27.5 +0.6
baz=233
TWK Hsinying 2.75 235 eP Pn 18 19 55.4 +0.2
baz=234
TWK eS Sn 18 20 29.2 +0.4
baz=234
CHN1 Nanshi 2.77 233 eP Pn 18 19 55.9 +0.5
baz=233
CHN1 eS Sn 18 20 29.9 +0.7
baz=233
SGST Jiashian 2.79 231 eP Pn 18 19 56.5 +0.7
baz=238
SLGT Liugui 2.81 229 eP Pn 18 19 56.7 +0.8
baz=236
SLGT eS Sn 18 20 31.9 +1.8
baz=236
ECL Taimali 2.90 219 eP Pn 18 19 57.6 +0.5
baz=218
SCST Cishan 2.98 229 eP Pn 18 19 57.2 -0.9
baz=235
SSD Sandimen 2.98 226 eP Pn 18 19 58.8 +0.6
baz=225
SSD eS Sn 18 20 36.5 +2.4
baz=225
TSMG Majia 3.00 225 eP Pn 18 19 59.0 +0.6
baz=225
TSMG eS Sn 18 20 36.8 +2.2
baz=225
MASBT Mashibuluo 3.08 224 eP Pn 18 19 59.1 -0.3
baz=233
MASBT eS Sn 18 20 37.9 +1.5
baz=233
LAY Lan-yu 3.09 205 eP Pn 18 19 59.0 -0.5
baz=204
EAST Anshuo 3.13 218 eP Pn 18 19 59.4 -0.6
baz=217
JKE Kume jima 2 3.77 66 eS Sn 18 20 51.3 -1.0

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*IDC **30** 18:27:16.9±1.6, 16°.35S×177°.31W, h400km±19km, mb3.3/6, mb1 3.6/7, mb1mx3.3/28, mbtmp4.0/7, Error ellipse: s-maj=38.6km s-min=13.6km az=147.0*
*NEIC **30** 18:27:20.0±2.6, 15°.6S±0°.2×177°.36W±0°.10, h409km±8km, mb4.1/13, Error ellipse: s-maj=35.6km s-min=6.3km az=159.0*

ISC 30 18:27:19.0±0.6, 16°.0S±0°.2×177°.2W±0°.1, h400km, n28, σ2°.24/28, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.81**	**249**		**Pn**	**18 28 41.5**	**+2.4**
AFI	**Afiamalu**	**5.69**	**69**	P	**Pn**	**18 28 49.7**	**+1.3**
AFI	6.9nm,0.3s,baz=252,slow=6.4,SNR=7.8			S	**S**	**18 30 02.3**	**+1.2**
AFI	**Afiamalu**	**5.69**	**69**		**Pn**	**18 28 49.5**	**+1.1**
URZ	**Urewera**	**22.69**	**192**	P	**P**	**18 31 41.1**	**-6.7**
URZ	3.4nm,0.3s,baz=270,slow=20,SNR=1.7 7.7nm,0.7s,baz=10.0,slow=17,SNR=1.8 **Urewera**	**22.69**	**192**	P	**P**	**18 31 48.0**	**+0.2**
CTAO	**Charters Tower**	**34.89**	**258**	P	**P**	**18 33 35.4**	**+0.4**
CTAO	comp=Z,6.1nm,0.9s			IAmb	IAmb	18 33 36.5	
COEN	**Coen**	**38.25**	**268**	P	**P**	**18 34 04.9**	**+1.9**
WR0	**Warramunga Arr**	**45.91**	**258**	P	**P**	**18 35 02.9**	**-1.1**
WR0	comp=Z,13nm,1.6s			IAmb	IAmb	18 35 03.9	
WB0	**Warramunga Arr**	**46.05**	**258**	P	**P**	**18 35 02.5**	**-2.6**
WB2	**Warramunga Arr**	**46.08**	**258**	P	**P**	**18 35 03.3**	**-2.1**
WB2	comp=Z,15nm,1.6s			IAmb	IAmb	18 35 21.0	
WRAB	**Tennant Creek**	**46.09**	**258**	P	**P**	**18 35 02.8**	**-2.6**
WRAB	comp=Z,18nm,1.6s			IAmb	IAmb	18 35 06.2	
WRA	**Warramunga Arr**	**46.09**	**258**	P	P	18 35 00.6	-4.9
WRA	comp=Z,0.3nm,0.3s,baz=84,slow=7.7,SNR=17 comp=Z,0.5nm,0.8s,baz=89,slow=3.7,SNR=2.7			PcP	**PcP**	**18 36 32.7**	**-1.4**
WRA	**Warramunga Arr**	**46.09**	**258**	P	**P**	**18 35 02.2**	**-3.3**
AS31	**Alice Springs**	**46.39**	**252**	P	**P**	**18 35 06.1**	**-1.6**
ASAR	**Alice Springs**	**46.39**	**252**	P	**P**	**18 35 06.2**	**-1.6**
ASAR	comp=Z,2.0nm,0.4s,baz=85,slow=8.5,SNR=69 comp=Z,0.2nm,0.8s,baz=96,slow=4.5,SNR=1.1			PcP	**PcP**	**18 36 32.9**	**-2.2**
ASAR	**Alice Springs**	**46.39**	**252**	P	**P**	**18 35 06.0**	**-1.7**
KNRA	**Kununurra**	**51.81**	**262**	P	**P**	**18 35 49.0**	**+0.7**
KNRA	comp=Z,18nm,1.2s			IAmb	IAmb	18 36 00.8	
FORT	**Forrest**	**51.83**	**243**	P	**P**	**18 35 49.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**54.46**	**259**	P	**P**	**18 36 09.6**	**+2.4**
FITZ	comp=Z,14nm,1.6s			IAmb	IAmb	18 36 27.4	
QSPA	**South Pole Qui**	**74.01**	**180**		**P**	**18 38 14.2**	**+2.2**
NVAR	**Mina Array Bea**	**77.31**	**44**	P	**P**	**18 38 30.2**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=225,slow=9.0,SNR=8.9						
ILAR	**Eielson Array**	**83.82**	**13**	P	**P**	**18 39 01.9**	**-2.4**
	comp=Z,1.4nm,0.9s,baz=218,slow=5.5,SNR=9.8						
TXAR	**Lajitas Array**	**84.05**	**57**	P	**P**	**18 39 07.0**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=222,slow=7.0,SNR=10.0						
TXAR	**Lajitas Array**	**84.05**	**57**	P	**P**	**18 39 06.9**	**+0.5**
ARCES	**ARCESS Array B**	**124.67**	**350**	PKP	**PKPdf**	**18 45 29.0**	**-2.1**
	comp=Z,8.9nm,1.1s,baz=18,slow=3.8,SNR=3.9						
BRTR	**Keskin Array B**	**144.21**	**317**	PKP	PKPbc	18 46 05.8	-1.8
	comp=Z,2.7nm,0.8s,baz=83,slow=3.9,SNR=10						
BRTR	**Keskin Array B**	**144.21**	**317**		PKPbc	18 46 05.5	-2.2
GERES	**GERESS Array B**	**146.07**	**347**	PKPbc	**PKPdf**	**18 46 11.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=20,slow=4.3,SNR=5.0						

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*IDC **30** 18:58:47.8±1.2, 56°.77N×33°.69W, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.6/45, mbtmp3.7/9, MS3.4/7, Ms1 3.5/7, ms1mx3.0/42, Error ellipse: s-maj=36.3km s-min=20.5km az=176.0*
*NEIC **30** 18:58:50.1±2.1, 56°.7N±0°.2×33°.7W±0°.2, h16km±5km, mb4.7/11, Error ellipse: s-maj=24.7km s-min=15.9km az=181.0*

ISC 30 18:58:49.2±0.7, 56°.7N±0°.2×33°.71W±0°.09, h10km, n28, σ1°.06/23, mb4.0/15, MS3.5/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**23.25**	**61**	P	**P**	**19 03 55.7**	**-0.7**
	1.0nm,0.8s,baz=279,slow=10,SNR=3.1						
HFS	**Hagfors**	**24.63**	**62**	P	**P**	**19 04 10.7**	**+1.4**
	2.1nm,0.7s,baz=276,slow=13,SNR=3.0						
HFS	comp=Z,75nm,18.2s,baz=295,slow=35			LR	LR	19 13 10.5	
ESDC	**Sonseca Array**	**25.85**	**119**	LR	LR	19 13 02.7	
	comp=Z,82nm,18.1s,baz=310,slow=33						
CLL	**Collm**	**27.53**	**81**	e(P)	**P**	**19 04 38.0**	**+2.3**
ARCES	**ARCESS Array B**	**28.33**	**40**	P	**P**	**19 04 42.0**	**-0.7**
	2.6nm,0.9s,baz=261,slow=11,SNR=6.7						
MURB	**Monte Urbino**	**31.97**	**95**	P	**P**	**19 05 15.7**	**+0.5**
MURB	comp=Z,12nm,1.4s			IAmb	IAmb	19 05 16.2	
ACSO	**Alum Creek Sta**	**35.70**	**264**	P	**P**	**19 05 47.2**	**-0.2**
ULM	**Lac du Bonnet**	**36.40**	**287**	LR	LR	19 19 10.5	
	comp=Z,94nm,19.5s,baz=56,slow=34						
AKASG	**Malin Array Be**	**36.55**	**72**	P	**P**	**19 05 54.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=305,slow=8.1,SNR=4.6						
JFWS	**Jewell Farm**	**37.88**	**273**	P	**P**	**19 06 06.5**	**+0.6**
JFWS	comp=Z,14nm,0.8s			IAmb	IAmb	19 06 09.0	
P46A	**Rosedale**	**38.45**	**267**	P	**P**	**19 06 09.5**	**-1.2**
YKA	**Yellowknife Ar**	**38.80**	**313**	LR	LR	19 21 24.6	
	comp=Z,73nm,18.6s,baz=0.0,slow=35						
ANTO	**Ankara**	**45.42**	**82**	P	**P**	**19 07 06.5**	**-1.4**
BRTR	**Keskin Array B**	**45.99**	**82**	LR	LR	19 27 34.9	
	comp=Z,14nm,18.2s,baz=332,slow=38						
PDAR	**Pinedale Array**	**48.42**	**287**	P	**P**	**19 07 32.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=30,slow=7.3,SNR=2.1						
PDAR				LR	LR	19 26 26.5	
	comp=Z,68nm,19.2s,baz=113,slow=34						
ILAR	**Eielson Array**	**48.64**	**328**	P	**P**	**19 07 31.6**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=45,slow=6.3,SNR=6.8						
DHY	**Denali Highway**	**50.05**	**327**	P	**P**	**19 07 43.2**	**-0.4**
DHY	comp=Z,13nm,0.8s			IAmb	IAmb	19 07 44.1	
TORD	**Torodi Ar. Bea**	**51.22**	**134**	P	**P**	**19 07 52.2**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=352,slow=8.7,SNR=2.4						
DBIC	**Dimbokro**	**54.83**	**144**	LR	LR	19 29 00.0	
	comp=Z,47nm,18.1s,baz=353,slow=33						
TXAR	**Lajitas Array**	**55.14**	**271**	P	**P**	**19 08 22.4**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=58,slow=3.4,SNR=1.9						
KURK	**Kurchatov**	**59.28**	**43**	P	**P**	**19 08 50.5**	**0.0**
KURK	comp=Z,2.7nm,0.8s			IAmb	IAmb	19 08 51.2	
MK31	**Makanchi Array**	**63.89**	**43**	P	**P**	**19 09 21.3**	**-0.4**
MKAR	**Makanchi Array**	**63.89**	**43**	P	**P**	**19 09 21.7**	**0.0**
	comp=Z,2.2nm,0.9s,baz=331,slow=5.4,SNR=14						
MKAR	**Makanchi Array**	**63.89**	**43**	P	**P**	**19 09 21.6**	**-0.1**
GAR	**Garm**	**65.24**	**56**	P	**P**	**19 09 32.3**	**+1.5**
GAR				IAmb	IAmb	19 09 39.2	
	comp=Z,8.6nm,1.1s						
TARG	**Taragay, Kyrgy**	**66.31**	**50**	P	**P**	**19 09 39.4**	**+1.5**
TARG				IAmb	IAmb	19 09 40.0	
	comp=Z,3.9nm,1.0s						
ASAR	**Alice Springs**	**145.77**	**20**	PKPbc	**PKPdf**	**19 18 26.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=345,slow=2.8,SNR=12						
ASAR	**Alice Springs**	**145.77**	**20**		**PKPdf**	**19 18 26.5**	**-1.2**

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*IDC **30** 19:07:40.9±2.0, 0°.20N×125°.91E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/34, mbtmp3.1/3, Error ellipse: s-maj=179.8km s-min=27.4km az=65.0*
*DJA **30** 19:07:45.4±0.9, 0°.5±2°.×12°.5E±°, h12km±6km, M3.7/9, mb4.0/1, MLv3.5/9*

ISC 30 19:07:45.0±1.1, 0°.33S±0°.06×125°.00E±0°.05, h10km, n9, σ0°.90/12, mb2.9/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.35**	**311**	P	**Pn**	**19 08 09.0**	**-0.9**
KMSI				S	**Sb**	**19 08 28.6**	**+0.8**
SANI	**Sanana**	**1.98**	**150**	P	**Pn**	**19 08 17.8**	**-0.8**
SANI				S	**Sn**	**19 08 44.7**	**+1.3**
LUWI	**Luwuk**	**2.33**	**252**	P	**Pn**	**19 08 22.9**	**-0.6**
LUWI				S	**Sn**	**19 08 53.2**	**+1.0**
TNTI	**Ternate**	**2.61**	**65**	P	**Pn**	**19 08 27.3**	**+0.1**
TNTI				S	**Sn**	**19 08 59.5**	**+0.5**
NLAI	**Namlea**	**3.58**	**144**	P	**Pn**	**19 08 40.8**	**+0.3**
MPSI	**Mapaga**	**5.14**	**277**	P	**Pn**	**19 09 02.5**	**+0.4**
WRA	**Warramunga Arr**	**21.54**	**155**	P	**P**	**19 12 33.6**	**-0.9**
	0.4nm,1.0s,baz=336,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**24.76**	**160**	P	**P**	**19 13 06.1**	**-1.0**
	0.2nm,0.7s,baz=355,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**59.95**	**327**	P	P	19 17 49.4	-2.2
	0.2nm,0.3s,baz=116,slow=7.2,SNR=5.5						

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*IDC **30** 19:10:37.2±2.7, 18°.41S×177°.03W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.7/28, mbtmp3.8/3, Error ellipse: s-maj=282.3km s-min=33.1km az=159.0*
*NEIC **30** 19:11:35.6±0.7, 19°.6S±0°.3×177°.6W±0°.2, h581km±12km, mb4.0/7, Error ellipse: s-maj=44.4km s-min=25.1km az=169.0*

ISC 30 19:11:37.9±1.5, 19°.2S±0°.3×177°.9W±0°.2, h600km, n12, σ1°.31/14, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.14**	**290**	P	**P**	**19 13 05.1**	**+0.5**
MSVF				S	**S**	**19 14 12.3**	**-2.8**
WR0	**Warramunga Arr**	**44.73**	**261**	P	**P**	**19 18 60.0**	**+0.4**
WR0				IAmb	IAmb	19 19 06.8	
	comp=Z,13nm,1.6s						
WB0	**Warramunga Arr**	**44.90**	**261**	P	**P**	**19 19 01.2**	**+0.4**
WB0				IAmb	IAmb	19 19 27.3	
	comp=Z,3.0nm,1.1s						
WB2	**Warramunga Arr**	**44.91**	**261**	P	**P**	**19 19 01.3**	**+0.4**
WB2				IAmb	IAmb	19 19 20.7	
	comp=Z,9.4nm,1.4s						
WRAB	**Tennant Creek**	**44.91**	**261**	P	**P**	**19 19 01.3**	**+0.4**
WRAB				PcP	**PcP**	**19 20 28.6**	**-0.7**
WRA	**Warramunga Arr**	**44.92**	**261**	P	**P**	**19 19 01.2**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=97,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**44.96**	**255**	P	**P**	**19 19 02.1**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=87,slow=7.9,SNR=19						
KNRA	**Kununurra**	**50.88**	**265**	P	**P**	**19 19 46.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**53.34**	**261**	P	**P**	**19 20 03.8**	**+1.0**
FITZ				IAmb	IAmb	19 20 31.0	
	comp=Z,10nm,1.6s						
PETK	**Petropavlovsk-**	**75.05**	**345**	P	**P**	**19 22 20.8**	**+1.8**
TXAR	**Lajitas Array**	**86.25**	**57**	P	**P**	**19 23 15.8**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=222,slow=6.7,SNR=4.4						
TXAR	**Lajitas Array**	**86.25**	**57**	P	**P**	**19 23 16.8**	**-0.7**

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*BJI **30** 19:23:49.6±0.0, 4°.10S×153°.23E, h14km, mB5.1/48, mb4.7/57, Ms4.8/44, Ms7 4.6/44*
*IDC **30** 19:23:49.6±0.4, 4°.25S×152°.99E, h0km, mb4.7/23, mb1 4.8/25, mb1mx4.7/34, mbtmp4.7/25, ML4.6/2, MS4.5/28, Ms1 4.5/28, ms1mx4.4/35, Error ellipse: s-maj=13.3km s-min=11.4km az=92.0*
*NEIC **30** 19:23:49.2±1.7, 4°.12S±0°.07×153°.08E±0°.05, h5km±3km, mb5.2/87, Error ellipse: s-maj=10.2km s-min=6.4km az=187.0*
*MOS **30** 19:23:53.7±1.1, 4°.16S×152°.84E, h33km, mb4.9/13, Error ellipse: s-maj=10.4km s-min=7.3km az=88.8*
*DJA **30** 19:23:54.9±0.4, 4°.5±3°.×15°.3E±°, h40km±4km, M5.4/60, mb5.2/60, mB5.6/14, MLv6.0/2, Mw(mB)5.1/14, Mwp4.8/2*
*GCMT **30** 19:23:56.2±0.1, 4°.30S±0°.01×153°.12E±0°.01, h18km, MW5.2/132, Moment Tensor Solution. s88, c127; s132, c228; Duration: 1°.0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.23±.01; $M_{\theta\theta}$0.49±.01; $M_{\phi\phi}$-0.72±.01; $M_{r\theta}$-0.18±.03; $M_{r\phi}$0.39±.01; $M_{\theta\phi}$0.10±.03; Best double couple: $M_0$0.75300×10^{17} NP1:ϕ_s208.00000°, δ71.00000°, λ172.00000°. NP2:ϕ_s301.00000°, δ82.00000°, λ19.00000°. Principal axes: T 0.6520, Plg19.0000°, Azm166.0000°; N 0.2020, Plg69.0000°, Azm321.0000°; P -0.8540, Plg8.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 19:23:54.4±0.3, 4°.16S±0°.04×153°.13E±0°.04, h35km, n369, σ2°.33/367, mb5.0/104, MS4.6/44, 11C-2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.96**	**268**		**Pn**	**19 24 09.4**	**-2.0**
RABL				Sn	**Sn**	**19 24 22.5**	**-1.4**
KRVT	**Keravat (AS076**	**1.11**	**262**	Pn	**Pn**	**19 24 11.3**	**-2.1**
	2μm,0.3s,baz=103,slow=0.5,SNR=1124						
KRVT				Sn	**Sn**	**19 24 26.0**	**-1.5**
	5μm,0.3s,baz=137,slow=23,SNR=8.4						
KRVT				LR	LR	19 24 36.9	
	comp=Z,29μm,18.3s,baz=161,slow=49						
PMG	**Port Moresby**	**7.89**	**228**	Pn	**Pn**	**19 25 47.7**	**+1.0**
	8.1nm,0.3s,baz=24,slow=9.0,SNR=30						
PMG				Sn	**Sn**	**19 27 15.8**	**+0.9**
	20nm,0.3s,baz=119,slow=14,SNR=6.6						
PMG				LR	LR	19 28 33.2	
	comp=Z,2μm,21.6s,baz=40,slow=37						

PMG	Port Moresby	7.89	228	*ce*P		Pn	19 25 47.6 +0.9
PMG				pmax		pmax	
comp=Z,189nm,0.8s							
PMG	Port Moresby	7.89	228	Pn		Pn	19 25 47.8 +1.0
PMG				Sn		Sn	19 27 13.6 -1.3
HNR	Honiara	8.56	128	Pn		Pn	19 25 56.0 0.0
comp=Z,24nm,0.3s,baz=258,slow=4.5,SNR=10							
HNR				Sn		Sn	19 27 34.4 +3.0
comp=Z,26nm,0.3s,baz=276,slow=22,SNR=5.7							
HNR				LR		LR	19 29 19.7
comp=Z,6µm,19.8s,baz=292,slow=38							
HNR	Honiara	8.56	128	P		Pn	19 25 56.0 0.0
HNR	Honiara	8.56	128	Pn		Pn	19 25 57.3 +1.3
HNR				Sn		Sn	19 27 32.9 +1.5
PATS	Pohnpei	12.09	25	P		Pn	19 26 41.9 -2.3
baz=12,SNR=18							
PATS				S		Sn	19 28 49.9 -7.9
baz=12							
PATS	Pohnpei	12.09	25	Pn		Pn	19 26 42.7 -1.5
GENI	Genyem	13.03	276	P		Pn	19 26 59.5 +2.4
comp=Z,3µmcomp=Z,128nm,0.8s							
COEN	Coen	13.83	225	P		Pn	19 27 09.9 +1.9
baz=14,SNR=19							
COEN	Coen	13.83	225	Pn		Pn	19 27 08.8 +0.7
MTSU	Mount Surprise	16.35	211	P		P	19 27 43.6 -0.4
baz=17,SNR=38							
SRPI	Serui, Papua	17.01	277	P		Pn	19 27 50.4 +0.6
comp=Z,1µmcomp=Z,125nm,1.0s							
CTA	Charters Tower	17.19	202	P		Pn	19 27 51.7 -0.3
comp=Z,0.5nm,0.3s,baz=29,slow=13,SNR=19							
CTA				LR		LR	19 34 29.9
comp=Z,969nm,19.5s,baz=22,slow=38							
CTAO	Charters Tower	17.19	202	P		Pn	19 27 52.0 0.0
CTAO				pmax		pmax	
comp=Z,64nm,1.1s							
CTAO	Charters Tower	17.19	202			Pn	19 27 52.0 0.0
BAKI	Biak	17.25	279	P		Pn	19 27 53.3 +0.5
comp=Z,156nm,1.0s							
SANVU	Saraoutou	17.82	130	P		P	19 27 59.8 -0.4
KWAJ	Kwajalein Atol	19.35	48	P		P	19 28 13.0 -4.1
KWAJ				pmax		pmax	
comp=Z,190nm,0.9s							
KWAJ	Kwajalein Atol	19.35	48			P	19 28 13.0 -4.1
KWAJ				IAmb		IAmb	19 28 53.8
comp=Z,190nm,0.8s							
GUMO	Guam	19.44	335	P		Pn	19 28 20.9 +1.5
comp=Z,2.7nm,0.3s,baz=180,slow=20,SNR=1.2							
GUMO				LR		LR	19 36 47.5
comp=Z,400nm,18.1s,baz=151,slow=40							
GUMO	Guam	19.44	335	P		P	19 28 15.3 -2.8
GUMO				pmax		pmax	
comp=Z,277nm,1.1s							
GUMO	Guam	19.44	335			P	19 28 15.3 -2.8
QIS	Mount Isa	20.95	218	P		P	19 28 34.1 -0.3
baz=21,SNR=58							
DZM	Mont Dzumac	22.00	145	*e*P		P	19 28 47.3 +1.5
DZM				*e*S		S	19 32 42.9 -3.9
comp=Z,2µm,27.4s							
DZM				*e*LR		LR	19 34 08.9
comp=Z,4µm,26.5s							
DZM	Mont Dzumac	22.00	145	P		P	19 28 45.5 -0.3
comp=Z,14nm,0.6s,baz=308,slow=8.2,SNR=9.3							
DZM				LR		LR	19 36 24.3
comp=Z,2µm,21.6s,baz=321,slow=34							
DZM	Mont Dzumac	22.00	145	P		P	19 28 44.7 -1.0
DZM				IAmb		IAmb	19 29 06.6
comp=Z,72nm,1.1s							
SIJI	Sorong	22.08	278	P		P	19 28 48.6 +2.0
comp=Z,18nm,0.5s,baz=121,slow=12,SNR=3.6							
KDU	Kakadu	22.10	246	P		P	19 28 45.4 -1.4
baz=22,SNR=46							
RMQ	Roma	22.59	190	P		P	19 28 51.8 -0.2
baz=23,SNR=76							
MTN	Manton Dam	23.38	247	P		P	19 28 58.1 -2.1
MTN				IAmb		IAmb	19 29 09.6
comp=Z,72nm,0.8s							
QLP	Quilpie	23.87	200	P		P	19 29 04.3 -0.5
baz=24,SNR=35							
WB0	Warramunga Arr	23.96	228	P		P	19 29 04.3 -1.4
WR0	Warramunga Arr	23.97	228	P		P	19 29 04.8 -1.0
WRAB	Tennant Creek	24.10	228	*ce*P		P	19 29 06.2 -0.8
WRAB				pmax		pmax	
comp=Z,355nm,1.7s							
WRAB	Tennant Creek	24.10	228	P		P	19 29 06.1 -0.9
WB2	Warramunga Arr	24.10	228	P		P	19 29 06.2 -0.8
WRA	Warramunga Arr	24.11	228	P		P	19 29 06.0 -1.1
comp=Z,99nm,0.6s,baz=52,slow=9.6,SNR=475							
WRA				PcP		PcP	19 32 48.2 +0.3
comp=Z,4.7nm,0.6s,baz=49,slow=2.1,SNR=3.3							
WRA				S		S	19 33 21.4 -1.4
comp=Z,23nm,1.0s,baz=46,slow=16,SNR=17							
WRA				ScP		ScP	19 36 26.5 +2.5
comp=Z,5.1nm,1.0s,baz=40,slow=2.6,SNR=5.7							
WRA				LR		LR	19 38 24.4
comp=Z,764nm,20.7s,baz=60,slow=36							
WRA				PKiKP		PKiKP	19 40 34.2 +3.2
comp=Z,0.7nm,0.9s,baz=318,slow=0.9,SNR=4.6							
WRA	Warramunga Arr	24.11	228	*ce*P		P	19 29 06.0 -1.1
WRA				pmax		pmax	
comp=Z,99nm,0.6s							
WRA	Warramunga Arr	24.11	228	P		P	19 29 05.3 -1.8
WRA	Warramunga Arr	24.11	228			ScP	19 36 26.7 +2.7
NLAI	Namlea	25.99	271	P		P	19 29 25.8 +1.6
comp=Z,1µmcomp=Z,29nm,0.7s							
ARMA	Armidale	26.16	183	P		P	19 29 26.6 +1.0
baz=27,SNR=18							
ARMA	Armidale	26.16	183	P		P	19 29 26.2 +0.5
H11S3	WAKE ISLAND Hy	26.18	30	T		T	19 56 53.4
baz=210,slow=76,SNR=218							
H11S2	WAKE ISLAND Hy	26.18	30	T		T	19 56 55.2
baz=210,slow=76,SNR=213							
H11S1	WAKE ISLAND Hy	26.20	30	T		T	19 56 48.9
baz=210,slow=76,SNR=692							
TNTI	Ternate	26.20	280	P		P	19 29 24.5 -1.6
TNTI				IAmb		IAmb	19 29 40.5
comp=Z,35nm,0.9s							
KNRA	Kununurra	26.55	243	P		P	19 29 28.8 -0.4
baz=27,SNR=66							
KNRA	Kununurra	26.55	243	P		P	19 29 28.5 -0.8
AS31	Alice Springs	26.84	222	P		P	19 29 30.9 -0.9
ASAR	Alice Springs	26.84	222	P		P	19 29 30.7 -1.2
comp=Z,23nm,0.6s,baz=55,slow=9.1,SNR=341							
ASAR				PcP		PcP	19 32 54.0 -0.1
comp=Z,2.6nm,0.7s,baz=49,slow=3.1,SNR=2.1							
ASAR				S		S	19 34 03.4 -2.8
comp=Z,3.9nm,0.9s,baz=47,slow=17,SNR=4.3							
ASAR				ScP		ScP	19 36 34.2 +2.4
comp=Z,5.0nm,1.0s,baz=70,slow=2.7,SNR=6.6							
ASAR				LR		LR	19 39 32.4
comp=Z,1µm,20.8s,baz=47,slow=35							
ASAR				PKiKP		PKiKP	19 40 35.8 +3.4
comp=Z,0.4nm,0.9s,baz=35,slow=3.4,SNR=2.3							
SANI	Sanana	27.18	274	P		P	19 29 37.1 +2.2
comp=Z,47nm,0.9s							
H11N1	WAKE ISLAND Hy	27.31	29	T		T	19 58 20.0
baz=202							
H11N3	WAKE ISLAND Hy	27.32	29	T		T	19 58 23.9
baz=202							
H11N2	WAKE ISLAND Hy	27.33	29	T		T	19 58 24.1
baz=202							
CMSA	Cobar Meteorol	28.12	194	P		P	19 29 42.5 -0.6
baz=29,SNR=30							
MGCD	Mangrove Creek	28.96	183	P		P	19 29 51.8 +1.2
baz=29,SNR=7.8							
SOEI	Soe	29.17	257	P		P	19 29 52.2 -0.6
SOEI				IAmb		IAmb	19 30 41.9
comp=Z,29nm,0.9s							
KMSI	Cibinong	29.50	279	P		P	19 29 56.9 +1.3
STKA	Stephens Creek	29.62	200	P		P	19 29 55.4 -1.2
comp=Z,48nm,0.9s,baz=13,slow=8.8,SNR=27							
STKA				LR		LR	19 42 40.9
comp=Z,713nm,18.7s,baz=13,slow=38							
STKA	Stephens Creek	29.62	200	P		P	19 29 55.4 -1.2
baz=30,SNR=28							
STKA	Stephens Creek	29.62	200	P		P	19 29 55.6 -0.9
STKA				pmax		pmax	
comp=Z,12nm,1.0s							
STKA	Stephens Creek	29.62	200	P		P	19 29 55.6 -0.9
DAV	Davao City (W)	29.67	292	LR		LR	19 41 17.9
comp=Z,588nm,18.1s,baz=114,slow=35							
DAV	Davao City (W)	29.67	292	P		P	19 29 55.3 -1.9
BATI	Baumata	29.83	257	P		P	19 29 56.4 -2.2
comp=Z,26nm,0.9s,baz=207,slow=2.3,SNR=1.8							
BATI				LR		LR	19 43 57.9
comp=Z,1µm,21.8s,baz=100,slow=41							
BATI	Baumata	29.83	257	P		P	19 30 00.0 +1.4
comp=Z,26nm,0.9s							
FITZ	Fitzroy Crossi	30.25	241	P		P	19 30 00.8 -1.5
comp=Z,45nm,0.9s,baz=360,slow=4.8,SNR=108							
FITZ	Fitzroy Crossi	30.25	241	P		P	19 30 00.7 -1.5
baz=30,SNR=116							
FITZ	Fitzroy Crossi	30.25	241	P		P	19 30 00.8 -1.5
FITZ				IAmb		IAmb	19 30 01.7
comp=Z,38nm,0.8s							
YNG	Young	30.31	188	P		P	19 30 03.5 +0.9
baz=31							
GTOI	Gorontalo	30.47	278	P		P	19 30 07.1 +2.9
comp=Z,28nm,0.7s							
LUWI	Luwuk	30.48	275	P		P	19 30 14.1 +10
LUWI	Luwuk	30.48	275	P		P	19 30 03.1 -1.2
CNB	Canberra Magne	31.20	186	P		P	19 30 11.2 +0.7
baz=32,SNR=5.2							
CAN	Canberra	31.24	187	P		P	19 30 11.4 +0.5
CAN				pmax		pmax	
comp=Z,105nm,1.4s							
CAN	Canberra	31.24	187	P		P	19 30 11.4 +0.5
EDFI	Ende, Flores	31.56	260	P		P	19 30 11.7 -2.3
comp=Z,16nm,0.8s							
WRKA	Warakurna	31.63	227	P		P	19 30 12.7 -1.7
baz=32,SNR=127							
HTT	Hallett	32.00	203	P		P	19 30 16.8 -0.8
baz=32,SNR=26							
BBOO	Buckleboo	32.67	207	P		P	19 30 22.3 -1.0
baz=33,SNR=6.3							
BBOO	Buckleboo	32.67	207	P		P	19 30 22.4 -1.0
BBOO				IAmb		IAmb	19 30 23.1
comp=Z,36nm,1.1s							
SPSI	Sidrap Palu	33.27	269	P		P	19 30 29.2 +0.3
comp=Z,36nm,1.1s							
MPSI	Mapaga	33.50	277	P		P	19 30 30.9 0.0
comp=Z,17nm,0.9s							
TOO	Toolangi	33.98	191	P		P	19 30 35.3 +0.5
baz=34,SNR=5.4							
TOO	Toolangi	33.98	191	P		P	19 30 33.6 -1.2
TOO				pmax		pmax	
comp=Z,64nm,1.2s							
TOO	Toolangi	33.98	191	P		P	19 30 33.6 -1.2
TOO				IAmb		IAmb	19 30 36.2
comp=Z,64nm,1.2s							
ARPS	Mount Arapiles	34.07	196	P		P	19 30 35.7 +0.2
baz=34,SNR=27							
FORT	Forrest	35.49	219	P		P	19 30 46.9 -0.9
baz=36,SNR=101							
FORT	Forrest	35.49	219	P		P	19 30 46.8 -1.1
MYLDM	Lahad Datu	35.81	285	P		P	19 30 51.7 +0.9
MYLDM				IAmb		IAmb	19 31 24.4
comp=Z,37nm,1.0s							
TWSI	Taliwang, Sumb	36.28	261	P		P	19 30 52.9 -2.0
comp=Z,16nm,1.0s							
PSA00	Pilbara Seismi	36.63	239	P		P	19 30 56.7 -1.1
PSA00				IAmb		IAmb	19 30 57.2
comp=Z,44nm,0.8s							
PSA00	Pilbara Seismi	36.63	239	P		P	19 30 55.7 -2.1
PSA00				IAmb		IAmb	19 30 56.4
comp=Z,19nm,0.8s							
TGY	Tagaytay City	36.72	300	LR		LR	19 45 05.5
comp=Z,681nm,20.2s,baz=122,slow=35							
KKM	Kota Kinabalu	38.22	285	P		P	19 31 12.5 +1.0
KKM				IAmb		IAmb	19 31 45.1
comp=Z,48nm,1.5s							
MTKI	Muara Teweh, K	38.32	274	P		P	19 31 21.5 +9.3
MOO	Moorlands	38.49	187	P		P	19 31 14.8 +1.7
baz=39,SNR=5.1							
TAU	Tasmania Unive	38.93	187	P		P	19 31 18.1 +1.2
TAU				pmax		pmax	
comp=Z,212nm,1.3s							
TAU	Tasmania Unive	38.93	187	P		P	19 31 18.1 +1.2
JAGI	Jajag, Banyuwa	38.96	262	P		P	19 31 15.9 -1.7
comp=Z,36nm,1.5s							
JAGI	Jajag, Banyuwa	38.96	262	P		P	19 31 15.8 -1.8
JHJ2	Mitsune	39.15	342	P		P	19 31 18.8 0.0
JHJ	Hachijo jima 2	39.17	342	LR		LR	19 44 53.7
comp=Z,438nm,21.4s,baz=150,slow=32							
MEEK	Meekatharra	39.85	232	P		P	19 31 23.7 -1.1
baz=40,SNR=34							
KMBL	Kambalda	39.94	224	P		P	19 31 24.1 -1.4
baz=40,SNR=23							
URZ	Urewera	40.38	150	P		P	19 31 31.0 +2.0
comp=Z,8.3nm,0.8s,baz=26,slow=19,SNR=2.1							
URZ	Urewera	40.38	150	P		P	19 31 31.2 +2.2
URZ				IAmb		IAmb	19 32 09.9
comp=Z,76nm,1.3s							
QRZ	Quartz Range	40.47	157	P		P	19 31 28.1 -1.6
QRZ				IAmb		IAmb	19 32 10.3
comp=Z,126nm,1.4s							
BKZ	Black Stump Fm	40.79	152	P		P	19 31 31.4 -1.2
BKZ				IAmb		IAmb	19 31 41.2
comp=Z,69nm,1.4s							
NNZ	Nelson	41.13	157	P		P	19 31 35.1 -0.1
NNZ				IAmb		IAmb	19 31 54.6
comp=Z,54nm,1.1s							
PWJI	Pagerwojo	41.25	263	P		P	19 31 35.5 -1.1
comp=Z,47nm,1.0s							
YULB	Yu-li	41.40	313	P		P	19 31 35.7 -1.9
YULB				IAmb		IAmb	19 31 54.5
comp=Z,25nm,0.8s							
PBKI	Pangkalan Bun	41.40	271	P		P	19 31 48.6 +11
THZ	Tophouse	41.41	157	P		P	19 31 37.7 +0.2
THZ				IAmb		IAmb	19 31 45.0
comp=Z,76nm,1.0s							
JSU	Suzuyama	41.53	330	P		P	19 31 37.2 -1.4
JSU				IAmb		IAmb	19 32 03.0
comp=Z,39nm,1.1s							
TUWZ	Tuamarina	41.54	156	P		P	19 31 38.1 -0.4
SNZO	South Karori	41.75	155	P		P	19 31 38.7 -1.5
STKI	Sintang	41.82	275	P		P	19 31 51.7 +10
TPUB	Ta-pu	41.83	312	P		P	19 31 41.4 +0.2
TPUB				IAmb		IAmb	19 32 05.4
comp=Z,36nm,1.0s							
JMN	Monobe	41.84	336	P		P	19 31 43.1 +1.9
JMN				IAmb		IAmb	19 31 47.8
comp=Z,85nm,1.7s							
GIRL	Giralia	41.86	240	P		P	19 31 41.1 -0.4
baz=42,SNR=8.8							
GIRL	Giralia	41.86	240	P		P	19 31 41.1 -0.4
SSLB	Suanglung	41.88	313	P		P	19 31 41.5 -0.1
SSLB				IAmb		IAmb	19 33 04.0
comp=Z,118nm,2.0s							
BFZ	Birch Farm	41.90	153	P		P	19 31 40.6 -0.9
FOZ	Fox Glacier	41.90	162	P		P	19 31 40.7 -0.7
FOZ				IAmb		IAmb	19 32 04.0
comp=Z,68nm,1.4s							
LTZ	Lake Taylor	42.06	159	P		P	19 31 42.8 -0.1
LTZ				IAmb		IAmb	19 31 52.3
comp=Z,40nm,0.8s							
MSWZ	Moikau Station	42.06	155	P		P	19 31 41.7 -1.2
KHZ	Kahutara	42.22	157	P		P	19 31 41.9 -2.1
KHZ				IAmb		IAmb	19 31 54.2
comp=Z,42nm,1.0s							
OXZ	Oxford	42.46	159	P		P	19 31 44.3 -1.7
OXZ				IAmb		IAmb	19 31 53.1
comp=Z,47nm,1.1s							
RPZ	Rata Peaks	42.47	161	P		P	19 31 46.1 0.0
RPZ				IAmb		IAmb	19 31 53.1
comp=Z,67nm,0.8s							
JNU	Nakatsue	42.65	332	P		P	19 31 48.8 +1.1
comp=Z,7.2nm,0.6s,baz=107,slow=3.2,SNR=8.1							
JNU				LR		LR	19 45 54.4
comp=Z,185nm,19.9s,baz=132,slow=31							
JNU	Nakatsue	42.65	332	IAmb		IAmb	19 31 59.8
comp=Z,29nm,0.8s							
MJAR	Matsushiro Arr	42.82	342	P		P	19 31 49.3 +0.2
comp=Z,1.3nm,0.6s,baz=169,slow=7.4,SNR=2.7							
MJAR				PcP		PcP	19 33 41.2 +1.3
comp=Z,4.4nm,0.7s,baz=156,slow=3.9,SNR=4.1							
MAT	Matsushiro	42.82	342	P		P	19 31 48.3 -0.8
MAT				*e*S		S	19 38 07.4 -3.7
MORW	Morawa	43.00	231	P		P	19 31 49.4 -1.2
baz=43,SNR=19							
MORW	Morawa	43.00	231	P		P	19 31 49.2 -1.5
MORW				IAmb		IAmb	19 31 50.4
comp=Z,43nm,0.9s							
MLZ	Mavora Lakes	43.09	165	P		P	19 31 50.5 -0.7
MLZ				IAmb		IAmb	19 31 59.3
comp=Z,40nm,0.8s							
KSM	Kuching	43.15	277	P		P	19 31 50.6 -1.5
KSM	Kuching	43.15	277	P		P	19 31 53.0 +0.9
BLDU	Ballidu	43.24	228	P		P	19 31 51.1 -1.5
baz=44,SNR=27							
NWAO	Narrogin (SRO)	44.07	225	P		P	19 31 57.4 -1.8
comp=Z,7.4nm,0.6s,baz=242,slow=14,SNR=3.2							
NWAO	Narrogin (SRO)	44.07	225	IAmb		IAmb	19 32 01.2
comp=Z,74nm,1.6s							
KPJI	Karang Pucung	44.07	264	P		P	19 32 09.5 +10
RKGY	Rocky Gully	45.17	223	P		P	19 32 07.5 -0.5
baz=46,SNR=10.0							
CISI	Cisompet, Garu	45.18	264	P		P	19 32 07.6 -0.8
comp=Z,1µmcomp=Z,144nm,0.8s							
CISI	Cisompet, Garu	45.18	264	P		P	19 32 06.3 -2.2
LEM	Lembang	45.36	265	P		P	19 32 09.1 -0.9
comp=Z,12nm,0.5s,baz=314,slow=21,SNR=2.6							
TPI	Tanjungpandan	45.41	270	P		P	19 32 09.8 -0.3
comp=Z,34nm,1.0s							
CNJI	Cibinong	45.86	264	P		P	19 32 12.8 -0.9
comp=Z,153nm,1.1s							
CGJI	Cibinong	47.27	265	P		P	19 32 24.1 -0.7
comp=Z,36nm,0.8s							
KSRS	Korea Array	47.58	333	P		P	19 32 27.6 +0.8
comp=Z,2.4nm,0.7s,baz=150,slow=7.8,SNR=7.9							
KSAR	Wonju Array Be	47.59	333	P		P	19 32 27.0 +0.2
KSAR	Wonju Array Be	47.59	333	P		P	19 32 27.0 +0.2
QIZ	Qiongzhong	48.43	300	P		P	19 32 31.5 -2.2
QIZ				S		S	19 39 34.5 +2.1
QIZ				pmax		pmax	
comp=Z,100nm,5.7s							
QIZ				LR		LR	
comp=Z,380nm,20.1s							
QIZ				LR		LR	
comp=Z,370nm,22.1s							
QIZ				LR		LR	
comp=Z,520nm,23.0s							
NJ2	Nanjing	48.56	320	*e*P		P	19 32 33.8 -0.6
NJ2				pmax		pmax	
comp=Z,4.0nm,0.7s							
NJ2				pmax		pmax	
comp=Z,140nm,3.6s							
NJ2				LR		LR	
comp=Z,540nm,17.0s							
NJ2				LR		LR	
comp=Z,360nm,19.4s							
NJ2				LR		LR	
comp=Z,610nm,19.1s							
MDSI	Maura Dua	48.80	268	P		P	19 32 34.8 -1.8
MYKOM	Kota Tinggi	49.59	276	P		P	19 32 42.9 +0.2
MYKOM	Kota Tinggi	49.59	276	P		P	19 32 44.0 +1.3
WHN	Wuhan	50.62	316	P		P	19 32 52.3 +2.1
WHN				SS		SS	19 43 36.5 -1.0
WHN				LR		LR	
comp=Z,630nm,11.9s							
WHN				LR		LR	
comp=Z,720nm,13.5s							
WHN				LR		LR	
comp=Z,1µm,18.7s							
SDSI	Sungai Dareh	51.73	272	P		P	19 32 58.5 -0.4
comp=Z,20nm,0.8s							
USRK	Ussuriysk Ar.	51.75	341	P		P	19 32 59.5 +1.0
comp=Z,1.5nm,0.6s,baz=152,slow=6.4,SNR=4.4							
USRK	Ussuriysk Ar.	51.75	341	P		P	19 32 57.7 -0.8
IPM	Ipoh	52.75	279	P		P	19 33 05.5 -1.0
IPM	Ipoh	52.75	279	P		P	19 33 07.0 +0.5
KULM	Kulim	53.25	280	P		P	19 33 09.7 -0.4
KULM	Kulim	53.25	280	P		P	19 33 11.0 +0.9
MNSI	Mandailing Nat	53.73	274	P		P	19 33 13.3 -0.3
comp=Z,13nm,0.8s							
CN2	Changchun	53.85	335	*e*P		P	19 33 21.0 +7.0
CN2				*e*S		S	19 40 47.3 +0.7
CN2				pmax		pmax	
comp=Z,10.0nm,1.3s							
CN2				pmax		pmax	
comp=Z,100nm,7.0s							
CN2				LR		LR	
comp=N,200nm,15.0s							
CN2				LR		LR	
comp=E,200nm,15.0s							
CN2				LR		LR	
comp=Z,200nm,16.0s							
ENH	Enshi	53.96	312	P		P	19 33 15.0 0.0
ENH				IAmb		IAmb	19 33 35.4
comp=Z,20nm,1.1s							
GYA	Guiyang	54.27	307	*e*P		P	19 33 19.5 +2.0
GYA				PP		PP	19 35 19.3 -0.4
GYA				S		S	19 40 57.5 +4.4
GYA				pmax		pmax	
comp=Z,4.0nm,0.8s							
GYA				LR		LR	
comp=Z,400nm,21.4s							
GYA				LR		LR	
comp=Z,450nm,24.3s							
GYA				LR		LR	
comp=Z,630nm,21.1s							
SLVN	Son La	54.46	300	P		P	19 33 18.3 -0.6
SKR	Severo-Kuril's	54.69	2	*e*P		P	19 33 27.4 +7.5
SKR				*e*S		S	19 41 11.2 +14
SKR				pmax		pmax	
comp=Z,123nm,1.2s							
SKR				MLR		MLR	
comp=Z,500nm,20.0s							
BJI	Beijing	55.54	326	P		P	19 33 26.5 +0.2
BJI				S		S	19 41 12.5 +3.1
BJI				pmax		pmax	
comp=Z,3.0nm,0.5s							
BJI				pmax		pmax	
comp=Z,94nm,3.7s							
BJI				LR		LR	
comp=Z,210nm,22.2s							
BJI				LR		LR	
comp=Z,290nm,22.7s							
BJI				LR		LR	
comp=Z,640nm,27.1s							
GSI	Gunungsitoli	55.77	274	P		P	19 33 28.7 +0.2
comp=Z,15nm,0.6s							
GSI	Gunungsitoli	55.77	274	P		P	19 33 27.2 -1.2
GSI				IAmb		IAmb	19 33 38.6
comp=Z,14nm,0.8s							
XAN	Xi'an	56.38	316	P		P	19 33 33.3 +0.8
XAN				pP		pP	19 33 41.5 -1.3
XAN				pmax		pmax	
comp=Z,14nm,0.8s							
XAN	Xi'an	56.38	316	IAmb		IAmb	19 33 39.9
comp=Z,25nm,1.3s							
LHMI	Lhok Sumawe	56.88	279	P		P	19 33 37.2 +0.9
comp=Z,37nm,0.9s							
KMI	Kunming	56.90	304	⇓P		P	19 33 41.5 +4.9
KMI				S		S	19 41 28.8 +0.3
KMI				SS		SS	19 45 13.3 -4.1
KMI				pmax		pmax	
comp=Z,17nm,0.5s							
KMI				pmax		pmax	
comp=Z,72nm,4.4s							
KMI				LR		LR	
comp=Z,170nm,21.2s							
KMI				LR		LR	
comp=Z,450nm,17.9s							
KMI				LR		LR	
comp=Z,430nm,18.7s							
PET	Petropavlovsk	57.16	4	*e*P		P	19 33 43.8 +6.3
PET				*e*S		S	19 41 38.9 +8.5
PETK	Petropavlovsk-	57.18	3	P		P	19 33 39.5 +1.8
comp=Z,4.5nm,0.7s,baz=159,slow=6.8,SNR=14							
PETK				LR		LR	19 54 17.0
comp=Z,232nm,22.0s,baz=221,slow=32							
PETK	Petropavlovsk-	57.18	3	P		P	19 33 37.7 -0.1
MLSI	Meulaboh, Aceh	57.28	278	P		P

comp=Z,480nm,19.4s
CD2 LR LR
comp=Z,650nm,22.4s
CD2 LR LR
comp=Z,740nm,19.2s
HHC Hu-ho-hao-te 58.72 324 *e*P **P** **19 33 49.0 +0.1**
HHC S **S** **19 41 51.5 -0.1**
HHC sS pS 19 42 01.0 -2.6
HHC ScS **ScS** **19 43 32.8 -3.6**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,110nm,7.1s
HHC LR LR
comp=Z,280nm,15.3s
HHC LR LR
comp=Z,290nm,14.5s
HHC LR LR
comp=Z,500nm,15.3s
PMOR Pomariorio Ree 58.99 105 *e*T T 20 37 45.7
comp=Z,4.1nm,0.2s
LZH Lanzhou 61.00 315 *e*P **P** **19 34 07.0 +2.2**
LZH pP pP 19 34 11.5 -3.7
LZH sP sP 19 34 14.0 -5.2
LZH S **S** **19 42 27.0 +5.8**
LZH SS **SS** **19 46 25.0 +3.7**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=Z,280nm,14.0s
LZH LR LR
comp=Z,480nm,14.1s
LZH LR LR
comp=Z,410nm,14.6s
ZEA Zeya 61.63 343 *e*P **P** **19 34 08.9 +0.5**
ZEA pmax pmax
comp=Z,18nm,1.4s
GTA Gaotai 65.41 317 ⇑P **P** **19 34 35.3 +1.4**
GTA pP pP 19 34 40.0 -4.4
GTA sP sP 19 34 42.0 -6.4
GTA S **S** **19 43 22.5 +6.4**
GTA sS pS 19 43 30.0 +1.0
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,79nm,7.3s
GTA LR LR
comp=Z,180nm,19.6s
GTA LR LR
comp=Z,370nm,20.4s
GTA LR LR
comp=Z,410nm,20.4s
ULN Ulaanbaatar 65.63 328 *ce*P **P** **19 34 36.7 +1.5**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 65.63 328 P **P** **19 34 36.0 +0.8**
SONM Songino Array 65.96 328 P **P** **19 34 38.4 +1.1**
comp=Z,2.6nm,0.7s,baz=146,slow=6.6,SNR=20
SONM PKP2ab 20 03 19.5
comp=Z,0.2nm,0.4s,baz=338,slow=3.4,SNR=2.2
SONM Songino Array 65.96 328 P **P** **19 34 36.9 -0.4**
SHL Shillong 66.27 300 P **P** **19 34 39.9 +0.2**
SHL pmax pmax
comp=Z,11nm,0.8s
SHL Shillong 66.27 300 P **P** **19 34 39.9 +0.2**
SHL IAmb IAmb 19 34 49.9
comp=Z,11nm,0.8s
TAOE Nuku Hiva Isla 66.39 98 *e*LR LR 19 54 34.6
comp=Z,780nm,29.5s
SEY Seymchan 66.91 360 LR LR 20 00 22.5
comp=Z,30nm,21.6s,baz=170,slow=33
YAK Yakutsk 68.41 348 *e*P **P** **19 34 50.3 -2.0**
YAK pmax pmax
comp=Z,9.0nm,1.2s
YAK pmax pmax
comp=N,3.0nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.5s
CASY Casey 68.72 197 P **P** **19 34 53.7 -0.5**
CASY IAmb IAmb 19 34 54.5
comp=Z,23nm,1.0s
ZAK Zakamensk 69.12 328 *e*P **P** **19 34 56.6 -0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 72.63 5⇑*e*P **P** **19 35 19.8 +1.8**
BILL *e* 19 35 35.8
BILL *e* 19 38 00.6
BILL *e*S **SPn** **19 45 07.4 -2.1**
BILL pmax pmax
comp=Z,6.0nm,0.5s
VNDA Vanda 73.46 178 P **P** **19 35 23.1 +0.3**
comp=Z,23nm,0.8s,baz=335,slow=6.5,SNR=154
VNDA Vanda 73.46 178 P **P** **19 35 22.8 0.0**
VNDA IAmb IAmb 19 35 24.2
comp=Z,31nm,0.8s
WMQ Urumqi 75.49 317 *e*P **P** **19 35 35.8 +0.5**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,92nm,4.7s
WMQ LR LR
comp=Z,200nm,20.1s
WMQ LR LR
comp=Z,140nm,22.7s
HYB Hyderabad 76.59 289 *i* P **P** **19 35 41.0 -1.0**
CNPM China Poot 77.00 26 P **P** **19 35 46.1 +2.7**
DGZ Jazzator, Alta 77.77 323 *i* P **P** **19 35 48.4 +0.2**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
SUA Susitna One 78.24 24 P **P** **19 35 52.0 +1.5**
SUA IAmb IAmb 19 36 54.5
comp=Z,56nm,1.9s
RND Reindeer 80.01 23 P **P** **19 35 59.8 -0.3**
RND pmax pmax
comp=Z,56nm,1.8s
RND Reindeer 80.01 23 P **P** **19 35 59.8 -0.3**
RND IAmb IAmb 19 36 08.5
comp=Z,56nm,1.8s
MK31 Makanchi Array 80.06 319 *ce*P **P** **19 36 01.4 +0.8**
MK31 Makanchi Array 80.06 319 P **P** **19 36 00.2 -0.4**
MKAR Makanchi Array 80.06 319 P **P** **19 36 01.1 +0.4**
comp=Z,0.7nm,0.5s,baz=93,slow=8.0,SNR=12
MKAR LR LR 20 10 56.6
comp=Z,220nm,20.3s,baz=102,slow=35
MKAR Makanchi Array 80.06 319 P **P** **19 35 59.7 -1.0**
MAKZ Makanchi 80.27 319 P **P** **19 36 01.1 -0.7**
MAKZ pmax pmax
comp=Z,31nm,1.8s
MAKZ Makanchi 80.27 319 P **P** **19 36 01.1 -0.7**
MAKZ IAmb IAmb 19 36 11.5
comp=Z,31nm,1.8s
ZALV Zalesovo Beam 80.80 326 P **P** **19 36 03.4 -1.0**
comp=Z,1.7nm,0.6s,baz=108,slow=6.3,SNR=7.9
ZALV LR LR 20 12 25.1
comp=Z,222nm,19.9s,baz=104,slow=36
ZALV Zalesovo Beam 80.80 326 P **P** **19 36 03.5 -0.9**
SHLS Shalkode 81.01 315 *e*P **P** **19 36 03.6 -2.3**
comp=Z,3.6nm,1.7s,baz=315
SHLS Shalkode 81.01 315 *e*P **P** **19 36 03.6 -2.3**
SHLS pmax pmax
comp=Z,4.0nm,1.7s
CCB Clear Creek Bu 81.04 22 P **P** **19 36 05.0 -0.4**
UZB Uzynbulak 81.32 315 *e*P **P** **19 36 06.7 -1.0**
baz=315
UZB Uzynbulak 81.32 315 *e*P **P** **19 36 06.6 -1.0**
ILAR Eielson Array 81.45 22 P **P** **19 36 07.8 +0.1**
comp=Z,2.4nm,0.7s,baz=245,slow=5.7,SNR=9.5
ILAR LR LR 20 11 37.6
comp=Z,296nm,18.8s,baz=239,slow=35
ILAR Eielson Array 81.45 22 P **P** **19 36 06.5 -1.1**
PRZ Przheval'sk 81.61 314 P **P** **19 36 06.7 -2.5**
PRZ pmax pmax
comp=Z,17nm,1.1s
PRZ Przheval'sk 81.61 314 P **P** **19 36 06.7 -2.5**
PRZ IAmb IAmb 19 36 20.6
comp=Z,17nm,1.1s
KPKS Kokpek 81.64 315 *e*P **P** **19 36 08.9 -0.4**
comp=Z,4.0nm,1.4s,baz=315
KPKS Kokpek 81.64 315 *e*P **P** **19 36 08.8 -0.4**
KPKS pmax pmax
comp=Z,4.0nm,1.4s
SATY Saty 81.74 314 *e*P **P** **19 36 08.8 -1.0**
baz=314
SATY Saty 81.74 314 *e*P **P** **19 36 08.8 -1.0**

BCAR Beaver Creek A 82.69 25 P **P** **19 36 14.2 -0.1**
BOOM Boomskoye usch 83.39 313 P **P** **19 36 15.2 -3.3**
BOOM pmax pmax
comp=Z,11nm,1.2s
BOOM Boomskoye usch 83.39 313 P **P** **19 36 15.2 -3.3**
BOOM IAmb IAmb 19 36 41.1
comp=Z,11nm,1.1s
KUU Kurty 83.39 315 *e*P **P** **19 36 17.8 -0.5**
comp=Z,8.7nm,1.1s,baz=315
KUU Kurty 83.39 315 *e*P **P** **19 36 17.7 -0.5**
KUU pmax pmax
comp=Z,9.0nm,1.1s
KURK Kurchatov 83.47 322 *i* P **P** **19 36 19.5 +1.1**
KURK pmax pmax
comp=Z,12nm,1.2s
KURK Kurchatov 83.47 322 P **P** **19 36 15.9 -2.5**
BMAR Burnt Mountain 83.54 20 P **P** **19 36 18.1 -0.4**
EGAK Eagle 83.64 23 P **P** **19 36 19.9 +0.8**
HYT Haines Junctio 83.72 27 P **P** **19 36 18.9 -0.8**
NIL Nilore 83.88 304 P **P** **19 36 19.9 -1.1**
NIL pmax pmax
comp=Z,22nm,0.8s
NIL Nilore 83.88 304 P **P** **19 36 19.9 -1.1**
H02N1 VAN INLET T-PH 84.01 36 T T 21 09 19.7
SNR=292
H02S1 DAWSON INLET T 84.04 36 T T 21 09 20.2
SNR=700
SGDS Sogindy 84.52 314 *e*P **P** **19 36 23.8 -0.4**
baz=314
SGDS Sogindy 84.52 314 *e*P **P** **19 36 23.7 -0.4**
NRIK Noril'sk 85.46 341 P **P** **19 36 28.5 +0.4**
comp=Z,3.0nm,0.5s,baz=106,slow=6.3,SNR=3.2
NRIK LR LR 20 14 14.4
comp=Z,182nm,20.8s,baz=71,slow=35
NRIK Noril'sk 85.46 341 *i* P **P** **19 36 29.7 +1.5**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
QSPA South Pole Qui 85.80 180 P **P** **19 36 29.7 -0.4**
MAW Mawson 86.28 203 P **P** **19 36 32.0 -0.3**
comp=Z,24nm,0.8s,baz=87,slow=6.1,SNR=60
MAW Mawson 86.28 203 P **P** **19 36 31.8 -0.5**
baz=86,SNR=46
MAW Mawson 86.28 203 P **P** **19 36 31.6 -0.7**
DLBC Dease Lake 86.67 31 LR LR 20 13 16.6
comp=Z,442nm,18.0s,baz=331,slow=34
KK31 Karatay Array 87.43 313 P **P** **19 36 38.7 +0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 87.43 313 P **P** **19 36 38.7 +0.3**
KKAR Karatay Array 87.43 313 P **P** **19 36 38.1 -0.3**
KKAR Karatay Array 87.43 313 P **P** **19 36 38.1 -0.3**
INK Inuvik 87.74 21 P **P** **19 36 40.6 +1.3**
comp=Z,2.9nm,1.0s,baz=233,slow=5.1,SNR=1.4
INK Inuvik 87.74 21 IAmb IAmb 19 37 27.8
comp=Z,32nm,1.6s
YBH Yreka Blue Hor 88.39 48 LR LR 20 13 51.9
comp=Z,376nm,18.0s,baz=271,slow=34
BRVK Borovoye 88.99 323 *ce*P **P** **19 36 45.9 +0.3**
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK Borovoye 88.99 323 P **P** **19 36 44.2 -1.4**
NVAR Mina Array Bea 91.44 52 P **P** **19 36 59.2 +1.5**
comp=Z,0.7nm,0.7s,baz=251,slow=5.6,SNR=1.8
NVAR LR LR 20 11 07.0
comp=Z,577nm,20.8s,baz=272,slow=31
PFO Pinyon Flats O 92.62 57 LR LR 20 10 56.2
comp=Z,650nm,21.5s,baz=276,slow=30
ELK Elko 93.92 50 LR LR 20 13 19.5
comp=Z,506nm,20.6s,baz=266,slow=32
SYO Syowa Base 94.38 199‖*e*P **P** **19 37 07.4 -2.8**
SYO Syowa Base 94.38 199‖*i*PcP **P** **19 37 10.0 -0.2**
YKA Yellowknife Ar 94.71 28 LR LR 20 15 59.2
comp=Z,470nm,20.1s,baz=0.0,slow=33
ABKAR Akbulak array 95.20 319 P **P** **19 37 10.9 -3.5**
ARU Arti 95.97 326 P **P** **19 37 18.7 +1.0**
ARU 19 41 09.8
ARU S **SKSac** **19 47 54.7 +3.3**
ARU SP **SP** **19 49 57.0 +5.0**
ARU SS **SS** **19 55 02.7 -1.9**
ARU MLR MLR
comp=Z,300nm,21.0s
LPIG La Paz 97.67 66 LR LR 20 16 31.4
comp=Z,308nm,18.6s,baz=254,slow=32
PDAR Pinedale Array 98.18 48 LR LR 20 19 53.2
comp=Z,395nm,18.0s,baz=287,slow=34
RES Resolute Bay 99.71 14 LR LR 20 19 58.9
comp=Z,136nm,21.2s,baz=316,slow=34
NVL N'lazarevskaya 100.95 192 *e*P **Pdif** **19 37 53.3 +13**
NVL pmax pmax
comp=Z,5.0nm,0.6s
TXAR Lajitas Array 103.54 61 PKKPbc PKKPbc 19 53 44.9 -1.0
comp=Z,0.6nm,0.7s,baz=108,slow=4.1,SNR=7.7
ARCES ARCESS Array B 106.35 343 PKiKP **PKiKP** **19 42 18.1 +3.2**
comp=Z,2.9nm,0.9s,baz=46,slow=2.6,SNR=2.1
FINES FINESS Array B 110.60 336 PKiKP **PKiKP** **19 42 26.6 +3.5**
comp=Z,1.9nm,0.8s,baz=64,slow=4.4,SNR=5.2
AKASG Malin Array Be 114.16 325 PKP PKPdf 19 42 29.7 -0.4
comp=Z,0.3nm,0.3s,baz=56,slow=2.6,SNR=2.2
BRTR Keskin Array B 115.12 312 PKP **PKPdf** **19 42 34.0 +1.5**
comp=Z,0.7nm,0.5s,baz=116,slow=3.4,SNR=2.2
NB2 NORSAR Subarra116.42 340 PKPdf **PKiKP** **19 42 37.4 +3.1**
comp=Z,0.8nm,0.7s,baz=44,slow=1.9
NOA NORSAR Array B116.42 340 PKP **PKiKP** **19 42 35.3 +1.0**
comp=Z,2.0nm,0.6s,baz=270,slow=2.9,SNR=6.9
KOLS Kolonicke sedl 118.97 325 *e*PKiKP **PKiKP** **19 42 40.7 +1.1**
KOLS Kolonicke sedl 118.97 325 *e*PKP **PKiKP** **19 42 40.7 +1.1**
PLCA Paso Flores 120.09 143 PKP **PKiKP** **19 42 42.5 +0.3**
comp=Z,1.7nm,0.7s,baz=267,slow=2.6,SNR=6.2
BOSA Boshof 120.27 233 PKP **PKiKP** **19 42 42.9 0.0**
comp=Z,4.0nm,0.7s,baz=110,slow=3.0,SNR=8.9
MORC Moravsky Berou 121.11 328 *e*PKP **PKiKP** **19 42 44.3 +0.5**
MORC *e* 19 42 52.0
VYHS Vyhne 121.14 326 *e*PKiKP **PKiKP** **19 42 44.1 +0.3**
VYHS Vyhne 121.14 326 *e*PKP **PKiKP** **19 42 44.1 +0.3**
KRLC Kraliky 121.33 329 *e*PKP **PKiKP** **19 42 49.1 +4.9**
KRLC Kraliky 121.33 329 *e*PKiKP **PKiKP** **19 42 49.1 +4.9**
JAVC Velka Javorina 121.57 327 *e* PKiKP 19 42 54.0 +9.3
BSEG Bad Segeberg 121.86 335 *e*PKPdf **PKiKP** **19 42 50.9 +5.9**
comp=Z,49,slow=2.3
VRAC Vranov 121.89 328 *e*PKP **PKiKP** **19 42 45.7 +0.4**
KRUC Moravsky 122.14 328 *e*PKP **PKiKP** **19 42 46.2 +0.5**
PVCC Panska Ves 122.18 330 *e*PKP **PKiKP** **19 42 52.5 +6.7**
PVCC Panska Ves 122.18 330 *e*PKiKP **PKiKP** **19 42 52.5 +6.7**
MBAR Mbarara 122.24 267 *c i*PKiKP **PKiKP** **19 42 48.4 +1.2**
MBAR pmax pmax
comp=Z,4.0nm,1.3s
BRG Berggiesshubel 122.27 331 *e*PKP **PKiKP** **19 42 50.8 +4.9**
comp=Z,4.4nm,0.6s
comp=N,156nm,21.9s
comp=E,200nm,11.9s
comp=Z,339nm,19.1s
BRG Berggiesshubel 122.27 331 *e*PKiKP **PKiKP** **19 42 50.8 +4.9**
BRG pmax pmax
comp=Z,4.0nm,0.6s
BRG MLR MLR
comp=N,156nm,21.9s
BRG MLR MLR
comp=E,200nm,11.9s
BRG MLR MLR
comp=Z,339nm,19.1s
BRG Berggiesshubel 122.27 331 *e*PKPdf **PKiKP** **19 42 51.1 +5.1**
baz=49,slow=2.3
CLL Collm 122.45 332 *i* PKPdf **PKiKP** **19 42 47.9 +1.6**
comp=Z,8.0nm,0.7s
CLL *e*SS SS 20 01 18.0 +18
CLL L L 20 40 00.0
comp=Z,200nm,19.0s
CLL Collm 122.45 332 *i* PKiKP **PKiKP** **19 42 47.9 +1.6**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 122.45 332 *e*PKPdf **PKiKP** **19 42 51.5 +5.2**
baz=49,slow=2.3
TREC Trest 122.47 328 *e*PKP **PKiKP** **19 42 47.6 +1.2**
TREC *ex* x 19 42 55.0
TREC Trest 122.47 328 *e*PKiKP **PKiKP** **19 42 47.6 +1.2**
TREC *e* 19 42 55.0
FBE Freiberg 122.53 331 *e*PKPdf **PKiKP** **19 42 51.5 +5.1**
baz=49,slow=2.3
NRDL Niedersach Rie 122.97 334 *e*PKPdf **PKiKP** **19 42 52.9 +5.7**
baz=49,slow=2.3
ASSE Asse, Remlinge 122.97 333 *e*PKPdf **PKiKP** **19 42 52.6 +5.5**
baz=49,slow=2.3
CONA Conrad Observa 123.09 327 *i* pPKiKP **PKiKP** **19 42 48.4 +0.6**
comp=Z,4.9nm,1.0s
NEUB Neuenburg 123.09 332 *e*PKPdf **PKiKP** **19 42 52.9 +5.3**
baz=49,slow=2.3

CLZ Clausthal 123.30 333 *e*PKPdf **PKiKP** **19 42 53.6 +5.6**
baz=49,slow=2.3
GUNZ Gunzen 123.39 331 *e*PKPdf **PKiKP** **19 42 53.7 +5.5**
baz=49,slow=2.3
WERN Wernitzgruen 123.42 331 *e*PKPdf **PKiKP** **19 42 53.7 +5.4**
baz=49,slow=2.3
NKC Novy Kostel 123.42 331 *e*PKP **PKiKP** **19 42 53.2 +4.9**
NKC Novy Kostel 123.42 331 *e*PKiKP **PKiKP** **19 42 53.2 +4.9**
MOX Moxa 123.54 332 *e*PKPdf **PKiKP** **19 42 54.1 +5.6**
baz=49,slow=2.3
KHC Kasperske Hory 123.56 329 *e*PKP **PKiKP** **19 42 49.9 +1.3**
KHC *ex* x 19 42 53.9
KHC Kasperske Hory 123.56 329 *c i*PKiKP **PKiKP** **19 42 49.8 +1.2**
KHC pmax pmax
comp=Z,6.0nm,0.6s
GEC2 GERESS Array S 123.68 329 *e*PKPdf **PKiKP** **19 42 54.2 +5.2**
baz=49,slow=2.3
GERES GERESS Array B 123.68 329 PKP **PKiKP** **19 42 49.2 +0.3**
comp=Z,1.8nm,0.7s,baz=49,slow=2.5,SNR=16
GERES GERESS Array B 123.68 329 PKiKP **PKPdf** **19 42 47.0 -1.7**
GERES GERESS Array B 123.68 329 PKPdf **PKPdf** **19 42 47.0 -1.7**
MANZ Manzenberg 123.74 331 *e*PKPdf **PKiKP** **19 42 54.9 +6.0**
baz=49,slow=2.3
ROTZ Rotzenmuhle 123.84 331 *e*PKPdf **PKiKP** **19 42 54.9 +5.8**
baz=49,slow=2.3
WET Wettzell 123.91 330 *e*PKPdf **PKiKP** **19 42 55.1 +5.8**
baz=49,slow=2.3
MOA Molln 124.00 328 sPKiKP **PKiKP** **19 42 50.7 +1.2**
comp=Z,1.1nm,0.7s
SOKA Soboth 124.28 326 *ep*PKPdf **PKiKP** **19 42 50.1 -0.1**
comp=Z,5.8nm,1.0s
GRF Grafenberg Arr 124.37 331 *e*PKPdf **PKiKP** **19 42 55.8 +5.6**
baz=49,slow=2.3
OBKA Obir 124.65 326 *ep*PKPdf **PKPdf** **19 42 50.4 -0.2**
comp=Z,2.1nm,0.8s
KBA Koelnbreinsper 124.97 327 *ep*PKPdf **PKPdf** **19 42 51.0 -0.3**
comp=Z,6.1nm,1.1s
ABTA Abfaltersbach 125.62 328 *ep*PKPdf **PKPdf** **19 42 52.3 -0.1**
comp=Z,4.9nm,1.2s
WATA Walderalm 125.74 329 *ep*PKPdf **PKiKP** **19 42 53.0 -0.1**
comp=Z,4.7nm,0.6s
WTTA Wattenberg 125.75 328 *ep*PKiKP **PKiKP** **19 42 53.4 +0.2**
comp=Z,5.9nm,0.9s
CIMO Cimolais 125.93 327 PKPdf **PKPdf** **19 42 51.6 -1.4**
MOTA Moosalm 125.98 329 *es*PKiKP **PKiKP** **19 42 54.7 +1.1**
comp=Z,4.3nm,0.7s
SQTA Sankt Quirin 126.00 329 *ep*PKPdf **PKiKP** **19 42 53.7 +0.1**
comp=Z,2.8nm,0.6s
UBR Ueberruh 126.26 330 *e*PKPdf **PKiKP** **19 43 00.2 +6.2**
baz=49,slow=2.3
FETA Feichten 126.38 329 *es*PKPdf **PKiKP** **19 42 54.7 +0.3**
comp=Z,3.1nm,0.7s
DAVA Damuels 126.64 329 *es*PKiKP **PKiKP** **19 42 56.4 +1.4**
comp=Z,4.4nm,0.7s
BFO Black Forest 126.69 331 *e*PKPdf **PKiKP** **19 43 01.1 +6.2**
baz=49,slow=2.3
WLF Walferdange 126.73 334 *e*PKPdf **PKiKP** **19 43 01.4 +6.5**
baz=49,slow=2.3
KEST Kesra 134.15 318 PKP **PKiKP** **19 43 10.7 +0.4**
comp=Z,4.5nm,0.9s,baz=19,slow=4.2,SNR=4.0
LPAZ La Paz 134.43 118 PKP **PKiKP** **19 43 12.4 +0.3**
comp=Z,3.9nm,0.8s,baz=167,slow=1.7,SNR=6.8
LPAZ La Paz 134.43 118 PKIKP **PKiKP** **19 43 11.1 -0.9**
LPAZ La Paz 134.43 118 PKPdf **PKiKP** **19 43 11.1 -0.9**
ESDC Sonseca Array 139.01 333 PKP **PKiKP** **19 43 19.1 -1.0**
comp=Z,0.8nm,0.7s,baz=16,slow=2.3,SNR=2.1
TAM Tamanrasset 143.60 304 PKIKP PKPbc 19 43 24.5 +0.4
TAM Tamanrasset 143.60 304 PKPbc 19 43 24.5 +0.4
TOA0 Torodi Ar. Sit 150.41 289 **PKPbc** **19 43 42.3 -1.0**
TORD Torodi Ar. Bea 150.41 289 PKPbc **PKPbc** **19 43 43.3 0.0**
comp=Z,43nm,1.1s,baz=62,slow=4.0,SNR=3.7
TORD Torodi Ar. Bea 150.41 289 PKPdf **PKPdf** **19 43 35.5 -2.6**
TORD **PKPbc** **19 43 42.3 -1.0**
BDFB Brasilia 151.28 134 PKP **PKPdf** **19 43 40.7 +1.2**
comp=Z,4.5nm,0.7s,baz=18,slow=3.2,SNR=3.8
BDFB PKPbc **PKiKP** **19 43 46.4 +0.4**
comp=Z,24nm,0.7s,baz=244,slow=1.5,SNR=12
BDFB Brasilia 151.28 134 PKPdf **PKPdf** **19 43 36.0 -3.5**
BDFB **PKiKP** **19 43 45.7 -0.3**
KIC Kosan Boka 157.85 277 *e*PKP1 **PKPab** **19 44 21.5 0.0**
comp=Z,22nm,0.7s
DBIC Dimbokro 157.94 277 PKPbc PKPbc 19 43 59.2
comp=Z,4.8nm,0.9s,baz=32,slow=13,SNR=1.7
DBIC PKPab **PKPab** **19 44 21.5 -0.3**
comp=Z,19nm,1.1s,baz=44,slow=4.6,SNR=5.3
TIC Toumodi 158.10 277 *e*PKP1 **PKPab** **19 44 22.4 -0.2**
LIC Lamto 158.15 276 *e*PKP1 **PKPab** **19 44 21.0 -1.7**
comp=Z,24nm,0.9s

REY ***30*** *19:24:46.7, 64.°61N×17.°45W, h8km*
IDC ***30*** *19:24:46.3±0.6, 64.°58N×17.°43W, h0km, mb3.9/16, mb1 4.1/19, mb1mx4.0/43, mbtmp3.9/19, ML2.4/2, MS3.4/8, Ms1 3.5/8, ms1mx3.0/57, Error ellipse: s-maj=20.6km s-min=9.2km az=12.0*
NEIC ***30*** *19:24:49.3±1.2, 64.°56N±0.°08×17.°4W±0.°1, h8km±4km, mb4.6/80, Error ellipse: s-maj=11.4km s-min=6.9km az=200.0*

ISC 30 19:24:47.7±0.8, 64.°60N±0.°02×17.°45W±0.°02, h2km±5km, n183, σ1°65/182, mb4.5/62, MS3.3/5, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull** baz=141	**0.14**	**137**	P	**Pg**	**19 24 49.9**	**-0.5**
IVON	**Vonarskard** baz=294	**0.15**	**298**	P	**Pg**	**19 24 49.8**	**-0.8**
IDYN	**Dyngjuhals** baz=11	**0.19**	**11**	P	**Pg**	**19 24 50.5**	**-0.9**
IGRF	**Grimsfjall** baz=160	**0.21**	**158**	P	**Pg**	**19 24 51.1**	**-0.8**
IURH	**Urdarhals** baz=32	**0.25**	**31**	P	**Pg**	**19 24 51.4**	**-1.2**
IHUS	**Husbondi** baz=196	**0.32**	**196**	P	**Pg**	**19 24 53.1**	**-0.8**
IBJK	**Bruarjokull** baz=116	**0.33**	**114**	P	**Pg**	**19 24 52.9**	**-1.2**
IKVE	**Kverkfjoll** baz=79	**0.34**	**77**	P	**Pg**	**19 24 53.3**	**-1.0**
IVOT	**Vottur** baz=162	**0.35**	**161**	P	**Pg**	**19 24 53.5**	**-1.0**
ISKR	**Skrokkalda** baz=263	**0.41**	**264**	P	**Pg**	**19 24 54.1**	**-1.4**
IJOK	**Jokulheimar** baz=229	**0.44**	**230**	P	**Pg**	**19 24 54.8**	**-1.4**
IKRE	**Kreppuhraun** baz=69	**0.49**	**68**	P	**Pg**	**19 24 55.4**	**-1.8**
IKRE	baz=69			S	**Sg**	**19 25 02.7**	**-0.8**
IIEY	**Innrieyrar** baz=210	**0.59**	**210**	P	**Pg**	**19 24 57.3**	**-1.6**
IIEY	baz=210			S	**Sg**	**19 25 05.9**	**-0.6**
IMKO	**Mokollar** baz=52	**0.61**	**51**	P	**Pg**	**19 24 57.4**	**-1.9**
IKSK	**Karasker** baz=137	**0.61**	**136**	P	**Pg**	**19 24 57.1**	**-2.3**
IKAL	**Kalfafell** baz=189	**0.67**	**189**	P	**Pg**	**19 24 58.8**	**-1.7**
IKAL	baz=189			S	**Sg**	**19 25 09.1**	**+0.1**
ISVA	**Svartarkot** baz=6.3	**0.74**	**6**	P	**Pg**	**19 24 59.4**	**-2.5**
IVAT	**Vatnsfell** baz=237	**0.76**	**237**	P	**Pg**	**19 25 00.3**	**-2.0**
IVSH	**V-Sauoahnukur** baz=74	**0.77**	**74**	P	**Pg**	**19 24 60.0**	**-2.4**
IFAG	**Fagurholsmyri** baz=155	**0.81**	**154**	P	**Pg**	**19 25 01.0**	**-2.2**
IADA	**Aoalbol** baz=62	**0.90**	**62**	P	**Pg**	**19 25 02.1**	**-2.9**
IHVE	**Hveravellir** baz=287	**0.95**	**287**	P	**Pg**	**19 25 02.8**	**-3.0**
ISNB	**Snabyli** baz=211	**1.01**	**211**	P	**Pg**	**19 25 04.5**	**-2.6**
IMEL	**Melhnausar** baz=19	**1.03**	**19**	P	**Pg**	**19 25 04.1**	**-3.2**
ISLY	**Slysaalda** baz=223	**1.07**	**224**	P	**Pg**	**19 25 05.4**	**-2.7**
IREN	**Reynihlio** baz=12	**1.07**	**12**	P	**Pg**	**19 25 04.8**	**-3.4**
IRJU	**Rjupnafell** baz=209	**1.13**	**209**	P	**Pg**	**19 25 06.6**	**-2.6**
IFED	**Fedgar** baz=240	**1.14**	**240**	P	**Pg**	**19 25 06.6**	**-2.8**
IKVO	**Krokottuvotn**	**1.14**	**12**	P	**Pg**	**19 25 06.1**	**-3.4**

```
     baz=12
IGRS Grimsstaoir          1.18  28  P      Pg     19 25 07.0 -3.3
     baz=28
IMJO Mjoaskard            1.18 236  P      Pg     19 25 07.5 -2.8
     baz=236
IGYG Gygjarholskot        1.24 256  P      Pg     19 25 08.2 -3.3
     baz=256
IHVO Lagu-Hvolar          1.25 210  P      Pg     19 25 08.6 -2.9
     baz=210
IGOD Go??abunga           1.25 222  P      Pg     19 25 08.7 -3.0
     baz=222
IHAU Haukadalur           1.27 241  P      Pg     19 25 08.6 -3.3
     baz=241
ISKI Skildingahlsh        1.28   8  P      Pg     19 25 08.4 -3.8
     baz=7.8
IGHA Grjothals            1.29  15  P      Pg     19 25 08.6 -3.7
     baz=15
IGRA Granastaoir          1.32 358  P      Pg     19 25 09.3 -3.7
     baz=358
BORG Borgarnes            1.67 277  Pg     Pn     19 25 15.1 -2.8
     53nm,0.3s,baz=99,slow=8.8,SNR=75
BORG                                Lg     Lg     19 25 40.0
     13nm,0.3s,baz=216,slow=20,SNR=8.3
BORG Borgarnes            1.67 277  Pn     Pn     19 25 14.7 -3.3
BORG                                Sn     Sn     19 25 41.0 +1.1
SCO  Scoresbysund         6.15 346  i P    Pn     19 26 20.0 +0.6
SCO                                 eS     Sn     19 27 35.9 +5.8
SCO  Scoresbysund         6.15 346  Pn     Pn     19 26 19.2 -0.1
ANGG Ammassalik, Gr       8.57 286  Pn     Pn     19 26 52.5 +0.1
SUMG Summit               11.01 326 Pn     Pn     19 27 27.2 +1.0
EKA  Eskdalemuir Ar       11.70 136 Pn     Pn     19 27 34.5 -0.8
     baz=323,slow=13,SNR=18
EKA                                 Sn     Sn     19 29 41.1 -5.2
     baz=326,slow=25,SNR=1.9
ESK  Eskdalemuir          11.70 136 Pn     Pn     19 27 34.0 -1.4
NC204 NORSAR Array S      13.21  92 Pn     Pn     19 27 54.4 -1.6
NBO00 NORSAR Array S      13.33  93 Pn     Pn     19 27 56.4 -1.2
NOA  NORSAR Array B       13.51  92 Pn     Pn     19 27 55.8 -4.3
     0.0nm,0.3s,baz=298,slow=12,SNR=2.2
NOA                                 LR     LR     19 33 07.3
     comp=Z,84nm,18.7s,baz=290,slow=37
SFJD Kangerlussuaq        13.71 295 LR     LR     19 32 36.6
     comp=Z,295nm,18.0s,baz=68,slow=34
HFS  Hagfors              15.02  93 Pn     Pn     19 28 20.7 +0.1
     0.1nm,0.3s,baz=312,slow=8.7,SNR=0.9
HFS                                 LR     LR     19 34 12.7
     comp=Z,105nm,18.7s,baz=265,slow=38
KBS  Kingsbay             16.69  19 P      P      19 28 45.8 +1.2
KBS                                 IAmb   IAmb   19 29 17.3
     comp=Z,36nm,1.3s
FINES FINESS Array B      19.70  79 P      P      19 29 16.7 -1.0
     comp=Z,0.1nm,0.3s,baz=308,slow=6.8,SNR=2.3
FINES FINESS Array B      19.70  79 P      Pn     19 29 18.1 -1.0
FIA1 FINESS Array S       19.70  79 P      Pn     19 29 18.5 -0.7
CLL  Collm                20.66 116 i P    P      19 29 28.7 +0.4
     comp=Z,26nm,1.8s
CLL  Collm                20.66 116 P      P      19 29 28.2 -0.1
LVZ  Lovozero             20.71  58 P      Pn     19 29 30.0 -1.1
ECH  Echery               21.10 129 P      P      19 29 33.2 +0.1
GRA1 Grafenberg Arr       21.28 121 P      P      19 29 35.5 +0.4
GRA1                                IAmb   IAmb   19 29 48.0
     comp=Z,44nm,1.4s
NKC  Novy Kostel          21.30 118 eP     P      19 29 37.6 +2.3
STU  Stuttgart            21.32 125 P      P      19 29 36.7 +1.3
STU                                 IAmb   IAmb   19 29 42.2
     comp=Z,16nm,0.7s
BRG  Berggiesshubel       21.37 115 eP     P      19 29 35.6 -0.3
     comp=Z,10nm,1.3s
     comp=N,156nm,16.2s
     comp=E,124nm,23.3s
     comp=Z,316nm,20.0s
BFO  Black Forest         21.39 127 P      P      19 29 37.1 +0.8
FRB  Frobisher Bay        21.79 291 LR     LR     19 37 22.4
     comp=Z,142nm,21.5s,baz=37,slow=35
KHC  Kasperske Hory       22.63 118 eP     P      19 29 51.4 +1.9
KHC  Kasperske Hory       22.63 118 P      P      19 29 49.7 +0.2
DPC  Dobruska-Polom       22.72 113 eP     P      19 29 50.9 +0.4
DPC                                 ex     x      19 30 02.6
DAVA Damuels              22.83 126 P      P      19 29 52.3 +0.5
     comp=Z,6.5nm,0.9s
GEC2 GERESS Array S       22.91 119        P      19 29 52.7 +0.1
GERES GERESS Array B      22.91 119 P      P      19 29 52.0 -0.6
     comp=Z,2.3nm,0.9s,baz=326,slow=6.7,SNR=8.6
GERES                               LR     LR     19 39 16.4
     comp=Z,137nm,18.3s,baz=333,slow=38
GERES GERESS Array B      22.91 119 P      P      19 29 52.3 -0.2
KRLC Kraliky              23.11 113 eP     P      19 29 54.8 +0.2
KRLC                                ePP    sP     19 29 58.8 +2.5
MOTA Moosalm              23.21 124 ePP    P      19 29 57.7 +2.0
     comp=Z,7.5nm,1.3s
TUE  Stuetta              23.35 128 P      P      19 29 57.6 +0.4
SQTA Sankt Quirin         23.35 124 eP     P      19 29 57.9 +0.8
     comp=Z,4.9nm,1.1s
FUORN Ofenpass-Fuorn      23.54 127 P      P      19 29 59.9 +0.7
FUORN                               IAmb   IAmb   19 30 28.6
     comp=Z,25nm,1.9s
VRAC Vranov               23.65 114 P      P      19 29 58.4 -1.6
     comp=Z,0.9nm,0.4s,baz=328,slow=13,SNR=1.4
VRAC                                LR     LR     19 40 31.2
     comp=Z,130nm,18.7s,baz=329,slow=40
VRAC Vranov               23.65 114 eP     P      19 30 00.1 +0.1
MORC Moravsky Berou       23.65 112 eP     P      19 30 00.3 +0.2
MORC Moravsky Berou       23.65 112 P      P      19 29 59.9 -0.2
MORC                                IAmb   IAmb   19 30 13.9
     comp=Z,39nm,2.0s
KRUC Moravsky             23.77 115 eP     P      19 30 00.4 -0.7
MOA  Molln                23.94 119 ePP    pP     19 30 04.1  0.0
     comp=Z,6.9nm,1.5s
KBA  Koelnbreinsper       24.24 122 eP     P      19 30 06.8 +0.9
     comp=Z,7.6nm,1.6s
JAVC Velka Javorina       24.43 113 eP     P      19 30 07.0 -0.4
CONA Conrad Observa       24.48 117 eP     P      19 30 08.3 +0.4
     comp=Z,3.9nm,1.0s
CTI  Castel Tesino        24.51 125 P      P      19 30 08.2  0.0
ZOU  Zoufplan             24.55 123 P      P      19 30 09.1 +0.4
ZOU                                 IAmb   IAmb   19 30 41.0
     comp=Z,29nm,2.0s
CIMO Cimolais             24.57 124 P      P      19 30 08.3 -0.3
STAL STALIGIAL            24.71 123 P      P      19 30 10.5 +0.6
PRED Cave del Predi       24.86 122 P      P      19 30 11.7 +0.4
PRED                                IAmb   IAmb   19 30 29.7
     comp=Z,16nm,1.5s
COI  Coimbra              25.00 163 P      P      19 30 13.0 +0.6
OBKA Obir                 25.17 121 eP     P      19 30 14.9 +0.8
     comp=Z,5.7nm,1.4s
VYHS Vyhne                25.19 112 eP     P      19 30 13.9 -0.3
SOKA Soboth               25.21 120 eP     P      19 30 13.5 -0.9
     comp=Z,3.2nm,1.2s
KLMR Klimovskoe           25.60  72 e      P      19 30 17.5 -0.3
KLMR                                AMP            19 30 21.9
     comp=Z,22nm,1.4s
SCHQ Schefferville        26.06 272 P      P      19 30 21.2 -0.8
     comp=Z,7.5nm,0.9s,baz=45,slow=14,SNR=2.5
SCHQ Schefferville        26.06 272 IAmb   IAmb   19 30 24.6
     comp=Z,50nm,1.7s
PSZ  Piszkesteto          26.07 112 P      P      19 30 22.4 +0.1
PSZ                                 IAmb   IAmb   19 30 27.9
     comp=Z,28nm,1.8s
ESBB Sonseca Array        26.19 156 P      P      19 30 24.1 +0.8
ESDC Sonseca Array        26.19 156 P      P      19 30 22.4 -1.0
     comp=Z,2.4nm,0.8s,baz=349,slow=9.1,SNR=8.6
ESDC                                LR     LR     19 40 48.7
     comp=Z,86nm,18.1s,baz=325,slow=37
ESDC Sonseca Array        26.19 156 P      P      19 30 23.7 +0.4
KOLS Kolonicke sedl       26.23 108 eP     P      19 30 23.1 -0.6
OSSC Osservatorio P       26.58 129 P      P      19 30 27.6 +0.8
OSSC                                IAmb   IAmb   19 30 36.1
     comp=Z,9.1nm,1.1s
ROSA Rosais               26.69 199 P      P      19 30 28.8 +0.9
MURB Monte Urbino         27.25 127 P      P      19 30 34.3 +1.4
AKASG Malin Array Be      27.81  97 P      P      19 30 36.6 -1.2
     comp=Z,0.3nm,0.4s,baz=332,slow=9.6,SNR=1.4
AKBB Malin Array Si       27.81  97 P      P      19 30 37.3 -0.5
NRCA Norcia               27.83 127 P      P      19 30 38.9 +0.7
NRCA                                IAmb   IAmb   19 30 54.2
     comp=Z,17nm,1.9s
PVAQ Vaqueiros            27.85 163 P      P      19 30 38.1 -0.1
PVAQ                                IAmb   IAmb   19 30 48.4
     comp=Z,19nm,1.3s
BURAR Bucovina Array      28.49 106 P      P      19 30 44.5 +0.5
CART Cartagena            28.77 152 P      P      19 30 46.3 -0.1
MLR  Muntele Rosu         30.49 108 P      P      19 31 02.5 +0.8
MLR                                 IAmb   IAmb   19 31 07.7
     comp=Z,12nm,1.5s
NRIK Noril'sk             36.50  35 P      P      19 31 52.3 -1.3
     comp=Z,3.9nm,1.0s,baz=306,slow=11,SNR=2.6
BRTR Keskin Array B       38.44 105 P      P      19 32 08.3 -2.3
     comp=Z,0.4nm,0.6s,baz=335,slow=6.4,SNR=1.9
BRTR Keskin Array B       38.44 105 P      P      19 32 11.4 +0.9
KBZ  Khabaz               39.09  92 P      P      19 32 14.8 -1.0
     comp=Z,1.2nm,0.7s,baz=327,slow=8.7,SNR=1.5
ABKAR Akbulak array       41.99  73 P      P      19 32 40.3 +0.7
ABKAR Akbulak array       41.99  73 P      P      19 32 39.9 +0.2
ABKAR                               IAmb   IAmb   19 32 43.8
     comp=Z,8.4nm,1.6s
TIXI Tiksi                42.09  15 P      P      19 32 41.4 +1.2
TOLK Toolik Lake Re       42.81 336 P      P      19 32 48.0 +1.7
TOLK                                IAmb   IAmb   19 32 50.6
     comp=Z,23nm,1.4s
G40A Rib Lake             43.19 280 P      P      19 32 50.2 +0.8
G40A                                IAmb   IAmb   19 32 52.2
     comp=Z,8.9nm,0.9s
R53A Hurricane            45.31 267 P      P      19 33 07.1 +0.5
Q51A Peebles              45.33 269 P      P      19 33 08.0 +1.3
IL31                      45.75 332 P      P      19 33 11.1 +1.4
IL31                                IAmb   IAmb   19 33 13.7
     comp=Z,11nm,1.4s
ILAR Eielson Array        45.75 332 P      P      19 33 09.2 -0.5
     comp=Z,3.3nm,1.1s,baz=26,slow=6.1,SNR=15
ILAR                                PcP    PcP    19 34 46.2 -1.0
     comp=Z,1.4nm,0.9s,baz=346,slow=3.1,SNR=9.0
ILAR Eielson Array        45.75 332 P      P      19 33 11.2 +1.5
ILAR                                PcP    PcP    19 34 48.0 +0.8
MDM  Murphy Dome          45.85 333 P      P      19 33 12.2 +1.7
CCB  Clear Creek Bu       46.04 333 P      P      19 33 13.5 +1.5
CCB                                 IAmb   IAmb   19 33 49.8
     comp=Z,16nm,1.9s
HDA  Harding Lake         46.09 332 P      P      19 33 13.4 +1.0
HDA                                 IAmb   IAmb   19 33 16.2
     comp=Z,7.7nm,1.2s
P46A Rosedale             46.51 273 P      P      19 33 17.4 +1.4
ZAA0 Zalesovo Array       47.66  51 P      P      19 33 25.5 +0.8
ZAA0                                IAmb   IAmb   19 33 27.3
     comp=Z,3.7nm,1.1s
ZALV Zalesovo Beam        47.66  51 P      P      19 33 24.2 -0.5
     comp=Z,1.2nm,0.8s,baz=332,slow=8.6,SNR=5.9
ZALV Zalesovo Beam        47.66  51 P      P      19 33 25.6 +0.9
KURK Kurchatov            48.13  58 P      P      19 33 29.8 +1.4
KURK                                IAmb   IAmb   19 33 32.3
     comp=Z,6.6nm,1.0s
U49A Red Boiling Sp       48.49 269 P      P      19 33 32.6 +1.2
R40A Maddies Statio       49.79 276 P      P      19 33 41.1 -0.2
R40A                                IAmb   IAmb   19 33 45.0
     comp=Z,9.9nm,1.5s
GEYT Alibeck              50.41  84 LR     LR     19 54 57.9
     comp=Z,25nm,20.3s,baz=35,slow=36
S39A Bolivar              50.74 277 P      P      19 33 50.0 +1.4
KK31 Karatay Array        51.28  70 P      P      19 33 53.1 +0.5
KKAR Karatay Array        51.28  70 P      P      19 33 53.0 +0.4
KKAR Karatay Array        51.28  70 P      P      19 33 53.1 +0.5
KKAR                                IAmb   IAmb   19 33 57.6
     comp=Z,4.4nm,1.1s
YNE  Yellowstone No       51.52 295 P      P      19 33 56.3 +1.6
BOZ  Bozeman (W)          51.66 297 P      P      19 33 57.0 +1.5
BOZ                                 IAmb   IAmb   19 33 59.1
     comp=Z,8.4nm,1.1s
LRM  Limekiln Ridge       51.78 298 P      P      19 33 57.9 +1.3
YMP  Mirror Lake Pl       51.80 295 P      P      19 33 58.4 +1.6
MK31 Makanchi Array       52.74  58 P      P      19 34 03.9 +0.5
MKAR Makanchi Array       52.74  58 P      P      19 34 01.9 -1.6
     comp=Z,1.4nm,0.9s,baz=327,slow=6.1,SNR=5.1
MKAR Makanchi Array       52.74  58 P      P      19 34 03.6 +0.2
MCMT McKenzie Canyo       52.77 297 P      P      19 34 04.4 +0.4
IMW  Indian Meadow        52.81 295 P      P      19 34 05.8 +1.4
IMW                                 IAmb   IAmb   19 34 07.7
     comp=Z,5.9nm,1.3s
FXWY Fox Creek            53.06 295 P      P      19 34 07.8 +1.6
FXWY                                IAmb   IAmb   19 34 09.9
     comp=Z,7.3nm,1.4s
TORD Torodi Ar. Bea       53.08 156 P      P      19 34 04.5 -1.7
     comp=Z,1.2nm,0.9s,baz=347,slow=8.0,SNR=4.0
D08A Wollman Farm,        53.15 303 P      P      19 34 08.7 +2.3
D08A                                IAmb   IAmb   19 34 24.2
     comp=Z,4.3nm,1.0s
BW06 Boulder Array        53.22 293 P      P      19 34 06.7 -0.6
BW06                                IAmb   IAmb   19 34 09.3
     comp=Z,6.8nm,0.9s
PD31 Pinedale Array       53.22 293 P      P      19 34 06.7 -0.6
PD31                                IAmb   IAmb   19 34 09.3
     comp=Z,6.1nm,0.9s
PDAR Pinedale Array       53.22 293 P      P      19 34 06.2 -1.1
     comp=Z,4.8nm,0.9s,baz=60,slow=7.0,SNR=22
PDAR Pinedale Array       53.22 293 P      P      19 34 06.6 -0.7
REDW Red Top Meadow       53.23 295 P      P      19 34 08.7 +1.4
REDW                                IAmb   IAmb   19 34 10.9
     comp=Z,14nm,1.4s
HWUT Hardware Ranch       55.00 294 P      P      19 34 20.8 +0.6
HWUT                                IAmb   IAmb   19 34 23.5
     comp=Z,7.4nm,1.0s
RDMU Red Mountain         55.08 292 P      P      19 34 22.5 +1.6
TCUT Toone Canyon         55.35 294 P      P      19 34 24.4 +1.6
PV21 Cone Mtn., Par       56.56 290 IAmb   IAmb   19 34 34.3
     comp=Z,4.8nm,0.9s
PV16 Nyswonger Mesa       56.75 290 P      P      19 34 33.9 +1.1
PV16                                IAmb   IAmb   19 34 35.4
     comp=Z,11nm,1.3s
PV02 Paradox Valley       56.76 290 P      P      19 34 34.0 +1.0
PV18 Skein Mesa, Pa       56.80 290 P      P      19 34 34.0 +0.8
TMUT Trail Mountain       56.83 292 P      P      19 34 34.9 +1.4
WMQ  Urumqi               57.25  56 eP     P      19 34 39.8 +3.7
WMQ                                 pmax   pmax
     comp=Z,25nm,0.9s
WMQ                                 pmax   pmax
     comp=Z,65nm,4.5s
MSU  Marysvale            57.88 293 P      P      19 34 41.6 +0.8
R11A Troy Canyon, C       59.37 295 IAmb   IAmb   19 34 54.3
     comp=Z,3.0nm,1.0s
KVN  Kaiserville          59.73 298 IAmb   IAmb   19 34 56.9
     comp=Z,4.7nm,1.1s
WUAZ Wupatki              60.15 290 P      P      19 34 57.1 +0.5
WUAZ                                IAmb   IAmb   19 34 59.4
     comp=Z,7.3nm,1.1s
NVAR Mina Array Bea       60.35 297 P      P      19 34 56.7 -1.3
     comp=Z,0.4nm,0.6s,baz=43,slow=5.6,SNR=5.4
NVAR Mina Array Bea       60.35 297 P      P      19 34 58.2 +0.3
X16A Lo Mia Camp, P       61.13 290 IAmb   IAmb   19 35 06.5
     comp=Z,4.1nm,1.0s
TXAR Lajitas Array        62.32 280 P      P      19 35 11.1 -0.1
     comp=Z,1.2nm,0.9s,baz=35,slow=4.6,SNR=11
TXAR Lajitas Array        62.32 280 P      P      19 35 11.9 +0.7
TX32 Lajitas Array        62.32 280 P      P      19 35 13.2 +2.0
TX32                                IAmb   IAmb   19 35 22.9
     comp=Z,8.8nm,1.7s
TUC  Tucson               62.70 288 P      P      19 35 14.5 +0.8
TUC                                 IAmb   IAmb   19 35 17.1
     comp=Z,4.5nm,1.1s
GTA  Gaotai               65.33  49 eP     P      19 35 32.3 +1.4
GTA                                 pP     sP     19 35 36.0 +3.2
GTA                                 sP     pP     19 35 39.0 +6.7
GTA                                 pmax   pmax
     comp=Z,3.0nm,1.0s
NJ2  Nanjing              77.78  37 eP     P      19 36 47.3 +1.4
NJ2                                 pmax   pmax
     comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr       84.15  59 P      P      19 37 19.1 -1.0
     comp=Z,0.8nm,0.8s,baz=313,slow=7.5,SNR=4.7
ASAR Alice Springs       135.00  38 PKP    PKPdf  19 44 07.1 -0.8
     comp=Z,0.5nm,0.9s,baz=3.8,slow=2.8,SNR=3.1
```

*IDC **30** 19:37:18.4±1.6, 37°.30N×141°.63E, h0km, mb3.3/4, mb1 3.6/8, mb1mx3.4/46, mbtmp3.5/8, ML3.0/4, Error ellipse: s-maj=31.5km s-min=23.3km az=81.0*
*JMA **30** 19:37:21.3±0.1, 37°.27N×141°.46E, h28km±1km, M3.4*
ISC 30 19:37:19.2±1.9, 37°.23N±0°.04×141°.57E±0°.07, h10km±11km, n24, σ1°45/29, mb3.4/4, Near east coast of eastern Honshu

```
Code Station Name         Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
JFK  Kawauchi             0.57 284   P     Pg          19 37 30.8 +0.5
JFK                                  S     Sg          19 37 37.6 -0.3
ONAJ Iwakimizuishiy       0.63 258   P     Pb          19 37 32.1 -0.3
ONAJ                                 S     Sg          19 37 40.0 +0.2
JMST Minamisoumatoc       0.73 312   P     Pb          19 37 33.6 -0.5
JMST                                 eS    Sb          19 37 42.4 -1.8
JFFD Fukushimafurud       0.82 260   P     Pb          19 37 35.2 -0.4
JFFD                                 eS    Sb          19 37 45.1 -1.6
JMM  Marumori             0.89 316   P     Pb          19 37 36.0 -0.6
JMM                                  S     Sb          19 37 46.8 -1.7
JHO  Hitachi              1.02 233   P     Pb          19 37 38.2 -0.7
JHO                                  eS    Sb          19 37 50.5 -1.8
JFT  Otama                1.02 286   P     Pb          19 37 38.8 -0.3
JFT                                  S     Sb          19 37 51.4 -1.2
JIO  Ouri                 1.23 352   P     Pn          19 37 41.8 -0.7
JOU  Okura                1.34 328   P     Pn          19 37 44.1 +0.1
JOU                                  S     Sb          19 38 01.0 -0.7
MJAR Matsushiro Arr       2.78 257   Pn    Pn          19 38 05.3 +1.4
     0.3nm,0.3s,baz=75,slow=13,SNR=14
MJAR                                 Sn    Sb          19 38 39.7 -3.6
     0.5nm,0.3s,baz=95,slow=15,SNR=3.2
MAT  Matsushiro           2.79 257   P     Pn          19 38 05.7 +1.8
MAT                                  eS    Sn          19 38 38.6 +1.0
JHJ  Hachijo jima 2       4.36 200   Pn    Pn          19 38 27.5 +2.0
     4.4nm,0.3s,baz=23,slow=13,SNR=1.3
JHJ                                  Sn    Sn          19 39 13.5 -2.8
     3.5nm,0.3s,baz=64,slow=24,SNR=1.3
ASAJ Asahikawa            6.92   6   Pn    Pn          19 39 00.1 -0.5
     0.4nm,0.3s,baz=194,slow=11,SNR=5.8
JNU  Nakatsue             9.67 248   Pn    Pn          19 39 39.5 +1.1
     0.1nm,0.3s,baz=68,slow=19,SNR=2.3
SONM Songino Array       27.78 304   P     P           19 43 09.4 +1.1
     0.2nm,0.3s,baz=105,slow=8.9,SNR=1.7
H11N2 WAKE ISLAND Hy 28.14 121       T     T           20 12 44.3
     baz=314,slow=75,SNR=12
H11N1 WAKE ISLAND Hy 28.15 121       T     T           20 12 45.6
     baz=314,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 28.16 121       T     T           20 12 46.3
     baz=314,slow=75,SNR=11
H11S1 WAKE ISLAND Hy 28.86 123       T     T           20 13 37.8
     baz=316,slow=76,SNR=8.7
H11S3 WAKE ISLAND Hy 28.86 123       T     T           20 13 35.7
     baz=316,slow=76,SNR=5.0
H11S2 WAKE ISLAND Hy 28.88 123       T     T           20 13 39.2
     baz=316,slow=76,SNR=5.8
MKAR Makanchi Array      44.12 302   P     P           19 45 28.0 +0.3
     0.2nm,0.7s,baz=86,slow=8.8,SNR=2.4
WRA  Warramunga Arr      57.28 188   P     P           19 47 07.9 +0.9
     0.5nm,0.8s,baz=5.8,slow=7.5,SNR=5.4
ASAR Alice Springs       61.00 188   P     P           19 47 34.2 +1.4
     0.4nm,1.0s,baz=4.2,slow=6.3,SNR=1.9
```

*IDC **30** 19:40:07.1±2.2, 37°.12N×142°.32E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.4/57, mbtmp3.6/6, ML3.1/3, Error ellipse: s-maj=41.9km s-min=24.5km az=135.0*
*JMA **30** 19:40:10.5±0.2, 37°.20N×142°.15E, h40km±5km, M3.6*
ISC 30 19:40:08.0±3.5, 37°.18N±0°.05×142°.28E±0°.07, h16km±22km, n27, σ2°06/37, mb3.3/3, Off east coast of Honshu

```
Code Station Name         Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
JFK  Kawauchi             1.13 280   P     Pb          19 40 28.8 -0.5
JFK                                  eS    Sb          19 40 41.5 -2.3
ONAJ Iwakimizuishiy       1.18 267   P     Pb          19 40 29.3 -0.8
ONAJ                                 eS    Sb          19 40 43.0 -2.3
JMST Minamisoumatoc       1.23 297   P     Pb          19 40 30.3 -0.6
JMST                                 S     Sb          19 40 44.4 -2.2
JIKH Ishinomakikobu       1.30 331   P     Pn          19 40 31.6  0.0
JIKH                                 eS    Sb          19 40 47.1 -1.5
JMM  Marumori             1.36 301   P     Pn          19 40 32.4  0.0
JMM                                  eS    Sb          19 40 47.9 -2.5
JFFD Fukushimafurud       1.37 267   P     Pn          19 40 32.1 -0.5
JFFD                                 eS    Sb          19 40 48.2 -2.5
JIO  Ouri                 1.47 330   P     Pn          19 40 34.2 +0.3
JIO                                  eS    Sn          19 40 51.1 -1.7
JFT  Otama                1.58 283   P     Pn          19 40 36.2 +0.7
JFT                                  eS    Sn          19 40 54.4 -1.2
JOU  Okura                1.74 313   P     Pn          19 40 38.6 +0.9
JOU                                  eS    Sn          19 40 59.4 -0.2
JMK  Ichinoseki           1.96 335   P     Pn          19 40 41.7 +1.1
JMK                                  eS    Sn          19 41 04.5 -0.3
JYS  Shiratake            2.04 301   eS    Sn          19 41 06.3 -0.6
JFY  Yanaizu              2.06 277   P     Pn          19 40 43.4 +1.3
JFY                                  eS    Sn          19 41 06.9 -0.6
JYK  Kaneyama             2.30 320   P     Pn          19 40 46.9 +1.5
JAG  Ashikaga             2.39 252   P     Pn          19 40 46.7 +0.2
JAG                                  eS    Sn          19 41 14.1 -1.4
MJAR Matsushiro Arr       3.32 260   Pn    Pn          19 41 01.4 +1.9
     0.4nm,0.3s,baz=81,slow=16,SNR=8.8
MJAR                                 Sn    Sn          19 41 42.4 +3.8
     0.5nm,0.3s,baz=77,slow=11,SNR=6.5
MAT  Matsushiro           3.32 260   P     Pn          19 41 02.3 +2.9
MAT                                  eS    Sn          19 41 36.5 -2.1
JHJ  Hachijo jima 2       4.54 207   Pn    Pn          19 41 16.5 +0.4
     11nm,0.3s,baz=165,slow=23,SNR=7.7
JHJ                                  Sn    Sn          19 42 04.9 -3.6
     17nm,0.3s,baz=53,slow=22,SNR=1.8
ASAJ Asahikawa            6.94   2   Pn    Pn          19 41 51.2 +2.3
     0.4nm,0.3s,baz=210,slow=16,SNR=6.7
ASAJ                                 Sn    Sn          19 43 01.6 -6.0
     0.3nm,0.3s,baz=287,slow=31,SNR=1.8
H11N2 WAKE ISLAND Hy 27.64 122       T     T           20 15 03.1
     baz=314,slow=75,SNR=14
H11N1 WAKE ISLAND Hy 27.64 122       T     T           20 15 08.7
     baz=314,slow=75,SNR=11
H11N3 WAKE ISLAND Hy 27.65 122       T     T           20 15 29.8
     baz=314,slow=75,SNR=13
SONM Songino Array       28.28 304   P     P           19 46 02.1 +1.4
     0.4nm,0.7s,baz=108,slow=9.4,SNR=4.2
H11S1 WAKE ISLAND Hy 28.36 124       T     T           20 16 21.7
     baz=316,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 28.37 124       T     T           20 16 07.9
     baz=316,slow=76,SNR=7.1
H11S2 WAKE ISLAND Hy 28.38 124       T     T           20 16 09.0
     baz=316,slow=76,SNR=8.8
MKAR Makanchi Array      44.63 302   P     P           19 48 21.3 +1.7
     0.3nm,0.7s,baz=85,slow=8.8,SNR=2.9
ILAR Eielson Array       49.00  32   P     P           19 48 55.5 +1.9
     0.2nm,0.6s,baz=267,slow=5.3,SNR=2.6
```

IDC 30 20:02:23.1±2.7, 3°.70S×151°.80E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/39, mbtmp3.2/2, Error ellipse: s-maj=53.6km s-min=22.6km az=53.0, New Ireland region

```
Code Station Name         Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
KRVT Keravat (AS076       0.65 160   Pn    Pn          20 02 38.9 -0.6
     35nm,0.3s,baz=37,slow=2.7,SNR=3.9
KRVT                                 Sn    Sn          20 02 53.0 +2.6
     34nm,0.3s,baz=282,slow=16,SNR=2.8
WRA  Warramunga Arr      23.47 225   P     P           20 07 33.8 -0.7
     0.6nm,0.5s,baz=51,slow=9.6,SNR=11
ASAR Alice Springs       26.32 219   P     P           20 08 01.6 +0.7
     0.2nm,0.6s,baz=62,slow=8.8,SNR=1.2
H11S3 WAKE ISLAND Hy 26.48  33       T     T           20 35 16.5
     baz=209,slow=76,SNR=3.8
H11S2 WAKE ISLAND Hy 26.49  33       T     T           20 35 22.7
     baz=209,slow=76,SNR=4.8
H11S1 WAKE ISLAND Hy 26.50  33       T     T           20 35 15.8
     baz=209,slow=76,SNR=5.2
H02S1 DAWSON INLET T 84.44  36       T     T           21 47 45.2
     SNR=4.8
TORD Torodi Ar. Bea      149.01 289  PKPbc PKPbc       20 22 13.9 -0.4
     0.5nm,0.8s,baz=85,slow=1.7,SNR=2.4
```

IDC 30 20:02:39.9±5.8, 4°.48S×133°.22E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/31, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=346.0km s-min=32.6km az=76.0, Irian Jaya region

```
Code Station Name         Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
WRA  Warramunga Arr      15.41 176   Pn    Pn          20 06 18.0 -0.9
     0.1nm,0.3s,baz=355,slow=13,SNR=6.5
ASAR Alice Springs       19.09 178   P     P           20 07 04.7 +0.4
     0.1nm,0.3s,baz=1.4,slow=11,SNR=14
MKAR Makanchi Array      67.95 325   P     P           20 13 40.8  0.0
     0.4nm,0.8s,baz=125,slow=7.2,SNR=2.7
```

IDC 30 20:28:18.6±7.6, 19°.24S×177°.91W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/36, mbtmp3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=330.2km s-min=39.6km az=144.0, Fiji Islands region

```
Code Station Name         Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
DZM  Mont Dzumac         14.91 256   LR    LR          20 36 49.6
     comp=Z,73nm,19.0s,baz=185,slow=34
WRA  Warramunga Arr      44.87 261   P     P           20 36 35.2  0.0
```

0.4nm,0.9s,baz=96,slow=7.8,SNR=8.1
ASAR Alice Springs 44.90 255 P P 20 36 35.1 -0.3
0.5nm,1.0s,baz=101,slow=8.1,SNR=7.9
ILAR Eielson Array 87.08 13 P P 20 41 05.7 0.0
0.3nm,0.5s,baz=213,slow=6.1,SNR=4.5

*ROM **30** 21:08:31.4±0.3, 39°.39N±0°.01×15°.39E±0°.03, h300km±2km, ML3.1/24, Error ellipse: s-maj=2.7km s-min=0.8km az=101.0, hypocenter*
*IDC **30** 21:08:32.2±3.4, 39°.57N×15°.59E, h280km±60km, mb3.2/4, mb1 3.2/7, mb1mx2.9/38, mbtmp3.7/7, Error ellipse: s-maj=43.6km s-min=35.2km az=2.0*
*LDG **30** 21:08:32.4, 39°.37N×15°.55E, h297km*
ISC 30 21:08:32.4±0.9, 39°.40N±0°.09×15°.61E±0°.07, h296km±7km, n53, σ0°.83/62, mb3.3/4, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CET2	**Cetraro**	**0.30**	**64**	P	**Pn**	**21 09 10.4**	**+0.2**
CET2				S	**S**	**21 09 39.5**	**-0.7**
CET2				AML	AML		
	comp=E,404μm,0.8s						
CET2				AML	AML		
	comp=N,298μm,0.9s						
CET2				AML	AML		
	comp=N,298μm,0.9s						
CAR1	**CAROLEI**	**0.49**	**107**	P	**Pn**	**21 09 10.9**	**+0.2**
CAR1				S	**S**	**21 09 39.2**	**-1.7**
CAR1				AML	AML		
	comp=E,292μm,0.4s						
CAR1				AML	AML		
	comp=E,292μm,0.4s						
CAR1				AML	AML		
	comp=N,181μm,0.9s						
TDS	**Terranova Siba**	**0.62**	**65**	P	**Pn**	**21 09 12.3**	**+1.4**
TDS				AML	AML		
	comp=E,66μm,0.4s						
TDS				AML	AML		
	comp=E,66μm,0.4s						
TDS				AML	AML		
	comp=N,34μm,1.1s						
CELI	**Celico**	**0.70**	**89**	P	**Pn**	**21 09 13.0**	**+1.7**
CELI				S	**S**	**21 09 43.2**	**+1.0**
CELI				AML	AML		
	comp=E,192μm,1.4s						
CELI				AML	AML		
	comp=N,182μm,0.7s						
BULG	**Bulgheria - Ca**	**0.70**	**346**	P	**Pn**	**21 09 11.5**	**+0.3**
MGR	**Morigerati**	**0.74**	**357**	P	**Pn**	**21 09 11.5**	**+0.3**
MGR				S	**S**	**21 09 41.1**	**-1.0**
MGR				AML	AML		
	comp=E,28μm,0.5s						
MGR				AML	AML		
	comp=N,34μm,0.9s						
MGR				AML	AML		
	comp=N,34μm,0.9s						
MGR				AML	AML		
	comp=E,28μm,0.5s						
SALB	**San Lorenzo Be**	**0.74**	**50**	P	**Pn**	**21 09 12.2**	**+0.8**
SALB				S	**S**	**21 09 42.2**	**-0.2**
SALB				AML	AML		
	comp=E,89μm,1.0s						
SALB				AML	AML		
	comp=N,60μm,0.8s						
SALB				AML	AML		
	comp=E,89μm,1.0s						
SALB				AML	AML		
	comp=N,60μm,0.8s						
SIRI	**Monte Sirino -**	**0.81**	**14**	P	**Pn**	**21 09 11.9**	**+0.3**
SIRI				AML	AML		
	comp=E,40μm,0.2s						
SIRI				AML	AML		
	comp=N,34μm,1.0s						
JOPP	**Joppolo**	**0.82**	**164**	P	**Pn**	**21 09 11.8**	**+0.1**
JOPP				AML	AML		
	comp=N,122μm,0.8s						
JOPP				AML	AML		
	comp=E,81μm,0.2s						
JOPP				AML	AML		
	comp=N,122μm,0.8s						
JOPP				AML	AML		
	comp=E,81μm,0.2s						
GRI	**Girifalco**	**0.85**	**132**	P	**Pn**	**21 09 13.0**	**+1.1**
SERS	**Sersale**	**0.92**	**113**	P	**Pn**	**21 09 13.2**	**+1.0**
SERS				S	**S**	**21 09 43.4**	**-0.3**
SERS				AML	AML		
	comp=N,64μm,1.0s						
SERS				AML	AML		
	comp=E,46μm,0.5s						
TIP	**Timpagrande**	**0.92**	**103**	P	**Pn**	**21 09 13.4**	**+1.3**
TIP				S	**S**	**21 09 43.9**	**+0.3**
ORI	**Oriolo Calabro**	**0.93**	**44**	P	**Pn**	**21 09 13.5**	**+1.5**
ORI				AML	AML		
	comp=E,190μm,0.6s						
ORI				AML	AML		
	comp=E,190μm,0.6s						
ORI				AML	AML		
	comp=N,198μm,0.4s						
MCEL	**Monticello**	**0.94**	**9**	P	**Pn**	**21 09 13.0**	**+0.9**
MCEL				AML	AML		
	comp=E,36μm,0.6s						
MCEL				AML	AML		
	comp=N,45μm,1.2s						
PIPA	**Pietrapaola**	**0.94**	**84**	P	**Pn**	**21 09 13.5**	**+1.4**
PIPA				AML	AML		
	comp=E,160μm,1.6s						
PIPA				AML	AML		
	comp=N,155μm,0.4s						
SLCN	**Sala Consilina**	**0.99**	**1**	P	**Pn**	**21 09 13.0**	**+0.6**
SLCN				AML	AML		
	comp=E,57μm,0.5s						
SLCN				AML	AML		
	comp=N,36μm,0.4s						
SLCN				AML	AML		
	comp=E,57μm,0.5s						
SLCN				AML	AML		
	comp=N,36μm,0.4s						
CDRU	**Civita di Ruta**	**1.11**	**348**	P	**Pn**	**21 09 13.1**	**+0.1**
VPL	**Vulcano Piano**	**1.13**	**206**	P	**Pn**	**21 09 13.6**	**+0.5**
VPL				AML	AML		
	comp=E,228μm,1.4s						
VPL				AML	AML		
	comp=N,271μm,0.8s						
MSRU	**Castanea**	**1.14**	**184**	P	**Pn**	**21 09 13.1**	**-0.1**
MSRU				S	**S**	**21 09 44.4**	**-1.1**
MSRU				AML	AML		
	comp=N,202μm,0.4s						
MSRU				AML	AML		
	comp=E,294μm,1.3s						
PLAC	**Placanica**	**1.15**	**145**	P	**Pn**	**21 09 14.0**	**+0.8**
PLAC				S	**S**	**21 09 45.4**	**-0.2**
PLAC				AML	AML		
	comp=E,171μm,0.3s						
PLAC				AML	AML		
	comp=E,170μm,0.3s						
PLAC				AML	AML		
	comp=N,112μm,0.2s						
PLAC				AML	AML		
	comp=N,112μm,0.2s						
CEL	**Celeste**	**1.16**	**169**	P	**Pn**	**21 09 13.8**	**+0.5**
CEL				AML	AML		
	comp=E,101μm,1.0s						
CEL				AML	AML		
	comp=N,134μm,0.6s						
IFIL	**Filicudi I Eol**	**1.16**	**225**	P	**Pn**	**21 09 13.2**	**0.0**
MILZ	**Milazzo**	**1.16**	**195**	P	**Pn**	**21 09 13.3**	**0.0**
MILZ				S	**S**	**21 09 45.4**	**-0.3**
MILZ				AML	AML		
	comp=E,184μm,0.5s						
MILZ				AML	AML		
	comp=N,170μm,0.4s						
MILZ				AML	AML		
	comp=N,112μm,0.5s						
MILZ				AML	AML		
	comp=E,160μm,0.5s						
MSCL	**Scilla**	**1.17**	**173**	P	**Pn**	**21 09 13.7**	**+0.2**
MSCL				AML	AML		
	comp=E,279μm,1.0s						
MSCL				AML	AML		
	comp=N,322μm,0.5s						
GMB	**Gambarie**	**1.24**	**172**	P	**Pn**	**21 09 14.4**	**+0.5**
GMB				AML	AML		
	comp=E,618μm,0.4s						
GMB				AML	AML		
	comp=N,550μm,0.4s						
MPNC	**Port Mandanici**	**1.27**	**189**	AML	AML		
	comp=E,238μm,0.8s						
MPNC				AML	AML		
	comp=N,240μm,0.4s						
MCSR	**Castroreale**	**1.36**	**192**	P	**Pn**	**21 09 14.8**	**+0.2**
MCSR				AML	AML		
	comp=E,318μm,0.3s						
MCSR				AML	AML		
	comp=N,340μm,0.3s						
MCSR				AML	AML		
	comp=N,322μm,0.3s						
MCSR				AML	AML		
	comp=E,199μm,0.3s						
SOI	**Samo**	**1.37**	**165**	P	**Pn**	**21 09 15.0**	**+0.5**
SOI				AML	AML		
	comp=E,78μm,0.6s						
SOI				AML	AML		
	comp=N,79μm,0.6s						
SOI				AML	AML		
	comp=N,79μm,0.6s						
SOI				AML	AML		
	comp=E,78μm,0.6s						
NOV	**Novara**	**1.42**	**195**	P	**Pn**	**21 09 15.4**	**+0.5**
NOV				AML	AML		
	comp=N,128μm,0.3s						
NOV				AML	AML		
	comp=E,138μm,0.7s						
AIO	**Antillo**	**1.45**	**192**	P	**Pn**	**21 09 15.7**	**+0.6**
AIO				AML	AML		
	comp=E,108μm,0.6s						
AIO				AML	AML		
	comp=N,87μm,1.5s						
AIO				AML	AML		
	comp=E,108μm,0.6s						
AIO				AML	AML		
	comp=N,87μm,1.5s						
MPAZ	**Palizzi**	**1.48**	**168**	P	**Pn**	**21 09 15.8**	**+0.6**
MPAZ				AML	AML		
	comp=N,162μm,0.3s						
MPAZ				AML	AML		
	comp=E,182μm,0.6s						
EPZF	**Pizzo Felice**	**1.68**	**201**	AML	AML		
	comp=E,126μm,0.6s						
EPZF				AML	AML		
	comp=N,140μm,0.6s						
EPZF				AML	AML		
	comp=E,153μm,0.6s						
EPZF				AML	AML		
	comp=N,158μm,0.6s						
GALF	**Gagliano Caste**	**1.87**	**206**	AML	AML		
	comp=N,63μm,0.6s						
GALF				AML	AML		
	comp=E,47μm,0.7s						
PETRA	**Petralia Sopra**	**1.95**	**217**	AML	AML		
	comp=N,61μm,1.2s						
PETRA				AML	AML		
	comp=E,33μm,0.8s						
PETRA				AML	AML		
	comp=N,61μm,1.2s						
HLNI	**Lentini**	**2.13**	**196**	AML	AML		
	comp=E,36μm,1.3s						
HLNI				AML	AML		
	comp=N,27μm,1.0s						
ALJA	**Alia**	**2.19**	**222**	AML	AML		
	comp=E,79μm,1.0s						
ALJA				AML	AML		
	comp=N,65μm,1.3s						
PGF	**Pioggiola**	**5.91**	**304**	*e*P	**Pn**	**21 10 02.2**	**+1.7**
PGF				*e*Sn	**S**	**21 11 11.2**	**-0.3**
	comp=N,0.1nm,0.2s						
KEST	**Kesra**	**6.17**	**236**	P	**Pn**	**21 10 03.7**	**-0.1**
	comp=N,0.4nm,0.3s,baz=60,slow=8.1,SNR=9.3						
ABTA	**Abfaltersbach**	**7.69**	**344**	*e*Pn	**Pn**	**21 10 20.7**	**-1.3**
	comp=N,2.2nm,0.5s						
LMR	**La Mourre**	**7.89**	**303**	*e*P	**Pn**	**21 10 26.5**	**+2.0**
FETA	**Feichten**	**8.41**	**337**	*e*Pn	**Pn**	**21 10 31.3**	**+0.3**
	comp=N,2.8nm,0.8s						
SQTA	**Sankt Quirin**	**8.45**	**339**	*i* Pn	**Pn**	**21 10 31.5**	**+0.1**
	comp=N,4.7nm,0.5s						
MBDF	**Montbardon**	**8.46**	**312**	*e*P	**Pn**	**21 10 31.7**	**+0.1**
MBDF				*e*Sn	**S**	**21 12 08.5**	**+0.2**
	comp=N,0.2nm,0.2s						
WATA	**Walderalm**	**8.46**	**341**	*i* Pn	**Pn**	**21 10 30.4**	**-1.2**
	comp=N,2.6nm,0.5s						
LPG	**La Plagne**	**8.94**	**316**	*e*P	**Pn**	**21 10 37.3**	**-0.4**
LPG				*e*Sn	**S**	**21 12 19.9**	**+0.4**
	comp=N,0.2nm,0.2s						
LPL	**La Plagne**	**8.96**	**316**	*e*P	**Pn**	**21 10 37.7**	**-0.2**
LPL				*e*Sn	**S**	**21 12 20.3**	**+0.4**
	comp=N,0.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**9.09**	**311**	*e*P	**Pn**	**21 10 40.4**	**+1.1**
ORIF				*e*Sn	**S**	**21 12 22.9**	**+0.4**
	comp=N,0.3nm,0.3s						
AKASG	**Malin Array Be**	**14.82**	**36**	P	**Pn**	**21 11 48.4**	**-0.2**
	comp=N,0.8nm,0.3s,baz=229,slow=10.0,SNR=7.0						
ESDC	**Sonseca Array**	**15.11**	**277**	P	**Pn**	**21 11 52.5**	**+0.2**
	comp=N,0.1nm,0.3s,baz=77,slow=11,SNR=11						
NOA	**NORSAR Array B**	**21.84**	**354**	P	**P**	**21 13 00.3**	**-0.6**
	comp=N,0.2nm,0.4s,baz=168,slow=10,SNR=2.2						
FINES	**FINESS Array B**	**23.00**	**13**	P	**P**	**21 13 11.1**	**-0.4**
	comp=N,1.4nm,0.4s,baz=186,slow=8.4,SNR=16						
ARCES	**ARCESS Array B**	**30.66**	**7**	P	**P**	**21 14 17.9**	**-1.6**
	comp=N,11nm,1.2s,baz=190,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**47.93**	**58**	P	**P**	**21 16 42.1**	**+0.6**
	comp=N,0.2nm,0.3s,baz=280,slow=7.3,SNR=5.1						

*IDC **30** 21:34:32.6±0.7, 4°.27S×152°.99E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.2/41, mbtmp4.3/14, ML4.4/2, MS3.3/4, Ms1 3.2/4, ms1mx2.8/37, Error ellipse: s-maj=16.6km s-min=14.8km az=3.0*
*NEIC **30** 21:34:33.5±1.5, 4°.18S±0°.09×153°.15E±0°.04, h11km±1km, mb4.7/22, Error ellipse: s-maj=13.2km s-min=6.3km az=180.0*
*DJA **30** 21:34:37.1±0.5, 4°S±5°×15°3E±°, h41km±5km, M4.9/13, mb4.6/13, mB4.8/1, MLv5.1/2, Mw(mB)4.0/1*
ISC 30 21:34:37.1±0.5, 4°.17S±0°.07×153°.13E±0°.06, h35km, n62, σ1°.07/60, mb4.5/19, MS3.2/3, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.96**	**269**		**Pn**	**21 34 52.4**	**-1.7**
RABL				Sg	**Sn**	**21 35 05.5**	**-1.1**
KRVT	**Keravat (AS076**	**1.10**	**263**	Pn	**Pn**	**21 34 54.4**	**-1.7**
	333nm,0.3s,baz=46,slow=0.7,SNR=93						
KRVT				Sn	**Sn**	**21 35 08.9**	**-1.2**
	baz=112,slow=19						
PMG	**Port Moresby**	**7.88**	**228**	Pn	**Pn**	**21 36 30.4**	**+1.1**
	3.1nm,0.3s,baz=25,slow=7.5,SNR=4.2						
PMG				Sn	**Sn**	**21 37 59.8**	**+2.4**
	5.5nm,0.3s,baz=126,slow=12,SNR=5.1						
PMG	**Port Moresby**	**7.88**	**228**		**Pn**	**21 36 28.1**	**-1.2**
HNR	**Honiara**	**8.56**	**128**	Pn	**Pn**	**21 36 39.1**	**+0.5**
	22nm,0.3s,baz=216,slow=14,SNR=2.6						
HNR				Sn	**Sn**	**21 38 12.6**	**-1.4**
	15nm,0.3s,baz=274,slow=11,SNR=1.5						
HNR				LR	LR	21 39 51.8	
	comp=Z,216nm,18.8s,baz=292,slow=37						
HNR	**Honiara**	**8.56**	**128**		**Pn**	**21 36 37.5**	**-1.1**
PATS	**Pohnpei**	**12.10**	**25**	Pn	**Pn**	**21 37 25.4**	**-1.7**
COEN	**Coen**	**13.82**	**225**	Pn	**Pn**	**21 37 50.6**	**-0.1**
CTA	**Charters Tower**	**17.18**	**202**	P	**Pn**	**21 38 34.4**	**-0.2**
	0.3nm,0.3s,baz=11,slow=17,SNR=2.5						
CTAO	**Charters Tower**	**17.18**	**202**	Pn	**Pn**	**21 38 33.7**	**-0.9**
DZM	**Mont Dzumac**	**21.99**	**145**	P	**P**	**21 39 28.5**	**+0.1**
	2.9nm,0.5s,baz=168,slow=17,SNR=5.7						
DZM	**Mont Dzumac**	**21.99**	**145**	P	**P**	**21 39 26.6**	**-1.9**
DZM				IAmb	IAmb	21 39 41.5	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**23.96**	**228**	P	**P**	**21 39 47.6**	**-0.8**
WR0	**Warramunga Arr**	**23.97**	**228**	P	**P**	**21 39 47.7**	**-0.7**
WR0				IAmb	IAmb	21 39 49.4	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**24.10**	**228**	P	**P**	**21 39 48.8**	**-0.8**
WRA	**Warramunga Arr**	**24.11**	**228**	P	**P**	**21 39 49.2**	**-0.5**
	comp=Z,18nm,0.5s,baz=54,slow=10.0,SNR=203						
WRA				PcP	**PcP**	**21 43 31.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=52,slow=2.5,SNR=4.5						
WRA				S	**S**	**21 44 05.7**	**+0.4**
	comp=Z,2.1nm,1.0s,baz=52,slow=14,SNR=5.1						
ARMA	**Armidale**	**26.15**	**183**	P	**P**	**21 40 09.6**	**+1.3**
ARMA				IAmb	IAmb	21 40 10.1	
	comp=Z,17nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**26.19**	**30**	T	T	22 07 45.1	
	baz=218,slow=72,SNR=48						
H11S2	**WAKE ISLAND Hy**	**26.19**	**30**	T	T	22 07 42.0	
	baz=218,slow=72,SNR=76						
H11S1	**WAKE ISLAND Hy**	**26.20**	**30**	T	T	22 07 42.3	
	baz=218,slow=72,SNR=60						
KNRA	**Kununurra**	**26.54**	**243**	P	**P**	**21 40 12.5**	**+0.6**
AS31	**Alice Springs**	**26.83**	**222**	P	**P**	**21 40 13.7**	**-0.8**
ASAR	**Alice Springs**	**26.83**	**222**	P	**P**	**21 40 13.8**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=55,slow=8.9,SNR=44						
ASAR				PcP	**PcP**	**21 43 37.5**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=74,slow=3.0,SNR=3.5						
ASAR				ScP	**ScP**	**21 47 18.6**	**+4.1**
	comp=Z,0.2nm,0.7s,baz=64,slow=4.2,SNR=1.8						
ASAR	**Alice Springs**	**26.83**	**222**	P	**P**	**21 40 13.7**	**-0.9**
H11N1	**WAKE ISLAND Hy**	**27.32**	**29**	T	T	22 09 22.5	
	baz=202						
H11N3	**WAKE ISLAND Hy**	**27.33**	**29**	T	T	22 09 23.4	
	baz=202,slow=74						
H11N2	**WAKE ISLAND Hy**	**27.34**	**29**	T	T	22 09 23.2	
	baz=202,slow=74						
STKA	**Stephens Creek**	**29.62**	**200**	P	**P**	**21 40 38.5**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=23,slow=11,SNR=14						
STKA				LR	LR	21 52 13.9	
	comp=Z,44nm,18.9s,baz=31,slow=36						
STKA	**Stephens Creek**	**29.62**	**200**	P	**P**	**21 40 38.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.25**	**241**	P	**P**	**21 40 44.1**	**-0.8**
	comp=Z,4.1nm,0.3s,baz=0.1,slow=5.8,SNR=45						
CAN	**Canberra**	**31.23**	**187**		**P**	**21 40 53.7**	**+0.2**
BBOO	**Buckleboo**	**32.66**	**207**	P	**P**	**21 41 05.3**	**-0.7**
PSA00	**Pilbara Seismi**	**36.63**	**239**	P	**P**	**21 41 39.3**	**-1.2**
PSA00				IAmb	IAmb	21 41 51.2	
	comp=Z,26nm,1.4s						
QRZ	**Quartz Range**	**40.46**	**157**	P	**P**	**21 42 12.4**	**+0.1**
QRZ				IAmb	IAmb	21 42 14.5	
	comp=Z,35nm,1.3s						
BKZ	**Black Stump Fm**	**40.78**	**152**	P	**P**	**21 42 15.2**	**0.0**
BKZ				IAmb	IAmb	21 42 29.0	
	comp=Z,25nm,1.3s						
GIRL	**Giralia**	**41.86**	**240**	P	**P**	**21 42 24.1**	**0.0**
RPZ	**Rata Peaks**	**42.46**	**161**	P	**P**	**21 42 29.0**	**+0.3**
	comp=Z,13nm,0.8s,baz=345,slow=5.9,SNR=6.1						
RPZ	**Rata Peaks**	**42.46**	**161**	P	**P**	**21 42 28.3**	**-0.4**
RPZ				IAmb	IAmb	21 42 30.9	
	comp=Z,19nm,1.0s						
MORW	**Morawa**	**42.99**	**231**	P	**P**	**21 42 32.6**	**-0.7**
MORW				IAmb	IAmb	21 42 48.2	
	comp=Z,19nm,1.2s						
LEM	**Lembang**	**45.36**	**265**	LR	LR	22 04 58.5	
	comp=Z,26nm,19.2s,baz=180,slow=40						
ASAJ	**Asahikawa**	**48.99**	**350**	LR	LR	22 01 27.5	
	comp=Z,29nm,18.8s,baz=176,slow=33						
KULM	**Kulim**	**53.25**	**280**	P	**P**	**21 43 53.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**57.91**	**295**	P	**P**	**21 44 27.1**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=119,slow=5.1,SNR=1.2						
SONM	**Songino Array**	**65.97**	**328**	P	**P**	**21 45 21.1**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=143,slow=5.2,SNR=3.9						
SONM	**Songino Array**	**65.97**	**328**	P	**P**	**21 45 20.8**	**+0.8**
CASY	**Casey**	**68.71**	**197**	P	**P**	**21 45 36.8**	**-0.1**
CASY				IAmb	IAmb	21 45 50.8	
	comp=Z,3.8nm,0.8s						
VNDA	**Vanda**	**73.45**	**178**	P	**P**	**21 46 06.4**	**+1.0**
	comp=Z,5.4nm,0.6s,baz=331,slow=7.0,SNR=58						
VNDA	**Vanda**	**73.45**	**178**	P	**P**	**21 46 06.1**	**+0.7**
VNDA				IAmb	IAmb	21 46 07.0	
	comp=Z,5.9nm,0.7s						
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**21 46 43.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=98,slow=6.8,SNR=2.0						
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**21 46 43.5**	**+0.1**
ILAR	**Eielson Array**	**81.45**	**22**	P	**P**	**21 46 52.3**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=250,slow=5.4,SNR=2.4						
H02N1	**VAN INLET T-PH**	**84.02**	**36**	T	T	23 19 57.2	
	SNR=32						
H02S1	**DAWSON INLET T**	**84.05**	**36**	T	T	23 19 59.1	
	SNR=65						
QSPA	**South Pole Qui**	**85.79**	**180**	P	**P**	**21 47 13.0**	**+0.2**
MAW	**Mawson**	**86.28**	**203**	P	**P**	**21 47 14.8**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=96,slow=3.6,SNR=13						
MAW	**Mawson**	**86.28**	**203**	P	**P**	**21 47 15.0**	**+0.1**
SYO	**Syowa Base**	**94.37**	**199**	⇑*e*P	**P**	**21 47 51.8**	**-1.1**
GERES	**GERESS Array B**	**123.69**	**329**	PKP	**PKiKP**	**21 53 32.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=42,slow=1.6,SNR=2.2						
GERES	**GERESS Array B**	**123.69**	**329**		**PKiKP**	**21 53 31.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**150.41**	**289**	PKPbc	**PKPbc**	**21 54 26.0**	**0.0**
	comp=Z,5.1nm,1.0s,baz=75,slow=2.4,SNR=23						
TORD	**Torodi Ar. Bea**	**150.41**	**289**		**PKPbc**	**21 54 25.6**	**-0.5**
BDFB	**Brasilia**	**151.27**	**134**	PKPbc	**PKPbc**	**21 54 28.6**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=333,slow=2.3,SNR=1.9						

IDC 30 21:47:45.6±7.9, 14°.26N×144°.22E, h128km±63km, mb3.0/3, mb1 3.3/3, mb1mx3.0/49, mbtmp3.4/3, Error ellipse: s-maj=280.9km s-min=25.7km az=112.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.92**	**137**	P	Pn	21 48 07.7	+0.1
	167nm,0.3s,baz=297,slow=2.3,SNR=94						
GUMO				S	Sn	21 48 21.3	-2.9
	1μm,0.3s,baz=76,slow=23,SNR=164						
WRA	**Warramunga Arr**	**35.35**	**196**	P	P	21 54 28.8	-0.2
	0.3nm,0.5s,baz=19,slow=8.2,SNR=5.2						
ASAR	**Alice Springs**	**39.02**	**195**	P	P	21 54 59.9	-0.1
	0.3nm,0.7s,baz=19,slow=8.8,SNR=2.2						
ILAR	**Eielson Array**	**68.23**	**26**	P	P	21 58 32.4	+0.1
	0.2nm,0.4s,baz=249,slow=6.9,SNR=4.3						

*NNC **30** 22:13:43.1±9.0, 36°.32N×64°.64E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=84.7km s-min=69.2km az=140.0*
*IDC **30** 22:13:45.8±5.6, 35°.95N×65°.10E, h0km, mb3.3/1, mb1 3.3/4, mb1mx3.1/55, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=84.8km s-min=22.5km az=177.0*
ISC 30 22:13:46.8±2.8, 35°.8N±0°.2×65°.27E±0°.09, h35km, n8, σ1°.60/12, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**6.13**	**293**	Pn	**Pn**	**22 15 14.9**	**0.0**
	0.6nm,0.3s,baz=107,slow=12,SNR=5.0						
GEYT				Sn	**Sn**	**22 16 24.4**	**+0.6**
	0.5nm,0.3s,baz=72,slow=14,SNR=1.3						
GEYT				Lg	Lg	22 16 55.4	
	0.8nm,0.3s,baz=141,slow=35,SNR=2.2						
KK31	**Karatay Array**	**8.37**	**27**	⇑P	**Pn**	**22 15 45.0**	**-0.6**
	1.7nm,0.6s,baz=222,slow=18,SNR=14						
KK31				⇑S	**Sn**	**22 17 18.2**	**-0.6**
	0.8nm,0.3s,baz=218,slow=32,SNR=5.8						
AAK	**Ala-Archa**	**9.91**	**43**	⇓P	**Pn**	**22 16 05.5**	**-1.3**
	2.2nm,0.6s						
AAK				⇑S	**Sn**	**22 17 59.2**	**+2.3**
	2.0nm,0.7s						
TKM2	**Tokmak 2**	**10.72**	**45**	⇓P	**Pn**	**22 16 16.3**	**-1.6**
	2.5nm,0.6s						
TKM2				⇑S	**Sn**	**22 18 17.3**	**+0.6**
	4.7nm,1.2s						
MKAR	**Makanchi Array**	**16.84**	**44**	Pn	**Pn**	**22 17 39.8**	**+0.1**
	0.1nm,0.3s,baz=236,slow=10.0,SNR=3.0						
BVAR	**Borovoye Array**	**17.63**	**10**	P	**P**	**22 17 50.8**	**+0.6**
	0.3nm,0.3s,baz=200,slow=16,SNR=7.0						
KURBB	**Kurchatov Arra**	**17.68**	**29**	P	**Pn**	**22 17 46.9**	**-3.1**
	0.0nm,0.3s,baz=220,slow=12,SNR=2.4						
ZALV	**Zalesovo Beam**	**22.73**	**31**	P	**P**	**22 18 46.9**	**+1.4**
	0.7nm,0.6s,baz=219,slow=11,SNR=5.1						

*IDC **30** 22:16:30.8±0.5, 35°.22N×27°.00E, h0km, mb4.2/31, mb1 4.2/39, mb1mx4.1/53, mbtmp4.2/39, ML3.7/7, MS3.2/12, Ms1 3.2/12, ms1mx3.0/53, Error ellipse: s-maj=11.9km s-min=10.8km az=170.0*
*ISK **30** 22:16:30.9, 35°.05N×27°.19E, h10km, ML4.1/36*
*NIC **30** 22:16:32.1±0.0, 35°.08N×27°.23E, h0km±5km, Ml4.5/3*
*ATH **30** 22:16:33.2,

nsta2 refers to surface waves, cutoff=35s.
*HLW **30** 22:16:33.6, 35°.16N×27°.32E, h22km±11km, Md4.2, Ml4.0*
*GII **30** 22:16:34.3±0.0, 34°.85N×27°.22E, h10km, MD3.6/1, Mm4.1/3*
*MOS **30** 22:16:34.7±1.0, 35°.21N×27°.04E, h38km, mb4.7/16, Error ellipse: s-maj=6.6km s-min=4.2km az=80.6*
*THE **30** 22:16:34.2, 35°.19N×27°.00E, h1km, ML3.8/6, Error ellipse: s-maj=2.0km s-min=0.5km az=148.0*
*NEIC **30** 22:16:36.0±1.5, 35°.20N±0°.04×27°.10E±0°.06, h36km±3km, Error ellipse: s-maj=7.3km s-min=6.6km az=89.0*
ISC 30 22:16:34.4±0.9, 35°.13N±0°.03×27°.10E±0°.02, h26km±6km, n454, σ1§59/489, mb4.4/63, 29C-18D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.42**	**7**	P	**Pb**	**22 16 41.9**	**-1.5**
KARP				S	**Sb**	**22 16 47.9**	**-1.5**
	21μm,0.4s						
KARP	**Karpathos**	**0.42**	**7**	P	**Pb**	**22 16 41.8**	**-1.6**
KARP				S	**Sb**	**22 16 48.3**	**-1.1**
KARP				AML	AML	22 16 51.0	
	comp=E,45829μm,0.6s						
KARP				AML	AML	22 16 51.7	
	comp=N,38586μm,0.3s						
KARP	**Karpathos**	**0.42**	**7**	PG	**Pb**	**22 16 41.3**	**-2.0**
KARP				SG	**Sb**	**22 16 48.7**	**-0.7**
KARP	**Karpathos**	**0.42**	**7**	⇑P	**Pb**	**22 16 41.8**	**-1.6**
KARP				S	**Sb**	**22 16 50.4**	**+1.0**
KARP	**Karpathos**	**0.42**	**7**	Pg	**Pb**	**22 16 41.7**	**-1.6**
KARP					**Sb**	**22 16 49.3**	**-0.2**
ZKR	**Zakros**	**0.72**	**269**	P	**Pb**	**22 16 46.9**	**-1.4**
ZKR				S	**Sb**	**22 16 57.1**	**-0.7**
	comp=N,18μm,0.4s						
ZKR	**Zakros**	**0.72**	**269**	P	**Pb**	**22 16 46.9**	**-1.4**
ZKR				S	**Sb**	**22 16 58.2**	**+0.4**
ZKR				AML	AML	22 16 59.5	
	comp=N,30757μm,0.4s						
ZKR				AML	AML	22 17 00.4	
	comp=E,40250μm,0.4s						
ZKR	**Zakros**	**0.72**	**269**	PG	**Pb**	**22 16 46.6**	**-1.7**
ZKR				SG	**Sb**	**22 16 58.5**	**+0.7**
STIA	**Sitia Lasithi**	**0.83**	**275**	P	**Pb**	**22 16 49.1**	**-1.0**
FRMA	**Ierapetra Chan**	**1.12**	**265**	P	**Pn**	**22 16 51.9**	**-2.5**
NPS	**Neapolis**	**1.22**	**277**	P	**Pn**	**22 16 55.7**	**-0.1**
NPS	**Neapolis**	**1.22**	**277**	P	**Pb**	**22 16 56.7**	**-0.1**
NPS				S	**Sb**	**22 17 14.4**	**+2.2**
NPS				AML	AML	22 17 18.5	
	comp=N,12411μm,0.8s						
NPS				AML	AML	22 17 20.5	
	comp=E,14696μm,0.3s						
LAST	**Lasithi**	**1.33**	**272**	P	**Pn**	**22 16 57.4**	**+0.1**
LAST				S	**Sb**	**22 17 14.9**	**-0.3**
	comp=E,2μm,0.8s						
LAST	**Lasithi**	**1.33**	**272**	P	**Pb**	**22 16 58.2**	**-0.4**
LAST				AML	AML	22 17 27.0	
	comp=N,7733μm,0.9s						
LAST				AML	AML	22 17 33.9	
	comp=E,8318μm,1.0s						
ARG	**Arkhangelos**	**1.37**	**37**	P	**Pb**	**22 16 58.9**	**-0.4**
ARG				S	**Sb**	**22 17 18.1**	**+1.6**
	comp=E,5μm,0.9s						
ARG	**Arkhangelos**	**1.37**	**37**	P	**Pb**	**22 16 59.4**	**+0.1**
ARG				S	**Sb**	**22 17 16.6**	**+0.2**
ARG				AML	AML	22 17 24.7	
	comp=N,9248μm,0.7s						
ARG				AML	AML	22 17 25.5	
	comp=E,12443μm,1.1s						
ARG	**Arkhangelos**	**1.37**	**37**	PN	**Pn**	**22 16 57.1**	**-0.7**
ARG	**Arkhangelos**	**1.37**	**37**	⇑P	**Pb**	**22 16 59.0**	**-0.4**
ARG				S	**Sb**	**22 17 18.0**	**+1.6**
NISR	**Nisiros**	**1.48**	**1**	P	**Pn**	**22 16 59.3**	**0.0**
NISR	**Nisiros**	**1.48**	**1**	P	**Pb**	**22 17 00.4**	**-0.8**
NISR				AML	AML	22 17 28.5	
	comp=N,8243μm,0.5s						
NISR				AML	AML	22 17 34.8	
	comp=E,10203μm,0.7s						
KOSK	**Kos Island**	**1.62**	**357**	P	**Pn**	**22 17 01.2**	**-0.1**
KOSK	**Kos Island**	**1.62**	**357**	PN	**Pn**	**22 17 01.9**	**+0.6**
ANAF	**Anafi Island**	**1.63**	**319**	P	**Pn**	**22 17 01.6**	**+0.2**
ANAF				S	**Sn**	**22 17 22.1**	**+0.5**
	comp=E,14μm,0.4s						
ANAF	**Anafi Island**	**1.63**	**319**	P	**Pn**	**22 17 02.5**	**+1.1**
ANAF				S	**Sb**	**22 17 24.6**	**+0.7**
ANAF				AML	AML	22 17 26.8	
	comp=N,28419μm,0.4s						
ANAF				AML	AML	22 17 29.5	
	comp=E,26992μm,0.5s						
DAT	**Datca**	**1.64**	**14**	P	**Pn**	**22 17 02.5**	**+0.8**
DAT				S	**Sb**	**22 17 23.6**	**-0.8**
DAT	**Datca**	**1.64**	**14**	PN	**Pn**	**22 17 01.7**	**0.0**
HRKL	**Herakleio**	**1.64**	**277**	PN	**Pn**	**22 17 02.3**	**+0.7**
IACM	**Heraklion**	**1.67**	**277**	P	**Pb**	**22 17 04.4**	**+0.1**
IACM				S	**Sb**	**22 17 26.2**	**+1.3**
IACM				AML	AML	22 17 40.1	
	comp=N,27630μm,0.7s						
IACM				AML	AML	22 17 47.1	
	comp=E,39070μm,0.5s						
DATC	**Datca-Mugla**	**1.69**	**16**	PN	**Pn**	**22 17 02.5**	**+0.3**
IDI	**Anoyia**	**1.81**	**276**	Pn	**Pb**	**22 17 06.9**	**-0.1**
	comp=E,27nm,0.3s,baz=93,slow=15,SNR=185						
IDI				Sn	**Sb**	**22 17 32.2**	**+3.0**
	comp=E,173nm,0.3s,baz=317,slow=6.7,SNR=12						
IDI	**Anoyia**	**1.81**	**276**	P	**Pb**	**22 17 06.9**	**-0.1**
IDI				AML	AML	22 17 45.7	
	comp=N,3445μm,1.0s						
IDI				AML	AML	22 17 49.2	
	comp=E,2710μm,0.6s						
IDI	**Anoyia**	**1.81**	**276**	⇓P	**Pb**	**22 17 06.7**	**-0.2**
IDI	**Anoyia**	**1.81**	**276**	⇓S	**Sb**	**22 17 28.1**	**-1.1**
IDI	**Anoyia**	**1.81**	**276**	PN	**Pn**	**22 17 04.3**	**+0.3**
IDI	**Anoyia**	**1.81**	**276**		**Pb**	**22 17 06.5**	**-0.5**
SANT	**Santorini**	**1.82**	**313**	P	**Pn**	**22 17 04.7**	**+0.7**
SANT	**Santorini**	**1.82**	**313**	P	**Pn**	**22 17 05.5**	**+1.4**
SANT				AML	AML	22 17 35.5	
	comp=E,5837μm,0.8s						
SANT				AML	AML	22 17 43.3	
	comp=N,2282μm,0.4s						
SANT	**Santorini**	**1.82**	**313**	⇓P	**Pb**	**22 17 06.5**	**-0.5**
SANT	**Santorini**	**1.82**	**313**	⇑S	**Sb**	**22 17 29.1**	**-0.3**
SANT	**Santorini**	**1.82**	**313**	PN	**Pn**	**22 17 04.8**	**+0.7**
SANT	**Santorini**	**1.82**	**313**		**Pn**	**22 17 04.8**	**+0.8**
THR8	**Santorini-Mono**	**1.83**	**315**	P	**Pn**	**22 17 05.3**	**+1.1**
THR6	**Thira Island,**	**1.85**	**312**	P	**Pn**	**22 17 05.9**	**+1.5**
SAP1	**Santorini-Akro**	**1.85**	**312**	P	**Pn**	**22 17 05.2**	**+0.8**
SAP1	**Santorini-Akro**	**1.85**	**312**	P	**Pn**	**22 17 05.7**	**+1.3**
SAP1				S	**Sb**	**22 17 30.9**	**+0.7**
SAP2K	**Karterados**	**1.85**	**314**	P	**Pb**	**22 17 06.2**	**-1.4**
SAP2K				S	**Sb**	**22 17 30.1**	**-0.2**
SNT1	**Gialos, Santor**	**1.87**	**314**	P	**Pn**	**22 17 05.5**	**+0.8**
STAX	**Taxiarchis Har**	**1.87**	**313**	P	**Pn**	**22 17 06.1**	**+1.4**
THR7	**Fira-Santorini**	**1.87**	**314**	P	**Pb**	**22 17 06.4**	**-1.5**
THR9	**Santorini-Faro**	**1.87**	**311**	P	**Pn**	**22 17 06.1**	**+1.4**
SIVA	**Sivas**	**1.88**	**267**	P	**Pb**	**22 17 06.9**	**-1.0**
SIVA				AML	AML	22 17 45.0	
	comp=N,6391μm,0.9s						
SIVA				AML	AML	22 17 46.5	
	comp=E,10432μm,0.6s						
SNT5	**Nea Kammeni, S**	**1.88**	**313**	P	**Pn**	**22 17 05.7**	**+0.9**
THR3	**Thira Island,**	**1.88**	**313**	P	**Pn**	**22 17 06.4**	**+1.5**
THT2	**Imerovigli**	**1.89**	**314**	P	**Pn**	**22 17 05.5**	**+0.6**
THT2	**Imerovigli**	**1.89**	**314**	PN	**Pn**	**22 17 06.1**	**+1.2**
TURN	**Turunc**	**1.89**	**29**	PN	**Pn**	**22 17 04.8**	**-0.1**
THR5	**Thira Island,**	**1.92**	**313**	P	**Pn**	**22 17 06.5**	**+1.2**
CMBO	**Columbo, Santo**	**1.92**	**315**	P	**Pn**	**22 17 06.8**	**+1.4**
SAP3	**Santorini-Thir**	**1.93**	**313**	P	**Pn**	**22 17 06.7**	**+1.1**
BODT	**Bodrum**	**1.94**	**5**	P	**Pn**	**22 17 06.1**	**+0.4**
BODT	**Bodrum**	**1.94**	**5**	PN	**Pn**	**22 17 06.1**	**+0.4**
AMGA	**Amorgos Island**	**1.96**	**330**	P	**Pn**	**22 17 06.2**	**+0.2**
AMGA	**Amorgos Island**	**1.96**	**330**	P	**Pn**	**22 17 06.8**	**+0.8**
AMGA				AML	AML	22 17 44.1	
	comp=N,5513μm,0.6s						
AMGA				AML	AML	22 17 48.3	
	comp=E,3332μm,0.5s						
YKAV	**Yalikavak-Bodr**	**2.00**	**4**	PN	**Pn**	**22 17 06.9**	**+0.5**
DALY	**Dalyan (Mula)**	**2.10**	**36**	PN	**Pn**	**22 17 07.9**	**0.0**
IOSP	**Ios island**	**2.16**	**318**	P	**Pn**	**22 17 10.0**	**+1.2**
IOSP				AML	AML	22 17 37.2	
	comp=N,4163μm,0.7s						
IOSP				AML	AML	22 17 38.2	
	comp=E,5723μm,0.4s						
FETY	**Fethiye**	**2.21**	**46**	PN	**Pn**	**22 17 09.2**	**-0.1**
YER	**Yerkesik**	**2.22**	**25**	P	**Pn**	**22 17 10.8**	**+1.2**
YER				S	**Sb**	**22 17 38.6**	**-2.3**
YER	**Yerkesik**	**2.22**	**25**	PN	**Pn**	**22 17 09.3**	**-0.3**
MLSB	**Milas**	**2.23**	**14**	PN	**Pn**	**22 17 09.9**	**+0.2**
KSL	**Kastellorizon**	**2.27**	**63**	P	**Pn**	**22 17 11.5**	**+1.4**
KSL	**Kastellorizon**	**2.27**	**63**	P	**Pn**	**22 17 11.6**	**+1.4**
KSL				AML	AML	22 18 10.1	
	comp=N,1141μm,0.9s						
KSL				AML	AML	22 18 14.6	
	comp=E,1397μm,1.1s						
KSL	**Kastellorizon**	**2.27**	**63**	⇑P	**Pn**	**22 17 10.6**	**+0.5**
APE	**Apeiranthos**	**2.31**	**327**	P	**Pn**	**22 17 11.4**	**+0.5**
APE				S	**Sn**	**22 17 39.1**	**+0.6**
	comp=E,1μm,0.5s						
APE	**Apeiranthos**	**2.31**	**327**	P	**Pn**	**22 17 11.9**	**+1.0**
APE				S	**Sn**	**22 17 40.8**	**+2.2**
APE				AML	AML	22 17 42.5	
	comp=N,2022μm,0.5s						
APE				AML	AML	22 17 44.4	
	comp=E,2134μm,0.5s						
APE	**Apeiranthos**	**2.31**	**327**	⇑P	**Pb**	**22 17 14.1**	**-1.3**
APE	**Apeiranthos**	**2.31**	**327**	⇑S	**Sb**	**22 17 41.0**	**-2.6**
APE	**Apeiranthos**	**2.31**	**327**	PN	**Pn**	**22 17 11.6**	**+0.7**
APE	**Apeiranthos**	**2.31**	**327**	*i* P	**Pn**	**22 17 11.4**	**+0.5**
AKAS	**Kas**	**2.32**	**61**	PN	**Pn**	**22 17 10.2**	**-0.8**
AKAS	**Kas**	**2.32**	**61**	Pn	**Pn**	**22 17 12.2**	**+1.2**
VAM	**Vamos**	**2.39**	**278**	P	**Pb**	**22 17 14.8**	**-1.8**
VAM				AML	AML	22 17 53.8	
	comp=E,2393μm,0.6s						
VAM				AML	AML	22 17 54.7	
	comp=N,3299μm,0.9s						
GVDS	**Gavdos**	**2.48**	**264**	P	**Pn**	**22 17 15.8**	**+2.6**
GVDS	**Gavdos**	**2.48**	**264**	PN	**Pn**	**22 17 14.1**	**+0.9**
GVD	**Gavdhos**	**2.49**	**264**	P	**Pn**	**22 17 15.7**	**+2.5**
GVD				AML	AML	22 18 12.3	
	comp=E,2527μm,1.2s						
GVD				AML	AML	22 18 14.9	
	comp=N,1967μm,0.6s						
GVD	**Gavdhos**	**2.49**	**264**	PN	**Pn**	**22 17 13.9**	**+0.7**
IMMV	**Iera Moni Meta**	**2.57**	**278**	P	**Pb**	**22 17 17.6**	**-2.2**
IMMV				AML	AML	22 17 58.9	
	comp=N,2090μm,0.9s						
IMMV				AML	AML	22 18 17.1	
	comp=E,3193μm,0.7s						
IMMV	**Iera Moni Meta**	**2.57**	**278**	PN	**Pn**	**22 17 14.9**	**+0.6**
SMG	**Samos**	**2.58**	**355**	P	**Pn**	**22 17 15.4**	**+0.9**
SMG	**Samos**	**2.58**	**355**	P	**Pn**	**22 17 15.2**	**+0.7**
SMG				AML	AML	22 17 52.6	
	comp=N,1152μm,0.5s						
SMG				AML	AML	22 17 53.0	
	comp=E,1078μm,0.5s						
MHLO	**Agia Marina, M**	**2.69**	**306**	P	**Pn**	**22 17 18.8**	**+2.9**
MHLA	**Plaka, Milos I**	**2.70**	**307**	P	**Pn**	**22 17 18.7**	**+2.5**
RODP	**Rodopos**	**2.76**	**280**	PN	**Pn**	**22 17 18.0**	**+1.0**
ELL	**Elmali**	**2.80**	**54**	PN	**Pn**	**22 17 17.0**	**-0.6**
ELL	**Elmali**	**2.80**	**54**	P	**Pn**	**22 17 18.7**	**+1.1**
ELL	**Elmali**	**2.80**	**54**	Pn	**Pn**	**22 17 18.7**	**+1.1**
KNDR	**Palaiochora Ch**	**2.80**	**273**	PN	**Pn**	**22 17 19.2**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**2.88**	**13**	PN	**Pn**	**22 17 19.4**	**+0.6**
ANKY	**Antikythira Is**	**3.18**	**284**	P	**Pn**	**22 17 25.0**	**+2.2**
ANKY				AML	AML	22 18 21.9	
	comp=N,1071μm,0.6s						
ANKY				AML	AML	22 18 23.3	
	comp=E,1010μm,0.8s						
BLCB	**Balcova**	**3.25**	**359**	PN	**Pn**	**22 17 24.5**	**+0.8**
URLA	**Izmir**	**3.25**	**353**	PN	**Pn**	**22 17 24.2**	**+0.5**
CHOS	**Chios island**	**3.36**	**346**	P	**Pn**	**22 17 26.3**	**+1.1**
CHOS	**Chios island**	**3.36**	**346**	PN	**Pn**	**22 17 25.6**	**+0.4**
ANTB	**Antalya**	**3.38**	**57**	PN	**Pn**	**22 17 25.1**	**-0.4**
KTHA	**Kythira Island**	**3.47**	**290**	P	**Pn**	**22 17 28.9**	**+2.2**
KTHA	**Kythira Island**	**3.47**	**290**	PN	**Pn**	**22 17 27.4**	**+0.7**
MANT	**Manisa**	**3.55**	**19**		**Pn**	**22 17 28.8**	**+0.7**
KULA	**Kula-Manisa**	**3.60**	**20**	PN	**Pn**	**22 17 29.4**	**+0.8**
PSRA	**Psara**	**3.62**	**341**	P	**Pn**	**22 17 29.9**	**+1.1**
BCK	**Bucak**	**3.66**	**49**	PN	**Pn**	**22 17 29.1**	**-0.2**
BASM	**Basmaki-Afyon**	**3.66**	**40**	PN	**Pn**	**22 17 29.7**	**+0.3**
VLI	**Veliai**	**3.73**	**296**	P	**Pn**	**22 17 32.2**	**+1.9**
VLI				S	**Sn**	**22 18 16.4**	**+3.0**
VLI				AML	AML	22 18 21.9	
	comp=N,827μm,0.9s						
VLI				AML	AML	22 18 22.1	
	comp=E,796μm,0.5s						
MATC	**Matruh**	**3.77**	**178**	P	**Pn**	**22 17 31.0**	**+0.1**
	baz=182						
VLY	**Voula,Athens**	**3.80**	**317**	P	**Pn**	**22 17 33.3**	**+2.0**
OSC1	**CSNet OBS 1**	**3.82**	**114**	P	**Pn**	**22 17 31.4**	**-0.1**
ISP	**Isparta**	**3.85**	**45**	P	**Pn**	**22 17 33.5**	**+1.5**
ISP	**Isparta**	**3.85**	**45**	PN	**Pn**	**22 17 32.1**	**0.0**
ISP	**Isparta**	**3.85**	**45**	P	**Pn**	**22 17 33.3**	**+1.2**
ISP	**Isparta**	**3.85**	**45**	Pn	**Pn**	**22 17 35.2**	**+3.1**
ISP	**Isparta**	**3.85**	**45**	Pn	**Pn**	**22 17 33.3**	**+1.2**
DION	**Dionisos Attik**	**3.89**	**320**	P	**Pn**	**22 17 35.1**	**+2.6**
KRND	**KRANIDI**	**3.90**	**306**	P	**Pn**	**22 17 35.0**	**+2.4**
PTL	**Penteli**	**3.91**	**319**	P	**Pn**	**22 17 35.3**	**+2.6**
ATH	**Athens Observa**	**3.93**	**317**	P	**Pn**	**22 17 35.7**	**+2.6**
DKL	**Dikili**	**3.94**	**358**	PN	**Pn**	**22 17 34.2**	**+1.1**
SLUM	**Salum**	**3.96**	**204**	P	**Pn**	**22 17 34.0**	**+0.7**
	baz=207						
PRK	**Paraskevi**	**4.16**	**351**	P	**Pn**	**22 17 38.5**	**+2.3**
SIGR	**SIGRI**	**4.19**	**347**	P	**Pn**	**22 17 37.6**	**+1.0**
SIGR				AML	AML	22 18 29.9	
	comp=N,384μm,0.8s						
SIGR				AML	AML	22 18 36.8	
	comp=E,196μm,0.8s						
SIGR	**SIGRI**	**4.19**	**347**	PN	**Pn**	**22 17 37.4**	**+0.8**
SIMA	**Simav-Kutahya**	**4.22**	**20**	PN	**Pn**	**22 17 38.1**	**+0.9**
KYMI	**Kymi, Euboea I**	**4.24**	**326**	P	**Pn**	**22 17 39.1**	**+1.7**
AKMS	**Akamas**	**4.30**	**90**	P	**Pn**	**22 17 37.9**	**-0.2**
AKMS				S	**Sn**	**22 18 29.2**	**+1.8**
AKMS				AML	AML	22 18 33.5	
	comp=E,1.2nm,1.0s						
AKMS				AML	AML	22 18 33.5	
	comp=E,1.2nm,1.0s						
AKMS				AML	AML	22 18 33.8	
	comp=E,1.3nm,0.7s						
AKMS				AML	AML	22 18 33.8	
	comp=E,1.3nm,0.7s						
GAZI	**Gazipasa**	**4.39**	**74**	PN	**Pn**	**22 17 38.9**	**-0.5**
SHUT	**Suhut-Afyon**	**4.40**	**38**	PN	**Pn**	**22 17 39.9**	**+0.3**
LTK	**Loutraki**	**4.40**	**312**	P	**Pn**	**22 17 42.6**	**+3.1**
VLX	**Vlachokerasia**	**4.42**	**302**	P	**Pn**	**22 17 42.7**	**+2.8**
SEYD	**Seydisehir-KON**	**4.45**	**58**	PN	**Pn**	**22 17 40.3**	**0.0**
ALFC	**Alefka**	**4.51**	**88**	⇓P	**Pn**	**22 17 40.5**	**-0.6**
ALFC				S	**Sn**	**22 18 34.0**	**+1.4**
ALFC				AML	AML	22 18 37.7	
	comp=E,1.5nm,0.6s						
ALFC				AML	AML	22 18 37.7	
	comp=E,1.5nm,0.6s						
ALFC				AML	AML	22 18 38.5	
	comp=E,1.6nm,0.7s						
ALFC				AML	AML	22 18 38.5	
	comp=E,1.6nm,0.7s						
NATA	**Nata**	**4.51**	**93**	P	**Pn**	**22 17 40.9**	**-0.1**
NATA				AML	AML	22 18 42.1	
	comp=E,2.3nm,1.0s						
NATA				AML	AML	22 18 42.6	
	comp=E,2.2nm,0.7s						
BALB	**Balikesir**	**4.55**	**8**	PN	**Pn**	**22 17 43.1**	**+1.6**
ITM	**Ithomi**	**4.66**	**298**	P	**Pn**	**22 17 44.8**	**+1.7**
ITM	**Ithomi**	**4.66**	**298**	PN	**Pn**	**22 17 44.6**	**+1.5**
ITM	**Ithomi**	**4.66**	**298**		**Pn**	**22 17 44.6**	**+1.5**
TVSB	**Tavsanli**	**4.71**	**23**	PN	**Pn**	**22 17 44.9**	**+1.1**
EZN	**Ezine**	**4.73**	**353**	PN	**Pn**	**22 17 44.9**	**+0.9**
GUR	**Goura**	**4.74**	**308**	P	**Pn**	**22 17 46.7**	**+2.3**
LEF	**Lefka**	**4.75**	**88**	PN	**Pn**	**22 17 42.9**	**-1.4**
OSC2	**CSNet OBS 4**	**4.75**	**114**	P	**Pn**	**22 17 42.6**	**-1.8**
SZAC	**Souni**	**4.77**	**93**	⇓P	**Pn**	**22 17 44.3**	**-0.3**
SZAC				S	**Sn**	**22 18 40.5**	**+1.5**
DSF	**Desfina**	**4.92**	**313**	P	**Pn**	**22 17 49.1**	**+2.5**
KLV	**Kalavryta, Ach**	**4.93**	**308**	P	**Pn**	**22 17 50.2**	**+3.4**
LIA	**Limnos Island**	**5.00**	**343**	P	**Pn**	**22 17 49.1**	**+1.4**
ASGA	**Asgata**	**5.06**	**92**	P	**Pn**	**22 17 48.1**	**-0.5**
ASGA				S	**Sn**	**22 18 48.8**	**+2.6**
CSS	**Mathiatis**	**5.12**	**90**	Pn	**Pn**	**22 17 49.6**	**+0.2**
CSS	**Mathiatis**	**5.12**	**90**	⇓P	**Pn**	**22 17 49.1**	**-0.3**
CSS	**Mathiatis**	**5.12**	**90**		**Pn**	**22 17 49.0**	**-0.3**
GADA	**Gvkgeada**	**5.14**	**350**	PN	**Pn**	**22 17 51.3**	**+1.6**
NEO	**Neokhori**	**5.19**	**325**	P	**Pn**	**22 17 53.3**	**+3.0**
SERG	**Sergoula**	**5.21**	**310**	P	**Pn**	**22 17 54.1**	**+3.5**
EFP	**Efpalio**	**5.31**	**310**	P	**Pn**	**22 17 56.0**	**+4.0**
MVOU	**Mavrovouni**	**5.36**	**89**	⇑P	**Pn**	**22 17 53.0**	**+0.3**
VOL2	**Volos**	**5.37**	**323**	P	**Pn**	**22 17 57.4**	**+4.7**
VOL3	**Nea Ionia, Vol**	**5.38**	**323**	P	**Pn**	**22 17 55.6**	**+2.6**
RLS	**Riolos of Patr**	**5.39**	**304**	P	**Pn**	**22 17 56.3**	**+3.2**
ANX	**Ano Chora**	**5.40**	**311**	P	**Pn**	**22 17 56.6**	**+3.2**
SMTH	**Samothraki Isl**	**5.47**	**347**	P	**Pn**	**22 17 55.5**	**+1.3**
EVR	**Evrytania**	**5.67**	**313**	P	**Pn**	**22 18 00.8**	**+3.7**
ALN	**Alexandroupoli**	**5.82**	**352**	P	**Pn**	**22 18 00.3**	**+1.3**
ALN	**Alexandroupoli**	**5.82**	**352**	P	**Pn**	**22 18 00.2**	**+1.3**
ALN	**Alexandroupoli**	**5.82**	**352**	Pn	**Pn**	**22 18 00.2**	**+1.2**
THL	**Klokotos Trika**	**6.00**	**319**	P	**Pn**	**22 18 04.8**	**+3.4**
SWA2		**6.03**	**194**	P	**Pn**	**22 18 02.6**	**+0.7**
	baz=196						
SWA2				S	**Sn**	**22 19 07.9**	**-2.2**
	baz=196						
RDO	**Rodhopi**	**6.13**	**349**	P	**Pn**	**22 18 04.9**	**+1.6**
HMYD	**Mayadein**	**6.17**	**149**	P	**Pn**	**22 18 02.9**	**-1.0**
	baz=150						
EVGI	**Lefkada island**	**6.23**	**306**	P	**Pn**	**22 18 06.9**	**+2.3**
MDUB	**Mudurnu**	**6.24**	**30**		**Pn**	**22 18 06.8**	**+1.9**
BR231	**Keskin MP Arra**	**6.52**	**42**	Pn	**Pn**	**22 18 09.5**	**+0.8**
KOT	**Kottamia**	**6.55**	**141**	S	**Sn**	**22 19 16.1**	**-6.8**
	baz=142						
KOT				AMP		22 19 00.0	
	baz=142						
HSAF	**As Saff**	**6.66**	**144**	P	**Pn**	**22 18 09.3**	**-1.4**
	baz=145						
HHAG	**Hagoal**	**6.67**	**139**	P	**Pn**	**22 18 09.4**	**-1.3**
	baz=140						
HHAG				AMP		22 19 00.0	
	baz=140						
GLL	**Jalalah**	**6.77**	**144**	P	**Pn**	**22 18 10.6**	**-1.6**
	baz=145						
RZN	**Rozhen**	**6.81**	**345**	*i* P	**Pn**	**22 18 14.8**	**+2.0**
BR131	**Keskin Array S**	**6.94**	**47**	P	**Pn**	**22 18 15.6**	**+1.1**
BR131	**Keskin Array S**	**6.94**	**47**	Pn	**Pn**	**22 18 15.6**	**+1.1**
BRTR	**Keskin Array B**	**6.94**	**47**	Pn	**Pn**	**22 18 15.8**	**+1.3**
	comp=E,0.3nm,0.3s,baz=219,slow=14,SNR=8.5						
BRTR				Sn	**Sn**	**22 19 34.1**	**+1.4**
	comp=E,0.2nm,0.3s,baz=209,slow=25,SNR=7.4						
BRTR				LR	LR	22 21 50.6	
	comp=E,322nm,18.7s,baz=238,slow=46						
BRTR	**Keskin Array B**	**6.94**	**47**	P	**Pn**	**22 18 14.8**	**+0.3**
BRTR	**Keskin Array B**	**6.94**	**47**	Pn	**Pn**	**22 18 14.8**	**+0.3**
MMB	**Musomiste**	**6.97**	**339**	*i* P	**Pn**	**22 18 19.1**	**+4.3**
DIM	**Dimitrovgrad**	**7.02**	**350**	*i* P	**Pn**	**22 18 17.4**	**+2.0**
VAY	**Valandovo**	**7.13**	**331**	*i* P	Pn	22 18 22.6	+5.6
SUZ	**Suez**	**7.16**	**136**	P	**Pn**	**22 18 16.5**	**-0.9**
	baz=137						
MMA0B	**Mount Meron ar**	**7.21**	**105**	Pn	**Pn**	**22 18 18.0**	**-0.1**
MMAI	**Mount Meron Ar**	**7.21**	**105**	Pn	**Pn**	**22 18 18.0**	**-0.1**
	comp=E,3.9nm,0.3s,baz=295,slow=12,SNR=14						
MMAI				Sn	**Sn**	**22 19 40.5**	**+1.3**
	comp=E,3.6nm,0.3s,baz=310,slow=17,SNR=5.8						
GEM	**Giv'at Ha'Em**	**7.35**	**103**	Pn	**Pn**	**22 18 19.9**	**-0.2**
NATI	**Neve Ativ**	**7.40**	**102**	Pn	**Pn**	**22 18 20.6**	**0.0**
NATI				Sn	**Sn**	**22 19 43.3**	**-0.4**
KKB	**Krupnik**	**7.43**	**336**	*i* P	**Pn**	**22 18 21.2**	**+0.1**
KZIT	**Kziot**	**7.44**	**122**	Pn	**Pn**	**22 18 19.7**	**-1.5**
KZIT				Sn	**Sn**	**22 19 41.4**	**-3.4**
AMAZ	**Amatzia**	**7.46**	**117**	Pn	**Pn**	**22 18 20.6**	**-1.0**
STIP	**Stip**	**7.60**	**331**	*i* P	**Pn**	**22 18 26.2**	**+2.8**
YTIR	**Yattir**	**7.70**	**117**	Pn	**Pn**	**22 18 24.1**	**-0.7**
YTIR				Sn	**Sn**	**22 19 49.6**	**-1.6**
OHR	**Ohrid**	**7.76**	**322**	*i* P	Pn	22 18 31.7	+6.0
DSI	**Dead Sea**	**7.79**	**115**	Pn	**Pn**	**22 18 25.1**	**-0.9**
ILGA	**Ilgaz**	**7.88**	**39**	Pn	**Pn**	**22 18 28.8**	**+1.3**
HFRF	**Wahat Farafira**	**8.02**	**172**	P	**Pn**	**22 18 29.3**	**0.0**
	baz=173						
GHAJ	**Ghor Haditha**	**8.06**	**116**	Pn	**Pn**	**22

ZOU Zoufplan 15.61 321 Pn **Pn 22 20 13.4 +0.7**
AKASG Malin Array Be 15.64 5 Pn **Pn 22 20 13.1 +0.2**
baz=194,slow=11,SNR=1.5
AKASG Malin Array Be 15.64 5 P **Pn 22 20 12.2 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 15.64 5 Pn **Pn 22 20 12.2 -0.7**
AKBB Malin Array Si 15.64 5 P **Pn 22 20 13.5 +0.6**
AKBB pmax pmax
comp=Z,9.0nm,1.0s
AKBB Malin Array Si 15.64 5 Pn **Pn 22 20 13.5 +0.6**
AKBB IAmb IAmb 22 20 22.6
comp=Z,8.8nm,1.0s
CIMO Cimolais 15.73 320 Pn **Pn 22 20 12.3 -1.8**
KBA Koelnbreinsper 15.78 323 *e*P **P 22 20 18.2 -0.4**
comp=Z,5.4nm,0.8s
MOA Molln 15.91 327 *e*Pn **Pn 22 20 15.7 -0.7**
comp=Z,7.0nm,2.0s
ABTA Abfaltersbach 15.97 321 *e*Pn **Pn 22 20 16.5 -0.8**
comp=Z,2.6nm,0.6s
CTI Castel Tesino 15.99 318 P **Pn 22 20 18.2 +0.6**
CTI pmax pmax
comp=Z,5.0nm,0.7s
CTI Castel Tesino 15.99 318 Pn **Pn 22 20 18.2 +0.6**
OJC Ojcow 15.99 343 P **Pn 22 20 17.4 -0.1**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 15.99 343 Pn **Pn 22 20 17.4 -0.1**
VRAC Vranov 16.14 335 Pn **Pn 22 20 19.9 +0.5**
comp=Z,0.2nm,0.3s,baz=161,slow=14,SNR=2.3
VRAC LR LR 22 27 03.2
comp=Z,81nm,19.9s,baz=144,slow=40
VRAC Vranov 16.14 335 ||P **P 22 20 22.8 +0.4**
MORC Moravsky Berou 16.23 337 P **Pn 22 20 20.4 -0.1**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 16.23 337 Pn **Pn 22 20 20.4 -0.1**
KRLC Kraliky 16.73 336 *e*P **P 22 20 28.0 -1.0**
KRLC Kraliky 16.73 336 *e*P **P 22 20 28.0 -1.0**
WTTA Wattenberg 16.77 321 P **P 22 20 29.9 +0.4**
comp=Z,8.7nm,1.3s
WATA Walderalm 16.84 321 P **P 22 20 30.7 +0.3**
comp=Z,4.2nm,1.1s
GEC2 GERESS Array S 16.90 328 **Pn 22 20 29.4 +0.3**
GEC2B GERESS ARRAY S16.90 328 **Pn 22 20 29.6 +0.4**
GERES GERESS Array B 16.90 328 Pn **Pn 22 20 29.1 -0.1**
comp=Z,0.3nm,0.3s,baz=138,slow=12,SNR=12
GERES LR LR 22 27 36.9
comp=Z,48nm,20.9s,baz=122,slow=40
GERES GERESS Array B 16.90 328 **Pn 22 20 29.3 +0.2**
SQTA Sankt Quirin 16.96 320 *e*P **P 22 20 32.4 +0.8**
comp=Z,1.7nm,0.5s
FETA Feichten 17.09 319 *e*P **P 22 20 33.5 +0.4**
comp=Z,5.0nm,1.1s
MOTA Moosalm 17.09 320 *e*Pn **Pn 22 20 31.8 +0.2**
comp=Z,5.3nm,1.3s
DPC Dobruska-Polom 17.12 336 *e*P **P 22 20 32.6 -0.7**
DPC Dobruska-Polom 17.12 336 *e*P **P 22 20 32.6 -0.7**
KHC Kasperske Hory 17.17 329 *e*P **Pn 22 20 32.4 -0.1**
KHC Kasperske Hory 17.17 329 *ce*P **Pn 22 20 31.0 -1.5**
KHC pmax pmax
comp=Z,29nm,1.7s
KHC Kasperske Hory 17.17 329 **Pn 22 20 32.4 -0.1**
OSTC Ostas 17.33 336 *e*P **P 22 20 37.4 +1.8**
RETA Reutte 17.36 320 P **Pn 22 20 35.0 +0.1**
comp=Z,1.5nm,0.6s
DAVA Damuels 17.71 319 *e*P **Pn 22 20 39.0 -0.3**
comp=Z,3.4nm,0.6s
VSR Storozhevoye 18.29 25 *e*P **P 22 20 44.4 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 18.40 333 *e*P **Pn 22 20 52.0 +4.5**
comp=Z,3.7nm,1.0s
BRG Berggiesshubel 18.40 333 *e*P **Pn 22 20 52.0 +4.5**
BRG pmax pmax
comp=Z,4.0nm,1.0s
BNI Bardonecchia 18.45 309 P **P 22 20 48.0 -0.2**
BNI pmax pmax
comp=Z,10.0nm,1.3s
BNI Bardonecchia 18.45 309 P **P 22 20 48.0 -0.2**
SENIN Lac Senin/Sane 18.68 313 P **P 22 20 50.4 -0.3**
SENIN IAmb IAmb 22 21 00.2
comp=Z,6.9nm,0.8s
CLL Collm 19.10 332 *i* P **P 22 20 54.8 -0.2**
comp=Z,13nm,1.6s
CLL Collm 19.10 332 P **P 22 20 54.8 -0.2**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 19.10 332 P **P 22 20 54.8 -0.2**
VRH Novokhopyorsk 19.23 29 *e*P **P 22 20 54.9 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
MICGM Minsk 19.38 1 *e* **Pn 22 21 02.0 +2.7**
MNK Minsk 19.38 1 *e*P **Pn 22 21 02.0 +2.7**
ECH Echery 19.74 318 P **P 22 21 01.7 -0.4**
ECH pmax pmax
comp=Z,6.0nm,1.2s
ECH Echery 19.74 318 P **P 22 21 01.7 -0.4**
SSB Saint Sauveur 19.93 307 P **P 22 21 02.9 -1.3**
SSB pmax pmax
comp=Z,10.0nm,1.3s
SSB Saint Sauveur 19.93 307 P **P 22 21 02.9 -1.3**
SSB IAmb IAmb 22 21 14.5
comp=Z,10nm,1.3s
OBN Obninsk 21.04 15 P **P 22 21 16.9 +0.9**
comp=Z,1.8nm,0.5s,baz=182,slow=11,SNR=3.8
OBN LR LR 22 30 19.9
comp=Z,19nm,20.2s,baz=234,slow=40
OBN Obninsk 21.04 15 *de*P **P 22 21 18.1 +2.1**
OBN *e* 22 21 34.6
OBN *e*S Sn 22 25 18.8 +3.3
OBN pmax pmax
comp=Z,30nm,1.7s
OBN MLR MLR
comp=Z,98nm,16.0s
OBN Obninsk 21.04 15 P **P 22 21 15.9 -0.1**
OBN IAmb IAmb 22 21 27.6
comp=Z,36nm,1.5s
MOS Moscow 21.85 16 *e*P P 22 21 39.0 +14
TAM Tamanrasset 22.47 243 P **P 22 21 32.6 +0.7**
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 22.47 243 P **P 22 21 32.6 +0.7**
BELG Belogornoye 22.62 34 *i* P **P 22 21 32.8 -0.2**
GYB4 ALIBECK ARRAY 25.01 74 P **P 22 21 56.5 +0.3**
ESDC Sonseca Array 25.02 290 P **P 22 21 55.5 -0.7**
comp=Z,1.7nm,0.8s,baz=80,slow=10.0,SNR=15
ESDC PcP **PcP 22 25 31.3 +0.5**
comp=Z,0.4nm,1.0s,baz=59,slow=0.9,SNR=4.7
ESDC Sonseca Array 25.02 290 P **P 22 21 55.4 -0.9**
GEYT Alibeck 25.03 74 P **P 22 21 57.3 +0.9**
comp=Z,3.3nm,0.7s,baz=272,slow=10.0,SNR=4.8
GEYT Alibeck 25.03 74 P **P 22 21 55.7 -0.6**
GYA0B ALIBECK ARRAY 25.03 74 P **P 22 21 55.6 -0.7**
GYA0B IAmb IAmb 22 22 12.5
comp=Z,5.4nm,0.8s
MDT Midelt 26.34 274 P **P 22 22 08.2 -0.1**
comp=Z,4.1nm,0.9s,baz=64,slow=9.7,SNR=5.3
MDT LR LR 22 34 28.9
comp=Z,52nm,20.0s,baz=132,slow=41
FINES FINESS Array B 26.34 359 P **P 22 22 07.0 -0.9**
comp=Z,1.0nm,0.5s,baz=164,slow=11,SNR=8.7
FINES LR LR 22 34 11.2
comp=Z,48nm,18.0s,baz=188,slow=40
FINES FINESS Array B 26.34 359 *i* P **P 22 22 07.3 -0.6**
FINES pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 26.49 345 P **P 22 22 08.3 -1.0**
comp=Z,3.4nm,0.8s,baz=169,slow=8.3,SNR=4.2
KLMR Klimovskoe 26.95 13 *e*P **P 22 22 09.3 -4.2**
KLMR pmax pmax
comp=Z,19nm,1.4s
KLMR Klimovskoe 26.95 13 *e*P **P 22 22 09.3 -4.2**
KLMR AMP 22 22 22.1
comp=Z,19nm,1.4s
AKTO Aktyubinsk 27.12 46 P **P 22 22 14.8 -0.3**
comp=Z,2.1nm,0.7s,baz=252,slow=9.9,SNR=5.5
KIRV Kirov 27.73 25 P **P 22 22 20.1 -0.4**
comp=Z,2.9nm,0.5s,baz=207,slow=12,SNR=2.5
KIRV Kirov 27.73 25 *ce*P **P 22 22 23.2 +2.8**
NAO01 NORSAR Array S 27.76 343 P **P 22 22 18.6 -2.1**
NB2 NORSAR Subarra 27.86 343 P **P 22 22 19.4 -2.2**
comp=Z,1.9nm,0.8s,baz=151,slow=9.3
NOA NORSAR Array B 27.86 343 P **P 22 22 19.9 -1.7**
comp=Z,0.3nm,0.5s,baz=156,slow=7.9,SNR=2.2
NOA LR LR 22 35 05.1
comp=Z,66nm,20.8s,baz=305,slow=40
ABKAR Akbulak array 27.88 49 P **P 22 22 21.5 -0.4**
HRA Herat 28.80 81 P **P 22 22 30.5 0.0**
HRA IAmb IAmb 22 22 32.6
comp=Z,4.0nm,1.1s
EKA Eskdalemuir Ar 28.99 324 P **P 22 22 30.7 -1.1**
comp=Z,0.5nm,0.4s,baz=119,slow=11,SNR=4.4
TMCR Tamitsa 29.82 10 *e*P **P 22 22 39.5 +0.5**
TMCR pmax pmax
comp=Z,11nm,0.6s
ARU Arti 30.15 35 *i* P **P 22 22 45.0 +3.0**
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 30.15 35 P **P 22 22 41.6 -0.4**
ARU IAmb IAmb 22 22 42.3
comp=Z,5.1nm,1.4s
TOA0 Torodi Ar. Sit 31.71 233 P **P 22 22 56.3 +0.2**
TOA0 IAmb IAmb 22 23 04.1
comp=Z,2.9nm,0.8s
TORD Torodi Ar. Bea 31.71 233 P **P 22 22 56.2 +0.1**
comp=Z,1.8nm,0.7s,baz=33,slow=9.1,SNR=20
TORD LR LR 22 38 51.5
comp=Z,59nm,18.4s,baz=40,slow=42
TORD Torodi Ar. Bea 31.71 233 P **P 22 22 56.3 +0.2**
SOCY Socotra 33.39 127 P **P 22 23 10.1 -0.9**
CHGR Chuyangaron 33.61 71 P **P 22 23 13.0 +0.3**
KK31 Karatay Array 34.30 63 P **P 22 23 18.9 +0.3**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KK31 Karatay Array 34.30 63 P **P 22 23 18.9 +0.3**
KK31 IAmb IAmb 22 23 21.0
comp=Z,4.2nm,0.9s
KKAR Karatay Array 34.30 63 P **P 22 23 19.2 +0.6**
KKAR Karatay Array 34.30 63 P **P 22 23 19.2 +0.6**
GAR Garm 34.47 71 P **P 22 23 20.1 -0.1**
GAR IAmb IAmb 22 23 33.8
comp=Z,6.2nm,0.9s
ARCES ARCESS Array B 34.47 359 P **P 22 23 19.1 -0.6**
comp=Z,1.3nm,0.8s,baz=169,slow=9.2,SNR=6.0
BRVK Borovoye 35.17 46 *ce*P **P 22 23 25.5 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BRVK Borovoye 35.17 46 P **P 22 23 26.0 +0.1**
BRVK IAmb IAmb 22 23 27.5
comp=Z,4.3nm,1.1s
BVAR Borovoye Array 35.22 46 P **P 22 23 26.8 +0.4**
comp=Z,2.3nm,1.0s,baz=185,slow=15,SNR=8.5
AAK Ala-Archa 37.25 64 *ce*P **P 22 23 45.2 +1.2**
AAK pmax pmax
comp=Z,17nm,0.8s
FRU1 Bishkek 37.33 64 P **P 22 23 45.1 +0.5**
FRU1 pmax pmax
comp=Z,8.0nm,0.9s
FRU1 Bishkek 37.33 64 P **P 22 23 45.1 +0.5**
FRU1 IAmb IAmb 22 23 48.7
comp=Z,8.5nm,0.8s
NIL Nilore 37.85 79 P **P 22 23 49.7 +0.6**
NIL pmax pmax
comp=Z,8.0nm,1.0s
NIL Nilore 37.85 79 P **P 22 23 49.6 +0.6**
NIL IAmb IAmb 22 23 51.5
comp=Z,8.0nm,1.0s
BOOM Boomskoye usch 38.32 64 P **P 22 23 53.9 +0.8**
BOOM pmax pmax
comp=Z,8.0nm,1.2s
BOOM Boomskoye usch 38.32 64 P **P 22 23 53.9 +0.8**
BOOM IAmb IAmb 22 24 09.8
comp=Z,7.9nm,1.2s
KDJ Kajisay 39.28 64 P **P 22 24 01.6 +0.5**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
KDJ Kajisay 39.28 64 P **P 22 24 01.6 +0.5**
KDJ IAmb IAmb 22 24 03.9
comp=Z,7.9nm,0.9s
TARG Taragay, Kyrgy 39.79 65 P **P 22 24 05.7 0.0**
TARG IAmb IAmb 22 24 07.8
comp=Z,5.2nm,1.1s
KURBB Kurchatov Arra 39.91 51 P **P 22 24 06.5 +0.5**
comp=Z,5.7nm,0.8s,baz=277,slow=8.9,SNR=23
KURBB PcP **PcP 22 26 12.0 +0.8**
comp=Z,0.5nm,0.3s,baz=263,slow=4.0,SNR=5.9
KURK Kurchatov 39.97 51 *ce*P **P 22 24 07.0 +0.5**
KURK pmax pmax
comp=Z,21nm,2.5s
KURK Kurchatov 39.97 51 P **P 22 24 06.7 +0.2**
KURK IAmb IAmb 22 24 08.0
comp=Z,11nm,1.1s
PRZ Przheval'sk 40.13 64 P **P 22 24 09.1 +0.8**
PRZ pmax pmax
comp=Z,10.0nm,1.3s
PRZ Przheval'sk 40.13 64 P **P 22 24 09.1 +0.8**
PRZ IAmb IAmb 22 24 12.0
comp=Z,10nm,1.2s
DBIC Dimbokro 40.81 234 P **P 22 24 14.8 +1.0**
DBIC pmax pmax
comp=Z,16nm,1.2s
DBIC Dimbokro 40.81 234 P **P 22 24 14.8 +1.0**
DBIC IAmb IAmb 22 24 28.4
comp=Z,16nm,1.2s
MAKZ Makanchi 42.25 57 P **P 22 24 25.7 +0.3**
MAKZ pmax pmax
comp=Z,7.0nm,1.2s
MAKZ Makanchi 42.25 57 P **P 22 24 25.7 +0.3**
MAKZ IAmb IAmb 22 24 27.2
comp=Z,7.2nm,1.2s
MK31 Makanchi Array 42.47 57 *ce*P **P 22 24 28.0 +0.8**
MK31 Makanchi Array 42.47 57 P **P 22 24 27.4 +0.2**
MK31 IAmb IAmb 22 24 28.8
comp=Z,10.0nm,1.2s
MKAR Makanchi Array 42.47 57 P **P 22 24 27.9 +0.7**
comp=Z,4.3nm,0.5s,baz=274,slow=7.7,SNR=69
MKAR Makanchi Array 42.47 57 *ce*P **P 22 24 27.8 +0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 42.47 57 P **P 22 24 27.5 +0.3**
SPITS Spitsbergen Ar 43.40 357 P **P 22 24 33.0 -1.3**
comp=Z,1.6nm,0.5s,baz=138,slow=15,SNR=6.8
ZAA0 Zalesovo Array 43.88 46 P **P 22 24 37.5 -0.9**
ZAA0 IAmb IAmb 22 24 39.4
comp=Z,6.8nm,1.2s
ZALV Zalesovo Beam 43.88 46 P **P 22 24 38.4 0.0**
comp=Z,2.2nm,0.4s,baz=267,slow=9.9,SNR=16
ZALV Zalesovo Beam 43.88 46 P **P 22 24 38.2 -0.2**
ZALV Zalesovo Beam 43.88 46 P **P 22 24 38.2 -0.2**
DGZ Jazzator, Alta 45.65 52 *c i*P **P 22 24 53.5 +0.7**
DGZ pmax pmax
comp=Z,9.0nm,1.3s
WMQ Urumqi 46.65 60 *e*P **P 22 25 03.0 +2.4**
NRIK Noril'sk 47.24 25 P **P 22 25 05.1 +0.4**
comp=Z,2.0nm,0.6s,baz=241,slow=10,SNR=3.0
LSZ Lusaka 50.14 179 P **P 22 25 29.1 +1.4**
comp=Z,1.4nm,0.2s,baz=39,slow=14,SNR=1.8
MOY Mondy 53.86 48 *e*P **P 22 25 57.1 +1.9**
MOY pmax pmax
comp=Z,12nm,2.4s
MATP Matopo 55.26 178 P **P 22 26 07.2 +1.6**
comp=Z,4.9nm,0.8s,baz=356,slow=7.7,SNR=12
TLY Talaya 55.46 47 P **P 22 26 08.8 +2.1**
comp=Z,4.4nm,0.9s,baz=253,slow=8.1,SNR=3.8
TLY Talaya 55.46 47 *i* P **P 22 26 08.3 +1.6**
TLY pmax pmax
comp=Z,6.0nm,1.0s
TLY Talaya 55.46 47 P **P 22 26 06.7 0.0**
ZAK Zakamensk 55.57 49 *e*P **P 22 26 08.2 +0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 56.57 62 *e*P **P 22 26 16.0 +1.0**
GTA pP pP 22 26 19.8 -2.6
GTA sP pwP 22 26 22.8 -1.8
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 58.27 51 P **P 22 26 27.9 +1.0**
comp=Z,3.8nm,0.9s,baz=287,slow=8.5,SNR=18
SONM Songino Array 58.27 51 P **P 22 26 27.5 +0.7**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 58.27 51 P **P 22 26 27.5 +0.7**
ULN Ulaanbaatar 58.68 51 *ce*P **P 22 26 30.9 +1.2**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 58.68 51 P **P 22 26 30.4 +0.7**
ULN IAmb IAmb 22 26 31.6
comp=Z,6.1nm,1.0s
LBTB Lobatse 59.83 182 LR LR 22 54 03.6
comp=Z,55nm,18.3s,baz=16,slow=38
LBTB Lobatse 59.83 182 P **P 22 26 38.1 +0.4**
LBTB Lobatse 59.83 182 P **P 22 26 38.1 +0.4**
BOSA Boshof 63.42 182 P **P 22 27 03.1 +1.3**
comp=Z,4.6nm,1.0s,baz=154,slow=5.1,SNR=4.5
BOSA Boshof 63.42 182 P **P 22 27 03.0 +1.1**
BOSA pmax pmax
comp=Z,14nm,1.4s
BOSA Boshof 63.42 182 P **P 22 27 03.0 +1.1**
SCHQ Schefferville 64.23 320 P **P 22 27 06.5 -0.5**
comp=Z,1.9nm,0.4s,baz=50,slow=7.0,SNR=1.6
SCHQ Schefferville 64.23 320 P **P 22 27 07.0 +0.1**
HHC Hu-ho-hao-te 64.33 57 *e*P **P 22 27 09.3 +1.4**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,160nm,6.8s
CM31 Chiang Mai Arr 65.00 84 P **P 22 27 12.0 -0.5**
CM31 IAmb IAmb 22 27 15.1
comp=Z,3.7nm,1.0s
CMAR Chiang Mai Arr 65.00 84 P **P 22 27 12.8 +0.4**
comp=Z,1.5nm,0.8s,baz=296,slow=8.3,SNR=18
CMAR Chiang Mai Arr 65.00 84 *ce*P **P 22 27 12.6 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 65.00 84 P **P 22 27 12.2 -0.3**
HIA Hailar 65.92 46 P **P 22 27 18.1 +0.1**
HIA pmax pmax
comp=Z,20nm,1.4s
HIA Hailar 65.92 46 P **P 22 27 18.1 +0.1**
BATG Bathurst New B 67.12 312 P **P 22 27 25.2 -0.4**
ENH Enshi 67.59 68 P **P 22 27 28.3 -0.7**
D62A Allapoint, All 69.01 313 P **P 22 27 37.3 -0.2**
BILL Bilibino 72.69 15 *ce*P **P 22 28 01.3 +1.8**
BILL *e* 22 30 37.8
BILL *e*S **S 22 37 16.4 -6.5**
BILL pmax pmax
comp=Z,15nm,1.8s
USA0B Ussuriysk Arra 75.73 46 P **P 22 28 17.3 -0.4**
USA0B pmax pmax
comp=Z,8.0nm,0.9s
USA0B Ussuriysk Arra 75.73 46 P **P 22 28 17.2 -0.4**
USRK Ussuriysk Ar. 75.73 46 P **P 22 28 17.9 +0.2**
comp=Z,6.7nm,0.8s,baz=295,slow=4.8,SNR=16
USRK Ussuriysk Ar. 75.73 46 P **P 22 28 17.1 -0.6**
USRK Ussuriysk Ar. 75.73 46 P **P 22 28 17.1 -0.6**
INK Inuvik 75.86 353 P **P 22 28 17.3 -0.6**
comp=Z,5.8nm,1.0s,baz=14,slow=3.0,SNR=2.0
KSAR Wonju Array Be 77.02 53 P **P 22 28 24.6 -0.5**
KSAR Wonju Array Be 77.02 53 P **P 22 28 24.6 -0.5**
KSRS Korea Array 77.03 53 P **P 22 28 25.5 +0.3**
comp=Z,4.5nm,0.9s,baz=297,slow=5.2,SNR=8.1
BMAR Burnt Mountain 77.56 357 P **P 22 28 27.4 -0.3**
YKA Yellowknife Ar 77.95 343 P **P 22 28 28.3 -1.5**
comp=Z,1.4nm,0.7s,baz=32,slow=5.7,SNR=2.0
IMAR Indian Mountai 79.21 0 P **P 22 28 36.4 -0.3**
YSS Yuzh-Sakhalins 79.97 39 *ce*P **P 22 28 41.7 +0.5**
YSS pmax pmax
comp=Z,25nm,1.7s
ILAR Eielson Array 80.32 357 P **P 22 28 42.5 -0.3**
comp=Z,0.8nm,1.0s,baz=359,slow=4.4,SNR=5.9
ILAR Eielson Array 80.32 357 P **P 22 28 41.9 -0.9**
ILAR Eielson Array 80.32 357 P **P 22 28 41.9 -0.9**
PPLA Purkeypile 82.31 360 P **P 22 28 52.9 -0.6**
MJAR Matsushiro Arr 84.16 49 P **P 22 29 04.0 +0.6**
comp=Z,3.1nm,0.7s,baz=301,slow=4.7,SNR=7.1
MJAR Matsushiro Arr 84.16 49 P **P 22 29 03.3 -0.1**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR Matsushiro Arr 84.16 49 P **P 22 29 03.3 -0.1**
WRA Warramunga Arr 115.01 97 PKIKP **PKPdf 22 35 13.0 -0.5**
comp=Z,0.3nm,0.6s,baz=319,slow=1.4,SNR=1.8
WRA Warramunga Arr 115.01 97 PKP **PKPdf 22 35 13.0 -0.5**
ASAR Alice Springs 116.48 101 PKP **PKPdf 22 35 15.9 -0.4**
comp=Z,0.3nm,0.6s,baz=274,slow=1.4,SNR=4.3

BJI ***30*** *22:34:26.4±0.0, 17°.77S×177°.94W, h599km, mB5.1/48, mb5.4/72*
UNK ***30*** *22:34:27.0, 17°.83S×178°.60W, h572km*
IDC ***30*** *22:34:27.6±0.5, 17°.88S×178°.63W, h573km±5km, mb4.8/36, mb1 4.8/39, mb1mx4.8/40, mbtmp5.7/39, Error ellipse: s-maj=6.9km s-min=6.2km az=148.0*
MOS ***30*** *22:34:27.3±0.9, 17°.77S×178°.62W, h579km, mb5.3/13, Error ellipse: s-maj=7.3km s-min=6.5km az=61.9*
NEIC ***30*** *22:34:27.0±1.3, 17°.83S±0°.09×178°.60W±0°.09, h572km±4km, mb5.3/239, Mwb5.5/35, Mwc5.5(GCMT), Error ellipse: s-maj=12.9km s-min=12.0km az=138.0*
NEIC ***30*** *22:34:27.4, 17°.82S×178°.58W, h577km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.95; Mθθ 1.86; Mφφ=-0.91; Mrθ 0.29; Mrφ 0.01; Mθr=-1.44; Fault plane solution: M0 2.18000×10^17^ NP1:φs 306.32000°, δ65.91000°, λ=-41.04000°. NP2:φs 55.89000°, δ53.17000°, λ=-149.33000°. Principal axes: T 1.8995, Plg8.0000°, Azm4.0000°; N 0.4785, Plg44.0000°, Azm101.0000°; P -2.3780, Plg45.0000°, Azm266.0000°;*
NEIC ***30*** *22:34:30, 17°.92S×178°.50W, h595km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.84; Mθθ 1.59; Mφφ=-0.75; Mrθ 0.53; Mφφ=-0.67; Mθr=-1.15; Fault plane solution: M0 1.99000×10^17^ NP1:φs 69.00000°, δ44.00000°, λ=-155.00000°. NP2:φs 320.00000°, δ73.00000°, λ=-49.00000°. Principal axes: T 2.0238, Plg18.0000°, Azm21.0000°; N -0.0762, Plg39.0000°, Azm126.0000°; P -1.9475, Plg46.0000°, Azm272.0000°;*
GCMT ***30*** *22:34:31.0±0.2, 17°.85S±0°.02×178°.59W±0°.02, h587km±1km, MW5.5/109, Moment Tensor Solution. s109,c164; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr=0.75±.03; Mθθ 1.52±.04; Mφφ=-0.77±.04; Mrθ 0.49±.05; Mθφ=-0.62±.04; Mφr=-1.18±.04; Best double couple: M0 1.93800×10^17^ NP1:φs 68.00000°, δ45.00000°, λ=-157.00000°. NP2:φs 321.00000°, δ74.00000°, λ=-48.00000°. Principal axes: T 1.9300, Plg18.0000°, Azm21.0000°; N 0.0100, Plg40.0000°, Azm127.0000°; P -1.9450, Plg44.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
BGR ***30*** *22:34:32.6±0.0, 16°.28S×177°.13W, h600km*
ISC 30 22:34:28.2±0.3, 17°.88S±0°.04×178°.49W±0°.04, h588km±3km, h590km; pP-P, n1185, σ1s25/1306, mb5.3/255, 61C-106D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.30**	**272**	*c i* P	**P**	**22 35 48.4**	**+0.1**
MSVF	**Nonsavu**	**3.30**	**272**	P	**P**	**22 35 48.2**	**-0.1**
AFI	**Afiamalu**	**7.57**	**59**	P	**P**	**22 36 21.2**	**-2.0**
	12nm,0.3s,baz=24,slow=4.8,SNR=19						
AFI				S	**S**	**22 37 51.3**	**-6.0**
	baz=90,slow=20,SNR=1.2						
NIUE	**Niue**	**8.21**	**100**	P	**P**	**22 36 29.3**	**+0.2**
	baz=8.2,SNR=31						
NIUE				S	**S**	**22 38 08.9**	**+0.7**
	baz=8.2						
NIUE	**Niue**	**8.21**	**100**	P	**P**	**22 36 29.3**	**+0.2**
FUNA	**Funafuti**	**9.57**	**346**	P	**P**	**22 36 39.5**	**-3.1**
RAO	**Raoul Island**	**11.33**	**177**	P	**P**	**22 36 59.6**	**-0.4**
	39nm,0.3s,baz=108,slow=20,SNR=2.5						
RAO				S	**S**	**22 39 02.5**	**-2.2**
	33nm,0.3s,baz=90,slow=20,SNR=1.5						
SANVU	**Saraoutou**	**13.93**	**278**	P	**P**	**22 37 23.7**	**-2.9**
DZM	**Mont Dzumac**	**14.77**	**251**	*e*P	**P**	**22 37 33.6**	**-1.1**
	414nm,0.9s						
DZM	**Mont Dzumac**	**14.77**	**251**	P	**P**	**22 37 33.3**	**-1.4**
	8.8nm,0.3s,baz=77,slow=19,SNR=49						
DZM				S	**S**	**22 40 06.5**	**-0.8**
	baz=0.5,slow=22,SNR=6.0						
DZM	**Mont Dzumac**	**14.77**	**251**	P	**P**	**22 37 32.8**	**-2.0**
KNTN	**Kanton**	**16.42**	**25**	P	**P**	**22 37 48.7**	**-1.3**
NFK	**Norfolk Island**	**16.67**	**226**	P	**P**	**22 37 54.4**	**+2.3**
	baz=17,SNR=4.3						
RAR	**Rarotonga**	**17.94**	**104**	P	**P**	**22 38 05.4**	**+1.5**
	0.8nm,0.3s,baz=254,slow=10,SNR=4.6						
RAR	**Rarotonga**	**17.94**	**104**	P	**P**	**22 38 05.4**	**+1.5**
RAR				IAmb	IAmb	22 38 54.8	
	comp=Z,52nm,1.1s						
URZ	**Urewera**	**20.66**	**190**	P	**P**	**22 38 26.3**	**-2.0**
	comp=Z,156nm,0.8s,baz=7.3,slow=4.3,SNR=47						
URZ				S	**S**	**22 41 35.5**	**-6.6**
	comp=Z,64nm,0.9s,baz=162,slow=20,SNR=2.6						
URZ	**Urewera**	**20.66**	**190**	P	**P**	**22 38 26.2**	**-2.0**

TARA Tarawa 20.91 335 P **P** **22 38 28.7 -2.2**
HNR Honiara 22.56 289 P **P** **22 38 43.7 -1.9**
comp=Z,390nm,0.7s,baz=294,slow=0.6,SNR=13
HNR Honiara 22.56 289 P **P** **22 38 43.3 -2.3**
SNZO South Karori 24.07 193 P **P** **22 38 57.4 -1.2**
SNZO IAmb IAmb 22 38 58.5
comp=Z,122nm,0.7s
LHI Lord Howe Isla 24.44 232 P **P** **22 39 03.3 +1.3**
baz=25,SNR=4.9
LHI Lord Howe Isla 24.44 232 P **P** **22 39 02.5 +0.5**
LHI IAmb IAmb 22 39 04.3
comp=Z,156nm,0.8s
RPZ Rata Peaks 27.23 197 P **P** **22 39 26.1 -0.2**
comp=Z,17nm,0.5s,baz=247,slow=1.9,SNR=9.8
RPZ S **S** **22 43 22.4 -2.6**
comp=Z,29nm,1.1s,baz=140,slow=16,SNR=2.5
RPZ Rata Peaks 27.23 197 P **P** **22 39 25.6 -0.8**
PAE Paea 27.52 94 *eP* **P** **22 39 30.0 +0.8**
comp=Z,6.5nm,0.7s
PPT2 Papeete2 27.53 94 *eP* **P** **22 39 30.4 +1.0**
comp=Z,50nm,0.9s
PPT Papeete 27.53 94 P **P** **22 39 30.1 +0.7**
comp=Z,36nm,0.6s,baz=70,slow=9.0,SNR=4.2
PPTF Pamatai, Papee 27.54 94 P **P** **22 39 29.5 0.0**
PPTF IAmb IAmb 22 39 39.0
comp=Z,56nm,0.7s
TIAR Tiarei 27.75 94 *eP* **P** **22 39 32.2 +0.9**
comp=Z,9.5nm,0.8s
TVO Taravao 27.82 94 *eP* **P** **22 39 32.8 +0.8**
comp=Z,13nm,0.9s
XMAS Kiritimati 28.67 48 P **P** **22 39 38.5 -0.8**
EIDS Eidsvold 29.21 250 P **P** **22 39 42.9 -1.0**
PMOR Pomariorio Ree 29.46 89 *eP* **P** **22 39 47.2 +1.1**
comp=Z,139nm,1.0s
VAH Vaihoa 29.68 90 *eP* **P** **22 39 48.5 +0.5**
comp=Z,67nm,0.8s
ARMA Armidale 29.89 240 P **P** **22 39 50.4 +0.6**
baz=30,SNR=92
ARMA Armidale 29.89 240 P **P** **22 39 50.1 +0.4**
DCZ Deep Cove 30.00 200 P **P** **22 39 50.4 +0.1**
DCZ IAmb IAmb 22 39 58.1
comp=Z,40nm,0.9s
MGCD Mangrove Creek 31.25 235 P **P** **22 40 02.1 +0.9**
baz=31,SNR=4.9
RIV Riverview 31.44 234 P **P** **22 40 03.8 +1.0**
baz=32,SNR=3.9
RMQ Roma 31.45 248 P **P** **22 40 03.4 +0.4**
baz=32,SNR=121
RABL Rabaul 31.79 292 P **P** **22 40 03.9 -2.2**
KRVT Keravat (AS076 31.86 292 P **P** **22 40 05.2 -1.5**
comp=Z,191nm,0.4s,baz=106,slow=0.9,SNR=18
KRVT S **S** **22 44 35.6 -1.5**
comp=Z,22nm,0.6s,baz=49,slow=19,SNR=1.5
CTA Charters Tower 33.38 260 P **P** **22 40 18.9 -0.6**
comp=Z,159nm,0.7s,baz=89,slow=10,SNR=193
CTA PcP **PcP** **22 42 42.5 -0.9**
comp=Z,33nm,0.9s,baz=207,slow=3.0,SNR=4.4
CTA ScP **ScP** **22 45 35.7 +2.9**
comp=Z,22nm,0.9s,baz=46,slow=2.1,SNR=10
CTAO Charters Tower 33.38 260 P **P** **22 40 18.8 -0.6**
CTAO pmax pmax
comp=Z,213nm,0.8s
CTAO Charters Tower 33.38 260 P **P** **22 40 18.8 -0.6**
CNB Canberra Magne 33.38 232 P **P** **22 40 20.1 +0.8**
baz=34,SNR=194
PATS Pohnpei 33.59 315 P **P** **22 40 21.5 +0.2**
baz=34,SNR=17
PATS Pohnpei 33.59 315 P **P** **22 40 21.1 -0.2**
CAN Canberra 33.66 232 P **P** **22 40 21.3 -0.3**
CAN pmax pmax
comp=Z,168nm,0.8s
CAN Canberra 33.66 232 P **P** **22 40 21.3 -0.3**
CAN IAmb IAmb 22 40 23.1
comp=Z,168nm,0.8s
YNG Young 33.75 235 P **P** **22 40 23.4 +1.1**
baz=34,SNR=6.7
PMG Port Moresby 34.38 280 P **P** **22 40 28.0 +0.2**
comp=Z,912nm,0.8s,baz=75,slow=6.1,SNR=177
PMG Port Moresby 34.38 280 *deP* **P** **22 40 28.1 +0.2**
PMG pmax pmax
comp=Z,1μm,0.9s
PMG Port Moresby 34.38 280 P **P** **22 40 27.9 0.0**
CMSA Cobar Meteorol 35.10 240 P **P** **22 40 33.7 0.0**
baz=35,SNR=229
MTSU Mount Surprise 35.34 264 P **P** **22 40 35.2 -0.6**
baz=35,SNR=122
QLP Quilpie 35.48 249 P **P** **22 40 36.5 -0.3**
baz=36,SNR=94
JOHN Johnston Islan 35.51 15 P **P** **22 40 36.7 -0.4**
COEN Coen 37.03 270 P **P** **22 40 49.8 +0.1**
baz=37,SNR=291
COEN Coen 37.03 270 P **P** **22 40 49.3 -0.5**
TOO Toolangi 37.13 231 P **P** **22 40 51.0 +0.7**
baz=37,SNR=66
TOO Toolangi 37.13 231 P **P** **22 40 50.7 +0.4**
TOO pmax pmax
comp=Z,403nm,0.9s
TOO Toolangi 37.13 231 P **P** **22 40 50.6 +0.4**
MOO Moorlands 38.06 223 P **P** **22 40 58.5 +0.8**
baz=38,SNR=8.3
TAU Tasmania Unive 38.21 222 P **P** **22 40 58.1 -0.8**
TAU pmax pmax
comp=Z,82nm,0.9s
TAU Tasmania Unive 38.21 222 P **P** **22 40 58.1 -0.8**
TAU IAmb IAmb 22 41 00.3
comp=Z,82nm,0.8s
TAOE Nuku Hiva Isla 38.29 82 *eP* **P** **22 41 00.4 +0.3**
comp=Z,368nm,0.9s
TAOE Nuku Hiva Isla 38.29 82 P **P** **22 41 00.9 +0.8**
TAOE IAmb IAmb 22 41 02.3
comp=Z,149nm,0.8s
STKA Stephens Creek 38.58 241 P **P** **22 41 02.6 +0.5**
comp=Z,298nm,0.6s,baz=88,slow=9.8,SNR=539
STKA PcP **PcP** **22 42 59.7 +0.6**
comp=Z,35nm,0.7s,baz=31,slow=5.9,SNR=3.1
STKA ScP **ScP** **22 45 54.9 +2.9**
comp=Z,9.6nm,0.7s,baz=59,slow=4.6,SNR=3.7
STKA PKiKP **PKiKP** **22 50 10.1 -1.1**
comp=Z,1.4nm,0.5s,baz=182,slow=3.2,SNR=3.2
STKA Stephens Creek 38.58 241 P **P** **22 41 02.6 +0.5**
baz=39,SNR=252
STKA Stephens Creek 38.58 241 P **P** **22 41 02.1 0.0**
STKA IAmb IAmb 22 41 03.7
comp=Z,96nm,0.9s
QIS Mount Isa 39.59 259 P **P** **22 41 09.3 -1.1**
baz=40,SNR=22
ARPS Mount Arapiles 39.61 234 P **P** **22 41 10.4 +0.2**
baz=40,SNR=32
HTT Hallett 41.09 239 P **P** **22 41 22.5 +0.3**
baz=41,SNR=115
KHU Kahuku 43.20 32 P **P** **22 41 38.6 -0.4**
KHU pmax pmax
comp=Z,618nm,1.4s
KHU Kahuku 43.20 32 P **P** **22 41 38.6 -0.4**
GENI Genyem 43.29 286 P **P** **22 41 39.3 -0.3**
comp=Z,13μmcomp=Z,1μm,1.1s
KHLU Kahalu`u 43.35 32 P **P** **22 41 40.2 +0.2**
BBOO Buckleboo 43.35 241 P **P** **22 41 39.9 +0.1**
baz=43,SNR=320
BBOO Buckleboo 43.35 241 P **P** **22 41 39.4 -0.4**
AIN Ainahou 43.38 33 P **P** **22 41 40.4 0.0**
HUH Hualalai 43.46 32 P **P** **22 41 40.8 -0.2**
MLOA Mauna Loa Obse 43.46 32 P **P** **22 41 41.4 +0.1**
PUH Pauahi 43.51 33 P **P** **22 41 41.5 +0.2**
MLH Mauna Loa 43.52 33 P **P** **22 41 41.7 +0.2**
HMH Humu'ula Sheep 43.57 32 P **P** **22 41 42.5 +0.6**
STCH Steam Cracks 43.57 33 P **P** **22 41 42.0 +0.4**
POHA Pohakuloa 43.67 32 P **P** **22 41 42.8 +0.2**
HON Honolulu 43.83 28 P **P** **22 41 43.6 +0.1**
HON pmax pmax
comp=Z,282nm,0.9s
HON Honolulu 43.83 28 P **P** **22 41 43.6 +0.1**
KIP Kipapa 43.91 28 P **P** **22 41 44.2 +0.1**
KIP pmax pmax
comp=Z,432nm,1.4s
KIP Kipapa 43.91 28 P **P** **22 41 44.2 +0.1**
OPA Opana 44.15 28 P **P** **22 41 45.9 -0.1**
OPA pmax pmax
comp=Z,142nm,0.9s
OPA Opana 44.15 28 P **P** **22 41 45.9 -0.1**
OPA IAmb IAmb 22 41 48.3
comp=Z,142nm,0.9s
KHLH Kahului Airpor 44.19 30 P **P** **22 41 46.8 +0.5**
WR0 Warramunga Arr 44.37 260 P **P** **22 41 46.5 -1.3**
WR0 IAmb IAmb 22 41 48.0
comp=Z,454nm,1.6s
WB0 Warramunga Arr 44.53 260 P **P** **22 41 47.8 -1.2**
WRAB Tennant Creek 44.55 260 *de*P **P** **22 41 47.9 -1.4**
WRAB pmax pmax
comp=Z,245nm,0.7s
WRAB Tennant Creek 44.55 260 P **P** **22 41 47.6 -1.6**
WRA Warramunga Arr 44.56 260 P **P** **22 41 48.5 -0.8**
comp=Z,230nm,0.7s,baz=93,slow=7.1,SNR=923
WRA PcP **PcP** **22 43 19.8 +0.3**
comp=Z,51nm,0.7s,baz=92,slow=3.4,SNR=9.3
WRA ScP **ScP** **22 46 18.4 +2.2**
comp=Z,11nm,0.9s,baz=82,slow=4.4,SNR=8.2
WRA S **S** **22 47 39.3 -4.1**
comp=Z,6.8nm,0.8s,baz=96,slow=13,SNR=7.2
WRA PKiKP **PKiKP** **22 50 15.6 -1.3**
comp=Z,1.6nm,0.6s,baz=69,slow=0.4,SNR=5.4
AS31 Alice Springs 44.73 254 P **P** **22 41 49.8 -0.8**
ASAR Alice Springs 44.73 254 P **P** **22 41 50.1 -0.4**
comp=Z,1μm,0.6s,baz=88,slow=8.3
ASAR PcP **PcP** **22 43 20.1 +0.1**
comp=Z,72nm,0.6s,baz=103,slow=3.8,SNR=8.1
ASAR ScP **ScP** **22 46 19.7 +2.8**
comp=Z,8.4nm,0.7s,baz=110,slow=3.4,SNR=6.1
ASAR S **S** **22 47 42.7 -2.9**
comp=Z,24nm,1.0s,baz=87,slow=16,SNR=22
ASAR PKiKP **PKiKP** **22 50 15.9 -1.1**
comp=Z,1.2nm,0.4s,baz=82,slow=1.5,SNR=5.0
ASAR PKP2bc 23 13 37.7
comp=Z,1.2nm,1.0s,baz=290,slow=3.0,SNR=5.5
ASAR P4KPbc 23 19 31.5
comp=Z,0.6nm,0.6s,baz=91,slow=4.6,SNR=7.0
ASAR Alice Springs 44.73 254 P **P** **22 41 49.3 -1.3**
ASAR **PcP** **22 43 20.1 +0.1**
ASAR **ScP** **22 46 19.2 +2.3**
SRPI Serui, Papua 47.18 285 P **P** **22 42 09.0 -0.2**
comp=Z,662nm,0.8s
KDU Kakadu 47.48 269 P **P** **22 42 10.6 -0.8**
baz=48,SNR=101
BAKI Biak 47.57 285 P **P** **22 42 11.4 -0.7**
comp=Z,7μmcomp=Z,797nm,0.9s
GUMO Guam 47.80 308 P **P** **22 42 13.8 0.0**
comp=Z,578nm,0.7s,baz=170,slow=8.6,SNR=29
GUMO Guam 47.80 308 P **P** **22 42 13.1 -0.7**
MTN Manton Dam 48.73 268 P **P** **22 42 19.5 -1.1**
baz=49,SNR=83
MTN Manton Dam 48.73 268 P **P** **22 42 19.4 -1.3**
WRKA Warakurna 49.78 252 P **P** **22 42 28.1 -0.3**
baz=50,SNR=569
SAUI Saumlaki 49.78 275 P **P** **22 42 28.4 -0.1**
FORT Forrest 49.95 245 P **P** **22 42 28.7 -0.8**
baz=50,SNR=255
FORT Forrest 49.95 245 P **P** **22 42 28.6 -0.9**
FORT PcP **PcP** **22 43 38.8 +0.1**
KNRA Kununurra 50.42 264 P **P** **22 42 32.4 -0.7**
baz=50,SNR=134
KNRA Kununurra 50.42 264 P **P** **22 42 32.3 -0.8**
SIJI Sorong 52.16 283 P **P** **22 42 45.6 -0.1**
comp=Z,1μm,0.7s,baz=89,slow=5.7,SNR=125
BNDI Bandanaira 52.16 278 P **P** **22 42 45.4 -0.2**
comp=Z,10μmcomp=Z,703nm,1.1s
FITZ Fitzroy Crossi 52.96 261 P **P** **22 42 51.1 -0.2**
comp=Z,36nm,0.3s,baz=359,slow=1.0,SNR=316
FITZ S **S** **22 49 37.5 -0.3**
comp=Z,5.1nm,0.9s,baz=288,slow=20,SNR=2.5
FITZ Fitzroy Crossi 52.96 261 P **P** **22 42 50.9 -0.3**
baz=53,SNR=110
FITZ Fitzroy Crossi 52.96 261 P **P** **22 42 51.0 -0.3**
FITZ IAmb IAmb 22 42 52.3
comp=Z,600nm,1.9s
MSAI Masohi 53.47 279 P **P** **22 42 54.1 -0.8**
comp=Z,1μmcomp=Z,108nm,0.7s
NLAI Namlea 55.22 279 P **P** **22 43 06.9 -0.3**
comp=Z,6μmcomp=Z,559nm,0.8s
KMBL Kambalda 55.26 244 P **P** **22 43 06.0 -1.2**
baz=55,SNR=69
SOEI Soe 56.00 270 P **P** **22 43 12.5 -0.2**
comp=Z,10μmcomp=Z,1μm,0.9s
SOEI Soe 56.00 270 P **P** **22 43 13.5 +0.8**
TNTI Ternate 56.38 283 P **P** **22 43 14.9 -0.3**
comp=Z,4μmcomp=Z,483nm,0.9s
TNTI Ternate 56.38 283 P **P** **22 43 14.5 -0.7**
TNTI IAmb IAmb 22 43 16.2
comp=Z,360nm,0.8s
BATI Baumata 56.46 269 P **P** **22 43 16.9 +1.1**
comp=Z,311nm,0.7s,baz=164,slow=1.1,SNR=54
BATI Baumata 56.46 269 P **P** **22 43 16.0 +0.2**
comp=Z,2μmcomp=Z,255nm,0.9s
SANI Sanana 56.67 280 P **P** **22 43 16.3 -0.9**
comp=Z,5μmcomp=Z,597nm,1.0s
PSA00 Pilbara Seismi 57.84 255 P **P** **22 43 24.1 -1.0**
PSA00 IAmb IAmb 22 43 25.4
comp=Z,342nm,0.8s
MMRI Maumere 58.23 271 P **P** **22 43 26.8 -1.0**
comp=Z,5μmcomp=Z,484nm,0.8s
MMRI Maumere 58.23 271 P **P** **22 43 26.6 -1.1**
MMRI IAmb IAmb 22 43 27.9
comp=Z,288nm,0.8s
MMRI PcP **PcP** **22 44 11.9 +0.8**
MEEK Meekatharra 58.37 249 P **P** **22 43 27.6 -1.1**
baz=58,SNR=132
EDFI Ende, Flores 58.72 271 P **P** **22 43 29.9 -1.3**
comp=Z,3μmcomp=Z,243nm,1.2s
JCJ Chichijima 58.78 319 P **P** **22 43 30.6 -0.6**
comp=Z,101nm,0.6s,baz=92,slow=19,SNR=8.7
JCJ Chichijima 58.78 319 P **P** **22 43 30.3 -0.8**
JCJ IAmb IAmb 22 43 31.2
comp=Z,164nm,0.9s
NWAO Narrogin (SRO) 59.16 242 P **P** **22 43 33.3 -0.4**
comp=Z,78nm,0.6s,baz=104,slow=5.6,SNR=70
NWAO Narrogin (SRO) 59.16 242 P **P** **22 43 33.3 -0.4**
baz=59,SNR=33
NWAO Narrogin (SRO) 59.16 242 P **P** **22 43 33.1 -0.6**
NWAO IAmb IAmb 22 43 34.3
comp=Z,420nm,1.6s
KDI Kendari 59.22 276 P **P** **22 43 33.9 -0.5**
comp=Z,24μmcomp=Z,178nm,1.0s
RKGY Rocky Gully 59.32 240 P **P** **22 43 35.0 +0.2**
baz=59,SNR=30
BASI Baing, Sumba 59.39 269 P **P** **22 43 35.4 -0.2**
comp=Z,3μmcomp=Z,434nm,1.3s
KMSI Cibinong 59.46 282 P **P** **22 43 35.7 -0.3**
comp=Z,5μmcomp=Z,658nm,0.8s
BLDU Ballidu 59.73 245 P **P** **22 43 36.7 -0.8**
baz=60,SNR=126
WSI Waingapu 59.80 269 P **P** **22 43 38.2 -0.1**
comp=Z,15μmcomp=Z,711nm,0.6s
LUWI Luwuk 60.03 279 P **P** **22 43 39.7 -0.1**
comp=Z,6μmcomp=Z,659nm,1.1s
LUWI Luwuk 60.03 279 P **P** **22 43 39.3 -0.5**
MUN Mundaring 60.07 243 P **P** **22 43 39.6 -0.1**
baz=60,SNR=28
MORW Morawa 60.42 246 P **P** **22 43 41.5 -0.7**
baz=60,SNR=94
MORW Morawa 60.42 246 P **P** **22 43 41.5 -0.7**
MORW IAmb IAmb 22 43 42.0
comp=Z,102nm,0.7s
VNDA Vanda 60.46 185 P **P** **22 43 43.2 +1.7**
comp=Z,6.9nm,0.6s,baz=356,slow=7.9,SNR=88
VNDA Vanda 60.46 185 P **P** **22 43 43.0 +1.5**
VNDA PcP **PcP** **22 44 20.1 +1.2**
DAV Davao City (W) 60.52 289 P **P** **22 43 43.3 +0.3**
comp=Z,248nm,0.4s,baz=65,slow=2.7,SNR=9.3
DAV Davao City (W) 60.52 289 P **P** **22 43 42.6 -0.4**
BKSI Bulukumba 61.17 274 P **P** **22 43 46.2 -1.1**
comp=Z,1μmcomp=Z,132nm,0.8s
KAPI Kappang 61.62 274 P **P** **22 43 49.9 -0.3**
comp=Z,65nm,0.5s,baz=128,slow=3.3,SNR=39
KAPI Kappang 61.62 274 P **P** **22 43 49.1 -1.1**
KAPI IAmb IAmb 22 43 50.9
comp=Z,410nm,1.6s
H01W1 Cape Leeuwin H 61.63 240 P **P** **22 43 51.0 +1.3**
baz=114,slow=6.6,SNR=13
H01W3 Cape Leeuwin H 61.65 240 P **P** **22 43 51.2 +1.4**
baz=114,slow=6.6,SNR=13
H01W2 Cape Leeuwin H 61.65 240 P **P** **22 43 51.2 +1.4**
baz=114,slow=6.6,SNR=11
SPSI Sidrap Palu 61.92 275 P **P** **22 43 51.0 -1.2**
comp=Z,2μmcomp=Z,248nm,0.8s
PLAI Plampang 62.42 269 P **P** **22 43 54.6 -0.8**
comp=Z,6μmcomp=Z,554nm,0.7s
GIRL Giralia 62.83 253 P **P** **22 43 58.6 +0.7**
baz=63,SNR=62
GIRL Giralia 62.83 253 P **P** **22 43 58.3 +0.4**
MPSI Mapaga 63.20 280 P **P** **22 43 59.7 -0.7**
comp=Z,3μmcomp=Z,403nm,0.9s
TWSI Taliwang, Sumb 63.30 269 P **P** **22 44 00.3 -0.7**
comp=Z,4μmcomp=Z,506nm,1.0s
JHJ2 Mitsune 64.48 322 P **P** **22 44 07.4 -0.7**
SMKI Samarinda 65.47 278 P **P** **22 44 14.6 -0.1**
comp=Z,7μmcomp=Z,402nm,1.1s
KBKI Kotabaru 65.54 275 P **P** **22 44 15.1 -0.1**
comp=Z,2μmcomp=Z,125nm,1.0s
JAGI Jajag, Banyuwa 65.97 269 P **P** **22 44 16.1 -1.7**
comp=Z,6μmcomp=Z,753nm,0.9s
JAGI Jajag, Banyuwa 65.97 269 P **P** **22 44 16.3 -1.6**
ABJI Asem Bagus 66.07 269 P **P** **22 44 18.4 -0.1**
comp=Z,3μmcomp=Z,192nm,1.0s
CASY Casey 66.13 205 P **P** **22 44 18.2 +0.3**
CASY IAmb IAmb 22 44 19.5
comp=Z,109nm,1.1s
MYLDM Lahad Datu 66.23 284 P **P** **22 44 20.5 +1.0**
MYLDM IAmb IAmb 22 44 23.1
comp=Z,351nm,1.3s
JYT Yasato 66.50 324 P **P** **22 44 20.5 -0.1**
JYT IAmb IAmb 22 44 22.1
comp=Z,192nm,0.9s
KMMI Kalianget 66.53 270 P **P** **22 44 21.8 +0.5**
comp=Z,3μmcomp=Z,228nm,1.0s
JSG Sagara 66.54 322 P **P** **22 44 21.4 +0.5**
BLJI Banyuglugur 66.70 269 P **P** **22 44 21.7 -0.6**
comp=Z,6μmcomp=Z,601nm,0.8s
BBKI Banjar Baru 66.75 274 P **P** **22 44 23.0 +0.3**
comp=Z,4μmcomp=Z,228nm,1.2s
MTKI Muara Teweh, K 67.49 277 P **P** **22 44 26.5 -0.7**
comp=Z,8μmcomp=Z,99nm,1.0s
TGY Tagaytay City 67.67 294 P **P** **22 44 28.1 -0.2**
comp=Z,118nm,0.3s,baz=172,slow=2.0,SNR=14
JGF Kuroka 67.67 322 P **P** **22 44 27.3 -0.6**
JGF IAmb IAmb 22 44 28.4
comp=Z,53nm,0.7s
INU Inuyama 67.70 322 P **P** **22 44 26.8 -1.2**
MJAR Matsushiro Arr 67.84 323 P **P** **22 44 28.4 -0.5**
comp=Z,67nm,0.7s,baz=158,slow=6.1,SNR=162
MJAR PcP **PcP** **22 44 50.5 +0.2**
comp=Z,15nm,0.8s,baz=165,slow=4.2,SNR=5.7
MJAR Matsushiro Arr 67.84 323 P **P** **22 44 27.8 -1.1**
MAJO Matsushiro 67.85 323 *d*/P **P** **22 44 28.3 -0.6**
MAJO pmax pmax
comp=Z,74nm,0.8s
MAJO Matsushiro 67.85 323 P **P** **22 44 28.2 -0.7**
MAJO IAmb IAmb 22 44 29.4
comp=Z,74nm,0.8s
MAT Matsushiro 67.85 323 P **P** **22 44 28.4 -0.5**
MAT S **S** **22 52 41.4 -0.3**
SPMM Sapulut 67.95 283 P **P** **22 44 30.0 0.0**
GRJI Gresik 67.99 270 P **P** **22 44 30.2 0.0**
comp=Z,2μmcomp=Z,211nm,0.6s
PWJI Pagerwojo 68.33 268 P **P** **22 44 31.9 -0.4**
comp=Z,4μmcomp=Z,298nm,0.7s
JMN Monobe 68.53 319 P **P** **22 44 33.1 +0.1**
JMN IAmb IAmb 22 44 34.8
comp=Z,129nm,1.1s
JWT Wachi 68.62 321 P **P** **22 44 33.4 -0.1**
JWT IAmb IAmb 22 44 34.2
comp=Z,57nm,0.8s
TBJI Tambak Boyo 68.62 270 P **P** **22 44 33.6 -0.4**
comp=Z,5μmcomp=Z,545nm,1.1s
KKM Kota Kinabalu 68.67 284 P **P** **22 44 33.8 -0.6**
KKM IAmb IAmb 22 44 34.9
comp=Z,155nm,0.6s
JSD Sado 68.88 325 P **P** **22 44 34.7 -0.3**
JSD IAmb IAmb 22 44 36.1
comp=Z,95nm,0.7s
WOJI Wonogiri, Jawa 69.21 268 P **P** **22 44 37.5 -0.1**
comp=Z,4μmcomp=Z,423nm,0.9s
JSU Suzuyama 69.36 315 P **P** **22 44 38.1 0.0**
JSU IAmb IAmb 22 44 38.8
comp=Z,62nm,0.8s
ADK Adak 69.49 1 P **P** **22 44 37.8 -0.6**
ADK pmax pmax
comp=Z,66nm,0.7s
ADK Adak 69.49 1 P **P** **22 44 37.8 -0.6**
ADK IAmb IAmb 22 44 38.6
comp=Z,66nm,0.7s
UGM Wanagama 69.58 268 P **P** **22 44 39.1 -0.7**
YOGI Yogyakarta 69.82 268 P **P** **22 44 41.0 -0.2**
comp=Z,5μmcomp=Z,578nm,0.7s
JHS Saijyo 69.83 319 P **P** **22 44 40.8 0.0**
JHS IAmb IAmb 22 44 42.4
comp=Z,178nm,0.8s
ATKA Atka Island 69.89 3 P **P** **22 44 40.1 -0.6**
ATKA IAmb IAmb 22 44 40.8
comp=Z,158nm,1.0s
SMRI Semarang 69.89 269 P **P** **22 44 41.7 0.0**
comp=Z,7μmcomp=Z,587nm,0.8s
SMRI Semarang 69.89 269 P **P** **22 44 41.3 -0.4**
PBKI Pangkalan Bun 70.00 274 P **P** **22 44 42.9 +0.6**
comp=Z,129μmcomp=Z,10μmcomp=Z,943nm,1.0s
JNU Nakatsue 70.07 316 P **P** **22 44 42.0 -0.3**
comp=Z,44nm,1.0s,baz=117,slow=4.6,SNR=9.8
JNU Nakatsue 70.07 316 P **P** **22 44 41.4 -0.9**
JNU IAmb IAmb 22 44 42.7
comp=Z,62nm,1.0s
SMY Shemya 70.61 355 P **P** **22 44 44.2 -0.8**
SMY pmax pmax
comp=Z,174nm,1.4s
SMY Shemya 70.61 355 P **P** **22 44 44.2 -0.8**
SMY IAmb IAmb 22 44 54.3
comp=Z,174nm,1.4s
JEW Eniwo 70.78 330 P **P** **22 44 46.4 +0.2**
JEW IAmb IAmb 22 44 47.8
comp=Z,161nm,0.9s
YOJ Yonaguni jima 70.87 305 P **P** **22 44 46.9 -0.3**
YOJ pmax pmax
comp=Z,370nm,0.8s
YOJ Yonaguni jima 70.87 305 P **P** **22 44 46.9 -0.3**
STKI Sintang 71.05 276 P **P** **22 44 49.2 +0.7**
comp=Z,111nm,0.4s
JKA Kamikawa-asahi 71.22 331 P **P** **22 44 49.7 +1.0**
ASAJ Asahikawa 71.22 331 P **P** **22 44 49.7 +0.9**
ASAJ pmax pmax
comp=Z,39nm,1.0s
KPJI Karang Pucung 71.25 268 P **P** **22 44 49.1 -0.5**
comp=Z,3μmcomp=Z,474nm,0.9s
CMJI Cimerak 71.58 268 P **P** **22 44 50.3 -1.3**
comp=Z,3μmcomp=Z,275nm,1.2s
TWG Pinlang 71.60 302 P **P** **22 44 49.8 -1.6**
YULB Yu-li 71.69 303 P **P** **22 44 50.5 -1.5**
YULB IAmb IAmb 22 44 51.8
comp=Z,56nm,0.7s
NACB Ninganchiao 71.84 304 P **P** **22 44 52.0 -0.8**
NACB IAmb IAmb 22 44 53.2
comp=Z,235nm,1.0s
SSLB Suanglung 72.16 303 P **P** **22 44 53.6 -1.2**
SSLB IAmb IAmb 22 44 54.4
comp=Z,106nm,0.5s
QSPA South Pole Qui 72.17 180 P **P** **22 44 55.5 +1.4**
comp=Z,92nm,0.9s,baz=12,slow=0.7,SNR=526
QSPA pP **pP** **22 46 53.8 -0.4**
comp=Z,15nm,1.1s,baz=50,slow=9.3,SNR=3.0
QSPA S **S** **22 53 31.9 +1.8**
comp=Z,6.1nm,1.2s,baz=309,slow=24,SNR=19
QSPA South Pole Qui 72.17 180 P **P** **22 44 55.2 +1.0**
QSPA IAmb IAmb 22 44 56.5
comp=Z,98nm,0.9s
UNV Unalaska Valle 72.17 7 P **P** **22 44 53.1 -0.9**
UNV IAmb IAmb 22 44 53.8
comp=Z,44nm,0.8s
TPUB Ta-pu 72.19 302 P **P** **22 44 53.6 -1.2**
CISI Cisompet, Garu 72.25 268 P **P** **22 44 54.2 -1.3**
comp=Z,6μmcomp=Z,587nm,0.7s
CISI Cisompet, Garu 72.25 268 P **P** **22 44 54.1 -1.3**
YHNB Yeheng 72.26 304 P **P** **22 44 54.7 -0.7**
YHNB IAmb IAmb 22 44 56.0
comp=Z,145nm,0.9s
KSM Kuching 72.61 277 P **P** **22 44 57.6 +0.1**
KSM Kuching 72.61 277 P **P** **22 44 58.0 +0.5**
CNJI Cibinong 72.97 268 P **P** **22 44 59.3 -0.3**
comp=Z,599nm,1.0s
PET Petropavlovsk 73.33 346 *i* P **P** **22 45 02.6 +1.9**
PET pmax pmax
comp=Z,457nm,1.6s
YSS Yuzh-Sakhalins 73.36 333 ||*eP* **P** **22 45 01.7 +0.7**
YSS *eS* **S** **22 53 48.2 +4.9**
YSS *e* 22 54 19.5
YSS pmax pmax
comp=Z,40nm,0.8s
YSS smax smax
comp=E,200nm,13.4s
CBJI Citeko 73.49 268 P **P** **22 45 01.6 -0.9**
comp=E,682nm,0.9s
XMIS Christmas Isla 73.51 264 P **P** **22 45 01.9 -0.7**
XMIS IAmb IAmb 22 45 03.5
comp=Z,108nm,0.7s

DBJI	**Dramaga**	**73.55**	**268**	P	**P**	**22 45 02.7**	**-0.2**
	comp=Z,436nm,0.8s						
SKJI	**Sukabumi**	**73.60**	**268**	P	**P**	**22 45 02.4**	**-0.8**
	comp=Z,11μcomp=Z,1μm,0.7s						
PEA0B	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**22 45 02.6**	**+0.1**
PEA0B				pmax	pmax		
	comp=Z,82nm,1.5s						
PEA0B	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**22 45 02.6**	**+0.1**
PEA0B				IAmb	IAmb	22 46 01.6	
	comp=Z,82nm,1.4s						
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**22 45 02.6**	**+0.1**
	comp=Z,11nm,0.7s,baz=117,slow=7.9,SNR=13						
PETK				PKiKP	**PKiKP**	**22 50 51.0**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=63,slow=3.0,SNR=4.6						
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**22 45 02.4**	**-0.1**
TPI	**Tanjungpandan**	**73.80**	**272**	P	**P**	**22 45 04.3**	**0.0**
	comp=Z,2μcomp=Z,140nm,1.1s						
SDPT	**Sand Point**	**74.53**	**11**	P	**P**	**22 45 06.5**	**-0.9**
SDPT				IAmb	IAmb	22 45 07.4	
	comp=Z,74nm,0.9s						
CGJI	**Cibinong**	**74.54**	**268**	P	**P**	**22 45 07.3**	**-1.1**
	comp=Z,10μcomp=Z,1μm,0.8s						
QZH	**Quanzhou**	**74.60**	**303**	⇓*i*P	**P**	**22 45 08.5**	**0.0**
QZH				S	**S**	**22 53 59.0**	**+1.2**
QZH				pmax	pmax		
	comp=Z,140nm,0.7s						
KSRS	**Korea Array**	**74.64**	**318**	P	**P**	**22 45 09.0**	**+0.6**
	comp=Z,16nm,0.7s,baz=129,slow=6.3,SNR=54						
KSRS	**Korea Array**	**74.64**	**318**	P	**P**	**22 45 09.0**	**+0.6**
KSAR	**Wonju Array Be**	**74.65**	**318**	P	**P**	**22 45 08.1**	**-0.4**
KSAR	**Wonju Array Be**	**74.65**	**318**	P	**P**	**22 45 08.1**	**-0.4**
KS19	**Wonju Array Si**	**74.70**	**318**	P	**P**	**22 45 08.9**	**+0.1**
BLSI	**Bandar Lampung**	**75.32**	**269**	P	**P**	**22 45 11.7**	**-1.1**
	comp=Z,4μcomp=Z,413nm,0.8s						
PPBI	**Pangkal Pinang**	**75.42**	**272**	P	**P**	**22 45 13.6**	**+0.2**
	comp=Z,311nm,0.9s						
INCN	**Inchon**	**75.47**	**318**	P	**P**	**22 45 12.8**	**-0.3**
INCN				pmax	pmax		
	comp=Z,35nm,0.9s						
INCN	**Inchon**	**75.47**	**318**	P	**P**	**22 45 12.8**	**-0.3**
SSE	**Sheshan**	**75.67**	**310**	P	**P**	**22 45 13.9**	**-0.4**
CHGN	**Chignik**	**75.81**	**11**	P	**P**	**22 45 13.8**	**-0.7**
CHGN				IAmb	IAmb	22 45 14.7	
	comp=Z,56nm,0.8s						
KLSI		**76.01**	**270**	P	**P**	**22 45 15.3**	**-1.3**
	comp=Z,21nm,0.9s						
SCI2	**San Clemente I**	**76.37**	**48**	P	**P**	**22 45 19.7**	**+1.5**
	baz=238						
SAO	**San Andreas Ge**	**76.46**	**44**	P	**P**	**22 45 20.0**	**+1.4**
SAO				pmax	pmax		
	comp=Z,74nm,0.8s						
SAO	**San Andreas Ge**	**76.46**	**44**	P	**P**	**22 45 19.9**	**+1.4**
SAO				IAmb	IAmb	22 45 21.1	
	comp=Z,74nm,0.8s						
TYV	**Tymovskoe**	**76.48**	**336**	*e*P	**P**	**22 45 18.6**	**+0.3**
TYV				*e*S	**S**	**22 54 10.3**	**-6.5**
TYV				pmax	pmax		
	comp=Z,53nm,1.1s						
TYV				pmax	pmax		
	comp=Z,200nm,3.6s						
TYV				smax	smax		
	comp=N,13nm,1.6s						
TYV				smax	smax		
	comp=E,500nm,6.4s						
PMBI	**Palembang**	**76.49**	**271**	P	**P**	**22 45 19.8**	**+0.5**
PMBI	**Palembang**	**76.49**	**271**	P	**P**	**22 45 19.5**	**+0.2**
PKM	**Mcpherson Peak**	**76.51**	**46**	P	**P**	**22 45 20.8**	**+1.6**
	baz=237						
LWLI	**Liwa**	**76.55**	**269**	P	**P**	**22 45 19.1**	**-0.6**
	comp=E,4μcomp=E,339nm,0.6s						
USA0B	**Ussuriysk Arra**	**76.55**	**326**	*d*⇓*i*P	**P**	**22 45 18.9**	**0.0**
USA0B	**Ussuriysk Arra**	**76.55**	**326**	P	**P**	**22 45 19.4**	**+0.5**
USA0B				IAmb	IAmb	22 45 21.0	
	comp=Z,122nm,1.7s						
USRK	**Ussuriysk Ar.**	**76.55**	**326**	P	**P**	**22 45 19.5**	**+0.7**
	comp=Z,14nm,0.6s,baz=118,slow=4.5,SNR=51						
USRK	**Ussuriysk Ar.**	**76.55**	**326**	P	**P**	**22 45 19.3**	**+0.4**
PMPB	**Monarch Peak**	**76.58**	**45**	P	**P**	**22 45 20.2**	**+0.9**
PMPB				IAmb	IAmb	22 45 21.6	
	comp=Z,61nm,0.7s						
MDSI	**Maura Dua**	**76.59**	**270**	P	**P**	**22 45 18.1**	**-1.7**
	comp=Z,2μcomp=Z,166nm,0.8s						
SMMC	**Simmler**	**76.62**	**46**	P	**P**	**22 45 21.2**	**+1.7**
	baz=237						
PAGB	**Antelope Grade**	**76.68**	**45**	P	**P**	**22 45 20.1**	**+0.3**
CIS	**Catalina Islan**	**76.69**	**48**	P	**P**	**22 45 20.9**	**+1.0**
	baz=238						
HOPS	**Hopland Field**	**76.70**	**41**	P	**P**	**22 45 21.2**	**+1.4**
KCPM	**Cahto Peak**	**76.80**	**40**	P	**P**	**22 45 21.3**	**+0.8**
KCPM				IAmb	IAmb	22 45 23.3	
	comp=Z,96nm,1.4s						
SII	**Sitkinak Islan**	**76.92**	**14**	P	**P**	**22 45 20.4**	**-0.2**
SII				IAmb	IAmb	22 45 21.6	
	comp=Z,133nm,0.6s						
KMRM	**Mail Ridge**	**77.04**	**40**	P	**P**	**22 45 22.9**	**+1.1**
KMRM				IAmb	IAmb	22 45 24.6	
	comp=Z,150nm,0.8s						
OSI	**Osito Audit: C**	**77.12**	**47**	P	**P**	**22 45 23.8**	**+1.5**
	baz=238						
CCX	**Cicese**	**77.16**	**50**	P	**P**	**22 45 23.1**	**+0.6**
DECC	**Green Verdugo**	**77.20**	**47**	P	**P**	**22 45 23.4**	**+0.7**
	baz=238						
PASC	**Pasadena Art C**	**77.26**	**48**	P	**P**	**22 45 23.9**	**+0.9**
PASC				IAmb	IAmb	22 45 25.0	
	comp=Z,61nm,0.9s						
ARVC	**Arvin**	**77.32**	**46**	P	**P**	**22 45 24.6**	**+1.4**
	baz=237						
109C	**Camp Elliot, M**	**77.36**	**49**	P	**P**	**22 45 24.8**	**+1.3**
	baz=239						
109C	**Camp Elliot, M**	**77.36**	**49**	P	**P**	**22 45 24.5**	**+1.0**
MWC	**Mount Wilson**	**77.38**	**48**	P	**P**	**22 45 24.3**	**+0.4**
MWC				pmax	pmax		
	comp=Z,63nm,0.6s						
MWC	**Mount Wilson**	**77.38**	**48**	P	**P**	**22 45 24.3**	**+0.4**
MWC				IAmb	IAmb	22 45 25.5	
	comp=Z,63nm,0.6s						
LHSI	**Lahat**	**77.41**	**270**	P	**P**	**22 45 23.3**	**-1.0**
	comp=Z,2μcomp=Z,122nm,1.1s						
DSRI	**Dabo**	**77.42**	**274**	P	**P**	**22 45 24.7**	**+0.4**
	comp=Z,1μcomp=Z,100nm,1.2s						
VES	**Vestal, Richgr**	**77.53**	**46**	P	**P**	**22 45 25.5**	**+1.1**
	baz=237						
BAR	**Barrett**	**77.57**	**50**	P	**P**	**22 45 25.3**	**+0.6**
O02D	**Mt. Diablo Mer**	**77.58**	**40**	P	**P**	**22 45 26.6**	**+1.9**
	baz=234						
SPX	**San Pedro Mart**	**77.63**	**52**	P	**P**	**22 45 25.9**	**+0.4**
MURC	**Murrieta**	**77.66**	**49**	P	**P**	**22 45 26.5**	**+1.3**
	baz=239						
BFSC	**Mount Baldy Ra**	**77.67**	**48**	P	**P**	**22 45 26.4**	**+1.0**
	baz=238						
OHAK	**Old Harbor**	**77.73**	**14**	P	**P**	**22 45 24.9**	**0.0**
OHAK				IAmb	IAmb	22 45 26.0	
	comp=Z,64nm,0.8s						
ESJX	**Sierra Juarez**	**77.75**	**50**	P	**P**	**22 45 27.1**	**+1.2**
EDW2	**Edwards Air Fo**	**77.77**	**47**	P	**P**	**22 45 27.2**	**+1.4**
	baz=238						
MNAI	**Manna**	**77.80**	**269**	P	**P**	**22 45 26.5**	**+0.2**
	comp=Z,6μcomp=Z,678nm,0.8s						
MNAI	**Manna**	**77.80**	**269**	P	**P**	**22 45 25.5**	**-0.8**
ISA	**Isabella, Lake**	**77.85**	**46**	P	**P**	**22 45 27.3**	**+1.1**
ISA				pmax	pmax		
	comp=Z,76nm,1.0s						
ISA	**Isabella, Lake**	**77.85**	**46**	P	**P**	**22 45 27.6**	**+1.4**
	baz=238						
ISA	**Isabella, Lake**	**77.85**	**46**	P	**P**	**22 45 27.3**	**+1.1**
ISA				IAmb	IAmb	22 45 28.8	
	comp=Z,76nm,0.9s						
MONP2	**Monument Peak**	**77.86**	**49**	P	**P**	**22 45 28.1**	**+1.6**
	baz=239						
NJ2	**Nanjing**	**77.87**	**310**	⇓*i*P	**P**	**22 45 27.0**	**+0.7**
NJ2				PcP	**PcP**	**22 45 35.5**	**+2.1**
NJ2				S	**S**	**22 54 35.8**	**+3.6**
NJ2				ScS	**ScS**	**22 54 54.0**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,90nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,330nm,3.9s						
CMB	**Columbia Colle**	**77.87**	**43**	P	**P**	**22 45 27.0**	**+0.8**
CMB				pmax	pmax		
	comp=Z,59nm,1.0s						
CMB	**Columbia Colle**	**77.87**	**43**	P	**P**	**22 45 27.0**	**+0.8**
CMB				IAmb	IAmb	22 45 28.4	
	comp=Z,59nm,1.0s						
DLV	**T Lat**	**77.92**	**287**	P	**P**	**22 45 27.4**	**+0.2**
DLV				IAmb	IAmb	22 45 29.0	
	comp=Z,112nm,0.9s						
RMX	**La Rumorosa**	**77.96**	**50**	P	**P**	**22 45 28.4**	**+1.5**
RMX				IAmb	IAmb	22 45 29.7	
	comp=Z,65nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**77.96**	**50**	P	**P**	**22 45 28.6**	**+1.7**
	baz=240						
ORV	**Oroville**	**78.02**	**42**	P	**P**	**22 45 27.4**	**+0.4**
ORV				pmax	pmax		
	comp=Z,48nm,1.2s						
ORV	**Oroville**	**78.02**	**42**	P	**P**	**22 45 27.4**	**+0.4**
SFX	**San Felipe**	**78.09**	**52**	P	**P**	**22 45 27.7**	**+0.2**
N02D	**Trinity Center**	**78.11**	**40**	P	**P**	**22 45 29.2**	**+1.7**
	baz=234						
MDJ	**Mudanjiang**	**78.12**	**325**	P	**P**	**22 45 28.5**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,110nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,340nm,3.0s						
MDJ	**Mudanjiang**	**78.12**	**325**	P	**P**	**22 45 28.0**	**+0.6**
MDJ				IAmb	IAmb	22 45 29.5	
	comp=Z,111nm,0.9s						
PFO	**Pinyon Flats O**	**78.19**	**49**	P	**P**	**22 45 28.6**	**+0.4**
PFO				pmax	pmax		
	comp=Z,22nm,1.1s						
PFO	**Pinyon Flats O**	**78.19**	**49**	P	**P**	**22 45 28.6**	**+0.4**
O03E	**Paynes Creek**	**78.26**	**41**	P	**P**	**22 45 29.2**	**+0.9**
	baz=234						
M02C	**Callahan**	**78.26**	**39**	P	**P**	**22 45 30.1**	**+1.8**
	baz=233						
L02E	**Cave Junction**	**78.28**	**38**	P	**P**	**22 45 29.8**	**+1.6**
	baz=233						
SWSC	**Sam W. Stewart**	**78.33**	**50**	P	**P**	**22 45 30.2**	**+1.5**
	baz=240						
SRIG	**Santa Rosalia**	**78.35**	**56**	P	**P**	**22 45 29.1**	**+0.2**
SRIG				IAmb	IAmb	22 45 31.8	
	comp=Z,108nm,1.4s						
KSI	**Kapahiang**	**78.35**	**270**	P	**P**	**22 45 29.1**	**-0.3**
	comp=Z,14μcomp=Z,248nm,0.8s						
KDAK	**Kodiak Island**	**78.40**	**14**	P	**P**	**22 45 28.8**	**+0.3**
	comp=Z,39nm,0.6s,baz=242,slow=3.0,SNR=29						
KDAK	**Kodiak Island**	**78.40**	**14**	P	**P**	**22 45 28.5**	**0.0**
KDAK				IAmb	IAmb	22 45 29.8	
	comp=Z,214nm,1.6s						
MDPB	**Devils Postpil**	**78.51**	**44**	P	**P**	**22 45 31.2**	**+1.3**
MDPB				IAmb	IAmb	22 45 32.3	
	comp=Z,68nm,0.8s						
OMMB	**Old Mammoth Mi**	**78.55**	**44**	P	**P**	**22 45 31.2**	**+1.0**
OMMB				IAmb	IAmb	22 45 32.6	
	comp=Z,86nm,1.3s						
YBH	**Yreka Blue Hor**	**78.55**	**39**	P	**P**	**22 45 31.0**	**+1.1**
YBH				pmax	pmax		
	comp=Z,53nm,0.9s						
YBH	**Yreka Blue Hor**	**78.55**	**39**	P	**P**	**22 45 31.0**	**+1.1**
YBH				IAmb	IAmb	22 45 32.4	
	comp=Z,53nm,0.9s						
K02D	**Willamette Mer**	**78.56**	**38**	P	**P**	**22 45 31.2**	**+1.3**
	baz=233						
J01E	**Myrtle Point**	**78.69**	**37**	P	**P**	**22 45 31.8**	**+1.4**
	baz=232						
BELC	**Belle Mtn. Jos**	**78.72**	**49**	P	**P**	**22 45 32.5**	**+1.5**
	baz=239						
MPMC	**Manual Prospec**	**78.74**	**46**	P	**P**	**22 45 32.5**	**+1.4**
	baz=238						
TIN	**Tinemaha, Big**	**78.77**	**45**	P	**P**	**22 45 32.7**	**+1.5**
	baz=238						
GSC	**Goldstone, Bar**	**78.82**	**47**	P	**P**	**22 45 32.1**	**+0.7**
GSC				pmax	pmax		
	comp=Z,38nm,1.3s						
GSC	**Goldstone, Bar**	**78.82**	**47**	P	**P**	**22 45 32.6**	**+1.2**
	baz=239						
GSC	**Goldstone, Bar**	**78.82**	**47**	P	**P**	**22 45 32.1**	**+0.7**
MYKOM	**Kota Tinggi**	**78.82**	**276**	P	**P**	**22 45 31.8**	**0.0**
MYKOM				IAmb	IAmb	22 45 32.7	
	comp=Z,94nm,0.7s						
MYKOM	**Kota Tinggi**	**78.82**	**276**	P	**P**	**22 45 32.0**	**+0.2**
HEC	**Hector,Ludlow**	**78.91**	**48**	P	**P**	**22 45 33.0**	**+1.2**
	baz=239						
HUMO	**Hull Mountain**	**78.93**	**38**	P	**P**	**22 45 32.7**	**+1.0**
HUMO				IAmb	IAmb	22 45 34.5	
	comp=Z,70nm,1.1s						
BC3	**Big Chuckawall**	**78.94**	**49**	P	**P**	**22 45 33.7**	**+1.6**
	baz=240						
GRNR	**Gornyy**	**78.98**	**333**	⇓*i*P	**P**	**22 45 32.7**	**+0.9**
GRNR				pmax	pmax		
	comp=E,20nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,50nm,0.9s						
GRNR				MLR	MLR		
	comp=E,80nm,13.0s						
GRNR				MLR	MLR		
	comp=N,150nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,90nm,14.0s						
L04D	**Klamath Falls**	**79.08**	**39**	P	**P**	**22 45 34.0**	**+1.3**
	baz=234						
GLA	**Glamis**	**79.09**	**50**	P	**P**	**22 45 34.6**	**+1.8**
GLA				pmax	pmax		
	comp=Z,51nm,0.9s						
GLA	**Glamis**	**79.09**	**50**	P	**P**	**22 45 34.8**	**+1.9**
	baz=240						
GLA	**Glamis**	**79.09**	**50**	P	**P**	**22 45 34.6**	**+1.8**
M04C	**Macdoel**	**79.11**	**40**	P	**P**	**22 45 34.2**	**+1.4**
	baz=234						
YERR	**Yerington**	**79.15**	**43**	P	**P**	**22 45 34.3**	**+1.1**
YERR				IAmb	IAmb	22 45 35.0	
	comp=Z,73nm,0.6s						
GRAC	**Grapevine Rang**	**79.32**	**46**	P	**P**	**22 45 35.7**	**+1.7**
	baz=238						
I02D	**Swisshome**	**79.32**	**37**	P	**P**	**22 45 35.3**	**+1.6**
	baz=232						
I03D	**Drain, OR**	**79.36**	**37**	P	**P**	**22 45 35.1**	**+1.2**
	baz=233						
GMRC	**Granite Mounta**	**79.36**	**48**	P	**P**	**22 45 35.6**	**+1.2**
	baz=240						
QIZ	**Qiongzhong**	**79.38**	**294**	P	**P**	**22 45 34.8**	**+0.2**
QIZ				S	**S**	**22 54 51.3**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,30nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,220nm,4.7s						
PIX	**Pinacate**	**79.38**	**52**	P	**P**	**22 45 34.9**	**+0.6**
FURC	**Furnace Creek,**	**79.38**	**46**	P	**P**	**22 45 35.7**	**+1.5**
	baz=238						
IRM	**Iron Mountain**	**79.41**	**49**	P	**P**	**22 45 36.1**	**+1.6**
	baz=240						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**22 45 36.2**	**+1.3**
	comp=Z,41nm,0.7s,baz=225,slow=8.8,SNR=204						
NVAR				pP	**pP**	**22 47 37.9**	**+0.1**
	comp=Z,4.8nm,1.0s,baz=228,slow=9.0,SNR=4.0						
NVAR				PKKPbc	**PKKPbc**	**23 04 21.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=105,slow=3.4,SNR=6.7						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**22 45 35.6**	**+0.8**
SHOC	**Shoshone, Teco**	**79.50**	**47**	P	**P**	**22 45 36.0**	**+1.2**
	baz=239						
TUQ	**Turquoise Moun**	**79.50**	**47**	P	**P**	**22 45 36.4**	**+1.3**
	baz=239						
DL2	**Dalian**	**79.52**	**317**	P	**P**	**22 45 35.3**	**+0.4**
DL2				S	**S**	**22 54 52.5**	**+3.4**
DL2				pmax	pmax		
	comp=Z,78nm,0.8s						
NV11	**Mina Array Sit**	**79.56**	**44**	P	**P**	**22 45 35.9**	**+0.5**
NV11				IAmb	IAmb	22 45 37.7	
	comp=Z,66nm,1.1s						
K04D	**Chiloquin, OR**	**79.65**	**39**	P	**P**	**22 45 36.9**	**+1.2**
	baz=234						
113A	**Mohawk Valley,**	**79.73**	**51**	P	**P**	**22 45 37.4**	**+1.2**
J04D	**Umpqua Nationa**	**79.81**	**38**	P	**P**	**22 45 38.0**	**+1.4**
	baz=234						
KRJI	**Kerinci**	**79.89**	**271**	P	**P**	**22 45 37.6**	**0.0**
SNY	**Shenyang**	**79.92**	**320**	⇓P	**P**	**22 45 37.0**	**+0.1**
SNY				SKS	**S**	**22 54 57.8**	**+4.8**
SNY				pmax	pmax		
	comp=Z,27nm,1.5s						
SNY				pmax	pmax		
	comp=Z,150nm,3.9s						
CN2	**Changchun**	**79.96**	**322**	*e*P	**P**	**22 45 37.3**	**+0.2**
CN2				*e*S	**S**	**22 54 57.5**	**+4.2**
CN2				pmax	pmax		
	comp=Z,70nm,0.9s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
I04A	**Tendick Farm,**	**79.96**	**38**	P	**P**	**22 45 38.0**	**+0.9**
	baz=233						
214A	**Organ Pipe Nat**	**80.06**	**52**	P	**P**	**22 45 39.8**	**+1.9**
	baz=242						
214A	**Organ Pipe Nat**	**80.06**	**52**	P	**P**	**22 45 39.2**	**+1.3**
TPNV	**Topopah Spring**	**80.06**	**46**	P	**P**	**22 45 39.0**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,140nm,1.8s						
TPNV	**Topopah Spring**	**80.06**	**46**	P	**P**	**22 45 39.3**	**+1.3**
	baz=239						
TPNV	**Topopah Spring**	**80.06**	**46**	P	**P**	**22 45 39.0**	**+1.0**
TPNV				IAmb	IAmb	22 45 40.5	
	comp=Z,140nm,1.8s						
NEE2	**Needles Airpor**	**80.09**	**49**	P	**P**	**22 45 39.6**	**+1.6**
	baz=240						
MOD	**Modoc Plateau**	**80.11**	**40**	P	**P**	**22 45 39.0**	**+0.9**
MOD				IAmb	IAmb	22 45 40.3	
	comp=Z,67nm,0.7s						
HSIG		**80.13**	**55**	P	**P**	**22 45 39.2**	**+0.9**
H04D	**Lebanon**	**80.21**	**37**	P	**P**	**22 45 39.7**	**+1.3**
	baz=233						
K05A	**Summer Lake**	**80.23**	**39**	P	**P**	**22 45 39.8**	**+1.0**
K05A				IAmb	IAmb	22 45 41.4	
	comp=Z,132nm,1.1s						
CNPM	**China Poot**	**80.28**	**14**	P	**P**	**22 45 38.3**	**-0.1**
CNPM				IAmb	IAmb	22 45 39.4	
	comp=Z,69nm,1.0s						
SDSI	**Sungai Dareh**	**80.28**	**272**	P	**P**	**22 45 38.3**	**-1.1**
	comp=Z,1μcomp=Z,115nm,0.9s						
G03D	**McMinnville, O**	**80.33**	**36**	P	**P**	**22 45 40.3**	**+1.4**
	baz=232						
J05D	**Fort Rock, OR**	**80.35**	**39**	P	**P**	**22 45 40.9**	**+1.6**
	baz=234						
WHN	**Wuhan**	**80.53**	**306**	P	**P**	**22 45 41.0**	**+0.7**
WHN				PP	**PP**	**22 49 01.0**	**+5.8**
WHN				S	**S**	**22 55 02.5**	**+2.8**
WHN				pmax	pmax		
	comp=Z,170nm,1.1s						
WHN				pmax	pmax		
	comp=Z,570nm,3.9s						
BRLK	**Bradley Lake**	**80.57**	**14**	P	**P**	**22 45 39.1**	**-0.8**
BRLK				IAmb	IAmb	22 45 40.7	
	comp=Z,50nm,0.8s						
W13A	**Hualapai Mount**	**80.78**	**49**	P	**P**	**22 45 42.8**	**+0.9**
RSO	**Redoubt South**	**80.80**	**13**	P	**P**	**22 45 40.7**	**-0.6**
SVW2	**Sparrevohn**	**80.83**	**11**	P	**P**	**22 45 40.9**	**-0.3**
Y14A	**Wickenburg**	**80.86**	**50**	P	**P**	**22 45 43.2**	**+1.1**
I05D	**Terrebonne, OR**	**80.90**	**38**	P	**P**	**22 45 43.3**	**+1.2**
	baz=234						
F04D	**Rainier, OR**	**81.00**	**35**	P	**P**	**22 45 44.0**	**+1.7**
	baz=233						
BKNI	**Bangkinang**	**81.03**	**273**	P	**P**	**22 45 43.8**	**+0.4**
	comp=Z,4μcomp=Z,352nm,1.2s						
BKNI	**Bangkinang**	**81.03**	**273**	P	**P**	**22 45 43.2**	**-0.1**
BKNI				IAmb	IAmb	22 45 44.6	
	comp=Z,250nm,0.9s						
DIB	**Dawson Inlet,**	**81.14**	**26**	P	**P**	**22 45 43.4**	**+0.5**
TIA	**Tai'an**	**81.18**	**312**	P	**P**	**22 45 44.0**	**+0.4**
TIA				pmax	pmax		
	comp=Z,38nm,0.8s						
R11A	**Troy Canyon, C**	**81.23**	**45**	P	**P**	**22 45 45.1**	**+1.1**
	baz=239						
R11A	**Troy Canyon, C**	**81.23**	**45**	P	**P**	**22 45 44.6**	**+0.6**
F04A	**Amboy**	**81.23**	**36**	P	**P**	**22 45 44.0**	**+0.4**
F04A				IAmb	IAmb	22 45 45.6	
	comp=Z,106nm,1.3s						
NLWA	**Neilton Lookou**	**81.33**	**34**	P	**P**	**22 45 45.2**	**+1.1**
NLWA				IAmb	IAmb	22 45 46.5	
	comp=Z,61nm,1.1s						
G05D	**Wamic, OR**	**81.45**	**37**	P	**P**	**22 45 45.9**	**+1.1**
	baz=234						
O22K	**Cooper Landing**	**81.48**	**14**	P	**P**	**22 45 44.3**	**-0.2**
	baz=208						
E04D	**Cinebar**	**81.53**	**35**	P	**P**	**22 45 46.4**	**+1.3**
	baz=233						
F05D	**White Salmon**	**81.74**	**36**	P	**P**	**22 45 47.3**	**+1.1**
	baz=234						
TUC	**Tucson**	**81.74**	**52**	P	**P**	**22 45 48.1**	**+1.4**
TUC				pmax	pmax		
	comp=Z,62nm,1.2s						
TUC	**Tucson**	**81.74**	**52**	P	**P**	**22 45 48.8**	**+2.1**
	baz=243						
TUC	**Tucson**	**81.74**	**52**	P	**P**	**22 45 48.1**	**+1.4**
TUC				IAmb	IAmb	22 45 50.0	
	comp=Z,62nm,1.1s						
D04E	**Lakebay**	**81.79**	**35**	P	**P**	**22 45 48.4**	**+2.0**
	baz=233						
D03D	**Eldon**	**81.84**	**34**	P	**P**	**22 45 47.9**	**+1.3**
	baz=232						
RC01	**Rabbit Creek A**	**82.01**	**14**	P	**P**	**22 45 46.9**	**-0.3**
	baz=208						
LON	**Longmire**	**82.06**	**35**	P	**P**	**22 45 48.3**	**+0.4**
LON				pmax	pmax		
	comp=Z,95nm,1.9s						
LON	**Longmire**	**82.06**	**35**	P	**P**	**22 45 48.3**	**+0.4**
LON				IAmb	IAmb	22 45 49.5	
	comp=Z,95nm,1.9s						
BELA	**Belgrano 2**	**82.20**	**173**	P	**P**	**22 45 48.4**	**+0.3**
X16A	**Lo Mia Camp, P**	**82.22**	**50**	P	**P**	**22 45 50.7**	**+1.5**
X16A				IAmb	IAmb	22 45 52.3	
	comp=Z,57nm,0.9s						
PGC	**Sidney**	**82.33**	**33**	P	**P**	**22 45 50.0**	**+1.0**
IPM	**Ipoh**	**82.35**	**277**	P	**P**	**22 45 49.9**	**-0.1**
IPM				IAmb	IAmb	22 45 51.5	
	comp=Z,203nm,0.8s						
IPM	**Ipoh**	**82.35**	**277**	P	**P**	**22 45 51.0**	**+1.0**
SISI	**Saibi**	**82.39**	**271**	P	**P**	**22 45 50.6**	**+0.4**
	comp=Z,106nm,0.7s						
GLI	**Glacier Island**	**82.45**	**15**	P	**P**	**22 45 49.1**	**-0.3**
GLI				IAmb	IAmb	22 45 49.9	
	comp=Z,85nm,0.7s						
TTA	**Tatalina**	**82.46**	**10**	P	**P**	**22 45 49.8**	**+0.2**
TTA				pmax	pmax		
	comp=Z,29nm,1.1s						
TTA	**Tatalina**	**82.46**	**10**	P	**P**	**22 45 49.8**	**+0.2**
U15A	**North Rim**	**82.56**	**48**	P	**P**	**22 45 52.4**	**+1.5**
U15A				IAmb	IAmb	22 45 53.9	
	comp=Z,82nm,0.8s						
MNSI	**Mandailing Nat**	**82.57**	**273**	P	**P**	**22 45 51.0**	**-0.1**
	comp=Z,101nm,0.8s						
KNK	**Knik Glacier**	**82.59**	**14**	P	**P**	**22 45 50.1**	**-0.1**
KNK				IAmb	IAmb	22 45 50.9	
	comp=Z,37nm,0.7s			

comp=Z,87nm,1.4s
BJT Baijiatuau 83.71 315 P **P** **22 45 56.3 +0.1**
BJT pmax pmax
comp=Z,56nm,0.9s
BJT Baijiatuau 83.71 315 P **P** **22 45 56.3 +0.1**
BJT IAmb IAmb 22 45 57.9
comp=Z,56nm,0.9s
BJI Beijing 83.72 315 P **P** **22 45 57.0 +0.8**
BJI S **S** **22 55 34.5 +3.6**
BJI pmax pmax
comp=Z,61nm,0.9s
BJI pmax pmax
comp=Z,240nm,3.9s
M24K Tolsona, Glenn 83.73 15 P **P** **22 45 56.3 +0.4**
baz=211
SEY Seymchan 83.74 347 *i* P **P** **22 45 54.5 -1.3**
RPSI Rantau Prapat 83.78 275 P **P** **22 45 56.7 -0.5**
RPSI IAmb IAmb 22 45 57.8
comp=Z,176nm,0.7s
W18A Petrified Fore 83.79 50 P **P** **22 45 58.3 +1.4**
baz=243
PSI Prapat 83.81 275 P **P** **22 45 56.7 -0.8**
PSI pmax pmax
comp=Z,176nm,0.7s
MAW Mawson 83.86 200 P **P** **22 45 57.4 +1.0**
comp=Z,62nm,0.7s,baz=129,slow=5.8,SNR=205
MAW Mawson 83.86 200 P **P** **22 45 57.3 +0.8**
baz=84,SNR=133
MAW Mawson 83.86 200 P **P** **22 45 56.9 +0.5**
PMSA Palmer Station 83.86 157 P **P** **22 45 58.0 +1.5**
DUG Dugway, Tooele 84.01 45 P **P** **22 45 58.2 +0.3**
DUG pmax pmax
comp=Z,50nm,2.0s
DUG Dugway, Tooele 84.01 45 P **P** **22 45 58.7 +0.8**
baz=241
DUG Dugway, Tooele 84.01 45 P **P** **22 45 58.2 +0.3**
121A Cookes Peak, D 84.12 53 P **P** **22 46 00.6 +2.0**
baz=245
121A Cookes Peak, D 84.12 53 P **P** **22 45 59.8 +1.1**
ENH Enshi 84.20 304 P **P** **22 45 59.3 +0.4**
B08A Colville Reser 84.36 35 P **P** **22 45 59.5 +0.3**
B08A IAmb IAmb 22 46 00.5
comp=Z,39nm,0.8s
ZAIG Zacatecas 84.47 64 P **P** **22 46 01.8 +1.1**
PLID Pearl Lake 84.48 39 P **P** **22 46 00.6 +0.4**
Q16A Castle Valley 84.52 46 P **P** **22 46 01.9 +1.4**
GSI Gunungsitoli 84.63 273 P **P** **22 46 01.5 +0.2**
comp=Z,4μmcomp=Z,475nm,1.0s
GSI Gunungsitoli 84.63 273 P **P** **22 46 01.7 +0.3**
C09A Chrisman Ranch 84.63 36 P **P** **22 46 00.8 +0.2**
C09A IAmb IAmb 22 46 02.4
comp=Z,48nm,1.1s
PAX Paxson 84.65 14 P **P** **22 45 59.6 -0.8**
PAX pmax pmax
comp=Z,13nm,0.8s
PAX Paxson 84.65 14 P **P** **22 45 59.6 -0.8**
HLID Hailey 84.66 41 P **P** **22 46 02.5 +1.5**
baz=239
HLID Hailey 84.66 41 P **P** **22 46 01.8 +0.7**
TMUT Trail Mountain 84.67 46 P **P** **22 46 01.9 +0.6**
BWN Browne 84.81 12 P **P** **22 46 00.6 -0.4**
BWN IAmb IAmb 22 46 01.7
comp=Z,78nm,1.2s
GYA Guiyang 84.96 300 ⇓P **P** **22 46 03.3 +0.5**
GYA S **S** **22 55 45.0 +1.1**
GYA SS **SS** **23 01 37.3 +2.0**
GYA pmax pmax
comp=Z,62nm,0.8s
GYA pmax pmax
comp=Z,170nm,3.5s
SRU San Rafael Swe 85.05 46 P **P** **22 46 03.9 +0.9**
SRU pmax pmax
comp=Z,29nm,0.7s
SRU San Rafael Swe 85.05 46 P **P** **22 46 03.9 +0.9**
HYT Haines Junctio 85.06 19 P **P** **22 46 03.0 +0.5**
ZEA Zeya 85.13 331 *e*P **P** **22 46 03.6 +0.8**
ZEA pmax pmax
comp=N,62nm,0.8s
ZEA pmax pmax
comp=Z,81nm,1.0s
TIY Taiyuan 85.20 312 *e*P **P** **22 46 04.0 +0.4**
TIY pmax pmax
comp=Z,150nm,0.9s
SLVN Son La 85.41 294 P **P** **22 46 05.0 +0.1**
SLVN IAmb IAmb 22 46 07.2
comp=Z,59nm,1.1s
NEW Newport 85.53 36 PP PP 22 49 32.9 -2.2
comp=Z,2.9nm,0.6s,baz=219,slow=7.2,SNR=4.1
NEW Newport 85.53 36 P **P** **22 46 05.3 +0.3**
NEW pmax pmax
comp=Z,19nm,0.8s
NEW Newport 85.53 36 P **P** **22 46 05.3 +0.3**
baz=237
NEW Newport 85.53 36 P **P** **22 46 05.2 +0.3**
HDA Harding Lake 85.55 13 P **P** **22 46 04.1 -0.5**
baz=210
TPTI 85.61 275 P **P** **22 46 05.9 -0.1**
comp=Z,1μmcomp=Z,126nm,1.1s
MVCO Mesa Verde 85.62 49 P **P** **22 46 06.8 +0.9**
baz=244
MNTX Cornudas Mount 85.62 55 P **P** **22 46 07.4 +1.6**
baz=246
MNTX Cornudas Mount 85.62 55 P **P** **22 46 07.0 +1.3**
BCAR Beaver Creek A 85.64 16 P **P** **22 46 05.2 +0.1**
IMAR Indian Mountai 85.67 10 P **P** **22 46 04.7 -0.4**
WHY Whitehorse 85.76 20 P **P** **22 46 05.8 -0.1**
PV17 East Wray Mesa 85.77 48 P **P** **22 46 07.2 +0.7**
COLA College 85.77 13 P **P** **22 46 04.8 -0.8**
COLA pmax pmax
comp=Z,141nm,0.3s
COLA College 85.77 13 P **P** **22 46 04.8 -0.8**
DLBC Dease Lake 85.84 23 P **P** **22 46 06.6 +0.4**
DLBC IAmb IAmb 22 46 08.2
comp=Z,75nm,1.6s
SCRK Sand Creek 85.86 15 P **P** **22 46 06.1 -0.1**
baz=213
IL31 85.88 13 P **P** **22 46 05.3 -0.8**
ILAR Eielson Array 85.88 13 P **P** **22 46 05.5 -0.6**
comp=Z,7.3nm,0.4s,baz=221,slow=5.1,SNR=126
ILAR pP **pP** **22 48 11.1 -0.8**
comp=Z,2.4nm,0.8s,baz=234,slow=6.2,SNR=3.4
ILAR PP **PP** **22 49 36.7 -0.7**
comp=Z,7.0nm,0.9s,baz=220,slow=7.4,SNR=7.9
ILAR S **SKSac** **22 55 36.5 +0.7**
comp=Z,0.9nm,1.0s,baz=209,slow=9.2,SNR=5.0
ILAR PKPPKP **P'P'df** **23 12 04.7 -2.8**
comp=Z,0.6nm,0.9s,baz=13,slow=3.4,SNR=4.5
ILAR Eielson Array 85.88 13 P **P** **22 46 05.2 -0.9**
TX31 Lajitas Ar. Si 86.04 58 P **P** **22 46 09.8 +1.9**
TX31 IAmb IAmb 22 46 11.4
comp=Z,140nm,0.9s
TXAR Lajitas Array 86.04 58 P **P** **22 46 10.2 +2.3**
comp=Z,30nm,0.8s,baz=220,slow=6.2,SNR=342
TXAR pP **pP** **22 48 13.1 -0.1**
comp=Z,1.7nm,1.0s,baz=242,slow=3.9,SNR=1.8
TXAR PKKP **PKKPdf** **23 03 58.0 +0.9**
comp=Z,0.3nm,0.6s,baz=103,slow=4.0,SNR=3.8
TXAR PKKPbc **PKKPbc** **23 04 04.4 +0.4**
comp=Z,0.4nm,0.4s,baz=128,slow=3.3,SNR=11
TXAR PKPPKP **P'P'df** **23 12 10.9 +0.8**
comp=Z,0.3nm,0.7s,baz=116,slow=2.1,SNR=2.7
TXAR Lajitas Array 86.04 58 P **P** **22 46 09.5 +1.6**
POKR Poker Flat Res 86.07 13 P **P** **22 46 06.2 -0.9**
baz=210
ANMO Albuquerque 86.14 52 P **P** **22 46 08.9 +0.5**
ANMO pmax pmax
comp=Z,17nm,1.0s
ANMO Albuquerque 86.14 52 P **P** **22 46 09.4 +1.1**
baz=245
ANMO Albuquerque 86.14 52 P **P** **22 46 08.9 +0.5**
XAN Xi'an 86.19 307 P **P** **22 46 09.3 +0.9**
XAN pmax pmax
comp=Z,260nm,0.8s
XAN pmax pmax
comp=Z,460nm,4.0s
XAN Xi'an 86.19 307 P **P** **22 46 09.0 +0.6**
XAN pmax pmax
comp=Z,210nm,1.0s
XAN Xi'an 86.19 307 P **P** **22 46 09.0 +0.6**
MCMT McKenzie Canyo 86.27 41 P **P** **22 46 09.7 +1.0**
HIA Hailar 86.31 325 P **P** **22 46 08.9 +0.3**
HIA pmax pmax
comp=Z,49nm,1.3s
HIA Hailar 86.31 325 P **P** **22 46 08.9 +0.3**
HIA IAmb IAmb 22 46 10.0
comp=Z,49nm,1.3s
ECR Eagle Creek 86.34 43 P **P** **22 46 09.7 +0.6**
K27K Chicken 86.37 15 P **P** **22 46 09.4 +0.9**
baz=215
AHID Auburn Hatcher 86.38 43 P **P** **22 46 09.9 +0.6**
BILL Bilibino 86.40 354 *d i*P **P** **22 46 08.9 +0.4**
BILL *e**PP **pwP** **22 48 17.1 -0.6**
BILL *e* 22 49 43.3
BILL pmax pmax
comp=Z,19nm,1.8s
LHMI Lhok Sumawe 86.44 277 P **P** **22 46 10.2 +0.2**
comp=Z,4μmcomp=Z,383nm,0.9s
LHMI Lhok Sumawe 86.44 277 P **P** **22 46 09.7 -0.2**
MSO Missoula 86.61 38 P **P** **22 46 10.3 +0.1**
baz=240
MSO Missoula 86.61 38 P **P** **22 46 10.5 +0.3**
MLSI Meulaboh, Aceh 86.65 276 P **P** **22 46 11.0 0.0**
comp=Z,7μmcomp=Z,654nm,1.2s
REDW Red Top Meadow 86.82 42 P **P** **22 46 12.1 +0.7**
REDW IAmb IAmb 22 46 13.8
comp=Z,56nm,1.1s
LRM Limekiln Ridge 87.00 40 P **P** **22 46 12.6 +0.4**
S22A 4UR Ranch, Cre 87.05 49 P **P** **22 46 14.1 +1.4**
baz=245
O20A White River Ci 87.09 46 P **P** **22 46 13.8 +1.1**
baz=244
QLMT Earthquake Lak 87.15 41 P **P** **22 46 14.2 +1.3**
HHC Hu-ho-hao-te 87.20 314 *e*P **P** **22 46 14.0 +0.9**
HHC S **S** **22 56 07.0 +2.6**
HHC SS **SS** **23 02 11.0 +3.8**
HHC pmax pmax
comp=Z,62nm,1.3s
HHC pmax pmax
comp=Z,230nm,5.1s
EGAK Eagle 87.21 15 P **P** **22 46 12.6 +0.2**
BW06 Boulder Array 87.38 43 P **P** **22 46 14.7 +0.7**
baz=243
PD31 Pinedale Array 87.39 43 P **P** **22 46 14.1 0.0**
PD31 IAmb IAmb 22 46 15.8
comp=Z,20nm,0.7s
PDAR Pinedale Array 87.39 43 P **P** **22 46 14.8 +0.8**
comp=Z,17nm,0.5s,baz=217,slow=3.3,SNR=171
PDAR pP **pP** **22 48 20.6 +0.3**
comp=Z,3.7nm,1.0s,baz=226,slow=3.9,SNR=6.0
PDAR PP **PP** **22 49 43.2 -6.8**
comp=Z,2.4nm,0.8s,baz=238,slow=5.0,SNR=2.8
PDAR PKKPbc **PKKPbc** **23 03 59.0 -2.6**
comp=Z,1.6nm,0.8s,baz=90,slow=4.6,SNR=7.7
PDAR PKPPKP **P'P'df** **23 12 08.7 +1.8**
comp=Z,0.2nm,0.3s,baz=64,slow=4.1,SNR=3.7
PDAR Pinedale Array 87.39 43 P **P** **22 46 14.1 0.0**
BOZ Bozeman (W) 87.39 40 P **P** **22 46 14.3 +0.3**
BOZ pmax pmax
comp=Z,33nm,1.3s
BOZ Bozeman (W) 87.39 40 P **P** **22 46 15.2 +1.2**
baz=241
BOZ Bozeman (W) 87.39 40 P **P** **22 46 14.2 +0.3**
BOZ IAmb IAmb 22 46 16.4
comp=Z,33nm,1.2s
COLD Coldfoot 87.40 11 P **P** **22 46 13.8 +0.5**
baz=207
COLD Coldfoot 87.40 11 P **P** **22 46 13.4 +0.2**
H17A Grant Village 87.48 42 P **P** **22 46 17.1 +2.6**
baz=242
KMI Kunming 87.76 297 ⇓P **P** **22 46 17.5 +1.3**
KMI sP sP 22 49 20.3 -1.8
KMI S **S** **22 56 13.3 +2.9**
KMI sS sS 22 59 57.0 +1.7
KMI pmax pmax
KMI pmax pmax
comp=Z,260nm,3.7s
KMI Kunming 87.76 297 P **P** **22 46 16.8 +0.6**
KMI pmax pmax
comp=Z,81nm,1.0s
KMI Kunming 87.76 297 P **P** **22 46 16.8 +0.6**
KMI IAmb IAmb 22 46 18.6
comp=Z,80nm,1.0s
SDCO Great Sand Dun 88.00 49 P **P** **22 46 18.1 +0.9**
baz=246
SDCO Great Sand Dun 88.00 49 P **P** **22 46 17.7 +0.5**
T25A Trinidad 88.55 50 P **P** **22 46 20.5 +0.9**
baz=246
RLMT Red Lodge 88.64 41 P **P** **22 46 21.7 +1.9**
baz=243
BMAR Burnt Mountain 88.65 12 P **P** **22 46 19.4 +0.2**
Q24A Divide 88.75 48 P **P** **22 46 21.9 +1.3**
baz=246
ISCO Idaho Springs 88.77 47 P **P** **22 46 20.8 +0.1**
ISCO pmax pmax
comp=Z,36nm,1.9s
ISCO Idaho Springs 88.77 47 P **P** **22 46 21.8 +1.1**
baz=246
ISCO Idaho Springs 88.77 47 P **P** **22 46 20.8 +0.1**
ISCO IAmb IAmb 22 46 23.1
comp=Z,36nm,1.9s
CM31 Chiang Mai Arr 88.81 290 P **P** **22 46 21.5 +0.6**
CM31 IAmb IAmb 22 46 23.3
comp=Z,86nm,0.9s
CMAR Chiang Mai Arr 88.81 290 P **P** **22 46 21.9 +0.9**
comp=Z,56nm,0.9s,baz=110,slow=2.9,SNR=280
CMAR PP **PP** **22 49 57.3 -4.1**
comp=Z,2.7nm,1.0s,baz=116,slow=5.3,SNR=3.4
CMAR PKKPbc **PKKPbc** **23 03 56.5 -0.4**
comp=Z,1.4nm,0.7s,baz=291,slow=4.2,SNR=6.6
CMAR Chiang Mai Arr 88.81 290 *ce*P **P** **22 46 22.0 +1.1**
CMAR pmax pmax
comp=Z,56nm,0.9s
CMAR Chiang Mai Arr 88.81 290 P **P** **22 46 21.4 +0.4**
CHTO Chiang Mai 88.92 290 P **P** **22 46 21.6 +0.1**
CHTO pmax pmax
comp=Z,71nm,0.9s
CHTO Chiang Mai 88.92 290 P **P** **22 46 21.6 +0.1**
CHTO IAmb IAmb 22 46 23.4
comp=Z,71nm,0.8s
CD2 Chengdu 89.00 303 P **P** **22 46 22.0 +0.4**
CD2 SKS **SKSac** **22 55 55.3 -0.6**
CD2 S **S** **22 56 20.5 -0.7**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,150nm,5.6s
N23A Red Feather La 89.00 46 P **P** **22 46 23.0 +1.4**
baz=245
833A Chaparral WMA, 89.15 60 P **P** **22 46 24.0 +1.7**
baz=249
SYO Syowa Base 89.16 193 ⇑*i*P **P** **22 46 20.0 -1.6**
SYO Syowa Base 89.16 193 ⇓*i*PcP **P** **22 46 22.0 +0.4**
K22A Casper 89.34 45 P **P** **22 46 24.0 +0.9**
baz=245
JCT Junction City 89.58 58 P **P** **22 46 24.9 +0.6**
JCT pmax pmax
comp=Z,18nm,0.8s
JCT Junction City 89.58 58 P **P** **22 46 25.2 +0.8**
baz=249
JCT Junction City 89.58 58 P **P** **22 46 24.9 +0.6**
JCT IAmb IAmb 22 46 26.3
comp=Z,18nm,0.8s
AMTX Amarillo 89.72 53 P **P** **22 46 25.8 +0.8**
baz=248
AMTX Amarillo 89.72 53 P **P** **22 46 25.4 +0.5**
AMTX IAmb IAmb 22 46 26.8
comp=Z,24nm,0.9s
ABTX Abilene, Hawle 90.47 56 P **P** **22 46 29.5 +1.1**
baz=249
ABTX Abilene, Hawle 90.47 56 P **P** **22 46 29.1 +0.7**
ABTX IAmb IAmb 22 46 30.5
comp=Z,79nm,1.3s
KSCO Kaye Shedlock' 90.58 49 P **P** **22 46 29.9 +1.0**
baz=248
SNAA Sanae 90.62 179 P **P** **22 46 28.5 +0.1**
SNAA Sanae 90.62 179 *de*P **P** **22 46 28.4 0.0**
SNAA pmax pmax
comp=Z,37nm,1.1s
SNAA Sanae 90.62 179 P **P** **22 46 28.5 0.0**
SNAA IAmb IAmb 22 46 29.5
comp=Z,82nm,1.3s
VNA3 Neumayer Olymp 90.77 176 P **P** **22 46 29.5 +0.4**
LZH Lanzhou 90.82 308 ⇓P **P** **22 46 31.5 +1.4**
LZH pP pP 22 48 36.0 -1.9
LZH PP **PP** **22 50 20.0 +3.0**
LZH S **S** **22 56 41.0 +3.5**
LZH SS **SS** **23 02 59.0 -0.2**
LZH pmax pmax
comp=Z,100nm,1.0s
LZH pmax pmax
comp=Z,200nm,5.4s
VNA2 Neumayer--Watz 91.20 177 P **P** **22 46 31.8 +0.8**
LC01 Cunco 91.23 132 P **P** **22 46 33.6 +1.7**
LAO LASA Array 91.24 41 P **P** **22 46 33.5 +1.8**
baz=245
NVL N'lazarevskaya 91.29 183 ⇑*i*P **P** **22 46 30.7 -0.7**
NVL *e*S **SKSac** **22 56 07.2 -0.3**
NVL pmax pmax
comp=Z,8.0nm,0.6s
PLCA Paso Flores 91.40 134 P **P** **22 46 34.3 +1.6**
comp=Z,2.6nm,0.7s,baz=264,slow=6.1,SNR=9.5
PLCA PKKPbc **PKKPbc** **23 03 50.5 -0.8**
comp=Z,1.1nm,0.6s,baz=96,slow=3.4,SNR=5.6
PLCA PKPPKP **P'P'df** **23 11 59.9 -1.1**
comp=Z,1.6nm,1.0s,baz=18,slow=5.7,SNR=3.9
PLCA Paso Flores 91.40 134 P **P** **22 46 33.3 +0.6**
VNA1 Neumayer--Stat 91.43 177 P **P** **22 46 33.0 +0.9**
RSSD Black Hills 91.60 44 P **P** **22 46 33.5 -0.1**
RSSD pmax pmax
comp=Z,18nm,0.9s
RSSD Black Hills 91.60 44 P **P** **22 46 34.2 +0.6**
baz=247
RSSD Black Hills 91.60 44 P **P** **22 46 33.5 -0.1**
RSSD IAmb IAmb 22 46 35.1
comp=Z,18nm,0.8s
INK Inuvik 91.88 15 P **P** **22 46 33.6 -0.3**
INK pmax pmax
comp=Z,20nm,1.0s
INK Inuvik 91.88 15 P **P** **22 46 33.6 -0.3**
INK IAmb IAmb 22 46 34.6
comp=Z,20nm,1.0s
WHTX Lake Whitney, 91.99 57 P **P** **22 46 36.4 +1.0**
baz=250
PBA Port Blair 92.37 281 P P 22 46 36.8 -0.6
PBA IAmb IAmb 22 46 38.6
comp=Z,52nm,0.6s
CBKS Cedar Bluff 92.60 50 P **P** **22 46 38.9 +0.8**
baz=249
ULN Ulaanbaatar 93.09 319 *ce*P **P** **22 46 39.9 -0.3**
ULN pmax pmax
comp=Z,28nm,0.9s
ULN Ulaanbaatar 93.09 319 P **P** **22 46 39.5 -0.7**
ULN IAmb IAmb 22 46 41.2
comp=Z,24nm,0.9s
DGMT Dagmar 93.22 40 P **P** **22 46 41.8 +1.2**
baz=247
DGMT Dagmar 93.22 40 P **P** **22 46 41.5 +0.8**
SONM Songino Array 93.49 319 P **P** **22 46 41.6 -0.3**
comp=Z,4.2nm,0.5s,baz=118,slow=4.0,SNR=36
SONM PKIKP **PKiKP** **22 51 23.4 -0.3**
comp=Z,1.2nm,0.6s,baz=89,slow=2.2,SNR=2.0
SONM Songino Array 93.49 319 P **P** **22 46 41.5 -0.5**
YKA Yellowknife Ar 94.34 25 P **P** **22 46 45.3 0.0**
comp=Z,6.1nm,0.8s,baz=248,slow=3.8,SNR=8.7
GTA Gaotai 94.96 310 ⇓P **P** **22 46 49.0 +0.1**
GTA PP **PP** **22 50 53.8 +5.0**
GTA S **S** **22 57 13.8 +0.4**
GTA SS **SS** **23 03 58.3 +0.9**
GTA pmax pmax
comp=Z,20nm,1.0s
GTA pmax pmax
comp=Z,130nm,6.4s
KSU1 Kansas State U 94.99 51 P **P** **22 46 50.4 +1.5**
baz=251
TIXI Tiksi 96.11 345 *ce*P **P** **22 46 52.4 -0.7**
TIXI pmax pmax
comp=Z,18nm,0.8s
ZAK Zakamensk 96.33 321 *e*P **P** **22 46 53.9 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ECSD EROS Data Cent 96.47 46 P **P** **22 46 55.6 +0.2**
baz=252
TLY Talaya 96.56 322 *i* P **P** **22 46 55.2 -0.5**
TLY pmax pmax
comp=Z,4.0nm,1.0s
SHL Shillong 97.21 294 P Pdif 22 46 58.5 -0.9
SHL pmax pmax
comp=Z,25nm,0.7s
SHL Shillong 97.21 294 P Pdif 22 46 58.5 -0.9
SHL IAmb IAmb 22 49 15.6
comp=Z,25nm,0.7s
ULM Lac du Bonnet 98.94 40 P **P** **22 47 07.9 +1.6**
comp=Z,1.9nm,0.5s,baz=180,slow=3.0,SNR=1.9
JFWS Jewell Farm 100.69 48 P **Pdif** **22 47 15.7 +1.5**
baz=256
RAMN Ramite 102.15 295 *e*P **PKiKP** **22 51 40.0 +0.1**
JIRN Jiri 102.67 295 *e*P **PKiKP** **22 51 40.4 -0.6**
comp=Z,31nm,0.4s
PKI Pulchoki 103.32 295 *e*P **PKiKP** **22 51 41.3 -0.9**
comp=Z,17nm,0.5s
PKIN Phulchoki 103.34 295 *e*P **PKiKP** **22 51 41.1 -1.0**
comp=Z,14nm,0.5s
LPAZ La Paz 103.47 112 PKKPbc PKKPbc 23 03 18.2 -0.5
comp=Z,2.0nm,0.5s,baz=42,slow=0.1,SNR=8.1
KKN Kakani 103.48 295 *e*P **PKiKP** **22 51 41.8 -0.5**
comp=Z,14nm,0.6s
DMN Daman 103.59 295 *e*P **PKiKP** **22 51 41.8 -0.8**
comp=Z,63nm,1.3s
GKN Gorkha 104.09 295 *e*P **PKiKP** **22 51 42.1 -1.2**
DANN Dangsing 104.92 295 *e*P **PKiKP** **22 51 44.1 -0.9**
comp=Z,14nm,0.3s
ZSN Zaisan 107.40 315 *e*PKiKP **PKiKP** **22 51 48.2 -0.5**
baz=315
NRIK Noril'sk 107.98 338 PKiKP **PKiKP** **22 51 48.7 -0.4**
comp=Z,4.0nm,0.5s,baz=71,slow=2.1,SNR=6.6
ZALV Zalesovo Beam 108.17 322 Pdiff **Pdif** **22 47 46.2 -1.0**
comp=Z,1.0nm,0.6s,baz=90,slow=1.5,SNR=5.4
ZALV PKiKP **PKiKP** **22 51 49.0 -0.8**
comp=Z,9.3nm,0.6s,baz=117,slow=0.6,SNR=56
ZALV Zalesovo Beam 108.17 322 P **Pdif** **22 47 46.1 -1.1**
ZALV Zalesovo Beam 108.17 322 **Pdif** **22 47 46.1 -1.1**
MKAR Makanchi Array 109.07 314 Pdiff **Pdif** **22 47 51.6 +0.2**
comp=Z,1.1nm,0.6s,baz=94,slow=5.1,SNR=10
MKAR PKiKP **PKiKP** **22 51 51.1 -0.8**
comp=Z,12nm,0.5s,baz=176,slow=0.5,SNR=150
MKAR Makanchi Array 109.07 314 P **Pdif** **22 47 50.4 -1.0**
MKAR Makanchi Array 109.07 314 Pdif **Pdif** **22 47 50.4 -1.0**
SHLS Shalkode 110.70 310 *e*PKiKP **PKiKP** **22 51 54.6 -0.7**
baz=310
SHLS Shalkode 110.70 310 *i* PKIKP **PKiKP** **22 51 54.5 -0.7**
UZB Uzynbulak 111.02 310 *i* PKiKP **PKiKP** **22 51 55.2 -0.7**
comp=Z,6.5nm,0.9s,baz=310
UZB Uzynbulak 111.02 310 *i* PKIKP **PKiKP** **22 51 55.2 -0.7**
UZB pmax pmax
comp=Z,7.0nm,0.9s
KPKS Kokpek 111.30 310 *e*PKiKP **PKiKP** **22 51 55.6 -0.7**
comp=Z,6.8nm,0.8s,baz=310
KPKS Kokpek 111.30 310 *i* PKIKP **PKiKP** **22 51 55.6 -0.7**
KPKS pmax pmax
comp=Z,7.0nm,0.8s
SATY Saty 111.47 310 *e*PKiKP **PKiKP** **22 51 56.2 -0.5**
comp=Z,6.8nm,1.0s,baz=310
SATY Saty 111.47 310 *i* PKIKP **PKiKP** **22 51 56.1 -0.5**
SATY pmax pmax
comp=Z,7.0nm,1.0s
TDK Taldyqorghan 111.61 312 *e*PKiKP **PKiKP** **22 51 55.5 -1.2**
baz=312
TDK *e*PP **PP** **22 52 49.0 -1.4**
baz=312
TDK Taldyqorghan 111.61 312 *i* PKIKP **PKiKP** **22 51 55.5 -1.2**
TDK *e* 22 52 49.0
KURK Kurchatov 111.76 318 *c i*PKIKP **PKiKP** **22 51 56.0 -0.8**
KURK pmax pmax
comp=Z,17nm,0.7s
KURBB Kurchatov Arra 111.81 318 PKKPbc PKKPbc 23 02 52.3 -0.5
comp=Z,2.0nm,0.6s,baz=270,slow=3.9,SNR=10
MDOK Medeo 112.47 310 *e*PKiKP **PKiKP** **22 51 58.0 -0.6**
baz=310
MDOK Medeo 112.47 310 *i* PKIKP **PKiKP** **22 51 58.0 -0.6**
TNSS Tian-Shan 112.53 310 *e*PKiKP **PKiKP** **22 51 58.2 -0.8**
baz=310
TNSS *e*PP **PP** **22 52 55.3 -2.1**
baz=310
TNSS Tian-Shan 112.53 310 *i* PKIKP **PKiKP** **22 51 58.2 -0.8**
TNSS *e* 22 52 55.3
AAA Alma-Ata 112.57 310 *e*PKiKP **PKiKP** **22 51 58.2 -0.5**
baz=310
AAA *e*PP **PP** **22 52 55.7 -1.5**
baz=310
AAA Alma-Ata 112.57 310 *i* PKIKP **PKiKP** **22 51 58.2 -0.5**
AAA *e* 22 52 55.6
MTBS Maitube 112.92 310 *e*PKiKP **PKiKP** **22 51 58.9 -0.5**
baz=310
MTBS Maitube 112.92 310 *i* PKIKP **PKiKP** **22 51 58.8 -0.5**
ULHL Ulahol 113.00 309 P **PKiKP** **22 51 59.6 -0.1**

	SNR=11						
TKM2	Tokmak 2	113.51	310	P	PKiKP	22 51 59.9	-0.8
	SNR=14						
KBK	Karagaybulak	113.98	309	P	PKiKP	22 52 00.9	-0.6
	SNR=10						
CHMS	Chumysh	114.14	310	P	PKPdf	22 52 01.1	-0.5
	SNR=15						
SGDS	Sogindy	114.24	310	⇓i PKP	PKPdf	22 52 01.1	-0.8
	comp=Z,5.2nm,0.7s,baz=310						
SGDS	Sogindy	114.24	310	d i PKIKP	PKPdf	22 52 01.1	-0.8
SGDS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
UCH	Uchtor	114.28	309	P	PKiKP	22 52 02.6	+0.1
	SNR=17						
AAK	Ala-Archa	114.31	309	P	PKPdf	22 52 01.8	-0.3
	SNR=6.7						
AAK	Ala-Archa	114.31	309	c i PKIKP	PKPdf	22 52 01.8	-0.4
AAK				pmax	pmax		
	comp=Z,33nm,1.3s						
USP	Ospenovka	114.33	310	P	PKPdf	22 52 01.6	-0.5
	SNR=14						
NIL	Nilore	114.66	299	PKIKP	PKPdf	22 52 02.1	-0.9
NIL	Nilore	114.66	299		PKPdf	22 52 02.1	-0.9
BTLS	Baital	114.70	312	⇓i PKP	PKPdf	22 52 02.1	-0.5
	comp=Z,8.1nm,0.5s,baz=312						
BTLS	Baital	114.70	312	d i PKIKP	PKPdf	22 52 02.0	-0.6
BTLS				pmax	pmax		
	comp=Z,8.0nm,0.5s						
EKS2	Erkin-Say	114.84	309	P	PKPdf	22 52 02.9	-0.3
	SNR=14						
D62A	Allapoint, All	116.06	46	P	PKPdf	22 52 04.6	-0.5
	baz=272						
HUMP	Col San Antoni	116.29	78		PKPdf	22 52 06.2	-0.2
D63A	Stockholm	116.71	46	P	PKPdf	22 52 05.6	-0.8
	baz=272						
PTGA	Pitinga	116.79	100	PKKPbc	PKKPbc	23 02 34.9	-0.5
	comp=Z,9.4nm,0.7s,baz=44,slow=3.0,SNR=16						
PTGA	Pitinga	116.79	100	PKPdf	PKPdf	22 52 07.4	-0.2
BRVK	Borovoye	116.84	321	c i PKIKP	PKPdf	22 52 05.9	-0.6
BRVK				pmax	pmax		
	comp=Z,29nm,1.0s						
BRVK	Borovoye	116.84	321	PKPdf	PKPdf	22 52 06.0	-0.4
KK31	Karatay Array	117.25	310	PKIKP	PKPdf	22 52 07.0	-0.6
KK31	Karatay Array	117.25	310	PKPdf	PKPdf	22 52 07.0	-0.6
KKAR	Karatay Array	117.25	310	PKIKP	PKPdf	22 52 06.6	-1.0
KKAR	Karatay Array	117.25	310	PKPdf	PKPdf	22 52 06.6	-1.0
GAR	Garm	117.36	305	PKPdf	PKPdf	22 52 07.9	-0.2
IUG	Iuzhnay	117.61	309	⇓i PKP	PKPdf	22 52 08.3	-0.2
	comp=Z,9.2nm,0.6s,baz=309						
IUG	Iuzhnay	117.61	309	d i PKIKP	PKPdf	22 52 08.2	-0.2
IUG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TAS	Tashkent	118.17	308	PKIKP	PKPdf	22 52 09.3	-0.2
TAS	Tashkent	118.17	308	PKPdf	PKPdf	22 52 09.3	-0.2
KBL	Kabul	118.21	300	PKIKP	PKPdf	22 52 09.7	-0.3
KBL	Kabul	118.21	300	PKPdf	PKPdf	22 52 09.7	-0.3
CHGR	Chuyangaron	118.26	305	PKPdf	PKPdf	22 52 08.8	-1.0
SPA0	Spitsbergen Ar	119.24	357	e PKPdf	PKPdf	22 52 10.4	-0.1
HOPEN	Hopen	120.11	354	e PKPdf	PKiKP	22 52 13.0	+0.8
DAG	Danmarks Havn	120.19	5	i P	PKPdf	22 52 11.0	-1.3
	comp=Z,2.5nm,0.4s						
DAG	Danmarks Havn	120.19	5	i PKIKP	PKPdf	22 52 11.0	-1.3
DAG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SUMG	Summit	120.72	13	i P	PKPdf	22 52 13.5	-0.4
	comp=Z,3.8nm,0.5s						
SUMG	Summit	120.72	13	i PKIKP	PKPdf	22 52 13.5	-0.4
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BDFB	Brasilia	120.91	121	PKP	PKPdf	22 52 15.0	-0.5
	comp=Z,3.8nm,0.7s,baz=128,slow=3.4,SNR=5.8						
BDFB				PKKPbc	PKKPbc	23 02 20.7	-0.6
	comp=Z,6.2nm,0.6s,baz=56,slow=1.2,SNR=8.5						
BDFB	Brasilia	120.91	121		PKPdf	22 52 14.6	-1.0
SVE	Sverdlovsk	121.58	326	e PKIKP	PKPdf	22 52 15.1	-0.4
SVE				pmax	pmax		
	comp=Z,48nm,0.8s						
ABPO	Ambohimpanom	122.02	233	PKIKP	PKiKP	22 52 18.0	0.0
ABPO	Ambohimpanom	122.02	233	PKPdf	PKiKP	22 52 17.9	0.0
OPO	Ambohidratompo	122.31	233	PKP	PKiKP	22 52 18.9	+0.4
	comp=Z,22nm,0.7s,baz=98,slow=1.6,SNR=30						
ARU	Arti	122.79	326	PKKPbc	PKKPbc	23 02 13.8	-0.8
	comp=Z,0.9nm,0.5s,baz=187,slow=1.0,SNR=5.7						
ARU	Arti	122.79	326	i PKIKP	PKPdf	22 52 17.4	-0.4
ARU						22 54 05.4	
ARU						22 58 34.1	
ARU				SS	SS	23 10 03.9	-0.6
ARU	Arti	122.79	326	PKPdf	PKPdf	22 52 17.9	+0.1
HRA	Herat	123.83	300	PKPdf	PKPdf	22 52 20.4	-0.4
ABKAR	Akbulak array	123.87	318	PKPdf	PKPdf	22 52 19.9	-0.1
HAMF	Hammerfest	125.58	351	e PKPdf	PKPdf	22 52 22.4	-0.3
MDP	Montagnes des	125.62	97	PKKPbc	PKKPbc	23 02 03.8	+0.9
	comp=Z,4.2nm,0.5s,baz=97,slow=3.7,SNR=7.3						
JLN	Jalan Bani Buh	125.70	285	PKiKP	PKPdf	22 52 24.6	+0.1
WBK	Wadi Bani Khal	126.16	285	PKiKP	PKiKP	22 52 25.6	-0.2
ARCES	ARCESS Array B	126.28	350	PKP	PKPdf	22 52 24.3	+0.2
	comp=Z,21nm,0.8s,baz=42,slow=1.0,SNR=47						
ARCES				PKKPbc	PKKPab	23 01 59.0	+0.4
	comp=Z,3.2nm,0.7s,baz=180,slow=0.1,SNR=8.7						
ARCES				PKKP	PKKPdf	23 02 40.9	-2.4
	comp=Z,3.1nm,1.0s,baz=215,slow=2.7,SNR=5.2						
APA	Apatity	126.31	345	⇓i PKIKP	PKPdf	22 52 22.9	-1.3
APA				pmax	pmax		
	comp=Z,17nm,0.7s						
KIRV	Kirov	126.47	331	c i PKIKP	PKPdf	22 52 24.7	0.0
PRGR	Permogore	126.49	336	e PKIKP	PKPdf	22 52 23.7	-1.0
PRGR				pmax	pmax		
	comp=Z,28nm,0.7s						
WSAR	Wadi Sarin	126.54	286	PKiKP	PKPdf	22 52 26.1	+0.1
SUR	Sutherland	126.71	200	PKP	PKiKP	22 52 27.3	+0.3
	comp=Z,27nm,0.7s,baz=119,slow=0.8,SNR=26						
SUR				SKPbc	SKPbc	22 54 50.2	
	comp=Z,8.8nm,0.9s,baz=90,slow=5.1,SNR=2.9						
SUR	Sutherland	126.71	200	PKPdf	PKiKP	22 52 27.2	+0.2
MHTO	MHTO	126.90	283	PKiKP	PKPdf	22 52 26.7	-0.1
	SNR=11						
JMDO	Jabal Madar	126.93	285	PKiKP	PKPdf	22 52 26.8	+0.1
GEYT	Alibeck	126.97	304	PKhKP	PKPpre	22 52 12.5	
	comp=Z,3.9nm,0.7s,baz=215,slow=1.8,SNR=8.3						
GEYT				PKP	PKPdf	22 52 26.7	+0.2
	comp=Z,24nm,0.8s,baz=264,slow=1.5,SNR=38						
GEYT	Alibeck	126.97	304	PKPdf	PKPdf	22 52 26.5	0.0
GYA0B	ALIBECK ARRAY	126.97	304	PKPdf	PKPdf	22 52 26.5	0.0
BIDO	Bidbid	127.02	286	PKiKP	PKPdf	22 52 27.1	+0.2
SMDO	Samad	127.05	286	PKiKP	PKPdf	22 52 27.4	+0.2
	SNR=5.6						
TRO	Tromso	127.16	352	e PKPdf	PKPdf	22 52 25.3	-0.4
DQM	DQM	127.17	282	PKiKP	PKiKP	22 52 27.8	0.0
	SNR=5.5						
TMCR	Tamitsa	127.57	341	e PKIKP	PKPdf	22 52 25.4	-1.3
TMCR				pmax	pmax		
	comp=Z,22nm,1.0s						
HOQ	Hoqain	127.78	286	PKiKP	PKPdf	22 52 28.2	-0.2
BSY	Bisya	127.80	285	PKiKP	PKPdf	22 52 28.4	-0.1
	SNR=5.2						
BSY				sPKiKP	sPKiKP	22 55 49.2	+8.0
BOSA	Boshof	128.39	207	PKP	PKiKP	22 52 30.0	-0.4
	comp=Z,13nm,0.8s,baz=170,slow=1.2,SNR=13						
BOSA	Boshof	128.39	207	PKiKP	PKiKP	22 52 30.4	+0.1
BOSA	Boshof	128.39	207		PKiKP	22 52 30.4	+0.1
ARQ	Araqi	128.48	286	PKiKP	PKPdf	22 52 29.5	-0.2
ARQ				sPKiKP	sPKiKP	22 55 52.1	+10
SOHO	SOHO	128.53	287	PKPdf	PKPdf	22 52 28.8	-1.0
SOHO				sPKiKP	sPKiKP	22 55 51.5	+8.8
SHAO	Shalim	128.69	279	PKiKP	PKPdf	22 52 30.0	-0.3
MDH	Madha	128.81	288	PKPdf	PKPdf	22 52 29.4	-0.9
MDH				sPKiKP	sPKiKP	22 55 52.0	+8.7
BANOM	Banah	128.85	289	PKPdf	PKPdf	22 52 29.9	-0.5
UOSS	Minazif	128.88	288	PKPdf	PKPdf	22 52 29.4	-1.0
UOSS				sPKiKP	sPKiKP	22 55 52.9	+9.4
UOSS	Minazif	128.88	288	PKPdf	PKPdf	22 52 29.3	-1.1
HATD	Hatta, Dubai	128.94	288	PKiKP	PKPdf	22 52 30.3	-0.2
	SNR=7.1						
HATD				sPKiKP	sPKiKP	22 55 52.9	+9.4
ASHO	Ashiyiah	129.00	288	PKiKP	PKPdf	22 52 30.6	-0.1
	SNR=5.2						
ASHO				sPKiKP	sPKiKP	22 55 53.8	+10
SOCY	Socotra	129.14	271	PKPdf	PKPdf	22 52 31.3	0.0
DMTO	DMTO	129.28	279	PKiKP	PKPdf	22 52 30.9	-0.4
KLMR	Klimovskoe	129.31	337	e PKIKP	PKPdf	22 52 29.6	-0.5
KLMR						22 54 49.6	
KLMR				pmax	pmax		
	comp=Z,24nm,0.9s						
KLMR	Klimovskoe	129.31	337	e PKPdf	PKPdf	22 52 29.6	-0.5
KLMR				AMP		22 52 31.9	
	comp=Z,24nm,0.9s						
KLMR				PP	PP	22 54 49.7	+1.4
FAUS	Fauske	129.73	353	e PKPdf	PKPdf	22 52 30.5	-0.2
RBK	Rabkut	129.95	278	PKiKP	PKPdf	22 52 32.8	+0.1
	SNR=9.0						
BELG	Belogornoye	130.22	325	i PKIKP	PKPdf	22 52 31.8	-0.3
ABTO	Aybut	130.78	278	PKiKP	PKPdf	22 52 34.5	+0.2
KONS	Konsvik	130.82	354	e PKPdf	PKiKP	22 52 33.3	-0.5
MOR8	Moi Rana	131.00	353	e PKPdf	PKPdf	22 52 33.0	-0.2
LBTB	Lobatse	131.33	210	PKP	PKPdf	22 52 35.0	-0.2
	comp=Z,10nm,0.7s,baz=156,slow=3.3,SNR=13						
LBTB				SKPbc	SKPab	22 55 08.3	+1.1
	comp=Z,4.1nm,0.8s,baz=156,slow=4.6,SNR=3.3						
LBTB	Lobatse	131.33	210	PKIKP	PKiKP	22 52 35.8	-0.6
LBTB	Lobatse	131.33	210		PKiKP	22 52 35.8	-0.6
NSS	Namsos	132.86	354	e PKPdf	PKPdf	22 52 37.2	+0.5
FIA1	FINESS Array S	133.14	344	PKPdf	PKPdf	22 52 37.1	-0.2
FINES	FINESS Array B	133.15	344	PKhKP	PKPpre	22 52 22.3	
	comp=Z,1.2nm,0.5s,baz=58,slow=3.4,SNR=14						
FINES				PKP	PKPdf	22 52 37.2	-0.1
	comp=Z,11nm,0.6s,baz=107,slow=1.8,SNR=13						
FINES				SKPbc	SKPab	22 55 12.9	-0.9
	comp=Z,10nm,0.8s,baz=35,slow=7.0,SNR=10						
MOS	Moscow	133.38	333	i PKIKP	PKPdf	22 52 38.4	+0.5
MOS				e		22 55 16.2	
MOS				pmax	pmax		
	comp=Z,36nm,1.0s						
MATP	Matopo	133.63	216	PKhKP	PKPpre	22 52 22.1	
	comp=Z,1.8nm,0.4s,baz=152,slow=4.1,SNR=17						
MATP				PKP	PKPdf	22 52 40.0	+0.3
	comp=Z,19nm,0.7s,baz=158,slow=0.8,SNR=28						
MATP				SKPbc	SKPab	22 55 16.2	-1.2
	comp=Z,9.6nm,0.8s,baz=139,slow=1.8,SNR=6.3						
VRH	Novokhopyorsk	134.01	326	e PKIKP	PKPdf	22 52 38.6	-0.7
VRH				e		22 55 15.5	
VRH				pmax	pmax		
	comp=Z,40nm,0.6s						
AKT	Akhty	134.15	311	e PKIKP	PKiKP	22 52 42.3	+0.8
AKT				e		22 55 19.8	
AKT				pmax	pmax		
	comp=Z,27nm,0.7s						
OBN	Obninsk	134.24	333	⇓P	PKiKP	22 52 40.5	-0.5
OBN	Obninsk	134.24	333	d i PKIKP	PKPdf	22 52 39.4	-0.2
OBN				e		22 54 53.5	
OBN				e		22 55 16.8	
OBN				e		22 58 51.4	
OBN				pmax	pmax		
	comp=Z,33nm,0.6s						
OBN	Obninsk	134.24	333	PKPdf	PKPdf	22 52 39.7	+0.2
LPSR	Galich'ya Gora	134.69	329	e PKIKP	PKPdf	22 52 40.2	-0.3
LPSR				e		22 55 19.0	
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
GROC	Groznyy	134.97	314	i PKIKP	PKPdf	22 52 40.5	-0.8
GROC				e		22 55 27.5	
GROC				e		22 58 55.8	
GROC				pmax	pmax		
	comp=Z,30nm,0.6s						
VSR	Storozhevoye	135.36	327	e PKIKP	PKPdf	22 52 41.0	-0.8
VSR				pmax	pmax		
	comp=Z,50nm,1.1s						
VORD	Divnogorie	135.43	326	e PKIKP	PKPdf	22 52 41.4	-0.5
VORD				pmax	pmax		
	comp=Z,30nm,0.7s						
VSU	Vasula	135.44	341	e P	PKPpre	22 52 29.2	
GOF	Gofitskoye	136.10	317	⇑ e PKIKP	PKPdf	22 52 40.7	-2.7
RCBR	Riachuelo	136.19	119	SKPbc	SKPbc	22 55 24.4	+2.2
	comp=Z,8.7nm,0.8s,baz=124,slow=3.6,SNR=4.1						
NB2	NORSAR Subarra	136.34	353	PKP	PKPpre	22 52 32.8	
	comp=Z,5.3nm,1.0s,baz=17,slow=2.6						
NOA	NORSAR Array B	136.34	353	PKhKP	PKPpre	22 52 32.7	
	comp=Z,1.2nm,0.6s,baz=31,slow=4.3,SNR=4.7						
NOA				PKP	PKPdf	22 52 43.9	+0.5
	comp=Z,3.4nm,0.6s,baz=26,slow=4.1,SNR=8.5						
NOA				SKPbc	SKPbc	22 55 23.2	+2.1
	comp=Z,6.0nm,1.0s,baz=37,slow=2.7,SNR=4.0						
ZEI	Tsey	136.42	314	i PKHKP	PKPpre	22 52 35.8	
ZEI				pmax	pmax		
	comp=Z,19nm,1.3s						
KBZ	Khabaz	136.74	316	PKhKP	PKPpre	22 52 34.2	
	comp=Z,2.9nm,0.8s,baz=143,slow=2.0,SNR=4.7						
KBZ				PKP	PKPdf	22 52 44.6	0.0
	comp=Z,8.7nm,0.9s,baz=85,slow=2.3,SNR=11						
KBZ				SKPbc	SKPbc	22 55 24.8	+2.1
	comp=Z,2.5nm,0.7s,baz=297,slow=2.3,SNR=2.7						
KBZ	Khabaz	136.74	316	c i PKIKP	PKiKP	22 52 47.2	+0.7
KIV	Kislovodsk	136.79	316	⇓P	PKPdf	22 52 42.5	-2.3
KIV	Kislovodsk	136.79	316	i PKIKP	PKPdf	22 52 43.6	-1.2
KIV				e		22 55 31.7	
KIV				pmax	pmax		
	comp=Z,63nm,1.1s						
KIV				MLR	MLR		
	comp=Z,144nm,24.0s						
SHA1	Shidzhatmaz	136.89	316	i PKIKP	PKPdf	22 52 44.6	-0.6
LSZ	Lusaka	137.84	220	PKhKP	PKPpre	22 52 38.2	
	comp=Z,4.9nm,0.5s,baz=131,slow=2.2,SNR=14						
LSZ				PKP	PKPdf	22 52 47.9	+0.3
	comp=Z,18nm,0.6s,baz=228,slow=2.7,SNR=6.2						
LSZ				SKPbc	SKiKP	22 55 29.3	-1.4
	comp=Z,3.8nm,0.8s,baz=130,slow=3.4,SNR=3.7						
IDID	Didziasalis	137.98	339	e P	PKPpre	22 52 39.8	
ISAL	Salakas	137.98	339	e P	PKPpre	22 52 39.8	
IIGN	Ignalina	138.13	339	e P	PKPpre	22 52 39.9	
NACGM	Naroch	138.29	338	e	PKPpre	22 52 39.0	
PABE	Paberze	138.74	341	e P	PKPpre	22 52 43.1	
PBUR	Paburge	138.91	343	e P	PKPpre	22 52 42.4	
ATD	Arta Tunnel	139.59	267	PKhKP	PKPpre	22 52 44.2	
	baz=0.0,slow=2.0						
ATD				SKPbc	SKiKP	22 55 34.0	-0.3
	comp=Z,14nm,0.9s,baz=238,slow=3.6,SNR=5.1						
TSUM	Tsumeb	139.91	204	PKhKP	PKPpre	22 52 45.6	
	comp=Z,6.0nm,0.6s,baz=152,slow=3.9,SNR=13						
KMBO	Kilima Mbogo	140.07	245	PKhKP	PKPpre	22 52 48.0	
	comp=Z,6.3nm,0.7s,baz=69,slow=4.5,SNR=26						
KMBO				SKPbc	SKiKP	22 55 38.0	+2.4
	comp=Z,13nm,1.0s,baz=56,slow=1.2,SNR=9.8						
KAC	Achnashellach	140.12	6	e P	PKPdf	22 52 44.2	-6.2
AKASG	Malin Array Be	140.50	332	PKhKP	PKPpre	22 52 44.5	
	comp=Z,7.5nm,0.4s,baz=44,slow=4.2,SNR=27						
AKASG				PKP	PKiKP	22 52 53.2	-0.8
	comp=Z,9.9nm,0.4s,baz=43,slow=3.1,SNR=12						
AKASG				SKPbc	SKiKP	22 55 34.5	-0.4
	comp=Z,3.1nm,0.6s,baz=42,slow=3.9,SNR=5.2						
AKBB	Malin Array Si	140.50	332	c i PKIKP	PKiKP	22 52 54.2	+0.2
LAWE	Loch Awe, Argy	141.33	6	e P	PKPdf	22 52 47.2	-5.3
BSD	Bornholm Skovb	141.45	348	i P	PKPdf	22 52 46.0	-6.8
	comp=Z,6.7nm,0.5s						
BSD	Bornholm Skovb	141.45	348	i PKHKP	PKPpre	22 52 46.0	
BSD				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SIM	Simferopol'	141.68	322	c i PKHKP	PKPpre	22 52 49.3	
SIM				pmax	pmax		
	comp=Z,38nm,0.5s						
TOKA	Tokat	142.50	314		PKPdf	22 52 53.5	-1.7
GKP	Gorka Klasztor	142.62	344	e PKP	PKPdf	22 52 52.6	-2.3
GKP	Gorka Klasztor	142.62	344	e PKIKP	PKPdf	22 52 52.6	-2.3
DIKM	Dikmen	142.71	317	⇓P	PKPdf	22 52 53.5	-2.0
SORM	Soroca	142.73	330	⇑P	PKPdf	22 52 52.4	-2.9
SORM	Soroca	142.73	330	⇑PKHKP	PKPpre	22 52 52.4	
SKMB	Sankelmark Bun	142.73	352	e PKPbc	PKPdf	22 52 53.2	-1.9
	baz=14,slow=2.9						
FURI	Furi	142.82	261		PKPdf	22 52 57.0	+0.1
BEL	Belsk	142.86	340	e PKP	PKPdf	22 52 53.8	-1.6
BEL	Belsk	142.86	340	e PKIKP	PKPdf	22 52 53.8	-1.6
PURM	Purcari	143.07	327	⇑P	PKPdf	22 52 56.5	+0.6
KESW	Keswick, Cumbr	143.19	4	e P	PKPab	22 52 53.3	-0.7
GAZ	Gaziantep	143.26	309	PKPdf	PKPbc	22 52 55.4	+0.1
KIS	Kishinev	143.29	328	⇓i PKP	PKPab	22 52 54.5	-0.1
	comp=Z,140nm,3.4s						
KIS				e P KP	pPKPdf	22 55 02.0	-11
KIS	Kishinev	143.29	328	d i PKIKP	PKPab	22 52 54.5	-0.1
KIS				e*PP	pPKPdf	22 55 02.0	-11
KIS				pmax	pmax		
	comp=Z,140nm,3.4s						
MILM	Milestii Mici	143.35	328	⇑P	PKPab	22 52 54.5	-0.3
LVV	L'vov	143.35	335	e PKIKP	PKPab	22 52 53.9	-0.9
BZK	Bozkurt	143.36	318	⇓P	PKPbc	22 52 55.8	+0.6
BSEG	Bad Segeberg	143.38	351	e PKPbc	PKPbc	22 52 55.1	+0.2
	baz=14,slow=2.9						
GDLE	Glaisdale, N Y	143.49	2	e P	PKPab	22 52 54.7	-0.4
IAS	Iasi	143.78	330	⇑P	PKPbc	22 52 56.3	-0.1
IAS	Iasi	143.78	330	⇑PKIKP	PKPbc	22 52 56.3	0.0
HPK	Haverah Park	143.91	3	e P	PKPbc	22 52 56.2	-0.4
ILGA	Ilgaz	144.01	317		PKPdf	22 52 58.1	0.0
KWP	Kalwaria Pacla	144.02	336	e PKP	PKPdf	22 52 57.5	0.0
KWP	Kalwaria Pacla	144.02	336	e PKIKP	PKPdf	22 52 57.5	0.0
KWP	Kalwaria Pacla	144.02	336		PKPab	22 52 57.2	-0.1
VASR	Vaslui	144.05	329	⇑P	PKPdf	22 52 57.7	+0.1
RUE	Ruedersdorf	144.16	347	e P	PKPbc	22 52 57.4	+0.1
RUE	Ruedersdorf	144.16	347	e PKPbc	PKPab	22 52 57.7	0.0
	baz=14,slow=2.9						
PRAR	RASCA	144.29	331	⇓P	PKPab	22 52 58.2	-0.2
WLF1	Llynfaes	144.37	6	e P	PKPdf	22 52 56.1	-1.8
YRC	Rhoscolyn	144.39	6	e P	PKPdf	22 52 57.7	-0.3
BIR	Birlad	144.39	328	⇑P	PKPab	22 52 59.2	+0.3
BIR	Birlad	144.39	328	⇑PKIKP	PKPab	22 52 59.2	+0.3
LBWR	Ladybower, Pea	144.47	3	e P	PKPdf	22 52 57.6	-0.5
TLCR		144.51	326	⇑P	PKPab	22 52 59.1	-0.2
TLCR		144.51	326	⇑PKIKP	PKPab	22 52 59.1	-0.2
VARL	Varlezi	144.53	328	⇑P	PKPab	22 52 59.5	+0.1
YLL	Llanberis	144.54	6	e P	PKPdf	22 52 57.9	-0.4
BUR08	Bucovina Ar. S	144.54	332	PKPdf	PKPab	22 52 59.4	-0.1
BURAR	Bucovina Array	144.56	332	⇓P	PKPab	22 52 59.5	-0.1
BURAR	Bucovina Array	144.56	332	⇓PKIKP	PKPab	22 52 59.5	-0.1
BURAR	Bucovina Array	144.56	332	PKPdf	PKPbc	22 52 58.9	0.0
OJC	Ojcow	144.56	340	e PKP	PKPab	22 52 59.0	-0.3
OJC	Ojcow	144.56	340	e PKIKP	PKPab	22 52 59.1	-0.3
OJC	Ojcow	144.56	340	PKPdf	PKPbc	22 52 58.9	+0.2
GHRR		144.65	328	⇓P	PKPab	22 53 00.4	+0.6
BIZ	Bicaz	144.65	330	⇓P	PKPbc	22 52 59.1	0.0
BR131	Keskin Array S	144.71	315	PKIKP	PKPdf	22 52 59.0	-0.2
BR131	Keskin Array S	144.71	315	PKPdf	PKPdf	22 52 59.0	-0.2
BRTR	Keskin Array B	144.71	315	PKP	PKPdf	22 52 59.3	0.0
	comp=Z,83nm,0.8s,baz=136,slow=3.2,SNR=356						
BRTR				SKKPbc	SKKPbc	23 03 48.8	+1.2
	comp=Z,2.6nm,0.8s,baz=224,slow=5.7,SNR=12						
BRTR	Keskin Array B	144.71	315	PKPdf	PKPdf	22 52 58.9	-0.4
KOLS	Kolonicke sedl	144.75	336	e PKIKP	PKPdf	22 52 58.7	-0.1
KOLS	Kolonicke sedl	144.75	336	e PKP	PKPdf	22 52 58.7	-0.1
JURR	Jurilovca	144.75	325	⇑P	PKiKP	22 53 03.5	+0.6
NRDL	Niedersach Rie	144.81	351	e PKPbc	PKPbc	22 52 59.5	+0.2
	baz=14,slow=2.9						
SCHL	Schela	144.82	327	⇑P	PKPab	22 53 00.1	-0.3
TUDR		144.84	327	⇑P	PKPab	22 53 01.7	+1.1
FOEL	Foel Wylfa	144.87	5	e P	PKPdf	22 52 58.8	-0.1
CFR	Carcaliu	144.88	327	⇓P	PKPbc	22 53 00.0	+0.2
CFR	Carcaliu	144.88	327	⇓PKIKP	PKPbc	22 53 00.0	+0.2
UZH	Uzhgorod	144.99	336	c i PKIKP	PKPbc	22 53 00.0	0.0
ODBI	Odobesti	145.03	328	⇓P	PKPab	22 53 01.7	+0.4
KSP	Ksiaz	145.07	344	e PKP	PKPab	22 53 01.0	-0.3
KSP	Ksiaz	145.07	344	e PKIKP	PKPab	22 53 01.0	-0.3
ASSE	Asse, Remlinge	145.07	350	e PKPbc	PKPbc	22 53 00.1	0.0
	baz=14,slow=2.9						
NIE	Niedzica	145.08	338	e PKP	PKPab	22 53 01.3	-0.1
NIE	Niedzica	145.08	338	e PKIKP	PKPab	22 53 01.3	-0.1
CRVS	Cervenica-Dubn	145.09	337	e PKIKP	PKPbc	22 53 00.3	0.0
CRVS	Cervenica-Dubn	145.09	337	e PKP	PKPbc	22 53 00.3	0.0
VRI	Vrincioaia	145.12	329	⇓P	PKPbc	22 53 00.6	+0.1
VRI				⇓P	PKPab	22 53 00.8	-0.9

CJR	Cluj-Napoca	145.96 332	⇓P	PKPbc	22 53 03.6	+0.7
CJR	Cluj-Napoca	145.96 332	⇓PKP2	PKPbc	22 53 03.6	+0.7
SECR		146.04 328	⇑P	PKPbc	22 53 03.5	+0.3
LEHL	Lehliu	146.04 327	⇑P	PKPbc	22 53 03.5	+0.4
MDB	Medias	146.04 331	⇑P	PKPab	22 53 04.2	-1.1
MDB	Medias	146.04 331	⇑PKP2	PKPab	22 53 04.2	-1.1
STRD	Stroud	146.06 4	*e*P	PKPbc	22 53 02.0	-1.0
PLAR	PLOIESTI	146.14 328	⇑P	PKPbc	22 53 04.0	+0.6
SULR		146.19 328	⇑P	PKPbc	22 53 03.6	+0.1
BUG	Bochum--Univer	146.21 354	*e*PKPbc	PKPbc	22 53 04.1	+0.7
	baz=14,slow=2.9					
VOIR		146.25 330	⇑P	PKPbc	22 53 04.4	+0.6
VOIR		146.25 330	⇑PKP2	PKPbc	22 53 04.4	+0.6
PRA	Prague	146.25 345	*e*PKP	PKPdf	22 53 01.7	+0.4
PRA			*ex*	x	22 53 04.2	
PRA	Prague	146.25 345	*e*PKIKP	PKPdf	22 53 01.7	+0.4
PRA			*e*		22 53 04.2	
PRU	Pruhonice	146.30 345	*e*PKP	PKPbc	22 53 04.1	+0.4
PRU	Pruhonice	146.30 345	*e*PKP2	PKPbc	22 53 04.1	+0.4
GOPC	GO Pecny, Ondr	146.31 344	*e*PKP	PKPdf	22 53 01.8	+0.4
GOPC			*ex*	x	22 53 04.3	
GOPC	GO Pecny, Ondr	146.31 344	*e*PKIKP	PKPdf	22 53 01.8	+0.4
GOPC			*e*		22 53 04.3	
MOX	Moxa	146.33 348	*e*PKPbc	PKPbc	22 53 04.7	+0.8
	baz=14,slow=2.9					
SWN1	Swindon	146.34 4	*e*P	PKPbc	22 53 03.2	-0.5
VRAC	Vranov	146.37 342	⇓P	PKPbc	22 53 04.6	+0.7
VRAC	Vranov	146.37 342	*e*	PKPbc	22 53 04.4	+0.5
VRAC	Vranov	146.37 342	⇓PKP2	PKPbc	22 53 04.6	+0.7
VRAC	Vranov	146.37 342	*e*PKP	PKPdf	22 53 02.0	+0.5
VYHS	Vyhne	146.37 339	*e*PKP2	PKPbc	22 53 04.6	+0.6
VYHS	Vyhne	146.37 339	*e*PKP	PKPbc	22 53 04.6	+0.6
BATH	Bath	146.38 4	*e*P	PKPbc	22 53 03.4	-0.5
TANN	Tannenbergstha	146.38 347	*e*PKPbc	PKPbc	22 53 04.8	+0.8
	baz=14,slow=2.9					
JAVC	Velka Javorina	146.44 341	*e*	PKiKP	22 53 05.7	-0.7
JAVC	Velka Javorina	146.44 341	*e*PKP	PKPbc	22 53 03.1	-1.1
UBBA	Unterbreizbach	146.45 350	*e*PKPbc	PKPbc	22 53 04.4	+0.4
	baz=14,slow=2.9					
GUNZ	Gunzen	146.46 347	*e*PKPbc	PKPbc	22 53 04.7	+0.5
	baz=14,slow=2.9					
PSZ	Piszkesteto	146.49 337	⇓P	PKPbc	22 53 04.7	+0.3
PSZ	Piszkesteto	146.49 337	⇓PKP2	PKPbc	22 53 04.7	+0.3
PSZ	Piszkesteto	146.49 337	PKPdf	PKPdf	22 53 02.5	+0.7
ARR	Arges	146.50 330	⇑P	PKiKP	22 53 05.7	-1.0
WERN	Wernitzgruen	146.52 347	*e*PKPbc	PKPbc	22 53 04.9	+0.5
	baz=14,slow=2.9					
NKC	Novy Kostel	146.56 347	*e*PKP	PKPdf	22 53 02.1	+0.3
NKC			*ex*	x	22 53 04.9	
NKC	Novy Kostel	146.56 347	*e*PKIKP	PKPdf	22 53 02.1	+0.3
NKC			*e*		22 53 04.9	
PRD	Provadia	146.58 325	*i* P	PKPbc	22 53 05.3	+0.6
NEF	NEVSHA	146.61 325	*i* P	PKPbc	22 53 05.3	+0.5
KRUC	Moravsky	146.64 342	*e*	PKPbc	22 53 05.0	+0.3
KRUC	Moravsky	146.64 342	*e*PKP	PKPdf	22 53 02.1	+0.1
SGRR	Singureni	146.65 327	⇓P	PKPbc	22 53 05.1	+0.2
TREC	Trest	146.69 343	*e*PKP	PKPdf	22 53 02.1	0.0
TREC			*ex*	x	22 53 04.8	
TREC	Trest	146.69 343	*e*PKIKP	PKPdf	22 53 02.1	0.0
PBCC	Pribram	146.72 345	*e*PKP	PKPdf	22 53 02.5	+0.4
PBCC			*ex*	x	22 53 05.2	
SMOL	Smolenice	146.82 341	*e*PKP2	PKiKP	22 53 06.3	-0.8
SMOL	Smolenice	146.82 341	*e*PKP	PKiKP	22 53 06.3	-0.8
RAZG	Razgrad	146.82 326	⇓P	PKPbc	22 53 05.5	+0.2
LOT	Lotru	146.85 331	⇑P	PKPbc	22 53 05.3	-0.2
MANZ	Manzenberg	146.86 347	*e*PKPbc	PKPbc	22 53 05.9	+0.6
	baz=14,slow=2.9					
HUMR	Humele	146.94 329	⇑P	PKPbc	22 53 05.3	-0.3
MODS	Modra-Piesok	146.99 341	*e*PKP2	PKPbc	22 53 05.8	+0.1
MODS	Modra-Piesok	146.99 341	*e*PKP	PKPbc	22 53 05.8	+0.1
BEBN	Eben Emael	147.00 355	PKiKP	PKPbc	22 53 06.1	+0.6
CSS	Mathiatis	147.01 307	PKPdf	PKPdf	22 53 03.1	+0.1
CSS			PKPbc	PKPbc	22 53 06.1	-0.1
ROTZ	Rotzenmuhle	147.05 347	*e*PKPbc	PKiKP	22 53 06.6	-0.9
	baz=14,slow=2.9					
UCC	Uccle	147.08 357	PKP2	PKPbc	22 53 06.1	+0.3
UCC	Uccle	147.08 357		PKPbc	22 53 06.1	+0.3
COPA	Copaceanca	147.10 328	⇓P	PKPbc	22 53 05.9	-0.2
AHRW	Bad Neuenahr-A	147.12 353	*e*PKPbc	PKPbc	22 53 06.6	+0.8
	baz=14,slow=2.9					
SIRR	Siria	147.14 334	⇓P	PKPbc	22 53 06.8	+0.7
MEM	Membach	147.15 355	PKPdf	PKPdf	22 53 03.3	+0.6
MEM			PKiKP	PKPbc	22 53 06.3	+0.4
BTNL	Ternell	147.17 355	PKPdf	PKPdf	22 53 03.2	+0.4
BTNL			PKiKP	PKPbc	22 53 06.3	+0.3
ZST	Bratislava	147.20 341	*e*PKP2	PKPbc	22 53 06.2	0.0
ZST	Bratislava	147.20 341	*e*PKP	PKPbc	22 53 06.2	0.0
BSTI	Sart Tilman	147.22 355	PKiKP	PKPbc	22 53 06.7	+0.5
BSTI	Sart Tilman	147.22 355	PKPdf	PKPdf	22 53 03.5	+0.6
TNS	Taunus Mts	147.26 352	*e*PKPbc	PKPbc	22 53 06.9	+0.6
	baz=14,slow=2.9					
LEF	Lefka	147.28 308	⇓P	PKPbc	22 53 06.8	0.0
GRA1	Grafenberg Arr	147.32 348	PKPdf	PKPdf	22 53 03.6	+0.5
GRA1			PKPbc	PKiKP	22 53 07.3	-0.8
GRF	Grafenberg Arr	147.32 348	PKIKP	PKPdf	22 53 03.6	+0.5
GRF					22 53 07.3	
GRF	Grafenberg Arr	147.32 348	*e*PKPbc	PKPbc	22 53 07.0	+0.6
	baz=14,slow=2.9					
KHC	Kasperske Hory	147.34 345	*e*PKP	PKPdf	22 53 03.2	0.0
KHC			*ex*	x	22 53 07.0	
KHC	Kasperske Hory	147.34 345	*c i*PKIKP	PKPdf	22 53 03.6	+0.4
KHC			pmax	pmax		
	comp=Z,211nm,1.3s					
KHC	Kasperske Hory	147.34 345		PKPdf	22 53 02.9	-0.3
KHC			PKPbc	PKPbc	22 53 07.2	+0.6
SZH	Strazhica	147.34 326	*i* P	PKPbc	22 53 06.8	+0.1
SNF	Seneffe	147.38 357	PKiKP	PKPbc	22 53 06.9	+0.4
BCLA	Clavier	147.40 356	PKiKP	PKPbc	22 53 07.0	+0.4
BHOU	Houvegnez	147.41 355	PKiKP	PKPbc	22 53 07.3	+0.6
BGES	Gesves	147.45 356	PKiKP	PKPbc	22 53 06.7	-0.1
WET	Wettzell	147.49 346	*e*PKPbc	PKPbc	22 53 07.6	+0.7
	baz=14,slow=2.9					
BMRD	Maredsous	147.55 356	PKiKP	PKPbc	22 53 07.3	+0.3
BMRD	Maredsous	147.55 356	PKPdf	PKPdf	22 53 03.8	+0.4
GEC2	GERESS Array S	147.57 345	*e*PKPbc	PKiKP	22 53 08.0	-0.8
	baz=14,slow=2.9					
GEC2	GERESS Array S	147.57 345	PKPdf	PKPdf	22 53 03.7	0.0
GEC2			PKPbc	PKPbc	22 53 07.8	+0.6
GERES	GERESS Array B	147.57 345	PKPbc	PKPbc	22 53 07.6	+0.3
	comp=Z,61nm,0.7s,baz=86,slow=1.2,SNR=268					
GERES	GERESS Array B	147.57 345	PKIKP	PKPdf	22 53 03.3	-0.3
GERES	GERESS Array B	147.57 345	PKPdf	PKPdf	22 53 03.3	-0.3
GERES			PKPbc	PKPbc	22 53 07.8	+0.6
VLAD	Vladila	147.61 328	⇓P	PKPbc	22 53 07.8	+0.5
RCHB	Rochefort	147.67 356	PKiKP	PKPbc	22 53 07.5	+0.2
BZS	Buzias	147.68 333	⇑P	PKPbc	22 53 07.6	+0.1
BZS	Buzias	147.68 333	⇑PKP2	PKPbc	22 53 07.6	+0.1
SRE	Strehaia	147.70 330	⇓P	PKPbc	22 53 08.2	+0.6
SRE	Strehaia	147.70 330	⇓PKP2	PKPbc	22 53 08.2	+0.6
TIM	Timisoara	147.75 334	⇓P	PKiKP	22 53 08.7	-0.4
TIM	Timisoara	147.75 334	⇓PKP2	PKiKP	22 53 08.7	-0.4
ISP	Isparta	147.77 314	PKIKP	PKPbc	22 53 07.4	-0.7
ISP	Isparta	147.77 314		PKPbc	22 53 07.4	-0.7
DOU	Dourbes	147.77 356	PKiKP	PKPbc	22 53 08.0	+0.5
CONA	Conrad Observa	147.82 342	*i* PKPdf	PKPdf	22 53 04.1	+0.1
	comp=Z,7.1nm,1.0s,SNR=69					
CONA			*i* PKiKP	PKiKP	22 53 08.6	-0.6
	comp=Z,43nm,0.6s					
HERR	Herculane	147.90 331	⇑P	PKPbc	22 53 08.1	+0.1
BANR	Banloc	148.07 333	⇓P	PKPbc	22 53 09.4	-0.3
WLF	Walferdange	148.08 354	PKiKP	PKiKP	22 53 09.3	-0.3
WLF	Walferdange	148.08 354	PKHKP	PKPpre	22 53 04.3	
WLF	Walferdange	148.08 354	PKPdf	PKPdf	22 53 04.3	0.0
WLF			PKPbc	PKiKP	22 53 09.6	-0.1
BAIL	Bailesti	148.11 329	⇓P	PKPbc	22 53 09.1	+0.5
PUNG	Punghina	148.12 330	⇓P	PKPbc	22 53 08.5	-0.1
MDVR	Moldovita	148.29 332	⇓P	PKPbc	22 53 09.3	+0.1
MOA	Molln	148.34 344	*i* PKPdf	PKPdf	22 53 04.6	-0.2
	comp=Z,4.0nm,0.8s					
MOA			*e*PKPbc	PKPbc	22 53 09.3	+0.2
	comp=Z,59nm,1.4s,SNR=20					
MPEP	Malo Peshtene	148.41 328	*i* P	PKPbc	22 53 09.8	+0.4
ARSA	Arzberg	148.53 342	*e*PKPbc	PKPbc	22 53 09.6	0.0
	comp=Z,47nm,1.4s,SNR=12					
STU	Stuttgart	148.56 350	PKHKP	PKPpre	22 53 05.5	
STU	Stuttgart	148.56 350	*e*PKPbc	PKiKP	22 53 10.4	-0.3
	baz=14,slow=2.9					
STU	Stuttgart	148.56 350	PKPdf	PKPdf	22 53 05.5	+0.4
STU				PKiKP	22 53 10.3	-0.3
JSA	Saint Aubin	148.63 5	*e*P	PKPdf	22 53 05.4	+0.2
KDZ	Kurdzhali	148.71 324	*i* P	PKPbc	22 53 10.5	+0.3
ELL	Elmali	148.72 313	PKHKP	PKPpre	22 53 10.2	
ELL	Elmali	148.72 313		PKPbc	22 53 10.2	-0.3
MANT	Manisa	148.74 317	PKPdf	PKPdf	22 53 05.5	-0.6
MANT				PKPbc	22 53 10.7	0.0
FUR	Furstenfeldbru	148.76 347	*e*PKPbc	PKiKP	22 53 10.9	-0.3
	baz=14,slow=2.9					
PGB	Panagyurishte	148.77 327	*i* P	PKiKP	22 53 10.9	-0.5
FRGS	Fruska Gora	148.81 335	⇓*i* P	PKPbc	22 53 10.6	+0.2
ALN	Alexandroupoli	148.85 323	PKIKP	PKPdf	22 53 04.8	-1.0
ALN	Alexandroupoli	148.85 323	PKPdf	PKPdf	22 53 04.8	-1.0
ALN			PKPbc	PKPbc	22 53 10.1	-0.4
KOGS	Kog	149.01 340	*i* PKPdf	PKPdf	22 53 05.2	-0.8
KOGS			*i* PKPbc	PKPbc	22 53 10.6	-0.2
KOGS			*i* PKPab	PKPab	22 53 17.4	0.0
RZN	Rozhen	149.07 325	*i* P	PKPbc	22 53 11.2	-0.1
BFO	Black Forest	149.13 351	PKIKP	PKPdf	22 53 05.3	-0.8
BFO	Black Forest	149.13 351	PKPdf	PKPdf	22 53 05.2	-0.8
BFO			PKPbc	PKPbc	22 53 11.1	+0.1
AKAS	Kas	149.19 312		PKPbc	22 53 10.5	-1.2
SOKA	Soboth	149.19 342	*i* PKPdf	PKPdf	22 53 06.1	-0.2
	comp=Z,5.8nm,1.0s,SNR=47					
SOKA			*i* PKPbc	PKPbc	22 53 10.9	-0.4
	comp=Z,64nm,1.1s					
VTS	Vitosha	149.20 328	*i* P	PKiKP	22 53 12.2	-0.2
KBA	Koelnbreinsper	149.30 344	*i* PKPdf	PKPdf	22 53 06.0	-0.6
	comp=Z,5.8nm,1.2s,SNR=51					
KBA			*i* PKPbc	PKPbc	22 53 11.2	-0.5
	comp=Z,37nm,0.5s					
ECH	Echery	149.40 353	PKIKP	PKPdf	22 53 06.3	-0.2
ECH	Echery	149.40 353	PKPdf	PKPdf	22 53 06.3	-0.2
ECH				PKPbc	22 53 11.8	+0.2
TEKS	Tekeris	149.42 334	*e*P	PKiKP	22 53 12.2	-0.4
UBR	Ueberruh	149.46 349	*e*PKPbc	PKiKP	22 53 12.5	-0.1
	baz=14,slow=2.9					
OBKA	Obir	149.49 342	*e*PKPbc	PKPbc	22 53 11.5	-0.5
	comp=Z,25nm,0.9s,SNR=12					
WATA	Walderalm	149.49 346	*i* PKPdf	PKPdf	22 53 06.8	0.0
	comp=Z,9.7nm,1.2s,SNR=44					
WATA			*i* PKPbc	PKPbc	22 53 12.1	0.0
	comp=Z,31nm,0.5s					
RETA	Reutte	149.51 348	*i* PKPdf	PKPdf	22 53 06.9	+0.1
	comp=Z,6.5nm,0.9s					
RETA			*i* PKiKP	PKPbc	22 53 12.2	+0.1
	comp=Z,19nm,0.5s,SNR=16					
WTTA	Wattenberg	149.54 346	*e*PKPdf	PKPdf	22 53 06.7	-0.3
	comp=Z,14nm,1.0s,SNR=66					
WTTA			*i* PKiKP	PKPbc	22 53 12.5	+0.2
	comp=Z,61nm,0.5s					
MOTA	Moosalm	149.58 347	*i* PKPdf	PKPdf	22 53 06.6	-0.3
	comp=Z,13nm,0.9s,SNR=35					
MOTA			*i* PKPbc	PKPbc	22 53 12.3	-0.1
	comp=Z,23nm,0.5s					
DIVS	Divibare	149.59 333	⇓*i* P	PKPbc	22 53 12.5	+0.2
DIVS	Divibare	149.59 333	PKPdf	PKPdf	22 53 07.0	-0.1
DIVS			PKPbc	PKiKP	22 53 12.7	-0.3
MYKA	Terra Mystica	149.63 343	*i* PKPdf	PKPdf	22 53 06.4	-0.6
	comp=Z,4.0nm,1.0s					
MYKA			*i* PKPbc	PKPbc	22 53 11.7	-0.6
	comp=Z,32nm,0.5s,SNR=21					
MMB	Musomiste	149.67 326	*i* P	PKiKP	22 53 13.1	-0.1
SQTA	Sankt Quirin	149.68 347	*i* PKPdf	PKPdf	22 53 06.9	-0.2
	comp=Z,12nm,0.8s,SNR=56					
SQTA			*i* PKiKP	PKPbc	22 53 12.6	+0.1
	comp=Z,44nm,0.6s					
GCIS	Gornji Cirnik	149.73 340	*i* PKPbc	PKPbc	22 53 12.7	+0.2
ABTA	Abfaltersbach	149.82 345	*i* PKPdf	PKPdf	22 53 06.5	-0.8
	comp=Z,21nm,1.1s,SNR=58					
ABTA			*i* PKPbc	PKPbc	22 53 12.3	-0.5
	comp=Z,98nm,0.7s					
KKB	Krupnik	149.82 327	*i* P	PKPbc	22 53 13.1	+0.2
CRES	Cresnjev	149.82 340	⇓*i* P	PKPbc	22 53 12.6	-0.1
PRED	Cave del Predi	149.82 343	PKPdf	PKPdf	22 53 07.0	-0.3
PRED			PKPbc	PKPbc	22 53 11.9	-0.9
ZOU	Zoufplan	149.88 344		PKPdf	22 53 06.8	-0.8
ZOU			PKPbc	PKPbc	22 53 12.2	-0.9
DAVA	Damuels	149.88 349	*e*PKPdf	PKPdf	22 53 07.3	-0.2
	comp=Z,4.5nm,0.8s,SNR=38					
DAVA			*i* PKiKP	PKPbc	22 53 13.2	+0.2
	comp=Z,52nm,0.8s					
LJU	Ljubljana	149.91 342	*i* PKPdf	PKPdf	22 53 07.2	-0.2
LJU			*i* PKPbc	PKPbc	22 53 13.0	+0.1
LJU			*i* PKPab	PKPab	22 53 19.8	-1.3
LJU			*e*		22 55 32.7	
LJU	Ljubljana	149.91 342	⇓*i* P	PKPbc	22 53 12.6	-0.3
CLF	Chambon-Foret	149.93 359	PKPdf	PKPdf	22 53 08.1	+0.8
CLF			PKPbc	PKiKP	22 53 13.7	+0.2
FETA	Feichten	149.97 347	*i* PKPdf	PKPdf	22 53 07.6	0.0
	comp=Z,21nm,0.8s,SNR=23					
FETA			*i* PKiKP	PKPbc	22 53 13.5	+0.2
	comp=Z,28nm,0.7s					
BBLS	Lazići	150.03 334	⇓*i* P	PKiKP	22 53 13.7	-0.2
HAPS	Han Pijesak,Bl	150.03 334	*e*P	PKPbc	22 53 12.9	-0.5
GBAS	Gorenja Brezov	150.04 342	*i* PKPdf	PKPdf	22 53 07.1	-0.5
GBAS			*i* PKPbc	PKPbc	22 53 13.2	-0.1
BLY	Banja Luka	150.17 337	⇓*i* P	PKiKP	22 53 13.8	-0.3
JAVS	Javornik	150.19 342	*e*PKPdf	PKPdf	22 53 07.2	-0.7
JAVS			*i* PKPbc	PKPbc	22 53 13.4	-0.3
CEY	Cerknica	150.22 342	⇓*i* P	PKPbc	22 53 13.5	-0.2
RUDO	Rudo	150.24 333	*e*P	PKPbc	22 53 13.5	-0.3
CIMO	Cimolais	150.24 345	PKPdf	PKPdf	22 53 07.6	-0.3
CIMO			PKPbc	PKPbc	22 53 13.4	-0.4
SJES	Sjenica	150.26 332	*e*P	PKPbc	22 53 14.2	+0.2
STIP	Stip	150.40 328	*i* P	PKPbc	22 53 13.2	-1.0
FUORN	Ofenpass-Fuorn	150.44 348	PKPdf	PKPdf	22 53 08.7	+0.2
FUORN			PKPbc	PKiKP	22 53 14.9	-0.1
PLE	Pljevlja	150.47 333	⇓*i* PKP	PKPbc	22 53 14.6	+0.1
VAY	Valandovo	150.48 327	*i* P	PKPbc	22 53 13.7	-0.6
SKO	Skopje	150.57 329	*i* P	PKPbc	22 53 14.8	+0.2
IVA	Berane	150.61 332	⇓*i* PKP	PKPbc	22 53 14.8	0.0
CTI	Castel Tesino	150.68 346	PKIKP	PKPdf	22 53 08.5	-0.2
CTI	Castel Tesino	150.68 346		PKPdf	22 53 08.5	-0.2
CTI			PKPbc	PKPbc	22 53 14.8	-0.1
TUE	Stuetta	150.76 349	PKPdf	PKPdf	22 53 08.7	-0.3
TUE			PKPbc	PKiKP	22 53 15.4	-0.2
UPM	Unac-Piva	150.78 333	⇓*i* PKP	PKPbc	22 53 14.7	-0.6
UPM	Unac-Piva	150.78 333	⇓*i* P	PKPbc	22 53 14.7	-0.6
KOME	Kolasin	150.79 332	⇓*i* PKP	PKPbc	22 53 15.2	0.0
PVY	Plav	150.80 331	⇓*i* PKP	PKPbc	22 53 15.0	-0.3
NKY	Niksic	151.05 333	⇓*i* PKP	PKPbc	22 53 15.8	0.0
NKME	Niksic	151.11 333	⇓*i* PKP	PKPbc	22 53 15.7	-0.2
BRY	Bratogost	151.18 333	⇓*i* PKP	PKPbc	22 53 15.7	-0.4
BRY	Bratogost	151.18 333	⇓*i* P	PKPbc	22 53 15.6	-0.5
SENIN	Lac Senin/Sane	151.20 352	PKPdf	PKPdf	22 53 10.4	+0.8
SENIN			PKPbc	PKiKP	22 53 16.5	0.0
PDG	Podgorica	151.24 332	⇓P	PKPbc	22 53 15.9	-0.2
PDG	Podgorica	151.24 332	⇓*i* P	PKPbc	22 53 15.7	-0.4
PDG	Podgorica	151.24 332	PKPdf	PKPdf	22 53 08.8	-0.7
PDG			PKPbc	PKPbc	22 53 15.7	-0.4
TTG	Podgorica	151.24 332	⇓*i* PKP	PKPbc	22 53 15.9	-0.2
KARP	Karpathos	151.25 313		PKPbc	22 53 16.3	-0.1
CEME	Cevo	151.30 333	⇓*i* PKP	PKPbc	22 53 15.8	-0.5
TEOL	Teolo	151.32 345	PKPdf	PKPdf	22 53 09.5	-0.1
TEOL			PKPbc	PKiKP	22 53 16.3	-0.2
TEOL			PKPab	PKPab	22 53 27.4	+0.3
LIT	Litokhoron	151.39 325	PKIKP	PKPdf	22 53 08.7	-1.1
LIT					22 53 15.5	
LIT	Litokhoron	151.39 325	PKPdf	PKPdf	22 53 08.7	-1.1
LIT			PKPbc	PKPbc	22 53 15.5	-1.1
DRME	Dracevica, Mon	151.47 332	⇓*i* PKP	PKPbc	22 53 16.6	0.0
DRME	Dracevica, Mon	151.47 332	⇓*i* P	PKPbc	22 53 16.4	-0.2
BUM	Brajici-Budva	151.51 332	⇓*i* PKP	PKPbc	22 53 16.5	-0.3
APE	Apeiranthos	151.51 317	⇓P	PKPbc	22 53 16.3	-0.7
APE	Apeiranthos	151.51 317	⇓*i* PKIKP	PKPbc	22 53 16.3	-0.7
OHR	Ohrid	151.54 328	*i* P	PKPbc	22 53 16.6	-0.2
HCY	Herceg Novi	151.56 333	⇓*i* PKP	PKPbc	22 53 16.3	-0.6
HCY	Herceg Novi	151.56 333	⇓*i* P	PKPbc	22 53 16.2	-0.6
ULC	Ulcinj	151.62 331	⇓*i* PKP	PKPbc	22 53 16.7	-0.3
TIR	Tirane	151.81 330	PKIKP	PKPbc	22 53 17.3	-0.1
TIR	Tirane	151.81 330		PKPbc	22 53 17.3	-0.1
SANT	Santorini	151.96 316	⇓P	PKPbc	22 53 16.5	-1.5
SANT	Santorini	151.96 316		PKPbc	22 53 16.5	-1.5
SANT			PKPab	PKPab	22 53 29.1	-1.1
PRMA	PARMA	152.20 346		PKPdf	22 53 11.1	+0.3
PRMA				PKiKP	22 53 18.3	0.0
PRMA			PKPab	PKPab	22 53 31.7	+0.9
ZCCA	Zocca	152.44 345		PKPdf	22 53 12.1	+0.8
ZCCA			PKPbc	PKiKP	22 53 19.8	+1.0
SSB	Saint Sauveur	152.57 355	PKIKP	PKPdf	22 53 12.1	+0.7
SSB	Saint Sauveur	152.57 355	PKPdf	PKPdf	22 53 12.1	+0.7
SSB			PKPbc	PKiKP	22 53 19.7	+0.5
BNI	Bardonecchia	152.57 352	PKIKP	PKPdf	22 53 12.5	+0.9
BNI	Bardonecchia	152.57 352	PKPdf	PKPdf	22 53 12.4	+0.9
BNI			PKPbc	PKiKP	22 53 19.8	+0.6
IDI	Anoyia	152.95 314	⇓P	PKiKP	22 53 20.3	0.0
MURB	Monte Urbino	153.04 342	PKPdf	PKPdf	22 53 11.2	-0.9
MURB			PKPbc	PKPbc	22 53 19.3	-0.8
OSSC	Osservatorio P	153.15 344		PKPdf	22 53 11.7	-0.6
OSSC				PKPbc	22 53 18.6	-1.7
OSSC			PKPab	PKPab	22 53 34.4	-0.5
NRCA	Norcia	153.25 341		PKPdf	22 53 11.9	-0.6
NRCA			PKPbc	PKPbc	22 53 20.4	-0.2
NRCA			PKPab	PKPab	22 53 35.8	+0.3
SGRT	San Giovanni R	153.27 336	PKPdf	PKPdf	22 53 12.0	-0.6
SGRT			PKPbc	PKPbc	22 53 20.4	-0.3
SGRT			PKPab	PKPab	22 53 34.7	-0.9
AQU	L'Aquila	153.59 340	PKIKP	PKPdf	22 53 12.6	-0.4
AQU	L'Aquila	153.59 340	*e*P	PKPbc	22 53 19.0	-2.3
AQU	L'Aquila	153.59 340		PKPdf	22 53 12.6	-0.4
AQU			PKPbc	PKPbc	22 53 21.1	-0.1
ITM	Ithomi	153.70 321	PKPdf	PKPdf	22 53 13.3	0.0
ITM			PKPbc	PKPbc	22 53 21.1	-0.5
ITM			PKPab	PKPab	22 53 37.0	-0.5
INTR	Introdacqua	153.72 339	PKPdf	PKPdf	22 53 12.6	-0.6
INTR			PKPbc	PKiKP	22 53 21.8	+0.1
MATE	Matera	153.81 333	⇓P	PKPbc	22 53 21.4	-0.2
TIP	Timpagrande	154.98 331	⇓P	PKPdf	22 53 14.6	-0.4
TIP	Timpagrande	154.98 331	PKPdf	PKPdf	22 53 14.3	-0.7
TIP			PKPab	PKPab	22 53 42.8	-0.2
ESDC	Sonseca Array	157.77 11	PKP	PKPdf	22 53 19.1	+0.5
	comp=Z,2.9nm,0.9s,baz=1.6,slow=3.1,SNR=18					
ESDC			PKPab	PKPab	22 53 54.9	-0.2
	comp=Z,1.8nm,0.9s,baz=344,slow=5.2,SNR=5.7					
ESDC	Sonseca Array	157.77 11	PKPdf	PKPdf	22 53 18.8	+0.2
ESDC			PKPab	PKPab	22 53 54.8	-0.2
KEST	Kesra	160.91 340	PKP	PKPdf	22 53 22.6	+0.3
	comp=Z,5.1nm,0.8s,baz=343,slow=4.4,SNR=6.4					
KEST			PKPab	PKPab	22 54 08.9	+0.1
	comp=Z,7.9nm,0.6s,baz=214,slow=0.2,SNR=11					
KEST	Kesra	160.91 340		PKPdf	22 53 21.9	-0.3
KEST				PKPab	22 54 09.0	+0.1
MDT	Midelt	164.14 19	PKP	PKPdf	22 53 26.6	+1.1
	comp=Z,13nm,0.7s,baz=309,slow=1.3,SNR=22					
MDT			PKPab	PKPab	22 54 23.9	+0.8
	comp=Z,8.0nm,0.9s,baz=4.7,slow=3.9,SNR=5.2					
LIC	Lamto	166.77 150	*e*PKP1	PKPdf	22 53 27.0	-1.0
	comp=Z,60nm,1.0s					
KIC	Kosan Boka	167.02 151	*e*PKP1	PKPdf	22 53 27.5	-0.7
	comp=Z,85nm,1.2s					
TIC	Toumodi	167.14 149	*

GUMO Guam 3.98 194 P **Pn** **22 54 13.7 -1.2**
23nm,0.3s,baz=100,slow=6.1,SNR=9.3
GUMO S **Sn** **22 55 00.5 -1.0**
71nm,0.3s,baz=145,slow=22,SNR=5.7
GUMO Guam 3.98 194 **Pn** **22 54 13.3 -1.6**
GUMO Sn **Sn** **22 54 59.8 -1.7**
JCJ Chichijima 10.16 341 P **Pn** **22 55 38.8 +1.8**
1.8nm,0.3s,baz=263,slow=16,SNR=1.3
JCJ S **Sn** **22 57 24.5 -4.9**
2.7nm,0.3s,baz=282,slow=19,SNR=2.0
PATS Pohnpei 16.11 129 Pn **Pn** **22 56 51.7 -1.4**
PATS IAmb IAmb 22 57 10.8
comp=Z,93nm,1.2s
JGF Kuroka 19.57 339 P **P** **22 57 30.6 -0.6**
H11S3 WAKE ISLAND Hy 19.84 84 T T 23 18 24.8
baz=270,slow=75,SNR=6.0
H11S1 WAKE ISLAND Hy 19.85 84 T T 23 18 24.1
baz=270,slow=75,SNR=7.7
H11S2 WAKE ISLAND Hy 19.86 84 T T 23 18 32.6
baz=270,slow=75,SNR=9.9
H11N1 WAKE ISLAND Hy 20.06 80 T T 23 18 38.4
baz=265,slow=74,SNR=28
H11N2 WAKE ISLAND Hy 20.07 80 T T 23 18 38.9
baz=265,slow=74,SNR=20
H11N3 WAKE ISLAND Hy 20.08 80 T T 23 18 39.7
baz=265,slow=74,SNR=19
MJAR Matsushiro Arr 20.16 342 P **P** **22 57 36.1 -1.4**
comp=Z,1.2nm,0.5s,baz=170,slow=9.8,SNR=8.7
MJAR Matsushiro Arr 20.16 342 P **P** **22 57 36.1 -1.4**
MAT Matsushiro 20.16 342 P **P** **22 57 35.6 -1.9**
JTM Tenmabayashi 23.60 351 P **P** **22 58 11.8 -0.1**
JTM IAmb IAmb 22 58 28.8
comp=Z,40nm,1.2s
YHNB Yeheng 23.91 292 P **P** **22 58 15.7 +0.5**
YHNB IAmb IAmb 22 58 20.8
comp=Z,55nm,1.1s
SSLB Suanglung 24.12 289 P **P** **22 58 17.5 +0.6**
SSLB IAmb IAmb 22 58 20.6
comp=Z,32nm,0.7s
KSRS Korea Array 25.39 325 P **P** **22 58 26.8 -1.5**
comp=Z,1.2nm,0.5s,baz=144,slow=9.0,SNR=4.5
KSRS LR LR 23 07 02.2
comp=Z,37nm,18.3s,baz=192,slow=33
NJ2 Nanjing 28.39 306 *e*P **P** **22 58 56.0 +0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
COEN Coen 31.34 185 P **P** **22 59 20.7 -0.7**
COEN IAmb IAmb 22 59 30.8
comp=Z,17nm,1.4s
QIZ Qiongzhong 34.20 278 P **P** **22 59 47.8 +1.5**
QIZ pP pP 23 00 10.5 -6.6
QIZ sP **pwP** **23 00 25.3 +2.5**
QIZ S **S** **23 05 05.8 +3.8**
QIZ sS **ScP** **23 05 51.3 +0.4**
QIZ pmax pmax
comp=Z,9.0nm,1.1s
PETK Petropavlovsk- 36.75 12 P **P** **23 00 07.1 -0.5**
comp=Z,6.3nm,0.7s,baz=181,slow=7.3,SNR=5.8
PETK LR LR 23 12 33.6
comp=Z,53nm,20.5s,baz=199,slow=32
PETK Petropavlovsk- 36.75 12 P **P** **23 00 08.3 +0.7**
KNRA Kununurra 37.00 208 P **P** **23 00 09.0 -1.2**
KNRA IAmb IAmb 23 00 11.1
comp=Z,12nm,0.9s
GYA Guiyang 37.31 291 *e*P **P** **23 00 12.3 -0.6**
GYA pmax pmax
comp=Z,34nm,0.6s
CTA Charters Tower 37.33 179 P **P** **23 00 13.2 +0.3**
comp=Z,1.2nm,0.3s,baz=0.0,slow=4.0,SNR=1.7
CTAO Charters Tower 37.33 179 P **P** **23 00 13.1 +0.3**
HHC Hu-ho-hao-te 37.57 315 *e*P **P** **23 00 15.5 +0.7**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,73nm,6.5s
WB0 Warramunga Arr 38.69 197 P **P** **23 00 23.4 -0.8**
WB0 IAmb IAmb 23 00 24.9
comp=Z,9.2nm,0.7s
WB2 Warramunga Arr 38.86 197 P **P** **23 00 24.8 -1.0**
WB2 IAmb IAmb 23 00 26.5
comp=Z,13nm,0.8s
WRA Warramunga Arr 38.87 197 P **P** **23 00 24.8 -1.0**
comp=Z,11nm,0.8s,baz=21,slow=9.4,SNR=55
WRA Warramunga Arr 38.87 197 P **P** **23 00 24.8 -1.0**
SLVN Son La 39.67 283 P **P** **23 00 33.2 +0.6**
CD2 Chengdu 40.43 297 *e*P **P** **23 00 40.8 +2.1**
CD2 pmax pmax
comp=Z,30nm,1.0s
FITZ Fitzroy Crossi 40.56 210 P **P** **23 00 39.6 -0.1**
comp=Z,2.4nm,0.5s,baz=0.8,slow=6.5,SNR=31
LZH Lanzhou 41.46 305 *e*P **P** **23 00 47.5 +0.3**
LZH pP pP 23 01 16.3 -2.8
LZH sP pwP 23 01 30.5 +6.5
LZH pmax pmax
comp=Z,14nm,1.1s
AS31 Alice Springs 42.52 196 P **P** **23 00 55.3 -0.4**
ASAR Alice Springs 42.52 196 P **P** **23 00 55.6 -0.1**
comp=Z,1.5nm,0.7s,baz=14,slow=9.8,SNR=13
ASAR LR LR 23 17 14.1
comp=Z,30nm,20.6s,baz=13,slow=34
ASAR Alice Springs 42.52 196 P **P** **23 00 55.1 -0.6**
EIDS Eidsvold 42.89 173 P **P** **23 00 58.1 -0.5**
ULN Ulaanbaatar 43.82 322 P **P** **23 01 06.1 0.0**
DZM Mont Dzumac 44.17 152 P **P** **23 01 09.6 +0.5**
SONM Songino Array 44.19 322 P **P** **23 01 08.6 -0.4**
comp=Z,2.0nm,0.7s,baz=136,slow=8.3,SNR=6.0
SONM Songino Array 44.19 322 P **P** **23 01 09.1 +0.2**
CM31 Chiang Mai Arr 44.54 279 P **P** **23 01 12.3 +0.3**
CMAR Chiang Mai Arr 44.54 279 P **P** **23 01 13.8 +1.8**
comp=Z,3.1nm,0.9s,baz=69,slow=6.5,SNR=25
CMAR Chiang Mai Arr 44.54 279 P **P** **23 01 12.6 +0.5**
ADK Adak 45.27 32 P **P** **23 01 18.1 +0.8**
GTA Gaotai 45.41 308 *e*P **P** **23 01 20.5 +1.7**
GTA pmax pmax
comp=Z,2.0nm,1.1s
KULM Kulim 45.82 260 P **P** **23 01 23.4 +1.3**
PSA00 Pilbara Seismi 46.43 214 P **P** **23 01 26.9 +0.3**
TLY Talaya 47.65 326 P **P** **23 01 34.2 -1.6**
comp=Z,2.5nm,0.7s,baz=141,slow=13,SNR=1.9
ARMA Armidale 47.94 173 P **P** **23 01 38.4 0.0**
PSI Prapat 48.28 258 P **P** **23 01 40.9 -0.5**
comp=Z,1.3nm,0.3s,baz=360,slow=19,SNR=3.7
STKA Stephens Creek 49.24 185 P **P** **23 01 48.2 0.0**
comp=Z,2.9nm,0.6s,baz=5.8,slow=8.4,SNR=7.9
STKA Stephens Creek 49.24 185 P **P** **23 01 48.4 +0.3**
GSI Gunungsitoli 50.08 257 P **P** **23 01 55.2 +0.3**
GSI IAmb IAmb 23 01 56.6
comp=Z,32nm,1.3s
SHL Shillong 50.57 289 P **P** **23 01 58.1 -0.6**
SHL IAmb IAmb 23 01 59.1
comp=Z,6.1nm,0.6s
SPIA Saint Paul Isl 51.33 29 P **P** **23 02 04.5 +1.0**
UNV Unalaska Valle 51.58 34 P **P** **23 02 06.1 +0.7**
BILL Bilibino 52.19 10 P **P** **23 02 09.8 0.0**
BILL IAmb IAmb 23 02 10.8
comp=Z,20nm,1.2s
CAN Canberra 52.59 177 P **P** **23 02 13.6 +0.4**
CAN IAmb IAmb 23 02 28.6
comp=Z,41nm,1.5s
MORW Morawa 54.50 212 P **P** **23 02 26.7 -0.5**
MORW IAmb IAmb 23 02 29.6
comp=Z,9.0nm,0.8s
WMQ Urumqi 55.22 312 *e*P **P** **23 02 33.8 +1.4**
WMQ pmax pmax
comp=Z,10.0nm,0.6s
WMQ pmax pmax
comp=Z,65nm,4.9s
SDPT Sand Point 55.39 34 P **P** **23 02 34.0 +0.8**
AIN Ainahou 55.48 78 P **P** **23 02 36.0 +1.3**
CHGN Chignik 56.81 33 P **P** **23 02 43.8 +0.5**
NWAO Narrogin (SRO) 57.10 209 P **P** **23 02 45.6 -0.1**
comp=Z,8.2nm,0.7s,baz=44,slow=6.0,SNR=7.4
NWAO Narrogin (SRO) 57.10 209 P **P** **23 02 45.6 -0.1**
ZAA0 Zalesovo Array 59.07 323 P **P** **23 02 58.1 -1.0**
ZALV Zalesovo Beam 59.07 323 P **P** **23 02 57.6 -1.6**
comp=Z,1.5nm,0.7s,baz=116,slow=6.8,SNR=5.0
ZALV Zalesovo Beam 59.07 323 P **P** **23 02 57.4 -1.7**
SII Sitkinak Islan 59.13 34 P **P** **23 03 00.3 +0.8**
MK31 Makanchi Array 59.42 314 P **P** **23 03 00.6 -1.1**
MKAR Makanchi Array 59.42 314 P **P** **23 03 00.8 -0.9**
comp=Z,1.5nm,0.6s,baz=89,slow=7.9,SNR=12
OHAK Old Harbor 59.78 33 P **P** **23 03 05.0 +1.1**
ZAA0 Zalesovo Array 59.07 323 P **P** **23 03 05.2 +1.0**
SVW2 IAmb IAmb 23 03 06.2
comp=Z,11nm,0.6s

TTA Tatalina 60.27 27 P **P** **23 03 07.6 +0.3**
TTA IAmb IAmb 23 03 08.4
comp=Z,6.3nm,0.7s
KDAK Kodiak Island 60.30 33 P **P** **23 03 07.8 +0.4**
KDAK IAmb IAmb 23 03 09.2
comp=Z,19nm,0.9s
RSO Redoubt South 60.94 30 P **P** **23 03 11.8 -0.2**
PRZ Przheval'sk 61.87 309 P **P** **23 03 19.1 +0.5**
PRZ IAmb IAmb 23 03 20.2
comp=Z,6.6nm,0.8s
PPLA Purkeypile 61.91 27 P **P** **23 03 19.3 +0.9**
PPLA IAmb IAmb 23 03 24.4
comp=Z,33nm,1.4s
IMAR Indian Mountai 62.27 24 P **P** **23 03 20.9 +0.3**
KURK Kurchatov 62.28 319 P **P** **23 03 19.9 -1.0**
KURK IAmb IAmb 23 03 20.8
comp=Z,11nm,1.4s
KURBB Kurchatov Arra 62.33 318 P **P** **23 03 20.1 -1.1**
comp=Z,3.6nm,0.6s,baz=97,slow=6.7,SNR=23
SEW Seward 62.44 31 P **P** **23 03 22.2 +0.4**
KDJ Kajisay 62.76 309 P **P** **23 03 24.7 +0.2**
NRIK Noril'sk 62.80 340 P **P** **23 03 22.4 -1.7**
comp=Z,2.3nm,0.7s,baz=101,slow=9.8,SNR=4.4
PMR Palmer 62.94 29 P **P** **23 03 24.7 -0.4**
PMR IAmb IAmb 23 03 25.7
comp=Z,16nm,0.8s
GHO Glory Hole Cre 63.08 29 P **P** **23 03 26.2 0.0**
BKZ Black Stump Fm 63.22 154 P **P** **23 03 27.2 0.0**
BWN Browne 63.44 26 P **P** **23 03 28.9 +0.5**
BOOM Boomskoye usch 63.69 309 P **P** **23 03 30.2 -0.4**
SCM Sheep Creek Mo 63.83 29 P **P** **23 03 31.6 +0.6**
COLD Coldfoot 64.02 23 P **P** **23 03 32.5 +0.4**
COLD IAmb IAmb 23 03 33.8
comp=Z,12nm,0.8s
DHY Denali Highway 64.08 28 P **P** **23 03 31.9 -0.9**
DHY IAmb IAmb 23 03 35.6
comp=Z,6.9nm,0.6s
CCB Clear Creek Bu 64.26 26 P **P** **23 03 33.2 -0.5**
CCB IAmb IAmb 23 03 34.1
comp=Z,20nm,1.4s
KLU Klutina 64.42 30 P **P** **23 03 36.0 +1.1**
BHW Baring Head 64.46 156 P **P** **23 03 35.3 +0.1**
HDA Harding Lake 64.56 26 P **P** **23 03 35.2 -0.5**
HDA IAmb IAmb 23 03 35.6
comp=Z,10nm,0.8s
IL31 64.67 26 P **P** **23 03 35.3 -1.0**
IL31 IAmb IAmb 23 03 36.1
comp=Z,18nm,1.1s
ILAR Eielson Array 64.67 26 P **P** **23 03 35.3 -1.1**
comp=Z,10nm,0.7s,baz=250,slow=5.6,SNR=107
PAX Paxson 64.91 28 P **P** **23 03 38.4 +0.3**
VRDI Verde Repeater 65.55 30 P **P** **23 03 42.8 +0.4**
DOT Dot Lake 65.66 27 P **P** **23 03 43.1 +0.3**
MCARA McCarthy VSAT 65.78 30 P **P** **23 03 44.0 +0.5**
BMAR Burnt Mountain 66.17 23 P **P** **23 03 46.9 +0.9**
BCAR Beaver Creek A 66.58 28 P **P** **23 03 48.9 +0.2**
EGAK Eagle 67.09 26 P **P** **23 03 52.0 +0.2**
EGAK IAmb IAmb 23 03 53.8
comp=Z,9.0nm,0.6s
BVAR Borovoye Array 67.51 321 P **P** **23 03 53.6 -1.1**
comp=Z,5.2nm,0.8s,baz=138,slow=16,SNR=20
BRVK Borovoye 67.57 321 P **P** **23 03 53.6 -1.5**
KK31 Karatay Array 67.66 310 P **P** **23 03 54.6 -1.3**
KKAR Karatay Array 67.66 310 P **P** **23 03 54.4 -1.5**
KBL Kabul 69.62 301 P **P** **23 04 07.6 -0.8**
WHY Whitehorse 69.68 31 P **P** **23 04 08.6 +0.4**
WHY IAmb IAmb 23 04 10.2
comp=Z,12nm,0.8s
INK Inuvik 70.43 23 P **P** **23 04 12.3 -0.2**
comp=Z,21nm,0.7s,baz=272,slow=5.8,SNR=35
INK Inuvik 70.43 23 P **P** **23 04 12.3 -0.2**
DLBC Dease Lake 72.22 33 P **P** **23 04 24.6 +1.1**
comp=Z,15nm,0.6s,baz=282,slow=4.2,SNR=28
DLBC Dease Lake 72.22 33 P **P** **23 04 24.9 +1.4**
DLBC IAmb IAmb 23 04 25.8
comp=Z,16nm,0.7s
MCQ Macquarie Isla 72.55 172 P **P** **23 04 24.7 -0.5**
PMOR Pomariorio Ree 72.86 112 *e*P P 23 04 35.5 +7.7
comp=Z,115nm,1.2s
BBB Bella Bella 73.99 40 P **P** **23 04 33.7 -0.2**
comp=Z,15nm,0.8s,baz=282,slow=5.1,SNR=4.6
ARU Arti 74.14 325 P **P** **23 04 33.1 -1.6**
comp=Z,1.0nm,0.6s,baz=14,slow=6.7,SNR=4.7
ARU Arti 74.14 325 P **P** **23 04 33.4 -1.3**
ABKAR Abkulak array 74.33 317 P **P** **23 04 34.1 -1.8**
ABKAR Abkulak array 74.33 317 P **P** **23 04 34.4 -1.6**
ABKAR IAmb IAmb 23 04 34.7
comp=Z,1.8nm,0.7s
NLWA Neilton Lookou 77.53 44 P **P** **23 04 55.6 +1.4**
NLWA IAmb IAmb 23 04 56.9
comp=Z,14nm,0.8s
PGC Sidney 77.54 43 P **P** **23 04 55.5 +1.4**
PGC IAmb IAmb 23 04 59.6
comp=Z,23nm,1.2s
YKA Yellowknife Ar 78.99 28 P **P** **23 05 01.8 -0.1**
comp=Z,21nm,0.8s,baz=292,slow=5.0,SNR=23
LON Longmire 79.05 44 P **P** **23 05 03.4 +0.8**
H04A Detroit Lake 79.29 47 P **P** **23 05 04.3 +0.5**
H04A IAmb IAmb 23 05 05.7
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 79.63 50 P **P** **23 05 06.9 +1.1**
comp=Z,5.6nm,0.9s,baz=260,slow=3.4,SNR=10
YBH Yreka Blue Hor 79.63 50 P **P** **23 05 07.2 +1.3**
LTY Liberty 79.68 44 P **P** **23 05 06.8 +0.8**
LTY IAmb IAmb 23 05 07.7
comp=Z,12nm,0.7s
B08A Colville Reser 80.27 42 P **P** **23 05 09.6 +0.5**
B08A IAmb IAmb 23 05 10.7
comp=Z,20nm,0.7s
PINE Pine Mountain 80.38 47 P **P** **23 05 11.5 +1.6**
E07A Sunnyside 80.40 44 P **P** **23 05 10.1 +0.3**
E07A IAmb IAmb 23 05 11.9
comp=Z,13nm,0.8s
K05A Summer Lake 80.68 48 P **P** **23 05 12.8 +1.1**
K05A IAmb IAmb 23 05 14.0
comp=Z,20nm,0.8s
ORV Oroville 81.07 51 P **P** **23 05 13.8 +0.3**
ORV IAmb IAmb 23 05 15.3
comp=Z,14nm,1.2s
MOD Modoc Plateau 81.32 49 P **P** **23 05 15.3 +0.4**
MOD IAmb IAmb 23 05 16.9
comp=Z,11nm,0.8s
E09A Wood Farm, Sta 81.55 44 P **P** **23 05 16.5 +0.6**
E09A IAmb IAmb 23 05 17.7
comp=Z,11nm,0.8s
AFDM Forest Hills D 81.62 52 P **P** **23 05 16.9 +0.4**
NEW Newport 81.72 42 P **P** **23 05 17.5 +0.7**
comp=Z,10nm,0.8s,baz=283,slow=4.0,SNR=13
BMO Blue Mountains 82.59 45 P **P** **23 05 21.8 +0.4**
BMO IAmb IAmb 23 05 23.2
comp=Z,20nm,1.1s
PLID Pearl Lake 83.40 45 P **P** **23 05 25.9 +0.1**
PLID IAmb IAmb 23 05 32.3
comp=Z,8.0nm,0.8s
WALA Waterton Lakes 83.50 41 P **P** **23 05 27.1 +1.0**
RYN Ryan 83.55 52 P **P** **23 05 27.4 +0.8**
RYN IAmb IAmb 23 05 28.7
comp=Z,9.8nm,1.0s
KVN Kaiserville 83.74 51 P **P** **23 05 28.3 +0.7**
KVN IAmb IAmb 23 05 29.5
comp=Z,12nm,0.9s
NVAR Mina Array Bea 83.77 52 P **P** **23 05 28.9 +1.1**
comp=Z,7.5nm,0.7s,baz=267,slow=6.0,SNR=36
NVAR Mina Array Bea 83.77 52 P **P** **23 05 28.5 +0.7**
NV11 Mina Array Sit 83.88 52 P **P** **23 05 28.6 +0.3**
NV11 IAmb IAmb 23 05 30.4
comp=Z,11nm,1.1s
HLID Hailey 84.97 46 P **P** **23 05 34.4 +0.7**
HLID IAmb IAmb 23 05 35.6
comp=Z,13nm,1.1s
ELK Elko 85.31 49 P **P** **23 05 36.5 +1.0**
comp=Z,13nm,0.9s,baz=286,slow=5.1,SNR=46
ELK Elko 85.31 49 P **P** **23 05 36.3 +0.8**
ELK IAmb IAmb 23 05 38.0
comp=Z,17nm,1.0s
DLMT Dillon 85.59 44 P **P** **23 05 36.9 +0.2**
DLMT IAmb IAmb 23 05 38.9
comp=Z,8.1nm,0.7s
MCMT McKenzie Canyo 85.60 44 P **P** **23 05 37.2 +0.3**
GSC Goldstone, Bar 85.87 54 P **P** **23 05 38.7 +0.5**
BOZ Bozeman (W) 86.14 43 P **P** **23 05 39.8 +0.4**
BOZ IAmb IAmb 23 05 40.9
comp=Z,8.6nm,0.7s
PRN Pahroc Range 86.54 52 P **P** **23 05 42.2 +0.7**

PRN IAmb IAmb 23 05 43.7
comp=Z,8.7nm,1.0s
PFO Pinyon Flats O 86.68 56 P **P** **23 05 42.7 +0.5**
comp=Z,5.9nm,1.0s,baz=310,slow=5.1,SNR=5.2
PFO Pinyon Flats O 86.68 56 P **P** **23 05 42.8 +0.5**
PFO IAmb IAmb 23 05 44.4
comp=Z,9.7nm,1.1s
HVU Hansel Valley 86.71 47 P **P** **23 05 43.2 +0.9**
SHPR Sheep Range 86.75 53 P **P** **23 05 43.4 +0.8**
BGU Big Grassy Mou 86.83 48 P **P** **23 05 43.6 +0.7**
PSUT Pine Spring 87.05 51 P **P** **23 05 45.0 +1.0**
DUG Dugway, Tooele 87.24 49 P **P** **23 05 45.5 +0.7**
FXWY Fox Creek 87.25 45 P **P** **23 05 45.6 +0.6**
FXWY IAmb IAmb 23 05 46.9
comp=Z,6.5nm,0.9s
FLWY Flagg Ranch 87.31 45 P **P** **23 05 46.5 +1.4**
HWUT Hardware Ranch 87.62 47 P **P** **23 05 47.2 +0.6**
CCUT Cedar City 87.75 51 P **P** **23 05 48.7 +1.2**
LCMT Little Creek M 88.03 52 P **P** **23 05 49.7 +1.1**
FFC Flin Flon 88.04 33 P **P** **23 05 48.1 0.0**
FINES FINESS Array B 88.05 335 P **P** **23 05 45.5 -2.5**
comp=Z,2.5nm,0.8s,baz=91,slow=5.6,SNR=6.3
FINES FINESS Array B 88.05 335 P **P** **23 05 46.5 -1.5**
W13A Hualapai Mount 88.20 54 P **P** **23 05 50.4 +0.9**
W13A IAmb IAmb 23 05 51.5
comp=Z,5.1nm,0.8s
BW06 Boulder Array 88.57 45 P **P** **23 05 51.4 +0.2**
PD31 Pinedale Array 88.57 45 P **P** **23 05 51.3 +0.1**
PDAR Pinedale Array 88.57 45 P **P** **23 05 51.4 +0.1**
comp=Z,1.1nm,0.5s,baz=221,slow=1.7,SNR=13
PDAR Pinedale Array 88.57 45 P **P** **23 05 50.9 -0.3**
Y14A Wickenburg 89.28 55 P **P** **23 05 55.0 +0.5**
Y14A IAmb IAmb 23 05 56.5
comp=Z,9.0nm,0.8s
RDMU Red Mountain 89.40 48 P **P** **23 05 55.7 +0.6**
214A Organ Pipe Nat 90.13 56 P **P** **23 05 58.9 +0.5**
214A IAmb IAmb 23 06 00.7
comp=Z,13nm,0.8s
O20A White River Ci 90.51 48 P **P** **23 06 00.4 +0.2**
PV10 Paradox Valley 90.63 49 P **P** **23 06 01.4 +0.5**
RSSD Black Hills 91.68 43 P **P** **23 06 05.7 0.0**
RSSD IAmb IAmb 23 06 06.4
comp=Z,6.8nm,0.8s
ISCO Idaho Springs 92.49 47 P **P** **23 06 10.3 +0.8**
ISCO IAmb IAmb 23 06 11.5
comp=Z,8.2nm,0.8s
HSIG 92.68 59 P **P** **23 06 10.8 +0.5**
HSIG IAmb IAmb 23 06 12.2
comp=Z,10nm,1.0s
SDCO Great Sand Dun 93.44 49 P **P** **23 06 13.8 -0.1**
SDCO IAmb IAmb 23 06 15.6
comp=Z,7.3nm,1.2s
ULM Lac du Bonnet 93.52 35 P **P** **23 06 13.5 -0.1**
comp=Z,4.2nm,0.9s,baz=284,slow=4.2,SNR=3.3
TXAR Lajitas Array 98.40 56 P **P** **23 06 36.4 0.0**
comp=Z,0.3nm,0.7s,baz=256,slow=2.9,SNR=4.0
TXAR Lajitas Array 98.40 56 P **P** **23 06 36.3 -0.1**
EIL Elat 98.59 305 LR LR 23 56 27.3
comp=Z,16nm,20.5s,baz=295,slow=39
TORD Torodi Ar. Bea 133.33 308 PKP **PKPdf** **23 12 12.9 -1.2**
comp=Z,0.5nm,0.9s,baz=31,slow=1.9,SNR=2.3
TORD SKPbc **SKPbc** **23 15 26.5 -2.1**
comp=Z,0.9nm,0.9s,baz=36,slow=0.8,SNR=3.7
BO02 Sierra Bellavi 143.12 125 PKPdf PKPab 23 12 29.4 +2.1
ROC1 El Roble 143.46 122 PKPdf PKPab 23 12 30.6 +1.6
PEL Peldehue 143.68 122 PKPdf PKPab 23 12 30.9 +1.3
VA03 San Esteban 143.90 122 PKPdf PKPab 23 12 31.6 +1.1
CO02 Combarbal 143.93 119 PKPdf PKPab 23 12 31.4 +0.8
GO04 Tololo Observa 144.32 118 PKPdf **PKPab** **23 12 32.7 +0.3**
CO01 Juntas del Tor 144.96 117 PKPbc 23 12 35.8 +1.1
AC05 El Transito 145.04 115 **PKPbc** **23 12 35.5 +0.7**
PSGCX Pisagua 145.86 99 PKPbc **PKPdf** **23 12 38.0 +1.3**
PB11 IPOC Station P 146.31 100 PKPbc **PKPdf** **23 12 39.5 +1.9**
MNMC Minye Minye 146.34 98 PKPbc **PKPdf** **23 12 40.1 +2.3**
PB16 IPOC Station P 146.37 97 PKPbc **PKPbc** **23 12 40.8 +1.1**
PB01 IPOC Station P 146.49 102 PKPbc **PKPdf** **23 12 40.0 +2.3**
GO01 Chusmiza 146.74 99 PKPbc **PKPbc** **23 12 41.4 +0.8**
PB08 IPOC Station P 146.79 100 **PKPdf** **23 12 38.3 -0.4**
LPAZ La Paz 147.48 93 PKP **PKPdf** **23 12 40.6 +0.5**
comp=Z,8.9nm,0.8s,baz=295,slow=4.2,SNR=17
LPAZ PKPbc **PKPbc** **23 12 43.5 +0.6**
comp=Z,8.9nm,0.8s,baz=284,slow=4.1,SNR=23
LPAZ La Paz 147.48 93 PKPbc **PKPdf** **23 12 43.1 +2.9**

BJI ***30*** *22:56:18.5±0.0, 31°.68N×103°.18E, h19km, ML3.6/16*
IDC ***30*** *22:56:19.1±1.1, 31°.71N×103°.26E, h0km, mb3.6/6,*
mb1 3.7/8, mb1mx3.5/59, mbtmp3.6/8, ML3.6/2, Error
ellipse: s-maj=37.7km s-min=19.0km az=59.0
ISC 30 22:56:20.3±0.8, 31°.72N±0°.04×103°.32E±0°.07, h10km, n14,
σ2s 11/20, mb3.6/6, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.89**	**155**	↑*i*Pg		**Pg**	**22 56 37.3**	**-0.2**
CD2				Sg		**Sb**	**22 56 50.0**	**+0.2**
CD2				smax		smax		
	comp=N,4μm,0.5s							
CD2				smax		smax		
	comp=E,5μm,0.7s							
LZH	**Lanzhou**	**4.38**	**6**	*e*Pg		Pn	22 57 33.5	+6.4
LZH				Sg		**Sg**	**22 58 42.8**	**+1.8**
LZH				smax		smax		
	comp=N,61nm,0.9s							
LZH				smax		smax		
	comp=E,81nm,1.0s							
XAN	**Xi'an**	**5.25**	**62**	Pn		**Pn**	**22 57 41.5**	**+2.5**
XAN				Pg		**Pg**	**22 57 58.3**	**-2.7**
XAN				Sn		**Sn**	**22 58 39.3**	**-0.4**
XAN				Sg		**Sg**	**22 59 11.0**	**+1.9**
XAN				smax		smax		
	comp=N,110nm,0.5s							
XAN				smax		smax		
	comp=E,140nm,0.9s							
GYA	**Guiyang**	**6.00**	**150**	*e*Pn		Pn	22 57 55.5	+6.1
GYA				P*		**Pg**	**22 58 12.0**	**-3.3**
GYA				Pg		Pb	22 58 17.3	+12
GYA				Sn		**Sn**	**22 59 02.3**	**+4.1**
GYA				S*		**Sb**	**22 59 16.0**	**-1.1**
GYA				Sg		**Sg**	**22 59 29.3**	**-3.8**
GYA				smax		smax		
	comp=N,77nm,0.8s							
GYA				smax		smax		
	comp=E,79nm,1.0s							
GYA				LR		LR		
	comp=N,150nm,4.2s							
GYA				LR		LR		
	comp=E,160nm,4.4s							
GYA				LR		LR		
	comp=Z,200nm,13.6s							
GTA	**Gaotai**	**8.19**	**341**	*e*P		**Pg**	**22 58 54.3**	**-2.8**
GTA				pP			23 00 52.5	
GTA				sP			23 01 46.3	
GTA				PP			23 02 55.0	
GTA				pmax		pmax		
	comp=Z,7.0nm,1.2s							
WHN	**Wuhan**	**9.53**	**94**	P		Pn	22 58 45.5	+7.9
WHN				S		Sn	23 00 39.5	+15
WHN				LR		LR		
	comp=N,550nm,7.5s							
WHN				LR		LR		
	comp=E,470nm,4.6s							
CMAR	**Chiang Mai Arr**	**13.78**	**198**	Pn		**Pn**	**22 59 36.7**	**+0.8**
	comp=E,0.1nm,0.3s,baz=5,0,slow=13,SNR=4.1							
SONM	**Songino Array**	**16.27**	**7**	Pn		**Pn**	**23 00 10.3**	**+1.3**
	comp=E,0.4nm,0.3s,baz=188,slow=14,SNR=5.9							
KSRS	**Korea Array**	**21.03**	**67**	P		**P**	**23 01 04.6**	**+0.5**
	comp=E,0.7nm,0.5s,baz=248,slow=9.8,SNR=2.0							
MKAR	**Makanchi Array**	**22.08**	**319**	P		**P**	**23 01 15.4**	**-0.1**
	comp=E,1.0nm,0.6s,baz=123,slow=10,SNR=9.0							
ZALV	**Zalesovo Beam**	**25.88**	**335**	P		**P**	**23 01 52.0**	**-0.1**
	comp=E,0.4nm,0.3s,baz=144,slow=11,SNR=4.5							
KURBB	**Kurchatov Arra**	**26.34**	**323**	P		**P**	**23 01 56.5**	**+0.1**
	comp=E,0.6nm,0.3s,baz=128,slow=9.1,SNR=6.8							
WRA	**Warramunga Arr**	**59.36**	**146**	P		**P**	**23 06 22.8**	**-0.1**
	comp=E,0.7nm,0.6s,baz=339,slow=7.4,SNR=7.3							
ASAR	**Alice Springs**	**62.37**	**148**	P		**P**	**23 06 44.4**	**+1.1**
	comp=E,0.5nm,0.9s,baz=338,slow=7.0,SNR=2.9							

IDC 30 23:03:56.1±4.7, 6°.39S×103°.64E, h0km, mb3.5/5,
mb1 3.7/5, mb1mx3.4/43, mbtmp3.5/5, Error ellipse:
s-maj=193.7km s-min=23.6km az=54.0, Southwest of

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.12**	**349**	P	P	23 09 22.9	0.0
	1.1nm,0.7s,baz=182,slow=9.1,SNR=10						
H01W3	**Cape Leeuwin H**	**29.96**	**163**	T	T	23 41 16.2	
	baz=339						
H01W2	**Cape Leeuwin H**	**29.98**	**163**	T	T	23 41 25.5	
	baz=339						
H01W1	**Cape Leeuwin H**	**29.98**	**163**	T	T	23 41 15.6	
	baz=339						
H08S2	**Diego Garcia H**	**30.94**	**266**	T	T	23 42 50.9	
	baz=89,slow=74						
H08S3	**Diego Garcia H**	**30.95**	**266**	T	T	23 42 51.0	
	baz=89,slow=74						
H08S1	**Diego Carcia H**	**30.95**	**266**	T	T	23 42 49.5	
	baz=89						
WRA	**Warramunga Arr**	**32.70**	**117**	P	P	23 10 30.4	-0.2
	0.3nm,0.6s,baz=288,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**33.78**	**124**	P	P	23 10 39.8	-0.2
	0.2nm,0.5s,baz=301,slow=9.4,SNR=2.1						
SONM	**Songino Array**	**54.05**	**2**	P	P	23 13 22.3	-0.2
	0.6nm,0.7s,baz=175,slow=7.5,SNR=4.3						
MKAR	**Makanchi Array**	**56.24**	**342**	P	P	23 13 37.9	-0.3
	0.4nm,0.6s,baz=161,slow=8.7,SNR=6.5						
TXAR	**Lajitas Array**	**145.59**	**45**	PKPbc	PKPdf	23 23 37.2	-0.1
	0.3nm,0.5s,baz=259,slow=1.9,SNR=6.4						

*ISK **30** 23:10:07.0, 35.°69N×26.°53E, h23km, ML3.1/27*
*ATH **30** 23:10:07.4, 35.°65N×26.°50E, h42km±3km, ML2.9/11, Error ellipse: s-maj=3.5km s-min=1.1km az=160.0*
*NIC **30** 23:10:08.4±0.0, 35.°62N×26.°57E, h32km±36km, Ml3.5/3*
*THE **30** 23:10:09.3, 35.°63N×26.°55E, h29km±2km, ML2.8/7, Error ellipse: s-maj=2.1km s-min=0.4km az=144.0*

ISC 30 23:10:08.4±1.0, 35.°65N±0.°03×26.°53E±0.°02, h31km±10km, n106, σ0.°57/134, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.52**	**101**	P	**Pn**	**23 10 19.3**	**-0.5**
KARP				S	**Sb**	**23 10 26.7**	**-0.1**
	2μm,0.2s						
KARP	**Karpathos**	**0.52**	**101**	P	**Pn**	**23 10 19.3**	**-0.5**
KARP				S	**Sn**	**23 10 27.0**	**-0.7**
KARP				AML	AML	23 10 27.3	
	comp=E,4762μm,0.3s						
KARP				AML	AML	23 10 29.6	
	comp=N,3242μm,0.2s						
KARP	**Karpathos**	**0.52**	**101**	PG	**Pb**	**23 10 18.6**	**-0.7**
KARP				SG	**Sn**	**23 10 26.9**	**-0.7**
KARP	**Karpathos**	**0.52**	**101**	P	**Pn**	**23 10 19.3**	**-0.5**
KARP				S	**Sb**	**23 10 26.7**	**-0.1**
KARP				AML	AML	23 10 26.9	
	comp=N,4.7nm,0.3s						
KARP				AML	AML	23 10 26.9	
	comp=N,4.7nm,0.3s						
KARP				AML	AML	23 10 29.0	
	comp=N,2.8nm,0.1s						
KARP				AML	AML	23 10 29.0	
	comp=N,2.8nm,0.1s						
STIA	**Sitia Lasithi**	**0.57**	**219**	P	**Pb**	**23 10 20.3**	**+0.3**
STIA				S	**Sn**	**23 10 28.7**	**-0.1**
ZKR	**Zakros**	**0.59**	**206**	P	**Pb**	**23 10 20.5**	**+0.1**
ZKR				S	**Sb**	**23 10 29.1**	**+0.5**
	comp=N,940nm,0.1s						
ZKR	**Zakros**	**0.59**	**206**	P	**Pb**	**23 10 20.5**	**+0.1**
ZKR				S	**Sb**	**23 10 28.1**	**-0.4**
ZKR				AML	AML	23 10 30.4	
	comp=N,1008μm,0.1s						
ZKR				AML	AML	23 10 30.4	
	comp=E,2700μm,0.2s						
ZKR	**Zakros**	**0.59**	**206**	PG	**Pb**	**23 10 20.5**	**+0.1**
ZKR				SG	**Sn**	**23 10 29.6**	**+0.3**
NPS	**Neapolis**	**0.84**	**243**	P	**Pn**	**23 10 24.1**	**-0.1**
NPS	**Neapolis**	**0.84**	**243**	P	**Pn**	**23 10 24.1**	**-0.1**
NPS				S	**Sn**	**23 10 35.0**	**-0.6**
NPS				AML	AML	23 10 35.6	
	comp=N,2325μm,0.3s						
NPS				AML	AML	23 10 36.0	
	comp=E,2733μm,0.3s						
FRMA	**Ierapetra Chan**	**0.91**	**226**	P	**Pn**	**23 10 24.0**	**-1.0**
FRMA				S	**Sn**	**23 10 35.4**	**-1.7**
	comp=E,285nm,0.4s						
ANAF	**Anafi Island**	**0.94**	**319**	P	**Pb**	**23 10 26.0**	**-0.1**
ANAF				S	**Sb**	**23 10 38.4**	**+0.2**
	comp=E,4μm,0.3s						
ANAF	**Anafi Island**	**0.94**	**319**	P	**Pn**	**23 10 25.5**	**0.0**
ANAF				S	**Sn**	**23 10 37.5**	**-0.3**
ANAF				AML	AML	23 10 40.2	
	comp=N,9274μm,0.3s						
ANAF				AML	AML	23 10 41.2	
	comp=E,7947μm,0.3s						
LAST	**Lasithi**	**0.99**	**241**	P	**Pn**	**23 10 26.2**	**0.0**
LAST				S	**Sn**	**23 10 39.0**	**-0.2**
	comp=E,370nm,0.3s						
LAST	**Lasithi**	**0.99**	**241**	P	**Pn**	**23 10 26.4**	**+0.2**
LAST				S	**Sn**	**23 10 38.7**	**-0.5**
LAST				AML	AML	23 10 39.1	
	comp=N,457μm,0.3s						
LAST				AML	AML	23 10 39.6	
	comp=E,1016μm,0.2s						
SANT	**Santorini**	**1.13**	**310**	P	**Pn**	**23 10 28.5**	**+0.4**
SANT	**Santorini**	**1.13**	**310**	P	**Pn**	**23 10 28.5**	**+0.4**
SANT				S	**Sn**	**23 10 42.4**	**-0.2**
SANT				AML	AML	23 10 45.0	
	comp=E,1196μm,0.4s						
SANT				AML	AML	23 10 46.2	
	comp=N,486μm,0.5s						
SANT	**Santorini**	**1.13**	**310**	PN	**Pn**	**23 10 27.9**	**-0.2**
SANT				SN	**Sn**	**23 10 42.6**	**0.0**
THR8	**Santorini-Mono**	**1.14**	**312**	P	**Pn**	**23 10 28.1**	**-0.1**
KOSK	**Kos Island**	**1.16**	**18**	PN	**Pn**	**23 10 27.7**	**-0.8**
THR6	**Thira Island,**	**1.16**	**308**	P	**Pn**	**23 10 28.9**	**+0.4**
THR6	**Thira Island,**	**1.16**	**308**	P	**Pn**	**23 10 28.6**	**+0.2**
SAP1	**Santorini-Akro**	**1.16**	**308**	P	**Pn**	**23 10 29.0**	**+0.5**
SAP1	**Santorini-Akro**	**1.16**	**308**	P	**Pn**	**23 10 29.0**	**+0.5**
SAP1				S	**Sn**	**23 10 43.0**	**-0.3**
SAP2K	**Karterados**	**1.16**	**311**	P	**Pn**	**23 10 29.0**	**+0.4**
SAP2K				S	**Sn**	**23 10 43.3**	**0.0**
SNT1	**Gialos, Santor**	**1.18**	**311**	P	**Pn**	**23 10 29.0**	**+0.3**
STAX	**Taxiarchis Har**	**1.18**	**310**	P	**Pn**	**23 10 29.3**	**+0.5**
THR7	**Fira-Santorini**	**1.18**	**311**	P	**Pn**	**23 10 28.2**	**-0.6**
THR9	**Santorini-Faro**	**1.19**	**307**	P	**Pn**	**23 10 29.0**	**+0.1**
SNT5	**Nea Kammeni, S**	**1.19**	**310**	P	**Pn**	**23 10 29.2**	**+0.3**
SNT5				S	**Sn**	**23 10 44.9**	**+0.9**
	comp=N,715nm,0.3s						
THR3	**Thira Island,**	**1.19**	**310**	P	**Pn**	**23 10 29.3**	**+0.4**
THR3	**Thira Island,**	**1.19**	**310**	P	**Pn**	**23 10 29.1**	**+0.3**
THR2	**Thira island,**	**1.19**	**312**	P	**Pn**	**23 10 29.5**	**+0.6**
THR2	**Thira island,**	**1.19**	**312**	P	**Pn**	**23 10 29.1**	**+0.1**
THT2	**Imerovigli**	**1.19**	**311**	P	**Pn**	**23 10 29.4**	**+0.4**
THT2	**Imerovigli**	**1.19**	**311**	PN	**Pn**	**23 10 28.6**	**-0.4**
HRKL	**Herakleio**	**1.21**	**254**	P	**Pn**	**23 10 29.2**	**0.0**
HRKL	**Herakleio**	**1.21**	**254**	PN	**Pn**	**23 10 29.1**	**-0.1**
CMBO	**Columbo, Santo**	**1.23**	**312**	P	**Pn**	**23 10 28.8**	**-0.6**
THR5	**Thira Island,**	**1.23**	**309**	P	**Pn**	**23 10 29.7**	**+0.3**
THR5	**Thira Island,**	**1.23**	**309**	P	**Pn**	**23 10 29.2**	**-0.3**
SAP3	**Santorini-Thir**	**1.24**	**310**	P	**Pn**	**23 10 30.0**	**+0.4**
KSTL	**Kastelli Herak**	**1.24**	**254**	P	**Pn**	**23 10 27.4**	**-2.2**
AMGA	**Amorgos Island**	**1.29**	**337**	P	**Pn**	**23 10 30.3**	**0.0**
AMGA	**Amorgos Island**	**1.29**	**337**	P	**Pn**	**23 10 30.1**	**-0.2**
AMGA				S	**Sn**	**23 10 46.1**	**-0.3**
AMGA				AML	AML	23 10 51.2	
	comp=E,972μm,0.3s						
AMGA				AML	AML	23 10 52.5	
	comp=N,890μm,0.3s						
DAT	**Datca**	**1.37**	**38**	P	**Pn**	**23 10 31.6**	**+0.1**
DAT	**Datca**	**1.37**	**38**	PN	**Pn**	**23 10 30.8**	**-0.7**
IDI	**Anoyia**	**1.39**	**255**	P	**Pn**	**23 10 31.4**	**-0.3**
IDI	**Anoyia**	**1.39**	**255**	P	**Pn**	**23 10 31.2**	**-0.5**
IDI				S	**Sn**	**23 10 48.0**	**-1.0**
IDI				AML	AML	23 10 52.0	
	comp=N,279μm,0.2s						
IDI				AML	AML	23 10 53.3	
	comp=E,239μm,0.3s						
IDI	**Anoyia**	**1.39**	**255**	PN	**Pn**	**23 10 31.2**	**-0.5**
ARG	**Arkhangelos**	**1.41**	**66**	P	**Pn**	**23 10 32.3**	**+0.3**
ARG				S	**Sn**	**23 10 49.5**	**0.0**
	comp=E,332nm,0.3s						
ARG	**Arkhangelos**	**1.41**	**66**	P	**Pn**	**23 10 32.5**	**+0.5**
ARG				S	**Sn**	**23 10 49.5**	**0.0**
ARG				AML	AML	23 10 49.6	
	comp=N,591μm,0.3s						
ARG				AML	AML	23 10 51.2	
	comp=E,748μm,0.4s						
ARG	**Arkhangelos**	**1.41**	**66**	PN	**Pn**	**23 10 32.4**	**+0.4**
ARG				SN	**Sn**	**23 10 49.4**	**0.0**
ARG	**Arkhangelos**	**1.41**	**66**	P	**Pn**	**23 10 32.3**	**+0.3**
ARG				S	**Sn**	**23 10 49.5**	**0.0**
DATC	**Datca-Mugla**	**1.44**	**39**	PN	**Pn**	**23 10 31.9**	**-0.4**
IOSP	**Ios island**	**1.47**	**317**	P	**Pn**	**23 10 33.0**	**+0.2**
IOSP	**Ios island**	**1.47**	**317**	P	**Pn**	**23 10 33.0**	**+0.2**
IOSP				S	**Sn**	**23 10 50.3**	**-0.6**
IOSP				AML	AML	23 10 50.6	
	comp=N,1432μm,0.2s						
IOSP				AML	AML	23 10 50.7	
	comp=E,1134μm,0.5s						
SIVA	**Sivas**	**1.54**	**246**	P	**Pn**	**23 10 34.6**	**+0.8**
BODT	**Bodrum**	**1.54**	**24**	PN	**Pn**	**23 10 33.6**	**-0.2**
TMBK	**Timbaki Herakl**	**1.55**	**249**	P	**Pn**	**23 10 34.4**	**+0.5**
APE	**Apeiranthos**	**1.63**	**331**	P	**Pn**	**23 10 35.2**	**+0.1**
APE	**Apeiranthos**	**1.63**	**331**	P	**Pn**	**23 10 35.2**	**+0.1**
APE				S	**Sn**	**23 10 54.3**	**-0.7**
APE				AML	AML	23 10 56.3	
	comp=E,382μm,0.2s						
APE				AML	AML	23 10 56.6	
	comp=N,506μm,0.2s						
APE	**Apeiranthos**	**1.63**	**331**	PN	**Pn**	**23 10 34.9**	**-0.1**
APE	**Apeiranthos**	**1.63**	**331**	P	**Pn**	**23 10 35.1**	**+0.1**
TURN	**Turunc**	**1.78**	**50**	PN	**Pn**	**23 10 37.3**	**+0.2**
VAM	**Vamos**	**1.92**	**263**	P	**Pn**	**23 10 38.5**	**-0.4**
VAM	**Vamos**	**1.92**	**263**	P	**Pn**	**23 10 38.1**	**-0.8**
MLSB	**Milas**	**1.93**	**31**	PN	**Pn**	**23 10 37.9**	**-1.2**
YER	**Yerkesik**	**2.05**	**43**	PN	**Pn**	**23 10 40.6**	**-0.2**
SMG	**Samos**	**2.07**	**7**	P	**Pn**	**23 10 40.3**	**-0.7**
DALY	**Dalyan (Mula)**	**2.07**	**55**	PN	**Pn**	**23 10 41.5**	**+0.5**
IMMV	**Iera Moni Meta**	**2.09**	**266**	P	**Pn**	**23 10 41.4**	**+0.1**
IMMV	**Iera Moni Meta**	**2.09**	**266**	P	**Pn**	**23 10 41.1**	**-0.2**
IMMV	**Iera Moni Meta**	**2.09**	**266**	PN	**Pn**	**23 10 40.9**	**-0.4**
GVDS	**Gavdos**	**2.15**	**249**	PN	**Pn**	**23 10 42.7**	**+0.5**
GVD	**Gavdos**	**2.16**	**249**	P	**Pn**	**23 10 43.1**	**+0.8**
GVD	**Gavdos**	**2.16**	**249**	PN	**Pn**	**23 10 42.9**	**+0.7**
RODP	**Rodopos**	**2.26**	**269**	P	**Pn**	**23 10 44.3**	**+0.6**
RODP	**Rodopos**	**2.26**	**269**	PN	**Pn**	**23 10 44.3**	**+0.6**
FETY	**Fethiye**	**2.29**	**64**	PN	**Pn**	**23 10 44.3**	**+0.3**
KNDR	**Palaiochora Ch**	**2.36**	**261**	PN	**Pn**	**23 10 46.2**	**+1.2**
KSL	**Kastellorizon**	**2.53**	**78**	P	**Pn**	**23 10 48.1**	**+0.8**
KSL	**Kastellorizon**	**2.53**	**78**	P	**Pn**	**23 10 48.1**	**+0.8**
KSL				S	**Sn**	**23 11 16.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.54**	**25**	PN	**Pn**	**23 10 47.5**	**-0.1**
AKAS	**Kas**	**2.56**	**76**	PN	**Pn**	**23 10 48.1**	**+0.2**
URLA	**Izmir**	**2.71**	**1**	PN	**Pn**	**23 10 48.9**	**-0.9**
CHOS	**Chios island**	**2.76**	**352**	PN	**Pn**	**23 10 49.7**	**-0.9**
BLCB	**Balcova**	**2.76**	**8**	PN	**Pn**	**23 10 50.5**	**0.0**
KTHA	**Kythira Island**	**2.88**	**283**	P	**Pn**	**23 10 52.0**	**-0.1**
KTHA	**Kythira Island**	**2.88**	**283**	PN	**Pn**	**23 10 52.4**	**+0.2**
ELL	**Elmali**	**2.94**	**67**	PN	**Pn**	**23 10 53.5**	**+0.3**
KULA	**Kula-Manisa**	**3.33**	**30**	PN	**Pn**	**23 10 58.6**	**+0.2**
ANTB	**Antalya**	**3.56**	**68**	PN	**Pn**	**23 11 02.5**	**+1.1**
SIGR	**SIGRI**	**3.59**	**352**	PN	**Pn**	**23 11 02.3**	**+0.3**
SIMA	**Simav-Kutahya**	**3.94**	**29**	PN	**Pn**	**23 11 07.3**	**+0.4**
SHUT	**Suhut-Afyon**	**4.33**	**47**	PN	**Pn**	**23 11 12.9**	**+0.7**
TVSB	**Tavsanli**	**4.45**	**31**	PN	**Pn**	**23 11 15.1**	**+1.3**
OSC1	**CSNet OBS 1**	**4.46**	**117**	S	**Sn**	**23 12 05.0**	**+0.2**
SEYD	**Seydisehir-KON**	**4.62**	**66**	PN	**Pn**	**23 11 17.4**	**+1.2**
GAZI	**Gazipasa**	**4.73**	**81**	PN	**Pn**	**23 11 19.1**	**+1.5**
AKMS	**Akamas**	**4.79**	**96**	P	**Pn**	**23 11 18.1**	**-0.3**
AKMS				AML	AML	23 12 12.0	
	comp=N,0.2nm,0.3s						
AKMS				AML	AML	23 12 12.1	
	comp=N,0.1nm,0.3s						
ALFC	**Alefka**	**4.98**	**94**	P	**Pn**	**23 11 20.6**	**-0.4**
ALFC				AML	AML	23 12 17.3	
	comp=N,0.1nm,0.3s						
ALFC				AML	AML	23 12 17.4	
	comp=N,0.1nm,0.2s						
NATA	**Nata**	**5.02**	**98**	P	**Pn**	**23 11 21.4**	**-0.1**
SZAC	**Souni**	**5.28**	**98**	P	**Pn**	**23 11 25.4**	**+0.2**
CSS	**Mathiatis**	**5.60**	**95**	P	**Pn**	**23 11 30.1**	**+0.5**
MVOU	**Mavrovouni**	**5.84**	**94**	P	**Pn**	**23 11 34.0**	**+1.2**

*IDC **30** 23:14:10.9±1.2, 2.°31N×127.°94E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/40, mbtmp3.7/6, ML3.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/41, Error ellipse: s-maj=76.7km s-min=19.2km az=65.0*
*NEIC **30** 23:14:17.2±1.7, 2.°2N±0.°1×128.°1E±0.°1, h53km±8km, mb4.1/4, Error ellipse: s-maj=19.9km s-min=12.8km az=47.0*

ISC 30 23:14:15.9±1.1, 2.°3N±0.°1×128.°1E±0.°1, h35km, n17, σ1.9°01/10, mb3.7/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.67**	**205**	P	**Pn**	**23 14 43.2**	**+0.6**
SIJI	**Sorong**	**4.47**	**135**	Pn	**Pn**	**23 15 22.1**	**+0.9**
	6.1nm,0.3s,baz=336,slow=19,SNR=16						
SIJI				Sn	**Sn**	**23 16 11.6**	**-0.5**
	1.9nm,0.3s,baz=217,slow=20,SNR=1.5						
GUMO	**Guam**	**20.04**	**55**	LR	LR	23 24 48.2	
	comp=Z,139nm,18.9s,baz=292,slow=32						
WRA	**Warramunga Arr**	**22.93**	**165**	P	**P**	**23 19 17.4**	**+0.3**
	0.8nm,0.4s,baz=344,slow=10,SNR=18						
WB2	**Warramunga Arr**	**22.93**	**165**	P	**P**	**23 19 15.7**	**-1.4**
WR0	**Warramunga Arr**	**23.00**	**164**	P	**P**	**23 19 15.9**	**-1.9**
ASAR	**Alice Springs**	**26.41**	**168**	P	**P**	**23 19 49.8**	**+0.4**
	0.5nm,0.5s,baz=350,slow=7.6,SNR=7.1						
STKA	**Stephens Creek**	**36.32**	**160**	P	**P**	**23 21 16.6**	**+0.2**
	1.6nm,0.4s,baz=344,slow=6.8,SNR=5.8						
STKA	**Stephens Creek**	**36.32**	**160**	IAmb	IAmb	23 22 27.9	
	comp=Z,4.2nm,1.6s						
H11S3	**WAKE ISLAND Hy**	**41.10**	**64**	T	T	00 05 34.6	
	baz=252,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**41.12**	**64**	T	T	00 05 39.2	
	baz=252,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**41.12**	**64**	T	T	00 05 36.2	
	baz=252,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**41.68**	**63**	T	T	00 06 15.6	
	baz=250,slow=75,SNR=23						
H11N2	**WAKE ISLAND Hy**	**41.69**	**63**	T	T	00 06 22.6	
	baz=250,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**41.70**	**63**	T	T	00 06 25.2	
	baz=250,slow=75,SNR=23						
SONM	**Songino Array**	**49.09**	**341**	P	**P**	**23 23 00.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=149,slow=9.8,SNR=2.1						
MKAR	**Makanchi Array**	**59.50**	**325**	P	**P**	**23 24 15.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=117,slow=8.1,SNR=5.7						

*GCMT **30** 23:23:01.0±0.4, 56.°74N±0.°04×34.°46W±0.°07, h28km±1km, MW4.9/67, Moment Tensor Solution. s25,c26; s67,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.96±.21; $M_{\theta\theta}$1.69±.18; $M_{\phi\phi}$1.27±.14; $M_{r\theta}$0.67±.21; $M_{\phi\phi}$0.58±.07; $M_{\phi r}$1.37±.14; Best double couple: $M_0$2.93100×10^{16} NP1:ϕ59.00000°, δ31.00000°, λ-75.00000°. NP2: ϕ222.00000°, δ60.00000°, λ-99.00000°. Principal axes: T 2.4520, Plg15.0000°, Azm318.0000°; N 0.9580, Plg8.0000°, Azm226.0000°; P -3.4100, Plg73.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 30 23:23:01.4±1.9, 56.°86N×33.°60W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/40, mbtmp3.6/6, MS3.5/18, Ms1 3.5/18, ms1mx3.3/44 Error ellipse: s-maj=49.0km s-min=32.4km az=46.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.66**	**278**	LR	LR	23 33 17.2	
	comp=Z,233nm,18.2s,baz=122,slow=33						
NOA	**NORSAR Array B**	**23.13**	**61**	LR	LR	23 35 25.8	
	comp=Z,87nm,20.5s,baz=275,slow=32						
ESDC	**Sonseca Array**	**25.87**	**119**	LR	LR	23 37 25.2	
	comp=Z,141nm,18.2s,baz=315,slow=33						
ARCES	**ARCESS Array B**	**28.18**	**40**	P	P	23 28 55.0	-0.1
	1.6nm,0.7s,baz=255,slow=6.5,SNR=3.6						
ARCES				LR	LR	23 37 58.2	
	comp=Z,64nm,20.1s,baz=300,slow=32						
GERES	**GERESS Array B**	**29.14**	**86**	LR	LR	23 40 10.6	
	comp=Z,89nm,19.1s,baz=304,slow=35						
FINES	**FINESS Array B**	**29.99**	**56**	LR	LR	23 39 38.2	
	comp=Z,55nm,20.7s,baz=322,slow=33						
KEST	**Kesra**	**35.61**	**108**	LR	LR	23 44 08.4	
	comp=Z,72nm,18.2s,baz=212,slow=36						
YKA	**Yellowknife Ar**	**38.74**	**313**	LR	LR	23 44 42.1	
	comp=Z,146nm,19.3s,baz=0.0,slow=34						
BRTR	**Keskin Array B**	**45.91**	**82**	P	P	23 31 26.5	+0.9
	0.6nm,0.9s,baz=279,slow=6.0,SNR=2.0						
KVAR	**Kislovodsk Arr**	**47.78**	**71**	LR	LR	23 52 32.4	
	comp=Z,44nm,19.9s,baz=314,slow=37						
KBZ	**Khabaz**	**48.04**	**71**	LR	LR	23 52 35.8	
	comp=Z,45nm,18.9s,baz=352,slow=37						
PDAR	**Pinedale Array**	**48.43**	**287**	LR	LR	23 51 00.2	
	comp=Z,119nm,18.4s,baz=70,slow=35						
ILAR	**Eielson Array**	**48.55**	**328**	P	P	23 31 46.1	+0.5
	0.5nm,0.9s,baz=33,slow=6.4,SNR=5.4						
ILAR				LR	LR	23 52 17.0	
	comp=Z,39nm,19.5s,baz=34,slow=36						
AKTO	**Aktyubinsk**	**50.76**	**56**	LR	LR	23 53 08.7	
	comp=Z,41nm,18.4s,baz=312,slow=36						
TORD	**Torodi Ar. Bea**	**51.28**	**134**	P	P	23 32 06.7	-0.2
	0.8nm,0.9s,baz=337,slow=6.7,SNR=2.3						
DBIC	**Dimbokro**	**54.92**	**144**	LR	LR	23 52 44.6	
	comp=Z,64nm,21.8s,baz=23,slow=32						
TXAR	**Lajitas Array**	**55.19**	**271**	LR	LR	23 56 30.7	
	comp=Z,44nm,18.1s,baz=0.0,slow=36						
KURBB	**Kurchatov Arra**	**59.18**	**43**	P	P	23 33 03.2	-0.3
	0.4nm,0.5s,baz=326,slow=6.7,SNR=4.7						
MKAR	**Makanchi Array**	**63.74**	**44**	P	P	23 33 34.3	-0.3
	0.5nm,0.6s,baz=324,slow=6.0,SNR=4.7						
PETK	**Petropavlovsk-**	**70.00**	**353**	LR	LR	00 04 11.5	
	comp=Z,24nm,19.1s,baz=42,slow=35						
SONM	**Songino Array**	**70.49**	**27**	LR	LR	00 06 17.1	
	comp=Z,28nm,19.8s,baz=322,slow=37						
KSRS	**Korea Array**	**84.75**	**15**	LR	LR	00 14 51.2	
	comp=Z,7.9nm,19.4s,baz=310,slow=37						
ASAR	**Alice Springs**	**145.61**	**21**	PKPbc	PKPdf	23 42 39.9	-1.5
	0.3nm,0.5s,baz=346,slow=3.4,SNR=4.4						

*IDC **30** 23:23:48.3±4.9, 14.°90S×167.°39E, h134km±42km, mb3.4/6, mb1 3.6/7, mb1mx3.3/43, mbtmp3.8/7, Error ellipse: s-maj=33.1km s-min=31.7km az=149.0*

ISC 30 23:23:47.7±1.1, 14.°9S±0.°1×167.°4E±0.°2, h129km, n8, σ1.9°09/10, mb3.6/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.22**	**187**	P	**Pn**	**23 25 32.0**	**+1.3**
	1.1nm,0.3s,baz=347,slow=14,SNR=15						
DZM				S	**Sn**	**23 26 49.7**	**-1.7**
	0.9nm,0.3s,baz=294,slow=19,SNR=1.9						
STKA	**Stephens Creek**	**29.00**	**230**	P	**P**	**23 29 36.8**	**+1.4**
	0.9nm,0.3s,baz=28,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**31.91**	**256**	P	**P**	**23 30 00.4**	**-0.9**
	0.3nm,0.8s,baz=80,slow=6.7,SNR=1.7						
WRA				PcP	**PcP**	**23 32 48.9**	**0.0**
	0.4nm,0.8s,baz=90,slow=3.3,SNR=2.9						
ASAR	**Alice Springs**	**32.74**	**249**	P	**P**	**23 30 07.8**	**-0.7**
	0.5nm,0.7s,baz=79,slow=9.6,SNR=6.3						
VNDA	**Vanda**	**62.72**	**181**	P	**P**	**23 33 58.2**	**-0.3**
	0.7nm,0.7s,baz=2.1,slow=7.2,SNR=6.7						
ILAR	**Eielson Array**	**86.62**	**18**	P	**P**	**23 36 16.1**	**-0.1**
	0.5nm,0.8s,baz=249,slow=4.1,SNR=5.0						
MKAR	**Makanchi Array**	**97.39**	**316**	P	**P**	**23 37 06.7**	**+0.1**
	0.5nm,0.7s,baz=92,slow=4.3,SNR=4.1						
ARCES	**ARCESS Array B**	**120.42**	**345**	PKP	**PKPdf**	**23 42 22.5**	**-0.8**
	2.4nm,1.0s,baz=38,slow=3.4,SNR=4.1						

*MAN **30** 23:29:27.9, 7.°43N×125.°54E, h11km, MS3.5*
MAN Intensity II - Carmen Davao del Norte; Davao City.
*IDC **30** 23:29:27.3±1.0, 7.°28N×126.°02E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/48, mbtmp3.7/7, MS3.1/1, Ms1 3.1/1, ms1mx2.4/39, Error ellipse: s-maj=17.2km s-min=9.4km az=155.0*
*NEIC **30** 23:29:32.0±0.8, 7.°1N±0.°1×125.°7E±0.°2, h26km±8km, mb4.1/8, Error ellipse: s-maj=22.4km s-min=14.4km az=68.0*

ISC 30 23:29:28.0±1.4, 7.°38N±0.°04×125.°55E±0.°04, h2km±10km, n26, σ2.9°18/29, mb3.9/8, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.31**	**174**	Pg	**Pb**	**23 29 37.0**	**+0.8**
	583nm,0.3s,baz=133,slow=14,SNR=71						
DAV				Lg	Lg	23 29 43.1	
	1μm,0.3s,baz=66,slow=20,SNR=15						
DAV				LR	LR	23 30 00.5	
	comp=Z,1μm,19.1s,baz=174,slow=68						
DAV	**Davao City (W)**	**0.31**	**174**		**Pb**	**23 29 36.9**	**+0.7**
KCP	**Kidapawan**

KKAR	**Karatay Array**	**8.27**	**28**	Pn	**Pn**	**23 44 23.3**	**-0.4**
AAK	**Ala-Archa**	**9.83**	**44**	P	**Pn**	**23 44 44.6**	**-0.8**
	4.0nm,0.5s						
AAK				⇓S	**Sn**	**23 46 35.5**	**+1.0**
	7.9nm,1.0s						
FRU1	**Bishkek**	**10.02**	**44**	Pn	**Pn**	**23 44 48.5**	**+0.7**
BOOM	**Boomskoye usch**	**10.59**	**48**	Pn	**Pn**	**23 44 56.1**	**+0.4**
TKM2	**Tokmak 2**	**10.64**	**46**	⇑P	**Pn**	**23 44 54.3**	**-2.2**
	7.5nm,0.6s						
TKM2				⇓S	**Sn**	**23 46 55.9**	**+1.4**
	7.4nm,0.8s						
KDJ	**Kajisay**	**11.18**	**53**	Pn	**Pn**	**23 45 04.4**	**+0.6**
TARG	**Taragay, Kyrgy**	**11.40**	**56**	Pn	**Pn**	**23 45 06.0**	**-1.1**
AB31	**Akbulak array**	**13.89**	**345**	⇓P	**Pn**	**23 45 39.7**	**-1.0**
	0.5nm,0.3s,baz=154,slow=14,SNR=20						
AB31				⇑S	**Sn**	**23 48 15.0**	**+1.4**
	0.4nm,0.3s,baz=190,slow=25,SNR=3.7						
ABKAR	**Akbulak array**	**13.89**	**345**		**Pn**	**23 45 40.7**	**0.0**
AKTO	**Aktyubinsk**	**15.44**	**342**	Pn	**Pn**	**23 46 01.8**	**+0.4**
	0.5nm,0.3s,baz=173,slow=16,SNR=6.3						
AKTO				Sn	**Sn**	**23 48 46.7**	**-4.4**
	0.4nm,0.3s,baz=51,slow=18,SNR=2.1						
AKTO	**Aktyubinsk**	**15.44**	**342**	⇓P	**Pn**	**23 46 01.6**	**+0.2**
	3.3nm,0.8s						
AKTO				⇑S	**Sn**	**23 48 45.6**	**-5.4**
	2.1nm,0.5s						
MAKZ	**Makanchi**	**16.60**	**44**	Pn	**Pn**	**23 46 16.3**	**0.0**
MK31	**Makanchi Array**	**16.77**	**44**	Pn	**Pn**	**23 46 17.2**	**-1.3**
MKAR	**Makanchi Array**	**16.77**	**44**	Pn	**Pn**	**23 46 17.5**	**-0.9**
	0.2nm,0.3s,baz=226,slow=12,SNR=9.5						
MKAR	**Makanchi Array**	**16.77**	**44**	Pn	**Pn**	**23 46 17.2**	**-1.3**
BVAR	**Borovoye Array**	**17.50**	**10**	P	**P**	**23 46 29.4**	**+1.1**
	1.0nm,0.3s,baz=196,slow=19,SNR=15						
BRVK	**Borovoye**	**17.52**	**10**	Pn	**Pn**	**23 46 26.0**	**-1.7**
BRVK				IAmb	IAmb	23 46 37.0	
	comp=Z,7.2nm,0.7s						
KURBB	**Kurchatov Arra**	**17.57**	**29**	P	**Pn**	**23 46 25.5**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=219,slow=12,SNR=13						
KURK	**Kurchatov**	**17.68**	**29**	Pn	**Pn**	**23 46 28.9**	**-0.7**
ARU	**Arti**	**21.02**	**350**	P	**P**	**23 47 10.0**	**+3.2**
	comp=Z,0.4nm,0.4s,baz=152,slow=18,SNR=3.4						
ARU	**Arti**	**21.02**	**350**	P	**P**	**23 47 07.0**	**+0.2**
ZAA0	**Zalesovo Array**	**22.62**	**31**	P	**P**	**23 47 24.9**	**+0.9**
ZALV	**Zalesovo Beam**	**22.62**	**31**	P	**P**	**23 47 26.2**	**+2.3**
	comp=Z,5.0nm,1.0s,baz=224,slow=10,SNR=8.2						
ZALV	**Zalesovo Beam**	**22.62**	**31**	P	**P**	**23 47 25.7**	**+1.7**
SHL	**Shillong**	**25.05**	**107**	P	**P**	**23 47 46.4**	**-1.2**
BR131	**Keskin Array S**	**25.18**	**288**	P	**P**	**23 47 47.5**	**-1.1**
BR131				IAmb	IAmb	23 48 13.4	
	comp=Z,7.3nm,1.8s						
BRTR	**Keskin Array B**	**25.18**	**288**	P	**P**	**23 47 50.4**	**+1.7**
	comp=Z,1.5nm,1.0s,baz=88,slow=7.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**34.44**	**111**	P	**P**	**23 49 09.4**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=298,slow=8.2,SNR=7.5						
FINES	**FINESS Array B**	**35.46**	**328**	P	**P**	**23 49 21.0**	**+2.0**
	comp=Z,2.9nm,0.9s,baz=130,slow=13,SNR=2.5						
TORD	**Torodi Ar. Bea**	**61.03**	**265**	P	**P**	**23 52 35.4**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=51,slow=6.9,SNR=6.9						
ILAR	**Eielson Array**	**76.54**	**14**	P	**P**	**23 54 13.8**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=314,slow=4.3,SNR=7.1						
WRA	**Warramunga Arr**	**85.73**	**118**	P	**P**	**23 55 01.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=323,slow=4.4,SNR=2.5						
ASAR	**Alice Springs**	**87.84**	**121**	P	**P**	**23 55 11.6**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=298,slow=4.6,SNR=4.4						

ISC Computed Locations for September 2014

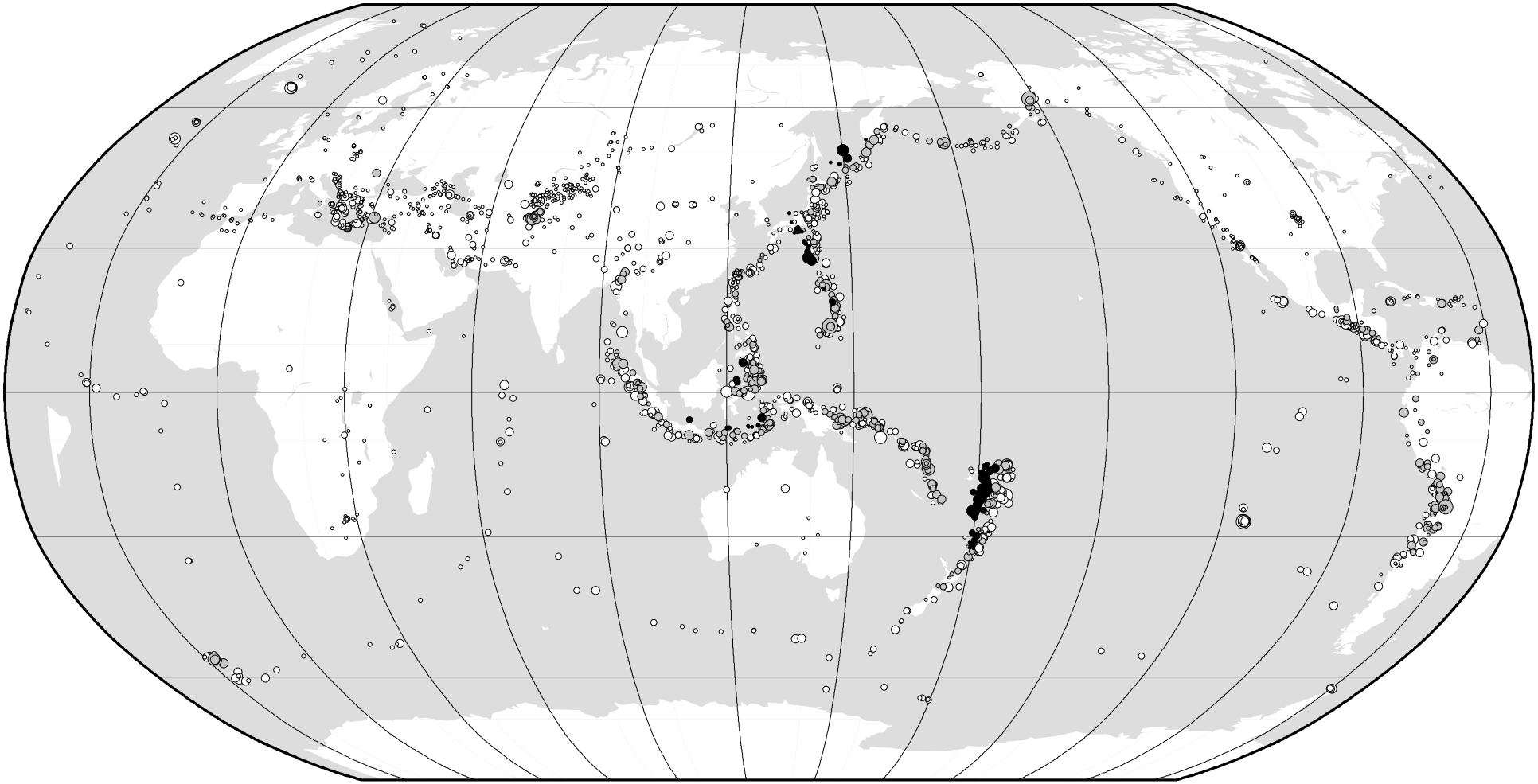

Depth (km)	0-70	70-300	>300
M=8			
M=6.5			
M=4			

Robinson Projection, centred on 0˚N,130˚E

2639 Events